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All data, including phase data, are available on CD-ROM/DVD-ROM and from the internet - http://www.isc.ac.uk

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

JMA 01 00:04:21.9±0.3, 24°.74N×123°.18E, h23km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.32**	**209**	P	Pb	00 04 28.9	-0.1
YOJ				eS	Sb	00 04 33.3	-0.6
JYNG	**Yonagunijimaku**	**0.36**	**217**	P	Pb	00 04 29.7	0.0
JYNG				eS	Sb	00 04 35.1	+0.1
IRIF	**Iriomote-Funau**	**0.64**	**129**	P	Pb	00 04 34.3	-0.2
IRIF				eS	Sb	00 04 43.7	+0.7
JKRS	**Kuro-shima**	**0.91**	**123**	P	Pb	00 04 38.3	-0.6
JISG	**Ishigakijimahi**	**1.04**	**98**	P	Pn	00 04 39.8	-1.3

TAP 01 00:05:18.0, 23°.72N×121°.44E, h15km±1km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.06**	**194**	i P	Pg	00 05 21.4	+0.5
EGFH	baz=193			S	Sg	00 05 22.9	+0.2
ESL	**Shilin**	**0.09**	**355**	P	Pg	00 05 21.4	+0.2
ESL	baz=359			i S	Sg	00 05 24.3	+1.0
VWDT	**VWDT**	**0.28**	**276**	P	Pb	00 05 25.1	+0.5
VWDT	baz=276			S	Sb	00 05 29.4	+0.3
YULB	**Yu-li**	**0.36**	**202**	eP	Pb	00 05 26.1	+0.1
YULB	baz=201			eS	Sg	00 05 30.6	+0.4
CHGB	**Renai**	**0.41**	**324**	eS	Sb	00 05 33.6	+0.3
WHF	**Hehuan Shan**	**0.45**	**339**	eP	Pg	00 05 26.9	-0.2
WHF	baz=339			eS	Sb	00 05 34.5	0.0

*ISCJB **01** 00:25:08.4±0.2, 22°.56S±0°.07×176°.62W±0°.06, h100km, mb4.3/10, Error ellipse: s-maj=11.3km s-min=5.9km az=148.7*
*IDC **01** 00:25:09.6±2.3, 22°.55S×176°.56W, h100km±19km, mb4.1/10, mb1 4.3/12, mb1mx4.1/25, mbtmp4.5/12, Error ellipse: s-maj=26.9km s-min=13.3km az=155.0*
*NEIC **01** 00:25:10.7±1.0, 22°.5S±0°.1×176°.58W±0°.10, h108km±5km, mb4.6/69*

ISC 01 00:25:09.9±0.4, 22°.60S±0°.10×176°.53W±0°.08, h100km, n99, σ0°.90/100, mb4.5/38, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.61**	**88**	P	**Pn**	**00 28 45.2**	**+0.8**
RAR	3.1nm,0.3s,baz=270,slow=14,SNR=6.1			S	Sn	00 31 21.9	-15
RAR	2.6nm,0.3s,baz=195,slow=20,SNR=3.3 **Rarotonga**	**15.61**	**88**		**Pn**	**00 28 46.1**	**+1.8**
DZM	**Mont Dzumac**	**15.77**	**269**	P	**P**	**00 28 51.7**	**+3.4**
URZ	0.2nm,0.3s,baz=80,slow=17,SNR=8.9 **Urewera**	**16.54**	**198**	P	**Pn**	**00 28 54.2**	**-1.6**
URZ	1.2nm,0.3s,baz=165,slow=12,SNR=5.7			S	Sn	00 31 42.2	-17
URZ	0.5nm,0.3s,baz=60,slow=20,SNR=2.0 **Urewera**	**16.54**	**198**	Pn	**Pn**	**00 28 54.8**	**-1.0**
URZ	comp=Z,115nm,1.8s			IAmb	IAmb	00 29 23.4	
TUWZ	**Tuamarina**	**20.42**	**201**	P	**P**	**00 29 40.3**	**+1.3**
PPT	**Papeete**	**25.78**	**84**	P	**P**	**00 30 32.0**	**+0.3**
CTAO	**Charters Tower**	**34.70**	**267**	P	**P**	**00 31 50.5**	**+0.1**
CTAO	comp=Z,11nm,0.7s			IAmb	IAmb	00 31 52.5	
PMG	**Port Moresby**	**37.17**	**285**	P	**P**	**00 32 12.1**	**+0.6**
STKA	comp=Z,16nm,0.8s,baz=172,slow=7.4,SNR=4.7 **Stephens Creek**	**38.17**	**247**	P	**P**	**00 32 19.6**	**-0.2**
STKA	comp=Z,3.3nm,0.7s,baz=74,slow=10,SNR=9.0 **Stephens Creek**	**38.17**	**247**	P	**P**	**00 32 19.8**	**0.0**
COEN	**Coen**	**39.12**	**276**	P	**P**	**00 32 27.9**	**+0.1**
COEN	comp=Z,9.9nm,1.1s			IAmb	IAmb	00 32 29.7	
BBOO	**Buckleboo**	**42.89**	**246**	P	**P**	**00 32 58.0**	**-0.7**
BBOO	comp=Z,37nm,1.8s			IAmb	IAmb	00 33 05.5	
AS31	**Alice Springs**	**45.41**	**259**	P	**P**	**00 33 18.1**	**-0.9**
ASAR	**Alice Springs**	**45.41**	**259**	P	**P**	**00 33 18.0**	**-1.0**
ASAR	comp=Z,9.1nm,0.8s,baz=92,slow=8.0,SNR=77			PcP	**PcP**	**00 34 56.2**	**-0.4**
ASAR	comp=Z,1.3nm,0.6s,baz=110,slow=4.0,SNR=6.1			ScP	**ScP**	**00 38 38.9**	**-1.5**
ASAR	comp=Z,0.5nm,0.8s,baz=120,slow=4.6,SNR=4.0			S	**S**	**00 39 53.6**	**+0.6**
ASAR	comp=Z,0.2nm,0.7s,baz=98,slow=14,SNR=4.6 **Alice Springs**	**45.41**	**259**	P	**P**	**00 33 18.4**	**-0.6**
WB2	**Warramunga Arr**	**45.69**	**264**	P	**P**	**00 33 19.9**	**-1.3**
WRA	**Warramunga Arr**	**45.70**	**264**	P	**P**	**00 33 19.7**	**-1.5**
WRA	comp=Z,9.3nm,0.8s,baz=100,slow=8.3,SNR=43			PcP	**PcP**	**00 34 57.2**	**-0.5**
WRA	comp=Z,0.8nm,0.7s,baz=92,slow=3.5,SNR=4.0			ScP	**ScP**	**00 38 40.1**	**-1.5**
WRA	comp=Z,4.5nm,0.4s,baz=96,slow=4.1,SNR=16 **Warramunga Arr**	**45.70**	**264**	P	**P**	**00 33 20.0**	**-1.3**
PUH	**Pauahi**	**46.62**	**28**	P	**P**	**00 33 28.1**	**-0.3**
FORT	**Forrest**	**49.76**	**248**	P	**P**	**00 33 51.5**	**-0.9**
MTN	**Manton Dam**	**50.58**	**272**	P	**P**	**00 33 57.5**	**-1.3**
MTN				IAmb	IAmb	00 33 58.4	
KNRA	comp=Z,7.3nm,0.7s **Kununurra**	**51.91**	**267**	P	**P**	**00 34 08.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**54.13**	**263**	P	**P**	**00 34 24.7**	**-0.3**
SOEI	**Soe**	**57.95**	**273**	P	**P**	**00 34 52.4**	**-0.1**
QSPA	**South Pole Qui**	**67.48**	**180**	P	**P**	**00 35 55.4**	**+0.5**
QSPA				IAmb	IAmb	00 35 56.9	
MAW	comp=Z,6.6nm,0.9s **Mawson**	**80.06**	**200**	P	**P**	**00 37 08.6**	**+0.4**
MAW	comp=Z,2.4nm,0.7s,baz=140,slow=4.9,SNR=6.8 **Mawson**	**80.06**	**200**	P	**P**	**00 37 09.2**	**+1.1**
MDPB	**Devils Postpil**	**80.65**	**43**	P	**P**	**00 37 12.5**	**+0.4**
GSC	**Goldstone, Bar**	**80.72**	**46**	P	**P**	**00 37 12.2**	**0.0**
YBH	**Yreka Blue Hor**	**81.08**	**38**	P	**P**	**00 37 15.1**	**+1.0**
HUMO	**Hull Mountain**	**81.52**	**37**	P	**P**	**00 37 16.5**	**+0.2**
HUMO				IAmb	IAmb	00 37 18.2	
RYN	comp=Z,9.0nm,1.4s **Ryan**	**81.60**	**42**	P	**P**	**00 37 16.9**	**-0.2**
NVAR	**Mina Array Bea**	**81.62**	**42**	P	**P**	**00 37 16.3**	**-0.8**
NVAR	comp=Z,1.4nm,0.8s,baz=221,slow=8.5,SNR=11 **Mina Array Bea**	**81.62**	**42**	P	**P**	**00 37 17.6**	**+0.5**
NV11	**Mina Array Sit**	**81.71**	**43**	P	**P**	**00 37 17.3**	**-0.3**
PAHR	**Pah Rah Range**	**81.74**	**41**	P	**P**	**00 37 17.1**	**-0.5**
TPNV	**Topopah Spring**	**82.04**	**45**	IAmb	IAmb	00 39 22.8	
SHPR	comp=Z,3.5nm,0.6s **Sheep Range**	**82.50**	**46**	P	**P**	**00 37 21.6**	**-0.2**
SHPR				IAmb	IAmb	00 39 25.5	
Y14A	comp=Z,4.3nm,0.9s **Wickenburg**	**82.52**	**49**	IAmb	IAmb	00 39 32.3	
MOD	comp=Z,7.1nm,0.7s **Modoc Plateau**	**82.57**	**39**	P	**P**	**00 37 21.2**	**-0.8**
MOD				IAmb	IAmb	00 37 23.2	
TUC	comp=Z,7.3nm,1.3s **Tucson**	**83.21**	**51**	P	**P**	**00 37 25.3**	**-0.1**
TUC				IAmb	IAmb	00 37 27.3	
R11A	comp=Z,3.7nm,0.9s **Troy Canyon, C**	**83.29**	**44**	P	**P**	**00 37 25.2**	**-0.6**
R11A				IAmb	IAmb	00 37 37.2	
H04A	comp=Z,7.9nm,1.9s **Detroit Lake**	**83.31**	**36**	P	**P**	**00 37 25.1**	**-0.4**
H04A				IAmb	IAmb	00 38 05.2	
PINE	comp=Z,29nm,1.9s **Pine Mountain**	**83.41**	**37**	P	**P**	**00 37 26.7**	**+0.4**
PINE				IAmb	IAmb	00 37 28.4	
BMN	comp=Z,5.2nm,1.0s **Battle Mountai**	**83.49**	**41**	P	**P**	**00 37 27.1**	**+0.3**
BMN				IAmb	IAmb	00 37 27.9	
319A	comp=Z,4.8nm,1.1s **Douglas**	**83.81**	**53**	P	**P**	**00 37 28.4**	**-0.2**
319A				IAmb	IAmb	00 37 30.3	
X16A	comp=Z,6.8nm,0.8s **Lo Mia Camp, P**	**83.86**	**49**	P	**P**	**00 37 29.1**	**+0.3**
X16A				IAmb	IAmb	00 37 30.7	
F04A	comp=Z,5.3nm,1.0s **Amboy**	**84.00**	**35**	P	**P**	**00 37 27.8**	**-1.2**
LCMT	**Little Creek M**	**84.05**	**46**	P	**P**	**00 37 29.8**	**+0.1**
CCUT	**Cedar City**	**84.28**	**45**	P	**P**	**00 37 31.6**	**+0.7**
KNB	**Kanab**	**84.34**	**46**	P	**P**	**00 37 30.7**	**-0.5**
HPIG		**84.36**	**58**	P	**P**	**00 37 31.4**	**-0.1**
HPIG				IAmb	IAmb	00 40 11.0	
U15A	comp=Z,19nm,1.9s **North Rim**	**84.37**	**47**	IAmb	IAmb	00 37 33.2	
HOM	comp=Z,6.4nm,0.9s **Homer**	**84.46**	**12**	P	**P**	**00 37 30.4**	**-0.6**
SZCU	**Shurtz Canyon**	**84.48**	**46**	P	**P**	**00 37 31.7**	**-0.3**
WUAZ	**Wupatki**	**84.50**	**48**	P	**P**	**00 37 32.1**	**0.0**
PSUT	**Pine Spring**	**84.51**	**44**	P	**P**	**00 37 32.2**	**+0.2**
X18A	**Snowflake**	**84.97**	**50**	P	**P**	**00 37 34.5**	**+0.1**
X18A				IAmb	IAmb	00 37 35.6	
SYO	comp=Z,2.9nm,0.7s **Syowa Base**	**84.99**	**192**	⇑eP	**P**	**00 37 31.8**	**-1.9**
VNA3	**Neumayer Olymp**	**85.97**	**176**	P	**P**	**00 37 38.4**	**-0.2**
VNA2	**Neumayer--Watz**	**86.42**	**176**	P	**P**	**00 37 41.1**	**+0.2**
VNA1	baz=182,slow=3.1 **Neumayer--Stat**	**86.64**	**176**	P	**P**	**00 37 42.0**	**+0.2**
TMUT	**Trail Mountain**	**86.65**	**45**	P	**P**	**00 37 42.9**	**+0.1**
MNTX	**Cornudas Mount**	**86.86**	**54**	P	**P**	**00 37 43.4**	**-0.2**
MNTX				IAmb	IAmb	00 37 44.9	
TX31	comp=Z,5.0nm,1.0s **Lajitas Ar. Si**	**87.04**	**57**	IAmb	IAmb	00 37 45.6	
TX32	comp=Z,4.0nm,1.0s **Lajitas Array**	**87.04**	**57**	IAmb	IAmb	00 37 45.6	
TXAR	comp=Z,4.0nm,1.0s **Lajitas Array**	**87.04**	**57**	P	**P**	**00 37 44.9**	**+0.3**
TXAR	comp=Z,2.5nm,0.8s,baz=217,slow=7.6,SNR=20 **Lajitas Array**	**87.04**	**57**	P	**P**	**00 37 44.7**	**+0.1**
PCA	**Pinnacle**	**87.55**	**17**	P	**P**	**00 37 46.0**	**-0.3**
PV09	**Paradox Valley**	**87.60**	**46**	P	**P**	**00 37 46.9**	**-0.5**
ANMO	**Albuquerque**	**87.65**	**51**	P	**P**	**00 37 46.9**	**-0.7**
PV01	**Paradox Valley**	**87.79**	**47**	P	**P**	**00 37 47.8**	**-0.4**
PV01				IAmb	IAmb	00 37 50.7	
DHY	comp=Z,16nm,1.8s **Denali Highway**	**88.44**	**13**	P	**P**	**00 37 50.4**	**-0.1**
RND	**Reindeer**	**88.44**	**12**	IAmb	IAmb	00 37 55.4	
MCMT	comp=Z,11nm,1.1s **McKenzie Canyo**	**88.67**	**40**	P	**P**	**00 37 50.0**	**-2.2**
PDAR	**Pinedale Array**	**89.55**	**43**	P	**P**	**00 37 56.0**	**-0.3**
BCAR	comp=Z,0.6nm,0.8s,baz=214,slow=1.1,SNR=5.5 **Beaver Creek A**	**89.67**	**15**	P	**P**	**00 37 55.8**	**-0.4**
YHL	**Hebgen Lake**	**89.67**	**40**	P	**P**	**00 37 56.5**	**-0.4**
CCB	**Clear Creek Bu**	**89.76**	**12**	P	**P**	**00 37 54.7**	**-1.8**
BOZ	**Bozeman (W)**	**89.81**	**39**	P	**P**	**00 37 56.6**	**-0.8**
BOZ				IAmb	IAmb	00 37 58.5	
MSTX	comp=Z,3.1nm,1.1s **Muleshoe**	**89.86**	**53**	P	**P**	**00 37 57.1**	**-0.8**
MSTX				IAmb	IAmb	00 37 58.5	
IL31	comp=Z,5.3nm,0.8s	**90.05**	**12**	P	**P**	**00 37 57.3**	**-0.5**
ILAR	**Eielson Array**	**90.05**	**12**	P	**P**	**00 37 57.0**	**-0.9**
DAWY	comp=Z,1.3nm,0.8s,baz=214,slow=6.5,SNR=9.9 **Dawson**	**91.10**	**15**	P	**P**	**00 38 03.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**92.10**	**289**	P	**P**	**00 38 09.1**	**+0.6**
BMAR	comp=Z,1.1nm,0.3s,baz=123,slow=3.3,SNR=6.0 **Burnt Mountain**	**92.85**	**12**	P	**P**	**00 38 10.0**	**-0.9**
RSSD	**Black Hills**	**93.72**	**43**	P	**P**	**00 38 15.2**	**-0.5**
RSSD				IAmb	IAmb	00 38 16.3	
ARCES	comp=Z,4.0nm,0.9s **ARCESS Array B**	**131.22**	**350**	PKP	**PKPdf**	**00 44 08.9**	**-0.6**
FINES	comp=Z,5.1nm,1.1s,baz=101,slow=0.9,SNR=5.1 **FINESS Array B**	**138.16**	**344**	PKP	**PKPdf**	**00 44 22.4**	**-0.2**
AKASG	comp=Z,3.7nm,1.0s,baz=38,slow=2.5,SNR=3.1 **Malin Array Be**	**145.50**	**331**	PKPbc	**PKPdf**	**00 44 34.6**	**-1.4**
AKASG	comp=Z,1.4nm,0.5s,baz=42,slow=3.7,SNR=7.0 **Malin Array Be**	**145.50**	**331**		**PKPdf**	**00 44 35.3**	**-0.8**
BRTR	**Keskin Array B**	**149.25**	**311**	PKPbc	**PKPdf**	**00 44 45.7**	**+2.8**
CLL	comp=Z,0.9nm,0.6s,baz=124,slow=4.1,SNR=5.3 **Collm**	**150.40**	**348**	ePKPbc	**PKiKP**	**00 44 51.0**	**+0.8**
CLL				ePKPab	**PKPab**	**00 44 56.0**	**-0.1**
CLL				epPKPab	**pPKPab**	**00 45 24.0**	**+2.0**
GERES	**GERESS Array B**	**152.57**	**345**	PKPbc	**PKPbc**	**00 44 54.0**	**-0.7**
ESDC	comp=Z,0.9nm,0.8s,baz=29,slow=2.2,SNR=6.8 **Sonseca Array**	**161.84**	**19**	PKPab	**PKPab**	**00 45 45.4**	**-0.1**
ESDC	comp=Z,0.7nm,0.8s,baz=322,slow=2.6,SNR=4.9 **Sonseca Array**	**161.84**	**19**		**PKPab**	**00 45 45.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**170.45**	**169**	PKPab	**PKPab**	**00 46 24.0**	**+0.1**
TORD	comp=Z,1.5nm,0.9s,baz=180,slow=4.6,SNR=7.9 **Torodi Ar. Bea**	**170.45**	**169**		**PKPab**	**00 46 24.2**	**+0.3**

*ISCJB **01** 00:50:32.9±1.4, 30°.42S±0°.04×71°.74W±0°.09, h8km±8km, Error ellipse: s-maj=14.0km s-min=6.4km az=17.9*
*SJA **01** 00:50:32.7±1.2, 30°.39S×71°.76W, h29km±12km, ML3.2, MW3.4*
*GUC **01** 00:50:34.5±0.6, 30°.44S×71°.45W, h44km±3km, ML3.6*

ISC 01 00:50:32.1±2.7, 30°.41S±0°.04×71°.72W±0°.08, h14km±17km, n12, σ1°.10/19, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.65**	**39**	⇑iP	**Pn**	**00 50 46.8**	**-0.1**
LSCH				i S	**Sn**	**00 50 55.6**	**-1.4**
GO04	**Tololo Observa**	**0.83**	**73**	⇓iP	**Pb**	**00 50 48.8**	**+0.2**
GO04				i S	**Sg**	**00 50 59.0**	**-0.3**
GO04				IAML		00 51 01.2	
CO02	comp=N,10μm,0.3s **Combarbal**	**1.00**	**142**	⇓iP	**Pb**	**00 50 51.3**	**0.0**
CO02				i S	**Sb**	**00 51 04.3**	**-0.2**
CO02				IAML		00 51 05.2	
LCO	comp=N,4μm,0.6s **Las Campanas**	**1.66**	**33**	⇑iP	**Pb**	**00 51 02.5**	**-0.1**
LCO				i S	**Sb**	**00 51 23.4**	**-0.1**
LCO	**Las Campanas**	**1.66**	**33**	eP	**Pb**	**00 51 02.5**	**-0.1**
LCO				eS	**Sb**	**00 51 24.1**	**+0.7**
LCO				IAML		00 51 24.9	
AROD	comp=Z,237nm,0.3s **Rodeo**	**1.96**	**83**	eP	**Pb**	**00 51 07.5**	**-0.4**
AROD				eS	**Sb**	**00 51 32.3**	**+0.1**
ACDV	**Cuesta del Vie**	**2.26**	**84**	eP	**Pb**	**00 51 11.8**	**-1.0**
ACDV				eS	**Sb**	**00 51 40.8**	**0.0**
ACCO	**Cerro Coronel**	**2.30**	**95**	eP	**Pb**	**00 51 12.4**	**-1.2**
ACCO				eS	**Sb**	**00 51 41.8**	**-0.2**
ROCH	**El Roble**	**2.62**	**167**	IAML		00 51 54.1	
ROC1	comp=N,180nm,0.4s **El Roble**	**2.62**	**167**	eP	**Pn**	**00 51 15.8**	**+1.5**
ROC1				eS	**Sb**	**00 51 49.2**	**-2.1**
AMOG	**MOGNA**	**2.83**	**101**	eP	**Pn**	**00 51 19.6**	**+2.5**
AMOG				IAML		00 52 03.8	
GO03	comp=Z,94nm,0.4s **Copiap**	**3.10**	**25**	IAML		00 52 12.6	
	comp=E,119nm,0.3s						

*SOME **01** 01:20:29.0, 42°.00N×83°.72E, h15km*
*NNC **01** 01:20:32.3±2.5, 42°.09N×83°.33E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=21.6km s-min=11.9km az=158.0*

ISC 01 01:20:30.3±2.6, 41°.9N±0°.1×83°.43E±0°.09, h15km, n22, σ1°.97/33, 11C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.21**	**295**	Pg	**Pn**	**01 21 23.6**	**+3.2**
SHLS	19nm,0.1s			Lg	Lg	01 22 04.3	
SHLS	244nm,0.5s **Shalkode**	**3.21**	**295**	eP	**Pn**	**01 21 23.6**	**+3.2**
SHLS	19nm,0.1s			eS	**Sb**	**01 22 04.2**	**-1.9**
PDGK	244nm,0.5s **Podgornoye**	**3.27**	**298**	Pg	**Pb**	**01 21 28.7**	**+0.6**
PDGK	7.7nm,0.2s			Lg	Lg	01 22 12.2	
PDGK	51nm,0.4s **Podgornoye**	**3.27**	**298**	⇑Pn	**Pn**	**01 21 24.5**	**+3.4**
PDGK	0.6nm,0.3s			⇑Pg	**Pb**	**01 21 29.3**	**+1.3**
PDGK	6.8nm,0.4s			⇑Lg	Lg	01 22 11.8	
UZB	89nm,0.6s **Uzynbulak**	**3.51**	**293**	Pg	**Pb**	**01 21 32.5**	**+0.3**
UZB	9.1nm,0.3s			Lg	Lg	01 22 20.2	
UZB	51nm,0.2s **Uzynbulak**	**3.51**	**293**	eP	**Pb**	**01 21 33.2**	**+1.0**
UZB	9.1nm,0.3s			eS	**Sg**	**01 22 20.2**	**-2.8**
DJR	51nm,0.2s **Jarkent**	**3.64**	**314**	Pg	**Pb**	**01 21 34.1**	**-0.3**
DJR	22nm,0.4s			Lg	Lg	01 22 22.7	
DJR	37nm,0.4s **Jarkent**	**3.64**	**314**	eP	**Pb**	**01 21 34.6**	**+0.1**
DJR	9.2nm,0.3s			eS	**Sb**	**01 22 22.7**	**+4.2**
SATY	25nm,0.4s **Saty**	**3.91**	**290**	Pg	**Pb**	**01 21 38.1**	**-0.9**
SATY	18nm,0.3s			Lg	Lg	01 22 30.0	
SATY	53nm,0.2s **Saty**	**3.91**	**290**	eP	**Pb**	**01 21 42.0**	**+2.9**
SATY	8.1nm,0.2s			eS	**Sg**	**01 22 35.0**	**-0.9**
ZHN	52nm,0.1s **Zhinishke**	**3.92**	**291**	Pg	**Pb**	**01 21 39.5**	**+0.2**
ZHN	4.9nm,0.1s			Lg	Lg	01 22 31.1	
ZHN	34nm,0.2s **Zhinishke**	**3.92**	**291**	eP	**Pg**	**01 21 43.1**	**-2.3**
ZHN	4.5nm,0.1s			eS	**Sg**	**01 22 37.1**	**+0.9**
KOTS	35nm,0.2s **Kotyrbulak**	**4.87**	**289**	Pg	**Pb**	**01 21 53.8**	**-1.6**
KOTS	7.3nm,0.1s			Lg	Lg	01 22 55.5	
KOTS	38nm,0.4s **Kotyrbulak**	**4.87**	**289**	eP	**Pg**	**01 22 01.1**	**-2.5**
KOTS	9.4nm,0.2s			eS	**Sg**	**01 23 07.5**	**+0.9**
MDOK	38nm,0.4s **Medeo**	**4.90**	**288**	eP	**Pg**	**01 22 01.1**	**-3.0**
MDOK	4.7nm,0.5s			eS	**Sg**	**01 23 07.7**	**+0.2**
TNSS	22nm,0.7s **Tian-Shan**	**4.94**	**286**	Pg	**Pb**	**01 21 56.9**	**+0.1**
TNSS	2.8nm,0.3s			Lg	Lg	01 23 00.9	
TNSS	18nm,0.5s **Tian-Shan**	**4.94**	**286**	eP	**Pg**	**01 22 02.3**	**-2.7**
TNSS	2.8nm,0.3s			eS	**Sg**	**01 23 09.7**	**+0.6**
MK31	18nm,0.5s **Makanchi Array**	**5.01**	**351**	⇓Pn	**Pn**	**01 21 45.9**	**+0.8**
MK31	0.2nm,0.2s,baz=167,slow=13,SNR=51			⇑Pg	**Pb**	**01 21 57.9**	**+0.1**
MK31	3.6nm,0.4s,baz=162,slow=14,SNR=30			⇑Lg	Lg	01 22 59.9	
MAKZ	29nm,0.7s,baz=162,slow=27,SNR=7.2 **Makanchi**	**5.07**	**349**	⇓Pn	**Pn**	**01 21 46.7**	**+1.0**
MAKZ	0.9nm,0.5s			⇑Pg	**Pb**	**01 22 00.0**	**+1.3**
MAKZ	2.4nm,0.3s			⇑Lg	Lg	01 23 03.4	
TKM2	11nm,0.5s **Tokmak 2**	**5.90**	**283**	⇓Pg	**Pg**	**01 22 20.9**	**-2.4**
TKM2	1.7nm,0.5s			⇑Lg	Lg	01 23 37.7	
AAK	14nm,1.1s **Ala-Archa**	**6.68**	**280**	⇑Lg	Lg	01 24 03.8	
KURBB	6.5nm,0.8s **Kurchatov Arra**	**9.41**	**341**	⇑Pn	**Pn**	**01 22 44.8**	**-0.4**
KURBB	2.5nm,1.2s			⇑Sn	**Sn**	**01 24 30.4**	**-0.3**
	5.8nm,0.6s						

*IDC **01** 01:25:26.9±1.8, 15°.28S×71°.86W, h100km±19km, mb3.6/4, mb1 3.7/9, mb1mx3.5/31, mbtmp4.1/9, Error ellipse: s-maj=23.3km s-min=14.9km az=38.0*
*ISCJB **01** 01:25:27.5±0.5, 15°.40S±0°.07×72°.03W±0°.08, h132km, mb3.7/4, Error ellipse: s-maj=12.2km s-min=6.8km az=140.8*
*NEIC **01** 01:25:28.6±2.6, 15°.51S±0°.09×72°.11W±0°.08, h124km±9km, mb4.1/6*

ISC 01 01:25:29.1±0.7, 15°.54S±0°.07×72°.07W±0°.08, h132km, n29, σ2°.33/30, mb3.7/4, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.86**	**102**	P	**Pn**	**01 26 28.9**	**+1.2**
LPAZ	26nm,0.3s,baz=313,slow=8.5,SNR=563 **La Paz**	**3.86**	**102**		**Pn**	**01 26 28.8**	**+1.1**
MNMC	**Minye Minye**	**4.28**	**147**		**Pn**	**01 26 33.0**	**0.0**
PB11	**IPOC Station P**	**4.79**	**152**	Pn	**Pn**	**01 26 38.8**	**-0.8**
GO01	**Chusmiza**	**4.94**	**147**		**Pn**	**01 26 42.6**	**+0.7**
NNA	**Nana**	**5.83**	**307**	P	**Pn**	**01 26 52.7**	**-0.7**
NNA	24nm,0.3s,baz=139,slow=12,SNR=49			S	**Sn**	**01 27 56.0**	**-3.2**
NNA	25nm,0.3s,baz=38,slow=23,SNR=9.8 **Nana**	**5.83**	**307**		**Pn**	**01 26 52.4**	**-1.0**
PB01	**IPOC Station P**	**6.00**	**156**	Pn	**Pn**	**01 26 55.2**	**-0.6**
PB04	**IPOC Station P**	**7.00**	**165**	Pn	**Pn**	**01 27 08.6**	**-0.8**
LVC	**Limon Verde**	**7.64**	**157**	P	**Pn**	**01 27 18.0**	**-0.1**
LVC	2.8nm,0.3s,baz=359,slow=8.5,SNR=38			S	**Sn**	**01 28 40.1**	**-3.4**
LVC	13nm,0.3s,baz=52,slow=15,SNR=18 **Limon Verde**	**7.64**	**157**		**Pn**	**01 27 18.5**	**+0.4**
LVC					**Sn**	**01 28 37.5**	**-5.9**
PB10	**IPOC Station P**	**8.06**	**170**	Pn	**Pn**	**01 27 22.9**	**-0.6**
PB10					**Sn**	**01 28 50.3**	**-2.7**
GO02	**Mina Guanaco**	**9.86**	**167**	Pn	**Pn**	**01 27 48.1**	**+0.3**
SIV	**San Ignacio**	**10.60**	**94**	P	**Pn**	**01 27 53.8**	**-3.7**
CPUP	2.4nm,0.3s,baz=291,slow=9.8,SNR=53 **Villa Florida**	**17.44**	**130**	P	**P**	**01 29 24.2**	**+0.6**
CPUP	0.2nm,0.3s,baz=318,slow=14,SNR=3.0 **Villa Florida**	**17.44**	**130**	IAmb	IAmb	01 29 24.8	
PTGA	comp=Z,21nm,1.8s **Pitinga**	**18.95**	**40**	P	**P**	**01 29 38.1**	**-2.1**
BDFB	comp=Z,0.4nm,0.3s,baz=348,slow=23,SNR=3.3 **Brasilia**	**23.17**	**94**	P	**P**	**01 30 22.9**	**-1.5**
PLCA	comp=Z,1.4nm,0.5s,baz=267,slow=13,SNR=3.6 **Paso Flores**	**25.14**	**177**	P	**P**	**01 30 44.8**	**+2.8**
VNA3	comp=Z,2.5nm,0.9s,baz=23,slow=11,SNR=3.8 **Neumayer Olymp**	**66.65**	**162**	P	**P**	**01 36 08.1**	**+2.9**
VNA1	**Neumayer--Stat**	**66.87**	**161**	P	**P**	**01 36 09.9**	**+3.3**
VNA2	**Neumayer--Watz**	**67.24**	**161**	P	**P**	**01 36 11.6**	**+2.7**
SNAA	baz=283,slow=6.3 **Sanae**	**68.86**	**162**	P	**P**	**01 36 22.0**	**+2.9**
TORD	**Torodi Ar. Bea**	**78.32**	**73**	P	**P**	**01 37 14.1**	**-1.2**
TORD	comp=Z,0.9nm,0.5s,baz=255,slow=4.8,SNR=11 **Torodi Ar. Bea**	**78.32**	**73**	IAmb	IAmb	01 37 18.6	
MAW	comp=Z,0.8nm,0.8s **Mawson**	**90.86**	**164**	P	**P**	**01 38 19.8**	**+2.4**
MAW	comp=Z,0.7nm,0.7s,baz=225,slow=7.1,SNR=3.6 **Mawson**	**90.86**	**164**	IAmb	IAmb	01 38 30.9	
WRA	comp=Z,2.7nm,1.9s **Warramunga Arr**	**136.22**	**217**	PKP	**PKiKP**	**01 44 39.1**	**+1.5**
SONM	comp=Z,0.3nm,0.3s,baz=132,slow=1.9,SNR=4.9 **Songino Array**	**147.77**	**2**	PKPbc	**PKPbc**	**01 45 00.1**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=340,slow=1.2,SNR=5.7						

*DDA **01** 01:27:17.8, 38°.10N×35°.17E, h5km±1km, ML3.7*
*ISK **01** 01:27:18.9, 38°.13N×35°.21E, h5km, ML3.5/34*

**ISC 01 01:27:19.5±1.1, 38°.11N±0°.02

SIRC IAML_P
comp=Z,4μm,0.2s
AKSY AKSARAY - Alti 1.25 296 *i* P **Pn 01 27 43.5 -0.3**
AKSY IAML_P
comp=Z,2μm,0.2s
YURE YUREGIR 1.33 164 *i* P **Pg 01 27 44.7 -0.2**
YURE YUREGIR 1.33 164 PN **Pg 01 27 45.2 +0.3**
MERS Mersin 1.35 203 PN **Pg 01 27 45.9 +0.6**
YAYX Yaylak 1.36 308 PN **Pg 01 27 45.9 +0.3**
YAYX SN **Sn 01 28 05.7 +1.7**
KIRS Kırehir-Merke 1.43 316 *i* P **Pn 01 27 45.3 -1.0**
KMRS Kahramanmaras 1.48 113 PN **Pg 01 27 47.4 -0.5**
KMRS SN **Sg 01 28 09.2 +2.1**
SERE Sereflikochisa 1.52 304 PN **Pg 01 27 48.4 -0.3**
SERE SN **Sg 01 28 09.9 +1.4**
YOZ Yozgat 1.53 4 PN **Pb 01 27 48.3 -0.3**
KRTS Karatas 1.54 174 PN **Pg 01 27 48.6 -0.4**
HCB Kahramanmara 1.56 119 *i* P **Pg 01 27 49.1 -0.3**
CUALT Altinyayla-SIV 1.69 46 *i* P **Pb 01 27 50.8 -0.4**
KHMN Narli-Kahraman 1.72 114 PN **Pb 01 27 50.8 -0.8**
KIZK Mersin 1.83 207 PN **Pb 01 27 52.8 -0.7**
GAZ Gaziantep 1.86 120 PN **Pb 01 27 53.8 -0.2**
DARE Darende-Malaty 1.86 75 PN **Pb 01 27 53.1 -1.0**
SILI Silifke-Mersin 2.01 211 PN **Pb 01 27 55.5 -1.1**
KEBE Keben-Mersin 2.03 216 PN **Pb 01 27 56.1 -0.9**
AFSR Afar-Bala (An 2.13 310 PN **Pn 01 27 56.8 +0.9**
TEVE Tevekalti-Mers 2.17 220 PN **Pb 01 27 58.1 -1.3**
IKL Isikli 2.22 213 PN **Pb 01 27 58.8 -1.4**
LADK Ladik-KONYA 2.23 273 PN **Pb 01 27 58.5 -1.9**
KARG Kargicak-Mersi 2.24 212 PN **Pb 01 27 58.9 -1.6**
KONT Konya--Tatoy 2.24 267 PN **Pb 01 27 58.9 -1.6**
YESI Yesilovacik-Me 2.27 213 PN **Pb 01 27 59.2 -1.9**
TISA Tisan-Mersin 2.29 212 PN **Pb 01 27 59.6 -1.7**
SVSK Karacayir 2.29 37 PN **Pn 01 27 59.0 +1.0**
AKKU Akkuyu-Mersin 2.35 214 PN **Pb 01 28 00.8 -1.5**
BERE Bereket-Mersin 2.36 222 PN **Pb 01 28 00.8 -1.8**
AKK1 Akkuyu-Mersin 2.36 214 PN **Pb 01 28 00.7 -1.9**
AKK2 Akkuyu-Mersin 2.37 214 PN **Pb 01 28 01.1 -1.5**
TOKT Tokat 2.45 25 PN **Pb 01 28 01.4 +1.1**
MALT Malatya 2.56 84 PN **Pb 01 28 03.5 -2.5**
ANTO Ankara 2.56 314 PN **Pb 01 28 03.2 +1.3**
TEKE Tekeli-Mersin 2.57 221 PN **Pb 01 28 04.4 -1.7**
EREN Erenkoy 2.70 198 PN **Pn 01 28 05.4 +1.7**
KIZT Kizilcal 2.71 288 PN **Pn 01 28 05.4 +1.5**
CANT Cankiri 2.77 334 PN **Pn 01 28 06.6 +1.8**
RSDY Resadiye-TOKAT 2.82 35 PN **Pn 01 28 07.1 +1.7**
URFA Urfa 2.95 102 PN **Pb 01 28 09.5 -3.2**
GAZI Gazipasa 2.96 232 PN **Pn 01 28 09.6 +2.3**
KVT Kavak 3.04 12 PN **Pn 01 28 09.8 +1.4**
CSS Mathiatis 3.48 206 PN **Pn 01 28 16.0 +1.6**
LEF Lefka 3.51 212 PN **Pn 01 28 17.9 +3.1**
DIKM Dikmen 3.54 1 PN **Pn 01 28 17.3 +2.1**
KORT Korkueli 4.00 255 PN **Pn 01 28 24.2 +2.5**

GUC 01 01:36:45.2±0.6, 24°.98S×70°.88W, h13km±3km, ML3.2, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.56**	**51**	↓↓*e*P		Pg	01 36 55.4 -0.9
PB14				*e*S		Sg	01 37 03.7 -0.1
PB14				IAML			01 37 06.9
comp=E,3μm,0.3s							
GO02	**Mina Guanaco**	**1.19**	**99**	↑*i*P		Pb	01 37 05.9 -1.8
GO02				*e*P		Pn	01 37 06.1 -1.7
GO02				*e*S		Sb	01 37 22.1 -1.1
GO02				IAML			01 37 29.4
comp=E,1μm,0.6s							
PB10	**IPOC Station P**	**1.49**	**12**	↓↓*e*P		Pn	01 37 08.8 -3.0
PB10				*e*S		Sn	01 37 29.9 -1.2
PB10				IAML			01 37 38.5
comp=N,430nm,0.1s							
PB15	**IPOC Station P**	**2.19**	**36**	↑*i*P		Pn	01 37 22.9 +1.4
PB15				*e*S		Sb	01 37 50.9 -0.9
PB06	**IPOC Station P**	**2.56**	**28**	↑*i*P		Pn	01 37 28.6 +2.0
PB06				*e*S		Sb	01 38 01.5 -1.2
LVC	**Limon Verde**	**2.97**	**38**	*i* P		Pb	01 37 36.0 -2.3
LVC				*e*S		Sn	01 38 11.3 +3.2

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*ISCJB **01** 01:53:53.2±0.5, 28°.43N±0°.04×103°.88E±0°.10, h10km, mb3.9/7, Error ellipse: s-maj=12.7km s-min=5.3km az=8.1*
*IDC **01** 01:53:54.2±0.9, 28°.55N×104°.03E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.6/47, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=49.1km s-min=16.5km az=65.0*
*BJI **01** 01:53:56.3±0.0, 28°.44N×103°.79E, h6km, ML3.6/12*
ISC 01 01:53:56.0±0.7, 28°.42N±0°.05×104°.0E±0°.1, h10km, n14, σ1§59/18, mb4.1/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.50**	**355**	Pn	**Pn**	**01 54 37.5**	**+0.7**
CD2				Pg	**Pb**	**01 54 41.8**	**+0.8**
CD2				Sn	**Sn**	**01 55 08.7**	**+1.4**
CD2				Sg	**Sb**	**01 55 12.4**	**+0.6**
CD2				smax	smax		
comp=N,680nm,0.4s							
CD2				smax	smax		
comp=E,2μm,0.6s							
KMI	**Kunming**	**3.47**	**199**	Pg	**Pg**	**01 55 01.4**	**-1.2**
KMI				Sg	**Sg**	**01 55 46.4**	**-1.2**
KMI				smax	smax		
comp=N,28nm,1.0s							
KMI				smax	smax		
comp=E,38nm,0.9s							
XAN	**Xi'an**	**7.00**	**36**	Pn	**Pn**	**01 55 39.2**	**+0.5**
XAN				Sn	**Sn**	**01 56 55.4**	**-3.1**
XAN				Sg	Sg	01 57 34.5	-6.4
XAN				smax	smax		
comp=N,81nm,1.2s							
XAN				smax	smax		
comp=E,100nm,1.0s							
WHN	**Wuhan**	**9.26**	**74**	P	**Pn**	**01 56 11.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**10.95**	**206**	Pn	**Pn**	**01 56 35.6**	**+2.8**
0.3nm,0.3s,baz=22,slow=12,SNR=5.5							
SONM	**Songino Array**	**19.48**	**5**	P	**P**	**01 58 23.1**	**0.0**
0.2nm,0.3s,baz=182,slow=14,SNR=6.3							
WMQ	**Urumqi**	**20.20**	**324**	*e*P	Pn	01 58 31.2	-1.6
MKAR	**Makanchi Array**	**25.02**	**323**	P	**P**	**01 59 19.7**	**-0.4**
1.1nm,0.5s,baz=123,slow=12,SNR=18							
ZALV	**Zalesovo Beam**	**29.12**	**336**	P	**P**	**01 59 55.7**	**-1.2**
0.7nm,0.4s,baz=123,slow=7.4,SNR=4.3							
KURBB	**Kurchatov Arra**	**29.38**	**326**	P	**P**	**01 59 57.3**	**-1.9**
0.4nm,0.4s,baz=129,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**56.30**	**145**	P	**P**	**02 03 37.0**	**-0.2**
0.9nm,0.5s,baz=335,slow=8.3,SNR=8.4							
ASAR	**Alice Springs**	**59.25**	**148**	P	**P**	**02 03 58.8**	**+0.9**
0.6nm,0.4s,baz=325,slow=6.9,SNR=13							
ARCES	**ARCESS Array B**	**59.68**	**336**	P	**P**	**02 03 58.8**	**-1.4**
2.3nm,0.8s,baz=87,slow=8.2,SNR=4.4							
FINES	**FINESS Array B**	**59.76**	**327**	P	**P**	**02 03 59.1**	**-1.8**
2.3nm,0.8s,baz=104,slow=6.1,SNR=4.8							

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*ISN **01** 01:58:12.1±0.3, 32°.84N×47°.66E, h0km, ML2.0*
THR 01 01:58:18.1, 32°.96N×47°.96E, h18km, ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.11**	**140**	*e*Pg	Pn	01 58 38.7	0.0
SHGR	**Shooshtar-Gavs**	**1.11**	**140**	*e*AML	AML	01 59 03.6	
comp=N,108nm,0.5s							
IBDR	**Badra**	**1.71**	**276**	*e*Pg	Pn	01 58 45.0	-2.0
baz=100							
IBDR				AML	AML	01 58 49.7	
comp=Z,35nm,0.4s							
IBDR				*e*Sg	Sn	01 59 08.0	-0.4
KHMZ	**Khomeyn**	**1.84**	**65**	*e*Pn	Pb	01 58 51.0	-0.4
KHMZ				*e*Sg	Sg	01 59 16.7	-0.9
ASAO	**Ashtian**	**2.34**	**47**	*e*Sg	Sg	01 59 31.8	-1.6
ASAO	**Ashtian**	**2.34**	**47**	*e*Pn	Pb	01 58 58.1	-1.8
GHVR	**GHOM**	**3.17**	**60**	*e*Pn	Pn	01 59 08.5	+1.4

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*IDC **01** 02:11:28.5±1.6, 11°.79N×86°.91W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/41, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=100.6km s-min=12.2km az=45.0*
*UCR **01** 02:11:28.7±5.1, 11°.55N×87°.26W, h0km±32km, MW4.2*
*NEIC **01** 02:11:33.2±2.8, 11°.4N±0°.1×87°.1W±0°.1, h45km±14km, mb4.0/4*

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*SNET **01** 02:11:33.9±0.8, 11°.66N×87°.06W, h13km±30km, ML3.8*
ISC 01 02:11:30.7±1.4, 11°.62N±0°.05×87°.04W±0°.05, h10km±10km, n38, σ1§55/50, mb3.9/6, 5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAVN	**Gruta Xavier**	**0.87**	**53**	*e*P	**Pn**	**02 11 49.4**	**+0.4**
CRIN	**San Cristobal**	**1.07**	**359**	↓↓*e*P	**Pg**	**02 11 53.7**	**+2.3**
CRIN				*e*S	**Sn**	**02 12 12.5**	**+5.6**
ESTN	**Estel**	**1.61**	**24**	↓↓*i*P	**Pg**	**02 12 01.1**	**-0.6**
MATN	**Matagalpa**	**1.70**	**40**	↓↓*i*P	**Pb**	**02 12 01.6**	**-0.4**
GB1A	**Boringuen Arri**	**1.80**	**116**	*e*P	**Pn**	**02 12 01.9**	**+0.1**
BUEV	**Buena Vista**	**1.80**	**117**	*e*P	**Pn**	**02 12 02.0**	**+0.2**
BUEV				*e*S	**Sg**	**02 12 30.0**	**+1.4**
CNCH	**Conchagua**	**1.82**	**335**	*e*P	**Pb**	**02 12 04.1**	**0.0**
CNCH				*e*S	**Sg**	**02 12 28.1**	**-1.2**
CNCH				IAML		02 12 37.9	
comp=Z,1μm,0.4s							
ACON	**Acoyapa**	**1.86**	**79**	↓↓*e*P	**Pn**	**02 12 02.0**	**-0.6**
ACON	**Acoyapa**	**1.86**	**79**		**Pn**	**02 12 02.0**	**-0.6**
LCND	**La Caada**	**1.87**	**334**	*e*P	**Pb**	**02 12 04.6**	**-0.4**
LCND				*e*S	**Sg**	**02 12 28.4**	**-2.6**
LCND				IAML		02 12 33.5	
comp=Z,666nm,0.4s							
RCON	**San Juan de Ri**	**2.04**	**25**	↓↓*e*P	**Pb**	**02 12 07.5**	**-0.5**
CUI	**Cuipilapa**	**2.08**	**117**	*e*P	**Pn**	**02 12 05.9**	**+0.3**
CUI				*e*S	**Sg**	**02 12 38.2**	**+0.8**
PLVR	**Palo Verde**	**2.08**	**127**	*e*P	**Pn**	**02 12 05.6**	**-0.3**
PLVR				*e*S	**Sb**	**02 12 35.0**	**+0.3**
FAGO	**Alcalda de S**	**2.31**	**333**	*e*P	**Pb**	**02 12 10.8**	**-1.6**
COEB	**Comit de Eme**	**2.37**	**322**	*e*P	**Pb**	**02 12 12.3**	**-1.2**
TGUH	**Tegucigalpa,Un**	**2.43**	**355**	*e*P	**Pb**	**02 12 13.1**	**-1.6**
TGUH	**Tegucigalpa,Un**	**2.43**	**355**		**Pb**	**02 12 13.0**	**-1.6**
JTS	**Las Juntas de**	**2.44**	**123**	Pn	**Pn**	**02 12 10.2**	**-0.4**
comp=Z,9.5nm,0.3s,baz=14,slow=21,SNR=30							
JTS				Pg	**Pb**	**02 12 13.3**	**-1.3**
comp=Z,9.5nm,0.3s,baz=329,slow=14,SNR=35							
JTS				Lg	Lg	02 12 45.9	
comp=Z,20nm,0.3s,baz=291,slow=13,SNR=11							
JTS	**Las Juntas de**	**2.44**	**123**	*e*P	**Pn**	**02 12 10.6**	**0.0**
JTS				*e*S	**Sb**	**02 12 46.8**	**+2.0**
ARE1	**Arenal 1**	**2.55**	**117**	*e*P	**Pn**	**02 12 12.7**	**+0.5**
ARE1				*e*S	**Sb**	**02 12 50.4**	**+2.3**
CEDE	**Laguna Cedeo**	**2.56**	**116**	*e*P	**Pn**	**02 12 12.6**	**+0.4**
CEDE				*e*S	**Sb**	**02 12 49.3**	**+1.1**
ESPN	**Las Esperanzas**	**2.74**	**78**	*e*P	**Pn**	**02 12 15.4**	**+0.7**
ESPN	**Las Esperanzas**	**2.74**	**78**	Pn	**Pn**	**02 12 15.0**	**+0.2**
SRA1	**San Ramn**	**2.94**	**121**	*e*P	**Pb**	**02 12 24.9**	**+1.6**
SRA1				*e*S	**Sg**	**02 13 04.1**	**-1.2**
SNET	**Serv Nac Est T**	**2.97**	**314**	Pn	**Pn**	**02 12 19.6**	**+1.7**
HDC	**Heredia**	**3.29**	**119**	Pn	**Pn**	**02 12 20.8**	**-1.7**
LCR2	**La Lucha 2**	**3.52**	**122**	*e*P	**Pn**	**02 12 26.1**	**+0.4**
LCR2				*e*S	**Sb**	**02 13 14.7**	**-1.5**
IXG	**Ixpaco**	**4.17**	**308**	*e*P	**Pn**	**02 12 37.5**	**+2.9**
APG	**El Apazote**	**4.74**	**316**	Pg	**Pb**	**02 12 52.9**	**-1.0**
comp=Z,0.3nm,0.3s,baz=139,slow=11,SNR=3.4							
TXAR	**Lajitas Array**	**23.47**	**321**	P	**P**	**02 16 40.4**	**-0.2**
comp=Z,1.3nm,0.8s,baz=138,slow=9.6,SNR=11							
TXAR	**Lajitas Array**	**23.47**	**321**	P	**P**	**02 16 41.7**	**+1.1**
TX31	**Lajitas Ar. Si**	**23.47**	**321**	P	**P**	**02 16 42.2**	**+1.5**
TX32	**Lajitas Array**	**23.47**	**321**	P	**P**	**02 16 42.5**	**+1.8**
TX32				IAmb	IAmb	02 16 56.2	
comp=Z,4.6nm,1.2s							
WMOK	**Wichita Mounta**	**25.37**	**337**	P	**P**	**02 16 58.5**	**+0.3**
TUL1	**Leonard**	**25.45**	**343**	P	**P**	**02 16 57.5**	**-1.3**
TUL1				IAmb	IAmb	02 16 58.3	
comp=Z,5.7nm,0.9s							
PDAR	**Pinedale Array**	**36.69**	**332**	P	**P**	**02 18 37.1**	**-1.0**
comp=Z,0.5nm,0.6s,baz=132,slow=10,SNR=4.6							
SIV	**San Ignacio**	**37.59**	**136**	P	**P**	**02 18 44.6**	**-1.1**
comp=Z,4.3nm,0.8s,baz=318,slow=10.0,SNR=21							
YKA	**Yellowknife Ar**	**54.51**	**345**	P	**P**	**02 20 56.0**	**-2.4**
comp=Z,0.7nm,0.7s,baz=137,slow=7.5,SNR=3.4							

BJI 01 02:24:41.1±0.0, 44°.61N×124°.25E, h9km, ML3.8/18, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**1.18**	**133**	*e*Pg	Pb	02 25 03.5	-0.2
CN2				*e*Sg	Sn	02 25 20.9	+0.9
CN2				smax	smax		
comp=N,3μm,0.6s							
CN2				smax	smax		
comp=E,1μm,0.6s							
SNY	**Shenyang**	**2.82**	**190**	Pn	Pn	02 25 25.3	-1.1
SNY				Pg	Pg	02 25 33.5	-1.7
SNY				Sn	Sn	02 25 59.0	-1.5
SNY				Sg	Sb	02 26 08.8	+2.5
SNY				smax	smax		
comp=N,170nm,0.4s							
SNY				smax	smax		
comp=E,210nm,0.4s							
MDJ	**Mudanjiang**	**3.81**	**88**	Pg	Pg	02 25 52.2	-2.0
MDJ				Sg	Sg	02 26 41.1	-2.5
MDJ				smax	smax		
comp=N,130nm,1.0s							
MDJ				smax	smax		
comp=E,120nm,0.8s							
DL2	**Dalian**	**6.03**	**200**	Pg	Pn	02 26 05.3	-5.1
DL2				Sg	Sn	02 27 12.8	-6.7
DL2				smax	smax		
comp=N,31nm,0.7s							
DL2				smax	smax		
comp=E,51nm,0.7s							
XAN	**Xi'an**	**15.85**	**233**	P	P	02 28 36.3	+8.1
XAN				sP	sP	02 28 44.1	+12
XAN				pmax	pmax		
comp=Z,4.0nm,0.7s							
WHN	**Wuhan**	**16.07**	**212**	P	P	02 28 33.1	+2.5
WMQ	**Urumqi**	**26.08**	**281**	*e*P	P	02 30 15.4	+0.5

IDC 01 02:29:03.7±48.0, 17°.10S×172°.26W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=928.7km s-min=177.1km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.17**	**242**	P	P	02 37 15.2	+0.7
1.1nm,0.5s,baz=75,slow=9.7,SNR=5.0							
WRA	**Warramunga Arr**	**50.55**	**258**	P	P	02 38 04.0	-0.4
1.0nm,0.3s,baz=98,slow=7.2,SNR=20							
ASAR	**Alice Springs**	**50.65**	**253**	P	P	02 38 04.8	-0.4
1.7nm,0.7s,baz=89,slow=8.1,SNR=19							

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*SJA **01** 02:45:57.4±1.0, 30°.19S×71°.72W, h85km±56km, ML4.0*
*NEIC **01** 02:45:58.6±1.4, 30°.33S±0°.06×71°.47W±0°.08, h40km±6km*
*GUC **01** 02:45:59.3±0.6, 30°.33S×71°.42W, h50km±3km, ML4.5*
*IDC **01** 02:45:59.6±3.0, 30°.40S×71°.40W, h47km±24km, mb3.8/2, mb1 3.9/7, mb1mx3.6/26, mbtmp3.9/7, ML3.6/5, Error ellipse: s-maj=51.7km s-min=27.4km az=104.0*
ISC 01 02:45:56.8±1.7, 30°.33S±0°.04×71°.63W±0°.07, h26km±12km, n52, σ1§69/55, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.54**	**39**	*e*P	**Pn**	**02 46 09.5**	**+0.7**
LSCH				*i* S	**Sn**	**02 46 17.8**	**+0.9**
GO04	**Tololo Observa**	**0.74**	**78**	*e*P	**Pn**	**02 46 11.5**	**-0.3**
GO04				*i* S	**Sb**	**02 46 20.7**	**-0.3**
GO04				IAML		02 46 23.7	
comp=N,19μm,0.3s							
GO04	**Tololo Observa**	**0.74**	**78**	Pn	**Pn**	**02 46 11.2**	**-0.6**
GO04				Sn	**Sn**	**02 46 19.6**	**-2.7**
GO04	**Tololo Observa**	**0.74**	**78**	*e*P	**Pb**	**02 46 11.6**	**+0.4**
GO04				*i* S	**Sb**	**02 46 21.4**	**+0.5**
CO02	**Combarbal**	**1.03**	**148**	↓↓*i*P	**Pn**	**02 46 15.5**	**-0.1**
CO02				*i* S	**Sn**	**02 46 28.6**	**-0.6**
LCO	**Las Campanas**	**1.54**	**32**	↓↓*e*P	**Pn**	**02 46 24.2**	**+1.3**
LCO				*i* S	**Sb**	**02 46 43.6**	**-0.5**
LCO	**Las Campanas**	**1.54**	**32**	Pn	**Pn**	**02 46 23.7**	**+0.8**
LCO	**Las Campanas**	**1.54**	**32**	*i* P	**Pn**	**02 46 24.4**	**+1.5**
LCO				*i* S	**Sb**	**02 46 43.9**	**-0.3**
AROD	**Rodeo**	**1.88**	**86**	*i* P	**Pb**	**02 46 30.3**	**-0.2**
AROD				*i* S	**Sb**	**02 46 54.0**	**+0.3**
ACCO	**Cerro Coronel**	**2.23**	**97**	*i* P	**Pb**	**02 46 36.2**	**-0.5**
ACCO				*i* S	**Sb**	**02 47 05.1**	**+1.2**
ROCH	**El Roble**	**2.69**	**169**	*e*P	**Pn**	**02 46 41.2**	**+2.6**
ROCH				*i* S	**Sn**	**02 47 12.3**	**+2.0**
ROCH				IAML		02 47 27.2	
comp=N,2μm,0.4s							
ROC1	**El Roble**	**2.69**	**169**		**Pn**	**02 46 39.9**	**+1.3**
AMOG	**MOGNA**	**2.77**	**103**	*i* P	**Pb**	**02 46 43.3**	**-2.4**
AGUA	**GUANDACOL**	**2.85**	**74**	*e*P	**Pb**	**02 46 45.9**	**-1.2**
AGUA				IAML		02 46 59.7	
comp=Z,406nm,0.7s							
RTLL	**Cerro Villicun**	**2.89**	**111**	*i* P	**Pn**	**02 46 43.8**	**+2.6**
RTLL				*i* S	**Sb**	**02 47 19.5**	**-3.2**
PEL	**Peldehue**	**2.92**	**164**	IAML		02 47 29.1	
comp=E,1μm,0.5s							
PEL	**Peldehue**	**2.92**	**164**		**Pn**	**02 46 42.9**	**+1.3**
PEL	**Peldehue**	**2.92**	**164**	*e*P	**Pn**	**02 46 43.0**	**+1.4**
GO03	**Copiap**	**2.99**	**25**		**Pn**	**02 46 44.0**	**+1.4**
RTCV	**Cerro Valdivia**	**3.06**	**121**	*i* P	**Pn**	**02 46 46.8**	**+3.3**
ASAL	**Salagasta**	**3.29**	**134**	*i* P	**Pn**	**02 46 50.6**	**+4.0**
ARCO	**CERRO ARCO**	**3.40**	**138**	*e*P	**Pn**	**02 46 52.3**	**+4.0**
ARCO				IAML		02 46 57.4	
comp=Z,341nm,0.3s							
AAGR	**Agrelo**	**3.64**	**140**	*i* P	**Pn**	**02 46 55.4**	**+3.9**
GO05	**Huala**	**4.67**	**183**		**Pn**	**02 47 04.8**	**-0.8**
GO05	**Huala**	**4.67**	**183**	*i* P	**Pn**	**02 47 04.7**	**-0.9**
RFA	**San Rafael**	**5.17**	**150**	*e*P	**Pn**	**02 47 14.0**	**+1.4**
CYA	**Choya**	**5.42**	**71**	*e*P	**Pn**	**02 47 17.8**	**+1.8**
GO02	**Mina Guanaco**	**5.46**	**20**		**Pn**	**02 47 17.2**	**+0.5**
PB10	**IPOC Station P**	**6.86**	**8**	Pn	**Pn**	**02 47 38.5**	**+2.8**
LVC	**Limon Verde**	**8.07**	**18**	P	**Pn**	**02 47 53.8**	**+1.2**
comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=4.6							
LVC				S	Sn	02 49 36.3	+13
comp=Z,2.1nm,0.3s,baz=60,slow=14,SNR=5.8							
LVC	**Limon Verde**	**8.07**	**18**		**Pn**	**02 47 51.3**	**-1.3**
PB04	**IPOC Station P**	**8.07**	**10**	Pn	**Pn**	**02 47 52.0**	**-0.6**
PB01	**IPOC Station P**	**9.45**	**12**	Pn	**Pn**	**02 48 10.3**	**-1.0**
PLCA	**Paso Flores**	**10.42**	**175**	P	**Pn**	**02 48 25.2**	**+0.7**
comp=Z,0.1nm,0.3s,baz=358,slow=15,SNR=3.4							
TRQA	**Tornquist**	**11.10**	**137**		**Pn**	**02 48 33.9**	**+0.1**
MNMC	**Minye Minye**	**11.30**	**10**	Pn	**Pn**	**02 48 37.4**	**+0.5**
CPUP	**Villa Florida**	**13.21**	**76**	P	**Pn**	**02 49 02.8**	**+0.1**
comp=Z,0.2nm,0.3s,baz=254,slow=15,SNR=5.1							
LPAZ	**La Paz**	**14.34**	**14**	P	**Pn**	**02 49 21.4**	**+2.7**
comp=Z,0.1nm,0.3s,baz=184,slow=7.4,SNR=4.6							
SIV	**San Ignacio**	**17.25**	**36**	P	**Pn**	**02 49 56.3**	**+0.4**
comp=Z,0.3nm,0.3s,baz=249,slow=12,SNR=16							
BDFB	**Brasilia**	**26.12**	**61**	P	**P**	**02 51 28.0**	**-0.9**
comp=Z,3.2nm,0.8s,baz=220,slow=9.2,SNR=5.0							
BDFB	**Brasilia**	**26.12**	**61**	IAmb	IAmb	02 51 41.2	
comp=Z,4.1nm,1.9s							
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**02 58 17.5**	**-0.7**
comp=Z,0.8nm,0.8s,baz=265,slow=4.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**82.64**	**70**	IAmb	IAmb	02 58 18.4	
comp=Z,0.8nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**26.09**	**272**	T	T	05 23 46.4	
baz=115,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hyl**	**26.10**	**272**	T	T	05 23 40.0	
baz=115,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hyl**	**26.11**	**272**	T	T	05 23 40.5	
baz=115,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hyl**	**26.41**	**273**	T	T	05 24 08.9	
baz=154,slow=74,SNR=4.6							
H11N2	**WAKE ISLAND Hyl**	**26.43**	**273**	T	T	05 24 12.1	
baz=120,slow=74,SNR=6.5							
ZAA0	**Zalesovo Array**	**150.90**	**29**		**PKPbc**	**03 05 46.6**	**+0.1**
ZALV	**Zalesovo Beam**	**150.90**	**29**	PKPbc	**PKPbc**	**03 05 46.7**	**+0.2**
comp=Z,2.3nm,0.5s,baz=291,slow=4.2,SNR=13							
ZALV	**Zalesovo Beam**	**150.90**	**29**		**PKPbc**	**03 05 46.4**	**-0.1**
MKAR	**Makanchi Array**	**153.98**	**44**	PKPbc	**PKPbc**	**03 05 53.1**	**-0.7**
comp=Z,0.2nm,0.5s,baz=338,slow=2.3,SNR=3.6							

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*ISCJB **01** 03:11:23.5±0.6, 3°.07S±0°.05×136°.02E±0°.03, h35km, mb3.7/1, Error ellipse: s-maj=7.1km s-min=4.8km az=1.3*
*DJA **01** 03:11:26.2±0.3, 3°S±3°×13°6E±°, h48km±8km, M4.0/9, mb4.0/3, mB4.5/1, MLv4.0/9, Mw(mB)3.7/1*
*IDC **01** 03:11:27.9±4.7, 3°.70S×133°.58E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=244.3km s-min=16.2km az=81.0*
ISC 01 03:11:25.0±0.9, 3°.05S±0°.07×136°.02E±0°.04, h35km, n10, σ1§76/17, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.19**	**10**	P	**Pn**	**03 11 43.5**	**-1.7**
SRPI				S	**Sn**	**03 11 59.0**	**-1.2**
BAKI	**Biak**	**1.85**	**3**	P	**Pn**	**03 11 54.2**	**0.0**
RKPI	**Ransiki, Papua**	**2.40**	**310**	P	**Pn**	**03 12 01.5**	**-0.3**
RKPI				S	**Sn**	**03 12 30.2**	**+0.3**
SMPI	**Sarmi**	**2.88**	**69**	P	**Pn**	**03 12 09.4**	**+0.9**
SMPI				S	**Sn**	**03 12 43.0**	**+1.0**
FAKI	**Fak Fak**	**3.77**	**272**	P	**Pn**	**03 12 21.2**	**+0.5**
FAKI				S	**Sn**	**03 13

OUZ IAmb IAmb 03 27 32.5
comp=Z,25nm,0.7s
WCZ Waipu Caves 16.30 201 P **P** **03 27 33.3 +1.8**
KUZ Kuaotunu 16.63 197 P **P** **03 27 35.8 +1.3**
MBAZ Motutapu North 16.88 199 P **P** **03 27 39.0 +2.3**
MXZ Matakaoa Point 16.89 189 P **P** **03 27 35.7 -1.1**
MXZ Matakaoa Point 16.89 189 P **P** **03 27 37.4 +0.6**
WMGZ Waiomatatini S 17.12 188 P **P** **03 27 40.7 +1.8**
HAZ Te Kaha 17.16 190 P **P** **03 27 39.8 +0.6**
HAZ S **S** **03 30 25.3 -5.2**
PKGZ Pakihiroa 17.24 189 P **P** **03 27 42.5 +2.4**
PKGZ S **S** **03 30 30.3 -1.6**
RUGZ Raukumara Rang 17.38 190 P **P** **03 27 41.8 +0.4**
RUGZ S **S** **03 30 33.0 -1.3**
PUZ Puketiti 17.39 189 P **P** **03 27 43.3 +1.8**
PUZ S **S** **03 30 36.1 +1.6**
RAR Rarotonga 17.46 95 P **P** **03 27 42.0 -0.2**
RAR pmax pmax
comp=Z,171nm,1.0s
RAR Rarotonga 17.46 95 P **P** **03 27 42.5 +0.3**
comp=Z,7.0nm,0.3s,baz=238,slow=7.1,SNR=18
RAR Rarotonga 17.46 95 P **P** **03 27 42.0 -0.2**
TWGZ Tauwhareparae 17.54 189 P **P** **03 27 44.6 +1.8**
TWGZ S **S** **03 30 36.1 -0.7**
TOZ Tahuroa Road 17.62 196 P **P** **03 27 45.4 +1.9**
MWZ Matawai 17.77 190 P **P** **03 27 45.2 +0.3**
MWZ S **S** **03 30 37.2 -3.2**
URZ Urewera 17.77 191 P **P** **03 27 44.0 -0.8**
comp=Z,3.7nm,0.3s,baz=312,slow=2.8,SNR=24
URZ S **S** **03 30 34.5 -5.9**
comp=Z,1.5nm,0.3s,baz=195,slow=20,SNR=7.9
URZ Urewera 17.77 191 P **P** **03 27 42.9 -1.9**
URZ S **S** **03 30 34.7 -5.7**
URZ Urewera 17.77 191 P **P** **03 27 44.3 -0.6**
URZ IAmb IAmb 03 28 01.5
comp=Z,40nm,0.9s
BKZ Black Stump Fm 18.76 192 P **P** **03 27 53.0 -1.0**
BKZ IAmb IAmb 03 28 06.8
comp=Z,78nm,1.8s
KNTN Kanton 19.13 21 P **P** **03 27 55.8 -1.8**
MSWZ Moikau Station 21.18 193 P **P** **03 28 16.3 +0.4**
BHW Baring Head 21.26 194 P **P** **03 28 16.8 +0.2**
NNZ Nelson 21.45 197 P **P** **03 28 18.9 +0.6**
NNZ IAmb IAmb 03 28 53.0
comp=Z,107nm,1.4s
KHZ Kahutara 22.53 196 P **P** **03 28 28.4 +0.5**
KHZ IAmb IAmb 03 28 53.2
comp=Z,121nm,1.6s
LHI Lord Howe Isla 22.75 238 P **P** **03 28 30.0 -0.1**
LHI IAmb IAmb 03 29 18.8
comp=Z,88nm,1.1s
LTZ Lake Taylor 23.21 197 P **P** **03 28 34.5 +0.4**
TARA Tarawa 23.62 338 P **P** **03 28 37.8 -0.2**
OXZ Oxford 23.78 197 P **P** **03 28 39.0 0.0**
OXZ IAmb IAmb 03 28 49.0
comp=Z,21nm,0.7s
RPZ Rata Peaks 24.42 199 P **P** **03 28 46.5 +1.8**
comp=Z,7.3nm,0.6s,baz=340,slow=4.3,SNR=6.0
FOZ Fox Glacier 24.64 201 P **P** **03 28 47.5 +0.9**
FOZ IAmb IAmb 03 29 21.5
comp=Z,91nm,1.3s
LBZ Lake Benmore 25.29 199 P **P** **03 28 53.3 +0.9**
LBZ IAmb IAmb 03 29 09.3
comp=Z,82nm,1.4s
TBI Tubuai 26.97 101 *e*P **P** **03 29 08.0 +0.5**
comp=Z,276nm,1.0s
WHZ Wether Hill Ro 27.35 201 P **P** **03 29 12.0 +1.5**
WHZ IAmb IAmb 03 29 13.1
comp=Z,43nm,0.7s
PAE Paea 27.44 88 *e*P **P** **03 29 11.5 -0.1**
comp=Z,17nm,1.0s
PPT2 Papeete2 27.46 88 *e*P **P** **03 29 12.0 +0.1**
comp=Z,186nm,1.2s
PPT Papeete 27.46 88 P **P** **03 29 12.0 +0.1**
PPT Papeete 27.46 88 P **P** **03 29 12.7 +0.8**
comp=Z,128nm,0.8s,baz=30,slow=5.5,SNR=15
PPT Papeete 27.46 88 P **P** **03 29 12.0 +0.1**
PPTF Pamatai, Papee 27.47 88 P **P** **03 29 12.2 +0.2**
TIAR Tiarei 27.68 88 *e*P **P** **03 29 13.9 +0.1**
comp=Z,37nm,0.9s
TVO Taravao 27.72 89 *e*P **P** **03 29 14.2 0.0**
comp=Z,28nm,0.9s
EIDS Eidsvold 28.33 255 P **P** **03 29 20.3 +0.9**
baz=28,SNR=15
EIDS Eidsvold 28.33 255 IAmb IAmb 03 29 20.9
comp=Z,24nm,0.7s
ARMA Armidale 28.52 244 P **P** **03 29 23.0 +1.9**
baz=29,SNR=17
ARMA Armidale 28.52 244 P **P** **03 29 22.4 +1.3**
ARMA IAmb IAmb 03 29 23.5
comp=Z,22nm,0.7s
ARMA **PcP** **03 32 19.4 +4.5**
MEH Mehetia 28.81 89 *e*P **P** **03 29 23.3 -0.4**
comp=Z,40nm,1.0s
PMOR Pomariorio Ree 29.63 84 *e*P **P** **03 29 30.1 -0.7**
comp=Z,432nm,1.5s
MGCD Mangrove Creek 29.65 239 P **P** **03 29 32.6 +1.9**
baz=30,SNR=9.6
VAH Vaihoa 29.82 84 *e*P **P** **03 29 31.8 -0.6**
comp=Z,161nm,1.0s
RMQ Roma 30.48 253 P **P** **03 29 39.7 +1.7**
baz=31,SNR=11
CNB Canberra Magne 31.67 236 P **P** **03 29 49.8 +1.7**
baz=32,SNR=36
CAN Canberra 31.95 236 P **P** **03 29 50.9 +0.4**
CAN pmax pmax
comp=Z,24nm,0.8s
CAN Canberra 31.95 236 P **P** **03 29 50.9 +0.4**
CAN IAmb IAmb 03 29 52.6
comp=Z,24nm,0.8s
CTA Charters Tower 33.02 265 P **P** **03 30 00.7 +1.0**
comp=Z,68nm,0.4s,baz=93,slow=11,SNR=130
CTA PcP **PcP** **03 32 28.1 +0.9**
comp=Z,15nm,0.8s,baz=16,slow=2.9,SNR=4.3
CTA S **S** **03 34 39.0 -0.9**
comp=Z,5.2nm,1.0s,baz=266,slow=18,SNR=3.5
CTAO Charters Tower 33.02 265 P **P** **03 30 00.0 +0.3**
CTAO pmax pmax
comp=Z,80nm,0.6s
CTAO Charters Tower 33.02 265 P **P** **03 29 60.0 +0.3**
CMSA Cobar Meteorol 33.74 244 P **P** **03 30 06.4 +0.8**
baz=34,SNR=55
QLP Quilpie 34.54 253 P **P** **03 30 13.2 +0.9**
baz=35,SNR=19
PMG Port Moresby 35.00 284 *ce*P **P** **03 30 16.5 +0.2**
PMG pmax pmax
comp=Z,164nm,0.8s
PMG Port Moresby 35.00 284 P **P** **03 30 17.1 +0.8**
comp=Z,63nm,0.6s,baz=75,slow=6.7,SNR=32
PMG Port Moresby 35.00 284 P **P** **03 30 16.7 +0.4**
MTSU Mount Surprise 35.14 268 P **P** **03 30 18.2 +0.7**
baz=35,SNR=104
TOO Toolangi 35.34 234 P **P** **03 30 19.8 +0.9**
baz=36,SNR=28
TOO Toolangi 35.34 234 P **P** **03 30 19.4 +0.5**
TOO pmax pmax
comp=Z,37nm,0.7s
TOO Toolangi 35.34 234 P **P** **03 30 19.4 +0.5**
TOO IAmb IAmb 03 30 20.8
comp=Z,37nm,0.7s
COEN Coen 37.17 274 P **P** **03 30 35.2 +1.0**
baz=37,SNR=51
COEN Coen 37.17 274 P **P** **03 30 34.8 +0.5**
COEN IAmb IAmb 03 30 36.3
comp=Z,50nm,0.8s
STKA Stephens Creek 37.24 244 P **P** **03 30 35.6 +1.0**
baz=37,SNR=103
STKA Stephens Creek 37.24 244 P **P** **03 30 35.1 +0.5**
STKA 03 32 41.0
STKA pmax pmax
comp=Z,7.0nm,0.7s
STKA Stephens Creek 37.24 244 P **P** **03 30 35.6 +1.0**
comp=Z,34nm,0.6s,baz=90,slow=9.8,SNR=137
STKA PcP **PcP** **03 32 41.0 +1.3**
comp=Z,8.8nm,0.5s,baz=111,slow=3.7,SNR=4.3
STKA S **S** **03 35 38.3 -4.6**
comp=Z,3.9nm,0.9s,baz=0.0,slow=17,SNR=4.0
STKA Stephens Creek 37.24 244 P **P** **03 30 35.1 +0.5**
ARPS Mount Arapiles 37.93 237 P **P** **03 30 41.0 +0.8**
baz=38,SNR=7.6
TAOE Nuku Hiva Isla 38.80 78 *e*P **P** **03 30 47.3 -0.4**
comp=Z,188nm,0.9s
TAOE Nuku Hiva Isla 38.80 78 P **P** **03 30 48.0 +0.3**
QIS Mount Isa 39.14 263 P **P** **03 30 50.5 +0.3**
baz=39,SNR=18

HTT Hallett 39.68 242 P **P** **03 30 54.9 +0.5**
baz=40,SNR=34
BBOO Buckleboo 42.00 244 P **P** **03 31 13.0 +0.2**
baz=42,SNR=179
BBOO Buckleboo 42.00 244 P **P** **03 31 13.0 +0.2**
WAKE Wake Island 42.46 339 P **P** **03 31 15.9 -0.6**
JAY Jayapura 43.74 289 P **P** **03 31 27.4 +0.8**
comp=Z,94nm,0.4s,baz=161,slow=4.5,SNR=137
AS31 Alice Springs 44.01 257 IAmb IAmb 03 31 30.3
comp=Z,42nm,1.1s
ASAR Alice Springs 44.01 257 P **P** **03 31 28.2 -0.5**
ASAR 03 33 02.8
ASAR Alice Springs 44.01 257 P **P** **03 31 29.0 +0.3**
comp=Z,104nm,0.8s,baz=95,slow=8.0,SNR=828
ASAR PcP **PcP** **03 33 02.8 +0.6**
comp=Z,23nm,0.6s,baz=102,slow=3.9,SNR=18
ASAR ScP **ScP** **03 36 05.3 +3.5**
comp=Z,4.3nm,0.8s,baz=100,slow=4.7,SNR=5.4
ASAR S **S** **03 37 18.9 -2.4**
comp=Z,6.5nm,0.9s,baz=92,slow=16,SNR=20
ASAR PKiKP **PKiKP** **03 40 00.2 -1.0**
comp=Z,0.5nm,0.5s,baz=109,slow=1.7,SNR=4.5
ASAR Alice Springs 44.01 257 P **P** **03 31 28.2 -0.5**
WRAB Tennant Creek 44.11 263 *d*P **P** **03 31 29.0 -0.5**
WRAB pmax pmax
comp=Z,58nm,0.9s
WRAB Tennant Creek 44.11 263 P **P** **03 31 29.2 -0.2**
WRAB IAmb IAmb 03 31 30.2
comp=Z,88nm,1.1s
WRA Warramunga Arr 44.12 262 P **P** **03 31 29.5 -0.1**
WRA 03 33 03.3
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 44.12 262 P **P** **03 31 29.2 -0.4**
comp=Z,28nm,0.3s,baz=97,slow=7.3,SNR=267
WRA PcP **PcP** **03 33 03.4 +0.8**
comp=Z,9.9nm,0.8s,baz=95,slow=4.2,SNR=8.9
WRA S **S** **03 37 19.7 -3.1**
comp=Z,13nm,1.0s,baz=96,slow=13,SNR=15
WRA PKiKP **PKiKP** **03 40 00.2 -1.2**
comp=Z,1.1nm,0.9s,baz=56,slow=0.5,SNR=4.7
WRA Warramunga Arr 44.12 262 P **P** **03 31 29.5 -0.1**
PTCN Pitcairn Islan 44.56 105 P **P** **03 31 32.2 -0.6**
KHLU Kahalu`u 45.87 30 P **P** **03 31 42.9 0.0**
KHLU IAmb IAmb 03 31 44.3
comp=Z,104nm,1.1s
HLP Hilina Pali 45.89 31 P **P** **03 31 42.6 -0.5**
MWH Moku'aweowe 45.92 31 P **P** **03 31 42.0 -1.8**
HUH Hualalai 45.98 30 P **P** **03 31 43.9 0.0**
PUH Pauahi 46.01 31 P **P** **03 31 43.0 -1.0**
PUH IAmb IAmb 03 31 45.8
comp=Z,79nm,0.9s
MLH Mauna Loa 46.03 31 P **P** **03 31 44.0 -0.3**
HMH Humu`ula Sheep 46.07 31 P **P** **03 31 44.8 +0.1**
KEKH Kekaha 46.34 24 P **P** **03 31 45.8 -0.6**
KIP Kipapa 46.53 27 *i*P **P** **03 31 47.3 -0.4**
KIP pmax pmax
comp=Z,58nm,1.1s
KIP Kipapa 46.53 27 P **P** **03 31 47.2 -0.6**
KHLH Kahului Airpor 46.75 29 P **P** **03 31 49.2 -0.2**
OPA Opana 46.76 27 P **P** **03 31 48.3 -1.3**
OPA pmax pmax
comp=Z,135nm,1.2s
OPA Opana 46.76 27 P **P** **03 31 48.3 -1.3**
KDU Kakadu 47.52 272 P **P** **03 31 55.4 0.0**
baz=48,SNR=91
MTN Manton Dam 48.73 271 P **P** **03 32 04.2 -0.2**
baz=49,SNR=36
FORT Forrest 48.75 247 P **P** **03 32 04.3 -0.1**
baz=49,SNR=39
FORT Forrest 48.75 247 P **P** **03 32 04.3 -0.1**
WRKA Warakurna 48.95 254 P **P** **03 32 06.2 +0.2**
baz=49,SNR=137
GUMO Guam 49.69 310 P **P** **03 32 11.0 -0.5**
GUMO pmax pmax
comp=Z,220nm,1.0s
GUMO Guam 49.69 310 P **P** **03 32 11.0 -0.5**
KNRA Kununurra 50.20 267 P **P** **03 32 15.5 +0.2**
baz=50,SNR=54
KNRA Kununurra 50.20 267 P **P** **03 32 15.4 +0.2**
ANA2 Anatahan 51.01 314 P **P** **03 32 21.1 0.0**
FAKI Fak Fak 51.15 284 IAmb IAmb 03 32 23.4
comp=Z,93nm,1.2s
SARN Sarigan 51.22 314 P **P** **03 32 22.2 -0.4**
SARN IAmb IAmb 03 32 23.3
comp=Z,55nm,0.7s
FITZ Fitzroy Crossi 52.55 263 P **P** **03 32 32.8 +0.6**
baz=53,SNR=12
FITZ Fitzroy Crossi 52.55 263 S **S** **03 39 18.3 -0.1**
comp=Z,4.2nm,1.0s,baz=258,slow=18,SNR=9.2
FITZ Fitzroy Crossi 52.55 263 IAmb IAmb 03 32 34.0
comp=Z,92nm,1.4s
SWI Sorong 52.91 285 P **P** **03 32 31.2 -3.7**
MSAI Masohi 54.01 281 P **P** **03 32 41.3 -1.4**
PALU Palau 54.05 296 P **P** **03 32 43.9 +1.0**
baz=54,SNR=8.0
AAI Ambon 54.55 281 P **P** **03 32 45.6 -0.9**
NLAI Namlea 55.73 281 P **P** **03 32 54.9 +0.2**
comp=Z,113nm,0.8s,comp=Z,1μm
TNTI Ternate 57.13 285 P **P** **03 33 04.2 -0.1**
comp=Z,166nm,1.0s,comp=Z,1μm
TNTI Ternate 57.13 285 IAmb IAmb 03 33 05.9
comp=Z,138nm,0.9s
PSA00 Pilbara Seismi 57.16 257 IAmb IAmb 03 33 05.4
comp=Z,94nm,0.8s
SANI Sanana 57.22 281 P **P** **03 33 04.2 -0.7**
comp=Z,128nm,1.0s,comp=Z,1μm
MEEK Meekatharra 57.39 251 P **P** **03 33 05.6 -0.4**
baz=57,SNR=18
SBA Scott Base 57.49 184 P **P** **03 33 08.4 +2.7**
SBA pmax pmax
comp=Z,74nm,1.7s
SBA Scott Base 57.49 184 P **P** **03 33 08.4 +2.7**
KLBR Kellerberrin 57.51 245 P **P** **03 33 07.0 +0.4**
baz=58,SNR=4.6
NWAO Narrogin (SRO) 57.82 244 P **P** **03 33 09.4 +0.7**
baz=58,SNR=6.2
NWAO Narrogin (SRO) 57.82 244 P **P** **03 33 09.4 +0.7**
NWAO pmax pmax
comp=Z,52nm,1.3s
NWAO Narrogin (SRO) 57.82 244 P **P** **03 33 09.4 +0.7**
RKGY Rocky Gully 57.89 242 P **P** **03 33 10.2 +1.0**
baz=58,SNR=6.1
MUN Mundaring 58.78 245 P **P** **03 33 16.0 +0.8**
baz=59,SNR=4.3
MORW Morawa 59.29 248 P **P** **03 33 18.8 +0.2**
baz=59,SNR=12
DAV Davao City (W) 61.55 291 P **P** **03 33 33.3 -0.5**
KAPI Kappang 61.88 276 P **P** **03 33 35.8 -0.2**
KAPI pmax pmax
comp=Z,24nm,0.5s
KAPI Kappang 61.88 276 P **P** **03 33 35.8 -0.2**
KAPI IAmb IAmb 03 33 46.4
comp=Z,24nm,0.5s
KCP Kidapawan 61.95 290 ||*i*P **P** **03 33 36.9 +0.5**
GIRL Giralia 62.04 255 P **P** **03 33 38.6 +1.8**
baz=62,SNR=12
GIRL Giralia 62.04 255 P **P** **03 33 37.5 +0.6**
CTBH Cotabato--PC H 62.78 290 ||*e*P **P** **03 33 42.5 +0.8**
CASY Casey 63.46 205 P **P** **03 33 46.3 +1.1**
CASY IAmb IAmb 03 33 46.8
comp=Z,34nm,0.8s
JAGI Jajag, Banyuwa 65.94 270 IAmb IAmb 03 34 02.0
comp=Z,76nm,0.9s
QSPA South Pole Qui 69.22 180 P **P** **03 34 22.7 +1.7**
comp=Z,21nm,0.7s,baz=0.9,slow=0.4,SNR=119
QSPA pP **pwP** **03 36 15.0 -0.5**
comp=Z,11nm,1.1s,baz=48,slow=6.4,SNR=3.2
QSPA South Pole Qui 69.22 180 P **P** **03 34 22.5 +1.4**
QSPA IAmb IAmb 03 34 23.3
comp=Z,27nm,0.7s
QSPA pP **pwP** **03 36 15.0 -0.5**
KKM Kota Kinabalu 69.43 285 P **P** **03 34 23.4 +0.2**
KKM IAmb IAmb 03 34 24.6
comp=Z,45nm,0.7s
JOW Kunigami 70.06 310 P **P** **03 34 27.4 +0.9**
JOW IAmb IAmb 03 34 28.8
comp=Z,36nm,1.0s
MJAR Matsushiro Arr 70.23 324 P **P** **03 34 29.7 +2.3**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 70.23 324 P **P** **03 34 27.3 -0.1**
comp=Z,19nm,0.8s,baz=159,slow=6.0,SNR=42
MJAR Matsushiro Arr 70.23 324 P **P** **03 34 29.7 +2.3**
MAJO Matsushiro 70.23 324*c i*P **P** **03 34 27.1 -0.3**

MAJO pmax pmax
comp=Z,29nm,1.1s
MAJO Matsushiro 70.23 324 P **P** **03 34 27.4 0.0**
MAT Matsushiro 70.23 324 P **P** **03 34 27.5 +0.1**
MAT S **S** **03 42 58.2 +2.5**
MJB9 Matsu-Tunnel 70.24 324 P **P** **03 34 27.4 0.0**
MJB9 IAmb IAmb 03 34 28.2
comp=Z,39nm,1.1s
SBUM Sibu 71.63 280 P **P** **03 34 36.2 +0.1**
JNU Nakatsue 72.23 317 IAmb IAmb 03 34 41.0
comp=Z,90nm,1.1s
ADK Adak 72.44 1 P **P** **03 34 39.7 -0.1**
ADK pmax pmax
comp=Z,116nm,0.7s
ADK Adak 72.44 1 P **P** **03 34 39.7 -0.1**
GSTR Great Sitkin T 72.66 2 P **P** **03 34 40.1 -1.0**
KSM Kuching 73.03 278 P **P** **03 34 44.6 +0.4**
KSM IAmb IAmb 03 34 46.2
comp=Z,89nm,1.0s
TWG Pinlang 73.20 303 P **P** **03 34 44.1 -0.8**
NACB Ninganchiao 73.51 304 P **P** **03 34 46.0 -0.6**
SMY Shemya 73.55 355 P **P** **03 34 44.9 -1.3**
SMY pmax pmax
comp=Z,94nm,0.9s
SMY Shemya 73.55 355 P **P** **03 34 44.9 -1.3**
SSLB Suanglung 73.80 304 IAmb IAmb 03 34 49.3
comp=Z,61nm,1.0s
YHNB Yeheng 73.94 305 P **P** **03 34 49.1 -0.1**
SKR Severo-Kuril's 74.67 344*ce*P **P** **03 34 51.9 -0.6**
UNV Unalaska Valle 75.10 7 IAmb IAmb 03 34 55.3
comp=Z,71nm,0.6s
AKUT Akutan 75.47 8 P **P** **03 34 57.1 +0.2**
AKUT IAmb IAmb 03 34 58.3
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 76.01 334 P **P** **03 35 00.6 +0.5**
YSS pmax pmax
comp=Z,64nm,1.1s
YSS Yuzh-Sakhalins 76.01 334 P **P** **03 35 00.6 +0.5**
YSS IAmb IAmb 03 35 02.8
comp=Z,64nm,1.1s
PET Petropavlovsk 76.20 346 ||*i*P **P** **03 35 01.0 0.0**
PET pmax pmax
comp=Z,30nm,0.7s
PET Petropavlovsk 76.20 346 P **P** **03 35 00.8 -0.1**
FALS False Pass 76.49 9 P **P** **03 35 01.3 -1.3**
PEA0B Petropavlovsk- 76.50 345*d i*P **P** **03 35 02.7 0.0**
PETK Petropavlovsk- 76.50 345 P **P** **03 35 03.0 +0.3**
comp=Z,42nm,0.7s,baz=124,slow=7.4,SNR=55
PETK Petropavlovsk- 76.50 345 P **P** **03 35 03.0 +0.3**
TJN Taejon 76.53 318 *i*P **P** **03 35 03.5 +0.3**
KSRS Korea Array 76.86 319 P **P** **03 35 06.0 +1.0**
comp=Z,11nm,0.9s,baz=141,slow=6.4,SNR=34
KSAR Wonju Array Be 76.88 319 P **P** **03 35 06.3 +1.2**
KSAR Wonju Array Be 76.88 319 P **P** **03 35 06.3 +1.2**
KS19 Wonju Array Si 76.92 319 P **P** **03 35 06.1 +0.7**
KS19 IAmb IAmb 03 35 07.0
comp=Z,58nm,1.3s
SNCC San Nicolas Is 77.80 47 P **P** **03 35 11.6 +1.3**
baz=235
SNCC San Nicolas Is 77.80 47 P **P** **03 35 10.1 -0.2**
SCZ2 Santa Cruz Isl 78.16 47 P **P** **03 35 13.9 +1.7**
baz=235
VLA Vladivostok 78.32 325 *i*P **P** **03 35 12.4 -0.4**
VLA pmax pmax
comp=Z,26nm,0.9s
SCI2 San Clemente I 78.33 48 P **P** **03 35 14.9 +1.8**
baz=236
MSHR Mys Shultsa 78.34 324*d i*P **P** **03 35 13.7 +0.8**
SBC Santa Barbara 78.36 46 P **P** **03 35 15.3 +2.1**
baz=235
HKPS Hong Kong Po S 78.48 299 P **P** **03 35 14.9 +0.8**
HKPS IAmb IAmb 03 35 17.1
comp=Z,131nm,1.1s
PKM Mcpherson Peak 78.55 46 P **P** **03 35 16.2 +1.8**
baz=234
SAO San Andreas Ge 78.58 43 P **P** **03 35 15.7 +1.4**
SAO pmax pmax
comp=Z,36nm,1.0s
SAO San Andreas Ge 78.58 43 P **P** **03 35 15.7 +1.4**
BLG Laguna Peak, P 78.61 47 P **P** **03 35 16.0 +1.4**
baz=235
CIS Catalina Islan 78.66 48 P **P** **03 35 16.1 +1.3**
baz=236
SMMC Simmler 78.68 45 P **P** **03 35 16.9 +2.0**
baz=234
CHGN Chignik 78.70 11 IAmb IAmb 03 35 15.6
comp=Z,85nm,0.8s
PAGB Antelope Grade 78.75 45 P **P** **03 35 15.8 +0.5**
PAGB IAmb IAmb 03 35 18.8
comp=Z,108nm,1.9s
DLV T Lat 78.80 287 P **P** **03 35 15.9 -0.3**
FMP Fort Macarthur 78.91 47 P **P** **03 35 17.6 +1.4**
baz=236
HOPS Hopland Field 78.92 41 P **P** **03 35 16.5 +0.4**
HOPS IAmb IAmb 03 35 19.1
comp=Z,61nm,1.1s
GDXM Geysers 78.97 41 P **P** **03 35 16.7 +0.2**
USA0B Ussuriysk Arra 79.01 326*d i*P **P** **03 35 17.2 +0.8**
USA0B Ussuriysk Arra 79.01 326 IAmb IAmb 03 35 19.2
comp=Z,114nm,1.4s
USRK Ussuriysk Ar. 79.01 326 P **P** **03 35 17.4 +1.0**
comp=Z,18nm,0.8s,baz=128,slow=3.1,SNR=48
USRK pP **pP** **03 37 13.5 +0.4**
comp=Z,3.0nm,1.1s,baz=142,slow=4.9,SNR=2.6
KCPM Cahto Peak 79.04 40 P **P** **03 35 17.2 +0.3**
OSI Osito Audit: C 79.13 47 P **P** **03 35 18.5 +1.1**
baz=235
MYKOM Kota Tinggi 79.14 276 IAmb IAmb 03 35 20.0
comp=Z,63nm,1.1s
TYV Tymovskoe 79.18 336 *e*P **P** **03 35 18.3 +1.1**
TYV pmax pmax
comp=Z,55nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.6s
DECC Green Verdugo 79.19 47 P **P** **03 35 18.4 +0.7**
baz=236
PASC Pasadena Art C 79.25 47 P **P** **03 35 18.7 +0.7**
109C Camp Elliot, M 79.28 49 P **P** **03 35 19.4 +1.2**
baz=237
109C Camp Elliot, M 79.28 49 P **P** **03 35 18.7 +0.6**
ARVC Arvin 79.35 46 P **P** **03 35 19.9 +1.4**
baz=235
JCC Jacoby Creek, 79.49 39 IAmb IAmb 03 35 22.4
comp=Z,69nm,1.3s
VES Vestal, Richgr 79.59 45 P **P** **03 35 20.7 +1.0**
baz=235,SNR=7.2
MURC Murrieta 79.61 48 P **P** **03 35 21.4 +1.5**
baz=236,SNR=5.7
BFSC Mount Baldy Ra 79.64 47 P **P** **03 35 21.0 +0.8**
baz=236
VOG Valley Oaks Go 79.67 45 P **P** **03 35 21.1 +1.0**
baz=235
NJ2 Nanjing 79.77 310 *e*P **P** **03 35 21.9 +1.2**
NJ2 pmax pmax
comp=Z,41nm,1.2s
MONP2 Monument Peak 79.77 49 P **P** **03 35 22.7 +1.7**
baz=237,SNR=12
EDW2 Edwards Air Fo 79.78 47 P **P** **03 35 22.3 +1.5**
baz=236,SNR=19
O02D Mt. Diablo Mer 79.82 40 P **P** **03 35 23.3 +2.4**
baz=232,SNR=28
IKP In-Ko-Pah, Jac 79.86 49 P **P** **03 35 23.2 +1.9**
baz=237,SNR=7.5
ISA Isabella, Lake 79.89 46 P **P** **03 35 23.0 +1.6**
baz=235,SNR=16
PFO Pinyon Flats O 80.13 48 P **P** **03 35 24.3 +1.5**
baz=237,SNR=9.0
PFO Pinyon Flats O 80.13 48 P **P** **03 35 23.7 +0.9**
PFO pmax pmax
comp=Z,13nm,1.1s
PFO Pinyon Flats O 80.13 48 P **P** **03 35 24.2 +1.5**
comp=Z,8.4nm,1.0s,baz=266,slow=5.3,SNR=10
PFO Pinyon Flats O 80.13 48 P **P** **03 35 23.7 +0.9**
BBRC Big Bear Solar 80.17 48 P **P** **03 35 24.4 +1.3**
baz=236
ORV Oroville 80.23 41 P **P** **03 35 24.2 +1.2**
ORV pmax pmax
comp=Z,24nm,1.0s
ORV Oroville 80.23 41 P **P** **03 35 24.1 +1.2**
SWSC Sam W. Stewart 80.24 49 P **P** **03 35 24.8 +1.6**
baz=237,SNR=7.7
LRMC Laurel Mtn Rad 80.32 46 P **P** **03 35 25.2 +1.5**
baz=236,SNR=12
N02D Trinity Center 80.37 39 P **P** **03 35 26.0 +2.2**
baz=232,SNR=26
RRX Edison Barstow 80.45 47 P **P** **03 35 25.6 +1.3**

baz=236
O03E Paynes Creek 80.49 40 P **P** 03 35 25.7 +1.2
baz=232,SNR=26
M02C Callahan 80.54 39 P **P** 03 35 26.9 +2.3
baz=231,SNR=42
MDJ Mudanjiang 80.55 325 P **P** 03 35 26.1 +1.6
MDJ pmax pmax
comp=Z,47nm,1.3s
MDJ pmax pmax
comp=Z,400nm,7.5s
MDJ Mudanjiang 80.55 325 IAmb IAmb 03 35 27.3
comp=Z,83nm,1.3s
L02E Cave Junction 80.58 38 P **P** 03 35 26.8 +2.1
baz=231,SNR=8.7
OHAK Old Harbor 80.59 14 IAmb IAmb 03 35 26.2
comp=Z,70nm,1.2s
CWC Cottonwood Cre 80.59 45 P **P** 03 35 26.7 +1.5
baz=235
BELC Belle Mtn. Jos 80.67 48 P **P** 03 35 27.2 +1.7
baz=237,SNR=14
RUBR Rubicon Trail 80.76 42 P **P** 03 35 27.0 +1.0
RUBR IAmb IAmb 03 35 31.9
comp=Z,55nm,1.0s
MPMC Manual Prospec 80.78 46 P **P** 03 35 27.7 +1.5
baz=236,SNR=19
MLAC Mammoth, Mammo 80.78 44 P **P** 03 35 27.9 +1.7
baz=235,SNR=5.6
GSC Goldstone, Bar 80.82 47 P **P** 03 35 27.5 +1.3
baz=236,SNR=10
DAC Darwin (Calif) 80.83 46 P **P** 03 35 28.2 +1.8
DAC pmax pmax
comp=Z,13nm,1.1s
DAC Darwin (Calif) 80.83 46 P **P** 03 35 28.2 +1.8
YBH Yreka Blue Hor 80.83 39 P **P** 03 35 28.2 +2.0
comp=Z,28nm,0.8s,baz=190,slow=2.0,SNR=121
YBH Yreka Blue Hor 80.83 39 IAmb IAmb 03 35 29.4
comp=Z,42nm,0.9s
TIN Tinemaha, Big 80.84 45 P **P** 03 35 28.2 +1.8
baz=235,SNR=6.9
BC3 Big Chuckawall 80.86 49 P **P** 03 35 28.4 +1.9
baz=238,SNR=11
HEC Hector,Ludlow 80.88 47 P **P** 03 35 27.9 +1.3
baz=237,SNR=14
K02D Willamette Mer 80.89 38 P **P** 03 35 28.2 +1.8
baz=231,SNR=10
WAKR Walker 80.90 43 IAmb IAmb 03 35 29.8
comp=Z,44nm,1.1s
GLA Glamis 80.98 50 P **P** 03 35 29.2 +2.1
baz=238,SNR=12
GLA Glamis 80.98 50 IAmb IAmb 03 35 30.5
comp=Z,40nm,1.0s
J01E Myrtle Point 81.03 37 P **P** 03 35 28.9 +1.9
baz=230,SNR=6.4
MAW Mawson 81.09 200 P **P** 03 35 28.0 +1.0
baz=81,SNR=14
MAW Mawson 81.09 200 P **P** 03 35 27.9 +0.9
MAW *PP **pwP** 03 37 26.0 -0.5
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 81.09 200 P **P** 03 35 27.8 +0.9
comp=Z,12nm,0.8s,baz=124,slow=5.2,SNR=22
MAW Mawson 81.09 200 P **P** 03 35 27.9 +0.9
MAW pP **pwP** 03 37 26.0 -0.5
BEKR Beckworth 81.12 41 IAmb IAmb 03 35 30.5
comp=Z,51nm,1.3s
PNTR Pine Nut 81.13 42 IAmb IAmb 03 35 30.8
comp=Z,60nm,0.9s
BKNI Bangkinang 81.23 274 P **P** 03 35 29.3 +0.6
HUMO Hull Mountain 81.24 38 IAmb IAmb 03 35 31.6
comp=Z,58nm,1.1s
KDAK Kodiak Island 81.26 14 P **P** 03 35 29.5 +1.7
KDAK pmax pmax
comp=Z,108nm,1.3s
KDAK Kodiak Island 81.26 14 P **P** 03 35 29.5 +1.7
KDAK IAmb IAmb 03 35 30.5
comp=Z,108nm,1.3s
GMRC Granite Mounta 81.32 48 P **P** 03 35 30.4 +1.5
baz=237,SNR=9.2
IRM Iron Mountain 81.35 49 P **P** 03 35 30.8 +1.8
baz=238,SNR=18
L04D Klamath Falls 81.37 39 P **P** 03 35 30.7 +1.7
baz=232,SNR=41
M04C Macdoel 81.38 39 P **P** 03 35 30.8 +1.7
baz=232,SNR=35
GRAC Grapevine Rang 81.38 45 P **P** 03 35 30.7 +1.7
baz=236,SNR=20
FURC Furnace Creek, 81.42 46 P **P** 03 35 30.5 +1.4
baz=236,SNR=12
TUQ Turquoise Moun 81.49 47 P **P** 03 35 31.2 +1.4
baz=237,SNR=19
SHOC Shoshone, Teco 81.51 47 P **P** 03 35 31.0 +1.3
baz=237,SNR=6.9
RYN Ryan 81.55 43 IAmb IAmb 03 35 32.9
comp=Z,84nm,1.8s
Y12C Blythe 81.57 49 P **P** 03 35 31.9 +1.9
baz=238,SNR=12
NVAR Mina Array Bea 81.58 44 P **P** 03 35 31.6 +1.3
comp=Z,15nm,0.8s,baz=225,slow=8.8,SNR=114
NVAR pP **pwP** 03 37 29.6 -0.8
comp=Z,4.5nm,1.1s,baz=230,slow=8.4,SNR=5.6
NVAR PKKPbc **PKKPbc** 03 54 00.6 +0.9
comp=Z,0.9nm,0.8s,baz=79,slow=4.7,SNR=7.3
NVAR PKPPKP P'P'df 04 02 10.3 +8.0
comp=Z,1.4nm,0.9s,baz=116,slow=2.1,SNR=8.2
GRNR Gornyy 81.62 333 *e*P **P** 03 35 31.8 +1.9
GRNR pmax pmax
comp=Z,31nm,1.0s
PAHR Pah Rah Range 81.63 42 P **P** 03 35 30.9 +0.5
I02D Swisshome 81.68 36 P **P** 03 35 32.1 +1.8
baz=230
DL2 Dalian 81.69 317 P **P** 03 35 31.4 +0.9
DL2 pmax pmax
comp=Z,29nm,1.0s
DL2 pmax pmax
comp=Z,280nm,5.5s
I03D Drain, OR 81.70 37 P **P** 03 35 32.2 +1.7
baz=231,SNR=12
HSIG 81.81 55 P **P** 03 35 31.6 +0.2
K04D Chiloquin, OR 81.95 39 P **P** 03 35 33.6 +1.7
baz=232,SNR=7.8
NEE2 Needles Airpor 82.04 48 P **P** 03 35 34.0 +1.6
baz=238
TPNV Topopah Spring 82.10 46 P **P** 03 35 34.4 +1.5
baz=237,SNR=40
J04D Umpqua Nationa 82.12 38 P **P** 03 35 34.8 +1.9
baz=232,SNR=36
PDMCI Parker Dam,Lak 82.13 49 P **P** 03 35 34.7 +1.8
baz=238,SNR=9.0
I04A Tendick Farm, 82.29 37 P **P** 03 35 34.8 +1.3
baz=232,SNR=18
CN2 Changchun 82.31 323 *e*P **P** 03 35 34.3 +0.8
CN2 pmax pmax
comp=Z,40nm,1.4s
MOD Modoc Plateau 82.36 40 P **P** 03 35 35.0 +0.9
MOD IAmb IAmb 03 35 36.8
comp=Z,48nm,1.1s
H04D Lebanon 82.56 37 P **P** 03 35 36.6 +1.9
baz=231,SNR=17
J05D Fort Rock, OR 82.65 38 P **P** 03 35 37.5 +2.0
baz=232,SNR=89
G03D McMinnville, O 82.70 36 P **P** 03 35 37.3 +1.8
baz=231,SNR=6.9
IPM Ipoh 82.74 278 IAmb IAmb 03 35 38.7
comp=Z,98nm,1.2s
H04A Detroit Lake 82.97 37 IAmb IAmb 03 35 39.3
comp=Z,54nm,1.1s
PINE Pine Mountain 83.13 38 IAmb IAmb 03 35 41.1
comp=Z,96nm,1.1s
CNPM China Poot 83.14 14 IAmb IAmb 03 35 39.0
comp=Z,81nm,1.0s
TIA Tai'an 83.19 313 P **P** 03 35 39.2 +1.0
TIA pmax pmax
comp=Z,22nm,1.3s
I05D Terrebonne, OR 83.23 37 P **P** 03 35 39.8 +1.5
baz=232,SNR=22
R11A Troy Canyon, C 83.31 45 P **P** 03 35 39.9 +1.0
baz=237,SNR=13
KULM Kulim 83.39 278 IAmb IAmb 03 35 41.5
comp=Z,29nm,0.9s
E03A Lebam 83.39 35 P **P** 03 35 40.6 +1.7
E03A IAmb IAmb 03 35 41.8
comp=Z,74nm,1.1s
F04D Rainier, OR 83.39 35 P **P** 03 35 40.9 +2.0
baz=231
BMN Battle Mountai 83.40 42 IAmb IAmb 03 35 41.9
comp=Z,34nm,1.1s
BRLK Bradley Lake 83.43 14 IAmb IAmb 03 35 40.3
comp=Z,84nm,0.9s
TUC Tucson 83.54 52 P **P** 03 35 42.3 +2.2
baz=240
TUC Tucson 83.54 52 P **P** 03 35 41.7 +1.6
TUC pmax pmax
comp=Z,29nm,1.1s
TUC Tucson 83.54 52 P **P** 03 35 41.7 +1.6
F04A Amboy 83.62 36 IAmb IAmb 03 35 42.6
comp=Z,144nm,1.7s
NLWA Neilton Lookou 83.77 34 P **P** 03 35 41.2 +0.4
NLWA IAmb IAmb 03 35 43.8
comp=Z,38nm,1.0s
DIB Dawson Inlet, 83.78 26 P **P** 03 35 40.4 -0.2
DIB IAmb IAmb 03 35 45.1
comp=Z,88nm,1.5s
G05D Wamic, OR 83.80 37 P **P** 03 35 42.4 +1.4
baz=232,SNR=6.0
E04D Cinebar 83.93 35 P **P** 03 35 43.2 +1.7
baz=231
MA2 Magadan 84.00 345 *ce*P **P** 03 35 40.8 -0.8
MA2 pmax pmax
comp=Z,19nm,0.9s
MA2 Magadan 84.00 345 P **P** 03 35 40.9 -0.7
MA2 IAmb IAmb 03 35 42.6
comp=Z,46nm,1.2s
RPSI Rantau Prapat 84.05 275 IAmb IAmb 03 35 44.3
comp=Z,46nm,1.0s
SEW Seward 84.06 14 IAmb IAmb 03 35 43.1
comp=Z,47nm,0.9s
SKLT Songkhla 84.10 280 P **P** 03 35 46.2 +3.0
X16A Lo Mia Camp, P 84.11 50 P **P** 03 35 44.3 +1.3
F05D White Salmon 84.11 36 P **P** 03 35 44.1 +1.5
baz=232
319A Douglas 84.21 53 IAmb IAmb 03 35 47.0
comp=Z,44nm,1.0s
D04E Lakebay 84.21 34 P **P** 03 35 44.7 +1.8
baz=231
D03D Eldon 84.27 34 P **P** 03 35 44.9 +1.7
baz=231,SNR=9.1
KNB Kanab 84.46 47 P **P** 03 35 45.9 +1.3
KNB pmax pmax
comp=Z,55nm,1.5s
KNB Kanab 84.46 47 P **P** 03 35 45.9 +1.3
GAMB Gambell 84.51 3 IAmb IAmb 03 35 46.3
comp=Z,67nm,1.1s
U15A North Rim 84.52 48 IAmb IAmb 03 35 48.1
comp=Z,34nm,1.1s
WUAZ Wupatki 84.70 49 P **P** 03 35 47.4 +1.5
baz=240
PGC Sidney 84.79 33 IAmb IAmb 03 35 47.7
comp=Z,30nm,0.9s
BBB Bella Bella 84.92 28 P **P** 03 35 46.7 +0.5
BBB IAmb IAmb 03 37 48.3
comp=Z,83nm,1.4s
F07A Phinny Hill Vi 84.97 37 IAmb IAmb 03 35 49.4
comp=Z,40nm,1.3s
SUA Susitna One 85.00 13 IAmb IAmb 03 35 47.6
comp=Z,64nm,0.8s
G08A Pilot Rock 85.16 38 P **P** 03 35 48.7 +1.0
G08A IAmb IAmb 03 35 50.5
comp=Z,51nm,1.2s
G08A pP **pwP** 03 37 47.8 -1.2
TRTT Trang 85.20 280 P **P** 03 35 50.6 +2.0
A04D Lummi Island 85.22 33 P **P** 03 35 49.5 +1.7
baz=231,SNR=10
B05A Bryant 85.25 34 P **P** 03 35 49.4 +1.4
baz=231,SNR=15
FID Port Fidalgo 85.33 15 P **P** 03 35 48.1 0.0
LTY Liberty 85.39 35 P **P** 03 35 49.1 +0.4
E07A Sunnyside 85.41 36 IAmb IAmb 03 35 51.7
comp=Z,47nm,1.1s
KNK Knik Glacier 85.45 14 IAmb IAmb 03 35 50.1
comp=Z,46nm,0.8s
HAWA Hanford 85.49 36 IAmb IAmb 03 35 52.0
comp=Z,53nm,1.1s
TCRU Three Creeks R 85.53 46 P **P** 03 35 51.6 +1.7
MOIG Morelia 85.66 67 P **P** 03 35 51.4 +0.5
MOIG IAmb IAmb 03 35 53.2
comp=Z,22nm,0.6s
C06D Leavenworth 85.67 35 P **P** 03 35 50.9 +0.8
baz=232
W18A Petrified Fore 85.67 50 P **P** 03 35 51.7 +1.2
baz=241
E08A Dider Farm, El 85.81 37 IAmb IAmb 03 35 53.4
comp=Z,32nm,1.0s
BJT Baijiatuau 85.83 316 IAmb IAmb 03 35 53.4
comp=Z,89nm,1.7s
SML Sawmill 85.83 14 IAmb IAmb 03 39 04.0
comp=Z,36nm,0.8s
BJI Beijing 85.83 316 ⇓*i*P **P** 03 35 51.9 +1.0
BJI S **S** 03 45 41.0 +2.6
BJI pmax pmax
comp=Z,26nm,1.7s
121A Cookes Peak, D 85.87 53 P **P** 03 35 53.6 +2.0
baz=242,SNR=8.1
ENH Enshi 85.87 304 P **P** 03 35 51.8 +0.4
MFID Camas Ranch 85.93 40 IAmb IAmb 03 35 54.2
comp=Z,26nm,1.1s
NONG Nongkai 85.98 291 P **P** 03 35 53.7 +1.5
PPLA Purkeypile 86.01 12 IAmb IAmb 03 35 51.5
comp=Z,32nm,1.3s
PATY Pattaya 86.03 285 P **P** 03 35 55.3 +2.9
DUG Dugway, Tooele 86.11 44 P **P** 03 35 53.5 +1.1
baz=239
CHAI Chaiyaphum 86.16 288 P **P** 03 35 54.5 +1.4
WRAK Wrangell Islan 86.21 24 IAmb IAmb 03 35 55.0
comp=Z,56nm,1.1s
TGL Tana Glacier 86.27 17 IAmb IAmb 03 35 54.1
comp=Z,51nm,1.0s
SYO Syowa Base 86.29 193 ⇑*i*P **P** 03 35 51.2 -1.5
SYO Syowa Base 86.29 193 ⇓*i*PcP **P** 03 35 52.4 -0.3
BGU Big Grassy Mou 86.35 44 P **P** 03 35 54.1 +0.5
SURT Suratani 86.44 281 P **P** 03 35 56.7 +2.3
NLU North Lily Min 86.47 45 P **P** 03 35 55.3 +1.0
VRDI Verde Repeater 86.51 16 IAmb IAmb 03 35 55.8
comp=Z,90nm,1.4s
CAST Castle Rocks 86.51 12 P **P** 03 35 52.8 -0.9
SEY Seymchan 86.62 347 *d*iP **P** 03 35 54.2 +0.1
SLVN Son La 86.63 294 P **P** 03 35 56.1 +0.9
BALM Baldy 86.64 17 IAmb IAmb 03 35 56.3
comp=Z,50nm,0.9s
PLID Pearl Lake 86.76 39 IAmb IAmb 03 35 57.9
comp=Z,80nm,1.5s
B08A Colville Reser 86.77 35 IAmb IAmb 03 35 56.6
comp=Z,25nm,0.7s
BARN Barnard Glacie 86.84 17 IAmb IAmb 03 35 57.5
comp=Z,62nm,1.0s
KTH Kantishna Hill 86.85 12 IAmb IAmb 03 35 55.7
comp=Z,48nm,0.9s
CTGM Chitina Glacie 86.85 17 IAmb IAmb 03 35 57.0
comp=Z,33nm,0.8s
JIS Juneau Island 86.87 22 P **P** 03 35 56.1 +0.8
JIS IAmb IAmb 03 35 57.9
comp=Z,32nm,1.2s
BESE Bessie Mountai 86.94 21 P **P** 03 35 56.3 +0.5
BESE IAmb IAmb 03 35 58.4
comp=Z,39nm,1.0s
HVU Hansel Valley 86.96 43 P **P** 03 35 57.4 +0.9
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 86.96 43 P **P** 03 35 57.4 +0.9
C09A Chrisman Ranch 87.01 36 IAmb IAmb 03 35 58.7
comp=Z,41nm,1.1s
PHET Kaeng Krachan 87.14 285 P **P** 03 36 00.4 +2.7
DHY Denali Highway 87.16 14 IAmb IAmb 03 35 58.2
comp=Z,66nm,1.4s
Y22D IRIS PASSCAL I 87.22 52 P **P** 03 35 59.2 +1.2
baz=243
Y22D IRIS PASSCAL I 87.22 52 P **P** 03 35 59.1 +1.2
MNTX Cornudas Mount 87.31 55 P **P** 03 35 59.8 +1.6
baz=244,SNR=38
MNTX Cornudas Mount 87.31 55 IAmb IAmb 03 36 01.2
comp=Z,30nm,1.1s
PBKT Sadao Pong 87.32 289 P **P** 03 36 00.5 +2.0
PBKT Sadao Pong 87.32 289 IAmb IAmb 03 36 01.9
comp=Z,55nm,1.3s
PAX Paxson 87.50 14 IAmb IAmb 03 35 59.5
comp=Z,24nm,1.1s
PV05 Paradox Valley 87.55 48 IAmb IAmb 03 36 02.2
comp=Z,26nm,1.3s
MVCO Mesa Verde 87.55 49 P **P** 03 36 00.0 +0.5
baz=242
MVCO Mesa Verde 87.55 49 P **P** 03 36 00.1 +0.6
TX31 Lajitas Ar. Si 87.61 57 IAmb IAmb 03 36 03.0
comp=Z,24nm,1.1s
TX32 Lajitas Array 87.61 57 IAmb IAmb 03 36 03.0
comp=Z,24nm,1.1s
TXAR Lajitas Array 87.61 57 P **P** 03 36 01.1 +1.3
TXAR *PP **pP** 03 37 59.9 +0.9
TXAR Lajitas Array 87.61 57 P **P** 03 36 01.4 +1.6
comp=Z,13nm,0.9s,baz=219,slow=4.9,SNR=89
TXAR pP **pP** 03 38 00.5 +1.5
comp=Z,4.3nm,1.1s,baz=245,slow=5.8,SNR=7.0
TXAR PKKPbc **PKKPbc** 03 53 46.1 +1.1
comp=Z,1.2nm,0.8s,baz=101,slow=2.8,SNR=12
TXAR Lajitas Array 87.61 57 P **P** 03 36 01.1 +1.3
TXAR pP **pP** 03 37 59.9 +0.9
SNAA Sanae 87.67 179 P **P** 03 35 59.2 -0.1
SNAA Sanae 87.67 179 pP pP 03 37 58.3 -0.2
SNAA Sanae 87.67 179 P **P** 03 35 59.3 0.0
SNAA *PP **pP** 03 37 58.4 -0.2
SNAA pmax pmax
comp=Z,40nm,1.4s
SNAA Sanae 87.67 179 P **P** 03 35 59.1 -0.1
comp=Z,2.3nm,0.5s,baz=231,slow=7.6,SNR=6.8
SNAA pP **pP** 03 37 59.0 +0.4
comp=Z,14nm,1.2s,baz=193,slow=7.9,SNR=6.0
SNAA Sanae 87.67 179 P **P** 03 35 59.3 -0.1
SNAA **pP** 03 37 58.4 -0.2
SNAA IAmb IAmb 03 38 04.0
comp=Z,40nm,1.4s
VNA3 Neumayer Olymp 87.82 176 P **P** 03 35 60.0 +0.1
VNA3 Neumayer Olymp 87.82 176 pP pP 03 37 59.2 +0.1
HYT Haines Junctio 87.84 19 IAmb IAmb 03 36 02.4
comp=Z,25nm,0.9s
PV02 Paradox Valley 87.86 48 IAmb IAmb 03 36 03.1
comp=Z,30nm,1.6s
MENT Mentasta 87.89 15 P **P** 03 36 00.3 +0.2
MENT IAmb IAmb 03 36 02.1
comp=Z,23nm,0.7s
NEW Newport 87.91 36 P **P** 03 36 01.3 +0.7
baz=235,SNR=8.7
ANMO Albuquerque 87.96 51 P **P** 03 36 02.7 +1.2
baz=243
ANMO Albuquerque 87.96 51 P **P** 03 36 02.6 +1.2
ANMO *PP **pP** 03 38 01.8 +1.0
ANMO pmax pmax
comp=Z,20nm,1.2s
ANMO Albuquerque 87.96 51 P **P** 03 36 02.6 +1.2
ANMO pP **pP** 03 38 01.8 +1.0
XAN Xi'an 88.00 308 P **P** 03 36 02.8 +1.4
XAN pP pwP 03 38 07.1 +2.3
XAN S **S** 03 46 00.3 +1.2
XAN pmax pmax
comp=Z,35nm,1.1s
XAN pmax pmax
comp=Z,250nm,4.7s
XAN Xi'an 88.00 308 P **P** 03 36 02.3 +0.9
XAN pmax pmax
comp=Z,78nm,1.4s
XAN Xi'an 88.00 308 P **P** 03 36 02.2 +0.9
NEA Nenana 88.13 12 IAmb IAmb 03 36 02.4
comp=Z,24nm,0.9s
MLY Manley 88.22 11 IAmb IAmb 03 36 02.1
comp=Z,56nm,1.2s
WRH Wood River Hil 88.24 13 P **P** 03 36 01.6 -0.1
WRH pP **pP** 03 38 02.0 +0.9
VNA2 Neumayer--Watz 88.26 177 P **P** 03 36 02.5 +0.6
baz=184,slow=3.4
VNA2 Neumayer--Watz 88.26 177 pP pP 03 38 02.1 +0.7
baz=176,slow=3.5
UTHA Uthaitani 88.29 287 P **P** 03 36 05.2 +2.1
RIDG Independent Ri 88.31 14 IAmb IAmb 03 36 03.6
comp=Z,50nm,1.0s
NANT Nan 88.41 291 P **P** 03 36 05.3 +1.8
DOT Dot Lake 88.41 15 IAmb IAmb 03 36 04.1
comp=Z,44nm,1.0s
HDA Harding Lake 88.42 13 P **P** 03 36 02.4 -0.2
baz=209
CCB Clear Creek Bu 88.45 13 P **P** 03 36 02.1 -0.5
CCB pP **pP** 03 38 03.2 +1.0
BCAR Beaver Creek A 88.48 16 P **P** 03 36 03.2 +0.3
VNA1 Neumayer--Stat 88.49 177 P **P** 03 36 03.7 +0.7
VNA1 Neumayer--Stat 88.49 177 pP pP 03 38 03.0 +0.7
WHY Whitehorse 88.53 20 IAmb IAmb 03 36 05.6
comp=Z,29nm,0.9s
AHID Auburn Hatcher 88.53 43 IAmb IAmb 03 36 06.5
comp=Z,26nm,1.1s
DLBC Dease Lake 88.54 23 IAmb IAmb 03 36 06.0
comp=Z,31nm,1.1s
IMAR Indian Mountai 88.57 10 P **P** 03 36 03.3 +0.1
TCOL CIGO, UAF Yank 88.64 13 P **P** 03 36 03.3 -0.2
baz=208
COLA College 88.64 13 P **P** 03 36 03.3 -0.2
COLA pmax pmax
comp=Z,89nm,0.9s
COLA College 88.64 13 P **P** 03 36 03.3 -0.2
CLNB Carlsbad 88.70 55 P **P** 03 36 05.8 +1.1
HIA Hailar 88.72 325 P **P** 03 36 04.2 -0.2
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 88.72 325 P **P** 03 36 04.2 -0.2
ILAR Eielson Array 88.75 13 P **P** 03 36 03.1 -1.0
ILAR Eielson Array 88.75 13 P **P** 03 36 03.8 -0.3
comp=Z,17nm,0.6s,baz=217,slow=5.1,SNR=148
ILAR pP **pP** 03 38 04.5 +0.8
comp=Z,2.9nm,0.9s,baz=226,slow=4.8,SNR=6.8
ILAR PKiKP **PKiKP** 03 40 59.4 -0.4
comp=Z,0.4nm,0.4s,baz=235,slow=3.2,SNR=7.4
ILAR PKKP **PKKPdf** 03 53 40.8 +2.2
comp=Z,0.3nm,0.4s,baz=328,slow=2.1,SNR=6.4
ILAR Eielson Array 88.75 13 P **P** 03 36 03.1 -1.0
KHLT Khaolaem Dam 88.78 286 P **P** 03 36 04.6 -0.7
MSO Missoula 88.91 38 P **P** 03 36 05.9 +0.4
baz=238
DLMT Dillon 88.93 40 IAmb IAmb 03 36 08.3
comp=Z,28nm,1.1s
POKR Poker Plat Res 88.94 13 P **P** 03 36 04.6 -0.4
baz=209
S22A 4UR Ranch, Cre 88.98 49 P **P** 03 36 07.4 +1.3
baz=243,SNR=13
S22A 4UR Ranch, Cre 88.98 49 IAmb IAmb 03 36 08.9
comp=Z,21nm,1.3s
REDW Red Top Meadow 88.99 42 P **P** 03 36 06.8 +0.8
REDW IAmb IAmb 03 36 08.6
comp=Z,42nm,1.1s
TPAW Teton Pass 88.99 42 IAmb IAmb 03 36 08.8
comp=Z,33nm,1.2s
FXWY Fox Creek 89.02 42 IAmb IAmb 03 36 09.0
comp=Z,40nm,1.6s
O20A White River Ci 89.12 46 P **P** 03 36 07.7 +1.0
baz=242,SNR=12
O20A White River Ci 89.12 46 IAmb IAmb 03 36 09.0
comp=Z,25nm,1.2s
KMI Kunming 89.12 297 P **P** 03 36 09.0 +2.0
KMI pP pP 03 38 06.4 +0.1
KMI sP sP 03 39 01.9 +0.7
KMI pmax pmax
comp=Z,31nm,1.3s
KMI pmax pmax
comp=Z,210nm,4.1s
IMW Indian Meadow 89.20 42 IAmb IAmb 03 36 09.8
comp=Z,36nm,1.1s
JTMT Jette 89.21 37 P **P** 03 36 06.7 -0.1
LAMP Lampang 89.24 290 P **P** 03 36 09.8 +2.4
MOOW Moose Ponds 89.25 42 IAmb IAmb 03 36 09.7
comp=Z,36nm,1.8s
HHC Hu-ho-hao-te 89.28 315 P **P** 03 36 08.9 +1.6
HHC pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 89.34 354 *e*P **P** 03 36 06.7 0.0
BILL *e**PP **pP** 03 38 07.9 +0.7
BILL *i* 03 39 43.5
BILL pmax pmax
comp=Z,16nm,1.0s
BILL Bilibino 89.34 354 P **P** 03 36 06.9 +0.2
BILL IAmb IAmb 03 36 08.5
comp=Z,28nm,1.2s
PAYA Payao 89.34 291 P **P** 03 36 09.6 +1.7
RDOG Red Dog Mine 89.38 6 IAmb IAmb 03 36 08.8
comp=Z,29nm,1.0s
FLWY Flagg Ranch 89.44 42 IAmb IAmb 03 36 11.1
comp=Z,37nm,1.0s
BW06 Boulder Array 89.52 43 P **P** 03 36 09.1 +0.6
baz=241,SNR=20
BW06 Boulder Array 89.52 43 IAmb IAmb 03 36 10.3
comp=Z,24nm,1.1s
PD31 Pinedale Array 89.52 43 P **P** 03 36 08.9 +0.4
PD31 IAmb IAmb 03 36 10.3
comp=Z,22nm,1.1s
PDAR Pinedale Array 89.52 43 P **P** 03 36 09.2 +0.7

comp=Z,12nm,0.7s,baz=204,slow=2.9,SNR=104
PDAR PKKPbc **PKKPbc** **03 53 39.5 -1.7**
comp=Z,1.2nm,0.8s,baz=74,slow=4.0,SNR=8.3
SMCO Snowmass 89.53 47 IAmb IAmb 03 36 11.2
comp=Z,15nm,1.1s
BOZ Bozeman (W) 89.64 40 P **P** **03 36 10.3 +1.4**
baz=239,SNR=24
BOZ Bozeman (W) 89.64 40 IAmb IAmb 03 36 11.6
comp=Z,22nm,1.0s
H17A Grant Village 89.68 42 P **P** **03 36 11.6 +2.4**
baz=240,SNR=11
H17A Grant Village 89.68 42 IAmb IAmb 03 36 12.9
comp=Z,19nm,0.9s
PRP Porcupine Dome 89.69 13 IAmb IAmb 03 36 10.5
comp=Z,24nm,1.0s
YNM Yellowstone No 89.76 41 P **P** **03 36 11.2 +1.6**
YNR Norris Junctio 89.77 41 P **P** **03 36 10.8 +1.1**
CM31 Chiang Mai Arr 89.82 290 P **P** **03 36 12.3 +2.2**
SNR=12
CM31 Chiang Mai Arr 89.82 290 P **P** **03 36 11.7 +1.6**
CMAR Chiang Mai Arr 89.82 290 P **P** **03 36 11.7 +1.6**
CMAR *PP **pP** **03 38 08.8 -0.8**
CMAR Chiang Mai Arr 89.82 290 P **P** **03 36 12.3 +2.2**
comp=Z,14nm,0.8s,baz=120,slow=3.1,SNR=80
CMAR Chiang Mai Arr 89.82 290 P **P** **03 36 11.7 +1.6**
CMAR **pP** **03 38 08.8 -0.8**
LKWY Lake 89.87 42 P **P** **03 36 12.2 +2.1**
LKWY pmax pmax
comp=Z,19nm,1.0s
LKWY Lake 89.87 42 P **P** **03 36 12.2 +2.1**
LKWY IAmb IAmb 03 36 14.0
comp=Z,20nm,0.9s
YUF Upper Falls 89.87 41 P **P** **03 36 10.3 +0.2**
SDCO Great Sand Dun 89.91 49 P **P** **03 36 11.4 +0.9**
baz=243,SNR=12
CMMT Chiang Mai 89.95 290 P **P** **03 36 12.4 +1.7**
CHTO Chiang Mai 89.95 290 P **P** **03 36 11.8 +1.1**
CHTO pmax pmax
comp=Z,77nm,1.5s
CHTO Chiang Mai 89.95 290 P **P** **03 36 11.8 +1.1**
YMP Mirror Lake Pl 90.11 41 P **P** **03 36 12.3 +1.0**
WALA Waterton Lakes 90.12 36 IAmb IAmb 03 36 13.1
comp=Z,16nm,1.0s
MSTX Muleshoe 90.27 54 P **P** **03 36 12.8 +0.8**
baz=245
MSTX Muleshoe 90.27 54 IAmb IAmb 03 36 13.4
comp=Z,15nm,0.9s
COLD Coldfoot 90.30 11 IAmb IAmb 03 36 13.8
comp=Z,15nm,1.1s
T25A Trinidad 90.42 50 P **P** **03 36 13.4 +0.6**
baz=244
T25A Trinidad 90.42 50 P **P** **03 36 12.8 0.0**
RWWY Rawlins 90.54 45 P **P** **03 36 13.0 -0.3**
MHMT Maesarieng 90.61 289 P **P** **03 36 16.2 +2.4**
CD2 Chengdu 90.61 303 *e*P **P** **03 36 14.5 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
833A Chaparral WMA, 90.61 60 P **P** **03 36 14.7 +1.1**
baz=247
833A Chaparral WMA, 90.61 60 P **P** **03 36 13.8 +0.2**
833A IAmb IAmb 03 36 16.0
comp=Z,18nm,1.1s
Q24A Divide 90.70 48 P **P** **03 36 15.4 +1.2**
baz=244
ISCO Idaho Springs 90.75 47 P **P** **03 36 15.5 +1.2**
baz=243
RLMT Red Lodge 90.85 41 P **P** **03 36 15.8 +1.3**
baz=241,SNR=7.4
RLMT Red Lodge 90.85 41 IAmb IAmb 03 36 17.3
comp=Z,13nm,1.1s
N23A Red Feather La 91.02 46 P **P** **03 36 16.7 +1.1**
baz=243,SNR=9.7
N23A Red Feather La 91.02 46 P **P** **03 36 16.4 +0.9**
N23A IAmb IAmb 03 36 18.0
comp=Z,18nm,1.0s
JCT Junction City 91.14 58 P **P** **03 36 16.4 +0.4**
baz=246
JCT Junction City 91.14 58 P **P** **03 36 16.5 +0.4**
JCT pmax pmax
comp=Z,9.0nm,1.1s
JCT Junction City 91.14 58 P **P** **03 36 16.5 +0.4**
K22A Casper 91.43 45 P **P** **03 36 18.1 +0.8**
baz=243,SNR=7.6
K22A Casper 91.43 45 IAmb IAmb 03 36 19.3
comp=Z,19nm,1.1s
AMTX Amarillo 91.47 53 P **P** **03 36 18.1 +0.6**
baz=246
AMTX Amarillo 91.47 53 P **P** **03 36 18.1 +0.6**
AMTX IAmb IAmb 03 38 36.1
comp=Z,32nm,1.9s
BMAR Burnt Mountain 91.53 12 P **P** **03 36 17.1 +0.1**
TOLK Toolik Lake Re 91.68 10 P **P** **03 36 18.1 +0.5**
baz=207
TOLK Toolik Lake Re 91.68 10 IAmb IAmb 03 36 19.4
comp=Z,30nm,1.4s
EGMT Eagleton 91.97 39 P **P** **03 36 20.4 +0.9**
baz=241
EGMT Eagleton 91.97 39 IAmb IAmb 03 38 10.4
comp=Z,26nm,1.2s
ABTX Abilene, Hawle 92.11 56 P **P** **03 36 21.0 +0.5**
baz=247
ABTX Abilene, Hawle 92.11 56 IAmb IAmb 03 36 22.4
comp=Z,15nm,1.1s
YAK Yakutsk 92.27 338 *e*P **P** **03 36 18.0 -2.4**
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK Yakutsk 92.27 338 P **P** **03 36 19.8 -0.6**
EPYK Eagle Plains 92.44 16 P **P** **03 36 21.5 +0.3**
baz=218
EPYK Eagle Plains 92.44 16 IAmb IAmb 03 36 22.6
comp=Z,24nm,0.9s
KSCO Kaye Shedlock' 92.50 49 P **P** **03 36 23.2 +1.0**
baz=245
LZH Lanzhou 92.63 308 ⇑P **P** **03 36 24.7 +1.8**
LZH pP pP 03 38 24.4 +1.7
LZH sP sP 03 39 17.0 -0.4
LZH PP **PP** **03 40 12.8 -1.9**
LZH pmax pmax
comp=Z,21nm,1.4s
435B Jarrell 93.02 58 P **P** **03 36 25.3 +0.7**
baz=248
435B Jarrell 93.02 58 P **P** **03 36 24.7 +0.1**
435B IAmb IAmb 03 36 26.8
comp=Z,14nm,1.2s
LAO LASA Array 93.46 41 P **P** **03 36 26.5 +0.2**
LAO IAmb IAmb 03 36 29.1
comp=Z,18nm,1.1s
WHTX Lake Whitney, 93.58 57 P **P** **03 36 27.4 +0.2**
baz=248
WHTX Lake Whitney, 93.58 57 P **P** **03 36 27.2 +0.1**
WHTX IAmb IAmb 03 38 32.6
comp=Z,16nm,1.5s
RSSD Black Hills 93.71 44 P **P** **03 36 28.2 +0.5**
baz=244
RSSD Black Hills 93.71 44 P **P** **03 36 27.6 -0.1**
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 93.71 44 P **P** **03 36 27.6 -0.1**
OGNE Ogallala 93.72 48 P **P** **03 36 27.5 -0.2**
OGNE IAmb IAmb 03 39 23.6
comp=Z,17nm,0.8s
U32A Winter Ranch, 94.07 53 P **P** **03 36 29.4 +0.1**
U32A IAmb IAmb 03 39 55.7
comp=Z,14nm,0.8s
CBKS Cedar Bluff 94.48 50 P **P** **03 36 31.8 +0.7**
baz=247
CBKS Cedar Bluff 94.48 50 P **P** **03 36 32.0 +0.9**
CBKS pmax pmax
comp=Z,13nm,1.0s
CBKS Cedar Bluff 94.48 50 P **P** **03 36 32.0 +0.9**
CBKS IAmb IAmb 03 36 33.1
comp=Z,13nm,0.9s
INK Inuvik 94.72 15 IAmb IAmb 03 36 32.5
comp=Z,22nm,1.2s
ULN Ulaanbaatar 95.34 319 *d*P **P** **03 36 34.5 -0.5**
ULN pmax pmax
comp=Z,4.0nm,0.9s
DGMT Dagmar 95.47 40 P **P** **03 36 36.2 +0.8**
baz=245
DGMT Dagmar 95.47 40 P **P** **03 36 36.2 +0.8**
SONM Songino Array 95.73 319 P **P** **03 36 36.3 -0.3**
SONM 03 40 32.6

SONM pmax pmax
comp=Z,5.0nm,1.6s
SONM Songino Array 95.73 319 P **P** **03 36 36.4 -0.3**
comp=Z,0.6nm,0.5s,baz=130,slow=4.3,SNR=6.3
SONM pP **pwP** **03 38 39.4 -1.1**
comp=Z,0.5nm,0.7s,baz=113,slow=3.3,SNR=1.8
SONM PP **PP** **03 40 32.6 -5.4**
comp=Z,1.1nm,0.8s,baz=109,slow=7.8,SNR=3.8
SONM Songino Array 95.73 319 P **P** **03 36 36.4 -0.3**
GTA Gaotai 96.86 309 P **P** **03 36 41.6 -0.3**
GTA pP pwP 03 38 48.8 +2.5
GTA sP sP 03 39 40.8 +4.1
GTA S **S** **03 47 12.5 -4.3**
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,170nm,6.8s
YKA Yellowknife Ar 97.01 25 P **P** **03 36 41.7 -0.1**
comp=Z,2.5nm,0.8s,baz=238,slow=4.3,SNR=7.2
YKA PKIKP **PKiKP** **03 41 13.8 -0.3**
comp=Z,0.7nm,0.8s,baz=225,slow=1.4,SNR=4.2
YKA PKKP **PKKPdf** **03 53 23.4 -0.1**
comp=Z,0.4nm,0.7s,baz=42,slow=1.5,SNR=4.0
ECSD EROS Data Cent 98.49 47 Pdiff **P** **03 36 49.1 +0.1**
baz=249
LPAZ La Paz 102.33 113 PKKPbc PKKPbc 03 53 06.8 +0.3
comp=Z,1.0nm,0.8s,baz=90,slow=6.1,SNR=4.1
ODAN Odare 102.67 294 *e*P **PKiKP** **03 41 25.8 +0.1**
RAMN Ramite 103.37 294 *e*P **PKiKP** **03 41 27.0 0.0**
comp=Z,11nm,0.8s
JIRN Jiri 103.92 295 *e*P **PKiKP** **03 41 28.0 -0.2**
comp=Z,13nm,0.3s
GUN Gumba 104.26 295 *e*P **PKiKP** **03 41 28.3 -0.4**
PKI Pulchoki 104.56 294 *e*P **PKiKP** **03 41 28.6 -0.7**
PKIN Phulchoki 104.58 294 *e*P **PKiKP** **03 41 28.7 -0.5**
comp=Z,11nm,0.5s
KKN Kakani 104.73 294 *e*P **PKiKP** **03 41 28.9 -0.6**
DMN Daman 104.83 294 *e*P **PKiKP** **03 41 29.3 -0.4**
GKN Gorkha 105.34 294 *e*P **PKiKP** **03 41 29.6 -0.9**
KOLN Koldanda 106.16 294 *e*P **PKiKP** **03 41 31.3 -0.8**
DANN Dangsing 106.18 295 *e*P **PKiKP** **03 41 31.8 -0.4**
comp=Z,19nm,0.6s
SIV San Ignacio 108.48 116 PKiKP **PKiKP** **03 41 36.4 -0.1**
comp=Z,0.3nm,0.4s,baz=315,slow=4.3,SNR=4.8
T58A Grand View Acr 109.94 57 PKiKP **PKiKP** **03 41 38.5 -0.1**
baz=258
M54A Oil Creek Stat 109.94 52 PKiKP **PKiKP** **03 41 38.4 -0.1**
baz=260
ZALV Zalesovo Beam 110.49 321 PKiKP **PKiKP** **03 41 38.3 -0.8**
comp=Z,6.8nm,0.5s,baz=154,slow=0.6,SNR=24
MK31 Makanchi Array 111.12 313 *i* PKIKP **PKiKP** **03 41 39.8 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 111.12 313 *i* PKIKP **PKiKP** **03 41 39.7 -0.9**
MKAR Makanchi Array 111.12 313 Pdiff **Pdif** **03 37 48.0 +3.0**
comp=Z,0.4nm,0.5s,baz=93,slow=5.5,SNR=5.8
MKAR PKiKP **PKiKP** **03 41 39.9 -0.7**
comp=Z,3.2nm,0.4s,baz=70,slow=2.5,SNR=45
MKAR PKKPbc **PKKPbc** **03 52 39.0 -0.6**
comp=Z,0.8nm,0.5s,baz=275,slow=3.4,SNR=6.7
MKAR PKKPab **PKKPab** **03 52 52.3 +2.7**
comp=Z,0.4nm,0.5s,baz=272,slow=3.6,SNR=3.9
MKAR Makanchi Array 111.12 313 **PKiKP** **03 41 39.7 -0.9**
MAKZ Makanchi 111.33 313 PKIKP **PKiKP** **03 41 40.1 -0.9**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
N58A Sunbury 112.03 53 PKiKP **PKiKP** **03 41 41.9 -0.5**
baz=261
P59A Jarrettsville 112.05 55 PKiKP **PKiKP** **03 41 42.2 -0.3**
baz=261
L57A Andrews Acres 112.10 52 PKiKP **PKiKP** **03 41 42.2 -0.4**
baz=261
KURK Kurchatov 113.95 317 *c i* PKIKP **PKiKP** **03 41 44.8 -1.0**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 113.95 317 **PKiKP** **03 41 45.2 -0.6**
KURBB Kurchatov Arra 114.00 317 PKiKP PKPdf 03 41 45.2 -0.7
comp=Z,8.5nm,0.7s,baz=93,slow=1.9,SNR=73
H59A Cadyville 114.71 49 PKiKP **PKiKP** **03 41 47.8 +0.3**
baz=265
E58A La Victoria 115.15 48 PKiKP **PKPdf** **03 41 48.0 -0.2**
baz=266
J61A Chester 115.41 51 PKiKP **PKPdf** **03 41 48.8 0.0**
baz=265
D58A Chemin du LacG 115.47 47 PKiKP **PKPdf** **03 41 48.2 -0.6**
baz=266
F60A Warwick 116.04 48 PKiKP **PKPdf** **03 41 49.7 -0.3**
baz=266
HRV Adam Dziewonsk 116.06 52 PKiKP **PKPdf** **03 41 49.9 -0.2**
baz=265
AAK Ala-Archa 116.17 308 PKIKP **PKPdf** **03 41 50.0 -0.6**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 116.17 308 **PKPdf** **03 41 49.9 -0.7**
E60A Ste Agathe de 116.42 48 PKiKP **PKPdf** **03 41 50.4 -0.2**
baz=267
E61A Lac Etchemin 117.08 48 PKiKP **PKPdf** **03 41 52.1 +0.1**
baz=268
ARSB Arslanbob 117.19 307 **PKiKP** **03 41 52.7 +0.1**
D61A St Aubert, Com 117.31 47 PKiKP **PKPdf** **03 41 51.9 -0.5**
baz=268
E62A Clayton Lake 117.75 47 PKiKP **PKPdf** **03 41 52.0 -1.3**
baz=268
PKME Peaks-Kenny Pk 117.87 49 PKiKP **PKPdf** **03 41 52.5 -1.0**
baz=268
H64A Troy 117.90 50 PKiKP **PKPdf** **03 41 53.3 -0.3**
baz=268
OTUK Ortayu 117.95 314 PKIKP **PKPdf** **03 41 53.2 -0.5**
OTUK pmax pmax
comp=Z,12nm,0.4s
F63A Nahmakanta, Br 118.02 48 PKiKP **PKPdf** **03 41 53.9 +0.1**
baz=268
D62A Allapoint, All 118.09 47 PKiKP **PKPdf** **03 41 53.5 -0.4**
baz=269
G64A Maxfield 118.25 49 PKiKP **PKPdf** **03 41 54.1 -0.1**
baz=268
F64A Sherman 118.55 48 PKiKP **PKPdf** **03 41 54.5 -0.3**
baz=269
D63A Stockholm 118.73 47 PKiKP **PKPdf** **03 41 54.5 -0.6**
baz=270
E64A Bridgewater 118.92 48 PKiKP **PKPdf** **03 41 55.1 -0.4**
baz=270
GAR Garm 119.05 304 **PKPdf** **03 41 55.9 -0.3**
BVAR Borovoye Array 119.06 320 PKP **PKPdf** **03 41 55.6 0.0**
comp=Z,19nm,0.4s,baz=120,slow=2.2,SNR=47
G65A Princeton 119.09 49 PKiKP **PKPdf** **03 41 55.5 -0.3**
baz=269
KK31 Karatay Array 119.12 309 *i* PKIKP **PKPdf** **03 41 55.6 -0.5**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KK31 Karatay Array 119.12 309 **PKPdf** **03 41 55.4 -0.6**
KKAR Karatay Array 119.12 309 PKIKP **PKPdf** **03 41 55.4 -0.7**
KKAR Karatay Array 119.12 309 **PKPdf** **03 41 55.4 -0.7**
BRVK Borovoye 119.12 320 P **PKPdf** **03 41 55.3 -0.4**
SNR=6.8
BRVK Borovoye 119.12 320 *d i* PKIKP **PKPdf** **03 41 54.7 -1.0**
BRVK Borovoye 119.12 320 **PKPdf** **03 41 55.7 0.0**
BDFB Brasilia 119.33 123 PKP **PKPdf** **03 41 57.1 -0.2**
comp=Z,1.4nm,0.3s,baz=180,slow=4.1,SNR=4.0
KBL Kabul 119.67 299 PKIKP **PKPdf** **03 41 57.3 -0.4**
KBL Kabul 119.67 299 **PKPdf** **03 41 57.3 -0.4**
OPO Ambohidratompo 120.54 232 PKP **PKiKP** **03 42 00.0 +0.2**
comp=Z,6.9nm,0.8s,baz=45,slow=1.4,SNR=7.7
KBS Kingsbay 121.67 358 *e*PKPdf **PKiKP** **03 42 00.1 0.0**
SPA0 Spitsbergen Ar 122.19 356 *e*PKPdf **PKPdf** **03 42 01.0 0.0**
SPITS Spitsbergen Ar 122.19 356 PKP **PKPdf** **03 42 01.0 0.0**
comp=Z,38nm,0.9s,baz=59,slow=3.9,SNR=21
ILULI Ilulissat 122.22 20 *i* PKIKP **PKPdf** **03 42 01.0 -0.2**
ILULI Ilulissat 122.22 20 *i* P **PKPdf** **03 42 01.0 -0.2**
DAG Danmarks Havn 123.13 5 *i* PKIKP **PKPdf** **03 42 01.3 -1.5**
DAG pmax pmax
comp=Z,6.0nm,0.6s
DAG Danmarks Havn 123.13 5 *i* P **PKPdf** **03 42 01.3 -1.5**
comp=Z,9.2nm,0.6s
SFJD Kangerlussuaq 123.43 22 *i* PKIKP **PKPdf** **03 42 02.9 -0.6**
SFJD Kangerlussuaq 123.43 22 *i* P **PKPdf** **03 42 02.9 -0.6**
SFJD Kangerlussuaq 123.43 22 PKP **PKPdf** **03 42 03.0 -0.5**
comp=Z,4.2nm,0.4s,baz=35,slow=0.6,SNR=10
SUMG Summit 123.59 13 *i* PKIKP **PKPdf** **03 42 03.9 -0.4**
SUMG pmax pmax
comp=Z,54nm,0.9s
SUMG Summit 123.59 13 *i* P **PKPdf** **03 42 03.9 -0.4**
comp=Z,54nm,0.9s
SUMG Summit 123.59 13 **PKPdf** **03 42 04.4 +0.1**
SUR Sutherland 123.95 200 PKP **PKiKP** **03 42 07.0 +0.6**
comp=Z,19nm,0.8s,baz=237,slow=3.2,SNR=17

SVE Sverdlovsk 124.03 325 *e*PKIKP **PKPdf** **03 42 04.8 -0.2**
SVE pmax pmax
comp=Z,42nm,1.0s
ARU Arti 125.24 325 *i* PKIKP **PKPdf** **03 42 07.6 +0.2**
ARU 03 44 02.8
ARU 03 48 25.8
ARU Arti 125.24 325 PKP **PKiKP** **03 42 07.8 +0.1**
comp=Z,15nm,0.5s,baz=64,slow=1.3,SNR=46
ARU Arti 125.24 325 **PKPdf** **03 42 07.5 +0.2**
HRA Herat 125.26 298 **PKPdf** **03 42 07.9 -0.4**
BOSA Boshof 125.75 206 PKP **PKiKP** **03 42 10.5 +0.6**
comp=Z,5.1nm,0.7s,baz=157,slow=3.3,SNR=8.4
AB31 Akbulak array 126.04 316 *i* PKIKP **PKPdf** **03 42 08.8 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 126.04 316 **PKPdf** **03 42 08.4 -0.6**
JLN Jalan Bani Buh 126.42 283 P **PKPdf** **03 42 10.5 -0.1**
SNR=7.6
AKTO Aktyubinsk 127.03 318 PKIKP **PKPdf** **03 42 10.8 -0.2**
AKTO pmax pmax
comp=Z,22nm,0.8s
AKTO Aktyubinsk 127.03 318 PKP **PKiKP** **03 42 11.4 -0.1**
comp=Z,15nm,0.7s,baz=90,slow=3.8,SNR=48
WSAR Wadi Sarin 127.31 284 P **PKPdf** **03 42 12.5 +0.1**
SNR=5.3
WSAR Wadi Sarin 127.31 284 PKP **PKPdf** **03 42 12.4 +0.1**
comp=Z,6.4nm,1.1s,baz=180,slow=2.0,SNR=7.1
MHTO MHTO 127.53 281 P **PKPdf** **03 42 12.4 -0.4**
SNR=6.7
JMDO Jabal Madar 127.65 283 P **PKPdf** **03 42 12.7 -0.4**
SNR=5.5
SMDO Samad 127.81 284 P **PKPdf** **03 42 13.3 -0.1**
SNR=7.4
HAMF Hammerfest 128.50 351 *e*PKPdf **PKPdf** **03 42 13.1 0.0**
GEYT Alibeck 128.60 302 PKP **PKPdf** **03 42 14.7 +0.3**
comp=Z,11nm,0.7s,baz=294,slow=1.5,SNR=18
GEYT pPKP **pPKPdf** **03 44 25.5 +3.0**
comp=Z,2.2nm,0.5s,baz=349,slow=0.8,SNR=4.5
GEYT Alibeck 128.60 302 **PKiKP** **03 42 15.0 -0.2**
GYA0B ALIBECK ARRAY 128.60 302 **PKPdf** **03 42 14.6 +0.2**
LBTB Lobatse 128.76 208 PKP **PKPdf** **03 42 15.2 0.0**
comp=Z,6.0nm,0.7s,baz=171,slow=3.3,SNR=9.5
KIRV Kirov 129.05 330 PKP **PKPdf** **03 42 14.9 +0.4**
comp=Z,23nm,0.5s,baz=38,slow=2.4,SNR=14
PRGR Permogore 129.17 335 *e*PKIKP **PKPdf** **03 42 13.2 -1.4**
PRGR pmax pmax
comp=Z,20nm,1.1s
ARCES ARCESS Array B 129.18 349 PKhKP PKPpre 03 42 01.6
comp=Z,1.1nm,0.5s,baz=298,slow=1.9,SNR=11
ARCES PKP **PKPdf** **03 42 14.4 -0.1**
comp=Z,14nm,0.6s,baz=48,slow=1.3,SNR=14
ARE0 ARCESS Array S 129.18 349 *e*PKPdf **PKPdf** **03 42 14.4 -0.1**
UOSS Minazif 129.75 286 **PKPdf** **03 42 16.4 -0.6**
HATD Hatta, Dubai 129.80 285 P **PKiKP** **03 42 18.0 +0.1**
SNR=7.6
KTK1 Kautokeino 130.03 350 *e*PKPdf **PKPdf** **03 42 16.4 +0.3**
TRO Tromso 130.09 352 *e*PKPdf **PKPdf** **03 42 16.4 +0.3**
RBK Rabkut 130.31 276 P **PKiKP** **03 42 20.0 +0.8**
SNR=6.0
MATP Matopo 131.23 214 PKP **PKiKP** **03 42 20.8 -0.3**
comp=Z,7.9nm,0.7s,baz=156,slow=1.6,SNR=22
MATP SKPbc **SKPab** **03 44 56.2 +1.3**
comp=Z,5.2nm,0.8s,baz=162,slow=3.8,SNR=7.4
KLMR Klimovskoe 132.02 336 *e*PKIKP **PKPdf** **03 42 20.3 +0.2**
KLMR *e* 03 44 53.9
KLMR pmax pmax
comp=Z,46nm,1.4s
KLMR Klimovskoe 132.02 336 *e*PKPdf **PKPdf** **03 42 20.3 +0.2**
KLMR AMP 03 42 21.9
comp=Z,46nm,1.4s
KLMR *e*PP **PP** **03 44 53.9 +4.2**
STEI Steigen 132.14 353 *e*PKPdf **PKiKP** **03 42 21.1 -0.2**
KONS Konsvik 133.75 354 *e*PKPdf **PKiKP** **03 42 24.3 -0.2**
MOR8 Moi Rana 133.93 353 *e*PKPdf **PKPdf** **03 42 23.4 -0.2**
LSZ Lusaka 135.57 218 PKP **PKiKP** **03 42 28.4 +0.1**
LSZ Lusaka 135.57 218 PKP **PKiKP** **03 42 30.5 +0.5**
comp=Z,8.4nm,0.6s,baz=114,slow=2.4,SNR=18
LSZ Lusaka 135.57 218 **PKPdf** **03 42 28.4 +0.1**
NSS Namsos 135.79 354 *e* PKPpre 03 42 18.0
FINES FINESS Array B 135.98 343 PKhKP PKPpre 03 42 14.4
comp=Z,1.2nm,0.4s,baz=51,slow=3.8,SNR=18
FINES PKP **PKiKP** **03 42 28.8 -0.4**
comp=Z,5.9nm,0.3s,baz=82,slow=3.1,SNR=21
FINES SKP 03 45 10.0
comp=Z,9.5nm,0.9s,baz=62,slow=3.8,SNR=9.0
VRH Novokhopyorsk 136.43 324 *e*PKIKP **PKPdf** **03 42 28.3 -0.3**
VRH pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 136.85 331 *i* PKIKP **PKPdf** **03 42 29.1 -0.1**
OBN *e* 03 44 36.6
OBN *e*PPP PPP 03 48 23.9
OBN pmax pmax
comp=Z,49nm,1.3s
LPSR Galich'ya Gora 137.19 327 *e*PKIKP **PKPdf** **03 42 29.8 -0.2**
LPSR pmax pmax
comp=Z,20nm,1.1s
TSUM Tsumeb 137.20 203 PKP **PKiKP** **03 42 33.6 +0.4**
comp=Z,6.0nm,0.7s,baz=148,slow=3.5,SNR=5.9
VSR Storozhevoye 137.81 325 *i* PKIKP **PKPdf** **03 42 30.6 -0.6**
TBLG Delisi 138.15 310 PKIKP **PKPdf** **03 42 32.9 +0.8**
TBLG Delisi 138.15 310 **PKPdf** **03 42 32.9 +0.8**
VSU Vasula 138.23 340 *e*P PKPdf 03 42 22.5 -9.1
VSU *e*P PKiKP 03 42 22.9 -11
VSU *e*PP **PP** **03 45 22.7 -5.4**
NCK Nalchik 138.42 313 *i* PKIKP **PKPdf** **03 42 31.3 -1.3**
ZEI Tsey 138.43 312 *i* PKIKP **PKPdf** **03 42 32.8 -0.1**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 138.57 308 *i* PKIKP **PKPdf** **03 42 33.4 +0.2**
GNI Garni 138.57 308 PKP **PKiKP** **03 42 34.5 -1.0**
comp=Z,13nm,1.0s,baz=117,slow=3.9,SNR=5.2
GNI Garni 138.57 308 **PKPdf** **03 42 33.4 +0.2**
KMBO Kilima Mbogo 138.79 242 PKhKP PKPpre 03 42 26.6
comp=Z,2.4nm,0.6s,baz=0.0,slow=1.0,SNR=4.5
KMBO PKP **PKPdf** **03 42 35.5 +1.0**
comp=Z,6.6nm,0.9s,baz=342,slow=2.0,SNR=6.3
KBZ Khabaz 138.82 313 *i* PKIKP **PKPdf** **03 42 29.3 -3.9**
KBZ Khabaz 138.82 313 PKhKP PKPpre 03 42 25.4
comp=Z,1.8nm,0.8s,baz=63,slow=6.8,SNR=3.7
KIV Kislovodsk 138.88 314 *e*PKIKP **PKPdf** **03 42 33.0 -0.5**
KIV pmax pmax
comp=Z,34nm,1.0s
NB2 NORSAR Subarra 139.27 353 PKP PKPdf 03 42 25.4 -8.2
comp=Z,1.5nm,0.5s,baz=16,slow=3.2
NB2 NORSAR Subarra 139.27 353 *e* PKPdf 03 42 25.4 -8.2
baz=16,slow=3.2
NOA NORSAR Array B 139.27 353 PKhKP PKPdf 03 42 25.2 -8.4
comp=Z,0.6nm,0.4s,baz=20,slow=2.8,SNR=19
NOA PKP **PKiKP** **03 42 35.6 -0.4**
comp=Z,1.5nm,0.5s,baz=16,slow=3.9,SNR=4.3
NOA SKPbc **SKiKP** **03 45 18.9 -1.3**
comp=Z,3.3nm,1.0s,baz=15,slow=4.3,SNR=3.6
RAYN Ar Rayn 139.31 282 PKIKP **PKPdf** **03 42 34.6 -0.2**
RAYN Ar Rayn 139.31 282 PKPdf **PKPdf** **03 42 34.6 -0.2**
NC602 NORSAR Array S 139.53 352 *e* PKPdf 03 42 25.5 -8.5
HFS Hagfors 139.81 351 PKhKP PKPdf 03 42 26.8 -7.8
comp=Z,13nm,0.5s,baz=72,slow=4.7,SNR=64
SKAR Skarslia 139.92 355 *e* **PKPdf** **03 42 28.2 -6.6**
SKAR *e*PKPdf **PKiKP** **03 42 36.1 -1.3**
CUKT Cukurca 140.11 304 *e*P **PKPdf** **03 42 29.4 -6.6**
KONO Kongsberg 140.81 354 *e* **PKPdf** **03 42 31.5 -4.9**
IIGN Ignalina 140.88 338 *e*P **PKPdf** **03 42 31.1 -5.5**
IIGN *e*P **PKPdf** **03 42 31.1 -5.5**
IIGN IAmb IAmb 03 42 33.0
comp=Z,11nm,0.9s
PABE Paberze 141.52 340 *e*P **PKPdf** **03 42 33.8 -4.0**
PABE *e*PP **PP** **03 45 42.3 -5.7**
PBUR Paburg 141.72 342 *e*P **PKPdf** **03 42 33.1 -5.0**
PBUR *e*P **PKiKP** **03 42 34.2 -6.9**
PBUR IAmb IAmb 03 42 49.6
comp=Z,218nm,1.2s
SVAN Silvan-Diyarba 141.75 306 *e*P **PKPdf** **03 42 33.6 -5.2**
BNGB Bingl 141.91 307 *e*P **PKPdf** **03 42 36.2 -2.9**
MAZI Mazidag 142.50 305 *e*P **PKPdf** **03 42 37.8 -2.5**
DYBB Diyarbakir 142.61 306 *e*P **PKPdf** **03 42 38.5 -1.9**
SHEL Horse Pasture 142.73 168 *i* PKIKP **PKPdf** **03 42 41.0 -0.2**
SHEL Horse Pasture 142.73 168 **PKPdf** **03 42 40.5 -0.7**
SUW Suwalki 143.01 339 *e*PKIKP PKPab 03 42 38.2 +0.3
SUW Suwalki 143.01 339 *e*PKP PKPab 03 42 38.2 +0.3
SUW *e*PKP PKPab 03 42 38.2 +0.3
SUW Suwalki 143.01 339 PKPbc 03 42 38.8 +0.3
AKASG Malin Array Be 143.10 331 PKHKP PKPab 03 42 37.6 -0.8
AKASG Malin Array Be 143.10 331 PKhKP PKPab 03 42 38.2 -0.2
comp=Z,60nm,0.3s,baz=44,slow=4.3,SNR=106

AKASG	Malin Array Be	143.10 331		PKPab	03 42 37.6	-0.8
SVRC	Sivrice-ELAZID	143.11 307	eP	PKPdf	03 42 40.7	-0.7
KPL	Plockton	143.18 6	eP	PKPab	03 42 38.2	-0.3
URFA	Urfa	143.75 305	eP	PKPab	03 42 41.8	+0.3
MALT	Malatya	143.79 307	eP	PKPdf	03 42 42.8	+0.3
DRUM	Mains of Drumt	143.86 4	eP	PKPbc	03 42 39.9	-1.1
RSDY	Resadiye-TOKAT	143.88 311	eP	PKPdf	03 42 43.2	+0.7
SIM	Simferopol'	143.98 319	deP	KIKP	PKPdf	03 42 42.5	+0.1
SIM			pmax	pmax		
	comp=Z,195nm,0.7s					
MUD	Monsted U'grnd	143.99 353	⇓iP	KIKP	PKPab	03 42 41.7	+0.1
MUD			pmax	pmax		
	comp=Z,260nm,1.1s					
MUD	Monsted U'grnd	143.99 353	⇓iP	PKPab	03 42 41.7	+0.1
	comp=Z,262nm,1.1s					
EDU	Dundee	144.19 4	eP	PKPab	03 42 42.4	0.0
INVG	Invergeldie, C	144.23 5	eP	PKPbc	03 42 41.8	-0.4
LAWE	Loch Awe, Argy	144.26 7	eP	PKPbc	03 42 41.6	-0.7
COP	Copenhagen	144.27 349	eP	KIKP	PKPbc	03 42 41.6	-0.7
COP			pmax	pmax		
	comp=Z,98nm,0.9s					
COP	Copenhagen	144.27 349	iP	PKPbc	03 42 41.6	-0.7
	comp=Z,98nm,0.9s					
SVSK	Karacayir	144.29 310	eP	PKPab	03 42 45.0	+1.7
BSD	Bornholm Skovb	144.33 347	⇓iP	KIKP	PKPbc	03 42 42.2	-0.3
BSD			pmax	pmax		
	comp=Z,220nm,0.9s					
BSD	Bornholm Skovb	144.33 347	⇓iP	PKPbc	03 42 42.2	-0.3
	comp=Z,215nm,0.9s					
MBAR	Mbarara	144.36 237		PKIKP	PKPab	03 42 44.8	+0.3
MBAR	Mbarara	144.36 237		PKP	PKPab	03 42 45.4	+0.9
	comp=Z,56nm,0.8s,baz=90,slow=3.0,SNR=26					
MBAR	Mbarara	144.36 237			PKPab	03 42 44.8	+0.3
DARE	Darende-Malaty	144.41 308	eP		PKPab	03 42 45.0	+1.0
EAB	Aberfoyle	144.44 6	eP		PKPbc	03 42 42.2	-0.6
TOKT	Tokat	144.47 311	eP		PKPab	03 42 44.4	+0.3
KVT	Kavak	144.51 312	eP		PKPab	03 42 44.9	+0.7
DIKM	Dikmen	144.81 314	⇑P		PKPbc	03 42 44.8	+0.3
DIKM	Dikmen	144.81 314	eP		PKPab	03 42 45.6	+0.3
EBL	Broad Law	144.96 5	eP		PKPbc	03 42 44.2	-0.2
KMRS	Kahramanmaras	145.19 306	eP		PKPab	03 42 46.5	-0.4
SORM	Soroca	145.27 328	⇑PKP2		PKPbc	03 42 45.9	+0.3
SORM	Soroca	145.27 328	⇑P		PKPbc	03 42 45.9	+0.3
EKA	Eskdalemuir Ar	145.39 5		PKPbc	PKPbc	03 42 45.6	-0.2
	comp=Z,49nm,0.9s,baz=341,slow=2.5,SNR=35					
ESK	Eskdalemuir	145.40 5	eP		PKPdf	03 42 45.1	+0.6
ESK	Eskdalemuir	145.40 5	iPKP2		PKPbc	03 42 46.4	+0.6
ESK	Eskdalemuir	145.40 5			PKPbc	03 42 45.4	-0.4
GKP	Gorka Klasztor	145.46 343	eP	KP2	PKPbc	03 42 46.3	+0.3
GKP	Gorka Klasztor	145.46 343	eP	KP	PKPbc	03 42 46.3	+0.3
GKP			eP	KP	PKPbc	03 42 46.3	+0.3
BZK	Bozkurt	145.51 315	⇑P		PKPdf	03 42 45.1	0.0
BZK	Bozkurt	145.51 315	eP		PKPab	03 42 47.5	-0.4
BNN	Bunyan	145.51 309	eP		PKPbc	03 42 47.3	+0.5
BEL	Belsk	145.62 339	eP	KP2	PKPbc	03 42 47.2	+0.7
BEL	Belsk	145.62 339	eP	KP	PKPbc	03 42 47.2	+0.7
BEL			eP	KP	PKPbc	03 42 47.2	+0.7
KIS	Kishinev	145.78 326	⇑P	KIKP	PKPbc	03 42 47.1	0.0
KIS	Kishinev	145.78 326	⇑P		PKPbc	03 42 47.1	0.0
MILM	Milestii Mici	145.84 326	⇑P		PKPbc	03 42 47.0	-0.3
EDMD	Edmundbyers	145.97 4	eP		PKPbc	03 42 47.1	-0.3
LVV	L'vov	146.03 334	eP	KP2	PKiKP	03 42 56.1	+5.9
ILGA	Ilgaz	146.12 314			PKPbc	03 42 49.0	+0.4
KESW	Keswick, Cumbr	146.13 5	eP		PKPbc	03 42 47.4	-0.5
CEYT	Ceyhan	146.22 306	eP		PKPbc	03 42 49.8	+1.1
AVNS	Nevsehir-Avano	146.25 309	iP		PKPbc	03 42 50.0	+1.1
AVNS				IAML_P		
	comp=Z,3μm,0.6s					
CDAG	Cicekdag	146.27 311	iP		PKPbc	03 42 49.5	+0.6
CDAG				IAML_P		
	comp=Z,693nm,0.3s					
IAS	Iasi	146.30 327	⇑P		PKPdf	03 42 42.9	-3.4
IOMK	Kirk Michael	146.32 6	eP		PKPbc	03 42 47.8	-0.6
CANT	Cankiri	146.38 313	eP		PKPbc	03 42 50.1	+1.0
WIM	Isle of Man	146.42 7	eP		PKPbc	03 42 48.6	-0.1
ASF	Jabal al Asfar	146.55 297		PKPbc	PKPbc	03 42 50.7	+0.9
	comp=Z,31nm,0.7s,baz=50,slow=2.8,SNR=60					
KRTS	Karatas	146.65 305	eP		PKiKP	03 42 51.1	-0.8
KARA	Karaisali	146.66 307	eP		PKPbc	03 42 50.2	+0.3
BR131	Keskin Array S	146.75 312		PKIKP	PKPdf	03 42 46.5	-1.0
BR131						03 42 50.7	
BR131	Keskin Array S	146.75 312			PKPdf	03 42 46.5	-1.0
BR131				PKPbc	PKPbc	03 42 50.7	+0.5
BRTR	Keskin Array B	146.75 312		PKPbc	PKPbc	03 42 50.0	-0.2
	comp=Z,33nm,0.8s,baz=133,slow=3.6,SNR=136					
BRTR				pPKPbc	pPKPbc	03 44 57.6	+1.6
	comp=Z,8.8nm,1.2s,baz=62,slow=2.9,SNR=6.8					
BRTR	Keskin Array B	146.75 312			PKPdf	03 42 46.0	-1.5
BRTR				PKPbc	PKPbc	03 42 50.2	0.0
KIRS	Kırehir-Merke	146.79 310	iP		PKPdf	03 42 47.9	+0.4
KIRS				IAML_P		
	comp=Z,240nm,0.9s					
PRAR	RASCA	146.84 329	⇑P		PKPbc	03 42 50.4	+0.3
HWQ	Hawqa	146.86 301	eP		PKPbc	03 42 50.9	+0.3
HPK	Haverah Park	146.86 3	eP		PKPbc	03 42 49.6	-0.2
TLCR		146.93 324	⇓P	KP2	PKPbc	03 42 50.9	+0.6
TLCR		146.93 324	⇓P		PKPbc	03 42 50.9	+0.6
YAYX	Yaylak	146.95 310	eP		PKPbc	03 42 50.9	+0.1
RUE	Ruedersdorf	147.03 346	eP		PKPdf	03 42 48.7	+1.4
RUE			IAmb		IAmb	03 42 51.7	
	comp=Z,112nm,0.7s					
AKSY	AKSARAY - Alti	147.10 310	iP		PKPbc	03 42 52.0	+0.9
AKSY				IAML_P		
	comp=Z,1μm,0.5s					
SERE	Serefilikochisa	147.12 310	eP		PKPbc	03 42 51.4	+0.2
BUR08	Bucovina Ar. S	147.13 330			PKiKP	03 42 52.0	-0.8
RCY	Rachaya	147.14 300	eP		PKPbc	03 42 52.1	+0.6
BURAR	Bucovina Array	147.15 330	⇑P		PKPbc	03 42 51.6	+0.7
BURAR	Bucovina Array	147.15 330			PKPdf	03 42 48.2	+0.3
BURAR				PKPbc	PKiKP	03 42 52.0	-0.8
WPS	Cemaes, Angles	147.18 7	eP		PKPbc	03 42 50.2	-0.5
BHL	Bhannes	147.19 301	eP		PKPbc	03 42 52.0	+0.5
MERS	Mersin	147.19 306	eP		PKPbc	03 42 51.8	+0.4
WME	Myndd Eilian	147.20 6	eP		PKPbc	03 42 50.5	-0.2
TESR	Tescani	147.22 327	⇓P		PKPbc	03 42 51.4	+0.3
AFSR	Afar-Bala (An	147.26 312	eP		PKPbc	03 42 51.8	+0.2
ANTO	Ankara	147.27 312	⇓P	KP2	PKPbc	03 42 52.0	+0.5
ANTO	Ankara	147.27 312	⇓P		PKPbc	03 42 52.0	+0.5
ANTO	Ankara	147.27 312			PKPdf	03 42 47.5	-0.8
ANTO				PKPbc	PKPbc	03 42 52.4	+0.8
BR231	Keskin MP Arra	147.30 312			PKPbc	03 42 52.3	+0.7
WLF1	Llynfaes	147.30 7	eP		PKPbc	03 42 50.7	-0.3
KERG	Konya-Eregli	147.30 307	iP		PKPbc	03 42 51.7	-0.1
KERG				IAML_P		
	comp=Z,592nm,0.7s					
TUDR		147.30 325	⇑P		PKiKP	03 42 52.5	-0.5
CFR	Carcaliu	147.31 324	⇑P	KP2	PKPbc	03 42 51.8	+0.5
CFR	Carcaliu	147.31 324	⇑P		PKPbc	03 42 51.8	+0.5
YRC	Rhoscolyn	147.32 7	eP		PKPbc	03 42 50.8	-0.2
OJC	Ojcow	147.32 338		PKIKP	PKPdf	03 42 47.4	-0.5
OJC	Ojcow	147.32 338	eP	KP	PKPbc	03 42 51.7	+0.5
OJC			eP	KP	PKPbc	03 42 51.7	+0.5
OJC	Ojcow	147.32 338			PKPdf	03 42 47.4	-0.5
OJC				PKPbc	PKPbc	03 42 51.5	+0.2
TOPG	Topolog	147.37 323	⇓P		PKPbc	03 42 52.1	+0.6
LBWR	Ladybower, Pea	147.41 4	eP		PKPbc	03 42 50.0	-1.3
KOLS	Kolonicke sedl	147.44 334	eP	KIKP	PKPdf	03 42 49.0	+0.8
KOLS			e			03 42 52.8	
KOLS	Kolonicke sedl	147.44 334	eP	KP	PKPdf	03 42 49.0	+0.8
KOLS			e			03 42 52.8	
PETR	Petresti	147.45 326	⇑P		PKiKP	03 42 52.9	-0.3
YLL	Llanberis	147.47 6	eP		PKPbc	03 42 51.6	+0.2
KULU	Kulu	147.48 311	eP		PKPbc	03 42 52.8	+0.7
KKUL	Konya-Kulu	147.49 311	iP		PKiKP	03 42 54.0	+0.2
KKUL				IAML_P		
	comp=Z,774nm,0.6s					
ODBI	Odobesti	147.51 326	⇑P		PKiKP	03 42 52.9	-0.5
MMAI	Mount Meron Ar	147.60 299		PKPbc	PKiKP	03 42 53.5	-0.6
	comp=Z,87nm,0.6s,baz=70,slow=5.2,SNR=145					
MMAI				pPKPbc	pPKPab	03 45 01.2	+2.0
	comp=Z,8.3nm,0.7s,baz=72,slow=2.7,SNR=9.0					
TIRR	Tirgusor	147.61 323		PKP2	PKPbc	03 42 52.5	+0.4
TIRR	Tirgusor	147.61 323			PKPbc	03 42 52.5	+0.4
KIZK	Mersin	147.61 306	eP		PKPbc	03 42 52.8	+0.4
VRI	Vrincioaia	147.62 326	⇑P	KP2	PKPbc	03 42 52.3	+0.1
VRI	Vrincioaia	147.62 326	⇑P		PKPbc	03 42 52.3	+0.1
UZH	Uzhgorod	147.67 334	eP	KIKP	PKPbc	03 42 50.9	-1.2
UZH			e			03 42 55.1	
STNC	Stoke	147.69 4	eP		PKPbc	03 42 52.0	0.0
HARR	Harsova	147.73 324	⇑P	KP2	PKPbc	03 42 53.2	+0.8
HARR	Harsova	147.73 324	⇑P		PKPbc	03 42 53.2	+0.8
TLB	Topalu	147.74 323	⇓P	KP2	PKiKP	03 42 53.3	-0.6
TLB	Topalu	147.74 323	⇓P		PKiKP	03 42 53.3	-0.6
MFTR	Murfatlar	147.77 322	⇑P		PKPbc	03 42 53.2	+0.7
LLW	Llanuwychllyn	147.81 6	eP		PKPbc	03 42 51.0	-1.4
FOEL	Foel Wylfa	147.81 5	eP		PKPbc	03 42 52.2	-0.2
NIE	Niedzica	147.81 337	eP	KP2	PKiKP	03 42 53.7	-0.3
NIE	Niedzica	147.81 337	eP	KP	PKiKP	03 42 53.7	-0.3
NIE			eP	KP	PKiKP	03 42 53.7	-0.3
SILI	Silifke-Mersin	147.82 306	eP		PKPbc	03 42 53.5	+0.6
BISRR	Bisoca	147.84 326	⇑P		PKiKP	03 42 53.7	-0.5
BMR	Baia Mare	147.89 332	⇑P	KP2	PKiKP	03 42 53.7	-0.4
BMR	Baia Mare	147.89 332	⇑P		PKiKP	03 42 53.7	-0.4
KSP	Ksiaz	147.89 342	eP	KP2	PKPbc	03 42 53.4	+0.8
KSP	Ksiaz	147.89 342	eP	KP	PKPbc	03 42 53.4	+0.8
KSP			eP	KP	PKPbc	03 42 53.4	+0.8
MANR	Mangalia	147.90 322	⇑P		PKiKP	03 42 54.1	-0.1
EREN	Erenkoy	147.90 304	eP		PKPbc	03 42 53.9	+0.7
TSMN	Mangalia Port-	147.90 322	⇑P		PKiKP	03 42 54.2	-0.1
OZUR		147.94 327	⇓P		PKPbc	03 42 53.5	+0.5
KEBE	Keben-Mersin	147.95 306	eP		PKPbc	03 42 54.0	+0.6
TRPA	Tarpa	147.96 333	⇓P		PKPbc	03 42 53.4	+0.5
IKL	Isikli	148.04 306	eP		PKPbc	03 42 53.7	+0.2
TEVE	Tevekalti-Mers	148.16 306	eP		PKPbc	03 42 54.5	+0.6
ICOR	Ion Corvin	148.16 323	⇑P		PKiKP	03 42 54.7	-0.1
AKKU	Akkuyu-Mersin	148.17 306	eP		PKPbc	03 42 53.9	+0.1
WACR	West Acre	148.18 1	eP		PKPbc	03 42 53.2	-0.1
CHVC	Chvalec	148.19 342	eP	KPDF	PKPdf	03 42 49.2	-0.2
CHVC			⇑eP	KP	PKiKP	03 42 54.5	-0.2
OKC	Ostrava-Krasne	148.21 339	eP	KP2	PKiKP	03 42 54.3	-0.4
OKC	Ostrava-Krasne	148.21 339	⇑eP	KP	PKiKP	03 42 54.3	-0.4
ISR	Istrita	148.21 325	⇑P	KP2	PKiKP	03 42 54.6	-0.3
ISR	Istrita	148.21 325	⇑P		PKiKP	03 42 54.6	-0.3
DOPR	Dopca	148.23 328	⇑P		PKiKP	03 42 54.7	-0.2
KALB	Balgarevo	148.24 321	⇑P		PKiKP	03 42 55.1	+0.1
UPC	Upice	148.27 342	eP	KP2	PKiKP	03 42 54.5	-0.3
UPC	Upice	148.27 342	⇑eP	KP	PKiKP	03 42 54.5	-0.3
MLR	Muntele Rosu	148.28 326	⇑P	KP2	PKPbc	03 42 54.5	+0.5
MLR	Muntele Rosu	148.28 326		PKPbc	PKPbc	03 42 54.0	+0.1
	comp=Z,32nm,0.4s,baz=332,slow=6.0,SNR=95					
MLR	Muntele Rosu	148.28 326	⇑P		PKPbc	03 42 54.5	+0.5
LADK	Ladik-KONYA	148.28 310	eP		PKPbc	03 42 54.1	-0.1
CLL	Collm	148.30 346	eP	KPdf	PKPdf	03 42 50.0	+0.5
CLL			⇓iP	KPbc	PKPbc	03 42 54.3	+0.7
	comp=Z,125nm,0.8s					
CLL			iP	KPab	PKPab	03 42 58.5	-0.3
	comp=Z,73nm,0.8s					
CLL			epPKPbc		pPKPbc	03 45 01.0	+0.7
CLL			epPKPab		pPKPab	03 45 04.0	+2.5
DPC	Dobruska-Polom	148.32 342	eP	KPDF	PKPdf	03 42 50.2	+0.6
DPC			⇑eP	KP	PKiKP	03 42 54.9	-0.1
DPC			eP	KPAB	PKPab	03 43 00.5	+1.4
DPC			epP	KP	pPKPab	03 45 04.4	+2.6
KDHN	Kadinhani	148.33 311	iP		PKPbc	03 42 54.0	-0.3
KDHN				IAML_P		
	comp=Z,3μm,0.7s					
LANS	Liptovska Anna	148.34 337	eP	KP2	PKiKP	03 42 55.8	+0.7
LANS	Liptovska Anna	148.34 337	eP	KP	PKiKP	03 42 55.8	+0.7
LANS			e			03 43 01.0	
SVRH	Sivrihisar-ESK	148.34 312	eP		PKPbc	03 42 54.0	-0.3
KIZT	Kizilcal	148.34 311	eP		PKPbc	03 42 54.9	+0.6
BERE	Bereket-Mersin	148.35 306	eP		PKPbc	03 42 54.9	+0.4
KONT	Konya--Tatoy	148.39 309	iP		PKPbc	03 42 54.4	0.0
KONT				IAML_P		
	comp=Z,979nm,0.7s					
KONT	Konya--Tatoy	148.39 309	eP		PKPbc	03 42 54.3	0.0
KRLC	Kraliky	148.43 341	eP	KP2	PKiKP	03 42 54.9	-0.3
KRLC	Kraliky	148.43 341	⇑eP	KP	PKiKP	03 42 54.9	-0.3
KRLC			eP	KPAB	PKPab	03 43 00.6	+1.1
MORC	Moravsky Berou	148.46 340	⇑P	KP2	PKPbc	03 42 54.8	+0.6
MORC	Moravsky Berou	148.46 340	⇑P		PKPbc	03 42 54.8	+0.6
MORC	Moravsky Berou	148.46 340	eP	KP	PKPdf	03 42 50.4	+0.6
MORC			e			03 42 54.8	
MORC			e			03 45 06.5	
MORC	Moravsky Berou	148.46 340			PKPdf	03 42 49.7	-0.1
MORC				PKPbc	PKiKP	03 42 55.0	-0.3
RASA	Rasa	148.47 324	⇓P		PKiKP	03 42 55.2	-0.2
LEHL	Lehliu	148.48 324	⇑P		PKPbc	03 42 54.2	-0.1
BRG	Berggiesshubel	148.49 345	eP	KP	PKPdf	03 42 50.0	+0.2
	comp=Z,23nm,1.4s					
BRG	Berggiesshubel	148.49 345	⇑iP	KP	PKPab	03 43 00.2	+0.6
	comp=Z,82nm,1.0s					
BRG	Berggiesshubel	148.49 345	iP	KP	PKPab	03 43 00.2	+0.6
	comp=Z,41nm,0.8s					
BRG			epP	KP	pPKPdf	03 44 55.4	-3.1
	comp=Z,12nm,1.0s					
BRG			eS	KP		03 45 42.5	
	comp=Z,7.7nm,1.2s					
BRG			e			03 56 49.5	
	comp=Z,2.8nm,0.9s					
KECS	Kecovo	148.51 336	eP	KP2	PKiKP	03 42 55.6	+0.2
KECS	Kecovo	148.51 336	eP	KP	PKiKP	03 42 55.6	+0.2
KECS			e			03 43 00.8	
TEKE	Tekeli-Mersin	148.51 306	eP		PKPbc	03 42 54.6	-0.1
SECR		148.52 326	⇑P		PKiKP	03 42 55.2	-0.4
SAUV	Serdivan-Sakar	148.52 316	eP		PKPbc	03 42 54.9	+0.4
GULT	Gulveren	148.55 315	eP		PKPbc	03 42 55.1	+0.3
CJR	Cluj-Napoca	148.56 330	⇑P	KP2	PKiKP	03 42 55.6	-0.1
CJR	Cluj-Napoca	148.56 330	⇑P		PKiKP	03 42 55.5	-0.1
MDB	Medias	148.60 329	⇑P	KP2	PKPbc	03 42 55.1	+0.5
MDB	Medias	148.60 329	⇑P		PKPbc	03 42 55.1	+0.5
EIL	Elat	148.62 293		PKPbc	PKiKP	03 42 56.2	0.0
	comp=Z,42nm,0.8s,baz=345,slow=1.8,SNR=12					
PLAR	PLOIESTI	148.62 326	⇑P		PKiKP	03 42 55.3	-0.4
PVCC	Panska Ves	148.65 344	eP	KP2	PKiKP	03 42 55.6	0.0
PVCC	Panska Ves	148.65 344	⇑eP	KP	PKiKP	03 42 55.6	0.0
PVCC			eP	KPAB	PKPab	03 43 01.5	+1.2
SRCK	Saricakaya, Es	148.67 314	eP		PKPbc	03 42 55.2	+0.2
WTSB	Winterswijk	148.67 354	eP	KPbc	PKPbc	03 42 55.0	+0.5
	comp=Z,227nm,0.9s					
WTSB			eP	KPab	PKPab	03 43 00.4	0.0
CIFT	Cifteler, Eski	148.69 313	eP		PKPbc	03 42 54.6	-0.5
MCH1	Michaelchurch	148.71 5	eP		PKPbc	03 42 53.3	-1.4
CSS	Mathiatis	148.73 304	P		PKPbc	03 42 55.1	-0.2
CSS	Mathiatis	148.73 304			PKPbc	03 42 55.4	+0.1
VOIR		148.77 327	⇓P	KP2	PKiKP	03 42 55.7	+0.6
VOIR		148.77 327	⇓P		PKiKP	03 42 55.7	+0.6
MONM	Monmouth	148.88 5	eP		PKPbc	03 42 55.2	+0.1
DRGR		148.91 331	⇑P		PKPbc	03 42 55.7	+0.3
HRT	Hereke	148.91 316	eP		PKPbc	03 42 55.8	+0.2
MTUR	Matau	148.91 327	⇑P		PKPbc	03 42 54.8	-0.7
PRD	Provadia	148.96 322	P		PKPbc	03 42 56.0	+0.5
LEF	Lefka	149.02 304	⇑P		PKiKP	03 42 56.6	-0.3
LEF	Lefka	149.02 304	eP		PKPdf	03 42 50.9	-0.2
ARR	Arges	149.03 327	⇓P		PKiKP	03 42 56.9	+0.2
ADVT	Abdulvahap	149.06 315	eP		PKPbc	03 42 55.7	-0.2
KLYT	Kilyos	149.08 317	eP		PKPdf	03 42 44.5	-6.5
PRA	Prague	149.10 344	eP	KP2	PKiKP	03 42 56.7	+0.2
PRA	Prague	149.10 344	⇑eP	KP	PKiKP	03 42 56.7	+0.2
CAVI	Cavuskoy	149.11 315	eP		PKiKP	03 42 56.6	-0.3
VYHS	Vyhne	149.12 337	eP	KP	PKPdf	03 42 51.0	+0.1
VYHS			e			03 42 56.7	
VYHS			e			03 43 03.6	
PRU	Pruhonice	149.15 344	⇑eP	KP	PKiKP	03 42 56.5	-0.1
PRU			eP	KPAB	PKPab	03 43 03.3	+0.9
PRU			epP	KP	pPKPab	03 45 06.7	+1.6
GOPC	GO Pecny, Ondr	149.15 343	⇑eP	KP	PKiKP	03 42 56.5	-0.2
GOPC			eP	KPAB	PKPab	03 43 03.1	+0.7
GOPC			epP	KP	pPKPab	03 45 06.2	+1.1
VRAC	Vranov	149.17 341		PKPbc	PKiKP	03 42 56.6	-0.2
	comp=Z,24nm,0.9s,baz=34,slow=2.9,SNR=28					
VRAC	Vranov	149.17 341	⇑P		PKiKP	03 42 56.5	-0.2
VRAC	Vranov	149.17 341	eP	KP	PKPdf	03 42 51.2	+0.2
VRAC			e			03 42 56.4	
VRAC			e			03 45 07.4	
ISK	Istanbul-Kandi	149.17 317	eP		PKPbc	03 42 56.2	+0.1
PSZ	Piszkesteto	149.20 336	⇓P		PKiKP	03 42 56.7	-0.2
PSZ	Piszkesteto	149.20 336			PKPdf	03 42 51.1	-0.1
PSZ				PKPbc	PKiKP	03 42 56.7	-0.2
KOLL	Kolacno	149.20 338	eP	KP	PKiKP	03 42 57.2	+0.4
JAVC	Velka Javorina	149.21 339	eP	KP	PKPdf	03 42 52.5	+1.4
JAVC			e			03 42 57.8	
JAVC			e			03 45 08.1	
YLV	Yalova	149.23 316	eP		PKPbc	03 42 56.5	+0.1
RAZG	Razgrad	149.24 323	⇑P		PKiKP	03 42 56.9	-0.1
BUY	Buyukada	149.25 317	eP		PKPbc	03 42 56.6	+0.3
SWN1	Swindon	149.29 4	eP		PKPbc	03 42 55.6	-0.4
LOT	Lotru	149.40 328	⇑P		PKPbc	03 42 56.9	+0.2
SHUT	Suhut-Afyon	149.42 312	eP		PKiKP	03 42 57.5	-0.3
CTKS	Kestanelik-??a	149.43 318	eP		PKPbc	03 42 57.1	+0.4
NKC	Novy Kostel	149.43 346	⇑eP	KP	PKiKP	03 42 57.3	0.0
NKC			eP	KPAB	PKPab	03 43 03.8	+0.2
NKC			epP	KP	pPKPab	03 45 07.3	+1.1
HUMR	Humele	149.43 326	⇑P		PKPbc	03 42 56.8	+0.1
KRUC	Moravsky	149.44 341	eP	KP	PKPdf	03 42 51.7	+0.3
KRUC			e			03 42 57.0	
KRUC			e			03 45 08.0	
DEV	Deva	149.50 330	⇑P		PKiKP	03 42 57.4	-0.1
TREC	Trest	149.51 342	⇑eP	KP	PKiKP	03 42 57.5	0.0
ARMT	Armutlu	149.57 316	eP		PKPbc	03 42 57.3	+0.2
PBCC	Pribram	149.57 344	⇑eP	KP	PKiKP	03 42 57.6	0.0
SMOL	Smolenice	149.59 339	eP	KP2	PKiKP	03 42 58.4	+0.8
SMOL	Smolenice	149.59 339	eP	KP	PKiKP	03 42 58.4	+0.8
SMOL			e			03 43 05.9	
SLVT	Silivri	149.62 318	eP		PKiKP	03 42 58.4	+0.5
MDNY	Mudanya-Bursa	149.66 316	eP		PKPbc	03 42 57.7	+0.4
TVSB	Tavsanli	149.74 314	eP		PKiKP	03 42 58.1	+0.3
SZH	Strazhica	149.75 323	P		PKPbc	03 42 57.0	-0.4
MODS	Modra-Piesok	149.76 339	eP	KP	PKPbc	03 42 57.6	+0.3
ISP	Isparta	149.76 310	P		PKPbc	03 42 57.5	-0.3
ISP	Isparta	149.76 310	⇑P		PKPbc	03 42 57.7	-0.1
ISP	Isparta	149.76 310			PKPbc	03 42 57.3	-0.5
SIRR	Siria	149.78 332	⇓P		PKiKP	03 42 58.2	+0.1
ZIMR		149.81 324	⇑P		PKPbc	03 42 57.7	+0.2
BCK	Bucak	149.87 310	eP		PKPbc	03 42 57.1	-0.9
SRO	Srobarova	149.88 337	eP	KP	PKPbc	03 42 57.9	+0.3
SRO			e			03 43 06.9	
JMB	Yambol	149.88 321	P		PKPbc	03 42 58.0	+0.2
SRO2	Moca	149.89 337	eP	KP	PKPbc	03 42 57.2	-0.4
SRO2			e			03 43 05.5	
GZR	Gura Zlata	149.92 329	⇑P	KIKP	PKPbc	03 42 57.8	-0.1
GZR	Gura Zlata	149.92 329	⇑P		PKPbc	03 42 57.8	-0.1
HGN	Heimansgroeve	149.95 354	eP	KPbc	PKiKP	03 42 58.0	-0.2
	comp=Z,92nm,1.1s					
HGN			eP	KPab	PKPab	03 43 05.9	+0.2
ELND	Elena	150.00 323	⇑P		PKPbc	03 42 58.1	0.0
UCC	Uccle	150.03 356		PKPbc	PKiKP	03 42 58.3	-0.1
UCC				PKPab	PKPab	03 43 06.1	+0.1
MEM	Membach	150.09 354		PKPdf	PKPdf	03 42 52.8	+0.5
MEM				PKPbc	PKiKP	03 42 58.4	-0.2
MEM				PKPab	PKPab	03 43 06.0	-0.3
MEM	Membach	150.09 354		PKPbc	PKiKP	03 42 58.5	-0.1
MEM				PKPab	PKPab	03 43 06.5	+0.2
VLAD	Vladila	150.10 326	⇓P		PKiKP	03 42 58.9	+0.1
BSTI	Sart Tilman	150.16 355		PKPbc	PKiKP	03 42 58.8	+0.1
EDRB	Edirne	150.16 320	P		PKPbc	03 42 58.6	+0.2
EDRB	Edirne	150.16 320	eP

ARG Arkhangelos 152.19 309 P **PKPbc 03 43 03.3 +0.1**
DIVS Divibare 152.20 331 ⇓*i*P **PKPbc 03 43 03.2 +0.1**
OBKA Obir 152.28 340 *i* PKPbc **PKPbc 03 43 02.0 -1.2**
comp=Z,9.7nm,0.8s
OBKA *i* PKPab **PKPab 03 43 15.7 -0.1**
comp=Z,10.0nm,0.8s
MOSL Moslavina 152.31 337 *i* P **PKPbc 03 43 03.2 0.0**
ECH Echery 152.32 352 PKIKP **PkiKP 03 43 03.4 +0.1**
ECH 03 43 15.5
ECH Echery 152.32 352 **PkiKP 03 43 03.4 +0.1**
ECH PKPab **PKPab 03 43 15.5 -0.3**
PTJ Puntijarka 152.34 338 *i* P **PKPbc 03 43 03.3 0.0**
WATA Walderalm 152.35 345 *i* PKPdf **PKPdf 03 42 55.9 -0.1**
comp=Z,8.2nm,1.0s
WATA *i* PKiKP **PKPbc 03 43 03.4 0.0**
comp=Z,46nm,1.1s,SNR=7.1
WATA *i* PKPab **PKPab 03 43 16.6 +0.5**
comp=Z,45nm,1.1s
BODT Bodrum 152.38 311 P **PKPbc 03 43 03.3 -0.3**
RETA Reutte 152.39 346 *i* PKPdf **PKPdf 03 42 55.6 -0.4**
comp=Z,8.8nm,1.6s
RETA *i* PKiKP **PKPbc 03 43 03.1 -0.3**
comp=Z,7.2nm,0.9s
RETA *i* PKPab **PKPab 03 43 16.4 +0.2**
comp=Z,26nm,0.8s
WTTA Wattenberg 152.40 345 *i* PKPdf **PKPdf 03 42 56.0 -0.2**
comp=Z,7.8nm,0.8s
WTTA *i* PKiKP **PkiKP 03 43 03.8 +0.1**
comp=Z,74nm,1.0s,SNR=9.7
WTTA *i* PKPab **PKPab 03 43 17.4 +1.0**
comp=Z,57nm,1.1s
ZAG Zagreb 152.41 338 *i* P **PkiKP 03 43 04.0 +0.4**
ZAG Zagreb 152.41 338 ⇓*i*P **PkiKP 03 43 03.9 +0.4**
MYKA Terra Mystica 152.45 342 *i* PKPbc **PKPbc 03 43 03.0 -0.5**
comp=Z,15nm,0.5s,SNR=7.5
MYKA *i* PKPab **PKPab 03 43 16.4 -0.1**
comp=Z,16nm,0.7s
MOTA Moosalm 152.45 346 *i* PKPdf **PKPdf 03 42 56.0 -0.2**
comp=Z,13nm,1.0s
MOTA *i* PKiKP **PKPbc 03 43 03.3 -0.3**
comp=Z,44nm,1.0s,SNR=7.8
MOTA *i* PKPab **PKPab 03 43 16.9 +0.3**
comp=Z,50nm,1.5s
SRS Serrai 152.47 322 P **PKPbc 03 43 03.0 -0.7**
SQTA Sankt Quirin 152.54 346 *i* PKPdf **PKPdf 03 42 56.1 -0.2**
comp=Z,9.6nm,0.9s
SQTA *i* PKiKP **PKPbc 03 43 03.6 -0.2**
comp=Z,37nm,0.9s,SNR=7.4
SQTA *i* PKPab **PKPab 03 43 17.5 +0.5**
comp=Z,32nm,1.0s
CRES Cresnjev 152.59 339 ⇓*i*P **PKPbc 03 43 03.6 -0.2**
BBLS Lazići 152.65 331 ⇓*i*P **PkiKP 03 43 04.3 +0.1**
ABTA Abfaltersbach 152.66 343 *i* PKPdf **PKPdf 03 42 56.1 -0.3**
comp=Z,43nm,0.7s,SNR=8.2
ABTA *i* PKPab **PKPab 03 43 18.0 +0.6**
comp=Z,18nm,0.7s
HAPS Han Pijesak,BI 152.68 332 *e*P **PKPbc 03 43 03.5 -0.7**
LJU Ljubljana 152.71 340 *i* PKPdf **PKPdf 03 42 55.8 -0.6**
LJU *i* PKPbc **PKPbc 03 43 04.2 +0.1**
LJU Ljubljana 152.71 340 ⇓*i*P **PKPbc 03 43 04.1 +0.1**
DAVA Damuels 152.77 348 *i* PKPdf **PKPdf 03 42 58.5 +1.9**
comp=Z,4.9nm,0.8s
DAVA *i* PKiKP **PKPbc 03 43 04.1 -0.3**
comp=Z,27nm,1.1s,SNR=7.0
DAVA *i* PKPab **PKPab 03 43 18.1 +0.2**
comp=Z,39nm,1.1s
OZLJ Ozalj 152.77 338 *i* P **PKPbc 03 43 04.1 0.0**
RUDO Rudo 152.86 331 ⇓*i*P **PKPbc 03 43 04.0 -0.5**
STIP Stip 152.86 325 *i* P **PKPbc 03 43 04.1 -0.4**
BLY Banja Luka 152.87 335 ⇓*i*P **PKPbc 03 43 04.5 +0.1**
BLY Banja Luka 152.87 335 ⇓P **PkiKP 03 43 04.9 +0.4**
BLY Banja Luka 152.87 335 **PkiKP 03 43 04.6 +0.1**
BLY PKPab **PKPab 03 43 18.5 +0.2**
CLF Chambon-Foret 152.88 359 PKPbc **PkiKP 03 43 05.0 +0.7**
CLF **PKPab 03 43 18.3 +0.2**
VAY Valandovo 152.91 324 *i* P **PKPab 03 43 19.3 +0.8**
BOJS Bojanci 152.94 338 *i* PKPbc **PKiKP 03 43 05.0 +0.4**
CEY Cerknica 153.01 340 ⇓*i*P **PKPbc 03 43 04.2 -0.5**
SKO Skopje 153.07 326 *i* P **PkiKP 03 43 05.2 +0.1**
HORT Hortiatis 153.09 322 P **PKPbc 03 43 04.2 -0.9**
GRG Griva 153.25 323 P **PKPbc 03 43 04.7 -0.7**
DAVOX Davos/Dischmat 153.25 347 PKP **PKPdf 03 42 57.9 +0.5**
comp=Z,6.1nm,0.8s,baz=72,slow=3.2,SNR=8.8
DAVOX PKPbc **PkiKP 03 43 05.9 +0.4**
comp=Z,22nm,0.4s,baz=231,slow=2.8,SNR=66
RIY Rijeka 153.36 339 *e*P **PKPbc 03 43 05.2 -0.2**
UPM Unac-Piva 153.39 331 *e*P **PKPbc 03 43 03.6 -2.2**
UDBI Udbina 153.60 337 *i* P **PKPbc 03 43 06.1 0.0**
TUE Stuetta 153.66 348 **PKPdf 03 42 58.0 0.0**
TUE **PKPbc 03 43 06.4 0.0**
TUE PKPab **PKPab 03 43 21.9 +0.1**
LIT Litokhoron 153.76 322 P **PKPbc 03 43 05.9 -0.6**
LIT Litokhoron 153.76 322 PKIKP **PKPbc 03 43 05.5 -1.0**
LIT 03 43 22.8
LIT Litokhoron 153.76 322 PKPbc **PKPbc 03 43 05.5 -1.0**
LIT **PKPab 03 43 22.8 +0.5**
KTI Kastanea 153.79 323 P **PKPbc 03 43 06.4 -0.3**
PHP Peshkopia 153.79 327 P **PKPbc 03 43 06.2 -0.4**
BRY Bratogost 153.79 331 ⇓*i*P **PKPbc 03 43 06.1 -0.6**
PDG Podgorica 153.82 329 ⇓*i*P **PKPbc 03 43 06.1 -0.4**
PDG Podgorica 153.82 329 ⇓P **PKPbc 03 43 06.4 -0.2**
PDG Podgorica 153.82 329 **PKPdf 03 42 57.5 -0.6**
PDG **PKPbc 03 43 06.3 -0.2**
PDG PKPab **PKPab 03 43 20.7 -1.6**
NVLJ Novalja 153.90 338 *i* P **PKPbc 03 43 06.2 -0.3**
FNA Florina 153.93 324 P **PKPbc 03 43 06.3 -0.6**
OHR Ohrid 154.02 325 *i* P **PKPbc 03 43 06.9 -0.1**
TREB Trebinje 154.03 331 *e*P **PKPbc 03 43 05.6 -1.4**
DRME Dracevica, Mon 154.04 329 ⇓*i*P **PKPbc 03 43 06.8 -0.2**
SENIN Lac Senin/Sane 154.12 351 **PKPdf 03 42 59.1 +0.4**
SENIN **PKPab 03 43 23.4 -0.3**
DBRK Dubrovnik 154.16 331 *i* P **PKPbc 03 43 06.7 -0.5**
TEOL Teolo 154.17 343 **PKPdf 03 42 57.9 -0.6**
TEOL PKPbc **PkiKP 03 43 07.6 +0.4**
TEOL **PKPab 03 43 24.4 +0.7**
HCY Herceg Novi 154.17 330 *e*P **PKPbc 03 43 06.1 -1.2**
MORI Morici 154.19 336 *i* P **PKPbc 03 43 06.8 -0.4**
STON Ston 154.19 332 *i* P **PKPbc 03 43 06.6 -0.7**
STON Ston 154.19 332 ⇓*i*P **PKPbc 03 43 06.5 -0.7**
SALO Salr 154.21 345 PKPbc **PKPbc 03 43 06.8 -0.6**
SALO **PKPab 03 43 23.8 -0.2**
DUGI Dugi Otok 154.32 337 *i* P **PkiKP 03 43 07.2 -0.3**
TIR Tirane 154.33 327 PKIKP **PkiKP 03 43 07.4 -0.2**
TIR Tirane 154.33 327 **PkiKP 03 43 07.4 -0.2**
NEST Nestorio 154.37 324 P **PkiKP 03 43 07.8 -0.1**
ZIRJ Zirje 154.39 336 *i* P **PkiKP 03 43 07.1 -0.5**
HVAR Hvar 154.47 334 *i* P **PkiKP 03 43 07.3 -0.6**
KPRO Kipourio 154.51 323 P **PKPbc 03 43 08.5 +0.3**
AGG Agios Georgios 154.55 320 P **PkiKP 03 43 07.4 -0.8**
AGG Agios Georgios 154.55 320 PKIKP **PkiKP 03 43 07.2 -1.0**
AGG Agios Georgios 154.55 320 **PkiKP 03 43 07.2 -1.0**
MAKR Makrakomi, Fth 154.68 320 P **PKPbc 03 43 08.6 +0.1**
MEV Metsovon 154.70 323 P **PKPdf 03 43 00.8 +1.2**
DSF Desfina 154.81 319 P **PkiKP 03 43 08.6 -0.2**
EVR Evrytania 154.93 320 P **PKPbc 03 43 09.5 +0.4**
SERG Sergoula 155.10 319 P PKPdf 03 43 09.4 +9.4
EFP Efpalio 155.19 319 P PKPdf 03 43 10.4 +10
KLV Kalavryta, Ach 155.27 318 P PKPdf 03 43 10.2 +10
PVO Paravola 155.29 320 P PKPdf 03 43 10.4 +10
BNI Bardonecchia 155.49 351 PKIKP **PKPdf 03 43 00.7 +0.2**
BNI 03 43 30.4
BNI Bardonecchia 155.49 351 PKPdf **PKPdf 03 43 00.7 +0.2**
BNI **PKPab 03 43 30.4 +0.8**
PDO Prodromos 155.51 321 P PKPdf 03 43 10.7 +10
KEK Kerkira 155.54 324 P PKPdf 03 43 10.4 +10
NRCA Norcia 156.02 339 **PKPdf 03 43 00.8 -0.4**
NRCA **PKPab 03 43 32.7 +0.8**
AQU L'Aquila 156.34 338 PKIKP **PKPdf 03 43 01.6 +0.1**
AQU L'Aquila 156.34 338 *e*P **PKPab 03 43 33.9 +0.6**
AQU L'Aquila 156.34 338 PKPdf **PKPdf 03 43 01.6 +0.1**
AQU **PKPab 03 43 34.1 +0.8**
ACER Acerenza 156.65 332 PKPdf **PKPdf 03 43 01.6 -0.4**
ACER **PKPab 03 43 35.1 +0.5**
TIP Timpagrande 157.53 328 ⇑P **PKPdf 03 43 03.7 +0.6**
TIP Timpagrande 157.53 328 **PKPdf 03 43 02.7 -0.5**
TIP **PKPab 03 43 38.9 +0.3**
PBRG Braganca 157.97 17 *e*PKPab **PKPab 03 43 40.9 +0.6**
POLO Lamas de Olo 158.06 19 *e*PKPdf **PKPdf 03 43 04.7 +0.9**
POLO Lamas de Olo 158.06 19 *e*PKPab **PKPab 03 43 41.0 +0.2**
PVRL Vila Real 158.18 19 *e*PKPab **PKPab 03 43 41.8 +0.5**
MVO Moncorvo 158.48 18 *e*PKPdf **PKPdf 03 43 05.8 +1.5**
MVO Moncorvo 158.48 18 *e*PKPab **PKPab 03 43 43.2 +0.6**
PVIS Viseu 158.63 20 *e*PKPdf **PKPdf 03 43 05.5 +1.1**
PVIS Viseu 158.63 20 *e*PKPab **PKPab 03 43 43.4 +0.1**
PCAS Casmilo, Conde 159.03 22 *e*PKPab **PKPab 03 43 44.9 0.0**
MTE Manteigas 159.03 20 *e*PKPdf **PKPdf 03 43 04.6 -0.3**
MTE Manteigas 159.03 20 *e*PKPab **PKPab 03 43 45.6 +0.6**
PTOM Tomar 159.44 22 *e*PKPab **PKPab 03 43 47.2 +0.4**
PCBR Castelo Branco 159.56 20 *e*PKPdf **PKPdf 03 43 06.3 +0.9**
PCBR Castelo Branco 159.56 20 *e*PKPab **PKPab 03 43 47.6 +0.3**
PMAFR Mafra 159.69 25 *e*PKPab **PKPab 03 43 48.0 +0.1**
ALMR Almeirim 159.79 23 *e*PKPdf **PKPdf 03 43 05.1 -0.6**
ALMR Almeirim 159.79 23 *e*PKPdf **PKPdf 03 43 07.0 +1.3**
ALMR Almeirim 159.79 23 *e*PKPab **PKPab 03 43 48.4 +0.1**
PMRV Marv??o 159.96 21 *e*PKPdf **PKPdf 03 43 06.7 +0.8**
PMRV Marv??o 159.96 21 *e*PKPab **PKPab 03 43 49.5 +0.4**
PMTG Montargil 160.00 23 *e*PKPab **PKPab 03 43 49.7 +0.5**
EVO Evora 160.55 23 *e*PKPdf **PKPdf 03 43 06.6 0.0**
EVO Evora 160.55 23 *e*PKPab **PKPab 03 43 51.8 +0.2**
ESDC Sonseca Array 160.66 13 PKP **PKPdf 03 43 07.0 +0.3**
comp=Z,1.9nm,0.9s,baz=352,slow=3.9,SNR=10
ESDC PKPab **PKPab 03 43 52.5 +0.4**
comp=Z,11nm,0.9s,baz=341,slow=4.4,SNR=34
ESDC PP **PP 03 47 36.0 +0.1**
comp=Z,0.2nm,0.4s,baz=337,slow=4.8,SNR=5.9
ESDC Sonseca Array 160.66 13 **PKPdf 03 43 07.4 +0.7**
ESDC **PKPab 03 43 52.5 +0.4**
PAB San Pablo 160.69 14 PKIKP **PKPdf 03 43 07.1 +0.3**
PAB 03 43 52.3
PAB San Pablo 160.69 14 **PKPdf 03 43 07.1 +0.3**
PAB PKPab **PKPab 03 43 52.3 0.0**
PNCL Nicolau / Gran 160.72 25 *e*PKPdf **PKPdf 03 43 07.8 +1.1**
PNCL Nicolau / Gran 160.72 25 *e*PKPab **PKPab 03 43 52.9 +0.5**
PBEJ Beja 161.05 23 *e*PKPdf **PKPdf 03 43 07.5 +0.4**
PBEJ Beja 161.05 23 *e*PKPab **PKPab 03 43 54.2 +0.4**
MESJ Messejana 161.08 24 *e*PKPdf **PKPdf 03 43 06.5 -0.6**
MESJ Messejana 161.08 24 *e*PKPdf **PKPdf 03 43 07.0 -0.1**
MESJ Messejana 161.08 24 *e*PKPab **PKPab 03 43 54.4 +0.4**
PTEO Sao Teotonio 161.13 26 *e*PKPab **PKPab 03 43 54.5 +0.3**
PCVE Castro Verde 161.33 24 *e*PKPab **PKPab 03 43 55.3 +0.2**
PFVI Vila Bisbo 161.44 27 *e*PKPdf **PKPdf 03 43 07.9 +0.4**
PVAQ Vaqueiros 161.65 24 *e*PKPab **PKPab 03 43 57.5 +1.0**
KEST Kesra 163.67 337 PKPab **PKPab 03 44 06.3 +0.8**
comp=Z,11nm,0.9s,baz=50,slow=1.0,SNR=9.7
LIC Lamto 164.13 155 *e*PKIKP **PKPdf 03 43 10.3 -0.5**
comp=Z,110nm,1.6s
KIC Kosan Boka 164.37 156 *e*PKIKP **PKPdf 03 43 10.6 -0.4**
comp=Z,25nm,0.8s
TIC Toumodi 164.52 155 *e*PKIKP **PKPdf 03 43 10.7 -0.5**
DBIC Dimbokro 164.60 155 PKP **PKPdf 03 43 11.0 -0.2**
comp=Z,9.3nm,0.8s,baz=152,slow=1.8,SNR=9.7
DBIC PKPab **PKPab 03 44 11.3 +1.3**
comp=Z,3.9nm,0.8s,baz=195,slow=5.0,SNR=3.6
TOA0 Torodi Ar. Sit 172.34 181 **PKPdf 03 43 15.4 -0.8**
TOA0 **PKPab 03 44 44.6 +0.5**
TORD Torodi Ar. Bea 172.34 181 PKP **PKPdf 03 43 14.2 -1.9**
comp=Z,8.0nm,1.0s,baz=169,slow=1.5,SNR=30
TORD PKPab **PKPab 03 44 44.5 +0.3**
comp=Z,3.3nm,0.8s,baz=168,slow=2.1,SNR=11
TORD PP **PP 03 48 33.6 -1.1**
comp=Z,1.1nm,0.9s,baz=170,slow=4.4,SNR=4.1
TORD Torodi Ar. Bea 172.34 181 PKPdf **PKPdf 03 43 13.9 -2.2**
TORD **PKPab 03 44 44.0 -0.1**
TAM Tamanrasset 175.82 298 PKIKP **PKPdf 03 43 17.4 +0.1**
TAM 03 45 00.7
TAM Tamanrasset 175.82 298 **PKPdf 03 43 17.4 +0.1**
TAM **PKPab 03 45 00.7 +0.7**

TAP 01 03:28:52.3, 23°.55N×121°.33E, h11km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.04**	**190**	P	Pg	03 28 54.9	+0.4
baz=179							
EHY				*e*S	Sg	03 28 56.7	+0.7
baz=179							
EGFH	**Guangfu**	**0.15**	**36**	*e*P	Pb	03 28 56.6	-0.6
baz=36							
YULB	**Yu-li**	**0.16**	**191**	*e*P	Pg	03 28 56.6	+0.7
baz=191							
YULB				*e*S	Sg	03 28 59.8	+1.4
baz=191							
TWF1	**Yuli**	**0.20**	**189**	*e*P	Pb	03 28 57.3	-0.6
baz=186							

TAP 01 03:28:53.8, 23°.95N×121°.05E, h13km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPDB	**Guoxing**	**0.14**	**307**	*e*P	Pg	03 28 57.7	+0.3
baz=307							
DPDB				*e*S	Sb	03 29 00.9	-0.6
baz=307							
SMLT	**Sun Moon Lake**	**0.15**	**246**	P	Pb	03 28 58.1	-0.4
baz=244							
SMLT				*e*S	Sb	03 29 01.2	-0.6
baz=244							
CHGB	**Renai**	**0.16**	**44**	*e*P	Pb	03 28 58.4	-0.4
baz=44							
CHGB				*e*S	Sb	03 29 01.6	-0.5
baz=44							
SSLB	**Suanglung**	**0.18**	**210**	*e*P	Pg	03 28 58.3	+0.4
baz=209							
SSLB				*e*S	Sg	03 29 01.4	+0.7
baz=209							
VWDT	**VWDT**	**0.21**	**157**	*e*P	Pg	03 28 58.8	+0.5
baz=320							
VWDT				*e*S	Sb	03 29 03.5	+0.2
baz=320							
VWDT	**VWDT**	**0.21**	**157**	*e*P	Pg	03 28 58.8	+0.5
baz=156							
VWDT				*e*S	Sb	03 29 03.1	-0.1
baz=156							
WHF	**Hehuan Shan**	**0.28**	**44**	*e*P	Pb	03 29 00.4	-0.6
baz=45							
WHF				*e*S	Sb	03 29 05.0	-0.7
baz=45							
CHN5	**Tsauling**	**0.49**	**225**	*e*P	Pb	03 29 04.1	-0.2
baz=224							
CHN5				*e*S	Sb	03 29 11.7	+0.4
baz=224							
TPUB	**Ta-pu**	**0.75**	**211**	*e*S	Sb	03 29 19.9	+1.0
baz=211							

*ISCJB **01** 03:45:36.6±0.5, 6°.75S±0°.06×148°.02E±0°.08, h51km, mb4.1/10, MS4.0/2, Error ellipse: s-maj=11.7km s-min=7.2km az=23.0*
*IDC **01** 03:45:39.4±2.2, 6°.82S×148°.16E, h64km±23km, mb4.0/9, mb1 4.3/13, mb1mx3.9/42, mbtmp4.3/13, MS3.3/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=25.3km s-min=14.3km az=120.0*
*NEIC **01** 03:45:57.6±1.9, 8°.17S±0°.10×146°.85E±0°.09, h84km±9km, mb4.4/18*
ISC 01 03:45:38.4±0.6, 6°.79S±0°.07×148°.1E±0°.1, h51km, n43, σ1°15/34, mb4.4/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.75**	**199**	P	**Pn**	**03 46 20.6**	**+0.6**
28nm,0.3s,baz=25,slow=8.1,SNR=46							
PMG				S	**Sn**	**03 46 54.3**	**+2.4**
125nm,0.3s,baz=13,slow=18,SNR=5.9							
PMG	**Port Moresby**	**2.75**	**199**		**Pn**	**03 46 20.3**	**+0.3**
KRVT	**Keravat (AS076**	**4.66**	**58**	P	**Pn**	**03 46 47.0**	**+0.8**
8.7nm,0.3s,baz=216,slow=18,SNR=2.5							
JAY	**Jayapura**	**8.47**	**300**	LR	LR	03 52 09.8	
comp=Z,286nm,18.6s,baz=156,slow=46							
HNR	**Honiara**	**12.06**	**103**	LR	LR	03 51 42.5	
comp=Z,69nm,20.5s,baz=302,slow=30							
CTA	**Charters Tower**	**13.33**	**187**	P	**Pn**	**03 48 46.1**	**+1.1**
0.6nm,0.3s,baz=0.5,slow=14,SNR=5.8							
CTAO	**Charters Tower**	**13.33**	**187**	Pn	**Pn**	**03 48 43.5**	**-1.6**
MTN	**Manton Dam**	**17.72**	**249**	P	**P**	**03 49 41.9**	**0.0**
WRAB	**Tennant Creek**	**18.65**	**224**	P	**P**	**03 49 49.5**	**-2.6**
WRAB				IAmb	IAmb	03 49 53.7	
comp=Z,13nm,1.0s							
WB2	**Warramunga Arr**	**18.65**	**224**	P	**P**	**03 49 51.2**	**-1.0**
WRA	**Warramunga Arr**	**18.66**	**224**	P	**P**	**03 49 51.5**	**-0.8**
comp=Z,1.8nm,0.3s,baz=51,slow=10,SNR=51							
WRA	**Warramunga Arr**	**18.66**	**224**	P	**P**	**03 49 50.4**	**-1.9**
EIDS	**Eidsvold**	**18.70**	**171**		**Pn**	**03 49 54.2**	**+0.7**
EIDS				IAmb	IAmb	03 49 55.6	
comp=Z,13nm,1.1s							
KNRA	**Kununurra**	**20.87**	**243**	P	**P**	**03 50 16.2**	**-0.1**
KNRA				IAmb	IAmb	03 50 16.6	
comp=Z,13nm,0.6s							
AS31	**Alice Springs**	**21.60**	**218**	P	**P**	**03 50 23.7**	**-0.5**
AS31				IAmb	IAmb	03 50 25.0	
comp=Z,12nm,0.6s							
ASAR	**Alice Springs**	**21.60**	**218**	P	**P**	**03 50 24.4**	**+0.2**
comp=Z,28nm,0.6s,baz=54,slow=9.2,SNR=290							
ASAR				S	**S**	**03 54 17.9**	**-3.0**
comp=Z,2.8nm,0.9s,baz=32,slow=23,SNR=7.3							
ASAR	**Alice Springs**	**21.60**	**218**	P	**P**	**03 50 23.5**	**-0.6**
DZM	**Mont Dzumac**	**23.36**	**132**	P	**P**	**03 50 42.1**	**-0.6**
comp=Z,7.6nm,0.8s,baz=170,slow=11,SNR=4.2							
FITZ	**Fitzroy Crossi**	**24.57**	**241**	P	**P**	**03 50 53.8**	**+0.1**
comp=Z,14nm,0.3s,baz=56,slow=9.0,SNR=85							
FITZ	**Fitzroy Crossi**	**24.57**	**241**	P	**P**	**03 50 54.0**	**+0.2**
STKA	**Stephens Creek**	**25.68**	**193**	P	**P**	**03 51 03.4**	**-0.3**
comp=Z,9.7nm,0.4s,baz=358,slow=8.8,SNR=38							
STKA				LR	LR	04 01 26.0	
comp=Z,87nm,19.6s,baz=34,slow=37							
STKA	**Stephens Creek**	**25.68**	**193**	P	**P**	**03 51 03.8**	**+0.1**
BBOO	**Buckleboo**	**28.19**	**202**	P	**P**	**03 51 25.8**	**-0.5**
BBOO				IAmb	IAmb	03 51 31.5	
comp=Z,9.7nm,1.1s							
FORT	**Forrest**	**30.35**	**216**	P	**P**	**03 51 45.1**	**-0.3**
PSA00	**Pilbara Seismi**	**30.96**	**239**	P	**P**	**03 51 51.0**	**0.0**
PSA00				IAmb	IAmb	03 51 51.8	
comp=Z,10nm,1.0s							
MORW	**Morawa**	**37.45**	**230**	P	**P**	**03 52 47.6**	**+0.6**
MORW				IAmb	IAmb	03 52 52.5	
comp=Z,7.0nm,0.9s							
KSM	**Kuching**	**38.56**	**281**	P	P	03 53 05.2	+8.6
NWAO	**Narrogin (SRO)**	**38.67**	**224**	P	**P**	**03 52 57.7**	**+0.5**
RAO	**Raoul Island**	**39.07**	**129**	LR	LR	04 05 01.8	
comp=Z,1μm,21.0s,baz=118,slow=30							
FOZ	**Fox Glacier**	**41.29**	**156**	P	P	03 53 28.5	+10
MJAR	**Matsushiro Arr**	**44.08**	**349**	P	**P**	**03 53 40.8**	**-0.7**
comp=Z,0.5nm,0.3s,baz=172,slow=6.2,SNR=4.4							
CMAR	**Chiang Mai Arr**	**54.55**	**298**	P	**P**	**03 55 03.6**	**+1.9**
comp=Z,0.7nm,0.3s,baz=107,slow=4.8,SNR=5.0							
PETK	**Petropavlovsk-**	**60.23**	**7**	P	P	03 56 07.5	+26
SONM	**Songino Array**	**65.60**	**331**	P	**P**	**03 56 17.7**	**+0.6**
comp=Z,0.3nm,0.5s,baz=141,slow=7.1,SNR=2.1							
MKAR	**Makanchi Array**	**78.77**	**320**	P	**P**	**03 57 35.9**	**+0.1**
comp=Z,0.3nm,0.5s,baz=97,slow=7.4,SNR=3.8							
NIL	**Nilore**	**81.24**	**305**	P	P	03 58 03.5	+14
KURBB	**Kurchatov Arra**	**82.49**	**323**	P	**P**	**03 57 54.6**	**-0.8**
comp=Z,0.3nm,0.6s,baz=116,slow=4.0,SNR=2.4							
QSPA	**South Pole Qui**	**83.18**	**180**	P	P	03 58 07.2	+8.2
QSPA				IAmb	IAmb	03 58 18.8	
comp=Z,10nm,1.1s							
ILAR	**Eielson Array**	**85.79**	**23**	P	**P**	**03 58 10.7**	**-1.3**
comp=Z,0.8nm,0.8s,baz=243,slow=4.8,SNR=6.5							
BCAR	**Beaver Creek A**	**87.20**	**25**	P	P	03 58 44.3	+25
BMAR	**Burnt Mountain**	**87.75**	**21**	P	P	03 58 46.9	+25
KOLS	**Kolonicke sedl**	**118.11**	**323**	*e*PKP	PKiKP	04 04 33.4	+14
TORD	**Torodi Ar. Bea**	**146.30**	**283**	PKPbc	**PKPab**	**04 05 15.4**	**+0.1**
comp=Z,0.3nm,0.4s,baz=56,slow=4.2,SNR=5.8							

*ISCJB **01** 04:00:26.8±0.8, 37°.16N±0°.06×72°.1E±0°.1, h200km, Error ellipse: s-maj=16.1km s-min=5.0km az=155.3*
*NNC **01** 04:00:32.0±2.2, 37°.56N×71°.80E, h192km±37km, mb2.4, mpv3.5, Error ellipse: s-maj=25.6km s-min=12.6km az=29.0*
ISC 01 04:00:26.4±1.2, 37°.22N±0°.10×71°.9E±0°.1, h200km, n21, σ1°64/24, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.11**	**16**	P	**Pn**	**04 01 43.5**	**+1.1**
SNR=31							
UCH	**Uchtor**	**5.41**	**21**	P	**Pn**	**04 01 47.4**	**+1.0**
SNR=36							
KZA	**Kyzart**	**5.52**	**27**	P	**Pn**	**04 01 48.1**	**+0.4**
SNR=12							
EKS2	**Erkin-Say**	**5.63**	**15**	P	**Pn**	**04 01 51.1**	**+2.2**
SNR=11							
AAK	**Ala-Archa**	**5.78**	**20**	⇑P	**Pn**	**04 01 52.9**	**+2.0**
3.3nm,0.3s							
AAK				⇑S	**Sn**	**04 02 56.5**	**-1.3**
25nm,0.8s							
AAK	**Ala-Archa**	**5.78**	**20**	P	**Pn**	**04 01 53.3**	**+2.4**
SNR=12							
KK31	**Karatay Array**	**5.97**	**350**	P	**Pn**	**04 01 54.5**	**+1.4**
2.2nm,0.4s,baz=243,slow=13,SNR=22							
KK31				S	**Sn**	**04 02 59.3**	**-2.6**
15nm,0.5s,baz=170,slow=20,SNR=18							
TKM2	**Tokmak 2**	**6.38**	**26**	⇑P	**Pn**	**04 01 59.8**	**+1.1**
1.6nm,0.6s							
DANN	**Dangsing**	**13.35**	**128**	*e*P	**Pn**	**04 03 26.2**	**-2.3**
KOLN	**Koldanda**	**13.66**	**130**	*e*P	**Pn**	**04 03 30.2**	**-2.1**
GKN	**Gorkha**	**14.14**	**127**	*e*P	**Pn**	**04 03 36.4**	**-1.9**
KKN	**Kakani**	**14.70**	**126**	*e*P	**Pn**	**04 03 44.0**	**-1.2**
DMN	**Daman**	**14.72**	**127**	*e*P	**Pn**	**04 03 44.2**	**-1.2**
AB31	**Akbulak array**	**14.81**	**328**	⇓P	**P**	**04 03 47.8**	**+0.8**
0.2nm,0.3s,baz=136,slow=12,SNR=20							
AB31				S	**Sn**	**04 06 30.6**	**-1.2**
2.3nm,0.6s,baz=159,slow=21,SNR=9.1							
PKIN	**Phulchoki**	**14.93**	**126**	*e*P	**Pn**	**04 03 46.9**	**-1.1**
PKI	**Pulchoki**	**14.94**	**126**	*e*P	**Pn**	**04 03 46.8**	**-1.4**
GUN	**Gumba**	**15.02**	**124**	*e*P	**Pn**	**04 03 48.7**	**-0.4**
JIRN	**Jiri**	**15.39**	**124**	*e*P	**Pn**	**04 03 53.2**	**-0.5**
RAMN	**Ramite**	**16.13**	**125**	*e*P	**P**	**04 04 02.7**	**+0.7**
TAPN	**Taplejung**	**16.61**	**122**	*e*P	**P**	**04 04 09.3**	**+2.0**
ODAN	**Odare**	**16.71**	**124**	*e*P	**P**	**04 04 09.8**	**+1.4**

*IDC **01** 04:04:05.4±0.7, 29°.39S×178°.07W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.4/35, mbtmp4.4/12, MS3.6/9, Ms1 3.6/9, ms1mx3.4/27, Error ellipse: s-maj=26.1km s-min=6.8km az=142.0*
*ISCJB **01** 04:04:06.5±0.4, 29°.60S±0°.09×178°.41W±0°.09, h10km, mb4.4/13, MS3.7/8, Error ellipse: s-maj=13.6km s-min=10.9km az=148.8*
*NEIC **01** 04:04:06.5±1.9, 29°.59S±0°.07×178°.31W±0°.10, h5km±4km, mb4.6/14*
ISC 01 04:04:07.3±0.5, 29°.5S±0°.1×178°.32W±0°.09, h10km, n68, σ1°32/53, mb4.5/16, MS3.6/8, 2C, Kermadec Islands

AS31	Alice Springs	42.88 266	P	P	04 12 06.8	+0.5
ASAR	Alice Springs	42.88 266	P	P	04 12 07.1	+0.9
	comp=Z,6.7nm,1.0s,baz=122,slow=8.1,SNR=35					
ASAR	Alice Springs	42.88 266	P	P	04 12 06.1	-0.1
WB2	Warramunga Arr	43.78 271	P	P	04 12 13.8	+0.3
WRAB	Tennant Creek	43.79 271	P	P	04 12 13.4	-0.1
WRA	Warramunga Arr	43.79 271	P	P	04 12 14.2	+0.6
	comp=Z,11nm,0.9s,baz=110,slow=7.7,SNR=44					
WRA	Warramunga Arr	43.79 271	P	P	04 12 13.5	0.0
FORT	Forrest	46.01 254	P	P	04 12 30.5	-0.6
SBA	Scott Base	48.88 184	P	P	04 12 54.9	+2.1
SBA			IAmb	IAmb	04 12 58.9	
	comp=Z,14nm,1.3s					
FITZ	Fitzroy Crossi	52.09 269	P	P	04 13 17.7	-0.1
	comp=Z,5.7nm,0.9s,baz=119,slow=7.3,SNR=12					
FITZ	Fitzroy Crossi	52.09 269	P	P	04 13 18.3	+0.5
GUMO	Guam	55.67 315	LR	LR	04 34 33.4	
	comp=Z,48nm,18.1s,baz=132,slow=33					
QSPA	South Pole Qui	60.58 180	P	P	04 14 18.8	+0.9
	comp=Z,5.1nm,1.1s,baz=36,slow=2.1,SNR=9.2					
KAPI	Kappang	63.18 280	P	P	04 14 36.6	+0.6
	comp=Z,4.9nm,0.4s,baz=152,slow=12,SNR=6.2					
USHA	Ushuaia	76.79 146	LR	LR	04 45 44.4	
	comp=Z,49nm,18.8s,baz=39,slow=32					
MJAR	Matsushiro Arr	77.37 325	P	P	04 16 02.3	-0.1
	comp=Z,2.2nm,0.7s,baz=165,slow=6.0,SNR=5.7					
SYO	Syowa Base	77.90 193	eP	P	04 16 03.0	-1.9
SYO	Syowa Base	77.90 193	esP	sP	04 16 06.7	-2.2
VNA3	Neumayer Olymp	79.19 176	P	P	04 16 12.1	0.0
VNA2	Neumayer--Watz	79.62 177	P	P	04 16 14.8	+0.4
	baz=176,slow=5.0					
VNA1	Neumayer--Stat	79.85 177	P	P	04 16 16.1	+0.4
PLCA	Paso Flores	83.30 133	LR	LR	04 44 33.1	
	comp=Z,48nm,19.6s,baz=266,slow=29					
KSRS	Korea Array	83.51 320	P	P	04 16 36.4	+1.1
	comp=Z,1.7nm,0.9s,baz=63,slow=30,SNR=4.7					
KSRS			LR	LR	04 50 44.1	
	comp=Z,20nm,19.6s,baz=330,slow=34					
KSAR	Wonju Array Be	83.52 320	P	P	04 16 35.8	+0.4
USRK	Ussuriysk Ar.	86.28 327	P	P	04 16 50.5	+1.4
	comp=Z,4.2nm,1.1s,baz=134,slow=5.5,SNR=7.2					
CMB	Columbia Colle	86.30 42	P	P	04 16 50.3	+0.9
CMB			IAmb	IAmb	04 16 51.5	
	comp=Z,2.5nm,0.9s					
WHN	Wuhan	87.60 307	P	P	04 16 51.4	-4.5
NVAR	Mina Array Bea	87.79 43	P	P	04 16 56.6	-0.3
	comp=Z,1.4nm,0.8s,baz=228,slow=7.7,SNR=9.8					
NVAR	Mina Array Bea	87.79 43	P	P	04 16 57.3	+0.3
X16A	Lo Mia Camp, P	89.60 49	P	P	04 17 06.9	+1.4
X16A			IAmb	IAmb	04 17 08.8	
	comp=Z,3.3nm,0.9s					
G08A	Pilot Rock	91.94 37	P	P	04 17 17.1	+1.1
TXAR	Lajitas Array	92.16 57	P	P	04 17 18.9	+1.5
	comp=Z,0.6nm,1.0s,baz=189,slow=7.1,SNR=5.1					
PDAR	Pinedale Array	95.70 44	P	P	04 17 33.7	+0.1
	comp=Z,0.1nm,0.4s,baz=226,slow=4.9,SNR=2.6					
ILAR	Eielson Array	97.14 13	P	Pdif	04 17 39.2	-0.2
	comp=Z,1.0nm,1.1s,baz=241,slow=3.0,SNR=3.9					
MKAR	Makanchi Array	117.00 310	PKP	PKiKP	04 22 51.6	-0.7
	comp=Z,0.2nm,0.5s,baz=54,slow=5.9,SNR=3.4					
KSH	Kashi	119.56 301	PKP	PKiKP	04 23 00.8	+3.2
KSH			PP	PP	04 24 28.8	+8.6
KSH			PKS	PKSdf	04 26 34.9	+0.6
KSH			SKS	SKSdf	04 30 11.5	+1.7
KSH			SKKS	SKKSac	04 31 21.9	+1.8
KSH			AMB	AMB		
	comp=Z,180nm,5.7s					
KSH			LR	LR		
	comp=N,57nm,12.9s					
KSH			LR	LR		
	comp=E,130nm,12.7s					
KSH			LR	LR		
	comp=Z,100nm,13.6s					
KURK	Kurchatov	120.25 314		PKPdf	04 22 57.2	-1.1
KURBB	Kurchatov Arra	120.28 314	PKP	PKPdf	04 22 57.2	-1.2
	comp=Z,0.6nm,0.7s,baz=94,slow=2.8,SNR=5.2					
FINES	FINESS Array B	144.24 340	PKP	PKPab	04 23 39.9	-0.7
	comp=Z,4.6nm,0.9s,baz=18,slow=4.8,SNR=7.8					
NB2	NORSAR Subarra	147.85 351	PKP	PKPbc	04 23 50.8	-1.2
	comp=Z,1.4nm,0.8s,baz=13,slow=2.9					
NOA	NORSAR Array B	147.85 351	PKPbc	PKPbc	04 23 51.7	-0.4
	comp=Z,2.1nm,0.8s,baz=17,slow=4.2,SNR=5.3					
AKASG	Malin Array Be	150.44 323	PKPbc	PKiKP	04 23 58.6	-0.9
	comp=Z,1.5nm,0.6s,baz=49,slow=2.0,SNR=4.6					
AKASG	Malin Array Be	150.44 323		PKiKP	04 23 58.5	-1.1
BRTR	Keskin Array B	151.93 300	PKPbc	PKPbc	04 24 02.0	-0.8
	comp=Z,1.0nm,0.8s,baz=40,slow=2.1,SNR=4.5					
KOLS	Kolonicke sedl	155.04 327	ePKP	PKPab	04 24 25.0	+0.3
VYHS	Vyhne	156.94 330	ePKP	PKPab	04 24 33.5	+0.6
GERES	GERESS Array B	158.63 338	PKPab	PKPab	04 24 39.6	-0.6
	comp=Z,1.0nm,1.0s,baz=21,slow=4.2,SNR=4.8					
TORD	Torodi Ar. Bea	163.70 180	PKPab	PKPab	04 25 02.1	-0.9
	comp=Z,1.1nm,1.0s,baz=164,slow=3.2,SNR=3.6					
TORD	Torodi Ar. Bea	163.70 180	PKPdf	PKPdf	04 24 10.3	-1.0

IDC 01 04:05:51.9±2.1, 16°63S×178°18W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/42, mbtmp3.9/4, Error ellipse: s-maj=126.6km s-min=27.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.10	258	P	P	04 14 10.4	+0.2
	0.8nm,0.5s,baz=96,slow=7.1,SNR=13						
ASAR	Alice Springs	45.36	253	P	P	04 14 12.0	-0.3
	3.7nm,0.5s,baz=87,slow=8.8,SNR=31						
ILAR	Eielson Array	84.59	13	P	P	04 18 26.1	-0.7
	0.2nm,0.4s,baz=230,slow=3.8,SNR=5.5						
TXAR	Lajitas Array	85.12	58	P	P	04 18 30.9	+0.5
	0.4nm,0.7s,baz=201,slow=6.7,SNR=5.4						

*NIED **01** 04:17:00, 38°30N×141°80E, h62km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φ=238.00000°, δ=68.00000°, λ=162.00000°. NP2:φ=335.00000°, δ=73.00000°, λ=23.00000°.*
*NEIC **01** 04:17:18.9±2.1, 36°5N±0°1×145°2E±0°1, h35km±5km, mb4.2/8*
*ISCJB **01** 04:17:45.3±0.6, 38°31N±0°03×141°90E±0°07, h68km±3km, mb4.0/13, Error ellipse: s-maj=9.1km s-min=4.6km az=20.9*
*IDC **01** 04:17:46.8±1.9, 38°38N×141°88E, h60km±16km, mb3.7/10, mb1 4.0/15, mb1mx3.7/43, mbtmp4.1/15, Error ellipse: s-maj=18.7km s-min=10.6km az=107.0*
*JMA **01** 04:17:47.3, 38°31N×141°80E, h58km±1km, M4.1*
JMA Felt II J1.
ISC 01 04:17:47.1±0.8, 38°31N±0°04×141°87E±0°07, h59km±5km, n65, σ1°89/77, mb4.1/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.32	270	P	Pn	04 17 56.9	-0.2
JIKH				S	Sn	04 18 03.6	-0.8
JIO	Ouri	0.43	290	P	Pn	04 17 57.9	-0.3
JIO				S	Sn	04 18 05.3	-1.0
JKMT	Kesennumamotoy	0.59	328	P	Pn	04 17 59.8	-0.1
JKMT				S	Sn	04 18 08.7	-0.5
OFUJ	Ofunato	0.79	349	P	Pn	04 18 02.3	0.0
OFUJ				S	Sn	04 18 13.2	-0.3
JOFO	Osakifurukawao	0.81	292	P	Pn	04 18 02.3	-0.2
JOFO				S	Sn	04 18 13.9	0.0
JMK	Ichinoseki	0.82	322	P	Pn	04 18 02.7	0.0
JMK				S	Sn	04 18 13.8	-0.4
JOU	Okura	0.95	274	P	Pn	04 18 04.0	-0.4
JOU				S	Sn	04 18 16.3	-0.9
JMM	Marumori	0.96	243	P	Pn	04 18 03.8	-0.7
JMM				S	Sn	04 18 15.9	-1.4
JFK	Kawauchi	1.23	220	P	Pn	04 18 07.6	-0.5
JFK				eS	Sn	04 18 22.7	-1.1
JOM	Ohasama	1.25	339	P	Pn	04 18 08.4	+0.1
JOM				S	Sn	04 18 24.5	+0.3
JYK	Kaneyama	1.33	298	P	Pn	04 18 09.2	-0.2
JYK				eS	Sn	04 18 25.6	-0.6
JYS	Shirataka	1.42	267	P	Pn	04 18 10.5	-0.2
JYS				S	Sn	04 18 28.0	-0.4
JFT	Otama	1.45	237	P	Pn	04 18 11.0	0.0
JFT				S	Sn	04 18 28.1	-0.9
JRG	Rokugo	1.45	319	P	Pn	04 18 11.3	+0.2
JRG				S	Sn	04 18 30.0	+0.9
JYA	Atsumi	1.72	280	P	Pn	04 18 14.5	-0.1
MJAR	Matsushiro Arr	3.41	240	P	Pn	04 18 39.2	+1.4
	1.9nm,0.3s,baz=38,slow=14,SNR=39						
MJAR				S	Sn	04 19 18.7	+1.8
	0.8nm,0.3s,baz=55,slow=17,SNR=4.7						
MJAR	Matsushiro Arr	3.41	240		Pn	04 18 41.6	+3.9
MAJO	Matsushiro	3.41	240		Pn	04 18 39.0	+1.3
MAT	Matsushiro	3.41	240	P	Pn	04 18 39.3	+1.6
MAT				S	Sn	04 19 21.2	+4.3
MJB9	Matsu-Tunnel	3.41	240		Pn	04 18 38.9	+1.2
ERM	Erimo	3.83	15		Pn	04 18 41.9	-1.6
INU	Inuyama	4.89	234		Pn	04 18 54.5	-3.4
JHJ	Hachijo jima 2	5.45	199	P	Pn	04 19 04.7	-1.1
	50nm,0.3s,baz=145,slow=23,SNR=21						
JHJ				S	Sn	04 20 01.1	-5.9
	11nm,0.3s,baz=73,slow=19,SNR=3.6						
ASAJ	Asahikawa	5.83	5	P	Pn	04 19 10.1	-0.7
	8.3nm,0.3s,baz=217,slow=11,SNR=13						
ASAJ				S	Sn	04 20 13.2	-3.0
	1.5nm,0.3s,baz=165,slow=20,SNR=3.3						
JKA	Kamikawa-asahi	5.83	5		Pn	04 19 10.1	-0.7
USRK	Ussuriysk Ar.	9.48	311	P	Pn	04 20 00.8	0.0
	baz=124,slow=14,SNR=17						
JNU	Nakatsue	10.32	243	P	Pn	04 20 11.9	-0.5
	0.2nm,0.3s,baz=346,slow=4.2,SNR=2.6						
JNU	Nakatsue	10.32	243		Pn	04 20 11.9	-0.5
KSRS	Korea Array	11.06	270	P	Pn	04 20 25.2	+2.8
	0.7nm,0.3s,baz=76,slow=14,SNR=5.6						
HHC	Hu-ho-hao-te	23.44	286	P	P	04 22 53.8	+2.6
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,9.0nm,6.6s						
WHN	Wuhan	23.92	259	P	P	04 23 01.3	+5.7
XAN	Xi'an	26.85	271	P	P	04 23 20.6	-1.6
XAN				IAmb	IAmb	04 23 21.7	
	comp=Z,4.4nm,0.9s						
SONM	Songino Array	27.40	302	P	P	04 23 25.2	-1.9
	comp=Z,0.3nm,0.3s,baz=124,slow=9.4,SNR=5.2						
SONM	Songino Array	27.40	302	P	P	04 23 27.2	+0.2
ENH	Enshi	27.82	263	P	P	04 23 28.6	-2.2
H11N2	WAKE ISLAND Hy	28.52	123	T	T	04 54 04.3	
	baz=316,slow=76,SNR=239						
H11N1	WAKE ISLAND Hy	28.53	123	T	T	04 53 55.0	
	baz=316,slow=76,SNR=241						
H11N3	WAKE ISLAND Hy	28.54	123	T	T	04 53 59.1	
	baz=316,slow=76,SNR=257						
H11S1	WAKE ISLAND Hy	29.27	125	T	T	04 54 53.4	
	baz=318,slow=76,SNR=110						
H11S3	WAKE ISLAND Hy	29.28	125	T	T	04 54 54.3	
	baz=318,slow=76,SNR=167						
H11S2	WAKE ISLAND Hy	29.29	125	T	T	04 54 55.8	
	baz=318,slow=76,SNR=96						
LZH	Lanzhou	30.23	278	eP	P	04 23 51.4	-1.0
LZH				pP	pP	04 23 55.8	-11
LZH				sP	sP	04 23 58.4	-15
LZH				PP	PP	04 25 07.2	+5.9
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,5.4s						
LZH				LR	LR		
	comp=N,65nm,12.7s						
LZH				LR	LR		
	comp=E,76nm,13.0s						
LZH				LR	LR		
	comp=Z,92nm,16.3s						
WMQ	Urumqi	40.60	296	eP	P	04 25 23.1	+2.0
WMQ				pP	pP	04 25 27.5	-8.5
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ				LR	LR		
	comp=N,230nm,6.9s						
WMQ				LR	LR		
	comp=E,210nm,6.9s						
WMQ				LR	LR		
	comp=Z,150nm,6.9s						
ZAA0	Zalesovo Array	41.34	311	P	P	04 25 25.8	-1.0
ZALV	Zalesovo Beam	41.34	311	P	P	04 25 26.3	-0.6
	comp=Z,2.0nm,0.4s,baz=88,slow=7.7,SNR=7.2						
ZALV	Zalesovo Beam	41.34	311	P	P	04 25 26.2	-0.6
MK31	Makanchi Array	43.76	301	P	P	04 25 46.5	-0.2
MK31				IAmb	IAmb	04 25 47.2	
	comp=Z,2.1nm,0.7s						
MKAR	Makanchi Array	43.76	301	P	P	04 25 46.2	-0.4
	comp=Z,1.8nm,0.5s,baz=87,slow=9.8,SNR=25						
MKAR	Makanchi Array	43.76	301	P	P	04 25 46.3	-0.4
MAKZ	Makanchi	43.97	301	P	P	04 25 47.8	-0.5
KURK	Kurchatov	45.44	307	P	P	04 25 58.9	-1.0
KURBB	Kurchatov Arra	45.51	307	P	P	04 25 59.5	-1.0
	comp=Z,1.9nm,0.4s,baz=82,slow=8.3,SNR=27						
ILAR	Eielson Array	48.23	33	pP	pP	04 26 37.4	+0.8
	comp=Z,0.5nm,0.6s,baz=269,slow=6.3,SNR=4.3						
AAK	Ala-Archa	50.21	298	P	P	04 26 35.8	-1.3
	comp=Z,1.1nm,0.4s,baz=112,slow=11,SNR=3.7						
AAK	Ala-Archa	50.21	298	P	P	04 26 35.9	-1.3
AAK	Ala-Archa	50.21	298	IAmb	IAmb	04 26 39.9	
	comp=Z,1.6nm,0.5s						
KSH	Kashi	50.23	293	P	P	04 26 41.6	+4.3
KSH				pP	pP	04 26 45.2	-7.4
KSH				sP	sP	04 26 48.2	-11
KSH				PcP	PcP	04 27 47.7	-8.0
KSH				S	S	04 34 14.8	+30
KSH				sS	sS	04 34 22.2	+11
KSH	Kashi	50.23	293	SS	SKiKP	04 37 54.6	-13
KSH				pmax	pmax		
	comp=Z,310nm,6.7s						
KSH				LR	LR		
	comp=N,140nm,11.8s						
KSH				LR	LR		
	comp=E,190nm,13.1s						
KSH				LR	LR		
	comp=Z,100nm,10.4s						
KKAR	Karatay Array	52.81	299	P	P	04 26 54.1	-2.3
ABKAR	Abkulak array	57.40	310	P	P	04 27 26.9	-2.4
WRA	Warramunga Arr	58.37	188	P	P	04 27 35.4	-0.9
	comp=Z,2.2nm,0.5s,baz=5.5,slow=7.1,SNR=17						
ASAR	Alice Springs	62.10	188	P	P	04 28 01.4	-0.4
	comp=Z,1.5nm,0.7s,baz=11,slow=6.7,SNR=20						
ARCES	ARCESS Array B	62.93	339	P	P	04 28 05.3	-1.5
	comp=Z,2.0nm,0.9s,baz=61,slow=9.7,SNR=3.4						
PDAR	Pinedale Array	76.52	46	P	P	04 29 31.5	+0.4
	comp=Z,0.2nm,0.4s,baz=14,slow=1.8,SNR=3.5						
PDAR				pP	pP	04 29 49.0	+1.7
	comp=Z,0.3nm,0.5s,baz=263,slow=3.5,SNR=3.0						
TXAR	Lajitas Array	89.06	53	P	P	04 30 37.2	+1.1
	comp=Z,0.2nm,0.5s,baz=299,slow=4.0,SNR=2.9						
TXAR				pP	pP	04 30 53.8	+1.2
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.9						

*NEIC **01** 04:23:02.1±0.6, 51°1N±0°2×178°6W±0°1, h20km±22km*
*AEIC **01** 04:23:02.1±0.7, 51°1N±0°1×178°7W±0°1, h47km±10km, ML3.4*
*IDC **01** 04:23:07.6±2.9, 50°98N×176°93W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/39, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=77.3km s-min=30.2km az=15.0*
ISC 01 04:23:04.6±1.8, 51°2N±0°1×178°57W±0°09, h23km, n29, σ1°26/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	0.57	349		Pb	04 23 15.4	-0.4
TASE	Tanaga Southea	0.69	28		Pb	04 23 17.7	-0.3
TAPA	Tanaga Point A	0.76	38		Pb	04 23 18.6	-0.5
TAFP	Tanaga Falls P	0.77	28		Pb	04 23 18.7	-0.5
TAFP					Sn	04 23 31.6	+0.8
KIMD	Kanaga Island	0.99	57		Pb	04 23 21.3	-1.7
KIWB	Kanaga Island	1.08	54	Pn	Pn	04 23 22.6	-1.7
KIKV	Kanaga Island	1.09	53		Pn	04 23 23.1	-1.3
KICM	Kanaga Island	1.10	51		Pn	04 23 23.5	-1.0
ADK	Adak	1.35	60	Pn	Pn	04 23 26.4	-1.6
ADAG	Mount Adagdak	1.44	58		Pn	04 23 28.3	-0.9
GSTD	Great Sitkin T	1.72	60		Pn	04 23 31.9	-1.3
GSTD					Sb	04 23 56.5	-0.3
GSMY	Great Sitkin M	1.77	61		Pn	04 23 32.7	-1.0
GSTR	Great Sitkin T	1.79	60	Pn	Pn	04 23 32.9	-1.2
ATKA	Atka Island	2.89	69		Sn	04 24 25.5	+2.3
ATKA	Atka Island	2.89	69	Pn	Pn	04 23 48.7	-0.4
KOFP	Korovin Flat P	2.97	68		Pn	04 23 50.7	+0.4
NIKH	Nikolski High	6.24	70	Pn	Pn	04 24 36.2	+1.1
UNV	Unalaska Valle	7.81	66	Pn	Pn	04 24 57.6	+1.0
PETK	Petropavlovsk-	14.67	287	Pn	P	04 26 50.6	+14
	0.2nm,0.3s,baz=97,slow=12,SNR=4.5						
ILAR	Eielson Array	21.27	38	P	P	04 27 51.0	+2.0
	0.4nm,0.6s,baz=237,slow=11,SNR=2.9						
H11N2	WAKE ISLAND Hy	33.45	205	T	T	05 04 57.2	
	baz=18,slow=75,SNR=9.3						
H11N3	WAKE ISLAND Hy	33.46	205	T	T	05 04 56.7	
	baz=18,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	33.47	205	T	T	05 05 22.9	
	baz=18,slow=75,SNR=6.0						
H11S1	WAKE ISLAND Hy	34.67	205	T	T	05 07 03.9	
	baz=17,slow=76,SNR=15						
H11S2	WAKE ISLAND Hy	34.69	205	T	T	05 07 02.9	
	baz=17,slow=76,SNR=9.3						
H11S3	WAKE ISLAND Hy	34.69	205	T	T	05 07 00.9	
	baz=17,slow=76,SNR=8.6						
NRIK	Noril'sk	44.61	330	P	P	04 31 26.5	+12
	2.9nm,0.6s,baz=60,slow=8.1,SNR=3.9						
PDAR	Pinedale Array	46.22	72	P	P	04 31 26.5	-1.3
	0.8nm,0.6s,baz=324,slow=3.2,SNR=8.6						
TXAR	Lajitas Array	58.53	81	P	P	04 32 59.6	+0.4
	0.4nm,0.9s,baz=300,slow=4.0,SNR=1.8						

IDC 01 04:23:33.7±2.4, 51°17N×161°10E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.3/38, mbtmp3.7/2, ML1.3/1, Error ellipse: s-maj=57.5km s-min=29.4km az=66.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.86	314	Pn	Pn	04 24 20.1	-0.4
	0.2nm,0.3s,baz=128,slow=17,SNR=7.2						
PETK				Sn	Sn	04 24 57.4	+1.8
	0.3nm,0.3s,baz=133,slow=51,SNR=2.8						
WRA	Warramunga Arr	74.60	206	P	P	04 35 13.6	-0.8
	0.3nm,0.6s,baz=31,slow=6.1,SNR=2.6						
ASAR	Alice Springs	78.26	205	P	P	04 35 35.9	+0.8
	0.1nm,0.4s,baz=30,slow=5.8,SNR=5.5						

*SJA **01** 04:35:15.7±1.3, 30°39S×72°20W, h53km±26km, ML3.7, MW3.5*
*GUC **01** 04:35:18.7±0.7, 30°45S×71°52W, h47km±5km, ML4.2*
ISC 01 04:35:18.0±2.4, 30°47S±0°03×71°57W±0°09, h9km±14km, n19, σ1°18/28, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.63	27	iP	Pb	04 35 31.7	+0.5
LSCH				iS	Sb	04 35 40.6	+0.5
GO04	Tololo Observa	0.73	66	eP	Pn	04 35 34.1	-0.7
GO04				iS	Sn	04 35 44.9	-1.3
GO04				IAML		04 35 47.7	
	comp=E,14μm,0.5s						
CO02	Combarbal	0.88	146	iP	Pn	04 35 37.0	+0.3
CO02				iS	Sn	04 35 50.2	+0.5
CO02				IAML		04 35 53.1	
	comp=N,14μm,0.2s						
LCO	Las Campanas	1.64	28	eP	Pn	04 35 47.1	-0.3
LCO				iS	Sn	04 36 08.3	-0.4
LCO				IAML		04 36 10.8	
	comp=E,2μm,0.4s						
LCO	Las Campanas	1.64	28	iP	Pn	04 35 47.3	0.0
LCO				iS	Sb	04 36 09.0	-0.6
ACCO	Cerro Coronel	2.17	94	iP	Pg	04 35 59.2	-0.4
RTLS	Leoncito	2.36	125	iP	Pb	04 36 01.5	+0.6
RTLS				iS	Sg	04 36 35.1	+1.3
RTLS				IAML		04 36 40.0	
	comp=Z,316nm,0.4s						
ROCH	El Roble	2.54	169	eP	Pn	04 36 00.2	+0.5
ROCH				iS	Sn	04 36 32.3	+1.5
ROCH				IAML		04 36 41.9	
	comp=N,1μm,0.3s						
AMOG	MOGNA	2.69	101	iP	Pb	04 36 06.5	0.0
AMOG				iS	Sg	04 36 45.1	+0.6
ZON	Zonda	2.70	114	iP	Pb	04 36 06.0	-0.6
ZON				IAML		04 36 51.4	
	comp=Z,130nm,0.6s						
PEL	Peldehue	2.77	164	eP	Pn	04 36 03.4	+0.8
PEL				eS	Sn	04 36 36.4	+0.1
PEL				IAML		04 36 46.2	
	comp=E,700nm,0.3s						
PEL	Peldehue	2.77	164	iP	Pn	04 36 04.0	+1.3
RTCV	Cerro Valdivia	2.94	119	iP	Pb	04 36 09.8	-0.9
GO03	Copiap	3.10	23	eP	Pn	04 36 07.1	-0.1
GO03				IAML		04 36 56.5	
	comp=N,536nm,0.5s						
GO03	Copiap	3.10	23	iP	Pn	04 36 07.6	+0.4
ASAL	Salagasta	3.15	133	iP	Pb	04 36 12.8	-1.5
AAGR	Agrelo	3.50	139	iP	Pb	04 36 17.3	-2.9
GO05	Huala	4.54	184	iP	Pb	04 36 25.1	-1.8
AHML	Horco Molle	6.60	58	iP	Pn	04 36 57.9	+2.6

*ISCJB **01** 04:40:01.2±0.7, 52°69S±0°09×18°7E±0°2, h10km, mb4.2/8, MS3.6/9, Error ellipse: s-maj=21.1km s-min=12.6km az=1.2*
*IDC **01** 04:40:01.1±0.7, 52°61S×18°98E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/28, mbtmp4.2/8, MS3.7/9, Ms1 3.6/9, ms1mx3.4/28, Error ellipse: s-maj=37.3km s-min=18.4km az=69.0*
*NEIC **01** 04:40:02.9±1.9, 52°7S±0°1×18°9E±0°4, h10km±2km, mb4.3/8*
ISC 01 04:40:02.6±0.7, 52°7S±0°1×18°8E±0°2, h10km, n34, σ0°73/27, mb4.2/8, MS3.7/9, 2C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	Syowa Base	19.08	157	eP	P	04 44 23.4	-1.5
SYO	Syowa Base	19.08	157	eP	Pn	04 44 26.2	+0.5
SUR	Sutherland	20.32	5	P	Pn	04 44 43.2	+2.2
	6.9nm,0.8s,baz=177,slow=13,SNR=8.0						
SUR				LR	LR	04 50 27.3	
	comp=Z,318nm,19.8s,baz=184,slow=31						
SNAA	Sanae	21.33	199	P	P	04 44 50.1	+0.7
SNAA	Sanae	21.33	199	P	P	04 44 49.8	+0.3
	7.9nm,0.8s,baz=37,slow=6.3,SNR=18						
SNAA				LR	LR	04 51 13.9	
	comp=Z,130nm,20.5s,baz=11,slow=31						
SNAA	Sanae	21.33	199	P	P	04 44 49.9	+0.3
SNAA				IAmb	IAmb	04 44 56.5	
	comp=Z,24nm

NVAR	Mina Array Bea	147.30 262		PKPbc	04 59 46.7	+0.7
ILAR	Eielson Array	165.82 334	PKPab	PKPab	05 01 06.2	+0.2
	comp=Z,1.0nm,0.9s,baz=15,slow=3.9,SNR=6.7					
ILAR	Eielson Array	165.82 334		PKPab	05 01 06.7	+0.8

*ISCJB **01** 05:12:11.3±0.4, 40°.08N×0°.03×140°.98E±0°.10, h116km±3km, mb3.8/10, Error ellipse: s-maj=12.5km s-min=5.6km az=4.8*
*IDC **01** 05:12:12.2±1.5, 40°.12N×141°.09E, h111km±15km, mb3.5/10, mb1 3.5/14, mb1mx3.4/48, mbtmp3.9/14, Error ellipse: s-maj=24.1km s-min=11.4km az=91.0*
*JMA **01** 05:12:12.7±0.1, 40°.08N×140°.92E, h105km±1km, M3.1*
ISC 01 05:12:12.4±0.8, **40°.07N**±0°.04×**140°.97E**±0°.09, **h109**km±6km, **n32**, σ0**s77/34, mb3.9**/10, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	Hinai	0.28	295	P	Pn	05 12 27.8	-0.1
JAH				S	Sn	05 12 39.2	-0.3
JKZ	Kuzumaki	0.29	107	P	Pn	05 12 28.1	+0.1
JSZI	Iwateshizukuis	0.33	182	P	Pn	05 12 28.4	+0.3
JSZI				S	Sn	05 12 40.2	+0.3
JANG	Nango	0.52	54	P	Pn	05 12 29.2	0.0
JOM	Ohasama	0.65	157	P	Pn	05 12 30.0	-0.2
JTM	Tenmabayashi	0.72	6	P	Pn	05 12 30.8	+0.1
JTM				S	Sn	05 12 44.3	-0.3
JRG	Rokugo	0.72	201	P	Pn	05 12 31.0	+0.2
JRG				S	Sn	05 12 45.0	+0.4
JIW	Iwasaki	0.90	306	P	Pn	05 12 32.4	-0.1
JIW				S	Sn	05 12 47.3	-0.3
JMK	Ichinoseki	1.14	170	P	Pn	05 12 35.0	+0.1
JYK	Kaneyama	1.25	202	P	Pn	05 12 36.2	+0.1
JYK				S	Sn	05 12 53.6	-0.5
JOT	Ohata	1.31	3	P	Pn	05 12 37.4	+0.6
JKB	Kayabe	1.81	1	P	Pn	05 12 43.8	+0.9
JKB				S	Sn	05 13 06.9	+0.7
MJAR	Matsushiro Arr	4.14	212	P	Pn	05 13 15.3	+1.7
	0.2nm,0.3s,baz=32,slow=13,SNR=5.9						
ASAJ	Asahikawa	4.22	16	P	Pn	05 13 14.9	+0.3
	2.7nm,0.3s,baz=198,slow=13,SNR=5.5						
ASAJ				S	Sn	05 14 00.9	-1.9
	1.4nm,0.3s,baz=114,slow=20,SNR=2.7						
JHJ	Hachijo jima 2	7.00	188	P	Pn	05 13 51.7	-0.6
	9.8nm,0.3s,baz=90,slow=20,SNR=3.7						
USRK	Ussuriysk Ar.	7.84	305	P	Pn	05 14 05.3	+1.7
	baz=109,slow=14,SNR=6.1						
H11N2	WAKE ISLAND Hy 30.08	125		T	T	05 49 09.9	
	baz=318,slow=75,SNR=40						
H11N1	WAKE ISLAND Hy 30.09	125		T	T	05 49 08.3	
	baz=318,slow=75,SNR=42						
H11N3	WAKE ISLAND Hy 30.10	125		T	T	05 49 09.1	
	baz=318,slow=75,SNR=36						
H11S1	WAKE ISLAND Hy 30.88	127		T	T	05 50 10.2	
	baz=318,slow=76,SNR=8.8						
H11S3	WAKE ISLAND Hy 30.88	127		T	T	05 50 08.5	
	baz=318,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy 30.89	127		T	T	05 50 09.6	
	baz=318,slow=76,SNR=8.9						
ZALV	Zalesovo Beam	39.66	310	P	P	05 19 32.8	-0.6
	1.2nm,0.5s,baz=102,slow=6.4,SNR=3.8						
MKAR	Makanchi Array	42.27	299	P	P	05 19 54.5	-0.5
	1.5nm,0.8s,baz=83,slow=10,SNR=8.9						
KURBB	Kurchatov Arra	43.31	305	P	P	05 20 07.3	-0.6
	0.8nm,0.4s,baz=80,slow=8.6,SNR=6.8						
BVAR	Borovoye Array	48.31	310	P	P	05 20 42.3	-0.1
	0.8nm,0.4s,baz=79,slow=7.5,SNR=2.6						
AKTO	Aktyubinsk	56.42	310	P	P	05 21 43.3	+1.0
	1.0nm,0.5s,baz=56,slow=11,SNR=4.1						
WRA	Warramunga Arr	60.02	187	P	P	05 22 07.2	-0.5
	0.7nm,0.6s,baz=2.7,slow=7.0,SNR=3.3						
ASAR	Alice Springs	63.75	187	P	P	05 22 32.6	0.0
	0.2nm,0.3s,baz=2.5,slow=4.7,SNR=4.4						
FINES	FINESS Array B	65.97	331	P	P	05 22 45.1	-1.4
	3.4nm,0.9s,baz=57,slow=7.0,SNR=4.8						
NOA	NORSAR Array B	71.26	337	P	P	05 23 19.9	+0.4
	0.7nm,0.7s,baz=36,slow=4.4,SNR=2.6						
STKA	Stephens Creek	71.59	179	P	P	05 23 22.6	+1.0
	0.6nm,0.5s,baz=343,slow=17,SNR=3.1						

*ISCJB **01** 05:13:35.9±0.9, 8°.59N±0°.04×126°.45E±0°.08, h10km, mb3.7/4, Error ellipse: s-maj=11.9km s-min=6.1km az=175.4*
*IDC **01** 05:13:35.0±1.3, 8°.51N×126°.29E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/43, mbtmp3.8/4, Error ellipse: s-maj=70.4km s-min=25.4km az=74.0*
*MAN **01** 05:13:37.8, 8°.55N×126°.24E, h1km, mb4.7, ML3.5, MS3.4*
ISC 01 05:13:37.4±0.9, **8°.54N**±0°.05×**126°.30E**±0°.07, **h10**km, **n16**, σ1**s86/13, mb3.6/4, 3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.36	170	‖eP	Pg	05 13 44.8	+0.2
BIPH				eS	Sg	05 13 50.5	+1.2
CGP	Cagayan de Oro	1.59	267	⇑iP	Pn	05 14 05.5	-0.2
CGP				iS	Sg	05 14 27.9	-0.7
DMPH	Davao City--Mi	1.65	209	‖eP	Pg	05 14 15.7	+6.7
KCP	Kidapawan	1.94	218	‖eP	Pb	05 14 11.8	-1.0
KCP				iS	Sg	05 14 43.9	+4.1
PLP	Palo	2.92	334	‖eP	Pn	05 14 26.4	+2.4
PLP				eS	Sn	05 15 00.1	+1.0
WRA	Warramunga Arr	29.39	164	P	P	05 19 40.0	-1.1
	0.4nm,0.8s,baz=347,slow=9.7,SNR=2.2						
ASAR	Alice Springs	32.86	167	PcP	PcP	05 22 55.8	-0.8
	0.3nm,0.5s,baz=358,slow=3.2,SNR=5.1						
USRK	Ussuriysk Ar.	35.87	7	P	P	05 20 37.1	-0.4
	2.9nm,0.6s,baz=191,slow=7.9,SNR=9.3						
H11S3	WAKE ISLAND Hy 40.41	72		T	T	06 04 07.8	
	baz=262,slow=75,SNR=44						
H11S1	WAKE ISLAND Hy 40.42	72		T	T	06 04 07.7	
	baz=262,slow=75,SNR=47						
H11S2	WAKE ISLAND Hy 40.43	72		T	T	06 04 09.2	
	baz=262,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy 40.80	70		T	T	06 04 52.1	
	baz=265,slow=74,SNR=24						
H11N2	WAKE ISLAND Hy 40.80	70		T	T	06 04 52.4	
	baz=265,slow=74,SNR=15						
H11N3	WAKE ISLAND Hy 40.81	70		T	T	06 04 53.3	
	baz=265,slow=74,SNR=24						
MKAR	Makanchi Array	53.42	324	P	P	05 22 58.5	+0.9
	0.5nm,0.8s,baz=131,slow=8.0,SNR=3.5						
KURBB	Kurchatov Arra	57.51	326	P	P	05 23 24.7	-2.2
	0.4nm,0.6s,baz=133,slow=7.7,SNR=3.1						

*ISCJB **01** 05:15:07.2±0.8, 15°.89N±0°.06×96°.57W±0°.04, h36km±23km, Error ellipse: s-maj=10.7km s-min=5.6km az=25.6*
*NEIC **01** 05:15:07.7±1.7, 15°.89N±0°.07×96°.55W±0°.04, h34km±11km*
*MEX **01** 05:15:08.9±0.7, 15°.89N×96°.57W, h11km±6km, MD4.2*
ISC 01 05:15:07.4±1.3, **15°.93N**±0°.08×**96°.59W**±0°.04, **h23**km±16km, **n17**, σ1**s02/30, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.49	110	eP	Pb	05 15 17.1	-0.2
HUIG				iS	Sb	05 15 24.2	+0.1
HUIG	Huatulco	0.49	110		Pb	05 15 17.1	-0.2
HUIG					Sb	05 15 24.2	+0.1
OXBJ	Oaxaca	1.14	353	iP	Pn	05 15 27.7	-0.4
OXBJ				iS	Sn	05 15 42.4	-0.7
OXBJ	Oaxaca	1.14	353		Pn	05 15 27.7	-0.4
OXBJ					Sn	05 15 42.4	-0.7
VHO	Vista Hermosa	1.14	353	eP	Pn	05 15 27.8	-0.4
VHO				eS	Sn	05 15 42.6	-0.6
PNIG	Pinotepa	1.55	287	iP	Pn	05 15 33.7	+0.1
PNIG				iS	Sn	05 15 51.7	-1.3
PNIG	Pinotepa	1.55	287		Pn	05 15 33.7	+0.1
PNIG					Sn	05 15 51.7	-1.3
CMIG	Matias Romero	2.00	55	eP	Pn	05 15 38.4	-1.4
CMIG				iS	Sn	05 16 02.8	-1.4
CMIG	Matias Romero	2.00	55		Pn	05 15 38.4	-1.4
CMIG					Sn	05 16 02.8	-1.4
TLIG	Tlapa	2.49	311	iP	Pn	05 15 46.6	-0.1
TLIG				iS	Sn	05 16 16.8	+0.2
TLIG	Tlapa	2.49	311		Pb	05 15 51.0	-0.6
TLIG	Tlapa	2.49	311		Pn	05 15 46.6	-0.1
TLIG					Sn	05 16 16.8	+0.2
TPIG	Tehuac#an	2.58	343	iP	Pn	05 15 48.1	+0.1
TPIG				iS	Sn	05 16 19.4	+0.7
TPIG	Tehuac#an	2.58	343		Pn	05 15 48.1	+0.1
TPIG					Sn	05 16 19.5	+0.7

CCIG	Comitan	4.29	85	Pn	Pn	05 16 13.5	+2.0
TEIG	Tepich	8.98	60	Pn	Pn	05 17 18.7	+2.9
ESPN	Las Esperanzas	12.48	106	Pn	Pn	05 18 04.0	+0.2

*NNC **01** 05:20:24.2±7.2, 37°.79N×72°.28E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=74.7km s-min=40.8km az=34.0*
*KRNET **01** 05:21:03.8±0.1, 40°.55N×73°.78E, h21km, mb2.5*
ISC 01 05:20:36.9±4.7, **38°.8N**±0°.3×**72°.4E**±0°.2, **h10**km, **n6**, σ1**s71/8, 7C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	2.60	10	⇑iP	Pb	05 21 21.9	-1.8
	baz=22						
ARSB				⇑iS	Pg	05 21 35.5	+8.7
	baz=22						
ARK	Arkit	3.05	354	⇑iP	Pg	05 21 36.8	+1.5
	baz=13						
ARK				⇑iS	Sn	05 22 01.0	-0.8
	baz=13						
ARLS	Aral	3.44	25	⇑iP	Pn	05 21 29.3	-1.4
	baz=17						
ARLS				⇑eS	Pg	05 21 47.5	+4.7
	baz=17						
AAK	Ala-Archa	4.20	22	P	Pn	05 21 43.5	+2.4
	2.9nm,0.3s						
KK31	Karatay Array	4.55	343	P	Pn	05 21 45.7	-0.1
	0.8nm,0.2s,baz=163,slow=12,SNR=34						
KK31				S	Sb	05 22 52.1	+0.3
	2.1nm,0.3s,baz=164,slow=23,SNR=14						
TKM2	Tokmak 2	4.83	30	⇑P	Pn	05 21 50.5	+0.7
	1.9nm,0.8s						

*BER **01** 05:29:59.0±3.2, 80°.74N×3°.23W, h10km, ML2.3, ML3.1(NAO), Confirmed Earthquake*
*IEPN **01** 05:30:00.0, 81°.07N×1°.13W, h15km*
ISC 01 05:29:53.3±1.1, **80°.35N**±0°.09×**1°.48W**±0°.04, **h10**km, **n19**, σ2**s21/31, 1C-1D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.81	114	Pn	Pg	05 30 47.9	+0.8
KBS				Sn	Sg	05 31 22.5	-1.0
KBS	Kingsbay	2.81	114	⇑iP	Pg	05 30 47.8	+0.7
KBS				eS	Sg	05 31 22.7	-0.8
KBS	Kingsbay	2.81	114	eP	Pg	05 30 47.9	+0.8
KBS				eS	Sg	05 31 22.7	-0.8
KBS				IAML		05 31 29.3	
	comp=Z,9.9nm,0.2s						
BRBB	Barentsburg B	3.71	120	Pn	Pg	05 31 01.9	-2.2
BRBB				Sn	Sg	05 31 50.1	-2.0
BRBB	Barentsburg B	3.71	120	eP	Pg	05 31 01.9	-2.2
BRBB				eS	Sg	05 31 50.1	-2.0
SPA0	Spitsbergen Ar	3.97	114	Pn	Pb	05 31 04.4	+1.1
	baz=333,slow=8.6						
SPA0				Sn	Sb	05 31 51.5	+0.2
SPA0	Spitsbergen Ar	3.97	114	‖iP	Pb	05 31 04.3	+1.1
SPA0				eS	Sb	05 31 52.3	+1.0
SPA0	Spitsbergen Ar	3.97	114	eP	Pb	05 31 04.4	+1.1
	baz=333,slow=8.6						
SPA0				eS	Sb	05 31 51.5	+0.2
HSPB	Hornsund (broa	4.73	127	Pn	Pb	05 31 16.0	-0.1
HSPB				Sn	Sb	05 32 13.7	+0.8
HSPB	Hornsund (broa	4.73	127	eP	Pb	05 31 15.8	-0.2
HSPB				eS	Sb	05 32 13.6	+0.8
HSPB	Hornsund (broa	4.73	127	eP	Pb	05 31 15.9	-0.1
HSPB				eS	Sb	05 32 13.6	+0.8
HSPB				IAML		05 32 18.5	
	comp=Z,5.9nm,0.7s						
DAG	Danmarks Havn	4.94	232	iP	Pn	05 31 11.0	+3.7
DAG				iS	Sn	05 32 04.8	+0.5
DAG	Danmarks Havn	4.94	232	e	Pn	05 31 10.5	+3.2
	baz=37,slow=12						
DAG				iP	Pb	05 31 11.0	-8.6
DAG				iS	Sn	05 32 04.9	+0.5
DAG				IAML		05 32 09.2	
	comp=Z,7.6nm,0.4s						
ZFI2	Zemlya Franca-	7.87	63	eP	Pn	05 31 50.6	+3.2
ZFI2				eS	Sn	05 33 11.4	-4.9
	comp=Z,7.3nm,1.9s						
SUMG	Summit	11.34	247	iP	Pn	05 32 35.3	-0.1
SUMG	Summit	11.34	247	iP	Pn	05 32 35.3	-0.1
SUMG				iS	Sn	05 34 35.0	-7.1
SUMG				IAML		05 34 41.9	
	comp=Z,4.0nm,0.3s						
ARA0	ARCESS Array S	12.69	133	Pn	Pn	05 33 06.5	+13
	baz=336,slow=10						
ARA0	ARCESS Array S	12.69	133	Pn	Pn	05 33 06.5	+13
	baz=336,slow=10						
TULEG	Thule	13.23	289	iP	Pn	05 32 53.2	-7.5

*IDC **01** 05:45:40.9±1.4, 14°.14N×145°.58E, h106km±12km, mb3.2/6, mb1 3.6/6, mb1mx3.3/35, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=40.9km s-min=19.7km az=106.0*
*NEIC **01** 05:45:41.8±0.6, 14°.08N±0°.04×145°.5E±0°.1, h112km±7km, mb4.5/12*
ISC 01 05:45:41.0±0.6, **14°.07N**±0°.06×**145°.6E**±0°.1, **h100**km, **n29**, σ1**s29/28, mb4.3/13, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.85	236	LR	LR	05 45 53.5	
	comp=Z,32nm,19.2s,baz=148,slow=14						
GUMO				P	Pn	05 46 01.3	+1.4
	679nm,0.3s,baz=47,slow=1.9,SNR=188						
GUMO				S	Sn	05 46 16.1	+2.0
	1μm,0.3s,baz=18,slow=20,SNR=18						
GUMO	Guam	0.85	236		Pn	05 46 01.2	+1.4
GUMO					Sn	05 46 15.5	+1.5
ANA2	Anatahan	2.26	3		Pn	05 46 18.2	+1.3
ANA2					Sn	05 46 46.1	+1.6
SARN	Sarigan	2.62	4	Pn	Pn	05 46 22.8	+1.0
PATS	Pohnpei	14.42	119	Pn	Pn	05 49 01.9	+1.5
H11S3	WAKE ISLAND Hy 20.71	75		T	T	06 11 54.1	
	baz=261,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy 20.73	75		T	T	06 12 13.5	
	baz=261,slow=75,SNR=13						
H11S2	WAKE ISLAND Hy 20.73	75		T	T	06 12 13.9	
	baz=261,slow=75,SNR=11						
JNU	Nakatsue	23.22	327	LR	LR	05 58 21.8	
	comp=Z,64nm,18.3s,baz=351,slow=33						
MTN	Manton Dam	30.34	209	P	P	05 51 42.5	-0.8
MTN				IAmb	IAmb	05 51 43.5	
	comp=Z,5.5nm,0.9s						
WB2	Warramunga Arr	35.57	198	P	P	05 52 28.2	-0.6
WRA	Warramunga Arr	35.57	198	P	P	05 52 28.3	-0.7
	comp=Z,1.1nm,0.5s,baz=20,slow=9.8,SNR=7.0						
WRA	Warramunga Arr	35.57	198	P	P	05 52 28.2	-0.7
ASAR	Alice Springs	39.21	197	P	P	05 52 59.5	-0.1
	comp=Z,0.3nm,0.5s,baz=20,slow=12,SNR=7.1						
ASAR	Alice Springs	39.21	197	P	P	05 52 59.4	-0.2
EIDS	Eidsvold	39.57	172	P	P	05 53 01.3	-1.2
EIDS				IAmb	IAmb	05 53 07.6	
	comp=Z,13nm,1.4s						
PETK	Petropavlovsk-	40.11	11	P	P	05 53 05.7	-1.0
BBOO	Buckleboo	47.50	191	P	P	05 54 05.9	-0.2
BBOO				IAmb	IAmb	05 54 11.0	
	comp=Z,11nm,1.5s						
FORT	Forrest	47.68	201	P	P	05 54 07.4	0.0
FORT				IAmb	IAmb	05 54 23.5	
	comp=Z,16nm,1.1s						
ADK	Adak	48.29	31	P	P	05 54 14.9	+2.9
WMQ	Urumqi	57.32	313	P	P	05 55 17.7	-1.0
MKAR	Makanchi Array	61.63	316	P	P	05 55 47.3	-0.9
	comp=Z,0.2nm,0.4s,baz=94,slow=12,SNR=3.2						
PPLA	Purkeypile	65.04	27	P	P	05 56 09.4	-1.2
PPLA				IAmb	IAmb	05 56 23.3	
	comp=Z,9.6nm,1.4s						
SKT	Skwentna	65.04	28	P	P	05 56 09.9	-0.5
SKT				IAmb	IAmb	05 56 21.6	
	comp=Z,12nm,1.4s						
TRF	Thorofare Moun	66.03	26	P	P	05 56 15.5	-1.5
TRF				IAmb	IAmb	05 56 18.6	
	comp=Z,9.6nm,1.5s						
IL31		67.83	25	P	P	05 56 26.7	-1.3
ILAR	Eielson Array	67.83	25	P	P	05 56 26.6	-1.6
	comp=Z,0.2nm,0.4s,baz=255,slow=5.8,SNR=8.4						
YKA	Yellowknife Ar	82.11	28	P	P	05 57 49.1	-1.2
	comp=Z,0.5nm,0.9s,baz=287,slow=5.1,SNR=2.8						
NVAR	Mina Array Bea	86.07	52	P	P	05 58 11.1	-0.1
	comp=Z,0.2nm,0.4s,baz=268,slow=6.9,SNR=2.1						

*BJI **01** 06:06:26.9±0.0, 6°.91S×128°.62E, h322km, mb4.7/50, mB4.6/31*
*MOS **01** 06:06:28.8±1.2, 6°.60S×128°.20E, h305km, mb4.8/21, Error ellipse: s-maj=11.5km s-min=6.4km az=112.5*
*IDC **01** 06:06:29.8±0.8, 6°.61S×128°.21E, h302km±8km, mb4.2/26, mb1 4.3/31, mb1mx4.2/41, mbtmp4.9/31, Error ellipse: s-maj=9.5km s-min=7.0km az=73.0*
*ISCJB **01** 06:06:30.1±0.2, 6°.70S±0°.02×128°.24E±0°.02, h323km±2km, mb4.6/68, Error ellipse: s-maj=3.9km s-min=3.6km az=172.9*
*DJA **01** 06:06:30.5±0.1, 7°°S±2°×12°8E±°, h316km±2km, M4.8/49, mb5.0/49, mB5.3/32, MLv5.4/19, Mw(mB)4.7/32*
*NEIC **01** 06:06:31.2±1.6, 6°.63S±0°.07×128°.22E±0°.07, h316km±5km, mb4.7/74*
ISC 01 06:06:30.2±0.4, **6°.66S**±0°.03×**128°.26E**±0°.04, **h312**km±4km, **h313**km:**pP-P, n353**, σ1**s46/378, mb4.7/89, 8C-15D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.68	38	P	Pn	06 07 26.4	+2.5
AAI	Ambon	2.95	359	P	Pn	06 07 28.7	+2.3
SAUI	Saumlaki	3.29	114	P	Pn	06 07 31.2	+1.5
SAUI				S	S	06 08 15.5	-1.8
SAUI	Saumlaki	3.29	114		Pn	06 07 31.7	+2.0
SAUI				S	S	06 08 15.7	-1.7
MSAI	Masohi	3.36	12	P	Pn	06 07 32.0	+1.6
MSAI				S	S	06 08 19.3	+0.7
NLAI	Namlea	3.59	341	P	Pn	06 07 36.0	+3.2
NLAI				S	S	06 08 28.7	+5.8
SOEI	Soe	5.01	232	P	Pn	06 07 49.2	+0.7
SOEI				S	S	06 08 49.5	-1.9
SOEI	Soe	5.01	232		Pn	06 07 49.4	+0.9
SOEI				S	S	06 08 49.0	-2.4
SANI	Sanana	5.11	334	P	Pn	06 07 51.1	+1.6
FAKI	Fak Fak	5.44	47	P	Pn	06 07 52.9	-0.5
FAKI	Fak Fak	5.44	47		Pn	06 07 53.3	-0.1
FAKI				S	S	06 08 57.0	-3.5
BATI	Baumata	5.75	232	P	Pn	06 07 58.1	+1.1
	516nm,0.3s,baz=84,slow=2.7,SNR=180						
BATI				S	S	06 09 05.4	-1.6
	324nm,0.3s,baz=72,slow=23,SNR=4.3						
BATI	Baumata	5.75	232	P	Pn	06 07 58.0	+1.0
LBMI	Labuha	6.03	353	P	Pn	06 08 03.6	+3.3
MMRI	Maumere	6.28	251	P	Pn	06 08 04.5	+1.2
MMRI	Maumere	6.28	251		Pn	06 08 04.6	+1.2
SIJI	Sorong	6.49	28	P	Pn	06 08 05.2	-0.6
	46nm,0.3s,baz=45,slow=15,SNR=104						
SIJI				S	S	06 09 17.0	-6.0
	24nm,0.3s,baz=79,slow=23,SNR=15						
SWI	Sorong	6.49	28	P	Pn	06 08 04.8	-1.0
MTN	Manton Dam	6.77	155		Pn	06 08 09.8	+0.7
EDFI	Ende, Flores	6.83	252	P	Pn	06 08 09.6	-0.4
RKPI	Ransiki, Papua	7.81	49	P	Pn	06 08 22.3	+0.6
LUWI	Luwuk	7.81	315	P	Pn	06 08 20.9	-0.9
BKSI	Bulukumba	8.20	279	P	Pn	06 08 28.1	+1.7
KMSI	Cibinong	8.36	329	P	Pn	06 08 30.2	+1.8
	261nm,0.6s						
BNSI	Bone	8.42	285	P	Pn	06 08 30.9	+1.8
KAPI	Kappang	8.62	280	P	P	06 08 34.1	-2.0
KAPI	Kappang	8.62	280	P	P	06 08 34.3	-1.8
	3.5nm,0.3s,baz=131,slow=6.0,SNR=11						
KAPI	Kappang	8.62	280		P	06 08 34.1	-2.0
APSI	Ampana	8.72	311	P	P	06 08 35.5	-1.8
SPSI	Sidrap Palu	8.87	287	P	P	06 08 36.8	-2.1
	28nm,0.7s						
KNRA	Kununurra	8.98	177		Pn	06 08 36.4	+0.6
TTSI	Tana Toraja	9.14	293	P	Pn	06 08 37.1	-0.8
WBSI	Waikabubak, Su	9.26	251	P	Pn	06 08 36.1	-3.4
SRPI	Serui, Papua	9.27	59	P	Pn	06 08 41.1	+1.6
MRSI	Marisa	9.49	318	P	Pn	06 08 44.0	+1.9
BAKI	Biak	9.53	56	P	Pn	06 08 44.5	+1.9
PLAI	Plampang	10.61	258	P	Pn	06 08 53.8	-2.0
MPSI	Mapaga	10.86	309	P	P	06 09 01.7	+0.7
SMPI	Sarmi	11.40	66	P	Pn	06 09 06.1	+0.6
TWSI	Taliwang, Sumb	11.46	259	P	Pn	06 09 03.0	-3.2
FITZ	Fitzroy Crossi	11.65	192	P	Pn	06 09 08.2	-0.2
	29nm,0.3s,baz=6.1,slow=6.6,SNR=61						
FITZ				S	S	06 11 15.1	-3.4
	1.9nm,0.3s,baz=102,slow=5.1,SNR=3.7						
FITZ	Fitzroy Crossi	11.65	192		Pn	06 09 08.3	-0.2
FITZ				P	P	06 09 11.2	+1.4
MMPI	Merauke	12.15	99	P	P	06 09 17.0	+1.6
	958nm,0.4s						
KBKI	Kotabaru	12.50	285	P	P	06 09 22.8	+3.6
SRBI	Singaraja	13.02	263	P	P	06 09 23.3	-1.6
JAY	Jayapura	13.07	72	P	P	06 09 26.0	+0.4
JAY	Jayapura	13.07	72	P	P	06 09 25.9	+0.4
	6.5nm,0.3s,baz=211,slow=11,SNR=22						
JAY	Jayapura	13.07	72	P	P	06 09 27.0	+1.4
KCP	Kidapawan	13.94	347	‖eP	P	06 09 36.1	+0.9
JAGI	Jajag, Banyuwa	14.10	262	P	P	06 09 34.0	-2.9
JAGI	Jajag, Banyuwa	14.10	262	P	P	06 09 34.8	-2.2
KMMI	Kalianget	14.20	268	P	Pn	06 09 39.8	+0.9
WRAB	Tennant Creek	14.46	156	c iP	P	06 09 41.9	+1.0
WRAB				pmax	pmax		
	comp=Z,23nm,0.7s						
WRAB	Tennant Creek	14.46	156	P	Pn	06 09 42.5	+0.5
WRA	Warramunga Arr	14.46	156	P	P	06 09 40.5	-0.4
WRA	Warramunga Arr	14.46	156	P	P	06 09 42.0	+1.1
	comp=Z,6.6nm,0.3s,baz=336,slow=12,SNR=58						
WRA				S	S	06 12 13.8	-5.5
	comp=Z,0.8nm,0.3s,baz=330,slow=21,SNR=8.7						
WRA	Warramunga Arr	14.46	156	P	P	06 09 40.5	-0.4
WB2	Warramunga Arr	14.47	156	P	P

STKA Stephens Creek 28.01 155 P P 06 11 54.3 +1.0
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 28.01 155 P P 06 11 54.3 +1.0
comp=Z,3.3nm,0.5s,baz=326,slow=8.8,SNR=16
STKA pP **pP 06 12 51.2 -0.8**
comp=Z,15nm,0.7s,baz=328,slow=11,SNR=9.5
STKA Stephens Creek 28.01 155 P P 06 11 54.3 +1.0
NWAO Narrogin (SRO) 28.08 200 P P 06 11 53.8 0.0
comp=Z,17nm,0.6s,baz=51,slow=7.8,SNR=21
NWAO pP **pP 06 12 50.2 -1.9**
comp=Z,11nm,0.7s,baz=9.0,slow=10,SNR=3.0
NWAO Narrogin (SRO) 28.08 200 P P 06 11 53.9 0.0
NWAO IAmb IAmb 06 11 55.0
comp=Z,17nm,0.7s
KULM Kulim 30.00 293 P P 06 12 10.8 -0.3
RPSI Rantau Prapat 30.72 287 P P 06 12 17.0 -0.3
RPSI IAmb IAmb 06 12 19.8
comp=Z,21nm,0.9s
PSI Prapat 30.75 287 P P 06 12 17.0 -0.8
PSI pmax pmax
comp=Z,21nm,0.9s
PSI Prapat 30.75 287 P P 06 12 16.9 -0.9
comp=Z,16nm,0.8s,baz=109,slow=4.6,SNR=12
GSI Gunungsitoli 31.63 283 P P 06 12 27.9 +2.6
GSI IAmb IAmb 06 12 28.7
comp=Z,12nm,0.6s
JOW Kunigami 33.29 0 P P 06 12 40.3 +0.9
JOW IAmb IAmb 06 12 40.6
comp=Z,30nm,0.6s
LHMI Lhok Sumawe 33.41 290 P P 06 12 39.8 -0.9
LHMI IAmb IAmb 06 12 43.5
comp=Z,46nm,0.9s
CHAI Chaiyaphum 34.34 311 P P 06 12 48.7 +0.2
comp=Z,30µm,0.7s
NONG Nongkai 34.90 315 P P 06 12 53.6 +0.3
comp=Z,0.3nm,0.8s
PBKT Sadao Pong 35.52 311 P P 06 13 00.0 +1.5
PBKT Sadao Pong 35.52 311 P P 06 12 58.3 -0.2
UTHA Uthaitani 36.08 308 P P 06 12 57.0 -6.3
JCJ Chichijima 36.16 21 P P 06 13 02.9 -1.0
comp=Z,24nm,0.3s,baz=282,slow=19,SNR=3.6
KHLT Khaolaem Dam 36.33 306 P P 06 13 03.9 -1.5
comp=Z,11nm,0.5s
SLVN Son La 36.68 320 P P 06 13 08.9 +0.6
SLVN IAmb IAmb 06 13 09.7
comp=Z,14nm,0.6s
WHN Wuhan 39.32 341 P P 06 13 30.8 +0.8
WHN pmax pmax
comp=Z,60nm,0.6s
NJ2 Nanjing 39.53 347 *e*P **P 06 13 33.8 +2.1**
NJ2 pmax pmax
comp=Z,14nm,0.5s
JNU Nakatsue 39.64 3 P P 06 13 32.9 +0.2
DZM Mont Dzumac 39.89 117 P P 06 13 36.5 +1.5
comp=Z,6.3nm,0.7s,baz=247,slow=7.7,SNR=5.2
DZM Mont Dzumac 39.89 117 P P 06 13 36.9 +1.9
KMI Kunming 40.18 323 P P 06 13 38.7 +1.2
KMI pmax pmax
comp=Z,30nm,0.7s
KMI pmax pmax
comp=Z,140nm,4.8s
ENH Enshi 40.90 335 IAmb IAmb 06 13 43.5
comp=Z,17nm,0.5s
TJN Taejon 42.82 359⇓ *e*P **P 06 13 58.6 +0.4**
KSAR Wonju Array Be 43.87 360 P P 06 14 07.5 +0.9
KSAR Wonju Array Be 43.87 360 P P 06 14 07.5 +0.9
KSRS Korea Array 43.88 360 P P 06 14 07.3 +0.7
comp=Z,15nm,0.5s,baz=177,slow=9.7,SNR=62
KSRS PcP **PcP 06 15 47.2 +0.5**
comp=Z,1.8nm,0.6s,baz=176,slow=3.8,SNR=4.9
KS19 Wonju Array Si 43.93 360 P P 06 14 07.1 +0.1
MAJO Matsushiro 43.98 12⇓ *e*P **P 06 14 06.2 -1.2**
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 43.98 12 P P 06 14 06.3 -1.1
MAT Matsushiro 43.98 12 P P 06 14 06.2 -1.2
MJAR Matsushiro Arr 43.98 12 P P 06 14 05.2 -2.2
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 43.98 12 P P 06 14 06.2 -1.3
comp=Z,12nm,0.8s,baz=193,slow=10.0,SNR=22
MJAR Matsushiro Arr 43.98 12 P P 06 14 05.2 -2.2
XAN Xi'an 44.43 337 P P 06 14 10.3 -0.8
XAN pmax pmax
comp=Z,33nm,0.9s
XAN Xi'an 44.43 337 IAmb IAmb 06 14 11.1
comp=Z,35nm,1.0s
BJI Beijing 47.79 347 P P 06 14 36.7 -0.2
BJI pmax pmax
comp=Z,19nm,0.7s
LZH Lanzhou 48.31 333 ⇑P **P 06 14 42.2 +1.0**
LZH sP sP 06 16 21.3 +1.9
LZH pmax pmax
comp=Z,19nm,1.4s
MSHR Mys Shultsa 49.07 3*d*e**P P 06 14 47.1 +0.5**
PALK Pallekele 49.42 285 P P 06 14 50.1 +0.3
PALK pmax pmax
comp=Z,6.0nm,1.0s
PALK Pallekele 49.42 285 P P 06 14 49.0 -0.8
comp=Z,3.5nm,0.6s,baz=114,slow=7.5,SNR=4.1
PALK PcP **PcP 06 16 08.0 +1.0**
comp=Z,4.4nm,0.6s,baz=123,slow=2.7,SNR=3.3
PALK Pallekele 49.42 285 P P 06 14 50.1 +0.3
HHC Hu-ho-hao-te 49.70 343 P P 06 14 54.7 +3.2
HHC pmax pmax
comp=Z,6.0nm,0.8s
USA0B Ussuriysk Arra 50.73 3 P P 06 14 58.9 -0.1
USA0B pmax pmax
comp=Z,14nm,0.6s
USA0B Ussuriysk Arra 50.73 3 P P 06 14 58.9 -0.1
USA0B IAmb IAmb 06 14 59.8
comp=Z,14nm,0.6s
USRK Ussuriysk Ar. 50.73 3 P P 06 14 59.0 +0.1
USRK Ussuriysk Ar. 50.73 3 P P 06 14 59.3 +0.3
comp=Z,13nm,0.5s,baz=188,slow=7.1,SNR=43
USRK Ussuriysk Ar. 50.73 3 P P 06 14 59.0 +0.1
LSA Lhasa 50.77 317 *i* P **P 06 15 01.2 +1.1**
SNR=7.3
LSA Lhasa 50.77 317 P P 06 15 01.1 +1.1
LSA pmax pmax
comp=Z,28nm,0.7s
LSA Lhasa 50.77 317 P P 06 15 01.1 +1.0
LSA IAmb IAmb 06 15 02.0
comp=Z,28nm,0.7s
ODAN Odare 51.74 312 *e*P **P 06 15 07.0 0.0**
comp=Z,52nm,0.5s
TAPN Taplejung 51.78 313 *e*P **P 06 15 07.5 +0.1**
comp=Z,59nm,0.4s
RAMN Ramite 52.37 311 *e*P **P 06 15 12.0 +0.3**
comp=Z,108nm,0.6s
NNZ Nelson 52.81 138 P P 06 15 16.2 +1.8
NNZ IAmb IAmb 06 15 30.1
comp=Z,96nm,1.4s
GTA Gaotai 52.86 332 ⇓P **P 06 15 15.5 +0.7**
GTA pP pP 06 16 20.8 +0.9
GTA sP sP 06 16 57.2 +3.2
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,73nm,5.1s
GTA LR LR
comp=Z,130nm,18.1s
GTA LR LR
comp=Z,120nm,17.5s
GTA LR LR
comp=Z,200nm,17.5s
JIRN Jiri 53.07 312 *e*P **P 06 15 17.0 +0.1**
comp=Z,69nm,0.7s
TUWZ Tuamarina 53.29 138 P P 06 15 18.8 +1.0
GUN Gumba 53.43 312 *e*P **P 06 15 19.6 +0.1**
comp=Z,87nm,0.6s
KHZ Kahutara 53.49 139 P P 06 15 20.6 +1.4
KHZ IAmb IAmb 06 15 25.9
comp=Z,22nm,1.1s
PKI Pulchoki 53.60 311 *e*P **P 06 15 20.3 -0.4**
comp=Z,31nm,0.5s
PKIN Phulchoki 53.61 311 *e*P **P 06 15 20.3 -0.4**
comp=Z,22nm,0.5s
SNZO South Karori 53.75 137 P P 06 15 21.7 +0.6
SNZO IAmb IAmb 06 15 29.0
comp=Z,63nm,1.0s
KKN Kakani 53.81 312 *e*P **P 06 15 21.9 -0.2**
comp=Z,32nm,0.5s
DMN Daman 53.84 311 *e*P **P 06 15 22.3 0.0**
comp=Z,36nm,0.7s

BKZ Black Stump Fm 54.07 134 P P 06 15 24.6 +1.1
URZ Urewera 54.16 133 P P 06 15 24.5 +0.4
comp=Z,5.8nm,0.7s,baz=208,slow=6.4,SNR=3.5
URZ Urewera 54.16 133 P P 06 15 24.7 +0.6
GKN Gorkha 54.41 311 *e*P **P 06 15 26.3 +0.1**
BFZ Birch Farm 54.52 136 P P 06 15 27.3 +0.6
BFZ IAmb IAmb 06 15 37.2
comp=Z,38nm,1.3s
KOLN Koldanda 55.06 311 *e*P **P 06 15 31.2 +0.2**
DANN Dangsing 55.24 311 *e*P **P 06 15 32.3 -0.1**
ULN Ulaanbaatar 57.42 343 P P 06 15 48.0 +0.8
SNR=5.7
ULN Ulaanbaatar 57.42 343*d i*P **P 06 15 47.9 +0.8**
ULN pmax pmax
comp=Z,17nm,1.4s
ULN Ulaanbaatar 57.42 343 P P 06 15 48.2 +1.1
ULN IAmb IAmb 06 15 49.2
comp=Z,26nm,1.4s
SONM Songino Array 57.59 343 P P 06 15 49.3 +1.1
SONM 06 16 38.2
SONM pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 57.59 343 P P 06 15 48.9 +0.7
comp=Z,8.6nm,0.6s,baz=160,slow=7.2,SNR=44
SONM PcP **PcP 06 16 38.1 +0.4**
comp=Z,2.1nm,0.6s,baz=149,slow=6.0,SNR=3.8
SONM Songino Array 57.59 343 P P 06 15 49.3 +1.1
SONM PcP **PcP 06 16 38.2 +0.5**
ZAK Zakamensk 60.79 342 *e*P **P 06 16 10.0 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
WMQ Urumqi 62.18 328 *e*P **P 06 16 20.9 +1.7**
WMQ Urumqi 62.18 328 IAmb IAmb 06 16 20.9
comp=Z,25nm,0.7s
MOY Mondy 62.63 341 *e*P **P 06 16 23.3 +1.2**
MOY pmax pmax
comp=Z,19nm,1.5s
PETK Petropavlovsk- 64.56 19 P P 06 16 35.5 +1.1
PETK 06 17 05.8
PETK Petropavlovsk- 64.56 19 P P 06 16 35.2 +0.8
comp=Z,13nm,0.6s,baz=180,slow=4.2,SNR=26
PETK PcP **PcP 06 17 05.3 -0.3**
comp=Z,4.0nm,0.6s,baz=161,slow=2.8,SNR=5.3
PETK Petropavlovsk- 64.56 19 P P 06 16 35.5 +1.1
PETK PcP **PcP 06 17 05.8 +0.2**
PET Petropavlovsk 64.80 20⇓ *e*P **P 06 16 37.0 +1.0**
PET pmax pmax
comp=Z,6.0nm,0.8s
NIL Nilore 65.69 311 P P 06 16 42.3 +0.1
NIL pmax pmax
comp=Z,30nm,0.7s
NIL Nilore 65.69 311 P P 06 16 42.3 +0.1
DGZ Jazzator, Alta 66.39 332*d i*P **P 06 16 47.0 +0.6**
KSH Kashi 66.61 318 P P 06 16 49.4 +1.4
KSH sP sP 06 18 34.7 +4.8
KSH sS sS 06 27 17.5 +3.4
KSH SS **SS 06 29 39.8 +1.7**
KSH pmax pmax
comp=Z,19nm,0.9s
KSH pmax pmax
comp=Z,350nm,6.3s
KSH LR LR
comp=Z,120nm,11.6s
KSH LR LR
comp=Z,85nm,9.9s
KSH LR LR
comp=Z,97nm,10.8s
MK31 Makanchi Array 67.00 328 P P 06 16 50.8 +0.6
MK31 pmax pmax
comp=Z,27nm,1.2s
MK31 Makanchi Array 67.00 328 P P 06 16 50.8 +0.6
MK31 IAmb IAmb 06 16 51.8
comp=Z,27nm,1.2s
MKAR Makanchi Array 67.00 328 P P 06 16 50.8 +0.6
MKAR 06 17 15.5
MKAR Makanchi Array 67.00 328 P P 06 16 50.7 +0.6
comp=Z,13nm,0.4s,baz=117,slow=8.5,SNR=320
MKAR PcP **PcP 06 17 16.2 +0.2**
comp=Z,6.1nm,0.6s,baz=128,slow=4.8,SNR=9.6
MKAR Makanchi Array 67.00 328 P P 06 16 50.8 +0.6
MKAR PcP **PcP 06 17 15.5 -0.4**
MAKZ Makanchi 67.18 327 P P 06 16 51.6 +0.3
MAKZ pmax pmax
comp=Z,32nm,1.3s
MAKZ Makanchi 67.18 327 P P 06 16 51.6 +0.3
MAKZ IAmb IAmb 06 16 52.8
comp=Z,32nm,1.3s
BOOM Boomskoye usch 68.19 321 IAmb IAmb 06 16 59.8
comp=Z,22nm,1.2s
KZA Kyzart 68.40 320 P P 06 17 00.8 +1.4
SNR=11
MA2 Magadan 68.42 12⇑ *e*P **P 06 16 59.7 +1.1**
MA2 pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 68.50 1 *e*P **P 06 16 58.2 -0.8**
YAK *e* 06 17 22.4
YAK *e*S **S 06 25 29.2 -5.7**
YAK *e* 06 26 26.5
YAK *e*SSS SSS 06 33 13.7
YAK pmax pmax
comp=Z,46nm,0.8s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax smax
comp=N,152nm,3.5s
YAK smax smax
comp=E,71nm,3.3s
YAK Yakutsk 68.50 1 P P 06 16 59.4 +0.4
TKM2 Tokmak 2 68.63 321 P P 06 17 01.1 +0.6
SNR=14
UCH Uchtor 68.95 320 P P 06 17 04.1 +1.3
SNR=15
AAK Ala-Archa 69.17 320 *i* P **P 06 17 05.0 +1.2**
SNR=12
AAK Ala-Archa 69.17 320 P P 06 17 05.0 +1.2
SNR=7.3
AAK Ala-Archa 69.17 320*d i*P **P 06 17 04.9 +1.1**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 69.17 320 P P 06 17 05.1 +1.2
SNR=9.9
AAK Ala-Archa 69.17 320 P P 06 17 05.7 +1.8
AAK IAmb IAmb 06 17 06.1
comp=Z,15nm,0.9s
KBL Kabul 69.23 311 P P 06 17 04.5 +0.1
KBL pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 69.23 311 P P 06 17 04.5 +0.1
KBL IAmb IAmb 06 17 05.6
comp=Z,16nm,1.2s
AML Almayashu 69.43 320 P P 06 17 06.9 +1.2
SNR=19
USP Ospenovka 69.50 321 P P 06 17 06.5 +0.9
SNR=16
EKS2 Erkin-Say 69.64 320 P P 06 17 08.1 +1.4
SNR=14
GAR Garm 70.21 315 P P 06 17 10.6 +0.5
BTK Batken 70.34 317 P P 06 17 11.5 +0.6
BTK pmax pmax
comp=Z,19nm,1.5s
BTK Batken 70.34 317 P P 06 17 11.5 +0.6
BTK IAmb IAmb 06 17 12.8
comp=Z,19nm,1.4s
ZAA0 Zalesovo Array 70.52 334 P P 06 17 10.5 -1.0
ZAA0 IAmb IAmb 06 17 12.1
comp=Z,24nm,0.9s
ZALV Zalesovo Beam 70.52 334*d i*P **P 06 17 11.0 -0.5**
ZALV Zalesovo Beam 70.52 334 P P 06 17 11.2 -0.4
comp=Z,18nm,0.7s,baz=129,slow=5.1,SNR=66
KURBB Kurchatov Arra 71.32 329 P P 06 17 16.8 +0.5
comp=Z,33nm,0.6s,baz=132,slow=5.0,SNR=222
KURK Kurchatov 71.33 329 P P 06 17 16.9 +0.5
SNR=12
KURK Kurchatov 71.33 329*d i*P **P 06 17 16.8 +0.3**
KURK pmax pmax
comp=Z,32nm,0.8s
KURK Kurchatov 71.33 329 P P 06 17 16.7 +0.3
KK31 Karatay Array 71.95 319 P P 06 17 20.9 +0.6
KK31 pmax pmax
comp=Z,11nm,0.9s
KK31 Karatay Array 71.95 319 P P 06 17 20.9 +0.6
KK31 IAmb IAmb 06 17 21.9
comp=Z,11nm,0.8s

KKAR Karatay Array 71.95 319 P **P 06 17 20.3 0.0**
KKAR Karatay Array 71.95 319 P **P 06 17 20.3 0.0**
TAS Tashkent 71.95 317 P **P 06 17 21.4 +1.0**
TAS pmax pmax
comp=Z,59nm,0.5s
TAS Tashkent 71.95 317 P **P 06 17 21.4 +1.0**
JLN Jalan Bani Buh 73.19 295 P **P 06 17 27.7 -0.3**
WBK Wadi Bani Khal 73.70 296 P **P 06 17 31.2 +0.2**
WSAR Wadi Sarin 74.16 296 P **P 06 17 34.0 +0.5**
WSAR Wadi Sarin 74.16 296 P **P 06 17 34.1 +0.5**
comp=Z,9.5nm,0.7s,baz=122,slow=6.7,SNR=10
MHTO MHTO 74.21 294 P **P 06 17 33.6 -0.3**
HRA Herat 74.38 308 P **P 06 17 35.3 +0.4**
HRA IAmb IAmb 06 17 36.9
comp=Z,14nm,0.8s
JMDO Jabal Madar 74.42 295 P **P 06 17 35.1 0.0**
MAW Mawson 74.64 201 P **P 06 17 36.2 +0.8**
MAW pmax pmax
comp=Z,1.0nm,1.4s
MAW Mawson 74.64 201 P **P 06 17 36.7 +1.4**
comp=Z,1.0nm,0.9s,baz=153,slow=2.3,SNR=2.6
MAW Mawson 74.64 201 P **P 06 17 36.2 +0.8**
SMDO Samad 74.64 296 P **P 06 17 36.5 0.0**
SHAO Shalim 75.72 290 P **P 06 17 43.1 +0.6**
SHAO Shalim 75.72 290 P **P 06 17 42.5 -0.1**
ATKA Atka Island 76.28 32 P **P 06 17 45.1 +0.2**
UOSS Minazif 76.73 297 P **P 06 17 48.1 0.0**
UOSS Minazif 76.73 297 P **P 06 17 48.8 +0.7**
UOSS IAmb IAmb 06 17 48.9
comp=Z,7.1nm,0.8s
MDH Madha 76.73 298 P **P 06 17 47.3 -0.7**
HATD Hatta, Dubai 76.77 297 P **P 06 17 48.3 0.0**
HATD Hatta, Dubai 76.77 297 P **P 06 17 48.7 +0.5**
ASHO Ashiyiah 76.80 297 *i* P **P 06 17 49.0 +0.5**
SNR=6.6
BVAR Borovoye Array 76.86 328 P **P 06 17 48.4 +0.2**
comp=Z,9.0nm,0.6s,baz=123,slow=5.5,SNR=36
MSFE Esma-Masafi 76.87 298 *i* P **P 06 17 49.5 +0.6**
SNR=8.0
BANOM Banah 76.88 298 *i* P **P 06 17 49.4 +0.4**
SNR=7.0
BANOM Banah 76.88 298 P **P 06 17 49.7 +0.7**
BRVK Borovoye 76.93 328*d i*P **P 06 17 48.8 +0.2**
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 76.93 328 P **P 06 17 49.0 +0.4**
BRVK IAmb IAmb 06 17 49.7
comp=Z,15nm,0.8s
NAZ Nazwa, Dubai 77.22 297 P **P 06 17 50.8 +0.1**
WHFO Wadi Hawf 77.42 290 P **P 06 17 51.5 -0.5**
ASUD Al Ashush, Dub 77.43 297 *i* P **P 06 17 52.9 +1.0**
SNR=6.0
ABTO Aybut 77.76 289 P **P 06 17 53.9 -0.1**
GEYT Alibeck 78.68 311 P **P 06 17 59.0 +0.5**
comp=Z,4.2nm,0.6s,baz=163,slow=5.6,SNR=7.8
GEYT Alibeck 78.68 311 P **P 06 17 58.4 -0.1**
BILL Bilibino 79.19 14 *e*P **P 06 17 59.2 -1.3**
BILL *e* 06 18 05.5
BILL *e**PP **pP 06 19 06.1 -5.2**
BILL *e* 06 21 02.1
BILL pmax pmax
comp=Z,2.0nm,1.1s
SPIA Saint Paul Isl 80.70 29 P **P 06 18 09.9 +1.1**
NRIK Noril'sk 80.82 346 P **P 06 18 09.8 +0.6**
comp=Z,17nm,0.9s,baz=133,slow=5.2,SNR=14
UNV Unalaska Valle 81.16 33 P **P 06 18 11.5 +0.3**
UNV IAmb IAmb 06 18 17.4
comp=Z,31nm,1.2s
ABKAR Akbulak array 81.17 322 P **P 06 18 11.6 +0.2**
AKUT Akutan 81.67 33 P **P 06 18 14.2 +0.3**
AKTO Aktyubinsk 82.75 323 P **P 06 18 19.1 -0.5**
comp=Z,11nm,0.6s,baz=104,slow=7.4,SNR=16
GAMB Gambell 83.27 23 P **P 06 18 23.2 +1.3**
GAMB IAmb IAmb 06 18 40.6
comp=Z,20nm,1.0s
QSPA South Pole Qui 83.32 180 P **P 06 18 22.2 -0.2**
comp=Z,1.8nm,0.5s,baz=232,slow=0.4,SNR=13
QSPA South Pole Qui 83.32 180 P **P 06 18 21.5 -0.9**
SYO Syowa Base 83.35 201⇑ *es*P sP 06 20 11.0 +4.2
SVE Sverdlovsk 83.59 329 *e*P **P 06 18 24.3 +0.6**
SVE pmax pmax
comp=Z,31nm,0.9s
ARU Arti 84.51 328*d i*P **P 06 18 28.3 0.0**
ARU *PP **pP 06 19 40.1 -0.7**
ARU S **S 06 28 21.0 -6.9**
ARU SS **SS 06 34 02.2 -4.6**
ARU pmax pmax
comp=Z,23nm,1.0s
ARU Arti 84.51 328 P **P 06 18 28.7 +0.4**
ARU IAmb IAmb 06 18 29.1
comp=Z,18nm,0.9s
RAYN Ar Rayn 86.03 294 *i* P **P 06 18 37.0 +0.3**
SNR=16
RAYN Ar Rayn 86.03 294 P **P 06 18 36.6 0.0**
RAYN pmax pmax
comp=Z,16nm,0.8s
RAYN Ar Rayn 86.03 294 P **P 06 18 36.6 0.0**
RAYN IAmb IAmb 06 18 37.9
comp=Z,16nm,0.8s
KDAK Kodiak Island 89.84 32 *i* P **P 06 18 55.3 +1.5**
NCK Nalchik 90.67 314⇓ *e*P **P 06 18 57.8 -0.2**
NCK pmax pmax
comp=Z,14nm,0.2s
KMBO Kilima Mbogo 90.87 269 P **P 06 18 59.4 -0.5**
comp=Z,0.6nm,0.3s,baz=35,slow=16,SNR=3.6
IMAR Indian Mountai 91.18 24 P **P 06 18 59.6 -0.2**
COLD Coldfoot 92.82 23 P **P 06 19 07.1 -0.3**
VRH Novokhopyorsk 92.97 321 *e*P **P 06 19 06.3 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
CCB Clear Creek Bu 93.37 25 P **P 06 19 08.2 -1.8**
CCB IAmb IAmb 06 19 09.7
comp=Z,8.1nm,1.1s
COLA College 93.38 25⇓ *e*P **P 06 19 09.5 -0.5**
COLA pmax pmax
comp=Z,4.0nm,1.1s
ILAR Eielson Array 93.78 25 P **P 06 19 12.3 +0.4**
ILAR Eielson Array 93.78 25 P **P 06 19 10.3 -1.5**
comp=Z,0.8nm,0.6s,baz=245,slow=4.8,SNR=8.2
ILAR Eielson Array 93.78 25 P **P 06 19 12.3 +0.4**
VORD Divnogorie 94.47 321 *e*P **P 06 19 13.6 -1.7**
VORD pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 94.57 321⇑ *e*P **P 06 19 14.2 -1.5**
VSR pmax pmax
comp=Z,16nm,0.9s
BMAR Burnt Mountain 95.01 23 P **P 06 19 17.8 +0.3**
LVZ Lovozero 97.48 338⇑ *e*P Pdif 06 19 30.3 +1.7
LVZ pmax pmax
comp=Z,43nm,1.5s
BRTR Keskin Array B 97.76 309 P **P 06 19 30.0 -0.7**
BRTR Keskin Array B 97.76 309 P **P 06 19 30.5 -0.2**
comp=Z,0.7nm,0.8s,baz=112,slow=5.9,SNR=2.5
BRTR Keskin Array B 97.76 309 P **P 06 19 30.0 -0.7**
ARCES ARCESS Array B 100.66 340 *i* P **Pdif 06 19 39.9 -2.8**
ARCES ARCESS Array B 100.66 340 P **Pdif 06 19 41.9 -0.8**
comp=Z,2.5nm,0.6s,baz=64,slow=5.5,SNR=8.5
ARCES ARCESS Array B 100.66 340 Pdif 06 19 39.9 -2.8
FINES FINESS Array B 101.64 331 P **Pdif 06 19 46.4 -0.7**
comp=Z,2.1nm,0.9s,baz=116,slow=3.2,SNR=3.2
FINES PKiKP **PKiKP 06 24 09.3 +0.3**
comp=Z,2.7nm,0.9s,baz=134,slow=6.0,SNR=4.4
VYHS Vyhne 107.80 319 *e*P **Pdif 06 20 14.5 -0.5**
VYHS Vyhne 107.80 319 *e*PDIFF **Pdif 06 20 14.5 -0.5**
YKA Yellowknife Ar 108.20 26 PKiKP **PKiKP 06 24 20.6 -0.4**
comp=Z,0.5nm,0.4s,baz=299,slow=2.0,SNR=8.8
GERES GERESS Array B 111.05 320 PKiKP **PKiKP 06 24 26.8 -0.2**
comp=Z,1.1nm,0.5s,baz=51,slow=2.4,SNR=12
FXWY Fox Creek 116.59 44 PKPdf **PKiKP 06 24 38.8 +0.8**
BNI Bardonecchia 116.74 317 PKiKP **PKiKP 06 24 38.1 0.0**
BNI Bardonecchia 116.74 317 PKPdf **PKiKP 06 24 38.1 0.0**
SNOW Snow King Moun 116.83 44 PKiKP 06 24 39.5 +1.0
LOHW Long Hollow 116.89 44 PKPdf **PKiKP 06 24 39.5 +1.0**
MSU Marysvale 117.12 50 PKIKP **PKiKP 06 24 40.9 +1.8**
MSU Marysvale 117.12 50 PKPdf **PKiKP 06 24 40.9 +1.8**
U15A North Rim 117.52 52 PKPdf **PKiKP 06 24 41.5 +1.5**
PDAR Pinedale Array 117.88 45 PKP **PKiKP 06 24 40.6 +0.2**
comp=Z,0.7nm,0.5s,baz=323,slow=0.6,SNR=10.0
PDAR Pinedale Array 117.88 45 PKPdf 06 24 40.4 -0.1
RDMU Red Mountain 118.53 47 PKPdf **PKiKP 06 24 42.0 +0.2**
PV14 Lion Creek, Pa 119.55 49 PKPdf **PKiKP 06 24 44.7 +0.8**
O20A White River Ci 119.62 47 PKiKP 06 24 44.4 +0.5
PV17 East Wray Mesa 119.63 50 PKPdf **PKiKP 06 24 45.0 +1.0**
PV11 David Mesa, Pa 119.69 50 PKiKP 06 24 45.3 +1.2

PV01	Paradox Valley	119.96	50		PKiKP	06 24 45.4	+0.7
S22A	4UR Ranch, Cre	121.39	50		PKiKP	06 24 48.9	+1.3
EFI	East Falkland	121.64	175	‖ i PKiKP	PKiKP	06 24 48.0	+0.7
EFI	East Falkland	121.64	175	PKPdf	PKPdf	06 24 47.0	-0.1
ANMO	Albuquerque	122.48	53	⇑ i PKiKP	PKiKP	06 24 50.6	+0.9
ULM	Lac du Bonnet	123.09	32	PKiKP	PKPdf	06 24 47.8	-2.1
ULM	Lac du Bonnet	123.09	32	PKP	PKPdf	06 24 48.9	-1.0
	comp=Z,2.5nm,0.6s,baz=323,slow=10.0,SNR=4.0						
ULM	Lac du Bonnet	123.09	32		PKPdf	06 24 47.8	-2.1
ESDC	Sonseca Array	126.05	315	PKP	PKiKP	06 24 57.2	+0.8
	comp=Z,0.1nm,0.3s,baz=5.7,slow=1.3,SNR=3.8						
ESDC	Sonseca Array	126.05	315		PKPdf	06 24 55.7	-0.3
TXAR	Lajitas Array	126.23	58	PKiKP	PKPdf	06 24 57.0	+0.3
TXAR	Lajitas Array	126.23	58	PKP	PKiKP	06 24 57.9	+0.7
	comp=Z,1.4nm,0.9s,baz=241,slow=3.7,SNR=1.9						
TXAR	Lajitas Array	126.23	58		PKPdf	06 24 57.0	+0.3
TORD	Torodi Ar. Bea	127.05	281	PKP	PKiKP	06 24 58.6	-0.4
	comp=Z,1.8nm,0.7s,baz=44,slow=2.7,SNR=12						
TORD				SKPbc	SKPbc	06 27 45.3	
	comp=Z,1.2nm,1.0s,baz=107,slow=3.3,SNR=4.3						
TORD	Torodi Ar. Bea	127.05	281		PKPdf	06 24 58.1	-0.4
JCT	Junction City	129.14	56	PKiKP	PKiKP	06 25 03.2	+0.3
JCT	Junction City	129.14	56		PKiKP	06 25 03.2	+0.3
PLCA	Paso Flores	129.77	161	PKP	PKiKP	06 25 04.3	+0.3
	comp=Z,1.3nm,0.7s,baz=346,slow=4.0,SNR=5.3						
PLCA				SKPbc	SKPbc	06 27 54.7	-0.9
	comp=Z,2.6nm,0.9s,baz=270,slow=8.1,SNR=3.4						
U40A	Yellville	132.23	46		PKiKP	06 25 08.8	-0.1
DBIC	Dimbokro	133.45	273	PKP	PKiKP	06 25 11.8	-0.1
	comp=Z,3.4nm,0.7s,baz=91,slow=3.9,SNR=4.3						
J59A	Piesco	138.24	25	PKPdf	PKiKP	06 25 20.9	0.0
CCIG	Comitan	139.35	73	PKPdf	PKPdf	06 25 23.0	+1.3
V55A	Taylorsville	140.33	39	PKPpre	PKPdf	06 25 15.5	-7.3
GO02	Mina Guanaco	143.91	152		PKPbc	06 25 29.1	+0.5
059A	Moore Haven	145.52	51	PKPbc	PKPbc	06 25 33.5	+0.7
061Z	Ochoppi	146.25	52	PKPbc	PKPbc	06 25 35.9	+0.8
LVC	Limon Verde	146.41	150	PKP2	PKPab	06 25 37.2	-0.4
LVC	Limon Verde	146.41	150		PKPab	06 25 37.2	-0.4
CPUP	Villa Florida	146.76	171	PKP2	PKPbc	06 25 36.4	-0.1
CPUP	Villa Florida	146.76	171	PKPbc	PKPbc	06 25 36.8	+0.3
	comp=Z,6.2nm,0.6s,baz=178,slow=1.9,SNR=21						
CPUP	Villa Florida	146.76	171		PKPbc	06 25 36.4	-0.1
JTS	Las Juntas de	146.97	81	PKP2	PKPbc	06 25 38.4	+1.0
JTS	Las Juntas de	146.97	81	PKPbc	PKPbc	06 25 38.4	+1.0
ESPN	Las Esperanzas	147.43	78	PKPbc	PKPbc	06 25 39.5	+0.9
GO01	Chusmiza	148.70	147		PKPbc	06 25 42.9	+0.5
CBCY	The Bluff, Cay	149.85	62	PKPbc	PKiKP	06 25 45.2	-0.1
LPAZ	La Paz	152.02	145	PKiKP	PKiKP	06 25 51.0	+0.3
LPAZ						06 26 01.9	
LPAZ	La Paz	152.02	145	PKPbc	PKiKP	06 25 51.0	+0.3
	comp=Z,3.1nm,0.4s,baz=17,slow=1.7,SNR=36						
LPAZ				PKPab	PKPab	06 26 02.5	+1.5
	comp=Z,3.9nm,0.6s,baz=200,slow=4.3,SNR=11						
LPAZ	La Paz	152.02	145		PKiKP	06 25 51.0	+0.3
LPAZ					PKPab	06 26 01.9	+0.9

*ISCJB **01** 06:13:05.9±0.5, 36°.72N±0°.03×27°.03E±0°.03, h6km±3km, Error ellipse: s-maj=4.7km s-min=4.6km az=44.0*
*ISK **01** 06:13:05.2, 36°.72N×27°.04E, h8km, ML2.5/12*
*THE **01** 06:13:05.8, 36°.74N×27°.06E, h4km, ML2.7/3, Error ellipse: s-maj=0.8km s-min=0.3km az=220.0*
*DDA **01** 06:13:08.1, 36°.81N×27°.19E, h8km±4km, ML2.3*

ISC 01 06:13:05.6±0.9, 36°.72N±0°.03×27°.06E±0°.03, h10km±6km, n25, σ1§26/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	Kos Island	0.07	292	P	Pg	06 13 07.5	-0.3
KOSK				S	Sg	06 13 08.9	-0.5
	17μm,0.4s						
NISR	Nisiros	0.12	154	P	Pg	06 13 08.9	+0.4
NISR				S	Sg	06 13 11.3	+0.7
	5μm,0.2s						
BODT	Bodrum	0.39	31	P	Pg	06 13 13.5	+0.2
BODT				S	Sg	06 13 19.4	+0.9
BODT	Bodrum	0.39	31	PG	Pg	06 13 13.6	+0.2
BODT				SG	Sg	06 13 19.5	+0.9
DAT	Datca	0.41	89	i P	Pg	06 13 14.3	+0.5
DAT				IAML_P			
	comp=Z,1μm,0.2s						
DAT	Datca	0.41	89	PG	Pg	06 13 14.2	+0.4
YKAV	Yalikavak-Bodr	0.44	24	PG	Pg	06 13 14.1	-0.1
BDRM	Kayabasi	0.46	42	i P	Pn	06 13 17.8	-0.5
MLSB	Milas	0.81	45	PG	Pb	06 13 22.1	+0.3
AMGA	Amorgos Island	0.94	277	P	Pg	06 13 23.4	-0.4
AMGA				S	Sb	06 13 37.6	+0.9
GCAM	G?zelcaml?	0.98	8	i P	Pn	06 13 25.7	+0.2
GCAM				i S	Sn	06 13 39.2	-0.3
GCAM	G?zelcaml?	0.98	8	PG	Pb	06 13 25.1	+0.3
SMG	Samos	1.00	350	P	Pg	06 13 24.3	-0.5
SMG				S	Sb	06 13 38.6	+0.3
	comp=Z,435nm,0.3s						
YER	Yerkesik	1.06	67	PN	Pb	06 13 26.4	+0.3
AYDN	Tasoluk	1.14	35	i P	Pg	06 13 27.2	-0.3
AYDN				i S	Sg	06 13 42.0	-0.4
KARP	Karpathos	1.18	176	P	Pg	06 13 27.5	-0.7
KARP	Karpathos	1.18	176	PN	Pg	06 13 28.1	-0.1
TURN	Turunc	1.25	83	i P	Pn	06 13 24.4	-4.6
TURN				i S	Sb	06 13 39.4	-5.9
TURN				IAML_P			
	comp=Z,987nm,0.3s						
TURN	Turunc	1.25	83	PG	Pn	06 13 24.0	-5.1
APE	Apeiranthos	1.27	286	PN	Pn	06 13 29.8	+0.3
DALY	Dalyan (Mula)	1.28	85	i P	Pg	06 13 31.1	+0.9
DALY				i S	Sn	06 13 48.4	+1.6
DALY				IAML_P			
	comp=Z,404nm,0.3s						
DALY	Dalyan (Mula)	1.28	85	PN	Pg	06 13 30.4	+0.2
SANT	Santorini	1.34	255	PN	Pn	06 13 30.4	0.0
FETY	Fethiye	1.63	93	i P	Pg	06 13 38.2	+1.3
URLA	Izmir	1.68	347	PN	Pn	06 13 35.5	+0.5

*NEIC **01** 06:13:15.5±2.0, 41°.09N±0°.05×127°.4W±0°.1, h8km±8km, ML3.0/30*
*ANF **01** 06:13:20.2±2.4, 41°.20N×126°.92W, ML3.1/8, Error ellipse: s-maj=26.1km s-min=6.5km az=46.0*
*NCEDC **01** 06:13:20.2±2.2, 40°.97N±0°.06×127°.1W±0°.1, h5km±2km*
*IDC **01** 06:13:35.2±4.4, 40°.82N×125°.65W, h0km, mb3.0/1, mb1 3.5/3, mb1mx3.3/41, mbtmp3.0/3, ML3.1/2, Error ellipse: s-maj=57.5km s-min=39.6km az=42.0*

ISC 01 06:13:16.2±2.3, 41°.19N±0°.06×127°.4W±0°.1, h10km, n66, σ1§80/73, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	2.46	106		Pn	06 13 55.4	-1.0
JCC	Jacoby Creek,	2.60	97		Pn	06 13 56.0	-2.4
JCC				IAML		06 14 28.6	
	comp=E,96nm,1.2s						
KBO	Bosley Butte	2.61	66		Pn	06 13 56.9	-1.8
KBO				IAML		06 14 14.7	
	comp=N,48nm,1.6s						
KBO				IAML		06 15 24.3	
	comp=E,49nm,3.0s						
KMPM	Mount Pierce	2.63	106		Pn	06 13 58.5	-0.4
KSMM	Slide Mountain	2.67	111		Pn	06 13 58.2	-1.2
KHMM	Horse Mountain	2.82	95		Pn	06 14 00.5	-1.0
KHMM				Sn	Sn	06 14 33.4	-2.3
KHMM				IAML		06 14 36.1	
	comp=E,64nm,0.7s						
KHMM				IAML		06 14 43.1	
	comp=N,52nm,0.9s						
KCRM	Chalk Rock	2.85	104		Pn	06 14 00.5	-1.3
KEBM	Edson Butte	2.86	53		Pn	06 14 01.6	-0.4
KEBM				IAML		06 14 36.6	
	comp=N,42nm,1.6s						
KEBM				IAML		06 14 59.4	
	comp=E,37nm,1.7s						
KMRM	Mail Ridge	2.99	108		Pn	06 14 03.1	-0.7
KMRM				Sn	Sn	06 14 40.0	+0.2
L02E	Cave Junction	3.03	70	P	Pn	06 14 03.4	-0.9
	baz=244,SNR=15						
KCSM	Cold Springs	3.04	101		Pn	06 14 03.9	-0.7
KBSM	Bell Springs	3.19	112		Pn	06 14 05.9	-0.6
K02D	Willamette Mer	3.19	61	P	Pn	06 14 07.1	+0.5
	baz=233						
KHBM	Hayfork Bally	3.24	98		Pn	06 14 06.5	-0.9
J01E	Myrtle Point	3.27	52	P	Pn	06 14 08.3	+0.8
	baz=223						
KCPM	Cahto Peak	3.30	116		Pn	06 14 06.9	-1.2
KCPM					Sn	06 14 44.4	-3.1
KIPM	Iron Peak	3.32	113		Pn	06 14 07.7	-0.7
KFPM	Farley Peak	3.43	115		Pn	06 14 08.5	-1.3
M02C	Callahan	3.46	85	P	Pn	06 14 09.8	-0.4
	baz=263,SNR=27						
M02C				S	Sn	06 14 48.0	-3.3
	baz=263						
KBNM	Bluenose Ridge	3.48	110		Pn	06 14 11.1	+0.5
LGPM	Granite Peak	3.50	93		Pn	06 14 10.4	-0.4
LBPM	Beegum Peak	3.57	103		Pn	06 14 11.8	+0.1
N02D	Trinity Center	3.58	92	P	Pn	06 14 11.7	-0.3
	baz=272,SNR=14						
N02D				S	Sn	06 14 52.1	-2.3
	baz=272						
YBH	Yreka Blue Hor	3.59	80		Pn	06 14 13.0	+0.9
HUMO	Hull Mountain	3.63	66		Pn	06 14 11.8	-0.8
LAMM	Antelope Mount	3.64	82		Pn	06 14 13.8	+1.0
O02D	Mt. Diablo Mer	3.68	104	P	Pn	06 14 12.4	-0.8
	baz=287,SNR=18						
O02D				S	Sn	06 14 54.2	-2.5
	baz=287						
WDC	Whiskeytown Da	3.76	98		Pn	06 14 14.6	+0.3
WDC				Sn	Sn	06 14 58.0	-0.6
B040	Montague	3.82	79		Pn	06 14 15.8	+0.6
GHMM	Hull Mountain	3.84	115		Pn	06 14 15.0	-0.4
GVV	Valley View	3.90	110		Pn	06 14 16.5	+0.2
LHEM	Herd Peak	3.95	82		Pn	06 14 18.0	+0.9
LGBM	Gray Butte	3.95	86		Pn	06 14 18.7	+1.5
L04D	Klamath Falls	3.98	73	P	Pn	06 14 18.1	+0.7
	baz=251,SNR=42						
LMPM	Military Pass	3.98	84		Pn	06 14 19.3	+1.8
HOPS	Hopland Field	4.00	122	Pn	Pn	06 14 16.3	-1.3
HOPS				Sn	Sn	06 15 02.8	-1.8
HOPS				IAML		06 15 07.0	
	comp=E,29nm,1.8s						
HOPS				IAML		06 15 49.2	
	comp=N,30nm,2.6s						
M03C	McCloud	4.01	87		Pn	06 14 19.2	+1.4
LGMM	Garner Mountai	4.23	83		Pn	06 14 21.9	+1.0
M04C	Macdoel	4.25	80	P	Pn	06 14 21.3	+0.2
	baz=259,SNR=36						
O03E	Paynes Creek	4.37	100	P	Pn	06 14 22.3	-0.5
	baz=282,SNR=6.5						
O03E				S	Sn	06 15 11.3	-2.5
	baz=282						
MCCM	Marconi Confer	4.65	129	Pn	Pn	06 14 25.6	-0.8
ORV	Oroville	4.82	108		Pn	06 14 28.3	-0.6
ORV				Sn	Sn	06 15 22.7	-2.0
ORV				IAML		06 15 25.9	
	comp=N,12nm,1.2s						
ORV				IAML		06 15 31.8	
	comp=E,12nm,1.0s						
J05D	Fort Rock, OR	5.06	63	P	Pn	06 14 32.2	0.0
	baz=242						
H04A	Detroit Lake	5.20	46	Pn	Pn	06 14 32.9	-1.3
H04A				IAML		06 16 22.9	
	comp=E,8.7nm,4.1s						
H04A				IAML		06 16 22.9	
	comp=N,8.2nm,2.3s						
MOD	Modoc Plateau	5.40	80		Pn	06 14 36.6	-0.4
AFDM	Forest Hills D	5.44	112		Pn	06 14 38.6	+1.2
AFDM					Sn	06 15 38.8	-1.3
AFDM				IAML		06 15 44.7	
	comp=E,5.5nm,0.5s						
PINE	Pine Mountain	5.46	59		Pn	06 14 37.0	-0.9
BEKR	Beckworth	5.55	101		Pn	06 14 41.9	+2.8
BEKR				Sn	Sn	06 15 45.9	+2.8
E03A	Lebam	6.04	26	Pn	Pn	06 14 47.1	+1.5
CMB	Columbia Colle	6.29	118		Pn	06 14 50.4	+1.3
PNTR	Pine Nut	6.36	107		Pn	06 14 55.1	+4.9
PNTR				Sn	Sn	06 16 08.2	+5.2
SAO	San Andreas Ge	6.42	132		Pn	06 14 49.4	-1.6
SAO				Sn	Sn	06 16 01.7	-2.6
YERR	Yerington	6.66	107		Pn	06 14 56.8	+2.5
WAKR	Walker	6.71	111	Pn	Pn	06 14 55.9	+0.9
MDPB	Devils Postpil	7.38	116	Pn	Pn	06 15 06.3	+2.1
OMMB	Old Mammoth Mi	7.44	116		Pn	06 15 09.1	+3.9
NVAR	Mina Array Bea	7.55	108	Pn	Pn	06 15 08.2	+1.7
	comp=E,0.1nm,0.3s,baz=292,slow=14,SNR=8.2						
NVAR				Lg	Lg	06 16 49.0	
	comp=E,0.1nm,0.3s,baz=294,slow=21,SNR=2.8						
ISA	Isabella, Lake	8.94	125		Pn	06 15 28.7	+3.3
PDAR	Pinedale Array	13.40	77	Pn	P	06 16 33.8	-2.5
	comp=E,0.0nm,0.3s,baz=255,slow=10,SNR=1.8						
TXAR	Lajitas Array	22.65	114	P	P	06 18 22.9	+5.2
	comp=E,0.7nm,0.9s,baz=290,slow=8.6,SNR=7.3						
H11N3	WAKE ISLAND Hy	59.13	270	T	T	07 27 21.1	
	baz=53,slow=75,SNR=75						
H11N2	WAKE ISLAND Hy	59.13	270	T	T	07 27 21.2	
	baz=53,slow=75,SNR=54						
H11N1	WAKE ISLAND Hy	59.14	270	T	T	07 27 23.1	
	baz=53,slow=75,SNR=37						
H11S1	WAKE ISLAND Hy	60.01	269	T	T	07 28 25.2	
	baz=52,slow=75,SNR=96						
H11S2	WAKE ISLAND Hy	60.02	269	T	T	07 28 26.1	
	baz=52,slow=75,SNR=62						
H11S3	WAKE ISLAND Hy	60.03	269	T	T	07 28 25.7	
	baz=52,slow=75,SNR=62						

IDC 01 06:16:23.3±2.9, 5°.44S×148°.27E, h108km±37km, mb4.1/3, mb1 4.1/6, mb1mx3.6/37, mbtmp4.4/6, Error ellipse: s-maj=50.4km s-min=20.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.91	73	P	Pn	06 17 21.9	+0.5
	30nm,0.3s,baz=287,slow=3.3,SNR=12						
PMG	Port Moresby	4.09	196	P	Pn	06 17 22.7	-1.2
	40nm,0.3s,baz=48,slow=7.6,SNR=28						
PMG				S	Sn	06 18 05.0	-5.9
	21nm,0.3s,baz=89,slow=20,SNR=3.8						
WRA	Warramunga Arr	19.79	222	P	P	06 20 45.0	-0.3
	0.7nm,0.3s,baz=47,slow=11,SNR=5.1						
WRA				S	S	06 24 16.8	-5.7
	0.1nm,0.3s,baz=43,slow=22,SNR=4.2						
ASAR	Alice Springs	22.80	216	P	P	06 21 16.4	-0.8
	5.8nm,0.6s,baz=54,slow=8.9,SNR=57						
FITZ	Fitzroy Crossi	25.43	238	P	P	06 21 41.7	+0.5
	6.0nm,0.5s,baz=72,slow=9.0,SNR=16						
STKA	Stephens Creek	27.04	193	P	P	06 21 56.7	+1.1
	2.1nm,0.6s,baz=359,slow=10,SNR=3.6						
MKAR	Makanchi Array	77.87	320	P	P	06 28 09.1	-0.2
	0.1nm,0.4s,baz=95,slow=8.8,SNR=2.6						

*NEIC **01** 06:19:41.9±1.7, 36°.25N±0°.03×120°.86W±0°.02, h13km±4km*
*NCEDC **01** 06:19:41.6±2.0, 36°.25N±0°.02×120°.82W±0°.04, h7km±4km, ML3.2*
*ANF **01** 06:19:41.5±0.9, 36°.25N×120°.78W, h8km±5km, ML3.4/16, Error ellipse: s-maj=7.2km s-min=3.2km az=108.0*

ISC 01 06:19:41.7±0.8, 36°.25N±0°.02×120°.83W±0°.02, h11km±5km, n236, σ0§62/244, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPB	Monarch Peak	0.04	149	Pg	Pg	06 19 43.5	-0.4
PMPB				Sg	Sg	06 19 45.0	-0.5
PBWM	Bitterwater Cr	0.10	308		Pg	06 19 44.5	0.0
PPTM	Peach Tree Val	0.17	149		Pg	06 19 45.5	+0.1
LRC	Lone Oak Road	0.17	268		Pg	06 19 45.6	+0.1
PJUM	Juniper Ridge	0.19	97		Pg	06 19 46.7	+0.8
LRV	Little Rabbit	0.23	318		Pg	06 19 47.2	+0.7
PSAM	San Ardo	0.23	192		Pg	06 19 46.6	0.0
PSMM	Smith Mountain	0.26	134		Pb	06 19 47.6	-0.8
PCCM	Crazy Canyon	0.32	239		Pg	06 19 48.5	+0.4
PHPM	Hope Ranch	0.33	146		Pg	06 19 48.3	0.0
BBNM	San Benito	0.33	322		Pb	06 19 49.1	-0.5
BPIM	Pinnacles	0.36	311		Pg	06 19 49.2	+0.2
BBGB	Big Mountain B	0.37	332		Pb	06 19 50.2	-0.1
BSGM	Shirttail Gulc	0.38	295		Pg	06 19 49.1	-0.1
PKD	Bear Valley Ra	0.38	143		Pg	06 19 49.3	0.0
PARM	Anticline Ridg	0.39	90		Pb	06 19 50.8	+0.1
BMSM	Mercy Hot Spri	0.41	4		Pb	06 19 51.1	+0.1
PVCM	Vineyard Canyo	0.41	144		Pg	06 19 49.9	+0.1
PSTM	Stockdale Moun	0.41	141		Pg	06 19 49.9	0.0
PPO	Portuguese Can	0.42	156		Pg	06 19 50.5	+0.5
BAVM	Antelope Valle	0.43	338		Pb	06 19 50.9	-0.4
BEMM	Emmet	0.46	332		Pb	06 19 51.7	-0.2
PHSB	Hesperia Broad	0.47	203		Pg	06 19 51.0	+0.1
PANM	San Antonio Re	0.48	188		Pg	06 19 51.2	+0.2
BEHM	Elkhorn Ranch	0.50	326		Pb	06 19 52.5	0.0
BSMM	Soledad Missio	0.50	285		Pg	06 19 51.6	+0.1
PHFM	Heflinger Ranc	0.51	137		Pb	06 19 52.0	-0.6
CTM	Castle Mountai	0.51	129		Pb	06 19 53.0	+0.3
PWMM	Westland Maint	0.53	70		Pb	06 19 53.4	+0.4
BJCM	Johnson Can.	0.54	303		Pg	06 19 52.1	-0.2
BJOM	Mount Johnson	0.54	314		Pg	06 19 52.0	-0.3
BLRM	Lewis Ranch	0.55	319		Pg	06 19 52.5	+0.1
PAPM	Alder Peak	0.55	232		Pg	06 19 52.7	+0.2
PCMM	Cholame Hills	0.56	143		Pg	06 19 52.9	+0.3
GHC	Gold Hill	0.57	137		Pg	06 19 52.8	0.0
SCZ	Santa Cruz	0.58	307		Pg	06 19 52.7	-0.2
BRMM	Rolling Bench	0.58	0		Pb	06 19 54.4	+0.5
BHRM	Hodges Ranch	0.59	324		Pb	06 19 54.1	0.0
PSRM	Scobie Ranch	0.59	131		Pg	06 19 53.5	+0.3
BCWM	Chews Ridge	0.60	275		Pg	06 19 53.3	-0.1
HAST	Hastings Reser	0.60	283		Pg	06 19 53.2	-0.2
PKEM	Kettleman Hill	0.61	108		Pb	06 19 55.1	+0.7
RAMR	Ramage Ranch	0.62	183		Pg	06 19 53.7	0.0
PKLM	Kerr Lake	0.62	140		Pg	06 19 53.9	+0.1
PHCM	Hearst Castle	0.63	205		Pg	06 19 54.0	+0.1
PSNM	Stone Corral	0.63	137		Pg	06 19 54.0	0.0
PMCM	McMillan Canyo	0.64	145		Pg	06 19 54.4	+0.2
TCHL	Shandon	0.66	148		Pb	06 19 54.8	-0.4
BAPM	Anderson Peak	0.66	264		Pg	06 19 54.4	-0.2
PMRM	Maxey Ranch	0.67	134		Pg	06 19 54.9	+0.2
BSLM	Silva Ranch	0.67	321		Pb	06 19 55.6	+0.2
BVYM	Vineyard	0.69	317		Pg	06 19 54.7	-0.3
BSRM	Salinas Radio	0.69	307		Pg	06 19 54.9	-0.2
PAGB	Antelope Grade	0.70	138		Pg	06 19 55.2	-0.1
SAO	San Andreas Ge	0.71	316		Pg	06 19 55.2	-0.4
SAO	San Andreas Ge	0.71	316	Sg	Sg	06 20 05.1	+0.2
SAO	San Andreas Ge	0.71	316	Pg	Pg	06 19 54.9	-0.7
THIS	South End of C	0.72	137		Pg	06 19 55.7	+0.1
BLDC	Black Mountain	0.72	185		Pg	06 19 55.7	0.0
BLDC	Black Mountain	0.72	185		Pg	06 19 55.6	0.0
BPCNC	Pine Canyon	0.72	297		Pg	06 19 55.6	0.0
TRAM	Private Proper	0.73	142		Pg	06 19 55.9	0.0
FRP	Fremont Peak	0.73	313		Pg	06 19 55.4	-0.5
PCBM	Cambria	0.76	195		Pg	06 19 56.5	+0.2
BPOM	Post Ranch	0.76	269		Pg	06 19 56.0	-0.4
PTRM	Twissleman Ran	0.78	140		Pg	06 19 56.6	-0.1
ARDC	Alexander Ranc	0.80	189		Pg	06 19 57.1	0.0
TSCN	Private Proper	0.81	151		Pg	06 19 57.3	0.0
HJGM	San Juan Grade	0.81	312		Pg	06 19 57.0	-0.4
HBTM	San Juan Bauti	0.83	316		Pg	06 19 58.0	+0.2
PACP	Pacheco Peak	0.84	334		Pb	06 19 58.6	+0.2
SFJWR	San Luis Fatjo	0.84	341		Pb	06 19 58.6	+0.2
OCR	O'Connell Ranc	0.86	321		Pb	06 19 58.8	+0.2
HFEM	San Felipe	0.86	328		Pb	06 19 58.8	+0.1
PTAM	Tassajara Cree	0.86	173		Pg	06 19 58.3	-0.1
HTUM	Tustin Road	0.87	311		Pg	06 19 58.0	-0.5
SLD	San Luis Dam	0.88	339		Pb	06 19 59.1	+0.1
ANZ	Anzar Road	0.88	316		Pg	06 19 58.6	-0.1
HPCM	Pacheco Lake	0.88	336		Pb	06 19 59.1	+0.1
HERM	Elkhorn Road	0.90	308		Pg	06 19 58.9	-0.1
PBPM	Bitterwater Pu	0.91	138		Pb	06 19 59.4	-0.1
CSR	Chase Ranch	0.93	319		Pg	06 19 59.7	0.0
EFD	Emergency Oper	0.93	175		Pb	06 20 00.3	+0.4
CDC	Canada Road	0.94	326		Pb	06 20 00.1	+0.2
HMOM	Monterey	0.95	292		Pg	06 19 59.3	-0.6
HCOM	Corn Cob Canyo	0.95	312		Pg	06 19 59.6	-0.4
LSDC	Los Osos Digit	0.95	181		Pb	06 20 00.2	0.0
VPDC	Valencia Peak	1.01	182		Pg	06 20 01.1	-0.1
DPD	Davis Peak	1.02	178		Pb	06 20 01.4	0.0
HLPM	Lions Peak	1.02	321		Pg	06 20 01.1	-0.2
HSPM	Sheep	1.02	328		Pb	06 20 01.6	+0.1
DCD	Diablo Creek	1.04	181		Pg	06 20 01.4	-0.3
JELB	Ellicott, Sant	1.05	310		Pg	06 20 01.3	-0.6
CADM	Anderson Res.	1.11	325		Pg	06 20 03.0	-0.2
JECB	Eureka Canyon	1.12	316		Pg	06 20 02.7	-0.5
MHDM	Hidden Dam	1.14	41		Pg	06 20 02.7	-1.0
JTGM	Trout Gulch Ro	1.15	313		Pg	06 20 02.9	-0.9
SMMC	Simmler	1.16	144	P	Pg	06 20 03.2	-0.7
	baz=325,SNR=144						
SMMC				S	Sb	06 20 19.2	+0.5
	baz=325						
SMMC	Simmler	1.16	144		Pg	06 20 03.2	-0.7
JLAB	Laurel Hill	1.16	321		Pg	06 20 03.1	-0.9
MOBB	Monterey Bay O	1.16	292		Pb	06 20 03.5	-0.2
FRI	Friant	1.17	50		Pg	06 20 03.1	-1.0
VOG	Valley Oaks Go	1.17	86	P	Pg	06 20 02.8	-1

ISA	Isabella, Lake	2.00	106	Pn		Pn	06 20 15.8	+0.4
ISA	Isabella, Lake	2.00	106	Sn		Sn	06 20 41.2	+0.7
MLIM	Lincoln Peak	2.00	46			Pb	06 20 18.3	-0.1
TEJ	El Tejon	2.02	120			Pn	06 20 15.4	-0.3
MDYM	Dry Creek	2.02	45			Pb	06 20 18.6	0.0
SBC	Santa Barbara	2.02	153	P		Pn	06 20 15.4	-0.3
	baz=334,SNR=5.3							
MDCM	Deadman Creek	2.04	44			Pn	06 20 17.7	+1.5
MMLB	Mammoth Lakes	2.04	46			Pb	06 20 18.8	-0.2
SCHCA	Scheelite	2.04	57			Pb	06 20 17.9	-1.1
MLCM	Laurel Creek C	2.05	48			Pb	06 20 18.6	-0.4
MGPM	Gravel Pit	2.06	48			Pb	06 20 19.1	-0.2
MEMM	East Mammoth H	2.07	46			Pb	06 20 19.2	-0.2
MCMM	Convict Lake	2.07	49			Pb	06 20 19.0	-0.4
CSPM	San Pablo Ridg	2.08	326			Pn	06 20 16.8	+0.3
MCBM	Casa Benchmark	2.08	47			Pb	06 20 19.2	-0.4
MCSM	Casa Diablo Ho	2.08	47			Pb	06 20 19.2	-0.4
MCVM	Convict Lake	2.08	50			Pb	06 20 19.1	-0.6
RCCR	Rock Creek Can	2.09	53			Pb	06 20 18.6	-1.2
LMCR	Lookout Mounta	2.11	45			Pb	06 20 19.5	-0.6
MLAC	Mammoth, Mammo	2.11	49	Pb		Pb	06 20 19.5	-0.5
	baz=230							
MLAC				Sb		Sb	06 20 47.6	+1.3
	baz=230							
MLAC	Mammoth, Mammo	2.11	49			Pb	06 20 19.8	-0.3
MDRNC	Doe Ridge	2.11	48			Pb	06 20 19.9	-0.2
MTUM	Tungsten Hills	2.12	58			Pb	06 20 19.2	-1.1
MLHM	Little Hot Cre	2.15	48			Pb	06 20 20.8	0.0
AASM	Arroyo Seco	2.19	354			Pb	06 20 17.9	0.0
ORC	Owens River	2.22	51			Pb	06 20 21.4	-0.6
CWC	Cottonwood Cre	2.23	84	P		Pn	06 20 19.5	+0.8
	baz=266							
CWC				Sb		Sb	06 20 50.2	+0.5
	baz=266							
CWC	Cottonwood Cre	2.23	84			Pn	06 20 20.0	+1.3
TIN	Tinemaha, Big	2.24	68	Pb		Pb	06 20 21.3	-0.8
	baz=250							
TIN				Sb		Sb	06 20 50.6	+0.7
	baz=250							
TIN	Tinemaha, Big	2.24	68			Pb	06 20 21.4	-0.8
MFBM	Five Bridges	2.25	58			Pb	06 20 21.6	-0.9
WCHM	Chimney Peak	2.26	99			Pn	06 20 20.3	+1.0
MCDM	Chidago Canyon	2.31	55			Pb	06 20 22.5	-0.9
BENR	Benton	2.32	50			Pb	06 20 22.9	-0.9
SNT	Sears Point	2.32	327			Pn	06 20 20.0	+0.2
POCCA	Poleta Canyon	2.33	61			Pb	06 20 22.4	-1.4
MRCM	Red Rock Canyo	2.34	52			Pb	06 20 23.3	-0.6
OSI	Osito Audit: C	2.37	133			Pn	06 20 21.4	+0.8
NADM	Allendale	2.38	338			Pn	06 20 21.8	+1.2
MLNR	Milner Canyon	2.40	55			Pb	06 20 23.9	-1.1
CVS	Carmenet Viney	2.46	329			Pn	06 20 22.0	+0.2
MCCM	Marconi Confer	2.50	320			Pn	06 20 21.5	-0.8
WAKR	Walker	2.51	26			Pb	06 20 25.1	-1.8
TOW	Tower One	2.52	99			Pb	06 20 25.0	-2.0
ASMM	Slate Mountain	2.57	3			Pn	06 20 24.8	+1.4
DAC	Darwin (Calif)	2.61	88			Pb	06 20 28.4	-0.2
NBPM	Berryessa Peak	2.65	336			Pn	06 20 24.9	+0.6
NSHM	Saint Helena R	2.67	328			Pn	06 20 24.1	-0.6
EDW2	Edwards Air Fo	2.69	120	P		Pn	06 20 25.3	+0.4
	baz=302,SNR=18							
AFDM	Forest Hills D	2.69	358			Pn	06 20 25.2	+0.2
MPMC	Manual Prospec	2.71	93	P		Pn	06 20 25.4	+0.1
	baz=275,SNR=36							
GRAC	Grapevine Rang	2.88	74	Pb		Pb	06 20 33.1	-0.1
	baz=256							
PASC	Pasadena Art C	3.00	133			Pn	06 20 28.7	-0.5
RYN	Ryan	3.00	37			Pb	06 20 34.8	-0.4
YERR	Yerington	3.00	24			Pn	06 20 30.2	+0.8
MWC	Mount Wilson	3.04	131			Pn	06 20 30.1	+0.2
VCNR	Virginia City	3.18	17	Pn		Pn	06 20 33.0	+1.2
BFSC	Mount Baldy Ra	3.28	127	P		Pn	06 20 33.1	-0.1
	baz=309,SNR=8.4							
ORV	Oroville	3.34	351			Pn	06 20 33.8	0.0
GSC	Goldstone, Bar	3.41	105			Pn	06 20 35.3	+0.5
TPNV	Topopah Spring	3.75	78			Pn	06 20 41.3	+1.7
HEC	Hector,Ludlow	3.93	110	P		Pn	06 20 42.1	+0.1
	baz=293							
TUQ	Turquoise Moun	4.07	100	P		Pn	06 20 43.3	-0.7
	baz=283,SNR=6.2							
SHPR	Sheep Range	4.58	85			Pn	06 20 52.8	+1.7

*ISCJB **01** 06:44:50.3±0.5, 27°.86N±0°.04×105°.67W±0°.07, h10km, Error ellipse: s-maj=8.5km s-min=5.1km az=175.2*
*NEIC **01** 06:44:52.0±0.9, 27°.76N±0°.04×105°.63W±0°.09, h15km±3km, Md4.1(MEX)*
*MEX **01** 06:44:53.5±0.3, 27°.83N×105°.58W, h12km±6km, MD4.1*

ISC 01 06:44:51.2±0.9, 27°.78N±0°.04×105°.61W±0°.07, h10km, n15, σ1§28/19, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPIG		0.84	184	eP	Pb	06 45 08.2	+0.1
	baz=4.6,slow=14						
HPIG				eS	Sb	06 45 19.7	+0.2
HPIG		0.84	184		Pb	06 45 08.0	0.0
HPIG		0.84	184		Pb	06 45 08.2	+0.1
HPIG					Sb	06 45 19.7	+0.2
TX31	Lajitas Ar. Si	2.31	47		Pn	06 45 30.2	+0.8
TX32	Lajitas Array	2.31	47		Pn	06 45 30.2	+0.8
TXAR	Lajitas Array	2.31	47		Pn	06 45 29.9	+0.5
CGIG		3.31	322	eP	Pn	06 45 42.9	-0.4
CGIG				i S	Sn	06 46 20.7	-2.1
CGIG		3.31	322		Pn	06 45 42.9	-0.4
MNTX	Cornudas Mount	3.91	3	i P	Pn	06 45 50.1	-1.3
MNTX				i S	Sn	06 46 33.9	-3.5
MNTX	Cornudas Mount	3.91	3		Pb	06 46 02.3	+1.9
MNTX					LR	06 46 52.8	
319A	Douglas	4.81	319	Pn	Pn	06 46 03.8	0.0
121A	Cookes Peak, D	5.10	339	Pn	Pn	06 46 06.8	-1.1
SRIG	Santa Rosalia	5.91	267	Pn	Pn	06 46 19.5	+0.7
ETX02	Prairie Street	10.56	64	Pn	Pn	06 47 23.1	+0.5
PV20	West Nyswonger	10.90	346	Pn	Pn	06 47 28.1	+0.5

*IDC **01** 06:46:11.4±0.6, 52°.68S×18°.82E, h0km, mb4.2/13, mb1 4.2/13, mb1mx4.1/26, mbtmp4.2/13, MS3.5/5, Ms1 3.4/5, ms1mx3.1/30, Error ellipse: s-maj=23.0km s-min=16.0km az=78.0*
*ISCJB **01** 06:46:12.5±0.4, 52°.73S±0°.06×18°.6E±0°.2, h13km, mb4.1/13, MS3.4/5, Error ellipse: s-maj=15.8km s-min=9.2km az=4.2*
*NEIC **01** 06:46:13.3±1.7, 52°.8S±0°.1×18°.7E±0°.1, h10km±1km, mb4.5/15*

ISC 01 06:46:13.6±0.5, 52°.60S±0°.08×18°.7E±0°.1, h13km, n54, σ1§42/49, mb4.3/15, MS3.4/5, 3C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	Syowa Base	19.16	157	⇑ep	P	06 50 34.8	-1.5
SYO	Syowa Base	19.16	157	⇑eP	Pn	06 50 39.8	+2.6
SYO	Syowa Base	19.16	157	⇑epP	pP	06 50 43.2	+4.2
SUR	Sutherland	20.26	5	P	Pn	06 50 53.7	+2.9
	8.4nm,0.7s,baz=174,slow=13,SNR=12						
SUR				S	S	06 54 29.1	-6.7
	15nm,1.2s,baz=153,slow=14,SNR=2.2						
SUR	Sutherland	20.26	5	P	Pn	06 50 53.9	+3.1
SUR				IAmb	IAmb	06 51 07.3	
	comp=Z,16nm,0.9s						
SNAA	Sanae	21.38	199	P	P	06 51 00.1	-0.4
SNAA	Sanae	21.38	199	P	P	06 51 00.1	-0.4
	comp=Z,10.0nm,0.8s,baz=46,slow=10,SNR=18						
SNAA	Sanae	21.38	199	P	P	06 51 00.2	-0.3
SNAA				IAmb	IAmb	06 51 06.6	
	comp=Z,21nm,1.0s						
VNA2	Neumayer--Watz	21.81	203	P	P	06 51 04.0	-1.0
	baz=29,slow=12						
VNA1	Neumayer--Stat	21.83	204	P	P	06 51 04.8	-0.4
VNA3	Neumayer Olymp	22.57	204	P	P	06 51 11.6	-1.6
BOSA	Boshof	24.45	14	P	P	06 51 34.2	+2.1
	comp=Z,5.0nm,1.0s,baz=158,slow=5.4,SNR=3.1						
BOSA				LR	LR	06 59 19.7	
	comp=Z,124nm,20.5s,baz=204,slow=32						
BOSA	Boshof	24.45	14	P	P	06 51 33.9	+1.8
BOSA				IAmb	IAmb	06 51 52.1	
	comp=Z,18nm,1.5s						
MAW	Mawson	25.88	142	P	P	06 51 44.1	-0.5
	comp=Z,4.7nm,1.0s,baz=282,slow=7.9,SNR=10						
MAW				LR	LR	06 59 48.5	
	comp=Z,53nm,21.4s,baz=255,slow=32						
MAW	Mawson	25.88	142	P	P	06 51 44.3	-0.3

QSPA	South Pole Qui	37.63	180	P		P	06 53 27.1	-0.7
	comp=Z,8.5nm,0.9s,baz=249,slow=2.0,SNR=25							
QSPA	South Pole Qui	37.63	180	P		P	06 53 27.3	-0.6
QSPA				IAmb	IAmb	06 53 30.2		
	comp=Z,8.1nm,0.8s							
PMSA	Palmer Station	41.51	220	P		P	06 53 59.8	-0.1
	comp=Z,6.8nm,0.9s,baz=104,slow=12,SNR=2.4							
PMSA	Palmer Station	41.51	220	P		P	06 53 59.5	-0.4
KMBO	Kilima Mbogo	53.58	23	LR		LR	07 16 40.6	
	comp=Z,52nm,18.6s,baz=286,slow=34							
PLCA	Paso Flores	58.61	243	LR		LR	07 18 44.9	
	comp=Z,19nm,19.8s,baz=126,slow=33							
CPUP	Villa Florida	61.22	264	P		P	06 56 28.4	+0.3
	comp=Z,2.0nm,0.9s,baz=156,slow=4.5,SNR=3.0							
DBIC	Dimbokro	62.37	333	P		P	06 56 36.0	+0.2
	comp=Z,5.8nm,1.0s,baz=152,slow=6.5,SNR=4.1							
DBIC				LR		LR	07 18 36.1	
	comp=Z,82nm,18.1s,baz=32,slow=31							
DBIC	Dimbokro	62.37	333	P		P	06 56 36.0	+0.2
TOA0	Torodi Ar. Sit	67.11	342	P		P	06 57 07.7	+1.0
TOA0				IAmb		IAmb	06 57 08.1	
	comp=Z,3.9nm,1.0s							
TORD	Torodi Ar. Bea	67.11	342	P		P	06 57 06.0	-0.7
	comp=Z,1.8nm,0.9s,baz=182,slow=5.8,SNR=7.9							
TORD	Torodi Ar. Bea	67.11	342	P		P	06 57 07.5	+0.8
LPAZ	La Paz	75.35	262	P		P	06 57 57.2	-0.2
	comp=Z,0.8nm,0.8s,baz=153,slow=5.4,SNR=4.3							
LPAZ	La Paz	75.35	262	P		P	06 57 57.4	-0.1
BBOO	Buckleboo	78.96	130	P		P	06 58 16.4	-0.4
RAYN	Ar Rayn	79.31	25	P		P	06 58 20.7	+2.0
RAYN				IAmb		IAmb	06 58 21.8	
	comp=Z,4.1nm,1.1s							
STKA	Stephens Creek	82.25	134	P		P	06 58 34.1	-0.3
	comp=Z,1.1nm,0.6s,baz=153,slow=5.7,SNR=5.0							
STKA	Stephens Creek	82.25	134	P		P	06 58 34.2	-0.3
POO	Poona	85.37	51	ex		x	06 58 14.0	
ASAR	Alice Springs	85.50	124	P		P	06 58 50.6	-0.7
	comp=Z,1.2nm,0.6s,baz=206,slow=4.6,SNR=19							
ASAR	Alice Springs	85.50	124	P		P	06 58 50.8	-0.5
WRA	Warramunga Arr	88.81	122	P		P	06 59 06.2	-1.1
	comp=Z,0.5nm,0.6s,baz=206,slow=3.5,SNR=3.2							
WRA	Warramunga Arr	88.81	122	P		P	06 59 06.5	-0.9
ESDC	Sonseca Array	93.99	343	P		P	06 59 32.2	+1.6
	comp=Z,0.2nm,0.6s,baz=189,slow=4.3,SNR=2.8							
ESDC	Sonseca Array	93.99	343	P		P	06 59 31.7	+1.0
SONM	Songino Array	124.67	55	PKP		PKPdf	07 05 09.9	-2.1
	comp=Z,0.6nm,0.7s,baz=191,slow=1.5,SNR=3.5							
PHWY	Pilot Hill	141.20	276	PKPdf		PKPdf	07 05 44.3	+0.8
BW06	Boulder Array	144.53	275			PKPab	07 05 47.0	-0.7
PD31	Pinedale Array	144.53	275			PKPab	07 05 46.8	-1.0
PDAR	Pinedale Array	144.53	275	PKP		PKPab	07 05 47.0	-0.7
	comp=Z,1.7nm,0.6s,baz=132,slow=5.1,SNR=16							
PDAR	Pinedale Array	144.53	275			PKPab	07 05 47.3	-0.4
R11A	Troy Canyon, C	145.56	264			PKPab	07 05 51.8	+0.2
ELK	Elko	146.82	268			PKPbc	07 05 55.2	+0.1
NV11	Mina Array Sit	147.17	262			PKPbc	07 05 55.2	-0.8
NVAR	Mina Array Bea	147.26	262	PKPbc		PKPbc	07 05 55.9	-0.5
	comp=Z,1.7nm,0.7s,baz=142,slow=3.8,SNR=8.7							
NVAR	Mina Array Bea	147.26	262			PKPbc	07 05 56.6	+0.3
G08A	Pilot Rock	151.61	272			PKPbc	07 06 06.5	-0.4
ILAR	Eielson Array	165.74	334	PKPab		PKPab	07 07 17.4	+1.5
	comp=Z,1.4nm,0.8s,baz=20,slow=3.1,SNR=12							
ILAR	Eielson Array	165.74	334			PKPab	07 07 17.3	+1.3

*IDC **01** 07:02:46.0±1.0, 9°.46N×123°.56E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/55, mbtmp3.9/9, MS3.4/5, Ms1 3.4/5, ms1mx2.9/43, Error ellipse: s-maj=63.7km s-min=14.6km az=65.0*
*NEIC **01** 07:02:46.2±2.3, 10°.03N±0°.10×124°.6E±0°.1, h19km±6km, mb4.3/11*
*MAN **01** 07:02:47.5, 9°.75N×123°.61E, h11km, mb5.2, ML4.1, MS4.3*
MAN Intensity III - Argao Cebu.
*ISCJB **01** 07:02:48.2±0.6, 9°.74N±0°.03×123°.66E±0°.05, h30km±5km, mb3.8/9, Error ellipse: s-maj=7.5km s-min=4.5km az=179.1*

ISC 01 07:02:47.5±1.1, 9°.64N±0°.03×123°.76E±0°.04, h17km±8km, n45, σ1§66/51, mb4.1/14, 5C-4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.60	240	⇓eP	Pg	07 02 58.8	-0.6
SNPH				i S	Sg	07 03 07.5	0.0
LLP	Lapu-Lapu	0.70	17	⇑eP	Pb	07 03 00.4	-0.8
LLP				i S	Sb	07 03 10.3	-0.3
DCPH	Dipolog City	1.13	201	⇑eP	Pb	07 03 08.9	+0.3
DCPH				eS	Sg	07 03 24.4	+0.3
CGP	Cagayan de Oro	1.50	142	⇓eP	Pg	07 03 15.2	-1.2
CGP				i S	Sg	07 03 39.6	+3.8
GUIM	Jordan	1.51	310	eP	Pn	07 03 10.2	-3.7
GUIM				eS	Sn	07 03 30.1	-3.1
PAGZ	Pagadian	1.82	192	eP	Pn	07 03 17.9	-0.2
PAGZ				eS	Sb	07 03 43.7	+0.7
PLP	Palo	1.93	38	⇑eP	Pb	07 03 20.7	-1.5
JAP	San Jose, Anti	2.10	302	⇓eP	Pn	07 03 22.9	+1.1
RCP	Roxas	2.15	332	⇑eP	Pn	07 03 22.4	-0.2
RCP				eS	Sn	07 03 49.5	+0.6
CTBH	Cotabato--PC H	2.45	169	⇑eP	Pb	07 03 29.4	-1.8
CTBH				i S	Sb	07 04 01.1	-0.1
BESP	Borongan	2.55	40	eP	Pb	07 03 32.5	-0.3
BESP				eS	Sg	07 04 11.0	+1.5
KCP	Kidapawan	2.93	153	⇓eP	Pb	07 03 36.8	-2.5
KCP				i S	Sb	07 04 16.5	+1.6
DAV	Davao City (W)	3.12	145	Pn	Pn	07 03 33.3	-2.7
TGY	Tagaytay City	5.22	328	LR	LR	07 06 10.5	
	comp=Z,222nm,18.4s,baz=145,slow=39						
KKM	Kota Kinabalu	8.29	245	Pn	Pb	07 04 59.2	-12
SIJI	Sorong	12.84	144	LR	LR	07 11 09.4	
	comp=Z,64nm,19.1s,baz=210,slow=39						
SBUM	Sibu	13.52	239	Pn	P	07 06 09.2	+1.5
JAGI	Jajag, Banyuwa	20.38	208	P	Pn	07 07 27.5	+1.8
GUMO	Guam	21.04	77	LR	LR	07 16 03.2	
	comp=Z,51nm,19.3s,baz=115,slow=38						
MTN	Manton Dam	23.51	162	P	P	07 07 58.8	+2.0
MTN				IAmb	IAmb	07 08 10.3	
	comp=Z,5.6nm,0.9s						
CMAR	Chiang Mai Arr	25.59	293	P	P	07 08 17.1	+1.0
	comp=Z,0.6nm,0.3s,baz=113,slow=6.9,SNR=5.3						
CMAR	Chiang Mai Arr	25.59	293	P	P	07 08 16.0	-0.1
KNRA	Kununurra	25.64	169	P	P	07 08 18.5	+2.1
KNRA				IAmb	IAmb	07 08 21.5	
	comp=Z,11nm,0.8s						
FITZ	Fitzroy Crossi	27.63	176	P	P	07 08 34.2	-0.2
	comp=Z,4.3nm,0.9s,baz=62,slow=1.4,SNR=8.4						
FITZ	Fitzroy Crossi	27.63	176	P	P	07 08 34.7	+0.3
FITZ				IAmb	IAmb	07 08 35.8	
	comp=Z,3.8nm,0.8s						
FITZ				PcP	PcP	07 11 47.3	-4.5
WRA	Warramunga Arr	31.19	161	P	P	07 09 05.6	-0.4
	comp=Z,0.4nm,0.5s,baz=339,slow=9.3,SNR=5.1						
WRA	Warramunga Arr	31.19	161	P	P	07 09 07.0	+1.0
ASAR	Alice Springs	34.56	163	P	P	07 09 36.3	+0.8
	comp=Z,1.1nm,0.5s,baz=341,slow=6.5,SNR=23						
ASAR	Alice Springs	34.56	163	P	P	07 09 35.8	+0.3
SONM	Songino Array	40.80	342	P	P	07 10 32.0	+3.9
	comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=5.6						
BBOO	Buckleboo	43.81	165	P	P	07 10 53.9	+1.2
BBOO				IAmb	IAmb	07 11 12.7	
	comp=Z,10.0nm,1.3s						
STKA	Stephens Creek	44.67	158	P	P	07 10 59.8	+0.3
	comp=Z,1.3nm,0.7s,baz=313,slow=8.7,SNR=6.1						
STKA				LR	LR	07 31 29.2	
	comp=Z,52nm,18.0s,baz=24,slow=39						
STKA	Stephens Creek	44.67	158	P	P	07 10 59.1	-0.5
MK31	Makanchi Array	51.06	324	P	P	07 11 48.3	-0.7
MKAR	Makanchi Array	51.06	324	P	P	07 11 49.2	+0.2
	comp=Z,1.1nm,0.7s,baz=128,slow=8.4,SNR=12						
MKAR				PcP	PcP	07 13 03.8	-1.0
	comp=Z,0.6nm,0.7s,baz=137,slow=4.1,SNR=4.0						
MKAR	Makanchi Array	51.06	324	P	P	07 11 48.5	-0.4
ZAA0	Zalesovo Array	54.02	333	P	P	07 12 10.1	-0.6
ZAA0				IAmb	IAmb	07 12 15.2	
	comp=Z,3.9nm,1.1s						
ZALV	Zalesovo Beam	54.02	333	P	P	07 12 13.8	+3.1
	comp=Z,1.0nm,0.6s,baz=134,slow=6.2,SNR=4.4						
ZALV	Zalesovo Beam	54.02	333	P	P	07 12 09.8	-0.9
KURBB	Kurchatov Arra	55.21	327	P	P	07 12 19.5	+0.1
	comp=Z,0.9nm,0.4s,baz=125,slow=6.6,SNR=6.9						
KURK	Kurchatov	55.21	327	P	P	07 12 18.9	-0.5
KK31	Karatay Array	56.95	316	P	P	07 12 32.4	+0.3
KK31				IAmb	IAmb	07 12 37.2	
	comp=Z,2.3nm,1.1s						
KKAR	Karatay Array	56.95	316	P	P	07 12 31.1	-0.9

ABKAR	Akbulak array	65.75	320	P		P	07 13 31.3	-0.2
FINES	FINESS Array B	85.26	331	LR		LR	07 56 14.4	
	comp=Z,180nm,18.5s,baz=278,slow=38							

IDC 01 07:06:31.2±13.0, 17°.61S×167°.13E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/38, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=228.4km s-min=36.3km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.49	188	Pn	Pn	07 07 40.2	-0.4
	1.6nm,0.3s,baz=97,slow=10,SNR=19						
DZM				Sn	Sn	07 08 33.9	+0.3
	3.5nm,0.3s,baz=145,slow=21,SNR=13						
STKA	Stephens Creek	27.10	234	P	P	07 12 16.9	+0.9
	0.7nm,0.6s,baz=73,slow=11,SNR=2.9						
WRA	Warramunga Arr	31.10	260	P	P	07 12 50.7	-0.9
	0.5nm,0.7s,baz=91,slow=9.1,SNR=4.6						
ASAR	Alice Springs	31.62	253	P	P	07 12 56.0	-0.2
	1.1nm,0.7s,baz=77,slow=8.7,SNR=16						
FITZ	Fitzroy Crossi	39.43	263	P	P	07 14 03.6	+0.2
	2.7nm,0.7s,baz=108,slow=7.4,SNR=10						

*ISCJB **01** 07:20:22.4±1.6, 30°.39S±0°.04×71°.69W±0°.10, h15km±10km, Error ellipse: s-maj=13.9km s-min=6.6km az=6.9*
*SJA **01** 07:20:22.7±0.6, 30°.35S×71°.69W, h38km±11km, ML3.0, MW3.2*
*GUC **01** 07:20:22.1±0.8, 30°.43S×71°.47W, h45km±4km, ML3.5*

ISC 01 07:20:21.2±2.1, 30°.40S±0°.04×71°.7W±0°.1, h7km±12km, n13, σ1§32/19, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.64	40	⇑iP	Pg	07 20 34.0	+0.5
LSCH				eS	Sg	07 20 43.7	+1.9
GO04	Tololo Observa	0.82	74	⇑iP	Pg	07 20 36.8	-0.3
GO04				eS	Sg	07 20 47.0	-0.8
GO04				IAML		07 20 49.3	
	comp=N,11μm,0.3s						
CO02	Combarbal	1.01	143	eP	Pg	07 20 39.4	-1.2
CO02				eS	Sg	07 20 52.1	-1.6
CO02				IAML		07 20 53.2	
	comp=N,4μm,0.5s						
LCO	Las Campanas	1.64	33	eP	Pn	07 20 50.4	-0.4
LCO				eS	Sn	07 21 10.8	-1.5
LCO				IAML		07 21 17.7	
	comp=E,388nm,0.1s						
LCO	Las Campanas	1.64	33	⇑iP	Pn	07 20 50.4	-0.4
LCO				eS	Sn	07 21 10.6	-1.8
ACCO	Cerro Coronel	2.29	95	i P	Pn	07 21 00.8	+1.0
ACCO				eS	Sn	07 21 29.3	+0.8
RTLS	Leoncito	2.50	125	i P	Pn	07 21 03.8	+1.2
RTLS				IAML		07 21 43.8	
	comp=Z,62nm,0.7s						
AMOG	MOGNA	2.83	102	i P	Pn	07 21 07.7	+0.8
PEL	Peldehue	2.87	163	i P	Pn	07 21 09.2	+1.7
RTLL	Cerro Villicun	2.94	109	i P	Pn	07 21 09.1	+0.7
GO03	Copiap	3.08	25	i P	Pn	07 21 11.2	+0.7
RTCV	Cerro Valdivia	3.09	119	i P	Pn	07 21 11.7	+1.2
ASAL	Salagasta	3.29	132	i P	Pn	07 21 14.9	+1.6

*BJI **01** 07:22:49.8±0.0, 35°.76N×80°.73E, h8km, ML4.1/6, Ms3.7/4, Ms7 3.5/2*
*IDC **01** 07:22:50.3±0.8, 35°.81N×81°.25E, h0km, mb3.7/8, mb1 3.9/13, mb1mx3.7/49, mbtmp3.8/13, ML3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/50, Error ellipse: s-maj=31.7km s-min=14.4km az=57.0*
*NNC **01** 07:22:55.3±2.6, 36°.14N×80°.88E, h7km±12km, mb4.1, mpv4.0, Error ellipse: s-maj=22.4km s-min=12.9km az=106.0*

ISC 01 07:22:52.9±0.7, 35°.87N±0°.06×81°.10E±0°.08, h10km, n35, σ2§04/39, mb3.6/9, 11C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	5.45	313	Pn	Pn	07 24 16.7	+2.4
KSH				Sn	Sb	07 25 32.0	-1.8
KSH				smax	smax		
	comp=N,340nm,0.5s						
KSH				smax	smax		
	comp=E,420nm,0.9s						
PDGK	Podgornoye	7.55	351	⇓Pn	Pn	07 24 43.3	+0.3
	comp=E,14nm,0.6s						
PDGK				⇑Sn	Sn	07 26 06.4	-2.3
	comp=E,61nm,0.8s						
PDGK				⇑Lg	Lg	07 26 42.9	
	comp=E,90nm,1.0s						
DANN	Dangsing	7.83	163	eP	Pn	07 24 47.1	-0.1
	comp=E,21nm,0

WRA	**Warramunga Arr**	**74.96**	**129**	P	**P**	**07 34 34.0**	**-0.4**
	comp=E,0.5nm,0.7s,baz=321,slow=5.8,SNR=3.1						
ASAR	**Alice Springs**	**77.45**	**132**	P	**P**	**07 34 47.2**	**-1.4**
	comp=E,0.4nm,0.7s,baz=315,slow=6.1,SNR=5.9						

*BJI **01** 07:29:38.7±0.0, 35°.80N×80°.73E, h6km, ML3.7/5*
*NNC **01** 07:29:43.2±1.5, 36°.22N×81°.05E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=15.9km s-min=10.0km az=113.0
ISC 01 07:29:47.2±3.2, 36°.2N±0°.2×81°.1E±0°.1, h10km, n7, σ1§93/9, 5C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**7.19**	**351**	⇓Pn	**Pn**	**07 31 30.5**	**-2.0**
	5.8nm,0.6s						
PDGK				⇓Sn	**Sn**	**07 32 54.5**	**+0.3**
	24nm,0.9s						
PDGK				⇑Lg	Lg	07 33 31.2	
	19nm,0.6s						
TKM2	**Tokmak 2**	**7.90**	**329**	⇑Pn	**Pn**	**07 31 40.3**	**-2.0**
	1.6nm,0.8s						
TKM2				⇓Pg	**Pb**	**07 32 06.8**	**+2.5**
	5.1nm,1.1s						
TKM2				⇑Lg	Lg	07 33 51.3	
	9.9nm,0.9s						
AAK	**Ala-Archa**	**8.16**	**324**	⇓Pg	**Pb**	**07 32 11.1**	**+2.3**
	4.6nm,0.9s						
AAK				Lg	Lg	07 34 02.5	
	15nm,0.8s						
WMQ	**Urumqi**	**9.12**	**32**	*e*P	**Pn**	**07 31 58.9**	**-0.1**
MAKZ	**Makanchi**	**10.59**	**3**	⇓Pn	Pn	07 32 15.4	-3.6
	1.3nm,0.5s						
MAKZ				⇑Sn	**Sn**	**07 34 16.3**	**-1.3**
	2.5nm,0.8s						
MK31	**Makanchi Array**	**10.59**	**5**	⇑Pn	Pn	07 32 15.7	-3.4
	0.4nm,0.3s,baz=184,slow=12,SNR=24						
MK31				Sn	**Sn**	**07 34 17.1**	**-0.6**
	2.6nm,0.7s,baz=188,slow=24,SNR=5.1						
AB31	**Akbulak array**	**20.16**	**317**	⇓Pn	**P**	**07 34 20.7**	**-0.8**
	0.8nm,0.7s,baz=122,slow=11,SNR=6.2						

*IGQ **01** 07:30:05.0±0.7, 0°N±5°×8°0W±°, h8km, mB5.0, mb5.0, Mjma4.3, ML5.0, MLv4.6, Mw(mB)4.4*
*NEIC **01** 07:30:09.8±2.3, 0°.25N±0°.07×79°.97W±0°.08, h68km±9km, mb4.1/9*
*IDC **01** 07:30:11.8±2.3, 0°.16N×80°.03W, h87km±22km, mb3.5/7, mb1 3.8/11, mb1mx3.5/33, mbtmp4.0/11, MS3.3/5, Ms1 3.3/5, ms1mx2.9/28, Error ellipse: s-maj=22.3km s-min=13.6km az=88.0*
ISC 01 07:30:03.5±1.9, 0°.22N±0°.04×80°.11W±0°.06, h9km±11km, n116, σ1§87/118, mb4.0/9, MS3.4/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASDO	**Santo Domingo**	**1.09**	**116**	P	**Pg**	**07 30 23.1**	**-1.5**
PAC1	**Pacto, Paraso**	**1.32**	**88**	P	**Pn**	**07 30 26.7**	**-1.5**
PAC1				S	**Sb**	**07 30 44.8**	**-0.7**
TERV	**Terraza Guagua**	**1.55**	**105**	P	**Pn**	**07 30 30.7**	**-1.1**
GGPC	**Guagua Pichinc**	**1.56**	**105**	P	**Pn**	**07 30 31.0**	**-0.9**
YANA	**Yana**	**1.57**	**102**	P	**Pn**	**07 30 30.9**	**-1.1**
NINA	**Atacazo Ninahu**	**1.61**	**112**	P	**Pn**	**07 30 31.7**	**-0.9**
PULU	**Pululahua**	**1.62**	**97**	P	**Pn**	**07 30 31.5**	**-1.1**
PULU				S	**Sb**	**07 30 54.8**	**+0.3**
OTAV	**Otavalo**	**1.66**	**89**	S	**Sn**	**07 30 55.2**	**+0.4**
OTAV				P	**Pn**	**07 30 32.0**	**-1.2**
OTAV	**Otavalo**	**1.66**	**89**		**Pn**	**07 30 32.0**	**-1.2**
OTAV				Sn	**Sg**	**07 30 56.5**	**-0.4**
CUSE	**Cuicocha Este**	**1.71**	**87**	P	**Pn**	**07 30 33.0**	**-0.9**
CUIC	**Cuicocha-Domo**	**1.75**	**87**	P	**Pn**	**07 30 33.7**	**-0.7**
CUIC				S	**Sb**	**07 30 58.5**	**+0.3**
CUSW	**Cuicocha Oeste**	**1.76**	**88**	P	**Pn**	**07 30 33.9**	**-0.6**
COTA	**Cotacachi**	**1.77**	**86**	P	**Pn**	**07 30 34.2**	**-0.7**
ACOT	**Cotacachi (Cas**	**1.83**	**88**	P	**Pn**	**07 30 36.0**	**+0.5**
AOTA	**Otavalo**	**1.85**	**89**	P	**Pn**	**07 30 37.1**	**+1.4**
BNAS	**Cotopaxi Volca**	**1.85**	**119**	P	**Pn**	**07 30 36.5**	**+0.6**
URCU	**Urcuqui**	**1.86**	**83**	P	**Pn**	**07 30 35.7**	**-0.3**
BREF	**Cotopaxi Volca**	**1.89**	**118**	P	**Pn**	**07 30 37.3**	**+0.8**
BVC2	**Cotopaxi Volca**	**1.91**	**117**	P	**Pn**	**07 30 37.4**	**+0.7**
VC1	**Cotopaxi 1**	**1.91**	**117**	P	**Pn**	**07 30 37.3**	**+0.6**
IMBA	**Imbabura, San**	**1.91**	**88**	P	**Pn**	**07 30 38.0**	**+1.4**
BTAM	**Cotopaxi Volca**	**1.93**	**117**	P	**Pn**	**07 30 37.7**	**+0.7**
COV1	**Cotopaxi Volc**	**1.97**	**116**	P	**Pn**	**07 30 37.3**	**-0.4**
AIB2	**Ibarra (Univer**	**2.01**	**87**	P	**Pn**	**07 30 39.0**	**+1.2**
YAHU	**Yahuarcocha**	**2.04**	**86**	P	**Pn**	**07 30 39.2**	**+0.8**
ANTI	**Antisana**	**2.06**	**109**	P	**Pn**	**07 30 39.2**	**+0.4**
PIS1	**Pisayambo**	**2.14**	**126**	P	**Pn**	**07 30 41.6**	**+1.7**
BBIL	**Ulba Tungurahu**	**2.32**	**136**	P	**Pn**	**07 30 43.3**	**+1.1**
RUN5	**Runtun**	**2.34**	**134**	P	**Pn**	**07 30 44.9**	**+2.4**
RETU	**Refugio**	**2.35**	**135**	P	**Pn**	**07 30 44.3**	**+1.5**
BRUN	**Tungurahua Vol**	**2.35**	**134**	P	**Pn**	**07 30 44.6**	**+1.9**
BMAS	**Trigal station**	**2.36**	**136**	P	**Pn**	**07 30 44.0**	**+1.1**
BULB	**Ulba Tungurahu**	**2.36**	**134**	P	**Pn**	**07 30 44.5**	**+1.6**
TULM	**Tulcn-Chalpat**	**2.37**	**78**	P	**Pn**	**07 30 44.9**	**+1.9**
BPAT	**Tungurahua Vol**	**2.39**	**136**	P	**Pn**	**07 30 45.2**	**+1.9**
ATUL	**Tulcn**	**2.45**	**77**	P	**Pn**	**07 30 46.0**	**+2.1**
REVS	**Reventador Sur**	**2.51**	**97**	P	**Pn**	**07 30 46.9**	**+2.2**
ARDO	**Archidona, Ten**	**2.60**	**118**	P	**Pn**	**07 30 48.1**	**+2.2**
MORR	**Playas El Morr**	**2.85**	**185**	P	**Pn**	**07 30 50.5**	**+1.3**
CPAS2	**Pasto**	**3.02**	**71**	*e*P	**Pn**	**07 30 54.4**	**+2.5**
CPAS2	**Pasto**	**3.02**	**71**	*e*P	**Pn**	**07 30 54.4**	**+2.5**
BBAC	**Balboa, Cauca**	**3.37**	**58**	*e*P	**Pn**	**07 30 56.0**	**-0.6**
BBAC	**Balboa, Cauca**	**3.37**	**58**	*e*P	**Pn**	**07 30 56.0**	**-0.6**
CRUC	**La Cruz**	**3.43**	**67**	*e*P	**Pn**	**07 30 59.1**	**+1.6**
CRUC	**La Cruz**	**3.43**	**67**	*e*P	**Pn**	**07 30 59.1**	**+1.6**
BOSC	**San Juan Bosco**	**3.72**	**154**	P	**Pn**	**07 31 05.0**	**+3.7**
SOTA	**Rioblanco**	**3.98**	**61**	*e*P	**Pn**	**07 31 06.1**	**+0.9**
SOTA	**Rioblanco**	**3.98**	**61**	*e*P	**Pn**	**07 31 06.1**	**+0.9**
PCON	**Cinco Dias**	**4.26**	**61**	*e*P	**Pn**	**07 31 10.2**	**+1.0**
PCON	**Cinco Dias**	**4.26**	**61**	*e*P	**Pn**	**07 31 10.2**	**+1.0**
FLOC	**Florencia**	**4.65**	**73**	*e*P	**Pn**	**07 31 15.4**	**+1.3**
FLOC	**Florencia**	**4.65**	**73**	*e*P	**Pn**	**07 31 15.4**	**+1.3**
ZUMB	**Zumba**	**5.14**	**169**	P	**Pn**	**07 31 24.7**	**+3.8**
BETC	**Betania**	**5.26**	**62**	*e*P	**Pn**	**07 31 23.9**	**+1.4**
BETC	**Betania**	**5.26**	**62**	*e*P	**Pn**	**07 31 23.9**	**+1.4**
YOTC	**Yotoco, Valle**	**5.30**	**45**	*e*P	**Pn**	**07 31 20.6**	**-2.5**
YOTC	**Yotoco, Valle**	**5.30**	**45**	*e*P	**Pn**	**07 31 20.6**	**-2.5**
PTLC	**Puerto Leguiza**	**5.31**	**91**	*e*P	**Pn**	**07 31 24.9**	**+1.8**
PTLC	**Puerto Leguiza**	**5.31**	**91**	*e*P	**Pn**	**07 31 24.9**	**+1.8**
PLMC	**San Jos del P**	**6.02**	**39**	*e*P	**Pn**	**07 31 32.6**	**-0.3**
PLMC	**San Jos del P**	**6.02**	**39**	*e*P	**Pn**	**07 31 32.6**	**-0.3**
ORTC	**Ortega, Tolima**	**6.08**	**53**	*e*P	**Pn**	**07 31 35.7**	**+1.9**
ORTC	**Ortega, Tolima**	**6.08**	**53**	*e*P	**Pn**	**07 31 35.7**	**+1.9**
TOLC	**Tolima**	**6.45**	**48**	*e*P	**Pn**	**07 31 41.1**	**+2.0**
TOLC	**Tolima**	**6.45**	**48**	*e*P	**Pn**	**07 31 41.1**	**+2.0**
MACC	**Macarena, Meta**	**6.54**	**73**	*e*P	**Pn**	**07 31 41.1**	**+1.1**
MACC	**Macarena, Meta**	**6.54**	**73**	*e*P	**Pn**	**07 31 41.1**	**+1.1**
CBOC	**Ciudad Bolivar**	**6.94**	**36**	*e*P	**Pn**	**07 31 46.9**	**+1.3**
CBOC	**Ciudad Bolivar**	**6.94**	**36**	*e*P	**Pn**	**07 31 46.9**	**+1.3**
ROSC	**El Rosal**	**7.38**	**51**	P	**Pn**	**07 31 56.1**	**+4.2**
	5.2nm,0.3s,baz=180,slow=12,SNR=15						
ROSC				S	**Sn**	**07 33 21.4**	**+5.4**
	0.8nm,0.3s,baz=0.0,slow=20,SNR=2.0						
ROSC	**El Rosal**	**7.38**	**51**		**Pn**	**07 31 55.2**	**+3.3**
NORC	**Norcasia**	**7.45**	**44**	*e*P	**Pn**	**07 31 55.7**	**+3.2**
NORC	**Norcasia**	**7.45**	**44**	*e*P	**Pn**	**07 31 55.7**	**+3.2**
VILC	**Villavicencio,**	**7.48**	**59**	*e*P	**Pn**	**07 31 55.5**	**+2.5**
VILC	**Villavicencio,**	**7.48**	**59**	*e*P	**Pn**	**07 31 55.5**	**+2.5**
HELC	**Santa Helena**	**7.49**	**38**	*e*P	Pn	07 31 59.0	+5.7
HELC	**Santa Helena**	**7.49**	**38**	*e*P	Pn	07 31 59.0	+5.7
ATAH	**Atahualpa**	**7.50**	**167**	P	**Pn**	**07 31 57.8**	**+4.2**
	0.8nm,0.3s,baz=344,slow=5.2,SNR=6.4						
ATAH				S	**Sn**	**07 33 22.8**	**+3.8**
	1.5nm,0.3s,baz=72,slow=9.6,SNR=2.7						
ATAH				LR	LR	07 34 50.8	
	comp=Z,85nm,20.4s,baz=350,slow=38						
GUVC	**San Jose del G**	**7.83**	**73**	*e*P	**Pn**	**07 32 00.6**	**+2.9**
GUVC	**San Jose del G**	**7.83**	**73**	*e*P	**Pn**	**07 32 00.6**	**+2.9**
SPBC	**San Pablo de B**	**8.09**	**48**	*e*P	**Pn**	**07 32 01.4**	**+0.1**
SPBC	**San Pablo de B**	**8.09**	**48**	*e*P	**Pn**	**07 32 01.4**	**+0.1**
PTBC	**PUERTO BERRIO,**	**8.44**	**42**	*e*P	**Pn**	**07 32 06.0**	**-0.1**
PTBC	**PUERTO BERRIO,**	**8.44**	**42**	*e*P	**Pn**	**07 32 06.0**	**-0.1**
ZARC	**Zaragoza, Cauc**	**8.92**	**36**	*e*P	**Pn**	**07 32 13.5**	**+0.8**
ZARC	**Zaragoza, Cauc**	**8.92**	**36**	*e*P	**Pn**	**07 32 13.5**	**+0.8**
RUSC	**La Rusia**	**8.99**	**51**	*e*P	**Pn**	**07 32 16.9**	**+2.7**
RUSC	**La Rusia**	**8.99**	**51**	*e*P	**Pn**	**07 32 16.9**	**+2.7**
JTS	**Las Juntas de**	**11.11**	**334**	Pn	**Pn**	**07 32 46.3**	**+3.6**
NNA	**Nana**	**12.55**	**165**	P	**Pn**	**07 33 04.9**	**+2.4**
	0.9nm,0.3s,baz=225,slow=2.9,SNR=3.4						
NNA				S	**Sn**	**07 35 22.7**	**+0.1**
	2.3nm,0.3s,baz=184,slow=19,SNR=6.2						
NNA	**Nana**	**12.55**	**165**		**Pn**	**07 33 05.1**	**+2.6**
NNA				Sn	**Sn**	**07 35 22.1**	**-0.5**
PCRV	**Puerto La Cruz**	**18.29**	**57**	P	**Pn**	**07 34 18.1**	**+0.3**
	0.3nm,0.3s,baz=76,slow=8.3,SNR=2.8						
PLCV	**Puerto La Cruz**	**18.32**	**57**	P	**Pn**	**07 34 18.1**	**-0.1**
SAML	**Samuel**	**19.16**	**119**	P	**P**	**07 34 26.9**	**-0.6**
SAML				IAmb	IAmb	07 34 35.1	
	comp=Z,3.7nm,0.9s						
PTGA	**Pitinga**	**20.16**	**93**	LR	LR	07 42 48.4	
	comp=Z,162nm,18.4s,baz=310,slow=38						
LPAZ	**La Paz**	**20.22**	**145**	P	**P**	**07 34 41.4**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=338,slow=12,SNR=4.2						
LPAZ	**La Paz**	**20.22**	**145**	P	**P**	**07 34 41.6**	**+2.0**
BANI	**BANI**	**20.44**	**27**	P	**P**	**07 34 40.1**	**-1.4**
TEIG	**Tepich**	**21.43**	**339**	P	**P**	**07 34 54.3**	**+2.3**
	comp=Z,4.9nm,0.8s,baz=141,slow=17,SNR=2.4						
TOSP	**Speyside**	**22.34**	**60**	P	**P**	**07 34 59.4**	**-2.6**
PB11	**IPOC Station P**	**22.34**	**153**	P	**P**	**07 35 02.2**	**+0.2**
PB11				IAmb	IAmb	07 35 06.0	
	comp=Z,8.5nm,1.0s						
SIV	**San Ignacio**	**24.75**	**131**	P	**P**	**07 35 24.2**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=227,slow=19,SNR=3.0						
LVC	**Limon Verde**	**25.18**	**155**	LR	LR	07 46 14.8	
	comp=Z,36nm,18.1s,baz=290,slow=38						
LVC	**Limon Verde**	**25.18**	**155**	P	P	07 35 23.8	-6.0
LVC				IAmb	IAmb	07 35 28.2	
	comp=Z,6.8nm,0.8s						
MDP	**Montagnes des**	**27.85**	**80**	LR	LR	07 47 16.3	
	comp=Z,87nm,20.7s,baz=264,slow=37						
CPUP	**Villa Florida**	**34.34**	**142**	LR	LR	07 54 20.1	
	comp=Z,72nm,18.6s,baz=31,slow=42						
CPCT	**Cooper Cave**	**35.29**	**354**		**P**	**07 36 57.7**	**-1.2**
CPCT				IAmb	IAmb	07 37 05.3	
	comp=Z,3.9nm,1.1s						
NVAR	**Mina Array Bea**	**51.71**	**322**	P	**P**	**07 39 11.3**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=134,slow=10,SNR=2.9						
INK	**Inuvik**	**76.99**	**342**	P	**P**	**07 41 54.8**	**-1.5**
	comp=Z,2.8nm,1.1s,baz=126,slow=8.7,SNR=3.5						
INK	**Inuvik**	**76.99**	**342**	P	**P**	**07 41 55.4**	**-0.9**
INK				IAmb	IAmb	07 42 04.0	
	comp=Z,2.5nm,1.1s						
ESDC	**Sonseca Array**	**79.21**	**50**	P	**P**	**07 42 08.0**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=259,slow=6.4,SNR=6.4						
ESDC	**Sonseca Array**	**79.21**	**50**	P	**P**	**07 42 07.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**81.97**	**77**	P	**P**	**07 42 22.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=279,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**81.97**	**77**	P	**P**	**07 42 22.2**	**-2.3**
ASAR	**Alice Springs**	**139.60**	**232**	PKP	**PKPdf**	**07 49 30.1**	**-2.6**
	comp=Z,0.4nm,0.9s,baz=108,slow=3.0,SNR=4.2						
WRA	**Warramunga Arr**	**141.00**	**238**	PKP	**PKPdf**	**07 49 34.1**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=117,slow=2.5,SNR=2.4						

*IDC **01** 07:30:31.4±1.0, 51°.20N×178°.89E, h0km, mb3.5/8, mb1 3.8/8, mb1mx3.6/39, mbtmp3.5/8, MS3.5/2, Ms1 3.5/2, ms1mx2.9/37, Error ellipse: s-maj=41.0km s-min=21.8km az=139.0*
*ISCJB **01** 07:30:35.9±0.8, 50°.8N±0°.1×179°.22E±0°.07, h41km, mb3.4/8, MS4.4/1, Error ellipse: s-maj=14.5km s-min=5.9km az=174.6*
*NEIC **01** 07:30:35.4±1.4, 50°.6N±0°.3×179°.20E±0°.09, h28km±22km*
*AEIC **01** 07:30:37.0±2.5, 51°.0N±0°.2×179°.27E±0°.10, h115km±9km, ML3.2*
ISC 01 07:30:37.3±1.0, 50°.8N±0°.2×179°.22E±0°.06, h41km, n22, σ1§67/20, mb3.5/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFP	**Tanaga Falls P**	**2.05**	**57**		**Pn**	**07 31 10.3**	**+1.0**
TAFP					**Sn**	**07 31 36.5**	**+2.7**
KIMD	**Kanaga Island**	**2.41**	**66**		**Pn**	**07 31 15.5**	**+1.2**
KIWB	**Kanaga Island**	**2.50**	**64**	Pn	**Pn**	**07 31 14.8**	**-0.6**
ADK	**Adak**	**2.78**	**66**	Pn	**Pn**	**07 31 18.5**	**-0.7**
ADK					**Sn**	**07 31 52.8**	**+1.4**
GSMY	**Great Sitkin M**	**3.20**	**66**		**Pn**	**07 31 25.7**	**+0.7**
SMY	**Shemya**	**3.71**	**303**		**Pn**	**07 31 32.2**	**+0.2**
SMY					**Sn**	**07 32 17.4**	**+3.0**
ATKA	**Atka Island**	**4.34**	**69**		**Pn**	**07 31 41.4**	**+0.8**
ATKA	**Atka Island**	**4.34**	**69**		**Sn**	**07 32 31.2**	**+1.3**
SPIA	**Saint Paul Isl**	**8.88**	**40**		**Pn**	**07 32 44.2**	**+1.4**
PETK	**Petropavlovsk-**	**13.46**	**288**	LR	LR	07 39 05.9	
	comp=Z,34nm,19.8s,baz=53,slow=39						
ILAR	**Eielson Array**	**22.45**	**39**	P	**P**	**07 35 30.3**	**-2.1**
	0.2nm,0.7s,baz=255,slow=10,SNR=4.3						
INK	**Inuvik**	**28.62**	**35**	P	**P**	**07 36 26.6**	**-2.7**
	1.0nm,0.8s,baz=247,slow=7.7,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**32.53**	**202**	T	T	08 12 11.9	
	baz=17						
H11N3	**WAKE ISLAND Hy**	**32.54**	**202**	T	T	08 12 01.2	
	baz=17,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**32.55**	**202**	T	T	08 12 09.9	
	baz=17						
YKA	**Yellowknife Ar**	**36.51**	**46**	P	**P**	**07 37 37.1**	**-1.1**
	0.4nm,0.6s,baz=282,slow=7.8,SNR=4.4						
PDAR	**Pinedale Array**	**47.67**	**71**	P	**P**	**07 39 10.5**	**+0.8**
	0.6nm,0.5s,baz=326,slow=2.7,SNR=8.7						
TXAR	**Lajitas Array**	**59.98**	**79**	P	**P**	**07 40 40.1**	**+0.5**
	0.1nm,0.6s,baz=282,slow=4.5,SNR=3.4						
PMG	**Port Moresby**	**66.12**	**215**	LR	LR	08 06 13.0	
	comp=Z,235nm,20.2s,baz=246,slow=32						
AKASG	**Malin Array Be**	**75.67**	**341**	P	**P**	**07 42 15.7**	**-2.1**
	0.2nm,0.3s,baz=25,slow=7.5,SNR=2.8						
WRA	**Warramunga Arr**	**80.76**	**222**	P	**P**	**07 42 47.0**	**+0.7**
	0.4nm,0.6s,baz=29,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**84.25**	**221**	P	**P**	**07 43 05.8**	**+1.4**
	0.2nm,0.7s,baz=29,slow=6.3,SNR=4.3						

IDC 01 07:32:28.1±10.0, 36°.99S×52°.65E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/25, mbtmp3.5/2, Error ellipse: s-maj=589.0km s-min=56.7km az=37.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**49.05**	**107**	T	T	08 33 40.4	
	baz=249,slow=75,SNR=6.7						
H01W3	**Cape Leeuwin H**	**49.06**	**107**	T	T	08 33 40.6	
	baz=249,slow=75,SNR=5.9						
H01W1	**Cape Leeuwin H**	**49.07**	**107**	T	T	08 33 41.5	
	baz=249,slow=75,SNR=6.3						
ASAR	**Alice Springs**	**69.47**	**105**	P	P	07 43 38.7	+0.1
	0.3nm,0.4s,baz=230,slow=6.2,SNR=8.8						
WRA	**Warramunga Arr**	**71.82**	**102**	P	P	07 43 52.9	0.0
	0.2nm,0.4s,baz=232,slow=5.4,SNR=2.1						
ILAR	**Eielson Array**	**149.85**	**17**	PKPbc	PKPbc	07 52 18.7	-0.5
	1.3nm,0.7s,baz=320,slow=3.5,SNR=14						

*ISCJB **01** 07:33:34.6±1.6, 30°.37S±0°.04×71°.7W±0°.1, h15km±10km, Error ellipse: s-maj=14.8km s-min=5.8km az=11.6*
*GUC **01** 07:33:34.6±0.9, 30°.38S×71°.42W, h53km±5km, ML3.5*
*SJA **01** 07:33:36.8±0.9, 30°.33S×71°.55W, h66km±23km, ML3.1, MW3.2*
ISC 01 07:33:34.3±1.9, 30°.36S±0°.05×71°.69W±0°.10, h16km±11km, n15, σ1§59/21, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.59**	**41**	⇑*i*P	**Pg**	**07 33 46.8**	**+0.9**
LSCH				*i*S	**Sg**	**07 33 55.0**	**+1.2**
GO04	**Tololo Observa**	**0.79**	**77**	⇑*i*P	**Pg**	**07 33 48.8**	**-1.0**
GO04				*e*S	**Sg**	**07 33 58.8**	**-1.4**
GO04				IAML		07 34 00.4	
	comp=N,5μm,0.2s						
CO02	**Combarbal**	**1.03**	**145**	⇓*e*P	**Pb**	**07 33 52.7**	**-1.1**
CO02				*e*S	**Sb**	**07 34 05.7**	**-1.5**
CO02				IAML		07 34 07.6	
	comp=N,5μm,0.2s						
LCO	**Las Campanas**	**1.59**	**33**	*i*P	**Pn**	**07 34 01.8**	**-0.2**
LCO				*e*S	**Sn**	**07 34 21.4**	**-0.9**
LCO				IAML		07 34 28.0	
	comp=N,535nm,0.3s						
AROD	**Rodeo**	**1.93**	**85**	*i*P	**Pn**	**07 34 07.6**	**+1.0**
AROD				⇓*e*S	**Sn**	**07 34 31.0**	**+0.3**
ACCO	**Cerro Coronel**	**2.28**	**96**	*i*P	**Pn**	**07 34 13.5**	**+2.0**
RTLS	**Leoncito**	**2.51**	**126**	*i*P	**Pn**	**07 34 16.2**	**+1.6**
RTLS				IAML		07 34 56.4	
	comp=Z,88nm,0.4s						
ROCH	**El Roble**	**2.67**	**168**	⇑*i*P	**Pn**	**07 34 17.0**	**+0.1**
ROCH				*e*S	**Sn**	**07 34 48.6**	**-0.3**
ROCH				IAML		07 34 57.6	
	comp=N,232nm,0.5s						
AMOG	**MOGNA**	**2.81**	**103**	*i*P	**Pn**	**07 34 20.2**	**+1.6**
ZON	**Zonda**	**2.84**	**115**	*i*P	**Pn**	**07 34 21.0**	**+2.0**
RTLL	**Cerro Villicun**	**2.93**	**110**	*i*P	**Pn**	**07 34 21.4**	**+1.1**
RTCV	**Cerro Valdivia**	**3.09**	**120**	*i*P	**Pn**	**07 34 24.1**	**+1.7**
ASAL	**Salagasta**	**3.30**	**133**	*i*P	**Pn**	**07 34 27.9**	**+2.6**
AAGR	**Agrelo**	**3.65**	**139**	*i*P	**Pn**	**07 34 32.5**	**+2.3**
RFA	**San Rafael**	**5.17**	**149**	*i*P	**Pn**	**07 34 52.9**	**+1.8**

*KRNET **01** 07:44:23.8±0.1, 42°.38N×80°.18E, h18km, mb3.4*
*NNC **01** 07:44:23.6±1.0, 42°.39N×80°.19E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=6.4km s-min=4.9km az=116.0
*SOME **01** 07:44:24.0, 42°.38N×80°.25E, h25km*
ISC 01 07:44:23.5±2.0, 42°.48N±0°.05×80°.25E±0°.06, h1km±11km, n57, σ1§03/100, 23C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.89**	**320**	P	**Pg**	**07 44 39.6**	**-1.0**
	15nm,0.2s						
SHLS				S	**Sg**	**07 44 51.2**	**-0.9**
	108nm,0.3s						
SHLS	**Shalkode**	**0.89**	**320**	*e*P	**Pg**	**07 44 39.6**	**-1.0**
SHLS	baz=44			*e*S	**Sg**	**07 44 51.2**	**-0.9**
SHLS	**Shalkode**	**0.89**	**320**	*e*P	**Pg**	**07 44 39.6**	**-1.0**
	15nm,0.2s						
SHLS				*e*S	**Sg**	**07 44 51.2**	**-0.9**
	108nm,0.3s						
PDGK	**Podgornoye**	**1.01**	**327**	P	**Pn**	**07 44 44.1**	**-1.0**
	4.7nm,0.1s						
PDGK				S	**Sn**	**07 44 58.9**	**-1.2**
	16nm,0.3s						
PDGK	**Podgornoye**	**1.01**	**327**	⇓P	**Pn**	**07 44 44.1**	**-1.0**
	2.2nm,0.3s						
PDGK				⇓S	**Sn**	**07 44 58.9**	**-1.2**
	26nm,0.5s						
UZB	**Uzynbulak**	**1.12**	**307**	P	**Pg**	**07 44 45.4**	**+0.4**
	10nm,0.1s						
UZB				S	**Sn**	**07 45 01.4**	**-1.3**
	66nm,0.2s						
UZB	**Uzynbulak**	**1.12**	**307**	*e*P	**Pg**	**07 44 45.4**	**+0.4**
	baz=12						
UZB				*e*S	**Sn**	**07 45 01.0**	**-1.7**
	baz=12						
UZB	**Uzynbulak**	**1.12**	**307**	*e*P	**Pg**	**07 44 45.4**	**+0.4**
	6.1nm,0.2s						
UZB				*e*S	**Sn**	**07 45 01.0**	**-1.7**
	66nm,0.2s						
PRZ	**Przheval'sk**	**1.36**	**271**	⇑*i*P	**Pn**	**07 44 48.6**	**-1.3**
	baz=75						
PRZ				⇑*i*S	**Sg**	**07 45 08.2**	**+0.8**
	baz=75						
SATY	**Saty**	**1.47**	**294**	P	**Pg**	**07 44 52.1**	**+0.3**
	29nm,0.2s						
SATY				S	**Sg**	**07 45 12.7**	**+1.9**
	114nm,0.1s						
SATY	**Saty**	**1.47**	**294**	*e*P	**Pg**	**07 44 52.1**	**+0.3**
	29nm,0.2s						
SATY				*e*S	**Sg**	**07 45 12.4**	**+1.6**
	114nm,0.1s						
ZHN	**Zhinishke**	**1.50**	**298**	P	**Pg**	**07 44 52.3**	**+0.1**
	22nm,0.2s						
ZHN				S	**

4.3nm,0.2s
CHKK Lg Lg 07 45 50.5
42nm,0.2s
CHKK Chushkaly 2.75 301 ⇑*iP* **Pb 07 45 14.1 +0.5**
baz=3.0
CHKK ⇑*iS* **Sg 07 45 50.5 -1.4**
baz=3.0
CHKK Chushkaly 2.75 301 ⇑*iP* **Pb 07 45 14.1 +0.5**
4.4nm,0.2s
CHKK ⇑*iS* **Sg 07 45 50.5 -1.4**
42nm,0.2s
KAPS Kapalarasan 2.88 347 Pg **Pb 07 45 15.7 0.0**
2.6nm,0.2s
KAPS Lg Lg 07 45 52.9
13nm,0.2s
KAPS Kapalarasan 2.88 347 ⇑*eP* **Pb 07 45 15.7 0.0**
2.6nm,0.3s
KAPS *eS* **Sb 07 45 52.9 +1.4**
13nm,0.2s
MTBS Maitube 2.88 284 Pg **Pb 07 45 14.3 -1.5**
7.6nm,0.1s
MTBS Lg Lg 07 45 50.7
16nm,0.2s
MTBS Maitube 2.88 284 *eP* **Pb 07 45 14.3 -1.5**
baz=86
MTBS *eS* **Sb 07 45 50.8 -0.9**
baz=86
MTBS Maitube 2.88 284 *eP* **Pb 07 45 14.3 -1.5**
7.6nm,0.1s
MTBS *eS* **Sb 07 45 50.7 -0.9**
16nm,0.2s
KTBS Karatobe 2.89 296 Pg **Pb 07 45 16.1 +0.2**
4.2nm,0.1s
KTBS Lg Lg 07 45 53.7
84nm,0.3s
KTBS Karatobe 2.89 296 *eP* **Pb 07 45 16.1 +0.2**
baz=98
KTBS *eS* **Sb 07 45 53.7 +2.0**
baz=98
KTBS Karatobe 2.89 296 *eP* **Pb 07 45 16.1 +0.2**
4.2nm,0.1s
KTBS *eS* **Sb 07 45 53.7 +2.0**
84nm,0.3s
ULHL Ulahol 2.98 267 ⇑*eP* **Pn 07 45 12.7 +0.6**
baz=69
ULHL ⇑*iS* **Sn 07 45 49.9 +1.3**
baz=69
BOOM Boomskoye usch 3.18 272 ⇑*iP* **Pn 07 45 15.1 +0.2**
baz=73
BOOM ⇑*iS* **Sn 07 45 54.3 +0.6**
baz=73
NRN Naryn 3.33 253 ⇑*iP* **Pn 07 45 17.0 -0.1**
baz=54
NRN ⇑*iS* **Sn 07 45 58.0 +0.5**
baz=54
DGS Degeres 3.38 285 Pg **Pb 07 45 24.5 +0.2**
4.8nm,0.6s
DGS Lg Lg 07 46 08.1
17nm,0.2s
DGS Degeres 3.38 285 *eP* **Pb 07 45 24.5 +0.2**
baz=86
DGS *eS* **Sb 07 46 08.1 +2.3**
baz=86
DGS Degeres 3.38 285 *eP* **Pb 07 45 24.5 +0.2**
4.8nm,0.6s
DGS *eS* **Sb 07 46 08.1 +2.3**
17nm,0.2s
TKM2 Tokmak 2 3.46 279 ⇑Pg **Pb 07 45 23.8 -1.9**
2.1nm,0.6s
TKM2 ⇓Lg Lg 07 46 11.5
8.2nm,0.5s
AAK Ala-Archa 4.25 274 ⇑Pg **Pb 07 45 40.9 +1.7**
2.0nm,0.6s
AAK ⇓Lg Lg 07 46 37.4
7.9nm,0.7s
MK31 Makanchi Array 4.55 18 ⇑Pn **Pn 07 45 35.5 +1.9**
0.2nm,0.2s,baz=252,slow=5.1,SNR=22
MK31 Lg Lg 07 46 52.1
0.1nm,0.2s,baz=195,slow=24,SNR=6.6

NNC 01 07:52:20.4±1.6, 36°.25N×81°.35E, h0km, mb3.9, mpv3.6, 3C-3D, Error ellipse: s-maj=14.0km s-min=10.3km az=54.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**7.21**	**349**	⇑Sn	Sn	07 55 31.6	+1.7
PDGK	17nm,0.9s			⇓Lg	Lg	07 56 07.6	
TKM2	**Tokmak 2**	**8.01**	**328**	⇑Lg	Lg	07 56 34.3	
	9.2nm,1.1s						
AAK	**Ala-Archa**	**8.29**	**322**	Pg	Pb	07 54 51.8	+6.8
	2.3nm,0.7s						
AAK				Lg	Lg	07 56 43.2	
	14nm,1.4s						
MK31	**Makanchi Array**	**10.56**	**4**	⇑Pn	Pn	07 54 52.9	0.0
	0.8nm,0.6s,baz=181,slow=12,SNR=11						
MK31				Sn	Sn	07 56 53.3	+1.4
	1.3nm,0.8s,baz=180,slow=25,SNR=4.5						
MAKZ	**Makanchi**	**10.56**	**2**	⇓Pn	Pn	07 54 52.7	-0.2
	3.3nm,1.1s						
MAKZ				⇓Sn	Sn	07 56 53.3	+1.4
	1.9nm,0.8s						

*IDC **01** 07:55:24.4±1.3, 52°.91S×18°.91E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/41, mbtmp4.0/3, MS3.3/2, Ms1 3.2/2, ms1mx2.9/26, Error ellipse: s-maj=70.1km s-min=29.8km az=88.0*

ISC 01 07:55:24.2±1.7, 52°.5S±0°.3×19°.2E±0°.3, h10km, n11, σ1§05/8, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.13**	**4**	P	Pn	08 00 06.5	+6.3
	7.5nm,0.9s,baz=183,slow=15,SNR=3.5						
SNAA	**Sanae**	**21.58**	**199**	P	**P**	**08 00 12.1**	**-1.5**
VNA2	**Neumayer--Watz**	**22.02**	**203**	P	**P**	**08 00 18.7**	**+0.4**
	baz=72,slow=10						
VNA1	**Neumayer--Stat**	**22.05**	**204**	P	**P**	**08 00 19.9**	**+1.3**
VNA3	**Neumayer Olymp**	**22.79**	**204**	P	**P**	**08 00 27.4**	**+0.9**
MAW	**Mawson**	**25.80**	**143**	LR	LR	08 08 47.8	
	comp=Z,26nm,18.9s,baz=222,slow=31						
TSUM	**Tsumeb**	**33.24**	**357**	LR	LR	08 12 43.1	
	comp=Z,93nm,18.7s,baz=322,slow=31						
QSPA	**South Pole Qui**	**37.74**	**180**	P	**P**	**08 02 39.5**	**-0.4**
	2.0nm,0.9s,baz=249,slow=4.8,SNR=7.7						
ASAR	**Alice Springs**	**85.33**	**123**	P	**P**	**08 08 01.9**	**+0.4**
	0.5nm,0.7s,baz=207,slow=5.5,SNR=4.8						
PDAR	**Pinedale Array**	**144.81**	**275**	PKP	**PKPab**	**08 14 59.4**	**-0.4**
	0.3nm,0.5s,baz=134,slow=5.2,SNR=5.1						
NVAR	**Mina Array Bea**	**147.55**	**261**	PKPbc	**PKPbc**	**08 15 08.2**	**-0.1**
	0.4nm,0.7s,baz=134,slow=2.6,SNR=4.0						

*IDC **01** 07:58:40.7±0.9, 6°.81N×126°.41E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/50, mbtmp4.0/9, MS3.3/1, Ms1 3.5/1, ms1mx2.5/44, Error ellipse: s-maj=62.1km s-min=14.8km az=66.0*
*ISCJB **01** 07:58:44.1±0.4, 6°.80N±0°.03×126°.49E±0°.05, h35km, mb3.9/9, MS3.8/2, Error ellipse: s-maj=7.0km s-min=4.5km az=157.7*
*NEIC **01** 07:58:45.2±1.7, 6°.9N±0°.1×126°.56E±0°.10, h35km±4km, mb4.2/15*
*DJA **01** 07:58:48.0±0.8, 7°.N±5°.×12°.6E±°., h99km±7km, M4.6/8, mB4.6/1, mb4.5/7, MLv4.7/8, Mw(mB)3.8/1*
*MAN **01** 07:58:48.4, 6°.65N×126°.16E, h44km, mb4.5, ML3.3, MS3.2*

ISC 01 07:58:46.9±0.6, 6.75N±0°.05×126°.33E±0°.07, h35km, n44, σ1§91/54, mb4.0/15, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.81**	**293**		**Pn**	**07 59 04.0**	**+2.1**
DAV				Sn	**Sn**	**07 59 17.3**	**+4.6**
DDMP	**Don Marcelino,**	**0.89**	**224**	*eP*	**Pn**	**07 59 03.2**	**+0.4**
DDMP				*eS*	**Sn**	**07 59 14.2**	**-0.2**
CTBH	**Cotabato--PC H**	**2.12**	**283**	*eP*	**Pn**	**07 59 20.0**	**+0.2**
CTBH				*i S*	**Sn**	**07 59 46.6**	**+1.6**
CGP	**Cagayan de Oro**	**2.35**	**316**	⇓*eP*	**Pn**	**07 59 25.6**	**+2.6**
PAGZ	**Pagadian**	**3.12**	**291**	*eP*	**Pn**	**07 59 34.6**	**+0.9**
PAGZ				*eS*	**Sn**	**08 00 13.1**	**+3.3**
SGSI	**Sangihe**	**3.14**	**195**	P	**Pn**	**07 59 35.9**	**+2.0**
SGSI				S	**Sn**	**08 00 11.3**	**+1.1**

BESP	**Borongan**	**4.90**	**350**	*eP*	**Pn**	**08 00 02.2**	**+4.1**
BESP				*eS*	**Sn**	**08 00 52.9**	**-0.9**
TNTI	**Ternate**	**6.02**	**170**	P	**Pn**	**08 00 18.0**	**+4.5**
	81nm,1.0s,0.3nm						
TNTI	**Ternate**	**6.02**	**170**	Pn	**Pn**	**08 00 17.7**	**+4.2**
KMSI	**Cibinong**	**6.56**	**201**	P	**Pn**	**08 00 19.5**	**-1.4**
	184nm,0.4s,1.8nm						
MRSI	**Marisa**	**7.61**	**215**	P	**Pn**	**08 00 35.2**	**-0.2**
SANI	**Sanana**	**8.74**	**182**	P	**Pn**	**08 00 52.2**	**+1.3**
FAKI	**Fak Fak**	**11.27**	**148**	Pn	Pn	08 01 30.9	+5.3
TTSI	**Tana Toraja**	**11.70**	**214**	P	Pn	08 01 20.8	-11
SBUM	**Sibu**	**14.70**	**254**	P	**P**	**08 02 19.4**	**+1.4**
MTN	**Manton Dam**	**20.04**	**166**	P	**P**	**08 03 18.1**	**+1.1**
MTN				IAmb	IAmb	08 03 22.5	
	comp=Z,7.4nm,0.5s						
KNRA	**Kununurra**	**22.41**	**174**	P	**P**	**08 03 43.6**	**+1.0**
MYKOM	**Kota Tinggi**	**22.95**	**259**		**P**	**08 03 48.9**	**+0.6**
MYKOM				IAmb	IAmb	08 03 59.2	
	comp=Z,7.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.70**	**182**	P	**P**	**08 04 04.3**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=4.7,slow=9.2,SNR=7.8						
FITZ	**Fitzroy Crossi**	**24.70**	**182**	P	**P**	**08 04 04.3**	**-0.5**
FITZ				IAmb	IAmb	08 04 07.9	
	comp=Z,4.8nm,1.1s						
WHN	**Wuhan**	**26.21**	**336**	P	**P**	**08 04 17.0**	**-1.5**
WRA	**Warramunga Arr**	**27.67**	**164**	P	**P**	**08 04 30.6**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=341,slow=10,SNR=6.7						
WRA				PcP	**PcP**	**08 07 47.2**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=342,slow=2.3,SNR=3.7						
WRA	**Warramunga Arr**	**27.67**	**164**	P	**P**	**08 04 30.8**	**-0.9**
WB2	**Warramunga Arr**	**27.67**	**164**	P	**P**	**08 04 30.7**	**-1.0**
PSA00	**Pilbara Seismi**	**28.85**	**193**	P	**P**	**08 04 42.3**	**+0.1**
PSA00				IAmb	IAmb	08 04 47.0	
	comp=Z,4.1nm,0.8s						
KMI	**Kunming**	**29.04**	**312**	P	**P**	**08 04 41.8**	**-2.3**
CMAR	**Chiang Mai Arr**	**29.10**	**296**	P	**P**	**08 04 44.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=118,slow=7.2,SNR=3.7						
CMAR				LR	LR	08 16 25.2	
	comp=Z,52nm,18.2s,baz=178,slow=36						
CMAR	**Chiang Mai Arr**	**29.10**	**296**	P	**P**	**08 04 44.6**	**0.0**
CHTO	**Chiang Mai**	**29.22**	**297**	P	**P**	**08 04 45.1**	**-0.5**
CHTO				IAmb	IAmb	08 04 51.6	
	comp=Z,1.7nm,0.7s						
AS31	**Alice Springs**	**31.12**	**166**	P	**P**	**08 05 01.6**	**-0.7**
ASAR	**Alice Springs**	**31.12**	**166**	P	**P**	**08 05 01.6**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=344,slow=7.2,SNR=32						
ASAR				PcP	**PcP**	**08 07 56.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=340,slow=2.2,SNR=6.5						
ASAR	**Alice Springs**	**31.12**	**166**	P	**P**	**08 05 01.8**	**-0.5**
ASAR					**PcP**	**08 07 55.8**	**-1.5**
FORT	**Forrest**	**37.35**	**178**	P	**P**	**08 05 55.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**40.39**	**192**	P	**P**	**08 06 20.7**	**-0.9**
NWAO				IAmb	IAmb	08 06 21.4	
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**40.41**	**167**	P	**P**	**08 06 21.7**	**-0.1**
BBOO				IAmb	IAmb	08 06 24.5	
	comp=Z,7.0nm,0.6s						
STKA	**Stephens Creek**	**41.08**	**160**	P	**P**	**08 06 27.2**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=335,slow=7.7,SNR=17						
STKA	**Stephens Creek**	**41.08**	**160**	P	**P**	**08 06 27.4**	**+0.1**
SONM	**Songino Array**	**44.34**	**341**	P	**P**	**08 06 53.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=134,slow=8.2,SNR=2.1						
MKAR	**Makanchi Array**	**54.88**	**324**	P	**P**	**08 08 12.1**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=118,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**54.88**	**324**	P	**P**	**08 08 12.6**	**-1.4**
KSH	**Kashi**	**55.66**	**314**	P	**P**	**08 08 22.4**	**+2.5**
KSH				ScP	**ScP**	**08 13 11.0**	**-4.6**
KSH				PcS	**PcS**	**08 13 23.3**	**+3.9**
KSH				S	**S**	**08 16 03.4**	**-0.5**
KSH				sS	sS	08 16 36.8	+15
KSH				pmax	pmax		
	comp=Z,310nm,6.6s						
KSH				LR	LR		
	comp=Z,210nm,12.0s						
KURK	**Kurchatov**	**59.01**	**327**	P	**P**	**08 08 42.5**	**-0.6**
KURK				IAmb	IAmb	08 08 53.1	
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**59.01**	**327**	P	**P**	**08 08 42.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=126,slow=6.8,SNR=4.7						
FINES	**FINESS Array B**	**89.00**	**332**	P	**P**	**08 11 36.4**	**-1.5**
	comp=Z,3.8nm,1.1s,baz=94,slow=7.5,SNR=3.5						

*VLA **01** 07:59:48.0, 52°.31N×35°.43E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 01 08:00:04.8±3.0, 52°.57N×34°.17E, h0km, mb1 4.0/2, mb1mx3.3/59, mbtmp4.0/2, ML3.0/3, Error ellipse: s-maj=37.3km s-min=10.5km az=114.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.60**	**241**	Pn	Pn	08 01 00.3	-1.5
	0.6nm,0.3s,baz=56,slow=12,SNR=1.6						
AKASG				Pg	Pb	08 01 09.3	0.0
	2.0nm,0.3s,baz=57,slow=16,SNR=2.6						
AKASG				Sn	Sn	08 01 42.9	-2.1
	1.2nm,0.3s,baz=61,slow=21,SNR=4.0						
AKASG				Lg	Lg	08 01 57.4	
	1.9nm,0.3s,baz=67,slow=30,SNR=3.4						
FINES	**FINESS Array B**	**9.92**	**337**	Pn	Pn	08 02 23.0	-5.5
	0.2nm,0.3s,baz=154,slow=14,SNR=4.9						
FINES				Sn	Sn	08 04 11.2	-9.2
	0.2nm,0.3s,baz=143,slow=24,SNR=3.4						
FINES				Lg	Lg	08 05 19.4	
	0.2nm,0.3s,baz=151,slow=29,SNR=2.7						
ARCES	**ARCESS Array B**	**17.50**	**350**	Pn	Pn	08 04 04.7	-5.2
	0.3nm,0.3s,baz=163,slow=10,SNR=9.2						

*ISCJB **01** 08:34:58.3±0.7, 27°.80N±0°.04×105°.71W±0°.09, h10km, Error ellipse: s-maj=11.3km s-min=5.3km az=176.2*
*NEIC **01** 08:34:59.5±0.7, 27°.76N±0°.03×105°.7W±0°.1, h15km±8km, Md4.1(MEX)*
*MEX **01** 08:35:00.9±0.4, 27°.75N×105°.71W, h4km±7km, MD4.1*

ISC 01 08:34:53.2±1.0, 27°.98N±0°.04×105°.86W±0°.06, h10km, n10, σ0§65/14, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPIG		**1.05**	**171**	*eP*	**Pn**	**08 35 15.2**	**+0.9**
	baz=356,slow=16						
HPIG				*i S*	**Sg**	**08 35 26.5**	**-0.8**
HPIG		**1.05**	**171**		**Pn**	**08 35 14.9**	**+0.6**
HPIG		**1.05**	**171**		**Pn**	**08 35 15.2**	**+0.9**
HPIG					**Sg**	**08 35 26.5**	**-0.8**
TX31	**Lajitas Ar. Si**	**2.35**	**54**		**Pg**	**08 35 37.9**	**-0.4**
TX32	**Lajitas Array**	**2.35**	**54**		**Pg**	**08 35 37.8**	**-0.5**
TXAR	**Lajitas Array**	**2.35**	**54**		**Pg**	**08 35 38.5**	**+0.2**
CGIG		**3.01**	**323**	*i* P	**Pg**	**08 35 50.8**	**-0.3**
CGIG				*i S*	**Sg**	**08 36 29.6**	**-0.5**
CGIG		**3.01**	**323**		**Pg**	**08 35 50.8**	**-0.3**
MNTX	**Cornudas Mount**	**3.73**	**6**	*eP*	**Pb**	**08 35 59.5**	**+0.3**
MNTX				*i S*	**Sb**	**08 36 44.9**	**+0.3**
MNTX	**Cornudas Mount**	**3.73**	**6**		**Pb**	**08 35 58.7**	**-0.5**

*NNC **01** 08:46:02.9±3.0, 53°.45N×87°.74E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.3km s-min=11.5km az=66.0, Suspected Mining explosion.*

KRAR 01 08:45:59.7±0.3, 53°.56N×87°.61E, M2.4, 3C-7D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.70**	**284**	⇓Pn	Pg	08 46 34.2	+1.9
	1.8nm,0.4s						
ZAA0				⇓Sn	Sg	08 47 00.1	+5.8
	15nm,0.8s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	⇓Pn	Pn	08 47 39.0	+4.9
	4.1nm,0.3s						
KURBB				⇓Sn	Sn	08 48 49.5	+2.6
	5.8nm,0.5s						
KURBB				⇓Lg	Lg	08 49 23.7	
	18nm,0.7s						
MK31	**Makanchi Array**	**7.58**	**209**	⇓Pn	Pn	08 47 56.4	+5.0
	0.5nm,0.4s,baz=28,slow=13,SNR=17						
MK31				⇓Sn	Sn	08 49 21.1	+3.0
	1.4nm,0.7s,baz=30,slow=25,SNR=4.3						
MK31				⇑Lg	Lg	08 50 00.6	
	6.2nm,0.9s,baz=36,slow=29,SNR=5.4						

MAKZ	**Makanchi**	**7.66**	**210**	⇑Sn	Sn	08 49 23.8	+3.8
	2.3nm,0.7s						
MAKZ				⇑Lg	Lg	08 50 02.1	
	2.7nm,0.6s						

EAF 01 09:02:43.8±0.5, 4°.43S×36°.01E, h6km±25km, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAT	**Babati**	**0.33**	**312**	*i* P	Pg	09 02 49.9	-0.4
BBAT				*i* S	Sg	09 02 54.4	-0.4
KOND	**Kondoa**	**0.52**	**204**	*i* P	Pg	09 02 53.1	-0.8
KOND				*i* S	Sg	09 03 00.4	-0.4
KIBA	**Kibaya**	**1.04**	**147**	*i* P	Pg	09 03 02.8	-1.0
KIBA				*i* S	Sg	09 03 16.0	-1.2

*NEIC **01** 09:19:48.3±0.7, 27°.78N±0°.08×105°.75W±0°.05, h15km±7km, Md4.0(MEX)*

MEX 01 09:19:49.8±0.3, 27°.84N×105°.90W, h20km±118km, MD4.0, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPIG		**0.92**	**167**	*eP*	Pb	09 20 04.4	-2.8
	baz=347,slow=11						
HPIG				*i S*	Sb	09 20 15.7	-3.3
HPIG		**0.92**	**167**		Pb	09 20 04.4	-2.8
HPIG					Sb	09 20 15.7	-3.3
HPIG		**0.92**	**167**		Pb	09 20 04.5	-2.7
HPIG				Sg	Sb	09 20 16.7	-2.4
TX31	**Lajitas Ar. Si**	**2.47**	**52**		Pn	09 20 26.9	-2.0
TX31				Sn	Sn	09 20 57.4	-1.2
TX32	**Lajitas Array**	**2.47**	**52**		Pn	09 20 27.2	-1.7
TX32				Sn	Sn	09 20 56.8	-1.7
TXAR	**Lajitas Array**	**2.47**	**52**		Pn	09 20 27.1	-1.9
TXAR				Sn	Sn	09 20 56.1	-2.4
CGIG		**3.11**	**325**	*i* P	Pn	09 20 35.0	-2.9
CGIG				*i* S	Sn	09 21 11.4	-3.1
CGIG		**3.11**	**325**		Pn	09 20 38.6	+0.8
MNTX	**Cornudas Mount**	**3.88**	**7**	*i* P	Pn	09 20 46.6	-1.7
MNTX				*i* S	Sn	09 21 28.9	-4.3
MNTX	**Cornudas Mount**	**3.88**	**7**	Pn	Pn	09 20 48.0	-0.3
MNTX				Sn	Sn	09 21 33.9	+0.6

*IDC **01** 09:25:59.7±17.0, 28°.88S×177°.28W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/32, mbtmp3.8/4, MS3.2/4, Ms1 3.2/4, ms1mx3.0/31, Error ellipse: s-maj=376.2km s-min=40.7km az=116.0*
*NEIC **01** 09:26:06.9±2.5, 29°.3S±0°.3×177°.43W±0°.09, h46km±6km, mb4.0/6*

ISC 01 09:26:05.4±2.4, 29°.2S±0°.5×177°.3W±0°.2, h35km, n15, σ0§91/13, mb4.0/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.52**	**264**	LR	LR	09 26 14.3	
	comp=Z,91nm,20.5s,baz=166,slow=22						
RAO				Pn	**Pn**	**09 26 16.2**	**-0.1**
	464nm,0.3s,baz=104,slow=8.2,SNR=29						
RAO	**Raoul Island**	**0.52**	**264**		**Pn**	**09 26 16.1**	**-0.2**
RAO				Sn	**Sn**	**09 26 23.9**	**-0.1**
URZ	**Urewera**	**10.15**	**206**	LR	LR	09 32 15.2	
	comp=Z,80nm,18.8s,baz=43,slow=36						
DZM	**Mont Dzumac**	**16.26**	**292**	LR	LR	09 33 56.9	
	comp=Z,74nm,18.2s,baz=240,slow=30						
RPZ	**Rata Peaks**	**17.21**	**210**	LR	LR	09 36 55.0	
	comp=Z,64nm,18.7s,baz=16,slow=37						
STKA	**Stephens Creek**	**35.34**	**255**	P	**P**	**09 32 58.2**	**+0.7**
	1.6nm,0.8s,baz=90,slow=6.5,SNR=5.5						
ASAR	**Alice Springs**	**43.78**	**265**	P	**P**	**09 34 07.8**	**-0.2**
	0.6nm,0.7s,baz=100,slow=7.3,SNR=11						
ASAR				LR	LR	09 50 49.8	
	comp=Z,63nm,18.3s,baz=297,slow=34						
WB2	**Warramunga Arr**	**44.65**	**271**	P	**P**	**09 34 15.6**	**+0.7**
WB2				IAmb	IAmb	09 34 22.7	
	comp=Z,2.5nm,1.1s						
WRAB	**Tennant Creek**	**44.65**	**271**	P	**P**	**09 34 12.5**	**-2.4**
WRA	**Warramunga Arr**	**44.66**	**271**	P	**P**	**09 34 14.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=110,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**44.66**	**271**	P	**P**	**09 34 15.2**	**+0.2**
WB0	**Warramunga Arr**	**44.67**	**271**	P	**P**	**09 34 15.8**	**+0.7**
WB0				IAmb	IAmb	09 34 18.1	
	comp=Z,2.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.96**	**269**	P	**P**	**09 35 18.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=137,slow=9.9,SNR=3.5						
FITZ	**Fitzroy Crossi**	**52.96**	**269**	P	**P**	**09 35 18.0**	**-0.7**
FITZ				IAmb	IAmb	09 35 21.3	
	comp=Z,2.6nm,1.1s						
QSPA	**South Pole Qui**	**60.91**	**180**	P	**P**	**09 36 14.3**	**-0.2**

*SJA **01** 09:31:06.4±1.3, 30°.39S×71°.85W, h65km±23km, ML3.2, MW3.4*
*GUC **01** 09:31:06.7±0.8, 30°.47S×71°.52W, h49km±4km, ML3.7*

ISC 01 09:31:04.9±2.3, 30°.38S±0°.03×71°.64W±0°.07, h3km±15km, n21, σ1§80/31, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.58**	**36**	⇑*iP*	**Pn**	**09 31 20.1**	**0.0**
LSCH				*eS*	**Sn**	**09 31 29.4**	**-0.9**
GO04	**Tololo Observa**	**0.76**	**74**	*eP*	**Pn**	**09 31 22.1**	**-0.7**
GO04				*eS*	**Sn**	**09 31 33.0**	**-1.8**
GO04				IAML		09 31 34.4	
	comp=N,17μm,0.5s						
CO02	**Combarbal**	**0.98**	**146**	⇑*iP*	**Pb**	**09 31 24.1**	**-0.7**
CO02				*eS*	**Sb**	**09 31 36.7**	**-1.5**
CO02				IAML		09 31 38.3	
	comp=E,5μm,0.4s						
LCO	**Las Campanas**	**1.59**	**31**	*eP*	**Pb**	**09 31 35.6**	**+0.4**
LCO				*eS*	**Sg**	**09 31 56.8**	**+0.7**
LCO				IAML		09 32 00.7	
	comp=N,474nm,0.8s						
LCO	**Las Campanas**	**1.59**	**31**	*i* P	**Pb**	**09 31 35.5**	**+0.4**
LCO				*i S*	**Sg**	**09 31 57.7**	**+1.6**
AROD	**Rodeo**	**1.89**	**84**	*i* P	**Pb**	**09 31 40.8**	**+0.6**
AROD				*i S*	**Sg**	**09 32 05.6**	**+0.1**
ACCO	**Cerro Coronel**	**2.23**	**96**	*i* P	**Pb**	**09 31 46.5**	**+0.4**
ACCO				*i S*	**Sg**	**09 32 15.3**	**-1.3**
RTLS	**Leoncito**	**2.46**	**126**	⇑*iP*	**Pn**	**09 31 48.6**	**+2.4**
RTLS				IAML		09 32 24.1	
	comp=Z,139nm,0.6s						
ROCH	**El Roble**	**2.63**	**168**	⇑*iP*	**Pn**	**09 31 47.9**	**-0.8**
ROCH				*eS*	**Sn**	**09 32 19.7**	**-1.5**
AMOG	**MOGNA**	**2.77**	**102**	*i* P	**Pb**	**09 31 53.6**	**-1.5**
ZON	**Zonda**	**2.79**	**115**	*i* P	**Pn**	**09 31 54.1**	**+3.4**
PEL	**Peldehue**	**2.87**	**164**	*i* P	**Pn**	**09 31 52.8**	**+1.1**
RTLL	**Cerro Villicun**	**2.88**	**110**	*i* P	**Pn**	**09 31 53.8**	**+1.9**
RTLL				*i S*	**Sb**	**09 32 30.5**	**-2.2**
RTLL				IAML		09 32 43.0	
	comp=Z,76nm,0.5s						
RTCV	**Cerro Valdivia**	**3.04**	**120**	⇓*iP*	**Pn**	**09 31 57.0**	**+3.0**
GO03	**Copiap**	**3.04**	**24**	⇑*iP*	**Pn**	**09 31 54.6**	**+0.6**
GO03				*eS*	**Sn**	**09 32 32.1**	**+1.1**
GO03				IAML		09 32 47.1	
	comp=E,137nm,0.5s						
CFA	**Coronel Fontan**	**3.17**	**113**	*i* P	**Pn**	**09 31 57.9**	**+2.1**
ASAL	**Salagasta**	**3.25

256nm,0.2s
DJR S **Sg** **10 01 57.9 -0.1**
172nm,0.5s
DJR Jarkent 0.87 269⇑*i*P **Pg** **10 01 46.7 0.0**
256nm,0.2s
DJR *e*S **Sg** **10 01 57.9 -0.1**
216nm,0.2s
KAPS Kapalarasan 1.49 309 P **Pn** **10 01 56.9 -1.2**
193nm,0.3s
KAPS S **Sg** **10 02 17.0 -1.0**
588nm,0.3s
KAPS Kapalarasan 1.49 309 *e*P **Pb** **10 01 59.1 +0.4**
193nm,0.3s
KAPS *e*S **Sn** **10 02 19.0 +0.8**
588nm,0.3s
PDGK Podgornoye 1.50 227 P **Pn** **10 01 57.9 -0.4**
56nm,0.1s
PDGK S **Sg** **10 02 18.8 +0.5**
165nm,0.4s
PDGK Podgornoye 1.50 227⇑P **Pn** **10 01 57.6 -0.7**
22nm,0.2s
PDGK ⇑S **Sn** **10 02 20.2 +1.6**
208nm,0.4s
SHLS Shalkode 1.64 223 P **Pn** **10 01 57.1 -3.0**
55nm,0.1s
SHLS S **Sn** **10 02 17.8 -4.1**
606nm,0.4s
SHLS Shalkode 1.64 223 *e*P **Pn** **10 01 57.5 -2.7**
55nm,0.1s
UZB Uzynbulak 1.88 230 Pg **Pn** **10 02 03.9 +0.5**
154nm,0.2s
UZB Lg Lg 10 02 30.0
134nm,0.2s
UZB Uzynbulak 1.88 230 *e*P **Pn** **10 02 04.6 +1.1**
154nm,0.2s
UZB *e*S **Sn** **10 02 28.2 +0.4**
134nm,0.2s
TDK Taldyqorghan 1.96 290 Pg **Pn** **10 02 05.7 +1.3**
334nm,0.4s
TDK Lg Lg 10 02 33.6
540nm,0.8s
TDK Taldyqorghan 1.96 290 *e*P **Pb** **10 02 06.4 -0.2**
334nm,0.4s
TDK *e*S **Sb** **10 02 31.4 0.0**
540nm,0.8s
ZHN Zhinishke 2.21 238 Pg **Pn** **10 02 09.1 +1.1**
100nm,0.3s
ZHN Lg Lg 10 02 39.3
207nm,0.2s
ZHN Zhinishke 2.21 238 *e*P **Pn** **10 02 09.7 +1.7**
100nm,0.3s
ZHN *e*S **Sn** **10 02 36.9 +1.0**
207nm,0.2s
KURS Kuram 2.22 248 Pg **Pn** **10 02 09.4 +1.3**
37nm,0.4s
KURS Lg Lg 10 02 39.5
189nm,0.6s
KURS Kuram 2.22 248 *e*P **Pn** **10 02 10.0 +1.9**
37nm,0.4s
KURS *e*S **Sn** **10 02 37.1 +0.9**
189nm,0.6s
ARXS Arharly 2.28 267 Pg **Pb** **10 02 11.3 -0.8**
110nm,0.3s
ARXS Lg Lg 10 02 42.7
268nm,0.4s
ARXS Arharly 2.28 267 *e*P **Pb** **10 02 11.7 -0.5**
110nm,0.3s
ARXS *e*S **Sb** **10 02 40.0 -0.9**
268nm,0.4s
SATY Saty 2.29 236 Pg **Pn** **10 02 10.3 +1.3**
277nm,0.2s
SATY Lg Lg 10 02 41.1
247nm,0.2s
SATY Saty 2.29 236 *e*P **Pn** **10 02 11.1 +2.0**
277nm,0.2s
SATY *e*S **Sn** **10 02 39.2 +1.4**
247nm,0.2s
MAKZ Makanchi 2.54 15⇑Pn **Pn** **10 02 13.6 +1.1**
9.2nm,0.5s
MAKZ ⇓Lg Lg 10 02 49.3
29nm,0.5s
MK31 Makanchi Array 2.60 20⇑Pn **Pn** **10 02 14.8 +1.6**
1.9nm,0.2s
MK31 ⇓Lg Lg 10 02 50.2
20nm,0.4s
MKAR Makanchi Array 2.60 20 Pn **Pn** **10 02 14.7 +1.5**
5.6nm,0.3s,baz=202,slow=14,SNR=168
MKAR Sn **Sn** **10 02 47.0 +1.6**
13nm,0.3s,baz=190,slow=27,SNR=16
CHKK Chushkaly 2.93 261 Pg **Pb** **10 02 21.4 -1.7**
42nm,0.3s
CHKK Lg Lg 10 03 00.4
155nm,0.4s
CHKK Chushkaly 2.93 261 *e*P **Pb** **10 02 23.8 +0.6**
27nm,0.3s
CHKK *e*S **Sb** **10 03 01.0 +1.5**
155nm,0.4s
KOTS Kotyrbulak 3.03 250 Pg **Pb** **10 02 24.1 -0.9**
140nm,0.2s
KOTS Lg Lg 10 03 04.3
309nm,0.5s
KOTS Kotyrbulak 3.03 250 *e*P **Pb** **10 02 26.0 +1.1**
140nm,0.2s
KOTS *e*S **Sb** **10 03 04.7 +2.2**
309nm,0.5s
MDOK Medeo 3.10 249⇑Pn **Pn** **10 02 20.5 +0.2**
15nm,0.5s
MDOK ⇓Pg **Pb** **10 02 27.2 +1.1**
54nm,0.5s
MDOK ⇑Lg Lg 10 03 07.7
77nm,0.6s
MDOK Medeo 3.10 249 Pg **Pb** **10 02 24.6 -1.5**
73nm,0.4s
MDOK Lg Lg 10 03 05.9
75nm,0.7s
MDOK Medeo 3.10 249 *e*P **Pb** **10 02 26.7 +0.5**
73nm,0.4s
MDOK *e*S **Sb** **10 03 06.0 +1.5**
75nm,0.7s
KTBS Karatobe 3.18 260 Pg **Pb** **10 02 25.4 -2.0**
21nm,0.3s
KTBS Lg Lg 10 03 07.8
308nm,0.5s
KTBS Karatobe 3.18 260 *e*P **Pb** **10 02 28.1 +0.7**
21nm,0.3s
KTBS *e*S **Sb** **10 03 08.3 +1.6**
308nm,0.5s
TNSS Tian-Shan 3.22 247 Pg **Pb** **10 02 26.2 -2.2**
38nm,0.3s
TNSS Lg Lg 10 03 07.9
70nm,0.6s
TNSS Tian-Shan 3.22 247 *e*P **Pb** **10 02 29.5 +1.1**
38nm,0.3s
TNSS *e*S **Sb** **10 03 10.9 +2.7**
70nm,0.6s
IZV Izvestkoviy 3.44 249 Pg **Pb** **10 02 30.2 -1.8**
30nm,0.5s
IZV Lg Lg 10 03 15.2
112nm,0.6s
IZV Izvestkoviy 3.44 249 *e*P **Pb** **10 02 33.8 +1.8**
30nm,0.5s
IZV *e*S **Sg** **10 03 18.1 -2.7**
112nm,0.6s
MTBS Maitube 3.53 251 Pg **Pb** **10 02 32.5 -1.0**
37nm,0.3s
MTBS Lg Lg 10 03 19.1
82nm,0.3s
MTBS Maitube 3.53 251 *e*P **Pb** **10 02 34.5 +1.1**
37nm,0.3s
MTBS *e*S **Sb** **10 03 19.3 +2.5**
82nm,0.3s
ZSN Zaisan 4.10 40 Pg **Pb** **10 02 44.2 +1.1**
26nm,0.4s
ZSN Lg Lg 10 03 38.6
39nm,0.6s
TKM2 Tokmak 2 4.18 252⇑Pn **Pn** **10 02 36.3 +1.2**
1.0nm,0.3s
TKM2 ⇑Pg **Pb** **10 02 45.7 +1.2**
24nm,0.5s
TKM2 ⇑Lg Lg 10 03 42.6
58nm,0.6s
SGDS Sogindy 4.69 261 Pg **Pb** **10 02 53.8 +0.6**
12nm,0.4s
SGDS Lg Lg 10 03 54.6
26nm,0.8s
AAK Ala-Archa 5.04 252 Pg **Pb** **10 03 01.7 +2.6**
8.8nm,0.5s
AAK Lg Lg 10 04 09.7
31nm,0.8s
AAK Ala-Archa 5.04 252 Pn **Pn** **10 02 48.6 +1.8**
0.4nm,0.3s,baz=90,slow=9.1,SNR=5.1
AAK Pg **Pb** **10 02 58.6 -0.5**
1.9nm,0.3s,baz=130,slow=2.9,SNR=11
AAK Lg Lg 10 04 05.7
0.8nm,0.3s,baz=198,slow=20,SNR=3.3
KURBB Kurchatov Arra 6.49 346⇓Lg Lg 10 04 54.5
50nm,0.7s
KURBB Kurchatov Arra 6.49 346 Pn **Pn** **10 03 06.6 0.0**
0.3nm,0.3s,baz=169,slow=12,SNR=8.0
KURBB Pg Pb 10 03 17.0 -6.7
0.2nm,0.3s,baz=172,slow=15,SNR=8.2
KURBB Sn **Sn** **10 04 21.2 +0.1**
0.3nm,0.3s,baz=197,slow=24,SNR=6.1
KURBB Lg Lg 10 04 54.4
0.3nm,0.3s,baz=200,slow=27,SNR=6.3
KURK Kurchatov 6.56 347⇑Sn **Sn** **10 04 21.6 -1.3**
6.3nm,0.6s
KURK ⇑Lg Lg 10 04 57.7
24nm,0.7s
OTUK Ortayu 7.15 306⇓Pn **Pn** **10 03 15.6 -0.1**
2.8nm,0.6s
OTUK ⇓Sn **Sn** **10 04 37.3 -0.2**
6.5nm,0.7s
OTUK ⇑Lg Lg 10 05 15.8
17nm,1.3s
KK31 Karatay Array 7.70 264⇓Pn **Pn** **10 03 23.2 -0.2**
0.6nm,0.4s
KK31 ⇑Pg Pb 10 03 50.8 +6.5
1.4nm,0.6s
KK31 ⇑Lg Lg 10 05 34.3
11nm,0.7s
ZALV Zalesovo Beam 9.92 13 Pn **Pn** **10 03 53.4 -0.2**
0.6nm,0.3s,baz=194,slow=14,SNR=11
ZALV Sn **Sn** **10 05 44.1 -1.3**
0.3nm,0.3s,baz=198,slow=23,SNR=3.4
ZALV Lg Lg 10 06 37.3
0.7nm,0.3s,baz=204,slow=25,SNR=4.2
BVAR Borovoye Array 11.14 325 Pn **Pn** **10 04 10.9 +0.5**
0.5nm,0.3s,baz=137,slow=15,SNR=4.4
BVAR Lg Lg 10 07 25.3
0.3nm,0.3s,baz=144,slow=27,SNR=3.9
SONM Songino Array 17.93 70 P **Pn** **10 05 41.2 +0.5**
0.1nm,0.3s,baz=255,slow=10,SNR=2.8
NRIK Noril'sk 25.27 5 P **P** **10 06 56.6 -0.8**
2.9nm,0.5s,baz=159,slow=8.6,SNR=3.7
NOA NORSAR Array B 43.17 318 P **P** **10 09 31.4 -0.7**
0.3nm,0.5s,baz=80,slow=8.1,SNR=2.4
TORD Torodi Ar. Bea 73.31 272 P **P** **10 13 02.7 -0.8**
0.2nm,0.4s,baz=36,slow=5.3,SNR=3.7
WRA Warramunga Arr 80.41 130 P **P** **10 13 42.9 -0.4**
0.1nm,0.5s,baz=335,slow=5.2,SNR=7.0
ASAR Alice Springs 83.19 133 P **P** **10 13 57.5 -0.4**
0.2nm,0.3s,baz=329,slow=5.5,SNR=7.5

MAN 01 10:17:31.3, 9°.74N×123°.53E, h8km, mb4.3, ML3.1, MS2.8, 2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.49**	**216**	⇓*i*P	Pg	10 17 41.4	+0.5
SNPH				*i* S	Sb	10 17 49.0	-0.7
LLP	**Lapu-Lapu**	**0.71**	**37**	⇓*i*P	Pg	10 17 45.1	+0.1
LLP				*i* S	Sb	10 17 55.8	-0.1

*IDC **01** 10:52:31.6±2.3, 17°.10S×177°.36W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/37, mbtmp4.1/4, Error ellipse: s-maj=166.5km s-min=27.2km az=150.0*
*NEIC **01** 10:53:11.6±1.0, 17°.05±0°.2×177°.9W±0°.1, h367km±12km, mb4.2/12*
*ISCJB **01** 10:53:12.5±0.5, 17°.0S±0°.1×177°.78W±0°.06, h403km, mb3.6/4, Error ellipse: s-maj=18.7km s-min=6.6km az=169.2*
ISC 01 10:53:13.7±0.8, 17°.1S±0°.1×177°.67W±0°.08, h403km, n20, σ1°.28/22, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.50**	**62**	Pn	**P**	**10 54 52.8**	**+1.1**
AFI				S	**S**	**10 56 08.8**	**-3.3**
NIUE	**Niue**	**7.62**	**106**	Pn	**P**	**10 55 04.3**	**-0.6**
NIUE				S	**S**	**10 56 35.0**	**0.0**
TOO	**Toolangi**	**38.23**	**230**	P	**P**	**10 59 57.5**	**+0.4**
TOO				IAmb	IAmb	11 01 15.9	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**39.65**	**240**	P	**P**	**11 00 08.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=93,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**39.65**	**240**	P	**P**	**11 00 08.6**	**-0.1**
BBOO	**Buckleboo**	**44.42**	**240**	P	**P**	**11 00 46.5**	**-0.3**
BBOO				IAmb	IAmb	11 02 26.9	
	comp=Z,32nm,1.9s						
WB2	**Warramunga Arr**	**45.47**	**259**	P	**P**	**11 00 54.5**	**-0.5**
WRAB	**Tennant Creek**	**45.47**	**259**	P	**P**	**11 00 54.4**	**-0.6**
WRAB				IAmb	IAmb	11 01 48.4	
	comp=Z,18nm,1.8s						
WRA	**Warramunga Arr**	**45.48**	**259**	P	**P**	**11 00 54.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.4,SNR=45						
WRA	**Warramunga Arr**	**45.48**	**259**	P	**P**	**11 00 54.7**	**-0.5**
AS31	**Alice Springs**	**45.70**	**253**	P	**P**	**11 00 56.1**	**-0.7**
ASAR	**Alice Springs**	**45.70**	**253**	P	**P**	**11 00 56.8**	**-0.1**
	comp=Z,6.6nm,0.4s,baz=90,slow=7.9,SNR=338						
ASAR	**Alice Springs**	**45.70**	**253**	P	**P**	**11 00 56.0**	**-0.9**
FORT	**Forrest**	**51.00**	**244**	P	**P**	**11 01 36.0**	**-0.6**
KNRA	**Kununurra**	**51.28**	**263**	P	**P**	**11 01 39.0**	**+0.1**
KNRA				IAmb	IAmb	11 01 49.9	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.87**	**260**	P	**P**	**11 01 57.5**	**+0.1**
FITZ				IAmb	IAmb	11 03 19.6	
	comp=Z,15nm,1.9s						
SOEI	**Soe**	**56.78**	**269**	P	**P**	**11 02 16.8**	**-1.5**
SOEI				IAmb	IAmb	11 04 05.2	
	comp=Z,39nm,1.5s						
NVAR	**Mina Array Bea**	**78.35**	**44**	P	**P**	**11 04 33.2**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=220,slow=8.4,SNR=6.7						
NVAR	**Mina Array Bea**	**78.35**	**44**	P	**P**	**11 04 33.4**	**+2.3**
W18A	**Petrified Fore**	**82.69**	**50**	P	**P**	**11 04 55.8**	**+1.9**

*NIED **01** 11:07:00, 37°.30N×144°.30E, h8km, Mw3.9 Best double couple: M0 7.72000×10^14 NP1:φs 44.00000°, δ32.00000°, λ26.00000°. NP2:φs 292.00000°, δ77.00000°, λ119.00000°.*
*IDC **01** 11:07:26.1±0.8, 37°.12N×144°.51E, h0km, mb3.7/6, mb1 4.0/10, mb1mx3.7/37, mbtmp3.8/10, ML3.7/3, MS2.5/3, Ms1 2.5/3, ms1mx2.4/40, Error ellipse: s-maj=27.2km s-min=17.1km az=124.0*
*ISCJB **01** 11:07:28.8±0.6, 37°.26N±0°.03×144°.43E±0°.04, h33km, mb3.7/6, MS2.6/1, Error ellipse: s-maj=5.2km s-min=4.6km az=43.4*
*JMA **01** 11:07:31.2±0.2, 37°.32N×144°.33E, h59km, M3.9*
ISC 01 11:07:30.8±0.9, 37°.32N±0°.05×144°.45E±0°.08, h35km, n39, σ2°.05/50, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.56**	**294**	P	**Pn**	**11 08 10.2**	**+0.3**
JIKH				*e*S	**Sn**	**11 08 39.4**	**-0.4**
JIO	**Ouri**	**2.71**	**296**	P	**Pn**	**11 08 12.3**	**+0.5**
JKMT	**Kesennumamotoy**	**2.78**	**303**	P	**Pn**	**11 08 13.2**	**+0.3**
JKMT				S	**Sn**	**11 08 44.6**	**-0.6**
OFUJ	**Ofunato**	**2.81**	**310**	P	**Pn**	**11 08 13.6**	**+0.3**
OFUJ				*e*S	**Sn**	**11 08 45.4**	**-0.5**
JFK	**Kawauchi**	**2.85**	**272**	P	**Pn**	**11 08 14.1**	**+0.3**
JFK				*e*S	**Sn**	**11 08 46.0**	**-1.0**
JMST	**Minamisoumatoc**	**2.86**	**279**	P	**Pn**	**11 08 13.9**	**-0.1**
JMST				*e*S	**Sn**	**11 08 46.6**	**-0.6**
JMK	**Ichinoseki**	**3.03**	**304**	P	**Pn**	**11 08 16.8**	**+0.6**
JMK				*e*S	**Sn**	**11 08 51.3**	**+0.1**
JFT	**Otama**	**3.28**	**275**	P	**Pn**	**11 08 21.0**	**+1.2**
JFT				*e*S	**Sn**	**11 08 57.8**	**+0.2**
JOM	**Ohasama**	**3.29**	**312**	P	**Pn**	**11 08 20.6**	**+0.8**
JOM				*e*S	**Sn**	**11 08 57.6**	**0.0**
BSO1	**Boso 1**	**3.87**	**228**	P	**Pn**	**11 08 26.6**	**-0.8**
BSO1				*e*S	**Sn**	**11 09 10.2**	**-1.1**
JRY	**Ryogami san**	**4.65**	**255**	P	**Pn**	**11 08 38.3**	**-0.2**
JRY				*e*S	**Sn**	**11 09 28.5**	**-2.8**
JOT	**Ohata**	**4.84**	**328**	P	**Pn**	**11 08 41.8**	**+0.7**
MJAR	**Matsushiro Arr**	**5.06**	**263**	Pn	**Pn**	**11 08 44.7**	**+0.5**
MJAR				Sn	**Sn**	**11 09 41.4**	**-0.1**
	0.2nm,0.3s,baz=86,slow=16,SNR=4.2						
MJAR				LR	LR	11 11 13.3	
	comp=Z,56nm,19.2s,baz=50,slow=45						
MAT	**Matsushiro**	**5.06**	**263**	P	**Pn**	**11 08 46.0**	**+1.8**
MAT				*e*S	**Sn**	**11 09 42.0**	**+0.5**
JKB	**Kayabe**	**5.27**	**331**	P	**Pn**	**11 08 48.3**	**+1.2**
JKB				*e*S	**Sn**	**11 09 44.3**	**-2.3**
JCH	**Churui**	**5.36**	**351**	P	**Pn**	**11 08 47.2**	**-1.0**
JCH				*e*S	**Sn**	**11 09 46.0**	**-2.6**
JHJ2	**Mitsune**	**5.66**	**223**	P	**Pn**	**11 08 50.3**	**-2.1**
JHJ2				*e*S	**Sn**	**11 09 52.0**	**-4.1**
JHJ	**Hachijo jima 2**	**5.67**	**224**	Pn	**Pn**	**11 08 50.4**	**-2.1**
	14nm,0.3s,baz=349,slow=20,SNR=12						
JHJ				Sn	**Sn**	**11 09 49.2**	**-7.2**
	17nm,0.3s,baz=52,slow=19,SNR=3.5						
JOSM	**Okushiri--Mats**	**6.11**	**323**	P	**Pn**	**11 08 59.4**	**+0.8**
NEM2	**Nemuro 2**	**6.12**	**9**	P	**Pn**	**11 08 55.7**	**-3.0**
NEM2				S	**Sn**	**11 10 01.4**	**-6.0**
JTKR	**Abashiri--Toko**	**6.66**	**357**	P	**Pn**	**11 09 05.1**	**-1.0**
JTKR				S	**Sn**	**11 10 17.4**	**-3.3**
JHR	**Hokuryu**	**6.75**	**343**	P	**Pn**	**11 09 08.6**	**+1.3**
JHR				*e*S	**Sn**	**11 10 23.4**	**+0.5**
ASAJ	**Asahikawa**	**6.94**	**349**	Pn	**Pn**	**11 09 10.3**	**+0.4**
	2.2nm,0.3s,baz=187,slow=13,SNR=30						
ASAJ				Sn	**Sn**	**11 10 24.2**	**-3.3**
	0.5nm,0.3s,baz=158,slow=19,SNR=3.1						
JCJ	**Chichijima**	**10.37**	**191**	Sn	Sn	11 11 38.7	-13
	2.3nm,0.3s,baz=284,slow=23,SNR=4.5						
USRK	**Ussuriysk Ar.**	**11.68**	**310**	Pn	**Pn**	**11 10 16.9**	**+2.0**
	baz=121,slow=14,SNR=3.2						
KSRS	**Korea Array**	**13.15**	**276**	LR	LR	11 15 13.1	
	comp=Z,13nm,18.4s,baz=350,slow=35						
GUMO	**Guam**	**23.63**	**179**	LR	LR	11 20 36.0	
	comp=Z,19nm,19.7s,baz=77,slow=34						
H11N2	**WAKE ISLAND Hy**	**26.27**	**126**	T	T	11 40 09.9	
	baz=317,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**26.28**	**126**	T	T	11 40 04.5	
	baz=317,slow=74,SNR=19						
H11N3	**WAKE ISLAND Hy**	**26.29**	**126**	T	T	11 40 13.2	
	baz=317,slow=74,SNR=34						
H11S1	**WAKE ISLAND Hy**	**27.04**	**128**	T	T	11 41 11.2	
	baz=318,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.04**	**128**	T	T	11 41 05.7	
	baz=318,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.06**	**128**	T	T	11 41 08.6	
	baz=318,slow=75,SNR=11						
ILAR	**Eielson Array**	**47.95**	**33**	P	**P**	**11 16 06.7**	**+1.1**
	0.5nm,0.9s,baz=257,slow=7.8,SNR=4.3						
INK	**Inuvik**	**53.02**	**27**	P	**P**	**11 16 45.7**	**+1.9**
	1.0nm,0.6s,baz=301,slow=9.8,SNR=5.3						
WRA	**Warramunga Arr**	**57.74**	**191**	P	**P**	**11 17 17.0**	**-1.3**
	0.7nm,0.5s,baz=10,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**61.47**	**191**	P	**P**	**11 17 43.2**	**-0.7**
	0.5nm,0.8s,baz=10,slow=5.5,SNR=7.5						
NVAR	**Mina Array Bea**	**72.86**	**55**	P	**P**	**11 18 58.2**	**+1.8**
	1.0nm,0.8s,baz=292,slow=7.6,SNR=7.4						
PDAR	**Pinedale Array**	**75.72**	**47**	P	**P**	**11 19 14.2**	**+1.2**
	0.5nm,0.7s,baz=318,slow=2.0,SNR=5.2						

*ISCJB **01** 11:21:53.1±0.9, 7°.0S±0°.1×150°.8E±0°.2, h40km, mb3.8/5, Error ellipse: s-maj=31.8km s-min=6.7km az=37.3*
*IDC **01** 11:21:55.2±2.0, 6°.92S×150°.79E, h44km±17km, mb3.6/6, mb1 3.8/8, mb1mx3.5/34, mbtmp3.9/8, ML1.6/1, Error ellipse: s-maj=51.9km s-min=8.4km az=127.0*
ISC 01 11:21:54.6±1.2, 7°.0S±0°.2×150°.9E±0°.2, h40km, n9, σ0°.71/11, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.89**	**23**	P	**Pn**	**11 22 38.4**	**+0.3**
	16nm,0.3s,baz=195,slow=2.8,SNR=11						
KRVT				S	**Sn**	**11 23 12.4**	**+0.8**
	74nm,0.3s,baz=207,slow=21,SNR=18						
PMG	**Port Moresby**	**4.42**	**237**	P	**Pn**	**11 23 00.5**	**+1.3**
	2.2nm,0.3s,baz=31,slow=5.9,SNR=4.8						
PMG				S	**Sn**	**11 23 48.8**	**-0.6**
	2.5nm,0.3s,baz=355,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**20.60**	**230**	P	**P**	**11 26 29.8**	**-0.7**
	1.5nm,0.7s,baz=53,slow=11,SNR=19						
ASAR	**Alice Springs**	**23.27**	**223**	P	**P**	**11 26 58.8**	**-0.2**
	1.9nm,0.9s,baz=58,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**26.24**	**198**	P	**P**	**11 27 26.4**	**+0.4**
	1.1nm,0.7s,baz=20,slow=13,SNR=5.2						
FITZ	**Fitzroy Crossi**	**26.98**	**243**	P	**P**	**11 27 32.5**	**-0.3**
	2.1nm,0.6s,baz=53,slow=7.3,SNR=16						
PETK	**Petropavlovsk-**	**60.15**	**5**	P	**P**	**11 31 57.7**	**-0.3**
	2.6nm,0.9s,baz=164,slow=6.3,SNR=3.1						
ILAR	**Eielson Array**	**84.89**	**22**	P	**P**	**11 34 24.8**	**-0.1**
	0.6nm,0.7s,baz=243,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**149.10**	**284**	PKPbc	**PKPbc**	**11 41 39.2**	**-0.5**
	0.9nm,0.6s,baz=80,slow=2.6,SNR=4.5						

*NIED **01** 11:24:00, 37°.20N×144°.40E, h5km, Mw3.6 Best double couple: M0 2.46000×10^14 NP1:φs 18.00000°, δ32.00000°, λ-60.00000°. NP2:φs 164.00000°, δ63.00000°, λ-107.00000°.*
*IDC **01** 11:24:38.5±2.0, 37°.04N×144°.90E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/38, mbtmp3.7/6, ML3.5/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/25, Error ellipse: s-maj=47.5km s-min=25.7km az=76.0*
*ISCJB **01** 11:24:41.4±0.7, 37°.22N±0°.04×144°.58E±0°.05, h35km, mb3.5/3, Error ellipse: s-maj=6.2km s-min=5.3km az=15.4*
*JMA **01** 11:24:44.2±0.2, 37°.19N×144°.39E, h53km, M3.9*
ISC 01 11:24:43.3±1.3, 37°.19N±0°.06×144°.60E±0°.09, h35km, n23, σ2°.05/39, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.72**	**295**	P	**Pn**	**11 25 24.8**	**+0.3**
JIKH				*e*S	**Sn**	**11 25 55.2**	**-0.9**
JIO	**Ouri**	**2.86**	**297**	P	**Pn**	**11 25 26.7**	**+0.3**
JIO				S	**Sn**	**11 25 58.1**	**-1.6**
JKMT	**Kesennumamotoy**	**2.95**	**304**	P	**Pn**	**11 25 27.9**	**+0.3**
JKMT				S	**Sn**	**11 26 00.2**	**-1.6**
JFK	**Kawauchi**	**2.97**	**274**	P	**Pn**	**11 25 28.0**	**0.0**
JFK				S	**Sn**	**11 26 00.5**	**-1.9**
OFUJ	**Ofunato**	**2.98**	**310**	P	**Pn**	**11 25 28.5**	**+0.4**
OFUJ				S	**Sn**	**11 26 02.0**	**-0.6**
JMST	**Minamisoumatoc**	**3.00**	**281**	P	**Pn**	**11 25 28.2**	**-0.1**
JMST				S	**Sn**	**11 26 01.4**	**-1.6**
JMK	**Ichinoseki**	**3.19**	**304**	P	**Pn**	**11 25 31.9**	**+1.0**
JMK				*e*S	**Sn**	**11 26 07.3**	**-0.5**
JFT	**Otama**	**3.41**	**277**	P	**Pn**	**11 25 35.1**	**+1.1**
JFT				*e*S	**Sn**	**11 26 13.2**	**0.0**
BSO1	**Boso 1**	**3.88**	**230**	P	**Pn**	**11 25 39.7**	**-0.2**
JRY	**Ryogami san**	**4.73**	**257**	P	**Pn**	**11 25 51.8**	**-0.3**
JRY				*e*S	**Sn**	**11 26 42.9**	**-2.8**
JOT	**Ohata**	**5.01**	**328**	*e*S	**Sn**	**11 26 51.1**	**-1.4**
MJAR	**Matsushiro Arr**	**5.16**	**265**	Pn	**Pn**	**11 25 59.4**	**+1.4**
	0.4nm,0.3s,baz=78,slow=11,SNR=14						
MJAR				Sn	**Sn**	**11 26 56.3**	**-0.1**
	0.3nm,0.3s,baz=151,slow=18,SNR=6.2						
MJAR				LR	LR	11 28 55.9	
	comp=Z,33nm,18.2s,baz=110,slow=48						
JKB	**Kayabe**	**5.44**	**331**	P	**Pn**	**11 26 03.4**	**+1.6**
JKB				*e*S	**Sn**	**11 27 03.1**	**0.0**
JCH	**Churui**	**5.50**	**350**	P	**Pn**	**11 26 02.2**	**-0.5**
JCH				*e*S	**Sn**	**11 27 01.2**	**-3.4**
JHJ	**Hachijo jima 2**	**5.66**	**226**	Pn	**Pn**	**11 26 04.3**	**-0.6**
	5.5nm,0.3s,baz=323,slow=23,SNR=5.1						
JHJ				Sn	**Sn**	**11 27 02.8**	**-5.8**
	30nm,0.3s,baz=79,slow=17,SNR=7.4						
NEM2	**Nemuro 2**	**6.23**	**8**	P	**Pn**	**11 26 10.5**	**-2.2**
NEM2				*e*S	**Sn**	**11 27 16.5**	**-6.1**
JTKR	**Abashiri--Toko**	**6.79**	**356**	P	**Pn**	**11 26 20.0**	**-0.4**
JTKR				*e*S	**Sn**	**11 27 32.7**	**-3.8**
JHR	**Hokuryu**	**6.90**	**342**	P	**Pn**	**11 26 23.8**	**+1.9**
JHR				*e*S	**Sn**	**11 27 39.8**	**+0.7**
ASAJ	**Asahikawa**	**7.08**	**348**	Pn	**Pn**	**11 26 25.3**	**+0.9**
	1.4nm,0.3s,baz=203,slow=15,SNR=26						
ASAJ				Sn	**Sn**	**11 27 41.3**	**-2.3**
	0.7nm,0.3s,baz=16,slow=19,SNR=4.6						
JCJ	**Chichijima**	**10.27**	**192**	Sn	Sn	11 28 49.4	-13
	2.0nm,0.3s,baz=291,slow=23,SNR=2.5						
MKAR	**Makanchi Array**	**46.18**	**303**	P	**P**	**11 33 07.6**	**+3.0**
	1.0nm,0.8s,baz=86,slow=9.2,SNR=7.4						
WRA	**Warramunga Arr**	**57.64**	**191**	P	**P**	**11 34 29.6**	**-0.4**
	0.1nm,0.3s,baz=9.0,slow=7.1,SNR=7.4						
ASAR	**Alice Springs**	**61.36**	**191**	P	**P**	**11 34 55.5**	**-0.2**
	0.1nm,0.4s,baz=13,slow=8.6,SNR=3.2						

*IDC **01** 11:33:00.9±0.5, 52°.95S×19°.03E, h0km, mb4.5/16,*

mb1 4.5/16, mb1mx4.4/25, mbtmp4.5/16, MS4.2/21, Ms1 4.1/21, ms1mx4.1/25, Error ellipse: s-maj=20.4km s-min=15.4km az=80.0

ISCJB ***01*** *11:33:01.4±0.3, 52.°92S±0.°05×18.°6E±0.°1, h10km, mb4.5/17, MS4.2/25, Error ellipse: s-maj=10.3km s-min=6.7km az=4.4*

NEIC ***01*** *11:33:03.5±1.4, 52.°99S±0.°10×18.°7E±0.°2, h10km±1km, mb4.9/33*

GCMT ***01*** *11:33:06.5±0.2, 52.°83S±0.°02×19.°19E±0.°04, h12km, MW5.0/86, Moment Tensor Solution. s28, c31; s86, c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~4.05±.11; Mθθ3.40±.09; Mφφ0.64±.12; MrΘ0.78±.46; Mθφ~0.07±.12; Mφr~1.93±.44; Best double couple: M0=4.15700×10^16 NP1:φs292.00000°, δ55.00000°, λ~67.00000°. NP2: φs76.00000°, δ41.00000°, λ~119.00000°. Principal axes: T 3.5110, Plg7.0000°, Azm6.0000°; N 1.2870, Plg18.0000°, Azm99.0000°; P -4.8040, Plg70.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 11:33:03.2±0.4, 52.°94S±0.°06×18.°72E±0.°10, h10km, n112, σ1ϑ02/92, mb4.8/28, MS4.3/25, 2C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**18.85**	**157⇑**	*e*pP	**P**	**11 37 22.0**	**-1.0**
SYO	**Syowa Base**	**18.85**	**157⇑**	*e*P	**Pn**	**11 37 26.4**	**+2.9**
TROLL	**Troll, Antarti**	**20.40**	**194**	P	Pn	11 37 42.3	+0.2
SUR	**Sutherland**	**20.61**	**5**	P	**P**	**11 37 42.7**	**+0.1**
	14nm,1.0s,baz=195,slow=9.7,SNR=3.9						
SUR				LR	LR	11 43 40.9	
	comp=Z,1μm,21.4s,baz=189,slow=31						
SUR	**Sutherland**	**20.61**	**5**	P	**P**	**11 37 43.2**	**+0.6**
SUR				IAmb	IAmb	11 37 47.5	
	comp=Z,70nm,1.4s						
SNAA	**Sanae**	**21.05**	**199**	P	**P**	**11 37 47.4**	**+0.4**
SNAA	**Sanae**	**21.05**	**199**	pP	pP	11 37 53.4	+4.2
SNAA	**Sanae**	**21.05**	**199**	P	**P**	**11 37 47.2**	**+0.2**
SNAA				IAmb	IAmb	11 37 57.9	
	comp=Z,84nm,1.4s						
VNA2	**Neumayer--Watz**	**21.49**	**203**	P	**P**	**11 37 51.2**	**-0.5**
	baz=32,slow=10						
VNA2	**Neumayer--Watz**	**21.49**	**203**	pP	pP	11 37 53.9	+0.1
	baz=34,slow=9.9						
VNA1	**Neumayer--Stat**	**21.52**	**204**	P	**P**	**11 37 51.9**	**0.0**
VNA1	**Neumayer--Stat**	**21.52**	**204**	pP	pP	11 37 54.8	+0.8
VNA3	**Neumayer Olymp**	**22.25**	**204**	P	**P**	**11 37 58.3**	**-1.5**
VNA3	**Neumayer Olymp**	**22.25**	**204**	pP	**P**	**11 38 00.8**	**+0.9**
BOSA	**Boshof**	**24.78**	**14**	P	**P**	**11 38 25.0**	**-0.3**
	comp=Z,4.7nm,1.0s,baz=179,slow=12,SNR=3.4						
BOSA				LR	LR	11 46 12.0	
	comp=Z,1μm,20.7s,baz=203,slow=32						
BOSA	**Boshof**	**24.78**	**14**	P	**P**	**11 38 25.4**	**+0.1**
BOSA				IAmb	IAmb	11 38 44.1	
	comp=Z,24nm,1.4s						
MAW	**Mawson**	**25.62**	**142**	P	**P**	**11 38 31.5**	**-0.8**
	comp=Z,8.4nm,0.8s,baz=285,slow=16,SNR=20						
MAW				LR	LR	11 46 39.3	
	comp=Z,538nm,21.6s,baz=284,slow=32						
MAW	**Mawson**	**25.62**	**142**	P	**P**	**11 38 32.3**	**+0.1**
LBTB	**Lobatse**	**28.37**	**13**	LR	LR	11 48 40.0	
	comp=Z,1μm,18.8s,baz=187,slow=33						
TSUM	**Tsumeb**	**33.69**	**358**	P	**P**	**11 39 44.2**	**-0.2**
QSPA	**South Pole Qui**	**37.29**	**180**	P	**P**	**11 40 14.1**	**-1.0**
	comp=Z,20nm,0.7s,baz=246,slow=2.6,SNR=66						
QSPA	**South Pole Qui**	**37.29**	**180**	P	**P**	**11 40 14.7**	**-0.4**
QSPA				IAmb	IAmb	11 40 21.2	
	comp=Z,35nm,1.1s						
LSZ	**Lusaka**	**38.32**	**15**	P	**P**	**11 40 24.1**	**-0.1**
LSZ				IAmb	IAmb	11 40 25.6	
	comp=Z,20nm,1.4s						
CASY	**Casey**	**43.92**	**144**	P	**P**	**11 41 09.5**	**-0.1**
CASY				IAmb	IAmb	11 41 14.3	
	comp=Z,20nm,1.2s						
EFI	**East Falkland**	**44.84**	**239**	P	**P**	**11 41 17.3**	**+0.2**
SBA	**Scott Base**	**47.99**	**171**	P	**P**	**11 41 42.2**	**+0.7**
SBA				IAmb	IAmb	11 41 55.8	
	comp=Z,19nm,1.4s						
USHA	**Ushuaia**	**48.19**	**231**	P	**P**	**11 41 44.3**	**+1.0**
	comp=Z,22nm,1.2s,baz=106,slow=13,SNR=3.5						
KMBO	**Kilima Mbogo**	**53.90**	**23**	P	**P**	**11 42 26.8**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=184,slow=13,SNR=1.8						
KMBO				LR	LR	12 03 44.0	
	comp=Z,291nm,19.8s,baz=142,slow=34						
KMBO	**Kilima Mbogo**	**53.90**	**23**	P	**P**	**11 42 27.7**	**+0.7**
PLCA	**Paso Flores**	**58.45**	**243**	P	**P**	**11 43 00.1**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=111,slow=8.6,SNR=3.6						
PLCA				LR	LR	12 05 50.7	
	comp=Z,158nm,18.7s,baz=170,slow=34						
PLCA	**Paso Flores**	**58.45**	**243**	P	**P**	**11 42 59.4**	**+0.3**
PLCA				IAmb	IAmb	11 43 13.6	
	comp=Z,10nm,1.2s						
GO06	**Curarrehue**	**59.76**	**243**	P	**P**	**11 43 08.4**	**+0.2**
GO06				IAmb	IAmb	11 43 28.2	
	comp=Z,11nm,1.2s						
CPUP	**Villa Florida**	**61.17**	**264**	P	**P**	**11 43 18.2**	**+0.3**
	comp=Z,5.5nm,0.9s,baz=153,slow=4.9,SNR=6.7						
CPUP				LR	LR	12 05 35.2	
	comp=Z,70nm,20.1s,baz=184,slow=32						
CPUP	**Villa Florida**	**61.17**	**264**	P	**P**	**11 43 18.1**	**+0.2**
LIC	**Lamto**	**62.29**	**333**	*e*P	**P**	**11 43 24.6**	**-0.8**
	comp=Z,71nm,1.1s						
KIC	**Kosan Boka**	**62.34**	**333**	*e*P	**P**	**11 43 26.2**	**+0.4**
	comp=Z,38nm,1.4s						
DBIC	**Dimbokro**	**62.67**	**333**	P	**P**	**11 43 27.0**	**-0.9**
	comp=Z,8.7nm,0.8s,baz=135,slow=9.2,SNR=7.2						
DBIC				LR	LR	12 04 17.9	
	comp=Z,212nm,20.9s,baz=140,slow=30						
DBIC	**Dimbokro**	**62.67**	**333**	P	**P**	**11 43 27.9**	**-0.1**
TIC	**Toumodi**	**62.69**	**333**	*e*P	**P**	**11 43 27.3**	**-0.8**
BDFB	**Brasilia**	**63.67**	**279**	LR	LR	12 07 05.4	
	comp=Z,75nm,19.2s,baz=115,slow=32						
BDFB	**Brasilia**	**63.67**	**279**	P	**P**	**11 43 35.0**	**+0.2**
FURI	**Furi**	**63.91**	**22**	P	**P**	**11 43 37.4**	**+0.9**
H01W2	**Cape Leeuwin H**	**66.02**	**116**	T	T	12 56 25.8	
	baz=221,slow=75,SNR=5.1						
H01W3	**Cape Leeuwin H**	**66.03**	**116**	T	T	12 56 21.7	
	baz=221,slow=75,SNR=5.3						
H01W1	**Cape Leeuwin H**	**66.03**	**116**	T	T	12 56 29.4	
	baz=221,slow=75,SNR=5.6						
TOA0	**Torodi Ar. Sit**	**67.43**	**342**	P	**P**	**11 43 59.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**67.43**	**342**	P	**P**	**11 43 57.8**	**-1.1**
	comp=Z,3.4nm,0.9s,baz=163,slow=7.7,SNR=15						
TORD				LR	LR	12 11 14.2	
	comp=Z,85nm,18.1s,baz=30,slow=34						
TORD	**Torodi Ar. Bea**	**67.43**	**342**	P	**P**	**11 43 58.4**	**-0.4**
LVC	**Limon Verde**	**70.89**	**258**	P	**P**	**11 44 18.5**	**-2.4**
LVC				IAmb	IAmb	11 44 24.7	
	comp=Z,27nm,1.6s						
MNMC	**Minye Minye**	**73.97**	**260**	P	**P**	**11 44 38.4**	**-0.8**
MNMC				IAmb	IAmb	11 44 41.2	
	comp=Z,12nm,1.3s						
LPAZ	**La Paz**	**75.30**	**262**	P	**P**	**11 44 48.3**	**+1.0**
	comp=Z,6.9nm,1.2s,baz=115,slow=4.8,SNR=12						
LPAZ				LR	LR	12 14 40.7	
	comp=Z,110nm,21.0s,baz=120,slow=33						
LPAZ	**La Paz**	**75.30**	**262**	P	**P**	**11 44 45.8**	**-1.5**
LPAZ				IAmb	IAmb	11 44 50.2	
	comp=Z,20nm,1.4s						
TAM	**Tamanrasset**	**76.28**	**347**	P	**P**	**11 44 51.8**	**-0.2**
TAM				IAmb	IAmb	11 44 54.9	
	comp=Z,8.9nm,1.4s						
SAML	**Samuel**	**78.04**	**271**	P	**P**	**11 45 01.8**	**-0.3**
SAML				IAmb	IAmb	11 45 03.8	
	comp=Z,8.1nm,0.8s						
BBOO	**Buckleboo**	**78.74**	**130**	P	**P**	**11 45 05.9**	**+0.2**
BBOO				IAmb	IAmb	11 45 06.0	
	comp=Z,14nm,1.4s						
RAYN	**Ar Rayn**	**79.63**	**25**	P	**P**	**11 45 11.3**	**+0.7**
RAYN				IAmb	IAmb	11 45 14.7	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**82.02**	**134**	P	**P**	**11 45 21.2**	**-2.2**
	comp=Z,5.2nm,0.9s,baz=223,slow=5.2,SNR=3.4						
STKA				LR	LR	12 20 04.2	
	comp=Z,29nm,18.2s,baz=203,slow=34						
STKA	**Stephens Creek**	**82.02**	**134**	P	**P**	**11 45 23.8**	**+0.4**
UOSS	**Minazif**	**84.14**	**34**	P	**P**	**11 45 34.3**	**+0.1**
ASAR	**Alice Springs**	**85.32**	**124**	P	**P**	**11 45 38.4**	**-2.1**
	comp=Z,1.7nm,0.6s,baz=209,slow=4.3,SNR=14						
ASAR				LR	LR	12 16 59.0	
	comp=Z,74nm,20.3s,baz=210,slow=31						
ASAR	**Alice Springs**	**85.32**	**124**	P	**P**	**11 45 38.5**	**-2.0**
AS31	**Alice Springs**	**85.32**	**124**	P	**P**	**11 45 39.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**85.51**	**114**	P	**P**	**11 45 40.9**	**-0.5**
WRA	**Warramunga Arr**	**88.64**	**122**	P	**P**	**11 45 53.6**	**-3.0**
	comp=Z,1.1nm,0.8s,baz=213,slow=4.0,SNR=3.9						
WRA				LR	LR	12 21 56.6	
	comp=Z,67nm,18.7s,baz=225,slow=33						
WRA	**Warramunga Arr**	**88.64**	**122**	P	**P**	**11 45 56.6**	**0.0**
WB2	**Warramunga Arr**	**88.65**	**122**	P	**P**	**11 45 56.7**	**0.0**
KEST	**Kesra**	**88.68**	**352**	LR	LR	12 25 48.3	
	comp=Z,196nm,19.7s,baz=9.0,slow=36						
BATI	**Baumata**	**90.77**	**108**	LR	LR	12 20 33.0	
	comp=Z,147nm,19.5s,baz=238,slow=32						
KAPI	**Kappang**	**92.65**	**102**	LR	LR	12 19 58.7	
	comp=Z,56nm,20.3s,baz=267,slow=30						
BRTR	**Keskin Array B**	**93.20**	**11**	P	**P**	**11 46 17.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=188,slow=5.2,SNR=3.7						
ESDC	**Sonseca Array**	**94.32**	**343**	P	**P**	**11 46 23.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=186,slow=4.3,SNR=4.7						
ESDC	**Sonseca Array**	**94.32**	**343**	P	**P**	**11 46 22.3**	**0.0**
ROSC	**El Rosal**	**95.66**	**270**	LR	LR	12 28 06.4	
	comp=Z,94nm,18.6s,baz=71,slow=34						
GEYT	**Alibeck**	**96.75**	**30**	LR	LR	12 33 29.0	
	comp=Z,111nm,18.1s,baz=355,slow=38						
KBZ	**Khabaz**	**98.52**	**17**	LR	LR	12 32 09.8	
	comp=Z,188nm,18.1s,baz=190,slow=36						
CMAR	**Chiang Mai Arr**	**98.80**	**71**	LR	LR	12 24 58.6	
	comp=Z,69nm,18.7s,baz=185,slow=32						
DZM	**Mont Dzumac**	**100.21**	**150**	*e*LR	LR	12 19 31.6	
	comp=Z,236nm,36.0s						
VYHS	**Vyhne**	**101.06**	**0**	*e*PDIFF	**Pdif**	**11 46 51.5**	**-0.9**
TBI	**Tubuai**	**103.34**	**191**	*e*LR	LR	12 20 54.6	
	comp=Z,199nm,25.8s						
PPT2	**Papeete2**	**109.03**	**192**	*e*LR	LR	12 23 39.4	
	comp=Z,219nm,27.0s						
CD2	**Chengdu**	**111.22**	**67**	Pdif	**Pdif**	**11 47 40.5**	**+2.4**
TAOE	**Nuku Hiva Isla**	**115.86**	**203**	*e*LR	LR	12 26 43.9	
	comp=Z,214nm,33.5s						
ZALV	**Zalesovo Beam**	**119.81**	**39**	PKP	**PKPdf**	**11 51 50.7**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=264,slow=2.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**119.81**	**39**		**PKPdf**	**11 51 51.7**	**-0.7**
ARCES	**ARCESS Array B**	**122.27**	**3**	PKP	**PKPdf**	**11 51 56.8**	**0.0**
	comp=Z,2.3nm,0.7s,baz=46,slow=3.5,SNR=4.1						
SONM	**Songino Array**	**124.87**	**55**	PKP	**PKPdf**	**11 52 02.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=198,slow=2.2,SNR=4.8						
SONM	**Songino Array**	**124.87**	**55**		**PKiKP**	**11 52 02.8**	**-0.1**
MSU	**Marysvale**	**143.56**	**267**		**PKPdf**	**11 52 38.0**	**+0.2**
SHPR	**Sheep Range**	**144.05**	**262**		**PKPdf**	**11 52 38.7**	**+0.1**
NLU	**North Lily Min**	**144.40**	**269**		**PKPdf**	**11 52 39.1**	**-0.1**
PDAR	**Pinedale Array**	**144.55**	**275**	PKhKP	PKPpre	11 52 34.0	
	comp=Z,4.5nm,0.7s,baz=130,slow=3.0,SNR=26						
PDAR				PKP	PKPbc	11 52 38.1	-0.1
	comp=Z,4.5nm,0.7s,baz=125,slow=4.5,SNR=34						
PDAR	**Pinedale Array**	**144.55**	**275**		PKPbc	11 52 38.4	+0.2
PSUT	**Pine Spring**	**144.59**	**265**		**PKPdf**	**11 52 39.7**	**+0.1**
TCUT	**Toone Canyon**	**144.71**	**271**		**PKPdf**	**11 52 39.6**	**-0.1**
TPNV	**Topopah Spring**	**145.00**	**261**		**PKPdf**	**11 52 40.4**	**+0.1**
DUG	**Dugway, Tooele**	**145.00**	**268**		**PKPdf**	**11 52 40.2**	**+0.1**
R11A	**Troy Canyon, C**	**145.51**	**264**		**PKPab**	**11 52 41.8**	**+0.2**
TPAW	**Teton Pass**	**145.80**	**275**		**PKPab**	**11 52 42.5**	**-0.1**
FXWY	**Fox Creek**	**145.93**	**275**		**PKPab**	**11 52 42.9**	**-0.2**
ELK	**Elko**	**146.80**	**267**		**PKPbc**	**11 52 44.8**	**-0.4**
NVAR	**Mina Array Bea**	**147.19**	**261**	PKPbc	**PKPdf**	**11 52 44.6**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=133,slow=4.7,SNR=14						
NVAR	**Mina Array Bea**	**147.19**	**261**		**PKPdf**	**11 52 43.9**	**-0.2**
WALA	**Waterton Lakes**	**150.37**	**282**		**PKiKP**	**11 52 55.4**	**+0.7**
BMO	**Blue Mountains**	**150.38**	**272**		**PKPdf**	**11 52 49.5**	**+0.7**
BMO				PKPbc	**pPKPbc**	**11 52 55.9**	**-0.9**
G08A	**Pilot Rock**	**151.61**	**272**		**PKPdf**	**11 52 51.7**	**+1.0**
G08A				PKPbc	**pPKPbc**	**11 52 58.7**	**-1.0**
YKA	**Yellowknife Ar**	**153.88**	**310**	PKPab	**PKPab**	**11 53 13.5**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=94,slow=5.4,SNR=4.5						
INK	**Inuvik**	**159.74**	**330**		**PKPab**	**11 53 41.2**	**+1.6**
EPYK	**Eagle Plains**	**161.88**	**327**		**PKPab**	**11 53 50.7**	**+1.5**
PRP	**Porcupine Dome**	**165.10**	**334**		**PKPab**	**11 54 05.1**	**+1.7**
IL31		**166.05**	**334**		**PKPab**	**11 54 08.9**	**+1.5**
ILAR	**Eielson Array**	**166.05**	**334**	PKPab	**PKPab**	**11 54 05.5**	**-2.0**
	comp=Z,2.3nm,0.8s,baz=16,slow=3.3,SNR=12						
ILAR	**Eielson Array**	**166.05**	**334**		**PKPab**	**11 54 09.3**	**+1.9**

NIED ***01*** *11:52:00, 23.°70N×121.°50E, h35km, Mw3.7 Best double couple: M0=3.39000×10^14 NP1:φs52.00000°, δ84.00000°, λ~175.00000°. NP2:φs321.00000°, δ85.00000°, λ~6.00000°.*

JMA ***01*** *11:52:36.9, 23.°68N×121.°52E, h0km, M3.6*

IDC ***01*** *11:52:36.0±4.7, 23.°62N×121.°78E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/23, Error ellipse: s-maj=330.4km s-min=29.2km az=60.0*

TAP ***01*** *11:52:37.9, 23.°71N×121.°46E, h16km, ML4.0, C*

ASIES ***01*** *11:52:38.8, 23.°76N×121.°42E, h19km, MW3.4*

ISCJB ***01*** *11:52:38.0±0.3, 23.°69N±0.°01×121.°50E±0.°01, h13km±1km, mb3.2/3, MS3.5/1, Error ellipse: s-maj=2.3km s-min=1.4km az=34.8*

ISC 01 11:52:37.7±0.8, 23.°69N±0.°01×121.°51E±0.°02, h13km±5km, n125, σ0ϑ72/200, mb3.2/3, 16C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.08**	**253⇑**	*i*P	**Pg**	**11 52 40.9**	**+0.4**
	baz=220						
EGFH				*i* S	**Sg**	**11 52 42.7**	**+0.2**
	baz=220						
ESL	**Shilin**	**0.14**	**329⇑**	*i*P	**Pg**	**11 52 41.5**	**+0.2**
	baz=351						
ESL				*i* S	**Sg**	**11 52 43.6**	**-0.2**
	baz=351						
HGSD	**Ruisui**	**0.21**	**202**	⇑P	**Pb**	**11 52 43.5**	**+0.1**
	baz=196						
HGSD				*e*S	**Sb**	**11 52 47.6**	**+0.4**
	baz=196						
ENLB	**Shoufeng**	**0.23**	**21**	P	**Pb**	**11 52 43.5**	**-0.1**
	baz=26						
ENLB				*e*S	**Sb**	**11 52 47.4**	**-0.2**
	baz=26						
EHY	**Hungye**	**0.26**	**223**	⇓P	**Pg**	**11 52 43.1**	**0.0**
	baz=218						
EHY				*e*S	**Sg**	**11 52 46.6**	**-0.1**
	baz=218						
HWA	**Hwalien**	**0.30**	**17**	P	**Pb**	**11 52 45.5**	**+0.7**
	baz=18						
HWA				S	**Sb**	**11 52 50.2**	**+0.6**
	baz=18						
VWDT	**VWDT**	**0.35**	**280**	⇓P	**Pg**	**11 52 44.6**	**-0.1**
	baz=280						
VWDT				S	**Sg**	**11 52 48.9**	**-0.5**
	baz=280						
YULB	**Yu-li**	**0.36**	**214**	⇓P	**Pg**	**11 52 44.8**	**-0.1**
	baz=215						
YULB				S	**Sg**	**11 52 49.9**	**+0.1**
	baz=215						
TWF1	**Yuli**	**0.39**	**210**	⇓*i*P	**Pg**	**11 52 45.5**	**-0.1**
	baz=210						
TWF1				*e*S	**Sg**	**11 52 51.5**	**+0.7**
	baz=210						
TWD	**Chiawan**	**0.39**	**11**	P	**Pb**	**11 52 46.5**	**0.0**
	baz=8.0						
TWD				*i* S	**Sb**	**11 52 51.7**	**-0.7**
	baz=8.0						
CHGB	**Renai**	**0.48**	**320**	⇓P	**Pg**	**11 52 47.2**	**0.0**
	baz=329						
CHGB				S	**Sg**	**11 52 52.7**	**-1.1**
	baz=329						
NACB	**Ninganchiao**	**0.48**	**9**	⇑P	**Pg**	**11 52 47.4**	**+0.2**
	baz=4.0						
NACB				S	**Sg**	**11 52 54.0**	**+0.3**
	baz=4.0						
WHF	**Hehuan Shan**	**0.51**	**333**	⇓*i*P	**Pg**	**11 52 47.6**	**-0.2**
	baz=338						
WHF				S	**Sg**	**11 52 53.9**	**-0.7**
	baz=338						
ETLH	**Xiulin Townshi**	**0.51**	**357**	P	**Pg**	**11 52 48.0**	**+0.2**
	baz=360						
ETLH				S	**Sg**	**11 52 54.5**	**-0.2**
	baz=360						
SSLB	**Suanglung**	**0.52**	**281**	⇓P	**Pg**	**11 52 47.2**	**-0.7**
	baz=289						
SSLB				S	**Sg**	**11 52 53.1**	**-1.8**
	baz=289						
YUS	**Yu-Shan**	**0.55**	**249**	*e*P	**Pg**	**11 52 48.6**	**0.0**
	baz=253						
YUS				*e*S	**Sg**	**11 52 55.1**	**-1.0**
	baz=253						
SMLT	**Sun Moon Lake**	**0.59**	**289**	⇓*i*P	**Pg**	**11 52 48.8**	**-0.6**
	baz=290						
SMLT				*e*S	**Sg**	**11 52 54.8**	**-2.4**
	baz=290						
WHYT	**Xinyi Township**	**0.60**	**271**	⇓P	**Pg**	**11 52 49.3**	**-0.3**
	baz=265						
WHYT				S	**Sg**	**11 52 56.2**	**-1.4**
	baz=265						
CHKT	**Chengkung**	**0.61**	**193**	*e*P	**Pb**	**11 52 50.2**	**+0.1**
	baz=189						
CHKT				*e*S	**Sb**	**11 52 59.6**	**+1.1**
	baz=189						
DPDB	**Guoxing**	**0.64**	**302**	⇓P	**Pg**	**11 52 49.9**	**-0.2**
	baz=311						
DPDB				S	**Sg**	**11 52 57.0**	**-1.5**
	baz=311						
TYC	**Yuchr**	**0.64**	**289**	⇓*i*P	**Pg**	**11 52 49.4**	**-0.7**
	baz=298						
TYC				S	**Sg**	**11 52 57.8**	**-0.7**
	baz=298						
TDCB	**Techi**	**0.65**	**330**	⇓P	**Pg**	**11 52 50.5**	**+0.1**
	baz=332						
TDCB				S	**Sg**	**11 52 57.5**	**-1.4**
	baz=332						
ALS	**Alishan**	**0.67**	**255**	P	**Pg**	**11 52 50.7**	**-0.1**
	baz=253						
ALS				S	**Sg**	**11 52 58.7**	**-1.1**
	baz=253						
ELDTW	**Lidau**	**0.68**	**222⇑**	*i*P	**Pg**	**11 52 50.0**	**-0.9**
	baz=210						
WJS	**Zhushan**	**0.73**	**280**	P	**Pb**	**11 52 52.5**	**+0.3**
	baz=283						
WJS				S	**Sb**	**11 53 02.5**	**+0.4**
	baz=283						
NNSB	**Datong**	**0.74**	**351**	⇑P	**Pg**	**11 52 52.1**	**0.0**
	baz=1.0						
NNSB				S	**Sg**	**11 53 01.0**	**-0.9**
	baz=1.0						
NNS	**Nan Shan**	**0.76**	**350⇑**	*i*P	**Pg**	**11 52 52.4**	**0.0**
	baz=1.0						
NNS				*e*S	**Sg**	**11 53 02.1**	**-0.2**
	baz=1.0						
ENA	**Nanau**	**0.76**	**16**	*e*P	**Pg**	**11 52 52.3**	**-0.2**
	baz=9.0						
ENA				*e*S	**Sb**	**11 53 02.8**	**-0.3**
	baz=9.0						
NANB	**Nanao**	**0.76**	**16**	*e*P	**Pg**	**11 52 52.1**	**-0.4**
	baz=9.0						
NANB				*e*S	**Sb**	**11 53 02.9**	**-0.2**
	baz=9.0						
CHN5	**Tsauling**	**0.77**	**263**	⇓P	**Pg**	**11 52 52.7**	**+0.1**
	baz=256						
CHN5				S	**Sg**	**11 53 02.4**	**-0.4**
	baz=256						
WHP	**Taichung City**	**0.78**	**318**	*e*P	**Pg**	**11 52 52.6**	**-0.3**
	baz=320						
WHP				*e*S	**Sg**	**11 53 02.1**	**-1.0**
	baz=320						
WNT	**Mingjian**	**0.78**	**284**	⇑P	**Pb**	**11 52 53.6**	**+0.5**
	baz=286						
WNT				S	**Sb**	**11 53 04.5**	**+0.9**
	baz=286						
STYT	**Tauyuan**	**0.87**	**233**	P	**Pb**	**11 52 54.4**	**-0.3**
	baz=231						
STYT				*e*S	**Sb**	**11 53 05.3**	**-0.9**
	baz=231						
WGK	**Gukeng**	**0.87**	**270**	P	**Pb**	**11 52 54.8**	**+0.2**
	baz=269						
WGK				S	**Sg**	**11 53 07.0**	**+1.0**
	baz=269						
TCU	**Taichung**	**0.89**	**301**	*e*P	**Pg**	**11 52 55.4**	**+0.5**
	baz=306						
TCU				*e*S	**Sn**	**11 53 08.1**	**-0.4**
	baz=306						
WDLH	**Douliu**	**0.89**	**270**	*e*P	**Pb**	**11 52 55.0**	**0.0**
	baz=269						
WDLH				*e*S	**Sg**	**11 53 07.2**	**+0.6**
	baz=269						
TPUB	**Ta-pu**	**0.90**	**244**	P	**Pb**	**11 52 55.1**	**0.0**
	baz=243						
TPUB				*e*S	**Sb**	**11 53 06.0**	**-1.0**
	baz=243						
NDT	**Datong Townshi**	**0.91**	**0**	*e*P	**Pn**	**11 52 55.7**	**-0.4**
	baz=1.0						
NDT				*e*S	**Sb**	**11 53 06.5**	**-0.7**
	baz=1.0						
CHN4	**Tsaushan**	**0.91**	**248**	⇑P	**Pb**	**11 52 55.4**	**+0.1**
	baz=247						
CHN4				*e*S	**Sb**	**11 53 07.0**	**-0.3**
	baz=247						
WTP	**Ta-pu**	**0.94**	**242**	⇑P	**Pb**	**11 52 55.7**	**-0.1**
	baz=240						
WTP				*e*S	**Sb**	**11 53 07.5**	**-0.6**
	baz=240						
TWQ1	**Liyutan**	**0.94**	**314**	⇑P	**Pn**	**11 52 56.5**	**0.0**
	baz=322						
TWQ1				S	**Sg**	**11 53 08.5**	**+0.3**
	baz=322						
ENTT	**Nioudou**	**0.94**	**3**	*e*P	**Pb**	**11 52 55.8**	**-0.1**
	baz=4.0						
ENTT				*e*S	**Sb**	**11 53 07.8**	**-0.6**
	baz=4.0						
WCHH	**Zhanghua**	**0.95**	**294**	*e*P	**Pg**	**11 52 56.3**	**+0.1**
	baz=294						
WCHH				*e*S	**Sn**	**11 53 09.6**	**-0.5**
	baz=294						
TWG	**Pinlang**	**0.96**	**205**	*e*P	**Pb**	**11 52 54.6**	**-1.5**
	baz=192						
TWGBT	**Beinan**	**0.96**	**205**	*e*P	**Pb**	**11 52 54.4**	**-1.7**
	baz=192						
TWC	**

SLBB	**Yuanshan**	**1.06**	**6**	*eP*	**Pb**	**11 52 57.7 -0.2**
	baz=6.0					
SLBB				*eS*	**Sb**	**11 53 11.2 -0.6**
	baz=6.0					
NMLH	**Miaoli**	**1.07**	**322**	*eP*	**Pg**	**11 52 58.9 +0.6**
	baz=323					
NMLH				*eS*	**Sn**	**11 53 12.6 -0.5**
	baz=323					
RLNB	**Erlin**	**1.07**	**281**	*eP*	**Pb**	**11 52 58.1 +0.1**
	baz=281					
RLNB				*eS*	**Sg**	**11 53 12.6 +0.1**
	baz=281					
NWLT	**Wulai**	**1.08**	**360**	*eP*	**Pg**	**11 52 58.6 0.0**
	baz=360					
NWLT				*eS*	**Sb**	**11 53 12.0 -0.3**
	baz=360					
ILA	**Ilan**	**1.09**	**11**	*eP*	**Pb**	**11 52 57.8 -0.5**
	baz=11					
WLGB	**Puzi**	**1.13**	**259**	*eP*	**Pn**	**11 52 57.4 -1.8**
	baz=270					
WTCT	**Ta-ch'eng**	**1.14**	**279**	*eP*	**Pn**	**11 52 59.2 0.0**
	baz=278					
WLTB	**Daxi**	**1.18**	**348**	*eP*	**Pg**	**11 53 01.2 +0.8**
	baz=356					
WLTB				*eS*	**Sg**	**11 53 16.4 +0.7**
	baz=356					
WSF	**Szhu**	**1.19**	**268⇑**	*eP*	**Pb**	**11 53 00.2 +0.2**
	baz=268					
WSF				*eS*	**Sb**	**11 53 14.5 -0.6**
	baz=268					
NTC	**Toucheng**	**1.19**	**14**	*eP*	**Pg**	**11 53 00.3 -0.3**
	baz=13					
SBCB	**Hsinchu**	**1.20**	**336**	*eP*	**Pg**	**11 53 01.4 +0.7**
	baz=337					
ECL	**Taimali**	**1.21**	**205**	*eP*	**Pn**	**11 52 59.0 -1.2**
	baz=193					
HSN	**Hsinchu**	**1.21**	**336**	*eP*	**Pg**	**11 53 01.5 +0.5**
	baz=339					
HSN				*eS*	**Sg**	**11 53 17.8 +1.0**
	baz=339					
CHN3	**Shinhua**	**1.22**	**240**	*eP*	**Pg**	**11 53 01.6 +0.4**
	baz=240					
CHN3				*eS*	**Sg**	**11 53 18.1 +1.1**
	baz=240					
SSD	**Sandimen**	**1.24**	**221**	*eP*	**Pn**	**11 53 00.5 -0.2**
	baz=216					
CHN8	**Yiju**	**1.24**	**254**	*eP*	**Pb**	**11 53 01.0 0.0**
	baz=254					
CHN8				*eS*	**Sb**	**11 53 16.8 -0.1**
	baz=254					
TATO	**Taipei**	**1.28**	**359**	*eP*	**Pb**	**11 53 01.7 +0.2**
	baz=8.0					
TWA	**Mucha**	**1.28**	**3**	*eP*	**Pg**	**11 53 02.7 +0.3**
	baz=2.0					
TWA				*eS*	**Sn**	**11 53 18.1 -0.2**
	baz=2.0					
NCUH	**Zhongli**	**1.30**	**347**	*eP*	**Pg**	**11 53 02.9 +0.1**
NCU	**National Centr**	**1.31**	**347**	*eP*	**Pg**	**11 53 02.9 +0.1**
	baz=347					
NCU				*eS*	**Sg**	**11 53 20.1 +0.3**
	baz=347					
TIPB	**Shuangxi**	**1.31**	**13**	*eP*	**Pn**	**11 53 01.2 -0.3**
	baz=12					
TIPB				*eS*	**Sb**	**11 53 17.4 -1.3**
	baz=12					
SCLT	**Jiali**	**1.32**	**247**	*eP*	**Pn**	**11 53 01.3 -0.4**
	baz=245					
TWM1	**Shoushan**	**1.32**	**229**	*eP*	**Pg**	**11 53 03.7 +0.6**
	baz=219					
TAP1	**Taipei**	**1.34**	**0**	*eP*	**Pg**	**11 53 03.3 -0.2**
	baz=12					
SGLT	**Jiouru**	**1.34**	**225**	*eP*	**Pg**	**11 53 03.7 +0.2**
	baz=215					
MASBT	**Mashibuluo**	**1.35**	**217**	*eP*	**Pn**	**11 53 01.4 -0.7**
	baz=214					
MASBT				*eS*	**Sb**	**11 53 20.6 +0.8**
	baz=214					
NWF	**Wu-fen Shan**	**1.39**	**10**	*eP*	**Pg**	**11 53 04.6 +0.1**
	baz=9.0					
WFSB	**Wu-fen Shan**	**1.39**	**10**	*eP*	**Pg**	**11 53 04.3 -0.2**
	baz=9.0					
WFSB				*eS*	**Sb**	**11 53 21.3 +0.1**
	baz=9.0					
TWS1	**Kuangyinshan**	**1.41**	**356**	*eP*	**Pg**	**11 53 04.6 -0.1**
	baz=12					
TWS1				*eS*	**Sg**	**11 53 23.6 +0.6**
	baz=12					
EAST	**Anshuo**	**1.44**	**205**	*eP*	**Pn**	**11 53 04.0 +0.6**
	baz=196					
YM01	**YM01**	**1.45**	**2**	*eP*	**Pg**	**11 53 05.2 -0.4**
	baz=1.0					
YM01				*eS*	**Sb**	**11 53 23.3 +0.4**
	baz=1.0					
YM10	**YM10**	**1.46**	**2**	*eP*	**Pg**	**11 53 05.2 -0.5**
	baz=359					
YM11	**YM11**	**1.47**	**2**	*eP*	**Pb**	**11 53 05.2 +0.3**
	baz=360					
ANP	**Anpu**	**1.49**	**0**	*eP*	**Pb**	**11 53 05.5 +0.3**
	baz=17					
YM08	**YM08**	**1.49**	**3**	*eP*	**Pb**	**11 53 05.0 -0.2**
SCZT	**Fangliau**	**1.55**	**212**	*eP*	**Pb**	**11 53 06.3 +0.1**
	baz=223					
SCZT				*eS*	**Sb**	**11 53 25.9 +0.2**
	baz=223					
YOJ	**Yonaguni jima**	**1.57**	**60**	*eP*	**Pb**	**11 53 05.9 -0.6**
	baz=60					
YOJ				*eS*	**Sb**	**11 53 25.9 -0.4**
	baz=60					
YOJ	**Yonaguni jima**	**1.57**	**60**	P	**Pb**	**11 53 06.4 -0.1**
YOJ				*eS*	**Sb**	**11 53 26.8 +0.5**
TWY	**Chenhua**	**1.58**	**3**	*eP*	**Pb**	**11 53 06.9 +0.2**
	baz=1.0					
WDGT	**Dungji**	**1.75**	**256**	*eP*	**Pn**	**11 53 07.3 -0.4**
	baz=253					
PHUB	**P'eng-hu**	**1.79**	**265**	*eP*	**Pn**	**11 53 07.5 -0.6**
	baz=244					
PNG	**Penghu**	**1.80**	**266**	*eP*	**Pn**	**11 53 07.4 -1.0**
	baz=264					
VCHM	**Qimei**	**1.97**	**256**	*eP*	**Pn**	**11 53 09.8 -0.9**
	baz=252					
IRIF	**Iriomote-Funau**	**2.13**	**72**	P	**Pb**	**11 53 14.3 -1.7**
IRIF				*eS*	**Sb**	**11 53 41.4 -0.9**
HATJ	**Hateruma jima**	**2.13**	**80**	*eS*	**Sn**	**11 53 40.0 +0.8**
JKRS	**Kuro-shima**	**2.35**	**76**	P	**Pn**	**11 53 17.5 +1.6**
JKRS				*eS*	**Sb**	**11 53 46.3 -2.4**
PTTC	**Pingtan**	**2.40**	**319**	*eP*	**Pn**	**11 53 16.3 -0.3**
	baz=320					
JIJ	**Ishigaki jima**	**2.50**	**74**	P	**Pn**	**11 53 18.7 +0.8**
JIJ				*eS*	**Sn**	**11 53 48.5 +0.3**
PTMZ	**Houxiangcun**	**2.56**	**302**	*eP*	**Pn**	**11 53 18.7 -0.1**
	baz=302					
JISG	**Ishigakijimahi**	**2.71**	**70**	P	**Pn**	**11 53 21.2 +0.4**
JISG				*eS*	**Sn**	**11 53 53.6 +0.2**
KNM	**Kinmen**	**2.91**	**285**	*eP*	**Pn**	**11 53 24.6 +1.1**
	baz=283					
KNMB	**Chin-men Tao**	**2.96**	**286**	*eP*	**Pn**	**11 53 23.8 -0.5**
	baz=268					
JTJ	**Tarama**	**3.06**	**71**	*eS*	**Sb**	**11 54 05.7 -3.6**
LYJJ	**Jianjiangzhen**	**3.26**	**331**	*eP*	**Pn**	**11 53 27.9 -0.5**
	baz=333					
MHZQ	**Yeshan**	**3.29**	**317**	*eP*	**Pn**	**11 53 29.0 +0.2**
	baz=319					
XPSS	**Dashiqiu**	**3.44**	**340**	*eP*	**Pn**	**11 53 30.5 -0.4**
	baz=332					
AXDP	**Jialang**	**3.45**	**291**	*eP*	**Pn**	**11 53 30.9 -0.1**
	baz=290					
MKAR	**Makanchi Array**	**38.90**	**316**	P	**P**	**12 00 05.1 +2.2**
	0.4nm,0.7s,baz=121,slow=8.7,SNR=3.5					
FITZ	**Fitzroy Crossi**	**41.73**	**174**	LR	LR	12 21 08.2
	comp=Z,56nm,18.4s,baz=245,slow=41					
H11S3	**WAKE ISLAND Hy**	**42.33**	**88**	T	T	12 45 40.3
	baz=284,slow=74,SNR=24					
H11S1	**WAKE ISLAND Hy**	**42.34**	**88**	T	T	12 45 40.9
	baz=284,slow=74,SNR=14					
H11S2	**WAKE ISLAND Hy**	**42.35**	**88**	T	T	12 45 42.5
	baz=284,slow=74,SNR=14					
WRA	**Warramunga Arr**	**45.14**	**163**	P	**P**	**12 00 53.7 -0.3**
	0.2nm,0.5s,baz=346,slow=8.9,SNR=5.6					
ASAR	**Alice Springs**	**48.59**	**165**	P	**P**	**12 01 20.0 -1.0**
	0.1nm,0.4s,baz=347,slow=6.1,SNR=3.2					

*SOME **01** 12:06:47.8, 40°.90N×69°.93E, h10km*
*KRNET **01** 12:06:49.6±0.1, 41°.00N×69°.68E, h10km, mb3.1*
*NNC **01** 12:06:49.4±2.6, 40°.95N×69°.73E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=18.0km s-min=12.8km az=41.0*

ISC 01 12:06:49.7±1.3, 41°.06N±0°.05×69°.68E±0°.04, h5km±10km, n22, σ1§78/38, 14C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.40**	**312**	⇑*iP*	**Pg**	**12 06 57.7**	**+0.2**
	baz=19						
TAS				⇑*iS*	**Sg**	**12 07 05.0**	**+2.2**
	baz=19						
IUG	**luzhnay**	**1.12**	**14**	P	**Pb**	**12 07 11.0**	**-0.7**
	33nm,0.2s						
IUG				S	**Sb**	**12 07 27.1**	**+0.5**
	106nm,0.3s						
IUG	**luzhnay**	**1.12**	**14**	*eP*	**Pb**	**12 07 10.9**	**-0.7**
	9.6nm,0.1s						
IUG				*eS*	**Sg**	**12 07 27.6**	**+1.8**
	53nm,0.3s						
BTK	**Batken**	**1.32**	**139**	⇓*iP*	**Pg**	**12 07 14.3**	**-0.8**
	baz=37						
BTK				⇓*iS*	**Sn**	**12 07 32.0**	**-1.1**
	baz=37						
ARK	**Arkit**	**1.87**	**66**	⇑*iP*	**Pg**	**12 07 25.1**	**-0.5**
	baz=65						
ARK				⇑*iS*	**Sg**	**12 07 50.9**	**+1.1**
	baz=65						
BRLS	**Borolday**	**1.97**	**3**	P	**Pn**	**12 07 22.3**	**-1.6**
	2.5nm,0.2s						
BRLS				S	**Sn**	**12 07 47.2**	**-1.9**
	46nm,0.3s						
BRLS	**Borolday**	**1.97**	**3**	*eP*	**Pn**	**12 07 22.3**	**-1.6**
	0.6nm,0.2s						
BRLS				*eS*	**Sn**	**12 07 47.2**	**-1.9**
	8.9nm,0.3s						
KK31	**Karatay Array**	**2.13**	**17**	⇓Pn	**Pb**	**12 07 28.5**	**-0.4**
	5.5nm,0.3s,baz=204,slow=15,SNR=79						
KK31				⇓Sn	**Sg**	**12 07 58.6**	**+0.3**
	7.2nm,0.3s,baz=210,slow=34,SNR=3.6						
ARSB	**Arslanbob**	**2.51**	**83**	⇑*iP*	**Pb**	**12 07 33.5**	**-1.8**
	baz=82						
ARSB				⇑*iS*	**Sb**	**12 08 06.7**	**+0.1**
	baz=82						
MRKS	**Merke**	**3.14**	**56**	Pg	**Pb**	**12 07 46.4**	**+0.4**
	9.7nm,0.5s						
MRKS				Lg	Lg	12 08 28.1	
	16nm,0.4s						
MRKS	**Merke**	**3.14**	**56**	*eP*	**Pb**	**12 07 44.3**	**-1.7**
	9.7nm,0.5s						
MRKS				*eS*	**Sb**	**12 08 25.0**	**+0.3**
	17nm,0.6s						
AML	**Almayashu**	**3.20**	**69**	⇑*iP*	**Pb**	**12 07 46.1**	**-1.1**
	baz=68						
AML				⇑*iS*	**Sg**	**12 08 29.9**	**-2.5**
	baz=68						
EKS2	**Erkin-Say**	**3.45**	**61**	⇑*eP*	**Pb**	**12 07 50.3**	**-1.2**
	baz=60						
EKS2				⇑*iS*	**Sb**	**12 08 35.7**	**+1.9**
	baz=60						
ARLS	**Aral**	**3.58**	**76**	⇓*iP*	**Pn**	**12 07 49.0**	**+2.9**
	baz=75						
ARLS				⇓*iS*	**Sn**	**12 08 32.5**	**+3.6**
	baz=75						
UCH	**Uchtor**	**3.81**	**71**	⇑*iP*	**Pb**	**12 07 55.1**	**-2.6**
	baz=70						
UCH				⇑*iS*	**Sb**	**12 08 44.2**	**-0.1**
	baz=70						
AAK	**Ala-Archa**	**3.93**	**65**	⇓Pg	**Pb**	**12 08 01.1**	**+1.5**
	2.2nm,0.3s						
AAK				⇓Lg	Lg	12 08 56.9	
	4.7nm,0.6s						
SGDS	**Sogindy**	**4.38**	**55**	Pg	**Pb**	**12 08 08.4**	**+1.1**
	5.9nm,0.8s						
SGDS				Lg	Lg	12 09 06.5	
	4.1nm,0.6s						
TKM2	**Tokmak 2**	**4.79**	**65**	⇑Pg	**Pg**	**12 08 18.6**	**-2.8**
	2.5nm,0.7s						
TKM2				⇓Lg	Lg	12 09 23.6	
	8.8nm,0.8s						
DGS	**Degeres**	**5.03**	**62**	Pg	**Pb**	**12 08 20.2**	**+1.9**
	3.9nm,0.5s						
DGS				Lg	Lg	12 09 26.5	
	8.4nm,0.6s						
DGS	**Degeres**	**5.03**	**62**	*eP*	**Pb**	**12 08 18.3**	**+0.1**
	3.8nm,0.7s						
DGS				*eS*	**Sb**	**12 09 23.1**	**+4.0**
	8.1nm,0.7s						
KST	**Kastek**	**5.08**	**65**	Pg	**Pb**	**12 08 21.3**	**+2.1**
	3.6nm,0.6s						
KST				Lg	Lg	12 09 27.5	
	8.8nm,0.6s						
AB31	**Akbulak array**	**10.69**	**323**	Pn	**Pn**	**12 09 23.3**	**-0.1**
	0.5nm,0.6s,baz=131,slow=15,SNR=6.4						
AB31				⇑Sn	**Sn**	**12 11 23.3**	**-0.2**
	0.5nm,0.6s						

IDC 01 12:14:43.5±2.7, 13°.58N×96°.37E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/55, mbtmp3.1/3, ML3.5/1, Error ellipse: s-maj=53.3km s-min=24.0km az=96.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.44**	**27**	Pn	Pn	12 16 06.5	+0.5
	0.4nm,0.3s,baz=213,slow=14,SNR=9.6						
CMAR				Lg	Lg	12 17 36.1	
	0.8nm,0.3s,baz=213,slow=33,SNR=5.9						
WRA	**Warramunga Arr**	**50.05**	**131**	P	P	12 23 40.1	-0.3
	0.2nm,0.6s,baz=312,slow=8.1,SNR=5.2						
ASAR	**Alice Springs**	**52.13**	**135**	P	P	12 23 55.9	-0.1
	0.2nm,0.7s,baz=321,slow=7.2,SNR=4.2						

*ISCJB **01** 12:22:43.9±0.4, 20°.35S±0°.10×173°.47W±0°.07, h10km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=15.0km s-min=7.8km az=151.8*
*NEIC **01** 12:22:45.3±1.4, 20°.34S±0°.06×173°.4W±0°.1, h10km±1km, mb4.5/14*
*IDC **01** 12:22:47.2±0.9, 20°.14S×173°.98W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.0/29, mbtmp4.0/10, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/19, Error ellipse: s-maj=41.8km s-min=17.6km az=146.0*

ISC 01 12:22:45.8±0.6, 20°.45±0°.1×173°.44W±0°.08, h10km, n36, σ1§05/35, mb4.2/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.55**	**69**	Pn	**Pn**	**12 23 40.1**	**-0.9**
AFI	**Afiamalu**	**6.62**	**14**	Pn	**Pn**	**12 24 22.6**	**-0.7**
RAR	**Rarotonga**	**12.81**	**96**	Pn	**Pn**	**12 25 47.2**	**-1.0**
	3.0nm,0.3s,baz=250,slow=8.6,SNR=9.5						
RAR				Sn	Sn	12 27 59.2	-12
	1.0nm,0.3s,baz=180,slow=20,SNR=2.4						
RAR	**Rarotonga**	**12.81**	**96**		**Pn**	**12 25 47.5**	**-0.7**
DZM	**Mont Dzumac**	**18.83**	**261**	P	**Pn**	**12 27 06.7**	**+0.2**
	0.4nm,0.3s,baz=92,slow=9.0,SNR=3.2						
DZM	**Mont Dzumac**	**18.83**	**261**	P	**P**	**12 27 05.1**	**-1.0**
URZ	**Urewera**	**19.61**	**203**	P	**Pn**	**12 27 16.7**	**+1.0**
	0.6nm,0.3s,baz=281,slow=5.1,SNR=4.6						
URZ	**Urewera**	**19.61**	**203**	P	**Pn**	**12 27 15.0**	**-0.8**
URZ				IAmb	IAmb	12 27 33.8	
	comp=Z,57nm,1.5s						
PPT	**Papeete**	**22.74**	**87**	LR	LR	12 35 06.5	
	comp=Z,136nm,18.6s,baz=232,slow=32						
CAN	**Canberra**	**36.16**	**238**		**P**	**12 29 48.6**	**0.0**
CTA	**Charters Tower**	**37.75**	**263**	P	**P**	**12 30 01.6**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=101,slow=12,SNR=5.3						
CTAO	**Charters Tower**	**37.75**	**263**	P	**P**	**12 30 01.4**	**-0.9**
CTAO				IAmb	IAmb	12 30 20.5	
	comp=Z,20nm,1.4s						
TOO	**Toolangi**	**39.45**	**235**	P	**P**	**12 30 16.0**	**-0.4**
TOO				IAmb	IAmb	12 30 22.3	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**41.70**	**245**	P	**P**	**12 30 34.9**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=104,slow=12,SNR=4.0						
BBOO	**Buckleboo**	**46.44**	**244**	P	**P**	**12 31 12.1**	**-0.9**
BBOO				IAmb	IAmb	12 31 26.4	
	comp=Z,7.0nm,1.4s						
AS31	**Alice Springs**	**48.70**	**256**	P	**P**	**12 31 30.1**	**-0.8**
ASAR	**Alice Springs**	**48.70**	**256**	P	**P**	**12 31 29.7**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=87,slow=8.8,SNR=16						
ASAR				PcP	**PcP**	**12 32 58.0**	**+1.9**
	comp=Z,1.3nm,0.9s,baz=104,slow=4.3,SNR=5.4						
ASAR	**Alice Springs**	**48.70**	**256**	P	**P**	**12 31 30.0**	**-0.9**
WB2	**Warramunga Arr**	**48.84**	**261**	P	**P**	**12 31 31.1**	**-0.8**
WRA	**Warramunga Arr**	**48.85**	**261**	P	**P**	**12 31 30.9**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=96,slow=7.5,SNR=21						
WRA				PcP	**PcP**	**12 32 59.0**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=94,slow=3.6,SNR=4.0						
WRA	**Warramunga Arr**	**48.85**	**261**	P	**P**	**12 31 31.0**	**-1.0**
MTN	**Manton Dam**	**53.44**	**269**	P	**P**	**12 32 05.9**	**-0.5**
MTN				IAmb	IAmb	12 32 21.6	
	comp=Z,5.5nm,0.9s						
KNRA	**Kununurra**	**54.93**	**265**	P	**P**	**12 32 17.8**	**+0.4**
QSPA	**South Pole Qui**	**69.70**	**180**	P	**P**	**12 33 56.6**	**+0.9**
MJAR	**Matsushiro Arr**	**72.72**	**321**	P	**P**	**12 34 14.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=153,slow=6.4,SNR=3.6						
NVAR	**Mina Array Bea**	**78.05**	**41**	P	P	12 34 49.7	+4.6
	comp=Z,2.1nm,0.9s,baz=224,slow=6.3,SNR=11						
SHPR	**Sheep Range**	**78.90**	**44**	P	**P**	**12 34 49.6**	**-0.2**
SHPR				IAmb	IAmb	12 34 55.4	
	comp=Z,4.7nm,1.4s						
MSU	**Marysvale**	**81.99**	**44**	P	**P**	**12 35 05.5**	**-1.0**
SRU	**San Rafael Swe**	**83.40**	**44**	P	**P**	**12 35 14.1**	**+0.4**
TXAR	**Lajitas Array**	**83.42**	**56**	P	P	12 35 19.1	+5.1
	comp=Z,0.5nm,0.8s,baz=218,slow=7.9,SNR=6.2						
TXAR	**Lajitas Array**	**83.42**	**56**	P	**P**	**12 35 14.1**	**+0.2**
PDAR	**Pinedale Array**	**85.99**	**42**	P	**P**	**12 35 29.4**	**+2.7**
	comp=Z,0.5nm,0.8s,baz=205,slow=4.0,SNR=4.9						
PDAR	**Pinedale Array**	**85.99**	**42**	P	**P**	**12 35 27.8**	**+1.1**
ILAR	**Eielson Array**	**87.31**	**11**	P	**P**	**12 35 33.7**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=202,slow=7.5,SNR=4.6						
ILAR	**Eielson Array**	**87.31**	**11**	P	**P**	**12 35 32.6**	**+0.2**
GERES	**GERESS Array B**	**151.02**	**350**	PKPbc	**PKiKP**	**12 42 40.8**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=7.1,slow=4.0,SNR=4.4						

*NNC **01** 12:51:26.5±3.2, 36°.45N×69°.44E, h87km±72km, mb3.5, mpv3.9, Error ellipse: s-maj=28.3km s-min=23.5km az=135.0*

ISC 01 12:51:23.7±3.6, 36°.3N±0°.2×69°.3E±0°.2, h48km, n12, σ1§25/15, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.71**	**29**	P	**Pn**	**12 53 00.1**	**+0.1**
	SNR=20						
KK31	**Karatay Array**	**6.83**	**7**	P	**Pn**	**12 53 02.5**	**+1.3**
	3.5nm,0.4s,baz=198,slow=18,SNR=31						
KK31				⇓S	**Sn**	**12 54 18.0**	**+0.5**
	0.8nm,0.3s,baz=210,slow=20,SNR=2.7						
UCH	**Uchtor**	**7.13**	**33**	P	**Pn**	**12 53 07.2**	**+1.4**
	SNR=17						
KZA	**Kyzart**	**7.35**	**37**	P	**Pn**	**12 53 09.2**	**+0.5**
	SNR=7.3						
AAK	**Ala-Archa**	**7.45**	**31**	⇑P	**Pn**	**12 53 10.9**	**+1.0**
	3.3nm,0.3s						
AAK				⇓S	**Sn**	**12 54 33.5**	**+0.3**
	5.0nm,0.5s						
AAK	**Ala-Archa**	**7.45**	**31**	P	**Pn**	**12 53 11.4**	**+1.4**
	SNR=8.1						
KBK	**Karagaybulak**	**7.66**	**33**	P	**Pn**	**12 53 14.5**	**+1.7**
	SNR=7.2						
USP	**Ospenovka**	**7.99**	**28**	P	**Pn**	**12 53 17.8**	**+0.7**
	SNR=6.0						
TKM2	**Tokmak 2**	**8.16**	**34**	⇑P	**Pn**	**12 53 19.9**	**+0.2**
	3.4nm,0.6s						
TKM2				⇓S	**Sn**	**12 54 48.8**	**-1.8**
	2.3nm,0.9s						
TKM2	**Tokmak 2**	**8.16**	**34**	P	**Pn**	**12 53 18.0**	**-1.7**
	SNR=9.5						
MK31	**Makanchi Array**	**14.24**	**39**	⇑P	**Pn**	**12 54 43.7**	**+1.2**
	1.3nm,0.8s,baz=0.0,slow=0.1,SNR=6.4						
AB31	**Akbulak array**	**14.63**	**335**	P	**Pn**	**12 54 46.8**	**-0.8**
	0.5nm,0.3s,baz=154,slow=13,SNR=31						

*IDC **01** 13:15:55.7±1.8, 50°.94N×177°.27E, h0km, mb3.4/6, mb1 3.8/7, mb1mx3.5/49, mbtmp3.4/7, ML2.7/1, Error ellipse: s-maj=55.9km s-min=23.1km az=3.0*
*NEIC **01** 13:15:59.7±2.5, 50°.9N±0°.3×177°.0E±0°.1, h32km±11km, mb4.0/16*

ISC 01 13:16:00.0±1.4, 50°.9N±0°.3×177°.01E±0°.06, h35km, n37, σ1§65/38, mb3.9/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**4.07**	**74**	Pn	**Pn**	**13 16 59.1**	**-0.6**
ADK					**Sn**	**13 17 45.8**	**-0.3**
GSTR	**Great Sitkin T**	**4.49**	**72**	Pn	**Pn**	**13 17 05.4**	**-0.2**
ATKA	**Atka Island**	**5.64**	**73**	Pn	**Pn**	**13 17 21.0**	**-0.3**
NIKH	**Nikolski High**	**8.98**	**71**	Pn	**Pn**	**13 18 07.0**	**0.0**
UNV	**Unalaska Valle**	**10.50**	**67**	Pn	**Pn**	**13 18 30.0**	**+2.1**
PEA0B	**Petropavlovsk-**	**12.10**	**288**	Pn	**Pn**	**13 18 51.1**	**+1.4**
PETK	**Petropavlovsk-**	**12.10**	**288**	Pn	**Pn**	**13 18 50.4**	**+0.6**
	0.2nm,0.3s,baz=93,slow=19,SNR=8.9						
PETK				Sn	**Sn**	**13 20 59.4**	**-3.8**
	0.3nm,0.3s,baz=92,slow=17,SNR=6.4						
SDPT	**Sand Point**	**14.21**	**63**	Pn	**Pn**	**13 19 16.3**	**-2.1**
ANM	**Nome**	**16.52**	**27**	P	**P**	**13 19 54.3**	**+3.3**
CHIR	**Chirikof Islan**	**17.00**	**63**	P	**P**	**13 19 57.7**	**+1.3**
OHAK	**Old Harbor**	**18.44**	**58**	P	**P**	**13 20 10.1**	**-2.1**
KDAK	**Kodiak Island**	**18.90**	**57**	P	**P**	**13 20 15.9**	**-1.3**
KDAK				IAmb	IAmb	13 20 30.3	
	comp=Z,12nm,1.1s						
SKT	**Skwentna**	**20.39**	**45**	P	**P**	**13 20 34.5**	**+0.9**
PPLA	**Purkeypile**	**20.42**	**42**	P	**P**	**13 20 31.9**	**-2.0**
PPLA				IAmb	IAmb	13 20 42.4	
	comp=Z,5.5nm,1.2s						
SUA	**Susitna One**	**20.60**	**47**	P	**P**	**13 20 35.4**	**-0.5**
IMAR	**Indian Mountai**	**21.20**	**34**	P	**P**	**13 20 43.4**	**+1.2**
GHO	**Glory Hole Cre**	**21.52**	**47**	P	**P**	**13 20 44.6**	**-1.1**
GHO				IAmb	IAmb	13 21 00.8	
	comp=Z,6.0nm,1.0s						
KNK	**Knik Glacier**	**21.65**	**48**	P	**P**	**13 20 47.7**	**+0.6**
KNK				IAmb	IAmb	13 20 56.4	
	comp=Z,11nm,1.2s						
SCM	**Sheep Creek Mo**	**22.27**	**47**	P	**P**	**13 20 50.9**	**-2.8**
SCM				IAmb	IAmb	13 21 05.1	
	comp=Z,8.6nm,1.0s						
HDA	**Harding Lake**	**23.14**	**41**	P	**P**	**13 21 02.6**	**-0.2**
HDA				IAmb	IAmb	13 21 15.6	
	comp=Z,4.8nm,1.2s						
ILAR	**Eielson Array**	**23.28**	**40**	P	**P**	**13 21 03.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=236,slow=8.4,SNR=8.1						
ILAR	**Eielson Array**	**23.28**	**40**	P	P	13 20 58.8	-5.4
PAX	**Paxson**	**23.37**	**45

KVT				SG	Sb	13 18 56.0	-0.7
YOZ	**Yozgat**	**0.90**	**172**	PG	Pg	13 18 44.8	+0.2
YOZ				SG	Sb	13 18 57.5	0.0
TOS	**Tosya**	**1.00**	**301**	PG	Pb	13 18 46.9	-0.1
TOS				SG	Sb	13 19 00.0	-0.4
TOKA	**Tokat**	**1.03**	**101**	*i* P	Pn	13 18 48.2	-0.1
TOKA				*i* S	Sb	13 19 01.7	+0.4
TOKT	**Tokat**	**1.08**	**101**	PN	Pg	13 18 48.0	-0.1
DELI	**KIRIKKALE**	**1.08**	**241**	*i* P	Pn	13 18 49.0	-0.1
DELI				*i* S	Sg	13 19 02.5	+0.2
CDAG	**Cicekdag**	**1.09**	**214**	*i* P	Pg	13 18 48.1	-0.2
CDAG				*i* S	Sg	13 19 02.3	0.0
DIKM	**Dikmen**	**1.12**	**4**	PN	Pg	13 18 48.8	-0.1
SAMS	**Samsun-Alacam**	**1.14**	**43**	*i* P	Pb	13 18 49.3	-0.1
SAMS				*i* S	Sn	13 19 05.1	-0.5
CANT	**Cankiri**	**1.17**	**274**	PN	Pb	13 18 50.0	0.0
CANT				SN	Sn	13 19 05.9	-0.6
SIRC	**Yozgat**	**1.19**	**180**	*i* P	Pn	13 18 50.8	+0.3
SIRC				*i* S	Sn	13 19 06.6	-0.4
ILGA	**Ilgaz**	**1.21**	**296**	*i* P	Pn	13 18 51.4	+0.5
ILGA				*i* S	Sn	13 19 07.7	0.0
ERBA	**Erbaa**	**1.23**	**82**	*i* P	Pb	13 18 50.6	-0.3
ERBA				*i* S	Sn	13 19 08.1	+0.3
ERBA				IAML_P			
	comp=Z,16μm,0.1s						
ELDT	**Eldivan**	**1.32**	**269**	*i* P	Pn	13 18 52.0	-0.3
ELDT				*i* S	Sg	13 19 09.8	-0.1
ELDT				IAML_P			
	comp=Z,7μm,0.2s						
KAST	**KASTAMONU**	**1.34**	**316**	*i* P	Pg	13 18 53.9	+0.9
KAST				*i* S	Sb	13 19 08.5	-1.6
KMON	**Kastamonu**	**1.34**	**309**	PN	Pb	13 18 52.8	0.0
SINO	**SINOP_Merkez**	**1.49**	**1**	*i* P	Pg	13 18 56.0	+0.1
SINO				*i* S	Sg	13 19 14.8	-0.4
SVSK	**Karacayir**	**1.54**	**113**	PN	Pg	13 18 56.5	-0.4
SCER	**sogukcermik**	**1.65**	**113**	*i* P	Pg	13 18 59.8	+0.8
SCER				*i* S	Sg	13 19 21.8	+1.3
RSDY	**Resadiye-TOKAT**	**1.66**	**94**	PN	Pb	13 18 57.6	-0.7
BZK	**Bozkurt**	**1.67**	**329**	PN	Pb	13 18 58.2	-0.3
KIRS	**Kırehir-Merke**	**1.69**	**215**	*i* P	Pg	13 18 59.6	-0.2
KIRS				*i* S	Sg	13 19 21.8	+0.1
KIRS				IAML_P			
	comp=Z,5μm,0.3s						
AVNS	**Nevsehir-Avano**	**1.74**	**188**	*i* P	Pg	13 19 00.4	-0.3
AVNS				*i* S	Sg	13 19 23.4	+0.1
CUALT	**Altinyayla-SIV**	**1.76**	**135**	*i* P	Pg	13 19 01.2	+0.1
CUALT				*i* S	Sg	13 19 24.1	+0.3
BNN	**Bunyan**	**1.76**	**162**	PN	Pb	13 18 59.7	-0.3
YAYX	**Yaylak**	**1.90**	**214**	PN	Pn	13 19 00.9	+0.7
ANTO	**Ankara**	**1.93**	**251**	PN	Pn	13 19 01.6	+1.0
AFSR	**Afar-Bala (An**	**1.93**	**237**	PN	Pb	13 19 02.2	-0.8
SERE	**Sereflikochisa**	**2.00**	**218**	PN	Pb	13 19 03.1	-1.1
ORDU	**Ordu-Boztepe**	**2.10**	**76**	*i* P	Pb	13 19 04.8	-1.1
ORDU				*i* S	Sg	13 19 34.4	-0.6
CUKAN	**kangal_SIVAS**	**2.15**	**124**	*i* P	Pb	13 19 06.5	-0.2
CUKAN				*i* S	Sg	13 19 35.0	-1.5
AKSY	**AKSARAY - Alti**	**2.17**	**210**	*i* P	Pb	13 19 06.3	-0.6
AKSY				*i* S	Sb	13 19 33.9	-0.1
AKSY				IAML_P			
	comp=Z,793nm,0.5s						
KKUL	**Konya-Kulu**	**2.19**	**233**	*i* P	Pb	13 19 06.3	-1.2
KKUL				*i* S	Sg	13 19 38.8	+0.9
KULU	**Kulu**	**2.23**	**229**	PN	Pn	13 19 06.2	+1.4
KURC	**Kurucasile-Bar**	**2.25**	**307**	PN	Pn	13 19 06.1	+1.2
SUSE	**Susehri**	**2.35**	**97**	*i* P	Pb	13 19 08.7	-1.4
SUSE				*i* S	Sg	13 19 44.1	+1.2
BCAM	**Yenicaga**	**2.37**	**278**	*i* P	Pb	13 19 10.7	+0.3
KIBS	**BOLU**	**2.52**	**269**	*i* P	Pn	13 19 10.4	+1.6
KIBS				*i* S	Sb	13 19 42.4	-1.9
CHBY	**Cihanbeyli**	**2.62**	**223**	PN	Pn	13 19 11.2	+1.1
YUVA	**Yuva-Kibriscik**	**2.65**	**268**	PN	Pn	13 19 11.1	+0.5
DARE	**Darende-Malaty**	**2.66**	**137**	PN	Pn	13 19 11.9	+1.2
AUMIH	**MIHALICIK**	**2.89**	**258**	*i* P	Pn	13 19 15.9	+2.0
AUMIH				*i* S	Sn	13 19 50.6	+1.6
AUMIH	**MIHALICIK**	**2.89**	**258**	PN	Pn	13 19 14.9	+1.0
AUSIV	**SIVRIHISAR**	**2.98**	**250**	PN	Pn	13 19 15.9	+0.7
SVRH	**Sivrihisar-ESK**	**2.99**	**250**	PN	Pn	13 19 16.3	+1.0
KIZT	**Kizilcal**	**3.02**	**238**	PN	Pn	13 19 16.7	+1.1
LADK	**Ladik-KONYA**	**3.18**	**224**	PN	Pn	13 19 19.1	+1.3
KMRS	**Kahramanmaras**	**3.31**	**155**	PN	Pn	13 19 20.9	+1.3
KONT	**Konya--Tatoy**	**3.37**	**221**	PN	Pn	13 19 21.9	+1.5
SRCK	**Saricakaya, Es**	**3.50**	**263**	PN	Pn	13 19 23.1	+0.9
BORA	**Eskisehir**	**3.66**	**261**	PN	Pn	13 19 25.2	+0.8

*TAP **01** 13:30:40.0,23°.71N×121°.46E,h15km,ML3.3,C*
*JMA **01** 13:30:39.3±0.1,23°.69N×121°.49E,h0km,M3.0*
*ISCJB **01** 13:30:40.0±0.3,23°.70N±0°.01×121°.49E±0°.01,h8km±1km,*
Error ellipse: s-maj=2.4km s-min=1.6km az=36.5
ISC 01 13:30:40.3±0.8,23°.70N±0°.02×121°.47E±0°.02,h15km±4km,
n100,σ0°71/159,6C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.05**	**227**	⇑P	Pg	13 30 43.0	-0.2
	baz=220						
EGFH				S	Sg	13 30 44.7	-0.4
	baz=220						
ESL	**Shilin**	**0.12**	**344**	⇑*i*P	Pg	13 30 43.5	-0.3
	baz=350						
ESL				S	Sg	13 30 45.5	-0.6
	baz=350						
HGSD	**Ruisui**	**0.21**	**191**	⇑P	Pg	13 30 45.6	+0.4
	baz=197						
ENLB	**Shoufeng**	**0.23**	**32**	P	Pg	13 30 45.5	-0.1
	baz=26						
ENLB				*e*S	Sg	13 30 49.4	+0.3
	baz=26						
EHY	**Hungye**	**0.24**	**214**	⇑*i*P	Pg	13 30 45.1	-0.5
	baz=218						
EHY				*e*S	Sg	13 30 48.7	-0.5
	baz=218						
HWA	**Hwalien**	**0.30**	**25**	*e*P	Pb	13 30 47.4	0.0
	baz=17						
HWA				*e*S	Sb	13 30 52.2	0.0
	baz=17						
VWDT	**VWDT**	**0.30**	**280**	⇓P	Pb	13 30 46.7	-0.7
	baz=279						
VWDT				S	Sg	13 30 50.9	-0.1
	baz=279						
YULB	**Yu-li**	**0.35**	**207**	*e*P	Pg	13 30 46.9	-0.6
	baz=215						
YULB				*e*S	Sg	13 30 52.0	-0.4
	baz=215						
TWF1	**Yuli**	**0.38**	**204**	*e*P	Pg	13 30 47.8	-0.3
	baz=211						
TWF1				*e*S	Sg	13 30 53.3	-0.1
	baz=211						
TWD	**Chiawan**	**0.39**	**17**	P	Pb	13 30 48.4	-0.6
	baz=8.0						
TWD				S	Sg	13 30 53.7	-0.1
	baz=8.0						
CHGB	**Renai**	**0.45**	**323**	⇓P	Pb	13 30 49.3	-0.7
	baz=329						
CHGB				S	Sg	13 30 55.0	-0.5
	baz=329						
SSLB	**Suanglung**	**0.48**	**280**	⇓P	Pg	13 30 49.4	-0.5
	baz=289						
SSLB				*e*S	Sg	13 30 55.1	-1.3
	baz=289						
WHF	**Hehuan Shan**	**0.48**	**337**	⇓P	Pg	13 30 49.6	-0.5
	baz=337						
WHF				*e*S	Sg	13 30 55.9	-0.7
	baz=337						
NACB	**Ninganchiao**	**0.48**	**14**	P	Pg	13 30 49.6	-0.3
	baz=4.0						
NACB				S	Sg	13 30 55.8	-0.7
	baz=4.0						
ETLH	**Xiulin Townshi**	**0.50**	**2**	*e*P	Pg	13 30 50.0	-0.3
	baz=360						
ETLH				*e*S	Sg	13 30 56.8	-0.4
	baz=360						
YUS	**Yu-Shan**	**0.52**	**246**	P	Pb	13 30 50.8	-0.6
	baz=253						
YUS				S	Sg	13 30 57.3	-0.5
	baz=253						
SMLT	**Sun Moon Lake**	**0.55**	**289**	⇓P	Pg	13 30 50.9	-0.4
	baz=290						
SMLT				S	Sg	13 30 57.9	-0.7
	baz=290						
WHYT	**Xinyi Township**	**0.56**	**269**	*e*P	Pb	13 30 51.5	-0.5
	baz=265						
WHYT				*e*S	Sg	13 30 58.8	-0.2
	baz=265						
TYC	**Yuchr**	**0.59**	**290**	⇓*i*P	Pg	13 30 51.6	-0.5
	baz=298						
TYC				S	Sg	13 30 59.1	-0.8
	baz=298						
DPDB	**Guoxing**	**0.59**	**304**	P	Pb	13 30 52.0	-0.5
	baz=311						
DPDB				S	Sg	13 30 59.4	-0.7
	baz=311						
CHKT	**Chengkung**	**0.61**	**189**	*e*P	Pb	13 30 52.7	0.0
	baz=190						
TWT	**Tachien**	**0.61**	**334**	P	Pb	13 30 52.4	-0.4
	baz=332						
TWT				S	Sg	13 30 59.7	-0.9
	baz=332						
TDCB	**Techi**	**0.62**	**333**	⇓P	Pb	13 30 52.5	-0.4
	baz=332						
TDCB				*e*S	Sg	13 30 59.2	-1.5
	baz=332						
ALS	**Alishan**	**0.64**	**253**	⇓*i*P	Pb	13 30 52.9	-0.4
	baz=252						
ALS				S	Sg	13 31 01.0	-0.5
	baz=252						
ELDTW	**Lidau**	**0.66**	**219**	*e*P	Pg	13 30 52.5	-0.8
	baz=210						
WJS	**Zhushan**	**0.69**	**280**	*e*P	Pb	13 30 54.5	+0.5
	baz=282						
WJS				*e*S	Sb	13 31 05.0	+1.7
	baz=282						
NNSB	**Datong**	**0.73**	**354**	⇑P	Pg	13 30 54.2	-0.4
	baz=1.0						
NNSB				*e*S	Sg	13 31 03.0	-1.2
	baz=1.0						
CHN5	**Tsauling**	**0.73**	**262**	⇓P	Pb	13 30 54.9	+0.1
	baz=256						
CHN5				S	Sb	13 31 04.7	0.0
	baz=256						
WNT	**Mingjian**	**0.74**	**284**	P	Pb	13 30 55.6	+0.7
	baz=286						
WNT				S	Sb	13 31 06.6	+1.9
	baz=286						
NNS	**Nan Shan**	**0.74**	**353**	⇑P	Pg	13 30 54.4	-0.4
	baz=1.0						
NNS				S	Sg	13 31 04.3	-0.3
	baz=1.0						
WHP	**Taichung City**	**0.74**	**320**	*e*P	Pb	13 30 54.8	-0.3
	baz=319						
ENA	**Nanau**	**0.76**	**19**	*e*P	Pg	13 30 54.7	-0.6
	baz=7.0						
NANB	**Nanao**	**0.77**	**20**	*e*P	Pg	13 30 54.0	-1.2
	baz=7.0						
WGK	**Gukeng**	**0.83**	**269**	*e*P	Pb	13 30 56.8	+0.4
	baz=269						
WGK				*e*S	Sb	13 31 09.1	+1.7
	baz=269						
STYT	**Tauyuan**	**0.84**	**231**	*e*P	Pb	13 30 56.6	-0.1
	baz=221						
TCU	**Taichung**	**0.85**	**302**	*e*P	Pn	13 30 57.5	-0.2
	baz=301						
WDLH	**Douliu**	**0.85**	**269**	*e*P	Pb	13 30 57.4	+0.5
	baz=269						
WDLH				*e*S	Sn	13 31 10.0	+0.1
	baz=269						
TPUB	**Ta-pu**	**0.87**	**243**	P	Pb	13 30 57.3	+0.2
	baz=244						
TPUB				*e*S	Sb	13 31 08.7	+0.2
	baz=244						
CHN4	**Tsaushan**	**0.88**	**247**	*e*P	Pb	13 30 57.6	+0.4
	baz=247						
CHN4				S	Sb	13 31 09.7	+1.0
	baz=247						
NDT	**Datong Townshi**	**0.90**	**3**	*e*P	Pb	13 30 57.5	-0.2
	baz=1.0						
NDT				*e*S	Sg	13 31 08.7	-0.9
	baz=1.0						
TWQ1	**Liyutan**	**0.90**	**315**	*e*P	Pn	13 30 58.4	-0.1
	baz=322						
TWQ1				*e*S	Sb	13 31 10.8	+1.2
	baz=322						
WTP	**Ta-pu**	**0.91**	**240**	P	Pb	13 30 57.8	+0.1
	baz=241						
WTP				*e*S	Sb	13 31 09.8	+0.2
	baz=241						
WCHH	**Zhanghua**	**0.91**	**294**	*e*P	Pb	13 30 58.4	+0.5
	baz=294						
WCHH				*e*S	Sb	13 31 11.2	+1.4
	baz=294						
ENTT	**Nioudou**	**0.94**	**6**	*e*P	Pg	13 30 57.8	-0.8
	baz=4.0						
ENTT				*e*S	Sg	13 31 10.2	-0.7
	baz=4.0						
TWG	**Pinlang**	**0.95**	**203**	*e*P	Pg	13 30 57.8	-0.9
	baz=192						
TWGBT	**Beinan**	**0.95**	**202**	*e*P	Pg	13 30 57.3	-1.5
	baz=191						
NSY	**Sanyi**	**0.96**	**318**	*e*P	Pn	13 30 59.9	+0.7
	baz=324						
NSY				*e*S	Sb	13 31 12.5	+1.3
	baz=324						
YHNB	**Yeheng**	**0.97**	**355**	*e*P	Pg	13 30 58.4	-0.7
	baz=353						
YHNB				*e*S	Sg	13 31 10.3	-1.5
	baz=353						
TWC	**Suao**	**0.97**	**21**	*e*P	Pb	13 30 58.9	+0.1
	baz=10.0						
TWC				*e*S	Sb	13 31 11.7	+0.3
	baz=10.0						
NSK	**Sanguang**	**0.97**	**354**	P	Pb	13 30 58.9	-0.1
	baz=353						
NSK				*e*S	Sg	13 31 11.1	-1.0
	baz=353						
CHY	**Chiayi**	**0.98**	**258**	*e*P	Pg	13 30 58.6	-0.7
	baz=272						
WDJ	**Dajia District**	**0.99**	**311**	*e*P	Pn	13 31 00.3	+0.6
	baz=319						
WDJ				*e*S	Sn	13 31 14.4	+1.0
	baz=319						
TWK	**Hsinying**	**1.00**	**244**	*e*P	Pb	13 30 59.7	+0.3
	baz=245						
TWK				*e*S	Sn	13 31 13.7	+0.1
	baz=245						
CHN1	**Nanshi**	**1.00**	**239**	P	Pn	13 30 59.9	0.0
	baz=240						
CHN1				*e*S	Sb	13 31 13.5	+1.0
	baz=240						
SNST	**Tainan City**	**1.01**	**242**	*e*P	Pn	13 31 00.1	+0.1
	baz=243						
SNST				*e*S	Sb	13 31 13.3	+0.7
	baz=243						
PTSB	**Yuanli**	**1.02**	**317**	*e*P	Pn	13 31 00.8	+0.7
	baz=317						
PTSB				*e*S	Sn	13 31 15.3	+1.3
	baz=317						
NSTT	**Nanjuang**	**1.02**	**335**	*e*P	Pb	13 31 00.0	+0.4
	baz=335						
NSTT				*e*S	Sg	13 31 12.4	-1.0
	baz=335						
SGST	**Jiashian**	**1.02**	**233**	*e*P	Pb	13 30 59.7	0.0
	baz=234						
SGST				*e*S	Sb	13 31 14.1	+1.1
	baz=234						
LIOB	**Emei**	**1.02**	**336**	⇓P	Pn	13 31 00.3	+0.1
	baz=336						
LIOB				*e*S	Sb	13 31 13.4	+0.3
	baz=336						
TWE	**Neicheng**	**1.03**	**10**	*e*P	Pn	13 31 00.3	+0.1
	baz=9.0						
TWE				*e*S	Sg	13 31 13.1	-0.7
	baz=9.0						
RLNB	**Erlin**	**1.03**	**281**	*e*P	Pn	13 31 00.2	0.0
	baz=281						
RLNB				*e*S	Sn	13 31 15.0	+0.6
	baz=281						
SLGT	**Liugui**	**1.03**	**227**	*e*P	Pb	13 31 00.1	+0.2
	baz=218						
NMLH	**Miaoli**	**1.03**	**324**	*e*P	Pn	13 31 01.0	+0.7
	baz=323						
NMLH				*e*S	Sb	13 31 14.6	+1.2
	baz=323						
EOS1	**EOS1**	**1.04**	**35**	*e*P	Pn	13 31 01.4	+1.2
	baz=51						
SLBB	**Yuanshan**	**1.06**	**8**	*e*P	Pg	13 30 59.7	-1.2
	baz=6.0						
NWLT	**Wulai**	**1.07**	**2**	*e*P	Pg	13 31 00.4	-0.7
	baz=359						
NWLT				*e*S	Sg	13 31 13.6	-1.4
	baz=359						
WLGB	**Puzi**	**1.09**	**258**	*e*P	Pg	13 31 00.6	-0.9
	baz=268						
WTCT	**Ta-ch'eng**	**1.10**	**279**	*e*P	Pn	13 31 01.3	+0.2
	baz=278						
WSF	**Szhu**	**1.14**	**267**	*e*P	Pg	13 31 01.3	-1.1
	baz=266						
WLTB	**Daxi**	**1.16**	**350**	*e*P	Pn	13 31 03.2	+1.2
	baz=3.0						
SBCB	**Hsinchu**	**1.17**	**338**	*e*P	Pn	13 31 02.8	+0.6
	baz=336						
ECL	**Taimali**	**1.20**	**203**	*e*P	Pb	13 31 02.1	-0.6
	baz=193						
CHN8	**Yiju**	**1.21**	**253**	*e*P	Pg	13 31 02.9	-0.7
	baz=252						
SSD	**Sandimen**	**1.22**	**219**	*e*P	Pg	13 31 03.5	-0.5
	baz=221						
SSD				*e*S	Sn	13 31 20.3	+1.1
	baz=221						
TWA	**Mucha**	**1.28**	**5**	*e*P	Pb	13 31 04.0	0.0
	baz=17						
TWA				*e*S	Sb	13 31 19.8	-0.5
	baz=17						
NCUH	**Zhongli**	**1.29**	**349**	*e*P	Pg	13 31 05.1	0.0
TWM1	**Shoushan**	**1.30**	**228**	*e*P	Pn	13 31 03.7	-0.2
	baz=243						
TIPB	**Shuangxi**	**1.30**	**14**	*e*P	Pn	13 31 03.7	-0.3
	baz=11						
MASBT	**Mashibuluo**	**1.33**	**215**	*e*P	Pn	13 31 04.6	+0.3
	baz=213						
TWB1	**Santiao Chiao**	**1.38**	**20**	*e*P	Pg	13 31 06.4	-0.6
	baz=8.0						
NWF	**Wu-fen Shan**	**1.39**	**12**	*e*P	Pg	13 31 07.4	+0.2
	baz=9.0						
TWS1	**Kuangyinshan**	**1.39**	**358**	*e*P	Pg	13 31 07.6	+0.4
	baz=14						
YM01	**YM01**	**1.44**	**4**	*e*P	Pb	13 31 07.0	+0.1
	baz=360						
YM10	**YM10**	**1.45**	**3**	*e*P	Pg	13 31 07.8	-0.5
	baz=359						
ANP	**Anpu**	**1.48**	**2**	*e*P	Pg	13 31 08.2	-0.6
	baz=16						
SCZT	**Fangliau**	**1.54**	**211**	*e*P	Pb	13 31 08.1	-0.4
	baz=214						
JYNG	**Yonagunijimaku**	**1.54**	**61**	P	Pb	13 31 08.0	-0.6
JYNG				S	Sb	13 31 28.2	+0.3
YOJ	**Yonaguni jima**	**1.60**	**62**	P	Pb	13 31 09.2	-0.4
YOJ				*e*S	Sb	13 31 29.8	+0.2
PHUB	**P'eng-hu**	**1.75**	**264**	*e*P	Pn	13 31 09.5	-0.6
	baz=245						
PNG	**Penghu**	**1.76**	**266**	*e*P	Pn	13 31 09.8	-0.4
	baz=264						
VCHM	**Qimei**	**1.94**	**256**	*e*P	Pn	13 31 11.0	-1.7
	baz=252						
IRIF	**Iriomote-Funau**	**2.16**	**73**	P	Pn	13 31 17.1	+1.3
IRIF				*e*S	Sn	13 31 43.4	+1.1
PTTC	**Pingtan**	**2.36**	**320**	*e*P	Pn	13 31 17.8	-0.7
	baz=319						
JKRS	**Kuro-shima**	**2.38**	**77**	*e*S	Sn	13 31 48.5	+0.7
PTMZ	**Houxiangcun**	**2.52**	**302**	*e*P	Pn	13 31 20.0	-0.7
	baz=301						
JIJ	**Ishigaki jima**	**2.53**	**74**	P	Pn	13 31 21.0	+0.1
JIJ				S	Sn	13 31 52.0	+0.5
JISG	**Ishigakijimahi**	**2.74**	**71**	P	Pn	13 31 23.7	-0.1
JISG				S	Sn	13 31 56.9	+0.3
KNMB	**Chin-men Tao**	**2.91**	**286**	*e*P	Pn	13 31 25.8	-0.4
	baz=269						
MHZQ	**Yeshan**	**3.25**	**318**	*e*P	Pn	13 31 30.9	+0.1
	baz=320						
AXDP	**Jialang**	**3.41**	**291**	*e*P	Pn	13 31 33.1	+0.3
	baz=290						

*GCG **01** 13:39:45.9±0.7, 12°.51N×89°.17W,h130km±56km, MD4.2*
*ISCJB **01** 13:39:49.4±0.3, 13°.03N±0°.05×88°.83W±0°.03, h74km±3km,*
mb3.6/6, Error ellipse: s-maj=9.0km s-min=2.9km az=30.7
*UCR **01** 13:39:50.5±4.9, 12°.98N×88°.57W, h0km±39km, MW4.2*
*SNET **01** 13:39:50.0±0.8, 12°.99N×88°.88W, h54km±6km, ML4.1*
*NEIC **01** 13:39:50.1±2.7, 12°.99N±0°.08×88°.85W±0°.07, h68km±7km,*
mb4.2/10, Md4.1(SNET)
*IDC **01** 13:39:50.2±1.6, 13°.41N×88°.39W, h61km±16km, mb3.3/6,*
mb1 3.8/11, mb1mx3.6/36, mbtmp3.7/11, MS2.8/4,
Ms1 2.8/4, ms1mx2.7/21, Error ellipse: s-maj=45.0km
s-min=11.5km az=42.0
ISC 01 13:39:50.0±0.9, 13°.00N±0°.06×88°.84W±0°.04, h56km±7km,
n74,σ1°72/100, mb3.7/9, MS3.1/3, 3C-8D, Off coast of
central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.42**	**39**	⇓*i*P	Pn	13 40 01.4	+0.6
ALJI				*e*S	Sn	13 40 10.1	+1.5
COEB	**Comit de Eme**	**0.58**	**31**	⇓*i*P	Pn	13 40 03.2	+0.5
COEB				*e*S	Sn	13 40 13.2	+1.3
SNVI	**San Vicente**	**0.61**	**360**	*e*P	Pn	13 40 03.3	+0.2
COEG	**Centro de Oper**	**0.62**	**356**	⇓*i*P	Pn	13 40 03.2	+0.1
COEG				*e*S	Sn	13 40 13.3	+0.7
COEG				IAML		13 40 17.1	
	comp=Z,7μm,0.2s						
JUCU	**Jucuarın**	**0.63**	**66**	⇓*i*P	Pn	13 40 03.4	+0.2
JUCU				*e*S	Sn	13 40 14.0	+1.2
JUCU				IAML		13 40 18.6	
	comp=Z,9μm,0.3s						
UESV	**Universidad de**	**0.64**	**4**	*e*P	Pn	13 40 03.6	+0.3
UESV				*e*S	Sn	13 40 14.3	+1.3
PAVA	**Las Pavas**	**0.72**	**352**	⇓*i*P	Pn	13 40 04.7	+0.3
PAVA				*e*S	Sn	13 40 16.1	+1.3
PAVA				*e*		13 40 16.1	
UDBS	**Universidad Do**	**0.78**	**337**	⇑*i*P	Pn	13 40 05.2	+0.2
UDBS				*e*S	Sn	13 40 16.8	+0.7
UDBS				IAML		13 40 19.0	
	comp=Z,6μm,0.2s						
SNET	**Serv Nac Est T**	**0.78**	**331**	*e*P	Pn	13 40 05.1	-0.1
SNET				IAML		13 40 21.3	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**0.78**	**331**		Pn	13 40 05.1	-0.1
SNET				Sn	Sn	13 40 16.7	+0.4
OPAM	**Oficina de Pla**	**0.79**	**334**	*e*P	Pn	13 40 05.5	+0.2
LFU	**La Fuente**	**0.79**	**340**	⇓*i*P	Pn	13 40 05.6	+0.3
CUSC	**Alcaldia de Cu**	**0.80**	**335**	*e*P	Pn	13 40 05.5	+0.1
CUSC				*e*S	Sn	13 40 17.3	+0.7
UEES	**Universidad Ev**	**0.81**	**331**	*e*P	Pn	13 40 05.6	0.0
UEES				*e*S	Sn	13 40 17.3	+0.3
VICT	**Victoria**	**0.97**	**11**	*e*P	Pn	13 40 08.0	+0.3
FAGO	**Alcalda de S**	**0.99**	**46**	*e*P	Pn	13 40 08.2	+0.4
FAGO				⇑*e*S	Sn	13 40 22.3	+1.3
CNCH	**Conchagua**	**1.01**	**74**	*e*P	Pn	13 40 08.8	+0.5
CNCH				*e*S	Sn	13 40 24.1	+2.4
CNCH				IAML		13 40 28.0	
	comp=Z,3μm,0.4s						
SBLS	**San Blas**	**1.13**	**318**	*e*P	Pn	13 40 10.1	+0.1
SNJE	**San Jose**	**1.14**	**319**	*e*P	Pn	13 40 10.1	+0.1
LLGN	**La Laguna**	**1.16**	**355**	*i* P	Pn	13 40 10.5	+0.3
RTR	**El Retiro**	**1.19**	**319**	⇑*i*P	Pn	13 40 11.1	+0.5
UNIC	**Universidad Ca**	**1.20**	**325**	*e*P	Pn	13 40 10.7	0.0
UNIC				*e*S	Sn	13 40 27.0	+1.

GB1A Borinquen Arri 4.00 122 *eP* **Pn 13 40 49.3 +0.3**
BUEV Buena Vista 4.01 123 *eP* **Pn 13 40 50.7 +1.7**
CUI Cuipilapa 4.28 123 *eP* **Pn 13 40 53.5 +0.8**
PLVR Palo Verde 4.31 127 *eP* **Pn 13 40 54.7 +1.4**
ESPN Las Esperanzas 4.50 100 *eP* **Pn 13 40 56.0 +0.3**
ESPN Las Esperanzas 4.50 100 Pn 13 40 55.9 +0.2
CCIG Comitan 4.57 316 Pn 13 40 56.8 0.0
JTS Las Juntas de 4.66 125 P **Pn 13 40 57.8 -0.1**
comp=Z,3.2nm,0.3s,baz=2.5,slow=14,SNR=8.2
JTS S **Sn 13 41 49.1 -1.7**
baz=345,slow=20,SNR=1.8
JTS Las Juntas de 4.66 125 *eP* **Pn 13 40 59.7 +1.7**
JTS Las Juntas de 4.66 125 Pn 13 40 59.9 +1.9
ARE1 Arenal 1 4.76 122 *eP* **Pn 13 41 00.1 +0.9**
LCR2 La Lucha 2 5.74 124 *eP* **Pn 13 41 15.6 +2.6**
LCR2 *eS* **Sn 13 42 17.6 0.0**
CMIG Matias Romero 7.12 306 P **Pn 13 41 32.1 +0.5**
comp=Z,1.4nm,0.3s,baz=126,slow=7.4,SNR=12
CMIG S **Sn 13 42 51.1 0.0**
comp=Z,2.1nm,0.3s,baz=93,slow=17,SNR=4.9
CMIG LR LR 13 43 52.6
comp=Z,34nm,20.6s,baz=110,slow=33
TEIG Tepich 7.21 4 P Pn 13 41 27.0 -5.8
comp=Z,1.9nm,0.3s,baz=151,slow=1.7,SNR=2.8
ICCO Coco Island 7.61 167 *eP* **Pn 13 41 41.2 +2.8**
SDV Santo Domingo 18.33 101 P **P 13 43 57.4 -2.8**
comp=Z,0.6nm,0.3s,baz=288,slow=13,SNR=4.9
SDV Santo Domingo 18.33 101 P **P 13 43 58.1 -2.0**
SDV IAmb IAmb 13 44 01.4
comp=Z,7.8nm,0.8s
TXAR Lajitas Array 21.30 322 P **P 13 44 31.7 -0.5**
comp=Z,2.1nm,0.7s,baz=147,slow=12,SNR=16
TXAR Lajitas Array 21.30 322 P **P 13 44 31.5 -0.7**
TX31 Lajitas Ar. Si 21.30 322 P **P 13 44 33.8 +1.5**
TX32 Lajitas Array 21.30 322 P **P 13 44 32.4 +0.1**
TX32 IAmb IAmb 13 44 34.9
comp=Z,2.6nm,0.8s
TKL Tuckaleechee C 23.02 11 LR LR 13 54 16.7
comp=Z,57nm,18.4s,baz=325,slow=38
PDAR Pinedale Array 34.66 333 P **P 13 46 33.4 -1.1**
comp=Z,0.2nm,0.5s,baz=125,slow=7.4,SNR=3.6
PDAR PcP **PcP 13 49 06.3 -1.4**
comp=Z,0.2nm,0.6s,baz=151,slow=7.9,SNR=2.6
REDW Red Top Meadow 35.71 332 P **P 13 46 42.1 -1.4**
REDW IAmb IAmb 13 46 43.4
comp=Z,3.1nm,0.6s
NVAR Mina Array Bea 36.40 319 P **P 13 46 49.5 +0.1**
comp=Z,0.6nm,0.7s,baz=141,slow=6.9,SNR=4.4
NVAR PcP **PcP 13 49 12.5 -0.3**
comp=Z,0.4nm,0.7s,baz=141,slow=5.8,SNR=2.6
NVAR LR LR 14 04 14.7
comp=Z,33nm,20.0s,baz=34,slow=40
LRM Limekiln Ridge 38.34 333 P 13 47 05.0 -0.9
EGMT Eagleton 39.03 338 P **P 13 47 09.2 -2.1**
EGMT IAmb IAmb 13 47 11.3
comp=Z,6.1nm,0.6s
GO02 Mina Guanaco 42.32 154 P **P 13 47 39.8 +0.9**
YKA Yellowknife Ar 52.73 345 P **P 13 48 56.2 -2.7**
comp=Z,1.4nm,0.6s,baz=131,slow=8.5,SNR=11
ILAR Eielson Array 64.98 336 P **P 13 50 21.4 -2.5**
comp=Z,0.4nm,0.6s,baz=175,slow=4.9,SNR=6.9
TORD Torodi Ar. Bea 87.61 77 P **P 13 52 29.6 -3.4**
comp=Z,0.7nm,1.1s,baz=328,slow=10,SNR=3.2
KSH Kashi 125.87 14 *e*PKP **PKiKP 13 58 49.3 +2.6**
KSH PP **PP 14 00 45.7 +7.6**
KSH PKS **PKSdf 14 02 24.6 +1.6**
KSH SKS **SKSdf 14 05 56.8 +3.1**
KSH SKKS **SKKSac 14 07 33.0 +0.1**
KSH Kashi 125.87 14 SS SS 14 17 39.4 +5.1
KSH AMB AMB
comp=Z,570nm,7.1s
KSH LR LR
comp=N,59nm,13.3s
KSH LR LR
comp=E,64nm,10.8s
KSH LR LR
comp=Z,140nm,11.3s

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*IDC **01** 13:46:17.8±3.4,27°.47N×66°.15E,h0km,mb3.7/6,*
mb1 3.8/7,mb1mx3.5/60,mbtmp3.8/7,ML3.9/1,MS3.5/5,
Ms1 3.5/5,ms1mx3.0/57,Error ellipse: s-maj=86.3km
s-min=23.6km az=135.0
*ISCJB **01** 13:46:19.2±0.7,27°.40N±0°.09×66°.03E±0°.06,h25km,*
mb3.7/6,MS3.4/4,Error ellipse: s-maj=12.8km
s-min=8.3km az=2.6

ISC 01 13:46:20.5±0.9,27°.3N±0°.1×66°.0E±0°.1,h25km,n25,
σ1§39/23,mb3.7/6,MS3.3/4,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.39**	**41**	P	**Pn**	**13 48 06.2**	**-0.6**
WSAR	**Wadi Sarin**	**7.80**	**240**	Pn	**Pn**	**13 48 13.8**	**+1.4**
	1.7nm,0.3s,baz=86,slow=12,SNR=28						
WSAR				Sn	**Sn**	**13 49 36.1**	**-3.9**
	3.9nm,0.3s,baz=301,slow=20,SNR=15						
WSAR				LR	LR	13 52 23.4	
	comp=Z,160nm,19.3s,baz=83,slow=46						
CEP	**Cherat**	**8.25**	**37**	P	**Pn**	**13 48 18.9**	**+0.2**
CHCP	**Chirah Chowk**	**8.90**	**43**	P	**Pn**	**13 48 28.4**	**+0.8**
KOLN	**Koldanda**	**15.63**	**84**	*eP*	**Pn**	**13 49 58.8**	**-0.6**
	12nm,0.7s						
DANN	**Dangsing**	**15.76**	**82**	*eP*	**Pn**	**13 50 00.4**	**-0.7**
	32nm,0.8s						
GKN	**Gorkha**	**16.54**	**83**	*eP*	**Pn**	**13 50 09.8**	**-1.1**
	10nm,0.5s						
DMN	**Daman**	**16.97**	**85**	*eP*	**Pn**	**13 50 16.1**	**-0.4**
KKN	**Kakani**	**17.11**	**84**	*eP*	**Pn**	**13 50 17.8**	**-0.5**
PKIN	**Phulchoki**	**17.23**	**85**	*eP*	**Pn**	**13 50 19.3**	**-0.5**
	9.7nm,0.7s						
PKI	**Pulchoki**	**17.24**	**85**	*eP*	**Pn**	**13 50 19.0**	**-1.0**
	11nm,0.6s						
GUN	**Gumba**	**17.64**	**83**	*eP*	**Pn**	**13 50 24.2**	**-0.7**
	26nm,0.7s						
JIRN	**Jiri**	**17.93**	**84**	*eP*	**Pn**	**13 50 28.0**	**-0.5**
	24nm,0.6s						
RAMN	**Ramite**	**18.35**	**86**	*eP*	**Pn**	**13 50 33.7**	**+0.1**
	13nm,0.6s						
ODAN	**Odare**	**19.06**	**86**	*eP*	**Pn**	**13 50 43.0**	**+0.8**
	19nm,1.0s						
TAPN	**Taplejung**	**19.30**	**85**	*eP*	**Pn**	**13 50 46.0**	**+0.9**
	14nm,0.8s						
GNI	**Garni**	**21.76**	**311**	LR	LR	14 01 32.6	
	comp=Z,96nm,18.2s,baz=350,slow=42						
MKAR	**Makanchi Array**	**23.31**	**29**	P	**P**	**13 51 24.9**	**-1.6**
	2.7nm,0.8s,baz=209,slow=11,SNR=22						
AKTO	**Aktyubinsk**	**23.88**	**347**	P	**P**	**13 51 31.1**	**-0.8**
	1.1nm,0.6s,baz=135,slow=10.0,SNR=5.1						
AKTO				LR	LR	14 02 22.7	
	comp=Z,111nm,19.2s,baz=352,slow=41						
KURBB	**Kurchatov Arra**	**25.16**	**19**	P	**P**	**13 51 42.4**	**-1.3**
	0.6nm,0.3s,baz=210,slow=9.7,SNR=4.9						
BVAR	**Borovoye Array**	**25.89**	**6**	P	**P**	**13 51 51.2**	**+0.9**
	0.8nm,0.5s,baz=186,slow=9.7,SNR=3.6						
BRTR	**Keskin Array B**	**29.51**	**303**	LR	LR	14 05 45.9	
	comp=Z,73nm,18.8s,baz=359,slow=40						
ARU	**Arti**	**29.58**	**352**	LR	LR	14 04 20.3	
	comp=Z,162nm,20.7s,baz=277,slow=37						
ARCES	**ARCESS Array B**	**48.30**	**342**	P	**P**	**13 54 58.8**	**-0.5**
	2.5nm,1.0s,baz=134,slow=7.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**61.38**	**271**	P	**P**	**13 56 37.7**	**+3.0**
	0.7nm,0.7s,baz=50,slow=5.8,SNR=4.8						

GUC 01 13:46:32.5±0.6,20°.56S×69°.04W,h98km±3km,ML3.2,
5C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.43**	**345**	⇑*iP*	Pn	13 46 49.1	+1.0
PB08				*i* S	Sn	13 47 01.2	+1.6
PB08				IAML		13 47 02.0	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**0.64**	**221**	⇑*iP*	Pn	13 46 50.1	+0.8
PB01				*i* S	Sn	13 47 03.5	+1.6
PB01				IAML		13 47 04.3	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.64**	**221**	P	Sn	13 47 03.6	+1.7
GO01	**Chusmiza**	**0.90**	**351**	*eP*	Pn	13 46 53.2	+1.0
GO01				*eS*	Sn	13 47 08.8	+2.0
GO01				IAML		13 47 11.2	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**0.98**	**324**	⇑*iP*	Pn	13 46 53.6	+0.9
PB11				*eS*	Sn	13 47 09.6	+1.7
PB11				IAML		13 47 11.5	
	comp=E,666nm,0.3s						
PB02	**IPOC Station P**	**1.10**	**226**	⇑*iP*	Pn	13 46 54.8	+0.8
PB02				*eS*	Sn	13 47 12.2	+1.9
PB09	**IPOC Station P**	**1.25**	**189**	⇑*iP*	Pn	13 46 56.6	+0.8
PB09				*eS*	Sn	13 47 15.4	+2.1
PB09				IAML		13 47 17.4	
	comp=N,400nm,0.7s						
PSGC	**Pisagua**	**1.40**	**313**	⇓*iP*	Pn	13 46 58.4	+0.9
PSGC				*i* S	Sn	13 47 18.0	+1.7
PB07	**IPOC Station P**	**1.41**	**214**	⇑*iP*	Pn	13 46 58.2	+0.5
PB07				*eS*	Sn	13 47 17.4	+0.7
PB03	**IPOC Station P**	**1.63**	**204**	*eP*	Pn	13 47 00.9	+0.5
PB03				*i* S	Sn	13 47 22.3	+0.7
PB03				IAML		13 47 24.3	
	comp=E,294nm,0.5s						
LVC	**Limon Verde**	**2.05**	**177**		Pn	13 47 07.5	+1.5
PB04	**IPOC Station P**	**2.05**	**210**		Pn	13 47 07.5	+1.7

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*IDC **01** 13:53:13.5±1.9,0°.70N×125°.72E,h0km,mb3.2/3,*
mb1 3.4/3,mb1mx3.2/43,mbtmp3.2/3,MS4.1/1,Ms1 4.1/1,
ms1mx2.8/26,Error ellipse: s-maj=178.9km s-min=24.6km
az=65.0
*DJA **01** 13:53:20.1±0.3,0°.7N±3°×12°.5E±°,h10km,M3.4/7,MLv3.4/7*
*ISCJB **01** 13:53:21.6±0.7,0°.29N±0°.09×125°.34E±0°.05,h73km,Error*
ellipse: s-maj=12.6km s-min=7.5km az=6.7

ISC 01 13:53:22.6±1.1,0°.28N±0°.09×125°.35E±0°.06,h73km,n8,
σ1§10/9,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.40**	**282**	P	**Pn**	**13 53 46.4**	**+0.1**
KMSI				S	**Sn**	**13 54 03.8**	**-0.4**
TNTI	**Ternate**	**2.08**	**76**	P	**Pn**	**13 53 55.2**	**-0.2**
TNTI				S	**Sn**	**13 54 20.2**	**-0.2**
SANI	**Sanana**	**2.40**	**165**	P	**Pn**	**13 53 58.8**	**-1.0**
NLAI	**Namlea**	**3.91**	**153**	P	**Pn**	**13 54 20.1**	**-0.2**
WRA	**Warramunga Arr**	**21.94**	**157**	P	**P**	**13 58 11.1**	**+0.7**
	0.4nm,0.5s,baz=337,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.21**	**161**	P	**P**	**13 58 44.0**	**+2.2**
	0.1nm,0.3s,baz=337,slow=7.1,SNR=8.5						
JNU	**Nakatsue**	**33.08**	**9**	LR	LR	14 12 29.8	
	comp=Z,333nm,18.8s,baz=206,slow=35						
MKAR	**Makanchi Array**	**59.63**	**327**	P	**P**	**14 03 18.4**	**-0.7**
	0.2nm,0.4s,baz=123,slow=7.5,SNR=3.3						

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*IDC **01** 13:53:37.2±4.2,36°.16N×70°.98E,h200km±34km,mb3.2/5,*
mb1 3.3/10,mb1mx3.0/62,mbtmp3.8/10,MS4.2/1,
Ms1 4.2/1,ms1mx2.9/47,Error ellipse: s-maj=33.7km
s-min=24.6km az=171.0
*NNC **01** 13:53:46.3±3.0,36°.95N×70°.88E,h209km±42km,mb2.9,*
mpv4.2,Error ellipse: s-maj=30.4km s-min=17.9km
az=175.0

ISC 01 13:53:38.4±1.1,36°.4N±0°.1×70°.9E±0°.1,h200km,n29,
σ1§95/32,mb3.6/5,4C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.10**	**20**	P	**Pn**	**13 55 09.1**	**+1.8**
	SNR=53						
UCH	**Uchtor**	**6.44**	**25**	P	**Pn**	**13 55 13.7**	**+2.0**
	SNR=20						
KZA	**Kyzart**	**6.58**	**30**	P	**Pn**	**13 55 15.2**	**+1.6**
	SNR=8.9						
EKS2	**Erkin-Say**	**6.62**	**19**	P	**Pn**	**13 55 15.2**	**+1.5**
	SNR=6.8						
KK31	**Karatay Array**	**6.68**	**358**	P	**Pn**	**13 55 15.7**	**+1.3**
	5.0nm,0.2s,baz=180,slow=12,SNR=26						
KK31				S	**Sn**	**13 56 25.9**	**-4.6**
	7.4nm,0.9s,baz=210,slow=32,SNR=8.3						
AAK	**Ala-Archa**	**6.80**	**23**	⇑P	**Pn**	**13 55 18.1**	**+1.9**
	9.7nm,0.4s						
AAK				⇑S	**Sn**	**13 56 31.9**	**-1.8**
	6.8nm,0.5s						
AAK	**Ala-Archa**	**6.80**	**23**	P	**Pn**	**13 55 18.2**	**+2.1**
	6.5nm,0.3s,baz=156,slow=4.1,SNR=51						
AAK				S	**Sn**	**13 56 32.4**	**-1.3**
	0.9nm,0.3s,baz=120,slow=20,SNR=8.2						
AAK	**Ala-Archa**	**6.80**	**23**	P	**Pn**	**13 55 18.2**	**+2.1**
	SNR=16						
KBK	**Karagaybulak**	**6.97**	**26**	P	**Pn**	**13 55 20.6**	**+2.3**
	SNR=7.6						
ULHL	**Ulahol**	**7.14**	**34**	P	**Pn**	**13 55 22.6**	**+2.0**
	SNR=8.5						
CHMS	**Chumysh**	**7.21**	**23**	P	**Pn**	**13 55 23.4**	**+2.1**
	SNR=6.8						
USP	**Ospenovka**	**7.38**	**21**	P	**Pn**	**13 55 25.3**	**+1.8**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.44**	**28**	⇓P	**Pn**	**13 55 26.0**	**+1.6**
	11nm,0.8s						
TKM2				⇓S	**Sn**	**13 56 46.3**	**-2.4**
	6.1nm,0.8s						
TKM2	**Tokmak 2**	**7.44**	**28**	P	**Pn**	**13 55 26.3**	**+1.9**
	SNR=8.5						
MAKZ	**Makanchi**	**13.27**	**35**	⇑P	**P**	**13 56 40.2**	**-1.8**
	3.0nm,0.9s						
MK31	**Makanchi Array**	**13.41**	**36**	P	**P**	**13 56 44.3**	**+0.8**
	0.4nm,0.6s,baz=225,slow=16,SNR=11						
MKAR	**Makanchi Array**	**13.41**	**36**	P	**P**	**13 56 42.1**	**-1.4**
	0.2nm,0.3s,baz=218,slow=12,SNR=9.0						
AB31	**Akbulak array**	**15.11**	**332**	⇑P	**P**	**13 57 04.5**	**+2.2**
	0.7nm,0.5s,baz=155,slow=11,SNR=20						
KURBB	**Kurchatov Arra**	**15.23**	**19**	P	**P**	**13 57 04.5**	**+1.0**
	0.1nm,0.3s,baz=207,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**16.61**	**359**	P	**Pn**	**13 57 22.0**	**+2.2**
	0.4nm,0.3s,baz=169,slow=9.8,SNR=5.0						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**13 57 21.0**	**-1.1**
	0.2nm,0.3s,baz=155,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**13 57 55.5**	**-0.2**
	1.6nm,0.4s,baz=216,slow=11,SNR=7.0						
ARCES	**ARCESS Array B**	**41.18**	**338**	P	**P**	**14 01 04.6**	**+1.7**
	0.8nm,0.4s,baz=108,slow=7.8,SNR=11						
JHJ	**Hachijo jima 2**	**55.59**	**72**	LR	LR	14 30 10.3	
	comp=Z,200nm,19.9s,baz=98,slow=39						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**14 04 00.5**	**-0.9**
	0.2nm,0.4s,baz=46,slow=6.2,SNR=3.5						
INK	**Inuvik**	**74.00**	**9**	P	**P**	**14 04 51.9**	**+0.4**
	0.9nm,0.6s,baz=2.1,slow=9.6,SNR=3.6						
YKA	**Yellowknife Ar**	**81.33**	**3**	P	**P**	**14 05 31.9**	**-0.1**
	0.3nm,0.4s,baz=351,slow=5.2,SNR=3.0						
KRVT	**Keravat (AS076**	**85.42**	**99**	P	**P**	**14 05 52.4**	**-1.3**
	50nm,0.7s,baz=339,slow=7.8,SNR=4.7						
TXAR	**Lajitas Array**	**114.39**	**355**	PKP	**PKiKP**	**14 11 52.6**	**-2.1**
	0.1nm,0.5s,baz=350,slow=4.6,SNR=2.4						

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*MAN **01** 13:58:39.7,9°.85N×124°.12E,h5km,mb5.8,ML4.8,MS5.2*
MAN Intensity V - Talibon Bohol; Mandaue City; Intensity IV -
Tagbilaran City; San Isidro Bohol; Intensity III -
Dumaguete City; Intensity I - Hibok-Hibok.
*NEIC **01** 13:58:39.8±2.2,9°.84N±0°.07×124°.15E±0°.04,h10km±1km,*
mb5.0/78
*GCMT **01** 13:58:40.8±0.1,9°.91N±0°.01×124°.12E±0°.02,h12km,*
MW5.1/100,Moment Tensor Solution. s44,c65;
s100,c177; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}3.47±.11; $M_{\theta\theta}$-3.36±.08; $M_{\phi\phi}$-0.10±.11; $M_{r\theta}$-2.40±.28;
$M_{\theta\phi}$-3.00±.08; $M_{\phi r}$-0.85±.35; Best double couple:
$M_0$5.02500×10^{16} NP1:ϕ_s249.00000°,δ61.00000°,
λ102.00000°. NP2:ϕ_s46.00000°,δ31.00000°,λ70.00000°.
Principal axes: T 4.2320, Plg72.0000°, Azm186.0000°; N
1.5900, Plg10.0000°, Azm63.0000°; P -5.8190,
Plg15.0000°, Azm330.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*ISCJB **01** 13:58:41.6±0.7,9°.91N±0°.02×124°.21E±0°.02,h31km±4km,*
mb5.0/113,MS4.4/44 Error ellipse: s-maj=4.0km
s-min=2.6km az=162.0
*MOS **01** 13:58:41.6±1.1,9°.87N×124°.19E,h33km,mb5.2/46,Error*
ellipse: s-maj=8.9km s-min=4.8km az=107.2
*BJI **01** 13:58:41.4±0.0,9°.60N×124°.41E,h48km,mb5.0/73,*
mB5.3/49,Ms4.8/60,Ms7 4.5/55
*IDC **01** 13:58:44.3±2.0,9°.86N×124°.19E,h44km±19km,mb4.5/36,*
mb1 4.6/40,mb1mx4.5/48,mbtmp4.8/40,ML4.8/4,MS4.2/31,
Ms1 4.3/31,ms1mx4.1/41,Error ellipse: s-maj=12.8km
s-min=8.2km az=77.0
*DJA **01** 13:58:45.8±0.3,10°N±2°×12°4E±°,h53km±3km,M4.9/76,*
mB5.4/42,mb5.0/76,MLv5.6/3,Mw(mB)4.8/42

ISC 01 13:58:41.1±0.8,9°.85N±0°.02×124°.17E±0°.03,h17km±4km,
n377,σ1§91/408,mb5.0/135,MS4.4/46,20C-17D,
Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.51**	**337**	⇓*iP*	**Pg**	**13 58 49.1**	**-2.3**
LLP				*i* S	**Sg**	**13 58 56.5**	**-1.7**
SNPH	**Sibulan**	**1.05**	**242**	⇑*eP*	**Pb**	**13 58 59.9**	**-0.9**
SNPH				*i* S	**Sn**	**13 59 17.0**	**+1.7**
CGP	**Cagayan de Oro**	**1.48**	**159**	⇑*iP*	**Pn**	**13 59 06.3**	**-0.5**
CGP				*i* S	**Sb**	**13 59 27.3**	**+0.8**
DCPH	**Dipolog City**	**1.49**	**213**	⇑*eP*	**Pg**	**13 59 08.0**	**-1.8**
PLP	**Palo**	**1.53**	**31**	⇑*iP*	**Pn**	**13 59 08.0**	**+0.3**
PLP				*i* S	**Sn**	**13 59 28.7**	**+1.5**
RCP	**Roxas**	**2.21**	**321**	⇓*eP*	**Pn**	**13 59 16.9**	**0.0**
RCP				*eS*	**Sn**	**13 59 45.0**	**+1.2**
JAP	**San Jose, Anti**	**2.36**	**292**	⇑*iP*	**Pb**	**13 59 20.8**	**-2.4**
MMPH	**Masbate**	**2.55**	**348**	⇓*eP*	**Pg**	**13 59 28.6**	**-1.5**
MMPH				*i* S	**Sg**	**14 00 01.7**	**-1.6**
CTBH	**Cotabato--PC H**	**2.61**	**178**	⇓*eP*	**Pn**	**13 59 23.7**	**+1.2**
CTBH				*i* S	**Sn**	**13 59 57.1**	**+3.4**
BIPH	**Bislig**	**2.72**	**127**	⇓*eP*	**Pn**	**13 59 26.2**	**+2.2**
BIPH				*eS*	**Sn**	**14 00 00.7**	**+4.2**
KCP	**Kidapawan**	**2.96**	**162**	⇑*eP*	**Pb**	**13 59 30.8**	**-2.7**
KCP				*i* S	**Sg**	**14 00 17.4**	**+1.1**
DMPH	**Davao City--Mi**	**3.05**	**154**	⇓*eP*	**Pg**	**13 59 36.8**	**-2.7**
DMPH				*eS*	**Sg**	**14 00 22.8**	**+3.7**
DAV	**Davao City (W)**	**3.09**	**153**	⇑*eP*	**Pb**	**13 59 33.8**	**-1.8**
ZCP	**Zamboanga City**	**3.56**	**216**	⇑*iP*	**Pn**	**13 59 36.4**	**+0.9**
ZCP				*i* S	**Sb**	**14 00 23.9**	**-2.7**
TGY	**Tagaytay City**	**5.28**	**324**	P	**Pn**	**14 00 02.2**	**+3.0**
	70nm,0.3s,baz=172,slow=5.5,SNR=3.8						
TGY				LR	LR	14 02 22.0	
	comp=Z,4μm,18.2s,baz=145,slow=41						
SGSI	**Sangihe**	**6.27**	**167**	P	**Pn**	**14 00 16.8**	**+4.0**
	286nm,0.8s,4μm1.4nm						
KKM	**Kota Kinabalu**	**8.74**	**245**		**Pn**	**14 00 48.1**	**+1.3**
KMSI	**Cibinong**	**9.21**	**181**	P	Pn	14 00 58.8	+5.6
TNTI	**Ternate**	**9.56**	**160**	P	**Pn**	**14 00 59.8**	**+1.8**
TNTI	**Ternate**	**9.56**	**160**		**Pn**	**14 00 59.4**	**+1.4**
MRSI	**Marisa**	**9.57**	**194**	P	Pn	14 01 04.2	+6.1
	24nm,0.6s,397nm						
MPSI	**Mapaga**	**10.36**	**204**	P	**Pn**	**14 01 09.7**	**+0.8**
PALU	**Palau**	**10.49**	**103**	P	**Pn**	**14 01 06.9**	**-3.8**
	baz=10,SNR=4.9						
I39PW	**PALAU INFRASON**	**10.51**	**102**	*i*		15 08 10.0	
	baz=285,slow=307,SNR=0.7						
LUWI	**Luwuk**	**10.90**	**187**	P	**Pn**	**14 01 20.2**	**+3.8**
APSI	**Ampana**	**10.98**	**193**	P	Pn	14 01 22.1	+4.7
SANI	**Sanana**	**11.95**	**171**	P	**Pn**	**14 01 30.6**	**-0.2**
SIJI	**Sorong**	**12.78**	**146**	P	**Pn**	**14 01 44.1**	**+2.1**
	1.2nm,0.3s,baz=316,slow=12,SNR=8.3						
SIJI				S	Sn	14 03 52.4	-12
	0.3nm,0.3s,baz=348,slow=17,SNR=1.4						
SIJI				LR	LR	14 06 37.9	
	comp=Z,631nm,20.5s,baz=326,slow=37						
NLAI	**Namlea**	**13.32**	**167**	P	**Pn**	**14 01 49.7**	**+0.2**
TTSI	**Tana Toraja**	**13.52**	**199**	P	**Pn**	**14 01 56.4**	**+4.2**
YULB	**Yu-li**	**13.75**	**349**		**P**	**14 02 01.9**	**-1.9**
TPUB	**Ta-pu**	**13.80**	**346**		**P**	**14 02 05.1**	**+0.7**
MSAI	**Masohi**	**13.94**	**160**	P	**Pn**	**14 01 59.2**	**+1.3**
SBUM	**Sibu**	**13.96**	**239**		**Pn**	**14 02 00.2**	**+2.0**
AAI	**Ambon**	**14.03**	**163**	P	**P**	**14 02 04.5**	**-2.5**
	40nm,0.9s						
SSLB	**Suanglung**	**14.20**	**348**	P	**P**	**14 02 08.1**	**-0.7**
SPSI	**Sidrap Palu**	**14.40**	**198**	P	**P**	**14 02 10.0**	**-1.1**
BNSI	**Bone**	**14.72**	**196**	P	**P**	**14 02 14.2**	**-0.4**
YHNB	**Yeheng**	**14.98**	**350**	P	**P**	**14 02 17.1**	**-0.5**
FAKI	**Fak Fak**	**15.02**	**147**	P	**Pn**	**14 02 14.9**	**+2.2**
FAKI	**Fak Fak**	**15.02**	**147**	P	**P**	**14 02 17.1**	**-0.8**
FAKI				IAmb	IAmb	14 02 33.2	
	comp=Z,49nm,1.1s						
BNDI	**Bandanaira**	**15.37**	**158**	P	**P**	**14 02 20.6**	**-1.3**
KAPI	**Kappang**	**15.40**	**197**	P	**P**	**14 02 21.3**	**-1.0**
	SNR=6.4						
KAPI	**Kappang**	**15.40**	**197**	P	**P**	**14 02 20.7**	**-1.5**
	comp=Z,2.8nm,0.3s,baz=7.9,slow=14,SNR=5.4						
KAPI				LR	LR	14 07 56.8	
	comp=Z,991nm,21.4s,baz=116,slow=36						
BKSI	**Bulukumba**	**15.60**	**195**	P	**P**	**14 02 25.0**	**+0.6**
STKI	**Sintang**	**15.93**	**233**	P	**P**	**14 02 26.6**	**-1.6**
BAKI	**Biak**	**16.17**	**132**	P	**Pn**	**14 02 29.8**	**+2.1**
	comp=Z,83nm,1.0s,comp=Z,2μm						
QIZ	**Qiongzhong**	**16.60**	**305**	P	**P**	**14 02 34.7**	**-0.8**
QIZ				S	**Sn**	**14 05 39.6**	**+2.5**
QIZ				LR	LR		
	comp=Z,1μm,16.1s						
QIZ				LR	LR		
	comp=Z,1μm,16.5s						
QIZ				LR	LR		
	comp=Z,2μm,18.6s						
SRPI	**Serui, Papua**	**16.73**	**133**	P	**P**	**14 02 38.5**	**+1.5**
JOW	**Kunigami**	**17.34**	**12**	P	**P**	**14 02 48.0**	**+4.4**
	comp=Z,0.8nm,0.3s,baz=187,slow=15,SNR=7.1						
JOW	**Kunigami**	**17.34**	**12**	P	**P**	**14 02 45.8**	**+2.2**
JOW				IAmb	IAmb	14 03 01.9	
	comp=Z,91nm,0.9s						
MMRI	**Maumere**	**18.46**	**186**	P	**Pn**	**14 02 59.9**	**+3.7**
	comp=Z,107nm,1.2s,comp=Z,5μm						
MMRI	**Maumere**	**18.46**	**186**	P	**P**	**14 02 55.4**	**-0.7**
MMRI				IAmb	IAmb	14 03 13.6	
	comp=Z,65nm,0.9s						
SMPI	**Sarmi**	**18.65**	**128**	P	**Pn**	**14 03 00.4**	**+1.8**
	comp=Z,191nm,1.2s,comp=Z,2μm						
SOEI	**Soe**	**19.47**	**180**	P	**Pn**

GYA PP **PnPn** **14 04 24.0 +8.3**
GYA S **S** **14 07 59.9 -2.0**
GYA SS Sn 14 08 44.8 +24
GYA pmax pmax
comp=Z,10.0nm,1.1s
GYA pmax pmax
comp=Z,350nm,5.1s
GYA LR LR
comp=Z,650nm,13.1s
GYA LR LR
comp=Z,720nm,14.3s
GYA LR LR
comp=Z,890nm,14.3s
PBKT Sadao Pong 23.54 289 P **P** **14 03 51.2 +0.5**
comp=Z,26nm,1.4s,comp=Z,478nm
PBKT Sadao Pong 23.54 289 P **P** **14 03 50.9 +0.2**
PBKT IAmb IAmb 14 03 56.3
comp=Z,61nm,1.2s
IPM Ipoh 23.57 259 P **P** **14 03 51.7 +0.7**
MTN Manton Dam 23.58 163 P **P** **14 03 52.1 +1.1**
KULM Kulim 23.74 261 P **P** **14 03 53.6 +0.9**
KULM IAmb IAmb 14 03 54.1
comp=Z,49nm,0.9s
CISI Cisompet, Garu 23.75 224 P **P** **14 03 54.3 +1.5**
CISI Cisompet, Garu 23.75 224 P **P** **14 03 54.2 +1.4**
KDU Kakadu 23.86 160 P **P** **14 03 54.1 +0.4**
baz=24,SNR=22
JNU Nakatsue 23.98 14 P **P** **14 03 53.8 -1.0**
comp=Z,17nm,0.9s,baz=156,slow=4.3,SNR=6.7
JNU Nakatsue 23.98 14 P **P** **14 03 55.3 +0.6**
JNU IAmb IAmb 14 04 05.3
comp=Z,36nm,1.1s
JCJ Chichijima 24.16 42 P **P** **14 03 55.5 -1.0**
comp=Z,92nm,0.8s,baz=209,slow=6.3,SNR=6.3
JCJ LR LR 14 11 53.3
comp=Z,281nm,19.5s,baz=220,slow=33
KLSI 24.16 234 P **P** **14 03 57.1 +0.5**
PHET Kaeng Krachan 24.25 280 P **P** **14 03 58.0 +0.6**
comp=Z,107μm,0.9s,comp=Z,989μm
TRTT Trang 24.27 267 P **P** **14 03 59.1 +1.5**
comp=Z,44nm,1.9s,comp=Z,897nm
MMPI Merauke 24.32 138 P **P** **14 04 00.0 +2.0**
ENH Enshi 24.51 328 P **P** **14 03 57.8 -1.9**
ENH IAmb IAmb 14 04 09.1
comp=Z,28nm,0.9s
CGJI Cibinong 24.62 229 P **P** **14 04 02.2 +1.4**
LHSI Lahat 24.65 238 P **P** **14 04 03.4 +2.4**
UTHA Uthaitani 24.77 286 P **P** **14 04 03.1 +1.0**
comp=Z,59μm,0.7s,comp=Z,562μm
BKNI Bangkinang 24.88 249 P **P** **14 04 04.4 +1.2**
SURT Suratani 25.05 270 P **P** **14 04 05.7 +1.0**
comp=Z,38nm,0.9s,comp=Z,959nm
LAMP Lampang 25.28 293 P **P** **14 04 11.7 +5.0**
comp=Z,62μm,1.1s
PAYA Payao 25.32 295 P **P** **14 04 08.0 +0.9**
comp=Z,60μm,0.9s,comp=Z,495μm
KMI Kunming 25.41 309 P **P** **14 04 10.4 +2.3**
KMI pP sP 14 04 20.8 +5.2
KMI sP pP 14 04 24.9 +11
KMI PP **PnPn** **14 04 48.7 +5.4**
KMI S **S** **14 08 31.6 -2.8**
KMI sS sS 14 08 49.9 +6.7
KMI SS **SnSn** **14 09 41.6 +15**
KMI pmax pmax
comp=Z,20nm,1.1s
KMI pmax pmax
comp=Z,470nm,4.5s
KMI LR LR
comp=Z,850nm,12.1s
KMI LR LR
comp=Z,880nm,19.3s
KMI LR LR
comp=Z,1μm,25.1s
UMPA Umpang Tak 25.44 287 P **P** **14 04 11.9 +3.6**
comp=Z,37μm,1.2s
KHLT Khaolaem Dam 25.46 284 P **P** **14 04 08.6 +0.2**
comp=Z,29nm,2.6s,comp=Z,924nm
PKDT Phuket 25.60 268 P **P** **14 04 11.7 +2.0**
comp=Z,86nm,1.0s,comp=Z,1μm
KNRA Kununurra 25.76 170 P **P** **14 04 13.2 +2.1**
baz=26,SNR=8.7
KNRA Kununurra 25.76 170 P **P** **14 04 12.0 +0.9**
KNRA IAmb IAmb 14 04 25.8
comp=Z,33nm,0.9s
CM31 Chiang Mai Arr 25.89 292 P **P** **14 04 13.4 +1.1**
CM31 IAmb IAmb 14 04 18.8
comp=Z,49nm,1.1s
CMAR Chiang Mai Arr 25.89 292 P **P** **14 04 12.4 +0.1**
comp=Z,33nm,1.2s,baz=108,slow=7.1,SNR=44
CMAR PcP **PcP** **14 07 41.1 -0.2**
comp=Z,1.3nm,0.9s,baz=103,slow=1.2,SNR=5.8
CMAR LR LR 14 14 30.4
comp=Z,490nm,19.3s,baz=100,slow=36
CMAR Chiang Mai Arr 25.89 292 P **P** **14 04 12.8 +0.5**
PDSI Padang 25.91 247 P **P** **14 04 14.1 +1.6**
CMMT Chiang Mai 25.98 293 P **P** **14 04 14.9 +1.7**
comp=Z,5.5nm,1.3s
CHTO Chiang Mai 25.99 293 P **P** **14 04 13.6 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 25.99 293 P **P** **14 04 13.6 +0.4**
PSI Prapat 26.03 256 P **P** **14 04 14.5 +0.7**
PSI pmax pmax
comp=Z,34nm,0.8s
PSI Prapat 26.03 256 P **P** **14 04 14.2 +0.4**
comp=Z,27nm,0.8s,baz=63,slow=6.1,SNR=31
PSI LR LR 14 16 18.3
comp=Z,472nm,18.1s,baz=93,slow=40
RPSI Rantau Prapat 26.06 256 P **P** **14 04 14.5 +0.6**
RPSI IAmb IAmb 14 04 17.2
comp=Z,34nm,0.8s
TJN Taejon 26.57 6 *ce*P **P** **14 04 20.6 +2.4**
MHMT Maesarieng 26.74 291 P **P** **14 04 22.4 +2.4**
comp=Z,27nm,0.8s
TIA Tai'an 27.02 347 P **P** **14 04 22.3 0.0**
TIA S **S** **14 09 00.6 +1.4**
TIA pmax pmax
comp=Z,30nm,0.9s
TIA LR LR
comp=Z,620nm,14.7s
TIA LR LR
comp=Z,880nm,11.2s
TIA LR LR
comp=Z,960nm,19.5s
JHJ Hachijo jima 2 27.27 30 LR LR 14 15 43.6
comp=Z,358nm,18.4s,baz=262,slow=37
KSRS Korea Array 27.70 6 P **P** **14 04 28.6 +0.3**
comp=Z,6.4nm,0.7s,baz=184,slow=10,SNR=32
KSRS PcP **PcP** **14 07 44.6 -0.6**
comp=Z,0.9nm,0.6s,baz=172,slow=2.3,SNR=3.7
KSRS LR LR 14 15 27.3
comp=Z,504nm,21.5s,baz=196,slow=36
KS19 Wonju Array Si 27.74 6 P **P** **14 04 26.2 -2.5**
GSI Gunungsitoli 27.77 254 P **P** **14 04 28.6 -0.7**
GSI Gunungsitoli 27.77 254 P **P** **14 04 29.0 -0.3**
FITZ Fitzroy Crossi 27.80 177 P **P** **14 04 30.0 +0.6**
baz=28,SNR=11
FITZ Fitzroy Crossi 27.80 177 P **P** **14 04 28.7 -0.7**
comp=Z,12nm,1.1s,baz=1.7,slow=9.7,SNR=9.8
FITZ Fitzroy Crossi 27.80 177 P **P** **14 04 29.5 +0.1**
FITZ IAmb IAmb 14 04 38.1
comp=Z,18nm,1.1s
XAN Xi'an 27.85 332 P **P** **14 04 29.5 -0.4**
XAN PP **PnPn** **14 05 21.9 +5.4**
XAN PcP **PcP** **14 07 45.5 -0.2**
XAN S **S** **14 09 09.2 -3.3**
XAN pmax pmax
comp=Z,21nm,1.3s
XAN pmax pmax
comp=Z,310nm,4.9s
XAN LR LR
comp=Z,1μm,19.8s
XAN LR LR
comp=Z,780nm,17.7s
XAN LR LR
comp=Z,1μm,21.1s
XAN Xi'an 27.85 332 P **P** **14 04 29.8 -0.1**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN Xi'an 27.85 332 P **P** **14 04 29.8 -0.1**
CD2 Chengdu 28.28 321 ⇓P **P** **14 04 34.2 +0.5**
CD2 S **S** **14 09 25.6 +6.3**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 LR LR
comp=Z,1μm,14.7s
CD2 LR LR
comp=Z,1μm,17.2s
CD2 LR LR
comp=Z,1μm,17.2s
MAJO Matsushiro 29.47 23 ⇓*e*P **P** **14 04 42.4 -1.8**
MAJO pmax pmax
comp=Z,19nm,1.4s
MAJO Matsushiro 29.47 23 P **P** **14 04 43.1 -1.1**
MAT Matsushiro 29.47 23 P **P** **14 04 43.0 -1.2**
MAT *e*S **S** **14 09 42.6 +4.8**
MJAR Matsushiro Arr 29.47 23 P **P** **14 04 43.3 -0.9**
MJAR 14 07 49.1
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 29.47 23 P **P** **14 04 42.8 -1.4**
comp=Z,7.2nm,1.1s,baz=199,slow=8.9,SNR=10
MJAR PcP **PcP** **14 07 49.1 -0.6**
comp=Z,1.3nm,0.8s,baz=207,slow=0.5,SNR=3.9
MJAR LR LR 14 16 28.5
comp=Z,432nm,18.5s,baz=205,slow=36
MJAR Matsushiro Arr 29.47 23 P **P** **14 04 43.3 -0.9**
MJB9 Matsu-Tunnel 29.47 23 P **P** **14 04 43.0 -1.2**
PMG Port Moresby 29.82 129 ⇓*e*P **P** **14 04 47.3 -0.2**
PMG pmax pmax
comp=Z,87nm,1.0s
PMG Port Moresby 29.82 129 P **P** **14 04 47.1 -0.4**
comp=Z,13nm,0.8s,baz=287,slow=3.8,SNR=3.8
PMG Port Moresby 29.82 129 P **P** **14 04 46.8 -0.7**
PMG IAmb IAmb 14 05 05.0
comp=Z,19nm,0.9s
COEN Coen 30.25 141 P **P** **14 04 51.4 +0.2**
baz=30,SNR=7.2
COEN Coen 30.25 141 P **P** **14 04 50.5 -0.7**
COEN IAmb IAmb 14 04 52.3
comp=Z,13nm,0.9s
BJT Baijiatuau 30.88 348 P **P** **14 04 56.9 +0.3**
BJT pmax pmax
comp=Z,25nm,0.9s
BJT Baijiatuau 30.88 348 P **P** **14 04 56.9 +0.3**
BJT IAmb IAmb 14 04 58.0
comp=Z,25nm,0.9s
BJI Beijing 30.90 348 P **P** **14 04 57.2 +0.5**
BJI pP sP 14 05 07.4 +3.1
BJI sP pP 14 05 11.1 +9.0
BJI S **S** **14 10 01.4 +1.3**
BJI pmax pmax
comp=Z,30nm,0.9s
BJI LR LR
comp=Z,380nm,30.4s
BJI LR LR
comp=Z,620nm,24.5s
PBA Port Blair 30.92 276 P P 14 04 54.8 -2.4
WRAB Tennant Creek 31.24 161 *ce*P **P** **14 04 59.2 -0.7**
WRAB pmax pmax
comp=Z,19nm,1.7s
WRAB Tennant Creek 31.24 161 P **P** **14 04 59.3 -0.7**
WRA Warramunga Arr 31.25 161 P **P** **14 04 59.7 -0.3**
WRA 14 07 53.6
WRA Warramunga Arr 31.25 161 P **P** **14 04 58.6 -1.5**
comp=Z,6.8nm,1.2s,baz=341,slow=10,SNR=16
WRA PcP **PcP** **14 07 53.6 -0.9**
comp=Z,2.0nm,0.8s,baz=340,slow=3.1,SNR=4.1
WRA LR LR 14 20 07.1
comp=Z,264nm,18.8s,baz=335,slow=41
WRA Warramunga Arr 31.25 161 P **P** **14 04 59.7 -0.3**
WR0 Warramunga Arr 31.33 161 P **P** **14 04 59.8 -0.9**
PSA00 Pilbara Seismi 31.51 188 P **P** **14 04 59.5 -2.8**
LZH Lanzhou 31.99 328 ⇓P **P** **14 05 08.3 +1.7**
LZH sP sP 14 05 26.0 +12
LZH S **S** **14 10 16.3 -1.4**
LZH sS sS 14 10 37.0 +11
LZH SS **SnSn** **14 12 17.3 +10**
LZH pmax pmax
comp=Z,49nm,1.5s
LZH pmax pmax
comp=Z,240nm,4.9s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,1μm,16.3s
HHC Hu-ho-hao-te 32.84 342 P **P** **14 05 17.2 +3.3**
HHC pmax pmax
comp=Z,4.0nm,0.8s
MSHR Mys Shultsa 33.18 9 ⇓*e*P **P** **14 05 17.1 +0.4**
QIS Mount Isa 33.81 153 P **P** **14 05 22.8 +0.3**
baz=34,SNR=12
VLA Vladivostok 33.83 10 *de*P **P** **14 05 23.5 +1.1**
VLA pmax pmax
comp=Z,37nm,1.2s
CN2 Changchun 33.85 2 *e*P **P** **14 05 22.6 0.0**
CN2 *e*S **S** **14 10 46.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,490nm,18.0s
CN2 LR LR
comp=Z,520nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
MTSU Mount Surprise 34.19 144 P **P** **14 05 26.7 +0.9**
baz=34,SNR=4.7
SHL Shillong 34.37 301 P **P** **14 05 26.7 -0.9**
SHL Shillong 34.37 301 P **P** **14 05 26.7 -0.9**
AS31 Alice Springs 34.64 164 P **P** **14 05 29.3 -0.3**
ASAR Alice Springs 34.64 164 P **P** **14 05 29.7 0.0**
ASAR 14 08 02.7
ASAR Alice Springs 34.64 164 P **P** **14 05 29.0 -0.7**
comp=Z,6.8nm,0.8s,baz=335,slow=6.4,SNR=38
ASAR PcP **PcP** **14 08 02.7 -1.3**
comp=Z,1.2nm,0.6s,baz=343,slow=2.9,SNR=4.4
ASAR Alice Springs 34.64 164 P **P** **14 05 29.7 0.0**
USA0B Ussuriysk Arra 34.89 10 P **P** **14 05 32.1 +0.5**
USA0B pmax pmax
comp=Z,27nm,1.1s
USA0B Ussuriysk Arra 34.89 10 P **P** **14 05 32.1 +0.5**
USA0B IAmb IAmb 14 05 33.3
comp=Z,27nm,1.1s
USRK Ussuriysk Ar. 34.89 10 P **P** **14 05 30.8 -0.8**
comp=Z,14nm,0.9s,baz=192,slow=7.9,SNR=28
USRK LR LR 14 19 01.7
comp=Z,314nm,21.4s,baz=179,slow=35
WRKA Warakurna 34.90 173 P **P** **14 05 32.3 +0.3**
baz=35,SNR=18
MDJ Mudanjiang 34.96 7 P **P** **14 05 32.7 +0.6**
MDJ pmax pmax
comp=Z,42nm,1.3s
MDJ pmax pmax
comp=Z,230nm,5.7s
MDJ Mudanjiang 34.96 7 P **P** **14 05 32.8 +0.6**
GTA Gaotai 36.59 328 ⇑P **P** **14 05 47.4 +1.0**
GTA pP sP 14 05 56.7 +2.7
GTA sP pP 14 06 00.8 +8.9
GTA PcP **PcP** **14 08 10.8 +1.2**
GTA S **S** **14 11 35.7 +7.1**
GTA pmax pmax
comp=Z,31nm,1.3s
GTA pmax pmax
comp=Z,170nm,5.3s
GTA LR LR
comp=Z,890nm,19.0s
GTA LR LR
comp=Z,890nm,15.9s
GTA LR LR
comp=Z,2μm,18.4s
LSA Lhasa 36.61 307 *i* P **P** **14 05 49.0 +1.8**
SNR=5.2
LSA Lhasa 36.61 307 IAmb IAmb 14 05 49.8
comp=Z,19nm,0.7s
MEEK Meekatharra 36.66 188 P **P** **14 05 46.7 -0.3**
baz=37,SNR=5.0
TEY Ternei 36.67 15 ⇓*e*P **P** **14 05 46.9 +0.1**
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.2s
CTA Charters Tower 36.84 144 P **P** **14 05 47.4 -1.3**
comp=Z,9.4nm,0.9s,baz=330,slow=13,SNR=4.0
CTAO Charters Tower 36.84 144 P **P** **14 05 49.1 +0.5**
CTAO pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 36.84 144 P **P** **14 05 49.1 +0.5**
ASAJ Asahikawa 37.70 22 P **P** **14 05 54.9 -0.7**
comp=Z,13nm,0.9s,baz=257,slow=12,SNR=4.8
JKA Kamikawa-asahi 37.70 22 P **P** **14 05 54.9 -0.7**
TAPN Taplejung 38.50 302 *e*P **P** **14 06 03.6 +0.6**
comp=Z,45nm,0.4s
ODAN Odare 38.61 301 *e*P **P** **14 06 04.3 +0.5**
comp=Z,145nm,1.1s
RAMN Ramite 39.30 301 *e*P **P** **14 06 10.5 +0.8**
comp=Z,40nm,0.6s
HIA Hailar 39.47 355 IAmb IAmb 14 06 11.8
comp=Z,41nm,1.2s
KLR Kul'dur 39.77 8 *d i*P **P** **14 06 13.4 +0.5**
KLR pmax pmax
comp=Z,37nm,1.4s
JIRN Jiri 39.88 302 *e*P **P** **14 06 15.2 +0.6**
GUN Gumba 40.22 302 *e*P **P** **14 06 17.9 +0.5**
comp=Z,192nm,0.9s
PKI Pulchoki 40.50 301 *e*P **P** **14 06 19.6 -0.1**
comp=Z,55nm,0.8s
PKIN Phulchoki 40.52 301 *e*P **P** **14 06 19.5 -0.3**
ULN Ulaanbaatar 40.56 342 *d i*P **P** **14 06 20.6 +0.9**
ULN pmax pmax
comp=Z,101nm,1.7s
ULN Ulaanbaatar 40.56 342 P **P** **14 06 19.4 -0.2**
FORT Forrest 40.56 175 P **P** **14 06 18.1 -1.6**
FORT IAmb IAmb 14 06 35.0
comp=Z,35nm,0.9s
KKN Kakani 40.68 301 *e*P **P** **14 06 21.1 0.0**
comp=Z,85nm,0.9s
SONM Songino Array 40.73 342 P **P** **14 06 21.2 +0.1**
SONM 14 08 22.0
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 40.73 342 P **P** **14 06 20.6 -0.5**
comp=Z,3.8nm,0.8s,baz=159,slow=8.1,SNR=22
SONM PcP **PcP** **14 08 22.0 -0.4**
comp=Z,2.7nm,0.8s,baz=185,slow=3.7,SNR=3.6
SONM LR LR 14 24 23.6
comp=Z,650nm,19.9s,baz=154,slow=38
SONM Songino Array 40.73 342 P **P** **14 06 21.2 +0.1**
DMN Daman 40.77 301 *e*P **P** **14 06 22.1 +0.2**
comp=Z,75nm,0.9s
QLP Quilpie 41.12 152 P P 14 06 19.7 -4.7
baz=41,SNR=3.3
GKN Gorkha 41.29 301 *e*P **P** **14 06 25.7 -0.3**
KOLN Koldanda 42.09 301 *e*P **P** **14 06 32.9 +0.2**
comp=Z,118nm,0.9s
DANN Dangsing 42.13 302 *e*P **P** **14 06 33.0 -0.1**
comp=Z,141nm,0.9s
PALK Pallekele 43.04 270 P **P** **14 06 41.3 +1.0**
NWAO Narrogin (SRO) 43.04 189 P **P** **14 06 38.3 -1.7**
baz=43,SNR=3.7
NWAO Narrogin (SRO) 43.04 189 P **P** **14 06 38.7 -1.3**
comp=Z,5.3nm,0.6s,baz=21,slow=8.6,SNR=5.1
NWAO LR LR 14 27 33.6
comp=Z,166nm,19.8s,baz=56,slow=40
ZEA Zeya 43.84 3 *e*P **P** **14 06 45.8 -0.4**
ZEA *e* 14 08 32.7
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA MLR MLR
comp=Z,500nm,17.0s
ZEA MLR MLR
comp=N,400nm,16.0s
BBOO Buckleboo 43.91 166 P **P** **14 06 47.3 +0.4**
baz=44,SNR=19
BBOO Buckleboo 43.91 166 P **P** **14 06 47.3 +0.4**
BBOO IAmb IAmb 14 06 49.1
comp=Z,29nm,1.1s
ZAK Zakamensk 43.95 341 *e*P **P** **14 06 47.2 0.0**
ZAK *e* 14 08 32.5
ZAK pmax pmax
comp=Z,6.0nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.4s
STKA Stephens Creek 44.71 159 P **P** **14 06 54.1 +0.8**
baz=45,SNR=22
STKA Stephens Creek 44.71 159 P **P** **14 06 53.8 +0.4**
comp=Z,14nm,0.9s,baz=332,slow=7.9,SNR=40
STKA LR LR 14 28 11.7
comp=Z,270nm,21.3s,baz=345,slow=40
STKA Stephens Creek 44.71 159 P **P** **14 06 53.8 +0.4**
HYB Hyderabad 44.88 285 *i* P **P** **14 06 55.0 -0.1**
TLY Talaya 44.97 342 P **P** **14 06 55.8 +0.6**
SNR=7.5
TLY Talaya 44.97 342 *d i*P **P** **14 06 56.3 +1.1**
TLY pmax pmax
comp=Z,19nm,1.3s
HTT Hallett 45.27 163 P **P** **14 06 58.9 +1.0**
baz=45,SNR=12
MOY Mondy 45.80 340 *e*P **P** **14 07 02.3 +0.3**
MOY pmax pmax
comp=Z,22nm,1.6s
CMSA Cobar Meteorol 46.02 154 P **P** **14 07 05.3 +1.5**
baz=46,SNR=26
WMQ Urumqi 46.31 323 *e*P **P** **14 07 07.5 +1.5**
WMQ pP sP 14 07 17.4 +3.7
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.7s
WMQ LR LR
comp=Z,650nm,15.3s
WMQ LR LR
comp=Z,540nm,15.3s
WMQ LR LR
comp=Z,1μm,22.9s
ARMA Armidale 47.95 148 P **P** **14 07 20.9 +1.8**
baz=48,SNR=5.8
ARMA Armidale 47.95 148 P **P** **14 07 20.8 +1.8**
ARMA IAmb IAmb 14 07 25.4
comp=Z,19nm,1.1s
BOD Bodaibo 48.50 353 *e*P **P** **14 07 22.7 -0.1**
BOD pmax pmax
comp=Z,20nm,1.6s
ARPS Mount Arapiles 49.25 161 P **P** **14 07 29.7 +0.9**
baz=49,SNR=8.3
DGZ Jazzator, Alta 50.06 330 ⇑*e*P **P** **14 07 35.9 +0.8**
CAN Canberra 50.68 154 P **P** **14 07 41.5 +1.7**
CAN pmax pmax
comp=Z,17nm,1.0s
CAN Canberra 50.68 154 P **P** **14 07 41.5 +1.7**
CAN IAmb IAmb 14 07 43.3
comp=Z,17nm,1.0s
PEA0B Petropavlovsk- 50.89 25 P **P** **14 07 42.8 +1.7**
PEA0B pmax pmax
comp=Z,32nm,1.1s
PEA0B Petropavlovsk- 50.89 25 P **P** **14 07 42.8 +1.7**
PETK Petropavlovsk- 50.89 25 P **P** **14 07 41.5 +0.4**
PETK Petropavlovsk- 50.89 25 P **P** **14 07 40.8 -0.3**
comp=Z,28nm,1.3s,baz=185,slow=2.2,SNR=12
PETK Petropavlovsk- 50.89 25 P **P** **14 07 41.5 +0.4**
MK31 Makanchi Array 51.13 324 P **P** **14 07 43.9 +0.9**
MK31 pmax pmax
comp=Z,12nm,1.0s
MK31 Makanchi Array 51.13 324 P **P** **14 07 43.9 +0.9**
MK31 IAmb IAmb 14 07 54.8
comp=Z,12nm,0.9s
MKAR Makanchi Array 51.13 324 P **P** **14 07 43.6 +0.6**
comp=Z,16nm,0.8s,baz=128,slow=8.4,SNR=115
MKAR PcP **PcP** **14 08 58.5 0.0**
comp=Z,2.0nm,0.6s,baz=116,slow=6.6,SNR=2.9
MKAR LR LR 14 30 40.8
comp=Z,590nm,19.6s,baz=110,slow=38
MKAR Makanchi Array 51.13 324 P **P** **14 07 43.8 +0.8**
TOO Toolangi 51.22 158 P **P** **14 07 45.5 +1.7**
baz=51,SNR=5.8
TOO Toolangi 51.22 158 P **P** **14 07 44.8 +1.0**
TOO pmax pmax
comp=Z,32nm,1.2s
TOO Toolangi 51.22 158 P **P** **14 07 44.8 +1.0**
TOO IAmb IAmb 14 07 46.5
comp=Z,32nm,1.1s
PET Petropavlovsk 51.24 26 *e*P **P** **14 07 44.8 +1.2**
PET pmax pmax
comp=Z,53nm,1.6s
MAKZ Makanchi 51.32 324 P **P** **14 07 45.3 +0.9**
MAKZ pmax pmax
comp=Z,19nm,1.2s
MAKZ Makanchi 51.32 324 P **P** **14 07 45.3 +0.9**
MAKZ IAmb IAmb 14 07 50.8
comp=Z,19nm,1.1s
TARG Taragay, Kyrgy 51.56 316 P **P** **14 07 45.4 -1.4**
KSH Kashi 51.99 313 P **P** **14 07 52.6 +2.9**

KSH PcP **PcP** **14 09 04.0 +2.0**
KSH ScP **ScP** **14 12 56.5 -1.9**
KSH PcS **PcS** **14 12 59.2 -1.1**
KSH S **S** **14 15 09.1 -3.5**
KSH ScS **ScS** **14 17 32.3 -7.2**
KSH SS **SS** **14 18 44.7 -5.0**
KSH pmax pmax
comp=Z,44nm,1.7s
KSH pmax pmax
comp=Z,170nm,5.1s
KSH LR LR
comp=Z,190nm,13.3s
KSH LR LR
comp=Z,100nm,11.8s
KSH LR LR
comp=Z,250nm,12.8s
KDJ Kajisay 52.15 316 P **P** **14 07 51.8 +0.8**
KDJ pmax pmax
comp=Z,10.0nm,0.9s
KDJ Kajisay 52.15 316 P **P** **14 07 51.8 +0.8**
KDJ IAmb IAmb 14 07 59.5
comp=Z,10nm,0.8s
DZM Mont Dzumac 52.20 128 *e*P **P** **14 07 51.9 +0.5**
comp=Z,72nm,1.1s
DZM *e*S **S** **14 15 14.5 -1.2**
comp=Z,442nm,26.9s
DZM *e*LR LR 14 22 58.0
comp=Z,514nm,32.0s
DZM Mont Dzumac 52.20 128 P **P** **14 07 51.8 +0.4**
comp=Z,23nm,0.8s,baz=308,slow=8.1,SNR=13
YAK Yakutsk 52.25 3 *e*P **P** **14 07 49.7 -1.3**
YAK *e**PP sP 14 08 04.6 +5.9
YAK *e* 14 09 02.9
YAK *e*S **S** **14 15 09.8 -5.2**
YAK *e* 14 17 34.1
YAK pmax pmax
comp=Z,27nm,1.4s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,57nm,1.7s
YAK pmax pmax
comp=N,47nm,1.6s
YAK pmax pmax
comp=E,24nm,1.6s
YAK smax smax
comp=E,193nm,5.3s
YAK smax smax
comp=N,156nm,5.8s
KZA Kyzart 53.45 316 P **P** **14 08 02.1 +1.2**
SNR=6.7
KBK Karagaybulak 53.88 316 P **P** **14 08 05.2 +1.5**
SNR=6.2
UCH Uchtor 54.02 316 P **P** **14 08 06.2 +1.2**
SNR=11
ZAA0 Zalesovo Array 54.02 332 P **P** **14 08 03.4 -0.9**
ZAA0 IAmb IAmb 14 08 05.0
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 54.02 332 P **P** **14 08 03.8 -0.5**
comp=Z,6.5nm,0.6s,baz=124,slow=6.2,SNR=33
ZALV PcP **PcP** **14 09 11.2 +2.0**
comp=Z,2.4nm,0.8s,baz=104,slow=4.6,SNR=2.2
ZALV LR LR 14 32 37.1
comp=Z,496nm,18.3s,baz=133,slow=38
AAK Ala-Archa 54.18 316 P **P** **14 08 06.8 +0.9**
SNR=5.1
AAK Ala-Archa 54.18 316 *ce*P **P** **14 08 06.3 +0.4**
AAK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 54.18 316 P **P** **14 08 05.6 -0.3**
USP Ospenovka 54.42 317 P **P** **14 08 08.0 +0.6**
SNR=7.5
AML Almayashu 54.55 315 P **P** **14 08 09.8 +0.9**
SNR=5.6
EKS2 Erkin-Say 54.68 316 P **P** **14 08 10.4 +0.9**
SNR=7.1
ARSB Arslanbob 54.76 314 P **P** **14 08 10.2 +0.1**
ARSB IAmb IAmb 14 08 17.4
comp=Z,13nm,1.1s
KURK Kurchatov 55.26 326 P **P** **14 08 13.6 +0.3**
SNR=27
KURK Kurchatov 55.26 326 *c i*P **P** **14 08 13.4 +0.1**
KURK pmax pmax
comp=Z,100nm,1.7s
KURK Kurchatov 55.26 326 P **P** **14 08 13.8 +0.5**
KBL Kabul 55.87 305 P **P** **14 08 17.4 -0.9**
KBL pmax pmax
comp=Z,18nm,1.2s
KBL Kabul 55.87 305 P **P** **14 08 17.4 -0.9**
KBL IAmb IAmb 14 08 26.4
comp=Z,18nm,1.1s
GAR Garm 55.98 311 P **P** **14 08 19.3 +0.4**
SEY Seymchan 56.75 15⇓ *e*P **P** **14 08 26.4 +2.7**
KK31 Karatay Array 57.09 315 *i*P **P** **14 08 26.3 -0.3**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
OTUK Ortayu 57.76 322 P **P** **14 08 30.8 -0.4**
OTUK pmax pmax
comp=Z,10.0nm,1.0s
MSVF Nonsavu 59.85 117⇑ *e*P **P** **14 08 47.2 +0.9**
MSVF pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 60.92 326 P **P** **14 08 53.3 +0.3**
SNR=9.4
BRVK Borovoye 60.92 326 *ce*P **P** **14 08 52.9 0.0**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 60.92 326 P **P** **14 08 53.1 +0.2**
WBK Wadi Bani Khal 63.45 290 P **P** **14 09 09.7 -0.8**
WSAR Wadi Sarin 63.77 291 P **P** **14 09 11.7 -0.9**
NRIK Noril'sk 63.92 346 P **P** **14 09 12.4 -0.3**
comp=Z,19nm,0.7s,baz=123,slow=6.1,SNR=39
NRIK LR LR 14 39 10.7
comp=Z,439nm,19.1s,baz=156,slow=38
SMDO Samad 64.30 291 P **P** **14 09 15.1 -1.1**
BILL Bilibino 64.38 16 *e*P **P** **14 09 16.0 +0.3**
BILL *e* 14 09 50.5
BILL *e* 14 11 37.2
BILL *e*PPP PPP 14 13 10.8
BILL pmax pmax
comp=Z,10.0nm,1.6s
BILL MLR MLR
comp=Z,200nm,16.0s
GEYT Alibeck 65.15 307 P **P** **14 09 19.7 -1.6**
comp=Z,5.5nm,0.9s,baz=70,slow=14,SNR=9.0
GEYT LR LR 14 40 24.0
comp=Z,310nm,21.6s,baz=320,slow=38
GYA0B ALIBECK ARRAY 65.15 307 P **P** **14 09 20.9 -0.5**
GYA0B IAmb IAmb 14 09 25.3
comp=Z,13nm,1.1s
AB31 Akbulak array 65.85 320 *i*P **P** **14 09 24.7 -1.0**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 65.85 320 P **P** **14 09 25.4 -0.3**
ABKAR Akbulak array 65.85 320 P **P** **14 09 24.5 -1.2**
ABKAR IAmb IAmb 14 09 30.0
comp=Z,5.3nm,0.8s
MDH Madha 65.91 293 P **P** **14 09 25.1 -1.3**
BANOM Banah 65.91 294 P **P** **14 09 26.2 -0.4**
BANOM Banah 65.91 294 P **P** **14 09 24.9 -1.7**
UOSS Minazif 65.99 293 P **P** **14 09 26.4 -0.7**
UOSS Minazif 65.99 293 P **P** **14 09 25.0 -2.0**
UOSS IAmb IAmb 14 09 27.0
comp=Z,5.5nm,0.7s
MSFE Esma-Masafi 66.03 293 *i*P **P** **14 09 27.3 0.0**
SNR=6.1
SHME Shamm 66.05 294 P **P** **14 09 27.5 0.0**
HATD Hatta, Dubai 66.06 293 *i*P **P** **14 09 27.5 0.0**
SNR=5.2
ASHO Ashiyiah 66.12 293 *i*P **P** **14 09 27.4 -0.6**
SNR=12
ASHO Ashiyiah 66.12 293 P **P** **14 09 28.1 +0.2**
SNR=6.9
ALNE Al Ain 66.41 292 *i*P **P** **14 09 29.6 -0.1**
SNR=7.0
NAZ Nazwa, Dubai 66.48 293 P **P** **14 09 29.2 -1.0**
ASUD Al Ashush, Dub 66.79 293 P **P** **14 09 32.3 +0.1**
ASUD Al Ashush, Dub 66.79 293 P **P** **14 09 31.9 -0.2**
SVE Sverdlovsk 67.46 328 *e*P **P** **14 09 35.5 -0.3**
SVE pmax pmax
comp=Z,41nm,1.0s
ARU Arti 68.45 327 *c i*P **P** **14 09 41.2 -0.8**
ARU 14 12 10.9

ARU S **S** **14 18 43.6 +0.7**
ARU SS **SS** **14 23 07.1 +0.5**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 68.45 327 P **P** **14 09 41.1 -0.9**
BKZ Black Stump Fm 68.81 139 P **P** **14 09 45.9 +1.2**
ABTO Aybut 68.98 285 P **P** **14 09 45.6 -0.5**
SNR=5.9
RAYN Ar Rayn 75.81 292 *i*P **P** **14 10 26.5 -0.3**
SNR=12
RAYN Ar Rayn 75.81 292 P **P** **14 10 26.3 -0.5**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 75.81 292 P **P** **14 10 26.3 -0.5**
RAYN IAmb IAmb 14 10 27.0
comp=Z,9.9nm,0.8s
PRGR Permogore 75.95 331 *e*P **P** **14 10 24.9 -1.9**
PRGR pmax pmax
comp=Z,23nm,0.8s
ZEI Tsey 76.25 312 *e*P **P** **14 10 27.4 -1.8**
ZEI pmax pmax
comp=Z,27nm,1.5s
KBZ Khabaz 76.97 313 P **P** **14 10 32.5 -0.4**
comp=Z,8.0nm,1.1s,baz=75,slow=9.3,SNR=7.2
KBZ LR LR 14 49 43.7
comp=Z,261nm,18.4s,baz=66,slow=40
KIV Kislovodsk 77.12 313 *e*P **P** **14 10 35.5 +1.6**
KIV pmax pmax
comp=Z,50nm,1.1s
KIV MLR MLR
comp=Z,402nm,18.0s
VRH Novokhopyorsk 77.67 320 *e*P **P** **14 10 36.2 -0.5**
VRH pmax pmax
comp=Z,20nm,0.6s
IMAR Indian Mountai 77.84 24 P **P** **14 10 38.1 +0.7**
KDAK Kodiak Island 78.14 33 *i*P **P** **14 10 39.4 +0.2**
KLMR Klimovskoe 78.87 330 *e*P **P** **14 10 41.6 -1.5**
KLMR pmax pmax
comp=Z,31nm,0.9s
KLMR Klimovskoe 78.87 330 *e*P **P** **14 10 41.7 -1.4**
KLMR AMP 14 10 49.0
comp=Z,31nm,0.9s
KLMR LR LR 14 46 14.8
BPAW Bear Paw Mtn. 78.96 26 P **P** **14 10 44.1 +0.4**
BPAW IAmb IAmb 14 10 49.0
comp=Z,21nm,0.9s
SUA Susitna One 79.07 29 P **P** **14 10 44.4 -0.1**
SUA IAmb IAmb 14 10 49.2
comp=Z,15nm,0.8s
VORD Divnogorie 79.21 320 *e*P **P** **14 10 44.6 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 79.28 320 *e*P **P** **14 10 45.2 -0.4**
VSR pmax pmax
comp=Z,20nm,1.4s
COLD Coldfoot 79.30 23 P **P** **14 10 45.7 +0.3**
LPSR Galich'ya Gora 79.37 322 *e*P **P** **14 10 44.9 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
TMCR Tamitsa 79.53 334 *e*P **P** **14 10 47.3 +0.7**
TMCR pmax pmax
comp=Z,41nm,1.3s
TOLK Toolik Lake Re 79.54 22 P **P** **14 10 47.4 +0.6**
TOLK IAmb IAmb 14 10 53.4
comp=Z,9.6nm,0.8s
PMR Palmer 79.84 29 P **P** **14 10 47.2 -1.2**
PMR pmax pmax
comp=Z,15nm,0.9s
PMR Palmer 79.84 29 P **P** **14 10 47.2 -1.2**
PMR IAmb IAmb 14 10 52.8
comp=Z,15nm,0.9s
MCK McKinley 79.87 27 P **P** **14 10 47.5 -1.1**
MCK pmax pmax
comp=Z,27nm,0.9s
MCK McKinley 79.87 27 P **P** **14 10 47.5 -1.1**
RND Reindeer 79.92 27 IAmb IAmb 14 11 00.8
comp=Z,12nm,1.0s
SML Sawmill 80.22 29 P **P** **14 10 50.5 -0.1**
COLA College 80.30 26⇑ *e*P **P** **14 10 52.8 +2.0**
COLA pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 80.63 324 *e*P **P** **14 10 54.0 +1.2**
OBN *e* 14 11 01.9
OBN *e* 14 13 57.2
OBN *e*PPP PPP 14 15 46.7
OBN pmax pmax
comp=Z,53nm,1.6s
OBN MLR MLR
comp=Z,481nm,22.0s
ILAR Eielson Array 80.72 26 P **P** **14 10 51.9 -1.2**
ILAR Eielson Array 80.72 26 P **P** **14 10 51.5 -1.6**
comp=Z,1.2nm,0.8s,baz=250,slow=4.8,SNR=9.5
ILAR Eielson Array 80.72 26 P **P** **14 10 51.9 -1.2**
ANN Anapa 80.84 314 *e*P P 14 10 47.2 -6.9
ANN *e**PP sP 14 10 57.3 -4.7
ANN pmax pmax
comp=Z,40nm,1.3s
BMAR Burnt Mountain 81.47 23 P **P** **14 10 58.0 +0.9**
RIDG Independent Ri 81.69 27 P **P** **14 10 58.1 -0.2**
DOT Dot Lake 82.04 27 P **P** **14 10 59.9 -0.3**
DOT IAmb IAmb 14 11 05.2
comp=Z,12nm,1.0s
MENT Mentasta 82.27 27 P **P** **14 11 01.2 -0.3**
MENT IAmb IAmb 14 11 07.1
comp=Z,8.1nm,1.0s
ARCES ARCESS Array B 83.87 340 P **P** **14 11 09.2 -0.3**
comp=Z,5.1nm,0.6s,baz=79,slow=7.3,SNR=26
ARCES LR LR 14 53 22.5
comp=Z,275nm,18.2s,baz=154,slow=39
BRTR Keskin Array B 84.20 309 P **P** **14 11 10.4 -1.6**
comp=Z,0.4nm,0.4s,baz=153,slow=5.6,SNR=3.6
BRTR LR LR 14 54 55.5
comp=Z,98nm,18.4s,baz=0.5,slow=40
FINES FINESS Array B 85.28 331 P **P** **14 11 15.8 -0.9**
FINES FINESS Array B 85.28 331 P **P** **14 11 15.6 -1.1**
comp=Z,6.6nm,1.0s,baz=52,slow=5.4,SNR=14
FINES LR LR 14 52 55.4
comp=Z,346nm,18.3s,baz=74,slow=38
FINES FINESS Array B 85.28 331 P **P** **14 11 15.8 -0.9**
INK Inuvik 85.43 21 P **P** **14 11 17.3 -0.1**
comp=Z,13nm,0.8s,baz=272,slow=6.6,SNR=18
INK Inuvik 85.43 21 P **P** **14 11 17.2 -0.2**
VSU Vasula 85.56 328⇑ *e*P **P** **14 11 20.6 +2.4**
VSU pmax pmax
comp=Z,124nm,1.5s
AKASG Malin Array Be 85.58 321 P **P** **14 11 17.3 -1.2**
comp=Z,6.7nm,0.7s,baz=62,slow=5.5,SNR=9.0
AKASG LR LR 14 54 45.6
comp=Z,112nm,18.0s,baz=265,slow=39
MICGM Minsk 85.70 324 *e* **P** **14 11 20.0 +1.0**
MNK Minsk 85.70 324 *e*P **P** **14 11 20.0 +1.0**
KMBO Kilima Mbogo 87.15 268 *i*P **P** **14 11 28.2 +0.9**
SNR=9.1
KMBO Kilima Mbogo 87.15 268 P **P** **14 11 27.8 +0.5**
SNR=6.7
KMBO Kilima Mbogo 87.15 268 P **P** **14 11 27.3 0.0**
comp=Z,5.4nm,0.8s,baz=54,slow=7.7,SNR=14
MAW Mawson 88.60 200 P **P** **14 11 31.7 -0.9**
baz=89,SNR=5.8
MAW Mawson 88.60 200 P **P** **14 11 31.0 -1.6**
comp=Z,7.2nm,1.2s,baz=36,slow=4.9,SNR=8.6
MAW LR LR 14 52 01.5
comp=Z,33nm,18.8s,baz=59,slow=36
MAW Mawson 88.60 200 P **P** **14 11 30.1 -2.6**
BURAR Bucovina Array 88.78 318 P **P** **14 11 34.0 -0.2**
PPT Papeete 89.40 108 LR LR 14 45 29.8
comp=Z,42nm,21.9s,baz=243,slow=31
PPT2 Papeete2 89.41 108 *e*S **S** **14 22 24.0 -3.7**
comp=Z,51nm,26.2s
PPT2 Papeete2 89.41 108 *e*LR LR 14 40 11.0
comp=Z,136nm,27.5s
UZH Uzhgorod 90.43 320 *e*P **P** **14 11 43.3 +1.6**
UZH *e* 14 11 52.3
NOA NORSAR Array B 92.22 333 P **P** **14 11 47.4 -2.5**
comp=Z,2.1nm,0.9s,baz=65,slow=4.6,SNR=4.0
NOA LR LR 14 56 20.8
comp=Z,377nm,20.2s,baz=65,slow=38
VYHS Vyhne 92.67 320 *e*P P 14 11 59.0 +6.8
VYHS Vyhne 92.67 320 *e*P P 14 11 59.0 +6.8
YKA Yellowknife Ar 94.98 23 P **P** **14 12 01.8 -0.7**
comp=Z,4.5nm,0.9s,baz=297,slow=4.5,SNR=10.0
GERES GERESS Array B 95.75 322 P **P** **14 12 05.0 -1.4**
comp=Z,1.7nm,1.1s,baz=56,slow=2.4,SNR=5.8
GERES LR LR 14 58 04.3
comp=Z,234nm,18.2s,baz=72,slow=37

TOA0 Torodi Ar. Sit 118.49 291 PKPdf **PKPdf** **14 17 28.8 -0.1**
TORD Torodi Ar. Bea 118.49 291 PKP **PKPdf** **14 17 27.7 -1.2**
comp=Z,1.9nm,0.7s,baz=50,slow=1.5,SNR=16
TORD PP **PP** **14 18 38.7 -7.0**
comp=Z,0.8nm,0.8s,baz=104,slow=6.3,SNR=4.2
TORD Torodi Ar. Bea 118.49 291 PKPdf **PKPdf** **14 17 28.7 -0.2**
TXAR Lajitas Array 119.66 48 PKP **PKPdf** **14 17 30.8 -0.1**
comp=Z,1.2nm,0.8s,baz=272,slow=1.2,SNR=13
TXAR Lajitas Array 119.66 48 **PKPdf** **14 17 31.5 +0.5**
PLCA Paso Flores 146.59 159 PKPbc **PKPdf** **14 18 20.4 -0.2**
comp=Z,10nm,1.1s,baz=243,slow=3.1,SNR=9.4
LPAZ La Paz 166.42 119 PKP **PKPdf** **14 18 46.6 -0.6**
comp=Z,2.5nm,0.9s,baz=287,slow=11,SNR=6.8
LPAZ PKPab **PKPab** **14 19 50.0 +1.1**

IDC ***01*** *14:29:36.4±1.0,23°.52N×121°.65E,h0km,mb3.5/7, mb1 3.7/8,mb1mx3.5/49,mbtmp3.6/8,MS3.2/4,Ms1 3.2/4, ms1mx2.8/45,Error ellipse: s-maj=31.3km s-min=19.7km az=68.0*
JMA ***01*** *14:29:36.5,23°.67N×121°.47E,h0km,M3.3*
ISCJB ***01*** *14:29:37.2±0.3,23°.67N±0°.01×121°.50E±0°.01,h4km±2km, mb3.4/7,MS3.1/1,Error ellipse: s-maj=2.4km s-min=1.5km az=32.2*
TAP ***01*** *14:29:37.2,23°.68N×121°.47E,h10km,ML4.0,C*
ASIES ***01*** *14:29:38.5,23°.75N×121°.45E,h17km,MW3.6*
ISC 01 14:29:37.1±0.7,**23°.67N**±0°.01×**121°.50E**±0°.02,**h10**km±4km,
n139,$_{c0}$**6**°**78/**191**,mb3.5**/7,**16C-25D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu** baz=256	**0.06**	**271**⇑	*i*P	**Pg**	**14 29 39.5**	**+0.3**
EGFH				S	**Sg**	**14 29 40.5**	**-0.3**
ESL	**Shilin** baz=340	**0.16**	**338**⇓	*i*P	**Pg**	**14 29 40.8**	**+0.2**
ESL				*i*S	**Sg**	**14 29 42.5**	**-0.4**
HGSD	**Ruisui** baz=202	**0.19**	**201**	P	**Pb**	**14 29 42.3**	**+1.2**
EHY	**Hungye** baz=223	**0.23**	**225**⇑	*i*P	**Pg**	**14 29 41.9**	**+0.2**
EHY				S	**Sg**	**14 29 44.7**	**-0.2**
ENLB	**Shoufeng** baz=17	**0.25**	**22**⇓	*i*P	**Pg**	**14 29 42.5**	**+0.3**
ENLB				S	**Sb**	**14 29 47.6**	**-0.7**
HWA	**Hwalien** baz=14	**0.32**	**18**	*e*P	**Pb**	**14 29 44.7**	**-0.3**
HWA				*e*S	**Sb**	**14 29 50.2**	**-0.1**
YULB	**Yu-li** baz=218	**0.33**	**214**	⇑P	**Pg**	**14 29 43.9**	**+0.3**
YULB				*e*S	**Sg**	**14 29 48.5**	**+0.4**
VWDT	**VWDT** baz=284	**0.34**	**285**	⇓P	**Pg**	**14 29 44.0**	**+0.3**
VWDT				S	**Sg**	**14 29 48.0**	**-0.2**
TWF1	**Yuli** baz=217	**0.36**	**210**⇑	*i*P	**Pb**	**14 29 44.7**	**-1.0**
TWF1				*e*S	**Sg**	**14 29 49.4**	**+0.2**
TWD	**Chiawan** baz=5.0	**0.42**	**12**⇓	*i*P	**Pb**	**14 29 45.9**	**-0.8**
TWD				S	**Sg**	**14 29 51.4**	**+0.5**
CHGB	**Renai** baz=332	**0.49**	**323**	⇓P	**Pg**	**14 29 46.9**	**+0.2**
CHGB				S	**Sg**	**14 29 53.0**	**-0.2**
SSLB	**Suanglung** baz=284	**0.51**	**284**	⇓P	**Pg**	**14 29 47.0**	**0.0**
SSLB				S	**Sg**	**14 29 52.7**	**-1.1**
NACB	**Ninganchiao** baz=11	**0.51**	**10**	⇓P	**Pg**	**14 29 47.2**	**+0.1**
WHF	**Hehuan Shan** baz=337	**0.52**	**336**⇓	*i*P	**Pg**	**14 29 47.2**	**-0.1**
WHF				S	**Sg**	**14 29 54.2**	**-0.1**
YUS	**Yu-Shan** baz=260	**0.53**	**251**	⇑P	**Pg**	**14 29 47.8**	**+0.3**
YUS				*e*S	**Sg**	**14 29 54.0**	**-0.6**
ETLH	**Xiulin Townshi** baz=359	**0.54**	**359**	⇓P	**Pg**	**14 29 47.6**	**0.0**
ETLH				*e*S	**Sg**	**14 29 54.6**	**0.0**
CHKT	**Chengkung** baz=175	**0.58**	**192**	*e*P	**Pn**	**14 29 50.0**	**-1.4**
CHKT				*e*S	**Sn**	**14 30 00.1**	**-0.8**
SMLT	**Sun Moon Lake** baz=292	**0.59**	**292**⇓	*i*P	**Pg**	**14 29 48.6**	**+0.1**
SMLT				S	**Sg**	**14 29 55.7**	**-0.6**
WHYT	**Xinyi Township** baz=266	**0.59**	**273**	*e*P	**Pb**	**14 29 48.8**	**-0.8**
WHYT				*e*S	**Sg**	**14 29 55.9**	**-0.4**
TYC	**Yuchr** baz=293	**0.63**	**292**⇓	*i*P	**Pg**	**14 29 49.3**	**-0.1**
TYC				*e*S	**Sg**	**14 29 57.1**	**-0.5**
DPDB	**Guoxing** baz=315	**0.64**	**305**	⇓P	**Pb**	**14 29 49.8**	**-0.6**
DPDB				S	**Sg**	**14 29 57.2**	**-0.6**
ELDTW	**Lidau** baz=212	**0.65**	**223**⇑	*i*P	**Pg**	**14 29 49.4**	**-0.3**
ELDTW				*e*S	**Sg**	**14 29 57.2**	**-1.0**
TWT	**Tachien** baz=333	**0.65**	**333**⇓	*i*P	**Pb**	**14 29 50.1**	**-0.6**
TWT				*e*S	**Sg**	**14 29 58.0**	**-0.4**
TDCB	**Techi** baz=333	**0.66**	**332**	⇓P	**Pb**	**14 29 50.2**	**-0.7**
TDCB				S	**Sg**	**14 29 57.8**	**-0.8**
WJS	**Zhushan** baz=287	**0.72**	**282**	*e*P	**Pb**	**14 29 51.8**	**0.0**
WJS				*e*S	**Sb**	**14 30 02.3**	**+0.5**
CHN5	**Tsauling** baz=257	**0.75**	**265**⇓	*i*P	**Pb**	**14 29 52.5**	**+0.1**
CHN5				S	**Sb**	**14 30 02.1**	**-0.7**
NNSB	**Datong** baz=352	**0.76**	**352**	⇓P	**Pb**	**14 29 52.0**	**-0.6**
NNSB				S	**Sg**	**14 30 01.6**	**-0.3**
WNT	**Mingjian** baz=290	**0.77**	**286**	*e*P	**Pn**	**14 29 53.2**	**-0.9**
WNT				*e*S	**Sn**	**14 30 04.1**	**-1.7**
NNS	**Nan Shan** baz=352	**0.78**	**352**⇓	*i*P	**Pb**	**14 29 52.3**	**-0.5**
NNS				S	**Sg**	**14 30 02.0**	**-0.2**
WHP	**Taichung City** baz=320	**0.79**	**320**	*e*P	**Pg**	**14 29 52.3**	**0.0**
NANB	**Nanao** baz=4.0	**0.79**	**17**	⇑P	**Pg**	**14 29 52.4**	**0.0**
NANB				*e*S	**Sb**	**14 30 03.5**	**-0.3**
STYT	**Tauyuan** baz=229	**0.84**	**234**	P	**Pb**	**14 29 53.6**	**-0.4**
STYT				S	**Sb**	**14 30 05.1**	**-0.3**
WGK	**Gukeng** baz=272	**0.86**	**271**	P	**Pn**	**14 29 54.7**	**-0.5**
WGK				S	**Sn**	**14 30 07.1**	**-0.8**
TPUB	**Ta-pu** baz=253	**0.88**	**246**	⇑P	**Pn**	**14 29 54.8**	**-0.7**
TPUB				S	**Sb**	**14 30 05.8**	**-0.4**
WDLH	**Douliu** baz=271	**0.88**	**272**	*e*P	**Pn**	**14 29 55.2**	**-0.3**
CHN4	**Tsaushan** baz=250	**0.89**	**249**⇑	*i*P	**Pn**	**14 29 55.2**	**-0.5**
CHN4				*e*S	**Sb**	**14 30 05.9**	**-0.6**

baz=250
TCU Taichung 0.89 303 *e*P **Pn 14 29 55.6 -0.2**
baz=302
WTP Ta-pu 0.91 243⇑*i*P **Pn 14 29 55.4 -0.6**
baz=250
WTP S **Sn 14 30 07.9 -1.4**
baz=250
TWG Pinlang 0.93 205 ⇓P **Pb 14 29 55.3 0.0**
baz=213
TWG *e*S **Sb 14 30 07.6 -0.1**
baz=213
TWGBT Beinan 0.93 204 ⇑P **Pb 14 29 55.1 -0.2**
baz=192
NDT Datong Townshi 0.93 1 ⇓P **Pb 14 29 55.3 -0.1**
NDT S **Sb 14 30 07.5 -0.3**
CHN2 Minshiung 0.95 262 *e*P **Pn 14 29 56.9 +0.4**
baz=263
CHN2 S **Sn 14 30 09.5 -0.6**
baz=263
TWQ1 Liyutan 0.95 316 ⇑P **Pn 14 29 56.5 0.0**
baz=324
TWQ1 *e*S **Sn 14 30 09.7 -0.5**
baz=324
WCHH Zhanghua 0.95 296 *e*P **Pn 14 29 56.5 -0.1**
baz=294
TTN Taitung 0.96 200 *e*P **Pn 14 29 57.0 +0.3**
baz=201
ENTT Nioudou 0.97 4⇓*i*P **Pn 14 29 56.0 -0.8**
baz=3.0
ENTT S **Sb 14 30 08.5 -0.5**
baz=3.0
TWC Suao 0.99 19 *e*P **Pn 14 29 56.7 -0.4**
baz=6.0
TWC *e*S **Sb 14 30 09.7 +0.1**
baz=6.0
CHY Chiayi 1.00 260 *e*P **Pn 14 29 56.5 -0.7**
baz=260
YHNB Yeheng 1.00 354 ⇑P **Pb 14 29 56.3 -0.3**
baz=353
YHNB S **Sg 14 30 09.2 -0.3**
baz=353
NSY Sanyi 1.00 318 P **Pn 14 29 57.8 +0.5**
baz=326
NSY *e*S **Sn 14 30 11.0 -0.6**
baz=326
TWK Hsinying 1.01 247 ⇑P **Pn 14 29 57.1 -0.3**
baz=248
TWK S **Sn 14 30 11.1 -0.6**
baz=248
CHN1 Nanshi 1.01 242 ⇑P **Pn 14 29 57.4 0.0**
baz=243
CHN1 *e*S **Sn 14 30 10.9 -0.9**
baz=243
NSK Sanguang 1.01 353⇓*i*P **Pn 14 29 56.8 -0.7**
baz=352
NSK S **Sg 14 30 08.8 -0.9**
baz=352
SNST Tainan City 1.02 244 *e*P **Pn 14 29 57.4 -0.1**
baz=245
SNST *e*S **Sn 14 30 11.3 -0.6**
baz=245
SGST Jiashian 1.02 235 ⇑P **Pb 14 29 56.5 -0.4**
baz=236
SGST S **Sn 14 30 11.2 -0.8**
baz=236
SLGT Liugui 1.03 230 *e*P **Pn 14 29 57.0 -0.7**
baz=231
WDJ Dajia District 1.03 311 P **Pn 14 29 58.3 +0.6**
baz=322
WDJ *e*S **Sn 14 30 12.5 +0.2**
baz=322
EOS1 EOS1 1.05 33 *e*P **Pn 14 29 59.1 +1.2**
baz=50
NSTT Nanjuang 1.06 335 ⇓P **Pn 14 29 57.9 -0.2**
baz=335
NSTT S **Sb 14 30 10.7 -0.8**
baz=335
TWE Neicheng 1.06 8 ⇓P **Pn 14 29 57.6 -0.4**
baz=358
TWE *e*S **Sg 14 30 11.7 +0.4**
baz=358
PTSB Yuanli 1.06 317 *e*P **Pn 14 29 58.8 +0.7**
baz=317
PTSB *e*S **Sn 14 30 13.3 +0.4**
baz=317
RLNB Erlin 1.06 282 *e*P **Pn 14 29 58.2 +0.1**
baz=281
LIOB Emei 1.07 336 ⇓P **Pn 14 29 58.0 -0.2**
baz=335
LIOB *e*S **Sb 14 30 10.1 -1.7**
baz=335
NMLH Miaoli 1.08 323 *e*P **Pn 14 29 59.3 +1.0**
baz=323
NMLH *e*S **Sn 14 30 13.8 +0.4**
baz=323
SLBB Yuanshan 1.09 7 *e*P **Pb 14 29 57.4 -0.6**
baz=6.0
NWLT Wulai 1.10 0⇓*e*P **Pn 14 29 58.4 -0.4**
baz=13
WTCT Ta-ch'eng 1.13 280 *e*P **Pg 14 29 58.6 -0.3**
baz=269
WTCT *e*S **Sn 14 30 14.8 +0.1**
baz=269
WSF Szhu 1.17 269 *e*P **Pg 14 29 59.8 +0.2**
baz=270
WSF *e*S **Sn 14 30 15.4 -0.1**
baz=270
ECL Taimali 1.18 205 *e*P **Pb 14 29 59.1 -0.4**
baz=195
CHN3 Shinhua 1.20 241 *e*P **Pg 14 30 01.3 +1.2**
baz=242
WLTB Daxi 1.20 349 *e*P **Pg 14 30 01.1 +1.0**
baz=359
SBCB Hsinchu 1.21 337 *e*P **Pg 14 30 01.4 +1.0**
baz=336
SSD Sandimen 1.21 221 *e*P **Pb 14 29 59.9 -0.3**
baz=216
CHN8 Yiju 1.22 255 *e*P **Pg 14 30 00.8 +0.2**
baz=256
CHN8 *e*S **Sn 14 30 18.0 +1.1**
baz=256
HSN Hsinchu 1.23 337 *e*P **Pg 14 30 01.6 +0.9**
baz=338
HSN *e*S **Sn 14 30 18.2 +1.2**
baz=338
TWM1 Shoushan 1.30 230 *e*P **Pg 14 30 03.6 +1.6**
baz=230
TATO Taipei 1.30 360 *e*P **Pg 14 30 02.8 +0.6**
baz=10.0
TWA Mucha 1.31 3 *e*P **Pg 14 30 02.8 +0.6**
baz=15
MASBT Mashibuluo 1.32 217 *e*P **Pb 14 30 01.8 -0.2**
baz=214
SGLT Jiouru 1.32 225 *e*P **Pg 14 30 04.0 +1.6**
baz=228
NCUH Zhongli 1.32 348 *e*P **Pg 14 30 03.0 +0.5**
baz=2.0
TIPB Shuangxi 1.33 13 *e*P **Pb 14 30 01.9 -0.4**
baz=12
TAP Taipei 1.36 0 *e*P **Pg 14 30 02.7 -0.6**
baz=10.0
TAP1 Taipei 1.36 1 *e*P **Pg 14 30 03.1 -0.2**
baz=10.0
SNJT Kaohsiung City 1.40 230 *e*P **Pg 14 30 05.2 +1.2**
baz=233
TWB1 Santiao Chiao 1.41 18 *e*P **Pg 14 30 04.8 +0.6**
baz=6.0
EAST Anshuo 1.41 205 *e*P **Pn 14 30 02.4 -0.5**
baz=198
NWF Wu-fen Shan 1.42 10 *e*P **Pg 14 30 04.1 -0.3**
baz=8.0
WFSB Wu-fen Shan 1.42 10 *e*P **Pb 14 30 03.6 -0.2**
baz=8.0
TWS1 Kuangyinshan 1.43 357 *e*P **Pg 14 30 05.7 +1.1**
baz=2.0
TWS1 *e*S **Sg 14 30 22.5 -0.6**
baz=2.0
YM01 YM01 1.47 3 *e*P **Pg 14 30 05.1 -0.3**
baz=359
YM10 YM10 1.48 2 *e*P **Pb 14 30 04.5 -0.3**
baz=359
NTST Danshui 1.49 358 *e*P **Pg 14 30 05.3 -0.4**
baz=11
YM11 YM11 1.49 3 *e*P **Pg 14 30 05.1 -0.7**
baz=359
ANP Anpu 1.51 1 *e*P **Pg 14 30 05.7 -0.4**
baz=17
YM08 YM08 1.52 3 *e*P **Pg 14 30 05.5 -0.7**
baz=359
JYNG Yonagunijimaku 1.54 59 P **Pb 14 30 05.7 0.0**
JYNG S **Sg 14 30 27.1 +0.5**
YOJ Yonaguni jima 1.59 60 *e*P **Pb 14 30 05.8 -0.9**
baz=59
YOJ Yonaguni jima 1.59 60 P **Pb 14 30 06.0 -0.7**
YOJ *e*S **Sg 14 30 27.5 -0.9**
TWY Chenhua 1.60 3 *e*P **Pg 14 30 07.3 -0.6**
baz=360
LAY Lan-yu 1.62 178 *e*P **Pn 14 30 04.7 -1.1**
baz=168
WDGT Dungji 1.73 257 *e*P **Pb 14 30 08.3 -0.8**
baz=264
PHUB P'eng-hu 1.77 265 *e*P **Pb 14 30 08.6 -1.1**
baz=263
PNG Penghu 1.78 267 *e*P **Pb 14 30 08.7 -1.2**
baz=265
TWK1 Hengchun 1.83 201 *e*P **Pb 14 30 10.0 -0.7**
baz=196
TWKBT Hengchun 1.83 200 *e*P **Pb 14 30 10.4 -0.3**
baz=193
VCHM Qimei 1.95 257 *e*P **Pn 14 30 10.4 +0.1**
baz=254
HATJ Hateruma jima 2.15 79 *e*S **Sb 14 30 42.0 -0.8**
IRIF Iriomote-Funau 2.15 72 P **Pn 14 30 13.9 +0.9**
VWUC VWUC 2.29 306 *e*P **Pn 14 30 14.6 -0.3**
baz=303
JKRS Kuro-shima 2.37 76 P **Pb 14 30 17.6 -2.3**
JKRS *e*S **Sn 14 30 46.5 +1.3**
PTTC Pingtan 2.41 320 *e*P **Pn 14 30 16.5 -0.1**
baz=317
JIJ Ishigaki jima 2.52 73 P **Pn 14 30 18.6 +0.5**
JIJ *e*S **Sn 14 30 48.3 -0.6**
PTMZ Houxiangcun 2.56 303 *e*P **Pn 14 30 18.8 +0.1**
baz=301
JISG Ishigakijimahi 2.73 70 P **Pn 14 30 21.3 +0.3**
JISG *e*S **Sn 14 30 53.1 -1.0**
KNM Kinmen 2.90 286 *e*P **Pn 14 30 24.9 +1.6**
baz=282
KNMB Chin-men Tao 2.95 286 *e*P **Pn 14 30 24.1 0.0**
baz=284
LYJJ Jianjiangzhen 3.27 332 *e*P **Pn 14 30 28.2 -0.3**
baz=331
MHZQ Yeshan 3.30 318 *e*P **Pn 14 30 29.0 +0.1**
baz=315
AXDP Jialang 3.44 292 *e*P **Pn 14 30 31.2 +0.3**
baz=290
XPSS Dashiqiu 3.46 340 *e*P **Pn 14 30 31.1 +0.1**
baz=325
JNU Nakatsue 12.52 39 LR LR 14 38 26.6
comp=Z,96nm,18.8s,baz=282,slow=42
KSRS Korea Array 14.81 20 Pn **P 14 33 09.7 -2.9**
baz=191,slow=12,SNR=6.0
JHJ Hachijo jima 2 18.62 56 LR LR 14 41 36.2
comp=Z,62nm,18.2s,baz=318,slow=39
MJAR Matsushiro Arr 19.29 45 LR LR 14 41 38.8
comp=Z,71nm,18.9s,baz=225,slow=37
CMAR Chiang Mai Arr 21.67 260 P **P 14 34 29.8 +1.7**
0.6nm,0.8s,baz=62,slow=9.2,SNR=5.4
MKAR Makanchi Array 38.91 316 P **P 14 37 04.4 +1.4**
0.5nm,0.8s,baz=116,slow=9.8,SNR=6.4
ZALV Zalesovo Beam 40.83 327 P **P 14 37 20.9 +2.1**
0.7nm,0.3s,baz=127,slow=42,SNR=4.0
H11N1 WAKE ISLAND Hy 42.23 86 T T 15 22 35.1
baz=283,slow=74,SNR=28
H11N2 WAKE ISLAND Hy 42.23 86 T T 15 22 30.3
baz=283,slow=74,SNR=26
H11N3 WAKE ISLAND Hy 42.25 86 T T 15 22 36.3
baz=283,slow=74,SNR=36
H11S3 WAKE ISLAND Hy 42.35 88 T T 15 22 41.0
baz=284,slow=75,SNR=52
H11S1 WAKE ISLAND Hy 42.36 88 T T 15 22 41.6
baz=284,slow=75,SNR=22
H11S2 WAKE ISLAND Hy 42.37 88 T T 15 22 42.7
baz=284,slow=75,SNR=24
KURBB Kurchatov Arra 42.69 320 P **P 14 37 38.0 +4.0**
0.2nm,0.4s,baz=100,slow=7.0,SNR=5.1
WRA Warramunga Arr 45.12 163 P **P 14 37 53.2 -0.7**
0.6nm,0.5s,baz=344,slow=8.6,SNR=7.4
ASAR Alice Springs 48.57 165 P **P 14 38 20.5 -0.4**
0.4nm,0.6s,baz=350,slow=7.5,SNR=7.0
HNR Honiara 49.95 127 LR LR 14 56 37.1
comp=Z,18nm,19.5s,baz=334,slow=33
ILAR Eielson Array 69.54 27 P **P 14 40 46.6 +0.8**
0.3nm,0.8s,baz=278,slow=6.3,SNR=3.0

*ISCJB **01** 14:32:39.6±1.4, 39°.09N±0°.09×110°.7E±0°.3, h10km, mb3.6/5, MS3.2/1, Error ellipse: s-maj=38.5km s-min=10.9km az=168.5*
*IDC **01** 14:32:40.1±1.6, 39°.09N×110°.57E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/53, mbtmp3.7/6, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/44, Error ellipse: s-maj=46.8km s-min=17.6km az=69.0*
ISC 01 14:32:41.9±1.5, 39°.0N±0°.1×110°.5E±0°.3, h10km, n7, σ1°9.09/7, mb3.8/5, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.31**	**343**	Pn		**Pn**	**14 34 55.7**	**-0.6**
	0.2nm,0.3s,baz=162,slow=14,SNR=15							
SONM				Sn		**Sn**	**14 36 42.6**	**+1.5**
	0.1nm,0.3s,baz=184,slow=22,SNR=4.3							
SONM				Lg		Lg	14 37 32.7	
	0.3nm,0.3s,baz=156,slow=22,SNR=3.2							
MKAR	**Makanchi Array**	**22.00**	**300**	P		**P**	**14 37 36.3**	**+0.1**
	3.8nm,1.0s,baz=101,slow=12,SNR=12							
CMAR	**Chiang Mai Arr**	**22.81**	**209**	P		**P**	**14 37 45.4**	**+0.4**
	3.3nm,0.8s,baz=14,slow=9.4,SNR=21							
ZALV	**Zalesovo Beam**	**22.98**	**319**	P		**P**	**14 37 45.1**	**-1.3**
	0.8nm,0.3s,baz=118,slow=8.5,SNR=2.6							
KURBB	**Kurchatov Arra**	**25.28**	**308**	P		**P**	**14 38 07.7**	**-0.5**
	0.7nm,0.9s,baz=103,slow=9.5,SNR=4.4							
JAY	**Jayapura**	**49.80**	**139**	LR		LR	15 04 57.9	
	comp=Z,24nm,18.0s,baz=174,slow=39							
ASAR	**Alice Springs**	**66.08**	**157**	P		**P**	**14 43 29.4**	**+0.3**
	0.4nm,0.8s,baz=343,slow=6.7,SNR=7.3							

*IDC **01** 14:39:31.3±1.1, 3°.59S×135°.48E, h0km, mb4.0/4, mb1 4.2/8, mb1mx3.8/39, mbtmp4.1/8, ML4.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=24.8km s-min=23.2km az=180.0*
*ISCJB **01** 14:39:32.2±0.4, 3°.78S±0°.04×135°.51E±0°.03, h22km, mb3.7/3, MS4.6/1, Error ellipse: s-maj=5.2km s-min=4.9km az=17.2*
*DJA **01** 14:39:36.7±0.6, 3°S±6°×13°5E±°, h22km±4km, M4.4/10, mb4.6/5, MLv4.4/10*
*NEIC **01** 14:39:36.1±2.3, 3°.67S±0°.03×135°.48E±0°.06, h41km±8km, mb4.1/14*
ISC 01 14:39:33.5±0.5, 3°.80S±0°.06×135°.50E±0°.05, h22km, n42, σ2°30/49, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.06**	**21**	P		**Pn**	**14 40 05.7**	**-1.1**
RKPI	**Ransiki, Papua**	**2.63**	**330**	P		**Pn**	**14 40 13.8**	**-0.9**
BAKI	**Biak**	**2.66**	**13**	P		**Pn**	**14 40 13.5**	**-1.6**
FAKI	**Fak Fak**	**3.36**	**285**	P		**Pn**	**14 40 26.6**	**+1.9**
FAKI				S		**Sn**	**14 41 04.9**	**+1.0**
FAKI	**Fak Fak**	**3.36**	**285**			**Pn**	**14 40 26.7**	**+2.0**
SMPI	**Sarmi**	**3.68**	**61**	P		**Pn**	**14 40 30.8**	**+1.7**
SIJI	**Sorong**	**5.13**	**304**	Pn		**Pn**	**14 40 49.5**	**+0.4**
	8.6nm,0.3s,baz=74,slow=15,SNR=70							
SIJI				Sn		**Sn**	**14 41 46.5**	**-1.3**
	8.7nm,0.3s,baz=149,slow=23,SNR=7.8							
SIJI				LR		LR	14 43 17.7	
	comp=Z,147nm,19.9s,baz=357,slow=45							
SWI	**Sorong**	**5.14**	**304**	P		**Pn**	**14 40 49.8**	**+0.6**
JAY	**Jayapura**	**5.36**	**76**	Pn		**Pn**	**14 40 54.0**	**+1.7**
	0.8nm,0.3s,baz=278,slow=14,SNR=3.5							
JAY				Sn		**Sn**	**14 41 54.1**	**+0.8**
	0.7nm,0.3s,baz=307,slow=20,SNR=2.5							
JAY	**Jayapura**	**5.36**	**76**	P		**Pn**	**14 40 54.7**	**+2.5**
BNDI	**Bandanaira**	**5.62**	**262**	P		**Pn**	**14 40 58.7**	**+2.8**
AAI	**Ambon**	**7.29**	**271**	P		**Pn**	**14 41 21.1**	**+2.4**
SANI	**Sanana**	**9.65**	**280**	P		**Pn**	**14 41 52.0**	**+0.8**
MTN	**Manton Dam**	**9.97**	**205**			**Pn**	**14 41 59.0**	**+3.5**
SOEI	**Soe**	**12.62**	**241**			**Pn**	**14 42 34.8**	**+2.8**
COEN	**Coen**	**12.62**	**144**	Pn		**Pn**	**14 42 33.7**	**+1.8**
BATI	**Baumata**	**13.35**	**241**	Pn		**Pn**	**14 42 43.9**	**+1.9**
	2.4nm,0.3s,baz=70,slow=3.8,SNR=4.1							
KNRA	**Kununurra**	**13.53**	**209**			**Pn**	**14 42 45.6**	**+1.3**
KAPI	**Kappang**	**15.74**	**265**	P		**P**	**14 43 16.6**	**-1.3**
KAPI				IAmb		IAmb	14 43 29.2	
	comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**15.91**	**184**	P		**P**	**14 43 21.7**	**+2.0**
WB0				IAmb		IAmb	14 43 24.3	
	comp=Z,5.9nm,0.7s							
WRAB	**Tennant Creek**	**16.07**	**184**			**Pn**	**14 43 17.6**	**-0.8**
WRAB				IAmb		IAmb	14 43 26.0	
	comp=Z,13nm,0.6s							
WB2	**Warramunga Arr**	**16.08**	**184**			**Pn**	**14 43 17.9**	**-0.6**
WB2				IAmb		IAmb	14 43 26.1	
	comp=Z,12nm,0.5s							
WRA	**Warramunga Arr**	**16.08**	**184**	Pn		**Pn**	**14 43 17.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=5.0,slow=13,SNR=22							
WRA				Sn		**Sn**	**14 46 08.7**	**-7.6**
	comp=Z,0.4nm,0.3s,baz=2.9,slow=24,SNR=5.5							
WRA	**Warramunga Arr**	**16.08**	**184**			**Pn**	**14 43 17.5**	**-0.9**
WR0	**Warramunga Arr**	**16.09**	**183**	P		**P**	**14 43 23.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**17.18**	**213**	P		**Pn**	**14 43 33.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=41,slow=12,SNR=14							
FITZ				S		Sn	14 46 33.0	-10
	comp=Z,0.3nm,0.3s,baz=115,slow=1.6,SNR=3.3							
FITZ	**Fitzroy Crossi**	**17.18**	**213**			**Pn**	**14 43 33.0**	**+0.7**
CTAO	**Charters Tower**	**19.29**	**148**	P		**P**	**14 43 55.6**	**-1.5**
CTAO				IAmb		IAmb	14 43 58.1	
	comp=Z,7.3nm,1.1s							
AS31	**Alice Springs**	**19.81**	**184**			**Pn**	**14 44 07.4**	**+3.0**
AS31				IAmb		IAmb	14 44 08.0	
	comp=Z,10.0nm,0.6s							
ASAR	**Alice Springs**	**19.81**	**184**	P		**Pn**	**14 44 06.6**	**+2.3**
	comp=Z,22nm,0.6s,baz=8.9,slow=11,SNR=498							
ASAR				S		**S**	**14 47 39.9**	**-5.1**
	comp=Z,0.7nm,0.6s,baz=4.0,slow=28,SNR=3.9							
ASAR				LR		LR	14 52 16.7	
	comp=Z,80nm,18.8s,baz=350,slow=38							
ASAR	**Alice Springs**	**19.81**	**184**			**Pn**	**14 44 07.0**	**+2.6**
KAAM	**Kaadhehdhoo**	**62.60**	**273**	P		**P**	**14 49 56.2**	**-0.5**
MKAR	**Makanchi Array**	**68.73**	**324**	P		**P**	**14 50 36.3**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=113,slow=8.2,SNR=5.9							
MKAR	**Makanchi Array**	**68.73**	**324**	P		**P**	**14 50 35.8**	**+0.1**
KSH	**Kashi**	**69.53**	**315**	P		**P**	**14 50 44.1**	**+3.2**
KSH				sP		sP	14 50 51.2	+0.3
KSH				PcP		**PcP**	**14 51 06.4**	**+2.4**
KSH				PcS			14 55 10.0	
KSH				S		**S**	**14 59 50.6**	**+2.8**
KSH				pmax		pmax		
	comp=Z,160nm,6.4s							
KSH				LR		LR		
	comp=N,230nm,14.3s							
KSH				LR		LR		
	comp=E,200nm,19.1s							
ZALV	**Zalesovo Beam**	**71.30**	**331**	P		**P**	**14 50 51.2**	**0.0**
	comp=E,0.5nm,0.3s,baz=111,slow=8.0,SNR=3.1							
GAR	**Garm**	**73.43**	**312**	P		**P**	**14 51 02.3**	**-2.3**
GAR				IAmb		IAmb	14 51 05.8	
	comp=Z,4.1nm,1.2s							
MSEY	**Mahe Island**	**79.76**	**266**	P		**P**	**14 51 37.1**	**-3.6**
ABKAR	**Akbulak array**	**83.49**	**320**	P		**P**	**14 51 56.6**	**-3.0**
ABKAR	**Akbulak array**	**83.49**	**320**	P		**P**	**14 51 59.1**	**-0.6**
QSPA	**South Pole Qui**	**86.15**	**180**	P		**P**	**14 52 13.4**	**+0.5**
ILAR	**Eielson Array**	**88.15**	**25**	P		**P**	**14 52 22.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=267,slow=4.5,SNR=3.8							

*ISCJB **01** 14:41:23.2±0.7, 24°.4S±0°.1×69°.7E±0°.1, h10km, mb3.9/7, MS3.7/12, Error ellipse: s-maj=21.5km s-min=13.8km az=36.7*
*NEIC **01** 14:41:24.9±2.0, 24°.4S±0°.1×69°.7E±0°.2, h10km±1km, mb4.2/7*
*IDC **01** 14:41:24.2±1.6, 24°.34S×69°.67E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/46, mbtmp3.9/7, MS3.6/12, Ms1 3.6/12, ms1mx3.4/40, Error ellipse: s-maj=49.0km s-min=29.7km az=35.0*
ISC 01 14:41:25.1±0.8, 24°.4S±0°.2×69°.7E±0°.1, h10km, n33, σ1°12/18, mb4.1/11, MS3.7/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.88**	**9**	T		T	15 02 23.0	
	baz=190,slow=76,SNR=65							
H08S2	**Diego Garcia H**	**16.88**	**9**	T		T	15 02 17.3	
	baz=190,slow=76,SNR=25							
H08S3	**Diego Garcia H**	**16.90**	**9**	T		T	15 02 25.2	
	baz=190,slow=76,SNR=61							
PALK	**Pallekele**	**33.26**	**20**	LR		LR	14 57 58.2	
	comp=Z,149nm,21.2s,baz=116,slow=30							
KMBO	**Kilima Mbogo**	**39.02**	**301**	P		**P**	**14 48 52.3**	**-0.1**
BOSA	**Boshof**	**39.85**	**254**	LR		LR	15 03 02.4	
	comp=Z,149nm,18.6s,baz=34,slow=33							
MORW	**Morawa**	**41.42**	**107**	P		**P**	**14 49 11.3**	**-0.6**
MAW	**Mawson**	**43.41**	**184**	LR		LR	15 04 14.9	
	comp=Z,49nm,18.5s,baz=59,slow=32							
UOSS	**Minazif**	**50.78**	**344**	P		**P**	**14 50 24.6**	**-1.0**
UOSS				IAmb		IAmb	14 50 28.6	
	comp=Z,5.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**51.25**	**36**	P		**P**	**14 50 30.9**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=232,slow=7.9,SNR=9.7							
CMAR				LR		LR	15 10 01.4	
	comp=Z,56nm,18.4s,baz=183,slow=34							
CMAR	**Chiang Mai Arr**	**51.25**	**36**	P		**P**	**14 50 27.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**52.20**	**95**	LR		LR	15 09 07.1	
	comp=Z,22nm,19.4s,baz=310,slow=32							
ASAR	**Alice Springs**	**58.12**	**104**	P		**P**	**14 51 20.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=259,slow=5.9,SNR=6.6							
AS31	**Alice Springs**	**58.12**	**104**	P		**P**	**14 51 19.2**	**-0.1**
AS31				IAmb		IAmb	14 51 19.7	
	comp=Z,0.8nm,0.8s							
WRA	**Warramunga Arr**	**59.53**	**100**	P		**P**	**14 51 30.7**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=255,slow=7.1,SNR=4.9							
WRA	**Warramunga Arr**	**59.53**	**100**	IAmb		IAmb	14 51 33.3	
	comp=Z,0.2nm,1.1s							
WB2	**Warramunga Arr**	**59.54**	**100**	P		**P**	**14 51 29.1**	**0.0**
WB2				IAmb		IAmb	14 51 39.2	
	comp=Z,2.1nm,1.0s							
SNAA	**Sanae**	**61.56**	**200**	P		**P**	**14 51 41.5**	**-0.6**
SNAA				IAmb		IAmb	14 51 57.3	
	comp=Z,1.9nm,1.1s							
STKA	**Stephens Creek**	**62.78**	**115**	LR		LR	15 15 29.6	
	comp=Z,64nm,19.6s,baz=208,slow=32							
QSPA	**South Pole Qui**	**65.72**	**180**	LR		LR	15 17 08.2	
	comp=Z,65nm,20.4s,baz=273,slow=33							
KKAR	**Karatay Array**	**67.18**	**1**	P		**P**	**14 52 19.6**	**+0.4**
MKAR	**Makanchi Array**	**71.78**	**9**	P		**P**	**14 52 47.1**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=191,slow=5.9,SNR=7.8							
MKAR	**Makanchi Array**	**71.78**	**9**	P		**P**	**14 52 44.8**	**-2.6**
BRTR	**Keskin Array B**	**72.15**	**331**	LR		LR	15 21 35.6	
	comp=Z,45nm,19.3s,baz=0.0,slow=34							
ABKAR	**Akbulak array**	**73.85**	**353**	P		**P**	**14 53 00.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.16**	**291**	P		**P**	**14 53 14.8**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=92,slow=4.5,SNR=3.1							
SONM	**Songino Array**	**79.11**	**24**	P		**P**	**14 53 30.3**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=208,slow=5.0,SNR=6.6							
ZALV	**Zalesovo Beam**	**79.12**	**9**	P		**P**	**14 53 29.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=197,slow=4.6,SNR=5.4							
TLY	**Talaya**	**81.41**	**21**	LR		LR	15 29 09.7	
	comp=Z,79nm,18.1s,baz=216,slow=35							
KSRS	**Korea Array**	**82.33**	**43**	LR		LR	15 29 52.5	
	comp=Z,16nm,18.6s,baz=355,slow=35							
MJAR	**Matsushiro Arr**	**88.53**	**49**	LR		LR	15 35 28.9	
	comp=Z,23nm,18.0s,baz=75,slow=37							
USRK	**Ussuriysk Ar.**	**88.87**	**40**	LR		LR	15 32 02.4	
	comp=Z,50nm,21.4s,baz=268,slow=34							
NVAR	**Mina Array Bea**	**164.44**	**24**	PKPab		**PKPab**	**15 02 24.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=298,slow=6.4,SNR=3.6							

IDC 01 15:05:30.9±8.5, 52°.86S×146°.62W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/22, mbtmp3.5/2, Error ellipse: s-maj=869.7km s-min=122.1km az=164.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**65.23**	**263**	P		P	15 16 15.2	+1.0
	0.2nm,0.7s,baz=139,slow=7.3,SNR=4.9							
WRA	**Warramunga Arr**	**67.78**	**266**	P		P	15 16 29.3	-1.3
	1.0nm,1.2s,baz=144,slow=5.7,SNR=3.2							
H01W1	**Cape Leeuwin H**	**68.10**	**241**	T		T	16 31 45.4	
	baz=144,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**68.11**	**241**	T		T	16 31 45.3	
	baz=144,slow=76,SNR=19							
H01W3	**Cape Leeuwin H**	**68.11**	**241**	T		T	16 31 46.7	
	baz=144,slow=76,SNR=18							
MKAR	**Makanchi Array**	**148.38**	**279**	PKPbc		PKPbc	15 25 17.8	-0.6
	0.2nm,0.6s,baz=115,slow=2.1,SNR=1.9							

ATH 01 15:17:21.2, 40.45N×23.24E, h16km±7km, ML0.8/2, Error ellipse: s-maj=7.3km s-min=1.4km az=196.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.17**	**116**	P	Pg	15 17 25.5	-0.1
PLG				S	Sg	15 17 28.5	0.0
PLG				AML	AML	15 17 29.0	
	comp=N,52μm,0.2s						
PLG				AML	AML	15 17 32.4	
	comp=E,43μm,0.2s						
HORT	**Hortiatis**	**0.18**	**323**	P	Pg	15 17 25.6	-0.2
HORT				S	Sg	15 17 29.2	+0.3
HORT				AML	AML	15 17 29.4	
	comp=N,103μm,0.2s						
HORT				AML	AML	15 17 30.5	
	comp=E,146μm,0.2s						
SOH	**Sokhos**	**0.38**	**13**	P	Pg	15 17 29.1	0.0
SOH				S	Sg	15 17 34.4	0.0

SKO 01 15:17:23.1, 41.34N×22.37E, h0km, M0.2, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.15**	**97**	*i* Pg	Pg	15 17 26.0	0.0
VAY				*i* Sg	Sg	15 17 28.4	+0.4
VAY				*e*Lg	Lg	15 17 29.8	
	comp=E,12nm,0.3s						
VAY				*e*Lg	Lg	15 17 30.0	
	comp=N,28nm,0.3s						
STIP	**Stip**	**0.38**	**339**	*i* Pg	Pg	15 17 31.6	+1.2
STIP				*i* Sg	Sb	15 17 39.2	0.0
STIP				*e*Lg	Lg	15 17 39.7	
	comp=E,3.2nm,0.3s						
STIP				*e*Lg	Lg	15 17 39.9	
	comp=N,3.2nm,0.3s						
GRG	**Griva**	**0.38**	**176**	*i* Pg	Pg	15 17 30.6	+0.2
GRG				*i* Sg	Sg	15 17 36.5	+1.1
KNT	**Kendrikon**	**0.44**	**114**	*i* Pg	Pg	15 17 31.5	+0.1
KNT				*i* Sg	Sg	15 17 38.0	+0.9

*ISCJB **01** 15:18:34.4±0.3, 31.28N±0.04×130.35E±0.08, h167km±3km, mb3.5/13, Error ellipse: s-maj=11.5km s-min=6.7km az=10.6*
*IDC **01** 15:18:35.7±1.0, 31.35N×130.35E, h166km±9km, mb3.3/12, mb1 3.5/13, mb1mx3.3/39, mbtmp3.7/13, Error ellipse: s-maj=22.3km s-min=11.8km az=85.0*
*JMA **01** 15:18:36.3±0.1, 31.27N×130.39E, h157km±1km, M3.7*
ISC 01 15:18:35.3±0.7, 31.25N±0.05×130.31E±0.08, h163km±5km, n32, σ1§03/42, mb3.8/18, 7C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.28**	**26**	⇑P	**Pn**	**15 18 57.7**	**+0.2**
JSU				*e*S	**Sn**	**15 19 14.3**	**-0.2**
JTSR	**Tashiro 2**	**0.53**	**99**	⇑P	**Pn**	**15 18 58.5**	**+0.1**
JTSR				S	**Sn**	**15 19 14.9**	**-1.1**
JSJ	**Shimokoshiki**	**0.66**	**310**	⇓P	**Pn**	**15 18 59.1**	**0.0**
JSJ				S	**Sn**	**15 19 17.0**	**-0.3**
JTN	**Tanegashima 3**	**0.83**	**136**	⇑P	**Pn**	**15 19 00.4**	**+0.3**
JTN				S	**Sn**	**15 19 18.5**	**-0.6**
JTZ	**Takazaki**	**0.93**	**45**	⇑P	**Pn**	**15 19 00.8**	**0.0**
JTZ				S	**Sn**	**15 19 18.9**	**-1.5**
JMTN	**Minamitane**	**0.99**	**149**	⇑P	**Pn**	**15 19 01.6**	**+0.2**
JMTN				S	**Sn**	**15 19 21.0**	**-0.3**
JYAK	**Yakushimahirau**	**1.02**	**170**	⇑P	**Pn**	**15 19 01.9**	**+0.3**
JYAK				S	**Sn**	**15 19 21.0**	**-0.8**
JIU3	**Izumi3**	**1.36**	**18**	⇑P	**Pn**	**15 19 04.8**	**+0.2**
JNN	**Nakanoshima**	**1.46**	**195**	P	**Pn**	**15 19 06.3**	**+0.7**
JNU	**Nakatsue**	**1.93**	**14**	P	**Pn**	**15 19 10.8**	**+0.3**
	8.4nm,0.3s,baz=271,slow=2.4,SNR=127						
JNU				S	**Sn**	**15 19 36.2**	**-1.5**
	4.6nm,0.3s,baz=320,slow=18,SNR=8.1						
JOW	**Kunigami**	**4.75**	**203**	P	**Pn**	**15 19 47.3**	**+1.5**
	0.1nm,0.3s,baz=115,slow=13,SNR=4.2						
JOW				S	**Sn**	**15 20 37.8**	**-3.0**
	0.8nm,0.3s,baz=238,slow=29,SNR=11						
KSRS	**Korea Array**	**6.49**	**343**	P	**Pn**	**15 20 09.2**	**+0.6**
	0.3nm,0.3s,baz=169,slow=14,SNR=12						
MJAR	**Matsushiro Arr**	**8.42**	**49**	P	**Pn**	**15 20 36.9**	**+2.7**
	0.1nm,0.3s,baz=239,slow=16,SNR=3.2						
MJAR				S	**Sn**	**15 22 06.2**	**-1.9**
	0.1nm,0.3s,baz=350,slow=8.9,SNR=5.9						
SONM	**Songino Array**	**24.64**	**319**	P	**P**	**15 23 40.6**	**-0.2**
	0.4nm,0.5s,baz=143,slow=10,SNR=3.0						
CMAR	**Chiang Mai Arr**	**31.07**	**253**	P	**P**	**15 24 39.7**	**+1.5**
	0.2nm,0.5s,baz=74,slow=5.4,SNR=4.1						
MKAR	**Makanchi Array**	**39.77**	**307**	P	**P**	**15 25 52.1**	**0.0**
	0.4nm,0.8s,baz=102,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**51.05**	**175**	P	**P**	**15 27 21.3**	**+0.4**
	0.3nm,0.9s,baz=353,slow=7.7,SNR=3.5						
ASAR	**Alice Springs**	**54.72**	**176**	P	**P**	**15 27 48.3**	**+0.5**
	0.1nm,0.3s,baz=0.8,slow=6.8,SNR=9.9						
ARCES	**ARCESS Array B**	**66.03**	**338**	P	**P**	**15 29 03.2**	**-0.7**
	3.5nm,0.9s,baz=64,slow=8.2,SNR=8.0						
FINES	**FINESS Array B**	**69.42**	**330**	P	**P**	**15 29 24.6**	**-0.6**
	2.5nm,0.5s,baz=65,slow=5.9,SNR=24						
AKASG	**Malin Array Be**	**72.92**	**319**	P	**P**	**15 29 45.9**	**-0.6**
	1.3nm,0.4s,baz=58,slow=6.1,SNR=2.1						
BRTR	**Keskin Array B**	**75.41**	**308**	P	**P**	**15 30 01.5**	**+0.1**
	1.5nm,0.9s,baz=73,slow=4.3,SNR=5.9						
NB2	**NORSAR Subarra**	**75.62**	**334**	P	**P**	**15 30 00.7**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**75.62**	**334**	P	**P**	**15 30 01.0**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=49,slow=5.5,SNR=3.9						
CONA	**Conrad Observa**	**81.74**	**322**	*i* pP	**P**	**15 30 36.6**	**+0.9**
	comp=Z,2.4nm,0.8s						
GERES	**GERESS Array B**	**82.29**	**323**	P	**P**	**15 30 38.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=38,slow=6.8,SNR=4.5						
SOKA	**Soboth**	**82.96**	**321**	*i* pP	**P**	**15 30 41.7**	**-0.4**
	comp=Z,1.5nm,0.5s						
OBKA	**Obir**	**83.33**	**321**	*i* pP	**P**	**15 30 44.3**	**+0.3**
	comp=Z,2.3nm,0.6s						
KBA	**Koelnbreinsper**	**83.60**	**322**	*i* pP	**P**	**15 30 45.7**	**+0.2**
	comp=Z,1.0nm,0.6s						
ABTA	**Abfaltersbach**	**84.25**	**322**	*i* pP	**P**	**15 30 48.7**	**0.0**
	comp=Z,5.7nm,1.2s						
SQTA	**Sankt Quirin**	**84.62**	**323**	*i* P	**P**	**15 30 49.7**	**-0.9**
	comp=Z,2.3nm,0.7s						
NVAR	**Mina Array Bea**	**85.74**	**47**	P	**P**	**15 30 57.6**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=292,slow=5.7,SNR=2.7						

*MAN **01** 15:21:47.7, 18.73N×121.29E, h17km, mb4.6, ML3.5, MS3.4*
IDC 01 15:22:01.8±10.0, 15.30N×119.29E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/39, mbtmp3.1/3, ML3.6/1, Error ellipse: s-maj=339.2km s-min=33.5km az=36.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.73**	**282**	P	P	15 26 33.2	+0.1
	0.1nm,0.3s,baz=76,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**38.02**	**157**	P	P	15 29 21.1	-0.8
	0.4nm,1.0s,baz=333,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**41.28**	**159**	P	P	15 29 49.6	+0.5
	0.2nm,0.8s,baz=341,slow=6.7,SNR=4.1						

*IDC **01** 15:54:18.9±1.1, 13.66N×96.82E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.6/36, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=52.5km s-min=18.5km az=60.0*
*ISCJB **01** 15:54:22.0±0.6, 13.71N±0.06×96.68E±0.06, h33km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=7.8km az=43.1*
*NEIC **01** 15:54:23.8±3.0, 13.73N±0.05×96.7E±0.1, h39km±7km, mb4.3/7*
ISC 01 15:54:24.0±0.7, 13.73N±0.07×96.7E±0.1, h35km, n31, σ1§83/28, mb4.0/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**2.08**	**59**	P	**Pn**	**15 54 59.0**	**+2.6**
SRDT	**SRDT**	**2.39**	**75**	P	Pn	15 55 06.6	+5.9
PHET	**Kaeng Krachan**	**2.93**	**106**	P	**Pn**	**15 55 11.7**	**+3.6**
UTHA	**Uthaitani**	**3.19**	**55**	P	**Pn**	**15 55 13.3**	**+1.7**
UMPA	**Umpang Tak**	**3.20**	**40**	P	**Pn**	**15 55 12.1**	**+0.2**
PATY	**Pattaya**	**4.09**	**101**	P	**Pn**	**15 55 25.1**	**+1.0**
PBA	**Port Blair**	**4.41**	**243**	Pn	Pn	15 55 28.5	0.0
MHMT	**Maesarieng**	**4.57**	**14**	P	Pn	15 55 54.3	+24
PBKT	**Sadao Pong**	**4.96**	**55**	P	**Pn**	**15 55 38.6**	**+2.5**
PBKT	**Sadao Pong**	**4.96**	**55**		**Pn**	**15 55 37.5**	**+1.4**
CM31	**Chiang Mai Arr**	**5.15**	**24**		**Pn**	**15 55 38.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**5.15**	**24**	Pn	**Pn**	**15 55 38.6**	**-0.1**
	0.7nm,0.3s,baz=214,slow=15,SNR=28						
CMAR				Sn	**Sn**	**15 56 37.0**	**0.0**
	0.7nm,0.3s,baz=207,slow=20,SNR=7.5						
CMAR				Lg	Lg	15 57 13.9	
	1.8nm,0.3s,baz=159,slow=16,SNR=7.0						
CMAR	**Chiang Mai Arr**	**5.15**	**24**		**Pn**	**15 55 40.3**	**+1.6**
CHTO	**Chiang Mai**	**5.48**	**22**		**Pn**	**15 55 44.5**	**+1.3**
CMMT	**Chiang Mai**	**5.48**	**22**	P	Pn	15 55 49.2	+6.0
	2.9nm,1.5s,0.1nm						
CHAI	**Chaiyaphum**	**5.51**	**66**	P	Pn	15 55 52.8	+9.2
SSLB	**Suanglung**	**24.98**	**63**	P	**P**	**15 59 41.2**	**-3.4**
YOJ	**Yonaguni jima**	**26.97**	**63**	P	**P**	**15 59 58.9**	**-3.6**
MKAR	**Makanchi Array**	**35.12**	**343**	P	**P**	**16 01 14.7**	**+0.5**
	0.6nm,0.7s,baz=152,slow=11,SNR=5.3						
KS19	**Wonju Array Si**	**36.43**	**44**	P	**P**	**16 01 22.9**	**-2.5**
KS19				IAmb	IAmb	16 01 41.3	
	comp=Z,5.6nm,1.1s						
KKAR	**Karatay Array**	**36.96**	**327**	P	**P**	**16 01 30.9**	**+1.0**
GIRL	**Giralia**	**40.01**	**154**	P	**P**	**16 01 53.1**	**-2.6**
ZALV	**Zalesovo Beam**	**41.21**	**349**	P	**P**	**16 02 05.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=173,slow=13,SNR=6.4						
ZALV	**Zalesovo Beam**	**41.21**	**349**	P	**P**	**16 02 03.8**	**-1.4**
GEYT	**Alibeck**	**41.86**	**312**	P	**P**	**16 02 12.2**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=134,slow=6.4,SNR=4.3						
GEYT	**Alibeck**	**41.86**	**312**	P	**P**	**16 02 09.4**	**-1.5**
ABKAR	**Abkulak array**	**46.52**	**327**	P	**P**	**16 02 48.9**	**+0.9**
ABKAR	**Abkulak array**	**46.52**	**327**	P	**P**	**16 02 48.3**	**+0.3**
ABKAR				IAmb	IAmb	16 02 54.8	
	comp=Z,2.7nm,0.9s						
WRA	**Warramunga Arr**	**49.88**	**131**	P	**P**	**16 03 13.6**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=312,slow=8.1,SNR=26						
WRA				PcP	**PcP**	**16 04 34.3**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=317,slow=3.0,SNR=4.9						
WRA	**Warramunga Arr**	**49.88**	**131**	IAmb	IAmb	16 03 20.4	
	comp=Z,0.1nm,1.1s						
ASAR	**Alice Springs**	**51.98**	**135**	P	**P**	**16 03 29.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=312,slow=6.9,SNR=21						
ASAR				PcP	**PcP**	**16 04 41.5**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=323,slow=3.1,SNR=4.9						

*ISCJB **01** 16:08:42.5±0.5, 10.26N±0.04×123.39E±0.05, h10km, Error ellipse: s-maj=6.9km s-min=6.3km az=151.8*
*NEIC **01** 16:08:44.5±1.7, 10.27N±0.07×123.4E±0.1, h10km±1km, mb4.3/11*
*MAN **01** 16:08:46.3, 9.90N×124.07E, h8km, mb5.2, ML4.1, MS4.2*
MAN Intensity V - Mandaue City; Intensity II - Cebu City; Intensity I - Cayan-Lapu City.
ISC 01 16:08:44.4±0.6, 10.32N±0.05×123.49E±0.06, h10km, n27, σ2§61/29, mb4.2/5, 2C-5D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.47**	**90**	⇓*i*P	**Pg**	**16 08 54.5**	**+0.9**
LLP				*i* S	**Sg**	**16 09 01.0**	**+1.3**
SNPH	**Sibulan**	**1.00**	**195**	⇑*e*P	**Pn**	**16 09 05.6**	**+1.1**
SNPH				*i* S	**Sn**	**16 09 20.8**	**+2.0**
RCP	**Roxas**	**1.44**	**329**	⇓*e*P	Pg	16 09 21.6	+10
RCP				*e*S	Sg	16 09 49.5	+19
JAP	**San Jose, Anti**	**1.58**	**286**	⇑*e*P	Pg	16 09 25.7	+11
PLP	**Palo**	**1.69**	**60**	⇓*e*P	**Pn**	**16 09 14.1**	**+0.1**
PLP				*e*S	**Sn**	**16 09 32.1**	**-3.6**
CGP	**Cagayan de Oro**	**2.20**	**147**	*e*P	Pn	16 09 13.0	-8.0
CGP				*e*S	Sn	16 09 32.0	-16
CTBH	**Cotabato--PC H**	**3.17**	**166**	⇓*e*P	**Pn**	**16 09 30.2**	**-4.2**
CTBH				*i* S	**Sn**	**16 10 03.7**	**-8.5**
KCP	**Kidapawan**	**3.65**	**154**	⇓*i*P	**Pn**	**16 09 39.2**	**-1.8**
KCP				*i* s	**Sn**	**16 10 29.5**	**+5.3**
DAV	**Davao City (W)**	**3.83**	**147**	Pn	**Pn**	**16 09 44.2**	**+0.7**
YULB	**Yu-li**	**13.17**	**351**	Pn	**Pn**	**16 11 52.3**	**+0.7**
SBUM	**Sibu**	**13.65**	**236**	Pn	**Pn**	**16 11 57.5**	**-0.7**
YOJ	**Yonaguni jima**	**14.08**	**358**	Pn	**Pn**	**16 12 03.0**	**-1.0**
YHNB	**Yeheng**	**14.42**	**352**	Pn	**Pn**	**16 12 10.5**	**+1.8**
TATO	**Taipei**	**14.70**	**353**	Pn	**Pn**	**16 12 13.5**	**+1.0**
JOW	**Kunigami**	**17.04**	**15**	Pn	**Pn**	**16 12 43.0**	**+0.1**
JOW				IAmb	IAmb	16 12 48.6	
	comp=Z,32nm,1.1s						
SARN	**Sarigan**	**22.57**	**71**		**P**	**16 13 47.2**	**+2.1**
KSAR	**Wonju Array Be**	**27.30**	**8**	P	**P**	**16 14 30.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**28.31**	**176**	P	**P**	**16 14 38.0**	**-0.5**
FITZ				IAmb	IAmb	16 14 42.4	
	comp=Z,3.3nm,1.1s						
MJAR	**Matsushiro Arr**	**29.31**	**25**	P	**P**	**16 14 44.2**	**-3.0**
COEN	**Coen**	**31.03**	**141**	P	**P**	**16 15 04.0**	**+1.4**
COEN				IAmb	IAmb	16 15 17.3	
	comp=Z,7.5nm,1.1s						
WR0	**Warramunga Arr**	**31.99**	**160**	P	**P**	**16 15 10.5**	**-0.5**
ASAR	**Alice Springs**	**35.28**	**163**	P	**P**	**16 15 39.4**	**-0.3**
BBOO	**Buckleboo**	**44.53**	**165**	P	**P**	**16 16 56.0**	**-0.4**
BBOO				IAmb	IAmb	16 17 02.4	
	comp=Z,5.7nm,1.1s						
ARMA	**Armidale**	**48.70**	**147**	P	**P**	**16 17 28.7**	**-0.7**
MAKZ	**Makanchi**	**50.55**	**324**	P	**P**	**16 17 42.4**	**-0.7**
KDJ	**Kajisay**	**51.35**	**316**	P	**P**	**16 17 49.1**	**-0.4**
KDJ				IAmb	IAmb	16 17 51.9	
	comp=Z,3.9nm,1.1s						
TOO	**Toolangi**	**51.91**	**158**	P	**P**	**16 17 56.5**	**+3.1**
TOO				IAmb	IAmb	16 18 12.1	
	comp=Z,3.2nm,1.1s						

IDC 01 16:09:54.7±3.1, 17.68N×119.54E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/43, mbtmp3.2/3, Error ellipse: s-maj=308.0km s-min=28.1km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.11**	**158**	P	P	16 17 32.3	0.0
	0.3nm,0.6s,baz=338,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**42.21**	**322**	P	P	16 17 49.2	-0.2
	0.4nm,0.7s,baz=123,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**43.42**	**161**	P	P	16 17 59.3	-0.2
	0.2nm,0.8s,baz=347,slow=8.1,SNR=1.7						

*IDC **01** 16:19:19.1±0.5, 3.53S×151.02E, h0km, mb4.3/18, mb1 4.4/21, mb1mx4.3/40, mbtmp4.3/21, ML0.8/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/34, Error ellipse: s-maj=13.6km s-min=11.1km az=99.0*
*DJA **01** 16:19:21.4±1.7, 3°S±5°×15°1E±°, h12km±8km, M4.6/25, mB5.1/7, mb4.7/25, MLv4.7/2, Mw(mB)4.5/7*
*BJI **01** 16:19:22.5±0.0, 3.50S×151.00E, h10km, mb4.6/19, mB5.2/11, Ms4.7/2, Ms7 4.7/3*
*ISCJB **01** 16:19:23.4±0.3, 3.61S±0.04×150.90E±0.04, h33km, mb4.6/24, MS4.0/10, Error ellipse: s-maj=6.8km s-min=5.3km az=44.0*
*NEIC **01** 16:19:26.2±1.6, 3.64S±0.08×150.77E±0.10, h33km±5km, mb4.6/33*
*GCMT **01** 16:19:26.2±0.3, 3.34S±0.01×151.01E±0.02, h14km±2km, MW4.9/74, Moment Tensor Solution. s24,c27; s74,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.50±. 15; Mθθ2.80±. 14; Mφφ~2.30±. 11; Mrθ~0.04±.23; Mφφ1.45±. 10; Mφr~0.72±.31; Best double couple: Mo3.03900×10^16 NP1:φs299.00000°, δ81.00000°, λ-166.00000°. NP2: φs299.00000°, δ76.00000°, λ-9.00000°. Principal axes: T 3.1970, Plg3.0000°, Azm165.0000°; N -0.3150, Plg73.0000°, Azm63.0000°; P -2.8820, Plg16.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 16:19:25.2±0.4, 3.62S±0.06×151.01E±0.06, h35km, n92, σ1§81/86, mb4.5/38, MS4.0/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.23**	**124**	Pn	**Pn**	**16 19 43.1**	**-2.7**
	33nm,0.3s,baz=154,slow=7.0,SNR=54						
KRVT				Sn	**Sn**	**16 20 01.1**	**0.0**
	106nm,0.3s,baz=84,slow=22,SNR=5.7						
MANU	**Manus Island**	**3.96**	**293**		**Pn**	**16 20 20.4**	**-3.0**
PMG	**Port Moresby**	**6.91**	**213**	Pn	**Pn**	**16 21 01.8**	**-2.2**
	0.1nm,0.3s,baz=14,slow=8.8,SNR=2.5						
PMG	**Port Moresby**	**6.91**	**213**		**Pn**	**16 21 02.6**	**-1.4**
JAY	**Jayapura**	**10.35**	**276**	Pn	**Pn**	**16 21 50.1**	**-1.1**
	baz=128,slow=3.2,SNR=2.5						
JAY				LR	LR	16 25 17.8	
	comp=Z,2μm,18.1s,baz=81,slow=35						
HNR	**Honiara**	**10.59**	**123**	LR	LR	16 26 01.9	
	comp=Z,1μm,21.0s,baz=294,slow=38						
SMPI	**Sarmi**	**12.39**	**277**	P	**Pn**	**16 22 19.2**	**0.0**
	81nm,1.0s,952nm						
SRPI	**Serui, Papua**	**14.85**	**276**	P	**Pn**	**16 22 54.3**	**+1.5**
CTA	**Charters Tower**	**17.02**	**195**	P	**P**	**16 23 23.8**	**+1.7**
	0.3nm,0.3s,baz=29,slow=13,SNR=4.9						
CTAO	**Charters Tower**	**17.02**	**195**		**Pn**	**16 23 18.9**	**-1.6**
GUMO	**Guam**	**18.15**	**340**	LR	LR	16 29 31.5	
	comp=Z,126nm,18.5s,baz=146,slow=34						
GUMO	**Guam**	**18.15**	**340**	P	**P**	**16 23 35.7**	**+1.1**
FAKI	**Fak Fak**	**18.74**	**272**	P	**P**	**16 23 40.0**	**-1.2**
	48nm,1.2s,931nm						
FAKI	**Fak Fak**	**18.74**	**272**	P	**P**	**16 23 40.3**	**-1.0**
FAKI				IAmb	IAmb	16 23 41.2	
	comp=Z,46nm,1.1s						
SIJI	**Sorong**	**19.91**	**277**	P	**P**	**16 23 52.1**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=79,slow=10,SNR=19						
SAUI	**Saumlaki**	**20.08**	**257**	P	**P**	**16 23 52.3**	**-3.6**
SARN	**Sarigan**	**20.84**	**346**	P	Pn	16 24 07.1	+0.4
BNDI	**Bandanaira**	**21.07**	**267**	P	**P**	**16 24 06.2**	**-0.4**
	comp=Z,189nm,1.4s,comp=Z,2μm						
EIDS	**Eidsvold**	**21.63**	**180**	P	**P**	**16 24 13.4**	**+1.0**
EIDS				IAmb	IAmb	16 24 20.0	
	comp=Z,23nm,0.9s						
MTN	**Manton Dam**	**21.68**	**244**	P	**P**	**16 24 12.2**	**-0.9**
AAI	**Ambon**	**22.77**	**269**	P	**P**	**16 24 23.7**	**-1.1**
WB0	**Warramunga Arr**	**22.82**	**224**	P	**P**	**16 24 25.0**	**-0.3**
WR0	**Warramunga Arr**	**22.84**	**223**	P	**P**	**16 24 26.0**	**+0.5**
WRAB	**Tennant Creek**	**22.96**	**224**	P	**P**	**16 24 25.5**	**-1.2**
WRAB				IAmb	IAmb	16 24 42.1	
	comp=Z,16nm,0.9s						
WB2	**Warramunga Arr**	**22.96**	**224**	P	**P**	**16 24 27.0**	**+0.2**
WRA	**Warramunga Arr**	**22.97**	**224**	P	**P**	**16 24 26.5**	**-0.4**
	comp=Z,9.6nm,1.0s,baz=48,slow=9.9,SNR=31						
WRA				S	**S**	**16 28 38.8**	**+3.8**
	comp=Z,1.5nm,1.2s,baz=41,slow=17,SNR=6.0						
WRA	**Warramunga Arr**	**22.97**	**224**	P	**P**	**16 24 25.7**	**-1.2**
DZM	**Mont Dzumac**	**23.68**	**142**	*e*P	**P**	**16 24 33.1**	**-0.8**
	comp=Z,148nm,1.4s						
DZM				*e*S	**S**	**16 28 39.4**	**-7.3**
	comp=Z,153nm,24.4s						
DZM				*e*LR	LR	16 30 14.3	
	comp=Z,978nm,24.8s						
DZM	**Mont Dzumac**	**23.68**	**142**	P	**P**	**16 24 34.4**	**+0.5**
	comp=Z,40nm,0.9s,baz=331,slow=20,SNR=12						
DZM	**Mont Dzumac**	**23.68**	**142**	P	**P**	**16 24 34.5**	**+0.6**
KNRA	**Kununurra**	**24.95**	**240**	P	**P**	**16 24 45.3**	**-0.2**
KNRA				IAmb	IAmb	16 24 58.6	
	comp=Z,20nm,0.8s						
SANI	**Sanana**	**25.04**	**273**	P	**P**	**16 24 44.3**	**-2.1**
	comp=Z,39nm,1.1s,comp=Z,702nm						
AS31	**Alice Springs**	**25.89**	**218**	P	**P**	**16 24 55.0**	**+1.0**
ASAR	**Alice Springs**	**25.89**	**218**	P	**P**	**16 24 54.6**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=54,slow=8.5,SNR=27						
ASAR				LR	LR	16 36 23.2	
	comp=Z,300nm,18.1s,baz=49,slow=39						
ASAR	**Alice Springs**	**25.89**	**218**	P	**P**	**16 24 54.2**	**+0.2**
ARMA	**Armidale**	**26.66**	**179**	P	**P**	**16 25 01.6**	**+0.6**
ARMA				IAmb	IAmb	16 25 03.8	
	comp=Z,14nm,1.1s						
BATI	**Baumata**	**27.91**	**255**	P	**P**	**16 25 10.8**	**-1.5**
	comp=Z,35nm,1.0s,baz=127,slow=7.1,SNR=5.8						
BATI				LR	LR	16 36 49.5	
	comp=Z,538nm,21.8s,baz=132,slow=38						
BATI	**Baumata**	**27.91**	**255**	P	**P**	**16 25 12.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**28.71**	**238**	P	**P**	**16 25 18.4**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=65,slow=11,SNR=16						
FITZ				LR	LR	16 37 10.2	
	comp=Z,301nm,21.5s,baz=65,slow=37						
FITZ	**Fitzroy Crossi**	**28.71**	**238**	P	**P**	**16 25 18.5**	**-0.9**
FITZ				IAmb	IAmb	16 25 25.4	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**29.47**	**196**	P	**P**	**16 25 26.3**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=359,slow=9.7,SNR=7.1						
STKA				LR	LR	16 38 20.9	
	comp=Z,268nm,19.1s,baz=14,slow=39						
STKA	**Stephens Creek**	**29.47**	**196**	P	**P**	**16 25 26.4**	**+0.5**
MPSI	**Mapaga**	**31.34**	**277**	P	**P**	**16 25 40.6**	**-2.1**
CAN	**Canberra**	**31.60**	**183**	P	**P**	**16 25 45.3**	**+0.5**
CAN				IAmb	IAmb	16 25 52.5	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**34.17**	**188**	P	**P**	**16 26 07.7**	**+0.5**
TOO				IAmb	IAmb	16 26 13.4	
	comp=Z,12nm,1.1s						
KKM	**Kota Kinabalu**	**36.05**	**285**	P	**P**	**16 26 21.0**	**-2.7**
KKM				IAmb	IAmb	16 26 22.9	
	comp=Z,13nm,0.8s						
OUZ	**Omahuta**	**37.77**	**149**	P	**P**	**16 26 40.9**	**+2.9**
SBUM	**Sibu**	**39.23**	**278**	P	**P**	**16 26 50.7**	**0.0**
**KSM

ILAR	**Eielson Array**	**81.75**	**23**	P	**P**	**16 31 39.0**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=252,slow=4.9,SNR=14						
ILAR	**Eielson Array**	**81.75**	**23**	P	**P**	**16 31 39.8**	**-0.2**
NIL	**Nilore**	**81.84**	**305**	P	**P**	**16 31 40.6**	**-0.6**
NIL				IAmb	IAmb	16 31 50.7	
	comp=Z,7.4nm,0.7s						
NRIK	**Noril'sk**	**84.28**	**341**	P	**P**	**16 31 52.2**	**-0.8**
	comp=Z,5.9nm,0.8s,baz=110,slow=7.1,SNR=3.0						
MAW	**Mawson**	**85.97**	**203**	LR	LR	17 08 09.9	
	comp=Z,93nm,20.8s,baz=60,slow=34						
QSPA	**South Pole Qui**	**86.34**	**180**	P	**P**	**16 32 03.4**	**-0.1**
	comp=Z,4.3nm,1.1s,baz=338,slow=2.8,SNR=7.2						
QSPA	**South Pole Qui**	**86.34**	**180**	P	**P**	**16 32 03.8**	**+0.3**
QSPA				IAmb	IAmb	16 32 10.7	
	comp=Z,6.4nm,1.0s						
NVAR	**Mina Array Bea**	**92.76**	**52**	P	**P**	**16 32 32.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=254,slow=6.3,SNR=2.4						
GERES	**GERESS Array B**	**122.11**	**328**	PKP	**PKiKP**	**16 38 18.1**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.0,SNR=8.5						
TORD	**Torodi Ar. Bea**	**148.24**	**289**	PKPbc	**PKPbc**	**16 39 07.4**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=28,slow=3.6,SNR=12						

ISCJB ***01*** *16:23:11.5±1.0, 33.°95S±0.°06×178.°2W±0.°2, h50km, mb4.0/3, Error ellipse: s-maj=19.5km s-min=5.5km az=18.2*

IDC ***01*** *16:23:12.1±3.4, 33.°68S×178.°99W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/35, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=71.8km s-min=36.9km az=112.0*

WEL ***01*** *16:23:14.9±1.5, 34.°S±20.°×17.°8W±2.°1, h172km±40km, M4.1/19, mB4.6/7, ML4.6/15, MLv4.4/19, Mw(mB)3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=132.4*

NEIC ***01*** *16:23:15.7±2.7, 33.°8S±0.°1×178.°8W±0.°2, h35km±2km, mb4.3/10*

ISC 01 16:23:13.4±1.8, 33.°9S±0.°1×178.°2W±0.°2, h50km, n47, σ1°37/59, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.61**	**217**	P	**Pn**	**16 24 20.3**	**-0.2**
MXZ				S	**Sn**	**16 25 13.6**	**+1.0**
MXZ	**Matakaoa Point**	**4.61**	**217**	Pn	**Pn**	**16 24 21.4**	**+0.9**
WMGZ	**Waiomatatini S**	**4.76**	**214**	P	**Pn**	**16 24 24.1**	**+1.6**
WMGZ				S	**Sn**	**16 25 19.3**	**+2.9**
PKGZ	**Pakihiroa**	**4.97**	**216**	P	**Pn**	**16 24 25.0**	**-0.6**
PKGZ				S	**Sn**	**16 25 22.0**	**+0.2**
HAZ	**Te Kaha**	**5.02**	**219**	P	**Pn**	**16 24 26.5**	**+0.3**
HAZ				S	**Sn**	**16 25 25.6**	**+2.8**
PUZ	**Puketiti**	**5.04**	**213**	P	**Pn**	**16 24 27.9**	**+1.5**
PUZ				S	**Sn**	**16 25 24.3**	**+1.0**
RUGZ	**Raukumara Rang**	**5.23**	**218**	P	**Pn**	**16 24 28.9**	**-0.3**
RUGZ				S	**Sn**	**16 25 29.4**	**+1.1**
CNGZ	**Carnagh Statio**	**5.40**	**211**	P	**Pn**	**16 24 32.8**	**+1.5**
TKGZ	**Te Karaka**	**5.52**	**214**	P	**Pn**	**16 24 34.4**	**+1.4**
TKGZ				S	**Sn**	**16 25 36.0**	**+0.9**
MWZ	**Matawai**	**5.59**	**217**	P	**Pn**	**16 24 32.7**	**-1.3**
MWZ				S	**Sn**	**16 25 37.7**	**+0.7**
URZ	**Urewera**	**5.75**	**220**	Pn	**Pn**	**16 24 36.3**	**+0.1**
	3.3nm,0.3s,baz=264,slow=4.3,SNR=52						
URZ				Sn	**Sn**	**16 25 40.2**	**-0.6**
	4.5nm,0.3s,baz=116,slow=22,SNR=7.8						
URZ	**Urewera**	**5.75**	**220**	P	**Pn**	**16 24 35.8**	**-0.4**
URZ				S	**Sn**	**16 25 39.4**	**-1.4**
URZ	**Urewera**	**5.75**	**220**		**Pn**	**16 24 35.7**	**-0.4**
URZ					**Sn**	**16 25 37.1**	**-3.7**
OPRZ	**Ohinepanea**	**5.77**	**226**	P	**Pn**	**16 24 37.0**	**+0.5**
OPRZ				S	**Sn**	**16 25 41.3**	**0.0**
RIGZ	**Rimuhau**	**5.78**	**213**	P	**Pn**	**16 24 36.9**	**+0.3**
RIGZ				S	**Sn**	**16 25 41.6**	**+0.1**
PRGZ	**Paritu Road**	**5.90**	**211**	P	**Pn**	**16 24 39.1**	**+0.8**
SNGZ	**Shannon Statio**	**6.03**	**215**	P	**Pn**	**16 24 40.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**6.09**	**210**	P	**Pn**	**16 24 42.2**	**+1.4**
MUGZ	**Murupara**	**6.09**	**220**	P	**Pn**	**16 24 40.9**	**0.0**
RAHZ	**Arahi**	**6.26**	**216**	P	**Pn**	**16 24 44.1**	**+0.9**
TOZ	**Tahuroa Road**	**6.36**	**231**	P	**Pn**	**16 24 47.0**	**+2.6**
NMHZ	**Naumai**	**6.54**	**216**	P	**Pn**	**16 24 47.7**	**+0.6**
MRHZ	**Matea Rd**	**6.54**	**220**	P	**Pn**	**16 24 46.6**	**-0.4**
BKZ	**Black Stump Fm**	**6.75**	**217**	P	**Pn**	**16 24 48.9**	**-1.0**
BKZ	**Black Stump Fm**	**6.75**	**217**		**Pn**	**16 24 48.7**	**-1.2**
KAHZ	**Kahuranaki**	**7.06**	**212**	P	**Pn**	**16 24 53.4**	**-0.8**
PXZ	**Pawanui**	**7.26**	**211**	P	**Pn**	**16 24 56.4**	**-0.5**
MOVZ	**Moawhango**	**7.31**	**220**	P	**Pn**	**16 24 57.4**	**-0.2**
BFZ	**Birch Farm**	**8.06**	**211**	P	**Pn**	**16 25 05.9**	**-1.9**
BFZ	**Birch Farm**	**8.06**	**211**	Pn	**Pn**	**16 25 05.7**	**-2.2**
MRZ	**Mangatainoka R**	**8.35**	**214**	P	**Pn**	**16 25 10.3**	**-1.5**
ARMA	**Armidale**	**25.70**	**269**	P	**P**	**16 28 35.5**	**-3.6**
STKA	**Stephens Creek**	**33.64**	**262**	P	**P**	**16 29 46.4**	**-3.0**
CTAO	**Charters Tower**	**34.32**	**284**	P	**P**	**16 29 57.3**	**+2.0**
CTAO				IAmb	IAmb	16 30 08.3	
	comp=Z,9.3nm,1.1s						
COEN	**Coen**	**40.16**	**290**	P	**P**	**16 30 46.4**	**+1.5**
COEN				IAmb	IAmb	16 30 57.4	
	comp=Z,5.6nm,1.1s						
AS31	**Alice Springs**	**42.84**	**271**	P	**P**	**16 31 07.7**	**+0.9**
ASAR	**Alice Springs**	**42.84**	**271**	P	**P**	**16 31 07.2**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=110,slow=7.9,SNR=32						
ASAR	**Alice Springs**	**42.84**	**271**	P	**P**	**16 31 06.5**	**-0.3**
WB2	**Warramunga Arr**	**44.13**	**276**	P	**P**	**16 31 17.7**	**+0.5**
WB2				IAmb	IAmb	16 31 29.5	
	comp=Z,3.6nm,0.7s						
WRA	**Warramunga Arr**	**44.14**	**276**	P	**P**	**16 31 17.3**	**0.0**
	comp=Z,2.2nm,0.6s,baz=117,slow=7.7,SNR=28						
WRA	**Warramunga Arr**	**44.14**	**276**	P	**P**	**16 31 17.5**	**+0.2**
WB0	**Warramunga Arr**	**44.18**	**276**	P	**P**	**16 31 16.7**	**-0.9**
WB0				IAmb	IAmb	16 31 18.5	
	comp=Z,6.9nm,1.1s						
FORT	**Forrest**	**45.05**	**259**	P	**P**	**16 31 24.7**	**+0.3**
KNRA	**Kununurra**	**50.86**	**277**	P	**P**	**16 32 08.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.24**	**273**	P	**P**	**16 32 20.3**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=144,slow=10.0,SNR=1.9						
FITZ	**Fitzroy Crossi**	**52.24**	**273**	IAmb	IAmb	16 32 35.0	
	comp=Z,1.6nm,0.9s						
FINES	**FINESS Array B**	**148.34**	**338**	PKPbc	**PKPab**	**16 42 57.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=46,slow=4.4,SNR=1.1						

NIED ***01*** *16:30:00, 44.°20N×148.°20E, h53km, Mw5.0 Best double couple: M0 3.48000×10^16 NP1:φ=251.00000°, δ15.00000°, λ124.00000°. NP2:φ=36.00000°, δ78.00000°, λ82.00000°.*

JMA ***01*** *16:30:09.8±0.2, 44.°12N×148.°15E, h0km, M5.3*

JMA Felt II J1.

ISCJB ***01*** *16:30:11.0±0.3, 44.°55N±0.°02×148.°22E±0.°02, h64km±2km, mb5.3/165, Error ellipse: s-maj=3.8km s-min=2.0km az=157.6*

BJI ***01*** *16:30:10.1±0.0, 44.°59N×148.°27E, h67km, mb5.4/74, mB5.2/51, Ms4.6/47, Ms7 4.4/50*

SKHL ***01*** *16:30:11.3±0.6, 44.°51N×148.°32E, h72km±6km, mb5.7/9, Ms4.6/4*

SKHL Felt (III-IV) at Kuril'sk, Reidovo, Gornyi, Goryachie Kluchi; (II) at Yuzhno-kuril'sk.

MOS ***01*** *16:30:11.2±1.0, 44.°59N×148.°22E, h68km, mb5.4/35, MS4.0/6, Error ellipse: s-maj=5.3km s-min=4.3km az=103.3*

MOS Felt (II-III) at Kuril'sk, Reydovo, Gornyy, Goryachiye Klyuchi, (II) at Yuzhno-Kuril'sk.

IDC ***01*** *16:30:13.9±1.4, 44.°66N×148.°20E, h75km±11km, mb4.8/42, mb1 4.9/49, mb1mx4.8/60, mbtmp5.1/49, MS4.2/34, Ms1 4.2/34, ms1mx4.0/49, Error ellipse: s-maj=9.7km s-min=7.9km az=152.0*

GCMT ***01*** *16:30:14.3±0.2, 44.°60N±0.°02×148.°37E±0.°02, h58km±1km, MW5.1/102, Moment Tensor Solution. s65,c82; s102,c163; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.77±.17; Mθθ-2.14±.12; Mφφ-2.63±.12; Mrθ0.55±.10; Mθφ-2.68±.09; Mφr1.96±.09; Best double couple: M0 5.33300×10^16 NP1:φs32.00000°, δ56.00000°, λ78.00000°. NP2:φs233.00000°, δ36.00000°, λ107.00000°. Principal axes: T 5.2590, Plg76.0000°, Azm266.0000°; N 0.1470, Plg10.0000°, Azm39.0000°; P -5.4060, Plg10.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***01*** *16:30:14.3±1.5, 44.°63N±0.°08×148.°18E±0.°10, h78km±5km, mb5.2/269*

ISC 01 16:30:11.3±0.5, 44.°52N±0.°03×148.°25E±0.°04, h57km±3km, h57km: pP-P, n1271, σ1°16/1308, mb5.2/277, MS4.3/42, 66C-40D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.76**	**339**	*d* iPN	**Pn**	**16 30 26.5**	**+0.3**
KUR				*i* S	**Sn**	**16 30 37.7**	**+0.7**
KUR				pmax	pmax		
	comp=N,4μm,0.4s						
KUR				pmax	pmax		
	comp=Z,19μm,0.4s						
KUR				pmax	pmax		
	comp=E,3μm,0.1s						
KUR				smax	smax		
	comp=N,10μm,0.2s						
KUR				smax	smax		
	comp=E,37μm,0.2s						
KUR	**Kuril'sk**	**0.76**	**339**	*i* P	**Pn**	**16 30 26.0**	**-0.2**
KUR				AMB	AMB	16 30 26.0	
	comp=E,19μm,0.4s						
KUR				*i* S	**Sn**	**16 30 37.0**	**0.0**
KUR				A	A	16 30 41.3	
	comp=E,95μm,0.4s						
KUR				A	A	16 30 41.3	
	comp=E,64μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.78**	**255**	*d* iPN	**Pn**	**16 30 40.2**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.78**	**255**	*i* P	**Pn**	**16 30 40.2**	**+0.5**
YUK				AMB	AMB	16 30 43.0	
	comp=E,6μm,0.4s						
YUK				*e*S	**Sn**	**16 31 01.2**	**0.0**
YUK				A	A	16 31 09.0	
	comp=E,23μm,0.6s						
YUK				A	A	16 31 09.0	
	comp=E,44μm,0.6s						
LAGR	**Lagunnoye**	**1.83**	**256**	*e*PN	**Pn**	**16 30 40.4**	**+0.1**
LAGR				*e*S	**Sn**	**16 31 02.1**	**-0.3**
LAGR				pmax	pmax		
	comp=N,2μm,0.4s						
LAGR				pmax	pmax		
	comp=Z,3μm,0.4s						
LAGR				pmax	pmax		
	comp=E,692nm,0.3s						
LAGR				smax	smax		
	comp=N,61μm,0.4s						
LAGR				smax	smax		
	comp=E,13μm,0.2s						
LAGR	**Lagunnoye**	**1.83**	**256**	*e*P	**Pn**	**16 30 40.0**	**-0.3**
LAGR				AMB	AMB	16 30 43.0	
	comp=E,3μm,0.4s						
LAGR				*e*S	**Sn**	**16 31 02.0**	**-0.3**
LAGR				A	A	16 31 08.0	
	comp=E,61μm,0.5s						
LAGR				A	A	16 31 08.0	
	comp=E,13μm,0.5s						
GRPR	**Tuman**	**1.85**	**254**	*e*PN	**Pn**	**16 30 40.8**	**+0.1**
GRPR				*e*S	**Sn**	**16 31 03.0**	**-0.1**
GRPR				pmax	pmax		
	comp=N,1μm,0.3s						
GRPR				pmax	pmax		
	comp=Z,4μm,0.3s						
GRPR				pmax	pmax		
	comp=E,2μm,0.2s						
GRPR				smax	smax		
	comp=E,37μm,0.3s						
GRPR				smax	smax		
	comp=N,34μm,0.5s						
GRPR	**Tuman**	**1.85**	**254**	*e*P	**Pn**	**16 30 41.0**	**+0.3**
GRPR				AMB	AMB	16 30 44.0	
	comp=N,4μm,0.3s						
GRPR				*e*S	**Sn**	**16 31 03.0**	**-0.1**
GRPR				A	A	16 31 08.0	
	comp=N,34μm,0.5s						
GRPR				A	A	16 31 08.0	
	comp=N,37μm,0.5s						
GLVR	**Golovnino**	**2.11**	**249**	*e*PN	**Pn**	**16 30 44.9**	**+0.7**
GLVR				*e*S	**Sn**	**16 31 11.0**	**+1.6**
GLVR				pmax	pmax		
	comp=E,420nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.3s						
GLVR				pmax	pmax		
	comp=N,273nm,0.2s						
GLVR				smax	smax		
	comp=N,48μm,0.3s						
GLVR				smax	smax		
	comp=E,16μm,0.2s						
GLVR	**Golovnino**	**2.11**	**249**	*e*P	**Pn**	**16 30 45.0**	**+0.7**
GLVR				AMB	AMB	16 30 46.0	
	comp=E,2μm,0.3s						
GLVR				*e*S	**Sn**	**16 31 10.0**	**+0.6**
GLVR				A	A	16 31 19.0	
	comp=E,48μm,0.5s						
GLVR				A	A	16 31 19.0	
	comp=E,16μm,0.5s						
NEM2	**Nemuro 2**	**2.15**	**238**	‖P	**Pn**	**16 30 44.0**	**-0.7**
NEM2				*e*S	**Sn**	**16 31 08.3**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.15**	**239**	*e*PN	**Pn**	**16 30 44.0**	**-0.8**
NMR				*e*S	**Sn**	**16 31 09.0**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.15**	**239**	*e*P	**Pn**	**16 30 44.0**	**-0.8**
NMR				*e*S	**Sn**	**16 31 09.0**	**-1.3**
JRA	**Rausu**	**2.32**	**257**	‖P	**Pn**	**16 30 48.4**	**+1.3**
JRA				*e*S	**Sn**	**16 31 16.3**	**+1.9**
JNSB	**Nemuroshibetsu**	**2.45**	**253**	‖P	**Pn**	**16 30 50.1**	**+1.3**
JNSB				*e*S	**Sn**	**16 31 19.6**	**+2.0**
JKHN	**Kushirohamanak**	**2.66**	**238**	‖P	**Pn**	**16 30 51.4**	**-0.3**
JKHN				*e*S	**Sn**	**16 31 21.0**	**-1.7**
JNK	**Nakash**	**2.71**	**251**	‖P	**Pn**	**16 30 53.3**	**+0.9**
JNK				*e*S	**Sn**	**16 31 24.5**	**+0.5**
JAK	**Akkeshi**	**2.99**	**241**	‖P	**Pn**	**16 30 56.0**	**-0.2**
JAK				*e*S	**Sn**	**16 31 29.4**	**-1.4**
JTKR	**Abashiri--Toko**	**3.17**	**261**	‖P	**Pn**	**16 31 00.1**	**+1.5**
JAR	**Ashorobuto**	**3.46**	**251**	‖P	**Pn**	**16 31 04.3**	**+1.6**
JAR				*e*S	**Sn**	**16 31 44.5**	**+2.1**
JKK2	**Kamakawa 2**	**4.01**	**263**	P	**Pn**	**16 31 12.4**	**+2.2**
JCH	**Churui**	**4.03**	**243**	P	**Pn**	**16 31 10.3**	**-0.2**
JCH				*e*S	**Sn**	**16 31 56.2**	**-0.1**
JSE	**Soyaes**	**4.06**	**278**	‖P	**Pn**	**16 31 12.9**	**+2.1**
JKA	**Kamikawa-asahi**	**4.07**	**266**		**Pn**	**16 31 13.6**	**+2.5**
JKA					**Sn**	**16 32 00.5**	**+3.0**
ASAJ	**Asahikawa**	**4.07**	**266**	P	**Pn**	**16 31 13.6**	**+2.5**
	comp=E,138nm,0.3s,baz=64,slow=20,SNR=385						
ASAJ				S	**Sn**	**16 32 00.5**	**+3.0**
	comp=E,86nm,0.3s,baz=106,slow=7.9,SNR=4.8						
ASAJ				LR	LR	16 32 56.1	
	comp=E,5μm,21.6s,baz=136,slow=40						
JFR	**Furan**	**4.31**	**254**	P	**Pn**	**16 31 16.8**	**+2.5**
JFR				*e*S	**Sn**	**16 32 07.7**	**+4.4**
ERM	**Erimo**	**4.48**	**238**	⇑*e*PN	**Pn**	**16 31 18.8**	**+2.1**
ERM	**Erimo**	**4.48**	**238**		**Pn**	**16 31 19.4**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.55**	**304**	κ *i*PN	**Pn**	**16 31 19.5**	**+2.0**
YSS				*e*S	**Sn**	**16 32 10.6**	**+1.5**
YSS				pmax	pmax		
	comp=E,660nm,0.5s						
YSS				pmax	pmax		
	comp=Z,710nm,0.5s						
YSS				smax	smax		
	comp=N,670nm,0.7s						
YSS				MLR	MLR		
	comp=Z,4μm,18.0s						
YSS				MLR	MLR		
	comp=N,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**4.55**	**304**	*i* P	**Pn**	**16 31 19.0**	**+1.5**
YSS				*e*S	**Sn**	**16 32 10.0**	**+0.9**
YSS				AMS	AMS	16 33 16.0	
	comp=N,6μm,14.0s						
YSS				AMS	AMS	16 33 16.0	
	comp=N,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.55**	**304**		**Pn**	**16 31 18.6**	**+1.1**
JWK2	**Keihoku**	**4.58**	**282**	‖P	**Pn**	**16 31 21.4**	**+3.4**
JNBK	**Urakawa-nobuka**	**4.59**	**243**	P	**Pn**	**16 31 17.9**	**-0.2**
JBT2	**Biratori 2**	**4.61**	**250**	‖P	**Pn**	**16 31 19.7**	**+1.3**
JHR	**Hokuryu**	**4.76**	**263**	P	**Pn**	**16 31 24.2**	**+3.7**
JYG	**Yagishiri**	**4.88**	**271**	P	**Pn**	**16 31 25.7**	**+3.6**
JRBN	**Rebuntou**	**5.17**	**283**	P	**Pn**	**16 31 28.6**	**+2.5**
JEW	**Eniwo**	**5.21**	**254**	P	**Pn**	**16 31 29.6**	**+3.0**
JEW				*e*S	**Sn**	**16 32 31.0**	**+5.7**
JSK	**Shakotan**	**5.73**	**261**	P	**Pn**	**16 31 36.4**	**+2.6**
JKB	**Kayabe**	**5.89**	**246**	P	**Pn**	**16 31 36.7**	**+0.7**
JKB				*e*S	**Sn**	**16 32 42.3**	**+0.2**
JOT	**Ohata**	**6.14**	**242**	⇑P	**Pn**	**16 31 39.4**	**0.0**
JOT				*e*S	**Sn**	**16 32 46.2**	**-2.1**
UGL	**Uglegorsk**	**6.22**	**319**	⇑*i*PN	**Pn**	**16 31 42.9**	**+2.4**
UGL				S	**Sn**	**16 32 48.8**	**-1.4**
UGL				pmax	pmax		
	comp=Z,643nm,0.7s						
UGL				smax	smax		
	comp=N,3μm,3.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL				MLR	MLR		
	comp=E,1μm,9.0s						
UGL				MLR	MLR		
	comp=Z,2μm,13.0s						
UGL				MLR	MLR		
	comp=N,2μm,13.0s						
UGL	**Uglegorsk**	**6.22**	**319**	*i* P	**Pn**	**16 31 42.0**	**+1.5**
UGL				AMB	AMB	16 31 44.0	
	comp=N,643nm,0.7s						
UGL				*e*S	**Sn**	**16 32 48.0**	**-2.2**
UGL				AMS	AMS	16 35 59.0	
	comp=N,2μm,17.0s						
UGL				AMS	AMS	16 35 59.0	
	comp=N,3μm,17.0s						
JYM2	**Yakumo 2**	**6.23**	**250**	⇑P	**Pn**	**16 31 42.2**	**+1.6**
JANG	**Nango**	**6.48**	**233**	P	**Pn**	**16 31 42.4**	**-1.6**
JANG				*e*S	**Sn**	**16 32 51.3**	**-5.2**
JKZ	**Kuzumaki**	**6.85**	**231**	P	**Pn**	**16 31 47.6**	**-1.5**
JAH	**Hinai**	**7.11**	**235**	P	**Pn**	**16 31 51.7**	**-0.9**
TYV	**Tymovskoe**	**7.38**	**331**	*e*PN	**Pn**	**16 31 59.8**	**+3.5**
TYV				*e*S	**Sn**	**16 33 20.2**	**+1.7**
TYV				pmax	pmax		
	comp=Z,204nm,0.6s						
TYV				pmax	pmax		
	comp=Z,200nm,2.0s						
TYV				smax	smax		
	comp=E,69nm,0.7s						
TYV				MLR	MLR		
	comp=Z,20μm,18.0s						
TYV	**Tymovskoe**	**7.38**	**331**	*e*P	**Pn**	**16 31 58.3**	**+2.0**
TYV				AMB	AMB	16 32 01.7	
	comp=Z,204nm,0.6s						
TYV				AMB	AMB	16 32 03.7	
	comp=Z,240nm,2.0s						
TYV				*e*S	**Sn**	**16 33 19.1**	**+0.6**
TYV				A	A	16 33 20.5	
	comp=Z,68nm,0.7s						
TYV				AMS	AMS	16 34 31.1	
	comp=Z,3μm,18.0s						
TYV				AMS	AMS	16 34 31.1	
	comp=Z,2μm,18.0s						
JKMT	**Kesennumamotoy**	**7.63**	**224**	P	**Pn**	**16 31 57.5**	**-2.3**
SKR	**Severo-Kuril's**	**8.14**	**38**	*e*PN	**Pn**	**16 32 07.4**	**+0.7**
SKR				pmax	pmax		
	comp=Z,156nm,0.6s						
SKR				pmax	pmax		
	comp=Z,400nm,2.4s						
SKR				MLR	MLR		
	comp=Z,600nm,13.0s						
SKR	**Severo-Kuril's**	**8.14**	**38**	*e*P	**Pn**	**16 32 06.6**	**-0.1**
SKR				AMB	AMB	16 32 10.0	
	comp=Z,156nm,0.6s						
SKR				AMB	AMB	16 32 10.0	
	comp=Z,400nm,2.4s						
SKR				*e*S	**Sn**	**16 33 32.7**	**-4.4**
SKR				AMS	AMS	16 35 00.1	
	comp=Z,930nm,16.0s						
SKR				AMS	AMS	16 35 00.1	
	comp=Z,799nm,16.0s						
SKR				AMS	AMS	16 35 00.1	
	comp=Z,730nm,16.0s						
TEY	**Ternei**	**8.30**	**278**	‖*e*PN	**Pn**	**16 32 12.8**	**+3.9**
TEY				*e*S	**Sn**	**16 33 43.1**	**+2.0**
TEY				pmax	pmax		
	comp=Z,200nm,1.2s						
TEY				pmax	pmax		
	comp=Z,80nm,0.9s						
TEY				pmax	pmax		
	comp=E,90nm,0.9s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
TEY				MLR	MLR		
	comp=N,1μm,22.0s						
TEY				MLR	MLR		
	comp=Z,2μm,15.0s						
TEY	**Ternei**	**8.30**	**278**	*e*P	**Pn**	**16 32 11.0**	**+2.1**
TEY				AMB	AMB	16 32 13.6	
	comp=Z,200nm,2.0s						
TEY				AMB	AMB	16 32 13.8	
	comp=Z,80nm,0.9s						
TEY				*e*S	**Sn**	**16 33 43.1**	**+2.0**
OKH	**Okha**	**9.68**	**341**	*de*PN	Pn	16 32 18.2	-10
OKH				MLR	MLR		
	comp=Z,1μm,21.0s						
GRNR	**Gornyy**	**10.13**	**312**	⇑*i*PN	Pn	16 32 39.0	+5.1
GRNR				*e*		16 34 29.8	
GRNR				pmax	pmax		
	comp=N,45nm,0.8s						
GRNR				pmax	pmax		
	comp=E,84nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,74nm,0.8s						
PEA0B	**Petropavlovsk-**	**10.61**	**33**	PN	**Pn**	**16 32 41.9**	**+1.5**
PEA0B	**Petropavlovsk-**	**10.61**	**33**		**Pn**	**16 32 41.9**	**+1.5**
PETK	**Petropavlovsk-**	**10.61**	**33**	P	**Pn**	**16 32 41.1**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=203,slow=9.6,SNR=63						
PETK				LR	LR	16 37 18.1	
	comp=Z,744nm,19.0s,baz=234,slow=40						
PETK				PcP	**PcP**	**16 38 39.5**	**+0.1**
	baz=95,slow=2.7,SNR=3.7						
PET	**Petropavlovsk**	**10.92**	**35**	*e*PN	**Pn**	**16 32 47.1**	**+2.4**
PET				pmax	pmax		
	comp=Z,27nm,0.4s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**10.92**	**35**		**Pn**	**16 32 47.4**	**+2.7**
MJAR	**Matsushiro Arr**	**11.03**	**227**	PN	**Pn**	**16 32 44.6**	**-1.7**
MJAR	**Matsushiro Arr**	**11.03**	**227**	P	**Pn**	**16 32 45.6**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=26,slow=13,SNR=74						
MJAR				S	**Sn**	**16 34 43.7**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=45,slow=7.9,SNR=1.2						
MJAR				LR	LR	16 37 35.9	
	comp=Z,729nm,21.8s,baz=55,slow=40						
MJAR	**Matsushiro Arr**	**11.03**	**227**	Pn	**Pn**	**16 32 44.6**	**-1.7**
MJB9	**Matsu-Tunnel**	**11.03**	**227**		**Pn**	**16 32 45.1**	**-1.3**
MAJO	**Matsushiro**	**11.03**	**227**	*c* iPN	**Pn**	**16 32 45.1**	**-1.2**
MAJO	**Matsushiro**	**11.03**	**227**		**Pn**	**16 32 45.5**	**-0.8**
MAT	**Matsushiro**	**11.03**	**227**	P	**Pn**	**16 32 44.8**	**-1.5**
MAT				S	**Sn**	**16 34 43.8**	**-4.3**
USA0B	**Ussuriysk Arra**	**11.65**	**274**	PN	**Pn**	**16 32 56.3**	**+1.7**
USA0B	**Ussuriysk Arra**	**11.65**	**274**		**Pn**	**16 32 56.3**	**+1.7**
USRK	**Ussuriysk Ar.**	**11.65**	**274**	P	**Pn**

comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,550nm,19.0s
CN2 LR LR
comp=Z,690nm,22.0s
ZEA Zeya 16.49 311 *e*P **Pn 16 33 59.1 +0.5**
ZEA *e*S **Sn 16 37 03.0 +2.3**
ZEA pmax pmax
comp=N,55nm,0.9s
ZEA pmax pmax
comp=E,59nm,0.9s
ZEA pmax pmax
comp=Z,86nm,0.9s
ZEA pmax pmax
comp=Z,300nm,4.0s
ZEA pmax pmax
comp=E,400nm,3.0s
ZEA smax smax
comp=N,500nm,6.0s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=E,1μm,16.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
KSRS Korea Array 16.87 252 P **Pn 16 34 02.2 -1.2**
comp=Z,2.4nm,0.3s,baz=58,slow=12,SNR=52
KSRS PcP **PcP 16 38 49.0 +1.3**
comp=Z,0.1nm,0.3s,baz=102,slow=0.1,SNR=10
KSRS LR LR 16 39 52.2
comp=Z,792nm,21.7s,baz=74,slow=34
KS19 Wonju Array Si 16.88 253 Pn 16 34 02.4 -1.2
KSAR Wonju Array Be 16.90 252 P **Pn 16 34 01.5 -2.3**
KSAR Wonju Array Be 16.90 252 P **Pn 16 34 01.6 -2.3**
JNU Nakatsue 17.64 236 P **Pn 16 34 11.8 -1.2**
comp=Z,2.2nm,0.3s,baz=52,slow=4.1,SNR=62
JNU LR LR 16 40 55.4
comp=Z,232nm,20.1s,baz=29,slow=36
JNU Nakatsue 17.64 236 P **Pn 16 34 11.9 -1.2**
JNU IAmb IAmb 16 34 17.4
comp=Z,181nm,0.9s
TJN Taejon 17.82 250 *de*P **P 16 34 15.4 +0.2**
SNY Shenyang 18.18 270 ⇑P **P 16 34 18.8 -0.3**
SNY S **Sn 16 37 36.4 -5.0**
SNY pmax pmax
comp=Z,48nm,0.8s
SNY pmax pmax
comp=Z,290nm,7.9s
SNY LR LR
comp=Z,300nm,16.5s
SNY LR LR
comp=Z,630nm,24.5s
SNY LR LR
comp=Z,1μm,25.6s
SEY Seymchan 18.60 6 *de*P **P 16 34 23.3 -0.3**
SEY Seymchan 18.60 6 P **P 16 34 23.5 -0.1**
comp=Z,2.0nm,0.3s,baz=180,slow=8.8,SNR=29
SEY LR LR 16 41 24.1
comp=Z,782nm,20.4s,baz=162,slow=36
SEY Seymchan 18.60 6 *e*P **P 16 34 23.3 -0.3**
HIA Hailar 19.99 294 P **P 16 34 35.5 -3.4**
HIA pmax pmax
comp=Z,26nm,0.7s
HIA Hailar 19.99 294 P **P 16 34 35.5 -3.4**
DL2 Dalian 20.60 263 P **P 16 34 46.1 +0.6**
DL2 pP **pP 16 35 01.2 +3.1**
DL2 S **S 16 38 30.4 -2.2**
DL2 pmax pmax
comp=Z,96nm,1.0s
DL2 pmax pmax
comp=Z,350nm,5.1s
DL2 LR LR
comp=Z,260nm,20.1s
DL2 LR LR
comp=Z,460nm,18.7s
DL2 LR LR
comp=Z,550nm,22.2s
YAK Yakutsk 20.62 335 *e*P **P 16 34 42.5 -3.0**
YAK *e*S **S 16 38 26.0 -6.5**
YAK *e* 16 38 53.3
YAK *e* 16 46 02.9
YAK pmax pmax
comp=Z,102nm,0.9s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=Z,138nm,1.5s
YAK pmax pmax
comp=E,81nm,1.5s
YAK pmax pmax
comp=N,133nm,1.4s
YAK smax smax
comp=N,178nm,2.0s
YAK smax smax
comp=E,243nm,2.0s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,849nm,21.0s
YAK MLR MLR
comp=E,423nm,20.0s
YAK Yakutsk 20.62 335 P **P 16 34 43.8 -1.8**
comp=E,50nm,0.5s,baz=105,slow=2.2,SNR=64
YAK LR LR 16 42 57.2
comp=E,1μm,20.5s,baz=138,slow=37
YAK Yakutsk 20.62 335 P **P 16 34 43.3 -2.2**
JOW Kunigami 23.87 229 P **P 16 35 20.2 +0.8**
comp=E,11nm,1.2s,baz=102,slow=17,SNR=5.1
KIWB Kanaga Island 24.03 60 P **P 16 35 18.5 -2.2**
BJI Beijing 24.06 271 P **P 16 35 20.5 -0.5**
BJI pP **pP 16 35 35.6 +0.6**
BJI S **S 16 39 30.8 -3.4**
BJI pmax pmax
comp=E,140nm,0.8s
BJI LR LR
comp=E,440nm,16.1s
BJI LR LR
comp=E,580nm,25.1s
BJI LR LR
comp=E,700nm,22.6s
BJT Baijiatuau 24.07 270 P **P 16 35 21.4 +0.2**
BJT pmax pmax
comp=Z,116nm,0.9s
BJT Baijiatuau 24.07 270 P **P 16 35 21.4 +0.2**
BJT IAmb IAmb 16 35 23.8
comp=Z,116nm,0.9s
BOD Bodaibo 24.94 314 *e*P **P 16 35 26.6 -2.3**
BOD *e* 16 35 48.7
TIA Tai'an 25.01 261 P **P 16 35 30.0 +0.3**
TIA pmax pmax
comp=Z,150nm,0.9s
BILL Bilibino 25.40 16 *e*P **P 16 35 31.3 -1.7**
BILL *e* 16 36 10.5
BILL *e*S **S 16 39 57.4 +2.2**
BILL *e*SS **SnSn 16 40 56.9 +4.9**
BILL pmax pmax
comp=Z,17nm,1.1s
BILL MLR MLR
comp=Z,598nm,19.0s
BILL Bilibino 25.40 16 *e*P **P 16 35 31.3 -1.7**
BILL Bilibino 25.40 16 P **P 16 35 32.3 -0.6**
NJ2 Nanjing 26.07 252 ⇑P **P 16 35 40.0 +0.7**
NJ2 pP **sP 16 35 57.0 -3.2**
NJ2 pmax pmax
comp=Z,47nm,0.9s
NJ2 LR LR
comp=Z,700nm,6.6s
NJ2 LR LR
comp=Z,810nm,9.9s
NJ2 LR LR
comp=Z,830nm,11.4s
HHC Hu-ho-hao-te 27.07 275 P **P 16 35 50.1 +1.7**
HHC pP sP 16 36 06.8 -2.5
HHC pmax pmax
comp=Z,10.0nm,1.1s
TIY Taiyuan 27.66 268 *e*P **P 16 35 55.1 +1.4**
TIY S **S 16 40 29.3 -2.3**
TIY pmax pmax
comp=Z,68nm,0.9s
TIY pmax pmax
comp=Z,340nm,4.0s
TIY LR LR
comp=Z,690nm,4.9s
TIY LR LR
comp=Z,350nm,5.0s
TIY LR LR
comp=Z,740nm,23.3s
BTO Baotou 28.25 276 *e*P **P 16 36 00.4 +1.4**
ULN Ulaanbaatar 28.47 292 P **P 16 36 01.8 +0.9**
SNR=10
ULN Ulaanbaatar 28.47 292 *de*P **P 16 36 01.8 +0.9**
ULN pmax pmax
comp=Z,31nm,0.9s
ULN Ulaanbaatar 28.47 292 *e*P **P 16 36 01.8 +0.9**
ULN Ulaanbaatar 28.47 292 P **P 16 36 01.8 +0.9**
SONM Songino Array 28.91 292 P **P 16 36 05.3 +0.5**
SONM 16 39 13.0
SONM pmax pmax
comp=Z,15nm,0.8s
SONM Songino Array 28.91 292 P **P 16 36 04.8 0.0**
comp=Z,22nm,0.6s,baz=83,slow=8.1,SNR=110
SONM PcP **PcP 16 39 13.0 +0.5**
comp=Z,6.9nm,0.8s,baz=126,slow=2.2,SNR=6.9
SONM LR LR 16 48 33.8
comp=Z,827nm,20.6s,baz=90,slow=38
SONM Songino Array 28.91 292 P **P 16 36 05.3 +0.5**
H11N2 WAKE ISLAND Hy 29.19 142 T T 17 07 01.4
baz=333,slow=76,SNR=1506
H11N1 WAKE ISLAND Hy 29.21 142 T T 17 07 02.4
baz=333,slow=76,SNR=1353
H11N3 WAKE ISLAND Hy 29.21 142 T T 17 07 10.9
baz=333,slow=76,SNR=1727
WHN Wuhan 30.05 254 ⇑P **P 16 36 15.3 +0.4**
WHN pmax pmax
comp=Z,170nm,0.6s
H11S1 WAKE ISLAND Hy 30.19 143 T T 17 08 08.0
baz=333,slow=76,SNR=3601
H11S3 WAKE ISLAND Hy 30.20 143 T T 17 08 24.7
baz=333,slow=76,SNR=2013
H11S2 WAKE ISLAND Hy 30.21 143 T T 17 08 10.2
baz=333,slow=76,SNR=2585
TLY Talaya 30.24 300 *e*P **P 16 36 16.8 +0.4**
TLY pmax pmax
comp=Z,22nm,0.8s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 30.24 300 LR LR 16 49 34.5
comp=Z,750nm,18.1s,baz=86,slow=38
TLY Talaya 30.24 300 *e*P **P 16 36 17.1 +0.7**
ZAK Zakamensk 30.59 297 *e*P **P 16 36 18.3 -1.3**
ZAK *e* 16 36 46.9
ZAK pmax pmax
comp=Z,5.0nm,0.9s
TPUB Ta-pu 30.95 236 P **P 16 36 24.1 +1.2**
TWG Pinlang 31.06 235 P **P 16 36 24.5 +0.7**
MOY Mondy 31.89 300 *e*P **P 16 36 31.6 +0.6**
MOY pmax pmax
comp=Z,17nm,1.9s
XAN Xi'an 31.91 265 P **P 16 36 31.4 +0.1**
XAN pP pP 16 36 45.9 +0.3
XAN PP **PnPn 16 37 37.9 0.0**
XAN PcP **PcP 16 39 20.9 +0.3**
XAN S **S 16 41 39.4 +1.1**
XAN pmax pmax
comp=Z,56nm,1.0s
XAN pmax pmax
comp=Z,280nm,5.5s
XAN Xi'an 31.91 265 P **P 16 36 31.5 +0.1**
XAN pmax pmax
comp=Z,43nm,0.7s
XAN Xi'an 31.91 265 P **P 16 36 31.5 +0.2**
XAN IAmb IAmb 16 36 32.4
comp=Z,43nm,0.7s
ANM Nome 32.50 36 P **P 16 36 37.2 +1.1**
ANM pmax pmax
comp=Z,19nm,1.0s
ANM Nome 32.50 36 P **P 16 36 37.2 +1.1**
ENH Enshi 33.59 258 P **P 16 36 45.8 -0.2**
ENH IAmb IAmb 16 36 50.4
comp=Z,41nm,0.8s
LZH Lanzhou 34.54 272 ⇑P **P 16 36 55.6 +1.3**
LZH pP sP 16 37 12.4 -3.0
LZH sP pP 16 37 19.8 +11
LZH PP **PnPn 16 38 08.9 -2.1**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,93nm,4.9s
LZH LR LR
comp=Z,470nm,15.3s
LZH LR LR
comp=Z,450nm,15.2s
LZH LR LR
comp=Z,560nm,16.0s
GTA Gaotai 35.95 279 ⇑P **P 16 37 07.0 +0.6**
GTA pP sP 16 37 25.8 -1.7
GTA sP pP 16 37 32.7 +12
GTA PcP **PcP 16 39 33.4 +1.3**
GTA ScP **ScP 16 43 15.8 +2.6**
GTA PcS **PcS 16 43 20.8 +1.1**
GTA ScS **ScS 16 47 18.5 -0.3**
GTA pmax pmax
comp=Z,46nm,1.3s
GTA pmax pmax
comp=Z,91nm,5.7s
GTA LR LR
comp=Z,220nm,15.5s
GTA LR LR
comp=Z,340nm,15.2s
GTA LR LR
comp=Z,480nm,16.2s
SVW2 Sparrevohn 36.46 43 P **P 16 37 11.9 +1.5**
SVW2 IAmb IAmb 16 37 12.7
comp=Z,26nm,1.0s
CD2 Chengdu 37.27 264 P **P 16 37 18.0 +0.4**
IMAR Indian Mountai 37.56 35 P **P 16 37 20.4 +0.8**
OHAK Old Harbor 37.83 49 P **P 16 37 22.2 +0.3**
OHAK IAmb IAmb 16 37 31.1
comp=Z,23nm,1.0s
RSO Redoubt South 37.86 44 P **P 16 37 23.3 +0.9**
GYA Guiyang 37.88 256 ⇑*i*P **P 16 37 22.9 0.0**
GYA pP pP 16 37 39.9 +2.5
GYA sP sP 16 37 50.7 +6.7
GYA PP **PP 16 38 51.0 +0.8**
GYA PcP **PcP 16 39 38.6 +0.5**
GYA S **S 16 43 07.4 -2.8**
GYA sS sS 16 43 38.8 +3.9
GYA SS **SnSn 16 45 48.2 -7.6**
GYA pmax pmax
comp=Z,70nm,0.9s
GYA pmax pmax
comp=Z,280nm,5.2s
GYA LR LR
comp=Z,330nm,17.4s
GYA LR LR
comp=Z,510nm,17.6s
GYA LR LR
comp=Z,540nm,17.7s
PPLA Purkeypile 38.08 40 P **P 16 37 25.9 +1.7**
PPLA IAmb IAmb 16 37 28.3
comp=Z,45nm,1.1s
KDAK Kodiak Island 38.15 48 *i*P **P 16 37 24.5 -0.1**
KDAK Kodiak Island 38.15 48 P **P 16 37 24.4 -0.1**
KDAK IAmb IAmb 16 37 26.5
comp=Z,32nm,1.0s
SKT Skwentna 38.40 41 P **P 16 37 27.2 +0.5**
BPAW Bear Paw Mtn. 38.63 38 P **P 16 37 28.7 +0.1**
KTH Kantishna Hill 38.66 39 P **P 16 37 30.2 +1.3**
MLY Manley 38.75 36 P **P 16 37 29.6 -0.2**
SUA Susitna One 38.79 42 P **P 16 37 30.3 +0.2**
BRLK Bradley Lake 38.84 45 P **P 16 37 30.2 -0.2**
BRLK IAmb IAmb 16 37 33.8
comp=Z,24nm,0.9s
TRF Thorofare Moun 38.94 39 P **P 16 37 31.9 +0.5**
NRIK Noril'sk 38.96 331 PcP **PcP 16 39 41.1 +0.6**
comp=Z,16nm,0.6s,baz=96,slow=4.8,SNR=9.4
NRIK LR LR 16 54 40.5
comp=Z,534nm,19.8s,baz=111,slow=38
COLD Coldfoot 39.08 33 P **P 16 37 32.8 +0.5**
RC01 Rabbit Creek A 39.30 43 P **P 16 37 33.4 -0.9**
RC01 IAmb IAmb 16 37 35.3
comp=Z,24nm,0.8s
RC01 **PcP 16 39 42.6 +0.8**
TOLK Toolik Lake Re 39.42 31 P **P 16 37 35.2 0.0**
baz=265,SNR=14
NEA Nenana 39.46 37 P **P 16 37 36.4 +0.9**
NEA IAmb IAmb 16 37 38.5
comp=Z,30nm,1.0s
SEW Seward 39.52 44 P **P 16 37 37.0 +0.9**
SEW IAmb IAmb 16 37 44.9
comp=Z,24nm,1.0s
MCK McKinley 39.54 38 IAmb IAmb 16 37 37.5
comp=Z,21nm,0.9s
PMR Palmer 39.56 42 P **P 16 37 36.3 0.0**
PMR pmax pmax
comp=Z,20nm,1.2s
PMR Palmer 39.56 42 P **P 16 37 36.3 0.0**
PMR IAmb IAmb 16 37 46.6
comp=Z,20nm,1.2s
RND Reindeer 39.59 39 P **P 16 37 35.8 -0.9**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 39.59 39 P **P 16 37 35.8 -0.9**
RND IAmb IAmb 16 37 37.6
comp=Z,17nm,0.8s
GHO Glory Hole Cre 39.64 42 P **P 16 37 37.8 +0.6**
GHO IAmb IAmb 16 37 39.9
comp=Z,17nm,0.7s
MDM Murphy Dome 39.82 37 P **P 16 37 39.5 +1.0**
MDM IAmb IAmb 16 37 40.3
comp=Z,16nm,0.8s
WRH Wood River Hil 39.89 37 P **P 16 37 40.0 +0.9**
KNK Knik Glacier 39.89 42 P **P 16 37 39.1 0.0**
KNK IAmb IAmb 16 37 41.1
comp=Z,28nm,1.0s
SML Sawmill 39.92 41 P **P 16 37 40.3 +0.9**
TCOL CIGO, UAF Yank 39.98 37 P **P 16 37 40.4 +0.6**
baz=271,SNR=9.6
COLA College 39.98 37 *c i*P **P 16 37 40.5 +0.7**
COLA pmax pmax
comp=Z,47nm,1.0s
POKR Poker Plat Res 40.15 36 P **P 16 37 42.0 +0.7**
baz=272,SNR=15
DHY Denali Highway 40.27 39 P **P 16 37 42.6 +0.1**
DHY IAmb IAmb 16 37 43.1
comp=Z,16nm,0.8s
HDA Harding Lake 40.39 37 P **P 16 37 42.8 -0.4**
baz=273,SNR=20
HDA Harding Lake 40.39 37 P **P 16 37 43.0 -0.3**
HDA IAmb IAmb 16 37 44.5
comp=Z,37nm,1.2s
SCM Sheep Creek Mo 40.39 41 P **P 16 37 44.3 +0.9**
SCM pmax pmax
comp=Z,27nm,1.1s
SCM Sheep Creek Mo 40.39 41 P **P 16 37 44.3 +0.9**
SCM IAmb IAmb 16 37 52.8
comp=Z,27nm,1.1s
IL31 40.40 37 IAmb IAmb 16 37 45.0
comp=Z,25nm,1.1s
ILAR Eielson Array 40.40 37 P **P 16 37 43.5 +0.1**
comp=Z,16nm,1.0s,baz=264,slow=8.1,SNR=82
ILAR ScP **ScP 16 43 27.2 -2.3**
comp=Z,1.2nm,0.9s,baz=295,slow=5.6,SNR=4.5
ILAR Eielson Array 40.40 37 P **P 16 37 43.6 +0.3**
GLI Glacier Island 40.60 43 P **P 16 37 45.9 +0.9**
GLI IAmb IAmb 16 37 46.2
comp=Z,37nm,1.0s
DGZ Jazzator, Alta 40.72 300 *d i*P **P 16 37 47.6 +1.3**
FID Port Fidalgo 40.92 43 P **P 16 37 47.8 +0.1**
FID IAmb IAmb 16 37 59.1
comp=Z,25nm,0.9s
PRP Porcupine Dome 40.94 36 P **P 16 37 49.0 +1.0**
PRP IAmb IAmb 16 37 50.2
comp=Z,28nm,0.9s
FYU Fort Yukon 41.02 34 IAmb IAmb 16 37 51.5
comp=Z,45nm,0.8s
PAX Paxson 41.15 39 P **P 16 37 50.4 +0.8**
PAX pmax pmax
comp=Z,13nm,1.0s
PAX Paxson 41.15 39 P **P 16 37 50.4 +0.8**
ZAA0 Zalesovo Array 41.17 307 P **P 16 37 50.3 +0.5**
ZALV Zalesovo Beam 41.17 307 P **P 16 37 49.7 -0.1**
comp=Z,5.9nm,0.5s,baz=67,slow=6.4,SNR=21
ZALV PcP **PcP 16 39 48.2 +0.3**
comp=Z,33nm,0.6s,baz=79,slow=2.5,SNR=40
ZALV ScP **ScP 16 43 30.9 -1.7**
comp=Z,2.6nm,0.7s,baz=64,slow=3.4,SNR=5.1
ZALV LR LR 16 55 52.1
comp=Z,405nm,19.7s,baz=90,slow=38
ZALV Zalesovo Beam 41.17 307 P **P 16 37 50.4 +0.6**
BMAR Burnt Mountain 41.26 33 P **P 16 37 51.6 +1.1**
RIDG Independent Ri 41.35 38 IAmb IAmb 16 37 53.1
comp=Z,26nm,0.9s
KMI Kunming 41.45 258 P **P 16 37 53.4 +0.7**
KMI pP pP 16 38 07.6 +0.2
KMI sP sP 16 38 19.1 +5.1
KMI PP **PnPn 16 39 34.1 -0.2**
KMI S **S 16 43 58.7 -5.3**
KMI sS sS 16 44 27.4 -1.4
KMI pmax pmax
comp=Z,120nm,1.0s
KMI pmax pmax
comp=Z,400nm,4.7s
KMI LR LR
comp=Z,500nm,4.9s
KMI LR LR
comp=Z,600nm,4.9s
KMI LR LR
comp=Z,370nm,5.1s
KMI Kunming 41.45 258 P **P 16 37 53.5 +0.7**
KMI pmax pmax
comp=Z,93nm,1.0s
KMI Kunming 41.45 258 P **P 16 37 53.5 +0.7**
DOT Dot Lake 41.71 38 P **P 16 37 54.2 +0.1**
DOT IAmb IAmb 16 37 55.6
comp=Z,17nm,0.7s
MENT Mentasta 41.95 39 P **P 16 37 57.1 +1.1**
MENT IAmb IAmb 16 38 07.0
comp=Z,14nm,0.6s
GLB Gilahina Butte 42.11 42 P **P 16 37 58.6 +1.1**
VRDI Verde Repeater 42.31 42 P **P 16 38 00.3 +1.0**
KCP Kidapawan 42.48 215 ⇑*i*P **P 16 38 02.4 +1.5**
MCARA McCarthy VSAT 42.49 42 P **P 16 38 02.0 +1.5**
MCARA IAmb IAmb 16 38 11.0
comp=Z,20nm,0.9s
CRQM Cirque 42.54 43 P **P 16 38 02.6 +1.5**
WMQ Urumqi 42.55 291 *e*P **P 16 38 02.6 +1.3**
WMQ pP sP 16 38 20.1 -2.5
WMQ sP pP 16 38 27.6 +12
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,820nm,24.1s
WMQ LR LR
comp=Z,400nm,29.0s
WMQ LR LR
comp=Z,540nm,24.1s
CTBH Cotabato--PC H 42.64 217 *e*P **P 16 38 03.5 +1.4**
TGL Tana Glacier 42.69 43 P **P 16 38 03.4 +1.2**
TGL IAmb IAmb 16 38 04.5
comp=Z,56nm,1.2s
WAX Waxell Ridge 42.73 43 P **P 16 38 04.3 +1.7**
WAX IAmb IAmb 16 38 08.0
comp=Z,42nm,0.9s
BCAR Beaver Creek A 42.80 39 P **P 16 38 04.6 +1.5**
EGAK Eagle 42.84 36 P **P 16 38 03.5 +0.3**
EGAK IAmb IAmb 16 38 04.4
comp=Z,35nm,0.9s
BALM Baldy 42.87 42 P **P 16 38 05.0 +1.2**
BALM IAmb IAmb 16 38 05.7
comp=Z,29nm,1.1s
SLVN Son La 43.14 252 P **P 16 38 07.4 +1.1**
SLVN IAmb IAmb 16 38 08.3
comp=Z,52nm,0.9s
BARN Barnard Glacie 43.20 42 P **P 16 38 07.6 +1.1**
BARN IAmb IAmb 16 38 08.6
comp=Z,33nm,1.1s
MESA MESA 43.23 43 P **P 16 38 07.8 +1.1**
MESA IAmb IAmb 16 38 11.1
comp=Z,41nm,1.1s
YAH Yahtse 43.29 43 P **P 16 38 08.6 +1.3**
YAH IAmb IAmb 16 38 09.4
comp=Z,55nm,1.1s
CTGM Chitina Glacie 43.37 42 P **P 16 38 08.6 +0.8**
CTGM IAmb IAmb 16 38 09.8
comp=Z,43nm,1.1s
DAWY Dawson 43.70 37 P **P 16 38 11.4 +1.1**
EPYK Eagle Plains 44.44 34 P **P 16 38 16.9 +0.8**

baz=280,SNR=24
EPYK Eagle Plains 44.44 34 IAmb IAmb 16 38 18.9
comp=Z,42nm,0.8s
MK31 Makanchi Array 44.93 297 *i* P **P 16 38 20.0 -0.3**
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 44.93 297 P **P 16 38 20.1 -0.2**
MK31 IAmb IAmb 16 38 23.0
comp=Z,19nm,0.8s
MKAR Makanchi Array 44.93 297 P **P 16 38 20.5 +0.2**
comp=Z,11nm,0.5s,baz=77,slow=8.9,SNR=93
MKAR PcP **PcP 16 40 01.1 +0.3**
comp=Z,24nm,0.6s,baz=66,slow=4.2,SNR=19
MKAR ScP **ScP 16 43 46.8 -1.3**
comp=Z,0.2nm,0.5s,baz=332,slow=25,SNR=3.4
MKAR LR LR 16 58 28.7
comp=Z,1μm,18.5s,baz=62,slow=38
MKAR Makanchi Array 44.93 297 P **P 16 38 19.8 -0.5**
MAKZ Makanchi 45.12 297 P **P 16 38 22.0 +0.2**
MAKZ pmax pmax
comp=Z,18nm,0.8s
MAKZ Makanchi 45.12 297 P **P 16 38 22.0 +0.2**
MAKZ IAmb IAmb 16 38 24.6
comp=Z,18nm,0.8s
HYT Haines Junctio 45.23 42 P **P 16 38 24.5 +2.0**
INK Inuvik 45.34 31 P **P 16 38 23.4 +0.3**
INK pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 45.34 31 P **P 16 38 23.5 +0.3**
comp=Z,10nm,0.4s,baz=300,slow=9.5,SNR=76
INK Inuvik 45.34 31 P **P 16 38 23.4 +0.3**
KURK Kurchatov 45.76 304 *ce*P **P 16 38 25.8 -0.9**
KURK pmax pmax
comp=Z,24nm,0.8s
KURK Kurchatov 45.76 304 *e*P **P 16 38 25.8 -0.9**
KURK Kurchatov 45.76 304 P **P 16 38 25.9 -0.9**
KURK IAmb IAmb 16 38 28.6
comp=Z,25nm,0.8s
KURK Kurchatov 45.76 304 **PcP 16 40 03.9 +0.4**
KURBB Kurchatov Arra 45.84 304 PcP **PcP 16 40 03.9 +0.1**
comp=Z,25nm,0.7s,baz=76,slow=3.4,SNR=15
NONG Nongkai 45.92 250 P **P 16 38 29.3 +1.0**
comp=Z,3.3nm,0.9s
WHY Whitehorse 46.52 41 P **P 16 38 34.1 +1.4**
WHY IAmb IAmb 16 38 35.4
comp=Z,25nm,1.1s
LSA Lhasa 46.96 272 P **P 16 38 38.3 +1.3**
LSA Lhasa 46.96 272 P **P 16 38 38.5 +1.5**
LSA pmax pmax
comp=Z,58nm,1.0s
LSA Lhasa 46.96 272 P **P 16 38 38.5 +1.5**
DLV T Lat 47.01 239 P **P 16 38 38.5 +1.4**
DLV IAmb IAmb 16 38 40.7
comp=Z,30nm,0.9s
PAYA Payao 47.24 254 P **P 16 38 39.9 +1.1**
comp=Z,181μm,0.9s
JAY Jayapura 47.31 190 P **P 16 38 41.2 +2.0**
comp=Z,15nm,1.1s,baz=4.1,slow=14,SNR=2.6
A36M Sachs Harbour 47.34 25 P **P 16 38 38.6 -0.2**
baz=284,SNR=5.8
KKM Kota Kinabalu 47.45 226 P **P 16 38 41.4 +1.0**
JIS Juneau Island 47.48 44 P **P 16 38 41.7 +1.7**
JIS IAmb IAmb 16 38 42.9
comp=Z,24nm,0.8s
LAMP Lampang 47.98 253 P **P 16 38 45.9 +1.4**
comp=Z,179μm,0.9s
CHAI Chaiyaphum 48.23 249 P **P 16 38 46.9 +0.5**
comp=Z,146μm,0.7s
CMMT Chiang Mai 48.25 254 P **P 16 38 47.1 +0.5**
comp=Z,58nm,0.9s
CHTO Chiang Mai 48.25 254 P **P 16 38 47.5 +1.0**
SNR=32
CHTO Chiang Mai 48.25 254 P **P 16 38 47.8 +1.2**
CHTO pmax pmax
comp=Z,78nm,0.8s
CHTO Chiang Mai 48.25 254 P **P 16 38 47.8 +1.2**
C36M Paulatuk 48.43 28 P **P 16 38 47.0 -0.3**
baz=287
PBKT Sadao Pong 48.43 250 P **P 16 38 48.7 +0.8**
comp=Z,24nm,1.1s,comp=Z,319nm
PBKT Sadao Pong 48.43 250 P **P 16 38 49.0 +1.1**
PBKT IAmb IAmb 16 38 49.4
comp=Z,25nm,0.6s
CM31 Chiang Mai Arr 48.50 254 P **P 16 38 49.7 +1.2**
SNR=20
CM31 Chiang Mai Arr 48.50 254 P **P 16 38 49.7 +1.2**
CMAR Chiang Mai Arr 48.50 254 P **P 16 38 49.6 +1.1**
comp=Z,22nm,0.7s,baz=41,slow=7.4,SNR=171
CMAR PcP **PcP 16 40 14.8 +1.1**
comp=Z,3.3nm,0.7s,baz=356,slow=2.4,SNR=4.3
CMAR LR LR 17 00 37.7
comp=Z,256nm,18.4s,baz=16,slow=38
CMAR Chiang Mai Arr 48.50 254 P **P 16 38 49.9 +1.5**
CMAR **PcP 16 40 15.3 +1.5**
SHL Shillong 48.87 267 P **P 16 38 51.4 -0.1**
SNR=34
SHL Shillong 48.87 267 P **P 16 38 51.7 +0.3**
SHL pmax pmax
comp=Z,132nm,0.7s
SHL Shillong 48.87 267 P **P 16 38 51.7 +0.3**
FAKI Fak Fak 49.35 201 P **P 16 38 55.7 +0.8**
MHMT Maesarieng 49.39 255 P **P 16 38 56.5 +1.2**
comp=Z,126nm,0.7s,comp=Z,1μm
DLBC Dease Lake 49.58 43 P **P 16 38 58.1 +1.8**
comp=Z,12nm,0.8s,baz=298,slow=8.2,SNR=18
BVAR Borovoye Array 49.62 309 PcP **PcP 16 40 17.0 -0.3**
comp=Z,18nm,0.7s,baz=64,slow=3.4,SNR=12
BRVK Borovoye 49.67 309 P **P 16 38 58.0 +1.0**
SNR=5.9
BRVK Borovoye 49.67 309 *de*P **P 16 38 57.4 +0.4**
BRVK pmax pmax
comp=Z,16nm,0.9s
BRVK Borovoye 49.67 309 *e*P **P 16 38 57.4 +0.4**
BRVK Borovoye 49.67 309 P **P 16 38 57.4 +0.4**
BRVK IAmb IAmb 16 38 59.1
comp=Z,22nm,1.1s
TARG Taragay, Kyrgy 50.01 293 P **P 16 39 01.0 +0.8**
TARG IAmb IAmb 16 39 17.3
comp=Z,13nm,0.8s
UMPA Umpang Tak 50.12 252 P **P 16 39 03.3 +2.4**
comp=Z,135μm,0.9s
UTHA Uthaitani 50.18 251 P **P 16 39 02.6 +1.3**
comp=Z,104μm,0.9s,comp=Z,742μm
KDJ Kajisay 50.23 294 P **P 16 39 01.8 +0.2**
KDJ pmax pmax
comp=Z,23nm,0.7s
KDJ Kajisay 50.23 294 P **P 16 39 01.9 +0.2**
KDJ IAmb IAmb 16 39 04.4
comp=Z,23nm,0.7s
DIB Dawson Inlet, 50.34 50 P **P 16 39 02.8 +0.8**
DIB IAmb IAmb 16 39 14.5
comp=Z,29nm,1.2s
OTUK Ortayu 50.49 303 P **P 16 39 03.6 +0.2**
OTUK pmax pmax
comp=Z,7.0nm,0.4s
TAPN Taplejung 50.78 272 *e*P **P 16 39 07.0 +0.9**
comp=Z,229nm,0.7s
ULHL Ulahol 50.79 294 P **P 16 39 07.1 +1.2**
SNR=13
BOOM Boomskoye usch 50.87 295 P **P 16 39 07.3 +0.9**
BOOM pmax pmax
comp=Z,34nm,0.8s
BOOM Boomskoye usch 50.87 295 P **P 16 39 07.3 +0.9**
TKM2 Tokmak 2 50.89 295 P **P 16 39 07.5 +0.9**
SNR=15
PATY Pattaya 51.13 247 P **P 16 39 10.1 +1.7**
comp=Z,91μm,0.9s
KHLT Khaolaem Dam 51.30 251 P **P 16 39 08.1 -1.6**
comp=Z,67nm,1.3s,comp=Z,845nm
ODAN Odare 51.30 271 *e*P **P 16 39 10.3 +0.4**
comp=Z,126nm,0.7s
NRN Naryn 51.34 293 P **P 16 39 10.3 +0.2**
NRN pmax pmax
comp=Z,5.0nm,0.8s
NRN Naryn 51.34 293 P **P 16 39 10.3 +0.2**
CHMS Chumysh 51.40 296 P **PcP 16 40 24.8 +0.7**
SNR=7.1
USP Ospenovka 51.43 296 P **P 16 39 11.3 +0.8**
SNR=21
KBK Karagaybulak 51.43 295 P **P 16 39 11.5 +0.8**
SNR=36
KZA Kyzart 51.52 295 P **P 16 39 13.0 +1.4**
SNR=7.7
JIRN Jiri 51.68 273 *e*P **P 16 39 13.8 +0.9**
comp=Z,762nm,0.7s
AAK Ala-Archa 51.73 296 *i* P **P 16 39 13.5 +0.6**
SNR=23
AAK Ala-Archa 51.73 296 P **P 16 39 13.5 +0.6**
SNR=5.7
AAK Ala-Archa 51.73 296 *c i*P **P 16 39 13.0 +0.1**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 51.73 296 P **P 16 39 13.2 +0.3**
comp=Z,10nm,0.7s,baz=112,slow=4.9,SNR=47
AAK PcP **PcP 16 40 25.4 -0.1**
comp=Z,8.9nm,0.8s,baz=205,slow=2.2,SNR=5.4
AAK Ala-Archa 51.73 296 P **P 16 39 13.5 +0.6**
SNR=15
AAK Ala-Archa 51.73 296 *e*P **P 16 39 13.0 +0.1**
AAK Ala-Archa 51.73 296 P **P 16 39 13.5 +0.6**
AAK IAmb IAmb 16 39 14.3
comp=Z,14nm,0.8s
AAK **PcP 16 40 26.3 +0.7**
GUN Gumba 51.76 273 *e*P **P 16 39 14.1 +0.6**
RAMN Ramite 51.81 272 *e*P **P 16 39 14.3 +0.5**
comp=Z,825nm,0.5s
UCH Uchtor 51.92 295 P **P 16 39 15.5 +0.8**
SNR=14
PHET Kaeng Krachan 51.96 248 P **P 16 39 16.3 +1.7**
comp=Z,154μm,0.8s
EKS2 Erkin-Say 52.19 296 P **P 16 39 16.9 +0.7**
SNR=26
KKN Kakani 52.26 274 *e*P **P 16 39 17.7 +0.7**
PKI Pulchoki 52.29 273 *e*P **P 16 39 17.9 +0.5**
comp=Z,183nm,0.6s
PKIN Phuchok 52.30 273 *e*P **P 16 39 17.8 +0.4**
comp=Z,106nm,0.6s
KSH Kashi 52.31 291 P **P 16 39 21.9 +4.7**
KSH ScP **ScP 16 44 19.7 0.0**
KSH S **S 16 46 40.1 +1.7**
KSH pmax pmax
comp=Z,54nm,1.3s
KSH pmax pmax
comp=Z,110nm,9.8s
KSH LR LR
comp=Z,180nm,12.6s
DMN Daman 52.49 274 *e*P **P 16 39 19.5 +0.7**
comp=Z,399nm,0.7s
AML Almayashu 52.50 295 P **P 16 39 20.2 +1.4**
SNR=9.6
SBUM Sibu 52.58 228 P **P 16 39 20.5 +1.3**
GKN Gorkha 52.59 274 *e*P **P 16 39 20.0 +0.6**
DANN Dangsing 53.01 275 *e*P **P 16 39 23.8 +1.1**
SVE Sverdlovsk 53.12 317 *e*P **P 16 39 23.1 +0.4**
SVE pmax pmax
comp=Z,40nm,1.1s
ARSB Arslanbob 53.37 295 P **P 16 39 26.4 +1.4**
KOLN Koldanda 53.47 275 *e*P **P 16 39 26.8 +0.9**
RES Resolute Bay 54.00 17 P **P 16 39 27.9 -0.9**
comp=Z,11nm,0.5s,baz=331,slow=3.3,SNR=19
RES PcP **PcP 16 40 33.9 +0.6**
comp=Z,17nm,0.8s,baz=288,slow=5.4,SNR=7.2
RES Resolute Bay 54.00 17 P **P 16 39 27.9 -0.9**
RES IAmb IAmb 16 39 33.2
comp=Z,13nm,0.8s
RES **PcP 16 40 34.0 +0.7**
KK31 Karatay Array 54.05 298 P **P 16 39 29.6 -0.2**
KK31 pmax pmax
comp=Z,16nm,0.8s
KK31 Karatay Array 54.05 298 P **P 16 39 29.6 -0.2**
KK31 IAmb IAmb 16 39 33.4
comp=Z,16nm,0.8s
KKAR Karatay Array 54.05 298 P **P 16 39 29.6 -0.2**
KKAR pmax pmax
comp=Z,16nm,0.8s
KKAR Karatay Array 54.05 298 P **P 16 39 29.6 -0.2**
KKAR IAmb IAmb 16 39 33.4
comp=Z,16nm,0.8s
SPA0 Spitsbergen Ar 54.17 349 *e*P **P 16 39 30.1 -0.1**
ARU Arti 54.32 317 P **P 16 39 30.7 -0.8**
comp=Z,3.9nm,0.3s,baz=31,slow=4.7
ARU PcP **PcP 16 40 34.8 0.0**
comp=Z,5.4nm,0.8s,baz=98,slow=1.0,SNR=4.2
ARU Arti 54.32 317 *e*P **P 16 39 31.5 0.0**
ARU Arti 54.32 317 P **P 16 39 30.8 -0.7**
ARU IAmb IAmb 16 39 32.5
comp=Z,18nm,0.8s
KSM Kuching 54.42 229 P **P 16 39 34.1 +1.4**
YKW3 Yellowknife Ar 54.68 34 P **P 16 39 33.6 -0.4**
YKW3 IAmb IAmb 16 39 35.5
comp=Z,29nm,0.9s
YKA Yellowknife Ar 54.72 34 P **P 16 39 34.2 -0.1**
comp=Z,22nm,0.9s,baz=299,slow=6.9,SNR=37
YKA PcP **PcP 16 40 36.5 +0.3**
comp=Z,3.3nm,0.8s,baz=298,slow=4.6,SNR=3.8
YKA Yellowknife Ar 54.72 34 P **P 16 39 33.7 -0.6**
YKA **PcP 16 40 36.7 +0.5**
LGTI Lohaghat 54.86 279 *e*P **P 16 39 37.8 +2.0**
SURT Suratani 55.42 246 P **P 16 39 41.6 +1.7**
comp=Z,22nm,1.1s
BTK Batken 55.43 295 P **P 16 39 40.2 +0.3**
BTK pmax pmax
comp=Z,41nm,1.2s
BTK Batken 55.43 295 P **P 16 39 40.2 +0.3**
BTK IAmb IAmb 16 39 41.0
comp=Z,41nm,1.1s
SKLT Songkhla 55.59 243 P **P 16 39 43.7 +2.5**
comp=Z,32nm,0.8s
TRTT Trang 55.68 244 P **P 16 39 43.4 +1.6**
comp=Z,30nm,1.1s
GAR Garm 56.32 294 P **P 16 39 46.8 +0.5**
PKDT Phuket 56.52 245 P **P 16 39 49.4 +1.6**
comp=Z,88nm,0.9s
TULEG Thule 56.93 10 P **P 16 39 48.4 -1.6**
KULM Kulim 57.02 241 P **P 16 39 52.5 +1.2**
AB31 Akbulak array 57.20 309 *e*P **P 16 39 51.3 -0.9**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 57.20 309 P **P 16 39 51.6 -0.5**
ABKAR Akbulak array 57.20 309 P **P 16 39 51.0 -1.2**
NIL Nilore 57.32 287 P **P 16 39 54.2 +0.8**
NIL pmax pmax
comp=Z,159nm,0.8s
NIL Nilore 57.32 287 P **P 16 39 54.2 +0.8**
PRGR Permogore 57.36 326 *e*P **P 16 39 51.4 -1.7**
PRGR *e* 16 40 40.5
PRGR pmax pmax
comp=Z,12nm,0.6s
IPM Ipoh 57.41 240 P **P 16 39 53.8 -0.4**
IPM IAmb IAmb 16 39 55.7
comp=Z,25nm,0.9s
LVZ Lovozero 57.42 336⇓ *e*P **P 16 39 52.9 -0.6**
LVZ pmax pmax
comp=Z,19nm,0.8s
KIRV Kirov 57.47 322 P **P 16 39 54.1 +0.2**
comp=Z,18nm,0.4s,baz=60,slow=7.4
KIRV PcP **PcP 16 40 46.6 -0.4**
comp=Z,43nm,0.6s,baz=36,slow=1.3,SNR=7.3
AKTO Aktyubinsk 57.63 311 P **P 16 39 54.8 -0.4**
AKTO Aktyubinsk 57.63 311 P **P 16 39 54.4 -0.9**
comp=Z,7.3nm,0.7s,baz=66,slow=6.4,SNR=23
AKTO PcP **PcP 16 40 47.4 -0.4**
comp=Z,6.5nm,0.8s,baz=148,slow=1.0,SNR=4.1
MYKOM Kota Tinggi 57.82 236 P **P 16 39 57.7 +0.7**
MYKOM IAmb IAmb 16 39 59.2
comp=Z,21nm,0.7s
A04D Lummi Island 57.90 51 P **P 16 39 57.3 +0.2**
baz=303
NLWA Neilton Lookou 57.95 53 P **P 16 39 59.3 +1.7**
NLWA IAmb IAmb 16 39 59.9
comp=Z,23nm,0.9s
APA Apatity 58.00 336⇑ *i*P **P 16 39 56.8 -0.7**
APA pmax pmax
comp=Z,10.0nm,0.7s
KEV Kevo 58.27 340 P **P 16 39 57.5 -1.9**
KEV pmax pmax
comp=Z,16nm,1.0s
KEV Kevo 58.27 340 P **P 16 39 57.5 -1.9**
KEV IAmb IAmb 16 40 00.6
comp=Z,16nm,1.0s
D03D Eldon 58.32 53 P **P 16 40 01.3 +1.2**
baz=303,SNR=10.0
COEN Coen 58.38 186 P **P 16 40 02.4 +1.6**
COEN IAmb IAmb 16 40 03.2
comp=Z,20nm,0.9s
B05A Bryant 58.48 52 P **P 16 40 01.8 +0.6**
baz=303
TMCR Tamitsa 58.68 331 *e*P **P 16 40 00.8 -1.5**
TMCR pmax pmax
comp=Z,57nm,1.0s
D04E Lakebay 58.69 53 P **P 16 40 03.3 +0.7**
baz=303
DAG Danmarks Havn 58.70 356 *i* P **P 16 40 01.4 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 58.70 356 *i* P **P 16 40 01.4 -0.9**
comp=Z,7.8nm,0.7s
ARCES ARCESS Array B 58.80 340 P **P 16 40 01.2 -1.8**
comp=Z,11nm,0.9s,baz=44,slow=6.9,SNR=21
ARCES PcP **PcP 16 40 52.2 +0.1**
comp=Z,9.6nm,0.7s,baz=43,slow=5.5,SNR=10
ARCES LR LR 17 08 48.5
comp=Z,253nm,19.9s,baz=34,slow=40
ARCES ARCESS Array B 58.80 340 **PcP 16 40 52.4 +0.3**
ARE0 ARCESS Array S 58.80 340 *e*P **P 16 40 02.6 -0.5**
ARE0 ARCESS Array S 58.80 340 P **P 16 40 02.0 -1.1**
BATI Baumata 58.85 209 LR LR 17 07 35.7
comp=Z,112nm,18.4s,baz=274,slow=38
E04D Cinebar 59.15 53 P **P 16 40 07.3 +1.4**
baz=304,SNR=5.3
MTN Manton Dam 59.17 200 P **P 16 40 07.0 +0.8**
C06D Leavenworth 59.34 51 P **P 16 40 07.9 +0.7**
baz=304
G03D McMinnville, O 59.50 55 P **P 16 40 09.3 +1.1**
baz=304
KBL Kabul 59.67 290 P **P 16 40 09.1 -0.8**
KBL pmax pmax
comp=Z,61nm,0.8s
KBL Kabul 59.67 290 P **P 16 40 09.1 -0.8**
KTK1 Kautokeino 59.73 340 *e*P **P 16 40 09.0 -0.6**
I02D Swisshome 59.77 56 P **P 16 40 11.4 +1.2**
baz=304
LTY Liberty 59.84 52 P **P 16 40 11.3 +0.6**
B08A Colville Reser 59.97 50 P **P 16 40 11.6 +0.1**
B08A IAmb IAmb 16 40 12.7
comp=Z,12nm,0.8s
KULLO Kullorsuaq 59.97 8 *e*P **P 16 40 09.5 -1.5**
KULLO pmax pmax
comp=Z,20nm,0.6s
KULLO Kullorsuaq 59.97 8 *i* P **P 16 40 09.5 -1.5**
comp=Z,20nm,0.6s
PSI Prapat 60.02 241 P **P 16 40 13.6 +1.2**
PSI pmax pmax
comp=Z,48nm,1.1s
PSI Prapat 60.02 241 LR LR 17 05 55.3
comp=Z,71nm,21.7s,baz=32,slow=36
RPSI Rantau Prapat 60.11 241 P **P 16 40 13.6 +0.8**
KEBM Edson Butte 60.17 58 P **P 16 40 13.5 +0.4**
KEBM IAmb IAmb 16 40 15.2
comp=Z,17nm,1.0s
H04D Lebanon 60.19 56 P **P 16 40 14.5 +1.4**
baz=305
KLMR Klimovskoe 60.20 328 *e*P **P 16 40 11.9 -1.0**
KLMR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 60.20 328 *e*P **P 16 40 11.9 -1.0**
KLMR AMP 16 40 14.1
comp=Z,20nm,0.9s
KLMR LR LR 17 05 42.3
J01E Myrtle Point 60.25 57 P **P 16 40 14.8 +1.3**
baz=305
TRO Tromso 60.27 342 *e*P **P 16 40 13.3 +0.2**
I03D Drain, OR 60.30 57 P **P 16 40 15.2 +1.4**
baz=305
G05D Wamic, OR 60.61 54 P **P 16 40 17.4 +1.4**
baz=305,SNR=8.8
K02D Willamette Mer 60.68 58 P **P 16 40 17.6 +1.1**
baz=305
I04A Tendick Farm, 60.80 56 P **P 16 40 18.3 +1.0**
baz=305,SNR=8.0
NGP Nagpur 60.80 272 *ex* **P 16 40 16.8 -0.8**
NGP *ex* x 16 40 25.7
L02E Cave Junction 61.02 58 P **P 16 40 19.8 +1.0**
baz=305
I05D Terrebonne, OR 61.12 55 P **P 16 40 20.3 +0.8**
baz=306
NEW Newport 61.23 49 P **P 16 40 20.8 +0.7**
baz=306,SNR=16
NEW Newport 61.23 49 P **P 16 40 19.7 -0.4**
NEW pmax pmax
comp=Z,18nm,0.9s
NEW Newport 61.23 49 P **P 16 40 19.7 -0.4**
NEW IAmb IAmb 16 40 21.9
comp=Z,18nm,0.8s
J04D Umpqua Nationa 61.30 56 P **P 16 40 22.0 +1.1**
baz=306,SNR=6.6
PINE Pine Mountain 61.67 55 P **P 16 40 25.0 +1.6**
PINE IAmb IAmb 16 40 26.5
comp=Z,22nm,0.8s
L04D Klamath Falls 61.78 57 P **P 16 40 25.1 +1.0**
baz=306,SNR=9.9
J05D Fort Rock, OR 61.79 56 P **P 16 40 25.6 +1.5**
baz=306,SNR=13
YBH Yreka Blue Hor 61.81 58 P **P 16 40 25.1 +0.9**
comp=Z,4.9nm,0.8s,baz=318,slow=3.6,SNR=12
YBH Yreka Blue Hor 61.81 58 P **P 16 40 25.9 +1.7**
M02C Callahan 61.92 58 P **P 16 40 26.6 +1.6**
baz=306,SNR=6.2
G08A Pilot Rock 61.94 53 P **P 16 40 26.6 +1.5**
GSI Gunungsitoli 62.03 241 P **P 16 40 27.0 +1.1**
N02D Trinity Center 62.26 59 P **P 16 40 28.7 +1.5**
baz=306,SNR=6.3
M04C Macdoel 62.31 58 P **P 16 40 28.8 +1.1**
baz=306,SNR=9.3
STEI Steigen 62.45 342 *e*P **P 16 40 27.0 -0.9**
WALA Waterton Lakes 62.48 47 P **P 16 40 29.5 +0.9**
WALA IAmb IAmb 16 40 30.3
comp=Z,26nm,0.9s
KNRA Kununurra 62.49 201 P **P 16 40 29.6 +0.9**
KNRA IAmb IAmb 16 40 31.1
comp=Z,14nm,0.8s
F10A Beach Ranch, E 62.52 52 P **P 16 40 28.8 -0.1**
WDC Whiskeytown Da 62.59 59 P **P 16 40 29.0 -0.4**
WDC pmax pmax
comp=Z,6.0nm,0.8s
WDC Whiskeytown Da 62.59 59 P **P 16 40 29.0 -0.4**
LOF Lofoten 62.65 343 *e*P **P 16 40 29.5 +0.2**
O02D Mt. Diablo Mer 62.68 60 P **P 16 40 31.1 +1.1**
baz=307
JTMT Jette 63.07 49 P **P 16 40 33.1 +0.5**
JTMT IAmb IAmb 16 40 34.7
comp=Z,26nm,1.1s
SUMG Summit 63.11 2 *i* P **P 16 40 32.3 -0.4**
SUMG pmax pmax
comp=Z,79nm,0.7s
SUMG Summit 63.11 2 *i* P **P 16 40 32.3 -0.4**
comp=Z,79nm,0.7s
SUMG Summit 63.11 2 P **P 16 40 32.4 -0.4**
O03E Paynes Creek 63.22 59 P **P 16 40 33.9 +0.3**
baz=307,SNR=7.4
HYB Hyderabad 63.58 269 *i* P **P 16 40 36.5 +0.3**
comp=Z,150nm,1.0s
MSO Missoula 63.82 49 P **P 16 40 38.2 +0.8**
baz=308,SNR=22
MOR8 Moi Rana 64.07 341 *e*P **P 16 40 37.4 -1.3**
HRA Herat 64.27 294 P **P 16 40 41.6 +0.8**
BEKR Beckworth 64.36 59 P **P 16 40 41.9 +0.6**
FIA1 FINESS Array S 64.54 333 P **P 16 40 40.1 -1.7**
FINES FINESS Array B 64.54 333 P **P 16 40 40.0 -1.8**
FINES FINESS Array B 64.54 333 P **P 16 40 39.6 -2.2**
comp=Z,28nm,0.6s,baz=32,slow=7.2,SNR=87
FINES PcP **PcP 16 41 15.0 -0.4**
comp=Z,13nm,0.7s,baz=86,slow=5.9,SNR=5.7
FINES LR LR 17 12 17.1
comp=Z,425nm,18.3s,baz=22,slow=39
FINES FINESS Array B 64.54 333 P **P 16 40 40.0 -1.8**
FFC Flin Flon 64.61 37 *i* P **P 16 40 43.2 +0.8**
FFC Flin Flon 64.61 37 P **P 16 40 43.2 +0.8**
GEYT Alibeck 64.76 299 P **P 16 40 44.0 +0.3**
comp=Z,20nm,0.6s,baz=11,slow=3.0,SNR=49
GEYT LR LR 17 10 43.8
comp=Z,234nm,19.9s,baz=295,slow=38
GEYT Alibeck 64.76 299 P **P 16 40 44.1 +0.4**
GYA0B ALIBECK ARRAY 64.76 299 P **P 16 40 44.2 +0.5**
GYA0B IAmb IAmb 16 40 44.9
comp=Z,46nm,1.1s
HRY Holter Researc 65.03 48 P **P 16 40 46.4 +1.0**
OBN Obninsk 65.16 324 *e*P **P 16 40 45.8 -0.1**
OBN *e*PP **pP 16 41 02.3 +0.8**
OBN *e*SP **sP 16 41 07.4 -0.5**
OBN *e* 16 41 16.4
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,341nm,18.0s
OBN Obninsk 65.16 324 *e*P **P 16 40 45.8 -0.1**
EGMT Eagleton 65.29 46 P **P 16 40 47.6 +0.6**

baz=310,SNR=18
EGMT Eagleton 65.29 46 P P 16 40 47.0 0.0
EGMT IAmb IAmb 16 40 48.8
comp=Z,46nm,1.0s
PNTR Pine Nut 65.30 59 P P 16 40 48.4 +1.0
WRAB Tennant Creek 65.39 194 *c* i P **P 16 40 47.6 -0.1**
WRAB pmax pmax
comp=Z,43nm,1.0s
WRAB Tennant Creek 65.39 194 P P 16 40 48.2 +0.4
WRAB IAmb IAmb 16 40 48.9
comp=Z,35nm,0.9s
WB2 Warramunga Arr 65.40 194 P P 16 40 48.0 +0.1
WRA Warramunga Arr 65.40 194 P P 16 40 47.8 -0.1
comp=Z,22nm,0.8s,baz=15,slow=6.7,SNR=132
WRA PKPPKP P'P'df 17 09 31.7 +8.2
comp=Z,1.9nm,0.7s,baz=200,slow=2.3,SNR=18
WRA Warramunga Arr 65.40 194 P P 16 40 47.7 -0.1
DLMT Dillon 65.46 50 P P 16 40 49.3 +1.0
VRH Novokhopyorsk 65.47 318 *e*P **P 16 40 47.3 -0.7**
VRH pmax pmax
comp=Z,50nm,1.0s
YERR Yerington 65.58 59 P P 16 40 50.6 +1.4
FITZ Fitzroy Crossi 65.65 204 P P 16 40 50.5 +1.1
WAKR Walker 65.76 59 P P 16 40 51.1 +0.7
LPSR Galich'ya Gora 65.83 321 *e*P **P 16 40 49.6 -0.7**
LPSR pmax pmax
comp=Z,40nm,0.9s
BOZ Bozeman (W) 65.84 49 P P 16 40 51.7 +1.1
baz=310,SNR=26
BOZ Bozeman (W) 65.84 49 P P 16 40 51.8 +1.1
BOZ pmax pmax
comp=Z,21nm,0.9s
BOZ Bozeman (W) 65.84 49 P P 16 40 51.8 +1.1
BOZ IAmb IAmb 16 40 52.6
comp=Z,20nm,0.9s
BMN Battle Mountai 65.90 56 P P 16 40 51.7 +0.5
BMN pmax pmax
comp=Z,7.0nm,0.7s
BMN Battle Mountai 65.90 56 P P 16 40 51.7 +0.5
NSS Namsos 66.01 341 *e*P **P 16 40 50.7 -0.6**
KVN Kaiserville 66.24 58 P P 16 40 53.8 +0.4
KVN pmax pmax
comp=Z,16nm,1.0s
KVN Kaiserville 66.24 58 P P 16 40 53.8 +0.4
KVN IAmb IAmb 16 40 55.4
comp=Z,16nm,1.0s
RYN Ryan 66.24 59 P P 16 40 53.0 -0.4
NVAR Mina Array Bea 66.50 59 P P 16 40 56.0 +0.9
comp=Z,10nm,0.8s,baz=290,slow=6.9,SNR=58
NVAR PKPPKP **P'P'df 17 09 28.0 -2.3**
comp=Z,0.4nm,0.5s,baz=186,slow=1.5,SNR=3.8
NVAR Mina Array Bea 66.50 59 P P 16 40 56.4 +1.3
VSU Vasula 66.55 331⇑*e*P **P 16 40 55.3 +0.5**
VSU pmax pmax
comp=Z,56nm,1.4s
VSU Vasula 66.55 331 *e*P **P 16 40 53.7 -1.1**
VSR Storozhevoye 66.66 320 *e*P **P 16 40 55.1 -0.5**
VSR pmax pmax
comp=Z,30nm,0.5s
H17A Grant Village 67.18 50 P P 16 41 01.8 +2.3
baz=311,SNR=11
RLMT Red Lodge 67.42 48 P P 16 41 01.8 +0.9
baz=311,SNR=7.2
PKM Mcpherson Peak 67.79 63 P P 16 41 04.2 +0.8
baz=310
DGMT Dagmar 67.79 43 P P 16 41 03.4 +0.5
baz=313,SNR=7.5
SFJD Kangerlussuaq 67.88 8 *i* P **P 16 41 02.2 -0.9**
SFJD Kangerlussuaq 67.88 8 *i* P **P 16 41 02.2 -0.9**
CWC Cottonwood Cre 67.89 60 P P 16 41 04.2 +0.2
baz=310
GRAC Grapevine Rang 67.98 59 P P 16 41 05.3 +1.0
baz=310,SNR=6.7
ISA Isabella, Lake 68.14 61 P P 16 41 05.4 0.0
baz=310
R11A Troy Canyon, C 68.20 57 P P 16 41 06.5 +0.6
baz=310,SNR=5.4
DZM Mont Dzumac 68.33 162 *e*LR LR 17 01 42.0
comp=Z,151nm,26.3s
DZM Mont Dzumac 68.33 162 P P 16 41 08.6 +2.1
comp=Z,9.1nm,0.9s,baz=322,slow=12,SNR=3.6
MPMC Manual Prospec 68.51 60 P P 16 41 08.3 +0.5
baz=310,SNR=12
FURC Furnace Creek, 68.63 60 P P 16 41 09.1 +0.8
baz=310,SNR=8.6
DUG Dugway, Tooele 68.65 54 P P 16 41 09.4 +0.8
baz=311,SNR=7.0
GROC Groznyy 68.66 310 *e*P **P 16 41 09.0 +0.6**
GROC pmax pmax
comp=Z,11nm,0.5s
TPNV Topopah Spring 68.70 59 P P 16 41 09.3 +0.4
baz=310,SNR=21
AKT Akhty 68.72 308 *e*P **P 16 41 09.3 +0.4**
AKT *e* 16 41 33.6
AKT pmax pmax
comp=Z,33nm,0.6s
MOL Molde 68.72 342 *e*P **P 16 41 08.6 +0.2**
LRMC Laurel Mtn Rad 68.76 61 P P 16 41 09.3 0.0
baz=310
BW06 Boulder Array 68.81 51 P P 16 41 09.9 +0.3
baz=312,SNR=14
PDAR Pinedale Array 68.81 51 P P 16 41 10.0 +0.4
comp=Z,6.6nm,0.8s,baz=280,slow=1.4,SNR=43
PDAR PKPPKP **P'P'df 17 09 18.9 -7.7**
comp=Z,0.8nm,0.9s,baz=63,slow=0.3,SNR=3.7
PDAR Pinedale Array 68.81 51 P P 16 41 10.2 +0.5
DOMB Dombas 68.83 341 *e*P **P 16 41 08.3 -0.8**
TCUT Toone Canyon 68.86 53 P P 16 41 10.9 +0.9
GOF Gofitskoye 68.90 313⇑*e*P **P 16 41 10.3 +0.4**
GOF pmax pmax
comp=Z,60nm,0.6s
EDW2 Edwards Air Fo 68.95 62 P P 16 41 11.0 +0.6
baz=310,SNR=7.9
ISAL Salakas 68.95 329 *e*P **P 16 41 10.0 0.0**
ISAL IAmb IAmb 16 41 11.0
comp=Z,5.6nm,0.8s
PALK Pallekele 68.96 259 *i* P **P 16 41 10.7 0.0**
SNR=10
PALK Pallekele 68.96 259 P P 16 41 10.8 +0.1
PALK pmax pmax
comp=Z,38nm,1.0s
PALK Pallekele 68.96 259 P P 16 41 10.8 +0.1
PALK IAmb IAmb 16 41 11.9
comp=Z,38nm,0.9s
NC303 NORSAR Array S 68.97 339 IAmb IAmb 16 41 10.2
comp=Z,53nm,1.1s
IIGN Ignalina 69.09 329 *e*P **P 16 41 10.6 -0.2**
IIGN IAmb IAmb 16 41 12.4
comp=Z,12nm,0.6s
ASAR Alice Springs 69.11 194 P P 16 41 12.2 +0.9
comp=Z,16nm,0.8s,baz=11,slow=5.5,SNR=277
ASAR LR LR 17 08 02.5
comp=Z,34nm,21.1s,baz=6.0,slow=33
ASAR PKPPKP **P'P'df 17 09 20.8 +3.6**
comp=Z,3.3nm,0.9s,baz=178,slow=2.7,SNR=23
ASAR Alice Springs 69.11 194 P P 16 41 12.4 +1.1
NB2 NORSAR Subarra 69.16 339 P P 16 41 10.8 -0.5
comp=Z,10nm,0.5s,baz=29,slow=6.5
NB2 NORSAR Subarra 69.16 339 P P 16 41 10.8 -0.5
baz=29,slow=6.5
NOA NORSAR Array B 69.16 339 P P 16 41 09.5 -1.8
comp=Z,22nm,0.8s,baz=30,slow=6.7,SNR=98
NOA LR LR 17 14 37.8
comp=Z,209nm,21.9s,baz=35,slow=39
AKN Aaknes 69.18 342 *e*P **P 16 41 11.1 -0.3**
NC602 NORSAR Array S 69.34 339 *e*P **P 16 41 11.5 -0.8**
GSC Goldstone, Bar 69.42 61 P P 16 41 13.5 +0.2
baz=311
BFSC Mount Baldy Ra 69.57 62 P P 16 41 14.6 +0.2
baz=311
DDFL Dedoflistskaro 69.65 308 *i* P **P 16 41 18.8 +4.2**
NCK Nalchik 69.66 311⇓*e*P **P 16 41 14.9 +0.3**
NCK pmax pmax
comp=Z,10.0nm,0.6s
PABE Paberze 69.79 330 *e*P **P 16 41 14.6 -0.5**
PABE IAmb IAmb 16 41 16.0
comp=Z,32nm,0.8s
KIV Kislovodsk 69.83 312 *i* P **P 16 41 16.6 +0.9**
SNR=6.1
KIV Kislovodsk 69.83 312 P P 16 41 16.4 +0.7
SNR=6.4
KIV Kislovodsk 69.83 312 *e*P **P 16 41 16.0 +0.2**
KIV pmax pmax
comp=Z,119nm,1.0s
KIV MLR MLR
comp=Z,1μm,17.0s

KIV Kislovodsk 69.83 312 *e*P **P 16 41 16.0 +0.2**
KBZ Khabaz 69.88 312 P **P 16 41 16.6 +0.8**
comp=Z,24nm,0.8s,baz=69,slow=4.4,SNR=47
KBZ LR LR 17 16 16.4
comp=Z,676nm,18.9s,baz=43,slow=40
TUQ Turquoise Moun 69.88 60 P P 16 41 16.9 +0.7
baz=311,SNR=15
ZEI Tsey 69.97 311 *e*P **P 16 41 15.1 -1.7**
ZEI pmax pmax
comp=Z,15nm,0.6s
HEC Hector,Ludlow 70.02 61 P P 16 41 17.5 +0.5
baz=311,SNR=8.5
SKAR Skarslia 70.19 340 *e*P **P 16 41 17.7 +0.1**
HYA Hoyanger 70.26 342 *e*P **P 16 41 17.8 -0.1**
MURC Murrieta 70.28 62 P P 16 41 18.8 +0.2
baz=311
ULM Lac du Bonnet 70.41 38 P P 16 41 18.9 -0.2
comp=Z,12nm,0.6s,baz=328,slow=8.6,SNR=14
ULM Lac du Bonnet 70.41 38 IAmb IAmb 16 41 19.3
comp=Z,17nm,0.8s
MDND Maddock 70.44 41 P P 16 41 19.8 +0.5
baz=316
GMRC Granite Mounta 70.47 60 P P 16 41 20.4 +0.5
baz=311,SNR=7.8
K22A Casper 70.54 49 P P 16 41 20.3 +0.1
baz=313,SNR=5.2
PSA00 Pilbara Seismi 70.72 208 IAmb IAmb 16 41 22.6
comp=Z,20nm,0.9s
PFO Pinyon Flats O 70.73 62 P P 16 41 21.4 -0.1
baz=311
PFO Pinyon Flats O 70.73 62 *i* P **P 16 41 22.4 +0.9**
BELC Belle Mtn. Jos 70.77 61 P P 16 41 21.4 -0.3
baz=311,SNR=5.1
KONO Kongsberg 70.77 339 *e*P **P 16 41 21.1 0.0**
RSSD Black Hills 70.85 47 P P 16 41 22.3 +0.1
baz=314
RSSD Black Hills 70.85 47 P P 16 41 21.5 -0.6
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 70.85 47 P P 16 41 21.5 -0.6
ASK Askoy 71.09 342 *e*P **P 16 41 23.5 +0.5**
IRM Iron Mountain 71.20 60 P P 16 41 24.7 +0.5
baz=312,SNR=11
BAR Barrett 71.21 63 P P 16 41 24.1 -0.2
MONP2 Monument Peak 71.23 62 P P 16 41 24.8 +0.2
baz=312
GNI Garni 71.29 308 *c* i P **P 16 41 26.1 +1.3**
GNI pmax pmax
comp=Z,111nm,1.0s
GNI Garni 71.29 308 P P 16 41 25.7 +0.9
comp=Z,20nm,0.7s,baz=83,slow=8.1,SNR=6.0
GNI Garni 71.29 308 P P 16 41 26.4 +1.6
GNI IAmb IAmb 16 41 34.0
comp=Z,43nm,1.1s
O20A White River Ci 71.31 52 P P 16 41 25.0 +0.1
baz=313
O20A White River Ci 71.31 52 P P 16 41 25.2 +0.3
BC3 Big Chuckawall 71.34 61 P P 16 41 25.0 -0.1
baz=312
AKASG Malin Array Be 71.42 324 P P 16 41 25.5 +0.3
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 71.42 324 P P 16 41 24.6 -0.5
comp=Z,12nm,0.5s,baz=38,slow=6.1,SNR=14
AKASG LR LR 17 13 43.7
comp=Z,178nm,21.1s,baz=20,slow=37
AKASG Malin Array Be 71.42 324 P P 16 41 25.4 +0.3
AKBB Malin Array Si 71.42 324 IAmb IAmb 16 41 26.3
comp=Z,18nm,0.7s
EAK Akyaka 71.56 309 *i* P **P 16 41 28.3 +1.8**
EAK IAML_P
comp=Z,610nm,0.4s
IKP In-Ko-Pah, Jac 71.59 62 P P 16 41 26.9 +0.3
baz=312
SWSC Sam W. Stewart 71.59 62 P P 16 41 26.4 -0.1
baz=312
SOC Sochi 71.65 313 *e*P **P 16 41 25.3 -1.4**
SOC *e* 16 44 05.1
SOC *e*PPP PPP 16 45 45.7
SOC *e*S **S 16 50 42.8 +1.1**
SOC pmax pmax
comp=Z,22nm,0.6s
SOC MLR MLR
comp=Z,383nm,14.0s
PDMCI Parker Dam,Lak 71.73 60 P P 16 41 27.7 +0.4
baz=312
BLS5 Blasjo 71.75 341 *e*P **P 16 41 27.2 +0.1**
AGMN Agassiz Nation 71.84 39 P P 16 41 27.3 -0.4
baz=318,SNR=8.0
AGMN Agassiz Nation 71.84 39 IAmb IAmb 16 41 28.6
comp=Z,45nm,1.1s
Y12C Blythe 71.86 60 P P 16 41 28.8 +0.7
baz=312
IGDI IGDIR 71.86 308 *i* P **P 16 41 30.8 +2.7**
IGDI IAML_P
comp=Z,308nm,0.6s
DIGO Kars 71.88 309 *i* P **P 16 41 30.3 +1.9**
DIGO IAML_P
comp=Z,61nm,0.1s
ANN Anapa 71.95 316 *e*P P 16 41 23.6 -4.8
ANN *e*'PP pP 16 41 39.1 -5.2
ANN *e*S **S 16 50 37.9 -7.2**
ANN *e*SSS SSS 16 58 33.4
ANN pmax pmax
comp=Z,38nm,1.3s
PV14 Lion Creek, Pa 72.06 54 IAmb IAmb 16 41 30.5
comp=Z,14nm,0.6s
N23A Red Feather La 72.06 50 P P 16 41 30.4 +0.8
baz=314,SNR=6.7
PV19 Morning Glory 72.12 54 IAmb IAmb 16 41 31.0
comp=Z,16nm,0.6s
ARTV Artvin 72.14 310 *i* P **P 16 41 31.5 +1.6**
ARTV IAML_P
comp=Z,175nm,0.1s
PV17 East Wray Mesa 72.16 54 IAmb IAmb 16 41 31.6
comp=Z,23nm,0.7s
DBOC Borcka 72.17 311 *i* P **P 16 41 30.9 +1.0**
DBOC IAML_P
comp=Z,627nm,0.4s
PV11 David Mesa, Pa 72.19 54 IAmb IAmb 16 41 46.8
comp=Z,19nm,1.0s
PV18 Skein Mesa, Pa 72.21 54 IAmb IAmb 16 41 31.5
comp=Z,12nm,0.7s
PV05 Paradox Valley 72.21 54 IAmb IAmb 16 41 31.7
comp=Z,15nm,0.7s
DAGI Agillar 72.22 310 *i* P **P 16 41 31.1 +0.8**
DAGI IAML_P
comp=Z,188nm,0.5s
DYDN Diyadin 72.30 308 *i* P **P 16 41 33.7 +2.8**
DYDN IAML_P
comp=Z,263nm,0.1s
PV13 Radium Mtn., P 72.32 54 IAmb IAmb 16 41 32.6
comp=Z,15nm,0.6s
DBAD Bademkaya 72.38 310 *i* P **P 16 41 32.5 +1.2**
DBAD IAML_P
comp=Z,417nm,0.7s
CLDR Caldiran 72.44 308 *i* P **P 16 41 34.8 +3.0**
CLDR IAML_P
comp=Z,511nm,0.6s
SNART Snartemo 72.52 340 *e*P **P 16 41 31.9 +0.2**
WUAZ Wupatki 72.60 57 P P 16 41 33.7 +1.0
baz=313
EATA Eleskirt 72.75 309 *i* P **P 16 41 35.5 +1.8**
EATA IAML_P
comp=Z,955nm,0.7s
TUTA Tutak 72.89 309 *i* P **P 16 41 36.4 +1.9**
TUTA IAML_P
comp=Z,1μm,0.5s
HOMI Horasan 72.94 310 *i* P **P 16 41 37.0 +2.2**
HOMI IAML_P
comp=Z,74nm,0.1s
ISCO Idaho Springs 73.00 51 P P 16 41 36.1 +0.9
baz=314,SNR=7.2
MVCO Mesa Verde 73.15 54 P P 16 41 36.5 +0.4
baz=314,SNR=5.3
SUSD Miller 73.20 44 P P 16 41 35.7 -0.2
baz=317
KRIK Erzurum-spir 73.28 310 *i* P **P 16 41 38.8 +2.1**
KRIK IAML_P
comp=Z,590nm,0.4s
YOVA Hakkari_Yksek 73.30 306 *i* P **P 16 41 38.1 +1.3**
YOVA IAML_P
comp=Z,402nm,0.3s
ADCV BITLIS_Adilcev 73.35 308 *i* P **P 16 41 39.6 +2.5**
ADCV IAML_P
comp=Z,273nm,0.1s

BANOM Banah 73.62 290 *i* P **P 16 41 38.9 +0.1**
SNR=28
BANOM Banah 73.62 290 P P 16 41 39.1 +0.4
SNR=12
SHME Shamm 73.65 290 *i* P **P 16 41 39.1 +0.2**
SNR=24
HAKT HAKKARI 73.65 307 *i* P **P 16 41 40.7 +1.7**
HAKT IAML_P
comp=Z,915nm,0.8s
BAYB BAYBURT 73.69 311 *i* P **P 16 41 40.4 +1.3**
BAYB IAML_P
comp=Z,881nm,0.6s
KOPT Kop Dagi 73.73 310 *i* P **P 16 41 40.5 +1.1**
KOPT IAML_P
comp=Z,297nm,0.4s
SORM Soroca 73.74 323 ⇓P **P 16 41 38.6 -0.4**
S22A 4UR Ranch, Cre 73.74 53 P P 16 41 40.1 +0.6
baz=314
WSAR Wadi Sarin 73.83 287 P P 16 41 40.8 +0.9
comp=Z,9.0nm,0.6s,baz=97,slow=4.8,SNR=22
Q24A Divide 73.84 51 P P 16 41 40.7 +0.5
baz=315
W18A Petrified Fore 73.86 57 P P 16 41 40.9 +0.7
baz=314
CUKT Cukurca 73.93 307 *i* P **P 16 41 42.6 +2.2**
CUKT IAML_P
comp=Z,3μm,0.4s
BLIS Bitlis-Merkez 73.96 308 *i* P **P 16 41 43.9 +3.2**
BLIS IAML_P
comp=Z,840nm,0.5s
BIDO Bidbid 73.98 287 P P 16 41 41.5 +0.7
SNR=7.3
WBK Wadi Bani Khal 74.01 286 P P 16 41 42.3 +1.3
SNR=12
JLN Jalan Bani Buh 74.01 285 P P 16 41 42.1 +1.1
SNR=13
MDH Madha 74.04 290 *i* P **P 16 41 41.0 -0.1**
SNR=7.4
MUSM Mu-Merkez 74.08 309 *i* P **P 16 41 43.7 +2.3**
MUSM IAML_P
comp=Z,431nm,0.9s
MSFE Esma-Masafi 74.09 290 *i* P **P 16 41 41.5 0.0**
SNR=17
214A Organ Pipe Nat 74.12 61 P P 16 41 42.2 +0.6
baz=313
KELT Kelkit 74.31 311 *i* P **P 16 41 43.8 +1.1**
KELT IAML_P
comp=Z,510nm,0.6s
UOSS Minazif 74.34 290 *i* P **P 16 41 42.8 -0.1**
SNR=49
UOSS Minazif 74.34 290 P P 16 41 42.8 -0.1
SNR=22
UOSS Minazif 74.34 290 P P 16 41 43.0 +0.1
SMDO Samad 74.34 287 P P 16 41 43.6 +0.5
SNR=8.5
SRTM Siirt_Merkez 74.37 308 *i* P **P 16 41 42.9 -0.1**
SRTM IAML_P
comp=Z,671nm,0.6s
SIRN Sirnak 74.44 307 *i* P **P 16 41 44.6 +1.2**
SIRN IAML_P
comp=Z,812nm,0.4s
MILM Milestii Mici 74.47 322 ⇑P **P 16 41 42.9 -0.3**
HATD Hatta, Dubai 74.47 290 *i* P **P 16 41 43.8 +0.2**
SNR=47
HATD Hatta, Dubai 74.47 290 P P 16 41 44.0 +0.4
SNR=22
HOQ Hoqain 74.50 288 P P 16 41 44.2 +0.4
SNR=11
SDCO Great Sand Dun 74.50 52 P P 16 41 44.5 +0.5
baz=315
ASHO Ashiyiah 74.61 289 *i* P **P 16 41 44.8 +0.3**
SNR=30
ASHO Ashiyiah 74.61 289 P P 16 41 44.7 +0.3
SNR=18
SVAN Silvan-Diyarba 74.66 309 *i* P **P 16 41 46.9 +2.2**
SVAN IAML_P
comp=Z,1μm,0.6s
NAZ Nazwa, Dubai 74.67 290 *i* P **P 16 41 44.8 0.0**
SNR=7.7
NAZ Nazwa, Dubai 74.67 290 P P 16 41 44.9 +0.1
SNR=5.0
JMDO Jabal Madar 74.77 286 P P 16 41 46.1 +0.7
SNR=15
BTMN Batman 74.80 308 *i* P **P 16 41 45.0 -0.5**
ECSD EROS Data Cent 74.86 43 P P 16 41 45.6 0.0
baz=318,SNR=14
FAQ Al Faqa, Dubai 74.88 290 P P 16 41 46.2 +0.2
HANI Diyarbakir_Han 74.92 309 *i* P **P 16 41 47.6 +1.4**
HANI IAML_P
comp=Z,754nm,0.5s
BSY Bisya 75.13 287 P P 16 41 48.3 +0.8
SNR=16
ASUD Al Ashush, Dub 75.14 290 *i* P **P 16 41 47.8 +0.3**
SNR=13
TUC Tucson 75.14 59 P P 16 41 48.1 +0.6
baz=314
ARQ Araqi 75.20 288 P P 16 41 48.3 +0.4
SNR=8.6
ALNE Al Ain 75.24 289 *i* P **P 16 41 48.4 +0.3**
SNR=14
ERBA Erbaa 75.26 313 *i* P **P 16 41 50.0 +1.9**
ERBA IAML_P
comp=Z,746nm,0.5s
KEMA Kemaliye 75.35 311 *i* P **P 16 41 50.6 +2.0**
KEMA IAML_P
comp=Z,445nm,0.9s
BUR08 Bucovina Ar. S 75.46 324 IAmb IAmb 16 41 49.9
comp=Z,18nm,0.6s
BURAR Bucovina Array 75.48 324 ⇑P **P 16 41 49.1 -0.1**
BURAR mb 16 41 50.0
BURAR Bucovina Array 75.48 324 P P 16 41 49.3 +0.1
OJC Ojcow 75.53 329 *e*P **P 16 41 49.6 +0.2**
OJC Ojcow 75.53 329 *e*P **P 16 41 49.6 +0.2**
OJC *e*P **P 16 41 49.6 +0.2**
OJC Ojcow 75.53 329 P P 16 41 49.7 +0.4
OJC IAmb IAmb 16 41 53.8
comp=Z,19nm,1.0s
T25A Trinidad 75.54 52 P P 16 41 49.9 0.0
baz=315,SNR=6.1
KOLS Kolonicke sedl 75.63 327 *e*P **P 16 41 50.0 +0.1**
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 75.63 327 *e*P **P 16 41 50.0 +0.1**
BIZ Bicaz 75.63 323 ⇑P **P 16 41 50.3 +0.3**
ELZG Elazig 75.64 310 *i* P **P 16 41 52.8 +2.4**
ELZG IAML_P
comp=Z,22nm,0.1s
TESR Tescani 75.73 323 ⇓P **P 16 41 50.7 +0.1**
MHTO MHTO 75.78 285 P P 16 41 52.0 +0.8
SNR=33
TLCR 75.79 321 ⇑P **P 16 41 51.3 +0.4**
TLCR mb 16 41 51.5
BGNE Belgrade 75.82 45 P P 16 41 50.7 -0.5
baz=318
ANMO Albuquerque 75.91 55 P P 16 41 52.2 +0.2
baz=315
ANMO Albuquerque 75.91 55⇓*e*P **P 16 41 51.9 -0.1**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
KAC Achnashellach 75.97 346 *e*P **P 16 41 51.2 -0.5**
NIE Niedzica 76.00 328 *e*P **P 16 41 52.4 +0.4**
NIE Niedzica 76.00 328 *e*P **P 16 41 52.4 +0.4**
NIE *e*P **P 16 41 52.4 +0.4**
CFR Carcaliu 76.10 321 ⇑P **P 16 41 52.5 -0.1**
TRPA Tarpa 76.17 326 ⇑P **P 16 41 53.4 +0.4**
TRPA mb 16 41 53.9
KPL Plockton 76.18 346 *e*P **P 16 41 52.8 -0.3**
KPL IAmb IAmb 16 41 53.4
comp=Z,88nm,0.8s
VRI Vrincioaia 76.20 322 ⇓P **P 16 41 53.6 +0.3**
TOPG Topolog 76.23 321 ⇓P **P 16 41 53.8 +0.4**
STKA Stephens Creek 76.28 186 P P 16 41 55.0 +1.4
STKA Stephens Creek 76.28 186 P P 16 41 55.0 +1.4
comp=Z,14nm,0.7s,baz=342,slow=7.7,SNR=50
STKA LR LR 17 12 40.0
comp=Z,52nm,21.3s,baz=24,slow=33
KSP Ksiaz 76.28 331 *e*P **P 16 41 53.6 0.0**
KSP Ksiaz 76.28 331 *e*P **P 16 41 53.6 0.0**
KSP *e*P **P 16 41 53.6 0.0**
CUALT Altinyayla-SIV 76.28 312 *i* P **P 16 41 55.9 +1.8**
AKCD Akcadag 76.36 311 *i* P **P 16 41 56.5 +2.0**
AKCD IAML_P
comp=Z,680nm,0.5s
COAL Corum-Alaca 76.49 314 *i* P **P 16 41 56.9 +1.8**
COAL IAML_P
comp=Z,2.6nm,0.4s

LANS Liptovska Anna 76.53 328 *eP* **P 16 41 56.0 +0.9**
LANS pmax pmax
comp=Z,14nm,0.9s
LANS Liptovska Anna 76.53 328 *eP* **P 16 41 56.0 +0.9**
TIRR Tirgusor 76.53 320 ⇑P **P 16 41 55.2 +0.1**
TIRR Tirgusor 76.53 320 ⇑P **P 16 41 55.2 +0.1**
CHVC Chvalec 76.58 331 *eP* **P 16 41 55.2 -0.1**
CHVC *ex* x 16 42 07.0
TLB Topalu 76.60 321 ⇑P **P 16 41 55.8 +0.3**
SCHQ Schefferville 76.63 20 P **P 16 41 55.5 0.0**
comp=Z,14nm,0.6s,baz=347,slow=5.4,SNR=9.0
SCHQ LR LR 17 21 01.9
comp=Z,120nm,18.6s,baz=322,slow=40
SCHQ Schefferville 76.63 20 IAmb IAmb 16 41 56.0
comp=Z,13nm,0.7s
UPC Upice 76.66 331 *eP* **P 16 41 56.1 +0.4**
UPC Upice 76.66 331 *eP* **P 16 41 56.1 +0.4**
G40A Rib Lake 76.68 38 P **P 16 41 55.4 -0.5**
baz=321,SNR=7.2
DPC Dobruska-Polom 76.68 331 *eP* **P 16 41 56.3 +0.4**
DPC Dobruska-Polom 76.68 331 *eP* **P 16 41 56.3 +0.4**
KECS Kecovo 76.69 327 *eP* **P 16 41 56.1 +0.2**
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 76.69 327 *eP* **P 16 41 56.1 +0.2**
DOPR Dopca 76.70 323 ⇑P **P 16 41 57.3 +1.2**
MORC Moravsky Berou 76.72 330 ⇑P **P 16 41 56.5 +0.2**
MORC mb 16 41 57.4
MORC Moravsky Berou 76.72 330 *eP* **P 16 41 56.4 +0.2**
MORC Moravsky Berou 76.72 330 IAmb IAmb 16 41 57.3
comp=Z,21nm,0.9s
KRLC Kraliky 76.75 330 *eP* **P 16 41 56.6 +0.3**
KRLC Kraliky 76.75 330 *eP* **P 16 41 56.6 +0.3**
INVG Invergeldie, C 76.75 345 *eP* **P 16 41 55.4 -0.7**
INVG IAmb IAmb 16 41 56.3
comp=Z,76nm,1.4s
121A Cookes Peak, D 76.81 57 P **P 16 41 58.0 +0.9**
baz=315,SNR=7.3
MLR Muntele Rosu 76.83 322 P **P 16 41 57.1 +0.1**
comp=Z,13nm,0.5s,baz=167,slow=4.8,SNR=26
MLR Muntele Rosu 76.83 322 ⇑P **P 16 41 57.2 +0.2**
MLR Muntele Rosu 76.83 322 IAmb IAmb 16 41 58.7
comp=Z,20nm,0.7s
ISR Istrita 76.86 322 ⇑P **P 16 41 57.7 +0.7**
CLL Collm 76.99 333 ⇑*iP* **P 16 41 57.1 -0.5**
CLL pmax pmax
comp=Z,70nm,1.1s
CLL Collm 76.99 333 ⇑*iP* **P 16 41 57.1 -0.5**
comp=Z,70nm,1.1s
BRG Berggiesshubel 77.05 332 *iP* **P 16 41 57.6 -0.3**
comp=Z,26nm,1.3s
BRG Berggiesshubel 77.05 332 *iP* **P 16 41 57.6 -0.3**
BRG pmax pmax
comp=Z,26nm,1.3s
ICOR Ion Corvin 77.07 320 ⇓P **P 16 41 59.0 +0.9**
PVCC Panska Ves 77.14 332 *eP* **P 16 41 58.6 +0.2**
PVCC Panska Ves 77.14 332 *eP* **P 16 41 58.6 +0.2**
LAWE Loch Awe, Argy 77.16 345 *eP* **P 16 41 58.0 -0.4**
LAWE IAmb IAmb 16 41 58.4
comp=Z,95nm,0.9s
E43A Lone Tree Farm 77.18 36 P **P 16 41 58.4 -0.4**
baz=323
F42A Maple Grove Fa 77.19 37 P **P 16 41 58.6 -0.2**
baz=323
GZT Gaziantep 77.24 310 *iP* **P 16 42 00.9 +1.5**
GZT IAML_P
comp=Z,436nm,0.4s
VOIR 77.26 323 ⇑P **P 16 41 59.8 +0.5**
VYHS Vyhne 77.31 328 *eP* **P 16 41 59.8 +0.3**
VYHS pmax pmax
comp=Z,15nm,0.7s
VYHS Vyhne 77.31 328 *eP* **P 16 41 59.8 +0.3**
PSZ Piszkesteto 77.38 327 ⇓P **P 16 42 00.5 +0.5**
PSZ mb 16 42 01.2
PSZ Piszkesteto 77.38 327 IAmb IAmb 16 42 01.2
comp=Z,19nm,0.8s
JAVC Velka Javorina 77.44 329 *eP* **P 16 42 01.5 +1.3**
VRAC Vranov 77.46 330 ⇑P **P 16 42 00.8 +0.5**
VRAC mb 16 42 02.4
VRAC Vranov 77.46 330 *eP* **P 16 42 00.7 +0.5**
ARR Arges 77.50 323 ⇑P **P 16 42 01.7 +1.1**
PRA Prague 77.57 332 *eP* **P 16 42 01.3 +0.5**
PRA Prague 77.57 332 *eP* **P 16 42 01.3 +0.5**
BR131 Keskin Array S 77.58 314 P **P 16 42 01.4 +0.1**
SNR=8.1
BR131 Keskin Array S 77.58 314 IAmb IAmb 16 42 02.6
comp=Z,16nm,0.9s
BRTR Keskin Array B 77.58 314 P **P 16 42 01.4 +0.1**
comp=Z,12nm,0.8s,baz=73,slow=4.3,SNR=49
BRTR LR LR 17 20 49.4
comp=Z,137nm,19.8s,baz=1.5,slow=39
BRTR Keskin Array B 77.58 314 P **P 16 42 01.7 +0.4**
GOPC GO Pecny, Ondr 77.58 331 *eP* **P 16 42 01.0 +0.1**
GOPC *e* 16 42 09.8
GOPC GO Pecny, Ondr 77.58 331 *eP* **P 16 42 01.0 +0.1**
GOPC *e*PCP **PcP 16 42 09.8 -1.2**
PRU Pruhonice 77.60 331 *eP* **P 16 42 01.0 0.0**
PRU *e* 16 42 08.3
PRU Pruhonice 77.60 331 *eP* **P 16 42 01.0 0.0**
PRU *e*PCP **PcP 16 42 08.3 -2.8**
ESK Eskdalemuir 77.63 344 *eP* **P 16 42 00.4 -0.7**
ESK IAmb IAmb 16 42 01.8
comp=Z,26nm,0.7s
KRUC Moravsky 77.73 330 *eP* **P 16 42 02.1 +0.3**
ANDN Andirin 77.74 311 *iP* **P 16 42 04.0 +1.8**
ANDN IAML_P
comp=Z,20nm,0.3s
BBOO Buckleboo 77.76 190 P **P 16 42 03.4 +1.5**
BBOO IAmb IAmb 16 42 03.6
comp=Z,16nm,0.8s
I41A Arkdale 77.77 39 P **P 16 42 01.7 -0.4**
baz=322
SMOL Smolenice 77.82 329 *eP* **P 16 42 03.1 +0.8**
SMOL pmax pmax
comp=Z,19nm,0.8s
SMOL Smolenice 77.82 329 *eP* **P 16 42 03.1 +0.8**
KAMA Osmaniye 77.85 311 *iP* **P 16 42 04.4 +1.6**
KAMA IAML_P
comp=Z,514nm,0.6s
TREC Trest 77.86 331 *eP* **P 16 42 02.8 +0.3**
TREC Trest 77.86 331 *eP* **P 16 42 02.8 +0.3**
SCIA State Center 77.88 42 P **P 16 42 02.9 +0.1**
baz=320
ANTO Ankara 77.90 315 P **P 16 42 03.7 +0.7**
SNR=7.6
ANTO Ankara 77.90 315 P **P 16 42 04.2 +1.2**
ANTO pmax pmax
comp=Z,61nm,0.9s
ANTO Ankara 77.90 315 ⇑P **P 16 42 03.6 +0.7**
ANTO mb 16 42 04.8
ANTO Ankara 77.90 315 P **P 16 42 04.2 +1.2**
KUZU Kuzuini 77.93 310 *iP* **P 16 42 04.6 +1.4**
KUZU IAML_P
comp=Z,244nm,0.2s
MATQ Matagami 77.94 28 P **P 16 42 02.4 -0.5**
baz=328,SNR=5.8
PRD Provadia 77.97 320 P **P 16 42 01.7 -1.5**
D46A Sault St. Mari 77.97 34 P **P 16 42 02.5 -0.7**
baz=325
MODS Modra-Piesok 77.99 329 *eP* **P 16 42 02.7 -0.6**
MODS pmax pmax
comp=Z,30nm,1.1s
MODS Modra-Piesok 77.99 329 *eP* **P 16 42 02.7 -0.6**
SIRR Siria 78.02 325 ⇓P **P 16 42 03.7 +0.2**
PBCC Pribram 78.05 332 *eP* **P 16 42 03.5 0.0**
SRO Srobarova 78.07 328 *eP* **P 16 42 04.5 +0.9**
SRO pmax pmax
comp=Z,60nm,1.3s
SRO Srobarova 78.07 328 *eP* **P 16 42 04.5 +0.9**
NKC Novy Kostel 78.09 333 *eP* **P 16 42 03.6 -0.2**
NKC Novy Kostel 78.09 333 *eP* **P 16 42 03.6 -0.2**
ZST Bratislava 78.20 329 *eP* **P 16 42 03.8 -0.6**
ZST Bratislava 78.20 329 *eP* **P 16 42 03.8 -0.6**
GZR Gura Zlata 78.27 324 ⇑P **P 16 42 04.7 -0.1**
E46A Sault Ste Mari 78.29 34 P **P 16 42 04.6 -0.3**
baz=325
WTSB Winterswijk 78.29 337 *eP* **P 16 42 04.7 -0.1**
comp=Z,104nm,1.1s
KESW Keswick, Cumbr 78.30 343 *eP* **P 16 42 04.7 -0.1**
KESW IAmb IAmb 16 42 06.1
comp=Z,72nm,1.0s
KSU1 Kansas State U 78.32 46 P **P 16 42 04.5 -0.7**
baz=319
I42A Draeger Farm, 78.33 38 P **P 16 42 04.7 -0.4**
baz=322
GAL1 Galloway 78.35 344 *eP* **P 16 42 04.7 -0.3**
H43A Windswept, Lux 78.37 37 P **P 16 42 05.3 -0.1**
baz=323
CLGH Cloghs, Cushen 78.41 345 *eP* **P 16 42 04.9 -0.5**
BZS Buzias 78.57 325 ⇑P **P 16 42 06.0 -0.4**
HPK Haverah Park 78.58 342 *eP* **P 16 42 06.5 +0.1**
HPK IAmb IAmb 16 42 07.1
comp=Z,101nm,0.6s
KHC Kasperske Hory 78.66 332 *eP* **P 16 42 07.3 +0.3**
KHC Kasperske Hory 78.66 332 *eP* **P 16 42 07.3 +0.3**
KHC Kasperske Hory 78.66 332 IAmb IAmb 16 42 08.1
comp=Z,19nm,0.6s
L40A Anamosa 78.71 41 P **P 16 42 06.7 -0.6**
baz=321,SNR=6.4
LSQQ Lebel-sur-Quev 78.76 28 P **P 16 42 07.0 -0.4**
baz=329
G45A Suttons Bay 78.81 36 P **P 16 42 07.6 -0.2**
baz=324
MNTX Cornudas Mount 78.84 56 P **P 16 42 08.9 +0.6**
baz=316,SNR=5.8
GERES GERESS Array B 78.86 331 P **P 16 42 07.9 -0.3**
comp=Z,11nm,0.5s,baz=37,slow=6.1,SNR=135
GERES LR LR 17 20 43.3
comp=Z,378nm,18.8s,baz=28,slow=38
ELND Elena 78.88 321 ⇓P **P 16 42 08.2 0.0**
CONA Conrad Observa 78.88 330 *iP* **P 16 42 08.5 +0.2**
comp=Z,26nm,0.7s,SNR=18
CHGQ Chibougamau 78.88 26 P **P 16 42 07.6 -0.5**
baz=331,SNR=15
G46A Petoskey 78.92 35 P **P 16 42 08.1 -0.3**
baz=325
MORW Morawa 78.92 208 IAmb IAmb 16 42 09.5
comp=Z,18nm,0.8s
PLVB Pleven 79.08 322 ⇑P **P 16 42 08.9 -0.3**
LBWR Ladybower, Pea 79.11 342 *eP* **P 16 42 09.3 0.0**
LBWR IAmb IAmb 16 42 10.6
comp=Z,92nm,0.9s
GMM Mts of Mourne 79.18 345 *eP* **P 16 42 09.1 -0.5**
MORH Mrgy, Hungar 79.27 327 *eP* **P 16 42 09.0 -1.2**
D50A G1974 Best Tow 79.35 31 P **P 16 42 09.6 -1.1**
baz=327
H46A Fife Lake 79.41 36 P **P 16 42 11.0 -0.1**
baz=324
SHAO Shalim 79.41 285 *iP* **P 16 42 11.7 +0.2**
SNR=23
MPEP Malo Peshtene 79.49 322 *iP* **P 16 42 11.5 0.0**
MOA Molln 79.52 330 *iP* **P 16 42 11.5 -0.1**
comp=Z,15nm,0.8s,SNR=8.3
K43A Burlington 79.53 39 P **P 16 42 11.3 -0.4**
baz=323
ARSA Arzberg 79.58 329 *iP* **P 16 42 12.2 +0.2**
comp=Z,15nm,1.1s,SNR=7.8
HGN Heimansgroeve 79.61 337 *eP* **P 16 42 11.6 -0.4**
comp=Z,34nm,0.6s
BEBN Eben Emael 79.66 337 P **P 16 42 12.0 -0.2**
FRGS Fruska Gora 79.68 326 ⇑*iP* **P 16 42 12.2 -0.4**
DIM Dimitrovgrad 79.72 320 P **P 16 42 14.1 +1.3**
MEM Membach 79.73 337 ⇑P **P 16 42 12.3 -0.4**
MEM Membach 79.73 337 ⇑P **P 16 42 12.3 -0.4**
comp=Z,32nm,1.0s
H47A Mio 79.77 35 P **P 16 42 12.6 -0.5**
baz=325
BSTI Sart Tilman 79.88 337 P **P 16 42 13.6 +0.1**
FOEL Foel Wylfa 79.91 343 *eP* **P 16 42 13.7 0.0**
N41A Harden Midland 79.94 41 P **P 16 42 13.8 -0.2**
baz=322,SNR=5.8
BHOU Houvegnez 79.96 337 P **P 16 42 13.9 -0.1**
KOGS Kog 79.99 329 *iP* **P 16 42 13.6 -0.6**
BCLA Clavier 80.10 337 ⇑P **P 16 42 13.0 -1.7**
L44A Lake County Fo 80.13 39 P **P 16 42 14.4 -0.6**
baz=323
KALN Kalnik 80.17 328 *iP* **P 16 42 14.6 -0.6**
J46A Howard City 80.19 37 P **P 16 42 15.3 0.0**
baz=324
HLM1 Long Mynd 80.19 343 *eP* **P 16 42 15.1 -0.1**
HLM1 IAmb IAmb 16 42 15.8
comp=Z,46nm,1.2s
SOKA Soboth 80.24 329 *iP* **P 16 42 15.5 -0.1**
comp=Z,43nm,0.9s,SNR=34
GROS Grobnik 80.25 329 *eP* **P 16 42 15.3 -0.4**
VTS Vitosha 80.30 322 P **P 16 42 16.4 +0.3**
VTS Vitosha 80.30 322 *iP* **P 16 42 16.6 +0.4**
VTS Vitosha 80.30 322 ⇑P **P 16 42 16.5 +0.4**
VTS mb 16 42 17.6
SNF Seneffe 80.30 338 P **P 16 42 15.6 -0.2**
comp=Z,26nm,0.9s
BMRD Maredsous 80.36 337 P **P 16 42 15.9 -0.2**
comp=Z,45nm,1.0s
F51A Arnstein 80.36 32 P **P 16 42 15.2 -1.0**
baz=328
WMOK Wichita Mounta 80.42 50 P **P 16 42 16.8 0.0**
baz=318,SNR=7.8
RDO Rodhopi 80.44 320 P **P 16 42 16.9 +0.2**
DIVS Divibare 80.47 325 ⇑*iP* **P 16 42 16.4 -0.6**
KBA Koelbreinsper 80.50 331 *iP* **P 16 42 17.8 +0.6**
comp=Z,64nm,1.1s,SNR=30
D54A Lac Fusel, La 80.51 29 P **P 16 42 16.3 -0.7**
baz=329
E52A Mattawa 80.53 31 P **P 16 42 15.9 -1.2**
baz=328
WLF Walferdange 80.54 336 P **P 16 42 18.5 +1.4**
PTJ Puntijarka 80.55 328 *iP* **P 16 42 16.8 -0.5**
OBKA Obir 80.56 330 *iP* **P 16 42 17.0 -0.3**
comp=Z,16nm,0.7s,SNR=8.7
DOU Dourbes 80.59 337 ⇑P **P 16 42 16.8 -0.6**
K46A Dorr 80.66 37 P **P 16 42 17.3 -0.5**
baz=324
F52A Sundridge 80.70 32 P **P 16 42 17.2 -0.8**
baz=328
M44A Midewin, Midew 80.70 39 P **P 16 42 17.9 -0.2**
baz=323,SNR=5.4
MCH1 Michaelchurch 80.71 342 *eP* **P 16 42 17.8 -0.1**
MCH1 IAmb IAmb 16 42 18.9
comp=Z,51nm,0.7s
STRD Stroud 80.73 342 *eP* **P 16 42 18.1 +0.1**
STRD IAML 16 42 18.5
comp=Z,30nm,0.6s
WHFO Wadi Hawf 80.76 286 P **P 16 42 18.4 -0.4**
SNR=6.0
MYKA Terra Mystica 80.78 330 *iP* **P 16 42 18.0 -0.6**
comp=Z,24nm,1.3s,SNR=8.8
HDIL Hopedale 80.79 41 P **P 16 42 18.4 -0.2**
baz=323,SNR=9.2
CRES Cresnjev 80.81 329 ⇑*iP* **P 16 42 18.0 -0.6**
MONM Monmouth 80.81 342 *eP* **P 16 42 18.4 0.0**
MONM IAmb IAmb 16 42 19.4
comp=Z,68nm,0.9s
WATA Walderalm 80.89 332 *iP* **P 16 42 19.2 0.0**
comp=Z,43nm,0.6s,SNR=25
SWN1 Swindon 80.89 342 *eP* **P 16 42 19.3 +0.4**
SWN1 IAmb IAmb 16 42 19.9
comp=Z,114nm,0.7s
BBLS Lazići 80.91 325 ⇑*iP* **P 16 42 19.2 0.0**
HAPS Han Pijesak,Bl 80.91 326 *eP* **P 16 42 17.5 -1.8**
MMB Musomiste 80.91 321 *iP* **P 16 42 20.1 +0.8**
WTTA Wattenberg 80.93 332 *iP* **P 16 42 19.7 +0.3**
comp=Z,57nm,0.8s,SNR=28
WOL Wolverton 80.95 341 *eP* **P 16 42 19.0 -0.3**
LJU Ljubljana 80.96 329 *iP* **P 16 42 18.6 -0.8**
LJU Ljubljana 80.96 329 ⇑*iP* **P 16 42 18.6 -0.8**
OZLJ Ozalj 80.98 329 *iP* **P 16 42 18.7 -0.7**
L46A Eue Claire 80.98 38 P **P 16 42 19.3 -0.3**
baz=324
KULA Kula-Manisa 81.01 316 P **P 16 42 19.7 -0.2**
K47A Vermontville 81.01 37 P **P 16 42 19.6 -0.2**
baz=325
RETA Reutte 81.03 332 *iP* **P 16 42 19.8 -0.1**
comp=Z,45nm,1.0s,SNR=19
D55A Sainte-Anne-du 81.03 29 P **P 16 42 19.3 -0.5**
baz=330
NVR Nevrokopi 81.04 321 P **P 16 42 20.0 0.0**
MOTA Moosalm 81.04 332 *iP* **P 16 42 20.1 +0.1**
comp=Z,93nm,1.0s,SNR=32
BFO Black Forest 81.07 334 *iP* **P 16 42 19.9 -0.1**
BFO Black Forest 81.07 334 P **P 16 42 19.5 -0.5**
BFO IAmb IAmb 16 42 20.7
comp=Z,32nm,1.0s
ABTA Abfaltersbach 81.08 331 *iP* **P 16 42 19.2 -0.9**
comp=Z,19nm,1.2s,SNR=8.5
EZN Ezine 81.11 319 ⇑P **P 16 42 20.3 0.0**
EZN mb 16 42 22.6
RSBS Rosebush, Pemb 81.11 343 *eP* **P 16 42 19.6 -0.5**
RSBS IAmb IAmb 16 42 21.3
comp=Z,19nm,0.8s
SQTA Sankt Quirin 81.11 332 *iP* **P 16 42 20.5 +0.2**
comp=Z,45nm,0.8s,SNR=17
BOJS Bojanci 81.16 329 *iP* **P 16 42 19.9 -0.6**
D56A ZEC Mazanza, M 81.25 28 P **P 16 42 20.5 -0.4**
baz=331
CEY Cerknica 81.26 329 ⇑*iP* **P 16 42 20.2 -0.8**
K48A Perry 81.28 36 P **P 16 42 20.9 -0.2**
baz=325
CSS Mathiatis 81.31 311 P **P 16 42 21.5 0.0**
CSS Mathiatis 81.31 311 P **P 16 42 21.9 +0.5**
MGRS Mrkonjic Grad 81.37 327 *eP* **P 16 42 22.1 +0.4**
ASF Jabal al Asfar 81.41 307 P **P 16 42 23.1 +1.0**
comp=Z,41nm,0.8s,baz=347,slow=4.1,SNR=64
ASF Jabal al Asfar 81.41 307 P **P 16 42 23.2 +1.0**
ASF Jabal al Asfar 81.41 307 P **P 16 42 23.1 +1.0**
ASF Jabal al Asfar 81.41 307 P **P 16 42 23.2 +1.0**
P43A Skaggs, Pawnee 81.41 41 P **P 16 42 21.7 -0.2**
baz=322
LEF Lefka 81.43 311 ⇑P **P 16 42 22.4 +0.3**
LEF mb 16 42 24.3
STAL STALIGIAL 81.43 331 P **P 16 42 21.0 -1.0**
STAL IAmb IAmb 16 42 21.3
comp=Z,27nm,0.9s
H52A Wyevale 81.46 33 P **P 16 42 21.5 -0.5**
baz=328
CLWO Collingwood 81.46 33 P **P 16 42 21.9 -0.2**
baz=327
O44A Mansfield 81.49 40 P **P 16 42 22.1 -0.2**
baz=323
DAVA Damuels 81.50 333 *iP* **P 16 42 22.3 -0.2**
comp=Z,36nm,0.7s,SNR=14
STIP Stip 81.53 322 *iP* **P 16 42 21.4 -1.0**
TRI Trieste 81.53 330 P **P 16 42 19.7 -2.7**
TRI pmax pmax
comp=Z,28nm,0.9s
TRI Trieste 81.53 330 P **P 16 42 19.7 -2.7**
TRI IAmb IAmb 16 42 22.0
comp=Z,28nm,0.9s
G53A Haliburton 81.53 31 P **P 16 42 22.0 -0.5**
baz=328
ECH Echery 81.53 335 P **P 16 42 22.3 -0.2**
ECH pmax pmax
comp=Z,34nm,0.9s
ECH Echery 81.53 335 P **P 16 42 22.2 -0.2**
ECH IAmb IAmb 16 42 22.9
comp=Z,34nm,0.9s
TXAR Lajitas Array 81.57 57 P **P 16 42 23.6 +0.5**
comp=Z,11nm,0.6s,baz=299,slow=4.1,SNR=82
TXAR PKKPbc **PKKPbc 17 00 56.3 +2.9**
comp=Z,0.9nm,0.7s,baz=134,slow=4.7,SNR=8.6
TXAR LR LR 17 20 05.5
comp=Z,45nm,18.1s,baz=0.0,slow=37
RIY Rijeka 81.59 329 *eP* **P 16 42 21.6 -1.1**
E56A St. Veronique 81.59 29 P **P 16 42 22.4 -0.4**
baz=330
SKO Skopje 81.60 323 *iP* **P 16 42 23.3 +0.4**
KNT Kendrikon 81.62 322 P **P 16 42 23.0 0.0**
MMAI Mount Meron Ar 81.63 308 P **P 16 42 24.2 +0.9**
comp=Z,57nm,0.5s,baz=46,slow=7.1,SNR=218
VAY Valandovo 81.64 322 *iP* **P 16 42 23.3 +0.2**
UPM Unac-Piva 81.66 325 ⇑*iP* **P 16 42 22.4 -1.0**
UDBI Udbina 81.79 328 *iP* **P 16 42 22.7 -1.2**
M47A Cromwell 81.81 38 P **P 16 42 23.8 -0.1**
baz=324,SNR=6.3
CCM Cathedral Cave 81.82 43 P **P 16 42 24.1 0.0**
baz=322
D58A Chemin du LacG 81.83 27 P **P 16 42 23.4 -0.6**
baz=332
L48A N Adams 81.85 37 P **P 16 42 24.3 +0.1**
baz=325
HSUJ Al Zarqa 81.86 307 P **P 16 42 25.4 +1.0**
HSUJ Al Zarqa 81.86 307 P **P 16 42 25.5 +1.0**
HSUJ Al Zarqa 81.86 307 P **P 16 42 25.4 +1.0**
BANO Bancroft 81.88 31 P **P 16 42 23.7 -0.6**
baz=329
SFIN Lafayette 81.94 39 P **P 16 42 24.3 -0.3**
baz=324,SNR=5.2
CTI Castel Tesino 81.98 331 IAmb IAmb 16 42 24.6
comp=Z,26nm,0.9s
GRG Griva 82.01 322 P **P 16 42 24.8 -0.3**
PLG Polygyros 82.01 321 P **P 16 42 24.6 -0.5**
H53A Bobcaygeon 82.01 32 P **P 16 42 24.6 -0.3**
baz=328
BRY Bratogost 82.06 325 ⇑*iP* **P 16 42 24.2 -1.2**
NWAO Narrogin (SRO) 82.09 206 P **P 16 42 25.8 +0.5**
NWAO pmax pmax
comp=Z,41nm,0.9s
NWAO Narrogin (SRO) 82.09 206 P **P 16 42 25.8 +0.5**
NWAO IAmb IAmb 16 42 26.9
comp=Z,41nm,0.8s
NVLJ Novalja 82.10 328 *iP* **P 16 42 24.0 -1.4**
G55A Calabogie 82.12 30 P **P 16 42 24.8 -0.7**
baz=330
PDG Podgorica 82.15 324 ⇑*iP* **P 16 42 25.1 -0.6**
PDG Podgorica 82.15 324 ⇓P **P 16 42 25.2 -0.5**
PDG mb 16 42 25.8
N47A Urbana 82.17 38 P **P 16 42 25.5 -0.4**
baz=324,SNR=7.0
PLVO Plevna 82.17 31 P **P 16 42 25.2 -0.6**
baz=329
FETY Fethiye 82.25 315 P **P 16 42 26.2 -0.2**
I53A Kortright Cn E 82.26 33 P **P 16 42 26.1 -0.2**
baz=328
PHP Peshkopia 82.27 323 P **P 16 42 25.9 -0.6**
TREB Trebinje 82.29 325 *eP* **P 16 42 23.5 -3.0**
E58A La Victoria 82.34 28 P **P 16 42 26.2 -0.4**
baz=332
U40A Yellville 82.34 45 P **P 16 42 26.6 -0.3**
baz=321,SNR=16
U40A Yellville 82.34 45 IAmb IAmb 16 42 27.7
comp=Z,48nm,1.1s
MORI Morici 82.37 327 *iP* **P 16 42 25.6 -1.2**
ORIO Orleans, Innes 82.38 29 P **P 16 42 26.2 -0.7**
baz=330
DRME Dracevica, Mon 82.39 324 ⇑*iP* **P 16 42 26.5 -0.5**
RAYN Ar Rayn 82.39 295 *iP* **P 16 42 27.7 +0.4**
SNR=36
RAYN Ar Rayn 82.39 295 P **P 16 42 28.0 +0.7**
RAYN pmax pmax
comp=Z,30nm,0.9s
RAYN Ar Rayn 82.39 295 P **P 16 42 28.0 +0.7**
RAYN IAmb IAmb 16 42 28.9
comp=Z,30nm,0.9s
DELO Deloro Mine 82.42 31 P **P 16 42 26.4 -0.7**
baz=329
STON Ston 82.42 326 *iP* **P 16 42 25.5 -1.6**
STON Ston 82.42 326 ⇑*iP* **P 16 42 25.5 -1.6**
K51A Iona Station 82.43 35 P **P 16 42 26.8 -0.3**
baz=327
M49A Liberty Center 82.43 37 P **P 16 42 26.7 -0.6**
baz=326
ALFO Alfred 82.44 29 P **P 16 42 26.6 -0.5**
baz=331
HCY Herceg Novi 82.45 325 ⇑*iP* **P 16 42 26.2 -1.1**
WALJ Wala 82.48 307 P **P 16 42 29.0 +1.4**
WALJ Wala 82.48 307 P **P 16 42 28.9 +1.4**
WALJ Wala 82.48 307 P **P 16 42 29.0 +1.4**
N48A Decatur 82.48 38 P **P 16 42 27.3 -0.2**
baz=325,SNR=7.2
P46A Rosedale 82.50 40 P **P 16 42 27.6 0.0**
baz=324,SNR=11
DUGI Dugi Otok 82.51 328 *iP* **P 16 42 26.3 -1.3**
H55A Tweed 82.55 31 P **P 16 42 27.0 -0.8**
baz=329
ZIRJ Zirje 82.58 327 *iP* **P 16 42 26.6 -1.3**
OHR Ohrid 82.58 323 *iP* **P 16 42 27.6 -0.5**
D61A St Aubert, Com 82.58 25 P **P 16 42 27.4 -0.5**
baz=334
FNA Florina 82.60 322 P **P 16 42 27.3 -0.9**
FNA Florina 82.60 322 IAmb IAmb 16 42 28.6
comp=Z,32nm,0.8s
D60A Saint Jean D'O 82.61 26 P **P 16 42 27.5 -0.5**
baz=333,SNR=5.5
LIT Litokhoron 82.66 321 IAmb IAmb 16 42 29.1
comp=Z,25nm,1.2s
HVAR Hvar 82.66 327 *iP* **P 16 42 26.6 -1.8**
W39A Magazine 82.75 47 P **P 16 42 29.0 0.0**
baz=321
TIR Tirane 82.79 323 ⇑P **P 16 42 28.9 -0.2**
TIR mb 16 42 29.8
N49A Columbus Grove 82.79 37 P **P 16 42 28.8 -0.3**
baz=325
PMOR Pomariorio Ree 82.83 119 *eT* T 18 13 37.4
comp=Z,33nm,0.2s
G57A Newington 82.86 29 P **P 16 42 29.0 -0.4**

baz=331
M50A Fremont 82.89 36 P P 16 42 29.2 -0.4
baz=326
CCA1 Carnmenellis 82.89 343 eP P 16 42 29.2 -0.2
CCA1 IAmb IAmb 16 42 30.6
comp=Z,132nm,1.1s
E60A Ste Agathe de 82.93 26 P P 16 42 29.5 -0.2
baz=333
F59A Saint Guilaume 82.96 28 P P 16 42 29.6 -0.2
baz=332
JCT Junction City 83.00 54 P P 16 42 30.8 +0.3
baz=318
D62A Allapoint, All 83.04 25 P P 16 42 30.1 -0.2
baz=334
NEST Nestorio 83.05 322 P P 16 42 30.1 -0.5
FCAR Ozark Folk Cen 83.07 45 IAmb IAmb 16 42 30.8
comp=Z,16nm,0.7s
S44A Carbondale 83.07 42 P P 16 42 30.8 +0.2
baz=323,SNR=11
J54A Appleton 83.10 32 P P 16 42 30.8 +0.2
baz=328
F60A Warwick 83.13 27 P P 16 42 30.8 +0.1
baz=332
SENIN Lac Senin/Sane 83.14 334 IAmb IAmb 16 42 31.8
comp=Z,20nm,0.8s
E61A Lac Etchemin 83.18 26 P P 16 42 30.8 -0.3
baz=333
PENT Pentalofos 83.19 322 P P 16 42 30.5 -0.8
WHTX Lake Whitney, 83.20 51 P P 16 42 31.8 +0.4
baz=319
H57A Richville 83.28 30 P P 16 42 31.2 -0.3
baz=330
MRKA Markates 83.29 320 P P 16 42 30.8 -0.9
E62A Clayton Lake 83.31 25 P P 16 42 31.3 -0.4
baz=334
E62A Clayton Lake 83.31 25 IAmb IAmb 16 42 32.4
comp=Z,33nm,1.1s
TAOE Nuku Hiva Isla 83.33 109 eLR LR 17 08 28.9
comp=Z,292nm,25.0s
O49A Covington 83.33 38 P P 16 42 31.7 -0.2
baz=325
MIAR Mount Ida 83.36 47 P P 16 42 32.4 +0.2
baz=321,SNR=12
N50A Nevada 83.36 37 P P 16 42 32.0 -0.1
baz=326
F61A St Evariste 83.43 26 P P 16 42 32.4 0.0
baz=333,SNR=5.5
P48A Milroy 83.44 39 P P 16 42 32.3 -0.2
baz=325
WHAR Wooly Hollow 83.45 46 IAmb IAmb 16 42 33.6
comp=Z,44nm,1.1s
ERPA Erie 83.55 34 P P 16 42 33.0 0.0
baz=328
W41B Gary Mavity, V 83.56 46 P P 16 42 33.0 -0.2
baz=322,SNR=6.8
N51A Ashland 83.57 36 P P 16 42 32.9 -0.3
baz=326
L53A Girard 83.58 34 P P 16 42 33.4 +0.3
baz=328
LKR Lokris 83.60 320 P P 16 42 32.1 -1.2
AGG Agios Georgios 83.61 321 IAmb IAmb 16 42 33.3
comp=Z,22nm,1.0s
K54A Basiliko Farm, 83.64 33 P P 16 42 33.3 -0.2
baz=328
O50A Cable 83.67 37 P P 16 42 33.6 -0.1
baz=326,SNR=6.8
APE Apeiranthos 83.67 317 ⇓eP P 16 42 31.6 -2.2
APE pmax pmax
comp=Z,61nm,0.9s
P49A Miami Univ. Ec 83.69 38 P P 16 42 33.7 -0.1
baz=325,SNR=5.3
MAKR Makrakomi, Fth 83.71 321 P P 16 42 32.5 -1.4
H59A Cadyville 83.71 29 P P 16 42 33.4 -0.4
baz=332
L54A Sinclairville 83.71 33 P P 16 42 33.8 -0.1
baz=328
BATG Bathurst New B 83.72 23 P P 16 42 33.9 +0.1
BATG IAmb IAmb 16 42 35.0
comp=Z,33nm,1.1s
Q48A North Vernon 83.73 39 P P 16 42 33.9 -0.1
baz=325,SNR=5.9
H58A Gabriels 83.74 29 P P 16 42 33.5 -0.5
baz=331
PPT Papeete 83.75 122 LR LR 17 18 53.2
comp=Z,107nm,18.4s,baz=334,slow=35
J56A Wolcott 83.77 31 P P 16 42 33.7 -0.3
baz=330
PPT2 Papeete2 83.77 122 eLR LR 17 08 51.0
comp=Z,528nm,29.5s,baz=310
PPT2 Papeete2 83.77 122 eT T 18 14 46.3
comp=Z,6.6nm,0.3s
K55A Perry 83.78 32 P P 16 42 34.0 -0.2
baz=329
X40A Basin Creek Fa 83.79 47 P P 16 42 34.5 +0.1
baz=321,SNR=5.6
E63A Oxbow 83.82 25 P P 16 42 33.9 -0.3
baz=335
F62A Pittston Farm, 83.82 26 P P 16 42 34.4 0.0
baz=334,SNR=6.9
PAE Paea 83.82 122 eT T 18 14 49.5
comp=Z,2.3nm,0.4s
M53A Wl Miller and 83.84 35 P P 16 42 34.6 +0.1
baz=327
G61A St-Isidore-de- 83.87 27 P P 16 42 34.6 0.0
baz=333,SNR=7.7
ACSO Alum Creek Sta 83.88 37 P P 16 42 34.5 -0.2
baz=326
TIAR Tiarei 83.88 122 eT T 18 14 54.4
comp=Z,4.5nm,0.3s
N52A McGinn's Farm, 83.95 36 P P 16 42 34.8 -0.2
baz=327
E64A Bridgewater 84.00 24 P P 16 42 34.8 -0.3
baz=335
DSF Desfina 84.01 320 P P 16 42 33.6 -1.9
P50A Jamestown 84.04 38 P P 16 42 35.3 -0.2
baz=326,SNR=5.3
WCI Wyandotte Cave 84.04 40 P P 16 42 35.5 0.0
baz=324
Q49A Aurora 84.05 39 P P 16 42 35.6 0.0
baz=325
KARP Karpathos 84.07 315 P P 16 42 35.3 -0.5
IGT Igoumenitsa 84.08 322 P P 16 42 34.5 -1.3
K56A Middlesex 84.09 32 P P 16 42 35.6 -0.2
baz=329
O51A Pataskala 84.11 37 P P 16 42 35.3 -0.6
baz=326
H60A Morristown 84.12 28 P P 16 42 35.9 -0.1
baz=332
SGRT San Giovanni R 84.15 326 IAmb IAmb 16 42 36.4
comp=Z,19nm,0.8s
KEK Kerkira 84.17 323 P P 16 42 35.3 -0.9
M54A Oil Creek Stat 84.19 34 P P 16 42 36.2 -0.2
baz=328
KALE Kalithea 84.21 320 P P 16 42 35.1 -1.4
SERG Sergoula 84.23 320 P P 16 42 35.3 -1.3
MSSA Maissana 84.23 332 IAmb IAmb 16 42 37.1
comp=Z,41nm,1.1s
G62A West of Eustis 84.25 26 P P 16 42 36.8 +0.2
baz=333,SNR=5.6
F63A Nahmakanta, Br 84.26 25 P P 16 42 36.4 -0.2
baz=334
J58A Remsen 84.27 30 P P 16 42 36.3 -0.4
baz=331
EFP Efpalio 84.28 321 P P 16 42 35.9 -0.9
N53A Lisbon 84.30 35 P P 16 42 37.0 +0.1
baz=327
F64A Sherman 84.34 25 P P 16 42 36.6 -0.3
baz=335
F64A Sherman 84.34 25 IAmb IAmb 16 42 37.2
comp=Z,9.3nm,0.7s
K57A Scipio Center 84.36 31 P P 16 42 36.7 -0.4
baz=330
EIL Elat 84.38 307 P P 16 42 38.2 +0.8
comp=Z,106nm,0.8s,baz=351,slow=4.7,SNR=100
I59A Olmsteadville 84.39 29 P P 16 42 36.7 -0.6
baz=331
LAKA Lakka 84.40 320 P P 16 42 36.4 -1.1
H61A Lyndonville 84.41 28 P P 16 42 37.8 +0.4
baz=333
J59A Piesco 84.46 30 P P 16 42 37.4 -0.2
baz=331
O52A Adamsville 84.46 36 P P 16 42 37.6 -0.1
baz=327,SNR=5.4
P51A Williamsport 84.47 37 P P 16 42 37.3 -0.4
baz=326
PDO Prodromos 84.47 321 P P 16 42 37.1 -0.7
L56A Greenwood 84.48 32 P P 16 42 37.5 -0.3
baz=329
KLV Kalavryta, Ach 84.48 320 P P 16 42 36.6 -1.3
BNI Bardonecchia 84.51 334 IAmb IAmb 16 42 42.9
comp=Z,23nm,0.8s
N54A Moraine State 84.52 35 P P 16 42 38.0 +0.1
baz=328
AQU L'Aquila 84.54 328 eP P 16 42 37.5 -0.6
M55A Ridgway 84.58 34 P P 16 42 38.4 +0.1
baz=328
Q50A Georgetown 84.59 38 P P 16 42 38.7 +0.3
baz=326,SNR=5.1
PKME Peaks-Kenny Pk 84.60 26 P P 16 42 39.2 +0.9
baz=334
O53A New Philadelph 84.61 36 P P 16 42 38.5 0.0
baz=327,SNR=5.4
H62A Milan 84.62 27 P P 16 42 38.7 +0.3
baz=333,SNR=7.8
G63A Kingsbury 84.63 26 P P 16 42 38.6 +0.2
baz=334
K58A Earlville 84.66 31 P P 16 42 38.5 -0.2
baz=330
T47A Sharon Grove 84.67 41 P P 16 42 39.1 +0.3
baz=324,SNR=12
MATE Matera 84.69 325 ⇓P P 16 42 38.1 -0.6
MATE mb 16 42 39.9
Q51A Peebles 84.72 38 P P 16 42 39.3 +0.3
baz=326,SNR=8.6
P52A Corning 84.74 37 P P 16 42 38.7 -0.4
baz=327
DRO Drossia 84.76 320 P P 16 42 38.9 -0.4
RLS Riolos of Patr 84.79 321 P P 16 42 39.0 -0.3
M56A Emporium 84.80 33 P P 16 42 39.2 -0.2
baz=329
833A Chaparral WMA, 84.84 55 P P 16 42 40.3 +0.5
baz=319
FSK Fiskardo 84.86 321 P P 16 42 38.8 -0.9
S49A Springfield 84.87 40 P P 16 42 39.9 +0.1
baz=325,SNR=9.8
L57A Andrews Acres 84.87 32 P P 16 42 39.9 +0.1
baz=330
ZKR Zakros 84.89 316 P P 16 42 39.9 0.0
R50A Paris 84.89 39 P P 16 42 40.0 +0.1
baz=326,SNR=5.4
H63A New Sharon 84.91 26 P P 16 42 40.0 +0.2
baz=334
MEH Mehetia 84.91 121 eT T 18 16 11.7
comp=Z,17nm,0.2s
NATX Nacogdoches 84.92 50 P P 16 42 40.8 +0.7
baz=320
K59A Cooperstown 84.94 30 P P 16 42 39.7 -0.4
baz=331,SNR=5.4
WVT Waverly 85.01 42 P P 16 42 40.7 +0.2
baz=324
WVT Waverly 85.01 42 P P 16 42 40.8 +0.3
WVT pmax pmax
comp=Z,18nm,0.8s
WVT Waverly 85.01 42 P P 16 42 40.8 +0.3
WVT IAmb IAmb 16 42 41.8
comp=Z,18nm,0.8s
O54A Avella 85.02 35 P P 16 42 40.6 +0.1
baz=328,SNR=5.5
J60A Lant Hill Farm 85.03 29 P P 16 42 40.0 -0.5
baz=332
KFL Anninata 85.05 321 P P 16 42 39.8 -0.9
NPS Neapolis 85.07 316 P P 16 42 39.6 -1.3
N55A Marion Center 85.08 34 P P 16 42 40.5 -0.3
baz=328,SNR=5.6
AMT Artemida-Makis 85.10 320 P P 16 42 40.1 -0.9
P53A Whipple 85.18 36 P P 16 42 41.5 +0.2
baz=327
H64A Troy 85.18 26 P P 16 42 41.2 0.0
baz=334
L58A Harry Jones Me 85.20 31 P P 16 42 41.3 -0.1
baz=330
R51A Hillsboro 85.21 38 P P 16 42 41.7 +0.3
baz=326,SNR=7.8
N56A West Decatur 85.24 34 P P 16 42 41.7 +0.1
baz=329
Q52A Bidwell 85.24 37 P P 16 42 41.4 -0.2
baz=327
J61A Chester 85.24 29 P P 16 42 41.5 -0.1
baz=332
I63A Otisfield 85.28 27 P P 16 42 42.2 +0.5
baz=334
ITM Ithomi 85.29 320 P P 16 42 40.8 -1.1
T49A Edmonton 85.31 40 P P 16 42 42.0 0.0
baz=325,SNR=9.6
T49A Edmonton 85.31 40 IAmb IAmb 16 42 43.3
comp=Z,22nm,0.8s
M57A Sunshine Farm, 85.33 33 P P 16 42 41.9 -0.1
baz=330,SNR=5.0
S50A Richmond 85.36 39 P P 16 42 42.3 +0.1
baz=326,SNR=6.4
L59A Walton 85.38 31 P P 16 42 42.2 -0.1
baz=331
K60A Five Rivers En 85.42 30 P P 16 42 42.3 -0.1
baz=331
H65A Eastbrook 85.43 25 P P 16 42 42.4 0.0
baz=335
O55A Ligonier 85.44 35 P P 16 42 42.6 0.0
baz=328
P54A Burton 85.46 36 P P 16 42 43.0 +0.2
baz=328,SNR=5.9
OXF Oxford 85.52 44 P P 16 42 43.3 +0.2
baz=323
KTHR Kythira 85.53 319 P P 16 42 41.9 -1.2
M58A Price's Panora 85.56 32 P P 16 42 43.1 -0.1
baz=330
K61A Williamstown 85.59 29 P P 16 42 43.4 +0.1
baz=332
R52A Catlettsburg 85.59 38 P P 16 42 43.4 0.0
baz=326
J62A Henniker 85.60 28 P P 16 42 43.6 +0.2
baz=333
PYL PYLOS 85.61 320 P P 16 42 41.4 -2.1
H66A Whiting 85.63 25 P P 16 42 43.2 -0.2
baz=336
SSPA Standing Stone 85.64 33 P P 16 42 43.7 +0.2
baz=329
SSPA Standing Stone 85.64 33 P P 16 42 44.1 +0.5
SSPA IAmb IAmb 16 42 44.3
comp=Z,20nm,0.8s
Q53A Leroy 85.64 37 P P 16 42 43.9 +0.3
baz=327,SNR=9.1
SIVA Sivas 85.66 317 P P 16 42 43.5 -0.3
N57A Milroy 85.67 33 P P 16 42 43.8 +0.1
baz=329,SNR=10
U49A Red Boiling Sp 85.67 41 P P 16 42 44.1 +0.3
baz=325,SNR=13
MCWV Mont Chateau 85.68 35 P P 16 42 44.5 +0.7
baz=328
O56A Blue Knob Stat 85.68 34 P P 16 42 44.1 +0.3
baz=329,SNR=7.3
T50A Nancy 85.69 40 P P 16 42 44.1 +0.1
baz=325,SNR=17
IMMV Iera Moni Meta 85.71 317 P P 16 42 43.1 -0.9
S51A Beattyville 85.75 39 P P 16 42 44.0 -0.1
baz=326,SNR=6.5
M59A Waymart 85.80 31 P P 16 42 44.2 -0.2
baz=330
V48A Smith Brothers 85.81 42 P P 16 42 44.5 0.0
baz=324,SNR=5.1
P55A Reedsville 85.81 35 P P 16 42 45.1 +0.6
baz=328,SNR=10
Q54A Coxs Mills 85.83 36 P P 16 42 44.9 +0.4
baz=327,SNR=6.7
L60A Shokan 85.85 30 P P 16 42 45.0 +0.4
baz=331
R53A Hurricane 85.90 37 P P 16 42 45.0 +0.1
baz=327
TIP Timpagrande 85.91 324 P P 16 42 44.5 -0.5
TIP Timpagrande 85.91 324 ⇓P P 16 42 44.5 -0.5
TIP mb 16 42 46.5
TIP Timpagrande 85.91 324 IAmb IAmb 16 42 45.2
comp=Z,21nm,0.8s
N58A Sunbury 85.92 33 P P 16 42 45.0 +0.1
baz=330
N58A Sunbury 85.92 33 IAmb IAmb 16 42 46.0
comp=Z,29nm,0.8s
K62A Royalston 85.96 29 P P 16 42 45.4 +0.3
baz=332
L61B Northampton 85.99 29 P P 16 42 45.5 +0.2
baz=332
O57A Amberson 86.10 33 P P 16 42 46.0 +0.2
baz=329
Q55A Buckhannon 86.14 36 P P 16 42 46.6 +0.4
baz=328,SNR=6.4
T51A Gray 86.15 39 P P 16 42 46.3 +0.1
baz=326
GVDS Gavdos 86.15 317 P P 16 42 45.3 -0.9
K63A Dunstable 86.17 28 P P 16 42 46.4 +0.3
baz=333
U50A Jamestown 86.19 40 P P 16 42 46.6 +0.2
baz=325,SNR=8.6
N59A State Game Lan 86.21 32 P P 16 42 46.5 +0.1
baz=330
P56A Dayton Farm, R 86.22 35 P P 16 42 46.9 +0.4
baz=329,SNR=14
V49A McMinnville 86.22 41 P P 16 42 46.6 0.0
baz=325
M60A Port Jervis 86.28 31 P P 16 42 46.8 +0.1
baz=331
R54A Victor 86.44 37 P P 16 42 47.9 +0.3
baz=327
O58A Lewisberry 86.45 33 P P 16 42 47.5 -0.1
baz=330,SNR=6.2
T52A Hallie 86.46 39 P P 16 42 48.0 +0.3
baz=326
Q56A Snyder Ridge, 86.47 35 P P 16 42 47.9 +0.2
baz=328
P57A Homestead Farm 86.57 34 P P 16 42 48.5 +0.3
baz=329
W49A Belvidere 86.57 42 P P 16 42 48.2 -0.1
baz=325,SNR=6.2
O59A Robesonia 86.58 32 P P 16 42 48.1 -0.1
baz=330
U51A La Follette 86.60 40 P P 16 42 48.5 +0.1
baz=326
M61A Granite Spring 86.61 30 P P 16 42 48.4 +0.1
baz=332
S54A Dingess, Beckl 86.62 37 P P 16 42 48.5 0.0
baz=327
TZTN Tazewell 86.67 39 P P 16 42 48.9 +0.2
baz=326,SNR=5.5
TZTN Tazewell 86.67 39 IAmb IAmb 16 42 49.6
comp=Z,26nm,0.9s
V50A Pikevile 86.68 41 P P 16 42 48.9 +0.2
baz=325,SNR=5.7
X48A Hartselle 86.74 43 P P 16 42 48.8 -0.3
baz=324
T53A Wise 86.77 38 P P 16 42 49.7 +0.4
baz=326
Q57A Strasburg 86.79 35 P P 16 42 49.4 +0.1
baz=329
P58A Pank, Wackersv 86.85 34 P P 16 42 49.7 +0.2
baz=330,SNR=5.0
O60A Telford 86.87 32 P P 16 42 49.6 0.0
baz=331
U52A Thorn Hill 86.88 39 P P 16 42 49.9 +0.1
baz=326,SNR=10
N61A South Mountain 86.90 31 P P 16 42 49.9 +0.2
baz=331
V51A Loudon 86.92 40 P P 16 42 50.1 +0.1
baz=326,SNR=6.5
R56A Bull Pasture M 86.92 36 P P 16 42 50.5 +0.5
baz=328
W50A Signal Mountai 86.96 41 P P 16 42 50.3 +0.1
baz=325,SNR=6.5
S55A Lewisburg 86.99 37 P P 16 42 50.6 +0.2
baz=328
L64A Middleborough 87.08 28 P P 16 42 50.6 0.0
baz=333
P59A Jarrettsville 87.09 33 P P 16 42 50.8 +0.1
baz=330
T54A Tazewell 87.12 38 P P 16 42 51.1 +0.1
baz=327,SNR=7.2
CPCT Cooper Cave 87.13 41 IAmb IAmb 16 42 52.1
comp=Z,27nm,1.0s
Q58A Fox Den Farm, 87.17 34 P P 16 42 51.4 +0.3
baz=329
P60A Greenville 87.22 32 P P 16 42 51.5 +0.2
baz=330
V52A Sevierville 87.23 40 P P 16 42 51.7 +0.2
baz=326,SNR=7.9
W51A Cleveland 87.25 41 P P 16 42 51.7 +0.1
baz=325
U53A Fall Branch 87.26 39 P P 16 42 51.9 +0.2
baz=326,SNR=6.3
M64A Tiverton 87.30 29 P P 16 42 51.9 +0.3
baz=333
R57A Stanardsville 87.38 35 P P 16 42 52.4 +0.3
baz=329
T55A Pulaski 87.42 37 P P 16 42 53.0 +0.6
baz=328,SNR=5.3
U54A Nelsons Funny 87.47 38 P P 16 42 52.8 +0.1
baz=327
BLA Blacksburg 87.50 37 P P 16 42 53.0 +0.2
baz=328
Y49A Blount Mountai 87.53 43 P P 16 42 52.8 -0.2
baz=324
R58A Rapidan 87.59 35 P P 16 42 53.2 +0.1
baz=329,SNR=5.0
S57A Dark Hollow, R 87.66 36 P P 16 42 53.7 +0.2
baz=329
W52A Murphy 87.70 40 P P 16 42 53.9 +0.2
baz=326
V53A Saluda 87.73 39 P P 16 42 53.9 0.0
baz=326
T56A Rocky Mt 87.82 37 P P 16 42 54.3 0.0
baz=328
U55A TA2, Sparta 87.82 38 P P 16 42 54.5 +0.1
baz=327
LRAL Lakeview Retre 87.90 44 P P 16 42 54.2 -0.5
baz=324
R58B Mineral 87.93 35 P P 16 42 54.8 +0.1
baz=329
W53A Cullowhee 87.99 40 P P 16 42 55.6 +0.3
baz=326,SNR=7.0
R59A King George, V 88.03 34 P P 16 42 55.3 +0.1
baz=330
V54A Nebo 88.03 39 P P 16 42 55.5 +0.1
baz=327
X52A Dahlonega 88.12 41 P P 16 42 56.1 +0.4
baz=326
Y51A Rockmart 88.14 42 P P 16 42 55.7 -0.2
baz=325,SNR=11
Q61A Milford 88.15 33 P P 16 42 55.9 +0.1
baz=331
S58A Poland Farm, P 88.16 35 P P 16 42 56.1 +0.2
baz=329
T57A Hurt 88.18 36 P P 16 42 56.1 +0.2
baz=328
BG3 Lake Jocassee 88.24 40 IAmb IAmb 16 42 57.9
comp=Z,27nm,0.9s
Z50A Ashland 88.25 43 P P 16 42 56.5 +0.1
baz=325,SNR=21
TBI Tubuai 88.26 126 eLR LR 17 10 56.1
comp=Z,298nm,25.5s,baz=317
X53A Estanollee 88.47 40 P P 16 42 58.1 +0.7
baz=326,SNR=14
W54A Cherokee Point 88.50 39 P P 16 42 57.8 +0.3
baz=327
T58A Grand View Acr 88.52 36 P P 16 42 58.0 +0.4
baz=329
Z51A Franklin 88.56 42 P P 16 42 57.7 -0.2
baz=325,SNR=6.0
R61A Willards 88.62 33 P P 16 42 58.3 +0.3
baz=331
U57A Blanch 88.62 37 P P 16 42 58.3 +0.2
baz=328,SNR=5.1
Y52A Lilburn 88.64 41 P P 16 42 58.5 +0.3
baz=326,SNR=5.1
V56A Mocksville 88.65 38 P P 16 42 58.3 +0.1
baz=328
KMSC Kings Mountain 88.84 39 P P 16 42 59.2 +0.1
baz=327,SNR=6.9
X54A Belton 88.86 40 P P 16 42 59.6 +0.4
baz=327
Y53A Monroe 88.88 41 P P 16 42 59.5 +0.1
baz=326
T59A Double "B" Far 88.91 35 P P 16 42 59.5 +0.2
baz=329
U58A Oxford 88.99 36 P P 16 42 60.0 +0.2
baz=329,SNR=5.8
Z52A Williamson 89.03 42 P P 16 43 00.3 +0.2
baz=326
250A Grady 89.12 44 P P 16 43 01.1 +0.7
baz=325
W56A Indian Trail 89.18 38 P P 16 43 00.8 +0.2
baz=328
V58A Windy Hill, Pi 89.26 37 P P 16 43 01.3 +0.3
baz=328
152A Waverly Hall 89.31 42 P P 16 43 01.4 0.0
baz=325
U59A Littleton 89.34 36 P P 16 43 01.6 +0.2
baz=329

Z53A	**Monticello**	**89.36**	**41**	P	**P**	**16 43 01.7**	**+0.2**
	baz=326,SNR=5.6						
W57A	**Gilead**	**89.42**	**38**	P	**P**	**16 43 01.8**	**0.0**
	baz=328						
X56A	**White Oak**	**89.52**	**39**	P	**P**	**16 43 02.3**	**0.0**
	baz=327						
Y55A	**Saluda**	**89.61**	**40**	P	**P**	**16 43 03.2**	**+0.4**
	baz=327						
V59A	**Middlesex**	**89.65**	**36**	P	**P**	**16 43 03.1**	**+0.2**
	baz=329						
Z54A	**Sparta**	**89.73**	**41**	P	**P**	**16 43 03.7**	**+0.3**
	baz=326						
W58A	**Raeford**	**89.86**	**37**	P	**P**	**16 43 04.1**	**+0.2**
	baz=328						
253A	**Americus**	**90.09**	**42**	P	**P**	**16 43 05.5**	**+0.4**
	baz=326						
352A	**Blakely**	**90.18**	**43**	P	**P**	**16 43 05.7**	**+0.2**
	baz=325						
353A	**Camilla**	**90.64**	**43**	P	**P**	**16 43 08.5**	**+0.9**
	baz=326						
X60A	**Albert Glenn T**	**90.78**	**37**	P	**P**	**16 43 08.7**	**+0.5**
	baz=329						
156A	**Sylvania**	**90.84**	**40**	P	**P**	**16 43 09.1**	**+0.6**
	baz=327						
KEST	**Kesra**	**91.85**	**328**	P	**P**	**16 43 12.8**	**-0.5**
	comp=Z,11nm,0.8s,baz=96,slow=0.9,SNR=13						
KEST				LR	LR	17 28 05.9	
	comp=Z,312nm,20.6s,baz=310,slow=38						
ESDC	**Sonseca Array**	**92.53**	**339**	P	**P**	**16 43 15.6**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=16,slow=4.1,SNR=26						
ESDC				LR	LR	17 32 08.0	
	comp=Z,131nm,18.3s,baz=325,slow=40						
ESDC	**Sonseca Array**	**92.53**	**339**	P	**P**	**16 43 15.1**	**-1.2**
ATD	**Arta Tunnel**	**92.72**	**289**	P	**P**	**16 43 18.9**	**+1.4**
	comp=Z,16nm,0.8s,baz=359,slow=7.5,SNR=5.4						
CMIG	**Matias Romero**	**96.03**	**59**	LR	LR	17 26 34.3	
	comp=Z,46nm,18.9s,baz=305,slow=35						
TORD	**Torodi Ar. Bea**	**115.05**	**324**	PKP	**PKiKP**	**16 48 45.2**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=15,slow=2.2,SNR=23						
SDV	**Santo Domingo**	**116.30**	**44**	PKP	**PKPdf**	**16 48 48.3**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=238,slow=3.8,SNR=7.6						
DBIC	**Dimbokro**	**123.58**	**327**	PKP	**PKPdf**	**16 49 02.1**	**-0.5**
	comp=Z,9.8nm,0.7s,baz=13,slow=3.2,SNR=10						
DBIC	**Dimbokro**	**123.58**	**327**		**PKPdf**	**16 49 02.4**	**-0.3**
TIC	**Toumodi**	**123.66**	**328**	*e*PKP1	**PKPdf**	**16 49 01.9**	**-0.9**
KIC	**Kosan Boka**	**123.81**	**327**	*e*PKP1	**PKPdf**	**16 49 02.4**	**-0.7**
	comp=Z,33nm,1.1s						
LIC	**Lamto**	**124.05**	**327**	*e*PKP1	**PKPdf**	**16 49 02.8**	**-0.8**
	comp=Z,74nm,1.3s						
ATAH	**Atahualpa**	**125.00**	**62**	PKP	**PKPdf**	**16 49 05.8**	**-0.1**
	comp=Z,8.7nm,0.8s,baz=37,slow=2.5,SNR=3.7						
MAW	**Mawson**	**128.56**	**209**	PKP	**PKPdf**	**16 49 10.7**	**+0.3**
	comp=Z,3.8nm,1.1s,baz=32,slow=1.2,SNR=6.2						
MAW	**Mawson**	**128.56**	**209**		**PKiKP**	**16 49 11.7**	**+0.7**
NNA	**Nana**	**129.67**	**64**	PKP	**PKPdf**	**16 49 13.3**	**-0.9**
	comp=Z,7.7nm,0.6s,baz=345,slow=5.2,SNR=5.4						
PTGA	**Pitinga**	**129.73**	**38**	PKP	**PKPdf**	**16 49 14.3**	**-0.1**
	comp=Z,8.2nm,0.8s,baz=343,slow=2.3,SNR=14						
BOSA	**Boshof**	**132.48**	**270**	PKP	**PKPdf**	**16 49 18.7**	**-0.6**
	comp=Z,14nm,1.3s,baz=131,slow=2.6,SNR=5.4						
QSPA	**South Pole Qui**	**134.26**	**180**		**PKPdf**	**16 49 21.1**	**-0.3**
SYO	**Syowa Base**	**137.25**	**210⇑**	*e*P	**PKPdf**	**16 49 20.8**	**-5.9**
SYO	**Syowa Base**	**137.25**	**210⇑**	*e*X	**PKPdf**	**16 49 25.4**	**-1.3**
LPAZ	**La Paz**	**138.41**	**59**	PKP	**PKPdf**	**16 49 32.1**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=20,slow=4.5,SNR=15						
GO04	**Tololo Observa**	**146.16**	**78**		**PKPbc**	**16 49 44.9**	**-0.4**
ROC1	**El Roble**	**147.57**	**83**		**PKPdf**	**16 49 47.7**	**+1.1**
TROLL	**Troll, Antarti**	**147.98**	**199**	PKPbc	**PKPbc**	**16 49 49.8**	**+0.8**
TROLL	**Troll, Antarti**	**147.98**	**199**	PKPdf	**PKPdf**	**16 49 47.0**	**+1.2**
BDFB	**Brasília**	**148.09**	**31**	PKPbc	**PKPbc**	**16 49 50.5**	**-0.3**
	comp=Z,21nm,0.9s,baz=20,slow=2.2,SNR=12						
SNAA	**Sanae**	**149.43**	**198**	PKPbc	**PKPbc**	**16 49 52.9**	**+0.3**
SNAA	**Sanae**	**149.43**	**198**	PKPdf	**PKPdf**	**16 49 48.1**	**0.0**
VNA2	**Neumayer--Watz**	**150.95**	**196**	PKPbc	**PKiKP**	**16 49 56.8**	**+0.1**
	baz=109,slow=1.6						
VNA2	**Neumayer--Watz**	**150.95**	**196**	PKPdf	**PKPdf**	**16 49 52.7**	**+2.3**
VNA3	**Neumayer Olymp**	**151.12**	**195**	PKPbc	**PKiKP**	**16 49 56.9**	**-0.2**
VNA3	**Neumayer Olymp**	**151.12**	**195**	PKPdf	**PKPdf**	**16 49 49.9**	**-0.7**
VNA1	**Neumayer--Stat**	**151.34**	**196**	PKPbc	**PKiKP**	**16 49 57.7**	**+0.2**
VNA1	**Neumayer--Stat**	**151.34**	**196**	PKPdf	**PKPdf**	**16 49 51.5**	**+0.6**
PLCA	**Paso Flores**	**151.39**	**96**	PKP	**PKPdf**	**16 49 51.4**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=260,slow=3.5,SNR=5.8						
PLCA				PKPbc	**PKiKP**	**16 49 58.6**	**-0.1**
	comp=Z,12nm,0.7s,baz=298,slow=2.8,SNR=26						
PLCA				PKPab	**PKPab**	**16 50 05.5**	**-1.2**
	comp=Z,3.7nm,0.6s,baz=211,slow=4.4,SNR=5.3						
CPUP	**Villa Florida**	**152.54**	**57**	PKP	**PKPdf**	**16 49 54.4**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=159,slow=5.1,SNR=4.4						
CPUP				PKPbc	**PKPbc**	**16 50 00.8**	**-0.4**

*JMA **01** 16:31:51.2,23.°70N×121.°52E,h0km,M3.0*
*ISCJB **01** 16:31:52.5±0.2,23.°71N±0.°01×121.°49E±0.°01,h18km±2km,*
Error ellipse: s-maj=2.5km s-min=1.5km az=33.1
*TAP **01** 16:31:52.3,23.°73N×121.°44E,h17km,ML3.6,B*
ISC 01 16:31:52.3±0.7,23.°72N±0.°01×121.°47E±0.°02,h16km±3km,
n121,σ0°60/191,14C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.06**	**215**	⇑*i*P	**Pg**	**16 31 55.6**	**+0.3**
	baz=188						
EGFH				S	**Sg**	**16 31 57.5**	**+0.3**
	baz=188						
ESL	**Shilin**	**0.10**	**342**	⇑*i*P	**Pb**	**16 31 55.8**	**+0.1**
	baz=3.0						
ESL				*i*S	**Sb**	**16 31 57.7**	**-0.1**
	baz=3.0						
ENLB	**Shoufeng**	**0.22**	**34**	P	**Pg**	**16 31 57.5**	**+0.2**
	baz=37						
HGSD	**Ruisui**	**0.23**	**190**	⇑P	**Pb**	**16 31 58.4**	**+0.2**
	baz=186						
EHY	**Hungye**	**0.25**	**212**	⇑*i*P	**Pg**	**16 31 57.7**	**-0.1**
	baz=204						
EHY				S	**Sg**	**16 32 01.6**	**+0.1**
	baz=204						
HWA	**Hwalien**	**0.29**	**26**	P	**Pb**	**16 31 59.6**	**+0.6**
	baz=24						
HWA				*e*S	**Sb**	**16 32 04.1**	**+0.4**
	baz=24						
VWDT	**VWDT**	**0.30**	**277**	⇑P	**Pg**	**16 31 58.8**	**+0.2**
	baz=275						
VWDT				S	**Sg**	**16 32 02.5**	**-0.4**
	baz=275						
YULB	**Yu-li**	**0.36**	**206**	⇓P	**Pg**	**16 31 59.5**	**-0.2**
	baz=200						
YULB				*e*S	**Sg**	**16 32 04.5**	**-0.2**
	baz=200						
TWD	**Chiawan**	**0.38**	**18**	⇑P	**Pg**	**16 32 00.3**	**+0.3**
	baz=17						
TWD				S	**Sg**	**16 32 05.7**	**+0.4**
	baz=17						
TWF1	**Yuli**	**0.40**	**203**	P	**Pg**	**16 32 00.1**	**-0.2**
	baz=201						
TWF1				*e*S	**Sg**	**16 32 05.9**	**+0.1**
	baz=201						
CHGB	**Renai**	**0.43**	**322**	⇓P	**Pg**	**16 32 01.2**	**+0.1**
	baz=331						
CHGB				S	**Sg**	**16 32 06.4**	**-0.6**
	baz=331						
WHF	**Hehuan Shan**	**0.46**	**336**	⇓*i*P	**Pg**	**16 32 01.5**	**-0.2**
	baz=340						
WHF				S	**Sg**	**16 32 07.2**	**-0.9**
	baz=340						
NACB	**Ninganchiao**	**0.47**	**15**	⇑P	**Pg**	**16 32 01.4**	**-0.2**
	baz=18						
NACB				S	**Sg**	**16 32 07.4**	**-0.5**
	baz=18						
SSLB	**Suanglung**	**0.47**	**278**	⇓P	**Pg**	**16 32 01.4**	**-0.4**
	baz=287						
SSLB				S	**Sg**	**16 32 06.9**	**-1.3**
	baz=287						
ETLH	**Xiulin Townshi**	**0.48**	**2**	⇑P	**Pg**	**16 32 02.0**	**0.0**
	baz=5.0						
ETLH				*e*S	**Sg**	**16 32 08.1**	**-0.5**
	baz=5.0						
YUS	**Yu-Shan**	**0.53**	**244**	⇑*i*P	**Pg**	**16 32 03.0**	**+0.2**
	baz=241						
YUS				S	**Sg**	**16 32 09.6**	**-0.3**
	baz=241						
SMLT	**Sun Moon Lake**	**0.54**	**287**	⇓*i*P	**Pg**	**16 32 02.8**	**-0.3**
	baz=294						
SMLT				S	**Sg**	**16 32 09.6**	**-0.8**
	baz=294						
WHYT	**Xinyi Township**	**0.56**	**268**	*e*P	**Pg**	**16 32 03.8**	**+0.4**
	baz=267						
WHYT				*e*S	**Sg**	**16 32 10.6**	**-0.4**
	baz=267						
DPDB	**Guoxing**	**0.58**	**302**	⇓*i*P	**Pg**	**16 32 03.8**	**-0.1**
	baz=311						
DPDB				S	**Sg**	**16 32 10.8**	**-0.8**
	baz=311						
TYC	**Yuchr**	**0.59**	**288**	⇓*i*P	**Pg**	**16 32 03.5**	**-0.4**
	baz=297						
TYC				*e*S	**Sg**	**16 32 10.8**	**-0.9**
	baz=297						
TWT	**Tachien**	**0.59**	**333**	⇓P	**Pg**	**16 32 04.3**	**+0.2**
	baz=334						
TWT				S	**Sg**	**16 32 11.2**	**-0.8**
	baz=334						
TDCB	**Techi**	**0.60**	**332**	⇓P	**Pg**	**16 32 04.3**	**+0.1**
	baz=334						
TDCB				S	**Sg**	**16 32 11.4**	**-0.8**
	baz=334						
CHKT	**Chengkung**	**0.62**	**189**	*e*P	**Pb**	**16 32 05.4**	**+0.6**
	baz=184						
ELDTW	**Lidau**	**0.67**	**218**	P	**Pg**	**16 32 04.5**	**-0.9**
	baz=208						
ELDTW				S	**Sg**	**16 32 13.5**	**-0.9**
	baz=208						
WJS	**Zhushan**	**0.68**	**279**	*e*P	**Pg**	**16 32 06.4**	**+0.7**
	baz=278						
WJS				*e*S	**Sg**	**16 32 16.4**	**+1.6**
	baz=278						
NNSB	**Datong**	**0.71**	**354**	⇓P	**Pb**	**16 32 06.2**	**-0.2**
	baz=3.0						
NNSB				S	**Sg**	**16 32 15.4**	**-0.3**
	baz=3.0						
NNS	**Nan Shan**	**0.72**	**353**	⇓P	**Pb**	**16 32 06.5**	**-0.1**
	baz=6.0						
NNS				S	**Sb**	**16 32 15.7**	**-0.7**
	baz=6.0						
WHP	**Taichung City**	**0.73**	**319**	P	**Pb**	**16 32 06.5**	**-0.3**
	baz=321						
WHP				*e*S	**Sg**	**16 32 16.9**	**+0.6**
	baz=321						
CHN5	**Tsauling**	**0.73**	**261**	*e*P	**Pg**	**16 32 07.0**	**+0.4**
	baz=253						
CHN5				*e*S	**Sb**	**16 32 16.6**	**0.0**
	baz=253						
WNT	**Mingjian**	**0.73**	**283**	⇓P	**Pg**	**16 32 07.4**	**+0.8**
	baz=285						
WNT				S	**Sn**	**16 32 17.9**	**-1.0**
	baz=285						
ENA	**Nanau**	**0.75**	**20**	P	**Pb**	**16 32 06.2**	**-0.8**
	baz=22						
ENA				*e*S	**Sg**	**16 32 16.9**	**+0.1**
	baz=22						
NANB	**Nanao**	**0.75**	**20**	⇑P	**Pb**	**16 32 06.2**	**-0.8**
	baz=22						
NANB				*e*S	**Sb**	**16 32 16.0**	**-1.0**
	baz=22						
WGK	**Gukeng**	**0.83**	**268**	P	**Pn**	**16 32 09.1**	**-0.2**
	baz=267						
WGK				S	**Sn**	**16 32 20.6**	**-0.6**
	baz=267						
TCU	**Taichung**	**0.84**	**301**	*e*P	**Pg**	**16 32 09.1**	**+0.5**
	baz=301						
WDLH	**Douliu**	**0.85**	**268**	*e*P	**Pn**	**16 32 09.5**	**-0.1**
	baz=266						
STYT	**Tauyuan**	**0.86**	**230**	⇑P	**Pb**	**16 32 08.9**	**+0.1**
	baz=227						
STYT				S	**Sg**	**16 32 20.6**	**+0.5**
	baz=227						
TPUB	**Ta-pu**	**0.87**	**242**	*e*P	**Pg**	**16 32 09.6**	**+0.4**
	baz=240						
TPUB				*e*S	**Sb**	**16 32 20.6**	**0.0**
	baz=240						
NDT	**Datong Townshi**	**0.88**	**3**	*e*P	**Pb**	**16 32 09.1**	**-0.2**
	baz=5.0						
NDT				*e*S	**Sb**	**16 32 20.5**	**-0.3**
	baz=5.0						
CHN4	**Tsaushan**	**0.88**	**246**	P	**Pn**	**16 32 10.1**	**0.0**
	baz=244						
CHN4				S	**Sg**	**16 32 21.6**	**+0.6**
	baz=244						
TWQ1	**Liyutan**	**0.89**	**315**	*e*P	**Pg**	**16 32 10.0**	**+0.4**
	baz=321						
TWQ1				*e*S	**Sn**	**16 32 22.7**	**-0.1**
	baz=321						
WCHH	**Zhanghua**	**0.91**	**293**	*e*P	**Pn**	**16 32 10.3**	**0.0**
	baz=293						
WTP	**Ta-pu**	**0.91**	**239**	⇓P	**Pg**	**16 32 10.4**	**+0.4**
	baz=237						
WTP				*e*S	**Sb**	**16 32 21.9**	**+0.2**
	baz=237						
ENTT	**Nioudou**	**0.92**	**6**	*e*P	**Pb**	**16 32 09.2**	**-0.7**
	baz=8.0						
ENTT				*e*S	**Sb**	**16 32 21.9**	**-0.1**
	baz=8.0						
CHN2	**Minshiung**	**0.93**	**259**	*e*P	**Pb**	**16 32 10.3**	**+0.3**
	baz=258						
CHN2				*e*S	**Sn**	**16 32 23.9**	**+0.2**
	baz=258						
NSY	**Sanyi**	**0.95**	**317**	*e*P	**Pn**	**16 32 11.4**	**+0.4**
	baz=318						
NSY				*e*S	**Sn**	**16 32 24.6**	**+0.3**
	baz=318						
YHNB	**Yeheng**	**0.95**	**355**	⇑P	**Pb**	**16 32 10.2**	**-0.2**
	baz=357						
YHNB				S	**Sb**	**16 32 22.3**	**-0.6**
	baz=357						
TWC	**Suao**	**0.95**	**21**	*e*P	**Pb**	**16 32 09.8**	**-0.6**
	baz=18						
TWC				*e*S	**Sb**	**16 32 22.9**	**0.0**
	baz=18						
NSK	**Sanguang**	**0.96**	**354**	P	**Pb**	**16 32 10.4**	**-0.2**
	baz=356						
NSK				S	**Sb**	**16 32 22.7**	**-0.3**
	baz=356						
TWG	**Pinlang**	**0.97**	**202**	*e*P	**Pb**	**16 32 09.9**	**-0.7**
	baz=186						
TWG				*e*S	**Sb**	**16 32 22.9**	**-0.3**
	baz=186						
TWGBT	**Beinan**	**0.97**	**202**	*e*P	**Pb**	**16 32 08.8**	**-1.8**
	baz=186						
TWGBT				*e*S	**Sb**	**16 32 22.9**	**-0.3**
	baz=186						
WDJ	**Dajia District**	**0.98**	**310**	*e*P	**Pg**	**16 32 12.1**	**+0.8**
	baz=323						
WDJ				*e*S	**Sn**	**16 32 26.3**	**+1.3**
	baz=323						
CHY	**Chiayi**	**0.98**	**257**	*e*P	**Pn**	**16 32 11.5**	**+0.1**
	baz=256						
CHY				*e*S	**Sn**	**16 32 25.4**	**+0.3**
	baz=256						
NSTT	**Nanjuang**	**1.00**	**335**	⇓P	**Pg**	**16 32 11.9**	**+0.2**
	baz=337						
NSTT				S	**Sb**	**16 32 24.4**	**+0.1**
	baz=337						
PTSB	**Yuanli**	**1.00**	**316**	*e*P	**Pg**	**16 32 12.3**	**+0.6**
	baz=318						
TWK	**Hsinying**	**1.00**	**244**	⇑P	**Pg**	**16 32 12.2**	**+0.4**
	baz=242						
TWK				S	**Sg**	**16 32 25.5**	**+0.6**
	baz=242						
LIOB	**Emei**	**1.01**	**336**	P	**Pn**	**16 32 11.9**	**+0.1**
	baz=337						
LIOB				*e*S	**Sb**	**16 32 25.0**	**+0.5**
	baz=337						
CHN1	**Nanshi**	**1.01**	**238**	P	**Pg**	**16 32 12.3**	**+0.4**
	baz=237						
CHN1				S	**Sn**	**16 32 26.0**	**+0.2**
	baz=237						
TWE	**Neicheng**	**1.01**	**10**	*e*P	**Pb**	**16 32 10.7**	**-0.8**
	baz=22						
TWE				*e*S	**Sb**	**16 32 24.3**	**-0.3**
	baz=22						
SNST	**Tainan City**	**1.02**	**241**	*e*P	**Pg**	**16 32 12.2**	**+0.2**
	baz=240						
SNST				S	**Sn**	**16 32 26.1**	**+0.2**
	baz=240						
NMLH	**Miaoli**	**1.02**	**323**	*e*P	**Pg**	**16 32 13.1**	**+1.0**
	baz=324						
NMLH				*e*S	**Sn**	**16 32 26.5**	**+0.5**
	baz=324						
EOS1	**EOS1**	**1.02**	**36**	*e*P	**Pg**	**16 32 12.3**	**+0.2**
	baz=55						
RLNB	**Erlin**	**1.03**	**280**	P	**Pg**	**16 32 12.4**	**+0.2**
	baz=280						
RLNB				*e*S	**Sn**	**16 32 26.9**	**+0.7**
	baz=280						
SGST	**Jiashian**	**1.03**	**232**	⇑P	**Pb**	**16 32 11.3**	**-0.4**
	baz=230						
SGST				S	**Sn**	**16 32 26.3**	**0.0**
	baz=230						
SLBB	**Yuanshan**	**1.04**	**8**	*e*P	**Pb**	**16 32 10.2**	**-1.8**
	baz=23						
SLGT	**Liugui**	**1.04**	**226**	*e*P	**Pg**	**16 32 12.7**	**+0.2**
	baz=210						
NWLT	**Wulai**	**1.05**	**2**	*e*P	**Pb**	**16 32 12.0**	**-0.2**
	baz=13						
NWLT				*e*S	**Sb**	**16 32 25.2**	**-0.6**
	baz=13						
ILA	**Ilan**	**1.07**	**14**	*e*P	**Pn**	**16 32 12.8**	**+0.1**
	baz=17						
WTCT	**Ta-ch'eng**	**1.10**	**278**	*e*P	**Pn**	**16 32 13.3**	**+0.3**
	baz=277						
WLGB	**Puzi**	**1.10**	**258**	*e*P	**Pg**	**16 32 13.5**	**0.0**
	baz=257						
WLGB				*e*S	**Sg**	**16 32 28.8**	**+1.0**
	baz=257						
WSF	**Szhu**	**1.14**	**266**	*e*P	**Pb**	**16 32 13.9**	**+0.2**
	baz=266						
WSF				*e*S	**Sg**	**16 32 29.9**	**+0.6**
	baz=266						
WLTB	**Daxi**	**1.15**	**350**	*e*P	**Pg**	**16 32 15.0**	**+0.6**
	baz=10.0						
SBCB	**Hsinchu**	**1.16**	**338**	*e*P	**Pg**	**16 32 15.2**	**+0.6**
	baz=329						
HSN	**Hsinchu**	**1.17**	**337**	*e*P	**Pg**	**16 32 14.7**	**-0.1**
	baz=330						
NTC	**Toucheng**	**1.18**	**16**	*e*P	**Pb**	**16 32 14.4**	**+0.2**
	baz=20						
CHN3	**Shinhua**	**1.20**	**238**	*e*P	**Pg**	**16 32 16.5**	**+1.1**
	baz=233						
CHN8	**Yiju**	**1.21**	**252**	*e*P	**Pb**	**16 32 15.4**	**+0.6**
	baz=252						
CHN8				*e*S	**Sg**	**16 32 31.9**	**+0.5**
	baz=252						
ECL	**Taimali**	**1.21**	**203**	*e*P	**Pn**	**16 32 13.2**	**-1.4**
	baz=186						
SSD	**Sandimen**	**1.24**	**219**	P	**Pb**	**16 32 15.4**	**+0.1**
	baz=210						
SSD				*e*S	**Sg**	**16 32 32.4**	**+0.2**
	baz=210						
TWA	**Mucha**	**1.26**	**5**	*e*P	**Pb**	**16 32 15.7**	**0.0**
	baz=18						
NCUH	**Zhongli**	**1.27**	**348**	*e*P	**Pn**	**16 32 15.1**	**-0.3**
	baz=7.0						
NCU	**National Centr**	**1.27**	**348**	*e*P	**Pg**	**16 32 16.6**	**-0.2**
	baz=350						
NCU				*e*S	**Sg**	**16 32 35.1**	**+1.7**
	baz=350						
TIPB	**Shuangxi**	**1.29**	**15**	*e*P	**Pn**	**16 32 15.4**	**-0.3**
	baz=16						
TIPB				*e*S	**Sg**	**16 32 33.4**	**-0.6**
	baz=16						
TWM1	**Shoushan**	**1.31**	**227**	*e*P	**Pg**	**16 32 18.6**	**+1.1**
	baz=239						
MASBT	**Mashibuluo**	**1.34**	**215**	*e*P	**Pn**	**16 32 15.9**	**-0.5**
	baz=206						
TWB1	**Santiao Chiao**	**1.37**	**20**	*e*P	**Pn**	**16 32 15.8**	**-1.0**
	baz=24						
NWF	**Wu-fen Shan**	**1.38**	**12**	*e*P	**Pn**	**16 32 17.0**	**0.0**
	baz=26						
WFSB	**Wu-fen Shan**	**1.38**	**12**	*e*P	**Pn**	**16 32 16.9**	**+0.1**
	baz=27						
TWS1	**Kuangyinshan**	**1.38**	**358**	*e*P	**Pb**	**16 32 17.5**	**-0.2**
	baz=24						
YM01	**YM01**	**1.42**	**4**	*e*P	**Pn**	**16 32 17.8**	**+0.2**
	baz=8.0						
YM04	**YM04**	**1.43**	**3**	*e*P	**Pb**	**16 32 18.2**	**-0.4**
	baz=26						
YM10	**YM10**	**1.43**	**3**	*e*P	**Pn**	**16 32 17.9**	**+0.2**
	baz=20						
YM10				*e*S	**Sg**	**16 32 37.7**	**-0.8**
	baz=20						
NTST	**Danshui**	**1.44**	**359**	*e*P	**Pb**	**16 32 18.7**	**0.0**
	baz=24						
YM05	**YM05**	**1.44**	**4**	*e*P	**Pb**	**16 32 18.4**	**-0.5**
	baz=8.0						
EAST	**Anshuo**	**1.45**	**203**	*e*P	**Pn**	**16 32 17.6**	**-0.3**
	baz=188						
ANP	**Anpu**	**1.46**	**2**	*e*P	**Pb**	**16 32 19.0**	**-0.2**
	baz=26						
YM08	**YM08**	**1.47**	**4**	*e*P	**Pn**	**16 32 18.0**	**-0.1**
	baz=9.0						
JYNG	**Yonagunijimaku**	**1.54**	**61**	P	**Pn**	**16 32 19.5**	**+0.5**
JYNG				S	**Sb**	**16 32 40.2**	**+0.6**
SCZT	**Fangliau**	**1.55**	**210**	*e*P	**Pb**	**16 32 20.2**	**-0.4**
	baz=199						
YOJ	**Yonaguni jima**	**1.59**	**62**	P	**Pn**	**16 32 20.4**	**+0.6**
YOJ				*e*S	**Sb**	**16 32 41.3**	**0.0**
LAY	**Lan-yu**	**1.68**	**177**	*e*P	**Pn**	**16 32 19.5**	**-1.5**
	baz=167						
WDGT	**Dungji**	**1.72**	**255**	*e*P	**Pn**	**16 32 21.5**	**0.0**
	baz=250						
PHUB	**P'eng-hu**	**1.75**	**264**	*e*P	**Pn**	**16 32 22.1**	**+0.1**
	baz=241						
PNG	**Penghu**	**1.76**	**265**	*e*P	**Pn**	**16 32 22.6**	**+0.5**
	baz=263						
VCHM	**Qimei**	**1.94**	**255**	*e*P	**Pn**	**16 32 24.1**	**-0.5**
	baz=251						
IRIF	**Iriomote-Funau**	**2.16**	**73**	P	**Pn**	**16 32 28.2**	**+0.6**
IRIF				S	**Sn**	**16 32 55.4**	**+1.3**
HATJ	**Hateruma jima**	**2.17**	**81**	*e*S	**Sn**	**16 32 54.3**	**0.0**
VWUC	**VWUC**	**2.23**	**305**	*e*P	**Pn**	**16 32 28.1**	**-0.5**
	baz=305						
PTTC	**Pingtan**	**2.35**	**319**	*e*P	**Pn**	**16 32 30.2**	**-0.1**
	baz=321						
JKRS	**Kuro-shima**	**2.38**	**77**	P	**Pn**	**16 32 32.0**	**+1.3**
JKRS				*e*S	**Sn**	**16 33 01.1**	**+1.5**
PTMZ	**Houxiangcun**	**2.51**	**302**	*e*P	**Pn**	**16 32 32.2**	**-0.3**
	baz=302						
JIJ	**Ishigaki jima**	**2.53**	**75**	P	**Pn**	**16 32 33.1**	**+0.4**
JIJ				S	**Sn**	**16 33 02.8**	**-0.4**
JISG	**Ishigakijimahi**	**2.74**	**71**	P	**Pn**	**16 32 35.9**	**+0.3**
JISG				S	**Sn**	**16 33 07.6**	**-0.8**
KNM	**Kinmen**	**2.86**	**285**	*e*P	**Pn**	**16 32 38.5**	**+1.3**
	baz=284						
KNMB	**Chin-men Tao**	**2.91**	**285**	*e*P	**Pn**	**16 32 37.9**	**0.0**
	baz=288						
KNMB				*e*S	**Sn**	**16 33 11.5**	**-1.1**
	baz=288						
JTJ	**Tarama**	**3.09**	**72**	*e*S	**Sn**	**16 33 17.8**	**+0.6**
LYJJ	**Jianjiangzhen**	**3.21**	**332**	*e*P	**Pn**	**16 32 41.3**	**-0.8**
	baz=337						
MHZQ	**Yeshan**	**3.24**	**317**	*e*P	**Pn**	**16 32 42.1**	**-0.4**
	baz=318						
XPSS	**Dashiqiu**	**3.40**	**340**	*e*P	**Pn**	**16 32 44.6**	**-0.1

baz=28
JAVC eSg **Sg** 16 46 31.6 0.0
7.3nm,0.3s,baz=28
KRLC Kraliky 1.10 284 ePG **Pg** 16 46 16.5 -1.2
KRLC eSG **Sg** 16 46 31.5 -0.4
comp=Z,6.2nm,0.5s
VRAC Vranov 1.31 247 ePG **Pg** 16 46 21.4 -0.3
VRAC eSG **Sg** 16 46 38.5 -0.2
VRAC Vranov 1.31 247 ePg **Pg** 16 46 21.3 -0.4
baz=66
VRAC eSg **Sg** 16 46 38.5 -0.2
14nm,0.3s,baz=66
VYHS Vyhne 1.36 169 ePG **Pg** 16 46 22.3 -0.3
VYHS eSG **Sb** 16 46 41.0 +0.2
DPC Dobruska-Polom 1.46 292 ePG **Pn** 16 46 23.4 -0.9
DPC eSG **Sg** 16 46 43.8 +0.2
comp=Z,13nm,0.2s
DPC Dobruska-Polom 1.46 292 e **Sg** 16 46 43.8 +0.2
SMOL Smolenice 1.47 207 ePN **Pn** 16 46 24.3 -0.1
SMOL eSN **Sg** 16 46 44.3 +0.5
SMOL eLG Lg 16 46 45.8
KRUC Moravsky 1.54 241 ePG **Pn** 16 46 24.8 -0.5
KRUC eSG **Sn** 16 46 45.7 -0.3
KRUC Moravsky 1.54 241 ePg **Pn** 16 46 24.8 -0.5
baz=60
KRUC eSg **Sn** 16 46 45.7 -0.3
10nm,0.3s,baz=60
MODS Modra-Piesok 1.64 208 ePN **Pn** 16 46 26.7 0.0
MODS eSN **Sn** 16 46 47.4 -1.2
MODS eLG Lg 16 46 49.3
CHVC Chvalec 1.71 297 ePG **Pn** 16 46 27.6 -0.1
CHVC eSG **Sn** 16 46 50.8 +0.5
comp=Z,7.8nm,0.4s
KSP Ksiaz 1.71 307 ePg **Pn** 16 46 28.0 +0.3
KSP ePg **Pn** 16 46 28.0 +0.3
KSP eSg **Sb** 16 46 51.0 0.0
KSP eSg **Sb** 16 46 51.0 0.0
STHS Stebnicka Huta 1.87 102 ePN **Pg** 16 46 32.2 -0.1
STHS eSN **Sg** 16 46 58.2 +1.7
KECS Kecovo 1.90 134 eSN **Sn** 16 46 55.3 +0.5
TREC Trest 2.00 256 eSG **Sb** 16 46 59.2 0.0
PRU Pruhonice 2.53 275 eSG **Sb** 16 47 15.0 +0.6
KOLS Kolonicke sedl 2.66 108 ePG **Pg** 16 46 49.9 +2.4
BRG Berggiesshubel 3.07 292 SG **Sb** 16 47 32.4 +2.5
5.2nm,0.6s
KHC Kasperske Hory 3.25 259 ePG **Pb** 16 46 55.0 -0.1
KHC eSG **Sg** 16 47 40.3 -0.6
KHC Kasperske Hory 3.25 259 e **Pb** 16 46 55.0 -0.1

IDC 01 16:56:31.0±1.7,2°43N×125°97E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.2/37,mbtmp3.2/4,ML3.0/1,Error ellipse: s-maj=78.2km s-min=26.6km az=59.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.23**	**122**	Pn	Pn	16 58 04.2	0.0
	0.4nm,0.3s,baz=11,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**23.70**	**160**	P	P	17 01 44.4	-0.4
	1.4nm,0.8s,baz=339,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**27.06**	**164**	P	P	17 02 15.8	+0.4
	0.2nm,0.6s,baz=348,slow=8.2,SNR=6.6						
MKAR	**Makanchi Array**	**58.19**	**326**	P	P	17 06 26.9	-0.1
	0.1nm,0.3s,baz=122,slow=9.5,SNR=1.5						

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*NEIC **01** 17:03:13.6±2.1,33°9S±0°1×178°5W±0°1,h10km±2km, mb4.5/9*
*IDC **01** 17:03:14.3±1.9,33°73S×178°73W,h0km,mb4.1/3, mb1 4.3/4,mb1mx3.8/32,mbtmp4.1/4,ML3.8/1,Error ellipse: s-maj=41.5km s-min=32.7km az=83.0*
ISC 01 17:03:14.1±0.9,33°8S±0°1×178°6W±0°1,h10km,n28, σ1°53/30,mb4.2/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.69**	**217**	Pn	**Pn**	**17 04 39.4**	**+0.8**
	3.1nm,0.3s,baz=275,slow=2.8,SNR=29						
URZ				Sn	**Sn**	**17 05 44.1**	**+0.1**
	4.0nm,0.3s,baz=299,slow=22,SNR=8.1						
URZ	**Urewera**	**5.69**	**217**		**Pn**	**17 04 39.2**	**+0.6**
URZ					**Sn**	**17 05 44.3**	**+0.3**
OUZ	**Omahuta**	**6.62**	**255**	Pn	**Pn**	**17 04 50.1**	**-1.3**
BKZ	**Black Stump Fm**	**6.70**	**215**	Pn	**Pn**	**17 04 53.1**	**+0.5**
BFZ	**Birch Farm**	**8.05**	**209**	Pn	**Pn**	**17 05 09.0**	**-2.0**
MSWZ	**Moikau Station**	**9.07**	**211**	Pn	**Pn**	**17 05 21.4**	**-3.8**
PLWZ	**Palliser**	**9.20**	**210**	Pn	**Pn**	**17 05 23.2**	**-3.7**
SNZO	**South Karori**	**9.23**	**213**		**Pn**	**17 05 25.6**	**-1.7**
BHW	**Baring Head**	**9.23**	**212**	Pn	**Pn**	**17 05 25.7**	**-1.6**
THZ	**Tophouse**	**10.45**	**218**	Pn	**Pn**	**17 05 43.5**	**-0.5**
KHZ	**Kahutara**	**10.64**	**213**	Pn	**Pn**	**17 05 44.4**	**-2.1**
LTZ	**Lake Taylor**	**11.52**	**216**	Pn	**Pn**	**17 05 58.0**	**-0.7**
PPTF	**Pamatai, Papee**	**30.57**	**65**	P	**P**	**17 09 27.4**	**-0.8**
PPT	**Papeete**	**30.57**	**65**	P	**P**	**17 09 27.8**	**-0.3**
AS31	**Alice Springs**	**42.55**	**271**	P	**P**	**17 11 10.9**	**+0.7**
ASAR	**Alice Springs**	**42.55**	**271**	P	**P**	**17 11 11.2**	**+0.9**
	2.1nm,0.8s,baz=113,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**42.55**	**271**	P	**P**	**17 11 10.2**	**0.0**
WB2	**Warramunga Arr**	**43.83**	**276**	P	**P**	**17 11 20.8**	**+0.2**
WB2				IAmb	IAmb	17 11 22.1	
	comp=Z,4.5nm,0.9s						
WRAB	**Tennant Creek**	**43.84**	**276**	P	**P**	**17 11 21.4**	**+0.8**
WRAB				IAmb	IAmb	17 11 22.0	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**43.84**	**276**	P	**P**	**17 11 21.2**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=119,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**43.84**	**276**	P	**P**	**17 11 20.6**	**-0.1**
KNRA	**Kununurra**	**50.55**	**277**	P	**P**	**17 12 14.4**	**+1.3**
KNRA				IAmb	IAmb	17 12 32.4	
	comp=Z,31nm,1.6s						
FITZ	**Fitzroy Crossi**	**51.94**	**273**	P	**P**	**17 12 23.6**	**+0.1**
QSPA	**South Pole Qui**	**56.36**	**180**	P	**P**	**17 12 57.6**	**+2.3**
	comp=Z,2.3nm,1.1s,baz=19,slow=1.8,SNR=4.4						
QSPA	**South Pole Qui**	**56.36**	**180**	P	**P**	**17 12 57.4**	**+2.2**
QSPA				IAmb	IAmb	17 13 03.1	
	comp=Z,4.4nm,1.2s						
SOEI	**Soe**	**57.41**	**281**	P	**P**	**17 13 02.2**	**-1.2**
FINES	**FINESS Array B**	**148.09**	**338**	PKPbc	**PKPbc**	**17 22 59.8**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=22,slow=2.1,SNR=5.5						
FINES	**FINESS Array B**	**148.09**	**338**		**PKPbc**	**17 22 58.3**	**-0.9**

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*IDC **01** 17:28:36.1±2.9,31°47S×178°32W,h0km,mb4.3/3, mb1 4.5/4,mb1mx3.9/30,mbtmp4.3/4,ML4.3/1,MS3.3/2, Ms1 3.3/2,ms1mx2.7/30,Error ellipse: s-maj=65.8km s-min=42.4km az=123.0*
*ISCJB **01** 17:28:41.1±0.4,31°77S±0°03×178°47W±0°09,h45km, mb4.2/3,MS3.7/1,Error ellipse: s-maj=11.5km s-min=3.2km az=13.6*
*NEIC **01** 17:28:44.4±2.0,32°2S±0°1×178°4W±0°1,h68km±11km, mb4.6/18*
ISC 01 17:28:43.2±0.7,31°76S±0°06×178°6W±0°1,h45km,n80, σ2°66/90,mb4.5/8,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.55**	**13**	P	**Pn**	**17 29 21.5**	**-0.6**
GLKZ				S	**Sn**	**17 29 48.9**	**-3.0**
RIZ	**Raoul Island**	**2.56**	**12**	P	**Pn**	**17 29 21.0**	**-1.3**
RIZ				S	**Sn**	**17 29 50.6**	**-1.6**
MXZ	**Matakaoa Point**	**6.34**	**203**	P	**Pn**	**17 30 15.0**	**+0.9**
MXZ				S	**Sn**	**17 31 28.8**	**+3.6**
WMGZ	**Waiomatatini S**	**6.54**	**202**	P	**Pn**	**17 30 19.1**	**+2.2**
WMGZ				S	**Sn**	**17 31 33.1**	**+3.0**
HAZ	**Te Kaha**	**6.70**	**206**	P	**Pn**	**17 30 21.3**	**+2.3**
HAZ				S	**Sn**	**17 31 38.7**	**+4.7**
PKGZ	**Pakihiroa**	**6.71**	**203**	P	**Pn**	**17 30 20.7**	**+1.4**
PKGZ				S	**Sn**	**17 31 36.1**	**+1.6**
PUZ	**Puketiti**	**6.82**	**202**	P	**Pn**	**17 30 22.1**	**+1.3**
PUZ				S	**Sn**	**17 31 39.9**	**+2.8**
RUGZ	**Raukumara Rang**	**6.92**	**206**	P	**Pn**	**17 30 23.6**	**+1.3**
RUGZ				S	**Sn**	**17 31 43.5**	**+3.8**
CNGZ	**Carnagh Statio**	**7.21**	**201**	P	**Pn**	**17 30 27.5**	**+1.4**
MWZ	**Matawai**	**7.30**	**205**	P	**Pn**	**17 30 28.6**	**+1.3**
MWZ				S	**Sn**	**17 31 49.9**	**+1.0**
MARZ	**Manawahe**	**7.34**	**211**	P	Pn	17 30 32.4	+4.5
MARZ				S	**Sn**	**17 31 55.0**	**+5.1**
URZ	**Urewera**	**7.39**	**208**	Pn	**Pn**	**17 30 29.6**	**+1.0**
	4.5nm,0.3s,baz=269,slow=3.4,SNR=46						
URZ				Sn	**Sn**	**17 31 53.6**	**+2.5**
	15nm,0.3s,baz=88,slow=23,SNR=25						
URZ	**Urewera**	**7.39**	**208**	P	**Pn**	**17 30 29.6**	**+1.0**
URZ				S	**Sn**	**17 31 53.3**	**+2.2**
URZ	**Urewera**	**7.39**	**208**		**Pn**	**17 30 29.5**	**+1.0**
URZ					**Sn**	**17 31 47.8**	**-3.4**
OUZ	**Omahuta**	**7.41**	**240**		Pn	17 30 38.5	+10
RIGZ	**Rimuhau**	**7.56**	**202**	P	**Pn**	**17 30 31.7**	**+0.8**
RIGZ				S	**Sn**	**17 31 55.6**	**+0.4**
TOZ	**Tahuroa Road**	**7.71**	**218**	P	Pn	17 30 40.7	+7.8
PRGZ	**Paritu Road**	**7.72**	**201**	P	**Pn**	**17 30 33.3**	**+0.3**
RTZ	**Ruatahuna**	**7.75**	**207**	P	**Pn**	**17 30 33.8**	**+0.2**
SNGZ	**Shannon Statio**	**7.77**	**204**	P	**Pn**	**17 30 36.0**	**+2.3**
KNZ	**Kokohu**	**7.87**	**202**	P	**Pn**	**17 30 35.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**7.92**	**200**	P	**Pn**	**17 30 36.0**	**+0.2**
MRHZ	**Matea Rd**	**8.17**	**209**	P	**Pn**	**17 30 40.2**	**+1.0**
NMHZ	**Naumai**	**8.24**	**206**	P	**Pn**	**17 30 41.1**	**+0.9**
ARHZ	**Aropaoanui**	**8.32**	**205**	P	**Pn**	**17 30 41.2**	**-0.1**
BKZ	**Black Stump Fm**	**8.42**	**207**	P	**Pn**	**17 30 43.2**	**+0.5**
BKZ	**Black Stump Fm**	**8.42**	**207**	Pn	**Pn**	**17 30 42.4**	**-0.3**
HIZ	**Hauiti**	**8.63**	**217**	Pn	Pn	17 30 50.1	+4.6
WTVZ	**West Tongariro**	**8.76**	**211**	P	Pn	17 30 50.8	+3.4
NGZ	**Ngauruhoe**	**8.80**	**211**	P	Pn	17 30 52.3	+4.3
KAHZ	**Kahuranaki**	**8.83**	**204**	P	**Pn**	**17 30 47.3**	**-1.1**
BHHZ	**Black Hill Sta**	**8.87**	**208**	P	**Pn**	**17 30 48.4**	**-0.4**
KRHZ	**Kereru**	**8.88**	**206**	P	**Pn**	**17 30 47.4**	**-1.5**
FWVZ	**Far West T-bar**	**8.89**	**211**	P	Pn	17 30 52.6	+3.4
PXZ	**Pawanui**	**9.05**	**203**	P	**Pn**	**17 30 49.8**	**-1.5**
TSZ	**Takapari Road**	**9.40**	**207**	P	**Pn**	**17 30 53.9**	**-2.2**
BFZ	**Birch Farm**	**9.84**	**204**	P	**Pn**	**17 30 59.2**	**-2.9**
BFZ	**Birch Farm**	**9.84**	**204**	Pn	**Pn**	**17 30 59.8**	**-2.3**
BFZ					**Sn**	**17 32 44.4**	**-6.8**
MSWZ	**Moikau Station**	**10.84**	**206**	Pn	**Pn**	**17 31 14.5**	**-1.3**
MSWZ					**Sn**	**17 33 10.8**	**-4.9**
SNZO	**South Karori**	**10.96**	**208**	Pn	**Pn**	**17 31 14.3**	**-3.0**
PLWZ	**Palliser**	**10.98**	**205**	Pn	**Pn**	**17 31 17.1**	**-0.5**
PLWZ					**Sn**	**17 33 12.7**	**-6.3**
BHW	**Baring Head**	**10.98**	**207**	Pn	**Pn**	**17 31 15.7**	**-1.9**
BHW					**Sn**	**17 33 13.1**	**-6.0**
TUWZ	**Tuamarina**	**11.37**	**210**	Pn	**Pn**	**17 31 19.2**	**-3.8**
TUWZ					**Sn**	**17 33 22.8**	**-5.8**
NNZ	**Nelson**	**11.45**	**212**	Pn	**Pn**	**17 31 19.7**	**-4.3**
BSWZ	**Blackbirch Sta**	**11.64**	**209**	Pn	**Pn**	**17 31 22.3**	**-4.3**
THZ	**Tophouse**	**12.10**	**212**	Pn	**Pn**	**17 31 31.7**	**-1.3**
THZ					**Sn**	**17 33 42.5**	**-4.0**
KHZ	**Kahutara**	**12.36**	**208**	Pn	**Pn**	**17 31 31.8**	**-4.7**
KHZ					**Sn**	**17 33 46.9**	**-5.8**
LTZ	**Lake Taylor**	**13.20**	**211**	Pn	**Pn**	**17 31 43.4**	**-4.6**
OXZ	**Oxford**	**13.74**	**210**	Pn	**Pn**	**17 31 51.7**	**-3.6**
MQZ	**McQueen's Vall**	**13.79**	**208**	Pn	Pn	17 31 50.9	-5.2
LBZ	**Lake Benmore**	**15.39**	**212**	Pn	**Pn**	**17 32 13.3**	**-4.0**
LBZ				IAmb	IAmb	17 32 15.0	
	comp=Z,52nm,1.6s						
ODZ	**Otahua Downs**	**15.71**	**209**	Pn	**Pn**	**17 32 17.9**	**-3.6**
ODZ				IAmb	IAmb	17 32 43.1	
	comp=Z,84nm,1.8s						
WKZ	**Wanaka**	**16.27**	**213**		**Pn**	**17 32 26.4**	**-2.1**
WKZ				IAmb	IAmb	17 32 32.3	
	comp=Z,78nm,1.4s						
DZM	**Mont Dzumac**	**16.48**	**302**	LR	LR	17 36 54.7	
	comp=Z,41nm,19.3s,baz=26,slow=30						
DZM	**Mont Dzumac**	**16.48**	**302**	Pn	**Pn**	**17 32 31.7**	**+0.3**
WHZ	**Wether Hill Ro**	**17.56**	**213**		**Pn**	**17 32 41.4**	**-3.3**
WHZ				IAmb	IAmb	17 33 10.3	
	comp=Z,68nm,1.7s						
HNR	**Honiara**	**29.86**	**313**	P	**P**	**17 34 49.5**	**+3.0**
STKA	**Stephens Creek**	**33.73**	**259**	P	**P**	**17 35 22.1**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=95,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**33.73**	**259**	P	**P**	**17 35 20.2**	**-0.3**
BBOO	**Buckleboo**	**38.16**	**256**	P	**P**	**17 35 58.6**	**+0.2**
BBOO				IAmb	IAmb	17 36 01.2	
	comp=Z,9.8nm,1.4s						
COEN	**Coen**	**39.21**	**288**	P	**P**	**17 36 08.6**	**+1.3**
COEN				IAmb	IAmb	17 36 15.5	
	comp=Z,6.9nm,1.0s						
TAOE	**Nuku Hiva Isla**	**42.29**	**66**	P	**P**	**17 36 32.1**	**-0.7**
AS31	**Alice Springs**	**42.58**	**269**	P	**P**	**17 36 35.5**	**+0.4**
ASAR	**Alice Springs**	**42.58**	**269**	P	**P**	**17 36 35.5**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=106,slow=7.3,SNR=109						
ASAR	**Alice Springs**	**42.58**	**269**	P	**P**	**17 36 35.0**	**-0.1**
WB2	**Warramunga Arr**	**43.68**	**274**	P	**P**	**17 36 44.2**	**+0.2**
WRAB	**Tennant Creek**	**43.69**	**274**	P	**P**	**17 36 43.9**	**-0.1**
WRAB				IAmb	IAmb	17 36 44.7	
	comp=Z,6.3nm,0.3s						
WRA	**Warramunga Arr**	**43.69**	**274**	P	**P**	**17 36 44.2**	**+0.2**
	comp=Z,4.5nm,0.3s,baz=111,slow=8.0,SNR=140						
WRA	**Warramunga Arr**	**43.69**	**274**	P	**P**	**17 36 43.7**	**-0.4**
WB0	**Warramunga Arr**	**43.72**	**274**	P	**P**	**17 36 44.5**	**+0.2**
WB0				IAmb	IAmb	17 36 45.2	
	comp=Z,5.0nm,0.7s						
MTN	**Manton Dam**	**49.74**	**280**	P	**P**	**17 37 31.8**	**+0.4**
MTN				IAmb	IAmb	17 37 34.0	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**50.35**	**276**	P	**P**	**17 37 36.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**51.90**	**271**	P	**P**	**17 37 47.7**	**+0.2**
QSPA	**South Pole Qui**	**58.35**	**180**		P	17 38 36.9	+3.3
SYO	**Syowa Base**	**75.69**	**193**	eX	**P**	**17 40 25.2**	**+1.8**
VNA3	**Neumayer Olymp**	**76.98**	**176**	P	**P**	**17 40 32.1**	**+1.3**
VNA2	**Neumayer--Watz**	**77.41**	**177**	P	**P**	**17 40 34.8**	**+1.7**
VNA1	**Neumayer--Stat**	**77.64**	**177**	P	**P**	**17 40 35.2**	**+0.8**
ANMO	**Albuquerque**	**94.79**	**52**	LR	LR	18 19 57.2	
	comp=Z,26nm,18.2s,baz=100,slow=33						
FINES	**FINESS Array B**	**146.25**	**339**	PKPbc	**PKPbc**	**17 48 16.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=72,slow=4.5,SNR=10						

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*IDC **01** 17:32:56.6±2.0,36°83N×144°66E,h0km,mb3.3/3, mb1 3.7/6,mb1mx3.4/34,mbtmp3.6/6,ML3.2/3,Error ellipse: s-maj=47.0km s-min=26.4km az=75.0*
*ISCJB **01** 17:32:58.6±0.8,36°88N±0°05×144°57E±0°08,h35km, mb3.5/3,Error ellipse: s-maj=10.4km s-min=6.2km az=26.9*
*JMA **01** 17:33:02.7±0.3,37°02N×144°29E,h58km,M3.4*
ISC 01 17:33:00.1±1.2,36°96N±0°07×144°6E±0°1,h35km,n28, σ2°14/30,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.80**	**300**	P	**Pn**	**17 33 43.3**	**+0.9**
JIO	**Ouri**	**2.95**	**301**	P	**Pn**	**17 33 45.5**	**+1.1**
JFK	**Kawauchi**	**2.97**	**279**	P	**Pn**	**17 33 45.5**	**+0.7**
ONAJ	**Iwakimizuishiy**	**3.01**	**274**	P	**Pn**	**17 33 46.1**	**+0.7**
ONAJ				eS	**Sn**	**17 34 17.7**	**-2.6**
JMST	**Minamisoumatoc**	**3.02**	**286**	P	**Pn**	**17 33 46.1**	**+0.6**
JKMT	**Kesennumamotoy**	**3.06**	**308**	P	**Pn**	**17 33 46.9**	**+0.9**
JMK	**Ichinoseki**	**3.31**	**308**	P	**Pn**	**17 33 51.2**	**+1.9**
JFT	**Otama**	**3.42**	**281**	P	**Pn**	**17 33 52.4**	**+1.5**
BSO1	**Boso 1**	**3.71**	**233**	P	**Pn**	**17 33 54.4**	**0.0**
BSO1				eS	**Sn**	**17 34 36.3**	**-0.3**
JRY	**Ryogami san**	**4.66**	**260**	P	**Pn**	**17 34 08.4**	**+0.5**
MJAR	**Matsushiro Ar**	**5.12**	**267**	**Pn**	**Pn**	**17 34 16.1**	**+1.8**
	0.3nm,0.3s,baz=98,slow=37,SNR=8.1						
MJAR				Sn	**Sn**	**17 35 11.6**	**-0.5**
	0.0nm,0.3s,baz=301,slow=34,SNR=1.5						
JOT	**Ohata**	**5.19**	**329**	P	**Pn**	**17 34 18.0**	**+2.8**
JHJ2	**Mitsune**	**5.46**	**227**	P	**Pn**	**17 34 18.1**	**-0.9**
JHJ2				eS	**Sn**	**17 35 16.5**	**-4.2**
JHJ	**Hachijo jima 2**	**5.48**	**227**	Pn	**Pn**	**17 34 18.5**	**-0.7**
	11nm,0.3s,baz=237,slow=23,SNR=8.4						
JHJ				Sn	**Sn**	**17 35 16.3**	**-4.7**
	14nm,0.3s,baz=61,slow=14,SNR=2.1						
JKB	**Kayabe**	**5.63**	**332**	P	**Pn**	**17 34 23.1**	**+1.9**
JCH	**Churui**	**5.72**	**351**	P	**Pn**	**17 34 23.3**	**+0.8**
JCH				eS	**Sn**	**17 35 24.5**	**-2.4**
NEM2	**Nemuro 2**	**6.46**	**8**	P	**Pn**	**17 34 32.3**	**-0.4**
NEM2				eS	**Sn**	**17 35 41.3**	**-3.8**
JTKR	**Abashiri--Toko**	**7.02**	**356**	P	**Pn**	**17 34 40.9**	**+0.6**
JTKR				eS	**Sn**	**17 35 54.9**	**-4.0**
ASAJ	**Asahikawa**	**7.30**	**349**	Pn	**Pn**	**17 34 45.8**	**+1.6**
	0.4nm,0.3s,baz=177,slow=22,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**25.99**	**125**	T	T	18 05 22.5	
	baz=316,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**26.00**	**125**	T	T	18 05 23.1	
	baz=316,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**26.01**	**125**	T	T	18 05 22.0	
	baz=316,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**26.76**	**127**	T	T	18 06 18.7	
	baz=318,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**26.76**	**127**	T	T	18 06 25.8	
	baz=318,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**26.77**	**127**	T	T	18 06 27.8	
	baz=318,slow=76,SNR=25						
MKAR	**Makanchi Array**	**46.29**	**303**	P	**P**	**17 41 25.1**	**+3.0**
	0.8nm,1.1s,baz=78,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**57.41**	**191**	P	**P**	**17 42 45.8**	**+0.6**
	0.2nm,0.5s,baz=10,slow=7.1,SNR=6.9						
ASAR	**Alice Springs**	**61.13**	**191**	P	**P**	**17 43 12.3**	**+1.5**
	0.2nm,0.5s,baz=3.9,slow=6.6,SNR=6.6						

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*ISCJB **01** 18:05:18.8±0.3,43°72N±0°02×105°26W±0°04,h8km, mb3.9/4,Error ellipse: s-maj=4.0km s-min=3.4km az=171.4*
*IDC **01** 18:05:18.6±1.4,43°66N×105°47W,h0km,mb3.9/4, mb1 3.8/10,mb1mx3.6/50,mbtmp3.7/10,ML3.1/5,Error ellipse: s-maj=33.0km s-min=8.0km az=149.0*
*NEIC **01** 18:05:19.7±1.2,43°75N±0°05×105°30W±0°06,h0km±1km, ML3.4/80*
ISC 01 18:05:20.3±0.8,43°75N±0°06×105°27W±0°07,h8km,n103, σ0°88/102,mb3.9/4,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**67**		**Pg**	**18 05 38.9**	**-0.1**
K22A	**Casper**	**1.43**	**220**		**Pn**	**18 05 44.5**	**-2.2**
K22A				IAML		18 06 07.9	
	comp=N,839nm,0.3s						
PHWY	**Pilot Hill**	**2.45**	**183**		**Pn**	**18 06 00.7**	**-0.1**
PHWY				IAML		18 06 35.2	
	comp=N,167nm,0.3s						
RWWY	**Rawlins**	**2.50**	**215**		**Pn**	**18 06 01.3**	**-0.2**
RWWY				IAML		18 06 38.8	
	comp=N,268nm,0.5s						
N23A	**Red Feather La**	**2.89**	**190**		**Pn**	**18 06 07.3**	**+0.4**
N23A				IAML		18 06 56.3	
	comp=E,126nm,0.8s						
N23A				IAML		18 06 56.5	
	comp=N,119nm,0.7s						
LAO	**LASA Array**	**3.02**	**347**		**Pn**	**18 06 07.2**	**-1.3**
LAO				IAML		18 06 54.8	
	comp=N,158nm,0.8s						
LAO				IAML		18 07 07.7	
	comp=N,182nm,0.6s						
RLMT	**Red Lodge**	**3.17**	**297**		**Pn**	**18 06 11.1**	**+0.3**
RLMT				IAML		18 07 06.1	
	comp=N,63nm,0.4s						
RLMT				IAML		18 07 09.0	
	comp=N,72nm,0.7s						
BW06	**Boulder Array**	**3.28**	**254**		**Pn**	**18 06 12.4**	**+0.2**
BW06				IAML		18 07 02.5	
	comp=N,89nm,0.7s						
PD31	**Pinedale Array**	**3.28**	**254**		**Pn**	**18 06 12.2**	**0.0**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**18 06 12.2**	**0.0**
	comp=N,6.5nm,0.3s,baz=74,slow=16,SNR=81						
PDAR				Lg		18 06 56.7	
	comp=N,22nm,0.3s,baz=80,slow=28,SNR=10						
YNE	**Yellowstone No**	**3.62**	**292**		**Pn**	**18 06 17.4**	**+0.4**
YMP	**Mirror Lake Pl**	**3.65**	**288**		**Pn**	**18 06 17.9**	**+0.6**
OGNE	**Ogallala**	**3.69**	**138**		**Pn**	**18 06 17.9**	**+0.3**
GCMT	**Greycliff**	**3.74**	**305**		**Pn**	**18 06 16.6**	**-1.8**
LKWY	**Lake**	**3.78**	**284**		**Pn**	**18 06 19.7**	**+0.6**
LKWY				IAML		18 06 46.5	
	comp=N,68nm,0.6s						
LKWY				IAML		18 06 49.9	
	comp=N,41nm,0.7s						
LOHW	**Long Hollow**	**3.87**	**270**		**Pn**	**18 06 21.3**	**+1.0**
H17A	**Grant Village**	**3.88**	**281**		**Pn**	**18 06 22.1**	**+1.7**
H17A				IAML		18 07 23.2	
	comp=E,34nm,0.6s						
H17A				IAML		18 07 25.8	
	comp=N,35nm,1.2s						
YUF	**Upper Falls**	**3.89**	**286**		**Pn**	**18 06 21.5**	**+0.9**
FLWY	**Flagg Ranch**	**3.94**	**277**		**Pn**	**18 06 21.6**	**+0.4**
FLWY				IAML		18 07 38.9	
	comp=N,41nm,1.2s						
FLWY				IAML		18 07 44.0	
	comp=N,35nm,1.0s						
ISCO	**Idaho Springs**	**3.95**	**184**		**Pn**	**18 06 22.0**	**+0.5**
MOOW	**Moose Ponds**	**3.96**	**272**		**Pn**	**18 06 20.6**	**-1.0**
SNOW	**Snow King Moun**	**3.99**	**268**		**Pn**	**18 06 24.2**	**+2.2**
SNOW				IAML		18 07 36.8	
	comp=N,68nm,1.0s						
SNOW				IAML		18 07 38.0	
	comp=N,55nm,1.2s						
YNR	**Norris Junctio**	**4.00**	**286**		**Pn**	**18 06 21.7**	**-0.5**
YPP	**Pitchstone Pla**	**4.03**	**279**		**Pn**	**18 06 23.0**	**+0.5**
REDW	**Red Top Meadow**	**4.07**	**267**		**Pn**	**18 06 23.9**	**+0.7**
REDW				IAML		18 07 38.6	
	comp=N,68nm,0.7s						
REDW				IAML		18 07 40.3	
	comp=N,82nm,0.7s						
IMW	**Indian Meadow**	**4.10**	**274**		**Pn**	**18 06 24.1**	**+0.5**
IMW				IAML		18 06 54.0	
	comp=N,54nm,0.5s						
IMW				IAML		18

ELK Elko 7.98 251 Pn **Pn 18 07 17.2 +0.4**
comp=N,0.2nm,0.3s,baz=59,slow=13,SNR=5.3
ELK Elko 7.98 251 Pn 18 07 16.5 -0.3
PSUT Pine Spring 8.31 234 Pn 18 07 21.5 +0.3
CCUT Cedar City 8.72 228 Pn 18 07 27.6 +0.7
F10A Beach Ranch, E 8.78 289 Pn **Pn 18 07 27.2 -0.4**
I10CA LAC DU BONNET 9.03 41 *i* 19 03 20.0
baz=222,slow=329,SNR=2.4
U15A North Rim 9.07 219 Pn 18 07 31.4 -0.3
ULM Lac du Bonnet 9.14 41 Pn **Pn 18 07 31.8 -0.6**
comp=N,2.2nm,0.3s,baz=226,slow=12,SNR=8.7
ULM Lg Lg 18 10 05.3
comp=N,0.8nm,0.3s,baz=271,slow=3.2,SNR=3.0
ULM Lac du Bonnet 9.14 41 Pn 18 07 31.5 -0.9
NEW Newport 9.40 303 Pn **Pn 18 07 32.2 -3.8**
comp=N,0.1nm,0.3s,baz=114,slow=20,SNR=3.6
NEW Sn Sn 18 09 03.0 -19
comp=N,0.6nm,0.3s,baz=354,slow=6.4,SNR=3.4
WUAZ Wupatki 9.47 212 Pn 18 07 37.1 0.0
NVAR Mina Array Bea 11.17 246 Pn **Pn 18 07 59.4 -1.0**
comp=N,0.1nm,0.3s,baz=64,slow=11,SNR=4.3
YBH Yreka Blue Hor 12.98 267 Pn **Pn 18 08 29.0 +4.0**
comp=N,0.1nm,0.3s,baz=80,slow=9.0,SNR=4.3
YKA Yellowknife Ar 19.56 347 P **Pn 18 09 49.7 +0.2**
comp=N,0.1nm,0.3s,baz=155,slow=11,SNR=2.9
ARCES ARCESS Array B 61.41 18 P **P 18 15 36.3 -0.1**
comp=N,1.1nm,0.5s,baz=334,slow=6.4,SNR=12
ARCES ARCESS Array B 61.41 18 P **P 18 15 36.1 -0.3**
ZALV Zalesovo Beam 82.30 354 P **P 18 17 42.1 +0.1**
comp=N,0.8nm,0.5s,baz=12,slow=8.0,SNR=4.8
ZALV Zalesovo Beam 82.30 354 P **P 18 17 42.2 +0.2**
SONM Songino Array 84.63 339 P **P 18 17 54.7 +0.3**
comp=N,0.3nm,0.6s,baz=28,slow=3.7,SNR=3.0
SONM Songino Array 84.63 339 P **P 18 17 54.5 +0.1**
MKAR Makanchi Array 89.60 355 P **P 18 18 18.5 +0.2**
comp=N,0.3nm,0.7s,baz=0.4,slow=3.7,SNR=3.8
MKAR Makanchi Array 89.60 355 P **P 18 18 18.4 0.0**

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*NCEDC **01** 18:14:27.3±1.4, 36°.88N±0°.03×121°.61W±0°.08, h5km±4km, Md2.7*
NEIC 01 18:14:27.0±2.3, 36°.82N±0°.04×121°.67W±0°.07, h16km±4km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTUM	**Tustin Road**	**0.02**	**61**		Pg	18 14 28.9	-0.8
HERM	**Elkhorn Road**	**0.04**	**243**		Pg	18 14 30.3	+0.5
HCOM	**Corn Cob Canyo**	**0.08**	**334**		Pg	18 14 29.6	-0.6
ANZ	**Anzar Road**	**0.09**	**42**		Pg	18 14 28.2	-2.1
HBTM	**San Juan Bauti**	**0.10**	**70**		Pg	18 14 28.7	-1.6
FRP	**Fremont Peak**	**0.15**	**114**		Pg	18 14 30.5	-0.6
CSR	**Chase Ranch**	**0.15**	**25**		Pg	18 14 29.6	-1.5
OCR	**O'Connell Ranc**	**0.16**	**52**		Pg	18 14 29.8	-1.3
JELB	**Ellicott, Sant**	**0.17**	**310**		Pb	18 14 31.5	-0.3
SAO	**San Andreas Ge**	**0.18**	**107**	Pg	Pg	18 14 30.7	-0.7
BSRM	**Salinas Radio**	**0.19**	**142**		Pg	18 14 31.7	+0.2
BVYM	**Vineyard**	**0.21**	**108**		Pg	18 14 31.5	-0.4
HLPM	**Lions Peak**	**0.23**	**7**		Pg	18 14 31.1	-1.0
CDC	**Canada Road**	**0.25**	**35**		Pg	18 14 31.5	-1.1
BSLM	**Silva Ranch**	**0.26**	**99**		Pb	18 14 33.1	-0.2
JECB	**Eureka Canyon**	**0.26**	**334**		Pg	18 14 32.5	-0.2
HFEM	**San Felipe**	**0.27**	**52**		Pg	18 14 32.0	-0.8
JTGM	**Trout Gulch Ro**	**0.27**	**321**		Pg	18 14 33.0	+0.1
HMOM	**Monterey**	**0.30**	**223**		Pb	18 14 34.9	+0.9
SCZ	**Santa Cruz**	**0.30**	**136**		Pg	18 14 33.4	0.0
HSPM	**Sheep**	**0.32**	**22**		Pg	18 14 33.0	-0.8
JHLM	**Holstrom Ranch**	**0.32**	**335**		Pg	18 14 33.2	-0.5
GHS	**Gilroy Hot Spr**	**0.33**	**32**		Pg	18 14 33.0	-0.8
BHRM	**Hodges Ranch**	**0.33**	**105**		Pb	18 14 34.5	-0.1
BJOM	**Mount Johnson**	**0.34**	**124**		Pg	18 14 34.1	0.0
JLAB	**Laurel Hill**	**0.34**	**351**		Pg	18 14 33.6	-0.5
CADM	**Anderson Res.**	**0.35**	**5**		Pg	18 14 33.4	-0.8
BJCM	**Johnson Can.**	**0.35**	**141**		Pg	18 14 34.4	+0.3
PACP	**Pacheco Peak**	**0.36**	**58**		Pg	18 14 33.8	-0.6
AMC	**Almaden**	**0.37**	**337**		Pg	18 14 34.0	-0.6
JUMM	**Mount Umunhum**	**0.39**	**332**		Pg	18 14 34.5	-0.5
HPCM	**Pacheco Lake**	**0.40**	**52**		Pg	18 14 34.4	-0.7
BEHM	**Elkhorn Ranch**	**0.42**	**111**		Pb	18 14 36.2	+0.1
HAST	**Hastings Reser**	**0.44**	**168**		Pb	18 14 36.8	+0.4
SLD	**San Luis Dam**	**0.44**	**54**		Pg	18 14 35.2	-0.6
CCOB	**Coe Ranch Numb**	**0.44**	**359**		Pg	18 14 36.0	+0.1
SFJWR	**San Luis Fatjo**	**0.46**	**59**		Pg	18 14 35.6	-0.6
JJOM	**Saint Joseph's**	**0.46**	**327**		Pg	18 14 36.4	+0.1
BSMM	**Soledad Missio**	**0.47**	**156**		Pb	18 14 37.4	+0.3
BEMM	**Emmet**	**0.48**	**109**		Pb	18 14 37.0	-0.1
JBNB	**Ben Lomond Mou**	**0.50**	**308**		Pg	18 14 36.6	-0.4
BCWM	**Chews Ridge**	**0.52**	**171**		Pb	18 14 38.4	+0.6
BSGM	**Shirttail Gulc**	**0.52**	**140**		Pg	18 14 37.4	+0.1
MHC	**Mount Hamilton**	**0.52**	**2**		Pg	18 14 37.1	-0.3
BAVM	**Antelope Valle**	**0.54**	**108**		Pb	18 14 38.0	-0.1
ARM	**Arnold Ranch**	**0.54**	**11**		Pb	18 14 37.2	-0.5
BBGB	**Big Mountain B**	**0.56**	**115**		Pb	18 14 38.8	+0.3
JSGM	**Saratoga Golf**	**0.56**	**327**		Pb	18 14 38.7	+0.3
BBNM	**San Benito**	**0.56**	**123**		Pg	18 14 38.4	+0.2
JHUM	**Huhtala Lane,**	**0.57**	**315**		Pg	18 14 38.0	-0.2
BPOM	**Post Ranch**	**0.59**	**188**		Pb	18 14 39.9	+0.9
JPC	**Peters Creek,**	**0.63**	**316**		Pb	18 14 40.2	+0.5
JBMM	**Black Mountain**	**0.63**	**322**		Pb	18 14 40.5	+0.7
BAPM	**Anderson Peak**	**0.64**	**178**		Pb	18 14 40.6	+0.7
CMMM	**Mount Mocho**	**0.65**	**12**		Pg	18 14 39.4	-0.4
LRV	**Little Rabbit**	**0.65**	**127**		Pb	18 14 40.6	+0.6
CMLM	**Mount Lewis**	**0.66**	**1**		Pb	18 14 40.4	+0.1
JPSM		**0.67**	**305**		Pg	18 14 40.1	+0.1
BRMM	**Rolling Bench**	**0.68**	**88**		Pb	18 14 40.9	+0.5
JJRM	**Joaquin Road**	**0.68**	**321**		Pg	18 14 40.3	0.0
JFP	**Foothills Park**	**0.69**	**322**		Pg	18 14 40.1	-0.3
JSFB	**Stanford Teles**	**0.71**	**325**		Pg	18 14 41.0	0.0
BMSM	**Mercy Hot Spri**	**0.72**	**103**		Pb	18 14 41.4	+0.2
CMJM	**Mission San Jo**	**0.72**	**347**		Pg	18 14 41.0	-0.1
JRSC	**Jasper Ridge**	**0.74**	**322**		Pg	18 14 41.1	-0.4
BGH	**Bear Gulch**	**0.75**	**314**		Pb	18 14 41.8	0.0
LRC	**Lone Oak Road**	**0.76**	**138**		Pb	18 14 42.0	+0.1
PBWM	**Bitterwater Cr**	**0.78**	**130**		Pb	18 14 42.7	+0.6
WENL	**Wente Vineyard**	**0.81**	**355**		Pb	18 14 42.6	0.0
CNIC	**Niles Canyon**	**0.82**	**343**		Pb	18 14 43.0	0.0
PCCM	**Crazy Canyon**	**0.83**	**151**		Pn	18 14 44.0	-0.2
JCHM	**Cahill Ridge**	**0.90**	**321**		Pn	18 14 44.9	-0.2
CDOM	**Doolan Road**	**0.92**	**352**		Pn	18 14 45.6	+0.3
JCPM	**Coyote Point**	**0.93**	**326**		Pb	18 14 44.8	0.0
PAPM	**Alder Peak**	**0.94**	**165**		Pn	18 14 45.8	+0.2
SAC	**San Andreas**	**0.97**	**322**		Pg	18 14 45.8	0.0
CLCB	**Lake Chabot**	**0.97**	**341**		Pb	18 14 45.2	-0.3
PPTM	**Peach Tree Val**	**1.04**	**133**		Pg	18 14 47.2	+0.1
JSBM	**San Bruno Moun**	**1.04**	**326**		Pb	18 14 46.6	-0.1
BGC	**Bolinger Road**	**1.05**	**343**		Pg	18 14 47.2	0.0
PHSB	**Hesperia Broad**	**1.11**	**153**		Pg	18 14 48.7	+0.3
PSMM	**Smith Mountain**	**1.14**	**131**		Pg	18 14 49.5	+0.4
BDM	**Black Diamond**	**1.15**	**352**		Pn	18 14 48.3	-0.1
BKS	**Berkeley--Byer**	**1.15**	**337**		Pn	18 14 47.8	-0.7
CVPM	**Vollmer Peak**	**1.15**	**338**		Pn	18 14 47.7	-0.9
VAK	**Adit at Lawren**	**1.16**	**336**		Pn	18 14 47.7	-0.9
BRIB	**Briones**	**1.17**	**341**		Pb	18 14 49.0	+0.2
PHPM	**Hope Ranch**	**1.19**	**134**		Pn	18 14 49.1	0.0
PHCM	**Hearst Castle**	**1.21**	**160**		Pg	18 14 51.0	+0.7
PKD	**Bear Valley Ra**	**1.26**	**133**		Pn	18 14 50.0	0.0
PPO	**Portuguese Can**	**1.27**	**138**		Pb	18 14 50.8	+0.2
PVCM	**Vineyard Canyo**	**1.28**	**134**		Pn	18 14 50.4	+0.1
PWKM	**Work Ranch**	**1.37**	**137**		Pb	18 14 52.0	-0.3
BLDC	**Black Mountain**	**1.42**	**154**		Pb	18 14 53.3	+0.1
MCUB	**Copperopolis B**	**1.42**	**35**		Pn	18 14 52.4	+0.1
PCMM	**Cholame Hills**	**1.43**	**135**		Pg	18 14 54.0	-0.5
MHDM	**Hidden Dam**	**1.45**	**78**		Pn	18 14 52.7	+0.2
SNT	**Sears Point**	**1.50**	**336**		Pn	18 14 53.7	+0.4
PAGB	**Antelope Grade**	**1.58**	**133**		Pn	18 14 55.6	-0.2
CMB	**Columbia Colle**	**1.58**	**40**		Pn	18 14 54.5	0.0
PTAM	**Tassajara Cree**	**1.62**	**151**		Pb	18 14 56.8	+0.2
MCCM	**Marconi Confer**	**1.64**	**324**		Pn	18 14 55.5	+0.3
MCCM	**Marconi Confer**	**1.64**	**324**		Pn	18 14 55.9	+0.6
CVS	**Carmenet Viney**	**1.65**	**338**		Pn	18 14 54.9	-0.4
NSHM	**Saint Helena R**	**1.86**	**337**		Pb	18 15 00.6	0.0
AFDM	**Forest Hills D**	**2.20**	**14**		Pn	18 15 03.4	+0.5
MDPB	**Devils Postpil**	**2.22**	**68**		Pn	18 15 03.6	+0.2
OMMB	**Old Mammoth Mi**	**2.27**	**69**		Pn	18 15 05.7	+1.5
HOPS	**Hopland Field**	**2.44**	**333**	Pn	Pn	18 15 07.8	+1.5
WAKR	**Walker**	**2.44**	**46**		Pn	18 15 06.5	+0.1
RUBR	**Rubicon Trail**	**2.53**	**28**		Pb	18 15 10.3	-1.9
ORV	**Oroville**	**2.74**	**3**		Pn	18 15 10.9	+0.6
PNTR	**Pine Nut**	**2.79**	**35**		Pn	18 15 09.2	-2.1
ISA	**Isabella, Lake**	**2.83**	**113**		Pn	18 15 11.5	-0.1
YERR	**Yerington**	**2.89**	**41**		Pn	18 15 12.9	+0.2
VCNR	**Virginia City**	**2.94**	**32**		Pn	18 15 14.0	+0.7
RYN	**Ryan**	**3.08**	**53**		Pn	18 15 13.9	-1.3
NVAR	**Mina Array Bea**	**3.12**	**58**		Pn	18 15 13.5	-2.2
BEKR	**Beckworth**	**3.21**	**18**		Pn	18 15 15.7	-1.4
KVN	**Kaiserville**	**3.59**	**51**		Pn	18 15 20.5	-1.7
TPNV	**Topopah Spring**	**4.34**	**87**		Pn	18 15 33.7	+1.1

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*ISCJB **01** 18:16:48.6±0.7, 38°.26N±0°.04×141°.65E±0°.07, h58km±5km, mb3.4/3, Error ellipse: s-maj=10.2km s-min=6.0km az=23.9*
*JMA **01** 18:16:49.5±0.1, 38°.28N×141°.64E, h53km±1km, M3.6*
JMA Felt II J1.
*IDC **01** 18:16:51.0±3.2, 38°.26N×141°.67E, h69km±31km, mb3.0/3, mb1 3.2/6, mb1mx3.0/45, mbtmp3.3/6, ML2.6/3, Error ellipse: s-maj=44.3km s-min=25.7km az=92.0*
ISC 01 18:16:49.4±1.2, 38°.24N±0°.06×141°.66E±0°.08, h49km±8km, n27, σ0°76/32, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.17**	**295**	P	**Pn**	**18 16 57.8**	**+0.4**
JIKH				S	**Sn**	**18 17 03.6**	**+0.5**
JIO	**Ouri**	**0.33**	**311**	P	**Pn**	**18 16 58.9**	**+0.2**
JIO				S	**Sn**	**18 17 05.3**	**0.0**
JKMT	**Kesennumamotoy**	**0.59**	**346**	P	**Pn**	**18 17 01.5**	**-0.2**
JKMT				*i* S	**Sn**	**18 17 09.8**	**-0.7**
JOFO	**Osakifurukawao**	**0.69**	**302**	P	**Pn**	**18 17 03.0**	**0.0**
JOFO				S	**Sn**	**18 17 13.3**	**+0.5**
JMM	**Marumori**	**0.78**	**242**	P	**Pn**	**18 17 04.1**	**0.0**
JMM				S	**Sn**	**18 17 14.6**	**-0.3**
JMK	**Ichinoseki**	**0.79**	**334**	P	**Pn**	**18 17 04.2**	**-0.1**
JMK				S	**Sn**	**18 17 14.4**	**-0.7**
JOU	**Okura**	**0.79**	**279**	P	**Pn**	**18 17 04.4**	**0.0**
JOU				S	**Sn**	**18 17 15.2**	**-0.1**
JFK	**Kawauchi**	**1.07**	**216**	P	**Pn**	**18 17 08.3**	**+0.2**
JYK	**Kaneyama**	**1.22**	**304**	P	**Pn**	**18 17 10.0**	**-0.1**
JYS	**Shirataka**	**1.26**	**270**	P	**Pn**	**18 17 10.8**	**+0.2**
JYS				S	**Sn**	**18 17 26.4**	**0.0**
JOM	**Ohasama**	**1.26**	**347**	P	**Pn**	**18 17 10.4**	**-0.3**
JOM				S	**Sn**	**18 17 26.1**	**-0.5**
JFT	**Otama**	**1.27**	**236**	P	**Pn**	**18 17 11.4**	**+0.6**
JRG	**Rokugo**	**1.41**	**326**	P	**Pn**	**18 17 12.8**	**+0.2**
JYA	**Atsumi**	**1.57**	**284**	P	**Pn**	**18 17 15.0**	**+0.2**
JYA				S	**Sn**	**18 17 33.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.23**	**239**	P	**Pn**	**18 17 39.5**	**+1.9**
0.2nm,0.3s,baz=38,slow=14,SNR=12							
MJAR				S	Sn	18 18 27.7	+13
0.2nm,0.3s,baz=357,slow=22,SNR=3.6							
MAT	**Matsushiro**	**3.23**	**239**	P	**Pn**	**18 17 39.4**	**+1.8**
MAT				S	**Sn**	**18 18 13.3**	**-1.6**
ASAJ	**Asahikawa**	**5.91**	**7**	P	**Pn**	**18 18 15.8**	**+1.5**
0.5nm,0.3s,baz=270,slow=9.6,SNR=7.7							
USRK	**Ussurlysk Ar.**	**9.40**	**312**	P	**Pn**	**18 19 03.0**	**+0.8**
baz=116,slow=14,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**28.62**	**123**	T	T	18 53 06.3	
baz=316,slow=75,SNR=4.9							
H11N1	**WAKE ISLAND Hy**	**28.63**	**123**	T	T	18 53 07.6	
baz=316,slow=75,SNR=10.0							
H11N3	**WAKE ISLAND Hy**	**28.64**	**123**	T	T	18 53 04.1	
baz=316,slow=75,SNR=4.5							
H11S1	**WAKE ISLAND Hy**	**29.37**	**125**	T	T	18 53 52.1	
baz=318,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**29.37**	**125**	T	T	18 53 54.5	
baz=318,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**29.39**	**125**	T	T	18 53 57.0	
baz=318,slow=76,SNR=17							
MKAR	**Makanchi Array**	**43.65**	**301**	P	**P**	**18 24 49.3**	**+0.2**
0.2nm,0.6s,baz=88,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**58.28**	**188**	P	**P**	**18 26 38.2**	**-0.9**
0.5nm,0.6s,baz=5.7,slow=7.2,SNR=11							
ASAR	**Alice Springs**	**62.01**	**188**	P	**P**	**18 27 04.1**	**-0.5**
0.2nm,0.7s,baz=358,slow=4.4,SNR=4.4							

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*ISCJB **01** 18:36:55.3±0.4, 8°.79S±0°.04×31°.28E±0°.07, h10km, mb4.1/11, MS3.6/6, Error ellipse: s-maj=10.5km s-min=5.1km az=21.8*
*IDC **01** 18:36:55.9±0.8, 8°.86S×31°.28E, h0km, mb3.8/9, mb1 4.0/14, mb1mx3.9/32, mbtmp3.9/14, ML4.0/4, MS3.7/11, Ms1 3.7/11, ms1mx3.5/43, Error ellipse: s-maj=24.4km s-min=12.5km az=109.0*
*NEIC **01** 18:36:57.5±1.4, 8°.84S±0°.07×31°.3E±0°.1, h12km±4km, mb4.1/9*
*LSZ **01** 18:36:59.7±0.3, 8°.83S×31°.78E, h10km, MD2.7*
ISC 01 18:36:56.4±0.5, 8°.82S±0°.04×31°.23E±0°.05, h10km, n54, σ3°97/74, mb3.9/12, MS3.5/6, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	**1.35**	**180**	*i* P	**Pg**	**18 37 24.8**	**+2.5**
KSMZ				*i*		18 37 25.3	
baz=22,slow=3.1							
KSMZ				*i* S	**Sg**	**18 37 43.1**	**+3.3**
KOND	**Kondoa**	**5.96**	**50**	*i* P	**Pn**	**18 38 25.4**	**+0.5**
KOND				*i* S	**Sn**	**18 39 26.7**	**-6.7**
KOND	**Kondoa**	**5.96**	**50**	*i* P	**Pn**	**18 38 25.4**	**+0.5**
KOND				*i* S	**Sn**	**18 39 26.7**	**-6.7**
KIBA	**Kibaya**	**6.35**	**57**	*i* P	**Pn**	**18 38 30.0**	**-0.3**
KIBA				*i* S	**Sn**	**18 39 34.3**	**-8.6**
KIBA	**Kibaya**	**6.35**	**57**	*i* P	**Pn**	**18 38 30.0**	**-0.3**
KIBA				*i* S	**Sn**	**18 39 34.3**	**-8.6**
BBAT	**Babati**	**6.42**	**45**	*i* P	**Pn**	**18 38 32.6**	**+1.3**
BBAT				*i* S	**Sn**	**18 39 38.7**	**-6.1**
BBAT	**Babati**	**6.42**	**45**	*i* P	**Pn**	**18 38 32.6**	**+1.3**
BBAT				*i* S	**Sn**	**18 39 38.7**	**-6.1**
LSZ	**Lusaka**	**7.08**	**205**	Pn	**Pn**	**18 38 41.5**	**+1.3**
0.9nm,0.3s,baz=14,slow=11,SNR=22							
LSZ				Sn	**Sn**	**18 39 58.9**	**-1.9**
6.7nm,0.3s,baz=134,slow=22,SNR=8.9							
LSZ				Lg	Lg	18 40 38.9	
14nm,0.3s,baz=293,slow=22,SNR=13							
LSZ				LR	LR	18 41 43.9	
comp=Z,462nm,19.5s,baz=26,slow=41							
LSZ	**Lusaka**	**7.08**	**205**		**Pn**	**18 38 42.4**	**+2.2**
LSZ					**Sn**	**18 39 57.6**	**-3.3**
ZOMB	**Zomba**	**7.67**	**149**	*i* P	**Pn**	**18 38 49.7**	**+1.4**
ZOMB				S	**Sn**	**18 40 13.3**	**-2.1**
MBAR	**Mbarara**	**8.18**	**357**	Pn	**Pn**	**18 38 56.6**	**+1.2**
15nm,0.3s,baz=127,slow=20,SNR=21							
MBAR				Sn	**Sn**	**18 40 22.5**	**-5.4**
78nm,0.3s,baz=76,slow=10,SNR=6.2							
MBAR				Lg	Lg	18 41 10.9	
57nm,0.3s,baz=307,slow=22,SNR=6.3							
ITZ	**Itezhi-Tezhi**	**8.57**	**216**	*i* P	**Sn**	**18 40 32.6**	**-4.9**
ITZ				*i*	**Sn**	**18 40 32.8**	**-4.7**
baz=179,slow=2.1							
ITZ				*i* S	**Sg**	**18 41 28.7**	**-2.8**
KIBK	**Kibwezi**	**9.35**	**47**	*i* P	**Pn**	**18 39 10.6**	**-0.8**
KIBK				*i* S	Sn	18 40 46.8	-10
KIBK				*i* S		18 40 49.1	
KMBO	**Kilima Mbogo**	**9.71**	**38**	Pn	**Pn**	**18 39 17.5**	**+1.1**
1.8nm,0.3s,baz=204,slow=15,SNR=37							
KMBO				Sn	**Sn**	**18 40 57.8**	**-8.1**
5.5nm,0.3s,baz=308,slow=19,SNR=6.3							
KMBO				Lg	Lg	18 42 01.3	
2.7nm,0.3s,baz=104,slow=20,SNR=5.8							
KMBO				LR	LR	18 42 36.2	
comp=Z,153nm,21.7s,baz=268,slow=35							
KMBO	**Kilima Mbogo**	**9.71**	**38**	*i* P	**Pn**	**18 39 17.9**	**+1.5**
KMBO				*i* S	**Sn**	**18 40 57.5**	**-8.3**
KMBO				*i* S		18 40 58.2	
KMBO	**Kilima Mbogo**	**9.71**	**38**		**Pn**	**18 39 16.4**	**0.0**
MATP	**Matopo**	**11.84**	**193**	*i* P	**Pn**	**18 39 49.9**	**+4.3**
MATP				*i* S	**Sn**	**18 42 02.5**	**+4.6**
MATP	**Matopo**	**11.84**	**193**	Pn	**Pn**	**18 39 46.2**	**+0.7**
0.6nm,0.3s,baz=6.1,slow=15,SNR=13							
MATP				Sn	**Sn**	**18 41 50.6**	**-7.3**
1.8nm,0.3s,baz=272,slow=10,SNR=3.3							
MATP				Lg	Lg	18 43 06.9	
3.3nm,0.3s,baz=105,slow=17,SNR=5.0							
MATP				LR	LR	18 44 30.3	
comp=Z,364nm,18.2s,baz=18,slow=38							
MATP	**Matopo**	**11.84**	**193**	*i* P	**Pn**	**18 39 49.9**	**+4.3**
MATP				*i* S	**Sn**	**18 42 02.5**	**+4.6**
LODK	**Lodwar**	**12.84**	**19**	*i* P	**Pn**	**18 39 58.5**	**-0.6**
LODK				*i* S	Sn	18 42 07.9	-14
LODK				*i* S		18 42 11.6	
TSUM	**Tsumeb**	**16.78**	**231**	Pn	**Pn**	**18 40 51.2**	**-0.5**
0.6nm,0.3s,baz=39,slow=13,SNR=7.0							
TSUM				Sn	Sn	18 43 47.6	-11
0.4nm,0.3s,baz=43,slow=16,SNR=3.5							
TSUM				Lg	Lg	18 45 49.3	
0.8nm,0.3s,baz=326,slow=21,SNR=2.4							
TSUM				LR	LR	18 47 43.2	
comp=Z,396nm,19.9s,baz=1.0,slow=39							
TSUM	**Tsumeb**	**16.78**	**231**		**Pn**	**18 40 51.2**	**-0.5**
TSUM				IAmb	IAmb	18 41 16.9	
comp=Z,9.8nm,0.9s							
LBTB	**Lobatse**	**16.98**	**198**	Pn	**Pn**	**18 40 54.5**	**+0.2**
comp=Z,0.5nm,0.3s,baz=10,slow=13,SNR=6.2							
LBTB				Sn	**Sn**	**18 43 53.3**	**-10**
comp=Z,0.4nm,0.3s,baz=99,slow=23,SNR=3.2							
LBTB				Lg	Lg	18 45 44.2	
comp=Z,0.8nm,0.3s,baz=112,slow=23,SNR=3.0							
LBTB				LR	LR	18 47 30.5	
comp=Z,386nm,18.0s,baz=18,slow=37							
LBTB	**Lobatse**	**16.98**	**198**		**Pn**	**18 40 54.7**	**+0.4**
LBTB				IAmb	IAmb	18 41 08.3	
comp=Z,13nm,0.8s							
OPO	**Ambohidratompo**	**18.27**	**124**	P	**P**	**18 41 15.8**	**+5.3**
comp=Z,0.2nm,0.3s,baz=40,slow=18,SNR=3.7							
ABPO	**Ambohimpanom**	**18.53**	**125**	P	**Pn**	**18 41 13.7**	**+0.2**
ABPO				IAmb	IAmb	18 41 17.6	
comp=Z,5.9nm,0.8s							
BOSA	**Boshof**	**20.48**	**195**	*i* P	**P**	**18 41 36.0**	**+1.3**
BOSA				*i* S	**S**	**18 45 15.4**	**-8.7**
BOSA	**Boshof**	**20.48**	**195**	P	**P**	**18 41 34.6**	**0.0**
comp=Z,4.1nm,0.9s,baz=12,slow=8.0,SNR=4.6							
BOSA				S	**S**	**18 45 15.7**	**-8.3**
comp=Z,6.9nm,0.9s,baz=212,slow=4.9,SNR=3.1							
BOSA				LR	LR	18 49 36.5	
comp=Z,187nm,21.4s,baz=25,slow=37							
BOSA	**Boshof**	**20.48**	**195**	*i* P	**P**	**18 41 36.0**	**+1.3**
BOSA				*i* S	**S**	**18 45 15.4**	**-8.7**
BOSA	**Boshof**	**20.48**	**195**	P	**P**	**18 41 34.0**	**-0.6**
BOSA				IAmb	IAmb	18 41 46.1	
comp=Z,17nm,0.9s							
BOSA					**S**	**18 45 19.9**	**-4.2**
ATD	**Arta Tunnel**	**23.28**	**30**	LR	LR	18 51 16.3	
comp=Z,182nm,19.9s,baz=318,slow=37							
SUR	**Sutherland**	**25.36**	**201**	LR	LR	18 52 34.2	
comp=Z,364nm,18.8s,baz=13,slow=37							
SUR	**Sutherland**	**25.36**	**201**	P	**P**	**18 42 25.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**36.56**	**306**	P	**P**	**18 44 04.2**	**+1.5**
comp=Z,1.3nm,1.0s,baz=102,slow=6.7,SNR=6.3							
TORD				LR	LR	19 00 06.6	
comp=Z,78nm,21.6s,baz=340,slow=38							
TORD	**Torodi Ar. Bea**	**36.56**	**306**	P	**P**	**18 44 03.5**	**+0.7**
DBIC	**Dimbokro**	**39.12**	**292**	LR	LR	19 00 52.6	
comp=Z,70nm,18.0s,baz=27,slow=37							
HRA	**Herat**	**52.05**	**33**	P	**P**	**18 46 07.6**	**+0.9**
HRA				IAmb	IAmb	18 46 17.7	
comp=Z,2.8nm,0.9s							
ESDC	**Sonseca Array**	**58.23**	**328**	P	**P**	**18 46 53.2**	**+2.1**
comp=Z,0.8nm,0.7s,baz=141,slow=7.6,SNR=5.7							
ESDC	**Sonseca Array**	**58.23**	**328**	P	**P**	**18 46 52.5**	**+1.4**
AKASG	**Malin Array Be**	**59.30**	**359**	P	**P**	**18 46 59.4**	**+1.2**
comp=Z,0.2nm,0.3s,baz=181,slow=5.9,SNR=1.9							
GERES	**GERESS Array B**	**59.45**	**347**	P	**P**	**18 47 01.0**	**+1.5**
comp=Z,0.3nm,0.7s,baz=166,slow=9.0,SNR=3.4							
MAW	**Mawson**	**62.41**	**

GRJI	Gresik	7.15	101	P		Pn	18 58 46.6 +1.8
BKNI	Bangkinang	7.34	323	P		Pn	18 58 47.1 -0.3
BKNI	Bangkinang	7.34	323			Pn	18 58 47.4 +0.1
MYKOM	Kota Tinggi	7.52	348			Pn	18 58 49.9 +0.1
SISI	Saibi	7.61	304	P		Pn	18 58 49.5 -1.4
STKI	Sintang	8.29	47	P		Pn	18 59 01.0 +1.2
GMJI	Gumukmas	8.40	109	P		Pn	18 59 03.5 +2.2
KSM	Kuching	8.58	35	Pn		Pn	18 59 04.1 +0.4
PBSI	Pulau Batu	9.01	308	P		Pn	18 59 07.0 -2.3
JAGI	Jajag, Banyuwa	9.13	109	P		Pn	18 59 10.5 -0.4
JAGI	Jajag, Banyuwa	9.13	109			Pn	18 59 10.6 -0.4
SRBI	Singaraja	10.04	105	P		Pn	18 59 22.8 0.0
GSI	Gunungsitoli	10.41	311	P		Pn	18 59 24.4 -3.3
GSI	Gunungsitoli	10.41	311			Pn	18 59 24.5 -3.2
RPSI	Rantau Prapat	10.49	322			Pn	18 59 26.3 -2.4
SBUM	Sibu	10.52	41			Pn	18 59 31.0 +2.0
PSI	Prapat	10.58	322	P		Pn	18 59 26.6 -3.3
	2.8nm,0.3s,baz=147,slow=11,SNR=21						
IPM	Ipoh	10.95	336	Pn		Pn	18 59 36.1 +1.6
TWSI	Taliwang, Sumb	11.80	106	P		Pn	18 59 42.6 -3.0
KULM	Kulim	11.83	336			Pn	18 59 45.4 -0.6
SNSI	Sinabang, Aceh	12.08	311			Pn	18 59 46.4 -2.7
PLAI	Plampang	12.68	105	P		Pn	18 59 54.8 -2.0
MLSI	Meulaboh, Aceh	13.31	317	P		Pn	19 00 00.7 -4.1
LHMI	Lhok Sumawe	13.69	322	P		Pn	19 00 05.2 -4.4
LHMI	Lhok Sumawe	13.69	322	Pn		Pn	19 00 06.7 -2.9
WBSI	Waikabubak, Su	14.43	107	P		Pn	19 00 14.8 -3.9
TTSI	Tana Toraja	14.60	81	P		Pn	19 00 21.0 +0.2
BKSI	Bulukumba	14.65	90	P		P	19 00 22.9 -0.1
BNSI	Bone	14.70	86	P		P	19 00 23.1 -0.4
MPSI	Mapaga	15.63	68	P		P	19 00 36.1 +2.2
KKM	Kota Kinabalu	15.84	43	P		P	19 00 36.2 0.0
KKM				IAmb		IAmb	19 00 41.0
	comp=Z,18nm,1.0s						
EDFI	Ende, Flores	16.45	102	P		P	19 00 41.0 -2.0
APSI	Ampana	16.88	74	P		P	19 00 48.0 +0.5
MMRI	Maumere	16.97	101			P	19 00 47.4 -1.1
MMRI				IAmb		IAmb	19 00 52.2
	comp=Z,17nm,0.6s						
MRSI	Marisa	17.59	70	P		P	19 00 56.0 +0.6
DLV	T Lat	17.72	10			Pn	19 00 58.6 0.0
DLV				IAmb		IAmb	19 01 12.8
	comp=Z,46nm,1.5s						
LUWI	Luwuk	17.92	76	P		Pn	19 01 03.1 +2.2
BATI	Baumata	18.65	105	P		P	19 01 07.2 +0.2
	comp=Z,4.8nm,0.3s,baz=345,slow=3.5,SNR=15						
BATI				S		S	19 04 23.5 -6.4
	comp=Z,5.2nm,0.3s,baz=291,slow=16,SNR=5.7						
BATI	Baumata	18.65	105	P		P	19 01 06.8 -0.1
GIRL	Giralia	18.95	154			Pn	19 01 21.1 +8.2
SOEI	Soe	19.14	104	P		P	19 01 10.6 -1.7
SOEI	Soe	19.14	104	P		P	19 01 10.8 -1.6
SOEI				IAmb		IAmb	19 01 27.6
	comp=Z,16nm,0.6s						
SANI	Sanana	20.84	81	P		P	19 01 29.6 -0.8
PBKT	Sadao Pong	22.48	349	P		P	19 01 47.2 +0.2
TNTI	Ternate	22.83	75	P		P	19 01 49.7 -0.6
TNTI	Ternate	22.83	75	P		P	19 01 50.6 +0.3
KCP	Kidapawan	23.31	58	//	P	P	19 01 56.8 +2.1
FITZ	Fitzroy Crossi	23.33	124	P		P	19 01 55.8 +1.0
	comp=Z,1.9nm,0.4s,baz=310,slow=8.2,SNR=10						
FITZ	Fitzroy Crossi	23.33	124	P		P	19 01 55.1 +0.4
CMAR	Chiang Mai Arr	24.76	345	P		P	19 02 06.3 -1.4
	comp=Z,0.5nm,0.5s,baz=184,slow=8.3,SNR=6.5						
CMAR				PcP		PcP	19 05 41.3 +1.7
	comp=Z,0.8nm,0.7s,baz=196,slow=3.2,SNR=6.0						
CMAR				ScP		ScP	19 09 03.0 +1.6
	comp=Z,0.5nm,0.7s,baz=196,slow=3.7,SNR=3.9						
CMAR	Chiang Mai Arr	24.76	345	P		P	19 02 06.2 -1.5
CMAR						PcP	19 05 40.8 +1.2
CMAR						ScP	19 09 02.7 +1.2
KNRA	Kununurra	25.01	115	P		P	19 02 10.3 +0.3
SWI	Sorong	26.23	81	P		P	19 02 20.6 -0.5
SIJI	Sorong	26.24	81	P		P	19 02 21.0 -0.2
	comp=Z,4.0nm,0.8s,baz=270,slow=8.2,SNR=6.5						
MTN	Manton Dam	26.37	108	P		P	19 02 23.2 +0.9
FAKI	Fak Fak	26.90	85	P		P	19 02 28.0 +0.9
FAKI				IAmb		IAmb	19 02 35.7
	comp=Z,12nm,1.0s						
WRA	Warramunga Arr	31.52	119	P		P	19 03 08.5 +0.6
	comp=Z,2.0nm,0.5s,baz=289,slow=9.8,SNR=58						
WRA				S		S	19 08 01.2 -1.8
	comp=Z,1.5nm,0.8s,baz=296,slow=17,SNR=2.8						
WRA				ScP		ScP	19 09 23.1 +0.5
	comp=Z,0.7nm,0.8s,baz=309,slow=2.6,SNR=3.2						
WRA	Warramunga Arr	31.52	119	P		P	19 03 08.2 +0.2
WRAB	Tennant Creek	31.53	119	P		P	19 03 08.6 +0.7
WRAB				IAmb		IAmb	19 03 11.9
	comp=Z,5.5nm,0.9s						
WB2	Warramunga Arr	31.54	119	P		P	19 03 08.5 +0.5
WB2				IAmb		IAmb	19 03 09.8
	comp=Z,5.0nm,1.1s						
TPUB	Ta-pu	32.37	27	P		P	19 03 15.9 +0.7
ASAR	Alice Springs	32.78	126	P		P	19 03 19.9 +1.1
	comp=Z,2.7nm,0.4s,baz=299,slow=7.7,SNR=47						
ASAR				S		S	19 08 20.8 -1.6
	comp=Z,3.9nm,0.9s,baz=292,slow=16,SNR=11						
ASAR				ScP		ScP	19 09 28.1 +1.3
	comp=Z,1.0nm,0.7s,baz=293,slow=2.5,SNR=4.6						
ASAR	Alice Springs	32.78	126	P		P	19 03 19.9 +1.1
ASAR						ScP	19 09 27.6 +0.8
AS31	Alice Springs	32.78	126	P		P	19 03 19.7 +0.9
AS31				IAmb		IAmb	19 03 24.0
	comp=Z,2.1nm,0.3s						
SSLB	Suanglung	32.93	27	P		P	19 03 20.1 0.0
WHN	Wuhan	36.97	13	P		P	19 03 57.7 +3.2
TAPN	Taplejung	36.97	333	eP		P	19 03 54.8 -0.2
JIRN	Jiri	37.94	332	eP		P	19 04 02.5 -0.7
COEN	Coen	38.08	105	P		P	19 04 04.2 +0.1
COEN				IAmb		IAmb	19 04 21.7
	comp=Z,20nm,1.4s						
GKN	Gorkha	38.98	330	eP		P	19 04 10.5 -1.1
KOLN	Koldanda	39.31	329	eP		P	19 04 13.6 -0.8
BBOO	Buckleboo	39.33	137	P		P	19 04 15.8 +1.5
BBOO				IAmb		IAmb	19 04 18.8
	comp=Z,15nm,1.6s						
DANN	Dangsing	39.70	329	eP		P	19 04 16.7 -1.0
LZH	Lanzhou	41.51	358	eP		P	19 04 34.1 +1.8
LZH				pP		pP	19 05 11.5 -0.1
LZH				sP		sP	19 05 31.9 -0.3
LZH				PP		PnPn	19 06 16.0 -2.8
LZH				pmax		pmax	
	comp=Z,21nm,1.1s						
PMG	Port Moresby	41.55	98	P		P	19 04 33.2 +0.4
	comp=Z,17nm,1.0s,baz=304,slow=0.5,SNR=3.0						
PMG	Port Moresby	41.55	98	P		P	19 04 32.7 0.0
PMG				IAmb		IAmb	19 04 35.1
	comp=Z,29nm,1.2s						
STKA	Stephens Creek	42.73	132	P		P	19 04 43.7 +1.6
	comp=Z,1.9nm,0.3s,baz=297,slow=8.6,SNR=12						
STKA	Stephens Creek	42.73	132	P		P	19 04 43.5 +1.4
GTA	Gaotai	45.10	354	P		P	19 05 01.3 +0.4
GTA				pP		pP	19 05 40.4 -0.4
GTA				sP		sP	19 06 00.0 -1.2
GTA				PcP		PcP	19 06 39.5 +1.1
GTA				pmax		pmax	
	comp=Z,6.0nm,0.9s						
JNU	Nakatsue	45.48	30	P		P	19 05 03.3 -0.6
JNU				IAmb		IAmb	19 05 20.2
	comp=Z,23nm,1.4s						
HHC	Hu-ho-hao-te	46.59	6	P		P	19 05 15.6 +3.1
HHC				pmax		pmax	
	comp=Z,6.0nm,0.8s						
HHC				pmax		pmax	
	comp=Z,10.0nm,6.6s						
KSAR	Wonju Array Be	47.70	24	P		P	19 05 21.2 +0.2
KSRS	Korea Array	47.72	24	P		P	19 05 20.7 -0.4
	comp=Z,1.0nm,0.7s,baz=218,slow=6.1,SNR=5.0						
JCJ	Chichijima	48.20	46	P		P	19 05 23.6 -1.4
	comp=Z,36nm,0.6s,baz=305,slow=17,SNR=2.7						
MSEY	Mahe Island	49.72	269	P		P	19 05 37.0 +0.1
WMQ	Urumqi	51.75	344	eP		P	19 05 53.5 +2.0
MAJO	Matsushiro	51.97	34	P		P	19 05 52.0 -1.3
MAJO				IAmb		IAmb	19 05 53.1
	comp=Z,5.8nm,0.8s						
MAT	Matsushiro	51.97	34	P		P	19 05 51.8 -1.5
MJAR	Matsushiro Arr	51.98	34	P		P	19 05 51.8 -1.5
	comp=Z,3.2nm,0.5s,baz=210,slow=8.0,SNR=15						
MJAR	Matsushiro Arr	51.98	34	P		P	19 05 52.0 -1.3
MJB9	Matsu-Tunnel	51.98	34	P		P	19 05 51.9 -1.4
MJB9				IAmb		IAmb	19 05 53.1
	comp=Z,6.1nm,0.9s						
KSH	Kashi	52.49	331	eP		P	19 06 00.3 +3.1
KSH				pmax		pmax	
	comp=Z,180nm,5.4s						
SONM	Songino Array	53.23	1	P		P	19 06 02.7 +0.2
	comp=Z,2.2nm,0.4s,baz=178,slow=9.2,SNR=20						
SONM				PcP		PcP	19 07 07.6 -0.2
	comp=Z,1.2nm,0.5s,baz=180,slow=4.9,SNR=6.0						
SONM				ScP		ScP	19 10 48.3 +0.1
	comp=Z,0.5nm,0.6s,baz=182,slow=4.2,SNR=3.2						
SONM	Songino Array	53.23	1	P		P	19 06 02.6 +0.2
SONM				pP		pP	19 06 43.8 +0.2
SONM				PcP		PcP	19 07 07.0 -0.8
ULN	Ulaanbaatar	53.28	1	P		P	19 06 01.9 -0.9
ULN						P	19 06 02.1 -0.6
WSAR	Wadi Sarin	53.93	304	P		P	19 06 09.3 +1.5
	comp=Z,1.6nm,0.5s,baz=195,slow=2.0,SNR=5.3						
USA0B	Ussuriysk Arra	55.07	23	P		P	19 06 15.5 -0.1
USA0B				IAmb		IAmb	19 06 16.3
	comp=Z,11nm,0.7s						
USRK	Ussuriysk Ar.	55.07	23	P		P	19 06 15.3 -0.3
	comp=Z,9.4nm,0.7s,baz=202,slow=5.3,SNR=29						
USRK	Ussuriysk Ar.	55.07	23	P		P	19 06 15.6 -0.1
MK31	Makanchi Array	56.07	341	P		P	19 06 21.9 -0.8
MKAR	Makanchi Array	56.07	341	P		P	19 06 21.6 -1.2
	comp=Z,1.9nm,0.6s,baz=146,slow=7.9,SNR=21						
MKAR	Makanchi Array	56.07	341	P		P	19 06 21.1 -1.6
KLR	Kul'dur	59.26	20	P		P	19 06 43.8 -1.1
	comp=Z,4.8nm,0.6s,baz=216,slow=6.0,SNR=17						
ASAJ	Asahikawa	59.77	30	P		P	19 06 47.6 -0.9
	comp=Z,7.2nm,0.8s,baz=242,slow=12,SNR=9.6						
KURBB	Kurchatov Arra	60.63	341	P		P	19 06 53.4 -0.8
	comp=Z,1.1nm,0.6s						
KURBB				PcP		PcP	19 07 36.8 +0.2
	comp=Z,0.7nm,0.5s,baz=156,slow=4.1,SNR=5.0						
KURK	Kurchatov	60.68	341	P		P	19 06 54.0 -0.5
ZAA0	Zalesovo Array	61.82	346	P		P	19 07 00.1 -2.0
ZAA0				IAmb		IAmb	19 07 01.4
	comp=Z,7.4nm,1.4s						
ZALV	Zalesovo Beam	61.82	346	P		P	19 07 00.3 -1.8
	comp=Z,1.8nm,0.4s,baz=160,slow=5.5,SNR=13						
ZALV				PcP		PcP	19 07 40.5 -0.8
	comp=Z,0.4nm,0.3s,baz=158,slow=5.4,SNR=2.6						
ZALV	Zalesovo Beam	61.82	346	P		P	19 07 00.1 -2.0
RAYN	Ar Rayn	65.20	299	P		P	19 07 25.7 +0.8
ABKAR	Abkulak array	67.43	330	P		P	19 07 37.5 -1.1
ABKAR	Abkulak array	67.43	330	P		P	19 07 37.2 -1.3
MAW	Mawson	68.23	196	P		P	19 07 46.9 +3.7
	comp=Z,1.3nm,0.4s,baz=58,slow=6.3,SNR=11						
MAW	Mawson	68.23	196	P		P	19 07 46.9 +3.7
YAK	Yakutsk	70.01	12	P		P	19 07 53.1 -1.0
	comp=Z,6.1nm,0.5s,baz=190,slow=1.4,SNR=7.2						
YAK	Yakutsk	70.01	12	P		P	19 07 52.9 -1.3
ARU	Arti	72.70	335	P		P	19 08 10.0 -0.5
	comp=Z,0.3nm,0.3s,baz=62,slow=14,SNR=2.4						
PETK	Petropavlovsk-	73.18	30	P		P	19 08 11.9 -1.5
	comp=Z,2.9nm,0.8s,baz=210,slow=4.1,SNR=3.7						
PET	Petropavlovsk	73.61	30	P		P	19 08 15.0 -0.8
BRTR	Keskin Array B	79.73	312	P		P	19 08 50.9 +0.2
	comp=Z,0.6nm,0.7s,baz=86,slow=6.3,SNR=4.3						
BRTR	Keskin Array B	79.73	312	P		P	19 08 49.9 -0.8
AKASG	Malin Array Be	85.64	322	P		P	19 09 20.7 0.0
	comp=Z,0.6nm,0.4s,baz=144,slow=27,SNR=2.5						
MLR	Muntele Rosu	86.62	316	P		P	19 09 27.2 +1.4
MLR				IAmb		IAmb	19 09 28.6
	comp=Z,5.7nm,1.0s						
BURAR	Bucovina Array	87.53	318	P		P	19 09 31.3 +1.2
BUR08	Bucovina Ar. S	87.55	318	P		P	19 09 31.2 +1.0
BUR08				IAmb		IAmb	19 09 32.3
	comp=Z,4.1nm,0.7s						
KOLS	Kolonicke sedl	89.69	319	eP		P	19 09 41.9 +1.8
FINES	FINESS Array B	89.81	332	P		P	19 09 40.7 +0.3
	comp=Z,1.0nm,0.4s,baz=121,slow=7.4,SNR=8.4						
FINES	FINESS Array B	89.81	332	P		P	19 09 40.0 -0.3
ARCES	ARCESS Array B	91.70	340	P		P	19 09 48.4 -0.6
	comp=Z,2.3nm,0.9s,baz=99,slow=5.6,SNR=2.7						
YKA	Yellowknife Ar	116.11	19	PKP		PKiKP	19 15 23.9 +0.1
	comp=Z,0.6nm,0.7s,baz=329,slow=2.0,SNR=3.1						
NVAR	Mina Array Bea	128.70	44	PKP		PKiKP	19 15 50.8 +1.1
	comp=Z,0.4nm,0.6s,baz=357,slow=2.4,SNR=4.9						
ELK	Elko	129.57	40	PKP		PKiKP	19 15 52.0 +0.7
	comp=Z,0.8nm,0.4s,baz=322,slow=3.8,SNR=4.3						
TXAR	Lajitas Array	143.80	46	PKP		PKPdf	19 16 16.1 -0.9
	comp=Z,1.1nm,0.5s,baz=239,slow=1.2,SNR=8.3						
TXAR	Lajitas Array	143.80	46			PKPbc	19 16 15.7 +0.6

BJI ***01*** *18:57:42.0±0.0, 33°.61S×178°.05W, h7km, mb5.2/13, Ms4.9/2, Ms7 4.8/2*

NEIC ***01*** *18:57:44.3±3.0, 33°.79S±0°.07×178°.5W±0°.1, h7km±2km, mb4.8/41*

ISCJB ***01*** *18:57:45.3±1.1, 33°.89S±0°.03×178°.57W±0°.06, h20km±8km, mb4.7/26, MS3.9/10, Error ellipse: s-maj=9.4km s-min=4.7km az=24.3*

WEL ***01*** *18:57:45.6±0.8, 34°S±7°×17°8W±1°6, h33km, M4.9/29, mB5.4/19, ML5.3/24, MLv5.1/29, Mw(mB)4.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=112.1*

IDC ***01*** *18:57:54.2±2.1, 33°.80S×178°.66W, h75km±18km, mb4.3/23, mb1 4.4/25, mb1mx4.2/47, mbtmp4.6/25, MS3.9/10, Ms1 3.9/10, ms1mx3.7/25, Error ellipse: s-maj=15.7km s-min=11.8km az=7.0*

ISC 01 18:57:44.8±0.6, 33°.85S±0°.05×178°.48W±0°.07, h10km±3km, h10km:pP-P, n290, σ2s08/322, mb4.8/42, MS3.9/10, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.54	214	P	Pn	18 58 53.0	-0.5
MXZ				S	Sn	18 59 45.9	-0.5
MXZ	Matakaoa Point	4.54	214		Pn	18 58 53.5	-0.1
GLKZ	Green Lake	4.59	6	P	Pn	18 58 49.7	-4.6
GLKZ				S	Sn	18 59 41.3	-6.5
RAO	Raoul Island	4.60	6	P	Pb	18 58 59.2	-6.5
	44nm,0.3s,baz=36,slow=23,SNR=2.2						
RAO				S	Sn	18 59 40.7	-7.3
	57nm,0.3s,baz=62,slow=20,SNR=2.8						
RAO				LR	LR	19 00 33.0	
	comp=Z,604nm,20.0s,baz=168,slow=35						
RAO	Raoul Island	4.60	6	Pn	Pn	18 58 53.0	-1.5
WMGZ	Waiomatatini S	4.70	212	P	Pn	18 58 57.2	+1.4
PKGZ	Pakihiroa	4.91	214	P	Pn	18 58 58.2	-0.5
PKGZ				S	Sn	18 59 55.3	-0.3
HAZ	Te Kaha	4.95	217	P	Pn	18 58 59.8	+0.7
PUZ	Puketiti	4.98	211	P	Pn	18 58 59.2	-0.5
RUGZ	Raukumara Rang	5.16	216	P	Pn	18 59 02.6	+0.3
RUGZ				S	Sn	19 00 03.1	+1.2
CNGZ	Carnagh Statio	5.35	209	P	Pn	18 59 06.5	+1.8
WHRZ	Whale Island	5.44	221	P	Pn	18 59 09.3	+3.2
TKGZ	Te Karaka	5.46	212	P	Pn	18 59 07.5	+1.2
TKGZ				S	Sn	19 00 09.7	+0.5
MYRZ	Mayor Island	5.50	230	P	Pn	18 59 09.5	+2.7
MWZ	Matawai	5.52	215	P	Pn	18 59 07.2	0.0
KUZ	Kuaotunu	5.55	237	P	Pn	18 59 10.0	+2.5
URZ	Urewera	5.67	218	P	Pn	18 59 09.8	+0.7
	41nm,0.3s,baz=32,slow=2.6,SNR=123						
URZ				S	Sn	19 00 14.3	0.0
	22nm,0.3s,baz=166,slow=20,SNR=15						
URZ	Urewera	5.67	218	P	Pn	18 59 08.7	-0.4
URZ				S	Sn	19 00 14.0	-0.2
URZ	Urewera	5.67	218		Pn	18 59 09.4	+0.3
URZ					Sn	19 00 11.9	-2.4
OPRZ	Ohinepanea	5.67	224	P	Pn	18 59 10.2	+1.0
OPRZ				S	Sn	19 00 14.6	+0.2
MARZ	Manawahe	5.70	222	P	Pn	18 59 11.4	+1.8
RAGZ	Rawiri	5.71	214	P	Pn	18 59 09.4	-0.3
RAGZ				S	Sn	19 00 15.4	+0.1
RIGZ	Rimuhau	5.72	211	P	Pn	18 59 09.1	-0.8
RIGZ				S	Sn	19 00 15.8	+0.2
TGRZ	Tauranga	5.77	226	P	Pn	18 59 12.7	+2.2
OMRZ	Omania	5.96	223	P	Pn	18 59 15.3	+2.2
SNGZ	Shannon Statio	5.97	213	P	Pn	18 59 13.3	0.0
SNGZ				S	Sn	19 00 21.9	+0.1
KARZ	Kaharoa	5.97	224	P	Pn	18 59 14.6	+1.3
TARZ	Mount Tarawera	5.97	221	P	Pn	18 59 16.0	+2.6
RTZ	Ruatahuna	6.01	216	P	Pn	18 59 14.2	+0.3
MUGZ	Murupara	6.01	218	P	Pn	18 59 15.0	+1.1
KNZ	Kokohu	6.02	210	P	Pn	18 59 12.1	-1.9
KMRZ	Kaimai	6.04	227	P	Pn	18 59 17.0	+2.8
MHGZ	Mahia Peninsul	6.04	208	P	Pn	18 59 14.5	+0.2
RRRZ	Republican Roa	6.04	221	P	Pn	18 59 15.9	+1.6
HSRZ	Hossack Road	6.17	222	P	Pn	18 59 18.7	+2.6
RAHZ	Arahi	6.20	214	P	Pn	18 59 17.7	+1.3
HRRZ	Handcock Road	6.21	222	P	Pn	18 59 18.7	+2.2
PRRZ	Plateau Road	6.22	220	P	Pn	18 59 18.1	+1.3
TOZ	Tahuroa Road	6.24	230	P	Pn	18 59 19.2	+2.3
WHHZ	Waihua	6.26	212	P	Pn	18 59 18.2	+1.0
MTHZ	Maungataniwha	6.26	216	P	Pn	18 59 17.4	+0.1
WPRZ	Whakapapatarin	6.37	221	P	Pn	18 59 20.7	+2.0
MRHZ	Matea Rd	6.46	218	P	Pn	18 59 20.7	+0.6
NMHZ	Naumai	6.47	215	P	Pn	18 59 20.6	+0.4
ARHZ	Aropaoanui	6.52	213	P	Pn	18 59 21.8	+1.0
KUTZ	Kaahu Road	6.53	223	P	Pn	18 59 23.0	+2.0
TLZ	Tolley Road	6.59	226	P	Pn	18 59 23.0	+1.2
BKZ	Black Stump Fm	6.68	216	P	Pn	18 59 22.3	-0.7
BKZ	Black Stump Fm	6.68	216		Pn	18 59 21.8	-1.2
OUZ	Omahuta	6.68	256		Pn	18 59 25.6	+2.5
WATZ	Wairara	6.74	222	P	Pn	18 59 25.6	+1.8
MCHZ	McNeill Hill	6.80	213	P	Pn	18 59 24.8	+0.1
CKHZ	Cape Kidnapper	6.81	210	P	Pn	18 59 23.4	-1.4
RATZ	Rangitukua	6.83	221	P	Pn	18 59 26.6	+1.5
RITZ	Rihia Road	6.86	220	P	Pn	18 59 26.8	+1.3
KWHZ	Kaweka Forest	6.91	215	P	Pn	18 59 26.1	-0.1
KATZ	Kakaramea	6.95	221	P	Pn	18 59 29.6	+2.9
KRVZ	Karewarewa	7.06	220	P	Pn	18 59 29.3	+0.9
WTVZ	West Tongariro	7.10	221	P	Pn	18 59 30.7	+1.8
KRHZ	Kereru	7.11	214	P	Pn	18 59 27.8	-1.2
HIZ	Hauiti	7.12	227	Pn	Pn	18 59 30.6	+1.6
BHHZ	Black Hill Sta	7.14	216	P	Pn	18 59 29.3	-0.1
NGZ	Ngauruhoe	7.14	220	P	Pn	18 59 31.1	+1.6
TWVZ	Taurewa	7.16	221	P	Pn	18 59 30.7	+1.0
TUVZ	Tukino	7.18	219	P	Pn	18 59 30.8	+0.8
PXZ	Pawanui	7.21	210	P	Pn	18 59 28.8	-1.5
FWVZ	Far West T-bar	7.22	220	P	Pn	18 59 31.9	+1.2
WHVZ	Whangaehu Hut	7.22	220	P	Pn	18 59 32.2	+1.5
MOVZ	Moawhango	7.23	218	P	Pn	18 59 30.6	-0.1
TRVZ	Turoa	7.26	220	P	Pn	18 59 32.0	+0.8
PKVZ	Pokaka	7.36	221	P	Pn	18 59 36.9	+4.5
PNHZ	Pukenui	7.41	214	P	Pn	18 59 32.2	-0.8
PRHZ	Porangahau	7.50	210	P	Pn	18 59 33.6	-0.7
VRZ	Vera Road	7.58	224	P	Pn	18 59 39.4	+4.1
TSZ	Takapari Road	7.63	214	P	Pn	18 59 36.7	+0.6
DVHZ	Dannevirke	7.73	212	P	Pn	18 59 35.9	-1.5
WAZ	Wanganui	7.89	220	P	Pn	18 59 40.5	+0.9
BFZ	Birch Farm	8.01	210		Pn	18 59 39.4	-1.9
PRWZ	Pori Road	8.03	212	P	Pn	18 59 40.3	-1.2
KHEZ	Kahui Hut	8.12	226	P	Pn	18 59 46.9	+4.0
TIWZ	Tintock	8.24	211	P	Pn	18 59 44.2	-0.3
MRZ	Mangatainoka R	8.29	213	P	Pn	18 59 43.4	-1.7
HOWZ	Holdsworth Sta	8.51	212	P	Pn	18 59 45.8	-2.2
PAWZ	Paruwai Farm	8.94	211	P	Pn	18 59 52.2	-1.9
MSWZ	Moikau Station	9.04	212	Pn	Pn	18 59 51.9	-3.6
MSWZ					Sn	19 01 30.9	-6.5
PLWZ	Palliser	9.17	211	Pn	Pn	18 59 54.5	-2.7
PLWZ					Sn	19 01 33.5	-6.9
SNZO	South Karori	9.21	214	Pn	Pn	18 59 55.3	-2.3
SNZO					Sn	19 01 34.0	-7.2
BHW	Baring Head	9.21	213	P	Pn	18 59 55.5	-2.2
BHW	Baring Head	9.21	213	Pn	Pn	18 59 55.1	-2.5
DUWZ	D'Urville Isla	9.21	219	P	Pn	18 59 57.6	-0.1
TUWZ	Tuamarina	9.66	216	Pn	Pn	19 00 00.9	-3.0
TUWZ					Sn	19 01 45.5	-6.9
CMWZ	Cape Campbell	9.78	214	Pn	Pn	19 00 03.3	-2.2
CMWZ					Sn	19 01 47.7	-7.6
NNZ	Nelson	9.79	219	Pn	Pn	19 00 04.3	-1.4
BSWZ	Blackbirch Sta	9.91	215	Pn	Pn	19 00 05.7	-1.6
BSWZ					Sn	19 01 52.3	-6.3
QRZ	Quartz Range	9.98	223	P	Pn	19 00 10.1	+1.8
QRZ	Quartz Range	9.98	223	Pn	Pn	19 00 04.6	-3.7
THZ	Tophouse	10.43	218	Pn	Pn	19 00 11.8	-2.7

SBA Scott Base 44.58 184 P **P** **19 06 01.1 +4.6**
FORT Forrest 44.87 259 P **P** **19 05 59.0 -0.5**
JAY Jayapura 49.20 300 P **P** **19 06 33.5 0.0**
comp=Z,17nm,1.0s,baz=95,slow=20,SNR=3.6
MTN Manton Dam 50.21 282 P **P** **19 06 41.7 +0.5**
MTN IAmb IAmb 19 06 52.5
comp=Z,8.8nm,0.8s
KNRA Kununurra 50.65 277 P **P** **19 06 43.8 -0.7**
CASY Casey 51.92 209 P **P** **19 06 54.5 +1.1**
CASY IAmb IAmb 19 07 07.9
comp=Z,14nm,0.8s
FITZ Fitzroy Crossi 52.03 273 P **P** **19 06 54.5 -0.3**
comp=Z,11nm,0.8s,baz=123,slow=8.5,SNR=18
FITZ Fitzroy Crossi 52.03 273 P **P** **19 06 53.2 -1.7**
FITZ IAmb IAmb 19 07 07.1
comp=Z,13nm,0.7s
NWAO Narrogin (SRO) 52.87 252 P **P** **19 06 59.6 -1.4**
comp=Z,19nm,1.1s,baz=111,slow=5.8,SNR=3.0
NWAO Narrogin (SRO) 52.87 252 P **P** **19 07 00.0 -0.9**
NWAO IAmb IAmb 19 07 00.5
comp=Z,30nm,1.2s
FAKI Fak Fak 55.22 293 P **P** **19 07 17.0 -1.3**
FAKI IAmb IAmb 19 07 17.8
comp=Z,16nm,0.9s
MORW Morawa 55.23 256 P **P** **19 07 15.6 -2.6**
MORW IAmb IAmb 19 07 29.2
comp=Z,18nm,1.0s
PSAB2 Pilbara Seismi 55.23 266 P **P** **19 07 16.2 -2.1**
PSAB2 IAmb IAmb 19 07 23.1
comp=Z,16nm,1.4s
QSPA South Pole Qui 56.27 180 P **P** **19 07 27.2 +1.9**
comp=Z,9.5nm,1.1s,baz=354,slow=0.5,SNR=23
QSPA South Pole Qui 56.27 180 P **P** **19 07 27.3 +1.9**
SIJI Sorong 57.29 294 P **P** **19 07 31.6 -1.4**
comp=Z,3.7nm,0.7s,baz=102,slow=6.4,SNR=8.2
SOEI Soe 57.51 281 P **P** **19 07 35.5 +0.7**
BATI Baumata 57.76 280 P **P** **19 07 35.6 -0.8**
comp=Z,8.5nm,0.6s,baz=143,slow=3.9,SNR=3.6
MMRI Maumere 59.80 280 P **P** **19 07 48.0 -2.6**
MAW Mawson 68.95 201 P **P** **19 08 50.5 +0.9**
comp=Z,6.3nm,1.0s,baz=135,slow=8.6,SNR=5.5
MAW Mawson 68.95 201 P **P** **19 08 50.1 +0.4**
SYO Syowa Base 73.68 193⇓*e*P **P** **19 09 17.0 -1.2**
SYO Syowa Base 73.68 193⇓*e*pP pP 19 09 21.6 +2.2
SNAA Sanae 74.73 179 P **P** **19 09 27.3 +2.8**
SNAA Sanae 74.73 179 PcP **PcP** **19 09 37.0 -1.6**
SNAA Sanae 74.73 179 P **P** **19 09 26.2 +1.8**
SNAA IAmb IAmb 19 09 38.6
comp=Z,12nm,1.3s
VNA3 Neumayer Olymp 74.90 176 P **P** **19 09 26.7 +1.2**
VNA3 Neumayer Olymp 74.90 176 PcP **PcP** **19 09 38.5 -0.8**
VNA3 Neumayer Olymp 74.90 176 pPKiKP **PKiKP** **19 15 21.3 +5.2**
VNA2 Neumayer--Watz 75.33 177 P **P** **19 09 29.8 +1.9**
baz=182,slow=3.9
VNA2 Neumayer--Watz 75.33 177 PcP **PcP** **19 09 40.9 -0.3**
baz=172,slow=4.2
VNA1 Neumayer--Stat 75.56 177 P **P** **19 09 31.8 +2.6**
VNA1 Neumayer--Stat 75.56 177 PcP **PcP** **19 09 42.0 -0.1**
VNA1 Neumayer--Stat 75.56 177 pPKiKP **PKiKP** **19 15 20.2 +3.1**
MJAR Matsushiro Arr 80.85 326 P **P** **19 09 59.4 +0.6**
comp=Z,2.2nm,0.8s,baz=131,slow=5.5,SNR=1.3
MJAR Matsushiro Arr 80.85 326 P **P** **19 09 59.0 +0.2**
KSRS Korea Array 86.71 320 P **P** **19 10 29.5 +0.7**
comp=Z,1.2nm,0.8s,baz=141,slow=4.2,SNR=3.6
NJ2 Nanjing 88.18 311 *e*P **P** **19 10 37.7 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PFO Pinyon Flats O 88.83 47 P **P** **19 10 41.4 +2.1**
comp=Z,0.7nm,0.3s,baz=246,slow=0.7,SNR=4.2
PFO Pinyon Flats O 88.83 47 P **P** **19 10 40.4 +1.2**
PFO IAmb IAmb 19 10 43.2
comp=Z,5.7nm,1.0s
ISA Isabella, Lake 89.02 45 P **P** **19 10 41.7 +1.7**
ISA IAmb IAmb 19 10 44.0
comp=Z,7.4nm,1.1s
PETK Petropavlovsk- 89.04 346 P **P** **19 10 40.2 +0.6**
comp=Z,10nm,0.9s,baz=126,slow=7.5,SNR=9.1
PETK Petropavlovsk- 89.04 346 P **P** **19 10 39.3 -0.2**
GSC Goldstone, Bar 89.77 46 P **P** **19 10 44.4 +0.8**
GSC IAmb IAmb 19 10 48.0
comp=Z,5.6nm,1.1s
USRK Ussuriysk Ar. 89.81 327 P **P** **19 10 43.7 +0.4**
comp=Z,3.8nm,1.1s,baz=102,slow=4.7,SNR=5.7
USRK Ussuriysk Ar. 89.81 327 P **P** **19 10 42.7 -0.7**
WHN Wuhan 90.10 307 P P 19 10 53.2 +8.1
YBH Yreka Blue Hor 90.99 38 P **P** **19 10 50.0 +0.9**
comp=Z,0.8nm,0.8s,baz=330,slow=12,SNR=2.1
NVAR Mina Array Bea 91.03 43 P **P** **19 10 50.6 +1.0**
comp=Z,1.3nm,0.8s,baz=216,slow=7.9,SNR=9.2
NVAR Mina Array Bea 91.03 43 P **P** **19 10 49.7 +0.1**
Y14A Wickenburg 91.20 49 P **P** **19 10 51.3 +1.1**
Y14A IAmb IAmb 19 10 54.6
comp=Z,3.3nm,0.9s
X16A Lo Mia Camp, P 92.49 50 P **P** **19 10 57.5 +1.1**
X16A IAmb IAmb 19 11 07.5
comp=Z,3.7nm,1.1s
CN2 Changchun 92.64 323 *e*P **P** **19 10 56.0 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 93.80 330 P **P** **19 11 02.0 +0.2**
comp=Z,1.2nm,0.7s,baz=79,slow=7.4,SNR=2.7
CMAR Chiang Mai Arr 94.15 289 P **P** **19 11 03.8 -0.3**
comp=Z,0.5nm,1.0s,baz=152,slow=2.5,SNR=3.5
CMAR PP **PP** **19 14 51.0 0.0**
comp=Z,0.5nm,0.9s,baz=130,slow=6.5,SNR=6.0
CMAR LR LR 19 57 38.2
comp=Z,33nm,18.1s,baz=130,slow=38
CMAR Chiang Mai Arr 94.15 289 P **P** **19 11 03.1 -1.0**
TXAR Lajitas Array 94.58 58 P **P** **19 11 07.7 +1.7**
comp=Z,0.2nm,0.5s,baz=154,slow=5.0,SNR=2.8
TXAR LR LR 19 48 03.3
comp=Z,70nm,18.5s,baz=0.0,slow=32
TXAR Lajitas Array 94.58 58 P **P** **19 11 06.8 +0.8**
CPUP Villa Florida 98.15 129 LR LR 19 50 40.8
comp=Z,89nm,18.2s,baz=218,slow=32
HHC Hu-ho-hao-te 98.33 314 P **P** **19 11 22.1 -0.6**
HHC pmax pmax
comp=Z,5.0nm,1.0s
PDAR Pinedale Array 98.90 44 LR LR 19 50 15.8
comp=Z,55nm,18.8s,baz=0.0,slow=32
LZH Lanzhou 100.44 306 *e*P **Pdif** **19 11 30.8 -1.6**
LZH pP sP 19 11 35.2 +1.2
LZH sP pwP 19 11 38.7 -3.5
LZH PP **PP** **19 15 43.2 +3.8**
LZH pmax pmax
comp=Z,16nm,1.3s
WMQ Urumqi 115.00 307 *e*PKP **PKiKP** **19 16 26.4 +0.5**
MK31 Makanchi Array 119.64 309 **PKPdf** **19 16 34.0 -0.7**
MKAR Makanchi Array 119.64 309 PKP **PKiKP** **19 16 34.7 0.0**
comp=Z,5.4nm,1.0s,baz=90,slow=2.4,SNR=18
MKAR Makanchi Array 119.64 309 **PKPdf** **19 16 33.3 -1.4**
ZALV Zalesovo Beam 120.30 317 PKP **PKPdf** **19 16 35.2 -0.4**
comp=Z,0.6nm,0.4s,baz=95,slow=3.2,SNR=5.4
ZALV Zalesovo Beam 120.30 317 **PKPdf** **19 16 34.8 -0.9**
KSH Kashi 121.59 299 PKP **PKiKP** **19 16 40.0 +1.0**
KSH PP **PP** **19 18 18.9 +7.3**
KSH PKS
KSH SKKS 19 20 17.8
KSH SS SS 19 25 11.1
KSH SS 19 34 53.7 +5.9
KURK Kurchatov 123.10 312 **PKPdf** **19 16 40.6 -0.5**
KURBB Kurchatov Arra 123.13 312 PKP **PKPdf** **19 16 40.5 -0.7**
comp=Z,7.2nm,0.9s,baz=103,slow=2.1,SNR=31
KBL Kabul 125.14 291 PKPdf **PKPdf** **19 16 45.9 0.0**
BVAR Borovoye Array 128.54 314 PKP **PKiKP** **19 16 51.8 -0.3**
comp=Z,4.6nm,0.8s,baz=82,slow=3.3,SNR=13
GEYT Alibeck 134.56 292 PKhKP PKPpre 19 17 00.8
comp=Z,0.6nm,0.5s,baz=151,slow=3.3,SNR=3.1
GEYT PKP sPKPdf 19 17 04.4 -0.7
comp=Z,2.9nm,1.0s,baz=110,slow=2.1,SNR=4.9
GEYT Alibeck 134.56 292 **PKiKP** **19 17 05.2 +0.3**
ABKAR Abkulak array 134.78 308 **PKPdf** **19 17 03.8 +0.4**
ABKAR Abkulak array 134.78 308 **PKiKP** **19 17 04.7 -0.1**
AKTO Aktyubinsk 136.05 310 PKP **PKiKP** **19 17 07.3 -0.1**
comp=Z,2.7nm,0.7s,baz=120,slow=3.3,SNR=5.8
ARCES ARCESS Array B 141.85 347 PKhKP PKPpre 19 17 10.5
comp=Z,7.7nm,1.1s,baz=41,slow=2.2,SNR=6.5
ARCES PKP sPKPdf 19 17 17.3 -0.2
comp=Z,6.8nm,1.1s,baz=39,slow=3.5,SNR=4.4
ARCES ARCESS Array B 141.85 347 **PKPdf** **19 17 13.1 -2.7**
KLMR Klimovskoe 143.56 330 *e*PKPdf PKPab 19 17 15.7 +0.2
KLMR AMP 19 17 23.7
comp=Z,11nm,1.2s
GNI Garni 145.18 293 PKPbc **PKPbc** **19 17 20.7 -1.7**
comp=Z,8.5nm,0.9s,baz=213,slow=16,SNR=2.3
TBLG Delisi 145.25 296 **PKPbc** **19 17 21.9 -0.5**

IGDI IGDIR 145.67 293 *i* P **PKPab** **19 17 25.7 +1.5**
IGDI IAML_P
comp=Z,346nm,1.0s
CLDR Caldiran 145.74 291 *i* P **PKPab** **19 17 25.5 +0.8**
CLDR IAML_P
comp=Z,132nm,0.5s
HAKT HAKKARI 145.75 289 *i* P **PKPab** **19 17 24.6 -0.2**
HAKT IAML_P
comp=Z,903nm,1.0s
CUKT Cukurca 145.79 288 *i* P **PKPab** **19 17 24.6 -0.2**
CUKT IAML_P
comp=Z,354nm,0.3s
DYDN Diyadin 145.95 292 *i* P **PKPab** **19 17 26.2 +0.8**
DYDN IAML_P
comp=Z,1μm,0.8s
EAK Akyaka 146.07 294 *i* P **PKPab** **19 17 26.7 +0.9**
EAK IAML_P
comp=Z,947nm,1.0s
AKH Akhalkalaki 146.17 295 **PKPdf** **19 17 24.8 +0.3**
KBZ Khabaz 146.57 300 PKPbc **PKPbc** **19 17 25.9 -0.4**
comp=Z,10nm,1.0s,baz=163,slow=1.9,SNR=15
TUTA Tutak 146.61 292 *i* P **PKPab** **19 17 28.4 +0.3**
TUTA IAML_P
comp=Z,32nm,0.1s
KIV Kislovodsk 146.71 300 **PKPbc** **19 17 26.3 -0.6**
EATA Eleskirt 146.89 293 *i* P **PKPab** **19 17 28.8 -0.4**
EATA IAML_P
comp=Z,52nm,0.3s
BLIS Bitlis-Merkez 147.09 290 *i* P **PKPab** **19 17 29.5 -0.3**
BLIS IAML_P
comp=Z,793nm,0.4s
HOMI Horasan 147.34 293 *i* P **PKPab** **19 17 30.4 -0.4**
HOMI IAML_P
comp=Z,203nm,0.1s
ARTV Artvin 147.35 295 *i* P **PKPab** **19 17 30.4 -0.4**
ARTV IAML_P
comp=Z,120nm,0.1s
OBN Obninsk 147.69 322 PKPbc **PKPbc** **19 17 29.2 +0.1**
comp=Z,3.8nm,0.6s,baz=350,slow=3.2,SNR=6.9
FIA1 FINESS Array S 148.20 338 **PKPbc** **19 17 29.8 -0.4**
FINES FINESS Array B 148.20 338 PKPbc **PKPbc** **19 17 30.1 -0.1**
comp=Z,34nm,0.9s,baz=53,slow=4.0,SNR=50
FINES FINESS Array B 148.20 338 **PKPbc** **19 17 29.5 -0.7**
VSU Vasula 150.16 333 *e*P **PKPbc** **19 17 35.2 +0.1**
VSU IAmb IAmb 19 17 38.1
comp=Z,171nm,1.2s
ASF Jabal al Asfar 150.37 277 PKPbc **PKiKP** **19 17 37.4 -0.1**
comp=Z,3.7nm,0.8s,baz=33,slow=1.8,SNR=7.6
EIL Elat 151.34 271 PKPbc **PKiKP** **19 17 39.4 0.0**
comp=Z,4.1nm,0.8s,baz=322,slow=7.8,SNR=4.9
MMAI Mount Meron Ar 151.78 278 PKPbc **PKiKP** **19 17 41.2 +0.8**
comp=Z,3.9nm,0.6s,baz=82,slow=6.0,SNR=9.8
LIC Lamto 151.85 166 *e*PKP1 **PKiKP** **19 17 41.5 +0.5**
comp=Z,28nm,0.5s
NC303 NORSAR Array S 151.88 350 **PKiKP** **19 17 40.6 +1.0**
KIC Kosan Boka 152.04 167 *e*PKP1 **PKPbc** **19 17 41.5 +0.5**
comp=Z,14nm,0.7s
NB2 NORSAR Subarra 152.07 350 PKP **PKPbc** **19 17 39.3 -0.4**
comp=Z,3.3nm,0.8s,baz=18,slow=2.6
NOA NORSAR Array B 152.07 350 PKPbc **PKPbc** **19 17 39.6 -0.1**
comp=Z,6.5nm,0.9s,baz=14,slow=4.1,SNR=13
IZAR Zarasai 152.21 330 *e*P **PKiKP** **19 17 40.5 +0.2**
TIC Toumodi 152.26 166 *e*PKP1 **PKiKP** **19 17 42.4 +0.6**
NC602 NORSAR Array S 152.32 349 **PKiKP** **19 17 40.5 0.0**
DBIC Dimbokro 152.32 166 PKPbc **PKPbc** **19 17 42.1 +0.5**
comp=Z,7.9nm,0.9s,baz=115,slow=1.5,SNR=5.9
DBIC PKPab **sPKPab** **19 17 53.7 +0.6**
comp=Z,11nm,1.0s,baz=333,slow=0.7,SNR=5.6
DBIC Dimbokro 152.32 166 **PKPbc** **19 17 41.6 0.0**
DBIC **sPKPab** **19 17 53.2 +0.1**
ISAL Salakas 152.38 329 *e*P **PKiKP** **19 17 40.7 -0.1**
ISAL IAmb IAmb 19 17 43.0
comp=Z,13nm,1.1s
IIGN Ignalina 152.49 329 *e*P **PKiKP** **19 17 41.1 +0.1**
IIGN IAmb IAmb 19 17 43.6
comp=Z,14nm,1.1s
HFS Hagfors 152.51 347 PKPbc **PKiKP** **19 17 41.0 +0.1**
comp=Z,11nm,0.8s,baz=318,slow=2.0,SNR=9.6
HFS PKPab **sPKPab** **19 17 52.7 -0.1**
comp=Z,9.4nm,0.8s,baz=108,slow=3.3,SNR=6.2
NACGM Naroch 152.53 328 *e* **PKiKP** **19 17 42.0 +0.9**
PABE Paberze 153.32 331 *e*P **PKiKP** **19 17 43.2 +0.5**
ILGA Ilgaz 153.55 295 PKPdf **PKPdf** **19 17 34.5 -1.6**
ILGA PKPab **pPKPab** **19 17 56.5 -1.1**
AKASG Malin Array Be 153.69 318 PKPbc **PKiKP** **19 17 43.6 0.0**
comp=Z,6.6nm,0.7s,baz=60,slow=2.3,SNR=6.7
AKASG PKPab **pPKPab** **19 17 56.6 -1.0**
comp=Z,6.8nm,0.8s,baz=65,slow=2.2,SNR=4.6
AKASG Malin Array Be 153.69 318 **PKPbc** **19 17 43.3 -0.2**
AKASG **PKPab** **19 17 55.8 -0.5**
AKBB Malin Array Si 153.69 318 PKPdf **PKPdf** **19 17 36.0 +0.2**
AKBB **pPKPbc** **19 17 44.1 -0.6**
AKBB PKPab **PKPab** **19 17 55.8 -0.5**
BR131 Keskin Array S 153.70 292 **PKiKP** **19 17 45.1 +0.9**
BRTR Keskin Array B 153.70 292 PKPbc **PKiKP** **19 17 44.3 +0.1**
comp=Z,2.5nm,0.9s,baz=131,slow=3.7,SNR=4.6
BRTR PKPab **PKPab** **19 17 56.9 -0.1**
comp=Z,4.4nm,0.7s,baz=148,slow=4.1,SNR=12
BRTR Keskin Array B 153.70 292 **PKPdf** **19 17 36.4 +0.1**
BRTR PKPbc **sPKPbc** **19 17 45.0 -0.8**
BRTR PKPab **PKPab** **19 17 56.7 -0.3**
SUW Suwalki 154.69 329 PKPdf **PKPdf** **19 17 39.3 +2.3**
SUW **PKPab** **19 18 00.4 0.0**
BURAR Bucovina Array 157.49 315 PKPdf **PKPdf** **19 17 40.9 -0.2**
BURAR **PKPab** **19 18 11.8 -1.0**
KOLS Kolonicke sedl 158.43 321 *e*PKP **PKPab** **19 18 16.5 -0.2**
OJC Ojcow 158.83 326 PKPdf **PKPdf** **19 17 45.9 +3.4**
OJC **PKPab** **19 18 17.1 -1.3**
TORD Torodi Ar. Bea 159.40 180 PKP **PKPdf** **19 17 44.7 +0.5**
comp=Z,1.3nm,1.1s,baz=331,slow=40,SNR=3.1
TORD PKPab **PKPab** **19 18 22.1 +0.5**
comp=Z,3.1nm,0.9s,baz=183,slow=3.7,SNR=9.5
TORD Torodi Ar. Bea 159.40 180 **PKPdf** **19 17 44.1 -0.1**
TORD **PKPab** **19 18 21.6 0.0**
DPC Dobruska-Polom 160.25 331 *e*PKPAB **PKPab** **19 18 24.3 -0.3**
VYHS Vyhne 160.47 324 *e*PKP **PKPab** **19 18 25.5 -0.1**
CLL Collm 160.65 338 *e* PKPab 19 18 11.0 -15
CLL *i* PKPab pPKPab 19 18 25.8 -1.7
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 160.71 336 *e*PKP **PKPab** **19 18 25.9 -0.6**
comp=Z,10nm,1.2s
CONA Conrad Observa 162.28 327 *i* PKPab **PKPab** **19 18 32.7 -0.9**
comp=Z,7.1nm,1.3s
KHC Kasperske Hory 162.29 333 *e*PKPAB **PKPab** **19 18 33.2 -0.3**
KHC Kasperske Hory 162.29 333 PKPdf **PKPdf** **19 17 47.9 +1.6**
KHC **PKPab** **19 18 32.7 -0.8**
GERES GERESS Array B 162.48 332 PKPab **PKPab** **19 18 33.6 -0.8**
comp=Z,2.1nm,1.0s,baz=51,slow=5.3,SNR=10.0
SOKA Soboth 163.58 325 *i* PKPab **PKPab** **19 18 39.6 +0.2**
comp=Z,4.3nm,1.2s
KBA Koelnbreinsper 164.03 329 *i* PKPab **PKPab** **19 18 40.6 -0.9**
comp=Z,3.8nm,1.4s
ABTA Abfaltersbach 164.65 330 *i* PKPab **PKPab** **19 18 42.7 -1.4**
comp=Z,3.4nm,1.3s
RETA Reute 164.69 336 *i* PKPab **PKPab** **19 18 43.6 -0.6**
comp=Z,5.3nm,1.0s
MOTA Moosalm 164.69 335 *i* PKPab **PKPab** **19 18 43.7 -0.6**
comp=Z,4.2nm,1.0s
SQTA Sankt Quirin 164.76 334 *i* PKPab **PKPab** **19 18 43.9 -0.6**
comp=Z,4.3nm,1.1s
STAL STALIGIAL 164.95 329 **PKPab** **19 18 42.8 -2.5**
DAVA Damuels 165.16 337 *i* PKPab **PKPab** **19 18 45.3 -1.0**
comp=Z,9.9nm,1.1s

NIED ***01*** *19:07:00,37°.20N×141°.30E,h8km, Mw3.4 Best double couple: M0=1.64000×10¹⁴ NP1:φ=235.00000°,δ=44.00000°, λ=-83.00000°. NP2:φ=46.00000°,δ=46.00000°,λ=-97.00000°.*
ISCJB ***01*** *19:07:03.9±1.1,37°.17N±0°.04×141°.41E±0°.05,h9km±5km, mb3.3/4, Error ellipse: s-maj=7.1km s-min=6.0km az=16.8*
JMA ***01*** *19:07:06.7±0.1,37°.20N×141°.24E,h23km±1km,M3.9*
JMA Felt II J1.
IDC ***01*** *19:07:08.9±5.0,37°.24N×141°.36E,h36km±42km,mb3.1/4, mb1 3.3/6,mb1mx3.1/74,mbtmp3.3/6,ML2.8/2,MS2.3/1, Ms1 2.3/1,ms1mx2.0/17, Error ellipse: s-maj=36.3km s-min=25.0km az=86.0*

ISC 01 19:07:06.0±1.7,37°.22N±0°.05×141°.30E±0°.07,h14km±9km, n25,σ1°.04/29,mb3.3/4,1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.37**	**294**	P	**Pg**	**19 07 13.8**	**+0.3**
JFK				S	**Sg**	**19 07 18.9**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.42**	**254**	P	**Pb**	**19 07 14.3**	**-0.9**
ONAJ				S	**Sg**	**19 07 19.9**	**-0.1**
JFFD	**Fukushimafurud**	**0.60**	**258**	P	**Pb**	**19 07 17.6**	**-0.8**
JFFD				S	**Sb**	**19 07 25.0**	**-1.8**
JMST	**Minamisoumatoc**	**0.60**	**327**	P	**Pg**	**19 07 18.1**	**+0.3**
JMST				S	**Sg**	**19 07 26.7**	**+0.9**
JMM	**Marumori**	**0.76**	**328**	P	**Pg**	**19 07 20.8**	**0.0**
JMM				S	**Sn**	**19 07 31.5**	**-2.2**
JFT	**Otama**	**0.82**	**292**	P	**Pb**	**19 07 22.0**	**-0.1**
JFT				S	**Sb**	**19 07 32.8**	**-0.3**
JHO	**Hitachi**	**0.84**	**224**	P	**Pb**	**19 07 20.8**	**-1.6**
JSB	**Shiboa**	**1.13**	**258**	P	**Pn**	**19 07 27.3**	**-0.2**
JSB				S	**Sb**	**19 07 42.2**	**+0.2**
JOU	**Okura**	**1.25**	**336**	P	**Pg**	**19 07 29.5**	**-0.6**
JOU				S	**Sg**	**19 07 46.4**	**0.0**
JFY	**Yanaizu**	**1.29**	**279**	P	**Pn**	**19 07 29.6**	**0.0**
JFY				S	**Sb**	**19 07 46.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.57**	**256**	Pn	**Pn**	**19 07 48.0**	**+0.8**
	0.6nm,0.3s,baz=69,slow=14,SNR=36						
MJAR				Sn	**Sn**	**19 08 20.7**	**+2.4**
	1.5nm,0.3s,baz=13,slow=12,SNR=5.5						
MAT	**Matsushiro**	**2.57**	**256**	P	**Pn**	**19 07 48.4**	**+1.2**
MAT				S	**Sb**	**19 08 21.7**	**-1.7**
ASAJ	**Asahikawa**	**6.96**	**8**	Pn	**Pn**	**19 08 48.3**	**+0.7**
	0.3nm,0.3s,baz=360,slow=31,SNR=3.9						
KSRS	**Korea Array**	**10.66**	**275**	LR	LR	19 13 49.2	
	comp=Z,16nm,21.1s,baz=335,slow=37						
H11N2	**WAKE ISLAND Hy 28.32**	**121**		T	T	19 42 38.5	
	baz=313,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy 28.33**	**121**		T	T	19 42 36.4	
	baz=313,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy 28.34**	**121**		T	T	19 42 34.9	
	baz=313,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy 29.03**	**123**		T	T	19 43 28.7	
	baz=315,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy 29.04**	**123**		T	T	19 43 28.7	
	baz=315,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy 29.05**	**123**		T	T	19 43 28.7	
	baz=315,slow=75,SNR=12						
JAP	**San Jose, Anti**	**31.60**	**218**⇓*e*P		**P**	**19 13 29.9**	**+1.5**
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**19 15 11.9**	**-0.6**
	0.1nm,0.5s,baz=85,slow=6.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**45.82**	**308**	P	**P**	**19 15 27.5**	**+0.2**
	0.3nm,0.6s,baz=83,slow=8.0,SNR=3.4						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**19 16 52.4**	**-0.5**
	0.4nm,0.6s,baz=5.7,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**60.96**	**188**	P	**P**	**19 17 18.9**	**+0.2**
	0.1nm,0.6s,baz=6.5,slow=5.9,SNR=4.6						

ISCJB ***01*** *19:08:19.8±0.5,12°.26N±0°.08×87°.47W±0°.06,h60km±21km, Error ellipse: s-maj=16.3km s-min=3.7km az=36.4*
SNET ***01*** *19:08:20.6±0.9,12°.31N×87°.47W,h42km±76km,ML3.8*
UCR ***01*** *19:08:22.7±1.1,12°.25N×87°.26W,h44km±23km,MW4.0*

ISC 01 19:08:20.7±1.3,12°.28N±0°.08×87°.46W±0°.06,h51km±31km, n24,σ0°.65/33,1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.57**	**44**	*e*P	**Pn**	**19 08 33.7**	**+0.6**
CNGN	**Cerro Negro**	**0.77**	**74**	*e*P	**Pn**	**19 08 35.1**	**-0.4**
CNCH	**Conchagua**	**1.05**	**340**⇓*e*P		**Pn**	**19 08 39.5**	**+0.1**
CNCH				*e*S	**Sn**	**19 08 53.5**	**+0.3**
LCND	**La Caada**	**1.11**	**337**	*e*P	**Pn**	**19 08 40.0**	**0.0**
LCND				*e*S	**Sn**	**19 08 53.7**	**-0.5**
LCND				IAML		19 08 56.9	
	comp=Z,4μm,0.4s						
XAVN	**Gruta Xavier**	**1.11**	**97**	*e*P	**Pn**	**19 08 39.6**	**-0.4**
XAVN				*e*S	**Sn**	**19 08 54.5**	**+0.2**
JUCU	**Jucuarın**	**1.24**	**321**	*e*P	**Pn**	**19 08 41.5**	**-0.3**
JUCU				*e*S	**Sn**	**19 08 57.5**	**0.0**
JUCU				IAML		19 09 00.0	
	comp=Z,2μm,0.5s						
MASN	**Masaya**	**1.31**	**103**	*e*P	**Pn**	**19 08 42.2**	**-0.5**
ESTN	**Estel**	**1.34**	**52**	*e*P	**Pn**	**19 08 43.3**	**+0.1**
ALJI	**Alcalda de J**	**1.50**	**314**	*e*P	**Pn**	**19 08 44.9**	**-0.4**
ALJI				*e*S	**Sn**	**19 09 03.3**	**-0.6**
ALJI				IAML		19 09 05.5	
	comp=Z,771nm,0.1s						
MATN	**Matagalpa**	**1.63**	**66**	*e*P	**Pn**	**19 08 46.9**	**-0.2**
RCON	**San Juan de Ri**	**1.74**	**47**	*e*P	**Pn**	**19 08 49.2**	**+0.5**
COEG	**Centro de Oper**	**1.92**	**314**	*e*P	**Pn**	**19 08 50.8**	**-0.3**
COEG				*e*S	**Sn**	**19 09 14.3**	**0.0**
COEG				IAML		19 09 18.4	
	comp=Z,621nm,0.3s						
PAVA	**Las Pavas**	**2.03**	**315**	*e*P	**Pn**	**19 08 52.3**	**-0.3**
VICT	**Victoria**	**2.03**	**325**	*e*P	**Pn**	**19 08 52.6**	**0.0**
VICT				*e*S	**Sn**	**19 09 16.8**	**-0.1**
LFU	**La Fuente**	**2.18**	**312**	*e*P	**Pn**	**19 08 54.4**	**-0.3**
ACON	**Acoyapa**	**2.25**	**98**	*e*P	**Pn**	**19 08 54.5**	**-1.1**
CUI	**Cuipilapa**	**2.77**	**125**	*e*P	**Pn**	**19 09 02.3**	**-0.4**
CUI				*e*S	**Sn**	**19 09 35.3**	**+0.4**
MTO3	**Montecristo**	**2.81**	**319**	*e*P	**Pn**	**19 09 03.5**	**+0.2**
PLVR	**Palo Verde**	**2.82**	**133**	*e*P	**Pn**	**19 09 03.8**	**+0.3**
PLVR				*e*S	**Sn**	**19 09 35.1**	**-1.3**
ESPN	**Las Esperanzas**	**3.08**	**91**	*e*P	**Pn**	**19 09 07.1**	**+0.1**
JTS	**Las Juntas de**	**3.15**	**129**	*e*P	**Pn**	**19 09 08.5**	**+0.5**
CEDE	**Laguna Cedeo**	**3.23**	**123**	*e*P	**Pn**	**19 09 09.4**	**+0.3**
ARE1	**Arenal 1**	**3.24**	**124**	*e*P	**Pn**	**19 09 11.4**	**+2.3**
IXG	**Ixpaco**	**3.46**	**303**	*e*P	**Pn**	**19 09 13.2**	**+0.8**

IDC ***01*** *19:12:26.8±3.7,36°.40N×71°.12E,h208km±32km,mb3.1/10, mb1 3.3/16,mb1mx3.1/67,mbtmp3.8/16,Error ellipse: s-maj=26.1km s-min=16.6km az=20.0*
ISCJB ***01*** *19:12:30.8±0.3,36°.72N±0°.02×71°.09E±0°.05,h250km, mb3.5/12, Error ellipse: s-maj=5.3km s-min=3.1km az=169.3*
NEIC ***01*** *19:12:31.2±2.9,36°.68N±0°.04×71°.2E±0°.1,h245km±8km, mb4.1/10*
NNC ***01*** *19:12:35.5±2.7,37°.01N×71°.11E,h228km±38km,mb3.0, mpv4.1,Error ellipse: s-maj=27.3km s-min=16.8km az=15.0*

ISC 01 19:12:31.6±0.5,36°.67N±0°.05×71°.22E±0°.05,h250km,n95, σ2°.35/100,mb3.5/14,6C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.43**	**343**		**Pn**	**19 13 17.9**	**-0.4**
GAR				S	**S**	**19 13 51.4**	**-3.9**
CHGR	**Chuyangaron**	**2.57**	**321**		S	19 14 17.8	+20
KBL	**Kabul**	**2.77**	**220**		**Pn**	**19 13 21.2**	**-0.8**
KBL					**S**	**19 13 58.4**	**-3.2**
CEP	**Cherat**	**2.90**	**169**	⇓P	**Pn**	**19 13 23.5**	**+0.3**
CEP				S	**S**	**19 14 02.0**	**-2.0**
BTK	**Batken**	**3.40**	**355**		**Pn**	**19 13 29.3**	**+0.8**
BTK					**S**	**19 14 11.8**	**-1.9**
CHCP	**Chirah Chowk**	**3.44**	**150**	P	**Pn**	**19 13 29.9**	**+0.8**
NIL	**Nilore**	**3.44**	**150**		**Pn**	**19 13 30.0**	**+0.9**
THW	**Thamme Wali**	**3.89**	**173**	⇓P	**Pn**	**19 13 34.3**	**0.0**
ARSB	**Arslanbob**	**4.85**	**16**		**Pn**	**19 13 45.0**	**-0.6**
ARSB					**S**	**19 14 41.1**	**-3.5**
SARP

AAK Ala-Archa 6.47 22 ⇑P Pn 19 14 05.5 -0.2
comp=N,6.5nm,0.5s
AAK ⇓S S 19 15 19.0 -2.1
comp=N,12nm,0.6s
AAK Ala-Archa 6.47 22 P **Pn 19 14 05.9 +0.2**
comp=N,2.7nm,0.3s,baz=184,slow=4.8,SNR=50
AAK S S 19 15 18.0 -3.1
comp=N,1.3nm,0.3s,baz=193,slow=6.7,SNR=5.2
AAK Ala-Archa 6.47 22 P **Pn 19 14 06.0 +0.2**
SNR=15
KBK Karagaybulak 6.63 25 P **Pn 19 14 08.4 +0.6**
SNR=8.4
ULHL Ulahol 6.79 33 P **Pn 19 14 10.2 +0.4**
SNR=16
TKM2 Tokmak 2 7.09 27 ⇑P Pn 19 14 13.5 -0.1
comp=N,5.5nm,0.5s
TKM2 ⇑S S 19 15 32.3 -3.1
comp=N,11nm,0.9s
TKM2 Tokmak 2 7.09 27 P **Pn 19 14 13.8 +0.2**
SNR=14
KDJ Kajisay 7.14 38 Pn **Pn 19 14 14.8 +0.6**
TARG Taragay, Kyrgy 7.19 43 Pn **Pn 19 14 14.6 -0.4**
SMLA Simla 7.41 136 *eP* **Pn 19 14 17.9 +0.4**
SMLA *eS* **S 19 15 38.2 -4.5**
SMLA IAML 19 15 41.5
comp=E,25nm,0.3s
SMLA IAML 19 15 44.7
comp=N,27nm,0.4s
JOSI Joshimath 9.25 129 *eP* **Pn 19 14 41.3 +0.4**
JOSI *eS* **S 19 16 17.8 -7.7**
JOSI IAML 19 16 24.7
comp=E,21nm,0.5s
JOSI IAML 19 16 27.1
comp=N,18nm,0.7s
KUDL Kundal 9.59 151 *eP* Pn 19 14 37.2 -8.0
KUDL *eS* S 19 16 16.5 -17
MAKZ Makanchi 12.92 35 P **Pn 19 15 26.5 +0.1**
MK31 Makanchi Array 13.05 36 P **P 19 15 28.5 -1.3**
MKAR Makanchi Array 13.05 36 P **Pn 19 15 28.2 +0.1**
comp=N,0.2nm,0.3s,baz=216,slow=14,SNR=12
MKAR Makanchi Array 13.05 36 P 19 15 28.7 -1.1
KOLN Koldanda 13.72 127 *eP* **P 19 15 39.3 +1.7**
GKN Gorkha 14.25 124 *eP* **P 19 15 44.8 +1.4**
comp=N,5.7nm,0.2s
WMQ Urumqi 14.46 55 *eP* **P 19 15 46.7 +1.3**
KKN Kakani 14.82 123 *eP* **Pn 19 15 52.5 +2.6**
DMN Daman 14.82 124 *eP* **Pn 19 15 53.0 +3.0**
KURBB Kurchatov Arra 14.91 18 P **Pn 19 15 49.9 -0.6**
comp=N,0.1nm,0.3s,baz=208,slow=9.3,SNR=6.7
KURK Kurchatov 15.02 18 Pn 19 15 52.1 +0.3
AB31 Akbulak array 15.02 330 ⇑P Pn 19 15 53.4 +1.5
comp=N,0.6nm,0.3s,baz=148,slow=10,SNR=41
ABKAR Akbulak array 15.02 330 P Pn 19 15 52.5 +0.6
ABKAR Akbulak array 15.02 330 P P 19 15 50.8 -0.7
ABKAR IAmb IAmb 19 15 54.3
comp=Z,2.5nm,0.7s
PKIN Phulchoki 15.04 123 *eP* **Pn 19 15 55.2 +2.6**
PKI Pulchoki 15.05 123 *eP* **Pn 19 15 55.4 +2.6**
comp=Z,2.8nm,0.3s
JIRN Jiri 15.52 121 *eP* **Pn 19 16 00.2 +1.7**
comp=Z,8.9nm,0.3s
RAMN Ramite 16.25 122 *eP* **Pn 19 16 08.7 +1.7**
comp=Z,11nm,0.7s
BVAR Borovoye Array 16.36 358 P **Pn 19 16 06.9 -0.9**
comp=Z,0.9nm,0.3s,baz=163,slow=11,SNR=13
BRVK Borovoye 16.40 358 P **P 19 16 06.0 -0.6**
AKTO Aktyubinsk 16.72 329 ⇑P Pn 19 16 11.0 -1.0
comp=Z,7.5nm,0.7s
AKTO Aktyubinsk 16.72 329 P **Pn 19 16 11.2 -0.8**
comp=Z,2.5nm,0.3s,baz=140,slow=8.9,SNR=24
TAPN Taplejung 16.77 119 *eP* **Pn 19 16 13.4 +0.2**
comp=Z,3.9nm,0.3s
ODAN Odare 16.85 121 *eP* **Pn 19 16 15.4 +1.3**
ZAA0 Zalesovo Array 19.69 24 P **P 19 16 42.7 +0.7**
ZAA0 IAmb IAmb 19 16 50.1
comp=Z,4.2nm,1.2s
ZALV Zalesovo Beam 19.69 24 P **P 19 16 43.1 +1.0**
comp=Z,0.4nm,0.3s,baz=208,slow=10,SNR=4.7
ARU Arti 21.53 341 P **P 19 17 01.9 +1.0**
comp=Z,0.4nm,0.3s,baz=175,slow=13,SNR=2.8
ARU Arti 21.53 341 P **P 19 17 05.8 +4.8**
SIRN Sırnak 22.96 281 *i P* P 19 17 27.7 +13
SIRN IAML_P
comp=Z,56nm,0.1s
DAGI Agillar 23.18 290 *i P* P 19 17 28.6 +12
DAGI IAML_P
comp=Z,72nm,0.4s
SRTM Siirt_Merkez 23.29 282 *i P* P 19 17 28.7 +11
SRTM IAML_P
comp=Z,640nm,0.8s
DBAD Bademkaya 23.34 290 *i P* P 19 17 28.0 +10
MUSM Mu-Merkez 23.55 284 *i P* P 19 17 30.3 +10
MUSM IAML_P
comp=Z,27nm,0.1s
BNGL BINGOL 23.82 285 *i P* P 19 17 32.5 +10
BTMN Batman 23.82 282 *i P* P 19 17 29.2 +7.1
BTMN IAML_P
comp=Z,158nm,0.5s
SVAN Silvan-Diyarba 23.85 283 *i P* P 19 17 30.8 +8.4
SVAN IAML_P
comp=Z,398nm,0.9s
KRIK Erzurum-spir 23.93 288 *i P* **P 19 17 29.7 +6.4**
KRIK IAML_P
comp=Z,216nm,0.4s
KOPT Kop Dagi 24.27 287 *i P* P 19 17 34.3 +7.9
KOPT IAML_P
comp=Z,39nm,0.1s
BAYB BAYBURT 24.44 288 *i P* **P 19 17 34.1 +6.1**
BAYB IAML_P
comp=Z,539nm,0.9s
HANI Diyarbakir_Han 24.45 283 *i P* **P 19 17 33.4 +5.5**
HANI IAML_P
comp=Z,31nm,0.3s
KELT Kelkit 25.21 288 *i P* **P 19 17 35.9 +0.9**
KELT IAML_P
comp=Z,458nm,0.9s
ELZG Elazig 25.54 284 *i P* **P 19 17 37.2 -0.7**
ELZG IAML_P
comp=Z,42nm,0.1s
KEMA Kemaliye 25.85 286 *i P* **P 19 17 37.1 -3.5**
KEMA IAML_P
comp=Z,350nm,0.4s
LZH Lanzhou 26.21 81 *eP* **P 19 17 46.0 +2.2**
LZH pP pP 19 18 29.2 -4.7
LZH PP **PnPn 19 18 42.1 +2.7**
LZH sP sP 19 18 55.6 -8.0
LZH pmax pmax
comp=Z,20nm,1.1s
AKCD Akcadag 26.39 284 *i P* **P 19 17 39.0 -6.5**
AKCD IAML_P
comp=Z,2.9nm,0.1s
SONM Songino Array 28.09 56 P **P 19 18 01.9 +1.5**
comp=Z,0.3nm,0.7s,baz=269,slow=8.1,SNR=2.9
HHC Hu-ho-hao-te 31.54 70 P **P 19 18 33.9 +3.1**
HHC pmax pmax
comp=Z,3.0nm,0.7s
HHC pmax pmax
comp=Z,8.0nm,6.6s
FINES FINESS Array B 37.44 326 P **P 19 19 21.6 +0.9**
comp=Z,2.2nm,0.8s,baz=111,slow=12,SNR=3.1
HFS Hagfors 43.04 322 P **P 19 20 07.3 +0.7**
comp=Z,0.9nm,0.4s,baz=108,slow=9.5,SNR=6.1
NOA NORSAR Array B 44.35 323 P **P 19 20 16.7 -0.3**
comp=Z,0.8nm,0.8s,baz=100,slow=7.6,SNR=2.7
TOA0 Torodi Ar. Sit 65.90 269 P **P 19 22 50.0 -1.1**
TOA0 IAmb IAmb 19 23 01.9
comp=Z,6.7nm,1.4s
TORD Torodi Ar. Bea 65.90 269 P **P 19 22 49.4 -1.7**
comp=Z,0.2nm,0.3s,baz=52,slow=5.9,SNR=9.2
TORD Torodi Ar. Bea 65.90 269 P **P 19 22 48.9 -2.2**
TOLK Toolik Lake Re 70.71 15 P **P 19 23 21.4 +1.3**
TOLK IAmb IAmb 19 23 31.5
comp=Z,9.5nm,1.5s
IMAR Indian Mountai 71.96 18 P **P 19 23 28.2 +0.7**
INK Inuvik 73.71 9 P **P 19 23 39.0 +1.3**
comp=Z,0.7nm,0.5s,baz=8.3,slow=5.6,SNR=5.1
INK Inuvik 73.71 9 P **P 19 23 38.9 +1.2**
INK IAmb IAmb 19 23 55.6
comp=Z,7.0nm,1.5s
ILAR Eielson Array 74.57 16 P **P 19 23 43.6 +0.9**
comp=Z,0.2nm,0.8s,baz=318,slow=3.9,SNR=2.8
WRA Warramunga Arr 81.93 122 P **P 19 24 22.9 -0.7**
comp=Z,0.4nm,0.6s,baz=327,slow=5.3,SNR=8.1
WRA Warramunga Arr 81.93 122 P **P 19 24 22.5 -1.2**
ASAR Alice Springs 84.21 125 P **P 19 24 34.4 -0.8**
comp=Z,0.3nm,0.6s,baz=311,slow=5.3,SNR=10
ASAR Alice Springs 84.21 125 P **P 19 24 34.7 -0.5**

*ISCJB **01** 19:20:14.3±1.1, 30°.45S±0°.04×71°.76W±0°.08, h6km±8km, Error ellipse: s-maj=12.5km s-min=4.8km az=21.7*
*SJA **01** 19:20:15.2±0.8, 30°.36S×71°.66W, h23km±3km, ML3.4, MW3.5*
*GUC **01** 19:20:16.2±0.7, 30°.48S×71°.49W, h38km±6km, ML3.7*
ISC 01 19:20:12.3±1.6, 30°.39S±0°.03×71°.72W±0°.06, h4km±11km, n35, σ1°78/52, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.63**	**41**	*eP*	**Pn**	**19 20 28.8**	**+0.7**
LSCH				*eS*	**Sn**	**19 20 38.0**	**-0.7**
GO04	**Tololo Observa**	**0.82**	**75**	⇓*iP*	**Pn**	**19 20 30.9**	**-0.1**
GO04				*eS*	**Sn**	**19 20 41.6**	**-2.1**
GO04	**Tololo Observa**	**0.82**	**75**	*i P*	**Pn**	**19 20 30.9**	**-0.1**
GO04				*i* S	**Sb**	**19 20 41.5**	**+0.5**
CO02	**Combarbal**	**1.02**	**143**	⇑*iP*	**Pb**	**19 20 32.8**	**+0.2**
CO02				*eS*	**Sg**	**19 20 45.1**	**0.0**
CO02				IAML		19 20 47.1	
comp=E,4μm,0.4s							
LCO	**Las Campanas**	**1.64**	**33**	*i P*	**Pg**	**19 20 44.3**	**+0.6**
LCO				*i* S	**Sg**	**19 21 05.5**	**+0.6**
LCO	**Las Campanas**	**1.64**	**33**	*eP*	**Pn**	**19 20 42.1**	**0.0**
LCO				⇓*eS*	**Sg**	**19 21 07.7**	**+2.8**
AROD	**Rodeo**	**1.96**	**84**	*i P*	**Pg**	**19 20 49.4**	**-0.4**
AROD				*i* S	**Sb**	**19 21 12.9**	**-0.7**
ACDV	**Cuesta del Vie**	**2.26**	**85**	*i P*	**Pg**	**19 20 54.7**	**-0.9**
ACDV				IAML		19 21 04.4	
comp=Z,148nm,0.5s							
ACCO	**Cerro Coronel**	**2.30**	**96**	*i P*	**Pb**	**19 20 55.1**	**+0.5**
RTLS	**Leoncito**	**2.51**	**125**	*i P*	**Pb**	**19 20 57.4**	**-0.7**
RTLS				*i* S	**Sb**	**19 21 29.2**	**-0.2**
RTLS				IAML		19 21 41.3	
comp=Z,128nm,0.5s							
RTLS	**Leoncito**	**2.51**	**125**	IAML		19 21 41.4	
comp=Z,128nm,0.5s							
ROCH	**El Roble**	**2.64**	**167**	*eP*	**Pn**	**19 20 56.3**	**+0.3**
ROCH				*eS*	**Sn**	**19 21 31.1**	**+2.4**
ROCH				IAML		19 21 36.3	
comp=E,468nm,0.6s							
ROC1	**El Roble**	**2.65**	**167**	*i P*	**Pn**	**19 20 56.2**	**+0.1**
ROC1				*i* S	**Sb**	**19 21 32.4**	**-1.0**
AMOG	**MOGNA**	**2.83**	**102**	*i P*	**Pb**	**19 21 02.4**	**-1.1**
AMOG	**MOGNA**	**2.83**	**102**	*i P*	**Pb**	**19 21 02.7**	**-0.9**
ZON	**Zonda**	**2.85**	**115**	*i P*	**Pg**	**19 21 07.4**	**+0.4**
ZON				*i* S	**Sg**	**19 21 44.2**	**+0.2**
ZON	**Zonda**	**2.85**	**115**	*eP*	**Pb**	**19 21 02.5**	**-1.4**
ZON				*eS*	**Sg**	**19 21 44.2**	**+0.2**
PEL	**Peldehue**	**2.88**	**162**	*eP*	**Pn**	**19 21 00.9**	**+1.8**
PEL				*eS*	**Sn**	**19 21 34.1**	**-0.2**
PEL				IAML		19 21 47.7	
comp=E,303nm,0.7s							
PEL	**Peldehue**	**2.88**	**162**	*i P*	**Pn**	**19 20 59.7**	**+0.6**
PEL				*i* S	**Sb**	**19 21 38.4**	**-1.6**
PEL	**Peldehue**	**2.88**	**162**	*eP*	**Pn**	**19 20 59.4**	**+0.3**
PEL				*eS*	**Sb**	**19 21 40.0**	**0.0**
RTLL	**Cerro Villicun**	**2.94**	**109**	*i P*	**Pn**	**19 21 02.3**	**+2.4**
RTLL				*i* S	**Sn**	**19 21 37.9**	**+2.1**
RTLL				*i* S	**Sb**	**19 21 38.4**	**-3.3**
RTLL				IAML		19 22 04.1	
comp=Z,102nm,0.4s							
RTLL	**Cerro Villicun**	**2.94**	**109**	IAML		19 22 04.0	
comp=Z,102nm,0.4s							
RTCV	**Cerro Valdivia**	**3.10**	**119**	*i P*	**Pb**	**19 21 05.5**	**-2.5**
RTCV	**Cerro Valdivia**	**3.10**	**119**	*i P*	**Pb**	**19 21 05.5**	**-2.5**
RCDM	**Rinconada Maip**	**3.18**	**166**	*eP*	**Pn**	**19 21 04.7**	**+1.4**
RCDM				*eS*	**Sn**	**19 21 41.3**	**-0.4**
RCDM				IAML		19 21 56.6	
comp=E,134nm,0.5s							
ASAL	**Salagasta**	**3.30**	**132**	*i P*	**Pb**	**19 21 08.6**	**-2.8**
ASAL	**Salagasta**	**3.30**	**132**	*i P*	**Pb**	**19 21 08.7**	**-2.8**
VCA	**Vinchina**	**3.48**	**63**	*i P*	**Pb**	**19 21 12.8**	**-1.8**
VCA				*i* S	**Sb**	**19 21 55.6**	**-1.6**
VCA				IAML		19 22 09.7	
comp=Z,193nm,0.3s							
AAGR	**Agrelo**	**3.64**	**138**	*i P*	**Pb**	**19 21 14.8**	**-2.6**
AAGR	**Agrelo**	**3.64**	**138**	*eP*	**Pn**	**19 21 13.1**	**+3.4**
ACAN	**Cantantal**	**4.31**	**117**	*i P*	**Pn**	**19 21 22.2**	**+3.5**
ACAN	**Cantantal**	**4.31**	**117**	*i P*	**Pn**	**19 21 22.6**	**+3.9**
RFA	**San Rafael**	**5.16**	**149**	*i P*	**Pn**	**19 21 32.2**	**+1.8**
RFA	**San Rafael**	**5.16**	**149**	*i P*	**Pn**	**19 21 32.3**	**+1.9**
CYA	**Choya**	**5.51**	**71**	*i P*	**Pn**	**19 21 37.8**	**+2.5**
CYA				IAML		19 23 17.0	
comp=Z,15nm,0.5s							

*IDC **01** 19:23:18.0±1.8, 15°.19S×168°.33E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/27, mbtmp4.1/9, ML4.0/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/24, Error ellipse: s-maj=51.4km s-min=24.1km az=125.0*
*ISCJB **01** 19:23:19.7±0.8, 15°.37S±0°.06×168°.4E±0°.1, h25km, mb4.1/8, MS3.3/5, Error ellipse: s-maj=17.1km s-min=8.7km az=5.2*
*NEIC **01** 19:23:25.4±2.8, 15°.43S±0°.07×168°.5E±0°.2, h63km±11km, mb4.6/18*
ISC 01 19:23:21.3±1.0, 15°.32S±0°.08×168°.5E±0°.2, h25km, n39, σ1°25/32, mb4.5/13, MS3.3/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.98**	**195**	Pn	**Pn**	**19 25 03.6**	**+1.5**
2.8nm,0.3s,baz=152,slow=23,SNR=40							
DZM				Sn	**Sn**	**19 26 22.5**	**+1.6**
0.3nm,0.3s,baz=296,slow=21,SNR=3.0							
DZM	**Mont Dzumac**	**6.98**	**195**		**Pn**	**19 25 03.7**	**+1.5**
DZM					**Sn**	**19 26 20.6**	**-0.3**
HNR	**Honiara**	**10.16**	**304**	LR	LR	19 29 37.3	
comp=Z,42nm,18.8s,baz=139,slow=38							
LHI	**Lord Howe Isla**	**18.27**	**206**	P	**Pn**	**19 27 30.3**	**-2.9**
LHI				IAmb	IAmb	19 27 37.4	
comp=Z,96nm,1.3s							
KRVT	**Keravat (AS076**	**19.51**	**302**	LR	LR	19 35 31.8	
comp=Z,96nm,18.4s,baz=124,slow=38							
CTA	**Charters Tower**	**21.66**	**254**	P	**P**	**19 28 10.3**	**+0.1**
comp=Z,5.8nm,1.0s,baz=73,slow=8.4,SNR=3.6							
CTAO	**Charters Tower**	**21.66**	**254**	P	**P**	**19 28 12.1**	**+1.8**
CTAO				IAmb	IAmb	19 28 36.4	
comp=Z,31nm,1.6s							
COEN	**Coen**	**24.49**	**270**	P	**P**	**19 28 39.6**	**+0.8**
BKZ	**Black Stump Fm**	**24.79**	**165**	P	**P**	**19 28 39.9**	**-1.4**
STKA	**Stephens Creek**	**29.50**	**231**	P	**P**	**19 29 23.9**	**+0.3**
comp=Z,2.1nm,0.7s,baz=50,slow=11,SNR=6.8							
STKA				LR	LR	19 40 03.6	
comp=Z,72nm,18.0s,baz=28,slow=34							
STKA	**Stephens Creek**	**29.50**	**231**	P	**P**	**19 29 24.0**	**+0.3**
RAR	**Rarotonga**	**30.70**	**106**	LR	LR	19 39 05.8	
comp=Z,66nm,20.4s,baz=270,slow=31							
WR0	**Warramunga Arr**	**32.61**	**257**		P	19 29 56.7	+5.4
WR0				IAmb	IAmb	19 30 00.6	
comp=Z,8.7nm,1.5s							
WB0	**Warramunga Arr**	**32.74**	**257**	P	**P**	**19 29 54.5**	**+2.1**
WB0				IAmb	IAmb	19 30 10.4	
comp=Z,8.2nm,0.8s							
WB2	**Warramunga Arr**	**32.79**	**257**	P	**P**	**19 29 51.8**	**-1.0**
WRAB	**Tennant Creek**	**32.79**	**257**	P	**P**	**19 29 51.0**	**-1.8**
WRAB				IAmb	IAmb	19 29 52.4	
comp=Z,7.0nm,1.1s							
WRA	**Warramunga Arr**	**32.80**	**257**	P	**P**	**19 29 51.7**	**-1.2**
comp=Z,4.2nm,1.0s,baz=84,slow=8.5,SNR=30							
WRA	**Warramunga Arr**	**32.80**	**257**	P	**P**	**19 29 51.4**	**-1.5**
AS31	**Alice Springs**	**33.54**	**250**	P	**P**	**19 29 58.7**	**-0.7**
ASAR	**Alice Springs**	**33.54**	**250**	P	**P**	**19 29 58.9**	**-0.6**
comp=Z,8.0nm,0.8s,baz=78,slow=9.0,SNR=58							
ASAR				LR	LR	19 42 43.8	
comp=Z,120nm,18.4s,baz=84,slow=35							
ASAR	**Alice Springs**	**33.54**	**250**	P	**P**	**19 29 57.5**	**-1.9**
BBOO	**Buckleboo**	**34.14**	**234**	P	**P**	**19 30 04.8**	**+0.4**
BBOO				IAmb	IAmb	19 30 33.4	
comp=Z,11nm,1.4s							
WAKE	**Wake Island**	**34.43**	**357**	P	**P**	**19 30 08.1**	**+1.1**
MTN	**Manton Dam**	**36.25**	**269**	P	**P**	**19 30 21.9**	**-0.9**
MTN				IAmb	IAmb	19 30 27.4	
comp=Z,8.9nm,1.1s							
GUMO	**Guam**	**37.00**	**320**	LR	LR	19 43 23.4	
comp=Z,34nm,21.0s,baz=90,slow=33							
KNRA	**Kununurra**	**38.21**	**264**	P	**P**	**19 30 38.4**	**-1.1**
FORT	**Forrest**	**39.99**	**240**	P	**P**	**19 30 54.7**	**+0.5**
PPT	**Papeete**	**40.26**	**99**	LR	LR	19 45 59.5	
comp=Z,20nm,18.0s,baz=11,slow=34							
FITZ	**Fitzroy Crossi**	**41.03**	**260**	P	**P**	**19 31 02.8**	**-0.2**
FITZ				IAmb	IAmb	19 31 06.9	
comp=Z,10nm,0.8s							
MORW	**Morawa**	**50.05**	**245**	P	**P**	**19 32 14.6**	**+0.3**
JAP	**San Jose, Anti**	**52.84**	**297**	⇑*eP*	P	19 32 46.1	+11
CMAR	**Chiang Mai Arr**	**76.23**	**294**	P	**P**	**19 35 08.2**	**0.0**
comp=Z,1.1nm,1.0s,baz=118,slow=5.5,SNR=5.6							
CMAR	**Chiang Mai Arr**	**76.23**	**294**	P	**P**	**19 35 06.8**	**-1.4**
SONM	**Songino Array**	**83.64**	**323**	P	**P**	**19 35 47.8**	**0.0**
comp=Z,0.9nm,0.9s,baz=127,slow=3.4,SNR=5.4							
SONM	**Songino Array**	**83.64**	**323**	P	**P**	**19 35 47.3**	**-0.5**
ILAR	**Eielson Array**	**86.73**	**18**	P	**P**	**19 36 02.4**	**-0.4**
comp=Z,0.7nm,0.8s,baz=232,slow=5.4,SNR=7.3							
ILAR	**Eielson Array**	**86.73**	**18**	P	**P**	**19 36 03.7**	**+0.9**
MKAR	**Makanchi Array**	**98.41**	**316**	P	Pdif	19 36 58.8	+1.5
comp=Z,0.5nm,0.7s,baz=110,slow=5.6,SNR=5.0							
MKAR	**Makanchi Array**	**98.41**	**316**	P	Pdif	19 36 58.3	+0.9

IDC 01 19:32:01.4±7.0, 23°.09S×177°.83W, h419km±31km, mb3.3/4, mb1 3.5/4, mb1mx3.1/24, mbtmp4.2/4, Error ellipse: s-maj=108.5km s-min=34.4km az=54.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.14**	**181**	P	P	19 33 34.7	-1.2
84nm,0.3s,baz=312,slow=21,SNR=3.6							
RAO				S	S	19 34 55.9	+2.6
399nm,0.3s,baz=50,slow=21,SNR=10							
CTA	**Charters Tower**	**33.48**	**268**	P	P	19 38 05.3	+1.3
2.7nm,0.3s,baz=100,slow=10,SNR=14							
STKA	**Stephens Creek**	**36.87**	**247**	P	P	19 38 30.8	-1.6
0.8nm,0.5s,baz=107,slow=10,SNR=8.5							
ASAR	**Alice Springs**	**44.14**	**259**	P	P	19 39 30.9	-0.3
1.5nm,0.8s,baz=93,slow=8.3,SNR=15							
WRA	**Warramunga Arr**	**44.46**	**265**	P	P	19 39 33.3	-0.4
1.1nm,0.2s,baz=104,slow=8.1,SNR=86							
WRA				ScP	ScP	19 44 20.9	+0.6
1.5nm,1.0s,baz=106,slow=4.0,SNR=7.3							

*NIED **01** 19:53:00, 44°.70N×149°.30E, h35km, Mw3.9 Best double couple: M0:8.53000×10^14 NP1:φ0=224.00000°, δ48.00000°, λ119.00000°. NP2:φ0=4.00000°, δ50.00000°, λ62.00000°.*
*JMA **01** 19:53:50.4±0.6, 44°.69N×149°.29E, h30km, M4.3*
*ISCJB **01** 19:53:50.4±0.9, 44°.37N±0°.05×149°.31E±0°.07, h35km±7km, mb3.8/20, MS3.7/1, Error ellipse: s-maj=9.6km s-min=6.3km az=137.1*
*SKHL **01** 19:53:51.5±0.9, 44°.34N×149°.42E, h56km±6km, mb5.3/3*
*MOS **01** 19:53:52.8±0.8, 44°.47N×149°.12E, h52km, mb4.0/7, Error ellipse: s-maj=9.6km s-min=8.8km az=1.4*
*IDC **01** 19:53:53.0±3.6, 44°.46N×149°.15E, h35km±28km, mb3.6/16, mb1 3.7/23, mb1mx3.6/41, mbtmp3.7/23, ML3.0/7, MS3.1/3, Ms1 3.1/3, ms1mx2.7/40, Error ellipse: s-maj=18.3km s-min=13.6km az=130.0*
ISC 01 19:53:52.2±3.5, 44°.42N±0°.06×149°.28E±0°.07, h32km±25km, n81, σ1°24/91, mb3.7/20, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.29**	**309**	*d* PN	**Pn**	**19 54 13.1**	**-0.9**
KUR				*i* S	**Sn**	**19 54 28.7**	**-1.4**
KUR				pmax	pmax		
comp=Z,1μm,0.4s							
KUR				pmax	pmax		
comp=N,430nm,0.3s							
KUR				pmax	pmax		
comp=E,132nm,0.4s							
KUR				smax	smax		
comp=N,1μm,0.2s							
KUR				smax	smax		
comp=E,789nm,0.2s							
KUR	**Kuril'sk**	**1.29**	**309**	*eP*	**Pn**	**19 54 13.2**	**-0.8**
KUR				AMB	AMB	19 54 13.9	
comp=E,1μm,0.3s							
KUR				*eS*	**Sn**	**19 54 28.8**	**-1.4**
KUR				A	A	19 54 31.0	
comp=E,2μm,0.3s							
KUR				A	A	19 54 31.0	
comp=E,1μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.49**	**262**	*e*PN	**Pn**	**19 54 30.7**	**+0.3**
YUK				*eS*	**Sn**	**19 55 02.1**	**+2.5**
YUK				pmax	pmax		
comp=Z,274nm,0.2s							
YUK				pmax	pmax		
comp=N,42nm,0.1s							
YUK				pmax	pmax		
comp=E,103nm,0.4s							
YUK				smax	smax		
comp=N,613nm,0.4s							
YUK				smax	smax		
comp=E,491nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.49**	**262**	*eP*	**Pn**	**19 54 30.0**	**-0.4**
YUK				AMB	AMB	19 54 31.0	
comp=E,250nm,0.2s							
YUK				*eS*	**Sn**	**19 54 59.4**	**-0.2**
YUK				A	A	19 55 10.0	
comp=E,740nm,0.4s							
YUK				A	A	19 55 10.0	
comp=E,1μm,0.4s							
LAGR	**Lagunnoye**	**2.54**	**263**	*e*PN	**Pn**	**19 54 32.1**	**+1.0**
LAGR				*eS*	**Sn**	**19 55 02.8**	**+1.9**
LAGR				smax	smax		
comp=N,1μm,0.6s							
LAGR				smax	smax		
comp=E,283nm,0.2s							
LAGR	**Lagunnoye**	**2.54**	**263**	*eP*	**Pn**	**19 54 32.0**	**+1.0**
LAGR				*eS*	**Sn**	**19 55 02.0**	**+1.1**
LAGR				A	A	19 55 14.0	
comp=E,1μm,0.6s							
LAGR				A	A	19 55 14.0	
comp=E,283nm,0.6s							
GRPR	**Tuman**	**2.56**	**262**	*e*PN	**Pn**	**19 54 32.3**	**+0.9**
GRPR				S	**Sn**	**19 55 03.0**	**+1.6**
GRPR				pmax	pmax		
comp=N,101nm,0.2s							
GRPR				pmax	pmax		
comp=Z,222nm,0.2s							
GRPR				pmax	pmax		
comp=E,49nm,0.1s							
GRPR				smax	smax		
comp=N,603nm,0.4s							
GRPR				smax	smax		
comp=E,293nm,0.3s							
GRPR	**Tuman**	**2.56**	**262**	*eP*	**Pn**	**19 54 32.0**	**+0.6**
GRPR				AMB	AMB	19 54 37.0	
comp=E,222nm,0.2s							
GRPR				*eS*	**Sn**	**19 55 02.0**	**+0.6**
GRPR				A	A	19 55 11.0	
comp=E,603nm,0.4s							
GRPR				A	A	19 55 11.0	
comp=E,293nm,0.4s							
NEM2	**Nemuro 2**	**2.77**	**249**	P	**Pn**	**19 54 33.1**	**-1.1**
NEM2				*eS*	**Sn**	**19 55 05.4**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.77**	**249**	*e*PN	**Pn**	**19 54 33.3**	**-1.1**
NMR				*eS*	**Sn**	**19 55 09.7**	**+3.0**
NMR	**Nemuro--Hokkai**	**2.77**	**249**	*eP*	**Pn**	**19 54 33.0**	**-1.4**
GLVR	**Golovnino**	**2.79**	**257**	*e*PN	**Pn**	**19 54 35.7**	**+1.1**
GLVR				*eS*	**Sn**	**19 55 10.6**	**+3.4**
GLVR				smax	smax		
comp=N,781nm,0.4s							
GLVR				smax	smax		
comp=E,480nm,0.3s							
GLVR	**Golovnino**	**2.79**	**257**	*eP*	**Pn**	**19 54 35.0**	**+0.4**
GLVR				*eS*	**Sn**	**19 55 08.5**	**+1.3**
GLVR				A	A	19 55 18.0	
comp=E,781nm,0.4s							
GLVR				A	A	19 55 18.0	
comp=E,480nm,0.4s							
JRA	**Rausu**	**3.03**	**262**	P	**Pn**	**19 54 38.1**	**+0.2**
JRA				*eS*	**Sn**	**19 55 12.9**	**-0.1**
JNK	**Nakash**	**3.39**	**257**	P	**Pn**	**19 54 42.7**	**-0.2**
JAK	**Akkeshi**	**3.61**	**248**	P	**Pn**	**19 54 45.0**	**-0.9**
JAK				*eS*	**

ERM	**Erimo**	**5.08 244**	*de*PN		**Pn**	**19 55 07.1 +1.1**
JNBK	**Urakawa-nobuka**	**5.22 248**	P		**Pn**	**19 55 07.3 -0.7**
YSS	**Yuzh-Sakhalins**	**5.22 301**	*e*PN		**Pn**	**19 55 10.4 +2.4**
YSS			pmax	pmax		
	comp=Z,30nm,0.8s					
YSS	**Yuzh-Sakhalins**	**5.22 301**	*e*P		**Pn**	**19 55 10.4 +2.4**
YSS			AMB	AMB		19 55 12.7
	comp=Z,30nm,0.8s					
JNB	**Noboribetsu**	**6.31 255**	P		**Pn**	**19 55 23.3 +0.4**
JKB	**Kayabe**	**6.54 250**	P		**Pn**	**19 55 25.0 -1.1**
JKB			*e*S		**Sn**	**19 56 34.3 -5.2**
JANG	**Nango**	**7.03 238**	P		**Pn**	**19 55 30.2 -2.6**
JTM	**Tenmabayashi**	**7.06 242**	P		**Pn**	**19 55 32.3 -1.0**
JOSM	**Okushiri--Mats**	**7.53 255**	P		**Pn**	**19 55 39.9 +0.2**
JRG	**Rokugo**	**8.17 235**	P		**Pn**	**19 55 46.6 -1.9**
PETK	**Petropavlovsk-**	**10.31 30**	Pn		**Pn**	**19 56 18.0 +0.3**
	comp=Z,0.2nm,0.3s,baz=216,slow=7.9,SNR=5.9					
MJA0	**Matsu Arr-Jizo**	**11.50 231**	*e*PN		**Pn**	**19 56 32.1 -2.1**
MJAR	**Matsushiro Arr**	**11.52 231**	Pn		**Pn**	**19 56 33.1 -1.4**
	comp=Z,0.1nm,0.3s,baz=33,slow=15,SNR=4.5					
USRK	**Ussuriysk Ar.**	**12.39 275**	PN		**Pn**	**19 56 46.0 -0.3**
USRK	**Ussuriysk Ar.**	**12.39 275**	Pn		**Pn**	**19 56 46.0 -0.3**
	baz=92,slow=15,SNR=4.8					
KLR	**Kul'dur**	**12.92 298**	Pn		**Pn**	**19 56 54.2 +0.7**
	comp=Z,0.0nm,0.3s,baz=306,slow=18,SNR=1.8					
KSRS	**Korea Array**	**17.55 254**	P		**P**	**19 57 55.1 0.0**
	comp=Z,0.1nm,0.3s,baz=65,slow=10.0,SNR=3.8					
KSRS			LR	LR		20 04 55.8
	comp=Z,32nm,19.7s,baz=20,slow=38					
SEY	**Seymchan**	**18.63 4**	P		**Pn**	**19 58 06.9 -0.5**
	comp=Z,0.1nm,0.3s,baz=218,slow=6.0,SNR=3.4					
YAK	**Yakutsk**	**21.03 334**⇓	*e*P		**P**	**19 58 33.3 +0.3**
YAK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
YAK	**Yakutsk**	**21.03 334**	*e*P		**P**	**19 58 33.2 +0.3**
BILL	**Bilibino**	**25.30 15**	*e*P		**P**	**19 59 15.1 -0.3**
BILL			*e*			19 59 54.5
BILL			*e*PPP		PPP	20 00 00.9
BILL			pmax	pmax		
	comp=Z,2.0nm,1.1s					
H11N2	**WAKE ISLAND Hy 28.67 144**		T		T	20 30 41.7
	baz=334,slow=75,SNR=104					
H11N1	**WAKE ISLAND Hy 28.68 144**		T		T	20 30 40.0
	baz=334,slow=75,SNR=63					
H11N3	**WAKE ISLAND Hy 28.68 144**		T		T	20 30 43.0
	baz=334,slow=75,SNR=81					
SONM	**Songino Array**	**29.63 292**	P		**P**	**19 59 54.2 -0.5**
	comp=Z,0.6nm,0.7s,baz=83,slow=7.5,SNR=3.9					
H11S1	**WAKE ISLAND Hy 29.68 145**		T		T	20 31 59.2
	baz=334,slow=76,SNR=148					
H11S3	**WAKE ISLAND Hy 29.68 145**		T		T	20 31 53.4
	baz=334,slow=76,SNR=90					
H11S2	**WAKE ISLAND Hy 29.69 145**		T		T	20 31 56.9
	baz=334,slow=76,SNR=89					
ILAR	**Eielson Array**	**40.04 37**	P		**P**	**20 01 24.0 +0.2**
	comp=Z,0.5nm,0.5s,baz=267,slow=7.7,SNR=7.6					
INK	**Inuvik**	**45.04 31**	P		**P**	**20 02 04.6 +0.2**
	comp=Z,0.5nm,0.3s,baz=297,slow=7.5,SNR=5.0					
MKAR	**Makanchi Array**	**45.63 298**	P		**P**	**20 02 08.9 -0.6**
	comp=Z,0.3nm,0.5s,baz=85,slow=7.7,SNR=5.2					
MKAR			PcP		**PcP**	**20 03 47.1 -0.1**
	comp=Z,0.5nm,0.6s,baz=70,slow=4.0,SNR=4.2					
MKAR	**Makanchi Array**	**45.63 298**	*e*P		**P**	**20 02 09.3 -0.1**
KURK	**Kurchatov**	**46.42 304**⇑	*e*P		**P**	**20 02 15.9 +0.4**
KURK			pmax	pmax		
	comp=Z,1.0nm,0.9s					
KURK	**Kurchatov**	**46.42 304**	*e*P		**P**	**20 02 15.9 +0.4**
JAY	**Jayapura**	**47.35 192**	P		**P**	**20 02 23.6 +0.4**
	comp=Z,6.2nm,0.5s,baz=350,slow=11,SNR=2.9					
CMAR	**Chiang Mai Arr**	**49.18 255**	P		**P**	**20 02 37.8 +0.4**
	comp=Z,0.4nm,0.6s,baz=39,slow=7.9,SNR=5.7					
TAPN	**Taplejung**	**51.52 272**	*e*P		**P**	**20 02 55.4 +0.1**
ODAN	**Odare**	**52.04 272**	*e*P		**P**	**20 02 59.1 0.0**
JIRN	**Jiri**	**52.42 274**	*e*P		**P**	**20 03 01.7 -0.4**
AAK	**Ala-Archa**	**52.44 296**⇑	*e*P		**P**	**20 02 59.7 -2.1**
AAK			pmax	pmax		
	comp=Z,8.0nm,3.1s					
RAMN	**Ramite**	**52.55 273**	*e*P		**P**	**20 03 02.5 -0.4**
	comp=Z,15nm,0.4s					
KKN	**Kakani**	**53.00 274**	*e*P		**P**	**20 03 05.8 -0.4**
PKI	**Pulchoki**	**53.04 274**	*e*P		**P**	**20 03 05.8 -0.8**
	comp=Z,3.8nm,0.7s					
PKIN	**Phulchoki**	**53.04 274**	*e*P		**P**	**20 03 06.0 -0.5**
	comp=Z,5.4nm,0.8s					
DMN	**Daman**	**53.23 274**	*e*P		**P**	**20 03 07.6 -0.3**
GKN	**Gorkha**	**53.33 275**	*e*P		**P**	**20 03 08.1 -0.5**
	comp=Z,3.8nm,0.3s					
DANN	**Dangsing**	**53.76 276**	*e*P		**P**	**20 03 10.7 -1.1**
KOLN	**Koldanda**	**54.21 275**	*e*P		**P**	**20 03 14.9 -0.1**
FINES	**FINESS Array B**	**64.96 334**	P		**P**	**20 04 28.9 +0.6**
	comp=Z,0.8nm,0.5s,baz=36,slow=10.0,SNR=6.8					
GEYT	**Alibeck**	**65.45 300**	P		**P**	**20 04 31.7 -0.3**
	comp=Z,2.0nm,0.8s,baz=84,slow=4.6,SNR=4.9					
WRA	**Warramunga Arr**	**65.49 195**	P		**P**	**20 04 31.9 -0.3**
	comp=Z,0.5nm,0.9s,baz=9.7,slow=6.8,SNR=5.6					
OBN	**Obninsk**	**65.67 324**	*e*P		**P**	**20 04 32.6 -0.4**
OBN			*e*			20 05 04.3
OBN			*e*			20 06 56.5
OBN			pmax	pmax		
	comp=Z,5.0nm,0.9s					
NVAR	**Mina Array Bea**	**65.92 59**	P		**P**	**20 04 36.9 +1.7**
	comp=Z,0.2nm,0.5s,baz=317,slow=4.9,SNR=3.1					
ASAR	**Alice Springs**	**69.20 195**	P		**P**	**20 04 56.3 +0.7**
	comp=Z,0.5nm,0.8s,baz=10,slow=6.4,SNR=5.8					
NOA	**NORSAR Array B**	**69.52 340**	*e*P		**P**	**20 04 56.7 -0.6**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
NOA	**NORSAR Array B**	**69.52 340**	P		**P**	**20 04 57.0 -0.3**
	comp=Z,0.4nm,0.5s,baz=32,slow=6.6,SNR=5.5					
AKASG	**Malin Array Be**	**71.93 325**	P		**P**	**20 05 11.3 -0.7**
	comp=Z,0.6nm,0.4s,baz=38,slow=6.4,SNR=2.1					
BRTR	**Keskin Array B**	**78.17 315**	P		**P**	**20 05 48.4 -0.1**
	comp=Z,0.4nm,0.6s,baz=24,slow=5.0,SNR=2.7					
GERES	**GERESS Array B**	**79.30 332**	P		**P**	**20 05 54.0 -0.4**
	comp=Z,0.3nm,0.4s,baz=34,slow=5.5,SNR=6.8					
LPIG	**La Paz**	**80.51 66**	LR		LR	20 36 25.2
	comp=Z,30nm,19.1s,baz=36,slow=32					
TXAR	**Lajitas Array**	**81.00 58**	P		**P**	**20 06 04.9 +1.0**
	comp=Z,0.5nm,0.6s,baz=291,slow=4.1,SNR=5.4					

NIED ***01*** *19:56:00,36°.50N×140°.60E,h53km,Mw3.6 Best double couple: M₀3.28000×10¹⁴ NP1:φ₀=248.00000°,δ35.00000°, λ110.00000°. NP2:φ₀=44.00000°,δ58.00000°,λ77.00000°.*

JMA 01 19:56:16.6,36°.45N×140°.60E,h56km±1km,M3.6,5C-5D Broadband fault plane solution: P waves. NP1: φ₀=29.00000°,δ59.00000°,λ103.00000°. **NP2:** φ₀=186.00000°,δ34.00000°,λ70.00000°. **Principal axes:** T Plg73.0000°, Azm332.0000°; N Plg11.0000°, Azm203.0000°; P Plg13.0000°, Azm110.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.11 186**		⇑P	Pn	19 56 25.2	0.0
JHYU				S	Sn	19 56 31.3	0.0
JHO	**Hitachi**	**0.16 351**		⇑P	Pn	19 56 25.4	0.0
JHO				S	Sn	19 56 31.3	-0.5
JYT	**Yasato**	**0.40 236**		⇑P	Pn	19 56 27.2	+0.1
JYT				S	Sn	19 56 34.5	-0.2
ONAJ	**Iwakimizuishiy**	**0.67**	**14**	⇑P	Pn	19 56 29.7	-0.6
ONAJ				S	Sn	19 56 39.4	-0.9
JSB	**Shiboa**	**0.75 314**		⇓P	Pn	19 56 31.4	+0.1
JSMT	**Sammumatsuo**	**0.81 189**		⇑P	Pn	19 56 32.5	+0.4
JSMT				S	Sn	19 56 44.3	+0.9
JAG	**Ashikaga**	**0.93 269**		⇓P	Pn	19 56 33.7	+0.2
JAG				S	Sn	19 56 45.6	-0.4
JFK	**Kawauchi**	**0.94**	**13**	⇓P	Pn	19 56 33.0	-0.8
JFT	**Otama**	**1.09 349**		⇓P	Pn	19 56 35.7	0.0
JFT				S	Sn	19 56 49.5	-0.3
JKT	**Katashina**	**1.13 287**		P	Pn	19 56 36.6	+0.3
JFY	**Yanaizu**	**1.19 323**		⇓P	Pn	19 56 37.4	+0.3
MAT	**Matsushiro**	**1.93 273**		P	Pn	19 56 48.2	+1.1
MAT				S	Sn	19 57 16.2	+6.0

IDC ***01*** *20:05:55.2±0.6,1°.47S×135°.13E,h0km,mb4.1/15, mb1 4.1/19,mb1mx4.0/45,mbtmp4.1/19,ML3.7/4,MS3.1/1, Ms1 3.1/1,ms1mx2.5/30 Error ellipse: s-maj=20.9km s-min=14.5km az=79.0*

DJA ***01*** *20:05:56.7±0.3,2°.S±5°×13°.5E±°,h10km,M4.5/12,mb4.6/6, mB4.8/3,MLv4.5/12,Mw(mB)4.0/3*

ISCJB ***01*** *20:05:57.8±0.3,1°.64S±0°.04×135°.08E±0°.03,h33km,*

2013 NOV

mb4.0/15,Error ellipse: s-maj=5.5km s-min=4.0km az=2.0

NEIC ***01*** *20:05:58.8±1.4,1°.60S±0°.09×135°.15E±0°.03,h28km±4km, mb4.4/23*

ISC 01 20:06:00.2±0.5,1°.56S±0°.07×135°.09E±0°.05,h35km,n73, σ1°38/75,mb4.3/24,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.91 273**		P	**Pn**	**20 06 13.9**	**-2.7**
RKPI				S	**Sn**	**20 06 26.3**	**-2.2**
BAKI	**Biak**	**1.08**	**70**	P	**Pn**	**20 06 16.1**	**-2.8**
SRPI	**Serui, Papua**	**1.19 105**		P	**Pn**	**20 06 18.6**	**-1.8**
SRPI				S	**Sn**	**20 06 35.9**	**+0.5**
FAKI	**Fak Fak**	**3.14 244**		P	**Pn**	**20 06 45.8**	**-1.5**
FAKI	**Fak Fak**	**3.14 244**			**Pn**	**20 06 46.6**	**-0.6**
SMPI	**Sarmi**	**3.64**	**97**	P	**Pn**	**20 06 54.5**	**+0.3**
SIJI	**Sorong**	**3.88 280**		Pn	**Pn**	**20 06 56.9**	**-0.6**
	12nm,0.3s,baz=104,slow=23,SNR=69						
SIJI				Sn	**Sn**	**20 07 43.5**	**+1.5**
	15nm,0.3s,baz=278,slow=23,SNR=5.5						
SWI	**Sorong**	**3.89 280**		P	**Pn**	**20 06 56.4**	**-1.2**
GENI	**Genyem**	**5.18 102**		P	**Pn**	**20 07 14.7**	**-0.6**
	67nm,0.7s,0.2nm						
JAY	**Jayapura**	**5.69 100**		Pn	**Pn**	**20 07 19.9**	**-2.4**
	0.3nm,0.3s,baz=190,slow=17,SNR=1.9						
BNDI	**Bandanaira**	**5.96 240**		P	**Pn**	**20 07 25.4**	**-0.6**
	68nm,0.9s,1.3nm						
MSAI	**Masohi**	**6.41 254**		P	**Pn**	**20 07 31.9**	**-0.3**
	16nm,0.7s,241nm						
AAI	**Ambon**	**7.21 253**		P	**Pn**	**20 07 42.3**	**-0.8**
	35nm,0.6s						
NLAI	**Namlea**	**8.16 258**		P	**Pn**	**20 07 55.1**	**-1.1**
SANI	**Sanana**	**9.11 267**		P	**Pn**	**20 08 07.1**	**-2.2**
	9.2nm,0.5s						
MTN	**Manton Dam**	**11.88 199**			**Pn**	**20 08 46.3**	**-0.9**
MANU	**Manus Island**	**12.28**	**92**	Pn	**Pn**	**20 08 51.4**	**-1.3**
SOEI	**Soe**	**13.49 232**		Pn	**Pn**	**20 09 06.9**	**-2.5**
COEN	**Coen**	**14.69 147**		Pn	Pn	20 09 19.7	-5.9
BNSI	**Bone**	**15.23 259**		P	**P**	**20 09 40.9**	**+3.6**
KNRA	**Kununurra**	**15.35 204**		Pn	**Pn**	**20 09 31.2**	**-3.2**
KNRA				IAmb	IAmb	20 09 46.2	
	comp=Z,31nm,1.3s						
KRVT	**Keravat (AS076**	**17.13 100**		LR	LR	20 15 32.6	
	comp=Z,60nm,18.8s,baz=256,slow=34						
WB0	**Warramunga Arr**	**18.11 182**			**Pn**	**20 10 07.2**	**-1.9**
WB2	**Warramunga Arr**	**18.29 182**		P	**P**	**20 10 08.6**	**-2.6**
WRA	**Warramunga Arr**	**18.29 182**		P	**Pn**	**20 10 11.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=2.4,slow=12,SNR=23						
WRA	**Warramunga Arr**	**18.29 182**		P	**P**	**20 10 07.3**	**-3.9**
WC3	**Warramunga Arr**	**18.30 182**		P	**P**	**20 10 08.7**	**-2.6**
FITZ	**Fitzroy Crossi**	**18.87 209**		P	**Pn**	**20 10 17.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=8.6						
FITZ	**Fitzroy Crossi**	**18.87 209**		P	**Pn**	**20 10 18.0**	**-0.4**
FITZ				IAmb	IAmb	20 10 30.4	
	comp=Z,6.6nm,1.2s						
AS31	**Alice Springs**	**22.01 183**		P	**P**	**20 10 51.7**	**+0.1**
ASAR	**Alice Springs**	**22.01 183**		P	**P**	**20 10 51.7**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=7.2,slow=12,SNR=52						
ASAR	**Alice Springs**	**22.01 183**		P	**P**	**20 10 52.0**	**+0.4**
STKA	**Stephens Creek**	**30.77 169**		P	**P**	**20 12 13.5**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=346,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**30.77 169**		P	**P**	**20 12 13.4**	**+0.9**
MJAR	**Matsushiro Arr**	**38.02**	**4**	P	**P**	**20 13 13.5**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=190,slow=12,SNR=3.5						
KSRS	**Korea Array**	**39.38 351**		P	**P**	**20 13 26.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=170,slow=8.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**40.74 301**		P	**P**	**20 13 37.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=116,slow=8.1,SNR=3.8						
CMAR				PcP	**PcP**	**20 15 40.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=145,slow=3.2,SNR=5.2						
TAU	**Tasmania Unive**	**42.60 167**		P	**P**	**20 13 54.2**	**+1.2**
USRK	**Ussuriysk Ar.**	**45.64 357**		P	**P**	**20 14 17.8**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=185,slow=12,SNR=4.1						
PETK	**Petropavlovsk-**	**57.67**	**16**	P	**P**	**20 15 46.9**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=210,slow=11,SNR=3.0						
PETK	**Petropavlovsk-**	**57.67**	**16**	P	**P**	**20 15 46.7**	**-0.3**
YAK	**Yakutsk**	**63.55 357**		P	**P**	**20 16 26.6**	**-0.3**
MK31	**Makanchi Array**	**66.69 323**		P	**P**	**20 16 48.1**	**+0.4**
MK31				IAmb	IAmb	20 16 52.7	
	comp=Z,3.8nm,1.4s						
MKAR	**Makanchi Array**	**66.69 323**		P	**P**	**20 16 47.8**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=110,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**66.69 323**		P	**P**	**20 16 48.2**	**+0.5**
MAKZ	**Makanchi**	**66.89 323**		P	**P**	**20 16 49.4**	**+0.4**
MAKZ				IAmb	IAmb	20 16 50.5	
	comp=Z,5.8nm,1.1s						
KSH	**Kashi**	**67.68 314**		*e*P	**P**	**20 16 57.3**	**+3.0**
ZAA0	**Zalesovo Array**	**69.15 331**		P	**P**	**20 17 02.0**	**-0.9**
ZAA0				IAmb	IAmb	20 17 03.3	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**69.15 331**		P	**P**	**20 17 02.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=114,slow=6.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**69.15 331**		P	**P**	**20 17 02.4**	**-0.6**
KURK	**Kurchatov**	**70.72 326**		P	**P**	**20 17 13.0**	**+0.3**
KURK				IAmb	IAmb	20 17 13.9	
	comp=Z,3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**70.73 326**		P	**P**	**20 17 12.8**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=124,slow=5.8,SNR=13						
KK31	**Karatay Array**	**72.79 316**		P	**P**	**20 17 25.9**	**+0.6**
KK31				IAmb	IAmb	20 17 26.5	
	comp=Z,4.8nm,1.6s						
KKAR	**Karatay Array**	**72.79 316**		P	**P**	**20 17 25.8**	**+0.5**
KKAR	**Karatay Array**	**72.79 316**		P	**P**	**20 17 25.9**	**+0.5**
KKAR				IAmb	IAmb	20 17 26.5	
	comp=Z,4.8nm,1.6s						
BVAR	**Borovoye Array**	**76.32 326**		P	**P**	**20 17 45.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=120,slow=7.4,SNR=14						
BRVK	**Borovoye**	**76.39 326**		P	**P**	**20 17 46.5**	**+0.5**
BRVK				IAmb	IAmb	20 17 47.3	
	comp=Z,8.8nm,1.4s						
GEYT	**Alibeck**	**80.70 309**		P	**P**	**20 18 11.3**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=121,slow=10,SNR=3.6						
GEYT	**Alibeck**	**80.70 309**		P	**P**	**20 18 11.0**	**+0.8**
ABKAR	**Abkulak array**	**81.52 320**		P	**P**	**20 18 14.2**	**0.0**
ABKAR	**Abkulak array**	**81.52 320**		P	**P**	**20 18 14.3**	**+0.2**
ABKAR				IAmb	IAmb	20 18 16.5	
	comp=Z,2.7nm,0.8s						
AKTO	**Aktyubinsk**	**82.98 321**		P	**P**	**20 18 21.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=95,slow=9.7,SNR=3.8						
ARU	**Arti**	**83.86 327**		P	**P**	**20 18 26.2**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=84,slow=3.3,SNR=7.5						
ARU	**Arti**	**83.86 327**		P	**P**	**20 18 26.3**	**+0.1**
WRH	**Wood River Hil**	**85.73**	**25**	P	**P**	**20 18 35.5**	**+0.1**
CCB	**Clear Creek Bu**	**85.89**	**25**	P	**P**	**20 18 36.1**	**-0.1**
IL31		**86.30**	**25**	P	**P**	**20 18 37.9**	**-0.3**
IL31				IAmb	IAmb	20 18 39.0	
	comp=Z,5.3nm,1.0s						
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**	**20 18 37.8**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=257,slow=4.8,SNR=20						
BCAR	**Beaver Creek A**	**88.26**	**27**	P	**P**	**20 18 47.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**132.46 286**		PKP	**PKPdf**	**20 25 12.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=44,slow=3.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**132.46 286**			**PKPdf**	**20 25 11.9**	**-0.2**
LPAZ	**La Paz**	**151.01 129**		PKPbc	**PKiKP**	**20 25 52.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=222,slow=2.9,SNR=6.0						
LPAZ	**La Paz**	**151.01 129**			**PKPdf**	**20 25 47.5**	**+2.0**

DJA 01 20:08:48.9±0.6,8°S±6°×12°1E±°,h170km±5km,M3.1/7, MLv3.1/7,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.75 112**		P	Pn	20 09 14.8	+0.8
EDFI				S	Sn	20 09 34.6	+1.4
MMRI	**Maumere**	**1.25**	**98**	P	Pn	20 09 18.2	+0.6
MMRI				S	Sn	20 09 40.0	+0.2
MMRI	**Maumere**	**1.25**	**98**		Pn	20 09 18.5	+0.9
BASI	**Baing, Sumba**	**1.79 193**		P	Pn	20 09 23.0	0.0
BASI				S	Sn	20 09 49.6	+0.2
WBSI	**Waikabubak, Su**	**1.96 233**		P	Pn	20 09 24.8	-0.1
WBSI				S	Sn	20 09 53.2	+0.4
PLAI	**Plampang**	**3.20 263**		P	Pn	20 09 39.5	-0.1
SOEI	**Soe**	**3.48 112**		P	Pn	20 09 43.1	-0.1
TWSI	**Taliwang, Sumb**	**4.07 266**		P	Pn	20 09 50.6	0.0

ISCJB ***01*** *20:16:33.7±0.5,24°.00N±0°.04×122°.94E±0°.02,h28km±5km, Error ellipse: s-maj=6.0km s-min=3.5km az=179.0*

JMA ***01*** *20:16:33.7±0.1,24°.03N×122°.92E,h30km±4km,M2.1*

TAP ***01*** *20:16:34.0,24°.05N×122°.97E,h57km±1km,ML2.8,C*

ISC 01 20:16:33.5±1.0,24°.01N±0°.05×122°.95E±0°.02,h22km±7km, n36,σ0°84/58,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.44**	**0**	P	**Pb**	**20 16 42.6**	**+0.1**
JYNG				S	**Sb**	**20 16 48.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.45**	**8**	P	**Pb**	**20 16 43.1**	**+0.3**
YOJ				*e*S	**Sb**	**20 16 49.2**	**+0.1**
IRIF	**Iriomote-Funau**	**0.79**	**66**	P	**Pb**	**20 16 48.4**	**0.0**
IRIF				*e*S	**Sn**	**20 16 59.6**	**-0.7**
HATJ	**Hateruma jima**	**0.79**	**86**	P	**Pb**	**20 16 48.5**	**0.0**
HATJ				*e*S	**Sn**	**20 16 59.9**	**-0.4**
EOS1	**EOS1**	**0.92 306**		P	**Pn**	**20 16 51.2**	**+0.2**
	baz=301						
EOS1				*e*S	**Sn**	**20 17 04.3**	**+0.8**
	baz=301						
JKRS	**Kuro-shima**	**1.00**	**77**	P	**Pb**	**20 16 51.7**	**-0.4**
JKRS				S	**Sb**	**20 17 05.1**	**+0.3**
JIJ	**Ishigaki jima**	**1.15**	**72**	P	**Pb**	**20 16 54.6**	**0.0**
JIJ				S	**Sb**	**20 17 08.7**	**-0.4**
TWC	**Suao**	**1.16 301**		*e*P	**Pn**	**20 16 54.3**	**-0.1**
	baz=287						
TWC				*e*S	**Sb**	**20 17 09.3**	**-0.3**
	baz=287						
NANB	**Nanao**	**1.17 291**		*e*P	**Pn**	**20 16 54.4**	**0.0**
	baz=287						
NANB				*e*S	**Sn**	**20 17 10.3**	**+0.5**
	baz=287						
ENA	**Nanau**	**1.18 291**		*e*P	**Pn**	**20 16 54.5**	**-0.1**
	baz=288						
NACB	**Ninganchiao**	**1.25 278**		*e*P	**Pn**	**20 16 55.0**	**-0.6**
	baz=264						
NACB				*e*S	**Sn**	**20 17 10.6**	**-1.0**
	baz=264						
ETLH	**Xiulin Townshi**	**1.35 279**		*e*P	**Pn**	**20 16 57.2**	**+0.1**
	baz=275						
TWE	**Neicheng**	**1.36 302**		*e*P	**Pn**	**20 16 57.6**	**+0.4**
	baz=305						
TWE				*e*S	**Sn**	**20 17 14.8**	**+0.2**
	baz=305						
JISG	**Ishigakijimahi**	**1.37**	**65**	P	**Pn**	**20 16 57.5**	**+0.2**
JISG				*e*S	**Sn**	**20 17 15.0**	**+0.2**
TIPB	**Shuangxi**	**1.40 313**		P	**Pn**	**20 16 57.6**	**-0.1**
	baz=310						
TIPB				*e*S	**Sn**	**20 17 14.0**	**-1.5**
	baz=310						
ENTT	**Nioudou**	**1.41 297**		*e*P	**Pb**	**20 16 58.5**	**-0.5**
	baz=283						
ENTT				*e*S	**Sb**	**20 17 16.5**	**0.0**
	baz=283						
SLBB	**Yuanshan**	**1.41 302**		*e*P	**Pn**	**20 16 57.5**	**-0.3**
	baz=298						
NDT	**Datong Townshi**	**1.43 295**		*e*P	**Pb**	**20 16 59.1**	**-0.4**
	baz=281						
HGSD	**Ruisui**	**1.49 250**		*e*P	Pn	20 16 57.3	-1.5
	baz=248						
HGSD				*e*S	**Sn**	**20 17 15.8**	**-1.8**
	baz=248						
NNSB	**Datong**	**1.49 287**		*e*P	**Pn**	**20 16 59.2**	**+0.2**
	baz=274						
NWF	**Wu-fen Shan**	**1.50 315**		*e*P	**Pn**	**20 16 59.0**	**-0.1**
	baz=312						
WFSB	**Wu-fen Shan**	**1.50 315**		*e*P	**Pn**	**20 16 59.0**	**0.0**
	baz=312						
YHNB	**Yeheng**	**1.57 295**		*e*P	**Pn**	**20 17 00.6**	**+0.4**
	baz=280						
YHNB				*e*S	**Sn**	**20 17 20.6**	**+0.7**
	baz=280						
CHGB	**Renai**	**1.62 272**		*e*P	**Pn**	**20 17 00.3**	**-0.6**
	baz=269						
YULB	**Yu-li**	**1.63 248**		*e*P	**Pn**	**20 16 59.5**	**-1.3**
	baz=238						
YULB				*e*S	**Sn**	**20 17 19.4**	**-1.8**
	baz=238						
TWF1	**Yuli**	**1.65 247**		*e*P	**Pn**	**20 16 59.9**	**-1.2**
	baz=238						
VWDT	**VWDT**	**1.67 262**		*e*P	**Pn**	**20 17 00.7**	**-0.7**
	baz=251						
SSLB	**

BILL IAmb IAmb 20 35 14.5
comp=Z,4.3nm,0.8s
MK31 Makanchi Array 60.04 317 P **P 20 35 26.8 +0.8**
MK31 IAmb IAmb 20 35 27.9
comp=Z,2.4nm,0.9s
MKAR Makanchi Array 60.04 317 P **P 20 35 27.1 +1.1**
comp=Z,2.4nm,0.8s,baz=98,slow=9.2,SNR=18
MKAR Makanchi Array 60.04 317 P **P 20 35 26.4 +0.4**
MAKZ Makanchi 60.25 317 P **P 20 35 28.0 +0.6**
MAKZ IAmb IAmb 20 35 29.3
comp=Z,3.4nm,0.9s
ZALV Zalesovo Beam 60.72 326 P **P 20 35 30.1 -0.3**
comp=Z,1.5nm,0.7s,baz=98,slow=5.1,SNR=6.1
ZALV Zalesovo Beam 60.72 326 P **P 20 35 30.6 +0.2**
KURK Kurchatov 63.37 321 P **P 20 35 48.6 +0.3**
KKAR Karatay Array 67.68 312 P **P 20 36 15.8 -0.6**
BRVK Borovoye 68.89 322 P **P 20 36 24.0 +0.3**
ILAR Eielson Array 71.41 25 P **P 20 36 37.2 -1.7**
comp=Z,0.3nm,0.6s,baz=255,slow=6.1,SNR=4.4
ILAR Eielson Array 71.41 25 P **P 20 36 39.5 +0.5**
ABKAR Akbulak array 75.17 318 P **P 20 37 01.0 -0.4**
ABKAR Akbulak array 75.17 318 P **P 20 37 00.5 -0.9**
ABKAR IAmb IAmb 20 37 01.8
comp=Z,1.6nm,0.8s
FINES FINESS Array B 90.90 334 P **P 20 38 20.9 -1.6**
comp=Z,3.4nm,0.9s,baz=9.5,slow=3.4,SNR=4.3
LPAZ La Paz 151.33 102 PKPbc **PKiKP 20 45 15.1 +0.4**
comp=Z,2.7nm,0.7s,baz=288,slow=1.4,SNR=9.2

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*ISCJB **01** 20:33:17.5±0.7, 55°.5S±0°.1×27°.2W±0°.2, h10km, mb4.0/4, MS3.6/1, Error ellipse: s-maj=19.0km s-min=11.4km az=28.9*
*IDC **01** 20:33:17.8±1.0, 55°.29S×27°.01W, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.8/23, mbtmp4.1/4, MS3.6/1, Ms1 3.5/1, ms1mx2.8/15, Error ellipse: s-maj=47.8km s-min=25.8km az=35.0*
*NEIC **01** 20:33:22.9±1.7, 55°.5S±0°.1×27°.3W±0°.2, h35km±6km, mb4.6/10*
ISC 01 20:33:19.0±0.7, 55°.4S±0°.2×27°.29W±0°.10, h10km, n26, σ1§11/26, mb4.6/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.44**	**279**	Pn	**Pn**	**20 34 40.0**	**-0.1**
HOPE				Sn	**Sn**	**20 35 40.7**	**-1.9**
EFI	**East Falkland**	**18.58**	**269**	P	**Pn**	**20 37 37.0**	**+0.8**
EFI				IAmb	IAmb	20 38 05.6	
comp=Z,77nm,1.6s							
SNAA	**Sanae**	**19.32**	**157**	P	**P**	**20 37 44.2**	**+0.3**
SNAA				IAmb	IAmb	20 38 05.5	
comp=Z,4.1nm,1.2s							
LCO	**Las Campanas**	**40.62**	**292**	P	**P**	**20 41 01.5**	**+2.3**
LCO				IAmb	IAmb	20 41 21.4	
comp=Z,20nm,1.3s							
MAW	**Mawson**	**40.67**	**144**	P	**P**	**20 40 59.5**	**+0.7**
comp=Z,1.4nm,0.7s,baz=276,slow=9.0,SNR=4.6							
MAW	**Mawson**	**40.67**	**144**	P	**P**	**20 40 59.2**	**+0.4**
MAW				IAmb	IAmb	20 41 12.7	
comp=Z,1.5nm,1.4s							
BDFB	**Brasilia**	**42.81**	**330**	P	**P**	**20 41 19.0**	**+2.0**
BDFB				IAmb	IAmb	20 41 23.3	
comp=Z,16nm,1.4s							
LVC	**Limon Verde**	**44.95**	**300**	P	**P**	**20 41 35.2**	**+0.7**
comp=Z,3.9nm,0.5s,baz=163,slow=1.3,SNR=5.3							
LVC	**Limon Verde**	**44.95**	**300**	P	**P**	**20 41 35.0**	**+0.5**
LVC				IAmb	IAmb	20 41 47.8	
comp=Z,16nm,1.6s							
BOSA	**Boshof**	**45.88**	**76**	LR	LR	20 57 59.1	
comp=Z,67nm,18.2s,baz=215,slow=32							
MNMC	**Minye Minye**	**48.23**	**301**	P	**P**	**20 42 01.1**	**+0.9**
MNMC				IAmb	IAmb	20 42 13.7	
comp=Z,9.6nm,1.1s							
LPAZ	**La Paz**	**49.98**	**305**	P	**P**	**20 42 14.2**	**+0.2**
comp=Z,2.6nm,0.8s,baz=136,slow=7.2,SNR=10.0							
LPAZ	**La Paz**	**49.98**	**305**	P	**P**	**20 42 14.4**	**+0.4**
LPAZ				IAmb	IAmb	20 42 15.3	
comp=Z,3.7nm,1.1s							
TOA0	**Torodi Ar. Sit**	**72.55**	**30**	P	**P**	**20 44 45.1**	**-0.9**
TOA0				IAmb	IAmb	20 44 59.0	
comp=Z,9.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**72.55**	**30**	P	**P**	**20 44 45.3**	**-0.7**
comp=Z,0.4nm,0.5s,baz=202,slow=6.3,SNR=8.3							
TORD	**Torodi Ar. Bea**	**72.55**	**30**	P	**P**	**20 44 45.0**	**-1.0**
TORD				IAmb	IAmb	20 44 59.0	
comp=Z,1.1nm,1.1s							
INK	**Inuvik**	**145.30**	**321**	PKPbc	**PKPdf**	**20 52 55.4**	**+0.1**
comp=Z,5.6nm,0.8s,baz=101,slow=8.7,SNR=10							
INK	**Inuvik**	**145.30**	**321**		**PKPdf**	**20 52 55.0**	**-0.2**
DAWY	**Dawson**	**146.34**	**313**	PKPdf	**PKPab**	**20 52 58.4**	**-1.0**
DOT	**Dot Lake**	**148.21**	**311**		**PKiKP**	**20 53 04.9**	**-0.5**
RIDG	**Independent Ri**	**148.57**	**311**	PKPbc	**PKiKP**	**20 53 04.9**	**-1.2**
IL31		**149.67**	**312**		**PKiKP**	**20 53 07.2**	**-1.0**
ILAR	**Eielson Array**	**149.67**	**312**	PKPbc	**PKiKP**	**20 53 07.2**	**-1.1**
comp=Z,2.9nm,0.8s,baz=121,slow=1.4,SNR=26							
ILAR	**Eielson Array**	**149.67**	**312**		**PKiKP**	**20 53 06.8**	**-1.5**
SONM	**Songino Array**	**150.74**	**85**	PKPbc	**PKiKP**	**20 53 10.0**	**-1.3**
comp=Z,1.1nm,0.8s,baz=222,slow=1.9,SNR=8.1							
BPAW	**Bear Paw Mtn.**	**151.30**	**310**		**PKiKP**	**20 53 11.0**	**-0.7**

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*IDC **01** 20:43:55.2±1.3, 6°.71S×155°.06E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, ML3.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/32, Error ellipse: s-maj=34.3km s-min=27.6km az=128.0*
*ISCJB **01** 20:44:02.2±1.2, 6°.7S±0°.1×154°.9E±0°.1, h56km, mb3.6/4, Error ellipse: s-maj=24.3km s-min=13.2km az=140.8*
ISC 01 20:44:03.0±1.3, 6°.7S±0°.2×155°.0E±0°.2, h56km, n6, σ1§27/7, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.77**	**309**	Pn	**Pn**	**20 44 57.7**	**-1.0**
8.4nm,0.3s,baz=0.0,slow=10,SNR=5.5							
KRVT				Sn	**Sn**	**20 45 42.7**	**+0.8**
18nm,0.3s,baz=270,slow=20,SNR=4.8							
KRVT				LR	LR	20 46 31.1	
comp=Z,84nm,19.2s,baz=146,slow=40							
WRA	**Warramunga Arr**	**23.93**	**235**	P	**P**	**20 49 12.2**	**+0.1**
2.4nm,0.7s,baz=57,slow=9.8,SNR=16							
ASAR	**Alice Springs**	**26.32**	**228**	P	**P**	**20 49 34.4**	**+0.6**
0.5nm,0.4s,baz=56,slow=9.3,SNR=14							
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	**20 56 24.3**	**+1.1**
0.2nm,0.6s,baz=104,slow=8.6,SNR=2.6							
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**20 57 04.7**	**+0.3**
0.4nm,0.8s,baz=220,slow=4.1,SNR=3.3							
TORD	**Torodi Ar. Bea**	**152.91**	**286**	PKPbc	**PKPbc**	**21 03 53.3**	**-1.8**
0.3nm,0.6s,baz=86,slow=3.2,SNR=4.4							

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*IDC **01** 20:47:45.0±1.6, 15°.25S×168°.20E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/28, mbtmp4.1/6, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=50.5km s-min=24.7km az=121.0*
*ISCJB **01** 20:47:48.8±1.4, 15°.35S±0°.09×168°.1E±0°.3, h35km, mb4.0/5, MS4.1/1, Error ellipse: s-maj=35.4km s-min=11.7km az=6.2*
ISC 01 20:47:50.1±1.5, 15°.3S±0°.1×168°.2E±0°.3, h35km, n9, σ0§20/7, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.97**	**193**	Pn	**Pn**	**20 49 29.9**	**0.0**
2.4nm,0.3s,baz=70,slow=7.5,SNR=35							
DZM				Sn	**Sn**	**20 50 47.8**	**-0.1**
0.4nm,0.3s,baz=135,slow=20,SNR=2.2							
HNR	**Honiara**	**9.91**	**305**	LR	LR	20 53 54.5	
comp=Z,40nm,20.8s,baz=139,slow=37							
STKA	**Stephens Creek**	**29.33**	**231**	P	**P**	**20 53 49.8**	**+0.1**
1.0nm,0.5s,baz=63,slow=11,SNR=7.2							
WRA	**Warramunga Arr**	**32.55**	**257**	P	**P**	**20 54 18.0**	**-0.3**
1.5nm,0.7s,baz=86,slow=9.3,SNR=12							
ASAR	**Alice Springs**	**33.31**	**250**	P	**P**	**20 54 25.1**	**+0.2**
2.7nm,0.5s,baz=81,slow=8.6,SNR=42							
PSI	**Prapat**	**70.81**	**278**	LR	LR	21 30 38.2	
comp=Z,95nm,18.8s,baz=264,slow=36							
ILAR	**Eielson Array**	**86.77**	**18**	P	**P**	**21 00 30.1**	**-0.1**
0.4nm,0.7s,baz=233,slow=5.4,SNR=5.1							
MKAR	**Makanchi Array**	**98.20**	**316**	P	Pdif	21 01 24.6	+0.9
0.6nm,0.8s,baz=86,slow=5.5,SNR=4.8							
ARCES	**ARCESS Array B**	**120.99**	**346**	PKP	**PKiKP**	**21 06 38.6**	**+0.1**
0.9nm,0.7s,baz=20,slow=1.3,SNR=4.5							

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*NCEDC **01** 20:58:42.2±1.2, 36°.79N±0°.04×121°.53W±0°.09, h9km±5km, Md2.8*
NEIC 01 20:58:41.7±1.4, 36°.75N±0°.05×121°.61W±0°.08, h16km±4km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJGM	**San Juan Grade**	**0.06**	**33**		Pg	20 58 44.0	-0.8
HTUM	**Tustin Road**	**0.08**	**344**		Pg	20 58 44.9	-0.2
HERM	**Elkhorn Road**	**0.09**	**303**		Pg	20 58 45.9	+0.8
BSRM	**Salinas Radio**	**0.11**	**137**		Pg	20 58 45.1	-0.2
HBTM	**San Juan Bauti**	**0.11**	**26**		Pg	20 58 44.4	-1.0
ANZ	**Anzar Road**	**0.14**	**8**		Pg	20 58 44.8	-0.8
HCOM	**Corn Cob Canyo**	**0.16**	**331**		Pb	20 58 46.3	0.0
BVYM	**Vineyard**	**0.16**	**90**		Pg	20 58 44.7	-1.2
BPCNC	**Pine Canyon**	**0.17**	**183**		Pb	20 58 47.2	+0.7
OCR	**O'Connell Ranc**	**0.19**	**27**		Pg	20 58 45.8	-0.5
CSR	**Chase Ranch**	**0.21**	**7**		Pg	20 58 46.5	-0.1
BSLM	**Silva Ranch**	**0.21**	**83**		Pg	20 58 46.3	-0.4
BCGM	**Cienega Road**	**0.22**	**100**		Pg	20 58 45.9	-1.0
SCZ	**Santa Cruz**	**0.23**	**131**		Pg	20 58 46.4	-0.5
JELB	**Ellicott, Sant**	**0.25**	**316**		Pb	20 58 48.0	+0.2
BJCM	**Johnson Can.**	**0.27**	**138**		Pg	20 58 47.4	-0.2
BJOM	**Mount Johnson**	**0.27**	**116**		Pg	20 58 47.0	-0.6
BHRM	**Hodges Ranch**	**0.28**	**94**		Pg	20 58 47.2	-0.3
BLRM	**Lewis Ranch**	**0.29**	**107**		Pg	20 58 47.1	-0.7
HMOM	**Monterey**	**0.29**	**239**		Pb	20 58 49.6	+1.1
HFEM	**San Felipe**	**0.29**	**36**		Pg	20 58 47.4	-0.6
HLPM	**Lions Peak**	**0.29**	**357**		Pg	20 58 48.0	0.0
CDC	**Canada Road**	**0.29**	**21**		Pg	20 58 47.7	-0.4
JECB	**Eureka Canyon**	**0.34**	**333**		Pb	20 58 49.1	-0.2
JTGM	**Trout Gulch Ro**	**0.35**	**323**		Pb	20 58 49.6	+0.1
HAST	**Hastings Reser**	**0.36**	**172**		Pb	20 58 50.0	+0.2
PACP	**Pacheco Peak**	**0.37**	**45**		Pg	20 58 48.7	-0.7
GHS	**Gilroy Hot Spr**	**0.37**	**21**		Pg	20 58 49.0	-0.4
HSPM	**Sheep**	**0.37**	**12**		Pg	20 58 49.4	-0.1
BSMM	**Soledad Missio**	**0.39**	**158**		Pb	20 58 50.4	0.0
HPCM	**Pacheco Lake**	**0.41**	**41**		Pg	20 58 49.5	-0.6
CADM	**Anderson Res.**	**0.41**	**359**		Pg	20 58 50.2	0.0
JLAB	**Laurel Hill**	**0.42**	**347**		Pg	20 58 50.3	+0.1
BEMM	**Emmet**	**0.42**	**102**		Pg	20 58 50.0	-0.3
BSGM	**Shirttail Gulc**	**0.44**	**139**		Pg	20 58 50.3	-0.3
BCWM	**Chews Ridge**	**0.44**	**175**		Pb	20 58 51.6	+0.4
MOBB	**Monterey Bay O**	**0.45**	**263**		Pn	20 58 52.9	-0.3
SLD	**San Luis Dam**	**0.45**	**44**		Pg	20 58 50.1	-0.7
SFJWR	**San Luis Fatjo**	**0.46**	**50**		Pg	20 58 50.4	-0.7
JUMM	**Mount Umunhum**	**0.47**	**331**		Pg	20 58 51.2	0.0
BAVM	**Antelope Valle**	**0.48**	**102**		Pg	20 58 50.9	-0.4
BBNM	**San Benito**	**0.49**	**119**		Pg	20 58 51.1	-0.4
CCOB	**Coe Ranch Numb**	**0.51**	**355**		Pb	20 58 52.6	+0.3
BPOM	**Post Ranch**	**0.53**	**193**		Pb	20 58 53.4	+0.7
JJOM	**Saint Joseph's**	**0.54**	**328**		Pg	20 58 52.4	-0.1
BAPM	**Anderson Peak**	**0.57**	**182**		Pb	20 58 54.0	+0.6
JBNB	**Ben Lomond Mou**	**0.57**	**311**		Pb	20 58 53.5	+0.1
LRV	**Little Rabbit**	**0.58**	**124**		Pg	20 58 52.8	-0.4
MHC	**Mount Hamilton**	**0.59**	**358**		Pb	20 58 53.7	-0.1
ARN	**Arnold Ranch**	**0.60**	**6**		Pg	20 58 53.6	-0.1
JSGM	**Saratoga Golf**	**0.64**	**327**		Pb	20 58 54.6	+0.1
BRMM	**Rolling Bench**	**0.64**	**82**		Pg	20 58 54.2	-0.1
JHM	**Huhtala Lane,**	**0.65**	**316**		Pb	20 58 54.6	0.0
BMSM	**Mercy Hot Spri**	**0.67**	**98**		Pg	20 58 54.4	-0.4
LRC	**Lone Oak Road**	**0.68**	**137**		Pg	20 58 54.6	-0.4
PBWM	**Bitterwater Cr**	**0.70**	**128**		Pg	20 58 55.0	-0.5
JPC	**Peters Creek,**	**0.71**	**318**		Pb	20 58 55.8	+0.1
CMMM	**Mount Mocho**	**0.71**	**8**		Pg	20 58 55.7	0.0
JBMM	**Black Mountain**	**0.71**	**323**		Pg	20 58 55.7	0.0
CMLM	**Mount Lewis**	**0.73**	**358**		Pb	20 58 56.3	+0.2
JPSM		**0.74**	**308**		Pb	20 58 56.4	+0.2
PCCM	**Crazy Canyon**	**0.75**	**151**		Pb	20 58 56.7	+0.3
JJRM	**Joaquin Road**	**0.76**	**322**		Pb	20 58 56.5	0.0
JFP	**Foothills Park**	**0.77**	**323**		Pb	20 58 56.4	-0.2
JSFB	**Stanford Teles**	**0.79**	**326**		Pg	20 58 57.4	+0.2
CMJM	**Mission San Jo**	**0.80**	**345**		Pg	20 58 57.3	0.0
JRSC	**Jasper Ridge**	**0.82**	**323**		Pb	20 58 57.6	0.0
BGH	**Bear Gulch**	**0.83**	**316**		Pb	20 58 57.8	+0.1
PAPM	**Alder Peak**	**0.86**	**166**		Pn	20 58 58.8	-0.3
WENL	**Wente Vineyard**	**0.88**	**353**		Pb	20 58 58.6	0.0
JHPM	**Huddart Park**	**0.89**	**322**		Pb	20 58 58.7	-0.1
CNIC	**Niles Canyon**	**0.90**	**342**		Pb	20 58 58.8	-0.2
PSAM	**San Ardo**	**0.93**	**141**		Pg	20 58 59.6	-0.1
PPTM	**Peach Tree Val**	**0.96**	**131**		Pb	20 58 59.6	-0.4
JCHM	**Cahill Ridge**	**0.98**	**322**		Pb	20 59 00.1	-0.2
JCPM	**Coyote Point**	**1.01**	**326**		Pb	20 59 00.6	-0.2
PHSB	**Hesperia Broad**	**1.03**	**154**		Pb	20 59 01.2	+0.1
CLCB	**Lake Chabot**	**1.05**	**340**		Pb	20 59 01.3	-0.2
SAC	**San Andreas**	**1.05**	**323**		Pb	20 59 01.1	-0.4
PSMM	**Smith Mountain**	**1.06**	**129**		Pb	20 59 01.5	-0.3
CBSNC	**Byron Hot Spri**	**1.07**	**359**		Pg	20 59 03.2	+0.8
CMOB	**Morgan Territo**	**1.07**	**352**		Pb	20 59 01.0	-0.9
PHPM	**Hope Ranch**	**1.12**	**133**		Pb	20 59 02.0	-0.7
JSBM	**San Bruno Moun**	**1.12**	**326**		Pb	20 59 01.5	-1.2
JMGM	**Milagra Ridge**	**1.12**	**323**		Pb	20 59 02.2	-0.5
PANM	**San Antonio Re**	**1.12**	**149**		Pg	20 59 03.2	-0.3
BGC	**Bolinger Road**	**1.12**	**342**		Pb	20 59 02.3	-0.5
PHCM	**Hearst Castle**	**1.13**	**161**		Pb	20 59 03.1	+0.3
PARM	**Anticline Ridg**	**1.14**	**116**		Pb	20 59 03.2	+0.1
MYLM	**Yosemite Lake**	**1.15**	**56**		Pn	20 59 01.6	-1.5
PKD	**Bear Valley Ra**	**1.18**	**132**		Pn	20 59 02.6	-0.9
CRPB	**Russellman Par**	**1.19**	**349**		Pn	20 59 02.5	-1.2
PPO	**Portuguese Can**	**1.19**	**137**		Pn	20 59 03.5	-0.2
PVCM	**Vineyard Canyo**	**1.20**	**133**		Pn	20 59 03.2	-0.7
PSTM	**Stockdale Moun**	**1.21**	**132**		Pn	20 59 03.2	-0.8
BDM	**Black Diamond**	**1.22**	**351**		Pn	20 59 02.8	-1.3
BKS	**Berkeley--Byer**	**1.23**	**336**		Pn	20 59 03.2	-1.0
CVPM	**Vollmer Peak**	**1.23**	**337**		Pn	20 59 03.2	-1.1
BRIB	**Briones**	**1.25**	**340**		Pn	20 59 04.0	-0.4
JPRM	**Presidio of Sa**	**1.25**	**327**		Pn	20 59 03.8	-0.7
RAMR	**Ramage Ranch**	**1.26**	**151**		Pn	20 59 04.8	+0.1
PWKM	**Work Ranch**	**1.29**	**136**		Pn	20 59 04.7	-0.3
PHFM	**Heflinger Ranc**	**1.31**	**131**		Pn	20 59 05.4	+0.1
PCBM	**Cambria**	**1.31**	**160**		Pn	20 59 05.2	-0.1
CTM	**Castle Mountai**	**1.31**	**128**		Pb	20 59 05.9	-0.2
BLDC	**Black Mountain**	**1.34**	**155**		Pb	20 59 06.1	-0.3
BLDC	**Black Mountain**	**1.34**	**155**		Pn	20 59 06.0	+0.3
PCMM	**Cholame Hills**	**1.35**	**134**		Pn	20 59 05.9	0.0
GHC	**Gold Hill**	**1.37**	**132**		Pn	20 59 05.4	-0.8
ARDC	**Alexander Ranc**	**1.38**	**158**		Pn	20 59 06.4	+0.1
PSRM	**Scobie Ranch**	**1.40**	**129**		Pn	20 59 06.1	-0.5
PKLM	**Kerr Lake**	**1.42**	**133**		Pn	20 59 06.5	-0.2
MHDM	**Hidden Dam**	**1.43**	**75**		Pn	20 59 05.2	-1.7
PMCM	**McMillan Canyo**	**1.43**	**135**		Pn	20 59 07.0	0.0
PSNM	**Stone Corral**	**1.43**	**132**		Pn	20 59 06.4	-0.6
TCHL	**Shandon**	**1.44**	**137**		Pn	20 59 07.1	-0.1
MCUB	**Copperopolis B**	**1.46**	**33**		Pn	20 59 05.9	-1.5
PAGB	**Antelope Grade**	**1.50**	**132**		Pn	20 59 07.3	-0.6
PTAM	**Tassajara Cree**	**1.54**	**151**		Pn	20 59 08.3	-0.2
FRI	**Friant**	**1.55**	**80**		Pn	20 59 08.5	-0.1
TSCN	**Private Proper**	**1.58**	**139**		Pn	20 59 08.9	-0.1
CMB	**Columbia Colle**	**1.61**	**37**		Pn	20 59 08.0	-1.6
MMM	**Miami Mountain**	**1.64**	**65**		Pn	20 59 09.1	-0.9
MDPB	**Devils Postpil**	**2.21**	**66**		Pn	20 59 18.0	+0.1
AFDM	**Forest Hills D**	**2.25**	**13**		Pn	20 59 18.0	-0.3
GDXM	**Geysers**	**2.26**	**336**	Pn	Pn	20 59 19.6	+1.2
OMMB	**Old Mammoth Mi**	**2.26**	**67**		Pn	20 59 18.9	+0.2
WAKR	**Walker**	**2.46**	**44**		Pn	20 59 22.2	+0.9
HOPS	**Hopland Field**	**2.52**	**333**	Pn	Pn	20 59 20.9	-1.1
RUBR	**Rubicon Trail**	**2.57**	**26**		Pn	20 59 23.2	+0.4
ISA	**Isabella, Lake**	**2.76**	**112**	Pn	Pn	20 59 25.3	0.0
ORV	**Oroville**	**2.80**	**2**		Pn	20 59 25.3	-0.5
PNTR	**Pine Nut**	**2.83**	**34**		Pn	20 59 26.6	+0.2
YERR	**Yerington**	**2.92**	**39**		Pn	20 59 27.9	+0.3
VCNR	**Virginia City**	**2.98**	**31**	Pn	Pn	20 59 28.9	+0.5
RYN	**Ryan**	**3.09**	**52**		Pn	20 59 30.3	+0.4
NVAR	**Mina Array Bea**	**3.12**	**56**		Pn	20 59 30.1	-0.3
NV11	**Mina Array Sit**	**3.22**	**58**		Pn	20 59 31.7	0.0
BEKR	**Beckworth**	**3.27**	**17**		Pn	20 59 32.8	+0.4
DAC	**Darwin (Calif)**	**3.27**	**97**	Pn	Pn	20 59 32.5	+0.1
PAHR	**Pah Rah Range**	**3.44**	**30**	Pn	Pn	20 59 34.2	-0.5
KVN	**Kaiserville**	**3.61**	**49**		Pn	20 59 36.2	-0.9
TPNV	**Topopah Spring**	**4.31**	**86**	Pn	Pn	20 59 45.8	-0.9

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*ISCJB **01** 21:16:26.2±2.6, 31°.3N±0°.1×115°.6W±0°.1, h2km±44km, Error ellipse: s-maj=22.1km s-min=14.5km az=148.0*
*MEX **01** 21:16:27.3±17.0, 31°.14N×115°.40W, h29km±669km, MD3.6*
*ECX **01** 21:16:27.7±0.6, 31°.18N×115°.61W, h4km±2km, MD2.3, ML2.5*
ISC 01 21:16:24.8±1.3, 31°.33N±0°.06×115°.43W±0°.07, h11km±16km, n6, σ0§29/11, 2C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.28**	**186**	*i* P	**Pb**	**21 16 32.2**	**0.0**
baz=301,slow=12							
SPIG				*e*S	**Sg**	**21 16 34.8**	**+0.1**
SPX	**San Pedro Mart**	**0.29**	**186**	*e*P	**Pg**	**21 16 30.8**	**0.0**
SPX				*i* S	**Sg**	**21 16 34.3**	**-0.4**
SPX	**San Pedro Mart**	**0.29**	**186**	⇑*i*P	**Pg**	**21 16 31.2**	**+0.4**
SPX				*e*S	**Sg**	**21 16 34.3**	**-0.4**
SPX				IAML		21 16 34.9	
comp=E,885nm,0.1s							
SPX				⇑*e*		21 16 34.9	
SFX	**San Felipe**	**0.58**	**120**	*e*P	**Pb**	**21 16 39.7**	**0.0**
SFX				*e*S	**Sg**	**21 16 48.4**	**-0.2**
CBX	**Cerro Bola**	**1.44**	**313**	*e*P	**Pb**	**21 16 51.9**	**+0.1**
CBX				*e*S	**Sb**	**21 17 10.1**	**0.0**
BAR	**Barrett**	**1.71**	**322**	*e*P	**Pg**	**21 16 57.7**	**0.0**

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*IDC **01** 21:17:01.1±1.1, 36°.13N×141°.02E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/44, mbtmp3.5/7, ML3.0/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/51, Error ellipse: s-maj=28.6km s-min=21.3km az=55.0*
*ISCJB **01** 21:17:04.1±0.8, 36°.16N±0°.04×141°.03E±0°.07, h34km±8km, mb3.5/6, MS3.8/1, Error ellipse: s-maj=9.2km s-min=6.3km az=173.0*
*JMA **01** 21:17:04.3±0.1, 36°.15N×141°.01E, h39km±2km, M3.4*
JMA Felt I J1.
ISC 01 21:17:04.6±1.3, 36°.16N±0°.04×141°.04E±0°.07, h28km±8km, n26, σ1§10/26, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.41**	**296**	P	**Pb**	**21 17 13.6**	**+0.2**
JHYU				S	**Sb**	**21 17 19.7**	**+0.3**
JIHU	**Itakohorinouch**	**0.46**	**245**	P	**Pb**	**21 17 14.7**	**+0.4**
JIHU				*e*S	**Sb**	**21 17 21.7**	**+0.9**
CHOJ	**Chosi**	**0.48**	**198**	P	**Pb**	**21 17 14.4**	**-0.2**
CHOJ				S	**Sb**	**21 17 21.0**	**-0.4**
JHO	**Hitachi**	**0.58**	**320**	P	**Pn**	**21 17 15.8**	**-1.3**
JHO				*e*S	**Sb**	**21 17 23.7**	**-0.6**
JYT	**Yasato**	**0.69**	**276**	P	**Pn**	**21 17 17.3**	**-1.2**
JYT				S	**Sn**	**21 17 25.9**	**-2.3**
JSMT	**Sammumatsuo**	**0.71**	**223**	P	**Pn**	**21 17 17.6**	**-1.2**
JSMT				*e*S	**Sn**	**21 17 27.1**	**-1.6**
ONAJ	**Iwakimizuishiy**	**0.96**	**348**	P	**Pn**	**21 17 21.1**	**-1.2**
JFK	**Kawauchi**	**1.21**	**354**	P	**Pn**	**21 17 24.6**	**-1.1**
JAG	**Ashikaga**	**1.31**	**282**	P	**Pn**	**21 17 26.2**	**-0.8**
JAG				*e*S	**Sn**	**21 17 41.5**	**-2.1**
MJAR	**Matsushiro Arr**	**2.31**	**280**	Pn	**Pn**	**21 17 41.1**	**+0.2**
4.4nm,0.3s,baz=86,slow=9.3,SNR=200							
MJAR				Sn	**Sn**	**21 18 08.8**	**+0.3**
1.6nm,0.3s,baz=94,slow=9.7,SNR=6.7							
MJAR				LR	LR	21 18 22.4	
comp=Z,43nm,19.3s,baz=230,slow=36							
MAT	**Matsushiro**	**2.32**	**280**	P	**Pn**	**21 17 41.7**	**+0.8**
MAT				S	**Sn**	**21 18 08.2**	**-0.3**
JNU	**Nakatsue**	**8.90**	**253**	LR	LR	21 22 57.4	
comp=Z,69nm,18.5s,baz=20,slow=40							
KLR	**Kul'dur**	**14.72**	**335**	LR	LR	21 25 22.2	
comp=Z,40nm,18.6s,baz=302,slow=34							
H11N2	**WAKE ISLAND Hy**	**27.98**	**119**	T

JKB eS S 21 22 35.5 -2.7
JAK Akkeshi 2.98 126 P Pn 21 21 56.5 -1.4
JAK eS S 21 22 37.1 -2.4
JOSM Okushiri--Mats 3.04 208 P Pn 21 21 58.4 -0.1
ERM Erimo 3.06 154 dePN Pn 21 22 00.0 +1.4
ERM Erimo 3.06 154 Pn Pn 21 21 57.3 -1.3
TEY Ternei 3.41 276 eP Pn 21 22 01.8 -0.7
TEY eS S 21 22 46.5 -1.4
TEY A A 21 22 47.6
comp=E,15nm,0.4s
TEY A A 21 22 47.6
comp=E,16nm,0.4s
JOT Ohata 3.41 184 P Pn 21 22 02.0 -0.6
NEM2 Nemuro 2 3.44 113 P Pn 21 22 03.3 +0.5
TYV Tymovskoe 6.14 8 ePN Pn 21 22 36.5 +1.5
TYV eS S 21 23 44.2 -2.8
TYV pmax pmax
comp=Z,24nm,0.5s
TYV smax smax
comp=E,9.0nm,1.0s
TYV Tymovskoe 6.14 8 eP Pn 21 22 36.5 +1.5
TYV AMB AMB 21 22 36.6
comp=E,25nm,0.5s
TYV eS S 21 23 48.0 +1.0
TYV A A 21 23 55.7
comp=E,8.0nm,0.9s
TYV A A 21 23 55.7
comp=E,25nm,0.9s
USA0B Ussuriysk Arra 6.75 268 PN Pn 21 22 42.7 -0.1
USA0B Ussuriysk Arra 6.75 268 Pn Pn 21 22 42.7 -0.1
USA0B Ussuriysk Arra 6.75 268 Pn Pn 21 22 41.6 -1.2
USRK Ussuriysk Ar. 6.75 268 P Pn 21 22 43.4 +0.6
baz=86,slow=13,SNR=17
USRK Ussuriysk Ar. 6.75 268 Pn 21 22 43.2 +0.4
USRK Ussuriysk Ar. 6.75 268 Pn 21 22 43.2 +0.4
KLR Kul'dur 7.95 307⇑ iPN Pn 21 22 57.6 -0.1
KLR pmax pmax
comp=Z,14nm,1.0s
KLR Kul'dur 7.95 307 P Pn 21 22 58.7 +1.0
comp=Z,0.9nm,0.3s,baz=112,slow=13,SNR=25
KLR Kul'dur 7.95 307 eP Pn 21 22 57.6 -0.1
MJA0 Matsu Arr-Jizo 8.57 197 ePN Pn 21 23 04.5 -1.4
MJB9 Matsu-Tunnel 8.58 197 Pn 21 23 04.8 -1.1
MAJO Matsushiro 8.58 197 PN Pn 21 23 04.5 -1.5
MAJO Matsushiro 8.58 197 Pn 21 23 04.5 -1.5
MAT Matsushiro 8.58 197 P Pn 21 23 04.3 -1.7
MJAR Matsushiro Arr 8.58 197 PN Pn 21 23 04.8 -1.2
MJAR Matsushiro Arr 8.58 197 P Pn 21 23 04.6 -1.4
comp=Z,0.2nm,0.3s,baz=10.0,slow=13,SNR=11
MJAR Matsushiro Arr 8.58 197 Pn 21 23 04.8 -1.2
INU Inuyama 10.00 201 Pn Pn 21 23 21.0 -2.8
ZEA Zeya 12.84 319 ePN Pn 21 23 56.7 -2.2
PEA0B Petropavlovsk- 13.55 46 P Pn 21 24 06.5 -0.9
PEA0B Petropavlovsk- 13.55 46 Pn Pn 21 24 01.3 -6.2
PEA0B Petropavlovsk- 13.55 46 Pn 21 24 06.5 -0.9
PETK Petropavlovsk- 13.55 46 P P 21 24 09.5 +1.1
comp=Z,0.5nm,0.3s,baz=224,slow=8.2,SNR=7.8
PETK Petropavlovsk- 13.55 46 Pn Pn 21 24 01.6 -5.9
PETK Petropavlovsk- 13.55 46 P P 21 24 08.1 -0.3
TJN Taejon 13.56 237⇓ eP P 21 24 08.6 -0.2
JNU Nakatsue 14.22 219 P 21 24 16.8 +0.6
HIA Hailar 15.41 295⇓ eP Pn 21 24 30.1 +0.1
HIA Hailar 15.41 295 P Pn 21 24 29.6 -0.4
MA2 Magadan 15.86 18 P Pn 21 24 34.8 -0.3
comp=Z,1.6nm,0.3s,baz=176,slow=19,SNR=4.0
MA2 Magadan 15.86 18 IAmb IAmb 21 24 36.3
comp=Z,42nm,1.4s
SEY Seymchan 19.25 15 P P 21 25 10.4 -0.1
comp=Z,1.4nm,0.3s,baz=198,slow=8.1,SNR=29
HHC Hu-ho-hao-te 22.17 270 P P 21 25 50.4 +10
HHC pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 23.80 290⇓ eP P 21 25 56.0 +0.9
ULN pmax pmax
comp=Z,6.0nm,1.5s
ULN Ulaanbaatar 23.80 290 eP P 21 25 56.0 +0.9
ULN Ulaanbaatar 23.80 290 P P 21 25 55.6 +0.6
SONM Songino Array 24.24 290 P P 21 25 59.5 +0.4
comp=Z,6.0nm,0.5s,baz=87,slow=8.9,SNR=41
SONM Songino Array 24.24 290 P P 21 25 59.0 -0.1
WHN Wuhan 25.55 245 P P 21 26 19.4 +8.5
BILL Bilibino 26.68 21 eP P 21 26 21.1 +0.5
BILL pmax pmax
comp=Z,1.0nm,1.0s
LZH Lanzhou 29.65 266 eP P 21 27 02.4 +15
LZH PP PnPn 21 27 50.6 -5.4
LZH pmax pmax
comp=Z,16nm,1.1s
ATKA Atka Island 29.95 60 P P 21 27 08.6 +19
GTA Gaotai 31.06 275 P P 21 27 02.6 +2.9
GTA pmax pmax
comp=Z,6.0nm,0.8s
DGZ Jazzator, Alta 36.29 298⇓ eP P 21 27 46.6 +2.0
ZALV Zalesovo Beam 37.04 305 eP P 21 27 50.5 -0.1
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 37.04 305 P P 21 27 49.7 -0.9
comp=Z,1.3nm,0.5s,baz=86,slow=7.8,SNR=5.4
WMQ Urumqi 37.85 288 eP P 21 28 02.0 +4.4
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ LR LR
comp=Z,260nm,7.5s
WMQ LR LR
comp=Z,240nm,7.5s
IMAR Indian Mountai 40.15 35 P P 21 28 14.3 -1.9
MK31 Makanchi Array 40.41 295 P P 21 28 19.3 +0.7
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 40.41 295 P P 21 28 19.3 +0.7
MK31 Makanchi Array 40.41 295 P P 21 28 19.1 +0.5
MK31 IAmb IAmb 21 28 20.0
comp=Z,4.8nm,0.7s
MKAR Makanchi Array 40.41 295 P P 21 28 19.2 +0.6
comp=Z,4.4nm,0.6s,baz=82,slow=9.3,SNR=41
MKAR Makanchi Array 40.41 295 eP P 21 28 19.1 +0.5
MKAR Makanchi Array 40.41 295 P P 21 28 18.9 +0.3
MKAR Makanchi Array 40.41 295 P P 21 28 18.9 +0.3
MAKZ Makanchi 40.61 295 P P 21 28 21.0 +0.7
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 40.61 295 P P 21 28 21.0 +0.7
MAKZ IAmb IAmb 21 28 21.6
comp=Z,7.4nm,0.9s
MAKZ Makanchi 40.61 295 P P 21 28 20.6 +0.4
MAKZ IAmb IAmb 21 28 21.6
comp=Z,7.4nm,0.9s
KURK Kurchatov 41.49 301⇓ eP P 21 28 27.2 0.0
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 41.49 301 eP P 21 28 27.2 0.0
KDAK Kodiak Island 41.59 48 eP P 21 28 27.9 -0.1
COLA College 42.69 36⇓ eP P 21 28 36.6 0.0
COLA pmax pmax
comp=Z,3.0nm,0.6s
IL31 43.11 37 P P 21 28 39.5 -0.5
ILAR Eielson Array 43.11 37 P P 21 28 39.5 -0.6
comp=Z,1.4nm,0.6s,baz=278,slow=9.5,SNR=25
TARG Taragay, Kyrgy 45.36 290 P P 21 29 00.4 +1.7
KDJ Kajisay 45.60 290 P P 21 29 00.2 -0.1
KDJ pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 45.60 290 P P 21 29 00.2 -0.1
KDJ IAmb IAmb 21 29 13.0
comp=Z,6.5nm,0.8s
BCAR Beaver Creek A 45.65 38 P P 21 29 00.6 +0.3
BRVK Borovoye 45.66 307⇓ eP P 21 29 00.8 +0.5
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 45.66 307 eP P 21 29 00.8 +0.5
TAPN Taplejung 45.90 266 eP P 21 29 03.3 +0.4
comp=Z,3.6nm,0.4s
JIRN Jiri 46.79 268 eP P 21 29 10.8 +0.9
comp=Z,2.8nm,0.2s
RAMN Ramite 46.92 267 eP P 21 29 11.1 +0.3
comp=Z,6.4nm,0.4s
AAK Ala-Archa 47.16 292⇓ iP P 21 29 13.0 +0.7
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 47.16 292 eP P 21 29 13.0 +0.7
AAK Ala-Archa 47.16 292 P P 21 29 12.2 -0.1
KKN Kakani 47.36 269 eP P 21 29 14.8 +0.7
comp=Z,1.9nm,0.3s
PKI Pulchoki 47.40 268 eP P 21 29 14.8 +0.3
PKIN Phulchoki 47.41 268 eP P 21 29 14.9 +0.4
INK Inuvik 47.59 30 P P 21 29 14.6 -0.4
comp=Z,1.0nm,0.4s,baz=214,slow=18,SNR=3.1
DMN Daman 47.59 269 eP P 21 29 16.2 +0.3
YKU2 Yakutat 47.65 43 P P 21 29 15.1 -0.4
GKN Gorkha 47.69 269 eP P 21 29 16.6 0.0
comp=Z,12nm,0.3s
DANN Dangsing 48.11 270 eP P 21 29 20.6 +0.6
comp=Z,12nm,0.3s
KOLN Koldanda 48.57 270 eP P 21 29 24.1 +0.8
comp=Z,4.5nm,0.3s
ARSB Arslanbob 48.76 291 P P 21 29 25.6 +1.1
ARSB IAmb IAmb 21 29 26.4
comp=Z,5.0nm,0.6s
ARSB Arslanbob 48.76 291 P P 21 29 24.7 +0.2
ARSB IAmb IAmb 21 29 26.4
comp=Z,5.0nm,0.6s
KK31 Karatay Array 49.55 295 P P 21 29 30.8 +0.5
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KK31 Karatay Array 49.55 295 P P 21 29 30.8 +0.5
KK31 IAmb IAmb 21 29 31.1
comp=Z,2.5nm,0.5s
KK31 Karatay Array 49.55 295 P P 21 29 30.8 +0.5
KK31 IAmb IAmb 21 29 31.1
comp=Z,2.5nm,0.5s
KKAR Karatay Array 49.55 295 P P 21 29 30.6 +0.4
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 49.55 295 P P 21 29 30.6 +0.4
KKAR Karatay Array 49.55 295 P P 21 29 30.8 +0.5
KKAR IAmb IAmb 21 29 31.1
comp=Z,2.5nm,0.5s
KKAR Karatay Array 49.55 295 P P 21 29 30.6 +0.4
KKAR Karatay Array 49.55 295 P P 21 29 30.7 +0.4
KKAR IAmb IAmb 21 29 31.1
comp=Z,2.5nm,0.5s
ARU Arti 50.72 315⇓ eP P 21 29 37.8 -1.0
ARU pmax pmax
comp=Z,9.0nm,1.5s
ARU Arti 50.72 315 eP P 21 29 37.8 -1.0
BTK Batken 50.81 291 P P 21 29 40.2 +0.3
BTK pmax pmax
comp=Z,2.0nm,0.5s
BTK Batken 50.81 291 P P 21 29 40.2 +0.3
BTK IAmb IAmb 21 29 44.2
comp=Z,2.3nm,0.5s
GAR Garm 51.68 290 P P 21 29 46.7 +0.3
GAR IAmb IAmb 21 29 48.2
comp=Z,8.1nm,1.1s
CHGR Chuyangaron 52.63 290 P P 21 29 59.0 +5.6
ABKAR Akbulak array 53.15 306 P P 21 29 57.0 +0.3
ABKAR Akbulak array 53.15 306 P P 21 29 57.3 +0.6
ABKAR IAmb IAmb 21 29 57.7
comp=Z,7.0nm,0.4s
ABKAR Akbulak array 53.15 306 P P 21 29 57.0 +0.3
ABKAR Akbulak array 53.15 306 P P 21 29 57.3 +0.6
ABKAR IAmb IAmb 21 29 57.7
comp=Z,7.0nm,0.4s
YKA Yellowknife Ar 57.19 32 P P 21 30 25.4 +0.1
comp=Z,0.6nm,0.5s,baz=305,slow=6.7,SNR=3.6
YKA Yellowknife Ar 57.19 32 P P 21 30 32.7 +7.4
GEYT Alibeck 60.28 295 P P 21 30 46.7 -0.3
comp=Z,1.0nm,0.4s,baz=55,slow=7.8,SNR=3.6
GEYT Alibeck 60.28 295 IAmb IAmb 21 30 47.9
comp=Z,0.9nm,0.5s
OBN Obninsk 61.97 321 eP P 21 30 55.0 -2.9
OBN e 21 31 34.4
OBN i 21 33 15.2
OBN pmax pmax
comp=Z,3.0nm,1.0s
FIA1 FINESS Array S 62.00 331 P P 21 30 56.1 -1.9
FIA1 IAmb IAmb 21 31 15.6
comp=Z,4.9nm,0.9s
FINES FINESS Array B 62.00 331 eP P 21 30 57.7 -0.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 62.00 331 P P 21 30 57.1 -0.9
comp=Z,1.2nm,0.6s,baz=67,slow=6.8,SNR=6.5
FINES FINESS Array B 62.00 331 P P 21 30 55.5 -2.6
VSR Storozhevoye 63.19 316⇑ eP P 21 31 05.7 -0.3
VSR pmax pmax
comp=Z,5.0nm,0.4s
KBZ Khabaz 65.96 308 eP P 21 31 25.3 +1.3
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 65.96 308 P P 21 31 24.7 +0.7
comp=Z,1.5nm,0.9s,baz=81,slow=5.7,SNR=4.7
KBZ Khabaz 65.96 308 eP P 21 31 25.3 +1.3
NBO00 NORSAR Array S 67.19 336 P P 21 31 30.4 -1.1
NC602 NORSAR Array S 67.21 336 P P 21 31 31.4 -0.2
NC602 IAmb IAmb 21 31 44.7
comp=Z,9.3nm,1.1s
AKASG Malin Array Be 68.22 321 P P 21 31 37.6 -0.5
comp=Z,1.4nm,0.5s,baz=40,slow=6.6,SNR=2.7
NVAR Mina Array Bea 70.45 55 P P 21 31 52.4 +0.2
comp=Z,0.4nm,0.8s,baz=270,slow=7.1,SNR=3.8
BURAR Bucovina Array 72.27 320 P P 21 32 02.8 0.0
PDAR Pinedale Array 72.31 47 P P 21 32 03.5 +0.3
comp=Z,0.6nm,0.5s,baz=276,slow=2.8,SNR=6.4
BRTR Keskin Array B 73.77 310 P P 21 32 12.4 +0.7
comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=2.8
MEDO Medina 85.49 28 P P 21 33 24.5 +10
J55A Hilton 85.62 28 P P 21 33 26.5 +12
J56A Wolcott 85.92 27 P P 21 33 30.6 +14
F64A Sherman 85.97 20 P P 21 33 28.5 +12

*BJI **01** 21:24:20.0±0.0, 22°.67N×100°.53E, h15km, ML3.7/1*
ISC 01 21:24:19.2±1.3, 22°.8N±0°.1×100°.4E±0°.2, h10km, n5,
σ1§63/6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.19**	**42**	Pg	**Pg**	**21 25 19.1**	**-1.3**
KMI				Sg	**Sg**	**21 26 02.6**	**+0.9**
PAYA	**Payao**	**3.43**	**188**	P	**Pb**	**21 25 21.3**	**+1.3**
CMMT	**Chiang Mai**	**4.16**	**199**	P	**Pg**	**21 25 36.9**	**-2.0**
	12nm,0.8s						
MHMT	**Maesarieng**	**5.11**	**207**	P	**Pg**	**21 25 56.8**	**-0.3**
	19nm,0.4s,745nm						
WMQ	**Urumqi**	**23.46**	**336**	eP	**P**	**21 29 29.0**	**+0.2**

*SJA **01** 21:31:23.9±0.9, 30°.25S×72°.24W, h18km±999km, ML3.3, MW3.4*
*GUC **01** 21:31:31.8±0.7, 30°.45S×71°.49W, h33km±3km, ML3.4*
ISC 01 21:31:31.6±1.2, 30°.44S±0°.03×71°.47W±0°.08, h10km, n22,
σ1§74/31, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.56**	**20**	eP	**Pb**	**21 31 43.9**	**+0.5**
LSCH				eS	**Sb**	**21 31 52.4**	**+0.9**
GO04	**Tololo Observa**	**0.63**	**66**	eP	**Pb**	**21 31 46.2**	**+1.2**
GO04				eS	**Sb**	**21 31 56.1**	**+2.2**
GO04				IAML		21 31 59.4	
	comp=N,4μm,0.4s						
CO02	**Combarbal**	**0.86**	**152**⇓	iP	**Pg**	**21 31 48.7**	**+0.4**
CO02				i S	**Sb**	**21 32 01.7**	**+1.2**
CO02				IAML		21 32 05.1	
	comp=N,4μm,0.1s						
AROD	**Rodeo**	**1.75**	**82**	i P	**Pb**	**21 32 05.0**	**+1.1**
AROD	**Rodeo**	**1.75**	**82**	eP	**Pb**	**21 32 05.0**	**+1.1**
ACDV	**Cuesta del Vie**	**2.05**	**83**	i P	**Pb**	**21 32 10.1**	**+1.0**
ACDV				IAML		21 32 20.9	
	comp=Z,69nm,0.4s						
ACDV	**Cuesta del Vie**	**2.05**	**83**	eP	**Pb**	**21 32 10.0**	**+1.0**
ACCO	**Cerro Coronel**	**2.08**	**95**	i P	**Pb**	**21 32 10.7**	**+1.1**
ACCO	**Cerro Coronel**	**2.08**	**95**	eP	**Pb**	**21 32 10.4**	**+0.8**
RTLS	**Leoncito**	**2.31**	**127**	i P	**Pb**	**21 32 13.6**	**+0.1**
ROC1	**El Roble**	**2.56**	**171**	i P	**Pn**	**21 32 12.5**	**-0.9**
ROC1				i S	**Sb**	**21 32 49.4**	**-0.1**
AMOG	**MOGNA**	**2.61**	**102**	i P	**Pb**	**21 32 19.1**	**+0.6**
ZON	**Zonda**	**2.64**	**116**	eP	**Pn**	**21 32 16.2**	**+1.9**
RTLL	**Cerro Villicun**	**2.72**	**110**	eP	**Pb**	**21 32 18.4**	**-2.0**
RTLL				IAML		21 33 04.9	
PEL	**Peldehue**	**2.78**	**166**	eP	**Pn**	**21 32 16.7**	**+0.4**
PEL				eS	**Sn**	**21 32 50.9**	**+1.0**
PEL				IAML		21 32 58.9	
	comp=N,122nm,0.3s						
RTCV	**Cerro Valdivia**	**2.88**	**120**	i P	**Pb**	**21 32 21.4**	**-1.7**
GO03	**Copiap**	**3.03**	**21**	eP	**Pn**	**21 32 19.2**	**-0.5**
GO03				eS	**Sn**	**21 32 58.1**	**+2.0**
GO03				IAML		21 33 11.2	
	comp=E,97nm,0.5s						
FCH	**Farellones**	**3.05**	**161**	eP	**Pn**	**21 32 21.2**	**+1.0**
FCH				eS	**Sn**	**21 32 59.5**	**+2.5**
FCH				IAML		21 33 11.8	
	comp=E,58nm,0.3s						
ARCO	**CERRO ARCO**	**3.23**	**139**	IAML		21 33 23.9	
	comp=Z,43nm,0.5s						
VCA	**Vinchina**	**3.31**	**60**	i P	**Pb**	**21 32 28.1**	**-2.4**
VCA				IAML		21 32 31.7	
	comp=Z,83nm,0.3s						
VCA				i S	**Sb**	**21 33 10.9**	**+0.1**
VCA				i S	**Sg**	**21 33 12.2**	**-5.6**
VCA	**Vinchina**	**3.31**	**60**	eP	**Pb**	**21 32 28.5**	**-1.9**
AAGR	**Agrelo**	**3.47**	**140**	i P	**Pb**	**21 32 32.1**	**-1.1**
AAGR				i S	**Sb**	**21 33 13.8**	**-1.6**

*NCEDC **01** 21:32:15.1±1.4, 37°.33N±0°.02×119°.92W±0°.03, h22km±5km, ML2.7*
NEIC 01 21:32:14.3±1.4, 37°.31N±0°.01×119°.93W±0°.03, h23km±9km,
Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIM	**Miami Mountain**	**0.19**	**54**		Pb	21 32 20.3	+0.6
MHDM	**Hidden Dam**	**0.19**	**171**		Pb	21 32 20.7	+1.1
FRI	**Friant**	**0.36**	**150**		Pb	21 32 22.6	+0.4
MYLM	**Yosemite Lake**	**0.40**	**281**		Pn	21 32 23.6	-1.0
MDPB	**Devils Postpil**	**0.75**	**64**		Pb	21 32 28.4	-0.5
MDPB	**Devils Postpil**	**0.75**	**64**		Sb	21 32 38.5	-0.3
MRDM	**Red Cones**	**0.75**	**67**		Pb	21 32 28.4	-0.5
MINS	**Minaret Summit**	**0.78**	**63**		Pb	21 32 28.8	-0.5
MINS					Sb	21 32 39.3	-0.2
MMPM	**Mammoth Pass**	**0.78**	**67**		Pb	21 32 28.9	-0.5
MMSM	**Mammoth Summit**	**0.79**	**66**		Pb	21 32 29.2	-0.3
MLIM	**Lincoln Peak**	**0.80**	**65**		Pb	21 32 29.5	-0.2
OMMB	**Old Mammoth Mi**	**0.80**	**67**		Pb	21 32 29.2	-0.5
OMMB	**Old Mammoth Mi**	**0.80**	**67**		Sb	21 32 39.9	-0.4
CMB	**Columbia Colle**	**0.81**	**334**		Pb	21 32 28.9	-0.9
CMB	**Columbia Colle**	**0.81**	**334**		Sb	21 32 39.7	-0.6
MDYM	**Dry Creek**	**0.81**	**64**		Pb	21 32 29.6	-0.3
MDCM	**Deadman Creek**	**0.81**	**60**		Pb	21 32 29.4	-0.6
MMLB	**Mammoth Lakes**	**0.84**	**65**		Pb	21 32 30.1	-0.2
BRMM	**Rolling Bench**	**0.85**	**237**		Pn	21 32 31.1	+0.1
MCUB	**Copperopolis B**	**0.86**	**321**		Pb	21 32 29.9	-0.6
MLCM	**Laurel Creek C**	**0.86**	**69**		Pb	21 32 30.3	-0.5
MEMM	**East Mammoth H**	**0.87**	**65**		Pb	21 32 30.6	-0.2
MGPM	**Gravel Pit**	**0.88**	**69**		Pb	21 32 30.7	-0.3
MCSM	**Casa Diablo Ho**	**0.89**	**67**		Pb	21 32 31.0	-0.2
LMCR	**Lookout Mounta**	**0.89**	**62**		Pb	21 32 31.0	-0.2
MCBM	**Casa Benchmark**	**0.89**	**68**		Pb	21 32 31.0	-0.3
MCMM	**Convict Lake**	**0.90**	**70**		Pb	21 32 30.8	-0.5
PWMM	**Westland Maint**	**0.90**	**194**		Pn	21 32 32.0	+0.4
MCVM	**Convict Lake**	**0.92**	**72**		Pb	21 32 31.2	-0.6
MLAC	**Mammoth, Mammo**	**0.93**	**69**		Pb	21 32 31.5	-0.4
MDRNC	**Doe Ridge**	**0.93**	**69**		Pb	21 32 31.6	-0.3
BMSM	**Mercy Hot Spri**	**0.95**	**227**		Pn	21 32 32.5	+0.2
LUL	**Lundy Lake**	**0.95**	**39**		Pb	21 32 31.5	-0.7
HELL	**Mitchell Peak,**	**0.96**	**130**		Pb	21 32 31.5	-0.8
MLHM	**Little Hot Cre**	**0.96**	**67**		Pb	21 32 32.5	0.0
RCCR	**Rock Creek Can**	**0.98**	**79**		Pb	21 32 32.2	-0.6
SCHCA	**Scheelite**	**0.99**	**87**		Pb	21 32 32.4	-0.6
SFJWR	**San Luis Fatjo**	**1.02**	**256**		Pn	21 32 33.0	-0.3
PDRM	**Domengine Ranc**	**1.03**	**200**		Pn	21 32 33.3	-0.1
WMD		**1.04**	**82**		Pn	21 32 33.2	-0.2
SLD	**San Luis Dam**	**1.05**	**258**		Pn	21 32 33.5	-0.2
ORC	**Owens River**	**1.07**	**72**		Pn	21 32 33.8	-0.3
MNHB	**New Hogan Dam**	**1.09**	**320**		Pn	21 32 33.7	-0.4
MTUM	**Tungsten Hills**	**1.09**	**87**		Pn	21 32 34.1	-0.3
BAVM	**Antelope Valle**	**1.10**	**233**		Pn	21 32 33.7	-0.7
HPCM	**Pacheco Lake**	**1.10**	**257**		Pn	21 32 34.1	-0.3
MGNR	**McGee Canyon**	**1.10**	**62**		Pb	21 32 34.8	-0.1
PARM	**Anticline Ridg**	**1.11**	**197**		Pb	21 32 35.0	+0.3
PACP	**Pacheco Peak**	**1.12**	**255**		Pn	21 32 34.5	-0.2
BEMM	**Emmet**	**1.13**	**236**		Pn	21 32 34.9	+0.1
RCTC	**Rector, Farmer**	**1.14**	**151**		Pn	21 32 34.4	-0.5
BBGB	**Big Mountain B**	**1.15**	**231**		Pb	21 32 35.5	0.0
BHPR	**Bishop**	**1.15**	**90**		Pn	21 32 35.2	0.0
BENR	**Benton**	**1.16**	**69**		Pn	21 32 35.1	-0.2
BEHM	**Elkhorn Ranch**	**1.18**	**237**		Pb	21 32 36.3	+0.2
MRCM	**Red Rock Canyo**	**1.19**	**72**		Pn	21 32 35.9	+0.1
MFBM	**Five Bridges**	**1.21**	**84**		Pb	21 32 36.4	-0.1
MCDM	**Chidago Canyon**	**1.21**	**78**		Pb	21 32 36.3	-0.3
BHRM	**Hodges Ranch**	**1.21**	**242**		Pb	21 32 36.8	+0.3
BBNM	**San Benito**	**1.21**	**229**		Pb	21 32 37.0	+0.5
HFEM	**San Felipe**	**1.22**	**255**		Pb	21 32 36.5	-0.1
MRHM	**Rocky Hill**	**1.23**	**146**		Pn	21 32 35.3	-0.8
BLRM	**Lewis Ranch**	**1.25**	**240**		Pb	21 32 38.0	+0.8
BSLM	**Silva Ranch**	**1.25**	**245**		Pb	21 32 37.6	+0.4
CMMM	**Mount Mocho**	**1.25**	**277**		Pn	21 32 36.4	-0.1
PKEM	**Kettleman Hill**	**1.25**	**187**		Pb	21 32 37.3	+0.1
WAKR	**Walker**	**1.26**	**18**		Pn	21 32 36.7	0.0
WAKR	**Walker**	**1.26**	**18**		Sn	21 32 53.0	-0.1
CDC	**Canada Road**	**1.27**	**258**		Pn	21 32 37.0	+0.3
PBWM	**Bitterwater Cr**	**1.27**	**219**		Pn	21 32 36.6	-0.2
ARN	**Arnold Ranch**	**1.28**	**272**		Pn	21 32 36.9	+0.1
BCGM	**Cienega Road**	**1.28**	**243**		Pn	21 32 34.6	-2.1
HSPM	**Sheep**	**1.28**	**262**		Pn	21 32 37.1	+0.3
BJOM	**Mount Johnson**	**1.30**	**239**		Pn	21 32 37.3	+0.3
MLNR	**Milner Canyon**	**1.30**	**77**		Pn	21 32 37.5	+0.2
BVYM	**Vineyard**	**1.31**	**245**		Pn	21 32 37.6	+0.3
HCK	**Huntoon Valley**	**1.31**	**54**		Pn	21 32 37.7	+0.5
POCCA	**Poleta Canyon**	**1.32**	**87**		Pn	21 32 37.9	+0.3
SAO	**San Andreas Ge**	**1.33**	**246**	Pn	Pb	21 32 38.1	-0.4
PSMM	**Smith Mountain**	**1.35**	**203**		Pb	21 32 38.0	+0.2
PPTM	**Peach Tree Val**	**1.35**	**208**		Pb	21 32 38.5	-0.4
FRP	**Fremont Peak**	**1.36**	**247**		Pn	21 32 38.0	0.0
MHC	**Mount Hamilton**	**1.36**	**272**		Pn	21 32 38.4	+0.4
CSR	**Chase Ranch**	**1.36**	**256**		Pn	21 32 37.9	-0.1
SCZ	**Santa Cruz**	**1.37**	**239**		Pn	21 32 38.0	-0.1
HLPM	**Lions Peak**	**1.38**	**259**		Pn	21 32 37.6	-0.6
TIN	**Tinemaha, Big**	**1.38**	**100**		Pn	21 32 38.3	0.0
BSGM	**Shirttail Gulc**	**1.39**	**230**		Pn	21 32 38.6	+0.3
LRC	**Lone Oak Road**	**1.39**	**220**		Pn	21 32 38.8	+0.6
BJCM	**Johnson Can.**	**1.39**	**237**		Pn	21 32 38.7	+0.3
HJGM	**San Juan Grade**	**1.41**	**249**		Pn	21 32 38.6	+0.1
CTM	**Castle Mountai**	**1.41**	**193**		Pb	21 32 39.5	-0.5
BSRM	**Salinas Radio**	**1.42**	**244**		Pn	21 32 38.2	-0.6
PHPM	**Hope Ranch**	**1.43**	**202**		Pn	21 32 39.2	+0.3
JLAB	**Laurel Hill**	**1.45**	**264**		Pn	21 32 39.3	+0.2
PKD	**Bear Valley Ra**	**1.45**	**200**		Pn	21 32 39.4	+0.2
SPG2	**Springville 2**	**1.45**	**139**		Pn	21 32 39.1	-0.1
PSTM	**Stockdale Moun**	**1.45**	**199**		Pn	21 32 39.8	+0.6
AASM	**Arroyo Seco**	**1.46**	**321**		Pn	21 32 39.3	+0.1
PVCM	**Vineyard Canyo**	**1.47**	**199**		Pn	21 32 39.9	+0.5
LHV	**Little Huntoon**	**1.47**	**50**		Pn	21 32 40.0	+0.5
PSRM	**Scobie Ranch**	**1.47**	**191**		Pn	21 32 39.9	+0.3
HCOM	**Corn Cob Canyo**	**1.48**	**254**		Pn	21 32 39.8	+0.3
BSMM	**Soledad Missio**	**1.51**	**233**		Pn	21 32 40.3	+0.3
GHC	**Gold Hill**	**1.51**	**193**		Pn	21 32 39.9	-0.1
PMRM	**Maxey Ranch**	**1.54**	**189**		Pn	21 32 40.7	+0.3
PPO	**Portuguese Can**	**1.54**	**201**		Pn	21 32 40.9	+0.5
PSNM	**Stone Corral**	**1.54**	**191**		Pn	21 32 40.6	+0.1
PCMM	**Cholame Hills**	**1.55**	**194**		Pn	21 32 40.7	+0.2
CMJM	**Mission San Jo**	**1.56**	**278**		Pn	21 32 41.2	+0.5
PWKM	**Work Ranch**	**1.56**	**198**		Pn	21 32 40.9	+0.2
PCCM	**Crazy Canyon**	**1.57**	**219**		Pn	21 32 40.6	-0.1
PKLM	**Kerr Lake**	**1.57**	**192**		Pn	21 32 40.9	+0.1
CMOB	**Morgan Territo**	**1.57**	**289**		Pn	21 32 40.7	-0.1
JUMM	**Mount Umunhum**	**1.57**	**265**		Pn	21 32 41.0	0.0
HAST	**Hastings Reser**	**1.59**	**235**		Pn	21 32 41.2	+0.1

TSCN	Private Proper	1.79 191		Pn	21 32 44.7 +0.8
PNTR	Pine Nut	1.80 8		Pn	21 32 44.8 +0.7
JFP	Foothills Park	1.80 272		Pn	21 32 44.3 +0.3
NV11	Mina Array Sit	1.80 51		Pb	21 32 46.6 0.0
PAPM	Alder Peak	1.81 220		Pn	21 32 44.5 +0.4
AFDM	Forest Hills D	1.83 334		Pn	21 32 43.7 -0.7
TAHR	Tahoe	1.85 354		Pn	21 32 45.9 +1.1
BRIB	Briones	1.86 290		Pn	21 32 45.1 +0.3
BKS	Berkeley--Byer	1.92 288		Pn	21 32 45.5 0.0
BGH	Bear Gulch	1.92 272		Pn	21 32 45.8 +0.3
WASM	Alta Sierra Ca	1.92 144		Pn	21 32 47.2 +1.5
MPK	Martis Peak	1.99 358		Pn	21 32 48.1 +1.3
VCNR	Virginia City	2.00 6		Pn	21 32 48.2 +1.3
PTAM	Tassajara Cree	2.01 198		Pn	21 32 48.0 +1.0
ISA	Isabella, Lake	2.02 144		Pn	21 32 48.1 +1.1
WOFM	Oak Flat	2.02 151		Pn	21 32 48.0 +0.8
DONR	Donner Summit	2.06 352		Pn	21 32 48.5 +0.7
WCHM	Chimney Peak	2.06 133		Pb	21 32 50.0 -1.3
ABJM	Bob Jauregui R	2.10 332		Pn	21 32 47.7 -0.4
BCH	Branch Mountai	2.12 183		Pn	21 32 49.0 +0.5
IND	Independence	2.14 353		Pn	21 32 50.3 +1.4
DAC	Darwin (Calif)	2.14 118		Pn	21 32 49.2 +0.3
KBF	Kyburz Flat	2.21 354		Pn	21 32 50.7 +0.9
KVN	Kaiserville	2.26 39		Pn	21 32 50.8 +0.3
PEAR	Peavine Mounta	2.30 359		Pn	21 32 51.8 +0.8
ARVC	Arvin	2.35 157		Pn	21 32 51.2 -0.3
LOY	Loyalton	2.36 354		Pn	21 32 51.2 -0.6
OHCM	Honcut	2.36 329		Pn	21 32 51.3 -0.3
SUTB	Sutter Butte	2.41 323		Pn	21 32 52.8 +0.4
PKM	Mcpherson Peak	2.42 178		Pn	21 32 53.5 +0.8
PAHR	Pah Rah Range	2.43 10		Pn	21 32 53.3 +0.5
MCCM	Marconi Confer	2.48 291	Pn	Pn	21 32 53.2 -0.1
ORV	Oroville	2.56 332		Pn	21 32 54.7 +0.3
ORV	Oroville	2.56 332	Pn	Pn	21 32 54.9 +0.5
BEKR	Beckworth	2.58 353		Pn	21 32 55.4 +0.6
TPNV	Topopah Spring	2.97 96		Pn	21 33 01.5 +1.4
GSC	Goldstone, Bar	3.22 127	Pn	Pn	21 33 04.3 +0.7
GSC				Pb	21 33 10.7 -0.2
KCPM	Cahto Peak	3.72 311	Pn	Pn	21 33 11.0 +0.5
WDC	Whiskeytown Da	3.85 329	Pn	Pn	21 33 13.4 +1.3
KMRM	Mail Ridge	4.14 316	Pn	Pn	21 33 14.0 -2.2

UCR 01 21:58:54.6±0.6, 9°32N×84°23W, h2km±4km, MW3.2, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.37	100	eP	Pb	21 59 02.9	-1.0
EDDO				eS	Sb	21 59 08.9	-1.2
EDDO	Dominical	0.37	100	eP	Pb	21 59 02.9	-0.9
EDDO				eS	Sb	21 59 09.1	-0.9
LCR2	La Lucha 2	0.48	28	eP	Pb	21 59 05.4	-0.6
LCR2	La Lucha 2	0.48	28	eP	Pb	21 59 05.4	-0.6
LCR2				eS	Sb	21 59 13.5	-0.1
EDLM	Las Mercedes	0.64	93	eP	Pn	21 59 16.8	+6.1
EDLM	Las Mercedes	0.64	93	eP	Pb	21 59 07.7	-0.8
HDC	Heredia	0.69	10	eP	Pb	21 59 08.8	-0.7
HDC	Heredia	0.69	10	eP	Pg	21 59 06.4	-1.5
CVTR	Volcan Turrial	0.84	34	eP	Pg	21 59 11.3	+0.6
CVTR	Volcan Turrial	0.84	34	eP	Pg	21 59 11.3	+0.5
JTS	Las Juntas de	1.20	324	eP	Pg	21 59 16.7	-1.0
JTS	Las Juntas de	1.20	324	eP	Pg	21 59 16.7	-0.9
JTS				eS	Sg	21 59 33.6	+0.4
ARE1	Arenal 1	1.23	337	eP	Pb	21 59 18.7	0.0
ARE1	Arenal 1	1.23	337	eP	Pg	21 59 18.3	0.0
ARE1				eS	Sn	21 59 38.6	+2.4
PLVR	Palo Verde	1.51	313	eP	Pn	21 59 21.4	-1.4
PLVR	Palo Verde	1.51	313	eP	Pn	21 59 20.5	-2.2
PLVR				eS	Sb	21 59 42.9	-0.2
CUI	Cuipilapa	1.62	326	eS	Sg	21 59 46.7	0.0
CUI	Cuipilapa	1.62	326	eP	Pn	21 59 23.9	-0.3

*ISCJB **01** 22:08:30.4±0.8, 9°32N±0°04×84°25W±0°04, h11km±4km, Error ellipse: s-maj=8.0km s-min=3.2km az=44.6*
*UCR **01** 22:08:30.8±1.1, 9°30N×84°22W, h20km, MW4.0, Fault plane solution: NP1:φ=157.84000°, δ=70.00000°, λ=90.00000°.*
*UPA **01** 22:08:31.7±1.7, 9°44N×84°19W, h10km±10km, MW4.1*
ISC 01 22:08:29.5±1.5, 9°37N±0°04×84°21W±0°04, h2km±12km, n37, σ1§=06/54, 2C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.36	109	eP	Pg	22 08 37.9	+1.4
EDDO				eS	Sb	22 08 44.2	-0.6
LCR2	La Lucha 2	0.42	29	eP	Pb	22 08 40.4	+0.5
LCR2				eS	Sb	22 08 48.4	+1.6
SJS	Escuela Geolog	0.59	15	eP	Pb	22 08 42.9	+0.3
SJS				eS	Sn	22 08 53.0	-2.3
EDLM	Las Mercedes	0.62	98	eP	Pg	22 08 42.2	+0.8
EDLM				eS	Sb	22 08 51.5	-0.9
HDC	Heredia	0.63	9	eP	Pb	22 08 43.8	+0.4
HDC	Heredia	0.63	9	iP	Pb	22 08 43.9	+0.4
HDC				eS	Sb	22 08 52.7	-0.2
SRA1	San Ramn	0.76	340	eP	Pb	22 08 45.5	-0.1
EDPN	Palmar Norte	0.85	119	eP	Pg	22 08 45.7	-0.1
EDBA	Buenos Aires	0.95	102	eP	Pg	22 08 47.2	-0.5
EDBA				eS	Sb	22 09 01.4	-0.3
JTS	Las Juntas de	1.17	321	eP	Pg	22 08 51.6	-0.5
JTS				eS	Sb	22 09 08.4	+0.3
JTS	Las Juntas de	1.17	321	eP	Pg	22 08 51.7	-0.3
JTS				eS	Sb	22 09 08.0	-0.2
CEDE	Laguna Cedeo	1.21	336	eP	Pn	22 08 53.8	+0.2
PTJ1	Puerto Jimnez	1.22	133	eP	Pg	22 08 53.3	+0.3
PTJ1	Puerto Jimnez	1.22	133	eP	Pg	22 08 53.4	+0.4
PTJ1				eS	Sn	22 09 11.9	+1.2
EDSV	San Vito	1.34	114	eP	Pg	22 08 53.8	-1.4
CUI	Cuipilapa	1.59	324	eP	Pn	22 08 58.6	-0.2
BRU2	Volcan	1.61	111	eP	Pn	22 08 58.4	-0.7
BRU2	Volcan	1.61	111	eP	Pn	22 08 58.4	-0.7
BRU2				eS	Sn	22 09 20.4	-0.1
LESP3	La Esperanza,	1.70	124	eS	Sn	22 09 23.4	+0.9
BCO2	Palmira	1.78	111	eP	Pn	22 09 01.5	-0.1
BCO2				eS	Sn	22 09 25.3	+0.4
BUEV	Buena Vista	1.84	320	eP	Pn	22 09 02.7	+0.4
GB1A	Boringuen Arri	1.85	321	eP	Pn	22 09 03.1	+0.6
BAGA3	Bagala, Chiriq	1.89	118	eS	Sb	22 09 29.1	+0.3
DVD	David	1.97	118	eP	Pb	22 09 05.8	-0.4
DVD				eS	Sn	22 09 30.0	+0.7
LOCO3	Loma Colorada,	2.01	118	eP	Pn	22 09 06.0	+1.5
LOCO3				eS	Sn	22 09 30.3	+0.1
PEDE3	Pedregal, Chir	2.02	119	eS	Sn	22 09 28.9	-1.6
LOMA3	Las Lomas, Chi	2.03	117	eS	Sn	22 09 30.8	+0.2
CHGR2	Aguacate	2.08	102	eP	Pn	22 09 05.3	-0.2
CHGR2				eS	Sn	22 09 32.3	+0.1
CHIR3	Chiriqui UPA,	2.10	117	eP	Pb	22 09 08.9	+0.6
NANC3	Nancito, Chiri	2.69	114	eS	Sn	22 09 48.4	+1.2
ACON	Acoyapa	2.75	340	eP	Pb	22 09 15.4	+0.7
ESPN	Las Esperanzas	2.81	358	eP	Pn	22 09 16.1	+0.6
GMAL	Guarumal, Vera	3.35	118	eP	Pn	22 09 25.0	+2.0
GMAL				eS	Sn	22 10 03.1	-0.3
CACAO	El Cacao, Vera	3.88	121	eP	Pb	22 09 35.0	-3.7
CACAO				eS	Sn	22 10 18.4	+2.1
AZU	Azuero	4.20	112	eP	Pn	22 09 36.4	+1.8
BCIP	Isla Barro Col	4.32	92	eP	Pn	22 09 36.5	+0.2
BCIP	Isla Barro Col	4.32	92	eP	Pn	22 09 36.4	0.0
BCIP				eS	Sn	22 10 25.6	-1.7

*WEL **01** 22:34:56.5±0.8, 34°S±5°×17°9E±°, h166km±20km, M4.8/20, mB5.6/1, MLv4.8/20, Mw(mB)5.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2*
*IDC **01** 22:34:57.4±3.2, 34°65S×179°19E, h249km±22km, mb3.7/2, mb1 4.0/5, mb1mx3.5/23, mbtmp4.5/5, Error ellipse: s-maj=44.0km s-min=30.4km az=80.0*
ISC 01 22:34:57.1±1.5, 34°63S±0°08×179°3E±0°1, h250km, n72, σ1§=73/80, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.02	194	P	Pn	22 35 51.6	+1.8
MXZ				S	S	22 36 32.6	+1.1
WMGZ	Waiomatatini S	3.25	192	P	Pn	22 35 54.2	+2.0
WMGZ				S	S	22 36 36.3	+0.3
WSRZ	White Island S	3.33	210	S	S	22 36 39.8	+2.1
HAZ	Te Kaha	3.34	200	P	Pn	22 35 55.5	+2.3
HAZ				S	S	22 36 38.7	+1.0
WIZ	White Island	3.34	209	P	Pn	22 35 55.5	+2.3
GRZ	Great Barrier	3.49	241	P	Pn	22 35 55.0	0.0
PUZ	Puketiti	3.53	193	P	Pn	22 35 57.6	+2.2
PUZ				S	S	22 36 42.6	+1.0
RUGZ	Raukumara Rang	3.56	200	P	Pn	22 35 58.2	+2.3
RUGZ				S	S	22 36 40.8	-1.8
KUZ	Kuaotunu	3.56	233	P	Pn	22 35 56.9	+1.2
MYRZ	Mayor Island	3.60	222	P	Pn	22 35 59.1	+2.9
WHRZ	Whale Island	3.71	209	P	Pn	22 35 60.0	+2.6
WHRZ				S	S	22 36 48.6	+3.2
MWZ	Matawai	3.95	200	P	Pn	22 36 01.7	+1.5
MWZ				S	S	22 36 51.0	+0.5
URZ	Urewera	4.01	205	P	Pn	22 36 01.7	+0.9
	28nm,0.3s,baz=272,slow=4.1,SNR=193						
URZ				S	S	22 36 51.6	-0.1
	26nm,0.3s,baz=87,slow=2.0,SNR=4.6						
URZ	Urewera	4.01	205	P	Pn	22 36 01.8	+0.9
WCZ	Waipu Caves	4.22	251	P	Pn	22 36 03.6	+0.2
TOZ	Tahuroa Road	4.33	223	P	Pn	22 36 07.2	+2.5
RTZ	Ruatahuna	4.38	204	P	Pn	22 36 06.1	+0.7
KNZ	Kokohu	4.56	196	P	Pn	22 36 07.5	+0.1
OUZ	Omahuta	4.68	261	P	Pn	22 36 08.1	-0.8
TLZ	Tolley Road	4.75	218	P	Pn	22 36 12.4	+2.6
BKZ	Black Stump Fm	5.04	205	P	Pn	22 36 14.1	+0.8
BKZ				S	S	22 37 12.3	-1.8
HIZ	Hauiti	5.25	221	P	Pn	22 36 18.8	+3.0
NGZ	Ngauruhoe	5.40	212	P	Pn	22 36 18.6	+0.8
DRZ	Dome Shelter	5.50	211	P	Pn	22 36 20.6	+1.4
TRVZ	Turoa	5.52	211	P	Pn	22 36 20.0	+0.6
MOVZ	Moawhango	5.53	209	P	Pn	22 36 19.0	-0.3
PKVZ	Pokaka	5.60	213	P	Pn	22 36 20.9	+0.6
PXZ	Pawanui	5.72	199	P	Pn	22 36 21.2	-0.4
VRZ	Vera Road	5.75	217	P	Pn	22 36 24.8	+2.8
PNHZ	Pukenui	5.81	204	P	Pn	22 36 21.8	-1.0
WPHZ	Waipukurau	5.87	202	P	Pn	22 36 24.3	+0.8
GLKZ	Green Lake	5.87	25	P	Pn	22 36 15.8	-7.9
GLKZ				S	S	22 37 17.8	-15
RIZ	Raoul Island	5.88	25	S	S	22 37 19.7	-13
PRHZ	Porangahau	6.00	200	P	Pn	22 36 24.9	-0.2
TSZ	Takapari Road	6.02	205	P	Pn	22 36 24.2	-1.2
WAZ	Wanganui	6.14	212	P	Pn	22 36 26.4	-0.5
DVHZ	Dannevirke	6.17	203	P	Pn	22 36 26.3	-0.9
LREZ	Lake Rotokare	6.18	217	P	Pn	22 36 30.3	+2.8
ANWZ	Angora Road	6.22	200	P	Pn	22 36 28.5	+0.6
KHEZ	Kahui Hut	6.26	220	P	Pn	22 36 31.6	+3.1
POWZ	Post Office Ro	6.38	205	P	Pn	22 36 27.4	-2.5
PRWZ	Pori Road	6.46	203	P	Pn	22 36 30.7	-0.2
BFZ	Birch Farm	6.49	201	P	Pn	22 36 29.8	-1.5
MRZ	Mangatainoka R	6.69	205	P	Pn	22 36 31.9	-1.8
TIWZ	Tintock	6.69	202	P	Pn	22 36 33.2	-0.5
CPWZ	Castlepoint	6.72	200	P	Pn	22 36 34.2	+0.1
HOWZ	Holdsworth Sta	6.92	204	P	Pn	22 36 34.6	-2.0
OGWZ	Otaki Gorge	6.97	206	P	Pn	22 36 35.5	-1.8
TMWZ	Te Maipa	6.99	201	P	Pn	22 36 35.9	-1.7
KIW	Kapiti Island	7.11	208	P	Pn	22 36 37.1	-1.9
MTW	Mount Morrison	7.16	203	P	Pn	22 36 38.3	-1.4
CAW	Cannon Point	7.26	206	P	Pn	22 36 38.8	-2.1
TRWZ	Traveller	7.32	202	P	Pn	22 36 39.8	-1.9
PAWZ	Paruwai Farm	7.38	203	P	Pn	22 36 40.7	-1.9
DUWZ	D'Urville Isla	7.47	213	P	Pn	22 36 41.5	-2.0
MSWZ	Moikau Station	7.47	204	P	Pn	22 36 41.8	-1.8
BHW	Baring Head	7.60	206	P	Pn	22 36 42.7	-2.4
PLWZ	Palliser	7.61	203	P	Pn	22 36 43.2	-2.2
TCW	Tory Channel	7.65	209	P	Pn	22 36 43.6	-2.2
TUWZ	Tuamarina	7.97	210	P	Pn	22 36 47.7	-2.2
NNZ	Nelson	8.04	213	P	Pn	22 36 48.6	-2.3
CMWZ	Cape Campbell	8.14	208	P	Pn	22 36 51.7	-0.3
QRZ	Quartz Range	8.16	219	P	Pn	22 36 50.5	-1.8
BSWZ	Blackbirch Sta	8.24	209	P	Pn	22 36 51.9	-1.4
THZ	Tophouse	8.69	213	P	Pn	22 36 57.2	-2.0
KHZ	Kahutara	8.97	208	P	Pn	22 37 00.4	-2.0
DSZ	Denniston Nort	9.21	217	P	Pn	22 37 02.7	-2.9
RPZ	Rata Peaks	11.07	213	P	Pn	22 37 26.9	-2.1
	3.9nm,0.3s,baz=266,slow=2.7,SNR=16						
RPZ				S	S	22 39 22.9	-10
	4.3nm,0.3s,baz=52,slow=13,SNR=12						
DZM	Mont Dzumac	16.82	315	P	P	22 38 36.6	-0.5
	0.9nm,0.3s,baz=206,slow=8.3,SNR=7.0						
ASAR	Alice Springs	40.78	273	P	P	22 42 15.2	+0.8
	2.3nm,0.5s,baz=113,slow=7.9,SNR=50						
ASAR				ScP	ScP	22 47 35.9	+0.1
	0.3nm,0.7s,baz=120,slow=3.7,SNR=3.9						
WRA	Warramunga Arr	42.17	278	P	P	22 42 24.8	-0.8
	2.1nm,0.5s,baz=120,slow=7.5,SNR=11						
FINES	FINESS Array B	148.18	336	PKPbc	PKPbc	22 54 12.4	-0.2
	2.6nm,0.9s,baz=20,slow=4.4,SNR=5.5						

*ISCJB **01** 22:43:26.6±0.1, 18°54S±0°03×176°62W±0°03, h300km, mb4.8/65, Error ellipse: s-maj=4.5km s-min=2.8km az=138.5*
*NEIC **01** 22:43:27.9±1.3, 18°51S±0°08×176°60W±0°09, h303km±5km, mb4.7/216*
*MOS **01** 22:43:27.2±1.9, 18°32S×176°66W, h291km, mb5.0/11, Error ellipse: s-maj=9.0km s-min=8.2km az=67.9*
*BJI **01** 22:43:28.7±0.0, 18°26S×176°58W, h316km, mb4.7/26, mB5.1/19*
*IDC **01** 22:43:29.2±1.6, 18°60S×176°61W, h314km±15km, mb4.3/19, mb1 4.4/21, mb1mx4.4/27, mbtmp5.0/21, Error ellipse: s-maj=11.4km s-min=9.6km az=129.0*
ISC 01 22:43:27.7±0.2, 18°50S±0°05×176°62W±0°05, h300km, n732, σ0§=91/737, mb4.7/149, 64C-65D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.37	96	P	Pn	22 45 02.7	+1.3
	baz=6.2,SNR=15						
NIUE	Niue	6.37	96		Pn	22 45 01.2	-0.1
AFI	Afiamalu	6.51	46	P	Pn	22 45 02.8	-0.5
AFI	Afiamalu	6.51	46		Pn	22 45 02.8	-0.5
FUNA	Funafuti	10.71	337	Pn	Pn	22 45 55.3	+0.6
RAR	Rarotonga	16.08	102	P	P	22 46 56.6	0.0
RAR				pmax	pmax		
	comp=Z,154nm,1.4s						
RAR	Rarotonga	16.08	102	P	P	22 46 57.6	+1.0
	comp=Z,1.0nm,0.3s,baz=261,slow=2.5,SNR=4.4						
RAR	Rarotonga	16.08	102	P	P	22 46 56.6	0.0
DZM	Mont Dzumac	16.28	255	eP	Pn	22 47 01.8	+0.6
	comp=Z,388nm,1.6s						
DZM	Mont Dzumac	16.28	255	P	P	22 46 59.3	+0.4
	comp=Z,0.4nm,0.3s,baz=84,slow=18,SNR=4.7						
DZM	Mont Dzumac	16.28	255	P	P	22 47 00.2	+1.3
KNTN	Kanton	16.35	18	P	P	22 46 59.5	-0.1
OUZ	Omahuta	18.78	206	P	P	22 47 25.5	-0.1
OUZ				IAmb	IAmb	22 47 31.4	
	comp=Z,31nm,1.2s						
MXZ	Matakaoa Point	19.51	192	P	P	22 47 33.9	+0.6
URZ	Urewera	20.44	194	P	P	22 47 41.5	-1.4
	comp=Z,11nm,0.3s,baz=254,slow=3.5,SNR=22						
URZ				S	S	22 51 10.5	-2.5
	comp=Z,4.6nm,0.3s,baz=188,slow=21,SNR=7.1						
URZ	Urewera	20.44	194	P	P	22 47 41.8	-1.1
URZ				IAmb	IAmb	22 47 51.6	
	comp=Z,21nm,0.9s						
HIZ	Hauiti	21.28	199	P	P	22 47 51.4	+0.4
HIZ				IAmb	IAmb	22 47 59.6	
	comp=Z,89nm,1.1s						
BKZ	Black Stump Fm	21.45	195	P	P	22 47 51.0	-1.6
BKZ				IAmb	IAmb	22 48 08.8	
	comp=Z,32nm,1.3s						
BKZ					PcP	22 51 45.2	+1.7
BFZ	Birch Farm	22.95	194	P	P	22 48 04.9	-1.2
BFZ				IAmb	IAmb	22 48 13.7	
	comp=Z,26nm,1.2s						
MSWZ	Moikau Station	23.88	195	P	P	22 48 13.9	-0.8
SNZO	South Karori	23.92	196	P	P	22 48 13.1	-1.9
BHW	Baring Head	23.97	196	P	P	22 48 12.7	-2.7
PLWZ	Palliser	24.02	195	P	P	22 48 14.9	-1.0
QRZ	Quartz Range	24.13	200	P	P	22 48 16.3	-0.6
QRZ				IAmb	IAmb	22 48 32.7	
	comp=Z,72nm,1.3s						
NNZ	Nelson	24.21	199	P	P	22 48 17.9	+0.3
NNZ				IAmb	IAmb	22 48 30.7	
	comp=Z,34nm,1.0s						
TUWZ	Tuamarina	24.24	197	P	P	22 48 16.7	-1.2
HNR	Honiara	24.44	288	P	P	22 48 19.9	-0.1
	comp=Z,58nm,0.4s,baz=220,slow=6.2,SNR=6.0						
BSWZ	Blackbirch Sta	24.52	197	P	P	22 48 20.6	+0.1
THZ	Tophouse	24.86	199	P	P	22 48 23.6	+0.1
THZ				IAmb	IAmb	22 48 31.7	
	comp=Z,37nm,1.5s						
KHZ	Kahutara	25.27	197	P	P	22 48 26.9	-0.2
LHI	Lord Howe Isla	25.50	235	P	P	22 48 31.2	+1.9
	baz=26,SNR=5.2						
LHI	Lord Howe Isla	25.50	235	P	P	22 48 28.8	-0.5
PAE	Paea	25.71	92	eP	P	22 48 31.2	-0.1
	comp=Z,12nm,0.9s						
PPT2	Papeete2	25.72	92	eP	P	22 48 31.6	+0.1
	comp=Z,63nm,0.9s						
PPT	Papeete	25.72	92	P	P	22 48 31.1	-0.4
PPT	Papeete	25.72	92	P	P	22 48 30.8	-0.7
	comp=Z,81nm,0.8s,baz=270,slow=5.0,SNR=7.1						
PPT	Papeete	25.72	92	P	P	22 48 31.1	-0.4
PPTF	Pamatai, Papee	25.73	92	P	P	22 48 30.9	-0.7
TIAR	Tiarei	25.94	92	eP	P	22 48 33.7	+0.2
	comp=Z,15nm,0.8s						
LTZ	Lake Taylor	25.98	199	P	P	22 48 31.5	-2.0
LTZ				IAmb	IAmb	22 48 38.6	
	comp=Z,21nm,0.9s						
TVO	Taravao	26.01	93	eP	P	22 48 34.0	-0.1
	comp=Z,30nm,1.2s						
OXZ	Oxford	26.54	199	P	P	22 48 37.5	-1.0
OXZ				IAmb	IAmb	22 48 47.1	
	comp=Z,23nm,0.9s						
MQZ	McQueen's Vall	26.71	197	P	P	22 48 40.2	+0.4
RPZ	Rata Peaks	27.20	200	P	P	22 48 45.0	+0.7
RPZ				IAmb	IAmb	22 49 02.7	
	comp=Z,39nm,1.5s						
XMAS	Kiritimati	27.80	45	P	P	22 48 50.0	+0.1
VAH	Vaihoa	27.92	88	eP	P	22 48 50.7	-0.3
	comp=Z,62nm,0.9s						
ODZ	Otahua Downs	28.52	199	P	P	22 48 55.8	-0.2
ODZ				IAmb	IAmb	22 48 57.2	
	comp=Z,25nm,1.4s						
WKZ	Wanaka	28.87	201	P	P	22 48 57.5	-1.6
WKZ				IAmb	IAmb	22 49 13.0	
	comp=Z,58nm,1.4s						
MLZ	Mavora Lakes	29.65	202	P	P	22 49 05.3	-0.6
MLZ				IAmb	IAmb	22 49 21.3	
	comp=Z,41nm,1.4s						
DCZ	Deep Cove	30.09	203	P	P	22 49 09.9	+0.2
DCZ				IAmb	IAmb	22 49 18.9	
	comp=Z,57nm,1.4s						
EIDS	Eidsvold	30.68	251	P	P	22 49 16.4	+1.2
	baz=31,SNR=10						
ARMA	Armidale	31.14	242	P	P	22 49 21.4	+2.2
	baz=31,SNR=78						
ARMA	Armidale	31.14	242	P	P	22 49 21.0	+1.7
MGCD	Mangrove Creek	32.37	237	P	P	22 49 31.8	+1.9
	baz=33,SNR=6.9						
RMQ	Roma	32.88	250	P	P	22 49 36.4	+2.0
	baz=33,SNR=29						
CNB	Canberra Magne	34.44	234	P	P	22 49 49.3	+1.6
	baz=35,SNR=18						
CAN	Canberra	34.72	234	IAmb	IAmb	22 49 52.2	
	comp=Z,32nm,0.9s						
CTA	Charters Tower	35.03	261	P	P	22 49 53.8	+0.9
	comp=Z,105nm,0.9s,baz=98,slow=12,SNR=14						
CTAO	Charters Tower	35.03	261	P	P	22 49 53.7	+0.9
CTAO				pmax	pmax		
	comp=Z,110nm,0.9s						
CTAO	Charters Tower	35.03	261	P	P	22 49 53.7	+0.9
PMG	Port Moresby	36.23	279	*d iP*	P	22 50 04.1	+1.1
PMG				pmax	pmax		
	comp=Z,671nm,1.0s						
PMG	Port Moresby	36.23	279	P	P	22 50 04.5	+1.5
CMSA	Cobar Meteorol	36.36	242	P	P	22 50 05.1	+1.2
	baz=36,SNR=55						
QLP	Quilpie	36.93	250	P	P	22 50 09.6	+0.9
	baz=37,SNR=24						
MTSU	Mount Surprise	37.04	264	P	P	22 50 10.5	+0.7
	baz=37,SNR=16						
TOO	Toolangi	38.14	232	P	P	22 50 19.5	+0.8
	baz=38,SNR=23						
TOO	Toolangi	38.14	232	IAmb	IAmb	22 50 22.9	
	comp=Z,37nm,0.8s						
COEN	Coen	38.81	271	P	P	22 50 25.5	+0.9
	baz=39,SNR=20						
COEN	Coen	38.81	271	IAmb	IAmb	22 50 27.3	
	comp=Z,41nm,1.1s						
TAU	Tasmania Unive	38.96	223	P	P	22 50 25.1	-0.3
TAU				pmax	pmax		
	comp=Z,44nm,1.5s						
TAU	Tasmania Unive	38.96	223	P	P	22 50 25.1	-0.3
TAU				IAmb	IAmb	22 50 40.9	
	comp=Z,44nm,1.4s						
STKA	Stephens Creek	39.85	242	P	P	22 50 34.2	+1.3
	baz=40,SNR=34						
STKA	Stephens Creek	39.85	242	P	P	22 50 34.2	+1.3
	comp=Z,27nm,0.6s,baz=91,slow=9.7,SNR=110						
ARPS	Mount Arapiles	40.69	235	P	P	22 50 40.3	+0.7
	baz=41,SNR=9.9						
WAKE	Wake Island	40.98	336	P	P	22 50 42.9	+0.9
WAKE				IAmb	IAmb	22 50 43.2	
	comp=Z,76nm,0.8s						
QIS	Mount Isa	41.22	260	P	P	22 50 44.4	+0.2
	baz=41,SNR=6.4						
HTT	Hallett	42.33	240	P	P	22 50 53.9	+0.9

comp=Z,28nm,0.8s
KLBR Kellerberrin 60.09 244 P P 22 53 03.8 -0.3
baz=60,SNR=18
NWAO Narrogin (SRO) 60.44 242 P P 22 53 06.8 +0.4
NWAO pmax pmax
comp=Z,21nm,1.0s
NWAO Narrogin (SRO) 60.44 242 P P 22 53 06.8 +0.4
NWAO IAmb IAmb 22 53 06.9
comp=Z,21nm,1.0s
MORW Morawa 61.80 246 P P 22 53 15.2 -0.4
baz=62,SNR=3.4
MORW Morawa 61.80 246 P P 22 53 15.4 -0.2
MORW IAmb IAmb 22 53 15.8
comp=Z,14nm,0.9s
KCP Kidapawan 62.81 288⇓ *i* P P 22 53 22.3 -0.2
GIRL Giralia 64.36 253 P P 22 53 33.5 +1.1
baz=64,SNR=3.8
GIRL Giralia 64.36 253 P P 22 53 33.4 +1.0
CASY Casey 66.32 205 P P 22 53 44.0 -0.1
CASY IAmb IAmb 22 53 45.5
comp=Z,17nm,0.8s
GMJI Gumukmas 68.45 268 P P 22 53 57.8 -0.5
INU Inuyama 69.29 321 P P 22 54 02.5 -0.4
INU IAmb IAmb 22 54 07.5
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 69.40 322 P P 22 54 03.4 -0.2
MJAR pmax pmax
comp=Z,14nm,0.7s
MJAR Matsushiro Arr 69.40 322 P P 22 54 03.5 -0.1
comp=Z,47nm,0.8s,baz=158,slow=6.3,SNR=125
MJAR Matsushiro Arr 69.40 322 P P 22 54 03.4 -0.2
MAJO Matsushiro 69.40 322 *d* *i* P P 22 54 03.6 0.0
MAJO pmax pmax
comp=Z,53nm,0.9s
MAJO Matsushiro 69.40 322 P P 22 54 03.8 +0.1
MAT Matsushiro 69.40 322 P P 22 54 03.7 +0.1
ADK Adak 70.08 360 P P 22 54 06.1 -1.2
ADK pmax pmax
comp=Z,159nm,1.5s
ADK Adak 70.08 360 P P 22 54 06.1 -1.2
ERM Erimo 70.75 329 P P 22 54 12.8 +1.2
ERM pmax pmax
comp=Z,34nm,1.2s
ERM Erimo 70.75 329 P P 22 54 12.8 +1.2
ERM IAmb IAmb 22 54 14.5
comp=Z,34nm,1.2s
QSPA South Pole Qui 71.56 180 P P 22 54 17.6 +1.2
JNU Nakatsue 71.74 315 IAmb IAmb 22 54 19.5
comp=Z,31nm,1.2s
UNV Unalaska Valle 72.57 6 P P 22 54 21.7 -0.4
YOJ Yonaguni jima 72.68 304 P P 22 54 23.3 -0.2
YOJ pmax pmax
comp=Z,377nm,1.5s
YOJ Yonaguni jima 72.68 304 P P 22 54 23.3 -0.2
SBUM Sibu 72.98 279 IAmb IAmb 22 54 27.2
comp=Z,9.6nm,0.8s
YULB Yu-li 73.52 302 P P 22 54 27.9 -0.5
YULB IAmb IAmb 22 54 28.0
comp=Z,7.6nm,0.7s
SSLB Suanglung 73.98 302 P P 22 54 29.9 -1.2
SSLB IAmb IAmb 22 54 31.5
comp=Z,21nm,1.0s
TPUB Ta-pu 74.01 302 P P 22 54 30.3 -1.0
YHNB Yeheng 74.08 303 P P 22 54 31.5 -0.1
YHNB IAmb IAmb 22 54 45.3
comp=Z,15nm,0.9s
PET Petropavlovsk 74.37 345⇓ *e* P P 22 54 31.2 -1.4
PET pmax pmax
comp=Z,25nm,1.0s
PEA0B Petropavlovsk- 74.69 344 IAmb IAmb 22 54 35.6
comp=Z,27nm,0.8s
PETK Petropavlovsk- 74.69 344 P P 22 54 34.5 +0.1
PETK Petropavlovsk- 74.69 344 P P 22 54 34.6 +0.2
comp=Z,18nm,0.7s,baz=103,slow=8.3,SNR=38
YSS Yuzh-Sakhalins 74.71 332‖ *e* P P 22 54 36.1 +1.4
YSS pmax pmax
comp=Z,50nm,1.0s
SDPT Sand Point 74.82 9 P P 22 54 34.8 -0.3
SNCC San Nicolas Is 74.93 47 P P 22 54 34.9 -1.4
SNCC IAmb IAmb 22 54 54.4
comp=Z,19nm,0.9s
XMIS Christmas Isla 75.21 264 P P 22 54 37.0 -1.3
SCZ2 Santa Cruz Isl 75.28 46 P P 22 54 39.5 +1.2
baz=235
SCI2 San Clemente I 75.46 47 P P 22 54 40.5 +1.2
baz=236
PKM Mcpherson Peak 75.67 45 P P 22 54 41.9 +1.3
baz=235
HOPS Hopland Field 76.01 40 P P 22 54 41.7 -0.5
HOPS IAmb IAmb 22 54 43.9
comp=Z,16nm,1.1s
CHGN Chignik 76.07 10 P P 22 54 42.0 -0.1
CHGN IAmb IAmb 22 54 53.1
comp=Z,44nm,1.5s
CHIR Chirikof Islan 76.13 12 P P 22 54 42.9 +0.4
KSRS Korea Array 76.28 318 P P 22 54 44.8 +1.1
comp=Z,6.9nm,0.8s,baz=134,slow=6.7,SNR=25
KSAR Wonju Array Be 76.29 318 P P 22 54 44.7 +0.9
KSAR Wonju Array Be 76.29 318 P P 22 54 44.7 +0.9
KMRM Mail Ridge 76.39 39 P P 22 54 45.0 +0.6
KMRM IAmb IAmb 22 54 46.9
comp=Z,23nm,0.8s
BFSC Mount Baldy Ra 76.78 47 P P 22 54 47.8 +1.0
baz=236
EDW2 Edwards Air Fo 76.90 46 P P 22 54 48.4 +1.0
baz=236,SNR=14
O02D Mt. Diablo Mer 76.91 39 P P 22 54 49.0 +1.6
baz=232
MONP2 Monument Peak 76.92 49 P P 22 54 48.8 +1.1
baz=238,SNR=5.7
ISA Isabella, Lake 77.01 45 P P 22 54 49.0 +1.0
baz=236,SNR=8.1
IKP In-Ko-Pah, Jac 77.01 49 P P 22 54 49.1 +1.1
baz=238
CMB Columbia Colle 77.11 42 P P 22 54 48.5 0.0
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 77.11 42 P P 22 54 48.5 0.0
PFO Pinyon Flats O 77.27 48 P P 22 54 50.4 +0.9
baz=237
PFO Pinyon Flats O 77.27 48 *i* P P 22 54 51.1 +1.5
PFO Pinyon Flats O 77.27 48 P P 22 54 49.8 +0.2
AFDM Forest Hills D 77.28 41 P P 22 54 49.6 +0.2
WDC Whiskeytown Da 77.31 39 P P 22 54 50.3 +0.9
WDC pmax pmax
comp=Z,11nm,1.4s
WDC Whiskeytown Da 77.31 39 P P 22 54 50.3 +0.9
ORV Oroville 77.32 41 P P 22 54 49.7 +0.2
ORV pmax pmax
comp=Z,10.0nm,1.5s
ORV Oroville 77.32 41 P P 22 54 49.7 +0.2
KBO Bosley Butte 77.34 37 P P 22 54 50.3 +0.6
SWSC Sam W. Stewart 77.39 49 P P 22 54 50.8 +0.8
baz=238
VLA Vladivostok 77.42 324⇓ *e* P P 22 54 49.6 -0.3
VLA pmax pmax
comp=Z,11nm,0.6s
LRMC Laurel Mtn Rad 77.44 46 P P 22 54 51.3 +0.9
baz=236,SNR=6.1
N02D Trinity Center 77.45 39 P P 22 54 51.8 +1.5
baz=232
O03E Paynes Creek 77.58 40 P P 22 54 51.9 +0.8
baz=232
M02C Callahan 77.62 38 P P 22 54 52.7 +1.5
baz=232
KEBM Edson Butte 77.70 37 P P 22 54 52.6 +1.0
KEBM IAmb IAmb 22 55 09.1
comp=Z,29nm,1.1s
CWC Cottonwood Cre 77.71 45 P P 22 54 52.9 +0.9
baz=236
MDPB Devils Postpil 77.72 43 P P 22 54 52.4 +0.3
MDPB IAmb IAmb 22 54 54.1
comp=Z,8.5nm,1.0s
OMMB Old Mammoth Mi 77.76 43 P P 22 54 52.2 -0.2
TYV Tymovskoe 77.77 335 *e* P P 22 54 51.5 -0.2
TYV pmax pmax
comp=Z,33nm,1.4s
TYV pmax pmax
comp=Z,600nm,6.8s
BELC Belle Mtn. Jos 77.81 48 P P 22 54 53.6 +1.1
baz=238,SNR=8.2
MLAC Mammoth, Mammo 77.88 43 P P 22 54 54.1 +1.2
baz=235
MPMC Manual Prospec 77.89 45 P P 22 54 53.9 +0.8
baz=236,SNR=13

YBH Yreka Blue Hor 77.92 38 P P 22 54 53.5 +0.6
YBH pmax pmax
comp=Z,7.0nm,1.3s
YBH Yreka Blue Hor 77.92 38 P P 22 54 53.5 +0.6
DAC Darwin (Calif) 77.94 45 P P 22 54 52.9 -0.4
DAC pmax pmax
comp=Z,3.0nm,1.0s
DAC Darwin (Calif) 77.94 45 P P 22 54 52.9 -0.4
GSC Goldstone, Bar 77.94 46 P P 22 54 54.1 +0.9
baz=237,SNR=6.2
WAKR Walker 77.99 42 P P 22 54 53.2 -0.3
BC3 Big Chuckawall 78.01 48 P P 22 54 54.4 +0.8
baz=238
HEC Hector,Ludlow 78.01 47 P P 22 54 54.5 +1.0
baz=237
USA0B Ussuriysk Arra 78.06 325 P P 22 54 54.8 +1.3
USA0B pmax pmax
comp=Z,25nm,1.2s
USA0B Ussuriysk Arra 78.06 325 P P 22 54 54.9 +1.3
USA0B IAmb IAmb 22 54 55.9
comp=Z,25nm,1.1s
USRK Ussuriysk Ar. 78.06 325 P P 22 54 54.3 +0.8
USRK Ussuriysk Ar. 78.06 325 P P 22 54 55.0 +1.5
comp=Z,5.6nm,0.8s,baz=143,slow=4.5,SNR=16
USRK Ussuriysk Ar. 78.06 325 P P 22 54 54.3 +0.8
J01E Myrtle Point 78.11 36 P P 22 54 54.9 +1.1
baz=230
GLA Glamis 78.14 49 P P 22 54 55.3 +1.1
GLA pmax pmax
comp=Z,13nm,0.8s
GLA Glamis 78.14 49 P P 22 54 55.3 +1.1
GLA IAmb IAmb 22 55 03.6
comp=Z,13nm,0.8s
BEKR Beckworth 78.21 41 P P 22 54 55.0 +0.4
PNTR Pine Nut 78.23 42 P P 22 54 55.1 +0.3
PNTR IAmb IAmb 22 54 56.9
comp=Z,12nm,0.8s
YERR Yerington 78.40 42 P P 22 54 56.5 +0.8
YERR IAmb IAmb 22 54 57.6
comp=Z,9.1nm,0.9s
L04D Klamath Falls 78.46 38 P P 22 54 56.8 +0.9
baz=232
GMRC Granite Mounta 78.46 47 P P 22 54 56.8 +0.7
baz=238,SNR=6.1
M04C Macdoel 78.46 39 P P 22 54 57.1 +1.2
baz=232
IRM Iron Mountain 78.49 48 P P 22 54 57.2 +1.1
baz=238,SNR=10
GRAC Grapevine Rang 78.49 45 P P 22 54 57.4 +1.3
baz=236
FURC Furnace Creek, 78.54 45 P P 22 54 57.1 +0.8
baz=237
KDAK Kodiak Island 78.58 13 *i* P P 22 54 56.5 +0.6
TUQ Turquoise Moun 78.62 47 P P 22 54 57.8 +0.9
baz=237
NVAR Mina Array Bea 78.68 43 P P 22 54 58.8 +1.5
comp=Z,7.5nm,0.7s,baz=225,slow=8.9,SNR=44
NVAR Mina Array Bea 78.68 43 P P 22 54 58.1 +0.8
Y12C Blythe 78.72 49 P P 22 54 58.5 +1.2
baz=239
Y12C Blythe 78.72 49 P P 22 54 57.8 +0.5
Y12C IAmb IAmb 22 54 59.6
comp=Z,8.8nm,0.8s
PAHR Pah Rah Range 78.72 41 P P 22 54 57.4 0.0
113A Mohawk Valley, 78.76 50 P P 22 54 58.0 +0.4
NV11 Mina Array Sit 78.78 43 P P 22 54 57.2 -0.5
NV11 IAmb IAmb 22 54 59.7
comp=Z,11nm,1.0s
214A Organ Pipe Nat 79.05 51 P P 22 55 00.5 +1.3
baz=240
214A Organ Pipe Nat 79.05 51 P P 22 54 59.6 +0.4
KVN Kaiserville 79.16 43 P P 22 54 59.6 -0.2
KVN pmax pmax
comp=Z,7.0nm,0.9s
KVN Kaiserville 79.16 43 P P 22 54 59.6 -0.2
KVN IAmb IAmb 22 55 01.6
comp=Z,6.8nm,0.9s
J04D Umpqua Nationa 79.20 37 P P 22 55 00.9 +1.0
baz=232
TPNV Topopah Spring 79.22 45 P P 22 55 01.2 +1.1
baz=237,SNR=8.6
TPNV Topopah Spring 79.22 45 P P 22 54 59.9 -0.2
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 79.22 45 P P 22 54 59.9 -0.2
PDMCI Parker Dam,Lak 79.27 48 P P 22 55 01.5 +1.2
baz=239
MOD Modoc Plateau 79.45 39 P P 22 55 01.2 -0.1
MNAI Manna 79.56 269 P P 22 55 01.3 -1.0
MDJ Mudanjiang 79.65 324 P P 22 55 02.5 +0.4
SHPR Sheep Range 79.72 46 P P 22 55 02.5 -0.3
J05D Fort Rock, OR 79.73 38 P P 22 55 03.9 +1.1
baz=232
W13A Hualapai Mount 79.86 48 P P 22 55 02.8 -0.9
H04A Detroit Lake 80.05 36 P P 22 55 04.7 +0.4
PINE Pine Mountain 80.21 37 P P 22 55 05.8 +0.5
GRNR Gornyy 80.35 332 *e* P P 22 55 07.0 +1.4
GRNR pmax pmax
comp=Z,210nm,1.0s
R11A Troy Canyon, C 80.42 44 P P 22 55 07.4 +0.9
baz=237
MYKOM Kota Tinggi 80.64 275 P P 22 55 07.5 -0.5
MYKOM IAmb IAmb 22 55 09.5
comp=Z,24nm,1.0s
TUC Tucson 80.72 52 P P 22 55 09.8 +1.6
baz=241
TUC Tucson 80.72 52 P P 22 55 09.1 +0.9
TUC pmax pmax
comp=Z,9.0nm,1.1s
TUC Tucson 80.72 52 P P 22 55 09.1 +0.9
TUC IAmb IAmb 22 55 11.0
comp=Z,9.0nm,1.1s
E04D Cinebar 81.01 34 P P 22 55 10.9 +1.7
baz=231
X16A Lo Mia Camp, P 81.26 49 P P 22 55 11.8 +0.7
X16A IAmb IAmb 22 55 13.8
comp=Z,8.0nm,0.8s
D03D Eldon 81.36 33 P P 22 55 12.1 +1.1
baz=230
SEW Seward 81.37 13 P P 22 55 10.4 -0.4
SEW IAmb IAmb 22 55 11.5
comp=Z,15nm,0.9s
319A Douglas 81.41 53 P P 22 55 10.8 -1.0
319A IAmb IAmb 22 55 14.7
comp=Z,15nm,1.1s
KLR Kul'dur 81.49 329⇓ *i* P P 22 55 12.5 +0.8
KLR pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 81.53 322 *e* P P 22 55 13.0 +1.0
CN2 pmax pmax
comp=Z,40nm,1.4s
U15A North Rim 81.66 47 P P 22 55 12.8 -0.4
U15A IAmb IAmb 22 55 15.9
comp=Z,9.6nm,0.9s
PSUT Pine Spring 81.67 45 P P 22 55 12.1 -1.0
WUAZ Wupatki 81.85 48 P P 22 55 15.5 +1.4
baz=240
WUAZ Wupatki 81.85 48 P P 22 55 13.2 -0.9
WUAZ IAmb IAmb 22 55 16.7
comp=Z,13nm,1.2s
PKCU Pink Cliffs 82.15 46 P P 22 55 15.7 -0.1
G08A Pilot Rock 82.24 37 P P 22 55 15.8 0.0
WHN Wuhan 82.33 306 P P 22 55 13.7 -2.7
B05A Bryant 82.33 33 P P 22 55 17.1 +1.1
baz=231
SUA Susitna One 82.33 12 P P 22 55 15.6 -0.3
SUA IAmb IAmb 22 55 16.5
comp=Z,12nm,0.7s
X18A Snowflake 82.39 50 P P 22 55 16.5 -0.5
X18A IAmb IAmb 22 55 19.6
comp=Z,6.8nm,0.8s
MTPU Mount Pierson 82.54 46 P P 22 55 17.4 -0.4
GLI Glacier Island 82.60 14 P P 22 55 16.2 -0.9
PMSA Palmer Station 82.60 156 P P 22 55 16.9 -0.4
PMSA IAmb IAmb 22 55 22.4
comp=Z,26nm,1.2s
TCRU Three Creeks R 82.65 45 P P 22 55 18.0 -0.3
MSU Marysvale 82.78 46 P P 22 55 19.3 +0.4
MSU Marysvale 82.78 46 P P 22 55 19.4 +0.4
GHO Glory Hole Cre 82.99 13 P P 22 55 19.0 -0.2
GHO IAmb IAmb 22 55 20.0
comp=Z,13nm,0.8s
121A Cookes Peak, D 83.07 53 P P 22 55 22.3 +1.9
baz=243
121A Cookes Peak, D 83.07 53 P P 22 55 21.3 +0.9

121A IAmb IAmb 22 55 23.4
comp=Z,11nm,0.9s
DUG Dugway, Tooele 83.22 44 P P 22 55 21.5 +0.5
baz=239
DUG Dugway, Tooele 83.22 44 P P 22 55 20.3 -0.7
DUG pmax pmax
comp=Z,5.0nm,1.4s
DUG Dugway, Tooele 83.22 44 P P 22 55 20.3 -0.7
ANM Nome 83.25 5 P P 22 55 21.4 +1.0
ANM pmax pmax
comp=Z,39nm,1.3s
ANM Nome 83.25 5 P P 22 55 21.4 +1.0
WAX Waxell Ridge 83.27 16 P P 22 55 20.9 +0.3
WAX IAmb IAmb 22 55 21.8
comp=Z,15nm,0.7s
YKU2 Yakutat 83.37 18 P P 22 55 21.7 +0.7
CRQM Cirque 83.46 16 P P 22 55 22.3 +0.6
TGL Tana Glacier 83.54 16 P P 22 55 22.1 0.0
TGL IAmb IAmb 22 55 22.8
comp=Z,12nm,0.9s
TMUT Trail Mountain 83.83 45 P P 22 55 24.5 +0.2
PLID Pearl Lake 83.84 38 P P 22 55 24.5 +0.4
GLB Gilahina Butte 83.87 15 P P 22 55 23.4 -0.3
GLB IAmb IAmb 22 55 24.6
comp=Z,7.5nm,0.7s
MAW Mawson 83.88 199 P P 22 55 23.7 +0.1
baz=84,SNR=9.9
MAW Mawson 83.88 199 P P 22 55 23.3 -0.4
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 83.88 199 P P 22 55 23.3 -0.4
comp=Z,3.6nm,0.6s,baz=129,slow=7.4,SNR=15
MAW Mawson 83.88 199 P P 22 55 23.2 -0.4
BALM Baldy 83.90 16 P P 22 55 23.8 -0.1
BALM IAmb IAmb 22 55 25.0
comp=Z,9.4nm,0.8s
MCARA McCarthy VSAT 84.02 16 P P 22 55 24.1 -0.2
MCARA IAmb IAmb 22 55 25.7
comp=Z,24nm,1.2s
SPUT South Promonto 84.02 43 P P 22 55 25.1 0.0
HVU Hansel Valley 84.06 42 P P 22 55 25.4 +0.2
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 84.06 42 P P 22 55 25.4 +0.2
BARN Barnard Glacie 84.10 16 P P 22 55 25.4 +0.4
BARN IAmb IAmb 22 55 26.0
comp=Z,8.6nm,0.8s
SRU San Rafael Swe 84.20 46 P P 22 55 26.5 +0.5
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 84.20 46 P P 22 55 26.5 +0.5
KTH Kantishna Hill 84.21 11 IAmb IAmb 22 55 25.4
comp=Z,13nm,1.0s
P17A Butcher Ranch, 84.23 45 P P 22 55 26.5 +0.3
TRF Thorofare Moun 84.23 12 IAmb IAmb 22 55 25.9
comp=Z,18nm,0.8s
LENM Lemitar 84.41 51 P P 22 55 26.6 -0.6
DHY Denali Highway 84.48 13 P P 22 55 26.8 0.0
MNTX Cornudas Mount 84.53 54 P P 22 55 29.2 +1.6
baz=244
MNTX Cornudas Mount 84.53 54 P P 22 55 28.0 +0.4
MNTX IAmb IAmb 22 55 30.3
comp=Z,11nm,0.9s
TCUT Toone Canyon 84.60 44 P P 22 55 28.2 +0.1
BPAW Bear Paw Mtn. 84.69 11 P P 22 55 27.0 -0.6
SEY Seymchan 84.74 346‖ *i* P P 22 55 28.1 +0.3
MCK McKinley 84.75 12 IAmb IAmb 22 55 29.2
comp=Z,22nm,0.8s
KULM Kulim 84.80 277 P P 22 55 27.0 -2.3
KULM IAmb IAmb 22 55 30.9
comp=Z,24nm,1.2s
PV09 Paradox Valley 84.86 47 P P 22 55 29.6 +0.1
PV19 Morning Glory 84.87 47 P P 22 55 29.3 -0.1
PV17 East Wray Mesa 84.87 47 P P 22 55 28.9 -0.5
PV17 IAmb IAmb 22 55 31.3
comp=Z,14nm,1.4s
TX31 Lajitas Ar. Si 84.88 57 P P 22 55 30.5 +1.0
TX31 IAmb IAmb 22 55 32.6
comp=Z,24nm,1.1s
TX32 Lajitas Array 84.88 57 P P 22 55 30.5 +1.0
TX32 IAmb IAmb 22 55 32.6
comp=Z,24nm,1.1s
TXAR Lajitas Array 84.88 57 P P 22 55 30.4 +0.9
TXAR Lajitas Array 84.88 57 P P 22 55 31.4 +1.9
comp=Z,13nm,0.9s,baz=216,slow=6.2,SNR=66
TXAR Lajitas Array 84.88 57 P P 22 55 30.4 +0.9
PV18 Skein Mesa, Pa 84.89 47 P P 22 55 28.3 -1.2
PV20 West Nyswonger 84.90 47 P P 22 55 29.4 -0.1
PV20 IAmb IAmb 22 55 32.6
comp=Z,7.2nm,0.9s
PV13 Radium Mtn., P 84.91 47 P P 22 55 28.7 -1.0
PV23 Carpenter Ridg 84.92 47 P P 22 55 29.2 -0.6
PV03 Paradox Valley 84.94 47 P P 22 55 30.3 +0.6
PV04 Paradox Valley 84.97 47 P P 22 55 29.5 -0.3
PV02 Paradox Valley 85.00 47 P P 22 55 30.1 +0.1
PV21 Cone Mtn., Par 85.00 47 P P 22 55 29.4 -0.7
PV12 Saucer Basin, 85.00 47 P P 22 55 30.4 +0.4
PV12 IAmb IAmb 22 55 32.8
comp=Z,14nm,1.5s
BWN Browne 85.04 12 P P 22 55 28.8 -0.5
HYT Haines Junctio 85.07 18 P P 22 55 29.6 -0.1
HYT IAmb IAmb 22 55 31.0
comp=Z,8.5nm,1.1s
PV22 Blue Mesa, Par 85.11 47 P P 22 55 29.8 -0.8
ANMO Albuquerque 85.14 51 P P 22 55 32.0 +1.2
baz=244
ANMO Albuquerque 85.14 51 P P 22 55 31.5 +0.7
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 85.14 51 P P 22 55 31.5 +0.7
PV07 Paradox Valley 85.17 47 P P 22 55 30.9 +0.1
BJT Baijiatuau 85.40 315 P P 22 55 31.3 -0.4
BJT pmax pmax
comp=Z,16nm,1.2s
BJT Baijiatuau 85.40 315 P P 22 55 31.3 -0.4
BJT IAmb IAmb 22 55 33.5
comp=Z,16nm,1.2s
BJI Beijing 85.40 315 P P 22 55 32.3 +0.6
BJI pmax pmax
comp=Z,11nm,0.8s
GDL2 Guadalupe Moun 85.53 54 P P 22 55 32.8 +0.2
RDMU Red Mountain 85.55 45 P P 22 55 32.7 0.0
WRH Wood River Hil 85.58 12 IAmb IAmb 22 55 32.8
comp=Z,24nm,1.0s
MCMT McKenzie Canyo 85.59 40 P P 22 55 32.1 -0.7
MLY Manley 85.59 11 IAmb IAmb 22 55 32.3
comp=Z,7.7nm,1.0s
RIDG Independent Ri 85.62 14 P P 22 55 32.5 +0.2
RIDG IAmb IAmb 22 55 33.4
comp=Z,14nm,1.2s
DOT Dot Lake 85.71 14 IAmb IAmb 22 55 33.8
comp=Z,12nm,1.1s
WHY Whitehorse 85.74 19 P P 22 55 32.9 -0.1
WHY IAmb IAmb 22 55 34.8
comp=Z,11nm,1.2s
HDA Harding Lake 85.75 12 P P 22 55 33.0 +0.1
baz=208
BCAR Beaver Creek A 85.76 15 P P 22 55 32.1 -0.8
CCB Clear Creek Bu 85.79 12 IAmb IAmb 22 55 33.5
comp=Z,13nm,0.8s
IMAR Indian Mountai 85.98 9 P P 22 55 33.8 -0.1
TCOL CIGO, UAF Yank 85.98 12 P P 22 55 34.1 +0.1
baz=207
COLA College 85.99 12⇓ *e* P P 22 55 33.6 -0.3
COLA pmax pmax
comp=Z,22nm,0.9s
MDM Murphy Dome 85.99 12 IAmb IAmb 22 55 34.4
comp=Z,12nm,0.9s
DLMT Dillon 86.02 39 P P 22 55 34.4 -0.4
IL31 86.09 12 IAmb IAmb 22 55 35.7
comp=Z,13nm,1.1s
ILAR Eielson Array 86.09 12 P P 22 55 33.8 -0.7
ILAR Eielson Array 86.09 12 P P 22 55 34.2 -0.3
comp=Z,5.3nm,1.0s,baz=231,slow=5.7,SNR=31
ILAR Eielson Array 86.09 12 P P 22 55 33.8 -0.7
S22A 4UR Ranch, Cre 86.12 48 P P 22 55 36.8 +1.1
baz=243
O20A White River Ci 86.24 46 P P 22 55 37.1 +1.1
baz=242
POKR Poker Plat Res 86.28 12 P P 22 55 35.4 -0.1
baz=208
GSI Gunungsitoli 86.43 273 P P 22 55 37.9 +0.6
comp=Z,50nm,1.0s
GSI Gunungsitoli 86.43 273 P P 22 55 37.1 -0.3
TRTT Trang 86.53 279 P P 22 55 39.1 +1.4

ZEA Zeya 86.53 330 *e*P **P 22 55 38.9 +2.1**
ZEA pmax pmax
comp=N,44nm,0.9s
ZEA pmax pmax
comp=Z,51nm,0.9s
PDAR Pinedale Array 86.62 43 P **P 22 55 38.0 +0.1**
comp=Z,0.8nm,0.7s,baz=214,slow=3.4,SNR=7.7
PDAR Pinedale Array 86.62 43 P **P 22 55 37.7 -0.1**
YHL Hebgen Lake 86.62 40 P **P 22 55 37.9 0.0**
SMCO Snowmass 86.67 47 P **P 22 55 37.9 -0.5**
BOZ Bozeman (W) 86.72 40 P **P 22 55 38.7 +0.5**
baz=239
NONG Nongkai 86.80 290 P **P 22 55 39.7 +0.8**
RDOG Red Dog Mine 86.89 5 P **P 22 55 36.7 -1.5**
RDOG lAmb lAmb 22 55 39.2
comp=Z,8.5nm,0.9s
PRP Porcupine Dome 87.02 12 P **P 22 55 39.3 +0.1**
SDCO Great Sand Dun 87.06 49 P **P 22 55 40.5 +0.3**
baz=244
CHAI Chaiyaphum 87.09 288 P **P 22 55 42.3 +1.9**
PATY Pattaya 87.11 285 P **P 22 55 42.3 +1.8**
BILL Bilibino 87.19 354 *e*P **P 22 55 40.2 +0.5**
BILL *e**PP **pP 22 56 49.7 -0.4**
BILL *e**SP **sP 22 57 22.2 +1.1**
BILL *e* 22 59 12.0
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 87.19 354 P **P 22 55 39.8 +0.1**
BILL lAmb lAmb 22 55 42.0
comp=Z,6.4nm,0.8s
MSTX Muleshoe 87.48 53 P **P 22 55 42.6 +0.6**
baz=246
SURT Suratani 87.73 280 P **P 22 55 45.6 +2.2**
XAN Xi'an 87.97 307 P **P 22 55 45.5 +1.3**
XAN pP pwP 22 57 04.5 +6.6
XAN pmax pmax
comp=Z,21nm,1.3s
XAN pmax pmax
comp=Z,350nm,4.8s
XAN Xi'an 87.97 307 P **P 22 55 45.0 +0.7**
XAN pmax pmax
comp=Z,23nm,1.0s
XAN Xi'an 87.97 307 P **P 22 55 45.0 +0.7**
PBKT Sadao Pong 88.23 288 P **P 22 55 47.2 +1.5**
PBKT Sadao Pong 88.23 288 P **P 22 55 46.0 +0.3**
PBKT lAmb lAmb 22 55 47.3
comp=Z,6.2nm,1.0s
PHET Kaeng Krachan 88.24 284 P **P 22 55 47.6 +1.8**
BMAR Burnt Mountain 88.88 12 P **P 22 55 48.4 +0.7**
HHC Hu-ho-hao-te 88.90 314 P **P 22 55 47.6 -0.9**
SYO Syowa Base 88.95 192⇓ *e*P **P 22 55 46.0 -2.1**
SYO Syowa Base 88.95 192⇓ *e*PcP **P 22 55 48.0 -0.1**
TOLK Toolik Lake Re 89.07 10 P **P 22 55 49.0 +0.4**
baz=206
UTHA Uthaitani 89.28 287 P **P 22 55 52.3 +1.6**
ABTX Abilene, Hawle 89.35 55 P **P 22 55 51.6 +0.8**
baz=248
ABTX Abilene, Hawle 89.35 55 P **P 22 55 50.4 -0.3**
ABTX lAmb lAmb 22 55 52.6
comp=Z,13nm,1.0s
PLCA Paso Flores 89.69 133 P **P 22 55 51.7 -0.6**
PLCA Paso Flores 89.69 133 P **P 22 55 53.6 +1.3**
comp=Z,3.1nm,0.8s,baz=270,slow=6.3,SNR=6.8
PLCA Paso Flores 89.69 133 P **P 22 55 51.7 -0.6**
PLCA lAmb lAmb 22 55 54.5
comp=Z,7.6nm,1.1s
EPYK Eagle Plains 89.72 15 P **P 22 55 51.9 +0.3**
baz=217
TROLL Troll, Antarti 89.72 180 P **P 22 55 52.1 +0.2**
SNAA Sanae 89.96 178 P **P 22 55 52.9 0.0**
SNAA Sanae 89.96 178⇑ *i*P **P 22 55 51.8 -1.1**
SNAA Sanae 89.96 178 lAmb lAmb 22 55 53.7
comp=Z,11nm,0.9s
UMPA Umpang Tak 90.02 287 P **P 22 55 56.2 +2.0**
VNA3 Neumayer Olymp 90.04 176 P **P 22 55 53.3 +0.1**
PAYA Payao 90.15 290 P **P 22 55 55.9 +1.2**
VNA2 Neumayer--Watz 90.50 176 P **P 22 55 55.9 +0.6**
baz=188,slow=4.8
CM31 Chiang Mai Arr 90.68 289 lAmb lAmb 22 55 59.3
comp=Z,14nm,1.0s
CMAR Chiang Mai Arr 90.68 289 P **P 22 55 57.0 -0.2**
CMAR Chiang Mai Arr 90.68 289 P **P 22 55 58.3 +1.1**
comp=Z,7.6nm,0.9s,baz=113,slow=3.0,SNR=52
CMAR PP **PP 22 59 40.8 +3.4**
comp=Z,1.5nm,1.0s,baz=134,slow=5.9,SNR=5.1
CMAR Chiang Mai Arr 90.68 289 P **P 22 55 57.0 -0.2**
VNA1 Neumayer--Stat 90.72 176 P **P 22 55 56.9 +0.6**
YAK Yakutsk 90.76 338⇓ *e*P **P 22 55 55.6 -0.8**
YAK pmax pmax
comp=Z,8.0nm,0.6s
CMMT Chiang Mai 90.80 289 P **P 22 55 58.3 +0.6**
CHTO Chiang Mai 90.80 289 P **P 22 55 58.0 +0.3**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 90.80 289 P **P 22 55 58.0 +0.3**
CHTO lAmb lAmb 22 55 59.4
comp=Z,9.5nm,0.8s
MHMT Maesarieng 91.50 289 P **P 22 56 02.9 +2.0**
INK Inuvik 92.01 15 P **P 22 56 02.2 +0.1**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 92.01 15 P **P 22 56 02.2 +0.1**
INK lAmb lAmb 22 56 02.9
comp=Z,5.2nm,0.9s
LZH Lanzhou 92.60 307⇑P **P 22 56 07.2 +1.3**
LZH pP pwP 22 57 26.6 +6.9
LZH sP sP 22 57 54.8 +7.2
LZH PP **PP 22 59 54.1 +1.8**
LZH pmax pmax
comp=Z,15nm,1.2s
TUL1 Leonard 93.52 53 P **P 22 56 10.4 +0.5**
baz=250
KSU1 Kansas State U 94.01 50 P **P 22 56 13.2 +1.1**
baz=249
YKA Yellowknife Ar 94.16 24 P **P 22 56 11.9 -0.2**
comp=Z,0.8nm,0.6s,baz=234,slow=4.5,SNR=3.6
PBA Port Blair 94.22 281 P P 22 56 12.7 -0.9
ULN Ulaanbaatar 94.71 319⇓ *e*P **P 22 56 15.2 0.0**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 94.71 319 P **P 22 56 14.8 -0.4**
ULN lAmb lAmb 22 56 16.3
comp=Z,6.6nm,1.0s
SONM Songino Array 95.11 319 P **P 22 56 16.7 -0.3**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 95.11 319 P **P 22 56 16.2 -0.9**
comp=Z,2.0nm,0.8s,baz=124,slow=6.7,SNR=9.6
SONM PP **PP 23 00 11.7 +0.3**
comp=Z,0.3nm,0.5s,baz=121,slow=4.8,SNR=2.8
SONM Songino Array 95.11 319 P **P 22 56 16.7 -0.3**
ECSD EROS Data Cent 95.61 46 P **P 22 56 19.3 0.0**
baz=250
147A Livingston 98.42 58 P **P 22 56 33.2 +1.1**
baz=253
WVT Waverly 99.72 55 P **Pdif 22 56 39.0 +1.1**
baz=254
Y53A Monroe 102.51 58 P **Pdif 22 56 51.5 +1.2**
baz=256
061Z Ochoppi 102.82 67 P **Pdif 22 56 52.9 +1.1**
baz=256
ZALV Zalesovo Beam 109.75 322 PKiKP **PKiKP 23 01 21.3 -1.4**
comp=Z,3.1nm,0.5s,baz=126,slow=0.5,SNR=16
MKAR Makanchi Array 110.77 314 PKiKP **PKiKP 23 01 23.7 -1.3**
comp=Z,1.9nm,0.5s,baz=96,slow=0.7,SNR=34
KURK Kurchatov 113.40 318*d i*PKIKP **PKiKP 23 01 28.5 -1.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KBK Karagaybulak 115.74 309 P **PKPdf 23 01 34.4 -0.5**
SNR=5.1
AAK Ala-Archa 116.07 309*c i*PKIKP **PKPdf 23 01 34.7 -0.8**
AAK pmax pmax
comp=Z,5.0nm,2.5s
AAK Ala-Archa 116.07 309 **PKPdf 23 01 34.4 -1.1**
BRVK Borovoye 118.43 321⇓ *i*PKIKP **PKPdf 23 01 38.5 -0.9**
BRVK Borovoye 118.43 321 **PKPdf 23 01 38.9 -0.6**
KKAR Karatay Array 119.00 310 PKIKP **PKPdf 23 01 39.7 -1.2**
KKAR Karatay Array 119.00 310 **PKPdf 23 01 39.7 -1.2**
KBL Kabul 120.06 300 PKIKP **PKPdf 23 01 42.6 -0.8**
KBL Kabul 120.06 300 **PKPdf 23 01 42.6 -0.8**
SVE Sverdlovsk 123.07 327 *e*PKIKP **PKPdf 23 01 47.7 -0.5**
SVE pmax pmax
comp=Z,17nm,0.8s
ARU Arti 124.28 326 *i*PKIKP **PKPdf 23 01 49.9 -0.7**
ARU 23 03 41.2
ARU 23 08 31.9
ARU SP SP 23 13 05.8 -1.7
ARU SS **SS 23 20 05.0 -2.4**
ARU Arti 124.28 326 **PKPdf 23 01 50.1 -0.5**
ABKAR Akbulak array 125.51 318 **PKPdf 23 01 52.6 -0.6**
ARCES ARCESS Array B 127.19 350 PKP **PKPdf 23 01 55.7 -0.1**
comp=Z,6.9nm,0.8s,baz=3.8,slow=1.8,SNR=15
PRGR Permogore 127.77 336 *e*PKIKP **PKPdf 23 01 52.4 -4.7**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
BOSA Boshof 128.61 205 PKP **PKPdf 23 02 00.5 +0.5**
comp=Z,3.7nm,0.7s,baz=122,slow=0.7,SNR=7.8
GEYT Alibeck 128.78 304 PKP **PKPdf 23 01 59.8 0.0**
comp=Z,7.5nm,1.0s,baz=253,slow=4.0,SNR=14
GYA0B ALIBECK ARRAY 128.78 304 **PKPdf 23 01 59.5 -0.4**
KLMR Klimovskoe 130.55 338 *e*PKIKP **PKPdf 23 01 58.7 -3.7**
KLMR pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 130.55 338 *e*PKPdf **PKPdf 23 01 58.7 -3.7**
KLMR AMP 23 02 03.4
comp=Z,14nm,1.1s
KLMR *e*SKPbc **SKPbc 23 04 55.0 -2.5**
FINES FINESS Array B 134.21 345 PKP **PKPdf 23 02 09.7 +0.5**
comp=Z,3.6nm,0.8s,baz=133,slow=8.4,SNR=5.0
VRH Novokhopyorsk 135.51 326 *e*PKIKP **PKPdf 23 02 12.6 +0.6**
VRH pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 135.59 333 *e*PKIKP **PKPdf 23 02 11.9 -0.1**
OBN *e* 23 04 53.7
OBN pmax pmax
comp=Z,7.0nm,1.0s
LPSR Galich'ya Gora 136.12 329 *e*PKIKP **PKPdf 23 02 12.4 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 136.83 327 *e*PKIKP **PKPdf 23 02 13.0 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 137.14 354 PKP **PKPdf 23 02 10.5 -4.3**
comp=Z,24nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 137.14 354 PKP **PKPdf 23 02 15.3 +0.5**
comp=Z,0.7nm,0.6s,baz=265,slow=3.0,SNR=3.9
ZEI Tsey 138.12 314 *i*PKIKP **PKPdf 23 02 16.2 -1.2**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 138.41 316 PKP **PKiKP 23 02 19.2 -0.6**
comp=Z,1.9nm,0.9s,baz=152,slow=4.4,SNR=5.1
KIV Kislovodsk 138.46 316 *e*PKIKP **PKiKP 23 02 19.2 -0.8**
KIV pmax pmax
comp=Z,13nm,1.0s
GNI Garni 138.46 310⇓ *e*PKIKP **PKPdf 23 02 16.5 -1.6**
AKASG Malin Array Be 141.86 333 PKIKP **PKPdf 23 02 23.5 -0.1**
AKASG Malin Array Be 141.86 333 PKhKP PKPpre 23 02 18.0
comp=Z,4.9nm,0.7s,baz=39,slow=3.8,SNR=7.0
AKASG Malin Array Be 141.86 333 PKPdf **PKPdf 23 02 23.5 -0.1**
SIM Simferopol 143.25 323 *i*PKIKP PKPbc 23 02 24.3 0.0
SIM pmax pmax
comp=Z,20nm,0.8s
BEL Belsk 144.01 342 *e*PKIKP PKPbc 23 02 26.7 +0.5
BEL Belsk 144.01 342 *e*PKP PKPbc 23 02 26.7 +0.5
BEL *e*PKP PKPbc 23 02 26.7 +0.5
SORM Soroca 144.14 331⇓PKIKP **PKPab 23 02 26.4 +0.1**
SORM Soroca 144.14 331⇓P **PKPab 23 02 26.4 +0.1**
LVV L'vov 144.63 337 *e*PKIKP PKPbc 23 02 27.3 -0.8
KIS Kishinev 144.74 329⇑ *i*P PKPbc 23 02 28.0 -0.5
comp=Z,190nm,1.0s
KIS Kishinev 144.74 329⇑ *i*PKIKP PKPbc 23 02 28.0 -0.5
KIS pmax pmax
comp=Z,190nm,1.0s
MILM Milestii Mici 144.79 329⇑P PKPbc 23 02 28.1 -0.6
IAS Iasi 145.19 331⇑PKIKP **PKPbc 23 02 30.1 +0.2**
IAS Iasi 145.19 331⇑P **PKPbc 23 02 30.1 +0.2**
PRAR RASCA 145.67 332⇑P **PKPbc 23 02 31.8 +0.4**
OJC Ojcow 145.73 341 *e*PKIKP **PKPbc 23 02 31.7 +0.2**
OJC Ojcow 145.73 341 *e*PKP **PKPbc 23 02 31.6 +0.2**
OJC *e*PKP **PKPbc 23 02 31.6 +0.2**
BIR Birlad 145.83 330⇑PKP2 **PKPab 23 02 33.1 +0.3**
BIR Birlad 145.83 330⇑P **PKPab 23 02 33.1 +0.3**
BUR08 Bucovina Ar. S 145.90 333 **PKPbc 23 02 32.6 +0.4**
BURAR Bucovina Array 145.91 333⇓P **PKiKP 23 02 40.0 +4.7**
BURAR Bucovina Array 145.91 333 **PKPbc 23 02 32.5 +0.2**
TLCR 146.00 327⇑PKP2 **PKPbc 23 02 32.8 +0.4**
TLCR 146.00 327⇑P **PKPbc 23 02 32.8 +0.4**
KOLS Kolonicke sedl 146.01 338 *e*PKP2 **PKPbc 23 02 33.1 +0.8**
KOLS Kolonicke sedl 146.01 338 *e*PKP **PKPbc 23 02 33.1 +0.8**
BIZ Bicaz 146.04 332⇓P **PKPab 23 02 33.4 -0.2**
TESR Tescani 146.12 331⇓P **PKPbc 23 02 32.9 +0.2**
KSP Ksiaz 146.13 345 *e*PKP2 **PKPbc 23 02 33.2 +0.6**
KSP Ksiaz 146.13 345 *e*PKP **PKPbc 23 02 33.2 +0.6**
KSP *e*PKP **PKPbc 23 02 33.2 +0.6**
UZH Uzhgorod 146.26 337 *e*PKP2 **PKPbc 23 02 33.7 +0.7**
NIE Niedzica 146.28 340 *e*PKP2 **PKPbc 23 02 33.9 +0.8**
NIE Niedzica 146.28 340 *e*PKP **PKPbc 23 02 33.9 +0.8**
NIE *e*PKP **PKPbc 23 02 33.9 +0.8**
CFR Carcaliu 146.35 328⇓PKP2 **PKPbc 23 02 33.7 +0.4**
CFR Carcaliu 146.35 328⇓P **PKPbc 23 02 33.7 +0.4**
CLL Collm 146.38 349⇓ *i*PKIKP **PKPbc 23 02 33.3 0.0**
CLL *i* 23 02 37.4
CLL pmax pmax
comp=Z,64nm,1.0s
CLL pmax pmax
comp=Z,23nm,1.1s
CLL Collm 146.38 349⇓ *i*PKPbc **PKPbc 23 02 33.3 0.0**
comp=Z,64nm,1.0s
CLL *i* PKPab **PKiKP 23 02 37.4 +1.5**
comp=Z,23nm,1.1s
BRTR Keskin Array B 146.40 315 PKHKP PKPpre 23 02 31.0
BRTR Keskin Array B 146.40 315 PKPbc **PKPdf 23 02 31.4 -0.6**
comp=Z,13nm,0.8s,baz=109,slow=2.2,SNR=44
BRTR SKPbc **SKPbc 23 05 42.0 -1.4**
comp=Z,1.0nm,0.8s,baz=126,slow=2.1,SNR=3.9
BRTR Keskin Array B 146.40 315 **PKPdf 23 02 31.0 -1.0**
PETR Petresti 146.41 329⇑P **PKPab 23 02 34.8 -0.3**
CHVC Chvalec 146.42 345⇑ *e*PKP **PKPbc 23 02 33.9 +0.4**
TOPG Topolog 146.44 327⇑P **PKPbc 23 02 34.4 +0.7**
ODBI Odobesti 146.47 329⇑P **PKPab 23 02 35.0 -0.3**
UPC Upice 146.51 345 *e*PKP2 **PKPbc 23 02 34.2 +0.5**
UPC Upice 146.51 345⇑ *e*PKP **PKPbc 23 02 34.2 +0.5**
VRI Vrincioaia 146.55 330⇓PKP2 **PKPbc 23 02 34.2 +0.2**
VRI Vrincioaia 146.55 330⇓P **PKPbc 23 02 34.2 +0.2**
OKC Ostrava-Krasne 146.56 343 *e*PKP2 **PKPbc 23 02 34.3 +0.5**
OKC Ostrava-Krasne 146.56 343⇑ *e*PKP **PKPbc 23 02 34.3 +0.5**
DPC Dobruska-Polom 146.58 345 *e*PKP2 **PKPbc 23 02 34.6 +0.6**
DPC Dobruska-Polom 146.58 345⇑ *e*PKP **PKPbc 23 02 34.6 +0.6**
DPC *ex* x 23 04 00.1
BMR Baia Mare 146.58 335⇓PKP2 **PKPbc 23 02 34.6 +0.6**
BMR Baia Mare 146.58 335⇓P **PKPbc 23 02 34.6 +0.6**
TRPA Tarpa 146.58 336⇓P **PKPbc 23 02 34.4 +0.5**
PLOR Plostina 146.60 330⇑PKIKP **PKPbc 23 02 34.0 -0.1**
PLOR Plostina 146.60 330⇑P **PKPbc 23 02 34.0 -0.1**
BRG Berggiesshubel 146.62 348 *e*PKP **PKPdf 23 02 32.3 +0.4**
comp=Z,7.6nm,1.3s
BRG *i* 23 02 34.1
comp=Z,28nm,0.9s
BRG Berggiesshubel 146.62 348 *e*PKIKP **PKPdf 23 02 32.3 +0.4**
BRG *i* 23 02 34.1
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,29nm,0.9s
ARCR ARCALIA 146.69 334⇓P **PKPbc 23 02 34.8 +0.4**
TIRR Tirgusor 146.71 326⇑PKIKP **PKPdf 23 02 33.2 +1.0**
TIRR Tirgusor 146.71 326⇑P **PKPdf 23 02 33.2 +1.0**
KRLC Kraliky 146.72 344 *e*PKP2 **PKPbc 23 02 34.7 +0.4**
KRLC Kraliky 146.72 344⇑ *e*PKP **PKPbc 23 02 34.7 +0.4**
LANS Liptovska Anna 146.78 341 *e*PKP2 **PKPab 23 02 35.8 -0.7**
LANS Liptovska Anna 146.78 341 *e*PKP **PKPab 23 02 35.8 -0.7**
MORC Moravsky Berou 146.79 343⇑PKP2 **PKPbc 23 02 35.3 +0.7**
MORC Moravsky Berou 146.79 343⇑P **PKPbc 23 02 35.3 +0.7**
MORC Moravsky Berou 146.79 343 *e*PKP **PKPbc 23 02 34.8 +0.3**
MORC Moravsky Berou 146.79 343 **PKPbc 23 02 35.0 +0.4**
HARR Harsova 146.79 327⇓PKP2 **PKPbc 23 02 35.2 +0.6**
HARR Harsova 146.79 327⇓P **PKPbc 23 02 35.2 +0.6**
TLB Topalu 146.81 327⇑PKP2 **PKPbc 23 02 35.2 +0.5**
TLB Topalu 146.81 327⇑P **PKPbc 23 02 35.2 +0.5**
PVCC Panska Ves 146.82 347 *e*PKP2 **PKPbc 23 02 35.3 +0.8**
PVCC Panska Ves 146.82 347⇑ *e*PKP **PKPbc 23 02 35.3 +0.8**
OZUR 146.82 331⇑P **PKPbc 23 02 35.5 +0.7**
ANTO Ankara 146.88 316 PKIKP **PKPdf 23 02 33.0 +0.2**
ANTO 23 02 35.4
ANTO Ankara 146.88 316⇑P **PKPbc 23 02 35.8 +0.6**
ANTO Ankara 146.88 316 **PKPdf 23 02 33.0 +0.2**
ANTO PKPbc **PKPbc 23 02 35.4 +0.2**
MFTR Murfatlar 146.89 326⇑P **PKPdf 23 02 33.5 +1.0**
KECS Kecovo 147.02 339 *e*PKP2 **PKPbc 23 02 35.6 +0.4**
KECS Kecovo 147.02 339 *e*PKP **PKPbc 23 02 35.6 +0.4**
MBAR Mbarara 147.09 238 PKIKP **PKPbc 23 02 36.7 +0.1**
MBAR Mbarara 147.09 238 **PKPbc 23 02 36.7 +0.1**
DOPR Dopca 147.10 331⇑P **PKPbc 23 02 36.6 +1.0**
AMRR Amara 147.16 328⇑PKP2 **PKPbc 23 02 36.6 +1.0**
AMRR Amara 147.16 328⇑P **PKPbc 23 02 36.6 +1.0**
ISR Istrita 147.19 329⇓PKP2 **PKPbc 23 02 35.8 0.0**
ISR Istrita 147.19 329⇓P **PKPbc 23 02 35.8 0.0**
MLR Muntele Rosu 147.20 330⇓PKP2 **PKPbc 23 02 35.9 0.0**
MLR Muntele Rosu 147.20 330⇓P **PKPbc 23 02 35.9 0.0**
PRA Prague 147.28 347 *e*PKP2 **PKPbc 23 02 36.5 +0.7**
PRA Prague 147.28 347⇑ *e*PKP **PKPbc 23 02 36.5 +0.7**
CJR Cluj-Napoca 147.31 334⇓PKP2 **PKPbc 23 02 36.6 +0.5**
CJR Cluj-Napoca 147.31 334⇓P **PKPbc 23 02 36.6 +0.5**
PRU Pruhonice 147.33 347 *e*PKP2 **PKPbc 23 02 36.2 +0.2**
PRU Pruhonice 147.33 347⇑ *e*PKP **PKPbc 23 02 36.2 +0.2**
PRU *ex* x 23 04 09.2
GOPC GO Pecny, Ondr 147.35 346 *e*PKP2 **PKPbc 23 02 36.2 +0.2**
GOPC GO Pecny, Ondr 147.35 346⇑ *e*PKP **PKPbc 23 02 36.2 +0.2**
VRAC Vranov 147.47 344⇓PKP2 **PKPbc 23 02 36.9 +0.6**
VRAC Vranov 147.47 344⇓P **PKPbc 23 02 36.9 +0.6**
VRAC Vranov 147.47 344 *e*PKP **PKPbc 23 02 36.6 +0.2**
SECR 147.48 329⇓P **PKPbc 23 02 37.0 +0.5**
LEHL Lehliu 147.51 328⇑P **PKPbc 23 02 37.1 +0.5**
NKC Novy Kostel 147.52 349 *e*PKP2 **PKPbc 23 02 36.9 +0.4**
NKC Novy Kostel 147.52 349⇑ *e*PKP **PKPbc 23 02 36.9 +0.4**
VYHS Vyhne 147.55 341 *e*PKP2 **PKPbc 23 02 37.3 +0.7**
VYHS Vyhne 147.55 341 *e*PKP **PKPbc 23 02 37.3 +0.7**
JAVC Velka Javorina 147.58 342 *e*PKP **PKiKP 23 02 38.1 -0.5**
PLAR PLOIESTI 147.59 329⇓P **PKPbc 23 02 37.3 +0.5**
DRGR 147.61 335⇓PKP2 **PKPbc 23 02 37.2 +0.3**
DRGR 147.61 335⇓P **PKPbc 23 02 37.2 +0.3**
KOLL Kolacno 147.61 341 *e*PKP **PKPbc 23 02 37.7 +1.0**
SULR 147.65 329⇑P **PKiKP 23 02 38.1 -0.6**
VOIR 147.66 331⇑PKP2 **PKPbc 23 02 37.4 +0.3**
VOIR 147.66 331⇑P **PKPbc 23 02 37.4 +0.3**
PSZ Piszkesteto 147.71 339⇑PKP2 **PKPbc 23 02 37.7 +0.5**
PSZ Piszkesteto 147.71 339⇑P **PKPbc 23 02 37.7 +0.5**
PSZ Piszkesteto 147.71 339 **PKPbc 23 02 37.4 +0.3**
PBCC Pribram 147.74 347⇑ *e*PKP **PKPbc 23 02 37.3 +0.2**
KRUC Moravsky 147.75 344 *e*PKP **PKPbc 23 02 37.3 +0.2**
TREC Trest 147.76 345 *e*PKP2 **PKPbc 23 02 37.4 +0.2**
TREC Trest 147.76 345⇑ *e*PKP **PKPbc 23 02 37.4 +0.2**
MEM Membach 147.89 357 PKIKP **PKPbc 23 02 37.5 +0.1**
ARR Arges 147.90 331⇓P **PKiKP 23 02 38.9 -0.5**
BSTI Sart Tilman 147.94 357 PKIKP **PKPbc 23 02 37.8 +0.3**
SMOL Smolenice 147.96 342 *e*PKP2 **PKiKP 23 02 38.8 -0.5**
SMOL Smolenice 147.96 342 *e*PKP **PKiKP 23 02 38.8 -0.5**
GULN MERSIN_Gulnar 148.12 310 *i*P **PKPbc 23 02 38.5 +0.1**
GULN lAML_P
comp=Z,474nm,0.5s
MODS Modra-Piesok 148.13 342 *e*PKP2 **PKPbc 23 02 38.3 +0.1**
MODS Modra-Piesok 148.13 342 *e*PKP **PKPbc 23 02 38.2 +0.1**
KONT Konya--Tatoy 148.15 313 *i*P **PKPbc 23 02 38.6 0.0**
KONT lAML_P
comp=Z,359nm,0.6s
BMRD Maredsous 148.25 358 PKiKP **PKPbc 23 02 38.6 +0.3**
DEV Deva 148.26 334⇓PKIKP **PKPbc 23 02 38.4 -0.1**
DEV Deva 148.26 334⇓P **PKPbc 23 02 38.4 -0.1**
RAZG Razgrad 148.31 327⇑P **PKPbc 23 02 39.1 +0.3**
SRO Srobarova 148.32 341 *e*PKP2 **PKPbc 23 02 38.9 +0.3**
SRO Srobarova 148.32 341 *e*PKP **PKPbc 23 02 38.9 +0.3**
KHC Kasperske Hory 148.35 347 *e*PKPDF **PKPdf 23 02 34.5 -0.4**
KHC ⇑ *e*PKP **PKPbc 23 02 39.0 +0.3**
KHC *ex* x 23 04 12.2
KHC Kasperske Hory 148.35 347 PKPbc **PKPbc 23 02 38.6 -0.1**
ERMK Ermenek 148.37 311 *i*P **PKPbc 23 02 39.7 +0.3**
ERMK lAML_P
comp=Z,1μm,0.6s
HUMR Humele 148.37 330⇑P **PKPbc 23 02 38.9 0.0**
SIRR Siria 148.46 335⇑P **PKPbc 23 02 39.1 0.0**
DOU Dourbes 148.46 359 PKiKP **PKPbc 23 02 39.1 +0.2**
DOGA KONYA_Doganhis 148.54 314 *i*P **PKPbc 23 02 40.0 +0.3**
DOGA lAML_P
comp=Z,262nm,0.7s
GERES GERESS Array B 148.59 347 PKPbc **PKPbc 23 02 39.4 0.0**
comp=Z,10nm,0.8s,baz=9.7,slow=9.5,SNR=79
YLV Yalova 148.66 320⇑P **PKPbc 23 02 39.7 -0.1**
GZR Gura Zlata 148.70 333⇑P **PKPbc 23 02 39.8 0.0**
BOLV Bolvadin 148.71 316 *i*P **PKPbc 23 02 40.3 +0.3**
BOLV lAML_P
comp=Z,577nm,0.7s
CSS Mathiatis 148.79 308 P **PKPbc 23 02 38.8 -1.4**
CSS Mathiatis 148.79 308 **PKPbc 23 02 39.0 -1.2**
CSS PKPab **PKPab 23 02 44.5 -0.6**
WLF Walferdange 148.83 357 PKiKP **PKPbc 23 02 40.6 +0.8**
WLF Walferdange 148.83 357 PKPdf **PKPdf 23 02 35.8 +0.2**
WLF **PKiKP 23 02 40.9 -0.1**
ZIMR 148.83 328⇓P **PKPbc 23 02 40.1 +0.1**
CONA Conrad Observa 148.93 344 *i*PKiKP **PKPbc 23 02 40.5 +0.2**
comp=Z,48nm,1.7s,SNR=15
GAZI Gazipasa 148.99 311 *i*P **PKPbc 23 02 40.0 -0.7**
GAZI lAML_P
comp=Z,1μm,0.6s
BZS Buzias 149.01 335⇑P **PKPbc 23 02 40.7 +0.3**
VLAD Vladila 149.04 330⇑P **PKPbc 23 02 41.2 +0.6**
LEF Lefka 149.05 308 *i*P **PKPbc 23 02 40.7 -0.1**
LEF lAML_P
comp=Z,2μm,0.6s
LEF Lefka 149.05 308⇑P **PKPbc 23 02 40.9 0.0**
ELND Elena 149.09 327⇓P **PKPbc 23 02 41.0 +0.3**
SRE Strehaia 149.09 332⇓P **PKPbc 23 02 41.0 +0.4**
KEPZ Antalya-Kepez 149.18 312 *i*P **PKPbc 23 02 39.7 -1.5**
KEPZ lAML_P
comp=Z,524nm,0.6s
BAGO Egridir - ISPA 149.20 315 *i*P **PKPbc 23 02 40.3 -0.9**
BAGO lAML_P
comp=Z,340nm,0.7s
BANR Banloc 149.39 335⇓P **PKPbc 23 02 41.9 +0.6**
PLVB Pleven 149.39 329⇓P **PKPbc 23 02 41.6 +0.2**
MOA Molln 149.40 346 *i*PKiKP **PKPbc 23 02 40.5 -0.9**
comp=Z,0.1nm,0.3s
STU Stuttgart 149.44 352 **PKPbc 23 02 42.0 +0.6**
GDZ Gediz 149.46 318 *i*P **PKiKP 23 02 42.6 -0.2**
GDZ lAML_P
comp=Z,85nm,0.1s
KZIL AFYON_Kizioren 149.49 316 *i*P **PKPbc 23 02 42.2 +0.3**
KZIL lAML_P
comp=Z,875nm,0.9s
PUNG Punghina 149.51 332⇓P **PKPbc 23 02 41.3 -0.4**
BAIL Bailesti 149.53 331⇑P **PKiKP 23 02 42.5 -0.1**
MORH Mrgy, Hungar 149.61 339⇓ *i*P **PKPbc 23 02 41.2 -0.6**
ARSA Arzberg 149.64 344 *i*PKiKP **PKPbc 23 02 42.0 +0.1**
comp=Z,6.0nm,0.8s
MDVR Moldovita 149.65 334⇑P **PKPbc 23 02 41.3 -0.8**
DURS Dursunbey 149.79 319 *i*P **PKPbc 23 02 42.2 -0.4**
DURS lAML_P
comp=Z,715nm,0.8s
BRDR BURDUR-Merkez 149.84 315 *i*P **PKPbc 23 02 42.2 -0.6**
BRDR lAML_P
comp=Z,684nm,0.8s
KHAL Karahalli 149.85 316 *i*P **PKPbc 23 02 43.2 +0.3**
KHAL lAML_P
comp=Z,517nm,1.0s
USAK Uak-Merkez 149.97 317 *i*P **PKPbc 23 02 43.0 -0.1**
USAK lAML_P
comp=Z,294nm,0.7s
BFO Black Forest 149.97 353 **PKPbc 23 02 42.7 0.0**
KORT Korkueli 150.01 313 *i*P **PKPbc 23 02 43.1 -0.2**
KORT lAML_P
comp=Z,1000nm,0.8s
FRGS Fruska Gora 150.10 336⇓ *i*P **PKPbc 23 02 42.9 -0.2**
BALB Balikesir 150.13 320 **PKPbc 23 02 43.2 -0.1**
SOKA Soboth 150.30 344 *i*PKiKP **PKPbc 23 02 42.6 -1.0**
comp=Z,12nm,0.9s,SNR=7.2
KULA Kula-Manisa 150.31 317 P **PKPbc 23 02 43.5 -0.4**
KBA Koelnbreinsper 150.34 346 *i*PKiKP **PKPbc 23 02 42.9 -0.9**
comp=Z,11nm,0.6s,SNR=8.4
AKUM Antalya-Kumluc 150.35 312 *i*P **PKPbc 23 02 43.4 -0.5**
AKUM lAML_P
comp=Z,368nm,0.5s
GROS Grobnik 150.37 343 *e*PKPbc **PKPbc 23 02 43.0 -0.8**
MANT Manisa 150.39 317 *i*P **PKPbc 23 02 44.7 +0.4**
MANT lAML_P
comp=Z,942nm,0.6s
MANT Manisa 150.39 317 **PKPbc 23 02 44.4 +0.1**
STEP BALIKESIR_Sava 150.39 320 *i*P **PKPbc 23 02 43.4 -0.6**
STEP lAML_P
comp=Z,698nm,0.7s
GOLH Golhisar 150.42 314 *i*P **PKPdf 23 02 41.3 +2.7**

GOLH				IAML_P			
	comp=Z,5.2nm,0.3s						
RETA	**Reutte**	**150.46**	**350**	*i* PKiKP	**PKPbc**	**23 02 43.8**	**-0.2**
	comp=Z,10nm,1.0s						
WATA	**Walderalm**	**150.46**	**349**	*i* PKiKP	**PKPbc**	**23 02 43.9**	**-0.1**
	comp=Z,12nm,0.6s,SNR=5.4						
RDO	**Rodhopi**	**150.51**	**325**	P	**PKPbc**	**23 02 43.7**	**-0.4**
WTTA	**Wattenberg**	**150.52**	**349**	*i* PKiKP	**PKPbc**	**23 02 44.0**	**-0.3**
	comp=Z,28nm,0.6s,SNR=9.8						
MOTA	**Moosalm**	**150.54**	**349**	*i* PKiKP	**PKPbc**	**23 02 44.0**	**-0.2**
	comp=Z,16nm,0.9s,SNR=5.2						
OBKA	**Obir**	**150.58**	**344**	*i* PKiKP	**PKPbc**	**23 02 43.2**	**-1.1**
	comp=Z,5.2nm,0.8s						
SQTA	**Sankt Quirin**	**150.64**	**349**	*i* PKiKP	**PKPbc**	**23 02 44.1**	**-0.3**
	comp=Z,16nm,0.7s,SNR=7.7						
VTS	**Vitosha**	**150.65**	**329**	P	**PKPbc**	**23 02 44.6**	**0.0**
VTS	**Vitosha**	**150.65**	**329**	⇓P	**PKPbc**	**23 02 44.8**	**+0.1**
VTS	**Vitosha**	**150.65**	**329**		**PKPbc**	**23 02 44.7**	**+0.1**
MYKA	**Terra Mystica**	**150.70**	**345**	*i* PKiKP	**PKPbc**	**23 02 43.5**	**-1.0**
	comp=Z,8.3nm,0.6s,SNR=9.8						
TAVA	**DENIZLI_Tavas**	**150.73**	**315**	*i* P	**PKiKP**	**23 02 45.5**	**+0.1**
TAVA				IAML_P			
	comp=Z,557nm,0.8s						
DAVA	**Damuels**	**150.80**	**351**	*i* PKiKP	**PKPbc**	**23 02 44.9**	**+0.1**
	comp=Z,13nm,0.7s,SNR=5.2						
ABTA	**Abfaltersbach**	**150.84**	**347**	*i* PKiKP	**PKPbc**	**23 02 43.9**	**-0.9**
	comp=Z,25nm,0.6s,SNR=12						
AKAS	**Kas**	**150.91**	**313**	*i* P	**PKPbc**	**23 02 45.0**	**-0.5**
AKAS				IAML_P			
	comp=Z,2μm,0.7s						
DIVS	**Divibare**	**150.91**	**335**	⇓*i* P	**PKPbc**	**23 02 45.0**	**-0.1**
EZN	**Ezine**	**150.95**	**322**	P	**PKPbc**	**23 02 44.6**	**-0.6**
EZN	**Ezine**	**150.95**	**322**	⇓P	**PKPbc**	**23 02 45.0**	**-0.1**
CRES	**Cresnjev**	**150.97**	**342**	⇓*i* P	**PKPbc**	**23 02 44.6**	**-0.5**
LJU	**Ljubljana**	**151.02**	**344**	*i* PKPdf	**PKPdf**	**23 02 39.3**	**+0.2**
LJU				*i* PKPbc	**PKPbc**	**23 02 45.0**	**-0.3**
LJU	**Ljubljana**	**151.02**	**344**	⇓*i* P	**PKPbc**	**23 02 44.5**	**-0.7**
ZEDA	**zmir-Bergama**	**151.04**	**320**	*i* P	**PKPbc**	**23 02 45.5**	**+0.1**
ZEDA				IAML_P			
	comp=Z,846nm,0.9s						
CRNS	**Crni Vrh**	**151.06**	**344**	*i* PKPdf	**PKPdf**	**23 02 38.9**	**-0.4**
CRNS				*i* PKPbc	**PKPbc**	**23 02 44.8**	**-0.6**
CRNS				*i* PKPab	**PKPab**	**23 02 52.9**	**-1.1**
FETY	**Fethiye**	**151.06**	**314**	P	**PKPbc**	**23 02 45.1**	**-0.5**
FETY	**Fethiye**	**151.06**	**314**	*i* P	**PKPbc**	**23 02 45.3**	**-0.3**
FETY				IAML_P			
	comp=Z,946nm,0.6s						
KAVA	**Kavala**	**151.17**	**326**	P	**PKPbc**	**23 02 45.2**	**-0.5**
STAL	**STALIGIAL**	**151.26**	**346**	PKPbc	**PKPbc**	**23 02 45.4**	**-0.4**
DALY	**Dalyan (Mula)**	**151.26**	**315**	*i* P	**PKiKP**	**23 02 46.6**	**+0.2**
DALY				IAML_P			
	comp=Z,326nm,0.6s						
TURN	**Turunc**	**151.26**	**315**	*i* P	**PKPab**	**23 02 52.8**	**-2.3**
TURN				IAML_P			
	comp=Z,161nm,0.5s						
NVR	**Nevrokopi**	**151.27**	**327**	P	**PKPbc**	**23 02 45.2**	**-0.8**
AYDN	**Tasoluk**	**151.31**	**317**	*i* P	**PKPbc**	**23 02 46.5**	**+0.3**
AYDN				IAML_P			
	comp=Z,1μm,0.5s						
BOJS	**Bojanci**	**151.32**	**342**	*i* PKPbc	**PKPbc**	**23 02 46.0**	**+0.2**
CEY	**Cerknica**	**151.33**	**344**	⇓*i* P	**PKPbc**	**23 02 45.6**	**-0.4**
HAPS	**Han Pijesak,BI**	**151.33**	**336**	⇓*i* P	**PKPbc**	**23 02 45.4**	**-0.7**
BBLS	**Lazići**	**151.34**	**335**	⇓*i* P	**PKPbc**	**23 02 46.0**	**-0.1**
BLY	**Banja Luka**	**151.39**	**339**	⇓*i* P	**PKPbc**	**23 02 46.0**	**-0.1**
BLY	**Banja Luka**	**151.39**	**339**	⇑P	**PKiKP**	**23 02 46.5**	**+0.1**
TRI	**Trieste**	**151.53**	**345**		**PKPbc**	**23 02 45.4**	**-1.0**
RUDO	**Rudo**	**151.56**	**335**	⇓*i* P	**PKPbc**	**23 02 45.7**	**-0.8**
CTI	**Castel Tesino**	**151.69**	**348**	PKPbc	**PKPbc**	**23 02 46.3**	**-0.5**
CTI				PKPab	**PKPab**	**23 02 56.8**	**+0.1**
GCAM	**G?zelcaml?**	**151.70**	**317**	*i* P	**PKPbc**	**23 02 46.3**	**-0.7**
GCAM				IAML_P			
	comp=Z,2μm,0.7s						
URLA	**Izmir**	**151.71**	**319**	*i* P	**PKPbc**	**23 02 46.4**	**-0.7**
URLA				IAML_P			
	comp=Z,2μm,0.8s						
MGRS	**Mrkonjic Grad**	**151.72**	**339**	*e*P	**PKPab**	**23 02 57.8**	**+0.9**
STIP	**Stip**	**151.85**	**329**	*i* P	**PKPbc**	**23 02 46.2**	**-1.0**
VAY	**Valandovo**	**151.95**	**328**	*i* P	**PKPbc**	**23 02 46.8**	**-0.7**
SKO	**Skopje**	**152.00**	**331**	*i* P	**PKPbc**	**23 02 47.8**	**+0.2**
SENIN	**Lac Senin/Sane**	**152.02**	**354**		**PKiKP**	**23 02 48.3**	**+0.2**
SENIN				PKPab	**PKPab**	**23 02 58.8**	**+0.5**
DAT	**Datca**	**152.03**	**315**	*i* P	**PKPbc**	**23 02 47.1**	**-0.9**
DAT				IAML_P			
	comp=Z,361nm,0.8s						
BRY	**Bratogost**	**152.49**	**335**	*e*P	**PKPbc**	**23 02 47.9**	**-0.9**
PDG	**Podgorica**	**152.59**	**334**	*e*P	**PKPbc**	**23 02 48.1**	**-0.7**
PDG	**Podgorica**	**152.59**	**334**	⇓P	**PKPbc**	**23 02 48.6**	**-0.2**
PDG	**Podgorica**	**152.59**	**334**		**PKPbc**	**23 02 48.3**	**-0.5**
PDG				PKPab	**PKPab**	**23 02 59.8**	**-0.8**
PHP	**Peshkopia**	**152.68**	**331**	P	**PKPbc**	**23 02 48.5**	**-0.6**
TREB	**Trebinje**	**152.72**	**335**	*e*P	**PKPbc**	**23 02 47.8**	**-1.3**
DRME	**Dracevica, Mon**	**152.82**	**334**	*e*P	**PKPbc**	**23 02 48.7**	**-0.7**
STON	**Ston**	**152.84**	**337**	*e*P	**PKPbc**	**23 02 48.1**	**-1.2**
HCY	**Herceg Novi**	**152.89**	**335**	*e*P	**PKPbc**	**23 02 48.2**	**-1.3**
FNA	**Florina**	**152.94**	**329**	P	**PKPbc**	**23 02 48.9**	**-0.9**
FNA	**Florina**	**152.94**	**329**	PKPbc	**PKPbc**	**23 02 49.5**	**-0.3**
FNA				PKPab	**PKPab**	**23 03 02.3**	**+0.1**
OHR	**Ohrid**	**152.97**	**330**	*i* P	**PKiKP**	**23 02 50.2**	**+0.3**
BNI	**Bardonecchia**	**153.38**	**355**	PKPdf	**PKPdf**	**23 02 44.1**	**+1.3**
BNI				PKPbc	**PKiKP**	**23 02 51.0**	**+0.3**
MAKR	**Makrakomi, Fth**	**153.87**	**325**	P	**PKPbc**	**23 02 51.1**	**-0.7**
LTK	**Loutraki**	**154.10**	**323**	P	**PKPbc**	**23 02 51.2**	**-1.1**
MURB	**Monte Urbino**	**154.13**	**345**	PKPdf	**PKPdf**	**23 02 43.6**	**-0.3**
MURB				PKPbc	**PKPbc**	**23 02 52.2**	**0.0**
SERG	**Sergoula**	**154.34**	**324**	P	**PKPbc**	**23 02 52.2**	**-0.6**
NRCA	**Norcia**	**154.38**	**343**	PKPdf	**PKPdf**	**23 02 44.1**	**-0.1**
NRCA				PKPbc	**PKPbc**	**23 02 52.8**	**+0.1**
LAKA	**Lakka**	**154.50**	**324**	P	**PKiKP**	**23 02 53.4**	**+0.2**
SGRT	**San Giovanni R**	**154.53**	**338**	PKPbc	**PKPbc**	**23 02 52.9**	**-0.2**
INTR	**Introdacqua**	**154.90**	**341**	PKPdf	**PKPdf**	**23 02 43.9**	**-1.1**
INTR				PKPbc	**PKiKP**	**23 02 54.0**	**+0.1**
MATE	**Matera**	**155.13**	**335**	⇑P	**PKPab**	**23 03 10.9**	**-0.5**
ITM	**Ithomi**	**155.28**	**323**	PKPdif	PKPdf	23 02 54.2	+8.7
TIP	**Timpagrande**	**156.35**	**333**	PKPdf	**PKPdf**	**23 02 45.9**	**-1.1**
ESDC	**Sonseca Array**	**157.96**	**15**	PKPab	**PKPab**	**23 03 23.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.0,SNR=4.4						
ESDC	**Sonseca Array**	**157.96**	**15**	PKPdf	**PKPdf**	**23 02 48.7**	**-0.2**
ESDC					**PKPab**	**23 03 24.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**174.44**	**163**	PKP	**PKPdf**	**23 03 01.1**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=358,slow=4.0,SNR=7.2						
TORD				PKPab	**PKPab**	**23 04 36.1**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=206,slow=2.0,SNR=8.2						
TORD				PP	**PP**	**23 08 31.2**	**+3.3**
	comp=Z,1.0nm,0.8s,baz=212,slow=5.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**174.44**	**163**		**PKPdf**	**23 03 01.3**	**-1.1**
TORD					**PKPab**	**23 04 37.6**	**+0.9**

*ISCJB **01** 22:57:27.5±0.8, 14°.5N±0°.1×90°.86W±0°.08, h45km±9km,*
Error ellipse: s-maj=21.0km s-min=11.8km az=11.3
*GCG **01** 22:57:28.0±0.7, 14°.61N×90°.81W, h5km±64km, MD3.6*
*NEIC **01** 22:57:30.1±1.0, 14°.66N±0°.07×90°.92W±0°.05, h35km±2km, mb4.7/10*
ISC 01 22:57:27.3±1.1, **14°.6N**±0°.1×**90°.89W**±0°.08, **h25**km±11km, **n19**, σ1§**21**/19, **mb4.8**/3, **2C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.13**	**161**	⇑*i* P	**Pb**	**22 57 32.6**	**+0.1**
NBG	**Las Nubes**	**0.52**	**88**	*e*P	**Pb**	**22 57 37.8**	**-0.3**
IXG	**Ixpaco**	**0.59**	**133**	*e*P	**Pb**	**22 57 39.9**	**+0.7**
STG3	**Santiaguito 3,**	**0.68**	**282**	⇑*e*P	**Pn**	**22 57 42.9**	**+1.4**
MRL	**Marmol**	**1.27**	**66**	*e*P	**Pb**	**22 57 50.8**	**+0.1**
CCIG	**Comitan**	**2.08**	**325**		**Pn**	**22 58 01.8**	**+0.9**
TEIG	**Tepich**	**6.15**	**24**		**Pn**	**22 58 59.0**	**+2.4**
CBCY	**The Bluff, Cay**	**11.81**	**63**	Pn	**Pn**	**23 00 12.8**	**-1.4**
HKT	**Hockley**	**15.97**	**344**	Pn	**Pn**	**23 01 09.1**	**-1.2**
V62A	**Hyde County Ai**	**24.83**	**30**	P	**P**	**23 02 48.8**	**+1.1**
MEDO	**Medina**	**30.43**	**18**	P	**P**	**23 03 38.7**	**+1.0**
MEDO				IAmb	IAmb	23 03 50.6	
	comp=Z,21nm,0.7s						
G45A	**Suttons Bay**	**30.69**	**7**	P	**P**	**23 03 38.6**	**-1.5**
J55A	**Hilton**	**30.72**	**19**	P	**P**	**23 03 40.9**	**+0.7**
J56A	**Wolcott**	**31.04**	**20**	P	**P**	**23 03 43.2**	**+0.1**
PSUT	**Pine Spring**	**31.32**	**324**	P	**P**	**23 03 46.9**	**+1.0**
PD31	**Pinedale Array**	**32.37**	**334**	P	**P**	**23 03 55.5**	**+0.3**
PD31				IAmb	IAmb	23 03 58.4	
	comp=Z,2.8nm,0.7s						
PDAR	**Pinedale Array**	**32.37**	**334**	P	**P**	**23 03 55.9**	**+0.8**
LOHW	**Long Hollow**	**33.50**	**334**	P	**P**	**23 04 03.5**	**-1.5**
LOHW				IAmb	IAmb	23 04 03.9	
	comp=Z,10nm,0.8s						
FRNY	**Flat Rock**	**33.55**	**23**	P	**P**	**23 04 06.0**	**+0.9**

SKO 01 22:59:48.7, 41°.27N×22°.69E, h12km, M0.1, ML0.3, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.10**	**300**	*i* Pg	Pg	22 59 51.6	0.0
VAY				*e*Lg	Lg	22 59 53.9	
	comp=E,12nm,0.2s						
VAY				*i* Sg	Sg	22 59 53.9	+0.3
VAY				*e*Lg	Lg	22 59 54.0	
	comp=N,22nm,0.2s						
KNT	**Kendrikon**	**0.19**	**124**	⇑*i* Pg	Pg	22 59 53.0	+0.1
KNT				*i* Sg	Sg	22 59 55.7	0.0
GRG	**Griva**	**0.38**	**215**	*i* Pg	Pg	22 59 56.5	+0.2
GRG				*i* Sg	Sb	23 00 03.2	0.0
STIP	**Stip**	**0.57**	**318**	*i* Pg	Pg	22 59 59.3	-0.5
STIP				*i* Sg	Sg	23 00 05.4	-1.9
STIP				*e*Lg	Lg	23 00 06.0	
	comp=E,1.7nm,0.2s						
STIP				*e*Lg	Lg	23 00 07.4	
	comp=N,2.6nm,0.3s						
SOH	**Sokhos**	**0.67**	**132**	*i* Pg	Pg	23 00 02.0	+0.2
SOH				*i* Sg	Sg	23 00 10.9	+0.3
SRS	**Serrai**	**0.70**	**102**	*i* Pg	Pg	23 00 02.4	+0.2
MMB	**Musomiste**	**0.84**	**67**	*i* Pg	Pg	23 00 05.1	+0.1
MMB				*i* Sg	Sg	23 00 15.4	-0.6

*ATH **01** 23:00:38.1, 37°.58N×20°.84E, h27km±1km, ML2.0/11, Error ellipse: s-maj=2.2km s-min=1.0km az=28.0*
*THE **01** 23:00:39.4, 37°.60N×20°.89E, h5km±1km, ML2.0/4, Error ellipse: s-maj=1.5km s-min=0.6km az=222.0*
ISC 01 23:00:38.8±1.3, **37°.59N**±0°.04×**20°.86E**±0°.04, **h17**km±9km, **n36**, σ0§**53**/51, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	**Volimes, Zakyn**	**0.33**	**331**	P	**Pb**	**23 00 46.1**	**-0.2**
VLMS				S	**Sb**	**23 00 51.1**	**-0.1**
VLMS				AML	AML	23 00 57.5	
	comp=N,763μm,0.3s						
VLMS				AML	AML	23 00 58.1	
	comp=E,1193μm,0.2s						
KFL	**Anninata**	**0.52**	**354**	P	**Pg**	**23 00 49.0**	**-0.3**
KFL				S	**Sb**	**23 00 56.5**	**-0.4**
	comp=E,210nm,0.5s						
KFL	**Anninata**	**0.52**	**354**	P	**Pg**	**23 00 49.0**	**-0.3**
KFL				S	**Sb**	**23 00 56.9**	**0.0**
KFL				AML	AML	23 00 59.6	
	comp=E,417μm,0.3s						
KFL				AML	AML	23 01 01.0	
	comp=N,300μm,0.4s						
VLS	**Valsamata**	**0.62**	**340**	P	**Pg**	**23 00 50.7**	**-0.5**
VLS				S	**Sb**	**23 01 00.4**	**+0.5**
	comp=N,88nm,0.2s						
VLS	**Valsamata**	**0.62**	**340**	P	**Pg**	**23 00 50.7**	**-0.5**
VLS				S	**Sg**	**23 00 59.4**	**-0.2**
VLS				AML	AML	23 01 08.0	
	comp=E,144μm,0.2s						
VLS				AML	AML	23 01 09.1	
	comp=N,197μm,0.3s						
RLS	**Riolos of Patr**	**0.67**	**46**	P	**Pg**	**23 00 51.4**	**-0.6**
RLS	**Riolos of Patr**	**0.67**	**46**	P	**Pg**	**23 00 51.4**	**-0.6**
RLS				S	**Sb**	**23 01 01.3**	**+0.2**
RLS				AML	AML	23 01 04.0	
	comp=E,143μm,0.3s						
RLS				AML	AML	23 01 06.5	
	comp=N,182μm,0.3s						
AMT	**Artemida-Makis**	**0.68**	**95**	P	**Pb**	**23 00 52.2**	**0.0**
AMT				S	**Sb**	**23 01 02.2**	**+0.9**
	comp=N,185nm,0.3s						
AMT	**Artemida-Makis**	**0.68**	**95**	P	**Pb**	**23 00 52.3**	**0.0**
AMT				AML	AML	23 01 04.3	
	comp=N,376μm,0.4s						
AMT				AML	AML	23 01 08.8	
	comp=E,353μm,0.4s						
DRO	**Drossia**	**0.77**	**61**	P	**Pg**	**23 00 53.5**	**-0.3**
DRO	**Drossia**	**0.77**	**61**	P	**Pg**	**23 00 53.2**	**-0.6**
DRO				S	**Sn**	**23 01 05.1**	**-0.9**
DRO				AML	AML	23 01 13.1	
	comp=N,400μm,0.3s						
DRO				AML	AML	23 01 13.2	
	comp=E,406μm,0.4s						
FSK	**Fiskardo**	**0.90**	**345**	P	**Pg**	**23 00 56.2**	**-0.2**
FSK				S	**Sn**	**23 01 09.3**	**-0.1**
FSK	**Fiskardo**	**0.90**	**345**	P	**Pg**	**23 00 56.2**	**-0.2**
ITM	**Ithomi**	**0.94**	**115**	P	**Pg**	**23 00 57.0**	**-0.1**
ITM	**Ithomi**	**0.94**	**115**	P	**Pb**	**23 00 56.0**	**-0.7**
ITM				AML	AML	23 01 15.9	
	comp=N,89μm,0.4s						
ITM				AML	AML	23 01 17.6	
	comp=E,57μm,0.3s						
PYL	**PYLOS**	**0.99**	**134**	P	**Pb**	**23 00 57.4**	**-0.1**
PYL	**PYLOS**	**0.99**	**134**	P	**Pb**	**23 00 56.9**	**-0.6**
PDO	**Prodromos**	**1.04**	**14**	P	**Pb**	**23 00 58.3**	**-0.1**
PDO	**Prodromos**	**1.04**	**14**	P	**Pb**	**23 00 58.1**	**-0.3**
PDO				AML	AML	23 01 17.8	
	comp=N,452μm,0.3s						
PDO				AML	AML	23 01 17.9	
	comp=E,338μm,0.3s						
EVGI	**Lefkada island**	**1.04**	**351**	P	**Pb**	**23 00 58.2**	**-0.3**
EVGI				S	**Sn**	**23 01 14.1**	**+1.2**
EVGI	**Lefkada island**	**1.04**	**351**	P	**Pb**	**23 00 58.2**	**-0.3**
LAKA	**Lakka**	**1.10**	**53**	P	**Pn**	**23 00 59.6**	**+0.1**
LAKA	**Lakka**	**1.10**	**53**	P	**Pn**	**23 00 59.5**	**0.0**
LAKA				AML	AML	23 01 23.6	
	comp=E,88μm,0.6s						
LAKA				AML	AML	23 01 26.7	
	comp=N,66μm,0.7s						
KLV	**Kalavryta, Ach**	**1.12**	**66**	P	**Pb**	**23 00 59.6**	**-0.2**
KLV	**Kalavryta, Ach**	**1.12**	**66**	P	**Pb**	**23 00 59.4**	**-0.3**
KLV				S	**Sg**	**23 01 15.6**	**+0.4**
KLV				AML	AML	23 01 19.9	
	comp=N,65μm,0.5s						
KLV				AML	AML	23 01 24.5	
	comp=E,57μm,0.6s						
PVO	**Paravola**	**1.15**	**27**	P	**Pg**	**23 01 00.6**	**-0.5**
PVO	**Paravola**	**1.15**	**27**	P	**Pg**	**23 01 00.6**	**-0.5**
PVO				AML	AML	23 01 20.9	
	comp=N,182μm,0.4s						
PVO				AML	AML	23 01 23.6	
	comp=E,120μm,0.3s						
EFP	**Efpalio**	**1.18**	**44**	P	**Pn**	**23 01 00.4**	**-0.1**
EFP				S	**Sg**	**23 01 17.1**	**+0.2**
EFP	**Efpalio**	**1.18**	**44**	P	**Pn**	**23 01 00.3**	**-0.2**
VLX	**Vlachokerasia**	**1.23**	**100**	P	**Pb**	**23 01 01.7**	**0.0**
VLX				S	**Sg**	**23 01 19.7**	**+1.1**
TRIZ	**Trizonia**	**1.23**	**51**	P	**Pb**	**23 01 01.9**	**+0.2**
TSLK	**Tsoukalades, L**	**1.25**	**353**	P	**Pg**	**23 01 03.0**	**+0.1**
TSLK				S	**Sg**	**23 01 20.7**	**+1.5**
	comp=E,50nm,0.5s						
TSLK	**Tsoukalades, L**	**1.25**	**353**	P	**Pb**	**23 01 01.8**	**-0.1**
SERG	**Sergoula**	**1.25**	**49**	P	**Pn**	**23 01 01.3**	**-0.3**
SERG				S	**Sg**	**23 01 20.4**	**+1.0**
EVR	**Evrytania**	**1.52**	**29**	P	**Pg**	**23 01 07.6**	**-0.6**
EVR	**Evrytania**	**1.52**	**29**	P	**Pb**	**23 01 06.0**	**-0.7**

*JMA **01** 23:04:00.5±0.1, 23°.55N×121°.52E, h0km*
*ISCJB **01** 23:04:01.9±0.3, 23°.59N±0°.01×121°.45E±0°.02, h10km,*
Error ellipse: s-maj=3.0km s-min=1.7km az=29.7
*TAP **01** 23:04:01.3, 23°.59N×121°.39E, h10km, ML2.6, B*
ISC 01 23:04:01.5±0.8, **23°.60N**±0°.02×**121°.40E**±0°.03, **h10**km, **n55**, σ0§**55**/85, **4C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.08**	**20**	P	**Pg**	**23 04 04.3**	**+0.6**
EGFH				*e*S	**Sg**	**23 04 05.8**	**+0.4**
	baz=23						
HGSD	**Ruisui**	**0.11**	**167**	⇑*e*P	**Pg**	**23 04 05.4**	**+1.3**
	baz=163						
EHY	**Hungye**	**0.12**	**218**	⇑*i* P	**Pg**	**23 04 04.9**	**+0.6**
	baz=212						
EHY				S	**Sg**	**23 04 06.8**	**+0.6**
	baz=212						
ESL	**Shilin**	**0.22**	**8**	*e*P	**Pg**	**23 04 06.6**	**+0.6**
	baz=11						
YULB	**Yu-li**	**0.22**	**205**	⇑*i* P	**Pg**	**23 04 06.7**	**+0.6**
	baz=203						
YULB				*e*S	**Sg**	**23 04 10.0**	**+0.7**
	baz=203						
TWF1	**Yuli**	**0.26**	**201**	⇑*i* P	**Pb**	**23 04 07.4**	**-0.8**
	baz=198						
TWF1				*e*S	**Sg**	**23 04 11.2**	**+0.9**
	baz=198						
VWDT	**VWDT**	**0.28**	**304**	⇓*e*P	**Pb**	**23 04 08.4**	**-0.3**
	baz=304						
VWDT				S	**Sb**	**23 04 12.8**	**-0.6**
	baz=304						
ENLB	**Shoufeng**	**0.36**	**31**	*e*P	**Pb**	**23 04 09.6**	**-0.3**
	baz=31						
ENLB				*e*S	**Sb**	**23 04 15.8**	**+0.2**
	baz=31						
YUS	**Yu-Shan**	**0.42**	**255**	*e*S	**Sb**	**23 04 16.8**	**-1.2**
	baz=254						
SSLB	**Suanglung**	**0.45**	**295**	*e*P	**Pb**	**23 04 11.1**	**-0.4**
	baz=295						
SSLB				*e*S	**Sb**	**23 04 17.1**	**-1.2**
	baz=295						
CHGB	**Renai**	**0.51**	**336**	⇓*i* P	**Pb**	**23 04 12.1**	**-0.5**
	baz=336						
CHGB				*e*S	**Sb**	**23 04 19.0**	**-1.1**
	baz=336						
WHYT	**Xinyi Township**	**0.51**	**281**	*e*P	**Pb**	**23 04 12.6**	**+0.1**
	baz=281						
WHYT				S	**Sb**	**23 04 19.8**	**-0.2**
	baz=281						
TWD	**Chiawan**	**0.51**	**21**	P	**Pb**	**23 04 12.4**	**-0.2**
	baz=21						
ELDTW	**Lidau**	**0.54**	**221**	P	**Pb**	**23 04 12.4**	**-0.6**
	baz=219						
ELDTW				*e*S	**Sg**	**23 04 19.1**	**+0.1**
	baz=219						
ALS	**Alishan**	**0.55**	**261**	P	**Pb**	**23 04 13.7**	**+0.3**
	baz=260						
ALS				*e*S	**Sb**	**23 04 21.3**	**-0.2**
	baz=260						
WHF	**Hehuan Shan**	**0.56**	**347**	P	**Pb**	**23 04 13.0**	**-0.6**
	baz=348						
WHF				S	**Sb**	**23 04 21.5**	**-0.3**
	baz=348						
TYC	**Yuchr**	**0.58**	**302**	*e*P	**Pb**	**23 04 13.6**	**-0.1**
	baz=302						
NACB	**Ningnanchiao**	**0.60**	**17**	*e*P	**Pg**	**23 04 13.3**	**+0.2**
	baz=17						
ETLH	**Xiulin Townshi**	**0.61**	**7**	*e*P	**Pg**	**23 04 13.5**	**+0.1**
	baz=7.0						
ETLH				*e*S	**Sg**	**23 04 22.0**	**+0.5**
	baz=7.0						
DPDB	**Guoxing**	**0.61**	**315**	*e*P	**Pb**	**23 04 14.5**	**+0.2**
	baz=315						
CHN5	**Tsauling**	**0.66**	**270**	*e*P	**Pn**	**23 04 15.9**	**-1.1**
	baz=270						
CHN5				*e*S	**Sb**	**23 04 25.2**	**+0.8**
	baz=270						
TWT	**Tachien**	**0.69**	**343**	*e*P	**Pb**	**23 04 15.6**	**0.0**
	baz=342						
TWT				*e*S	**Sb**	**23 04 25.1**	**-0.2**
	baz=342						
TDCB	**Techi**	**0.69**	**341**	*e*P	**Pb**	**23 04 15.6**	**-0.1**
	baz=341						
TDCB				*e*S	**Sb**	**23 04 25.0**	**-0.4**
	baz=341						
WNT	**Mingjian**	**0.71**	**293**	*e*P	**Pn**	**23 04 17.4**	**-0.2**
	baz=293						
STYT	**Tauyuan**	**0.73**	**234**	*e*P	**Pn**	**23 04 17.1**	**-0.8**
	baz=233						
TPUB	**Ta-pu**	**0.77**	**247**	*e*P	**Pn**	**23 04 17.8**	**-0.5**
	baz=247						
TPUB				*e*S	**Sb**	**23 04 28.1**	**+0.7**
	baz=247						
CHN4	**Tsaushan**	**0.78**	**252**	*e*P	**Pn**	**23 04 18.4**	**-0.2**
	baz=251						
CHN4				*e*S	**Sn**	**23 04 29.0**	**-1.3**
	baz=251						
WDLH	**Douliu**	**0.80**	**277**	*e*P	**Pn**	**23 04 18.9**	**+0.1**
	baz=276						
WHP	**Taichung City**	**0.80**	**329**	*e*P	**Pb**	**23 04 17.7**	**+0.3**
	baz=329						
WTP	**Ta-pu**	**0.80**	**244**	*e*P	**Pn**	**23 04 18.5**	**-0.3**
	baz=243						
NNSB	**Datong**	**0.83**	**359**	*e*P	**Pb**	**23 04 17.7**	**-0.3**
	baz=359						
NNSB				*e*S	**Sb**	**23 04 29.4**	**+0.1**
	baz=359						
TWG	**Pinlang**	**0.83**	**201**	*e*P	**Pg**	**23 04 17.4**	**-0.1**
	baz=200						
TWG				*e*S	**Sb**	**23 04 29.7**	**+0.5**
	baz=200						
TWGBT	**Beinan**	**0.83**	**201**	*e*P	**Pb**	**23 04 18.0**	**0.0**
	baz=200						
TWGBT				*e*S	**Sb**	**23 04 29.7**	**+0.5**
	baz=200						
NNS	**Nan Shan**

947nm,0.3s
LAGR Lagunnoye 2.00 261 *e*P **Pn 23 31 31.0 +1.3**
LAGR *e*S **Sn 23 31 53.0 -0.6**
LAGR 507nm,0.4s A A 23 31 54.0
LAGR 286nm,0.4s A A 23 31 54.0
GRPR Tuman 2.03 259 *e*P **Pn 23 31 31.0 +1.0**
GRPR AMB AMB 23 31 34.0
GRPR 120nm,0.3s *e*S **Sn 23 31 54.0 -0.1**
GRPR 352nm,0.3s A A 23 31 58.0
GRPR 202nm,0.3s A A 23 31 58.0
NEM2 Nemuro 2 2.27 244 P **Pn 23 31 33.4 +0.1**
NEM2 *e*S **Sn 23 31 57.3 -2.7**
GLVR Golovnino 2.27 254 *e*P **Pn 23 31 35.0 +1.7**
GLVR *e*S **Sn 23 32 01.0 +0.9**
GLVR 516nm,0.3s A A 23 32 06.0
GLVR 239nm,0.3s A A 23 32 06.0
NMR Nemuro--Hokkai 2.28 244 *e*P **Pn 23 31 36.0 +2.6**
JRA Rausu 2.50 260 P **Pn 23 31 38.1 +1.7**
JRA *e*S **Sn 23 32 04.9 -0.7**
JNSB Nemuroshibetsu 2.62 257 P **Pn 23 31 39.5 +1.4**
JKHN Kushirohamanak 2.78 243 P **Pn 23 31 40.8 +0.6**
JNK Nakash 2.87 255 P **Pn 23 31 42.9 +1.4**
JNK *e*S **Sn 23 32 13.5 -1.3**
JAK Akkeshi 3.12 244 P **Pn 23 31 45.5 +0.6**
JAK *e*S **Sn 23 32 18.0 -2.9**
JAR Ashorobuto 3.62 254 P **Pn 23 31 53.7 +1.9**
JAR *e*S **Sn 23 32 32.9 -0.3**
JCH Churui 4.16 246 P **Pn 23 32 00.5 +1.3**
JCH *e*S **Sn 23 32 44.6 -2.0**
JNBK Urakawa-nobuka 4.72 245 P **Pn 23 32 08.2 +1.4**
JKB Kayabe 6.03 248 P **Pn 23 32 26.6 +1.7**
JKB *e*S **Sn 23 33 30.9 -1.6**
JOT Ohata 6.27 244 P **Pn 23 32 29.3 +1.2**
JOT *e*S **Sn 23 33 35.2 -3.2**

NNC 01 23:47:44.5±4.8, 37°.13N×70°.92E, h0km, mb4.0, mpv3.6, 3C-1D, Error ellipse: s-maj=38.3km s-min=36.9km az=81.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.43**	**22**	P	Pn	23 49 07.7	+0.6
	SNR=21						
UCH	**Uchtor**	**5.79**	**27**	P	Pn	23 49 12.1	0.0
	SNR=6.8						
EKS2	**Erkin-Say**	**5.94**	**21**	P	Pn	23 49 14.8	+0.9
	SNR=9.7						
KK31	**Karatay Array**	**5.97**	**357**	P	Pn	23 49 14.5	+0.4
	1.2nm,0.3s,baz=186,slow=13,SNR=41						
KK31				S	Sn	23 50 24.2	+1.0
	6.8nm,0.6s,baz=191,slow=24,SNR=20						
AAK	**Ala-Archa**	**6.15**	**25**	⇓P	Pn	23 49 17.2	+0.5
	2.0nm,0.4s						
AAK				⇑S	Sn	23 50 29.7	+2.0
	7.6nm,0.8s						
AAK	**Ala-Archa**	**6.15**	**25**	P	Pn	23 49 17.0	+0.3
	SNR=6.9						
USP	**Ospenovka**	**6.71**	**23**	P	Pn	23 49 23.6	-0.8
	SNR=7.2						
TKM2	**Tokmak 2**	**6.80**	**30**	⇑P	Pn	23 49 24.8	-0.9
	5.0nm,0.7s						
TKM2				⇑S	Sn	23 50 43.7	-0.3
	3.0nm,0.7s						
TKM2	**Tokmak 2**	**6.80**	**30**	P	Pn	23 49 25.2	-0.5
	SNR=5.7						

ISCJB ***02*** *00:06:21.4±0.5, 29°.07N±0°.04×138°.86E±0°.08, h500km, mb3.3/8, Error ellipse: s-maj=9.6km s-min=5.4km az=164.4*
IDC ***02*** *00:06:21.9±0.8, 28°.99N×138°.80E, h493km±11km, mb3.0/9, mb1 3.1/14, mb1mx2.9/58, mbtmp3.9/14, Error ellipse: s-maj=22.5km s-min=11.5km az=73.0*
JMA ***02*** *00:06:21.4±0.3, 29°.16N×139°.21E, h524km±5km, M4.0*
ISC 02 00:06:22.4±0.7, 29°.11N±0°.07×138°.9E±0°.1, h500km, n26, σ1§49/30, mb3.5/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.53**	**124**	P	**P**	**00 07 37.0**	**-0.2**
CBIJ				*e*S	**S**	**00 08 36.5**	**-1.5**
JCJ	**Chichijima**	**3.53**	**124**	P	**P**	**00 07 36.9**	**-0.3**
	4.1nm,0.3s,baz=298,slow=23,SNR=7.2						
JCJ				S	**S**	**00 08 36.5**	**-1.5**
	18nm,0.3s,baz=299,slow=22,SNR=8.5						
JHH2	**Haha-jima-NKT2**	**3.81**	**130**	*e*S	**S**	**00 08 41.3**	**-0.7**
BSO1	**Boso 1**	**5.81**	**17**	P	**P**	**00 07 57.6**	**+1.5**
BSO1				S	**S**	**00 09 13.5**	**+0.5**
HMMJ	**Hamamatsu 2**	**5.82**	**350**	*e*S	**S**	**00 09 14.5**	**+0.3**
BSO3	**Boso 3**	**5.84**	**13**	*e*S	**S**	**00 09 14.3**	**+0.2**
BSO4	**Boso 4**	**5.99**	**11**	*e*S	**S**	**00 09 17.4**	**+0.4**
JAO	**Obara**	**6.30**	**348**	P	**P**	**00 08 04.0**	**+2.5**
JHU	**Hanno**	**6.73**	**3**	*e*S	**S**	**00 09 27.0**	**-3.5**
JAG	**Ashikaga**	**7.31**	**4**	P	**P**	**00 08 11.4**	**-0.2**
JAG				*e*S	**S**	**00 09 37.4**	**-3.8**
MJAR	**Matsushiro Arr**	**7.44**	**356**	P	**P**	**00 08 12.7**	**-0.2**
	0.1nm,0.3s,baz=176,slow=11,SNR=11						
JHO	**Hitachi**	**7.61**	**10**	*e*S	**S**	**00 09 44.9**	**-1.9**
JHS	**Saijyo**	**7.65**	**322**	P	**P**	**00 08 16.9**	**+1.7**
JNU	**Nakatsue**	**7.95**	**302**	P	**P**	**00 08 18.9**	**+0.6**
	0.3nm,0.3s,baz=115,slow=10,SNR=4.4						
JFK	**Kawauchi**	**8.40**	**11**	*e*S	**S**	**00 09 59.7**	**-2.1**
KSRS	**Korea Array**	**12.38**	**315**	P	**P**	**00 09 04.3**	**-0.5**
	0.2nm,0.3s,baz=125,slow=10,SNR=14						
USRK	**Ussuriysk Ar.**	**16.04**	**342**	P	**P**	**00 09 43.6**	**+0.3**
	baz=161,slow=10.0,SNR=12						
KLR	**Kul'dur**	**20.83**	**347**	P	**P**	**00 10 29.4**	**+1.1**
	2.7nm,0.6s,baz=160,slow=8.8,SNR=9.4						
SONM	**Songino Array**	**31.25**	**316**	P	**P**	**00 12 00.9**	**+0.4**
	0.8nm,0.5s,baz=127,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**46.96**	**308**	P	**P**	**00 14 06.8**	**-0.6**
	0.5nm,0.7s,baz=90,slow=8.5,SNR=5.1						
WRA	**Warramunga Arr**	**48.96**	**186**	P	**P**	**00 14 22.2**	**-0.5**
	1.8nm,0.8s,baz=2.8,slow=7.6,SNR=12						
NRIK	**Noril'sk**	**49.73**	**339**	P	**P**	**00 14 27.8**	**+0.1**
	2.5nm,0.7s,baz=135,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**52.69**	**186**	P	**P**	**00 14 48.3**	**-1.5**
	0.4nm,0.7s,baz=357,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	**57.37**	**29**	P	**P**	**00 15 23.4**	**+1.4**
	0.7nm,0.7s,baz=291,slow=8.1,SNR=9.1						
ARCES	**ARCESS Array B**	**70.68**	**340**	P	**P**	**00 16 46.9**	**+0.1**
	1.7nm,0.8s,baz=48,slow=7.2,SNR=6.7						
FINES	**FINESS Array B**	**74.85**	**333**	P	**P**	**00 17 11.0**	**0.0**
	1.3nm,0.7s,baz=76,slow=8.0,SNR=5.5						

IDC ***02*** *00:28:24.8±4.2, 35°.86N×70°.76E, h70km±39km, mb3.3/5, mb1 3.5/11, mb1mx3.2/62, mbtmp3.6/11, ML3.5/6, Error ellipse: s-maj=34.5km s-min=24.5km az=168.0*
ISCJB ***02*** *00:28:26.4±0.8, 36°.18N±0°.07×70°.47E±0°.06, h100km, mb3.5/4, Error ellipse: s-maj=9.9km s-min=6.4km az=162.8*
NNC ***02*** *00:28:29.0±4.9, 36°.68N×70°.01E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=47.3km s-min=21.5km az=155.0*
ISC 02 00:28:28.6±1.1, 36°.23N±0°.09×70°.45E±0°.07, h100km, n24, σ1§89/31, mb3.5/4, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.41**	**22**	P	**Pn**	**00 30 00.6**	**-0.2**
	SNR=15						
UCH	**Uchtor**	**6.77**	**26**	P	**Pn**	**00 30 05.0**	**-0.7**
	SNR=8.5						
KK31	**Karatay Array**	**6.87**	**0**	⇓P	**Pn**	**00 30 07.0**	**+0.4**
	3.3nm,0.3s,baz=184,slow=13,SNR=103						
KK31				⇑S	**Sn**	**00 31 21.7**	**-1.5**
	2.5nm,0.4s,baz=193,slow=22,SNR=7.2						
EKS2	**Erkin-Say**	**6.92**	**21**	P	**Pn**	**00 30 07.4**	**0.0**
	SNR=8.1						
AAK	**Ala-Archa**	**7.12**	**25**	⇑P	**Pn**	**00 30 09.9**	**-0.3**
	6.2nm,0.4s						
AAK				⇓S	**Sn**	**00 31 26.9**	**-2.7**
	2.4nm,0.4s						
AAK	**Ala-Archa**	**7.12**	**25**	P	**Pn**	**00 30 10.1**	**-0.1**
	3.7nm,0.3s,baz=180,slow=6.0,SNR=59						
AAK				S	**Sn**	**00 31 26.8**	**-2.8**
	0.6nm,0.3s,baz=305,slow=23,SNR=7.8						
AAK	**Ala-Archa**	**7.12**	**25**	P	**Pn**	**00 30 10.3**	**+0.1**
	SNR=18						
CHMS	**Chumysh**	**7.53**	**25**	P	**Pn**	**00 30 15.5**	**-0.1**
	SNR=9.5						
USP	**Ospenovka**	**7.69**	**23**	P	**Pn**	**00 30 17.1**	**-0.6**
	SNR=7.3						
TKM2	**Tokmak 2**	**7.77**	**29**	⇑P	**Pn**	**00 30 18.0**	**-1.1**
	5.0nm,0.5s						
TKM2				⇑S	**Sn**	**00 31 50.9**	**+5.4**
	3.1nm,0.7s						
TKM2	**Tokmak 2**	**7.77**	**29**	P	**Pn**	**00 30 18.2**	**-0.9**
	SNR=6.2						
GEYT	**Alibeck**	**10.00**	**283**	P	**Pn**	**00 30 49.9**	**+0.6**
	0.4nm,0.3s,baz=113,slow=8.4,SNR=6.4						
GEYT				S	**Sn**	**00 32 39.4**	**-0.2**
	1.3nm,0.3s,baz=287,slow=23,SNR=10						
GYA0B	**ALIBECK ARRAY**	**10.00**	**283**	⇑P	**Pn**	**00 30 49.2**	**-0.2**
GYA0B				⇑S	**Sn**	**00 32 37.4**	**-2.2**
MKAR	**Makanchi Array**	**13.77**	**36**	P	**Pn**	**00 31 39.7**	**+0.3**
	0.1nm,0.3s,baz=218,slow=8.7,SNR=2.4						
AB31	**Akbulak array**	**15.11**	**333**	⇑P	**Pn**	**00 31 56.7**	**+0.1**
	1.0nm,0.3s,baz=144,slow=13,SNR=81						
AB31				⇑S	Sn	00 34 36.8	-6.4
	1.2nm,0.7s,baz=151,slow=23,SNR=3.2						
KURBB	**Kurchatov Arra**	**15.52**	**20**	P	**P**	**00 32 03.7**	**-0.2**
	0.0nm,0.3s,baz=209,slow=9.5,SNR=5.4						
BVAR	**Borovoye Array**	**16.79**	**360**	P	**P**	**00 32 18.5**	**+0.6**
	0.2nm,0.3s,baz=158,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**16.80**	**332**	⇓P	**P**	**00 32 19.6**	**+1.5**
	4.4nm,0.7s						
AKTO				⇓S	**Sn**	**00 35 20.6**	**-3.3**
	2.3nm,1.0s						
AKTO	**Aktyubinsk**	**16.80**	**332**	P	**P**	**00 32 20.6**	**+2.6**
	0.4nm,0.3s,baz=149,slow=14,SNR=12						
ZALV	**Zalesovo Beam**	**20.34**	**25**	P	**P**	**00 32 56.7**	**0.0**
	1.3nm,0.3s,baz=214,slow=10,SNR=8.7						
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**00 36 06.6**	**+3.4**
	2.0nm,0.9s,baz=108,slow=8.9,SNR=1.5						
TORD	**Torodi Ar. Bea**	**65.27**	**268**	P	**P**	**00 39 01.0**	**+1.0**
	0.9nm,1.2s,baz=41,slow=7.5,SNR=4.0						
WRA	**Warramunga Arr**	**82.22**	**122**	P	**P**	**00 40 36.8**	**-2.1**
	0.3nm,0.5s,baz=320,slow=4.5,SNR=2.3						
ASAR	**Alice Springs**	**84.46**	**125**	P	**P**	**00 40 47.6**	**-2.8**
	0.3nm,0.6s,baz=311,slow=4.7,SNR=2.8						

ISCJB ***02*** *00:42:08.5±0.5, 19°.3S±0°.1×177°.76W±0°.08, h550km, mb3.8/5, Error ellipse: s-maj=13.4km s-min=9.6km az=164.9*
NEIC ***02*** *00:42:10.1±1.5, 19°.3S±0°.1×177°.6W±0°.1, h566km±10km, mb4.2/34*
IDC ***02*** *00:42:15.2±3.1, 19°.30S×177°.83W, h611km±37km, mb3.2/5, mb1 3.5/6, mb1mx3.1/33, mbtmp4.2/6, Error ellipse: s-maj=81.4km s-min=18.9km az=156.0*
ISC 02 00:42:09.7±0.6, 19°.2S±0°.1×177°.68W±0°.10, h550km, n54, σ1§36/57, mb4.2/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.33**	**90**	P	**P**	**00 44 00.6**	**-0.3**
AFI	**Afiamalu**	**7.75**	**48**	P	**P**	**00 44 05.2**	**0.0**
DZM	**Mont Dzumac**	**15.13**	**257**	P	**P**	**00 45 24.0**	**+3.3**
	0.5nm,0.3s,baz=133,slow=20,SNR=6.2						
OUZ	**Omahuta**	**17.70**	**204**	P	**P**	**00 45 46.6**	**+1.9**
URZ	**Urewera**	**19.49**	**192**	P	**P**	**00 45 59.4**	**-1.6**
URZ				IAmb	IAmb	00 46 00.4	
	comp=Z,4.9nm,0.9s						
THZ	**Tophouse**	**23.85**	**198**	P	**P**	**00 46 38.6**	**-1.5**
CRLZ	**Canterbury Las**	**25.60**	**196**	P	**P**	**00 46 49.3**	**-6.2**
CRLZ				IAmb	IAmb	00 47 00.9	
	comp=Z,5.7nm,0.6s						
FOZ	**Fox Glacier**	**26.41**	**201**	P	**P**	**00 47 01.6**	**-1.1**
MLZ	**Mavora Lakes**	**28.60**	**201**	P	**P**	**00 47 21.5**	**-0.4**
WHZ	**Wether Hill Ro**	**29.12**	**201**	P	**P**	**00 47 26.5**	**+0.2**
ARMA	**Armidale**	**29.91**	**242**	P	**P**	**00 47 34.2**	**+0.6**
CTAO	**Charters Tower**	**33.94**	**262**	P	**P**	**00 48 08.1**	**+0.2**
CTAO				IAmb	IAmb	00 48 09.5	
	comp=Z,11nm,1.0s						
TOO	**Toolangi**	**36.90**	**233**	P	**P**	**00 48 31.8**	**-0.4**
TOO				IAmb	IAmb	00 48 33.3	
	comp=Z,5.9nm,0.7s						
COEN	**Coen**	**37.83**	**272**	P	**P**	**00 48 40.9**	**+0.9**
COEN				IAmb	IAmb	00 48 50.4	
	comp=Z,7.2nm,1.1s						
STKA	**Stephens Creek**	**38.62**	**243**	P	**P**	**00 48 46.9**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=94,slow=7.7,SNR=9.0						
STKA	**Stephens Creek**	**38.62**	**243**	P	**P**	**00 48 46.9**	**+0.6**
BBOO	**Buckleboo**	**43.39**	**242**	P	**P**	**00 49 24.3**	**+0.2**
WB0	**Warramunga Arr**	**45.06**	**261**	P	**P**	**00 49 36.0**	**-1.2**
WB2	**Warramunga Arr**	**45.08**	**261**	P	**P**	**00 49 35.6**	**-1.7**
WRA	**Warramunga Arr**	**45.09**	**261**	P	**P**	**00 49 37.2**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=98,slow=7.9,SNR=40						
WRA				PcP	**PcP**	**00 51 05.0**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=96,slow=3.6,SNR=4.6						
WRA	**Warramunga Arr**	**45.09**	**261**	P	**P**	**00 49 37.0**	**-0.4**
AS31	**Alice Springs**	**45.12**	**255**	P	**P**	**00 49 37.1**	**-0.5**
ASAR	**Alice Springs**	**45.12**	**255**	P	**P**	**00 49 37.6**	**0.0**
	comp=Z,2.9nm,0.4s,baz=85,slow=8.1,SNR=72						
ASAR				PcP	**PcP**	**00 51 05.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=102,slow=3.8,SNR=6.2						
ASAR				S	**S**	**00 55 33.8**	**-3.5**
	comp=Z,0.4nm,0.7s,baz=85,slow=15,SNR=5.5						
ASAR	**Alice Springs**	**45.12**	**255**	P	**P**	**00 49 37.2**	**-0.4**
FORT	**Forrest**	**50.08**	**246**	P	**P**	**00 50 14.1**	**-0.5**
KNRA	**Kununurra**	**51.06**	**265**	P	**P**	**00 50 21.6**	**-0.3**
KNRA				IAmb	IAmb	00 50 22.6	
	comp=Z,8.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.51**	**261**	P	**P**	**00 50 38.8**	**-0.6**
PSAD2	**Pilbara Seismi**	**58.14**	**256**	P	**P**	**00 51 10.8**	**-0.7**
PSAC2	**Pilbara Seismi**	**58.21**	**256**	P	**P**	**00 51 11.4**	**-0.6**
PSAC2				IAmb	IAmb	00 51 12.5	
	comp=Z,11nm,0.8s						
PSAB2	**Pilbara Seismi**	**58.25**	**256**	P	**P**	**00 51 11.2**	**-1.0**
PSAB3	**Pilbara Seismi**	**58.25**	**256**	P	**P**	**00 51 11.1**	**-1.1**
PSAB3				IAmb	IAmb	00 51 12.5	
	comp=Z,7.6nm,0.7s						
PSAA3	**Pilbara Seismi**	**58.25**	**256**	P	**P**	**00 51 11.1**	**-1.1**
PSAA3				IAmb	IAmb	00 51 12.5	
	comp=Z,8.4nm,0.7s						
PSA00	**Pilbara Seismi**	**58.26**	**256**	P	**P**	**00 51 11.7**	**-0.6**
PSA00				IAmb	IAmb	00 51 12.5	
	comp=Z,11nm,0.8s						
PSAA2	**Pilbara Seismi**	**58.26**	**256**	P	**P**	**00 51 11.6**	**-0.7**
PSAA2				IAmb	IAmb	00 51 12.9	
	comp=Z,9.0nm,0.7s						
PSAA1	**Pilbara Seismi**	**58.27**	**256**	P	**P**	**00 51 11.6**	**-0.7**
PSAA1				IAmb	IAmb	00 51 12.9	
	comp=Z,10.0nm,0.7s						
PSAC3	**Pilbara Seismi**	**58.27**	**256**	P	**P**	**00 51 11.8**	**-0.6**
PSAC3				IAmb	IAmb	00 51 12.5	
	comp=Z,13nm,0.7s						
PSAB1	**Pilbara Seismi**	**58.28**	**256**	P	**P**	**00 51 11.3**	**-1.1**
PSAB1				IAmb	IAmb	00 51 12.7	
	comp=Z,10nm,0.7s						
PSAD1	**Pilbara Seismi**	**58.29**	**256**	P	**P**	**00 51 12.3**	**-0.2**
PSAD1				IAmb	IAmb	00 51 12.7	
	comp=Z,12nm,0.8s						
PSAC1	**Pilbara Seismi**	**58.30**	**256**	P	**P**	**00 51 11.7**	**-0.8**
PSAC1				IAmb	IAmb	00 51 12.7	
	comp=Z,9.0nm,0.7s						
PSAD3	**Pilbara Seismi**	**58.31**	**256**	P	**P**	**00 51 11.7**	**-1.0**
PSAD3				IAmb	IAmb	00 51 12.8	
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**70.83**	**180**	P	**P**	**00 52 31.0**	**0.0**
TXAR	**Lajitas Array**	**86.12**	**57**	P	**P**	**00 53 54.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=225,slow=6.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**89.98**	**289**	P	**P**	**00 54 11.6**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=103,slow=2.3,SNR=4.7						
ARCES	**ARCESS Array B**	**127.73**	**350**	PKP	**PKPdf**	**01 00 11.0**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=11,slow=2.5,SNR=7.6						
BURAR	**Bucovina Array**	**146.10**	**332**		**PKPbc**	**01 00 48.6**	**0.0**
BRTR	**Keskin Array B**	**146.20**	**314**	PKPbc	**PKPdf**	**01 00 48.3**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=136,slow=4.7,SNR=6.1						
CLL	**Collm**	**146.90**	**348**	*e*PKPbc	**PKPbc**	**01 00 50.0**	**-0.5**
GERES	**GERESS Array B**	**149.06**	**345**	PKPbc	**PKPbc**	**01 00 55.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=36,slow=2.5,SNR=9.2						
CONA	**Conrad Observa**	**149.33**	**342**	*e*PKiKP	**PKPbc**	**01 00 56.8**	**-0.1**
	comp=Z,1.8nm,0.7s						
MOA	**Molln**	**149.85**	**344**	*e*PKiKP	**PKPbc**	**01 00 57.4**	**-0.5**
	comp=Z,1.3nm,0.9s						
WATA	**Walderalm**	**150.97**	**347**	*e*PKiKP	**PKPbc**	**01 00 59.9**	**-0.8**
	comp=Z,1.2nm,0.5s						
WTTA	**Wattenberg**	**151.02**	**347**	*i* PKiKP	**PKPbc**	**01 01 00.4**	**-0.6**
	comp=Z,2.6nm,0.5s						
SQTA	**Sankt Quirin**	**151.15**	**347**	*i* PKiKP	**PKPbc**	**01 01 00.6**	**-0.6**
	comp=Z,1.4nm,0.5s						
ABTA	**Abfaltersbach**	**151.31**	**345**	*i* PKiKP	**PKPbc**	**01 01 00.3**	**-1.1**
	comp=Z,2.3nm,0.5s						

JMA 02 00:48:25.6±0.2, 24°.67N×123°.93E, h60km±3km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.36**	**103**	P	Pn	00 48 36.3	+0.1
JISG				S	Sn	00 48 44.2	+0.4
JIJ	**Ishigaki jima**	**0.36**	**148**	P	Pn	00 48 35.9	-0.3
JIJ				S	Sn	00 48 43.5	-0.4
IRIF	**Iriomote-Funau**	**0.38**	**209**	P	Pn	00 48 36.2	-0.2
IRIF				S	Sn	00 48 44.7	+0.5
JKRS	**Kuro-shima**	**0.44**	**170**	P	Pn	00 48 37.0	+0.1
JKRS				S	Sn	00 48 45.6	+0.5
HATJ	**Hateruma jima**	**0.62**	**191**	P	Pn	00 48 39.0	+0.1
HATJ				*e*S	Sn	00 48 48.6	0.0
JTJ	**Tarama**	**0.70**	**92**	P	Pn	00 48 40.2	+0.3
JTJ				S	Sn	00 48 50.8	+0.5
YOJ	**Yonaguni jima**	**0.86**	**256**	P	Pn	00 48 41.8	-0.1
YOJ				*e*S	Sn	00 48 53.4	-0.4
JYNG	**Yonagunijimaku**	**0.92**	**257**	P	Pn	00 48 42.7	+0.1
JYNG				S	Sn	00 48 55.0	-0.2

TAP 02 00:49:18.4, 24°.84N×121°.97E, h11km±1km, ML2.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.13**	**277**	P	Pg	00 49 21.1	-0.4
	baz=277						
NTC				*e*S	Sg	00 49 23.9	+0.3
	baz=277						
TWB1	**Santiao Chiao**	**0.17**	**6**	*i* P	Pg	00 49 21.9	-0.3
	baz=9.0						
TWB1				*i* S	Sg	00 49 24.3	-0.5
	baz=9.0						
TIPB	**Shuangxi**	**0.19**	**316**	⇑*i*P	Pg	00 49 22.4	0.0
	baz=315						
TIPB				*i* S	Sg	00 49 25.4	+0.2
	baz=315						
ILA	**Ilan**	**0.21**	**250**	*e*P	Pg	00 49 22.2	-0.6
	baz=248						
ILA				S	Sg	00 49 26.3	+0.5
	baz=248						
TWC	**Suao**	**0.25**	**205**	P	Pg	00 49 23.4	-0.2
	baz=203						
TWC				S	Sg	00 49 27.3	+0.3
	baz=203						
NWF	**Wu-fen Shan**	**0.29**	**324**	*i* P	Pg	00 49 24.2	-0.1
	baz=323						
NWF				*i* S	Sg	00 49 29.3	+1.1
	baz=323						
WFSB	**Wu-fen Shan**	**0.29**	**324**	P	Pg	00 49 24.5	+0.3
	baz=323						
WFSB				S	Sb	00 49 29.4	-1.1
	baz=323						
TWE	**Neicheng**	**0.30**	**247**	P	Pg	00 49 24.3	-0.1
	baz=245						
TWE				*e*S	Sg	00 49 28.2	-0.2
	baz=245						
EOS1	**EOS1**	**0.32**	**153**	*e*P	Pg	00 49 25.1	+0.3
	baz=153						
EOS1				S	Sg	00 49 29.8	+0.7
	baz=153						
ENTT	**Nioudou**	**0.41**	**242**	*i* P	Pg	00 49 26.6	0.0
	baz=240						
ENTT				*i* S	Sg	00 49 32.0	-0.1
	baz=240						
NWLT	**Wulai**	**0.43**	**262**	*e*P	Pg	00 49 26.4	-0.4
	baz=261						
NWLT				*e*S	Sg	00 49 31.9	-0.6
	baz=261						
NANB	**Nanao**	**0.45**	**206**	*e*P	Pg	00 49 27.0	-0.3
	baz=205						
NANB				*e*S	Sg	00 49 33.7	+0.4
	baz=205						
ENA	**Nanau**	**0.46**	**207**	*e*P	Pg	00 49 27.1	-0.3
	baz=205						
ENA				S	Sg	00 49 34.2	+0.8
	baz=205						
TATO	**Taipei**	**0.46**	**288**	*e*P	Pg	00 49 27.1	-0.3
	baz=287						
NDT	**Datong Townshi**	**0.48**	**241**	P	Pg	00 49 27.9	+0.1
	baz=240						
NDT				*e*S	Sg	00 49 34.0	0.0
	baz=240						
YM11	**YM11**	**0.48**	**312**	*e*P	Pg	00 49 27.3	-0.6
	baz=312						
YM10	**YM10**	**0.49**	**311**	*e*P	Pg	00 49 28.1	+0.1
	baz=310						
YHNB	**Yeheng**	**0.56**	**253**	P	Pg	00 49 29.1	-0.2
	baz=252						
YHNB				S	Sg	00 49 35.5	-1.3
	baz=252						
NSK	**Sanguang**	**0.58**	**254**	*e*P	Pg	00 49 29.3	-0.4
	baz=253						
NSK				*e*S	Sg	00 49 37.3	0.0
	baz=253						
NNS	**Nan Shan**	**0.67**	**234**	*e*S	Sg	00 49 40.1	-0.1
	baz=233						
NACB	**Ninganchiao**	**0.74**	**207**	*e*S	Sg	00 49 42.8	+0.3
	baz=207						

IDC ***02*** *01:21:59.6±1.8, 3°.76N×123°.21E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.7/4, Error ellipse: s-maj=221.3km s-min=25.3km az=62.0*
DJA ***02*** *01:22:20.4±0.5, 0°.S±3°.3×12°.4E±°.°, h10km, M3.6/7, MLv3.6/7*
ISC 02 01:22:23.7±5.2, 0°.7N±0°.5×123°.1E±0°.2, h10km, n7, σ2§69/7, mb3.6/3, Minahassa Peninsula, Sulawesi

| Code | Station Name | Δ° | AZ° | Phase ID Op

38nm,0.2s
NEM2 Nemuro 2 2.19 243 P **Pn 01 31 01.9 0.0**
NEM2 *eS* **Sn 01 31 25.7 -2.1**
GLVR Golovnino 2.19 254 *eP* **Pn 01 31 03.0 +1.1**
GLVR *eS* **Sn 01 31 27.4 -0.4**
GLVR A A 01 31 33.8
165nm,0.2s
GLVR A A 01 31 33.8
385nm,0.2s
NMR Nemuro--Hokkai 2.20 243 *eP* **Pn 01 31 01.8 -0.2**
NMR *eS* **Sn 01 31 25.7 -2.3**
JRA Rausu 2.42 261 P **Pn 01 31 06.7 +1.7**
JNSB Nemuroshibetsu 2.54 257 P **Pn 01 31 07.9 +1.2**
JKHN Kushirohamanak 2.70 242 P **Pn 01 31 09.4 +0.5**
JKHN *eS* **Sn 01 31 39.0 -1.3**
JNK Nakash 2.79 255 P **Pn 01 31 11.3 +1.1**
JNK *eS* **Sn 01 31 42.2 -0.4**
JAK Akkeshi 3.04 244 P **Pn 01 31 14.0 +0.4**
JAK *eS* **Sn 01 31 47.2 -1.5**
JAR Ashorobuto 3.54 254 P **Pn 01 31 22.7 +2.2**
JAR *eS* **Sn 01 32 02.5 +1.4**
JCH Churui 4.08 246 P **Pn 01 31 29.5 +1.5**
JCH *eS* **Sn 01 32 13.7 -0.8**
JNBK Urakawa-nobuka 4.64 245 P **Pn 01 31 37.1 +1.5**
JKB Kayabe 5.96 248 P **Pn 01 31 54.9 +1.2**
JKB *eS* **Sn 01 32 59.6 -1.0**

IDC 02 01:41:05.7±6.4, 27°.14S×70°.73E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/32, mbtmp3.7/4, MS3.4/1, Ms1 3.3/1, ms1mx2.7/39, Error ellipse: s-maj=175.3km s-min=44.5km az=55.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**19.46**	**5**	T	T	02 04 17.9	
baz=185,slow=76,SNR=12							
H08S2	**Diego Garcia H**	**19.46**	**5**	T	T	02 04 20.9	
baz=185,slow=76,SNR=15							
H08S3	**Diego Garcia H**	**19.47**	**5**	T	T	02 04 19.8	
baz=185,slow=76,SNR=16							
H01W2	**Cape Leeuwin H**	**37.76**	**113**	T	T	02 28 46.3	
baz=272							
H01W3	**Cape Leeuwin H**	**37.76**	**113**	T	T	02 28 45.6	
baz=272							
H01W1	**Cape Leeuwin H**	**37.77**	**113**	T	T	02 28 48.6	
baz=272							
BOSA	**Boshof**	**40.04**	**257**	LR	LR	02 03 47.9	
comp=Z,49nm,18.5s,baz=125,slow=34							
CMAR	**Chiang Mai Arr**	**52.94**	**34**	P	P	01 50 24.2	+0.2
1.0nm,0.3s,baz=240,slow=7.2,SNR=1.5							
ASAR	**Alice Springs**	**56.64**	**102**	P	P	01 50 51.9	+0.8
0.3nm,0.5s,baz=252,slow=6.6,SNR=2.4							
WRA	**Warramunga Arr**	**58.23**	**98**	P	P	01 51 01.3	-1.0
0.3nm,0.6s,baz=250,slow=7.7,SNR=1.9							
MKAR	**Makanchi Array**	**74.32**	**8**	P	P	01 52 44.6	-0.2
0.8nm,0.7s,baz=204,slow=6.3,SNR=2.2							

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*ISCJB **02** 02:23:43.5±0.7, 25°.0S±0°.1×179°.7E±0°.1, h501km, mb3.7/6, Error ellipse: s-maj=17.8km s-min=12.6km az=15.9*
*NEIC **02** 02:23:46.8±1.1, 25°.1S±0°.1×179°.8E±0°.2, h533km±10km, mb4.1/7*
*IDC **02** 02:23:46.5±1.9, 25°.13S×179°.83E, h529km±19km, mb3.3/6, mb1 3.5/9, mb1mx3.2/29, mbtmp4.2/9, Error ellipse: s-maj=23.1km s-min=14.6km az=180.0*
ISC 02 02:23:44.0±0.8, 25°.0S±0°.1×179°.9E±0°.1, h501km, n19, σ1°.24/22, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.67**	**281**	P	**P**	**02 26 32.7**	**+2.8**
0.6nm,0.3s,baz=90,slow=19,SNR=6.6							
URZ	**Urewera**	**13.41**	**189**	P	**P**	**02 26 38.5**	**+1.3**
0.7nm,0.3s,baz=266,slow=4.5,SNR=1.9							
RPZ	**Rata Peaks**	**20.00**	**199**	P	**P**	**02 27 42.0**	**-0.4**
0.8nm,0.3s,baz=23,slow=18,SNR=3.5							
CTA	**Charters Tower**	**31.39**	**272**	P	**P**	**02 29 23.9**	**+0.5**
5.2nm,0.4s,baz=105,slow=6.4,SNR=9.3							
AS31	**Alice Springs**	**41.76**	**262**	P	**P**	**02 30 48.4**	**-0.7**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**02 30 49.2**	**+0.1**
1.6nm,0.6s,baz=94,slow=8.3,SNR=22							
ASAR				S	**S**	**02 36 28.3**	**-1.5**
0.3nm,0.4s,baz=97,slow=15,SNR=3.3							
WB2	**Warramunga Arr**	**42.22**	**267**	P	**P**	**02 30 52.1**	**-0.7**
WB2				IAmb	IAmb	02 30 53.1	
comp=Z,3.2nm,0.6s							
WB0	**Warramunga Arr**	**42.23**	**268**	P	**P**	**02 30 52.3**	**-0.6**
WRA	**Warramunga Arr**	**42.23**	**267**	P	**P**	**02 30 52.5**	**-0.4**
comp=Z,4.1nm,0.7s,baz=100,slow=8.0,SNR=33							
WRA				ScP	**ScP**	**02 35 35.6**	**-2.7**
comp=Z,0.2nm,0.5s,baz=102,slow=3.6,SNR=4.7							
WRA				S	**S**	**02 36 35.0**	**-1.7**
comp=Z,1.0nm,1.0s,baz=97,slow=14,SNR=3.2							
WRA	**Warramunga Arr**	**42.23**	**267**	P	**P**	**02 30 52.4**	**-0.5**
QSPA	**South Pole Qui**	**65.07**	**180**	P	**P**	**02 33 34.9**	**+0.6**
QSPA				IAmb	IAmb	02 33 36.2	
comp=Z,4.4nm,0.8s							
MAW	**Mawson**	**76.67**	**201**	P	**P**	**02 34 42.0**	**-0.5**
comp=Z,1.9nm,0.7s,baz=132,slow=9.4,SNR=5.2							
VNA3	**Neumayer Olymp**	**83.77**	**177**	P	**P**	**02 35 19.4**	**-0.2**
VNA2	**Neumayer--Watz**	**84.18**	**178**	P	**P**	**02 35 21.8**	**+0.1**
baz=181,slow=4.0							
VNA1	**Neumayer--Stat**	**84.42**	**177**	P	**P**	**02 35 22.7**	**-0.1**
NVAR	**Mina Array Bea**	**85.63**	**44**	P	**P**	**02 35 30.0**	**+0.5**
comp=Z,0.5nm,0.7s,baz=224,slow=8.8,SNR=5.5							
TXAR	**Lajitas Array**	**91.11**	**58**	P	**P**	**02 35 55.4**	**+0.2**
comp=Z,0.5nm,0.8s,baz=226,slow=7.2,SNR=3.9							
HFS	**Hagfors**	**143.62**	**348**	PKP	**PKPdf**	**02 42 19.1**	**-1.8**
comp=Z,2.1nm,0.6s,baz=50,slow=4.7,SNR=8.3							
TORD	**Torodi Ar. Bea**	**168.06**	**189**	PKPab	**PKPab**	**02 44 03.4**	**-1.0**
comp=Z,0.5nm,0.8s,baz=165,slow=3.8,SNR=5.5							

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*IDC **02** 04:27:30.5±1.0, 40°.47N×78°.23E, h0km, mb3.8/12, mb1 4.0/17, mb1mx3.8/46, mbtmp3.8/17, ML3.5/4, MS3.0/2, Ms1 3.0/2, ms1mx2.5/42, Error ellipse: s-maj=18.6km s-min=17.2km az=13.0*
*BJI **02** 04:27:33.7±0.0, 40°.66N×78°.12E, h10km, mb4.1/5, ML4.0/10*
*SOME **02** 04:27:34.6, 40°.72N×78°.12E, h15km*
*NEIC **02** 04:27:36.7±2.1, 40°.63N±0°.04×78°.20E±0°.09, h38km±7km, mb4.2/6*
*KRNET **02** 04:27:37.1±0.1, 40°.83N×77°.89E, h19km, mb4.5*
*NNC **02** 04:27:37.2±1.2, 40°.83N×78°.11E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=8.7km s-min=7.2km az=178.0*
ISC 02 04:27:33.7±1.2, 40°.71N±0°.03×78°.13E±0°.03, h11km±8km, n127, σ1°.98/164, mb3.8/13, 33C-27D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.04 347**		⇓*eP*	**Pb**	**04 27 54.3**	**+0.2**
baz=56							
TARG				⇓*iS*	**Sb**	**04 28 06.8**	**-1.1**
baz=56							
TARG	**Taragay, Kyrgy**	**1.04 347**			**Pb**	**04 27 54.1**	**+0.1**
KDJ	**Kajisay**	**1.59 334**		⇓*iP*	**Pb**	**04 28 03.6**	**+0.5**
baz=38							
KDJ				⇓*iS*	**Sn**	**04 28 22.9**	**+0.4**
baz=38							
KDJ	**Kajisay**	**1.59 334**			**Pb**	**04 28 03.5**	**+0.3**
NRN	**Naryn**	**1.76 295**		⇓*eP*	**Pb**	**04 28 05.8**	**-0.4**
baz=93							
NRN				⇓*iS*	**Sn**	**04 28 27.4**	**+0.4**
baz=93							
NRN	**Naryn**	**1.76 295**			**Pn**	**04 28 05.5**	**+1.1**
NRN				Sn	**Sb**	**04 28 28.8**	**+0.4**
PRZ	**Przheval'sk**	**1.78**	**6**	⇑*iP*	**Pg**	**04 28 09.1**	**+1.2**
baz=13							
PRZ				⇑*iS*	**Sg**	**04 28 32.1**	**+1.1**
baz=13							
PRZ	**Przheval'sk**	**1.78**	**6**		**Pb**	**04 28 07.9**	**+1.4**
KSH	**Kashi**	**2.04 235**		Pn	**Pg**	**04 28 15.7**	**+2.9**
KSH				Sn	Sg	04 28 50.6	+11
KSH				smax	smax		
comp=N,3μm,0.8s							
KSH				smax	smax		
comp=E,3μm,0.5s							
ULHL	**Ulahol**	**2.09 318**		⇑*eP*	**Pb**	**04 28 12.0**	**+0.3**
baz=19							
ULHL				⇑*eS*	**Sb**	**04 28 36.9**	**-0.8**
baz=19							
ULHL	**Ulahol**	**2.09 318**		P	**Pb**	**04 28 12.3**	**+0.6**
SNR=330							
ANVS	**Anan'yevo**	**2.10 351**		⇑*eP*	**Pb**	**04 28 12.7**	**+0.8**
baz=55							
ANVS				⇑*iS*	**Sb**	**04 28 39.2**	**+1.2**
baz=55							
SATY	**Saty**	**2.35**	**5**	Pg	**Pb**	**04 28 18.1**	**+1.9**
940nm,0.5s							
SATY				Lg	Lg	04 28 49.5	
1μm,0.5s							
SATY	**Saty**	**2.35**	**5**	*eP*	**Pb**	**04 28 18.1**	**+1.9**
940nm,0.5s							
SATY				*eS*	**Sg**	**04 28 49.5**	**+0.1**
1μm,0.5s							
BOOM	**Boomskoye usch**	**2.42 318**		⇓*eP*	**Pb**	**04 28 16.7**	**-0.6**
baz=19							
BOOM				⇓*iS*	**Sb**	**04 28 45.2**	**-2.0**
baz=19							
BOOM	**Boomskoye usch**	**2.42 318**			**Pb**	**04 28 16.4**	**-1.0**
ZHN	**Zhinishke**	**2.46**	**5**	*eP*	**Pb**	**04 28 18.7**	**+0.6**
77nm,0.2s							
ZHN				*eS*	**Sb**	**04 28 50.5**	**+2.0**
530nm,0.3s							
TNSS	**Tian-Shan**	**2.48 340**		Pg	**Pb**	**04 28 20.3**	**+1.7**
300nm,0.5s							
TNSS				Lg	Lg	04 28 53.5	
1μm,0.6s							
TNSS	**Tian-Shan**	**2.48 340**		*eP*	**Pb**	**04 28 20.3**	**+1.7**
300nm,0.5s							
TNSS				*eS*	**Sg**	**04 28 53.5**	**-0.2**
1μm,0.6s							
KZA	**Kyzart**	**2.56 303**		⇓*eP*	**Pb**	**04 28 18.4**	**-1.5**
baz=3.0							
KZA				⇓*iS*	**Sb**	**04 28 49.2**	**-2.3**
baz=3.0							
KZA	**Kyzart**	**2.56 303**		P	**Pb**	**04 28 20.8**	**+0.9**
SNR=480							
MDOK	**Medeo**	**2.58 342**		⇑Pn	**Pb**	**04 28 21.1**	**+1.1**
208nm,0.5s							
MDOK				⇓Lg	Lg	04 28 56.5	
3μm,0.6s							
MDOK	**Medeo**	**2.58 342**		Pg	**Pb**	**04 28 21.9**	**+1.9**
276nm,0.4s							
MDOK				Lg	Lg	04 28 56.5	
2μm,0.8s							
MDOK	**Medeo**	**2.58 342**		*eP*	**Pb**	**04 28 21.9**	**+1.9**
276nm,0.4s							
MDOK				*eS*	**Sg**	**04 28 55.9**	**-0.6**
2μm,0.8s							
IZV	**Izvestkoviy**	**2.58 335**		Pg	**Pb**	**04 28 21.8**	**+1.7**
400nm,0.5s							
IZV				Lg	Lg	04 28 56.3	
927nm,0.4s							
IZV	**Izvestkoviy**	**2.58 335**		*eP*	**Pb**	**04 28 21.8**	**+1.7**
400nm,0.5s							
IZV				*eS*	**Sg**	**04 28 56.0**	**-0.7**
927nm,0.4s							
KOTS	**Kotyrbulak**	**2.63 344**		*eP*	**Pg**	**04 28 23.4**	**-0.8**
566nm,0.4s							
KOTS				*eS*	**Sg**	**04 28 58.3**	**+0.1**
9μm,0.6s							
SHLS	**Shalkode**	**2.64**	**22**	*eP*	**Pg**	**04 28 24.1**	**-0.1**
43nm,0.5s							
SHLS				*eS*	**Sg**	**04 28 59.8**	**+1.3**
964nm,0.5s							
KNDC	**Almaty**	**2.65 341**		⇓Pn	**Pb**	**04 28 23.0**	**+1.8**
KNDC				⇓Lg	Lg	04 28 59.5	
AAA	**Alma-Ata**	**2.65 340**		Pg	**Pg**	**04 28 23.7**	**-0.8**
240nm,0.4s							
AAA				Lg	Lg	04 28 59.7	
3μm,0.7s							
AAA	**Alma-Ata**	**2.65 340**		*eP*	**Pg**	**04 28 23.7**	**-0.8**
240nm,0.4s							
AAA				*eS*	**Sg**	**04 28 59.3**	**+0.4**
3μm,0.7s							
MTBS	**Maitube**	**2.73 333**		Pg	**Pb**	**04 28 24.3**	**+1.8**
141nm,0.3s							
MTBS				Lg	Lg	04 29 00.5	
401nm,0.4s							
MTBS	**Maitube**	**2.73 333**		*eP*	**Pb**	**04 28 24.3**	**+1.8**
141nm,0.3s							
MTBS				*eS*	**Sg**	**04 29 00.1**	**-1.3**
401nm,0.4s							
KURS	**Kuram**	**2.77**	**1**	Pg	**Pb**	**04 28 25.6**	**+2.3**
226nm,0.5s							
KURS				Lg	Lg	04 29 02.4	
761nm,0.5s							
KURS	**Kuram**	**2.77**	**1**	*eP*	**Pb**	**04 28 25.6**	**+2.3**
226nm,0.5s							
KURS				*eS*	**Sg**	**04 29 02.4**	**-0.4**
761nm,0.5s							
KPKS	**Kokpek**	**2.78**	**8**	*eP*	**Pg**	**04 28 26.3**	**-0.8**
407nm,0.3s							
KPKS				*eS*	**Sg**	**04 29 03.4**	**+0.2**
2μm,0.4s							
PDGK	**Podgornoye**	**2.81**	**21**	Pg	**Pb**	**04 28 25.1**	**+1.2**
189nm,0.3s							
PDGK				Lg	Lg	04 29 01.8	
286nm,0.6s							
PDGK	**Podgornoye**	**2.81**	**21**	⇑Pn	**Pb**	**04 28 21.9**	**-2.0**
196nm,0.4s							
PDGK				⇑Lg	Lg	04 29 01.7	
699nm,0.8s							
KST	**Kastek**	**2.84 326**		Pg	**Pb**	**04 28 25.6**	**+1.2**
409nm,0.6s							
KST				Lg	Lg	04 29 02.5	
97nm,0.8s							
KST	**Kastek**	**2.84 326**		*eP*	**Pb**	**04 28 25.6**	**+1.2**
409nm,0.6s							
KST				*eS*	**Sg**	**04 29 02.5**	**-2.3**
97nm,0.8s							
TKM2	**Tokmak 2**	**2.91 320**		⇑Pn	**Pb**	**04 28 23.6**	**-2.1**
213nm,0.5s							
TKM2				⇑Lg	Lg	04 29 05.7	
424nm,0.7s							
TKM2	**Tokmak 2**	**2.91 320**		⇑*eP*	**Pb**	**04 28 23.6**	**-2.1**
baz=21							
TKM2				⇑*iS*	**Sn**	**04 28 57.5**	**+2.4**
baz=21							
TKM2	**Tokmak 2**	**2.91 320**		P	**Pb**	**04 28 23.7**	**-1.9**
SNR=39							
KBK	**Karagaybulak**	**3.07 310**		⇑*iP*	**Pb**	**04 28 25.8**	**-2.7**
baz=11							
KBK				⇑*iS*	**Sn**	**04 29 01.0**	**+1.9**
baz=11							
KBK	**Karagaybulak**	**3.07 310**		P	**Pb**	**04 28 30.5**	**+2.0**
SNR=25							
DGS	**Degeres**	**3.08 326**		Pg	**Pb**	**04 28 30.1**	**+1.5**
172nm,0.5s							
DGS				Lg	Lg	04 29 10.4	
332nm,0.6s							
DGS	**Degeres**	**3.08 326**		*eP*	**Pb**	**04 28 30.1**	**+1.5**
172nm,0.5s							
DGS				*eS*	**Sg**	**04 29 09.9**	**-2.7**
738nm,0.6s							
ARLS	**Aral**	**3.09 293**		⇑*iP*	**Pn**	**04 28 26.0**	**+3.5**
baz=92							
ARLS				⇑*iS*	**Sn**	**04 29 01.8**	**+2.3**
baz=92							
UCH	**Uchtor**	**3.11 300**		⇓*iP*	**Pn**	**04 28 26.0**	**+2.9**
baz=0.0							
UCH				⇓*iS*	**Sn**	**04 29 02.0**	**+1.6**
baz=0.0							
UCH	**Uchtor**	**3.11 300**		P	**Pb**	**04 28 26.6**	**-2.7**
SNR=34							
KTBS	**Karatobe**	**3.19 341**		*eP*	**Pg**	**04 28 33.6**	**-1.1**
97nm,0.7s							
KTBS				*eS*	**Sg**	**04 29 16.0**	**0.0**
1μm,0.5s							
CHKK	**Chushkaly**	**3.25 345**		Pg	**Pb**	**04 28 33.5**	**+2.1**
129nm,0.3s							
CHKK				Lg	Lg	04 29 16.2	
1μm,0.7s							
CHKK	**Chushkaly**	**3.25 345**		*eP*	**Pb**	**04 28 33.5**	**+2.1**
129nm,0.3s							
CHKK				*eS*	**Sg**	**04 29 16.2**	**-2.0**
1μm,0.7s							
AAK	**Ala-Archa**	**3.33 306**		⇓Pg	**Pg**	**04 28 37.1**	**-0.4**
411nm,0.5s							
AAK				⇓Lg	Lg	04 29 19.7	
460nm,0.6s							
AAK	**Ala-Archa**	**3.33 306**		⇑*iP*	**Pn**	**04 28 29.0**	**+3.1**
baz=7.0							
AAK				⇑*iS*	**Sn**	**04 29 07.2**	**+1.7**
baz=7.0							
AAK	**Ala-Archa**	**3.33 306**		Pn	**Pn**	**04 28 29.5**	**+3.7**
105nm,0.3s,baz=120,slow=11,SNR=896							
AAK				Pg	**Pb**	**04 28 34.6**	**+1.7**
99nm,0.3s,baz=126,slow=12,SNR=872							
AAK				Lg	Lg	04 29 18.4	
55nm,0.3s,baz=217,slow=19,SNR=11							
AAK				LR	LR	04 29 58.6	
comp=Z,91nm,21.1s,baz=194,slow=42							
AAK	**Ala-Archa**	**3.33 306**		P	**Pb**	**04 28 34.6**	**+1.7**
SNR=285							
FRU1	**Bishkek**	**3.35 310**		⇑*iP*	**Pn**	**04 28 29.5**	**+3.4**
baz=10.0							
FRU1				⇑*iS*	**Sn**	**04 29 07.7**	**+1.8**
baz=10.0							
CHMS	**Chumysh**	**3.40 313**		⇓*eP*	**Pn**	**04 28 30.3**	**+3.6**
baz=14							
CHMS				⇓*eS*	**Sn**	**04 29 09.0**	**+1.9**
baz=14							
CHMS	**Chumysh**	**3.40 313**		P	**Pb**	**04 28 36.1**	**+2.1**
SNR=188							
KUU	**Kurty**	**3.44 338**		Pg	**Pb**	**04 28 37.3**	**+2.6**
89nm,0.5s							
KUU				Lg	Lg	04 29 22.6	
576nm,0.6s							
KUU	**Kurty**	**3.44 338**		*eP*	**Pb**	**04 28 37.3**	**+2.6**
89nm,0.5s							
KUU				*eS*	**Sg**	**04 29 22.6**	**-1.7**
576nm,0.6s							
AML	**Almayashu**	**3.62 294**		⇑*iP*	**Pn**	**04 28 33.6**	**+3.5**
baz=94							
AML				⇑*iS*	**Sn**	**04 29 14.8**	**+1.8**
baz=94							
AML	**Almayashu**	**3.62 294**		P	**Pb**	**04 28 40.2**	**+2.2**
SNR=13							
USP	**Ospenovka**	**3.72 315**		⇓*iP*	**Pn**	**04 28 34.7**	**+3.6**
baz=15							
USP				⇓*eS*	**Sn**	**04 29 16.7**	**+1.8**
baz=15							
USP	**Ospenovka**	**3.72 315**		P	**Pb**	**04 28 41.1**	**+1.8**
SNR=145							
EKS2	**Erkin-Say**	**3.80 302**		⇑*eP*	**Pn**	**04 28 35.5**	**+3.3**
baz=2.0							
EKS2				⇑*eS*	**Sn**	**04 29 18.4**	**+1.5**
baz=2.0							
EKS2	**Erkin-Say**	**3.80 302**		P	**Pb**	**04 28 43.8**	**+3.1**
SNR=37							
DJR	**Jarkent**	**3.82**	**18**	Pg	**Pb**	**04 28 44.1**	**+3.0**
161nm,0.4s							
DJR				Lg	Lg	04 29 34.7	
330nm,0.4s							
DJR	**Jarkent**	**3.82**	**18**	*eP*	**Pb**	**04 28 44.1**	**+3.0**
161nm,0.4s							
DJR				*eS*	**Sg**	**04 29 33.8**	**-2.6**
330nm,0.4s							
ARSB	**Arslanbob**	**3.94 281**		⇓*iP*	**Pn**	**04 28 38.1**	**+3.9**
baz=79							
ARSB				⇓*eS*	**Sn**	**04 29 22.8**	**+2.3**
baz=79							
MRKS	**Merke**	**4.19 301**		Pg	**Pb**	**04 28 50.0**	**+2.5**
113nm,0.4s							
MRKS				Lg	Lg	04 29 44.3	
152nm,0.4s							
MRKS	**Merke**	**4.19 301**		*eP*	**Pb**	**04 28 50.0**	**+2.5**
113nm,0.4s							
MRKS				*eS*	**Sg**	**04 29 44.3**	**-4.0**
152nm,0.4s							
TDK	**Taldyqorghan**	**4.29**	**3**	Pg	**Pb**	**04 28 52.6**	**+3.4**
316nm,0.4s							
TDK				Lg	Lg	04 29 48.6	
805nm,1.0s							
TDK	**Taldyqorghan**	**4.29**	**3**	*eP*	**Pb**	**04 28 52.5**	**+3.4**
316nm,0.4s							
TDK				*eS*	**Sg**	**04 29 48.6**	**-2.9**
805nm,1.0s							
KAPS	**Kapalarasan**	**4.66**	**11**	Pg	**Pg**	**04 28 59.9**	**-3.0**
40nm,0.5s							
KAPS				Lg	Lg	04 30 02.1	
67nm,0.7s							
KAPS	**Kapalarasan**	**4.66**	**11**	*eP*	**Pg**	**04 28 59.9**	**-3.0**
40nm,0.5s							
KAPS				*eS*	**Sg**	**04 30 01.2**	**-2.1**
67nm,0.7s							
KK31	**Karatay Array**	**6.16 295**		⇑Pg	**Pb**	**04 29 25.8**	**+4.8**
17nm,0.6s,baz=113,slow=16,SNR=20							
KK31				⇑Lg	Lg	04 30 50.4	
62nm,0.8s,baz=108,slow=27,SNR=9.1							
GAR	**Garm**	**6.25 257**			**Pn**	**04 29 06.8**	**+0.9**
MAKZ	**Makanchi**	**6.70**	**23**	⇑Pn	**Pn**	**04 29 13.6**	**+1.6**
8.1nm,0.9s							
MAKZ				⇓Lg	Lg	04 31 05.7	
29nm,0.9s							
MAKZ	**Makanchi**	**6.70**	**23**		**Pn**	**04 29 13.8**	**+1.8**
MK31	**Makanchi Array**	**6.79**	**25**	⇑Pn	**Pn**	**04 29 14.9**	**+1.7**
1.5nm,0.3s,baz=205,slow=13,SNR=56							
MK31				⇑Lg	Lg	04 31 08.4	
18nm,0.6s							
MK31	**Makanchi Array**	**6.79**	**25**		**Pn**	**04 29 15.0**	**+1.9**
MKAR	**Makanchi Array**	**6.79**	**25**	Pn	**Pn**	**04 29 14.8**	**+1.7**
2.0nm,0.3s,baz=207,slow=15,SNR=48							
MKAR				Sn	**Sn**	**04 30 29.7**	**-0.7**
1.3nm,0.3s,baz=208,slow=21,SNR=3.0							
MKAR				Lg	Lg	04 31 06.5	
2.7nm,0.3s,baz=209,slow=26,SNR=3.2							
MKAR	**Makanchi Array**	**6.79**	**25**		**Pn**	**04 29 14.5**	**+1.4**
WMQ	**Urumqi**	**7.75**	**63**	*ePn*	**Pn**	**04 29 28.3**	**+1.9**
WMQ				Sn	**Sn**	**04 30 55.3**	**+1.2**
WMQ				smax	smax		
comp=N,40nm,1.1s							
WMQ				smax	smax		
comp=E,42nm,0.9s							
CHCP	**Chirah Chowk**	**8.04 210**		P	**Pn**	**04 29 31.9**	**+1.5**
NIL	**Nilore**	**8.05 210**			**Pn**	**04 29 31.1**	**+0.6**
CEP	**Cherat**	**8.47 218**		P	**Pn**	**04 29 36.6**	**+0.1**
CEP				S	**Sn**	**04 31 08.0**	**-4.1**
OTUK	**Ortayu**	**8.59 333**		⇓Pg	Pn	04 30 10.5	+33
4.8nm,0.6s							
OTUK				⇑Lg	Lg	04 32 05.3	
73nm,0.7s							
THW	**Thamme Wali**	**9.41 215**		P	**Pn**	**04 29 49.5**	**+0.2**
KBL	**Kabul**	**9.48 232**		Pn	**Pn**	**04 29 49.6**	**-0.7**
KURBB	**Kurchatov Arra**	**9.92**	**1**	⇑Pn	**Pn**	**04 29 57.8**	**+1.8**
KURBB				⇑Lg	Lg	04 32 47.0	
126nm,0.8s							
KURBB	**Kurchatov Arra**	**9.92**	**1**	Pn	**Pn**	**04 29 56.9**	**+0.9**
0.4nm,0.3s,baz=185,slow=11,SNR=7.9							
KURBB				Sn	**Sn**	**04 31 44.8**	**-2.4**
0.2nm,0.3s,baz=180,slow=22,SNR=4.3							
KURBB				Lg	Lg	04 32 48.5	
0.3nm,0.3s,baz=187,slow=28,SNR=7.7							
KURK	**Kurchatov**	**10.01**	**2**	⇓Pn	**Pn**	**04 29 58.7**	**+1.3**
2.1nm,0.4s							
KURK				⇓Lg	Lg	04 32 49.0	
84nm,1.1s							
KURK	**Kurchatov**	**10.01**	**2**		**Pn**	**04 29 58.6**	**+1.3**
BVAR	**Borovoye Array**	**13.39 339**		Pn	**Pn**	**04 30 42.9**	**-0.7**
0.5nm,0.3s,baz=152,slow=13,SNR=9.6							
BVAR				Lg	Lg	04 34 33.4	
0.4nm,0.3s,baz=152,slow=28,SNR=7.5							
KOLN	**Koldanda**	**13.68 159**		*eP*	Pn	04 30 42.5	-5.2
7.4nm,0.4s							
ZALV	**Zalesovo Beam**	**13.99**	**17**	Pn	**Pn**	**04 30 51

comp=Z,1.7nm,0.8s,baz=106,slow=8.9,SNR=5.4
HFS Hagfors 43.39 319 P **P 04 35 36.7 +0.9**
comp=Z,4.0nm,1.1s,baz=90,slow=7.2,SNR=3.4
NOA NORSAR Array B 44.55 320 P **P 04 35 45.9 +0.8**
comp=Z,0.4nm,0.6s,baz=101,slow=7.0,SNR=3.1
GERES GERESS Array B 45.21 303 P **P 04 35 51.6 +1.0**
comp=Z,0.4nm,0.7s,baz=70,slow=8.5,SNR=3.9
ESDC Sonseca Array 60.40 298 P **P 04 37 41.3 -1.7**
comp=Z,0.2nm,0.4s,baz=50,slow=6.4,SNR=3.4
INK Inuvik 68.74 12 P **P 04 38 36.7 -0.2**
comp=Z,1.4nm,0.8s,baz=333,slow=10,SNR=3.5
INK Inuvik 68.74 12 IAmb IAmb 04 41 00.6
comp=Z,11nm,1.4s
ILAR Eielson Array 69.10 19 P **P 04 38 38.8 -0.5**
comp=Z,0.8nm,0.8s,baz=312,slow=4.7,SNR=9.2
TORD Torodi Ar. Bea 71.30 271 P **P 04 38 51.9 -1.6**
comp=Z,0.6nm,0.6s,baz=36,slow=6.5,SNR=7.2
YKA Yellowknife Ar 76.63 6 P **P 04 39 23.3 -0.6**
comp=Z,1.3nm,0.7s,baz=348,slow=5.4,SNR=4.8
WRA Warramunga Arr 79.78 127 P **P 04 39 40.3 -1.6**
comp=Z,0.3nm,0.8s,baz=330,slow=4.7,SNR=2.7

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*ANF **02** 04:47:50.0±1.5,31.2°N×115.7°W,h10km±17km,ML2.9/10, Error ellipse: s-maj=19.6km s-min=7.4km az=18.0*
*ISCJB **02** 04:47:50.9±0.8,31.32°N±0.05°×115.60°W±0.04, h10km±11km,Error ellipse: s-maj=10.0km s-min=4.4km az=30.6*
*ECX **02** 04:47:51.7±0.6,31.29°N×115.67°W,h5km,MD2.8,ML3.1*
*MEX **02** 04:47:52.0±0.8,31.28°N×115.42°W,h20km,MD3.6*
ISC 02 04:47:50.0±1.0,31.27°N±0.04°×115.69°W±0.04,h11km±9km, n23,σ0.79/41,3C,Baja California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.29**	**140**	*e*P			**Pb**	**04 47 57.4**	**-0.1**
SPIG				*e*S			**Sb**	**04 48 01.5**	**-0.9**
SPIG	**San Pedro Mart**	**0.29**	**140**	*e*P			**Pb**	**04 47 57.3**	**-0.1**
SPIG				*e*S			**Sb**	**04 48 01.7**	**-0.7**
SPX	**San Pedro Mart**	**0.30**	**141**	*e*P			**Pg**	**04 47 56.0**	**-0.2**
SPX				*e*S			**Sg**	**04 48 00.2**	**-0.1**
SPX	**San Pedro Mart**	**0.30**	**141**	*e*P			**Pg**	**04 47 56.4**	**+0.2**
SPX				*e*S			**Sg**	**04 48 00.8**	**+0.5**
SPX				⇑*e*				04 48 01.9	
SPX					IAML			04 48 01.9	
	comp=N,1μm,0.3s								
SPX					IAML			04 48 04.0	
	comp=E,2μm,0.6s								
SPX				⇑*e*				04 48 04.0	
SFX	**San Felipe**	**0.75**	**108**	*e*P			**Pb**	**04 48 04.7**	**-0.4**
SFX				*e*S			**Sb**	**04 48 14.9**	**-0.5**
ECNX	**Esteban Cantu**	**0.87**	**297**	*e*P			**Pn**	**04 48 08.8**	**+0.5**
ECNX				*e*S			**Sn**	**04 48 22.7**	**+1.7**
CBX	**Cerro Bola**	**1.33**	**322**	*e*P			**Pn**	**04 48 14.3**	**-0.3**
CBX				*e*S			**Sb**	**04 48 31.3**	**-1.0**
CBX	**Cerro Bola**	**1.33**	**322**	*e*P			**Pn**	**04 48 14.6**	**-0.1**
CBX				*e*S			**Sb**	**04 48 32.6**	**+0.3**
CBX				*e*				04 48 39.6	
CBX					IAML			04 48 39.6	
	comp=E,396nm,0.8s								
RMX	**La Rumorosa**	**1.37**	**346**	*e*P			**Pn**	**04 48 14.7**	**-0.6**
RMX				*e*S			**Sb**	**04 48 31.2**	**-2.1**
RMX				⇑*e*				04 48 37.9	
RMX					IAML			04 48 37.9	
	comp=E,187nm,0.4s								
IKP	**In-Ko-Pah, Jac**	**1.43**	**345**	P			**Pb**	**04 48 16.6**	**-0.1**
	baz=169,SNR=151								
IKP				S			**Sg**	**04 48 35.6**	**-0.3**
	baz=169								
TJIG	**Tijuana**	**1.44**	**324**	*e*P			**Pn**	**04 48 16.2**	**+0.2**
TJIG				*e*S			**Sn**	**04 48 34.0**	**-0.8**
BAR	**Barrett**	**1.64**	**329**	*e*P			**Pb**	**04 48 19.7**	**-0.6**
SWSC	**Sam W. Stewart**	**1.68**	**357**	P			**Pn**	**04 48 19.5**	**+0.3**
	baz=179,SNR=37								
SWSC				S			**Sg**	**04 48 44.9**	**+1.0**
	baz=179								
MONP2	**Monument Peak**	**1.74**	**339**	P			**Pb**	**04 48 21.9**	**-0.1**
	baz=162,SNR=80								
MONP2				S			**Sb**	**04 48 44.7**	**+0.8**
	baz=162								
SDRC	**San Diego Road**	**1.81**	**324**	*e*P			**Pb**	**04 48 22.3**	**-0.8**
EML	**El Monte Cty P**	**1.89**	**329**	*e*P			**Pb**	**04 48 23.7**	**-0.9**
GLA	**Glamis**	**1.92**	**22**	P			**Pn**	**04 48 22.9**	**+0.2**
	baz=204								
GLA				S			**Sg**	**04 48 51.1**	**-0.8**
	baz=204								
109C	**Camp Elliot, M**	**2.02**	**324**	P			**Pb**	**04 48 25.7**	**-0.9**
	baz=146,SNR=12								
109C				S			**Sb**	**04 48 51.9**	**+0.2**
	baz=146								
BC3	**Big Chuckawall**	**2.39**	**5**	P			**Pn**	**04 48 30.0**	**+0.8**
	baz=186,SNR=7.1								
PFO	**Pinyon Flats O**	**2.43**	**345**	Pn			**Pn**	**04 48 30.6**	**+0.9**
	baz=166,SNR=18								
PFO				Pb			**Pb**	**04 48 34.8**	**+1.1**
	baz=166								
214A	**Organ Pipe Nat**	**2.55**	**74**	P			**Pn**	**04 48 32.0**	**+0.7**
	baz=254								
214A				S			**Sn**	**04 49 02.1**	**-0.2**
	baz=254								
MURC	**Murrieta**	**2.65**	**332**	P			**Pb**	**04 48 36.5**	**-1.0**
	baz=153,SNR=12								
MURC				S			**Sb**	**04 49 10.6**	**+0.5**
	baz=153								
BELC	**Belle Mtn. Jos**	**2.74**	**355**	P			**Pn**	**04 48 35.3**	**+1.3**
	baz=176								

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*ISCJB **02** 04:59:45.2±0.2,36.60°N±0.02°×71.09°E±0.02,h206km±2km, mb4.6/101,Error ellipse: s-maj=2.9km s-min=2.4km az=148.3*
*MOS **02** 04:59:45.7±1.0,36.64°N×71.12°E,h211km,mb4.8/34,Error ellipse: s-maj=5.6km s-min=3.9km az=101.4*
*BJI **02** 04:59:46.2±0.0,36.80°N×71.01°E,h212km,mb4.5/38, mB4.8/29*
*IDC **02** 04:59:47.5±0.6,36.57°N×71.08°E,h218km±5km,mb4.1/37, mb1 4.2/42,mb1mx4.0/55,mbtmp4.7/42,Error ellipse: s-maj=8.0km s-min=6.4km az=3.0*
*NEIC **02** 04:59:47.1±1.7,36.65°N±0.06°×71.07°E±0.08,h212km±5km, mb4.7/111*
*NNC **02** 04:59:47.6±2.6,36.90°N×70.74°E,h167km±39km,mb4.4, mpv5.2,Error ellipse: s-maj=25.4km s-min=14.8km az=166.0*
ISC 02 04:59:46.2±0.3,36.61°N±0.03°×71.05°E±0.03,h204km±3km, h205km:pP-P,n426,σ1.45/454,mb4.7/136,25C-38D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.46**	**346**				**Pn**	**05 00 29.7**	**-0.2**
GAR							**S**	**05 01 02.8**	**-1.0**
KBL	**Kabul**	**2.63**	**219**		PN		**Pn**	**05 00 32.6**	**+0.5**
KBL					S		**S**	**05 01 07.5**	**+0.2**
KBL	**Kabul**	**2.63**	**219**				**Pn**	**05 00 32.6**	**+0.5**
KBL							**S**	**05 01 07.5**	**+0.2**
CEP	**Cherat**	**2.86**	**166**		⇓P		**Pn**	**05 00 35.8**	**+1.2**
CEP					S		**S**	**05 01 13.0**	**+1.1**
BTK	**Batken**	**3.45**	**357**		PN		**Pn**	**05 00 42.0**	**+0.6**
BTK					S		**S**	**05 01 24.8**	**+0.5**
BTK	**Batken**	**3.45**	**357**				**Pn**	**05 00 42.0**	**+0.6**
BTK							**S**	**05 01 24.8**	**+0.5**
CHCP	**Chirah Chowk**	**3.45**	**148**		P		**Pn**	**05 00 42.8**	**+1.3**
NIL	**Nilore**	**3.46**	**148**		PN		**Pn**	**05 00 42.9**	**+1.4**
NIL	**Nilore**	**3.46**	**148**				**Pn**	**05 00 42.9**	**+1.4**
THW	**Thamme Wali**	**3.84**	**171**		⇓P		**Pn**	**05 00 47.1**	**+0.8**
KSH	**Kashi**	**4.85**	**52**		P		**Pn**	**05 00 54.5**	**-4.3**
KSH					S		S	05 01 43.6	-12
KSH					smax		smax		
	comp=N,4μm,0.5s								
KSH					smax		smax		
	comp=E,4μm,1.0s								
SARP	**Sargodha**	**4.86**	**164**		P		**Pn**	**05 00 59.0**	**0.0**
TAS	**Tashkent**	**4.91**	**344**		PN		**Pn**	**05 00 59.6**	**+0.1**
TAS	**Tashkent**	**4.91**	**344**				**Pn**	**05 00 59.6**	**+0.1**
ARSB	**Arslanbob**	**4.94**	**17**				**Pn**	**05 00 59.5**	**-0.5**
JMU	**Jammu**	**5.01**	**140**	*ex*			Pn	05 01 10.0	+9.2
JMU				*e*S			**S**	**05 01 54.5**	**-4.7**
AML	**Almayashu**	**5.88**	**20**	P			**Pn**	**05 01 12.1**	**-0.2**
	SNR=482								
DHRM	**DHARAMSHALA**	**6.14**	**134**	*e*P			**Pn**	**05 01 15.9**	**+0.4**
DHRM				*e*S			**S**	**05 02 23.4**	**-2.5**
DHRM					IAML			05 02 26.6	
	comp=E,5μm,0.6s								
DHRM					IAML			05 02 27.5	
	comp=N,4μm,0.5s								
NRN	**Naryn**	**6.17**	**37**		PN		**Pn**	**05 01 13.8**	**-2.1**
NRN	**Naryn**	**6.17**	**37**				**Pn**	**05 01 13.8**	**-2.1**
UCH	**Uchtor**	**6.22**	**24**		P		**Pn**	**05 01 16.6**	**-0.1**
	SNR=163								
KZA	**Kyzart**	**6.36**	**29**		P		**Pn**	**05 01 17.8**	**-0.6**
	SNR=25								
EKS2	**Erkin-Say**	**6.40**	**18**		P		**Pn**	**05 01 18.7**	**0.0**
	SNR=135								
KK31	**Karatay Array**	**6.50**	**356**		⇓P		**Pn**	**05 01 19.6**	**-0.3**
	comp=N,64nm,0.4s,baz=175,slow=13,SNR=1112								
KK31					⇓S		**S**	**05 02 26.7**	**-7.4**
	comp=N,501nm,0.8s,baz=184,slow=21,SNR=18								
KK31	**Karatay Array**	**6.50**	**356**	*e*PN			**Pn**	**05 01 19.2**	**-0.7**
KK31					pmax		pmax		
	comp=Z,64nm,0.4s								
KK31	**Karatay Array**	**6.50**	**356**				**Pn**	**05 01 18.8**	**-1.1**
KKAR	**Karatay Array**	**6.50**	**356**		PN		**Pn**	**05 01 18.8**	**-1.1**
KKAR	**Karatay Array**	**6.50**	**356**				**Pn**	**05 01 19.3**	**-0.6**
KKAR	**Karatay Array**	**6.50**	**356**				**Pn**	**05 01 18.8**	**-1.1**
AAK	**Ala-Archa**	**6.58**	**23**		⇑P		**Pn**	**05 01 20.9**	**-0.1**
	comp=Z,60nm,0.4s								
AAK					S		**S**	**05 02 33.5**	**-2.6**
	comp=Z,909nm,1.2s								
AAK	**Ala-Archa**	**6.58**	**23**	*d*	*i*PN		**Pn**	**05 01 21.0**	**-0.1**
AAK					pmax		pmax		
	comp=Z,217nm,1.7s								
AAK	**Ala-Archa**	**6.58**	**23**		P		**Pn**	**05 01 20.9**	**-0.1**
	comp=Z,40nm,0.3s,baz=167,slow=5.6,SNR=242								
AAK					S		**S**	**05 02 33.4**	**-2.8**
	comp=Z,19nm,0.3s,baz=143,slow=20,SNR=16								
AAK	**Ala-Archa**	**6.58**	**23**		P		**Pn**	**05 01 21.2**	**+0.1**
	SNR=128								
AAK	**Ala-Archa**	**6.58**	**23**				**Pn**	**05 01 20.8**	**-0.3**
KBK	**Karagaybulak**	**6.75**	**25**		P		**Pn**	**05 01 23.6**	**+0.4**
	SNR=101								
FRU1	**Bishkek**	**6.78**	**23**		PN		**Pn**	**05 01 23.5**	**0.0**
FRU1					S		**S**	**05 02 38.6**	**-2.1**
FRU1	**Bishkek**	**6.78**	**23**				**Pn**	**05 01 23.5**	**0.0**
FRU1							**S**	**05 02 38.6**	**-2.1**
ULHL	**Ulahol**	**6.92**	**34**		P		**Pn**	**05 01 25.4**	**-0.1**
	SNR=8.3								
BOOM	**Boomskoye usch**	**6.98**	**31**		PN		**Pn**	**05 01 26.5**	**+0.2**
BOOM	**Boomskoye usch**	**6.98**	**31**				**Pn**	**05 01 26.5**	**+0.2**
CHMS	**Chumysh**	**6.99**	**23**		P		**Pn**	**05 01 25.9**	**-0.3**
	SNR=41								
USP	**Ospenovka**	**7.16**	**21**		P		**Pn**	**05 01 27.5**	**-0.9**
	SNR=54								
TKM2	**Tokmak 2**	**7.21**	**28**		⇓P		**Pn**	**05 01 28.9**	**-0.3**
	comp=Z,230nm,0.7s								
TKM2					⇓S		**S**	**05 02 48.0**	**-3.1**
	comp=Z,467nm,1.1s								
TKM2	**Tokmak 2**	**7.21**	**28**	*i*	PN		**Pn**	**05 01 28.9**	**-0.3**
TKM2					pmax		pmax		
	comp=Z,231nm,0.6s								
TKM2	**Tokmak 2**	**7.21**	**28**		P		**Pn**	**05 01 29.2**	**0.0**
	SNR=66								
KDJ	**Kajisay**	**7.27**	**39**		PN		**Pn**	**05 01 29.1**	**-1.0**
KDJ	**Kajisay**	**7.27**	**39**				**Pn**	**05 01 29.1**	**-1.0**
TARG	**Taragay, Kyrgy**	**7.32**	**44**				**Pn**	**05 01 30.3**	**-0.6**
SMLA	**Simla**	**7.46**	**135**	*e*P			**Pn**	**05 01 32.2**	**-0.2**
SMLA				*e*S			**S**	**05 02 52.8**	**-4.0**
SMLA					IAML			05 02 56.8	
	comp=E,2μm,0.5s								
SMLA					IAML			05 02 57.7	
	comp=N,2μm,0.1s								
HRA	**Herat**	**7.52**	**255**				**Pn**	**05 01 34.1**	**+0.7**
MDOK	**Medeo**	**8.01**	**33**		⇓P		**Pn**	**05 01 39.4**	**-0.1**
	comp=N,53nm,0.5s								
KNDC	**Almaty**	**8.01**	**33**		⇓P		**Pn**	**05 01 39.9**	**+0.4**
DDI	**Dehra Dun**	**8.57**	**135**	*e*P			**Pn**	**05 01 46.5**	**-0.4**
DDI				*e*S			**S**	**05 03 17.2**	**-6.1**
DDI					IAML			05 03 22.0	
	comp=N,2μm,0.3s								
DDI					IAML			05 03 24.6	
	comp=E,1μm,0.6s								
JOSI	**Joshimath**	**9.31**	**128**	*e*P			**Pn**	**05 01 55.8**	**-0.8**
PDGK	**Podgornoye**	**9.32**	**41**		⇑P		**Pn**	**05 01 56.2**	**-0.5**
	comp=E,28nm,0.9s								
PDGK	**Podgornoye**	**9.32**	**41**		P		**Pn**	**05 01 56.1**	**-0.5**
PDGK					pmax		pmax		
	comp=Z,28nm,0.9s								
KALG	**Kalgarh**	**9.58**	**135**	*e*P			Pn	05 01 46.2	-14
KALG				*e*S			S	05 03 28.4	-19
KUDL	**Kundal**	**9.61**	**150**	⇓*i*	P		Pn	05 01 51.6	-8.7
KUDL				*e*S			S	05 03 32.5	-16
JASL	**Jaisalmer**	**9.65**	**181**	*e*P			**Pn**	**05 01 59.3**	**-1.6**
JASL				*e*S			**S**	**05 03 42.5**	**-6.7**
GEYT	**Alibeck**	**10.40**	**281**		P		**Pn**	**05 02 08.2**	**-2.2**
	comp=Z,2.3nm,0.3s,baz=102,slow=11,SNR=19								
GEYT					S		**S**	**05 04 03.2**	**-3.7**
	comp=Z,2.6nm,0.3s,baz=106,slow=24,SNR=4.0								
GEYT	**Alibeck**	**10.40**	**281**				**Pn**	**05 02 07.8**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**10.40**	**281**		⇓P		**Pn**	**05 02 07.8**	**-2.6**
GYA0B					⇓S		**S**	**05 04 01.1**	**-5.8**
GYA0B	**ALIBECK ARRAY**	**10.40**	**281**				**Pn**	**05 02 08.1**	**-2.3**
LGTI	**Lohaghat**	**10.51**	**130**	*e*P			**Pn**	**05 02 13.1**	**+1.3**
LGTI				*e*S			S	05 04 00.2	-9.3
AJM	**Ajmer**	**10.55**	**162**	*e*P			**Pn**	**05 02 11.0**	**-1.5**
AJM				*ex*			x	05 03 37.0	
OTUK	**Ortayu**	**11.67**	**4**	⇑P			**Pn**	**05 02 24.4**	**-2.1**
	comp=Z,53nm,1.0s								
JHNI	**Jhansi**	**12.82**	**148**	*ex*			**Pn**	**05 02 37.0**	**-4.3**
JHNI				*e*S			S	05 04 54.0	-10
MAKZ	**Makanchi**	**13.04**	**35**	⇓P			**Pn**	**05 02 42.6**	**-1.3**
	comp=Z,99nm,0.8s								
MAKZ	**Makanchi**	**13.04**	**35**		P		**Pn**	**05 02 42.9**	**-1.0**
MAKZ	**Makanchi**	**13.04**	**35**				**Pn**	**05 02 42.9**	**-1.0**
MK31	**Makanchi Array**	**13.18**	**36**		P		**Pn**	**05 02 44.9**	**-0.7**
MK31	**Makanchi Array**	**13.18**	**36**				**Pn**	**05 02 44.9**	**-0.7**
MKAR	**Makanchi Array**	**13.18**	**36**		P		**Pn**	**05 02 44.4**	**-1.2**
MKAR	**Makanchi Array**	**13.18**	**36**		P		**Pn**	**05 02 45.3**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=221,slow=8.9,SNR=58								
MKAR	**Makanchi Array**	**13.18**	**36**				**Pn**	**05 02 44.4**	**-1.2**
BHUJ	**Bhuj**	**13.36**	**186**	*e*P			**Pn**	**05 02 48.3**	**+0.3**
BHUJ					IAML			05 05 11.8	
	comp=N,48nm,0.5s								
DANN	**Dangsing**	**13.51**	**124**	*e*P			**Pn**	**05 02 48.3**	**-1.9**
	comp=N,409nm,0.5s								
KOLN	**Koldanda**	**13.79**	**126**	*e*P			**Pn**	**05 02 52.1**	**-1.5**
	comp=N,342nm,0.5s								
GKN	**Gorkha**	**14.32**	**123**	*e*P			**Pn**	**05 02 59.6**	**-0.5**
	comp=N,426nm,0.3s								
BHPL	**Bhopal**	**14.41**	**156**	*e*P			**Pn**	**05 03 00.2**	**-0.9**
BHPL				*i*	x		x	05 03 04.3	
BHPL				*ex*			x	05 05 33.0	
BHPL					IAML			05 05 37.5	
	comp=N,75nm,0.3s								
BHPL					IAML			05 06 21.5	
	comp=E,119nm,0.5s								
WMQ	**Urumqi**	**14.60**	**55**	*e*P			**Pn**	**05 03 03.4**	**+0.2**
WMQ					sP		P	05 03 53.9	+50
WMQ					pmax		pmax		
	comp=E,20nm,1.5s								
WMQ					pmax		pmax		
	comp=E,110nm,3.7s								
WMQ					LR		LR		
	comp=E,87nm,5.7s								
WMQ					LR		LR		
	comp=E,330nm,6.5s								
WMQ					LR		LR		
	comp=E,170nm,8.1s								
DMN	**Daman**	**14.89**	**123**	*e*P			**Pn**	**05 03 06.6**	**-0.6**
	comp=E,333nm,0.5s								
KKN	**Kakani**	**14.90**	**122**	*e*P			**Pn**	**05 03 06.2**	**-1.0**
	comp=E,391nm,0.5s								
KURBB	**Kurchatov Arra**	**15.01**	**19**	⇑P			**P**	**05 03 10.2**	**+1.6**
	comp=E,30nm,1.1s								
KURBB	**Kurchatov Arra**	**15.01**	**19**		P		**Pn**	**05 03 05.8**	**-2.2**
	comp=E,0.6nm,0.3s,baz=209,slow=12,SNR=32								
KURBB					S		**S**	**05 05 53.3**	**-1.0**
	comp=E,0.1nm,0.3s,baz=209,slow=18,SNR=6.5								
AB31	**Akbulak array**	**15.01**	**331**	⇑P			**Pn**	**05 03 07.2**	**-1.0**
	comp=E,41nm,0.5s,baz=141,slow=12,SNR=1202								
AB31					⇓S		**S**	**05 05 52.0**	**-2.5**
	comp=E,17nm,0.6s,baz=152,slow=22,SNR=11								
AB31	**Akbulak array**	**15.01**	**331**		P		**Pn**	**05 03 07.1**	**-1.0**
AB31					pmax		pmax		
	comp=Z,41nm,0.5s								
ABKAR	**Akbulak array**	**15.01**	**331**		P		**Pn**	**05 03 06.2**	**-1.9**
PKIN	**Phulchoki**	**15.11**	**122**	*e*P			**Pn**	**05 03 08.9**	**-1.0**
	comp=Z,335nm,0.5s								
KURK	**Kurchatov**	**15.12**	**19**	⇓*e*P			**Pn**	**05 03 07.6**	**-1.8**
KURK					pmax		pmax		
	comp=Z,32nm,1.3s								
KURK	**Kurchatov**	**15.12**	**19**		P		**Pn**	**05 03 08.6**	**-0.8**
KURK					IAmb		IAmb	05 03 11.0	
	comp=Z,20nm,0.9s								
PKI	**Pulchoki**	**15.12**	**122**	*e*P			**Pn**	**05 03 09.2**	**-0.9**
	comp=Z,432nm,0.6s								
GUN	**Gumba**	**15.23**	**120**	*e*P			**Pn**	**05 03 10.8**	**-0.6**
	comp=Z,302nm,0.5s								
JBP	**Jabalpur**	**15.46**	**148**	⇓*e*P			**Pn**	**05 03 12.5**	**-1.3**
JBP				*ex*			x	05 05 55.3	
JIRN	**Jiri**	**15.60**	**121**	*e*P			**Pn**	**05 03 15.9**	**0.0**
	comp=Z,487nm,0.4s								
RAMN	**Ramite**	**16.33**	**122**	*e*P			**P**	**05 03 24.0**	**+0.2**
	comp=Z,291nm,0.5s								
BVAR	**Borovoye Array**	**16.42**	**359**	P			**P**	**05 03 24.5**	**+0.3**
	comp=Z,5.3nm,0.3s,baz=169,slow=11,SNR=73								
BVAR					S		**S**	**05 06 21.1**	**-4.5**
	comp=Z,0.5nm,0.3s,baz=161,slow=23,SNR=5.7								
BRVK	**Borovoye**	**16.46**	**358**	⇑P			**P**	**05 03 24.8**	**+0.2**
	comp=Z,44nm,1.0s								
BRVK	**Borovoye**	**16.46**	**358**	*c*	*i*P		**Pn**	**05 03 25.5**	**0.0**
BRVK	**Borovoye**	**16.46**	**358**		P		**P**	**05 03 24.6**	**0.0**
BRVK					IAmb		IAmb	05 03 27.1	
	comp=Z,32nm,0.8s								
BANOM	**Banah**	**16.49**	**234**		P		**P**	**05 03 25.2**	**-0.1**
SHME	**Shamm**	**16.50**	**235**		P		**P**	**05 03 25.8**	**+0.4**
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P			**P**	**05 03 28.0**	**+0.6**
	comp=Z,100nm,1.1s								
AKTO				⇑S			**S**	**05 06 29.2**	**-2.2**
	comp=Z,55nm,1.2s								
AKTO	**Aktyubinsk**	**16.71**	**330**		P		**Pn**	**05 03 28.1**	**-0.4**
	comp=Z,4.6nm,0.3s,baz=138,slow=9.9,SNR=135								
AKTO					S		**S**	**05 06 29.8**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=42,slow=19,SNR=5.3								
TAPN	**Taplejung**	**16.86**	**118**	*e*P			**Pn**	**05 03 31.0**	**+0.1**
	comp=Z,185nm,0.4s								
NGP	**Nagpur**	**16.91**	**153**	*e*P			**P**	**05 03 30.5**	**+0.7**
NGP					IAmb		IAmb	05 03 42.4	
	comp=Z,69nm,1.4s								
NGP				*ex*			x	05 06 28.6	
ODAN	**Odare**	**16.94**	**120**	*e*P			**Pn**	**05 03 31.6**	**-0.1**
	comp=Z,116nm,0.4s								
MSFE	**Esma-Masafi**	**16.97**	**233**		P		**P**	**05 03 30.3**	**-0.2**
WSAR	**Wadi Sarin**	**17.11**	**222**		P		**Pn**	**05 03 35.4**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=64,slow=4.0,SNR=6.3								
UOSS	**Minazif**	**17.24**	**232**		P		**P**	**05 03 32.2**	**-1.2**
UOSS	**Minazif**	**17.24**	**232**		P		**P**	**05 03 34.1**	**+0.7**
UOSS					IAmb		IAmb	05 03 37.5	
	comp=Z,15nm,0.8s								
HATD	**Hatta, Dubai**	**17.37**	**232**		P		**P**	**05 03 34.0**	**-0.8**
ASHO	**Ashiyiah**	**17.52**	**231**	*i*	P		**P**	**05 03 35.4**	**-1.1**
	SNR=19								
NAZ	**Nazwa, Dubai**	**17.55**	**233**		P		**P**	**05 03 37.9**	**+1.1**
DGZ	**Jazzator, Alta**	**17.67**	**37**	*c*	*i*P		**P**	**05 03 38.9**	**+0.8**
BOK	**Bokaro**	**18.06**	**131**	*e*P			**P**	**05 03 43.5**	**+1.1**
BOK				*ex*			x	05 06 59.9	
BOK					IAML			05 07 09.9	
	comp=N,30nm,0.6s								
ALNE	**Al Ain**	**18.16**	**231**	*i*	P		**P**	**05 03 42.8**	**-0.7**
	SNR=9.2								
LSA	**Lhasa**	**18.17**	**106**	*i*	P		**Pn**	**05 03 46.8**	**+0.4**
	SNR=10								
LSA	**Lhasa**	**18.17**	**106**		P		**Pn**	**05 03 46.8**	**+0.4**
LSA					pmax		pmax		
	comp=Z,31nm,0.8s								
LSA	**Lhasa**	**18.17**	**106**				**Pn**	**05 03 46.8**	**+0.4**
LSA					IAmb		IAmb	05 03 48.0	
	comp=Z,31nm,0.8s								
POO	**Poona**	**18.18**	**171**	⇑*i*	*x*		**Pn**	**05 03 53.0**	**+6.9**
	comp=Z,50nm,1.0s								
AJN	**Ajban**	**18.29**	**233**		P		**P**	**05 03 45.3**	**+0.5**
AKT	**Akhty**	**18.74**	**292**	*e*P			**P**	**05 03 50.9**	**+1.2**
AKT				*e*S			**S**	**05 07 14.1**	**+2.0**
AKT					pmax		pmax		
	comp=Z,14nm,0.8s								
ZAA0	**Zalesovo Array**	**19.80**	**25**		P		**P**	**05 04 00.6**	**-0.2**
ZALV	**Zalesovo Beam**	**19.80**	**25**	*c*	*i*P		**P**	**05 04 00.6**	**-0.2**
ZALV	**Zalesovo Beam**	**19.80**	**25**		P		**P**	**05 04 00.4**	**-0.4**
	comp=Z,6.9nm,0.3s,baz=224,slow=11,SNR=163								
ZALV					S		**S**	**05 07 28.3**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=218,slow=18,SNR=3.4				

comp=Z,24nm,0.5s,baz=145,slow=15,SNR=8.0
VORD Divnogorie 26.80 312 *e*P **P 05 05 06.7 -0.4**
VORD pmax pmax
comp=Z,20nm,1.3s
ZAK Zakamensk 26.89 49 *e*P **P 05 05 08.6 +0.5**
ZAK *e* 05 05 53.7
ZAK pmax pmax
comp=Z,5.0nm,1.2s
ZAK pmax pmax
comp=Z,6.0nm,1.3s
VSR Storozhevoye 26.96 313 *e*P **P 05 05 08.3 -0.3**
VSR pmax pmax
comp=Z,40nm,1.5s
LPSR Galich'ya Gora 27.61 316 *e*P **P 05 05 13.3 -1.0**
LPSR pmax pmax
comp=Z,40nm,1.0s
SONM Songino Array 28.24 55 P **P 05 05 21.1 +0.9**
comp=Z,6.0nm,0.8s,baz=256,slow=9.8,SNR=32
SONM pP **pP 05 06 05.0 +2.2**
comp=Z,3.0nm,1.0s,baz=257,slow=8.0,SNR=3.1
SONM Songino Array 28.24 55 P **P 05 05 21.0 +0.9**
ULN Ulaanbaatar 28.68 56⇑ *e*P **P 05 05 25.2 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 28.68 56 P **P 05 05 25.2 +1.1**
KMI Kunming 29.38 104 P **P 05 05 32.4 +1.8**
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,240nm,4.5s
MMAI Mount Meron Ar 29.39 274 P **P 05 05 31.9 +1.6**
comp=Z,1.1nm,0.6s,baz=66,slow=8.1,SNR=2.9
MMAI PcP **PcP 05 08 31.3 +0.1**
comp=Z,1.6nm,0.5s,baz=64,slow=4.7,SNR=6.3
BRTR Keskin Array B 29.44 288 P **P 05 05 32.0 +1.1**
comp=Z,2.3nm,0.6s,baz=102,slow=9.1,SNR=21
BRTR pP **pP 05 06 14.4 +1.9**
comp=Z,1.0nm,0.7s,baz=109,slow=8.9,SNR=1.7
BRTR PcP **PcP 05 08 30.5 -0.8**
comp=Z,1.2nm,0.5s,baz=129,slow=2.0,SNR=8.7
BRTR Keskin Array B 29.44 288 P **P 05 05 31.8 +0.9**
PRGR Permogore 29.69 336 *e*P **P 05 05 32.1 -0.5**
PRGR pmax pmax
comp=Z,21nm,0.6s
OBN Obninsk 29.89 319⇑ *i*P **P 05 05 35.0 +0.6**
OBN *e**PP **pP 05 06 17.5 +1.3**
OBN *e* 05 06 47.8
OBN pmax pmax
comp=Z,47nm,0.5s
OBN Obninsk 29.89 319 P **P 05 05 35.3 +0.9**
comp=Z,18nm,0.5s,baz=135,slow=5.7,SNR=9.5
OBN Obninsk 29.89 319 P **P 05 05 34.8 +0.4**
MHMT Maesarieng 29.95 121 P **P 05 05 36.9 +1.5**
comp=Z,35nm,0.6s
ANTO Ankara 30.08 288 P **P 05 05 37.0 +0.6**
ANTO pmax pmax
comp=Z,6.0nm,0.8s
ANTO Ankara 30.08 288 P **P 05 05 37.0 +0.6**
CHTO Chiang Mai 30.23 118 P **P 05 05 39.5 +1.6**
CHTO pmax pmax
comp=Z,4.0nm,0.5s
CHTO Chiang Mai 30.23 118 P **P 05 05 39.5 +1.6**
CMMT Chiang Mai 30.24 118 P **P 05 05 40.6 +2.7**
comp=Z,4.3nm,0.5s
CMAR Chiang Mai Arr 30.47 119 P **P 05 05 40.9 +0.9**
comp=Z,4.3nm,0.7s,baz=304,slow=8.2,SNR=26
CMAR Chiang Mai Arr 30.47 119 P **P 05 05 40.4 +0.5**
PALK Pallekele 30.50 161 P **P 05 05 41.6 +1.3**
comp=Z,11nm,0.7s,baz=296,slow=6.5,SNR=9.3
PALK Pallekele 30.50 161 P **P 05 05 41.5 +1.3**
PALK IAmb IAmb 05 05 42.5
comp=Z,10nm,0.7s
PAYA Payao 30.54 116 P **P 05 05 41.5 +0.9**
comp=Z,14μm,0.7s
XAN Xi'an 30.87 83 P **P 05 05 44.7 +1.3**
XAN pP pP 05 05 53.0 -33
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,330nm,4.0s
XAN Xi'an 30.87 83 P **P 05 05 44.6 +1.2**
XAN PP **PnPn 05 06 52.7 -0.8**
XAN S **S 05 10 30.6 -1.5**
XAN SS SS 05 12 29.7 -23
XAN pmax pmax
comp=Z,7.0nm,1.0s
XAN pmax pmax
comp=Z,330nm,4.3s
EIL Elat 30.88 268 P **P 05 05 43.2 -0.2**
comp=Z,3.3nm,0.9s,baz=27,slow=4.5,SNR=2.8
KLMR Klimovskoe 31.41 331 *e*P **P 05 05 46.7 -0.9**
KLMR pmax pmax
comp=Z,53nm,1.4s
KLMR Klimovskoe 31.41 331 *e*P **P 05 05 46.8 -0.9**
KLMR AMP 05 05 49.0
comp=Z,53nm,1.4s
NANT Nan 31.50 116 P **P 05 05 48.7 -0.3**
comp=Z,170μm,0.7s
HHC Hu-ho-hao-te 31.68 70 P **P 05 05 50.5 0.0**
HHC pmax pmax
comp=Z,6.0nm,1.0s
UMPA Umpang Tak 31.95 122 P **P 05 05 55.9 +2.9**
KHLT Khaolaem Dam 32.77 124 P **P 05 05 58.8 -1.3**
comp=Z,13nm,0.9s
UTHA Uthaitani 32.80 122 P **P 05 06 02.3 +1.9**
comp=Z,29μm,0.8s
ELL Elmali 32.82 283 P **P 05 06 00.9 +0.4**
ELL pmax pmax
comp=Z,57nm,0.6s
ELL Elmali 32.82 283 P **P 05 06 00.9 +0.4**
AKASG Malin Array Be 32.91 309 P **P 05 06 01.6 +0.7**
AKASG 05 08 38.8
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 32.91 309 P **P 05 06 01.3 +0.4**
comp=Z,12nm,0.5s,baz=82,slow=7.0,SNR=33
AKASG PcP **PcP 05 08 38.8 -1.4**
comp=Z,1.8nm,0.6s,baz=82,slow=3.1,SNR=4.5
AKASG Malin Array Be 32.91 309 P **P 05 06 01.6 +0.7**
AKBB Malin Array Si 32.91 309 IAmb IAmb 05 06 02.1
comp=Z,17nm,0.6s
TOPG Topolog 33.06 298 ⇓P **P 05 06 03.4 +1.2**
PBKT Sadao Pong 33.16 119 P **P 05 06 04.9 +1.5**
comp=Z,9.7nm,0.7s
PBKT Sadao Pong 33.16 119 IAmb IAmb 05 06 06.7
comp=Z,11nm,0.6s
SORM Soroca 33.18 304 ⇓P **P 05 06 04.2 +0.9**
CFR Carcaliu 33.23 298 ⇓P **P 05 06 04.8 +1.1**
NONG Nongkai 33.75 115 P **P 05 06 09.0 +0.5**
comp=Z,0.5nm,0.8s
TMCR Tamitsa 33.97 335 *e*P **P 05 06 10.4 +0.6**
NRIK Noril'sk 34.01 10 P **P 05 06 11.4 +1.2**
comp=Z,34nm,0.8s,baz=201,slow=5.6,SNR=31
VRI Vrincioaia 34.21 300 ⇓P **P 05 06 14.2 +2.0**
TESR Tescani 34.27 301 ⇓P **P 05 06 14.5 +1.8**
CHAI Chaiyaphum 34.33 119 P **P 05 06 15.1 +1.6**
comp=Z,20μm,0.7s
MLR Muntele Rosu 34.77 299 ⇓P **P 05 06 19.8 +2.6**
ELND Elena 34.96 295 ⇓P **P 05 06 19.9 +1.2**
DOPR Dopca 35.15 300 ⇓P **P 05 06 22.0 +1.7**
BOD Bodaibo 35.24 39 *e*P **P 05 06 20.1 -0.7**
BOD pmax pmax
comp=Z,14nm,1.2s
KARP Karpathos 35.26 282 P **P 05 06 21.6 +0.2**
BURAR Bucovina Array 35.26 303 ⇓P **P 05 06 23.0 +1.7**
BURAR mb 05 06 24.4
BURAR Bucovina Array 35.26 303 P **P 05 06 22.0 +0.6**
VOIR 35.40 299 ⇓P **P 05 06 23.7 +1.2**
IIGN Ignalina 35.58 316 *e*P **P 05 06 24.8 +1.0**
IIGN IAmb IAmb 05 06 25.9
comp=Z,20nm,0.6s
IZAR Zarasai 35.66 317 *e*P **P 05 06 24.9 +0.5**
IZAR IAmb IAmb 05 06 26.6
comp=Z,18nm,0.7s
ISAL Salakas 35.69 317 *e*P **P 05 06 24.8 +0.1**
ISAL IAmb IAmb 05 06 25.9
comp=Z,7.3nm,0.6s
ISAL *e*pP **pP 05 07 08.2 +0.9**
ARR Arges 35.69 299 ⇓P **P 05 06 26.6 +1.6**
VSU Vasula 36.13 321 *c e*P **P 05 06 28.6 +0.3**
VSU pmax pmax
comp=Z,83nm,0.7s
VSU Vasula 36.13 321 *e*P **P 05 06 28.8 +0.4**
VSU IAmb IAmb 05 06 29.3
comp=Z,93nm,0.6s

LVV L'vov 36.13 307 *e*P **P 05 06 29.3 +0.7**
WHN Wuhan 36.34 87 *e*P **P 05 06 32.6 +2.1**
PABE Paberze 36.87 316 *e*P **P 05 06 35.2 +0.5**
PABE IAmb IAmb 05 06 35.8
comp=Z,32nm,0.7s
DRGR 36.98 301 ⇓P **P 05 06 37.5 +1.6**
GZR Gura Zlata 37.00 299 ⇓P **P 05 06 36.9 +0.9**
TRPA Tarpa 37.07 304 ⇓P **P 05 06 38.5 +2.0**
TRPA mb 05 06 39.4
KOLS Kolonicke sedl 37.25 305 *e*P **P 05 06 39.4 +1.4**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 37.25 305 *e*P **P 05 06 39.4 +1.4**
LVZ Lovozero 37.38 338⇑ *e*P **P 05 06 38.4 -0.4**
LVZ pmax pmax
comp=Z,24nm,0.8s
LVZ Lovozero 37.38 338 P **P 05 06 39.0 +0.2**
FINES FINESS Array B 37.42 326 P **P 05 06 39.8 +0.6**
comp=Z,26nm,0.6s,baz=115,slow=9.5,SNR=167
BZS Buzias 37.80 300 ⇓P **P 05 06 44.7 +2.1**
LIT Litokhoron 37.87 290 P **P 05 06 43.7 +0.4**
LIT pmax pmax
comp=Z,6.0nm,0.8s
LIT Litokhoron 37.87 290 P **P 05 06 43.7 +0.4**
PBUR Paburg 38.10 317 *e*P **P 05 06 45.7 +0.8**
PBUR IAmb IAmb 05 06 45.9
comp=Z,70nm,0.7s
SLIT Slitere, Latvi 38.20 319 *e*P **P 05 06 45.5 -0.3**
SLIT IAmb IAmb 05 06 46.1
comp=Z,171nm,0.5s
NIE Niedzica 38.55 306 *e*P **P 05 06 51.1 +2.2**
NIE Niedzica 38.55 306 *e*P **P 05 06 51.1 +2.2**
NIE *e*P **P 05 06 51.1 +2.2**
PSZ Piszkesteto 38.85 303 P **P 05 06 52.3 +0.8**
PSZ pmax pmax
comp=Z,36nm,2.0s
PSZ Piszkesteto 38.85 303 P **P 05 06 52.3 +0.8**
PSZ IAmb IAmb 05 06 54.2
comp=Z,36nm,2.0s
OJC Ojcow 38.87 307 *e*P **P 05 06 52.7 +1.2**
OJC Ojcow 38.87 307 *e*P **P 05 06 52.7 +1.2**
OJC *e*P **P 05 06 52.7 +1.2**
OJC Ojcow 38.87 307 IAmb IAmb 05 06 53.2
comp=Z,20nm,1.2s
LANS Liptovska Anna 39.09 305 *e*P **P 05 06 55.5 +2.1**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 39.09 305 *e*P **P 05 06 55.5 +2.1**
NJ2 Nanjing 39.42 82 *e*P **P 05 06 56.2 0.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
VYHS Vyhne 39.53 304 *e*P **P 05 06 58.0 +0.9**
VYHS Vyhne 39.53 304 *e*P **P 05 06 57.9 +0.9**
KOLL Kolacno 39.82 304 *e*P **P 05 07 01.2 +1.9**
SRO Srobarova 39.92 303 *e*P **P 05 07 01.8 +1.6**
SRO Srobarova 39.92 303 *e*P **P 05 07 01.8 +1.6**
JAVC Velka Javorina 40.29 305 *e*P **P 05 07 05.5 +2.2**
MORC Moravsky Berou 40.34 306 P **P 05 07 03.9 +0.3**
MORC pmax pmax
comp=Z,36nm,1.6s
MORC Moravsky Berou 40.34 306 ⇓P **P 05 07 05.4 +1.7**
MORC mb 05 07 06.8
MORC Moravsky Berou 40.34 306 *e*P **P 05 07 05.1 +1.5**
MORC Moravsky Berou 40.34 306 P **P 05 07 03.9 +0.3**
MORC IAmb IAmb 05 07 05.9
comp=Z,36nm,1.6s
SMOL Smolenice 40.47 304 *e*P **P 05 07 06.0 +1.3**
SMOL Smolenice 40.47 304 *e*P **P 05 07 06.0 +1.3**
VRAC Vranov 40.97 306 ⇓P **P 05 07 10.7 +1.8**
VRAC mb 05 07 11.4
VRAC Vranov 40.97 306 *e*P **P 05 07 10.6 +1.8**
BLY Banja Luka 41.01 299 P **P 05 07 09.3 +0.2**
ARCES ARCESS Array B 41.06 338 P **P 05 07 09.6 +0.4**
ARCES *PP **pP 05 07 55.1 +1.7**
ARCES ARCESS Array B 41.06 338 P **P 05 07 10.0 +0.8**
comp=Z,24nm,0.6s,baz=112,slow=8.2,SNR=198
ARCES pP **pP 05 07 55.1 +1.7**
comp=Z,5.1nm,0.7s,baz=113,slow=9.3,SNR=2.3
ARCES ARCESS Array B 41.06 338 P **P 05 07 09.6 +0.4**
ARE0 ARCESS Array S 41.06 338 *e*P **P 05 07 09.9 +0.7**
ARE0 ARCESS Array S 41.06 338 P **P 05 07 09.8 +0.5**
DPC Dobruska-Polom 41.10 307 *e*P **P 05 07 11.6 +1.7**
DPC Dobruska-Polom 41.10 307 *e*P **P 05 07 11.6 +1.7**
DPC *e*x x 05 07 13.0
KRUC Moravsky 41.12 305 *e*P **P 05 07 11.5 +1.5**
CHVC Chvalec 41.26 308 *e*P **P 05 07 12.3 +1.1**
UPC Upice 41.29 308 *e*P **P 05 07 12.9 +1.5**
UPC Upice 41.29 308 *e*P **P 05 07 12.9 +1.5**
KTK1 Kautokeino 41.54 336 *e*P **P 05 07 13.8 +0.7**
CONA Conrad Observa 41.56 304 *e*P **P 05 07 14.9 +1.2**
comp=Z,15nm,1.0s,SNR=8.8
HAMF Hammerfest 42.14 339 *e*P **P 05 07 18.7 +0.7**
IPM Ipoh 42.18 132 P **P 05 07 19.2 +0.2**
SOKA Soboth 42.25 302 *e*P **P 05 07 20.6 +1.3**
comp=Z,5.7nm,0.6s
PRU Pruhonice 42.26 307 *e*P **P 05 07 20.6 +1.4**
PRU Pruhonice 42.26 307 *e*P **P 05 07 20.6 +1.4**
PSI Prapat 42.33 136 P **P 05 07 20.1 -0.2**
PSI pmax pmax
comp=Z,15nm,1.1s
PSI Prapat 42.33 136 P **P 05 07 19.8 -0.5**
comp=Z,11nm,0.9s,baz=301,slow=8.5,SNR=9.5
RPSI Rantau Prapat 42.41 136 P **P 05 07 20.1 -0.7**
BRG Berggiesshubel 42.59 308 *e*P **P 05 07 21.3 -0.6**
comp=Z,23nm,1.4s
BRG *e*pP **pP 05 08 06.7 +1.0**
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 42.59 308 *e*P **P 05 07 21.3 -0.6**
BRG *e**PP **pP 05 08 06.7 +1.0**
BRG pmax pmax
comp=Z,23nm,1.4s
BRG pmax pmax
comp=Z,2.0nm,0.7s
OBKA Obir 42.60 302 *e*P **P 05 07 23.8 +1.6**
comp=Z,11nm,1.8s
MOA Molln 42.63 304 *e*P **P 05 07 23.0 +0.7**
comp=Z,17nm,1.7s
GSI Gunungsitoli 42.84 139 P **P 05 07 25.3 +1.0**
GERES GERESS Array B 42.90 305 P **P 05 07 24.9 +0.4**
comp=Z,1.1nm,0.8s,baz=82,slow=7.0,SNR=9.4
GERES PcP **PcP 05 09 10.7 -0.7**
comp=Z,0.8nm,0.6s,baz=87,slow=4.1,SNR=4.9
KHC Kasperske Hory 42.96 306 *e*P **P 05 07 26.6 +1.7**
KHC *e* 05 08 34.0
KHC Kasperske Hory 42.96 306 *e*P **P 05 07 26.6 +1.7**
KHC *e*x x 05 08 34.0
KHC Kasperske Hory 42.96 306 P **P 05 07 26.0 +1.1**
CLL Collm 43.16 309 ⇓*i*P **P 05 07 27.3 +0.9**
CLL pmax pmax
comp=Z,43nm,1.9s
CLL Collm 43.16 309 ⇓*i*P **P 05 07 27.3 +0.9**
comp=Z,43nm,1.9s
CLL *e*PP **PP 05 09 09.0 -1.8**
CLL Collm 43.16 309 P **P 05 07 27.1 +0.7**
CLL IAmb IAmb 05 07 28.0
comp=Z,28nm,1.6s
TRO Tromso 43.19 336 *e*P **P 05 07 26.5 +0.2**
MSEY Mahe Island 43.57 203 *i*P **P 05 07 29.8 -0.3**
MOR8 Moi Rana 43.74 331 *e*P **P 05 07 30.7 -0.2**
YAK Yakutsk 43.85 36 *e*P **P 05 07 31.5 -0.3**
YAK *e* 05 09 23.6
YAK *e*PPP PPP 05 10 05.9
YAK *e*S **S 05 13 47.3 +0.5**
YAK *e**SS **sS 05 15 03.3 -2.2**
YAK *e* 05 17 04.5
YAK pmax pmax
comp=Z,15nm,0.6s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,101nm,4.3s
YAK pmax pmax
comp=N,75nm,4.4s
YAK pmax pmax
comp=E,144nm,4.4s
YAK smax smax
comp=N,41nm,2.3s
YAK smax smax
comp=E,51nm,2.2s
YAK Yakutsk 43.85 36 P **P 05 07 31.4 -0.3**
comp=E,6.1nm,0.3s,baz=111,slow=2.7,SNR=4.9
YAK Yakutsk 43.85 36 P **P 05 07 31.7 0.0**
YAK IAmb IAmb 05 07 32.6
comp=Z,25nm,0.9s

STAL STALIGIAL 43.90 302 IAmb IAmb 05 08 19.9
comp=Z,37nm,2.0s
STEI Steigen 43.90 333 *e*P **P 05 07 31.8 -0.2**
NC405 NORSAR Array S 44.09 323 P **P 05 07 34.0 +0.3**
NB201 NORSAR Array S 44.28 323 *e*P **P 05 07 35.1 -0.1**
NB2 NORSAR Subarra 44.32 323 P **P 05 07 35.5 -0.1**
comp=Z,20nm,0.5s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.32 323 P **P 05 07 35.5 -0.1**
baz=96,slow=7.9
NOA NORSAR Array B 44.32 323 P **P 05 07 35.3 -0.3**
comp=Z,18nm,0.5s,baz=102,slow=7.2,SNR=128
NOA pP **pP 05 08 22.5 +2.6**
comp=Z,2.5nm,0.7s,baz=96,slow=8.1,SNR=2.0
KONS Konsvik 44.34 331 *e*P **P 05 07 36.2 +0.7**
NAO01 NORSAR Array S 44.46 323 *e*P **P 05 07 36.5 -0.2**
NAO01 NORSAR Array S 44.46 323 IAmb IAmb 05 07 37.5
comp=Z,33nm,0.9s
WTTA Wattenberg 44.47 303 *e*P **P 05 07 37.9 +0.8**
comp=Z,4.3nm,0.5s
OSL Oslo 44.48 321 *e*P **P 05 07 37.1 +0.4**
WATA Walderalm 44.50 303 *e*P **P 05 07 37.9 +0.6**
comp=Z,12nm,1.3s
MURB Monte Urbino 44.58 297 P **P 05 07 38.0 +0.1**
MURB IAmb IAmb 05 07 41.4
comp=Z,29nm,1.1s
CTI Castel Tesino 44.66 301 P **P 05 07 38.5 -0.1**
CTI pmax pmax
comp=Z,4.0nm,0.6s
CTI Castel Tesino 44.66 301 P **P 05 07 38.5 -0.1**
SQTA Sankt Quirin 44.77 303 *e*P **P 05 07 39.8 +0.4**
comp=Z,3.7nm,0.5s
KSAR Wonju Array Be 44.78 71 P **P 05 07 39.5 0.0**
KSAR Wonju Array Be 44.78 71 P **P 05 07 39.5 0.0**
KSRS Korea Array 44.80 71 P **P 05 07 40.2 +0.6**
comp=Z,5.3nm,1.1s,baz=278,slow=6.3,SNR=9.8
MOTA Moosalm 44.82 303 *e*P **P 05 07 39.8 0.0**
comp=Z,3.3nm,0.8s
KONO Kongsberg 45.03 321 *e*P **P 05 07 40.8 -0.4**
KLR Kul'dur 45.05 54 *c e*P **P 05 07 41.8 +0.4**
KLR pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 45.05 54 P **P 05 07 41.9 +0.4**
comp=Z,3.8nm,0.4s,baz=281,slow=7.8,SNR=15
DAVA Damuels 45.65 303 *i*P **P 05 07 46.9 +0.5**
comp=Z,8.7nm,0.5s
SKAR Skarslia 45.72 322 *e*P **P 05 07 47.4 +0.8**
MYKOM Kota Tinggi 46.01 131 P **P 05 07 50.2 +0.8**
USRK Ussuriysk Ar. 46.08 61 P **P 05 07 49.2 -0.4**
comp=Z,2.5nm,0.7s,baz=306,slow=7.3,SNR=4.1
BFO Black Forest 46.51 305 *i*P **P 05 07 54.7 +1.8**
SPITS Spitsbergen Ar 47.40 347 P **P 05 08 00.4 +1.1**
comp=Z,6.1nm,0.5s,baz=102,slow=14,SNR=23
KMBO Kilima Mbogo 48.94 228 P **P 05 08 13.5 +1.4**
KMBO Kilima Mbogo 48.94 228 P **P 05 08 13.5 +1.4**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 48.94 228 P **P 05 08 13.1 +0.9**
comp=Z,2.9nm,0.5s,baz=37,slow=12,SNR=10
KMBO Kilima Mbogo 48.94 228 P **P 05 08 13.5 +1.4**
KEST Kesra 49.04 288 P **P 05 08 13.1 +0.5**
comp=Z,4.0nm,0.5s,baz=119,slow=19,SNR=11
MBAR Mbarara 52.60 235 P **P 05 08 39.8 +0.4**
MBAR pmax pmax
comp=Z,18nm,0.7s
MBAR Mbarara 52.60 235 P **P 05 08 39.8 +0.4**
MBAR IAmb IAmb 05 08 40.8
comp=Z,18nm,0.7s
MJAR Matsushiro Arr 52.87 69 P **P 05 08 41.5 +0.4**
comp=Z,2.4nm,1.1s,baz=291,slow=9.8,SNR=6.2
SEY Seymchan 54.30 34⇑ *e*P **P 05 08 51.6 +0.7**
DAG Danmarks Havn 54.64 344⇑ *i*P **P 05 08 53.8 +0.7**
DAG pmax pmax
comp=Z,10.0nm,0.7s
DAG Danmarks Havn 54.64 344⇑ *i*P **P 05 08 53.8 +0.7**
comp=Z,14nm,0.7s
ESDC Sonseca Array 57.45 298 P **P 05 09 13.8 +0.1**
comp=Z,0.7nm,0.5s,baz=59,slow=7.4,SNR=11
ESDC PcP **PcP 05 10 02.9 -2.1**
comp=Z,0.7nm,0.6s,baz=50,slow=4.5,SNR=5.4
ESDC Sonseca Array 57.45 298 P **P 05 09 14.1 +0.4**
TAM Tamanrasset 57.57 276 P **P 05 09 14.2 -0.7**
TAM pmax pmax
comp=Z,3.0nm,0.7s
TAM Tamanrasset 57.57 276 P **P 05 09 14.2 -0.7**
MPSI Mapaga 57.79 117 P **P 05 09 16.9 +0.6**
BILL Bilibino 58.49 26 *c i*P **P 05 09 21.3 +0.9**
BILL *e**PP **pP 05 10 07.6 -0.3**
BILL *e* 05 11 31.8
BILL *e*S S 05 17 30.4 +23
BILL pmax pmax
comp=Z,19nm,1.1s
BILL Bilibino 58.49 26 P **P 05 09 21.3 +0.9**
BILL IAmb IAmb 05 09 22.4
comp=Z,15nm,1.0s
PETK Petropavlovsk- 59.86 44 P **P 05 09 29.4 -0.6**
comp=Z,2.2nm,0.9s,baz=319,slow=7.0,SNR=3.6
SUMG Summit 60.97 341 *i*P **P 05 09 38.9 +1.2**
SUMG pmax pmax
comp=Z,43nm,0.6s
SUMG Summit 60.97 341 *i*P **P 05 09 38.9 +1.2**
comp=Z,43nm,0.6s
SUMG Summit 60.97 341 P **P 05 09 38.3 +0.6**
LSZ Lusaka 65.56 226 P **P 05 10 08.7 +0.5**
LSZ pmax pmax
comp=Z,10.0nm,0.7s
LSZ Lusaka 65.56 226 P **P 05 10 08.7 +0.5**
LSZ IAmb IAmb 05 10 09.2
comp=Z,10nm,0.7s
TOA0 Torodi Ar. Sit 65.76 269 P **P 05 10 07.6 -1.9**
TOA0 IAmb IAmb 05 10 08.1
comp=Z,10nm,0.6s
TORD Torodi Ar. Bea 65.76 269 P **P 05 10 07.6 -1.9**
comp=Z,8.9nm,0.6s,baz=43,slow=5.8,SNR=99
TORD pP **pP 05 11 00.1 +2.4**
comp=Z,2.2nm,0.7s,baz=39,slow=6.3,SNR=2.8
TORD Torodi Ar. Bea 65.76 269 IAmb IAmb 05 10 08.5
comp=Z,7.0nm,0.7s
RDOG Red Dog Mine 68.15 19 P **P 05 10 24.3 +0.6**
RDOG IAmb IAmb 05 10 24.4
comp=Z,25nm,1.3s
COLD Coldfoot 71.86 16 IAmb IAmb 05 10 48.0
comp=Z,9.1nm,0.7s
IMAR Indian Mountai 72.06 18 P **P 05 10 47.3 -0.2**
BMAR Burnt Mountain 72.83 14 P **P 05 10 52.8 +0.8**
MLY Manley 73.56 17 IAmb IAmb 05 10 57.9
comp=Z,34nm,1.5s
INK Inuvik 73.79 9 P **P 05 10 58.2 +0.7**
comp=Z,20nm,0.5s,baz=341,slow=5.8,SNR=184
INK Inuvik 73.79 9 P **P 05 10 58.2 +0.7**
PSAC2 Pilbara Seismi 73.98 133 P **P 05 10 58.9 -0.4**
MDM Murphy Dome 74.20 16 IAmb IAmb 05 11 01.6
comp=Z,22nm,1.0s
BPAW Bear Paw Mtn. 74.28 18 IAmb IAmb 05 11 01.7
comp=Z,13nm,0.9s
COLA College 74.36 16 *c i*P **P 05 11 01.1 +0.2**
COLA pmax pmax
comp=Z,36nm,1.3s
COLA College 74.36 16 P **P 05 11 01.2 +0.3**
CCB Clear Creek Bu 74.57 16 IAmb IAmb 05 11 03.1
comp=Z,21nm,1.6s
IL31 74.66 16 IAmb IAmb 05 11 03.4
comp=Z,13nm,1.1s
ILAR Eielson Array 74.66 16 P **P 05 11 02.2 -0.5**
comp=Z,8.2nm,1.0s,baz=302,slow=4.7,SNR=49
ILAR pP **pP 05 11 53.9 +1.4**
comp=Z,2.9nm,1.1s,baz=305,slow=5.0,SNR=3.2
ILAR Eielson Array 74.66 16 P **P 05 11 02.1 -0.6**
DBIC Dimbokro 74.75 267 P **P 05 11 02.5 -1.5**
comp=Z,5.5nm,0.6s,baz=5.6,slow=6.8,SNR=14
DBIC Dimbokro 74.75 267 P **P 05 11 02.4 -1.5**
DBIC IAmb IAmb 05 11 02.9
comp=Z,7.5nm,0.7s
LBTB Lobatse 74.79 222 P **P 05 11 04.1 +0.1**
LBTB pmax pmax
comp=Z,11nm,0.6s
LBTB Lobatse 74.79 222 P **P 05 11 04.1 +0.1**
LBTB IAmb IAmb 05 11 04.7
comp=Z,11nm,0.6s
KIC Kosan Boka 74.83 267 *e*P **P 05 11 02.8 -1.7**
comp=Z,15nm,0.6s
TIC Toumodi 74.89 267 *e*P **P 05 11 03.2 -1.6**
FITZ Fitzroy Crossi 74.92 127 P **P 05 11 05.4 +0.6**
HDA Harding Lake 74.96 16 IAmb IAmb 05 11 04.0
comp=Z,13nm,1.2s
PPLA Purkeypile 74.97 19 IAmb IAmb 05 11 06.0
comp=Z,49nm,1.7s

TSUM	Tsumeb	75.02	232	P	P	05 11 05.2	-0.3
MCK	McKinley	75.08	17	IAmb	IAmb	05 11 06.3	
	comp=Z,10nm,0.5s						
EPYK	Eagle Plains	75.14	11	IAmb	IAmb	05 11 06.7	
	comp=Z,9.7nm,0.7s						
LIC	Lamto	75.14	267	eP	P	05 11 04.7	-1.6
	comp=Z,25nm,0.6s						
KNRA	Kununurra	75.25	123	P	P	05 11 06.7	0.0
RND	Reindeer	75.38	17	IAmb	IAmb	05 11 07.9	
	comp=Z,30nm,1.3s						
EGAK	Eagle	75.83	14	IAmb	IAmb	05 11 10.9	
	comp=Z,22nm,1.4s						
SKT	Skwentna	75.90	19	P	P	05 11 09.7	-0.1
RIDG	Independent Ri	76.01	16	IAmb	IAmb	05 11 11.2	
	comp=Z,33nm,1.2s						
DHY	Denali Highway	76.01	17	IAmb	IAmb	05 11 11.4	
	comp=Z,11nm,0.6s						
DOT	Dot Lake	76.25	15	IAmb	IAmb	05 11 12.9	
	comp=Z,28nm,1.6s						
PAX	Paxson	76.54	16	P	P	05 11 13.5	0.0
PAX				pmax	pmax		
	comp=Z,44nm,1.5s						
PAX	Paxson	76.54	16	P	P	05 11 13.5	0.0
PAX				IAmb	IAmb	05 11 14.7	
	comp=Z,44nm,1.5s						
GHO	Glory Hole Cre	76.75	18	IAmb	IAmb	05 11 18.9	
	comp=Z,39nm,1.4s						
DAWY	Dawson	76.81	13	IAmb	IAmb	05 11 16.3	
	comp=Z,49nm,1.6s						
RC01	Rabbit Creek A	77.12	19	P	P	05 11 16.6	0.0
RC01				IAmb	IAmb	05 12 11.4	
	comp=Z,13nm,0.6s						
KNK	Knik Glacier	77.17	18	IAmb	IAmb	05 11 18.3	
	comp=Z,38nm,1.3s						
BCAR	Beaver Creek A	77.25	15	P	P	05 11 18.1	+0.7
BOSA	Boshof	77.86	220	P	P	05 11 20.8	-0.4
	comp=Z,3.4nm,0.5s,baz=7.9,slow=3.7,SNR=16						
BOSA	Boshof	77.86	220	IAmb	IAmb	05 13 32.8	
	comp=Z,47nm,1.6s						
BALM	Baldy	78.95	16	IAmb	IAmb	05 11 28.6	
	comp=Z,10nm,0.6s						
KDAK	Kodiak Island	79.08	22	i P	P	05 11 27.6	+0.2
HYT	Haines Junctio	80.14	14	IAmb	IAmb	05 11 35.3	
	comp=Z,16nm,1.3s						
WHY	Whitehorse	80.77	13	IAmb	IAmb	05 11 38.1	
	comp=Z,30nm,1.6s						
YKA	Yellowknife Ar	81.14	3	P	P	05 11 38.7	+0.4
	comp=Z,4.5nm,0.5s,baz=351,slow=5.4,SNR=73						
YKA				pP	pP	05 12 30.0	+1.2
	comp=Z,2.0nm,0.6s,baz=351,slow=5.5,SNR=3.6						
YKA	Yellowknife Ar	81.14	3	P	P	05 11 38.2	-0.1
WRA	Warramunga Arr	82.01	122	P	P	05 11 42.1	-1.4
	comp=Z,3.2nm,0.6s,baz=323,slow=4.9,SNR=28						
WRA				PKKPbc	PKKPbc	05 30 11.3	+0.1
	comp=Z,0.2nm,0.5s,baz=132,slow=2.3,SNR=5.2						
WRA	Warramunga Arr	82.01	122	IAmb	IAmb	05 11 44.0	
	comp=Z,0.4nm,1.1s						
WRAB	Tennant Creek	82.01	122	⇓i P	P	05 11 42.6	-0.9
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WB2	Warramunga Arr	82.02	122	P	P	05 11 42.2	-1.3
DLBC	Dease Lake	83.68	11	P	P	05 11 52.4	+0.8
DLBC				IAmb	IAmb	05 11 54.4	
	comp=Z,22nm,1.4s						
AS31	Alice Springs	84.28	125	P	P	05 11 54.1	-1.0
ASAR	Alice Springs	84.28	125	P	P	05 11 53.8	-1.3
	comp=Z,4.7nm,0.6s,baz=310,slow=4.9,SNR=86						
ASAR				PKKPbc	PKKPbc	05 30 05.7	-0.4
	comp=Z,0.3nm,0.6s,baz=135,slow=3.0,SNR=5.7						
FORT	Forrest	85.71	134	P	P	05 12 02.2	+0.2
FFC	Flin Flon	88.84	356	i P	P	05 12 18.4	+1.7
TXAR	Lajitas Array	114.22	355	PKP	PKiKP	05 18 01.4	-0.3
	comp=Z,0.1nm,0.5s,baz=36,slow=1.7,SNR=3.1						
CPUP	Villa Florida	135.26	268	PKP	PKPdf	05 18 40.0	-1.5
	comp=Z,1.9nm,0.7s,baz=100,slow=1.4,SNR=5.0						
LPAZ	La Paz	138.62	288	PKP	PKPdf	05 18 47.5	-1.3
	comp=Z,0.7nm,0.5s,baz=90,slow=1.0,SNR=3.9						
PLCA	Paso Flores	149.90	250	PKPbc	PKPbc	05 19 11.6	-0.4
	comp=Z,3.9nm,0.6s,baz=79,slow=2.1,SNR=23						
PLCA	Paso Flores	149.90	250		PKPbc	05 19 12.1	+0.1

*SOME **02** 05:04:49.3, 44°.12N×83°.33E, h0km*
*NNC **02** 05:04:51.9±2.4, 44°.32N×83°.26E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=23.1km s-min=10.3km az=133.0
ISC 02 05:04:50.8±3.3, 44°.1N±0°.2×83°.6E±0°.2, h20km, n7, σ1s 24/9, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.73	275	Pg	Pb	05 05 37.7	-1.3
	21nm,0.5s						
DJR				Lg	Lg	05 06 13.2	
	18nm,0.5s						
DJR	Jarkent	2.73	275	eP	Pb	05 05 37.7	-1.3
	24nm,0.6s						
DJR				eS	Sb	05 06 12.5	+0.3
	23nm,0.5s						
MK31	Makanchi Array	2.81	342	⇓Pn	Pn	05 05 35.1	+0.5
	3.4nm,0.5s,baz=159,slow=17,SNR=7.9						
MK31				Lg	Lg	05 06 11.3	
	2.5nm,0.3s,baz=165,slow=28,SNR=7.9						
MAKZ	Makanchi	2.90	338	⇓Pn	Pn	05 05 36.6	+0.7
	5.0nm,0.6s						
MAKZ				⇑Lg	Lg	05 06 14.3	
	7.8nm,0.4s						
PDGK	Podgornoye	3.07	256	Pg	Pb	05 05 44.1	-0.8
	4.5nm,0.8s						
PDGK				Lg	Lg	05 06 23.9	
	8.4nm,0.4s						
UZB	Uzynbulak	3.45	255	Pg	Pb	05 05 50.5	-0.9
	8.9nm,0.8s						
UZB				Lg	Lg	05 06 34.6	
	7.1nm,0.7s						
UZB	Uzynbulak	3.45	255	eP	Pb	05 05 50.5	-0.9
	15nm,0.9s						
UZB				eS	Sb	05 06 34.6	+1.7
	8.7nm,1.0s						

*ISCJB **02** 05:58:12.7±0.2, 60°.28N±0°.02×152°.59W±0°.05,*
h112km±2km, mb3.5/5, Error ellipse: s-maj=4.3km
s-min=3.0km az=17.1
*NEIC **02** 05:58:13.1±1.1, 60°.24N±0°.04×152°.66W±0°.10,*
h111km±4km
*AEIC **02** 05:58:14.1±1.4, 60°.24N±0°.04×152°.63W±0°.09,*
h108km±3km, ML3.4, mb4.0/13(NEIC)
*IDC **02** 05:58:16.3±5.0, 60°.54N×152°.54W, h125km±42km, mb3.2/5,*
mb1 3.6/9, mb1mx3.2/37, mbtmp3.7/9, Error ellipse:
s-maj=48.7km s-min=17.8km az=41.0
ISC 02 05:58:14.1±0.7, 60°.26N±0°.03×152°.59W±0°.04,
h110km±5km, n136, σ1s 28/156, mb3.8/11, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RED	Redoubt Volcan	0.19	331		Pn	05 58 28.5	-1.0
RED					Sn	05 58 40.2	-1.0
RSO	Redoubt South	0.22	338		Pn	05 58 28.8	-1.0
REF	Redoubt East F	0.24	346		Pn	05 58 28.9	-0.9
RDWB	Redoubt West	0.26	332		Pn	05 58 28.7	-1.2
IVE	Iliamna Volcan	0.32	222		Pn	05 58 28.9	-1.1
IVE					Sn	05 58 41.0	-1.0
RDT	Redoubt	0.33	16		Pn	05 58 29.2	-0.8
DFR	Drift River	0.34	352		Pn	05 58 29.2	-1.0
DFR					Sn	05 58 41.5	-0.7
ILW	Iliamna West	0.34	234		Pn	05 58 29.1	-1.1
ILW					Sn	05 58 41.4	-0.9
NCT	North Crescent	0.35	331		Pn	05 58 29.1	-1.1
NCT					Sn	05 58 41.9	-0.4
RDJH	Redoubt Jeurge	0.35	342		Pn	05 58 29.1	-1.1
RDJH					Sn	05 58 41.8	-0.6
HOM	Homer	0.77	141		Pn	05 58 32.7	-0.3
HOM	Homer	0.77	141		Sn	05 58 47.6	+0.4
CAPN	Captain Cook N	0.88	54		Pn	05 58 35.2	+1.3
CKL	Chakachamna La	0.95	7		Pn	05 58 34.4	-0.5
SPCR	Spurr Chakacha	0.96	11		Pn	05 58 34.4	-0.5
SPCR					Sn	05 58 50.0	-0.7
CKT	Bend	0.96	11		Pn	05 58 34.4	-0.6
AU22	Augustine Moun	0.97	204		Pn	05 58 33.9	-1.0
AU22					Sn	05 58 49.6	-1.1
AU2	Augustine Isla	0.98	204		Pn	05 58 34.0	-1.0
BRLK	Bradley Lake	0.99	119		Pn	05 58 34.2	-1.0
AUP	Augustine Pinn	0.99	205		Pn	05 58 34.4	-0.9
AUH	Augustine H	1.00	206		Pn	05 58 34.4	-0.9
CNPM	China Poot	1.00	137		Pn	05 58 34.7	-0.6
CNPM					Sn	05 58 50.7	-0.6
SPBG	Spurr Blockage	1.01	6		Pn	05 58 35.1	-0.3
SPBG					Sn	05 58 51.3	-0.3
SPWE	Spurr West	1.02	1		Pn	05 58 35.4	-0.1
SPCP	Crater Peak Br	1.03	12		Pn	05 58 35.4	-0.3
SPCP					Sn	05 58 52.0	-0.2
CRP	Crater Peak	1.03	12		Pn	05 58 35.5	-0.3
BRSE	Bradley Lake S	1.06	118		Pn	05 58 35.0	-0.9
BRSE					Sn	05 58 51.5	-0.9
SPCG	Spurr Capps Gl	1.07	15		Pn	05 58 35.7	-0.4
SPCG					Sn	05 58 52.5	-0.3
CGLM	Capps Glacier	1.09	15		Pn	05 58 35.9	-0.4
SPNN	North Nagishla	1.11	357		Pn	05 58 36.1	-0.5
SPNN					Sn	05 58 52.5	-1.2
SLKM	Skilak Lake	1.20	77		Pn	05 58 36.8	-0.6
SLKM					Sn	05 58 53.7	-1.4
SUA	Susitna One	1.51	36		Pn	05 58 41.0	-0.1
SUA	Susitna One	1.51	36		Sn	05 59 01.8	+0.3
SEW	Seward	1.57	94		Pn	05 58 40.5	-1.2
RC01	Rabbit Creek A	1.63	58		Pn	05 58 42.0	-0.4
RC01	Rabbit Creek A	1.63	58		Sn	05 59 03.5	-0.5
SVW2	Sparrevohn	1.70	301		Pn	05 58 41.8	-1.5
SKT	Skwentna	1.80	16		Pn	05 58 44.0	-0.6
KAHG	Katmai Hook Gl	2.03	210		Pn	05 58 46.6	-0.9
PMR	Palmer	2.15	50		Pn	05 58 47.7	-1.3
PMR					Sn	05 59 14.1	-1.5
PWL	Port Wells	2.19	72		Pn	05 58 47.9	-1.5
KNK	Knik Glacier	2.33	58		Pn	05 58 50.0	-1.2
KNK					Sn	05 59 18.5	-1.3
GHO	Glory Hole Cre	2.34	48		Pn	05 58 50.4	-1.1
GHO					Sn	05 59 19.0	-1.2
KCG	Knife Ck. Glac	2.35	215		Pn	05 58 50.6	-1.0
KDAK	Kodiak Island	2.48	180		Pn	05 58 50.6	-2.6
KDAK	Kodiak Island	2.48	180		Sn	05 59 20.5	-2.8
SML	Sawmill	2.59	51		Pn	05 58 53.1	-1.5
CAHL	Cahill	2.62	213		Pn	05 58 54.7	-0.3
PPLA	Purkeypile	2.66	4		Pn	05 58 55.7	+0.1
PPLA					Sn	05 59 27.9	+0.4
KJL	Kejulik	2.69	216		Pn	05 58 55.4	-0.7
GLI	Glacier Island	2.78	75		Pn	05 58 56.5	-0.6
SCM	Sheep Creek Mo	3.01	56		Pn	05 58 59.0	-1.2
HIN	Hinchinbrook I	3.03	85		Pn	05 58 59.5	-0.9
JPK	Jack Peak	3.06	72		Pn	05 58 59.1	-1.7
FID	Port Fidalgo	3.06	78		Pn	05 58 59.3	-1.5
FID	Port Fidalgo	3.06	78		Sn	05 59 33.5	-3.4
OHAK	Old Harbor	3.07	187		Pn	05 58 58.3	-2.6
HUR	Hurricane	3.07	26		Pn	05 59 01.1	+0.1
TT01	Tatalina	3.12	330		Pn	05 59 00.4	-1.2
CAST	Castle Rocks	3.18	4	Pn	Pn	05 59 01.8	-0.7
WAT1	Susitna Watana	3.22	35		Pn	05 59 02.0	-1.0
WAT2	Susitna Watana	3.32	33		Pn	05 59 03.5	-0.9
TRF	Thorofare Moun	3.38	18		Pn	05 59 04.5	-0.7
KTH	Kantishna Hill	3.40	13		Pn	05 59 04.5	-0.9
RND	Reindeer	3.62	28		Pn	05 59 08.0	-0.4
CHUM	Lake Minchumin	3.64	2		Pn	05 59 07.9	-0.6
DHY	Denali Highway	3.76	39		Pn	05 59 09.5	-0.8
SII	Sitkinak Islan	3.80	193		Pn	05 59 07.8	-3.0
MCK	McKinley	3.89	25		Pn	05 59 11.5	-0.4
BPAW	Bear Paw Mtn.	3.93	10		Pn	05 59 10.8	-1.6
BWN	Browne	4.19	19		Pn	05 59 16.0	+0.1
PAX	Paxson	4.35	48		Pn	05 59 17.7	-0.4
GLB	Gilahina Butte	4.46	71		Pn	05 59 18.2	-1.3
VRDI	Verde Repeater	4.59	74		Pn	05 59 19.8	-1.6
NEA	Nenana	4.63	19		Pn	05 59 20.5	-1.3
CRQM	Cirque	4.70	80		Pn	05 59 22.7	-0.2
WRH	Wood River Hil	4.72	24		Pn	05 59 22.1	-0.9
MCARA	McCarthy VSAT	4.82	72		Pn	05 59 24.4	+0.1
MLY	Manley	4.87	9		Pn	05 59 24.1	-0.9
HDA	Harding Lake	4.92	30		Pn	05 59 24.9	-0.8
CCB	Clear Creek Bu	4.93	25		Pn	05 59 24.5	-1.3
CHGN	Chignik	5.02	220	Pn	Pn	05 59 25.5	-1.5
RIDG	Independent Ri	5.05	43		Pn	05 59 27.1	-0.4
PTPK	Patty Peak	5.06	75		Pn	05 59 27.2	-0.5
PS08	TAPS Pump Stn8	5.07	29		Pn	05 59 26.8	-0.9
KIAG	Kiagna River	5.09	78		Pn	05 59 27.7	-0.4
BALM	Baldy	5.10	77		Pn	05 59 28.0	-0.3
TCOL	CIGO, UAF Yank	5.12	23		Pn	05 59 27.3	-1.1
COLA	College	5.12	23		Pn	05 59 28.1	-0.3
MDM	Murphy Dome	5.13	21		Pn	05 59 27.5	-1.0
IL31		5.24	28		Pn	05 59 28.6	-1.4
ILAR	Eielson Array	5.24	28	P	Pn	05 59 28.7	-1.3
	11nm,0.3s,baz=213,slow=13,SNR=575						
ILAR				S	Sn	06 00 23.9	-5.3
	3.6nm,0.3s,baz=201,slow=27,SNR=5.9						
ILAR	Eielson Array	5.24	28		Pn	05 59 28.5	-1.5
DOT	Dot Lake	5.27	46		Pn	05 59 29.5	-0.9
YAH	Yahtse	5.39	84		Pn	05 59 32.3	0.0
POKR	Poker Plat Res	5.42	24		Pn	05 59 31.6	-0.8
BARN	Barnard Glacie	5.43	77		Pn	05 59 32.4	-0.4
IMAR	Indian Mountai	5.77	355		Pn	05 59 36.4	-0.8
IM01	Indian Mountai	5.78	355		Pn	05 59 36.6	-0.7
BC03		5.86	57		Pn	05 59 37.7	-0.7
YUK2	White River	5.91	70		Pn	05 59 38.8	-0.4
YUK3	Moose Creek	6.09	70		Pn	05 59 41.7	0.0
YUK1	Sand Pete Hill	6.13	67		Pn	05 59 42.1	-0.1
PRP	Porcupine Dome	6.18	28		Pn	05 59 42.2	-0.7
EGAK	Eagle	6.96	44		Pn	05 59 52.0	-1.3
DAWY	Dawson	7.26	53		Pn	05 59 56.7	-0.7
HYT	Haines Junctio	7.46	79	Pn	Pn	05 59 59.9	-0.3
BM03	Burnt Mountain	8.00	23		Pn	06 00 05.3	-2.1
BMAR	Burnt Mountain	8.01	23		Pn	06 00 05.4	-2.2
WHY	Whitehorse	8.76	80	Pn	Pn	06 00 17.6	-0.1
INK	Inuvik	11.51	37	P	Pn	06 00 52.3	-2.4
	0.3nm,0.3s,baz=252,slow=20,SNR=11						
INK	Inuvik	11.51	37		Pn	06 00 52.6	-2.0
DLBC	Dease Lake	11.64	89	P	Pn	06 00 59.4	+2.7
	0.1nm,0.3s,baz=277,slow=16,SNR=3.4						
YKA	Yellowknife Ar	18.16	66	P	P	06 02 18.0	+0.5
	0.2nm,0.3s,baz=276,slow=9.8,SNR=11						
YKA	Yellowknife Ar	18.16	66	P	P	06 02 17.9	+0.3
F10A	Beach Ranch, E	25.20	109		P	06 03 30.7	+1.4
BMO	Blue Mountains	26.00	110	P	P	06 03 38.4	+1.8
HRY	Holter Researc	27.27	101	P	P	06 03 48.3	+0.4
FXWY	Fox Creek	29.89	105	P	P	06 04 13.5	+2.2
FXWY				IAmb	IAmb	06 04 14.0	
	comp=Z,1.8nm,0.8s						
TPAW	Teton Pass	30.04	105	P	P	06 04 14.9	+2.1
TPAW				IAmb	IAmb	06 04 15.5	
	comp=Z,2.2nm,0.7s						
SNOW	Snow King Moun	30.16	105	P	P	06 04 16.1	+2.4
SNOW				IAmb	IAmb	06 04 16.9	
	comp=Z,2.7nm,0.7s						
NVAR	Mina Array Bea	30.67	120	P	P	06 04 19.7	+1.5
	comp=Z,0.4nm,0.6s,baz=307,slow=8.6,SNR=4.0						
NV11	Mina Array Sit	30.73	120	P	P	06 04 20.8	+2.1
PDAR	Pinedale Array	31.26	104	P	P	06 04 24.8	+1.4
	comp=Z,0.6nm,0.7s,baz=308,slow=4.4,SNR=5.8						
PDAR	Pinedale Array	31.26	104	P	P	06 04 24.9	+1.5
SRU	San Rafael Swe	33.63	110	P	P	06 04 46.5	+2.4
O20A	White River Ci	33.91	106	P	P	06 04 48.5	+2.0
PV22	Blue Mesa, Par	34.91	108	P	P	06 04 57.7	+2.5
PV22				IAmb	IAmb	06 04 57.8	
	comp=Z,1.8nm,0.7s						
EYMN	Ely	36.51	82	P	P	06 05 08.9	+0.4
ECSD	EROS Data Cent	36.93	91	P	P	06 05 12.7	+0.7
ECSD				IAmb	IAmb	06 05 29.4	
	comp=Z,3.1nm,1.1s						
SDCO	Great Sand Dun	37.10	106	P	P	06 05 15.9	+2.0
SDCO				IAmb	IAmb	06 05 16.4	
	comp=Z,1.1nm,0.8s						
G40A	Rib Lake	39.02	84	P	P	06 05 30.2	+0.7
TXAR	Lajitas Array	44.88	111	P	P	06 06 18.2	+0.7
	comp=Z,0.6nm,0.8s,baz=307,slow=4.6,SNR=4.4						
TXAR	Lajitas Array	44.88	111	P	P	06 06 18.6	+1.2
SONM	Songino Array	54.80	306	P	P	06 07 32.0	-0.4
	comp=Z,0.4nm,0.6s,baz=49,slow=8.0,SNR=2.9						
FINES	FINESS Array B	58.62	1	P	P	06 07 57.4	-1.5
	comp=Z,0.5nm,0.4s,baz=357,slow=8.6,SNR=3.2						

*SOME **02** 06:16:01.4, 44°.10N×81°.08E, h15km*
*NNC **02** 06:16:03.2±2.3, 44°.08N×80°.96E, h0km, mb2.5, mpv2.5,*
Error ellipse: s-maj=18.4km s-min=12.4km az=137.0
ISC 02 06:15:59.5±2.2, 44°.00N±0°.07×81°.17E±0°.08, h8km±13km,
n12, σ1s 98/20, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.04	289	P	Pg	06 16 19.5	-0.1
	2.8nm,0.1s						
DJR				S	Sb	06 16 32.9	-1.0
	6.9nm,0.2s						
DJR	Jarkent	1.04	289	eP	Pg	06 16 19.5	-0.1
	2.8nm,0.1s						
DJR				eS	Sb	06 16 32.9	-1.0
	6.9nm,0.2s						
PDGK	Podgornoye	1.39	242	P	Pn	06 16 27.0	+1.7
	0.7nm,0.1s						
PDGK				S	Sn	06 16 45.9	+1.9
	4.4nm,0.4s						
SHLS	Shalkode	1.50	236	eP	Pn	06 16 25.2	-1.6
	57nm,0.8s						
SHLS				eS	Sn	06 16 42.3	-4.3
	28nm,0.5s						
KAPS	Kapalarasan	1.82	316	P	Pn	06 16 32.7	+1.4
	1.4nm,0.2s						
KAPS				S	Sb	06 16 55.1	-1.1
	5.9nm,0.1s						
KAPS	Kapalarasan	1.82	316	eP	Pn	06 16 32.7	+1.4
	1.4nm,0.2s						
KAPS				eS	Sb	06 16 55.3	-0.9
	5.9nm,0.1s						
KPKS	Kokpek	1.88	254	eP	Pb	06 16 35.2	+1.1
	2.3nm,0.2s						
KPKS				eS	Sg	06 16 59.4	-0.4
	24nm,0.6s						
ARXS	Arharly	2.41	276	Lg	Lg	06 17 15.0	
	4.2nm,0.4s						
ARXS	Arharly	2.41	276	eP	Pb	06 16 44.2	+0.9
	1.5nm,0.8s						
ARXS				eS	Sg	06 17 15.0	-2.1
	4.6nm,0.4s						
MAKZ	Makanchi	2.87	11	⇓Pn	Pb	06 16 52.5	+1.5
	0.9nm,0.5s						
MAKZ				⇑Lg	Lg	06 17 27.7	
	2.3nm,0.5s						
MK31	Makanchi Array	2.91	15	⇑Pn	Pb	06 16 51.2	-0.4
	0.2nm,0.5s,baz=192,slow=16,SNR=3.7						
MK31				⇑Lg	Lg	06 17 30.1	
	0.3nm,0.3s,baz=195,slow=28,SNR=9.5						
DGS	Degeres	3.99	261	eP	Pb	06 17 14.1	+4.0
	1.8nm,0.4s						
DGS				eS	Sg	06 18 06.2	-1.4
	6.4nm,0.5s						

*ISCJB **02** 06:18:37.0±0.7, 31°.14N±0°.06×115°.70W±0°.05, h28km±5km,*
Error ellipse: s-maj=12.0km s-min=5.4km az=27.9
*ANF **02** 06:18:37.6±0.6, 31°.42N×115°.60W, h1km, ML3.1/15,*
ML3.1/15, Error ellipse: s-maj=5.2km s-min=3.0km
az=24.0
*ECX **02** 06:18:38.1±0.6, 31°.28N×115°.68W, h5km, MD3.1, ML3.3*
*MEX **02** 06:18:38.5±0.8, 31°.10N×115°.72W, h20km, MD3.6*
ISC 02 06:18:37.4±1.0, 31°.2N±0°.1×115°.68W±0°.05, h17km±13km,
n30, σ1s 61/46, 3C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	San Pedro Mart	0.24	130	eP	Pg	06 18 43.7	+0.6
SPIG				eS	Sg	06 18 47.7	+0.8
SPIG	San Pedro Mart	0.24	130	eP	Pg	06 18 43.4	+0.4
SPIG				eS	Sg	06 18 48.1	+1.2
SPX	San Pedro Mart	0.24	131	eP	Pg	06 18 42.4	-0.8
SPX				eS	Sg	06 18 46.6	-0.5
SPX	San Pedro Mart	0.24	131	⇓eP	Pg	06 18 42.7	-0.4
SPX				eS	Sg	06 18 47.1	0.0
SPX				IAML		06 18 50.4	
	comp=E,4μm,0.7s						
SPX				e		06 18 50.4	
SFX	San Felipe	0.73	102	⇑eP	Pg	06 18 51.1	-0.6
SFX				eS	Sg	06 19 01.1	-0.2
CBX	Cerro Bola	1.39	323	eP	Pn	06 19 00.7	-1.5
CBX				eS	Sn	06 19 17.5	-2.8
CBX	Cerro Bola	1.39	323	eP	Pn	06 19 00.8	-1.4
CBX				⇑e		06 19 25.9	
CBX				IAML		06 19 25.9	
	comp=E,693nm,0.7s						
RMX	La Rumorosa	1.44	346	eP	Pn	06 19 01.1	-1.8
RMX				eS	Sn	06 19 18.3	-3.3
RMX				IAML		06 19 21.0	
	comp=N,400nm,0.4s						
RMX				⇑e		06 19 21.0	
IKP	In-Ko-Pah, Jac	1.49	346	P	Pn	06 19 02.9	-0.7
	baz=168,SNR=258						
IKP				S	Sn	06 19 21.9	-0.8
	baz=168						
IKP	In-Ko-Pah, Jac	1.49	346	eP	Pn	06 19 02.9	-0.7
TJIG	Tijuana	1.50	326	eP	Pn	06 19 02.3	-1.2
TJIG				eS	Sn	06 19 19.7	-3.0
TJIG	Tijuana	1.50	326	eP	Pn	06 19 02.4	-1.1
WESC	Westside Schoo	1.56	358	eP	Pn	06 19 03.5	-0.8
BAR	Barrett	1.70	330	eP	Pn	06 19 06.0	-0.4
SWSC	Sam W. Stewart	1.75	357	Pn	Pn	06 19 05.8	-1.1
	baz=179,SNR=101						
SWSC				Pg	Pb	06 19 07.6	-1.4
	baz=179						
MONP2	Monument Peak	1.80	340	P	Pn	06 19 08.2	+0.2
	baz=161,SNR=155						
MONP2				S	Sn	06 19 31.0	+0.4
	baz=161						
SDRC	San Diego Road	1.87	325	eP	Pn	06 19 08.7	0.0
EML	El Monte Cty P	1.96	330	eP	Pn	06 19 10.0	+0.1
GLA	Glamis	1.98	21	P	Pn	06 19 09.2	-1.1
	baz=204,SNR=24						
GLA				Sg	Sn	06 19 37.3	+2.5
	baz=204					

PVAQ A A 06 25 58.6
1.6nm,1.0s

*ISCJB **02** 06:32:39.7±0.3, 17°.22S±0°.03×69°.75W±0°.04, h169km±4km, mb4.2/11, Error ellipse: s-maj=6.9km s-min=5.5km az=0.5*
*NEIC **02** 06:32:41.0±2.8, 17°.21S±0°.06×69°.8W±0°.1, h156km±3km, mb4.5/13*
*VAO **02** 06:32:41.7±0.7, 17°.17S×69°.63W, h168km±4km, mb4.2*
*IDC **02** 06:32:42.5±1.4, 17°.19S×69°.46W, h165km±12km, mb3.9/9, mb1 4.0/12, mb1mx3.7/37, mbtmp4.4/12, Error ellipse: s-maj=17.4km s-min=15.7km az=85.0*
*GUC **02** 06:32:42.7±0.5, 17°.35S×69°.78W, h166km±3km, ML3.9*
ISC 02 06:32:40.7±0.6, **17°.23S**±0°.04×**69°.68W**±0°.05, **h159**km±6km, **n100**, σ1°**64**/120, **mb4.5**/16, **7C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**1.11**	**172**	⇑*i*P	**Pn**	**06 33 09.5**	**+1.5**
PB16				*i* S	**Sn**	**06 33 30.4**	**+1.4**
PB16				IAML		06 33 33.7	
	comp=N,731nm,0.5s						
PB12	**IPOC Station P**	**1.51**	**204**	⇑*i*P	**Pn**	**06 33 11.3**	**0.0**
PB12				*i* S	**Sn**	**06 33 33.8**	**-1.0**
PB12				IAML		06 33 35.9	
	comp=E,2μm,0.4s						
LPAZ	**La Paz**	**1.75**	**58**	P	**Pn**	**06 33 15.3**	**+1.0**
	comp=E,356nm,0.3s,baz=289,slow=4.2						
LPAZ				S	**Sn**	**06 33 40.4**	**+0.3**
	comp=E,17nm,0.3s,baz=180,slow=20,SNR=6.7						
LPAZ	**La Paz**	**1.75**	**58**		**Pn**	**06 33 15.5**	**+1.2**
LPAZ					**Sn**	**06 33 40.5**	**+0.5**
LPAZ	**La Paz**	**1.75**	**58**	*e*P	**Pn**	**06 33 15.7**	**+1.3**
LPAZ				*e*S	**Sn**	**06 33 40.1**	**0.0**
LPAZ	**La Paz**	**1.75**	**58**	*e*P	**Pn**	**06 33 15.7**	**+1.3**
LPAZ				*e*S	**Sn**	**06 33 40.1**	**0.0**
MNMC	**Minye Minye**	**1.90**	**178**	⇑*i*P	**Pn**	**06 33 16.5**	**+0.9**
MNMC				*i* S	**Sn**	**06 33 42.5**	**+0.1**
MNMC	**Minye Minye**	**1.90**	**178**		**Pn**	**06 33 16.4**	**+0.9**
MNMC				Sn	**Sn**	**06 33 42.6**	**+0.1**
PSGC	**Pisagua**	**2.40**	**190**	⇑*i*P	**Pn**	**06 33 21.1**	**-0.1**
PSGC				*i* S	**Sn**	**06 33 50.4**	**-2.1**
GO01	**Chusmiza**	**2.47**	**169**	⇑*i*P	**Pn**	**06 33 23.7**	**+1.3**
GO01				*i* S	**Sn**	**06 33 55.4**	**+0.7**
GO01	**Chusmiza**	**2.47**	**169**		**Pn**	**06 33 23.8**	**+1.3**
GO01					**Sn**	**06 33 56.1**	**+1.4**
PB11	**IPOC Station P**	**2.52**	**180**	⇑*i*P	**Pn**	**06 33 23.1**	**+0.3**
PB11				*i* S	**Sn**	**06 33 54.2**	**-1.0**
PB11	**IPOC Station P**	**2.52**	**180**		**Pn**	**06 33 23.1**	**+0.4**
PB11				Sn	**Sn**	**06 33 54.4**	**-0.8**
PB08	**IPOC Station P**	**2.94**	**170**	⇑*i*P	**Pn**	**06 33 29.2**	**+1.1**
PB08				*i* S	**Sn**	**06 34 04.5**	**-0.3**
PB08				IAML		06 34 07.8	
	comp=E,502nm,0.2s						
PB01	**IPOC Station P**	**3.80**	**177**		**Pn**	**06 33 38.4**	**-0.4**
PB01				Sn	**Sn**	**06 34 20.1**	**-3.9**
PB07	**IPOC Station P**	**4.48**	**183**	*e*P	**Pn**	**06 33 47.7**	**+0.1**
PB09	**IPOC Station P**	**4.56**	**175**	*e*P	**Pn**	**06 33 49.4**	**+0.7**
PB04	**IPOC Station P**	**5.10**	**185**	Pn	**Pn**	**06 33 54.9**	**-0.9**
LVC	**Limon Verde**	**5.40**	**172**	P	**Pn**	**06 34 00.7**	**+0.8**
	comp=E,6.7nm,0.3s,baz=30,slow=7.6,SNR=68						
LVC				S	**Sn**	**06 34 58.1**	**-3.8**
	comp=E,18nm,0.3s,baz=77,slow=22,SNR=22						
LVC	**Limon Verde**	**5.40**	**172**		**Pn**	**06 34 01.2**	**+1.3**
LVC					**Sn**	**06 34 58.0**	**-4.0**
LVC	**Limon Verde**	**5.40**	**172**	*e*P	**Pn**	**06 34 01.4**	**+1.4**
LVC	**Limon Verde**	**5.40**	**172**	*e*P	**Pn**	**06 34 01.4**	**+1.4**
PB10	**IPOC Station P**	**6.31**	**187**	Pn	**Pn**	**06 34 10.1**	**-1.6**
PB10					**Sn**	**06 35 18.4**	**-4.5**
GO02	**Mina Guanaco**	**7.90**	**179**	Pn	**Pn**	**06 34 31.6**	**-1.4**
GO02					**Sn**	**06 35 59.7**	**-1.7**
SIV	**San Ignacio**	**8.34**	**83**	P	**Pn**	**06 34 36.0**	**-2.7**
	comp=E,4.0nm,0.3s,baz=281,slow=12,SNR=66						
SIV				S	**Sn**	**06 36 03.0**	**-8.7**
	comp=E,1.0nm,0.3s,baz=348,slow=23,SNR=8.9						
NNA	**Nana**	**8.67**	**306**	P	**Pn**	**06 34 43.4**	**+0.3**
	comp=E,1.7nm,0.3s,baz=116,slow=13,SNR=5.3						
NNA				S	**Sn**	**06 36 16.5**	**-3.3**
	comp=E,2.0nm,0.3s,baz=190,slow=19,SNR=4.6						
NNA	**Nana**	**8.67**	**306**	Pn	**Pn**	**06 34 43.6**	**+0.4**
SAML	**Samuel**	**10.38**	**38**		**Pn**	**06 35 03.5**	**-2.1**
SAML	**Samuel**	**10.38**	**38**	*e*P	**Pn**	**06 35 04.0**	**-1.6**
SAML	**Samuel**	**10.38**	**38**	*e*P	**Pn**	**06 35 04.0**	**-1.6**
SALV	**Santo Antonio**	**13.47**	**86**	*e*P	**Pn**	**06 35 46.8**	**+1.1**
SALV	**Santo Antonio**	**13.47**	**86**	*e*P	**Pn**	**06 35 46.8**	**+1.1**
AQDB	**Aquidauana**	**13.62**	**106**	*e*P	**Pn**	**06 35 47.8**	**+0.3**
AQDB	**Aquidauana**	**13.62**	**106**	*e*P	**Pn**	**06 35 47.8**	**+0.3**
CLDB	**Colider**	**14.87**	**67**	*e*P	**Pn**	**06 36 03.3**	**+0.1**
CLDB	**Colider**	**14.87**	**67**	*e*P	**Pn**	**06 36 03.3**	**+0.1**
C2SB	**Chapadao do Su**	**16.09**	**98**	*e*P	**P**	**06 36 19.8**	**+1.3**
C2SB	**Chapadao do Su**	**16.09**	**98**	*e*P	**P**	**06 36 19.8**	**+1.3**
PTGB	**Pitanga**	**18.04**	**117**	*e*P	**Pn**	**06 36 40.9**	**-0.8**
PTGB	**Pitanga**	**18.04**	**117**	*e*P	**Pn**	**06 36 40.9**	**-0.8**
ITRB	**Iturama**	**18.49**	**101**	*e*P	**P**	**06 36 44.6**	**-0.2**
ITRB	**Iturama**	**18.49**	**101**	*e*P	**P**	**06 36 44.6**	**-0.2**
PTGA	**Pitinga**	**18.98**	**31**	P	**P**	**06 36 49.3**	**-0.7**
	comp=E,2.5nm,0.3s,baz=190,slow=12,SNR=19						
PTGA	**Pitinga**	**18.98**	**31**	*e*P	**P**	**06 36 49.8**	**-0.3**
PTGA	**Pitinga**	**18.98**	**31**	*e*P	**P**	**06 36 49.8**	**-0.3**
FRTB	**Fartura**	**19.81**	**111**	*e*P	**P**	**06 36 59.1**	**0.0**
FRTB	**Fartura**	**19.81**	**111**	*e*P	**P**	**06 36 59.1**	**0.0**
PLTB	**Pedras Altas**	**20.54**	**138**	*e*P	**P**	**06 37 07.2**	**+0.4**
PLTB	**Pedras Altas**	**20.54**	**138**	*e*P	**P**	**06 37 07.2**	**+0.4**
BDFB	**Brasilia**	**20.84**	**89**	P	**P**	**06 37 09.1**	**-1.1**
	comp=E,8.7nm,0.5s,baz=268,slow=10,SNR=16						
BDFB	**Brasilia**	**20.84**	**89**	P	**P**	**06 37 12.3**	**+2.1**
BDFB				IAmb	IAmb	06 37 12.8	
	comp=Z,9.8nm,0.5s						
CNLB	**Canela**	**21.03**	**128**	*e*P	**P**	**06 37 10.9**	**-1.2**
CNLB	**Canela**	**21.03**	**128**	*e*P	**P**	**06 37 10.9**	**-1.2**
PEXB	**Peixe**	**21.29**	**79**	*e*P	**P**	**06 37 13.8**	**-1.2**
PEXB	**Peixe**	**21.29**	**79**	*e*P	**P**	**06 37 13.8**	**-1.2**
PMNB	**Patos De Minas**	**22.15**	**97**	*e*P	**P**	**06 37 23.1**	**-0.9**
PMNB	**Patos De Minas**	**22.15**	**97**	*e*P	**P**	**06 37 23.1**	**-0.9**
GO06	**Curarrehue**	**22.33**	**184**	P	**P**	**06 37 28.3**	**+2.8**
SMTB	**Santa Maria do**	**23.05**	**72**	*e*P	**P**	**06 37 32.0**	**-0.3**
SMTB	**Santa Maria do**	**23.05**	**72**	*e*P	**P**	**06 37 32.0**	**-0.3**
PLCA	**Paso Flores**	**23.44**	**182**	P	**P**	**06 37 37.7**	**+2.1**
	comp=Z,4.8nm,0.9s,baz=20,slow=11,SNR=9.7						
PLCA	**Paso Flores**	**23.44**	**182**	P	**P**	**06 37 38.4**	**+2.8**
PLCA	**Paso Flores**	**23.44**	**182**	*e*P	**P**	**06 37 36.6**	**+1.0**
PLCA	**Paso Flores**	**23.44**	**182**	*e*P	**P**	**06 37 36.6**	**+1.0**
BSCB	**Bom Sucesso**	**23.82**	**103**	*e*P	**P**	**06 37 40.1**	**+0.7**
BSCB	**Bom Sucesso**	**23.82**	**103**	*e*P	**P**	**06 37 40.1**	**+0.7**
MDP	**Montagnes des**	**27.85**	**39**	P	**P**	**06 38 15.1**	**-0.4**
	comp=Z,5.2nm,0.6s,baz=211,slow=8.7,SNR=5.5						
FDF	**Fort de France**	**32.85**	**15**	P	**P**	**06 38 58.3**	**-1.3**
RCBR	**Riachuelo**	**34.91**	**75**	*e*P	**P**	**06 39 18.2**	**+0.7**
RCBR	**Riachuelo**	**34.91**	**75**	*e*P	**P**	**06 39 18.2**	**+0.7**
SJG	**San Juan**	**35.29**	**6**	P	**P**	**06 39 18.9**	**-1.6**
SJG				IAmb	IAmb	06 39 21.8	
	comp=Z,11nm,1.0s						
MTP	**Monte Pirata**	**35.34**	**7**	P	**P**	**06 39 19.1**	**-1.8**
MTP				IAmb	IAmb	06 39 24.0	
	comp=Z,19nm,1.1s						
HUMP	**Col San Antoni**	**35.35**	**6**	P	**P**	**06 39 20.2**	**-0.8**
GCPR	**Guaynabo City**	**35.49**	**6**	P	**P**	**06 39 20.6**	**-1.6**
TXAR	**Lajitas Array**	**56.74**	**324**	P	**P**	**06 42 09.6**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=156,slow=6.9,SNR=2.6						
TXAR	**Lajitas Array**	**56.74**	**324**	P	**P**	**06 42 09.1**	**+0.9**
MTPU	**Mount Pierson**	**67.94**	**325**	P	**P**	**06 43 19.4**	**-3.4**
LIC	**Lamto**	**67.97**	**76**	*e*P	**P**	**06 43 23.5**	**+0.4**
	comp=Z,20nm,0.7s						
TIC	**Toumodi**	**68.13**	**75**	*e*P	**P**	**06 43 25.6**	**+1.5**
KIC	**Kosan Boka**	**68.28**	**76**	*e*P	**P**	**06 43 24.9**	**-0.1**
	comp=Z,36nm,0.7s						
DBIC	**Dimbokro**	**68.29**	**75**	P	**P**	**06 43 25.1**	**0.0**
	comp=Z,9.8nm,0.6s,baz=235,slow=6.6,SNR=18						
DBIC	**Dimbokro**	**68.29**	**75**	P	**P**	**06 43 25.2**	**+0.2**
PDAR	**Pinedale Array**	**70.07**	**330**	P	**P**	**06 43 37.5**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=126,slow=7.4,SNR=4.2						
PDAR	**Pinedale Array**	**70.07**	**330**	P	**P**	**06 43 37.0**	**+1.3**
ULM	**Lac du Bonnet**	**71.05**	**343**	P	**P**	**06 43 41.6**	**+0.5**
	comp=Z,3.6nm,0.4s,baz=160,slow=5.5,SNR=8.8						
ULM	**Lac du Bonnet**	**71.05**	**343**	P	**P**	**06 43 41.7**	**+0.6**
ULM				IAmb	IAmb	06 43 42.3	
	comp=Z,4.3nm,0.6s						
KHMM	**Horse Mountain**	**76.50**	**321**	P	P	06 44 07.9	-5.4
KHMM				IAmb	IAmb	06 44 25.8	
	comp=Z,6.7nm,1.1s						
TOA0	**Torodi Ar. Sit**	**76.65**	**72**	P	**P**	**06 44 14.7**	**+0.2**
TOA0				IAmb	IAmb	06 44 14.9	
	comp=Z,8.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.65**	**72**	P	**P**	**06 44 14.2**	**-0.3**
	comp=Z,6.0nm,0.5s,baz=254,slow=5.8,SNR=55						
PAB	**San Pablo**	**83.00**	**45**	P	**P**	**06 44 50.0**	**+1.7**
PAB				IAmb	IAmb	06 44 50.1	
	comp=Z,1.7nm,0.5s						
ESDC	**Sonseca Array**	**83.33**	**45**	P	**P**	**06 44 50.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=252,slow=6.9,SNR=5.3						
ESDC	**Sonseca Array**	**83.33**	**45**	P	**P**	**06 44 50.7**	**+0.8**
YKA	**Yellowknife Ar**	**86.94**	**341**	P	**P**	**06 45 08.5**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=132,slow=4.8,SNR=11						
YKA	**Yellowknife Ar**	**86.94**	**341**	P	**P**	**06 45 08.3**	**+1.1**
ABKAR	**Akbulak array**	**128.44**	**40**	PKPdf	**PKiKP**	**06 51 31.0**	**+1.9**
WRA	**Warramunga Arr**	**136.18**	**214**	PKP	**PKPdf**	**06 51 44.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=157,slow=1.8,SNR=2.6						
KSH	**Kashi**	**142.83**	**46**	*e*PKP	**PKPdf**	**06 51 53.1**	**-2.6**
SONM	**Songino Array**	**149.31**	**5**	PKPbc	**PKiKP**	**06 52 12.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=342,slow=1.8,SNR=4.0						
SONM	**Songino Array**	**149.31**	**5**		**PKiKP**	**06 52 12.2**	**+0.2**
NJ2	**Nanjing**	**163.34**	**334**	*e*P	**PKPdf**	**06 52 23.4**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						

*IDC **02** 06:48:24.7±1.4, 2°.21S×121°.16E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/42, mbtmp3.6/5, ML3.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=53.4km s-min=23.3km az=63.0*
*ISCJB **02** 06:48:26.8±0.5, 2°.29S±0°.05×120°.75E±0°.08, h10km, mb3.5/4, Error ellipse: s-maj=12.8km s-min=4.7km az=24.6*
*DJA **02** 06:48:27.9±0.3, 2°.3S±3°×12°.1E±°, h10km, M4.0/11, MLv4.0/11*
ISC 02 06:48:26.8±0.9, **2°.31S**±0°.05×**120°.76E**±0°.07, **h10**km, **n15**, σ1°**62**/17, **mb3.5**/4, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.19**	**232**	P	**Pn**	**06 48 49.3**	**-0.3**
APSI	**Ampana**	**1.65**	**33**	P	**Pn**	**06 48 55.6**	**-0.2**
APSI				S	**Sb**	**06 49 18.7**	**+0.6**
SPSI	**Sidrap Palu**	**1.92**	**211**	P	**Pn**	**06 48 58.6**	**-1.0**
BNSI	**Bone**	**2.18**	**197**	P	**Pn**	**06 49 03.0**	**-0.1**
LUWI	**Luwuk**	**2.37**	**58**	P	**Pn**	**06 49 07.0**	**+1.3**
KDI	**Kendari**	**2.47**	**132**	P	**Pn**	**06 49 08.4**	**+1.2**
MPSI	**Mapaga**	**2.77**	**342**	P	**Pn**	**06 49 12.9**	**+1.7**
KAPI	**Kappang**	**2.87**	**201**	Pn	**Pn**	**06 49 15.5**	**+2.8**
	11nm,0.3s,baz=20,slow=9.1,SNR=6.1						
KAPI				Sn	**Sn**	**06 49 50.0**	**+2.7**
	31nm,0.3s,baz=178,slow=21,SNR=15						
KAPI				LR	LR	06 50 38.8	
	comp=Z,132nm,19.4s,baz=58,slow=43						
MRSI	**Marisa**	**3.01**	**23**	P	**Pn**	**06 49 14.8**	**+0.3**
MRSI				S	**Sn**	**06 49 51.4**	**+0.8**
BKSI	**Bulukumba**	**3.06**	**192**	P	**Pn**	**06 49 16.8**	**+1.5**
BATI	**Baumata**	**8.36**	**160**	LR	LR	06 54 23.5	
	comp=Z,155nm,20.5s,baz=204,slow=43						
WRA	**Warramunga Arr**	**21.98**	**144**	P	**P**	**06 53 19.2**	**-2.0**
	0.8nm,0.6s,baz=323,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**24.75**	**150**	P	**P**	**06 53 46.5**	**-2.3**
	0.4nm,0.6s,baz=317,slow=8.1,SNR=5.9						
STKA	**Stephens Creek**	**35.36**	**148**	P	**P**	**06 55 21.4**	**-1.3**
	1.6nm,0.7s,baz=339,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**59.44**	**330**	P	**P**	**06 58 30.1**	**+0.3**
	0.4nm,0.7s,baz=133,slow=8.5,SNR=2.0						

*ISCJB **02** 06:50:41.9±0.6, 42°.67N±0°.03×75°.67E±0°.04, h0km, Error ellipse: s-maj=5.5km s-min=3.4km az=148.0*
*NNC **02** 06:50:41.7±0.5, 42°.67N×75°.65E, h2km±7km, mpv2.7, Error ellipse: s-maj=7.9km s-min=2.2km az=158.0, Suspected Mining explosion.*
*KNET **02** 06:50:42.3±0.2, 42°.68N×75°.70E, h0km, ml1.0, Error ellipse: s-maj=1.7km s-min=1.1km az=42.0*
*SOME **02** 06:50:42.1, 42°.70N×75°.67E*
ISC 02 06:50:42.6±1.1, **42°.68N**±0°.03×**75°.67E**±0°.03, **h0**km, **n14**, σ0°**47**/22, **8C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**347**	⇑P	**Pg**	**06 50 47.2**	**-0.1**
	1.0nm,0.3s						
TKM2				⇑S	**Sg**	**06 50 50.9**	**+0.4**
	9.7nm,0.3s						
TKM2	**Tokmak 2**	**0.24**	**347**	⇑P	**Pg**	**06 50 47.2**	**-0.1**
	12nm,0.2s,SNR=24						
TKM2				⇑S	**Sg**	**06 50 51.0**	**+0.5**
	45nm,0.1s						
KST	**Kastek**	**0.42**	**31**	P	**Pg**	**06 50 50.4**	**-0.3**
	19nm,0.1s						
KST				S	**Sg**	**06 50 56.7**	**+0.5**
	8.8nm,0.4s						
KBK	**Karagaybulak**	**0.53**	**268**	⇑P	**Pg**	**06 50 53.0**	**+0.2**
	7.8nm,0.1s,SNR=10						
DGS	**Degeres**	**0.56**	**8**	P	**Pg**	**06 50 53.0**	**-0.4**
	3.7nm,0.2s						
DGS				S	**Sg**	**06 51 01.2**	**+0.4**
	5.4nm,0.2s						
ULHL	**Ulahol**	**0.61**	**136**	P	**Pg**	**06 50 53.8**	**-0.4**
	6.6nm,0.1s,SNR=39						
KZA	**Kyzart**	**0.68**	**207**	⇑P	**Pg**	**06 50 55.8**	**+0.2**
	5.0nm,0.1s,SNR=13						
IZV	**Izvestkoviy**	**0.78**	**63**	P	**Pg**	**06 50 57.1**	**-0.4**
	11nm,0.1s						
IZV				S	**Sg**	**06 51 08.1**	**+0.5**
	9.1nm,0.1s						
AAK	**Ala-Archa**	**0.87**	**267**	⇓P	**Pg**	**06 50 59.1**	**-0.2**
	0.9nm,0.4s						
AAK				⇓S	**Sg**	**06 51 09.9**	**-0.6**
	1.7nm,0.5s						
AAK	**Ala-Archa**	**0.87**	**267**	⇑P	**Pg**	**06 50 59.0**	**-0.3**
	1.4nm,0.1s						
UCH	**Uchtor**	**0.97**	**242**	⇓P	**Pg**	**06 51 00.9**	**-0.3**
	0.5nm,0.1s						
TNSS	**Tian-Shan**	**1.00**	**69**	P	**Pg**	**06 51 01.6**	**-0.3**
	2.4nm,0.1s						
TNSS				S	**Sg**	**06 51 15.9**	**+1.1**
	2.9nm,0.3s						
KTBS	**Karatobe**	**1.27**	**35**	P	**Pg**	**06 51 06.2**	**-0.7**
	2.5nm,0.1s						
KTBS				S	**Sg**	**06 51 23.6**	**+0.3**
	5.8nm,0.3s						
EKS2	**Erkin-Say**	**1.40**	**270**	⇑P	**Pn**	**06 51 09.4**	**-0.1**
	6.3nm,0.2s,SNR=18						

*NIED **02** 06:53:00, 23°.70N×121°.60E, h14km, Mw3.9 Best double couple: M0 7.67000×10^14 NP1:φs146.00000°, δ17.00000°, λ5.00000°. NP2:φs51.00000°, δ88.00000°, λ107.00000°.*
*IDC **02** 06:53:15.8±0.9, 23°.66N×121°.74E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/48, mbtmp3.6/8, ML2.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=27.5km s-min=19.3km az=62.0*
*TAP **02** 06:53:18.4, 23°.74N×121°.58E, h19km, ML4.2, C*
*JMA **02** 06:53:18.4±0.1, 23°.68N×121°.59E, h22km±3km, M3.5*
*ISCJB **02** 06:53:19.0±0.2, 23°.71N±0°.01×121°.58E±0°.01, h23km±1km, mb3.6/7, Error ellipse: s-maj=2.3km s-min=1.6km az=41.1*
ISC 02 06:53:18.4±0.8, **23°.71N**±0°.01×**121°.57E**±0°.02, **h18**km±3km, **n139**, σ0°**64**/204, **mb3.6**/7, **12C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.13**	**253**	P	**Pg**	**06 53 23.2**	**+0.7**
	baz=250						
EGFH				*i* S	**Sg**	**06 53 26.3**	**+1.0**
	baz=250						
ESL	**Shilin**	**0.16**	**311**	⇓*i*P	**Pg**	**06 53 23.1**	**+0.2**
	baz=294						
ESL				*i* S	**Sg**	**06 53 25.9**	**0.0**
	baz=294						
ENLB	**Shoufeng**	**0.20**	**9**	⇑*i*P	**Pb**	**06 53 23.4**	**+0.1**
	baz=16						
ENLB				*i* S	**Sg**	**06 53 27.6**	**+0.9**
	baz=16						
HGSD	**Ruisui**	**0.25**	**211**	⇓P	**Pb**	**06 53 25.9**	**+1.5**
	baz=205						
HGSD				*e*S	**Sg**	**06 53 30.2**	**+2.1**
	baz=205						
EHY	**Hungye**	**0.30**	**228**	P	**Pb**	**06 53 25.4**	**+0.1**
	baz=233						
EHY				*e*S	**Sb**	**06 53 30.2**	**+0.3**
	baz=233						
TWD	**Chiawan**	**0.37**	**4**	⇑P	**Pb**	**06 53 26.8**	**+0.2**
	baz=16						
TWD				*i* S	**Sb**	**06 53 32.2**	**+0.1**
	baz=16						
VWDT	**VWDT**	**0.39**	**277**	⇓P	**Pb**	**06 53 27.1**	**+0.2**
	baz=273						
VWDT				S	**Sg**	**06 53 32.6**	**+0.5**
	baz=273						
YULB	**Yu-li**	**0.40**	**218**	⇑P	**Pb**	**06 53 26.9**	**-0.1**
	baz=232						
TWF1	**Yuli**	**0.43**	**215**	⇑*i*P	**Pb**	**06 53 27.6**	**0.0**
	baz=227						
TWF1				*e*S	**Sb**	**06 53 34.2**	**+0.5**
	baz=227						
NACB	**Ninganchiao**	**0.47**	**3**	⇓*e*P	**Pg**	**06 53 28.1**	**+0.2**
	baz=10.0						
NACB				S	**Sg**	**06 53 34.5**	**+0.2**
	baz=10.0						
CHGB	**Renai**	**0.50**	**314**	⇓P	**Pg**	**06 53 28.8**	**+0.1**
	baz=318						
CHGB				S	**Sg**	**06 53 35.2**	**-0.4**
	baz=318						
ETLH	**Xiulin Townshi**	**0.50**	**351**	⇓P	**Pg**	**06 53 28.6**	**0.0**
	baz=343						
ETLH				*e*S	**Sg**	**06 53 35.2**	**-0.3**
	baz=343						
WHF	**Hehuan Shan**	**0.52**	**328**	⇓*i*P	**Pg**	**06 53 28.8**	**-0.2**
	baz=327						
WHF				S	**Sg**	**06 53 35.4**	**-0.7**
	baz=327						
SSLB	**Suanglung**	**0.57**	**278**	⇓P	**Pb**	**06 53 29.6**	**-0.2**
	baz=275						
SSLB				*e*S	**Sg**	**06 53 36.3**	**-1.1**
	baz=275						
YUS	**Yu-Shan**	**0.60**	**249**	⇑*i*P	**Pb**	**06 53 31.0**	**+0.3**
	baz=247						
YUS				*e*S	**Sg**	**06 53 38.6**	**-0.2**
	baz=247						
CHKT	**Chengkung**	**0.63**	**197**	*e*P	**Pn**	**06 53 32.0**	**-0.5**
	baz=196						
CHKT				*e*S	**Sn**	**06 53 41.5**	**-0.7**
	baz=196						
WHYT	**Xinyi Township**	**0.65**	**269**	*e*P	**Pg**	**06 53 31.8**	**+0.4**
	baz=267						
WHYT				*e*S	**Sb**	**06 53 39.8**	**-0.3**
	baz=267						
TDCB	**Techi**	**0.66**	**326**	⇓P	**Pb**	**06 53 31.6**	**+0.1**
	baz=317						
TDCB				S	**Sb**	**06 53 39.0**	**-1.4**
	baz=317						
DPDB	**Guoxing**	**0.67**	**299**	⇓P	**Pb**	**06 53 31.7**	**+0.1**
	baz=297						
DPDB				S	**Sb**	**06 53 40.1**	**-0.5**
	baz=297						
TYC	**Yuchr**	**0.68**	**287**	⇓*i*P	**Pb**	**06 53 31.6**	**-0.1**
	baz=292						
TYC				S	**Sb**	**06 53 40.7**	**-0.1**
	baz=292						
ELDTW	**Lidau**	**0.72**	**224**	⇑*e*P	**Pb**	**06 53 31.9**	**-0.7**
	baz=224						
ENA	**Nanau**	**0.73**	**12**	*e*P	**Pb**	**06 53 32.9**	**+0.2**
	baz=4.0						
ENA				*e*S	**Sn**	**06 53 43.9**	**-0.8**
	baz=4.0						
NANB	**Nanao**	**0.74**	**13**	P	**Pb**	**06 53 32.8**	**0.0**
	baz=4.0						
NANB				*e*S	**Sg**	**06 53 43.3**	**+0.6**
	baz=4.0						
NNSB	**Datong**	**0.74**	**347**	⇓P	**Pb**	**06 53 32.9**	**0.0**
	baz=347						
NNSB				S	**Sb**	**06 53 42.0**	**-0.6**
	baz=347						
NNS	**Nan Shan**	**0.75**	**346**	P	**Pb**	**06 53 33.2**	**+0.1**
	baz=347						
NNS				*i* S	**Sb**	**06 53 42.5**	**-0.5**
	baz=347						
WJS	**Zhushan**	**0.78**	**279**	*e*P	**Pn**	**06 53 34.6**	**+0.1**
	baz=279						
WJS				*e*S	**Sn**	**06 53 45.6**	**-0.1**
	baz=279						
WHP	**Taichung City**	**0.80**	**315**	*e*P	**Pb**	**06 53 34.1**	**+0.2**
	baz=308						
WHP				*e*S	**Sb**	**06 53 44.5**	**0.0**
	baz=308						
CHN5	**Tsauling**	**0.82**	**262**	⇑*i*P	**Pn**	**06 53 35.1**	**-0.1**
	baz=253						
CHN5				S	**Sg**	**06 53 45.8**	**+0.3**
	baz=253						
WNT	**Mingjian**	**0.83**	**282**	*e*P	**Pn**	**06 53 35.2**	**0.0**
	baz=280						
WNT				*e*S	**Sn**	**06 53 46.9**	**-0.1**
	baz=280						
NDT	**Datong Townshi**	**0.89**	**357**	*e*P	**Pg**	**06 53 36.1**	**+0.2**
	baz=349					

NWLT	Wulai	1.07 357	eP	Pg	06 53 39.5	+0.3
	baz=357					
CHY	Chiayi	1.07 259	eP	Pg	06 53 39.1	-0.1
	baz=258					
PTSB	Yuanli	1.08 313	eP	Pg	06 53 39.7	+0.3
	baz=311					
PTSB			eS	Sg	06 53 53.9	+0.4
	baz=311					
TWK	Hsinying	1.08 246	⇑P	Pg	06 53 39.3	-0.1
	baz=245					
TWK			S	Sg	06 53 54.2	+0.5
	baz=245					
CHN1	Nanshi	1.09 242	⇑iP	Pg	06 53 39.6	0.0
	baz=241					
CHN1			S	Sg	06 53 54.3	+0.5
	baz=241					
NMLH	Miaoli	1.09 320	eP	Pn	06 53 38.9	+0.1
	baz=317					
SNST	Tainan City	1.09 244	eP	Pg	06 53 39.4	-0.3
	baz=243					
SNST			eS	Sg	06 53 54.2	+0.1
	baz=243					
SGST	Jiashian	1.10 236	eP	Pb	06 53 38.9	0.0
	baz=224					
SGST			S	Sg	06 53 54.3	+0.2
	baz=224					
SLGT	Liugui	1.10 230	eP	Pg	06 53 39.8	-0.1
	baz=231					
RLNB	Erlin	1.12 280	eP	Pg	06 53 40.1	0.0
	baz=264					
RLNB			eS	Sg	06 53 54.8	0.0
	baz=264					
NTC	Toucheng	1.17 12	eP	Pg	06 53 40.9	-0.2
	baz=359					
WLTB	Daxi	1.18 346	eP	Pg	06 53 41.3	+0.1
	baz=354					
WLGB	Puzi	1.18 259	eP	Pn	06 53 39.3	-0.8
	baz=258					
WLGB			eS	Sg	06 53 57.3	+0.4
	baz=258					
SBCB	Hsinchu	1.20 334	eP	Pb	06 53 41.3	+0.6
	baz=333					
HSN	Hsinchu	1.22 334	eP	Pn	06 53 40.9	+0.3
	baz=318					
HSN			eS	Sg	06 53 58.1	+0.1
	baz=318					
WMLT	Mailiao	1.23 275	eP	Pb	06 53 41.7	+0.4
	baz=273					
WSF	Szhu	1.23 267	eP	Pb	06 53 41.6	+0.4
	baz=265					
WSF			eS	Sn	06 53 58.0	+0.9
	baz=265					
ECL	Taimali	1.24 207	eP	Pn	06 53 40.6	-0.3
	baz=196					
TATO	Taipei	1.26 357	eP	Pn	06 53 41.5	+0.2
	baz=357					
TWA	Mucha	1.27 1	eP	Pg	06 53 42.6	-0.4
	baz=4.0					
TWA			eS	Sn	06 53 58.1	+0.2
	baz=4.0					
TIPB	Shuangxi	1.28 11	eP	Pb	06 53 42.8	+0.7
	baz=360					
SSD	Sandimen	1.29 222	eP	Pb	06 53 42.4	+0.3
	baz=215					
SSD			S	Sg	06 53 59.5	-0.6
	baz=215					
CHN8	Yiju	1.29 254	eP	Pb	06 53 42.6	+0.3
	baz=253					
NCU	National Centr	1.30 345	eP	Pb	06 53 42.3	-0.2
	baz=1.0					
NCU			eS	Sb	06 54 00.0	+1.2
	baz=1.0					
TWB1	Santiao Chiao	1.35 16	eP	Pg	06 53 44.7	+0.1
	baz=3.0					
NWF	Wu-fen Shan	1.37 8	eP	Pb	06 53 44.1	+0.4
	baz=10.0					
TWM1	Shoushan	1.37 230	eP	Pg	06 53 44.9	0.0
	baz=246					
WFSB	Wu-fen Shan	1.37 8	eP	Pb	06 53 43.7	+0.1
	baz=10.0					
MASBT	Mashibuluo	1.39 218	eP	Pn	06 53 43.0	+0.1
	baz=221					
TWS1	Kuangyinshan	1.39 354	eP	Pb	06 53 43.8	-0.2
	baz=14					
YM01	YM01	1.43 0	eP	Pb	06 53 44.7	+0.1
	baz=1.0					
YM10	YM10	1.44 360	eP	Pb	06 53 44.5	-0.4
	baz=1.0					
YM11	YM11	1.45 0	eP	Pb	06 53 44.9	-0.1
	baz=1.0					
JYNG	Yonagunijimaku	1.46 59	P	Pb	06 53 44.6	-0.5
JYNG			eS	Sb	06 54 04.1	+0.7
ANP	Anpu	1.47 358	eP	Pn	06 53 44.4	+0.2
	baz=359					
EAST	Anshuo	1.48 207	eP	Pb	06 53 45.3	-0.1
	baz=198					
SNJT	Kaohsiung City	1.48 230	eP	Pb	06 53 46.0	+0.6
	baz=233					
TAW	Tawu	1.48 205	eP	Pb	06 53 45.1	-0.3
	baz=208					
YOJ	Yonaguni jima	1.52 60	eP	Pb	06 53 45.5	-0.6
	baz=59					
YOJ			eS	Sb	06 54 05.2	+0.2
	baz=59					
YOJ	Yonaguni jima	1.52 60	P	Pb	06 53 45.6	-0.5
YOJ			S	Sb	06 54 04.8	-0.2
TWY	Chenhua	1.56 1	eP	Pb	06 53 46.8	-0.1
	baz=2.0					
SCZT	Fangliau	1.59 213	eP	Pb	06 53 47.4	+0.1
	baz=205					
LAY	Lan-yu	1.66 181	eP	Pn	06 53 46.1	-0.7
	baz=169					
WLCH	Liuqiu	1.74 219	eP	Pb	06 53 50.5	+0.7
	baz=224					
WDGT	Dungji	1.81 256	P	Pn	06 53 49.2	+0.6
	baz=255					
PHUB	P'eng-hu	1.84 264	P	Pn	06 53 49.9	+0.8
	baz=247					
PHUB			eS	Sn	06 54 12.2	+0.2
	baz=247					
PNG	Penghu	1.85 266	eP	Pn	06 53 50.0	+0.7
	baz=249					
PNG			eS	Sn	06 54 12.3	+0.1
	baz=249					
TWKBT	Hengchun	1.89 202	eP	Pb	06 53 51.3	-1.1
	baz=195					
PCYT	Pengchaiyu	1.97 13	eP	Pn	06 53 52.1	+1.2
	baz=359					
VCHM	Qimei	2.02 256	eP	Pn	06 53 52.3	+0.7
	baz=255					
VCHM			eS	Sn	06 54 16.4	-0.1
	baz=255					
IRIF	Iriomote-Funau	2.07 72	P	Pn	06 53 53.2	+0.8
IRIF			S	Sn	06 54 19.0	+1.3
HATJ	Hateruma jima	2.08 80	P	Pn	06 53 53.1	+0.7
HATJ			eS	Sn	06 54 18.0	+0.2
JKRS	Kuro-shima	2.30 76	P	Pn	06 53 56.4	+1.0
JKRS			S	Sn	06 54 24.8	+1.6
VWUC	VWUC	2.32 304	eP	Pn	06 53 56.1	+0.5
	baz=300					
PTTC	Pingtan	2.42 318	eP	Pn	06 53 58.4	+1.2
	baz=314					
JIJ	Ishigaki jima	2.44 74	P	Pn	06 53 57.9	+0.4
JIJ			eS	Sn	06 54 27.2	+0.3
PTMZ	Houxiangcun	2.60 301	eP	Pn	06 54 00.1	+0.6
	baz=298					
PTMZ			eS	Sn	06 54 30.0	-0.6
	baz=298					
JISG	Ishigakijimahi	2.66 70	P	Pn	06 54 00.7	+0.3
JISG			eS	Sn	06 54 31.6	-0.5
MATB	Ma-tsu	2.84 329	eP	Pn	06 54 02.8	-0.2
	baz=328					
MATB			eS	Sn	06 54 35.5	-1.2
	baz=328					
KNM	Kinmen	2.95 284	eP	Pn	06 54 06.3	+1.9
	baz=279					
KNMB	Chin-men Tao	3.00 285	eP	Pn	06 54 05.5	+0.4
	baz=282					
KNMB			eS	Sn	06 54 40.2	-0.4
	baz=282					
JTJ	Tarama	3.01 71	P	Pn	06 54 06.2	+1.0
JTJ			eS	Sn	06 54 41.1	+0.2
LYJJ	Jianjiangzhen	3.27 330	eP	Pn	06 54 07.9	-0.9
	baz=327					
MHZQ	Yeshan	3.31 316	eP	Pn	06 54 10.7	+1.3
	baz=313					
MHZQ			eS	Sn	06 54 48.5	+0.2
	baz=313					
XPSS	Dashiqiu	3.44 339	eP	Pn	06 54 11.2	0.0
	baz=337					
JIRB	Irabujima	3.48 71	S	Sn	06 54 51.7	-0.6
AXDP	Jialang	3.49 291	eP	Pn	06 54 12.7	+0.9
	baz=286					
ZPLA	Ao Xicun	3.50 274	eP	Pn	06 54 12.9	+0.9
	baz=271					
ZPLA			eS	Sn	06 54 52.8	-0.2
	baz=271					
JIKM	Ikemajima	3.57 69	eS	Sn	06 54 54.9	+0.2
JMJ	Miyako jima 2	3.58 71	eP	Pn	06 54 13.6	+0.6
	baz=71					
JMJ2	Miyako jima3	3.58 73	eS	Sn	06 54 55.0	0.0
ZZJH	Jiuhuzhen	3.68 283	eP	Pn	06 54 14.5	+0.1
	baz=278					
JOW	Kunigami	6.82 61	Pn	Pn	06 54 57.0	-0.7
	0.2nm,0.3s,baz=238,slow=19,SNR=4.7					
TGY	Tagaytay City	9.57 184	LR	LR	07 00 12.4	
	comp=Z,123nm,18.6s,baz=16,slow=44					
KSRS	Korea Array	14.75 20	Pn	P	06 56 49.3	-2.8
	0.2nm,0.3s,baz=198,slow=11,SNR=2.6					
CMAR	Chiang Mai Arr	21.74 260	P	P	06 58 11.8	+2.8
	0.6nm,0.3s,baz=66,slow=10.0,SNR=3.7					
MKAR	Makanchi Array	38.92 316	P	P	07 00 44.2	+1.0
	0.8nm,0.6s,baz=112,slow=9.2,SNR=7.8					
H11N1	WAKE ISLAND Hy 42.17	86	T	T	07 46 15.3	
	baz=283,slow=74,SNR=4.7					
H11N2	WAKE ISLAND Hy 42.17	86	T	T	07 46 08.7	
	baz=283,slow=74,SNR=7.3					
H11N3	WAKE ISLAND Hy 42.18	86	T	T	07 46 16.0	
	baz=283,slow=74,SNR=7.8					
H11S3	WAKE ISLAND Hy 42.28	88	T	T	07 46 17.0	
	baz=284,slow=75,SNR=31					
H11S1	WAKE ISLAND Hy 42.29	88	T	T	07 46 17.8	
	baz=284,slow=75,SNR=32					
H11S2	WAKE ISLAND Hy 42.30	88	T	T	07 46 19.5	
	baz=284,slow=75,SNR=40					
KURBB	Kurchatov Arra	42.70 320	P	P	07 01 14.7	+0.5
	0.3nm,0.5s,baz=107,slow=9.8,SNR=3.9					
WRA	Warramunga Arr	45.14 163	P	P	07 01 32.7	-1.4
	0.9nm,0.6s,baz=344,slow=8.7,SNR=7.2					
ASAR	Alice Springs	48.59 165	P	P	07 02 01.0	-0.1
	0.2nm,0.3s,baz=342,slow=7.1,SNR=7.8					
STKA	Stephens Creek	58.50 160	P	P	07 03 12.8	-0.9
	1.2nm,0.5s,baz=339,slow=8.6,SNR=3.6					
ILAR	Eielson Array	69.47 27	P	P	07 04 25.8	+0.3
	0.3nm,0.5s,baz=292,slow=6.3,SNR=5.1					

*SOME **02** 07:03:56.7,41.°98N×78.°12E*
*NNC **02** 07:03:57.1±1.6,41.°87N×78.°09E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=12.3km s-min=5.6km az=172.0,
Suspected Mining explosion.
ISC 02 07:03:54.8±2.1,41.°8N±0.°1×78.°13E±0.°05,h0km,n14,
σ0°74/20,1C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	1.28	9	P	Pg	07 04 18.9	-0.4
	14nm,0.1s						
SATY				S	Sg	07 04 35.0	-0.9
	21nm,0.2s						
TNSS	Tian-Shan	1.52	325	P	Pb	07 04 24.1	0.0
	21nm,0.1s						
TNSS				S	Sg	07 04 43.9	+0.3
	8.7nm,0.2s						
KOTS	Kotyrbulak	1.62	333	P	Pg	07 04 25.9	0.0
KOTS				S	Sg	07 04 47.5	+0.6
IZV	Izvestkoviy	1.67	318	P	Pg	07 04 27.1	+0.3
	12nm,0.2s						
IZV				S	Sg	07 04 49.3	+0.8
	9.8nm,0.2s						
PDGK	Podgornoye	1.83	33	P	Pb	07 04 29.0	-0.3
	4.7nm,0.1s						
PDGK				S	Sb	07 04 52.3	-0.5
	2.0nm,0.3s						
PDGK	Podgornoye	1.83	33	⇑Pn	Pn	07 04 28.0	+0.3
	2.2nm,0.3s						
PDGK				⇓Sn	Sg	07 04 55.9	+2.1
	2.5nm,0.4s						
KST	Kastek	2.03	309	Pg	Pg	07 04 33.1	-0.5
	16nm,0.2s						
KST				Lg	Lg	07 04 59.5	
	8.4nm,0.4s						
TKM2	Tokmak 2	2.19	302	⇓Pg	Pg	07 04 36.3	-0.4
	3.6nm,0.3s						
TKM2				⇓Lg	Lg	07 05 07.1	
	5.5nm,0.7s						
KTBS	Karatobe	2.19	331	Pg	Pg	07 04 36.0	-0.8
	22nm,0.2s						
KTBS				Lg	Lg	07 05 04.4	
	14nm,0.5s						
DGS	Degeres	2.26	310	Pg	Pg	07 04 37.3	-0.8
	12nm,0.3s						
DGS				Lg	Lg	07 05 06.6	
	9.1nm,0.3s						
ARXS	Arharly	2.43	355	Pg	Pb	07 04 39.0	-0.3
	24nm,0.2s						
ARXS				Lg	Lg	07 05 09.5	
	8.0nm,0.3s						
KUU	Kurty	2.47	329	Pg	Pb	07 04 40.5	+0.4
	11nm,0.3s						
KUU				Lg	Lg	07 05 12.0	
	10.0nm,0.3s						
DJR	Jarkent	2.81	25	Pg	Pb	07 04 45.7	-0.2
	9.0nm,0.2s						
DJR				Lg	Lg	07 05 21.1	
	24nm,0.1s						
AAK	Ala-Archa	2.83	289	⇓Pg	Pb	07 04 46.2	0.0
	1.5nm,0.5s						
AAK				⇓Lg	Lg	07 05 26.4	
	4.8nm,0.8s						

*IDC **02** 07:11:27.1±3.8,37.°69N×69.°84E,h0km,mb3.6/2,*
mb1 3.7/8,mb1mx3.5/53,mbtmp3.7/8,ML3.3/6,MS3.0/5,
Ms1 3.0/5,ms1mx2.7/43,Error ellipse: s-maj=55.8km
s-min=18.9km az=160.0
*NNC **02** 07:11:28.8±3.8,37.°79N×69.°60E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=35.7km s-min=33.3km az=114.0
ISC 02 07:11:31.7±2.0,38.°1N±0.°2×69.°52E±0.°10,h12km,n14,
σ1°70/15,5C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.05	8	⇑Pn	Pn	07 12 49.6	+2.4
	2.2nm,0.5s,baz=8.3,slow=43,SNR=16						
KK31				⇑Pg	Pg	07 13 06.9	-1.4
	9.3nm,0.8s,baz=194,slow=15,SNR=14						
KK31				⇓Lg	Lg	07 14 19.3	
	18nm,0.6s,baz=194,slow=28,SNR=4.0						
AAK	Ala-Archa	5.91	38	⇓Pn	Pn	07 13 00.8	+1.7
	5.0nm,0.5s						
AAK				⇑Pg	Pg	07 13 23.1	-1.7
	9.4nm,0.6s						
AAK				⇑Lg	Lg	07 14 39.8	
	44nm,1.1s						
AAK	Ala-Archa	5.91	38	Pn	Pn	07 13 00.3	+1.1
	1.3nm,0.3s,baz=215,slow=6.3,SNR=8.5						
AAK				Sn	Sn	07 14 09.2	+2.4
	0.5nm,0.3s,baz=148,slow=19,SNR=2.7						
AAK				Lg	Lg	07 14 37.1	
	2.4nm,0.3s,baz=13,slow=19,SNR=6.7						
AAK				LR	LR	07 15 19.3	
	comp=Z,25nm,19.0s,baz=296,slow=38						
TKM2	Tokmak 2	6.68	42	⇑Pn	Pn	07 13 10.0	+0.2
	5.5nm,0.6s						
TKM2				⇓Lg	Lg	07 15 07.0	
	26nm,1.1s						
GEYT	Alibeck	9.00	272	Pn	Pn	07 13 41.1	-0.3
	1.4nm,0.3s,baz=87,slow=10,SNR=3.6						
GEYT				Sn	Sn	07 15 22.9	+0.1
	1.5nm,0.3s,baz=91,slow=25,SNR=3.9						
GEYT				LR	LR	07 17 59.6	
	comp=Z,57nm,20.2s,baz=5.0,slow=42						
MKAR	Makanchi Array	12.81	43	Pn	Pn	07 14 34.0	+0.5
	0.1nm,0.3s,baz=228,slow=13,SNR=6.9						
KURBB	Kurchatov Arra	14.06	24	Pn	Pn	07 14 47.8	-2.8
	0.0nm,0.3s,baz=206,slow=12,SNR=3.2						
KURBB				Lg	Lg	07 18 55.9	
	0.0nm,0.3s,baz=209,slow=26,SNR=3.2						
AKTO	Aktyubinsk	14.80	330	Pn	Pn	07 15 02.6	+1.9
	0.2nm,0.3s,baz=139,slow=11,SNR=2.6						
ZALV	Zalesovo Beam	19.01	29	P	P	07 15 51.7	-1.4
	0.3nm,0.3s,baz=206,slow=9.5,SNR=2.8						
GNI	Garni	19.32	284	LR	LR	07 27 26.5	
	comp=Z,30nm,18.0s,baz=270,slow=49						
ARU	Arti	19.74	342	P	Pn	07 16 02.6	+0.1
	1.4nm,0.6s,baz=143,slow=10,SNR=5.6						
FINES	FINESS Array B	35.49	325	LR	LR	07 34 58.8	
	comp=Z,102nm,19.5s,baz=282,slow=39						
ARCES	ARCESS Array B	39.21	337	P	P	07 18 59.5	+0.2
	1.3nm,0.8s,baz=111,slow=9.9,SNR=3.5						
LBTB	Lobatse	75.10	221	LR	LR	07 57 26.4	
	comp=Z,28nm,18.6s,baz=180,slow=37						

*ISCJB **02** 07:17:37.2±0.6,38.°33N±0.°04×27.°52E±0.°04,h6km±7km,*
Error ellipse: s-maj=6.0km s-min=5.7km az=7.2
*DDA **02** 07:17:37.6,38.°41N×27.°51E,h7km±3km,ML2.6*
*ISK **02** 07:17:37.3,38.°31N×27.°51E,h12km,ML2.1/5*
ISC 02 07:17:37.2±1.1,38.°35N±0.°04×27.°53E±0.°03,h13km±12km,
n14,σ0°93/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDB	Zeytinkoy-Aydi	0.49	145	PG	Pg	07 17 47.1	+0.1
AYDB				SG	Sg	07 17 54.1	+0.6
AKHS	Akhisar	0.57	23	iP	Pg	07 17 48.8	+0.4
GCAM	G?zelcaml?	0.69	200	PG	Pg	07 17 50.0	-0.7
GCAM				SG	Sg	07 17 59.2	-0.6
ZEDA	zmir-Bergama	0.71	330	iP	Pb	07 17 51.5	+0.1
ZEDA				IAML_P			
	comp=Z,814nm,0.1s						
FOCM	Foa	0.72	300	PG	Pb	07 17 52.0	+0.3
URLA	Izmir	0.74	271	iP	Pn	07 17 52.9	-0.4
URLA				IAML_P			
	comp=Z,805nm,0.1s						
URLA	Izmir	0.74	271	PG	Pg	07 17 51.5	0.0
AYDN	Tasoluk	0.74	158	iP	Pg	07 17 52.3	+0.7
AYDN				iS	Sg	07 18 01.4	0.0
AYDN				IAML_P			
	comp=Z,543nm,0.1s						
MANT	Manisa	0.82	80	iP	Pg	07 17 53.8	+0.7
MANT				IAML_P			
	comp=Z,954nm,0.1s						
ZEY	zmir	0.82	262	iP	Pb	07 17 53.7	+0.4
ZEY				iS	Sg	07 18 02.9	-0.9
ZEY				IAML_P			
	comp=Z,964nm,0.1s						
KULA	Kula-Manisa	0.90	79	PG	Pb	07 17 55.6	+0.8
CHOS	Chios island	1.16	272	PN	Pn	07 17 59.6	+0.3
CHOS				SN	Sn	07 18 16.3	+1.3
USAK	Uak-Merkez	1.22	72	iP	Pn	07 17 57.4	-2.7
DURS	Dursunbey	1.45	30	iP	Pb	07 18 04.4	+0.3
DURS				IAML_P			
	comp=Z,310nm,0.1s						

*NIED **02** 07:21:00,37.°30N×144.°60E,h8km,Mw3.6 Best double*
couple: M0=2.40000×10^14 NP1:φ0=35.00000°,δ30.00000°,
λ-91.00000°. NP2:φ0=216.00000°,δ60.00000°,
λ-90.00000°.
*IDC **02** 07:21:19.6±1.0,37.°03N×144.°89E,h0km,mb3.5/5,*
mb1 3.8/7,mb1mx3.6/43,mbtmp3.5/7,ML2.6/2,Error
ellipse: s-maj=28.1km s-min=24.1km az=104.0
*ISCJB **02** 07:21:23.2±0.7,37.°23N×0.°04×144.°58E±0.°05,h35km,*
mb3.5/5,Error ellipse: s-maj=6.0km s-min=5.2km
az=164.3
*JMA **02** 07:21:24.5±0.2,37.°33N×144.°56E,h44km,M4.0*
ISC 02 07:21:24.6±1.0,37.°33N±0.°05×144.°68E±0.°08,h35km,n33,
σ2°12/46,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.73	292	P	Pn	07 22 06.1	+0.2
JIKH				S	Sn	07 22 36.3	-1.3
JIO	Ouri	2.86	294	P	Pn	07 22 08.2	+0.4
JIO				S	Sn	07 22 40.6	-0.4
JKMT	Kesennumamotoy	2.93	301	P	Pn	07 22 08.8	+0.1
JKMT				S	Sn	07 22 42.0	-0.6
OFUJ	Ofunato	2.94	307	P	Pn	07 22 09.0	+0.1
OFUJ				S	Sn	07 22 43.4	+0.4
JMK	Ichinoseki	3.17	302	P	Pn	07 22 12.3	+0.3
JMK				eS	Sn	07 22 48.4	-0.2
JOU	Okura	3.34	289	P	Pn	07 22 15.2	+0.8
JOM	Ohasama	3.41	310	P	Pn	07 22 15.9	+0.5
JOM				S	Sn	07 22 54.6	0.0
JFT	Otama	3.46	274	P	Pn	07 22 17.0	+1.0
JFT				S	Sn	07 22 55.6	-0.2
JYK	Kaneyama	3.76	296	P	Pn	07 22 21.1	+1.0
JYK				eS	Sn	07 23 03.1	0.0
JRG	Rokugo	3.79	304	P	Pn	07 22 21.4	+0.9
JRG				S	Sn	07 23 04.8	+0.9
BSO1	Boso 1	4.01	229	P	Pn	07 22 22.2	-0.9
BSO1				eS	Sn	07 23 07.1	-1.6
JTM	Tenmabayashi	4.45	322	P	Pn	07 22 30.3	+0.7
JTM				S	Sn	07 23 17.9	-2.3
JRY	Ryogami san	4.82	256	P	Pn	07 22 34.3	-0.5
JRY				S	Sn	07 23 26.3	-3.1
JOT	Ohata	4.93	326	P	Pn	07 22 36.8	+0.6
JOT				eS	Sn	07 23 31.8	-0.1
JOD2	Odawara 2	4.96	247	eS	Sn	07 23 30.6	-2.2
MJAR	Matsushiro Arr	5.24	263	Pn	Pn	07 22 41.1	+0.6
	0.4nm,0.3s,baz=92,slow=14,SNR=11						
MJAR				Sn	Sn	07 23 39.2	-0.6
	0.2nm,0.3s,baz=70,slow=23,SNR=3.8						
MAT	Matsushiro	5.24	263	P	Pn	07 22 42.0	+1.5
MAT				S	Sn	07 23 35.0	-4.7
JKB	Kayabe	5.35	329	P	Pn	07 22 42.8	+0.8
JKB				eS	Sn	07 23 38.8	-3.5
JCH	Churui	5.38	350	P	Pn	07 22 40.7	-1.6
JCH				S	Sn	07 23 39.4	-3.5
JHJ2	Mitsune	5.79	225	P	Pn	07 22 45.9	-2.1
JHJ2				S	Sn	07 23 48.1	-5.1
NEM2	Nemuro 2	6.08	7	P	Pn	07 22 49.0	-3.0
NEM2				S	Sn	07 23 53.4	-6.9
USRK	Ussuriysk Ar.	11.81	309	Pn	Pn	07 24 12.9	+2.5
	baz=115,slow=14,SNR=3.1						
H11N2	WAKE ISLAND Hy 26.13	126		T	T	07 53 48.6	
	baz=317,slow=74,SNR=42						
H11N1	WAKE ISLAND Hy 26.14	126		T	T	07 53 50.0	
	baz=317,slow=74,SNR=25						
H11N3	WAKE ISLAND Hy 26.15	126		T	T	07 53 50.7	
	baz=317,slow=74,SNR=27						
H11S1	WAKE ISLAND Hy 26.91	128		T	T	07 54 44.9	
	baz=318,slow=76,SNR=9.7						
H11S3	WAKE ISLAND Hy 26.92	128		T	T	07 55 04.4	
	baz=318,slow=76,SNR=9.7						
H11S2	WAKE ISLAND Hy 26.92	128		T	T	07 54 43.8	
	baz=318,slow=76,SNR=7.7						
MKAR	Makanchi Array	46.17	302	P	P	07 29 48.3	+2.6
	0.2nm,0.5s,baz=81,slow=9.1,SNR=3.1						
ILAR	Eielson Array	47.85	33	P	P	07 29 59.6	+1.0
	0.5nm,0.8s,baz=265,slow=6.8,SNR=6.4						
WRA	Warramunga Arr	57.79	192	P	P	07 31 10.7	-1.7
	0.4nm,0.5s,baz=10,slow=7.2,SNR=3.4						
ASAR	Alice Springs	61.51	191	P	P	07 31 36.5	-1.5
	0.3nm,0.7s,baz=12,slow=7.3,SNR=3.2						
TXAR	Lajitas Array	87.85	54	P	P	07 34 11.7	+0.9
	0.2nm,0.5s,baz=299,slow=3.7,SNR=3.2						

*KRNET **02** 07:37:21.3±0.1,39.°43N×74.°02E,mb3.3*
*NNC **02** 07:37:30.1±1.6,40.°03N×73.°82E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=13.1km s-min=6.9km az=176.0
*SOME **02** 07:37:31.1,39.°97N×73.°97E,h10km*
ISC 02 07:37:23.2±1.4,39.°68N±0.°07×74.°03E±0.°03,h10km,n45,
σ1°77/77,24C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.82	334	⇑iP	Pg	07 37 57.5	-0.7
	baz=38						
ARSB				⇑iS	Sg	07 38 24.9	+3.0
	baz=38						
ARLS	Aral	2.19	6	⇓eP	Pb	07 38 03.5	+0.5
	baz=5.0						
ARLS				⇓iS	Sg	07 38 34.5	+1.0
	baz=5.0						
NRN	Naryn	2.30	40	⇑iP	Pb	07 38 04.7	-0.3
	baz=36						
NRN				⇑iS	Sg	07 38 35.6	-1.6
	baz=36						
AML	Almayashu	2.46	354	⇓iP	Pb	07 38 07.6	-0.1
	baz=55						
AML				⇓iS	Sg	07

	baz=85								
BTK					⇑*i*S		Sb	07 38 37.0	-2.2
	baz=85								
KZA	**Kyzart**	**2.56**	**21**		⇑*i*P		Pb	07 38 08.8	-0.7
	baz=19								
KZA					⇑*i*S		Sg	07 38 43.4	-2.2
	baz=19								
UCH	**Uchtor**	**2.57**	**8**		⇓*i*P		Pb	07 38 08.9	-0.7
	baz=7.0								
UCH					⇓*i*S		Sg	07 38 43.6	-2.1
	baz=7.0								
ARK	**Arkit**	**2.63**	**324**		⇑*i*P		Pb	07 38 08.4	-2.2
	baz=27								
ARK					⇑*i*S		Sb	07 38 42.7	-0.3
	baz=27								
AAK	**Ala-Archa**	**2.97**	**7**		⇓Pn		Pb	07 38 15.3	-1.0
	6.2nm,0.4s								
AAK					⇑Lg		Lg	07 38 57.0	
	30nm,0.8s								
AAK	**Ala-Archa**	**2.97**	**7**		⇓*i*P		Pb	07 38 14.3	-2.0
	baz=6.0								
AAK					⇓*i*S		Sb	07 38 53.3	+0.5
	baz=6.0								
EKS2	**Erkin-Say**	**2.98**	**356**		⇑*i*P		Pb	07 38 14.5	-2.0
	baz=57								
EKS2					⇑*i*S		Sb	07 38 53.7	+0.7
	baz=57								
KBK	**Karagaybulak**	**3.05**	**13**		⇑*e*P		Pb	07 38 15.5	-2.2
	baz=12								
KBK					⇑*i*S		Sb	07 38 55.3	+0.3
	baz=12								
ULHL	**Ulahol**	**3.06**	**32**		⇑*i*P		Pb	07 38 15.0	-2.8
	baz=30								
ULHL					⇑*i*S		Sb	07 38 54.5	-0.8
	baz=30								
MRKS	**Merke**	**3.12**	**349**		Pg		Pb	07 38 18.3	-0.5
	11nm,0.4s								
MRKS					Lg		Lg	07 38 53.9	
	14nm,0.6s								
MRKS	**Merke**	**3.12**	**349**		*e*P		Pg	07 38 22.7	-0.3
	9.9nm,0.2s								
MRKS					*e*S		Sg	07 38 59.8	-3.6
	34nm,0.3s								
BOOM	**Boomskoye usch**	**3.15**	**27**		⇑*i*P		Pn	07 38 16.2	+3.1
	baz=25								
BOOM					⇑*i*S		Sb	07 38 56.3	-1.7
	baz=25								
KDJ	**Kajisay**	**3.41**	**43**		⇓*i*P		Pn	07 38 20.1	+3.4
	baz=41								
KDJ					⇓*i*S		Sb	07 39 02.0	-3.5
	baz=41								
TKM2	**Tokmak 2**	**3.44**	**19**		⇑Pn		Pb	07 38 21.7	-2.7
	3.1nm,0.6s								
TKM2					⇑Lg		Lg	07 39 11.8	
	15nm,0.5s								
TARG	**Taragay, Kyrgy**	**3.52**	**53**		⇓*i*P		Pn	07 38 20.5	+2.2
	baz=50								
TARG					⇓*i*S		Sn	07 39 04.1	+3.9
	baz=50								
KST	**Kastek**	**3.66**	**23**		Pg		Pb	07 38 28.0	0.0
	3.5nm,0.5s								
KST					Lg		Lg	07 39 10.3	
	12nm,1.1s								
KST	**Kastek**	**3.66**	**23**		*e*P		Pg	07 38 33.7	+0.4
	3.5nm,0.5s								
KST					*e*S		Sg	07 39 19.0	-1.7
	12nm,1.1s								
DGS	**Degeres**	**3.79**	**20**		Pg		Pg	07 38 36.6	+0.8
	5.8nm,0.6s								
DGS					Lg		Lg	07 39 24.3	
	30nm,0.7s								
DGS	**Degeres**	**3.79**	**20**		*e*P		Pg	07 38 36.6	+0.8
	5.8nm,0.6s								
DGS					*e*S		Sg	07 39 23.6	-1.2
	30nm,0.7s								
MTBS	**Maitube**	**3.89**	**27**		*e*P		Pg	07 38 38.4	+0.7
	8.1nm,0.6s								
MTBS					*e*S		Sg	07 39 26.7	-1.3
	16nm,0.4s								
IUG	**Iuzhnay**	**3.91**	**310**		*e*P		Pg	07 38 37.7	-0.4
	2.6nm,0.6s								
IUG					*e*S		Sg	07 39 25.4	-3.2
	52nm,0.5s								
TNSS	**Tian-Shan**	**4.00**	**32**		Pg		Pg	07 38 40.1	+0.2
	3.1nm,0.6s								
TNSS					Lg		Lg	07 39 30.6	
	14nm,0.6s								
TNSS	**Tian-Shan**	**4.00**	**32**		*e*P		Pg	07 38 40.5	+0.6
	6.0nm,0.6s								
TNSS					*e*S		Sg	07 39 30.9	-0.9
	14nm,0.6s								
MDOK	**Medeo**	**4.15**	**32**		Pg		Pg	07 38 41.7	-1.0
	2.4nm,0.8s								
MDOK					Lg		Lg	07 39 33.5	
	7.0nm,0.8s								
MDOK	**Medeo**	**4.15**	**32**		*e*P		Pg	07 38 42.8	+0.1
	5.2nm,0.6s								
MDOK					*e*S		Sg	07 39 34.8	-1.7
	12nm,1.2s								
KOTS	**Kotyrbulak**	**4.23**	**32**		Pg		Pg	07 38 44.8	+0.4
	8.2nm,0.8s								
KOTS					Lg		Lg	07 39 38.2	
	52nm,0.9s								
KOTS	**Kotyrbulak**	**4.23**	**32**		*e*P		Pg	07 38 45.0	+0.6
	8.2nm,0.8s								
KOTS					*e*S		Sg	07 39 38.6	-0.6
	52nm,0.9s								
KK31	**Karatay Array**	**4.32**	**323**		⇓Pn		Pn	07 38 30.9	+1.9
	0.6nm,0.3s,baz=137,slow=13,SNR=9.0								
KK31					⇑Pg		Pb	07 38 40.1	+0.8
	1.6nm,0.4s,baz=141,slow=16,SNR=11								
KK31					⇑Sn		Sn	07 39 21.1	+1.6
	2.6nm,0.3s,baz=142,slow=24,SNR=4.8								
KK31					⇑Lg		Lg	07 39 36.2	
	15nm,0.7s,baz=140,slow=31,SNR=6.2								
KTBS	**Karatobe**	**4.49**	**25**		Pg		Pg	07 38 48.8	-0.4
	2.3nm,0.7s								
KTBS					Lg		Lg	07 39 45.1	
	15nm,0.8s								
KTBS	**Karatobe**	**4.49**	**25**		*e*P		Pg	07 38 49.4	+0.3
	2.7nm,0.7s								
KTBS					*e*S		Sg	07 39 45.9	-1.3
	19nm,0.5s								
KUU	**Kurty**	**4.54**	**22**		Pg		Pg	07 38 49.0	-1.3
	1.5nm,0.4s								
KUU					Lg		Lg	07 39 46.1	
	11nm,0.5s								
KUU	**Kurty**	**4.54**	**22**		*e*P		Pg	07 38 49.9	-0.3
	2.9nm,0.7s								
KUU					*e*S		Sg	07 39 46.8	-2.3
	15nm,0.7s								
SATY	**Saty**	**4.71**	**43**		Pg		Pg	07 38 50.4	-3.0
	5.1nm,0.6s								
SATY					Lg		Lg	07 39 48.3	
	2.0nm,0.3s								
SATY	**Saty**	**4.71**	**43**		*e*P		Pg	07 38 55.3	+1.9
	14nm,1.1s								
SATY					*e*S		Sg	07 39 55.8	+1.4
	16nm,1.5s								
CHKK	**Chushkaly**	**4.72**	**27**		*e*P		Pg	07 38 53.3	-0.2
	2.1nm,0.5s								
CHKK					*e*S		Sg	07 39 52.2	-2.4
	13nm,0.8s								
KURS	**Kuram**	**4.91**	**38**		*e*P		Pg	07 38 57.5	+0.3
	2.8nm,0.6s								
KURS					*e*S		Sg	07 39 59.4	-1.2
	5.1nm,1.4s								
KPKS	**Kokpek**	**5.14**	**41**		*e*P		Pg	07 39 01.1	-0.6
	4.6nm,0.5s								
KPKS					*e*S		Sg	07 40 05.8	-2.5
	9.0nm,0.5s								
ARXS	**Arharly**	**5.34**	**31**		Pg		Pg	07 39 03.4	-2.0
	1.7nm,0.7s								
ARXS					Lg		Lg	07 40 10.3	
	4.7nm,0.6s								
ARXS	**Arharly**	**5.34**	**31**		*e*P		Pg	07 39 03.6	-1.7
	1.7nm,0.7s								
ARXS					*e*S		Sg	07 40 10.3	-4.2
	10.0nm,0.5s								
PDGK	**Podgornoye**	**5.48**	**47**		Pg		Pg	07 39 07.1	-1.1
	0.8nm,0.5s								
PDGK					Lg		Lg	07 40 16.7	
	1.3nm,0.7s								
PDGK	**Podgornoye**	**5.48**	**47**		⇓Pg		Pg	07 39 06.9	-1.2
	2.2nm,0.7s								
PDGK					⇓Lg		Lg	07 40 16.4	
	7.7nm,0.9s								

IDC ***02*** *07:40:38.6±2.7, 11°.74S×13°.54W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/40, mbtmp3.8/7, MS3.9/4, Ms1 3.9/4, ms1mx3.5/23, Error ellipse: s-maj=138.1km s-min=18.3km az=142.0*

ISCJB ***02*** *07:40:39.7±0.7, 11°.70S±0°.06×13°.54W±0°.09, h20km, mb3.8/5, MS4.0/3, Error ellipse: s-maj=12.3km s-min=8.9km az=167.4*

NEIC ***02*** *07:40:40.4±1.6, 11°.67S±0°.05×13°.61W±0°.10, h10km±1km, mb4.2/5*

GCMT ***02*** *07:40:44.4±0.4, 11°.63S±0°.03×13°.66W±0°.02, h18km±2km, MW4.8/75, Moment Tensor Solution. s16,c18; s75,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.42±.13; Mθθ -1.05±.13; Mφφ 0.63±.11; Mrθ -0.51±.24; Mrφ 1.69±.08; Mθφ -1.19±.32; Best double couple: M0 2.29600×10^16 NP1:φs 163.00000°, δ72.00000°, λ152.00000°. NP2: φs 262.00000°, δ64.00000°, λ20.00000°. Principal axes: T 2.4760, Plg32.0000°, Azm120.0000°; N -0.3600, Plg57.0000°, Azm312.0000°; P -2.1150, Plg5.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 07:40:41.8±0.8, 11°.70S±0°.09×13°.6W±0°.1, h20km, n22, σ0.96/20, mb3.9/6, MS4.2/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.81**	**349**	Pn	**Pn**	**07 41 40.4**	**+0.9**
ASCN					**Sn**	**07 42 25.2**	**+1.5**
H10N1	**ASCENSION HYDR**	**3.92**	**347**	Pn	**Pn**	**07 41 39.4**	**-1.4**
	baz=163,slow=23,SNR=30						
H10N3	**ASCENSION HYDR**	**3.93**	**347**	Pn	**Pn**	**07 41 39.6**	**-1.2**
	baz=163,slow=23,SNR=32						
H10N2	**ASCENSION HYDR**	**3.94**	**347**	Pn	**Pn**	**07 41 39.6**	**-1.4**
	baz=163,slow=23,SNR=38						
SHEL	**Horse Pasture**	**8.73**	**120**	Pn	**Pn**	**07 42 47.5**	**+0.3**
LIC	**Lamto**	**19.75**	**26**	*e*P	**Pn**	**07 45 11.6**	**-0.5**
	96nm,1.5s						
KIC	**Kosan Boka**	**19.99**	**27**	*e*P	**P**	**07 45 13.9**	**+0.6**
	46nm,1.1s						
TIC	**Toumodi**	**20.13**	**26**	*e*P	**P**	**07 45 13.8**	**-0.9**
DBIC	**Dimbokro**	**20.22**	**26**	P	**P**	**07 45 16.7**	**+1.0**
	4.8nm,0.9s,baz=195,slow=12,SNR=4.8						
DBIC	**Dimbokro**	**20.22**	**26**	P	**P**	**07 45 16.8**	**+1.0**
DBIC				IAmb	IAmb	07 45 29.7	
	comp=Z,12nm,1.1s						
TOA0	**Torodi Ar. Sit**	**28.98**	**32**	P	**P**	**07 46 39.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**28.98**	**32**	P	**P**	**07 46 38.9**	**-1.4**
	comp=Z,3.2nm,1.0s,baz=210,slow=11,SNR=10						
TORD	**Torodi Ar. Bea**	**28.98**	**32**	P	**P**	**07 46 39.8**	**-0.6**
CPUP	**Villa Florida**	**43.60**	**244**	P	**P**	**07 48 44.8**	**-0.2**
CPUP				IAmb	IAmb	07 48 52.8	
	comp=Z,6.9nm,1.1s						
SIV	**San Ignacio**	**46.21**	**259**	P	**P**	**07 49 06.4**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=110,slow=12,SNR=2.3						
LPAZ	**La Paz**	**52.98**	**258**	P	**P**	**07 49 57.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=113,slow=7.7,SNR=4.9						
LPAZ	**La Paz**	**52.98**	**258**	P	**P**	**07 49 58.9**	**+0.6**
BRTR	**Keskin Array B**	**67.38**	**38**	P	**P**	**07 51 36.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=215,slow=6.0,SNR=2.7						
AKASG	**Malin Array Be**	**72.46**	**27**	P	**P**	**07 52 07.0**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=227,slow=7.2,SNR=3.0						
FINES	**FINESS Array B**	**79.31**	**18**	LR	LR	08 28 16.4	
	comp=Z,109nm,18.5s,baz=241,slow=36						
ULM	**Lac du Bonnet**	**94.00**	**320**	LR	LR	08 30 13.6	
	comp=Z,96nm,18.4s,baz=76,slow=32						
TXAR	**Lajitas Array**	**95.69**	**299**	LR	LR	08 40 03.9	
	comp=Z,17nm,18.6s,baz=0.0,slow=37						

ISCJB ***02*** *07:46:50.3±1.0, 11°.7S±0°.1×13°.6W±0°.1, h10km, mb3.8/6, MS4.0/7, Error ellipse: s-maj=21.3km s-min=10.7km az=37.8*

IDC ***02*** *07:46:50.6±3.8, 11°.71S×13°.60W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/34, mbtmp3.9/7, MS4.0/7, Ms1 4.0/7, ms1mx3.6/23, Error ellipse: s-maj=167.9km s-min=18.9km az=142.0*

GCMT ***02*** *07:46:58.0±0.4, 11°.57S±0°.02×13°.64W±0°.02, h12km, MW4.8/73, Moment Tensor Solution. s14,c17; s73,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.35±.09; Mθθ -1.36±.09; Mφφ 1.00±.09; Mrθ -0.05±.25; Mrφ 1.44±.06; Mθφ -0.35±.28; Best double couple: M0 1.90500×10^16 NP1:φs 159.00000°, δ82.00000°, λ169.00000°. NP2: φs 251.00000°, δ79.00000°, λ8.00000°. Principal axes: T 1.7640, Plg14.0000°, Azm115.0000°; N 0.2750, Plg76.0000°, Azm306.0000°; P -2.0460, Plg3.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 02 07:46:52.3±1.4, 11°.7S±0°.2×13°.6W±0°.2, h10km, n18, σ0.74/13, mb3.8/6, MS4.0/7, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**3.93**	**348**	Pn	**Pn**	**07 47 52.6**	**0.0**
	baz=165,slow=18,SNR=8.3						
H10N3	**ASCENSION HYDR**	**3.94**	**347**	Pn	**Pn**	**07 47 52.7**	**+0.1**
	baz=165,slow=18,SNR=4.9						
H10N2	**ASCENSION HYDR**	**3.95**	**347**	Pn	**Pn**	**07 47 52.4**	**-0.5**
	baz=165,slow=18,SNR=6.3						
LIC	**Lamto**	**19.76**	**26**	*e*P	**Pn**	**07 51 25.0**	**+0.8**
	56nm,1.3s						
KIC	**Kosan Boka**	**20.01**	**27**	*e*P	**P**	**07 51 25.3**	**-0.1**
	38nm,1.0s						
TIC	**Toumodi**	**20.14**	**26**	*e*P	**P**	**07 51 28.0**	**+1.1**
DBIC	**Dimbokro**	**20.23**	**26**	P	**P**	**07 51 28.9**	**+1.0**
	3.0nm,0.7s,baz=183,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**29.00**	**32**	P	**P**	**07 52 51.3**	**-1.2**
	2.1nm,1.1s,baz=205,slow=10.0,SNR=5.8						
TORD				LR	LR	08 02 32.8	
	comp=Z,360nm,20.8s,baz=290,slow=32						
BDFB	**Brasilia**	**33.62**	**259**	P	**P**	**07 53 33.4**	**-0.1**
	1.0nm,0.3s,baz=79,slow=10,SNR=2.5						
BOSA	**Boshof**	**39.96**	**121**	LR	LR	08 07 56.5	
	comp=Z,308nm,20.9s,baz=227,slow=32						
CPUP	**Villa Florida**	**43.58**	**244**	P	**P**	**07 54 57.6**	**+0.7**
	3.3nm,1.1s,baz=100,slow=10,SNR=2.9						
SIV	**San Ignacio**	**46.19**	**259**	P	**P**	**07 55 17.5**	**-0.4**
	0.6nm,0.8s,baz=95,slow=11,SNR=2.7						
KMBO	**Kilima Mbogo**	**51.55**	**82**	LR	LR	08 16 44.0	
	comp=Z,84nm,18.4s,baz=288,slow=35						
LPAZ	**La Paz**	**52.96**	**258**	P	**P**	**07 56 10.0**	**-0.3**
	1.2nm,1.0s,baz=88,slow=10,SNR=3.5						
PLCA	**Paso Flores**	**57.50**	**229**	LR	LR	08 17 54.2	
	comp=Z,79nm,20.6s,baz=105,slow=32						
ROSC	**El Rosal**	**62.56**	**282**	LR	LR	08 24 05.9	
	comp=Z,214nm,18.1s,baz=62,slow=36						
AKASG	**Malin Array Be**	**72.48**	**27**	P	**P**	**07 58 19.0**	**-0.1**
	0.2nm,0.3s,baz=226,slow=7.0,SNR=2.4						
AKASG				LR	LR	08 31 45.6	
	comp=Z,88nm,19.3s,baz=345,slow=37						
MAW	**Mawson**	**74.10**	**157**	LR	LR	08 23 27.5	
	comp=Z,80nm,20.6s,baz=244,slow=30						

NIED ***02*** *07:55:00, 39°.20N×142°.40E, h29km, Mw3.5 Best double couple: M0 1.88000×10^14 NP1:φs 76.00000°, δ22.00000°, λ-41.00000°. NP2:φs 205.00000°, δ76.00000°, λ-107.00000°.*

IDC ***02*** *07:55:11.9±1.4, 38°.87N×143°.07E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/33, mbtmp3.5/4, ML3.1/2, MS2.4/2, Ms1 2.4/2, ms1mx2.2/46, Error ellipse: s-maj=56.5km s-min=24.9km az=114.0*

ISCJB ***02*** *07:55:14.8±1.4, 39°.18N±0°.04×142°.40E±0°.10, h29km±7km, mb3.6/2, Error ellipse: s-maj=12.9km s-min=5.8km az=17.7*

JMA ***02*** *07:55:15.0±0.1, 39°.20N×142°.41E, h30km±1km, M3.6*

JMA Felt I J1.

ISC 02 07:55:16.6±1.6, 39°.21N±0°.04×142°.26E±0°.09, h31km±10km, n21, σ1.48/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.48**	**255**	P	**Pb**	**07 55 26.6**	**-0.1**
OFUJ				S	**Sb**	**07 55 34.6**	**+0.9**
MIYJ	**Miyakonagasawa**	**0.51**	**317**	P	**Pb**	**07 55 26.5**	**-0.7**
MIYJ				S	**Sb**	**07 55 34.3**	**-0.2**
JKMT	**Kesennumamotoy**	**0.73**	**238**	P	**Pn**	**07 55 30.0**	**-0.7**
JKMT				S	**Sb**	**07 55 40.6**	**+0.1**
JTH	**Tanohata**	**0.80**	**337**	P	**Pn**	**07 55 30.4**	**-1.3**
JTH				*e*S	**Sb**	**07 55 41.4**	**-1.1**
JOM	**Ohasama**	**0.80**	**290**	P	**Pn**	**07 55 31.7**	**0.0**
JOM				S	**Sn**	**07 55 43.7**	**+1.2**
JMK	**Ichinoseki**	**0.85**	**253**	P	**Pn**	**07 55 32.3**	**-0.1**
JMK				S	**Sn**	**07 55 44.8**	**+1.1**
JIO	**Ouri**	**1.03**	**224**	P	**Pn**	**07 55 34.0**	**-0.9**
JIO				S	**Sn**	**07 55 47.6**	**-0.7**
JKZ	**Kuzumaki**	**1.06**	**318**	P	**Pn**	**07 55 35.3**	**-0.1**
JKZ				S	**Sn**	**07 55 49.9**	**+0.8**
JRG	**Rokugo**	**1.28**	**279**	P	**Pb**	**07 55 39.5**	**-0.6**
JANG	**Nango**	**1.30**	**334**	P	**Pn**	**07 55 38.5**	**-0.1**
MJAR	**Matsushiro Arr**	**4.17**	**232**	Pn	**Pn**	**07 56 22.2**	**+4.2**
	0.2nm,0.3s,baz=45,slow=11,SNR=15						
ASAJ	**Asahikawa**	**4.91**	**3**	Pn	**Pn**	**07 56 30.8**	**+2.5**
	1.0nm,0.3s,baz=221,slow=20,SNR=3.2						
ASAJ				Sn	**Sn**	**07 57 26.1**	**+2.1**
	0.3nm,0.3s,baz=346,slow=18,SNR=2.6						
ASAJ				LR	LR	07 58 20.9	
	comp=Z,40nm,21.2s,baz=249,slow=36						
KLR	**Kul'dur**	**12.53**	**327**	LR	LR	08 03 21.1	
	comp=Z,19nm,21.8s,baz=84,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.77**	**125**	T	T	08 31 31.5	
	baz=318,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy**	**28.78**	**125**	T	T	08 31 32.2	
	baz=318,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**28.79**	**125**	T	T	08 31 32.9	
	baz=318,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.56**	**127**	T	T	08 32 35.1	
	baz=319,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**29.56**	**127**	T	T	08 32 38.8	
	baz=319,slow=76,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**29.57**	**127**	T	T	08 32 39.5	
	baz=319,slow=76,SNR=6.6						
ILAR	**Eielson Array**	**47.31**	**33**	P	**P**	**08 03 46.8**	**-0.1**
	0.5nm,0.7s,baz=269,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**59.30**	**189**	P	**P**	**08 05 13.5**	**-1.9**
	0.4nm,0.5s,baz=5.9,slow=7.1,SNR=3.7						

IDC 02 08:26:06.0±4.3, 20°.49S×168°.81E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/34, mbtmp3.5/3, ML2.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/19, Error ellipse: s-maj=136.4km s-min=34.3km az=136.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.71**	**234**	Pn	Pn	08 26 50.8	-0.1
	0.9nm,0.3s,baz=59,slow=18,SNR=22						
DZM				LR	LR	08 27 12.8	
	comp=Z,59nm,20.4s,baz=20,slow=25						
DZM				Sn	Sn	08 27 25.0	+0.5
	4.1nm,0.3s,baz=108,slow=16,SNR=4.3						
RAO	**Raoul Island**	**14.86**	**129**	LR	LR	08 33 25.4	
	comp=Z,106nm,18.7s,baz=94,slow=30						
WRA	**Warramunga Arr**	**32.32**	**265**	P	P	08 32 37.2	+0.1
	1.1nm,1.2s,baz=96,slow=9.4,SNR=4.2						
ASAR	**Alice Springs**	**32.45**	**258**	P	P	08 32 38.3	0.0
	0.9nm,1.0s,baz=79,slow=9.6,SNR=5.3						
GERES	**GERESS Array B**	**145.39**	**331**	PKPbc	PKPbc	08 45 44.9	-1.0
	0.3nm,0.5s,baz=29,slow=2.2,SNR=2.4						

IDC 02 09:04:05.2±2.0, 7°.17S×129°.50E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/32, mbtmp3.5/4, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=81.4km s-min=27.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.50**	**199**	Pn	Pn	09 06 51.7	+0.9
	0.3nm,0.3s,baz=29,slow=13,SNR=6.1						
FITZ				Sn	Sn	09 08 57.6	-2.4
	0.3nm,0.3s,baz=92,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**13.54**	**160**	Pn	Pn	09 07 17.8	-0.9
	0.3nm,0.3s,baz=338,slow=13,SNR=15						
WRA				Sn	Sn	09 09 42.8	-7.3
	0.2nm,0.3s,baz=338,slow=23,SNR=5.0						
WRA				LR	LR	09 13 23.9	
	comp=Z,43nm,18.1s,baz=285,slow=41						
ASAR	**Alice Springs**	**16.94**	**166**	Pn	Pn	09 08 03.9	0.0
	0.2nm,0.3s,baz=339,slow=9.1,SNR=11						
ASAR				Sn	Sn	09 11 06.6	-6.3
	0.1nm,0.3s,baz=352,slow=24,SNR=3.9						
MKAR	**Makanchi Array**	**68.09**	**327**	P	P	09 15 06.9	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.1						

IGIL ***02*** *09:05:23.5, 36°.48N×7°.50W, h12km*

MDD ***02*** *09:05:24.7±1.4, 38°.36N×8°.15W, h13km±9km, mbLg1.5/2, Error ellipse: s-maj=13.7km s-min=6.2km az=135.0, PRXIMO*

INMG 02 09:05:23.6±1.3, 36°.48N×7°.50W, h17km±6km, ML1.3, Error ellipse: s-maj=8.1km s-min=6.6km az=6.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.84**	**336**	*e*P	Pb	09 05 38.6	-1.1
PBDV				*e*S	Sb	09 05 50.5	-0.2
PVAQ	**Vaqueiros**	**0.94**	**349**	*e*P	Pb	09 05 40.0	-1.4
PVAQ				*e*S	Sb	09 05 53.0	-0.6
PVAQ				A	A	09 05 59.5	
	2.3nm,0.5s						
EGRO	**El Granado**	**1.05**	**1**	Pg	Pb	09 05 42.0	-1.4
	0.8nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	09 05 56.5	
	1.6nm,0.1s,SNR=6.4						
PCVE	**Castro Verde**	**1.23**	**340**	*e*P	Pn	09 05 44.6	-1.4
PCVE				*e*S	Sb	09 06 00.2	-1.7
PCVE				A	A	09 06 05.0	
	2.4nm,0.7s						
MORF	**Marmelete**	**1.24**	**312**	*e*P	Pn	09 05 45.0	-1.2
MORF				*e*S	Sb	09 06 00.1	-2.1
MORF				A	A	09 06 04.2	
	3.5nm,0.2s						
MORF	**Marmelete**	**1.24**	**312**	Pg	Pn	09 05 45.0	-1.2
MORF				Lg	Lg	09 06 00.1	
	3.5nm,0.2s						
PFVI	**Vila Bisbo**	**1.25**	**302**	Sn	Sg	09 06 03.9	-0.2
	1.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.44**	**27**	Lg	Lg	09 06 04.4	
	0.4nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**1.47**	**337**	*e*P

AYDN	**Tasoluk**	**1.09 215**	*i* P	Pn	09 09 54.8	+0.2
AYDN			IAML_P			
	comp=Z,315nm,0.1s					

ISK 02 09:10:13.9,39.65N×29.46E, h13km±1km, ML1.7/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.20**	**180**	PG	Pg	09 10 18.7	+0.3
TVSB				SG	Sg	09 10 22.2	+0.7
CAVI	**Cavuskoy**	**0.63**	**28**	PG	Pb	09 10 26.5	-0.2
CAVI				SG	Sb	09 10 35.8	+0.3
BORA	**Eskisehir**	**0.80**	**73**	PG	Pb	09 10 29.8	+0.1
ARMT	**Armutlu**	**1.03**	**334**	PG	Pn	09 10 34.1	+0.1

*SJA **02** 09:25:29.1±1.9, 30.39S×71.87W, h5km±10km, ML3.5, MW3.6*
*GUC **02** 09:25:33.0±0.5, 30.39S×71.68W, h45km±2km, ML3.7*
ISC 02 09:25:27.5±1.7, 30.32S±0.03×71.95W±0.07, h2km±13km, n23, σ2°10/37, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.74**	**57**	*e*P	**Pn**	**09 25 45.5**	**+0.6**
LSCH				*i* S	**Sb**	**09 25 54.0**	**+0.4**
LSCH				IAML		09 25 54.7	
	comp=N,4μm,0.3s						
GO04	**Tololo Observa**	**1.01**	**82⇓**	*i* P	**Pb**	**09 25 48.3**	**+0.5**
GO04				*i* S	**Sg**	**09 25 59.4**	**-0.5**
GO04				IAML		09 26 04.5	
	comp=N,7μm,0.4s						
GO04	**Tololo Observa**	**1.01**	**82**	*i* P	**Pb**	**09 25 48.3**	**+0.5**
GO04				*i* S	**Sg**	**09 25 59.5**	**-0.5**
CO02	**Combarbal**	**1.21**	**137⇑**	*e*P	**Pg**	**09 25 51.5**	**+0.8**
CO02				*i* S	**Sg**	**09 26 04.9**	**-1.4**
CO02				IAML		09 26 06.9	
	comp=E,7μm,0.4s						
LCO	**Las Campanas**	**1.70**	**40⇑**	*i* P	**Pg**	**09 26 00.9**	**+0.9**
LCO				*i* S	**Sg**	**09 26 21.9**	**-0.1**
LCO				IAML		09 26 30.6	
	comp=E,889nm,0.2s						
LCO	**Las Campanas**	**1.70**	**40**	*i* P	**Pg**	**09 26 01.1**	**+1.0**
LCO				*i* S	**Sg**	**09 26 23.0**	**+0.9**
AROD	**Rodeo**	**2.15**	**87**	*i* P	**Pb**	**09 26 07.2**	**-0.2**
AROD				*i* S	**Sn**	**09 26 32.6**	**+0.4**
ACCO	**Cerro Coronel**	**2.51**	**97**	*i* P	**Pb**	**09 26 12.9**	**-0.6**
RTLS	**Leoncito**	**2.72**	**124**	*e*P	**Pn**	**09 26 15.4**	**+3.0**
ROC1	**El Roble**	**2.77**	**163**	*e*P	**Pn**	**09 26 14.8**	**+1.7**
ROC1				*i* S	**Sb**	**09 26 52.0**	**-0.4**
PEL	**Peldehue**	**3.02**	**159⇓**	*e*P	**Pn**	**09 26 18.5**	**+2.1**
PEL				*i* S	**Sb**	**09 26 58.8**	**-0.5**
AMOG	**MOGNA**	**3.05**	**103**	*i* P	**Pb**	**09 26 20.1**	**-2.4**
ZON	**Zonda**	**3.07**	**114**	*i* P	**Pn**	**09 26 20.5**	**+3.4**
GO03	**Copiap**	**3.10**	**29**	*i* P	**Pb**	**09 26 21.0**	**-2.5**
GO03				*i* S	**Sb**	**09 27 00.6**	**-1.2**
RTLL	**Cerro Villicun**	**3.16**	**110**	*i* P	**Pn**	**09 26 20.7**	**+2.3**
RTLL				*i* S	**Sb**	**09 26 59.8**	**-3.6**
RTLL				IAML		09 27 10.6	
	comp=Z,152nm,0.4s						
RTCV	**Cerro Valdivia**	**3.31**	**119**	*i* P	**Pn**	**09 26 23.5**	**+3.1**
ASAL	**Salagasta**	**3.50**	**131**	*i* P	**Pn**	**09 26 27.3**	**+4.2**
ASAL				*i* S	**Sb**	**09 27 12.3**	**-1.0**
ARCO	**CERRO ARCO**	**3.60**	**135**	*i* P	**Pb**	**09 26 29.5**	**-2.6**
ARCO				IAML		09 26 33.9	
	comp=Z,103nm,0.4s						
ARCO				*i* S	**Sb**	**09 27 15.1**	**-1.2**
VCA	**Vinchina**	**3.63**	**65**	*i* P	**Pb**	**09 26 30.2**	**-2.3**
VCA				*i* S	**Sb**	**09 27 12.7**	**-4.2**
AAGR	**Agrelo**	**3.84**	**137**	*i* P	Pn	09 26 32.7	+5.0
AAGR				*i* S	**Sb**	**09 27 20.1**	**-2.9**
ACAN	**Cantantal**	**4.52**	**117**	*i* P	**Pn**	**09 26 39.4**	**+2.3**
GO05	**Huala**	**4.68**	**180**	*i* P	**Pn**	**09 26 39.9**	**+0.7**
CYA	**Choya**	**5.68**	**72**	*i* P	**Pn**	**09 26 55.2**	**+2.2**
CYA				IAML		09 28 13.4	
	comp=Z,11nm,0.5s						

*ISCJB **02** 09:36:44.1±0.4, 35.67N±0.02×97.39W±0.02, h14km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=167.2*
*NEIC **02** 09:36:45.6±1.2, 35.61N±0.01×97.36W±0.02, h7km±6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.23; $M_{\theta\theta}$=2.04; $M_{\phi\phi}$=-1.81; $M_{r\theta}$=0.19; $M_{\theta\phi}$=1.41; $M_{\phi r}$=0.99; Fault plane solution: M_0=2.60000×10^{14} NP1: ϕ_s=295.42000°, δ=67.76000°, λ=-7.50000°. NP2: ϕ_s=28.27000°, δ=83.06000°, λ=-157.59000°. Principal axes: T 2.5903, Plg=10.0000°, Azm=160.0000°; N 0.0146, Plg=67.0000°, Azm=45.0000°; P -2.6048, Plg=21.0000°, Azm=254.0000°;*
*TUL **02** 09:36:45.2±0.0, 35.60N×97.37W, h5km, ML3.7, Mwr3.5(NEIC)*
*ANF **02** 09:36:47.0±0.9, 35.62N×97.40W, h19km±6km, ML4.7/16, Error ellipse: s-maj=2.7km s-min=2.3km az=158.0*
ISC 02 09:36:44.6±0.8, 35.58N±0.02×97.39W±0.03, h7km±6km, n110, σ1°89/162, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.03**	**265**		**Pg**	**09 36 46.6**	**+0.6**
ADOK	**Arcadia Dam**	**0.07**	**10**		**Pg**	**09 36 47.2**	**+0.8**
OK001	**Jones High Sch**	**0.08**	**106**	Pg	**Pg**	**09 36 47.5**	**+1.0**
OK005	**Luther M Schoo**	**0.17**	**66**		**Pg**	**09 36 49.1**	**+1.0**
FNO	**Franklin**	**0.33**	**182**		**Pg**	**09 36 52.1**	**+1.1**
FNO				Sg	**Sg**	**09 36 57.3**	**+2.1**
X34A	**Smith Ranch, M**	**1.05**	**201**		**Pb**	**09 37 05.8**	**+0.8**
X34A				Sg	**Sn**	**09 37 20.7**	**+0.1**
TUL1	**Leonard**	**1.34**	**75**	P	**Pn**	**09 37 09.1**	**-0.6**
	baz=257						
TUL1				S	**Sn**	**09 37 27.5**	**-0.3**
	baz=257						
TUL1	**Leonard**	**1.34**	**75**		**Pn**	**09 37 09.5**	**-0.2**
TUL1				Sn	**Sn**	**09 37 27.9**	**+0.2**
WMOK	**Wichita Mounta**	**1.42**	**234**	P	**Pn**	**09 37 10.8**	**-0.1**
	baz=52						
WMOK				S	**Sn**	**09 37 30.2**	**+0.3**
	baz=52						
WMOK	**Wichita Mounta**	**1.42**	**234**		**Pn**	**09 37 11.4**	**+0.5**
WMOK				Sn	**Sb**	**09 37 30.5**	**+0.7**
U32A	**Winter Ranch,**	**1.53**	**302**		**Pb**	**09 37 13.3**	**0.0**
U32A				Sn	**Sg**	**09 37 34.1**	**+0.3**
HHAR	**Hobbs**	**2.88**	**75**		**Pn**	**09 37 31.7**	**+0.7**
W39A	**Magazine**	**2.97**	**96**	P	**Pn**	**09 37 33.1**	**+1.0**
	baz=279						
W39A				S	**Sn**	**09 38 09.7**	**+1.7**
	baz=279						
W39A	**Magazine**	**2.97**	**96**		**Pn**	**09 37 33.4**	**+1.2**
MIAR	**Mount Ida**	**3.29**	**107**	P	**Pn**	**09 37 37.9**	**+1.4**
	baz=290						
MIAR				S	**Sn**	**09 38 18.0**	**+2.0**
	baz=290						
MIAR	**Mount Ida**	**3.29**	**107**		**Pn**	**09 37 38.1**	**+1.5**
ABTX	**Abilene, Hawle**	**3.50**	**213**	P	**Pn**	**09 37 40.5**	**+1.0**
	baz=31						
ABTX				S	**Sn**	**09 38 23.1**	**+2.0**
	baz=31						
ABTX	**Abilene, Hawle**	**3.50**	**213**		**Pn**	**09 37 40.8**	**+1.4**
KSU1	**Kansas State U**	**3.56**	**10**	Pn	**Pn**	**09 37 41.3**	**+0.9**
	baz=190						
KSU1				Pb	**Pb**	**09 37 49.7**	**+1.7**
	baz=190						
KSU1				S	**Sn**	**09 38 22.7**	**0.0**
	baz=190						
WHTX	**Lake Whitney,**	**3.58**	**181**	Pn	**Pn**	**09 37 41.7**	**+1.1**
	baz=0.9						
WHTX				Pb	**Pb**	**09 37 48.6**	**+0.3**
	baz=0.9						
WHTX				Sn	**Sn**	**09 38 24.9**	**+1.7**
	baz=0.9						
WHTX				Sb	**Sb**	**09 38 36.0**	**+4.0**
	baz=0.9						
WHTX	**Lake Whitney,**	**3.58**	**181**		**Pn**	**09 37 42.0**	**+1.4**
AMTX	**Amarillo**	**3.58**	**260**	Pn	**Pn**	**09 37 42.7**	**+2.0**
	baz=77						
AMTX				Pb	**Pb**	**09 37 48.3**	**-0.1**
	baz=77						
AMTX				S	**Sn**	**09 38 26.4**	**+3.0**
	baz=77						
AMTX	**Amarillo**	**3.58**	**260**		**Pn**	**09 37 43.1**	**+2.4**
AMTX				Sn	**Sn**	**09 38 24.8**	**+1.5**
CBKS	**Cedar Bluff**	**3.73**	**330**	Pn	**Pn**	**09 37 43.8**	**+1.2**
	baz=149						
CBKS				Pb	**Pb**	**09 37 52.6**	**+1.8**
	baz=149						
CBKS				Sb	**Sg**	**09 38 42.7**	**-1.7**
	baz=149						
CBKS	**Cedar Bluff**	**3.73**	**330**		**Pn**	**09 37 44.2**	**+1.5**
U40A	**Yellville**	**3.76**	**77**	P	**Pn**	**09 37 43.2**	**+0.3**
	baz=260						
U40A				Sb	**Sg**	**09 38 43.2**	**-2.0**
	baz=260						
U40A	**Yellville**	**3.76**	**77**		**Pn**	**09 37 43.5**	**+0.5**
U40A				Sn	**Sn**	**09 38 28.6**	**+1.1**
X40A	**Basin Creek Fa**	**3.89**	**105**	P	**Pn**	**09 37 46.7**	**+1.9**
	baz=288						
X40A				S	**Sn**	**09 38 33.2**	**+2.5**
	baz=288						
X40A	**Basin Creek Fa**	**3.89**	**105**		**Pn**	**09 37 46.2**	**+1.4**
WLAR	**White Oak Lake**	**4.00**	**117**		**Pn**	**09 37 47.3**	**+1.0**
WHAR	**Wooly Hollow**	**4.17**	**93**		**Pn**	**09 37 49.8**	**+1.1**
UALR	**University of**	**4.21**	**100**		**Pn**	**09 37 50.0**	**+0.9**
W41B	**Gary Mavity, V**	**4.22**	**94**	P	**Pn**	**09 37 50.3**	**+1.0**
	baz=277						
W41B				Sn	**Sn**	**09 38 39.2**	**+0.4**
	baz=277						
W41B				Sb	**Sg**	**09 38 57.1**	**-3.0**
	baz=277						
W41B	**Gary Mavity, V**	**4.22**	**94**		**Pn**	**09 37 50.0**	**+0.7**
W41B				Sn	**Sn**	**09 38 40.0**	**+1.2**
NATX	**Nacogdoches**	**4.44**	**148**		**Pn**	**09 37 53.4**	**+1.0**
Z41A	**Richland Creek**	**4.44**	**120**	P	**Pn**	**09 37 53.3**	**+0.9**
	baz=303						
Z41A				S	**Sn**	**09 38 45.2**	**+0.8**
	baz=303						
Z41A	**Richland Creek**	**4.44**	**120**		**Pn**	**09 37 53.6**	**+1.2**
MSTX	**Muleshoe**	**4.72**	**252**	P	**Pn**	**09 37 57.5**	**+1.2**
	baz=68						
MSTX				Sn	**Sn**	**09 38 52.7**	**+1.4**
	baz=68						
MSTX				Sb	**Sb**	**09 39 10.4**	**+5.7**
	baz=68						
MSTX	**Muleshoe**	**4.72**	**252**		**Pn**	**09 37 57.7**	**+1.4**
435B	**Jarrell**	**4.79**	**182**	P	**Pn**	**09 37 59.7**	**+2.5**
	baz=1.9						
435B				Sn	**Sn**	**09 38 54.6**	**+1.5**
	baz=1.9						
435B				Sb	**Sg**	**09 39 14.9**	**-3.6**
	baz=1.9						
435B	**Jarrell**	**4.79**	**182**		**Pn**	**09 37 59.1**	**+1.9**
CCAR	**Cane Creek**	**4.91**	**108**		**Pn**	**09 37 59.7**	**+0.8**
LCAR	**Lake Charles**	**5.09**	**83**	Pn	**Pn**	**09 38 01.6**	**+0.3**
LCAR				Sn	**Sn**	**09 39 01.2**	**+1.0**
KSCO	**Kaye Shedlock'**	**5.40**	**311**	P	**Pn**	**09 38 06.6**	**+0.9**
	baz=128						
KSCO				S	**Sn**	**09 39 08.0**	**-0.1**
	baz=128						
KSCO	**Kaye Shedlock'**	**5.40**	**311**		**Pn**	**09 38 06.9**	**+1.2**
X43A	**Marvell**	**5.44**	**99**	P	**Pn**	**09 38 07.5**	**+1.4**
	baz=283						
X43A				S	**Sn**	**09 39 10.5**	**+1.5**
	baz=283						
X43A	**Marvell**	**5.44**	**99**		**Pn**	**09 38 07.7**	**+1.6**
JCT	**Junction City**	**5.48**	**202**	P	**Pn**	**09 38 07.8**	**+1.1**
	baz=21						
JCT				Sn	**Sn**	**09 39 11.1**	**+1.1**
	baz=21						
JCT				Sb	**Sg**	**09 39 34.8**	**-5.8**
	baz=21						
JCT	**Junction City**	**5.48**	**202**		**Pn**	**09 38 08.2**	**+1.5**
CCM	**Cathedral Cave**	**5.51**	**62**	P	**Pn**	**09 38 07.9**	**+0.8**
	baz=245						
CCM				S	**Sn**	**09 39 11.4**	**+0.7**
	baz=245						
BGNE	**Belgrade**	**5.85**	**354**	P	**Pn**	**09 38 11.6**	**-0.1**
	baz=174						
BGNE				S	**Sn**	**09 39 16.5**	**-2.5**
	baz=174						
T25A	**Trinidad**	**5.88**	**287**	P	**Pn**	**09 38 13.2**	**+0.9**
	baz=103						
T25A				Sn	**Sn**	**09 39 18.4**	**-1.7**
	baz=103						
T25A				Sb	**Sb**	**09 39 46.0**	**+7.8**
	baz=103						
GNAR	**Gosnell**	**6.00**	**84**	Pn	**Pn**	**09 38 14.8**	**+1.0**
OGNE	**Ogallala**	**6.48**	**327**	P	**Pn**	**09 38 21.6**	**+1.1**
	baz=144						
OGNE	**Ogallala**	**6.48**	**327**		**Pn**	**09 38 21.9**	**+1.4**
OXF	**Oxford**	**6.63**	**97**	P	**Pn**	**09 38 23.3**	**+0.8**
	baz=282						
OXF				S	**Sn**	**09 39 36.1**	**-2.2**
	baz=282						
OXF	**Oxford**	**6.63**	**97**	Pn	**Pn**	**09 38 22.8**	**+0.4**
S44A	**Carbondale**	**6.87**	**70**	P	**Pn**	**09 38 26.9**	**+1.2**
	baz=255						
S44A				S	**Sn**	**09 39 44.0**	**-0.1**
	baz=255						
SDCO	**Great Sand Dun**	**6.87**	**291**	P	**Pn**	**09 38 27.7**	**+1.7**
	baz=106						
SDCO				S	**Sn**	**09 39 44.2**	**-0.4**
	baz=106						
SDCO				Sb	**Sg**	**09 40 18.2**	**-7.0**
	baz=106						
SDCO	**Great Sand Dun**	**6.87**	**291**		**Pn**	**09 38 28.2**	**+2.2**
SIUC	**Southern Illin**	**6.90**	**70**	Pn	**Pn**	**09 38 26.4**	**+0.2**
Q24A	**Divide**	**7.05**	**301**	P	**Pn**	**09 38 29.0**	**+0.5**
	baz=116						
Q24A				S	**Sn**	**09 39 47.4**	**-1.7**
	baz=116						
Q24A	**Divide**	**7.05**	**301**		**Pn**	**09 38 28.7**	**+0.2**
SCIA	**State Center**	**7.10**	**26**	P	**Pn**	**09 38 30.0**	**+1.1**
	baz=209						
SCIA				S	**Sn**	**09 39 47.6**	**-2.3**
	baz=209						
SCIA	**State Center**	**7.10**	**26**	Pn	**Pn**	**09 38 29.2**	**+0.3**
N41A	**Harden Midland**	**7.25**	**43**	S	**Sn**	**09 39 50.5**	**-3.1**
	baz=227						
833A	**Chaparral WMA,**	**7.44**	**194**	Sb	**Sg**	**09 40 37.5**	**-5.8**
	baz=13						
P43A	**Skaggs, Pawnee**	**7.44**	**55**	P	**Pn**	**09 38 35.9**	**+2.4**
	baz=240						
P43A				S	**Sn**	**09 39 56.0**	**-2.2**
	baz=240						
P43A	**Skaggs, Pawnee**	**7.44**	**55**	Pn	**Pn**	**09 38 33.9**	**+0.4**
PLAL	**Pickwick Lake**	**7.64**	**92**	Pn	**Pn**	**09 38 36.0**	**-0.2**
MNTX	**Cornudas Mount**	**7.71**	**242**	P	**Pn**	**09 38 38.2**	**+0.8**
	baz=57						
MNTX				S	**Sn**	**09 40 05.0**	**0.0**
	baz=57						
MNTX				Sb	Sg	09 40 43.5	-8.6
	baz=57						
MNTX	**Cornudas Mount**	**7.71**	**242**		**Pn**	**09 38 38.5**	**+1.2**
BNM	**Barren Site**	**7.73**	**262**		**Pn**	**09 38 39.0**	**+1.2**
ISCO	**Idaho Springs**	**7.76**	**305**	P	**Pn**	**09 38 38.8**	**+0.6**
	baz=120						
ISCO				S	**Sn**	**09 40 02.9**	**-3.7**
	baz=120						
ISCO	**Idaho Springs**	**7.76**	**305**		**Pn**	**09 38 39.1**	**+0.9**
WVT	**Waverly**	**7.78**	**83**	Pn	**Pn**	**09 38 37.7**	**-0.5**
S22A	**4UR Ranch, Cre**	**7.89**	**289**		**Pn**	**09 38 42.3**	**+2.2**
OLIL	**Olney**	**8.05**	**64**	Pn	**Pn**	**09 38 42.5**	**+0.5**
L40A	**Anamosa**	**8.06**	**35**	P	**Pn**	**09 38 42.1**	**+0.1**
	baz=219						
L40A	**Anamosa**	**8.06**	**35**	Pn	**Pn**	**09 38 42.0**	**-0.1**
L40A				Sn	**Sn**	**09 40 11.0**	**-2.4**
HDIL	**Hopedale**	**8.08**	**50**	P	**Pn**	**09 38 42.3**	**-0.1**
	baz=235						
HDIL	**Hopedale**	**8.08**	**50**		**Pn**	**09 38 41.9**	**-0.5**
ECSD	**EROS Data Cent**	**8.16**	**4**	P	**Pn**	**09 38 42.3**	**-1.1**
	baz=184						
ECSD				S	**Sn**	**09 40 11.1**	**-4.8**
	baz=184						
ECSD	**EROS Data Cent**	**8.16**	**4**		**Pn**	**09 38 42.7**	**-0.7**
TX31	**Lajitas Ar. Si**	**8.18**	**222**		**Pn**	**09 38 44.5**	**+0.6**
TX32	**Lajitas Array**	**8.18**	**222**		**Pn**	**09 38 44.2**	**+0.3**
TXAR	**Lajitas Array**	**8.18**	**222**		**Pn**	**09 38 44.2**	**+0.3**
PHWY	**Pilot Hill**	**8.52**	**314**		**Pn**	**09 38 48.6**	**-0.1**
N23A	**Red Feather La**	**8.57**	**311**	P	**Pn**	**09 38 50.6**	**+1.3**
	baz=126						
N23A	**Red Feather La**	**8.57**	**311**		**Pn**	**09 38 49.8**	**+0.5**
SUSD	**Miller**	**8.93**	**353**	S	**Sn**	**09 40 30.8**	**-4.1**
	baz=172						
LRAL	**Lakeview Retre**	**8.96**	**104**	Pn	**Pn**	**09 38 54.7**	**+0.3**
JFWS	**Jewell Farm**	**9.17**	**35**	P	**Pn**	**09 38 57.7**	**+0.4**
	baz=219						
JFWS				S	**Sn**	**09 40 37.2**	**-3.6**
	baz=219						
JFWS	**Jewell Farm**	**9.17**	**35**	Pn	**Pn**	**09 38 58.1**	**+0.8**
Y49A	**Blount Mountai**	**9.20**	**98**	Pn	**Pn**	**09 38 57.8**	**+0.1**
M44A	**Midewin, Midew**	**9.34**	**49**	S	**Sn**	**09 40 41.5**	**-3.3**
	baz=235						
T49A	**Edmonton**	**9.68**	**78**	Pn	**Pn**	**09 39 04.2**	**-0.1**
Z50A	**Ashland**	**9.75**	**101**	S	**Sn**	**09 40 51.9**	**-3.1**
	baz=287						
250A	**Grady**	**9.93**	**108**	Pn	**Pn**	**09 39 07.2**	**-0.4**
RSSD	**Black Hills**	**9.94**	**331**		**Pn**	**09 39 08.3**	**+0.3**
K43A	**Burlington**	**9.99**	**42**	Pn	**Pn**	**09 39 08.8**	**+0.3**
K22A	**Casper**	**10.01**	**318**		**Pn**	**09 39 09.6**	**+0.7**
N47A	**Urbana**	**10.60**	**57**	Pn	**Pn**	**09 39 17.3**	**+0.4**
COWI	**Conover**	**12.21**	**28**	Pn	**Pn**	**09 39 38.1**	**-0.8**
S54A	**Dingess, Beckl**	**13.09**	**76**	Pn	**Pn**	**09 39 49.4**	**-1.6**
TPAW	**Teton Pass**	**13.10**	**311**	Pn	**Pn**	**09 39 51.2**	**-0.1**
EYMN	**Ely**	**13.11**	**18**	Pn	**Pn**	**09 39 47.4**	**-3.7**
RLMT	**Red Lodge**	**13.13**	**320**	Pn	**Pn**	**09 39 52.1**	**+0.4**
V55A	**Taylorsville**	**13.15**	**84**	Pn	**Pn**	**09 39 50.7**	**-1.0**
FXWY	**Fox Creek**	**13.23**	**312**	Pn	**Pn**	**09 39 53.2**	**+0.2**

*IDC **02** 09:59:56.7±1.1, 2.94S×128.63E, h0km, mb4.2/6, mb1 4.4/9, mb1mx3.9/42, mbtmp4.2/9, ML3.9/3, Error ellipse: s-maj=28.4km s-min=21.0km az=73.0*
*ISCJB **02** 09:59:59.5±0.3, 2.93S±0.03×128.67E±0.03, h35km, mb4.2/6, Error ellipse: s-maj=4.2km s-min=3.7km az=43.4*
*NEIC **02** 10:00:01.1±1.8, 2.92S±0.06×128.66E±0.07, h32km±7km, mb4.3/22*
*DJA **02** 10:00:01.0±0.5, 3°S±3°×12°9E±°, h22km±5km, M4.3/10, mb4.6/8, mB4.9/4, MLv4.3/10, Mw(mB)4.2/4*
ISC 02 10:00:01.6±0.5, 2.90S±0.04×128.73E±0.04, h35km, n58, σ1°66/63, mb4.2/12, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.48**	**156**	P	**Pn**	**10 00 11.3**	**-0.7**
MSAI				S	**Sn**	**10 00 19.9**	**+0.7**
AAI	**Ambon**	**0.94**	**215**	P	**Pn**	**10 00 19.6**	**+1.2**
AAI				S	**Sn**	**10 00 36.4**	**+5.7**
NLAI	**Namlea**	**1.66**	**258**	P	**Pn**	**10 00 30.2**	**+2.0**
BNDI	**Bandanaira**	**1.99**	**144**	P	**Pn**	**10 00 35.4**	**+2.7**
LBMI	**Labuha**	**2.56**	**331**	P	**Pn**	**10 00 43.8**	**+3.1**
LBMI				S	**Sn**	**10 01 10.9**	**+0.2**
SANI	**Sanana**	**2.87**	**287**	P	**Pn**	**10 00 43.7**	**-1.1**
SANI				S	**Sn**	**10 01 16.1**	**-2.1**
SWI	**Sorong**	**3.24**	**51**	P	**Pn**	**10 00 51.1**	**+1.1**
SWI				S	**Sn**	**10 01 28.1**	**+0.8**
SIJI	**Sorong**	**3.24**	**51**	Pn	**Pn**	**10 00 50.8**	**+0.8**
	19nm,0.3s,baz=230,slow=13,SNR=20						
SIJI				Sn	**Sn**	**10 01 27.6**	**+0.2**
	9.7nm,0.3s,baz=135,slow=23,SNR=15						
FAKI	**Fak Fak**	**3.51**	**90**	P	**Pn**	**10 00 54.2**	**+0.5**
FAKI	**Fak Fak**	**3.51**	**90**		**Pn**	**10 00 54.7**	**+0.9**
FAKI				Sn	**Sn**	**10 01 34.3**	**+0.2**
TNTI	**Ternate**	**3.90**	**339**	Pn	**Pn**	**10 00 57.0**	**-2.0**
LUWI	**Luwuk**	**6.24**	**287**	Pn	**Pn**	**10 01 29.8**	**-1.3**
APSI	**Ampana**	**7.35**	**285**	P	**Pn**	**10 01 48.0**	**+1.5**
	162nm,0.5s,2μm0.7nm						
MRSI	**Marisa**	**7.57**	**296**	P	**Pn**	**10 01 49.4**	**-0.1**
SOEI	**Soe**	**8.12**	**213**	Pn	**Pn**	**10 01 55.8**	**-1.4**
TTSI	**Tana Toraja**	**8.90**	**269**	P	Pn	10 02 18.0	+10
BKSI	**Bulukumba**	**8.92**	**254**	P	**Pn**	**10 02 09.0**	**+1.0**
SPSI	**Sidrap Palu**	**9.01**	**263**	P	**Pn**	**10 02 12.4**	**+3.2**
KAPI	**Kappang**	**9.20**	**257**	Pn	**Pn**	**10 02 10.6**	**-1.3**
MPSI	**Mapaga**	**9.40**	**290**	P	**Pn**	**10 02 14.9**	**+0.3**
MTN	**Manton Dam**	**10.16**	**167**		Pn	10 02 30.4	+5.3
WSI	**Waingapu**	**10.74**	**231**	P	Pn	10 02 38.6	+5.6
KNRA	**Kununurra**	**12.69**	**180**	Pn	**Pn**	**10 03 00.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**15.40**	**191**	Pn	**Pn**	**10 03 35.6**	**-0.8**
	0.1nm,0.3s,baz=27,slow=12,SNR=3.4						
WB0	**Warramunga Arr**	**17.65**	**162**		P	10 04 14.1	+8.5
WRAB	**Tennant Creek**	**17.79**	**162**	P	**Pn**	**10 04 06.4**	**-0.3**
WRA	**Warramunga Arr**	**17.80**	**162**	P	**Pn**	**10 04 05.2**	**-1.4**
	0.8nm,0.3s,baz=341,slow=12,SNR=42						
WRA				S	**Sn**	**10 07 18.6**	**-5.5**
	0.0nm,0.3s,baz=350,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**17.80**	**162**	P	**Pn**	**10 04 05.1**	**-1.6**
WB2	**Warramunga Arr**	**17.80**	**162**	P	**Pn**	**10 04 05.3**	**-1.4**
WR0	**Warramunga Arr**	**17.88**	**162**	P	**P**	**10 04 09.3**	**+1.3**
COEN	**Coen**	**18.00**	**128**	P	**P**	**10 04 10.6**	**+1.1**
PSAC2	**Pilbara Seismi**	**20.44**	**204**	P	**P**	**10 04 35.0**	**-1.1**
PSAB2	**Pilbara Seismi**	**20.45**	**204**	P	**P**	**10 04 35.3**	**-0.9**
PSAC1	**Pilbara Seismi**	**20.45**	**204**	P	**P**	**10 04 35.9**	**-0.3**
PSAC1				IAmb	IAmb	10 04 36.1	
	comp=Z,9.9nm,0.7s						
PSAA2	**Pilbara Seismi**	**20.46**	**204**	P	**P**	**10 04 35.5**	**-0.8**
PSAA2				IAmb	IAmb	10 04 47.3	
	comp=Z,18nm,1.1s						
PSAD2	**Pilbara Seismi**	**20.46**	**204**	P	**P**	**10 04 36.7**	**+0.4**
PSAD2				IAmb	IAmb	10 04 46.6	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**20.47**	**204**	P	**P**	**10 04 35.4**	**-1.0**
PSA00				IAmb	IAmb	10 04 36.3	
	comp=Z,11nm,0.6s						
AS31	**Alice Springs**	**21.24**	**167**	P	**P**	**10 04 44.6**	**-0.1**
AS31				IAmb	IAmb	10 04 45.7	
	comp=Z,8.9nm,0.8s						
ASAR	**Alice Springs**	**21.24**	**167**	P	**P**	**10 04 44.6**	**-0.1**
	comp=Z,22nm,0.8s,baz=346,slow=11,SNR=101						
ASAR		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.65**	**295**	P	Pn	11 19 51.5	+1.6
JIKH				S	Sn	11 20 23.0	+2.3
JIO	**Ouri**	**2.79**	**297**	P	Pn	11 19 53.4	+1.6
JIO				S	Sn	11 20 26.3	+2.1
JKMT	**Kesennumamotoy**	**2.88**	**304**	P	Pn	11 19 54.4	+1.4
JKMT				S	Sn	11 20 27.8	+1.4
JFK	**Kawauchi**	**2.90**	**274**	P	Pn	11 19 55.1	+1.7
JFK				S	Sn	11 20 28.8	+1.7
OFUJ	**Ofunato**	**2.91**	**311**	P	Pn	11 19 54.8	+1.3
OFUJ				S	Sn	11 20 28.3	+1.1
JMST	**Minamisoumatoc**	**2.93**	**281**	P	Pn	11 19 55.0	+1.3
JMST				S	Sn	11 20 30.1	+2.5
JMK	**Ichinoseki**	**3.12**	**305**	P	Pn	11 19 58.0	+1.7
JMK				S	Sn	11 20 34.0	+1.7
JFT	**Otama**	**3.34**	**276**	P	Pn	11 20 02.0	+2.6
JFT				S	Sn	11 20 40.5	+2.7
BSO1	**Boso 1**	**3.84**	**229**	P	Pn	11 20 05.9	+0.1
BSO1				eS	Sn	11 20 49.4	0.0
JRY	**Ryogami san**	**4.67**	**257**	P	Pn	11 20 18.6	+0.9
JRY				S	Sn	11 21 09.9	-0.7
JOT	**Ohata**	**4.95**	**328**	P	Pn	11 20 24.3	+2.9
JOT				eS	Sn	11 21 19.9	+2.6
JCH	**Churui**	**5.46**	**351**	P	Pn	11 20 27.9	-0.5
JCH				S	Sn	11 21 27.3	-2.6
JHJ2	**Mitsune**	**5.62**	**225**	S	Sn	11 21 28.9	-5.0

TEH ***02*** *11:20:00.6, 33°.44N×50°.22E, h8km, ML3.5*
ISCJB ***02*** *11:20:01.7±0.4, 33°.42N±0°.03×50°.26E±0°.04, h10km, Error ellipse: s-maj=5.3km s-min=4.5km az=41.2*
THR ***02*** *11:20:01.0, 33°.42N×50°.16E, h14km, ML3.5*
ISC 02 11:20:00.9±0.9, 33°.41N±0°.03×50°.18E±0°.03, h10km, n29, σ1ˢ15/30, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMZ	**Khomeyn**	**0.37**	**331**	eAML	AML	11 20 14.0	
KHMZ	5μm,0.6s						
IPIR	**Pirpir**	**0.94**	**140**	ePg	**Pg**	**11 20 08.5**	**0.0**
BMDN	**Meydan**	**1.16**	**283**	ePg	**Pn**	**11 20 23.5**	**+0.1**
IKLH	**Kolahrood**	**1.18**	**94**	ePg	**Pb**	**11 20 22.5**	**-1.0**
IKLH	comp=Z,22μm,0.1s			IAMB	IAmb	11 20 40.8	
BDRS	**Dareh Seyedi**	**1.21**	**297**	ePg	**Pb**	**11 20 23.1**	**-1.0**
BDRS	comp=Z,0.0nm,0.4s			IAMB	IAmb	11 20 42.9	
JHBN	**Jahan bin**	**1.25**	**161**	ePg	**Pg**	**11 20 25.4**	**+0.5**
JHBN	comp=Z,0.0nm,0.2s			IAMB	IAmb	11 20 47.5	
ROKH	**ROKH**	**1.28**	**146**	ePg	**Pn**	**11 20 24.5**	**-0.7**
ROKH	comp=Z,0.0nm,0.2s			IAMB	IAmb	11 20 43.8	
ZNGN	**Zangian**	**1.41**	**156**	ePn	**Pn**	**11 20 27.5**	**+0.5**
GHVR	**GHOM**	**1.41**	**41**	eSg	**Sn**	**11 20 45.4**	**-0.1**
GHVR				ePg	**Pn**	**11 20 26.6**	**-0.2**
IKMR	**Kamar-syah**	**1.51**	**275**	ePn	**Pb**	**11 20 29.1**	**+0.2**
HSAM	**Samen**	**1.54**	**302**	ePn	**Pn**	**11 20 28.8**	**+0.2**
IQOM	**Qom**	**1.61**	**27**	ePn	**Pn**	**11 20 29.4**	**-0.2**
HAGD	**Aghdareh**	**1.65**	**329**	ePn	**Pb**	**11 20 30.9**	**-0.7**
HAGD	comp=Z,0.0nm,0.4s			IAMB	IAmb	11 20 55.2	
IDOB	**Doab**	**1.71**	**283**	ePn	**Pb**	**11 20 32.8**	**+0.2**
IBRJ	**Brojen**	**1.76**	**148**	ePn	**Pg**	**11 20 34.5**	**-0.1**
IBRJ	comp=Z,2μm,0.4s			IAMB	IAmb	11 21 05.7	
IZEF	**Zefreh**	**1.88**	**105**	ePn	**Pn**	**11 20 34.2**	**+0.9**
IZEF	comp=Z,5μm,0.2s			IAMB	IAmb	11 21 04.2	
IKFM	**Kafar-mosalman**	**1.95**	**274**	ePn	**Pg**	**11 20 37.6**	**-0.7**
IKFM	comp=Z,0.0nm,0.6s			IAMB	IAmb	11 21 15.9	
IRAZ	**Razeghan**	**2.00**	**354**	ePn	**Pb**	**11 20 36.3**	**-1.2**
IRAZ	comp=Z,2μm,0.3s			IAMB	IAmb	11 20 41.8	
IVRN	**Varamin**	**2.04**	**39**	ePn	**Pb**	**11 20 37.2**	**-0.9**
IVRN	comp=Z,0.0nm,0.3s			IAMB	IAmb	11 21 10.1	
IBZA	**Bozab**	**2.20**	**299**	ePn	**Pb**	**11 20 40.9**	**0.0**
IHSB	**Hasanabad**	**2.22**	**24**	ePn	**Pb**	**11 20 39.7**	**-1.4**
IHSB	comp=Z,0.0nm,0.4s			IAMB	IAmb	11 21 17.0	
IMHD	**Mahdasht**	**2.30**	**10**	ePn	**Pb**	**11 20 41.4**	**-1.3**
IMHD	comp=Z,4μm,0.2s			IAMB	IAmb	11 20 43.2	
IKOM	**Komasi**	**2.35**	**290**	ePn	**Pb**	**11 20 43.1**	**-0.3**
IKOM	comp=Z,0.0nm,0.6s			IAMB	IAmb	11 21 24.8	
HSRG	**Sareghieh**	**2.41**	**320**	ePn	**Pb**	**11 20 42.7**	**-1.8**
HSRG	comp=Z,0.0nm,0.4s			IAMB	IAmb	11 21 22.5	
IRAM	**Ramesheh**	**2.45**	**130**	ePn	**Pb**	**11 20 44.0**	**-1.3**
IRAM	comp=Z,1μm,0.7s			IAMB	IAmb	11 21 31.9	
QALM	**Alamut, Qazvin**	**3.04**	**7**	ePn	**Pn**	**11 20 51.8**	**+2.5**
QALM	comp=Z,0.0nm,0.4s			IAMB	IAmb	11 20 58.2	
IPRN	**Peran**	**3.34**	**32**	ePn	**Pn**	**11 20 55.6**	**+2.3**
TABS	**Tabas**	**5.80**	**86**	ePn	**Pn**	**11 21 29.2**	**+2.0**
TABS	**Tabas**	**5.80**	**86**	ePn	**Pn**	**11 21 29.1**	**+2.0**

ISCJB ***02*** *11:22:17.4±0.6, 10°.60S±0°.05×119°.25E±0°.04, h33km, mb3.9/4, Error ellipse: s-maj=7.3km s-min=4.9km az=27.3*
DJA ***02*** *11:22:19.1±1.5, 10°.S±5°.×11°.9E±°, h25km±14km, M4.2/15, mb4.2/5, mB4.3/1, MLv4.2/15, Mw(mB)3.5/1*
IDC ***02*** *11:22:21.7±3.3, 10°.34S×119°.40E, h72km±31km, mb3.5/4, mb1 3.4/8, mb1mx3.3/29, mbtmp3.6/8, MS2.7/1, Ms1 2.7/1, ms1mx2.3/17, Error ellipse: s-maj=33.2km s-min=13.4km az=58.0*
ISC 02 11:22:17.9±0.8, 10°.54S±0°.06×119°.27E±0°.05, h35km, n22, σ2ˢ23/28, mb4.0/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.90**	**7**	P	**Pn**	**11 22 35.7**	**+1.5**
WBSI				S	**Sn**	**11 22 46.7**	**+0.7**
BASI	**Baing, Sumba**	**1.32**	**76**	P	**Pn**	**11 22 42.5**	**+2.6**
BASI				S	**Sn**	**11 22 58.4**	**+2.1**
WSI	**Waingapu**	**1.33**	**49**	P	**Pn**	**11 22 41.7**	**+1.7**
PLAI	**Plampang**	**2.25**	**319**	P	**Pn**	**11 22 54.7**	**+2.0**
TWSI	**Taliwang, Sumb**	**2.96**	**307**	P	**Pn**	**11 23 04.4**	**+1.9**
EDFI	**Ende, Flores**	**2.97**	**53**	P	**Pn**	**11 23 03.5**	**+0.7**
MMRI	**Maumere**	**3.48**	**57**	P	**Pn**	**11 23 11.1**	**+1.4**
BATI	**Baumata**	**4.33**	**86**	P	**Pn**	**11 23 24.6**	**+3.2**
BATI	31nm,0.3s,baz=277,slow=19,SNR=36			S	**Sn**	**11 24 11.7**	**+1.0**
BATI	**Baumata**	**4.33**	**86**	P	**Pn**	**11 23 23.6**	**+2.2**
DNP	**Denpasar**	**4.41**	**294**	P	**Pn**	**11 23 23.5**	**+1.0**
IGBI	**Denpasar**	**4.42**	**292**	P	**Pn**	**11 23 24.9**	**+2.4**
SOEI	**Soe**	**4.98**	**81**	P	**Pn**	**11 23 32.2**	**+1.8**
BKSI	**Bulukumba**	**5.25**	**9**	P	**Pn**	**11 23 34.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.46**	**292**	P	**Pn**	**11 23 38.5**	**+1.7**
KAPI	**Kappang**	**5.51**	**5**	P	**Pn**	**11 23 39.6**	**+2.1**
KAPI	baz=254,slow=18,SNR=2.5			S	**Sn**	**11 24 38.2**	**-1.6**
KAPI	5.8nm,0.3s,baz=31,slow=23,SNR=11			LR	LR	11 26 11.6	
FITZ	**Fitzroy Crossi**	**9.72**	**141**	P	**Pn**	**11 24 38.0**	**+2.7**
FITZ	0.2nm,0.3s,baz=326,slow=14,SNR=14			S	**Sn**	**11 26 20.3**	**-3.0**
WRA	**Warramunga Arr**	**17.27**	**125**	P	**P**	**11 26 18.0**	**+0.3**
WRA	0.1nm,0.3s,baz=296,slow=13,SNR=5.8			S	Sn	11 29 14.7	-13
ASAR	**Alice Springs**	**19.10**	**135**	P	**Pn**	**11 26 40.6**	**+1.6**
ASAR	0.1nm,0.3s,baz=309,slow=12,SNR=4.1			S	**Sn**	**11 30 06.1**	**-6.0**
CMAR	**Chiang Mai Arr**	**35.11**	**325**	P	**P**	**11 29 08.0**	**-0.2**
SONM	**Songino Array**	**59.23**	**350**	P	**P**	**11 32 14.6**	**-1.2**
MKAR	**Makanchi Array**	**65.94**	**333**	P	**P**	**11 32 59.3**	**-1.3**

0.5nm,0.6s,baz=138,slow=8.1,SNR=5.2

ZALV	**Zalesovo Beam**	**70.57**	**339**	P	**P**	**11 33 27.6**	**-1.7**
	0.7nm,0.4s,baz=155,slow=6.3,SNR=2.7						

IDC ***02*** *12:00:29.2±0.9, 58°.66S×25°.17W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/21, mbtmp4.1/4, MS3.5/7, Ms1 3.4/7, ms1mx3.2/22, Error ellipse: s-maj=34.5km s-min=30.6km az=71.0*
ISCJB ***02*** *12:00:30.9±0.6, 58°.73S±0°.08×25°.0W±0°.2, h28km, mb4.0/4, MS3.4/6, Error ellipse: s-maj=14.9km s-min=9.8km az=149.3*
NEIC ***02*** *12:00:30.4±0.7, 58°.7S±0°.1×24°.9W±0°.3, h10km±1km, mb4.3/10*
ISC 02 12:00:33.0±0.6, 58°.7S±0°.1×25°.0W±0°.1, h28km, n40, σ0ˢ63/33, mb4.1/7, MS3.4/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.76**	**300**		Pn	12 02 31.1	+7.3
VNA1	**Neumayer--Stat**	**13.87**	**156**	P	**Pn**	**12 03 47.0**	**-0.3**
VNA3	**Neumayer Olymp**	**14.07**	**159**	P	**Pn**	**12 03 49.0**	**-1.1**
VNA2	**Neumayer--Watz**	**14.27**	**156**	P	**Pn**	**12 03 52.7**	**0.0**
	baz=317,slow=14						
SNAA	**Sanae**	**15.82**	**154**	P	**Pn**	**12 04 12.3**	**-1.1**
SNAA	**Sanae**	**15.82**	**154**		**Pn**	**12 04 12.2**	**-1.1**
PMSA	**Palmer Station**	**19.20**	**235**	LR	LR	12 10 44.8	
	comp=Z,208nm,20.7s,baz=42,slow=32						
PMSA	**Palmer Station**	**19.20**	**235**	P	**Pn**	**12 04 54.8**	**-0.4**
PMSA				IAmb	IAmb	12 05 02.1	
	comp=Z,28nm,1.1s						
USHA	**Ushuaia**	**23.80**	**260**	LR	LR	12 12 48.0	
	comp=Z,214nm,19.6s,baz=242,slow=31						
QSPA	**South Pole Qui**	**31.53**	**180**	P	**P**	**12 06 53.3**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=241,slow=2.7,SNR=6.9						
QSPA	**South Pole Qui**	**31.53**	**180**	P	**P**	**12 06 52.3**	**-0.1**
QSPA				IAmb	IAmb	12 06 55.2	
	comp=Z,3.5nm,1.1s						
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**12 07 10.4**	**-0.9**
	comp=Z,2.5nm,1.0s,baz=152,slow=7.3,SNR=3.9						
PLCA				LR	LR	12 19 51.6	
	comp=Z,44nm,18.1s,baz=174,slow=35						
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**12 07 10.8**	**-0.6**
MAW	**Mawson**	**37.31**	**141**	LR	LR	12 21 56.1	
	comp=Z,52nm,18.4s,baz=240,slow=34						
GO05	**Huala**	**38.77**	**287**	P	**P**	**12 07 55.1**	**+0.3**
CPUP	**Villa Florida**	**39.47**	**311**	LR	LR	12 25 24.3	
	comp=Z,36nm,18.9s,baz=205,slow=38						
SBA	**Scott Base**	**43.49**	**184**	P	**P**	**12 08 33.9**	**+0.9**
SBA				IAmb	IAmb	12 08 48.0	
	comp=Z,4.0nm,1.1s						
BOSA	**Boshof**	**45.59**	**71**	LR	LR	12 24 07.1	
	comp=Z,59nm,18.1s,baz=210,slow=31						
BOSA	**Boshof**	**45.59**	**71**	P	**P**	**12 08 49.8**	**-0.6**
BOSA				IAmb	IAmb	12 08 57.5	
	comp=Z,12nm,1.5s						
LPAZ	**La Paz**	**52.88**	**305**	P	**P**	**12 09 46.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=159,slow=8.6,SNR=4.8						
LPAZ	**La Paz**	**52.88**	**305**	P	**P**	**12 09 46.4**	**-0.5**
TOA0	**Torodi Ar. Sit**	**74.85**	**27**	P	**P**	**12 12 10.5**	**-0.1**
TOA0				IAmb	IAmb	12 12 26.2	
	comp=Z,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P	**P**	**12 12 11.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=187,slow=6.0,SNR=12						
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P	**P**	**12 12 10.5**	**-0.1**
RAR	**Rarotonga**	**92.07**	**222**	LR	LR	12 46 26.7	
	comp=Z,17nm,20.3s,baz=160,slow=30						
NVAR	**Mina Array Bea**	**123.49**	**290**	PKP	**PKiKP**	**12 19 28.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=166,slow=3.4,SNR=4.7						
NVAR	**Mina Array Bea**	**123.49**	**290**		**PKiKP**	**12 19 27.6**	**+0.4**
FXWY	**Fox Creek**	**124.09**	**299**		**PKiKP**	**12 19 28.6**	**+0.4**
YKA	**Yellowknife Ar**	**138.93**	**315**	PKP	**PKpdf**	**12 19 55.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=145,slow=2.5,SNR=5.1						
YKA	**Yellowknife Ar**	**138.93**	**315**		**PKPdf**	**12 19 55.0**	**+0.1**
INK	**Inuvik**	**148.60**	**317**		**PKPbc**	**12 20 14.1**	**-1.4**
EPYK	**Eagle Plains**	**149.16**	**313**		**PKPbc**	**12 20 17.3**	**+0.4**
DAWY	**Dawson**	**149.42**	**308**		**PKPbc**	**12 20 18.0**	**+0.3**
SONM	**Songino Array**	**149.63**	**89**	PKPbc	**PKPbc**	**12 20 19.2**	**+0.4**
	comp=Z,2.2nm,1.1s,baz=217,slow=1.5,SNR=6.9						
BCAR	**Beaver Creek A**	**150.07**	**305**		**PKPbc**	**12 20 19.6**	**+0.3**
MENT	**Mentasta**	**150.85**	**305**		**PKiKP**	**12 20 21.7**	**-0.1**
DOT	**Dot Lake**	**151.23**	**306**		**PKiKP**	**12 20 22.9**	**+0.3**
IL31		**152.74**	**307**		**PKiKP**	**12 20 25.8**	**+0.3**
ILAR	**Eielson Array**	**152.74**	**307**	PKPbc	**PKiKP**	**12 20 25.7**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=146,slow=2.4,SNR=35						
TOLK	**Toolik Lake Re**	**154.46**	**316**		**PKiKP**	**12 20 29.5**	**+0.4**

ISCJB ***02*** *12:04:14.0±0.4, 35°.61N±0°.03×97°.39W±0°.03, h10km±2km, Error ellipse: s-maj=5.6km s-min=3.7km az=166.2*
NEIC ***02*** *12:04:14.8±1.0, 35°.58N±0°.05×97°.38W±0°.04, h5km±2km*
TUL ***02*** *12:04:14.3±1.1, 35°.60N±0°.05×97°.38W±0°.05, h6km±4km, ML3.2*
ANF ***02*** *12:04:15.6±1.3, 35°.59N×97°.40W, h18km±9km, ML3.6/8, Error ellipse: s-maj=6.0km s-min=3.4km az=160.0*
ISC 02 12:04:14.8±0.9, 35°.60N±0°.03×97°.38W±0°.03, h6km±5km, n35, σ0ˢ69/46, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.04**	**250**		**Pg**	**12 04 15.8**	**-0.3**
OK009				Sg	**Sg**	**12 04 16.8**	**-0.3**
ADOK	**Arcadia Dam**	**0.06**	**4**	Pg	**Pg**	**12 04 16.3**	**0.0**
ADOK				Sg	**Sg**	**12 04 17.8**	**+0.4**
OK001	**Jones High Sch**	**0.08**	**116**	Pg	**Pg**	**12 04 16.7**	**+0.1**
OK001				Sg	**Sg**	**12 04 18.1**	**+0.2**
OK005	**Luther M Schoo**	**0.16**	**68**	Pg	**Pg**	**12 04 18.3**	**+0.2**
OK005				Sg	**Sg**	**12 04 21.1**	**+0.9**
FNO	**Franklin**	**0.34**	**184**	Pg	**Pg**	**12 04 21.2**	**-0.1**
FNO				Sg	**Sg**	**12 04 26.0**	**+0.2**
X34A	**Smith Ranch, M**	**1.06**	**201**		**Pg**	**12 04 34.7**	**-0.5**
TUL1	**Leonard**	**1.33**	**76**	P	**Pn**	**12 04 38.1**	**-1.7**
TUL1	baz=257			S	**Sb**	**12 04 56.8**	**-0.5**
TUL1	**Leonard**	**1.33**	**76**		**Pn**	**12 04 38.1**	**-1.7**
WMOK	**Wichita Mounta**	**1.43**	**234**	P	**Pn**	**12 04 40.1**	**-1.3**
WMOK	baz=53			S	**Sb**	**12 04 59.5**	**-1.0**
WMOK	**Wichita Mounta**	**1.43**	**234**	Pn	**Pn**	**12 04 40.1**	**-1.3**
U32A	**Winter Ranch,**	**1.53**	**301**		**Pn**	**12 04 42.2**	**-0.6**
HHAR	**Hobbs**	**2.87**	**75**		**Pn**	**12 05 00.8**	**-0.3**
W39A	**Magazine**	**2.96**	**97**	P	**Pn**	**12 05 02.2**	**-0.1**
W39A	baz=279			S	**Sn**	**12 05 38.3**	**+0.1**
W39A	**Magazine**	**2.96**	**97**		**Pn**	**12 05 02.1**	**-0.2**
MIAR	**Mount Ida**	**3.29**	**107**	P	**Pn**	**12 05 07.6**	**+0.7**
MIAR	baz=290			S	**Sn**	**12 05 46.8**	**+0.6**
MIAR	**Mount Ida**	**3.29**	**107**		**Pn**	**12 05 07.1**	**+0.3**
ABTX	**Abilene, Hawle**	**3.51**	**213**	Pn	**Pn**	**12 05 09.9**	**0.0**
AMTX	**Amarillo**	**3.59**	**260**		**Pn**	**12 05 11.5**	**+0.4**
WHTX	**Lake Whitney,**	**3.59**	**181**	Sb	**Sb**	**12 06 04.5**	**+1.8**
	baz=1.0						
WHTX	**Lake Whitney,**	**3.59**	**181**		**Pn**	**12 05 10.5**	**-0.5**
CBKS	**Cedar Bluff**	**3.73**	**330**	P	**Pn**	**12 05 13.0**	**0.0**
	baz=149						
CBKS	**Cedar Bluff**	**3.73**	**330**		**Pn**	**12 05 12.9**	**0.0**
U40A	**Yellville**	**3.75**	**77**	P	**Pn**	**12 05 12.9**	**-0.2**
	baz=260						
U40A	**Yellville**	**3.75**	**77**		**Pn**	**12 05 12.8**	**-0.4**
X40A	**Basin Creek Fa**	**3.89**	**105**		**Pn**	**12 05 15.7**	**+0.7**
WLAR	**White Oak Lake**	**4.00**	**117**	Pn	**Pn**	**12 05 17.1**	**+0.6**
WHAR	**Wooly Hollow**	**4.16**	**93**	Pn	**Pn**	**12 05 18.6**	**-0.2**
WHAR					**Sn**	**12 06 07.6**	**-0.3**
W41B	**Gary Mavity, V**	**4.21**	**94**	P	**Pn**	**12 05 19.5**	**0.0**
W41B	baz=277			S	**Sn**	**12 06 08.7**	**-0.3**
W41B	**Gary Mavity, V**	**4.21**	**94**	Pn	**Pn**	**12 05 19.5**	**0.0**
FCAR	**Ozark Folk Cen**	**4.28**	**85**		**Pn**	**12 05 20.6**	**+0.2**
MGMO	**Mountain Grove**	**4.40**	**68**	Pn	**Pn**	**12 05 23.1**	**+0.9**
MSTX	**Muleshoe**	**4.73**	**251**		**Pn**	**12 05 27.3**	**+0.6**
T25A	**Trinidad**	**5.88**	**287**	Pn	**Pn**	**12 05 42.2**	**-0.5**
SDCO	**Great Sand Dun**	**6.87**	**291**		**Pn**	**12 05 56.8**	**+0.5**
ISCO	**Idaho Springs**	**7.76**	**305**		**Pn**	**12 06 09.0**	**+0.4**

IDC ***02*** *12:14:58.1±1.8, 2°.04N×127°.25E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/41, mbtmp3.7/4, Error ellipse: s-maj=165.0km s-min=20.5km az=67.0*
ISCJB ***02*** *12:15:03.4±0.8, 1°.6N±0°.1×126°.4E±0°.1, h35km, mb3.7/4, Error ellipse: s-maj=19.4km s-min=8.8km az=42.5*
DJA ***02*** *12:15:04.8±1.5, 2°.N±4°.×12°.6E±°, h37km±31km, M3.5/7, MLv3.5/7*
ISC 02 12:15:04.8±1.1, 1°.56N±0°.09×126°.39E±0°.09, h35km, n7, σ0ˢ88/8, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**129**	P	**Pn**	**12 15 25.9**	**+0.1**
TNTI				S	**Sn**	**12 15 42.0**	**+0.6**
SGSI	**Sangihe**	**2.28**	**338**	P	**Pn**	**12 15 40.8**	**+0.8**
KMSI	**Cibinong**	**2.60**	**248**	P	**Pn**	**12 15 44.7**	**+0.4**
WRA	**Warramunga Arr**	**22.75**	**160**	P	**P**	**12 20 04.0**	**-0.1**
	0.6nm,0.5s,baz=342,slow=12,SNR=23						
ASAR	**Alice Springs**	**26.12**	**164**	P	**P**	**12 20 36.4**	**+0.7**
	0.4nm,0.5s,baz=345,slow=7.9,SNR=21						
MKAR	**Makanchi Array**	**59.15**	**326**	P	**P**	**12 25 01.5**	**-0.6**
	0.3nm,0.4s,baz=120,slow=7.3,SNR=7.1						
KURBB	**Kurchatov Arra**	**63.38**	**328**	P	**P**	**12 25 29.3**	**-1.4**
	0.9nm,0.2s,baz=120,slow=6.3,SNR=3.1						

IDC ***02*** *12:21:35.6±1.6, 0°.21N×92°.12E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.5/46, mbtmp3.7/8, ML4.1/2, Error ellipse: s-maj=45.8km s-min=21.0km az=51.0*
ISCJB ***02*** *12:21:38.5±1.1, 0°.3N±0°.2×92°.2E±0°.1, h33km, mb3.6/5, Error ellipse: s-maj=23.7km s-min=14.1km az=29.5*
ISC 02 12:21:41.3±1.3, 0°.4N±0°.2×92°.29E±0°.09, h35km, n9, σ1ˢ77/10, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.04**	**70**	Pn	**Pn**	**12 23 23.1**	**+1.0**
	1.3nm,0.3s,baz=299,slow=14,SNR=5.1						
PSI				Sn	**Sn**	**12 24 37.8**	**-3.2**
	1.2nm,0.3s,baz=332,slow=17,SNR=2.9						
PALK	**Pallekele**	**13.41**	**301**	Pn	**Pn**	**12 24 47.2**	**-2.2**
	2.2nm,0.3s,baz=115,slow=12,SNR=11						
PALK				Sn	Sn	12 27 02.9	-14
	1.8nm,0.3s,baz=294,slow=10.0,SNR=7.8						
CMAR	**Chiang Mai Arr**	**19.08**	**20**	P	**Pn**	**12 26 03.5**	**+1.5**
	baz=198,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**45.88**	**119**	P	**P**	**12 30 00.6**	**-0.2**
	1.1nm,0.6s,baz=295,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**46.95**	**124**	P	**P**	**12 30 09.2**	**0.0**
	0.2nm,0.5s,baz=295,slow=8.0,SNR=4.1						
MKAR	**Makanchi Array**	**47.01**	**351**	P	**P**	**12 30 10.2**	**+1.0**
	0.1nm,0.5s,baz=159,slow=8.5,SNR=2.5						
SONM	**Songino Array**	**48.79**	**13**	P	**P**	**12 30 23.1**	**0.0**
	0.2nm,0.4s,baz=197,slow=7.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**51.37**	**349**	P	**P**	**12 30 43.9**	**+1.4**
	0.7nm,0.3s,baz=195,slow=6.3,SNR=3.5						
TXAR	**Lajitas Array**	**146.72**	**26**	PKPbc	**PKPdf**	**12 41 19.4**	**+0.6**
	0.1nm,0.4s,baz=202,slow=0.7,SNR=4.4						

JMA ***02*** *12:30:40.0±0.2, 43°.94N×147°.86E, h0km, M3.8*
SKHL ***02*** *12:30:40.4±0.9, 44°.25N×148°.19E, h62km±7km, mb4.4/5*
ISC 02 12:30:35.3±2.6, 44°.18N±0°.08×148°.1E±0°.1, h1km±14km, n15, σ1ˢ41/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.07**	**350**	*i* P	**Pn**	**12 30 57.8**	**+0.4**
KUR				AMB	AMB	12 30 58.1	
	188nm,0.2s						
KUR				*i* S	**Sg**	**12 31 10.1**	**+0.5**
KUR				A	A	12 31 10.8	
	482nm,0.2s						
KUR				A	A	12 31 10.8	
	565nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.64**	**266**	*i* P	**Pb**	**12 31 06.7**	**+0.3**
YUK				AMB	AMB	12 31 08.2	
	99nm,0.2s						
YUK				*i* S	**Sb**	**12 31 27.3**	**-0.3**
YUK				A	A	12 31 30.2	
	170nm,0.2s						
YUK				A	A	12 31 30.2	
	367nm,0.2s						
LAGR	**Lagunnoye**	**1.70**	**266**	*e* P	**Pg**	**12 31 07.9**	**+0.1**
LAGR				AMB	AMB	12 31 08.8	
	55nm,0.2s						
LAGR				*e* S	**Sn**	**12 31 27.7**	**-0.7**
LAGR				A	A	12 31 32.3	
	136nm,0.2s						
LAGR				A	A	12 31 32.3	
	628nm,0.2s						
GRPR	**Tuman**	**1.71**	**264**	*e* P	**Pg**	**12 31 08.2**	**+0.1**
GRPR				AMB	AMB	12 31 09.0	
	72nm,0.2s						
GRPR				*e* S	**Sb**	**12 31 29.1**	**-0.5**
GRPR				A	A	12 31 31.1	
	411nm,0.3s						
GRPR				A	A	12 31 31.1	
	345nm,0.3s						
NEM2	**Nemuro 2**	**1.92**	**246**	P	**Pb**	**12 31 10.2**	**-0.8**
NEM2				*e* S	**Sn**	**12 31 32.1**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.92**	**246**	*i* P	**Pb**	**12 31 10.3**	**-0.8**
NMR				*i* S	**Sn**	**12 31 33.0**	**-1.0**
GLVR	**Golovnino**	**1.94**	**258**	*e* P	**Pb**	**12 31 11.1**	**-0.3**
GLVR				AMB	AMB	12 31 11.5	
	66nm,0.3s						
GLVR				*e* S	**Sb**	**12 31 34.4**	**-1.7**
GLVR				A	A	12 31 37.3	
	275nm,0.4s				

GO04	Tololo Observa	0.89	68	*i* P		Pg	13 04 49.6	+0.1
GO04				*e*S		Sg	13 05 00.8	-0.3
CO02	Combarbal	0.95	137	⇑*i*P		Pg	13 04 50.5	-0.1
CO02				*e*S		Sg	13 05 01.5	-1.4
CO02				IAML			13 05 02.0	
	comp=E,22μm,0.1s							
LCO	Las Campanas	1.75	32	⇓*i*P		Pn	13 05 03.3	+0.1
LCO				*i* S		Sn	13 05 24.4	-1.4
LCO				IAML			13 05 26.2	
	comp=N,913nm,0.2s							
LCO	Las Campanas	1.75	32	⇑*i*P		Pn	13 05 03.4	+0.2
AROD	Rodeo	2.00	81	*i* P		Pn	13 05 07.0	+0.3
AROD				*e*S		Sn	13 05 30.8	-1.3
ACDV	Cuesta del Vie	2.31	82	⇑*i*P		Pn	13 05 11.4	+0.8
ACDV				IAML			13 05 40.4	
	comp=Z,330nm,0.4s							
ACCO	Cerro Coronel	2.32	93	*i* P		Pn	13 05 11.9	+0.8
RTLS	Leoncito	2.47	122	*i* P		Pn	13 05 14.1	+1.0
RTLS				IAML			13 05 46.7	
	comp=Z,386nm,0.3s							
ROCH	El Roble	2.53	166	*e*P		Pn	13 05 13.5	-0.4
ROCH				*e*S		Sn	13 05 44.2	-0.8
PEL	Peldehue	2.78	161	*e*P		Pn	13 05 18.2	+1.2
PEL				*e*S		Sn	13 05 49.0	-1.9
PEL				IAML			13 06 02.4	
	comp=E,269nm,0.2s							
PEL	Peldehue	2.78	161	*i* P		Pn	13 05 18.4	+1.3
AMOG	MOGNA	2.84	99	*i* P		Pn	13 05 18.8	+0.8
RTLL	Cerro Villicun	2.94	107	*i* P		Pn	13 05 19.1	-0.2
RTCV	Cerro Valdivia	3.07	117	⇓*i*P		Pn	13 05 21.8	+0.7
FCH	Farellones	3.07	156	*e*P		Pn	13 05 22.1	+0.7
FCH				*e*S		Sn	13 05 58.1	-0.4
FCH				IAML			13 06 12.0	
	comp=E,148nm,0.2s							
GO03	Copiap	3.20	25	*i* P		Pn	13 05 23.3	+0.4
ASAL	Salagasta	3.24	130	*i* P		Pn	13 05 25.3	+1.8
AAGR	Agrelo	3.58	137	⇓*i*P		Pn	13 05 30.0	+1.9

NIED ***02*** *13:25:00, 37.°50N×144.°30E, h8km, Mw3.8 Best double couple: M0:5.58000×10^14 NP1:ϕs:13.00000°, δ23.00000°, λ-87.00000°. NP2:ϕs:190.00000°, δ67.00000°, λ-91.00000°.*
IDC ***02*** *13:25:25.3±1.0, 37.°34N×144.°83E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/47, mbtmp3.8/11, ML3.2/4, MS2.7/2, Ms1 2.7/2, ms1mx2.4/37, Error ellipse: s-maj=27.9km s-min=19.2km az=84.0*
ISCJB ***02*** *13:25:29.2±0.7, 37.°55N±0.°04×144.°45E±0.°05, h33km, mb3.7/7, Error ellipse: s-maj=6.1km s-min=5.3km az=143.2*
JMA ***02*** *13:25:30.4±0.2, 37.°52N×144.°35E, h46km, M4.0*
ISC 02 13:25:31.1±1.0, 37.°52N±0.°06×144.°54E±0.°07, h35km, n36, σ2º43/46, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.55	289	P	Pn	13 26 08.7	-1.2
JIKH				S	Sn	13 26 37.1	-2.7
JIO	Ouri	2.69	291	P	Pn	13 26 10.6	-1.2
JIO				S	Sn	13 26 40.9	-2.1
JKMT	Kesennumamotoy	2.74	299	P	Pn	13 26 11.4	-1.1
JKMT				S	Sn	13 26 41.8	-2.5
OFUJ	Ofunato	2.74	305	P	Pn	13 26 11.4	-1.1
OFUJ				S	Sn	13 26 41.9	-2.5
JMK	Ichinoseki	2.98	300	P	Pn	13 26 15.0	-0.8
JMK				S	Sn	13 26 48.1	-2.1
JOM	Ohasama	3.21	308	P	Pn	13 26 18.3	-0.6
JOM				S	Sn	13 26 53.9	-2.0
JFT	Otama	3.34	271	P	Pn	13 26 20.3	-0.5
JFT				*e*S	Sn	13 26 56.4	-2.9
JYK	Kaneyama	3.57	294	P	Pn	13 26 23.7	-0.3
JYK				S	Sn	13 27 03.7	-1.3
JOT	Ohata	4.71	326	P	Pn	13 26 39.5	0.0
JOT				S	Sn	13 27 32.4	-0.4
JRY	Ryogami san	4.77	253	P	Pn	13 26 38.6	-1.8
JRY				S	Sn	13 27 29.3	-5.2
JOD2	Odawara 2	4.94	244	S	Sn	13 27 33.2	-5.5
JKB	Kayabe	5.13	329	P	Pn	13 26 45.9	+0.6
JKB				S	Sn	13 27 39.9	-3.3
MJAR	Matsushiro Arr	5.16	261	Pn	Pn	13 26 45.6	-0.2
	0.8nm,0.3s,baz=90,slow=15,SNR=100						
MJAR				Sn	Sn	13 27 42.7	-1.3
	0.3nm,0.3s,baz=98,slow=26,SNR=6.4						
MJAR				LR	LR	13 29 26.3	
	comp=Z,55nm,19.7s,baz=75,slow=45						
MAT	Matsushiro	5.16	261	P	Pn	13 26 45.6	-0.2
MAT				S	Sn	13 27 42.7	-1.4
JCH	Churui	5.16	350	P	Pn	13 26 44.8	-1.0
JCH				S	Sn	13 27 40.2	-3.9
NEM2	Nemuro 2	5.91	9	P	Pn	13 26 53.1	-2.9
NEM2				S	Sn	13 27 55.9	-6.5
JOSM	Okushiri--Mats	5.99	321	P	Pn	13 26 58.4	+1.2
JTKR	Abashiri--Toko	6.46	356	P	Pn	13 27 02.7	-0.9
JTKR				*e*S	Sn	13 28 10.9	-5.1
JHR	Hokuryu	6.57	342	S	Sn	13 28 19.0	+0.2
ASAJ	Asahikawa	6.75	348	Pn	Pn	13 27 07.8	+0.2
	0.9nm,0.3s,baz=334,slow=33,SNR=18						
ASAJ				Sn	Sn	13 28 22.5	-0.7
	1.0nm,0.3s,baz=73,slow=20,SNR=3.3						
JCJ	Chichijima	10.59	191	Sn	Sn	13 29 44.8	-13
	2.3nm,0.3s,baz=282,slow=19,SNR=3.3						
USRK	Ussuriysk Ar.	11.60	309	Pn	Pn	13 28 16.1	+2.0
	baz=123,slow=14,SNR=5.4						
KSRS	Korea Array	13.20	275	Pn	Pn	13 28 38.6	+2.7
	0.2nm,0.3s,baz=81,slow=14,SNR=4.0						
KSRS				LR	LR	13 33 25.8	
	comp=Z,38nm,18.4s,baz=52,slow=36						
H11N2	WAKE ISLAND Hy	26.34	126	T	T	13 58 26.7	
	baz=317,slow=74,SNR=41						
H11N1	WAKE ISLAND Hy	26.35	126	T	T	13 58 26.4	
	baz=317,slow=74,SNR=22						
H11N3	WAKE ISLAND Hy	26.36	126	T	T	13 58 28.0	
	baz=317,slow=74,SNR=31						
H11S1	WAKE ISLAND Hy	27.11	128	T	T	13 59 19.9	
	baz=318,slow=76,SNR=3.5						
H11S3	WAKE ISLAND Hy	27.12	128	T	T	13 59 20.4	
	baz=318,slow=76,SNR=3.7						
H11S2	WAKE ISLAND Hy	27.13	128	T	T	13 59 22.4	
	baz=318,slow=76,SNR=3.4						
SONM	Songino Array	29.60	303	P	P	13 31 36.2	+3.3
	0.4nm,0.6s,baz=89,slow=8.9,SNR=2.4						
MKAR	Makanchi Array	45.97	302	P	P	13 33 52.2	+1.6
	0.3nm,0.5s,baz=79,slow=9.0,SNR=3.5						
ILAR	Eielson Array	47.74	33	P	P	13 34 04.8	+0.6
	0.5nm,0.7s,baz=260,slow=6.8,SNR=6.2						
WRA	Warramunga Arr	57.96	191	P	P	13 35 18.4	-1.6
	1.1nm,0.5s,baz=11,slow=7.2,SNR=12						
ASAR	Alice Springs	61.68	191	P	P	13 35 44.2	-1.4
	1.0nm,0.8s,baz=7.0,slow=6.8,SNR=8.3						
FINES	FINESS Array B	69.52	333	P	P	13 36 36.9	+1.1
	1.1nm,0.8s,baz=26,slow=9.8,SNR=2.2						
NOA	NORSAR Array B	74.67	338	P	P	13 37 06.6	0.0
	0.8nm,0.8s,baz=38,slow=5.9,SNR=3.2						

IDC 02 13:26:11.4±1.5, 26.°84N×143.°07E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.5/41, mbtmp4.1/3, MS3.4/2, Ms1 3.3/2, ms1mx2.5/39, Error ellipse: s-maj=30.1km s-min=26.5km az=59.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	0.83	288	Pn	Pn	13 26 30.1	-0.2
	39nm,0.3s,baz=72,slow=20,SNR=442						
JCJ				Sn	Sg	13 26 37.2	-0.9
	254nm,0.3s,baz=270,slow=20,SNR=119						
PETK	Petropavlovsk-	28.42	19	P	P	13 32 06.8	-0.8
	5.4nm,1.1s,baz=240,slow=8.1,SNR=3.9						
WRA	Warramunga Arr	47.26	191	P	P	13 34 46.3	-0.2
	0.3nm,0.3s,baz=11,slow=8.5,SNR=16						
ZALV	Zalesovo Beam	50.20	319	LR	LR	13 56 43.7	
	comp=Z,39nm,18.9s,baz=54,slow=36						
FINES	FINESS Array B	78.53	334	P	P	13 38 15.2	+1.0
	2.0nm,0.9s,baz=74,slow=4.9,SNR=4.2						
ULM	Lac du Bonnet	87.23	33	LR	LR	14 20 23.5	
	comp=Z,17nm,18.8s,baz=20,slow=37						

ISCJB ***02*** *13:33:35.1±0.5, 8.°63S±0.°04×75.°74W±0.°08, h35km, mb3.8/5, MS3.3/6, Error ellipse: s-maj=10.8km s-min=5.8km az=176.6*
NEIC ***02*** *13:33:40.2±2.2, 8.°70S±0.°08×75.°56W±0.°08, h76km±14km, mb4.0/2*
IDC ***02*** *13:33:40.6±1.5, 8.°87S×75.°73W, h74km±17km, mb3.5/5, mb1 3.8/11, mb1mx3.7/31, mbtmp4.0/11, MS3.4/10, Ms1 3.4/10, ms1mx3.2/20, Error ellipse: s-maj=17.8km s-min=10.1km az=66.0*
ISC 02 13:33:37.8±0.6, 8.°70S±0.°06×75.°59W±0.°08, h35km, n55, σ1º94/42, mb3.7/5, MS3.2/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.18	299	P	Pn	13 34 27.4	+1.7
	18nm,0.3s,baz=237,slow=2.2,SNR=48						
ATAH				S	Sn	13 35 06.0	+3.3
	15nm,0.3s,baz=40,slow=16,SNR=6.2						
NNA	Nana	3.49	201	P	Pn	13 34 30.0	+0.3
	3.3nm,0.3s,baz=349,slow=8.9,SNR=4.3						
NNA				S	Sn	13 35 08.6	-1.3
	30nm,0.3s,baz=3.7,slow=16,SNR=3.1						
NNA				LR	LR	13 36 10.4	
	comp=Z,426nm,18.1s,baz=52,slow=46						
NNA	Nana	3.49	201		Pn	13 34 32.6	+2.8
PTLC	Puerto Leguiza	8.84	5	*e*P	Pn	13 35 36.3	-7.0
PTLC	Puerto Leguiza	8.84	5	*e*P	Pn	13 35 36.3	-7.0
OTAV	Otavalo	9.32	342	*e*P	Pn	13 35 49.4	-0.8
OTAV	Otavalo	9.32	342	*e*P	Pn	13 35 49.4	-0.8
OTAV	Otavalo	9.32	342		Pn	13 35 49.8	-0.4
FLOC	Florencia	10.21	360	*e*P	Pn	13 35 59.8	-2.2
FLOC	Florencia	10.21	360	*e*P	Pn	13 35 59.8	-2.2
LPAZ	La Paz	10.48	137	P	Pn	13 36 08.1	+1.8
	0.1nm,0.3s,baz=331,slow=9.9,SNR=8.0						
BBAC	Balboa, Cauca	10.77	351	*e*P	Pn	13 36 05.8	-4.2
BBAC	Balboa, Cauca	10.77	351	*e*P	Pn	13 36 05.8	-4.2
SOTA	Rioblanco	10.81	355	*e*P	Pn	13 36 08.8	-1.8
SOTA	Rioblanco	10.81	355	*e*P	Pn	13 36 08.8	-1.8
MACC	Macarena, Meta	10.91	9	*e*P	Pn	13 36 09.2	-2.4
MACC	Macarena, Meta	10.91	9	*e*P	Pn	13 36 09.2	-2.4
SAML	Samuel	12.27	92		Pn	13 36 31.4	+1.3
ORTC	Ortega, Tolima	12.53	2	*e*P	Pn	13 36 31.8	-1.9
ORTC	Ortega, Tolima	12.53	2	*e*P	Pn	13 36 31.8	-1.9
YOTC	Yotoco, Valle	12.62	357	*e*P	Pn	13 36 35.9	+0.8
YOTC	Yotoco, Valle	12.62	357	*e*P	Pn	13 36 35.9	+0.8
VILC	Villavicencio,	12.86	9	*e*P	Pn	13 36 36.0	-2.4
VILC	Villavicencio,	12.86	9	*e*P	Pn	13 36 36.0	-2.4
ROSC	El Rosal	13.51	5	P	P	13 36 55.5	-0.7
	1.1nm,0.3s,baz=198,slow=20,SNR=3.5						
ROSC	El Rosal	13.51	5	Pn	Pn	13 36 45.2	-2.2
NORC	Norcasia	14.18	3	*e*P	Pn	13 36 57.2	+0.8
NORC	Norcasia	14.18	3	*e*P	Pn	13 36 57.2	+0.8
CBOC	Ciudad Bolivar	14.47	358	*e*P	Pn	13 37 04.0	+3.6
CBOC	Ciudad Bolivar	14.47	358	*e*P	Pn	13 37 04.0	+3.6
RUSC	La Rusia	14.71	10	*e*P	Pn	13 37 02.8	-1.1
RUSC	La Rusia	14.71	10	*e*P	Pn	13 37 02.8	-1.1
LVC	Limon Verde	15.25	156	P	P	13 37 15.7	+0.2
	0.5nm,0.3s,baz=304,slow=7.2,SNR=7.4						
LVC				LR	LR	13 43 20.5	
	comp=Z,205nm,19.2s,baz=332,slow=38						
LVC	Limon Verde	15.25	156	P	Pn	13 37 13.6	+2.6
LVC				IAmb	IAmb	13 37 22.2	
	comp=Z,18nm,1.1s						
SIV	San Ignacio	15.92	118	P	Pn	13 37 19.5	+0.1
	comp=Z,0.5nm,0.3s,baz=302,slow=12,SNR=39						
SIV				LR	LR	13 43 29.8	
	comp=Z,128nm,18.5s,baz=286,slow=37						
PTGA	Pitinga	17.46	64	P	Pn	13 37 41.2	+2.4
	comp=Z,0.5nm,0.3s,baz=306,slow=19,SNR=3.8						
PTGA				LR	LR	13 44 32.8	
	comp=Z,81nm,18.3s,baz=172,slow=37						
SDV	Santo Domingo	18.15	16	P	P	13 37 50.7	+3.2
	comp=Z,0.5nm,0.3s,baz=103,slow=4.4,SNR=6.0						
SDV	Santo Domingo	18.15	16	P	Pn	13 37 47.0	-0.4
SDV				IAmb	IAmb	13 37 58.6	
	comp=Z,5.6nm,0.9s						
JTS	Las Juntas de	21.04	334	LR	LR	13 45 50.5	
	comp=Z,50nm,21.5s,baz=210,slow=34						
PCRV	Puerto La Cruz	21.69	30	P	P	13 38 28.5	+2.7
	comp=Z,7.3nm,0.6s,baz=261,slow=2.4,SNR=4.7						
PLCV	Puerto La Cruz	21.70	31	P	P	13 38 28.5	+2.6
CPUP	Villa Florida	24.66	138	LR	LR	13 50 26.3	
	comp=Z,78nm,21.1s,baz=332,slow=41						
MDP	Montagnes des	26.68	60	LR	LR	13 49 15.1	
	comp=Z,52nm,20.9s,baz=335,slow=35						
APG	El Apazote	27.78	328	LR	LR	13 49 21.4	
	comp=Z,63nm,20.4s,baz=163,slow=34						
BDFB	Brasilia	27.81	107	LR	LR	13 51 29.2	
	comp=Z,159nm,21.0s,baz=278,slow=38						
TXAR	Lajitas Array	46.49	325	P	P	13 42 00.5	-1.5
	comp=Z,0.3nm,0.6s,baz=143,slow=9.1,SNR=2.5						
ACSO	Alum Creek Sta	49.16	353		pP	13 42 43.0	+10
NVAR	Mina Array Bea	61.47	323	P	P	13 43 50.0	-1.4
	comp=Z,0.3nm,0.5s,baz=147,slow=6.1,SNR=5.0						
TORD	Torodi Ar. Bea	79.75	75	P	P	13 45 42.3	-0.7
	comp=Z,1.0nm,0.8s,baz=263,slow=3.6,SNR=4.7						
TORD				LR	LR	14 20 01.7	
	comp=Z,46nm,18.9s,baz=315,slow=35						
ILAR	Eielson Array	89.99	336	P	P	13 46 31.5	-1.8
	comp=Z,0.4nm,0.9s,baz=114,slow=4.4,SNR=4.9						
ZALV	Zalesovo Beam	132.20	16	PKP	PKPdf	13 52 47.1	-0.9
	comp=Z,0.5nm,0.4s,baz=286,slow=1.0,SNR=3.7						
ASAR	Alice Springs	136.81	221	PKP	PKPdf	13 52 55.2	-2.4
	comp=Z,0.5nm,0.8s,baz=144,slow=2.2,SNR=5.2						
MKAR	Makanchi Array	137.60	23	PKhKP	PKPpre	13 52 51.4	
	comp=Z,0.1nm,0.5s,baz=46,slow=4.2,SNR=3.2						
WRA	Warramunga Arr	139.03	226	PKP	PKPdf	13 52 59.8	-1.9
	comp=Z,0.6nm,0.8s,baz=124,slow=1.9,SNR=5.2						
KSRS	Korea Array	144.33	327	PKP	PKPab	13 53 08.1	-0.6
	comp=Z,0.5nm,0.3s,baz=51,slow=2.2,SNR=3.9						

ISCJB ***02*** *14:07:09.5±0.4, 54.°10N±0.°08×153.°5E±0.°1, h650km, mb3.2/9, Error ellipse: s-maj=10.9km s-min=7.8km az=6.1*
MOS ***02*** *14:07:09.6±1.0, 54.°24N×153.°13E, h632km, mb4.1/1, Error ellipse: s-maj=16.6km s-min=13.7km az=85.5*
IDC ***02*** *14:07:10.7±0.8, 54.°28N×153.°05E, h623km±13km, mb2.7/9, mb1 2.9/13, mb1mx2.7/39, mbtmp3.7/13, Error ellipse: s-maj=20.7km s-min=14.2km az=144.0*
KRSC ***02*** *14:07:11.5±2.2, 54.°11N×153.°21E, h602km±37km, ML4.4*
ISC 02 14:07:10.5±0.7, 53.°88N±0.°09×153.°57E±0.°08, h650km, n51, σ2º27/64, mb3.1/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.35	113	*e*P	P	14 08 30.5	-0.2
APC	Apacha	2.35	113	P	P	14 08 30.5	-0.2
PETK	Petropavlovsk-	2.59	106	P	P	14 08 31.4	-0.4
	0.9nm,0.3s,baz=299,slow=1.8,SNR=31						
PETK				S	S	14 09 38.0	-0.2
	baz=300,slow=12,SNR=2.0						
GNL	Ganaly	2.60	92	*e*P	P	14 08 31.9	0.0
GNL	Ganaly	2.60	92	P	P	14 08 31.9	0.0
KRX	Arik	3.07	98	*e*P	P	14 08 34.1	-0.2
KRX	Arik	3.07	98	P	P	14 08 34.1	-0.2
MTVR	Mutnovka	3.11	115	*e*P	P	14 08 34.9	+0.4
MTVR	Mutnovka	3.11	115	P	P	14 08 34.9	+0.4
PAU	Pauzhetka	3.12	139	*e*P	P	14 08 34.9	+0.5
PAU	Pauzhetka	3.12	139	P	P	14 08 34.9	+0.5
AVH	Avacha	3.15	99	*e*P	P	14 08 35.2	+0.6
AVH	Avacha	3.15	99	P	P	14 08 35.2	+0.6
PET	Petropavlovsk	3.16	104	*e*P	P	14 08 35.4	+0.9
PET	Petropavlovsk	3.16	104	P	P	14 08 35.4	+0.9
DALK	Dalny	3.22	103	*e*P	P	14 08 34.5	-0.3
DALK				*e*S	S	14 09 40.7	-3.1
DALK	Dalny	3.22	103	P	P	14 08 34.5	-0.3
DALK				S	S	14 09 40.7	-3.1
SDLR	Sedlovina	3.23	99	*e*P	P	14 08 35.4	+0.3
SDLR	Sedlovina	3.23	99	P	P	14 08 35.4	+0.3
RUS	Russkaya	3.31	114	*e*P	P	14 08 34.7	-0.7
RUS				*e*S	S	14 09 40.9	-3.9
RUS	Russkaya	3.31	114	P	P	14 08 34.7	-0.7
RUS				S	S	14 09 40.9	-3.9
KDTR	Khodutka, Kamc	3.43	125	*e*P	P	14 08 34.7	-1.4
KDTR				*e*S	S	14 09 40.9	-5.1
KDTR	Khodutka, Kamc	3.43	125	P	P	14 08 34.7	-1.4
KDTR				S	S	14 09 40.9	-5.1
NLC	Nalytchevo	3.52	99	*e*S	S	14 09 43.3	-3.7
SKR	Severo-Kuril's	3.57	153	*e*P	P	14 08 37.5	+0.6
SKR	Severo-Kuril's	3.57	153	P	P	14 08 37.5	+0.6
ESO	Esso	3.60	53	*e*P	P	14 08 36.4	-0.6
ESO	Esso	3.60	53	P	P	14 08 36.4	-0.6
SPN	Mys Shipunski	3.94	99	*e*P	P	14 08 37.7	-1.4
SPN				*e*S	S	14 09 46.2	-5.4
SPN	Mys Shipunski	3.94	99	P	P	14 08 37.7	-1.4
SPN				S	S	14 09 46.2	-5.4
SRDR	Sredinnyy	4.29	53	*e*P	P	14 08 40.6	-0.8
SRDR	Sredinnyy	4.29	53	P	P	14 08 40.6	-0.8
MKZ	Mys Kozlova	4.84	79	*e*P	P	14 08 44.2	-0.9
MKZ				*e*S	S	14 09 57.7	-5.0
MKZ	Mys Kozlova	4.84	79	P	P	14 08 44.2	-0.9
MKZ				S	S	14 09 57.7	-5.0
KBTR	Krutoberegovo	5.81	63	*e*P	P	14 08 51.1	-1.4
KBTR	Krutoberegovo	5.81	63	P	P	14 08 51.1	-1.4
BKI	Bering	7.34	75	*e*P	P	14 09 06.3	+0.9
BKI				*e*S	S	14 10 42.1	+2.4
BKI	Bering	7.34	75	P	P	14 09 06.3	+0.9
BKI				S	S	14 10 42.1	+2.4
SEY	Seymchan	9.10	357	P	P	14 09 17.2	-4.1
	0.3nm,0.3s,baz=178,slow=22,SNR=5.6						
KLR	Kul'dur	14.33	260	P	P	14 10 10.1	-0.3
	1.0nm,0.3s,baz=67,slow=8.4,SNR=18						
USRK	Ussuriysk Ar.	17.08	244	P	P	14 10 36.5	+0.8
	baz=73,slow=5.4,SNR=5.7						
KSRS	Korea Array	24.11	237	P	P	14 11 40.4	+1.9
	1.2nm,0.7s,baz=37,slow=8.4,SNR=6.3						
ILAR	Eielson Array	31.05	46	P	P	14 12 39.5	+1.4
	0.3nm,0.6s,baz=279,slow=11,SNR=7.7						
MKAR	Makanchi Array	44.26	291	P	P	14 14 23.7	-1.0
	0.4nm,0.5s,baz=57,slow=7.4,SNR=7.3						
YKA	Yellowknife Ar	45.17	41	P	P	14 14 32.8	+1.5
	0.9nm,0.6s,baz=307,slow=7.6,SNR=3.7						
ARCES	ARCESS Array B	51.24	339	P	P	14 15 14.4	-1.5
	2.2nm,0.8s,baz=41,slow=8.4,SNR=6.4						
FINES	FINESS Array B	57.75	333	P	P	14 15 59.6	-1.6
	1.0nm,0.4s,baz=30,slow=6.6,SNR=12						
NB2	NORSAR Subarra	61.58	340	P	P	14 16 25.3	-1.2
	comp=Z,0.4nm,0.5s,baz=24,slow=6.5						
NOA	NORSAR Array B	61.58	340	P	P	14 16 25.2	-1.3
	comp=Z,0.6nm,0.6s,baz=24,slow=7.9,SNR=4.2						
TXAR	Lajitas Array	73.83	62	P	P	14 17 44.5	+3.4
	comp=Z,0.3nm,0.6s,baz=293,slow=4.6,SNR=3.7						
WRA	Warramunga Arr	75.37	199	P	P	14 17 52.7	+3.2
	comp=Z,0.4nm,0.9s,baz=6.2,slow=4.4,SNR=3.1						

ISCJB ***02*** *14:17:05.0±0.7, 21.°00S±0.°03×68.°9W±0.°1, h124km±9km, mb3.3/1, Error ellipse: s-maj=16.9km s-min=4.7km az=2.1*
GUC ***02*** *14:17:05.2±0.7, 21.°00S×68.°78W, h108km±5km, ML3.3*
IDC ***02*** *14:17:06.5±1.3, 21.°16S×68.°19W, h113km±18km, mb3.3/1, mb1 3.4/3, mb1mx3.1/30, mbtmp3.7/3, Error ellipse: s-maj=50.9km s-min=17.0km az=112.0*
ISC 02 14:17:05.3±1.0, 20.°99S±0.°04×68.°78W±0.°09, h112km±10km, n19, σ1º09/33, 5C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.66	265	⇓*i*P	Pn	14 17 23.3	-0.4
PB01				*i* S	Sn	14 17 36.9	-0.6
PB01				IAML		14 17 38.0	
	comp=N,750nm,0.2s						
PB09	IPOC Station P	0.91	208	⇑*i*P	Pn	14 17 26.2	+0.2
PB08	IPOC Station P	0.91	338	⇓*i*P	Pn	14 17 26.6	+0.4
PB08				*e*S	Sn	14 17 42.5	+0.5
PB02	IPOC Station P	1.09	252	⇑*i*P	Pn	14 17 27.8	0.0
PB02				*i* S	Sn	14 17 44.9	+0.2
PB02				IAML		14 17 48.5	
	comp=E,2μm,0.3s						
PB07	IPOC Station P	1.26	234	⇑*i*P	Pn	14 17 29.5	-0.2
PB07				*e*S	Sn	14 17 48.9	+0.7
PB07				IAML		14 17 54.8	
	comp=E,565nm,0.4s						
GO01	Chusmiza	1.37	344	*e*P	Pn	14 17 31.7	+0.5
GO01				*e*S	Sn	14 17 52.0	+1.1
GO01				IAML		14 17 54.9	
	comp=E,457nm,0.1s						
PB03	IPOC Station P	1.39	220	⇑*i*P	Pn	14 17 30.9	-0.2
PB03				*e*S	Sn	14 17 50.8	+0.1
PB03				IAML		14 17 53.2	
	comp=E,383nm,0.1s						
PB11	IPOC Station P	1.47	326	*e*P	Pn	14 17 32.4	+0.3
PB11				*i* S	Sn	14 17 53.2	+0.8
PB11				IAML		14 17 54.9	
	comp=E,284nm,0.2s						
LVC	Limon Verde	1.62	184	*e*P	Pn	14 17 34.5	+0.5
LVC				*e*S	Sn	14 17 56.6	+0.7
LVC	Limon Verde	1.62	184	P	Pn	14 17 34.5	+0.5
	comp=E,15nm,0.3s,baz=33,slow=11,SNR=171						
LVC				S	Sn	14 17 56.6	+0.7
	comp=E,33nm,0.3s,baz=112,slow=20,SNR=27						
PB04	IPOC Station P	1.85	223	*e*P	Pn	14 17 36.9	+0.3
PB04				*e*S	Sn	14 18 01.7	+1.1
PB04				IAML		14 18 10.9	
	comp=N,530nm,0.2s						
PB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	baz=190			S	Sn	14 20 39.5	-0.6
AMTX	**Amarillo**	3.58	260		Pn	14 19 59.9	+1.4
WHTX	**Lake Whitney,** baz=0.8	3.61	181	P	Pn	14 19 58.8	+0.1
WHTX	baz=0.8			Sb	Sb	14 20 52.4	+1.9
WHTX	**Lake Whitney,**	3.61	181		Pn	14 19 58.9	+0.1
CBKS	**Cedar Bluff** baz=149	3.71	330	P	Pn	14 20 00.7	+0.5
CBKS	**Cedar Bluff**	3.71	330		Pn	14 20 00.7	+0.5
U40A	**Yellville** baz=260	3.76	77	P	Pn	14 20 00.8	-0.1
U40A	**Yellville**	3.76	77		Pn	14 20 00.2	-0.6
X40A	**Basin Creek Fa** baz=288	3.90	105	P	Pn	14 20 03.7	+0.9
X40A	**Basin Creek Fa**	3.90	105		Pn	14 20 03.4	+0.6
WHAR	**Wooly Hollow**	4.18	93		Pn	14 20 06.5	-0.1
UALR	**University of**	4.22	100	Pn	Pn	14 20 07.1	-0.1
W41B	**Gary Mavity, V** baz=277	4.22	94	P	Pn	14 20 07.2	-0.1
W41B	baz=277			S	Sn	14 20 56.4	-0.5
W41B	**Gary Mavity, V**	4.22	94		Pn	14 20 07.3	0.0
FCAR	**Ozark Folk Cen**	4.29	85		Pn	14 20 08.0	-0.2
MGMO	**Mountain Grove**	4.41	68		Pn	14 20 09.9	+0.1
Z41A	**Richland Creek** baz=303	4.46	120	S	Sn	14 21 01.9	-0.7
Z41A	**Richland Creek**	4.46	120		Pn	14 20 11.1	+0.7
MSTX	**Muleshoe**	4.72	251		Pn	14 20 14.6	+0.5
LCAR	**Lake Charles**	5.09	83		Pn	14 20 17.7	-1.4
KSCO	**Kaye Shedlock'**	5.38	311		Pn	14 20 23.2	-0.1
X43A	**Marvell** baz=283	5.45	100	P	Pn	14 20 24.4	+0.4
X43A	**Marvell**	5.45	100	Pn	Pn	14 20 24.4	+0.4
CCM	**Cathedral Cave**	5.50	62	Pn	Pn	14 20 23.9	-1.0
BGNE	**Belgrade**	5.82	354		Pg	14 20 54.0	0.0
T25A	**Trinidad**	5.87	287		Pn	14 20 29.8	-0.2
PVMO	**Portageville**	6.29	80	Pn	Pn	14 20 35.5	-0.1
OGNE	**Ogallala**	6.46	327	Pn	Pn	14 20 37.7	-0.3
OXF	**Oxford**	6.64	97		Pn	14 20 39.2	-1.2
SDCO	**Great Sand Dun**	6.86	291		Pn	14 20 44.9	+1.2
Q24A	**Divide**	7.03	301	Pn	Pn	14 20 46.0	-0.1
MNTX	**Cornudas Mount**	7.72	242		Pn	14 20 55.7	+0.5
ISCO	**Idaho Springs**	7.74	305		Pn	14 20 55.5	-0.4
HDIL	**Hopedale**	8.07	50	Pn	Pn	14 20 59.9	-0.2
ECSD	**EROS Data Cent**	8.14	4	Pn	Pn	14 21 00.9	-0.1
TX31	**Lajitas Ar. Si**	8.20	222	Pg	Pg	14 21 34.3	-5.1
TX32	**Lajitas Array**	8.20	222	Pg	Pg	14 21 34.4	-5.0
PHWY	**Pilot Hill**	8.50	314	Pn	Pn	14 21 06.1	-0.2
N23A	**Red Feather La**	8.55	311	Pn	Pn	14 21 07.7	+0.9
LRAL	**Lakeview Retre**	8.97	104	Pn	Pn	14 21 12.1	-0.4
Y49A	**Blount Mountai**	9.21	98	Pn	Pn	14 21 13.8	-1.9
FPAL	**Fort Paine**	9.71	93	Pn	Pn	14 21 20.6	-2.0
P48A	**Milroy**	10.25	64	Pn	Pn	14 21 29.5	-0.5
V52A	**Sevierville**	11.22	85	Pn	Pn	14 21 42.8	-0.4

ISCJB ***02*** *14:23:24.8±0.3,23°.70N±0°.01×121°.52E±0°.01,h7km±2km,*
Error ellipse: s-maj=2.4km s-min=1.5km az=36.8
TAP ***02*** *14:23:25.3,23°.72N×121°.45E,h12km,ML3.7,B*
JMA ***02*** *14:23:25.2±0.1,23°.70N×121°.49E,h10km±3km,M3.1*
ASIES ***02*** *14:23:25.8,23°.72N×121°.44E,h17km,MW3.2*
ISC 02 14:23:25.2±0.8,23°.71N±0°.02×121°.49E±0°.02,h12km±5km,
n117,σ0s47/177,2C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu** baz=211	0.07	234	⇑*i*P	Pg	14 23 27.8	+0.2
EGFH	baz=211			S	Sg	14 23 29.3	-0.1
ESL	**Shilin** baz=352	0.12	334	P	Pg	14 23 28.3	0.0
ESL	baz=352			S	Sg	14 23 30.1	-0.3
ENLB	**Shoufeng** baz=31	0.22	28	*e*P	Pg	14 23 30.4	+0.5
HGSD	**Ruisui** baz=194	0.22	195	*e*P	Pb	14 23 31.1	-0.1
EHY	**Hungye** baz=215	0.25	217	⇑P	Pg	14 23 30.4	-0.1
EHY	baz=215			*e*S	Sg	14 23 33.7	-0.3
HWA	**Hwalien** baz=19	0.29	22	*e*P	Pb	14 23 32.1	-0.2
HWA	baz=19			*e*S	Sb	14 23 36.9	-0.2
VWDT	**VWDT** baz=278	0.32	278	P	Pg	14 23 31.9	+0.1
VWDT	baz=278			*e*S	Sg	14 23 35.8	-0.3
YULB	**Yu-li** baz=213	0.36	209	*e*P	Pg	14 23 32.2	-0.3
YULB	baz=213			*e*S	Sg	14 23 37.3	0.0
TWD	**Chiawan** baz=12	0.38	15	*e*P	Pg	14 23 33.4	+0.6
TWD	baz=12			*e*S	Sg	14 23 38.3	+0.3
TWF1	**Yuli** baz=209	0.40	206	*e*P	Pg	14 23 33.1	0.0
TWF1	baz=209			*e*S	Sg	14 23 38.7	+0.3
CHGB	**Renai** baz=330	0.45	321	⇓P	Pg	14 23 34.2	0.0
CHGB	baz=330			S	Sg	14 23 39.9	-0.4
NACB	**Ninganchiao** baz=13	0.47	12	P	Pg	14 23 34.6	+0.1
NACB	baz=13			S	Sg	14 23 40.5	-0.4
WHF	**Hehuan Shan** baz=339	0.48	335	P	Pg	14 23 34.5	-0.3
WHF	baz=339			*e*S	Sg	14 23 40.9	-0.4
ETLH	**Xiulin Townshi** baz=1.0	0.50	359	*e*P	Pg	14 23 35.1	+0.1
ETLH	baz=1.0			*e*S	Sg	14 23 41.3	-0.3
SSLB	**Suanglung** baz=279	0.50	279	⇓P	Pg	14 23 34.7	-0.3
SSLB	baz=279			S	Sg	14 23 40.7	-0.9
YUS	**Yu-Shan** baz=251	0.54	246	*e*P	Pg	14 23 36.1	+0.3
YUS	baz=251			*e*S	Sg	14 23 42.7	-0.4
WHYT	**Xinyi Township** baz=268	0.58	269	*e*P	Pg	14 23 36.6	+0.1
WHYT	baz=268			*e*S	Sg	14 23 44.0	-0.3
DPDB	**Guoxing** baz=303	0.61	302	⇓P	Pg	14 23 37.0	0.0
TYC	**Yuchr** baz=288	0.61	289	⇓P	Pg	14 23 36.8	-0.3
CHKT	**Chengkung** baz=175	0.62	191	*e*P	Pb	14 23 38.2	+0.2
TDCB	**Techi** baz=333	0.62	331	P	Pg	14 23 37.4	+0.1
TDCB	baz=333			*e*S	Sg	14 23 44.6	-0.9
ELDTW	**Lidau** baz=217	0.68	220	*e*P	Pg	14 23 38.0	-0.3
WJS	**Zhushan** baz=279	0.71	279	*e*P	Pb	14 23 39.6	+0.1
WJS	baz=279			*e*S	Sb	14 23 50.4	+1.3
NNSB	**Datong** baz=353	0.72	352	*e*P	Pg	14 23 39.1	-0.2
NNSB	baz=353			*e*S	Sg	14 23 48.2	-0.5
NNS	**Nan Shan** baz=353	0.73	352	P	Pg	14 23 39.4	-0.1
NNS	baz=353			S	Sg	14 23 48.9	-0.3
ENA	**Nanau** baz=6.0	0.75	18	*e*P	Pg	14 23 39.4	-0.4
WHP	**Taichung City** baz=320	0.75	319	*e*P	Pg	14 23 39.4	-0.4
NANB	**Nanao** baz=9.0	0.75	18	*e*P	Pg	14 23 39.8	0.0
NANB	baz=9.0			*e*S	Sg	14 23 49.6	-0.2
WNT	**Mingjian** baz=288	0.76	283	*e*P	Pb	14 23 40.8	+0.4
WNT	baz=288			*e*S	Sb	14 23 51.8	+1.1
WGK	**Gukeng** baz=268	0.85	269	*e*P	Pb	14 23 42.2	+0.3
WGK	baz=268			*e*S	Sb	14 23 54.0	+0.7
TCU	**Taichung** baz=300	0.86	301	*e*P	Pb	14 23 42.8	+0.7
STYT	**Tauyuan** baz=230	0.86	231	*e*P	Pg	14 23 41.8	-0.1
STYT	baz=230			*e*S	Sg	14 23 53.2	0.0
WDLH	**Douliu** baz=268	0.87	269	*e*P	Pb	14 23 42.4	+0.1
WDLH	baz=268			*e*S	Sn	14 23 55.1	-0.8
TPUB	**Ta-pu** baz=249	0.89	243	P	Pb	14 23 42.8	+0.2
TPUB	baz=249			*e*S	Sg	14 23 54.2	+0.3
NDT	**Datong Townshi** baz=1.0	0.89	1	P	Pg	14 23 42.6	+0.1
NDT	baz=1.0			*e*S	Sg	14 23 53.8	-0.3
CHN4	**Tsaushan** baz=246	0.90	247	*e*P	Pb	14 23 42.9	+0.2
CHN4	baz=246			*e*S	Sb	14 23 55.4	+0.7
TWQ1	**Liyutan** baz=323	0.91	314	*e*P	Pb	14 23 43.5	+0.5
TWQ1	baz=323			*e*S	Sb	14 23 55.4	+0.2
WTP	**Ta-pu** baz=246	0.93	240	P	Pg	14 23 43.1	0.0
WTP	baz=246			S	Sb	14 23 55.6	0.0
WCHH	**Zhanghua** baz=294	0.93	294	*e*P	Pb	14 23 43.8	+0.5
WCHH	baz=294			*e*S	Sn	14 23 56.8	-0.5
ENTT	**Nioudou** baz=4.0	0.93	4	*e*P	Pg	14 23 43.2	0.0
ENTT	baz=4.0			*e*S	Sg	14 23 55.0	-0.3
CHN2	**Minshiung** baz=259	0.95	259	*e*P	Pn	14 23 44.2	-0.2
CHN2	baz=259			*e*S	Sn	14 23 57.7	-0.1
TWC	**Suao** baz=10.0	0.95	20	*e*P	Pb	14 23 43.9	+0.2
YHNB	**Yeheng** baz=354	0.96	354	P	Pg	14 23 43.8	0.0
YHNB	baz=354			*e*S	Sg	14 23 55.5	-0.9
TWG	**Pinlang** baz=189	0.96	203	*e*P	Pg	14 23 43.2	-0.5
TWGBT	**Beinan** baz=190	0.96	203	*e*P	Pg	14 23 43.4	-0.4
NSY	**Sanyi** baz=318	0.97	317	*e*P	Pn	14 23 44.8	+0.1
NSY	baz=318			*e*S	Sn	14 23 58.1	-0.3
NSK	**Sanguang** baz=354	0.97	353	P	Pg	14 23 44.0	+0.1
NSK	baz=354			*e*S	Sg	14 23 55.7	-0.9
CHY	**Chiayi** baz=267	1.00	258	*e*P	Pb	14 23 44.3	-0.2
WDJ	**Dajia District** baz=320	1.00	310	*e*P	Pn	14 23 45.4	+0.3
WDJ	baz=320			*e*S	Sn	14 23 59.8	+0.6
TWK	**Hsinying** baz=243	1.02	245	*e*P	Pb	14 23 44.8	0.0
TWK	baz=243			*e*S	Sn	14 23 59.2	-0.5
NSTT	**Nanjuang** baz=336	1.02	334	*e*P	Pg	14 23 45.1	+0.3
NSTT	baz=336			*e*S	Sg	14 23 57.7	-0.5
EOS1	**EOS1** baz=24	1.02	35	*e*P	Pg	14 23 45.3	+0.4
TWE	**Neicheng** baz=10.0	1.02	9	*e*P	Pb	14 23 44.9	+0.1
TWE	baz=10.0			*e*S	Sg	14 23 58.0	-0.2
CHN1	**Nanshi** baz=250	1.02	240	*e*P	Pg	14 23 45.1	+0.2
CHN1	baz=250			*e*S	Sn	14 23 59.8	0.0
PTSB	**Yuanli** baz=317	1.03	316	*e*P	Pn	14 23 45.9	+0.4
PTSB	baz=317			*e*S	Sn	14 23 59.4	-0.4
SNST	**Tainan City** baz=240	1.03	242	*e*P	Pb	14 23 45.1	0.0
SNST	baz=240			*e*S	Sn	14 23 59.8	-0.2
SGST	**Jiashian** baz=232	1.04	233	*e*P	Pb	14 23 45.0	-0.2
SGST	baz=232			*e*S	Sn	14 23 59.9	-0.3
NMLH	**Miaoli** baz=324	1.04	322	*e*P	Pn	14 23 46.2	+0.5
NMLH	baz=324			*e*S	Sn	14 24 00.1	-0.1
SLBB	**Yuanshan** baz=20	1.05	7	*e*P	Pb	14 23 44.8	-0.6
RLNB	**Erlin** baz=280	1.05	280	*e*P	Pb	14 23 45.6	+0.2
RLNB	baz=280			*e*S	Sn	14 24 00.6	+0.2
SLGT	**Liugui** baz=216	1.05	228	*e*P	Pg	14 23 45.6	+0.2
SLGT	baz=216			*e*S	Sg	14 23 59.5	+0.3
NWLT	**Wulai** baz=1.0	1.06	1	*e*P	Pb	14 23 45.3	-0.3
NWLT	baz=1.0			*e*S	Sb	14 23 58.7	-0.8
WLGB	**Puzi** baz=258	1.11	258	*e*P	Pb	14 23 46.5	0.0
WLGB	baz=258			*e*S	Sn	14 24 01.8	-0.1
WTCT	**Ta-ch'eng** baz=276	1.12	278	*e*P	Pb	14 23 46.4	-0.1
WLTB	**Daxi** baz=359	1.16	349	*e*P	Pg	14 23 47.7	+0.2
WSF	**Szhu** baz=266	1.16	267	*e*P	Pb	14 23 47.3	0.0
WSF	baz=266			*e*S	Sg	14 24 03.0	+0.3
SBCB	**Hsinchu** baz=338	1.17	337	*e*P	Pg	14 23 48.3	+0.5
NTC	**Toucheng** baz=15	1.18	15	*e*P	Pb	14 23 48.0	+0.4
ECL	**Taimali** baz=192	1.21	204	*e*P	Pn	14 23 47.1	-0.9
CHN8	**Yiju** baz=253	1.23	253	*e*P	Pn	14 23 48.1	-0.1
CHN8	baz=253			*e*S	Sg	14 24 05.2	+0.5
SSD	**Sandimen** baz=213	1.24	220	*e*P	Pn	14 23 48.2	-0.2
TWA	**Mucha** baz=3.0	1.27	4	*e*P	Pb	14 23 49.4	+0.3
TWA	baz=3.0			*e*S	Sb	14 24 05.3	-0.1
NCUH	**Zhongli** baz=4.0	1.28	348	*e*P	Pg	14 23 50.3	+0.4
TIPB	**Shuangxi** baz=10.0	1.29	14	*e*P	Pb	14 23 49.9	+0.3
TIPB	baz=10.0			*e*S	Sb	14 24 06.2	0.0
SCLT	**Jiali** baz=245	1.30	246	*e*P	Pg	14 23 50.3	+0.1
SCLT	baz=245			*e*S	Sg	14 24 08.9	+1.7
TWM1	**Shoushan** baz=215	1.32	228	*e*P	Pg	14 23 50.9	+0.4
TAP	**Taipei** baz=11	1.32	1	*e*P	Pb	14 23 50.2	+0.2
MASBT	**Mashibuluo** baz=211	1.35	216	*e*P	Pn	14 23 50.0	+0.1
TWB1	**Santiao Chiao** baz=8.0	1.37	19	*e*P	Pg	14 23 51.5	0.0
NWF	**Wu-fen Shan** baz=11	1.38	11	*e*P	Pg	14 23 52.1	+0.3
WFSB	**Wu-fen Shan** baz=11	1.38	11	*e*P	Pg	14 23 52.2	+0.4
TWS1	**Kuangyinshan** baz=16	1.39	357	*e*P	Pg	14 23 51.9	0.0
YM01	**YM01** baz=2.0	1.43	3	*e*P	Pb	14 23 51.8	-0.2
YM10	**YM10** baz=2.0	1.44	3	*e*P	Pb	14 23 52.1	0.0
EAST	**Anshuo** baz=195	1.45	204	*e*P	Pn	14 23 51.0	-0.3
NTST	**Danshui** baz=17	1.45	359	*e*P	Pg	14 23 52.9	-0.2
YM11	**YM11** baz=2.0	1.45	3	*e*P	Pn	14 23 51.7	+0.3
ANP	**Anpu** baz=19	1.47	1	*e*P	Pb	14 23 53.1	+0.5
YM08	**YM08** baz=3.0	1.48	4	*e*P	Pn	14 23 52.2	+0.5
JYNG	**Yonagunijimaku**	1.52	61	P	Pn	14 23 52.1	-0.2
JYNG				*e*S	Sn	14 24 12.5	+0.4
SCZT	**Fangliau** baz=206	1.55	211	*e*P	Pn	14 23 53.3	+0.6
YOJ	**Yonaguni jima** baz=59	1.58	61	*e*P	Pn	14 23 53.1	0.0
YOJ	baz=59			*e*S	Sn	14 24 13.5	0.0
YOJ	**Yonaguni jima**	1.58	61	P	Pn	14 23 53.5	+0.4
YOJ				*e*S	Sn	14 24 13.6	+0.1
LAY	**Lan-yu** baz=169	1.66	178	*e*P	Pn	14 23 52.3	-1.9
WDGT	**Dungji** baz=261	1.74	255	*e*P	Pn	14 23 54.8	-0.5
PHUB	**P'eng-hu** baz=260	1.77	264	*e*P	Pn	14 23 54.7	-1.0
PNG	**Penghu** baz=261	1.78	266	*e*P	Pn	14 23 55.9	+0.1
TWK1	**Hengchun** baz=193	1.87	200	*e*P	Pn	14 23 57.5	+0.5
TWKBT	**Hengchun** baz=193	1.87	200	*e*P	Pn	14 23 57.0	0.0
VCHM	**Qimei** baz=249	1.96	256	*e*P	Pn	14 23 57.5	-0.8
IRIF	**Iriomote-Funau**	2.14	73	P	Pn	14 24 00.5	-0.3
IRIF				*e*S	Sn	14 24 28.4	+1.0
VWUC	**VWUC** baz=304	2.26	305	*e*P	Pn	14 24 01.7	-0.7
JKRS	**Kuro-shima**	2.37	77	P	Pn	14 24 04.2	+0.3
JKRS				*e*S	Sn	14 24 33.3	+0.4
PTTC	**Pingtan** baz=319	2.37	319	*e*P	Pn	14 24 03.5	-0.5
JIJ	**Ishigaki jima**	2.51	74	P	Pn	14 24 05.3	-0.6
JIJ				S	Sn	14 24 36.4	-0.1
PTMZ	**Houxiangcun** baz=301	2.53	302	*e*P	Pn	14 24 05.4	-0.8
JISG	**Ishigakijimahi**	2.72	71	P	Pn	14 24 08.3	-0.5
KNM	**Kinmen** baz=283	2.88	285	*e*P	Pn	14 24 12.5	+1.5
QZH	**Quanzhou**	2.91	296	Pn	Pn	14 24 11.2	-0.2
QZH				Sn	Sn	14 24 44.7	-1.7
QZH	comp=N,110nm,0.7s			smax	smax		
QZH	comp=E,110nm,0.8s			smax	smax		
KNMB	**Chin-men Tao** baz=285	2.93	285	*e*P	Pn	14 24 11.3	-0.4
JTJ	**Tarama**	3.08	72	P	Pn	14 24 13.7	0.0
LYJJ	**Jianjiangzhen** baz=334	3.23	331	*e*P	Pn	14 24 15.6	-0.2
MHZQ	**Yeshan** baz=317	3.26	317	*e*P	Pn	14 24 16.1	-0.1
XPSS	**Dashiqiu** baz=328	3.42	340	*e*P	Pn	14 24 18.4	+0.1
AXDP	**Jialang** baz=291	3.42	291	*e*P	Pn	14 24 18.6	+0.1
ZPLA	**Ao Xicun** baz=272	3.43	274	*e*P	Pn	14 24 18.2	-0.3
JMJ	**Miyako jima 2** baz=69	3.64	72	*e*P	Pn	14 24 21.8	+0.3

JMA 02 14:35:20.8±0.1,24°.61N×123°.33E,h60km±3km,M1.1,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.33	243	P	Pn	14 35 31.2	+0.1
YOJ				S	Sn	14 35 38.6	0.0
JYNG	**Yonagunijimaku**	0.38	246	P	Pn	14 35 31.5	-0.1
JYNG				*e*S	Sn	14 35 39.4	0.0
IRIF	**Iriomote-Funau**	0.46	127	P	Pn	14 35 32.1	-0.2
IRIF				S	Sn	14 35 40.9	+0.3
HATJ	**Hateruma jima**	0.70	142	*e*S	Sn	14 35 45.4	-0.1
JKRS	**Kuro-shima**	0.72	121	P	Pn	14 35 35.6	+0.3
JKRS				S	Sn	14 35 46.6	+0.7
JIJ	**Ishigaki jima**	0.78	108	P	Pn	14 35 36.1	+0.1
JIJ				S	Sn	14 35 47.4	+0.2

TAP 02 14:36:15.2,23°.73N×121°.43E,h6km,ML1.3,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu** baz=177	0.06	178	P	Pg	14 36 17.2	+0.5
EGFH	baz=177			*e*S	Sg	14 36 18.8	+0.9
ESL	**Shilin** baz=9.0	0.09	5	P	Pg	14 36 17.8	+0.6
ESL	baz=9.0			S	Sg	14 36 19.8	+1.1
VWDT	**VWDT** baz=276	0.26	276	*e*P	Pb	14 36 21.5	-0.7
VWDT	baz=276			*e*S	Sb	14 36 26.0	-1.0

SOME ***02*** *14:50:07.6,42°.60N×80°.18E,h10km*
KRNET ***02*** *14:50:08.5±0.1,39°.84N×78°.30E,mb2.0*
ISC 02 14:50:06.8±2.3,42°.56N±0°.07×80°.21E±0°.09,h10km,n12,
σ1s51/22,6C-2D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 1.7nm,0.1s	1.42	291	*e*P	Pg	14 50 35.6	+1.6
SATY	9.8nm,0.1s			*e*S	Sg	14 50 55.8	+3.4
KPKS	**Kokpek** 2.6nm,0.2s	1.44	310	*e*P	Pg	14 50 34.6	+0.2
KPKS	18nm,0.6s			*e*S	Sg	14 50 54.3	+1.1
DJR	**Jarkent** 1.8nm,0.3s	1.80	350	*e*P	Pg	14 50 40.8	-0.5
DJR	2.9nm,0.4s			*e*S	Sg	14 51 05.0	+0.4
TARG	**Taragay, Kyrgy** baz=49	1.97	246	⇓*i*P	Pb	14 50 43.7	+0.7
TARG	baz=49			⇓*i*S	Sb	14 51 09.4	+1.6
KDJ	**Kajisay** baz=40	2.29	260	⇑*i*P	Pg	14 50 50.1	-0.5
KDJ	baz=40			⇑*i*S	Sg	14 51 20.9	+0.7
KOTS	**Kotyrbulak** 2.5nm,0.3s	2.37	288	*e*P	Pg	14 50 52.2	-0.1
KOTS	16nm,0.4s			*e*S	Sg	14 51 24.1	+1.0
TNSS	**Tian-Shan** 3.2nm,0.7s	2.45	282	*e*P	Pg	14 50 53.5	-0.2
TNSS	3.5nm,0.4s			*e*S	Sg	14 51 26.4	+1.0
CHKK	**Chushkaly** 0.2nm,0.1s	2.69	300	*e*P	Pg	14 50 56.9	-1.4
CHKK	4.0nm,0.3s			*e*S	Sg	14 51 32.1	-1.0
KTBS	**Karatobe** 1.4nm,0.6s	2.83	295	*e*P	Pb	14 50 59.0	+1.6
KTBS	6.3nm,0.3s			*e*S	Sg	14 51 35.8	-1.8
BOOM	**Boomskoye usch** baz=27	3.16	270	⇑*i*P	Pb	14 51 01.0	-2.1
BOOM	baz=27			⇑*i*S	Sb	14 51 40.0	-1.6
DGS	**Degeres** 0.7nm,0.5s	3.33	283	*e*P	Pg	14 51 08.6	-1.9
DGS	3.8nm,0.8s			*e*S	Sg	14 51 52.3	-1.4

NRN	**Naryn**	**3.33**	**252**	⇑*i*P	Pn	14 50 50.1	-9.1
	baz=12						
NRN				⇑*i*S	Sn	14 51 20.1	-19
	baz=12						

*THE **02** 14:52:59.5, 34°.52N×25°.59E, h52km±8km, ML1.8/4, Error ellipse: s-maj=9.3km s-min=1.6km az=8.0*
*ATH **02** 14:53:08.0, 35°.18N×23°.64E, h38km±12km, ML1.5/1, Error ellipse: s-maj=13.7km s-min=1.8km az=75.0*
ISC 02 14:52:55.1±2.8, 34°.2N±0°.2×25°.45E±0°.06, h35km, n16, σ3§34/21, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.88**	**15**	P	**Pn**	**14 53 10.8**	**-0.2**
FRMA				S	**Sn**	**14 53 19.8**	**-2.8**
	60nm,0.7s						
LAST	**Lasithi**	**1.00**	**1**	P	**Pn**	**14 53 12.3**	**-0.4**
LAST				S	**Sn**	**14 53 22.4**	**-3.2**
	85nm,0.7s						
LAST	**Lasithi**	**1.00**	**1**	P	**Pn**	**14 53 14.4**	**+1.7**
LAST				S	Sn	14 53 33.2	+7.6
LAST				AML	AML	14 53 41.2	
	comp=N,207μm,0.7s						
LAST				AML	AML	14 53 44.5	
	comp=E,165μm,0.6s						
SIVA	**Sivas**	**1.01**	**328**	P	**Pn**	**14 53 13.9**	**+1.2**
SIVA	**Sivas**	**1.01**	**328**	P	**Pn**	**14 53 14.1**	**+1.4**
SIVA				S	**Sn**	**14 53 32.5**	**+6.8**
SIVA				AML	AML	14 53 37.9	
	comp=N,448μm,0.6s						
SIVA				AML	AML	14 53 38.3	
	comp=E,691μm,0.8s						
NPS	**Neapolis**	**1.11**	**7**	P	**Pn**	**14 53 13.7**	**-0.5**
NPS				S	**Sn**	**14 53 23.7**	**-4.5**
	comp=E,100nm,0.7s						
NPS	**Neapolis**	**1.11**	**7**	P	**Pn**	**14 53 16.2**	**+2.0**
ZKR	**Zakros**	**1.14**	**33**	P	**Pn**	**14 53 14.0**	**-0.6**
ZKR				S	**Sn**	**14 53 25.0**	**-4.0**
	comp=E,92nm,0.6s						
ZKR	**Zakros**	**1.14**	**33**	P	**Pn**	**14 53 15.2**	**+0.6**
ZKR				S	**Sn**	**14 53 34.9**	**+5.8**
ZKR				AML	AML	14 53 41.2	
	comp=N,70μm,0.6s						
ZKR				AML	AML	14 53 43.5	
	comp=E,223μm,0.7s						
GVD	**Gavdhos**	**1.32**	**301**	P	**Pn**	**14 53 18.9**	**+1.9**
GVD				S	**Sn**	**14 53 27.6**	**-5.8**
GVD				AML	AML	14 53 28.8	
	comp=N,104μm,0.3s						
GVD				AML	AML	14 53 29.3	
	comp=E,127μm,0.3s						
VAM	**Vamos**	**1.62**	**321**	P	**Pn**	**14 53 19.3**	**-1.8**
IMMV	**Iera Moni Meta**	**1.78**	**317**	P	Pn	14 53 17.9	-5.4
IMMV				S	Sn	14 53 24.6	-20
KARP	**Karpathos**	**1.97**	**45**	P	**Pn**	**14 53 26.8**	**+0.8**
SANT	**Santorini**	**2.21**	**0**	P	**Pn**	**14 53 32.1**	**+2.8**
ANAF	**Anafi Island**	**2.21**	**7**	P	**Pn**	**14 53 31.4**	**+2.1**
ANAF				AML	AML	14 54 01.1	
	comp=N,324μm,0.4s						
ANAF				AML	AML	14 54 01.6	
	comp=E,216μm,0.4s						
ANKY	**Antikythira Is**	**2.45**	**315**	P	Pn	14 53 22.8	-10

*IDC **02** 14:56:41.3±1.3, 32°.98S×179°.04W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/29, mbtmp4.1/5, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=36.8km s-min=27.4km az=54.0*
*ISCJB **02** 14:56:46.1±0.4, 33°.36S±0°.04×179°.07W±0°.10, h45km, mb4.0/4, MS3.2/1, Error ellipse: s-maj=12.2km s-min=3.0km az=21.2*
*WEL **02** 14:56:46.9±0.8, 33°S±8°×17°9W±2°0, h33km, M4.3/14, mB4.8/5, ML4.6/12, MLv4.4/14, Mw(mB)4.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*
*NEIC **02** 14:56:48.0±2.6, 33°.2S±0°.1×179°.2W±0°.1, h40km±6km, mb4.0/15*
ISC 02 14:56:47.8±0.7, 33°.38S±0°.06×178°.90W±0°.10, h45km, n59, σ1§45/74, mb3.9/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.19**	**12**	P	**Pn**	**14 57 47.9**	**-1.3**
GLKZ				S	**Sn**	**14 58 35.5**	**-1.4**
RIZ	**Raoul Island**	**4.21**	**12**	P	**Pn**	**14 57 47.6**	**-1.8**
MXZ	**Matakaoa Point**	**4.75**	**208**	P	**Pn**	**14 57 57.4**	**+0.5**
MXZ				S	**Sn**	**14 58 51.1**	**+0.4**
WMGZ	**Waiomatatini S**	**4.94**	**206**	P	**Pn**	**14 58 00.4**	**+1.0**
WMGZ				S	**Sn**	**14 58 56.1**	**+0.9**
PKGZ	**Pakihiroa**	**5.13**	**208**	P	**Pn**	**14 58 02.5**	**+0.4**
PKGZ				S	**Sn**	**14 58 58.0**	**-1.9**
HAZ	**Te Kaha**	**5.13**	**211**	P	**Pn**	**14 58 02.9**	**+0.8**
HAZ				S	**Sn**	**14 59 00.9**	**+0.9**
PUZ	**Puketiti**	**5.22**	**206**	P	**Pn**	**14 58 03.2**	**-0.1**
PUZ				S	**Sn**	**14 59 00.8**	**-1.4**
RUGZ	**Raukumara Rang**	**5.36**	**210**	P	**Pn**	**14 58 05.9**	**+0.7**
RUGZ				S	**Sn**	**14 59 05.8**	**+0.1**
GRZ	**Great Barrier**	**5.45**	**237**	P	**Pn**	**14 58 07.9**	**+1.4**
KUZ	**Kuaotunu**	**5.54**	**231**	P	**Pn**	**14 58 09.8**	**+2.1**
CNGZ	**Carnagh Statio**	**5.61**	**204**	P	**Pn**	**14 58 08.9**	**+0.4**
CNGZ				S	**Sn**	**14 59 10.8**	**-0.8**
MWZ	**Matawai**	**5.73**	**209**	P	**Pn**	**14 58 10.4**	**+0.1**
MWZ				S	**Sn**	**14 59 14.9**	**+0.1**
OPRZ	**Ohinepanea**	**5.79**	**218**	P	**Pn**	**14 58 13.1**	**+2.0**
MARZ	**Manawahe**	**5.84**	**217**	P	**Pn**	**14 58 14.3**	**+2.5**
URZ	**Urewera**	**5.85**	**213**	Pn	**Pn**	**14 58 11.2**	**-0.6**
	2.3nm,0.3s,baz=274,slow=4.9,SNR=32						
URZ				Sn	**Sn**	**14 59 16.0**	**-1.6**
	3.6nm,0.3s,baz=78,slow=21,SNR=8.4						
URZ	**Urewera**	**5.85**	**213**	P	**Pn**	**14 58 10.9**	**-1.0**
URZ				S	**Sn**	**14 59 15.7**	**-1.9**
URZ	**Urewera**	**5.85**	**213**	Pn	**Pn**	**14 58 11.1**	**-0.7**
RAGZ	**Rawiri**	**5.91**	**209**	P	**Pn**	**14 58 15.2**	**+2.4**
RAGZ				S	**Sn**	**14 59 19.2**	**-0.1**
RIGZ	**Rimuhau**	**5.96**	**206**	P	**Pn**	**14 58 14.2**	**+0.8**
RIGZ				S	**Sn**	**14 59 19.4**	**-1.1**
PRGZ	**Paritu Road**	**6.11**	**204**	P	**Pn**	**14 58 15.4**	**-0.1**
PRGZ				S	**Sn**	**14 59 21.6**	**-2.6**
WCZ	**Waipu Caves**	**6.12**	**244**	P	**Pn**	**14 58 17.6**	**+2.0**
MUGZ	**Murupara**	**6.18**	**213**	P	**Pn**	**14 58 15.5**	**-1.0**
MUGZ				S	**Sn**	**14 59 23.2**	**-2.6**
SNGZ	**Shannon Statio**	**6.19**	**208**	P	**Pn**	**14 58 17.2**	**+0.6**
SNGZ				S	**Sn**	**14 59 25.9**	**-0.1**
RTZ	**Ruatahuna**	**6.20**	**211**	P	**Pn**	**14 58 16.4**	**-0.3**
KNZ	**Kokohu**	**6.27**	**205**	P	**Pn**	**14 58 16.7**	**-1.0**
TOZ	**Tahuroa Road**	**6.30**	**225**	P	**Pn**	**14 58 20.1**	**+2.1**
MHGZ	**Mahia Peninsul**	**6.31**	**203**	P	**Pn**	**14 58 17.5**	**-0.7**
MHGZ				S	**Sn**	**14 59 27.7**	**-1.3**
RAHZ	**Arahi**	**6.41**	**209**	P	**Pn**	**14 58 20.2**	**+0.7**
RAHZ				S	**Sn**	**14 59 30.4**	**-1.0**
OUZ	**Omahuta**	**6.48**	**251**	P	**Pn**	**14 58 21.7**	**+1.2**
OUZ	**Omahuta**	**6.48**	**251**		**Pn**	**14 58 21.8**	**+1.2**
MRHZ	**Matea Rd**	**6.63**	**214**	P	**Pn**	**14 58 22.8**	**+0.1**
BKZ	**Black Stump Fm**	**6.87**	**212**	P	**Pn**	**14 58 25.3**	**-0.7**
BKZ	**Black Stump Fm**	**6.87**	**212**	Pn	**Pn**	**14 58 25.4**	**-0.5**
NIUE	**Niue**	**16.35**	**32**	Pn	**Pn**	**15 00 34.6**	**+0.4**
DZM	**Mont Dzumac**	**17.16**	**307**	LR	LR	15 05 31.6	
	comp=Z,68nm,18.5s,baz=208,slow=32						
AFI	**Afiamalu**	**20.44**	**20**	P	**P**	**15 01 20.5**	**-1.1**
STKA	**Stephens Creek**	**33.17**	**262**	LR	LR	15 14 47.9	
	comp=Z,45nm,18.1s,baz=31,slow=33						
CTA	**Charters Tower**	**33.66**	**284**	P	**P**	**15 03 23.2**	**-1.2**
	4.9nm,0.9s,baz=112,slow=11,SNR=3.0						
AS31	**Alice Springs**	**42.28**	**271**	P	**P**	**15 04 35.2**	**-1.9**
ASAR	**Alice Springs**	**42.28**	**271**	P	**P**	**15 04 35.8**	**-1.4**
	0.9nm,0.4s,baz=108,slow=7.5,SNR=62						
ASAR	**Alice Springs**	**42.28**	**271**	P	**P**	**15 04 35.2**	**-2.0**
WR0	**Warramunga Arr**	**43.37**	**276**	P	**P**	**15 04 43.2**	**-2.7**
WR0				IAmb	IAmb	15 04 44.7	
	comp=Z,1.9nm,0.9s						
WB2	**Warramunga Arr**	**43.53**	**276**	P	**P**	**15 04 45.7**	**-1.5**
WB2				IAmb	IAmb	15 04 47.0	
	comp=Z,4.0nm,0.9s						
WRAB	**Tennant Creek**	**43.54**	**276**	P	**P**	**15 04 46.0**	**-1.3**
WRA	**Warramunga Arr**	**43.54**	**276**	P	**P**	**15 04 45.1**	**-2.2**
	comp=Z,1.1nm,0.5s,baz=114,slow=8.0,SNR=20						
WRA	**Warramunga Arr**	**43.54**	**276**	P	**P**	**15 04 45.6**	**-1.7**
WB0	**Warramunga Arr**	**43.58**	**276**	P	**P**	**15 04 45.9**	**-1.7**
WB0				IAmb	IAmb	15 04 46.3	
	comp=Z,2.4nm,0.8s						

CASY	**Casey**	**52.16**	**209**	P	**P**	**15 05 53.2**	**-0.2**
CASY				IAmb	IAmb	15 05 57.7	
	comp=Z,4.9nm,1.1s						
QSPA	**South Pole Qui**	**56.73**	**180**	P	**P**	**15 06 29.9**	**+3.1**
	comp=Z,0.8nm,0.6s,baz=317,slow=1.3,SNR=12						
QSPA	**South Pole Qui**	**56.73**	**180**	IAmb	IAmb	15 06 46.5	
	comp=Z,0.7nm,0.7s						
AIN	**Ainahou**	**57.03**	**27**	P	**P**	**15 06 32.1**	**+2.7**
PUH	**Pauahi**	**57.13**	**27**	P	**P**	**15 06 32.1**	**+2.1**
NPH	**North Pit**	**57.14**	**27**	P	**P**	**15 06 31.4**	**+1.3**
UWB	**Uwekahuna B**	**57.15**	**27**	P	**P**	**15 06 31.6**	**+1.4**
MLH	**Mauna Loa**	**57.17**	**27**	P	**P**	**15 06 32.4**	**+1.9**
FINES	**FINESS Array B**	**147.64**	**338**	PKPbc	**PKPdf**	**15 16 25.0**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=48,slow=4.5,SNR=13						
NB2	**NORSAR Subarra**	**151.56**	**350**	PKP	**PKPbc**	**15 16 35.4**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.56**	**350**	PKPbc	**PKPbc**	**15 16 35.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=15,slow=4.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**159.85**	**182**	PKPab	**PKPab**	**15 17 22.6**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=169,slow=4.7,SNR=3.8						

*TAP **02** 14:57:33.6, 23°.71N×121°.50E, h14km, ML3.3, C*
*ISCJB **02** 14:57:34.0±0.3, 23°.70N±0°.01×121°.52E±0°.01, h12km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=36.6*
*JMA **02** 14:57:34.0±0.1, 23°.71N×121°.49E, h7km±3km, M3.0*
ISC 02 14:57:34.1±0.8, 23°.71N±0°.01×121°.50E±0°.02, h15km±5km, n108, σ0§59/167, 8C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.07**	**240**	⇑*i*P	**Pg**	**14 57 36.9**	**-0.2**
	baz=240						
EGFH				*i* S	**Sg**	**14 57 38.6**	**-0.4**
	baz=240						
ESL	**Shilin**	**0.12**	**333**	*i* P	**Pg**	**14 57 37.3**	**-0.4**
	baz=331						
ESL				*i* S	**Sg**	**14 57 39.2**	**-0.8**
	baz=331						
ENLB	**Shoufeng**	**0.22**	**26**	⇑*i*P	**Pg**	**14 57 38.9**	**-0.2**
	baz=17						
ENLB				*e*S	**Sg**	**14 57 42.8**	**+0.3**
	baz=17						
HGSD	**Ruisui**	**0.22**	**197**	⇓P	**Pb**	**14 57 39.8**	**0.0**
	baz=205						
HGSD				*e*S	**Sg**	**14 57 43.7**	**+1.3**
	baz=205						
EHY	**Hungye**	**0.25**	**219**	⇓*i*P	**Pg**	**14 57 39.4**	**-0.2**
	baz=223						
EHY				*e*S	**Sg**	**14 57 43.1**	**-0.2**
	baz=223						
HWA	**Hwalien**	**0.29**	**20**	*e*P	**Pb**	**14 57 41.0**	**0.0**
	baz=15						
HWA				*e*S	**Sb**	**14 57 45.7**	**+0.1**
	baz=15						
VWDT	**VWDT**	**0.33**	**279**	⇓P	**Pg**	**14 57 40.9**	**+0.1**
	baz=278						
VWDT				S	**Sg**	**14 57 45.5**	**0.0**
	baz=278						
YULB	**Yu-li**	**0.36**	**210**	⇑P	**Pg**	**14 57 41.2**	**-0.2**
	baz=219						
YULB				S	**Sg**	**14 57 46.4**	**-0.1**
	baz=219						
TWD	**Chiawan**	**0.39**	**14**	P	**Pb**	**14 57 42.2**	**-0.4**
	baz=2.0						
TWD				*e*S	**Sg**	**14 57 46.9**	**-0.3**
	baz=2.0						
TWF1	**Yuli**	**0.40**	**207**	⇑*i*P	**Pg**	**14 57 41.9**	**-0.2**
	baz=221						
TWF1				S	**Sg**	**14 57 47.5**	**-0.1**
	baz=221						
CHGB	**Renai**	**0.46**	**320**	⇓P	**Pg**	**14 57 43.3**	**0.0**
	baz=323						
CHGB				S	**Sg**	**14 57 49.0**	**-0.6**
	baz=323						
NACB	**Ninganchiao**	**0.48**	**11**	⇑P	**Pg**	**14 57 43.5**	**-0.1**
	baz=356						
NACB				S	**Sg**	**14 57 49.5**	**-0.5**
	baz=356						
WHF	**Hehuan Shan**	**0.49**	**334**	⇓P	**Pg**	**14 57 43.5**	**-0.4**
	baz=331						
WHF				*e*S	**Sg**	**14 57 49.8**	**-0.7**
	baz=331						
ETLH	**Xiulin Townshi**	**0.50**	**359**	P	**Pg**	**14 57 43.8**	**-0.2**
	baz=354						
ETLH				*e*S	**Sg**	**14 57 50.3**	**-0.5**
	baz=354						
SSLB	**Suanglung**	**0.50**	**280**	⇓P	**Pg**	**14 57 43.7**	**-0.3**
	baz=287						
SSLB				*e*S	**Sg**	**14 57 49.8**	**-1.0**
	baz=287						
YUS	**Yu-Shan**	**0.54**	**247**	P	**Pg**	**14 57 45.0**	**0.0**
	baz=255						
YUS				*e*S	**Sg**	**14 57 51.5**	**-0.7**
	baz=255						
SMLT	**Sun Moon Lake**	**0.57**	**288**	⇓*i*P	**Pg**	**14 57 45.2**	**-0.2**
	baz=288						
SMLT				*e*S	**Sg**	**14 57 52.5**	**-0.6**
	baz=288						
WHYT	**Xinyi Township**	**0.59**	**269**	*e*P	**Pg**	**14 57 45.6**	**-0.1**
	baz=264						
WHYT				S	**Sg**	**14 57 53.2**	**-0.3**
	baz=264						
DPDB	**Guoxing**	**0.61**	**302**	⇓P	**Pg**	**14 57 46.2**	**0.0**
	baz=301						
DPDB				*e*S	**Sg**	**14 57 53.9**	**-0.5**
	baz=301						
CHKT	**Chengkung**	**0.61**	**191**	*e*P	**Pb**	**14 57 46.4**	**-0.1**
	baz=180						
TYC	**Yuchr**	**0.62**	**289**	⇓*i*P	**Pg**	**14 57 45.8**	**-0.3**
	baz=296						
TYC				S	**Sg**	**14 57 53.8**	**-0.6**
	baz=296						
TWT	**Tachien**	**0.62**	**332**	P	**Pb**	**14 57 46.3**	**-0.4**
	baz=328						
TWT				*i* S	**Sg**	**14 57 53.8**	**-0.8**
	baz=328						
TDCB	**Techi**	**0.63**	**331**	⇓P	**Pg**	**14 57 46.4**	**-0.1**
	baz=328						
TDCB				*e*S	**Sg**	**14 57 53.8**	**-1.0**
	baz=328						
ELDTW	**Lidau**	**0.68**	**221**	⇓P	**Pg**	**14 57 46.4**	**-1.0**
	baz=221						
WJS	**Zhushan**	**0.71**	**280**	*e*P	**Pb**	**14 57 48.4**	**+0.2**
	baz=280						
WJS				*e*S	**Sn**	**14 57 59.7**	**-0.6**
	baz=280						
NNSB	**Datong**	**0.73**	**352**	⇑P	**Pg**	**14 57 48.1**	**-0.2**
	baz=349						
NNSB				S	**Sg**	**14 57 57.5**	**-0.5**
	baz=349						
NNS	**Nan Shan**	**0.74**	**351**	⇓*i*P	**Pb**	**14 57 48.4**	**-0.3**
	baz=349						
NNS				S	**Sg**	**14 57 58.0**	**-0.4**
	baz=349						
ENA	**Nanau**	**0.75**	**17**	*e*P	**Pg**	**14 57 48.1**	**-0.7**
	baz=3.0						
CHN5	**Tsauling**	**0.76**	**262**	⇓*i*P	**Pb**	**14 57 49.3**	**+0.3**
	baz=255						
CHN5				S	**Sb**	**14 57 59.4**	**+0.3**
	baz=255						
NANB	**Nanao**	**0.76**	**18**	*e*P	**Pg**	**14 57 48.0**	**-0.8**
	baz=3.0						
WHP	**Taichung City**	**0.76**	**319**	*e*P	**Pb**	**14 57 48.8**	**-0.3**
	baz=317						
WHP				*e*S	**Sb**	**14 57 59.2**	**0.0**
	baz=317						
WNT	**Mingjian**	**0.76**	**283**	P	**Pb**	**14 57 49.8**	**+0.8**
	baz=285						
WNT				S	**Sn**	**14 58 01.2**	**-0.3**
	baz=285						
WGK	**Gukeng**	**0.85**	**269**	P	**Pn**	**14 57 51.3**	**-0.2**
	baz=270						
WGK				S	**Sn**	**14 58 03.9**	**+0.1**
	baz=270						
STYT	**Tauyuan**	**0.87**	**232**	P	**Pg**	**14 57 50.6**	**-0.3**
	baz=233						
STYT				*e*S	**Sb**	**14 58 02.6**	**+0.4**
	baz=233						
TCU	**Taichung**	**0.87**	**301**	*e*P	**Pn**	**14 57 51.9**	**+0.2**
	baz=299						
WDLH	**Douliu**	**0.88**	**269**	*e*P	**Pn**	**14 57 51.8**	**-0.1**
	baz=270						
WDLH				*e*S	**Sn**	**14 58 04.9**	**+0.6**
	baz=270						
TPUB	**Ta-pu**	**0.89**	**243**	*e*P	**Pb**	**14 57 51.6**	**+0.3**
	baz=245						
TPUB				*e*S	**Sb**	**14 58 03.5**	**+0.6**
	baz=245						
NDT	**Datong Townshi**	**0.89**	**1**	*e*P	**Pb**	**14 57 51.5**	**+0.2**
	baz=349						
NDT				*e*S	**Sg**	**14 58 01.9**	**-1.3**
	baz=349						
CHN4	**Tsaushan**	**0.90**	**247**	⇑P	**Pb**	**14 57 51.9**	**+0.6**
	baz=249						
CHN4				S	**Sb**	**14 58 04.4**	**+1.2**
	baz=249						
TWQ1	**Liyutan**	**0.92**	**314**	*e*P	**Pn**	**14 57 52.7**	**+0.2**
	baz=312						
TWQ1				S	**Sn**	**14 58 05.1**	**-0.3**
	baz=312						
WTP	**Ta-pu**	**0.93**	**241**	⇑P	**Pb**	**14 57 52.1**	**+0.3**
	baz=242						
WTP				*e*S	**Sb**	**14 58 04.7**	**+0.6**
	baz=242						
ENTT	**Nioudou**	**0.93**	**4**	*e*P	**Pb**	**14 57 52.2**	**+0.3**
	baz=1.0						
ENTT				*e*S	**Sg**	**14 58 03.9**	**-0.6**
	baz=1.0						
WCHH	**Zhanghua**	**0.93**	**294**	*e*P	**Pn**	**14 57 52.9**	**+0.2**
	baz=292						
CHN2	**Minshiung**	**0.95**	**260**	*e*P	**Pn**	**14 57 53.4**	**+0.6**
	baz=261						
CHN2				*e*S	**Sn**	**14 58 07.1**	**+1.0**
	baz=261						
TWC	**Suao**	**0.96**	**20**	*e*P	**Pb**	**14 57 52.4**	**+0.1**
	baz=4.0						
TWC				*e*S	**Sg**	**14 58 04.7**	**-0.5**
	baz=4.0						
TWG	**Pinlang**	**0.96**	**204**	*e*P	**Pg**	**14 57 51.8**	**-1.0**
	baz=206						
TWG				*e*S	**Sg**	**14 58 03.6**	**-1.8**
	baz=206						
TWGBT	**Beinan**	**0.96**	**203**	*e*P	**Pg**	**14 57 51.9**	**-0.9**
	baz=206						
TWGBT				*e*S	**Sg**	**14 58 04.1**	**-1.2**
	baz=206						
YHNB	**Yeheng**	**0.97**	**354**	*e*P	**Pb**	**14 57 52.5**	**-0.1**
	baz=350						
YHNB				S	**Sg**	**14 58 04.4**	**-1.1**
	baz=350						
NSK	**Sanguang**	**0.97**	**353**	P	**Pb**	**14 57 52.8**	**+0.1**
	baz=349						
NSK				S	**Sg**	**14 58 05.0**	**-0.8**
	baz=349						
NSY	**Sanyi**	**0.97**	**317**	*e*P	**Pn**	**14 57 53.8**	**+0.6**
	baz=315						
NSY				*e*S	**Sn**	**14 58 06.7**	**-0.1**
	baz=315						
CHY	**Chiayi**	**1.00**	**258**	*e*P	**Pn**	**14 57 53.8**	**+0.2**
	baz=259						
CHY				*e*S	**Sn**	**14 58 08.1**	**+0.7**
	baz=259						
WDJ	**Dajia District**	**1.01**	**309**	*e*P	**Pn**	**14 57 54.1**	**+0.5**
	baz=308						
EOS1	**EOS1**	**1.02**	**34**	*e*P	**Pn**	**14 57 54.5**	**+0.7**
	baz=51						
TWK	**Hsinying**	**1.02**	**245**	*e*P	**Pb**	**14 57 53.7**	**+0.2**
	baz=246						
TWK				*e*S	**Sn**	**14 58 08.4**	**+0.4**
	baz=246						
TWE	**Neicheng**	**1.02**	**9**	*e*P	**Pn**	**14 57 54.0**	**+0.1**
	baz=357						
TWE				*e*S	**Sb**	**14 58 07.0**	**+0.3**
	baz=357						
NSTT	**Nanjuang**	**1.03**	**334**	*e*P	**Pn**	**14 57 53.9**	**0.0**
	baz=331						
NSTT				S	**Sg**	**14 58 06.7**	**-0.7**
	baz=331						
CHN1	**Nanshi**	**1.03**	**240**	⇓P	**Pb**	**14 57 54.0**	**+0.4**
	baz=242						
CHN1				*e*S	**Sn**	**14 58 08.9**	**+0.8**
	baz=242						
PTSB	**Yuanli**	**1.03**	**316**	*e*P	**Pn**	**14 57 54.7**	**+0.7**
	baz=314						
PTSB				*e*S	**Sn**	**14 58 09.0**	**+0.8**
	baz=314						
SNST	**Tainan City**	**1.03**	**242**	*e*P	**Pb**	**14 57 54.0**	**+0.3**
	baz=244						
SGST	**Jiashian**	**1.04**	**234**	*e*P	**Pg**	**14 57 53.4**	**-0.8**
	baz=235						
SGST				*e*S	**Sn**	**14 58 08.8**	**+0.4**
	baz=235						
NMLH	**Miaoli**	**1.05**	**322**	*e*P	**Pn**	**14 57 54.9**	**+0.7**
	baz=320						
SLBB	**Yuanshan**	**1.05**	**7**	*e*P	**Pg**	**14 57 53.3**	**-1.1**
	baz=5.0						
RLNB	**Erlin**	**1.06**	**280**	*e*P	**Pn**	**14 57 54.5**	**+0.2**
	baz=281						
RLNB				*e*S	**Sn**	**14 58 09.6**	**+0.8**
	baz=281						
NWLT	**Wulai**	**1.07**	**0**	*e*P	**Pn**	**14 57 54.6**	**0.0**
	baz=356						
NWLT				*e*S	**Sg**	**14 58 07.9**	**-0.8**
	baz=356						
WLGB	**Puzi**	**1.12**	**259**	*e*P	**Pb**	**14 57 55.0**	**-0.1**
	baz=259						
WTCT	**Ta-ch'eng**	**1.12**	**278**	*e*P	**Pb**	**14 57 55.1**	**0.0**
	baz=278						
WLTB	**Daxi**	**1.16**	**349**	*e*P	**Pb**	**14 57 55.6**	**-0.3**
	baz=356						
WSF	**Szhu**	**1.17**	**267**	*e*P	**Pn**	**14 57 56.2**	**+0.4**
	baz=267						
SBCB	**Hsinchu**	**1.18**	**337**	*e*P	**Pb**	**14 57 54.9**	**-1.2**
	baz=335						
NTC	**Toucheng**	**1.18**	**15**	*e*P	**Pb**	**14 57 55.8**	**-0.4**
	baz=1.0						
ECL	**Taimali**	**1.21**	**204**	*e*P	**Pn**	**14 57 56.3**	**-0.1**
	baz=194						
CHN3	**Shinhua**	**1.21**	**239**	*e*P	**Pn**	**14 57 56.0**	**-0.4**
	baz=242						
CHN8	**Yiju**	**1.23**	**253**	*e*P	**Pb**	**14 57 57.2**	**+0.2**
	baz=255						
SSD	**Sandimen**	**1.24**	**220**	*e*P	**Pn**	**14 57 56.9**	**0.0**
	baz=216						
TATO	**Taipei**	**1.27**	**360**	*e*P	**Pn**	**14 57 57.2**	**0.0**
	baz=7.0						
TWA	**Mucha**	**1.27**	**4**	*e*P	**Pg**	**14 57 58.4**	**-0.2**
	baz=3.0						
NCUH	**Zhongli**	**1.29**	**347**	*e*P	**Pg**	**14 57 58.8**	**-0.2**
	baz=360						
TIPB	**Shuangxi**	**1.30**	**13**	*e*P	**Pn**	**14 57 57.9**	**+0.2**
	baz=11						
TWM1	**Shoushan**	**1.32**	**229**	*e*P	**Pg**	**14 57 59.8**	**+0.3**
	baz=220						
MASBT	**Mashibuluo**	**1.35**	**216**	*e*P	**Pn**	**14 57 58.5**	**+0.2**
	baz=212						
TWB1	**Santiao Chiao**	**1.37**	**19**	*e*P	**Pn**	**14 57 59.0**	**+0.4**
	baz=5.0						
**

VWUC	VWUC	2.26	305	*e*P		Pn	14 58 10.8 -0.1
	baz=303						
JKRS	Kuro-shima	2.36	77	P		Pn	14 58 13.2 +0.9
JKRS				*e*S		Sn	14 58 41.9 +0.9
PTTC	Pingtan	2.38	319	*e*P		Pn	14 58 13.3 +0.8
	baz=317						
JIJ	Ishigaki jima	2.51	74	P		Pn	14 58 14.6 +0.3
JIJ				*e*S		Sn	14 58 44.8 +0.2
PTMZ	Houxiangcun	2.54	302	*e*P		Pn	14 58 14.5 -0.2
	baz=300						
JISG	Ishigakijimahi	2.72	71	P		Pn	14 58 17.5 +0.3
JISG				*e*S		Sn	14 58 49.1 -0.7
KNMB	Chin-men Tao	2.94	286	*e*P		Pn	14 58 20.0 -0.2
	baz=270						
MHZQ	Yeshan	3.27	317	*e*P		Pn	14 58 25.6 +0.8
	baz=316						
AXDP	Jialang	3.43	291	*e*P		Pn	14 58 27.3 +0.3
	baz=288						

ISCJB ***02*** *14:58:16.9±0.4, 51°.58N±0°.02×16°.06E±0°.03, h0km, Error ellipse: s-maj=3.2km s-min=2.3km az=21.1*
PRU ***02*** *14:58:19.8±0.0, 51°.55N×16°.03E, h0km*
IDC ***02*** *14:58:19.7±0.7, 51°.58N×15°.87E, h0km, mb1 3.4/7, mb1mx3.1/53, mbtmp3.3/7, ML2.7/6, Error ellipse: s-maj=11.1km s-min=6.2km az=108.0*
BGR ***02*** *14:58:20.3±0.7, 51°.55N×16°.04E, h1km, ML3.0/7, Error ellipse: s-maj=7.8km s-min=3.3km az=28.0*
VIE ***02*** *14:58:21.3±0.8, 51°.42N×16°.00E, h0km, mb2.4/5, ml2.9/5, Error ellipse: s-maj=6.5km s-min=5.6km az=38.0 79 km WNW of Wroclaw Suspected Mining induced.*
ISC 02 14:58:17.2±0.7, 51°.65N±0°.03×16°.02E±0°.02, h0km, n46, σ1§49/98, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.83**	**168**	*e*Pg	**Pg**	**14 58 33.9**	**+0.8**
KSP				*e*Sg	**Sg**	**14 58 43.7**	**0.0**
KSP	**Ksiaz**	**0.83**	**168**	*i* Pg	**Pg**	**14 58 33.8**	**+0.8**
KSP				*i* Pg	**Pg**	**14 58 33.8**	**+0.8**
KSP				*e*Sg	**Sg**	**14 58 43.6**	**0.0**
KSP				*e*Sg	**Sg**	**14 58 43.6**	**0.0**
CHVC	**Chvalec**	**1.06**	**179**	*e*PG	**Pg**	**14 58 38.4**	**+0.9**
CHVC				*e*SG	**Sg**	**14 58 51.0**	**-0.3**
	comp=Z,79nm,0.4s						
UPC	**Upice**	**1.15**	**180**	*e*PG	**Pg**	**14 58 39.6**	**+0.5**
UPC				*e*SG	**Sg**	**14 58 53.6**	**-0.3**
	comp=Z,102nm,0.4s						
DPC	**Dobruska-Polom**	**1.32**	**171**	*e*Pg	**Pg**	**14 58 42.7**	**+0.4**
DPC				*e*Sg	**Sg**	**14 58 58.5**	**-0.9**
DPC	**Dobruska-Polom**	**1.32**	**171**	*e*PG	**Pg**	**14 58 42.5**	**+0.1**
DPC				*e*SG	**Sg**	**14 58 58.3**	**-1.1**
	comp=Z,85nm,0.6s						
PVCC	**Panska Ves**	**1.45**	**220**	*e*PG	**Pn**	**14 58 45.5**	**+0.9**
PVCC				*e*SG	**Sg**	**14 59 03.9**	**+0.3**
	comp=Z,150nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**240**	PN	**Pn**	**14 58 46.0**	**+0.4**
BRG				PG	**Pg**	**14 58 47.5**	**+1.3**
BRG				SG	**Sn**	**14 59 07.1**	**+1.1**
	107nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**240**	*e*Pn	**Pn**	**14 58 46.9**	**+1.3**
BRG				*e*Sg	**Sn**	**14 59 07.1**	**+1.1**
KRLC	**Kraliky**	**1.65**	**163**	*e*PG	**Pn**	**14 58 48.0**	**+0.6**
KRLC				*e*SG	**Sn**	**14 59 09.2**	**-0.1**
	comp=Z,19nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.91**	**205**	*e*PN	**Pn**	**14 58 51.8**	**+0.9**
GOPC				*e*PG	**Pb**	**14 58 53.1**	**+0.3**
PRU	**Pruhonice**	**1.91**	**210**	*e*PN	**Pn**	**14 58 51.4**	**+0.5**
PRU				*e*PG	**Pb**	**14 58 53.2**	**+0.4**
PRU				*e*SG	**Sb**	**14 59 17.5**	**+0.3**
	comp=Z,36nm,0.6s						
CLL	**Collm**	**1.92**	**261**	*e*Pn	**Pn**	**14 58 52.0**	**+1.0**
CLL				*e*Pg	**Pg**	**14 58 55.0**	**+1.1**
CLL				*i*		14 58 58.9	
CLL				*e*		14 59 15.0	
CLL				*e*Sg	**Sg**	**14 59 20.0**	**+1.3**
	comp=Z,22nm,0.4s						
CLL	**Collm**	**1.92**	**261**	*e*Pn	**Pn**	**14 58 52.0**	**+1.0**
MORC	**Moravsky Berou**	**2.11**	**152**	*e*Pn	**Pn**	**14 58 54.6**	**+0.8**
MORC				*e*Sg	**Sb**	**14 59 23.8**	**+0.8**
MORC	**Moravsky Berou**	**2.11**	**152**	*e*PN	**Pn**	**14 58 54.4**	**+0.6**
MORC				*e*SG	**Sb**	**14 59 22.7**	**-0.4**
OKC	**Ostrava-Krasne**	**2.26**	**142**	*e*Sg	**Sg**	**14 59 29.0**	**-0.9**
VRAC	**Vranov**	**2.37**	**171**	Pn	**Pn**	**14 58 58.7**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=344,slow=14,SNR=12						
VRAC				Pg	**Pg**	**14 59 03.4**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=347,slow=15,SNR=6.2						
VRAC				Lg	Lg	14 59 31.2	
	comp=Z,4.9nm,0.3s,baz=252,slow=20,SNR=12						
VRAC	**Vranov**	**2.37**	**171**	*e*PN	**Pn**	**14 58 59.1**	**+1.8**
VRAC				*e*SG	**Sb**	**14 59 31.4**	**+0.8**
TREC	**Trest**	**2.38**	**188**	*e*PN	**Pn**	**14 58 58.6**	**+1.1**
TREC				*e*PG	**Pb**	**14 59 02.2**	**+1.3**
TANN	**Tannenbergstha**	**2.56**	**243**	*e*Pn	**Pn**	**14 59 01.4**	**+1.4**
KRUC	**Moravsky**	**2.60**	**175**	*e*PN	**Pn**	**14 59 02.5**	**+2.0**
KRUC				*e*SG	**Sb**	**14 59 38.8**	**+1.6**
NKC	**Novy Kostel**	**2.67**	**239**	*e*PN	**Pn**	**14 59 03.0**	**+1.6**
NKC				*e*PG	**Pg**	**14 59 08.9**	**+0.7**
NKC				*e*SG	**Sg**	**14 59 44.8**	**+2.0**
	comp=Z,71nm,0.4s						
OJC	**Ojcow**	**2.79**	**119**	*e*Pn	**Pn**	**14 59 03.6**	**+0.6**
OJC				*e*Pn	**Pn**	**14 59 03.6**	**+0.6**
OJC				*e*Pg	**Pg**	**14 59 11.3**	**+0.8**
OJC				*e*Pg	**Pg**	**14 59 11.3**	**+0.8**
OJC				*e*Sn	**Sn**	**14 59 35.9**	**-1.5**
OJC				*e*Sn	**Sn**	**14 59 35.9**	**-1.5**
OJC				*e*Sg	**Sg**	**14 59 47.1**	**+0.4**
OJC				*e*Sg	**Sg**	**14 59 47.1**	**+0.4**
KHC	**Kasperske Hory**	**2.97**	**213**	*e*PN	**Pn**	**14 59 07.0**	**+1.5**
KHC				*e*PG	**Pb**	**14 59 12.0**	**+1.1**
KHC				*e*SN	**Sn**	**14 59 41.1**	**-0.7**
KHC				*e*SG	**Sg**	**14 59 50.6**	**-1.8**
	comp=Z,15nm,0.5s						
MANZ	**Manzenberg**	**2.99**	**238**	*e*Pn	**Pn**	**14 59 07.3**	**+1.6**
MANZ				*e*Sg	**Sg**	**14 59 53.5**	**+0.5**
ROTZ	**Rotzenmuhle**	**3.07**	**234**	*e*Pn	**Pn**	**14 59 08.1**	**+1.2**
GEC2	**GERESS Array S**	**3.18**	**209**	*e*Pn	**Pn**	**14 59 10.2**	**+1.7**
GERES	**GERESS Array B**	**3.18**	**209**	Pn	**Pn**	**14 59 09.6**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=28,slow=12,SNR=28						
GERES				Pg	**Pb**	**14 59 16.1**	**+1.6**
	comp=Z,2.9nm,0.3s,baz=29,slow=17,SNR=29						
GERES				Sn	**Sn**	**14 59 45.6**	**-1.5**
	comp=Z,2.0nm,0.3s,baz=30,slow=26,SNR=6.0						
GERES				Lg	Lg	14 59 57.0	
	comp=Z,3.5nm,0.3s,baz=28,slow=28,SNR=7.4						
WET	**Wettzell**	**3.21**	**220**	*e*Pn	**Pn**	**14 59 10.0**	**+1.1**
SMOL	**Smolenice**	**3.27**	**163**	*e*PG	**Pg**	**14 59 19.9**	**+0.1**
SMOL				*e*SG	**Sg**	**15 00 01.2**	**-0.9**
SMOL				*e*LG	Lg	15 00 07.6	
LANS	**Liptovska Anna**	**3.34**	**137**	*e*PN	**Pn**	**14 59 12.2**	**+1.6**
LANS				*e*PG	**Pg**	**14 59 24.4**	**+3.3**
LANS				*e*SG	**Sg**	**15 00 04.5**	**+0.2**
LANS				*e*LG	Lg	15 00 15.0	
MODS	**Modra-Piesok**	**3.38**	**166**	*e*PG	**Pg**	**14 59 21.6**	**-0.3**
MODS				*e*SG	**Sg**	**15 00 05.3**	**-0.4**
MODS				*e*LG	Lg	15 00 13.0	
BSD	**Bornholm Skovb**	**3.53**	**350**	*i* P	**Pn**	**14 59 15.4**	**+2.2**
BSD				*i* S	**Sn**	**14 59 56.2**	**+0.6**
VYHS	**Vyhne**	**3.64**	**149**	*e*PN	**Pn**	**14 59 15.7**	**+0.9**
VYHS				*e*PG	**Pg**	**14 59 28.7**	**+1.7**
VYHS				*e*SG	**Sg**	**15 00 16.1**	**+1.9**
CONA	**Conrad Observa**	**3.73**	**182**	*e*Pn	**Pn**	**14 59 17.4**	**+1.4**
	comp=Z,0.5nm,0.2s						
CONA				*e*Sg	**Sg**	**15 00 14.5**	**-2.4**
	comp=Z,26nm,0.4s						
MOA	**Molln**	**3.97**	**197**	*i* Pn	**Pn**	**14 59 20.5**	**+1.2**
	comp=Z,3.1nm,0.3s						
MOA				*e*Sg	**Sg**	**15 00 23.1**	**-1.5**
	comp=Z,10nm,0.5s						
STHS	**Stebnicka Huta**	**4.01**	**122**	*e*SG	**Sg**	**15 00 30.3**	**+4.3**
STHS				*e*LG	Lg	15 00 32.4	
ARSA	**Arzberg**	**4.42**	**184**	Sg	**Sg**	**15 00 37.9**	**-1.0**
	comp=Z,9.3nm,0.7s						
KOLS	**Kolonicke sedl**	**4.84**	**122**	*e*SG	**Sg**	**15 00 55.7**	**+3.0**
KBA	**Koelnbreinsper**	**4.90**	**202**	*i* Pn	**Pn**	**14 59 33.6**	**+1.5**
	comp=Z,3.3nm,0.5s						
KBA				Sg	**Sg**	**15 00 52.9**	**-1.6**
	comp=Z,4.3nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.32**	**222**	Pn	**Pn**	**14 59 51.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=4.8,slow=12,SNR=3.2						
DAVOX				Lg	Lg	15 01 36.5	
	comp=Z,0.3nm,0.3s,baz=189,slow=19,SNR=3.2						
AKASG	**Malin Array Be**	**8.36**	**91**	Pn	**Pn**	**15 00 20.7**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=277,slow=12,SNR=4.7						
AKASG				Sn	**Sn**	**15 01 50.3**	**-4.1**
	comp=Z,0.7nm,0.3s,baz=249,slow=34,SNR=2.4						
HFS	**Hagfors**	**8.60**	**352**	Pn	**Pn**	**15 00 23.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=4.1						
HFS				Sn	**Sn**	**15 01 56.6**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=176,slow=24,SNR=2.2						
FINES	**FINESS Array B**	**11.26**	**25**	Pn	**Pn**	**15 00 59.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=10,SNR=5.9						
FINES				Sn	**Sn**	**15 03 00.0**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=195,slow=16,SNR=3.9						
ARCES	**ARCESS Array B**	**18.50**	**11**	Pn	**P**	**15 02 33.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=2.5						

NCEDC ***02*** *15:00:52±1.9, 37°.48N±0°.02×121°.81W±0°.03, h8km±4km, Md2.7*
NEIC 02 15:00:52.0±1.3, 37°.48N±0°.04×121°.82W±0°.05, h13km±3km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALM	**Calaveras Res.**	**0.03**	**150**		Pg	15 00 54.8	+0.4
CMJM	**Mission San Jo**	**0.06**	**313**		Pg	15 00 54.1	-0.5
CMLM	**Mount Lewis**	**0.14**	**91**		Pg	15 00 55.2	-0.3
WENL	**Wente Vineyard**	**0.15**	**20**		Pg	15 00 55.7	0.0
CNIC	**Niles Canyon**	**0.17**	**318**		Pg	15 00 56.1	+0.1
CNIC					Sg	15 00 59.2	+0.4
SCCB	**Santa Clara Co**	**0.20**	**190**		Pg	15 00 56.3	0.0
MHC	**Mount Hamilton**	**0.20**	**134**		Pg	15 00 56.2	-0.3
MHC					Sg	15 00 59.6	0.0
CYD1	**Coyote D'meter**	**0.23**	**291**		Pg	15 00 56.9	-0.1
CCOB	**Coe Ranch Numb**	**0.25**	**152**		Pg	15 00 57.5	+0.2
CMMM	**Mount Mocho**	**0.26**	**95**		Pg	15 00 57.5	0.0
ARN	**Arnold Ranch**	**0.26**	**120**		Pg	15 00 57.4	-0.2
JSGM	**Saratoga Golf**	**0.27**	**223**		Pb	15 00 58.2	-0.4
C055	**Cottonwood Ave**	**0.29**	**307**		Pg	15 00 58.3	+0.3
JSFB	**Stanford Teles**	**0.29**	**255**		Pg	15 00 58.3	+0.2
JJOM	**Saint Joseph's**	**0.30**	**205**		Pg	15 00 58.2	+0.1
JBMM	**Black Mountain**	**0.31**	**239**		Pg	15 00 58.6	+0.2
JFP	**Foothills Park**	**0.32**	**248**		Pg	15 00 58.7	+0.2
CLCB	**Lake Chabot**	**0.32**	**323**		Pg	15 00 59.0	+0.5
JUMM	**Mount Umunhum**	**0.33**	**191**		Pg	15 00 58.7	+0.1
JLAB	**Laurel Hill**	**0.33**	**168**		Pg	15 00 58.8	+0.1
JRSC	**Jasper Ridge**	**0.34**	**257**		Pg	15 00 58.8	-0.1
CADM	**Anderson Res.**	**0.35**	**154**		Pg	15 00 59.5	+0.4
JHPM	**Huddart Park**	**0.39**	**265**		Pg	15 00 59.9	+0.2
BGC	**Bolinger Road**	**0.39**	**330**		Pb	15 01 00.4	-0.3
JHUM	**Huhtala Lane,**	**0.39**	**227**		Pb	15 01 00.4	-0.4
CMCM	**Mills College**	**0.41**	**317**		Pg	15 01 00.5	+0.3
JCPM	**Coyote Point**	**0.41**	**285**		Pg	15 01 00.3	+0.1
SMCB	**Saint Mary's C**	**0.42**	**327**		Pb	15 01 01.0	-0.3
JECB	**Eureka Canyon**	**0.43**	**179**		Pg	15 01 00.7	+0.1
BGH	**Bear Gulch**	**0.44**	**252**		Pg	15 01 01.0	+0.4
CRPB	**Russellman Par**	**0.44**	**351**		Pb	15 01 01.5	0.0
HSPM	**Sheep**	**0.44**	**146**		Pg	15 01 00.8	+0.1
JCHM	**Cahill Ridge**	**0.44**	**275**		Pg	15 01 00.8	0.0
JBNB	**Ben Lomond Mou**	**0.45**	**217**		Pg	15 01 00.9	+0.1
JTGM	**Trout Gulch Ro**	**0.45**	**186**		Pb	15 01 01.4	-0.4
HLPM	**Lions Peak**	**0.46**	**161**		Pg	15 01 01.2	+0.1
BDM	**Black Diamond**	**0.47**	**356**		Pb	15 01 02.5	+0.3
OXMT	**Ox Mountain**	**0.48**	**272**		Pg	15 01 01.3	-0.1
SAC	**San Andreas**	**0.48**	**282**		Pg	15 01 01.6	+0.1
GHS	**Gilroy Hot Spr**	**0.49**	**142**		Pg	15 01 01.6	0.0
JSBM	**San Bruno Moun**	**0.50**	**294**		Pg	15 01 01.6	-0.2
JPSM		**0.51**	**236**		Pg	15 01 02.2	+0.3
BRIB	**Briones**	**0.51**	**329**		Pb	15 01 02.8	0.0
CVPM	**Vollmer Peak**	**0.51**	**322**		Pb	15 01 02.5	-0.3
BKS	**Berkeley--Byer**	**0.51**	**320**		Pg	15 01 02.3	+0.3
VAK	**Adit at Lawren**	**0.52**	**319**		Pb	15 01 02.6	-0.4
BL67	**Building 67, L**	**0.52**	**319**		Pg	15 01 02.6	+0.3
BRK	**Berkeley--Havi**	**0.53**	**318**		Pg	15 01 02.5	+0.2
CDC	**Canada Road**	**0.53**	**149**		Pb	15 01 02.8	-0.2
CYBM	**Yerba Buena Is**	**0.54**	**308**		Pg	15 01 02.6	0.0
JMGM	**Milagra Ridge**	**0.54**	**287**		Pg	15 01 02.5	-0.1
JELB	**Ellicott, Sant**	**0.55**	**181**		Pb	15 01 03.2	-0.3
CSR	**Chase Ranch**	**0.56**	**160**		Pb	15 01 02.8	0.0
CPIM	**Pinole Ridge**	**0.60**	**328**		Pb	15 01 04.3	0.0
HCOM	**Corn Cob Canyo**	**0.60**	**171**		Pg	15 01 03.9	+0.2
HFEM	**San Felipe**	**0.60**	**146**		Pg	15 01 03.6	-0.1
HPCM	**Pacheco Lake**	**0.60**	**134**		Pg	15 01 03.5	-0.3
JPRM	**Presidio of Sa**	**0.61**	**301**		Pg	15 01 03.8	0.0
CSPM	**San Pablo Ridg**	**0.61**	**321**		Pb	15 01 04.5	-0.1
OCR	**O'Connell Ranc**	**0.62**	**156**		Pg	15 01 04.1	+0.1
ANZ	**Anzar Road**	**0.62**	**163**		Pb	15 01 04.5	-0.2
SLD	**San Luis Dam**	**0.63**	**130**		Pg	15 01 03.9	-0.3
PACP	**Pacheco Peak**	**0.64**	**138**		Pg	15 01 04.2	-0.2
CPMM	**Point Molate**	**0.66**	**315**		Pg	15 01 04.7	-0.1
HBTM	**San Juan Bauti**	**0.67**	**161**		Pb	15 01 05.4	+0.1
HTUM	**Tustin Road**	**0.67**	**168**		Pg	15 01 04.8	-0.1
SFJWR	**San Luis Fatjo**	**0.67**	**130**		Pg	15 01 04.7	-0.3
HERM	**Elkhorn Road**	**0.69**	**173**		Pg	15 01 05.3	0.0
NLHM	**Lake Herman**	**0.69**	**338**		Pb	15 01 06.4	+0.6
HJGM	**San Juan Grade**	**0.71**	**164**		Pg	15 01 05.9	+0.1
FRP	**Fremont Peak**	**0.77**	**160**		Pg	15 01 06.8	-0.1
SAO	**San Andreas Ge**	**0.78**	**157**	Pg	Pb	15 01 07.2	-0.1
BSLM	**Silva Ranch**	**0.80**	**152**		Pb	15 01 07.7	0.0
BVYM	**Vineyard**	**0.80**	**156**		Pb	15 01 07.6	-0.1
BSRM	**Salinas Radio**	**0.85**	**163**		Pg	15 01 07.8	-0.6
SNT	**Sears Point**	**0.86**	**325**		Pg	15 01 08.6	0.0
BHRM	**Hodges Ranch**	**0.87**	**149**		Pg	15 01 08.6	-0.2
HMOM	**Monterey**	**0.88**	**185**		Pg	15 01 08.6	-0.5
BPCNC	**Pine Canyon**	**0.92**	**170**		Pg	15 01 09.4	-0.3
SCZ	**Santa Cruz**	**0.94**	**159**		Pb	15 01 09.1	-1.0
BJOM	**Mount Johnson**	**0.94**	**154**		Pb	15 01 09.6	-0.5
NOLM	**Olema**	**0.95**	**306**		Pb	15 01 09.5	-0.8
FARB	**Farallon Islan**	**0.96**	**283**		Pb	15 01 09.8	-0.7
BEHM	**Elkhorn Ranch**	**0.96**	**147**		Pb	15 01 09.8	-0.7
BJCM	**Johnson Can.**	**0.99**	**160**		Pb	15 01 10.1	-0.9
CVS	**Carmenet Viney**	**1.00**	**330**		Pb	15 01 10.9	-0.2
BEMM	**Emmet**	**1.00**	**144**		Pb	15 01 10.5	-0.7
BRMM	**Rolling Bench**	**1.02**	**129**		Pb	15 01 11.4	-0.1
MNHB	**New Hogan Dam**	**1.04**	**50**		Pb	15 01 10.8	-1.0
BAVM	**Antelope Valle**	**1.05**	**143**		Pb	15 01 11.2	-0.7
MCCM	**Marconi Confer**	**1.07**	**309**	Pg	Pb	15 01 11.6	-0.7
MCCM					Sn	15 01 27.5	+0.3
MCUB	**Copperopolis B**	**1.07**	**62**		Pb	15 01 11.3	-1.0
BBGB	**Big Mountain B**	**1.10**	**145**		Pb	15 01 12.6	-0.2
AASM	**Arroyo Seco**	**1.10**	**30**		Pb	15 01 11.3	-1.6
HAST	**Hastings Reser**	**1.11**	**169**		Pb	15 01 12.0	-1.0
MYLM	**Yosemite Lake**	**1.12**	**95**		Pb	15 01 12.4	-0.7
NTYM	**Taylor**	**1.12**	**324**		Pb	15 01 12.6	-0.6
BBNM	**San Benito**	**1.14**	**148**		Pb	15 01 13.2	-0.3
BSMM	**Soledad Missio**	**1.14**	**164**		Pb	15 01 12.7	-0.9
BSGM	**Shirttail Gulc**	**1.16**	**157**		Pb	15 01 12.6	-1.2
BMSM	**Mercy Hot Spri**	**1.16**	**135**		Pb	15 01 13.1	-0.8
BCWM	**Chews Ridge**	**1.19**	**170**		Pn	15 01 13.1	-1.3
NSHM	**Saint Helena R**	**1.21**	**329**		Pn	15 01 13.8	-0.7
NBPM	**Berryessa Peak**	**1.22**	**346**		Pn	15 01 14.4	-0.3
BPOM	**Post Ranch**	**1.25**	**178**		Pn	15 01 13.6	-1.5
CMB	**Columbia Colle**	**1.26**	**64**		Pn	15 01 14.7	-0.6
CMB				Sg	Sb	15 01 31.8	-0.1
MAC	**Mark West Spri**	**1.28**	**327**		Pn	15 01 15.4	-0.2
BAPM	**Anderson Peak**	**1.31**	**174**		Pn	15 01 14.7	-1.3
PBWM	**Bitterwater Cr**	**1.37**	**148**		Pn	15 01 16.3	-0.4
LRC	**Lone Oak Road**	**1.38**	**153**		Pn	15 01 16.3	-0.6
NMCNC	**Mill Creek, So**	**1.40**	**322**		Pn	15 01 16.4	-0.8
NMTM	**Middletown**	**1.41**	**340**		Pn	15 01 16.6	-0.7
GAXM	**Alexander Vall**	**1.43**	**329**		Pn	15 01 16.7	-1.0
MNRC	**McLaughlin Min**	**1.48**	**341**		Pn	15 01 18.4	0.0
FTR	**Fort Ross**	**1.48**	**315**		Pn	15 01 17.6	-0.7
PCCM	**Crazy Canyon**	**1.48**	**159**		Pn	15 01 17.6	-0.8
GBGM	**Boggs Mountain**	**1.49**	**333**		Pn	15 01 18.1	-0.4
GSSM	**Skaggs Springs**	**1.54**	**323**		Pn	15 01 18.2	-0.8
GHCM	**House Creek**	**1.56**	**316**		Pn	15 01 18.6	-0.9
MHDM	**Hidden Dam**	**1.58**	**103**		Pn	15 01 19.1	-0.5
PAPM	**Alder Peak**	**1.61**	**167**		Pn	15 01 19.3	-0.8
AFDM	**Forest Hills D**	**1.61**	**24**		Pn	15 01 19.4	-0.6
AFDM				Sn	Sn	15 01 39.5	-1.2
ASMM	**Slate Mountain**	**1.61**	**33**		Pn	15 01 20.4	+0.2
MMIM	**Miami Mountain**	**1.65**	**91**		Pn	15 01 21.1	+0.4
PHPM	**Hope Ranch**	**1.79**	**147**		Pn	15 01 21.8	-0.8
GHLM	**Highland Sprin**	**1.82**	**329**		Pn	15 01 22.1	-1.0
PKD	**Bear Valley Ra**	**1.84**	**146**		Pn	15 01 22.8	-0.5
PVCM	**Vineyard Canyo**	**1.87**	**146**		Pn	15 01 22.9	-0.7
PHCM	**Hearst Castle**	**1.87**	**163**		Pn	15 01 23.0	-0.7
PSTM	**Stockdale Moun**	**1.87**	**145**		Pn	15 01 23.2	-0.5
EMB	**Emerald Bay**	**2.01**	**42**		Pn	15 01 27.1	+1.2
RUBR	**Rubicon Trail**	**2.04**	**39**		Pn	15 01 27.0	+0.7
RUBR					Sn	15 01 51.3	-0.4
BLDC	**Black Mountain**	**2.08**	**159**		Pn	15 01 26.0	-0.5
ORV	**Oroville**	**2.09**	**7**	Pn	Pn	15 01 26.0	-0.6
GNO	**Genoa**	**2.12**	**46**		Pb	15 01 29.3	-1.1
WAKR	**Walker**	**2.14**	**61**		Pb	15 01 29.4	-1.4
MDPB	**Devils Postpil**	**2.18**	**85**		Pn	15 01 29.6	+1.5
MDPB	**Devils Postpil**	**2.18**	**85**	Sn	Sn	15 01 56.6	+1.3
MRDM	**Red Cones**	**2.20**	**86**		Pb	15 01 30.2	-1.5
MINS	**Minaret Summit**	**2.20**	**85**		Pn	15 01 29.8	+1.4
BFC	**Buffalo Canyon**	**2.24**	**50**		Pb	15 01 31.5	-0.9
OMMB	**Old Mammoth Mi**	**2.25**	**86**		Pb	15 01 30.9	-1.7
PNTR	**Pine Nut**	**2.37**	**47**		Pn	15 01 31.8	+1.0
HELL	**Mitchell Peak,**	**2.38**	**109**		Pn	15 01 31.7	+1.0
YERR	**Yerington**	**2.53**	**53**		Pn	15 01 32.9	0.0
BEKR	**Beckworth**	**2.64**	**25**		Pn	15 01 34.3	-0.1
RYN	**Ryan**	**2.84**	**65**		Pn	15 01 37.6	+0.4
NVAR	**Mina Array Bea**	**2.94**	**70**		Pn	15 01 37.7	-0.8
ISA	**Isabella, Lake**	**3.25**	**123**		Pn	15 01 42.1	-0.6

ISCJB ***02*** *15:11:57.8±0.9, 24°.30N±0°.08×98°.96E±0°.07, h7km, mb3.3/3, Error ellipse: s-maj=12.4km s-min=8.7km az=164.0*
IDC ***02*** *15:11:60.0±1.5, 24°.45N×99°.00E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/50, mbtmp3.3/4, ML3.7/1, MS2.4/1, Ms1 2.6/1, ms1mx2.3/29, Error ellipse: s-maj=57.4km s-min=19.6km az=82.0*
BJI ***02*** *15:12:01.0±0.0, 24°.51N×98°.91E, h10km, ML3.3/6*
ISC 02 15:12:00.6±1.1, 24°.41N±0°.08×98°.91E±0°.09, h7km, n6, σ1§43/8, mb3.5/3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.56**	**78**	Pg	**Pg**	**15 13 07.8**	**-1.1**
KMI				Sg	**Sg**	**15 13 55.4**	**+0.4**
KMI				smax	smax		
	comp=N,95nm,0.9s						
KMI				smax	smax		
	comp=E,66nm,0.8s						
CMAR	**Chiang Mai Arr**	**5.92**	**180**	Pn	**Pn**	**15 13 30.8**	**+2.0**
	0.5nm,0.3s,baz=354,slow=12,SNR=16						
CMAR				Pg	**Pg**	**15 13 52.6**	**-1.5**
	0.4nm,0.3s,baz=352,slow=14,SNR=4.3						
CMAR				Lg	Lg	15 15 10.0	
	baz=219,slow=40,SNR=2.4						
CMAR				LR	LR	15 16 08.8	
	comp=Z,33nm,18.2s,baz=245,slow=42						
WMQ	**Urumqi**	**21.44**	**337**	*e*P	**P**	**15 16 48.3**	**-1.1**
SONM	**Songino Array**	**24.13**	**12**

```
     baz=252,slow=14
SPA0                          Sg    Sb    15 24 11.0 -1.6
     baz=259,slow=37
HSPB Hornsund (broa   1.90 110 Pg    Pn    15 23 48.2 +2.3
HSPB                          Lg    Lg    15 24 06.2
HSPB Hornsund (broa   1.90 110 iP    Pn    15 23 48.2 +2.3
HSPB                          iS    Sn    15 24 05.8 -2.8
HSPB Hornsund (broa   1.90 110 eP    Pn    15 23 48.4 +2.4
HSPB                          eS    Sn    15 24 06.5 -2.2
HOPEN Hopen           4.08  99 eP    Pn    15 24 21.2 +5.3
HOPEN                         eS    Sn    15 25 04.1 +1.7
DAG  Danmarks Havn    5.86 273 iP    Pn    15 24 43.6 +3.3
DAG                           iS    Sn    15 25 44.8 -1.4
ZFI2 Zemlya Franca-   7.89  49 eP    Pn    15 25 11.8 +3.7
ZFI2                          eS    Sn    15 26 32.7 -3.5
     comp=Z,7.8nm,1.5s
ARA0 ARCESS Array S   9.61 140 Pn    Pn    15 25 34.8 +3.1
     baz=331,slow=12
ARA0                          Sn    Sn    15 27 15.0 -3.3
     baz=346,slow=22
ARA0 ARCESS Array S   9.61 140 Pn    Pn    15 25 34.8 +3.1
     baz=331,slow=12
ARA0                          Sn    Sn    15 27 15.0 -3.3
     baz=346,slow=22
```

IDC ***02*** *15:45:03.4±5.3, 13°.74N×90°.05W, h0km, mb3.7/1, mb1 4.0/2, mb1mx3.5/27, mbtmp3.4/2, ML3.9/1, Error ellipse: s-maj=396.6km s-min=67.0km az=42.0*

ISCJB ***02*** *15:45:07.6±1.7, 13°.4N±0°.2×91°.01W±0°.08, h29km, mb3.8/1, Error ellipse: s-maj=24.3km s-min=8.0km az=22.5*

SNET ***02*** *15:45:08.1±0.9, 13°.54N×90°.95W, h13km±6km, ML3.5*

GCG ***02*** *15:45:15.5±0.4, 14°.07N×91°.04W, h59km±12km, MD4.0*

ISC 02 15:45:09.8±1.6, 13°.5N±0°.1×90°.94W±0°.08, h29km, n17, σ0=64/17, 1D, Near coast of Guatemala

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m  s    ISC
IXG  Ixpaco           0.80  37 eP    Pb          15 45 25.2 -0.2
FUG  Fuego 3          0.92   6 eP    Pb          15 45 27.2 -0.1
ERG  Entre ros, C     1.09 326 eP    Pn          15 45 28.9 -0.3
NBG  Las Nubes        1.20  29 eP    Pb          15 45 32.3 +0.2
RTR  El Retiro        1.31  74 eP    Pn          15 45 31.8 -0.6
SBLS San Blas         1.32  76 eP    Pn          15 45 31.7 -0.8
STG3 Santiaguito 3,   1.32 333|| eP  Pn          15 45 31.7 -0.8
SNJE San Jose         1.34  75 eP    Pn          15 45 32.1 -0.7
UNIC Universidad Ca   1.43  72 eP    Pn          15 45 33.4 -0.4
UNIC                            IAML              15 45 56.5
     comp=Z,304nm,0.3s
UEES Universidad Ev   1.67  83 eP    Pn          15 45 36.4 -0.7
UEES                            IAML              15 46 06.3
     comp=Z,839nm,0.3s
MTO3 Montecristo      1.76  60 eP    Pn          15 45 39.0 +0.4
PAVA Las Pavas        1.96  84 eP    Pn          15 45 41.4 +0.2
PAVA                            IAML              15 46 12.1
     comp=Z,347nm,0.4s
VICT Victoria         2.28  79 eP    Pn          15 45 45.3 -0.3
LCND La Caada         2.98  94 eP    Pn          15 45 55.0 -0.1
LCND                            IAML              15 46 43.1
     comp=Z,189nm,0.4s
TXAR Lajitas Array   19.66 325 P     Pn          15 49 37.7 -0.4
     comp=Z,0.1nm,0.3s,baz=151,slow=13,SNR=6.7
NVAR Mina Array Bea  34.68 321 P     P           15 51 58.6 +1.3
     comp=Z,0.8nm,0.7s,baz=133,slow=7.8,SNR=6.8
CMAR Chiang Mai Arr 146.75 343 PKPbc PKPdf       16 04 47.6 -0.7
     comp=Z,0.8nm,0.6s,baz=348,slow=4.2,SNR=5.6
```

IDC ***02*** *15:52:44.2±0.3, 23°.65S×112°.73W, h0km, mb5.4/20, mb1 5.5/20, mb1mx5.5/24, mbtmp5.4/20, ML4.3/1, MS5.2/28, Ms1 5.2/28, ms1mx5.2/30, Error ellipse: s-maj=14.5km s-min=13.0km az=1.0*

ISCJB ***02*** *15:52:45.5±1.9, 23°.58S±0°.02×112°.57W±0°.03, h17km±13km, mb5.6/60, MS5.4/83, Error ellipse: s-maj=4.2km s-min=3.6km az=140.5*

MOS ***02*** *15:52:45.3±1.4, 23°.53S×112°.60W, h10km, mb5.9/58, MS5.5/41, Error ellipse: s-maj=9.9km s-min=6.7km az=89.6*

NEIC ***02*** *15:52:46.1±1.6, 23°.64S±0°.09×112°.60W±0°.06, h10km±1km, mb5.9/229, Ms_20 5.5/480, Mwb5.9, Mww6.0, Mwc6.1(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-8.45; $M_{\theta\theta}$9.27; $M_{\phi\phi}$-0.82; $M_{r\theta}$1.60; $M_{\theta\phi}$-2.95; $M_{\phi r}$-1.45; Fault plane solution: $M_0$9.61000×10^{17} NP1:ϕ_s292.64000°, δ51.36000°, λ-80.15000°. NP2:ϕ_s97.09000°, δ39.69000°, λ-102.08000°. Principal axes: T 10.2709, Plg6.0000°, Azm16.0000°; N -1.4907, Plg8.0000°, Azm106.0000°; P -8.7802, Plg80.0000°, Azm249.0000°;*

NEIC ***02*** *15:52:46.4, 23°.47S×112°.61W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.06; $M_{\theta\theta}$1.15; $M_{\theta\phi}$-0.09; $M_{r\theta}$-0.07; $M_{\phi\phi}$-0.44; $M_{\phi r}$0.03; Fault plane solution: $M_0$1.19000×10^{18} NP1:ϕ_s287.00000°, δ43.00000°, λ-91.00000°. NP2:ϕ_s108.00000°, δ47.00000°, λ-88.00000°. Principal axes: T 1.2927, Plg2.0000°, Azm198.0000°; N -0.2302, Plg1.0000°, Azm288.0000°; P -1.0625, Plg88.0000°, Azm33.0000°;*

BJI ***02*** *15:52:46.0±0.0, 23°.60S×112°.60W, h10km, mB6.1/43, Ms5.7/38, Ms7 5.4/41*

GCMT ***02*** *15:52:52.1±0.1, 23°.69S×112°.60W, h15km, MW6.0/146, Moment Tensor Solution. s136,c305; s146,c527; Duration: 2≥5 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.22±.01; $M_{\theta\theta}$1.22±.01; $M_{\phi\phi}$0.00±.01; $M_{r\theta}$0.20±.02; $M_{\theta\phi}$-0.46±.01; $M_{\phi r}$-0.23±.02; Best double couple: $M_0$1.33200×10^{18} NP1:ϕ_s296.00000°, δ51.00000°, λ-80.00000°. NP2:ϕ_s100.00000°, δ40.00000°, λ-102.00000°. Principal axes: T 1.3970, Plg6.0000°, Azm19.0000°; N -0.1270, Plg8.0000°, Azm110.0000°; P -1.2670, Plg80.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***02*** *15:52:52, 23°.70S×112°.64W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.28; $M_{\theta\theta}$1.29; $M_{\phi\phi}$-0.01; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.43; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.37000×10^{18} NP1:ϕ_s106.00000°, δ41.00000°, λ-91.00000°. NP2:ϕ_s287.00000°, δ49.00000°, λ-89.00000°. Principal axes: T 1.4303, Plg4.0000°, Azm17.0000°; N -0.1410, Plg1.0000°, Azm107.0000°; P -1.2893, Plg86.0000°, Azm209.0000°;*

ISC 02 15:52:45.5±1.6, 23°.64S±0°.05×112°.68W±0°.04, h8km±9km, n1675, σ0=134/1530, mb5.8/151, MS5.5/304, 78C-19D, Easter Island region

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m  s    ISC
RPN  Rapa Nui         4.61 140 P     Pn          15 53 54.4 -1.0
RPN                                               15 54 49.8
RPN  Rapa Nui         4.61 140 Pn    Pn          15 53 53.8 -1.6
     13nm,0.3s,baz=331,slow=6.9,SNR=5.1
RPN                             Sn    Sn          15 54 49.8 +0.7
     5.0nm,0.3s,baz=270,slow=18,SNR=2.6
RPN                             LR    LR          15 55 13.0
     comp=Z,33μm,18.1s,baz=296,slow=32
RPN  Rapa Nui         4.61 140       Pn          15 53 54.4 -1.0
PTCN Pitcairn Islan  15.94 261 P     P           15 56 33.5 -0.3
TAOE Nuku Hiva Isla  30.11 295 eS    S           16 03 53.6 -1.4
     2μm,24.5s
TAOE                            eLQ   LQ          16 05 24.5
     3μm,24.7s
TAOE                            eLR   LR          16 06 34.4
     comp=Z,6μm,36.0s
PAYG Puerto Ayora    31.51  47 IAMs_20 IAMs_20    16 08 15.2
     comp=Z,8μm,19.0s
MEH  Mehetia         33.52 273 eP    P           15 59 27.2 +1.4
     comp=Z,78nm,1.2s
MEH  Mehetia         33.52 273 eT    T           16 34 36.4
     comp=Z,14nm,0.2s
TBI  Tubuai          33.68 263 eS    S           16 04 50.5 +0.1
     comp=Z,3μm,26.8s
TBI                             eLQ   LQ          16 06 56.6
     comp=Z,11μm,32.0s
TBI                             eLR   LR          16 08 16.6
     comp=Z,7μm,29.2s
VAH  Vaihoa          33.93 278 eP    P           15 59 30.4 +1.1
     comp=Z,304nm,1.3s
PMOR Pomariorio Ree  34.25 278 eP    P           15 59 33.2 +1.1
     comp=Z,477nm,1.3s
TVO  Taravao         34.64 273 eP    P           15 59 37.3 +1.8
     comp=Z,138nm,1.2s
TVO  Taravao         34.64 273 eT    T           16 35 57.7
     comp=Z,1.8nm,0.3s
TIAR Tiarei          34.78 273 eP    P           15 59 38.6 +1.8
     comp=Z,36nm,1.2s
TIAR Tiarei          34.78 273 eT    T           16 36 11.3
     comp=Z,7.0nm,0.3s
PAE  Paea            34.97 273 eP    P           15 59 40.2 +1.9
     comp=Z,45nm,1.0s
PPTF Pamatai, Papee  34.98 273 P     P           15 59 38.4 -0.1
PPT2 Papeete2        34.99 273 eP    P           15 59 40.6 +2.0
     comp=Z,336nm,1.3s
PPT2                            eS    S           16 05 11.0 +0.1
     comp=Z,3μm,26.0s
PPT2                            eLQ   LQ          16 07 26.8
     comp=Z,12μm,26.0s
PPT2                            eLR   LR          16 08 56.6
     comp=Z,7μm,30.8s
PPT  Papeete         34.99 273 P     P           15 59 37.7 -0.9
PPT                                               15 59 39.9
PPT  Papeete         34.99 273 P     P           15 59 37.7 -0.9
     comp=Z,314nm,1.3s,baz=89,slow=12,SNR=8.4
PPT                             LR    LR          16 10 27.1
     comp=Z,3μm,18.2s,baz=113,slow=30
PPT  Papeete         34.99 273 P     P           15 59 39.9 +1.3
NNA  Nana            35.93  78 eP    P           15 59 48.0 +1.3
NNA                             pmax  pmax
     comp=Z,289nm,1.3s
NNA                             MLR   MLR         16 05 11.0
     comp=Z,6μm,16.0s
NNA  Nana            35.93  78 P     P           15 59 45.1 -1.5
NNA                             IAmb  IAmb        15 59 52.4
     comp=Z,126nm,1.1s
NNA  Nana            35.93  78 IAMs_20 IAMs_20    16 10 22.0
     comp=Z,6μm,18.0s
GO05 Huala           37.06 117 P     P           15 59 54.2 -1.9
ROC1 El Roble        37.64 114 P     P           16 00 02.0 +0.7
GO04 Toledo Observa  37.75 109 P     P           16 00 01.4 -0.9
GO04                            PcP   PcP         16 02 19.2 -0.1
GO04                            IAMs_20 IAMs_20   16 11 27.0
     comp=Z,7μm,18.0s
LCO  Las Campanas    37.86 107 P     P           15 59 59.9 -3.3
LCO                             IAmb  IAmb        16 00 10.0
     comp=Z,207nm,1.1s
LCO                             PcP   PcP         16 02 20.7 +1.1
LCO  Las Campanas    37.86 107 eP    P           16 00 04.3 +1.1
LCO  Las Campanas    37.86 107 eP    P           16 00 04.3 +1.1
PEL  Peldehue        37.93 114 P     P           16 00 03.0 -0.5
PEL  Peldehue        37.93 114 P     P           16 00 03.0 -0.5
PEL                             IAMs_20 IAMs_20   16 11 26.9
     comp=Z,6μm,19.0s
GO06 Curarrehue      38.17 125 P     P           16 00 06.5 +1.0
GO03 Copiap          38.34 105 P     P           16 00 07.5 +0.4
PB10 IPOC Station P  38.51  99 P     P           16 00 06.7 -1.8
PB04 IPOC Station P  39.07  97 P     P           16 00 11.6 -1.8
PLCA Paso Flores     39.10 126 P     P           16 00 13.0 -0.4
PLCA                                              16 02 24.5
PLCA                            pmax  pmax
     comp=Z,47nm,1.0s
PLCA Paso Flores     39.10 126 P     P           16 00 14.3 +1.0
     comp=Z,35nm,1.0s,baz=319,slow=9.5,SNR=27
PLCA                            PcP   PcP         16 02 23.3 +0.2
     comp=Z,16nm,1.1s,baz=281,slow=4.4,SNR=3.7
PLCA                            LR    LR          16 12 26.0
     comp=Z,3μm,18.8s,baz=304,slow=30
PLCA Paso Flores     39.10 126 P     P           16 00 13.0 -0.4
PLCA                            PcP   PcP         16 02 24.6 +1.4
PLCA Paso Flores     39.10 126 eP    P           16 00 15.2 +1.9
PLCA Paso Flores     39.10 126 eP    P           16 00 15.2 +1.9
GO02 Mina Guanaco    39.15 101 P     P           16 00 14.3 +0.1
GO02                            IAMs_20 IAMs_20   16 12 17.1
     comp=Z,6μm,20.0s
PB07 IPOC Station P  39.42  96 iP    P           16 00 17.8 +1.4
PB06 IPOC Station P  39.53  98 eP    P           16 00 16.6 -0.7
PB12 IPOC Station P  39.71  91 iP    P           16 00 19.5 +0.7
PB01 IPOC Station P  39.92  95 iP    P           16 00 21.9 +1.5
PB09 IPOC Station P  40.00  96 iP    P           16 00 22.9 +1.7
PB11 IPOC Station P  40.05  93 iP    P           16 00 21.6  0.0
PB11 IPOC Station P  40.05  93 P     P           16 00 22.2 +0.6
PB11                            IAmb  IAmb        16 00 27.2
     comp=Z,170nm,1.1s
PB11                            PcP   PcP         16 02 28.1 +1.5
LVC  Limon Verde     40.15  98 P     P           16 00 24.2 +1.6
LVC                             pmax  pmax
     comp=Z,39nm,0.9s
LVC  Limon Verde     40.15  98 P     P           16 00 24.2 +1.6
LVC  Limon Verde     40.15  98 eP    P           16 00 22.0 -0.6
LVC  Limon Verde     40.15  98 eP    P           16 00 22.0 -0.6
MNMC Minye Minye     40.26  92 P     P           16 00 24.7 +1.3
MNMC                            PcP   PcP         16 02 29.1 +1.8
GO01 Chusmiza        40.50  93 P     P           16 00 26.7 +1.1
PB16 IPOC Station P  40.54  91 iP    P           16 00 26.8 +0.7
OTAV Otavalo         40.83  59 eP    P           16 00 28.5 +0.1
OTAV Otavalo         40.83  59 eP    P           16 00 28.5 +0.1
OTAV Otavalo         40.83  59 P     P           16 00 29.3 +0.9
OTAV                                              16 02 30.7
OTAV                            pmax  pmax
     comp=Z,36nm,1.2s
OTAV Otavalo         40.83  59 P     P           16 00 29.3 +0.9
OTAV                            PcP   PcP         16 02 30.7 +1.2
OTAV Otavalo         40.83  59 eP    P           16 00 27.2 -1.2
OTAV Otavalo         40.83  59 eP    P           16 00 27.2 -1.2
LPAZ La Paz          42.37  89 P     P           16 00 43.2 +2.0
LPAZ                                              16 02 37.5
LPAZ                            pmax  pmax
     comp=Z,115nm,1.1s
LPAZ La Paz          42.37  89 P     P           16 00 42.5 +1.3
     comp=Z,99nm,1.0s,baz=261,slow=5.4,SNR=59
LPAZ                            LR    LR          16 14 54.7
     comp=Z,3μm,18.1s,baz=254,slow=31
LPAZ La Paz          42.37  89 P     P           16 00 43.2 +2.0
LPAZ                            PcP   PcP         16 02 37.5 +2.7
LPAZ La Paz          42.37  89 eP    P           16 00 42.6 +1.4
LPAZ La Paz          42.37  89 eP    P           16 00 42.6 +1.4
CRUC La Cruz         42.83  59 eP    P           16 00 45.2 +0.5
CRUC La Cruz         42.83  59 eP    P           16 00 45.2 +0.5
BBAC Balboa, Cauca   42.88  58 eP    P           16 00 43.8 -1.1
BBAC Balboa, Cauca   42.88  58 eP    P           16 00 43.8 -1.1
GO10 Punta Arenas    43.02 144 P     P           16 00 46.0 +0.7
JTS  Las Juntas de   43.27  42 iP    P           16 00 49.7 +1.9
JTS                             pmax  pmax
     comp=Z,148nm,1.3s
JTS  Las Juntas de   43.27  42 P     P           16 00 47.7 -0.1
JTS  Las Juntas de   43.27  42 IAMs_20 IAMs_20    16 13 54.1
     comp=Z,6μm,22.0s
SOTA Rioblanco       43.45  59 eP    P           16 00 50.8 +1.0
SOTA Rioblanco       43.45  59 eP    P           16 00 50.8 +1.0
RAR  Rarotonga       43.45 264 LR    LR          16 14 10.6
     comp=Z,3μm,18.4s,baz=108,slow=30
RAR  Rarotonga       43.45 264 IAMs_20 IAMs_20    16 13 12.0
     comp=Z,6μm,21.0s
POPC Popayan, Colom  43.64  58 eP    P           16 00 50.1 -1.0
POPC Popayan, Colom  43.64  58 eP    P           16 00 50.1 -1.0
PTLC Puerto Leguiza  43.73  63 eP    P           16 00 50.1 -1.4
PTLC Puerto Leguiza  43.73  63 eP    P           16 00 50.1 -1.4
PCON Cinco Dias      43.73  59 eP    P           16 00 52.9 +0.7
PCON Cinco Dias      43.73  59 eP    P           16 00 52.9 +0.7
FLOC Florencia       43.87  60 eP    P           16 00 50.1 -2.6
FLOC Florencia       43.87  60 eP    P           16 00 50.1 -2.6
YOTC Yotoco, Valle   44.80  57 eP    P           16 00 59.8 -0.4
YOTC Yotoco, Valle   44.80  57 eP    P           16 00 59.8 -0.4
USHA Ushuaia         45.15 145 P     P           16 01 03.1 +0.8
     comp=Z,78nm,1.0s,baz=289,slow=8.0,SNR=10
USHA                            LR    LR          16 15 17.2
     comp=Z,5μm,18.9s,baz=304,slow=30
TRQA Tornquist       45.31 121 P     P           16 01 04.2 +0.3
TRQA                            pmax  pmax
     comp=Z,130nm,1.0s
TRQA Tornquist       45.31 121 P     P           16 01 04.2 +0.3
TRQA                            IAmb  IAmb        16 01 08.7
     comp=Z,130nm,1.0s
TRQA Tornquist       45.31 121 eP    P           16 01 05.0 +1.1
TRQA Tornquist       45.31 121 eP    P           16 01 05.0 +1.1
PLMC San Jos del P   45.44  56 eP    P           16 01 05.4 +0.1
PLMC San Jos del P   45.44  56 eP    P           16 01 05.4 +0.1
ORTC Ortega, Tolima  45.61  58 eP    P           16 01 07.5 +0.9
ORTC Ortega, Tolima  45.61  58 eP    P           16 01 07.5 +0.9
MACC Macarena, Meta  45.65  61 eP    P           16 01 06.8 -0.1
MACC Macarena, Meta  45.65  61 eP    P           16 01 06.8 -0.1
BCIP Isla Barro Col  45.76  48 eP    P           16 01 07.5 -0.1
BCIP Isla Barro Col  45.76  48 eP    P           16 01 07.5 -0.1
BCIP Isla Barro Col  45.76  48 IAMs_20 IAMs_20    16 16 24.0
     comp=Z,5μm,18.0s
PTAC Punta Ardita,   45.78  52 eP    P           16 01 08.2 +0.3
PTAC Punta Ardita,   45.78  52 eP    P           16 01 08.2 +0.3
ANIL Santa Ana       45.85  57 eP    P           16 01 07.5 -1.3
ANIL Santa Ana       45.85  57 eP    P           16 01 07.5 -1.3
TOLC Tolima          45.97  57 eP    P           16 01 10.3 +0.5
TOLC Tolima          45.97  57 eP    P           16 01 10.3 +0.5
CBOC Ciudad Bolivar  46.26  55 eP    P           16 01 13.1 +1.2
CBOC Ciudad Bolivar  46.26  55 eP    P           16 01 13.1 +1.2
GUY2C Guyana, Caldas 46.34  57 eP    P           16 01 12.3 -0.5
GUY2C Guyana, Caldas 46.34  57 eP    P           16 01 12.3 -0.5
HELC Santa Helena    46.84  55 eP    P           16 01 16.5 -0.1
HELC Santa Helena    46.84  55 eP    P           16 01 16.5 -0.1
DBBC Dabeiba         46.87  54 eP    P           16 01 18.6 +2.1
DBBC Dabeiba         46.87  54 eP    P           16 01 18.6 +2.1
ROSC El Rosal        46.91  58 P     P           16 01 18.4 +1.2
     comp=Z,63nm,1.1s,baz=229,slow=5.1,SNR=16
ROSC                            LR    LR          16 17 29.4
     comp=Z,4μm,19.3s,baz=236,slow=32
NORC Norcasia        46.94  57 eP    P           16 01 15.8 -1.2
NORC Norcasia        46.94  57 eP    P           16 01 15.8 -1.2
VILC Villavicencio,  46.95  59 eP    P           16 01 17.9 +0.7
VILC Villavicencio,  46.95  59 eP    P           16 01 17.9 +0.7
SPBC San Pablo de B  47.61  57 eP    P           16 01 22.8 +0.5
SPBC San Pablo de B  47.61  57 eP    P           16 01 22.8 +0.5
PRVC Isla de Provid  47.87  43 eP    P           16 01 23.5 -0.6
PRVC Isla de Provid  47.87  43 eP    P           16 01 23.5 -0.6
PTBC PUERTO BERRIO,  47.87  56 eP    P           16 01 24.2 -0.1
PTBC PUERTO BERRIO,  47.87  56 eP    P           16 01 24.2 -0.1
ZARC Zaragoza, Cauc  48.19  55 eP    P           16 01 26.3 -0.4
ZARC Zaragoza, Cauc  48.19  55 eP    P           16 01 26.3 -0.4
PTGC Puerto Gaitan,  48.24  60 eP    P           16 01 27.0 -0.1
PTGC Puerto Gaitan,  48.24  60 eP    P           16 01 27.0 -0.1
RUSC La Rusia        48.52  58 eP    P           16 01 30.5 +0.6
RUSC La Rusia        48.52  58 eP    P           16 01 30.5 +0.6
LPA  La Plata        48.53 116 iP    P           16 01 26.7 -2.5
LPA                             PCP   PcP         16 03 02.7 +7.7
LPA                             PP    PP          16 03 24.4 +2.5
LPA                             S     S           16 08 34.1 +3.3
LPA                             SSS   SSS         16 13 55.2
BRRC Barranca, Sant  48.80  56 eP    P           16 01 31.9 +0.4
BRRC Barranca, Sant  48.80  56 eP    P           16 01 31.9 +0.4
BARC Barichara       48.88  57 eP    P           16 01 32.5 +0.2
BARC Barichara       48.88  57 eP    P           16 01 32.5 +0.2
SAML Samuel          49.45  81 P     P           16 01 35.9 -0.6
SAML                            pmax  pmax
     comp=Z,170nm,1.2s
SAML Samuel          49.45  81 P     P           16 01 35.9 -0.6
SAML                            IAmb  IAmb        16 01 41.6
     comp=Z,170nm,1.1s
SAML Samuel          49.45  81 eP    P           16 01 36.1 -0.4
SAML Samuel          49.45  81 eP    P           16 01 36.1 -0.4
SJCC San Jacinto, C  49.55  52 eP    P           16 01 38.1 +0.9
SJCC San Jacinto, C  49.55  52 eP    P           16 01 38.1 +0.9
SMLC San Martn de    49.63  54 eP    P           16 01 38.1 +0.4
SMLC San Martn de    49.63  54 eP    P           16 01 38.1 +0.4
TEIG Tepich          49.66  31 P     P           16 01 37.9  0.0
TEIG                            IAmb  IAmb        16 01 39.5
     comp=Z,84nm,1.1s
PAMC Pamplona, Colo  49.72  57 eP    P           16 01 38.8 -0.2
PAMC Pamplona, Colo  49.72  57 eP    P           16 01 38.8 -0.2
OCAC Ocana           49.83  55 eP    P           16 01 38.1 -1.3
OCAC Ocana           49.83  55 eP    P           16 01 38.1 -1.3
TAMC Tame, Arauca    49.86  58 eP    P           16 01 38.1 -1.5
TAMC Tame, Arauca    49.86  58 eP    P           16 01 38.1 -1.5
CPUP Villa Florida   49.92 105 P     P           16 01 38.4 -1.5
CPUP                                              16 03 00.7
CPUP                            pmax  pmax
     comp=Z,64nm,1.1s
CPUP Villa Florida   49.92 105 P     P           16 01 38.5 -1.4
     comp=Z,51nm,1.1s,baz=262,slow=7.6,SNR=19
CPUP                            PcP   PcP         16 03 00.7 +0.4
     comp=Z,24nm,1.1s,baz=272,slow=5.0,SNR=3.3
CPUP                            LR    LR          16 20 24.2
     comp=Z,854nm,18.1s,baz=264,slow=33
CPUP Villa Florida   49.92 105 P     P           16 01 38.4 -1.5
CPUP Villa Florida   49.92 105 eP    P           16 01 39.0 -0.9
CPUP Villa Florida   49.92 105 eP    P           16 01 39.0 -0.9
EFI  East Falkland   50.01 139 P     P           16 01 39.7 -0.5
EFI                             pmax  pmax
     comp=Z,189nm,1.1s
EFI  East Falkland   50.01 139 P     P           16 01 39.7 -0.5
EFI                             IAmb  IAmb        16 01 44.7
     comp=Z,189nm,1.1s
CODC Agustn Codazz   50.84  53 eP    P           16 01 46.5 -0.4
CODC Agustn Codazz   50.84  53 eP    P           16 01 46.5 -0.4
OGAUY Aigu           51.22 116 eP    P           16 01 50.9 +1.3
OGAUY Aigu           51.22 116 eP    P           16 01 50.9 +1.3
PMSA Palmer Station  51.69 156 LR    LR          16 18 21.1
     comp=Z,3μm,20.8s,baz=291,slow=30
PMSA Palmer Station  51.69 156 IAMs_20 IAMs_20    16 18 08.8
     comp=Z,5μm,22.0s
PMSA Palmer Station  51.69 156 eP    P           16 01 54.6 +2.0
PMSA Palmer Station  51.69 156 eP    P           16 01 54.6 +2.0
SDV  Santo Domingo   52.28  57 eP    P           16 01 56.2 -1.7
SDV  Santo Domingo   52.28  57 eP    P           16 01 56.2 -1.7
SDV  Santo Domingo   52.28  57 P     P           16 01 56.8 -1.2
SDV  Santo Domingo   52.28  57 IAMs_20 IAMs_20    16 19 19.3
     comp=Z,4μm,21.0s
SDV  Santo Domingo   52.28  57 eP    P           16 01 58.2 +0.3
SDV  Santo Domingo   52.28  57 eP    P           16 01 58.2 +0.3
HSIG                 52.38   2 P     P           16 01 57.8 -0.3
HSIG                            IAMs_20 IAMs_20   16 18 56.1
     comp=Z,5μm,19.0s
PLTB Pedras Altas    52.39 113 eP    P           16 01 58.6 +0.1
PLTB Pedras Altas    52.39 113 eP    P           16 01 58.6 +0.1
FSCY Frank Sound, G  52.59  38 P     P           16 01 59.3 -0.6
AQDB Aquidauana      52.61  98 eP    P           16 02 00.2  0.0
AQDB Aquidauana      52.61  98 eP    P           16 02 00.2  0.0
CPSB Cacapava Do Su  52.70 111 eP    P           16 02 01.6 +0.8
CPSB Cacapava Do Su  52.70 111 eP    P           16 02 01.6 +0.8
URIC Uribia, Colomb  53.07  53 eP    P           16 02 01.1 -2.4
URIC Uribia, Colomb  53.07  53 eP    P           16 02 01.1 -2.4
833A Chaparral WMA,  53.22  15 P     P           16 02 05.7 +1.3
     baz=195,SNR=20
833A Chaparral WMA,  53.22  15 P     P           16 02 04.3 -0.1
833A                            IAmb  IAmb        16 02 11.7
     comp=Z,196nm,1.1s
833A                            PcP   PcP         16 03 11.7 -0.6
TX31 Lajitas Ar. Si  53.37  10 P     P           16 02 07.0 +1.4
TX32 Lajitas Array   53.37  10 P     P           16 02 06.8 +1.2
TXAR Lajitas Array   53.37  10 P     P           16 02 06.5 +0.9
TXAR Lajitas Array   53.37  10 P     P           16 02 06.3 +0.7
     comp=Z,16nm,1.1s,baz=187,slow=8.7,SNR=75
TXAR                            LR    LR          16 20 36.0
     comp=Z,3μm,20.6s,baz=0.0,slow=31
TXAR                            PKPPKP P'P'df     16 32 29.7 +8.1
     comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=2.8
TXAR Lajitas Array   53.37  10 P     P           16 02 06.5 +0.9
SALV Santo Antonio   53.89  93 eP    P           16 02 09.5 -0.1
SALV Santo Antonio   53.89  93 eP    P           16 02 09.5 -0.1
MTDJ Mount Denham    53.93  43 P     P           16 02 10.9 +1.0
PP1B Ponte de Pedra  54.13  95 eP    P           16 02 12.0 +0.6
PP1B Ponte de Pedra  54.13  95 eP    P           16 02 12.0 +0.6
ITAB Concordia       54.34 107 eP    P           16 02 13.0 +0.2
ITAB Concordia       54.34 107 eP    P           16 02 13.0 +0.2
319A Douglas         54.80   4 P     P           16 02 17.4 +1.4
319A                            IAmb  IAmb        16 02 33.6
     comp=Z,109nm,1.1s
TRCB Terra Rica      54.82 102 eP    P           16 02 17.3 +0.9
TRCB Terra Rica      54.82 102 eP    P           16 02 17.3 +0.9
PTGB Pitanga         54.90 104 eP    P           16 02 17.7 +0.7
PTGB Pitanga         54.90 104 eP    P           16 02 17.7 +0.7
CNLB Canela          55.09 110 eP    P           16 02 19.2 +1.0
CNLB Canela          55.09 110 eP    P           16 02 19.2 +1.0
JCT  Junction City   55.21  14 P     P           16 02 19.7 +0.8
     baz=194,SNR=49
JCT  Junction City   55.21  14 P     P           16 02 19.6 +0.7
JCT                             pmax  pmax
     comp=Z,203nm,1.0s
JCT  Junction City   55.21  14 P     P           16 02 19.6 +0.7
JCT                             IAMs_20 IAMs_20   16 21 53.5
     comp=Z,4μm,20.0s
214A Organ Pipe Nat  55.28 360 P     P           16 02 20.8 +1.4
     baz=180,SNR=34
214A Organ Pipe Nat  55.28 360 P     P           16 02 18.9 -0.5
MNTX Cornudas Mount  55.46   8 P     P           16 02 21.2 +0.5
     baz=188,SNR=57
MNTX Cornudas Mount  55.46   8 P     P           16 02 21.1 +0.5
CLDB Colider         55.47  87 eP    P           16 02 19.2 -1.9
CLDB Colider         55.47  87 eP    P           16 02 19.2 -1.9
TUC  Tucson          55.66   2 P     P           16 02 23.4 +1.2
     baz=182
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HKT	Hockley	55.68	18	P	P	16 02 22.0	-0.1
HKT				pmax	pmax		
	comp=Z,34nm,1.1s						
HKT				MLR	MLR		
	comp=Z,2µm,22.0s						
HKT	Hockley	55.68	18	P	P	16 02 22.1	-0.1
PTGA	Pitinga	55.90	74	P	P	16 02 23.7	-0.6
PTGA	Pitinga	55.90	74	eP	P	16 02 23.4	-0.8
PTGA	Pitinga	55.90	74	eP	P	16 02 23.4	-0.8
435B	Jarrell	56.01	16	P	P	16 02 25.8	+1.2
	baz=197,SNR=20						
121A	Cookes Peak, D	56.05	5	P	P	16 02 26.5	+1.4
	baz=185,SNR=44						
121A	Cookes Peak, D	56.05	5	P	P	16 02 24.4	-0.6
121A				IAmb	IAmb	16 02 31.0	
	comp=Z,99nm,1.1s						
121A				PcP	PcP	16 03 21.4	-1.8
IKP	In-Ko-Pah, Jac	56.07	357	P	P	16 02 26.4	+1.4
	baz=176,SNR=31						
113A	Mohawk Valley,	56.10	359	IAMs_20	IAMs_20	16 20 41.7	
	comp=Z,4µm,19.0s						
BAR	Barrett	56.13	356	P	P	16 02 26.2	+0.7
BAR				IAmb	IAmb	16 02 32.1	
	comp=Z,102nm,1.1s						
BAR				IAMs_20	IAMs_20	16 20 41.7	
	comp=Z,4µm,21.0s						
MONP2	Monument Peak	56.33	356	P	P	16 02 28.3	+1.3
	baz=176,SNR=41						
PCMB	Pacaembu	56.34	101	eP	P	16 02 28.3	+1.0
PCMB	Pacaembu	56.34	101	eP	P	16 02 28.3	+1.0
SWSC	Sam W. Stewart	56.34	357	P	P	16 02 28.2	+1.2
	baz=176,SNR=18						
109C	Camp Elliot, M	56.37	356	P	P	16 02 28.3	+1.2
	baz=175						
109C	Camp Elliot, M	56.37	356	IAMs_20	IAMs_20	16 20 35.0	
	comp=Z,4µm,21.0s						
GLA	Glamis	56.41	358	P	P	16 02 28.8	+1.3
	baz=178,SNR=28						
GLA	Glamis	56.41	358	P	P	16 02 26.7	-0.7
GLA				pmax	pmax		
	comp=Z,31nm,1.0s						
GLA	Glamis	56.41	358	P	P	16 02 26.7	-0.7
AFI	Afiamalu	56.46	269	IAMs_20	IAMs_20	16 19 32.6	
	comp=Z,3µm,21.0s						
SCI2	San Clemente I	56.58	354	P	P	16 02 30.0	+1.4
	baz=174,SNR=6.5						
GTBY	Guantanamo Bay	56.71	43	IAMs_20	IAMs_20	16 22 14.4	
	comp=Z,4µm,19.0s						
SNCC	San Nicolas Is	56.94	353	P	P	16 02 31.8	+0.6
	baz=172						
CIS	Catalina Islan	56.98	354	P	P	16 02 32.6	+1.1
	baz=174,SNR=8.0						
062Z	Marathon	57.02	35	P	P	16 02 32.0	+0.1
	baz=215						
BC3	Big Chuckawall	57.03	357	P	P	16 02 33.4	+1.4
	baz=177,SNR=83						
TPFO	Pinon Flats	57.04	356	P	P	16 02 33.4	+1.3
	baz=176,SNR=25						
PFO	Pinyon Flats O	57.04	356	P	P	16 02 33.6	+1.5
	baz=176,SNR=30						
PFO	Pinyon Flats O	57.04	356	deP	P	16 02 33.1	+1.1
PFO				pmax	pmax		
	comp=Z,124nm,1.6s						
PFO				MLR	MLR		
	comp=Z,913nm,14.0s						
PFO	Pinyon Flats O	57.04	356	P	P	16 02 33.2	+1.1
PFO	Pinyon Flats O	57.04	356	IAMs_20	IAMs_20	16 21 08.9	
	comp=Z,3µm,20.0s						
MURC	Murrieta	57.08	356	P	P	16 02 33.5	+1.2
	baz=175,SNR=10						
Y12C	Blythe	57.09	358	P	P	16 02 33.7	+1.4
	baz=178,SNR=34						
Y12C	Blythe	57.09	358	P	P	16 02 33.4	+1.2
Y12C				IAmb	IAmb	16 02 35.4	
	comp=Z,124nm,1.1s						
Y12C				IAMs_20	IAMs_20	16 21 02.5	
	comp=Z,4µm,20.0s						
WHTX	Lake Whitney,	57.20	15	P	P	16 02 33.5	+0.4
	baz=196,SNR=17						
WHTX	Lake Whitney,	57.20	15	P	P	16 02 33.3	+0.3
WHTX				IAmb	IAmb	16 02 37.9	
	comp=Z,147nm,1.1s						
Y14A	Wickenburg	57.26	360	P	P	16 02 35.1	+1.7
Y14A				IAMs_20	IAMs_20	16 21 43.4	
	comp=Z,3µm,19.0s						
FMP	Fort Macarthur	57.28	354	P	P	16 02 34.7	+1.2
	baz=174						
ABTX	Abilene, Hawle	57.31	13	P	P	16 02 34.2	+0.3
	baz=194,SNR=16						
ABTX	Abilene, Hawle	57.31	13	P	P	16 02 33.0	-0.8
BELC	Belle Mtn. Jos	57.40	357	P	P	16 02 36.3	+1.7
	baz=176,SNR=102						
FRTB	Fartura	57.44	103	eP	P	16 02 35.4	+0.2
FRTB	Fartura	57.44	103	eP	P	16 02 35.4	+0.2
ARAG	Araguaiana, MT	57.50	94	eP	P	16 02 35.5	-0.1
ARAG	Araguaiana, MT	57.50	94	eP	P	16 02 35.5	-0.1
IRM	Iron Mountain	57.52	358	P	P	16 02 36.8	+1.5
	baz=177,SNR=69						
PDMCI	Parker Dam,Lak	57.64	359	P	P	16 02 37.6	+1.6
	baz=178,SNR=34						
Y22D	IRIS PASSCAL I	57.65	6	P	P	16 02 38.0	+1.6
	baz=186						
Y22D	IRIS PASSCAL I	57.65	6	P	P	16 02 37.8	+1.4
ITRB	Iturama	57.66	99	eP	P	16 02 37.2	+0.5
ITRB	Iturama	57.66	99	eP	P	16 02 37.2	+0.5
SCZ2	Santa Cruz Isl	57.69	353	P	P	16 02 37.5	+1.0
	baz=172						
NATX	Nacogdoches	57.72	18	P	P	16 02 37.8	+1.1
	baz=200,SNR=9.5						
BBRC	Big Bear Solar	57.72	356	P	P	16 02 38.6	+1.7
	baz=175,SNR=5.5						
PASC	Pasadena Art C	57.73	355	IAMs_20	IAMs_20	16 21 14.4	
	comp=Z,4µm,19.0s						
LENM	Lemitar	57.74	6	P	P	16 02 38.2	+1.2
BLG	Laguna Peak, P	57.74	354	P	P	16 02 37.9	+1.0
	baz=173,SNR=12						
X16A	Lo Mia Camp, P	57.74	1	P	P	16 02 38.4	+1.3
BFSC	Mount Baldy Ra	57.75	355	P	P	16 02 38.2	+1.1
	baz=174,SNR=35						
BNM	Barren Site	57.75	6	P	P	16 02 36.7	-0.5
MWC	Mount Wilson	57.77	355	IAMs_20	IAMs_20	16 21 16.1	
	comp=Z,5µm,20.0s						
DECC	Green Verdugo	57.82	354	P	P	16 02 38.7	+1.3
	baz=174,SNR=5.7						
X18A	Snowflake	57.90	3	P	P	16 02 39.5	+1.3
X18A				IAmb	IAmb	16 02 43.5	
	comp=Z,70nm,1.0s						
X18A				IAMs_20	IAMs_20	16 22 04.4	
	comp=Z,4µm,20.0s						
061Z	Ochoppi	58.03	34	P	P	16 02 39.5	+0.5
	baz=214						
RAO	Raoul Island	58.03	249	IAMs_20	IAMs_20	16 20 45.4	
	comp=Z,3µm,21.0s						
MSTX	Muleshoe	58.06	10	P	P	16 02 39.2	0.0
	baz=191,SNR=15						
MSTX	Muleshoe	58.06	10	P	P	16 02 39.2	0.0
MSTX				IAmb	IAmb	16 02 40.7	
	comp=Z,146nm,1.1s						
NEE2	Needles Airpor	58.11	358	P	P	16 02 40.9	+1.5
	baz=178,SNR=9.3						
SBC	Santa Barbara	58.14	353	P	P	16 02 40.9	+1.3
	baz=172						
GMRC	Granite Mounta	58.17	357	P	P	16 02 41.7	+1.7
	baz=177,SNR=83						
OSI	Osito Audit: C	58.21	354	P	P	16 02 41.3	+1.0
	baz=173						
HEC	Hector,Ludlow	58.25	356	P	P	16 02 41.9	+1.4
	baz=176,SNR=20						
RRX	Edison Barstow	58.33	356	P	P	16 02 42.2	+1.2
	baz=175						
EDW2	Edwards Air Fo	58.41	355	P	P	16 02 42.5	+0.9
	baz=174,SNR=45						
W13A	Hualapai Mount	58.42	359	P	P	16 02 43.4	+1.5
W13A				IAMs_20	IAMs_20	16 22 16.3	
	comp=Z,5µm,21.0s						
W18A	Petrified Fore	58.50	3	P	P	16 02 43.5	+1.1
	baz=183,SNR=24						
W18A	Petrified Fore	58.50	3	P	P	16 02 43.3	+0.9
W18A				PcP	PcP	16 03 31.0	-1.8
W18A				IAMs_20	IAMs_20	16 22 55.1	
	comp=Z,4µm,20.0s						
SDDR	Presa de Saban	58.52	47	IAMs_20	IAMs_20	16 21 42.5	
	comp=Z,4µm,19.0s						
ANMO	Albuquerque	58.56	6	P	P	16 02 43.6	+0.8
	baz=187						
ANMO	Albuquerque	58.56	6	deP	P	16 02 43.3	+0.6
ANMO				pmax	pmax		
	comp=Z,75nm,1.6s						
ANMO	Albuquerque	58.56	6	P	P	16 02 43.4	+0.6
058A	Arcadia	58.56	32	P	P	16 02 44.7	+2.0
	baz=213						
PKM	Mcpherson Peak	58.59	353	P	P	16 02 44.3	+1.3
	baz=172,SNR=31						
060Z	West Palm Beac	58.65	34	P	P	16 02 44.4	+1.1
	baz=215						
ARVC	Arvin	58.73	354	P	P	16 02 44.9	+1.2
	baz=173						
GSC	Goldstone, Bar	58.75	356	P	P	16 02 45.4	+1.5
	baz=176,SNR=88						
GSC	Goldstone, Bar	58.75	356	P	P	16 02 45.2	+1.2
GSC				pmax	pmax		
	comp=Z,68nm,1.1s						
GSC	Goldstone, Bar	58.75	356	P	P	16 02 45.2	+1.2
GSC				IAmb	IAmb	16 02 49.5	
	comp=Z,68nm,1.1s						
059A	Moore Haven	58.81	33	P	P	16 02 46.1	+1.6
	baz=214						
TUQ	Turquoise Moun	58.83	357	P	P	16 02 46.2	+1.6
	baz=176,SNR=93						
WUAZ	Wupatki	58.84	1	P	P	16 02 46.2	+1.5
	baz=181,SNR=52						
JUQB	Juquia	58.90	105	eP	P	16 02 44.9	-0.4
JUQB	Juquia	58.90	105	eP	P	16 02 44.9	-0.4
BB19B	Bebedouro	58.94	101	eP	P	16 02 46.4	+0.7
BB19B	Bebedouro	58.94	101	eP	P	16 02 46.4	+0.7
LRMC	Laurel Mtn Rad	58.98	355	P	P	16 02 46.9	+1.2
	baz=175,SNR=68						
SMMC	Simmler	59.04	353	P	P	16 02 47.3	+1.4
	baz=172,SNR=18						
SDD	Santo Domingo	59.09	49	IAMs_20	IAMs_20	16 20 00.5	
	comp=Z,3µm,19.0s						
AMTX	Amarillo	59.13	11	P	P	16 02 46.7	+0.1
	baz=192						
AMTX	Amarillo	59.13	11	P	P	16 02 46.5	-0.1
AMTX				PcP	PcP	16 03 34.0	-1.2
AMTX				IAMs_20	IAMs_20	16 24 18.4	
	comp=Z,3µm,20.0s						
SC01	Santiago de lo	59.21	47	IAMs_20	IAMs_20	16 22 40.6	
	comp=Z,5µm,22.0s						
ISA	Isabella, Lake	59.23	355	P	P	16 02 48.6	+1.3
	baz=174,SNR=41						
060A	Indiantown	59.27	34	P	P	16 02 47.9	+0.3
	baz=215						
SPB	Sao Paulo	59.27	104	eP	P	16 02 48.4	+0.5
SPB	Sao Paulo	59.27	104	eP	P	16 02 48.4	+0.5
SHOC	Shoshone, Teco	59.31	357	P	P	16 02 49.4	+1.6
	baz=176,SNR=35						
959A	Okeechobee	59.41	33	P	P	16 02 49.1	+0.5
	baz=214						
VBMS	Vicksburg	59.44	22	P	P	16 02 50.1	+1.4
	baz=204						
VES	Vestal, Richgr	59.46	354	P	P	16 02 50.0	+1.2
	baz=173,SNR=19						
PAGB	Antelope Grade	59.48	353	P	P	16 02 49.5	+0.6
PAGB				IAmb	IAmb	16 02 51.9	
	comp=Z,120nm,1.2s						
PAGB				IAMs_20	IAMs_20	16 22 04.8	
	comp=Z,4µm,20.0s						
RCLB	Rio Claro- Sao	59.48	103	eP	P	16 02 50.0	+0.6
RCLB	Rio Claro- Sao	59.48	103	eP	P	16 02 50.0	+0.6
WMOK	Wichita Mounta	59.53	13	P	P	16 02 48.9	-0.5
	baz=195,SNR=27						
WMOK	Wichita Mounta	59.53	13	P	P	16 02 48.3	-1.1
WMOK				pmax	pmax		
	comp=Z,20nm,1.0s						
WMOK				MLR	MLR		
	comp=Z,5µm,22.0s						
WMOK	Wichita Mounta	59.53	13	P	P	16 02 48.3	-1.1
WMOK	Wichita Mounta	59.53	13	IAMs_20	IAMs_20	16 24 28.1	
	comp=Z,5µm,22.0s						
MPMC	Manual Prospec	59.54	355	P	P	16 02 50.8	+1.2
	baz=175,SNR=108						
DWPF	Disney Wildern	59.62	32	P	P	16 02 51.9	+1.9
	baz=213						
Z41A	Richland Creek	59.66	19	P	P	16 02 51.2	+1.0
	baz=201,SNR=12						
Z41A	Richland Creek	59.66	19	P	P	16 02 50.2	0.0
Z41A				IAmb	IAmb	16 02 56.5	
	comp=Z,140nm,1.1s						
U15A	North Rim	59.74	0	P	P	16 02 52.3	+1.2
U15A				IAmb	IAmb	16 02 58.4	
	comp=Z,76nm,1.1s						
MLH	Mauna Loa	59.77	312	P	P	16 02 52.4	+0.9
DAC	Darwin (Calif)	59.77	355	IAMs_20	IAMs_20	16 23 04.5	
	comp=Z,3µm,21.0s						
BRAL	Brewton	59.77	25	P	P	16 02 51.8	+0.8
	baz=207						
451A	Vernon	59.81	27	IAMs_20	IAMs_20	16 24 48.9	
	comp=Z,4µm,21.0s						
VAO	Valinhos	59.84	104	eP	P	16 02 52.0	+0.1
VAO	Valinhos	59.84	104	eP	P	16 02 52.0	+0.1
859A	Kempfer Cattle	59.84	33	P	P	16 02 53.4	+1.9
	baz=214						
SHPR	Sheep Range	59.86	358	P	P	16 02 53.6	+1.8
SHPR				IAMs_20	IAMs_20	16 22 25.8	
	comp=Z,5µm,22.0s						
FURC	Furnace Creek,	59.91	356	P	P	16 02 53.3	+1.5
	baz=176,SNR=26						
CWC	Cottonwood Cre	59.97	355	P	P	16 02 53.8	+1.3
	baz=174						
VOG	Valley Oaks Go	59.97	354	P	P	16 02 52.9	+0.6
	baz=173						
656A	Willston	60.15	30	P	P	16 02 55.0	+1.3
	baz=212						
TPNV	Topopah Spring	60.35	357	P	P	16 02 57.0	+1.9
	baz=176,SNR=76						
TPNV	Topopah Spring	60.35	357	P	P	16 02 56.6	+1.5
TPNV				pmax	pmax		
	comp=Z,84nm,1.2s						
TPNV	Topopah Spring	60.35	357	P	P	16 02 56.6	+1.5
TPNV				IAmb	IAmb	16 03 01.1	
	comp=Z,84nm,1.1s						
TPNV				IAMs_20	IAMs_20	16 22 37.8	
	comp=Z,4µm,21.0s						
GRAC	Grapevine Rang	60.47	356	P	P	16 02 57.5	+1.8
	baz=175,SNR=30						
TIN	Tinemaha, Big	60.59	355	P	P	16 02 58.2	+1.5
	baz=174,SNR=6.8						
MIAR	Mount Ida	60.64	18	P	P	16 02 56.9	0.0
	baz=200,SNR=18						
MIAR	Mount Ida	60.64	18	P	P	16 02 56.9	0.0
MIAR				pmax	pmax		
	comp=Z,43nm,1.0s						
MIAR				MLR	MLR		
	comp=Z,3µm,22.0s						
MIAR	Mount Ida	60.64	18	P	P	16 02 56.9	0.0
MIAR				IAMs_20	IAMs_20	16 26 05.2	
	comp=Z,3µm,22.0s						
URZ	Urewera	60.64	238	P	P	16 02 56.8	-0.2
	comp=Z,59nm,1.0s,baz=113,slow=3.7,SNR=12						
URZ	Urewera	60.64	238	P	P	16 02 56.5	-0.6
URZ				IAmb	IAmb	16 03 01.3	
	comp=Z,105nm,1.2s						
MVCO	Mesa Verde	60.65	4	P	P	16 02 58.0	+0.8
	baz=184,SNR=102						
MVCO	Mesa Verde	60.65	4	P	P	16 02 58.0	+0.8
MVCO				IAmb	IAmb	16 03 01.9	
	comp=Z,127nm,1.1s						
MVCO				IAMs_20	IAMs_20	16 24 18.0	
	comp=Z,3µm,21.0s						
CRPR	Cabo Rojo, PR	60.76	51	P	P	16 02 58.1	0.0
MLPR	Magueyes Islan	60.78	51	P	P	16 02 58.1	-0.1
250A	Grady	60.80	26	P	P	16 02 58.2	+0.1
	baz=208,SNR=18						
250A	Grady	60.80	26	P	P	16 02 58.0	0.0
X40A	Basin Creek Fa	60.80	19	P	P	16 02 58.1	+0.1
	baz=201,SNR=7.0						
X40A	Basin Creek Fa	60.80	19	IAMs_20	IAMs_20	16 26 45.4	
	comp=Z,3µm,21.0s						
352A	Blakely	60.90	27	P	P	16 02 58.6	-0.2
	baz=209,SNR=14						
352A	Blakely	60.90	27	P	P	16 02 59.5	+0.7
352A				IAMs_20	IAMs_20	16 25 24.2	
	comp=Z,3µm,21.0s						
T25A	Trinidad	60.95	8	P	P	16 02 59.7	+0.5
	baz=189,SNR=22						
T25A	Trinidad	60.95	8	IAMs_20	IAMs_20	16 24 11.8	
	comp=Z,5µm,22.0s						
BFZ	Birch Farm	60.98	235	P	P	16 02 60.0	+0.6
BFZ				IAMs_20	IAMs_20	16 23 42.1	
	comp=Z,4µm,18.0s						
BDFB	Brasilia	60.99	95	P	P	16 02 59.6	-0.3
	comp=Z,65nm,1.0s,baz=255,slow=8.8,SNR=29						
BDFB				LR	LR	16 28 29.9	
	comp=Z,978nm,18.1s,baz=269,slow=35						
BKZ	Black Stump Fm	60.99	237	P	P	16 03 00.2	+0.6
BKZ				IAmb	IAmb	16 03 03.8	
	comp=Z,92nm,1.1s						
U32A	Winter Ranch,	61.07	13	IAMs_20	IAMs_20	16 25 01.9	
	comp=Z,4µm,22.0s						
353A	Camilla	61.09	28	P	P	16 03 00.6	+0.6
	baz=210,SNR=7.4						
OBIP	Obispado Ponce	61.14	51	P	P	16 02 59.2	-1.5
W39A	Magazine	61.19	18	P	P	16 03 00.6	0.0
	baz=200,SNR=28						
W39A	Magazine	61.19	18	P	P	16 02 60.0	-0.7
W39A				IAmb	IAmb	16 03 07.0	
	comp=Z,81nm,1.1s						
W39A				IAMs_20	IAMs_20	16 26 11.8	
	comp=Z,3µm,22.0s						
MLAC	Mammoth, Mammo	61.21	354	P	P	16 03 02.3	+1.2
	baz=174,SNR=9.1						
MDPB	Devils Postpil	61.24	354	P	P	16 03 01.3	0.0
S22A	4UR Ranch, Cre	61.30	5	P	P	16 03 02.6	+0.9
	baz=186,SNR=37						
S22A	4UR Ranch, Cre	61.30	5	IAMs_20	IAMs_20	16 24 43.2	
	comp=Z,3µm,20.0s						
TUL1	Leonard	61.34	16	P	P	16 03 01.3	-0.3
	baz=198,SNR=18						
TUL1	Leonard	61.34	16	P	P	16 03 00.9	-0.7
TUL1				IAmb	IAmb	16 03 06.7	
	comp=Z,78nm,0.9s						
MTPU	Mount Pierson	61.35	0	P	P	16 03 03.1	+1.0
SDCO	Great Sand Dun	61.43	6	P	P	16 03 03.4	+0.9
	baz=187,SNR=59						
SDCO	Great Sand Dun	61.43	6	P	P	16 03 02.9	+0.3
X43A	Marvell	61.43	20	P	P	16 03 03.6	+1.4
	baz=203,SNR=7.3						
252A	Lumpkin	61.43	27	P	P	16 03 02.5	+0.1
	baz=209,SNR=17						
TIGA	Tifton	61.44	28	P	P	16 03 02.5	+0.2
	baz=210,SNR=7.8						
TIGA	Tifton	61.44	28	IAMs_20	IAMs_20	16 25 01.0	
	comp=Z,3µm,22.0s						
LRAL	Lakeview Retre	61.45	24	P	P	16 03 03.0	+0.6
	baz=207,SNR=18						
LRAL	Lakeview Retre	61.45	24	P	P	16 03 02.8	+0.4
LRAL				IAmb	IAmb	16 03 06.5	
	comp=Z,51nm,1.0s						
PV05	Paradox Valley	61.48	3	IAMs_20	IAMs_20	16 24 44.0	
	comp=Z,4µm,22.0s						
PMNB	Patos De Minas	61.54	99	eP	P	16 03 04.5	+0.9
PMNB	Patos De Minas	61.54	99	eP	P	16 03 04.5	+0.9
PV01	Paradox Valley	61.56	4	IAMs_20	IAMs_20	16 25 04.2	
	comp=Z,3µm,19.0s						
PV13	Radium Mtn., P	61.57	3	IAMs_20	IAMs_20	16 25 02.5	
	comp=Z,4µm,19.0s						
W41B	Gary Mavity, V	61.61	19	P	P	16 03 03.8	+0.3
	baz=201,SNR=31						
W41B	Gary Mavity, V	61.61	19	P	P	16 03 03.6	+0.2
W41B				IAmb	IAmb	16 03 10.3	
	comp=Z,107nm,1.1s						
PLWZ	Palliser	61.61	234	P	P	16 03 05.0	+1.3
PV02	Paradox Valley	61.63	4	IAMs_20	IAMs_20	16 22 38.9	
	comp=Z,3µm,21.0s						
MSWZ	Moikau Station	61.64	234	P	P	16 03 05.2	+1.4
PV18	Skein Mesa, Pa	61.66	3	IAMs_20	IAMs_20	16 24 46.7	
	comp=Z,4µm,22.0s						
PV03	Paradox Valley	61.67	3	IAMs_20	IAMs_20	16 25 06.0	
	comp=Z,4µm,19.0s						
WHAR	Wooly Hollow	61.71	19	P	P	16 03 04.8	+0.6
WHAR				IAmb	IAmb	16 03 10.8	
	comp=Z,67nm,1.0s						
PV11	David Mesa, Pa	61.71	3	P	P	16 03 04.6	+0.3
R11A	Troy Canyon, C	61.72	357	P	P	16 03 06.0	+1.7
	baz=177,SNR=102						
R11A	Troy Canyon, C	61.72	357	IAMs_20	IAMs_20	16 23 32.9	
	comp=Z,4µm,21.0s						
253A	Americus	61.74	27	P	P	16 03 05.5	+1.1
	baz=210						
PEXB	Peixe	61.90	91	eP	P	16 03 05.7	-0.3
PEXB	Peixe	61.90	91	eP	P	16 03 05.7	-0.3
OXF	Oxford	61.91	22	P	P	16 03 05.0	-0.5
	baz=204,SNR=9.9						
OXF	Oxford	61.91	22	P	P	16 03 04.6	-0.9
OXF				pmax	pmax		
	comp=Z,140nm,1.1s						
OXF	Oxford	61.91	22	P	P	16 03 04.6	-0.9
BHW	Baring Head	61.92	234	P	P	16 03 06.6	+0.9
PV22	Blue Mesa, Par	61.95	3	P	P	16 03 06.2	+0.3
PV22				IAmb	IAmb	16 03 08.1	
	comp=Z,65nm,1.0s						
PV22				IAMs_20	IAMs_20	16 24 55.8	
	comp=Z,4µm,21.0s						
NVAR	Mina Array Bea	61.96	355	P	P	16 03 07.5	+1.5
	comp=Z,86nm,1.0s,baz=183,slow=8.8,SNR=287						
NVAR				LR	LR	16 23 46.6	
	comp=Z,5µm,21.8s,baz=174,slow=30						
NVAR				PKPPKP	P'P'df	16 32 13.1	+4.2
	comp=Z,0.9nm,1.0s,baz=54,slow=0.6,SNR=3.8						
NVAR				PKP2bc		16 32 23.4	
	comp=Z,6.7nm,1.2s,baz=356,slow=1.6,SNR=6.3						
PV21	Cone Mtn., Par	61.97	3	IAMs_20	IAMs_20	16 24 55.9	
	comp=Z,4µm,20.0s						
356A	Blackshear	61.99	30	P	P	16 03 07.3	+1.2
	baz=212						
254A	Abbeville	62.00	28	P	P	16 03 06.2	0.0
	baz=210,SNR=8.3						
152A	Waverly Hall	62.03	27	P	P	16 03 06.7	+0.4
	baz=209,SNR=25						
152A	Waverly Hall	62.03	27	P	P	16 03 06.6	+0.3
152A				IAmb	IAmb	16 03 08.1	
	comp=Z,70nm,0.9s						
152A				PcP	PcP	16 03 45.1	-1.7
152A				IAMs_20	IAMs_20	16 26 08.6	
	comp=Z,3µm,21.0s						
Z50A	Ashland	62.06	25	P	P	16 03 06.7	+0.1
	baz=208,SNR=18						
Z50A	Ashland	62.06	25	P	P	16 03 07.2	+0.7
Z50A				IAmb	IAmb	16 03 11.1	
	comp=Z,80nm,0.9s						
ESAR	Angra dos Reis	62.08	104	eP	P	16 03 07.7	+0.6
ESAR	Angra dos Reis	62.08	104	eP	P	16 03 07.7	+0.6
HHAR	Hobbs	62.17	17	IAMs_20	IAMs_20	16 26 23.7	
	comp=Z,4µm,22.0s						
RYN	Ryan	62.18	355	P	P	16 03 09.0	+1.6
MCCM	Marconi Confer	62.20	351	IAMs_20	IAMs_20	16 22 57.9	
	comp=Z,4µm,21.0s						
Q16A	Castle Valley	62.24	1	P	P	16 03 08.7	+0.8
BSCB	Bom Sucesso	62.33	102	eP	P	16 03 09.0	+0.1
BSCB	Bom Sucesso	62.33	102	eP	P	16 03 09.0	+0.1
255A	Hazlehurst	62.34	29	P	P	16 03 08.2	-0.2
	baz=211,SNR=5.6						
HIZ	Haui

baz=212
154A Montrose 62.66 28 P P 16 03 10.9 +0.4
baz=210,SNR=15
154A Montrose 62.66 28 IAms_20 IAms_20 16 25 50.2
comp=Z,3µm,22.0s
Q24A Divide 62.67 7 P P 16 03 11.3 +0.4
baz=188
X48A Hartselle 62.69 24 P P 16 03 10.5 -0.2
baz=206,SNR=11
SMCO Snowmass 62.71 5 P P 16 03 11.7 +0.4
SMCO IAmb IAmb 16 03 16.0
comp=Z,67nm,1.1s
SMCO IAms_20 IAms_20 16 25 27.6
comp=Z,4µm,21.0s
PNTR Pine Nut 62.73 354 P P 16 03 12.8 +1.6
PNTR IAmb IAmb 16 03 14.4
comp=Z,128nm,1.1s
MCLT Moule a Chique 62.74 59 IAms_20 IAms_20 16 26 10.3
comp=Z,3µm,21.0s
PLAL Pickwick Lake 62.80 23 P P 16 03 10.2 -1.2
PLAL IAmb IAmb 16 03 14.9
comp=Z,61nm,0.9s
KIP Kipapa 62.88 312 *ce*P P 16 03 13.8 +1.6
KIP pmax pmax
comp=Z,172nm,1.3s
155A Kite 62.94 28 P P 16 03 12.3 -0.1
baz=211,SNR=13
VCNR Virginia City 62.94 354 IAms_20 IAms_20 16 23 49.5
comp=Z,5µm,22.0s
Y51A Rockmart 62.96 26 P P 16 03 12.3 -0.3
baz=208,SNR=20
KSCO Kaye Shedlock' 63.02 9 P P 16 03 13.6 +0.6
baz=190
Z53A Monticello 63.03 27 P P 16 03 12.7 -0.3
baz=210,SNR=24
NNZ Nelson 63.06 234 IAms_20 IAms_20 16 24 20.0
comp=Z,4µm,21.0s
VAS01 Vassouras-RJ 63.16 104 *e*P P 16 03 15.6 +1.3
VAS01 Vassouras-RJ 63.16 104 *e*P P 16 03 15.6 +1.3
GOGA Godfrey 63.19 27 P P 16 03 13.9 -0.2
baz=210,SNR=23
GOGA Godfrey 63.19 27 P P 16 03 14.8 +0.7
GOGA pmax pmax
comp=Z,100nm,1.0s
GOGA MLR MLR
comp=Z,4µm,22.0s
GOGA Godfrey 63.19 27 P P 16 03 14.8 +0.7
GOGA IAmb IAmb 16 03 18.5
comp=Z,100nm,0.9s
GOGA Godfrey 63.19 27 IAms_20 IAms_20 16 26 07.3
comp=Z,4µm,22.0s
PEBM Pemiscott Bayo 63.22 21 P P 16 03 14.3 +0.1
NLU North Lily Min 63.26 1 P P 16 03 16.0 +1.3
CBKS Cedar Bluff 63.29 11 P P 16 03 14.8 0.0
baz=193
Z54A Sparta 63.30 28 P P 16 03 14.9 0.0
baz=211,SNR=22
FPAL Fort Paine 63.31 25 P P 16 03 14.9 0.0
FPAL IAmb IAmb 16 03 19.0
comp=Z,44nm,0.9s
PAHR Pah Rah Range 63.32 354 IAms_20 IAms_20 16 24 36.7
comp=Z,4µm,21.0s
THZ Tophouse 63.33 234 IAms_20 IAms_20 16 23 50.1
comp=Z,4µm,20.0s
Y52A Lilburn 63.34 26 P P 16 03 15.0 -0.1
baz=209,SNR=26
Y52A Lilburn 63.34 26 P P 16 03 14.8 -0.3
Y52A IAms_20 IAms_20 16 26 03.2
comp=Z,4µm,22.0s
156A Sylvania 63.40 29 P P 16 03 15.8 +0.3
baz=212,SNR=7.4
ORV Oroville 63.40 352 IAms_20 IAms_20 16 23 54.7
comp=Z,4µm,19.0s
ISCO Idaho Springs 63.45 6 P P 16 03 16.7 +0.6
baz=187,SNR=41
ISCO Idaho Springs 63.45 6 P P 16 03 17.1 +1.0
ISCO pmax pmax
comp=Z,28nm,1.0s
ISCO MLR MLR
comp=Z,6µm,22.0s
ISCO Idaho Springs 63.45 6 P P 16 03 17.1 +1.0
MGMO Mountain Grove 63.45 18 P P 16 03 15.7 -0.1
MGMO IAmb IAmb 16 03 17.5
comp=Z,98nm,1.1s
DLPL La Plaine 63.45 57 IAms_20 IAms_20 16 25 26.9
comp=Z,4µm,21.0s
DUG Dugway, Tooele 63.50 360 P P 16 03 17.4 +1.1
baz=180,SNR=155
DUG Dugway, Tooele 63.50 360 P P 16 03 17.3 +1.1
DUG Dugway, Tooele 63.50 360 P P 16 03 17.3 +1.1
DUG IAms_20 IAms_20 16 25 31.7
comp=Z,4µm,22.0s
Y53A Monroe 63.52 27 P P 16 03 16.2 -0.1
baz=210,SNR=28
O20A White River Ci 63.58 4 P P 16 03 17.6 +0.9
baz=184,SNR=33
O20A White River Ci 63.58 4 P P 16 03 17.9 +1.1
O20A IAms_20 IAms_20 16 26 19.5
comp=Z,3µm,19.0s
W49A Belvidere 63.58 24 P P 16 03 16.4 -0.2
baz=207,SNR=21
BEKR Beckworth 63.58 353 P P 16 03 17.9 +1.1
Z55A Blythe 63.60 28 P P 16 03 16.3 -0.5
baz=211
X51A Calhoun 63.63 25 P P 16 03 16.5 -0.5
baz=208,SNR=11
157A Early Branch 63.64 30 P P 16 03 18.2 +1.1
baz=212
SMTB Santa Maria do 63.72 88 *e*P P 16 03 18.2 +0.1
SMTB Santa Maria do 63.72 88 *e*P P 16 03 18.2 +0.1
QRZ Quartz Range 63.76 235 P P 16 03 18.5 +0.6
QRZ IAms_20 IAms_20 16 24 51.4
comp=Z,4µm,21.0s
SWET Sewanee 63.79 24 P P 16 03 17.3 -0.8
SWET IAmb IAmb 16 03 22.2
comp=Z,105nm,0.9s
KCPM Cahto Peak 63.81 351 IAms_20 IAms_20 16 23 43.3
comp=Z,4µm,22.0s
BMN Battle Mountai 63.88 356 P P 16 03 19.8 +1.1
BMN pmax pmax
comp=Z,38nm,1.0s
BMN MLR MLR
comp=Z,3µm,20.0s
BMN Battle Mountai 63.88 356 P P 16 03 19.8 +1.1
BMN IAms_20 IAms_20 16 25 32.8
comp=Z,3µm,20.0s
Y54A Tignall 63.91 28 P P 16 03 18.7 -0.1
baz=211,SNR=30
WVT Waverly 63.92 22 P P 16 03 18.3 -0.5
baz=205
WVT Waverly 63.92 22 P P 16 03 18.1 -0.7
WVT pmax pmax
comp=Z,49nm,0.9s
WVT Waverly 63.92 22 P P 16 03 18.1 -0.7
WVT IAmb IAmb 16 03 19.7
comp=Z,49nm,0.8s
JLU Jordanelle 63.92 1 P P 16 03 20.0 +0.9
V48A Smith Brothers 63.92 23 P P 16 03 18.2 -0.8
baz=206,SNR=33
V48A Smith Brothers 63.92 23 P P 16 03 17.6 -1.3
V48A IAmb IAmb 16 03 22.4
comp=Z,78nm,0.9s
OUZ Omahuta 63.94 241 P P 16 03 20.4 +1.2
OUZ IAms_20 IAms_20 16 23 25.7
comp=Z,3µm,21.0s
RDMU Red Mountain 63.94 3 P P 16 03 19.7 +0.5
W50A Signal Mountai 64.01 25 P P 16 03 19.0 -0.5
baz=208,SNR=20
W50A Signal Mountai 64.01 25 P P 16 03 18.8 -0.8
W50A IAmb IAmb 16 03 23.6
comp=Z,69nm,0.9s
Z56A Williston 64.02 29 P P 16 03 19.9 +0.3
baz=212
X52A Dahlonega 64.05 26 P P 16 03 19.9 +0.2
baz=209,SNR=22
ELK Elko 64.09 358 P P 16 03 21.2 +1.0
ELK pmax pmax
comp=Z,80nm,1.2s
ELK MLR MLR
comp=Z,3µm,22.0s
ELK Elko 64.09 358 LR LR 16 25 41.7
comp=Z,3µm,19.8s,baz=164,slow=31
ELK Elko 64.09 358 P P 16 03 21.1 +1.0
ELK IAmb IAmb 16 03 23.1
comp=Z,80nm,1.1s
ELK IAms_20 IAms_20 16 25 29.8
comp=Z,3µm,22.0s

O03E Paynes Creek 64.17 352 P P 16 03 20.7 +0.2
baz=171,SNR=20
O02D Mt. Diablo Mer 64.18 351 P P 16 03 21.9 +1.3
baz=170,SNR=25
W51A Cleveland 64.19 25 P P 16 03 19.9 -0.8
baz=208,SNR=15
KSU1 Kansas State U 64.19 14 P P 16 03 21.0 +0.4
baz=196
X53A Estanollee 64.20 27 P P 16 03 20.4 -0.3
baz=210,SNR=19
BGU Big Grassy Mou 64.23 360 P P 16 03 21.7 +0.6
V49A McMinnville 64.28 24 P P 16 03 20.7 -0.6
baz=207,SNR=26
Z57A Bowman 64.30 29 P P 16 03 21.8 +0.4
baz=212
Y55A Saluda 64.33 28 P P 16 03 21.7 +0.1
baz=211,SNR=18
KMRM Mail Ridge 64.35 351 P P 16 03 22.9 +1.1
NHSC New Hope 64.38 30 P P 16 03 22.4 +0.5
baz=213
HODGE Hodges 64.41 28 IAms_20 IAms_20 16 26 52.5
comp=Z,3µm,22.0s
CLTN Cedars of Leba 64.42 23 P P 16 03 21.8 -0.3
TCUT Toone Canyon 64.43 1 P P 16 03 23.1 +0.7
Y56A Pelion 64.44 29 P P 16 03 22.8 +0.5
baz=212
W52A Murphy 64.46 26 P P 16 03 22.4 -0.1
baz=209,SNR=22
W52A Murphy 64.46 26 IAms_20 IAms_20 16 26 41.0
comp=Z,3µm,22.0s
N23A Red Feather La 64.50 6 P P 16 03 23.6 +0.7
baz=187,SNR=27
N23A Red Feather La 64.50 6 P P 16 03 23.4 +0.5
N23A IAmb IAmb 16 03 27.7
comp=Z,58nm,0.9s
V50A Pikevile 64.50 25 P P 16 03 22.5 -0.2
baz=208,SNR=37
MSVF Nonsavu 64.53 261 *di*P P 16 03 24.2 +0.7
MSVF pmax pmax
comp=Z,189nm,1.3s
MSVF MLR MLR
comp=Z,573nm,13.0s
WDC Whiskeytown Da 64.54 352 P P 16 03 23.4 +0.5
WDC pmax pmax
comp=Z,46nm,1.0s
WDC MLR MLR
comp=Z,3µm,19.0s
WDC Whiskeytown Da 64.54 352 P P 16 03 23.4 +0.5
WDC IAmb IAmb 16 03 29.3
comp=Z,46nm,0.9s
WDC IAms_20 IAms_20 16 24 29.0
comp=Z,3µm,19.0s
CCM Cathedral Cave 64.58 19 P P 16 03 23.0 -0.3
baz=202
CCM Cathedral Cave 64.58 19 P P 16 03 22.9 -0.3
CCM pmax pmax
comp=Z,84nm,1.0s
CCM MLR MLR
comp=Z,3µm,21.0s
CCM Cathedral Cave 64.58 19 P P 16 03 22.9 -0.3
CCM IAmb IAmb 16 03 27.0
comp=Z,84nm,0.9s
CCM Cathedral Cave 64.58 19 IAms_20 IAms_20 16 28 27.6
comp=Z,3µm,21.0s
X54A Belton 64.63 27 P P 16 03 23.6 +0.1
baz=211,SNR=14
Z58A St. Stephen 64.73 30 P P 16 03 24.4 +0.1
baz=213
BG3 Lake Jocassee 64.78 27 P P 16 03 25.1 +0.5
BG3 IAmb IAmb 16 03 29.2
comp=Z,95nm,1.1s
W53A Cullowhee 64.83 26 P P 16 03 24.7 -0.3
baz=210,SNR=17
S44A Carbondale 64.86 20 P P 16 03 24.9 -0.1
baz=204,SNR=14
JSC Jenkinsville 64.88 28 P P 16 03 25.8 +0.6
JSC pmax pmax
comp=Z,56nm,1.2s
JSC Jenkinsville 64.88 28 P P 16 03 25.8 +0.6
JSC IAmb IAmb 16 03 29.9
comp=Z,56nm,1.2s
CAM01 Campos-RJ 64.88 104 *e*P P 16 03 26.2 +0.6
CAM01 Campos-RJ 64.88 104 *e*P P 16 03 26.2 +0.6
V51A Loudon 64.91 25 P P 16 03 24.9 -0.4
baz=209,SNR=21
V51A Loudon 64.91 25 P P 16 03 24.6 -0.8
V51A IAmb IAmb 16 03 29.6
comp=Z,100nm,1.0s
T47A Sharon Grove 64.94 22 P P 16 03 25.1 -0.4
baz=206,SNR=25
T47A Sharon Grove 64.94 22 P P 16 03 24.8 -0.7
T47A IAmb IAmb 16 03 29.6
comp=Z,90nm,0.8s
N02D Trinity Center 64.95 352 P P 16 03 26.6 +1.0
baz=170,SNR=38
JCC Jacoby Creek, 64.99 351 IAms_20 IAms_20 16 24 18.4
comp=Z,3µm,20.0s
U49A Red Boiling Sp 64.99 24 P P 16 03 25.3 -0.6
baz=207,SNR=20
OGNE Ogallala 65.01 9 P P 16 03 26.5 +0.5
baz=191,SNR=8.5
SBA Scott Base 65.07 193 P P 16 03 25.7 -0.2
SBA pmax pmax
comp=Z,40nm,1.1s
SBA MLR MLR
comp=Z,3µm,18.0s
SBA Scott Base 65.07 193 P P 16 03 25.7 -0.2
SBA IAms_20 IAms_20 16 26 09.0
comp=Z,3µm,18.0s
X56A White Oak 65.16 29 P P 16 03 28.1 +1.2
baz=212
W54A Cherokee Point 65.17 27 P P 16 03 27.1 0.0
baz=211,SNR=14
V52A Sevierville 65.24 26 P P 16 03 26.7 -0.8
baz=209,SNR=7.8
V52A Sevierville 65.24 26 IAms_20 IAms_20 16 27 37.7
comp=Z,3µm,21.0s
U50A Jamestown 65.26 25 P P 16 03 26.8 -0.9
baz=208,SNR=18
Y58A Scranton 65.28 30 P P 16 03 27.7 -0.1
baz=213
M02C Callahan 65.38 352 P P 16 03 29.7 +1.2
baz=170,SNR=32
V53A Saluda 65.41 26 P P 16 03 28.5 -0.2
baz=210,SNR=27
V53A Saluda 65.41 26 IAms_20 IAms_20 16 27 29.1
comp=Z,4µm,22.0s
U51A La Follette 65.54 25 P P 16 03 28.8 -0.7
baz=209,SNR=15
X57A Johnson Farm, 65.55 29 P P 16 03 29.6 +0.1
baz=213
KMSC Kings Mountain 65.58 28 P P 16 03 29.6 -0.1
baz=212,SNR=11
KMSC Kings Mountain 65.58 28 IAms_20 IAms_20 16 27 03.4
comp=Z,4µm,22.0s
MOD Modoc Plateau 65.59 354 P P 16 03 30.5 +0.7
MOD IAmb IAmb 16 03 32.7
comp=Z,115nm,1.1s
T49A Edmonton 65.61 24 P P 16 03 29.6 -0.3
baz=207,SNR=18
T49A Edmonton 65.61 24 P P 16 03 29.1 -0.7
T49A IAmb IAmb 16 03 34.0
comp=Z,64nm,1.1s
M04C Macdoel 65.64 352 P P 16 03 31.4 +1.2
baz=171,SNR=31
YBH Yreka Blue Hor 65.70 352 P P 16 03 29.7 -0.8
YBH pmax pmax
comp=Z,41nm,1.2s
YBH MLR MLR
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 65.70 352 LR LR 16 25 34.5
comp=Z,3µm,18.3s,baz=164,slow=30
YBH Yreka Blue Hor 65.70 352 P P 16 03 29.7 -0.8
YBH IAms_20 IAms_20 16 25 22.2
comp=Z,3µm,22.0s
Y59A Loris 65.71 30 P P 16 03 32.1 +1.5
baz=214
T50A Nancy 65.79 24 P P 16 03 30.4 -0.6
baz=208,SNR=16
U52A Thorn Hill 65.81 26 P P 16 03 31.1 -0.2
baz=209,SNR=26
V54A Nebo 65.86 27 P P 16 03 31.8 +0.2
baz=211,SNR=34
TZTN Tazewell 65.87 25 P P 16 03 31.7 +0.1
baz=209,SNR=23
TZTN Tazewell 65.87 25 P P 16 03 30.5 -1.1
TZTN IAms_20 IAms_20 16 28 00.4

comp=Z,3µm,22.0s
W56A Indian Trail 65.90 28 P P 16 03 31.8 0.0
baz=212,SNR=18
X58A Rowland 65.97 30 P P 16 03 32.5 +0.3
baz=213
Y60A Bolivia 66.03 31 P P 16 03 34.1 +1.5
baz=214
ALF01 Guarapari-ES 66.07 103 *e*P P 16 03 34.9 +1.6
ALF01 Guarapari-ES 66.07 103 *e*P P 16 03 34.9 +1.6
AHID Auburn Hatcher 66.08 1 P P 16 03 32.6 -0.4
AHID IAmb IAmb 16 03 36.3
comp=Z,72nm,0.8s
AHID IAms_20 IAms_20 16 27 04.0
comp=Z,4µm,21.0s
T51A Gray 66.08 25 P P 16 03 32.8 -0.2
baz=209,SNR=16
BGNE Belgrade 66.10 12 P P 16 03 33.4 +0.4
baz=194
U53A Fall Branch 66.11 26 P P 16 03 32.9 -0.3
baz=210,SNR=24
L04D Klamath Falls 66.12 352 P P 16 03 33.7 +0.4
baz=170,SNR=20
BW06 Boulder Array 66.13 3 P P 16 03 33.0 -0.5
baz=183,SNR=67
BW06 Boulder Array 66.13 3 P P 16 03 32.8 -0.7
BW06 IAmb IAmb 16 03 38.4
comp=Z,102nm,1.1s
PD31 Pinedale Array 66.13 3 P P 16 03 32.9 -0.6
PDAR Pinedale Array 66.13 3 P P 16 03 32.9 -0.6
comp=Z,22nm,0.7s,baz=170,slow=5.9,SNR=173
PDAR LR LR 16 27 21.2
comp=Z,3µm,21.9s,baz=185,slow=31
PDAR PKPPKP **P'P'df** **16 32 07.8 +5.7**
comp=Z,2.3nm,1.0s,baz=48,slow=2.2,SNR=7.9
W57A Gilead 66.17 29 P P 16 03 33.4 -0.1
baz=213,SNR=19
W57A Gilead 66.17 29 P P 16 03 32.9 -0.6
W57A IAmb IAmb 16 03 38.0
comp=Z,133nm,1.1s
OLIL Olney 66.18 21 P P 16 03 33.5 0.0
OLIL IAmb IAmb 16 03 37.6
comp=Z,81nm,0.9s
K22A Casper 66.20 5 P P 16 03 34.0 +0.2
baz=186,SNR=53
K22A Casper 66.20 5 IAms_20 IAms_20 16 28 09.8
comp=Z,3µm,20.0s
V55A Taylorsville 66.23 28 P P 16 03 34.1 +0.2
baz=211,SNR=25
V55A Taylorsville 66.23 28 IAms_20 IAms_20 16 27 23.9
comp=Z,4µm,22.0s
SJMB Sao Joao De Ma 66.23 101 *e*P P 16 03 35.0 +0.6
SJMB Sao Joao De Ma 66.23 101 *e*P P 16 03 35.0 +0.6
L02E Cave Junction 66.24 351 P P 16 03 35.1 +1.2
baz=169,SNR=9.0
S49A Springfield 66.30 23 P P 16 03 33.4 -0.9
baz=207,SNR=16
X59A McDuffie Farm, 66.32 30 P P 16 03 35.4 +0.9
baz=214,SNR=7.0
WCI Wyandotte Cave 66.34 22 P P 16 03 33.9 -0.6
baz=206
W58A Raeford 66.40 30 P P 16 03 35.3 +0.3
baz=213,SNR=33
K04D Chiloquin, OR 66.46 353 P P 16 03 36.6 +1.2
baz=171,SNR=6.1
BSFB Barra de Sao F 66.50 101 *e*P P 16 03 36.3 +0.2
BSFB Barra de Sao F 66.50 101 *e*P P 16 03 36.3 +0.2
V56A Mocksville 66.50 28 P P 16 03 35.7 0.0
baz=212,SNR=42
V56A Mocksville 66.50 28 P P 16 03 35.4 -0.2
QSPA South Pole Qui 66.52 180 P P 16 03 36.5 +0.9
S50A Richmond 66.54 24 P P 16 03 35.1 -0.8
baz=208,SNR=19
U54A Nelsons Funny 66.55 27 P P 16 03 35.6 -0.4
baz=211,SNR=14
P43A Skaggs, Pawnee 66.56 19 P P 16 03 35.6 -0.3
baz=203
T52A Hallie 66.58 26 P P 16 03 36.2 0.0
baz=210,SNR=30
T52A Hallie 66.58 26 P P 16 03 36.5 +0.4
T52A IAms_20 IAms_20 16 29 24.3
comp=Z,3µm,22.0s
HUMO Hull Mountain 66.59 352 P P 16 03 37.5 +1.4
HUMO IAmb IAmb 16 03 38.8
comp=Z,119nm,1.1s
HUMO IAms_20 IAms_20 16 25 41.8
comp=Z,3µm,19.0s
X60A Albert Glenn T 66.61 31 P P 16 03 36.4 0.0
baz=214
T53A Wise 66.66 26 P P 16 03 36.7 0.0
baz=210,SNR=25
REDW Red Top Meadow 66.69 1 P P 16 03 36.8 -0.1
REDW IAmb IAmb 16 03 44.8
comp=Z,87nm,1.1s
REDW IAms_20 IAms_20 16 26 49.9
comp=Z,3µm,22.0s
RIB01 Linhares ES 66.76 102 *e*P P 16 03 39.0 +1.2
RIB01 Linhares ES 66.76 102 *e*P P 16 03 39.0 +1.2
K02D Willamette Mer 66.77 351 P P 16 03 38.4 +1.0
baz=169,SNR=9.8
MFID Camas Ranch 66.78 358 IAms_20 IAms_20 16 26 20.6
comp=Z,3µm,22.0s
SNOW Snow King Moun 66.79 2 P P 16 03 37.8 +0.1
SNOW IAmb IAmb 16 03 42.4
comp=Z,107nm,1.1s
SNOW IAms_20 IAms_20 16 27 17.6
comp=Z,3µm,21.0s
S51A Beattyville 66.81 25 P P 16 03 38.1 +0.5
baz=209,SNR=15
S51A Beattyville 66.81 25 P P 16 03 37.0 -0.6
S51A IAmb IAmb 16 03 41.7
comp=Z,93nm,1.1s
S51A IAms_20 IAms_20 16 29 46.2
comp=Z,2µm,20.0s
TPAW Teton Pass 66.81 1 P P 16 03 37.8 0.0
TPAW IAms_20 IAms_20 16 27 27.2
comp=Z,3µm,21.0s
U55A TA2, Sparta 66.86 27 P P 16 03 37.8 -0.1
baz=211,SNR=17
V57A Coltrane Farms 66.88 29 P P 16 03 38.0 -0.1
baz=213,SNR=48
W59A Clinton 66.88 30 P P 16 03 38.4 +0.3
baz=214
FXWY Fox Creek 66.96 1 IAms_20 IAms_20 16 27 31.1
comp=Z,3µm,20.0s
U56A King 67.01 28 P P 16 03 39.0 +0.1
baz=212,SNR=15
S52A Salyersville 67.04 25 P P 16 03 39.0 0.0
baz=209,SNR=40
J05D Fort Rock, OR 67.05 353 P P 16 03 40.7 +1.5
baz=171,SNR=31
MOOW Moose Ponds 67.08 2 P P 16 03 39.1 -0.4
MOOW IAmb IAmb 16 03 47.4
comp=Z,109nm,1.1s
MOOW IAms_20 IAms_20 16 27 26.2
comp=Z,3µm,21.0s
R50A Paris 67.09 24 P P 16 03 38.4 -1.0
baz=208,SNR=28
V58A Windy Hill, Pi 67.10 29 P P 16 03 39.3 -0.2
baz=213,SNR=15
J04D Umpqua Nationa 67.11 353 P P 16 03 40.6 +1.0
baz=171
T54A Tazewell 67.11 27 P P 16 03 39.0 -0.6
baz=211,SNR=12
W60A Pink Hill 67.13 31 P P 16 03 39.9 +0.2
baz=215
N41A Harden Midland 67.16 18 P P 16 03 39.6 -0.1
baz=202
N41A Harden Midland 67.16 18 IAms_20 IAms_20 16 29 40.7
comp=Z,4µm,20.0s
Q48A North Vernon 67.16 23 P P 16 03 37.6 -2.1
baz=207,SNR=9.9
CNNC Cliffs of the 67.20 30 P P 16 03 40.2 +0.1
baz=214
IMW Indian Meadow 67.22 1 P P 16 03 40.7 +0.3
IMW IAmb IAmb 16 03 46.4
comp=Z,86nm,0.9s
IMW IAms_20 IAms_20 16 27 07.0
comp=Z,3µm,22.0s
P46A Rosedale 67.27 21 P P 16 03 40.2 -0.3
baz=205,SNR=15
O44A Mansfield 67.35 20 P P 16 03 40.6 -0.4
baz=204,SNR=11
R51A Hillsboro 67.39 24 P P 16 03 40.9 -0.4
baz=209,SNR=18
FLWY Flagg Ranch 67.41 2 IAms_20 IAms_20 16 27 38.1
comp=Z,3µm,21.0s
S53A Williamson 67.42 26 P P 16 03 41.3 -0.2

	baz=210,SNR=11						
HDIL	Hopedale	67.47	19	P	P	16 03 41.7	0.0
	baz=203,SNR=22						
HDIL	Hopedale	67.47	19	IAMs_20	IAMs_20	16 30 07.9	
	comp=Z,3µm,20.0s						
V59A	Middlesex	67.47	30	P	P	16 03 41.7	-0.1
	baz=214,SNR=15						
T55A	Pulaski	67.49	27	P	P	16 03 42.1	+0.1
	baz=212,SNR=14						
Q49A	Aurora	67.52	23	P	P	16 03 41.3	-0.8
	baz=207,SNR=29						
U57A	Blanch	67.53	29	P	P	16 03 42.4	+0.2
	baz=213,SNR=17						
W61A	Ground Anchor	67.57	31	P	P	16 03 44.6	+2.1
	baz=215						
SCIA	State Center	67.66	16	P	P	16 03 43.6	+0.7
	baz=199						
I04A	Tendick Farm,	67.69	352	P	P	16 03 43.4	+0.4
	baz=170,SNR=9.4						
I03D	Drain, OR	67.71	352	P	P	16 03 44.3	+1.1
	baz=169						
Q50A	Georgetown	67.72	24	P	P	16 03 42.2	-1.1
	baz=208,SNR=13						
BLA	Blacksburg	67.72	27	P	P	16 03 43.2	-0.2
	baz=212,SNR=18						
H17A	Grant Village	67.72	2	P	P	16 03 44.0	+0.4
	baz=182,SNR=7.0						
T56A	Rocky Mt	67.73	28	P	P	16 03 43.5	+0.1
	baz=212,SNR=14						
P48A	Milroy	67.74	23	P	P	16 03 42.3	-1.1
	baz=207,SNR=12						
P48A	Milroy	67.74	23	P	P	16 03 42.1	-1.3
P48A				IAmb	IAmb	16 03 46.0	
	comp=Z,46nm,0.9s						
R52A	Catlettsburg	67.78	25	P	P	16 03 43.5	-0.2
	baz=210,SNR=31						
U58A	Oxford	67.85	29	P	P	16 03 43.9	-0.3
	baz=214,SNR=18						
S54A	Dingess, Beckl	67.85	26	P	P	16 03 44.3	+0.1
	baz=211						
S54A	Dingess, Beckl	67.85	26	P	P	16 03 43.6	-0.6
S54A				IAMs_20	IAMs_20	16 28 42.8	
	comp=Z,4µm,22.0s						
RSSD	Black Hills	67.89	7	P	P	16 03 44.4	-0.1
	baz=188						
RSSD	Black Hills	67.89	7	P	P	16 03 44.6	+0.1
RSSD				pmax	pmax		
	comp=Z,105nm,1.0s						
RSSD				MLR	MLR		
	comp=Z,8µm,21.0s						
RSSD	Black Hills	67.89	7	P	P	16 03 44.6	+0.1
RSSD				IAmb	IAmb	16 03 49.3	
	comp=Z,105nm,1.0s						
V60A	Jim Taylor Roa	67.92	31	P	P	16 03 45.0	+0.4
	baz=215						
YMR	Madison River	67.99	1	P	P	16 03 45.6	+0.4
SFIN	Lafayette	68.00	21	P	P	16 03 44.6	-0.4
	baz=205,SNR=12						
SFIN	Lafayette	68.00	21	P	P	16 03 44.2	-0.8
SFIN				IAmb	IAmb	16 03 48.2	
	comp=Z,68nm,1.1s						
T57A	Hurt	68.04	28	P	P	16 03 44.3	-1.1
	baz=213,SNR=8.5						
T57A	Hurt	68.04	28	P	P	16 03 45.2	-0.2
T57A				IAmb	IAmb	16 03 46.9	
	comp=Z,78nm,1.1s						
R53A	Hurricane	68.05	26	P	P	16 03 45.4	-0.1
	baz=210						
R53A	Hurricane	68.05	26	P	P	16 03 45.2	-0.3
R53A				IAMs_20	IAMs_20	16 29 26.1	
	comp=Z,3µm,21.0s						
P49A	Miami Univ. Ec	68.06	23	P	P	16 03 44.2	-1.3
	baz=208,SNR=14						
YHB	Horse Butte	68.07	1	P	P	16 03 46.6	+0.9
I05D	Terrebonne, OR	68.11	353	P	P	16 03 46.8	+1.1
	baz=171,SNR=17						
YHH	Holmes Hill	68.11	1	P	P	16 03 46.3	+0.3
Q51A	Peebles	68.11	24	P	P	16 03 44.9	-0.9
	baz=209,SNR=21						
QLMT	Earthquake Lak	68.14	1	P	P	16 03 46.9	+0.8
U59A	Littleton	68.16	30	P	P	16 03 46.1	0.0
	baz=214,SNR=14						
S55A	Lewisburg	68.16	27	P	P	16 03 47.0	+0.7
	baz=212,SNR=12						
YHL	Hebgen Lake	68.17	1	P	P	16 03 47.3	+0.9
V61A	Roper	68.27	31	P	P	16 03 48.2	+1.4
	baz=215						
BMO	Blue Mountains	68.29	356	IAMs_20	IAMs_20	16 27 08.5	
	comp=Z,3µm,21.0s						
R54A	Victor	68.31	26	P	P	16 03 48.0	+0.9
	baz=211						
L40A	Anamosa	68.32	17	P	P	16 03 47.2	+0.2
	baz=201,SNR=25						
L40A	Anamosa	68.32	17	P	P	16 03 47.0	0.0
L40A				IAmb	IAmb	16 03 51.8	
	comp=Z,106nm,1.1s						
L40A				IAMs_20	IAMs_20	16 30 02.4	
	comp=Z,3µm,22.0s						
T58A	Grand View Acr	68.32	29	P	P	16 03 46.6	-0.5
	baz=214,SNR=17						
H04D	Lebanon	68.45	352	P	P	16 03 49.9	+2.1
	baz=170						
P50A	Jamestown	68.46	24	P	P	16 03 47.0	-1.0
	baz=208,SNR=29						
PLID	Pearl Lake	68.46	357	IAMs_20	IAMs_20	16 27 52.0	
	comp=Z,2µm,18.0s						
Q52A	Bidwell	68.47	25	P	P	16 03 47.6	-0.4
	baz=210,SNR=23						
S56A	Natural Bridge	68.48	28	P	P	16 03 47.8	-0.4
	baz=212,SNR=12						
RLMT	Red Lodge	68.50	3	P	P	16 03 48.2	-0.1
	baz=183,SNR=48						
RLMT	Red Lodge	68.50	3	P	P	16 03 48.0	-0.4
RLMT				IAmb	IAmb	16 03 52.9	
	comp=Z,87nm,1.1s						
U60A	Pendleton	68.55	30	P	P	16 03 48.5	-0.1
	baz=215,SNR=18						
M44A	Midewin, Midew	68.61	20	P	P	16 03 48.6	-0.2
	baz=204						
P51A	Williamsport	68.62	24	P	P	16 03 48.5	-0.5
	baz=209,SNR=15						
ECSD	EROS Data Cent	68.64	12	P	P	16 03 49.0	0.0
	baz=196,SNR=19						
ECSD	EROS Data Cent	68.64	12	P	P	16 03 49.3	+0.3
DLMT	Dillon	68.67	0	P	P	16 03 49.8	+0.5
DLMT				IAmb	IAmb	16 03 56.2	
	comp=Z,90nm,1.1s						
DLMT				IAMs_20	IAMs_20	16 28 46.3	
	comp=Z,3µm,22.0s						
Q53A	Leroy	68.67	26	P	P	16 03 49.5	+0.2
	baz=210,SNR=16						
U61A	Possum Corner	68.77	31	P	P	16 03 51.3	+1.4
	baz=215						
O49A	Covington	68.77	23	P	P	16 03 48.7	-1.1
	baz=208,SNR=8.6						
T59A	Double "B" Far	68.78	30	P	P	16 03 49.4	-0.6
	baz=214						
T59A	Double "B" Far	68.78	30	P	P	16 03 50.0	0.0
T59A				IAmb	IAmb	16 03 55.0	
	comp=Z,72nm,1.1s						
S57A	Dark Hollow, R	68.81	28	P	P	16 03 49.6	-0.6
	baz=213						
SUSD	Miller	68.90	10	P	P	16 03 50.6	0.0
	baz=193						
BOZ	Bozeman (W)	68.91	1	P	P	16 03 50.9	+0.1
	baz=181,SNR=9.0						
BOZ	Bozeman (W)	68.91	1	P	P	16 03 50.4	-0.4
BOZ				pmax	pmax		
	comp=Z,34nm,0.9s						
BOZ				MLR	MLR		
	comp=Z,2µm,19.0s						
BOZ	Bozeman (W)	68.91	1	P	P	16 03 50.4	-0.4
N47A	Urbana	68.91	22	P	P	16 03 49.6	-1.2
	baz=206,SNR=14						
O50A	Cable	68.99	24	P	P	16 03 50.3	-1.0
	baz=208,SNR=24						
G05D	Wamic, OR	69.00	353	P	P	16 03 52.4	+1.2
	baz=172,SNR=8.1						
NBIT	Itapeh - BA	69.04	98	eP	P	16 03 53.0	+0.8
NBIT	Itapeh - BA	69.04	98	eP	P	16 03 53.0	+0.8
Q54A	Coxs Mills	69.06	26	P	P	16 03 51.3	-0.4
	baz=211,SNR=11						
Q54A	Coxs Mills	69.06	26	IAMs_20	IAMs_20	16 30 25.8	
	comp=Z,3µm,20.0s						
S58A	Poland Farm, P	69.08	29	P	P	16 03 51.4	-0.5
	baz=214,SNR=13						
P52A	Corning	69.11	25	P	P	16 03 51.5	-0.5
	baz=210,SNR=31						
N48A	Decatur	69.12	22	P	P	16 03 51.3	-0.7
	baz=207,SNR=20						
GCMT	Greycliff	69.15	2	P	P	16 03 51.8	-0.5
R56A	Bull Pasture M	69.16	27	P	P	16 03 52.7	+0.3
	baz=212,SNR=28						
P53A	Whipple	69.27	25	P	P	16 03 53.1	+0.1
	baz=210,SNR=13						
P53A	Whipple	69.27	25	IAMs_20	IAMs_20	16 30 16.3	
	comp=Z,3µm,22.0s						
T60A	Surry	69.29	30	P	P	16 03 53.3	+0.1
	baz=215						
ACSO	Alum Creek Sta	69.30	24	P	P	16 03 53.0	-0.2
	baz=209,SNR=9.5						
ACSO	Alum Creek Sta	69.30	24	IAMs_20	IAMs_20	16 31 18.3	
	comp=Z,3µm,22.0s						
M47A	Cromwell	69.37	21	P	P	16 03 53.1	-0.5
	baz=206,SNR=11						
O51A	Pataskala	69.37	24	P	P	16 03 53.2	-0.5
	baz=209,SNR=17						
JFWS	Jewell Farm	69.37	17	P	P	16 03 53.3	-0.2
	baz=202						
JFWS	Jewell Farm	69.37	17	IAMs_20	IAMs_20	16 30 46.3	
	comp=Z,2µm,22.0s						
L44A	Lake County Fo	69.37	19	P	P	16 03 53.3	-0.3
	baz=204						
F10A	Beach Ranch, E	69.40	357	IAMs_20	IAMs_20	16 28 07.9	
	comp=Z,4µm,22.0s						
R57A	Stanardsville	69.45	28	P	P	16 03 54.2	0.0
	baz=213,SNR=15						
R58B	Mineral	69.45	29	P	P	16 03 55.1	+1.0
	baz=214						
N49A	Columbus Grove	69.47	23	P	P	16 03 53.5	-0.7
	baz=208						
F07A	Phinny Hill Vi	69.51	355	IAMs_20	IAMs_20	16 28 02.0	
	comp=Z,3µm,20.0s						
S59A	Mechanicsville	69.55	29	P	P	16 03 55.1	+0.4
	baz=214,SNR=15						
O52A	Adamsville	69.64	25	P	P	16 03 55.1	-0.2
	baz=210,SNR=44						
O52A	Adamsville	69.64	25	P	P	16 03 55.2	-0.1
O52A				IAMs_20	IAMs_20	16 30 53.1	
	comp=Z,3µm,22.0s						
F05D	White Salmon	69.65	353	P	P	16 03 56.3	+1.1
	baz=171,SNR=8.4						
R58A	Rapidan	69.67	29	P	P	16 03 55.4	-0.1
	baz=214,SNR=6.6						
N50A	Nevada	69.71	24	P	P	16 03 55.3	-0.4
	baz=209,SNR=14						
K43A	Burlington	69.73	19	P	P	16 03 55.5	-0.2
	baz=204,SNR=10						
K43A	Burlington	69.73	19	IAMs_20	IAMs_20	16 31 24.7	
	comp=Z,4µm,21.0s						
P54A	Burton	69.73	26	P	P	16 03 56.3	+0.4
	baz=211,SNR=50						
L46A	Eue Claire	69.73	21	P	P	16 03 55.3	-0.5
	baz=206						
NBPN	Ponto Novo - B	69.77	93	eP	P	16 03 56.8	0.0
NBPN	Ponto Novo - B	69.77	93	eP	P	16 03 56.8	0.0
M48A	Edgerton	69.79	22	P	P	16 03 55.7	-0.5
	baz=207						
Q56A	Snyder Ridge,	69.79	27	P	P	16 03 56.3	+0.1
	baz=212,SNR=10.0						
S60A	Water View	69.79	30	P	P	16 03 56.1	-0.1
	baz=215,SNR=5.6						
F04A	Amboy	69.80	353	IAMs_20	IAMs_20	16 27 36.7	
	comp=Z,2µm,22.0s						
CBN	Corbin Frederi	69.87	29	P	P	16 03 56.7	-0.1
	baz=214						
P55A	Reedsville	69.92	27	P	P	16 03 57.3	+0.3
	baz=212,SNR=18						
HAWA	Hanford	69.97	355	IAMs_20	IAMs_20	16 28 18.2	
	comp=Z,4µm,21.0s						
R59A	King George, V	69.98	29	P	P	16 03 57.6	+0.2
	baz=214,SNR=9.5						
O53A	New Philadelph	69.99	25	P	P	16 03 57.4	0.0
	baz=210,SNR=39						
F04D	Rainier, OR	70.02	352	P	P	16 03 58.9	+1.5
	baz=170						
MCWV	Mont Chateau	70.03	26	P	P	16 03 58.0	+0.3
	baz=212,SNR=23						
M49A	Liberty Center	70.03	23	P	P	16 03 57.8	+0.2
	baz=208,SNR=9.3						
Q57A	Strasburg	70.11	28	P	P	16 03 58.7	+0.5
	baz=213,SNR=12						
N51A	Ashland	70.13	24	P	P	16 03 57.8	-0.5
	baz=209,SNR=15						
N51A	Ashland	70.13	24	IAMs_20	IAMs_20	16 31 42.1	
	comp=Z,3µm,22.0s						
MSO	Missoula	70.14	359	P	P	16 03 58.8	+0.5
	baz=179,SNR=61						
MSO	Missoula	70.14	359	P	P	16 03 57.9	-0.5
MSO				IAmb	IAmb	16 04 03.5	
	comp=Z,80nm,1.0s						
E07A	Sunnyside	70.16	355	IAMs_20	IAMs_20	16 27 49.2	
	comp=Z,3µm,20.0s						
S61A	Accomac	70.22	30	P	P	16 03 59.5	+0.7
	baz=216						
LAO	LASA Array	70.23	5	P	P	16 03 59.2	+0.3
	baz=186,SNR=23						
LAO	LASA Array	70.23	5	P	P	16 03 57.0	-1.8
LAO				IAmb	IAmb	16 04 03.6	
	comp=Z,96nm,0.9s						
O54A	Avella	70.27	26	P	P	16 03 59.5	+0.3
	baz=211,SNR=21						
R60A	Leonardtown, M	70.28	30	P	P	16 03 59.6	+0.4
	baz=215						
L48A	N Adams	70.29	22	P	P	16 03 59.3	0.0
	baz=207,SNR=20						
N52A	McGinn's Farm,	70.30	25	P	P	16 03 59.5	+0.1
	baz=210,SNR=12						
M50A	Fremont	70.31	23	P	P	16 03 59.1	-0.3
	baz=209,SNR=6.6						
P56A	Dayton Farm, R	70.32	27	P	P	16 04 00.2	+0.7
	baz=213,SNR=24						
Q58A	Fox Den Farm,	70.35	28	P	P	16 04 00.0	+0.4
	baz=214,SNR=29						
E04D	Cinebar	70.43	353	P	P	16 04 01.0	+1.1
	baz=170,SNR=13						
K46A	Dorr	70.50	21	P	P	16 04 00.1	-0.4
	baz=206,SNR=9.7						
I41A	Arkdale	70.54	17	P	P	16 04 00.7	0.0
	baz=202,SNR=9.8						
I41A	Arkdale	70.54	17	IAMs_20	IAMs_20	16 31 31.1	
	comp=Z,3µm,22.0s						
LON	Longmire	70.54	353	P	P	16 04 01.9	+1.2
LON				pmax	pmax		
	comp=Z,56nm,1.1s						
LON				MLR	MLR		
	comp=Z,3µm,21.0s						
LON	Longmire	70.54	353	P	P	16 04 01.9	+1.2
LON				IAMs_20	IAMs_20	16 28 04.3	
	comp=Z,3µm,21.0s						
M51A	Elyria	70.56	24	P	P	16 04 00.9	0.0
	baz=209,SNR=9.6						
N53A	Lisbon	70.62	25	P	P	16 04 01.8	+0.5
	baz=211,SNR=39						
N53A	Lisbon	70.62	25	P	P	16 04 01.8	+0.5
I42A	Draeger Farm,	70.65	18	P	P	16 04 01.1	-0.2
	baz=203						
I42A	Draeger Farm,	70.65	18	IAMs_20	IAMs_20	16 31 36.0	
	comp=Z,2µm,20.0s						
P57A	Homestead Farm	70.65	28	P	P	16 04 02.3	+0.8
	baz=213,SNR=18						
P57A	Homestead Farm	70.65	28	P	P	16 04 02.6	+1.1
P57A				IAmb	IAmb	16 04 06.6	
	comp=Z,118nm,1.1s						
L49A	Milan	70.67	22	P	P	16 04 01.6	+0.1
	baz=208,SNR=14						
O55A	Ligonier	70.72	27	P	P	16 04 02.2	+0.3
	baz=212,SNR=17						
Q59A	Harwood	70.74	29	P	P	16 04 02.1	+0.1
	baz=215						
K47A	Vermontville	70.75	21	P	P	16 04 02.1	+0.1
	baz=207,SNR=11						
PLIO	Pelee Island,	70.76	23	P	P	16 04 02.2	+0.1
	baz=209,SNR=12						
AAM	Ann Arbor	70.88	22	P	P	16 04 02.8	+0.1
	baz=208,SNR=16						
SPMN	Marine on St.	70.89	15	P	P	16 04 03.0	+0.2
	baz=199,SNR=13						
LTY	Liberty	70.93	354	P	P	16 04 04.0	+0.8
LTY				IAMs_20	IAMs_20	16 28 22.4	
	comp=Z,3µm,20.0s						
L50A	Kingsville	70.95	23	P	P	16 04 03.0	-0.3
	baz=209,SNR=15						
P58A	Pank, Wackersv	70.97	28	P	P	16 04 03.7	+0.4
	baz=214,SNR=26						
D05A	Enumclaw	70.99	353	IAMs_20	IAMs_20	16 28 19.2	
	comp=Z,3µm,20.0s						
M52A	Chesterland	71.05	24	P	P	16 04 04.2	+0.3
	baz=210,SNR=9.8						
M52A	Chesterland	71.05	24	IAMs_20	IAMs_20	16 31 46.5	
	comp=Z,3µm,22.0s						
NBPS	Pedro II - Pl	71.06	86	eP	P	16 04 04.8	+0.1
NBPS	Pedro II - Pl	71.06	86	eP	P	16 04 04.8	+0.1
JTMT	Jette	71.06	359	P	P	16 04 04.4	+0.4
JTMT				IAmb	IAmb	16 04 06.0	
	comp=Z,79nm,1.0s						
JTMT				IAMs_20	IAMs_20	16 29 36.9	
	comp=Z,2µm,21.0s						
O56A	Blue Knob Stat	71.08	27	P	P	16 04 04.5	+0.4
	baz=213,SNR=23						
O56A	Blue Knob Stat	71.08	27	P	P	16 04 03.8	-0.4
N54A	Moraine State	71.08	26	P	P	16 04 04.6	+0.5
	baz=211,SNR=35						
N54A	Moraine State	71.08	26	P	P	16 04 05.2	+1.1
N54A				IAMs_20	IAMs_20	16 30 22.4	
	comp=Z,3µm,21.0s						
SDMD	Soldier's Deli	71.10	29	P	P	16 04 05.3	+1.1
J46A	Howard City	71.14	21	P	P	16 04 04.4	0.0
	baz=206						
K48A	Perry	71.16	22	P	P	16 04 04.5	0.0
	baz=208,SNR=24						
Q60A	Greensboro	71.21	30	P	P	16 04 05.2	+0.3
	baz=215						
M53A	Wt Miller and	71.22	25	P	P	16 04 05.3	+0.3
	baz=211,SNR=26						
J47A	Sunmer	71.31	21	P	P	16 04 05.6	+0.2
	baz=207,SNR=9.8						
J47A	Sunmer	71.31	21	IAMs_20	IAMs_20	16 31 32.5	
	comp=Z,3µm,22.0s						
N55A	Marion Center	71.33	26	P	P	16 04 06.0	+0.4
	baz=212,SNR=24						
N55A	Marion Center	71.33	26	IAMs_20	IAMs_20	16 30 13.0	
	comp=Z,3µm,22.0s						
G39A	Holcombe	71.34	16	P	P	16 04 05.8	+0.2
	baz=201,SNR=25						
K49A	Clarkson	71.37	22	P	P	16 04 05.6	-0.2
	baz=208,SNR=9.8						
EGMT	Eagleton	71.38	2	P	P	16 04 06.9	+1.1
	baz=183,SNR=44						
EGMT	Eagleton	71.38	2	P	P	16 04 06.3	+0.5
EGMT				IAMs_20	IAMs_20	16 30 06.0	
	comp=Z,4µm,22.0s						
O57A	Amberson	71.42	28	P	P	16 04 06.5	+0.4
	baz=214,SNR=35						
P59A	Jarrettsville	71.45	29	P	P	16 04 06.4	+0.1
	baz=215,SNR=26						
D03D	Eldon	71.46	353	P	P	16 04 07.4	+1.2
	baz=170,SNR=10						
H43A	Windswept, Lux	71.50	19	P	P	16 04 06.3	-0.2
	baz=204						
H43A	Windswept, Lux	71.50	19	IAMs_20	IAMs_20	16 32 15.7	
	comp=Z,3µm,21.0s						
G40A	Rib Lake	71.57	17	P	P	16 04 07.4	+0.4
	baz=202,SNR=34						
G40A	Rib Lake	71.57	17	IAMs_20	IAMs_20	16 32 24.5	
	comp=Z,3µm,21.0s						
I45A	Fountain	71.57	20	P	P	16 04 06.8	-0.2
	baz=205						
C06D	Leavenworth	71.61	354	P	P	16 04 07.7	+0.6
	baz=172,SNR=11						
O58A	Lewisberry	71.65	28	P	P	16 04 07.5	-0.1
	baz=214,SNR=15						
K50A	Casco	71.66	23	P	P	16 04 08.5	+1.0
	baz=209						
K50A	Casco	71.66	23	IAMs_20	IAMs_20	16 32 56.6	
	comp=Z,3µm,21.0s						
SSPA	Standing Stone	71.67	27	P	P	16 04 07.6	0.0
	baz=213						
M54A	Oil Creek Stat	71.68	26	P	P	16 04 08.1	+0.4
	baz=212,SNR=15						
M54A	Oil Creek Stat	71.68	26	IAMs_20	IAMs_20	16 30 41.1	
	comp=Z,3µm,21.0s						
NEW	Newport	71.68	357	P	P	16 04 08.2	+0.6
	baz=176,SNR=89						
NEW	Newport	71.68	357	P	P	16 04 08.2	+0.6
NEW				pmax	pmax		
	comp=Z,125nm,1.2s						
NEW				MLR	MLR		
	comp=Z,3µm,19.0s						
NEW	Newport	71.68	357	LR	LR	16 30 01.5	
	comp=Z,4µm,21.5s,baz=180,slow=31						
NEW	Newport	71.68	357	P	P	16 04 08.2	+0.6
NEW				IAmb	IAmb	16 04 13.1	
	comp=Z,124nm,1.1s						
J48A	Bridge Port	71.71	22	P	P	16 04 07.9	+0.1
	baz=208,SNR=18						
J48A	Bridge Port	71.71	22	IAMs_20	IAMs_20	16 33 43.6	
	comp=Z,3µm,20.0s						
N56A	West Decatur	71.73	27	P	P	16 04 08.3	+0.2
	baz=213,SNR=12						
I46A	Reed City	71.74	20	P	P	16 04 07.9	-0.1
	baz=206						
L53A	Girard	71.82	25	P	P	16 04 08.3	-0.3
	baz=211						
PAGS	Pennsylvania G	71.83	28	P	P	16 04 09.0	+0.5
PAGS				IAmb	IAmb	16 04 13.1	
	comp=Z,121nm,0.9s						
N57A	Milroy	71.91	27	P	P	16 04 09.0	-0.1
	baz=214,SNR=16						
B08A	Colville Reser	71.91	355	IAMs_20	IAMs_20	16 28 45.4	
	comp=Z,3µm,22.0s						
VNA3	Neumayer Olymp	71.91	161	P	P	16 04 08.7	-0.1
NBLA	Lagarto - SE	71.92	94	eP	P	16 04 09.7	-0.1
NBLA	Lagarto - SE	71.92	94	eP	P	16 04 09.7	-0.1
P60A	Greenville	71.96	29	P	P	16 04 09.1	-0.4
	baz=215						
M55A	Ridgway	72.00	26	P	P	16 04 09.5	-0.2
	baz=212,SNR=20						
M55A	Ridgway	72.00	26	IAMs_20	IAMs_20	16 32 15.7	
	comp=Z,3µm,22.0s						
K51A	Iona Station	72.02	24	P	P	16 04 09.3	-0.4
	baz=210						
B05A	Bryant	72.07	353	P	P	16 04 10.4	+0.6
	baz=171,SNR=14						
ERPA	Erie	72.07	25	P	P	16 04 09.6	-0.4
	baz=211						
ERPA	Erie	72.07	25	IAMs_20	IAMs_20	16 32 06.5	
	comp=Z,3µm,21.0s						
I47A	Gladwin	72.11	21	P	P	16 04 10.4	+0.2
	baz=207						
I47A	Gladwin	72.11	21	IAMs_20	IAMs_20	16 31 54.7	
	comp=Z,3µm,21.0s						
MDND	Maddock	72.12	9	P	P	16 04 11.6	+1.4
	baz=192						
MDND	Maddock	72.12	9	IAMs_20	IAMs_20	16 31 29.3	
	comp=Z,3µm,22.0s						
O59A	Robesonia	72.13	29	P	P	16 04 10.5	+0.1
	baz=215,SNR=12						
H45A	Beulah	72.16	20	P	P	16 04 12.0	+1.5
	baz=206						
DGMT	Dagmar	72.18	6	P	P	16 04 11.1	+0.5
	baz=188,SNR=13						
DGMT	Dagmar	72.18	6	IAMs_20	IAMs_20	16 31 49.0	
	comp=Z,3µm,22.0s						
P61A	Hammonton	72.23	30	P	P	16 04 10.9	-0.1
	baz=216						
M56A	Emporium	72.25	27	P	P	16 04 11.3	+0.1
	baz=213,SNR=26						
M56A	Emporium	72.25	27	P	P	16 04 11.4	+0.3
M56A				IAmb	IAmb	16 04 16.0	
	comp=Z,178nm,1.1s						
NBPB	Pedra_Branca-C	72.32	88	eP	P	16 04 12.4	+0.2
NBPB	Pedra_Branca-C	72.32	88	eP	P	16 04 12.4	+0.2
N58A	Sunbury	72.33	28	P	P	16 04 11.9	+0.2
	baz=214,SNR=17						
N58A	Sunbury	72.33	28	P	P	16 04 12.3	+0.7
N58A				IAmb	IAmb	16 04 16.3	
	comp=Z,102nm,0.9s						
H46A	Fife Lake	72.35	20	P	P	16 04 12.0	+0.4

E38A	The Farm, Brul	72.48	15	P	P	16 04 12.7	+0.3
	baz=200						
I48A	Sherman Twp	72.53	21	P	P	16 04 13.1	+0.4
	baz=208,SNR=6.3						
VNA1	Neumayer--Stat	72.56	160	P	P	16 04 13.0	+0.4
M57A	Sunshine Farm,	72.57	27	P	P	16 04 13.3	+0.3
	baz=214,SNR=19						
M57A	Sunshine Farm,	72.57	27	P	P	16 04 13.7	+0.7
M57A				IAmb	IAmb	16 04 17.8	
	comp=Z,78nm,0.9s						
F42A	Maple Grove Fa	72.58	18	P	P	16 04 13.0	+0.1
	baz=203,SNR=13						
F42A	Maple Grove Fa	72.58	18	IAMs_20	IAMs_20	16 32 45.2	
	comp=Z,3μm,21.0s						
A04D	Lummi Island	72.58	353	P	P	16 04 14.1	+1.2
	baz=170						
I49A	Point Hope	72.61	22	P	P	16 04 13.4	+0.2
	baz=208						
I49A	Point Hope	72.61	22	IAMs_20	IAMs_20	16 33 15.8	
	comp=Z,2μm,20.0s						
COWI	Conover	72.62	17	P	P	16 04 14.0	+0.8
COWI				IAmb	IAmb	16 04 17.9	
	comp=Z,130nm,0.9s						
COWI				IAMs_20	IAMs_20	16 32 33.3	
	comp=Z,2μm,20.0s						
G45A	Suttons Bay	72.66	20	P	P	16 04 14.0	+0.5
	baz=206						
O61A	Allentown	72.68	30	P	P	16 04 13.9	+0.2
	baz=216						
VNA2	Neumayer--Watz	72.72	161	P	P	16 04 13.7	0.0
	baz=260,slow=3.8						
H47A	Mio	72.72	21	P	P	16 04 14.2	+0.3
	baz=207						
L55A	Hinsdale	72.74	26	P	P	16 04 14.5	+0.4
	baz=213,SNR=25						
NBMO	Morrinhos-CE	72.78	86	*e*P	P	16 04 14.8	-0.2
NBMO	Morrinhos-CE	72.78	86	*e*P	P	16 04 14.8	-0.2
GLMI	Grayling	72.79	21	P	P	16 04 14.7	+0.4
	baz=207						
GLMI	Grayling	72.79	21	IAMs_20	IAMs_20	16 33 43.7	
	comp=Z,2μm,19.0s						
N59A	State Game Lan	72.81	28	P	P	16 04 14.8	+0.4
	baz=215,SNR=22						
N59A	State Game Lan	72.81	28	P	P	16 04 14.9	+0.4
N59A				IAmb	IAmb	16 04 18.9	
	comp=Z,65nm,0.8s						
WVNY	West Valley, N	72.86	26	P	P	16 04 15.1	+0.4
M58A	Price's Panora	72.88	28	P	P	16 04 14.8	-0.1
	baz=214,SNR=24						
K54A	Basiliko Farm,	72.99	26	P	P	16 04 15.5	-0.1
	baz=212,SNR=6.3						
L56A	Greenwood	73.05	27	P	P	16 04 15.6	-0.3
	baz=213,SNR=29						
L56A	Greenwood	73.05	27	P	P	16 04 16.6	+0.7
L56A				IAMs_20	IAMs_20	16 32 05.5	
	comp=Z,2μm,22.0s						
N60A	Cedar Hill Far	73.06	29	P	P	16 04 15.7	-0.3
	baz=216,SNR=26						
BASO	Ashfield	73.08	23	P	P	16 04 16.3	+0.4
	baz=210						
H48A	Harrisville	73.11	21	P	P	16 04 16.5	+0.3
	baz=208						
H48A	Harrisville	73.11	21	IAMs_20	IAMs_20	16 32 11.0	
	comp=Z,3μm,22.0s						
I51A	Listowel	73.13	23	P	P	16 04 16.4	+0.1
	baz=210,SNR=15						
BRNJ	Basking Ridge	73.15	29	P	P	16 04 16.0	-0.4
BRNJ				IAmb	IAmb	16 04 21.6	
	comp=Z,109nm,1.1s						
G46A	Petoskey	73.16	20	P	P	16 04 16.9	+0.5
	baz=206,SNR=11						
AGMN	Agassiz Nation	73.17	12	P	P	16 04 16.7	+0.3
	baz=196,SNR=13						
L57A	Andrews Acres	73.23	27	P	P	16 04 17.3	+0.3
	baz=214,SNR=26						
F45A	CMU Biological	73.28	20	P	P	16 04 17.8	+0.7
	baz=206						
STCO	Saint Catharin	73.31	25	P	P	16 04 18.7	+1.3
	baz=212						
ACTO	Acton	73.31	24	P	P	16 04 17.2	-0.2
	baz=211,SNR=9.5						
N61A	South Mountain	73.33	29	P	P	16 04 16.9	-0.6
	baz=216						
K55A	Perry	73.34	26	P	P	16 04 17.5	-0.1
	baz=213,SNR=11						
G47A	Hillman	73.35	21	P	P	16 04 18.2	+0.6
	baz=207,SNR=14						
BRCO	Bruce Peninsul	73.36	23	P	P	16 04 17.7	0.0
	baz=210						
MMNY	Mt. Morris Dam	73.41	26	IAMs_20	IAMs_20	16 31 42.9	
	comp=Z,3μm,22.0s						
ODNJ	Ogdensburg	73.45	29	P	P	16 04 17.3	-1.0
ODNJ				IAmb	IAmb	16 04 22.6	
	comp=Z,104nm,1.1s						
M59A	Waymart	73.46	28	P	P	16 04 18.8	+0.4
	baz=215,SNR=21						
E43A	Lone Tree Farm	73.47	18	P	P	16 04 18.7	+0.5
	baz=204,SNR=11						
E43A	Lone Tree Farm	73.47	18	IAMs_20	IAMs_20	16 33 12.7	
	comp=Z,4μm,22.0s						
DZM	Mont Dzumac	73.51	253	*e*P	P	16 04 20.5	+1.2
	comp=Z,214nm,1.1s						
DZM				*e*S	S	16 13 49.0	-0.7
	comp=Z,3μm,26.1s						
DZM				*e*LQ	LQ	16 23 43.6	
	comp=Z,3μm,28.3s						
DZM				*e*LR	LR	16 26 46.0	
	comp=Z,9μm,27.4s						
DZM	Mont Dzumac	73.51	253	P	P	16 04 19.2	-0.1
	comp=Z,68nm,1.0s,baz=109,slow=11,SNR=15						
DZM	Mont Dzumac	73.51	253	IAMs_20	IAMs_20	16 28 01.8	
	comp=Z,3μm,22.0s						
MEDO	Medina	73.56	25	P	P	16 04 18.7	-0.1
	baz=212,SNR=10						
MEDO	Medina	73.56	25	IAMs_20	IAMs_20	16 32 11.8	
	comp=Z,3μm,22.0s						
J54A	Appleton	73.57	25	P	P	16 04 19.0	+0.1
	baz=212						
J54A	Appleton	73.57	25	IAMs_20	IAMs_20	16 32 36.3	
	comp=Z,4μm,22.0s						
K56A	Middlesex	73.62	26	P	P	16 04 19.3	0.0
	baz=214						
M60A	Port Jervis	73.64	29	P	P	16 04 18.7	-0.6
	baz=216,SNR=17						
D41A	Chassel	73.66	17	P	P	16 04 19.8	+0.4
	baz=203,SNR=10						
D41A	Chassel	73.66	17	IAMs_20	IAMs_20	16 33 50.8	
	comp=Z,3μm,20.0s						
I52A	Shelburne	73.67	24	P	P	16 04 20.3	+0.8
	baz=211						
I53A	Kortright Cn E	73.68	24	P	P	16 04 19.1	-0.4
	baz=211						
L58A	Harry Jones Me	73.69	28	P	P	16 04 19.7	0.0
	baz=215,SNR=27						
PAL	Palisades	73.70	30	P	P	16 04 19.3	-0.4
	baz=217,SNR=10						
BMRO	Meriville Lake	73.74	23	P	P	16 04 20.1	+0.2
	baz=210						
EYMN	Ely	73.75	15	P	P	16 04 19.9	0.0
	baz=200,SNR=16						
SNAA	Sanae	73.76	162	P	P	16 04 19.7	-0.1
SNAA	Sanae	73.76	162	*d*P	P	16 04 19.4	-0.4
SNAA	Sanae	73.76	162	P	P	16 04 20.2	+0.4
SNAA				IAMs_20	IAMs_20	16 30 50.0	
	comp=Z,2μm,20.0s						
BINY	Binghamton	73.76	28	P	P	16 04 20.6	+0.5
	baz=215,SNR=22						
NBAN	Anadia - AL	73.79	94	*e*P	P	16 04 21.3	+0.3
NBAN	Anadia - AL	73.79	94	*e*P	P	16 04 21.3	+0.3
J55A	Hilton	73.89	26	P	P	16 04 20.6	-0.2
	baz=213						
CLWO	Collingwood	73.95	24	P	P	16 04 21.2	0.0
	baz=211,SNR=13						
K57A	Scipio Center	73.98	27	P	P	16 04 21.2	-0.1
	baz=214,SNR=18						
E44A	Grand Marais A	74.00	19	P	P	16 04 22.4	+1.1
	baz=205						
E44A	Grand Marais A	74.00	19	IAMs_20	IAMs_20	16 33 41.8	
	comp=Z,3μm,20.0s						
M61A	Granite Spring	74.01	29	P	P	16 04 21.0	-0.5
	baz=217,SNR=6.6						
NBCL	Cascavel-CE	74.02	88	*e*P	P	16 04 21.6	-0.6
NBCL	Cascavel-CE	74.02	88	*e*P	P	16 04 21.6	-0.6
NBLI	Livramento-PB	74.04	91	*e*P	P	16 04 22.8	+0.3
NBLI	Livramento-PB	74.04	91	*e*P	P	16 04 22.8	+0.3
DRWO	Darlington Wes	74.05	25	P	P	16 04 22.2	+0.5
	baz=212						
L59A	Walton	74.16	28	P	P	16 04 22.6	+0.2
	baz=216,SNR=22						
L59A	Walton	74.16	28	P	P	16 04 23.4	+1.0
TOBO	Tobermory, Bru	74.18	22	P	P	16 04 22.0	-0.4
	baz=209						
H52A	Wyevale	74.27	24	P	P	16 04 22.4	-0.5
	baz=211						
E46A	Sault Ste Mari	74.27	20	P	P	16 04 23.3	+0.4
	baz=207,SNR=17						
J56A	Wolcott	74.29	26	P	P	16 04 23.0	-0.1
	baz=214						
F48A	Evansville	74.34	21	P	P	16 04 23.6	+0.3
	baz=208						
L60A	Shokan	74.35	29	P	P	16 04 23.1	-0.5
	baz=216						
K58A	Earlville	74.37	27	P	P	16 04 23.7	+0.1
	baz=215,SNR=18						
K58A	Earlville	74.37	27	P	P	16 04 24.1	+0.5
K58A				IAmb	IAmb	16 04 28.3	
	comp=Z,116nm,0.9s						
F49A	Sandfield	74.47	22	P	P	16 04 24.1	0.0
	baz=209						
NBPA	Parau_RN	74.51	90	*e*P	P	16 04 25.6	+0.5
NBPA	Parau_RN	74.51	90	*e*P	P	16 04 25.6	+0.5
M62A	Hamden	74.52	30	P	P	16 04 23.5	-0.9
	baz=217						
SADO	Sadowa	74.65	24	LR	LR	16 33 59.0	
	comp=Z,2μm,21.4s,baz=192,slow=33						
SADO	Sadowa	74.65	24	IAMs_20	IAMs_20	16 32 51.8	
	comp=Z,2μm,21.0s						
E47A	Iron Bridge	74.67	21	P	P	16 04 25.6	+0.4
	baz=208,SNR=18						
H53A	Bobcaygeon	74.70	25	P	P	16 04 25.5	0.0
	baz=212,SNR=16						
K59A	Cooperstown	74.72	28	P	P	16 04 25.9	+0.2
	baz=216,SNR=27						
I55A	Frankford	74.74	25	P	P	16 04 24.9	-0.8
	baz=213,SNR=11						
J57A	Williamstown	74.75	27	P	P	16 04 25.5	-0.3
	baz=214						
KLBO	Killbear Provi	74.76	23	P	P	16 04 25.5	-0.3
	baz=211						
L61A	Hillsdale 1, H	74.81	29	P	P	16 04 29.1	+2.9
	baz=217						
D46A	Sault St. Mari	74.82	20	P	P	16 04 26.8	+0.7
	baz=207,SNR=21						
M63A	Gales Ferry	74.88	30	P	P	16 04 28.0	+1.5
	baz=218						
K60A	Five Rivers En	75.01	29	P	P	16 04 27.2	-0.1
	baz=216						
J58A	Remsen	75.01	27	P	P	16 04 27.6	+0.3
	baz=215,SNR=20						
DELO	Deloro Mine	75.02	25	P	P	16 04 26.8	-0.5
	baz=213,SNR=16						
DELO	Deloro Mine	75.02	25	IAMs_20	IAMs_20	16 32 57.6	
	comp=Z,3μm,22.0s						
ULM	Lac du Bonnet	75.05	11	*d*P	P	16 04 27.0	-0.4
ULM	Lac du Bonnet	75.05	11	P	P	16 04 27.2	-0.1
	comp=Z,32nm,0.8s,baz=204,slow=5.9,SNR=17						
ULM				LR	LR	16 34 24.3	
	comp=Z,2μm,19.9s,baz=180,slow=33						
ULM	Lac du Bonnet	75.05	11	P	P	16 04 27.5	+0.1
ULM				IAMs_20	IAMs_20	16 34 02.8	
	comp=Z,2μm,20.0s						
E48A	Lockeyer	75.06	21	P	P	16 04 28.1	+0.6
	baz=209,SNR=15						
BUKO	Buck Lake	75.13	24	P	P	16 04 27.3	-0.6
	baz=211,SNR=12						
G53A	Haliburton	75.14	24	P	P	16 04 28.0	-0.1
	baz=212,SNR=14						
NBRF	Rio Formoso -	75.21	93	*e*P	P	16 04 28.1	-1.0
NBRF	Rio Formoso -	75.21	93	*e*P	P	16 04 28.1	-1.0
H55A	Tweed	75.22	25	P	P	16 04 28.5	0.0
	baz=213,SNR=10						
D47A	Chapleau	75.26	20	P	P	16 04 29.3	+0.6
	baz=208,SNR=23						
BANO	Bancroft	75.32	25	P	P	16 04 29.2	+0.1
	baz=213,SNR=19						
K61A	Williamstown	75.32	29	P	P	16 04 29.5	+0.4
	baz=217						
I57A	Carthage	75.33	27	P	P	16 04 29.4	+0.3
	baz=215,SNR=18						
F51A	Arnstein	75.36	23	P	P	16 04 29.1	-0.1
	baz=211						
M64A	Tiverton	75.38	31	P	P	16 04 30.5	+1.0
	baz=219						
I58A	Old Forge	75.41	27	P	P	16 04 29.8	+0.2
	baz=215,SNR=22						
J59A	Piesco	75.42	28	P	P	16 04 29.7	-0.1
	baz=216,SNR=14						
J59A	Piesco	75.42	28	P	P	16 04 29.9	+0.2
J59A				IAmb	IAmb	16 04 35.0	
	comp=Z,115nm,1.1s						
L63A	North Scituate	75.44	30	P	P	16 04 30.4	+0.7
	baz=219						
F52A	Sundridge	75.46	23	P	P	16 04 30.3	+0.4
	baz=211						
E50A	Wahnapitae	75.50	22	P	P	16 04 29.9	-0.1
	baz=210,SNR=10						
G54A	Lake Saint Pet	75.58	24	P	P	16 04 30.6	+0.1
	baz=212,SNR=22						
RCBR	Riachuelo	75.59	90	IAMs_20	IAMs_20	16 34 55.5	
	comp=Z,2μm,20.0s						
RCBR	Riachuelo	75.59	90	*e*P	P	16 04 32.3	+0.9
RCBR	Riachuelo	75.59	90	*e*P	P	16 04 32.3	+0.9
H56A	Elgin	75.62	26	P	P	16 04 31.0	+0.2
	baz=214,SNR=16						
PLVO	Plevna	75.67	25	P	P	16 04 30.6	-0.4
	baz=213,SNR=14						
PLVO	Plevna	75.67	25	IAMs_20	IAMs_20	16 33 16.7	
	comp=Z,3μm,22.0s						
J60A	Lant Hill Farm	75.71	29	P	P	16 04 31.8	+0.5
	baz=217,SNR=15						
K62A	Royalston	75.78	30	P	P	16 04 31.7	0.0
	baz=218						
D48A	Paudash Townsh	75.79	21	P	P	16 04 31.8	+0.1
	baz=209,SNR=14						
L64A	Middleborough	75.86	31	P	P	16 04 31.9	-0.3
	baz=219						
H57A	Richville	75.87	27	P	P	16 04 32.2	+0.1
	baz=215,SNR=12						
NBPV	Pedro Velho	75.92	91	*e*P	P	16 04 33.3	+0.1
NBPV	Pedro Velho	75.92	91	*e*P	P	16 04 33.3	+0.1
NCB	Newcomb	75.95	28	P	P	16 04 32.8	+0.1
NCB				IAmb	IAmb	16 04 37.6	
	comp=Z,124nm,1.1s						
I59A	Olmsteadville	75.96	28	P	P	16 04 32.4	-0.3
	baz=216,SNR=16						
HRV	Adam Dziewonsk	75.97	30	P	P	16 04 33.8	+1.0
	baz=218						
G55A	Calabogie	75.99	25	P	P	16 04 33.0	+0.2
	baz=214,SNR=12						
E51A	G1948 Merrick	76.03	23	P	P	16 04 33.1	0.0
	baz=211,SNR=11						
ALGO	Algonquin Park	76.06	24	P	P	16 04 33.9	+0.6
	baz=212,SNR=13						
E52A	Mattawa	76.12	24	P	P	16 04 34.2	+0.7
	baz=212,SNR=14						
K63A	Dunstable	76.12	30	P	P	16 04 34.0	+0.3
	baz=218						
PEMO	Pembroke	76.14	25	P	P	16 04 34.2	+0.5
	baz=213,SNR=11						
J61A	Chester	76.18	29	P	P	16 04 35.3	+1.3
	baz=217						
I60A	Shoreham	76.25	28	P	P	16 04 35.4	+1.0
	baz=217,SNR=24						
LONY	Lake Ozonia	76.33	27	P	P	16 04 35.5	+0.7
	baz=216,SNR=18						
LONY	Lake Ozonia	76.33	27	P	P	16 04 34.1	-0.7
H58A	Gabriels	76.33	27	P	P	16 04 35.5	+0.6
	baz=216,SNR=18						
J62A	Henniker	76.42	29	P	P	16 04 36.3	+0.9
	baz=218						
D50A	G1974 Best Tow	76.45	22	P	P	16 04 36.4	+1.0
	baz=211,SNR=18						
D51A	Lot 18 Range I	76.55	23	P	P	16 04 36.2	+0.2
	baz=211,SNR=23						
G57A	Newington	76.56	26	P	P	16 04 37.0	+0.9
	baz=215,SNR=9.3						
E53A	Dumoine, Ponti	76.56	24	P	P	16 04 36.6	+0.4
	baz=213,SNR=19						
F55A	Otter Lake	76.61	25	P	P	16 04 37.1	+0.7
	baz=214						
ORIO	Orleans, Innes	76.63	26	P	P	16 04 36.3	-0.1
	baz=215						
BBB	Bella Bella	76.69	350	LR	LR	16 30 15.6	
	comp=Z,1μm,20.2s,baz=171,slow=29						
H59A	Cadyville	76.72	27	P	P	16 04 37.1	+0.1
	baz=216,SNR=20						
E54A	Lac Daplat, Po	76.79	24	P	P	16 04 37.6	+0.2
	baz=213						
D52A	ZEK Kipawa Sen	76.80	23	P	P	16 04 37.8	+0.4
	baz=212,SNR=22						
I61A	Oroboro, Fairl	76.80	29	P	P	16 04 38.8	+1.3
	baz=218,SNR=17						
G58A	Ormstown	76.98	27	P	P	16 04 39.0	+0.5
	baz=216,SNR=12						
ALFO	Alfred	77.03	26	P	P	16 04 38.8	+0.1
	baz=215,SNR=10.0						
H60A	Morristown	77.08	28	P	P	16 04 39.6	+0.5
	baz=217,SNR=15						
I62A	Tamworth	77.14	29	P	P	16 04 40.6	+1.2
	baz=218						
D53A	Lac Vacive, Po	77.14	24	P	P	16 04 39.6	+0.3
	baz=212,SNR=14						
LBNH	Lisbon	77.16	29	P	P	16 04 41.0	+1.4
	baz=218						
F57A	Harrington	77.25	26	P	P	16 04 40.8	+0.8
	baz=215						
G59A	Clarenceville	77.29	28	P	P	16 04 40.6	+0.4
	baz=217						
H61A	Lyndonville	77.39	29	P	P	16 04 41.7	+0.9
	baz=218,SNR=12						
D54A	Lac Fusel, La	77.59	24	P	P	16 04 41.7	-0.2
	baz=213,SNR=14						
I63A	Otisfield	77.62	30	P	P	16 04 42.5	+0.4
	baz=219						
G60A	Masonville	77.66	28	P	P	16 04 42.8	+0.4
	baz=217						
E56A	St. Veronique	77.72	26	P	P	16 04 42.1	-0.5
	baz=215,SNR=6.4						
H62A	Milan	77.77	29	P	P	16 04 43.6	+0.7
	baz=218						
H62A	Milan	77.77	29	IAMs_20	IAMs_20	16 32 59.0	
	comp=Z,2μm,20.0s						
D55A	Sainte-Anne-du	77.93	25	P	P	16 04 44.3	+0.5
	baz=214,SNR=16						
I64A	Boothbay	77.95	30	P	P	16 04 44.6	+0.7
	baz=220,SNR=5.7						
E57A	Chemin Saint G	77.96	26	P	P	16 04 43.8	-0.3
	baz=216,SNR=24						
F59A	Saint Guilaume	78.07	27	P	P	16 04 44.9	+0.3
	baz=217,SNR=13						
VLDQ	Val d'Or	78.10	23	IAMs_20	IAMs_20	16 37 18.0	
	comp=Z,2μm,20.0s						
G61A	St-Isidore-de-	78.16	28	P	P	16 04 45.8	+0.7
	baz=218,SNR=20						
D56A	ZEC Mazanza, M	78.24	25	P	P	16 04 45.3	-0.2
	baz=215						
E58A	La Victoria	78.29	27	P	P	16 04 45.9	+0.2
	baz=216,SNR=32						
H63A	New Sharon	78.34	30	P	P	16 04 47.1	+1.0
	baz=219						
F60A	Warwick	78.52	28	P	P	16 04 47.2	+0.2
	baz=218,SNR=17						
G62A	West of Eustis	78.55	29	P	P	16 04 47.7	+0.4
	baz=219						
D57A	Chemin Vers le	78.56	26	P	P	16 04 47.5	+0.2
	baz=216						
FFC	Flin Flon	78.58	6	*c*e*P	P	16 04 47.6	+0.4
H64A	Troy	78.69	30	P	P	16 04 48.1	0.0
	baz=220						
G63A	Kingsbury	78.88	30	P	P	16 04 50.3	+1.2
	baz=220						
F61A	St Evariste	78.94	28	P	P	16 04 50.5	+1.2
	baz=218						
D58A	Chemin du LacG	79.03	26	P	P	16 04 50.1	+0.2
	baz=217,SNR=14						
E60A	Ste Agathe de	79.05	28	P	P	16 04 51.2	+1.2
	baz=218,SNR=12						
LSQQ	Lebel-sur-Quev	79.07	23	P	P	16 04 50.9	+0.9
	baz=213						
PKME	Peaks-Kenny Pk	79.14	30	P	P	16 04 51.5	+1.1
	baz=220						
H65A	Eastbrook	79.19	31	P	P	16 04 51.3	+0.6
	baz=221						
LATQ	La Tuque	79.30	26	P	P	16 04 52.4	+1.1
	baz=217,SNR=11						
F62A	Pittston Farm,	79.32	29	P	P	16 04 52.0	+0.6
	baz=219						
F62A	Pittston Farm,	79.32	29	IAMs_20	IAMs_20	16 32 56.4	
	comp=Z,2μm,18.0s						
G64A	Maxfield	79.37	30	P	P	16 04 52.8	+1.0
	baz=220,SNR=8.1						
MATQ	Matagami	79.43	22	P	P	16 04 51.8	-0.1
	baz=212,SNR=6.4						
E61A	Lac Etchemin	79.51	28	P	P	16 04 53.1	+0.6
	baz=219						
F63A	Nahmakanta, Br	79.56	29	P	P	16 04 53.5	+0.7
	baz=220,SNR=21						
F63A	Nahmakanta, Br	79.56	29	P	P	16 04 53.8	+1.0
F63A				IAmb	IAmb	16 04 59.1	
	comp=Z,146nm,1.1s						
D60A	Saint Jean D'O	79.70	28	P	P	16 04 54.1	+0.7
	baz=218						
G65A	Princeton	79.89	31	P	P	16 04 54.5	0.0
	baz=221						
F64A	Sherman	80.02	30	P	P	16 04 55.8	+0.5
	baz=220,SNR=7.7						
E62A	Clayton Lake	80.08	29	P	P	16 04 56.1	+0.6
	baz=219,SNR=19						
E63A	Oxbow	80.42	29	P	P	16 04 57.7	+0.3
	baz=220,SNR=17						
D62A	Allapoint, All	80.64	29	P	P	16 04 58.4	-0.1
	baz=220,SNR=19						
E64A	Bridgewater	80.68	30	P	P	16 04 59.2	+0.4
	baz=221,SNR=8.5						
CHGQ	Chibougamau	80.73	24	P	P	16 04 58.8	-0.2
	baz=215,SNR=18						
D63A	Stockholm	81.02	29	P	P	16 05 00.8	+0.2
	baz=221,SNR=7.7						
ARMA	Armidale	82.98	240	P	P	16 05 12.8	+1.2
ARMA				IAmb	IAmb	16 05 14.6	
	comp=Z,59nm,1.1s						
ARMA				IAMs_20	IAMs_20	16 36 49.5	
	comp=Z,2μm,19.0s						
DLBC	Dease Lake	83.03	351	LR	LR	16 35 55.8	
	comp=Z,1μm,21.7s,baz=159,slow=31						
DLBC	Dease Lake	83.03	351	P	P	16 05 12.7	+1.7
CAN	Canberra	83.06	235	P	P	16 05 13.2	+1.3
CAN				MLR	MLR		
	comp=Z,3μm,20.0s						
CAN	Canberra	83.06	235	P	P	16 05 13.2	+1.3
JIS	Juneau Island	83.58	349	P	P	16 05 15.6	+1.9
JIS				IAmb	IAmb	16 05 18.3	
	comp=Z,65nm,1.0s						
JIS				IAMs_20	IAMs_20	16 33 23.5	
	comp=Z,2μm,19.0s						
BESE	Bessie Mountai	83.95	349	P	P	16 05 17.0	+1.3
CASY	Casey	84.59	196	P	P	16 05 20.4	+1.4
CASY	Casey	84.59	196	IAMs_20	IAMs_20	16 37 13.1	
	comp=Z,2μm,20.0s						
TOO	Toolangi	84.68	231	P	P	16 05 21.6	+1.5
TOO				pmax	pmax		
	comp=Z,65nm,1.1s						
TOO				MLR	MLR		
	comp=Z,3μm,22.0s						
TOO	Toolangi	84.68	231	P	P	16 05 21.6	+1.5
TOO				IAmb	IAmb	16 05 22.6	
	comp=Z,65nm,1.1s						
SKAG	Skagway	84.87	349	IAMs_20	IAMs_20	16 34 02.5	
	comp=Z,2μm,20.0s						
EIDS	Eidsvold	85.43	244	IAMs_20	IAMs_20	16 41 22.9	
	comp=Z,1μm,18.0s						
SYO	Syowa Base	85.45	170	‖*i*P	P	16 05 21.3	-2.0
SYO	Syowa Base	85.45	170	‖*i*PcP	PcP	16 05 25.2	-1.1
YKA	Yellowknife Ar	85.84	359	P	P	16 05 25.0	-0.1
	comp=Z,75nm,1.2s,baz=172,slow=4.3,SNR=35						
YKA				LR	L

HMT	Hamilton	87.55	345	P	P	16 05 34.8	+1.3
HMT				IAMs_20	IAMs_20	16 34 50.6	
comp=Z,2μm,22.0s							
TGL	Tana Glacier	87.59	346	P	P	16 05 34.0	+0.3
BARN	Barnard Glacie	87.60	346	P	P	16 05 34.3	+0.3
CRQM	Cirque	87.66	346	P	P	16 05 34.9	+0.7
RAGM	Ragged Mountai	87.69	345	IAMs_20	IAMs_20	16 35 36.4	
comp=Z,2μm,21.0s							
KDAK	Kodiak Island	87.69	340 *ce*	P	P	16 05 34.8	+0.6
KDAK	Kodiak Island	87.69	340	IAMs_20	IAMs_20	16 35 03.8	
comp=Z,2μm,22.0s							
BALM	Baldy	87.73	346	P	P	16 05 34.9	+0.5
BALM				IAMs_20	IAMs_20	16 34 54.3	
comp=Z,1μm,21.0s							
EYAK	Cordova Ski Ar	88.10	344	P	P	16 05 36.8	+0.7
VRDI	Verde Repeater	88.15	346	P	P	16 05 37.1	+0.6
VRDI				IAmb	IAmb	16 05 39.4	
comp=Z,95nm,1.2s							
VRDI				IAMs_20	IAMs_20	16 35 52.4	
comp=Z,1μm,20.0s							
GLB	Gilahina Butte	88.42	346	P	P	16 05 38.5	+0.8
GLB				IAmb	IAmb	16 05 40.4	
comp=Z,67nm,1.1s							
FID	Port Fidalgo	88.45	344	P	P	16 05 38.2	+0.5
SEW	Seward	88.69	343	P	P	16 05 38.7	-0.1
CNPM	China Poot	88.71	341	P	P	16 05 39.8	+0.7
CNPM				IAMs_20	IAMs_20	16 35 04.5	
comp=Z,1μm,21.0s							
BRLK	Bradley Lake	88.81	342	P	P	16 05 40.0	+0.5
BRLK				IAmb	IAmb	16 05 42.0	
comp=Z,79nm,0.8s							
HOM	Homer	88.94	341	IAMs_20	IAMs_20	16 35 12.6	
comp=Z,1μm,21.0s							
MAW	Mawson	88.98	178	P	P	16 05 41.1	+0.7
MAW				pmax	pmax		
comp=Z,2.0nm,0.9s							
MAW				MLR	MLR		
comp=Z,1μm,21.0s							
MAW	Mawson	88.98	178	P	P	16 05 40.4	0.0
comp=Z,11nm,0.9s,baz=197,slow=6.1,SNR=20							
MAW				PP	PP	16 09 09.0	-0.1
comp=Z,8.2nm,0.6s,baz=243,slow=18,SNR=28							
MAW				LR	LR	16 41 10.3	
comp=Z,5μm,21.6s,baz=183,slow=33							
MAW	Mawson	88.98	178	P	P	16 05 41.1	+0.7
H11S2	WAKE ISLAND Hy	89.07	291	T	T	17 44 10.4	
baz=115,slow=75,SNR=450							
H11S1	WAKE ISLAND Hy	89.08	291	T	T	17 44 08.0	
baz=115,slow=75,SNR=225							
H11S3	WAKE ISLAND Hy	89.09	291	T	T	17 44 11.6	
baz=115,slow=75,SNR=355							
H11N3	WAKE ISLAND Hy	89.42	292	T	T	17 44 33.2	
baz=117,slow=75,SNR=549							
H11N1	WAKE ISLAND Hy	89.43	292	T	T	17 44 35.8	
baz=117,slow=75,SNR=149							
H11N2	WAKE ISLAND Hy	89.43	292	T	T	17 44 36.0	
baz=117,slow=75,SNR=2169							
SCM	Sheep Creek Mo	89.59	344	IAmb	IAmb	16 05 46.6	
comp=Z,74nm,1.0s							
MENT	Mentasta	89.72	346	P	P	16 05 44.1	+0.3
MENT				IAmb	IAmb	16 05 50.1	
comp=Z,70nm,1.1s							
MENT				IAMs_20	IAMs_20	16 36 16.9	
comp=Z,1μm,20.0s							
PMR	Palmer	89.85	343	P	P	16 05 44.3	+0.1
PMR				pmax	pmax		
comp=Z,88nm,0.9s							
PMR				MLR	MLR		
comp=Z,700nm,19.0s							
PMR	Palmer	89.85	343	P	P	16 05 44.3	+0.1
PMR				IAmb	IAmb	16 05 47.0	
comp=Z,88nm,0.9s							
DAWY	Dawson	89.88	349	P	P	16 05 44.9	+0.4
DAWY				IAmb	IAmb	16 05 47.9	
comp=Z,60nm,1.1s							
RSO	Redoubt South	89.92	341	P	P	16 05 44.8	-0.1
GHO	Glory Hole Cre	89.95	344	P	P	16 05 45.1	+0.3
STKA	Stephens Creek	90.11	235	P	P	16 05 46.1	-0.3
comp=Z,34nm,1.2s,baz=113,slow=5.1,SNR=17							
STKA				LR	LR	16 40 33.8	
comp=Z,1μm,19.1s,baz=119,slow=32							
PAX	Paxson	90.14	346	P	P	16 05 45.7	-0.1
PAX				pmax	pmax		
comp=Z,44nm,1.0s							
PAX				MLR	MLR		
comp=Z,1μm,22.0s							
PAX	Paxson	90.14	346	P	P	16 05 45.7	-0.1
PAX				IAmb	IAmb	16 05 49.4	
comp=Z,44nm,1.0s							
SUA	Susitna One	90.17	343	P	P	16 05 46.1	+0.1
SUA				IAmb	IAmb	16 05 50.3	
comp=Z,89nm,1.2s							
DOT	Dot Lake	90.42	347	P	P	16 05 46.3	-0.7
DOT				IAMs_20	IAMs_20	16 37 36.5	
comp=Z,1μm,22.0s							
DHY	Denali Highway	90.67	345	IAMs_20	IAMs_20	16 36 28.7	
comp=Z,2μm,22.0s							
RIDG	Independent Ri	90.67	346	P	P	16 05 48.4	+0.2
RIDG				IAmb	IAmb	16 05 50.9	
comp=Z,64nm,1.0s							
RIDG				IAMs_20	IAMs_20	16 36 45.0	
comp=Z,1μm,20.0s							
SKT	Skwentna	90.81	343	P	P	16 05 49.0	+0.2
SKT				IAmb	IAmb	16 05 53.8	
comp=Z,103nm,1.2s							
EGAK	Eagle	90.85	348	P	P	16 05 48.7	-0.2
RND	Reindeer	91.31	345	P	P	16 05 51.3	+0.1
RND				pmax	pmax		
comp=Z,76nm,1.2s							
RND				MLR	MLR		
comp=Z,1μm,19.0s							
RND	Reindeer	91.31	345	P	P	16 05 51.3	+0.1
RND				IAmb	IAmb	16 05 56.3	
comp=Z,76nm,1.2s							
RND				IAMs_20	IAMs_20	16 37 22.0	
comp=Z,1μm,19.0s							
EPYK	Eagle Plains	91.56	351	P	P	16 05 51.3	-0.9
baz=158							
EPYK	Eagle Plains	91.56	351	P	P	16 05 51.9	-0.4
EPYK				IAMs_20	IAMs_20	16 38 59.3	
comp=Z,2μm,21.0s							
MCK	McKinley	91.60	345	IAMs_20	IAMs_20	16 37 30.8	
comp=Z,1μm,18.0s							
CTA	Charters Tower	91.68	247	P	P	16 05 53.7	-0.2
comp=Z,22nm,1.0s,baz=100,slow=6.4,SNR=9.3							
CTAO	Charters Tower	91.68	247	IAMs_20	IAMs_20	16 38 34.8	
comp=Z,2μm,22.0s							
HDA	Harding Lake	91.72	346	P	P	16 05 52.2	-0.8
baz=149							
PPLA	Purkeypile	91.74	343	P	P	16 05 53.7	+0.4
KTH	Kantishna Hill	91.94	344	P	P	16 05 54.3	+0.2
ILAR	Eielson Array	92.01	346	P	P	16 05 53.0	-1.3
comp=Z,16nm,1.0s,baz=169,slow=2.8,SNR=24							
ILAR				PKKP	PKKPdf	16 23 10.7	-1.3
comp=Z,1.0nm,0.9s,baz=306,slow=3.3,SNR=6.7							
ILAR				LR	LR	16 38 32.5	
comp=Z,922nm,21.2s,baz=124,slow=30							
WRH	Wood River Hil	92.03	345	P	P	16 05 54.4	+0.1
WRH				IAMs_20	IAMs_20	16 38 04.0	
comp=Z,2μm,22.0s							
BWN	Browne	92.10	345	IAMs_20	IAMs_20	16 37 45.9	
comp=Z,1μm,20.0s							
CCB	Clear Creek Bu	92.11	346	P	P	16 05 54.6	-0.1
CCB				IAmb	IAmb	16 05 55.9	
comp=Z,47nm,1.2s							
COLA	College	92.32	346 *d*	*i*P	P	16 05 55.3	-0.4
COLA				pmax	pmax		
comp=Z,96nm,1.5s							
TCOL	CIGO, UAF Yank	92.32	346	P	P	16 05 55.9	+0.2
baz=148							
NEA	Nenana	92.35	345	IAMs_20	IAMs_20	16 37 30.7	
comp=Z,1μm,22.0s							
PRP	Porcupine Dome	92.37	347	IAMs_20	IAMs_20	16 38 25.9	
comp=Z,1μm,20.0s							
BPAW	Bear Paw Mtn.	92.41	344	P	P	16 05 56.0	-0.3
POKR	Poker Plat Res	92.43	346	P	P	16 05 56.0	-0.2
baz=148							
MDM	Murphy Dome	92.47	346	P	P	16 05 56.4	-0.1
MDM				IAmb	IAmb	16 06 02.1	
comp=Z,68nm,1.0s							
INK	Inuvik	92.95	352	P	P	16 05 58.4	-0.1
INK				pmax	pmax		
comp=Z,122nm,1.2s							
INK				MLR	MLR		
comp=Z,3μm,21.0s							
INK	Inuvik	92.95	352	LR	LR	16 42 02.5	
comp=Z,1μm,20.5s,baz=142,slow=32							
INK	Inuvik	92.95	352	P	P	16 05 58.4	-0.1
C36M	Paulatuk	93.08	356	P	P	16 05 58.6	-0.5
baz=170							
MLY	Manley	93.12	345	P	P	16 05 59.2	-0.3
MLY				IAmb	IAmb	16 06 04.3	
comp=Z,46nm,1.2s							
KRVT	Keravat (AS076	93.13	264	P	P	16 06 01.4	+0.7
comp=Z,128nm,1.1s,baz=101,slow=7.1,SNR=6.7							
KRVT				LR	LR	16 43 12.0	
comp=Z,422nm,18.2s,baz=129,slow=32							
FYU	Fort Yukon	93.22	348	P	P	16 05 59.8	0.0
FYU				IAMs_20	IAMs_20	16 39 38.4	
comp=Z,1μm,20.0s							
BMAR	Burnt Mountain	93.85	348	P	P	16 06 03.5	+0.6
IMAR	Indian Mountai	94.63	344	P	P	16 06 06.4	0.0
PMG	Port Moresby	95.45	257	LR	LR	16 41 59.9	
comp=Z,935nm,20.4s,baz=112,slow=31							
PMG	Port Moresby	95.45	257	IAMs_20	IAMs_20	16 46 54.3	
comp=Z,1μm,21.0s							
A36M	Sachs Harbour	95.76	356	P	P	16 06 12.9	+1.5
baz=168							
TOLK	Toolik Lake Re	95.87	347	P	P	16 06 12.0	0.0
baz=146							
TOLK	Toolik Lake Re	95.87	347	IAMs_20	IAMs_20	16 47 06.4	
comp=Z,1μm,19.0s							
COEN	Coen	97.01	252	IAMs_20	IAMs_20	16 41 42.3	
comp=Z,2μm,21.0s							
ASAR	Alice Springs	100.08	239	P	Pdif	16 06 31.6	-0.5
comp=Z,1.2nm,0.9s,baz=122,slow=5.3,SNR=7.9							
ASAR				PP	PP	16 10 30.9	-6.3
comp=Z,2.4nm,1.1s,baz=119,slow=7.6,SNR=4.8							
ASAR				PKKPbc	PKKPbc	16 22 49.6	-0.4
comp=Z,1.9nm,0.6s,baz=306,slow=2.4,SNR=21							
WRAB	Tennant Creek	101.63	242	*i* P	Pdif	16 06 40.6	+1.5
WRAB				pmax	pmax		
comp=Z,4.0nm,1.0s							
WRA	Warramunga Arr	101.64	242	P	Pdif	16 06 38.9	-0.2
comp=Z,2.5nm,0.9s,baz=113,slow=4.6,SNR=9.6							
WRA				PP	PP	16 10 45.4	-3.6
comp=Z,5.0nm,1.2s,baz=122,slow=7.6,SNR=5.4							
WRA				PKKPbc	PKKPbc	16 22 45.6	+0.1
comp=Z,1.8nm,0.6s,baz=306,slow=2.2,SNR=24							
WB5	Warramunga Arr	101.65	242	IAMs_20	IAMs_20	16 47 50.2	
comp=Z,2μm,20.0s							
TULEG	Thule	103.45	10	IAMs_20	IAMs_20	16 51 44.6	
comp=Z,2μm,20.0s							
PET	Petropavlovsk	107.75	321 *c*	*i*P	Pdif	16 07 09.8	+4.5
PET				*e*		16 11 34.1	
PET				*e*PS	PS	16 20 49.7	-6.8
PET				*e*SS	SS	16 26 40.3	-5.4
PET				pmax	pmax		
comp=Z,100nm,13.0s							
PET				pmax	pmax		
comp=Z,300nm,17.8s							
PEA0B	Petropavlovsk-	108.33	321	IAMs_20	IAMs_20	16 45 46.4	
comp=Z,1μm,22.0s							
KNRA	Kununurra	108.38	243	IAMs_20	IAMs_20	16 50 12.8	
comp=Z,2μm,21.0s							
BILL	Bilibino	108.40	337	*i* P	Pdif	16 07 10.0	+2.1
BILL				pmax	pmax		
comp=Z,16nm,2.0s							
BILL				MLR	MLR		
comp=Z,422nm,17.0s							
FITZ	Fitzroy Crossi	109.57	239	PP	PP	16 11 43.7	-4.0
comp=Z,2.5nm,0.9s,baz=57,slow=7.8,SNR=3.2							
FAKI	Fak Fak	111.59	257	IAMs_20	IAMs_20	16 58 19.2	
comp=Z,1μm,20.0s							
SIJI	Sorong	113.38	258	PKiKP	PKiKP	16 11 24.4	-0.5
comp=Z,5.0nm,0.6s,baz=54,slow=1.1,SNR=5.4							
BOSA	Boshof	114.12	140	PKP	PKiKP	16 11 26.0	-0.1
comp=Z,10nm,1.2s,baz=186,slow=1.1,SNR=4.0							
PFVI	Vila Bisbo	114.53	59	*e*SS	SS	16 28 29.5	+12
PMAFR	Mafra	114.54	56	*e*SS	SS	16 28 37.2	+20
MORF	Marmelete	114.70	58	*e*SS	SS	16 28 27.1	+7.6
PNCL	Nicolau / Gran	114.95	58	*e*SS	SS	16 28 42.5	+20
PBDV	Barranco-do-Ve	115.25	59	*e*SS	SS	16 28 32.1	+5.4
PCAS	Casmilo, Conde	115.34	55	*e*SS	SS	16 28 32.7	+5.0
COI	Coimbra	115.43	55	*e*SS	SS	16 28 38.4	+10
PVAQ	Vaqueiros	115.45	58	*e*SS	SS	16 28 36.0	+6.8
ERM	Erimo	115.66	307	IAMs_20	IAMs_20	17 00 30.0	
comp=Z,1μm,19.0s							
PMRV	Marv??o	116.07	56	*e*SS	SS	16 28 44.8	+7.5
POLO	Lamas de Olo	116.09	54	*e*SS	SS	16 28 42.5	+4.8
MTE	Manteigas	116.12	55	*e*SS	SS	16 28 41.8	+3.8
MVO	Moncorvo	116.63	54	*e*SS	SS	16 28 48.6	+3.9
YSS	Yuzh-Sakhalins	116.64	312	IAMs_20	IAMs_20	16 48 56.3	
comp=Z,1μm,22.0s							
TOC5	Torodi Ar. Sit	117.28	87	IAMs_20	IAMs_20	16 58 33.0	
comp=Z,1μm,19.0s							
TOB4	Torodi Ar. Sit	117.30	87	IAMs_20	IAMs_20	16 58 24.3	
comp=Z,1μm,18.0s							
TOB5	Torodi Ar. Sit	117.30	87	IAMs_20	IAMs_20	16 58 24.3	
comp=Z,1μm,18.0s							
TOC7	Torodi Ar. Sit	117.30	87	IAMs_20	IAMs_20	16 58 04.4	
comp=Z,1μm,20.0s							
TOC4	Torodi Ar. Sit	117.30	87	IAMs_20	IAMs_20	16 58 33.5	
comp=Z,1μm,19.0s							
TOA3	Torodi Ar. Sit	117.31	87	IAMs_20	IAMs_20	16 58 23.6	
comp=Z,1μm,18.0s							
TOA0	Torodi Ar. Sit	117.31	87	IAMs_20	IAMs_20	16 58 33.6	
comp=Z,1μm,19.0s							
TORD	Torodi Ar. Bea	117.31	87	PKP	PKPdf	16 11 30.9	-1.4
comp=Z,9.0nm,1.0s,baz=209,slow=1.3,SNR=27							
TORD				PP	PP	16 12 40.7	-2.7
comp=Z,21nm,1.1s,baz=253,slow=5.5,SNR=7.5							
TORD				PKKPab	PKKPab	16 21 57.8	-1.4
comp=Z,2.4nm,1.0s,baz=116,slow=6.8,SNR=6.9							
TOB3	Torodi Ar. Sit	117.31	87	IAMs_20	IAMs_20	16 58 33.8	
comp=Z,1μm,19.0s							
TOB2	Torodi Ar. Sit	117.32	87	IAMs_20	IAMs_20	16 58 34.0	
comp=Z,1μm,19.0s							
TOC1	Torodi Ar. Sit	117.32	87	IAMs_20	IAMs_20	16 58 33.0	
comp=Z,1μm,19.0s							
TOC3	Torodi Ar. Sit	117.33	87	IAMs_20	IAMs_20	16 58 26.2	
comp=Z,1μm,18.0s							
TOC2	Torodi Ar. Sit	117.33	87	IAMs_20	IAMs_20	16 58 25.3	
comp=Z,1μm,18.0s							
MMRI	Maumere	117.50	246	IAMs_20	IAMs_20	16 59 45.0	
comp=Z,1μm,19.0s							
MJAR	Matsushiro Arr	118.57	300	PKP	PKPdf	16 11 32.9	-1.2
comp=Z,5.9nm,0.8s,baz=164,slow=1.6,SNR=21							
MJAR				PKKPab	PKKPab	16 21 52.2	-0.1
comp=Z,3.7nm,1.1s,baz=284,slow=0.5,SNR=5.7							
MAJO	Matsushiro	118.57	300	*i* PKIKP	PKPdf	16 11 33.9	-0.2
MAT	Matsushiro	118.57	300	PKP	PKPdf	16 11 33.8	-0.3
ESDC	Sonseca Array	118.72	56	PKP	PKPdf	16 11 33.9	-0.5
comp=Z,3.2nm,0.8s,baz=301,slow=2.4,SNR=15							
ESDC				PP	PP	16 12 58.4	+5.6
comp=Z,1.3nm,0.8s,baz=262,slow=6.4,SNR=5.6							
ESDC				PKKPab	PKKPbc	16 21 50.6	0.0
comp=Z,2.0nm,0.9s,baz=67,slow=3.4,SNR=6.4							
TEY	Ternei	120.74	310 ‖	*e*PKIKP	PKiKP	16 11 39.3	+1.2
TEY				pmax	pmax		
comp=Z,30nm,1.1s							
GRNR	Gornyy	121.05	316	*e*PKIKP	PKiKP	16 11 39.6	+1.0
GRNR				pmax	pmax		
comp=Z,18nm,1.1s							
KAPI	Kappang	121.50	248	PKP	PKiKP	16 11 40.8	+0.3
comp=Z,19nm,0.7s,baz=119,slow=1.8,SNR=5.8							
KAPI	Kappang	121.50	248	IAMs_20	IAMs_20	17 00 14.0	
comp=Z,1μm,21.0s							
KCP	Kidapawan	122.27	263 ⇑	*i*P	PKPdf	16 11 41.6	-0.4
CTBH	Cotabato--PC H	123.12	263 ‖	*i*P	PKPdf	16 11 42.4	-1.1
YAK	Yakutsk	123.52	330	*e*PKIKP	PKPdf	16 11 42.1	-0.7
YAK				*e*		16 13 24.2	
YAK				*e*		16 18 47.6	
YAK				*e*SS	SS	16 30 16.8	+5.2
YAK				pmax	pmax		
comp=Z,45nm,1.2s							
YAK				pmax	pmax		
comp=N,6.0nm,1.4s							
YAK				pmax	pmax		
comp=E,6.0nm,1.4s							
YAK				pmax	pmax		
comp=Z,210nm,3.2s							
YAK				pmax	pmax		
comp=E,73nm,3.2s							
YAK				pmax	pmax		
comp=N,39nm,2.8s							
USA0B	Ussuriysk Arra	124.00	308	*i* PKIKP	PKiKP	16 11 45.4	+0.8
USRK	Ussuriysk Ar.	124.00	308	PKP	PKPdf	16 11 44.1	-0.2
comp=N,14nm,0.8s,baz=157,slow=1.8,SNR=33							
JNU	Nakatsue	124.02	295	PKP	PKPdf	16 11 43.8	-0.9
comp=N,17nm,0.9s,baz=72,slow=5.3,SNR=8.2							
VLA	Vladivostok	124.05	307	*i* PKIKP	PKPdf	16 11 43.3	-1.1
KLR	Kul'dur	124.09	314	*i* PKIKP	PKiKP	16 11 46.0	+1.4
SNF	Seneffe	124.91	44	PKiKP	PKiKP	16 11 47.4	+1.2
DOU	Dourbes	125.14	44	x	PKPdf	16 11 48.2	+1.9
DOU				x	x	16 11 48.5	
BMRD	Maredsous	125.24	44	PKiKP	PKiKP	16 11 47.6	+0.7
BMRD				x	x	16 11 49.2	
MDJ	Mudanjiang	125.72	309	PKP	PKPdf	16 11 47.1	-0.5
MDJ				AMB	AMB		
comp=N,580nm,4.5s							
MDJ				LR	LR		
comp=N,450nm,15.3s							
MDJ				LR	LR		
comp=N,380nm,18.4s							
MDJ				LR	LR		
comp=N,510nm,21.4s							
BSTI	Sart Tilman	125.72	44	x	PKiKP	16 11 49.8	+2.0
BSTI				x	x	16 11 51.7	
BKB	Balikpapan	125.86	250	IAMs_20	IAMs_20	17 07 27.8	
comp=Z,1μm,19.0s							
MEM	Membach	126.00	44	x	PKiKP	16 11 50.0	+1.7
WLF	Walferdange	126.19	45	x	PKiKP	16 11 50.2	+1.4
ZEA	Zeya	126.42	320	*e*PKIKP	PKPdf	16 11 48.2	-0.4
ZEA				*e*		16 13 43.0	
ZEA				*e*		16 30 52.0	
ZEA				pmax	pmax		
comp=N,24nm,1.0s							
ZEA				pmax	pmax		
comp=Z,29nm,1.0s							
NB2	NORSAR Subarra	126.67	30	PKPdf	PKPdf	16 11 48.4	-0.6
comp=Z,52nm,2.0s,baz=289,slow=1.9							
NB2	NORSAR Subarra	126.67	30	PKPdf	PKPdf	16 11 48.4	-0.6
baz=289,slow=1.9							
NOA	NORSAR Array B	126.67	30	PKP	PKPdf	16 11 48.5	-0.4
comp=Z,3.9nm,0.8s,baz=297,slow=2.0,SNR=8.4							
KSRS	Korea Array	126.85	300	PKP	PKPdf	16 11 50.0	+0.1
comp=Z,27nm,0.9s,baz=115,slow=2.6,SNR=68							
TJN	Taejon	127.23	299 *c*	*i* PKIKP	PKiKP	16 11 51.8	+0.6
BFO	Black Forest	127.75	46 *c*	*i* PKIKP	PKiKP	16 11 53.4	+1.4
ARCES	ARCESS Array B	127.85	17	PKP	PKPdf	16 11 50.2	-0.8
comp=Z,24nm,1.2s,baz=274,slow=2.5,SNR=11							
ARCES				PP	PP	16 13 51.6	-1.5
comp=Z,5.9nm,0.9s,baz=320,slow=5.4,SNR=4.3							
TGY	Tagaytay City	128.64	269	PKP	PKiKP	16 11 55.2	+0.5
comp=Z,84nm,0.4s,baz=314,slow=8.0,SNR=6.2							
CN2	Changchun	128.73	308	*e*PKP	PKiKP	16 11 53.7	-0.3
CN2				AMB	AMB		
comp=Z,400nm,6.0s							
CN2				LR	LR		
comp=Z,270nm,19.0s							
CN2				LR	LR		
comp=Z,410nm,19.0s							
CN2				LR	LR		
comp=Z,500nm,20.0s							
KEST	Kesra	128.86	62	PKP	PKiKP	16 11 55.0	+0.4
comp=Z,19nm,1.2s,baz=64,slow=3.1,SNR=6.5							
KEST	Kesra	128.86	62	IAMs_20	IAMs_20	17 13 58.2	
comp=Z,926nm,19.0s							
DAVA	Damuels	128.90	48	*i* PKIKP	PKiKP	16 11 54.9	+0.4
comp=Z,44nm,1.3s,SNR=8.3							
RETA	Reutte	129.47	47	*e*PKiKP	PKiKP	16 11 55.5	0.0
comp=Z,26nm,1.3s							
MOTA	Moosalm	129.72	47	*e*PKiKP	PKiKP	16 11 56.2	+0.1
comp=Z,87nm,1.3s,SNR=20							
SQTA	Sankt Quirin	129.81	47	*e*PKiKP	PKiKP	16 11 56.1	-0.2
comp=Z,80nm,1.3s,SNR=22							
WATA	Walderalm	130.04	47	*i* PKiKP	PKPdf	16 11 56.3	+0.3
comp=Z,55nm,1.4s,SNR=13							
WTTA	Wattenberg	130.09	47	*i* PKiKP	PKiKP	16 11 56.6	-0.3
comp=Z,64nm,1.3s,SNR=19							
NKC	Novy Kostel	130.13	43	*e*PKIKP	PKiKP	16 11 58.9	+2.2
NKC				MLR	MLR		
comp=Z,2μm,22.0s							
NKC	Novy Kostel	130.13	43	*e*PKP	PKiKP	16 11 58.9	+2.2
NKC				AMS	AMS	16 57 20.0	
comp=Z,2μm,22.0s							
CLL	Collm	130.25	42 ‖	*i*PKIKP	PKPdf	16 11 55.9	-0.1
CLL				*e*		16 14 08.0	
CLL				pmax	pmax		
comp=Z,49nm,1.4s							
CLL	Collm	130.25	42 ‖	*i*PKPdf	PKPdf	16 11 55.9	-0.1
comp=Z,49nm,1.4s							
CLL				*e*PP	PP	16 14 08.0	-1.5
CLL				*i* SKPdf	SKPdf	16 15 26.0	-5.6
comp=Z,390nm,3.8s							
CLL				*e*		16 20 12.0	
CLL				*e*SKKSac	SKKSac	16 21 08.0	+1.7
CLL				*e*PS	PS	16 24 24.0	+2.8
CLL				*e*SKKPbc	SKKPbc	16 24 57.0	-4.3
CLL				*e*PPS	PPS	16 26 00.0	
CLL				*e*		16 30 36.0	
CLL				*e*SS	SS	16 31 36.0	-0.2
CLL				*e*SSS	SSS	16 36 24.0	
CLL				*e*SSSS		16 39 54.0	
LEM	Lembang	130.35	237	PKP	PKiKP	16 11 58.1	-0.3
comp=Z,16nm,0.3s,baz=164,slow=5.6,SNR=10							
TEOL	Teolo	130.36	50	IAMs_20	IAMs_20	17 03 36.8	
comp=Z,866nm,21.0s							
RUE	Ruedersdorf	130.44	40	*e*P	PKPdf	16 11 55.0	-1.3
ABTA	Abfaltersbach	130.76	48	*e*PKPdf	PKPdf	16 11 57.5	+0.2
comp=Z,26nm,1.4s,SNR=8.2							
BRG	Berggiesshubel	130.92	42	*e*PKP	PKPdf	16 11 56.8	-0.5
comp=Z,53nm,1.4s							
BRG				*e*		16 12 12.4	
comp=Z,39nm,1.9s							
BRG				PP	PP	16 14 08.0	-5.9
BRG				SKP		16 15 19.0	
BRG				*e*PKPPKP		16 30 00.0	
comp=Z,14nm,1.8s							
comp=N,851nm,19.2s							
comp=E,795nm,23.2s							
comp=Z,1μm,

comp=Z,23nm,1.4s
DL2 Dalian 131.82 302 PKP **PKPdf** **16 11 59.5 +0.1**
DL2 PP **PP** **16 14 21.2 +1.0**
DL2 SS SS 16 31 59.8 +3.3
DL2 AMB AMB
comp=Z,390nm,8.1s
DL2 LR LR
comp=Z,470nm,25.5s
DL2 LR LR
comp=Z,530nm,23.7s
DL2 LR LR
comp=Z,750nm,23.5s
HIA Hailar 131.88 316 IAMs_20 IAMs_20 17 06 15.0
comp=Z,842nm,20.0s
OBKA Obir 132.18 48 *e*PKPdf **PKPdf** **16 12 00.2 +0.2**
comp=Z,16nm,1.3s
TREC Trest 132.25 44 AMS AMS 16 59 50.0
comp=Z,2μm,22.0s
UPC Upice 132.29 42 AMS AMS 17 01 40.0
comp=Z,1μm,19.6s
CHVC Chvalec 132.29 42 *e*PKP **PKiKP** **16 12 01.7 +0.7**
CHVC AMS AMS 17 01 40.0
comp=Z,1μm,20.3s
BOD Bodaibo 132.34 328 *e*PKIKP **PKPdf** **16 11 58.9 -0.9**
BOD pmax pmax
comp=Z,64nm,1.4s
KSP Ksiaz 132.38 42 *e*PKIKP **PKiKP** **16 12 00.8 -0.4**
KSP Ksiaz 132.38 42 *e*PKP **PKiKP** **16 12 00.8 -0.4**
KSP *e*PKP **PKiKP** **16 12 00.8 -0.4**
SOKA Soboth 132.48 48 *e*PKPdf **PKPdf** **16 12 00.6 +0.1**
comp=Z,23nm,1.3s,SNR=6.3
DPC Dobruska-Polom 132.52 42 *e*PKIKP **PKiKP** **16 12 02.4 +0.9**
DPC *e* 16 14 21.2
DPC MLR MLR
comp=Z,1μm,19.8s
DPC Dobruska-Polom 132.52 42 *e*PKP **PKiKP** **16 12 02.4 +0.9**
DPC *e*PP **PP** **16 14 21.2 -3.0**
DPC *e*SKP 16 15 30.4
DPC AMS AMS 17 01 40.0
comp=Z,1μm,19.8s
NRIK Noril'sk 132.70 350 PKP **PKPdf** **16 11 59.4 -0.7**
comp=Z,8.9nm,1.0s,baz=68,slow=2.6,SNR=15
ARSA Arzberg 132.71 47 *i* PKPdf **PKPdf** **16 12 00.8 -0.1**
comp=Z,22nm,1.2s,SNR=9.2
CONA Conrad Observa 132.79 46 *i* PKPdf **PKPdf** **16 12 00.9 -0.2**
comp=Z,36nm,1.2s,SNR=13
KRUC Moravsky 132.88 44 *e*PKP **PKPdf** **16 12 01.4 +0.3**
KRUC *e*PP **PP** **16 14 25.8 -0.8**
KSM Kuching 132.91 249 IAMs_20 IAMs_20 17 08 35.5
comp=Z,797nm,20.0s
FINES FINESS Array B 132.92 26 PKP **PKPdf** **16 12 00.1 -0.6**
comp=Z,33nm,1.2s,baz=333,slow=2.1,SNR=15
FINES PP **PP** **16 14 23.9 -2.3**
comp=Z,6.7nm,1.0s,baz=264,slow=5.4,SNR=4.9
VRAC Vranov 132.95 44 *e*PKP **PKiKP** **16 12 02.1 -0.3**
VRAC *e*PP **PP** **16 14 26.1 -0.9**
WDD Wied Dalam 133.07 62 IAMs_20 IAMs_20 17 14 34.7
comp=Z,718nm,18.0s
SLIT Slitere, Latvi 133.22 31 *e*P **PKPdf** **16 11 59.9 -1.5**
SLIT IAmb IAmb 16 12 03.5
comp=Z,671nm,1.7s
ABPO Ambohimpanom 133.29 153 IAMs_20 IAMs_20 17 10 41.3
comp=Z,960nm,18.0s
MORC Moravsky Berou 133.43 43 ⇑PKIKP **PKiKP** **16 12 03.3 -0.1**
MORC Moravsky Berou 133.43 43 ⇑P **PKiKP** **16 12 03.3 -0.1**
MORC Moravsky Berou 133.43 43 *e*PKP **PKPdf** **16 12 02.6 +0.4**
MORC *e*PP **PP** **16 14 28.8 -1.3**
MORC Moravsky Berou 133.43 43 IAMs_20 IAMs_20 17 01 12.6
comp=Z,1μm,21.0s
QZH Quanzhou 133.48 283 PKP **PKiKP** **16 12 05.8 +1.7**
QZH PP **PP** **16 14 31.9 +0.7**
MODS Modra-Piesok 133.62 45 *e*PKIKP **PKPdf** **16 12 02.9 +0.4**
MODS Modra-Piesok 133.62 45 *e*PKP **PKPdf** **16 12 02.9 +0.4**
JAVC Velka Javorina 133.75 44 *e*PKP **PKiKP** **16 12 04.0 -0.1**
OKC Ostrava-Krasne 133.79 43 AMS AMS 17 00 00.0
comp=Z,800nm,21.2s
NJ2 Nanjing 134.03 292 *e*PKP **PKiKP** **16 12 05.3 +0.2**
CEL Celeste 134.11 59 IAMs_20 IAMs_20 17 16 53.5
comp=Z,886nm,21.0s
BLY Banja Luka 134.31 50 ⇑P **PKPdf** **16 12 03.9 0.0**
VYHS Vyhne 134.59 44 *e*PKIKP **PKiKP** **16 12 05.6 -0.1**
VYHS Vyhne 134.59 44 *e*PKP **PKiKP** **16 12 05.6 -0.1**
OJC Ojcow 134.70 42 *e*PKIKP **PKiKP** **16 12 05.4 -0.5**
OJC Ojcow 134.70 42 *e*PKP **PKiKP** **16 12 05.4 -0.5**
OJC *e*PKP **PKiKP** **16 12 05.4 -0.5**
TIP Timpagrande 134.72 58 P **PKPdf** **16 12 03.1 -1.8**
TIP Timpagrande 134.72 58 ⇑P **PKiKP** **16 12 06.4 0.0**
LANS Liptovska Anna 134.81 43 *e*PKIKP **PKiKP** **16 12 07.7 +1.5**
LANS Liptovska Anna 134.81 43 *e*PKP **PKiKP** **16 12 07.7 +1.5**
VSU Vasula 134.85 29*c* *i*PKIKP **PKPdf** **16 12 04.3 -0.1**
VSU pmax pmax
comp=Z,157nm,1.3s
VSU Vasula 134.85 29 *e*P **PKPdf** **16 12 01.7 -2.7**
VSU IAmb IAmb 16 12 07.7
comp=Z,82nm,0.9s
VSU *e*PP **PP** **16 14 33.9 -4.6**
CIT Chita 134.87 321 *e*PKIKP **PKPdf** **16 12 04.2 -0.6**
CIT pmax pmax
comp=Z,111nm,1.6s
PABE Paberze 135.01 34 *e*P **PKPdf** **16 12 05.1 +0.3**
PABE IAmb IAmb 16 12 08.1
comp=Z,96nm,1.4s
PABE *e*PP **PP** **16 14 37.1 -2.5**
TMCR Tamitsa 135.14 18 *e*PKIKP **PKiKP** **16 12 06.1 -0.2**
TMCR pmax pmax
comp=Z,29nm,0.8s
NIE Niedzica 135.25 43 *e*PKIKP **PKPdf** **16 12 05.8 +0.2**
NIE Niedzica 135.25 43 *e*PKP **PKPdf** **16 12 05.8 +0.2**
NIE *e*PKP **PKPdf** **16 12 05.8 +0.2**
PSZ Piszkesteto 135.43 45 ⇑PKIKP **PKPdf** **16 12 06.7 +0.7**
PSZ Piszkesteto 135.43 45 ⇑P **PKPdf** **16 12 06.7 +0.7**
TIA Tai'an 135.50 298 PKP **PKPdf** **16 12 06.4 0.0**
TIA PP **PP** **16 14 42.6 -1.1**
TIA AMB AMB
comp=Z,700nm,6.8s
TIA LR LR
comp=Z,640nm,14.3s
TIA LR LR
comp=Z,420nm,20.1s
ISAL Salakas 136.06 33 *e*P **PKPdf** **16 12 06.9 +0.1**
PDG Podgorica 136.20 53 ⇑P **PKiKP** **16 12 08.4 -0.8**
IIGN Ignalina 136.22 33 *e*P **PKPdf** **16 12 07.6 +0.5**
IIGN IAmb IAmb 16 12 10.3
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 136.63 43 *e*PKIKP **PKiKP** **16 12 10.6 +0.7**
KOLS Kolonicke sedl 136.63 43 *e*PKP **PKiKP** **16 12 10.6 +0.7**
KWP Kalwaria Pacla 136.67 42 *e*PKIKP **PKiKP** **16 12 12.6 +2.7**
KWP Kalwaria Pacla 136.67 42 *e*PKP **PKiKP** **16 12 12.6 +2.7**
KWP *e*PKP **PKiKP** **16 12 12.6 +2.7**
UZH Uzhgorod 136.74 43 *e*PKIKP **PKPdf** **16 12 02.3 -6.0**
UZH *i* 16 12 08.4
KEK Kerkira 137.01 57 P **PKPdf** **16 12 07.0 -2.1**
SIRR Siria 137.03 47 ⇑P **PKPdf** **16 12 09.8 +0.9**
MBAR Mbarara 137.07 119 IAMs_20 IAMs_20 17 15 05.8
comp=Z,1μm,20.0s
BZS Buzias 137.18 48 ⇑PKIKP **PKPdf** **16 12 09.7 +0.5**
BZS Buzias 137.18 48 ⇑P **PKPdf** **16 12 09.7 +0.5**
LVV L'vov 137.40 41 *e*PKIKP **PKPdf** **16 12 09.4 -0.1**
LVV *e* 16 19 12.6
IGT Igoumenitsa 137.44 57 P **PKPdf** **16 12 09.3 -0.6**
MDVR Moldovita 137.46 49 ⇑P **PKPdf** **16 12 10.3 +0.5**
MICGM Minsk 137.47 33 *e* **PKPdf** **16 12 14.0 +0.6**
MICGM *e* 16 15 44.0
MICGM *e*LR LR 17 00 50.0
MNK Minsk 137.47 33 *e*PKIKP **PKPdf** **16 12 10.0 +0.6**
OHR Ohrid 137.56 54 *i* P **PKiKP** **16 12 12.6 +0.6**
DRGR 137.58 46 ⇑PKIKP **PKPdf** **16 12 08.0 -2.0**
DRGR 137.58 46 ⇑P **PKPdf** **16 12 08.0 -2.0**
WHN Wuhan 137.81 290 PKP **PKPdf** **16 12 10.1 -0.7**
BMR Baia Mare 137.82 44 ⇑PKIKP **PKiKP** **16 12 12.7 +0.4**
BMR Baia Mare 137.82 44 ⇑P **PKiKP** **16 12 12.7 +0.4**
SKO Skopje 137.88 53 *i* P **PKPdf** **16 12 10.8 +0.2**
DEV Deva 137.97 47 ⇑PKIKP **PKiKP** **16 12 13.0 +0.3**
DEV Deva 137.97 47 ⇑P **PKiKP** **16 12 13.0 +0.3**
GZR Gura Zlata 138.03 48 ⇑PKIKP **PKPdf** **16 12 11.2 +0.3**
GZR Gura Zlata 138.03 48 ⇑P **PKPdf** **16 12 11.2 +0.3**
FNA Florina 138.04 55 IAMs_20 IAMs_20 17 16 11.6
comp=Z,997nm,22.0s
KLMR Klimovskoe 138.14 20 *e*PKIKP **PKPdf** **16 12 05.4 -5.1**
KLMR pmax pmax
comp=Z,116nm,1.4s
KLMR Klimovskoe 138.14 20 *e*PKPdf **PKPdf** **16 12 05.4 -5.1**
KLMR AMP 16 12 15.9
comp=Z,116nm,1.4s
KLMR *e*PP **PP** **16 14 52.7 -6.2**
CJR Cluj-Napoca 138.19 46 ⇑PKIKP **PKiKP** **16 12 13.7 +0.5**
CJR Cluj-Napoca 138.19 46 ⇑P **PKiKP** **16 12 13.7 +0.5**
STIP Stip 138.48 53 *i* P **PKPdf** **16 12 11.8 +0.1**
ARCR ARCALIA 138.56 45 ⇑P **PKPdf** **16 12 12.2 +0.4**
EVR Evrytania 138.66 57 P **PKPdf** **16 12 11.1 -1.2**
LOT Lotru 138.68 47 ⇑P **PKPdf** **16 12 12.6 +0.4**
THL Klokotos Trika 138.72 56 P **PKPdf** **16 12 05.8 -6.4**
GRG Griva 138.78 54 P **PKPdf** **16 12 06.5 -5.9**
VAY Valandovo 138.83 54 *i* P **PKPdf** **16 12 13.3 +1.0**
LAKA Lakka 138.88 58 P **PKPdf** **16 12 09.8 -2.8**
BURAR Bucovina Array 138.93 44 ⇑PKIKP **PKPdf** **16 12 08.2 -4.3**
BURAR Bucovina Array 138.93 44 ⇑P **PKPdf** **16 12 08.2 -4.3**
KLV Kalavryta, Ach 139.04 59 P **PKPdf** **16 12 10.3 -2.7**
VTS Vitosha 139.04 52 P **PKPdf** **16 12 08.0 -5.0**
VTS Vitosha 139.04 52 P **PKPdf** **16 12 12.6 -0.4**
VTS Vitosha 139.04 52 ⇑PKIKP **PKPdf** **16 12 07.1 -5.9**
VTS Vitosha 139.04 52 ⇑P **PKPdf** **16 12 07.1 -5.9**
AGG Agios Georgios 139.04 57 P **PKPdf** **16 12 07.0 -5.9**
KKB Krupnik 139.10 53 P **PKPdf** **16 12 12.6 -0.3**
KNT Kendrikon 139.11 54 P **PKPdf** **16 12 08.3 -4.6**
TIY Taiyuan 139.12 301 *e*PKP **PKPdf** **16 12 13.9 +0.7**
TIY PP **PP** **16 15 09.7 +3.3**
TIY AMB AMB
comp=Z,440nm,6.2s
TIY LR LR
comp=Z,1μm,35.8s
PRGR Permogore 139.22 16 *e*PKHKP PKPpre 16 12 03.3
PRGR *e* 16 15 02.3
PRGR pmax pmax
comp=Z,44nm,1.1s
MPEP Malo Peshtene 139.23 50 P **PKPdf** **16 12 13.2 +0.1**
DSF Desfina 139.28 58 P **PKPdf** **16 12 11.6 -1.8**
ARR Arges 139.29 47 ⇑P **PKPdf** **16 12 13.8 +0.6**
VLX Vlachokerasia 139.30 60 P **PKPdf** **16 12 12.1 -1.4**
HHC Hu-ho-hao-te 139.30 306 PKP **PKiKP** **16 12 15.4 -0.3**
HHC PP **PP** **16 15 10.9 +3.5**
HHC SS SS 16 33 29.3 +3.2
HORT Hortiatis 139.37 55 P **PKPdf** **16 12 12.3 -1.2**
VOIR 139.54 47 ⇑PKIKP **PKPdf** **16 12 08.3 -5.4**
VOIR 139.54 47 ⇑P **PKPdf** **16 12 08.3 -5.4**
MMB Musomiste 139.63 53 P **PKPdf** **16 12 14.1 +0.2**
PGB Panagyurishte 139.73 51 P **PKPdf** **16 12 14.4 +0.3**
BIZ Bicaz 139.74 44 ⇑P **PKPdf** **16 12 08.0 -5.9**
IRK Irkutsk 139.91 325 *e*PKIKP **PKPdf** **16 12 09.1 -4.9**
IRK pmax pmax
comp=Z,252nm,2.6s
PAIG Paliouri 139.93 56 P **PKPdf** **16 12 11.8 -2.6**
DID Didima 139.96 59 P **PKPdf** **16 12 10.1 -4.5**
COPA Copaceanca 140.05 49 ⇓P **PKPdf** **16 12 15.6 +1.1**
AKASG Malin Array Be 140.05 38 PKhKP PKPpre 16 12 07.0
comp=Z,6.4nm,1.0s,baz=306,slow=2.9,SNR=6.8
AKASG PKP **PKPdf** **16 12 13.8 -0.5**
comp=Z,52nm,1.1s,baz=306,slow=2.1,SNR=28
AKASG PP **PP** **16 15 14.2 +2.9**
comp=Z,7.3nm,0.9s,baz=301,slow=5.6,SNR=8.5
MLR Muntele Rosu 140.12 46 ⇑PKIKP **PKPdf** **16 12 09.5 -5.3**
MLR Muntele Rosu 140.12 46 ⇑P **PKPdf** **16 12 09.5 -5.3**
PLD Plovdiv 140.22 52 P **PKPdf** **16 12 14.3 -0.6**
TESR Tescani 140.24 45 ⇑P **PKPdf** **16 12 15.1 +0.3**
ULN Ulaanbaatar 140.32 318 *i* PKIKP **PKiKP** **16 12 16.6 -1.0**
ULN Ulaanbaatar 140.32 318 IAMs_20 IAMs_20 17 10 09.1
comp=Z,760nm,20.0s
SECR 140.35 47 ⇑P **PKPdf** **16 12 15.9 +0.8**
PVL Pavlikeni 140.38 50 P **PKPdf** **16 12 08.4 -6.7**
PLOR Plostina 140.47 46 ⇑PKIKP **PKPdf** **16 12 13.3 -2.0**
PLOR Plostina 140.47 46 ⇑P **PKPdf** **16 12 13.3 -2.0**
BTO Baotou 140.50 306 *e*PKP **PKPdf** **16 12 14.1 -1.5**
VRI Vrincioaia 140.51 46 ⇑PKIKP **PKPdf** **16 12 13.9 -1.5**
VRI Vrincioaia 140.51 46 ⇑P **PKPdf** **16 12 13.9 -1.5**
TLY Talaya 140.53 325 *e*PKHKP PKPpre 16 12 08.1
TLY *i* 16 12 15.7
TLY *e* 16 15 11.6
TLY *e*SS SS 16 33 35.8 -3.4
TLY pmax pmax
comp=Z,191nm,1.0s
BISRR Bisoca 140.61 46 ⇑P **PKPdf** **16 12 11.2 -4.4**
ISR Istrita 140.64 47 ⇑PKIKP **PKPdf** **16 12 15.6 -0.1**
ISR Istrita 140.64 47 ⇑P **PKPdf** **16 12 15.6 -0.1**
SORM Soroca 140.68 42 ⇑PKIKP **PKPdf** **16 12 11.2 -4.3**
SORM Soroca 140.68 42 ⇑P **PKPdf** **16 12 11.2 -4.3**
SONM Songino Array 140.74 318 PKhKP PKPpre 16 12 09.8
comp=Z,6.5nm,0.7s,baz=108,slow=1.3,SNR=28
SONM PP **PP** **16 15 13.4 -2.5**
comp=Z,16nm,1.3s,baz=67,slow=3.5,SNR=8.0
SZH Strazhica 140.79 50 P PKPdf 16 12 07.4 -8.5
DIM Dimitrovgrad 140.83 52 P **PKPdf** **16 12 13.0 -3.0**
KDZ Kurdzhali 140.85 52 P **PKPdf** **16 12 10.2 -5.9**
RDO Rodhopi 141.06 53 P **PKPdf** **16 12 10.6 -5.8**
OBN Obninsk 141.18 28 ⇓*i*PKIKP **PKiKP** **16 12 17.8 -1.1**
OBN *e* 16 15 18.5
OBN pmax pmax
comp=Z,183nm,1.4s
OBN MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 141.18 28 ⇑P **PKiKP** **16 12 18.4 -0.5**
SMTH Samothraki Isl 141.20 54 P **PKPdf** **16 12 09.6 -7.2**
ZAK Zakamensk 141.40 323 *e*PKHKP PKPpre 16 12 11.9
ZAK pmax pmax
comp=Z,40nm,1.3s
KIS Kishinev 141.43 43 *e*PKP **PKPdf** **16 12 16.0 -0.9**
KIS Kishinev 141.43 43 *e*PP PP 16 15 24.0 +4.1
KIS Kishinev 141.43 43 *e*PKS **PKSbc** **16 15 58.0 +2.9**
KIS Kishinev 141.43 43 *e*PS **PKKSdf** **16 25 20.0 +5.6**
KIS Kishinev 141.43 43 *e*PPS PPS 16 27 15.0
KIS *e*L L 16 50 10.0
KIS LRM MLR 17 05 00.0
comp=Z,700nm,24.0s
KIS Kishinev 141.43 43 *e*PKIKP **PKPdf** **16 12 16.0 -0.9**
KIS *i* 16 12 19.0
KIS *e* 16 15 24.0
KIS *e*PPP PPP 16 18 25.0
KIS MLR MLR
comp=Z,700nm,24.0s
KIS MLR MLR
comp=N,700nm,24.0s
MILM Milestii Mici 141.46 43 ⇑P **PKPdf** **16 12 15.5 -1.5**
CFR Carcaliu 141.68 46 ⇑PKIKP **PKPdf** **16 12 14.9 -2.5**
CFR Carcaliu 141.68 46 ⇑P **PKPdf** **16 12 14.9 -2.5**
HARR Harsova 141.72 47 ⇑PKIKP **PKPdf** **16 12 15.6 -1.9**
HARR Harsova 141.72 47 ⇑P **PKPdf** **16 12 15.6 -1.9**
KMBO Kilima Mbogo 141.79 126 *i* P **PKPdf** **16 12 15.2 -3.8**
SNR=21
KMBO Kilima Mbogo 141.79 126 PKhKP PKPpre 16 12 14.5
comp=N,16nm,1.0s,baz=216,slow=0.4,SNR=27
KMBO Kilima Mbogo 141.79 126 IAMs_20 IAMs_20 17 12 44.2
comp=Z,982nm,19.0s
TLB Topalu 141.83 47 ⇑PKIKP **PKPdf** **16 12 17.0 -0.7**
TLB Topalu 141.83 47 ⇑P **PKPdf** **16 12 17.0 -0.7**
MOY Mondy 141.93 326 *e*PKIKP **PKPdf** **16 12 17.8 0.0**
MOY pmax pmax
comp=Z,130nm,2.4s
EZN Ezine 141.94 55 ⇑P **PKPdf** **16 12 13.2 -4.8**
TOPG Topolog 141.95 46 ⇑P **PKPdf** **16 12 15.9 -2.0**
LAST Lasithi 142.03 63 P PKPdf 16 12 10.6 -7.9
TIRR Tirgusor 142.12 47 ⇑P **PKPdf** **16 12 11.7 -6.5**
PSN Preselentsi 142.23 48 P **PKPdf** **16 12 13.3 -5.1**
XAN Xi'an 142.34 296 PKP **PKPdf** **16 12 16.2 -2.8**
XAN PP **PP** **16 15 30.3 +4.1**
XAN AMB AMB
comp=Z,680nm,5.2s
XAN LR LR
comp=Z,290nm,5.5s
XAN LR LR
comp=Z,610nm,4.7s
XAN LR LR
comp=Z,660nm,27.8s
XAN Xi'an 142.34 296 PKIKP **PKPdf** **16 12 16.5 -2.5**
XAN Xi'an 142.34 296 **PKPdf** **16 12 16.6 -2.5**
PSI Prapat 143.09 241 PKhKP PKPpre 16 12 15.6
comp=Z,38nm,0.9s,baz=148,slow=3.5,SNR=36
KULM Kulim 143.09 246 PKPbc 16 12 19.1 +1.4
KLYT Kilyos 143.58 52 ⇑P **PKPdf** **16 12 20.4 -0.5**
LPSR Galich'ya Gora 143.90 29 *e*PKIKP PKPbc 16 12 19.0 +0.2
LPSR pmax pmax
comp=Z,90nm,0.9s
YLV Yalova 144.02 53 ⇑PKIKP PKPbc 16 12 20.0 +0.3
YLV Yalova 144.02 53 ⇑P PKPbc 16 12 20.0 +0.3
SKLT Songkhla 144.10 248 PKP **PKPdf** **16 12 22.0 -0.6**
GYA Guiyang 144.34 283 ⇓*i*PKP PKPbc 16 12 21.9 +0.7
GYA PKS **PKSdf** **16 15 55.7 -3.0**
GYA SKKS 16 22 28.0
GYA AMB AMB
comp=Z,980nm,7.6s
GYA LR LR
comp=Z,210nm,20.8s
GYA LR LR
comp=Z,420nm,21.4s
GYA LR LR
comp=Z,570nm,20.4s
FETY Fethiye 144.71 60 P **PKPab** **16 12 19.9 -2.0**
VSR Storozhevoye 144.93 31 *e*PKIKP **PKPab** **16 12 21.3 -0.8**
VSR pmax pmax
comp=Z,290nm,1.4s
VSR MLR MLR
comp=Z,2μm,22.0s
TRTT Trang 145.23 248 PKP **PKPbc** **16 12 24.1 -0.1**
KDZE Karadeniz Ereo 145.28 51 ⇑P **PKPbc** **16 12 23.4 -0.3**
ELL Elmali 145.34 59 PKIKP **PKPdf** **16 12 26.2 +1.9**
ELL MLR MLR
comp=Z,2μm,21.0s
ELL Elmali 145.34 59 **PKPdf** **16 12 26.1 +1.9**
ISP Isparta 145.59 57 P **PKPdf** **16 12 21.7 -3.0**
ISP Isparta 145.59 57 ⇑PKIKP **PKPab** **16 12 25.6 +0.4**
ISP Isparta 145.59 57 ⇑P **PKPab** **16 12 25.6 +0.4**
VRH Novokhopyorsk 146.12 29 *e*PKP2 **PKPbc** **16 12 25.7 -0.2**
VRH pmax pmax
comp=Z,560nm,1.2s
VRH MLR MLR
comp=Z,1μm,25.0s
NONG Nongkai 146.13 267 PKP **PKPbc** **16 12 26.7 -0.2**
LZH Lanzhou 146.18 300 *e*PKPbc **PKPbc** **16 12 27.0 +0.2**
LZH AMB AMB
comp=Z,730nm,8.1s
LZH LR LR
comp=Z,710nm,17.3s
LZH LR LR
comp=Z,580nm,16.3s
LZH LR LR
comp=Z,830nm,17.8s
PKDT Phuket 146.41 247 PKP **PKPbc** **16 12 28.2 +0.3**
SVE Sverdlovsk 146.49 7*c* *i*PKP2 **PKPdf** **16 12 25.9 +0.5**
SVE pmax pmax
comp=Z,175nm,2.5s
SVE MLR MLR
comp=Z,2μm,24.0s
PATY Pattaya 146.50 257 PKP **PKPab** **16 12 29.4 +0.4**
CHAI Chaiyaphum 146.55 263 PKP **PKPbc** **16 12 28.6 +0.4**
SURT Suratani 146.56 249 PKP **PKPbc** **16 12 28.1 -0.2**
ARU Arti 146.62 9 *i* PKP2 **PKPbc** **16 12 26.5 -0.7**
ARU SSS SSS 16 40 22.4
ARU MLR MLR
comp=Z,1μm,24.0s
ARU Arti 146.62 9 **PKPab** **16 12 28.8 +0.5**
ANTO Ankara 146.72 53 P **PKPdf** **16 12 26.2 -0.3**
SNR=46
BZK Bozkurt 146.84 49 ⇑P **PKiKP** **16 12 30.3 -0.7**
CD2 Chengdu 146.92 291 PKPbc **PKPdf** **16 12 27.2 +0.1**
CD2 sPKP 16 12 31.1
CD2 PP **PP** **16 15 53.5 -0.2**
CD2 AMB AMB
comp=Z,1μm,7.3s
ZAA0 Zalesovo Array 146.99 341 **PKPbc** **16 12 28.1 -0.3**
ZAA0 IAMs_20 IAMs_20 17 10 04.2
comp=Z,645nm,22.0s
ZALV Zalesovo Beam 146.99 341 PKP2 **PKPbc** **16 12 28.0 -0.3**
ZALV Zalesovo Beam 146.99 341 PKPbc **PKPbc** **16 12 27.6 -0.8**
comp=Z,46nm,0.6s,baz=317,slow=1.1,SNR=69
ZALV Zalesovo Beam 146.99 341 **PKPbc** **16 12 28.1 -0.3**
BR131 Keskin Array S 147.39 53 P **PKPdf** **16 12 26.4 -1.3**
SNR=91
BRTR Keskin Array B 147.39 53 PKP2 **PKPbc** **16 12 30.6 +0.4**
BRTR Keskin Array B 147.39 53 PKPbc **PKPbc** **16 12 29.8 -0.4**
comp=Z,44nm,1.2s,baz=200,slow=0.6,SNR=62
BRTR Keskin Array B 147.39 53 **PKPbc** **16 12 30.6 +0.4**
PHET Kaeng Krachan 147.59 257 PKP **PKPbc** **16 12 32.1 +0.9**
PBKT Sadao Pong 147.69 264 PKP **PKPdf** **16 12 29.6 +1.0**
KMI Kunming 147.76 280 PKPbc **PKPdf** **16 12 24.3 -4.6**
KMI Kunming 147.76 280 PKP2 **PKPab** **16 12 34.1 0.0**
KMI Kunming 147.76 280 **PKPab** **16 12 34.1 0.0**
ANN Anapa 147.78 42*d* *i*PKIKP **PKPdf** **16 12 27.6 -0.4**
ANN *i* 16 12 32.4
ANN *e* 16 15 56.8
ANN *e* 16 19 33.9
ANN pmax pmax
comp=Z,95nm,1.5s
ANN pmax pmax
comp=Z,268nm,1.3s
GTA Gaotai 148.36 308 ⇓PKPbc **PKPdf** **16 12 29.5 +0.2**
GTA PP **PP** **16 16 03.1 +1.4**
GTA SS SS 16 35 11.6 +1.4
GTA AMB AMB
comp=Z,860nm,10.8s
GTA LR LR
comp=Z,310nm,23.0s
GTA LR LR
comp=Z,360nm,21.6s
GTA LR LR
comp=Z,670nm,23.4s
CSS Mathiatis 148.42 61 P **PKPdf** **16 12 27.3 -2.1**
NANT Nan 148.56 268 PKP **PKPdf** **16 12 30.3 +0.3**
SRDT SRDT 148.61 259 PKP **PKPbc** **16 12 34.0 +0.1**
UTHA Uthaitani 148.74 261 PKP **PKPdf** **16 12 32.2 +1.8**
FURI Furi 148.93 113 IAMs_20 IAMs_20 17 15 37.6
comp=Z,1μm,21.0s
KHLT Khaolaem Dam 149.25 259 PKP **PKPdf** **16 12 29.6 -1.6**
PAYA Payao 149.46 268 PKP **PKPdf** **16 12 32.6 +1.1**
LAMP Lampang 149.47 267 PKP **PKPbc** **16 12 34.0 -2.0**
UMPA Umpang Tak 149.49 262 PKP **PKPdf** **16 12 33.8 +2.2**
MSEY Mahe Island 149.58 156 *i* P **PKPdf** **16 12 30.0 -2.0**
SNR=5.9
MSEY Mahe Island 149.58 156*c* *i*PKHKP **PKPbc** **16 12 35.3 -1.2**
SOC Sochi 149.82 42*d* *i*PKHKP **PKPdf** **16 12 31.4 +0.1**
SOC *i* 16 16 08.0
SOC *e*PPP PPP 16 19 33.7
SOC pmax pmax
comp=Z,181nm,1.3s
SOC MLR MLR
comp=Z,1μm,22.0s
KZIT Kziot 149.93 69 P **PKPdf** **16 12 32.2 +0.3**
CM31 Chiang Mai Arr 150.08 266 P **PKPdf** **16 12 32.2 -0.3**
SNR=214
CMAR Chiang Mai Arr 150.08 266 PKP **PKPdf** **16 12 31.8 -0.8**
comp=Z,11nm,1.0s,baz=208,slow=0.5,SNR=70
CMAR PKPbc **PKPbc** **16 12 37.6 +0.1**
comp=Z,169nm,1.0s,baz=122,slow=1.3,SNR=127
CMMT Chiang Mai 150.17 267 PKP **PKPdf** **16 12 33.0 +0.4**
CHTO Chiang Mai 150.17 267 P **PKPdf** **16 12 32.3 -0.4**
SNR=149
AMAZ Amatzia 150.30 67 P **PKPdf** **16 12 32.2 -0.3**
EIL Elat 150.51 71 P **PKPdf** **16 12 33.0 +0.1**
BHL Bhannes 150.52 63 *e*P **PKPdf** **16 12 32.6 -0.2**
BRVK Borovoye 150.53 356 P **PKPdf** **16 12 32.4 +0.2**
SNR=67
BRVK Borovoye 150.53 356 PKIKP **PKPdf** **16 12 32.1 -0.1**
BRVK pmax pmax
comp=Z,186nm,1.4s
BRVK Borovoye 150.53 356 IAMs_20 IAMs_20 17 16 29.4
comp=Z,775nm,20.0s
HRFI Mount Harif 150.56 70 P **PKPdf** **16 12 33.1 +0.1**
AQBJ Aqaba 150.59 71 P **PKPdf** **16 12 33.0 0.0**
HWQ Hawqa 150.68 62 *e*P **PKPdf** **16 12 32.6 -0.5**
SHBL Chebaa 150.70 64 *e*P **PKPdf** **16 12 33.0 -0.3**
SHMJ Saham 150.83 65 P **PKPdf** **16 12 35.3 +2.0**
GOF Gofitskoye 150.90 37 ⇑*i*PKIKP **PKPdf** **16 12 33.9 +0.9**
GOF pmax pmax
comp=Z,152nm,1.1s
MHMT Maesarieng 150.93 265 PKP **PKPdf** **16 12 35.4 +1.6**
JDRJ Daraweish 151.03 69 P **PKPdf** **16 12 34.2 +0.4**
HSUJ Al Zarqa 151.29 66 P **PKPdf** **16 12 35.5 +1.4**
KIV Kislovodsk 151.38 39 *i* P **PKPdf** **16 12 33.9 +0.1**
SNR=13
KIV Kislovodsk 151.38 39 P **PKPdf** **16 12 34.0 +0.1**
SNR=36
KIV Kislovodsk 151.38 39 *e*PKIKP **PKPdf** **16 12 34.5 +0.6**
KIV *e* 16 16 20.0
KIV *e*SS SS 16 35 45.1 +2.2
KIV *e*SSS SSS 16 41 29.2
KIV pmax pmax
comp=Z,301nm,1.1s
KIV MLR MLR
comp=Z,1μm,25.0s
KURK Kurchatov 151.58 345 P **PKPdf** **16 12 33.6 -0.2**
SNR=126
KBZ Khabaz 151.64 39 PKP **PKPdf** **16 12 34.3 +0.2**

comp=Z,18nm,1.1s,baz=262,slow=0.7,SNR=17
KBZ PKPbc **PKiKP** **16 12 41.1 +0.3**
comp=Z,98nm,1.0s,baz=286,slow=3.0,SNR=38
ASF Jabal al Asfar 151.87 66 P **PKPdf** **16 12 35.3 +0.3**
BATM Batumi 152.11 44 ⇑P **PKPdf** **16 12 36.7 +1.8**
AKTO Aktyubinsk 152.28 13 PKIKP **PKPdf** **16 12 34.3 -0.6**
AKTO pmax pmax
comp=Z,63nm,1.1s
ZEI Tsey 152.79 40 *i* PKIKP **PKPdf** **16 12 34.5 -1.7**
ZEI pmax pmax
comp=Z,58nm,1.4s
AKH Akhalkalaki 153.34 43 ⇑P **PKPdf** **16 12 39.0 +2.0**
GROC Groznyy 153.61 37 *e*PKIKP **PKPdf** **16 12 34.5 -2.6**
GROC pmax pmax
comp=Z,66nm,1.0s
AB31 Akbulak array 153.78 11 *i* PKIKP **PKPdf** **16 12 37.6 +0.5**
AB31 pmax pmax
comp=Z,42nm,1.0s
ATD Arta Tunnel 153.80 113 P **PKPdf** **16 12 39.8 +1.5**
SNR=5.6
WMQ Urumqi 153.81 325 PKPbc **PKPdf** **16 12 37.8 +0.3**
WMQ PKPab **PKPab** **16 12 58.9 +0.6**
WMQ PP **PP** **16 16 33.8 +1.5**
WMQ SKKS 16 23 23.7
WMQ AMB AMB
comp=Z,380nm,7.1s
WMQ LR LR
comp=Z,370nm,19.3s
WMQ LR LR
comp=Z,270nm,23.5s
WMQ LR LR
comp=Z,1μm,26.3s
MK31 Makanchi Array 153.95 336 *i* PKIKP **PKPdf** **16 12 36.7 -0.8**
MK31 pmax pmax
comp=Z,50nm,0.7s
MKAR Makanchi Array 153.95 336 PKP **PKPdf** **16 12 36.6 -0.8**
comp=Z,30nm,1.1s,baz=14,slow=1.5,SNR=55
MKAR PKPbc **PKPbc** **16 12 45.0 -0.5**
comp=Z,34nm,0.6s,baz=31,slow=1.6,SNR=59
MAKZ Makanchi 154.05 337 PKIKP **PKPdf** **16 12 35.1 -2.5**
MAKZ pmax pmax
comp=Z,143nm,1.5s
MAKZ Makanchi 154.05 337 IAMs_20 IAMs_20 17 23 51.6
comp=Z,614nm,20.0s
MAK Makhachkala 154.70 36 *e*PKIKP **PKPdf** **16 12 33.7 -4.9**
MAK *e* 16 16 33.5
MAK *e* 16 19 37.4
MAK *e*SS SS 16 36 13.4 -5.4
MAK *e*SSS SSS 16 42 06.4
MAK pmax pmax
comp=Z,122nm,1.2s
GNI Garni 154.84 44 *i* P **PKPdf** **16 12 39.7 +0.6**
SNR=10
GNI Garni 154.84 44 P **PKPdf** **16 12 39.6 +0.5**
SNR=11
GNI Garni 154.84 44 IAMs_20 IAMs_20 17 22 08.2
comp=Z,614nm,21.0s
OTUK Ortayu 155.12 352 PKIKP **PKPdf** **16 12 37.9 -1.2**
OTUK pmax pmax
comp=Z,144nm,1.4s
SHL Shillong 157.59 280 P **PKPdf** **16 12 42.1 -1.1**
SNR=12
LSA Lhasa 157.88 291 *i* P **PKPdf** **16 12 43.4 -0.4**
SNR=14
LSA Lhasa 157.88 291 IAMs_20 IAMs_20 17 32 60.0
comp=Z,764nm,22.0s
PALK Pallekele 159.27 220 P **PKPdf** **16 12 45.0 -0.3**
USP Ospenovka 159.54 345 P **PKPdf** **16 12 45.9 +1.0**
SNR=15
TKM2 Tokmak 2 159.58 342 P **PKPdf** **16 12 45.8 +0.7**
SNR=38
CHMS Chumysh 159.73 344 P **PKPdf** **16 12 45.9 +0.8**
SNR=15
FRU1 Bishkek 159.94 344 IAMs_20 IAMs_20 17 35 48.5
comp=Z,881nm,22.0s
RAYN Ar Rayn 160.00 86 *i* P **PKPdf** **16 12 45.4 -0.5**
SNR=32
KBK Karagaybulak 160.00 343 P **PKPdf** **16 12 46.1 +0.6**
SNR=18
ULHL Ulaho! **160.01 340** P **PKPdf** **16 12 48.6 +3.0**
SNR=7.1
AAK Ala-Archa 160.14 344 *i* P **PKPdf** **16 12 45.5 -0.2**
SNR=12
AAK Ala-Archa 160.14 344 P **PKPdf** **16 12 46.1 +0.4**
SNR=20
AAK Ala-Archa 160.14 344 PKIKP **PKPdf** **16 12 44.0 -1.7**
AAK pmax pmax
comp=Z,56nm,1.6s
AAK Ala-Archa 160.14 344 P **PKPdf** **16 12 46.7 +1.0**
SNR=17
EKS2 Erkin-Say 160.28 346 P **PKPdf** **16 12 46.4 +0.6**
SNR=32
KZA Kyzart 160.46 342 P **PKPdf** **16 12 44.0 -2.3**
SNR=10
UCH Uchtor 160.52 344 P **PKPdf** **16 12 48.0 +1.5**
SNR=32
AML Almayashu 160.81 345 P **PKPdf** **16 12 47.2 +0.5**
SNR=18
TAPN Taplejung 161.23 286 *e*P **PKPdf** **16 12 47.1 -0.4**
comp=Z,99nm,1.3s
ODAN Odare 161.57 284 *e*P **PKPdf** **16 12 46.9 -0.9**
comp=Z,162nm,1.6s
RAMN Ramite 162.26 285 *e*P **PKPdf** **16 12 47.1 -1.4**
comp=Z,208nm,1.6s
JIRN Jiri 162.52 287 *e*P **PKPdf** **16 12 47.7 -1.2**
comp=Z,132nm,1.6s
KSH Kashi 162.55 337 PKP **PKPdf** **16 12 50.2 +1.9**
KSH PKS **PKSdf** **16 16 22.7 +1.2**
KSH SKS **SKSdf** **16 19 53.3 -0.2**
KSH SS **SS** **16 37 50.1 +8.3**
KSH LR LR
comp=Z,450nm,15.4s
KSH LR LR
comp=Z,330nm,17.1s
KSH LR LR
comp=Z,650nm,20.1s
GUN Gumba 162.75 288 *e*P **PKPdf** **16 12 47.5 -1.6**
comp=Z,71nm,1.1s
PKI Pulchoki 163.22 287 *e*P **PKPdf** **16 12 48.2 -1.4**
comp=Z,112nm,1.5s
PKIN Phulchoki 163.23 287 *e*P **PKPdf** **16 12 46.9 -2.6**
comp=Z,144nm,1.9s
KKN Kakani 163.30 288 *e*P **PKPdf** **16 12 47.5 -2.0**
comp=Z,108nm,1.4s
DMN Daman 163.48 288 *e*P **PKPdf** **16 12 47.8 -1.9**
comp=Z,110nm,1.5s
GEYT Alibeck 163.72 27 PKP **PKPdf** **16 12 49.4 0.0**
comp=Z,62nm,1.2s,baz=247,slow=1.1,SNR=45
GKN Gorkha 163.82 289 *e*P **PKPdf** **16 12 47.5 -2.4**
comp=Z,126nm,1.3s
DANN Dangsing 164.49 291 *e*P **PKPdf** **16 12 48.7 -2.0**
comp=Z,158nm,1.1s
KOLN Koldanda 164.76 289 *e*P **PKPdf** **16 12 47.9 -2.9**
comp=Z,141nm,1.5s
ABTO Aybut 165.45 113 P **PKPdf** **16 12 50.9 -0.5**
SNR=5.2
SHAO Shalim 167.72 115 P **PKPdf** **16 12 51.9 -1.2**
HYB Hyderabad 167.80 242 *i* PKP **PKPdf** **16 12 52.0 -1.2**
HYB *e* 16 14 01.0
ASUD Al Ashush, Dub 169.00 82 *i* P **PKPdf** **16 12 53.3 -0.4**
SNR=6.2
ALNE Al Ain 169.40 85 *i* P **PKPdf** **16 12 53.4 -0.6**
SNR=6.7
SHME Shamm 169.57 74 *i* P **PKPdf** **16 12 52.8 -1.4**
SNR=6.6
ASHO Ashiyiah 169.66 82 *i* P **PKPdf** **16 12 52.9 -1.4**
SNR=11
ASHO Ashiyiah 169.66 82 P **PKPdf** **16 12 53.1 -1.2**
SNR=5.2
MSFE Esma-Masafi 169.69 78 P **PKPdf** **16 12 53.1 -1.2**
HATD Hatta, Dubai 169.72 81 *i* P **PKPdf** **16 12 52.7 -1.6**
SNR=9.2
HATD Hatta, Dubai 169.72 81 P **PKPdf** **16 12 52.6 -1.6**
SNR=7.5
BANOM Banah 169.73 75 P **PKPdf** **16 12 53.4 -0.8**
UOSS Minazif 169.78 80 *i* P **PKPdf** **16 12 52.6 -1.7**
SNR=7.2
MDH Madha 169.82 78 *i* P **PKPdf** **16 12 52.8 -1.5**
SNR=11
DQM DQM 170.19 110 P **PKPdf** **16 12 53.6 -1.0**
SNR=9.1
BSY Bisya 170.65 93 P **PKPdf** **16 12 53.0 -1.9**
SNR=8.1
HOQ Hoqain 170.82 88 P **PKPdf** **16 12 53.5 -1.4**
SNR=6.6
MHTO MHTO 170.95 105 P **PKPdf** **16 12 53.8 -1.2**
SNR=12
JMDO Jabal Madar 171.41 97 P **PKPdf** **16 12 53.7 -1.5**
SNR=9.4
SMDO Samad 171.46 92 P **PKPdf** **16 12 54.0 -1.3**
SNR=15
WBK Wadi Bani Khal 172.25 96 P **PKPdf** **16 12 55.1 -0.5**
SNR=6.6
JLN Jalan Bani Buh 172.56 100 P **PKPdf** **16 12 54.9 -0.8**
SNR=13

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*ISCJB **02** 16:17:19.9±0.3,38°.70N±0°.04×97°.71E±0°.04,h10km, mb4.0/11,MS4.6/3,Error ellipse: s-maj=5.9km s-min=4.6km az=0.4*
*IDC **02** 16:17:19.5±0.7,38°.49N×97°.83E,h0km,mb4.0/11, mb1 4.1/17,mb1mx3.9/62,mbtmp4.0/17,ML3.6/6,MS4.6/3, Ms1 4.6/3,ms1mx3.4/44,Error ellipse: s-maj=24.8km s-min=13.6km az=47.0*
*NEIC **02** 16:17:21.8±3.0,38°.61N±0°.08×97°.7E±0°.1,h15km±4km, mb4.1/16*
*BJI **02** 16:17:21.3±0.0,38°.52N×97°.72E,h11km,mb4.3/3, ML4.2/13,Ms3.8/5,Ms7 3.7/3*
ISC 02 16:17:21.4±0.5,38°.61N±0°.06×97°.65E±0°.05,h10km,n61, σ1§69/62,mb4.1/14,MS4.7/3,1D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.86**	**64**	⇓Pg	**Pn**	**16 17 54.0**	**+0.5**
GTA				Sg	**Sg**	**16 18 20.5**	**-0.8**
GTA				smax	smax		
	comp=N,760nm,0.9s						
GTA				smax	smax		
	comp=E,850nm,1.0s						
WMQ	**Urumqi**	**9.13**	**308**	*e*P	**Pn**	**16 19 34.1**	**+0.9**
WMQ				LR	LR		
	comp=E,160nm,4.7s						
WMQ				LR	LR		
	comp=Z,320nm,7.9s						
LSA	**Lhasa**	**10.39**	**213**		**Pn**	**16 19 52.4**	**+1.5**
SONM	**Songino Array**	**11.20**	**32**	Pn	**Pn**	**16 20 02.9**	**+1.4**
	3.8nm,0.3s,baz=214,slow=15,SNR=48						
SONM				Lg	Lg	16 23 09.3	
	0.7nm,0.3s,baz=210,slow=32,SNR=5.0						
SONM	**Songino Array**	**11.20**	**32**		**Pn**	**16 20 03.7**	**+2.1**
ULN	**Ulaanbaatar**	**11.50**	**33**		**Pn**	**16 20 07.6**	**+1.9**
MK31	**Makanchi Array**	**13.93**	**311**		**Pn**	**16 20 37.3**	**-1.4**
MKAR	**Makanchi Array**	**13.93**	**311**	Pn	**Pn**	**16 20 37.5**	**-1.2**
	0.2nm,0.3s,baz=112,slow=15,SNR=6.6						
MKAR				Sn	**Sn**	**16 23 07.8**	**-5.6**
	baz=100,slow=20,SNR=2.2						
MKAR	**Makanchi Array**	**13.93**	**311**		**Pn**	**16 20 39.6**	**+0.9**
MKAR					**Sn**	**16 23 11.9**	**-1.4**
TAPN	**Taplejung**	**13.98**	**219**	*e*P	**P**	**16 20 48.3**	**+0.4**
	9.8nm,0.7s						
MAKZ	**Makanchi**	**14.12**	**310**		**Pn**	**16 20 41.3**	**0.0**
GUN	**Gumba**	**14.51**	**226**	*e*P	**P**	**16 20 53.5**	**-0.3**
	93nm,0.6s						
JIRN	**Jiri**	**14.53**	**225**	*e*P	**P**	**16 20 53.7**	**-0.4**
	48nm,0.5s						
ODAN	**Odare**	**14.54**	**219**	*e*P	**P**	**16 20 54.0**	**-0.1**
	31nm,0.9s						
RAMN	**Ramite**	**14.87**	**222**	*e*P	**P**	**16 20 56.8**	**-1.0**
	37nm,0.8s						
KKN	**Kakani**	**14.94**	**227**	*e*P	**P**	**16 20 57.8**	**-0.7**
	46nm,0.7s						
PKI	**Pulchoki**	**15.03**	**227**	*e*P	**P**	**16 20 59.0**	**-0.6**
	22nm,0.5s						
PKIN	**Phulchoki**	**15.04**	**227**	*e*P	**P**	**16 20 58.9**	**-0.7**
	19nm,0.6s						
GKN	**Gorkha**	**15.16**	**230**	*e*P	**P**	**16 20 59.6**	**-1.3**
	23nm,0.5s						
DANN	**Dangsing**	**15.44**	**233**	*e*P	**P**	**16 21 02.7**	**-1.5**
	61nm,0.9s						
TARG	**Taragay, Kyrgy**	**15.49**	**288**	Pn	**Pn**	**16 21 01.4**	**+1.2**
TARG				IAmb	IAmb	16 21 21.1	
	comp=Z,12nm,1.3s						
KOLN	**Koldanda**	**15.96**	**232**	*e*P	**Pn**	**16 21 07.7**	**+1.6**
	comp=Z,43nm,1.1s						
ZALV	**Zalesovo Beam**	**17.67**	**334**	Pn	**P**	**16 21 30.9**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=6.6						
ZALV	**Zalesovo Beam**	**17.67**	**334**	P	**Pn**	**16 21 27.4**	**-0.1**
AAK	**Ala-Archa**	**18.02**	**290**	Pn	**P**	**16 21 33.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=2.2						
AAK	**Ala-Archa**	**18.02**	**290**		**Pn**	**16 21 30.6**	**-1.4**
KURBB	**Kurchatov Arra**	**18.09**	**318**	Pn	**Pn**	**16 21 33.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=6.8						
KURBB				Sn	**Sn**	**16 24 49.3**	**-5.0**
	comp=Z,0.0nm,0.3s,baz=166,slow=30,SNR=3.4						
KURK	**Kurchatov**	**18.09**	**318**	P	**Pn**	**16 21 32.6**	**-0.1**
KURK	**Kurchatov**	**18.09**	**318**		**Sn**	**16 24 49.3**	**-5.1**
CHTO	**Chiang Mai**	**19.76**	**176**	P	**P**	**16 21 50.0**	**-1.5**
CM31	**Chiang Mai Arr**	**20.11**	**176**	P	**P**	**16 21 53.4**	**-2.0**
CM31				IAmb	IAmb	16 21 56.0	
	comp=Z,6.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.11**	**176**	P	**P**	**16 21 54.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=354,slow=9.6,SNR=38						
CMAR	**Chiang Mai Arr**	**20.11**	**176**	P	**P**	**16 21 52.7**	**-2.6**
NIL	**Nilore**	**20.30**	**263**	P	**P**	**16 21 58.4**	**+1.1**
NIL				IAmb	IAmb	16 22 03.6	
	comp=Z,21nm,1.2s						
KK31	**Karatay Array**	**20.97**	**291**	P	**P**	**16 22 06.4**	**+1.8**
KK31				IAmb	IAmb	16 22 09.4	
	comp=Z,14nm,1.7s						
KKAR	**Karatay Array**	**20.97**	**291**	P	**P**	**16 22 06.2**	**+1.6**
KKAR				IAmb	IAmb	16 22 09.4	
	comp=Z,14nm,1.7s						
KKAR	**Karatay Array**	**20.97**	**291**	P	**P**	**16 22 05.9**	**+1.4**
GAR	**Garm**	**21.28**	**280**	P	**P**	**16 22 08.6**	**+0.5**
PBKT	**Sadao Pong**	**22.15**	**172**	P	**P**	**16 22 16.8**	**-0.6**
PBKT				IAmb	IAmb	16 22 31.9	
	comp=Z,5.0nm,0.9s						
BVAR	**Borovoye Array**	**23.66**	**316**	P	**P**	**16 22 34.0**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=116,slow=11,SNR=6.6						
KS19	**Wonju Array Si**	**23.77**	**83**	P	**P**	**16 22 33.1**	**-0.9**
KSAR	**Wonju Array Be**	**23.80**	**83**	P	**P**	**16 22 34.4**	**+0.2**
KSRS	**Korea Array**	**23.82**	**83**	P	**P**	**16 22 33.5**	**-0.9**
	comp=Z,6.5nm,0.7s,baz=276,slow=9.1,SNR=33						
YAK	**Yakutsk**	**30.55**	**29**	LR	LR	16 36 13.4	
	comp=Z,2μm,21.1s,baz=87,slow=37						
SBUM	**Sibu**	**38.38**	**156**	P	**P**	**16 24 41.5**	**-1.2**
SBUM				IAmb	IAmb	16 24 43.9	
	comp=Z,3.3nm,0.8s						
KSM	**Kuching**	**38.74**	**160**	P	**P**	**16 24 45.7**	**-0.1**
KSM				IAmb	IAmb	16 25 03.9	
	comp=Z,7.7nm,1.0s						
PETK	**Petropavlovsk-**	**42.97**	**50**	LR	LR	16 45 48.2	
	comp=Z,1μm,21.6s,baz=90,slow=40						
ARCES	**ARCESS Array B**	**48.22**	**333**	P	**P**	**16 26 03.0**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=84,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**48.39**	**322**	P	**P**	**16 26 04.1**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=94,slow=7.5,SNR=8.6						
FINES				PcP	**PcP**	**16 27 29.3**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=94,slow=4.5,SNR=3.1						
AKASG	**Malin Array Be**	**48.49**	**308**	P	**P**	**16 26 04.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=67,slow=7.4,SNR=2.6						
GUMO	**Guam**	**48.51**	**108**	LR	LR	16 48 21.3	
	comp=Z,331nm,19.1s,baz=144,slow=38						
BRTR	**Keskin Array B**	**48.67**	**293**	P	**P**	**16 26 06.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=99,slow=7.8,SNR=7.8						
BURAR	**Bucovina Array**	**51.86**	**305**	P	**P**	**16 26 30.3**	**+0.5**
NB2	**NORSAR Subarra**	**55.49**	**324**	P	**P**	**16 26 56.6**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=70,slow=7.4						
NOA	**NORSAR Array B**	**55.49**	**324**	P	**P**	**16 26 56.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=71,slow=7.1,SNR=3.5						
ILAR	**Eielson Array**	**65.34**	**25**	P	**P**	**16 28 02.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=297,slow=5.7,SNR=5.9						
WRA	**Warramunga Arr**	**67.65**	**143**	P	**P**	**16 28 17.0**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=337,slow=6.2,SNR=20						
WRA	**Warramunga Arr**	**67.65**	**143**	IAmb	IAmb	16 28 18.2	
	comp=Z,0.2nm,1.2s						
RAGM	**Ragged Mountai**	**68.98**	**28**	P	**P**	**16 28 23.8**	**-2.8**
ASAR	**Alice Springs**	**70.66**	**145**	P	**P**	**16 28 36.0**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=337,slow=6.3,SNR=34						
ESDC	**Sonseca Array**	**74.13**	**308**	P	**P**	**16 28 59.0**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=50,slow=5.8,SNR=10						

WEL 02 16:33:16.5,39°S±1°×17°5E±°,h25km±2km,M4.2/24, ML4.6/18,MLv4.2/24,Error ellipse: s-maj=0.0km s-min=0.0km az=141.8,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.14**	**274**	P	Pb	16 33 22.0	+0.5
VRZ				S	Sb	16 33 26.3	+1.5
PKVZ	**Pokaka**	**0.35**	**116**	P	Pb	16 33 24.6	+0.3
PKVZ				S	Sb	16 33 30.9	+1.2
TWVZ	**Taurewa**	**0.39**	**81**	P	Pb	16 33 25.1	+0.1
TWVZ				S	Sb	16 33 31.3	+0.6
MTVZ	**Mangateitei**	**0.48**	**121**	P	Pb	16 33 26.5	0.0
MTVZ				S	Sn	16 33 34.8	-0.8
MHEZ	**Mangahewa**	**0.49**	**277**	P	Pb	16 33 26.8	+0.3
MHEZ				S	Sn	16 33 34.7	-0.9
FWVZ	**Far West T-bar**	**0.49**	**104**	P	Pb	16 33 26.8	+0.1
FWVZ				S	Sb	16 33 34.3	+0.7
TRVZ	**Turoa**	**0.50**	**109**	P	Pb	16 33 27.0	+0.1
TRVZ				S	Sb	16 33 34.4	+0.6
WTVZ	**West Tongariro**	**0.50**	**88**	P	Pb	16 33 27.0	+0.1
WTVZ				S	Sn	16 33 35.2	-1.1
NGZ	**Ngauruhoe**	**0.51**	**95**	P	Pb	16 33 27.2	+0.2
WHVZ	**Whangaehu Hut**	**0.52**	**107**	P	Pb	16 33 27.2	0.0
WHVZ				S	Sb	16 33 35.3	+0.8
LREZ	**Lake Rotokare**	**0.53**	**232**	P	Pb	16 33 27.1	-0.2
LREZ				S	Sn	16 33 36.1	-0.6
KRVZ	**Karewarewa**	**0.55**	**86**	P	Pb	16 33 27.7	+0.1
KRVZ				S	Sb	16 33 35.9	+0.9
TUVZ	**Tukino**	**0.57**	**104**	P	Pb	16 33 28.5	+0.5
TUVZ				S	Sn	16 33 37.0	-0.9
DREZ	**Durham Road**	**0.58**	**264**	P	Pb	16 33 27.9	-0.1
DREZ				S	Sn	16 33 38.2	+0.3
KATZ	**Kakaramea**	**0.61**	**75**	P	Pb	16 33 28.9	+0.3
KATZ				S	Sb	16 33 37.7	+0.9
WAZ	**Wanganui**	**0.62**	**177**	P	Pb	16 33 28.8	+0.1
WAZ				S	Sn	16 33 38.5	-0.5
HIZ	**Hauiti**	**0.62**	**354**	P	Pb	16 33 28.8	-0.1
HIZ				S	Sn	16 33 38.4	-0.6
PREZ	**Palmer Road**	**0.64**	**251**	P	Pb	16 33 29.0	-0.2
PREZ				S	Sn	16 33 39.7	+0.2
MOVZ	**Moawhango**	**0.68**	**114**	P	Pb	16 33 29.9	0.0
MOVZ				S	Sb	16 33 39.2	+0.2
RATZ	**Rangitukua**	**0.70**	**68**	P	Pb	16 33 30.3	+0.2
RATZ				S	Sn	16 33 41.1	+0.1
RITZ	**Rihia Road**	**0.73**	**78**	P	Pn	16 33 31.0	-0.3
KHEZ	**Kahui Hut**	**0.74**	**257**	P	Pb	16 33 30.7	-0.1
PKE	**Pukeiti**	**0.75**	**265**	P	Pb	16 33 30.7	-0.1
WATZ	**Wairara**	**0.75**	**56**	P	Pb	16 33 30.9	0.0
NBEZ	**Newall Road No**	**0.85**	**261**	P	Pb	16 33 32.3	-0.3
NMEZ	**Namu Road**	**0.87**	**251**	P	Pb	16 33 32.5	-0.5
WHTZ	**Whakaora**	**0.92**	**60**	P	Pn	16 33 33.9	0.0
HATZ	**Hinemaiaia**	**0.93**	**75**	P	Pb	16 33 33.7	-0.3
TLZ	**Tolley Road**	**0.93**	**30**	P	Pb	16 33 33.0	-1.0
BHHZ	**Black Hill Sta**	**0.94**	**112**	P	Pb	16 33 33.5	-0.6
KUTZ	**Kaahu Road**	**0.94**	**47**	P	Pb	16 33 33.7	-0.5
OHWZ	**Ohakea**	**1.11**	**165**	P	Pn	16 33 36.4	0.0
WPRZ	**Whakapapatarin**	**1.13**	**58**	P	Pn	16 33 36.2	-0.7
KWHZ	**Kaweka Forest**	**1.18**	**105**	P	Pb	16 33 38.5	+0.1
MRHZ	**Matea Rd**	**1.19**	**76**	P	Pn	16 33 37.2	-0.5
GRRZ	**Galatos Road**	**1.20**	**50**	P	Pn	16 33 37.2	-0.6
BKZ	**Black Stump Fm**	**1.21**	**92**	P	Pn	16 33 37.5	-0.3
TSZ	**Takapari Road**	**1.21**	**140**	P	Pn	16 33 37.7	-0.3
KRHZ	**Kereru**	**1.22**	**115**	P	Pn	16 33 38.1	0.0
ALRZ	**Allen Road**	**1.23**	**63**	P	Pn	16 33 38.4	+0.2
PNHZ	**Pukenui**	**1.24**	**129**	P	Pn	16 33 38.6	+0.2
HRRZ	**Handcock Road**	**1.28**	**55**	P	Pn	16 33 38.6	-0.4
PRRZ	**Plateau Road**	**1.30**	**61**	P	Pn	16 33 39.3	+0.2
HSRZ	**Hossack Road**	**1.31**	**51**	P	Pb	16 33 40.3	-0.2
UTU	**Utuhina**	**1.37**	**46**	P	Pn	16 33 39.7	-0.4
POWZ	**Post Office Ro**	**1.41**	**153**	P	Pn	16 33 41.2	+0.6
NGRZ	**Ngongotaha**	**1.42**	**44**	P	Pn	16 33 40.2	-0.6
NMHZ	**Naumai**	**1.45**	**89**	P	Pb	16 33 42.5	-0.4
RRRZ	**Republican Roa**	**1.46**	**58**	P	Pb	16 33 42.7	-0.4
TOZ	**Tahuroa Road**	**1.47**	**18**	P	Pn	16 33 40.6	-0.8
WPHZ	**Waipukurau**	**1.48**	**129**	P	Pb	16 33 43.4	0.0
DVHZ	**Dannevirke**	**1.50**	**141**	P	Pb	16 33 43.2	-0.5
MTHZ	**Maungataniwha**	**1.51**	**80**	P	Pn	16 33 41.9	-0.1
KARZ	**Kaharoa**	**1.51**	**43**	P	Pn	16 33 41.4	-0.7
MUGZ	**Murupara**	**1.57**	**66**	P	Pn	16 33 43.1	+0.3
ARHZ	**Aropaoanui**	**1.60**	**95**	P	Pb	16 33 45.1	-0.3
MRZ	**Mangatainoka R**	**1.60**	**162**	P	Pn	16 33 43.9	+0.7
PRWZ	**Pori Road**	**1.62**	**151**	P	Pb	16 33 45.2	-0.6
RTZ	**Ruatahuna**	**1.67**	**73**	P	Pn	16 33 44.2	-0.1
RAHZ	**Arahi**	**1.68**	**83**	P	Pn	16 33 44.9	+0.5
OGWZ	**Otaki Gorge**	**1.69**	**174**	P	Pn	16 33 45.2	+0.7
KIW	**Kapiti Island**	**1.72**	**181**	P	Pn	16 33 45.4	+0.4
TGRZ	**Tauranga**	**1.74**	**37**	P	Pn	16 33 44.4	-0.8
ANWZ	**Angora Road**	**1.77**	**139**	P	Pb	16 33 47.3	-1.1
TIWZ	**Tintock**	**1.79**	**156**	P	Pb	16 33 47.5	-1.2
OPRZ	**Ohinepanea**	**1.81**	**45**	P	Pn	16 33 45.5	-0.6
HOWZ	**Holdsworth Sta**	**1.81**	**166**	P	Pn	16 33 47.5	+1.2
DUWZ	**D'Urville Isla**	**1.84**	**205**	P	Pn	16 33 46.9	+0.3
BFZ	**Birch Farm**	**1.84**	**147**	P	Pn	16 33 47.3	+0.7
URZ	**Urewera**	**1.91**	**63**	P	Pn	16 33 48.0	+0.5
CAW	**Cannon Point**	**1.97**	**177**	P	Pn	16 33 49.2	+0.8
MKAZ	**Moumakai**	**2.04**	**5**	P	Pn	16 33 48.6	-0.6
KBAZ	**Karaka Road Bo**	**2.04**	**359**	P	Pn	16 33 49.4	+0.2
MTW	**Mount Morrison**	**2.06**	**168**	P	Pn	16 33 50.5	+0.8
AWAZ	**Awhitu Peninsu**	**2.08**	**353**	P	Pn	16 33 49.7	-0.2
TMWZ	**Te Maipa**	**2.10**	**160**	P	Pn	16 33 50.8	+0.7
TCW	**Tory Channel**	**2.13**	**194**	P	Pn	16 33 51.4	+0.8
MWZ	**Matawai**	**2.17**	**69**	P	Pn	16 33 51.3	+0.1
ETAZ	**East Tamaki Re**	**2.18**	**360**	P	Pn	16 33 50.9	-0.3
WTAZ	**Waiatarua**	**2.22**	**352**	P	Pn	16 33 51.7	0.0
EPAZ	**Eden Park BICE**	**2.26**	**356**	P	Pn	16 33 52.7	+0.3
BHW	**Baring Head**	**2.27**	**181**	P	Pn	16 33 53.5	+1.1
HBAZ	**Herne Bay Bore**	**2.29**	**356**	P	Pn	16 33 52.7	0.0
MSWZ	**Moikau Station**	**2.29**	**174**	P	Pn	16 33 53.7	+1.0
PRGZ	**Paritu Road**	**2.30**	**86**	P	Pn	16 33 54.1	+1.2
TRWZ	**Traveller**	**2.33**	**166**	P	Pn	16 33 55.2	+1.9
WIAZ	**Waiheke Island**	**2.34**	**4**	P	Pn	16 33 53.2	-0.3
MBAZ	**Motutapu North**	**2.36**	**359**	P	Pn	16 33 53.4	-0.3
NNZ	**Nelson**	**2.40**	**209**	P	Pn	16 33 54.6	+0.3
TUWZ	**Tuamarina**	**2.42**	**198**	P	Pn	16 33 55.2	+0.8
RUGZ	**Raukumara Rang**	**2.44**	**62**	P	Pn	16 33 55.6	+0.6
PLWZ	**Palliser**	**2.44**	**175**	P	Pn	16 33 55.4	+0.5
KUZ	**Kuaotunu**	**2.46**	**15**	P	Pn	16 33 53.8	-1.3
QRZ	**Quartz Range**	**2.51**	**227**	P	Pn	16 33 54.7	-1.1
ABAZ	**Army Bay**	**2.53**	**358**	P	Pn	16 33 56.0	-0.1
HAZ	**Te Kaha**	**2.62**	**59**	P	Pn	16 33 57.9	+0.7
BSWZ	**Blackbirch Sta**	**2.70**	**197**	P	Pn	16 33 60.0	+1.6
PUZ	**Puketiti**	**2.81**

HNR S **S** **16 41 54.9 -1.5**
baz=252,slow=20,SNR=1.5
HNR Honiara 7.10 289 P **Pn** **16 40 36.0 +0.7**
HNR Honiara 7.10 289 **Pn** **16 40 35.0 -0.2**
DZM Mont Dzumac 10.22 182 P **Pn** **16 41 14.9 -0.5**
0.4nm,0.3s,baz=18,slow=20,SNR=6.9
DZM S **S** **16 43 09.5 -0.6**
0.7nm,0.3s,baz=307,slow=20,SNR=3.4
DZM Mont Dzumac 10.22 182 **Pn** **16 41 18.6 +3.2**
MSVF Nonsavu 12.40 120 *i* P **P** **16 41 45.9 -0.6**
TARA Tarawa 14.43 25 P **P** **16 42 08.9 0.0**
KRVT Keravat (AS076 16.38 296 P **P** **16 42 28.4 -2.1**
3.1nm,0.3s,baz=356,slow=0.5,SNR=12
KRVT S **S** **16 45 33.2 +2.2**
0.3nm,0.3s,baz=342,slow=20,SNR=2.1
PMG Port Moresby 19.42 275 P **P** **16 43 03.5 0.0**
0.7nm,0.3s,baz=68,slow=4.6,SNR=8.3
PMG Port Moresby 19.42 275 P **P** **16 43 01.7 -1.8**
PMG IAmb IAmb 16 43 06.3
comp=Z,47nm,0.9s
EIDS Eidsvold 20.05 226 P **P** **16 43 11.2 +1.0**
PATS Pohnpei 20.33 335 P **P** **16 43 13.0 -0.3**
LHI Lord Howe Isla 20.88 199 P **P** **16 43 18.4 -0.5**
LHI IAmb IAmb 16 43 20.9
comp=Z,65nm,0.9s
AFI Afiamalu 21.02 98 P **P** **16 43 20.6 -0.1**
AFI pmax pmax
comp=Z,53nm,1.1s
AFI Afiamalu 21.02 98 P **P** **16 43 20.6 -0.1**
AFI IAmb IAmb 16 43 25.5
comp=Z,52nm,1.1s
CTA Charters Tower 21.36 245 P **P** **16 43 24.3 +0.3**
comp=Z,3.2nm,0.8s,baz=89,slow=14,SNR=3.5
MANU Manus Island 21.54 295 P **P** **16 43 25.1 -0.8**
MANU IAmb IAmb 16 43 43.1
comp=Z,44nm,1.1s
ARMA Armidale 23.25 215 P **P** **16 43 43.0 +1.4**
ARMA IAmb IAmb 16 43 44.9
comp=Z,24nm,0.8s
OUZ Omahuta 24.13 166 P **P** **16 43 52.3 +2.9**
TGRZ Tauranga 27.19 163 P **P** **16 44 18.4 +1.6**
OPRZ Ohinepanea 27.38 163 P **P** **16 44 20.5 +2.0**
WHRZ Whale Island 27.51 162 P **P** **16 44 23.3 +3.5**
HIZ Hauiti 27.57 166 P **P** **16 44 22.6 +2.4**
OMRZ Omania 27.57 163 P **P** **16 44 22.8 +2.5**
UTU Utuhina 27.59 164 P **P** **16 44 25.0 +4.6**
MXZ Matakaoa Point 27.66 160 P **P** **16 44 21.7 +0.6**
HLRZ Highlands Stat 27.70 164 P **P** **16 44 25.5 +4.0**
RUGZ Raukumara Rang 27.83 161 P **P** **16 44 23.2 +0.6**
RRRZ Republican Roa 27.83 163 P **P** **16 44 26.0 +3.5**
PKGZ Pakihiroa 27.88 161 P **P** **16 44 24.5 +1.4**
GENI Genyem 27.90 287 P **P** **16 44 23.3 -0.2**
URZ Urewera 27.93 162 P **P** **16 44 23.0 -0.3**
comp=Z,94nm,0.8s,baz=353,slow=3.4,SNR=39
URZ S **S** **16 48 52.0 +1.3**
comp=Z,14nm,0.9s,baz=253,slow=23,SNR=6.8
URZ Urewera 27.93 162 P **P** **16 44 24.1 +0.8**
PRRZ Plateau Road 27.94 164 P **P** **16 44 26.5 +3.0**
MUGZ Murupara 28.03 163 P **P** **16 44 26.4 +2.1**
CAN Canberra 28.43 212 P **P** **16 44 28.4 +0.5**
CAN pmax pmax
comp=Z,6.0nm,1.1s
CAN Canberra 28.43 212 P **P** **16 44 28.4 +0.5**
BKZ Black Stump Fm 28.59 164 P **P** **16 44 30.7 +1.3**
QRZ Quartz Range 29.36 171 P **P** **16 44 38.4 +2.4**
SMPI Sarmi 29.47 287 P **P** **16 44 37.3 -0.1**
NNZ Nelson 29.88 170 P **P** **16 44 43.4 +2.8**
BFZ Birch Farm 29.96 165 P **P** **16 44 41.5 +0.2**
TUWZ Tuamarina 30.18 169 P **P** **16 44 44.7 +1.4**
SNZO South Karori 30.21 168 P **P** **16 44 43.7 +0.2**
THZ Tophouse 30.33 171 P **P** **16 44 46.1 +1.4**
BHW Baring Head 30.34 168 P **P** **16 44 45.2 +0.6**
MSWZ Moikau Station 30.43 167 P **P** **16 44 45.7 +0.2**
BSWZ Blackbirch Sta 30.45 169 P **P** **16 44 47.7 +2.1**
PLWZ Palliser 30.58 167 P **P** **16 44 47.1 +0.3**
STKA Stephens Creek 30.61 225 P **P** **16 44 47.6 +0.5**
comp=Z,3.0nm,0.7s,baz=55,slow=11,SNR=6.3
STKA pP **pP** **16 45 29.3 -1.2**
comp=Z,17nm,1.2s,baz=44,slow=10,SNR=3.0
STKA PcP **PcP** **16 47 40.0 -0.1**
comp=Z,2.6nm,0.6s,baz=74,slow=9.3,SNR=3.0
STKA ScP **ScP** **16 51 03.1 +1.3**
comp=Z,4.0nm,0.6s,baz=56,slow=4.2,SNR=8.9
STKA Stephens Creek 30.61 225 P **P** **16 44 47.2 0.0**
KHZ Kahutara 31.07 170 P **P** **16 44 52.7 +1.7**
LTZ Lake Taylor 31.24 172 P **P** **16 44 54.0 +1.4**
OXZ Oxford 31.74 173 P **P** **16 44 57.9 +1.0**
TOO Toolangi 31.97 213 P **P** **16 45 00.4 +1.3**
TOO pmax pmax
comp=Z,10.0nm,0.7s
TOO Toolangi 31.97 213 P **P** **16 45 00.4 +1.3**
RPZ Rata Peaks 32.02 174 P **P** **16 44 59.4 +0.1**
comp=Z,120nm,0.7s,baz=290,slow=1.2,SNR=63
RPZ Rata Peaks 32.02 174 P **P** **16 45 00.5 +1.2**
CRLZ Canterbury Las 32.06 172 P **P** **16 45 00.6 +0.9**
WB2 Warramunga Arr 32.17 251 P **P** **16 45 00.8 -0.2**
WRAB Tennant Creek 32.17 251 *ce*P **P** **16 45 02.9 +1.9**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 32.18 251 P **P** **16 44 59.6 -1.5**
comp=Z,3.0nm,0.9s,baz=77,slow=9.0,SNR=28
WRA pP **pP** **16 45 41.7 -2.6**
comp=Z,1.3nm,0.6s,baz=82,slow=8.4,SNR=1.3
WRA PcP **PcP** **16 47 41.7 -2.9**
comp=Z,2.8nm,0.8s,baz=90,slow=6.5,SNR=8.4
WRA ScP **ScP** **16 51 09.6 +2.3**
comp=Z,9.5nm,0.8s,baz=80,slow=3.5,SNR=32
WRA Warramunga Arr 32.18 251 P **P** **16 44 59.6 -1.5**
WRA Warramunga Arr 32.18 251 **PcP** **16 47 45.5 +0.9**
WRA **ScP** **16 51 10.9 +3.6**
MQZ McQueen's Vall 32.20 172 P **P** **16 45 02.1 +1.2**
LBZ Lake Benmore 32.60 175 P **P** **16 45 05.2 +0.8**
LBZ IAmb IAmb 16 45 06.1
comp=Z,36nm,0.7s
WKZ Wanaka 32.97 177 P **P** **16 45 09.0 +1.4**
WKZ IAmb IAmb 16 45 16.3
comp=Z,55nm,0.8s
ODZ Otahua Downs 33.30 175 P **P** **16 45 11.3 +0.9**
ODZ IAmb IAmb 16 45 17.5
comp=Z,34nm,1.0s
AS31 Alice Springs 33.36 245 P **P** **16 45 10.7 -0.7**
ASAR Alice Springs 33.37 245 P **P** **16 45 10.7 -0.7**
ASAR 16 47 47.9
ASAR Alice Springs 33.37 245 P **P** **16 45 09.7 -1.7**
comp=Z,1.5nm,0.6s,baz=68,slow=11,SNR=31
ASAR pP **pP** **16 45 55.8 +1.1**
comp=Z,4.1nm,0.5s,baz=71,slow=9.4,SNR=6.1
ASAR PcP **PcP** **16 47 47.5 -0.3**
comp=Z,3.0nm,0.7s,baz=61,slow=3.2,SNR=12
ASAR ScP **ScP** **16 51 13.7 +2.3**
comp=Z,9.2nm,0.9s,baz=80,slow=3.4,SNR=34
ASAR Alice Springs 33.37 245 P **P** **16 45 10.7 -0.7**
ASAR **PcP** **16 47 47.9 0.0**
ASAR **ScP** **16 51 14.0 +2.5**
MLZ Mavora Lakes 33.47 178 P **P** **16 45 12.4 +0.4**
MLZ IAmb IAmb 16 45 16.4
comp=Z,28nm,1.0s
DCZ Deep Cove 33.55 180 P **P** **16 45 12.3 -0.3**
DCZ IAmb IAmb 16 45 15.0
comp=Z,69nm,1.1s
SIJI Sorong 36.86 285 P **P** **16 45 39.1 -2.2**
comp=Z,9.8nm,0.6s,baz=68,slow=7.3,SNR=20
SWI Sorong 36.87 285 P **P** **16 45 40.8 -0.5**
KNRA Kununurra 37.08 260 P **P** **16 45 43.1 0.0**
BNDI Bandanaira 37.16 278 P **P** **16 45 43.8 0.0**
FITZ Fitzroy Crossi 40.16 256 P **P** **16 46 09.0 +0.3**
NLAI Namlea 40.19 279 P **P** **16 46 10.0 +1.1**
TNTI Ternate 41.08 285 P **P** **16 46 16.2 0.0**
SANI Sanana 41.56 280 P **P** **16 46 20.1 -0.1**
comp=Z,19nm,1.0s
JCJ Chichijima 45.43 329 P **P** **16 46 49.5 -1.3**
comp=Z,88nm,0.8s,baz=281,slow=23,SNR=5.4
PSA00 Pilbara Seismi 45.83 251 P **P** **16 46 53.2 -0.9**
JAGI Jajag, Banyuwa 51.84 268 P **P** **16 47 37.9 -1.9**
TGY Tagaytay City 52.21 298 P **P** **16 47 41.9 -0.6**
comp=Z,41nm,0.3s,baz=319,slow=1.2,SNR=7.0
KKM Kota Kinabalu 53.31 287 P **P** **16 47 50.5 -0.1**
KKM IAmb IAmb 16 47 52.3
comp=Z,27nm,0.8s
INU Inuyama 54.70 330 P **P** **16 47 59.9 -0.2**
MJAR Matsushiro Arr 55.10 332 P **P** **16 48 01.8 -1.2**
comp=Z,31nm,0.9s,baz=167,slow=8.1,SNR=90
MJAR Matsushiro Arr 55.10 332 P **P** **16 48 01.6 -1.4**
MAJO Matsushiro 55.10 332 *i* P **P** **16 48 02.1 -0.9**
MAJO pmax pmax
comp=Z,59nm,1.1s
MAJO Matsushiro 55.10 332 P **P** **16 48 02.1 -0.9**
MAJO IAmb IAmb 16 48 03.2
comp=Z,47nm,0.9s
MAT Matsushiro 55.10 332 P **P** **16 48 01.8 -1.2**
MJB9 Matsu-Tunnel 55.10 332 P **P** **16 48 02.2 -0.9**
MJB9 IAmb IAmb 16 48 03.2
comp=Z,50nm,1.0s
JNU Nakatsue 56.27 324 P **P** **16 48 11.3 -0.2**
JNU IAmb IAmb 16 48 12.2
comp=Z,51nm,0.9s
TPUB Ta-pu 57.05 308 P **P** **16 48 16.5 -0.5**
TPUB IAmb IAmb 16 48 17.5
comp=Z,48nm,1.1s
SSLB Suanglung 57.06 308 P **P** **16 48 16.6 -0.5**
YHNB Yeheng 57.23 310 IAmb IAmb 16 48 19.4
comp=Z,51nm,1.0s
ERM Erimo 57.78 339 *d i*P **P** **16 48 22.5 +0.7**
ERM pmax pmax
comp=Z,8.0nm,0.5s
ERM Erimo 57.78 339 P **P** **16 48 23.1 +1.4**
ERM IAmb IAmb 16 48 23.3
comp=Z,30nm,0.8s
CISI Cisompet, Garu 58.18 268 P **P** **16 48 24.3 -0.9**
CISI IAmb IAmb 16 48 25.0
comp=Z,33nm,0.7s
ASAJ Asahikawa 59.84 340 P **P** **16 48 35.4 -0.4**
comp=Z,46nm,0.7s,baz=218,slow=8.5,SNR=49
TJN Taejon 60.62 324 *ce*P **P** **16 48 41.6 +0.3**
KSRS Korea Array 61.06 325 P **P** **16 48 44.1 -0.1**
comp=Z,14nm,0.8s,baz=137,slow=7.2,SNR=57
KSAR Wonju Array Be 61.07 325 P **P** **16 48 42.6 -1.7**
KSAR Wonju Array Be 61.07 325 P **P** **16 48 42.6 -1.7**
KS19 Wonju Array Si 61.13 325 P **P** **16 48 44.7 0.0**
KS19 IAmb IAmb 16 48 45.5
comp=Z,20nm,0.9s
HKPS Hong Kong Po S 61.71 303 P **P** **16 48 47.5 -1.4**
YSS Yuzh-Sakhalins 62.31 342⇑ *e*P **P** **16 48 52.9 +0.5**
YSS pmax pmax
comp=Z,90nm,1.1s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 62.31 342 P **P** **16 48 53.4 +1.0**
YSS IAmb IAmb 16 48 54.2
comp=Z,115nm,1.1s
TEY Ternei 62.81 336⇓ *i*P **P** **16 48 56.0 +0.3**
TEY pmax pmax
comp=N,20nm,1.2s
TEY pmax pmax
comp=Z,40nm,1.1s
TEY pmax pmax
comp=E,20nm,1.0s
VLA Vladivostok 63.27 332 *c i*P **P** **16 48 59.1 +0.3**
VLA pmax pmax
comp=Z,74nm,1.7s
QIZ Qiongzhong 63.92 298 P **P** **16 49 04.3 +0.8**
QIZ IAmb IAmb 16 49 05.7
comp=Z,18nm,0.9s
MYKOM Kota Tinggi 63.94 278 P **P** **16 49 04.3 +0.5**
USA0B Ussuriysk Arra 64.07 333 *c i*P **P** **16 49 04.3 +0.3**
USA0B Ussuriysk Arra 64.07 333 P **P** **16 49 05.0 +1.0**
USA0B IAmb IAmb 16 49 05.3
comp=Z,52nm,1.1s
USRK Ussuriysk Ar. 64.07 333 P **P** **16 49 05.1 +1.1**
USRK Ussuriysk Ar. 64.07 333 P **P** **16 49 04.5 +0.5**
comp=Z,42nm,1.0s,baz=140,slow=5.7,SNR=66
USRK Ussuriysk Ar. 64.07 333 P **P** **16 49 05.1 +1.1**
PET Petropavlovsk 64.94 355 *i* P **P** **16 49 09.1 -0.3**
PET pmax pmax
comp=Z,21nm,1.0s
PEA0B Petropavlovsk- 65.11 354 P **P** **16 49 11.0 +0.4**
PEA0B pmax pmax
comp=Z,51nm,1.0s
PEA0B Petropavlovsk- 65.11 354 P **P** **16 49 11.0 +0.4**
PETK Petropavlovsk- 65.11 354 P **P** **16 49 11.1 +0.5**
PETK Petropavlovsk- 65.11 354 P **P** **16 49 10.5 0.0**
comp=Z,30nm,0.8s,baz=142,slow=8.0,SNR=46
PETK PcP **PcP** **16 49 40.9 -0.4**
comp=Z,10nm,0.8s,baz=121,slow=6.4,SNR=5.4
PETK Petropavlovsk- 65.11 354 P **P** **16 49 11.1 +0.5**
MDJ Mudanjiang 65.48 332 P **P** **16 49 13.6 +0.5**
MDJ pmax pmax
comp=Z,69nm,1.0s
WHN Wuhan 65.64 311⇑ P **P** **16 49 14.0 -0.4**
DL2 Dalian 65.68 323 P **P** **16 49 14.7 +0.2**
DL2 pmax pmax
comp=Z,69nm,1.0s
TYV Tymovskoe 65.84 344 *e*P **P** **16 49 15.5 +0.2**
TYV pmax pmax
comp=Z,200nm,5.2s
TYV pmax pmax
comp=Z,21nm,1.2s
CASY Casey 66.05 202 P **P** **16 49 15.6 -0.8**
SBA Scott Base 66.05 180 P **P** **16 49 18.2 +1.9**
SBA pmax pmax
comp=Z,39nm,1.1s
SBA Scott Base 66.05 180 P **P** **16 49 18.2 +1.9**
SBA IAmb IAmb 16 49 19.2
comp=Z,39nm,1.1s
TIA Tai'an 66.84 318 P **P** **16 49 21.3 -0.7**
TIA pmax pmax
comp=Z,29nm,1.1s
CN2 Changchun 66.90 329⇑ P **P** **16 49 21.9 -0.2**
CN2 pmax pmax
comp=Z,80nm,0.8s
IPM Ipoh 67.34 280 P **P** **16 49 25.2 -0.3**
IPM IAmb IAmb 16 49 27.2
comp=Z,25nm,1.0s
GRNR Gornyy 67.69 340⇑ *i*P **P** **16 49 27.8 +0.8**
GRNR pmax pmax
comp=N,32nm,1.0s
GRNR pmax pmax
comp=Z,59nm,1.0s
NIKH Nikolski High 67.82 16 P **P** **16 49 27.2 -0.4**
KLR Kul'dur 68.14 336 *i* P **P** **16 49 30.0 +0.2**
KLR pmax pmax
comp=Z,10.0nm,0.6s
RPSI Rantau Prapat 68.94 278 P **P** **16 49 33.7 -1.7**
RPSI IAmb IAmb 16 49 35.8
comp=Z,27nm,0.9s
PSI Prapat 68.96 278 P **P** **16 49 33.7 -2.1**
PSI pmax pmax
comp=Z,27nm,0.9s
ENH Enshi 69.15 309 P **P** **16 49 36.1 -0.4**
ENH IAmb IAmb 16 49 37.0
comp=Z,50nm,0.9s
UNV Unalaska Valle 69.23 17 P **P** **16 49 35.1 -1.3**
UNV IAmb IAmb 16 49 36.5
comp=Z,43nm,0.9s
NONG Nongkai 69.44 294 P **P** **16 49 38.5 +0.1**
comp=Z,0.8nm,0.9s
TRTT Trang 69.49 283 P **P** **16 49 39.6 +0.8**
comp=Z,15nm,1.1s
GYA Guiyang 69.67 304⇑ *i*P **P** **16 49 39.7 -0.1**
GYA pP pP 16 50 28.0 -2.0
GYA PP **PP** **16 52 17.7 +0.6**
GYA S **S** **16 58 33.3 +2.6**
GYA SS **SS** **17 03 01.6 -2.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.2s
BJT Baijiatuau 69.69 321 P **P** **16 49 40.9 +1.4**
BJT pmax pmax
comp=Z,15nm,1.1s
BJT Baijiatuau 69.69 321 P **P** **16 49 40.9 +1.4**
BJI Beijing 69.69 321 P **P** **16 49 39.8 +0.3**
BJI pmax pmax
comp=Z,32nm,0.8s
CHAI Chaiyaphum 69.75 292 P **P** **16 49 40.3 -0.1**
comp=Z,31μm,0.8s
PATY Pattaya 69.84 289 P **P** **16 49 42.4 +1.5**
comp=Z,40μm,1.0s
GSI Gunungsitoli 69.93 276 P **P** **16 49 41.6 0.0**
GSI IAmb IAmb 16 49 42.5
comp=Z,44nm,0.8s
TIY Taiyuan 70.79 317 *e*P **P** **16 49 47.2 +0.8**
TIY pmax pmax
comp=Z,72nm,1.0s
TIY pmax pmax
comp=Z,200nm,5.3s
PBKT Sadao Pong 70.89 292 P **P** **16 49 47.9 +0.7**
comp=Z,11nm,1.3s
PBKT Sadao Pong 70.89 292 P **P** **16 49 47.4 +0.1**
XAN Xi'an 71.36 312 P **P** **16 49 49.8 -0.1**
XAN pmax pmax
comp=Z,40nm,1.3s
XAN pmax pmax
comp=Z,490nm,4.8s
XAN Xi'an 71.36 312 P **P** **16 49 49.5 -0.3**
XAN pmax pmax
comp=Z,23nm,0.8s
XAN Xi'an 71.36 312 P **P** **16 49 49.5 -0.3**
XAN IAmb IAmb 16 49 50.5
comp=Z,23nm,0.8s
UTHA Uthaitani 71.96 291 P **P** **16 49 54.4 +0.7**
comp=Z,30μm,0.9s,comp=Z,270μm
MA2 Magadan 72.29 352 *ce*P **P** **16 49 53.3 -1.4**
MA2 pmax pmax
comp=Z,30nm,1.1s
MA2 Magadan 72.29 352 P **P** **16 49 53.6 -1.2**
MA2 IAmb IAmb 16 49 56.1
comp=Z,26nm,1.1s
KMI Kunming 72.36 301 P **P** **16 49 57.2 +1.0**
KMI pmax pmax
comp=Z,44nm,1.2s
KMI pmax pmax
comp=Z,290nm,4.2s
KHLT Khaolaem Dam 72.51 290 P **P** **16 49 54.9 -2.0**
comp=Z,15nm,1.3s
UMPA Umpang Tak 72.69 291 P **P** **16 49 59.7 +1.7**
comp=Z,15μm,1.2s
LAMP Lampang 72.73 294 P **P** **16 49 59.6 +1.4**
comp=Z,85μm,0.8s
PAYA Payao 72.80 295 P **P** **16 49 59.2 +0.6**
comp=Z,62μm,0.8s,comp=Z,607μm
HHC Hu-ho-hao-te 73.05 319 P **P** **16 50 01.1 +1.3**
HHC S **S** **16 59 14.1 +5.2**
HHC sS sS 17 00 35.0 -2.4
HHC SS **SS** **17 03 58.6 +3.5**
HHC pmax pmax
comp=Z,8.0nm,0.9s
CM31 Chiang Mai Arr 73.33 293 IAmb IAmb 16 50 03.6
comp=Z,33nm,0.9s
CMAR Chiang Mai Arr 73.33 293 P **P** **16 50 02.5 +0.7**
comp=Z,22nm,0.9s,baz=118,slow=4.7,SNR=141
ZEA Zeya 73.42 337 *e*P **P** **16 50 02.4 +0.9**
ZEA pmax pmax
comp=N,41nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
CMMT Chiang Mai 73.44 294 P **P** **16 50 02.6 +0.2**
comp=Z,16nm,1.1s
CHTO Chiang Mai 73.44 294 P **P** **16 50 03.0 +0.6**
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 73.44 294 P **P** **16 50 03.0 +0.6**
CD2 Chengdu 73.85 307 P **P** **16 50 05.2 +0.6**
CD2 pmax pmax
comp=Z,60nm,0.8s
MHMT Maesarieng 74.15 293 P **P** **16 50 07.4 +0.9**
comp=Z,28nm,0.9s
SEY Seymchan 75.33 353 *c i*P **P** **16 50 11.9 -0.4**
LZH Lanzhou 76.00 312 *e*P **P** **16 50 17.7 +0.8**
LZH pP pP 16 51 05.0 -3.1
LZH PP **PP** **16 53 16.1 +5.2**
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.4s
LZH LR LR
comp=Z,680nm,14.6s
LZH LR LR
comp=Z,680nm,16.8s
LZH LR LR
comp=Z,620nm,17.3s
KDAK Kodiak Island 76.91 21 *i*P **P** **16 50 21.4 +0.1**
KDAK Kodiak Island 76.91 21 P **P** **16 50 21.4 +0.1**
KDAK IAmb IAmb 16 50 22.1
comp=Z,29nm,0.9s
QSPA South Pole Qui 78.21 180 P **P** **16 50 29.2 +0.6**
QSPA IAmb IAmb 16 50 30.1
comp=Z,25nm,0.9s
CIT Chita 78.31 330 *e*P **P** **16 50 29.5 +0.3**
CIT *e* 16 50 37.6
CIT pmax pmax
comp=Z,108nm,1.3s
SVW2 Sparrevohn 78.52 18 P **P** **16 50 29.3 -0.8**
SVW2 IAmb IAmb 16 50 32.4
comp=Z,27nm,1.0s
CNPM China Poot 78.69 20 P **P** **16 50 31.9 +0.8**
CNPM IAmb IAmb 16 50 34.7
comp=Z,30nm,0.8s
RSO Redoubt South 78.90 19 P **P** **16 50 33.5 +1.1**
BRLK Bradley Lake 78.99 20 P **P** **16 50 33.1 +0.4**
BRLK IAmb IAmb 16 50 33.6
comp=Z,38nm,0.9s
YAK Yakutsk 79.10 343 *c i*P **P** **16 50 32.7 -0.5**
YAK *e* 16 50 40.9
YAK *e**PP **pP** **16 51 25.9 +0.7**
YAK *e*PPP PPP 16 55 23.2
YAK *e*S **S** **17 00 12.7 -1.0**
YAK *e* 17 00 33.9
YAK *e*SS **SS** **17 05 24.6 -0.6**
YAK *e*SSS SSS 17 08 48.6
YAK pmax pmax
comp=Z,41nm,0.8s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,79nm,3.5s
YAK pmax pmax
comp=N,28nm,3.8s
YAK pmax pmax
comp=E,48nm,3.7s
YAK smax smax
comp=N,58nm,2.7s
YAK smax smax
comp=E,74nm,2.3s
YAK Yakutsk 79.10 343 P **P** **16 50 33.1 -0.1**
ULN Ulaanbaatar 79.50 324 *ce*P **P** **16 50 36.1 +0.2**
ULN pmax pmax
comp=Z,58nm,0.9s
ULN Ulaanbaatar 79.50 324 P **P** **16 50 36.9 +1.0**
ULN IAmb IAmb 16 50 37.4
comp=Z,49nm,0.8s
BILL Bilibino 79.63 360 *c i*P **P** **16 50 35.8 -0.2**
BILL *e**PP **pwP** **16 51 32.2 +1.8**
BILL *e* 16 53 45.1
BILL pmax pmax
comp=Z,107nm,1.1s
BILL Bilibino 79.63 360 P **P** **16 50 36.2 +0.3**
SONM Songino Array 79.86 323 P **P** **16 50 38.4 +0.5**
SONM pmax pmax
comp=Z,15nm,0.8s
SONM Songino Array 79.86 323 P **P** **16 50 37.8 0.0**
comp=Z,15nm,0.7s,baz=145,slow=6.3,SNR=64
SONM Songino Array 79.86 323 P **P** **16 50 38.4 +0.5**
GTA Gaotai 80.30 314⇑ P **P** **16 50 40.9 +0.5**
GTA pP pwP 16 51 34.4 -0.7
GTA sP sP 16 51 59.6 +4.2
GTA PP **PP** **16 53 44.6 -1.9**
GTA pmax pmax
comp=Z,35nm,1.4s
GTA pmax pmax
comp=Z,140nm,4.5s
GTA LR LR
comp=Z,390nm,18.2s
GTA LR LR
comp=Z,370nm,19.6s
GTA LR LR
comp=Z,680nm,19.2s
BOD Bodaibo 81.64 334 *e*P **P** **16 50 46.1 -0.7**
BOD pmax pmax
comp=Z,25nm,1.4s
MESA MESA 82.52 23 pP 16 51 38.1 -5.6
VRDI Verde Repeater 82.64 22 IAmb IAmb 16 50 52.7
comp=Z,29nm,0.8s
IMAR Indian Mountai 82.88 15 P **P** **16 50 53.7 +0.6**
ZAK Zakamensk 82.89 325 *e*P **P** **16 50 52.8 -0.8**
ZAK pmax pmax
comp=Z,31nm,1.2s
BALM Baldy 82.92 22 P **P** **16 50 53.6 +0.1**
BALM IAmb IAmb 16 50 54.6
comp=Z,46nm,0.9s
O02D Mt. Diablo Mer 83.08 47 P **P** **16 50 55.8 +1.0**
baz=248,SNR=8.8

PCA	Pinnacle	83.13	24	P	P	16 50 54.5	-0.1
IRK	Irkutsk	83.23	327	eP	P	16 50 54.2	-1.0
IRK				pmax	pmax		
comp=Z,42nm,1.5s							
TLY	Talaya	83.30	326c	iP	P	16 50 55.2	-0.4
TLY				pmax	pmax		
comp=Z,145nm,1.5s							
N02D	Trinity Center	83.43	46	P	P	16 50 57.5	+1.0
baz=248,SNR=6.6							
M02C	Callahan	83.48	46	P	P	16 50 57.8	+1.0
baz=248,SNR=6.8							
CCB	Clear Creek Bu	83.54	18	P	P	16 50 55.7	-0.7
CCB				IAmb	IAmb	16 50 56.2	
comp=Z,21nm,0.8s							
HDA	Harding Lake	83.63	18	P	P	16 50 56.8	-0.2
baz=225							
HDA	Harding Lake	83.63	18	P	P	16 50 57.0	0.0
MENT	Mentasta	83.68	20	P	P	16 50 58.0	+0.7
MENT				IAmb	IAmb	16 50 58.7	
comp=Z,36nm,1.0s							
TCOL	CIGO, UAF Yank	83.69	18	P	P	16 50 56.5	-0.7
baz=225							
YBH	Yreka Blue Hor	83.70	45	P	P	16 50 57.7	-0.3
comp=Z,12nm,0.9s,baz=236,slow=1.8,SNR=18							
O03E	Paynes Creek	83.82	47	P	P	16 50 58.8	+0.2
baz=249,SNR=8.7							
IL31		83.91	18	P	P	16 50 58.2	-0.1
ILAR	Eielson Array	83.91	18	P	P	16 50 58.2	-0.1
ILAR	Eielson Array	83.91	18	P	P	16 50 57.6	-0.8
comp=Z,46nm,0.8s,baz=230,slow=5.7,SNR=284							
ILAR	Eielson Array	83.91	18	P	P	16 50 58.2	-0.1
POKR	Poker Plat Res	83.99	18	P	P	16 50 57.9	-0.8
baz=225							
DOT	Dot Lake	84.04	20	P	P	16 50 59.4	+0.3
L04D	Klamath Falls	84.17	45	P	P	16 51 00.8	+0.4
baz=248							
M04C	Macdoel	84.33	45	P	P	16 51 01.8	+0.6
baz=249							
MAW	Mawson	84.40	202	P	P	16 50 59.5	-1.4
comp=Z,4.4nm,1.1s,baz=94,slow=7.5,SNR=4.4							
BCAR	Beaver Creek A	84.43	21	P	P	16 51 01.2	+0.1
HYT	Haines Junctio	84.66	24	P	P	16 51 02.2	-0.1
HYT				IAmb	IAmb	16 51 03.5	
comp=Z,23nm,0.9s							
BEKR	Beckworth	84.71	48	P	P	16 51 02.5	-0.7
ISA	Isabella, Lake	84.74	52	P	P	16 51 03.8	+0.5
baz=252,SNR=7.2							
MOY	Mondy	84.76	325	eP	P	16 51 02.6	-0.5
MOY				pmax	pmax		
comp=Z,35nm,2.5s							
SKAG	Skagway	84.78	26	P	P	16 51 02.6	-0.1
SKAG				IAmb	IAmb	16 51 04.3	
comp=Z,23nm,1.1s							
EDW2	Edwards Air Fo	84.87	53	P	P	16 51 04.5	+0.5
baz=252,SNR=12							
MDPB	Devils Postpil	84.91	50	P	P	16 51 05.0	+0.6
BFSC	Mount Baldy Ra	84.93	54	P	P	16 51 04.4	0.0
baz=252							
MLAC	Mammoth, Mammo	85.09	50	P	P	16 51 06.0	+0.8
baz=251							
CWC	Cottonwood Cre	85.29	51	P	P	16 51 06.5	+0.4
baz=252							
J05D	Fort Rock, OR	85.29	44	P	P	16 51 06.4	+0.4
baz=249							
LRMC	Laurel Mtn Rad	85.30	52	P	P	16 51 06.5	+0.4
baz=252,SNR=7.9							
MONP2	Monument Peak	85.52	55	P	P	16 51 08.0	+0.6
baz=253							
I05D	Terrebonne, OR	85.59	43	P	P	16 51 08.1	+0.8
baz=249							
MPMC	Manual Prospec	85.62	52	P	P	16 51 08.2	+0.4
baz=252,SNR=9.4							
FYU	Fort Yukon	85.65	17	IAmb	IAmb	16 51 08.6	
comp=Z,21nm,0.9s							
PFO	Pinyon Flats O	85.70	55	P	P	16 51 08.5	+0.3
baz=253							
PFO	Pinyon Flats O	85.70	55	iP	P	16 51 08.4	+0.2
PFO				pmax	pmax		
comp=Z,8.0nm,0.9s							
PFO	Pinyon Flats O	85.70	55	P	P	16 51 09.0	+0.8
IKP	In-Ko-Pah, Jac	85.70	56	P	P	16 51 09.2	+1.1
baz=253							
TPFO	Pinon Flats	85.70	55	P	P	16 51 08.3	+0.2
baz=253							
EGAK	Eagle	85.74	20	P	P	16 51 07.6	+0.2
NVAR	Mina Array Bea	85.75	50	P	P	16 51 08.5	+0.1
comp=Z,5.5nm,0.8s,baz=231,slow=8.5,SNR=41							
NVAR	Mina Array Bea	85.75	50	P	P	16 51 08.3	-0.1
TAPN	Taplejung	85.84	299	eP	P	16 51 09.0	-0.2
comp=Z,52nm,1.0s							
DAWY	Dawson	85.89	21	P	P	16 51 08.3	0.0
DAWY				IAmb	IAmb	16 51 09.8	
comp=Z,19nm,0.9s							
GSC	Goldstone, Bar	85.92	53	P	P	16 51 09.7	+0.5
baz=253,SNR=5.1							
TOLK	Toolik Lake Re	85.96	15	P	P	16 51 09.4	+0.9
baz=223,SNR=12							
TOLK	Toolik Lake Re	85.96	15	P	P	16 51 09.4	+0.9
TOLK				IAmb	IAmb	16 51 10.4	
comp=Z,35nm,1.1s							
ODAN	Odare	85.99	298	eP	P	16 51 09.8	-0.1
comp=Z,68nm,0.8s							
GRAC	Grapevine Rang	86.00	51	P	P	16 51 10.4	+0.9
baz=252,SNR=5.9							
SWSC	Sam W. Stewart	86.03	55	P	P	16 51 10.3	+0.6
baz=253							
BELC	Belle Mtn. Jos	86.18	54	P	P	16 51 11.2	+0.7
baz=253,SNR=12							
FURC	Furnace Creek,	86.23	52	P	P	16 51 11.3	+0.9
baz=252							
BMAR	Burnt Mountain	86.43	17	P	P	16 51 11.8	+0.9
BC3	Big Chuckawall	86.51	55	P	P	16 51 13.2	+1.1
baz=254,SNR=7.2							
SHOC	Shoshone, Teco	86.51	52	P	P	16 51 12.7	+0.7
baz=253							
TUQ	Turquoise Moun	86.65	53	P	P	16 51 13.2	+0.4
baz=253,SNR=10							
GMRC	Granite Mounta	86.67	54	P	P	16 51 13.3	+0.4
baz=253,SNR=6.4							
RAMN	Ramite	86.69	298	eP	P	16 51 13.0	-0.3
comp=Z,30nm,0.8s							
TPNV	Topopah Spring	86.84	51	P	P	16 51 14.4	+0.7
baz=253,SNR=7.2							
GLA	Glamis	86.85	55	P	P	16 51 14.9	+1.2
baz=254							
IRM	Iron Mountain	86.90	54	P	P	16 51 14.7	+0.8
baz=254,SNR=9.6							
JIRN	Jiri	87.23	299	eP	P	16 51 15.8	-0.2
comp=Z,145nm,1.4s							
Y12C	Blythe	87.28	55	P	P	16 51 17.1	+1.4
baz=254							
GUN	Gumba	87.56	299	eP	P	16 51 17.2	-0.3
comp=Z,39nm,0.9s							
PDMCI	Parker Dam,Lak	87.74	54	P	P	16 51 19.0	+1.2
baz=254,SNR=6.2							
R11A	Troy Canyon, C	87.75	50	P	P	16 51 18.6	+0.6
baz=253,SNR=12							
PKI	Pulchoki	87.88	299	eP	P	16 51 18.2	-0.8
comp=Z,74nm,1.0s							
PKIN	Phulchoki	87.89	299	eP	P	16 51 18.3	-0.7
comp=Z,50nm,1.0s							
KKN	Kakani	88.04	299	eP	P	16 51 19.1	-0.6
comp=Z,40nm,0.9s							
DMN	Daman	88.14	299	eP	P	16 51 19.8	-0.4
comp=Z,138nm,1.0s							
EPYK	Eagle Plains	88.17	20	P	P	16 51 19.2	0.0
baz=235							
214A	Organ Pipe Nat	88.19	57	P	P	16 51 21.3	+1.2
baz=255							
GKN	Gorkha	88.64	299	eP	P	16 51 21.5	-0.9
comp=Z,94nm,0.8s							
DANN	Dangsing	89.48	299	eP	P	16 51 25.1	-1.4
comp=Z,69nm,0.9s							
KOLN	Koldanda	89.48	298	eP	P	16 51 25.0	-1.4
comp=Z,58nm,1.1s							
NEW	Newport	89.66	40	P	P	16 51 27.0	+0.4
baz=252							
U15A	North Rim	89.76	53	IAmb	IAmb	16 51 29.8	
comp=Z,18nm,0.9s							
TUC	Tucson	89.95	57	P	P	16 51 29.6	+1.2
baz=256							
WUAZ	Wupatki	90.25	54	P	P	16 51 31.2	+1.4
baz=256							
INK	Inuvik	90.28	19	P	P	16 51 27.8	-1.2
comp=Z,1.4nm,0.8s,baz=245,slow=6.8,SNR=3.2							
DUG	Dugway, Tooele	90.33	49	P	P	16 51 30.8	+0.8
baz=255							
WMQ	Urumqi	90.33	315	eP	P	16 51 30.2	+0.4
WMQ				pP	pP	16 52 21.7	-1.4
WMQ				pmax	pmax		
comp=Z,24nm,2.1s							
WMQ				pmax	pmax		
comp=Z,86nm,4.3s							
WMQ				LR	LR		
comp=Z,900nm,24.3s							
WMQ				LR	LR		
comp=Z,830nm,28.5s							
WMQ				LR	LR		
comp=Z,850nm,26.3s							
SYO	Syowa Base	91.36	197⇑	eP	P	16 51 35.0	+1.0
HYB	Hyderabad	91.79	287	iP	P	16 51 36.5	-0.6
DGZ	Jazzator, Alta	92.11	320c	iP	P	16 51 37.3	-0.7
121A	Cookes Peak, D	92.47	57	P	P	16 51 41.3	+1.2
baz=258							
H17A	Grant Village	92.98	45	P	P	16 51 44.3	+2.0
baz=257							
BW06	Boulder Array	93.33	47	P	P	16 51 44.4	+0.4
baz=257							
PDAR	Pinedale Array	93.33	47	P	P	16 51 43.6	-0.3
comp=Z,2.6nm,1.0s,baz=243,slow=1.7,SNR=8.4							
PDAR	Pinedale Array	93.33	47	P	P	16 51 42.1	-1.9
O20A	White River Ci	93.72	50	P	P	16 51 46.0	+0.3
baz=258							
C36M	Paulatuk	93.81	19	P	P	16 51 44.1	-1.1
baz=247							
ANMO	Albuquerque	94.05	55	P	P	16 51 47.6	+0.2
baz=259							
ANMO	Albuquerque	94.05	55ce	P	P	16 51 46.6	-0.8
ANMO				pmax	pmax		
comp=Z,2.0nm,0.8s							
A36M	Sachs Harbour	94.52	17	P	P	16 51 47.9	-0.5
baz=246							
ZALV	Zalesovo Beam	94.75	324c	iP	P	16 51 48.4	-1.4
ZALV	Zalesovo Beam	94.75	324	P	P	16 51 48.0	-1.8
comp=Z,6.4nm,0.9s,baz=106,slow=3.8,SNR=23							
MK31	Makanchi Array	94.75	317	P	P	16 51 50.0	-0.1
MK31				pmax	pmax		
comp=Z,26nm,0.9s							
MK31	Makanchi Array	94.75	317	P	P	16 51 50.0	-0.1
MKAR	Makanchi Array	94.75	317	P	P	16 51 50.2	+0.1
MKAR	Makanchi Array	94.75	317	P	P	16 51 48.8	-1.3
comp=Z,24nm,0.7s,baz=96,slow=6.4,SNR=195							
MKAR				PKiKP	PKiKP	16 56 30.4	-0.8
comp=Z,0.4nm,0.8s,baz=66,slow=1.6,SNR=2.3							
MKAR				PKKP	PKKPdf	17 08 45.2	-2.3
comp=Z,0.8nm,0.6s,baz=281,slow=2.9,SNR=8.4							
MKAR	Makanchi Array	94.75	317	P	P	16 51 50.2	+0.1
MAKZ	Makanchi	94.97	317	P	P	16 51 50.5	-0.6
MAKZ				pmax	pmax		
comp=Z,30nm,1.0s							
MAKZ	Makanchi	94.97	317	P	P	16 51 50.5	-0.6
YKA	Yellowknife Ar	95.18	27	P	P	16 51 50.1	-1.5
comp=Z,4.3nm,0.7s,baz=256,slow=4.8,SNR=13							
TXAR	Lajitas Array	95.31	61	P	P	16 51 52.2	-1.0
comp=Z,0.9nm,0.8s,baz=235,slow=5.8,SNR=5.9							
VNA3	Neumayer Olymp	97.12	181	P	P	16 51 59.6	-0.8
NRIK	Noril'sk	97.17	339	P	P	16 51 59.4	-1.1
comp=Z,3.2nm,0.6s,baz=106,slow=4.4,SNR=6.9							
VNA2	Neumayer--Watz	97.38	182	P	P	16 52 01.0	-0.5
KURK	Kurchatov	97.86	320ce	P	P	16 52 02.6	-1.4
KURK				pmax	pmax		
comp=Z,6.0nm,1.0s							
KSH	Kashi	98.00	309	P	Pdif	16 52 09.1	+4.0
KSH				pP	pP	16 53 00.3	+1.6
KSH				PP	PP	16 56 14.4	+7.2
KSH				S	S	17 03 13.0	+0.3
KSH				sS	sS	17 04 43.2	-4.4
KSH				pmax	pmax		
comp=Z,120nm,7.8s							
KSH				LR	LR		
comp=Z,570nm,17.8s							
KSH				LR	LR		
comp=Z,670nm,18.3s							
KSH				LR	LR		
comp=Z,640nm,19.0s							
FFC	Flin Flon	100.25	36	iP	Pdif	16 52 14.6	0.0
ARCES	ARCESS Array B	117.31	346	PKIKP	PKPdf	16 57 12.2	0.0
ARCES	ARCESS Array B	117.31	346	PKP	PKPdf	16 57 11.5	-0.7
comp=Z,8.2nm,0.7s,baz=80,slow=2.2,SNR=31							
ARCES	ARCESS Array B	117.31	346		PKPdf	16 57 12.2	0.0
KLMR	Klimovskoe	117.86	334	ePKIKP	PKPdf	16 57 11.7	-1.7
KLMR				pmax	pmax		
comp=Z,15nm,1.3s							
KLMR	Klimovskoe	117.86	334	ePKPdf	PKPdf	16 57 11.8	-1.7
KLMR				AMP		16 57 13.7	
comp=Z,15nm,1.3s							
KLMR				epPKPdf	pPKPdf	16 58 14.7	+5.1
AKT	Akhty	119.42	311	iPKIKP	PKiKP	16 57 17.8	+0.5
AKT				e		16 58 19.9	
AKT				e		16 58 47.7	
AKT				pmax	pmax		
comp=Z,5.0nm,0.7s							
VRH	Novokhopyorsk	120.77	323	ePKIKP	PKPdf	16 57 18.5	-0.8
VRH				pmax	pmax		
comp=Z,10.0nm,0.7s							
LPSR	Galich'ya Gora	121.83	325	ePKIKP	PKiKP	16 57 21.6	+0.1
LPSR				pmax	pmax		
comp=Z,20nm,1.0s							
ZEI	Tsey	121.91	313	iPKIKP	PKPdf	16 57 21.7	-0.4
ZEI				pmax	pmax		
comp=Z,4.0nm,0.8s							
OBN	Obninsk	121.96	329⇓	iPKIKP	PKPdf	16 57 21.5	0.0
OBN				e		16 58 58.0	
OBN				pmax	pmax		
comp=Z,9.0nm,1.0s							
VSR	Storozhevoye	122.25	324	ePKIKP	PKPdf	16 57 21.2	-1.0
VSR				pmax	pmax		
comp=Z,10.0nm,0.7s							
VORD	Divnogorie	122.28	324	ePKIKP	PKPdf	16 57 21.5	-0.7
VORD				pmax	pmax		
comp=Z,9.0nm,1.0s							
KBZ	Khabaz	122.38	315	PKP	PKPdf	16 57 22.4	-0.3
comp=Z,3.0nm,0.8s,baz=125,slow=1.4,SNR=8.4							
KIV	Kislovodsk	122.46	315	ePKIKP	PKPdf	16 57 22.7	-0.3
KIV				pmax	pmax		
comp=Z,10.0nm,0.9s							
FIA1	FINESS Array S	122.83	339		PKPdf	16 57 22.7	-0.3
FINES	FINESS Array B	122.83	339	PKIKP	PKPdf	16 57 22.7	-0.3
FINES	FINESS Array B	122.83	339	PKP	PKPdf	16 57 22.2	-0.8
comp=Z,8.3nm,0.8s,baz=64,slow=2.5,SNR=30							
FINES	FINESS Array B	122.83	339		PKPdf	16 57 22.7	-0.3
RAYN	Ar Rayn	123.16	290	PKIKP	PKiKP	16 57 25.4	+0.3
RAYN	Ar Rayn	123.16	290		PKiKP	16 57 25.4	+0.3
SDV	Santo Domingo	123.54	87		PKPdf	16 57 25.8	-0.2
BOSA	Boshof	125.24	222	PKP	PKPdf	16 57 28.9	0.0
comp=Z,2.2nm,0.7s,baz=61,slow=2.8,SNR=7.2							
BOSA	Boshof	125.24	222		PKiKP	16 57 29.7	+0.5
NB2	NORSAR Subarra	127.68	345	PKPdf	PKPdf	16 57 31.9	-0.5
comp=Z,17nm,1.4s,baz=31,slow=1.9							
NB2	NORSAR Subarra	127.68	345	PKPdf	PKPdf	16 57 31.9	-0.5
baz=31,slow=1.9							
NOA	NORSAR Array B	127.68	345	PKP	PKPdf	16 57 31.5	-0.9
comp=Z,3.5nm,0.8s,baz=33,slow=2.0,SNR=15							
AKASG	Malin Array Be	128.04	327	PKP	PKPdf	16 57 32.2	-1.1
comp=Z,3.1nm,0.8s,baz=56,slow=2.4,SNR=8.2							
BRTR	Keskin Array B	130.21	313	PKP	PKPdf	16 57 37.3	-0.7
comp=Z,1.5nm,0.6s,baz=138,slow=5.5,SNR=9.5							
BURAR	Bucovina Array	131.94	326		PKiKP	16 57 43.1	+1.1
KOLS	Kolonicke sedl	132.71	329	ePKIKP	PKiKP	16 57 43.5	+0.1
KOLS	Kolonicke sedl	132.71	329	ePKP	PKiKP	16 57 43.5	+0.1
LANS	Liptovska Anna	133.97	330	ePKIKP	PKiKP	16 57 45.6	-0.4
LANS	Liptovska Anna	133.97	330	ePKP	PKiKP	16 57 45.6	-0.4
MORC	Moravsky Berou	134.43	332	ePKP	PKPdf	16 57 46.2	+0.7
CHVC	Chvalec	134.50	334	ePKPDF	PKPdf	16 57 46.3	+0.7
CHVC				eSKP		17 00 57.4	
DPC	Dobruska-Polom	134.56	334	ePKIKP	PKiKP	16 57 47.3	+0.1
DPC	Dobruska-Polom	134.56	334	ePKPDF	PKiKP	16 57 47.3	+0.1
VYHS	Vyhne	134.72	330	ePKIKP	PKPdf	16 57 46.0	0.0
VYHS	Vyhne	134.72	330	ePKP	PKPdf	16 57 46.0	0.0
VYHS				eSKPDF		17 00 58.8	
JAVC	Velka Javorina	135.02	331	ePKP	PKiKP	16 57 48.5	+0.3
BRG	Berggiesshubel	135.16	336	ePKP	PKiKP	16 57 47.6	-0.7
comp=Z,7.7nm,0.9s							
BRG				iSKP		17 00 60.0	
comp=Z,39nm,1.7s							
BRG	Berggiesshubel	135.16	336	ePKIKP	PKiKP	16 57 47.6	-0.7
BRG				pmax	pmax		
comp=Z,8.0nm,1.0s							
BRG				pmax	pmax		
comp=N,39nm,1.7s							
PVCC	Panska Ves	135.17	335	ePKIKP	PKiKP	16 57 48.8	+0.5
PVCC	Panska Ves	135.17	335	ePKPDF	PKiKP	16 57 48.8	+0.5
CLL	Collm	135.19	337⇓	iPKIKP	PKiKP	16 57 48.1	-0.2
CLL				e		16 58 48.0	
CLL				pmax	pmax		
comp=Z,10.0nm,1.0s							
CLL	Collm	135.19	337⇓	iPKPdf	PKiKP	16 57 48.1	-0.2
comp=Z,10.0nm,1.0s							
CLL				e		16 58 48.0	
CLL				ePP	PP	17 00 22.0	-2.4
CLL				iSKPdf	SKPbc	17 00 58.5	+1.6
comp=Z,39nm,1.8s							
VRAC	Vranov	135.20	332	ePKP	PKPdf	16 57 47.4	+0.5
KRUC	Moravsky	135.47	332	ePKP	PKPdf	16 57 48.0	+0.6
GOPC	GO Pecny, Ondr	135.54	334	ePKIKP	PKiKP	16 57 49.0	-0.1
GOPC	GO Pecny, Ondr	135.54	334	ePKPDF	PKiKP	16 57 49.0	-0.1
MODS	Modra-Piesok	135.55	331	ePKIKP	PKPdf	16 57 47.7	+0.1
MODS	Modra-Piesok	135.55	331	ePKP	PKPdf	16 57 47.7	+0.1
MODS				eSKPDF		17 01 00.9	
PRU	Pruhonice	135.59	335	ePKIKP	PKiKP	16 57 48.8	-0.4
PRU	Pruhonice	135.59	335	ePKPDF	PKiKP	16 57 48.8	-0.4
PBCC	Pribram	136.05	335	ePKPDF	PKiKP	16 57 50.1	-0.1
CONA	Conrad Observa	136.53	332	ePKPdf	PKPdf	16 57 47.9	-1.6
comp=Z,6.7nm,1.2s							
CONA				eSKPdf	SKiKP	17 01 04.8	-1.7
comp=Z,12nm,1.2s							
KHC	Kasperske Hory	136.65	334	ePKIKP	PKPdf	16 57 50.0	+0.3
KHC				e		17 00 35.6	
KHC	Kasperske Hory	136.65	334	ePKPDF	PKPdf	16 57 50.0	+0.3
KHC				ePP	PP	17 00 35.6	+1.9
KHC				eSKP		17 01 04.2	
GERES	GERESS Array B	136.82	334	PKhKP	PKPpre	16 57 39.6	
comp=Z,0.5nm,0.7s,baz=64,slow=3.1,SNR=6.0							
GERES				PKP	PKPdf	16 57 50.1	0.0
comp=Z,3.2nm,0.7s,baz=64,slow=2.3,SNR=19							
ARSA	Arzberg	137.18	331	eSKPdf	SKiKP	17 01 06.2	-1.6
comp=Z,6.9nm,1.1s							
MOA	Molln	137.32	333	eSKPdf	SKiKP	17 01 06.7	-1.3
comp=Z,9.5nm,1.0s							
SOKA	Soboth	137.83	331	eSKPdf	SKiKP	17 01 07.7	-1.5
comp=Z,8.9nm,1.3s							
FNA	Florina	138.08	320	PKIKP	PKPdf	16 57 52.4	-0.2
FNA	Florina	138.08	320		PKPdf	16 57 52.4	-0.2
KBA	Koelnbreinsper	138.31	333	ePKPdf	PKPdf	16 57 50.5	-2.4
comp=Z,3.0nm,0.8s							
AGG	Agios Georgios	138.40	317	PKIKP	PKPdf	16 57 53.5	+0.3
AGG	Agios Georgios	138.40	317		PKPdf	16 57 53.5	+0.3
WATA	Walderalm	138.89	334	ePKPdf	PKPdf	16 57 50.1	-3.8
comp=Z,7.5nm,0.8s							
WATA				eSKPdf	SKiKP	17 01 10.7	-0.7
comp=Z,7.1nm,1.1s							
WTTA	Wattenberg	138.92	334	ePKPdf	PKPdf	16 57 50.0	-4.1
comp=Z,16nm,1.0s							
WTTA				eSKPdf	SKiKP	17 01 11.1	-0.4
comp=Z,7.9nm,1.3s							
ABTA	Abfaltersbach	138.94	333	ePKPdf	PKPdf	16 57 47.3	-6.7
comp=Z,12nm,1.0s							
MOTA	Moosalm	139.08	335	ePKPdf	PKPdf	16 57 49.4	-4.9
comp=Z,9.3nm,1.0s							
MOTA				eSKPbc	SKiKP	17 01 11.3	-0.5
comp=Z,12nm,1.2s							
RETA	Reutte	139.11	335	ePKPdf	PKPdf	16 57 51.0	-3.3
comp=Z,7.3nm,1.2s							
RETA				eSKPbc	SKiKP	17 01 11.3	-0.5
comp=Z,6.0nm,1.0s							
SQTA	Sankt Quirin	139.13	334	ePKPdf	PKPdf	16 57 51.6	-2.8
comp=Z,7.6nm,0.9s							
SQTA				eSKPbc	SKiKP	17 01 11.8	-0.1
comp=Z,5.3nm,0.7s							
SSB	Saint Sauveur	143.34	339	PKIKP	PKPbc	16 58 00.2	+0.6
SSB	Saint Sauveur	143.34	339		PKPbc	16 58 00.2	+0.6
KEST	Kesra	148.62	323	PKPbc	PKPbc	16 58 14.8	-0.4
comp=Z,40nm,0.9s,baz=269,slow=1.6,SNR=36							
KEST	Kesra	148.62	323		PKiKP	16 58 16.0	-0.5
CMAH	Djebel Manchou	149.06	326	P	PKPbc	16 58 15.7	-0.5
CAEH	'Ain El Ouahch	149.25	327	P	PKiKP	16 58 17.3	-0.4
ABSA	Djebel Ababsia	149.29	326	P	PKPbc	16 58 17.1	+0.3
PBRG	Braganca	149.57	350	ePKPbc	PKPbc	16 58 17.3	0.0
PBRG	Braganca	149.57	350	ePKPab	PKPab	16 58 22.7	-0.2
CKFL	Kef-Lekhel	149.61	327	P	PKPbc	16 58 17.7	+0.1
CASM	Ain Smara	149.83	327	P	PKPbc	16 58 18.3	+0.2
DFRA	Djebel Bou Aff	149.94	328	P	PKiKP	16 58 19.1	-0.1
CTEI	Djebel Teioual	150.03	327	P	PKPbc	16 58 18.9	+0.2
POLO	Lamas de Olo	150.15	352	ePKPbc	PKiKP	16 58 19.4	-0.1
POLO	Lamas de Olo	150.15	352	ePKPab	PKPab	16 58 26.7	+1.3
PVRL	Vila Real	150.24	352	ePKPbc	PKiKP	16 58 19.5	-0.1
PVRL	Vila Real	150.24	352	ePKPab	PKPab	16 58 26.8	+1.1
MVO	Moncorvo	150.24	351	ePKPbc	PKiKP	16 58 19.4	-0.2
SET	Setif	150.45	328	P	PKiKP	16 58 21.0	+0.7
CKHR	Kef el Ahmar	150.53	328	P	PKPbc	16 58 19.9	+0.1
PVIS	Viseu	150.81	352	ePKPbc	PKiKP	16 58 20.7	-0.1
PVIS	Viseu	150.81	352	ePKPab	PKPab	16 58 28.1	0.0
ESDC	Sonseca Array	151.04	345	PKP	PKPdf	16 58 14.5	-0.4
comp=Z,10.0nm,0.8s,baz=344,slow=4.8,SNR=4.7							
ESDC				PKPbc	PKPbc	16 58 20.6	-0.2
comp=Z,11nm,0.8s,baz=19,slow=2.3,SNR=47							
ESDC				PKPab	PKPab	16 58 29.1	0.0
comp=Z,6.4nm,0.6s,baz=16,slow=4.2,SNR=22							
ESDC	Sonseca Array	151.04	345		PKiKP	16 58 21.5	+0.1
ESDC					PKPab	16 58 30.0	+0.9
MTE	Manteigas	151.07	351	ePKPbc	PKiKP	16 58 21.4	0.0
PAB	San Pablo	151.26	346	PKIKP	PKiKP	16 58 21.8	0

JSMT	Sammumatsuo	0.27	80	⇑P	Pn	16 39 23.3	0.0
JSMT				eS	Sn	16 39 32.5	+0.2
TOK	Tokyo	0.31	287	P	Pn	16 39 23.3	-0.2
TOK				S	Sn	16 39 32.3	-0.3
BSO3	Boso 3	0.86	158	⇑P	Pn	16 39 28.3	0.0
BSO3				S	Sn	16 39 41.7	+0.7
JOD2	Odawara 2	0.91	249	⇓P	Pn	16 39 28.3	-0.9
JOD2				S	Sn	16 39 40.3	-2.3
JAG	Ashikaga	0.99	327	⇓P	Pn	16 39 29.4	-0.7
JAG				eS	Sn	16 39 42.2	-2.0
JIM2	Oshima 3	1.04	213	P	Pn	16 39 29.8	-1.0
JIM2				S	Sn	16 39 43.7	-1.8
JRY	Ryogami san	1.08	293	⇓P	Pn	16 39 31.0	-0.2
BSO1	Boso 1	1.18	143	P	Pn	16 39 32.0	+0.2
BSO1				S	Sn	16 39 47.9	+0.5
JFNN	Fujinakano	1.24	251	⇓P	Pn	16 39 32.8	-0.4
JFNN				S	Sn	16 39 48.3	-1.4
JYN	Shimob	1.29	266	⇓P	Pn	16 39 33.4	-0.5
JYN				S	Sn	16 39 49.5	-1.5
JIZS	Izushimoda	1.34	230	⇓P	Pn	16 39 34.0	-0.5
JIZS				S	Sn	16 39 50.5	-1.6
JKT	Katashina	1.36	329	⇓P	Pn	16 39 34.2	-0.6
JKT				S	Sn	16 39 51.1	-1.5
MJAR	Matsushiro Arr	1.81	302	P	Pn	16 39 40.2	-0.4
	5.6nm,0.3s,baz=151,slow=14,SNR=403						
MJAR				S	Sn	16 40 04.1	+1.2
	4.2nm,0.3s,baz=95,slow=39,SNR=8.1						
MAT	Matsushiro	1.82	302	P	Pn	16 39 40.9	+0.3
MAT				S	Sn	16 40 04.6	+1.6
JNU	Nakatsue	8.03	255	P	Pn	16 41 05.6	+0.5
	0.2nm,0.3s,baz=62,slow=15,SNR=3.2						
JCJ	Chichijima	8.66	168	P	Pn	16 41 11.2	-2.4
	4.4nm,0.3s,baz=294,slow=23,SNR=8.9						
JCJ				S	Sn	16 42 41.7	-7.9
	3.9nm,0.3s,baz=294,slow=19,SNR=3.6						
ASAJ	Asahikawa	8.72	12	P	Pn	16 41 11.4	-2.9
	0.3nm,0.3s,baz=263,slow=13,SNR=7.1						
ASAJ				S	Sn	16 42 45.4	-5.5
	0.1nm,0.3s,baz=18,slow=20,SNR=2.2						
KSRS	Korea Array	9.99	284	P	Pn	16 41 34.5	+2.7
	0.1nm,0.3s,baz=102,slow=14,SNR=5.9						
H11N2	WAKE ISLAND Hy	28.37	117	T		17 14 42.8	
	baz=308						
H11N1	WAKE ISLAND Hy	28.38	117	T	T	17 14 52.0	
	baz=308,slow=74						
H11N3	WAKE ISLAND Hy	28.39	117	T	T	17 14 51.3	
	baz=308,slow=74						
ZALV	Zalesovo Beam	42.13	314	P	P	16 46 56.6	+1.4
	0.4nm,0.4s,baz=76,slow=12,SNR=3.8						
MKAR	Makanchi Array	44.01	303	P	P	16 47 12.1	+1.6
	0.7nm,0.5s,baz=87,slow=9.4,SNR=10						
WRA	Warramunga Arr	55.51	187	P	P	16 48 38.7	+0.9
	0.7nm,0.4s,baz=1.2,slow=7.5,SNR=7.9						
ASAR	Alice Springs	59.23	187	P	P	16 49 05.3	+1.3
	0.2nm,0.5s,baz=20,slow=11,SNR=3.3						
ARCES	ARCESS Array B	64.97	339	P	P	16 49 43.0	+1.1
	1.9nm,0.9s,baz=44,slow=9.2,SNR=3.5						
FINES	FINESS Array B	69.59	332	P	P	16 50 12.7	+1.6
	1.3nm,0.8s,baz=70,slow=4.6,SNR=8.8						
NOA	NORSAR Array B	75.10	337	P	P	16 50 45.9	+1.9
	0.6nm,0.8s,baz=35,slow=3.9,SNR=3.1						

ISCJB ***02*** *16:56:31.6±0.7,45°.59N±0°.03×26°.43E±0°.04,h144km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=25.8*
BUC ***02*** *16:56:31.9±0.5,45°.59N×26°.43E,h144km±3km,ml3.5/27, Error ellipse: s-maj=2.9km s-min=2.4km az=26.0*
SOF ***02*** *16:56:32.0,45°.67N×26°.29E,h33km*
ISC 02 16:56:31.2±1.5,45°.60N±0°.03×26°.42E±0°.03,h151km±8km, n71,σ0°.74/117,50C-66D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	Bisoca	0.21	105	⇑P	Pn	16 56 52.2	+0.5
BISRR				⇑S	Sn	16 57 08.1	+0.8
BISRR	Bisoca	0.21	105	⇑P	Pn	16 56 52.2	+0.5
BISRR				⇑S	Sn	16 57 08.1	+0.8
BISRR				AML	AML	16 57 10.7	
PLOR	Plostina	0.30	33	⇑P	Pn	16 56 51.6	-0.3
PLOR				⇓S	Sn	16 57 06.4	-1.3
PLOR	Plostina	0.30	33	⇑P	Pn	16 56 51.6	-0.3
PLOR				⇓S	Sn	16 57 06.4	-1.3
PLOR				AML	AML	16 57 08.4	
VRI	Vrincioaia	0.34	39	⇑P	Pn	16 56 51.8	-0.2
VRI				⇓S	Sn	16 57 07.0	-0.9
VRI	Vrincioaia	0.34	39	⇑P	Pn	16 56 51.8	-0.2
VRI				⇓S	Sn	16 57 07.0	-0.9
VRI				AML	AML	16 57 10.0	
MLR	Muntele Rosu	0.35	252	⇑P	Pn	16 56 52.1	-0.1
MLR				⇑S	Sn	16 57 07.6	-0.6
MLR	Muntele Rosu	0.35	252	⇑P	Pn	16 56 52.1	-0.1
MLR				⇑S	Sn	16 57 07.6	-0.6
MLR				AML	AML	16 57 08.5	
GRER		0.45	119	⇑S	Sn	16 57 06.7	-1.8
GRER		0.45	119	⇑S	Sn	16 57 06.7	-1.8
GRER				AML	AML	16 57 12.1	
ODBI	Odobesti	0.47	70	⇓P	Pn	16 56 53.2	+0.8
ODBI				⇑S	Sn	16 57 09.3	+0.6
ODBI	Odobesti	0.47	70	⇓P	Pn	16 56 53.2	+0.8
ODBI				⇑S	Sn	16 57 09.3	+0.6
ODBI				AML	AML	16 57 11.4	
ISR	Istrita	0.49	170	⇓P	Pn	16 56 53.3	+0.6
ISR				⇑S	Sn	16 57 08.2	-0.9
ISR	Istrita	0.49	170	⇓P	Pn	16 56 53.3	+0.6
ISR				⇑S	Sn	16 57 08.2	-0.9
ISR				AML	AML	16 57 12.3	
PETR	Petresti	0.58	78	⇑P	Pn	16 56 53.7	+0.7
PETR				⇓S	Sn	16 57 10.2	+0.5
PETR	Petresti	0.58	78	⇑P	Pn	16 56 53.7	+0.7
PETR				⇓S	Sn	16 57 10.2	+0.5
PETR				AML	AML	16 57 11.4	
SECR		0.62	204	⇑P	Pn	16 56 53.8	+0.4
SECR				⇓S	Sn	16 57 11.1	+0.9
SECR		0.62	204	⇑P	Pn	16 56 53.8	+0.4
SECR				⇓S	Sn	16 57 11.1	+0.9
OZUR		0.66	318	⇓P	Pn	16 56 53.0	-0.6
OZUR		0.66	318	⇓P	Pn	16 56 53.0	-0.6
OZUR				AML	AML	16 57 29.2	
PLAR	PLOIESTI	0.74	202	⇑P	Pn	16 56 54.6	+0.5
PLAR	PLOIESTI	0.74	202	⇑P	Pn	16 56 54.6	+0.5
PGOR	Pogoanele	0.80	150	⇓S	Sn	16 57 13.1	+1.0
PGOR	Pogoanele	0.80	150	⇓S	Sn	16 57 13.1	+1.0
PGOR				AML	AML	16 57 14.4	
TUDR		0.88	90	⇓P	Pn	16 56 55.9	+0.9
TUDR				⇑S	Sn	16 57 13.5	+0.3
TUDR		0.88	90	⇓P	Pn	16 56 55.9	+0.9
TUDR				⇑S	Sn	16 57 13.5	+0.3
TUDR				AML	AML	16 57 13.9	
TESR	Tescani	0.92	10	⇓P	Pn	16 56 55.0	-0.4
TESR				⇓S	Sn	16 57 12.5	-1.5
TESR	Tescani	0.92	10	⇓P	Pn	16 56 55.0	-0.4
TESR				⇓S	Sn	16 57 12.5	-1.5
SULR		0.93	187	⇓P	Pn	16 56 55.7	+0.2
SULR				⇓S	Sn	16 57 14.8	+0.8
SULR		0.93	187	⇓P	Pn	16 56 55.7	+0.2
SULR				⇓S	Sn	16 57 14.8	+0.8
SULR				AML	AML	16 57 15.1	
BIR	Birlad	1.07	51	⇑S	Sn	16 57 15.9	-0.3
BIR	Birlad	1.07	51	⇑S	Sn	16 57 15.9	-0.3
BIR				AML	AML	16 57 16.6	
LEHL	Lehliu	1.16	166	⇓S	Sn	16 57 18.0	+0.5
LEHL	Lehliu	1.16	166	⇓S	Sn	16 57 18.0	+0.5
LEHL				AML	AML	16 57 19.3	
AMRR	Amara	1.19	147	⇓S	Sn	16 57 18.3	+0.4
AMRR	Amara	1.19	147	⇓S	Sn	16 57 18.3	+0.4
AMRR				AML	AML	16 57 18.6	
ARR	Arges	1.28	260	⇑P	Pn	16 56 59.2	+0.6
ARR	Arges	1.28	260	⇑P	Pn	16 56 59.2	+0.6
ARR				AML	AML	16 57 00.3	
CFR	Carcaliu	1.28	109	⇓P	Pn	16 56 58.7	+0.1
CFR				⇑S	Sn	16 57 18.8	-0.7
CFR	Carcaliu	1.28	109	⇓P	Pn	16 56 58.7	+0.1
CFR				⇑S	Sn	16 57 18.8	-0.7
CFR				AML	AML	16 57 20.1	
BUC1	Bucharest	1.28	193	⇓S	Sn	16 57 19.4	-0.2
BUC1	Bucharest	1.28	193	⇓S	Sn	16 57 19.4	-0.2
BUC1				AML	AML	16 57 20.7	
BIZ	Bicaz	1.35	351	⇓P	Pn	16 57 00.0	+0.7
BIZ				⇑S	Sn	16 57 21.0	+0.1
BIZ	Bicaz	1.35	351	⇓P	Pn	16 57 00.0	+0.7
BIZ				⇑S	Sn	16 57 21.0	+0.1
HARR	Harsova	1.41	130	⇓P	Pn	16 57 00.2	+0.3
HARR	Harsova	1.41	130	⇓P	Pn	16 57 00.2	+0.3
HUMR	Humele	1.48	224	⇑P	Pn	16 57 00.3	-0.3
HUMR				⇓S	Sn	16 57 22.3	-0.9
HUMR	Humele	1.48	224	⇑P	Pn	16 57 00.3	-0.3
HUMR				⇓S	Sn	16 57 22.3	-0.9
HUMR				AML	AML	16 57 22.8	
TLB	Topalu	1.53	131	⇓P	Pn	16 57 01.5	+0.3
TLB				⇓S	Sn	16 57 22.9	-1.2
TLB	Topalu	1.53	131	⇓P	Pn	16 57 01.5	+0.3
TLB				⇓S	Sn	16 57 22.9	-1.2
TLB				AML	AML	16 57 24.7	
TOPG	Topolog	1.56	117	⇓P	Pn	16 57 01.4	0.0
TOPG				⇓S	Sn	16 57 23.3	-1.3
TOPG	Topolog	1.56	117	⇓P	Pn	16 57 01.4	0.0
TOPG				⇓S	Sn	16 57 23.3	-1.3
TOPG				AML	AML	16 57 25.2	
COPA	Copaceanca	1.70	211	⇑P	Pn	16 57 02.8	-0.2
COPA				⇓S	Sn	16 57 26.4	-0.9
COPA	Copaceanca	1.70	211	⇑P	Pn	16 57 02.8	-0.2
COPA				⇓S	Sn	16 57 26.4	-0.9
COPA				AML	AML	16 57 27.8	
CVDA	Cernavoda	1.71	137	⇑P	Pn	16 57 03.5	+0.4
CVDA				⇑S	Sn	16 57 27.2	-0.3
CVDA	Cernavoda	1.71	137	⇑P	Pn	16 57 03.5	+0.4
CVDA				⇑S	Sn	16 57 27.2	-0.3
TLCR		1.74	103	⇓P	Pn	16 57 03.9	+0.6
TLCR				⇓S	Sn	16 57 27.9	-0.1
TLCR		1.74	103	⇓P	Pn	16 57 03.9	+0.6
TLCR				⇓S	Sn	16 57 27.9	-0.1
TLCR				AML	AML	16 57 29.4	
ICOR	Ion Corvin	1.78	146	⇓P	Pn	16 57 04.6	+0.8
ICOR				⇑S	Sn	16 57 28.5	-0.4
ICOR	Ion Corvin	1.78	146	⇓P	Pn	16 57 04.6	+0.8
ICOR				⇑S	Sn	16 57 28.5	-0.4
ICOR				AML	AML	16 57 31.3	
TIRR	Tirgusor	1.82	128	⇓P	Pn	16 57 04.6	+0.4
TIRR				⇓S	Sn	16 57 28.4	-1.2
TIRR	Tirgusor	1.82	128	⇓P	Pn	16 57 04.6	+0.4
TIRR				⇓S	Sn	16 57 28.4	-1.2
TIRR				AML	AML	16 57 30.1	
LOT	Lotru	1.87	266	⇓P	Pn	16 57 06.0	+1.0
LOT				⇓S	Sn	16 57 31.9	+1.0
LOT	Lotru	1.87	266	⇓P	Pn	16 57 06.0	+1.0
LOT				⇓S	Sn	16 57 31.9	+1.0
LOT				AML	AML	16 57 34.0	
MFTR	Murfatlar	2.01	134	⇑S	Sn	16 57 33.2	-0.4
MFTR	Murfatlar	2.01	134	⇑S	Sn	16 57 33.2	-0.4
BURAR	Bucovina Array	2.18	338	⇓P	Pn	16 57 09.6	+1.1
BURAR	Bucovina Array	2.18	338	⇓P	Pn	16 57 09.6	+1.1
GZR	Gura Zlata	2.57	267	⇑P	Pn	16 57 13.1	-0.2
GZR				⇑S	Sn	16 57 44.7	-1.0
GZR	Gura Zlata	2.57	267	⇑P	Pn	16 57 13.1	-0.2
GZR				AML	AML	16 57 16.0	
GZR				⇑S	Sn	16 57 44.7	-1.0
MPEP	Malo Peshtene	2.95	221	P	Pn	16 57 17.9	-0.1

IDC ***02*** *17:18:17.7±0.5,2°.12N×92°.46E,h0km,mb4.3/25, mb1 4.4/29,mb1mx4.3/47,mbtmp4.3/29,ML4.4/4,MS3.9/2, Ms1 3.9/2,ms1mx3.3/36,Error ellipse: s-maj=13.2km s-min=11.7km az=58.0*
ISCJB ***02*** *17:18:20.8±0.2,2°.10N±0°.03×92°.52E±0°.02,h33km, mb4.4/35,MS4.2/4,Error ellipse: s-maj=4.7km s-min=2.7km az=34.9*
DJA ***02*** *17:18:21.8±0.6,2°N±4°×9°2E±°,h40km±11km,M5.4/28, mB5.7/16,mb5.4/28,MLv5.7/11,Mw(mB)5.3/16*
NEIC ***02*** *17:18:22.3±1.8,2°.15N±0°.06×92°.48E±0°.05,h30km±4km, mb4.7/74*
ISC 02 17:18:23.0±0.3,2°.22N±0°.05×92°.52E±0°.04,h35km,n211, σ1°.66/220,mb4.6/67,MS4.1/4,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	3.81	87	P	Pn	17 19 19.4	+0.2
SNSI				S	Sn	17 19 59.2	-3.7
MLSI	Meulaboh, Aceh	4.38	62	P	Pn	17 19 28.4	+1.3
MLSI				S	Sn	17 20 15.3	-1.7
TPTI		4.77	77	P	Pn	17 19 32.9	+0.4
TPTI				S	Sn	17 20 22.2	-4.4
CMBY	CAMPBELL BAY	4.96	16	eP	Pn	17 19 37.2	+2.1
CMBY				eS	Sn	17 20 27.5	-3.8
GSI	Gunungsitoli	5.14	100	P	Pn	17 19 37.4	-0.1
GSI				S	Sn	17 20 30.4	-5.2
GSI	Gunungsitoli	5.14	100		Pn	17 19 38.3	+0.8
GSI				Sn	Sn	17 20 33.4	-2.3
LHMI	Lhok Sumawe	5.34	56	P	Pn	17 19 41.0	+0.8
LHMI	Lhok Sumawe	5.34	56		Pn	17 19 42.8	+2.5
PBSI	Pulau Batu	6.19	111	P	Pn	17 19 51.4	-0.6
	765nm,0.6s,8μm4.1nm						
RPSI	Rantau Prapat	6.42	86		Pn	17 19 56.2	+1.1
RPSI	Rantau Prapat	6.42	86		Pn	17 19 56.4	+1.2
RPSI					Sn	17 21 02.7	-4.5
PSI	Prapat	6.43	85	Pn	Pn	17 19 56.4	+1.0
	30nm,0.3s,baz=273,slow=6.8,SNR=98						
PSI				Sn	Sn	17 21 02.7	-4.9
	27nm,0.3s,baz=180,slow=10,SNR=5.0						
SISI	Saibi	7.46	118	P	Pn	17 20 08.7	-0.7
PKDT	Phuket	8.08	46	P	Pn	17 20 18.8	+0.8
	913nm,0.9s,12μm4.0nm						
PDSI	Padang	8.53	111	P	Pn	17 20 23.7	-0.5
KULM	Kulim	8.67	69		Pn	17 20 26.6	+0.6
KULM				Sn	Sn	17 21 59.3	-3.4
BKNI	Bangkinang	8.73	102	P	Pn	17 20 27.3	+0.5
	101nm,0.4s,4μm						
BKNI	Bangkinang	8.73	102	Pn	Pn	17 20 26.8	0.0
IPM	Ipoh	8.79	75		Pn	17 20 28.6	+0.9
PPSI	Pulau Pagai	8.98	123	P	Pn	17 20 29.6	-0.7
	1μm,0.6s,11μm						
PBA	Port Blair	9.38	1	eP	Pn	17 20 36.2	+0.5
PBA				eS	Sn	17 22 09.5	-10
PBA				IAML		17 22 20.3	
	comp=E,440nm,0.6s						
PBA				IAML		17 22 22.2	
	comp=N,626nm,0.4s						
PBA	Port Blair	9.38	1		Pn	17 20 36.7	+1.0
KRJI	Kerinci	9.92	116	P	Pn	17 20 44.5	+1.3
DGPR	DIGLIPUR	10.89	2	eP	Pn	17 20 56.5	0.0
DGPR				eS	Sn	17 22 47.5	-10
DGPR				IAML		17 22 58.5	
	comp=E,443nm,0.1s						
DGPR				IAML		17 22 59.9	
	comp=N,350nm,0.6s						
MASI	Maura Aman, Be	11.08	119	P	Pn	17 20 58.7	-0.5
	comp=N,304nm,0.6s						
MYKOM	Kota Tinggi	11.34	92		Pn	17 21 02.6	0.0
TPRI	Tanjung Pinang	12.08	96	P	Pn	17 21 13.5	+0.8
	comp=N,27nm,0.5s						
MNAI	Manna	12.31	122	P	Pn	17 21 15.3	-0.7
	comp=N,263nm,0.5s,comp=N,6μm						
MNAI	Manna	12.31	122		Pn	17 21 15.2	-0.7
DSRI	Dabo	12.36	102	P	Pn	17 21 16.4	-0.1
LHSI	Lahat	12.54	119	P	Pn	17 21 19.3	+0.3
	comp=N,132nm,0.6s,comp=N,1μm						
PALK	Pallekele	12.79	294	Pn	Pn	17 21 20.8	-1.8
	comp=N,7.1nm,0.3s,baz=116,slow=11,SNR=47						
PALK				Sn	Sn	17 23 29.9	-14
	comp=N,3.1nm,0.3s,baz=116,slow=11,SNR=5.8						
LWLI	Liwa	13.59	122	P	Pn	17 21 32.8	-0.7
	comp=N,103nm,0.5s						
KLSI		14.00	119	P	Pn	17 21 36.9	-2.1
	comp=N,57nm,0.8s						
KASI	Kota Agung	14.23	123	P	Pn	17 21 39.1	-3.0
	comp=N,82nm,0.7s						
CGJI	Cibinong	15.81	124	P	Pn	17 22 02.1	-1.0
	comp=N,122nm,0.7s,comp=N,1μm						
MDRS	Chennai	16.24	312	eP	Pn	17 22 07.8	-0.8
MDRS				IAmb	IAmb	17 22 09.5	
	comp=Z,97nm,1.1s						
CHAI	Chaiyaphum	16.49	34	P	Pn	17 22 12.7	+0.9
	comp=Z,45μm,0.9s,comp=Z,540μm						
PBKT	Sadao Pong	16.51	30	P	Pn	17 22 12.6	+0.6
MHMT	Maesarieng	16.72	18	P	P	17 22 18.9	+2.2
	comp=Z,43nm,0.8s						
CM31	Chiang Mai Arr	17.32	21	P	Pn	17 22 22.2	0.0
CMAR	Chiang Mai Arr	17.32	21	P	Pn	17 22 22.4	+0.1
	comp=Z,0.1nm,0.3s,baz=216,slow=13,SNR=27						
CMAR				S	S	17 25 41.1	-0.8
	comp=Z,0.1nm,0.3s,baz=219,slow=18,SNR=2.3						
CMAR	Chiang Mai Arr	17.32	21	P	P	17 22 23.1	-0.2
LEM	Lembang	17.55	121	P	P	17 22 25.7	-0.3
	comp=Z,0.9nm,0.3s,baz=323,slow=20,SNR=4.9						
LEM	Lembang	17.55	121	P	Pn	17 22 25.2	0.0
	comp=Z,320nm,0.8s						
CHTO	Chiang Mai	17.65	20	P	P	17 22 26.9	-0.1
CMMT	Chiang Mai	17.65	20	P	P	17 22 28.0	+1.0
	comp=Z,9.3nm,1.0s						
KSM	Kuching	17.80	92	P	Pn	17 22 27.1	-1.0
SIMRM	Sittwe	17.81	1	P	Pn	17 22 27.9	-0.3
SIMRM				IAmb	IAmb	17 22 45.7	
	comp=Z,36nm,0.5s						
VIS	Vishakhapatnam	17.85	330	i P	P	17 22 28.9	-0.2
VIS				i x	x	17 25 36.1	
CISI	Cisompet, Garu	18.09	123	P	Pn	17 22 28.8	-3.0
	comp=Z,69nm,0.8s						
CISI	Cisompet, Garu	18.09	123	P	Pn	17 22 30.3	-1.5
CISI				IAmb	IAmb	17 22 46.1	
	comp=Z,42nm,0.7s						
PAYA	Payao	18.49	22	P	Pn	17 22 41.4	+4.8
	comp=Z,52μm,0.8s,comp=Z,495μm						
DLV	T Lat	18.55	58	P	Pn	17 22 38.6	+1.2
DLV				IAmb	IAmb	17 22 52.5	
	comp=Z,72nm,1.2s						
NONG	Nongkai	18.89	33	P	Pn	17 22 42.2	+0.9
	comp=Z,0.6nm,0.8s						
KPJI	Karang Pucung	18.93	120	P	Pn	17 22 41.8	-0.1
KAAM	Kaadhehdhoo	19.59	265		Pn	17 22 49.4	-0.4
SBUM	Sibu	19.69	89	P	P	17 22 49.7	+0.3
HYB	Hyderabad	20.40	319	i P	P	17 22 53.0	-4.2
HYB				eS	S	17 26 36.0	-8.0
HYB	Hyderabad	20.40	319	eP	P	17 22 57.9	+0.7
UGM	Wanagama	20.59	119	P	P	17 22 58.8	-0.4
SLVN	Son La	22.00	29	P	P	17 23 17.4	+3.0
SLVN				IAmb	IAmb	17 23 31.8	
	comp=Z,23nm,0.7s						
H08S2	Diego Garcia H	22.25	244	T	T	17 45 27.2	
	baz=59,slow=76,SNR=4.4						
H08S3	Diego Garcia H	22.25	244	T	T	17 45 26.6	
	baz=59,slow=76,SNR=5.4						
H08S1	Diego Garcia H	22.27	244	T	T	17 45 26.6	
	baz=59,slow=76,SNR=5.2						
BOK	Bokaro	22.39	344	eP	P	17 23 20.3	+1.9
NGP	Nagpur	22.94	326	eP	P	17 23 26.1	+1.8
NGP				ex	x	17 23 41.8	
SHL	Shillong	23.22	359	eP	P	17 23 28.1	+0.8
SHL				IAmb	IAmb	17 23 34.0	
	comp=Z,32nm,1.1s						
KOHI	KOHIMA	23.42	4	eP	P	17 23 31.2	+2.1
QIZ	Qiongzhong	23.81	44	P	P	17 23 34.3	+1.4
QIZ				IAmb	IAmb	17 23 34.5	
	comp=Z,42nm,1.3s						
KKM	Kota Kinabalu	23.94	80	P	P	17 23 32.5	-1.7
KKM				IAmb	IAmb	17 23 45.8	
	comp=Z,24nm,0.8s						
KMI	Kunming	24.81	23	P	P	17 23 45.0	+2.7
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				pmax	pmax		
	comp=Z,300nm,5.7s						
ODAN	Odare	24.99	349	eP	P	17 23 45.3	+1.5
	comp=Z,45nm,0.6s						
LKP	Lekhapani	25.18	7	eP	P	17 23 46.1	+0.9
RAMN	Ramite	25.24	348	eP	P	17 23 48.2	+2.1
	comp=Z,40nm,0.6s						
TAPN	Taplejung	25.41	350	eP	P	17 23 49.3	+1.6
	comp=Z,36nm,0.7s						
BHPL	Bhopal	25.51	326	eP	P	17 23 47.3	-1.1
JIRN	Jiri	26.01	347	eP	P	17 23 54.8	+1.5
	comp=Z,54nm,0.7s						
PKI	Pulchoki	26.11	346	eP	P	17 23 55.1	+1.0
	comp=Z,28nm,0.9s						
PKIN	Phulchoki	26.12	346	eP	P	17 23 55.1	+1.0
	comp=Z,30nm,1.1s						
DMN	Daman	26.22	345	eP	P	17 23 56.5	+1.4
GUN	Gumba	26.32	347	eP	P	17 23 57.5	+1.4
	comp=Z,35nm,0.6s						
KKN	Kakani	26.35	345	eP	P	17 23 57.3	+1.1
	comp=Z,33nm,1.0s						
GKN	Gorkha	26.72	344	eP	P	17 24 00.9	+1.5
	comp=Z,67nm,1.0s						
KOLN	Koldanda	26.80	342	eP	P	17 24 01.7	+1.5
	comp=Z,43nm,0.8s						
DANN	Dangsing	27.30	343	eP	P	17 24 06.0	+1.2
	comp=Z,109nm,1.4s						
LSA	Lhasa	27.36	357	P	P	17 24 07.6	+2.0
GYA	Guiyang	27.67	28	eP	P	17 24 23.8	+16
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2	Chengdu	30.45	19	eP	P	17 24 34.0	+1.5
SMLA	Simla	32.21	335	eP	P	17 24 49.1	+1.2
ENH	Enshi	32.21	28	P	P	17 24 49.2	+1.2
DHRM	DHARAMSHALA	33.54	335	eP	P	17 25 00.6	+0.7
XAN	Xi'an	35.17	24	P	P	17 25 21.6	+7.9
XAN				pP	sP	17 25 25.7	-0.6
XAN	Xi'an	35.17	24	P	P	17 25 27.6	+14
XAN				pP	pwP	17 25 45.5	+17
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				pmax	pmax		
	comp=Z,29nm,0.8s						
XAN	Xi'an	35.17	24	P	P	17 25 14.7	+1.0
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s					

baz=332,slow=75,SNR=4.2
H01W2 Cape Leeuwin H 42.13 153 T T 18 10 47.8
baz=332,slow=75,SNR=3.7
H01W1 Cape Leeuwin H 42.13 153 T T 18 10 50.1
baz=332,slow=75,SNR=3.7
HHC Hu-ho-hao-te 42.13 22 P **P 17 26 15.8 +3.7**
HHC pmax pmax
comp=Z,4.0nm,1.0s
BTK Batken 42.50 335 P **P 17 26 16.1 +1.0**
BTK IAmb IAmb 17 26 33.9
comp=Z,17nm,0.8s
ARSB Arslanbob 42.73 338 P **P 17 26 17.9 +0.9**
ARSB IAmb IAmb 17 26 18.9
comp=Z,18nm,0.8s
UCH Uchtor 42.98 340 P **P 17 26 20.5 +1.1**
SNR=8.1
AML Almayashu 43.17 339 P **P 17 26 21.6 +0.7**
SNR=9.1
KBK Karagaybulak 43.22 341 P **P 17 26 22.4 +1.5**
SNR=5.3
BJI Beijing 43.34 27 P **P 17 26 23.2 +1.5**
BJI pP **pP 17 26 32.0 +1.3**
BJI pmax pmax
comp=Z,7.0nm,0.5s
AAK Ala-Archa 43.35 341 P **P 17 26 23.2 +1.2**
comp=Z,2.2nm,0.6s,baz=170,slow=13,SNR=6.2
AAK Ala-Archa 43.35 341 P **P 17 26 22.0 0.0**
EKS2 Erkin-Say 43.62 340 P **P 17 26 25.4 +1.2**
SNR=7.1
USP Ospenovka 43.91 341 P **P 17 26 27.2 +0.8**
SNR=7.6
KK31 Karatay Array 45.19 337 P **P 17 26 36.9 +0.3**
KK31 IAmb IAmb 17 26 37.9
comp=Z,8.7nm,0.7s
KK31 PcP **PcP 17 28 17.5 +1.0**
KKAR Karatay Array 45.19 337 P **P 17 26 36.6 0.0**
KKAR Karatay Array 45.19 337 P **P 17 26 36.8 +0.2**
KKAR IAmb IAmb 17 26 37.9
comp=Z,8.7nm,0.7s
KKAR PcP **PcP 17 28 17.7 +1.3**
MK31 Makanchi Array 45.28 350 P **P 17 26 37.7 +0.5**
MK31 IAmb IAmb 17 26 38.8
comp=Z,6.5nm,0.8s
MKAR Makanchi Array 45.28 350 P **P 17 26 38.1 +0.8**
comp=Z,7.0nm,0.7s,baz=167,slow=8.6,SNR=76
MKAR Makanchi Array 45.28 350 P **P 17 26 37.3 +0.1**
MAKZ Makanchi 45.35 350 P **P 17 26 37.9 +0.1**
WRA Warramunga Arr 46.57 120 P **P 17 26 47.6 -0.2**
comp=Z,8.5nm,0.6s,baz=299,slow=8.6,SNR=129
WRA Warramunga Arr 46.57 120 P **P 17 26 47.2 -0.6**
WRAB Tennant Creek 46.57 120 P **P 17 26 47.5 -0.4**
WRAB IAmb IAmb 17 26 48.6
comp=Z,10nm,0.8s
WB2 Warramunga Arr 46.58 120 P **P 17 26 47.9 0.0**
WB2 IAmb IAmb 17 26 48.6
comp=Z,9.6nm,0.8s
SONM Songino Array 47.00 13 P **P 17 26 52.2 +1.4**
comp=Z,3.8nm,0.8s,baz=193,slow=9.4,SNR=16
SONM Songino Array 47.00 13 P **P 17 26 51.9 +1.1**
FORT Forrest 47.14 137 P **P 17 26 52.2 +0.1**
ULN Ulaanbaatar 47.18 13 P **P 17 26 52.9 +0.6**
ULN IAmb IAmb 17 27 14.1
comp=Z,3.9nm,0.9s
GEYT Alibeck 47.50 323 P **P 17 26 56.2 +1.3**
comp=Z,7.1nm,0.7s,baz=147,slow=8.9,SNR=17
GEYT Alibeck 47.50 323 P **P 17 26 56.1 +1.2**
GYA0B ALIBECK ARRAY 47.50 323 P **P 17 26 55.2 +0.4**
AS31 Alice Springs 47.78 125 P **P 17 26 57.0 -0.2**
ASAR Alice Springs 47.78 125 P **P 17 26 56.9 -0.3**
comp=Z,1.6nm,0.6s,baz=132,slow=22,SNR=6.0
ASAR Alice Springs 47.78 125 P **P 17 26 56.8 -0.4**
KSAR Wonju Array Be 47.79 38 P **P 17 26 57.6 +0.6**
KSRS Korea Array 47.82 38 P **P 17 26 56.1 -1.1**
comp=Z,1.3nm,0.8s,baz=224,slow=7.9,SNR=5.0
OPO Ambohidratompo 49.14 243 P **P 17 27 08.5 +0.5**
comp=Z,4.3nm,0.7s,baz=62,slow=6.8,SNR=5.2
KURBB Kurchatov Arra 49.66 348 P **P 17 27 11.4 +0.2**
comp=Z,4.5nm,0.7s,baz=171,slow=7.1,SNR=25
KURK Kurchatov 49.73 348 P **P 17 27 11.9 +0.2**
KURK IAmb IAmb 17 27 13.3
comp=Z,11nm,1.2s
RAYN Ar Rayn 50.16 299 P **P 17 27 15.9 +0.4**
TLY Talaya 50.17 9 P **P 17 27 14.4 -0.7**
TLY IAmb IAmb 17 27 41.7
comp=Z,4.5nm,1.0s
ZAA0 Zalesovo Array 51.95 354 P **P 17 27 28.4 +0.1**
ZAA0 IAmb IAmb 17 27 29.9
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 51.95 354 P **P 17 27 28.9 +0.6**
comp=Z,10nm,0.7s,baz=188,slow=7.9,SNR=37
ZALV Zalesovo Beam 51.95 354 P **P 17 27 28.3 0.0**
HIA Hailar 52.33 22 P **P 17 27 30.9 -0.4**
HIA IAmb IAmb 17 27 47.8
comp=Z,11nm,1.1s
COEN Coen 52.72 109 P **P 17 27 34.2 -0.5**
COEN IAmb IAmb 17 27 56.8
comp=Z,22nm,1.6s
INU Inuyama 52.79 46 P **P 17 27 37.0 +2.0**
INU IAmb IAmb 17 27 50.4
comp=Z,10nm,0.9s
BRVK Borovoye 53.92 344 P **P 17 27 42.3 -0.6**
BRVK IAmb IAmb 17 27 43.3
comp=Z,4.6nm,0.8s
MJB9 Matsu-Tunnel 54.20 45 P **P 17 27 46.6 +1.3**
MJB9 IAmb IAmb 17 27 56.0
comp=Z,6.3nm,1.1s
MAJO Matsushiro 54.20 45 P **P 17 27 46.5 +1.2**
MAJO IAmb IAmb 17 27 56.0
comp=Z,6.4nm,1.1s
MJAR Matsushiro Arr 54.20 45 P **P 17 27 46.7 +1.4**
comp=Z,0.6nm,0.5s,baz=234,slow=3.3,SNR=5.2
MJAR LR LR 17 52 56.7
comp=Z,98nm,18.4s,baz=295,slow=38
MJAR Matsushiro Arr 54.20 45 P **P 17 27 46.2 +0.9**
USA0B Ussuriysk Arra 54.44 34 P **P 17 27 47.5 +0.6**
USA0B IAmb IAmb 17 28 02.6
comp=Z,8.1nm,1.0s
USRK Ussuriysk Ar. 54.44 34 P **P 17 27 47.0 +0.1**
comp=Z,0.6nm,0.6s,baz=246,slow=10,SNR=2.3
USRK Ussuriysk Ar. 54.44 34 P **P 17 27 47.8 +0.9**
ABKAR Abkulak array 54.49 334 P **P 17 27 47.0 -0.2**
ABKAR Abkulak array 54.49 334 P **P 17 27 47.3 +0.2**
ABKAR IAmb IAmb 17 27 48.1
comp=Z,7.3nm,0.8s
KMBO Kilima Mbogo 55.35 267 P **P 17 27 54.6 +0.3**
comp=Z,1.0nm,0.4s,baz=62,slow=12,SNR=4.1
KMBO Kilima Mbogo 55.35 267 P **P 17 27 52.8 -1.5**
PMG Port Moresby 55.65 103 P **P 17 27 57.2 +1.1**
STKA Stephens Creek 57.55 130 P **P 17 28 09.1 -0.2**
comp=Z,2.0nm,0.6s,baz=305,slow=8.4,SNR=5.0
STKA Stephens Creek 57.55 130 P **P 17 28 07.8 -1.6**
KBZ Khabaz 60.28 321 P **P 17 28 28.5 +0.4**
comp=Z,5.2nm,0.8s,baz=137,slow=5.3,SNR=18
ARU Arti 60.50 339 P **P 17 28 28.5 -0.9**
ARU IAmb IAmb 17 28 29.5
comp=Z,5.7nm,0.9s
KIV Kislovodsk 60.52 321 P **P 17 28 30.0 +0.1**
KIV IAmb IAmb 17 28 31.4
comp=Z,6.3nm,0.8s
CAN Canberra 64.59 131 P **P 17 28 58.0 +0.9**
CAN IAmb IAmb 17 29 07.8
comp=Z,6.8nm,1.2s
ARMA Armidale 64.93 125 P **P 17 28 59.9 +0.3**
BRTR Keskin Array B 64.99 313 P **P 17 28 59.8 0.0**
comp=Z,2.0nm,0.8s,baz=142,slow=7.9,SNR=14
BRTR Keskin Array B 64.99 313 P **P 17 28 59.6 -0.2**
BR131 Keskin Array S 64.99 313 P **P 17 28 59.7 0.0**
YAK Yakutsk 65.84 18 P **P 17 29 05.3 +0.7**
LSZ Lusaka 65.94 252 P **P 17 29 05.6 -0.7**
MATP Matopo 66.59 247 P **P 17 29 10.5 +0.1**
comp=Z,3.6nm,0.8s,baz=86,slow=5.8,SNR=5.7
ELL Elmali 66.91 309 P **P 17 29 12.9 +0.7**
KARP Karpathos 68.77 307 P **P 17 29 25.0 +1.2**
OBN Obninsk 69.33 329 P **P 17 29 25.6 -1.2**
KLMR Klimovskoe 70.86 336 *eP* **P 17 29 33.6 -2.4**
KLMR AMP 17 29 36.5
comp=Z,10.0nm,1.4s
BOSA Boshof 71.26 239 P **P 17 29 39.1 -0.2**
comp=Z,3.3nm,0.7s,baz=98,slow=4.5,SNR=9.2
BOSA Boshof 71.26 239 P **P 17 29 39.1 -0.2**
AKASG Malin Array Be 71.62 323 P **P 17 29 39.6 -1.2**
MLR Muntele Rosu 72.13 317 P **P 17 29 44.5 +0.2**
MLR IAmb IAmb 17 30 04.4
comp=Z,15nm,1.4s
MAW Mawson 72.71 191 P **P 17 29 46.3 -0.7**
comp=Z,1.5nm,0.8s,baz=55,slow=1.3,SNR=4.4
MAW Mawson 72.71 191 P **P 17 29 48.2 +1.2**
BURAR Bucovina Array 73.19 319 P **P 17 29 51.2 +0.7**
BUR08 Bucovina Ar. S 73.21 319 P **P 17 29 51.6 +1.0**
BUR08 IAmb IAmb 17 30 15.9
comp=Z,8.9nm,1.5s
VTS Vitosha 73.33 314 P **P 17 29 50.7 -0.7**
PETK Petropavlovsk- 73.53 35 LR LR 18 05 45.4
comp=Z,84nm,18.2s,baz=245,slow=39
KOLS Kolonicke sedl 75.42 320 *eP* **P 17 30 04.6 +1.3**
KOLS *ep*P **PcP 17 30 16.0 -0.4**
FIA1 FINESS Array S 76.96 333 P **P 17 30 12.8 +1.1**
FINES FINESS Array B 76.96 333 P **P 17 30 10.5 -1.3**
comp=Z,1.8nm,0.8s,baz=86,slow=12,SNR=4.6
FINES FINESS Array B 76.96 333 P **P 17 30 11.5 -0.3**
VYHS Vyhne 77.55 319 *eP* **P 17 30 16.3 +0.9**
VYHS *ep*P **PcP 17 30 26.8 +1.2**
VYHS *es*P **pwP 17 30 34.0 +3.3**
SYO Syowa Base 79.56 197⇑ *eP* **P 17 30 25.4 -0.6**
GERES GERESS Array B 80.97 319 P **P 17 30 35.3 +1.1**
comp=Z,2.0nm,0.8s,baz=106,slow=7.2,SNR=14
CLL Collm 81.71 321 *eP* **P 17 30 38.0 +0.1**
CLL *es*P **sP 17 30 52.0 +0.9**
KEST Kesra 83.16 306 P **P 17 30 45.6 -0.3**
comp=Z,2.1nm,0.8s,baz=30,slow=18,SNR=3.0
DAVOX Davos/Dischmat 83.34 317 P **P 17 30 46.7 -0.1**
comp=Z,1.8nm,0.5s,baz=180,slow=5.4,SNR=5.3
NOA NORSAR Array B 83.85 331 P **P 17 30 47.7 -1.1**
comp=Z,1.2nm,0.9s,baz=100,slow=5.1,SNR=2.6
PDAR Pinedale Array 130.99 22 PKP **PKiKP 17 37 32.4 -0.1**
comp=Z,0.2nm,0.6s,baz=303,slow=1.8,SNR=2.3
TXAR Lajitas Array 145.01 25 PKPbc **PKPab 17 37 56.6 -0.2**
comp=Z,0.2nm,0.3s,baz=274,slow=2.6,SNR=3.2

*SJA **02** 17:20:31.1±0.4, 28.°17S×72.°57W, h40km, ML3.3, MW3.4*
*GUC **02** 17:20:43.3±0.4, 29.°08S×71.°75W, h33km±2km, ML3.6*
ISC 02 17:20:41.1±2.2, 28.°85S±0.°07×**72.°0W**±0.°1, **h30**km, **n11,**
σ2°**50/17, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.25**	**147**	*eP*		**Pn**		**17 21 01.1**	**-1.5**
LSCH				*eS*		**Sn**		**17 21 14.4**	**-4.0**
GO04	**Tololo Observa**	**1.70**	**141**	⇑*iP*		**Pn**		**17 21 08.6**	**-0.4**
GO04				*i* S		**Sn**		**17 21 27.6**	**-2.2**
GO04				IAML				17 21 32.6	
comp=N,3μm,0.5s									
GO03	**Copiap**	**2.02**	**52**	*eP*		**Pb**		**17 21 15.6**	**-1.6**
GO03				*eS*		**Sb**		**17 21 41.7**	**-0.3**
GO03				IAML				17 21 48.9	
comp=N,286nm,0.3s									
CO02	**Combarbal**	**2.51**	**159**	*eP*		**Pn**		**17 21 21.0**	**+1.0**
CO02				*eS*		**Sn**		**17 21 49.7**	**+0.1**
CO02				IAML				17 22 01.7	
comp=E,469nm,0.4s									
ACDV	**Cuesta del Vie**	**2.86**	**118**	*eP*		**Pn**		**17 21 27.8**	**+3.0**
ACDV				IAML				17 22 10.2	
comp=Z,71nm,0.4s									
AMOG	**MOGNA**	**3.71**	**125**	*i* P		**Pn**		**17 21 40.0**	**+3.6**
AMOG				*i* S		**Sb**		**17 22 30.7**	**+0.2**
RTLL	**Cerro Villicun**	**3.95**	**130**	*i* P		**Pn**		**17 21 43.1**	**+3.4**
ROCH	**El Roble**	**4.20**	**168**	*eP*		**Pn**		**17 21 44.8**	**+1.6**
ROCH				*eS*		**Sn**		**17 22 31.8**	**+0.4**
ROCH				IAML				17 22 58.3	
comp=N,46nm,0.5s									
ROC1	**El Roble**	**4.20**	**168**	*i* P		**Pn**		**17 21 45.5**	**+2.1**
ASAL	**Salagasta**	**4.63**	**144**	*i* P		**Pn**		**17 21 53.1**	**+4.0**
APLL	**PUNTA DE LOS L**	**5.03**	**109**	*i* P		**Pn**		**17 21 56.5**	**+1.9**
APLL				IAML				17 23 03.3	
comp=Z,11nm,0.3s									

*IDC **02** 17:25:44.0±2.8, 22.°51N×12.°02W, h0km, mb3.6/1,*
mb1 3.8/3, mb1mx3.4/39, mbtmp3.6/3, ML3.4/2, MS3.6/1,
Ms1 3.7/1, ms1mx2.9/36, Error ellipse: s-maj=92.3km
s-min=35.9km az=85.0
ISC 02 17:25:46.7±1.7, **22.°6N**±0.°2×**11.°7W**±0.°2, **h10**km, **n10,**
σ1°**00/9, Mauritania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.80**	**124**	Pn		**Pn**		**17 29 30.6**	**+1.2**
0.1nm,0.3s,baz=307,slow=12,SNR=2.8									
TORD					Sn	**Sn**		**17 32 23.9**	**-0.8**
0.1nm,0.3s,baz=299,slow=23,SNR=3.6									
TIC	**Toumodi**	**17.08**	**157**	*eP*		**P**		**17 29 48.4**	**+0.9**
DBIC	**Dimbokro**	**17.11**	**156**	P		**Pn**		**17 29 44.7**	**-1.4**
0.3nm,0.3s,baz=310,slow=15,SNR=3.1									
KIC	**Kosan Boka**	**17.44**	**156**	*eP*		**P**		**17 29 52.1**	**+0.6**
0.3nm,0.2s									
LIC	**Lamto**	**17.46**	**157**	*eP*		**P**		**17 29 52.5**	**+0.8**
1.2nm,0.2s									
ESDC	**Sonseca Array**	**18.29**	**19**	LR		LR		17 37 05.8	
comp=Z,169nm,18.0s,baz=60,slow=37									
I48TN	**KESRA INFRASON**	**22.55**	**49**	*i*				19 50 00.0	
baz=244,slow=315,SNR=2.5									
GERES	**GERESS Array B**	**33.07**	**31**	P		**P**		**17 32 22.5**	**-0.1**
0.4nm,0.5s,baz=220,slow=8.6,SNR=3.7									
WRA	**Warramunga Arr**	**148.27**	**92**	PKPbc		**PKPbc**		**17 45 33.7**	**-0.2**
0.2nm,0.6s,baz=294,slow=2.2,SNR=3.6									
ASAR	**Alice Springs**	**148.38**	**99**	PKPbc		**PKPbc**		**17 45 33.9**	**-0.3**
0.6nm,1.1s,baz=282,slow=2.6,SNR=4.2									

*JMA **02** 17:28:12.1±0.2, 23.°51N×121.°51E, h1km±2km, M3.1*
*ISCJB **02** 17:28:13.5±0.3, 23.°54N±0.°01×121.°46E±0.°01, h7km±1km,*
Error ellipse: s-maj=2.4km s-min=1.5km az=34.8
*TAP **02** 17:28:13.9, 23.°55N×121.°38E, h11km, ML3.5, C*
ISC 02 17:28:13.9±0.8, **23.°54N**±0.°01×**121.°44E**±0.°02, **h15**km±4km,
n104, σ0°**88/169, 9C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.05**	**203**	⇑P		**Pg**		**17 28 17.0**	**+0.3**
HGSD				S		**Sg**		**17 28 19.1**	**+0.5**
baz=152									
EHY	**Hungye**	**0.12**	**255**	⇑*iP*		**Pg**		**17 28 16.5**	**-0.9**
EHY				*i* S		**Sg**		**17 28 18.2**	**-1.5**
baz=229									
EGFH	**Guangfu**	**0.13**	**353**	⇑*iP*		**Pg**		**17 28 17.2**	**-0.4**
EGFH				S		**Sg**		**17 28 19.3**	**-0.8**
baz=9.0									
YULB	**Yu-li**	**0.20**	**223**	⇑P		**Pg**		**17 28 18.1**	**-0.4**
YULB				S		**Sg**		**17 28 21.1**	**-0.5**
baz=215									
TWF1	**Yuli**	**0.23**	**216**	⇑*iP*		**Pg**		**17 28 18.8**	**-0.2**
TWF1				*eS*		**Sg**		**17 28 22.3**	**-0.2**
baz=210									
ESL	**Shilin**	**0.28**	**358**	⇑*iP*		**Pg**		**17 28 19.4**	**-0.4**
ESL				S		**Sg**		**17 28 22.8**	**-1.0**
baz=9.0									
VWDT	**VWDT**	**0.35**	**308**	⇓P		**Pg**		**17 28 20.7**	**-0.4**
VWDT				S		**Sg**		**17 28 24.6**	**-1.4**
baz=311									
ENLB	**Shoufeng**	**0.39**	**22**	*eP*		**Pb**		**17 28 22.1**	**-0.4**
ENLB				*eS*		**Sb**		**17 28 29.5**	**+1.2**
baz=16									
CHKT	**Chengkung**	**0.44**	**189**	*eP*		**Pb**		**17 28 23.7**	**+0.4**
CHKT				*eS*		**Sb**		**17 28 31.1**	**+1.4**
baz=172									
YUS	**Yu-Shan**	**0.46**	**264**	⇓*iP*		**Pg**		**17 28 22.7**	**-0.5**
YUS				S		**Sg**		**17 28 28.5**	**-0.9**
baz=259									
HWA	**Hwalien**	**0.46**	**19**	*eP*		**Pb**		**17 28 24.0**	**+0.3**
baz=13									
SSLB	**Suanglung**	**0.51**	**299**	⇓P		**Pg**		**17 28 23.3**	**-0.8**
SSLB				S		**Sg**		**17 28 29.3**	**-1.7**
baz=300									
ELDTW	**Lidau**	**0.52**	**229**	⇓*iP*		**Pg**		**17 28 23.5**	**-0.8**
ELDTW				S		**Sg**		**17 28 29.8**	**-1.6**
baz=216									
TWD	**Chiawan**	**0.56**	**14**	*eP*		**Pb**		**17 28 24.7**	**-0.6**
baz=10.0									
TWD				S		**Sg**		**17 28 31.9**	**-0.5**
baz=10.0									
WHYT	**Xinyi Township**	**0.56**	**286**	⇓P		**Pg**		**17 28 24.7**	**-0.4**
baz=286									
WHYT				S		**Sg**		**17 28 31.6**	**-1.0**
baz=286									
CHGB	**Renai**	**0.58**	**335**	⇓P		**Pg**		**17 28 24.9**	**-0.4**
baz=339									
CHGB				S		**Sg**		**17 28 31.8**	**-1.3**
baz=339									
WHF	**Hehuan Shan**	**0.63**	**345**	*eP*		**Pg**		**17 28 25.7**	**-0.7**
baz=349									
WHF				S		**Sg**		**17 28 33.6**	**-1.1**
baz=349									
NACB	**Ninganchiao**	**0.65**	**12**	*eP*		**Pg**		**17 28 25.5**	**-1.1**
baz=14									
ETLH	**Xiulin Townshi**	**0.67**	**3**	*eP*		**Pg**		**17 28 26.1**	**-0.9**
baz=5.0									
ETLH				*eS*		**Sb**		**17 28 35.9**	**-0.5**
baz=5.0									
DPDB	**Guoxing**	**0.69**	**316**	⇓P		**Pg**		**17 28 26.7**	**-0.6**
baz=326									
DPDB				*eS*		**Sg**		**17 28 34.8**	**-1.6**
baz=326									
CHN5	**Tsauling**	**0.71**	**275**	⇓*iP*		**Pb**		**17 28 27.8**	**-0.1**
baz=274									
CHN5				*eS*		**Sb**		**17 28 37.1**	**-0.3**
baz=274									
WJS	**Zhushan**	**0.72**	**294**	*eP*		**Pb**		**17 28 28.0**	**0.0**
baz=298									
WJS				*eS*		**Sb**		**17 28 38.1**	**+0.4**
baz=298									
TWT	**Tachien**	**0.75**	**341**	P		**Pb**		**17 28 28.4**	**-0.4**
baz=333									
TWT				S		**Sg**		**17 28 37.0**	**-1.6**
baz=333									
TDCB	**Techi**	**0.76**	**340**	P		**Pg**		**17 28 28.3**	**-0.5**
baz=333									
TDCB				*eS*		**Sg**		**17 28 37.5**	**-1.3**
baz=333									
WNT	**Mingjian**	**0.78**	**296**	⇑P		**Pb**		**17 28 29.6**	**+0.5**
baz=280									
WNT				S		**Sb**		**17 28 40.5**	**+1.2**
baz=280									
TPUB	**Ta-pu**	**0.79**	**253**	⇓P		**Pb**		**17 28 29.2**	**0.0**
baz=250									
TPUB				S		**Sb**		**17 28 39.4**	**-0.2**
baz=250									
TWG	**Pinlang**	**0.79**	**206**	*eP*		**Pb**		**17 28 29.1**	**-0.2**
baz=212									
TWG				*eS*		**Sb**		**17 28 39.7**	**-0.1**
baz=212									
TWGBT	**Beinan**	**0.79**	**205**	*eP*		**Pg**		**17 28 27.8**	**-1.5**
baz=212									
TWGBT				*eS*		**Sb**		**17 28 39.8**	**0.0**
baz=212									
CHN4	**Tsaushan**	**0.80**	**257**	⇓P		**Pb**		**17 28 29.8**	**+0.2**
baz=248									
CHN4				S		**Sb**		**17 28 40.6**	**+0.5**
baz=248									
WTP	**Ta-pu**	**0.82**	**249**	⇓*iP*		**Pb**		**17 28 29.8**	**0.0**
baz=246									
WTP				*eS*		**Sb**		**17 28 40.5**	**-0.1**
baz=246									
WGK	**Gukeng**	**0.82**	**281**	*eP*		**Pb**		**17 28 30.1**	**+0.2**
baz=279									
WGK				*eS*		**Sb**		**17 28 40.8**	**+0.1**
baz=279									
WDLH	**Douliu**	**0.84**	**280**	*eP*		**Pb**		**17 28 30.8**	**+0.6**
baz=279									
WDLH				*eS*		**Sb**		**17 28 42.4**	**+1.1**
baz=279									
WHP	**Taichung City**	**0.87**	**328**	*eP*		**Pg**		**17 28 30.1**	**-0.7**
baz=332									
NNSB	**Datong**	**0.89**	**356**	⇑P		**Pg**		**17 28 30.1**	**-1.1**
baz=6.0									
NNSB				*eS*		**Sg**		**17 28 41.6**	**-1.3**
baz=6.0									
NNS	**Nan Shan**	**0.90**	**356**	*eP*		**Pg**		**17 28 30.4**	**-1.0**
baz=6.0									
NNS				*eS*		**Sg**		**17 28 42.8**	**-0.5**
baz=6.0									
CHN1	**Nanshi**	**0.91**	**248**	P		**Pn**		**17 28 31.9**	**-0.3**
baz=238									
CHN1				S		**Sb**		**17 28 44.2**	**+0.9**
baz=238									
SGST	**Jiashian**	**0.91**	**240**	*eP*		**Pg**		**17 28 30.7**	**-0.9**
baz=235									
SGST				*eS*		**Sb**		**17 28 43.8**	**+0.5**
baz=235									
SLGT	**Liugui**	**0.91**	**234**	*eP*		**Pb**		**17 28 31.6**	**+0.2**
baz=223									
SNST	**Tainan City**	**0.93**	**250**	P		**Pb**		**17 28 31.7**	**+0.1**
baz=239									
SNST				*eS*		**Sb**		**17 28 44.6**	**+0.9**
baz=239									
ENA	**Nanau**	**0.93**	**17**	*eP*		**Pg**		**17 28 31.2**	**-0.6**
baz=16									
NANB	**Nanao**	**0.93**	**17**	*eP*		**Pg**		**17 28 30.4**	**-1.5**
baz=8.0									
NANB				*eS*		**Sb**		**17 28 43.8**	**-0.1**
baz=8.0									
TCU	**Taichung**	**0.93**	**311**	*eP*		**Pn**		**17 28 32.2**	**-0.1**
baz=313									
TCU				*eS*		**Sb**		**17 28 45.1**	**+1.2**
baz=313									
CHY	**Chiayi**	**0.94**	**268**	*eP*		**Pb**		**17 28 32.0**	**+0.2**
baz=281									
CHY				*eS*		**Sn**		**17 28 45.8**	**+0.2**
baz=281									
WCHH	**Zhanghua**	**0.97**	**304**	*eP*		**Pn**		**17 28 33.1**	**+0.1**
baz=305									
WCHH				*eS*		**Sn**		**17 28 47.1**	**+0.6**
baz=305									
ECL	**Taimali**	**1.04**	**206**	*eP*		**Pg**		**17 28 32.9**	**-1.1**
baz=194									
ECL				*eS*		**Sg**		**17 28 46.3**	**-1.2**
baz=194									
WLGB	**Puzi**	**1.05**	**267**	*eP*		**Pb**		**17 28 33.9**	**+0.2**
baz=278									
WLGB				*eS*		**Sn**		**17 28 49.5**	**+1.1**
baz=278									
RLNB	**Erlin**	**1.05**	**290**	*eP*		**Pn**		**17 28 34.1**	**0.0**
baz=292									
NDT	**Datong Townshi**	**1.06**	**3**	*eP*		**Pb**		**17 28 34.0**	**0.0**
baz=11									
NDT				*eS*		**Sg**		**17 28 47.6**	**-0.7**
baz=11									
NSY	**Sanyi**	**1.08**	**325**	P		**Pn**		**17 28 35.2**	**+0.8**
baz=311									
NSY				*eS*		**Sn**		**17 28 49.9**	**+0.9**
baz=311									
SSD	**Sandimen**	**1.09**	**224**	⇓P		**Pb**		**17 28 34.0**	**-0.3**
baz=216									
SSD				*eS*		**Sb**		**17 28 49.3**	**+1.0**
baz=216									
WDJ	**Dajia District**	**1.09**	**318**	*eP*		**Pn**		**17 28 35.9**	**+1.3**
baz=320									
WDJ				*eS*		**Sn**		**17 28 50.9**	**+1.4**
baz=320									
ENTT	**Nioudou**	**1.10**	**6**	*eP*		**Pb**		**17 28 34.8**	**+0.1**
baz=6.0									
ENTT				*eS*		**Sg**		**17 28 49.0**	**-0.7**
baz=6.0									
WSF	**Szhu**	**1.13**	**275**	*eP*		**Pb**		**17 28 35.0**	**0.0**
baz=287									
WSF				*eS*		**Sb**		**17 28 50.3**	**+0.8**
baz=287									
TWC	**Suao**	**1.13**	**19**	*eP*		**Pn**		**17 28 35.5**	**+0.4**
baz=10.0									
TWC				*eS*		**Sb**		**17 28 50.3**	**+0.7**
baz=10.0									
YHNB	**Yeheng**	**1.13**	**357**	P		**Pg**		**17 28 34.2**	**-1.5**
baz=359									
YHNB				*eS*		**Sg**		**17 28 49.3**	**-1.2**
baz=359									
PTSB	**Yuanli**	**1.13**	**323**	*eP*		**Pn**		**17 28 36.0**	**+0.9**
baz=311									
PTSB				*eS*		**Sn**		**17 28 51.7**	**+1.3**
baz=311									
NSK	**Sanguang**	**1.14**	**356**	⇑P		**Pn**		**17 28 35.6**	**+0.3**
baz=359									
NSK				S		**Sg**		**17 28 49.3**	**-1.4**
baz=359									
CHN8	**Yiju**	**1.15**	**261**	*eP*		**Pn**		**17 28 35.7**	**+0.4**
baz=257									
CHN8				*eS*		**Sn**		**17 28 52.2**	**+1.4**
baz=257									

NMLH	Miaoli	1.16 329	eP	Pn	17 28 36.9	+1.3
	baz=340					
NMLH			eS	Sn	17 28 53.0	+1.8
	baz=340					
NSTT	Nanjuang	1.16 340	P	Pb	17 28 35.8	+0.1
	baz=342					
NSTT			eS	Sg	17 28 49.9	-1.6
	baz=342					
TWM1	Shoushan	1.18 233	eP	Pn	17 28 37.6	+1.9
	baz=233					
EOS1	EOS1	1.19 32	eP	Pg	17 28 35.8	-1.0
	baz=43					
MASBT	Mashibuluo	1.19 219	eP	Pg	17 28 35.2	-1.5
	baz=215					
MASBT			eS	Sg	17 28 51.0	-1.2
	baz=215					
TWE	Neicheng	1.20 10	eP	Pn	17 28 36.4	+0.4
	baz=9.0					
TWE			eS	Sb	17 28 52.1	+0.6
	baz=9.0					
SCLT	Jiali	1.20 253	eP	Pn	17 28 36.8	+0.6
	baz=262					
SCLT			eS	Sn	17 28 54.5	+2.3
	baz=262					
SLBB	Yuanshan	1.22 8	eP	Pg	17 28 35.9	-1.6
	baz=16					
NWLT	Wulai	1.24 2	eP	Pn	17 28 37.0	+0.4
	baz=12					
EAST	Anshuo	1.27 206	eP	Pb	17 28 37.5	0.0
	baz=195					
SNJT	Kaohsiung City	1.28 233	eP	Pg	17 28 38.8	+0.2
	baz=233					
SBCB	Hsinchu	1.32 342	eP	Pg	17 28 39.4	+0.1
	baz=346					
WLTB	Daxi	1.32 352	eP	Pg	17 28 38.6	-0.7
	baz=347					
SCZT	Fangliau	1.39 213	eP	Pg	17 28 39.8	-0.7
	baz=214					
TWA	Mucha	1.44 5	eP	Pb	17 28 40.6	+0.1
	baz=17					
TWA			eS	Sg	17 28 59.5	-0.9
	baz=17					
NCUH	Zhongli	1.44 351	eP	Pg	17 28 41.8	+0.1
	baz=340					
TIPB	Shuangxi	1.47 14	eP	Pb	17 28 40.8	-0.2
	baz=9.0					
TIPB			eS	Sb	17 28 59.9	+0.5
	baz=9.0					
LAY	Lan-yu	1.49 176	eP	Pn	17 28 38.8	-1.3
	baz=165					
TWB1	Santiao Chiao	1.55 19	eP	Pg	17 28 42.5	-1.1
	baz=8.0					
TWS1	Kuangyinshan	1.56 359	eP	Pg	17 28 42.9	-1.0
	baz=12					
WFSB	Wu-fen Shan	1.56 11	eP	Pb	17 28 42.0	-0.4
	baz=9.0					
YM01	YM01	1.61 4	eP	Pg	17 28 43.6	-1.2
	baz=15					
YM04	YM04	1.61 3	eP	Pb	17 28 42.9	-0.5
	baz=14					
YM10	YM10	1.61 4	eP	Pg	17 28 43.9	-1.0
	baz=15					
NTST	Danshui	1.62 0	eP	Pb	17 28 43.3	-0.1
	baz=12					
YM05	YM05	1.62 4	eP	Pg	17 28 43.9	-1.2
	baz=15					
ANP	Anpu	1.64 2	eP	Pg	17 28 44.3	-1.2
	baz=14					
JYNG	Yonagunijimaku	1.65 56	P	Pn	17 28 43.0	+0.8
JYNG			S	Sb	17 29 04.9	+0.4
WDGT	Dungji	1.66 261	eP	Pn	17 28 42.3	-0.1
	baz=262					
TWKBT	Hengchun	1.69 200	eP	Pn	17 28 42.7	-0.1
	baz=194					
YOJ	Yonaguni jima	1.70 57	P	Pn	17 28 43.8	+0.8
YOJ			eS	Sb	17 29 06.8	+0.7
PHUB	P'eng-hu	1.72 270	eP	Pn	17 28 42.5	-0.7
	baz=265					
PHUB			eS	Sn	17 29 04.8	0.0
	baz=265					
PNG	Penghu	1.73 271	eP	Pn	17 28 43.6	+0.2
	baz=272					
VCHM	Qimei	1.88 260	eP	Pn	17 28 44.1	-1.3
	baz=261					
IRIF	Iriomote-Funau	2.24 69	eS	Sn	17 29 19.2	+1.5
VWUC	VWUC	2.33 309	eP	Pn	17 28 52.2	+0.7
	baz=327					
JKRS	Kuro-shima	2.45 73	P	Pn	17 28 54.2	+1.0
JKRS			eS	Sn	17 29 24.4	+1.5
PTTC	Pingtan	2.48 322	eP	Pn	17 28 54.9	+1.2
	baz=328					
PTMZ	Houxiangcun	2.60 306	eP	Pn	17 28 55.8	+0.5
	baz=309					
JIJ	Ishigaki jima	2.60 71	P	Pn	17 28 55.8	+0.4
JIJ			eS	Sn	17 29 27.3	+0.6
JISG	Ishigakijimahi	2.82 68	P	Pn	17 28 58.6	+0.2
JISG			eS	Sn	17 29 32.8	+0.7
MATB	Ma-tsu	2.94 333	eP	Pn	17 29 00.4	+0.4
	baz=342					
KNMB	Chin-men Tao	2.94 289	eP	Pn	17 28 59.7	-0.4
	baz=289					
JTJ	Tarama	3.17 69	eS	Sn	17 29 42.1	+1.3
MHZQ	Yeshan	3.37 320	eP	Pn	17 29 06.5	+0.6
	baz=324					
AXDP	Jialang	3.45 294	eP	Pn	17 29 07.1	+0.1
	baz=294					

IDC 02 17:42:39.6±8.3, 21°67S×174°42E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/30, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=142.5km s-min=103.0km az=49.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.41	265	Pn	Pn	17 44 28.4	-0.8
	1.5nm,0.3s,baz=129,slow=13,SNR=90						
DZM				Sn	Sn	17 45 40.2	-14
	0.3nm,0.3s,baz=167,slow=16,SNR=2.7						
CTA	Charters Tower	26.35	268	P	P	17 48 18.9	+1.3
	3.7nm,1.1s,baz=96,slow=12,SNR=2.3						
STKA	Stephens Creek	30.91	244	P	P	17 48 57.7	-0.5
	2.7nm,1.0s,baz=85,slow=11,SNR=4.1						
ASAR	Alice Springs	37.35	259	P	P	17 49 53.5	-0.7
	0.5nm,0.6s,baz=82,slow=7.4,SNR=5.8						
WRA	Warramunga Arr	37.43	265	P	P	17 49 54.9	0.0
	0.2nm,0.4s,baz=96,slow=8.4,SNR=13						

*ISCJB **02** 18:02:58.9±0.3, 43°77N±0°02×105°23W±0°03, h8km, mb4.1/5, Error ellipse: s-maj=3.4km s-min=3.1km az=179.7*
*IDC **02** 18:02:58.7±0.9, 43°64N×105°39W, h0km, mb4.1/5, mb1 4.0/12, mb1mx3.7/42, mbtmp3.8/12, ML3.4/6, Error ellipse: s-maj=22.6km s-min=7.6km az=150.0*
*NEIC **02** 18:02:59.9±1.2, 43°79N±0°05×105°25W±0°03, h0km±1km, ML3.6/76*

ISC 02 18:03:00.2±0.7, 43°77N±0°06×105°26W±0°07, h8km, n118, σ1°01/117, mb4.2/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.95	68		Pg	18 03 18.1	-0.4
K22A	Casper	1.45	220		Pn	18 03 25.8	-1.1
K22A				IAML		18 03 51.4	
	comp=N,854nm,0.3s						
K22A				IAML		18 03 52.6	
	comp=E,848nm,0.4s						
PHWY	Pilot Hill	2.48	183		Pn	18 03 41.7	+0.6
PHWY				IAML		18 04 20.2	
	comp=E,204nm,0.7s						
RWWY	Rawlins	2.53	215		Pn	18 03 42.5	+0.6
RWWY				IAML		18 04 20.7	
	comp=E,474nm,0.8s						
N23A	Red Feather La	2.92	190		Pn	18 03 48.5	+1.3
N23A				IAML		18 04 31.4	
	comp=N,248nm,0.7s						
N23A				IAML		18 04 34.4	
	comp=E,234nm,0.7s						
LAO	LASA Array	2.99	347		Pn	18 03 48.3	+0.2
RLMT	Red Lodge	3.17	297		Pn	18 03 51.4	+0.8
RLMT				IAML		18 04 44.3	
	comp=E,129nm,0.5s						
BW06	Boulder Array	3.30	254		Pn	18 03 52.8	+0.4
BW06				IAML		18 04 42.0	
	comp=N,107nm,0.5s						
PD31	Pinedale Array	3.30	254		Pn	18 03 52.9	+0.5
PDAR	Pinedale Array	3.30	254	Pn	Pn	18 03 52.9	+0.5
	comp=N,12nm,0.3s,baz=68,slow=15,SNR=150						
PDAR				Lg	Lg	18 04 36.0	
	comp=N,22nm,0.3s,baz=61,slow=30,SNR=14						
YMP	Mirror Lake Pl	3.65	287		Pn	18 03 57.6	+0.4
OGNE	Ogallala	3.70	139		Pn	18 03 59.1	+1.3
GCMT	Greycliff	3.73	304		Pn	18 03 59.0	+0.8
LKWY	Lake	3.78	284		Pn	18 04 01.5	+2.5
LKWY				IAML		18 04 26.6	
	comp=N,124nm,0.6s						
LKWY				IAML		18 04 27.8	
	comp=N,67nm,1.1s						
H17A	Grant Village	3.88	281		Pn	18 04 02.0	+1.6
H17A				IAML		18 05 04.0	
	comp=N,70nm,0.7s						
YUF	Upper Falls	3.89	286		Pn	18 04 02.1	+1.6
FLWY	Flagg Ranch	3.94	276		Pn	18 04 02.0	+0.8
FLWY				IAML		18 05 10.3	
	comp=N,89nm,0.9s						
FLWY				IAML		18 05 51.1	
	comp=N,94nm,1.1s						
MOOW	Moose Ponds	3.97	272		Pn	18 04 02.9	+1.3
ISCO	Idaho Springs	3.98	184		Pn	18 04 03.1	+1.3
SNOW	Snow King Moun	4.00	267		Pn	18 04 02.5	+0.4
SNOW				IAML		18 05 19.6	
	comp=N,79nm,1.0s						
SNOW				IAML		18 05 28.8	
	comp=N,83nm,1.1s						
YNR	Norris Junctio	4.01	285		Pn	18 04 02.2	+0.1
YPP	Pitchstone Pla	4.03	279		Pn	18 04 03.2	+0.7
REDW	Red Top Meadow	4.08	266		Pn	18 04 04.1	+0.9
REDW				IAML		18 05 11.2	
	comp=N,82nm,1.0s						
REDW				IAML		18 05 11.5	
	comp=N,81nm,0.8s						
IMW	Indian Meadow	4.11	274		Pn	18 04 04.5	+0.9
IMW				IAML		18 04 34.7	
	comp=N,76nm,0.5s						
YHH	Holmes Hill	4.14	286		Pn	18 04 04.3	+0.3
TPAW	Teton Pass	4.14	268		Pn	18 04 04.6	+0.6
TPAW				IAML		18 05 21.7	
	comp=N,84nm,1.0s						
TPAW				IAML		18 05 25.4	
	comp=N,56nm,1.0s						
FXWY	Fox Creek	4.18	270		Pn	18 04 05.1	+0.6
YMR	Madison River	4.20	284		Pn	18 04 05.7	+1.0
O20A	White River Ci	4.26	212		Pn	18 04 06.8	+1.2
O20A				IAML		18 05 17.1	
	comp=E,105nm,0.7s						
YHB	Horse Butte	4.37	285		Pn	18 04 07.4	+0.3
AHID	Auburn Hatcher	4.38	259		Pn	18 04 08.2	+0.9
AHID				IAML		18 05 27.4	
	comp=N,84nm,0.9s						
AHID				IAML		18 05 28.0	
	comp=E,71nm,1.1s						
YHL	Hebgen Lake	4.38	286		Pn	18 04 08.1	+0.8
RDMU	Red Mountain	4.53	226		Pn	18 04 09.9	+0.7
QLMT	Earthquake Lak	4.55	286		Pn	18 04 09.4	-0.2
SUSD	Miller	4.59	79		Pn	18 04 09.8	-0.1
DGMT	Dagmar	4.76	9		Pn	18 04 13.2	+1.0
SMCO	Snowmass	4.77	196		Pn	18 04 14.3	+1.5
SMCO				IAML		18 05 37.0	
	comp=E,50nm,0.7s						
SMCO				IAML		18 05 37.9	
	comp=E,43nm,0.8s						
Q24A	Divide	4.81	179		Pn	18 04 14.1	+0.9
Q24A				IAML		18 05 33.3	
	comp=E,54nm,0.6s						
BOZ	Bozeman (W)	4.89	294		Pn	18 04 13.5	-0.8
BOZ				IAML		18 05 35.9	
	comp=E,41nm,0.9s						
BOZ				IAML		18 05 36.3	
	comp=E,32nm,0.8s						
KSCO	Kaye Shedlock'	5.15	157		Pn	18 04 18.3	+0.5
TCUT	Toone Canyon	5.27	242		Pn	18 04 19.9	+0.4
EGMT	Eagleton	5.28	325		Pn	18 04 19.6	+0.1
HRY	Holter Researc	5.49	305		Pn	18 04 23.0	+0.6
LRM	Limekiln Ridge	5.51	294		Pn	18 04 23.4	+0.6
MCMT	McKenzie Canyo	5.55	284		Pn	18 04 24.0	+0.7
JLU	Jordanelle	5.58	238		Pn	18 04 24.1	+0.3
MDND	Maddock	5.68	42		Pn	18 04 26.0	+1.2
CTU	Camp Tracy	5.72	240		Pn	18 04 25.9	+0.4
BGNE	Belgrade	5.76	112		Pn	18 04 26.0	0.0
SPUT	South Promonto	5.85	248		Pn	18 04 27.8	+0.4
PV22	Blue Mesa, Par	5.87	208		Pn	18 04 28.1	+0.4
HVU	Hansel Valley	5.88	253		Pn	18 04 28.3	+0.6
PV07	Paradox Valley	5.91	207		Pn	18 04 28.8	+0.6
PV21	Cone Mtn., Par	5.91	210		Pn	18 04 28.9	+0.6
P17A	Butcher Ranch,	5.94	226		Pn	18 04 29.5	+0.9
PV23	Carpenter Ridg	6.02	209		Pn	18 04 30.4	+0.6
SDCO	Great Sand Dun	6.03	182		Pn	18 04 30.9	+1.0
PV09	Paradox Valley	6.03	210		Pn	18 04 28.7	-1.2
PV04	Paradox Valley	6.04	208		Pn	18 04 29.8	-0.1
MPU	Maple Canyon	6.06	234		Pn	18 04 30.9	+0.6
PV12	Saucer Basin,	6.07	207		Pn	18 04 31.9	+1.4
PV14	Lion Creek, Pa	6.10	209		Pn	18 04 32.3	+1.4
PV20	West Nyswonger	6.11	209		Pn	18 04 31.8	+0.9
SRU	San Rafael Swe	6.11	222		Pn	18 04 31.1	+0.1
PV11	David Mesa, Pa	6.11	208		Pn	18 04 31.8	+0.8
PV16	Nyswonger Mesa	6.12	208		Pn	18 04 32.0	+0.9
S22A	4UR Ranch, Cre	6.14	192		Pn	18 04 32.5	+1.1
PV19	Morning Glory	6.14	209		Pn	18 04 32.9	+1.4
PV03	Paradox Valley	6.14	207		Pn	18 04 32.4	+0.9
PV02	Paradox Valley	6.15	206		Pn	18 04 33.1	+1.6
PV17	East Wray Mesa	6.16	208		Pn	18 04 32.4	+0.8
PV01	Paradox Valley	6.17	205		Pn	18 04 33.2	+1.4
PV18	Skein Mesa, Pa	6.17	208		Pn	18 04 32.6	+0.8
PV13	Radium Mtn., P	6.22	207		Pn	18 04 33.7	+1.1
ECSD	EROS Data Cent	6.26	87		Pn	18 04 34.3	+1.4
TMUT	Trail Mountain	6.32	227		Pn	18 04 34.6	+0.7
NLU	North Lily Min	6.36	235		Pn	18 04 35.3	+0.9
PV05	Paradox Valley	6.39	208		Pn	18 04 34.9	+0.1
BGU	Big Grassy Mou	6.42	246		Pn	18 04 36.9	+1.7
CBKS	Cedar Bluff	6.47	138		Pn	18 04 35.9	+0.1
Q16A	Castle Valley	6.58	225		Pn	18 04 37.7	+0.2
T25A	Trinidad	6.66	174		Pn	18 04 39.1	+0.6
DUG	Dugway, Tooele	6.67	240		Pn	18 04 38.6	0.0
MSO	Missoula	6.84	300		Pn	18 04 41.0	+0.1
MVCO	Mesa Verde	7.00	202		Pn	18 04 45.5	+2.2
MSU	Marysvale	7.41	227		Pn	18 04 49.7	+0.9
JTMT	Jette	7.46	305		Pn	18 04 50.5	+1.2
MTPU	Mount Pierson	7.76	225		Pn	18 04 54.4	+0.6
AGMN	Agassiz Nation	7.95	52		Pn	18 04 58.0	+1.9
WALA	Waterton Lakes	7.98	315		Pn	18 04 55.6	-0.9
ELK	Elko	8.00	251	Pn	Pn	18 04 58.2	+1.3
	comp=E,0.6nm,0.3s,baz=36,slow=6.9,SNR=7.9						
ELK				Lg	Lg	18 07 01.7	
	comp=E,0.1nm,0.3s,baz=124,slow=18,SNR=1.7						
PSUT	Pine Spring	8.33	234		Pn	18 05 02.6	+1.2
CCUT	Cedar City	8.75	227		Pn	18 05 08.3	+1.2
U32A	Winter Ranch,	8.80	145		Pn	18 05 04.8	-3.0
KNB	Kanab	8.88	223		Pn	18 05 10.5	+1.6
I10CA	LAC DU BONNET	9.01	41	*i*		18 54 55.0	
	baz=222,slow=325,SNR=3.1						
U15A	North Rim	9.10	219		Pn	18 05 12.1	0.0
ULM	Lac du Bonnet	9.11	41	Pn	Pn	18 05 12.0	+0.1
	comp=E,2.4nm,0.3s,baz=228,slow=14,SNR=14						
ULM				Pg		18 05 39.6	
	comp=E,1.1nm,0.3s,baz=227,slow=17,SNR=2.6						
ULM				Lg	Lg	18 07 37.5	
	comp=E,0.4nm,0.3s,baz=135,slow=20,SNR=1.9						
ULM	Lac du Bonnet	9.11	41		Pn	18 05 11.6	-0.3
R11A	Troy Canyon, C	9.49	239		Pn	18 05 17.2	-0.1
WUAZ	Wupatki	9.49	212		Pn	18 05 17.4	0.0
WMOK	Wichita Mounta	10.32	149		Pn	18 05 27.9	-0.7
SHPR	Sheep Range	10.49	230		Pn	18 05 31.5	+0.5
KVN	Kaiserville	10.73	248		Pn	18 05 35.5	+1.1
FFC	Flin Flon	11.17	10		Pn	18 05 38.7	-1.4
NVAR	Mina Array Bea	11.19	246	Pn	Pn	18 05 42.5	+1.9
	comp=E,0.2nm,0.3s,baz=49,slow=12,SNR=7.1						
NVAR	Mina Array Bea	11.19	246		Pn	18 05 41.2	+0.5
YBH	Yreka Blue Hor	12.99	267	Pn	Pn	18 06 07.8	+2.8
	comp=E,0.1nm,0.3s,baz=47,slow=9.0,SNR=4.7						
TXAR	Lajitas Array	14.47	174	Pn	Pn	18 06 23.1	-2.3
	comp=E,0.1nm,0.3s,baz=351,slow=11,SNR=2.8						
YKA	Yellowknife Ar	19.53	347	P	P	18 07 27.4	-0.4
	comp=E,0.2nm,0.3s,baz=168,slow=12,SNR=4.0						
ARCES	ARCESS Array B	61.38	18	P	P	18 13 15.8	-0.3
	comp=E,1.0nm,0.6s,baz=329,slow=6.9,SNR=10						
ARCES	ARCESS Array B	61.38	18	P	P	18 13 16.0	-0.1
FINES	FINESS Array B	68.00	23	P	P	18 13 59.5	+0.1
	comp=E,2.6nm,0.9s,baz=290,slow=18,SNR=3.7						
ZALV	Zalesovo Beam	82.27	354	P	P	18 15 21.9	+0.1
	comp=E,1.0nm,0.6s,baz=349,slow=5.9,SNR=4.2						
ZALV	Zalesovo Beam	82.27	354	P	P	18 15 21.7	-0.1
SONM	Songino Array	84.61	339	P	P	18 15 34.9	+0.7
	comp=E,0.7nm,0.8s,baz=19,slow=3.5,SNR=3.8						
MKAR	Makanchi Array	89.57	355	P	P	18 15 58.1	0.0
	comp=E,1.0nm,0.7s,baz=4.0,slow=4.2,SNR=9.8						
MKAR	Makanchi Array	89.57	355	P	P	18 15 58.6	+0.5

IDC 02 18:06:59.7±2.2, 4°21S×152°99E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/35, mbtmp3.4/2, Error ellipse: s-maj=52.3km s-min=28.9km az=175.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.97	264	Pn	Pn	18 07 21.5	+0.9
	24nm,0.3s,baz=202,slow=7.1,SNR=52						
KRVT				Sn	Sn	18 07 34.2	-0.8
	166nm,0.3s,baz=160,slow=15,SNR=42						
WRA	Warramunga Arr	23.98	228	P	P	18 12 16.8	+0.6
	0.3nm,0.4s,baz=55,slow=10,SNR=5.7						
ASAR	Alice Springs	26.72	222	P	P	18 12 41.2	+0.2
	0.2nm,0.4s,baz=49,slow=9.1,SNR=4.2						
TORD	Torodi Ar. Bea	150.30	289	PKPbc	PKPbc	18 26 52.7	-1.3
	0.6nm,1.0s,baz=51,slow=2.7,SNR=2.6						

*NEIC **02** 18:23:09.8±1.8, 34°67N±0°03×116°23W±0°05, h3km±9km*
*SCEDC **02** 18:23:10.8, 34°71N×116°29W, h1km*
*ANF **02** 18:23:10.1±0.1, 34°71N×116°29W, h12km±1km, ML3.2/39, ML3.2/39, Error ellipse: s-maj=1.3km s-min=1.1km az=21.0*
*PAS **02** 18:23:10.8±2.2, 34°71N±0°04×116°29W±0°04, h2km±7km, ML3.2*

ISC 02 18:23:10.7±0.9, 34°71N±0°02×116°27W±0°02, h11km±7km, n83, σ0°99/125, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	Hector,Ludlow	0.13	336	P	Pg	18 23 13.6	-0.3
	baz=164,SNR=1000						
HEC				S	Sg	18 23 15.7	-0.6
	baz=164						
GMRC	Granite Mounta	0.51	81	P	Pg	18 23 20.9	+0.2
	baz=262,SNR=154						
GMRC				S	Sg	18 23 28.1	+0.6
	baz=262						
RRX	Edison Barstow	0.62	286	P	Pg	18 23 22.4	-0.3
	baz=106,SNR=32						
RRX				S	Sg	18 23 31.0	+0.1
	baz=106						
BBRC	Big Bear Solar	0.70	230	P	Pg	18 23 23.9	-0.4
	baz=49,SNR=11						
BBRC				S	Sg	18 23 33.4	0.0
	baz=49						
GSC	Goldstone, Bar	0.74	324	P	Pg	18 23 24.7	-0.3
	baz=145,SNR=206						
GSC				S	Sg	18 23 34.6	0.0
	baz=145						
GSC	Goldstone, Bar	0.74	324		Pg	18 23 24.6	-0.3
GSC				Sg	Sg	18 23 34.6	0.0
BELC	Belle Mtn. Jos	0.74	162	P	Pg	18 23 25.0	0.0
	baz=341,SNR=326						
BELC				S	Sg	18 23 35.3	+0.5
	baz=341						
TUQ	Turquoise Moun	0.78	21	P	Pg	18 23 25.6	-0.2
	baz=203,SNR=480						
TUQ				S	Sg	18 23 36.5	+0.5
	baz=203						
IRM	Iron Mountain	1.08	120	P	Pg	18 23 30.8	-0.8
	baz=300,SNR=739						
IRM				S	Sg	18 23 46.2	+0.6
	baz=300						
PFO	Pinyon Flats O	1.11	188	P	Pg	18 23 31.1	-0.9
	baz=7.1,SNR=126						
PFO				S	Sg	18 23 46.1	-0.3
	baz=7.1						
PFO	Pinyon Flats O	1.11	188		Pg	18 23 30.9	-1.0
SHOC	Shoshone, Teco	1.19	360	P	Pg	18 23 32.5	-1.1
	baz=181,SNR=90						
SHOC				S	Sg	18 23 49.1	+0.2
	baz=181						
BFSC	Mount Baldy Ra	1.24	248	P	Pg	18 23 33.6	-0.9
	baz=67,SNR=75						
BFSC				S	Sg	18 23 49.9	-0.7
	baz=67						
BC3	Big Chuckawall	1.25	147	Pn	Pg	18 23 33.3	-1.5
	baz=327,SNR=176						
BC3				Pg	Pb	18 23 34.5	+0.1
	baz=327						
BC3				S	Sg	18 23 51.3	+0.3
	baz=327						
MURC	Murrieta	1.35	215	Pn	Pg	18 23 35.2	-1.4
	baz=34,SNR=108						
MURC				Pg	Pn	18 23 36.2	+0.7
	baz=34						
MURC				S	Sg	18 23 53.6	-0.4
	baz=34						
NEE2	Needles Airpor	1.36	87	Pn	Pn	18 23 35.8	+0.1
	baz=268,SNR=18						
NEE2				Pg	Pg	18 23 36.5	-0.4
	baz=268						
NEE2				S	Sb	18 23 55.2	+1.6
	baz=268						
LRMC	Laurel Mtn Rad	1.39	304	Pn	Pn	18 23 35.4	-0.7
	baz=124,SNR=178						
LRMC				Pg	Pg	18 23 36.7	-0.7
	baz=124						
LRMC				Sg	Sb	18 23 55.7	+1.1
	baz=124						
EDW2	Edwards Air Fo	1.43	277	Pn	Pn	18 23 35.6	-1.0
	baz=97,SNR=65						
EDW2				Pg	Pb	18 23 36.8	-0.6
	baz=97						
EDW2				S	Sg	18 23 55.3	-1.4
	baz=97						
MWC	Mount Wilson	1.55	252		Pn	18 23 39.3	+0.9
PASC	Pasadena Art C	1.67	252		Pn	18 23 41.0	+1.1
MPMC	Manual Prospec	1.67	324	Pn	Pn	18 23 39.5	-0.7
	baz=144,SNR=99						
MPMC				Pg	Pb	18 23 41.0	-0.6
	baz=144						
MPMC				S	Sb	18 24 03.6	+0.8
	baz=144						
Y12C	Blythe	1.74	123	P	Pn	18 23 39.8	-1.0
	baz=304,SNR=30						
Y12C				S	Sn	18 24 01.8	-1.1
	baz=304						
Y12C	Blythe	1.74	123		Pn	18 23 39.6	-1.2
DECC	Green Verdugo	1.76	256	Pg	Pb	18 23 42.9	-0.2
	baz=74						
DECC				Sg	Sg	18 24 07.9	+0.5
	baz=74						
SWSC	Sam W. Stewart	1.80	167	P	Pn	18 23 43.3	+1.6
	baz=347						
PDMCI	Parker Dam,Lak	1.81	102	Pg	Pb	18 23 44.2	+0.4
	baz=283,SNR=23						
PDMCI				Sg	Sb	18 24 08.2	+1.8
	baz=283						
MONP2	Monument Peak	1.82	184	Pg	Pb	18 23 44.4	+0.3
	baz=3.4,SNR=14						
MONP2				Sg	Sg	18 24 09.0	-0.1
	baz=3.4						
FURC	Furnace Creek,	1.82	345	Pg	Pb	18 23 44.5	+0.6
	baz=165						
FURC				Sg	Sg	18 24 09.0	-0.2
	baz=165						
DAC	Darwin

	baz=118					
ISA	**Isabella, Lake**	**2.04 298**		**Pn**	**18 23 44.4**	**-0.7**
GLA	**Glamis**	**2.04 144**	Pn	**Pn**	**18 23 43.8**	**-1.3**
	baz=324,SNR=43					
GLA			Pg	**Pb**	**18 23 48.9**	**+1.1**
	baz=324					
GLA			Sg	**Sg**	**18 24 16.8**	**+0.4**
	baz=324					
GLA	**Glamis**	**2.04 144**		**Pn**	**18 23 43.8**	**-1.3**
BAR	**Barrett**	**2.05 189**		**Pn**	**18 23 46.2**	**+1.0**
IKP	**In-Ko-Pah, Jac**	**2.06 176**	P	**Pn**	**18 23 44.9**	**-0.5**
	baz=356					
IKP			Sg	**Sb**	**18 24 15.8**	**+2.1**
	baz=356					
ARVC	**Arvin**	**2.14 282**	Pg	**Pb**	**18 23 50.1**	**+0.6**
	baz=101,SNR=7.3					
CIS	**Catalina Islan**	**2.21 234**	Pb	**Pb**	**18 23 50.3**	**-0.3**
	baz=53					
CIS			Sb	**Sb**	**18 24 18.8**	**+0.9**
	baz=53					
TPNV	**Topopah Spring**	**2.23 0**	P	**Pn**	**18 23 47.8**	**0.0**
	baz=181,SNR=40					
TPNV			Sg	**Sg**	**18 24 21.9**	**-0.6**
	baz=181					
TPNV	**Topopah Spring**	**2.23 0**		**Pn**	**18 23 47.8**	**0.0**
CWC	**Cottonwood Cre**	**2.27 320**	Sg	**Sg**	**18 24 22.3**	**-1.4**
	baz=140					
BLG	**Laguna Peak, P**	**2.39 256**	Pg	**Pb**	**18 23 53.8**	**+0.1**
	baz=75,SNR=9.4					
GRAC	**Grapevine Rang**	**2.45 339**	P	**Pn**	**18 23 51.1**	**+0.4**
	baz=159,SNR=12					
GRAC			Sb	**Sg**	**18 24 28.4**	**-0.9**
	baz=159					
VES	**Vestal, Richgr**	**2.56 297**	Pn	**Pn**	**18 23 51.9**	**-0.3**
	baz=116					
VES			Pg	**Pb**	**18 23 58.1**	**+1.4**
	baz=116					
VES			Sg	**Sg**	**18 24 32.1**	**-1.0**
	baz=116					
Y14A	**Wickenburg**	**2.81 105**		**Pn**	**18 23 55.1**	**-0.6**
113A	**Mohawk Valley,**	**2.85 132**		**Pn**	**18 23 54.9**	**-1.2**
PKM	**Mcpherson Peak**	**2.92 275**	Pn	**Pn**	**18 23 57.3**	**0.0**
	baz=93					
PKM			Pg	**Pb**	**18 24 04.7**	**+1.9**
	baz=93					
PKM			Sg	**Sg**	**18 24 44.7**	**+0.1**
	baz=93					
SNCC	**San Nicolas Is**	**3.07 243**	Pn	**Pn**	**18 23 58.7**	**-0.5**
LCMT	**Little Creek M**	**3.37 46**		**Pn**	**18 24 04.0**	**+0.6**
PAGB	**Antelope Grade**	**3.41 289**		**Pn**	**18 24 05.5**	**+1.6**
KNB	**Kanab**	**3.63 50**		**Pn**	**18 24 07.8**	**+0.8**
OMMB	**Old Mammoth Mi**	**3.64 323**	Pn	**Pn**	**18 24 07.8**	**+0.5**
U15A	**North Rim**	**3.67 61**		**Pn**	**18 24 08.3**	**+0.7**
R11A	**Troy Canyon, C**	**3.67 8**	Pg	**Pg**	**18 24 19.8**	**-1.3**
	baz=189					
R11A			Sb	**Sg**	**18 25 05.9**	**-2.8**
	baz=189					
R11A	**Troy Canyon, C**	**3.67 8**		**Pn**	**18 24 08.5**	**+0.9**
CCUT	**Cedar City**	**3.69 39**		**Pn**	**18 24 07.9**	**+0.1**
MDPB	**Devils Postpil**	**3.70 323**	Pn	**Pn**	**18 24 06.8**	**-1.2**
SZCU	**Shurtz Canyon**	**3.86 41**		**Pn**	**18 24 10.3**	**+0.1**
214A	**Organ Pipe Nat**	**3.99 133**	P	**Pn**	**18 24 10.4**	**-1.4**
	baz=314					
214A	**Organ Pipe Nat**	**3.99 133**		**Pn**	**18 24 10.8**	**-1.0**
X16A	**Lo Mia Camp, P**	**4.00 93**		**Pn**	**18 24 12.4**	**+0.3**
NV11	**Mina Array Sit**	**4.01 338**		**Pn**	**18 24 12.9**	**+0.6**
NVAR	**Mina Array Bea**	**4.06 337**		**Pn**	**18 24 14.1**	**+1.2**
WUAZ	**Wupatki**	**4.09 77**	Sb	**Sg**	**18 25 19.1**	**-3.2**
	baz=260					
WUAZ	**Wupatki**	**4.09 77**		Pn	18 24 09.4	-4.0
PKCU	**Pink Cliffs**	**4.21 48**		**Pn**	**18 24 16.9**	**+1.8**
PSUT	**Pine Spring**	**4.28 26**		**Pn**	**18 24 17.0**	**+1.0**
RYN	**Ryan**	**4.31 336**		**Pn**	**18 24 16.5**	**+0.2**
WAKR	**Walker**	**4.56 327**		**Pn**	**18 24 18.8**	**-1.1**
KVN	**Kaiserville**	**4.57 342**		**Pn**	**18 24 20.8**	**+0.8**
SAO	**San Andreas Ge**	**4.68 297**	Pn	**Pn**	**18 24 21.5**	**+0.2**
MTPU	**Mount Pierson**	**4.68 44**		**Pn**	**18 24 20.8**	**-0.9**
CMB	**Columbia Colle**	**4.69 316**		**Pn**	**18 24 18.7**	**-2.8**
YERR	**Yerington**	**4.89 332**	Pn	**Pn**	**18 24 25.4**	**+1.1**
TCRU	**Three Creeks R**	**4.96 37**		**Pn**	**18 24 27.0**	**+1.7**
MSU	**Marysvale**	**5.02 40**		**Pn**	**18 24 25.5**	**-0.7**
TUC	**Tucson**	**5.17 116**		**Pn**	**18 24 27.5**	**-0.6**
X18A	**Snowflake**	**5.22 90**		**Pn**	**18 24 31.0**	**+2.2**

*IDC **02** 18:23:30.6±6.3, 19°.62S×178°.54W, h522km±63km, mb3.4/5, mb1 3.5/6, mb1mx3.0/34, mbtmp4.3/6, Error ellipse: s-maj=51.7km s-min=29.9km az=69.0*
*ISCJB **02** 18:23:41.7±0.6, 20°.05S±0°.1×179°.50W±0°.09, h600km, mb3.9/5, Error ellipse: s-maj=18.2km s-min=11.1km az=167.7*
*NEIC **02** 18:23:43.5±1.5, 20°.1S±0°.2×179°.46W±0°.06, h608km±12km, mb4.4/22*

ISC 02 18:23:42.7±0.9, 20°.1S±0°.1×179°.5W±0°.1, h600km, n30, σ1§23/30, mb4.3/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.26**	**259**	P	**P**	**18 26 31.9**	**-2.5**
	0.3nm,0.3s,baz=78,slow=19,SNR=3.0						
RPZ	**Rata Peaks**	**24.86**	**196**	P	**P**	**18 28 17.8**	**-1.7**
	7.4nm,0.9s,baz=66,slow=12,SNR=4.2						
RPZ	**Rata Peaks**	**24.86**	**196**	P	**P**	**18 28 18.1**	**-1.4**
ARMA	**Armidale**	**27.99**	**243**	P	**P**	**18 28 47.8**	**+0.5**
ARMA				IAmb	IAmb	18 28 48.3	
	comp=Z,18nm,1.4s						
PPT	**Papeete**	**28.43**	**90**	P	**P**	**18 28 51.9**	**+0.8**
PPTF	**Pamatai, Papee**	**28.43**	**90**	P	**P**	**18 28 51.8**	**+0.5**
KWAJ	**Kwajalein Atol**	**31.37**	**335**	P	**P**	**18 29 15.1**	**-1.2**
CTAO	**Charters Tower**	**32.12**	**264**	P	**P**	**18 29 24.1**	**+1.4**
CTAO				IAmb	IAmb	18 29 24.8	
	comp=Z,8.2nm,0.6s						
STKA	**Stephens Creek**	**36.70**	**243**	P	**P**	**18 30 01.2**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=63,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**36.70**	**243**	P	**P**	**18 30 01.3**	**+0.6**
BBOO	**Buckleboo**	**41.47**	**243**	P	**P**	**18 30 38.6**	**-0.3**
BBOO				IAmb	IAmb	18 30 52.8	
	comp=Z,24nm,1.2s						
WR0	**Warramunga Arr**	**43.06**	**262**	P	**P**	**18 30 52.0**	**+0.5**
WR0				IAmb	IAmb	18 30 58.6	
	comp=Z,7.3nm,1.4s						
WB0	**Warramunga Arr**	**43.23**	**262**	P	**P**	**18 30 53.1**	**+0.3**
AS31	**Alice Springs**	**43.23**	**256**	P	**P**	**18 30 53.9**	**+1.0**
ASAR	**Alice Springs**	**43.24**	**256**	P	**P**	**18 30 53.9**	**+1.0**
	comp=Z,6.6nm,0.6s,baz=90,slow=8.2,SNR=127						
ASAR				PcP	**PcP**	**18 32 26.2**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=86,slow=4.1,SNR=2.3						
ASAR	**Alice Springs**	**43.24**	**256**	P	**P**	**18 30 53.3**	**+0.4**
WB2	**Warramunga Arr**	**43.24**	**262**	P	**P**	**18 30 53.8**	**+0.9**
WRAB	**Tennant Creek**	**43.25**	**262**	P	**P**	**18 30 53.7**	**+0.7**
WRA	**Warramunga Arr**	**43.26**	**262**	P	**P**	**18 30 53.6**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=97,slow=8.4,SNR=72						
WRA	**Warramunga Arr**	**43.26**	**262**	P	**P**	**18 30 53.7**	**+0.6**
MTN	**Manton Dam**	**47.74**	**271**	P	**P**	**18 31 28.2**	**+1.1**
MTN				IAmb	IAmb	18 31 28.2	
	comp=Z,5.9nm,0.7s						
FORT	**Forrest**	**48.16**	**246**	P	**P**	**18 31 30.3**	**+0.3**
FORT				IAmb	IAmb	18 31 42.3	
	comp=Z,40nm,1.1s						
GUMO	**Guam**	**48.45**	**311**	P	**P**	**18 31 32.2**	**-0.1**
KNRA	**Kununurra**	**49.27**	**266**	P	**P**	**18 31 39.6**	**+1.2**
KNRA				IAmb	IAmb	18 31 41.8	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.68**	**262**	P	**P**	**18 31 57.7**	**+1.9**
FITZ				IAmb	IAmb	18 32 12.2	
	comp=Z,9.8nm,1.6s						
SOEI	**Soe**	**55.07**	**272**	P	**P**	**18 32 22.7**	**+2.7**
SOEI				IAmb	IAmb	18 32 27.6	
	comp=Z,8.4nm,0.6s						
JAGI	**Jajag, Banyuwa**	**64.97**	**270**	P	**P**	**18 33 25.0**	**-0.2**
JAGI				IAmb	IAmb	18 33 29.5	
	comp=Z,23nm,1.3s						
JHJ2	**Mitsune**	**65.62**	**323**	P	**P**	**18 33 27.9**	**-0.9**
KKM	**Kota Kinabalu**	**68.28**	**285**	P	**P**	**18 33 46.6**	**+0.9**
KKM				IAmb	IAmb	18 33 48.3	
	comp=Z,7.0nm,1.1s						
MJAR	**Matsushiro Arr**	**69.04**	**325**	P	P	18 33 44.9	-4.7
	comp=Z,0.9nm,0.9s,baz=153,slow=6.2,SNR=4.2						

*IDC **02** 18:34:52.5±0.8, 11°.97N×143°.07E, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.7/41, mbtmp3.7/9, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/57, Error ellipse: s-maj=26.9km s-min=17.7km az=116.0*
*ISCJB **02** 18:34:55.2±0.5, 11°.93N±0°.08×143°.0E±0°.1, h31km, mb3.7/8, MS2.7/1, Error ellipse: s-maj=16.0km s-min=8.6km az=28.5*
*NEIC **02** 18:34:58.4±2.8, 11°.95N±0°.04×142°.9E±0°.1, h39km±5km, mb4.3/8*

ISC 02 18:34:56.7±0.8, 11°.9N±0°.1×143°.1E±0°.1, h31km, n30, σ1§55/27, mb4.1/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.42**	**45**	Pn	**Pn**	**18 35 34.9**	**+0.6**
	42nm,0.3s,baz=259,slow=3.0,SNR=20						
GUMO				Sn	**Sn**	**18 36 02.7**	**-0.2**
	26nm,0.3s,baz=73,slow=23,SNR=7.7						
GUMO	**Guam**	**2.42**	**45**		**Pn**	**18 35 34.2**	**0.0**
GUMO					**Sb**	**18 36 07.6**	**-1.6**
SARN	**Sarigan**	**5.45**	**28**	Pn	**Pn**	**18 36 20.5**	**+4.5**
KRVT	**Keravat (AS076**	**18.36**	**151**	LR	LR	18 44 24.3	
	comp=Z,49nm,21.0s,baz=18,slow=31						
H11N1	**WAKE ISLAND Hy**	**24.16**	**68**	T	T	19 05 20.7	
	baz=255,slow=75,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**24.17**	**68**	T	T	19 05 15.2	
	baz=255,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**24.18**	**68**	T	T	19 05 22.5	
	baz=255,slow=75,SNR=7.0						
MAJO	**Matsushiro**	**24.96**	**351**	P	**P**	**18 40 17.3**	**-0.2**
MAJO				IAmb	IAmb	18 40 23.9	
	comp=Z,11nm,1.4s						
MJB9	**Matsu-Tunnel**	**24.96**	**351**	P	**P**	**18 40 17.4**	**-0.1**
KSRS	**Korea Array**	**28.88**	**334**	LR	LR	18 52 02.3	
	comp=Z,18nm,18.4s,baz=10.0,slow=36						
WB0	**Warramunga Arr**	**32.59**	**195**	P	**P**	**18 41 26.9**	**+1.3**
WB0				IAmb	IAmb	18 41 46.3	
	comp=Z,9.4nm,1.4s						
WR0	**Warramunga Arr**	**32.74**	**195**	P	**P**	**18 41 28.2**	**+1.3**
WR0				IAmb	IAmb	18 41 36.8	
	comp=Z,4.6nm,1.4s						
WB2	**Warramunga Arr**	**32.77**	**195**	P	**P**	**18 41 28.2**	**+1.0**
WB2				IAmb	IAmb	18 41 35.1	
	comp=Z,6.3nm,1.4s						
WRA	**Warramunga Arr**	**32.77**	**195**	P	**P**	**18 41 27.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=18,slow=9.6,SNR=11						
WRA	**Warramunga Arr**	**32.77**	**195**	P	**P**	**18 41 24.4**	**-2.8**
ASAR	**Alice Springs**	**36.45**	**194**	P	**P**	**18 42 00.7**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=23,slow=11,SNR=15						
ASAR	**Alice Springs**	**36.45**	**194**	P	**P**	**18 41 59.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**43.04**	**284**	P	**P**	**18 42 54.9**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=91,slow=6.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**43.04**	**284**	P	**P**	**18 42 51.8**	**-2.2**
SONM	**Songino Array**	**47.17**	**327**	P	**P**	**18 43 26.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=150,slow=6.7,SNR=2.2						
SONM	**Songino Array**	**47.17**	**327**	P	**P**	**18 43 26.8**	**+0.3**
MKAR	**Makanchi Array**	**61.54**	**317**	P	**P**	**18 45 10.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=116,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**61.54**	**317**	P	**P**	**18 45 10.1**	**-0.9**
NEA	**Nenana**	**69.88**	**25**	P	**P**	**18 46 02.9**	**-1.6**
ILAR	**Eielson Array**	**70.84**	**25**	P	**P**	**18 46 09.2**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=248,slow=5.9,SNR=14						
ILAR	**Eielson Array**	**70.84**	**25**	P	**P**	**18 46 08.8**	**-1.5**
ARCES	**ARCESS Array B**	**88.17**	**342**	P	**P**	**18 47 44.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=60,slow=5.3,SNR=5.5						
ARCES	**ARCESS Array B**	**88.17**	**342**	P	**P**	**18 47 43.1**	**-1.2**
NVAR	**Mina Array Bea**	**89.33**	**51**	P	**P**	**18 47 52.6**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=265,slow=4.5,SNR=6.2						
NVAR	**Mina Array Bea**	**89.33**	**51**	P	**P**	**18 47 52.0**	**+1.3**

*IDC **02** 18:36:50.6±1.0, 8°.99S×108°.58W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/27, mbtmp3.9/9, MS4.0/1, Ms1 4.0/1, ms1mx3.3/36, Error ellipse: s-maj=33.5km s-min=18.9km az=56.0*
*ISCJB **02** 18:36:51.2±0.8, 8°.9S±0°.1×108°.5W±0°.1, h10km, mb3.8/9, Error ellipse: s-maj=23.4km s-min=11.6km az=151.9*
*NEIC **02** 18:36:52.7±1.1, 8°.9S±0°.1×108°.6W±0°.2, h11km±4km, mb4.4/15*

ISC 02 18:36:52.5±0.8, 9°.0S±0°.1×108°.5W±0°.2, h10km, n41, σ1§09/35, mb4.2/14, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**18.08**	**182**	LR	LR	18 46 10.3	
	comp=Z,453nm,18.0s,baz=39,slow=31						
CMIG	**Matias Romero**	**29.19**	**28**	P	**P**	**18 42 54.8**	**+0.4**
	1.1nm,0.6s,baz=166,slow=7.3,SNR=2.8						
ESPN	**Las Esperanzas**	**31.96**	**49**	P	**P**	**18 43 19.0**	**+0.1**
TX31	**Lajitas Ar. Si**	**38.37**	**7**	P	**P**	**18 44 13.6**	**-0.5**
TX32	**Lajitas Array**	**38.37**	**7**	P	**P**	**18 44 13.6**	**-0.5**
TXAR	**Lajitas Array**	**38.37**	**7**	P	**P**	**18 44 13.4**	**-0.6**
	0.1nm,0.3s,baz=175,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**38.37**	**7**	P	**P**	**18 44 13.6**	**-0.5**
LPAZ	**La Paz**	**40.02**	**105**	P	**P**	**18 44 29.1**	**+0.4**
	3.7nm,0.8s,baz=296,slow=6.3,SNR=20						
LPAZ	**La Paz**	**40.02**	**105**	P	**P**	**18 44 29.2**	**+0.5**
LPAZ				IAmb	IAmb	18 44 30.7	
	comp=Z,5.2nm,0.9s						
121A	**Cookes Peak, D**	**41.27**	**1**	P	**P**	**18 44 39.5**	**+1.2**
121A				IAmb	IAmb	18 44 52.6	
	comp=Z,2.7nm,0.8s						
SDV	**Santo Domingo**	**41.69**	**66**	P	**P**	**18 44 42.4**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=261,slow=7.1,SNR=8.5						
SDV	**Santo Domingo**	**41.69**	**66**	P	**P**	**18 44 42.4**	**+0.3**
SDV				IAmb	IAmb	18 44 44.6	
	comp=Z,5.7nm,0.9s						
113A	**Mohawk Valley,**	**41.80**	**353**	P	**P**	**18 44 44.1**	**+1.6**
SAML	**Samuel**	**44.76**	**94**	P	**P**	**18 45 06.0**	**-0.8**
SAML				IAmb	IAmb	18 45 22.1	
	comp=Z,6.9nm,1.1s						
MIAR	**Mount Ida**	**45.53**	**17**	P	**P**	**18 45 12.1**	**-0.4**
MIAR				IAmb	IAmb	18 45 13.9	
	comp=Z,8.7nm,1.1s						
SHPR	**Sheep Range**	**45.66**	**353**	P	**P**	**18 45 16.3**	**+2.6**
SHPR				IAmb	IAmb	18 45 26.6	
	comp=Z,3.3nm,1.0s						
PLCA	**Paso Flores**	**46.17**	**140**	P	**P**	**18 45 17.5**	**-0.1**
	comp=Z,4.4nm,1.0s,baz=320,slow=7.2,SNR=5.0						
PLCA	**Paso Flores**	**46.17**	**140**	P	**P**	**18 45 18.4**	**+0.8**
PLCA				IAmb	IAmb	18 45 19.6	
	comp=Z,7.8nm,1.1s						
NVAR	**Mina Array Bea**	**48.03**	**350**	P	**P**	**18 45 33.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=174,slow=9.7,SNR=3.2						
NVAR	**Mina Array Bea**	**48.03**	**350**	P	**P**	**18 45 32.1**	**-0.1**
CPUP	**Villa Florida**	**51.39**	**117**	P	**P**	**18 45 57.0**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=285,slow=9.3,SNR=5.2						
CPUP	**Villa Florida**	**51.39**	**117**	P	**P**	**18 45 57.2**	**-0.7**
CPUP				IAmb	IAmb	18 45 58.7	
	comp=Z,10nm,1.1s						
PDAR	**Pinedale Array**	**51.49**	**359**	P	**P**	**18 45 56.5**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=153,slow=6.1,SNR=2.9						
PDAR	**Pinedale Array**	**51.49**	**359**	P	**P**	**18 45 56.8**	**-1.8**
MFID	**Camas Ranch**	**52.55**	**353**	P	**P**	**18 46 05.4**	**-0.9**
MFID				IAmb	IAmb	18 46 18.6	
	comp=Z,5.3nm,0.9s						
BCAR	**Beaver Creek A**	**76.21**	**345**	P	**P**	**18 48 40.9**	**0.0**
ILAR	**Eielson Array**	**78.93**	**344**	P	**P**	**18 48 56.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=164,slow=5.6,SNR=8.1						
ILAR	**Eielson Array**	**78.93**	**344**	P	**P**	**18 48 55.2**	**-0.7**
QSPA	**South Pole Qui**	**81.11**	**180**	P	**P**	**18 49 08.3**	**+0.3**
H11S2	**WAKE ISLAND Hy**	**87.91**	**289**	T	T	20 26 49.8	
	baz=100,slow=74,SNR=97						
H11S1	**WAKE ISLAND Hy**	**87.91**	**289**	T	T	20 26 48.7	
	baz=100,slow=74,SNR=84						
H11S3	**WAKE ISLAND Hy**	**87.92**	**289**	T	T	20 26 54.0	
	baz=100,slow=74,SNR=77						
H11N3	**WAKE ISLAND Hy**	**87.93**	**290**	T	T	20 26 53.0	
	baz=100,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**87.95**	**290**	T	T	20 26 48.9	
	baz=100,slow=74,SNR=23						
H11N1	**WAKE ISLAND Hy**	**87.95**	**290**	T	T	20 26 51.2	
	baz=100,slow=74,SNR=18						
BRTR	**Keskin Array B**	**134.45**	**42**	PKP	**PKPdf**	**18 56 11.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=247,slow=1.1,SNR=2.6						
KMBO	**Kilima Mbogo**	**144.45**	**105**	PKP	**PKPdf**	**18 56 30.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=270,slow=4.0,SNR=3.2						
GEYT	**Alibeck**	**148.74**	**21**	PKPbc	**PKPdf**	**18 56 38.9**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=347,slow=5.9,SNR=2.6						
GEYT	**Alibeck**	**148.74**	**21**		**PKPdf**	**18 56 38.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**151.74**	**292**	PKP	**PKPdf**	**18 56 40.2**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=19,slow=0.4,SNR=2.7						
CMAR				PKPbc	**PKPbc**	**18 56 48.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=103,slow=1.0,SNR=11						
CMAR	**Chiang Mai Arr**	**151.74**	**292**		**PKPbc**	**18 56 47.2**	**-1.2**

*ISCJB **02** 18:37:25.7±1.9, 15°.64S±0°.08×167°.4E±0°.3, h124km, mb3.5/5, Error ellipse: s-maj=43.9km s-min=11.7km az=177.0*
*IDC **02** 18:37:28.0±5.0, 15°.75S×167°.70E, h146km±56km, mb3.3/5, mb1 3.4/6, mb1mx3.2/27, mbtmp3.7/6, Error ellipse: s-maj=56.2km s-min=30.9km az=132.0*

ISC 02 18:37:26.3±1.7, 15°.6S±0°.1×167°.6E±0°.3, h124km, n7, σ1§25/8, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.51**	**190**	P	**Pn**	**18 39 01.0**	**+1.2**
	1.4nm,0.3s,baz=60,slow=11,SNR=73						
DZM				S	**Sn**	**18 40 11.3**	**-1.6**
	0.7nm,0.3s,baz=324,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**28.68**	**231**	P	**P**	**18 43 12.6**	**+0.9**
	1.0nm,0.6s,baz=48,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**31.94**	**257**	P	**P**	**18 43 39.6**	**-0.9**
	0.3nm,0.8s,baz=89,slow=9.3,SNR=6.2						
ASAR	**Alice Springs**	**32.68**	**250**	P	**P**	**18 43 46.9**	**-0.1**
	1.0nm,0.6s,baz=79,slow=8.6,SNR=12						
USRK	**Ussurisyk Ar.**	**67.82**	**333**	P	**P**	**18 48 11.4**	**+0.5**
	0.6nm,0.5s,baz=128,slow=6.8,SNR=3.6						
SONM	**Songino Array**	**83.40**	**324**	P	**P**	**18 49 39.6**	**-0.2**
	0.4nm,0.7s,baz=100,slow=6.0,SNR=3.4						
ARCES	**ARCESS Array B**	**121.19**	**345**	PKP	**PKPdf**	**18 56 02.5**	**-1.4**
	1.3nm,0.8s,baz=33,slow=3.5,SNR=4.0						

*ISCJB **02** 18:44:42.9±0.4, 24°.40S±0°.03×68°.04W±0°.04, h148km±5km, mb4.0/1, Error ellipse: s-maj=5.7km s-min=4.4km az=0.6*
*NEIC **02** 18:44:43.8±2.5, 24°.38S±0°.06×68°.0W±0°.1, h137km±10km, mb4.3/6*
*SJA **02** 18:44:44.5±0.9, 24°.47S×67°.95W, h100km±77km, ML3.3, MW3.1*
*IDC **02** 18:44:44.8±3.6, 24°.22S×67°.64W, h122km±34km, mb4.0/2, mb1 3.9/3, mb1mx3.4/28, mbtmp4.4/3, Error ellipse: s-maj=42.0km s-min=37.4km az=3.0*
*GUC **02** 18:44:45.4±0.6, 24°.27S×68°.30W, h160km±9km, ML4.0*

ISC 02 18:44:43.7±0.8, 24°.39S±0°.04×68°.02W±0°.04, h138km±9km, n40, σ1§21/58, mb4.1/4, 1C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.62**	**241**		**Pn**	**18 45 15.2**	**+1.2**
GO02				Sn	**Sn**	**18 45 38.4**	**+1.4**
PB15	**IPOC Station P**	**1.77**	**311**	⇓*iP*	**Pn**	**18 45 16.8**	**+1.2**
PB15				*eS*	**Sn**	**18 45 40.8**	**+0.8**
LVC	**Limon Verde**	**1.95**	**335**	P	**Pn**	**18 45 18.9**	**+1.1**
	26nm,0.3s,baz=135,slow=11,SNR=121						
LVC				S	**Sn**	**18 45 44.2**	**+0.2**
	50nm,0.3s,baz=336,slow=19,SNR=43						
LVC	**Limon Verde**	**1.95**	**335**		**Pn**	**18 45 18.8**	**+0.9**
LVC				Sn	**Sn**	**18 45 44.4**	**+0.4**
PB14	**IPOC Station P**	**2.18**	**263**	*eP*	**Pn**	**18 45 21.9**	**+1.4**
PB14				*eS*	**Sn**	**18 45 48.6**	**-0.3**
PB06	**IPOC Station P**	**2.20**	**319**	⇓*iP*	**Pn**	**18 45 21.7**	**+1.1**
PB06				*i S*	**Sn**	**18 45 49.6**	**+0.6**
PB06				IAML		18 45 51.8	
	comp=E,748nm,0.3s						
PB10	**IPOC Station P**	**2.47**	**290**	⇓*iP*	**Pn**	**18 45 25.0**	**+1.1**
PB10				*eS*	**Sn**	**18 45 53.9**	**-0.9**
PB10	**IPOC Station P**	**2.47**	**290**	Pn	**Pn**	**18 45 24.9**	**+1.1**
PB10					**Sn**	**18 45 53.5**	**-1.3**
HJA	**Humahuaca**	**2.67**	**64**	*eP*	**Pn**	**18 45 28.3**	**+1.5**
HJA				IAML		18 45 29.6	
	comp=Z,119nm,0.5s						
HJA				*eS*	**Sn**	**18 45 59.6**	**-0.2**
AZAP	**Zapla**	**2.70**	**87**	*eP*	**Pn**	**18 45 27.8**	**+0.8**
AZAP				IAML		18 45 29.1	
	comp=Z,90nm,0.9s						
AZAP				*eS*	**Sn**	**18 45 58.7**	**-1.6**
PB09	**IPOC Station P**	**2.81**	**336**	⇓*iP*	**Pn**	**18 45 30.1**	**+1.8**
PB09				*eS*	**Sn**	**18 46 03.8**	**+1.0**
PB09				IAML		18 46 11.1	
	comp=N,267nm,0.3s						
PB03	**IPOC Station P**	**2.82**	**325**	⇓*iP*	**Pn**	**18 45 29.2**	**+0.8**
PB03				*eS*	**Sn**	**18 46 03.0**	**0.0**
PB03				IAML		18 46 03.8	
	comp=N,596nm,0.4s						
PB04	**IPOC Station P**	**2.83**	**316**	⇓*iP*	**Pn

*NEIC **02** 18:53:48, 19°.16S×172°.54W, h11km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=2.35; Mθθ=0.24; Mφφ=2.60; Mrθ=0.51; Mrφ=0.71; Mθφ=0.93; Fault plane solution: M0=2.7900×1018 NP1:φs=30.00000°, δ=39.00000°, λ=-62.00000°. NP2:φs=177.00000°, δ=56.00000°, λ=-110.00000°. Principal axes: T 2.8863, Plg9.0000°, Azm281.0000°; N -0.1978, Plg17.0000°, Azm189.0000°; P -2.6885, Plg71.0000°, Azm38.0000°;*

*PMR **02** 18:53:49±3.0, 19°.20S±0°.07×172°.30W±0°.07, h10km±2km*

*GCMT **02** 18:53:51.9±0.0, 19°.33S×172°.26W, h12km, MW6.2/146, Moment Tensor Solution. s131,c300; s146,c607; Duration: 3s2 Moment tensor: Scale 1018Nm; Mrr=2.60±.01; Mθθ=-0.03±.01; Mφφ=2.63±.01; Mrθ=0.09±.03; Mrφ=0.73±.01; Mθφ=1.17±.03; Best double couple: M0=2.95200×1018 NP1:φs=190.00000°, δ=57.00000°, λ=-95.00000°. NP2:φs=19.00000°, δ=34.00000°, λ=-83.00000°. Principal axes: T 3.0530, Plg12.0000°, Azm284.0000°; N -0.2000, Plg4.0000°, Azm193.0000°; P -2.8510, Plg78.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 18:53:52, 19°.31S×172°.24W, h12km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=2.61; Mθθ=0.06; Mφφ=2.67; Mrθ=0.29; Mrφ=0.73; Mθφ=0.78; Fault plane solution: M0=2.86000×1018 NP1:φs=12.00000°, δ=37.00000°, λ=-93.00000°. NP2:φs=196.00000°, δ=53.00000°, λ=-88.00000°. Principal axes: T 2.9765, Plg8.0000°, Azm284.0000°; N -0.2410, Plg2.0000°, Azm15.0000°; P -2.7355, Plg81.0000°, Azm118.0000°;*

*NEIC **02** 18:54:09.9, 19°.03S×172°.56W, h10km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=3.06; Mθθ=0.02; Mφφ=3.07; Mrθ=0.37; Mrφ=0.73; Mθφ=1.10; Fault plane solution: M0=3.36000×1018 NP1:φs=182.06000°, δ=54.73000°, λ=-102.79000°. NP2:φs=23.53000°, δ=37.23000°, λ=-72.61000°. Principal axes: T 3.3939, Plg9.0000°, Azm281.0000°; N -0.0701, Plg10.0000°, Azm190.0000°; P -3.3238, Plg76.0000°, Azm51.0000°;*

ISC 02 18:53:47.9±0.3, 19°.35S±0°.03×172°.64W±0°.03, h19km±1km, h20km: pP-P, n2296, σ171/2078, mb6.1/369, MS6.0/864, 59C-132D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.57**	**84**	P			Pn	18 54 22.4	-6.2
	baz=2.2								
NIUE	**Niue**	**2.57**	**84**				Pn	18 54 21.9	-6.7
AFI	**Afiamalu**	**5.47**	**9**	P			Pn	18 55 01.4	-7.2
AFI	**Afiamalu**	**5.47**	**9**				Pn	18 55 01.4	-7.2
AFI					Sn		Sn	18 55 57.6	-14
MSVF	**Nonsavu**	**8.98**	**279**	*c iP*			**Pn**	**18 56 00.5**	**+3.7**
RIZ	**Raoul Island**	**10.96**	**205**	P			**Pn**	**18 56 26.6**	**+2.8**
RIZ				S			Sn	18 58 17.0	-8.9
RAO	**Raoul Island**	**10.97**	**205**	P			**Pn**	**18 56 23.6**	**-0.2**
RAO	**Raoul Island**	**10.97**	**205**	Pn			**Pn**	**18 56 22.7**	**-1.1**
	241nm,0.3s,baz=106,slow=14,SNR=9.3								
RAO					Sn		**Sn**	**18 58 17.7**	**-8.3**
RAO	**Raoul Island**	**10.97**	**205**				**Pn**	**18 56 23.6**	**-0.2**
GLKZ	**Green Lake**	**10.98**	**205**	P			**Pn**	**18 56 24.0**	**0.0**
GLKZ				S			**Sn**	**18 58 20.3**	**-5.9**
RAR	**Rarotonga**	**12.21**	**101**	P			Pn	18 56 34.5	-6.4
RAR	**Rarotonga**	**12.21**	**101**	Pn			Pn	18 56 34.7	-6.2
	202nm,0.3s,baz=246,slow=7.0,SNR=122								
RAR					Sn		Sn	18 58 39.3	-17
	8.2nm,0.3s,baz=180,slow=19,SNR=2.0								
RAR					LR		LR	19 00 09.3	
	comp=Z,59μm,20.3s,baz=210,slow=31								
RAR	**Rarotonga**	**12.21**	**101**				Pn	18 56 34.5	-6.4
FUNA	**Funafuti**	**13.36**	**323**	Pn			**Pn**	**18 56 55.0**	**-1.7**
KNTN	**Kanton**	**16.50**	**3**				**Pn**	**18 57 35.1**	**-3.3**
DZM	**Mont Dzumac**	**19.75**	**259**	*eP*			**P**	**18 58 17.7**	**+0.7**
	972nm,0.9s								
DZM				*e*LQ			LQ	19 02 07.2	
	108μm,25.5s								
DZM				*e*LR			LR	19 02 55.6	
	comp=Z,138μm,26.6s								
DZM	**Mont Dzumac**	**19.75**	**259**	P			**P**	**18 58 16.6**	**-0.3**
	21nm,0.3s,baz=82,slow=16,SNR=110								
DZM				S			**S**	**19 01 54.0**	**-5.1**
	baz=199,slow=8.3,SNR=2.2								
DZM				LR			LR	19 04 40.0	
	comp=Z,73μm,21.7s,baz=90,slow=33								
DZM	**Mont Dzumac**	**19.75**	**259**	P			**P**	**18 58 16.4**	**-0.5**
MXZ	**Matakaoa Point**	**19.79**	**202**	P			**Pn**	**18 58 19.5**	**+0.8**
MXZ				S			S	19 01 46.5	-13
MXZ	**Matakaoa Point**	**19.79**	**202**	P			**Pn**	**18 58 19.0**	**+0.3**
GRZ	**Great Barrier**	**19.83**	**209**	P			**Pn**	**18 58 21.5**	**+2.4**
OUZ	**Omahuta**	**19.95**	**215**	P			**Pn**	**18 58 21.9**	**+1.3**
OUZ	**Omahuta**	**19.95**	**215**	P			**Pn**	**18 58 20.8**	**+0.1**
OUZ				IAMs_20			IAMs_20	19 05 33.3	
	comp=Z,24μm,20.0s								
WMGZ	**Waiomatatini S**	**19.99**	**201**	P			Pn	18 58 22.4	+1.3
WMGZ				S			S	19 01 52.0	-11
KUZ	**Kuaotunu**	**20.11**	**208**	P			Pn	18 58 25.4	+2.9
NFK	**Norfolk Island**	**20.15**	**238**	P			Pn	18 58 23.9	+0.8
	baz=20,SNR=7.8								
HAZ	**Te Kaha**	**20.15**	**203**	P			Pn	18 58 25.4	+2.4
HAZ				S			S	19 01 56.3	-10
PUZ	**Puketiti**	**20.27**	**201**	P			Pn	18 58 27.2	+2.8
PUZ				S			S	19 01 57.4	-11
RUGZ	**Raukumara Rang**	**20.38**	**202**	P			Pn	18 58 28.7	+3.0
RUGZ				S			S	19 02 00.2	-11
WHRZ	**Whale Island**	**20.54**	**204**	P			Pn	18 58 31.2	+3.7
CNGZ	**Carnagh Statio**	**20.66**	**201**	P			Pn	18 58 30.0	+1.1
OPRZ	**Ohinepanea**	**20.70**	**205**	P			Pn	18 58 33.2	+3.8
TKGZ	**Te Karaka**	**20.74**	**202**	P			Pn	18 58 31.6	+1.8
TKGZ				S			**S**	**19 02 10.3**	**-7.9**
MWZ	**Matawai**	**20.76**	**202**	P			Pn	18 58 31.4	+1.3
URZ	**Urewera**	**20.84**	**203**	P			**P**	**18 58 29.2**	**+0.8**
	comp=Z,107nm,0.5s,baz=22,slow=2.2,SNR=51								
URZ				S			**S**	**19 02 11.1**	**-9.1**
	comp=Z,37nm,0.7s,baz=222,slow=17,SNR=4.0								
URZ				LR			LR	19 07 51.9	
	comp=Z,9μm,20.4s,baz=20,slow=40								
URZ	**Urewera**	**20.84**	**203**	P			Pn	18 58 32.2	+1.2
URZ	**Urewera**	**20.84**	**203**	P			**P**	**18 58 29.3**	**+0.8**
URZ	**Urewera**	**20.84**	**203**	IAMs_20			IAMs_20	19 05 19.4	
	comp=Z,16μm,19.0s								
RAGZ	**Rawiri**	**20.94**	**202**	P			Pn	18 58 34.1	+1.9
RIGZ	**Rimuhau**	**21.01**	**201**	P			**P**	**18 58 33.3**	**+2.9**
PRGZ	**Paritu Road**	**21.16**	**201**	P			**P**	**18 58 38.2**	**+6.2**
RTZ	**Ruatahuna**	**21.20**	**203**	P			**P**	**18 58 38.2**	**+5.6**
RTZ				S			S	19 02 14.7	-13
RAHZ	**Arahi**	**21.43**	**202**	P			**P**	**18 58 37.4**	**+2.4**
RAHZ				S			**S**	**19 02 25.0**	**-7.0**
MTHZ	**Maungataniwha**	**21.46**	**203**	P			**P**	**18 58 40.6**	**+5.4**
MTHZ				S			**S**	**19 02 25.0**	**-7.7**
WHHZ	**Waihua**	**21.52**	**202**	P			**P**	**18 58 39.8**	**+4.0**
WHHZ				S			**S**	**19 02 25.8**	**-7.9**
TLZ	**Tolley Road**	**21.52**	**206**	P			**P**	**18 58 42.0**	**+6.1**
BKZ	**Black Stump Fm**	**21.87**	**203**	P			**P**	**18 58 40.9**	**+1.2**
BKZ				IAMs_20			IAMs_20	19 05 51.5	
	comp=Z,23μm,18.0s								
PAE	**Paea**	**21.93**	**89**	*eP*			**P**	**18 58 40.1**	**-0.3**
	comp=Z,60nm,1.2s								
PAE	**Paea**	**21.93**	**89**	*e*T			T	19 20 47.8	
	comp=Z,30nm,0.3s								
PPT2	**Papeete2**	**21.94**	**89**	*eP*			**P**	**18 58 40.9**	**+0.3**
	comp=Z,576nm,1.2s								
PPT2				*e*LQ			LQ	19 02 52.5	
	comp=Z,81μm,26.2s								
PPT2				*e*LR			LR	19 03 30.3	
	comp=Z,184μm,28.8s,baz=262								
PPT2	**Papeete2**	**21.94**	**89**	*e*T			T	19 20 51.7	
	comp=Z,24nm,0.3s								
TBI	**Tubuai**	**21.94**	**105**	*eP*			**P**	**18 58 40.6**	**+0.1**
	comp=Z,2μm,1.1s								
TBI				*e*S			**S**	**19 02 38.0**	**-4.1**
	comp=Z,35μm,27.2s								
TBI				*e*LQ			LQ	19 02 56.0	
	comp=Z,48μm,26.5s								
TBI				*e*LR			LR	19 03 35.0	
	comp=Z,139μm,30.8s,baz=277								
TBI	**Tubuai**	**21.94**	**105**	*e*T			T	19 20 58.7	
	comp=Z,14nm,0.3s								
PPT	**Papeete**	**21.94**	**89**	P			**P**	**18 58 40.8**	**+0.3**
	comp=Z,344nm,1.0s,baz=297,slow=4.6,SNR=14								
PPT				LR			LR	19 04 38.2	
	comp=Z,33μm,20.4s,baz=242,slow=30								
PPT	**Papeete**	**21.94**	**89**	P			**P**	**18 58 39.7**	**-0.9**
PPTF	**Pamatai, Papee**	**21.95**	**89**	P			**P**	**18 58 41.4**	**+0.7**
PPTF				IAmb			IAmb	18 58 57.6	
	comp=Z,1μm,1.3s								
PPTF				IAMs_20			IAMs_20	19 08 04.6	
	comp=Z,39μm,18.0s								
HIZ	**Hauiti**	**21.96**	**207**	P			**P**	**18 58 47.6**	**+7.0**
HIZ	**Hauiti**	**21.96**	**207**	P			**P**	**18 58 42.5**	**+1.9**
HIZ				IAmb			IAmb	18 59 00.2	
	comp=Z,678nm,0.8s								
CKHZ	**Cape Kidnapper**	**22.09**	**202**	P			**P**	**18 58 45.9**	**+3.9**
CKHZ				S			**S**	**19 02 39.2**	**-5.6**
KWHZ	**Kaweka Forest**	**22.12**	**203**	P			**P**	**18 58 46.4**	**+4.0**
KWHZ				S			**S**	**19 02 39.7**	**-5.7**
KRVZ	**Karewarewa**	**22.13**	**205**	P			**P**	**18 58 46.8**	**+4.2**
TIAR	**Tiarei**	**22.16**	**89**	*eP*			**P**	**18 58 42.8**	**-0.1**
	comp=Z,176nm,1.1s								
TIAR	**Tiarei**	**22.16**	**89**	*e*T			T	19 20 59.2	
	comp=Z,4.9nm,0.3s								
WTVZ	**West Tongariro**	**22.17**	**205**	P			**P**	**18 58 47.2**	**+4.2**
TWVZ	**Taurewa**	**22.20**	**205**	P			**P**	**18 58 47.5**	**+4.3**
NGZ	**Ngauruhoe**	**22.22**	**205**	P			**P**	**18 58 46.8**	**+3.3**
NGZ				S			**S**	**19 02 47.3**	**-0.1**
TVO	**Taravao**	**22.22**	**90**	*eP*			**P**	**18 58 43.6**	**0.0**
	comp=Z,149nm,1.2s								
TVO	**Taravao**	**22.22**	**90**	*e*T			T	19 20 57.2	
	comp=Z,6.9nm,0.3s								
TUVZ	**Tukino**	**22.28**	**205**	P			**P**	**18 58 49.1**	**+4.9**
TUVZ				S			**S**	**19 02 50.6**	**+2.1**
FWVZ	**Far West T-bar**	**22.31**	**205**	P			**P**	**18 58 47.3**	**+2.8**
FWVZ				S			**S**	**19 02 44.6**	**-4.6**
WHVZ	**Whangaehu Hut**	**22.32**	**205**	P			**P**	**18 58 47.2**	**+2.6**
KRHZ	**Kereru**	**22.33**	**203**	P			**P**	**18 58 47.6**	**+3.0**
KRHZ				S			**S**	**19 02 39.7**	**-10**
TRVZ	**Turoa**	**22.35**	**205**	P			**P**	**18 58 47.6**	**+2.6**
MOVZ	**Moawhango**	**22.36**	**204**	P			**P**	**18 58 48.4**	**+3.4**
MOVZ				S			**S**	**19 02 44.1**	**-5.9**
PKVZ	**Pokaka**	**22.42**	**205**	P			**P**	**18 58 48.7**	**+3.1**
PKVZ				S			**S**	**19 02 50.6**	**-0.4**
MTVZ	**Mangateitei**	**22.45**	**205**	P			**P**	**18 58 52.2**	**+6.3**
PXZ	**Pawanui**	**22.50**	**201**	P			**P**	**18 58 49.6**	**+3.3**
VRZ	**Vera Road**	**22.52**	**206**	P			**P**	**18 58 52.9**	**+6.3**
PNHZ	**Pukenui**	**22.63**	**203**	P			**P**	**18 58 52.7**	**+4.9**
PNHZ				S			**S**	**19 02 46.2**	**-8.6**
WPHZ	**Waipukurau**	**22.68**	**202**	P			**P**	**18 58 53.5**	**+5.2**
WPHZ				S			**S**	**19 02 50.6**	**-5.0**
PRHZ	**Porangahau**	**22.79**	**202**	P			**P**	**18 58 54.9**	**+5.4**
TSZ	**Takapari Road**	**22.85**	**203**	P			**P**	**18 58 52.8**	**+2.7**
TSZ				S			**S**	**19 02 51.7**	**-7.0**
PKE	**Pukeiti**	**22.91**	**208**	P			**P**	**18 58 55.1**	**+4.4**
LREZ	**Lake Rotokare**	**22.95**	**206**	P			P	18 59 00.4	+9.3
WAZ	**Wanganui**	**22.96**	**205**	P			**P**	**18 58 55.0**	**+3.7**
WAZ				S			**S**	**19 02 58.2**	**-2.4**
KHEZ	**Kahui Hut**	**22.98**	**207**	P			**P**	**18 58 55.7**	**+4.2**
DVHZ	**Dannevirke**	**22.98**	**202**	P			**P**	**18 58 55.2**	**+3.7**
PRWZ	**Pori Road**	**23.28**	**202**	P			**P**	**18 58 58.1**	**+3.7**
BFZ	**Birch Farm**	**23.30**	**202**	P			**P**	**18 58 57.5**	**+2.9**
BFZ	**Birch Farm**	**23.30**	**202**	P			**P**	**18 58 57.1**	**+2.5**
BFZ				IAmb			IAmb	18 59 14.0	
	comp=Z,377nm,0.8s								
MEH	**Mehetia**	**23.33**	**90**	*eP*			**P**	**18 58 54.5**	**-0.6**
	comp=Z,63nm,1.1s								
TIWZ	**Tintock**	**23.51**	**202**	P			**P**	**18 59 01.0**	**+4.2**
HOWZ	**Holdsworth Sta**	**23.75**	**203**	P			**P**	**18 59 02.1**	**+3.1**
TMWZ	**Te Maipa**	**23.80**	**202**	P			**P**	**18 59 03.6**	**+4.1**
OGWZ	**Otaki Gorge**	**23.80**	**203**	P			**P**	**18 59 01.8**	**+2.3**
KIW	**Kapiti Island**	**23.94**	**204**	P			**P**	**18 59 03.6**	**+2.7**
MTW	**Mount Morrison**	**23.98**	**202**	P			**P**	**18 59 04.9**	**+3.7**
PMOR	**Pomaria Rec**	**24.02**	**83**	*eP*			**P**	**18 59 00.5**	**-1.3**
	comp=Z,225nm,1.1s								
CAW	**Cannon Point**	**24.09**	**203**	P			**P**	**18 59 05.5**	**+3.2**
TRWZ	**Traveller**	**24.12**	**202**	P			**P**	**18 59 07.1**	**+4.5**
PAWZ	**Paruwai Farm**	**24.20**	**202**	P			**P**	**18 59 07.9**	**+4.5**
VAH	**Vaihoa**	**24.22**	**84**	*eP*			**P**	**18 59 02.9**	**-0.7**
	comp=Z,315nm,1.3s								
MSWZ	**Moikau Station**	**24.30**	**203**	P			**P**	**18 59 05.5**	**+1.3**
SNZO	**South Karori**	**24.41**	**204**	P			**P**	**18 59 05.7**	**+0.6**
SNZO				IAmb			IAmb	18 59 22.1	
	comp=Z,1μm,1.8s								
SNZO	**South Karori**	**24.41**	**204**	IAMs_20			IAMs_20	19 09 58.6	
	comp=Z,19μm,20.0s								
BHW	**Baring Head**	**24.43**	**203**	P			**P**	**18 59 08.2**	**+2.9**
BHW	**Baring Head**	**24.43**	**203**	P			**P**	**18 59 06.5**	**+1.1**
PLWZ	**Palliser**	**24.43**	**202**	P			**P**	**18 59 08.9**	**+3.5**
PLWZ	**Palliser**	**24.43**	**202**	P			**P**	**18 59 06.5**	**+1.0**
TUWZ	**Tuamarina**	**24.80**	**205**	P			**P**	**18 59 08.8**	**0.0**
NNZ	**Nelson**	**24.85**	**206**	P			**P**	**18 59 08.8**	**-0.4**
NNZ				IAmb			IAmb	18 59 22.7	
	comp=Z,303nm,1.1s								
NNZ				IAMs_20			IAMs_20	19 10 29.5	
	comp=Z,11μm,18.0s								
QRZ	**Quartz Range**	**24.88**	**208**	P			**P**	**18 59 10.0**	**+0.5**
QRZ				IAmb			IAmb	18 59 23.2	
	comp=Z,434nm,0.6s								
QRZ				IAMs_20			IAMs_20	19 07 33.2	
	comp=Z,18μm,20.0s								
CMWZ	**Cape Campbell**	**24.97**	**204**	P			**P**	**18 59 09.3**	**-0.9**
TARA	**Tarawa**	**24.99**	**324**	P			**P**	**18 59 07.5**	**-3.1**
TARA				IAmb			IAmb	18 59 12.0	
	comp=Z,303nm,1.0s								
BSWZ	**Blackbirch Sta**	**25.07**	**204**	P			**P**	**18 59 10.1**	**-1.1**
THZ	**Tophouse**	**25.50**	**206**	P			**P**	**18 59 14.4**	**-0.7**
THZ				IAmb			IAmb	18 59 36.2	
	comp=Z,204nm,0.6s								
THZ				IAMs_20			IAMs_20	19 09 05.1	
	comp=Z,17μm,18.0s								
KHZ	**Kahutara**	**25.80**	**204**	P			**P**	**18 59 19.0**	**+1.3**
KHZ				IAmb			IAmb	18 59 27.1	
	comp=Z,268nm,1.0s								
KHZ				IAMs_20			IAMs_20	19 10 43.5	
	comp=Z,23μm,20.0s								
XMAS	**Kiritimati**	**25.98**	**37**	P			**P**	**18 59 17.5**	**-2.2**
XMAS				IAmb			IAmb	18 59 27.4	
	comp=Z,267nm,0.9s								
XMAS				IAMs_20			IAMs_20	19 07 16.8	
	comp=Z,24μm,19.0s								
LTZ	**Lake Taylor**	**26.61**	**205**	P			**P**	**18 59 25.5**	**+0.4**
LTZ				IAmb			IAmb	18 59 39.6	
	comp=Z,283nm,0.5s								
LTZ				IAMs_20			IAMs_20	19 09 50.9	
	comp=Z,17μm,19.0s								
CRLZ	**Canterbury Las**	**27.14**	**204**	P			**P**	**18 59 30.7**	**+0.9**
CRLZ				IAmb			IAmb	18 59 35.2	
	comp=Z,589nm,1.5s								
CRLZ				IAMs_20			IAMs_20	19 12 07.1	
	comp=Z,15μm,21.0s								
OXZ	**Oxford**	**27.16**	**205**	P			**P**	**18 59 30.3**	**+0.3**
OXZ				IAmb			IAmb	18 59 44.9	
	comp=Z,371nm,0.6s								
MQZ	**McQueen's Vall**	**27.24**	**204**	P			**P**	**18 59 30.9**	**+0.2**
MQZ				IAMs_20			IAMs_20	19 11 58.2	
	comp=Z,19μm,18.0s								
RPZ	**Rata Peaks**	**27.88**	**206**	P			**P**	**18 59 37.3**	**+0.8**
	comp=Z,18nm,0.6s,baz=285,slow=1.5,SNR=14								
RPZ				S			**S**	**19 04 26.8**	**+7.7**
	comp=Z,6.1nm,0.6s,baz=24,slow=9.0,SNR=1.9								
RPZ				LR			LR	19 11 28.6	
	comp=Z,11μm,19.7s,baz=24,slow=38								
RPZ	**Rata Peaks**	**27.88**	**206**	P			**P**	**18 59 37.2**	**+0.7**
RPZ				IAmb			IAmb	19 00 05.9	
	comp=Z,182nm,0.6s								
RPZ	**Rata Peaks**	**27.88**	**206**	IAMs_20			IAMs_20	19 11 27.5	
	comp=Z,16μm,18.0s								
LHI	**Lord Howe Isla**	**28.20**	**239**	P			**P**	**18 59 41.5**	**+2.1**
	baz=29,SNR=6.7								
LHI	**Lord Howe Isla**	**28.20**	**239**	P			**P**	**18 59 39.5**	**0.0**
LHI				IAmb			IAmb	18 59 55.5	
	comp=Z,431nm,1.1s								
LHI				IAMs_20			IAMs_20	19 08 07.7	
	comp=Z,17μm,19.0s								
HNR	**Honiara**	**28.29**	**287**	P			**P**	**18 59 40.0**	**-0.4**
	comp=Z,124nm,0.8s,baz=180,slow=1.7,SNR=11								
HNR				LR			LR	19 09 23.7	
	comp=Z,26μm,18.9s,baz=122,slow=33								
HNR	**Honiara**	**28.29**	**287**	P			**P**	**18 59 41.0**	**+0.6**
HNR	**Honiara**	**28.29**	**287**	P			**P**	**18 59 39.4**	**-1.0**
HNR				IAmb			IAmb	18 59 55.8	
	comp=Z,244nm,0.9s								
HNR	**Honiara**	**28.29**	**287**	IAMs_20			IAMs_20	19 09 12.8	
	comp=Z,23μm,19.0s								
LBZ	**Lake Benmore**	**28.79**	**206**	IAMs_20			IAMs_20	19 12 55.6	
	comp=Z,20μm,18.0s								
ODZ	**Otahua Downs**	**29.14**	**205**	P			**P**	**18 59 49.8**	**+2.1**
ODZ				IAMs_20			IAMs_20	19 11 29.0	
	comp=Z,20μm,18.0s								
WKZ	**Wanaka**	**29.64**	**207**	P			**P**	**18 59 54.3**	**+2.1**
WKZ				IAmb			IAmb	19 00 23.9	
	comp=Z,118nm,0.6s								
WKZ				IAMs_20			IAMs_20	19 10 32.0	
	comp=Z,16μm,22.0s								
MLZ	**Mavora Lakes**	**30.45**	**207**	P			**P**	**19 00 00.7**	**+1.3**
MLZ				IAmb			IAmb	19 00 16.7	
	comp=Z,240nm,1.1s								
MLZ				IAMs_20			IAMs_20	19 10 55.5	
	comp=Z,18μm,20.0s								
WHZ	**Wether Hill Ro**	**30.94**	**207**	P			**P**	**19 00 04.5**	**+0.8**
WHZ				IAMs_20			IAMs_20	19 11 21.5	
	comp=Z,14μm,20.0s								
DCZ	**Deep Cove**	**30.95**	**208**	P			**P**	**19 00 04.7**	**+1.0**
DCZ				IAMs_20			IAMs_20	19 13 10.7	
	comp=Z,11μm,18.0s								
TAOE	**Nuku Hiva Isla**	**33.13**	**76**	*e*S			**S**	**19 05 39.8**	**-2.2**
	comp=Z,5μm,24.0s								
TAOE				*e*LR			LR	19 08 48.2	
	comp=Z,66μm,26.9s,baz=252								
TAOE	**Nuku Hiva Isla**	**33.13**	**76**	*e*T			T	19 34 31.8	
	comp=Z,70nm,0.2s								
TAOE	**Nuku Hiva Isla**	**33.13**	**76**	P			**P**	**19 00 21.3**	**-2.0**
TAOE				IAMs_20			IAMs_20	19 09 23.0	
	comp=Z,22μm,22.0s								
EIDS	**Eidsvold**	**34.01**	**253**	P			**P**	**19 00 30.6**	**-0.2**
	baz=34,SNR=62								
EIDS	**Eidsvold**	**34.01**	**253**	P			**P**	**19 00 29.4**	**-1.4**
EIDS				IAmb			IAmb	19 00 45.2	
	comp=Z,229nm,1.2s								
EIDS				IAMs_20			IAMs_20	19 11 35.7	
	comp=Z,27μm,21.0s								
KWAJ	**Kwajalein Atol**	**34.08**	**323**	P			**P**	**19 00 29.3**	**-2.1**
KWAJ				pmax			pmax		
	comp=Z,328nm,1.0s								
KWAJ				MLR			MLR		
	comp=Z,11μm,19.0s								
KWAJ	**Kwajalein Atol**	**34.08**	**323**	P			**P**	**19 00 29.3**	**-2.1**
KWAJ				IAmb			IAmb	19 00 46.0	
	comp=Z,328nm,0.9s								
KWAJ	**Kwajalein Atol**	**34.08**	**323**	IAMs_20			IAMs_20	19 13 36.6	
	comp=Z,11μm,19.0s								
ARMA	**Armidale**	**34.10**	**244**	P			**P**	**19 00 32.4**	**+0.7**
	baz=34,SNR=69								
ARMA	**Armidale**	**34.10**	**244**	P			**P**	**19 00 31.8**	**+0.1**
ARMA				IAmb			IAmb	19 00 47.2	
	comp=Z,244nm,0.9s								
ARMA				IAMs_20			IAMs_20	19 11 07.8	
	comp=Z,30μm,21.0s								
MGCD	**Mangrove Creek**	**35.13**	**240**	P			**P**	**19 00 41.9**	**+1.5**
	baz=36,SNR=68								
RIV	**Riverview**	**35.24**	**238**	P			**P**	**19 00 43.5**	**+2.2**
	baz=36,SNR=5.9								
JOHN	**Johnston Islan**	**35.99**	**5**	P			**P**	**19 00 47.1**	**-0.6**
JOHN				IAmb			IAmb	19 00 50.1	
	comp=Z,332nm,1.0s								
JOHN	**Johnston Islan**	**35.99**	**5**	IAMs_20			IAMs_20	19 14 41.7	
	comp=Z,14μm,21.0s								
RMQ	**Roma**	**36.16**	**251**	P			**P**	**19 00 49.8**	**+0.5**
	baz=36,SNR=93								
CNB	**Canberra Magne**	**37.06**	**237**	P			**P**	**19 00 58.2**	**+1.2**
	baz=37,SNR=106								
CAN	**Canberra**	**37.35**	**237**	P			**P**	**19 01 00.0**	**+0.6**
CAN				pmax			pmax		
	comp=Z,343nm,0.9s								
CAN				MLR			MLR		
	comp=Z,14μm,18.0s								
CAN	**Canberra**	**37.35**	**237**	P			**P**	**19 01 00.0**	**+0.6**
CAN				IAmb			IAmb	19 01 15.2	
	comp=Z,343nm,0.9s								
CAN				IAMs_20			IAMs_20	19 14 24.1	
	comp=Z,14μm,18.0s								
KRVT	**Keravat (AS076**	**37.57**	**289**	P			**P**	**19 01 00.7**	**-0.7**
	comp=Z,79nm,0.8s,baz=201,slow=3.9,SNR=2.8								
KRVT				LR			LR	19 14 57.8	
	comp=Z,25μm,21.4s

UWE	Uwekahuna	42.12	25	P	P	19 01 38.2	-1.0
UWE				IAmb	IAmb	19 01 45.8	
	comp=Z,904nm,1.7s						
BYL	Byron's Ledge	42.13	25	P	P	19 01 38.4	-0.9
BYL				IAmb	IAmb	19 02 40.6	
	comp=Z,292nm,1.1s						
UWB	Uwekahuna B	42.13	25	P	P	19 01 38.0	-1.3
UWB				IAmb	IAmb	19 01 40.7	
	comp=Z,591nm,1.6s						
HATHI	Halema'uma'u T	42.13	25	P	P	19 01 38.4	-1.0
HATHI				IAmb	IAmb	19 02 15.7	
	comp=Z,263nm,1.0s						
SBLHI	Steaming Bluff	42.14	25	P	P	19 01 38.1	-1.3
SBLHI				IAmb	IAmb	19 01 45.8	
	comp=Z,676nm,1.7s						
HUH	Hualalai	42.15	24	P	P	19 01 37.6	-2.0
MLH	Mauna Loa	42.15	25	P	P	19 01 38.5	-1.2
STCH	Steam Cracks	42.16	25	P	P	19 01 38.6	-0.8
NPOC	North of Pu'u	42.17	25	P	P	19 01 38.5	-1.1
NPOC				IAmb	IAmb	19 01 56.3	
	comp=Z,366nm,0.6s						
HMH	Humu'ula Sheep	42.21	24		P	19 01 38.9	-1.3
HMH				IAmb	IAmb	19 01 43.0	
	comp=Z,318nm,1.0s						
POHA	Pohakuloa	42.33	24	P	P	19 01 40.0	-1.1
POHA				IAmb	IAmb	19 01 49.1	
	comp=Z,305nm,1.2s						
POHA	Pohakuloa	42.33	24	IAMs_20	IAMs_20	19 17 24.5	
	comp=Z,8μm,19.0s						
COEN	Coen	42.59	270	P	P	19 01 43.3	+0.2
	baz=43,SNR=88						
COEN	Coen	42.59	270	P	P	19 01 42.8	-0.3
COEN				IAMs_20	IAMs_20	19 16 01.9	
	comp=Z,13μm,22.0s						
MANU	Manus Island	42.73	289	P	P	19 01 44.4	+0.1
MANU				IAMs_20	IAMs_20	19 17 33.5	
	comp=Z,14μm,21.0s						
STKA	Stephens Creek	42.82	244	P	P	19 01 45.5	+0.7
	baz=43,SNR=77						
STKA	Stephens Creek	42.82	244	P	P	19 01 44.9	0.0
STKA				S	S	19 08 03.8	-4.5
STKA				pmax	pmax		
	comp=Z,37nm,0.9s						
STKA				MLR	MLR		
	comp=Z,4μm,20.0s						
STKA	Stephens Creek	42.82	244	P	P	19 01 45.2	+0.4
	comp=Z,46nm,0.7s,baz=92,slow=11,SNR=85						
STKA				S	S	19 08 03.9	-4.5
	comp=Z,3.3nm,0.9s,baz=287,slow=19,SNR=1.7						
STKA				LR	LR	19 18 24.9	
	comp=Z,16μm,18.2s,baz=77,slow=34						
STKA	Stephens Creek	42.82	244	P	P	19 01 44.9	0.0
STKA	Stephens Creek	42.82	244	IAMs_20	IAMs_20	19 17 44.7	
	comp=Z,4μm,20.0s						
HON	Honolulu	42.89	20	P	P	19 01 44.8	-0.5
HON				pmax	pmax		
	comp=Z,284nm,1.0s						
HON				MLR	MLR		
	comp=Z,9μm,18.0s						
HON	Honolulu	42.89	20	P	P	19 01 44.8	-0.5
HON				IAmb	IAmb	19 01 47.4	
	comp=Z,284nm,1.0s						
HON				IAMs_20	IAMs_20	19 16 59.0	
	comp=Z,9μm,18.0s						
HLK	Haleakala	42.97	23	P	P	19 01 44.8	-1.6
HLK				IAmb	IAmb	19 01 47.7	
	comp=Z,302nm,1.1s						
HLK				IAMs_20	IAMs_20	19 19 52.5	
	comp=Z,7μm,18.0s						
KIP	Kipapa	42.98	20*ce*	P	P	19 01 45.6	-0.4
KIP				pmax	pmax		
	comp=Z,386nm,0.8s						
KIP	Kipapa	42.98	20	P	P	19 01 45.3	-0.7
KIP				IAmb	IAmb	19 01 48.1	
	comp=Z,403nm,0.9s						
KIP	Kipapa	42.98	20	IAMs_20	IAMs_20	19 17 20.4	
	comp=Z,9μm,18.0s						
KEKH	Kekaha	42.98	18	P	P	19 01 45.1	-1.0
KEKH				IAmb	IAmb	19 01 59.0	
	comp=Z,1μm,1.9s						
KEKH				IAMs_20	IAMs_20	19 17 39.4	
	comp=Z,8μm,19.0s						
KHLH	Kahului Airpor	43.04	22	P	P	19 01 45.6	-0.9
KHLH				IAMs_20	IAMs_20	19 20 20.1	
	comp=Z,7μm,19.0s						
OPA	Opana	43.23	20	P	P	19 01 46.3	-1.8
OPA				pmax	pmax		
	comp=Z,132nm,0.9s						
OPA				MLR	MLR		
	comp=Z,10μm,18.0s						
OPA	Opana	43.23	20	P	P	19 01 46.2	-1.8
OPA				IAMs_20	IAMs_20	19 17 45.0	
	comp=Z,10μm,18.0s						
ARPS	Mount Arapiles	43.32	237	P	P	19 01 49.7	+0.9
	baz=44,SNR=34						
WAKE	Wake Island	43.44	331	P	P	19 01 48.9	-0.9
WAKE				IAmb	IAmb	19 02 02.7	
	comp=Z,449nm,1.0s						
H11N3	WAKE ISLAND Hy	43.70	332	T	T	19 48 14.7	
	baz=150,slow=76,SNR=4.6						
H11N1	WAKE ISLAND Hy	43.71	332	T	T	19 48 15.4	
	baz=150,slow=76						
H11N2	WAKE ISLAND Hy	43.72	332	T	T	19 48 13.6	
	baz=150,slow=76,SNR=5.5						
QIS	Mount Isa	44.78	260	P	P	19 02 00.5	-0.2
	baz=45,SNR=23						
HTT	Hallett	45.22	242	P	P	19 02 04.7	+0.6
	baz=46,SNR=38						
MMPI	Merauke	46.73	277	P	P	19 02 18.1	+1.9
	comp=Z,703nm,0.8s,comp=Z,13μm						
MIDW	Midway	47.51	354	P	P	19 02 19.9	-2.0
MIDW				IAMs_20	IAMs_20	19 24 20.8	
	comp=Z,7μm,18.0s						
BBOO	Buckleboo	47.57	243	P	P	19 02 22.6	+0.1
	baz=48,SNR=78						
BBOO	Buckleboo	47.57	243	P	P	19 02 22.6	+0.1
BBOO				IAmb	IAmb	19 02 38.3	
	comp=Z,248nm,0.9s						
BBOO				PcP	PcP	19 03 55.6	+3.3
BBOO				IAMs_20	IAMs_20	19 19 04.3	
	comp=Z,20μm,22.0s						
JAY	Jayapura	48.57	284	S	S	19 09 27.1	-4.4
	comp=Z,18nm,1.1s,baz=149,slow=12,SNR=2.1						
JAY	Jayapura	48.57	284	P	P	19 02 31.0	+0.5
	comp=Z,2μm,0.8s,comp=Z,46μm						
GENI	Genyem	49.03	284	P	P	19 02 34.9	+0.9
	comp=Z,468nm,0.8s,comp=Z,10μmcomp=Z,19μm						
WR9	Warramunga Arr	49.60	260	IAMs_20	IAMs_20	19 24 17.2	
	comp=Z,31μm,19.0s						
WR8	Warramunga Arr	49.61	260	IAMs_20	IAMs_20	19 24 19.1	
	comp=Z,5μm,19.0s						
WR7	Warramunga Arr	49.63	260	IAMs_20	IAMs_20	19 24 28.2	
	comp=Z,31μm,19.0s						
WR6	Warramunga Arr	49.66	260	IAMs_20	IAMs_20	19 24 28.8	
	comp=Z,30μm,19.0s						
WR5	Warramunga Arr	49.68	260	IAMs_20	IAMs_20	19 24 29.3	
	comp=Z,30μm,18.0s						
AS31	Alice Springs	49.69	255	P	P	19 02 39.1	+0.1
AS31				IAMs_20	IAMs_20	19 24 33.0	
	comp=Z,203nm,18.0s						
ASAR	Alice Springs	49.69	255	P	P	19 02 39.0	0.0
	comp=Z,282nm,0.8s,baz=86,slow=8.4,SNR=516						
ASAR				S	S	19 09 43.5	-3.8
	comp=Z,16nm,0.8s,baz=87,slow=15,SNR=14						
ASAR				LR	LR	19 21 32.3	
	comp=Z,14μm,21.9s,baz=91,slow=34						
ASAR	Alice Springs	49.69	255	P	P	19 02 38.9	-0.2
WR4	Warramunga Arr	49.70	260	IAMs_20	IAMs_20	19 24 21.9	
	comp=Z,29μm,19.0s						
WR3	Warramunga Arr	49.72	260	IAMs_20	IAMs_20	19 24 47.9	
	comp=Z,4μm,18.0s						
WC3	Warramunga Arr	49.73	260	P	P	19 02 38.8	-0.6
WC3				IAMs_20	IAMs_20	19 24 22.8	
	comp=Z,28μm,19.0s						
WR2	Warramunga Arr	49.74	260	IAMs_20	IAMs_20	19 24 41.0	
	comp=Z,25μm,18.0s						
WB7	Warramunga Arr	49.74	260	IAMs_20	IAMs_20	19 24 40.4	
	comp=Z,26μm,18.0s						
WB8	Warramunga Arr	49.74	260	IAMs_20	IAMs_20	19 24 32.1	
	comp=Z,31μm,18.0s						
WB9	Warramunga Arr	49.74	260	IAMs_20	IAMs_20	19 24 32.1	
	comp=Z,32μm,18.0s						
WB5	Warramunga Arr	49.75	260	IAMs_20	IAMs_20	19 24 31.2	
	comp=Z,30μm,19.0s						
WB4	Warramunga Arr	49.75	260	IAMs_20	IAMs_20	19 24 48.7	
	comp=Z,4μm,18.0s						
WB3	Warramunga Arr	49.75	260	IAMs_20	IAMs_20	19 24 48.7	
	comp=Z,4μm,18.0s						
WB2	Warramunga Arr	49.75	260	P	P	19 02 38.6	-0.9
WB2				IAMs_20	IAMs_20	19 24 31.3	
	comp=Z,30μm,19.0s						
WB1	Warramunga Ar.	49.76	260	IAMs_20	IAMs_20	19 24 48.8	
	comp=Z,4μm,18.0s						
WRAB	Tennant Creek	49.76	260*ce*	P	P	19 02 38.8	-0.7
WRAB				pmax	pmax		
	comp=Z,641nm,1.7s						
WRAB				MLR	MLR		
	comp=Z,31μm,17.0s						
WRAB	Tennant Creek	49.76	260	P	P	19 02 38.5	-1.1
WRAB				IAmb	IAmb	19 02 53.8	
	comp=Z,325nm,0.9s						
WRAB	Tennant Creek	49.76	260	IAMs_20	IAMs_20	19 24 31.1	
	comp=Z,33μm,19.0s						
WC4	Warramunga Arr	49.76	260	IAMs_20	IAMs_20	19 24 31.5	
	comp=Z,31μm,19.0s						
WR1	Warramunga Arr	49.76	260	IAMs_20	IAMs_20	19 24 42.0	
	comp=Z,25μm,18.0s						
WRA	Warramunga Arr	49.76	260	P	P	19 02 39.1	-0.5
	comp=Z,168nm,0.9s,baz=97,slow=8.7,SNR=245						
WRA				S	S	19 09 43.8	-4.5
	comp=Z,12nm,1.0s,baz=97,slow=14,SNR=8.7						
WRA				LR	LR	19 24 43.5	
	comp=Z,29μm,18.1s,baz=100,slow=37						
WRA	Warramunga Arr	49.76	260	P	P	19 02 39.1	-0.5
WC1	Warramunga Arr	49.77	260	IAMs_20	IAMs_20	19 24 42.0	
	comp=Z,29μm,18.0s						
SMPI	Sarmi	50.60	284	P	P	19 02 48.2	+2.2
	comp=Z,228nm,0.8s,comp=Z,5μm						
SRPI	Serui, Papua	52.92	283	P	P	19 03 04.8	+1.5
	comp=Z,298nm,0.9s,comp=Z,6μm						
KDU	Kakadu	53.00	268	P	P	19 03 03.4	-0.5
	baz=53,SNR=148						
GUMO	Guam	53.13	305	P	P	19 03 03.2	-1.5
	comp=Z,58nm,0.6s,baz=189,slow=22,SNR=4.4						
GUMO	Guam	53.13	305	P	P	19 03 01.4	-3.4
GUMO	Guam	53.13	305	IAMs_20	IAMs_20	19 23 29.9	
	comp=Z,5μm,21.0s						
BAKI	Biak	53.30	283	P	P	19 03 07.7	+1.6
	comp=Z,362nm,1.0s,comp=Z,7μm						
ANA2	Anatahan	54.18	308	P	P	19 03 11.4	-1.1
ANA2				IAmb	IAmb	19 03 28.0	
	comp=Z,182nm,0.7s						
MTN	Manton Dam	54.23	268	P	P	19 03 12.6	-0.3
	baz=54,SNR=81						
MTN	Manton Dam	54.23	268	P	P	19 03 12.0	-0.9
MTN				IAMs_20	IAMs_20	19 23 47.4	
	comp=Z,13μm,21.0s						
SARN	Sarigan	54.36	308	P	P	19 03 12.8	-1.0
SARN				IAmb	IAmb	19 03 27.6	
	comp=Z,222nm,1.3s						
FORT	Forrest	54.37	246	P	P	19 03 14.1	+0.4
	baz=55,SNR=67						
FORT	Forrest	54.37	246	P	P	19 03 13.6	-0.1
FORT				IAMs_20	IAMs_20	19 26 50.8	
	comp=Z,11μm,19.0s						
WRKA	Warakurna	54.63	253	P	P	19 03 15.7	0.0
	baz=55,SNR=469						
RKPI	Ransiki, Papua	54.96	282	P	P	19 03 20.0	+1.8
	comp=Z,370nm,0.9s,comp=Z,7μm						
SAUI	Saumlaki	55.42	274	P	P	19 03 23.7	+2.1
SAUI	Saumlaki	55.42	274	P	P	19 03 22.0	+0.4
SAUI				IAMs_20	IAMs_20	19 28 05.9	
	comp=Z,17μm,18.0s						
KNRA	Kununurra	55.78	264	P	P	19 03 24.1	-0.1
	baz=56,SNR=142						
KNRA	Kununurra	55.78	264	P	P	19 03 23.9	-0.2
KNRA				IAMs_20	IAMs_20	19 29 39.0	
	comp=Z,11μm,18.0s						
FAKI	Fak Fak	56.22	280	P	P	19 03 29.9	+2.6
	comp=Z,285nm,1.3s,comp=Z,7μmcomp=Z,16μm						
FAKI	Fak Fak	56.22	280	P	P	19 03 26.7	-0.6
FAKI				IAmb	IAmb	19 03 32.4	
	comp=Z,268nm,1.1s						
BNDI	Bandanaira	57.85	277	P	P	19 03 41.0	+2.1
	comp=Z,701nm,1.1s,comp=Z,10μmcomp=Z,16μm						
SIJI	Sorong	57.89	282	S	S	19 11 37.0	-1.5
	comp=Z,1.8nm,0.5s,baz=45,slow=1.4,SNR=3.2						
SIJI				LR	LR	19 27 40.7	
	comp=Z,7μm,19.2s,baz=130,slow=35						
SWI	Sorong	57.90	282	P	P	19 03 40.4	+1.2
	comp=Z,1μm,0.8s,comp=Z,14μmcomp=Z,16μm						
RPN	Rapa Nui	58.16	110	LR	LR	19 22 07.5	
	comp=Z,16μm,20.4s,baz=250,slow=29						
RPN	Rapa Nui	58.16	110	IAMs_20	IAMs_20	19 21 44.3	
	comp=Z,19μm,20.0s						
FITZ	Fitzroy Crossi	58.19	260	P	P	19 03 41.6	+0.4
	baz=58,SNR=97						
FITZ	Fitzroy Crossi	58.19	260	P	P	19 03 41.0	-0.1
FITZ				IAmb	IAmb	19 03 46.3	
	comp=Z,533nm,1.9s						
FITZ				IAMs_20	IAMs_20	19 26 19.8	
	comp=Z,11μm,21.0s						
PALU	Palau	58.45	292	P	P	19 03 44.9	+1.9
	baz=59,SNR=3.8						
MSAI	Masohi	59.17	278	P	P	19 03 50.0	+1.9
	comp=Z,74nm,0.7s,comp=Z,2μm						
SBA	Scott Base	59.39	185	P	P	19 03 52.0	+3.4
SBA				pmax	pmax		
	comp=Z,185nm,1.1s						
SBA				MLR	MLR		
	comp=Z,8μm,20.0s						
SBA	Scott Base	59.39	185	P	P	19 03 52.0	+3.4
SBA				IAmb	IAmb	19 03 57.0	
	comp=Z,185nm,1.1s						
SBA				IAMs_20	IAMs_20	19 25 00.1	
	comp=Z,8μm,20.0s						
KMBL	Kambalda	59.62	244	P	P	19 03 52.3	+1.4
	baz=60,SNR=19						
AAI	Ambon	59.74	277	P	P	19 03 52.7	+0.7
	comp=Z,222nm,0.7s,comp=Z,7μmcomp=Z,14μm						
NLAI	Namlea	60.92	277	P	P	19 04 01.7	+1.6
	comp=Z,205nm,0.9s,comp=Z,6μm						
LBMI	Labuha	61.47	280	P	P	19 04 05.7	+1.9
SOEI	Soe	61.54	269	P	P	19 04 06.3	+1.9
	comp=Z,970nm,0.8s,comp=Z,11μmcomp=Z,18μm						
SOEI	Soe	61.54	269	P	P	19 04 05.6	+1.2
BATI	Baumata	61.98	269	P	P	19 04 09.5	+2.2
	comp=Z,117nm,0.7s,comp=Z,4μm						
TNTI	Ternate	62.12	282	P	P	19 04 08.9	+0.7
	comp=Z,425nm,1.0s,comp=Z,6μmcomp=Z,8μm						
TNTI	Ternate	62.12	282	P	P	19 04 07.8	-0.3
TNTI				IAMs_20	IAMs_20	19 30 51.7	
	comp=Z,3μm,20.0s						
SANI	Sanana	62.37	278	P	P	19 04 11.0	+1.1
	comp=Z,333nm,1.1s,comp=Z,7μmcomp=Z,16μm						
PSAD2	Pilbara Seismi	62.73	255	P	P	19 04 12.2	0.0
PSAD2				IAMs_20	IAMs_20	19 32 27.3	
	comp=Z,30μm,18.0s						
PSAC2	Pilbara Seismi	62.79	255	P	P	19 04 12.9	+0.3
PSAC2				IAMs_20	IAMs_20	19 32 30.0	
	comp=Z,30μm,18.0s						
PSAB3	Pilbara Seismi	62.83	255	P	P	19 04 12.3	-0.6
PSAB3				IAMs_20	IAMs_20	19 32 22.0	
	comp=Z,30μm,18.0s						
PSAB2	Pilbara Seismi	62.83	255	P	P	19 04 13.1	+0.2
PSAB2				IAMs_20	IAMs_20	19 32 31.0	
	comp=Z,29μm,18.0s						
PSAA3	Pilbara Seismi	62.83	255	P	P	19 04 12.3	-0.6
PSAA3				IAMs_20	IAMs_20	19 32 31.1	
	comp=Z,29μm,18.0s						
PSA00	Pilbara Seismi	62.84	255	P	P	19 04 12.9	0.0
PSA00				IAMs_20	IAMs_20	19 32 31.3	
	comp=Z,28μm,18.0s						
PSA00	Pilbara Seismi	62.84	255	P	P	19 04 11.7	-1.2
PSA00				IAmb	IAmb	19 04 27.5	
	comp=Z,118nm,1.1s						
PSAA2	Pilbara Seismi	62.84	255	P	P	19 04 12.5	-0.4
PSAA2				IAMs_20	IAMs_20	19 32 31.3	
	comp=Z,28μm,18.0s						
PSAC3	Pilbara Seismi	62.85	255	P	P	19 04 12.4	-0.6
PSAC3				IAMs_20	IAMs_20	19 32 23.5	
	comp=Z,26μm,18.0s						
PSAA1	Pilbara Seismi	62.85	255	IAMs_20	IAMs_20	19 32 31.5	
	comp=Z,28μm,18.0s						
PSAB1	Pilbara Seismi	62.86	255	IAMs_20	IAMs_20	19 32 32.9	
	comp=Z,28μm,18.0s						
PSAD1	Pilbara Seismi	62.88	255	IAMs_20	IAMs_20	19 32 41.3	
	comp=Z,28μm,18.0s						
PSAC1	Pilbara Seismi	62.88	255	IAMs_20	IAMs_20	19 32 32.4	
	comp=Z,30μm,18.0s						
PSAD3	Pilbara Seismi	62.89	255	IAMs_20	IAMs_20	19 32 50.5	
	comp=Z,26μm,19.0s						
MBWA	Marble Bar	63.03	256	P	P	19 04 14.7	+0.5
	SNR=24						
MBWA				P	P	19 04 14.7	+0.5
	SNR=24						
MBWA	Marble Bar	63.03	256	P	P	19 04 14.2	0.0
MBWA				IAmb	IAmb	19 04 29.6	
	comp=Z,207nm,1.0s						
MBWA	Marble Bar	63.03	256	IAMs_20	IAMs_20	19 32 29.2	
	comp=Z,29μm,18.0s						
MEEK	Meekatharra	63.05	249	P	P	19 04 15.1	+0.8
	baz=63,SNR=14						
KLBR	Kellerberrin	63.10	244	P	P	19 04 16.0	+1.5
	baz=63,SNR=31						
NWAO	Narrogin (SRO)	63.38	242	P	P	19 04 17.9	+1.5
	baz=64,SNR=27						
NWAO	Narrogin (SRO)	63.38	242	P	P	19 04 17.3	+1.0
NWAO				pmax	pmax		
	comp=Z,208nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,12μm,20.0s						
NWAO	Narrogin (SRO)	63.38	242	P	P	19 04 17.3	+1.0
NWAO				IAmb	IAmb	19 04 33.2	
	comp=Z,208nm,0.9s						
NWAO	Narrogin (SRO)	63.38	242	IAMs_20	IAMs_20	19 30 13.9	
	comp=Z,12μm,20.0s						
RKGY	Rocky Gully	63.41	240	P	P	19 04 18.6	+2.1
	baz=64,SNR=17						
JCJ	Chichijima	63.64	315	P	P	19 04 17.5	-0.5
	comp=Z,121nm,0.9s,baz=108,slow=5.9,SNR=5.8						
JCJ				LR	LR	19 25 56.9	
	comp=Z,11μm,21.4s,baz=130,slow=30						
MMRI	Maumere	63.78	270	P	P	19 04 20.6	+1.4
	comp=Z,337nm,1.3s,comp=Z,7μmcomp=Z,15μm						
MMRI	Maumere	63.78	270	P	P	19 04 18.8	-0.5
MMRI				IAMs_20	IAMs_20	19 32 40.5	
	comp=Z,4μm,20.0s						
EDFI	Ende, Flores	64.26	269	P	P	19 04 23.6	+1.1
	comp=Z,355nm,1.3s,comp=Z,6μm						
MUN	Mundaring	64.36	243	P	P	19 04 24.4	+1.6
	baz=65,SNR=17						
BBSI	Bau Bau	64.43	273	P	P	19 04 25.4	+1.9
MORW	Morawa	64.92	246	P	P	19 04 27.7	+1.2
	baz=65,SNR=47						
MORW	Morawa	64.92	246	P	P	19 04 26.9	+0.4
MORW				IAmb	IAmb	19 04 42.1	
	comp=Z,283nm,1.4s						
MORW				IAMs_20	IAMs_20	19 31 22.7	
	comp=Z,14μm,18.0s						
SGSI	Sangihe	64.93	284	P	P	19 04 27.8	+1.0
	comp=Z,382nm,0.9s,comp=Z,3μm						
KMSI	Cibinong	65.18	280	P	P	19 04 30.8	+2.4
	comp=Z,516nm,0.9s,comp=Z,4μm						
WSI	Waingapu	65.31	268	P	P	19 04 30.5	+1.3
	comp=Z,1μm,0.7s,comp=Z,12μm						
H01W1	Cape Leeuwin H	65.68	240	P	P	19 04 34.9	+3.8
	baz=106,slow=8.5,SNR=5.7						
H01W2	Cape Leeuwin H	65.70	240	P	P	19 04 35.0	+3.8
	baz=106,slow=8.5,SNR=3.6						
H01W3	Cape Leeuwin H	65.70	240	P	P	19 04 35.0	+3.8
	baz=106,slow=8.5,SNR=3.8						
LUWI	Luwuk	65.73	278	P	P	19 04 34.1	+2.1
	comp=Z,806nm,1.3s,comp=Z,11μmcomp=Z,16μm						
LUWI	Luwuk	65.73	278	P	P	19 04 32.5	+0.6
WBSI	Waikabubak, Su	66.17	268	P	P	19 04 36.5	+1.6
	comp=Z,427nm,1.1s,comp=Z,6μm						
DAV	Davao City (W)	66.25	287‖*iP*	P	P	19 04 36.4	+1.1
DAV	Davao City (W)	66.25	287	P	P	19 04 35.9	+0.6
DAV	Davao City (W)	66.25	287	IAMs_20	IAMs_20	19 33 54.8	
	comp=Z,7μm,18.0s						
GSPH	General Santos	66.42	286⇑*iP*	P	P	19 04 39.2	+2.7
KCP	Kidapawan	66.67	287‖*eP*	P	P	19 04 39.4	+1.4
BKSI	Bulukumba	66.79	272	P	P	19 04 41.9	+3.1
	comp=Z,70nm,1.0s,comp=Z,3μm						
APSI	Ampana	66.83	278	P	P	19 04 41.7	+2.7
	comp=Z,458nm,1.1s,comp=Z,6μm						
MRSI	Marisa	67.05	279	P	P	19 04 41.3	+0.9
	comp=Z,175nm,1.2s,comp=Z,3μmcomp=Z,8μm						
BNSI	Bone	67.11	273	P	P	19 04 42.8	+2.0
	comp=Z,322nm,1.2s,comp=Z,5μm						
CASY	Casey	67.15	205	P	P	19 04 41.8	+1.6
CASY	Casey	67.15	205	IAMs_20	IAMs_20	19 32 32.9	
	comp=Z,4μm,18.0s						
KAPI	Kappang	67.24	273	P	P	19 04 42.5	+0.8
KAPI				pmax	pmax		
	comp=Z,135nm,1.0s						
KAPI	Kappang	67.24	273	P	P	19 04 42.5	+0.8
KAPI				IAmb	IAmb	19 04 46.5	
	comp=Z,135nm,1.0s						
CTBH	Cotabato--PC H	67.52 287‖*iP*		P	P	19 04 45.1	+1.8
SPSI	Sidrap Palu	67.56 274	P	P	P	19 04 45.0	+1.3
	comp=Z,54nm,0.8s,comp=Z,2μmcomp=Z,6μm						
CGP	Cagayan de Oro	67.62 288‖*eP*		P	P	19 04 46.7	+2.7
GIRL	Giralia	67.72 253	P	P	P	19 04 47.1	+2.6
	baz=68,SNR=14						
GIRL	Giralia	67.72 253	P	P	P	19 04 45.9	+1.3
GIRL				IAMs_20	IAMs_20	19 33 58.5	
	comp=Z,26μm,18.0s						
TTSI	Tana Toraja	67.82 275	P	P	P	19 04 48.0	+2.7
	comp=Z,128nm,0.9s,comp=Z,3μm						
PLAI	Plampang	67.93 268	P	P	P	19 04 47.7	+1.7
	comp=Z,636nm,0.9s,comp=Z,8μmcomp=Z,15μm						
PLP	Palo	68.53 291⇑*eP*		P	P	19 04 49.6	0.0
TWSI	Taliwang, Sumb	68.81 268	P	P	P	19 04 53.4	+1.9
	comp=Z,525nm,1.1s,comp=Z,9μm						
MPSI	Mapaga	68.91 278	P	P	P	19 04 54.0	+1.9
	comp=Z,237nm,0.9s,comp=Z,3μmcomp=Z,7μm						
LLP	Lapu-Lapu	69.06 290⇑*eP*		P	P	19 04 55.0	+2.0
JHJ2	Mitsune	69.16 319	P	P	P	19 04 53.9	+0.6
JHJ2				IAMs_20	IAMs_20	19 39 48.3	
	comp=Z,4μm,19.0s						
DNP	Denpasar	70.40 267	P	P	P	19 05 02.5	+1.2
	comp=Z,856nm,0.8s,comp=Z,12μm						
IGBI	Denpasar	70.42 267	P	P	P	19 05 03.6	+2.2
	comp=Z,1μm,1.3s,comp=Z,17μm						
SRBI	Singaraja	70.58 268	P	P	P	19 05 03

comp=Z,561nm,1.3s
SMY MLR MLR
SMY Shemya 72.70 352 P **P 19 05 14.6 +0.4**
SMY IAMs_20 IAMs_20 19 30 16.6
comp=Z,5μm,20.0s
SNCC San Nicolas Is 72.83 45 P **P 19 05 16.2 +0.7**
baz=232
SNCC San Nicolas Is 72.83 45 P **P 19 05 15.2 -0.3**
SNCC IAMs_20 IAMs_20 19 30 29.6
comp=Z,5μm,18.0s
UNV Unalaska Valle 73.09 4 P **P 19 05 16.8 +0.3**
UNV IAmb IAmb 19 06 50.5
comp=Z,266nm,1.6s
UNV IAMs_20 IAMs_20 19 35 09.8
comp=Z,4μm,18.0s
SCZ2 Santa Cruz Isl 73.22 44 P **P 19 05 18.3 +0.4**
baz=232,SNR=15
SCI2 San Clemente I 73.32 45 P **P 19 05 18.7 +0.3**
baz=233,SNR=11
TGY Tagaytay City 73.35 292 P **P 19 05 20.2 +1.2**
comp=Z,209nm,0.9s,baz=236,slow=2.4,SNR=18
TGY S **S 19 14 49.5 +2.1**
comp=Z,51nm,0.3s,baz=72,slow=20,SNR=2.3
TGY LR LR 19 33 08.3
comp=Z,4μm,21.4s,baz=124,slow=32
JOW Kunigami 73.41 307 P **P 19 05 20.2 +1.1**
comp=Z,17nm,1.1s,baz=134,slow=13,SNR=10
JOW LR LR 19 31 18.6
comp=Z,542nm,21.8s,baz=51,slow=31
JOW Kunigami 73.41 307 P **P 19 05 20.0 +0.9**
JOW IAmb IAmb 19 05 25.4
comp=Z,249nm,1.5s
AKUT Akutan 73.42 4 P **P 19 05 18.9 +0.5**
SBC Santa Barbara 73.44 43 P **P 19 05 19.8 +0.7**
baz=232
ERM Erimo 73.46 327 *d i* P **P 19 05 20.5 +1.5**
ERM pmax pmax
comp=Z,225nm,1.8s
ERM Erimo 73.46 327 P **P 19 05 18.9 -0.1**
ERM IAmb IAmb 19 05 25.4
comp=Z,425nm,1.9s
ERM Erimo 73.46 327 IAMs_20 IAMs_20 19 30 43.3
comp=Z,4μm,20.0s
GRJI Gresik 73.51 268 P **P 19 05 22.5 +2.5**
comp=Z,322nm,1.0s,comp=Z,3μm
YUK Yuzh-Kuril'sk 73.63 330 *e* P P 19 05 10.1 -10
YUK *e* PPP PPP 19 09 46.4
YUK *e* S **S 19 14 46.7 -2.7**
YUK pmax pmax
comp=Z,461nm,1.4s
YUK pmax pmax
comp=N,356nm,1.4s
YUK pmax pmax
comp=E,269nm,1.3s
YUK pmax pmax
comp=Z,457nm,3.6s
KUR Kuril'sk 73.64 332 *d i* P **P 19 05 20.1 +0.1**
KUR *e* 19 05 36.6
KUR *e* 19 08 02.7
KUR *i* S **S 19 14 54.6 +5.2**
KUR *e* 19 15 29.1
KUR pmax pmax
comp=Z,618nm,1.4s
KUR pmax pmax
comp=Z,4μm,9.5s
KUR pmax pmax
comp=E,2μm,5.1s
PKM Mcpherson Peak 73.65 43 P **P 19 05 21.2 +0.6**
baz=232,SNR=30
BLG Laguna Peak, P 73.66 44 P **P 19 05 20.5 0.0**
baz=232
CIS Catalina Islan 73.66 45 P **P 19 05 20.5 0.0**
baz=233,SNR=16
SMMC Simmler 73.80 43 P **P 19 05 22.1 +0.8**
baz=231,SNR=14
SAO San Andreas Ge 73.81 41 P **P 19 05 21.6 +0.4**
SAO pmax pmax
comp=Z,96nm,0.9s
SAO MLR MLR
comp=Z,8μm,20.0s
SAO San Andreas Ge 73.81 41 P **P 19 05 21.6 +0.4**
SAO IAMs_20 IAMs_20 19 31 10.1
comp=Z,8μm,20.0s
PWJI Pagerwojo 73.81 267 P **P 19 05 23.2 +1.4**
comp=Z,331nm,1.1s,comp=Z,5μm
MCCM Marconi Confer 73.84 39 IAMs_20 IAMs_20 19 35 25.8
comp=Z,4μm,18.0s
PAGB Antelope Grade 73.90 42 P **P 19 05 22.2 +0.4**
PAGB IAmb IAmb 19 05 26.9
comp=Z,200nm,1.3s
PAGB IAMs_20 IAMs_20 19 35 28.3
comp=Z,8μm,18.0s
FMP Fort Macarthur 73.93 45 P **P 19 05 22.3 +0.3**
baz=233
TBJI Tambak Boyo 74.14 268 P **P 19 05 25.5 +1.8**
OSI Osito Audit: C 74.19 44 P **P 19 05 24.0 +0.4**
baz=232
OSI Osito Audit: C 74.19 44 P **P 19 05 23.6 0.0**
OSI IAMs_20 IAMs_20 19 30 32.6
comp=Z,5μm,20.0s
DECC Green Verdugo 74.23 44 P **P 19 05 23.7 -0.1**
baz=233,SNR=6.6
109C Camp Elliot, M 74.24 46 P **P 19 05 23.8 0.0**
baz=234
109C Camp Elliot, M 74.24 46 P **P 19 05 22.9 -1.0**
109C IAMs_20 IAMs_20 19 30 55.1
comp=Z,3μm,20.0s
PASC Pasadena Art C 74.28 44 P **P 19 05 23.5 -0.6**
PASC Pasadena Art C 74.28 44 IAMs_20 IAMs_20 19 30 53.9
comp=Z,4μm,19.0s
HOPS Hopland Field 74.29 38 P **P 19 05 23.8 -0.1**
HOPS IAmb IAmb 19 05 28.8
comp=Z,173nm,1.1s
HOPS IAMs_20 IAMs_20 19 36 33.7
comp=Z,8μm,18.0s
GDXM Geysers 74.33 38 P **P 19 05 24.1 -0.2**
GDXM IAMs_20 IAMs_20 19 36 44.7
comp=Z,7μm,18.0s
FALS False Pass 74.33 6 IAMs_20 IAMs_20 19 39 50.7
comp=Z,7μm,18.0s
NGJI Ngawi 74.33 268 P **P 19 05 26.6 +1.8**
PCJI Pacitan 74.35 267 P **P 19 05 26.7 +1.8**
comp=Z,647nm,1.5s,comp=Z,9μm
MWC Mount Wilson 74.39 45 P **P 19 05 24.5 -0.4**
MWC pmax pmax
comp=Z,76nm,0.9s
MWC MLR MLR
comp=Z,4μm,19.0s
MWC Mount Wilson 74.39 45 P **P 19 05 24.5 -0.4**
MWC IAMs_20 IAMs_20 19 30 27.0
comp=Z,4μm,19.0s
KKM Kota Kinabalu 74.40 282 P **P 19 05 26.2 +0.9**
KKM IAmb IAmb 19 05 48.1
comp=Z,267nm,1.3s
KKM IAMs_20 IAMs_20 19 43 31.2
comp=Z,3μm,19.0s
BAR Barrett 74.42 47 P **P 19 05 24.7 -0.2**
BAR IAMs_20 IAMs_20 19 31 16.8
comp=Z,3μm,19.0s
ARVC Arvin 74.43 43 P **P 19 05 25.1 +0.2**
baz=232,SNR=12
KCPM Cahto Peak 74.46 37 P **P 19 05 25.2 +0.1**
KCPM IAmb IAmb 19 05 30.0
comp=Z,240nm,1.5s
KCPM IAMs_20 IAMs_20 19 32 59.1
comp=Z,8μm,18.0s
LPIG La Paz 74.52 57 LR LR 19 31 03.1
comp=Z,9μm,18.8s,baz=238,slow=30
MURC Murrieta 74.60 45 P **P 19 05 26.2 +0.3**
baz=234,SNR=25
SRIG Santa Rosalia 74.66 53 P **P 19 05 26.8 +0.4**
SRIG IAMs_20 IAMs_20 19 34 11.7
comp=Z,6μm,18.0s
BFSC Mount Baldy Ra 74.67 45 P **P 19 05 26.3 -0.1**
baz=233,SNR=32
WOJI Wonogiri, Jawa 74.70 267 P **P 19 05 28.7 +1.8**
comp=Z,280nm,1.2s,comp=Z,5μm
VES Vestal, Richgr 74.71 43 P **P 19 05 26.6 +0.1**
baz=232,SNR=29
MONP2 Monument Peak 74.71 46 P **P 19 05 27.2 +0.3**
baz=234,SNR=50
KMRM Mail Ridge 74.75 37 P **P 19 05 27.5 +0.8**
KMRM IAMs_20 IAMs_20 19 32 28.3
comp=Z,9μm,19.0s
IKP In-Ko-Pah, Jac 74.78 47 P **P 19 05 27.5 +0.4**
baz=235,SNR=31

VOG Valley Oaks Go 74.81 42 P **P 19 05 26.9 -0.2**
baz=232
EDW2 Edwards Air Fo 74.83 44 P **P 19 05 27.4 +0.1**
baz=233,SNR=95
JCC Jacoby Creek, 74.97 36 P **P 19 05 28.4 +0.6**
JCC IAmb IAmb 19 05 32.8
comp=Z,165nm,1.2s
JCC IAMs_20 IAMs_20 19 32 14.5
comp=Z,8μm,19.0s
SKR Severo-Kuril's 74.97 340 *e* P **P 19 05 23.1 -4.5**
SKR *e* 19 05 48.3
SKR *e* S **S 19 15 04.5 +0.4**
SKR pmax pmax
comp=Z,97nm,0.9s
SKR pmax pmax
comp=Z,2μm,12.5s
SKR MLR MLR
comp=Z,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,16.0s
ISA Isabella, Lake 74.99 43 P **P 19 05 28.6 +0.4**
baz=232,SNR=82
ISA Isabella, Lake 74.99 43 P **P 19 05 28.3 0.0**
ISA pmax pmax
comp=Z,131nm,1.1s
ISA MLR MLR
comp=Z,5μm,20.0s
ISA Isabella, Lake 74.99 43 P **P 19 05 28.3 0.0**
ISA IAMs_20 IAMs_20 19 30 58.7
comp=Z,5μm,20.0s
JNU Nakatsue 75.03 314 P **P 19 05 29.6 +1.1**
comp=Z,148nm,1.0s,baz=108,slow=2.9,SNR=74
JNU S **S 19 15 08.7 +3.0**
comp=Z,4.0nm,0.9s,baz=267,slow=18,SNR=2.2
JNU LR LR 19 32 06.8
comp=Z,5μm,21.2s,baz=128,slow=31
JNU Nakatsue 75.03 314 P **P 19 05 29.0 +0.5**
UGM Wanagama 75.05 267 P **P 19 05 30.9 +1.9**
UGM Wanagama 75.05 267 P **P 19 05 29.2 +0.2**
UGM IAMs_20 IAMs_20 19 40 52.4
comp=Z,6μm,18.0s
PFO Pinyon Flats O 75.10 46 P **P 19 05 29.1 +0.1**
baz=234,SNR=32
PFO Pinyon Flats O 75.10 46 P **P 19 05 29.2 +0.2**
comp=Z,60nm,1.0s,baz=230,slow=4.4,SNR=32
PFO LR LR 19 31 40.2
comp=Z,3μm,19.4s,baz=240,slow=30
PFO Pinyon Flats O 75.10 46 P **P 19 05 28.8 -0.2**
PFO Pinyon Flats O 75.10 46 IAMs_20 IAMs_20 19 31 48.0
comp=Z,4μm,19.0s
SDPT Sand Point 75.12 7 P **P 19 05 27.2 -1.1**
SDPT IAmb IAmb 19 05 29.4
comp=Z,171nm,0.9s
SDPT IAMs_20 IAMs_20 19 38 49.9
comp=Z,5μm,20.0s
SWSC Sam W. Stewart 75.17 47 P **P 19 05 29.3 +0.1**
baz=235,SNR=20
BBRC Big Bear Solar 75.17 45 P **P 19 05 29.9 +0.3**
baz=234
KHMM Horse Mountain 75.17 36 P **P 19 05 29.5 +0.2**
KHMM IAMs_20 IAMs_20 19 32 03.2
comp=Z,9μm,20.0s
O02D Mt. Diablo Mer 75.24 37 P **P 19 05 30.4 +0.8**
baz=228,SNR=56
CMB Columbia Colle 75.27 40 P **P 19 05 29.0 -0.7**
CMB pmax pmax
comp=Z,58nm,0.9s
CMB Columbia Colle 75.27 40 P **P 19 05 29.0 -0.7**
CMB IAMs_20 IAMs_20 19 31 56.7
comp=Z,6μm,20.0s
JKA Kamikawa-asahi 75.27 328 **S 19 15 11.2 +3.5**
ASAJ Asahikawa 75.27 328 P **P 19 05 30.4 +0.9**
comp=Z,34nm,0.7s,baz=190,slow=6.4,SNR=29
ASAJ S **S 19 15 11.2 +3.5**
comp=Z,4.6nm,0.9s,baz=261,slow=19,SNR=2.2
ASAJ LR LR 19 34 54.3
comp=Z,2μm,19.1s,baz=158,slow=33
YOGI Yogyakarta 75.30 267 P **P 19 05 32.3 +1.9**
SMRI Semarang 75.39 268 P **P 19 05 33.1 +2.1**
comp=Z,254nm,1.2s,comp=Z,10μm
SMRI Semarang 75.39 268 P **P 19 05 31.3 +0.4**
SMRI IAMs_20 IAMs_20 19 41 01.4
comp=Z,4μm,18.0s
LRMC Laurel Mtn Rad 75.39 44 P **P 19 05 30.9 +0.3**
baz=233,SNR=83
RRX Edison Barstow 75.48 45 P **P 19 05 31.2 +0.1**
baz=234
AFDM Forest Hills D 75.50 39 P **P 19 05 30.9 -0.2**
AFDM IAMs_20 IAMs_20 19 37 21.7
comp=Z,5μm,18.0s
ORV Oroville 75.58 38 P **P 19 05 30.5 -0.9**
ORV pmax pmax
comp=Z,98nm,1.2s
ORV MLR MLR
comp=Z,3μm,18.0s
ORV Oroville 75.58 38 P **P 19 05 30.5 -0.9**
ORV IAMs_20 IAMs_20 19 37 32.8
comp=Z,3μm,18.0s
BELC Belle Mtn. Jos 75.64 46 P **P 19 05 32.4 +0.3**
baz=234,SNR=67
WDC Whiskeytown Da 75.65 37 P **P 19 05 31.4 -0.4**
WDC pmax pmax
comp=Z,383nm,1.9s
WDC MLR MLR
comp=Z,7μm,19.0s
WDC Whiskeytown Da 75.65 37 P **P 19 05 31.4 -0.4**
WDC IAmb IAmb 19 05 36.5
comp=Z,383nm,1.9s
WDC IAMs_20 IAMs_20 19 33 28.6
comp=Z,7μm,19.0s
CWC Cottonwood Cre 75.72 43 P **P 19 05 32.8 +0.3**
baz=233
BC3 Big Chuckawall 75.81 46 P **P 19 05 33.6 +0.5**
baz=235,SNR=62
KBO Bosley Butte 75.81 35 P **P 19 05 31.9 -0.9**
KBO IAmb IAmb 19 05 40.0
comp=Z,213nm,1.3s
KBO IAMs_20 IAMs_20 19 32 51.8
comp=Z,9μm,20.0s
N02D Trinity Center 75.82 37 P **P 19 05 33.6 +0.8**
baz=228,SNR=36
MDPB Devils Postpil 75.82 41 P **P 19 05 32.7 -0.5**
MDPB IAMs_20 IAMs_20 19 32 33.4
comp=Z,7μm,19.0s
OMMB Old Mammoth Mi 75.86 41 P **P 19 05 33.1 -0.4**
OMMB IAMs_20 IAMs_20 19 36 41.4
comp=Z,10μm,18.0s
GSC Goldstone, Bar 75.86 44 P **P 19 05 33.5 +0.2**
baz=234,SNR=58
GSC Goldstone, Bar 75.86 44 P **P 19 05 32.3 -1.0**
GSC pmax pmax
comp=Z,194nm,1.6s
GSC MLR MLR
comp=Z,4μm,20.0s
GSC Goldstone, Bar 75.86 44 P **P 19 05 32.4 -1.0**
GSC IAmb IAmb 19 05 37.9
comp=Z,194nm,1.6s
GSC IAMs_20 IAMs_20 19 31 33.9
comp=Z,4μm,20.0s
MPMC Manual Prospec 75.87 43 P **P 19 05 33.8 +0.4**
baz=233,SNR=157
O03E Paynes Creek 75.88 38 P **P 19 05 33.2 -0.1**
baz=229,SNR=61
HEC Hector,Ludlow 75.90 45 P **P 19 05 33.6 +0.1**
baz=234,SNR=80
GLA Glamis 75.90 47 P **P 19 05 34.1 +0.6**
baz=236,SNR=14
GLA Glamis 75.90 47 P **P 19 05 33.0 -0.5**
GLA pmax pmax
comp=Z,165nm,1.4s
GLA Glamis 75.90 47 P **P 19 05 33.0 -0.5**
GLA IAmb IAmb 19 05 40.2
comp=Z,165nm,1.4s
DAC Darwin (Calif) 75.93 43 P **P 19 05 35.6 +1.8**
DAC pmax pmax
comp=Z,87nm,1.3s
DAC MLR MLR
comp=Z,6μm,20.0s
DAC Darwin (Calif) 75.93 43 P **P 19 05 35.6 +1.8**
DAC IAMs_20 IAMs_20 19 32 10.7
comp=Z,6μm,20.0s
MLAC Mammoth, Mammo 75.97 41 P **P 19 05 34.7 +0.7**
baz=232,SNR=24
TIN Tinemaha, Big 76.00 42 P **P 19 05 34.6 +0.6**
baz=232,SNR=31
M02C Callahan 76.01 36 P **P 19 05 34.8 +0.8**
baz=228,SNR=29

RUBR Rubicon Trail 76.05 40 P **P 19 05 33.8 -0.7**
RUBR IAMs_20 IAMs_20 19 37 31.5
comp=Z,6μm,18.0s
L02E Cave Junction 76.11 35 P **P 19 05 35.0 +0.5**
baz=227,SNR=14
WAKR Walker 76.14 40 P **P 19 05 34.8 -0.1**
WAKR IAMs_20 IAMs_20 19 32 23.9
comp=Z,7μm,20.0s
KEBM Edson Butte 76.21 34 P **P 19 05 35.3 +0.2**
KEBM IAmb IAmb 19 05 43.1
comp=Z,292nm,1.3s
KEBM IAMs_20 IAMs_20 19 34 08.4
comp=Z,9μm,18.0s
PET Petropavlovsk 76.25 343 *d i* P **P 19 05 35.5 +0.6**
PET *e* 19 08 24.2
PET *e* S **S 19 15 17.1 -1.1**
PET *e* PPS PPS 19 16 11.5
PET *e* SS **SS 19 20 15.1 +2.4**
PET *e* SSS SSS 19 23 30.0
PET pmax pmax
comp=Z,2μm,9.4s
PET pmax pmax
comp=Z,155nm,1.6s
PET pmax pmax
comp=Z,3μm,13.9s
PET pmax pmax
comp=Z,900nm,14.9s
PET MLR MLR
comp=Z,3μm,19.0s
PET Petropavlovsk 76.25 343 P **P 19 05 34.1 -0.8**
PET IAmb IAmb 19 05 39.4
comp=Z,405nm,1.6s
PET IAMs_20 IAMs_20 19 37 04.7
comp=Z,3μm,19.0s
CHIR Chirikof Islan 76.26 10 P **P 19 05 34.0 -0.9**
CHIR IAmb IAmb 19 05 37.0
comp=Z,150nm,0.9s
CHIR IAMs_20 IAMs_20 19 39 21.0
comp=Z,8μm,18.0s
SPIA Saint Paul Isl 76.26 1 P **P 19 05 33.4 -1.5**
YOJ Yonaguni jima 76.31 302 P **P 19 05 35.8 -0.1**
YOJ pmax pmax
comp=Z,462nm,1.1s
YOJ MLR MLR
comp=Z,4μm,21.0s
YOJ Yonaguni jima 76.31 302 P **P 19 05 35.8 -0.1**
YOJ IAMs_20 IAMs_20 19 29 40.2
comp=Z,4μm,21.0s
IRM Iron Mountain 76.31 46 P **P 19 05 36.3 +0.5**
baz=235,SNR=92
CHGN Chignik 76.31 8 P **P 19 05 33.9 -1.2**
CHGN IAmb IAmb 19 05 38.7
comp=Z,131nm,1.0s
CHGN IAMs_20 IAMs_20 19 37 08.4
comp=Z,5μm,20.0s
YBH Yreka Blue Hor 76.32 36 P **P 19 05 36.3 +0.6**
comp=Z,66nm,0.8s,baz=217,slow=2.2,SNR=97
YBH LR LR 19 33 11.5
comp=Z,6μm,19.3s,baz=230,slow=31
YBH Yreka Blue Hor 76.32 36 P **P 19 05 36.1 +0.3**
YBH IAmb IAmb 19 05 38.9
comp=Z,83nm,0.8s
YBH IAMs_20 IAMs_20 19 33 09.3
comp=Z,7μm,20.0s
GMRC Granite Mounta 76.32 45 P **P 19 05 36.1 +0.2**
baz=235,SNR=71
PNTR Pine Nut 76.41 40 P **P 19 05 36.2 -0.3**
PNTR IAmb IAmb 19 05 39.4
comp=Z,117nm,0.8s
PNTR IAMs_20 IAMs_20 19 32 54.0
comp=Z,6μm,20.0s
K02D Willamette Mer 76.44 35 P **P 19 05 36.9 +0.5**
baz=227,SNR=11
BEKR Beckworth 76.45 39 P **P 19 05 36.0 -0.6**
BEKR IAmb IAmb 19 05 41.2
comp=Z,158nm,1.3s
BEKR IAMs_20 IAMs_20 19 38 01.9
comp=Z,4μm,18.0s
113A Mohawk Valley, 76.48 48 P **P 19 05 36.3 -0.4**
113A IAMs_20 IAMs_20 19 32 01.5
comp=Z,4μm,20.0s
Y12C Blythe 76.50 47 P **P 19 05 37.3 +0.5**
baz=236,SNR=34
Y12C Blythe 76.50 47 P **P 19 05 36.7 -0.1**
Y12C IAMs_20 IAMs_20 19 32 22.0
comp=Z,3μm,20.0s
GRAC Grapevine Rang 76.51 43 P **P 19 05 37.4 +0.6**
baz=233,SNR=51
VCNR Virginia City 76.51 40 P **P 19 05 36.8 -0.2**
VCNR IAmb IAmb 19 05 43.0
comp=Z,94nm,0.9s
VCNR IAMs_20 IAMs_20 19 32 57.6
comp=Z,5μm,20.0s
HSIG 76.51 52 P **P 19 05 35.9 -1.1**
HSIG IAMs_20 IAMs_20 19 35 51.4
comp=Z,4μm,18.0s
FURC Furnace Creek, 76.52 43 P **P 19 05 37.2 +0.4**
baz=233,SNR=8.1
TUQ Turquoise Moun 76.52 45 P **P 19 05 37.3 +0.2**
baz=234,SNR=51
YERR Yerington 76.56 40 P **P 19 05 36.5 -0.8**
YERR IAMs_20 IAMs_20 19 37 15.0
comp=Z,7μm,18.0s
SHOC Shoshone, Teco 76.56 44 P **P 19 05 37.4 +0.2**
baz=234,SNR=9.8
PEA0B Petropavlovsk- 76.60 342 P **P 19 05 36.6 -0.3**
PEA0B pmax pmax
comp=Z,604nm,1.5s
PEA0B MLR MLR
comp=Z,3μm,20.0s
PEA0B Petropavlovsk- 76.60 342 P **P 19 05 36.6 -0.3**
PEA0B IAMs_20 IAMs_20 19 41 44.9
comp=Z,3μm,20.0s
PETK Petropavlovsk- 76.60 342 P **P 19 05 37.0 +0.1**
comp=Z,56nm,0.8s,baz=118,slow=7.6,SNR=58
PETK LR LR 19 32 18.3
comp=Z,2μm,21.9s,baz=156,slow=30
PETK Petropavlovsk- 76.60 342 P **P 19 05 36.2 -0.7**
J01E Myrtle Point 76.62 34 P **P 19 05 37.8 +0.5**
baz=227,SNR=5.0
214A Organ Pipe Nat 76.71 49 P **P 19 05 38.6 +0.5**
baz=237
214A Organ Pipe Nat 76.71 49 P **P 19 05 37.9 -0.2**
214A IAMs_20 IAMs_20 19 35 43.7
comp=Z,6μm,18.0s
STKI Sintang 76.71 275 P **P 19 05 40.8 +2.3**
comp=Z,96nm,1.3s,comp=Z,6μm
KPJI Karang Pucung 76.73 267 P **P 19 05 39.8 +1.2**
comp=Z,216nm,1.1s,comp=Z,5μm
HUMO Hull Mountain 76.77 35 P **P 19 05 38.5 +0.3**
HUMO IAmb IAmb 19 05 43.3
comp=Z,137nm,1.2s
HUMO IAMs_20 IAMs_20 19 33 23.1
comp=Z,6μm,20.0s
RYN Ryan 76.78 41 P **P 19 05 38.2 -0.3**
RYN IAMs_20 IAMs_20 19 32 55.8
comp=Z,7μm,20.0s
NVAR Mina Array Bea 76.79 41 P **P 19 05 38.8 +0.1**
comp=Z,57nm,0.8s,baz=226,slow=8.2,SNR=183
NVAR PKPPKP **P'P'df 19 32 51.8 +3.5**
comp=Z,0.8nm,0.8s,baz=66,slow=2.3,SNR=5.2
NVAR LR LR 19 33 10.6
comp=Z,7μm,19.7s,baz=239,slow=31
NVAR Mina Array Bea 76.79 41 P **P 19 05 37.7 -0.9**
SBUM Sibu 76.83 277 P **P 19 05 40.7 +1.6**
SBUM IAMs_20 IAMs_20 19 44 34.1
comp=Z,1μm,18.0s
M04C Macdoel 76.84 37 P **P 19 05 39.1 +0.3**
baz=229,SNR=24
L04D Klamath Falls 76.87 36 P **P 19 05 39.1 +0.2**
baz=228,SNR=22
NV11 Mina Array Sit 76.89 41 P **P 19 05 38.5 -0.6**
NV11 IAmb IAmb 19 05 47.6
comp=Z,237nm,1.2s
NV11 IAMs_20 IAMs_20 19 32 58.7
comp=Z,7μm,20.0s
PAHR Pah Rah Range 76.93 39 P **P 19 05 38.8 -0.5**
PAHR IAmb IAmb 19 05 44.0
comp=Z,141nm,1.3s
PAHR IAMs_20 IAMs_20 19 38 26.7
comp=Z,6μm,18.0s
NEE2 Needles Airpor 77.01 46 P **P 19 05 40.2 +0.5**
baz=235
CMJI Cimerak 77.05 266 P **P 19 05 42.5 +2.2**
comp=Z,162nm,0.7s,comp=Z,5μm
PDMCI Parker Dam,Lak 77.08 46 P **P 19 05 40.5 +0.5**
baz=236,SNR=25

TWG	Pinlang	77.10	300	P	P	19 05 40.0	-0.4	
YULB	Yu-li	77.18	301	P	P	19 05 40.6	-0.3	
YULB				IAmb	IAmb	19 05 54.1		
	comp=Z,119nm,1.1s							
YULB				IAMs_20	IAMs_20	19 34 54.5		
	comp=Z,4μm,21.0s							
TPNV	Topopah Spring	77.20	43	P	P	19 05 41.4	+0.5	
	baz=234,SNR=79							
TPNV	Topopah Spring	77.20	43	P	P	19 05 40.3	-0.6	
TPNV				pmax	pmax			
	comp=Z,71nm,1.0s							
TPNV				MLR	MLR			
	comp=Z,6μm,20.0s							
TPNV	Topopah Spring	77.20	43	P	P	19 05 40.3	-0.6	
TPNV				IAMs_20	IAMs_20	19 33 20.1		
	comp=Z,6μm,20.0s							
SII	Sitkinak Islan	77.20	10	P	P	19 05 39.8	-0.5	
SII				IAmb	IAmb	19 05 44.5		
	comp=Z,194nm,0.8s							
SII				IAMs_20	IAMs_20	19 39 57.4		
	comp=Z,7μm,18.0s							
YSS	Yuzh-Sakhalins	77.26	330⇑	*e*P	P	19 05 41.7	+0.9	
YSS				*e**PP	PcP	19 05 49.4	-1.9	
YSS				*e*		19 05 52.3		
YSS				*e*		19 08 29.3		
YSS				*e*S	S	19 15 30.2	+0.7	
YSS				*e*PS	PnS	19 16 06.0	-4.2	
YSS				*e*PPS	PPS	19 16 33.0		
YSS				*e*SS	SS	19 20 24.0	-4.3	
YSS				pmax	pmax			
	comp=Z,120nm,1.1s							
YSS				pmax	pmax			
	comp=Z,4μm,12.1s							
YSS				smax	smax			
	comp=N,700nm,13.1s							
YSS				MLR	MLR			
	comp=Z,3μm,16.0s							
YSS	Yuzh-Sakhalins	77.26	330	P	P	19 05 40.5	-0.3	
YSS				IAmb	IAmb	19 05 47.1		
	comp=Z,168nm,1.0s							
YSS				IAMs_20	IAMs_20	19 33 11.6		
	comp=Z,3μm,19.0s							
KVN	Kaiserville	77.30	41	P	P	19 05 40.9	-0.5	
KVN				pmax	pmax			
	comp=Z,102nm,1.1s							
KVN				MLR	MLR			
	comp=Z,6μm,20.0s							
KVN	Kaiserville	77.30	41	P	P	19 05 40.9	-0.5	
KVN				IAMs_20	IAMs_20	19 33 12.1		
	comp=Z,6μm,20.0s							
NACB	Ninganchiao	77.31	301	P	P	19 05 41.6	0.0	
NACB				IAMs_20	IAMs_20	19 31 59.7		
	comp=Z,3μm,20.0s							
K04D	Chiloquin, OR	77.44	36	P	P	19 05 42.3	+0.2	
	baz=229							
JCJI	Jatiwangi	77.61	267	P	P	19 05 45.7	+2.2	
	comp=Z,300nm,0.6s,comp=Z,10μm							
SSLB	Suanglung	77.64	301	P	P	19 05 43.3	-0.2	
SSLB				IAmb	IAmb	19 05 49.1		
	comp=Z,212nm,1.2s							
SSLB				IAMs_20	IAMs_20	19 35 11.7		
	comp=Z,4μm,21.0s							
SHPR	Sheep Range	77.65	44	P	P	19 05 43.7	+0.2	
SHPR				IAMs_20	IAMs_20	19 33 01.2		
	comp=Z,4μm,19.0s							
Y14A	Wickenburg	77.66	47	P	P	19 05 43.5	+0.1	
Y14A				IAmb	IAmb	19 05 48.2		
	comp=Z,99nm,0.9s							
Y14A				IAMs_20	IAMs_20	19 32 37.2		
	comp=Z,4μm,20.0s							
J04D	Umpqua Nationa	77.66	35	P	P	19 05 43.7	+0.3	
	baz=228,SNR=9.2							
TPUB	Ta-pu	77.68	300	P	P	19 05 43.6	-0.2	
TPUB				IAMs_20	IAMs_20	19 35 32.8		
	comp=Z,5μm,21.0s							
W13A	Hualapai Mount	77.70	46	P	P	19 05 43.7	-0.1	
W13A				IAMs_20	IAMs_20	19 32 40.6		
	comp=Z,3μm,20.0s							
CISI	Cisompet, Garu	77.71	266	P	P	19 05 44.9	+0.7	
	comp=Z,271nm,0.8s,comp=Z,5μm							
CISI	Cisompet, Garu	77.71	266	P	P	19 05 44.1	-0.1	
CISI				IAmb	IAmb	19 05 55.6		
	comp=Z,178nm,0.7s							
CISI				IAMs_20	IAMs_20	19 38 51.9		
	comp=Z,3μm,22.0s							
YHNB	Yeheng	77.71	302	P	P	19 05 44.5	+0.5	
YHNB				IAMs_20	IAMs_20	19 34 47.5		
	comp=Z,6μm,22.0s							
TATO	Taipei	77.77	302	P	P	19 05 44.3	+0.2	
TATO	Taipei	77.77	302	IAMs_20	IAMs_20	19 35 25.6		
	comp=Z,6μm,22.0s							
MOD	Modoc Plateau	77.79	37	P	P	19 05 43.9	-0.2	
MOD				IAmb	IAmb	19 05 51.2		
	comp=Z,169nm,1.2s							
MOD				IAMs_20	IAMs_20	19 34 40.5		
	comp=Z,6μm,19.0s							
I04A	Tendick Farm,	77.86	35	P	P	19 05 44.4	+0.1	
	baz=228,SNR=8.3							
COR	Corvallis	77.92	34	P	P	19 05 44.8	+0.3	
COR				pmax	pmax			
	comp=Z,369nm,1.5s							
COR				MLR	MLR			
	comp=Z,14μm,19.0s							
COR	Corvallis	77.92	34	P	P	19 05 44.8	+0.3	
COR				IAmb	IAmb	19 05 50.8		
	comp=Z,369nm,1.5s							
COR	Corvallis	77.92	34	IAMs_20	IAMs_20	19 34 35.5		
	comp=Z,14μm,19.0s							
OHAK	Old Harbor	77.98	11	P	P	19 05 44.0	-0.5	
OHAK				IAmb	IAmb	19 05 47.1		
	comp=Z,297nm,1.4s							
OHAK				IAMs_20	IAMs_20	19 40 14.7		
	comp=Z,6μm,19.0s							
LEM	Lembang	78.12	267	S	S	19 15 43.7	+3.1	
	comp=Z,7.2nm,0.4s,baz=288,slow=20,SNR=8.0							
J05D	Fort Rock, OR	78.16	36	P	P	19 05 46.8	+0.6	
	baz=229,SNR=36							
H04D	Lebanon	78.18	34	P	P	19 05 46.5	+0.6	
	baz=228							
KSM	Kuching	78.29	276	P	P	19 05 48.5	+1.2	
KSM				IAMs_20	IAMs_20	19 40 12.7		
	comp=Z,3μm,20.0s							
TUC	Tucson	78.35	50	P	P	19 05 48.2	+0.8	
	baz=238							
TUC	Tucson	78.35	50	P	P	19 05 47.7	+0.4	
TUC				pmax	pmax			
	comp=Z,82nm,0.9s							
TUC				MLR	MLR			
	comp=Z,6μm,18.0s							
TUC	Tucson	78.35	50	P	P	19 05 47.7	+0.4	
TUC	Tucson	78.35	50	IAMs_20	IAMs_20	19 36 59.2		
	comp=Z,6μm,18.0s							
G03D	McMinnville, O	78.37	33	P	P	19 05 47.5	+0.5	
	baz=227							
R11A	Troy Canyon, C	78.45	42	P	P	19 05 48.1	+0.2	
	baz=234,SNR=116							
R11A	Troy Canyon, C	78.45	42	P	P	19 05 47.9	0.0	
R11A				IAMs_20	IAMs_20	19 39 34.2		
	comp=Z,6μm,18.0s							
H04A	Detroit Lake	78.58	34	P	P	19 05 47.2	-1.0	
H04A				IAmb	IAmb	19 05 52.4		
	comp=Z,146nm,1.2s							
H04A				IAMs_20	IAMs_20	19 34 38.9		
	comp=Z,10μm,19.0s							
KDAK	Kodiak Island	78.64	11	*i*P	P	19 05 48.2	0.0	
KDAK	Kodiak Island	78.64	11	P	P	19 05 47.7	-0.5	
KDAK				IAmb	IAmb	19 05 55.3		
	comp=Z,310nm,1.2s							
KDAK	Kodiak Island	78.64	11	IAMs_20	IAMs_20	19 41 45.0		
	comp=Z,6μm,18.0s							
PINE	Pine Mountain	78.66	35	P	P	19 05 48.9	0.0	
PINE				IAmb	IAmb	19 05 52.1		
	comp=Z,166nm,0.9s							
PINE				IAMs_20	IAMs_20	19 34 36.1		
	comp=Z,8μm,20.0s							
BMN	Battle Mountai	78.68	40	P	P	19 05 49.0	-0.1	
BMN				pmax	pmax			
	comp=Z,116nm,1.0s							
BMN				MLR	MLR			
	comp=Z,6μm,18.0s							
BMN	Battle Mountai	78.68	40	P	P	19 05 49.0	-0.1	
BMN				IAmb	IAmb	19 05 55.0		
	comp=Z,116nm,1.0s							
BMN				IAMs_20	IAMs_20	19 38 33.0		
	comp=Z,6μm,18.0s							
I05D	Terrebonne, OR	78.80	35	P	P	19 05 49.7	+0.2	
	baz=229,SNR=15							
XMIS	Christmas Isla	78.85	263	P	P	19 05 51.2	+0.8	
XMIS				IAmb	IAmb	19 05 54.8		
	comp=Z,492nm,1.6s							
XMIS				IAMs_20	IAMs_20	19 41 51.2		
	comp=Z,8μm,19.0s							
319A	Douglas	78.96	51	P	P	19 05 51.4	+0.6	
319A				IAmb	IAmb	19 05 53.8		
	comp=Z,120nm,0.9s							
319A				IAMs_20	IAMs_20	19 37 12.5		
	comp=Z,8μm,18.0s							
TEY	Ternei	78.98	326⇓	*e*P	P	19 05 51.9	+1.6	
TEY				pmax	pmax			
	comp=Z,30nm,1.7s							
TEY				pmax	pmax			
	comp=E,10.0nm,1.5s							
TEY				pmax	pmax			
	comp=N,10.0nm,1.7s							
TEY				pmax	pmax			
	comp=Z,300nm,12.1s							
TEY				pmax	pmax			
	comp=E,100nm,12.5s							
TEY				pmax	pmax			
	comp=N,100nm,13.1s							
X16A	Lo Mia Camp, P	79.00	48	P	P	19 05 51.1	+0.1	
X16A				IAMs_20	IAMs_20	19 37 21.3		
	comp=Z,5μm,18.0s							
SKJI	Sukabumi	79.07	266	P	P	19 05 54.7	+3.1	
	comp=Z,452nm,0.8s,comp=Z,6μm							
E03A	Lebam	79.13	32	P	P	19 05 50.7	-0.5	
E03A				IAmb	IAmb	19 05 53.6		
	comp=Z,132nm,0.9s							
E03A				IAMs_20	IAMs_20	19 35 44.0		
	comp=Z,9μm,19.0s							
LCMT	Little Creek M	79.20	45	P	P	19 05 52.3	+0.3	
TJN	Taejon	79.25	315	*ce*P	P	19 05 53.5	+1.4	
F04A	Amboy	79.30	33	P	P	19 05 51.9	-0.2	
F04A				IAmb	IAmb	19 05 56.4		
	comp=Z,624nm,1.9s							
F04A				IAMs_20	IAMs_20	19 35 28.8		
	comp=Z,7μm,19.0s							
TPI	Tanjungpandan	79.39	271	P	P	19 05 55.2	+1.9	
	comp=Z,72nm,1.4s,comp=Z,3μm							
G05D	Wamic, OR	79.41	34	P	P	19 05 53.3	+0.5	
	baz=229							
CCUT	Cedar City	79.42	44	P	P	19 05 53.4	+0.1	
KSRS	Korea Array	79.48	316	P	P	19 05 55.0	+1.8	
	comp=Z,62nm,0.9s,baz=129,slow=6.0,SNR=138							
KNB	Kanab	79.48	45	P	P	19 05 53.7	+0.1	
KNB				pmax	pmax			
	comp=Z,230nm,1.3s							
KNB	Kanab	79.48	45	P	P	19 05 53.7	+0.1	
KSAR	Wonju Array Be	79.50	316	P	P	19 05 53.8	+0.4	
KSAR	Wonju Array Be	79.50	316	P	P	19 05 53.8	+0.4	
U15A	North Rim	79.51	45	P	P	19 05 54.4	+0.6	
U15A				IAmb	IAmb	19 06 01.2		
	comp=Z,227nm,1.4s							
U15A				IAMs_20	IAMs_20	19 34 08.6		
	comp=Z,3μm,20.0s							
KS19	Wonju Array Si	79.55	316	P	P	19 05 55.1	+1.5	
HPIG		79.55	57	P	P	19 05 53.8	-0.4	
HPIG				IAMs_20	IAMs_20	19 37 37.7		
	comp=Z,12μm,18.0s							
NLWA	Neilton Lookou	79.56	31	P	P	19 05 54.1	+0.6	
NLWA				IAMs_20	IAMs_20	19 37 09.7		
	comp=Z,9μm,18.0s							
SZCU	Shurtz Canyon	79.63	44	P	P	19 05 54.8	+0.4	
WUAZ	Wupatki	79.64	47	P	P	19 05 55.4	+0.9	
	baz=237							
WUAZ	Wupatki	79.64	47	P	P	19 05 54.1	-0.4	
WUAZ				IAMs_20	IAMs_20	19 34 21.1		
	comp=Z,3μm,20.0s							
E04D	Cinebar	79.64	33	P	P	19 05 54.3	+0.4	
	baz=227,SNR=9.3							
PSUT	Pine Spring	79.66	43	P	P	19 05 54.5	0.0	
SBJI	Serang	79.75	267	P	P	19 05 57.3	+2.0	
	comp=Z,341nm,1.3s,comp=Z,6μm							
F05D	White Salmon	79.76	34	P	P	19 05 54.9	+0.3	
	baz=228							
CGJI	Cibinong	80.01	266	P	P	19 05 57.4	+0.7	
	comp=Z,254nm,0.8s							
KNMB	Chin-men Tao	80.04	300	P	P	19 05 57.5	+1.0	
KNMB				IAmb	IAmb	19 06 03.3		
	comp=Z,524nm,1.4s							
KNMB				IAMs_20	IAMs_20	19 36 55.2		
	comp=Z,4μm,22.0s							
D03D	Eldon	80.05	32	P	P	19 05 56.5	+0.4	
	baz=227							
MOIG	Morelia	80.05	65	P	P	19 05 56.9	-0.2	
PKCU	Pink Cliffs	80.06	45	P	P	19 05 57.7	+0.8	
ELK	Elko	80.08	41	P	P	19 05 56.1	-0.7	
ELK				pmax	pmax			
	comp=Z,138nm,1.3s							
ELK				MLR	MLR			
	comp=Z,6μm,19.0s							
ELK	Elko	80.08	41	LR	LR	19 35 51.5		
	comp=Z,5μm,18.8s,baz=230,slow=32							
ELK	Elko	80.08	41	P	P	19 05 56.1	-0.7	
ELK				IAMs_20	IAMs_20	19 35 22.0		
	comp=Z,6μm,19.0s							
QZH	Quanzhou	80.08	301⇑	*i*P	P	19 06 00.3	+3.5	
QZH				S	S	19 16 06.6	+6.0	
QZH				pmax	pmax			
	comp=Z,160nm,1.3s							
QZH				pmax	pmax			
	comp=Z,5μm,7.2s							
QZH				LR	LR			
	comp=Z,2μm,17.1s							
QZH				LR	LR			
	comp=Z,3μm,19.8s							
QZH				LR	LR			
	comp=Z,9μm,33.7s							
X18A	Snowflake	80.11	48	P	P	19 05 57.2	+0.1	
X18A				IAMs_20	IAMs_20	19 38 05.6		
	comp=Z,5μm,18.0s							
DIB	Dawson Inlet,	80.16	23	P	P	19 05 56.5	-0.1	
DIB				IAMs_20	IAMs_20	19 35 44.8		
	comp=Z,3μm,19.0s							
LON	Longmire	80.16	33	P	P	19 05 56.0	-0.8	
LON				pmax	pmax			
	comp=Z,49nm,1.0s							
LON				MLR	MLR			
	comp=Z,4μm,20.0s							
LON	Longmire	80.16	33	P	P	19 05 56.0	-0.8	
LON				IAMs_20	IAMs_20	19 35 36.6		
	comp=Z,4μm,20.0s							
TYV	Tymovskoe	80.19	333	*e*P	P	19 05 58.0	+1.2	
TYV				*e*S	S	19 16 03.3	+2.7	
TYV				pmax	pmax			
	comp=Z,3μm,5.1s							
TYV				pmax	pmax			
	comp=Z,176nm,1.4s							
TYV				smax	smax			
	comp=N,12nm,1.3s							
TYV				smax	smax			
	comp=N,3μm,11.3s							
ZAIG	Zacatecas	80.19	62	P	P	19 05 57.9	0.0	
ZAIG				IAMs_20	IAMs_20	19 32 01.2		
	comp=Z,4μm,22.0s							
PMSA	Palmer Station	80.29	156	P	P	19 05 59.0	+1.8	
PMSA	Palmer Station	80.29	156	IAMs_20	IAMs_20	19 34 41.4		
	comp=Z,7μm,20.0s							
PMSA	Palmer Station	80.29	156	*e*P	P	19 05 59.2	+1.9	
PMSA	Palmer Station	80.29	156	*e*P	P	19 05 59.2	+1.9	
D05A	Enumclaw	80.36	32	P	P	19 05 57.5	-0.3	
D05A				IAmb	IAmb	19 06 06.8		
	comp=Z,345nm,1.3s							
D05A				IAMs_20	IAMs_20	19 36 43.9		
	comp=Z,5μm,19.0s							
VLA	Vladivostok	80.36	322	*d i*P	P	19 05 59.4	+1.5	
VLA				pmax	pmax			
	comp=Z,121nm,1.4s							
MSHR	Mys Shultsa	80.46	322	*d i*P	P	19 06 00.2	+1.8	
MTPU	Mount Pierson	80.47	44	P	P	19 05 59.6	+0.5	
CNPM	China Poot	80.52	11	P	P	19 05 57.5	-0.9	
CNPM				IAmb	IAmb	19 06 02.8		
	comp=Z,235nm,1.0s							
CNPM				IAMs_20	IAMs_20	19 41 44.8		
	comp=Z,7μm,18.0s							
W18A	Petrified Fore	80.56	48	P	P	19 06 00.2	+0.8	
	baz=238							
W18A	Petrified Fore	80.56	48	P	P	19 05 59.9	+0.4	
W18A				IAMs_20	IAMs_20	19 38 11.6		
	comp=Z,4μm,18.0s							
F07A	Phinny Hill Vi	80.58	34	P	P	19 05 59.8	+0.8	
F07A				IAMs_20	IAMs_20	19 36 58.7		
	comp=Z,11μm,19.0s							
HOM	Homer	80.58	11	P	P	19 05 58.2	-0.4	
HOM				IAMs_20	IAMs_20	19 41 48.2		
	comp=Z,6μm,18.0s							
TCRU	Three Creeks R	80.62	44	P	P	19 06 00.4	+0.6	
PGC	Sidney	80.64	31	P	P	19 05 59.5	+0.3	
121A	Cookes Peak, D	80.64	51	P	P	19 06 01.1	+1.2	
	baz=240,SNR=41							
121A	Cookes Peak, D	80.64	51	P	P	19 06 00.9	+1.0	
121A				IAmb	IAmb	19 06 05.5		
	comp=Z,210nm,1.4s							
121A				IAMs_20	IAMs_20	19 38 25.0		
	comp=Z,8μm,18.0s							
G08A	Pilot Rock	80.71	35	P	P	19 05 59.5	-0.4	
G08A				IAmb	IAmb	19 06 06.2		
	comp=Z,158nm,1.1s							
G08A				IAMs_20	IAMs_20	19 35 31.3		
	comp=Z,6μm,20.0s							
MSU	Marysvale	80.74	44	P	P	19 06 00.6	+0.2	
MSU	Marysvale	80.74	44	P	P	19 06 00.6	+0.2	
BRLK	Bradley Lake	80.81	11	P	P	19 05 59.5	-0.4	
BRLK				IAMs_20	IAMs_20	19 42 27.0		
	comp=Z,5μm,19.0s							
BLSI	Bandar Lampung	80.82	268	P	P	19 06 02.2	+1.1	
	comp=Z,207nm,0.7s,comp=Z,4μm							
SSE	Sheshan	80.92	307	P	P	19 06 02.3	+1.1	
SSE				S	S	19 16 14.2	+5.1	
SSE				SS	SS	19 21 25.1	+1.2	
SSE				pmax	pmax			
	comp=Z,2μm,7.8s							
SSE				LR	LR			
	comp=Z,2μm,18.5s							
SSE	Sheshan	80.92	307	P	P	19 06 01.9	+0.7	
SSE	Sheshan	80.92	307	IAMs_20	IAMs_20	19 44 06.7		
	comp=Z,2μm,20.0s							
USA0B	Ussuriysk Arra	80.97	323	*d i*P	P	19 06 02.5	+1.4	
USA0B	Ussuriysk Arra	80.97	323	P	P	19 06 01.9	+0.7	
USA0B				IAmb	IAmb	19 06 07.3		
	comp=Z,374nm,1.6s							
USA0B				IAMs_20	IAMs_20	19 35 24.3		
	comp=Z,5μm,22.0s							
USRK	Ussuriysk Ar.	80.97	323	P	P	19 06 01.5	+0.3	
USRK	Ussuriysk Ar.	80.97	323	P	P	19 06 02.4	+1.2	
	comp=Z,41nm,1.2s,baz=112,slow=3.1,SNR=42							
USRK	Ussuriysk Ar.	80.97	323	P	P	19 06 01.5	+0.3	
B05A	Bryant	81.03	31	P	P	19 06 01.4	0.0	
	baz=228,SNR=15							
E07A	Sunnyside	81.04	34	P	P	19 06 01.5	-0.1	
E07A				IAmb	IAmb	19 06 04.4		
	comp=Z,111nm,0.9s							
E07A				IAMs_20	IAMs_20	19 37 13.1		
	comp=Z,13μm,19.0s							
LTY	Liberty	81.08	33	P	P	19 06 01.0	-0.8	
LTY				IAMs_20	IAMs_20	19 36 43.9		
	comp=Z,5μm,19.0s							
BBB	Bella Bella	81.09	26	LR	LR	19 37 33.4		
	comp=Z,4μm,18.1s,baz=226,slow=32							
BBB	Bella Bella	81.09	26	P	P	19 06 01.9	+0.3	
BBB				IAmb	IAmb	19 06 04.3		
	comp=Z,113nm,0.8s							
BBB				IAMs_20	IAMs_20	19 37 03.7		
	comp=Z,5μm,19.0s							
HAWA	Hanford	81.11	34	P	P	19 06 01.7	-0.2	
HAWA				IAmb	IAmb	19 06 06.4		
	comp=Z,266nm,1.6s							
HAWA				IAMs_20	IAMs_20	19 37 23.8		
	comp=Z,13μm,18.0s							
RSO	Redoubt South	81.15	10	P	P	19 06 00.8	-1.2	
EPT	El Paso	81.21	52	IAMs_20	IAMs_20	19 39 10.2		
	comp=Z,5μm,18.0s							
DUG	Dugway, Tooele	81.27	42	P	P	19 06 03.3	+0.3	
	baz=236							
DUG	Dugway, Tooele	81.27	42	P	P	19 06 02.4	-0.7	
DUG				pmax	pmax			
	comp=Z,72nm,1.2s							
DUG				MLR	MLR			
	comp=Z,4μm,20.0s							
DUG	Dugway, Tooele	81.27	42	P	P	19 06 02.4	-0.7	
DUG				IAMs_20	IAMs_20	19 35 12.8		
	comp=Z,4μm,20.0s							
MFID	Camas Ranch	81.31	38	P	P	19 06 02.8	-0.4	
MFID				IAMs_20	IAMs_20	19 36 35.3		
	comp=Z,3μm,19.0s							
SVW2	Sparrevohn	81.34	8	P	P	19 06 01.7	-1.1	
SVW2				IAMs_20	IAMs_20	19 40 06.5		
	comp=Z,4μm,19.0s							
BMO	Blue Mountains	81.34	36	P	P	19 06 02.4	-0.9	
BMO				pmax	pmax			
	comp=Z,87nm,1.3s							
BMO				MLR	MLR			
	comp=Z,6μm,20.0s							
BMO	Blue Mountains	81.34	36	P	P	19 06 02.4	-0.9	
BMO				IAMs_20	IAMs_20	19 36 25.3		
	comp=Z,6μm,20.0s							
SEW	Seward	81.39	12	P	P	19 06 02.2	-0.8	
SEW				IAmb	IAmb	19 06 05.2		
	comp=Z,206nm,0.9s							
SEW				IAMs_20	IAMs_20	19 42 23.8		
	comp=Z,8μm,18.0s							
C06D	Leavenworth	81.40	32	P	P	19 06 03.2	-0.2	
	baz=229							
E08A	Dider Farm, El	81.42	34	P	P	19 06 03.5	0.0	
E08A				IAMs_20	IAMs_20	19 37 07.1		
	comp=Z,12μm,18.0s							
GO10	Punta Arenas	81.44	143	IAMs_20	IAMs_20	19 35 17.5		
	comp=Z,13μm,20.0s							
TLIG	Tlapa	81.46	68	P	P	19 06 04.9	+0.4	
TLIG				IAMs_20	IAMs_20	19 37 42.4		
	comp=Z,7μm,18.0s							
KASI	Kota Agung	81.48	267	P	P	19 06 05.4	+0.8	
	comp=Z,316nm,1.0s,comp=Z,4μm							
B06A	Marblemount	81.50	32	IAMs_20	IAMs_20	19 37 12.1		
	comp=Z,8μm,19.0s							
KLSI		81.52	268	P	P	19 06 05.4	+0.6	
	comp=Z,70nm,1.5s,comp=Z,3μmcomp=Z,9μm							
BGU	Big Grassy Mou	81.55	41	P	P	19 06 04.2	-0.3	
NLU	North Lily Min	81.60	43	P	P	19 06 05.1	+0.2	
Q16A	Castle Valley	81.62	44	P	P	19 06 06.0	+1.0	
TMUT	Trail Mountain	81.80	44	P	P	19 06 07.0	+0.9	
MPU	Maple Canyon	81.92	43	P	P	19 06 06.9	+0.3	
MNTX	Cornudas Mount	82.01	53	P	P	19 06 07.8	+0.7	
	baz=242,SNR=141							
MNTX	Cornudas Mount	82.01	53	P	P	19 06 07.6	+0.5	
MNTX				IAmb	IAmb	19 06 12.3		
	comp=Z,174nm,1.2s							
MNTX				IAMs_20	IAMs_20	19 39 43.5		
	comp=Z,3μm,18.0s							
Y22D	IRIS PASSCAL I	82.03	50	P	P	19 06 08.7	+1.5	
	baz=240							
Y22D	IRIS PASSCAL I	82.03	50	P	P	19 06 08.3	+1.1	
Y22D				IAMs_20	IAMs_20	19 35 28.7		
	comp=Z,3μm,19.0s							
LENM	Lemitar	82.04	50	P	P	19 06 07.4	+0.1	
LWLI	Liwa	82.05	267	P	P	19 06 08.6	+0.8	
	comp=Z,194nm,0.8s							
PMBI	Palembang	82.05	270	P	P	19 06 09.7	+2.1	
PMBI	Palembang	82.05	270	P	P	19 06 08.6	+0.9	
PMBI				IAMs_20	IAMs_20	19 46 38.8		
	comp=Z,6μm,18.0s							
F10A	Beach Ranch, E	82.08	35	P	P	19 06 06.3	-0.8	
F10A				IAMs_20	IAMs_20	19 36 36.7		
	comp=Z,7μm,20.0s							
SPUT	South Promonto	82.12	41	P	P	19

TXAR	**Lajitas Array**	**82.22**	**55**	P	**P**	**19 06 07.9**	**-0.4**	
HIN	**Hinchinbrook I**	**82.25**	**13**	P	**P**	**19 06 07.0**	**-0.6**	
HIN				IAMs_20	IAMs_20	19 42 23.4		
	comp=Z,9μm,18.0s							
RC01	**Rabbit Creek A**	**82.26**	**11**	P	**P**	**19 06 07.0**	**-0.5**	
RC01				IAMs_20	IAMs_20	19 42 55.6		
	comp=Z,5μm,18.0s							
USHA	**Ushuaia**	**82.26**	**146**	P	**P**	**19 06 09.2**	**+1.3**	
	comp=Z,29nm,0.7s,baz=253,slow=7.8,SNR=11							
BNM	**Barren Site**	**82.28**	**50**	P	**P**	**19 06 08.7**	**0.0**	
LPM	**Los Pinos Moun**	**82.36**	**50**	P	**P**	**19 06 09.2**	**+0.2**	
JLU	**Jordanelle**	**82.36**	**42**	P	**P**	**19 06 09.1**	**+0.2**	
SUA	**Susitna One**	**82.43**	**10**	P	**P**	**19 06 08.0**	**-0.7**	
SUA				IAmb	IAmb	19 06 10.6		
	comp=Z,118nm,0.8s							
SUA				IAMs_20	IAMs_20	19 43 08.2		
	comp=Z,7μm,18.0s							
B08A	**Colville Reser**	**82.48**	**33**	P	**P**	**19 06 08.4**	**-0.7**	
B08A				IAMs_20	IAMs_20	19 43 29.0		
	comp=Z,2μm,18.0s							
MVCO	**Mesa Verde**	**82.50**	**46**	P	**P**	**19 06 10.2**	**+0.4**	
	baz=239,SNR=18							
MVCO	**Mesa Verde**	**82.50**	**46**	P	**P**	**19 06 10.0**	**+0.3**	
MVCO				IAmb	IAmb	19 06 14.8		
	comp=Z,172nm,1.7s							
MVCO				IAMs_20	IAMs_20	19 36 02.9		
	comp=Z,3μm,21.0s							
EYAK	**Cordova Ski Ar**	**82.54**	**13**	P	**P**	**19 06 08.7**	**-0.3**	
EYAK				IAmb	IAmb	19 06 13.8		
	comp=Z,195nm,1.2s							
EYAK				IAMs_20	IAMs_20	19 42 30.2		
	comp=Z,12μm,19.0s							
PV05	**Paradox Valley**	**82.55**	**45**	P	**P**	**19 06 11.0**	**+1.1**	
PV05				IAmb	IAmb	19 06 17.4		
	comp=Z,270nm,1.4s							
PV05				IAMs_20	IAMs_20	19 36 22.2		
	comp=Z,3μm,22.0s							
SUCK	**Suckling Hills**	**82.55**	**14**	P	**P**	**19 06 09.0**	**-0.1**	
SUCK				IAmb	IAmb	19 06 14.1		
	comp=Z,323nm,1.3s							
SUCK				IAMs_20	IAMs_20	19 39 03.5		
	comp=Z,10μm,19.0s							
PAYG	**Puerto Ayora**	**82.56**	**88**	P	**P**	**19 06 11.4**	**+1.1**	
PAYG	**Puerto Ayora**	**82.56**	**88**	IAMs_20	IAMs_20	19 34 39.7		
	comp=Z,5μm,20.0s							
GLI	**Glacier Island**	**82.56**	**12**	P	**P**	**19 06 08.7**	**-0.5**	
GLI				IAMs_20	IAMs_20	19 42 45.8		
	comp=Z,5μm,18.0s							
FID	**Port Fidalgo**	**82.57**	**13**	P	**P**	**19 06 08.5**	**-0.8**	
FID				IAmb	IAmb	19 06 13.7		
	comp=Z,230nm,1.2s							
FID				IAMs_20	IAMs_20	19 42 24.8		
	comp=Z,8μm,18.0s							
MDJ	**Mudanjiang**	**82.59**	**322**	P	**P**	**19 06 11.2**	**+1.5**	
MDJ				pP	pP	19 06 12.6	-1.2	
MDJ				PP	**PP**	**19 09 21.2**	**+1.6**	
MDJ				S	**S**	**19 16 30.0**	**+4.2**	
MDJ				SS	**SS**	**19 21 55.3**	**+7.1**	
MDJ				pmax	pmax			
	comp=Z,83nm,1.8s							
MDJ				pmax	pmax			
	comp=Z,5μm,7.9s							
MDJ				LR	LR			
	comp=Z,2μm,18.6s							
MDJ				LR	LR			
	comp=Z,3μm,16.2s							
MDJ				LR	LR			
	comp=Z,12μm,34.1s							
MDJ	**Mudanjiang**	**82.59**	**322**	P	**P**	**19 06 11.1**	**+1.5**	
MDJ				IAmb	IAmb	19 06 16.0		
	comp=Z,356nm,1.6s							
MDJ				IAMs_20	IAMs_20	19 37 26.3		
	comp=Z,3μm,21.0s							
HKPS	**Hong Kong Po S**	**82.63**	**297**	P	**P**	**19 06 11.8**	**+1.4**	
RAGM	**Ragged Mountai**	**82.63**	**14**	P	**P**	**19 06 09.1**	**-0.5**	
RAGM				IAmb	IAmb	19 06 14.6		
	comp=Z,175nm,1.1s							
RAGM				IAMs_20	IAMs_20	19 42 23.6		
	comp=Z,16μm,18.0s							
C09A	**Chrisman Ranch**	**82.67**	**34**	P	**P**	**19 06 09.8**	**-0.3**	
C09A				IAmb	IAmb	19 06 14.3		
	comp=Z,203nm,1.4s							
C09A				IAMs_20	IAMs_20	19 36 47.1		
	comp=Z,12μm,20.0s							
TCUT	**Toone Canyon**	**82.67**	**42**	P	**P**	**19 06 10.7**	**+0.2**	
HMT	**Hamilton**	**82.68**	**14**	P	**P**	**19 06 09.4**	**-0.4**	
HMT				IAmb	IAmb	19 06 12.4		
	comp=Z,132nm,1.0s							
HMT				IAMs_20	IAMs_20	19 42 06.8		
	comp=Z,15μm,18.0s							
NKL	**Nikolayevsk**	**82.69**	**334**	*e*P	**P**	**19 06 10.2**	**+0.2**	
NKL				*e*S	**S**	**19 16 24.5**	**-2.0**	
NKL				pmax	pmax			
	comp=Z,106nm,1.4s							
NKL				pmax	pmax			
	comp=N,6.0nm,1.0s							
NKL				pmax	pmax			
	comp=E,19nm,1.4s							
NKL				smax	smax			
	comp=E,119nm,13.7s							
NKL				smax	smax			
	comp=N,15nm,9.4s							
WRAK	**Wrangell Islan**	**82.74**	**21**	P	**P**	**19 06 10.0**	**-0.1**	
WRAK				IAmb	IAmb	19 06 15.1		
	comp=Z,330nm,1.6s							
WRAK	**Wrangell Islan**	**82.74**	**21**	IAMs_20	IAMs_20	19 39 02.0		
	comp=Z,3μm,18.0s							
PV09	**Paradox Valley**	**82.74**	**45**	P	**P**	**19 06 11.0**	**-0.1**	
PV19	**Morning Glory**	**82.74**	**45**	P	**P**	**19 06 11.4**	**+0.5**	
PV19				IAmb	IAmb	19 06 16.0		
	comp=Z,379nm,1.7s							
PV19				IAMs_20	IAMs_20	19 36 25.2		
	comp=Z,3μm,20.0s							
PV17	**East Wray Mesa**	**82.75**	**45**	P	**P**	**19 06 10.9**	**-0.1**	
PV17				IAmb	IAmb	19 06 16.0		
	comp=Z,353nm,1.6s							
PV14	**Lion Creek, Pa**	**82.75**	**45**	P	**P**	**19 06 11.4**	**+0.4**	
PV14				IAmb	IAmb	19 06 16.1		
	comp=Z,204nm,1.3s							
PV14				IAMs_20	IAMs_20	19 36 12.9		
	comp=Z,4μm,20.0s							
PV18	**Skein Mesa, Pa**	**82.76**	**45**	P	**P**	**19 06 11.4**	**+0.4**	
PV18				IAmb	IAmb	19 06 16.1		
	comp=Z,146nm,1.2s							
PV18				IAMs_20	IAMs_20	19 36 24.6		
	comp=Z,3μm,20.0s							
PV20	**West Nyswonger**	**82.77**	**45**	P	**P**	**19 06 11.3**	**+0.2**	
PV20				IAmb	IAmb	19 06 17.9		
	comp=Z,173nm,1.3s							
PV20				IAMs_20	IAMs_20	19 36 14.9		
	comp=Z,3μm,20.0s							
PV13	**Radium Mtn., P**	**82.78**	**45**	P	**P**	**19 06 11.5**	**+0.4**	
PV13				IAmb	IAmb	19 06 18.6		
	comp=Z,163nm,1.2s							
PV13				IAMs_20	IAMs_20	19 36 14.0		
	comp=Z,4μm,20.0s							
SKT	**Skwentna**	**82.78**	**10**	P	**P**	**19 06 08.7**	**-1.6**	
SKT				IAmb	IAmb	19 06 13.4		
	comp=Z,140nm,1.0s							
SKT				IAMs_20	IAMs_20	19 39 20.6		
	comp=Z,5μm,19.0s							
PV16	**Nyswonger Mesa**	**82.79**	**45**	P	**P**	**19 06 11.6**	**+0.4**	
PV16				IAmb	IAmb	19 06 16.2		
	comp=Z,306nm,1.6s							
PV16				IAMs_20	IAMs_20	19 36 14.4		
	comp=Z,3μm,21.0s							
KNK	**Knik Glacier**	**82.79**	**11**	P	**P**	**19 06 09.6**	**-0.8**	
KNK				IAmb	IAmb	19 06 12.8		
	comp=Z,176nm,0.8s							
KNK				IAMs_20	IAMs_20	19 43 07.8		
	comp=Z,6μm,18.0s							
ANMO	**Albuquerque**	**82.79**	**49**	P	**P**	**19 06 12.1**	**+0.9**	
	baz=241							
ANMO	**Albuquerque**	**82.79**	**49**	*ce*P	**P**	**19 06 12.1**	**+0.9**	
ANMO				pmax	pmax			
	comp=Z,99nm,1.1s							
ANMO	**Albuquerque**	**82.79**	**49**	LR	LR	19 36 04.6		
	comp=Z,3μm,20.2s,baz=238,slow=31							
ANMO	**Albuquerque**	**82.79**	**49**	P	**P**	**19 06 11.5**	**+0.2**	
ANMO	**Albuquerque**	**82.79**	**49**	IAMs_20	IAMs_20	19 39 37.9		
	comp=Z,5μm,18.0s							
PV23	**Carpenter Ridg**	**82.80**	**45**	P	**P**	**19 06 12.0**	**+0.7**	
PV23				IAmb	IAmb	19 06 16.4		
	comp=Z,174nm,1.0s							
PV23				IAMs_20	IAMs_20	19 47 33.9		
	comp=Z,6μm,19.0s							
PV03	**Paradox Valley**	**82.81**	**45**	P	**P**	**19 06 11.5**	**+0.2**	
PV03				IAmb	IAmb	19 06 16.3		
	comp=Z,262nm,1.5s							
PV03				IAMs_20	IAMs_20	19 36 25.8		
	comp=Z,3μm,19.0s							
PV11	**David Mesa, Pa**	**82.81**	**45**	P	**P**	**19 06 11.7**	**+0.4**	
PV11				IAmb	IAmb	19 06 18.2		
	comp=Z,156nm,1.2s							
PMR	**Palmer**	**82.83**	**11**	P	**P**	**19 06 10.0**	**-0.5**	
PMR				pmax	pmax			
	comp=Z,473nm,1.6s							
PMR				MLR	MLR			
	comp=Z,5μm,18.0s							
PMR	**Palmer**	**82.83**	**11**	P	**P**	**19 06 10.0**	**-0.5**	
PMR				IAMs_20	IAMs_20	19 46 38.9		
	comp=Z,5μm,18.0s							
PV04	**Paradox Valley**	**82.84**	**45**	P	**P**	**19 06 12.0**	**+0.6**	
PV04				IAmb	IAmb	19 06 14.3		
	comp=Z,104nm,1.0s							
PV04				IAMs_20	IAMs_20	19 45 57.7		
	comp=Z,5μm,18.0s							
PV02	**Paradox Valley**	**82.86**	**45**	P	**P**	**19 06 12.0**	**+0.4**	
PV02				IAmb	IAmb	19 06 16.6		
	comp=Z,183nm,1.3s							
GAMB	**Gambell**	**82.86**	**0**	P	**P**	**19 06 11.3**	**+0.7**	
GAMB				IAmb	IAmb	19 06 15.9		
	comp=Z,122nm,1.1s							
PV12	**Saucer Basin,**	**82.87**	**45**	P	**P**	**19 06 12.3**	**+0.7**	
PV12				IAmb	IAmb	19 06 19.9		
	comp=Z,221nm,1.1s							
PV12				IAMs_20	IAMs_20	19 46 46.5		
	comp=Z,5μm,18.0s							
PV21	**Cone Mtn., Par**	**82.88**	**45**	P	**P**	**19 06 12.0**	**+0.3**	
PV21				IAmb	IAmb	19 06 18.7		
	comp=Z,133nm,1.0s							
PV21				IAMs_20	IAMs_20	19 36 16.8		
	comp=Z,3μm,20.0s							
GRNR	**Gornyy**	**82.92**	**330**	⇓*i*P	**P**	**19 06 13.0**	**+1.7**	
GRNR				pmax	pmax			
	comp=Z,66nm,1.1s							
PV01	**Paradox Valley**	**82.93**	**46**	P	**P**	**19 06 12.3**	**+0.4**	
PV01				IAmb	IAmb	19 06 14.6		
	comp=Z,91nm,0.9s							
PV01				IAMs_20	IAMs_20	19 48 01.2		
	comp=Z,4μm,18.0s							
LHSI	**Lahat**	**82.94**	**268**	P	**P**	**19 06 13.4**	**+1.1**	
	comp=Z,209nm,1.4s,comp=Z,5μm							
PV22	**Blue Mesa, Par**	**82.99**	**45**	P	**P**	**19 06 12.3**	**+0.1**	
PV22				IAmb	IAmb	19 06 17.4		
	comp=Z,140nm,1.3s							
GDL2	**Guadalupe Moun**	**83.01**	**53**	P	**P**	**19 06 13.0**	**+0.6**	
PV07	**Paradox Valley**	**83.04**	**45**	P	**P**	**19 06 12.7**	**+0.2**	
PV07				IAmb	IAmb	19 06 20.9		
	comp=Z,140nm,1.3s							
PV07				IAMs_20	IAMs_20	19 36 04.0		
	comp=Z,3μm,20.0s							
GHO	**Glory Hole Cre**	**83.04**	**11**	P	**P**	**19 06 11.3**	**-0.4**	
GHO				IAMs_20	IAMs_20	19 43 27.1		
	comp=Z,6μm,18.0s							
YKU2	**Yakutat**	**83.08**	**16**	IAMs_20	IAMs_20	19 38 57.5		
	comp=Z,7μm,19.0s							
MESA	**MESA**	**83.08**	**15**	P	**P**	**19 06 12.1**	**0.0**	
MESA				IAMs_20	IAMs_20	19 39 01.5		
	comp=Z,12μm,19.0s							
WAX	**Waxell Ridge**	**83.10**	**14**	P	**P**	**19 06 12.3**	**+0.2**	
WAX				IAMs_20	IAMs_20	19 41 34.0		
	comp=Z,12μm,18.0s							
DHAK	**Deception Hill**	**83.11**	**17**	P	**P**	**19 06 12.4**	**+0.3**	
DHAK				IAMs_20	IAMs_20	19 38 30.4		
	comp=Z,5μm,19.0s							
NJ2	**Nanjing**	**83.12**	**307**	*e*P	**P**	**19 06 14.8**	**+2.1**	
NJ2				pP	**pP**	**19 06 16.1**	**-0.4**	
NJ2				sP	**sP**	**19 06 16.9**	**-1.3**	
NJ2				S	S	19 16 41.0	+9.2	
NJ2				sS	**ScS**	**19 16 48.1**	**+2.2**	
NJ2				SS	**SS**	**19 21 55.2**	**-1.5**	
NJ2				pmax	pmax			
	comp=Z,66nm,1.2s							
NJ2				pmax	pmax			
	comp=Z,4μm,6.2s							
NJ2				LR	LR			
	comp=Z,3μm,15.9s							
NJ2				LR	LR			
	comp=Z,4μm,18.6s							
NJ2				LR	LR			
	comp=Z,5μm,24.1s							
SML	**Sawmill**	**83.18**	**11**	P	**P**	**19 06 12.0**	**-0.4**	
SML				IAMs_20	IAMs_20	19 47 21.0		
	comp=Z,6μm,18.0s							
YAH	**Yahtse**	**83.29**	**15**	P	**P**	**19 06 13.1**	**-0.1**	
YAH				IAMs_20	IAMs_20	19 39 08.9		
	comp=Z,10μm,19.0s							
MNAI	**Manna**	**83.30**	**268**	P	**P**	**19 06 14.2**	**0.0**	
MNAI				IAMs_20	IAMs_20	19 48 49.1		
	comp=Z,5μm,19.0s							
CRQM	**Cirque**	**83.31**	**14**	P	**P**	**19 06 13.3**	**0.0**	
TGL	**Tana Glacier**	**83.38**	**14**	P	**P**	**19 06 13.4**	**-0.1**	
TGL				IAMs_20	IAMs_20	19 42 36.6		
	comp=Z,9μm,18.0s							
SCM	**Sheep Creek Mo**	**83.39**	**12**	P	**P**	**19 06 13.2**	**-0.4**	
SCM				pmax	pmax			
	comp=Z,239nm,0.8s							
SCM				MLR	MLR			
	comp=Z,5μm,18.0s							
SCM	**Sheep Creek Mo**	**83.39**	**12**	P	**P**	**19 06 13.2**	**-0.4**	
SCM				IAMs_20	IAMs_20	19 43 50.7		
	comp=Z,5μm,18.0s							
CLNB	**Carlsbad**	**83.41**	**53**	P	**P**	**19 06 14.8**	**+0.5**	
PCA	**Pinnacle**	**83.43**	**16**	P	**P**	**19 06 13.3**	**-0.5**	
PCA				IAMs_20	IAMs_20	19 39 47.8		
	comp=Z,7μm,18.0s							
BCPM	**Bancas Point**	**83.46**	**16**	P	**P**	**19 06 13.6**	**-0.2**	
BCPM				IAMs_20	IAMs_20	19 38 52.7		
	comp=Z,6μm,19.0s							
JMBI	**JAMBI**	**83.54**	**271**	P	**P**	**19 06 18.9**	**+3.5**	
	comp=Z,765nm,1.4s,comp=Z,14μm							
TPRI	**Tanjung Pinang**	**83.54**	**273**	P	**P**	**19 06 17.9**	**+2.5**	
	comp=Z,164nm,1.3s,comp=Z,5μm							
PPLA	**Purkeypile**	**83.55**	**9**	P	**P**	**19 06 12.9**	**-1.5**	
PPLA				IAmb	IAmb	19 07 01.2		
	comp=Z,130nm,1.3s							
PPLA				IAMs_20	IAMs_20	19 40 51.7		
	comp=Z,5μm,18.0s							
RDMU	**Red Mountain**	**83.55**	**43**	P	**P**	**19 06 14.7**	**-0.4**	
NEW	**Newport**	**83.56**	**34**	P	**P**	**19 06 14.1**	**-0.6**	
	baz=232,SNR=15							
NEW	**Newport**	**83.56**	**34**	P	**P**	**19 06 13.9**	**-0.8**	
NEW				pmax	pmax			
	comp=Z,35nm,1.0s							
NEW				MLR	MLR			
	comp=Z,13μm,19.0s							
NEW	**Newport**	**83.56**	**34**	P	**P**	**19 06 13.9**	**-0.8**	
NEW	**Newport**	**83.56**	**34**	IAMs_20	IAMs_20	19 38 29.7		
	comp=Z,13μm,19.0s							
JIS	**Juneau Island**	**83.56**	**19**	P	**P**	**19 06 14.0**	**-0.4**	
JIS				IAmb	IAmb	19 06 18.9		
	comp=Z,126nm,1.4s							
JIS				IAMs_20	IAMs_20	19 40 53.5		
	comp=Z,3μm,19.0s							
GZH	**Guangzhou**	**83.63**	**297**	P	**P**	**19 06 18.5**	**+2.9**	
GZH				S	**S**	**19 16 40.4**	**+3.1**	
GZH				pmax	pmax			
	comp=Z,6μm,7.9s							
VRDI	**Verde Repeater**	**83.65**	**14**	P	**P**	**19 06 14.8**	**-0.3**	
VRDI				IAMs_20	IAMs_20	19 43 06.6		
	comp=Z,8μm,18.0s							
DLV	**T Lat**	**83.66**	**285**	P	**P**	**19 06 14.8**	**-1.3**	
DLV				IAMs_20	IAMs_20	19 43 54.6		
	comp=Z,2μm,20.0s							
BESE	**Bessie Mountai**	**83.67**	**19**	P	**P**	**19 06 14.9**	**-0.1**	
BESE				IAmb	IAmb	19 06 19.7		
	comp=Z,269nm,1.6s							
BESE				IAMs_20	IAMs_20	19 38 54.1		
	comp=Z,3μm,18.0s							
BALM	**Baldy**	**83.74**	**14**	P	**P**	**19 06 15.1**	**-0.3**	
BALM				IAmb	IAmb	19 06 17.9		
	comp=Z,167nm,0.8s							
BALM				IAMs_20	IAMs_20	19 42 04.9		
	comp=Z,7μm,18.0s							
GLB	**Gilahina Butte**	**83.77**	**13**	P	**P**	**19 06 15.0**	**-0.4**	
GLB				IAmb	IAmb	19 06 17.9		
	comp=Z,116nm,0.8s							
GLB				IAMs_20	IAMs_20	19 43 01.5		
	comp=Z,7μm,18.0s							
AHID	**Auburn Hatcher**	**83.77**	**41**	P	**P**	**19 06 15.7**	**-0.5**	
AHID				IAmb	IAmb	19 06 21.5		
	comp=Z,96nm,1.1s							
AHID				IAMs_20	IAMs_20	19 37 38.8		
	comp=Z,5μm,20.0s							
ANM	**Nome**	**83.84**	**3**	P	**P**	**19 06 16.1**	**+0.4**	
ANM				pmax	pmax			
	comp=Z,151nm,1.3s							
ANM				MLR	MLR			
	comp=Z,3μm,19.0s							
ANM	**Nome**	**83.84**	**3**	P	**P**	**19 06 16.1**	**+0.4**	
ANM				IAmb	IAmb	19 06 20.9		
	comp=Z,151nm,1.3s							
ANM				IAMs_20	IAMs_20	19 42 23.0		
	comp=Z,3μm,19.0s							
MCMT	**McKenzie Canyo**	**83.88**	**38**	P	**P**	**19 06 16.6**	**0.0**	
MCARA	**McCarthy VSAT**	**83.89**	**14**	P	**P**	**19 06 15.9**	**-0.1**	
MCARA				IAmb	IAmb	19 06 22.3		
	comp=Z,128nm,0.9s							
MCARA				IAMs_20	IAMs_20	19 43 04.9		
	comp=Z,8μm,18.0s							
CTGM	**Chitina Glacie**	**83.92**	**15**	P	**P**	**19 06 16.1**	**-0.3**	
CTGM				IAMs_20	IAMs_20	19 39 01.6		
	comp=Z,7μm,19.0s							
S22A	**4UR Ranch, Cre**	**83.92**	**47**	P	**P**	**19 06 18.2**	**+1.1**	
	baz=240,SNR=95							
S22A	**4UR Ranch, Cre**	**83.92**	**47**	P	**P**	**19 06 17.9**	**+0.8**	
S22A				IAMs_20	IAMs_20	19 36 31.4		
	comp=Z,3μm,20.0s							
BARN	**Barnard Glacie**	**83.92**	**15**	P	**P**	**19 06 16.2**	**-0.2**	
MA2	**Magadan**	**84.13**	**342**	*ce*P	**P**	**19 06 17.0**	**-0.3**	
MA2				pmax	pmax			
	comp=Z,209nm,1.7s							
MA2	**Magadan**	**84.13**	**342**	P	**P**	**19 06 16.7**	**-0.5**	
	comp=Z,70nm,1.2s,baz=117,slow=5.8,SNR=10.0							
MA2	**Magadan**	**84.13**	**342**	P	**P**	**19 06 17.1**	**-0.3**	
MA2				IAmb	IAmb	19 06 21.7		
	comp=Z,253nm,1.6s							
MA2	**Magadan**	**84.13**	**342**	IAMs_20	IAMs_20	19 51 14.1		
	comp=Z,2μm,18.0s							
O20A	**White River Ci**	**84.18**	**44**	P	**P**	**19 06 18.6**	**+0.3**	
	baz=239,SNR=41							
O20A	**White River Ci**	**84.18**	**44**	P	**P**	**19 06 18.2**	**-0.1**	
O20A				IAmb	IAmb	19 06 23.1		
	comp=Z,186nm,1.2s							
O20A				IAMs_20	IAMs_20	19 37 05.1		
	comp=Z,3μm,20.0s							
KLR	**Kul'dur**	**84.22**	**327**	*d i*P	**P**	**19 06 18.9**	**+0.9**	
KLR				pmax	pmax			
	comp=Z,29nm,1.4s							
KLR	**Kul'dur**	**84.22**	**327**	P	**P**	**19 06 18.6**	**+0.6**	
	comp=Z,22nm,1.1s,baz=113,slow=5.4,SNR=26							
KLR				LR	LR	19 38 26.8		
	comp=Z,3μm,21.4s,baz=144,slow=32							
SKAG	**Skagway**	**84.24**	**18**	P	**P**	**19 06 18.3**	**+0.5**	
SKAG				IAmb	IAmb	19 06 23.8		
	comp=Z,244nm,1.2s							
SKAG				IAMs_20	IAMs_20	19 39 32.4		
	comp=Z,4μm,19.0s							
REDW	**Red Top Meadow**	**84.25**	**40**	P	**P**	**19 06 18.7**	**+0.1**	
REDW				IAmb	IAmb	19 06 24.0		
	comp=Z,114nm,1.1s							
REDW				IAMs_20	IAMs_20	19 42 45.5		
	comp=Z,7μm,18.0s							
TPAW	**Teton Pass**	**84.26**	**40**	P	**P**	**19 06 18.5**	**-0.2**	
TPAW				IAmb	IAmb	19 06 23.4		
	comp=Z,226nm,1.6s							
TPAW				IAMs_20	IAMs_20	19 37 55.7		
	comp=Z,4μm,20.0s							
FXWY	**Fox Creek**	**84.29**	**40**	P	**P**	**19 06 18.9**	**+0.1**	
FXWY				IAmb	IAmb	19 06 23.7		
	comp=Z,203nm,1.6s							
FXWY				IAMs_20	IAMs_20	19 38 14.7		
	comp=Z,4μm,19.0s							
MAW	**Mawson**	**84.30**	**199**	P	**P**	**19 06 20.0**	**+1.9**	
	baz=84,SNR=153							
MAW	**Mawson**	**84.30**	**199**	P	**P**	**19 06 19.8**	**+1.6**	
MAW				pmax	pmax			
	comp=Z,64nm,1.3s							
MAW				MLR	MLR			
	comp=Z,2μm,19.0s							
MAW	**Mawson**	**84.30**	**199**	P	**P**	**19 06 20.1**	**+1.9**	
	comp=Z,151nm,1.1s,baz=134,slow=6.6,SNR=117							
MAW	**Mawson**	**84.30**	**199**	P	**P**	**19 06 19.8**	**+1.6**	
MAW				IAMs_20	IAMs_20	19 41 50.2		
	comp=Z,2μm,19.0s							
DLMT	**Dillon**	**84.33**	**38**	P	**P**	**19 06 18.9**	**0.0**	
DLMT				IAmb	IAmb	19 06 24.2		
	comp=Z,247nm,1.4s							
DLMT				IAMs_20	IAMs_20	19 43 42.4		
	comp=Z,5μm,19.0s							
KTH	**Kantishna Hill**	**84.36**	**10**	P	**P**	**19 06 17.3**	**-1.2**	
KTH				IAMs_20	IAMs_20	19 41 54.3		
	comp=Z,7μm,19.0s							
SNOW	**Snow King Moun**	**84.36**	**40**	P	**P**	**19 06 19.0**	**-0.2**	
SNOW				IAmb	IAmb	19 06 25.7		
	comp=Z,135nm,1.1s							
SNOW				IAMs_20	IAMs_20	19 38 17.5		
	comp=Z,5μm,19.0s							
TRF	**Thorofare Moun**	**84.37**	**10**	P	**P**	**19 06 17.7**	**-0.9**	
TRF				IAMs_20	IAMs_20	19 44 22.4		
	comp=Z,9μm,18.0s							
MASI	**Maura Aman, Be**	**84.37**	**269**	P	**P**	**19 06 21.1**	**+1.4**	
MSO	**Missoula**	**84.41**	**36**	P	**P**	**19 06 18.4**	**-0.7**	
	baz=234,SNR=20							
MSO	**Missoula**	**84.41**	**36**	P	**P**	**19 06 18.5**	**-0.7**	
MSO				IAmb	IAmb	19 06 22.9		
	comp=Z,189nm,1.6s							
MSO				IAMs_20	IAMs_20	19 38 02.4		
	comp=Z,8μm,20.0s							
DL2	**Dalian**	**84.45**	**314**	⇓*i*P	**P**	**19 06 21.2**	**+1.8**	
DL2				PP	**PP**	**19 09 36.2**	**+1.2**	
DL2				SKS	**S**	**19 16 44.3**	**-0.6**	
DL2				S	**SKKSac**	**19 16 48.5**	**+0.7**	
DL2				SS	**SS**	**19 22 21.4**	**+5.3**	
DL2				pmax	pmax			
	comp=Z,150nm,1.2s							
DL2				pmax	pmax			
	comp=Z,4μm,7.5s							
DL2				LR	LR			
	comp=Z,2μm,22.5s							
DL2				LR	LR			
	comp=Z,4μm,19.6s							
DL2				LR	LR			
	comp=Z,6μm,21.

comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,3µm,20.0s
SNY Shenyang 84.67 318 ⇓P **P 19 06 22.3 +1.9**
SNY S **S 19 16 50.5 +3.5**
SNY SS **SS 19 22 24.3 +5.1**
SNY pmax pmax
comp=Z,100nm,1.6s
SNY pmax pmax
comp=Z,4µm,4.0s
SNY LR LR
comp=Z,3µm,32.4s
SNY LR LR
comp=Z,2µm,24.5s
SNY LR LR
comp=Z,5µm,28.4s
LRM Limekiln Ridge 84.67 38 P **P 19 06 20.5 -0.2**
QLMT Earthquake Lak 84.71 39 P **P 19 06 21.2 +0.3**
BW06 Boulder Array 84.72 41 P **P 19 06 20.6 -0.4**
baz=238,SNR=57
BW06 Boulder Array 84.72 41 P **P 19 06 20.5 -0.5**
BW06 IAms_20 IAms_20 19 43 11.2
comp=Z,6µm,18.0s
PD31 Pinedale Array 84.72 41 P **P 19 06 20.2 -0.8**
PDAR Pinedale Array 84.72 41 P **P 19 06 20.6 -0.5**
comp=Z,33nm,0.7s,baz=208,slow=3.1,SNR=151
PDAR PP **PP 19 09 38.4 +1.0**
comp=Z,2.4nm,1.0s,baz=193,slow=7.4,SNR=2.9
PDAR LR LR 19 37 42.9
comp=Z,4µm,20.4s,baz=246,slow=31
PDAR Pinedale Array 84.72 41 P **P 19 06 19.6 -1.4**
FLWY Flagg Ranch 84.74 40 P **P 19 06 21.2 +0.1**
FLWY IAmb IAmb 19 06 26.8
comp=Z,178nm,1.1s
FLWY IAms_20 IAms_20 19 43 02.3
comp=Z,4µm,18.0s
JTMT Jette 84.76 35 P **P 19 06 20.3 -0.7**
JTMT IAms_20 IAms_20 19 39 23.7
comp=Z,7µm,19.0s
HYT Haines Junctio 84.77 16 P **P 19 06 20.9 +0.2**
HYT IAmb IAmb 19 06 25.7
comp=Z,226nm,1.3s
YPP Pitchstone Pla 84.78 39 P **P 19 06 21.9 +0.5**
PAX Paxson 84.79 12 P **P 19 06 20.0 -0.7**
PAX pmax pmax
comp=Z,164nm,1.1s
PAX MLR MLR
comp=Z,4µm,18.0s
PAX Paxson 84.79 12 P **P 19 06 19.9 -0.7**
PAX IAmb IAmb 19 06 25.9
comp=Z,164nm,1.1s
PAX IAms_20 IAms_20 19 44 17.7
comp=Z,4µm,18.0s
YHB Horse Butte 84.81 39 P **P 19 06 22.1 +0.8**
SDCO Great Sand Dun 84.83 47 P **P 19 06 22.3 +0.6**
baz=241,SNR=71
SDCO Great Sand Dun 84.83 47 P **P 19 06 22.1 +0.3**
SDCO IAmb IAmb 19 06 26.9
comp=Z,92nm,1.1s
SDCO IAms_20 IAms_20 19 36 58.7
comp=Z,3µm,20.0s
MCK McKinley 84.86 10 P **P 19 06 20.7 -0.2**
MCK pmax pmax
comp=Z,431nm,0.9s
MCK MLR MLR
comp=Z,5µm,18.0s
MCK McKinley 84.86 10 P **P 19 06 20.7 -0.2**
MCK IAms_20 IAms_20 19 44 24.3
comp=Z,5µm,18.0s
BPAW Bear Paw Mtn. 84.87 9 P **P 19 06 19.7 -1.2**
BPAW IAmb IAmb 19 06 24.1
comp=Z,242nm,1.7s
BPAW IAms_20 IAms_20 19 41 51.6
comp=Z,6µm,19.0s
YHL Hebgen Lake 84.87 39 P **P 19 06 22.7 +0.9**
YMR Madison River 84.90 39 P **P 19 06 22.5 +0.6**
H17A Grant Village 84.98 39 P **P 19 06 23.6 +1.3**
baz=237,SNR=20
H17A Grant Village 84.98 39 P **P 19 06 23.4 +1.1**
MSTX Muleshoe 85.01 52 P **P 19 06 23.1 +0.6**
baz=243,SNR=73
MSTX Muleshoe 85.01 52 P **P 19 06 22.8 +0.3**
MSTX IAms_20 IAms_20 19 37 02.8
comp=Z,4µm,20.0s
BOZ Bozeman (W) 85.02 38 P **P 19 06 22.5 +0.1**
baz=236,SNR=55
BOZ Bozeman (W) 85.02 38 P **P 19 06 21.7 -0.6**
BOZ pmax pmax
comp=Z,87nm,0.9s
BOZ MLR MLR
comp=Z,5µm,20.0s
BOZ Bozeman (W) 85.02 38 P **P 19 06 21.7 -0.6**
BOZ IAmb IAmb 19 06 25.2
comp=Z,87nm,0.9s
BOZ IAms_20 IAms_20 19 39 14.8
comp=Z,5µm,20.0s
YHH Holmes Hill 85.03 39 P **P 19 06 23.1 +0.5**
QIZ Qiongzhong 85.05 292 P **P 19 06 21.8 -1.1**
QIZ S **S 19 16 51.3 -0.4**
QIZ pmax pmax
comp=Z,2µm,5.7s
QIZ LR LR
comp=Z,2µm,23.9s
QIZ LR LR
comp=Z,940nm,18.0s
QIZ LR LR
comp=Z,5µm,35.8s
QIZ Qiongzhong 85.05 292 P **P 19 06 24.2 +1.4**
QIZ IAmb IAmb 19 06 31.4
comp=Z,249nm,1.6s
YNM Yellowstone No 85.09 39 P **P 19 06 24.3 +1.5**
YNR Norris Junctio 85.09 39 P **P 19 06 23.2 +0.4**
DLBC Dease Lake 85.10 21 LR LR 19 41 21.8
comp=Z,3µm,18.0s,baz=233,slow=34
DLBC Dease Lake 85.10 21 P **P 19 06 22.5 +0.2**
DLBC IAmb IAmb 19 06 26.2
comp=Z,354nm,1.8s
DLBC IAms_20 IAms_20 19 42 21.5
comp=Z,4µm,18.0s
MENT Mentasta 85.12 13 P **P 19 06 22.6 +0.3**
MENT IAmb IAmb 19 06 27.7
comp=Z,172nm,0.9s
MENT IAms_20 IAms_20 19 43 58.4
comp=Z,6µm,18.0s
833A Chaparral WMA, 85.15 58 P **P 19 06 23.5 +0.3**
baz=245,SNR=14
833A Chaparral WMA, 85.15 58 P **P 19 06 23.5 +0.3**
833A IAmb IAmb 19 06 27.9
comp=Z,141nm,1.1s
833A IAms_20 IAms_20 19 37 05.1
comp=Z,6µm,20.0s
BWN Browne 85.17 10 P **P 19 06 22.2 -0.3**
BWN IAms_20 IAms_20 19 44 37.5
comp=Z,8µm,18.0s
LKWY Lake 85.18 39 P **P 19 06 23.9 +0.6**
LKWY pmax pmax
comp=Z,94nm,1.0s
LKWY Lake 85.18 39 P **P 19 06 23.9 +0.6**
LKWY IAmb IAmb 19 06 30.5
comp=Z,94nm,1.0s
YUF Upper Falls 85.19 39 P **P 19 06 24.0 +0.6**
T25A Trinidad 85.30 48 P **P 19 06 24.6 +0.5**
baz=242,SNR=30
T25A Trinidad 85.30 48 P **P 19 06 24.1 +0.1**
T25A IAms_20 IAms_20 19 41 52.2
comp=Z,4µm,18.0s
WHY Whitehorse 85.36 18 P **P 19 06 23.7 +0.1**
WHY IAmb IAmb 19 06 26.1
comp=Z,90nm,1.1s
WHY IAms_20 IAms_20 19 42 58.8
comp=Z,4µm,18.0s
YMP Mirror Lake Pl 85.42 39 P **P 19 06 25.2 +0.7**
HRY Holter Researc 85.53 37 P **P 19 06 25.0 +0.2**
RIDG Independent Ri 85.61 12 P **P 19 06 24.5 -0.2**
RIDG IAmb IAmb 19 06 31.0
comp=Z,252nm,1.2s
RIDG IAms_20 IAms_20 19 44 44.3
comp=Z,7µm,18.0s
NEA Nenana 85.62 10 P **P 19 06 24.3 -0.3**
NEA IAmb IAmb 19 06 27.9
comp=Z,143nm,0.9s
NEA IAms_20 IAms_20 19 44 59.8
comp=Z,7µm,18.0s
BCAR Beaver Creek A 85.65 14 P **P 19 06 24.6 -0.3**

RWWY Rawlins 85.65 43 P **P 19 06 25.1 -0.6**
RWWY IAmb IAmb 19 06 31.7
comp=Z,186nm,1.4s
RWWY IAms_20 IAms_20 19 38 45.9
comp=Z,7µm,20.0s
Q24A Divide 85.67 46 P **P 19 06 26.6 +0.6**
baz=241,SNR=23
Q24A Divide 85.67 46 P **P 19 06 26.2 +0.3**
Q24A IAms_20 IAms_20 19 37 42.5
comp=Z,4µm,20.0s
WRH Wood River Hil 85.68 10 P **P 19 06 24.6 -0.3**
WRH IAms_20 IAms_20 19 42 36.2
comp=Z,2µm,19.0s
DOT Dot Lake 85.68 12 P **P 19 06 25.1 0.0**
DOT IAms_20 IAms_20 19 44 01.2
comp=Z,5µm,18.0s
JCT Junction City 85.74 56 P **P 19 06 26.0 -0.2**
baz=245,SNR=17
JCT Junction City 85.74 56 P **P 19 06 25.9 -0.2**
JCT pmax pmax
comp=Z,210nm,1.7s
JCT MLR MLR
comp=Z,6µm,18.0s
JCT Junction City 85.74 56 P **P 19 06 25.9 -0.3**
JCT IAmb IAmb 19 06 32.2
comp=Z,210nm,1.6s
JCT IAms_20 IAms_20 19 40 54.4
comp=Z,6µm,18.0s
WALA Waterton Lakes 85.74 34 P **P 19 06 25.3 -0.5**
WALA IAmb IAmb 19 06 29.9
comp=Z,206nm,1.6s
WALA IAms_20 IAms_20 19 39 59.3
comp=Z,8µm,19.0s
ISCO Idaho Springs 85.76 45 P **P 19 06 26.5 +0.2**
baz=241,SNR=24
ISCO Idaho Springs 85.76 45 P **P 19 06 26.3 -0.1**
ISCO pmax pmax
comp=Z,213nm,2.0s
ISCO MLR MLR
comp=Z,3µm,19.0s
ISCO Idaho Springs 85.76 45 P **P 19 06 26.3 -0.1**
ISCO IAmb IAmb 19 06 31.6
comp=Z,213nm,2.0s
ISCO IAms_20 IAms_20 19 38 54.0
comp=Z,3µm,19.0s
MLY Manley 85.78 9 P **P 19 06 24.8 -0.7**
MLY IAmb IAmb 19 06 29.8
comp=Z,196nm,1.0s
MLY IAms_20 IAms_20 19 45 36.7
comp=Z,5µm,18.0s
HDA Harding Lake 85.82 11 P **P 19 06 25.4 -0.3**
baz=204,SNR=174
HDA Harding Lake 85.82 11 P **P 19 06 25.3 -0.4**
HDA IAms_20 IAms_20 19 47 07.0
comp=Z,5µm,18.0s
CCB Clear Creek Bu 85.89 10 P **P 19 06 25.5 -0.5**
CCB IAms_20 IAms_20 19 42 51.7
comp=Z,4µm,19.0s
WHN Wuhan 85.91 304 ⇑P **P 19 06 29.4 +2.5**
WHN PP **PP 19 09 48.7 +1.7**
WHN S **S 19 16 52.1 -7.6**
WHN pmax pmax
comp=Z,7µm,10.0s
WHN LR LR
comp=Z,7µm,16.7s
WHN LR LR
comp=Z,12µm,21.6s
WHN LR LR
comp=Z,10µm,23.3s
SCRK Sand Creek 85.99 12 P **P 19 06 26.6 -0.1**
SCRK IAmb IAmb 19 06 31.3
comp=Z,205nm,1.0s
SCRK IAms_20 IAms_20 19 44 46.4
comp=Z,5µm,18.0s
KVTX Kingsville 86.04 59 P **P 19 06 28.3 +0.7**
KVTX IAms_20 IAms_20 19 38 02.8
comp=Z,4µm,19.0s
N23A Red Feather La 86.08 44 P **P 19 06 28.0 +0.2**
baz=240,SNR=10
N23A Red Feather La 86.08 44 P **P 19 06 27.2 -0.7**
N23A IAms_20 IAms_20 19 41 33.3
comp=Z,2µm,18.0s
TCOL CIGO, UAF Yank 86.09 10 P **P 19 06 26.8 -0.1**
baz=203,SNR=114
COLA College 86.09 10 *d iP* **P 19 06 26.8 -0.2**
COLA pmax pmax
comp=Z,525nm,0.8s
COLA College 86.09 10 P **P 19 06 26.6 -0.4**
COLA College 86.09 10 IAms_20 IAms_20 19 40 53.0
comp=Z,3µm,20.0s
MDM Murphy Dome 86.11 10 P **P 19 06 26.5 -0.7**
GO06 Curarrehue 86.11 131 IAmb IAmb 19 06 34.8
comp=Z,155nm,1.1s
GO06 IAms_20 IAms_20 19 37 18.3
comp=Z,15µm,19.0s
RLMT Red Lodge 86.16 39 P **P 19 06 28.5 +0.4**
baz=238,SNR=18
RLMT Red Lodge 86.16 39 P **P 19 06 28.1 0.0**
RLMT IAmb IAmb 19 06 31.9
comp=Z,171nm,2.0s
RLMT IAms_20 IAms_20 19 39 28.9
comp=Z,3µm,19.0s
IL31 86.17 11 P **P 19 06 26.7 -0.6**
ILAR Eielson Array 86.17 11 P **P 19 06 26.9 -0.5**
comp=Z,76nm,0.6s,baz=216,slow=5.2,SNR=277
ILAR PKKPbc **PKKPbc 19 24 27.0 -2.4**
comp=Z,1.1nm,0.6s,baz=339,slow=2.6,SNR=11
ILAR PKPPKP **P'P'df 19 32 34.5 +5.6**
comp=Z,1.0nm,0.9s,baz=15,slow=2.2,SNR=4.4
ILAR Eielson Array 86.17 11 P **P 19 06 26.7 -0.7**
AMTX Amarillo 86.23 51 P **P 19 06 29.0 +0.5**
baz=244
AMTX Amarillo 86.23 51 P **P 19 06 28.5 0.0**
AMTX IAms_20 IAms_20 19 42 12.0
comp=Z,8µm,18.0s
IMAR Indian Mountai 86.27 8 P **P 19 06 28.0 +0.1**
GCMT Greycliff 86.28 39 P **P 19 06 28.9 +0.3**
TIA Tai'an 86.31 310 P **P 19 06 30.6 +1.8**
TIA SKS **SKSac 19 16 57.0 +2.8**
TIA pmax pmax
comp=Z,67nm,1.2s
TIA pmax pmax
comp=Z,2µm,4.1s
TIA LR LR
comp=Z,2µm,19.6s
TIA LR LR
comp=Z,3µm,26.0s
TIA LR LR
comp=Z,5µm,26.1s
PLCA Paso Flores 86.34 132 P **P 19 06 30.6 +1.5**
PLCA pmax pmax
comp=Z,145nm,1.1s
PLCA Paso Flores 86.34 132 P **P 19 06 30.8 +1.7**
comp=Z,89nm,1.0s,baz=270,slow=5.7,SNR=52
PLCA PKKPbc **PKKPbc 19 24 28.0 +1.0**
comp=Z,3.1nm,1.0s,baz=236,slow=4.8,SNR=3.3
PLCA LR LR 19 40 55.6
comp=Z,5µm,18.0s,baz=271,slow=33
PLCA Paso Flores 86.34 132 P **P 19 06 30.6 +1.5**
PLCA IAmb IAmb 19 06 35.5
comp=Z,145nm,1.1s
PLCA Paso Flores 86.34 132 *e*P **P 19 06 30.9 +1.8**
PLCA *ep*P **sP 19 06 34.7 +0.1**
PLCA Paso Flores 86.34 132 *e*P **P 19 06 30.9 +1.8**
PLCA *ep*P **sP 19 06 34.7 +0.1**
POKR Poker Plat Res 86.39 10 P **P 19 06 28.4 -0.1**
baz=204,SNR=158
SEY Seymchan 86.50 345 *d iP* **P 19 06 29.3 +0.2**
SEY Seymchan 86.50 345 P **P 19 06 29.6 +0.5**
comp=Z,103nm,1.1s,baz=133,slow=6.8,SNR=33
SEY PKKPbc **PKKPbc 19 24 27.9 -0.6**
comp=Z,2.6nm,0.7s,baz=348,slow=1.9,SNR=9.5
COCO West Island 86.53 258 P **P 19 06 31.8 +1.5**
COCO West Island 86.53 258 P **P 19 06 31.8 +1.5**
COCO IAms_20 IAms_20 19 51 52.8
comp=Z,0.5nm,21.0s
K22A Casper 86.58 43 P **P 19 06 30.0 -0.2**
baz=240
K22A Casper 86.58 43 P **P 19 06 30.0 -0.2**
K22A IAms_20 IAms_20 19 38 58.3
comp=Z,6µm,20.0s
PHWY Pilot Hill 86.60 44 P **P 19 06 30.1 -0.4**
PHWY IAms_20 IAms_20 19 42 24.0
comp=Z,2µm,18.0s
BKNI Bangkinang 86.64 272 P **P 19 06 32.4 +1.5**
BKNI Bangkinang 86.64 272 P **P 19 06 32.1 +1.1**

BKNI IAms_20 IAms_20 19 46 17.5
comp=Z,4µm,21.0s
CCIG Comitan 86.68 72 P **P 19 06 31.6 +0.4**
CCIG IAms_20 IAms_20 19 35 14.9
comp=Z,4µm,20.0s
ABTX Abilene, Hawle 86.77 54 P **P 19 06 31.6 +0.4**
baz=245
ABTX Abilene, Hawle 86.77 54 P **P 19 06 31.4 +0.3**
ABTX IAms_20 IAms_20 19 41 37.7
comp=Z,8µm,18.0s
PDSI Padang 86.78 270 P **P 19 06 32.2 +0.6**
DAWY Dawson 87.06 14 P **P 19 06 32.1 +0.3**
DAWY IAms_20 IAms_20 19 41 50.6
comp=Z,8µm,18.0s
PRP Porcupine Dome 87.09 11 P **P 19 06 32.3 +0.2**
PRP IAms_20 IAms_20 19 47 54.4
comp=Z,5µm,18.0s
EGAK Eagle 87.28 13 P **P 19 06 32.6 -0.2**
EGAK IAms_20 IAms_20 19 45 24.6
comp=Z,8µm,18.0s
KSCO Kaye Shedlock' 87.42 47 P **P 19 06 34.7 +0.4**
baz=243
KSCO Kaye Shedlock' 87.42 47 P **P 19 06 34.4 +0.1**
KSCO IAmb IAmb 19 06 39.0
comp=Z,271nm,1.6s
KSCO IAms_20 IAms_20 19 45 59.2
comp=Z,2µm,20.0s
EGMT Eagleton 87.43 37 P **P 19 06 33.9 -0.1**
baz=237
EGMT Eagleton 87.43 37 P **P 19 06 33.4 -0.7**
EGMT IAmb IAmb 19 06 38.3
comp=Z,224nm,1.9s
EGMT IAms_20 IAms_20 19 41 42.4
comp=Z,7µm,19.0s
RDOG Red Dog Mine 87.45 4 P **P 19 06 34.1 +0.5**
RDOG IAms_20 IAms_20 19 48 10.5
comp=Z,4µm,19.0s
GO05 Huala 87.47 126 P **P 19 06 35.4 +0.8**
GO05 IAmb IAmb 19 06 39.7
comp=Z,149nm,1.2s
GO05 IAms_20 IAms_20 19 37 39.3
comp=Z,12µm,20.0s
435B Jarrell 87.60 56 P **P 19 06 35.8 +0.6**
baz=246,SNR=9.9
435B Jarrell 87.60 56 P **P 19 06 35.2 +0.1**
435B IAmb IAmb 19 06 37.7
comp=Z,80nm,0.8s
435B IAms_20 IAms_20 19 42 24.8
comp=Z,11µm,18.0s
APG El Apazote 87.73 73 P **P 19 06 37.2 +0.8**
comp=Z,98nm,0.9s,baz=322,slow=12,SNR=43
APG LR LR 19 35 53.2
comp=Z,3µm,21.3s,baz=254,slow=29
COLD Coldfoot 87.92 9 P **P 19 06 35.9 +0.1**
COLD IAmb IAmb 19 06 45.5
comp=Z,164nm,1.6s
COLD IAms_20 IAms_20 19 47 08.2
comp=Z,4µm,18.0s
IPM Ipoh 88.02 275 P **P 19 06 39.4 +1.8**
IPM IAms_20 IAms_20 19 53 32.7
comp=Z,4µm,18.0s
FYU Fort Yukon 88.09 11 P **P 19 06 36.7 +0.1**
FYU IAmb IAmb 19 06 41.9
comp=Z,116nm,1.4s
FYU IAms_20 IAms_20 19 49 28.8
comp=Z,3µm,18.0s
WHTX Lake Whitney, 88.19 55 P **P 19 06 38.3 +0.3**
baz=246,SNR=15
WHTX Lake Whitney, 88.19 55 P **P 19 06 37.8 -0.2**
WHTX IAmb IAmb 19 06 42.8
comp=Z,118nm,1.1s
WHTX IAms_20 IAms_20 19 39 16.4
comp=Z,7µm,20.0s
WMOK Wichita Mounta 88.32 52 P **P 19 06 38.6 0.0**
baz=245
WMOK Wichita Mounta 88.32 52 P **P 19 06 38.2 -0.3**
WMOK pmax pmax
comp=Z,179nm,1.6s
WMOK MLR MLR
comp=Z,3µm,21.0s
WMOK Wichita Mounta 88.32 52 P **P 19 06 38.2 -0.3**
WMOK IAmb IAmb 19 06 43.0
comp=Z,179nm,1.6s
WMOK Wichita Mounta 88.32 52 IAms_20 IAms_20 19 38 60.0
comp=Z,3µm,21.0s
SNET Serv Nac Est T 88.40 75 IAms_20 IAms_20 19 35 20.7
comp=Z,6µm,22.0s
BILL Bilibino 88.50 352 *d iP* **P 19 06 38.7 +0.1**
BILL *e* 19 10 06.1
BILL *eS* **S 19 17 16.4 -6.7**
BILL pmax pmax
comp=Z,141nm,1.7s
BILL MLR MLR
comp=Z,3µm,19.0s
BILL Bilibino 88.50 352 P **P 19 06 38.6 0.0**
BILL IAmb IAmb 19 06 43.1
comp=Z,100nm,1.2s
BILL IAms_20 IAms_20 19 38 48.9
comp=Z,6µm,22.0s
KULM Kulim 88.64 276 P **P 19 06 42.5 +2.0**
KULM IAmb IAmb 19 06 47.1
comp=Z,194nm,1.2s
KULM IAms_20 IAms_20 19 51 19.1
comp=Z,3µm,19.0s
HKT Hockley 88.66 58 P **P 19 06 41.4 +1.3**
HKT pmax pmax
comp=Z,198nm,1.6s
HKT MLR MLR
comp=Z,7µm,18.0s
HKT Hockley 88.66 58 P **P 19 06 41.4 +1.3**
HKT IAmb IAmb 19 06 45.5
comp=Z,198nm,1.6s
HKT Hockley 88.66 58 IAms_20 IAms_20 19 43 28.9
comp=Z,7µm,18.0s
BJT Baijiatuau 88.70 313 IAms_20 IAms_20 19 40 24.0
comp=Z,4µm,21.0s
BJI Beijing 88.70 313 ⇓*i*P **P 19 06 42.0 +1.8**
BJI S S 19 17 16.8 -9.4
BJI SS **SS 19 23 18.4 +0.1**
BJI pmax pmax
comp=Z,88nm,1.6s
BJI LR LR
comp=Z,1µm,24.9s
BJI LR LR
comp=Z,3µm,24.7s
BJI LR LR
comp=Z,5µm,25.1s
OGNE Ogallala 88.71 46 P **P 19 06 40.2 -0.2**
baz=243
OGNE Ogallala 88.71 46 P **P 19 06 40.0 -0.3**
OGNE IAms_20 IAms_20 19 40 29.1
comp=Z,3µm,19.0s
LAO LASA Array 88.79 39 P **P 19 06 41.0 +0.5**
baz=240
LAO LASA Array 88.79 39 P **P 19 06 40.5 0.0**
LAO IAms_20 IAms_20 19 45 42.5
comp=Z,3µm,18.0s
U32A Winter Ranch, 88.84 51 P **P 19 06 41.1 +0.1**
U32A IAmb IAmb 19 06 45.4
comp=Z,197nm,1.2s
U32A IAms_20 IAms_20 19 42 13.8
comp=Z,5µm,18.0s
VNA3 Neumayer Olymp 88.87 175 P **P 19 06 41.4 +0.9**
RSSD Black Hills 88.88 42 P **P 19 06 40.6 -0.6**
baz=242
RSSD Black Hills 88.88 42 P **P 19 06 40.5 -0.7**
RSSD pmax pmax
comp=Z,69nm,1.1s
RSSD MLR MLR
comp=Z,5µm,18.0s
RSSD Black Hills 88.88 42 P **P 19 06 40.5 -0.7**
RSSD Black Hills 88.88 42 IAms_20 IAms_20 19 44 15.2
comp=Z,5µm,18.0s
SYO Syowa Base 88.88 191 ⇑*i*P **P 19 06 40.0 -0.6**
SYO Syowa Base 88.88 191 ⇓*i*PcP **PcP 19 06 42.2 +0.1**
SYO Syowa Base 88.88 191 ⇓*i*pP pP 19 06 44.8 +0.1
ROC1 El Roble 88.94 125 P **P 19 06 42.5 +0.5**
SNAA Sanae 88.94 177 P **P 19 06 41.9 +0.9**
SNAA Sanae 88.94 177 *d iP* **P 19 06 41.2 +0.3**
SNAA Sanae 88.94 177 P **P 19 06 41.2 +0.3**
SNAA IAmb IAmb 19 06 56.1
comp=Z,153nm,1.2s
SNAA IAms_20 IAms_20 19 48 06.0
comp=Z,11µm,18.0s
X34A Smith Ranch, M 88.97 53 P **P 19 06 42.0 +0.4**
X34A IAms_20 IAms_20 19 39 52.7

comp=Z,4µm,20.0s
BMAR Burnt Mountain 88.98 10 P P 19 06 40.9 -0.1
PEL Peldehue 89.13 125 P P 19 06 43.2 +0.6
PEL pmax pmax
comp=Z,81nm,0.8s
PEL MLR MLR
comp=Z,8µm,20.0s
PEL Peldehue 89.13 125 P P 19 06 43.2 +0.6
PEL IAmb IAmb 19 06 46.0
comp=Z,81nm,0.8s
PEL IAMs_20 IAMs_20 19 38 28.5
comp=Z,8µm,20.0s
ZEA Zeya 89.17 329 *de*P **P 19 06 43.3 +1.3**
ZEA *e* 19 06 43.3
ZEA *e* 19 10 14.0
ZEA *e*PPP PPP 19 12 10.0
ZEA *e*S **SKSac 19 17 15.0 +4.3**
ZEA *e*PS PS 19 18 36.0 -1.1
ZEA pmax pmax
comp=N,320nm,1.4s
ZEA pmax pmax
comp=E,93nm,1.4s
ZEA pmax pmax
comp=Z,320nm,1.4s
ZEA pmax pmax
comp=Z,3µm,9.0s
ZEA pmax pmax
comp=E,900nm,10.0s
ZEA pmax pmax
comp=Z,900nm,14.0s
ZEA pmax pmax
comp=E,400nm,12.0s
ZEA pmax pmax
comp=N,300nm,8.0s
ZEA smax smax
comp=E,2µm,13.0s
ZEA smax smax
comp=N,2µm,12.0s
EFI East Falkland 89.24 146 *i*P **P 19 06 43.8 +1.2**
EFI pmax pmax
comp=Z,475nm,1.2s
EFI East Falkland 89.24 146 P **P 19 06 43.9 +1.3**
EFI East Falkland 89.24 146 IAMs_20 IAMs_20 19 36 22.1
comp=Z,6µm,22.0s
SKLT Songkhla 89.29 278 P **P 19 06 46.9 +3.4**
TOLK Toolik Lake Re 89.33 8 P **P 19 06 42.9 +0.4**
baz=202
TOLK Toolik Lake Re 89.33 8 P **P 19 06 42.8 +0.2**
TOLK IAmb IAmb 19 06 46.8
comp=Z,114nm,1.4s
TOLK IAMs_20 IAMs_20 19 54 04.5
comp=Z,2µm,18.0s
CBKS Cedar Bluff 89.35 48 P **P 19 06 43.3 -0.1**
baz=244
CBKS Cedar Bluff 89.35 48 P **P 19 06 43.0 -0.3**
CBKS pmax pmax
comp=Z,106nm,1.3s
CBKS MLR MLR
comp=Z,4µm,20.0s
CBKS Cedar Bluff 89.35 48 P **P 19 06 43.0 -0.3**
CBKS IAmb IAmb 19 06 49.4
comp=Z,106nm,1.2s
CBKS IAMs_20 IAMs_20 19 39 54.4
comp=Z,4µm,20.0s
VNA2 Neumayer--Watz 89.37 175 P **P 19 06 44.3 +1.4**
baz=199,slow=3.4
RPSI Rantau Prapat 89.41 273 P **P 19 06 45.2 +1.1**
RPSI IAMs_20 IAMs_20 19 50 57.7
comp=Z,8µm,19.0s
PSI Prapat 89.45 273 P **P 19 06 45.3 +0.8**
PSI pmax pmax
comp=Z,395nm,1.3s
PSI MLR MLR
comp=Z,8µm,19.0s
FNO Franklin 89.56 52 P **P 19 06 44.9 +0.5**
VNA1 Neumayer--Stat 89.57 175 P **P 19 06 45.2 +1.4**
OKCFA Oklahoma City 89.59 52 P **P 19 06 45.5 +1.0**
EPYK Eagle Plains 89.61 14 P **P 19 06 44.4 +0.5**
baz=214,SNR=72
EPYK Eagle Plains 89.61 14 P **P 19 06 43.9 0.0**
EPYK IAMs_20 IAMs_20 19 46 11.2
comp=Z,5µm,18.0s
ENH Enshi 89.64 302 P **P 19 06 46.0 +1.1**
ENH IAMs_20 IAMs_20 19 47 18.2
comp=Z,2µm,20.0s
GO04 Tololo Observa 90.17 122 P **P 19 06 49.0 +1.2**
GO04 IAMs_20 IAMs_20 19 38 47.8
comp=Z,13µm,19.0s
GSI Gunungsitoli 90.23 271 P **P 19 06 50.2 +2.3**
GSI IAMs_20 IAMs_20 19 50 40.4
comp=Z,5µm,20.0s
NATX Nacogdoches 90.28 56 P **P 19 06 48.5 +0.8**
baz=248
NATX Nacogdoches 90.28 56 P **P 19 06 48.6 +0.8**
NATX IAmb IAmb 19 06 53.1
comp=Z,181nm,1.6s
NATX IAMs_20 IAMs_20 19 44 10.9
comp=Z,12µm,18.0s
TGUH Tegucigalpa,Un 90.31 75 P **P 19 06 48.6 +0.2**
TGUH IAmb IAmb 19 06 53.2
comp=Z,270nm,1.6s
TGUH IAMs_20 IAMs_20 19 36 10.4
comp=Z,5µm,22.0s
TIY Taiyuan 90.34 310 *e*P **P 19 06 50.8 +2.8**
TIY PP **PP 19 10 25.2 +2.6**
TIY SKS **SKSac 19 17 17.8 -0.7**
TIY S **S 19 17 39.1 -2.7**
TIY pmax pmax
comp=Z,550nm,2.1s
TIY pmax pmax
comp=Z,2µm,9.6s
TIY LR LR
comp=Z,2µm,18.1s
TIY LR LR
comp=Z,3µm,18.1s
TIY LR LR
comp=Z,7µm,22.5s
TRTT Trang 90.38 278 P **P 19 06 51.7 +3.1**
GYA Guiyang 90.53 298 ||*i*P **P 19 06 51.6 +2.4**
GYA PP **PP 19 10 29.5 +5.1**
GYA SKS **SKSac 19 17 23.8 +3.6**
GYA S **ScS 19 17 49.6 +1.9**
GYA pmax pmax
comp=Z,50nm,1.4s
GYA pmax pmax
comp=Z,2µm,8.7s
GYA LR LR
comp=Z,2µm,21.1s
GYA LR LR
comp=Z,4µm,22.3s
GYA LR LR
comp=Z,5µm,22.2s
NONG Nongkai 90.63 289 P **P 19 06 51.9 +2.2**
LCO Las Campanas 90.69 121 P **P 19 06 51.6 +1.4**
LCO pmax pmax
comp=Z,224nm,1.0s
LCO MLR MLR
comp=Z,13µm,20.0s
LCO Las Campanas 90.69 121 P **P 19 06 51.6 +1.4**
LCO IAMs_20 IAMs_20 19 39 12.2
comp=Z,13µm,20.0s
LCO Las Campanas 90.69 121 *e*P **P 19 06 52.5 +2.2**
LCO *ep*P **sP 19 06 56.8 +0.9**
LCO Las Campanas 90.69 121 *e*P **P 19 06 52.5 +2.2**
LCO *ep*P **sP 19 06 56.8 +0.9**
HIA Hailar 90.77 323 P **P 19 06 50.7 +1.0**
HIA pmax pmax
comp=Z,110nm,1.5s
HIA MLR MLR
comp=Z,4µm,21.0s
HIA Hailar 90.77 323 P **P 19 06 50.7 +1.0**
HIA IAmb IAmb 19 06 55.3
comp=Z,110nm,1.5s
HIA Hailar 90.77 323 IAMs_20 IAMs_20 19 41 19.8
comp=Z,4µm,21.0s
ESTN Estel 90.82 76 IAMs_20 IAMs_20 19 36 20.0
comp=Z,3µm,22.0s
X37A Clayton 90.83 54 IAMs_20 IAMs_20 19 44 42.0
comp=Z,7µm,18.0s
DGMT Dagmar 90.86 38 P **P 19 06 50.5 +0.4**
baz=242
DGMT Dagmar 90.86 38 P **P 19 06 50.2 +0.1**
DGMT IAmb IAmb 19 06 56.5
comp=Z,127nm,1.1s
DGMT Dagmar 90.86 38 IAMs_20 IAMs_20 19 43 48.1
comp=Z,6µm,19.0s

CHAI Chaiyaphum 90.94 286 P **P 19 06 53.4 +2.2**
PATY Pattaya 90.97 283 P **P 19 06 54.9 +3.6**
TUL1 Leonard 91.03 52 P **P 19 06 51.6 +0.5**
baz=247,SNR=14
TUL1 Leonard 91.03 52 IAMs_20 IAMs_20 19 49 39.1
comp=Z,4µm,18.0s
JTS Las Juntas de 91.20 80 P **P 19 06 53.2 +0.8**
JTS pmax pmax
comp=Z,335nm,1.4s
JTS MLR MLR
comp=Z,4µm,21.0s
JTS Las Juntas de 91.20 80 P **P 19 06 53.7 +1.3**
comp=Z,88nm,0.8s,baz=359,slow=4.2,SNR=48
JTS LR LR 19 36 52.4
comp=Z,4µm,20.4s,baz=312,slow=28
JTS Las Juntas de 91.20 80 P **P 19 06 53.2 +0.8**
JTS Las Juntas de 91.20 80 IAMs_20 IAMs_20 19 37 01.2
comp=Z,4µm,21.0s
NNA Nana 91.45 103 *d*P **P 19 06 54.5 +0.8**
NNA Nana 91.45 103 P **P 19 06 54.9 +1.2**
comp=Z,24nm,0.9s,baz=241,slow=8.3,SNR=4.3
NNA Nana 91.45 103 IAMs_20 IAMs_20 19 39 02.9
comp=Z,7µm,20.0s
ARE1 Arenal 1 91.47 80 *e*P **P 19 06 54.1 +0.3**
CEDE Laguna Cedeo 91.49 79 *e*P **P 19 06 54.4 +0.5**
TEIG Tepich 91.49 69 P **P 19 06 54.4 +0.8**
comp=Z,64nm,1.2s,baz=321,slow=6.1,SNR=5.8
TEIG LR LR 19 38 59.2
comp=Z,3µm,21.8s,baz=229,slow=30
TEIG Tepich 91.49 69 IAMs_20 IAMs_20 19 38 26.2
comp=Z,5µm,22.0s
XAN Xi'an 91.52 306 P **P 19 06 55.3 +1.8**
XAN sP pwP 19 07 03.0 -4.9
XAN PP **PP 19 10 36.4 +4.4**
XAN SKS **SKSac 19 17 27.7 +2.3**
XAN S **S 19 17 53.2 +0.6**
XAN SS **SS 19 23 59.9 +0.4**
XAN pmax pmax
comp=Z,75nm,1.5s
XAN pmax pmax
comp=Z,2µm,9.2s
XAN LR LR
comp=Z,2µm,24.0s
XAN LR LR
comp=Z,3µm,22.1s
XAN LR LR
comp=Z,4µm,23.5s
XAN Xi'an 91.52 306 P **P 19 06 54.0 +0.4**
XAN pmax pmax
comp=Z,317nm,1.8s
XAN MLR MLR
comp=Z,3µm,20.0s
XAN Xi'an 91.52 306 P **P 19 06 54.0 +0.4**
XAN Xi'an 91.52 306 IAMs_20 IAMs_20 19 43 56.5
comp=Z,3µm,20.0s
ACON Acoyapa 91.54 78 *e*P **P 19 06 54.3 +0.2**
ACON Acoyapa 91.54 78 IAMs_20 IAMs_20 19 38 07.3
comp=Z,3µm,20.0s
BGNE Belgrade 91.55 46 P **P 19 06 53.8 +0.3**
baz=246
BGNE Belgrade 91.55 46 IAMs_20 IAMs_20 19 42 18.0
comp=Z,4µm,20.0s
SURT Suratani 91.59 279 P **P 19 06 58.4 +4.2**
GO03 Copiap 91.61 120 IAMs_20 IAMs_20 19 39 07.3
comp=Z,11µm,21.0s
ATAH Atahualpa 91.64 98 P **P 19 06 57.9 +2.8**
comp=Z,14nm,0.7s,baz=276,slow=4.4,SNR=18
ATAH LR LR 19 38 34.0
comp=Z,5µm,19.6s,baz=243,slow=29
PKDT Phuket 91.67 278 P **P 19 06 58.9 +4.3**
KSU1 Kansas State U 91.69 49 P **P 19 06 54.6 +0.4**
baz=246
KSU1 Kansas State U 91.69 49 IAMs_20 IAMs_20 19 45 53.4
comp=Z,5µm,18.0s
HDC Heredia 91.88 80 IAMs_20 IAMs_20 19 37 26.5
comp=Z,4µm,20.0s
INK Inuvik 91.92 14 P **P 19 06 54.5 0.0**
comp=Z,46nm,0.8s,baz=214,slow=4.5,SNR=90
INK PP **PP 19 10 35.0 +0.8**
comp=Z,6.0nm,1.0s,baz=246,slow=9.1,SNR=5.4
INK PKKPbc **PKKPdf 19 24 13.9 +1.1**
comp=Z,1.1nm,0.6s,baz=328,slow=2.7,SNR=3.8
INK PKP2ab 19 31 01.0
comp=Z,2.2nm,0.9s,baz=134,slow=1.2,SNR=4.0
INK LR LR 19 45 04.2
comp=Z,6µm,18.2s,baz=213,slow=34
INK Inuvik 91.92 14 P **P 19 06 54.2 -0.3**
INK IAmb IAmb 19 06 57.1
comp=Z,463nm,1.9s
INK IAMs_20 IAMs_20 19 44 35.3
comp=Z,8µm,19.0s
PBKT Sadao Pong 92.09 287 P **P 19 06 59.2 +2.7**
PBKT Sadao Pong 92.09 287 P **P 19 06 59.0 +2.6**
PBKT IAMs_20 IAMs_20 19 53 59.8
comp=Z,3µm,20.0s
LHMI Lhok Sumawe 92.10 275 IAMs_20 IAMs_20 19 52 52.9
comp=Z,4µm,19.0s
PHET Kaeng Krachan 92.11 283 P **P 19 07 00.5 +3.9**
MIAR Mount Ida 92.18 54 P **P 19 06 56.8 +0.3**
baz=248,SNR=11
MIAR Mount Ida 92.18 54 P **P 19 06 56.6 +0.1**
MIAR pmax pmax
comp=Z,67nm,1.4s
MIAR MLR MLR
comp=Z,3µm,18.0s
MIAR Mount Ida 92.18 54 P **P 19 06 56.6 +0.1**
MIAR IAMs_20 IAMs_20 19 47 48.8
comp=Z,3µm,18.0s
WLAR White Oak Lake 92.22 55 IAMs_20 IAMs_20 19 45 27.0
comp=Z,11µm,18.0s
HHC Hu-ho-hao-te 92.23 313 P **P 19 06 59.8 +3.0**
HHC sP pwP 19 07 09.5 -1.7
HHC SKS **SKSac 19 17 34.5 +5.3**
HHC S **ScS 19 18 00.3 -0.9**
HHC sS sS 19 18 10.8 +4.8
HHC pmax pmax
comp=Z,12nm,1.3s
W39A Magazine 92.26 54 P **P 19 06 57.5 +0.6**
baz=248,SNR=16
W39A Magazine 92.26 54 P **P 19 06 57.2 +0.3**
W39A IAmb IAmb 19 07 01.9
comp=Z,76nm,1.2s
W39A IAMs_20 IAMs_20 19 45 20.6
comp=Z,7µm,18.0s
SUSD Miller 92.28 43 P **P 19 06 56.6 -0.3**
baz=245
SUSD Miller 92.28 43 P **P 19 06 56.5 -0.3**
SUSD IAmb IAmb 19 07 02.0
comp=Z,90nm,1.2s
SUSD IAMs_20 IAMs_20 19 41 57.4
comp=Z,4µm,21.0s
Z41A Richland Creek 92.30 56 P **P 19 06 57.7 +0.6**
baz=248
Z41A Richland Creek 92.30 56 IAMs_20 IAMs_20 19 42 14.2
comp=Z,8µm,20.0s
ESPN Las Esperanzas 92.42 78 IAMs_20 IAMs_20 19 39 31.7
comp=Z,4µm,20.0s
HHAR Hobbs 92.55 52 P **P 19 06 58.2 -0.1**
HHAR IAMs_20 IAMs_20 19 47 27.5
comp=Z,4µm,18.0s
X40A Basin Creek Fa 92.73 54 P **P 19 06 59.0 0.0**
baz=249
X40A Basin Creek Fa 92.73 54 IAMs_20 IAMs_20 19 45 34.4
comp=Z,4µm,18.0s
BRU2 Volcan 92.82 82 *e*P **P 19 07 01.8 +1.7**
PB10 IPOC Station P 92.91 116 IAMs_20 IAMs_20 19 39 43.1
comp=Z,10µm,20.0s
YAK Yakutsk 93.01 336 *d*P **P 19 06 59.1 -0.6**
YAK *e* 19 07 02.1
YAK *e*PPP PPP 19 12 47.7
YAK *e*S **SKSac 19 17 29.4 -2.9**
YAK *e* 19 18 01.6
YAK *e*SS **SS 19 24 19.1 -0.5**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,37nm,1.5s
YAK pmax pmax
comp=Z,320nm,3.3s
YAK pmax pmax
comp=N,128nm,2.4s
YAK pmax pmax
comp=E,229nm,3.4s
YAK smax smax

comp=N,154nm,3.5s
YAK smax smax
comp=E,74nm,3.5s
YAK Yakutsk 93.01 336 P **P 19 06 59.1 -0.6**
comp=E,22nm,0.7s,baz=68,slow=1.9,SNR=5.3
YAK Yakutsk 93.01 336 IAMs_20 IAMs_20 19 53 06.6
comp=Z,2µm,19.0s
NANT Nan 93.07 289 P **P 19 07 03.3 +2.3**
GO02 Mina Guanaco 93.09 118 P **P 19 07 02.3 +0.8**
GO02 IAmb IAmb 19 07 08.2
comp=Z,58nm,0.9s
GO02 IAMs_20 IAMs_20 19 39 45.3
comp=Z,6µm,21.0s
UTHA Uthaitani 93.14 285 P **P 19 07 04.2 +2.9**
comp=Z,66µm,1.1s,comp=Z,742µm
UALR University of 93.21 54 IAMs_20 IAMs_20 19 46 18.1
comp=Z,3µm,18.0s
BTO Baotou 93.21 312 *e*P **P 19 07 04.1 +2.8**
MDND Maddock 93.32 40 P **P 19 07 00.4 -1.1**
baz=245
MDND Maddock 93.32 40 IAMs_20 IAMs_20 19 43 35.4
comp=Z,4µm,20.0s
CCAR Cane Creek 93.34 55 IAMs_20 IAMs_20 19 42 56.8
comp=Z,10µm,20.0s
KMI Kunming 93.38 295 P **P 19 07 02.6 0.0**
KMI pP pP 19 07 05.8 -0.6
KMI PP **PP 19 10 47.2 +0.2**
KMI S **S 19 18 07.9 -2.1**
KMI SS **SS 19 24 28.0 +1.1**
KMI pmax pmax
comp=Z,42nm,1.5s
KMI pmax pmax
comp=Z,1µm,4.9s
KMI LR LR
comp=Z,2µm,24.7s
KMI LR LR
comp=Z,4µm,23.3s
KMI LR LR
comp=Z,8µm,25.0s
KMI Kunming 93.38 295 P **P 19 07 02.3 -0.3**
KMI pmax pmax
comp=Z,84nm,1.3s
KMI MLR MLR
comp=Z,3µm,21.0s
KMI Kunming 93.38 295 P **P 19 07 02.2 -0.3**
KMI IAmb IAmb 19 07 09.4
comp=Z,84nm,1.3s
KMI Kunming 93.38 295 IAMs_20 IAMs_20 19 43 09.0
comp=Z,3µm,21.0s
U40A Yellville 93.39 53 P **P 19 07 01.9 -0.2**
baz=249,SNR=21
U40A Yellville 93.39 53 IAMs_20 IAMs_20 19 46 04.9
comp=Z,4µm,18.0s
YKA Yellowknife Ar 93.42 23 P **P 19 07 01.4 -0.2**
comp=Z,18nm,0.8s,baz=236,slow=4.2,SNR=33
YKA Yellowknife Ar 93.42 23 P **P 19 07 01.2 -0.3**
W41B Gary Mavity, V 93.42 54 P **P 19 07 02.8 +0.6**
baz=249
W41B Gary Mavity, V 93.42 54 IAMs_20 IAMs_20 19 45 58.8
comp=Z,7µm,18.0s
WHAR Wooly Hollow 93.44 54 IAMs_20 IAMs_20 19 46 58.1
comp=Z,5µm,18.0s
YKW3 Yellowknife Ar 93.46 23 P **P 19 07 01.5 -0.2**
YKW3 IAMs_20 IAMs_20 19 44 37.5
comp=Z,2µm,19.0s
TRQA Tornquist 93.48 132 IAMs_20 IAMs_20 19 45 27.4
comp=Z,7µm,18.0s
TRQA Tornquist 93.48 132 *e*P **P 19 07 05.0 +2.4**
TRQA Tornquist 93.48 132 *e*P **P 19 07 05.0 +2.4**
ECSD EROS Data Cent 93.53 45 P **P 19 07 02.3 -0.2**
baz=247
ECSD EROS Data Cent 93.53 45 IAMs_20 IAMs_20 19 42 03.6
comp=Z,3µm,20.0s
KHLT Khaolaem Dam 93.67 284 P **P 19 07 03.5 -0.3**
PB04 IPOC Station P 93.70 115 IAMs_20 IAMs_20 19 39 45.2
comp=Z,7µm,21.0s
VBMS Vicksburg 93.73 57 IAMs_20 IAMs_20 19 46 58.2
comp=Z,6µm,18.0s
FCAR Ozark Folk Cen 93.78 53 IAMs_20 IAMs_20 19 43 03.1
comp=Z,5µm,20.0s
UMPA Umpang Tak 93.88 286 P **P 19 07 07.6 +2.8**
LAMP Lampang 93.93 288 P **P** 19 07 11.7 +6.7
PAYA Payao 93.99 289 P **P 19 07 08.2 +2.9**
OTAV Otavalo 94.03 91 *e*P **P 19 07 05.2 -1.0**
OTAV Otavalo 94.03 91 *e*P **P 19 07 05.2 -1.0**
OTAV Otavalo 94.03 91 IAMs_20 IAMs_20 19 40 05.9
comp=Z,8µm,20.0s
OTAV Otavalo 94.03 91 *e*P **P 19 07 07.6 +1.5**
OTAV *ep*P **sP 19 07 11.6 +0.3**
OTAV Otavalo 94.03 91 *e*P **P 19 07 07.6 +1.5**
OTAV *ep*P **sP 19 07 11.6 +0.3**
MGMO Mountain Grove 94.12 52 P **P 19 07 05.3 -0.1**
MGMO IAmb IAmb 19 07 08.1
comp=Z,70nm,0.8s
MGMO IAMs_20 IAMs_20 19 46 11.0
comp=Z,4µm,18.0s
X43A Marvell 94.24 55 IAMs_20 IAMs_20 19 46 48.8
comp=Z,8µm,18.0s
CD2 Chengdu 94.47 301 P **P 19 07 08.9 +1.6**
CD2 pP sP 19 07 12.7 -0.1
CD2 SKS **SKSac 19 17 46.0 +4.1**
CD2 S **ScS 19 18 21.3 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,2µm,6.5s
CD2 LR LR
comp=Z,4µm,21.0s
CD2 LR LR
comp=Z,4µm,18.4s
CD2 LR LR
comp=Z,5µm,22.6s
CMAR Chiang Mai Arr 94.53 288 P **P 19 07 09.1 +1.3**
comp=Z,11nm,0.9s,baz=113,slow=2.3,SNR=50
CMAR PP **PP 19 10 54.6 -1.2**
comp=Z,2.0nm,0.8s,baz=120,slow=5.4,SNR=3.2
CMAR PKKPbc **PKKPbc 19 24 06.8 +0.6**
comp=Z,2.2nm,1.0s,baz=286,slow=3.8,SNR=6.9
CMAR PKPPKP **P'P'df 19 32 21.4 +2.6**
comp=Z,1.1nm,1.1s,baz=225,slow=2.4,SNR=4.1
CMAR LR LR 19 50 50.3
comp=Z,1µm,18.1s,baz=124,slow=36
LCAR Lake Charles 94.58 53 IAMs_20 IAMs_20 19 44 06.2
comp=Z,4µm,20.0s
CMMT Chiang Mai 94.64 288 P **P 19 07 10.6 +2.4**
LVC Limon Verde 94.65 116 P **P 19 07 08.7 -0.1**
LVC pmax pmax
comp=Z,208nm,1.0s
LVC MLR MLR
comp=Z,9µm,20.0s
LVC Limon Verde 94.65 116 P **P 19 07 10.5 +1.7**
comp=Z,156nm,1.0s,baz=230,slow=4.4,SNR=27
LVC Limon Verde 94.65 116 P **P 19 07 08.7 -0.1**
LVC Limon Verde 94.65 116 IAMs_20 IAMs_20 19 40 47.3
comp=Z,9µm,20.0s
LVC Limon Verde 94.65 116 *e*P **P 19 07 11.1 +2.3**
LVC *ep*P **sP 19 07 14.2 -0.3**
LVC Limon Verde 94.65 116 *e*P **P 19 07 11.1 +2.3**
LVC *ep*P **sP 19 07 14.2 -0.3**
AZU Azuero 94.76 83 *e*P **P 19 07 09.1 +0.2**
PB01 IPOC Station P 94.76 114 IAMs_20 IAMs_20 19 40 34.3
comp=Z,9µm,20.0s
HBAR Harrisburg 94.78 54 IAMs_20 IAMs_20 19 47 06.6
comp=Z,6µm,18.0s
C36M Paulatuk 94.95 15 P **P 19 07 08.1 -0.3**
baz=225,SNR=9.9
FFC Flin Flon 94.99 33 *i*P **P 19 07 08.9 -0.1**
FFC Flin Flon 94.99 33 IAMs_20 IAMs_20 19 44 09.8
comp=Z,7µm,20.0s
LPAR Lepanto 95.06 54 IAMs_20 IAMs_20 19 47 15.8
comp=Z,6µm,18.0s
HDBT Hernando Brdge 95.10 55 IAMs_20 IAMs_20 19 47 22.7
comp=Z,5µm,18.0s
PB11 IPOC Station P 95.11 113 P **P 19 07 10.3 -0.3**
PB11 IAMs_20 IAMs_20 19 41 00.4
comp=Z,8µm,20.0s
SCIA State Center 95.15 47 P **P 19 07 10.1 0.0**
baz=249
SCIA State Center 95.15 47 IAMs_20 IAMs_20 19 47 04.8
comp=Z,3µm,19.0s
MET Memphis--Engin 95.18 55 IAMs_20 IAMs_20 19 47 55.5
comp=Z,5µm,18.0s
CCM Cathedral Cave 95.20 52 P **P 19 07 09.5 -0.8**
baz=250
CCM Cathedral Cave 95.20 52 IAMs_20 IAMs_20 19 46 54.5
comp=Z,4µm,18.0s

MHMT	Maesarieng	95.35	287	P	P	19 07 15.5	+4.0	
PBMO	Poplar Bluff	95.37	53	IAMs_20	IAMs_20	19 43 41.2		
	comp=Z,4μm,19.0s							
OXF	Oxford	95.38	55	IAMs_20	IAMs_20	19 43 59.8		
	comp=Z,7μm,20.0s							
MNMC	Minye Minye	95.40	112	IAMs_20	IAMs_20	19 41 09.1		
	comp=Z,11μm,20.0s							
GNAR	Gosnell	95.41	54	IAMs_20	IAMs_20	19 47 34.2		
	comp=Z,5μm,18.0s							
PRVC	Isla de Provid	95.52	78	eP	P	19 07 11.8	-0.5	
PRVC	Isla de Provid	95.52	78	eP	P	19 07 11.8	-0.5	
CIT	Chita	95.53	323	eP	P	19 07 13.2	+1.6	
CIT				pmax	pmax			
	comp=Z,103nm,1.7s							
GO01	Chusmiza	95.54	113	IAMs_20	IAMs_20	19 40 42.5		
	comp=Z,5μm,20.0s							
PEBM	Pemiscott Bayo	95.57	54	IAMs_20	IAMs_20	19 47 30.7		
	comp=Z,5μm,18.0s							
BCIP	Isla Barro Col	95.60	82	eP	P	19 07 17.0	+4.2	
BCIP	Isla Barro Col	95.60	82	eP	P	19 07 17.0	+4.2	
BCIP	Isla Barro Col	95.60	82	eP	P	19 07 12.6	-0.1	
BCIP	Isla Barro Col	95.60	82	IAMs_20	IAMs_20	19 43 32.2		
	comp=Z,4μm,19.0s							
AGMN	Agassiz Nation	95.79	41	P	P	19 07 11.7	-1.1	
	baz=248							
AGMN	Agassiz Nation	95.79	41	IAMs_20	IAMs_20	19 48 25.0		
	comp=Z,2μm,18.0s							
PVMO	Portageville	95.80	54	IAMs_20	IAMs_20	19 47 46.8		
	comp=Z,5μm,18.0s							
PARMO	Parma	95.84	53	IAMs_20	IAMs_20	19 47 14.7		
	comp=Z,5μm,18.0s							
LNXT	Lenox	95.85	54	IAMs_20	IAMs_20	19 47 49.1		
	comp=Z,5μm,18.0s							
PENMO	Penman	95.86	54	IAMs_20	IAMs_20	19 44 36.4		
	comp=Z,4μm,20.0s							
HALT	Halls	95.91	54	IAMs_20	IAMs_20	19 47 59.5		
	comp=Z,5μm,18.0s							
GLAT	Glass	96.06	54	IAMs_20	IAMs_20	19 44 42.6		
	comp=Z,5μm,19.0s							
HENM	Henderson Moun	96.07	53	IAMs_20	IAMs_20	19 48 28.8		
	comp=Z,4μm,18.0s							
LZH	Lanzhou	96.14	306	eP	P	19 07 16.5	+1.6	
LZH				sP	pwP	19 07 29.5	+0.2	
LZH				PP	PP	19 11 08.0	-0.2	
LZH				SKS	SKSac	19 17 52.6	+1.9	
LZH				S	ScS	19 18 34.1	0.0	
LZH				pmax	pmax			
	comp=Z,41nm,1.2s							
LZH				pmax	pmax			
	comp=Z,480nm,4.3s							
LZH				LR	LR			
	comp=Z,2μm,15.7s							
LZH				LR	LR			
	comp=Z,3μm,17.1s							
LZH				LR	LR			
	comp=Z,3μm,18.8s							
SLM	Saint Louis	96.14	51	IAMs_20	IAMs_20	19 46 49.5		
	comp=Z,4μm,19.0s							
BRAL	Brewton	96.16	59	IAMs_20	IAMs_20	19 45 49.2		
	comp=Z,3μm,20.0s							
HICK	Hickman	96.20	54	IAMs_20	IAMs_20	19 47 51.2		
	comp=Z,5μm,18.0s							
SOTA	Rioblanco	96.39	90	eP	P	19 07 11.9	-5.0	
SOTA	Rioblanco	96.39	90	eP	P	19 07 11.9	-5.0	
N41A	Harden Midland	96.40	49	P	P	19 07 15.5	-0.3	
	baz=250							
N41A	Harden Midland	96.40	49	IAMs_20	IAMs_20	19 48 47.9		
	comp=Z,5μm,18.0s							
POPC	Popayan, Colom	96.46	90	eP	P	19 07 16.5	-0.5	
POPC	Popayan, Colom	96.46	90	eP	P	19 07 16.5	-0.5	
ULM	Lac du Bonnet	96.53	39	P	P	19 07 15.6	-0.5	
	comp=Z,44nm,1.2s,baz=245,slow=4.8,SNR=12							
ULM	Lac du Bonnet	96.53	39	IAMs_20	IAMs_20	19 46 35.3		
	comp=Z,7μm,19.0s							
A36M	Sachs Harbour	96.56	13	P	P	19 07 15.7	0.0	
	baz=224							
S44A	Carbondale	96.56	52	P	P	19 07 17.4	+0.9	
	baz=251							
PLAL	Pickwick Lake	96.58	55	IAMs_20	IAMs_20	19 44 55.4		
	comp=Z,6μm,19.0s							
SIUC	Southern Illin	96.59	52	IAMs_20	IAMs_20	19 47 55.0		
	comp=Z,4μm,18.0s							
L40A	Anamosa	96.60	48	P	P	19 07 16.7	+0.1	
	baz=250							
L40A	Anamosa	96.60	48	IAMs_20	IAMs_20	19 48 40.1		
	comp=Z,3μm,18.0s							
SPMN	Marine on St.	96.62	44	P	P	19 07 17.2	+0.6	
	baz=249,SNR=20							
SPMN	Marine on St.	96.62	44	IAMs_20	IAMs_20	19 46 05.3		
	comp=Z,3μm,20.0s							
PCON	Cinco Dias	96.65	90	eP	P	19 07 17.0	-1.3	
PCON	Cinco Dias	96.65	90	eP	P	19 07 17.0	-1.3	
LRAL	Lakeview Retre	96.80	58	IAMs_20	IAMs_20	19 48 47.6		
	comp=Z,6μm,18.0s							
P43A	Skaggs, Pawnee	97.00	51	P	P	19 07 19.1	+0.6	
	baz=251							
P43A	Skaggs, Pawnee	97.00	51	IAMs_20	IAMs_20	19 48 41.1		
	comp=Z,8μm,18.0s							
451A	Vernon	97.05	60	IAMs_20	IAMs_20	19 50 25.5		
	comp=Z,3μm,18.0s							
250A	Grady	97.05	59	IAMs_20	IAMs_20	19 49 21.5		
	comp=Z,2μm,18.0s							
FLOC	Florencia	97.11	91	eP	P	19 07 19.5	-0.2	
FLOC	Florencia	97.11	91	eP	P	19 07 19.5	-0.2	
WVT	Waverly	97.13	54	P	Pdif	19 07 20.5	+1.2	
	baz=252							
WVT	Waverly	97.13	54	IAMs_20	IAMs_20	19 45 16.0		
	comp=Z,6μm,19.0s							
X48A	Hartselle	97.21	56	P	Pdif	19 07 20.1	+0.5	
	baz=252							
X48A	Hartselle	97.21	56	IAMs_20	IAMs_20	19 45 16.3		
	comp=Z,6μm,20.0s							
YOTC	Yotoco, Valle	97.23	88	eP	P	19 07 16.1	-4.3	
YOTC	Yotoco, Valle	97.23	88	eP	P	19 07 16.1	-4.3	
PTLC	Puerto Leguiza	97.45	92	eP	P	19 07 17.2	-4.0	
PTLC	Puerto Leguiza	97.45	92	eP	P	19 07 17.2	-4.0	
HDIL	Hopedale	97.47	50	P	P	19 07 20.1	-0.5	
	baz=251							
HDIL	Hopedale	97.47	50	IAMs_20	IAMs_20	19 48 39.9		
	comp=Z,7μm,18.0s							
Y49A	Blount Mountai	97.52	57	P	Pdif	19 07 21.9	+0.8	
	baz=252							
Y49A	Blount Mountai	97.52	57	IAMs_20	IAMs_20	19 49 39.6		
	comp=Z,4μm,18.0s							
JFWS	Jewell Farm	97.56	47	P	Pdif	19 07 21.8	+0.8	
	baz=251							
JFWS	Jewell Farm	97.56	47	IAMs_20	IAMs_20	19 49 12.5		
	comp=Z,4μm,18.0s							
HOPE	Hope Point	97.61	156	IAMs_20	IAMs_20	19 43 37.7		
	comp=Z,8μm,21.0s							
G39A	Holcombe	97.72	45	P	P	19 07 21.4	-0.3	
	baz=250,SNR=12							
Z50A	Ashland	97.72	58	IAMs_20	IAMs_20	19 49 26.1		
	comp=Z,7μm,18.0s							
OLIL	Olney	97.76	52	IAMs_20	IAMs_20	19 48 58.2		
	comp=Z,5μm,18.0s							
LPAZ	La Paz	97.78	110	P	Pdif	19 07 25.1	+1.7	
	comp=Z,8.5nm,0.8s,baz=203,slow=2.5,SNR=20							
LPAZ				PP	PP	19 11 21.0	-0.4	
	comp=Z,2.0nm,0.9s,baz=270,slow=2.0,SNR=3.3							
LPAZ	La Paz	97.78	110	eP	Pdif	19 07 25.3	+1.9	
LPAZ				epP	sP	19 07 27.9	-1.1	
LPAZ	La Paz	97.78	110	eP	Pdif	19 07 25.3	+1.9	
LPAZ				epP	sP	19 07 27.9	-1.1	
V48A	Smith Brothers	97.79	55	IAMs_20	IAMs_20	19 49 06.4		
	comp=Z,6μm,18.0s							
USIN	University of	97.84	53	IAMs_20	IAMs_20	19 47 35.5		
	comp=Z,4μm,18.0s							
ULN	Ulaanbaatar	97.85	318	cePP	Pdif	19 07 24.1	+1.7	
ULN				pmax	pmax			
	comp=Z,40nm,1.3s							
ULN	Ulaanbaatar	97.85	318	IAMs_20	IAMs_20	19 45 08.5		
	comp=Z,3μm,22.0s							
LPA	La Plata	97.85	131	eP	P	19 07 21.2	-1.4	
E38A	The Farm, Brul	97.91	43	P	P	19 07 21.8	-0.6	
	baz=250,SNR=7.3							
E38A	The Farm, Brul	97.91	43	IAMs_20	IAMs_20	19 50 44.4		
	comp=Z,5μm,18.0s							
O44A	Mansfield	97.94	50	IAMs_20	IAMs_20	19 48 36.8		
	comp=Z,5μm,18.0s							
T47A	Sharon Grove	97.96	54	P	P	19 07 22.5	-0.3	
	baz=252							
T47A	Sharon Grove	97.96	54	IAMs_20	IAMs_20	19 45 41.7		
	comp=Z,4μm,20.0s							
352A	Blakely	97.98	60	IAMs_20	IAMs_20	19 46 55.2		
	comp=Z,3μm,20.0s							
PBA	Port Blair	98.09	280	eP	P	19 07 23.2	-0.7	
PBA				iPP	PP	19 11 21.4	-2.0	
CBOC	Ciudad Bolivar	98.15	87	eP	P	19 07 24.2	-0.3	
CBOC	Ciudad Bolivar	98.15	87	eP	P	19 07 24.2	-0.3	
I41A	Arkdale	98.20	46	P	P	19 07 23.6	-0.2	
	baz=251							
I41A	Arkdale	98.20	46	IAMs_20	IAMs_20	19 45 14.2		
	comp=Z,3μm,20.0s							
SONM	Songino Array	98.25	318	P	P	19 07 24.0	-0.1	
	comp=Z,1.9nm,0.7s,baz=114,slow=3.9,SNR=12							
SONM				PP	PP	19 11 22.9	-1.3	
	comp=Z,3.0nm,1.0s,baz=96,slow=5.8,SNR=3.9							
SONM				PKKPbc	PKKPbc	19 23 56.1	-1.3	
	comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=3.8							
SONM				PKPPKP		19 32 13.9		
	comp=Z,0.2nm,0.3s,baz=222,slow=2.0,SNR=3.8							
CLTN	Cedars of Leba	98.27	55	IAMs_20	IAMs_20	19 49 21.3		
	comp=Z,4μm,18.0s							
453A	Whigham	98.29	60	IAMs_20	IAMs_20	19 50 31.4		
	comp=Z,3μm,19.0s							
SWET	Sewanee	98.32	56	IAMs_20	IAMs_20	19 45 39.5		
	comp=Z,6μm,20.0s							
FPAL	Fort Paine	98.36	56	IAMs_20	IAMs_20	19 46 01.9		
	comp=Z,3μm,20.0s							
G40A	Rib Lake	98.36	45	P	Pdif	19 07 25.0	+0.4	
	baz=251,SNR=7.1							
G40A	Rib Lake	98.36	45	IAMs_20	IAMs_20	19 48 32.5		
	comp=Z,3μm,19.0s							
DGPR	DIGLIPUR	98.38	281	IAmb	IAmb	19 07 34.2		
	comp=Z,38nm,0.5s							
EYMN	Ely	98.40	42	P	P	19 07 23.7	-0.9	
	baz=251							
EYMN	Ely	98.40	42	IAMs_20	IAMs_20	19 46 41.1		
	comp=Z,4μm,20.0s							
152A	Waverly Hall	98.51	58	IAMs_20	IAMs_20	19 50 06.3		
	comp=Z,3μm,18.0s							
GUY2C	Guyana, Caldas	98.56	87	eP	P	19 07 26.3	-0.4	
GUY2C	Guyana, Caldas	98.56	87	eP	P	19 07 26.3	-0.4	
M44A	Midewin, Midew	98.63	49	IAMs_20	IAMs_20	19 49 60.0		
	comp=Z,5μm,18.0s							
HELC	Santa Helena	98.71	86	eP	P	19 07 26.7	-0.6	
HELC	Santa Helena	98.71	86	eP	P	19 07 26.7	-0.6	
W50A	Signal Mountai	98.80	56	IAMs_20	IAMs_20	19 45 55.2		
	comp=Z,7μm,20.0s							
I42A	Draeger Farm,	98.80	47	IAMs_20	IAMs_20	19 45 33.1		
	comp=Z,3μm,20.0s							
253A	Americus	98.81	59	IAMs_20	IAMs_20	19 46 26.9		
	comp=Z,2μm,20.0s							
U49A	Red Boiling Sp	98.83	54	Pdiff	P	19 07 26.3	-0.5	
	baz=253							
K43A	Burlington	98.83	48	IAMs_20	IAMs_20	19 55 27.2		
	comp=Z,3μm,18.0s							
WCI	Wyandotte Cave	98.95	53	IAMs_20	IAMs_20	19 47 17.9		
	comp=Z,5μm,19.0s							
X51A	Calhoun	98.97	57	IAMs_20	IAMs_20	19 50 27.8		
	comp=Z,5μm,18.0s							
MACC	Macarena, Meta	99.00	91	eP	Pdif	19 07 25.5	-2.6	
MACC	Macarena, Meta	99.00	91	eP	Pdif	19 07 25.5	-2.6	
SFIN	Lafayette	99.00	50	IAMs_20	IAMs_20	19 49 54.0		
	comp=Z,7μm,18.0s							
TIGA	Tifton	99.06	60	IAMs_20	IAMs_20	19 47 29.8		
	comp=Z,3μm,20.0s							
V50A	Pikevile	99.10	55	Pdiff	Pdif	19 07 28.8	+0.8	
	baz=253							
NORC	Norcasia	99.13	87	eP	Pdif	19 07 26.2	-2.6	
NORC	Norcasia	99.13	87	eP	Pdif	19 07 26.2	-2.6	
T49A	Edmonton	99.19	54	IAMs_20	IAMs_20	19 46 10.4		
	comp=Z,6μm,20.0s							
656A	Willston	99.33	62	IAMs_20	IAMs_20	19 50 19.2		
	comp=Z,2μm,18.0s							
COWI	Conover	99.33	44	P	Pdif	19 07 28.9	0.0	
COWI				IAMs_20	IAMs_20	19 46 58.1		
	comp=Z,3μm,20.0s							
Y52A	Lilburn	99.39	57	IAMs_20	IAMs_20	19 51 14.1		
	comp=Z,4μm,18.0s							
ROSC	El Rosal	99.42	88	IAMs_20	IAMs_20	19 43 26.4		
	comp=Z,3μm,21.0s							
CPCT	Cooper Cave	99.49	56	IAMs_20	IAMs_20	19 46 26.5		
	comp=Z,6μm,21.0s							
S49A	Springfield	99.58	53	Pdiff	Pdif	19 07 29.8	-0.3	
	baz=253							
061Z	Ochoppi	99.71	66	IAMs_20	IAMs_20	19 49 24.5		
	comp=Z,3μm,19.0s							
V51A	Loudon	99.72	56	IAMs_20	IAMs_20	19 46 34.0		
	comp=Z,6μm,21.0s							
GOGA	Godfrey	99.73	58	IAMs_20	IAMs_20	19 49 56.3		
	comp=Z,4μm,18.0s							
H43A	Windswept, Lux	99.76	46	IAMs_20	IAMs_20	19 46 32.5		
	comp=Z,3μm,20.0s							
154A	Montrose	99.80	59	IAMs_20	IAMs_20	19 51 15.1		
	comp=Z,4μm,18.0s							
059A	Moore Haven	99.82	65	IAMs_20	IAMs_20	19 45 05.3		
	comp=Z,3μm,22.0s							
PTBC	PUERTO BERRIO,	99.83	86	eP	Pdif	19 07 28.8	-3.1	
PTBC	PUERTO BERRIO,	99.83	86	eP	Pdif	19 07 28.8	-3.1	
W52A	Murphy	99.85	56	IAMs_20	IAMs_20	19 46 58.2		
	comp=Z,6μm,20.0s							
F42A	Maple Grove Fa	99.90	45	IAMs_20	IAMs_20	19 45 52.1		
	comp=Z,2μm,20.0s							
DWPF	Disney Wildern	99.90	64	IAMs_20	IAMs_20	19 51 44.9		
	comp=Z,3μm,18.0s							
LKP	Lekhapani	99.95	295	eP	Pdif	19 07 32.2	+0.2	
LKP				IAmb	IAmb	19 07 39.0		
	comp=Z,44nm,1.7s							
LKP				ix	x	19 11 34.4		
LKP				IAMs_20	IAMs_20	19 45 16.9		
	comp=Z,6μm,29.9s							
P48A	Milroy	99.96	52	IAMs_20	IAMs_20	19 50 34.5		
	comp=Z,5μm,18.0s							
D41A	Chassel	100.00	44	Pdiff	Pdif	19 07 32.6	+0.8	
	baz=253							
D41A	Chassel	100.00	44	IAMs_20	IAMs_20	19 46 56.7		
	comp=Z,6μm,20.0s							
L46A	Eue Claire	100.06	49	IAMs_20	IAMs_20	19 50 37.0		
	comp=Z,6μm,18.0s							
255A	Hazlehurst	100.11	60	IAMs_20	IAMs_20	19 48 18.6		
	comp=Z,3μm,20.0s							
456A	Hilliard	100.15	61	IAMs_20	IAMs_20	19 48 14.6		
	comp=Z,3μm,19.0s							
N47A	Urbana	100.17	50	IAMs_20	IAMs_20	19 50 47.9		
	comp=Z,6μm,18.0s							
GTA	Gaotai	100.20	308	⇓P	Pdif	19 07 34.4	+1.4	
GTA				pP	sP	19 07 40.1	+1.5	
GTA				sP	pwP	19 07 42.6	-4.9	
GTA				PP	PP	19 11 40.2	+1.0	
GTA				SKS		19 18 10.5		
GTA				SS	SS	19 26 01.9	-0.7	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.8s							
GTA				pmax	pmax			
	comp=Z,730nm,10.0s							
GTA				LR	LR			
	comp=Z,1μm,24.0s							
GTA				LR	LR			
	comp=Z,4μm,24.1s							
GTA				LR	LR			
	comp=Z,8μm,24.0s							
V52A	Sevierville	100.32	56	IAMs_20	IAMs_20	19 50 35.6		
	comp=Z,5μm,18.0s							
J45A	Monagua	100.41	48	IAMs_20	IAMs_20	19 50 39.9		
	comp=Z,3μm,19.0s							
R50A	Paris	100.44	53	IAMs_20	IAMs_20	19 50 14.6		
	comp=Z,4μm,18.0s							
MTDJ	Mount Denham	100.50	74	IAMs_20	IAMs_20	19 42 11.3		
	comp=Z,3μm,22.0s							
060A	Indiantown	100.51	65	IAMs_20	IAMs_20	19 49 32.6		
	comp=Z,3μm,18.0s							
TZTN	Tazewell	100.56	55	IAMs_20	IAMs_20	19 50 16.7		
	comp=Z,6μm,18.0s							
BG3	Lake Jocassee	100.61	57	IAMs_20	IAMs_20	19 51 02.2		
	comp=Z,4μm,18.0s							
I45A	Fountain	100.69	47	IAMs_20	IAMs_20	19 46 49.8		
	comp=Z,3μm,20.0s							
S51A	Beattyville	100.82	54	IAMs_20	IAMs_20	19 47 30.7		
	comp=Z,7μm,19.0s							
E43A	Lone Tree Farm	100.84	45	IAMs_20	IAMs_20	19 46 40.9		
	comp=Z,3μm,21.0s							
V53A	Saluda	100.89	56	IAMs_20	IAMs_20	19 47 40.6		
	comp=Z,5μm,20.0s							
HODGE	Hodges	100.93	58	IAMs_20	IAMs_20	19 47 15.9		
	comp=Z,3μm,20.0s							
O49A	Covington	100.97	51	IAMs_20	IAMs_20	19 50 57.2		
	comp=Z,5μm,18.0s							
KOHI	KOHIMA	100.99	293	eP	Pdif	19 07 36.3	-0.6	
KOHI				IAmb	IAmb	19 07 44.6		
	comp=Z,45nm,1.7s							
KOHI				ix	x	19 11 40.8		
KOHI				IAMs_20	IAMs_20	19 44 20.5		
	comp=Z,5μm,27.5s							
ZAK	Zakamensk	101.00	320	eP	Pdif	19 07 44.3	+8.0	
ZAK				e		19 11 40.3		
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.4s							
ZAK				pmax	pmax			
	comp=Z,11nm,1.4s							
M48A	Edgerton	101.05	50	IAMs_20	IAMs_20	19 50 41.7		
	comp=Z,6μm,18.0s							
T52A	Hallie	101.14	55	IAMs_20	IAMs_20	19 51 53.2		
	comp=Z,7μm,18.0s							
JORH	JORHAT	101.14	294	eP	Pdif	19 07 37.4	+0.1	
JORH				iPP	PP	19 11 44.2	-2.3	
TLY	Talaya	101.16	321	eP	Pdif	19 07 35.3	-1.5	
TLY				e		19 11 44.8		
TLY				e		19 18 18.0		
TLY				ePPS	PPS	19 21 36.6		
TLY				eSS	SS	19 26 17.8	+2.7	
TLY				pmax	pmax			
	comp=Z,21nm,1.7s							
TLY				MLR	MLR			
	comp=Z,5μm,19.0s							
TLY	Talaya	101.16	321	P	Pdif	19 07 37.2	+0.3	
	comp=Z,1.0nm,0.3s,baz=158,slow=5.4,SNR=2.1							
TLY				PP	PP	19 11 47.1	+1.1	
	comp=Z,1.4nm,0.4s,baz=101,slow=6.1,SNR=4.4							
TLY	Talaya	101.16	321	IAMs_20	IAMs_20	20 00 26.7		
	comp=Z,2μm,18.0s							
N49A	Columbus Grove	101.28	51	IAMs_20	IAMs_20	19 51 31.4		
	comp=Z,5μm,18.0s							
257A	Skidaway Islan	101.31	60	IAMs_20	IAMs_20	19 48 48.3		
	comp=Z,3μm,20.0s							
G45A	Suttons Bay	101.36	46	IAMs_20	IAMs_20	19 55 43.0		
	comp=Z,4μm,18.0s							
Q51A	Peebles	101.39	53	IAMs_20	IAMs_20	19 49 45.5		
	comp=Z,3μm,18.0s							
Z56A	Williston	101.40	59	IAMs_20	IAMs_20	19 51 50.4		
	comp=Z,6μm,18.0s							
PAULI	Pauline	101.44	57	IAMs_20	IAMs_20	19 51 30.7		
	comp=Z,5μm,18.0s							
J47A	Sumner	101.45	48	IAMs_20	IAMs_20	19 53 36.7		
	comp=Z,2μm,18.0s							
E44A	Grand Marais A	101.62	45	IAMs_20	IAMs_20	19 57 08.5		
	comp=Z,4μm,18.0s							
P51A	Williamsport	101.72	52	IAMs_20	IAMs_20	19 49 57.3		
	comp=Z,5μm,18.0s							
JSC	Jenkinsville	101.74	58	IAMs_20	IAMs_20	19 52 22.4		
	comp=Z,2μm,18.0s							
I47A	Gladwin	101.88	47	IAMs_20	IAMs_20	19 52 08.8		
	comp=Z,3μm,18.0s							
U54A	Nelsons Funny	101.89	55	IAMs_20	IAMs_20	19 51 17.0		
	comp=Z,4μm,18.0s							
KMSC	Kings Mountain	101.91	57	IAMs_20	IAMs_20	19 52 00.7		
	comp=Z,6μm,18.0s							
ACSO	Alum Creek Sta	101.98	51	IAMs_20	IAMs_20	19 50 28.5		
	comp=Z,4μm,18.0s							
GLMI	Grayling	102.02	47	IAMs_20	IAMs_20	19 47 40.9		
	comp=Z,4μm,20.0s							
AAM	Ann Arbor	102.03	49	IAMs_20	IAMs_20	19 52 04.1		
	comp=Z,7μm,18.0s							
V55A	Taylorsville	102.19	56	IAMs_20	IAMs_20	19 48 21.6		
	comp=Z,5μm,20.0s							
J48A	Bridge Port	102.20	48	IAMs_20	IAMs_20	19 57 45.3		
	comp=Z,3μm,18.0s							
M50A	Fremont	102.24	50	IAMs_20	IAMs_20	19 47 42.7		
	comp=Z,4μm,19.0s							
R53A	Hurricane	102.26	54	IAMs_20	IAMs_20	19 48 36.6		
	comp=Z,7μm,20.0s							
NHSC	New Hope	102.30	59	IAMs_20	IAMs_20	19 53 05.4		
	comp=Z,6μm,18.0s							
Y57A	Sumter	102.36	58	IAMs_20	IAMs_20	19 53 08.0		
	comp=Z,3μm,18.0s							
CPUP	Villa Florida	102.53	124	P	Pdif	19 07 44.6	+1.0	
	comp=Z,2.5nm,0.8s,baz=252,slow=6.3,SNR=2.5							
N51A	Ashland	102.60	51	IAMs_20	IAMs_20	19 50 48.9		
	comp=Z,4μm,18.0s							
S54A	Dinges, Beckl	102.61	54	IAMs_20	IAMs_20	19 52 41.0		
	comp=Z,8μm,18.0s							
E46A	Sault Ste Mari	102.63	45	IAMs_20	IAMs_20	19 56 51.3		
	comp=Z,3μm,18.0s							
MOY	Mondy	102.74	320	eP	Pdif	19 07 50.7	+6.7	
MOY				e		19 12 00.2		
V56A	Mocksville	102.74	56	IAMs_20	IAMs_20	19 52 36.7		
	comp=Z,5μm,18.0s							
O52A	Adamsville	102.80	52	IAMs_20	IAMs_20	19 51 13.7		
	comp=Z,5μm,18.0s							
H48A	Harrisville	102.88	47	IAMs_20	IAMs_20	19 48 16.1		
	comp=Z,3μm,20.0s							
SHL	Shillong	102.88	293	eP	Pdif	19 07 44.8	-0.5	
SHL				iPP	PP	19 11 58.2	-1.6	
K50A	Casco	102.89	49	IAMs_20	IAMs_20	19 51 57.7		
	comp=Z,5μm,18.0s							
Y58A	Scranton	102.92	58	IAMs_20	IAMs_20	19 53 59.7		
	comp=Z,4μm,18.0s							
W57A	Gilead	102.97	57	IAMs_20	IAMs_20	19 48 38.7		
	comp=Z,6μm,21.0s							
P53A	Whipple	102.97	53	IAMs_20	IAMs_20	19 50 36.4		
	comp=Z,5μm,18.0s							
I49A

comp=Z,5.7nm,0.8s,baz=223,slow=10,SNR=8.0
RES Resolute Bay 105.32 16 Pdif Pdif 19 07 56.2 +1.4
RES IAMs_20 IAMs_20 19 52 23.5
comp=Z,5μm,19.0s
M55A Ridgway 105.38 51 IAMs_20 IAMs_20 19 52 43.1
comp=Z,5μm,18.0s
P57A Homestead Farm 105.52 53 IAMs_20 IAMs_20 19 50 18.8
comp=Z,5μm,19.0s
WVNY West Valley, N 105.69 50 IAMs_20 IAMs_20 19 54 08.1
comp=Z,7μm,18.0s
CBN Corbin Frederi 105.73 55 IAMs_20 IAMs_20 19 50 22.6
comp=Z,5μm,20.0s
SADO Sadowa 105.80 48 Pdiff **Pdif 19 07 58.5 +1.0**
comp=Z,5.0nm,0.8s,baz=311,slow=3.7,SNR=3.3
M56A Emporium 105.81 51 IAMs_20 IAMs_20 19 53 49.3
comp=Z,5μm,18.0s
V61A Roper 105.83 57 IAMs_20 IAMs_20 19 51 02.6
comp=Z,4μm,19.0s
J54A Appleton 105.85 49 IAMs_20 IAMs_20 19 54 12.0
comp=Z,7μm,18.0s
SSPA Standing Stone 105.85 52 IAMs_20 IAMs_20 19 53 24.6
comp=Z,4μm,18.0s
MEDO Medina 105.96 49 IAMs_20 IAMs_20 19 54 24.1
comp=Z,6μm,18.0s
T60A Surry 106.00 56 IAMs_20 IAMs_20 19 53 52.9
comp=Z,5μm,18.0s
U61A Possum Corner 106.05 57 IAMs_20 IAMs_20 19 50 30.4
comp=Z,5μm,20.0s
ITAB Concordia 106.07 127 *e*P **Pdif 19 08 02.4 +3.0**
ITAB Concordia 106.07 127 *e*P **Pdif 19 08 02.4 +3.0**
GTK Tadong 106.16 294 *e*P **Pdif 19 08 00.2 +0.4**
GTK IAmb IAmb 19 08 11.8
comp=Z,9.7nm,0.4s
GTK *i* PP **PP 19 12 22.4 -1.7**
MMNY Mt. Morris Dam 106.26 50 IAMs_20 IAMs_20 19 54 17.2
comp=Z,6μm,18.0s
V62A Hyde County Ai 106.28 58 IAMs_20 IAMs_20 19 53 46.4
comp=Z,4μm,18.0s
SDMD Soldier's Deli 106.39 53 IAMs_20 IAMs_20 19 50 54.9
comp=Z,3μm,20.0s
SDDR Presa de Saban 106.40 75 IAMs_20 IAMs_20 19 45 43.7
comp=Z,5μm,22.0s
L56A Greenwood 106.40 51 IAMs_20 IAMs_20 19 53 14.8
comp=Z,4μm,18.0s
J55A Hilton 106.43 49 IAMs_20 IAMs_20 19 54 22.1
comp=Z,5μm,18.0s
M57A Sunshine Farm, 106.56 51 IAMs_20 IAMs_20 19 53 04.7
comp=Z,6μm,18.0s
BAUV El Baul 106.61 86 *e*P PKiKP 19 12 21.4 +8.7
PAGS Pennsylvania G 106.64 53 IAMs_20 IAMs_20 19 54 16.5
comp=Z,4μm,18.0s
N58A Sunbury 106.77 52 IAMs_20 IAMs_20 19 53 02.7
comp=Z,4μm,18.0s
DELO Deloro Mine 106.81 48 IAMs_20 IAMs_20 19 54 20.4
comp=Z,4μm,18.0s
S61A Accomac 106.94 55 IAMs_20 IAMs_20 19 55 04.9
comp=Z,4μm,18.0s
SC01 Santiago de lo 107.02 75 IAMs_20 IAMs_20 19 47 45.3
comp=Z,4μm,20.0s
Q60A Greensboro 107.07 54 IAMs_20 IAMs_20 19 51 04.9
comp=Z,7μm,20.0s
J56A Wolcott 107.12 49 IAMs_20 IAMs_20 19 54 35.8
comp=Z,5μm,18.0s
D53A Lac Vacive, Po 107.22 45 IAMs_20 IAMs_20 19 56 17.8
comp=Z,3μm,20.0s
R61A Willards 107.32 55 IAMs_20 IAMs_20 19 50 24.8
comp=Z,5μm,20.0s
P60A Greenville 107.38 53 IAMs_20 IAMs_20 19 50 56.1
comp=Z,7μm,20.0s
N59A State Game Lan 107.48 52 IAMs_20 IAMs_20 19 54 24.8
comp=Z,5μm,18.0s
SDD Santo Domingo 107.52 76 IAMs_20 IAMs_20 19 56 32.4
comp=Z,5μm,19.0s
PSUB Penn St. - Bra 107.54 53 IAMs_20 IAMs_20 19 51 01.4
comp=Z,6μm,20.0s
VLDQ Val d'Or 107.56 44 IAMs_20 IAMs_20 19 56 42.7
comp=Z,5μm,18.0s
BINY Binghamton 107.56 51 IAMs_20 IAMs_20 19 54 52.5
comp=Z,4μm,18.0s
KSPA Keystone Colle 107.60 51 IAMs_20 IAMs_20 19 53 37.8
comp=Z,4μm,18.0s
BOK Bokaro 107.71 290 *e*P **Pdif 19 08 05.4 -1.2**
BOK *i* PP **PP 19 12 34.4 -1.1**
J57A Williamstown 107.77 49 IAMs_20 IAMs_20 19 59 52.4
comp=Z,4μm,18.0s
K58A Earlville 107.91 50 IAMs_20 IAMs_20 19 54 52.8
comp=Z,6μm,18.0s
P61A Hammonton 107.99 54 IAMs_20 IAMs_20 19 51 34.4
comp=Z,7μm,20.0s
PALK Pallekele 108.06 272 IAMs_20 IAMs_20 20 01 17.0
comp=Z,4μm,19.0s
L59A Walton 108.25 51 IAMs_20 IAMs_20 19 54 57.8
comp=Z,6μm,18.0s
J58A Remsen 108.27 50 IAMs_20 IAMs_20 19 55 37.2
comp=Z,5μm,18.0s
BRNJ Basking Ridge 108.34 52 IAMs_20 IAMs_20 19 54 46.5
comp=Z,5μm,18.0s
ODNJ Ogdensburg 108.38 52 IAMs_20 IAMs_20 19 53 35.5
comp=Z,4μm,20.0s
CPNY Central Park 108.81 52 IAMs_20 IAMs_20 20 06 50.0
comp=Z,8μm,18.0s
J59A Piesco 108.85 50 IAMs_20 IAMs_20 19 56 12.5
comp=Z,5μm,18.0s
PAL Palisades 108.89 52 IAMs_20 IAMs_20 19 54 09.9
comp=Z,5μm,18.0s
LONY Lake Ozonia 108.97 48 IAMs_20 IAMs_20 19 55 33.5
comp=Z,4μm,18.0s
NCB Newcomb 109.13 49 IAMs_20 IAMs_20 19 52 49.8
comp=Z,3μm,19.0s
KSCT Kent School, K 109.32 52 IAMs_20 IAMs_20 19 54 48.2
comp=Z,5μm,18.0s
TRY Troy 109.34 50 IAMs_20 IAMs_20 19 55 56.6
comp=Z,5μm,18.0s
ACCN Adirondack Com 109.44 50 IAMs_20 IAMs_20 19 56 54.7
comp=Z,7μm,19.0s
YLE Yale 109.66 52 IAMs_20 IAMs_20 19 54 41.4
comp=Z,5μm,19.0s
FRNY Flat Rock 109.70 48 IAMs_20 IAMs_20 19 56 55.9
comp=Z,3μm,18.0s
WMQ Urumqi 110.00 311 IAMs_20 IAMs_20 19 52 47.6
comp=Z,5μm,22.0s
MDRS Chennai 110.17 277 IAmb IAmb 19 06 24.9
comp=Z,13nm,0.6s
VT1 Waterbury 110.22 49 IAMs_20 IAMs_20 19 57 03.8
comp=Z,4μm,18.0s
K62A Royalston 110.38 51 IAMs_20 IAMs_20 19 56 21.1
comp=Z,6μm,18.0s
HNH Hanover 110.48 50 IAMs_20 IAMs_20 19 57 35.6
comp=Z,7μm,18.0s
DGAR Diego Garcia 110.62 254 IAMs_20 IAMs_20 20 01 03.5
comp=Z,4μm,18.0s
BRYW Bryant College 110.79 52 IAMs_20 IAMs_20 19 56 09.1
comp=Z,5μm,18.0s
LBNH Lisbon 110.80 49 IAMs_20 IAMs_20 19 57 14.1
comp=Z,6μm,18.0s
HRV Adam Dziewonsk 110.85 51 IAMs_20 IAMs_20 19 54 22.6
comp=Z,4μm,20.0s
SJG San Juan 110.89 77 IAMs_20 IAMs_20 19 50 58.9
comp=Z,2μm,21.0s
FFD Franklin Falls 110.90 50 IAMs_20 IAMs_20 19 57 49.9
comp=Z,5μm,18.0s
WES Weston 111.01 51 IAMs_20 IAMs_20 19 56 05.8
comp=Z,6μm,18.0s
PTGA Pitinga 111.08 99 IAMs_20 IAMs_20 19 51 34.2
comp=Z,7μm,19.0s
BCX Boston College 111.11 51 IAMs_20 IAMs_20 19 56 43.6
comp=Z,6μm,18.0s
I62A Tamworth 111.18 50 IAMs_20 IAMs_20 19 57 32.2
comp=Z,4μm,18.0s
H62A Milan 111.39 49 IAMs_20 IAMs_20 19 57 07.6
comp=Z,5μm,18.0s
M65A Busby, Falmout 111.40 52 IAMs_20 IAMs_20 19 55 35.4
comp=Z,6μm,19.0s
NRIK Noril'sk 111.41 338 Pdiff **Pdif 19 08 22.4 +0.4**
comp=Z,1.3nm,0.4s,baz=110,slow=1.6,SNR=3.8
NRIK PP **PP 19 13 02.5 +1.5**
comp=Z,2.8nm,0.6s,baz=75,slow=7.6,SNR=3.8
NRIK PKKPab **PKKPab 19 23 25.3 +1.7**
comp=Z,3.2nm,0.5s,baz=236,slow=3.7,SNR=8.0
SPB Sao Paulo 111.61 126 IAMs_20 IAMs_20 19 57 29.4
comp=Z,7μm,18.0s
I63A Otisfield 111.74 49 IAMs_20 IAMs_20 19 57 09.0
comp=Z,5μm,18.0s
G62A West of Eustis 111.90 48 IAMs_20 IAMs_20 19 59 03.0
comp=Z,4μm,18.0s
TULEG Thule 111.90 14 IAMs_20 IAMs_20 19 57 46.2
comp=Z,5μm,19.0s
TRD Trivandrum 111.97 272 IAmb IAmb 19 06 06.1
comp=Z,21nm,1.0s
TRD *e*pP **Pdif 19 08 28.7 +3.0**
TRD *i* PP **PP 19 13 05.7 -0.7**
F62A Pittston Farm, 112.36 47 IAMs_20 IAMs_20 19 57 49.1
comp=Z,4μm,18.0s
ZSN Zaisan 112.37 314 *e*PP **PP 19 13 05.2 -3.3**
WVL Waterville 112.45 49 IAMs_20 IAMs_20 19 57 32.7
comp=Z,4μm,18.0s
GUIV Guiria 112.59 86 *e*P **PP 19 13 10.8 -0.1**
E62A Clayton Lake 112.72 47 IAMs_20 IAMs_20 19 54 46.8
comp=Z,3μm,20.0s
ZALV Zalesovo Beam 112.76 321 Pdiff **Pdif 19 08 29.1 +0.7**
comp=Z,0.4nm,0.3s,baz=248,slow=1.6,SNR=2.5
ZALV PKiKP **PKiKP 19 12 23.1 0.0**
comp=Z,4.7nm,0.7s,baz=188,slow=1.4,SNR=14
ZALV PP **PP 19 13 10.1 -0.9**
comp=Z,5.4nm,0.9s,baz=84,slow=4.5,SNR=4.5
ZALV PKKPbc **PKKPbc 19 23 13.1 +0.4**
comp=Z,0.6nm,0.3s,baz=264,slow=2.8,SNR=3.5
ZALV PKKPab **PKKPab 19 23 19.3 +1.3**
comp=Z,2.9nm,0.8s,baz=262,slow=4.5,SNR=7.6
ZALV SKKPbc SKKPbc 19 26 57.4 -1.1
comp=Z,0.7nm,0.3s,baz=305,slow=5.1,SNR=4.7
PKME Peaks-Kenny Pk 112.78 48 IAMs_20 IAMs_20 19 53 46.2
comp=Z,4μm,22.0s
HYB Hyderabad 112.87 281 *e*PP **PP 19 13 12.0 -0.9**
HYB *e* 19 19 16.0
HYB *e* 19 22 50.0
HYB *e*PKKP **PKKPab 19 23 16.0 -3.2**
F63A Nahmakanta, Br 112.94 48 IAMs_20 IAMs_20 19 57 56.6
comp=Z,4μm,19.0s
D62A Allapoint, All 113.08 46 IAMs_20 IAMs_20 20 00 06.6
comp=Z,4μm,18.0s
KAAM Kaadhehdhoo 113.10 262 IAMs_20 IAMs_20 20 04 04.1
comp=Z,3μm,19.0s
SABA Saba 113.46 79 *e*P PP 19 13 06.8 -10
SABA Saba 113.46 79 IAMs_20 IAMs_20 20 03 24.1
comp=Z,2μm,18.0s
E63A Oxbow 113.47 47 IAMs_20 IAMs_20 19 54 58.4
comp=Z,4μm,20.0s
F64A Sherman 113.48 48 IAMs_20 IAMs_20 19 55 29.8
comp=Z,5μm,21.0s
GRGR Grenville 113.54 85 *e*P PP 19 13 06.8 -11
GRGR Grenville 113.54 85 IAMs_20 IAMs_20 19 51 56.6
comp=Z,2μm,21.0s
SEUS St. Eustatius 113.67 79 *e*P **PP 19 13 18.7 +0.2**
SEUS St. Eustatius 113.67 79 IAMs_20 IAMs_20 19 57 52.7
comp=Z,2μm,20.0s
PQI Presque Isle 113.76 47 IAMs_20 IAMs_20 19 59 28.1
comp=Z,4μm,19.0s
SKI Saint Kitts 113.86 79 *e*P **PP 19 13 18.7 -1.1**
SKI Saint Kitts 113.86 79 IAMs_20 IAMs_20 20 03 15.7
comp=Z,2μm,19.0s
G65A Princeton 113.99 48 IAMs_20 IAMs_20 19 58 38.9
comp=Z,5μm,18.0s
EMMW East Machias 114.03 49 IAMs_20 IAMs_20 19 59 02.5
comp=Z,6μm,18.0s
MK31 Makanchi Array 114.08 313 *i* PKIKP PKPdf 19 12 25.4 -0.5
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 114.08 313 *i* PKIKP **PKiKP 19 12 26.0 +0.1**
MKAR Makanchi Array 114.08 313 Pdiff **Pdif 19 08 35.7 +1.2**
comp=Z,0.7nm,0.9s,baz=92,slow=4.3,SNR=3.0
MKAR PKiKP **PKiKP 19 12 25.9 +0.1**
comp=Z,4.0nm,0.6s,baz=179,slow=0.3,SNR=31
MKAR PP **PP 19 13 21.8 +1.0**
comp=Z,9.1nm,1.1s,baz=85,slow=7.7,SNR=5.7
MKAR PKKPbc **PKKPbc 19 23 08.4 +0.3**
comp=Z,3.9nm,1.0s,baz=278,slow=4.3,SNR=9.2
MKAR PKKPab **PKKPab 19 23 14.8 +2.3**
comp=Z,4.8nm,0.8s,baz=306,slow=2.1,SNR=12
MKAR SKKPbc SKKPbc 19 26 56.9 +2.8
comp=Z,1.0nm,0.9s,baz=264,slow=4.1,SNR=3.0
MKAR SKKP 19 27 05.3
comp=Z,3.8nm,1.1s,baz=255,slow=2.4,SNR=4.2
MLYT Lee's Yard 114.22 80 *e*P **PP 19 13 22.7 +0.3**
SVB Belmont 114.22 84 *e*P PP 19 13 10.8 -12
SVB Belmont 114.22 84 IAMs_20 IAMs_20 19 51 24.0
comp=Z,3μm,21.0s
MAKZ Makanchi 114.30 313 IAMs_20 IAMs_20 19 56 51.4
comp=Z,3μm,21.0s
TOSP Speyside 114.36 86 IAMs_20 IAMs_20 19 52 41.6
comp=Z,5μm,20.0s
MDPO Dominica; Chan 114.63 81 *e*P PP 19 12 58.8 -27
MCLT Moule a Chique 114.63 83 *e*P PP 19 13 10.8 -15
SCHQ Schefferville 114.67 38 IAMs_20 IAMs_20 19 55 59.0
comp=Z,4μm,20.0s
SLBI Saint Lucia, B 114.68 83 *e*P **PP 19 13 22.7 -3.0**
FDF Fort de France 114.70 82 *e*P PP 19 13 14.8 -11
FDF Fort de France 114.70 82 IAMs_20 IAMs_20 20 00 12.4
comp=Z,2μm,18.0s
DWS Wesley 114.76 81 *e*P **PP 19 13 31.2 +4.9**
DLPL La Plaine 114.76 82 *e*P **PP 19 13 25.9 -0.4**
ANWB Willy Bob 114.82 79 *e*P **PP 19 13 26.7 +0.1**
ANWB Willy Bob 114.82 79 IAMs_20 IAMs_20 19 52 41.2
comp=Z,2μm,21.0s
BBSR BB Station 114.94 63 IAMs_20 IAMs_20 20 00 56.0
comp=Z,2μm,19.0s
HMDM Hanimaadhoo 115.01 269 IAMs_20 IAMs_20 20 01 43.3
comp=Z,3μm,19.0s
BHPL Bhopal 115.18 287 *e*pP **Pdif 19 08 42.5 +2.6**
BHPL IAmb IAmb 19 11 54.0
comp=Z,4.7nm,0.4s
BHPL *i* PP **PP 19 13 27.8 -1.4**
BHPL IAMs_20 IAMs_20 19 56 44.0
comp=Z,4μm,21.0s
BDFB Brasilia 115.38 119 IAMs_20 IAMs_20 19 54 40.3
comp=Z,6μm,20.0s
MNCI Minicoy 115.58 270 IAMs_20 IAMs_20 19 58 24.4
comp=Z,4μm,22.0s
DDI Dehra Dun 115.81 295 *i* PP PP 19 13 32.3 -1.2
DDI IAMs_20 IAMs_20 19 58 48.7
comp=Z,4μm,31.5s
UZB Uzynbulak 116.23 309 *e*PKP **PKPdf 19 12 29.9 -0.5**
UZB *e*PP **PP 19 13 35.2 -1.0**
UZB Uzynbulak 116.23 309 *e*PKIKP **PKPdf 19 12 29.8 -0.5**
UZB *e* 19 13 35.1
KPKS Kokpek 116.49 310 *e*PKP **PKiKP 19 12 30.9 +0.1**
KPKS *e*PP **PP 19 13 36.6 -1.3**
KPKS Kokpek 116.49 310 *e*PKIKP **PKiKP 19 12 30.8 +0.1**
KPKS *e* 19 13 36.5
KURK Kurchatov 116.56 318 P **PKPdf 19 12 30.1 -0.3**
SNR=15
KURK Kurchatov 116.56 318*c* *i*PKIKP **PKiKP 19 12 30.5 0.0**
KURK pmax pmax
comp=Z,49nm,1.7s
KURK Kurchatov 116.56 318 **PKPdf 19 12 29.4 -1.0**
KURK Kurchatov 116.56 318 IAMs_20 IAMs_20 19 56 36.6
comp=Z,2μm,21.0s
KURBB Kurchatov Arra 116.62 318 PKP **PKPdf 19 12 30.2 -0.4**
comp=Z,10nm,0.8s,baz=90,slow=1.8,SNR=37
KURBB PP **PP 19 13 38.9 +0.5**
comp=Z,13nm,1.2s,baz=91,slow=6.8,SNR=5.8
KURBB PKKPbc **PKKPbc 19 22 59.6 +0.3**
comp=Z,10nm,1.0s,baz=265,slow=4.4,SNR=15
KURBB SKKPbc SKKPbc 19 26 49.1 +2.7
comp=Z,1.2nm,0.7s,baz=275,slow=4.3,SNR=5.1
KURBB SKKP 19 27 00.5
comp=Z,3.9nm,1.1s,baz=272,slow=5.4,SNR=4.4
SATY Saty 116.67 309 *e*PKP **PKPdf 19 12 30.1 -1.0**
SATY *e*PP PP 19 13 30.8 -8.5
SATY Saty 116.67 309 *e*PKIKP **PKPdf 19 12 30.1 -1.0**
SMLA Simla 116.68 296 *i* pP **Pdif 19 08 48.7 +2.4**
SMLA IAmb IAmb 19 09 00.6
comp=Z,18nm,2.0s
SMLA *i* PP **PP 19 13 37.8 -1.7**
TDK Taldyqorghan 116.73 311 *e*PP PP 19 13 32.9 -6.6
HAL Halifax 116.78 49 IAMs_20 IAMs_20 19 56 10.4
comp=Z,4μm,21.0s
GOA Goa 116.81 278 *i* PP PP 19 13 39.1 -1.5
GOA IAMs_20 IAMs_20 19 59 42.0
comp=Z,5μm,23.8s
TARG Taragay, Kyrgy 117.07 308 **PKPdf 19 12 32.1 -0.3**
TARG IAMs_20 IAMs_20 19 57 55.1
comp=Z,3μm,22.0s
DHRM DHARAMSHALA 117.55 297 *i* x **PP 19 13 44.6 -1.2**
DHRM IAMs_20 IAMs_20 19 58 44.7
comp=Z,5μm,28.2s
KDJ Kajisay 117.55 308 IAMs_20 IAMs_20 19 59 02.4
comp=Z,4μm,22.0s
MDOK Medeo 117.67 309 *e*PP PP 19 13 40.1 -6.1
CHKK Chushkaly 117.73 310 *e*PKP **PKPdf 19 12 31.6 -1.4**
CHKK Chushkaly 117.73 310 *e*PKIKP **PKPdf 19 12 31.6 -1.4**
KUU Kurty 118.20 310 *e*PKP **PKPdf 19 12 32.5 -1.5**
KUU *e*PP **PP 19 13 46.7 -2.9**
KUU Kurty 118.20 310 *e*PKIKP **PKPdf 19 12 32.4 -1.5**
KUU *e* 19 13 46.7
KSH Kashi 118.37 305 PKP **PKiKP 19 12 36.4 +1.8**
KSH PP PP 19 13 59.1 +8.0
KSH PKS 19 16 09.7
KSH SS SS 19 30 12.5 +5.4
KSH LR LR
comp=Z,1μm,12.6s
KSH LR LR
comp=Z,1μm,13.0s
KSH LR LR
comp=Z,1μm,13.7s
NRN Naryn 118.41 307 PKIKP **PKPdf 19 12 34.8 0.0**
NRN MLR MLR
comp=Z,3μm,21.0s
NRN Naryn 118.41 307 **PKPdf 19 12 34.9 0.0**
NRN IAMs_20 IAMs_20 19 59 50.7
comp=Z,3μm,21.0s
BOM Bombay 118.52 281 AMb AMB 19 14 17.2
comp=Z,185nm,12.1s
BOM *ex* x 19 23 48.0
BOM IAMs_20 IAMs_20 19 53 25.6
comp=Z,14μm,45.6s
BOM AMP 20 08 54.1
comp=Z,370nm,21.9s
TKM2 Tokmak 2 118.73 309 PKIKP **PKPdf 19 12 34.4 -0.8**
TKM2 pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 118.73 309 P **PKPdf 19 12 34.8 -0.5**
SNR=9.4
ILULI Ilulissat 118.95 20 IAMs_20 IAMs_20 20 08 24.9
comp=Z,3μm,19.0s
KBK Karagaybulak 119.21 309 P **PKiKP 19 12 36.4 +0.2**
SNR=6.0
CHMS Chumysh 119.35 309 P **PKPdf 19 12 36.2 0.0**
SNR=10
SGDS Sogindy 119.44 310 *e*PKP **PKPdf 19 12 35.2 -1.1**
SGDS *e*PP **PP 19 13 58.1 -0.2**
FRU1 Bishkek 119.44 309 IAMs_20 IAMs_20 20 07 37.4
comp=Z,1μm,20.0s
UCH Uchtor 119.53 308 P **PKiKP 19 12 37.8 +0.6**
SNR=13
USP Ospenovka 119.53 309 P **PKiKP 19 12 36.6 0.0**
SNR=10
AAK Ala-Archa 119.55 309 P **PKPdf 19 12 36.6 -0.1**
SNR=5.9
AAK Ala-Archa 119.55 309*c* *i*PKIKP **PKiKP 19 12 37.4 +0.6**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 119.55 309 PKP **PKPdf 19 12 36.5 -0.2**
comp=Z,5.9nm,0.9s,baz=248,slow=2.0,SNR=13
AAK PKKPbc **PKKPab 19 22 49.7 +0.8**
comp=Z,8.7nm,0.9s,baz=215,slow=3.0,SNR=8.0
AAK SKKPbc SKKPbc 19 26 38.2 +1.3
comp=Z,2.6nm,1.0s,baz=240,slow=8.9,SNR=4.1
AAK SKKP **SKKPdf 19 26 57.5 +2.3**
comp=Z,3.5nm,1.0s,baz=173,slow=2.9,SNR=3.8
AAK Ala-Archa 119.55 309 P **PKiKP 19 12 36.9 +0.1**
SNR=5.9
AAK Ala-Archa 119.55 309 IAMs_20 IAMs_20 20 07 46.1
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 119.97 23 IAMs_20 IAMs_20 20 01 37.1
comp=Z,3μm,19.0s
EKS2 Erkin-Say 120.07 309 P **PKiKP 19 12 38.6 +0.8**
SNR=6.9
AML Almayashu 120.14 308 P **PKiKP 19 12 39.1 +0.8**
SNR=6.4
NIL Nilore 120.23 298 IAMs_20 IAMs_20 20 09 46.4
comp=Z,2μm,21.0s
KBS Kingsbay 120.34 359 PKIKP **PKiKP 19 12 38.6 +1.5**
KBS MLR MLR
comp=Z,2μm,19.0s
KBS Kingsbay 120.34 359 *e*PKPdf **PKiKP 19 12 37.9 +0.7**
KBS *e*PS **PS 19 23 53.4 -0.5**
KBS IVMs_BB IVMs_BB 20 07 38.7
comp=Z,2μm,4.0s
KBS Kingsbay 120.34 359 **PKiKP 19 12 38.6 +1.5**
KBS Kingsbay 120.34 359 IAMs_20 IAMs_20 20 11 50.1
comp=Z,2μm,19.0s
BRZS Berezniki 120.41 317 *i* PKP **PKPdf 19 12 37.0 -1.0**
BRZS *e*PP **PP 19 13 57.3 -7.3**
BRZS Berezniki 120.41 317 *i* PKIKP **PKPdf 19 12 36.9 -1.0**
ARSB Arslanbob 120.68 307 IAMs_20 IAMs_20 20 09 22.7
comp=Z,3μm,20.0s
DRLN Deer Lake 120.77 44 IAMs_20 IAMs_20 20 02 44.1
comp=Z,8μm,19.0s
SUMG Summit 120.82 15 PKIKP **PKPdf 19 12 38.5 -0.1**
SUMG MLR MLR
comp=Z,5μm,20.0s
SUMG Summit 120.82 15 *i* P **PKiKP 19 12 39.0 +0.3**
comp=Z,73nm,1.1s
SUMG Summit 120.82 15 **PKPdf 19 12 38.5 -0.1**
SUMG IAMs_20 IAMs_20 20 01 43.8
comp=Z,5μm,20.0s
SPA0 Spitsbergen Ar 120.97 358 *e*PKPdf **PKiKP 19 12 38.8 +0.3**
SPA0 *e*SKSac **SKSac 19 19 29.1 -6.1**
SPA0 *e*SS **SS 19 30 37.4 -0.5**
SPA0 Spitsbergen Ar 120.97 358 **PKiKP 19 12 38.7 +0.3**
DAG Danmarks Havn 121.06 7 *i* PKIKP **PKPdf 19 12 37.7 -0.7**
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 121.06 7 *i* P **PKPdf 19 12 37.7 -0.7**
comp=Z,9.8nm,0.8s
BVAR Borovoye Array 121.42 321 PKP **PKPdf 19 12 39.8 +0.1**
comp=Z,24nm,0.6s,baz=105,slow=1.5,SNR=83
BVAR PKKPbc **PKKPab 19 22 40.9 +0.7**
comp=Z,1.7nm,0.7s,baz=268,slow=4.5,SNR=7.8
BRVK Borovoye 121.47 321 P **PKPdf 19 12 39.7 -0.2**
SNR=23
BRVK Borovoye 121.47 321*c* *i*PKIKP **PKiKP 19 12 40.3 +0.3**
BRVK pmax pmax
comp=Z,70nm,1.7s
BRVK Borovoye 121.47 321 **PKPdf 19 12 39.8 -0.1**
BRVK Borovoye 121.47 321 IAMs_20 IAMs_20 20 01 15.0
comp=Z,3μm,22.0s
DZA Taraz 121.87 309 *e*PKP **PKPdf 19 12 40.2 -0.9**
DZA Taraz 121.87 309 *e*PKIKP **PKPdf 19 12 40.1 -0.9**
HOPEN Hopen 122.10 355 *e*Pdif **Pdif 19 09 18.1 +8.6**
HOPEN *e*PP **PP 19 14 15.9 +0.7**
HSPB Hornsund (broa 122.17 358 *e*PKPdf **PKiKP 19 12 41.2 +0.5**
HSPB *e*SP SP 19 24 07.1 +0.8
HSPB IVMs_BB IVMs_BB 20 11 36.9
comp=Z,2μm,3.6s
BHUJ Bhuj 122.22 286 *e*P **PKPdf 19 12 41.8 -0.4**
BHUJ *i* x x 19 14 14.2
BHUJ *ex* x 19 14 15.1
BHUJ IAMs_20 IAMs_20 19 58 36.0
comp=Z,4μm,23.7s
BTK Batken 122.35 306 PKIKP **PKPdf 19 12 41.9 -0.2**
BTK MLR MLR
comp=Z,2μm,20.0s
BTK Batken 122.35 306 **PKPdf 19 12 41.9 -0.2**
BTK IAMs_20 IAMs_20 20 10 06.7
comp=Z,2μm,20.0s
KK31 Karatay Array 122.46 309 PKIKP **PKPdf 19 12 42.1 0.0**
KK31 Karatay Array 122.46 309 **PKPdf 19 12 42.1 0.0**
KKAR Karatay Array 122.46 309 PKIKP **PKPdf 19 12 41.6 -0.5**
KKAR 19 12 41.7
KKAR Karatay Array 122.46 309 **PKPdf 19 12 41.7 -0.4**
KKAR Karatay Array 122.46 309 **PKPdf 19 12 41.6 -0.5**
GAR Garm 122.75 304 **PKPdf 19 12 42.7 -0.3**
IUG Iuzhnay 122.86 308 *e*PKP **PKPdf 19 12 43.1 0.0**
IUG *e*PP **PP 19 14 19.0 -2.7**
IUG Iuzhnay 122.86 308 *e*PKIKP **PKPdf 19 12 43.0 0.0**
IUG *e* 19 14 19.0
TAS Tashkent 123.46 307 IAMs_20 IAMs_20 20 08 42.9
comp=Z,1μm,20.0s
CHGR Chuyangaron 123.67 304 IAMs_20 IAMs_20 20 07 50.9
comp=Z,4μm,21.0s
KBL Kabul 123.76 299 PKIKP **PKiKP 19 12 45.7 +0.3**
KBL MLR MLR
comp=Z,2μm,21.0s
KBL Kabul 123.76 299 **PKiKP 19 12 45.7 +0.3**
KBL IAMs_20 IAMs_20 20 04 08.1
comp=Z,1μm,21.0s
ANGG Ammassalik, Gr 125.23 21 IAMs_20 IAMs_20 20 06 44.0
comp=Z,6μm,18.0s
ABPO Ambohimpanom 125.38 228 PKIKP **PKiKP 19 12 49.7 +0.6**
ABPO MLR MLR
comp=Z,5μm,18.0s
ABPO Ambohimpanom 125.38 228 **PKiKP 19 12 49.7 +0.6**
ABPO Ambohimpanom 125.38 228 IAMs_20 IAMs_20 20 01 51.2
comp=Z,5μm,18.0s
OPO Ambohidratompo 125.70 228 SKKP **SKKPdf 19 26 45.4 +3.4**
comp=Z,0.8nm,0.5s,baz=101,slow=19,SNR=3.1
SVE Sverdlovsk 125.84 327*c* *i*PKIKP **PKiKP 19 12 48.7 +0.2**

SVE pmax pmax
comp=Z,91nm,1.5s
SVE MLR MLR
comp=Z,2μm,20.0s
SCO Scoresbysund 125.94 12 *i* PKIKP **PKPdf 19 12 48.0 +0.1**
SCO pmax pmax
comp=Z,28nm,0.8s
SCO Scoresbysund 125.94 12 *i* P **PKPdf 19 12 48.0 +0.1**
comp=Z,28nm,0.8s
SCO Scoresbysund 125.94 12 PKIKP **19 12 48.4 +0.1**
SCO IAMs_20 IAMs_20 20 04 24.0
comp=Z,3μm,20.0s
SUR Sutherland 126.97 194 **PKiKP 19 12 52.6 +0.6**
SUR IAMs_20 IAMs_20 20 11 55.8
comp=Z,7μm,19.0s
MSEY Mahe Island 126.99 248 IAMs_20 IAMs_20 20 07 18.2
comp=Z,5μm,18.0s
ARU Arti 127.06 327 *i* PKIKP **PKiKP 19 12 50.9 -0.1**
ARU 19 14 49.2
ARU PPP PPP 19 17 35.1
ARU 19 20 02.0
ARU SS SS 19 31 52.2 -3.6
ARU MLR MLR
comp=Z,2μm,23.0s
ARU Arti 127.06 327 PP PP 19 14 47.8 -1.2
comp=Z,9.1nm,1.1s,baz=76,slow=7.4,SNR=9.0
ARU Arti 127.06 327 **PKPdf 19 12 50.2 -0.3**
ARU IAMs_20 IAMs_20 20 06 38.7
comp=Z,2μm,19.0s
HAMF Hammerfest 127.79 353 *e*PKPdf **PKiKP 19 12 52.3 +0.2**
HAMF *e*PP **PP 19 14 52.3 -0.8**
KEV Kevo 128.19 351 PKIKP **PKPdf 19 12 52.2 0.0**
KEV MLR MLR
comp=Z,2μm,22.0s
KEV Kevo 128.19 351 **PKPdf 19 12 52.2 0.0**
KEV IAMs_20 IAMs_20 20 12 23.6
comp=Z,2μm,22.0s
LVZ Lovozero 128.50 347 PKIKP **PKPdf 19 12 52.5 -0.5**
LVZ MLR MLR
comp=Z,3μm,20.0s
LVZ Lovozero 128.50 347 **PKPdf 19 12 52.5 -0.5**
LVZ IAMs_20 IAMs_20 20 09 16.2
comp=Z,3μm,20.0s
ARCES ARCESS Array B 128.60 352 PKIKP **PKPdf 19 12 52.9 -0.2**
ARCES ARCESS Array B 128.60 352 PKP **PKPdf 19 12 53.3 +0.2**
comp=Z,23nm,0.7s,baz=7.9,slow=0.8,SNR=69
ARCES PKKP **PKKPdf 19 23 02.1 -1.2**
comp=Z,2.0nm,0.7s,baz=232,slow=4.4,SNR=4.8
ARCES ARCESS Array B 128.60 352 **PKPdf 19 12 52.9 -0.2**
ARE0 ARCESS Array S 128.60 352 *e*PKPdf **PKPdf 19 12 53.1 0.0**
ARE0 *e*PP **PP 19 14 57.4 -1.2**
ARE0 *e*SKPdf **SKiKP 19 16 22.5 -6.3**
ARE0 *e*SS **SS 19 32 17.2 +3.2**
ARE0 IVMs_BB IVMs_BB 19 57 26.6
comp=Z,2μm,4.0s
ARE0 ARCESS Array S 128.60 352 **PKPdf 19 12 52.4 -0.7**
ABKAR Akbulak array 128.67 318 **PKPdf 19 12 51.7 -2.0**
ABKAR PP **PP 19 14 55.6 -4.3**
ABKAR Akbulak array 128.67 318 **PKPdf 19 12 51.3 -2.5**
APA Apatity 129.03 347 ⇓*i* PKIKP **PKPdf 19 12 53.3 -0.6**
APA *i* 19 15 00.8
APA pmax pmax
comp=Z,23nm,0.9s
APA MLR MLR
comp=Z,2μm,20.0s
TRO Tromso 129.23 355 *e*PKPdf **PKPdf 19 12 54.5 +0.3**
TRO *e*PP **PP 19 15 01.1 -1.5**
TRO *e*SKPdf **SKiKP 19 16 25.5 -4.5**
TRO IVMs_BB IVMs_BB 19 58 14.4
comp=Z,2μm,4.5s
BOSA Boshof 129.28 200 PKIKP **PKPdf 19 12 54.9 -0.9**
BOSA 19 15 05.2
BOSA Boshof 129.28 200 PKP **PKiKP 19 12 57.1 +0.5**
comp=Z,6.8nm,0.6s,baz=148,slow=0.9,SNR=16
BOSA PP **PP 19 15 05.2 +2.1**
comp=Z,5.9nm,1.0s,baz=164,slow=12,SNR=2.1
BOSA Boshof 129.28 200 **PKPdf 19 12 54.9 -0.9**
BOSA **PP 19 14 57.7 -5.4**
HRA Herat 129.38 299 **PKPdf 19 12 52.7 -3.2**
HRA IAMs_20 IAMs_20 20 20 02.2
comp=Z,1μm,20.0s
KTK1 Kautokeino 129.38 353 *e*PKPdf **PKPdf 19 12 54.9 +0.4**
AKTO Aktyubinsk 129.50 320 PKIKP **PKPdf 19 12 55.0 -0.3**
AKTO pmax pmax
comp=Z,51nm,1.8s
AKTO Aktyubinsk 129.50 320 PKP **PKPdf 19 12 55.4 0.0**
comp=Z,5.6nm,0.7s,baz=75,slow=3.5,SNR=4.4
PRGR Permogore 130.05 337 ⇓*i* PKIKP **PKPdf 19 12 56.1 +0.1**
PRGR pmax pmax
comp=Z,37nm,0.8s
RCBR Riachuelo 130.60 116 IAMs_20 IAMs_20 20 06 09.4
comp=Z,9μm,20.0s
TMCR Tamitsa 130.69 343 *e*PKIKP **PKPdf 19 12 56.3 -0.8**
TMCR pmax pmax
comp=Z,66nm,1.1s
STEI Steigen 131.18 356 *e*PKPdf **PKiKP 19 12 58.8 -0.1**
STEI *e*PP **PP 19 15 14.4 -0.8**
STEI *e*SKPdf **SKiKP 19 16 30.7 -3.3**
STEI *e*PS PS 19 25 28.0 -1.2
JLN Jalan Bani Buh 131.44 283 P **PKPdf 19 12 59.2 -0.7**
WBK Wadi Bani Khal 131.90 283 P **PKPdf 19 13 00.6 -0.2**
ASHT Ashkhabad 132.17 304 IAMs_20 IAMs_20 20 17 30.9
comp=Z,2μm,21.0s
WSAR Wadi Sarin 132.27 284 P **PKPdf 19 13 01.2 -0.2**
WSAR Wadi Sarin 132.27 284 PKP **PKPdf 19 13 01.9 +0.5**
comp=Z,3.0nm,0.8s,baz=201,slow=2.4,SNR=2.2
GEYT Alibeck 132.38 304 PKhKP PKPpre 19 12 49.7
comp=Z,1.1nm,0.7s,baz=242,slow=3.1,SNR=2.8
GEYT PKP **PKPdf 19 13 01.4 +0.1**
comp=Z,6.6nm,0.7s,baz=166,slow=0.6,SNR=5.0
GEYT PP **PP 19 15 24.5 0.0**
comp=Z,14nm,1.2s,baz=58,slow=3.6,SNR=5.6
GEYT Alibeck 132.38 304 **PKPdf 19 12 57.4 -3.8**
GYA0B ALIBECK ARRAY 132.38 304 IAMs_20 IAMs_20 20 17 34.5
comp=Z,2μm,20.0s
JMDO Jabal Madar 132.67 283 P **PKPdf 19 13 01.7 -0.5**
KONS Konsvik 132.73 357 *e*PKPdf **PKPdf 19 13 01.2 +0.3**
KONS *e*PKSdf PKSdf 19 16 39.0 +2.1
KLMR Klimovskoe 132.73 339 *e*PKIKP **PKPdf 19 13 00.2 -0.9**
KLMR *e* 19 15 26.7
KLMR pmax pmax
comp=Z,117nm,1.5s
KLMR Klimovskoe 132.73 339 *e*PKPdf **PKPdf 19 13 00.3 -0.9**
KLMR AMP 19 13 05.3
comp=Z,117nm,1.5s
KLMR *e*PP **PP 19 15 26.8 +1.3**
KLMR *e*PKS **PKSdf 19 16 32.8 -4.4**
KLMR *e*PKS **PKSdf 19 16 32.8 -4.4**
KLMR LQ LQ 20 04 37.5
KLMR LQ LQ 20 04 37.5
KLMR LR LR 20 17 14.2
KLMR AMP 20 22 15.4
comp=Z,1μm,17.3s
SMDO Samad 132.79 284 P **PKPdf 19 13 02.5 0.0**
DQM DQM 132.89 280 P **PKPdf 19 13 02.6 0.0**
MOR8 Moi Rana 132.97 356 *e*SKPdf **SKPab 19 16 31.5 +1.7**
HOQ Hoqain 133.51 284 P **PKPdf 19 13 03.1 -0.7**
BSY Bisya 133.54 283 P **PKPdf 19 13 04.1 +0.2**
ARQ Araqi 134.21 284 P **PKPdf 19 13 04.5 -0.6**
MDH Madha 134.54 287 P **PKPdf 19 13 05.0 -0.6**
BANOM Banah 134.57 288 P **PKPdf 19 13 04.3 -1.4**
UOSS Minazif 134.61 286 IAMs_20 IAMs_20 20 10 43.3
comp=Z,2μm,22.0s
HATD Hatta, Dubai 134.67 286 P **PKPdf 19 13 05.6 -0.3**
SNR=5.5
ASHO Ashiyiah 134.73 286 P **PKPdf 19 13 05.5 -0.5**
SNR=6.1
NSS Namsos 134.75 357 *e*PKPdf **PKPdf 19 13 04.2 -0.6**
NSS *e*PP **PP 19 15 38.2 +0.1**
NSS *e*SKPdf **SKPdf 19 16 40.5 +1.5**
NAZ Nazwa, Dubai 135.10 286 P **PKPdf 19 13 06.3 -0.4**
SNR=6.4
FINES FINESS Array B 135.94 347 PKhKP PKPpre 19 12 55.0
comp=Z,2.7nm,0.6s,baz=79,slow=4.1,SNR=8.0
FINES PKP **PKPdf 19 13 07.6 +0.5**
comp=Z,18nm,0.8s,baz=78,slow=1.2,SNR=22
FINES PKKP **PKKPdf 19 22 47.4 -1.6**
comp=Z,1.0nm,0.6s,baz=202,slow=2.1,SNR=4.0
TBLU Trondheim 136.09 358 *e*PKPdf **PKPdf 19 13 07.2 -0.1**
AKN Aaknes 137.21 0 *e*PKPdf **PKPdf 19 13 10.0 +0.5**
WIN Windhoek 137.26 193 IAMs_20 IAMs_20 20 12 12.4
comp=Z,7μm,18.0s
DOMB Dombas 137.33 359 *e*PKSdf PKSdf 19 16 50.2 +4.6
OBN Obninsk 138.00 335 *de*PKIKP **PKPdf 19 13 11.1 0.0**
OBN *e* 19 15 59.2
OBN *e*SS SS 19 34 12.2 +4.1
OBN pmax pmax
comp=Z,117nm,1.6s
OBN Obninsk 138.00 335 IAMs_20 IAMs_20 20 18 49.9
comp=Z,2μm,20.0s
NC204 NORSAR Array S 138.05 358 **PKPdf 19 13 09.7 -1.4**
NC303 NORSAR Array S 138.07 357 PKPpre 19 13 01.4
NC303 PKPdf **PKPdf 19 13 11.6 +0.5**
HYA Hoyanger 138.22 1 *e*PKPdf **PKPdf 19 13 11.5 +0.2**
NB201 NORSAR Array S 138.25 357 PKPpre 19 13 01.0
NB201 PKPdf **PKiKP 19 13 13.3 -0.3**
NB2 NORSAR Subarra 138.27 357 PKPdf **PKPdf 19 13 05.1 -6.4**
comp=Z,133nm,2.0s,baz=14,slow=1.8
NB2 NORSAR Subarra 138.27 357 PKPdf **PKPdf 19 13 05.1 -6.4**
baz=14,slow=1.8
NOA NORSAR Array B 138.27 357 PKhKP PKPpre 19 13 04.9
comp=Z,1.9nm,0.7s,baz=16,slow=4.3,SNR=12
NOA PKP **PKPdf 19 13 11.5 -0.1**
comp=Z,4.4nm,0.7s,baz=14,slow=4.0,SNR=11
NOA PP **PP 19 15 59.6 -0.6**
comp=Z,2.0nm,1.0s,baz=6.9,slow=6.4,SNR=3.2
VRH Novokhopyorsk 138.28 328 *e*PKIKP **PKPdf 19 13 06.1 -5.6**
VRH *e* 19 15 58.2
VRH *e*SS SS 19 34 13.7 +1.7
VRH pmax pmax
comp=Z,50nm,0.8s
VRH MLR MLR
comp=Z,3μm,23.0s
NBO00 NORSAR Array S 138.30 358 PKPpre 19 13 02.2
NBO00 PKPdf **PKPdf 19 13 10.6 -0.9**
SUE Sulen 138.30 2 *e*PP PP 19 16 02.2 +2.0
VSU Vasula 138.45 345 *e*P PKPdf 19 13 02.7 -9.1
VSU IAmb IAmb 19 13 16.8
comp=Z,146nm,0.9s
NC602 NORSAR Array S 138.56 357 *e*PKPdf **PKPdf 19 13 12.4 +0.5**
NC602 *e*PKSdf **PKSdf 19 16 47.6 -0.1**
NC602 NORSAR Array S 138.56 357 PKPpre 19 13 03.9
NC602 PKPdf **PKPdf 19 13 11.6 -0.4**
SKAR Skarslia 138.71 359 *e*PKPdf **PKPdf 19 13 12.7 +0.3**
SKAR *e*PP **PP 19 16 01.3 -1.7**
SKAR *e*PKSdf **PKSdf 19 16 49.8 +1.6**
SKAR *e*SS SS 19 34 19.9 +3.8
LPSR Galich'ya Gora 138.74 331 *e*PKIKP **PKPdf 19 13 07.3 -5.2**
LPSR *e* 19 16 01.0
LPSR *e*SS SS 19 34 11.8 -5.4
LPSR pmax pmax
comp=Z,80nm,1.4s
MAK Makhachkala 138.90 314 *e*P **Pdif 19 10 20.1 -4.7**
MAK *i* 19 13 12.9
MAK *e* 19 16 02.4
MAK *e*SS SS 19 34 14.9 -5.3
MAK *e*SSS SSS 19 39 25.5
MAK pmax pmax
comp=Z,215nm,1.3s
AKT Akhty 139.28 312 *e*PKIKP **PKPdf 19 13 14.7 +0.6**
AKT *i* 19 13 17.1
AKT *e* 19 16 05.4
AKT pmax pmax
comp=Z,76nm,1.7s
OSL Oslo 139.39 357 *e*PKPdf **PKPdf 19 13 13.5 0.0**
ODD1 Odda 139.49 1 *ep*PKPdf pPKPdf 19 13 17.6 -0.5
VSR Storozhevoye 139.53 329 *e*PKIKP **PKPdf 19 13 09.3 -4.7**
VSR *e*SS SS 19 34 25.1 -1.5
VSR pmax pmax
comp=Z,130nm,1.4s
VSR MLR MLR
comp=Z,5μm,27.0s
VORD Divnogorie 139.63 329 *e*PKHKP PKPpre 19 13 08.2
VORD *e* 19 16 05.8
VORD pmax pmax
comp=Z,120nm,1.6s
KONO Kongsberg 139.72 358 PKHKP PKPpre 19 13 07.8
KONO Kongsberg 139.72 358 *e*PKPdf **PKPdf 19 13 12.1 -2.1**
KONO *e*PP **PP 19 16 08.0 -1.1**
KONO *e*PKSdf PKSdf 19 16 51.4 +1.5
KONO *e*SS SS 19 34 33.4 +5.6
KONO IVMs_BB IVMs_BB 20 04 51.5
comp=Z,2μm,4.6s
KONO Kongsberg 139.72 358 PKPpre 19 13 07.8
LSZ Lusaka 139.95 212 P **PKPdf 19 13 16.1 +0.1**
SNR=5.5
LSZ Lusaka 139.95 212 PKHKP PKPpre 19 13 08.0
LSZ MLR MLR
comp=Z,5μm,18.0s
LSZ Lusaka 139.95 212 PKPpre 19 13 08.0
LSZ Lusaka 139.95 212 IAMs_20 IAMs_20 20 15 41.5
comp=Z,5μm,18.0s
GROC Groznyy 139.96 315 *e*PKHKP PKPpre 19 13 08.3
GROC *e* 19 16 08.0
GROC pmax pmax
comp=Z,70nm,1.3s
BLS5 Blasjo 139.97 1 *e*PKPdf **PKPdf 19 13 11.3 -3.3**
BLS5 *e*PP **PP 19 16 08.7 -2.0**
TSUM Tsumeb 140.39 195 PP PP 19 16 13.8 +0.4
baz=166,slow=12
TSUM Tsumeb 140.39 195 **PKPdf 19 13 11.4 -5.5**
TSUM Tsumeb 140.39 195 IAMs_20 IAMs_20 20 17 07.6
comp=Z,8μm,18.0s
GOF Gofitskoye 140.89 319 ⇑*e*PKHKP PKPpre 19 13 10.8
GOF pmax pmax
comp=Z,18nm,0.6s
IZAR Zarasai 140.97 343 *e*P **PKPdf 19 13 13.7 -2.8**
IZAR IAmb IAmb 19 13 18.2
comp=Z,29nm,1.2s
ISAL Salakas 141.16 343 *e*P **PKPdf 19 13 13.2 -3.6**
ISAL IAmb IAmb 19 13 18.6
comp=Z,22nm,1.1s
IIGN Ignalina 141.33 343 *e*P **PKPdf 19 13 13.7 -3.4**
IIGN IAmb IAmb 19 13 23.3
comp=Z,19nm,0.8s
ZEI Tsey 141.39 315 *e*PKHKP PKPpre 19 13 12.8
ZEI pmax pmax
comp=Z,19nm,1.3s
NACGM Naroch 141.56 342 *e*PKP **PKPdf 19 13 13.0 -4.6**
NACGM *e*PP **PP 19 16 18.0 -2.5**
NACGM *e*SKS **SKSdf 19 20 24.0 -2.5**
NACGM *e*LQ LQ 20 17 46.0
NACGM *e*LR LR 20 25 20.0
MICGM Minsk 141.57 341 ⇓*e*PKP **PKPdf 19 13 13.0 -4.6**
MICGM PKPM 19 13 21.0
comp=Z,0.3nm,1.5s
MICGM *e*PP **PP 19 16 16.0 -4.6**
MICGM PPM 19 16 22.0
comp=Z,3.6nm,8.0s
MICGM *e*SKP 19 16 40.0
MICGM *e*PKS 19 16 42.0
MICGM *e*PPP PPP 19 19 28.0
MICGM *e*SKS SKSdf 19 20 44.0 +17
MICGM *e*SKKS **SKKSdf 19 29 42.0 -8.1**
MICGM *e*SS SS 19 35 02.0 +12
MICGM *e*SSS SSS 19 40 14.0
MICGM *e*LQ LQ 20 09 00.0
MICGM *e*LR LR 20 10 16.0
MICGM LRM MLR 20 17 30.0
comp=Z,3.8nm,20.0s
MICGM LRM MLR 20 17 48.0
comp=E,2.5nm,20.0s
MNK Minsk 141.57 341 *e*PKIKP **PKPdf 19 13 13.0 -4.6**
MNK *e*PPP PPP 19 19 28.0
MNK *e*SSS SSS 19 40 14.0
MNK pmax pmax
comp=Z,310nm,1.5s
MNK pmax pmax
comp=Z,4μm,8.0s
MNK MLR MLR
comp=Z,4μm,20.0s
MNK MLR MLR
comp=E,2μm,20.0s
KBZ Khabaz 141.62 317 PKhKP PKPpre 19 13 13.5
comp=E,6.2nm,0.9s,baz=123,slow=3.1,SNR=13
KVAR Kislovodsk Arr 141.64 318 PKP **PKPdf 19 13 18.1 -0.2**
comp=E,3.3nm,0.6s,baz=90,slow=20,SNR=5.2
KVAR PP **PP 19 16 18.7 -3.3**
comp=E,1.8nm,0.7s,baz=74,slow=19,SNR=2.4
KIV Kislovodsk 141.65 318 P **PKPdf 19 13 10.6 -7.7**
SNR=15
KIV Kislovodsk 141.65 318 *i* PKIKP **PKPdf 19 13 14.5 -3.8**
KIV *e* 19 16 17.1
KIV *e*SS SS 19 34 45.8 -6.6
KIV *e*SSS SSS 19 40 04.4
KIV pmax pmax
comp=Z,67nm,1.1s
KIV MLR MLR
comp=Z,7μm,24.0s
KIV Kislovodsk 141.65 318 ⇓P **PKPdf 19 13 11.5 -6.8**
KIV Kislovodsk 141.65 318 **PKPdf 19 13 14.8 -3.5**
KIV IAMs_20 IAMs_20 20 13 21.3
comp=Z,2μm,22.0s
PBUR Paburg 141.78 347 *e*P **PKPdf 19 13 12.8 -5.2**
PABE Paberze 141.78 345 *e*P **PKPdf 19 13 12.8 -5.2**
PABE IAmb IAmb 19 13 16.8
comp=Z,44nm,0.8s
GNI Garni 141.88 311 P **PKPdf 19 13 13.0 -5.9**
SNR=10
GNI Garni 141.88 311 PKIKP **PKPdf 19 13 14.3 -4.6**
GNI MLR MLR
comp=Z,2μm,19.0s
GNI Garni 141.88 311 PKhKP PKPpre 19 13 12.5
comp=Z,3.9nm,0.6s,baz=59,slow=6.9,SNR=4.9
GNI PP **PP 19 16 24.9 +1.2**
comp=Z,23nm,1.2s,baz=208,slow=13,SNR=3.9
GNI Garni 141.88 311 PKPpre 19 13 14.3
GNI Garni 141.88 311 IAMs_20 IAMs_20 20 24 09.2
comp=Z,2μm,19.0s
AKH Akhalkalaki 142.25 314 ⇑P **PKPdf 19 13 18.1 -1.4**
AKH Akhalkalaki 142.25 314 IAMs_20 IAMs_20 20 21 20.0
comp=Z,2μm,20.0s
SHEL Horse Pasture 142.62 159 *i* PKIKP **PKiKP 19 13 23.6 -0.2**
SHEL Horse Pasture 142.62 159 IAMs_20 IAMs_20 20 28 03.0
comp=Z,3μm,18.0s
KARS Kars 142.86 313 PKIKP **PKPdf 19 13 17.4 -3.2**
KARS Kars 142.86 313 **PKPdf 19 13 17.4 -3.2**
MUD Monsted U'grnd 142.93 358 *i* PKIKP **PKPdf 19 13 17.7 -2.3**
MUD pmax pmax
comp=Z,25nm,0.7s
MUD Monsted U'grnd 142.93 358 *i* P **PKPdf 19 13 17.7 -2.3**
comp=Z,25nm,0.7s
KIBK Kibwezi 142.94 238 P **PKPdf 19 13 17.8 -3.7**
SNR=25
SUW Suwalki 143.33 344 PKIKP PKPbc 19 13 17.9 +0.1
SUW Suwalki 143.33 344 *e*PKP PKPab 19 13 16.7 0.0
SUW *e*PKP PKPab 19 13 16.7 0.0
SUW Suwalki 143.33 344 PKPbc 19 13 17.9 +0.1
BATM Batumi 143.38 315 ⇑P PKPbc 19 13 18.7 +0.2
COP Copenhagen 143.53 355 *e*PKIKP **PKPdf 19 13 20.3 -0.7**
COP pmax pmax
comp=Z,13nm,0.7s
COP Copenhagen 143.53 355 *i* P **PKPdf 19 13 20.3 -0.7**
comp=Z,13nm,0.7s
SOC Sochi 143.70 319 *d* PKIKP PKPbc 19 13 19.4 +0.1
SOC *i* 19 13 24.9
SOC *e* 19 16 32.8
SOC *e*SS SS 19 35 10.0 -5.8
SOC *e*SSS SSS 19 40 43.7
SOC pmax pmax
comp=Z,33nm,0.8s
SOC pmax pmax
comp=Z,48nm,0.8s
BSD Bornholm Skovb 143.84 353 *i* PKIKP **PKPdf 19 13 21.8 +0.2**
BSD pmax pmax
comp=Z,47nm,0.8s
BSD Bornholm Skovb 143.84 353 *i* P **PKPdf 19 13 21.8 +0.2**
comp=Z,47nm,0.8s
AKASG Malin Array Be 144.24 336 PKP PKPbc 19 13 20.6 -0.1
comp=Z,32nm,0.7s,baz=35,slow=3.6,SNR=55
AKASG PP **PP 19 16 35.9 -1.0**
comp=Z,4.6nm,0.8s,baz=33,slow=4.7,SNR=4.4
AKASG Malin Array Be 144.24 336 **PKPab 19 13 20.0 -0.3**
AKBB Malin Array Si 144.24 336 PKIKP **PKPab 19 13 19.5 -0.8**
AKBB Malin Array Si 144.24 336 **PKPab 19 13 19.5 -0.8**
KMBO Kilima Mbogo 144.29 239 P **PKPdf 19 13 24.6 +0.5**
SNR=84
KMBO Kilima Mbogo 144.29 239 PKIKP **PKPdf 19 13 23.5 -0.5**
KMBO MLR MLR
comp=Z,3μm,18.0s
KMBO Kilima Mbogo 144.29 239 PKP **PKPdf 19 13 24.3 +0.3**
comp=Z,65nm,0.9s,baz=86,slow=3.4,SNR=83
KMBO Kilima Mbogo 144.29 239 **PKPdf 19 13 23.5 -0.5**
KMBO Kilima Mbogo 144.29 239 IAMs_20 IAMs_20 20 18 42.6
comp=Z,3μm,18.0s
DAMY Dhamar 144.31 268 P **PKPdf 19 13 24.3 +0.3**
DAMY Dhamar 144.31 268 **PKPdf 19 13 23.8 -0.2**
DAMY IAMs_20 IAMs_20 20 13 31.0
comp=Z,4μm,21.0s
RAYN Ar Rayn 144.33 284 PKIKP PKPbc 19 13 22.4 +0.5
RAYN MLR MLR
comp=Z,3μm,20.0s
RAYN Ar Rayn 144.33 284 PKPbc 19 13 22.4 +0.5
RAYN IAMs_20 IAMs_20 20 22 08.0
comp=Z,3μm,20.0s
ANN Anapa 144.40 322 *d* PKIKP PKPbc 19 13 21.7 +0.4
ANN *i* 19 13 26.3
ANN *e* 19 16 37.9
ANN *e*PPP PPP 19 19 55.7
ANN *e*SS SS 19 35 25.9 +2.4
ANN pmax pmax
comp=Z,253nm,1.4s
ANN pmax pmax
comp=Z,338nm,1.4s
ADH Angra Heroismo 144.43 50 *e*PKP PKPbc 19 13 21.9 +0.2
GDLE Glaisdale, N Y 144.44 8 *e*P **PKPdf 19 13 22.4 -0.3**
DSB Dublin 144.54 14 PKPbc 19 13 22.1 +0.6
RGN Rugen 144.57 354 *e*P **PKPab 19 13 20.2 -1.1**
WPS Cemaes, Angles 144.80 12 *e*P **PKPdf 19 13 23.2 -0.1**
WLF1 Llynfaes 144.92 12 *e*P **PKPdf 19 13 23.7 +0.1**
ATD Arta Tunnel 144.98 262 P **PKPdf 19 13 26.5 +1.6**
SNR=31
ATD Arta Tunnel 144.98 262 PKP **PKPdf 19 13 26.7 +1.8**
comp=Z,129nm,1.1s,baz=112,slow=3.8,SNR=6.0
ATD Arta Tunnel 144.98 262 IAMs_20 IAMs_20 20 15 39.9
comp=Z,2μm,20.0s
GKP Gorka Klasztor 145.29 350 *e*PKIKP **PKPab 19 13 24.1 0.0**
GKP Gorka Klasztor 145.29 350 *e*PKP **PKPab 19 13 24.1 0.0**
GKP *e*PKP **PKPab 19 13 24.1 0.0**
LBWR Ladybower, Pea 145.29 10 *e*P **PKPab 19 13 24.0 -0.1**
LMK Market Rasen 145.44 8 *e*P **PKPab 19 13 25.1 +0.4**
ASCN Ascension 145.46 140 **PKPbc 19 13 24.1 -1.6**
ASCN Ascension 145.46 140 IAMs_20 IAMs_20 20 02 14.5
comp=Z,214μm,20.0s
STNC Stoke 145.52 10 *e*P **PKPab 19 13 24.8 -0.1**
FOEL Foel Wylfa 145.53 11 *e*P **PKPab 19 13 24.9 -0.1**
PSET Sete Cidades 145.85 50 *e*PKP **PKPbc 19 13 26.2 -0.1**
BEL Belsk 145.91 345 *e*PKP2 **PKPab 19 13 27.4 +1.0**
BEL Belsk 145.91 345 *e*PKP **PKPab 19 13 27.4 +1.0**
BEL *e*PKP **PKPab 19 13 27.4 +1.0**
PDA Ponta Delgada 145.93 50 *e*PKP **PKPdf 19 13 22.4 -3.4**
HLM1 Long Mynd 145.95 11 *e*P **PKPbc 19 13 26.0 -0.1**
TNCL Tunceli-Merkez 145.96 312 *i* P **PKiKP 19 13 29.0 -1.1**
TNCL IAML_P
comp=Z,1μm,0.7s
CWF Charnwood Fore 146.00 9 *e*P **PKPab 19 13 26.5 -0.2**
CMLA Cha da Macela 146.02 50 *e*PKP **PKPdf 19 13 25.9 -0.1**
CMLA Cha da Macela 146.02 50 *i* PKP2 **PKiKP 19 13 30.0 -0.2**
PCALD Caldeiras da R 146.03 50 *e*PKP **PKPab 19 13 28.2 +0.8**
RSBS Rosebush, Pemb 146.11 13 *e*P **PKPab 19 13 27.1 -0.1**
SIM Simferopol' 146.16 325 *e*PKP2 **PKPdf 19 13 26.1 +0.1**
SIM *e* 19 16 48.0
SIM pmax pmax
comp=Z,184nm,0.7s
SIM pmax pmax
comp=N,500nm,10.0s
BART Pico Bartolome 146.27 50 *e*PKP **PKPbc 19 13 27.7 0.0**
WACR West Acre 146.28 7 *e*P **PKPab 19 13 27.6 -0.2**
MCH1 Michaelchurch 146.42 12 *e*P **PKPab 19 13 27.9 -0.4**
RUE Ruedersdorf 146.56 353 *e*P **PKPbc 19 13 27.2 -0.6**
RUE IAmb IAmb 19 13 33.4
comp=Z,1μm,1.8s
MONM Monmouth 146.61 11 *e*P **PKPbc 19 13 28.0 -0.1**
PSMA Santa Maria 146.61 51 *e*PKP **PKPbc 19 13 29.0 +0.5**
KEMA Kemaliye 146.62 313 *i* P **PKiKP 19 13 31.4 0.0**
KEMA IAML_P
comp=Z,2μm,0.6s
ELZG Elazig 146.63 312 *i* P **PKiKP 19 13 31.0 -0.6**
ELZG IAML_P
comp=Z,7μm,0.6s
SORM Soroca 146.63 334 ⇓PKP2 **PKPab 19 13 28.7 -0.6**
SORM Soroca 146.63 334 ⇓P **PKPab 19 13 28.7 -0.6**
PSMN Pico do Norte, 146.66 51 *e*PKP **PKPbc 19 13 29.0 +0.3**
STRD Stroud 146.79 11 *e*P **PKPbc 19 13 28.8 +0.2**
LVV L'vov 146.81 340 *e*PKIKP **PKPdf 19 13 26.2 -0.7**
LVV MLR MLR
comp=N,700nm,23.0s
LVV MLR MLR
comp=Z,1μm,23.0s
LVV MLR MLR
comp=E,600nm,22.0s
CUZAR Zara_SIVAS 146.82 315 *i* P **PKiKP 19 13 31.4 -0.5**

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HEKM Malatya_Hekimh 147.17 313  i P          PKiKP  19 13 33.0 +0.3
HEKM                            IAML_P
     comp=Z,2µm,0.6s
CUKAN kangal_SIVAS  147.30 314  i P          PKiKP  19 13 33.1 +0.1
KIS  Kishinev       147.31 332  ePKP          PKPdf  19 13 28.0 +0.2
     comp=Z,4µm,4.0s
KIS                             eL           L      19 58 40.0
KIS                             LRM          MLR    20 16 39.0
     comp=Z,3µm,24.0s
KIS  Kishinev       147.31 332  ePKIKP       PKPdf  19 13 28.0 +0.2
KIS                             i            19 16 58.0
KIS                             pmax         pmax
     comp=Z,4µm,4.0s
KIS                             pmax         pmax
     comp=Z,6µm,10.0s
KIS                             MLR          MLR
     comp=Z,3µm,24.0s
KIS                             MLR          MLR
     comp=N,1µm,24.0s
MILM Milestii Mici  147.38 332  ⇓P           PKPbc  19 13 30.8 +0.5
KWP  Kalwaria Pacla 147.39 341  PKIKP        PKPdf  19 13 27.6 -0.3
KWP                             19 13 32.2
KWP  Kalwaria Pacla 147.39 341  ePKP         PKPab  19 13 31.5 -0.7
KWP                             ePKP         PKPab  19 13 31.5 -0.7
KWP  Kalwaria Pacla 147.39 341               PKPdf  19 13 27.6 -0.3
KWP                                          PKPab  19 13 32.2 -0.1
WOL  Wolverton      147.40  10  eP           PKPbc  19 13 30.9 +0.6
WTSB Winterswijk    147.45   1  ePKPbc       PKPbc  19 13 30.8 +0.4
     comp=N,2µm,2.2s
AKCD Akcadag        147.46 312  i P          PKiKP  19 13 33.8 +0.5
AKCD                            IAML_P
     comp=Z,676nm,0.6s
DIKM Dikmen         147.51 319  ⇓P           PKPab  19 13 32.9 -0.1
ATAB Bozova         147.56 310  i P          PKiKP  19 13 34.1 +0.7
ATAB                            IAML_P
     comp=Z,193nm,0.2s
SURC SANLIURFA_SURC 147.57 309  i P          PKiKP  19 13 33.6 +0.2
SURC                            IAML_P
     comp=Z,813nm,0.7s
OJC  Ojcow          147.65 345  PKIKP        PKPdf  19 13 28.0 -0.3
OJC  Ojcow          147.65 345  ePKPdf       PKPdf  19 13 28.8 +0.5
OJC                             ePKPdf       PKPdf  19 13 28.8 +0.5
OJC                             ePKPab       pPKPdf 19 13 32.0 -0.6
OJC                             ePKPab       pPKPdf 19 13 32.0 -0.6
OJC  Ojcow          147.65 345               PKPdf  19 13 28.1 -0.3
IAS  Iasi           147.70 334  ⇓PKP2        PKPbc  19 13 31.9 +0.7
IAS  Iasi           147.70 334  ⇓P           PKPbc  19 13 31.9 +0.7
KSP  Ksiaz          147.79 349  ePKP2         PKiKP  19 13 32.8 -0.6
KSP  Ksiaz          147.79 349  ePKP         PKiKP  19 13 32.8 -0.6
KSP                             ePKP         PKiKP  19 13 32.8 -0.6
CLL  Collm          147.80 353  PKIKP        PKPdf  19 13 28.3 -0.2
CLL                             19 13 32.2
CLL                             MLR          MLR
     comp=Z,3µm,21.0s
CLL  Collm          147.80 353  ePKPdf       PKPdf  19 13 29.0 +0.5
CLL                             i PKPbc      pPKPdf 19 13 32.0 -0.8
     comp=Z,216nm,1.1s
CLL                             ePKPIp       19 13 34.0
     comp=Z,3µm,21.0s
CLL                             i (PKPab)    pPKPbc 19 13 35.1 -0.4
     comp=Z,737nm,1.6s
CLL                             e            19 14 30.0
CLL                             ePP          PP     19 16 59.0 +1.4
CLL                             eSKKSac      SKKSac 19 23 42.0 -7.0
CLL                             e            19 26 46.0
CLL                             ePSKS        19 27 19.0
CLL                             ePPS         PPS    19 29 42.0
CLL                             e            19 32 23.0
CLL                             eSS          SS     19 36 03.0 +2.2
CLL                             ePSPS        19 37 06.0
CLL                             eSSS         SSS    19 41 45.0
CLL                             eSSSS        19 46 00.0
CLL                             Lm           MLR    20 26 00.0
     comp=N,1µm,20.0s
CLL                             Lm           MLR    20 26 00.0
     comp=E,2µm,20.7s
CLL                             Lm           MLR    20 26 00.0
     comp=Z,3µm,21.0s
CLL  Collm          147.80 353               PKPdf  19 13 28.3 -0.2
CLL                             PKPbc        pPKPdf 19 13 32.2 -0.6
CLL                             IAMs_20      IAMs_20 20 26 11.9
     comp=Z,3µm,21.0s
CUALT Altinyayla-SIV 147.81 314 i P          PKPab  19 13 34.5  0.0
DESE Dese           147.85 260  i P          PKPbc  19 13 32.7 -0.4
DESE Dese           147.85 260  i P          PKPbc  19 13 32.7 -0.4
FURI Furi           147.96 255               PKPdf  19 13 31.7 +1.4
FURI                                         pPKPbc 19 13 36.7 -1.0
FURI Furi           147.96 255               IAMs_20 IAMs_20 20 32 00.0
     comp=Z,4µm,18.0s
ELBS KAHRAMANMARAS 148.00 313 i P            PKiKP  19 13 34.4 +0.1
ELBS                            IAML_P
     comp=Z,2µm,0.7s
CHVC Chvalec        148.08 350⇑ePKP          PKPbc  19 13 30.7 -1.5
CHVC                            ex           x      19 13 36.4
CHVC                            AMS          AMS    20 30 50.0
     comp=Z,2µm,19.9s
BZK  Bozkurt        148.09 321  ⇓P           PKiKP  19 13 33.9 -0.4
PRAR RASCA          148.10 335  ⇑P           PKPbc  19 13 32.9 +0.5
BRG  Berggiesshubel 148.12 352  i PKP        PKPdf  19 13 29.9 +0.9
     comp=Z,86nm,1.7s
BRG  Berggiesshubel 148.12 352⇑i PKP         PKiKP  19 13 33.1 -0.9
     comp=Z,109nm,1.1s
BRG  Berggiesshubel 148.12 352  i PKP        PKPab  19 13 36.6 +1.5
     comp=Z,287nm,1.3s
BRG  Berggiesshubel 148.12 352⇑i PKIKP       PKPdf  19 13 30.0 +0.9
BRG                             i            19 13 33.2
BRG                             i            19 13 36.6
BRG                             pmax         pmax
     comp=Z,86nm,1.7s
BRG                             pmax         pmax
     comp=Z,109nm,1.2s
BRG                             pmax         pmax
     comp=Z,287nm,1.3s
GZT  Gaziantep      148.13 311  i P          PKiKP  19 13 34.1 -0.7
GZT                             IAML_P
     comp=Z,2µm,0.7s
KOLS Kolonicke sedl 148.14 341  ePKIKP       PKPdf  19 13 30.6 +1.4
KOLS                            e            19 13 34.2
KOLS Kolonicke sedl 148.14 341  ePKP         PKPdf  19 13 30.6 +1.4
KOLS                            e            19 13 34.2
UPC  Upice          148.16 350  ePKIKP       PKPdf  19 13 30.2 +1.0
UPC                             e            19 13 33.9
UPC                             MLR          MLR
     comp=Z,3µm,19.4s
UPC  Upice          148.16 350⇑ePKP          PKPdf  19 13 30.2 +1.0
UPC                             ePKPAB       PKiKP  19 13 33.9 -0.3
UPC                             AMS          AMS    20 31 00.0
     comp=Z,3µm,19.4s
NIE  Niedzica       148.26 344  ePKIKP       PKPdf  19 13 30.6 +1.2
NIE                             e            19 13 34.2
NIE  Niedzica       148.26 344  ePKPdf       PKPdf  19 13 30.6 +1.2
NIE                             ePKPdf       PKPdf  19 13 30.6 +1.2
NIE                             ePKPab       PKiKP  19 13 34.2 -0.2
NIE                             ePKPab       PKiKP  19 13 34.2 -0.2
DPC  Dobruska-Polom 148.26 349  ePKIKP       PKPdf  19 13 30.7 +1.3
DPC                             e            19 13 34.5
DPC                             e            19 36 02.4
DPC                             MLR          MLR
     comp=Z,2µm,18.9s
DPC  Dobruska-Polom 148.26 349⇑ePKP          PKPdf  19 13 30.7 +1.3
DPC                             ePKPAB       PKiKP  19 13 34.5 +0.1
DPC                             ex           x      19 36 02.4
DPC                             AMS          AMS    20 27 30.0
     comp=Z,2µm,18.9s
BUR08 Bucovina Ar. S 148.26 337              PKPdf  19 13 29.5  0.0
BUR08                                        PKPab  19 13 35.9  0.0
BURAR Bucovina Array 148.28 337 ⇓PKP2        PKiKP  19 13 33.9 -0.7
BURAR Bucovina Array 148.28 337 ⇓P           PKiKP  19 13 33.9 -0.7
BURAR Bucovina Array 148.28 337              PKPdf  19 13 28.9 -0.7
PVCC Panska Ves     148.37 351  ePKIKP       PKPdf  19 13 30.5 +1.0
PVCC                            e            19 13 34.8
PVCC                            MLR          MLR
     comp=Z,3µm,20.0s
PVCC Panska Ves     148.37 351⇑ePKP          PKPdf  19 13 30.5 +1.0
PVCC                            ePKPAB       PKiKP  19 13 34.8 +0.2
PVCC                            AMS          AMS    20 26 50.0
     comp=Z,3µm,20.0s
OKC  Ostrava-Krasne 148.38 347  ePKP2        PKiKP  19 13 34.2 -0.4
OKC                             MLR          MLR
     comp=Z,2µm,17.6s
OKC  Ostrava-Krasne 148.38 347⇑ePKP          PKiKP  19 13 34.2 -0.4
OKC                             ePKPAB       sPKPbc 19 13 38.3 -0.4
OKC                             AMS          AMS    20 27 20.0
     comp=Z,2µm,17.6s
UZH  Uzhgorod       148.40 341  ePKIKP       PKPdf  19 13 29.0 -0.6
UZH                             e            19 13 34.3
UZH                             e            19 16 58.7
UZH                             e            19 20 18.4
UZH                             e            19 20 30.3
UZH                             MLR          MLR
     comp=N,290nm,19.0s
UZH                             MLR          MLR
     comp=E,270nm,19.0s
UZH                             MLR          MLR
     comp=Z,180nm,19.0s
BIR  Birlad         148.40 333  ⇓PKP2        PKPab  19 13 35.7 -0.6
BIR  Birlad         148.40 333  ⇓P           PKPab  19 13 35.7 -0.6
LODK Lodwar         148.40 243  P            PKPbc  19 13 34.2  0.0
     SNR=38
KRLC Kraliky        148.44 348  ePKP2        PKiKP  19 13 34.8  0.0
KRLC Kraliky        148.44 348⇑ePKP          PKiKP  19 13 34.8  0.0
KRLC                            ePKPAB       sPKPbc 19 13 38.4 -0.5
BIZ  Bicaz          148.50 335  ⇓P           PKiKP  19 13 35.0  0.0
UCC  Uccle          148.53   4  IAMs_20      IAMs_20 20 21 22.7
     comp=Z,4µm,22.0s
MORC Moravsky Berou 148.57 347  PKIKP        PKPdf  19 13 29.6 -0.3
MORC                            19 13 35.3
MORC                            MLR          MLR
     comp=Z,3µm,20.0s
MORC Moravsky Berou 148.57 347  ⇓P           PKPdf  19 13 30.8 +0.9
MORC Moravsky Berou 148.57 347  ePKP         PKPdf  19 13 30.7 +0.8
MORC Moravsky Berou 148.57 347               PKPdf  19 13 29.6 -0.3
MORC                            PKPbc        PKiKP  19 13 35.2 +0.2
MORC                            IAMs_20      IAMs_20 20 27 44.0
     comp=Z,3µm,20.0s
HCB  Kahramanmara   148.61 311  i P          PKiKP  19 13 35.3 -0.3
HCB                             IAML_P
     comp=Z,1µm,0.7s
TESR Tescani        148.62 334  ⇓P           PKPbc  19 13 33.8 +0.1
HGN  Heimansgroeve  148.64   2  ePKPbc       PKPbc  19 13 33.5 -0.1
     comp=Z,874nm,2.0s
TLCR                148.69 330  ⇑PKP2        PKiKP  19 13 35.0 -0.4
TLCR                148.69 330  ⇑P           PKiKP  19 13 35.0 -0.4
LANS Liptovska Anna 148.72 345  ePKIKP       PKPbc  19 13 32.3 -1.6
LANS                            e            19 13 36.4
LANS Liptovska Anna 148.72 345  ePKP         PKPbc  19 13 32.3 -1.6
LANS                            e            19 13 36.3
KUZU Kuzuini        148.74 310  i P          PKiKP  19 13 36.5 +0.6
KUZU                            IAML_P
     comp=Z,4µm,0.6s
TRPA Tarpa          148.76 340  ⇓P           PKiKP  19 13 34.9 -0.5
ILGA Ilgaz          148.80 320               PKPdf  19 13 30.7 -0.1
ILGA                            PKPbc        sPKPdf 19 13 35.5 -1.0
ILGA                            IAMs_20      IAMs_20 20 29 39.6
     comp=Z,2µm,20.0s
PRA  Prague         148.84 351  AMS          AMS    20 24 00.0
     comp=Z,4µm,21.1s
BMR  Baia Mare      148.85 339  ⇓PKP2        PKiKP  19 13 35.4 -0.3
BMR  Baia Mare      148.85 339  ⇓P           PKiKP  19 13 35.4 -0.3
KAMA Osmaniye       148.85 311  i P          PKiKP  19 13 36.7 +0.5
KAMA                            IAML_P
     comp=Z,1µm,0.7s
SAIM ADANA          148.90 313  i P          PKiKP  19 13 36.9 +0.7
SAIM                            IAML_P
     comp=Z,83nm,0.1s
ANDN Andirin        148.90 312  i P          PKiKP  19 13 36.7 +0.4
ANDN                            IAML_P
     comp=Z,3µm,0.7s
PRU  Pruhonice      148.90 351  ePKIKP       PKPdf  19 13 31.9 +1.5
PRU                             e            19 13 35.1
PRU                             MLR          MLR
     comp=Z,4µm,20.9s
PRU  Pruhonice      148.90 351⇑ePKP          PKPdf  19 13 31.9 +1.5
PRU                             ePKPAB       sPKPdf 19 13 35.1 -1.0
PRU                             AMS          AMS    20 24 00.0
     comp=Z,4µm,20.9s
TUDR                148.91 332  ⇓P           PKiKP  19 13 37.0 +1.2
NKC  Novy Kostel    148.92 354  AMS          AMS    20 35 10.0
     comp=Z,3µm,20.5s
GOPC GO Pecny, Ondr 148.94 351  ePKP2        PKPbc  19 13 34.9 +0.4
GOPC                            MLR          MLR
     comp=Z,3µm,20.9s
GOPC GO Pecny, Ondr 148.94 351⇑ePKP          PKPbc  19 13 34.9 +0.4
GOPC                            AMS          AMS    20 25 20.0
     comp=Z,3µm,20.9s
PETR Petresti       149.00 332  ⇑P           PKiKP  19 13 36.2 +0.2
CFR  Carcaliu       149.01 331  ⇓PKP2        PKiKP  19 13 35.7 -0.3
CFR  Carcaliu       149.01 331  ⇓P           PKiKP  19 13 35.7 -0.3
ODBI Odobesti       149.04 333  ⇓P           PKiKP  19 13 36.5 +0.4
ARCR ARCALIA        149.04 337  ⇓P           PKiKP  19 13 36.0 -0.1
VRI  Vrincioaia     149.10 333  ⇓PKP2        PKPbc  19 13 35.5 +0.5
VRI  Vrincioaia     149.10 333  ⇓P           PKPbc  19 13 35.5 +0.5
TOPG Topolog        149.13 330  ⇑P           PKPdf  19 13 30.0 -0.9
PLOR Plostina       149.15 333  ⇓PKP2        PKPbc  19 13 35.5 +0.4
PLOR Plostina       149.15 333  ⇓P           PKPbc  19 13 35.5 +0.4
VRAC Vranov         149.21 348  ⇓PKP2        PKiKP  19 13 36.2 -0.2
VRAC Vranov         149.21 348  ⇓P           PKiKP  19 13 36.2 -0.2
VRAC Vranov         149.21 348  ePKP         PKPdf  19 13 31.7 +0.8
PBCC Pribram        149.27 352  ePKP         PKPdf  19 13 31.9 +0.9
OZUR                149.31 334  ⇑P           PKiKP  19 13 36.9 +0.1
JAVC Velka Javorina 149.41 347  ePKP         PKPdf  19 13 33.1 +1.8
TREC Trest          149.42 350  AMS          AMS    20 25 20.0
     comp=Z,3µm,20.1s
TIRR Tirgusor       149.42 330  ⇓PKP2        PKiKP  19 13 36.6 -0.3
TIRR Tirgusor       149.42 330  ⇓P           PKiKP  19 13 36.6 -0.3
TIRR Tirgusor       149.42 330               PKPbc  19 13 35.7 -0.1
TIRR                            IAMs_20      IAMs_20 20 17 56.9
     comp=Z,7µm,22.0s
HARR Harsova        149.48 330  ⇓PKP2        PKiKP  19 13 37.1 +0.1
HARR Harsova        149.48 330  ⇓P           PKiKP  19 13 37.1 +0.1
KRUC Moravsky       149.48 348  ePKP         PKPdf  19 13 31.9 +0.6
VYHS Vyhne          149.48 345  ePKIKP       PKPdf  19 13 32.2 +0.8
VYHS                            e            19 13 37.5
VYHS Vyhne          149.48 345  ePKP         PKPdf  19 13 32.2 +0.8
VYHS                            e            19 13 37.5
TLB  Topalu         149.50 330  ⇑PKP2        PKiKP  19 13 37.1  0.0
TLB  Topalu         149.50 330  ⇑P           PKiKP  19 13 37.1  0.0
KOLL Kolacno        149.51 345  ePKP         PKiKP  19 13 37.8 +0.8
GRA1 Grafenberg Arr 149.57 355               PKPbc  19 13 36.1 +0.1
GRA1                            IAMs_20      IAMs_20 20 21 07.6
     comp=Z,3µm,20.0s
GRF  Grafenberg Arr 149.57 355  PKP2         PKPbc  19 13 36.1 +0.1
GRF                             MLR          MLR
     comp=Z,3µm,20.0s
DOPR Dopca          149.57 335  ⇑P           PKiKP  19 13 37.8 +0.5
BR131 Keskin Array S 149.61 318  P            PKPdf  19 13 31.7 -0.4
     SNR=154
BR131 Keskin Array S 149.61 318  PKHKP        PKPdf  19 13 31.3 -0.8
BR131                           19 13 37.8
BR131 Keskin Array S 149.61 318               PKPdf  19 13 31.2 -0.8
BR131                           PKPbc        PKiKP  19 13 37.8 +0.1
BRTR Keskin Array B 149.61 318  PKP          PKPdf  19 13 31.6 -0.4
     comp=Z,5.9nm,1.0s,baz=107,slow=1.5,SNR=26
BRTR                            PKPbc        PKiKP  19 13 37.7  0.0
     comp=Z,105nm,1.0s,baz=126,slow=2.2,SNR=126
BRTR                            PP           PP     19 17 06.3 -3.1
     comp=Z,6.2nm,1.1s,baz=132,slow=2.1,SNR=2.8
BRTR Keskin Array B 149.61 318               PKPdf  19 13 30.8 -1.3
BRTR                            PKPbc        PKPbc  19 13 36.9 +0.3
CJR  Cluj-Napoca    149.63 338  ⇓PKP2        PKiKP  19 13 37.4  0.0
CJR  Cluj-Napoca    149.63 338  ⇓P           PKiKP  19 13 37.4  0.0
MBAR Mbarara        149.68 232  PKHKP        PKPdf  19 13 32.9 -0.1
MBAR                            19 13 39.3
MBAR                            MLR          MLR
     comp=Z,6µm,18.0s
MBAR Mbarara        149.68 232               PKPdf  19 13 32.9 -0.1
MBAR                            PKPbc        PKiKP  19 13 39.2 +0.6
MBAR                            IAMs_20      IAMs_20 20 34 06.4
     comp=Z,6µm,18.0s
MLR  Muntele Rosu   149.73 334  ⇑PKP2        PKPbc  19 13 36.9 +0.2
MLR  Muntele Rosu   149.73 334  ⇑P           PKPbc  19 13 36.9 +0.2
MLR  Muntele Rosu   149.73 334               PKPdf  19 13 30.9 -1.1
MLR                             PKPbc        PKiKP  19 13 37.8  0.0
MLR                             IAMs_20      IAMs_20 20 31 08.5
     comp=Z,3µm,19.0s
PSZ  Piszkesteto    149.74 343  ⇑PKHKP       PKPdf  19 13 32.3 +0.4
PSZ  Piszkesteto    149.74 343  ⇑P           PKPdf  19 13 32.3 +0.4
PSZ  Piszkesteto    149.74 343               PKPdf  19 13 32.1 +0.2
PSZ                             PKPbc        PKiKP  19 13 38.0 +0.4
PSZ                             IAMs_20      IAMs_20 20 28 51.2
     comp=Z,3µm,19.0s
PGOR Pogoanele      149.74 332  ⇓P           PKiKP  19 13 38.3 +0.8
WLF  Walferdange    149.74   2  PKHKP        PKPdf  19 13 32.3 +0.6
WLF                             19 13 37.3
WLF                             MLR          MLR
     comp=Z,3µm,19.0s
WLF  Walferdange    149.74   2               PKPdf  19 13 32.3 +0.6
WLF                             PKPbc        PKiKP  19 13 37.3 -0.1
WLF                             IAMs_20      IAMs_20 20 23 33.7
     comp=Z,3µm,19.0s
ISR  Istrita        149.77 332  ⇓PKP2        PKiKP  19 13 37.9 +0.2
ISR  Istrita        149.77 332  ⇓P           PKiKP  19 13 37.9 +0.2
SMOL Smolenice      149.79 347  ePKP2        PKiKP  19 13 38.7 +1.1
SMOL Smolenice      149.79 347  ePKP         PKiKP  19 13 38.7 +1.1
AMRR Amara          149.81 331  ⇓PKP2        PKiKP  19 13 38.2 +0.5
AMRR Amara          149.81 331  ⇓P           PKiKP  19 13 38.2 +0.5
MANR Mangalia       149.81 329  ⇓P           PKiKP  19 13 37.9 +0.2
MDB  Medias         149.83 336  ⇑PKP2        PKiKP  19 13 38.7 +1.0
MDB  Medias         149.83 336  ⇑P           PKiKP  19 13 38.7 +1.0
KHC  Kasperske Hory 149.87 352  ePKHKP       PKPdf  19 13 32.9 +0.9
KHC                             e            19 13 37.5
KHC                             MLR          MLR
     comp=Z,3µm,20.0s
KHC  Kasperske Hory 149.87 352  ePKPDF       PKPdf  19 13 32.9 +0.9
KHC                             ⇑ePKP        PKiKP  19 13 37.5 -0.3
KHC                             ex           x      19 14 13.0
KHC                             ex           x      19 36 13.6
KHC                             AMS          AMS    20 32 40.0
     comp=Z,3µm,20.0s
KHC  Kasperske Hory 149.87 352               PKPdf  19 13 31.8 -0.2
KHC                             PKPbc        PKiKP  19 13 38.2 +0.4
KHC                             IAMs_20      IAMs_20 20 33 06.7
     comp=Z,1µm,21.0s
DRGR                149.88 339  ⇓PKP2        PKiKP  19 13 37.6 -0.3
DRGR                149.88 339  ⇓P           PKiKP  19 13 37.6 -0.3
MODS Modra-Piesok   149.96 347  ePKHKP       PKPdf  19 13 32.4 +0.3
MODS                            e            19 13 38.0
MODS Modra-Piesok   149.96 347  ePKP         PKPdf  19 13 32.4 +0.3
MODS                            e            19 13 38.0
KDZE Karadeniz Ereo 150.00 322  ⇓P           PKPbc  19 13 37.7 +0.4
SECR                150.04 333  ⇓P           PKiKP  19 13 38.2 -0.1
ANTO Ankara         150.07 319  P            PKPdf  19 13 33.0 +0.3
     SNR=117
ANTO Ankara         150.07 319  PKHKP        PKPdf  19 13 32.9 +0.3
ANTO                            19 13 39.0
ANTO                            MLR          MLR
     comp=Z,2µm,20.0s
ANTO Ankara         150.07 319               PKPdf  19 13 32.9 +0.2
ANTO                            PKPbc        PKiKP  19 13 39.0 +0.5
ANTO Ankara         150.07 319               PKPdf  19 13 32.9 +0.2
ANTO                            IAMs_20      IAMs_20 20 29 05.9
     comp=Z,1µm,20.0s
BR231 Keskin MP Arra 150.09 318  PKPdf        PKPdf  19 13 32.5 -0.2
BR231                                        PKiKP  19 13 38.6 -0.1
SACV Santiago Islan 150.11  94               PKPbc  19 13 38.2 -0.1
SACV Santiago Islan 150.11  94               IAMs_20 IAMs_20 20 17 36.4
     comp=Z,3µm,20.0s
GEC2 GERESS Array S 150.14 352               PKPdf  19 13 31.3 -1.2
GEC2                            PKPbc        PKiKP  19 13 38.1 -0.3
GEC2                            IAMs_20      IAMs_20 20 24 41.7
     comp=Z,3µm,20.0s
GERES GERESS Array B 150.14 352  PKP          PKPdf  19 13 32.2 -0.3
     comp=Z,3.4nm,0.8s,baz=38,slow=2.4,SNR=20
GERES                           PKPbc        PKiKP  19 13 39.0 +0.6
     comp=Z,76nm,1.1s,baz=20,slow=3.1,SNR=44
GERES GERESS Array B 150.14 352              PKPdf  19 13 31.1 -1.4
GERES                           PKPbc        PKiKP  19 13 39.1 +0.7
VOIR                150.15 335  ⇓PKIKP       PKPdf  19 13 33.2 +0.6
VOIR                150.15 335  ⇓P           PKPdf  19 13 33.2 +0.6
LEHL Lehliu         150.15 331  ⇑P           PKiKP  19 13 38.8 +0.3
PLAR PLOIESTI       150.16 333  ⇓P           PKiKP  19 13 38.5 +0.1
SRO  Srobarova      150.25 345  ePKIKP       PKiKP  19 13 39.6 +1.1
SRO  Srobarova      150.25 345  ePKP         PKiKP  19 13 39.6 +1.1
SULR                150.25 332  ⇓P           PKiKP  19 13 38.5 -0.1
ARR  Arges          150.37 335  ⇑P           PKiKP  19 13 40.0 +1.0
DEV  Deva           150.59 338  ⇓PKIKP       PKiKP  19 13 39.7 +0.4
DEV  Deva           150.59 338  ⇓P           PKiKP  19 13 39.7 +0.4
ASF  Jabal al Asfar 150.60 302  PKP          PKPdf  19 13 33.7  0.0
     comp=Z,3.9nm,0.8s,baz=180,slow=3.0,SNR=8.2
ASF                             PKPbc        PKiKP  19 13 40.0 +0.1
     comp=Z,31nm,1.1s,baz=103,slow=1.1,SNR=20
ASF                             PP           PP     19 17 17.3 +1.6
     comp=Z,9.4nm,1.1s,baz=89,slow=8.3,SNR=3.6
ASF  Jabal al Asfar 150.60 302  P            PKPbc  19 13 37.6 -1.6
HWQ  Hawqa          150.60 306  eP           PKPdf  19 13 33.6 -0.1
STU  Stuttgart      150.62 358  PKIKP        PKPdf  19 13 32.5 -0.6
STU                             19 13 40.0
STU  Stuttgart      150.62 358               PKPdf  19 13 32.5 -0.6
STU                             PKPbc        PKiKP  19 13 40.0 +0.8
CONA Conrad Observa 150.67 348  i pPKPdf     PKPdf  19 13 34.0 +0.6
     comp=Z,49nm,1.6s,SNR=27
CONA                            epPKPbc      PKiKP  19 13 40.5 +1.0
     comp=Z,325nm,1.4s
SIRR Siria          150.69 340  ⇓P           PKiKP  19 13 40.0 +0.4
PRD  Provadia       150.85 329  P            PKPdf  19 13 33.9 +0.3
HUMR Humele         150.91 334  ⇓P           PKiKP  19 13 39.7 -0.3
BHL  Bhannes        150.97 306  eP           PKPdf  19 13 34.3 +0.1
RAZG Razgrad        151.00 331  ⇓P           PKiKP  19 13 40.5 +0.2
MOA  Molln          151.03 350  i PKPdf     PKPdf  19 13 33.8  0.0
     comp=Z,20nm,1.4s,SNR=19
MOA                             epPKPbc      PKiKP  19 13 40.7 +0.5
     comp=Z,100nm,1.0s
GZR  Gura Zlata     151.06 337  ⇑PKIKP       PKiKP  19 13 40.3 -0.1
GZR  Gura Zlata     151.06 337  ⇑P           PKiKP  19 13 40.3 -0.1
BFO  Black Forest   151.08 359  PKIKP        PKPdf  19 13 33.3 -0.6
BFO                             19 13 40.4
BFO                             MLR          MLR
     comp=Z,2µm,20.0s
BFO  Black Forest   151.08 359               PKPdf  19 13 33.3 -0.6
BFO                             PKPbc        PKiKP  19 13 40.4 +0.1
BFO                             IAMs_20      IAMs_20 20 25 12.1
     comp=Z,2µm,20.0s
CLF  Chambon-Foret  151.10   7               PKPdf  19 13 34.0 +0.2
CLF                             PKPbc        PKiKP  19 13 41.2 +1.0
CLF                             IAMs_20      IAMs_20 20 25 01.0
     comp=Z,4µm,20.0s
SHBL Chebaa         151.11 305  eP           PKPdf  19 13 35.2 +0.6
COPA Copaceanca     151.13 333  ⇓P           PKiKP  19 13 40.4  0.0
HSUJ Al Zarqa       151.19 302  P            PKiKP  19 13 42.4 +1.3
ECH  Echery         151.21   0  PKIKP        PKPdf  19 13 33.7 -0.4
ECH                             19 13 40.3
ECH                             MLR          MLR
     comp=Z,3µm,19.0s
ECH  Echery         151.21   0  PKPdf        PKPdf  19 13 33.6 -0.4
ECH                                          PKiKP  19 13 40.3 -0.2
ECH                             IAMs_20      IAMs_20 20 22 27.8
     comp=Z,3µm,19.0s
KSDI Kefar Szold    151.24 304  P            PKPdf  19 13 35.4 +0.8
BZS  Buzias         151.27 339  ⇑PKIKP       PKPdf  19 13 34.5 +0.3
BZS  Buzias         151.27 339  ⇑P           PKPdf  19 13 34.5 +0.3
SHMJ Saham          151.32 303  P            PKPdf  19 13 34.3 -0.4
ARSA Arzberg        151.39 348  i PKPdf     PKPdf  19 13 34.2 -0.2
     comp=Z,25nm,1.4s,SNR=15
ZIMR                151.44 332  ⇑PKIKP       PKiKP  19 13 42.8 +1.7
ZIMR                151.44 332  ⇑P           PKiKP  19 13 42.8 +1.7
SZH  Strazhica      151.49 331  P            PKPdf  19 13 34.9 +0.2
MMAI Mount Meron Ar 151.50 304  PKP          PKPdf  19 13 35.2 +0.1
     comp=Z,4.9nm,0.9s,baz=172,slow=4.1,SNR=2.1
MMAI                            PKPbc        PKiKP  19 13 42.6 +0.9
     comp=Z,34nm,0.8s,baz=67,slow=4.8,SNR=14
MMAI                            PKPab        pPKPab 19 13 51.6 -1.9
     comp=Z,38nm,0.7s,baz=74,slow=6.2,SNR=10
SRE  Strehaia       151.52 336  ⇑PKIKP       PKiKP  19 13 41.9 +0.6
SRE  Strehaia       151.52 336  ⇑P           PKiKP  19 13 41.9 +0.6
VLAD Vladila        151.59 334  ⇓P           PKiKP  19 13 42.1 +0.7
BANR Banloc         151.64 339  ⇓P           PKiKP  19 13 42.3 +0.8
MORH Mrgy, Hungar   151.64 343  ⇓/P          PKPdf  19 13 34.6 -0.2
YLV  Yalova         151.68 323  ⇓PKIKP       PKPdf  19 13 35.0 -0.1
YLV  Yalova         151.68 323  ⇓P           PKPdf  19 13 35.0 -0.1
ELND Elena          151.78 330  ⇓P           PKPdf  19 13 36.4 +1.3
JMB  Yambol         151.80 329  P            PKPdf  19 13 35.2 +0.1
RETA Reutte         151.80 355  epPKPdf      PKPdf  19 13 35.7 +0.6
     comp=Z,17nm,1.4s
RETA                            epPKPbc      PKiKP  19 13 42.5 +0.7
     comp=Z,100nm,0.9s
PVL  Pavlikeni      151.81 331  P            PKPdf  19 13 34.6 -0.5
BEHE Becsehely      151.87 346  ⇓/P          PKPdf  19 13 35.4 +0.3
WATA Walderalm      151.88 354  epPKPdf      PKPdf  19 13 35.6 +0.3
     comp=Z,25nm,1.2s,SNR=15
WATA                            epPKPbc      PKiKP  19 13 42.6 +0.5
     comp=Z,208nm,1.0s
MOTA Moosalm        151.91 355  epPKPdf      PKPdf  19 13 35.5 +0.1
     comp=Z,29nm,1.3s,SNR=14
MOTA                            epPKPbc      PKiKP  19 13 43.0 +0.8
     comp=Z,252nm,1.1s
KBA  Koelnbreinsper 151.92 351  i PKPdf     PKPdf  19 13 35.2 -0.2
     comp=Z,30nm,1.4s,SNR=22
KBA                             ePKiKP       PKiKP  19 13 42.3  0.0
     comp=Z,88nm,0.8s
WTTA Wattenberg     151.94 354  epPKPdf      PKPdf  19 13 35.7 +0.3
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comp=Z,44nm,1.9s,SNR=15
WTTA ep PKPbc **PKiKP** 19 13 43.0 +0.7
comp=Z,188nm,0.7s
PUNG Punghina 151.95 336 ⇓P **PKiKP** 19 13 42.0 -0.1
MDVR Moldovita 151.97 338 ⇓P **PKdf** 19 13 35.8 +0.4
PLVB Pleven 151.99 333 ⇓P **PKiKP** 19 13 42.9 +0.6
SQTA Sankt Quirin 152.03 354 epPKPdf **PKdf** 19 13 36.0 +0.5
comp=Z,24nm,1.2s,SNR=13
SQTA ep PKPbc **PKiKP** 19 13 43.3 +0.9
comp=Z,256nm,1.4s
SOKA Soboth 152.03 349 *i* PKPdf **PKPdf** 19 13 35.3 -0.1
comp=Z,34nm,1.7s,SNR=18
LISJ El Lisan 152.04 301 PKP **PKPdf** 19 13 36.4 +0.6
LISJ PKP **PKiKP** 19 13 43.7 +1.0
PERS Pernice 152.05 349 *i* PKPdf **PKPdf** 19 13 35.2 -0.2
DAVA Damuels 152.06 356 epPKPdf **PKPdf** 19 13 35.9 +0.3
comp=Z,21nm,1.2s
DAVA *i* pPKPbc **PKiKP** 19 13 43.4 +0.9
comp=Z,133nm,0.9s
EDRB Edirne 152.18 328 P **PKPdf** 19 13 36.5 +0.8
CSS Mathiatis 152.27 309 P **PKPbc** 19 13 41.8 -1.1
CSS Mathiatis 152.27 309 P **PKPdf** 19 13 36.2 +0.1
CSS Mathiatis 152.27 309 PKP **PKPdf** 19 13 36.2 +0.1
CSS PKP **pPKPdf** 19 13 36.5 -3.9
CSS Mathiatis 152.27 309 PKPdf **PKPdf** 19 13 35.5 -0.6
CSS **PKPbc** 19 13 42.7 -0.2
CSS IAMs_20 IAMs_20 20 32 29.5
comp=Z,2μm,21.0s
FRGS Fruska Gora 152.27 341 ⇓*i* P **PKPdf** 19 13 36.1 +0.3
OBKA Obir 152.28 349 *e*PKPdf **PKPdf** 19 13 35.7 -0.2
comp=Z,14nm,1.7s
MYKA Terra Mystica 152.31 351 *i* PKPdf **PKPdf** 19 13 34.8 -1.0
comp=Z,31nm,1.7s,SNR=12
MYKA *e*PKiKP **PKiKP** 19 13 42.9 0.0
comp=Z,66nm,0.8s
ABTA Abfaltersbach 152.35 352 *e*PKPdf **PKPdf** 19 13 35.9 -0.1
comp=Z,38nm,2.0s,SNR=14
ABTA *e*PKiKP **PKiKP** 19 13 43.3 +0.2
comp=Z,98nm,0.7s
MPEP Malo Peshtene 152.39 334 P **PKPdf** 19 13 36.5 +0.5
LEF Lefka 152.51 310 ⇓P **PKiKP** 19 13 43.6 0.0
ISP Isparta 152.70 317 P **PKPdf** 19 13 35.8 -1.0
ISP Isparta 152.70 317 PKIKP **PKPdf** 19 13 36.0 -0.8
ISP 19 13 43.0
ISP MLR MLR
comp=Z,3μm,20.0s
ISP Isparta 152.70 317 ⇓P **PKPbc** 19 13 43.7 -0.1
ISP Isparta 152.70 317 PKPdf **PKPdf** 19 13 36.0 -0.8
ISP **PKPbc** 19 13 43.0 -0.8
ISP IAMs_20 IAMs_20 20 29 49.1
comp=Z,3μm,20.0s
LJU Ljubljana 152.73 349 *e*P **PKPdf** 19 13 37.1 +0.7
CRES Cresnjev 152.76 348 ⇓*i* P **PKPdf** 19 13 36.8 +0.3
STAL STALIGIAL 152.81 352 **PKPdf** 19 13 36.1 -0.5
STAL PKPbc **PKiKP** 19 13 44.0 0.0
PGB Panagyurishte 152.86 332 P **PKPdf** 19 13 36.2 -0.6
TEKS Tekeris 152.90 341 *e*P **PKPbc** 19 13 43.9 -0.1
TUE Stuetta 152.90 357 **PKPdf** 19 13 35.7 -1.3
TUE PKPbc **PKiKP** 19 13 44.9 +0.6
TUE PKPab **PKPab** 19 13 54.0 -1.1
TUE IAMs_20 IAMs_20 20 38 11.7
comp=Z,3μm,19.0s
VISS Visnje 152.91 348 *e*PKPdf **PKPdf** 19 13 37.0 +0.4
EIL Elat 152.94 298 PKP **PKPdf** 19 13 37.2 0.0
comp=Z,2.5nm,0.8s,baz=71,slow=4.2,SNR=1.8
EIL PKPbc **PKiKP** 19 13 45.4 +0.7
comp=Z,14nm,0.7s,baz=352,slow=3.0,SNR=7.7
EIL PP **PP** 19 17 30.6 +1.5
comp=Z,4.0nm,0.9s,baz=209,slow=15,SNR=2.2
EIL Elat 152.94 298 PKP **PKPdf** 19 13 37.6 +0.4
EIL PKP **pPKPdf** 19 13 37.7 -3.8
JAVS Javornik 152.96 350 *i* PKPdf **PKPdf** 19 13 36.8 -0.1
KDZ Kurdzhali 152.98 329 P **PKPdf** 19 13 36.7 -0.2
CEY Cerknica 153.05 349 ⇓*i*P **PKPdf** 19 13 36.3 -0.6
SENIN Lac Senin/Sane 153.06 0 **PKPdf** 19 13 36.7 -0.5
SENIN PKPbc **PKiKP** 19 13 45.7 +1.0
SENIN IAMs_20 IAMs_20 20 21 34.8
comp=Z,4μm,19.0s
BOJS Bojanci 153.11 348 *i* PKPdf **PKPdf** 19 13 37.5 +0.5
CTI Castel Tesino 153.14 353 PKIKP **PKPdf** 19 13 36.5 -0.6
CTI 19 13 44.5
CTI MLR MLR
comp=Z,3μm,21.0s
CTI Castel Tesino 153.14 353 **PKPdf** 19 13 36.5 -0.6
CTI PKPbc **PKPbc** 19 13 44.5 -0.1
CTI IAMs_20 IAMs_20 20 25 45.7
comp=Z,3μm,21.0s
BALB Balikesir 153.14 323 **PKPdf** 19 13 37.1 -0.1
BALB PKPbc **PKiKP** 19 13 45.7 +1.0
DIVS Divibare 153.16 340 ⇓*i*P **PKPdf** 19 13 37.2 0.0
TRI Trieste 153.19 350 PKIKP **PKPdf** 19 13 37.2 +0.1
TRI 19 13 44.9
TRI 19 13 55.4
TRI MLR MLR
comp=Z,4μm,20.0s
TRI Trieste 153.19 350 **PKPdf** 19 13 37.2 +0.1
TRI PKPbc **PKiKP** 19 13 44.9 +0.3
TRI PKPab **PKPab** 19 13 55.4 -0.7
TRI IAMs_20 IAMs_20 20 31 58.5
comp=Z,4μm,20.0s
VTS Vitosha 153.20 333 P **PKPdf** 19 13 36.1 -1.3
VTS Vitosha 153.20 333 P **PKPdf** 19 13 37.5 +0.1
VTS Vitosha 153.20 333 PKIKP **PKPdf** 19 13 37.3 -0.1
VTS 19 13 45.6
VTS 19 13 56.5
VTS MLR MLR
comp=Z,2μm,22.0s
VTS Vitosha 153.20 333 ⇓P **PKPdf** 19 13 37.0 -0.4
VTS Vitosha 153.20 333 **PKPdf** 19 13 37.3 -0.1
VTS PKPbc **PKiKP** 19 13 45.6 +0.6
VTS PKPab **PKPab** 19 13 56.5 0.0
VTS IAMs_20 IAMs_20 20 21 06.4
comp=Z,2μm,22.0s
RZN Rozhen 153.29 330 P **PKPdf** 19 13 36.9 -0.7
RDO Rodhopi 153.31 328 P **PKPdf** 19 13 35.6 -1.8
BLY Banja Luka 153.39 344 ⇓*i*P **PKPdf** 19 13 37.3 -0.1
BLY Banja Luka 153.39 344 ⇓P **PKPbc** 19 13 44.7 -0.3
BLY Banja Luka 153.39 344 **PKPdf** 19 13 37.5 0.0
BLY PKPbc **PKiKP** 19 13 46.4 +1.3
BLY IAMs_20 IAMs_20 20 26 17.6
comp=Z,3μm,21.0s
KULA Kula-Manisa 153.43 320 P **PKPdf** 19 13 36.6 -1.2
RIY Rijeka 153.44 349 ⇓*i*P **PKPdf** 19 13 37.5 +0.1
HAPS Han Pijesak,BI 153.50 341 *e*P **PKPdf** 19 13 41.2 +3.5
MANT Manisa 153.51 321 **PKPdf** 19 13 38.0 -0.1
MANT PKPbc **PKiKP** 19 13 46.2 +0.4
MANT PKPab **PKPab** 19 13 55.5 -2.6
MANT IAMs_20 IAMs_20 20 35 14.7
comp=Z,7μm,20.0s
BBLS Lazići 153.56 340 ⇓*i*P **PKPdf** 19 13 38.2 +0.4
SALO Salr 153.68 355 **PKPdf** 19 13 37.5 -0.4
SALO PKPbc **PKiKP** 19 13 46.0 +0.3
ELL Elmali 153.72 316 PKIKP **PKPdf** 19 13 38.4 +0.1
ELL 19 13 46.3
ELL Elmali 153.72 316 **PKPdf** 19 13 38.4 +0.1
ELL PKPbc **PKiKP** 19 13 46.3 +0.1
MGRS Mrkonjic Grad 153.72 344 ⇓*i*P **PKPdf** 19 13 39.1 +1.2
RUDO Rudo 153.79 340 *e*P **PKPdf** 19 13 37.7 -0.3
SMTH Samothraki Isl 153.82 327 P **PKPdf** 19 13 36.4 -1.8
MMB Musomiste 153.82 331 P **PKPdf** 19 13 36.5 -1.7
TEOL Teolo 153.82 353 **PKPdf** 19 13 38.5 +0.5
TEOL PKPbc **PKiKP** 19 13 46.0 0.0
TEOL PKPab **PKPab** 19 13 59.3 +0.5
EZN Ezine 153.87 325 P **PKPdf** 19 13 37.0 -1.2
EZN Ezine 153.87 325 ⇓PKIKP **PKiKP** 19 13 46.5 +0.3
EZN Ezine 153.87 325 ⇓P **PKiKP** 19 13 46.5 +0.3
KKB Krupnik 153.88 333 P **PKPdf** 19 13 38.0 -0.2
KAVA Kavala 153.92 329 P **PKPdf** 19 13 36.4 -1.9
NVR Nevrokopi 153.95 331 P **PKPdf** 19 13 37.2 -1.2
PLE Pljevlja 154.04 340 ⇓*i*PKP **PKPdf** 19 13 38.4 -0.1
SSB Saint Sauveur 154.04 5 IAMs_20 IAMs_20 20 29 52.5
comp=Z,3μm,19.0s
THAS Thassos island 154.12 329 P **PKPdf** 19 13 37.2 -1.4
PCAB Cabrii 154.15 27 *e*PKPdf **PKPdf** 19 13 38.7 +0.1
PCAB Cabrii 154.15 27 *e*PKPab **PKPab** 19 14 01.6 +1.2
SRS Serrai 154.26 331 P **PKPdf** 19 13 36.8 -2.0
IVA Berane 154.28 338 ⇓*i*PKP **PKPdf** 19 13 38.9 0.0
UPM Unac-Piva 154.31 340 *e*P **PKPdf** 19 13 42.0 +3.0
UPM Unac-Piva 154.31 340 ⇓*i*PKP **PKPdf** 19 13 38.6 -0.4
PRK Paraskevi 154.31 325 P **PKPdf** 19 13 39.3 +0.4
BNI Bardonecchia 154.37 1 PKIKP **PKPdf** 19 13 39.4 +0.4
BNI 19 14 02.3
BNI MLR MLR
comp=Z,4μm,19.0s
BNI Bardonecchia 154.37 1 **PKPdf** 19 13 39.4 +0.4
BNI PKPab **PKPab** 19 14 02.3 +1.0
BNI IAMs_20 IAMs_20 20 37 24.0
comp=Z,4μm,19.0s
STIP Stip 154.41 334 *i* P **PKPdf** 19 13 38.1 -0.9
KOME Kolasin 154.43 339 ⇓*i*PKP **PKPdf** 19 13 39.0 -0.1
SKO Skopje 154.48 335 *i* P **PKPdf** 19 13 39.6 +0.6
PVY Plav 154.50 338 ⇓*i*PKP **PKPdf** 19 13 39.1 -0.1
PMAR Madeira 154.52 54 *e*PKPbc **PKiKP** 19 13 48.9 +0.8
PMAR Madeira 154.52 54 *e*PKPab **PKPab** 19 14 03.0 +0.5
POLO Lamas de Olo 154.53 27 *e*PKPdf **PKPdf** 19 13 39.7 +0.4
POLO Lamas de Olo 154.53 27 *e*PKPab **PKPab** 19 14 02.7 +0.6
KNT Kendrikon 154.53 332 P **PKPdf** 19 13 35.6 -3.6
PRMA PARMA 154.54 355 IAMs_20 IAMs_20 20 32 59.7
comp=Z,3μm,20.0s
VAY Valandovo 154.55 333 *i* P **PKPdf** 19 13 39.2 +0.1
SIGR SIGRI 154.56 325 P **PKPdf** 19 13 38.3 -0.9
PBRG Braganca 154.61 25 *e*PKPbc **PKiKP** 19 13 48.3 +0.5
PBRG Braganca 154.61 25 *e*PKPab **PKPab** 19 14 02.6 +0.2
NKY Niksic 154.63 340 ⇓*i*PKP **PKPdf** 19 13 39.5 +0.1
PVRL Vila Real 154.64 27 *e*PKPab **PKPab** 19 14 03.9 +1.4
NKME Niksic 154.69 340 ⇓*i*PKP **PKPdf** 19 13 39.1 -0.3
OUR Ouranopolis 154.69 329 P **PKPdf** 19 13 38.0 -1.4
BRY Bratogost 154.70 341 *e*P **PKPdf** 19 13 40.6 +1.1
BRY Bratogost 154.70 341 ⇓*i*PKP **PKPdf** 19 13 39.3 -0.2
PDG Podgorica 154.89 339 ⇓*i*P **PKPdf** 19 13 39.4 -0.2
PDG Podgorica 154.89 339 ⇑P **PKPdf** 19 13 39.4 -0.2
PDG Podgorica 154.89 339 **PKPdf** 19 13 39.0 -0.5
PDG PKPab **PKPab** 19 14 03.7 +0.3
PDG IAMs_20 IAMs_20 20 28 05.3
comp=Z,3μm,21.0s
TTG Podgorica 154.89 339 ⇓*i*PKP **PKPdf** 19 13 40.0 +0.4
ZCCA Zocca 154.89 354 IAMs_20 IAMs_20 20 29 01.0
comp=Z,5μm,20.0s
CEME Cevo 154.90 340 ⇓*i*PKP **PKPdf** 19 13 39.7 0.0
PLG Polygyros 154.91 330 P **PKPdf** 19 13 37.6 -2.2
GRG Griva 154.92 332 P **PKPdf** 19 13 38.9 -0.8
STON Ston 154.98 342 ⇓*i*P **PKPdf** 19 13 38.6 -1.1
PVIS Viseu 155.02 28 *e*PKPdf **PKPdf** 19 13 41.4 +1.5
PVIS Viseu 155.02 28 *e*PKPab **PKPab** 19 14 05.3 +1.1
MVO Moncorvo 155.03 26 *e*PKPdf **PKPdf** 19 13 42.0 +2.1
MVO Moncorvo 155.03 26 *e*PKPab **PKPab** 19 14 05.7 +1.5
MSSA Maissana 155.04 356 IAMs_20 IAMs_20 20 29 34.3
comp=Z,4μm,22.0s
HCY Herceg Novi 155.12 340 ⇓*i*PKP **PKPdf** 19 13 40.1 +0.2
BUM Brajici-Budva 155.12 339 ⇓*i*PKP **PKPdf** 19 13 40.1 +0.1
DRME Dracevica, Mon 155.13 339 ⇓*i*P **PKPdf** 19 13 39.9 0.0
DRME Dracevica, Mon 155.13 339 ⇓*i*PKP **PKPdf** 19 13 40.5 +0.6
VLC Villacollemand 155.14 355 IAMs_20 IAMs_20 20 30 11.8
comp=Z,4μm,22.0s
PAIG Paliouri 155.15 329 P **PKPdf** 19 13 38.5 -1.5
PCAS Casmilo, Conde 155.27 30 *e*PKPdf **PKPdf** 19 13 41.3 +1.1
PCAS Casmilo, Conde 155.27 30 *e*PKPab **PKPab** 19 14 04.4 -0.8
ULC Ulcinj 155.30 338 ⇓*i*PKP **PKPdf** 19 13 40.6 +0.4
MTE Manteigas 155.43 28 *e*PKPdf **PKPdf** 19 13 42.0 +1.5
MTE Manteigas 155.43 28 *e*PKPab **PKPab** 19 14 05.9 0.0
MTE Manteigas 155.43 28 **PKPdf** 19 13 39.8 -0.7
MTE IAMs_20 IAMs_20 20 28 38.9
comp=Z,3μm,18.0s
OHR Ohrid 155.46 335 *i* P **PKPdf** 19 13 40.9 +0.4
FNA Florina 155.50 334 P **PKPdf** 19 13 39.7 -0.9
FNA Florina 155.50 334 PKIKP **PKPdf** 19 13 39.6 -0.9
FNA 19 13 49.7
FNA MLR MLR
comp=Z,3μm,22.0s
FNA Florina 155.50 334 **PKPdf** 19 13 39.6 -0.9
FNA PKPbc PKPbc 19 13 49.7
FNA IAMs_20 IAMs_20 20 30 09.1
comp=Z,3μm,22.0s
LIT Litokhoron 155.57 331 PKIKP **PKPdf** 19 13 39.5 -1.2
LIT 19 13 49.5
LIT 19 14 06.4
LIT MLR MLR
comp=Z,2μm,20.0s
LIT Litokhoron 155.57 331 **PKPdf** 19 13 39.5 -1.2
LIT PKPbc pPKPbc 19 13 49.5 -4.6
LIT **PKPab** 19 14 06.4 -0.1
LIT IAMs_20 IAMs_20 20 29 05.1
comp=Z,2μm,20.0s
TIR Tirane 155.62 337 PKIKP **PKPdf** 19 13 40.6 0.0
TIR 19 14 07.3
TIR MLR MLR
comp=Z,4μm,22.0s
TIR Tirane 155.62 337 PKPdf **PKPdf** 19 13 40.6 0.0
TIR **PKPab** 19 14 07.3 +0.7
TIR IAMs_20 IAMs_20 20 31 15.5
comp=Z,4μm,22.0s
PTOM Tomar 155.65 31 *e*PKPdf **PKPdf** 19 13 42.2 +1.5
PTOM Tomar 155.65 31 *e*PKPab **PKPab** 19 14 07.0 +0.2
PMAFR Mafra 155.72 33 *e*PKPdf **PKPdf** 19 13 41.4 +0.5
PMAFR Mafra 155.72 33 *e*PKPab **PKPab** 19 14 06.7 -0.5
MURB Monte Urbino 155.77 351 **PKPdf** 19 13 39.8 -1.0
MURB PKPab **PKPab** 19 14 08.6 +1.3
MURB IAMs_20 IAMs_20 20 26 21.8
comp=Z,3μm,21.0s
XOR Xorichti 155.82 329 P **PKPdf** 19 13 39.9 -1.1
NEO Neokhori 155.85 329 P **PKPdf** 19 13 39.5 -1.5
PCBR Castelo Branco 155.91 29 *e*PKPdf **PKPdf** 19 13 41.3 +0.2
PCBR Castelo Branco 155.91 29 *e*PKPab **PKPab** 19 14 07.4 -0.5
ALMR Almeirim 155.93 32 *e*PKPdf **PKPdf** 19 13 40.4 -0.8
ALMR *e*PP **PP** 19 17 44.7 +0.2
ALMR Almeirim 155.93 32 *e*PKPdf **PKPdf** 19 13 41.9 +0.8
ALMR Almeirim 155.93 32 *e*PKPab **PKPab** 19 14 08.5 +0.5
ALMR Almeirim 155.93 32 *e*PKIKP **PKPdf** 19 13 40.3 -0.8
ALMR *e* 19 17 44.7
LIS Lisbon 155.97 33 *e*PKPdf **PKPdf** 19 13 40.3 -0.9
LIS *e*PP **PP** 19 17 44.9 0.0
LIS AMS AMS 20 19 00.8
comp=Z,3μm,20.1s
LIS Lisbon 155.97 33 *e*PKIKP **PKPdf** 19 13 40.3 -0.9
LIS *e* 19 17 44.8
PENT Pentalofos 156.09 333 P **PKPdf** 19 13 46.1 +4.7
NRCA Norcia 156.09 350 **PKPdf** 19 13 40.4 -0.9
NRCA PKPab **PKPab** 19 14 09.4 +0.7
NRCA IAMs_20 IAMs_20 20 25 05.4
comp=Z,3μm,21.0s
MRKA Markates 156.13 327 P **PKPdf** 19 13 39.7 -1.7
PMTG Montargil 156.17 31 *e*PKPdf **PKPdf** 19 13 41.8 +0.4
PMTG Montargil 156.17 31 *e*PKPab **PKPab** 19 14 09.7 +0.7
KARP Karpathos 156.22 317 IAMs_20 IAMs_20 20 30 49.2
comp=Z,2μm,22.0s
PMRV Marv??o 156.28 29 *e*PKPdf **PKPdf** 19 13 42.8 +1.2
PMRV Marv??o 156.28 29 *e*PKPab **PKPab** 19 14 09.4 -0.2
CASP Castiglione de 156.45 354 **PKPdf** 19 13 41.3 -0.4
CASP IAMs_20 IAMs_20 20 39 56.1
comp=Z,2μm,20.0s
AGG Agios Georgios 156.51 330 P **PKPdf** 19 13 38.8 -3.1
AGG Agios Georgios 156.51 330 PKIKP **PKPdf** 19 13 41.4 -0.5
AGG MLR MLR
comp=Z,2μm,22.0s
AGG Agios Georgios 156.51 330 **PKPdf** 19 13 41.4 -0.5
AGG IAMs_20 IAMs_20 20 22 50.3
comp=Z,2μm,22.0s
AQU L'Aquila 156.51 349 PKIKP **PKPdf** 19 13 40.7 -1.2
AQU 19 14 10.2
AQU MLR MLR
comp=Z,3μm,20.0s
AQU L'Aquila 156.51 349 ⇓*i*P **PKPdf** 19 13 41.6 -0.2
AQU L'Aquila 156.51 349 PKPdf **PKPdf** 19 13 40.7 -1.2
AQU PKPab **PKPab** 19 14 10.2 -0.2
AQU IAMs_20 IAMs_20 20 40 40.9
comp=Z,3μm,20.0s
LATE Laterza 156.51 352 **PKPdf** 19 13 41.2 -0.6
LATE PKPab **PKPab** 19 14 10.1 -0.3
SGRT San Giovanni R 156.56 344 **PKPdf** 19 13 40.7 -1.2
SGRT PKPab **PKPab** 19 14 11.0 +0.2
SGRT IAMs_20 IAMs_20 20 40 50.6
comp=Z,3μm,21.0s
PESTR Estremoz 156.63 31 **PKPdf** 19 13 42.0 -0.1
PESTR PKPab **PKPab** 19 14 11.2 +0.2
EVO Evora 156.69 32 *e*PKPdf **PKPdf** 19 13 42.8 +0.7
EVO Evora 156.69 32 *e*PKPab **PKPab** 19 14 10.9 -0.4
INTR Introdacqua 156.74 348 **PKPdf** 19 13 41.6 -0.5
INTR IAMs_20 IAMs_20 20 29 07.7
comp=Z,2μm,20.0s
PNCL Nicolau / Gran 156.75 33 *e*PKPdf **PKPdf** 19 13 42.7 +0.5
PNCL Nicolau / Gran 156.75 33 *e*PKPab **PKPab** 19 14 12.9 +1.3
SANT Santorini 156.76 321 PKPdf **PKPdf** 19 13 40.4 -2.0
SANT **PKPab** 19 14 11.0 -0.8
KEK Kerkira 157.05 335 P **PKPdf** 19 13 41.7 -0.9
PTEO Sao Teotonio 157.07 34 *e*PKPdf **PKPdf** 19 13 44.0 +1.4
PTEO Sao Teotonio 157.07 34 *e*PKPab **PKPab** 19 14 13.5 +0.5
MESJ Messejana 157.11 33 *e*PKPdf **PKPdf** 19 13 42.0 -0.7
MESJ *e*PP **PP** 19 17 51.3 +0.1
MESJ AMS AMS 20 20 29.1
comp=Z,3μm,21.1s
MESJ Messejana 157.11 33 *e*PKPdf **PKPdf** 19 13 44.5 +1.8
MESJ Messejana 157.11 33 *e*PKIKP **PKPdf** 19 13 42.0 -0.7
MESJ *e* 19 17 51.2
PBEJ Beja 157.15 32 *e*PKPdf **PKPdf** 19 13 44.3 +1.6
PBEJ Beja 157.15 32 *e*PKPab **PKPab** 19 14 14.1 +0.8
EFP Efpalio 157.18 329 P **PKPdf** 19 13 42.2 -0.5
DID Didima 157.21 326 P **PKPdf** 19 13 40.8 -2.1
SCTE Santa Cesarea 157.25 338 IAMs_20 IAMs_20 20 30 48.0
comp=Z,3μm,20.0s
MORF Marmelete 157.28 35 *e*PKPdf **PKPdf** 19 13 42.1 -0.9
MORF *e*PP **PP** 19 17 52.1 -0.2
MORF Marmelete 157.28 35 *e*PKPdf **PKPdf** 19 13 42.9 -0.1
MORF Marmelete 157.28 35 *e*PKIKP **PKPdf** 19 13 42.1 -0.9
MORF *e* 19 17 52.1
LAKA Lakka 157.29 329 P **PKPdf** 19 13 43.2 +0.3
PFVI Vila Bisbo 157.32 35 *e*PKPdf **PKPdf** 19 13 40.8 -2.2
PFVI Vila Bisbo 157.32 35 *e*PKPab **PKPab** 19 14 14.2 +0.1
PFVI Vila Bisbo 157.32 35 **PKPdf** 19 13 42.3 -0.7
KLV Kalavryta, Ach 157.36 328 P **PKPdf** 19 13 41.6 -1.5
PCVE Castro Verde 157.37 33 *e*PKPdf **PKPdf** 19 13 43.6 +0.6
PCVE Castro Verde 157.37 33 *e*PKPab **PKPab** 19 14 14.4 +0.1
PDO Prodromos 157.38 331 P **PKPdf** 19 13 42.4 -0.6
ACER Acerenza 157.41 343 **PKPdf** 19 13 42.0 -1.1
ACER **PKPab** 19 14 12.2 -2.2
ACER IAMs_20 IAMs_20 20 28 54.2
comp=Z,3μm,20.0s
PAB San Pablo 157.48 24 PKIKP **PKPdf** 19 13 41.0 -2.2
PAB 19 14 14.2
PAB MLR MLR
comp=Z,2μm,20.0s
PAB San Pablo 157.48 24 **PKPdf** 19 13 41.0 -2.2
PAB PKPab **PKPab** 19 14 14.2 -0.6
PAB San Pablo 157.48 24 IAMs_20 IAMs_20 20 34 01.4
comp=Z,2μm,20.0s
ESBB Sonseca Array 157.51 23 **PKPdf** 19 13 42.0 -1.2
ESBB PKPab **PKPab** 19 14 14.7 -0.2
ESBB IAMs_20 IAMs_20 20 20 12.1
comp=Z,2μm,20.0s
ESDC Sonseca Array 157.51 23 PKP **PKPdf** 19 13 43.8 +0.6
comp=Z,1.7nm,0.7s,baz=340,slow=2.7,SNR=14
ESDC PKPab **PKPab** 19 14 14.9 0.0
comp=Z,12nm,0.7s,baz=321,slow=3.7,SNR=24
ESDC PP **PP** 19 17 54.9 +1.7
comp=Z,4.1nm,1.0s,baz=332,slow=4.6,SNR=6.3
ESDC Sonseca Array 157.51 23 **PKPdf** 19 13 43.1 -0.1
ESDC PKPab **PKPab** 19 14 13.2 -1.7
EVGI Lefkada island 157.60 332 P **PKPdf** 19 13 44.9 +1.6
DRO Drossia 157.65 329 P **PKPdf** 19 13 43.0 -0.4
RLS Riolos of Patr 157.68 330 P **PKPdf** 19 13 43.6 +0.2
PVAQ Vaqueiros 157.70 33 *e*PKPdf **PKPdf** 19 13 44.0 +0.6
PVAQ Vaqueiros 157.70 33 *e*PKPab **PKPab** 19 14 16.6 +0.9
PVAQ Vaqueiros 157.70 33 **PKPdf** 19 13 43.6 +0.2
PVAQ **PKPab** 19 14 15.7 0.0
PVAQ IAMs_20 IAMs_20 20 31 36.6
comp=Z,3μm,20.0s
PBDV Barranco-do-Ve 157.72 34 *e*PKPdf **PKPdf** 19 13 45.0 +1.5
PBDV Barranco-do-Ve 157.72 34 *e*PKPab **PKPab** 19 14 17.8 +2.0
KFL Anninata 157.96 331 P **PKPdf** 19 13 42.6 -1.1
AMT Artemida-Makis 157.98 328 P **PKPdf** 19 13 43.0 -0.8
VLS Valsamata 158.00 331 P **PKPdf** 19 13 43.2 -0.6
ITM Ithomi 158.14 327 P **PKPdf** 19 13 42.8 -1.2
ITM Ithomi 158.14 327 **PKPdf** 19 13 43.0 -1.0
ITM PKPab **PKPab** 19 14 17.5 -0.2
ITM IAMs_20 IAMs_20 20 40 10.1
comp=Z,2μm,20.0s
KTHA Kythira Island 158.23 324 P **PKPdf** 19 13 41.4 -2.7
TIP Tímpagrande 158.64 340 P **PKPdf** 19 13 43.8 -0.8
TIP Tímpagrande 158.64 340 **PKPdf** 19 13 44.9 +0.2
TIP PKPab **PKPab** 19 14 20.2 +0.5
TIP IAMs_20 IAMs_20 20 38 58.1
comp=Z,3μm,22.0s
SFS San Fernando 159.20 32 IAMs_20 IAMs_20 20 34 56.0
comp=Z,2μm,19.0s
CEL Celeste 159.75 340 IAMs_20 IAMs_20 20 34 10.0
comp=Z,2μm,22.0s
CORL Corleone 160.81 346 **PKPdf** 19 13 46.9 -0.2
LIC Lamto 162.23 136 *e*PKIKP **PKPdf** 19 13 48.4 -0.8
comp=Z,143nm,1.2s
EBNR Beni Rached 162.36 16 P **PKPdf** 19 13 51.9 +3.1
ECHA Ech Chlef 162.45 16 P **PKPdf** 19 13 52.2 +3.4
KIC Kosan Boka 162.52 136 *e*PKIKP **PKPdf** 19 13 48.8 -0.7
comp=Z,85nm,1.0s
TIC Toumodi 162.55 135 *e*PKIKP **PKPdf** 19 13 48.9 -0.7
EANR 'Ain N'Sour 162.57 17 P **PKPdf** 19 13 50.4 +1.4
CAEH 'Ain El Ouahch 162.63 1 P **PKPdf** 19 13 50.6 +1.6
DBIC Dimbokro 162.68 135 PKIKP **PKPdf** 19 13 48.5 -1.1
DBIC 19 14 37.7
DBIC 19 18 21.8
DBIC Dimbokro 162.68 135 PKP **PKPdf** 19 13 49.0 -0.6
comp=Z,11nm,0.7s,baz=129,slow=1.9,SNR=15
DBIC PKPab **PKPab** 19 14 38.0 +0.1
comp=Z,23nm,1.1s,baz=192,slow=3.8,SNR=7.7
DBIC PP **PP** 19 18 21.8 0.0
comp=Z,10nm,1.1s,baz=214,slow=5.5,SNR=3.0
DBIC Dimbokro 162.68 135 **PKPdf** 19 13 48.5 -1.1
DBIC PKPab **PKPab** 19 14 37.7 -0.3
CMAH Djebel Manchou 162.79 360 P **PKPdf** 19 13 47.2 -2.0
DFRA Djebel Bou Aff 162.82 4 P **PKPdf** 19 13 51.2 +1.9
CKFL Kef-Lekhel 163.01 2 P **PKPdf** 19 13 50.8 +1.3
SET Setif 163.13 5 P **PKPdf** 19 13 51.0 +1.4
ABSA Djebel Ababsia 163.14 360 P **PKPdf** 19 13 49.8 +0.2
ETRT Tiaret 163.15 17 P **PKPdf** 19 13 53.1 +3.4
KEST Kesra 163.59 354 PKP **PKPdf** 19 13 49.2 -0.8
comp=Z,8.1nm,0.9s,baz=318,slow=4.8,SNR=6.0
KEST Kesra 163.59 354 **PKPdf** 19 13 50.7 +0.7
TOA0 Torodi Ar. Sit 171.77 138 **PKPdf** 19 13 55.0 -1.3
TOA0 PKPab **PKPab** 19 15 19.2 +1.2
TORD Torodi Ar. Bea 171.77 138 PKP **PKPdf** 19 13 55.1 -1.1
comp=Z,34nm,1.1s,baz=333,slow=1.4,SNR=34
TORD PKPab **PKPab** 19 15 18.4 +0.3
comp=Z,14nm,0.8s,baz=206,slow=4.5,SNR=11
TORD PP **PP** 19 19 08.9 +0.6
comp=Z,3.0nm,1.0s,baz=206,slow=9.6,SNR=4.1
TORD Torodi Ar. Bea 171.77 138 **PKPdf** 19 13 53.5 -2.8
TORD PKPab **PKPab** 19 15 19.5 +1.4
TAM Tamanrasset 176.17 26 PKIKP **PKPdf** 19 13 57.9 +0.1
TAM Tamanrasset 176.17 26 **PKPdf** 19 13 57.9 +0.1

IDC ***02*** *18:56:11.7±0.6, 19°.17S×172°.62W, h0km, mb4.9/25, mb1 5.0/26, mb1mx4.8/52, mbtmp4.9/26, ML4.4/1, MS5.3/1, Ms1 5.3/1, ms1mx4.6/35, Error ellipse: s-maj=23.2km s-min=13.9km az=158.0*
ISCJB ***02*** *18:56:12.5±0.2, 19°.14S±0°.04×172°.77W±0°.05, h13km, mb4.8/24, MS5.3/1, Error ellipse: s-maj=8.2km s-min=4.5km az=38.9*
NEIC ***02*** *18:56:13.4±1.2, 19°.2S±0°.1×172°.7W±0°.1, h9km±3km, mb5.2/76*
ISC 02 18:56:14.1±0.5**, 19°.15S**±0°.09×**172°.75W**±0°.08**, h13**km**,
n144, $_{o}$0°.**89**/**144**, **mb5.2**/**55**, **1C-1D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID / Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.67**	**89**		Pn	18 56 46.9	-10
DZM	**Mont Dzumac**	**19.69**	**258**	P	**Pn**	**19 00 44.1**	**-0.6**
1.2nm,0.3s,baz=79,slow=19,SNR=2.5							
DZM	**Mont Dzumac**	**19.69**	**258**	P	**P**	**19 00 43.7**	**+0.4**
URZ	**Urewera**	**20.99**	**203**	P	**P**	**19 00 57.7**	**+0.6**
58nm,0.7s,baz=24,slow=12,SNR=2.4							
URZ				S	S	19 04 35.5	-15
9.8nm,0.8s,baz=145,slow=18,SNR=1.6							
URZ	**Urewera**	**20.99**	**203**	P	**P**	**19 00 57.0**	**0.0**
URZ				IAmb	IAmb	19 01 03.7	
comp=Z,90nm,1.0s							
HIZ	**Hauiti**	**22.10**	**207**	P	**P**	**19 01 09.8**	**+0.7**
HIZ				IAmb	IAmb	19 01 25.2	
comp=Z,149nm,1.1s							
BFZ	**Birch Farm**

TARA Tarawa 24.77 324 P **P** **19 01 36.0 +0.4**
TUWZ Tuamarina 24.94 204 P **P** **19 01 37.2 +0.2**
NNZ Nelson 24.98 205 P **P** **19 01 36.1 -1.3**
NNZ IAmb IAmb 19 01 41.3
comp=Z,117nm,1.3s
QRZ Quartz Range 25.01 207 P **P** **19 01 37.3 -0.4**
BSWZ Blackbirch Sta 25.21 204 P **P** **19 01 40.9 +1.4**
XMAS Kiritimati 25.88 37 P **P** **19 01 47.5 +1.6**
KHZ Kahutara 25.94 204 P **P** **19 01 44.9 -1.2**
KHZ IAmb IAmb 19 01 57.6
comp=Z,68nm,1.0s
LTZ Lake Taylor 26.75 205 P **P** **19 01 53.7 +0.3**
LTZ IAmb IAmb 19 02 07.5
comp=Z,50nm,0.8s
CRLZ Canterbury Las 27.28 204 P **P** **19 01 58.9 +0.8**
OXZ Oxford 27.30 205 P **P** **19 01 57.9 -0.5**
OXZ IAmb IAmb 19 02 12.0
comp=Z,48nm,0.6s
MQZ McQueen's Vall 27.38 203 P **P** **19 01 58.5 -0.6**
MQZ IAmb IAmb 19 02 01.8
comp=Z,156nm,1.7s
EIDS Eidsvold 33.97 253 P **P** **19 02 57.2 -0.3**
EIDS IAmb IAmb 19 03 15.0
comp=Z,38nm,1.4s
ARMA Armidale 34.10 244 P **P** **19 02 58.5 -0.2**
ARMA IAmb IAmb 19 03 16.0
comp=Z,42nm,1.4s
PATS Pohnpei 38.47 309 P **P** **19 03 35.7 -0.3**
CTAO Charters Tower 38.56 262 P **P** **19 03 36.7 -0.2**
CTAO IAmb IAmb 19 03 38.9
comp=Z,142nm,1.6s
PMG Port Moresby 39.95 278 P **P** **19 03 47.8 -0.7**
comp=Z,36nm,0.9s,baz=100,slow=12,SNR=4.1
PMG Port Moresby 39.95 278 P **P** **19 03 47.0 -1.5**
PMG IAmb IAmb 19 03 52.9
comp=Z,47nm,1.0s
TOO Toolangi 40.69 234 P **P** **19 03 54.6 +0.2**
TOO IAmb IAmb 19 04 08.7
comp=Z,82nm,1.7s
TAU Tasmania Unive 41.08 226 P **P** **19 03 57.8 +0.3**
TAU IAmb IAmb 19 04 11.0
comp=Z,29nm,0.8s
HMH Humu'ula Sheep 42.07 25 P **P** **19 04 06.5 +0.3**
COEN Coen 42.48 270 P **P** **19 04 09.8 +0.5**
JAY Jayapura 48.41 284 P **P** **19 04 56.5 +0.1**
comp=Z,10nm,0.6s,baz=166,slow=5.6,SNR=3.7
AS31 Alice Springs 49.64 255 P **P** **19 05 05.5 -0.3**
ASAR Alice Springs 49.64 255 P **P** **19 05 06.1 +0.4**
comp=Z,22nm,0.8s,baz=90,slow=8.7,SNR=3.7
ASAR S **S** **19 12 10.6 -3.6**
comp=Z,2.2nm,0.8s,baz=92,slow=16,SNR=2.7
ASAR Alice Springs 49.64 255 P **P** **19 05 04.3 -1.5**
WB2 Warramunga Arr 49.68 260 P **P** **19 05 05.7 -0.4**
WB2 IAmb IAmb 19 05 05.8
comp=Z,28nm,0.8s
WRAB Tennant Creek 49.69 260 P **P** **19 05 05.9 -0.2**
WRAB IAmb IAmb 19 05 11.4
comp=Z,27nm,0.8s
WRA Warramunga Arr 49.69 260 P **P** **19 05 05.8 -0.4**
comp=Z,9.5nm,0.6s,baz=98,slow=6.7,SNR=4.0
WRA Warramunga Arr 49.69 260 P **P** **19 05 04.9 -1.3**
GUMO Guam 52.92 305 LR LR 19 24 02.9
comp=Z,3μm,21.1s,baz=118,slow=32
MTN Manton Dam 54.12 268 P **P** **19 05 38.9 -0.4**
MTN IAmb IAmb 19 05 58.1
comp=Z,37nm,0.8s
KNRA Kununurra 55.70 264 P **P** **19 05 50.4 -0.2**
FAKI Fak Fak 56.08 280 P **P** **19 05 53.3 -0.2**
FAKI IAmb IAmb 19 06 07.7
comp=Z,41nm,1.3s
SIJI Sorong 57.74 281 P **P** **19 06 04.4 -0.9**
comp=Z,37nm,0.6s,baz=128,slow=6.9,SNR=5.5
SBA Scott Base 59.59 185 P **P** **19 06 18.8 +1.7**
SOEI Soe 61.43 269 P **P** **19 06 32.4 +1.5**
PSA00 Pilbara Seismi 62.79 255 P **P** **19 06 40.3 +0.5**
PSA00 IAmb IAmb 19 06 55.9
comp=Z,24nm,0.9s
JAGI Jajag, Banyuwa 71.36 267 P **P** **19 07 34.1 -0.2**
NIKH Nikolski High 71.90 2 P **P** **19 07 35.4 -1.2**
MJAR Matsushiro Arr 72.20 320 P **P** **19 07 39.7 +0.8**
comp=Z,10nm,1.0s,baz=148,slow=5.9,SNR=4.7
MJAR PP **PP** **19 10 19.4 -0.3**
comp=Z,2.1nm,1.1s,baz=110,slow=10,SNR=4.2
MJAR Matsushiro Arr 72.20 320 P **P** **19 07 39.7 +0.8**
MAJO Matsushiro 72.20 320 P **P** **19 07 39.4 +0.6**
MAJO IAmb IAmb 19 07 41.2
comp=Z,21nm,1.1s
MJB9 Matsu-Tunnel 72.20 320 P **P** **19 07 39.4 +0.5**
MJB9 IAmb IAmb 19 07 41.2
comp=Z,22nm,1.1s
KKM Kota Kinabalu 74.25 282 P **P** **19 07 52.9 +1.3**
KKM IAmb IAmb 19 08 03.6
comp=Z,30nm,1.2s
KMRM Mail Ridge 74.65 37 P **P** **19 07 53.6 +0.3**
KMRM IAmb IAmb 19 07 54.7
comp=Z,26nm,0.7s
JNU Nakatsue 74.81 314 P **P** **19 07 54.5 +0.1**
comp=Z,9.7nm,0.7s,baz=353,slow=14,SNR=5.2
JNU Nakatsue 74.81 314 P **P** **19 07 54.6 +0.3**
JNU IAmb IAmb 19 08 03.9
comp=Z,22nm,1.0s
JKA Kamikawa-asahi 75.04 328 P **P** **19 07 55.8 +0.4**
ASAJ Asahikawa 75.04 328 P **P** **19 07 55.8 +0.4**
comp=Z,4.8nm,0.8s,baz=162,slow=13,SNR=1.9
PFO Pinyon Flats O 75.04 46 P **P** **19 07 54.9 -0.8**
comp=Z,8.2nm,1.1s,baz=222,slow=2.6,SNR=3.0
PFO Pinyon Flats O 75.04 46 P **P** **19 07 55.5 -0.3**
CMB Columbia Colle 75.18 40 P **P** **19 07 56.2 -0.2**
WDC Whiskeytown Da 75.55 37 P **P** **19 07 59.4 +1.0**
WDC IAmb IAmb 19 08 15.8
comp=Z,31nm,1.7s
MDPB Devils Postpil 75.74 41 P **P** **19 07 59.4 -0.5**
OMMB Old Mammoth Mi 75.77 41 P **P** **19 07 59.2 -0.9**
GSC Goldstone, Bar 75.79 44 P **P** **19 07 59.8 -0.3**
WAKR Walker 76.06 40 P **P** **19 08 01.7 +0.1**
YBH Yreka Blue Hor 76.22 36 P **P** **19 08 01.2 -1.1**
comp=Z,7.2nm,0.8s,baz=200,slow=2.7,SNR=6.1
YBH Yreka Blue Hor 76.22 36 P **P** **19 08 01.5 -0.8**
YBH IAmb IAmb 19 08 03.5
comp=Z,16nm,1.0s
PNTR Pine Nut 76.32 40 P **P** **19 08 03.2 +0.1**
PNTR IAmb IAmb 19 08 04.1
comp=Z,20nm,1.0s
PEA0B Petropavlovsk- 76.37 342 P **P** **19 08 03.1 +0.4**
PETK Petropavlovsk- 76.37 342 P **P** **19 08 03.1 +0.3**
comp=Z,6.2nm,0.8s,baz=110,slow=8.7,SNR=5.1
PETK Petropavlovsk- 76.37 342 P **P** **19 08 01.9 -0.9**
YERR Yerington 76.48 40 P **P** **19 08 03.9 -0.1**
YERR IAmb IAmb 19 08 04.7
comp=Z,16nm,1.0s
HUMO Hull Mountain 76.67 35 P **P** **19 08 05.0 +0.2**
HUMO IAmb IAmb 19 08 21.2
comp=Z,45nm,1.6s
NVAR Mina Array Bea 76.71 41 P **P** **19 08 05.2 -0.1**
comp=Z,7.0nm,0.7s,baz=228,slow=8.3,SNR=9.4
NVAR Mina Array Bea 76.71 41 P **P** **19 08 05.1 -0.3**
NV11 Mina Array Sit 76.80 41 P **P** **19 08 05.7 0.0**
NV11 IAmb IAmb 19 08 06.7
comp=Z,28nm,1.2s
TPNV Topopah Spring 77.12 43 P **P** **19 08 07.3 -0.3**
KVN Kaiserville 77.22 41 P **P** **19 08 07.6 -0.6**
TPUB Ta-pu 77.49 300 P **P** **19 08 11.7 +1.9**
MOD Modoc Plateau 77.69 37 P **P** **19 08 10.8 +0.1**
KSM Kuching 78.16 276 P **P** **19 08 15.3 +1.5**
KDAK Kodiak Island 78.46 11 P **P** **19 08 14.3 -0.1**
PINE Pine Mountain 78.56 36 P **P** **19 08 15.7 +0.2**
PINE IAmb IAmb 19 08 16.7
comp=Z,18nm,0.8s
BMN Battle Mountai 78.59 40 P **P** **19 08 15.4 -0.4**
319A Douglas 78.92 51 P **P** **19 08 17.8 +0.2**
LCMT Little Creek M 79.13 45 P **P** **19 08 18.6 -0.2**
KSRS Korea Array 79.26 316 P **P** **19 08 21.6 +2.4**
comp=Z,10.0nm,1.0s,baz=133,slow=5.7,SNR=4.6
KSAR Wonju Array Be 79.28 316 P **P** **19 08 18.6 -0.7**
KNB Kanab 79.42 45 P **P** **19 08 20.7 +0.3**
PSUT Pine Spring 79.59 43 P **P** **19 08 20.7 -0.6**
ELK Elko 79.99 41 P **P** **19 08 23.1 -0.3**
LON Longmire 80.05 33 P **P** **19 08 22.5 -0.9**
BRLK Bradley Lake 80.63 11 P **P** **19 08 25.6 -0.6**
BRLK IAmb IAmb 19 08 41.1
comp=Z,59nm,1.5s
USRK Ussuriysk Ar. 80.74 323 P **P** **19 08 28.5 +1.4**
comp=Z,1.3nm,0.7s,baz=95,slow=3.5,SNR=3.9
USRK Ussuriysk Ar. 80.74 323 P **P** **19 08 27.9 +0.8**

SVW2 Sparrevohn 81.15 8 P **P** **19 08 30.0 +1.1**
SVW2 IAmb IAmb 19 08 34.0
comp=Z,46nm,1.3s
BMO Blue Mountains 81.25 36 P **P** **19 08 29.4 -0.6**
E08A Dider Farm, El 81.31 34 P **P** **19 08 30.1 0.0**
E08A IAmb IAmb 19 08 34.4
comp=Z,18nm,0.9s
TXAR Lajitas Array 82.20 55 P **P** **19 08 35.1 -0.2**
comp=Z,7.3nm,1.1s,baz=219,slow=5.6,SNR=2.5
TXAR Lajitas Array 82.20 55 P **P** **19 08 34.8 -0.5**
BARN Barnard Glacie 83.75 15 P **P** **19 08 42.8 +0.1**
MAW Mawson 84.45 199 P **P** **19 08 46.7 +0.5**
comp=Z,11nm,0.7s,baz=126,slow=8.7,SNR=7.8
MAW Mawson 84.45 199 P **P** **19 08 46.6 +0.5**
PDAR Pinedale Array 84.64 41 P **P** **19 08 46.6 -1.2**
comp=Z,5.2nm,0.7s,baz=190,slow=2.7,SNR=5.8
PDAR Pinedale Array 84.64 41 P **P** **19 08 46.4 -1.4**
COLA College 85.92 10 P **P** **19 08 53.3 +0.1**
ILAR Eielson Array 85.99 11 P **P** **19 08 53.0 -0.6**
comp=Z,8.3nm,0.7s,baz=226,slow=5.7,SNR=4.3
ILAR Eielson Array 85.99 11 P **P** **19 08 52.6 -1.1**
SEY Seymchan 86.28 345 P **P** **19 08 55.2 +0.1**
comp=Z,7.2nm,1.0s,baz=111,slow=7.1,SNR=3.0
APG El Apazote 87.78 73 P **P** **19 09 03.0 -0.8**
comp=Z,6.9nm,0.8s,baz=256,slow=9.2,SNR=3.7
SYO Syowa Base 89.06 191⇑ iP **P** **19 09 06.0 -2.6**
SYO Syowa Base 89.06 191⇓ ePcP **P** **19 09 07.0 -1.6**
JTS Las Juntas de 91.27 80 P **P** **19 09 18.5 -1.4**
comp=Z,13nm,0.8s,baz=288,slow=6.2,SNR=4.9
JTS Las Juntas de 91.27 80 P **P** **19 09 19.7 -0.3**
JTS IAmb IAmb 19 09 21.4
comp=Z,18nm,0.9s
INK Inuvik 91.74 14 P **P** **19 09 19.9 -0.9**
comp=Z,5.9nm,0.8s,baz=228,slow=2.0,SNR=2.8
INK Inuvik 91.74 14 P **P** **19 09 19.9 -0.9**
INK IAmb IAmb 19 09 21.8
comp=Z,12nm,1.1s
YKA Yellowknife Ar 93.28 23 P **P** **19 09 27.5 -0.6**
comp=Z,1.8nm,0.9s,baz=232,slow=3.0,SNR=2.6
CMAR Chiang Mai Arr 94.36 288 P **P** **19 09 35.9 +1.7**
comp=Z,2.4nm,1.0s,baz=108,slow=2.9,SNR=2.8
MKAR Makanchi Array 113.87 313 PKiKP **PKiKP** **19 14 51.9 -0.8**
comp=Z,1.8nm,0.6s,baz=199,slow=0.9,SNR=4.5
KURBB Kurchatov Arra 116.40 318 PKP **PKPdf** **19 14 55.8 -1.6**
comp=Z,0.9nm,0.7s,baz=40,slow=1.8,SNR=3.4
BVAR Borovoye Array 121.19 321 PKP **PKPdf** **19 15 06.3 -0.2**
comp=Z,4.4nm,0.5s,baz=160,slow=0.8,SNR=7.2
ARU Arti 126.83 327 PKP **PKiKP** **19 15 17.5 -0.2**
comp=Z,1.8nm,0.5s,baz=213,slow=6.8,SNR=4.2
ARCES ARCESS Array B 128.39 352 PKP **PKPdf** **19 15 19.6 -0.3**
comp=Z,3.5nm,0.5s,baz=42,slow=1.3,SNR=6.4
FINES FINESS Array B 135.72 347 PKP **PKPdf** **19 15 33.7 -0.2**
comp=Z,2.9nm,0.7s,baz=64,slow=3.2,SNR=4.8
FINES FINESS Array B 135.72 347 **PKPdf** **19 15 33.5 -0.4**
CLL Collm 147.59 353 *i* PKPbc **PKPbc** **19 15 58.8 +0.8**
comp=Z,62nm,1.6s
BRTR Keskin Array B 149.39 318 PKPbc **PKPbc** **19 16 02.2 -1.1**
comp=Z,10.0nm,0.8s,baz=140,slow=3.9,SNR=6.5
BRTR Keskin Array B 149.39 318 **PKPbc** **19 16 02.3 -1.0**
MOA Molln 150.81 350 *i* PKiKP **PKiKP** **19 16 06.8 -0.2**
comp=Z,9.7nm,0.8s
MMAI Mount Meron Ar 151.30 304 PKPbc **PKiKP** **19 16 09.6 +1.2**
comp=Z,2.9nm,0.6s,baz=87,slow=10,SNR=2.7
RETA Reutte 151.59 355 *e*PKiKP **PKPbc** **19 16 08.2 0.0**
comp=Z,23nm,1.3s
WATA Walderalm 151.66 354 *e*PKiKP **PKiKP** **19 16 08.8 -0.1**
comp=Z,11nm,0.7s
KBA Koelnbreinsper 151.70 351 *i* PKiKP **PKiKP** **19 16 09.3 +0.4**
comp=Z,11nm,0.9s
MOTA Moosalm 151.70 354 *ep*PKPbc **PKPbc** **19 16 09.8 +1.2**
comp=Z,16nm,1.0s
WTTA Wattenberg 151.73 354 *e*PKiKP **PKiKP** **19 16 09.3 +0.2**
comp=Z,19nm,0.6s
SOKA Soboth 151.81 349 *e*PKiKP **PKiKP** **19 16 09.5 +0.4**
comp=Z,15nm,1.1s
SQTA Sankt Quirin 151.82 354 *e*PKiKP **PKPbc** **19 16 08.8 0.0**
comp=Z,26nm,1.0s
DAVA Damuels 151.85 356 *i* PKiKP **PKiKP** **19 16 09.2 -0.1**
comp=Z,17nm,1.0s
OBKA Obir 152.06 349 *i* PKiKP **PKiKP** **19 16 09.7 +0.1**
comp=Z,8.5nm,1.0s
MYKA Terra Mystica 152.09 351 *e*PKiKP **PKPbc** **19 16 08.7 -0.7**
comp=Z,8.6nm,0.9s
ABTA Abfaltersbach 152.14 352 *e*PKPbc **PKPbc** **19 16 08.7 -0.8**
comp=Z,20nm,0.8s

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*MOS **02** 19:05:55.6±0.9, 19°.45S×172°.54W, h15km, mb5.7/21, MS5.7/5, Error ellipse: s-maj=12.3km s-min=9.4km az=149.9*
*IDC **02** 19:05:55.7±0.3, 19°.33S×172°.59W, h0km, mb5.3/31, mb1 5.3/32, mb1mx5.3/37, mbtmp5.2/32, ML5.0/1, MS5.2/4, Ms1 5.2/4, ms1mx4.3/44, Error ellipse: s-maj=14.1km s-min=11.2km az=164.0*
*BJI **02** 19:05:56.0±0.0, 18°.91S×172°.36W, h7km, mb5.3/43, mB5.8/3, Ms5.8/26, Ms7 5.6/24*
*NEIC **02** 19:05:56.7±2.5, 19°.21S±0°.07×172°.40W±0°.06, h10km±1km, mb5.6/192, Mwc5.7(GCMT)*
*ISCJB **02** 19:05:59.5±0.1, 19°.24S±0°.03×172°.65W±0°.03, h33km, mb5.5/80, MS5.6/17, Error ellipse: s-maj=4.7km s-min=2.6km az=41.7*
*GCMT **02** 19:06:00.7±0.2, 19°.11S±0°.03×172°.27W±0°.02, h18km±1km, MW5.6/106, Moment Tensor Solution. s8,c8; s106,c188; Duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr=3.19±.19; Mθθ0.31±.10; Mφφ2.88±.12; Mrθ0.97±.31; Mrφ1.00±.06; Mθr1.13±.25; Best double couple: M0=3.53400×10^17^ NP1:φs208.00000°, δ57.00000°, λ-80.00000°. NP2:φs10.00000°, δ34.00000°, λ-105.00000°. Principal axes: T 3.5100, Plg12.0000°, Azm291.0000°; N 0.0480, Plg8.0000°, Azm22.0000°; P -3.5580, Plg76.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 19:06:01, 19°.12S×172°.29W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=3.03; Mθθ0.21; Mφφ2.82; Mrθ0.92; Mφφ0.96; Mθr1.49; Fault plane solution: M0=3.55000×10^17^ NP1:φs11.00000°, δ31.00000°, λ-102.00000°. NP2:φs205.00000°, δ60.00000°, λ-83.00000°. Principal axes: T 3.5758, Plg15.0000°, Azm290.0000°; N -0.0624, Plg6.0000°, Azm21.0000°; P -3.5134, Plg74.0000°, Azm133.0000°;*

ISC 02 19:06:00.6±0.2, 19.46S±0°.04×172.53W±0°.04, h35km, n786, σ1§73/779, mb5.5/160, MS5.6/17, 90C-13D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.49**	**82**	P	Pn	19 06 32.7	-5.9
baz=2.3							
NIUE	**Niue**	**2.49**	**82**	Pn	Pn	19 06 32.9	-5.7
NIUE				Sn	**Sn**	**19 07 00.2**	**-7.6**
AFI	**Afiamalu**	**5.57**	**8**	Pn	Pn	19 07 12.4	-8.6
AFI				Sn	Sn	19 08 11.4	-12
RAO	**Raoul Island**	**10.91**	**206**	P	**Pn**	**19 08 33.8**	**-0.5**
RAO	**Raoul Island**	**10.91**	**206**	Pn	**Pn**	**19 08 31.6**	**-2.6**
83nm,0.3s,baz=61,slow=19,SNR=3.1							
RAO				Sn	**Sn**	**19 10 28.8**	**-6.3**
54nm,0.3s,baz=72,slow=20,SNR=4.6							
RAO	**Raoul Island**	**10.91**	**206**	Pn	**Pn**	**19 08 33.8**	**-0.5**
RAR	**Rarotonga**	**12.10**	**100**	Pn	**Pn**	**19 08 45.8**	**-4.7**
82nm,0.3s,baz=272,slow=3.9,SNR=20							
RAR				Sn	Sn	19 10 50.4	-14
5.8nm,0.3s,baz=170,slow=18,SNR=2.4							
RAR				LR	LR	19 12 52.3	
comp=Z,7μm,19.3s,baz=257,slow=34							
FUNA	**Funafuti**	**13.50**	**322**	Pn	**Pn**	**19 09 05.3**	**-4.5**
MXZ	**Matakaoa Point**	**19.73**	**202**	P	**Pn**	**19 10 28.2**	**-0.7**
DZM	**Mont Dzumac**	**19.83**	**259**	*e*P	**P**	**19 10 29.3**	**+0.8**
377nm,1.6s							
DZM				*e*LR	LR	19 15 05.3	
comp=Z,12μm,26.2s							
DZM	**Mont Dzumac**	**19.83**	**259**	P	**P**	**19 10 27.4**	**-1.1**
3.9nm,0.3s,baz=100,slow=8.9,SNR=27							
DZM				LR	LR	19 16 47.6	
comp=Z,8μm,19.8s,baz=88,slow=33							
DZM	**Mont Dzumac**	**19.83**	**259**	P	**P**	**19 10 28.1**	**-0.5**
DZM				IAmb	IAmb	19 10 32.8	
comp=Z,558nm,1.7s							
OUZ	**Omahuta**	**19.92**	**215**	P	**Pn**	**19 10 31.2**	**0.0**
OUZ				IAmb	IAmb	19 10 44.5	
comp=Z,400nm,1.9s							

NFK Norfolk Island 20.18 238 P Pn 19 10 33.8 -0.4
baz=20
URZ Urewera 20.79 204 P Pn 19 10 40.1 -1.1
comp=Z,73nm,0.7s,baz=11,slow=4.4,SNR=31
URZ S **S** **19 14 21.9 -6.8**
comp=Z,20nm,0.7s,baz=170,slow=17,SNR=4.3
URZ Urewera 20.79 204 P Pn 19 10 41.0 -0.2
SNGZ Shannon Statio 21.16 202 P **P** **19 10 49.1 +6.3**
SNGZ S **S** **19 14 29.1 -7.2**
RAHZ Arahi 21.37 203 P **P** **19 10 50.5 +5.5**
MTHZ Maungataniwha 21.41 203 P **P** **19 10 49.7 +4.3**
MTHZ S **S** **19 14 31.8 -9.3**
ARHZ Aropaoanui 21.71 202 P **P** **19 10 55.2 +6.6**
BKZ Black Stump Fm 21.81 203 P **P** **19 10 51.5 +1.7**
TBI Tubuai 21.82 104 *e*P **P** **19 10 51.3 +1.4**
comp=Z,726nm,1.4s
TBI *e*LQ LQ 19 15 04.8
comp=Z,4μm,25.2s
TBI *e*LR LR 19 15 42.4
comp=Z,12μm,31.2s,baz=282
PAE Paea 21.83 89 *e*P **P** **19 10 50.6 +0.6**
comp=Z,25nm,1.3s
PAE Paea 21.83 89 *e*T T 19 32 55.7
comp=Z,13nm,0.3s
PPT2 Papeete2 21.84 89 *e*P **P** **19 10 51.4 +1.1**
comp=Z,149nm,1.3s
PPT2 *e*LQ LQ 19 15 00.9
comp=Z,8μm,27.5s
PPT2 *e*LR LR 19 15 39.7
comp=Z,17μm,28.2s,baz=259
PPT2 Papeete2 21.84 89 *e*T T 19 33 01.6
comp=Z,10nm,0.4s
PPT Papeete 21.85 89 P **P** **19 10 49.1 -1.2**
comp=Z,44nm,1.1s,baz=248,slow=19,SNR=2.1
PPT LR LR 19 16 45.6
comp=Z,6μm,18.7s,baz=242,slow=30
PPT Papeete 21.85 89 P **P** **19 10 48.7 -1.5**
PPTF Pamatai, Papee 21.85 89 P **P** **19 10 48.8 -1.6**
HIZ Hauiti 21.92 207 P **P** **19 10 56.8 +5.9**
HIZ Hauiti 21.92 207 P **P** **19 10 53.6 +2.8**
HIZ IAmb IAmb 19 11 08.3
comp=Z,258nm,1.2s
MCHZ McNeill Hill 21.98 203 P **P** **19 10 57.1 +5.6**
KWHZ Kaweka Forest 22.06 203 P **P** **19 10 57.1 +4.7**
KWHZ S **S** **19 14 48.9 -4.9**
TIAR Tiarei 22.07 89 *e*P **P** **19 10 53.4 +0.8**
comp=Z,22nm,1.1s
TVO Taravao 22.12 89 *e*P **P** **19 10 54.2 +0.9**
comp=Z,60nm,1.2s
TVO Taravao 22.12 89 *e*T T 19 33 10.5
comp=Z,3.6nm,0.4s
NGZ Ngauruhoe 22.17 205 P **P** **19 10 58.2 +4.5**
TUVZ Tukino 22.22 205 P **P** **19 10 57.9 +3.6**
TUVZ S **S** **19 14 53.4 -3.6**
KAHZ Kahuranaki 22.23 202 P **P** **19 10 59.5 +5.3**
KAHZ S **S** **19 14 52.8 -4.0**
BHHZ Black Hill Sta 22.26 204 P **P** **19 10 56.1 +1.6**
BHHZ S **S** **19 14 53.9 -3.5**
KRHZ Kereru 22.27 203 P **P** **19 10 57.1 +2.4**
KRHZ S **S** **19 14 51.2 -6.6**
MOVZ Moawhango 22.30 204 P **P** **19 10 57.9 +2.9**
MOVZ S **S** **19 14 53.9 -4.4**
PXZ Pawanui 22.44 202 P **P** **19 10 59.8 +3.4**
PXZ S **S** **19 14 55.0 -5.6**
VRZ Vera Road 22.47 207 P **P** **19 10 53.1 -3.6**
PNHZ Pukenui 22.57 203 P **P** **19 11 01.4 +3.5**
TSZ Takapari Road 22.79 203 P **P** **19 11 02.7 +2.5**
DVHZ Dannevirke 22.93 203 P **P** **19 11 04.9 +3.4**
KHEZ Kahui Hut 22.93 208 P **P** **19 11 05.2 +3.5**
PRWZ Pori Road 23.22 203 P **P** **19 11 07.7 +3.2**
BFZ Birch Farm 23.23 202 P **P** **19 11 07.0 +2.4**
BFZ IAmb IAmb 19 11 10.8
comp=Z,450nm,1.6s
MRZ Mangatainoka R 23.46 203 P **P** **19 11 09.4 +2.5**
HOWZ Holdsworth Sta 23.69 203 P **P** **19 11 13.0 +3.9**
TMWZ Te Maipa 23.74 202 P **P** **19 11 12.9 +3.4**
OGWZ Otaki Gorge 23.75 204 P **P** **19 11 12.7 +3.1**
MTW Mount Morrison 23.92 203 P **P** **19 11 14.6 +3.4**
CAW Cannon Point 24.04 203 P **P** **19 11 14.9 +2.6**
TRWZ Traveller 24.07 202 P **P** **19 11 16.1 +3.5**
PAWZ Paruwai Farm 24.14 203 P **P** **19 11 16.7 +3.4**
DUWZ D'Urville Isla 24.23 206 P **P** **19 11 14.2 +0.1**
MSWZ Moikau Station 24.24 203 P **P** **19 11 18.5 +4.3**
MSWZ Moikau Station 24.24 203 P **P** **19 11 15.3 +1.1**
SNZO South Karori 24.35 204 P **P** **19 11 15.8 +0.7**
SNZO IAmb IAmb 19 11 28.9
comp=Z,113nm,1.1s
PLWZ Palliser 24.37 203 P **P** **19 11 18.3 +2.9**
PLWZ Palliser 24.37 203 P **P** **19 11 17.7 +2.2**
BHW Baring Head 24.37 203 P **P** **19 11 18.5 +3.1**
BHW Baring Head 24.37 203 P **P** **19 11 17.3 +1.9**
TUWZ Tuamarina 24.75 205 P **P** **19 11 19.6 +0.8**
TUWZ Tuamarina 24.75 205 P **P** **19 11 19.2 +0.5**
NNZ Nelson 24.80 206 P **P** **19 11 19.1 -0.1**
NNZ IAmb IAmb 19 11 47.6
comp=Z,241nm,1.7s
QRZ Quartz Range 24.84 208 **P** **19 11 20.3 +0.7**
QRZ IAmb IAmb 19 11 40.8
comp=Z,110nm,0.8s
CMWZ Cape Campbell 24.91 204 P **P** **19 11 21.0 +0.7**
BSWZ Blackbirch Sta 25.02 205 P **P** **19 11 22.1 +0.9**
TARA Tarawa 25.14 324 P **P** **19 11 18.4 -4.2**
TARA IAmb IAmb 19 11 21.2
comp=Z,82nm,0.7s
THZ Tophouse 25.45 206 P **P** **19 11 26.3 +1.1**
KHZ Kahutara 25.75 204 P **P** **19 11 29.3 +1.5**
LTZ Lake Taylor 26.56 206 P **P** **19 11 35.8 +0.6**
LTZ IAmb IAmb 19 11 48.6
comp=Z,73nm,0.6s
OXZ Oxford 27.11 205 P **P** **19 11 40.7 +0.6**
OXZ IAmb IAmb 19 11 53.9
comp=Z,83nm,0.7s
RPZ Rata Peaks 27.83 206 P **P** **19 11 46.2 -0.4**
comp=Z,10nm,0.7s,baz=172,slow=1.0,SNR=8.6
RPZ Rata Peaks 27.83 206 P **P** **19 11 48.1 +1.5**
EIDS Eidsvold 34.08 253 P **P** **19 12 40.9 -1.0**
baz=34,SNR=12
EIDS Eidsvold 34.08 253 P **P** **19 12 40.9 -1.0**
ARMA Armidale 34.15 244 P **P** **19 12 43.2 +0.6**
baz=34,SNR=8.2
ARMA Armidale 34.15 244 P **P** **19 12 42.9 +0.3**
ARMA IAmb IAmb 19 12 54.4
comp=Z,58nm,1.1s
MGCD Mangrove Creek 35.16 240 P **P** **19 12 52.2 +1.0**
baz=36,SNR=6.8
RMQ Roma 36.22 252 P **P** **19 13 00.1 -0.2**
baz=36,SNR=12
CNB Canberra Magne 37.08 237 P **P** **19 13 08.6 +0.9**
baz=37,SNR=12
CAN Canberra 37.37 237 P **P** **19 13 10.7 +0.6**
CAN pmax pmax
comp=Z,82nm,1.0s
CAN Canberra 37.37 237 P **P** **19 13 10.7 +0.6**
CAN IAmb IAmb 19 13 23.1
comp=Z,82nm,1.0s
YNG Young 37.61 239 P **P** **19 13 14.7 +2.6**
baz=38,SNR=5.0
MILA Mila 37.72 234 P **P** **19 13 14.0 +0.9**
baz=38,SNR=4.2
CTA Charters Tower 38.72 262 P **P** **19 13 19.7 -1.9**
comp=Z,10nm,0.4s,baz=91,slow=11,SNR=28
CTAO Charters Tower 38.72 262 P **P** **19 13 20.2 -1.4**
CTAO pmax pmax
comp=Z,77nm,1.1s
CTAO Charters Tower 38.72 262 P **P** **19 13 20.2 -1.4**
CMSA Cobar Meteorol 39.36 244 P **P** **19 13 26.6 -0.2**
baz=40,SNR=26
PMG Port Moresby 40.20 279 P **P** **19 13 33.0 -1.0**
PMG pmax pmax
comp=Z,48nm,0.9s
PMG Port Moresby 40.20 279 P **P** **19 13 33.0 -1.0**
QLP Quilpie 40.27 252 P **P** **19 13 34.0 -0.4**
baz=40,SNR=4.3
TOO Toolangi 40.67 235 P **P** **19 13 38.7 +1.0**
baz=41,SNR=16
TOO Toolangi 40.67 235 P **P** **19 13 38.4 +0.7**
TOO pmax pmax
comp=Z,31nm,0.8s
TOO Toolangi 40.67 235 P **P** **19 13 38.4 +0.7**
MTSU Mount Surprise 40.79 265 P **P** **19 13 37.9 -1.0**
baz=41,SNR=13
MOO Moorlands 40.93 227 P **P** **19 13 42.7 +3.0**
baz=41,SNR=3.6
TAU Tasmania Unive 41.01 226 P **P** **19 13 41.5 +1.2**

TAU pmax pmax
comp=Z,51nm,0.8s
TAU Tasmania Unive 41.01 226 P **P 19 13 41.5 +1.2**
HMH Humu'ula Sheep 42.27 24 P **P 19 13 50.3 -0.8**
HMH IAmb IAmb 19 13 52.4
comp=Z,138nm,1.1s
COEN Coen 42.69 270 P **P 19 13 53.7 -0.7**
baz=43,SNR=16
COEN Coen 42.69 270 P **P 19 13 53.4 -1.1**
STKA Stephens Creek 42.87 244 P **P 19 13 55.8 +0.1**
baz=43,SNR=12
STKA Stephens Creek 42.87 244 P **P 19 13 55.7 +0.1**
STKA pmax pmax
comp=Z,12nm,1.1s
STKA Stephens Creek 42.87 244 P **P 19 13 55.3 -0.3**
comp=Z,37nm,1.1s,baz=93,slow=11,SNR=15
STKA LR LR 19 28 57.3
comp=Z,4μm,18.6s,baz=37,slow=32
STKA Stephens Creek 42.87 244 P **P 19 13 55.7 +0.1**
ARPS Mount Arapiles 43.35 237 P **P 19 14 01.6 +2.1**
baz=44,SNR=8.2
QIS Mount Isa 44.86 260 P **P 19 14 12.0 +0.1**
baz=45,SNR=4.4
HTT Hallett 45.26 242 P **P 19 14 15.4 +0.5**
baz=46,SNR=9.4
BBOO Buckleboo 47.61 243 P **P 19 14 33.6 +0.3**
baz=48,SNR=14
BBOO Buckleboo 47.61 243 P **P 19 14 33.1 -0.2**
BBOO IAmb IAmb 19 14 53.5
comp=Z,38nm,0.9s
JAY Jayapura 48.69 284 P **P 19 14 41.4 -0.5**
comp=Z,35nm,0.9s,baz=145,slow=5.2,SNR=2.4
AS31 Alice Springs 49.76 255 P **P 19 14 49.1 -0.9**
ASAR Alice Springs 49.76 255 P **P 19 14 49.4 -0.7**
comp=Z,40nm,0.8s,baz=89,slow=7.9,SNR=95
ASAR S **S 19 21 52.2 -5.0**
comp=Z,1.7nm,0.9s,baz=90,slow=14,SNR=4.6
ASAR Alice Springs 49.76 255 P **P 19 14 49.1 -0.9**
WB2 Warramunga Arr 49.83 260 P **P 19 14 49.2 -1.3**
WRAB Tennant Creek 49.83 260 *i* P **P 19 14 50.2 -0.4**
WRAB pmax pmax
comp=Z,90nm,1.4s
WRAB Tennant Creek 49.83 260 P **P 19 14 49.3 -1.3**
WRAB IAmb IAmb 19 15 00.8
comp=Z,137nm,1.4s
WRA Warramunga Arr 49.84 260 P **P 19 14 49.2 -1.5**
comp=Z,32nm,1.0s,baz=98,slow=6.9,SNR=99
WRA S **S 19 21 52.7 -5.7**
comp=Z,4.1nm,1.1s,baz=99,slow=14,SNR=6.7
WRA Warramunga Arr 49.84 260 P **P 19 14 48.9 -1.7**
KDU Kakadu 53.09 269 P **P 19 15 13.7 -1.3**
baz=53,SNR=37
MTN Manton Dam 54.32 268 P **P 19 15 23.1 -1.0**
baz=54,SNR=16
MTN Manton Dam 54.32 268 P **P 19 15 23.0 -1.0**
MTN IAmb IAmb 19 15 34.2
comp=Z,49nm,0.8s
FORT Forrest 54.42 246 P **P 19 15 24.8 +0.3**
baz=55,SNR=14
FORT Forrest 54.42 246 P **P 19 15 24.5 0.0**
FORT IAmb IAmb 19 15 37.2
comp=Z,60nm,0.8s
WRKA Warakurna 54.69 253 P **P 19 15 26.2 -0.5**
baz=55,SNR=46
KNRA Kununurra 55.87 264 P **P 19 15 34.6 -0.6**
baz=56,SNR=9.5
KNRA Kununurra 55.87 264 P **P 19 15 34.7 -0.5**
KNRA IAmb IAmb 19 15 54.8
comp=Z,63nm,0.9s
FAKI Fak Fak 56.34 280 P **P 19 15 37.4 -1.2**
FAKI IAmb IAmb 19 15 58.0
comp=Z,52nm,1.3s
SIJI Sorong 58.01 282 P **P 19 15 50.1 -0.3**
comp=Z,62nm,0.8s,baz=85,slow=5.2,SNR=38
FITZ Fitzroy Crossi 58.27 260 P **P 19 15 51.7 -0.4**
baz=58,SNR=25
FITZ Fitzroy Crossi 58.27 260 P **P 19 15 51.9 -0.2**
SBA Scott Base 59.30 185 P **P 19 16 01.9 +3.6**
SBA pmax pmax
comp=Z,154nm,1.6s
SBA Scott Base 59.30 185 P **P 19 16 01.9 +3.6**
KMBL Kambalda 59.66 244 P **P 19 16 03.0 +1.4**
baz=60,SNR=4.5
PSA00 Pilbara Seismi 62.91 255 P **P 19 16 24.0 +0.3**
PSA00 IAmb IAmb 19 16 35.5
comp=Z,65nm,1.2s
MEEK Meekatharra 63.11 249 P **P 19 16 25.4 +0.4**
baz=63,SNR=6.8
KLBR Kellerberrin 63.14 244 P **P 19 16 26.8 +1.6**
baz=63,SNR=4.9
NWAO Narrogin (SRO) 63.42 242 P **P 19 16 27.2 +0.2**
NWAO pmax pmax
comp=Z,76nm,1.3s
NWAO Narrogin (SRO) 63.42 242 P **P 19 16 27.2 +0.2**
NWAO IAmb IAmb 19 16 41.0
comp=Z,76nm,1.2s
MMRI Maumere 63.88 270 P **P 19 16 30.1 -0.2**
MUN Mundaring 64.40 243 P **P 19 16 34.2 +0.8**
baz=65,SNR=7.0
MORW Morawa 64.97 246 P **P 19 16 37.7 +0.4**
baz=65,SNR=6.4
MORW Morawa 64.97 246 P **P 19 16 37.6 +0.4**
MORW IAmb IAmb 19 16 41.2
comp=Z,60nm,1.2s
LUWI Luwuk 65.84 278 P **P 19 16 42.3 -0.7**
CASY Casey 67.10 205 P **P 19 16 52.1 +1.9**
CTBH Cotabato--PC H 67.64 287 ⇑*i* P **P 19 16 55.5 +1.0**
GIRL Giralia 67.78 253 P **P 19 16 54.5 -0.8**
baz=68,SNR=4.0
GIRL Giralia 67.78 253 P **P 19 16 56.3 +1.0**
QSPA South Pole Qui 70.61 180 P **P 19 17 14.3 +2.1**
INU Inuyama 72.52 319 P **P 19 17 23.4 -0.6**
INU IAmb IAmb 19 17 25.6
comp=Z,75nm,1.6s
MJAR Matsushiro Arr 72.56 320 P **P 19 17 24.1 -0.2**
comp=Z,20nm,0.8s,baz=161,slow=6.3,SNR=53
MJAR Matsushiro Arr 72.56 320 P **P 19 17 23.3 -0.9**
MAJO Matsushiro 72.57 320 P **P 19 17 23.7 -0.6**
MAJO pmax pmax
comp=Z,44nm,1.1s
MAJO Matsushiro 72.57 320 P **P 19 17 23.7 -0.6**
MAJO IAmb IAmb 19 17 25.7
comp=Z,44nm,1.1s
MAT Matsushiro 72.57 320 P **P 19 17 23.8 -0.5**
MAT *e*S **SKiKP 19 26 52.0 -4.5**
MJB9 Matsu-Tunnel 72.57 320 IAmb IAmb 19 17 25.7
comp=Z,47nm,1.1s
SNCC San Nicolas Is 72.84 44 P **P 19 17 27.2 +1.3**
baz=232
SCZ2 Santa Cruz Isl 73.22 44 P **P 19 17 29.4 +1.2**
baz=232
SCI2 San Clemente I 73.33 45 P **P 19 17 28.8 0.0**
baz=233
SBC Santa Barbara 73.45 43 P **P 19 17 30.7 +1.2**
baz=232
TGY Tagaytay City 73.48 292 P **P 19 17 30.9 +0.7**
comp=Z,99nm,0.4s,baz=233,slow=1.4,SNR=5.7
PKM Mcpherson Peak 73.66 43 P **P 19 17 31.5 +0.5**
baz=231,SNR=6.3
BLG Laguna Peak, P 73.67 44 P **P 19 17 31.8 +1.0**
baz=232
CIS Catalina Islan 73.67 45 P **P 19 17 31.2 +0.4**
baz=233,SNR=5.2
SMMC Simmler 73.81 43 P **P 19 17 32.5 +0.8**
baz=231
SAO San Andreas Ge 73.82 41 P **P 19 17 30.1 -1.5**
SAO pmax pmax
comp=Z,35nm,1.0s
SAO San Andreas Ge 73.82 41 P **P 19 17 30.1 -1.5**
FMP Fort Macarthur 73.94 45 P **P 19 17 33.3 +0.9**
baz=233
OSI Osito Audit: C 74.20 44 P **P 19 17 34.9 +0.9**
baz=232
DECC Green Verdugo 74.24 44 P **P 19 17 34.4 +0.3**
baz=233
109C Camp Elliot, M 74.24 46 P **P 19 17 34.6 +0.4**
baz=234
ARVC Arvin 74.44 43 P **P 19 17 35.3 0.0**
baz=232
KKM Kota Kinabalu 74.52 282 P **P 19 17 36.3 0.0**
KKM IAmb IAmb 19 17 57.0
comp=Z,67nm,1.3s
MURC Murrieta 74.60 45 P **P 19 17 36.7 +0.4**
baz=234,SNR=6.8
BFSC Mount Baldy Ra 74.67 45 P **P 19 17 36.5 -0.3**
baz=233,SNR=9.9

MONP2 Monument Peak 74.71 46 P **P 19 17 37.4 +0.2**
baz=234,SNR=12
VES Vestal, Richgr 74.72 43 P **P 19 17 36.8 -0.1**
baz=232,SNR=12
IKP In-Ko-Pah, Jac 74.78 47 P **P 19 17 38.1 +0.6**
baz=234,SNR=7.4
EDW2 Edwards Air Fo 74.84 44 P **P 19 17 37.7 0.0**
baz=233,SNR=34
ISA Isabella, Lake 75.00 43 P **P 19 17 38.9 +0.2**
baz=232,SNR=28
PFO Pinyon Flats O 75.11 46 P **P 19 17 39.4 +0.1**
baz=234,SNR=14
PFO Pinyon Flats O 75.11 46 *i* P **P 19 17 39.3 0.0**
PFO pmax pmax
comp=Z,49nm,1.1s
PFO Pinyon Flats O 75.11 46 P **P 19 17 38.9 -0.4**
TPFO Pinon Flats 75.11 46 P **P 19 17 39.4 0.0**
baz=234,SNR=15
SWSC Sam W. Stewart 75.17 47 P **P 19 17 39.4 -0.1**
baz=235,SNR=5.4
JNU Nakatsue 75.17 314 P **P 19 17 39.9 +0.2**
comp=Z,39nm,0.8s,baz=80,slow=2.9,SNR=35
JNU Nakatsue 75.17 314 IAmb IAmb 19 17 43.4
comp=Z,86nm,1.1s
O02D Mt. Diablo Mer 75.26 37 P **P 19 17 40.7 +0.7**
baz=228,SNR=12
LRMC Laurel Mtn Rad 75.40 44 P **P 19 17 41.1 +0.1**
baz=233,SNR=20
ASAJ Asahikawa 75.41 328 P **P 19 17 41.0 +0.4**
comp=Z,11nm,0.8s,baz=185,slow=7.4,SNR=9.4
RRX Edison Barstow 75.49 44 P **P 19 17 41.4 0.0**
baz=233
BELC Belle Mtn. Jos 75.64 46 P **P 19 17 42.6 +0.2**
baz=234,SNR=26
WDC Whiskeytown Da 75.67 37 P **P 19 17 41.9 -0.3**
WDC pmax pmax
comp=Z,29nm,1.0s
WDC Whiskeytown Da 75.67 37 P **P 19 17 41.9 -0.3**
CWC Cottonwood Cre 75.73 43 P **P 19 17 43.1 +0.2**
baz=232
BC3 Big Chuckawall 75.81 46 P **P 19 17 43.8 +0.4**
baz=235,SNR=14
N02D Trinity Center 75.84 37 P **P 19 17 43.5 +0.2**
baz=228,SNR=13
GSC Goldstone, Bar 75.87 44 P **P 19 17 43.7 +0.1**
baz=234,SNR=17
MPMC Manual Prospec 75.88 43 P **P 19 17 44.1 +0.3**
baz=233,SNR=49
GLA Glamis 75.90 47 P **P 19 17 44.2 +0.4**
baz=235,SNR=11
HEC Hector,Ludlow 75.90 45 P **P 19 17 43.6 -0.3**
baz=234,SNR=9.3
O03E Paynes Creek 75.91 38 P **P 19 17 44.2 +0.5**
baz=229,SNR=13
MLAC Mammoth, Mammo 75.98 41 P **P 19 17 44.8 +0.4**
baz=232,SNR=5.8
TIN Tinemaha, Big 76.01 42 P **P 19 17 44.6 +0.2**
baz=232,SNR=16
M02C Callahan 76.04 36 P **P 19 17 45.2 +0.8**
baz=228,SNR=7.5
L02E Cave Junction 76.14 35 P **P 19 17 45.0 +0.1**
baz=227
WAKR Walker 76.16 40 IAmb IAmb 19 17 47.3
comp=Z,35nm,1.0s
IRM Iron Mountain 76.31 46 P **P 19 17 46.3 +0.2**
baz=235,SNR=26
GMRC Granite Mounta 76.33 45 P **P 19 17 46.4 +0.1**
baz=234,SNR=18
YBH Yreka Blue Hor 76.35 36 IAmb IAmb 19 17 48.2
comp=Z,39nm,1.0s
PNTR Pine Nut 76.43 40 IAmb IAmb 19 17 48.8
comp=Z,43nm,0.9s
Y12C Blythe 76.50 47 P **P 19 17 47.4 +0.3**
baz=235
GRAC Grapevine Rang 76.52 43 P **P 19 17 47.8 +0.5**
baz=233,SNR=13
FURC Furnace Creek, 76.53 43 P **P 19 17 47.1 -0.1**
baz=233,SNR=6.1
TUQ Turquoise Moun 76.53 45 P **P 19 17 47.4 -0.1**
baz=234,SNR=17
SHOC Shoshone, Teco 76.57 44 P **P 19 17 47.7 +0.2**
baz=234,SNR=8.8
YERR Yerington 76.58 40 IAmb IAmb 19 17 49.4
comp=Z,49nm,1.1s
214A Organ Pipe Nat 76.70 49 P **P 19 17 48.9 +0.5**
baz=237
PEA0B Petropavlovsk- 76.73 342 P **P 19 17 47.3 -0.7**
PEA0B pmax pmax
comp=Z,188nm,1.6s
PEA0B Petropavlovsk- 76.73 342 P **P 19 17 47.2 -0.7**
PETK Petropavlovsk- 76.73 342 P **P 19 17 47.4 -0.6**
comp=Z,17nm,0.7s,baz=108,slow=8.8,SNR=45
PETK Petropavlovsk- 76.73 342 P **P 19 17 47.0 -0.9**
RYN Ryan 76.79 41 IAmb IAmb 19 17 50.8
comp=Z,42nm,1.1s
HUMO Hull Mountain 76.80 35 IAmb IAmb 19 17 50.8
comp=Z,53nm,1.4s
NVAR Mina Array Bea 76.81 41 P **P 19 17 49.1 0.0**
comp=Z,17nm,0.8s,baz=225,slow=8.8,SNR=86
NVAR Mina Array Bea 76.81 41 P **P 19 17 48.8 -0.3**
M04C Macdoel 76.87 36 P **P 19 17 49.8 +0.5**
baz=228,SNR=11
L04D Klamath Falls 76.90 36 P **P 19 17 49.7 +0.3**
baz=228,SNR=6.3
NV11 Mina Array Sit 76.90 41 IAmb IAmb 19 17 51.4
comp=Z,58nm,1.1s
SBUM Sibu 76.94 277 P **P 19 17 49.7 -0.4**
NEE2 Needles Airpor 77.02 46 P **P 19 17 50.8 +0.8**
baz=235
PDMCI Parker Dam,Lak 77.08 46 P **P 19 17 51.3 +0.9**
baz=236,SNR=6.8
TPNV Topopah Spring 77.21 43 P **P 19 17 51.7 +0.4**
baz=234,SNR=20
TPNV Topopah Spring 77.21 43 P **P 19 17 51.4 +0.1**
TPNV pmax pmax
comp=Z,29nm,1.0s
TPNV Topopah Spring 77.21 43 P **P 19 17 51.4 +0.1**
KVN Kaiserville 77.31 40 P **P 19 17 51.6 -0.3**
KVN pmax pmax
comp=Z,38nm,1.1s
KVN Kaiserville 77.31 40 P **P 19 17 51.6 -0.3**
YSS Yuzh-Sakhalins 77.40 330 ||*e* P **P 19 17 50.7 -1.2**
YSS *e* 19 17 55.9
YSS *e* 19 18 03.5
YSS pmax pmax
comp=Z,60nm,1.1s
YSS Yuzh-Sakhalins 77.40 330 P **P 19 17 51.0 -0.9**
YSS IAmb IAmb 19 17 54.0
comp=Z,78nm,1.1s
NACB Ninganchiao 77.44 301 P **P 19 17 52.1 -0.6**
NACB IAmb IAmb 19 17 54.8
comp=Z,91nm,1.2s
K04D Chiloquin, OR 77.47 36 P **P 19 17 53.4 +0.9**
baz=228
J04D Umpqua Nationa 77.69 35 P **P 19 17 54.1 +0.3**
baz=228,SNR=5.8
CISI Cisompet, Garu 77.80 266 IAmb IAmb 19 17 55.8
comp=Z,47nm,0.7s
MOD Modoc Plateau 77.81 37 IAmb IAmb 19 17 56.1
comp=Z,40nm,1.1s
TPUB Ta-pu 77.82 300 P **P 19 17 53.9 -0.9**
J05D Fort Rock, OR 78.19 36 P **P 19 17 56.8 +0.2**
baz=229,SNR=9.4
TUC Tucson 78.34 50 P **P 19 17 58.4 +0.8**
baz=238
TUC Tucson 78.34 50 P **P 19 17 57.5 -0.1**
TUC pmax pmax
comp=Z,41nm,1.1s
TUC Tucson 78.34 50 P **P 19 17 57.5 -0.1**
TUC IAmb IAmb 19 18 00.2
comp=Z,41nm,1.1s
KSM Kuching 78.39 276 P **P 19 17 58.5 +0.3**
KSM IAmb IAmb 19 18 00.8
comp=Z,110nm,1.3s
R11A Troy Canyon, C 78.46 42 P **P 19 17 58.1 -0.1**
baz=234,SNR=25
PINE Pine Mountain 78.69 35 IAmb IAmb 19 18 01.4
comp=Z,51nm,0.9s
BMN Battle Mountai 78.70 40 IAmb IAmb 19 18 01.2
comp=Z,34nm,0.9s
KDAK Kodiak Island 78.72 11 *i* P **P 19 17 58.8 -0.2**
KDAK Kodiak Island 78.72 11 P **P 19 17 58.6 -0.4**
KDAK IAmb IAmb 19 18 01.0
comp=Z,128nm,1.4s
I05D Terrebonne, OR 78.83 35 P **P 19 18 00.2 +0.2**
baz=228
319A Douglas 78.95 51 P **P 19 18 01.4 +0.4**

319A IAmb IAmb 19 18 03.7
comp=Z,59nm,1.1s
U15A North Rim 79.52 45 IAmb IAmb 19 18 06.9
comp=Z,55nm,1.3s
HPIG 79.53 57 P **P 19 18 03.4 -1.0**
KSRS Korea Array 79.63 316 P **P 19 18 05.8 +1.4**
comp=Z,31nm,1.0s,baz=130,slow=5.3,SNR=58
WUAZ Wupatki 79.64 47 P **P 19 18 05.5 +0.8**
baz=237
ZAIG Zacatecas 80.16 62 P **P 19 18 07.5 -0.4**
TYV Tymovskoe 80.33 333 *e*P **P 19 18 07.7 -0.1**
TYV *e*S **S 19 28 14.7 +3.8**
TYV pmax pmax
comp=Z,42nm,1.5s
TYV pmax pmax
comp=Z,800nm,4.9s
TYV smax smax
comp=E,800nm,8.9s
W18A Petrified Fore 80.56 48 P **P 19 18 10.4 +0.7**
baz=238
CNPM China Poot 80.61 11 IAmb IAmb 19 18 10.2
comp=Z,120nm,1.3s
121A Cookes Peak, D 80.63 51 P **P 19 18 11.2 +1.0**
baz=240,SNR=14
BRLK Bradley Lake 80.89 11 IAmb IAmb 19 18 11.7
comp=Z,101nm,1.2s
B05A Bryant 81.07 31 P **P 19 18 11.6 -0.3**
baz=227
USA0B Ussuriysk Arra 81.11 323 *i* P **P 19 18 11.9 -0.3**
USA0B Ussuriysk Arra 81.11 323 P **P 19 18 12.0 -0.3**
USA0B IAmb IAmb 19 18 14.8
comp=Z,122nm,1.8s
USRK Ussuriysk Ar. 81.11 323 P **P 19 18 12.4 +0.2**
comp=Z,2.2nm,0.6s,baz=95,slow=2.3,SNR=19
DUG Dugway, Tooele 81.28 42 P **P 19 18 13.5 +0.1**
baz=236
TLIG Tlapa 81.41 68 P **P 19 18 13.8 -0.7**
C06D Leavenworth 81.44 32 P **P 19 18 14.4 +0.5**
baz=228
MNTX Cornudas Mount 82.00 52 P **P 19 18 18.1 +0.9**
baz=241,SNR=34
MNTX Cornudas Mount 82.00 52 IAmb IAmb 19 18 19.9
comp=Z,65nm,1.3s
Y22D IRIS PASSCAL I 82.03 50 P **P 19 18 18.3 +0.8**
baz=240
TX32 Lajitas Array 82.20 55 P **P 19 18 18.1 -0.4**
TX32 IAmb IAmb 19 18 21.4
comp=Z,93nm,1.4s
TXAR Lajitas Array 82.20 55 P **P 19 18 19.4 +0.9**
comp=Z,24nm,1.1s,baz=218,slow=7.6,SNR=46
TXAR Lajitas Array 82.20 55 P **P 19 18 18.6 +0.1**
RC01 Rabbit Creek A 82.34 11 IAmb IAmb 19 18 19.9
comp=Z,114nm,1.3s
MVCO Mesa Verde 82.50 46 P **P 19 18 20.4 +0.4**
baz=239
MDJ Mudanjiang 82.73 322 P **P 19 18 21.6 +0.9**
MDJ pmax pmax
comp=Z,42nm,1.6s
MDJ LR LR
comp=Z,1μm,14.1s
MDJ LR LR
comp=Z,1μm,16.3s
MDJ LR LR
comp=Z,3μm,16.2s
MDJ Mudanjiang 82.73 322 IAmb IAmb 19 18 23.5
comp=Z,92nm,1.5s
ANMO Albuquerque 82.79 49 P **P 19 18 22.4 +0.8**
baz=240
SKT Skwentna 82.87 10 IAmb IAmb 19 18 21.0
comp=Z,59nm,1.3s
KNK Knik Glacier 82.88 11 IAmb IAmb 19 18 22.0
comp=Z,56nm,0.9s
PV01 Paradox Valley 82.94 46 IAmb IAmb 19 18 24.5
comp=Z,48nm,1.1s
GRNR Gornyy 83.06 330 *e*P **P 19 18 22.8 +0.5**
GRNR pmax pmax
comp=Z,190nm,2.0s
GHO Glory Hole Cre 83.12 11 P **P 19 18 21.6 -0.9**
NJ2 Nanjing 83.27 307 *e*P **P 19 18 23.1 -0.7**
NJ2 S **S 19 28 46.0 +4.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,2μm,12.9s
NJ2 LR LR
comp=Z,3μm,16.1s
TGL Tana Glacier 83.45 14 IAmb IAmb 19 18 25.5
comp=Z,66nm,1.0s
PCA Pinnacle 83.50 16 IAmb IAmb 19 18 25.7
comp=Z,74nm,1.3s
NEW Newport 83.59 34 P **P 19 18 24.3 -0.9**
baz=231,SNR=5.5
NEW Newport 83.59 34 P **P 19 18 24.4 -0.9**
baz=227,slow=7.5
NEW Newport 83.59 34 IAmb IAmb 19 18 26.0
comp=Z,75nm,2.0s
GLB Gilahina Butte 83.84 13 P **P 19 18 25.5 -0.7**
GLB IAmb IAmb 19 18 27.2
comp=Z,58nm,1.1s
S22A 4UR Ranch, Cre 83.92 47 P **P 19 18 28.5 +1.1**
baz=240,SNR=25
MCARA McCarthy VSAT 83.97 14 IAmb IAmb 19 18 28.0
comp=Z,60nm,1.1s
BARN Barnard Glacie 84.00 15 P **P 19 18 26.5 -0.6**
O20A White River Ci 84.19 44 P **P 19 18 29.0 +0.3**
baz=239,SNR=12
O20A White River Ci 84.19 44 IAmb IAmb 19 18 30.7
comp=Z,55nm,1.2s
MAW Mawson 84.23 198 P **P 19 18 30.3 +2.1**
baz=84,SNR=40
MAW Mawson 84.23 198 P **P 19 18 30.2 +2.1**
comp=Z,28nm,0.8s,baz=137,slow=7.5,SNR=56
MAW Mawson 84.23 198 P **P 19 18 30.3 +2.1**
MA2 Magadan 84.26 342 *ce*P **P 19 18 29.5 +1.3**
TPAW Teton Pass 84.28 40 IAmb IAmb 19 18 31.0
comp=Z,61nm,1.4s
KLR Kul'dur 84.36 327 *i* P **P 19 18 29.2 +0.3**
KLR pmax pmax
comp=Z,33nm,1.7s
KLR Kul'dur 84.36 327 P **P 19 18 29.3 +0.3**
comp=Z,11nm,1.3s,baz=125,slow=5.3,SNR=11
MSO Missoula 84.44 36 P **P 19 18 28.6 -1.0**
baz=234,SNR=8.1
MSO Missoula 84.44 36 IAmb IAmb 19 18 30.5
comp=Z,53nm,1.6s
KTH Kantishna Hill 84.45 10 IAmb IAmb 19 18 29.3
comp=Z,58nm,1.1s
SMCO Snowmass 84.54 45 IAmb IAmb 19 18 33.0
comp=Z,104nm,1.6s
LOHW Long Hollow 84.55 40 IAmb IAmb 19 18 32.2
comp=Z,54nm,1.4s
MYKOM Kota Tinggi 84.57 274 IAmb IAmb 19 18 33.7
comp=Z,90nm,1.4s
DHY Denali Highway 84.61 11 IAmb IAmb 19 18 31.0
comp=Z,44nm,1.1s
CN2 Changchun 84.71 320 ⇑P **P 19 18 31.8 +0.9**
CN2 pmax pmax
comp=Z,30nm,1.3s
BW06 Boulder Array 84.74 41 P **P 19 18 30.7 -0.7**
baz=238,SNR=14
BW06 Boulder Array 84.74 41 P **P 19 18 30.3 -1.1**
BW06 IAmb IAmb 19 18 32.7
comp=Z,28nm,1.1s
PD31 Pinedale Array 84.74 41 P **P 19 18 30.8 -0.6**
PDAR Pinedale Array 84.74 41 P **P 19 18 30.8 -0.6**
comp=Z,11nm,0.7s,baz=208,slow=3.3,SNR=75
PDAR Pinedale Array 84.74 41 P **P 19 18 30.6 -0.8**
FLWY Flagg Ranch 84.75 40 IAmb IAmb 19 18 33.6
comp=Z,57nm,1.2s
SNY Shenyang 84.82 318 ⇑P **P 19 18 33.0 +1.6**
SNY PP **PP 19 21 51.0 +2.6**
SNY S **S 19 28 57.6 +0.4**
SNY pmax pmax
comp=Z,48nm,1.4s
SNY LR LR
comp=Z,2μm,16.7s
SNY LR LR
comp=Z,2μm,16.2s
SNY LR LR
comp=Z,2μm,17.7s
SDCO Great Sand Dun 84.83 47 P **P 19 18 32.4 +0.4**
baz=241,SNR=22
SDCO Great Sand Dun 84.83 47 IAmb IAmb 19 18 34.4
comp=Z,37nm,1.2s
H17A Grant Village 85.00 39 P **P 19 18 32.0 -0.7**
baz=237
MSTX Muleshoe 85.00 52 P **P 19 18 33.2 +0.5**

baz=243
BOZ Bozeman (W) 85.05 38 P P 19 18 32.7 0.0
baz=236,SNR=7.3
833A Chaparral WMA, 85.12 58 P P 19 18 33.5 +0.1
baz=245
MENT Mentasta 85.20 13 IAmb IAmb 19 18 34.6
comp=Z,59nm,1.0s
T25A Trinidad 85.30 48 P P 19 18 34.7 +0.4
baz=242,SNR=10
WHY Whitehorse 85.43 18 IAmb IAmb 19 18 35.9
comp=Z,59nm,1.4s
Q24A Divide 85.67 46 P P 19 18 37.6 +1.4
baz=241,SNR=5.8
JCT Junction City 85.72 56 P P 19 18 36.2 -0.1
baz=245
BCAR Beaver Creek A 85.73 14 P P 19 18 35.1 -0.5
ISCO Idaho Springs 85.76 45 P P 19 18 37.2 +0.5
baz=240,SNR=5.9
DOT Dot Lake 85.77 12 IAmb IAmb 19 18 37.0
comp=Z,60nm,0.9s
WALA Waterton Lakes 85.77 34 IAmb IAmb 19 18 37.4
comp=Z,48nm,1.4s
MLY Manley 85.87 9 IAmb IAmb 19 18 36.8
comp=Z,51nm,1.0s
HDA Harding Lake 85.91 11 P P 19 18 35.7 -0.7
baz=204
WHN Wuhan 86.05 304 ⇓P P 19 18 40.0 +2.1
WHN pmax pmax
comp=Z,170nm,1.6s
SCRK Sand Creek 86.08 12 IAmb IAmb 19 18 38.8
comp=Z,61nm,1.1s
N23A Red Feather La 86.08 44 P P 19 18 39.3 +1.1
baz=240
RLMT Red Lodge 86.18 39 P P 19 18 38.9 +0.4
baz=238,SNR=5.7
TCOL CIGO, UAF Yank 86.18 10 P P 19 18 36.8 -0.9
baz=203
COLA College 86.18 10 *d iP* **P 19 18 36.9 -0.8**
COLA pmax pmax
comp=Z,144nm,0.9s
COLA College 86.18 10 P P 19 18 37.0 -0.8
PLCA Paso Flores 86.19 132 P P 19 18 39.9 +1.2
PLCA pmax pmax
comp=Z,89nm,1.3s
PLCA Paso Flores 86.19 132 P P 19 18 40.9 +2.3
comp=Z,23nm,1.0s,baz=264,slow=5.2,SNR=22
PLCA Paso Flores 86.19 132 P P 19 18 39.9 +1.2
PLCA IAmb IAmb 19 18 42.7
comp=Z,89nm,1.3s
PLCA Paso Flores 86.19 132 *e*P **P 19 18 41.0 +2.3**
PLCA Paso Flores 86.19 132 *e*P **P 19 18 41.0 +2.3**
AMTX Amarillo 86.22 51 P P 19 18 39.2 +0.5
baz=243
IL31 86.25 11 IAmb IAmb 19 18 38.9
comp=Z,50nm,0.8s
ILAR Eielson Array 86.25 11 P P 19 18 37.0 -1.0
comp=Z,21nm,0.7s,baz=221,slow=5.3,SNR=152
ILAR Eielson Array 86.25 11 P P 19 18 36.9 -1.2
IMAR Indian Mountai 86.36 8 P P 19 18 38.2 -0.4
TIA Tai'an 86.45 310 P P 19 18 40.6 +0.8
TIA pmax pmax
comp=Z,34nm,1.6s
POKR Poker Plat Res 86.47 10 P P 19 18 38.4 -0.8
baz=204
COCO West Island 86.60 258 *i* P **P 19 18 43.8 +2.8**
SEY Seymchan 86.63 345 *d iP* **P 19 18 39.4 -0.6**
BKNI Bangkinang 86.74 271 P P 19 18 41.9 +0.2
ABTX Abilene, Hawle 86.75 54 P P 19 18 41.6 +0.2
baz=245
DAWY Dawson 87.13 14 IAmb IAmb 19 18 44.2
comp=Z,62nm,0.9s
EGAK Eagle 87.36 13 IAmb IAmb 19 18 45.1
comp=Z,54nm,0.9s
435B Jarrell 87.58 56 P P 19 18 46.3 +1.0
baz=246
IPM Ipoh 88.13 275 P P 19 18 48.1 -0.3
WHTX Lake Whitney, 88.17 55 P P 19 18 48.6 +0.5
baz=246
WMOK Wichita Mounta 88.30 52 P P 19 18 49.0 +0.3
baz=245
BILL Bilibino 88.62 352 ⇓*e*P **P 19 18 48.8 -0.6**
BILL *e* 19 22 15.4
BILL pmax pmax
comp=Z,27nm,1.3s
BILL MLR MLR
comp=Z,1μm,18.0s
BILL Bilibino 88.62 352 P P 19 18 49.2 -0.2
VNA3 Neumayer Olymp 88.76 175 P P 19 18 51.7 +1.4
ROC1 El Roble 88.79 125 P P 19 18 51.3 -0.3
SYO Syowa Base 88.80 191 ⇑*e*X **P 19 18 48.2 -2.3**
LAO LASA Array 88.81 39 P P 19 18 51.0 +0.1
baz=240
SNAA Sanae 88.83 177 P P 19 18 52.0 +1.3
SNAA Sanae 88.83 177 P P 19 18 51.8 +1.1
SNAA pmax pmax
comp=Z,40nm,1.1s
SNAA Sanae 88.83 177 P P 19 18 51.8 +1.1
SNAA IAmb IAmb 19 18 53.6
comp=Z,40nm,1.1s
BJT Baijiatuau 88.84 313 P P 19 18 51.7 +0.6
BJT pmax pmax
comp=Z,71nm,1.5s
BJT Baijiatuau 88.84 313 P P 19 18 51.6 +0.6
BJT IAmb IAmb 19 18 53.9
comp=Z,70nm,1.5s
BJI Beijing 88.85 313 P P 19 18 52.1 +1.0
BJI pmax pmax
comp=Z,30nm,1.8s
RSSD Black Hills 88.89 42 P P 19 18 52.0 +0.5
baz=241
PEL Peldehue 88.99 125 P P 19 18 53.4 +1.2
PEL pmax pmax
comp=Z,34nm,0.8s
PEL Peldehue 88.99 125 P P 19 18 53.4 +1.2
PEL IAmb IAmb 19 18 55.9
comp=Z,34nm,0.8s
BMAR Burnt Mountain 89.07 10 P P 19 18 51.8 +0.2
EFI East Falkland 89.10 145 P P 19 18 54.0 +1.8
EFI pmax pmax
comp=Z,153nm,1.1s
EFI East Falkland 89.10 145 P P 19 18 54.0 +1.8
VNA2 Neumayer--Watz 89.26 175 P P 19 18 54.3 +1.6
baz=196,slow=3.2
ZEA Zeya 89.31 329 *e*P **P 19 18 53.9 +0.9**
ZEA pmax pmax
comp=E,64nm,1.8s
ZEA pmax pmax
comp=N,120nm,1.6s
ZEA pmax pmax
comp=Z,130nm,1.6s
CBKS Cedar Bluff 89.35 48 P P 19 18 54.4 +0.8
baz=244
SKLT Songkhla 89.40 278 P P 19 18 57.6 +3.2
SKLT Songkhla 89.40 278 P P 19 18 57.6 +3.2
comp=Z,81nm,1.5s,comp=Z,1μm
TOLK Toolik Lake Re 89.42 8 P P 19 18 54.0 +0.8
baz=202
TOLK Toolik Lake Re 89.42 8 IAmb IAmb 19 18 56.1
comp=Z,61nm,1.8s
VNA1 Neumayer--Stat 89.46 175 P P 19 18 55.5 +2.0
PSI Prapat 89.55 273 P P 19 18 55.2 0.0
comp=Z,23nm,0.9s,baz=117,slow=5.2,SNR=26
EPYK Eagle Plains 89.69 14 P P 19 18 54.3 -0.2
baz=213
EPYK Eagle Plains 89.69 14 IAmb IAmb 19 18 56.1
comp=Z,70nm,1.1s
ENH Enshi 89.78 302 P P 19 18 56.7 +0.9
NATX Nacogdoches 90.26 56 P P 19 18 59.2 +1.3
baz=247
TIY Taiyuan 90.48 310 *e*P **P 19 19 01.6 +2.6**
TIY SKS **SKSac 19 29 30.8 +2.9**
TIY S **S 19 29 51.3 -0.5**
TIY pmax pmax
comp=Z,28nm,0.5s
TIY LR LR
comp=Z,2μm,17.6s
TIY LR LR
comp=Z,3μm,18.3s
TRTT Trang 90.49 278 P P 19 19 02.1 +2.7
TRTT Trang 90.49 278 P P 19 19 02.1 +2.7
comp=Z,87nm,1.5s,comp=Z,2μm
LCO Las Campanas 90.55 121 P P 19 19 01.2 +1.3
LCO pmax pmax
comp=Z,155nm,1.3s
LCO Las Campanas 90.55 121 P P 19 19 01.2 +1.3
LCO Las Campanas 90.55 121 *e*P **P 19 19 03.2 +3.4**
LCO Las Campanas 90.55 121 *e*P **P 19 19 03.2 +3.4**
GYA Guiyang 90.66 298 ⇑*i*P **P 19 19 02.3 +2.2**
GYA PP **PP 19 22 41.3 +5.4**
GYA pmax pmax
comp=Z,30nm,1.3s
GYA LR LR
comp=Z,1μm,18.5s
GYA LR LR
comp=Z,1μm,18.2s
GYA LR LR
comp=Z,2μm,18.8s
NONG Nongkai 90.76 289 P P 19 19 02.0 +1.4
DGMT Dagmar 90.88 38 P P 19 19 01.2 +0.7
baz=241
TUL1 Leonard 91.01 52 P P 19 19 02.5 +1.2
baz=247
CHAI Chaiyaphum 91.07 286 P P 19 19 04.0 +1.9
PATY Pattaya 91.09 283 P P 19 19 06.0 +3.8
JTS Las Juntas de 91.12 80 P P 19 19 03.9 +1.5
comp=Z,26nm,0.8s,baz=46,slow=6.7,SNR=13
JTS Las Juntas de 91.12 80 P P 19 19 01.5 -0.9
SLVN Son La 91.21 292 P P 19 19 02.7 0.0
SLVN IAmb IAmb 19 19 06.3
comp=Z,80nm,1.6s
ACON Acoyapa 91.47 78 IAmb IAmb 19 19 06.4
comp=Z,25nm,1.0s
XAN Xi'an 91.66 305 P P 19 19 05.3 +0.8
XAN pP pP 19 19 12.4 -0.8
XAN S **S 19 30 03.9 +1.3**
XAN pmax pmax
comp=Z,23nm,1.6s
XAN Xi'an 91.66 305 P P 19 19 04.8 +0.3
XAN pmax pmax
comp=Z,93nm,1.8s
XAN Xi'an 91.66 305 P P 19 19 04.8 +0.3
KSU1 Kansas State U 91.69 49 P P 19 19 05.2 +0.8
baz=246
SURT Suratani 91.70 279 P P 19 19 08.6 +3.6
SURT Suratani 91.70 279 P P 19 19 08.6 +3.6
comp=Z,23nm,2.2s
INK Inuvik 91.99 14 IAmb IAmb 19 19 06.4
comp=Z,49nm,1.1s
PBKT Sadao Pong 92.21 287 P P 19 19 09.3 +2.0
PBKT Sadao Pong 92.21 287 P P 19 19 08.1 +0.8
PBKT IAmb IAmb 19 19 11.5
comp=Z,57nm,1.3s
PHET Kaeng Krachan 92.22 283 P P 19 19 12.2 +4.8
PHET Kaeng Krachan 92.22 283 P P 19 19 12.2 +4.8
comp=Z,40μm,1.4s
W39A Magazine 92.25 54 P P 19 19 07.4 +0.3
baz=248
W39A Magazine 92.25 54 IAmb IAmb 19 19 09.4
comp=Z,39nm,1.4s
HHC Hu-ho-hao-te 92.38 313 P P 19 19 07.0 -0.7
HHC S **S 19 30 07.8 -1.1**
HHC pmax pmax
comp=Z,6.0nm,0.9s
YAK Yakutsk 93.15 336 *e*P **P 19 19 10.2 -0.4**
YAK *e* 19 19 13.2
YAK *e**PP **sP 19 19 21.0 -1.8**
YAK *e*S **SKSac 19 29 40.0 -1.6**
YAK *e* 19 30 14.3
YAK *e*SS **SS 19 36 26.1 -4.5**
YAK *e*SSS SSS 19 40 11.1
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,157nm,2.8s
YAK pmax pmax
comp=N,62nm,2.5s
YAK pmax pmax
comp=E,37nm,3.0s
YAK smax smax
comp=N,43nm,2.2s
YAK smax smax
comp=E,36nm,2.0s
YAK Yakutsk 93.15 336 P P 19 19 09.1 -1.4
comp=E,5.4nm,0.5s,baz=34,slow=0.8,SNR=8.1
YAK Yakutsk 93.15 336 P P 19 19 09.2 -1.4
YAK IAmb IAmb 19 19 11.0
comp=Z,15nm,0.7s
NANT Nan 93.19 289 P P 19 19 14.2 +2.4
NANT Nan 93.19 289 P P 19 19 14.2 +2.4
comp=Z,230μm,1.3s
UTHA Uthaitani 93.26 285 P P 19 19 15.5 +3.3
U40A Yellville 93.38 53 P P 19 19 12.7 +0.3
baz=248
W41B Gary Mavity, V 93.41 54 P P 19 19 13.2 +0.8
baz=249
YKA Yellowknife Ar 93.48 23 P P 19 19 11.6 -0.5
comp=Z,6.2nm,0.9s,baz=240,slow=4.5,SNR=10
YKA Yellowknife Ar 93.48 23 P P 19 19 11.0 -1.1
KMI Kunming 93.51 295 P P 19 19 13.9 +0.4
KMI pP PcP 19 19 16.3 +2.3
KMI pmax pmax
comp=Z,21nm,1.2s
KMI LR LR
comp=Z,1μm,16.5s
KMI LR LR
comp=Z,2μm,18.0s
KMI LR LR
comp=Z,1μm,17.8s
ECSD EROS Data Cent 93.54 45 P P 19 19 13.1 +0.2
baz=246
KHLT Khaolaem Dam 93.80 284 P P 19 19 14.8 +0.1
KHLT Khaolaem Dam 93.80 284 P P 19 19 14.8 +0.1
comp=Z,12nm,1.4s
UMPA Umpang Tak 94.00 286 P P 19 19 19.1 +3.5
comp=Z,17μm,1.0s,comp=Z,405μm
MGMO Mountain Grove 94.11 52 IAmb IAmb 19 19 17.5
comp=Z,37nm,1.1s
PAYA Payao 94.12 289 P P 19 19 19.2 +3.1
PAYA Payao 94.12 289 P P 19 19 19.2 +3.1
comp=Z,33μm,1.3s
LVC Limon Verde 94.52 116 P P 19 19 20.2 +1.8
comp=Z,46nm,1.2s,baz=239,slow=3.1,SNR=17
LVC Limon Verde 94.52 116 *e*P **P 19 19 22.5 +4.1**
LVC Limon Verde 94.52 116 *e*P **P 19 19 22.5 +4.1**
CD2 Chengdu 94.61 301 *e*P **P 19 19 18.0 -0.2**
CMAR Chiang Mai Arr 94.66 288 P P 19 19 19.5 +0.9
CMAR Chiang Mai Arr 94.66 288 P P 19 19 20.7 +2.1
comp=Z,12nm,1.2s,baz=116,slow=2.6,SNR=31
CMAR Chiang Mai Arr 94.66 288 P P 19 19 19.5 +0.9
CMMT Chiang Mai 94.77 288 P P 19 19 21.2 +2.1
CMMT Chiang Mai 94.77 288 P P 19 19 21.2 +2.1
FFC Flin Flon 95.02 33 *c e*P **P 19 19 21.2 +1.8**
FFC pmax pmax
comp=Z,39nm,1.7s
C36M Paulatuk 95.03 15 P P 19 19 18.9 -0.2
baz=225
CCM Cathedral Cave 95.19 52 P P 19 19 21.1 +0.5
baz=250
MHMT Maesarieng 95.48 287 P P 19 19 26.3 +4.0
LZH Lanzhou 96.28 306 *e*P **P 19 19 25.4 -0.4**
LZH pP pP 19 19 31.6 -3.0
LZH sP sP 19 19 35.4 -2.3
LZH pmax pmax
comp=Z,18nm,1.1s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,2μm,15.2s
ULM Lac du Bonnet 96.55 39 P P 19 19 25.4 -1.1
comp=Z,7.9nm,1.1s,baz=228,slow=6.0,SNR=4.3
SPMN Marine on St. 96.62 44 P P 19 19 27.2 +0.3
baz=249
A36M Sachs Harbour 96.64 13 P P 19 19 26.3 0.0
baz=224
P43A Skaggs, Pawnee 96.99 51 P P 19 19 29.3 +0.6
baz=251
LPAZ La Paz 97.65 110 P Pdif 19 19 35.0 +1.9
comp=Z,2.9nm,0.9s,baz=222,slow=3.3,SNR=7.4
LPAZ La Paz 97.65 110 P P 19 19 31.8 -1.3
LPAZ La Paz 97.65 110 *e*P Pdif 19 19 36.0 +2.9
LPAZ La Paz 97.65 110 *e*P Pdif 19 19 36.0 +2.9
G39A Holcombe 97.73 45 P Pdif 19 19 31.6 -0.4
baz=250
SONM Songino Array 98.40 318 P P 19 19 34.6 -0.4
SONM pmax pmax
comp=Z,4.0nm,1.5s
SONM Songino Array 98.40 318 P Pdif 19 19 35.6 +0.5
comp=Z,0.6nm,0.8s,baz=129,slow=5.7,SNR=3.3
SONM Songino Array 98.40 318 P P 19 19 34.6 -0.4
EYMN Ely 98.41 42 IAmb IAmb 19 19 36.6
comp=Z,30nm,1.4s
GTA Gaotai 100.34 308 P Pdif 19 19 45.8 +1.9
GTA pP pPdif 19 19 50.8 -1.9
GTA sP pP 19 19 53.7 +1.0
GTA pmax pmax
comp=Z,3.0nm,1.3s
SIV San Ignacio 103.97 113 Pdiff Pdif 19 20 03.0 +2.5
comp=Z,1.8nm,0.9s,baz=174,slow=2.9,SNR=5.1
PTGA Pitinga 110.97 99 *e*P **Pdif 19 20 35.3 +3.6**
PTGA Pitinga 110.97 99 *e*P **Pdif 19 20 35.3 +3.6**
ZALV Zalesovo Beam 112.91 321 PKiKP PKiKP 19 24 33.0 -0.5
comp=Z,0.7nm,0.3s,baz=64,slow=3.4,SNR=3.6
MKAR Makanchi Array 114.23 313 PKiKP PKPdf 19 24 35.8 -0.6
comp=Z,1.2nm,0.6s,baz=213,slow=0.3,SNR=8.8
KURK Kurchatov 116.71 318 PKIKP PKPdf 19 24 40.3 -0.7
KURK Kurchatov 116.71 318 PKPdf 19 24 40.7 -0.3
KURBB Kurchatov Arra 116.77 318 PKP PKPdf 19 24 40.2 -0.8
comp=Z,3.2nm,1.0s,baz=89,slow=1.8,SNR=8.7
KSH Kashi 118.51 305 PKP PKiKP 19 24 47.2 +2.2
KSH PP **PP 19 26 08.2 +5.7**
KSH PKS **PKSdf 19 28 21.9 +0.1**
KSH SS SS 19 42 24.7 +6.8
KSH LR LR
comp=Z,820nm,16.4s
KSH LR LR
comp=Z,2μm,20.0s
SPITS Spitsbergen Ar 121.08 358 PKP PKPdf 19 24 48.3 -0.4
comp=Z,18nm,0.8s,baz=134,slow=4.8,SNR=4.7
BVAR Borovoye Array 121.56 321 PKP PKiKP 19 24 50.2 -0.2
comp=Z,6.2nm,0.6s,baz=98,slow=1.4,SNR=31
BRVK Borovoye 121.62 321 *c i* PKIKP **PKiKP 19 24 50.4 -0.1**
BRVK pmax pmax
comp=Z,56nm,1.7s
BRVK Borovoye 121.62 321 PKiKP 19 24 50.3 -0.2
BTK Batken 122.49 306 PKIKP PKiKP 19 24 53.0 +0.2
BTK Batken 122.49 306 PKiKP 19 24 53.0 +0.2
KK31 Karatay Array 122.60 309 PKIKP PKPdf 19 24 52.2 -0.4
KK31 Karatay Array 122.60 309 PKPdf 19 24 52.2 -0.4
KKAR Karatay Array 122.60 309 PKIKP PKPdf 19 24 51.6 -1.0
KKAR Karatay Array 122.60 309 PKPdf 19 24 51.6 -1.0
KBL Kabul 123.89 299 PKIKP PKiKP 19 24 56.1 +0.2
KBL Kabul 123.89 299 PKiKP 19 24 56.1 +0.2
SVE Sverdlovsk 125.98 327 *e*PKIKP **PKPdf 19 24 58.5 -0.1**
SVE pmax pmax
comp=Z,27nm,1.5s
SUR Sutherland 126.89 194 PKP PKiKP 19 25 01.8 -0.2
comp=Z,9.4nm,0.9s,baz=191,slow=5.2,SNR=3.9
SUR Sutherland 126.89 194 PKiKP 19 25 02.1 +0.1
ARU Arti 127.20 327 *i* PKIKP **PKiKP 19 25 01.3 -0.1**
ARU 19 26 56.6
ARU 19 32 12.5
ARU SP SP 19 36 55.4 -4.9
ARU SS **SS 19 44 04.9 -1.6**
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 127.20 327 PKP PKiKP 19 25 01.0 -0.5
comp=Z,3.6nm,0.5s,baz=43,slow=0.9,SNR=20
ARU Arti 127.20 327 PKiKP 19 25 01.4 -0.1
ARCES ARCESS Array B 128.72 352 PKP PKiKP 19 25 04.1 -0.1
comp=Z,6.2nm,0.5s,baz=20,slow=0.8,SNR=56
ABKAR Akbulak array 128.81 318 PKiKP 19 25 04.4 -0.5
ABKAR Akbulak array 128.81 318 PKPdf 19 25 04.2 -0.1
APA Apatity 129.16 347 ⇓ *i* PKIKP **PKPdf 19 25 00.6 -3.8**
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,2μm,18.0s
BOSA Boshof 129.21 200 PKP PKiKP 19 25 06.8 +0.1
comp=Z,5.5nm,1.0s,baz=123,slow=3.2,SNR=3.9
AKTO Aktyubinsk 129.64 320 PKP PKPdf 19 25 05.7 -0.1
comp=Z,2.2nm,0.7s,baz=28,slow=1.4,SNR=6.0
PRGR Permogore 130.19 337 *e*PKIKP **PKPdf 19 25 05.0 -1.5**
PRGR pmax pmax
comp=Z,15nm,0.9s
KIRV Kirov 130.52 333 PKP PKiKP 19 25 07.3 -0.7
comp=Z,21nm,0.7s,baz=225,slow=1.3,SNR=8.8
GEYT Alibeck 132.52 304 PKP PKPdf 19 25 11.9 +0.2
comp=Z,2.3nm,0.7s,baz=46,slow=4.3,SNR=5.1
GEYT Alibeck 132.52 304 PKiKP 19 25 12.7 -0.1
KLMR Klimovskoe 132.86 339 *e*PKIKP **PKPdf 19 25 08.6 -3.0**
KLMR pmax pmax
comp=Z,38nm,1.4s
KLMR Klimovskoe 132.86 339 *e*PKPdf **PKPdf 19 25 08.6 -3.0**
KLMR AMP 19 25 14.4
comp=Z,38nm,1.4s
FINES FINESS Array B 136.06 347 PKP PKPdf 19 25 17.1 -0.4
comp=Z,1.9nm,0.4s,baz=86,slow=4.3,SNR=4.4
FINES FINESS Array B 136.06 347 PKPdf 19 25 18.0 +0.5
OBN Obninsk 138.13 335 *c e*PKIKP **PKiKP 19 25 23.6 0.0**
OBN *e* 19 28 14.5
OBN pmax pmax
comp=Z,47nm,1.3s
OBN Obninsk 138.13 335 PKP PKPdf 19 25 22.1 +0.6
comp=Z,3.9nm,0.5s,baz=133,slow=21,SNR=5.0
NB2 NORSAR Subarra 138.38 357 PKP PKPdf 19 25 15.8 -6.1
comp=Z,22nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 138.38 357 PKP PKPdf 19 25 21.1 -0.8
comp=Z,6.3nm,1.2s,baz=14,slow=4.0,SNR=6.2
VRH Novokhopyorsk 138.42 328 *e*PKIKP **PKPdf 19 25 22.5 +0.3**
VRH pmax pmax
comp=Z,40nm,1.7s
VSU Vasula 138.58 345 *e*P **PKPdf 19 25 19.9 -2.4**
LPSR Galich'ya Gora 138.88 331 *e*PKIKP **PKPdf 19 25 23.2 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.3s
HFS Hagfors 139.13 355 PKhKP PKPpre 19 25 11.7
comp=Z,2.1nm,0.6s,baz=87,slow=6.1,SNR=7.0
HFS PKP **PKiKP 19 25 25.3 -0.2**
comp=Z,3.0nm,0.6s,baz=122,slow=1.9,SNR=8.6
VSR Storozhevoye 139.67 329 *e*PKIKP **PKPdf 19 25 23.5 -1.0**
VSR pmax pmax
comp=Z,40nm,1.4s
VORD Divnogorie 139.77 329 *e*PKIKP **PKPdf 19 25 23.2 -1.5**
VORD pmax pmax
comp=Z,30nm,1.6s
LSZ Lusaka 139.91 212 PKP PKiKP 19 25 27.6 -1.1
comp=Z,1.7nm,0.5s,baz=187,slow=8.1,SNR=3.7
LSZ Lusaka 139.91 212 PKiKP 19 25 27.8 -0.8
IZAR Zarasai 141.10 343 *e*P **PKPdf 19 25 24.9 -2.0**
ISAL Salakas 141.29 343 *e*P **PKPdf 19 25 21.4 -5.8**
IIGN Ignalina 141.46 343 *e*P **PKPdf 19 25 23.0 -4.6**
KIV Kislovodsk 141.79 318 *e*PKIKP **PKiKP 19 25 32.6 +1.0**
KIV pmax pmax
comp=Z,15nm,1.1s
PABE Paberze 141.91 345 *e*P **PKPdf 19 25 23.8 -4.6**
AKH Akhalkalaki 142.40 314 ⇑P **PKPdf 19 25 27.9 -2.1**
EKA Eskdalemuir Ar 143.29 10 PKhKP PKPpre 19 25 27.2
comp=Z,3.7nm,0.8s,baz=332,slow=4.0,SNR=4.6
SOC Sochi 143.84 319 *e*PKIKP **PKPbc** 19 25 29.8 -0.1
SOC *i* 19 25 34.9
SOC *e*SSS SSS 19 52 50.9
SOC pmax pmax
comp=Z,18nm,0.8s
SOC pmax pmax
comp=Z,9.0nm,0.5s
KMBO Kilima Mbogo 144.32 238 PKP PKPdf 19 25 34.3 0.0
comp=Z,18nm,0.9s,baz=95,slow=3.8,SNR=37
AKASG Malin Array Be 144.38 336 PKIKP PKPbc 19 25 31.0 -0.3
AKASG Malin Array Be 144.38 336 PKP PKPbc 19 25 31.0 -0.4
comp=Z,2.4nm,0.4s,baz=38,slow=4.2,SNR=25
AKASG Malin Array Be 144.38 336 PKPab 19 25 30.6 -0.5
AKBB Malin Array Si 144.38 336 PKIKP PKPbc 19 25 31.1 -0.2
AKBB Malin Array Si 144.38 336 PKPbc 19 25 31.1 -0.2
DAMY Dhamar 144.41 268 PKPdf 19 25 34.8 +0.4
RAYN Ar Rayn 144.45 283 PKIKP PKPbc 19 25 33.0 +0.5
RAYN Ar Rayn 144.45 283 PKPdf 19 25 33.0 -0.9
ANN Anapa 144.54 322 *e*PKIKP **PKPbc** 19 25 32.4 +0.4
ANN *e* 19 25 42.3
ANN pmax pmax
comp=Z,117nm,1.6s
ATD Arta Tunnel 145.06 262 PKPbc PKPbc 19 25 33.6 -1.1
comp=Z,30nm,1.0s,baz=51,slow=1.8,SNR=15
EUZM Uzumlu 145.74 313 *i* P **PKiKP 19 25 43.4 +3.6**
EUZM IAML_P
comp=Z,1μm,0.1s
KELT Kelkit 145.84 314 *i* P **PKiKP 19 25 42.8 +2.6**
KELT IAML_P
comp=Z,416nm,0.8s
SIM Simferopol' 146.31 325 *i* PKP2 **PKPbc 19 25 37.5 -0.1**
SIM *e* 19 29 01.0
SIM *e*SS SS 19 47 58.0 +3.9
SIM pmax pmax

comp=Z,66nm,0.9s
SIM pmax pmax
comp=Z,400nm,12.4s
ORDU Ordu-Boztepe 146.36 316 *i* P **PKiKP 19 25 46.2 +5.2**
ORDU IAML_P
comp=Z,53nm,0.1s
SUSE Susehri 146.52 315 *i* P **PKPab 19 25 39.8 +0.2**
SUSE IAML_P
comp=Z,146nm,0.5s
REFA Refahiye_ERZN 146.52 313 *i* P **PKiKP 19 25 45.8 +4.2**
REFA IAML_P
comp=Z,48nm,0.2s
SORM Soroca 146.76 334 ⇓PKP2 **PKPab 19 25 39.3 -0.8**
SORM Soroca 146.76 334 ⇓P **PKPab 19 25 39.3 -0.8**
KEMA Kemaliye 146.77 313 *i* P **PKiKP 19 25 41.2 -0.8**
KEMA IAML_P
comp=Z,644nm,0.7s
LVV L'vov 146.94 340 *e*PKP2 **PKPdf 19 25 37.9 +0.6**
CUZAR Zara_SIVAS 146.97 315 *i* P **PKPab 19 25 41.2 -0.1**
ERBA Erbaa 147.24 317 *i* P **PKPbc 19 25 41.2 +0.7**
ERBA IAML_P
comp=Z,29nm,0.4s
HEKM Malatya_Hekimh 147.31 313 *i* P **PKiKP 19 25 43.2 0.0**
HEKM IAML_P
comp=Z,647nm,0.6s
SCER sogukcermik 147.41 315 *i* P **PKiKP 19 25 49.9 +6.5**
SCER IAML_P
comp=Z,24nm,0.1s
CUKAN kangal_SIVAS 147.45 314 *i* P **PKiKP 19 25 48.1 +4.6**
KIS Kishinev 147.45 332 *e*PKP **PKPdf 19 25 37.0 -1.3**
comp=Z,1μm,3.5s
KIS Kishinev 147.45 332 *e*PKiKP **PKPdf 19 25 37.0 -1.3**
KIS pmax pmax
comp=Z,1μm,3.5s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=N,2μm,21.0s
MILM Milestii Mici 147.52 332 ⇑P **PKPbc 19 25 41.1 +0.2**
DIKM Dikmen 147.66 319 ⇑P **PKPab 19 25 43.6 -0.2**
HAVZ Havza 147.69 318 *i* P **PKPab 19 25 49.0 +5.0**
HAVZ IAML_P
comp=Z,230nm,0.6s
CUGUR Gurin_SVAS 147.86 313 *i* P PKPab 19 25 54.5 +10
CLL Collm 147.92 353⇓ *e*PKiKP **PKPdf 19 25 39.0 +0.1**
CLL *i* 19 25 42.0
CLL *i* 19 25 44.6
CLL pmax pmax
comp=Z,120nm,1.4s
CLL Collm 147.92 353 *e*PKPdf **PKPdf 19 25 39.0 +0.1**
CLL ⇓ *i*PKPbc **PKPbc 19 25 42.0 +0.1**
comp=Z,120nm,1.4s
CLL *i* PKPab **PKPab 19 25 44.6 +0.1**
comp=Z,195nm,1.5s
CLL *e*PP **PP 19 29 06.0 -2.7**
CUALT Altinyayla-SIV 147.95 314 *i* P **PKiKP 19 25 44.2 -0.3**
CHVC Chvalec 148.20 350⇑ *e*PKP **PKPbc 19 25 41.7 -1.1**
BZK Bozkurt 148.24 321 ⇑P **PKiKP 19 25 44.4 -0.4**
BRG Berggiesshubel 148.24 352 *i* PKP **PKPdf 19 25 39.8 +0.3**
comp=Z,49nm,1.9s
BRG Berggiesshubel 148.24 352 *i* PKP **PKiKP 19 25 44.2 -0.3**
comp=Z,181nm,1.9s
comp=N,2μm,18.1s
comp=E,3μm,20.0s
comp=Z,3μm,20.0s
BRG Berggiesshubel 148.24 352 *i* PKiKP **PKPdf 19 25 39.8 +0.3**
BRG *i* 19 25 44.2
BRG pmax pmax
comp=Z,49nm,1.9s
BRG pmax pmax
comp=Z,181nm,1.9s
BRG MLR MLR
comp=N,2μm,18.1s
BRG MLR MLR
comp=E,3μm,20.0s
BRG MLR MLR
comp=Z,3μm,20.0s
KOLS Kolonicke sedl 148.27 341 *e*PKP2 **PKPdf 19 25 40.9 +1.3**
KOLS Kolonicke sedl 148.27 341 *e*PKP **PKPdf 19 25 40.9 +1.3**
KOLS *e* 19 25 45.5
DPC Dobruska-Polom 148.38 349 *e*PKP2 **PKPbc 19 25 41.5 -1.8**
DPC Dobruska-Polom 148.38 349⇑ *e*PKP **PKPbc 19 25 41.5 -1.8**
DPC *e*PKPAB **PKPab 19 25 44.4 -2.1**
BURAR Bucovina Array 148.41 337 ⇑PKP2 **PKiKP 19 25 45.7 +0.6**
BURAR Bucovina Array 148.41 337 ⇑P **PKiKP 19 25 45.7 +0.6**
BURAR Bucovina Array 148.41 337 **PKPdf 19 25 40.7 +0.7**
PVCC Panska Ves 148.49 351 *e*PKP2 **PKiKP 19 25 44.0 -1.0**
PVCC Panska Ves 148.49 351⇑ *e*PKP **PKiKP 19 25 44.0 -1.0**
CTAK Corum_Osmancik 148.51 318 *i* P **PKiKP 19 25 45.0 -0.6**
CTAK IAML_P
comp=Z,568nm,0.8s
OKC Ostrava-Krasne 148.51 347 *e*PKP2 **PKPbc 19 25 43.8 +0.3**
OKC Ostrava-Krasne 148.51 347⇑ *e*PKP **PKPbc 19 25 43.8 +0.3**
UZH Uzhgorod 148.53 341 *e*PKP2 **PKPbc 19 25 41.8 -1.8**
COAL Corum-Alaca 148.60 317 *i* P **PKPab 19 25 51.0 +3.2**
COAL IAML_P
comp=Z,236nm,0.8s
BIZ Bicaz 148.63 335 ⇑P **PKiKP 19 25 45.2 -0.2**
UCC Uccle 148.63 4 PKPab **PKiKP 19 25 45.0 -0.2**
MORC Moravsky Berou 148.69 347 ⇑PKP2 **PKiKP 19 25 45.2 -0.4**
MORC Moravsky Berou 148.69 347 ⇑P **PKiKP 19 25 45.2 -0.4**
MORC Moravsky Berou 148.69 347 *e*PKP **PKPdf 19 25 40.8 +0.5**
BEBN Eben Emael 148.70 2 PKPab **PKiKP 19 25 45.2 -0.2**
BEBN x 19 25 48.1
TESR Tescani 148.76 334 ⇑P **PKiKP 19 25 45.0 -0.7**
TLCR 148.83 330 ⇑PKP2 **PKiKP 19 25 45.4 -0.5**
TLCR 148.83 330 ⇑P **PKiKP 19 25 45.4 -0.5**
LANS Liptovska Anna 148.84 345 *e*PKP2 **PKiKP 19 25 46.2 +0.3**
LANS Liptovska Anna 148.84 345 *e*PKP **PKiKP 19 25 46.2 +0.3**
MEM Membach 148.90 2 PKPab **PKiKP 19 25 45.6 -0.2**
MEM PKPab **PKiKP 19 25 45.6 -0.2**
MEM x x 19 25 50.2
TRPA Tarpa 148.90 340 ⇑P **PKiKP 19 25 45.4 -0.5**
BSTI Sart Tilman 148.91 2 pPKPab **PKiKP 19 25 46.0 +0.1**
BSTI x x 19 25 49.1
SNF Seneffe 148.91 4 PKPab **PKiKP 19 25 45.4 -0.5**
ILGA Ilgaz 148.95 320 *i* P **PKPab 19 25 51.8 +2.5**
ILGA IAML_P
comp=Z,58nm,0.2s
PRA Prague 148.96 351 *e*PKP2 **PKiKP 19 25 45.5 -0.5**
PRA Prague 148.96 351⇑ *e*PKP **PKiKP 19 25 45.5 -0.5**
BMR Baia Mare 148.98 339 ⇑PKP2 **PKiKP 19 25 45.8 -0.3**
BMR Baia Mare 148.98 339 ⇑P **PKiKP 19 25 45.8 -0.3**
SIRC Yozgat 148.99 316 *i* P **PKiKP 19 25 46.6 0.0**
SIRC IAML_P
comp=Z,781nm,0.8s
PRU Pruhonice 149.02 351 *e*PKP2 **PKPbc 19 25 45.1 +0.3**
PRU Pruhonice 149.02 351⇑ *e*PKP **PKPbc 19 25 45.1 +0.3**
GOPC GO Pecny, Ondr 149.06 351 *e*PKP2 **PKPbc 19 25 45.3 +0.3**
GOPC GO Pecny, Ondr 149.06 351⇑ *e*PKP **PKPbc 19 25 45.3 +0.3**
BCLA Clavier 149.06 3 PKPdf **PKPdf 19 25 40.0 -0.8**
BCLA PKiKP **PKPbc 19 25 45.2 +0.3**
BCLA x x 19 25 48.4
PETR Petresti 149.14 333 ⇑P **PKiKP 19 25 47.3 +0.8**
BMRD Maredsous 149.15 3 PKiKP **PKPbc 19 25 44.9 -0.3**
BMRD x x 19 25 49.2
CFR Carcaliu 149.15 331 ⇑PKP2 **PKiKP 19 25 46.1 -0.4**
CFR Carcaliu 149.15 331 ⇑P **PKiKP 19 25 46.1 -0.4**
BHOU Houvegnez 149.15 2 PKPab **PKiKP 19 25 46.6 +0.2**
BHOU x x 19 25 49.6
ARCR ARCALIA 149.18 337 ⇑P **PKPbc 19 25 45.5 +0.2**
VRI Vrincioaia 149.24 333 ⇑PKP2 **PKiKP 19 25 46.3 -0.5**
VRI Vrincioaia 149.24 333 ⇑P **PKiKP 19 25 46.3 -0.5**
TOPG Topolog 149.27 330 ⇑P **PKiKP 19 25 46.8 -0.1**
PLOR Plostina 149.28 333 ⇑PKP2 **PKiKP 19 25 46.1 -0.8**
PLOR Plostina 149.28 333 ⇑P **PKiKP 19 25 46.1 -0.8**
VRAC Vranov 149.33 348 PKP **PKPdf 19 25 40.6 -0.7**
comp=Z,5.0nm,0.3s,baz=201,slow=8.6,SNR=4.0
VRAC PKPbc **PKPbc 19 25 46.3 +0.7**
comp=Z,5.0nm,0.3s,baz=28,slow=3.3,SNR=4.0
VRAC Vranov 149.33 348 *e*PKP **PKPdf 19 25 41.9 +0.6**
CDAG Cicekdag 149.34 317 *i* P **PKPab 19 25 52.8 +2.0**
CDAG IAML_P
comp=Z,264nm,0.4s
DOU Dourbes 149.35 4 PKiKP **PKPbc 19 25 45.3 -0.3**
DOU x x 19 25 47.1
PBCC Pribram 149.39 352⇑ *e*PKP **PKiKP 19 25 46.4 -0.5**
DELI KIRIKKALE 149.43 318 *i* P **PKPab 19 25 53.4 +2.3**
DELI IAML_P
comp=Z,13nm,0.4s
OZUR 149.45 335 ⇑P **PKiKP 19 25 47.2 0.0**
AVNS Nevsehir-Avano 149.47 315 *i* P **PKPab 19 25 53.5 +2.1**
AVNS IAML_P
comp=Z,423nm,0.5s
JAVC Velka Javorina 149.54 347 *e*PKP **PKPdf 19 25 43.3 +1.6**
TREC Trest 149.54 350 *e*PKP2 **PKiKP 19 25 46.9 -0.4**
TREC Trest 149.54 350⇑ *e*PKP **PKiKP 19 25 46.9 -0.4**
TIRR Tirgusor 149.56 330 ⇑PKP2 **PKiKP 19 25 47.1 -0.3**
TIRR Tirgusor 149.56 330 ⇑P **PKiKP 19 25 47.1 -0.3**
KRUC Moravsky 149.60 348 *e*PKP **PKPdf 19 25 42.0 +0.3**
VYHS Vyhne 149.61 345 *e*PKP **PKPdf 19 25 43.0 +1.2**
VYHS *e* 19 25 47.5
HARR Harsova 149.62 330 ⇑PKP2 **PKiKP 19 25 47.5 0.0**
HARR Harsova 149.62 330 ⇑P **PKiKP 19 25 47.5 0.0**
KOLL Kolacno 149.63 346 *e*PKP **PKiKP 19 25 47.4 -0.1**
TLB Topalu 149.64 330 ⇑PKP2 **PKiKP 19 25 47.6 0.0**
TLB Topalu 149.64 330 ⇑P **PKiKP 19 25 47.6 0.0**
MBAR Mbarara 149.69 232 PKHKP **PKPdf 19 25 43.7 +0.5**
MBAR 19 25 48.7
MBAR Mbarara 149.69 232 PKP **PKPdf 19 25 44.2 +1.0**
comp=Z,3.4nm,0.2s,baz=76,slow=8.9,SNR=2.7
MBAR PKPbc **PKiKP 19 25 49.0 +0.1**
comp=Z,6.4nm,0.8s,baz=83,slow=8.1,SNR=15
MBAR Mbarara 149.69 232 **PKPdf 19 25 43.7 +0.5**
MBAR **PKiKP 19 25 48.7 -0.2**
DOPR Dopca 149.71 335 ⇑P **PKiKP 19 25 48.2 +0.4**
EFOR EFORIE 149.74 329 ⇑P **PKiKP 19 25 48.7 +0.9**
BRTR Keskin Array B 149.76 318 PKP **PKPdf 19 25 42.9 +0.4**
comp=Z,12nm,1.0s,baz=71,slow=3.0,SNR=6.0
BRTR PKPbc **PKiKP 19 25 47.9 -0.4**
comp=Z,20nm,0.8s,baz=126,slow=2.7,SNR=30
CJR Cluj-Napoca 149.77 338 ⇑PKP2 **PKPbc 19 25 46.1 -0.8**
CJR Cluj-Napoca 149.77 338 ⇑P **PKPbc 19 25 46.1 -0.8**
WLF Walferdange 149.84 2 PKPab **PKiKP 19 25 48.9 +1.0**
MLR Muntele Rosu 149.87 334 PKP **PKPdf 19 25 42.0 -0.4**
comp=Z,39nm,1.1s,baz=201,slow=4.2,SNR=13
MLR PKPbc **PKiKP 19 25 47.7 -0.5**
comp=Z,39nm,1.1s,baz=299,slow=6.2,SNR=23
MLR Muntele Rosu 149.87 334 ⇑P **PKiKP 19 25 48.1 -0.1**
ISR Istrita 149.91 333 ⇑PKP2 **PKiKP 19 25 48.2 0.0**
ISR Istrita 149.91 333 ⇑P **PKiKP 19 25 48.1 0.0**
SMOL Smolenice 149.92 347 *e*PKP2 **PKiKP 19 25 48.4 +0.3**
SMOL Smolenice 149.92 347 *e*PKP **PKiKP 19 25 48.3 +0.2**
SMOL *e* 19 25 53.6
MANR Mangalia 149.95 329 ⇓P **PKiKP 19 25 48.9 +0.7**
KHC Kasperske Hory 149.99 352 *e*PKPDF **PKPdf 19 25 42.8 +0.4**
KHC ⇑ *e*PKP **PKiKP 19 25 47.9 -0.3**
KHC *e*pPKP **PKPab 19 25 53.3 +0.3**
DRGR 150.01 339 ⇓PKP2 **PKiKP 19 25 48.9 +0.5**
DRGR 150.01 339 ⇓P **PKiKP 19 25 48.9 +0.5**
MODS Modra-Piesok 150.08 347 *e*PKiKP **PKiKP 19 25 48.0 -0.4**
MODS Modra-Piesok 150.08 347 *e*PKP **PKiKP 19 25 48.0 -0.4**
SECR 150.18 333 ⇑P **PKiKP 19 25 48.7 0.0**
ANTO Ankara 150.21 318 PKiKP **PKPdf 19 25 43.2 +0.1**
ANTO 19 25 49.3
ANTO Ankara 150.21 318 PKPdf **PKPdf 19 25 43.2 +0.1**
ANTO **PKPbc 19 25 49.3 +1.0**
PSN Preselentsi 150.25 329 P **PKiKP 19 25 48.5 -0.4**
GERES GERESS Array B 150.26 352 PKiKP **PKPdf 19 25 42.5 -0.4**
GERES 19 25 48.0
GERES GERESS Array B 150.26 352 PKP **PKPdf 19 25 43.4 +0.5**
comp=Z,3.4nm,0.9s,baz=100,slow=3.3,SNR=8.8
GERES PKPbc **PKiKP 19 25 48.2 -0.7**
comp=Z,11nm,0.9s,baz=26,slow=2.5,SNR=28
GERES GERESS Array B 150.26 352 PKPdf **PKPdf 19 25 42.5 -0.4**
GERES **PKPbc 19 25 48.0 0.0**
VOIR 150.28 335 ⇑PKiKP **PKiKP 19 25 49.5 +0.5**
VOIR 150.28 335 ⇑P **PKiKP 19 25 49.5 +0.5**
LEHL Lehliu 150.29 331 ⇑P **PKiKP 19 25 49.1 +0.2**
SULR 150.38 332 ⇑P **PKiKP 19 25 49.0 0.0**
ARR Arges 150.51 335 ⇑P **PKiKP 19 25 50.4 +0.9**
DEV Deva 150.73 338 ⇑PKiKP **PKiKP 19 25 50.0 +0.2**
DEV Deva 150.73 338 ⇑P **PKiKP 19 25 50.0 +0.2**
ASF Jabal al Asfar 150.74 302 PKP **PKPdf 19 25 44.1 0.0**
comp=Z,0.7nm,0.4s,baz=113,slow=7.7,SNR=3.2
ASF PKPbc **PKiKP 19 25 50.5 +0.1**
comp=Z,9.2nm,0.9s,baz=26,slow=1.6,SNR=12
ASF PKPab **pPKPbc 19 25 58.6 -0.4**
comp=Z,9.7nm,1.0s,baz=348,slow=2.7,SNR=8.3
LOT Lotru 150.78 336 ⇑P **PKPbc 19 25 49.4 0.0**
CONA Conrad Observa 150.79 348 *e*pPKPdf **PKPdf 19 25 44.3 +0.5**
comp=Z,20nm,1.6s,SNR=19
CONA *e*pPKPbc **PKPbc 19 25 50.1 +0.7**
comp=Z,78nm,1.3s
SIRR Siria 150.82 340 ⇑P **PKiKP 19 25 50.4 +0.4**
PRD Provadia 150.99 329 P **PKiKP 19 25 50.3 -0.1**
RAZG Razgrad 151.14 331 ⇑P **PKiKP 19 25 50.8 +0.1**
MOA Molln 151.15 350 pPKPdf **PKPdf 19 25 45.1 +0.9**
comp=Z,23nm,1.2s
MOA *e*pPKPbc **PKPbc 19 25 50.6 +0.5**
comp=Z,29nm,1.5s
BFO Black Forest 151.19 359 *c i*PKiKP **PKiKP 19 25 50.8 +0.1**
BFO pmax pmax
comp=Z,18nm,1.7s
BFO Black Forest 151.19 359 **PKiKP 19 25 50.5 -0.3**
GZR Gura Zlata 151.19 337 ⇑PKiKP **PKiKP 19 25 50.7 -0.2**
GZR Gura Zlata 151.19 337 ⇑P **PKiKP 19 25 50.7 -0.2**
COPA Copaceanca 151.27 333 ⇑P **PKiKP 19 25 50.9 0.0**
ECH Echery 151.31 0 PKiKP **PKPbc 19 25 50.0 -0.5**
ECH 19 25 58.6
ECH Echery 151.31 0 **PKPbc 19 25 50.0 -0.5**
ECH PKPab **PKPab 19 25 58.6 +0.1**
BZS Buzias 151.41 339 ⇑PKiKP **PKiKP 19 25 51.4 +0.2**
BZS Buzias 151.41 339 ⇑P **PKiKP 19 25 51.4 +0.2**
ARSA Arzberg 151.51 348 *e*pPKPdf **PKPdf 19 25 44.8 0.0**
comp=Z,12nm,1.7s,SNR=5.8
ARSA *e*PKiKP **PKiKP 19 25 51.4 0.0**
comp=Z,29nm,1.4s
KLYT Kilyos 151.54 324 ⇑P **PKiKP 19 25 52.2 +0.6**
SZH Strazhica 151.63 331 P **PKiKP 19 25 51.3 -0.5**
MMAI Mount Meron Ar 151.64 304 PKP **PKPdf 19 25 46.4 +0.9**
comp=Z,3.6nm,1.2s,baz=333,slow=40,SNR=3.6
MMAI PKPbc **PKPbc 19 25 52.5 +0.7**
comp=Z,15nm,0.9s,baz=70,slow=4.7,SNR=16
MMAI PKPab **PKPab 19 26 01.0 +0.5**
comp=Z,13nm,0.7s,baz=74,slow=6.2,SNR=15
SRE Strehaia 151.65 336 ⇑PKiKP **PKiKP 19 25 52.4 +0.7**
SRE Strehaia 151.65 336 ⇑P **PKiKP 19 25 52.4 +0.7**
VLAD Vladila 151.72 334 ⇑P **PKiKP 19 25 53.6 +1.7**
RETA Reutte 151.91 355 *e*PKiKP **PKiKP 19 25 52.2 -0.1**
comp=Z,41nm,1.4s,SNR=7.4
ELND Elena 151.92 330 ⇑P **PKiKP 19 25 52.8 +0.4**
PVL Pavlikeni 151.94 332 P **PKiKP 19 25 53.1 +0.7**
WATA Walderalm 151.99 354 *e*PKiKP **PKiKP 19 25 52.3 -0.3**
comp=Z,73nm,1.8s,SNR=9.7
MOTA Moosalm 152.03 355 *i* pPKPdf **PKPdf 19 25 46.3 +0.6**
comp=Z,13nm,1.6s
MOTA *e*pPKPbc **PKiKP 19 25 52.7 +0.1**
comp=Z,65nm,1.2s,SNR=11
KBA Koelnbreinsper 152.03 351 *e*PKPdf **PKPdf 19 25 45.2 -0.6**
comp=Z,14nm,1.8s
KBA *e*pPKPbc **PKPbc 19 25 53.1 +0.8**
comp=Z,24nm,1.1s
WTTA Wattenberg 152.06 354 *e*pPKPdf **PKPdf 19 25 46.0 +0.2**
comp=Z,12nm,1.2s
WTTA *e*PKiKP **PKiKP 19 25 52.3 -0.4**
comp=Z,82nm,1.3s,SNR=10
PUNG Punghina 152.08 336 ⇑P **PKiKP 19 25 52.8 +0.2**
MDVR Moldovita 152.10 338 ⇑P **PKiKP 19 25 53.0 +0.3**
PLVB Pleven 152.12 333 ⇑P **PKiKP 19 25 53.3 +0.5**
SQTA Sankt Quirin 152.14 355 *e*pPKPdf **PKPdf 19 25 46.1 +0.2**
comp=Z,11nm,1.4s
SQTA *e*pPKPbc **PKPbc 19 25 53.1 +0.6**
comp=Z,43nm,1.0s,SNR=9.1
SOKA Soboth 152.15 349 *e*pPKPdf **PKPdf 19 25 46.5 +0.7**
comp=Z,15nm,1.5s,SNR=6.2
SOKA *e*PKiKP **PKiKP 19 25 52.6 -0.2**
comp=Z,45nm,1.3s
DAVA Damuels 152.17 356 *e*pPKPbc **PKPbc 19 25 53.4 +0.8**
comp=Z,41nm,1.1s,SNR=7.0
PERS Pernice 152.18 349 *e*PKPdf **PKPdf 19 25 46.3 +0.5**
OBKA Obir 152.40 349 *i* PKiKP **PKPbc 19 25 52.9 -0.2**
comp=Z,11nm,0.8s
MYKA Terra Mystica 152.43 351 *e*PKiKP **PKPbc 19 25 52.8 -0.3**
comp=Z,40nm,1.6s
ABTA Abfaltersbach 152.47 352 *e*PKPdf **PKPdf 19 25 45.9 -0.4**
comp=Z,10nm,1.4s
ABTA *i* PKiKP **PKiKP 19 25 53.2 -0.2**
comp=Z,51nm,1.1s,SNR=7.8
MPEP Malo Peshtene 152.53 334 P **PKiKP 19 25 53.9 +0.3**
DAVOX Davos/Dischmat 152.68 356 PKP **PKPdf 19 25 47.1 +0.3**
comp=Z,3.6nm,1.1s,baz=341,slow=5.0,SNR=3.6
DAVOX PKPbc **PKPbc 19 25 54.6 +0.8**
comp=Z,20nm,0.8s,baz=234,slow=1.2,SNR=34
DAVOX PKPab **PKPab 19 26 03.7 -0.7**
comp=Z,13nm,0.7s,baz=290,slow=21,SNR=4.3
DIM Dimitrovgrad 152.76 330 P **PKiKP 19 25 54.4 +0.3**
ISP Isparta 152.84 317 ⇑PKiKP **PKiKP 19 25 54.5 -0.1**
ISP Isparta 152.84 317 ⇑P **PKiKP 19 25 54.5 -0.1**
PGB Panagyurishte 153.00 332 P **PKiKP 19 25 55.7 +1.0**
VISS Visnje 153.03 349 *e*PKPdf **PKPdf 19 25 46.8 -0.3**
EIL Elat 153.08 297 PKP **PKPdf 19 25 48.2 +0.6**
comp=Z,4.5nm,1.0s,baz=225,slow=4.3,SNR=3.5
EIL PKPbc **PKPbc 19 25 55.8 +0.8**
comp=Z,6.8nm,0.8s,baz=293,slow=4.8,SNR=5.2
EIL PKPab **PKPab 19 26 06.7 +0.1**
comp=Z,7.4nm,0.8s,baz=352,slow=3.0,SNR=5.6
JAVS Javornik 153.08 350 *i* PKPdf **PKPdf 19 25 47.8 +0.6**
SENIN Lac Senin/Sane 153.17 0 **PKPdf 19 25 48.2 +0.7**
SENIN PKPbc **PKPbc 19 25 55.6 +0.7**
BOJS Bojanci 153.24 348 *i* PKPdf **PKPdf 19 25 47.1 -0.3**
VTS Vitosha 153.34 333 P **PKiKP 19 25 55.9 +0.5**
VTS Vitosha 153.34 333 ⇑PKiKP **PKiKP 19 25 56.0 +0.5**
VTS Vitosha 153.34 333 ⇑P **PKiKP 19 25 56.0 +0.5**
BLY Banja Luka 153.51 344 ⇑P **PKiKP 19 25 57.1 +1.6**
MMB Musomiste 153.96 331 P **PKPbc 19 25 56.0 -0.6**
EZN Ezine 154.01 325 ⇑PKiKP **PKPbc 19 25 54.7 -2.0**
EZN Ezine 154.01 325 ⇑P **PKPbc 19 25 54.7 -2.0**
KKB Krupnik 154.02 333 P **PKiKP 19 25 57.5 +0.7**
PCAB Cabril 154.20 27 *e*PKPab **PKPab 19 26 12.5 +1.6**
POLO Lamas de Olo 154.57 27 *e*PKPab **PKPab 19 26 13.0 +0.4**
PBRG Braganca 154.66 25 *e*PKPdf **PKPdf 19 25 51.3 +1.7**
PBRG Braganca 154.66 25 *e*PKPab **PKPab 19 26 12.6 -0.3**
PVRL Vila Real 154.69 28 *e*PKPab **PKPab 19 26 13.5 +0.5**
PDG Podgorica 155.02 339 ⇑P **PKPab 19 26 13.9 -0.3**
PVIS Viseu 155.06 29 *e*PKPab **PKPab 19 26 13.2 -1.4**
MVO Moncorvo 155.08 27 *e*PKPbc PKPbc 19 26 00.4
MVO Moncorvo 155.08 27 *e*PKPab **PKPab 19 26 15.3 +0.6**
PCAS Casmilo, Conde 155.31 30 *e*PKPab **PKPab 19 26 16.4 +0.8**
PTOM Tomar 155.69 31 *e*PKPab **PKPab 19 26 17.9 +0.6**
PCBR Castelo Branco 155.96 29 *e*PKPdf **PKPdf 19 25 50.7 -0.6**
PCBR Castelo Branco 155.96 29 *e*PKPab **PKPab 19 26 18.4 0.0**
PMTG Montargil 156.21 31 *e*PKPab **PKPab 19 26 20.9 +1.4**
NRCA Norcia 156.21 350 **PKPdf 19 25 51.6 -0.1**
NRCA **PKPab 19 26 19.1 -0.3**
PMRV Marv??o 156.32 30 *e*PKPab **PKPab 19 26 19.9 -0.1**
EVO Evora 156.73 32 *e*PKPab **PKPab 19 26 22.9 +1.2**
PNCL Nicolau / Gran 156.78 33 *e*PKPdf **PKPdf 19 25 54.1 +1.7**
PNCL Nicolau / Gran 156.78 33 *e*PKPab **PKPab 19 26 22.4 +0.4**
PTEO Sao Teotonio 157.10 35 *e*PKPab **PKPab 19 26 24.1 +0.7**
MESJ Messejana 157.15 33 *e*PKPdf **PKPdf 19 25 52.0 -0.9**
PBEJ Beja 157.19 33 *e*PKPab **PKPab 19 26 23.4 -0.4**
MORF Marmelete 157.32 35 *e*PKPab **PKPab 19 26 25.1 +0.7**
PCVE Castro Verde 157.40 34 *e*PKPab **PKPab 19 26 24.5 -0.2**
ESDC Sonseca Array 157.57 24 PKPab **PKPab 19 26 25.6 +0.1**
comp=Z,3.4nm,0.7s,baz=323,slow=4.1,SNR=17
ESDC Sonseca Array 157.57 24 PKPdf **PKPdf 19 25 53.1 -0.4**
ESDC **PKPab 19 26 24.5 -0.9**
PVAQ Vaqueiros 157.74 33 *e*PKPab **PKPab 19 26 26.1 0.0**
LIC Lamto 162.09 136 *e*P **PKPdf 19 25 58.7 -0.6**
comp=Z,52nm,1.4s
KIC Kosan Boka 162.38 136 *e*P **PKPdf 19 26 00.2 +0.6**
comp=Z,79nm,1.5s
TIC Toumodi 162.40 135 *e*P **PKPdf 19 25 59.7 +0.1**
DBIC Dimbokro 162.53 135 PKP **PKPdf 19 26 00.3 +0.6**
comp=Z,8.4nm,1.0s,baz=292,slow=1.5,SNR=4.7
DBIC PKPab **PKPab 19 26 48.2 +0.6**
comp=Z,1.6nm,0.5s,baz=238,slow=2.8,SNR=3.3
MDT Midelt 162.86 37 PKP **PKPdf 19 26 01.4 +1.7**
comp=Z,6.0nm,0.9s,baz=219,slow=1.5,SNR=9.6
MDT PKPab **PKPab 19 26 47.4 -1.3**
comp=Z,5.0nm,0.9s,baz=312,slow=4.8,SNR=6.3
KEST Kesra 163.70 355 PKP **PKPdf 19 26 01.4 +1.1**
comp=Z,2.8nm,0.8s,baz=330,slow=5.9,SNR=3.6
TOA0 Torodi Ar. Sit 171.63 138 **PKPdf 19 26 06.5 +0.2**
TOA0 **PKPab 19 27 29.2 +1.5**
TORD Torodi Ar. Bea 171.63 138 PKP **PKPdf 19 26 05.9 -0.5**
comp=Z,6.3nm,1.1s,baz=258,slow=2.1,SNR=12
TORD PKPab **PKPab 19 27 28.3 +0.6**
comp=Z,11nm,1.2s,baz=181,slow=8.9,SNR=10.0
TORD Torodi Ar. Bea 171.63 138 **PKPdf 19 26 05.8 -0.5**
TORD **PKPab 19 27 28.8 +1.1**

IDC ***02*** *19:12:46.1±1.1,25°.64N×64°.38E,h0km,mb3.9/18, mb1 4.0/20,mb1mx3.8/81,mbtmp3.9/20,ML3.9/2,MS3.7/1, Ms1 3.7/1,ms1mx3.2/57,Error ellipse: s-maj=23.6km s-min=17.1km az=166.0*
ISCJB ***02*** *19:12:47.6±0.5,25°.85N±0°.06×64°.18E±0°.05,h10km, mb3.8/19,Error ellipse: s-maj=10.4km s-min=3.2km az=143.5*
NEIC ***02*** *19:12:49.1±1.4,25°.82N±0°.08×64°.26E±0°.07,h10km±1km, mb4.0/18*
OMAN ***02*** *19:12:55.0±1.1,25°.85N×63°.92E,h23km,ms3.8/2,Error ellipse: s-maj=10.0km s-min=8.4km az=30.0*
DSN ***02*** *19:12:58.4±2.4,26°.35N×63°.46E,h10km,ML4.2/9,Error ellipse: s-maj=68.3km s-min=15.4km az=7.0*
ISC 02 19:12:49.0±0.6,25°.90N±0°.08×64°.24E±0°.06,h10km,n78, σ19 81/87,mb4.1/24,Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**5.75**	**244**	P	**Pn**	**19 14 14.9**	**+0.3**
WSAR	**Wadi Sarin**	**5.75**	**244**	Pn	**Pn**	**19 14 14.8**	**+0.3**
	9.4nm,0.3s,baz=103,slow=12,SNR=64						
WSAR				Sn	Sn	19 15 07.8	-13
	baz=94,slow=15,SNR=1.1						
WSAR				LR	LR	19 17 20.0	
	comp=Z,643nm,18.9s,baz=310,slow=48						
JLN	**Jalan Bani Buh**	**5.78**	**231**	P	**Pn**	**19 14 15.1**	**+0.2**
	SNR=10						
JLN				S	**Sn**	19 15 21.1	-0.2
WBK	**Wadi Bani Khal**	**5.82**	**237**	P	**Pn**	**19 14 15.7**	**+0.2**
	SNR=45						
BIDO	**Bidbid**	**6.04**	**248**	P	**Pn**	**19 14 19.4**	**+0.9**
SMDO	**Samad**	**6.31**	**245**	P	**Pn**	**19 14 22.8**	**+0.5**
	SNR=10						
JMDO	**Jabal Madar**	**6.62**	**239**	P	**Pn**	**19 14 27.4**	**+1.0**
	SNR=52						
JMDO				S	**Sn**	19 15 39.0	-3.0
HOQ	**Hoqain**	**6.71**	**251**	P	**Pn**	**19 14 27.2**	**-0.5**
	SNR=18						
HOQ				S	**Sn**	19 15 42.0	-2.2
BSY	**Bisya**	**7.15**	**245**	P	**Pn**	**19 14 35.3**	**+1.6**
	SNR=14						
BSY				S	**Sn**	19 15 52.9	-2.2
BANOM	**Banah**	**7.15**	**272**	*i* P	**Pn**	**19 14 33.6**	**-0.2**
	SNR=15						
BANOM				S	**Sn**	19 15 48.0	-7.1
BANOM	**Banah**	**7.15**	**272**	P	**Pn**	**19 14 33.5**	**-0.2**
	SNR=15						
MDH	**Madha**	**7.20**	**267**	*i* P	**Pn**	**19 14 33.6**	**-0.8**
	SNR=9.8						
MDH	**Madha**	**7.20**	**267**	P	**Pn**	**19 14 33.5**	**-0.8**
	SNR=9.8						
SHME	**Shamm**	**7.29**	**273**	*i* P	**Pn**	**19 14 35.8**	**+0.1**
	SNR=14						
MSFE	**Esma-Masafi**	**7.32**	**268**	*i* P	**Pn**	**19 14 34.7**	**-1.2**
	SNR=8.6						
UOSS	**Minazif**	**7.33**	**264**	*i* P	**Pn**	**19 14 34.9**	**-1.3**
	SNR=11						
UOSS	**Minazif**	**7.33**	**264**		**Pn**	**19 14 34.8**	**-1.4**
UOSS				Sn	**Sn**	19 15 57.6	-1.8
HATD	**Hatta, Dubai**	**7.41**	**263**	*i* P	**Pn**	**19 14 36.6**	**-0.7**
	SNR=5.6						
ARQ	**Araqi**	**7.47**	**252**	P	**Pn**	**19 14 41.0**	**+2.8**
	SNR=40						
ASHO	**Ashiyiah**	**7.50**	**262**	*i* P	**Pn**	**19 14 39.0

RAYN	Ar Rayn	17.19	266	Pn		Pn	19 16 47.4	-2.0
RAYN				IAmb		IAmb	19 16 55.0	
comp=Z,12nm,0.8s								
KK31	Karatay Array	17.91	15	P		P	19 16 59.6	+0.8
KKAR	Karatay Array	17.91	15	P		P	19 17 00.1	+1.3
KKAR	Karatay Array	17.91	15			P	19 16 59.9	+1.1
AAK	Ala-Archa	18.70	24	P		P	19 17 07.5	-0.2
comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=2.4								
AAK	Ala-Archa	18.70	24	P		P	19 17 08.0	+0.3
BOOM	Boomskoye usch	19.14	27	P		Pn	19 17 13.9	+0.5
BOOM				IAmb		IAmb	19 17 21.0	
comp=Z,15nm,1.1s								
TARG	Taragay, Kyrgy	19.36	32	P		Pn	19 17 17.4	+1.2
TARG				IAmb		IAmb	19 17 25.7	
comp=Z,3.6nm,0.7s								
GNI	Garni	21.60	316	P		P	19 17 41.4	+2.2
comp=Z,10.0nm,0.7s,baz=186,slow=17,SNR=3.3								
ABKAR	Akbulak array	23.56	353	P		P	19 18 00.2	+0.8
ABKAR	Akbulak array	23.56	353	P		P	19 17 59.8	+0.4
ABKAR				IAmb		IAmb	19 18 08.9	
comp=Z,6.5nm,1.1s								
KBZ	Khabaz	24.85	321	P		P	19 18 14.0	+2.4
comp=Z,3.9nm,0.9s,baz=150,slow=9.3,SNR=2.6								
SHL	Shillong	24.89	85	P		P	19 18 12.1	-0.3
AKTO	Aktyubinsk	24.96	351	P		P	19 18 11.9	-0.7
comp=Z,1.6nm,0.7s,baz=135,slow=18,SNR=1.6								
MAKZ	Makanchi	25.18	29	P		P	19 18 15.7	+1.1
MAKZ				IAmb		IAmb	19 18 23.0	
comp=Z,2.0nm,0.7s								
MK31	Makanchi Array	25.30	30	P		P	19 18 16.9	+1.2
MK31				IAmb		IAmb	19 18 22.4	
comp=Z,2.9nm,0.7s								
MKAR	Makanchi Array	25.30	30	P		P	19 18 16.4	+0.7
comp=Z,2.4nm,0.6s,baz=213,slow=9.1,SNR=14								
MKAR	Makanchi Array	25.30	30	P		P	19 18 16.9	+1.2
KURBB	Kurchatov Arra	27.02	20	P		P	19 18 32.7	+1.6
comp=Z,1.2nm,0.7s,baz=212,slow=8.7,SNR=7.0								
BVAR	Borovoye Array	27.48	8	P		P	19 18 37.9	+2.6
comp=Z,1.3nm,0.5s,baz=185,slow=11,SNR=8.5								
BRVK	Borovoye	27.50	8	P		P	19 18 38.3	+2.9
ZALV	Zalesovo Beam	31.91	23	P		P	19 19 15.8	+1.2
comp=Z,1.5nm,0.5s,baz=227,slow=9.8,SNR=2.7								
ZALV	Zalesovo Beam	31.91	23	P		P	19 19 16.1	+1.6
GTA	Gaotai	32.62	57	*e*P		P	19 19 23.8	+2.7
GTA				pP		sP	19 19 29.3	+3.6
GTA				sP		pP	19 19 32.7	+8.3
GTA				pmax		pmax		
comp=Z,3.0nm,1.1s								
AKASG	Malin Array Be	36.45	322	P		P	19 19 54.6	+0.7
comp=Z,0.4nm,0.3s,baz=128,slow=7.6,SNR=2.4								
AKASG				PcP		PcP	19 22 14.7	-3.1
comp=Z,1.4nm,0.4s,baz=131,slow=3.7,SNR=4.5								
BURAR	Bucovina Array	37.50	316	P		P	19 20 04.2	+1.1
BUR08	Bucovina Ar. S	37.52	316	P		P	19 20 03.8	+0.6
BUR08				IAmb		IAmb	19 20 09.9	
comp=Z,4.4nm,1.1s								
SONM	Songino Array	39.56	45	P		P	19 20 19.5	-0.9
comp=Z,0.9nm,0.8s,baz=235,slow=5.1,SNR=3.0								
SONM	Songino Array	39.56	45	P		P	19 20 20.8	+0.4
FIA1	FINESS Array S	43.84	335	P		P	19 20 55.9	+0.9
FINES	FINESS Array B	43.84	335	P		P	19 20 54.8	-0.2
comp=Z,3.2nm,1.0s,baz=126,slow=9.7,SNR=5.2								
FINES	FINESS Array B	43.84	335	P		P	19 20 55.4	+0.4
GERES	GERESS Array B	45.23	314	P		P	19 21 08.2	+1.8
comp=Z,0.4nm,0.6s,baz=86,slow=5.3,SNR=2.6								
GERES	GERESS Array B	45.23	314	P		P	19 21 07.4	+0.9
DAVOX	Davos/Dischmat	47.45	311	P		P	19 21 24.6	+0.5
comp=Z,0.7nm,0.5s,baz=162,slow=20,SNR=3.0								
HFS	Hagfors	48.51	329	P		P	19 21 32.7	+0.9
comp=Z,1.6nm,0.8s,baz=108,slow=9.3,SNR=2.3								
ARCES	ARCESS Array B	49.17	343	P		P	19 21 37.0	+0.2
comp=Z,1.4nm,0.8s,baz=133,slow=6.3,SNR=7.9								
ARCES	ARCESS Array B	49.17	343	P		P	19 21 37.3	+0.5
BNI	Bardonecchia	49.54	308	P		P	19 21 41.5	+1.3
BNI				IAmb		IAmb	19 21 42.5	
comp=Z,2.9nm,1.1s								
NOA	NORSAR Array B	49.97	329	P		P	19 21 42.0	-1.1
comp=Z,0.4nm,0.7s,baz=94,slow=19,SNR=2.5								
TOA0	Torodi Ar. Sit	59.82	271	P		P	19 22 55.0	0.0
TORD	Torodi Ar. Bea	59.82	271	P		P	19 22 55.2	+0.1
comp=Z,0.4nm,0.9s,baz=189,slow=32,SNR=3.7								
TORD	Torodi Ar. Bea	59.82	271	P		P	19 22 55.2	+0.1
WRA	Warramunga Arr	81.88	117	P		P	19 25 06.4	-2.6
comp=Z,0.3nm,0.8s,baz=307,slow=4.2,SNR=3.3								
ILAR	Eielson Array	86.44	13	P		P	19 25 32.0	+0.5
comp=Z,2.0nm,1.2s,baz=349,slow=3.2,SNR=2.9								

ISCJB ***02*** *19:13:33.7±0.1, 19°.24S±0°.03×172°.70W±0°.04, h5km, mb4.9/63, Error ellipse: s-maj=6.4km s-min=3.5km az=41.0*
IDC ***02*** *19:13:34.4±0.4, 19°.30S×172°.62W, h0km, mb4.8/31, mb1 4.9/32, mb1mx4.8/53, mbtmp4.8/32, ML5.0/1, Error ellipse: s-maj=17.1km s-min=11.7km az=159.0*
MOS ***02*** *19:13:34.1±1.0, 19°.33S×172°.66W, h10km, mb5.3/13, Error ellipse: s-maj=13.2km s-min=9.0km az=144.5*
BJI ***02*** *19:13:34.0±0.0, 19°.30S×172°.60W, h5km, mb5.1/27, mB5.6/6, Ms5.7/11, Ms7 5.5/9*
NEIC ***02*** *19:13:35.8±1.4, 19°.30S±0°.09×172°.53W±0°.10, h10km±1km, mb5.1/156*
ISC 02 19:13:35.3±0.6, 19°.40S±0°.05×172°.53W±0°.05, h10km±3km, h10km:pP-P, n451, σ1s27/439, mb5.0/118, 50C-18D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.48	83		Pn	19 14 11.7	-4.1
NIUE				Sn	Sn	19 14 36.0	-10
AFI	Afiamalu	5.51	8	Pn	Pn	19 14 54.5	-3.1
RAO	Raoul Island	10.96	206	Pn	Pn	19 16 08.9	-3.3
58nm,0.3s,baz=342,slow=20,SNR=2.6							
RAO				Sn	Sn	19 17 58.0	-17
6.8nm,0.3s,baz=287,slow=19,SNR=2.2							
RAR	Rarotonga	12.11	101	P	Pn	19 16 24.8	-3.1
RAR	Rarotonga	12.11	101	Pn	Pn	19 16 23.3	-4.6
14nm,0.3s,baz=253,slow=7.2,SNR=9.7							
RAR				Sn	Sn	19 18 22.6	-20
0.7nm,0.3s,baz=17,slow=19,SNR=1.3							
RAR	Rarotonga	12.11	101		Pn	19 16 24.8	-3.1
DZM	Mont Dzumac	19.84	259	P	P	19 18 05.7	-0.8
4.5nm,0.3s,baz=82,slow=20,SNR=31							
DZM	Mont Dzumac	19.84	259	P	P	19 18 06.3	-0.2
OUZ	Omahuta	19.97	215	P	Pn	19 18 09.4	+0.1
URZ	Urewera	20.84	203	P	Pn	19 18 19.8	+0.2
13nm,0.6s,baz=37,slow=3.1,SNR=8.8							
URZ				S	S	19 22 00.3	-9.2
4.6nm,0.6s,baz=338,slow=19,SNR=3.2							
URZ	Urewera	20.84	203	P	Pn	19 18 19.2	-0.3
PPT	Papeete	21.85	89	P	P	19 18 29.7	+1.5
11nm,0.3s,baz=246,slow=20,SNR=4.0							
PPT	Papeete	21.85	89	P	P	19 18 27.3	-0.9
PPTF	Pamatai, Papee	21.86	89	P	P	19 18 27.6	-0.8
PPTF				IAmb	IAmb	19 18 33.8	
comp=Z,136nm,1.3s							
BKZ	Black Stump Fm	21.86	203	P	P	19 18 30.2	+2.0
HIZ	Hauiti	21.96	207	P	P	19 18 32.5	+3.2
BFZ	Birch Farm	23.28	202	P	P	19 18 45.0	+1.8
BFZ				IAmb	IAmb	19 19 02.8	
comp=Z,54nm,1.5s							
MSWZ	Moikau Station	24.29	203	P	P	19 18 54.7	+1.9
SNZO	South Karori	24.40	204	P	P	19 18 55.7	+1.9
SNZO				IAmb	IAmb	19 19 03.7	
comp=Z,73nm,1.3s							
PLWZ	Palliser	24.42	203	P	P	19 18 54.9	+0.8
BHW	Baring Head	24.42	203	P	P	19 18 56.4	+2.3
TUWZ	Tuamarina	24.80	205	P	P	19 18 58.7	+1.3
NNZ	Nelson	24.85	206	P	P	19 19 00.3	+2.4
NNZ				IAmb	IAmb	19 19 12.1	
comp=Z,90nm,1.4s							
QRZ	Quartz Range	24.88	208	P	P	19 19 00.3	+2.1
QRZ				IAmb	IAmb	19 19 09.7	
comp=Z,40nm,0.7s							
CMWZ	Cape Campbell	24.96	204	P	P	19 19 01.8	+2.8
THZ	Tophouse	25.50	206	P	P	19 19 04.9	+1.1
THZ				IAmb	IAmb	19 19 14.4	
comp=Z,70nm,1.6s							
KHZ	Kahutara	25.80	204	P	P	19 19 07.5	+1.0
KHZ				IAmb	IAmb	19 19 17.6	
comp=Z,83nm,1.4s							
LTZ	Lake Taylor	26.61	206	P	P	19 19 14.9	+1.0
LTZ				IAmb	IAmb	19 19 30.1	
comp=Z,34nm,0.7s							
MQZ	McQueen's Vall	27.23	204	P	P	19 19 21.0	+1.6

ODZ	Otahua Downs	29.14	205	P		P	19 19 39.6	+3.2
WKZ	Wanaka	29.64	207	P		P	19 19 43.9	+3.0
WKZ				IAmb		IAmb	19 19 58.4	
comp=Z,76nm,1.4s								
WHZ	Wether Hill Ro	30.94	207	P		P	19 19 53.7	+1.3
DCZ	Deep Cove	30.95	208	P		P	19 19 54.5	+2.1
EIDS	Eidsvold	34.09	253	P		P	19 20 18.9	-1.3
EIDS				IAmb		IAmb	19 20 19.5	
comp=Z,15nm,0.9s								
ARMA	Armidale	34.17	244	P		P	19 20 20.8	-0.2
ARMA				IAmb		IAmb	19 20 21.6	
comp=Z,18nm,0.8s								
CAN	Canberra	37.40	237	P		P	19 20 48.7	+0.1
CAN				pmax		pmax		
comp=Z,33nm,0.9s								
CAN	Canberra	37.40	237	P		P	19 20 48.7	+0.1
CAN				IAmb		IAmb	19 20 50.2	
comp=Z,33nm,0.9s								
CTAO	Charters Tower	38.73	262	P		P	19 20 58.2	-1.7
CTAO				pmax		pmax		
comp=Z,29nm,0.7s								
CTAO	Charters Tower	38.73	262	P		P	19 20 58.2	-1.7
CTAO				IAmb		IAmb	19 20 59.8	
comp=Z,29nm,0.7s								
PMG	Port Moresby	40.19	278	*ce*P		P	19 21 11.9	-0.3
PMG				pmax		pmax		
comp=Z,194nm,0.9s								
PMG	Port Moresby	40.19	278	P		P	19 21 10.8	-1.4
comp=Z,40nm,0.8s,baz=71,slow=7.7,SNR=9.3								
PMG	Port Moresby	40.19	278	P		P	19 21 11.4	-0.7
PMG				IAmb		IAmb	19 21 12.7	
comp=Z,43nm,0.8s								
TOO	Toolangi	40.70	235	P		P	19 21 16.3	+0.1
TOO				pmax		pmax		
comp=Z,21nm,1.0s								
TOO	Toolangi	40.70	235	P		P	19 21 16.3	+0.1
TAU	Tasmania Unive	41.05	226	P		P	19 21 20.9	+2.0
TAU				pmax		pmax		
comp=Z,71nm,1.5s								
TAU	Tasmania Unive	41.05	226	P		P	19 21 20.9	+2.0
TAU				IAmb		IAmb	19 21 22.6	
comp=Z,71nm,1.4s								
MCQ	Macquarie Isla	41.23	205	P		P	19 21 23.7	+3.5
MCQ				pmax		pmax		
comp=Z,74nm,1.1s								
MCQ	Macquarie Isla	41.23	205	P		P	19 21 23.7	+3.5
MCQ				IAmb		IAmb	19 21 42.3	
comp=Z,74nm,1.1s								
COEN	Coen	42.69	270	P		P	19 21 31.4	-1.2
COEN				IAmb		IAmb	19 21 32.9	
comp=Z,26nm,1.1s								
STKA	Stephens Creek	42.89	244	P		P	19 21 33.7	-0.5
STKA				pmax		pmax		
comp=Z,2.0nm,0.8s								
STKA	Stephens Creek	42.89	244	P		P	19 21 33.6	-0.5
comp=Z,9.9nm,0.7s,baz=86,slow=10,SNR=14								
STKA	Stephens Creek	42.89	244	P		P	19 21 33.7	-0.5
KEKH	Kekaha	43.00	18	P		P	19 21 34.8	-0.1
BBOO	Buckleboo	47.63	243	P		P	19 22 11.1	-0.7
JAY	Jayapura	48.67	284	P		P	19 22 18.6	-1.5
comp=Z,20nm,0.6s,baz=167,slow=4.6,SNR=17								
AS31	Alice Springs	49.77	255	P		P	19 22 27.2	-1.3
ASAR	Alice Springs	49.77	255	P		P	19 22 27.4	-1.1
comp=Z,39nm,0.9s,baz=87,slow=8.6,SNR=110								
ASAR				S		S	19 29 30.7	-7.4
comp=Z,1.6nm,0.9s,baz=87,slow=16,SNR=5.8								
ASAR	Alice Springs	49.77	255	P		P	19 22 26.8	-1.7
ASAR				PcP		PcP	19 23 49.9	+0.5
WB2	Warramunga Arr	49.84	260	P		P	19 22 27.3	-1.7
WB2				IAmb		IAmb	19 22 28.2	
comp=Z,26nm,0.9s								
WRAB	Tennant Creek	49.84	260	*ce*P		P	19 22 27.9	-1.1
WRAB				pmax		pmax		
comp=Z,41nm,1.3s								
WRAB	Tennant Creek	49.84	260	P		P	19 22 27.2	-1.7
WRAB				IAmb		IAmb	19 22 28.7	
comp=Z,40nm,1.1s								
WRA	Warramunga Arr	49.85	260	P		P	19 22 27.4	-1.6
comp=Z,26nm,1.0s,baz=97,slow=7.3,SNR=59								
WRA				S		S	19 29 32.6	-6.6
comp=Z,0.6nm,0.9s,baz=62,slow=18,SNR=4.4								
WRA	Warramunga Arr	49.85	260	P		P	19 22 27.2	-1.8
MTN	Manton Dam	54.32	268	P		P	19 23 01.0	-1.3
MTN				IAmb		IAmb	19 23 01.6	
comp=Z,26nm,0.7s								
FORT	Forrest	54.44	246	P		P	19 23 02.5	-0.5
KNRA	Kununurra	55.88	264	P		P	19 23 12.7	-0.9
KNRA				IAmb		IAmb	19 23 13.5	
comp=Z,26nm,0.7s								
FAKI	Fak Fak	56.33	280	P		P	19 23 16.0	-0.9
FAKI				IAmb		IAmb	19 23 30.3	
comp=Z,20nm,1.1s								
FITZ	Fitzroy Crossi	58.27	260	P		P	19 23 30.5	-0.1
SBA	Scott Base	59.35	185	P		P	19 23 40.0	+2.9
SBA				pmax		pmax		
comp=Z,10.0nm,1.1s								
SBA	Scott Base	59.35	185	P		P	19 23 40.0	+2.9
SBA				IAmb		IAmb	19 23 41.8	
comp=Z,10nm,1.1s								
SOEI	Soe	61.63	269	P		P	19 23 54.3	+0.4
TNTI	Ternate	62.22	282	P		P	19 23 57.5	-0.2
PSA00	Pilbara Seismi	62.92	255	P		P	19 24 02.0	-0.3
PSA00				IAmb		IAmb	19 24 07.4	
comp=Z,14nm,0.8s								
NWAO	Narrogin (SRO)	63.44	242	P		P	19 24 07.1	+1.5
NWAO				pmax		pmax		
comp=Z,78nm,1.6s								
NWAO	Narrogin (SRO)	63.44	242	P		P	19 24 07.1	+1.5
MMRI	Maumere	63.88	270	P		P	19 24 08.2	-0.5
MMRI				IAmb		IAmb	19 24 08.8	
comp=Z,18nm,0.7s								
MORW	Morawa	64.99	246	P		P	19 24 17.1	+1.3
LUWI	Luwuk	65.84	278	P		P	19 24 21.2	-0.2
KCP	Kidapawan	66.77	287	*e*P		P	19 24 28.1	+0.6
CTBH	Cotabato--PC H	67.62	287	*i*P		P	19 24 33.7	+0.8
QSPA	South Pole Qui	70.66	180	P		P	19 24 52.8	+1.7
QSPA				IAmb		IAmb	19 24 54.0	
comp=Z,18nm,1.2s								
ADK	Adak	71.07	357	P		P	19 24 53.3	0.0
ADK				pmax		pmax		
comp=Z,103nm,1.5s								
ADK	Adak	71.07	357	P		P	19 24 53.3	0.0
MJAR	Matsushiro Arr	72.52	320	P		P	19 25 02.9	+0.4
comp=Z,9.9nm,0.9s,baz=160,slow=6.1,SNR=27								
MJAR	Matsushiro Arr	72.52	320	P		P	19 25 02.1	-0.4
MAJO	Matsushiro	72.52	320	P		P	19 25 02.4	-0.1
MAJO				pmax		pmax		
comp=Z,17nm,1.1s								
MAJO	Matsushiro	72.52	320	P		P	19 25 02.4	-0.1
MAJO				IAmb		IAmb	19 25 03.9	
comp=Z,17nm,1.1s								
MAT	Matsushiro	72.52	320	P		P	19 25 02.8	+0.3
MAT				*e*S		S	19 34 28.8	+1.8
MJB9	Matsu-Tunnel	72.53	320	P		P	19 25 01.8	-0.7
MJB9				IAmb		IAmb	19 25 03.9	
comp=Z,18nm,1.1s								
MWC	Mount Wilson	74.36	44	P		P	19 25 13.5	-0.1
MWC				pmax		pmax		
comp=Z,11nm,1.0s								
MWC	Mount Wilson	74.36	44	P		P	19 25 13.5	-0.1
BFSC	Mount Baldy Ra	74.64	45	P		P	19 25 15.6	+0.5
baz=233								
MONP2	Monument Peak	74.67	46	P		P	19 25 16.2	+0.7
baz=234								
VES	Vestal, Richgr	74.68	43	P		P	19 25 15.9	+0.7
baz=232								
KMRM	Mail Ridge	74.73	37	P		P	19 25 16.1	+0.7
KMRM				IAmb		IAmb	19 25 17.5	
comp=Z,32nm,1.0s								
IKP	In-Ko-Pah, Jac	74.75	47	P		P	19 25 16.8	+1.1
baz=235								
EDW2	Edwards Air Fo	74.80	44	P		P	19 25 16.9	+0.9
baz=233								
ISA	Isabella, Lake	74.96	43	P		P	19 25 18.2	+1.3
baz=232								
ISA	Isabella, Lake	74.96	43	P		P	19 25 17.0	+0.1
ISA				pmax		pmax		
comp=Z,14nm,1.2s								
ISA	Isabella, Lake	74.96	43	P		P	19 25 17.0	+0.1
ISA				IAmb		IAmb	19 25 18.9	
comp=Z,14nm,1.1s								
PFO	Pinyon Flats O	75.07	46	P		P	19 25 18.2	+0.5
baz=234								
PFO	Pinyon Flats O	75.07	46	P		P	19 25 18.1	+0.5
comp=Z,6.4nm,1.0s,baz=241,slow=5.4,SNR=6.2								

PFO	Pinyon Flats O	75.07	46	P		P	19 25 17.1	-0.6
JNU	Nakatsue	75.13	314	P		P	19 25 18.5	+0.6
comp=Z,15nm,0.8s,baz=236,slow=0.7,SNR=12								
JNU	Nakatsue	75.13	314	P		P	19 25 18.1	+0.2
JNU				IAmb		IAmb	19 25 19.6	
comp=Z,18nm,0.8s								
UGM	Wanagama	75.14	267	P		P	19 25 18.5	+0.1
O02D	Mt. Diablo Mer	75.22	37	P		P	19 25 19.5	+1.2
baz=228								
CMB	Columbia Colle	75.24	40	P		P	19 25 18.3	-0.2
CMB				pmax		pmax		
comp=Z,9.0nm,1.0s								
CMB	Columbia Colle	75.24	40	P		P	19 25 18.3	-0.2
ASAJ	Asahikawa	75.36	328	P		P	19 25 19.9	+1.0
comp=Z,6.4nm,0.9s,baz=324,slow=3.4,SNR=4.4								
LRMC	Laurel Mtn Rad	75.36	44	P		P	19 25 20.2	+0.9
baz=233								
AFDM	Forest Hills D	75.47	39	P		P	19 25 19.6	-0.1
ORV	Oroville	75.56	38	P		P	19 25 19.5	-0.7
ORV				pmax		pmax		
comp=Z,5.0nm,1.0s								
ORV	Oroville	75.56	38	P		P	19 25 19.5	-0.7
BELC	Belle Mtn. Jos	75.61	46	P		P	19 25 21.7	+0.9
baz=234								
WDC	Whiskeytown Da	75.63	37	P		P	19 25 20.7	+0.2
WDC				pmax		pmax		
comp=Z,11nm,1.1s								
WDC	Whiskeytown Da	75.63	37	P		P	19 25 20.7	+0.2
WDC				IAmb		IAmb	19 25 22.3	
comp=Z,11nm,1.1s								
CWC	Cottonwood Cre	75.69	43	P		P	19 25 22.1	+0.9
baz=232								
N02D	Trinity Center	75.80	37	P		P	19 25 22.8	+1.2
baz=228								
OMMB	Old Mammoth Mi	75.83	41	P		P	19 25 22.5	+0.3
GSC	Goldstone, Bar	75.83	44	P		P	19 25 22.9	+0.9
baz=234								
GSC	Goldstone, Bar	75.83	44	P		P	19 25 22.2	+0.2
GSC				pmax		pmax		
comp=Z,7.0nm,1.1s								
GSC	Goldstone, Bar	75.83	44	P		P	19 25 22.2	+0.2
MPMC	Manual Prospec	75.84	43	P		P	19 25 23.2	+1.1
baz=233								
DAC	Darwin (Calif)	75.90	43	P		P	19 25 23.7	+1.3
DAC				pmax		pmax		
comp=Z,13nm,1.5s								
DAC	Darwin (Calif)	75.90	43	P		P	19 25 23.7	+1.3
WAKR	Walker	76.12	40	P		P	19 25 24.1	+0.5
IRM	Iron Mountain	76.27	46	P		P	19 25 25.7	+1.3
baz=235								
GMRC	Granite Mounta	76.29	45	P		P	19 25 25.5	+0.8
baz=234								
YBH	Yreka Blue Hor	76.30	36	P		P	19 25 25.3	+0.8
comp=Z,8.0nm,0.9s,baz=153,slow=2.1,SNR=12								
YBH	Yreka Blue Hor	76.30	36	P		P	19 25 25.2	+0.8
YBH				IAmb		IAmb	19 25 26.4	
comp=Z,20nm,1.1s								
PNTR	Pine Nut	76.39	40	P		P	19 25 26.0	+0.8
PNTR				IAmb		IAmb	19 25 27.0	
comp=Z,14nm,0.9s								
BEKR	Beckworth	76.43	39	P		P	19 25 25.3	-0.1
113A	Mohawk Valley,	76.44	48	P		P	19 25 26.1	+0.8
Y12C	Blythe	76.47	47	P		P	19 25 26.8	+1.4
baz=235								
VCNR	Virginia City	76.49	40	P		P	19 25 26.3	+0.6
VCNR				IAmb		IAmb	19 25 27.5	
comp=Z,14nm,1.2s								
TUQ	Turquoise Moun	76.49	45	P		P	19 25 26.8	+1.0
baz=234								
PETK	Petropavlovsk-	76.67	342	P		P	19 25 26.3	+0.1
comp=Z,11nm,0.8s,baz=124,slow=8.3,SNR=11								
PETK	Petropavlovsk-	76.67	342	P		P	19 25 25.9	-0.3
RYN	Ryan	76.75	41	P		P	19 25 27.7	+0.5
NVAR	Mina Array Bea	76.77	41	P		P	19 25 28.3	+0.9
comp=Z,9.4nm,0.9s,baz=226,slow=9.5,SNR=32								
NVAR	Mina Array Bea	76.77	41	P		P	19 25 27.2	-0.1
M04C	Macdoel	76.82	36	P		P	19 25 28.4	+0.9
baz=229								
NV11	Mina Array Sit	76.86	41	P		P	19 25 27.9	+0.1
NV11				IAmb		IAmb	19 25 29.7	
comp=Z,22nm,1.2s								
PAHR	Pah Rah Range	76.91	39	P		P	19 25 27.8	-0.3
PAHR				IAmb		IAmb	19 25 29.8	
comp=Z,14nm,1.2s								
TPNV	Topopah Spring	77.17	43	P		P	19 25 30.4	+0.8
baz=234								
TPNV	Topopah Spring	77.17	43	P		P	19 25 29.7	+0.1
TPNV				pmax		pmax		
comp=Z,8.0nm,1.1s								
TPNV	Topopah Spring	77.17	43	P		P	19 25 29.6	+0.1
KVN	Kaiserville	77.28	40	P		P	19 25 30.5	+0.3
KVN				pmax		pmax		
comp=Z,15nm,1.3s								
KVN	Kaiserville	77.28	40	P		P	19 25 30.5	+0.3
KVN				IAmb		IAmb	19 25 31.8	
comp=Z,15nm,1.3s								
YSS	Yuzh-Sakhalins	77.36	330	*e*P		P	19 25 30.8	+0.7
YSS				*e*			19 25 35.6	
YSS				pmax		pmax		
comp=Z,30nm,1.0s								
YSS	Yuzh-Sakhalins	77.36	330	P		P	19 25 30.4	+0.3
YSS				IAmb		IAmb	19 25 32.2	
comp=Z,30nm,1

TXAR	Lajitas Array	82.17	55	P	P	19 25 57.5	+0.6
RC01	Rabbit Creek A	82.29	11	IAmb	IAmb	19 25 57.5	
	comp=Z,34nm,1.2s						
B08A	Colville Reser	82.47	33	IAmb	IAmb	19 25 58.5	
	comp=Z,10.0nm,1.0s						
PV05	Paradox Valley	82.51	45	IAmb	IAmb	19 26 01.4	
	comp=Z,26nm,1.3s						
ANMO	Albuquerque	82.75	49	P	P	19 26 01.4	+1.5
	baz=240						
ANMO	Albuquerque	82.75	49	*c*eP	P	19 26 01.9	+2.0
ANMO				pmax	pmax		
	comp=Z,13nm,1.7s						
ANMO	Albuquerque	82.75	49	P	P	19 26 01.2	+1.3
	comp=Z,4.5nm,0.9s,baz=209,slow=5.2,SNR=11						
ANMO	Albuquerque	82.75	49	P	P	19 26 00.3	+0.4
SKT	Skwentna	82.82	10	IAmb	IAmb	19 25 59.1	
	comp=Z,9.2nm,1.0s						
PV01	Paradox Valley	82.90	46	IAmb	IAmb	19 26 02.1	
	comp=Z,7.8nm,0.9s						
GDL2	Guadalupe Moun	82.97	52	P	P	19 26 01.1	+0.1
GRNR	Gornyy	83.01	330	*e*P	P	19 26 02.0	+1.4
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
NJ2	Nanjing	83.23	307	*e*P	P	19 26 05.0	+2.8
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
TGL	Tana Glacier	83.40	14	IAmb	IAmb	19 26 03.7	
	comp=Z,24nm,1.0s						
NEW	Newport	83.55	34	P	P	19 26 03.1	-0.4
	comp=Z,0.5nm,0.3s,baz=252,slow=3.0,SNR=3.9						
VRDI	Verde Repeater	83.68	14	P	P	19 26 04.1	+0.1
VRDI				IAmb	IAmb	19 26 05.1	
	comp=Z,23nm,1.2s						
AHID	Auburn Hatcher	83.75	41	IAmb	IAmb	19 26 06.5	
	comp=Z,8.2nm,0.9s						
BALM	Baldy	83.76	14	P	P	19 26 04.5	+0.1
BALM				IAmb	IAmb	19 26 05.5	
	comp=Z,17nm,0.9s						
S22A	4UR Ranch, Cre	83.88	47	P	P	19 26 07.6	+1.8
	baz=240						
S22A	4UR Ranch, Cre	83.88	47	IAmb	IAmb	19 26 08.5	
	comp=Z,20nm,1.2s						
CTGM	Chitina Glacie	83.94	15	IAmb	IAmb	19 26 06.1	
	comp=Z,20nm,0.8s						
O20A	White River Ci	84.15	44	P	P	19 26 08.0	+1.0
	baz=239						
SKAG	Skagway	84.26	18	IAmb	IAmb	19 26 09.0	
	comp=Z,23nm,1.2s						
MAW	Mawson	84.28	198	P	P	19 26 08.5	+1.5
	comp=Z,10.0nm,0.9s,baz=142,slow=5.0,SNR=16						
KLR	Kul'dur	84.31	327	P	P	19 26 07.7	+0.4
	comp=Z,2.2nm,0.9s,baz=80,slow=6.7,SNR=3.3						
KTH	Kantishna Hill	84.40	10	IAmb	IAmb	19 26 07.1	
	comp=Z,12nm,1.0s						
BW06	Boulder Array	84.70	41	P	P	19 26 10.2	+0.5
	baz=238						
PD31	Pinedale Array	84.70	41	P	P	19 26 09.8	0.0
PDAR	Pinedale Array	84.70	41	P	P	19 26 10.1	+0.3
	comp=Z,2.9nm,0.7s,baz=205,slow=3.1,SNR=10.0						
PDAR	Pinedale Array	84.70	41	P	P	19 26 09.8	0.0
SDCO	Great Sand Dun	84.80	47	P	P	19 26 11.5	+1.1
	baz=241						
MSTX	Muleshoe	84.97	52	P	P	19 26 12.4	+1.2
	baz=243						
MSTX	Muleshoe	84.97	52	IAmb	IAmb	19 26 12.7	
	comp=Z,14nm,0.9s						
DLBC	Dease Lake	85.12	21	P	P	19 26 10.8	-0.4
	comp=Z,3.1nm,0.8s,baz=229,slow=15,SNR=5.1						
DLBC	Dease Lake	85.12	21	IAmb	IAmb	19 26 12.3	
	comp=Z,7.6nm,1.0s						
MENT	Mentasta	85.15	13	IAmb	IAmb	19 26 12.8	
	comp=Z,27nm,1.1s						
BCAR	Beaver Creek A	85.68	14	P	P	19 26 14.1	+0.2
MLY	Manley	85.81	9	IAmb	IAmb	19 26 15.0	
	comp=Z,18nm,0.9s						
HDA	Harding Lake	85.86	11	P	P	19 26 14.9	+0.2
	baz=204						
SCRK	Sand Creek	86.02	12	IAmb	IAmb	19 26 17.0	
	comp=Z,15nm,0.9s						
TCOL	CIGO, UAF Yank	86.12	10	P	P	19 26 16.1	+0.1
	baz=203						
COLA	College	86.13	10	P	P	19 26 15.9	-0.1
COLA				pmax	pmax		
	comp=Z,59nm,0.9s						
COLA	College	86.13	10	P	P	19 26 15.9	-0.1
AMTX	Amarillo	86.19	51	P	P	19 26 18.3	+1.1
	baz=243						
AMTX	Amarillo	86.19	51	IAmb	IAmb	19 26 19.1	
	comp=Z,30nm,1.1s						
IL31		86.20	11	IAmb	IAmb	19 26 18.1	
	comp=Z,15nm,0.8s						
ILAR	Eielson Array	86.20	11	P	P	19 26 16.0	-0.4
ILAR	Eielson Array	86.20	11	P	P	19 26 15.9	-0.4
	comp=Z,9.1nm,0.8s,baz=217,slow=5.7,SNR=54						
PLCA	Paso Flores	86.23	132	P	P	19 26 18.4	+1.0
PLCA				pmax	pmax		
	comp=Z,17nm,1.3s						
PLCA	Paso Flores	86.23	132	P	P	19 26 18.2	+0.8
	comp=Z,5.4nm,0.9s,baz=263,slow=5.7,SNR=8.4						
PLCA	Paso Flores	86.23	132	P	P	19 26 18.4	+1.0
PLCA				IAmb	IAmb	19 26 23.0	
	comp=Z,17nm,1.3s						
IMAR	Indian Mountai	86.31	8	P	P	19 26 17.0	+0.1
TIA	Tai'an	86.41	310	P	P	19 26 19.1	+0.9
TIA				pmax	pmax		
	comp=Z,11nm,1.0s						
POKR	Poker Plat Res	86.42	10	P	P	19 26 17.6	+0.1
	baz=204						
SEY	Seymchan	86.58	345	P	P	19 26 17.4	-0.9
	comp=Z,13nm,1.2s,baz=177,slow=7.7,SNR=5.6						
ABTX	Abilene, Hawle	86.72	54	P	P	19 26 20.4	+0.6
	baz=245						
EGAK	Eagle	87.31	13	IAmb	IAmb	19 26 23.3	
	comp=Z,20nm,0.9s						
IPM	Ipoh	88.12	275	P	P	19 26 28.0	+1.1
BILL	Bilibino	88.57	352	*c* i P	P	19 26 28.1	+0.4
BILL				*e*		19 26 30.5	
BILL				*e*		19 30 00.4	
BILL				*e*S	S	19 37 06.7	-6.9
BILL				pmax	pmax		
	comp=Z,24nm,2.5s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s						
BJT	Baijiatuau	88.80	313	P	P	19 26 29.9	+0.4
BJT				pmax	pmax		
	comp=Z,20nm,1.3s						
BJT	Baijiatuau	88.80	313	P	P	19 26 29.9	+0.4
BJT				IAmb	IAmb	19 26 32.0	
	comp=Z,20nm,1.3s						
BJI	Beijing	88.81	313	P	P	19 26 31.2	+1.7
BJI				pmax	pmax		
	comp=Z,11nm,1.1s						
VNA3	Neumayer Olymp	88.81	175	P	P	19 26 30.1	+0.9
SYO	Syowa Base	88.85	191	⇓ *i* P	P	19 26 28.6	-0.7
SNAA	Sanae	88.89	177	P	P	19 26 30.5	+0.9
SNAA	Sanae	88.89	177	P	P	19 26 30.2	+0.6
SNAA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SNAA	Sanae	88.89	177	P	P	19 26 30.1	+0.6
SNAA				IAmb	IAmb	19 26 31.2	
	comp=Z,6.2nm,0.9s						
BMAR	Burnt Mountain	89.01	10	P	P	19 26 30.3	+0.3
EFI	East Falkland	89.14	145	*i* P	P	19 26 31.8	+0.8
ZEA	Zeya	89.26	329	*e*P	P	19 26 32.8	+1.5
ZEA				pmax	pmax		
	comp=Z,27nm,0.9s						
VNA2	Neumayer--Watz	89.31	175	P	P	19 26 32.8	+1.3
	baz=190,slow=3.3						
VNA1	Neumayer--Stat	89.51	175	P	P	19 26 33.8	+1.4
EPYK	Eagle Plains	89.64	14	P	P	19 26 33.5	+0.6
	baz=214						
EPYK	Eagle Plains	89.64	14	IAmb	IAmb	19 26 33.8	
	comp=Z,7.6nm,0.8s						
ENH	Enshi	89.75	302	P	P	19 26 34.7	+0.4
ENH				IAmb	IAmb	19 26 37.6	
	comp=Z,27nm,1.4s						
GYA	Guiyang	90.64	298	*e*P	P	19 26 43.3	+4.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NNA	Nana	91.34	103	*i* P	P	19 26 42.4	+0.3
NNA				pmax	pmax		
	comp=Z,18nm,1.2s						
INK	Inuvik	91.94	14	P	P	19 26 43.4	-0.1
	comp=Z,5.5nm,0.9s,baz=207,slow=7.9,SNR=10						
INK	Inuvik	91.94	14	IAmb	IAmb	19 26 44.5	
	comp=Z,14nm,1.2s						
PBKT	Sadao Pong	92.19	287	P	P	19 26 46.5	+0.7
PBKT				IAmb	IAmb	19 26 49.3	
	comp=Z,8.4nm,1.1s						
HHC	Hu-ho-hao-te	92.34	313	P	P	19 26 45.2	-0.9
HHC				sP	pwP	19 26 53.4	-2.6
HHC				S	S	19 37 48.7	-1.0
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK	Yakutsk	93.10	336	*e*P	P	19 26 47.9	-1.0
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
YAK	Yakutsk	93.10	336	P	P	19 26 48.4	-0.5
	comp=E,5.2nm,0.7s,baz=74,slow=1.9,SNR=5.7						
YAK	Yakutsk	93.10	336	P	P	19 26 48.5	-0.5
YAK				IAmb	IAmb	19 26 49.1	
	comp=Z,13nm,0.9s						
KMI	Kunming	93.49	295	P	P	19 26 53.4	+1.5
KMI				pP	sP	19 26 56.0	+2.5
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI				LR	LR		
	comp=Z,990nm,16.2s						
KMI				LR	LR		
	comp=Z,2μm,15.6s						
ECSD	EROS Data Cent	93.50	45	P	P	19 26 52.4	+1.1
	baz=246						
LVC	Limon Verde	94.54	116	P	P	19 26 57.6	+0.5
LVC				pmax	pmax		
	comp=Z,12nm,1.0s						
LVC	Limon Verde	94.54	116	P	P	19 26 59.9	+2.7
	comp=Z,7.8nm,0.8s,baz=252,slow=7.7,SNR=5.3						
LVC	Limon Verde	94.54	116	P	P	19 26 57.6	+0.5
LVC				IAmb	IAmb	19 27 01.5	
	comp=Z,12nm,0.9s						
CD2	Chengdu	94.58	301	*e*P	P	19 26 58.0	+1.4
CMAR	Chiang Mai Arr	94.64	288	P	P	19 26 59.1	+2.0
	comp=Z,2.9nm,1.0s,baz=110,slow=2.6,SNR=8.4						
CMAR	Chiang Mai Arr	94.64	288	P	P	19 26 57.7	+0.6
CHTO	Chiang Mai	94.75	288	P	P	19 26 58.2	+0.6
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	Chiang Mai	94.75	288	P	P	19 26 58.2	+0.6
GTA	Gaotai	100.30	308	*e*P	Pdif	19 27 23.1	+0.7
GTA				pP	pwP	19 27 27.9	-4.4
GTA				sP	sP	19 27 30.2	+6.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WMQ	Urumqi	110.11	311	*e*PKP	PKiKP	19 32 07.3	-0.1
WMQ				LR	LR		
	comp=Z,860nm,24.9s						
WMQ				LR	LR		
	comp=Z,2μm,29.1s						
WMQ				LR	LR		
	comp=Z,820nm,19.9s						
MKAR	Makanchi Array	114.19	313	PKiKP	PKPdf	19 32 14.1	-1.0
	comp=Z,0.6nm,0.7s,baz=236,slow=2.2,SNR=4.2						
KURK	Kurchatov	116.66	318	*i* PKIKP	PKiKP	19 32 19.4	-0.2
KURBB	Kurchatov Arra	116.72	318	PKP	PKPdf	19 32 18.9	-0.8
	comp=Z,0.5nm,0.4s,baz=86,slow=2.3,SNR=6.9						
KSH	Kashi	118.48	305	PKP	PKiKP	19 32 25.3	+1.6
KSH				PP	PP	19 33 49.8	+9.1
KSH				SKS	SKSdf	19 39 36.8	+0.8
KSH				SS	SS	19 50 04.0	+5.7
KSH				LR	LR		
	comp=Z,460nm,13.2s						
KSH				LR	LR		
	comp=Z,610nm,15.8s						
BVAR	Borovoye Array	121.52	321	PKP	PKPdf	19 32 28.7	-0.2
	comp=Z,2.0nm,0.7s,baz=75,slow=1.7,SNR=10						
BRVK	Borovoye	121.57	321	*i* PKIKP	PKPdf	19 32 28.2	-0.8
ARU	Arti	127.15	327	*i* PKIKP	PKiKP	19 32 40.2	+0.1
ARU						19 34 41.6	
ARU						19 39 51.3	
ARU	Arti	127.15	327	PKP	PKiKP	19 32 39.9	-0.2
	comp=Z,0.7nm,0.5s,baz=117,slow=2.3,SNR=5.3						
ARU	Arti	127.15	327		PKiKP	19 32 40.1	0.0
ARCES	ARCESS Array B	128.67	352	PKIKP	PKPdf	19 32 42.1	0.0
ARCES	ARCESS Array B	128.67	352	PKP	PKPdf	19 32 41.6	-0.5
	comp=Z,4.2nm,0.8s,baz=11,slow=0.9,SNR=25						
ARCES	ARCESS Array B	128.67	352		PKPdf	19 32 42.1	0.0
KLMR	Klimovskoe	132.81	339	*e*PKIKP	PKPdf	19 32 49.9	-0.3
KLMR				pmax	pmax		
	comp=Z,18nm,1.4s						
KLMR	Klimovskoe	132.81	339	*e*PKPdf	PKPdf	19 32 49.9	-0.3
KLMR				AMP		19 32 55.7	
	comp=Z,18nm,1.4s						
FINES	FINESS Array B	136.01	347	PKP	PKPdf	19 32 56.4	+0.2
	comp=Z,2.3nm,0.8s,baz=105,slow=2.2,SNR=8.5						
FINES	FINESS Array B	136.01	347		PKPdf	19 32 56.2	0.0
OBN	Obninsk	138.09	335	⇑ *i* PKIKP	PKPdf	19 33 00.9	+0.8
OBN				*e*		19 35 47.6	
OBN				*e*SS	SS	19 53 52.5	-6.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NOA	NORSAR Array B	138.32	357	PKP	PKiKP	19 33 02.4	-0.2
	comp=Z,1.0nm,0.7s,baz=13,slow=3.9,SNR=3.6						
HFS	Hagfors	139.07	355	PKhKP	PKPpre	19 32 53.9	
	comp=Z,1.5nm,0.7s,baz=38,slow=7.5,SNR=4.8						
HFS				PKP	PKiKP	19 33 03.6	-0.5
	comp=Z,2.2nm,0.7s,baz=64,slow=3.4,SNR=5.6						
KIV	Kislovodsk	141.75	318	*e*PKIKP	PKiKP	19 33 09.2	-1.0
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKASG	Malin Array Be	144.33	336	PKIKP	PKPbc	19 33 09.5	-0.3
AKASG	Malin Array Be	144.33	336	PKP	PKPab	19 33 09.2	-0.3
	comp=Z,1.0nm,0.5s,baz=38,slow=4.4,SNR=8.1						
AKASG	Malin Array Be	144.33	336		PKPbc	19 33 09.5	-0.3
AKBB	Malin Array Si	144.33	336	PKIKP	PKPbc	19 33 09.8	0.0
AKBB	Malin Array Si	144.33	336		PKPbc	19 33 09.8	-0.1
KMBO	Kilima Mbogo	144.35	238	PKP	PKPdf	19 33 12.5	-0.5
	comp=Z,6.8nm,0.9s,baz=56,slow=4.7,SNR=23						
KMBO	Kilima Mbogo	144.35	238	PKPdf	PKPbc	19 33 11.7	+0.4
RAYN	Ar Rayn	144.43	284	PKIKP	PKPbc	19 33 11.6	+0.5
RAYN	Ar Rayn	144.43	284		PKPbc	19 33 11.6	+0.5
ANN	Anapa	144.50	322	*e*PKIKP	PKPdf	19 33 11.1	-0.9
ANN				*e*		19 33 18.4	
ANN				pmax	pmax		
	comp=Z,27nm,1.2s						
ATD	Arta Tunnel	145.07	262	PKPbc	PKPdf	19 33 15.3	+1.3
	comp=Z,3.7nm,0.4s,baz=55,slow=9.3,SNR=3.6						
ATD	Arta Tunnel	145.07	262		PKPab	19 33 13.2	-0.2
SORM	Soroca	146.71	334	⇓ PKP2	PKPbc	19 33 17.5	+0.2
SORM	Soroca	146.71	334	⇓ P	PKPbc	19 33 17.5	+0.2
MILM	Milestii Mici	147.47	332	⇑ P	PKPbc	19 33 19.7	+0.2
DIKM	Dikmen	147.61	319	⇑ P	PKPab	19 33 31.1	+8.8
OJC	Ojcow	147.72	345	PKP2	PKPbc	19 33 20.1	0.0
OJC	Ojcow	147.72	345		PKPbc	19 33 20.1	0.0
CLL	Collm	147.87	353	PKP2	PKPbc	19 33 20.7	+0.3
CLL	Collm	147.87	353	*i* PKPbc	PKPbc	19 33 20.4	-0.1
	comp=Z,14nm,0.8s						
CLL				*i* PKPab	PKiKP	19 33 22.4	0.0
	comp=Z,21nm,0.9s						
CLL				*e*		19 33 41.0	
CLL				*e*PP	PP	19 36 47.0	+0.2
CLL	Collm	147.87	353		PKPbc	19 33 20.7	+0.3
CHVC	Chvalec	148.15	350	⇑ *e*PKP	PKiKP	19 33 22.0	-1.1
BRG	Berggiesshubel	148.18	352	*i* PKP	PKPdf	19 33 18.5	+0.4
	comp=Z,11nm,0.9s						
BRG				*i*		19 33 23.9	
	comp=Z,21nm,1.4s						
BRG	Berggiesshubel	148.18	352	*i* PKIKP	PKPdf	19 33 18.5	+0.4
BRG				*i*		19 33 23.9	
BRG				pmax	pmax		
	comp=Z,11nm,0.9s						
BRG				pmax	pmax		
	comp=Z,21nm,1.4s						
KOLS	Kolonicke sedl	148.22	341	*e*PKP2	PKiKP	19 33 23.5	+0.3
KOLS	Kolonicke sedl	148.22	341	*e*PKP	PKiKP	19 33 23.5	+0.3
UPC	Upice	148.23	350	*e*PKP2	PKiKP	19 33 22.5	-0.7
UPC	Upice	148.23	350	⇑ *e*PKP	PKiKP	19 33 22.5	-0.7
DPC	Dobruska-Polom	148.33	349	*e*PKP2	PKiKP	19 33 22.9	-0.6
DPC	Dobruska-Polom	148.33	349	⇑ *e*PKP	PKiKP	19 33 22.9	-0.6
DPC				*e*PKPAB	sPKPab	19 33 26.0	-0.4
BUR08	Bucovina Ar. S	148.35	337		PKPbc	19 33 22.5	+0.4
BURAR	Bucovina Array	148.37	337	⇑ PKP2	PKiKP	19 33 23.2	-0.5
BURAR	Bucovina Array	148.37	337	⇑ P	PKiKP	19 33 23.2	-0.5
BURAR	Bucovina Array	148.37	337		PKiKP	19 33 22.7	-1.0
PVCC	Panska Ves	148.44	351	*e*PKP2	PKiKP	19 33 23.1	-0.5
PVCC	Panska Ves	148.44	351	⇑ *e*PKP	PKiKP	19 33 23.1	-0.5
UZH	Uzhgorod	148.48	341	*e*PKP2	PKPbc	19 33 21.6	-0.6
BIZ	Bicaz	148.58	335	⇑ P	PKiKP	19 33 24.0	-0.1
MORC	Moravsky Berou	148.64	347	⇑ PKP2	PKiKP	19 33 23.6	-0.5
MORC	Moravsky Berou	148.64	347	⇑ P	PKiKP	19 33 23.6	-0.5
MORC	Moravsky Berou	148.64	347	*e*PKP	PKiKP	19 33 23.4	-0.7
MORC	Moravsky Berou	148.64	347		PKiKP	19 33 23.4	-0.7
TESR	Tescani	148.71	334	⇓ P	PKPbc	19 33 22.4	-0.5
TLCR		148.78	330	⇑ PKP2	PKiKP	19 33 23.8	-0.7
TLCR		148.78	330	⇑ P	PKiKP	19 33 23.8	-0.7
LANS	Liptovska Anna	148.79	345	*e*PKP2	PKiKP	19 33 24.7	+0.2
LANS	Liptovska Anna	148.79	345	*e*PKP	PKiKP	19 33 24.7	+0.2
TRPA	Tarpa	148.84	340	⇓ P	PKPbc	19 33 23.2	+0.1
ILGA	Ilgaz	148.90	320		PKiKP	19 33 25.0	-0.2
PRU	Pruhonice	148.97	351	*e*PKP2	PKiKP	19 33 24.2	-0.5
PRU	Pruhonice	148.97	351	⇑ *e*PKP	PKiKP	19 33 24.2	-0.5
NKC	Novy Kostel	148.99	354	*e*PKP2	PKiKP	19 33 24.3	-0.5
NKC	Novy Kostel	148.99	354	⇑ *e*PKP	PKiKP	19 33 24.3	-0.5
GOPC	GO Pecny, Ondr	149.00	351	*e*PKP2	PKiKP	19 33 24.1	-0.7
GOPC	GO Pecny, Ondr	149.00	351	⇑ *e*PKP	PKiKP	19 33 24.1	-0.7
GOPC				*e*PKPAB	pPKPab	19 33 28.0	-0.7
CFR	Carcaliu	149.10	331	⇑ PKP2	PKPbc	19 33 22.4	-1.4
CFR	Carcaliu	149.10	331	⇑ P	PKPbc	19 33 22.4	-1.4
VRI	Vrincioaia	149.19	333	⇑ PKP2	PKiKP	19 33 24.6	-0.8
VRI	Vrincioaia	149.19	333	⇑ P	PKiKP	19 33 24.6	-0.8
TOPG	Topolog	149.22	330	⇓ P	PKiKP	19 33 24.8	-0.6
PLOR	Plostina	149.24	333	⇓ PKP2	PKPbc	19 33 24.6	+0.3
PLOR	Plostina	149.24	333	⇓ P	PKPbc	19 33 24.6	+0.3
VRAC	Vranov	149.28	348	⇓ PKP2	PKPbc	19 33 24.0	-0.2
VRAC	Vranov	149.28	348	PKPbc	PKPbc	19 33 23.6	-0.6
	comp=Z,4.8nm,0.8s,baz=349,slow=3.9,SNR=4.7						
VRAC	Vranov	149.28	348	⇓ P	PKPbc	19 33 24.0	-0.2
VRAC	Vranov	149.28	348	*e*PKP	PKiKP	19 33 25.0	-0.4
JAVC	Velka Javorina	149.48	347	*e*PKP	PKiKP	19 33 26.7	+0.8
TREC	Trest	149.49	350	*e*PKP2	PKiKP	19 33 25.5	-0.4
TREC	Trest	149.49	350	⇑ *e*PKP	PKiKP	19 33 25.5	-0.4
TIRR	Tirgusor	149.52	330	⇑ PKIKP	PKPdf	19 33 20.6	+0.2
TIRR	Tirgusor	149.52	330	⇑ P	PKPdf	19 33 20.6	+0.2
KRUC	Moravsky	149.55	348	*e*PKP	PKiKP	19 33 25.5	-0.5
VYHS	Vyhne	149.56	345	*e*PKP2	PKiKP	19 33 25.7	-0.3
VYHS	Vyhne	149.56	345	*e*PKP	PKiKP	19 33 25.7	-0.3
HARR	Harsova	149.57	331	⇑ PKP2	PKiKP	19 33 26.2	+0.1
HARR	Harsova	149.57	331	⇑ P	PKiKP	19 33 26.2	+0.1
KOLL	Kolacno	149.58	346	*e*PKP	PKiKP	19 33 26.2	+0.2
TLB	Topalu	149.60	330	⇑ PKP2	PKiKP	19 33 26.0	-0.2
TLB	Topalu	149.60	330	⇑ P	PKiKP	19 33 26.0	-0.2
BR131	Keskin Array S	149.72	318	PKP2	PKiKP	19 33 26.1	-0.7
BR131	Keskin Array S	149.72	318		PKiKP	19 33 26.1	-0.7
BRTR	Keskin Array B	149.72	318	PKP	PKPdf	19 33 20.2	-0.9
	comp=Z,0.9nm,0.9s,baz=150,slow=3.2,SNR=3.2						
BRTR				PKPbc	PKiKP	19 33 26.4	-0.5
	comp=Z,9.1nm,1.0s,baz=127,slow=2.1,SNR=32						
BRTR	Keskin Array B	149.72	318		PKPdf	19 33 20.5	-0.6
BRTR					PKiKP	19 33 26.1	-0.7
BRTR				PKPab	sPKPab	19 33 32.5	-0.1
CJR	Cluj-Napoca	149.72	338	⇑ PKP2	PKiKP	19 33 26.6	+0.1
CJR	Cluj-Napoca	149.72	338	⇑ P	PKiKP	19 33 26.6	+0.1
MBAR	Mbarara	149.72	232	PKP2	PKiKP	19 33 27.5	-0.1
MBAR	Mbarara	149.72	232	PKPbc	PKiKP	19 33 27.4	-0.3
	comp=Z,3.0nm,0.2s,baz=252,slow=7.8,SNR=2.8						
MBAR	Mbarara	149.72	232		PKiKP	19 33 27.5	-0.1
PSZ	Piszkesteto	149.82	343	⇓ PKP2	PKiKP	19 33 26.5	-0.2
PSZ	Piszkesteto	149.82	343	⇓ P	PKiKP	19 33 26.5	-0.2
PSZ	Piszkesteto	149.82	343		PKPbc	19 33 25.6	0.0
MLR	Muntele Rosu	149.82	334	⇓ PKP2	PKiKP	19 33 26.8	0.0
MLR	Muntele Rosu	149.82	334	PKPbc	PKiKP	19 33 26.5	-0.4
	comp=Z,9.3nm,0.8s,baz=276,slow=1.5,SNR=22						
MLR	Muntele Rosu	149.82	334	⇓ P	PKiKP	19 33 26.8	0.0
ISR	Istrita	149.86	333	⇓ PKP2	PKiKP	19 33 26.8	0.0
ISR	Istrita	149.86	333	⇓ P	PKiKP	19 33 26.8	0.0
SMOL	Smolenice	149.86	347	*e*PKP2	PKiKP	19 33 27.3	+0.7
SMOL	Smolenice	149.86	347	*e*PKP	PKiKP	19 33 27.3	+0.7
KHC	Kasperske Hory	149.94	352	*e*PKPDF	PKPdf	19 33 21.9	+0.9
KHC				⇑ *e*PKP	PKiKP	19 33 26.4	-0.4
KHC				*e*PKPAB	pPKPab	19 33 32.3	-0.3
MODS	Modra-Piesok	150.03	347	*e*PKP2	PKiKP	19 33 26.5	-0.5
MODS	Modra-Piesok	150.03	347	*e*PKP	PKiKP	19 33 26.5	-0.5
ANTO	Ankara	150.17	319	PKIKP	PKiKP	19 33 27.9	+0.2
ANTO	Ankara	150.17	319		PKiKP	19 33 27.9	+0.2
GEC2	GERESS Array S	150.20	352		P

mb4.5/14
*IDC **02** 19:17:28.6±3.1, 19°.15S×172°.80W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/57, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=106.4km s-min=30.9km az=141.0*
ISC 02 19:17:27.1±0.6, **19.4S**±0°.1×**172.31W**±0°.07, **h10**km, **n25**, σ1§**04**/25, **mb4.4**/10, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.28**	**82**	**Pn**	**Pn**	**19 18 03.7**	**-1.1**
NIUE				Sn	**Sn**	**19 18 31.2**	**-1.7**
AFI	**Afiamalu**	**5.50**	**5**	Pn	**Pn**	**19 18 48.7**	**-0.5**
AFI				Sn	Sn	19 19 40.0	-13
RAR	**Rarotonga**	**11.90**	**101**	**Pn**	**Pn**	**19 20 18.1**	**+1.2**
	4.6nm,0.3s,baz=159,slow=17,SNR=2.8						
RAR	**Rarotonga**	**11.90**	**101**		**Pn**	**19 20 17.6**	**+0.7**
DZM	**Mont Dzumac**	**20.04**	**259**	P	**P**	**19 22 00.8**	**+0.2**
	0.5nm,0.3s,baz=113,slow=13,SNR=4.2						
DZM	**Mont Dzumac**	**20.04**	**259**	P	Pn	19 22 01.2	-1.1
DZM				IAmb	IAmb	19 22 07.5	
	comp=Z,23nm,1.1s						
BFZ	**Birch Farm**	**23.35**	**202**	P	**P**	**19 22 36.5**	**+0.8**
BFZ				IAmb	IAmb	19 22 43.2	
	comp=Z,9.9nm,1.0s						
QRZ	**Quartz Range**	**24.97**	**208**	P	**P**	**19 22 51.7**	**+0.9**
EIDS	**Eidsvold**	**34.29**	**253**	P	**P**	**19 24 13.3**	**-0.4**
EIDS				IAmb	IAmb	19 24 22.7	
	comp=Z,5.4nm,1.0s						
CTAO	**Charters Tower**	**38.93**	**262**	P	**P**	**19 24 52.5**	**-1.0**
CTAO				IAmb	IAmb	19 24 57.7	
	comp=Z,11nm,1.1s						
TOO	**Toolangi**	**40.87**	**235**	P	**P**	**19 25 09.3**	**-0.1**
TOO				IAmb	IAmb	19 25 18.6	
	comp=Z,6.9nm,0.9s						
COEN	**Coen**	**42.90**	**270**	P	**P**	**19 25 25.1**	**-1.1**
AS31	**Alice Springs**	**49.97**	**255**	P	**P**	**19 26 20.8**	**-1.0**
ASAR	**Alice Springs**	**49.97**	**255**	P	**P**	**19 26 21.6**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=86,slow=8.0,SNR=7.1						
ASAR	**Alice Springs**	**49.97**	**255**	P	**P**	**19 26 20.3**	**-1.5**
WB2	**Warramunga Arr**	**50.04**	**260**	P	**P**	**19 26 21.4**	**-0.9**
WB2				IAmb	IAmb	19 26 22.0	
	comp=Z,7.7nm,1.1s						
WRAB	**Tennant Creek**	**50.05**	**260**	P	**P**	**19 26 21.2**	**-1.1**
WRAB				IAmb	IAmb	19 26 21.9	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**50.05**	**260**	P	**P**	**19 26 21.4**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=97,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**50.05**	**260**	P	**P**	**19 26 21.4**	**-1.0**
MTN	**Manton Dam**	**54.53**	**268**	P	**P**	**19 26 55.0**	**-0.7**
KNRA	**Kununurra**	**56.08**	**264**	P	**P**	**19 27 06.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**58.48**	**260**	P	**P**	**19 27 23.5**	**-0.3**
MJAR	**Matsushiro Arr**	**72.67**	**320**	P	**P**	**19 28 55.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=150,slow=5.8,SNR=4.5						
ILAR	**Eielson Array**	**86.17**	**11**	P	**P**	**19 30 10.1**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=206,slow=6.0,SNR=3.0						
BRTR	**Keskin Array B**	**149.87**	**318**	PKPbc	**PKiKP**	**19 37 20.1**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=29,slow=3.3,SNR=4.4						

*ISCJB **02** 19:18:47.6±0.9, 8°.9S±0°.1×108°.6W±0°.2, h10km, mb3.9/3, Error ellipse: s-maj=30.0km s-min=12.9km az=140.3*
*IDC **02** 19:18:47.6±1.5, 8°.98S×108°.48W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/43, mbtmp3.8/3, Error ellipse: s-maj=73.6km s-min=29.6km az=41.0*
*NEIC **02** 19:18:48.9±1.2, 8°.93S±0°.08×108°.7W±0°.1, h10km±1km, mb4.6/9*
ISC 02 19:18:48.7±0.8, **9.0S**±0°.2×**108.7W**±0°.2, **h10**km, **n30**, σ0§**79**/25, **mb4.5**/6, **Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**36.87**	**69**	P	**P**	**19 25 58.1**	**-0.1**
HSIG		**37.84**	**357**	P	**P**	**19 26 06.4**	**+0.7**
HSIG				IAmb	IAmb	19 26 18.9	
	comp=Z,24nm,1.5s						
GO01	**Chusmiza**	**39.58**	**110**	P	**P**	**19 26 20.2**	**-0.8**
LPAZ	**La Paz**	**40.14**	**105**	P	**P**	**19 26 25.9**	**0.0**
	comp=Z,1.4nm,0.7s,baz=282,slow=10,SNR=4.5						
LPAZ	**La Paz**	**40.14**	**105**	P	**P**	**19 26 26.0**	**0.0**
LPAZ				IAmb	IAmb	19 26 33.7	
	comp=Z,14nm,1.4s						
GO04	**Tololo Observa**	**41.14**	**126**	P	**P**	**19 26 34.8**	**+1.2**
SAML	**Samuel**	**44.89**	**94**	P	**P**	**19 27 04.3**	**+0.4**
SAML				IAmb	IAmb	19 27 14.5	
	comp=Z,15nm,1.2s						
NVAR	**Mina Array Bea**	**48.02**	**350**	P	**P**	**19 27 28.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=177,slow=7.7,SNR=4.9						
NVAR	**Mina Array Bea**	**48.02**	**350**	P	**P**	**19 27 28.4**	**+0.1**
CPUP	**Villa Florida**	**51.50**	**116**	P	**P**	**19 27 53.3**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=0.0,slow=4.0,SNR=3.3						
CPUP	**Villa Florida**	**51.50**	**116**	P	**P**	**19 27 54.8**	**-0.1**
CPUP				IAmb	IAmb	19 28 11.4	
	comp=Z,8.1nm,1.5s						
MFID	**Camas Ranch**	**52.55**	**353**	P	**P**	**19 28 02.0**	**-0.4**
MFID				IAmb	IAmb	19 28 15.2	
	comp=Z,17nm,1.5s						
BCAR	**Beaver Creek A**	**76.19**	**345**	P	**P**	**19 30 37.1**	**+0.3**
BMAR	**Burnt Mountain**	**80.46**	**347**	P	**P**	**19 31 00.8**	**+0.4**
QSPA	**South Pole Qui**	**81.10**	**180**	P	**P**	**19 31 04.5**	**+0.4**
IMAR	**Indian Mountai**	**81.72**	**343**	P	**P**	**19 31 07.2**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**87.79**	**289**	T	T	21 08 44.3	
	baz=100,slow=74,SNR=144						
H11S1	**WAKE ISLAND Hy**	**87.80**	**289**	T	T	21 08 44.8	
	baz=100,slow=74,SNR=63						
H11S3	**WAKE ISLAND Hy**	**87.81**	**289**	T	T	21 08 45.6	
	baz=100,slow=74,SNR=82						
H11N3	**WAKE ISLAND Hy**	**87.81**	**290**	T	T	21 08 50.8	
	baz=100,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**87.83**	**290**	T	T	21 08 49.6	
	baz=100,slow=74,SNR=15						
H11N1	**WAKE ISLAND Hy**	**87.83**	**290**	T	T	21 08 51.3	
	baz=100,slow=74,SNR=14						
ABKAR	**Abkulak array**	**138.73**	**11**	PKPdf	**PKPdf**	**19 38 13.4**	**-1.7**
KMBO	**Kilima Mbogo**	**144.57**	**105**	PKP	**PKPab**	**19 38 25.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=208,slow=17,SNR=2.7						
KMBO	**Kilima Mbogo**	**144.57**	**105**		**PKPdf**	**19 38 27.6**	**+0.6**
GEYT	**Alibeck**	**148.80**	**20**	PKPbc	**PKPbc**	**19 38 36.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=312,slow=6.9,SNR=2.9						
GEYT	**Alibeck**	**148.80**	**20**		**PKPbc**	**19 38 35.5**	**-1.4**
CHGR	**Chuyangaron**	**150.38**	**3**		**PKPbc**	**19 38 40.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**151.63**	**292**	PKPbc	**PKiKP**	**19 38 45.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=55,slow=1.2,SNR=12						
CMAR	**Chiang Mai Arr**	**151.63**	**292**		**PKPdf**	**19 38 38.2**	**+0.2**
CMAR				PKPab	**PKPab**	**19 38 51.9**	**-1.0**

*ISCJB **02** 19:25:42.3±0.5, 19°.19S±0°.08×172°.55W±0°.08, h10km, mb4.1/13, Error ellipse: s-maj=13.3km s-min=9.1km az=144.0*
*NEIC **02** 19:25:43.4±2.3, 19°.21S±0°.08×172°.45W±0°.04, h10km±1km, mb4.5/19*
*IDC **02** 19:25:44.2±0.8, 19°.25S×172°.77W, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/54, mbtmp4.1/14, ML4.1/1, Error ellipse: s-maj=31.3km s-min=17.4km az=143.0*
ISC 02 19:25:43.9±0.5, **19.15S**±0°.07×**172.42W**±0°.06, **h10**km, **n46**, σ1§**89**/48, **mb4.3**/20, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.36**	**89**	Pn	**Pn**	**19 26 20.9**	**-1.8**
NIUE				Sn	**Sn**	**19 26 47.9**	**-3.9**
AFI	**Afiamalu**	**5.25**	**7**	Pn	**Pn**	**19 27 02.2**	**-0.3**
AFI				Sn	**Sn**	**19 27 56.9**	**-6.2**
RAR	**Rarotonga**	**12.05**	**102**	**Pn**	**Pn**	**19 28 33.9**	**-1.9**
	4.3nm,0.3s,baz=236,slow=8.9,SNR=3.9						
DZM	**Mont Dzumac**	**19.99**	**258**	P	**P**	**19 30 15.9**	**-0.9**
	0.6nm,0.3s,baz=74,slow=19,SNR=6.1						
DZM	**Mont Dzumac**	**19.99**	**258**	P	**P**	**19 30 14.8**	**-2.0**
DZM				IAmb	IAmb	19 30 22.5	
	comp=Z,12nm,0.8s						
URZ	**Urewera**	**21.11**	**203**	P	**P**	**19 30 29.4**	**+0.7**
	comp=Z,5.2nm,0.7s,baz=118,slow=17,SNR=3.4						
URZ	**Urewera**	**21.11**	**203**	P	**P**	**19 30 29.2**	**+0.5**
URZ				IAmb	IAmb	19 30 42.5	
	comp=Z,8.3nm,0.7s						
QRZ	**Quartz Range**	**25.16**	**208**	P	**P**	**19 31 08.7**	**-0.6**
EIDS	**Eidsvold**	**34.26**	**253**	P	**P**	**19 32 28.9**	**-1.4**
EIDS				IAmb	IAmb	19 32 41.1	
	comp=Z,17nm,1.4s						
CAN	**Canberra**	**37.63**	**237**	P	**P**	**19 32 57.5**	**-1.7**
CAN				IAmb	IAmb	19 33 13.2	
	comp=Z,8.6nm,1.1s						
CTAO	**Charters Tower**	**38.87**	**262**	P	**P**	**19 33 08.0**	**-1.7**
CTAO				IAmb	IAmb	19 33 08.8	
	comp=Z,21nm,1.2s						
TOO	**Toolangi**	**40.94**	**234**	P	**P**	**19 33 26.2**	**-0.5**
TOO				IAmb	IAmb	19 33 30.0	
	comp=Z,29nm,1.5s						
COEN	**Coen**	**42.79**	**270**	P	**P**	**19 33 41.0**	**-1.1**
COEN				IAmb	IAmb	19 33 59.8	
	comp=Z,6.5nm,1.0s						
STKA	**Stephens Creek**	**43.09**	**244**	P	**P**	**19 33 43.4**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=104,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**43.09**	**244**	P	**P**	**19 33 43.4**	**-1.0**
BBOO	**Buckleboo**	**47.84**	**243**	P	**P**	**19 34 21.0**	**-1.0**
AS31	**Alice Springs**	**49.94**	**255**	P	**P**	**19 34 36.8**	**-1.6**
ASAR	**Alice Springs**	**49.94**	**255**	P	**P**	**19 34 37.0**	**-1.3**
	comp=Z,5.0nm,0.8s,baz=88,slow=8.3,SNR=36						
WB2	**Warramunga Arr**	**49.99**	**260**	P	**P**	**19 34 37.4**	**-1.3**
WRA	**Warramunga Arr**	**50.00**	**260**	P	**P**	**19 34 37.2**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=97,slow=7.8,SNR=21						
WRA	**Warramunga Arr**	**50.00**	**260**	P	**P**	**19 34 37.3**	**-1.5**
MTN	**Manton Dam**	**54.43**	**268**	P	**P**	**19 35 11.1**	**-0.7**
KNRA	**Kununurra**	**56.01**	**264**	P	**P**	**19 35 22.7**	**-0.5**
KNRA				IAmb	IAmb	19 35 24.1	
	comp=Z,11nm,0.8s						
SIJI	**Sorong**	**58.05**	**281**	P	**P**	**19 35 36.8**	**-0.9**
	comp=Z,10nm,0.7s,baz=83,slow=6.8,SNR=8.9						
FITZ	**Fitzroy Crossi**	**58.42**	**260**	P	**P**	**19 35 39.5**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=82,slow=7.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**58.42**	**260**	P	**P**	**19 35 39.7**	**-0.5**
FITZ				IAmb	IAmb	19 35 41.8	
	comp=Z,3.2nm,0.8s						
SOEI	**Soe**	**61.74**	**269**	P	**P**	**19 36 03.8**	**+0.6**
QSPA	**South Pole Qui**	**70.92**	**180**	P	**P**	**19 37 02.4**	**+1.2**
QSPA				IAmb	IAmb	19 37 05.8	
	comp=Z,8.8nm,1.4s						
MJAR	**Matsushiro Arr**	**72.39**	**320**	P	**P**	**19 37 11.7**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=166,slow=7.5,SNR=6.1						
NVAR	**Mina Array Bea**	**76.50**	**41**	P	**P**	**19 37 37.8**	**+3.3**
	comp=Z,0.7nm,0.7s,baz=230,slow=9.3,SNR=3.7						
NVAR	**Mina Array Bea**	**76.50**	**41**	P	**P**	**19 37 36.7**	**+2.2**
KSRS	**Korea Array**	**79.48**	**316**	P	**P**	**19 37 53.6**	**+2.9**
	comp=Z,1.8nm,0.8s,baz=129,slow=6.4,SNR=7.6						
KSAR	**Wonju Array Be**	**79.50**	**316**	P	**P**	**19 37 50.6**	**-0.3**
TXAR	**Lajitas Array**	**81.94**	**55**	P	**P**	**19 38 08.8**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=224,slow=6.9,SNR=4.2						
PDAR	**Pinedale Array**	**84.44**	**41**	P	**P**	**19 38 19.5**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=174,slow=3.0,SNR=3.7						
PDAR	**Pinedale Array**	**84.44**	**41**	P	**P**	**19 38 18.1**	**+1.1**
MAW	**Mawson**	**84.56**	**198**	P	**P**	**19 38 17.6**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=208,slow=4.1,SNR=3.9						
MAW	**Mawson**	**84.56**	**198**	P	**P**	**19 38 16.9**	**0.0**
ILAR	**Eielson Array**	**85.93**	**11**	P	**P**	**19 38 25.8**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=221,slow=5.9,SNR=10						
ILAR	**Eielson Array**	**85.93**	**11**	P	**P**	**19 38 25.0**	**+1.3**
IMAR	**Indian Mountai**	**86.04**	**8**	P	**P**	**19 38 26.1**	**+1.9**
ARCES	**ARCESS Array B**	**128.43**	**352**	PKP	**PKiKP**	**19 44 52.5**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=340,slow=2.4,SNR=5.5						
BRTR	**Keskin Array B**	**149.60**	**318**	PKPbc	**PKiKP**	**19 45 35.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=132,slow=3.3,SNR=6.1						
BRTR	**Keskin Array B**	**149.60**	**318**		**PKiKP**	**19 45 35.2**	**0.0**
GERES	**GERESS Array B**	**149.96**	**352**	PKPbc	**PKiKP**	**19 45 36.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=122,slow=1.3,SNR=4.1						
GERES	**GERESS Array B**	**149.96**	**352**	PKPbc	**PKiKP**	**19 45 36.8**	**+1.2**

*ISCJB **02** 19:29:27.8±0.3, 4°.93N±0°.03×126°.62E±0°.05, h35km, mb4.0/12, Error ellipse: s-maj=6.6km s-min=4.2km az=169.2*
*DJA **02** 19:29:27.7±0.5, 5°N±4°×12°7E±°, h10km, M4.3/12, mb4.4/9, mB5.8/1, MLv4.3/12, Mw(mB)5.3/1*
*IDC **02** 19:29:30.8±3.1, 4°.99N×126°.68E, h49km±33km, mb3.8/12, mb1 4.0/14, mb1mx3.7/47, mbtmp4.1/14, ML4.0/2, Error ellipse: s-maj=32.3km s-min=14.3km az=71.0*
*NEIC **02** 19:29:31.2±2.0, 4°.92N±0°.07×126°.64E±0°.09, h48km±9km, mb4.4/20*
ISC 02 19:29:30.2±0.5, **4.90N**±0°.05×**126.61E**±0°.07, **h35**km, **n66**, σ1§**53**/66, **mb4.3**/20, **3C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.62**	**222**	P	**Pn**	**19 29 55.0**	**-1.2**
SGSI				S	**Sn**	**19 30 17.1**	**+1.2**
GSPH	**General Santos**	**2.04**	**306**	*e*P	**Pn**	**19 29 58.5**	**-3.6**
DAV	**Davao City (W)**	**2.39**	**335**	Pn	**Pn**	**19 30 06.3**	**-0.6**
DMPH	**Davao City--Mi**	**2.44**	**333**	*e*P	**Pn**	**19 30 09.6**	**+2.1**
KCP	**Kidapawan**	**2.59**	**324**	*e*P	**Pn**	**19 30 06.5**	**-3.1**
KCP				*i*S	**Sn**	**19 30 46.3**	**+6.4**
TNTI	**Ternate**	**4.17**	**170**	P	**Pn**	**19 30 31.5**	**+0.2**
TNTI	**Ternate**	**4.17**	**170**		**Pn**	**19 30 31.4**	**+0.1**
KMSI	**Cibinong**	**5.04**	**212**	P	**Pn**	**19 30 43.0**	**-0.2**
MRSI	**Marisa**	**6.41**	**227**	P	**Pn**	**19 31 01.9**	**-0.2**
SANI	**Sanana**	**6.93**	**185**	P	**Pn**	**19 31 08.0**	**-1.3**
LUWI	**Luwuk**	**7.04**	**213**	P	**Pn**	**19 31 13.7**	**+2.9**
LUWI	**Luwuk**	**7.04**	**213**	Pn	**Pn**	**19 31 12.6**	**+1.9**
SWI	**Sorong**	**7.37**	**141**	P	**Pn**	**19 31 15.5**	**+0.2**
SIJI	**Sorong**	**7.38**	**141**	P	**Pn**	**19 31 16.9**	**+1.5**
	1.3nm,0.3s,baz=315,slow=15,SNR=6.2						
SIJI				S	**Sn**	**19 32 38.0**	**+0.1**
	0.3nm,0.3s,baz=229,slow=18,SNR=1.6						
APSI	**Ampana**	**7.61**	**221**	P	**Pn**	**19 31 18.4**	**-0.2**
MPSI	**Mapaga**	**8.09**	**236**	P	**Pn**	**19 31 25.1**	**-0.2**
NLAI	**Namlea**	**8.10**	**177**	P	**Pn**	**19 31 25.3**	**0.0**
PCI	**Palu**	**8.89**	**230**	P	Pn	19 31 49.6	+13
FAKI	**Fak Fak**	**9.59**	**144**	Pn	**Pn**	**19 31 46.9**	**+1.1**
SMKI	**Samarinda**	**10.79**	**241**	P	Pn	19 32 21.7	+19
SBUM	**Sibu**	**14.57**	**261**		**P**	**19 33 01.3**	**+1.4**
SOEI	**Soe**	**14.74**	**189**		**P**	**19 33 04.2**	**+2.2**
BATI	**Baumata**	**15.29**	**191**	P	**Pn**	**19 33 05.6**	**+2.0**
	1.2nm,0.3s,baz=29,slow=3.1,SNR=4.8						
JAGI	**Jajag, Banyuwa**	**18.19**	**223**	P	**P**	**19 33 40.5**	**+0.5**
MTN	**Manton Dam**	**18.19**	**166**	P	**P**	**19 33 38.4**	**-1.7**
MTN				IAmb	IAmb	19 33 41.9	
	comp=Z,30nm,1.5s						
KNRA	**Kununurra**	**20.55**	**174**	P	**P**	**19 34 04.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**22.87**	**182**	P	**P**	**19 34 31.3**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=320,slow=7.9,SNR=11						
FITZ	**Fitzroy Crossi**	**22.87**	**182**	P	**P**	**19 34 31.0**	**+0.3**
FITZ				IAmb	IAmb	19 34 32.1	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**25.82**	**163**	P	**P**	**19 34 58.5**	**+0.1**
WRAB				IAmb	IAmb	19 35 01.7	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**25.83**	**163**	P	**P**	**19 34 58.7**	**+0.3**
	comp=Z,9.3nm,0.8s,baz=343,slow=10,SNR=24						
WRA	**Warramunga Arr**	**25.83**	**163**	P	**P**	**19 34 59.1**	**+0.7**
WB2	**Warramunga Arr**	**25.83**	**163**	P	**P**	**19 34 58.2**	**-0.2**
WB2				IAmb	IAmb	19 35 01.8	
	comp=Z,13nm,0.8s						
KRJI	**Kerinci**	**26.07**	**255**	P	P	19 35 11.6	+11
PSA00	**Pilbara Seismi**	**27.13**	**194**	P	**P**	**19 35 09.3**	**-0.8**
PSA00				IAmb	IAmb	19 35 15.6	
	comp=Z,18nm,1.4s						
AS31	**Alice Springs**	**29.27**	**166**	P	**P**	**19 35 30.2**	**+0.9**
ASAR	**Alice Springs**	**29.27**	**166**	P	**P**	**19 35 29.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=359,slow=9.0,SNR=9.5						
ASAR	**Alice Springs**	**29.27**	**166**	P	**P**	**19 35 30.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.20**	**299**	P	**P**	**19 35 37.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=117,slow=6.9,SNR=3.2						
KSRS	**Korea Array**	**32.43**	**2**	P	**P**	**19 35 55.9**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=192,slow=11,SNR=3.7						
MAJO	**Matsushiro**	**33.25**	**17**	P	**P**	**19 36 05.4**	**+1.3**
MAJO				IAmb	IAmb	19 36 18.8	
	comp=Z,4.6nm,1.1s						
MJB9	**Matsu-Tunnel**	**33.25**	**17**	P	**P**	**19 36 05.5**	**+1.3**
MJB9				IAmb	IAmb	19 36 18.8	
	comp=Z,4.8nm,1.1s						
EIDS	**Eidsvold**	**38.34**	**143**	P	**P**	**19 36 47.7**	**-0.2**
EIDS				IAmb	IAmb	19 36 53.0	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**39.26**	**160**	P	**P**	**19 36 55.6**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=338,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**39.26**	**160**	P	**P**	**19 36 55.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**39.43**	**6**	P	**P**	**19 36 56.6**	**-0.1**
ARMA	**Armidale**	**42.50**	**147**	P	**P**	**19 37 22.6**	**+0.2**
ARMA				IAmb	IAmb	19 37 24.4	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**46.16**	**341**	P	**P**	**19 37 50.7**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=148,slow=8.1,SNR=4.8						
SONM	**Songino Array**	**46.16**	**341**	P	**P**	**19 37 51.8**	**+0.3**
PETK	**Petropavlovsk-**	**54.40**	**23**	P	**P**	**19 38 54.2**	**+0.6**
MK31	**Makanchi Array**	**56.54**	**325**	P	**P**	**19 39 07.7**	**-1.5**
MK31				IAmb	IAmb	19 39 15.6	
	comp=Z,3.6nm,1.3s						
MKAR	**Makanchi Array**	**56.54**	**325**	P	**P**	**19 39 07.5**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=115,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**56.54**	**325**	P	**P**	**19 39 07.9**	**-1.3**
YAK	**Yakutsk**	**57.05**	**2**	P	**P**	**19 39 11.4**	**-1.1**
ZALV	**Zalesovo Beam**	**59.50**	**333**	P	**P**	**19 39 27.2**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=91,slow=7.2,SNR=2.7						
ZALV	**Zalesovo Beam**	**59.50**	**333**	P	**P**	**19 39 28.9**	**-0.8**
KURK	**Kurchatov**	**60.70**	**327**	P	**P**	**19 39 38.7**	**+0.7**
GAR	**Garm**	**61.06**	**312**	P	**P**	**19 39 41.8**	**+1.0**
KKAR	**Karatay Array**	**62.31**	**317**	P	**P**	**19 39 49.1**	**0.0**
NRIK	**Noril'sk**	**69.28**	**346**	P	**P**	**19 40 32.6**	**-0.8**
	comp=Z,2.5nm,0.4s,baz=141,slow=6.5,SNR=3.6						
ABKAR	**Abkulak array**	**71.18**	**321**	P	**P**	**19 40 45.2**	**-0.3**
ABKAR	**Abkulak array**	**71.18**	**321**	P	**P**	**19 40 44.9**	**-0.6**
ABKAR				IAmb	IAmb	19 40 47.4	
	comp=Z,1.7nm,0.9s						
IMAR	**Indian Mountai**	**81.33**	**24**	P	**P**	**19 41 41.2**	**-1.6**
ILAR	**Eielson Array**	**84.11**	**25**	P	**P**	**19 41 56.4**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=230,slow=7.0,SNR=3.4						
BMAR	**Burnt Mountain**	**85.05**	**23**	P	**P**	**19 42 01.4**	**-0.7**
FINES	**FINESS Array B**	**90.76**	**332**	P	**P**	**19 42 26.1**	**-3.3**
	comp=Z,3.1nm,1.1s,baz=94,slow=4.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**122.44**	**289**	PKP	**PKPdf**	**19 48 21.8**	**-1.1**
	comp=Z,0.6nm,1.1s,baz=72,slow=0.5,SNR=2.7						

IDC 02 19:30:17.1±6.0, **19.08S**×**172.97W**, **h0**km, **mb4.0**/4, **mb1 4.2**/5, **mb1mx3.8**/35, **mbtmp4.0**/5, **ML3.8**/1, **Error ellipse: s-maj=248.6km s-min=35.5km az=145.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**12.58**	**102**	Pn	Pn	19 33 06.5	-11
	1.9nm,0.3s,baz=111,slow=5.1,SNR=3.2						
DZM	**Mont Dzumac**	**19.50**	**258**	P	P	19 34 45.9	-0.1
	0.3nm,0.3s,baz=103,slow=18,SNR=2.8						
CTA	**Charters Tower**	**38.36**	**262**	P	P	19 37 40.1	-0.1
	16nm,1.2s,baz=73,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**49.46**	**255**	P	P	19 39 09.6	+0.2
	1.3nm,0.8s,baz=96,slow=8.3,SNR=7.5						
WRA	**Warramunga Arr**	**49.50**	**260**	P	P	19 39 09.6	-0.2
	0.6nm,0.6s,baz=98,slow=7.7,SNR=5.0						
ILAR	**Eielson Array**	**85.96**	**11**	P	P	19 42 58.6	-0.1
	0.5nm,0.7s,baz=211,slow=6.5,SNR=4.5						

*ISCJB **02** 19:35:14.6±0.8, 18°.3S±0°.1×172°.3W±0°.1, h10km, mb3.9/4, Error ellipse: s-maj=16.2km s-min=14.1km az=139.1*
*NEIC **02** 19:35:16.0±1.4, 18°.3S±0°.1×172°.2W±0°.1, h10km±2km, mb4.1/12*
*IDC **02** 19:35:18.0±4.0, 18°.30S×172°.60W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/30, mbtmp3.9/5, Error ellipse: s-maj=284.1km s-min=28.2km az=154.0*
ISC 02 19:35:16.3±0.8, **18.3S**±0°.1×**172.26W**±0°.10, **h10**km, **n22**, σ1§**23**/20, **mb4.0**/6, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.39**	**6**	Pn	**Pn**	**19 36 24.4**	**+1.2**
RAR	**Rarotonga**	**12.11**	**106**	Pn	**Pn**	**19 38 09.7**	**+0.7**
	2.3nm,0.3s,baz=271,slow=4.4,SNR=4

mb4.0/3, Error ellipse: s-maj=16.6km s-min=7.4km az=161.3
*IDC **02** 19:57:10.8±1.7, 19°.86S×172°.20W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/33, mbtmp4.2/4, ML3.0/1, Error ellipse: s-maj=61.6km s-min=34.6km az=175.0*
*NEIC **02** 19:57:12.3±0.9, 19°.82S±0°.06×172°.26W±0°.08, h10km±2km, mb4.3/7*
ISC 02 19:57:12.0±0.8, 19°.9S±0°.1×172°.22W±0°.08, h10km, n15, σ0s80/16, mb4.2/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.30**	**70**	**Pn**	**Pn**	**19 57 50.8**	**+0.7**
NIUE				Sn	**Sn**	**19 58 17.5**	**-1.0**
AFI	**Afiamalu**	**5.94**	**4**	Pn	**Pn**	**19 58 39.9**	**-0.3**
AFI				Sn		19 59 29.8	-18
RAR	**Rarotonga**	**11.74**	**99**	Pn	**Pn**	**19 59 59.0**	**-0.7**
	0.9nm,0.3s,baz=150,slow=20,SNR=2.5						
RAR				Sn	Sn	20 01 47.9	-23
	1.2nm,0.3s,baz=353,slow=8.1,SNR=2.5						
RAR	**Rarotonga**	**11.74**	**99**		**Pn**	**20 00 00.5**	**+0.9**
BFZ	**Birch Farm**	**22.97**	**203**	P	**P**	**20 02 15.3**	**-1.4**
CTAO	**Charters Tower**	**38.95**	**262**	P	**P**	**20 04 39.0**	**+0.4**
CTAO				IAmb	IAmb	20 04 49.8	
	comp=Z,7.8nm,1.1s						
AS31	**Alice Springs**	**49.94**	**255**	P	**P**	**20 06 06.4**	**-0.1**
AS31				IAmb	IAmb	20 06 08.4	
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**49.94**	**255**	P	**P**	**20 06 07.9**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=98,slow=8.3,SNR=17						
ASAR	**Alice Springs**	**49.94**	**255**	P	**P**	**20 06 06.8**	**+0.3**
WB2	**Warramunga Arr**	**50.05**	**260**	P	**P**	**20 06 07.8**	**+0.4**
WRAB	**Tennant Creek**	**50.05**	**260**	P	**P**	**20 06 07.6**	**+0.3**
WRAB				IAmb	IAmb	20 06 08.2	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**50.06**	**260**	P	**P**	**20 06 06.6**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=97,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**50.06**	**260**	P	**P**	**20 06 07.2**	**-0.2**
MTN	**Manton Dam**	**54.60**	**268**	P	**P**	**20 06 41.5**	**+0.4**
MTN				IAmb	IAmb	20 06 58.6	
	comp=Z,7.9nm,1.1s						
MJAR	**Matsushiro Arr**	**73.06**	**320**	P	**P**	**20 08 42.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=147,slow=7.2,SNR=5.1						

TIR 02 20:17:43.4, 41°.88N×20°.17E, h8km, Md1.8/4, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**308**	*i* PG	Pg	20 17 48.8	+0.1
PUK				*i* SG	Sg	20 17 53.6	+1.4
PHP	**Peshkopia**	**0.28**	**134**	*i* PG	Pg	20 17 49.0	0.0
PHP				*i* SG	Sb	20 17 54.4	-1.3
BCI	**Bajram Curri**	**0.49**	**351**	*i* PG	Pg	20 17 53.1	+0.1
BCI				*i* SG	Sb	20 18 01.1	-0.7

ATH 02 20:18:36.0, 38°.37N×21°.87E, h7km±2km, ML0.8/3, Error ellipse: s-maj=2.7km s-min=0.8km az=24.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**26**	P	Pg	20 18 37.7	-0.1
EFP				S	Sg	20 18 39.1	+0.1
EFP				AML	AML	20 18 39.2	
	comp=E,425μm,0.2s						
EFP				AML	AML	20 18 40.0	
	comp=N,201μm,0.2s						
UPR	**University Cam**	**0.11**	**217**	P	Pg	20 18 38.4	0.0
UPR				S	Sg	20 18 40.4	+0.3
SERG	**Sergoula**	**0.15**	**74**	P	Pg	20 18 39.3	+0.2
SERG				S	Sg	20 18 41.7	+0.3
SERG				AML	AML	20 18 43.3	
	comp=N,84μm,0.2s						
SERG				AML	AML	20 18 43.4	
	comp=E,69μm,0.2s						
LAKA	**Lakka**	**0.16**	**147**	P	Pg	20 18 39.3	+0.1
LAKA				S	Sg	20 18 41.8	+0.4
TRIZ	**Trizonia**	**0.16**	**92**	P	Pg	20 18 39.2	-0.1
TRIZ				S	Sg	20 18 42.0	+0.5
KALE	**Kalithea**	**0.21**	**84**	P	Pg	20 18 40.5	+0.2
PVO	**Paravola**	**0.36**	**312**	P	Pg	20 18 43.0	-0.2
PVO				S	Sg	20 18 48.7	+0.7
KLV	**Kalavryta, Ach**	**0.39**	**146**	P	Pg	20 18 43.6	-0.1
KLV				S	Sg	20 18 49.2	+0.4
DRO	**Drossia**	**0.44**	**197**	P	Pg	20 18 44.6	+0.1
DRO				S	Sg	20 18 50.5	+0.3
MAKR	**Makrakomi, Fth**	**0.67**	**18**	P	Pg	20 18 48.7	-0.3
MAKR				AML	AML	20 19 00.8	
	comp=E,44μm,0.3s						
MAKR				AML	AML	20 19 01.9	
	comp=N,24μm,0.2s						

*IDC **02** 20:23:58.8±1.8, 1°.82N×99°.35E, h142km±8km, mb3.2/4, mb1 3.3/5, mb1mx3.0/39, mbtmp3.5/5, Error ellipse: s-maj=96.6km s-min=18.1km az=57.0*
ISC 02 20:23:57.7±2.9, 1.7N±0°.4×99°.2E±0°.7, h138km, n6, σ0s77/7, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.14**	**348**	P	**Pn**	**20 24 23.4**	**+0.6**
	39nm,0.3s,baz=167,slow=14,SNR=64						
PSI				S	**Sn**	**20 24 41.1**	**-0.9**
	3.9nm,0.3s,baz=295,slow=21,SNR=18						
CMAR	**Chiang Mai Arr**	**16.68**	**359**	P	**P**	**20 27 43.9**	**+0.5**
	0.1nm,0.3s,baz=191,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**40.64**	**124**	P	**P**	**20 31 24.7**	**+0.2**
	0.6nm,0.3s,baz=305,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**42.13**	**129**	P	**P**	**20 31 36.4**	**-0.3**
	0.1nm,0.4s,baz=300,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**47.29**	**344**	P	**P**	**20 32 17.4**	**+0.2**
	0.3nm,0.4s,baz=149,slow=9.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**53.43**	**349**	P	**P**	**20 33 02.3**	**-0.9**
	0.5nm,0.4s,baz=166,slow=8.6,SNR=3.6						

*ISCJB **02** 20:27:45.0±0.5, 19°.21S±0°.10×172°.70W±0°.08, h10km, mb4.1/9, Error ellipse: s-maj=15.9km s-min=8.8km az=145.5*
*NEIC **02** 20:27:46.6±1.2, 19°.3S±0°.1×172°.65W±0°.10, h10km±1km, mb4.4/18*
*IDC **02** 20:27:46.3±0.8, 18°.94S×172°.88W, h0km, mb4.1/10, mb1 4.4/11, mb1mx4.1/37, mbtmp4.2/11, ML3.8/1, Error ellipse: s-maj=37.4km s-min=16.7km az=140.0*
ISC 02 20:27:46.1±0.6, 19°.3S±0°.1×172°.53W±0°.08, h10km, n42, σ1s24/39, mb4.3/17, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.47**	**86**	Pn	**Pn**	**20 28 25.4**	**-0.9**
AFI	**Afiamalu**	**5.38**	**8**	Pn	**Pn**	**20 29 04.6**	**-1.9**
RAR	**Rarotonga**	**12.13**	**101**	Pn	Pn	20 30 35.9	-3.1
	5.2nm,0.3s,baz=278,slow=11,SNR=7.5						
RAR	**Rarotonga**	**12.13**	**101**		**Pn**	**20 30 36.3**	**-2.7**
DZM	**Mont Dzumac**	**19.87**	**258**	P	**P**	**20 32 16.6**	**-1.0**
	0.3nm,0.3s,baz=89,slow=18,SNR=3.3						
DZM	**Mont Dzumac**	**19.87**	**258**	P	**P**	**20 32 16.9**	**-0.7**
DZM				IAmb	IAmb	20 32 20.1	
	comp=Z,17nm,1.1s						
URZ	**Urewera**	**20.96**	**203**	P	Pn	20 32 32.1	+0.3
	comp=Z,3.3nm,0.6s,baz=47,slow=16,SNR=3.2						
URZ	**Urewera**	**20.96**	**203**	P	Pn	20 32 31.8	0.0
MSWZ	**Moikau Station**	**24.41**	**203**	P	**P**	**20 33 03.1**	**-1.6**
RPZ	**Rata Peaks**	**28.00**	**206**	P	**P**	**20 33 41.1**	**+4.0**
	comp=Z,1.7nm,0.4s,baz=51,slow=3.0,SNR=2.1						
RPZ	**Rata Peaks**	**28.00**	**206**	P	**P**	**20 33 37.3**	**+0.2**
EIDS	**Eidsvold**	**34.13**	**253**	P	**P**	**20 34 30.3**	**-1.1**
EIDS				IAmb	IAmb	20 34 31.2	
	comp=Z,4.8nm,1.0s						
CTAO	**Charters Tower**	**38.75**	**262**	P	**P**	**20 35 09.8**	**-1.1**
CTAO				IAmb	IAmb	20 35 12.0	
	comp=Z,7.5nm,0.9s						
TOO	**Toolangi**	**40.79**	**234**	P	**P**	**20 35 28.4**	**+0.8**
TOO				IAmb	IAmb	20 35 36.4	
	comp=Z,7.9nm,0.9s						
COEN	**Coen**	**42.69**	**270**	P	**P**	**20 35 43.2**	**-0.3**
COEN				IAmb	IAmb	20 35 44.7	
	comp=Z,6.5nm,0.9s						
STKA	**Stephens Creek**	**42.95**	**244**	P	**P**	**20 35 45.5**	**0.0**
	comp=Z,2.2nm,0.8s,baz=99,slow=3.3,SNR=3.7						
STKA	**Stephens Creek**	**42.95**	**244**	P	**P**	**20 35 45.8**	**+0.4**
AS31	**Alice Springs**	**49.81**	**255**	P	**P**	**20 36 39.0**	**-0.5**
AS31				IAmb	IAmb	20 36 42.5	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**49.81**	**255**	P	**P**	**20 36 39.2**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=91,slow=7.5,SNR=36						
ASAR	**Alice Springs**	**49.81**	**255**	P	**P**	**20 36 38.6**	**-0.9**
WB2	**Warramunga Arr**	**49.87**	**260**	P	**P**	**20 36 39.4**	**-0.6**
WB2				IAmb	IAmb	20 36 41.8	
	comp=Z,2.5nm,0.7s						
WRAB	**Tennant Creek**	**49.87**	**260**	P	**P**	**20 36 39.2**	**-0.7**
WRAB				IAmb	IAmb	20 36 40.2	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**49.88**	**260**	P	**P**	**20 36 39.2**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=97,slow=8.6,SNR=22						
WRA	**Warramunga Arr**	**49.88**	**260**	P	**P**	**20 36 39.2**	**-0.9**
MTN	**Manton Dam**	**54.33**	**268**	P	**P**	**20 37 12.8**	**-0.5**
KNRA	**Kununurra**	**55.90**	**264**	P	**P**	**20 37 24.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**58.30**	**260**	P	**P**	**20 37 42.0**	**+0.4**
SOEI	**Soe**	**61.64**	**269**	P	**P**	**20 38 04.6**	**-0.1**
KAPI	**Kappang**	**67.34**	**273**	P	**P**	**20 38 41.9**	**0.0**
	comp=Z,9.8nm,0.9s,baz=157,slow=7.7,SNR=2.8						
KAPI	**Kappang**	**67.34**	**273**	P	**P**	**20 38 41.4**	**-0.5**
NVAR	**Mina Array Bea**	**76.66**	**41**	P	**P**	**20 39 39.2**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=233,slow=8.4,SNR=7.2						
NVAR	**Mina Array Bea**	**76.66**	**41**	P	**P**	**20 39 38.7**	**+1.1**
TXAR	**Lajitas Array**	**82.09**	**55**	P	**P**	**20 40 09.5**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=206,slow=7.9,SNR=3.9						
PDAR	**Pinedale Array**	**84.60**	**41**	P	**P**	**20 40 21.4**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=198,slow=3.2,SNR=7.6						
PDAR	**Pinedale Array**	**84.60**	**41**	P	**P**	**20 40 21.1**	**+1.1**
CCB	**Clear Creek Bu**	**85.80**	**10**	P	**P**	**20 40 25.8**	**+0.6**
CCB				IAmb	IAmb	20 40 26.9	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**86.07**	**11**	P	**P**	**20 40 27.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=225,slow=5.5,SNR=13						
ILAR	**Eielson Array**	**86.07**	**11**	P	**P**	**20 40 27.3**	**+0.8**
IMAR	**Indian Mountai**	**86.17**	**8**	P	**P**	**20 40 28.2**	**+1.1**
ARCES	**ARCESS Array B**	**128.54**	**352**	PKP	**PKPdf**	**20 46 53.5**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=5.5,slow=3.8,SNR=3.9						
BRTR	**Keskin Array B**	**149.62**	**318**	PKPbc	**PKPbc**	**20 47 37.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=122,slow=3.2,SNR=6.1						
BRTR	**Keskin Array B**	**149.62**	**318**		**PKiKP**	**20 47 37.4**	**0.0**

*NEIC **02** 20:30:39.0±1.6, 40°.470N±0°.010×121°.51W±0°.03, h11km±6km*
*NCEDC **02** 20:30:39.3±1.4, 40°.47N±0°.02×121°.523W±0°.008, h5km±5km, Md2.3*
*ANF **02** 20:30:39.8±0.7, 40°.52N×121°.62W, h1km, ML2.4/3, Error ellipse: s-maj=6.8km s-min=2.4km az=101.0*
ISC 02 20:30:39.1±0.9, 40°.46N±0°.02×121°.54W±0°.02, h11km±7km, n51, σ0s85/59, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDM	**Redding Peak**	**0.06**	**89**		**Pg**	**20 30 40.8**	**-0.6**
LDBM	**Digger Butte**	**0.19**	**261**		**Pg**	**20 30 43.5**	**+0.2**
O03E	**Paynes Creek**	**0.27**	**231**	P	**Pg**	**20 30 44.7**	**+0.2**
	baz=50,SNR=185						
O03E				S	**Sg**	**20 30 48.7**	**+0.4**
	baz=50						
O03E	**Paynes Creek**	**0.27**	**231**		**Pg**	**20 30 44.7**	**+0.2**
O03E					**Sg**	**20 30 48.9**	**+0.6**
LCMM	**Colby Mountain**	**0.32**	**178**		**Pg**	**20 30 45.8**	**+0.3**
HATC	**Hat Creek Radi**	**0.36**	**9**		**Pg**	**20 30 46.7**	**+0.4**
LBCM	**Butte Creek Ri**	**0.40**	**21**		**Pg**	**20 30 47.1**	**+0.1**
LSHM	**Sage Hen Hill**	**0.51**	**311**		**Pg**	**20 30 48.6**	**-0.4**
LTCM	**Tuscan Springs**	**0.52**	**241**		**Pg**	**20 30 49.7**	**+0.5**
MGL	**Magalia**	**0.65**	**182**		**Pg**	**20 30 51.4**	**-0.3**
LTIM	**Timbered Crate**	**0.71**	**3**		**Pg**	**20 30 53.1**	**+0.2**
WDC	**Whiskeytown Da**	**0.78**	**279**	Pg	**Pg**	**20 30 53.4**	**-0.7**
WDC				Sg	**Sg**	**20 31 04.2**	**-0.1**
ORV	**Oroville**	**0.91**	**178**	Pg	**Pg**	**20 30 55.6**	**-1.0**
ORV				Sg	**Sg**	**20 31 08.2**	**-0.2**
LBFM	**Black Fox Moun**	**0.92**	**343**		**Pg**	**20 30 56.7**	**-0.2**
M03C	**McCloud**	**0.92**	**331**		**Pg**	**20 30 56.8**	**-0.2**
O02D	**Mt. Diablo Mer**	**1.00**	**254**	P	**Pg**	**20 30 57.9**	**-0.4**
	baz=73,SNR=91						
O02D				S	**Sb**	**20 31 12.6**	**+0.9**
	baz=73						
O02D	**Mt. Diablo Mer**	**1.00**	**254**		**Pg**	**20 30 57.9**	**-0.4**
BMRR	**Black Mountain**	**1.01**	**110**		**Pg**	**20 30 57.7**	**-0.9**
N02D	**Trinity Center**	**1.02**	**300**	P	**Pg**	**20 30 58.0**	**-0.8**
	baz=119,SNR=11						
LBPM	**Beegum Peak**	**1.04**	**262**		**Pg**	**20 30 58.1**	**-0.9**
LBKM	**Bonanza King**	**1.06**	**306**		**Pg**	**20 30 58.2**	**-1.2**
BEKR	**Beckworth**	**1.08**	**123**		**Pg**	**20 30 59.3**	**-0.6**
GVV	**Valley View**	**1.11**	**232**		**Pg**	**20 31 00.5**	**0.0**
LMHM	**Little Mount H**	**1.12**	**355**		**Pg**	**20 30 59.5**	**-1.2**
GCK	**Clark Valley**	**1.15**	**217**		**Pg**	**20 31 01.3**	**+0.1**
LGMM	**Garner Mountai**	**1.16**	**349**		**Pg**	**20 31 00.7**	**-0.7**
SUTB	**Sutter Butte**	**1.25**	**189**		**Pg**	**20 31 02.6**	**-0.5**
GFC	**Funks Creek**	**1.27**	**207**		**Pn**	**20 31 03.1**	**+0.3**
LOY	**Loyalton**	**1.28**	**128**		**Pg**	**20 31 02.9**	**-0.8**
M04C	**Macdoel**	**1.34**	**350**	P	**Pn**	**20 31 04.3**	**+0.5**
	baz=170						
M04C				S	**Sb**	**20 31 22.3**	**+0.8**
	baz=170						
M02C	**Callahan**	**1.36**	**313**	P	**Pn**	**20 31 03.3**	**-0.8**
	baz=132,SNR=43						
M02C				S	**Sb**	**20 31 21.8**	**-0.3**
	baz=132						
KBF	**Kyburz Flat**	**1.40**	**133**		**Pn**	**20 31 05.4**	**+0.7**
GTSM	**Trough Springs**	**1.41**	**216**		**Pn**	**20 31 05.7**	**+0.9**
PEAR	**Peavine Mounta**	**1.48**	**125**		**Pn**	**20 31 06.6**	**+0.7**
YBH	**Yreka Blue Hor**	**1.55**	**325**		**Pn**	**20 31 06.4**	**-0.3**
AFDM	**Forest Hills D**	**1.57**	**164**		**Pn**	**20 31 07.3**	**+0.3**
AFDM				Sn	**Sn**	**20 31 27.4**	**0.0**
KMRM	**Mail Ridge**	**1.68**	**262**	Pn	**Pn**	**20 31 09.1**	**+0.6**
MOD	**Modoc Plateau**	**1.71**	**32**		**Pn**	**20 31 09.9**	**+0.8**
KHMM	**Horse Mountain**	**1.72**	**285**	Pn	**Pn**	**20 31 10.1**	**+1.0**
KCPM	**Cahto Peak**	**1.75**	**244**	Pn	**Pn**	**20 31 10.2**	**+0.7**
PAHR	**Pah Rah Range**	**1.81**	**114**		**Pn**	**20 31 11.8**	**+1.4**
L04D	**Klamath Falls**	**1.85**	**342**	P	**Pb**	**20 31 13.2**	**+0.3**
	baz=161,SNR=10						
HOPS	**Hopland Field**	**1.89**	**219**	Pn	**Pn**	**20 31 12.7**	**+1.4**
JCC	**Jacoby Creek,**	**1.93**	**281**	Pn	**Pn**	**20 31 13.2**	**+1.4**
PNTR	**Pine Nut**	**2.03**	**132**		**Pb**	**20 31 15.8**	**-0.3**
YERR	**Yerington**	**2.30**	**129**		**Pn**	**20 31 18.2**	**+1.1**
WAKR	**Walker**	**2.54**	**140**		**Pb**	**20 31 23.7**	**-1.2**
KVN	**Kaiserville**	**3.00**	**117**		**Pn**	**20 31 27.7**	**+0.9**
NVAR	**Mina Array Bea**	**3.22**	**128**		**Pn**	**20 31 31.1**	**+1.3**
JHUM	**Huhtala Lane,**	**3.28**	**189**		**Pb**	**20 31 34.9**	**-2.4**
NV11	**Mina Array Sit**	**3.31**	**127**		**Pn**	**20 31 33.2**	**+2.3**

*ISCJB **02** 20:32:21.5±0.5, 22°.69S±0°.02×69°.57W±0°.05, h56km±6km, Error ellipse: s-maj=7.5km s-min=3.8km az=4.1*
*NEIC **02** 20:32:21.6±0.9, 22°.73S±0°.04×69°.56W±0°.02, h41km±18km*
*GUC **02** 20:32:21.3±0.5, 22°.67S×69°.55W, h52km±2km, ML3.6*
ISC 02 20:32:22.2±1.1, 22°.69S±0°.03×69°.57W±0°.05, h47km±8km, n26, σ0s85/41, 1C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.02**	**194**	↓*iP*	**Pn**	**20 32 29.6**	**0.0**
PB06				*i* S	**Sn**	**20 32 35.9**	**+0.9**
PB06				IAML		20 32 36.0	
	comp=N,11μm,0.1s						
PB15	**IPOC Station P**	**0.53**	**170**	↓*iP*	**Pn**	**20 32 33.6**	**-0.2**
PB15				*i* S	**Sn**	**20 32 42.8**	**+0.7**
LVC	**Limon Verde**	**0.61**	**83**		**Pn**	**20 32 34.2**	**-0.8**
LVC				Sn	**Sn**	**20 32 43.5**	**-0.7**
PB04	**IPOC Station P**	**0.64**	**303**	↓*iP*	**Pn**	**20 32 35.2**	**0.0**
PB04				*i* S	**Sn**	**20 32 45.5**	**+0.8**
PB04				IAML		20 32 46.5	
	comp=E,3μm,0.4s						
PB04	**IPOC Station P**	**0.64**	**303**		**Pn**	**20 32 34.5**	**-0.7**
PB04				Sn	**Sn**	**20 32 44.8**	**+0.2**
PB03	**IPOC Station P**	**0.66**	**345**	↓*iP*	**Pn**	**20 32 35.0**	**-0.4**
PB03				*i* S	**Sn**	**20 32 45.3**	**+0.4**
PB03				IAML		20 32 46.1	
	comp=E,4μm,0.1s						
PB09	**IPOC Station P**	**0.94**	**19**	*eP*	**Pn**	**20 32 39.1**	**-0.1**
PB09				*eS*	**Sn**	**20 32 51.9**	**+0.3**
PB09				IAML		20 32 57.1	
	comp=E,2μm,0.7s						
PB07	**IPOC Station P**	**1.00**	**343**	↓*iP*	**Pn**	**20 32 39.6**	**-0.5**
PB07				*eS*	**Sn**	**20 32 53.4**	**+0.3**
PB07				IAML		20 32 53.7	
	comp=E,3μm,0.5s						
PB10	**IPOC Station P**	**1.23**	**228**	↓*iP*	**Pn**	**20 32 42.9**	**-0.1**
PB10	**IPOC Station P**	**1.23**	**228**		**Pn**	**20 32 42.5**	**-0.4**
PB10				Sn	**Sn**	**20 32 57.0**	**-1.3**
PB02	**IPOC Station P**	**1.40**	**347**	↓*iP*	**Pn**	**20 32 44.7**	**-0.6**
PB02				*eS*	**Sn**	**20 33 03.0**	**+0.4**
PB02				IAML		20 33 08.3	
	comp=E,3μm,0.4s						
PB01	**IPOC Station P**	**1.64**	**3**	↓*iP*	**Pn**	**20 32 48.8**	**+0.1**
PB01				*eS*	**Sn**	**20 33 08.9**	**+0.3**
PB01				IAML		20 33 13.6	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.64**	**3**		**Pn**	**20 32 48.6**	**0.0**
PB01				Sn	**Sn**	**20 33 08.4**	**-0.2**
PB14	**IPOC Station P**	**2.08**	**202**	*eP*	**Pn**	**20 32 55.6**	**+0.8**
PB14				*eS*	**Sn**	**20 33 21.5**	**+1.8**
GO02	**Mina Guanaco**	**2.46**	**180**	*eP*	**Pn**	**20 33 01.0**	**+0.9**
GO02	**Mina Guanaco**	**2.46**	**180**		**Pn**	**20 33 00.9**	**+0.7**
GO02				Sn	**Sn**	**20 33 29.3**	**+0.1**
PB08	**IPOC Station P**	**2.56**	**9**	↑*iP*	**Pn**	**20 33 01.9**	**+0.4**
PB08				*eS*	**Sn**	**20 33 33.3**	**+1.5**
PB11	**IPOC Station P**	**2.91**	**358**	*i* P	**Pn**	**20 33 06.2**	**0.0**
PB11	**IPOC Station P**	**2.91**	**358**		**Pn**	**20 33 06.0**	**-0.2**
GO01	**Chusmiza**	**3.02**	**7**	*eP*	**Pn**	**20 33 08.5**	**+0.5**
GO01	**Chusmiza**	**3.02**	**7**		**Pn**	**20 33 07.8**	**-0.2**
MNMC	**Minye Minye**	**3.54**	**360**		**Pn**	**20 33 14.8**	**-0.2**
GO03	**Copiap**	**4.92**	**187**	Pn	**Pn**	**20 33 32.3**	**-1.3**
LCO	**Las Campanas**	**6.38**	**189**	Pn	**Pn**	**20 33 51.1**	**-2.7**
LPAZ	**La Paz**	**6.51**	**12**	Pn	**Pn**	**20 33 57.5**	**+1.5**
TRQA	**Tornquist**	**16.65**	**159**		**Pn**	**20 36 11.5**	**-0.7**

*JMA **02** 20:41:32.8±0.1, 37°.45N×141°.43E, h36km±1km, M4.1*
JMA Felt III J1.
*IDC **02** 20:41:35.1±2.5, 37°.47N×141°.50E, h49km±21km, mb3.5/12, mb1 3.6/16, mb1mx3.5/52, mbtmp3.7/16, ML2.9/4, Error ellipse: s-maj=21.2km s-min=15.5km az=105.0*
ISC 02 20:41:30.7±1.5, 37°.42N±0°.04×141°.56E±0°.05, h16km±9km, n35, σ1s07/42, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**265**	P	**Pb**	**20 41 42.6**	**+0.6**
JFK				S	**Sg**	**20 41 49.0**	**0.0**
JMST	**Minamisoumatoc**	**0.62**	**300**	P	**Pg**	**20 41 43.3**	**+0.5**
JMST				S	**Sg**	**20 41 50.4**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.69**	**243**	P	**Pb**	**20 41 44.8**	**+0.4**
ONAJ				S	**Sg**	**20 41 53.3**	**0.0**
JMM	**Marumori**	**0.76**	**306**	P	**Pb**	**20 41 45.4**	**-0.1**
JMM				S	**Sb**	**20 41 54.2**	**-1.4**
JFFD	**Fukushimafurud**	**0.86**	**248**	P	**Pb**	**20 41 47.3**	**0.0**
JFFD				S	**Sb**	**20 41 57.5**	**-1.2**
JFT	**Otama**	**0.98**	**276**	P	**Pb**	**20 41 49.4**	**+0.1**
JFT				S	**Sb**	**20 42 01.0**	**-1.0**
JIO	**Ouri**	**1.05**	**351**	P	**Pb**	**20 41 50.1**	**-0.3**
JIO				S	**Sb**	**20 42 02.6**	**-1.3**
JHO	**Hitachi**	**1.13**	**225**	P	**Pb**	**20 41 50.9**	**-1.0**
JHO				S	**Sb**	**20 42 04.3**	**-2.1**
JOU	**Okura**	**1.18**	**323**	P	**Pn**	**20 41 52.5**	**-0.1**
JOU				S	**Sb**	**20 42 06.8**	**-1.1**
JYS	**Shirataka**	**1.43**	**304**	P	**Pn**	**20 41 56.2**	**+0.2**
JYS				S	**Sn**	**20 42 13.7**	**-0.8**
JFY	**Yanaizu**	**1.48**	**270**	P	**Pn**	**20 41 56.8**	**+0.1**
JFY				S	**Sn**	**20 42 14.4**	**-1.4**
MJAR	**Matsushiro Arr**	**2.83**	**253**	P	**Pn**	**20 42 16.2**	**+1.0**
	3.3nm,0.3s,baz=79,slow=16,SNR=207						
MJAR				S	**Sn**	**20 42 50.5**	**+1.5**
	3.5nm,0.3s,baz=86,slow=28,SNR=6.8						
MAT	**Matsushiro**	**2.83**	**253**	P	**Pn**	**20 42 16.6**	**+1.4**
MAT				S	**Sn**	**20 42 51.3**	**+2.3**
ASAJ	**Asahikawa**	**6.74**	**6**	P	**Pn**	**20 43 09.6**	**+0.7**
	0.4nm,0.3s,baz=175,slow=16,SNR=4.5						
USRK	**Ussuriysk Ar.**	**9.92**	**316**	P	**Pn**	**20 43 53.7**	**+1.1**
	baz=124,slow=15,SNR=2.8						
JCJ	**Chichijima**	**10.31**	**177**	P	**Pn**	**20 43 56.8**	**-1.2**
	2.8nm,0.3s,baz=272,slow=23,SNR=6.9						
KSRS	**Korea Array**	**10.85**	**274**	P	**Pn**	**20 44 07.7**	**+2.4**
	0.1nm,0.3s,baz=82,slow=14,SNR=4.0						
SONM	**Songino Array**	**27.67**	**303**	P	**P**	**20 47 16.6**	**-1.3**
	1.2nm,0.7s,baz=97,slow=8.8,SNR=10						
H11N2	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	21 17 35

DZM			IAmb	IAmb	21 15 49.0	
	comp=Z,12nm,0.9s					
URZ	**Urewera**	**20.56 204**	P	Pn	21 16 01.4	+6.0
	comp=Z,5.1nm,0.6s,baz=328,slow=8.6,SNR=4.0					
URZ	**Urewera**	**20.56 204**	P	**P**	**21 15 53.8**	**+0.5**
URZ			IAmb	IAmb	21 16 04.3	
	comp=Z,6.4nm,0.8s					
MSWZ	**Moikau Station**	**24.01 203**	P	**P**	**21 16 27.9**	**-1.5**
TUWZ	**Tuamarina**	**24.53 205**	P	**P**	**21 16 32.9**	**-1.2**
RPZ	**Rata Peaks**	**27.61 206**	P	P	21 17 15.9	+14
	comp=Z,6.6nm,0.7s,baz=59,slow=5.9,SNR=5.5					
CTA	**Charters Tower**	**38.78 262**	P	**P**	**21 18 39.4**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=91,slow=9.8,SNR=10					
STKA	**Stephens Creek**	**42.83 244**	P	**P**	**21 19 14.2**	**+1.4**
	comp=Z,3.7nm,1.0s,baz=66,slow=11,SNR=3.3					
HON	**Honolulu**	**43.19 20**	P	**P**	**21 19 14.8**	**-0.8**
HON			IAmb	IAmb	21 19 23.3	
	comp=Z,118nm,1.0s					
AS31	**Alice Springs**	**49.78 255**	P	**P**	**21 20 07.7**	**+0.1**
AS31			IAmb	IAmb	21 20 09.8	
	comp=Z,2.7nm,1.1s					
ASAR	**Alice Springs**	**49.78 255**	P	**P**	**21 20 08.4**	**+0.7**
	comp=Z,5.7nm,0.8s,baz=94,slow=7.8,SNR=60					
ASAR	**Alice Springs**	**49.78 255**	P	**P**	**21 20 07.4**	**-0.2**
WB2	**Warramunga Arr**	**49.88 260**	P	**P**	**21 20 08.2**	**-0.2**
WB2			IAmb	IAmb	21 20 10.0	
	comp=Z,1.1nm,0.9s					
WRAB	**Tennant Creek**	**49.88 260**	P	**P**	**21 20 07.5**	**-1.0**
WRAB			IAmb	IAmb	21 20 08.8	
	comp=Z,3.6nm,0.8s					
WRA	**Warramunga Arr**	**49.89 260**	P	**P**	**21 20 08.5**	**0.0**
	comp=Z,2.9nm,0.8s,baz=98,slow=8.0,SNR=35					
WRA	**Warramunga Arr**	**49.89 260**	P	**P**	**21 20 07.8**	**-0.8**
WRA			IAmb	IAmb	21 20 09.9	
	comp=Z,0.3nm,0.9s					
MTN	**Manton Dam**	**54.41 268**	P	**P**	**21 20 41.8**	**-0.4**
MTN			IAmb	IAmb	21 20 42.7	
	comp=Z,6.3nm,0.8s					
JAGI	**Jajag, Banyuwa**	**71.64 267**	P	**P**	**21 22 35.3**	**-1.5**
JAGI			IAmb	IAmb	21 22 38.7	
	comp=Z,27nm,1.1s					
MJAR	**Matsushiro Arr**	**72.85 320**	P	**P**	**21 22 43.5**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=162,slow=6.9,SNR=7.4					
MJAR	**Matsushiro Arr**	**72.85 320**	IAmb	IAmb	21 22 44.1	
	comp=Z,1.8nm,1.0s					
BEKR	**Beckworth**	**76.63 39**	P	**P**	**21 23 06.2**	**+0.6**
BEKR			IAmb	IAmb	21 23 06.7	
	comp=Z,20nm,0.7s					
KSRS	**Korea Array**	**79.91 316**	P	**P**	**21 23 25.0**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=129,slow=5.7,SNR=7.1					
KSAR	**Wonju Array Be**	**79.92 316**	P	**P**	**21 23 24.8**	**+1.1**
PDAR	**Pinedale Array**	**84.89 41**	P	**P**	**21 23 51.7**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=202,slow=2.4,SNR=3.5					
PDAR	**Pinedale Array**	**84.89 41**	P	**P**	**21 23 50.4**	**+0.6**
ILAR	**Eielson Array**	**86.52 11**	P	**P**	**21 23 57.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=226,slow=5.3,SNR=7.9					
BRTR	**Keskin Array B**	**150.04 317**	PKPbc	**PKiKP**	**21 31 07.3**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=116,slow=2.9,SNR=5.8					

IDC 02 21:15:01.3±1.4, 19°.02S×172°.96W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/28, mbtmp4.0/7, Error ellipse: s-maj=51.8km s-min=24.3km az=138.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.04**	**202**	P	P	21 19 46.3	-0.4
	3.8nm,0.7s,baz=8.7,slow=13,SNR=2.8						
CTA	**Charters Tower**	**38.39**	**261**	P	P	21 22 24.7	0.0
	6.3nm,1.0s,baz=85,slow=10.0,SNR=3.4						
ASAR	**Alice Springs**	**49.49**	**255**	P	P	21 23 54.1	+0.2
	3.0nm,0.8s,baz=89,slow=8.1,SNR=21						
WRA	**Warramunga Arr**	**49.53**	**260**	P	P	21 23 53.7	-0.5
	1.8nm,0.9s,baz=95,slow=7.8,SNR=12						
NVAR	**Mina Array Bea**	**76.74**	**41**	P	P	21 26 54.9	0.0
	0.6nm,0.8s,baz=226,slow=7.0,SNR=3.5						
ILAR	**Eielson Array**	**85.89**	**11**	P	P	21 27 42.4	-0.2
	0.3nm,0.7s,baz=218,slow=5.4,SNR=5.7						
SONM	**Songino Array**	**97.81**	**318**	P	Pdif	21 28 39.2	+0.4
	0.2nm,0.4s,baz=113,slow=3.7,SNR=5.1						

WEL 02 21:24:53.3±1.2, 33°S±17°×17°9E±2°3, h370km±31km, M4.0/12, mB4.4/5, ML4.2/9, MLv4.1/12, Mw(mB)3.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=78.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.42**	**192**	P	Pn	21 26 06.7	-1.0
MXZ				S	S	21 27 07.5	-0.3
WMGZ	**Waiomatatini S**	**4.65**	**190**	P	Pn	21 26 10.4	+0.3
WMGZ				S	S	21 27 14.4	+2.1
HAZ	**Te Kaha**	**4.71**	**196**	P	Pn	21 26 09.6	-1.0
HAZ				S	S	21 27 14.4	+1.1
PKGZ	**Pakihiroa**	**4.78**	**193**	P	Pn	21 26 12.6	+1.1
PUZ	**Puketiti**	**4.92**	**191**	P	Pn	21 26 12.2	-0.7
PUZ				S	S	21 27 18.5	+0.9
RUGZ	**Raukumara Rang**	**4.94**	**196**	P	Pn	21 26 12.4	-0.8
RUGZ				S	S	21 27 17.2	-0.8
WCZ	**Waipu Caves**	**4.98**	**236**	P	Pn	21 26 13.8	+0.2
MARZ	**Manawahe**	**5.25**	**204**	P	Pn	21 26 18.5	+2.1
MWZ	**Matawai**	**5.32**	**196**	P	Pn	21 26 19.0	+1.7
CNGZ	**Carnagh Statio**	**5.34**	**190**	P	Pn	21 26 17.5	+0.1
URZ	**Urewera**	**5.36**	**200**	P	Pn	21 26 15.4	-2.2
URZ				S	S	21 27 26.7	+0.6
RIGZ	**Rimuhau**	**5.63**	**193**	P	Pn	21 26 19.6	-1.0
RIGZ				S	S	21 27 31.9	+0.3
MUGZ	**Murupara**	**5.66**	**202**	P	Pn	21 26 19.5	-1.4
RTZ	**Ruatahuna**	**5.73**	**200**	P	Pn	21 26 22.1	+0.3
SNGZ	**Shannon Statio**	**5.79**	**196**	P	Pn	21 26 23.3	+0.9
MHGZ	**Mahia Peninsul**	**6.04**	**191**	P	Pn	21 26 25.9	+0.8
MHGZ				S	S	21 27 39.5	-0.3
WHHZ	**Waihua**	**6.10**	**196**	P	Pn	21 26 26.8	+1.0
BKZ	**Black Stump Fm**	**6.38**	**201**	P	Pn	21 26 28.9	-0.1
TWVZ	**Taurewa**	**6.66**	**208**	P	P	21 26 33.0	-0.4
CKHZ	**Cape Kidnapper**	**6.69**	**196**	P	Pn	21 26 32.7	+0.3
FWVZ	**Far West T-bar**	**6.78**	**206**	P	Pn	21 26 32.8	-0.9
BHHZ	**Black Hill Sta**	**6.81**	**202**	P	Pn	21 26 33.1	-0.8
TRVZ	**Turoa**	**6.82**	**206**	P	Pn	21 26 33.9	-0.3
KAHZ	**Kahuranaki**	**6.87**	**197**	P	Pn	21 26 33.8	-0.7
PXZ	**Pawanui**	**7.09**	**196**	P	Pn	21 26 36.2	-0.9
TSZ	**Takapari Road**	**7.36**	**201**	P	Pn	21 26 37.6	-2.6
PRHZ	**Porangahau**	**7.37**	**197**	P	Pn	21 26 39.9	-0.4
BFZ	**Birch Farm**	**7.86**	**198**	P	Pn	21 26 45.1	-0.9
MRZ	**Mangatainoka R**	**8.03**	**201**	P	Pn	21 26 46.7	-1.3
TIWZ	**Tintock**	**8.05**	**200**	P	Pn	21 26 47.9	-0.3
HOWZ	**Holdsworth Sta**	**8.27**	**201**	P	Pn	21 26 49.1	-1.6
OGWZ	**Otaki Gorge**	**8.30**	**203**	P	Pn	21 26 49.3	-1.8
TMWZ	**Te Maipa**	**8.35**	**199**	P	Pn	21 26 51.1	-0.7
KIW	**Kapiti Island**	**8.43**	**204**	P	Pn	21 26 51.5	-1.1
MTW	**Mount Morrison**	**8.51**	**200**	P	Pn	21 26 52.8	-0.8
MSWZ	**Moikau Station**	**8.82**	**201**	P	Pn	21 26 55.8	-1.4
PLWZ	**Palliser**	**8.96**	**200**	P	Pn	21 26 57.6	-1.3

IDC 02 21:47:49.6±1.8, 23°.54S×112°.63W, h0km, mb3.8/2, mb1 4.3/2, mb1mx3.8/21, mbtmp3.8/2, Error ellipse: s-maj=107.0km s-min=49.8km az=103.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**61.87**	**355**	P	P	21 58 11.5	+0.5
	1.4nm,0.9s,baz=178,slow=9.0,SNR=8.7						
PDAR	**Pinedale Array**	**66.03**	**2**	P	P	21 58 37.9	-0.4
	0.7nm,0.7s,baz=174,slow=5.5,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**89.08**	**291**	T	T	23 39 13.8	
	baz=115,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**89.09**	**291**	T	T	23 39 13.9	
	baz=115,slow=75,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**89.10**	**291**	T	T	23 39 12.2	
	baz=115,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**89.42**	**292**	T	T	23 39 42.6	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hy**	**89.44**	**292**	T	T	23 39 43.1	
	baz=116						
H11N2	**WAKE ISLAND Hy**	**89.44**	**292**	T	T	23 39 41.4	
	baz=116,slow=74						
ZALV	**Zalesovo Beam**	**146.91**	**341**	PKPbc	PKPdf	22 07 32.6	+0.8
	0.7nm,0.4s,baz=23,slow=4.8,SNR=3.7						
BRTR	**Keskin Array B**	**147.29**	**52**	PKPbc	PKPbc	22 07 35.2	-0.3
	0.7nm,0.9s,baz=267,slow=2.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**150.13**	**266**	PKPbc	PKPbc	22 07 43.2	0.0
	1.9nm,1.0s,baz=119,slow=0.7,SNR=12						
MKAR	**Makanchi Array**	**153.88**	**336**	PKPbc	PKPbc	22 07 49.8	-1.1
	0.6nm,0.7s,baz=29,slow=2.8,SNR=5.1						

*TAP **02** 22:20:60.0, 22°.01N×120°.47E, h47km, ML3.6, D*
*ISCJB **02** 22:21:00.3±0.6, 21°.99N±0°.02×120°.46E±0°.03, h51km±3km, Error ellipse: s-maj=4.8km s-min=3.4km az=139.4*
*JMA **02** 22:21:00.2±0.1, 21°.97N×120°.47E, h53km±2km, M3.7*
ISC 02 22:20:58.6±1.9, 21°.88N±0°.08×120°.35E±0°.05, h51km±9km, n90, σ1°10/155, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.38**	**71**	⇑*i*P	**Pn**	**22 21 08.7**	**+0.1**
	baz=92						
HEN				*e*S	**Sn**	**22 21 15.8**	**0.0**
	baz=92						
TWK1	**Hengchun**	**0.43**	**82**	⇑*i*P	**Pn**	**22 21 09.4**	**+0.3**
	baz=103						
TWK1				*e*S	**Sn**	**22 21 16.3**	**-0.3**
	baz=103						
TWKBT	**Hengchun**	**0.43**	**82**	⇑*i*P	**Pn**	**22 21 09.3**	**+0.2**
	baz=103						
TWKBT				*e*S	**Sn**	**22 21 16.2**	**-0.5**
	baz=103						
TWP	**Hsiaoliuchiu**	**0.46**	**1**	*i*P	**Pn**	**22 21 10.2**	**+0.7**
	baz=335						
TWP				*e*S	**Sn**	**22 21 18.4**	**+1.0**
	baz=335						
WLCH	**Liuqiu**	**0.47**	**3**	P	**Pn**	**22 21 10.2**	**+0.6**
	baz=336						
WLCH				*e*S	**Sn**	**22 21 18.8**	**+1.4**
	baz=336						
TSEB	**Hengchuen, Pin**	**0.51**	**88**	*i*P	**Pn**	**22 21 10.2**	**+0.1**
	baz=111						
TSEB				*e*S	**Sn**	**22 21 18.1**	**-0.2**
	baz=111						
SCZT	**Fangliau**	**0.55**	**27**	⇑*i*P	**Pn**	**22 21 10.0**	**-0.6**
	baz=22						
SCZT				*e*S	**Sn**	**22 21 16.9**	**-2.2**
	baz=22						
EAST	**Anshuo**	**0.68**	**43**	P	**Pn**	**22 21 12.1**	**-0.2**
	baz=33						
EAST				*e*S	**Sn**	**22 21 20.3**	**-1.7**
	baz=33						
KAU	**Kaohsiung**	**0.69**	**357**	*e*S	**Sn**	**22 21 22.7**	**+0.7**
	baz=345						
TAW	**Tawu**	**0.69**	**47**	*i*P	**Pn**	**22 21 12.2**	**-0.1**
	baz=40						
TAW				*e*S	**Sn**	**22 21 20.6**	**-1.7**
	baz=40						
MASBT	**Mashibuluo**	**0.77**	**20**	*i*P	**Pn**	**22 21 13.0**	**-0.4**
	baz=24						
MASBT				*e*S	**Sn**	**22 21 22.2**	**-2.0**
	baz=24						
SNJT	**Kaohsiung City**	**0.87**	**359**	*e*P	**Pn**	**22 21 15.1**	**+0.5**
	baz=340						
SNJT				*e*S	**Sn**	**22 21 26.9**	**+0.5**
	baz=340						
SSD	**Sandimen**	**0.90**	**17**	P	**Pn**	**22 21 14.9**	**-0.1**
	baz=21						
SSD				*e*S	**Sn**	**22 21 25.3**	**-1.8**
	baz=21						
ECL	**Taimali**	**0.91**	**38**	*i*P	**Pn**	**22 21 15.0**	**-0.1**
	baz=32						
ECL				*e*S	**Sn**	**22 21 24.7**	**-2.5**
	baz=32						
TWM1	**Shoushan**	**0.94**	**4**	*e*P	**Pn**	**22 21 17.4**	**+1.7**
	baz=357						
TWM1				*e*S	**Sn**	**22 21 28.9**	**+0.8**
	baz=357						
LAY	**Lan-yu**	**1.13**	**82**	P	**Pn**	**22 21 17.8**	**-0.3**
	baz=88						
LAY				*e*S	**Sn**	**22 21 31.6**	**-1.0**
	baz=88						
SLGT	**Liugui**	**1.14**	**14**	*e*P	**Pn**	**22 21 18.7**	**+0.4**
	baz=9.0						
SLGT				*e*S	**Sn**	**22 21 31.8**	**-1.1**
	baz=9.0						
TWG	**Pinlang**	**1.15**	**35**	P	**Pn**	**22 21 18.7**	**+0.3**
	baz=35						
TWG				*e*S	**Sn**	**22 21 31.3**	**-1.8**
	baz=35						
TWGBT	**Beinan**	**1.15**	**36**	P	**Pn**	**22 21 18.7**	**+0.2**
	baz=35						
TWGBT				*e*S	**Sn**	**22 21 31.4**	**-1.7**
	baz=35						
SGST	**Jiashian**	**1.22**	**10**	*e*P	**Pn**	**22 21 20.9**	**+1.6**
	baz=6.0						
SGST				*e*S	**Sn**	**22 21 33.4**	**-1.3**
	baz=6.0						
SCLT	**Jiali**	**1.30**	**354**	*e*S	**Sn**	**22 21 36.7**	**+0.1**
	baz=348						
CHN1	**Nanshi**	**1.31**	**7**	P	**Pn**	**22 21 21.6**	**+1.0**
	baz=3.0						
CHN1				*e*S	**Sn**	**22 21 36.3**	**-0.7**
	baz=3.0						
STYT	**Tauyuan**	**1.33**	**16**	P	**Pn**	**22 21 21.3**	**+0.4**
	baz=13						
STYT				*e*S	**Sn**	**22 21 36.0**	**-1.6**
	baz=13						
SNST	**Tainan City**	**1.34**	**6**	*e*P	**Pn**	**22 21 22.2**	**+1.3**
	baz=1.0						
SNST				*e*S	**Sn**	**22 21 37.6**	**-0.1**
	baz=1.0						
WTP	**Ta-pu**	**1.38**	**10**	*e*P	**Pn**	**22 21 22.1**	**+0.5**
	baz=6.0						
WTP				*e*S	**Sn**	**22 21 37.9**	**-0.9**
	baz=6.0						
TWK	**Hsinying**	**1.39**	**5**	*e*P	**Pn**	**22 21 22.4**	**+0.7**
	baz=1.0						
TWK				*e*S	**Sn**	**22 21 37.8**	**-1.1**
	baz=1.0						
TPUB	**Ta-pu**	**1.44**	**10**	*e*P	**Pn**	**22 21 22.3**	**-0.1**
	baz=6.0						
TPUB				*e*S	**Sn**	**22 21 38.8**	**-1.3**
	baz=6.0						
ELDTW	**Lidau**	**1.44**	**25**	P	**Pn**	**22 21 22.8**	**+0.3**
	baz=13						
ELDTW				*e*S	**Sn**	**22 21 38.7**	**-1.6**
	baz=13						
CHN4	**Tsaushan**	**1.48**	**9**	*e*P	**Pn**	**22 21 23.1**	**+0.2**
	baz=5.0						
CHN4				*e*S	**Sn**	**22 21 40.5**	**-0.7**
	baz=5.0						
WDGT	**Dungji**	**1.51**	**335**	*e*S	**Sn**	**22 21 39.8**	**-2.1**
	baz=329						
CHKT	**Chengkung**	**1.53**	**38**	*e*P	**Pn**	**22 21 24.5**	**+0.9**
	baz=37						
CHKT				*e*S	**Sn**	**22 21 42.1**	**-0.3**
	baz=37						
VCHM	**Qimei**	**1.57**	**327**	P	**Pn**	**22 21 24.1**	**0.0**
	baz=332						
VCHM				*e*S	**Sn**	**22 21 42.0**	**-1.4**
	baz=332						
CHY	**Chiayi**	**1.61**	**2**	*e*S	**Sn**	**22 21 43.1**	**-1.2**
	baz=359						
CHN2	**Minshiung**	**1.65**	**4**	*e*S	**Sn**	**22 21 44.7**	**-0.5**
ALS	**Alishan**	**1.68**	**14**	P	**Pn**	**22 21 26.3**	**+0.4**
	baz=3.0						
ALS				*e*S	**Sn**	**22 21 45.0**	**-1.4**
	baz=3.0						
YUS	**Yu-Shan**	**1.69**	**19**	P	**Pn**	**22 21 26.9**	**+0.7**
	baz=17						
YUS				*e*S	**Sn**	**22 21 46.3**	**-0.8**
	baz=17						
TWF1	**Yuli**	**1.71**	**31**	P	**Pn**	**22 21 26.8**	**+0.8**
	baz=30						
TWF1				*e*S	**Sn**	**22 21 45.7**	**-1.0**
	baz=30						
CHN5	**Tsauling**	**1.73**	**10**	*e*P	**Pn**	**22 21 27.0**	**+0.5**
	baz=356						
CHN5				*e*S	**Sn**	**22 21 46.2**	**-1.3**
	baz=356						
YULB	**Yu-li**	**1.74**	**30**	P	**Pn**	**22 21 27.0**	**+0.6**
	baz=29						
YULB				*e*S	**Sn**	**22 21 46.7**	**-0.9**
	baz=29						
WSF	**Szhu**	**1.75**	**356**	*e*S	**Sn**	**22 21 46.5**	**-1.3**
	baz=352						
PHUB	**P'eng-hu**	**1.78**	**336**	*e*P	**Pn**	**22 21 26.6**	**-0.3**
	baz=331						
PHUB				*e*S	**Sn**	**22 21 46.3**	**-2.0**
	baz=331						
WDLH	**Douliu**	**1.81**	**5**	*e*P	**Pn**	**22 21 27.4**	**0.0**
	baz=2.0						
WDLH				*e*S	**Sn**	**22 21 47.9**	**-1.2**
	baz=2.0						
WGK	**Gukeng**	**1.81**	**6**	*e*S	**Sn**	**22 21 48.1**	**-1.1**
	baz=3.0						
PNG	**Penghu**	**1.83**	**337**	*e*P	**Pn**	**22 21 27.9**	**+0.2**
	baz=332						
EHY	**Hungye**	**1.85**	**29**	*e*P	**Pn**	**22 21 28.9**	**+0.9**
	baz=16						
EHY				*e*S	**Sn**	**22 21 49.7**	**-0.5**
	baz=16						
WHYT	**Xinyi Township**	**1.87**	**14**	P	**Pn**	**22 21 28.9**	**+0.7**
	baz=2.0						
WHYT				*e*S	**Sn**	**22 21 48.9**	**-1.8**
	baz=2.0						
HGSD	**Ruisui**	**1.89**	**32**	P	**Pn**	**22 21 29.8**	**+1.4**
	baz=19						
HGSD				*e*S	**Sn**	**22 21 51.1**	**+0.1**
	baz=19						
WJS	**Zhushan**	**1.96**	**10**	*e*S	**Sn**	**22 21 52.1**	**-0.9**
	baz=8.0						
WTCT	**Ta-ch'eng**	**1.98**	**358**	*e*S	**Sn**	**22 21 52.9**	**-0.3**
	baz=4.0						
SSLB	**Suanglung**	**1.98**	**16**	P	**Pn**	**22 21 30.2**	**+0.5**
	baz=4.0						
SSLB				*e*S	**Sn**	**22 21 52.4**	**-1.0**
	baz=4.0						
RLNB	**Erlin**	**2.00**	**0**	*e*S	**Sn**	**22 21 52.6**	**-1.3**
	baz=357						
VWDT	**VWDT**	**2.00**	**21**	P	**Pn**	**22 21 31.0**	**+1.0**
	baz=19						
WNT	**Mingjian**	**2.01**	**9**	*e*S	**Sn**	**22 21 52.7**	**-1.4**
	baz=6.0						
EGFH	**Guangfu**	**2.04**	**29**	*e*S	**Sn**	**22 21 54.4**	**-0.5**
	baz=18						
TYC	**Yuchr**	**2.07**	**13**	*e*P	**Pn**	**22 21 32.4**	**+1.5**
TYC				*e*S	**Sn**	**22 21 54.8**	**-0.7**
ESL	**Shilin**	**2.17**	**27**	P	**Pn**	**22 21 32.9**	**+0.6**
	baz=16						
ESL				*e*S	**Sn**	**22 21 56.0**	**-2.0**
	baz=16						
WCHH	**Zhanghua**	**2.20**	**5**	*e*S	**Sn**	**22 21 56.9**	**-1.7**
	baz=354						
DPDB	**Guoxing**	**2.21**	**14**	*e*S	**Sn**	**22 21 58.0**	**-1.1**
	baz=2.0						
TCU	**Taichung**	**2.28**	**8**	*e*S	**Sn**	**22 21 59.8**	**-0.8**
	baz=5.0						
CHGB	**Renai**	**2.30**	**19**	P	**Pn**	**22 21 35.2**	**+1.0**
	baz=6.0						
CHGB				*e*S	**Sn**	**22 21 60.0**	**-1.6**
	baz=6.0						
WHF	**Hehuan Shan**	**2.41**	**20**	P	**Pn**	**22 21 37.0**	**+1.1**
	baz=19						
WHF				*e*S	**Sn**	**22 22 02.8**	**-1.6**
	baz=19						
WHP	**Taichung City**	**2.45**	**13**	*e*P	**Pn**	**22 21 37.3**	**+1.0**
	baz=11						
WHP				*e*S	**Sn**	**22 22 05.0**	**0.0**
	baz=11						
WDJ	**Dajia District**	**2.47**	**6**	*e*S	**Sn**	**22 22 05.3**	**-0.1**
	baz=4.0						
TWD	**Chiawan**	**2.47**	**27**	*e*P	**Pn**	**22 21 37.8**	**+1.4**
	baz=27						
TDCB	**Techi**	**2.48**	**17**	P	**Pn**	**22 21 37.4**	**+0.7**
	baz=7.0						
TDCB				*e*S	**Sn**	**22 22 03.9**	**-1.8**
	baz=7.0						
TWT	**Tachien**	**2.48**	**18**	*e*P	**Pn**	**22 21 37.6**	**+0.9**
	baz=7.0						
TWT				*e*S	**Sn**	**22 22 05.2**	**-0.7**
	baz=7.0						
TWQ1	**Liyutan**	**2.49**	**9**	*e*S	**Sn**	**22 22 05.3**	**-0.5**
	baz=7.0						
ETLH	**Xiulin Townshi**	**2.54**	**24**	P	**Pn**	**22 21 38.9**	**+1.4**
	baz=23						
ETLH				*e*S	**Sn**	**22 22 07.1**	**-0.1**
	baz=23						
NACB	**Ninganchiao**	**2.56**	**26**	*e*P	**Pn**	**22 21 38.1**	**+0.5**
	baz=37						
NACB				*e*S	**Sn**	**22 22 06.3**	**-1.2**
	baz=37						
PTSB	**Yuanli**	**2.58**	**7**	*e*S	**Sn**	**22 22 07.7**	**-0.3**
	baz=5.0						
NNSB	**Datong**	**2.71**	**20**	P	**Pn**	**22 21 41.4**	**+1.6**
	baz=19						
NNSB				*e*S	**Sn**	**22 22 10.8**	**-0.6**
	baz=19						
NNS	**Nan Shan**	**2.72**	**20**	P	**Pn**	**22 21 41.5**	**+1.5**
	baz=19						
NNS				*e*S	**Sn**	**22 22 12.0**	**+0.4**
	baz=19						
NSTT	**Nanjuang**	**2.80**	**12**	*e*P	**Pn**	**22 21 41.3**	**+0.3**
	baz=11						
NSTT				*e*S	**Sn**	**22 22 11.8**	**-1.8**
	baz=11						
ENA	**Nanau**	**2.84**	**27**	*e*S	**Sn**	**22 22 12.4**	**-2.1**
	baz=26						
NANB	**Nanao**	**2.84**	**27**	*e*S	**Sn**	**22 22 12.4**	**-2.2**
	baz=26						
NDT	**Datong Townshi**	**2.91**	**21**	P	**Pn**	**22 21 44.5**	**+2.0**
	baz=21						
NDT				*e*S	**Sn**	**22 22 16.0**	**-0.3**
	baz=21						
YHNB	**Yeheng**	**2.93**	**19**	*e*P	**Pn**	**22 21 44.0**	**+1.2**
	baz=17						
NSK	**Sanguang**	**2.93**	**18**	*e*P	**Pn**	**22 21 44.4**	**+1.5**
	baz=18						
NSK				*e*S	**Sn**	**22 22 17.1**	**+0.2**
	baz=18						
NWLT	**Wulai**	**3.07**	**20**	*e*P	**Pn**	**22 21 45.8**	**+1.1**
	baz=10.0						
NWLT				*e*S	**Sn**	**22 22 20.0**	**-0.2**
	baz=10.0						
TWE	**Neicheng**	**3.08**	**23**	*e*P	**Pn**	**22 21 45.6**	**+0.9**
	baz=35						
SLBB	**Yuanshan**	**3.10**	**22**	*e*P	**Pn**	**22 21 46.0**	**+0.9**
	baz=13						
SLBB				*e*S	**Sn**	**22 22 21.3**	**+0.5**
	baz=13						
EOS1	**EOS1**	**3.12**	**31**	*e*P	**Pn**	**22 21 47.7**	**+2.5**
	baz=42						
EOS1				*e*S	**Sn**	**22 22 21.9**	**+0.6**
	baz=42						
JYNG	**Yonagunijimaku**	**3.50**	**43**	P	**Pn**	**22 21 52.3**	**+1.8**
JYNG				*e*S	**Sn**	**22 22 31.2**	**+0.5**
YOJ	**Yonaguni jima**	**3.55**	**43**	P	**Pn**	**22 21 53.2**	**+2.0**
YOJ				*e*S	**Sn**	**22 22 32.3**	**+0.4**
HATJ	**Hateruma jima**	**3.85**	**55**	P	**Pn**	**22 21 56.6**	**+1.2**
HATJ				*e*S	**Sn**	**22 22

EIDS	Eidsvold	17.58 250	Pn	P	22 29 54.6	-8.5
HIZ	Hauiti	18.86 166	P	P	22 30 17.3	+0.3
HIZ			IAmb	IAmb	22 30 21.4	
comp=Z,33nm,1.2s						
MXZ	Matakaoa Point	18.98 158	P	Pn	22 30 20.3	+0.4
MXZ			IAmb	IAmb	22 30 25.7	
comp=Z,38nm,0.9s						
URZ	Urewera	19.21 161	P	Pn	22 30 21.8	-0.9
comp=Z,2.3nm,0.3s,baz=349,slow=3.7,SNR=36						
URZ			LR	LR	22 35 59.6	
comp=Z,152nm,20.5s,baz=332,slow=31						
URZ	Urewera	19.21 161	P	Pn	22 30 22.9	+0.2
URZ			IAmb	IAmb	22 30 24.1	
comp=Z,30nm,0.7s						
BKZ	Black Stump Fm	19.88 163	P	Pn	22 30 29.6	-1.0
NNZ	Nelson	21.22 172	P	P	22 30 42.4	-0.2
NNZ			IAmb	IAmb	22 30 54.7	
comp=Z,38nm,1.2s						
BFZ	Birch Farm	21.25 165	P	P	22 30 43.3	+0.4
BFZ			IAmb	IAmb	22 30 46.5	
comp=Z,15nm,0.8s						
TUWZ	Tuamarina	21.52 170	P	P	22 30 46.7	+1.0
SNZO	South Karori	21.53 169	P	P	22 30 47.2	+1.4
SNZO			IAmb	IAmb	22 30 51.6	
comp=Z,36nm,1.1s						
BHW	Baring Head	21.65 169	P	P	22 30 49.1	+2.0
CTA	Charters Tower	21.65 266	P	P	22 30 46.6	-0.8
comp=Z,8.5nm,0.5s,baz=90,slow=9.7,SNR=4.4						
CTAO	Charters Tower	21.65 266	P	P	22 30 43.3	-4.1
CTAO			IAmb	IAmb	22 30 51.5	
comp=Z,13nm,0.8s						
THZ	Tophouse	21.70 173	P	P	22 30 48.4	+0.6
MSWZ	Moikau Station	21.73 168	P	P	22 30 49.2	+1.2
CMWZ	Cape Campbell	21.87 170	P	P	22 30 50.5	+1.0
PLWZ	Palliser	21.88 168	P	P	22 30 51.5	+1.9
KHZ	Kahutara	22.42 172	P	P	22 30 56.0	+0.6
KHZ			IAmb	IAmb	22 31 06.0	
comp=Z,18nm,1.1s						
LTZ	Lake Taylor	22.64 174	P	P	22 30 58.4	+0.7
LTZ			IAmb	IAmb	22 30 59.5	
comp=Z,10.0nm,0.7s						
KRVT	Keravat (AS076	23.10 311	P	P	22 31 01.9	-0.6
comp=Z,46nm,0.6s,baz=54,slow=13,SNR=4.9						
FOZ	Fox Glacier	23.26 179	P	P	22 31 04.6	+0.8
FOZ			IAmb	IAmb	22 31 06.9	
comp=Z,23nm,1.1s						
RPZ	Rata Peaks	23.48 177	P	P	22 31 06.3	+0.4
comp=Z,6.5nm,0.5s,baz=282,slow=3.7,SNR=7.0						
RPZ	Rata Peaks	23.48 177	P	P	22 31 06.8	+0.9
MQZ	McQueen's Vall	23.59 174	P	P	22 31 05.9	-0.9
PMG	Port Moresby	23.93 293	P	P	22 31 08.9	-1.3
comp=Z,26nm,0.8s,baz=98,slow=6.1,SNR=6.2						
LBZ	Lake Benmore	24.12 178	P	P	22 31 11.5	-0.1
WKZ	Wanaka	24.55 181	P	P	22 31 15.9	+0.4
ODZ	Otahua Downs	24.79 178	P	P	22 31 16.6	-1.0
MLZ	Mavora Lakes	25.11 182	P	P	22 31 20.1	-0.5
DCZ	Deep Cove	25.25 184	P	P	22 31 22.4	+0.7
STKA	Stephens Creek	27.40 239	P	P	22 31 44.2	+2.8
comp=Z,0.5nm,0.3s,baz=54,slow=7.5,SNR=2.6						
RAR	Rarotonga	28.91 97	LR	LR	22 42 29.7	
comp=Z,37nm,19.8s,baz=269,slow=34						
WC3	Warramunga Arr	32.79 264	P	P	22 32 28.4	-0.7
WB2	Warramunga Arr	32.81 264	P	P	22 32 28.1	-1.2
WRA	Warramunga Arr	32.82 264	P	P	22 32 29.0	-0.4
comp=Z,2.2nm,0.6s,baz=95,slow=8.4,SNR=32						
WRA			pP	pP	22 32 48.0	+0.9
comp=Z,1.3nm,0.8s,baz=99,slow=8.3,SNR=3.9						
WRA			PcP	PcP	22 35 12.0	-0.7
comp=Z,0.2nm,0.6s,baz=89,slow=3.3,SNR=2.6						
WRA	Warramunga Arr	32.82 264	P	P	22 32 29.0	-0.4
AS31	Alice Springs	32.98 257	P	P	22 32 31.3	+0.5
ASAR	Alice Springs	32.98 257	P	P	22 32 31.2	+0.4
comp=Z,12nm,0.7s,baz=83,slow=9.2,SNR=133						
ASAR			pP	pP	22 32 50.4	+1.6
comp=Z,3.6nm,0.6s,baz=87,slow=9.1,SNR=5.0						
ASAR	Alice Springs	32.98 257	P	P	22 32 30.2	-0.5
MTN	Manton Dam	37.27 275	P	P	22 33 08.2	+0.5
KNRA	Kununurra	38.78 270	P	P	22 33 19.9	-0.5
PPT	Papeete	38.91 93	P	P	22 33 33.6	+12
PPTF	Pamatai, Papee	38.92 93	P	P	22 33 33.9	+12
WAKE	Wake Island	39.34 356	P	P	22 33 34.2	+9.4
XMAS	Kiritimati	39.39 60	P	P	22 33 38.6	+13
FAKI	Fak Fak	40.02 291	P	P	22 33 30.6	-0.1
FAKI			IAmb	IAmb	22 33 38.4	
comp=Z,7.0nm,0.8s						
FITZ	Fitzroy Crossi	41.23 265	P	P	22 33 40.2	-0.4
FITZ			IAmb	IAmb	22 33 42.5	
comp=Z,6.6nm,0.7s						
SIJI	Sorong	41.87 293	P	P	22 33 45.2	-0.8
comp=Z,5.6nm,0.7s,baz=93,slow=20,SNR=4.8						
JOHN	Johnston Islan	42.18 31	P	P	22 34 02.2	+14
SOEI	Soe	44.62 277	P	P	22 34 08.2	0.0
PSAD2	Pilbara Seismi	45.97 259	P	P	22 34 17.6	-1.1
PSAD2			IAmb	IAmb	22 34 20.1	
comp=Z,4.8nm,0.6s						
PSAC2	Pilbara Seismi	46.04 259	P	P	22 34 16.7	-2.5
PSAC2			IAmb	IAmb	22 34 30.0	
comp=Z,4.3nm,0.8s						
PSAB2	Pilbara Seismi	46.07 259	P	P	22 34 19.3	-0.2
PSAB2			IAmb	IAmb	22 34 36.0	
comp=Z,8.9nm,1.1s						
PSAB3	Pilbara Seismi	46.07 259	P	P	22 34 18.7	-0.8
PSAB3			IAmb	IAmb	22 34 21.1	
comp=Z,7.3nm,0.8s						
PSAA3	Pilbara Seismi	46.08 259	P	P	22 34 19.4	-0.1
PSAA3			IAmb	IAmb	22 34 31.8	
comp=Z,4.1nm,0.9s						
PSA00	Pilbara Seismi	46.09 259	P	P	22 34 18.6	-1.0
PSAA2	Pilbara Seismi	46.09 259	P	P	22 34 18.7	-0.9
PSAA1	Pilbara Seismi	46.09 259	P	P	22 34 19.3	-0.4
PSAA1			IAmb	IAmb	22 34 36.4	
comp=Z,9.6nm,1.1s						
PSAC3	Pilbara Seismi	46.09 259	P	P	22 34 19.3	-0.4
PSAC3			IAmb	IAmb	22 34 21.0	
comp=Z,4.6nm,0.8s						
PSAB1	Pilbara Seismi	46.11 259	P	P	22 34 19.6	-0.2
PSAD1	Pilbara Seismi	46.12 259	P	P	22 34 18.4	-1.4
PSAD1			IAmb	IAmb	22 34 21.3	
comp=Z,4.2nm,0.8s						
PSAD3	Pilbara Seismi	46.14 259	P	P	22 34 18.8	-1.2
PSAD3			IAmb	IAmb	22 34 21.2	
comp=Z,5.5nm,0.7s						
KAPI	Kappang	50.46 280	P	P	22 34 54.5	+1.1
SBA	Scott Base	57.70 181	P	P	22 35 46.0	+1.0
SBA			IAmb	IAmb	22 35 47.1	
comp=Z,6.4nm,0.9s						
CASY	Casey	59.27 204	P	P	22 35 55.0	-1.1
MJAR	Matsushiro Arr	63.64 332	P	P	22 36 25.4	-0.6
comp=Z,1.4nm,0.8s,baz=178,slow=7.5,SNR=4.2						
QSPA	South Pole Qui	69.85 180	P	P	22 37 04.9	-0.3
NJ2	Nanjing	70.96 316	eP	P	22 37 19.0	+6.8
NJ2			pmax	pmax		
comp=Z,10.0nm,0.5s						
MAW	Mawson	77.57 202	P	P	22 37 50.6	+0.5
comp=Z,1.7nm,0.7s,baz=155,slow=6.7,SNR=5.9						
MAW	Mawson	77.57 202	P	P	22 37 50.8	+0.7
CMAR	Chiang Mai Arr	78.97 294	P	P	22 37 59.3	+0.6
comp=Z,1.7nm,0.7s,baz=133,slow=4.7,SNR=12						
CMAR	Chiang Mai Arr	78.97 294	P	P	22 38 00.0	+1.3
HHC	Hu-ho-hao-te	81.00 319	eP	P	22 38 17.2	+7.9
LZH	Lanzhou	83.43 312	eP	P	22 38 28.2	+6.0
LZH			pP	sP	22 39 03.2	+10
LZH			sP	pP	22 39 18.4	+34
LZH			pmax	pmax		
comp=Z,12nm,1.1s						
LZH			pmax	pmax		
comp=Z,56nm,4.5s						
SYO	Syowa Base	84.03 196	eX	P	22 38 22.0	-2.5
SNAA	Sanae	88.20 182	P	P	22 38 44.0	-1.1
VNA3	Neumayer Olymp	88.79 180	P	P	22 38 46.6	-1.2
VNA2	Neumayer--Watz	89.08 181	P	P	22 38 48.3	-0.8
baz=185,slow=4.2						
VNA1	Neumayer--Stat	89.37 181	P	P	22 38 49.6	-0.8
PSUT	Pine Spring	92.59 50	P	P	22 39 19.1	+13
WMQ	Urumqi	97.93 314	eP	Pdif	22 39 34.1	+3.8
WMQ			pP	sP	22 40 14.9	+13
WMQ			pmax	pmax		
comp=Z,13nm,0.7s						
WMQ			LR	LR		
comp=Z,200nm,15.9s						
WMQ			LR	LR		
comp=Z,190nm,17.1s						
WMQ			LR	LR		
comp=Z,440nm,18.3s						

KSH	Kashi	105.07 307	eP	Pdif	22 40 06.3	+4.0
ARCES	ARCESS Array B	126.02 345	PKP	PKPdf	22 44 54.0	-1.4
comp=Z,0.8nm,0.5s,baz=57,slow=3.3,SNR=3.9						
CLL	Collm	143.82 335	ePKPdf	PKiKP	22 45 38.0	+5.6
GERES	GERESS Array B	145.38 331	PKPbc	PKPdf	22 45 31.4	-0.5
comp=Z,1.7nm,0.7s,baz=45,slow=3.2,SNR=2.9						
GERES			pPKPbc	pPKPab	22 45 53.3	-1.5
comp=Z,1.5nm,0.8s,baz=59,slow=4.0,SNR=2.7						

ISCJB ***02*** *22:29:25.7±0.5,20°.10S±0°.06×169°.36E±0°.07, h84km, mb4.4/9, Error ellipse: s-maj=9.7km s-min=8.7km az=135.4*

NEIC ***02*** *22:29:27.6±2.2,20°.08S±0°.10×169°.3E±0°.1, h87km±5km, mb4.6/16*

IDC ***02*** *22:29:28.4±1.1,20°.15S×169°.27E, h88km±6km, mb4.2/9, mb1 4.4/11, mb1mx3.9/42, mbtmp4.6/11, MS3.2/2, Ms1 3.2/2, ms1mx2.9/36, Error ellipse: s-maj=23.2km s-min=12.5km az=131.0*

ISC 02 22:29:27.1±0.6, 20°.11S±0°.08×169°.35E±0°.09, h84km, n40, σ1ŝ20/47, mb4.5/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.34	234	P	Pn	22 30 18.0	+0.7
37nm,0.3s,baz=113,slow=10,SNR=23							
DZM				S	Sn	22 30 55.0	-1.0
227nm,0.3s,baz=130,slow=23,SNR=10.0							
DZM				LR	LR	22 31 34.3	
comp=Z,211nm,19.7s,baz=358,slow=39							
MXZ	Matakaoa Point	19.06	158	P	Pn	22 33 45.0	+0.7
URZ	Urewera	19.30	161	P	Pn	22 33 46.7	-0.4
1.8nm,0.3s,baz=337,slow=4.0,SNR=21							
URZ	Urewera	19.30	161	P	Pn	22 33 47.0	-0.1
URZ				IAmb	IAmb	22 33 48.1	
comp=Z,25nm,0.7s							
BKZ	Black Stump Fm	19.96	164	P	Pn	22 33 53.8	-1.2
BKZ				IAmb	IAmb	22 33 55.2	
comp=Z,34nm,0.8s							
QRZ	Quartz Range	20.82	173		S	22 37 48.9	-0.5
TUWZ	Tuamarina	21.61	171	P	P	22 34 11.0	+0.9
CTA	Charters Tower	21.69	266	P	P	22 34 12.3	+1.0
comp=Z,10nm,0.5s,baz=86,slow=12,SNR=17							
CTAO	Charters Tower	21.69	266	P	P	22 34 12.1	+0.8
CTAO				IAmb	IAmb	22 34 15.6	
comp=Z,13nm,0.7s							
KRVT	Keravat (AS076	23.06	311	P	P	22 34 25.9	+0.3
comp=Z,43nm,0.6s,baz=63,slow=6.0,SNR=4.7							
PMG	Port Moresby	23.92	293	P	P	22 34 34.8	+1.3
comp=Z,25nm,0.8s,baz=106,slow=6.1,SNR=5.8							
PMG	Port Moresby	23.92	293	P	P	22 34 32.7	-0.8
PMG				IAmb	IAmb	22 34 36.7	
comp=Z,27nm,0.8s							
STKA	Stephens Creek	27.48	239	P	P	22 35 06.6	+1.1
comp=Z,1.1nm,0.5s,baz=36,slow=13,SNR=3.5							
STKA				LR	LR	22 44 38.4	
comp=Z,96nm,20.1s,baz=26,slow=33							
WB2	Warramunga Arr	32.85	264	P	P	22 35 53.0	-0.1
WRA	Warramunga Arr	32.86	264	P	P	22 35 53.0	-0.2
comp=Z,2.8nm,0.5s,baz=95,slow=8.4,SNR=30							
WRA	Warramunga Arr	32.86	264	P	P	22 35 52.9	-0.3
AS31	Alice Springs	33.03	257	P	P	22 35 55.2	+0.5
ASAR	Alice Springs	33.03	257	P	P	22 35 55.2	+0.5
comp=Z,19nm,0.7s,baz=84,slow=9.2,SNR=86							
ASAR				pP	pP	22 36 14.0	+1.3
comp=Z,3.7nm,0.7s,baz=86,slow=8.7,SNR=3.0							
ASAR				ScP	ScP	22 42 12.4	-1.2
comp=Z,0.8nm,0.8s,baz=102,slow=4.3,SNR=4.8							
ASAR	Alice Springs	33.03	257	P	P	22 35 54.4	-0.3
MTN	Manton Dam	37.29	275	P	P	22 36 31.2	-0.1
MTN					S	22 42 07.8	-5.1
FAKI	Fak Fak	40.02	290	P	P	22 36 54.1	0.0
FITZ	Fitzroy Crossi	41.27	265	P	P	22 37 05.9	+1.5
SIJI	Sorong	41.86	292	P	P	22 37 10.0	+0.7
comp=Z,4.4nm,0.5s,baz=77,slow=8.7,SNR=3.4							
PSA00	Pilbara Seismi	46.14	259	P	P	22 37 43.4	-0.1
PSA00				IAmb	IAmb	22 37 45.4	
comp=Z,12nm,1.0s							
CASY	Casey	59.37	204	P	P	22 39 21.9	+1.6
MJAR	Matsushiro Arr	63.57	332	P	P	22 39 49.1	+0.2
comp=Z,1.3nm,0.7s,baz=162,slow=7.3,SNR=3.9							
QSPA	South Pole Qui	69.95	180	P	P	22 40 28.2	-1.1
PETK	Petropavlovsk-	73.61	353	P	P	22 40 50.7	-0.3
CMAR	Chiang Mai Arr	78.96	294	P	P	22 41 22.7	+0.6
comp=Z,1.2nm,0.4s,baz=137,slow=4.4,SNR=10							
CMAR				pP	pP	22 41 46.5	+2.7
comp=Z,0.3nm,0.4s,baz=125,slow=5.6,SNR=1.0							
CMAR	Chiang Mai Arr	78.96	294	P	P	22 41 22.1	0.0
CHTO	Chiang Mai	79.11	295	P	P	22 41 23.8	+0.8
SNAA	Sanae	88.30	182	P	P	22 42 08.0	-1.0
SNAA	Sanae	88.30	182	P	P	22 42 07.8	-1.2
SNAA				IAmb	IAmb	22 42 10.1	
comp=Z,2.5nm,0.8s							
VNA3	Neumayer Olymp	88.89	180	P	P	22 42 10.6	-1.1
VNA2	Neumayer--Watz	89.18	181	P	P	22 42 12.4	-0.7
baz=184,slow=4.3							
GLA	Glamis	89.55	55	P	P	22 42 14.8	-0.7
ARCES	ARCESS Array B	125.93	345	PKP	PKiKP	22 48 17.9	-1.2
comp=Z,2.3nm,0.9s,baz=98,slow=2.5,SNR=4.5							
FINES	FINESS Array B	131.43	337	PKhKP	PKPpre	22 48 21.4	
comp=Z,2.6nm,0.8s,baz=100,slow=4.7,SNR=4.6							
FINES				SKPbc	SKPbc	22 51 45.5	-1.5
comp=Z,1.8nm,0.8s,baz=79,slow=7.2,SNR=4.8							
GERES	GERESS Array B	145.31	331	PKPbc	PKPab	22 48 55.4	+0.1
comp=Z,1.4nm,0.8s,baz=64,slow=3.1,SNR=5.1							
GERES				pPKPbc	pPKPdf	22 49 19.1	+0.7
comp=Z,1.4nm,0.7s,baz=45,slow=4.0,SNR=6.7							
GERES	GERESS Array B	145.31	331		PKPab	22 48 55.3	0.0
GERES					pPKPdf	22 49 19.2	+0.8

IDC ***02*** *22:30:03.1±0.8, 15°.47N×146°.26E, h0km, mb4.1/12, mb1 4.3/13, mb1mx3.9/56, mbtmp4.1/13, ML4.5/1, MS2.7/3, Ms1 2.7/3, ms1mx2.6/44, Error ellipse: s-maj=25.0km s-min=15.6km az=100.0*

ISCJB ***02*** *22:30:06.6±0.3, 15°.36N±0°.03×146°.17E±0°.06, h33km, mb4.0/12, MS3.7/2, Error ellipse: s-maj=7.7km s-min=4.7km az=176.8*

BJI ***02*** *22:30:08.0±0.0, 15°.46N×146°.24E, h47km, mb4.5/3, mB5.1/3, Ms4.6/1, Ms7 4.4/1*

NEIC ***02*** *22:30:09.8±1.4, 15°.37N±0°.01×146°.13E±0°.09, h45km±6km, mb4.6/29*

ISC 02 22:30:08.7±0.4, 15°.37N±0°.04×146°.13E±0°.07, h35km, n65, σ0ŝ71/62, mb4.4/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	1.04	337		Pn	22 30 27.9	+1.0
ANA2				Sn	Sn	22 30 40.5	+0.2
SARN	Sarigan	1.36	346	Pn	Pn	22 30 32.0	+0.7
SARN					Pn	22 30 32.2	+0.9
SARN					Pn	22 30 32.4	+1.1
SARN				Sn	Sn	22 30 48.3	+0.1
GUMO	Guam	2.15	215	Pn	Pn	22 30 42.5	+0.4
114nm,0.3s,baz=112,slow=3.9,SNR=46							
GUMO				LR	LR	22 31 00.4	
comp=Z,47nm,18.8s,baz=129,slow=25							
GUMO				Sn	Sn	22 31 06.6	-1.1
499nm,0.3s,baz=171,slow=22,SNR=36							
GUMO	Guam	2.15	215		Pn	22 30 42.9	+0.7
GUMO					Pn	22 30 43.2	+1.0
GUMO				Sn	Sn	22 31 07.2	-0.5
JCJ	Chichijima	12.23	343	LR	LR	22 36 13.5	
comp=Z,59nm,19.0s,baz=108,slow=30							
PATS	Pohnpei	14.65	124	Pn	Pn	22 33 33.5	0.0
H11S3	WAKE ISLAND Hy	19.91	78	T	T	22 55 58.9	
baz=273							
H11S1	WAKE ISLAND Hy	19.92	78	T	T	22 55 59.7	
baz=273,slow=74							
H11S2	WAKE ISLAND Hy	19.92	78	T	T	22 56 00.6	
baz=273,slow=74							
JOW	Kunigami	20.16	307	P	P	22 34 39.7	-0.4
H11N1	WAKE ISLAND Hy	20.25	75	T	T	22 56 09.4	
baz=261,slow=75,SNR=79							
H11N2	WAKE ISLAND Hy	20.26	75	T	T	22 55 48.9	
baz=261,slow=75,SNR=59							
H11N3	WAKE ISLAND Hy	20.27	75	T	T	22 55 38.9	
baz=261,slow=75,SNR=82							
SIJI	Sorong	21.83	224	P	P	22 35 00.3	+2.1
9.2nm,0.5s,baz=23,slow=9.2,SNR=9.6							
FAKI	Fak Fak	22.79	218	P	P	22 35 09.1	+0.7
FAKI				IAmb	IAmb	22 35 10.5	
comp=Z,13nm,0.8s							

PMG	Port Moresby	24.64	178	P	P	22 35 26.5	+0.3
comp=Z,24nm,0.9s,baz=337,slow=10,SNR=4.1							
PMG	Port Moresby	24.64	178	P	P	22 35 28.1	+1.9
PMG				IAmb	IAmb	22 35 29.4	
comp=Z,34nm,1.1s							
KSRS	Korea Array	27.28	327	P	P	22 35 49.9	0.0
comp=Z,0.9nm,0.7s,baz=152,slow=11,SNR=3.4							
KKM	Kota Kinabalu	30.79	256	P	P	22 36 21.3	-0.1
WRAB	Tennant Creek	36.95	199	P	P	22 37 14.2	-0.5
WRAB				IAmb	IAmb	22 37 15.5	
comp=Z,6.5nm,0.8s							
WB2	Warramunga Arr	36.96	199	P	P	22 37 14.6	-0.2
WB2				IAmb	IAmb	22 37 15.6	
comp=Z,7.7nm,0.8s							
WRA	Warramunga Arr	36.96	199	P	P	22 37 14.8	0.0
comp=Z,4.1nm,0.8s,baz=21,slow=9.3,SNR=18							
WRA	Warramunga Arr	36.96	199	P	P	22 37 14.3	-0.5
ASAR	Alice Springs	40.60	197	P	P	22 37 45.5	+0.2
comp=Z,0.9nm,0.6s,baz=19,slow=10.0,SNR=7.0							
JOHN	Johnston Islan	42.57	82	P	P	22 38 01.7	+0.2
CMAR	Chiang Mai Arr	45.16	281	P	P	22 38 22.5	+0.1
comp=Z,1.0nm,0.5s,baz=81,slow=6.1,SNR=8.3							
CMAR	Chiang Mai Arr	45.16	281	P	P	22 38 22.7	+0.3
KULM	Kulim	45.76	262	P	P	22 38 28.2	+1.0
KULM				IAmb	IAmb	22 38 31.5	
comp=Z,6.7nm,1.1s							
ARMA	Armidale	45.83	173	P	P	22 38 27.8	+0.2
ARMA				IAmb	IAmb	22 38 30.7	
comp=Z,5.5nm,1.0s							
SONM	Songino Array	46.01	323	P	P	22 38 27.9	-1.0
comp=Z,0.5nm,0.5s,baz=137,slow=9.2,SNR=4.4							
SONM	Songino Array	46.01	323	P	P	22 38 29.3	+0.4
FORT	Forrest	49.07	201	P	P	22 38 52.7	+0.1
GSI	Gunungsitoli	49.89	258	P	P	22 38 59.0	-0.2
LSA	Lhasa	52.30	296	P	P	22 39 18.1	+0.3
LSA				IAmb	IAmb	22 39 20.3	
comp=Z,4.0nm,0.6s							
MORW	Morawa	52.89	213	P	P	22 39 20.8	-0.6
MORW				IAmb	IAmb	22 39 20.8	
comp=Z,13nm,1.1s							
KHU	Kahuku	55.54	77	P	P	22 39 41.5	+0.3
WMQ	Urumqi	56.82	313	eP	P	22 39 51.3	+1.5
WMQ				sP	sP	22 40 08.8	+5.1
WMQ				LR	LR		
comp=Z,300nm,19.5s							
WMQ				LR	LR		
comp=Z,150nm,21.7s							
WMQ				LR	LR		
comp=Z,360nm,20.7s							
MK31	Makanchi Array	61.08	315	P	P	22 40 19.1	-0.1
MKAR	Makanchi Array	61.08	315	P	P	22 40 19.1	-0.2
comp=Z,0.4nm,0.3s,baz=89,slow=8.8,SNR=17							
MKAR	Makanchi Array	61.08	315	P	P	22 40 19.4	+0.1
MAKZ	Makanchi	61.29	315	P	P	22 40 20.9	+0.2
MAKZ				IAmb	IAmb	22 40 28.2	
comp=Z,1.8nm,0.6s							
LTZ	Lake Taylor	62.66	159	P	P	22 40 30.5	+0.7
KHZ	Kahutara	62.80	157	P	P	22 40 30.7	+0.1
CNPM	China Poot	63.08	31	P	P	22 40 32.3	-0.2
WKZ	Wanaka	63.43	162	P	P	22 40 35.3	+0.4
KURK	Kurchatov	64.03	319	P	P	22 40 38.2	-0.6
GLI	Glacier Island	65.42	30	P	P	22 40 48.9	+1.1
ILAR	Eielson Array	66.44	25	P	P	22 40 53.6	-0.6
comp=Z,2.4nm,0.8s,baz=255,slow=4.5,SNR=5.1							
PAX	Paxson	66.63	28	P	P	22 40 55.6	0.0
PAX				IAmb	IAmb	22 40 58.0	
comp=Z,8.4nm,1.1s							
VRDI	Verde Repeater	67.23	30	P	P	22 40 58.8	-0.8
VRDI				IAmb	IAmb	22 40 59.4	
comp=Z,2.8nm,0.8s							
NIL	Nilore	67.53	300	P	P	22 41 01.3	-0.5
NIL				IAmb	IAmb	22 41 02.6	
comp=Z,5.4nm,0.8s							
KKAR	Karatay Array	69.22	311	P	P	22 41 12.3	+0.1
GAR	Garm	69.55	306	P	P	22 41 14.0	-0.5
ABKAR	Akbulak array	76.05	318	P	P	22 41 51.1	-1.5
GEYT	Alibeck	79.18	306	P	P	22 42 10.0	-0.4
comp=Z,1.6nm,0.7s,baz=61,slow=7.1,SNR=3.4							
GEYT	Alibeck	79.18	306	P	P	22 42 09.7	-0.7
GYA0B	ALIBECK ARRAY	79.18	306	P	P	22 42 10.3	-0.1
YKA	Yellowknife Ar	80.72	28	P	P	22 42 17.1	-1.0
comp=Z,1.7nm,0.8s,baz=293,slow=6.4,SNR=2.6							
YKA				LR	LR	23 16 38.4	
comp=Z,6.7nm,20.1s,baz=3.0,slow=35							
NVAR	Mina Array Bea	84.86	52	P	P	22 42 39.8	-0.7
comp=Z,0.4nm,0.5s,baz=281,slow=5.4,SNR=3.4							
PB11	IPOC Station P	145.65	103	PKPbc	PKPab	22 49 45.8	+0.7
LVC	Limon Verde	146.15	108	PKPbc	PKiKP	22 49 48.5	-1.3
LPAZ	La Paz	147.05	96	PKPbc	PKPdf	22 49 48.4	+0.9
comp=Z,1.4nm,0.5s,baz=261,slow=6.2,SNR=5.6							
LPAZ	La Paz	147.05	96		PKPab	22 49 51.4	+0.3
PTGA	Pitinga	150.41	63		PKiKP	22 49 58.0	-0.3
SAML	Samuel	150.66	81		PKiKP	22 49 58.7	-0.1

MOS ***02*** *22:32:06.7±1.0, 53°.58N×163°.75W, h10km, mb5.6/54, MS4.9/14, Error ellipse: s-maj=7.1km s-min=4.1km az=95.3*

IDC ***02*** *22:32:06.7±0.4, 53°.58N×163°.77W, h0km, mb5.0/46, mb1 5.1/47, mb1mx5.0/60, mbtmp5.0/47, ML4.0/1, MS4.3/38, Ms1 4.3/38, ms1mx4.2/51, Error ellipse: s-maj=11.9km s-min=8.0km az=169.0*

ISCJB ***02*** *22:

OKFG Sn 22 33 20.3 +0.9
OKTU Okmok Mt. Tuli 2.59 268 Pn 22 32 51.3 +0.3
SDPT Sand Point 2.61 45 Pn 22 32 51.5 +0.3
SDPT Sn 22 33 23.3 +1.4
OKNC Okmok New Cone 2.63 270 Pn 22 32 52.2 +0.7
OKCE Okmok Cone E 2.66 269 Pn 22 32 53.0 +1.1
OKWE Okmok W'ng Wal 2.70 270 Pn 22 32 53.1 +0.6
NIKH Nikolski High 3.14 261 Pn 22 32 58.4 -0.1
NIKH Sn 22 33 34.0 -0.9
VNWF Veniaminof 8 3.54 41 Pn 22 33 05.6 +1.5
VNSG Veniaminof 6 3.72 44 Pn 22 33 07.3 +0.8
VNHG Veniaminof 1 3.75 43 Pn 22 33 08.5 +1.6
CHGN Chignik 4.12 46 Sn 22 33 59.6 +0.6
CHGN Chignik 4.12 46 Pn 22 33 11.6 -0.3
ANNE Aniakchak Nort 4.67 42 Pn 22 33 20.2 +0.7
SPIA Saint Paul Isl 5.20 317 Pn 22 33 28.6 +1.9
CHIR Chirikof Islan 5.22 61 Pn 22 33 26.9 -0.1
SII Sitkinak Islan 6.25 57 Pn 22 33 40.2 -1.0
KOSE Korovin Southe 6.36 263 Pn 22 33 44.7 +1.9
KOFP Korovin Flat P 6.41 263 Pn 22 33 45.1 +1.7
KOKL Mount Kliuchef 6.46 263 Pn 22 33 46.5 +2.4
ATKA Atka Island 6.49 262 Pn 22 33 45.7 +1.3
OHAK Old Harbor 6.99 54 Pn 22 33 49.6 -1.6
KDAK Kodiak Island 7.59 52 P Pn 22 33 57.9 -1.6
KDAK Kodiak Island 7.59 52 Pn 22 33 57.9 -1.6
GSTR Great Sitkin T 7.62 264 Pn 22 34 00.2 +0.2
GSMY Great Sitkin M 7.63 264 Pn 22 34 01.4 +1.3
GSTD Great Sitkin T 7.68 264 Pn 22 34 02.0 +1.1
ADAG Mount Adagdak 7.97 264 Pn 22 34 06.8 +1.9
ADK Adak 8.05 263 P Pn 22 34 06.5 +0.6
ADK Adak 8.05 263 Pn 22 34 06.5 +0.6
KIMD Kanaga Island 8.41 263 Pn 22 34 11.7 +0.9
ILW Iliamna West 8.72 37 Pn 22 34 17.4 +2.1
IVE Iliamna Volcan 8.74 38 Pn 22 34 17.7 +2.3
TAPA Tanaga Point A 8.74 264 Pn 22 34 17.3 +1.9
TAFP Tanaga Falls P 8.82 265 Pn 22 34 18.4 +2.0
TASE Tanaga Southea 8.87 265 Pn 22 34 19.3 +2.1
RED Redoubt Volcan 9.11 37 Pn 22 34 22.0 +1.6
CNPM China Poot 9.12 44 Pn 22 34 20.3 -0.2
RDWB Redoubt West 9.13 36 Pn 22 34 22.2 +1.4
RSO Redoubt South 9.14 36 Pn 22 34 21.0 0.0
DFR Drift River 9.26 36 Pn 22 34 24.2 +1.8
BRLK Bradley Lake 9.41 43 Pn 22 34 24.2 -0.3
SPWE Spurr West 9.79 33 Pn 22 34 32.2 +2.4
CKL Chakachamna La 9.81 34 Pn 22 34 32.3 +2.3
SPNN North Nagishla 9.82 33 Pn 22 34 32.3 +2.1
SPCP Crater Peak Br 9.92 34 Pn 22 34 33.6 +2.0
SPCG Spurr Capps Gl 9.98 34 Pn 22 34 34.0 +1.6
GAMB Gambell 11.05 341 Pn 22 34 48.6 +1.7
ANM Nome 11.08 356 P Pn 22 34 48.5 +1.2
ANM Nome 11.08 356 Pn Pn 22 34 48.5 +1.2
PPLA Purkeypile 11.15 28 Pn 22 34 49.5 +1.1
PMR Palmer 11.21 38 P Pn 22 34 48.3 -0.8
PMR Palmer 11.21 38 Pn 22 34 48.2 -0.8
GLI Glacier Island 11.60 44 Pn Pn 22 34 53.4 -0.9
HIN Hinchinbrook I 11.60 47 Pn 22 34 53.2 -1.3
EYAK Cordova Ski Ar 12.01 47 Pn 22 34 57.9 -2.0
RAGM Ragged Mountai 12.41 49 Pn 22 35 05.7 +0.2
SUCK Suckling Hills 12.69 51 Pn Pn 22 35 08.8 -0.6
MCK McKinley 12.74 31 P Pn 22 35 07.9 -2.1
MCK McKinley 12.74 31 Pn 22 35 07.9 -2.1
VRDI Verde Repeater 13.31 47 Pn Pn 22 35 16.3 -1.7
SMY Shemya 13.34 275 P Pn 22 35 16.2 -1.9
SMY Shemya 13.34 275 Pn Pn 22 35 16.1 -1.9
IMAR Indian Mountai 13.42 18 Pn 22 35 19.7 +0.5
MCARA McCarthy VSAT 13.57 46 Pn 22 35 20.7 -0.6
MESA MESA 13.59 52 Pn Pn 22 35 20.9 -0.8
HDA Harding Lake 13.84 32 P Pn 22 35 22.0 -3.0
baz=226,SNR=10
COLA College 13.90 29 *i* P **Pn 22 35 23.7 -2.1**
COLA College 13.90 29 Pn Pn 22 35 24.6 -1.2
MENT Mentasta 14.05 40 Pn 22 35 25.2 -2.7
ILAR Eielson Array 14.12 31 P Pn 22 35 26.1 -2.6
ILAR 22 37 58.5
ILAR Eielson Array 14.12 31 Pn **Pn 22 35 24.4 -4.3**
0.7nm,0.3s,baz=228,slow=12,SNR=38
ILAR Sn **Sn 22 37 58.5 -5.6**
0.3nm,0.3s,baz=225,slow=11,SNR=3.2
ILAR PcP **PcP 22 40 46.7 +0.2**
0.2nm,0.3s,baz=280,slow=2.8,SNR=5.6
ILAR LR LR 22 41 18.2
comp=Z,2μm,21.4s,baz=233,slow=39
ILAR Eielson Array 14.12 31 Pn 22 35 26.1 -2.6
POKR Poker Plat Res 14.20 29 P Pn 22 35 30.0 +0.1
baz=223
YKU2 Yakutat 14.50 56 Pn **Pn 22 35 31.8 -2.1**
SCRK Sand Creek 14.55 36 Pn **Pn 22 35 31.9 -2.8**
RDOG Red Dog Mine 14.56 1 Pn 22 35 35.6 +0.8
BCPM Bancas Point 14.63 54 Pn **Pn 22 35 34.9 -0.7**
BCAR Beaver Creek A 14.87 41 Pn 22 35 36.0 -3.0
DHAK Deception Hill 15.14 58 Pn 22 35 42.3 -0.3
DHAK IAmb IAmb 22 35 50.8
comp=Z,132nm,0.7s
COLD Coldfoot 15.20 20 Pn 22 35 43.8 +0.5
COLD IAmb IAmb 22 35 59.0
comp=Z,144nm,1.4s
HYT Haines Junctio 15.88 52 IAmb IAmb 22 36 09.3
comp=Z,75nm,0.7s
DAWY Dawson 16.30 40 IAmb IAmb 22 36 03.2
comp=Z,81nm,0.6s
TOLK Toolik Lake Re 16.54 18 P **Pn 22 36 01.1 +0.6**
baz=211,SNR=56
TOLK Toolik Lake Re 16.54 18 IAmb IAmb 22 36 16.7
comp=Z,345nm,1.4s
SKAG Skagway 16.66 58 P **P 22 36 03.2 -1.0**
SKAG IAmb IAmb 22 36 19.9
comp=Z,174nm,1.4s
BMAR Burnt Mountain 16.69 26 Pn **Pn 22 35 58.1 -4.3**
WRAK Wrangell Islan 18.14 68 P **P 22 36 20.9 +0.2**
EPYK Eagle Plains 18.43 35 P **P 22 36 22.6 -1.2**
baz=239,SNR=52
EPYK Eagle Plains 18.43 35 IAmb IAmb 22 36 28.4
comp=Z,164nm,1.2s
DIB Dawson Inlet, 18.57 78 P **P 22 36 25.3 0.0**
H02S1 DAWSON INLET T 18.57 78 P **P 22 36 25.2 -0.1**
H02S1 T T 22 55 23.6
DLBC Dease Lake 19.33 62 P **Pn 22 36 36.0 +1.1**
comp=Z,1.1nm,0.3s,baz=268,slow=11,SNR=25
DLBC LR LR 22 43 07.7
comp=Z,724nm,21.8s,baz=290,slow=34
DLBC Dease Lake 19.33 62 P **P 22 36 33.0 -0.6**
BILL Bilibino 20.30 327 *c i* P **P 22 36 44.4 +0.3**
BILL pmax pmax
comp=Z,136nm,1.1s
BILL MLR MLR
comp=Z,5μm,17.0s
BILL Bilibino 20.30 327 P **P 22 36 44.5 +0.3**
BILL IAmb IAmb 22 36 49.1
comp=Z,105nm,1.0s
INK Inuvik 20.50 32 P **P 22 36 44.7 -1.5**
comp=Z,12nm,0.4s,baz=240,slow=10,SNR=76
INK S **S 22 40 32.8 -0.9**
comp=Z,2.6nm,0.8s,baz=42,slow=31,SNR=0.8
INK PcP **PcP 22 40 57.2 +0.6**
comp=Z,9.1nm,0.7s,baz=168,slow=2.9,SNR=5.4
INK LR LR 22 46 15.1
comp=Z,2μm,19.6s,baz=234,slow=41
INK Inuvik 20.50 32 IAmb IAmb 22 37 01.3
comp=Z,123nm,1.2s
BBB Bella Bella 21.40 79 LR LR 22 43 29.8
comp=Z,611nm,19.8s,baz=300,slow=32
BBB Bella Bella 21.40 79 P **P 22 36 54.6 -1.4**
PET Petropavlovsk 22.34 284 *κ i* P **P 22 37 07.9 +1.8**
PET *e* S **S 22 41 05.1 -4.6**
PET pmax pmax
comp=Z,98nm,1.4s
PET pmax pmax
comp=Z,500nm,6.1s
PET pmax pmax
comp=Z,200nm,16.2s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 22.34 284 P **P 22 37 05.7 -0.5**
PET IAmb IAmb 22 37 08.9
comp=Z,144nm,1.3s
PEA0B Petropavlovsk- 22.86 285 *i* P **P 22 37 12.3 +0.6**
PEA0B Petropavlovsk- 22.86 285 IAmb IAmb 22 37 13.8
comp=Z,83nm,0.6s
PETK Petropavlovsk- 22.86 285 P **P 22 37 10.7 -1.0**
comp=Z,63nm,0.6s,baz=80,slow=13,SNR=99
PETK LR LR 22 45 47.0
comp=Z,1μm,21.0s,baz=77,slow=36
C36M Paulatuk 24.04 34 P **P 22 37 21.9 -1.1**
baz=249,SNR=13
SEY Seymchan 24.46 310 *i* P **P 22 37 25.8 -1.2**
SEY Seymchan 24.46 310 P **P 22 37 26.2 -0.8**
comp=Z,9.8nm,0.6s,baz=138,slow=4.9,SNR=18
SEY PcP **PcP 22 41 05.2 +0.5**
comp=Z,3.9nm,0.6s,baz=134,slow=2.3,SNR=6.4
SEY LR LR 22 48 52.6
comp=Z,1μm,18.9s,baz=106,slow=41
SKR Severo-Kuril's 24.60 280 *e* P **P 22 37 27.0 -1.3**
SKR pmax pmax
comp=Z,92nm,0.7s
SKR pmax pmax
comp=Z,200nm,4.7s
SKR MLR MLR
comp=Z,400nm,19.0s
SKR MLR MLR
comp=Z,400nm,18.0s
A36M Sachs Harbour 24.77 28 P **P 22 37 30.0 +0.3**
baz=242,SNR=15
MA2 Magadan 25.37 302 P **P 22 37 35.5 +0.2**
MA2 pmax pmax
comp=Z,29nm,1.1s
MA2 Magadan 25.37 302 P **P 22 37 35.2 -0.1**
comp=Z,14nm,0.5s,baz=161,slow=23,SNR=10
MA2 LR LR 22 47 48.9
comp=Z,606nm,18.1s,baz=104,slow=37
MA2 Magadan 25.37 302 P **P 22 37 35.5 +0.2**
NLWA Neilton Lookou 25.83 87 P **P 22 37 39.2 -0.4**
NLWA IAmb IAmb 22 37 56.9
comp=Z,52nm,1.1s
E03A Lebam 26.43 89 P **P 22 37 43.9 -1.1**
B05A Bryant 26.48 84 P **P 22 37 47.5 +2.1**
baz=297
YKA Yellowknife Ar 26.86 51 P **P 22 37 48.7 0.0**
YKA 22 41 10.4
YKA Yellowknife Ar 26.86 51 P **P 22 37 49.2 +0.5**
comp=Z,16nm,0.7s,baz=269,slow=8.4,SNR=70
YKA PcP **PcP 22 41 10.7 +0.5**
comp=Z,3.6nm,0.6s,baz=282,slow=1.7,SNR=8.9
YKA LR LR 22 50 42.9
comp=Z,159nm,18.1s,baz=272,slow=42
YKA Yellowknife Ar 26.86 51 P **P 22 37 48.7 0.0**
YKA **PcP 22 41 10.4 +0.1**
E04D Cinebar 27.02 88 P **P 22 37 55.5 +5.3**
baz=300
D05A Enumclaw 27.05 86 P **P 22 37 49.8 -0.8**
D05A IAmb IAmb 22 38 05.8
comp=Z,46nm,1.1s
MIDW Midway 27.24 207 P **P 22 37 51.2 -1.1**
MIDW IAmb IAmb 22 38 05.8
comp=Z,121nm,1.2s
LON Longmire 27.38 87 P **P 22 37 52.8 -0.7**
LON pmax pmax
comp=Z,14nm,1.0s
LON Longmire 27.38 87 P **P 22 37 52.8 -0.7**
F04A Amboy 27.43 89 P **P 22 37 53.1 -0.8**
F04A IAmb IAmb 22 38 03.0
comp=Z,67nm,1.5s
LTY Liberty 27.80 85 P **P 22 37 58.4 +1.0**
B08A Colville Reser 28.07 82 P **P 22 37 59.7 -0.1**
H04A Detroit Lake 28.23 91 P **P 22 38 02.5 +1.3**
H04A IAmb IAmb 22 38 20.6
comp=Z,47nm,1.1s
E07A Sunnyside 28.64 86 P **P 22 38 05.7 +0.9**
HAWA Hanford 28.91 86 P **P 22 38 07.4 +0.2**
HAWA IAmb IAmb 22 38 10.0
comp=Z,28nm,0.8s
I05D Terrebonne, OR 28.93 91 P **P 22 38 09.9 +2.5**
baz=304
HUMO Hull Mountain 28.96 95 P **P 22 38 08.1 +0.4**
E08A Dider Farm, El 29.14 86 P **P 22 38 09.2 0.0**
E08A IAmb IAmb 22 38 11.4
comp=Z,30nm,0.9s
JCC Jacoby Creek, 29.42 99 P **P 22 38 12.0 +0.3**
JCC IAmb IAmb 22 38 16.5
comp=Z,91nm,1.4s
NEW Newport 29.42 81 P **P 22 38 12.5 +0.8**
baz=298,SNR=5.5
NEW Newport 29.42 81 P **P 22 38 11.4 -0.4**
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 29.42 81 P **P 22 38 12.3 +0.5**
comp=Z,6.1nm,0.7s,baz=294,slow=8.3,SNR=14
NEW LR LR 22 47 46.1
comp=Z,475nm,21.8s,baz=300,slow=32
NEW Newport 29.42 81 P **P 22 38 11.4 -0.4**
PINE Pine Mountain 29.47 92 P **P 22 38 12.5 +0.1**
L04D Klamath Falls 29.58 96 P **P 22 38 16.2 +2.9**
baz=307
J05D Fort Rock, OR 29.59 93 P **P 22 38 15.8 +2.4**
baz=305
YBH Yreka Blue Hor 29.63 97 P **P 22 38 15.0 +1.3**
comp=Z,1.7nm,0.7s,baz=2.3,slow=8.5,SNR=5.2
YBH LR LR 22 47 14.6
comp=Z,728nm,19.4s,baz=302,slow=31
M02C Callahan 29.76 97 P **P 22 38 19.5 +4.7**
baz=308
M04C Macdoel 30.12 96 P **P 22 38 20.9 +2.8**
baz=308
O02D Mt. Diablo Mer 30.56 99 P **P 22 38 23.7 +1.8**
baz=310
MOD Modoc Plateau 30.96 94 P **P 22 38 26.2 +0.7**
BMO Blue Mountains 31.05 87 P **P 22 38 26.8 +0.6**
BMO pmax pmax
comp=Z,12nm,1.2s
BMO Blue Mountains 31.05 87 P **P 22 38 26.8 +0.6**
O03E Paynes Creek 31.07 98 P **P 22 38 29.8 +3.5**
baz=310
JTMT Jette 31.34 80 P **P 22 38 28.5 -0.3**
PLID Pearl Lake 31.70 86 P **P 22 38 31.9 -0.2**
MCCM Marconi Confer 31.84 102 P **P 22 38 31.6 -1.5**
MCCM IAmb IAmb 22 38 40.4
comp=Z,66nm,1.3s
MSO Missoula 32.01 82 P **P 22 38 35.1 +0.5**
baz=301
MSO Missoula 32.01 82 P **P 22 38 35.1 +0.5**
MSO **PcP 22 41 24.0 +0.2**
BEKR Beckworth 32.19 97 P **P 22 38 36.9 +0.5**
TYV Tymovskoe 32.33 287 *e* P **P 22 38 36.4 -0.8**
TYV pmax pmax
comp=Z,18nm,0.9s
HON Honolulu 32.47 170 P **P 22 38 38.9 +0.2**
HON pmax pmax
comp=Z,211nm,1.1s
HON Honolulu 32.47 170 P **P 22 38 38.9 +0.2**
MFID Camas Ranch 32.74 88 P **P 22 38 41.4 +0.3**
PAHR Pah Rah Range 32.87 97 P **P 22 38 42.7 +0.4**
PNTR Pine Nut 33.14 98 P **P 22 38 44.6 -0.2**
CMB Columbia Colle 33.37 100 P **P 22 38 46.7 +0.1**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 33.37 100 P **P 22 38 46.7 +0.1**
YERR Yerington 33.42 98 P **P 22 38 47.7 +0.5**
DLMT Dillon 33.57 83 P **P 22 38 48.0 -0.3**
SAO San Andreas Ge 33.61 103 P **P 22 38 49.1 +0.5**
SAO pmax pmax
comp=Z,16nm,1.4s
SAO San Andreas Ge 33.61 103 P **P 22 38 49.1 +0.5**
WAKR Walker 33.62 98 P **P 22 38 49.6 +0.7**
BMN Battle Mountai 33.70 94 P **P 22 38 50.0 +0.5**
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN Battle Mountai 33.70 94 P **P 22 38 50.0 +0.5**
RES Resolute Bay 33.81 26 P **P 22 38 49.6 -0.3**
RES 22 41 27.8
RES pmax pmax
comp=Z,17nm,0.7s
RES Resolute Bay 33.81 26 P **P 22 38 49.5 -0.3**
comp=Z,16nm,0.6s,baz=262,slow=11,SNR=65
RES PcP **PcP 22 41 27.8 -0.4**
comp=Z,11nm,0.7s,baz=289,slow=6.7,SNR=4.8
RES Resolute Bay 33.81 26 P **P 22 38 49.6 -0.3**
RES IAmb IAmb 22 38 51.3
comp=Z,17nm,0.7s
EGMT Eagleton 33.85 77 P **P 22 38 50.9 +0.2**
baz=300
EGMT Eagleton 33.85 77 IAmb IAmb 22 39 07.2
comp=Z,27nm,1.2s
KVN Kaiserville 34.05 96 P **P 22 38 53.2 +0.5**
KVN pmax pmax
comp=Z,12nm,1.1s
KVN Kaiserville 34.05 96 P **P 22 38 53.2 +0.5**
RYN Ryan 34.08 97 P **P 22 38 53.3 +0.4**
YSS Yuzh-Sakhalins 34.15 281 *ℓ e* P **P 22 38 52.7 -0.4**
YSS *e* S **S 22 44 14.5 -2.8**
YSS *e* 22 49 18.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,200nm,4.6s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 34.15 281 P **P 22 38 52.1 -1.0**
YSS IAmb IAmb 22 38 54.2
comp=Z,28nm,0.9s
NVAR Mina Array Bea 34.34 97 P **P 22 38 56.1 +0.9**
comp=Z,2.2nm,0.7s,baz=302,slow=8.9,SNR=17
NVAR PcP **PcP 22 41 31.0 +0.4**
comp=Z,0.6nm,0.6s,baz=270,slow=3.6,SNR=3.1
NVAR ScP **ScP 22 45 14.4 +1.1**
comp=Z,2.6nm,1.1s,baz=310,slow=3.5,SNR=7.4
NVAR LR LR 22 49 59.0
comp=Z,438nm,21.4s,baz=291,slow=31
HUH Hualalai 34.35 167 P **P 22 38 56.0 +0.7**
MDPB Devils Postpil 34.41 99 P **P 22 38 56.5 +0.6**
NV11 Mina Array Sit 34.42 97 P **P 22 38 56.7 +0.9**
OMMB Old Mammoth Mi 34.47 99 P **P 22 38 57.7 +1.3**
MWH Moku'aweowe 34.58 166 P **P 22 38 56.9 -0.8**
YHL Hebgen Lake 34.69 83 P **P 22 38 58.0 -0.2**
BYL Byron's Ledge 34.70 166 P **P 22 38 57.7 -0.5**
KKO Keanakako`i 34.71 166 P **P 22 38 57.9 -0.5**
PUH Pauahi 34.74 166 P **P 22 38 56.8 -1.8**
YHB Horse Butte 34.74 83 P **P 22 38 58.9 +0.3**
HLP Hilina Pali 34.80 166 P **P 22 38 59.1 0.0**
YMR Madison River 34.92 83 P **P 22 38 59.7 -0.4**
YHH Holmes Hill 34.92 83 P **P 22 39 00.4 +0.1**
YAK Yakutsk 34.98 311 *e* P **P 22 38 58.3 -1.8**
YAK *e**PP **pP 22 39 07.2 -0.9**
YAK *e* 22 40 17.0
YAK *e*PPP PPP 22 40 33.9
YAK *e* 22 41 31.7
YAK *e*S **S 22 44 28.1 -1.6**
YAK *e*SS **SnSn 22 46 45.7 -0.1**
YAK *e*SSS SSS 22 47 09.8
YAK *e* 22 49 15.3
YAK pmax pmax
comp=Z,25nm,0.6s
YAK pmax pmax
comp=E,8.0nm,0.7s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,57nm,2.5s
YAK pmax pmax
comp=N,41nm,2.3s
YAK pmax pmax
comp=E,115nm,2.8s
YAK smax smax
comp=N,23nm,2.7s
YAK smax smax
comp=E,55nm,2.3s
YAK MLR MLR
comp=Z,948nm,15.0s
YAK MLR MLR
comp=N,798nm,16.0s
YAK MLR MLR
comp=E,767nm,17.0s
YAK Yakutsk 34.98 311 P **P 22 38 58.5 -1.7**
comp=E,34nm,0.7s,baz=78,slow=0.5,SNR=25
YAK PcP **PcP 22 41 31.9 +0.2**
comp=E,3.5nm,0.3s,baz=342,slow=1.8,SNR=2.8
YAK Yakutsk 34.98 311 P **P 22 38 58.7 -1.4**
PAGB Antelope Grade 35.02 103 P **P 22 39 00.3 -0.6**
YNR Norris Junctio 35.06 83 P **P 22 39 02.0 +0.6**
GCMT Greycliff 35.07 80 P **P 22 39 01.5 +0.1**
FFC Flin Flon 35.16 63 P **P 22 39 03.0 +1.2**
FFC pmax pmax
comp=Z,20nm,1.4s
FFC Flin Flon 35.16 63 P **P 22 39 03.0 +1.2**
FXWY Fox Creek 35.47 84 P **P 22 39 04.5 -0.4**
HVU Hansel Valley 35.52 88 P **P 22 39 06.3 +1.0**
HVU pmax pmax
comp=Z,10.0nm,0.7s
HVU Hansel Valley 35.52 88 P **P 22 39 06.3 +1.0**
MOOW Moose Ponds 35.57 84 P **P 22 39 06.5 +0.8**
RLMT Red Lodge 35.67 81 P **P 22 39 07.5 +0.9**
baz=304
REDW Red Top Meadow 35.73 85 P **P 22 39 08.6 +1.5**
LOHW Long Hollow 35.73 84 P **P 22 39 07.5 +0.3**
ASAJ Asahikawa 35.79 277 P **P 22 39 07.4 +0.1**
comp=Z,48nm,0.7s,baz=52,slow=4.1,SNR=34
ASAJ LR LR 22 51 51.5
comp=Z,416nm,21.9s,baz=118,slow=33
CWC Cottonwood Cre 35.80 100 P **P 22 39 09.7 +1.9**
baz=313
GRNR Gornyy 35.89 290 *e* P **P 22 39 07.2 -0.9**
GRNR pmax pmax
comp=Z,56nm,0.8s
BGU Big Grassy Mou 35.89 90 P **P 22 39 09.5 +1.1**
SPUT South Promonto 36.00 89 P **P 22 39 10.3 +0.9**
R11A Troy Canyon, C 36.00 95 P **P 22 39 10.9 +1.4**
baz=311,SNR=10
R11A Troy Canyon, C 36.00 95 P **P 22 39 11.6 +2.2**
R11A IAmb IAmb 22 39 29.6
comp=Z,24nm,1.0s
ISA Isabella, Lake 36.11 101 P **P 22 39 11.2 +0.9**
baz=314
ISA Isabella, Lake 36.11 101 P **P 22 39 11.3 +1.1**
ISA pmax pmax
comp=Z,4.0nm,0.9s
ISA Isabella, Lake 36.11 101 P **P 22 39 11.3 +1.1**
DAC Darwin (Calif) 36.20 100 P **P 22 39 12.0 +0.8**
DAC pmax pmax
comp=Z,5.0nm,0.8s
DAC Darwin (Calif) 36.20 100 P **P 22 39 12.0 +0.8**
MPMC Manual Prospec 36.41 100 P **P 22 39 14.6 +1.6**
baz=314,SNR=15
DUG Dugway, Tooele 36.48 90 P **P 22 39 14.9 +1.5**
baz=309,SNR=11
DUG Dugway, Tooele 36.48 90 IAmb IAmb 22 39 31.0
comp=Z,25nm,0.9s
FURC Furnace Creek, 36.50 99 P **P 22 39 15.6 +2.2**
baz=313,SNR=7.9
TPNV Topopah Spring 36.54 97 P **P 22 39 15.8 +1.7**
baz=313,SNR=11
LAO LASA Array 36.60 77 P **P 22 39 15.8 +1.5**
baz=303
ERM Erimo 36.69 274 *c e* P **P 22 39 15.9 +0.9**
ERM pmax pmax
comp=Z,91nm,1.0s
ERM Erimo 36.69 274 P **P 22 39 15.5 +0.6**
OSI Osito Audit: C 36.70 103 P **P 22 39 15.8 +0.5**
CTU Camp Tracy 36.80 89 P **P 22 39 16.2 0.0**
DGMT Dagmar 36.83 73 P **P 22 39 16.3 0.0**
baz=301
DGMT Dagmar 36.83 73 IAmb IAmb 22 39 17.5
comp=Z,20nm,0.7s
BW06 Boulder Array 36.85 84 P **P 22 39 17.4 +0.7**
baz=306
PDAR Pinedale Array 36.85 84 P **P 22 39 16.9 +0.2**
comp=Z,2.1nm,0.6s,baz=300,slow=4.5,SNR=19
PDAR ScP **ScP 22 45 22.6 +0.2**
comp=Z,1.5nm,1.0s,baz=349,slow=0.8,SNR=5.8
PDAR LR LR 22 52 24.9
comp=Z,264nm,19.9s,baz=314,slow=33
PDAR Pinedale Array 36.85 84 P **P 22 39 16.3 -0.4**
PSUT Pine Spring 36.91 93 P **P 22 39 18.2 +1.0**
PSUT IAmb IAmb 22 39 37.1
comp=Z,21nm,0.9s
JLU Jordanelle 37.03 89 P **P 22 39 18.4 +0.1**
NLU North Lily Min 37.07 90 P **P 22 39 18.6 0.0**
SHOC Shoshone, Teco 37.24 99 P **P 22 39 22.1 +2.3**
baz=314
MPU Maple Canyon 37.29 90 P **P 22 39 20.9 +0.4**
GSC Goldstone, Bar 37.34 100 P **P 22 39 22.7 +2.0**
baz=314
GSC Goldstone, Bar 37.34 100 P **P 22 39 21.4 +0.7**
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 37.34 100 P **P 22 39 21.4 +0.7**
SHPR Sheep Range 37.48 97 P **P 22 39 22.8 +0.8**
FCC Fort Churchill 37.52 53 IAmb IAmb 22 39 40.7
comp=Z,35nm,0.8s
BFSC Mount Baldy Ra 37.58 102 P **P 22 39 26.1 +3.2**
baz=315
TCRU Three Creeks R 37.70 92 P **P 22 39 25.4 +1.4**
MSU Marysvale 37.93 92 P **P 22 39 27.0 +1.2**
MSU Marysvale 37.93 92 P **P 22 39 27.0 +1.2**

HEC Hector,Ludlow 37.94 100 P **P 22 39 27.3 +1.5**
baz=315
SZCU Shurtz Canyon 37.98 94 P **P 22 39 27.2 +0.9**
TMUT Trail Mountain 38.00 90 P **P 22 39 27.5 +1.0**
P17A Butcher Ranch, 38.17 90 P **P 22 39 28.9 +1.1**
MTPU Mount Pierson 38.23 93 P **P 22 39 29.6 +1.0**
GMRC Granite Mounta 38.37 100 P **P 22 39 31.5 +2.0**
baz=314
KNB Kanab 38.53 94 P **P 22 39 27.1 -3.8**
KNB pmax pmax
comp=Z,9.0nm,1.2s
KNB Kanab 38.53 94 P **P 22 39 27.1 -3.8**
SRU San Rafael Swe 38.53 90 P **P 22 39 31.5 +0.7**
SRU pmax pmax
comp=Z,31nm,1.3s
SRU San Rafael Swe 38.53 90 P **P 22 39 31.6 +0.7**
K22A Casper 38.72 82 P **P 22 39 30.2 -2.2**
K22A IAmb IAmb 22 39 31.4
comp=Z,33nm,0.8s
BELC Belle Mtn. Jos 38.72 101 P **P 22 39 33.4 +1.0**
baz=315
PFO Pinyon Flats O 38.73 102 P **P 22 39 35.8 +3.3**
baz=316
PFO Pinyon Flats O 38.73 102 P **P 22 39 33.7 +1.2**
PFO pmax pmax
comp=Z,4.0nm,0.9s
PFO Pinyon Flats O 38.73 102 P **P 22 39 33.6 +1.2**
TEY Ternei 38.79 282 ⇓*i*P **P 22 39 32.1 -0.6**
TEY pmax pmax
comp=E,30nm,0.9s
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,40nm,0.9s
109C Camp Elliot, M 38.87 103 P **P 22 39 33.6 +0.1**
RWWY Rawlins 38.89 84 P **P 22 39 33.8 -0.1**
RWWY IAmb IAmb 22 39 49.4
comp=Z,27nm,0.8s
IRM Iron Mountain 39.11 100 P **P 22 39 36.8 +1.1**
baz=315
W13A Hualapai Mount 39.20 98 P **P 22 39 37.6 +1.0**
U15A North Rim 39.24 95 P **P 22 39 36.0 -0.9**
O20A White River Ci 39.24 87 P **P 22 39 37.6 +0.8**
baz=309,SNR=19
O20A White River Ci 39.24 87 P **P 22 39 37.0 +0.2**
O20A IAmb IAmb 22 39 38.3
comp=Z,23nm,0.7s
O20A **S 22 45 32.8 -2.7**
MONP2 Monument Peak 39.27 102 P **P 22 39 38.8 +1.7**
baz=316
KLR Kul'dur 39.27 291*c i*P **P 22 39 34.8 -1.9**
KLR pmax pmax
comp=Z,37nm,1.4s
KLR Kul'dur 39.27 291 P **P 22 39 35.3 -1.4**
comp=Z,16nm,0.8s,baz=63,slow=8.6,SNR=40
BAR Barrett 39.27 103 P **P 22 39 37.5 +0.5**
RSSD Black Hills 39.31 79 P **P 22 39 37.7 +0.3**
baz=306
RSSD Black Hills 39.31 79 P **P 22 39 38.0 +0.6**
RSSD 22 41 45.7
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 39.31 79 P **P 22 39 38.0 +0.6**
RSSD **PcP 22 41 45.7 +0.2**
ZEA Zeya 39.44 299 *e*P **P 22 39 36.8 -1.2**
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA MLR MLR
comp=N,500nm,15.0s
ZEA MLR MLR
comp=E,900nm,15.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
IKP In-Ko-Pah, Jac 39.62 102 P **P 22 39 41.8 +1.8**
baz=316
PV09 Paradox Valley 39.75 90 P **P 22 39 41.4 +0.2**
Y12C Blythe 39.77 100 P **P 22 39 42.7 +1.7**
baz=315
Y12C Blythe 39.77 100 P **P 22 39 41.3 +0.3**
MDND Maddock 39.77 71 P **P 22 39 42.3 +1.4**
baz=303
MDND Maddock 39.77 71 P **P 22 39 41.8 +0.9**
PV21 Cone Mtn., Par 39.81 89 P **P 22 39 41.6 0.0**
PV23 Carpenter Ridg 39.85 90 P **P 22 39 40.1 -1.9**
PV14 Lion Creek, Pa 39.90 90 P **P 22 39 41.6 -0.8**
PV04 Paradox Valley 39.96 89 P **P 22 39 42.4 -0.4**
PV19 Morning Glory 39.96 90 P **P 22 39 42.6 -0.3**
PV17 East Wray Mesa 40.00 90 P **P 22 39 43.2 0.0**
PV12 Saucer Basin, 40.07 90 P **P 22 39 44.0 +0.2**
PV03 Paradox Valley 40.08 90 P **P 22 39 44.0 +0.2**
GLA Glamis 40.08 101 P **P 22 39 44.7 +1.0**
GLA pmax pmax
comp=Z,9.0nm,0.8s
GLA Glamis 40.08 101 P **P 22 39 44.7 +1.0**
N23A Red Feather La 40.13 84 P **P 22 39 45.3 +1.0**
baz=309
PV13 Radium Mtn., P 40.16 90 IAmb IAmb 22 39 46.4
comp=Z,28nm,0.7s
PV02 Paradox Valley 40.18 90 IAmb IAmb 22 39 46.5
comp=Z,20nm,0.7s
PV01 Paradox Valley 40.33 90 P **P 22 39 45.8 -0.1**
PV01 IAmb IAmb 22 39 47.6
comp=Z,19nm,0.7s
WUAZ Wupatki 40.40 95 P **P 22 39 47.0 +0.5**
WUAZ IAmb IAmb 22 40 06.2
comp=Z,34nm,1.1s
Y14A Wickenburg 40.53 98 P **P 22 39 48.4 +0.9**
ULM Lac du Bonnet 40.56 66 P **P 22 39 47.5 +0.1**
comp=Z,10nm,0.6s,baz=307,slow=8.1,SNR=18
ULM PcP **PcP 22 41 48.9 -0.2**
comp=Z,7.5nm,0.7s,baz=271,slow=3.5,SNR=5.1
ULM LR LR 22 57 17.0
comp=Z,386nm,19.2s,baz=312,slow=37
SMCO Snowmass 40.60 87 P **P 22 39 48.8 +0.5**
H11N2 WAKE ISLAND Hy 40.62 225 T T 23 23 27.6
baz=26,slow=76,SNR=772
H11N3 WAKE ISLAND Hy 40.62 225 T T 23 23 28.0
baz=26,slow=76,SNR=638
H11N1 WAKE ISLAND Hy 40.63 225 T T 23 23 28.8
baz=26,slow=76,SNR=494
113A Mohawk Valley, 40.91 100 P **P 22 39 51.0 +0.6**
MVCO Mesa Verde 40.98 91 P **P 22 39 52.2 +0.9**
baz=312
MVCO Mesa Verde 40.98 91 P **P 22 39 50.9 -0.4**
ISCO Idaho Springs 41.02 85 P **P 22 39 52.3 +0.6**
baz=310
ISCO Idaho Springs 41.02 85 P **P 22 39 51.9 +0.2**
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 41.02 85 P **P 22 39 51.9 +0.2**
WAKE Wake Island 41.12 225 P **P 22 39 52.0 -0.3**
X16A Lo Mia Camp, P 41.12 96 P **P 22 39 53.2 +0.8**
S22A 4UR Ranch, Cre 41.62 89 P **P 22 39 56.5 -0.2**
AGMN Agassiz Nation 41.62 69 P **P 22 39 56.1 -0.1**
baz=304,SNR=9.8
AGMN Agassiz Nation 41.62 69 IAmb IAmb 22 40 14.9
comp=Z,40nm,1.1s
H11S1 WAKE ISLAND Hy 41.79 225 T T 23 24 56.2
baz=25,slow=76,SNR=1453
H11S2 WAKE ISLAND Hy 41.80 225 T T 23 25 04.0
baz=25,slow=76,SNR=578
H11S3 WAKE ISLAND Hy 41.81 225 T T 23 25 01.1
baz=25,slow=76,SNR=466
Q24A Divide 41.83 86 P **P 22 39 58.3 0.0**
USA0B Ussuriysk Arra 41.96 284 P **P 22 39 58.2 -0.7**
USA0B pmax pmax
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 41.96 284 P **P 22 39 58.2 -0.7**
USRK Ussuriysk Ar. 41.96 284 P **P 22 39 57.5 -1.4**
USRK 22 41 54.4
USRK Ussuriysk Ar. 41.96 284 P **P 22 39 57.1 -1.8**
comp=Z,3.4nm,0.6s,baz=46,slow=9.5,SNR=9.2
USRK PcP **PcP 22 41 54.4 +0.6**
comp=Z,3.8nm,0.8s,baz=70,slow=2.1,SNR=5.6
USRK LR LR 22 56 48.5
comp=Z,365nm,22.0s,baz=44,slow=35
USRK Ussuriysk Ar. 41.96 284 P **P 22 39 57.5 -1.4**
214A Organ Pipe Nat 42.05 100 P **P 22 39 59.6 -0.3**
SUSD Miller 42.08 75 P **P 22 40 00.4 +0.4**
baz=306
SUSD Miller 42.08 75 IAmb IAmb 22 40 00.9
comp=Z,64nm,0.8s
SDCO Great Sand Dun 42.41 88 P **P 22 40 03.6 +0.5**
baz=311
OGNE Ogallala 42.41 81 P **P 22 40 02.7 -0.2**
MDJ Mudanjiang 43.09 286 P **P 22 40 07.0 -1.1**
MDJ S **S 22 46 32.7 +0.7**
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,140nm,2.8s
MDJ LR LR
comp=Z,550nm,21.6s
MDJ LR LR
comp=Z,550nm,27.0s
MDJ LR LR
comp=Z,720nm,20.4s
MDJ Mudanjiang 43.09 286 P **P 22 40 06.4 -1.7**
MJAR Matsushiro Arr 43.13 271 P **P 22 40 08.3 -0.3**
MJAR 22 41 57.7
MJAR pmax pmax
comp=Z,21nm,0.9s
MJAR Matsushiro Arr 43.13 271 P **P 22 40 08.6 0.0**
comp=Z,28nm,1.0s,baz=31,slow=6.0,SNR=46
MJAR PcP **PcP 22 41 57.7 -0.2**
comp=Z,3.1nm,0.8s,baz=42,slow=1.9,SNR=3.7
MJAR ScP **ScP 22 45 49.3 +2.6**
comp=Z,1.1nm,0.9s,baz=56,slow=4.7,SNR=4.3
MJAR LR LR 22 56 23.1
comp=Z,457nm,21.7s,baz=70,slow=34
MJAR Matsushiro Arr 43.13 271 P **P 22 40 08.3 -0.3**
MAJO Matsushiro 43.13 271*c i*P **P 22 40 08.5 -0.1**
MAJO pmax pmax
comp=Z,67nm,0.8s
MAJO Matsushiro 43.13 271 P **P 22 40 08.2 -0.3**
MAJO IAmb IAmb 22 40 20.6
comp=Z,82nm,0.9s
MAT Matsushiro 43.13 271 P **P 22 40 08.7 +0.1**
MAT S **S 22 46 33.6 +0.8**
KULLO Kullorsuaq 43.29 22 *i* P **P 22 40 09.8 +0.4**
KULLO pmax pmax
comp=Z,22nm,0.6s
KULLO Kullorsuaq 43.29 22 *i* P **P 22 40 09.8 +0.4**
comp=Z,22nm,0.6s
KSCO Kaye Shedlock' 43.30 84 P **P 22 40 11.0 +0.9**
MSHR Mys Shultsa 43.42 283*c i*P **P 22 40 10.7 -0.1**
T25A Trinidad 43.46 87 P **P 22 40 12.7 +1.2**
baz=312,SNR=5.2
T25A Trinidad 43.46 87 IAmb IAmb 22 40 28.7
comp=Z,36nm,1.4s
ANMO Albuquerque 43.72 91 P **P 22 40 13.1 -0.5**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 43.72 91 P **P 22 40 13.1 -0.5**
ECSD EROS Data Cent 43.85 75 P **P 22 40 13.7 -0.6**
baz=308,SNR=8.8
BOD Bodaibo 43.88 310 ⇓*i*P **P 22 40 12.8 -1.6**
BOD pmax pmax
comp=Z,40nm,1.2s
EYMN Ely 44.23 67 P **P 22 40 17.2 -0.1**
baz=306,SNR=5.7
EYMN Ely 44.23 67 IAmb IAmb 22 40 28.7
comp=Z,23nm,1.0s
BGNE Belgrade 44.40 78 P **P 22 40 18.6 -0.2**
INU Inuyama 44.65 271 IAmb IAmb 22 40 33.5
comp=Z,20nm,0.9s
E38A The Farm, Brul 44.99 68 P **P 22 40 22.9 -0.4**
baz=307,SNR=8.2
E38A The Farm, Brul 44.99 68 IAmb IAmb 22 40 34.9
comp=Z,38nm,0.9s
SPMN Marine on St. 45.12 70 P **P 22 40 24.1 -0.3**
baz=307,SNR=5.8
SPMN Marine on St. 45.12 70 P **P 22 40 24.2 -0.2**
SPMN IAmb IAmb 22 40 27.2
comp=Z,18nm,0.8s
CBKS Cedar Bluff 45.13 82 P **P 22 40 25.1 +0.5**
baz=311
CBKS Cedar Bluff 45.13 82 P **P 22 40 25.2 +0.5**
CBKS pmax pmax
comp=Z,23nm,1.1s
CBKS Cedar Bluff 45.13 82 P **P 22 40 25.2 +0.6**
CBKS IAmb IAmb 22 40 36.7
comp=Z,23nm,1.1s
HSIG 45.29 101 P **P 22 40 26.9 +0.9**
HIA Hailar 45.79 297 *i* P **P 22 40 28.8 -0.9**
HIA pmax pmax
comp=Z,132nm,0.7s
HIA MLR MLR
comp=Z,2μm,15.0s
HIA Hailar 45.79 297 IAmb IAmb 22 40 29.8
comp=Z,23nm,0.8s
CN2 Changchun 45.95 288 ⇑P **P 22 40 30.2 -0.8**
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,320nm,20.0s
CN2 LR LR
comp=Z,550nm,21.0s
G39A Holcombe 46.00 69 P **P 22 40 31.0 -0.4**
baz=308,SNR=16
D41A Chassel 46.35 66 P **P 22 40 34.1 0.0**
D41A IAmb IAmb 22 40 43.8
comp=Z,23nm,1.1s
G40A Rib Lake 46.55 69 P **P 22 40 35.4 -0.3**
baz=308,SNR=8.9
G40A Rib Lake 46.55 69 IAmb IAmb 22 40 36.1
comp=Z,22nm,0.8s
MSTX Muleshoe 46.59 89 P **P 22 40 36.9 +0.5**
baz=314
MSTX Muleshoe 46.59 89 P **P 22 40 35.9 -0.4**
MSTX IAmb IAmb 22 40 54.1
comp=Z,31nm,1.4s
AMTX Amarillo 46.61 88 P **P 22 40 36.1 -0.4**
AMTX IAmb IAmb 22 40 54.8
comp=Z,21nm,1.1s
COWI Conover 46.63 67 IAmb IAmb 22 40 36.1
comp=Z,12nm,0.6s
MNTX Cornudas Mount 46.64 94 P **P 22 40 37.9 +1.3**
baz=316
MNTX Cornudas Mount 46.64 94 P **P 22 40 37.0 +0.4**
MNTX IAmb IAmb 22 40 53.3
comp=Z,15nm,0.9s
KSU1 Kansas State U 46.79 80 P **P 22 40 37.4 -0.3**
baz=311
NRIK Noril'sk 46.98 333 P **P 22 40 38.8 +0.1**
comp=Z,21nm,0.5s,baz=67,slow=7.5,SNR=62
NRIK PcP **PcP 22 42 11.4 +0.9**
comp=Z,8.3nm,0.7s,baz=34,slow=4.4,SNR=4.1
NRIK LR LR 23 03 01.8
comp=Z,504nm,18.2s,baz=63,slow=40
U32A Winter Ranch, 47.19 84 P **P 22 40 40.5 -0.3**
U32A IAmb IAmb 22 40 59.1
comp=Z,21nm,0.9s
F42A Maple Grove Fa 47.39 67 P **P 22 40 39.5 -2.7**
baz=308
I41A Arkdale 47.48 70 P **P 22 40 42.9 -0.1**
baz=309,SNR=22
E43A Lone Tree Farm 47.63 66 P **P 22 40 43.8 -0.3**
baz=308
E43A Lone Tree Farm 47.63 66 P **P 22 40 43.4 -0.7**
E43A IAmb IAmb 22 40 44.3
comp=Z,22nm,0.8s
KBS Kingsbay 47.76 1*ce*P **P 22 40 45.0 +0.3**
KBS pmax pmax
comp=Z,287nm,1.3s
KBS Kingsbay 47.76 1 P **P 22 40 45.7 +1.0**
L40A Anamosa 47.99 73 P **P 22 40 46.3 -0.6**
baz=310,SNR=8.1
L40A Anamosa 47.99 73 IAmb IAmb 22 40 47.0
comp=Z,35nm,0.9s
JFWS Jewell Farm 48.00 71 P **P 22 40 46.1 -0.8**
baz=310,SNR=12
E44A Grand Marais A 48.06 65 P **P 22 40 47.3 -0.1**
DAG Danmarks Havn 48.07 10⇑*i*P **P 22 40 47.0 -0.1**
DAG pmax pmax
comp=Z,44nm,0.7s
DAG Danmarks Havn 48.07 10⇑*i*P **P 22 40 47.0 -0.1**
comp=Z,64nm,0.7s
ILULI Ilulissat 48.11 26 P **P 22 40 47.0 -0.5**
ILULI pmax pmax
comp=Z,38nm,1.3s
ILULI Ilulissat 48.11 26 P **P 22 40 47.0 -0.5**
ILULI IAmb IAmb 22 40 57.9
comp=Z,38nm,1.3s
I42A Draeger Farm, 48.13 70 P **P 22 40 47.6 -0.3**
baz=310,SNR=7.8
H43A Windswept, Lux 48.40 68 P **P 22 40 49.8 -0.2**
baz=309
WMOK Wichita Mounta 48.44 86 P **P 22 40 50.8 +0.3**
baz=314,SNR=8.9
WMOK Wichita Mounta 48.44 86 IAmb IAmb 22 41 07.4
comp=Z,24nm,1.1s
SUMG Summit 48.59 19⇑*i*P **P 22 40 52.6 +0.9**
SUMG pmax pmax
comp=Z,180nm,0.5s
SUMG Summit 48.59 19⇑*i*P **P 22 40 52.6 +0.9**
comp=Z,183nm,0.5s
KS19 Wonju Array Si 48.62 280 P **P 22 40 52.4 +0.5**
KS19 IAmb IAmb 22 40 53.9
comp=Z,40nm,0.9s
KSRS Korea Array 48.62 280 P **P 22 40 52.5 +0.7**
comp=Z,25nm,0.7s,baz=53,slow=7.1,SNR=104
KSRS PcP **PcP 22 42 17.6 +0.6**
comp=Z,4.4nm,0.9s,baz=67,slow=3.9,SNR=3.1
KSRS LR LR 23 01 03.5
comp=Z,181nm,20.5s,baz=50,slow=36
KSAR Wonju Array Be 48.65 280 P **P 22 40 51.7 -0.4**
KSAR Wonju Array Be 48.65 280 P **P 22 40 51.7 -0.4**
N41A Harden Midland 49.08 74 P **P 22 40 54.6 -0.7**
baz=311
E46A Sault Ste Mari 49.09 64 P **P 22 40 55.0 -0.4**
baz=309
E46A Sault Ste Mari 49.09 64 P **P 22 40 55.7 +0.3**
E46A IAmb IAmb 22 41 15.1
comp=Z,25nm,1.1s
G45A Suttons Bay 49.20 66 P **P 22 40 56.7 +0.5**
G45A IAmb IAmb 22 40 58.2
comp=Z,28nm,0.7s
K43A Burlington 49.21 70 P **P 22 40 55.4 -0.9**
baz=310
K43A Burlington 49.21 70 P **P 22 40 55.0 -1.3**
D47A Chapleau 49.30 63 P **P 22 40 56.1 -0.8**
baz=309
TX32 Lajitas Array 49.36 94 IAmb IAmb 22 41 14.2
comp=Z,14nm,1.0s
TXAR Lajitas Array 49.36 94 P **P 22 40 58.2 +0.5**
comp=Z,3.0nm,0.5s,baz=304,slow=6.0,SNR=36
TXAR PcP **PcP 22 42 20.1 +0.2**
comp=Z,2.6nm,0.6s,baz=299,slow=1.8,SNR=2.8
TXAR ScP **ScP 22 46 14.3 +1.4**
comp=Z,3.7nm,1.1s,baz=270,slow=2.5,SNR=9.6
TXAR LR LR 23 00 25.1
comp=Z,274nm,19.5s,baz=0.0,slow=34
ABTX Abilene, Hawle 49.40 88 P **P 22 40 57.9 -0.1**
baz=315
ABTX Abilene, Hawle 49.40 88 IAmb IAmb 22 41 15.0
comp=Z,45nm,1.4s
TUL1 Leonard 49.41 82 P **P 22 40 57.6 -0.3**
baz=313
TUL1 Leonard 49.41 82 IAmb IAmb 22 41 14.2
comp=Z,20nm,0.9s
G46A Petoskey 49.45 66 P **P 22 40 57.9 -0.3**
baz=310
E47A Iron Bridge 49.59 64 P **P 22 40 58.6 -0.5**
baz=310
TJN Taejon 49.68 279*ce*P **P 22 41 00.5 +0.6**
SFJD Kangerlussuaq 49.77 28 *i* P **P 22 41 01.0 +0.8**
SFJD pmax pmax
comp=Z,59nm,0.8s
SFJD Kangerlussuaq 49.77 28 *i* P **P 22 41 01.0 +0.8**
comp=Z,59nm,0.8s
JNU Nakatsue 49.85 273 P **P 22 41 01.2 -0.2**
comp=Z,31nm,1.0s,baz=339,slow=1.9,SNR=12
D48A Paudash Townsh 49.91 62 P **P 22 41 00.9 -0.7**
baz=310
HDIL Hopedale 50.07 73 P **P 22 41 02.3 -0.6**
baz=312,SNR=32
M44A Midewin, Midew 50.23 72 P **P 22 41 03.6 -0.5**
baz=311
HHAR Hobbs 50.25 80 IAmb IAmb 22 41 19.1
comp=Z,13nm,0.8s
MATQ Matagami 50.41 57 P **P 22 41 04.4 -0.9**
baz=310
P43A Skaggs, Pawnee 50.55 74 P **P 22 41 05.8 -0.7**
baz=312,SNR=13
CCM Cathedral Cave 50.62 77 P **P 22 41 05.3 -1.8**
baz=313
CCM Cathedral Cave 50.62 77 P **P 22 41 05.3 -1.8**
CCM pmax pmax
comp=Z,12nm,0.7s
CCM Cathedral Cave 50.62 77 P **P 22 41 05.3 -1.8**
CCM IAmb IAmb 22 41 06.2
comp=Z,12nm,0.7s
MGMO Mountain Grove 50.63 78 IAmb IAmb 22 41 21.9
comp=Z,21nm,0.8s
K46A Dorr 50.65 69 P **P 22 41 06.5 -0.7**
baz=311
H48A Harrisville 50.69 65 P **P 22 41 07.1 -0.4**
H48A IAmb IAmb 22 41 08.0
comp=Z,56nm,1.2s
L46A Eue Claire 50.81 70 P **P 22 41 07.8 -0.6**
baz=311
L46A Eue Claire 50.81 70 P **P 22 41 07.4 -1.0**
O44A Mansfield 50.81 73 P **P 22 41 07.6 -0.9**
baz=312,SNR=5.4
J47A Sunmer 50.82 68 P **P 22 41 08.0 -0.5**
baz=311
J47A Sunmer 50.82 68 P **P 22 41 07.7 -0.8**
J47A IAmb IAmb 22 41 19.5
comp=Z,23nm,1.1s
U40A Yellville 50.84 80 P **P 22 41 07.1 -1.6**
baz=314,SNR=13
U40A Yellville 50.84 80 IAmb IAmb 22 41 08.0
comp=Z,20nm,0.7s
JCT Junction City 50.84 90 P **P 22 41 08.9 0.0**
baz=316,SNR=6.2
JCT Junction City 50.84 90 IAmb IAmb 22 41 25.5
comp=Z,46nm,1.1s
D50A G1974 Best Tow 50.94 61 P **P 22 41 08.6 -0.8**
baz=310
E50A Wahnapitae 50.95 62 P **P 22 41 08.8 -0.7**
baz=310
W39A Magazine 51.09 81 P **P 22 41 10.2 -0.4**
baz=314,SNR=5.6
W39A Magazine 51.09 81 IAmb IAmb 22 41 26.7
comp=Z,22nm,0.8s
K47A Vermontville 51.09 68 P **P 22 41 09.5 -1.1**
baz=311
WHTX Lake Whitney, 51.16 87 P **P 22 41 11.7 +0.5**
baz=316
WHTX Lake Whitney, 51.16 87 P **P 22 41 10.8 -0.3**
WHTX IAmb IAmb 22 41 28.3
comp=Z,40nm,1.1s
LSQQ Lebel-sur-Quev 51.19 57 P **P 22 41 10.3 -0.9**
baz=310
D51A Lot 18 Range I 51.24 61 P **P 22 41 10.9 -0.7**
baz=310
DL2 Dalian 51.31 285 P **P 22 41 12.0 -0.2**
DL2 *e*S **S 22 48 29.9 +0.7**
DL2 pmax pmax
comp=Z,63nm,0.7s
DL2 LR LR
comp=Z,470nm,20.9s
DL2 LR LR
comp=Z,420nm,19.5s
DL2 LR LR
comp=Z,630nm,20.2s
J48A Bridge Port 51.35 67 P **P 22 41 12.4 -0.1**
J48A IAmb IAmb 22 41 22.9
comp=Z,43nm,1.4s
SFIN Lafayette 51.44 72 P **P 22 41 12.8 -0.3**
baz=312,SNR=8.8
K48A Perry 51.49 68 P **P 22 41 13.0 -0.5**
baz=312
E51A G1948 Merrick 51.54 61 P **P 22 41 12.9 -0.9**
baz=311
VLDQ Val d'Or 51.56 59 P **P 22 41 12.5 -1.4**
FCAR Ozark Folk Cen 51.58 80 IAmb IAmb 22 41 29.7
comp=Z,24nm,0.8s
XMAS Kiritimati 51.60 172 P **P 22 41 14.3 -0.3**
MIAR Mount Ida 51.66 82 P **P 22 41 14.7 -0.2**
baz=314,SNR=7.4
MIAR Mount Ida 51.66 82 IAmb IAmb 22 41 25.9
comp=Z,13nm,0.8s
IRK Irkutsk 51.69 308 *e*P **P 22 41 14.1 -0.8**
IRK pmax pmax
comp=Z,68nm,1.4s
D52A ZEK Kipawa Sen 51.81 60 P **P 22 41 14.9 -0.9**
baz=311
P46A Rosedale 51.89 73 P **P 22 41 15.9 -0.6**
baz=313,SNR=5.8
L48A N Adams 51.89 69 P **P 22 41 15.9 -0.6**

baz=312,SNR=5.5
N47A Urbana 51.90 70 P **P 22 41 15.4 -1.2**
baz=312,SNR=8.8
WHAR Wooly Hollow 51.90 80 P **P 22 41 16.5 -0.2**
CHGQ Chibougamau 51.93 55 P **P 22 41 15.3 -1.5**
baz=311
435B Jarrell 51.94 88 P **P 22 41 17.5 +0.4**
baz=316
435B Jarrell 51.94 88 P **P 22 41 17.2 +0.1**
435B IAmb IAmb 22 41 34.3
comp=Z,16nm,0.8s
PBMO Poplar Bluff 51.96 78 P **P 22 41 15.7 -1.5**
PBMO IAmb IAmb 22 41 27.5
comp=Z,15nm,0.9s
W41B Gary Mavity, V 52.01 80 P **P 22 41 16.1 -1.3**
baz=314
W41B Gary Mavity, V 52.01 80 IAmb IAmb 22 41 26.6
comp=Z,26nm,1.4s
S44A Carbondale 52.02 76 P **P 22 41 16.2 -1.3**
baz=313,SNR=5.2
SIUC Southern Illin 52.03 76 IAmb IAmb 22 41 17.2
comp=Z,23nm,0.6s
M48A Edgerton 52.04 69 P **P 22 41 16.8 -0.9**
baz=312,SNR=6.1
M48A Edgerton 52.04 69 IAmb IAmb 22 41 17.4
comp=Z,47nm,1.0s
F52A Sundridge 52.11 62 P **P 22 41 16.8 -1.4**
baz=311
D53A Lac Vacive, Po 52.11 60 P **P 22 41 17.5 -0.7**
baz=311
D53A Lac Vacive, Po 52.11 60 P **P 22 41 17.4 -0.7**
E52A Mattawa 52.14 61 P **P 22 41 17.4 -0.9**
baz=311
X40A Basin Creek Fa 52.14 81 P **P 22 41 17.8 -0.7**
baz=315
X40A Basin Creek Fa 52.14 81 P **P 22 41 18.0 -0.4**
L49A Milan 52.15 68 P **P 22 41 18.0 -0.5**
baz=312
SCHQ Schefferville 52.18 47 P **P 22 41 18.4 -0.2**
comp=Z,19nm,0.9s,baz=313,slow=8.1,SNR=8.4
SCHQ LR LR 23 06 05.0
comp=Z,571nm,19.8s,baz=314,slow=39
SCHQ Schefferville 52.18 47 IAmb IAmb 22 41 30.8
comp=Z,43nm,0.9s
N48A Decatur 52.28 70 P **P 22 41 18.2 -1.3**
baz=312,SNR=8.3
TLY Talaya 52.35 308 P **P 22 41 20.0 +0.1**
SNR=25
TLY P **P 22 41 20.0 +0.1**
SNR=25
TLY Talaya 52.35 308 *c i* P **P 22 41 20.0 +0.1**
TLY pmax pmax
comp=Z,212nm,1.1s
TLY MLR MLR
comp=Z,2μm,14.0s
TLY Talaya 52.35 308 P **P 22 41 20.1 +0.3**
comp=Z,40nm,0.8s,baz=28,slow=6.2,SNR=39
TLY Talaya 52.35 308 P **P 22 41 20.2 +0.3**
M49A Liberty Center 52.46 69 P **P 22 41 19.8 -1.0**
baz=312
CLWO Collingwood 52.48 64 P **P 22 41 20.5 -0.4**
baz=312
WLAR White Oak Lake 52.54 82 IAmb IAmb 22 41 32.6
comp=Z,38nm,0.9s
E53A Dumoine, Ponti 52.59 60 P **P 22 41 21.0 -0.7**
baz=312
833A Chaparral WMA, 52.65 92 P **P 22 41 23.3 +1.0**
baz=318
833A Chaparral WMA, 52.65 92 IAmb IAmb 22 41 39.7
comp=Z,51nm,1.1s
ALGO Algonquin Park 52.67 61 P **P 22 41 21.5 -0.8**
baz=312
N49A Columbus Grove 52.72 69 P **P 22 41 21.6 -1.0**
baz=313
N49A Columbus Grove 52.72 69 IAmb IAmb 22 41 22.4
comp=Z,28nm,0.9s
E54A Lac Daplat, Po 52.80 60 P **P 22 41 22.4 -0.9**
baz=312
G53A Haliburton 52.92 62 P **P 22 41 23.5 -0.6**
baz=312
P48A Milroy 53.01 72 P **P 22 41 23.5 -1.3**
baz=313,SNR=6.5
P48A Milroy 53.01 72 IAmb IAmb 22 41 24.2
comp=Z,35nm,0.9s
O49A Covington 53.13 70 P **P 22 41 24.3 -1.4**
baz=313,SNR=5.3
O49A Covington 53.13 70 IAmb IAmb 22 41 36.4
comp=Z,30nm,1.1s
Q48A North Vernon 53.20 72 P **P 22 41 25.1 -1.1**
baz=313
ULN Ulaanbaatar 53.23 303 P **P 22 41 26.6 0.0**
SNR=33
ULN P **P 22 41 26.6 0.0**
SNR=33
ULN Ulaanbaatar 53.23 303 *ce* P **P 22 41 26.4 -0.2**
ULN pmax pmax
comp=Z,64nm,0.6s
ULN Ulaanbaatar 53.23 303 P **P 22 41 26.5 0.0**
SCO Scoresbysund 53.25 15 *i* P **P 22 41 27.2 +1.0**
SCO pmax pmax
comp=Z,26nm,0.6s
SCO Scoresbysund 53.25 15 *i* P **P 22 41 27.2 +1.0**
comp=Z,26nm,0.6s
D55A Sainte-Anne-du 53.29 59 P **P 22 41 26.0 -0.8**
baz=312
WCI Wyandotte Cave 53.35 73 P **P 22 41 26.4 -1.0**
baz=314
WCI Wyandotte Cave 53.35 73 P **P 22 41 26.4 -1.0**
WCI pmax pmax
comp=Z,21nm,1.2s
WCI Wyandotte Cave 53.35 73 P **P 22 41 26.4 -1.0**
WCI IAmb IAmb 22 41 41.3
comp=Z,21nm,1.1s
P49A Miami Univ. Ec 53.36 71 P **P 22 41 26.0 -1.5**
baz=313,SNR=10
BANO Bancroft 53.36 62 P **P 22 41 26.8 -0.5**
baz=312
ZAK Zakamensk 53.38 307 *e* P **P 22 41 26.9 -0.7**
ZAK *e* 22 42 30.6
ZAK pmax pmax
comp=Z,17nm,1.2s
ZAK pmax pmax
comp=Z,14nm,1.0s
N50A Nevada 53.40 69 P **P 22 41 26.8 -0.8**
baz=313
O50A Cable 53.56 70 P **P 22 41 28.1 -0.9**
baz=313
SONM Songino Array 53.58 303 P **P 22 41 28.5 -0.6**
SONM 22 42 35.9
SONM pmax pmax
comp=Z,57nm,1.1s
SONM Songino Array 53.58 303 P **P 22 41 29.2 +0.1**
comp=Z,34nm,0.7s,baz=42,slow=7.2,SNR=201
SONM PcP **PcP 22 42 35.9 +0.5**
comp=Z,3.9nm,0.6s,baz=46,slow=2.4,SNR=2.5
SONM Songino Array 53.58 303 P **P 22 41 28.5 -0.6**
HKT Hockley 53.59 88 P **P 22 41 29.8 +0.7**
HKT pmax pmax
comp=Z,29nm,1.3s
HKT Hockley 53.59 88 P **P 22 41 29.8 +0.7**
HKT IAmb IAmb 22 41 48.1
comp=Z,29nm,1.2s
MOY Mondy 53.59 310 *e* P **P 22 41 29.2 +0.1**
MOY pmax pmax
comp=Z,40nm,1.3s
Q49A Aurora 53.62 72 P **P 22 41 28.0 -1.3**
baz=314
D56A ZEC Mazanza, M 53.63 58 P **P 22 41 28.1 -1.3**
baz=312
BJI Beijing 53.64 290 P **P 22 41 29.6 +0.2**
BJI pP **pP 22 41 37.3 -0.6**
BJI sP **sP 22 41 40.9 -0.3**
BJI pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 53.66 290 IAmb IAmb 22 41 30.7
comp=Z,17nm,0.5s
N51A Ashland 53.73 68 P **P 22 41 28.9 -1.2**
baz=313
N51A Ashland 53.73 68 P **P 22 41 28.9 -1.2**
N51A IAmb IAmb 22 41 29.7
comp=Z,20nm,0.6s
T47A Sharon Grove 53.74 75 P **P 22 41 29.6 -0.7**
baz=314,SNR=16
T47A Sharon Grove 53.74 75 IAmb IAmb 22 41 30.4
comp=Z,34nm,0.8s
PLVO Plevna 53.79 61 P **P 22 41 30.3 -0.3**
baz=312
PLVO Plevna 53.79 61 P **P 22 41 30.2 -0.3**
PLVO IAmb IAmb 22 41 42.0
comp=Z,21nm,0.9s
P50A Jamestown 53.82 70 P **P 22 41 29.8 -1.1**
baz=313,SNR=12
E56A St. Veronique 53.83 59 P **P 22 41 29.7 -1.2**
baz=312
G55A Calabogie 53.84 61 P **P 22 41 30.2 -0.7**
baz=313
ACSO Alum Creek Sta 53.85 69 P **P 22 41 30.1 -1.0**
baz=313
ACSO Alum Creek Sta 53.85 69 IAmb IAmb 22 41 30.4
comp=Z,14nm,0.7s
DELO Deloro Mine 53.86 62 P **P 22 41 30.9 -0.1**
DELO IAmb IAmb 22 41 44.9
comp=Z,38nm,1.5s
M52A Chesterland 53.86 67 P **P 22 41 30.5 -0.6**
WVT Waverly 53.92 76 P **P 22 41 31.1 -0.5**
baz=314
WVT Waverly 53.92 76 P **P 22 41 30.9 -0.7**
WVT pmax pmax
comp=Z,42nm,0.7s
WVT Waverly 53.92 76 P **P 22 41 30.9 -0.7**
H55A Tweed 54.07 62 P **P 22 41 32.2 -0.4**
baz=313
D57A Chemin Vers le 54.09 58 P **P 22 41 31.7 -1.1**
baz=313
O51A Pataskala 54.12 69 P **P 22 41 32.0 -1.1**
baz=313
OXF Oxford 54.13 79 P **P 22 41 32.6 -0.5**
baz=315,SNR=6.0
J54A Appleton 54.16 64 P **P 22 41 32.9 -0.3**
J54A IAmb IAmb 22 41 45.7
comp=Z,30nm,0.8s
N52A McGinn's Farm, 54.18 68 P **P 22 41 32.2 -1.2**
baz=313
S49A Springfield 54.24 73 P **P 22 41 32.7 -1.2**
baz=314
Q50A Georgetown 54.25 71 P **P 22 41 33.0 -0.9**
baz=314,SNR=9.2
ANGG Ammassalik, Gr 54.26 24 P **P 22 41 33.1 -0.4**
M53A WI Miller and 54.31 67 P **P 22 41 33.5 -0.8**
baz=313
P51A Williamsport 54.33 70 P **P 22 41 33.6 -0.9**
P51A IAmb IAmb 22 41 45.5
comp=Z,22nm,0.9s
ORIO Orleans, Innes 54.33 60 P **P 22 41 35.4 +1.0**
MEDO Medina 54.33 64 P **P 22 41 34.8 +0.3**
MEDO IAmb IAmb 22 41 37.4
comp=Z,19nm,0.9s
E57A Chemin Saint G 54.37 58 P **P 22 41 33.6 -1.2**
baz=313
LATQ La Tuque 54.40 57 P **P 22 41 33.8 -1.1**
baz=313
LATQ La Tuque 54.40 57 P **P 22 41 34.6 -0.3**
R50A Paris 54.44 72 P **P 22 41 34.4 -0.9**
baz=314,SNR=11
R50A Paris 54.44 72 IAmb IAmb 22 41 35.3
comp=Z,27nm,0.7s
Q51A Peebles 54.48 71 P **P 22 41 35.0 -0.6**
baz=314,SNR=14
L54A Sinclairville 54.50 65 P **P 22 41 35.3 -0.5**
baz=313
H56A Elgin 54.52 61 P **P 22 41 35.6 -0.3**
baz=313
ALFO Alfred 54.53 59 P **P 22 41 34.7 -1.2**
baz=313
D58A Chemin du LacG 54.55 57 P **P 22 41 34.6 -1.4**
baz=313
T49A Edmonton 54.57 74 P **P 22 41 35.5 -0.8**
baz=314,SNR=7.6
T49A Edmonton 54.57 74 IAmb IAmb 22 41 49.7
comp=Z,18nm,0.8s
O52A Adamsville 54.57 69 P **P 22 41 35.2 -1.1**
baz=314
O52A Adamsville 54.57 69 IAmb IAmb 22 41 47.2
comp=Z,42nm,1.1s
PLAL Pickwick Lake 54.58 77 IAmb IAmb 22 41 47.8
comp=Z,18nm,0.8s
J55A Hilton 54.60 63 P **P 22 41 36.2 -0.3**
J55A IAmb IAmb 22 41 47.8
comp=Z,38nm,1.1s
N53A Lisbon 54.65 67 P **P 22 41 35.7 -1.2**
baz=314
P52A Corning 54.74 69 P **P 22 41 36.5 -1.1**
baz=314
WVNY West Valley, N 54.77 65 P **P 22 41 37.6 -0.2**
WVNY IAmb IAmb 22 41 49.8
comp=Z,26nm,1.0s
V48A Smith Brothers 54.78 76 P **P 22 41 36.9 -1.0**
baz=315
V48A Smith Brothers 54.78 76 IAmb IAmb 22 41 49.5
comp=Z,16nm,1.0s
M54A Oil Creek Stat 54.81 66 P **P 22 41 36.7 -1.4**
baz=314
M54A Oil Creek Stat 54.81 66 P **P 22 41 37.0 -1.1**
M54A IAmb IAmb 22 41 38.0
comp=Z,29nm,1.2s
S50A Richmond 54.81 73 P **P 22 41 37.2 -0.9**
baz=314,SNR=10
CLTN Cedars of Leba 54.82 75 IAmb IAmb 22 41 49.9
comp=Z,37nm,1.3s
O53A New Philadelph 54.83 68 P **P 22 41 37.0 -1.2**
baz=314
U49A Red Boiling Sp 54.84 75 P **P 22 41 37.5 -0.8**
baz=315,SNR=5.1
R51A Hillsboro 54.85 71 P **P 22 41 37.9 -0.4**
baz=314,SNR=55
MMNY Mt. Morris Dam 54.92 64 P **P 22 41 38.5 -0.3**
MMNY IAmb IAmb 22 41 55.1
comp=Z,24nm,1.1s
N54A Moraine State 55.01 67 P **P 22 41 38.3 -1.2**
baz=314
N54A Moraine State 55.01 67 IAmb IAmb 22 41 44.9
comp=Z,55nm,1.5s
L55A Hinsdale 55.01 65 P **P 22 41 38.9 -0.6**
baz=314
T50A Nancy 55.02 73 P **P 22 41 38.9 -0.7**
baz=314,SNR=10
Q52A Bidwell 55.13 70 P **P 22 41 39.1 -1.3**
baz=314
P53A Whipple 55.26 69 P **P 22 41 40.2 -1.1**
baz=314
P53A Whipple 55.26 69 P **P 22 41 39.8 -1.5**
P53A IAmb IAmb 22 41 40.4
comp=Z,12nm,0.7s
K56A Middlesex 55.26 64 P **P 22 41 41.0 -0.2**
baz=314
I57A Carthage 55.28 61 P **P 22 41 40.7 -0.7**
baz=314
V49A McMinnville 55.29 75 P **P 22 41 40.7 -0.9**
baz=315,SNR=6.7
M55A Ridgway 55.33 66 P **P 22 41 41.3 -0.5**
baz=314,SNR=6.8
M55A Ridgway 55.33 66 IAmb IAmb 22 41 41.6
comp=Z,24nm,0.7s
O54A Avella 55.34 68 P **P 22 41 41.0 -0.8**
baz=314,SNR=6.4
R52A Catlettsburg 55.35 71 P **P 22 41 41.0 -0.9**
baz=314
LONY Lake Ozonia 55.38 60 P **P 22 41 41.1 -1.0**
baz=314
U50A Jamestown 55.45 74 P **P 22 41 41.7 -1.0**
baz=315,SNR=6.3
F59A Saint Guillaume 55.45 58 P **P 22 41 41.5 -1.0**
baz=314
J57A Williamstown 55.47 62 P **P 22 41 42.7 0.0**
J57A IAmb IAmb 22 41 54.2
comp=Z,20nm,0.9s
L56A Greenwood 55.52 64 P **P 22 41 42.6 -0.6**
baz=314
L56A Greenwood 55.52 64 IAmb IAmb 22 41 56.4
comp=Z,35nm,1.1s
W49A Belvidere 55.54 76 P **P 22 41 42.4 -1.0**
baz=315,SNR=5.5
X48A Hartselle 55.56 77 P **P 22 41 42.0 -1.5**
baz=315,SNR=6.8
X48A Hartselle 55.56 77 IAmb IAmb 22 41 42.7
comp=Z,16nm,0.7s
S52A Salyersville 55.57 72 P **P 22 41 42.8 -0.7**
baz=315,SNR=7.0
T51A Gray 55.57 73 P **P 22 41 42.6 -0.9**
baz=315,SNR=16
Q53A Leroy 55.62 70 P **P 22 41 42.8 -1.0**
baz=314
NRS Narsarsuaq 55.62 31 P **P 22 41 44.6 +1.1**
NRS pmax pmax
comp=Z,89nm,1.1s
NRS Narsarsuaq 55.62 31 P **P 22 41 44.6 +1.1**
HHC Hu-ho-hao-te 55.63 294 P **P 22 41 45.7 +1.6**
HHC pP sP 22 41 55.8 0.0
HHC S **S 22 49 27.8 -0.2**
HHC sS sS 22 49 40.4 -1.4
HHC pmax pmax
comp=Z,13nm,0.9s
M56A Emporium 55.63 65 P **P 22 41 43.3 -0.6**
baz=314
M56A Emporium 55.63 65 P **P 22 41 43.5 -0.5**
M56A IAmb IAmb 22 42 02.3
comp=Z,39nm,1.2s
D60A Saint Jean D'O 55.65 56 P **P 22 41 42.9 -1.0**
baz=314
SWET Sewanee 55.66 76 IAmb IAmb 22 41 43.1
comp=Z,10nm,0.7s
P54A Burton 55.68 68 P **P 22 41 43.4 -1.0**
baz=314,SNR=5.3
N55A Marion Center 55.69 66 P **P 22 41 43.3 -1.1**
baz=314
N55A Marion Center 55.69 66 IAmb IAmb 22 41 44.0
comp=Z,20nm,0.6s
FRNY Flat Rock 55.74 59 P **P 22 41 43.6 -1.1**
R53A Hurricane 55.75 70 P **P 22 41 44.0 -0.8**
baz=314,SNR=5.7
R53A Hurricane 55.75 70 IAmb IAmb 22 41 44.9
comp=Z,47nm,1.2s
TIA Tai'an 55.75 286 P **P 22 41 44.8 -0.1**
TIA pmax pmax
comp=Z,19nm,0.8s
E60A Ste Agathe de 55.76 57 P **P 22 41 43.5 -1.3**
baz=314
G59A Clarenceville 55.78 59 P **P 22 41 43.7 -1.2**
baz=314
D61A St Aubert, Com 55.81 55 P **P 22 41 44.2 -0.8**
baz=314
I58A Old Forge 55.81 61 P **P 22 41 44.7 -0.5**
baz=314
H59A Cadyville 55.82 60 P **P 22 41 44.2 -1.0**
baz=314
V50A Pikevile 55.82 75 P **P 22 41 44.0 -1.3**
baz=315,SNR=6.8
J58A Remsen 55.88 62 P **P 22 41 45.6 -0.1**
baz=314
J58A Remsen 55.88 62 IAmb IAmb 22 41 57.5
comp=Z,33nm,1.0s
O55A Ligonier 55.91 67 P **P 22 41 44.8 -1.1**
baz=314
Q54A Coxs Mills 55.92 69 P **P 22 41 45.0 -1.0**
baz=314
Q54A Coxs Mills 55.92 69 IAmb IAmb 22 41 47.8
comp=Z,36nm,1.4s
U51A La Follette 55.95 73 P **P 22 41 45.2 -1.0**
baz=315,SNR=5.2
N56A West Decatur 55.97 66 P **P 22 41 45.5 -0.8**
baz=314,SNR=5.7
MCWV Mont Chateau 55.99 68 P **P 22 41 45.6 -1.0**
baz=314,SNR=5.1
MCWV Mont Chateau 55.99 68 IAmb IAmb 22 41 46.0
comp=Z,13nm,0.8s
L57A Andrews Acres 55.99 64 P **P 22 41 46.0 -0.5**
baz=314
HAMF Hammerfest 56.00 357 *e* P **P 22 41 45.4 -0.7**
NCB Newcomb 56.01 61 P **P 22 41 46.8 +0.2**
NCB IAmb IAmb 22 41 58.1
comp=Z,17nm,1.1s
T52A Hallie 56.02 72 P **P 22 41 46.3 -0.5**
baz=315,SNR=5.8
T52A Hallie 56.02 72 IAmb IAmb 22 42 01.6
comp=Z,29nm,0.9s
W50A Signal Mountai 56.03 75 P **P 22 41 45.9 -1.0**
baz=315
W50A Signal Mountai 56.03 75 IAmb IAmb 22 42 01.1
comp=Z,28nm,0.9s
TZTN Tazewell 56.09 73 P **P 22 41 46.5 -0.8**
baz=315
S53A Williamson 56.10 71 P **P 22 41 45.7 -1.7**
baz=315
P55A Reedsville 56.11 68 P **P 22 41 46.4 -1.1**
baz=314
V51A Loudon 56.16 74 P **P 22 41 46.4 -1.4**
baz=315
V51A Loudon 56.16 74 IAmb IAmb 22 41 46.9
comp=Z,12nm,0.7s
J59A Piesco 56.22 61 P **P 22 41 47.4 -0.7**
J59A IAmb IAmb 22 41 58.8
comp=Z,14nm,0.9s
O56A Blue Knob Stat 56.27 66 P **P 22 41 47.3 -1.3**
baz=314
O56A Blue Knob Stat 56.27 66 P **P 22 41 47.5 -1.1**
O56A IAmb IAmb 22 41 53.7
comp=Z,24nm,1.1s
U52A Thorn Hill 56.30 73 P **P 22 41 48.1 -0.8**
baz=315
M57A Sunshine Farm, 56.31 65 P **P 22 41 48.0 -0.8**
baz=314
M57A Sunshine Farm, 56.31 65 P **P 22 41 47.7 -1.0**
M57A IAmb IAmb 22 41 49.0
comp=Z,44nm,1.4s
CPCT Cooper Cave 56.31 75 IAmb IAmb 22 42 02.8
comp=Z,22nm,1.2s
I59A Olmsteadville 56.31 60 P **P 22 41 48.2 -0.6**
baz=314
BINY Binghamton 56.32 63 P **P 22 41 48.0 -0.8**
baz=314
BINY Binghamton 56.32 63 P **P 22 41 48.2 -0.6**
BINY IAmb IAmb 22 41 48.8
comp=Z,15nm,0.8s
Q55A Buckhannon 56.33 69 P **P 22 41 48.4 -0.6**
baz=315
FPAL Fort Paine 56.33 76 IAmb IAmb 22 41 48.5
comp=Z,16nm,0.6s
Y49A Blount Mountai 56.35 77 P **P 22 41 47.6 -1.5**
baz=316,SNR=7.7
Y49A Blount Mountai 56.35 77 IAmb IAmb 22 41 48.3
comp=Z,18nm,0.7s
T53A Wise 56.36 72 P **P 22 41 49.0 -0.4**
baz=315,SNR=11
W51A Cleveland 56.38 75 P **P 22 41 48.2 -1.1**
baz=316
SSPA Standing Stone 56.38 66 P **P 22 41 48.6 -0.8**
baz=314
SSPA Standing Stone 56.38 66 P **P 22 41 48.4 -0.9**
SSPA IAmb IAmb 22 41 49.3
comp=Z,20nm,0.8s
H60A Morristown 56.39 59 P **P 22 41 48.5 -0.8**
baz=314
R54A Victor 56.39 70 P **P 22 41 48.5 -0.9**
baz=315
D62A Allapoint, All 56.45 55 P **P 22 41 49.0 -0.6**
baz=315
D62A Allapoint, All 56.45 55 IAmb IAmb 22 42 03.4
comp=Z,39nm,1.2s
S54A Dingess, Beckl 56.48 70 P **P 22 41 49.2 -0.8**
baz=315
S54A Dingess, Beckl 56.48 70 P **P 22 41 49.1 -1.0**
S54A IAmb IAmb 22 41 50.0
comp=Z,21nm,0.7s
N57A Milroy 56.48 65 P **P 22 41 49.3 -0.7**
baz=315
L58A Harry Jones Me 56.50 63 P **P 22 41 49.7 -0.5**
baz=314
K59A Cooperstown 56.52 62 P **P 22 41 50.1 -0.1**
baz=314
E62A Clayton Lake 56.54 55 P **P 22 41 49.1 -1.3**
baz=315
E62A Clayton Lake 56.54 55 P **P 22 41 49.8 -0.5**
V52A Sevierville 56.56 74 P **P 22 41 49.7 -0.9**
baz=315,SNR=5.8
V52A Sevierville 56.56 74 IAmb IAmb 22 42 01.8
comp=Z,26nm,0.9s
LRAL Lakeview Retre 56.59 78 P **P 22 41 49.4 -1.5**
baz=316
LRAL Lakeview Retre 56.59 78 IAmb IAmb 22 42 02.7
comp=Z,12nm,0.8s
BTO Baotou 56.64 295 *e* P **P 22 41 51.1 -0.2**
P56A Dayton Farm, R 56.66 67 P **P 22 41 50.4 -0.9**
baz=315
GUMO Guam 56.69 245 LR LR 23 04 27.9
comp=Z,99nm,19.4s,baz=89,slow=34
KEV Kevo 56.76 356 P **P 22 41 50.9 -0.6**
KEV pmax pmax
comp=Z,36nm,0.6s
KEV Kevo 56.76 356 P **P 22 41 50.9 -0.6**
U53A Fall Branch 56.78 72 P **P 22 41 51.2 -1.0**
baz=315,SNR=7.2

Q56A Snyder Ridge, 56.79 68 P **P** **22 41 50.4 -1.8**
baz=315
Q56A Snyder Ridge, 56.79 68 P **P** **22 41 50.7 -1.6**
Q56A IAmb IAmb 22 41 51.2
comp=Z,44nm,1.5s
O57A Amberson 56.82 66 P **P** **22 41 51.5 -0.9**
baz=315,SNR=5.7
L59A Walton 56.82 63 P **P** **22 41 52.4 -0.1**
L59A IAmb IAmb 22 42 04.3
comp=Z,38nm,1.2s
F62A Pittston Farm, 56.83 56 P **P** **22 41 51.0 -1.5**
baz=315
T54A Tazewell 56.85 71 P **P** **22 41 52.2 -0.6**
baz=315,SNR=6.2
N58A Sunbury 56.88 65 P **P** **22 41 51.6 -1.2**
N58A IAmb IAmb 22 42 03.6
comp=Z,33nm,1.2s
W52A Murphy 56.91 74 P **P** **22 41 51.8 -1.3**
baz=316
W52A Murphy 56.91 74 IAmb IAmb 22 41 52.6
comp=Z,13nm,0.7s
J60A Lant Hill Farm 56.94 61 P **P** **22 41 53.0 -0.2**
baz=315
S55A Lewisburg 56.95 70 P **P** **22 41 52.7 -0.8**
baz=315,SNR=11
G62A West of Eustis 57.02 57 P **P** **22 41 53.1 -0.7**
baz=315
G62A West of Eustis 57.02 57 P **P** **22 41 53.4 -0.4**
G62A IAmb IAmb 22 42 07.4
comp=Z,52nm,1.5s
ARCES ARCESS Array B 57.04 356 P **P** **22 41 52.7 -0.9**
ARCES ARCESS Array B 57.04 356 P **P** **22 41 53.2 -0.3**
comp=Z,8.5nm,0.6s,baz=12,slow=7.4,SNR=68
ARCES LR LR 23 08 26.6
comp=Z,458nm,18.1s,baz=354,slow=38
ARCES ARCESS Array B 57.04 356 P **P** **22 41 52.7 -0.9**
ARE0 ARCESS Array S 57.04 356 *e*P **P** **22 41 53.1 -0.5**
ARE0 ARCESS Array S 57.04 356 P **P** **22 41 53.3 -0.2**
SSE Sheshan 57.04 279 P **P** **22 41 53.8 -0.2**
Z50A Ashland 57.06 77 P **P** **22 41 52.7 -1.6**
baz=316,SNR=9.9
Z50A Ashland 57.06 77 IAmb IAmb 22 41 53.5
comp=Z,22nm,0.8s
U54A Nelsons Funny 57.09 72 P **P** **22 41 54.0 -0.5**
baz=315
U54A Nelsons Funny 57.09 72 IAmb IAmb 22 41 54.8
comp=Z,32nm,1.1s
Y51A Rockmart 57.10 76 P **P** **22 41 52.7 -1.8**
baz=316
TRO Tromso 57.11 359 *e*P **P** **22 41 54.5 +0.4**
R56A Bull Pasture M 57.12 69 P **P** **22 41 53.8 -0.8**
baz=315
P57A Homestead Farm 57.12 67 P **P** **22 41 53.9 -0.7**
baz=315
P57A Homestead Farm 57.12 67 IAmb IAmb 22 41 54.6
comp=Z,16nm,0.8s
V53A Saluda 57.13 73 P **P** **22 41 53.9 -0.8**
baz=316,SNR=6.9
V53A Saluda 57.13 73 IAmb IAmb 22 42 06.2
comp=Z,30nm,1.1s
H62A Milan 57.16 58 P **P** **22 41 54.2 -0.6**
baz=315
H62A Milan 57.16 58 IAmb IAmb 22 42 06.0
comp=Z,32nm,1.1s
TRY Troy 57.17 61 P **P** **22 41 54.2 -0.6**
TRY IAmb IAmb 22 42 06.5
comp=Z,55nm,1.3s
E63A Oxbow 57.22 55 P **P** **22 41 53.9 -1.3**
baz=315
E63A Oxbow 57.22 55 P **P** **22 41 53.7 -1.5**
E63A IAmb IAmb 22 42 05.2
comp=Z,49nm,1.3s
Q57A Strasburg 57.22 67 P **P** **22 41 54.1 -1.2**
baz=315
PQI Presque Isle 57.24 55 P **P** **22 41 53.8 -1.5**
PQI IAmb IAmb 22 42 05.8
comp=Z,14nm,1.0s
T55A Pulaski 57.26 71 P **P** **22 41 55.1 -0.5**
baz=315
O58A Lewisberry 57.27 66 P **P** **22 41 54.4 -1.2**
baz=315
X52A Dahlonega 57.27 75 P **P** **22 41 54.7 -1.0**
baz=316,SNR=11
W53A Cullowhee 57.29 74 P **P** **22 41 55.0 -1.0**
baz=316
J61A Chester 57.31 60 P **P** **22 41 55.2 -0.7**
baz=315
N59A State Game Lan 57.33 64 P **P** **22 41 55.5 -0.6**
baz=315
N59A State Game Lan 57.33 64 P **P** **22 41 55.4 -0.7**
N59A IAmb IAmb 22 42 07.5
comp=Z,21nm,1.2s
TIY Taiyuan 57.35 291 *e*P **P** **22 41 57.2 +0.9**
TIY pmax pmax
comp=Z,29nm,0.8s
TIY pmax pmax
comp=Z,300nm,4.3s
BLA Blacksburg 57.40 70 P **P** **22 41 56.0 -0.6**
baz=315,SNR=6.5
BLA Blacksburg 57.40 70 IAmb IAmb 22 41 56.7
comp=Z,27nm,0.7s
F63A Nahmakanta, Br 57.40 56 P **P** **22 41 55.3 -1.1**
baz=315
F63A Nahmakanta, Br 57.40 56 P **P** **22 41 55.1 -1.3**
F63A IAmb IAmb 22 42 07.3
comp=Z,29nm,1.0s
Z51A Franklin 57.45 77 P **P** **22 41 55.4 -1.6**
baz=316
E64A Bridgewater 57.51 55 P **P** **22 41 55.7 -1.5**
baz=315
O59A Robesonia 57.53 65 P **P** **22 41 56.9 -0.6**
baz=315
S56A Natural Bridge 57.54 69 P **P** **22 41 57.3 -0.3**
baz=315,SNR=6.6
U55A TA2, Sparta 57.55 71 P **P** **22 41 57.0 -0.6**
baz=316,SNR=5.5
BG3 Lake Jocassee 57.55 74 **P** **22 41 56.6 -1.1**
BG3 IAmb IAmb 22 42 08.7
comp=Z,31nm,1.5s
V54A Nebo 57.55 72 P **P** **22 41 57.0 -0.7**
baz=316
L61A Hillsdale 1, H 57.61 62 P **P** **22 41 58.0 +0.1**
baz=315
PKME Peaks-Kenny Pk 57.61 56 P **P** **22 41 57.1 -0.8**
PKME IAmb IAmb 22 42 09.0
comp=Z,31nm,1.1s
KTK1 Kautokeino 57.65 357 *e*P **P** **22 41 57.6 -0.2**
F64A Sherman 57.65 55 P **P** **22 41 57.2 -1.0**
baz=315
F64A Sherman 57.65 55 IAmb IAmb 22 42 10.4
comp=Z,16nm,0.7s
M60A Port Jervis 57.65 63 P **P** **22 41 57.6 -0.6**
baz=315
R57A Stanardsville 57.68 68 P **P** **22 41 58.0 -0.5**
baz=315,SNR=6.5
X53A Estanollee 57.69 74 P **P** **22 41 57.7 -1.0**
baz=316
Q58A Fox Den Farm, 57.69 67 P **P** **22 41 57.7 -0.9**
baz=315,SNR=6.2
Y52A Lilburn 57.71 76 P **P** **22 41 57.7 -1.1**
baz=316
NJ2 Nanjing 57.72 281 *e*P **P** **22 41 59.2 +0.4**
NJ2 pmax pmax
comp=Z,35nm,0.8s
N60A Cedar Hill Far 57.72 64 P **P** **22 41 58.3 -0.5**
baz=315
T56A Rocky Mt 57.74 70 P **P** **22 41 58.5 -0.5**
baz=316
BATG Bathurst New B 57.75 53 P **P** **22 41 58.6 -0.3**
250A Grady 57.78 79 P **P** **22 41 58.3 -1.0**
baz=317
250A Grady 57.78 79 IAmb IAmb 22 42 10.3
comp=Z,31nm,0.8s
SDMD Soldier's Deli 57.82 66 P **P** **22 41 59.1 -0.3**
S57A Dark Hollow, R 57.83 69 P **P** **22 41 59.2 -0.4**
baz=316
S57A Dark Hollow, R 57.83 69 P **P** **22 41 58.9 -0.7**
S57A IAmb IAmb 22 42 18.2
comp=Z,36nm,1.4s
I63A Otisfield 57.83 58 P **P** **22 41 58.8 -0.6**
baz=315
I63A Otisfield 57.83 58 P **P** **22 41 58.1 -1.3**
I63A IAmb IAmb 22 42 12.9
comp=Z,27nm,1.1s
ODNJ Ogdensburg 57.84 63 P **P** **22 41 59.1 -0.5**
ODNJ IAmb IAmb 22 42 01.3
comp=Z,16nm,1.2s

P59A Jarrettsville 57.90 66 P **P** **22 41 59.2 -0.8**
baz=315
W54A Cherokee Point 57.91 73 P **P** **22 41 59.1 -1.1**
baz=316
V55A Taylorsville 57.91 72 P **P** **22 41 59.4 -0.8**
baz=316
V55A Taylorsville 57.91 72 P **P** **22 41 59.2 -0.9**
V55A IAmb IAmb 22 42 00.1
comp=Z,14nm,0.9s
O60A Telford 57.95 64 P **P** **22 41 59.7 -0.7**
baz=315
K62A Royalston 57.96 60 P **P** **22 42 00.2 -0.2**
baz=315
R58A Rapidan 57.97 68 P **P** **22 41 59.9 -0.6**
baz=316
KSCT Kent School, K 57.98 62 P **P** **22 41 59.7 -0.8**
Z52A Williamson 57.99 76 P **P** **22 41 59.2 -1.6**
baz=316
Y53A Monroe 57.99 75 P **P** **22 41 59.3 -1.5**
baz=316
U56A King 58.03 71 P **P** **22 42 00.5 -0.5**
baz=316
LVZ Lovozero 58.10 352 P **P** **22 41 59.1 -2.0**
LVZ pmax pmax
comp=Z,51nm,0.9s
LVZ Lovozero 58.10 352 P **P** **22 41 59.1 -2.0**
152A Waverly Hall 58.19 77 P **P** **22 42 00.2 -1.9**
baz=317,SNR=5.8
152A Waverly Hall 58.19 77 IAmb IAmb 22 42 00.8
comp=Z,14nm,0.6s
P60A Greenville 58.19 65 P **P** **22 42 01.0 -1.0**
baz=316
P60A Greenville 58.19 65 P **P** **22 42 00.9 -1.1**
P60A IAmb IAmb 22 42 02.5
comp=Z,32nm,1.5s
X54A Belton 58.19 74 P **P** **22 42 01.2 -0.9**
baz=316
T57A Hurt 58.20 70 P **P** **22 42 01.2 -1.0**
baz=316
R58B Mineral 58.28 68 P **P** **22 42 01.1 -1.5**
baz=316
V56A Mocksville 58.35 71 P **P** **22 42 02.2 -1.0**
baz=316
V56A Mocksville 58.35 71 IAmb IAmb 22 42 14.4
comp=Z,23nm,1.1s
KMSC Kings Mountain 58.35 73 P **P** **22 42 02.1 -1.2**
baz=316,SNR=5.9
KMSC Kings Mountain 58.35 73 IAmb IAmb 22 42 14.3
comp=Z,37nm,1.1s
GOGA Godfrey 58.38 75 P **P** **22 42 01.0 -2.4**
baz=316
GOGA Godfrey 58.38 75 P **P** **22 42 02.0 -1.4**
GOGA pmax pmax
comp=Z,15nm,1.2s
GOGA Godfrey 58.38 75 P **P** **22 42 02.0 -1.4**
GOGA IAmb IAmb 22 42 08.0
comp=Z,15nm,1.2s
Z53A Monticello 58.41 76 P **P** **22 42 01.8 -1.9**
baz=316
S58A Poland Farm, P 58.43 68 P **P** **22 42 03.1 -0.6**
baz=316
S58A Poland Farm, P 58.43 68 IAmb IAmb 22 42 04.0
comp=Z,17nm,0.7s
HODGE Hodges 58.48 74 IAmb IAmb 22 42 03.5
comp=Z,13nm,0.9s
M62A Hamden 58.49 62 P **P** **22 42 03.6 -0.5**
baz=316
Y54A Tignall 58.50 75 P **P** **22 42 02.8 -1.5**
baz=316
G65A Princeton 58.51 56 P **P** **22 42 03.2 -1.0**
APA Apatity 58.52 352 ⇓*i*P **P** **22 42 02.2 -1.7**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,1μm,20.0s
U57A Blanch 58.56 70 P **P** **22 42 04.0 -0.7**
baz=316,SNR=8.7
WES Weston 58.63 60 P **P** **22 42 05.0 -0.1**
WES pmax pmax
comp=Z,37nm,1.2s
WES Weston 58.63 60 P **P** **22 42 05.0 -0.1**
WES IAmb IAmb 22 42 19.1
comp=Z,37nm,1.2s
T58A Grand View Acr 58.64 69 P **P** **22 42 04.2 -1.0**
baz=316,SNR=5.8
252A Lumpkin 58.66 78 P **P** **22 42 03.6 -1.9**
baz=317
ZAA0 Zalesovo Array 58.79 320 IAmb IAmb 22 42 06.8
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 58.79 320 P **P** **22 42 05.5 -0.5**
comp=Z,12nm,0.5s,baz=38,slow=6.2,SNR=52
ZALV PcP **PcP** **22 42 55.4 0.0**
comp=Z,11nm,0.6s,baz=40,slow=4.2,SNR=8.8
ZALV LR LR 23 09 51.4
comp=Z,692nm,19.0s,baz=14,slow=39
ZALV Zalesovo Beam 58.79 320 P **P** **22 42 05.7 -0.3**
STEI Steigen 58.84 0 *e*P **P** **22 42 05.9 -0.2**
BRYW Bryant College 58.86 61 P **P** **22 42 05.3 -1.4**
BRYW IAmb IAmb 22 42 06.5
comp=Z,46nm,1.4s
Z54A Sparta 58.86 75 P **P** **22 42 05.1 -1.7**
baz=317
EMMW East Machias 58.92 56 P **P** **22 42 05.7 -1.3**
EMMW IAmb IAmb 22 42 06.4
comp=Z,17nm,0.7s
Y55A Saluda 58.92 74 P **P** **22 42 05.9 -1.4**
baz=317
352A Blakely 58.93 78 P **P** **22 42 06.2 -1.1**
baz=317
352A Blakely 58.93 78 P **P** **22 42 05.6 -1.7**
GGN Saint George 58.93 55 P **P** **22 42 06.0 -1.1**
GGN IAmb IAmb 22 42 17.5
comp=Z,17nm,0.9s
M63A Gales Ferry 58.96 61 P **P** **22 42 07.0 -0.4**
baz=316
253A Americus 58.97 77 P **P** **22 42 05.7 -1.9**
baz=317
X56A White Oak 58.99 73 P **P** **22 42 06.7 -1.0**
baz=316
JSC Jenkinsville 59.02 73 IAmb IAmb 22 42 18.8
comp=Z,12nm,1.1s
U58A Oxford 59.03 70 P **P** **22 42 06.9 -1.0**
baz=316
W57A Gilead 59.11 72 P **P** **22 42 07.0 -1.5**
W57A IAmb IAmb 22 42 25.0
comp=Z,22nm,1.2s
V58A Windy Hill, Pi 59.14 71 P **P** **22 42 08.2 -0.5**
baz=316,SNR=5.9
V58A Windy Hill, Pi 59.14 71 IAmb IAmb 22 42 08.8
comp=Z,23nm,0.8s
T59A Double "B" Far 59.17 69 P **P** **22 42 08.7 -0.2**
baz=316
T59A Double "B" Far 59.17 69 P **P** **22 42 08.0 -0.9**
LMN Caledonia Moun 59.38 53 P **P** **22 42 09.5 -0.8**
LMN IAmb IAmb 22 42 23.2
comp=Z,28nm,1.1s
U59A Littleton 59.48 69 P **P** **22 42 10.6 -0.4**
baz=316
T60A Surry 59.50 68 P **P** **22 42 10.4 -0.7**
254A Abbeville 59.54 77 P **P** **22 42 09.7 -1.8**
baz=317
X57A Johnson Farm, 59.55 72 P **P** **22 42 10.7 -0.8**
baz=317
W58A Raeford 59.63 71 P **P** **22 42 11.3 -0.8**
baz=317
V59A Middlesex 59.65 70 P **P** **22 42 11.7 -0.5**
baz=317,SNR=5.8
Y57A Sumter 59.70 73 P **P** **22 42 11.7 -0.9**
baz=317
U60A Pendleton 59.75 69 P **P** **22 42 12.5 -0.4**
baz=317
Z57A Bowman 60.05 74 P **P** **22 42 13.7 -1.3**
baz=317
Y58A Scranton 60.20 72 P **P** **22 42 14.6 -1.4**
baz=317
Y58A Scranton 60.20 72 P **P** **22 42 15.4 -0.6**
V60A Jim Taylor Roa 60.20 69 P **P** **22 42 15.7 -0.3**
baz=317
KONS Konsvik 60.25 1 *e*P **P** **22 42 15.9 0.0**
MOR8 Moi Rana 60.60 1 *e*P **P** **22 42 16.8 -1.5**
DGZ Jazzator, Alta 60.98 315 *c i*P **P** **22 42 21.6 +0.2**
TLIG Tlapa 61.32 99 IAmb IAmb 22 42 34.8
comp=Z,12nm,0.9s
TATO Taipei 61.38 274 P **P** **22 42 24.1 -0.1**
TMCR Tamitsa 61.41 349 *e*P **P** **22 42 20.6 -3.2**
TMCR pmax pmax
comp=Z,134nm,1.4s

WHN Wuhan 61.45 283 ⇑P **P** **22 42 24.6 +0.1**
WHN pmax pmax
comp=Z,60nm,0.8s
XAN Xi'an 61.97 290 P **P** **22 42 28.0 -0.1**
XAN pP sP 22 42 41.2 +1.9
XAN PcP **PcP** **22 43 11.0 +2.4**
XAN S S 22 50 37.7 -13
XAN pmax pmax
comp=Z,35nm,1.4s
XAN pmax pmax
comp=Z,400nm,4.5s
XAN LR LR
comp=Z,710nm,4.5s
XAN LR LR
comp=Z,340nm,4.9s
XAN LR LR
comp=Z,600nm,19.1s
XAN Xi'an 61.97 290 IAmb IAmb 22 42 28.8
comp=Z,22nm,0.8s
PRGR Permogore 62.83 345 ⇑*i*P **P** **22 42 32.8 -0.5**
PRGR *e* 22 43 10.0
PRGR pmax pmax
comp=Z,62nm,0.8s
GTA Gaotai 62.91 300 P **P** **22 42 34.4 -0.1**
GTA pP pwP 22 42 44.8 -0.5
GTA sP sP 22 42 49.3 +3.0
GTA pmax pmax
comp=Z,47nm,1.2s
GTA pmax pmax
comp=Z,180nm,4.1s
GTA LR LR
comp=Z,540nm,15.8s
GTA LR LR
comp=Z,540nm,15.5s
GTA LR LR
comp=Z,870nm,16.5s
LZH Lanzhou 63.26 295 *e*P **P** **22 42 37.1 +0.3**
LZH pP pwP 22 42 46.7 -0.9
LZH sP sP 22 42 50.4 +1.7
LZH *e*PP **PP** **22 44 55.4 -0.3**
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,930nm,11.9s
LZH LR LR
comp=Z,810nm,13.0s
LZH LR LR
comp=Z,980nm,14.6s
TBLU Trondheim 63.44 3 *e*P **P** **22 42 36.8 -0.6**
KURK Kurchatov 63.69 321 P **P** **22 42 39.3 +0.1**
SNR=24
KURK P **P** **22 42 39.3 +0.1**
SNR=24
KURK Kurchatov 63.69 321 *ce*P **P** **22 42 39.3 +0.1**
KURK pmax pmax
comp=Z,62nm,1.0s
KURK Kurchatov 63.69 321 P **P** **22 42 39.4 +0.2**
MOL Molde 64.02 4 *e*P **P** **22 42 41.8 +0.6**
SVE Sverdlovsk 64.17 335 *d i*P **P** **22 42 42.7 +0.4**
SVE pmax pmax
comp=Z,89nm,1.1s
AKN Aaknes 64.38 5 *e*P **P** **22 42 44.4 +0.8**
KLMR Klimovskoe 64.45 348 *e*P **P** **22 42 42.4 -1.6**
KLMR pmax pmax
comp=Z,84nm,1.5s
KLMR Klimovskoe 64.45 348 *e*P **P** **22 42 42.4 -1.6**
KLMR AMP 22 42 44.9
comp=Z,84nm,1.5s
KLMR LR LR 23 12 54.8
DOMB Dombas 64.61 4 *e*P **P** **22 42 45.3 +0.1**
BRVK Borovoye 64.65 327 P **P** **22 42 45.9 +0.4**
SNR=23
BRVK P **P** **22 42 45.9 +0.4**
SNR=23
BRVK Borovoye 64.65 327 *ce*P **P** **22 42 45.9 +0.4**
BRVK pmax pmax
comp=Z,62nm,1.0s
BRVK Borovoye 64.65 327 P **P** **22 42 46.0 +0.5**
FOO Floro 64.85 6 *e*P **P** **22 42 47.0 +0.4**
ARU Arti 65.04 336 *c i*P **P** **22 42 47.8 -0.2**
ARU 22 43 21.4
ARU 22 45 08.5
ARU S **S** **22 51 28.3 +0.5**
ARU pmax pmax
comp=Z,57nm,0.8s
ARU MLR MLR
comp=Z,638nm,17.0s
ARU Arti 65.04 336 P **P** **22 42 48.0 0.0**
comp=Z,12nm,0.4s,baz=16,slow=4.3,SNR=70
ARU Arti 65.04 336 P **P** **22 42 47.9 -0.1**
KIRV Kirov 65.05 342 P **P** **22 42 47.9 -0.1**
comp=Z,104nm,0.6s,baz=30,slow=4.3,SNR=50
FINES FINESS Array B 65.09 355 P **P** **22 42 47.7 -0.5**
FINES FINESS Array B 65.09 355 P **P** **22 42 47.6 -0.6**
comp=Z,23nm,0.5s,baz=20,slow=7.7,SNR=226
FINES LR LR 23 13 25.1
comp=Z,381nm,18.1s,baz=7.0,slow=38
FINES FINESS Array B 65.09 355 P **P** **22 42 47.7 -0.5**
TAOE Nuku Hiva Isla 65.31 154 *e*LR LR 23 02 20.4
comp=Z,407nm,30.1s
TAOE Nuku Hiva Isla 65.31 154 *e*T T 23 53 59.6
comp=Z,34nm,0.2s
MK31 Makanchi Array 65.40 316 IAmb IAmb 22 42 51.1
comp=Z,13nm,0.8s
MKAR Makanchi Array 65.40 316 P **P** **22 42 50.0 -0.5**
MKAR Makanchi Array 65.40 316 P **P** **22 42 49.7 -0.8**
comp=Z,14nm,0.7s,baz=44,slow=6.5,SNR=99
MKAR LR LR 23 12 51.7
comp=Z,544nm,19.4s,baz=29,slow=37
MKAR Makanchi Array 65.40 316 P **P** **22 42 50.0 -0.5**
WMQ Urumqi 65.42 311 P **P** **22 42 51.6 +0.9**
WMQ pP sP 22 43 02.3 -0.1
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,51nm,3.6s
WMQ LR LR
comp=Z,500nm,20.3s
WMQ LR LR
comp=Z,150nm,16.9s
WMQ LR LR
comp=Z,360nm,18.5s
WMQ Urumqi 65.42 311 IAmb IAmb 22 42 51.9
comp=Z,26nm,0.9s
061Z Ochoppi 65.45 79 P **P** **22 42 50.0 -1.0**
NC303 NORSAR Array S 65.50 3 P **P** **22 42 51.0 +0.1**
MAKZ Makanchi 65.51 317 P **P** **22 42 50.9 -0.4**
MAKZ pmax pmax
comp=Z,21nm,0.7s
MAKZ Makanchi 65.51 317 P **P** **22 42 50.9 -0.4**
MAKZ IAmb IAmb 22 42 51.4
comp=Z,21nm,0.7s
NB2 NORSAR Subarra 65.69 3 P **P** **22 42 52.1 -0.1**
comp=Z,32nm,0.8s,baz=358,slow=6.2
NB2 NORSAR Subarra 65.69 3 P **P** **22 42 52.1 -0.1**
baz=358,slow=6.2
NOA NORSAR Array B 65.69 3 P **P** **22 42 52.5 +0.4**
comp=Z,25nm,0.9s,baz=359,slow=6.5,SNR=64
NOA LR LR 23 12 51.3
comp=Z,190nm,18.9s,baz=350,slow=37
NAO01 NORSAR Array S 65.87 3 P **P** **22 42 53.2 -0.1**
SKAR Skarslia 65.94 4 *e*P **P** **22 42 54.4 +0.6**
ASK Askoy 65.97 6 *e*P **P** **22 42 54.4 +0.5**
NC602 NORSAR Array S 66.00 3 *e*P **P** **22 42 54.0 -0.1**
BER Bergen 66.08 6 *e*P **P** **22 42 55.3 +0.7**
PUL Pulkovo 66.47 352 *ce*P **P** **22 42 57.8 +0.7**
PUL pmax pmax
comp=Z,101nm,0.6s
PUL MLR MLR
comp=Z,393nm,18.0s
ODD1 Odda 66.62 5 *e*P **P** **22 42 58.9 +0.7**
OSL Oslo 66.78 3 *e*P **P** **22 42 59.5 +0.5**
KONO Kongsberg 67.03 4 *ce*P **P** **22 43 01.4 +0.7**
KONO pmax pmax
comp=Z,89nm,1.7s
KONO Kongsberg 67.03 4 *e*P **P** **22 43 01.6 +1.0**
KONO Kongsberg 67.03 4 P **P** **22 43 01.7 +1.0**
BLS5 Blasjo 67.10 5 *e*P **P** **22 43 01.8 +0.6**
CD2 Chengdu 67.20 291 P **P** **22 43 02.5 +0.2**
CD2 pmax pmax
comp=Z,70nm,0.7s
VSU Vasula 68.02 354 *ce*P **P** **22 43 07.5 +0.5**
VSU pmax pmax

comp=Z,213nm,1.3s
VSU Vasula 68.02 354 *e*P **P** **22 43 07.3 +0.4**
VSU IAmb IAmb 22 43 08.2
comp=Z,125nm,0.7s
SNART Snartemo 68.22 5 *e*P **P** **22 43 09.2 +0.9**
KRVT Keravat (AS076 68.51 228 LR LR 23 10 37.4
comp=Z,145nm,18.3s,baz=14,slow=34
GYA Guiyang 68.95 286⇑ *i*P **P** **22 43 14.0 +0.5**
GYA pP sP 22 43 24.4 -0.4
GYA sP PcP 22 43 32.0 -5.6
GYA PcP pwP 22 43 40.5 +15
GYA PP **PP** **22 45 47.0 +1.4**
GYA S **S** **22 52 16.4 +0.3**
GYA sS sS 22 52 31.0 +0.6
GYA pmax pmax
comp=Z,50nm,1.2s
GYA pmax pmax
comp=Z,480nm,6.5s
GYA LR LR
comp=Z,460nm,18.1s
GYA LR LR
comp=Z,430nm,19.6s
GYA LR LR
comp=Z,570nm,19.3s
SLIT Slitere, Latvi 69.07 357 *e*P **P** **22 43 13.4 -0.1**
SLIT IAmb IAmb 22 43 14.4
comp=Z,370nm,0.6s
BBSR BB Station 69.61 63 P **P** **22 43 16.4 -0.9**
BBSR IAmb IAmb 22 43 25.5
comp=Z,30nm,1.1s
PMOR Pomariorio Ree 69.61 164 *e*T T 23 59 21.5
comp=Z,26nm,0.2s
HNR Honiara 69.90 219 LR LR 23 11 11.0
comp=Z,63nm,19.2s,baz=3.0,slow=34
TGY Tagaytay City 70.08 267 P **P** **22 43 21.1 +0.7**
comp=Z,153nm,0.4s,baz=145,slow=0.5,SNR=5.9
MUD Monsted U'grnd 70.20 4 *e*P **P** **22 43 21.1 +0.6**
MUD pmax pmax
comp=Z,51nm,1.1s
MUD Monsted U'grnd 70.20 4 *i*P **P** **22 43 21.1 +0.6**
comp=Z,51nm,1.1s
ESK Eskdalemuir 70.31 12 P **P** **22 43 21.8 +0.6**
ESK pmax pmax
comp=Z,36nm,0.9s
ESK Eskdalemuir 70.31 12 P **P** **22 43 21.8 +0.6**
ESK IAmb IAmb 22 43 22.4
comp=Z,36nm,0.9s
OBN Obninsk 70.41 348⇓ *e*P **P** **22 43 21.3 -0.5**
OBN *e* 22 43 41.6
OBN *e* 22 46 01.4
OBN pmax pmax
comp=Z,117nm,1.7s
OBN MLR MLR
comp=Z,424nm,18.0s
OBN Obninsk 70.41 348 P **P** **22 43 21.6 -0.2**
AKTO Aktyubinsk 70.60 333 P **P** **22 43 23.6 +0.5**
comp=Z,55nm,0.7s,baz=36,slow=6.3,SNR=157
PBUR Paburg 70.69 357 *e*P **P** **22 43 23.7 +0.2**
PBUR IAmb IAmb 22 43 24.4
comp=Z,50nm,0.5s
IZAR Zarasai 70.76 354 *e*P **P** **22 43 23.7 -0.2**
IZAR IAmb IAmb 22 43 24.6
comp=Z,22nm,0.6s
ISAL Salakas 70.94 354 *e*P **P** **22 43 25.4 +0.4**
ISAL IAmb IAmb 22 43 26.8
comp=Z,28nm,1.0s
PABE Paberze 71.12 355 *e*P **P** **22 43 26.4 +0.3**
PABE IAmb IAmb 22 43 27.6
comp=Z,80nm,0.7s
ABKAR Akbulak array 71.13 331 P **P** **22 43 26.0 -0.3**
ABKAR Akbulak array 71.13 331 IAmb IAmb 22 43 28.1
comp=Z,55nm,0.7s
IIGN Ignalina 71.16 354 *e*P **P** **22 43 26.8 +0.5**
IIGN IAmb IAmb 22 43 28.0
comp=Z,25nm,0.6s
TKM2 Tokmak 2 71.29 318 *i*P **P** **22 43 28.2 +0.5**
TKM2 pmax pmax
comp=Z,60nm,1.4s
TKM2 Tokmak 2 71.29 318 P **P** **22 43 28.5 +0.8**
SNR=22
KDJ Kajisay 71.31 317 P **P** **22 43 27.4 -0.4**
KDJ pmax pmax
comp=Z,55nm,1.1s
KDJ Kajisay 71.31 317 P **P** **22 43 27.4 -0.4**
TARG Taragay, Kyrgy 71.39 316 IAmb IAmb 22 43 38.5
comp=Z,59nm,1.5s
USP Ospenovka 71.43 319 P **P** **22 43 29.4 +1.1**
SNR=26
CHMS Chumysh 71.56 319 P **P** **22 43 30.2 +1.1**
SNR=30
BSD Bornholm Skovb 71.69 1 *i*P **P** **22 43 30.1 +0.5**
BSD pmax pmax
comp=Z,24nm,0.7s
BSD Bornholm Skovb 71.69 1 *i*P **P** **22 43 30.1 +0.5**
comp=Z,24nm,0.7s
KBK Karagaybulak 71.77 318 P **P** **22 43 31.6 +1.0**
SNR=29
PPT Papeete 71.87 166 P **P** **22 43 31.5 +0.5**
PPT Papeete 71.87 166 P **P** **22 43 31.5 +0.5**
MICGM Minsk 71.89 353⇓ *e*P **P** **22 43 31.0 +0.2**
MICGM PM 22 43 32.0
comp=Z,0.2nm,1.0s
MNK Minsk 71.89 353⇓ *e*P **P** **22 43 31.0 +0.2**
MNK pmax pmax
comp=Z,170nm,1.0s
PPT2 Papeete2 71.89 166 *e*S **S** **22 52 47.2 -2.8**
comp=Z,712nm,28.2s
PPT2 Papeete2 71.89 166 *e*LR LR 23 05 23.4
comp=Z,380nm,21.8s,baz=348
PPTF Pamatai, Papee 71.89 166 P **P** **22 43 31.9 +0.7**
TIAR Tiarei 71.89 166 *e*T T 00 02 12.2
comp=Z,2.1nm,0.2s
AAK Ala-Archa 71.97 319 *i*P **P** **22 43 32.7 +1.0**
SNR=38
AAK Ala-Archa 71.97 319 P **P** **22 43 32.6 +1.0**
SNR=11
AAK P **P** **22 43 32.6 +1.0**
SNR=11
AAK Ala-Archa 71.97 319 *ce*P **P** **22 43 32.5 +0.8**
AAK pmax pmax
comp=Z,88nm,1.7s
AAK Ala-Archa 71.97 319 P **P** **22 43 32.7 +1.0**
comp=Z,29nm,0.9s,baz=97,slow=1.3,SNR=59
AAK Ala-Archa 71.97 319 P **P** **22 43 32.7 +1.0**
SNR=30
AAK Ala-Archa 71.97 319 P **P** **22 43 32.6 +1.0**
AAK IAmb IAmb 22 43 33.9
comp=Z,41nm,0.9s
KMI Kunming 72.22 288 P **P** **22 43 34.2 +0.7**
KMI pP pwP 22 43 44.2 -1.5
KMI sP PcP 22 43 48.9 -2.7
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,420nm,4.2s
EKS2 Erkin-Say 72.22 319 P **P** **22 43 34.1 +0.9**
SNR=21
RGN Rugen 72.24 2 P **P** **22 43 33.6 +0.8**
UCH Uchtor 72.30 318 P **P** **22 43 35.3 +1.2**
SNR=9.7
NRN Naryn 72.38 317 IAmb IAmb 22 43 36.8
comp=Z,28nm,0.9s
LPSR Galich'ya Gora 72.54 346 *e*P **P** **22 43 34.1 -0.6**
LPSR pmax pmax
comp=Z,60nm,0.9s
AML Almayashu 72.71 319 P **P** **22 43 37.9 +1.4**
SNR=25
KK31 Karatay Array 73.09 322 IAmb IAmb 22 43 39.8
comp=Z,31nm,0.9s
KKAR Karatay Array 73.09 322 P **P** **22 43 37.7 -0.5**
KKAR Karatay Array 73.09 322 P **P** **22 43 37.7 -0.5**
KKAR Karatay Array 73.09 322 IAmb IAmb 22 43 39.8
comp=Z,31nm,0.9s
KCP Kidapawan 73.25 259⇑ *i*P **P** **22 43 40.1 +0.6**
MTDJ Mount Denham 73.31 82 P **P** **22 43 39.6 -0.2**
MTDJ IAmb IAmb 22 43 55.3
comp=Z,22nm,0.9s
GTBY Guantanamo Bay 73.41 79 P **P** **22 43 39.8 -0.5**
GTBY IAmb IAmb 22 43 44.6
comp=Z,33nm,1.2s
VRH Novokhopyorsk 73.46 344 *e*P **P** **22 43 38.8 -1.3**
VRH pmax pmax
comp=Z,20nm,0.7s
GKP Gorka Klasztor 73.55 359 *e*P **P** **22 43 41.5 +0.9**
GKP Gorka Klasztor 73.55 359 *e*P **P** **22 43 41.5 +0.9**
GKP *e*P **P** **22 43 41.5 +0.9**

VSR Storozhevoye 73.85 345 *e*P **P** **22 43 41.7 -0.8**
VSR pmax pmax
comp=Z,50nm,0.4s
KSH Kashi 74.00 316 P **P** **22 43 47.7 +4.0**
KSH pmax pmax
comp=Z,150nm,1.1s
KSH pmax pmax
comp=Z,360nm,4.8s
KSH LR LR
comp=Z,1μm,15.5s
KSH LR LR
comp=Z,1μm,15.8s
KSH LR LR
comp=Z,430nm,21.9s
VORD Divnogorie 74.08 345 *e*P **P** **22 43 43.5 -0.3**
VORD pmax pmax
comp=Z,50nm,0.7s
RUE Ruedersdorf 74.32 2 *e*P **P** **22 43 46.0 +0.9**
RUE IAmb IAmb 22 43 46.7
comp=Z,34nm,0.7s
SLVN Son La 74.51 285 IAmb IAmb 22 43 59.2
comp=Z,32nm,0.9s
RAR Rarotonga 74.53 176 P **P** **22 43 46.8 +0.2**
RAR pmax pmax
comp=Z,79nm,1.5s
RAR Rarotonga 74.53 176 P **P** **22 43 46.8 +0.2**
WTSB Winterswijk 74.56 6 *e*P **P** **22 43 47.2 +0.7**
comp=Z,44nm,0.8s
LSA Lhasa 74.93 300 *i*P **P** **22 43 50.6 +0.9**
SNR=38
PMG Port Moresby 75.23 230 P **P** **22 43 51.1 +0.3**
PMG pmax pmax
comp=Z,18nm,0.9s
PMG Port Moresby 75.23 230 P **P** **22 43 51.1 +0.3**
comp=Z,14nm,0.7s,baz=52,slow=17,SNR=3.0
PMG Port Moresby 75.23 230 IAmb IAmb 22 43 51.8
comp=Z,18nm,0.8s
CLL Collm 75.48 2⇑ *i*P **P** **22 43 52.2 +0.3**
CLL *i* 22 44 02.9
CLL pmax pmax
comp=Z,26nm,0.8s
CLL Collm 75.48 2⇑ *i*P **P** **22 43 52.2 +0.3**
comp=Z,26nm,0.8s
CLL *i* PcP **pwP** **22 44 02.9 -0.6**
CLL *e*PP **PP** **22 46 40.0 -0.3**
CLL Lm MLR 23 23 00.0
comp=Z,200nm,18.3s
CLL Collm 75.48 2 P **P** **22 43 52.0 +0.1**
CLL IAmb IAmb 22 43 53.3
comp=Z,34nm,1.1s
AKASG Malin Array Be 75.55 352 P **P** **22 43 52.1 -0.2**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 75.55 352 P **P** **22 43 51.8 -0.6**
comp=Z,28nm,0.5s,baz=13,slow=5.8,SNR=47
AKASG LR LR 23 19 15.7
comp=Z,307nm,19.5s,baz=5.0,slow=38
AKASG Malin Array Be 75.55 352 P **P** **22 43 52.1 -0.2**
BTK Batken 75.60 320 P **P** **22 43 53.4 +0.5**
BTK pmax pmax
comp=Z,30nm,0.8s
BTK Batken 75.60 320 P **P** **22 43 53.4 +0.5**
BTK IAmb IAmb 22 44 07.4
comp=Z,30nm,0.8s
HGN Heimansgroeve 75.69 7 *e*P **P** **22 43 53.9 +0.8**
comp=Z,133nm,1.3s
BRG Berggiesshubel 75.93 2 *i*P **P** **22 43 55.0 +0.5**
comp=Z,22nm,0.9s
BRG Berggiesshubel 75.93 2 *i*P **P** **22 43 55.0 +0.5**
BRG pmax pmax
comp=Z,22nm,0.9s
KSP Ksiaz 75.98 360 *e*P **P** **22 43 55.3 +0.5**
KSP Ksiaz 75.98 360 *e*P **P** **22 43 55.3 +0.5**
KSP *e*P **P** **22 43 55.3 +0.5**
SWI Sorong 76.12 249 P **P** **22 43 56.6 +0.6**
comp=Z,72nm,0.9s
SIJI Sorong 76.12 249 P **P** **22 43 56.4 +0.3**
comp=Z,41nm,0.7s,baz=35,slow=5.8,SNR=27
CHVC Chvalec 76.23 0 *e*P **P** **22 43 57.0 +0.7**
PVCC Panska Ves 76.28 1 *e*P **P** **22 43 57.5 +1.0**
PVCC Panska Ves 76.28 1 *e*P **P** **22 43 57.5 +1.0**
UPC Upice 76.32 0 *e*P **P** **22 43 57.5 +0.8**
UPC Upice 76.32 0 *e*P **P** **22 43 57.5 +0.8**
DPC Dobruska-Polom 76.47 360 *e*P **P** **22 43 58.6 +0.9**
DPC *e* 22 44 08.8
DPC MLR MLR
comp=Z,400nm,18.1s
DPC Dobruska-Polom 76.47 360 *e*P **P** **22 43 58.6 +0.9**
DPC *e*pP **pwP** **22 44 08.8 -0.5**
DPC AMS AMS 23 27 00.0
comp=Z,400nm,18.1s
NKC Novy Kostel 76.54 3 *e*P **P** **22 43 59.1 +1.1**
NKC *e* 22 44 09.2
NKC Novy Kostel 76.54 3 *e*P **P** **22 43 59.1 +1.1**
NKC *e*pP **pwP** **22 44 09.2 -0.4**
OJC Ojcow 76.56 358 *e*P **P** **22 43 59.0 +0.9**
OJC Ojcow 76.56 358 *e*P **P** **22 43 59.0 +0.9**
OJC *e*P **P** **22 43 59.0 +0.9**
OJC Ojcow 76.56 358 IAmb IAmb 22 44 13.1
comp=Z,21nm,1.0s
PRA Prague 76.74 1 *e*P **P** **22 43 59.9 +0.8**
PRA Prague 76.74 1 *e*P **P** **22 43 59.9 +0.8**
LVV L'vov 76.80 355 *e*P **P** **22 43 59.8 +0.4**
WLF Walferdange 76.80 7 IAmb IAmb 22 44 12.6
comp=Z,45nm,1.1s
PRU Pruhonice 76.83 1 *e*P **P** **22 44 00.6 +1.0**
PRU Pruhonice 76.83 1 *e*P **P** **22 44 00.6 +1.0**
GOPC GO Pecny, Ondr 76.90 1 *e*P **P** **22 44 00.7 +0.6**
GOPC GO Pecny, Ondr 76.90 1 *e*P **P** **22 44 00.7 +0.6**
OKC Ostrava-Krasne 76.97 359 *e*P **P** **22 44 01.2 +0.8**
OKC Ostrava-Krasne 76.97 359 *e*P **P** **22 44 01.2 +0.8**
MORC Moravsky Berou 77.04 359⇑ *i*P **P** **22 44 00.8 -0.1**
MORC Moravsky Berou 77.04 359⇑ *i*P **P** **22 44 00.8 -0.1**
MORC Moravsky Berou 77.04 359 *e*P **P** **22 44 01.6 +0.7**
MORC Moravsky Berou 77.04 359 IAmb IAmb 22 44 02.1
comp=Z,15nm,0.9s
GRA1 Grafenberg Arr 77.04 3 IAmb IAmb 22 44 02.6
comp=Z,31nm,0.8s
KWP Kalwaria Pacla 77.05 356 *e*P **P** **22 44 02.0 +1.1**
KWP Kalwaria Pacla 77.05 356 *e*P **P** **22 44 02.0 +1.1**
KWP *e*P **P** **22 44 02.0 +1.1**
PBCC Pribram 77.12 2 *e*P **P** **22 44 02.0 +0.7**
PBCC *ex* x 22 44 12.9
FAKI Fak Fak 77.27 247 P **P** **22 44 03.2 +0.7**
comp=Z,42nm,1.1s,comp=Z,528nm
FAKI Fak Fak 77.27 247 IAmb IAmb 22 44 04.0
comp=Z,24nm,0.8s
STHS Stebnicka Huta 77.32 357 *e*P **P** **22 44 03.6 +1.2**
STHS pmax pmax
comp=Z,46nm,0.6s
STHS Stebnicka Huta 77.32 357 *e*P **P** **22 44 03.6 +1.2**
NIE Niedzica 77.35 357 *e*P **P** **22 44 03.9 +1.3**
NIE Niedzica 77.35 357 *e*P **P** **22 44 03.9 +1.3**
NIE *e*P **P** **22 44 03.9 +1.3**
BANI BANI 77.38 76 P **P** **22 44 03.8 +0.5**
VRAC Vranov 77.52 360⇑ *i*P **P** **22 44 04.5 +1.0**
VRAC Vranov 77.52 360⇑ *i*P **P** **22 44 04.5 +1.0**
VRAC Vranov 77.52 360 *e*P **P** **22 44 04.4 +1.0**
TREC Trest 77.53 1 *e*P **P** **22 44 04.3 +0.7**
TREC Trest 77.53 1 *e*P **P** **22 44 04.3 +0.7**
TBI Tubuai 77.57 167 *e*S **S** **22 53 53.5 +0.5**
comp=Z,325nm,29.8s
TBI Tubuai 77.57 167 *e*LR LR 23 07 45.9
comp=Z,374nm,32.5s,baz=346
DR12 Loma Pena Alta 77.63 75 P **P** **22 44 04.5 -0.1**
LANS Liptovska Anna 77.64 358 *e*P **P** **22 44 05.9 +1.7**
LANS pmax pmax
comp=Z,18nm,0.8s
LANS Liptovska Anna 77.64 358 *e*P **P** **22 44 05.9 +1.7**
KHC Kasperske Hory 77.67 2 *e*P **P** **22 44 05.5 +1.1**
KHC *e* 22 44 16.2
KHC Kasperske Hory 77.67 2 *e*P **P** **22 44 05.5 +1.1**
KHC *e*pP **sP** **22 44 16.2 +0.1**
KHC Kasperske Hory 77.67 2 IAmb IAmb 22 44 06.7
comp=Z,28nm,1.4s
KRUC Moravsky 77.76 360 *e*P **P** **22 44 05.5 +0.6**
KOLS Kolonicke sedl 77.77 356 *e*P **P** **22 44 05.9 +1.0**
KOLS pmax pmax
comp=Z,17nm,0.9s
KOLS Kolonicke sedl 77.77 356 *e*P **P** **22 44 05.9 +1.0**
SHL Shillong 77.86 297 P **P** **22 44 05.2 -0.8**
SNR=11
SHL Shillong 77.86 297 IAmb IAmb 22 44 07.7
comp=Z,24nm,0.7s

STU Stuttgart 77.88 5 IAmb IAmb 22 44 18.1
comp=Z,36nm,1.0s
GEC2 GERESS Array S 77.96 2 IAmb IAmb 22 44 07.3
comp=Z,14nm,0.8s
GERES GERESS Array B 77.96 2 P **P** **22 44 06.6 +0.5**
GERES GERESS Array B 77.96 2 P **P** **22 44 06.5 +0.4**
comp=Z,7.9nm,0.6s,baz=7.0,slow=4.7,SNR=81
GERES GERESS Array B 77.96 2 P **P** **22 44 06.6 +0.5**
JAVC Velka Javorina 77.96 359 *e*P **P** **22 44 08.1 +2.1**
UZH Uzhgorod 78.07 356⇑ *i*P **P** **22 44 07.0 +0.5**
UZH *e* 22 44 12.1
UZH *i* 22 44 20.5
CLF Chambon-Foret 78.10 10 P **P** **22 44 07.4 +0.7**
SORM Soroca 78.17 352⇓ *i*P **P** **22 44 07.0 -0.1**
SORM Soroca 78.17 352⇓ *i*P **P** **22 44 07.0 -0.1**
KOLL Kolacno 78.23 359 *e*P **P** **22 44 08.7 +1.2**
BFO Black Forest 78.27 5 P **P** **22 44 07.0 -0.7**
BFO pmax pmax
comp=Z,18nm,1.0s
BFO Black Forest 78.27 5 P **P** **22 44 07.0 -0.7**
BFO IAmb IAmb 22 44 20.3
comp=Z,18nm,1.0s
KECS Kecovo 78.28 357 *e*P **P** **22 44 09.0 +1.3**
KECS pmax pmax
comp=Z,20nm,0.7s
KECS Kecovo 78.28 357 *e*P **P** **22 44 09.0 +1.3**
SMOL Smolenice 78.31 359 *e*P **P** **22 44 09.6 +1.7**
SMOL pmax pmax
comp=Z,22nm,0.6s
SMOL Smolenice 78.31 359 *e*P **P** **22 44 09.6 +1.7**
VYHS Vyhne 78.31 358 *e*P **P** **22 44 08.9 +1.0**
VYHS pmax pmax
comp=Z,23nm,0.9s
VYHS Vyhne 78.31 358 *e*P **P** **22 44 08.9 +1.0**
ECH Echery 78.31 6 IAmb IAmb 22 44 20.5
comp=Z,33nm,0.9s
PAYA Payao 78.38 287 P **P** **22 44 09.4 +0.7**
MODS Modra-Piesok 78.45 359 *e*P **P** **22 44 09.3 +0.6**
MODS pmax pmax
comp=Z,47nm,1.3s
MODS Modra-Piesok 78.45 359 *e*P **P** **22 44 09.3 +0.6**
TRPA Tarpa 78.56 356⇑ P **P** **22 44 10.2 +1.0**
PSZ Piszkesteto 78.86 358⇑ P **P** **22 44 12.4 +1.3**
PSZ Piszkesteto 78.86 358⇑ P **P** **22 44 12.4 +1.3**
PSZ Piszkesteto 78.86 358 IAmb IAmb 22 44 13.7
comp=Z,43nm,1.2s
CONA Conrad Observa 78.90 0 *i*PcP **P** **22 44 12.4 +1.2**
comp=Z,22nm,0.7s,SNR=16
BUR08 Bucovina Ar. S 78.90 354 IAmb IAmb 22 44 12.4
comp=Z,12nm,0.8s
BURAR Bucovina Array 78.93 354⇑ P **P** **22 44 11.8 +0.4**
BURAR Bucovina Array 78.93 354 P **P** **22 44 11.9 +0.4**
MOA Molln 78.96 1 *i*P **P** **22 44 11.8 +0.3**
comp=Z,7.7nm,0.9s
SRO Srobarova 79.00 359 *e*P **P** **22 44 13.3 +1.6**
SRO pmax pmax
comp=Z,20nm,0.9s
SRO Srobarova 79.00 359 *e*P **P** **22 44 13.3 +1.6**
GOF Gofitskoye 79.14 341⇑ *i*P **P** **22 44 13.6 +1.1**
GOF pmax pmax
comp=Z,152nm,0.6s
RETA Reutte 79.23 4 *i*PcP **P** **22 44 14.0 +0.9**
comp=Z,16nm,0.8s
KIS Kishinev 79.26 351 *e*P **P** **22 44 12.0 -1.1**
KIS *e*L L 23 13 10.0
KIS LRM MLR 23 21 00.0
comp=Z,500nm,16.0s
KIS Kishinev 79.26 351 *e*P **P** **22 44 12.0 -1.1**
KIS *e* 22 54 10.0
KIS MLR MLR
comp=Z,500nm,16.0s
KKM Kota Kinabalu 79.27 266 IAmb IAmb 22 44 15.6
comp=Z,28nm,1.0s
CMMT Chiang Mai 79.34 287 P **P** **22 44 13.8 -0.2**
CHTO Chiang Mai 79.34 287 P **P** **22 44 13.8 -0.2**
SNR=9.0
CHTO P **P** **22 44 13.8 -0.2**
SNR=9.0
CHTO Chiang Mai 79.34 287 P **P** **22 44 14.0 0.0**
CHTO pmax pmax
comp=Z,19nm,1.1s
CHTO Chiang Mai 79.34 287 P **P** **22 44 14.0 0.0**
CHTO IAmb IAmb 22 44 25.4
comp=Z,19nm,1.1s
MILM Milestii Mici 79.34 351⇑ P **P** **22 44 13.2 -0.4**
MOTA Moosalm 79.39 4 *i*PcP **P** **22 44 15.0 +1.0**
comp=Z,48nm,1.2s,SNR=12
DAVA Damuels 79.39 4 *i*PcP **P** **22 44 14.8 +0.8**
comp=Z,8.5nm,0.8s
WATA Walderalm 79.41 3 *i*PcP **P** **22 44 15.1 +1.0**
comp=Z,23nm,0.7s,SNR=12
WTTA Wattenberg 79.48 3 *i*PcP **P** **22 44 15.7 +1.1**
comp=Z,35nm,0.7s,SNR=12
ARCR ARCALIA 79.51 354⇓ P **P** **22 44 15.8 +1.3**
SQTA Sankt Quirin 79.51 4 *i*PcP **P** **22 44 15.8 +1.1**
comp=Z,49nm,0.8s,SNR=15
BIZ Bicaz 79.54 353⇑ P **P** **22 44 15.2 +0.5**
ARSA Arzberg 79.57 1 *i*PcP **P** **22 44 16.3 +1.4**
comp=Z,18nm,0.7s,SNR=13
DZM Mont Dzumac 79.61 208 *e*LR LR 23 09 08.0
comp=Z,398nm,21.7s
CM31 Chiang Mai Arr 79.62 287 P **P** **22 44 16.0 +0.5**
SNR=25
CM31 Chiang Mai Arr 79.62 287 IAmb IAmb 22 44 28.1
comp=Z,48nm,1.0s
CMAR Chiang Mai Arr 79.62 287 P **P** **22 44 15.8 +0.2**
CMAR Chiang Mai Arr 79.62 287 P **P** **22 44 15.9 +0.4**
comp=Z,18nm,0.7s,baz=24,slow=6.1,SNR=111
CMAR LR LR 23 21 21.7
comp=Z,199nm,20.7s,baz=8.5,slow=37
CMAR Chiang Mai Arr 79.62 287 P **P** **22 44 15.8 +0.2**
KBA Koelnbreinsper 79.72 2 *i*PcP **P** **22 44 17.4 +1.6**
comp=Z,44nm,0.8s,SNR=24
OBIP Obispado Ponce 79.82 74 P **P** **22 44 16.7 +0.1**
OBIP IAmb IAmb 22 44 32.7
comp=Z,26nm,0.8s
DRGR 79.89 356⇑ P **P** **22 44 17.2 +0.6**
DRGR 79.89 356⇑ P **P** **22 44 17.2 +0.6**
CHAI Chaiyaphum 79.89 283 P **P** **22 44 17.6 +0.6**
GCPR Guaynabo City 79.91 73 P **P** **22 44 16.0 -1.1**
GCPR IAmb IAmb 22 44 17.7
comp=Z,22nm,0.8s
CJR Cluj-Napoca 79.92 355⇑ P **P** **22 44 17.5 +0.7**
CJR Cluj-Napoca 79.92 355⇑ P **P** **22 44 17.5 +0.7**
TESR Tescani 79.92 353⇑ P **P** **22 44 16.6 -0.2**
PBKT Sadao Pong 79.95 284 P **P** **22 44 17.5 +0.2**
PBKT Sadao Pong 79.95 284 IAmb IAmb 22 44 29.1
comp=Z,23nm,0.9s
ABTA Abfaltersbach 80.03 3 *i*PcP **P** **22 44 18.3 +0.9**
comp=Z,34nm,1.1s,SNR=13
NIL Nilore 80.14 315 P **P** **22 44 19.2 +1.0**
NIL pmax pmax
comp=Z,63nm,0.9s
NIL Nilore 80.14 315 P **P** **22 44 19.2 +1.0**
SOKA Soboth 80.14 1 *i*PcP **P** **22 44 19.2 +1.1**
comp=Z,65nm,1.3s,SNR=17
AAI Ambon 80.16 250 P **P** **22 44 18.8 +0.4**
MYKA Terra Mystica 80.17 2 *i*PcP **P** **22 44 18.6 +0.4**
comp=Z,17nm,1.1s
TUE Stuetta 80.18 5 IAmb IAmb 22 44 31.8
comp=Z,20nm,1.0s
PERS Pernice 80.19 1 *i*P **P** **22 44 19.3 +1.0**
KIV Kislovodsk 80.27 341 *i*P **P** **22 44 19.8 +1.0**
SNR=26
KIV Kislovodsk 80.27 341 P **P** **22 44 19.8 +1.0**
SNR=12
KIV P **P** **22 44 19.8 +1.0**
SNR=12
KIV Kislovodsk 80.27 341 *e*P **P** **22 44 19.8 +1.0**
KIV pmax pmax
comp=Z,106nm,1.0s
KIV MLR MLR
comp=Z,751nm,19.0s
KIV Kislovodsk 80.27 341⇑ P **P** **22 44 19.8 +1.0**
KIV Kislovodsk 80.27 341 IAmb IAmb 22 44 20.9
comp=Z,30nm,0.7s
OBKA Obir 80.31 1 *i*PcP **P** **22 44 20.0 +1.1**
comp=Z,52nm,0.7s,SNR=16
GROC Groznyy 80.35 339 *e*P **P** **22 44 19.9 +0.8**
GROC *e* 22 44 27.7
GROC *e* 22 47 26.4
GROC pmax pmax
comp=Z,62nm,1.6s
ANN Anapa 80.37 345 *e*P **P** **22 44 18.8 -0.3**
ANN pmax pmax

comp=Z,18nm,0.6s
MTP Monte Pirata 80.38 73 P **P 22 44 19.4 -0.2**
MTP IAmb IAmb 22 44 21.4
comp=Z,24nm,1.1s
ROSA Rosais 80.38 34 P **P 22 44 19.3 0.0**
OZUR 80.40 353 ⇓P **P 22 44 20.6 +1.2**
MHMT Maesarieng 80.42 287 P **P 22 44 20.2 +0.3**
KBZ Khabaz 80.44 341 *i* P **P 22 44 20.7 +1.1**
KBZ Khabaz 80.44 341 P **P 22 44 20.9 +1.4**
comp=Z,26nm,0.8s,baz=38,slow=1.7,SNR=43
SHA1 Shidzhatmaz 80.48 341 *i* P **P 22 44 21.1 +1.0**
NCK Nalchik 80.53 340*c i* P **P 22 44 21.4 +1.3**
NCK pmax pmax
comp=Z,53nm,0.8s
DOPR Dopca 80.56 354 ⇑P **P 22 44 21.1 +0.9**
VRI Vrincioaia 80.56 353 ⇓P **P 22 44 19.8 -0.4**
VRI Vrincioaia 80.56 353 ⇓P **P 22 44 19.8 -0.4**
PLOR Plostina 80.58 353 ⇑P **P 22 44 18.9 -1.4**
PLOR Plostina 80.58 353 ⇑P **P 22 44 18.9 -1.4**
MORH Mrgy, Hungar 80.59 358 *e*P **P 22 44 20.8 +0.5**
KALN Kalnik 80.69 360 *i* P **P 22 44 21.5 +0.6**
SIM Simferopol' 80.70 347 *e*P **P 22 44 21.2 +0.3**
SIM pmax pmax
comp=Z,10.0nm,1.1s
CTI Castel Tesino 80.70 3 IAmb IAmb 22 44 41.2
comp=Z,21nm,0.9s
PAYG Puerto Ayora 80.75 104 **P 22 44 20.9 -0.8**
PAYG IAmb IAmb 22 44 39.6
comp=Z,40nm,1.0s
LJU Ljubljana 80.77 1 *e*P **P 22 44 23.4 +2.1**
JAVS Javornik 80.92 2 *i* P **P 22 44 22.6 +0.4**
PTJ Puntijarka 80.92 0 *i* P **P 22 44 22.8 +0.5**
MLR Muntele Rosu 80.99 353 ⇓P **P 22 44 23.9 +1.2**
MLR Muntele Rosu 80.99 353 ⇓P **P 22 44 23.9 +1.2**
CRES Cresnjev 81.00 1 *e*P **P 22 44 22.1 -0.5**
VISS Visnje 81.02 1 *e*P **P 22 44 22.9 +0.3**
SSB Saint Sauveur 81.04 8 IAmb IAmb 22 44 35.7
comp=Z,32nm,1.1s
TLCR 81.06 351 ⇓P **P 22 44 23.3 +0.5**
TLCR 81.06 351 ⇓P **P 22 44 23.3 +0.5**
CEY Cerknica 81.08 1 *e*P **P 22 44 22.4 -0.6**
KBL Kabul 81.09 318 P **P 22 44 22.9 -0.6**
KBL pmax pmax
comp=Z,20nm,0.9s
KBL Kabul 81.09 318 P **P 22 44 22.9 -0.6**
KBL IAmb IAmb 22 44 23.8
comp=Z,20nm,0.8s
LUWI Luwuk 81.09 256 P **P 22 44 22.8 -0.6**
comp=Z,70nm,0.9s
BZS Buzias 81.11 356 ⇓P **P 22 44 23.7 +0.6**
BZS Buzias 81.11 356 ⇓P **P 22 44 23.7 +0.6**
VOIR 81.11 354 ⇑P **P 22 44 23.9 +0.7**
VOIR 81.11 354 ⇑P **P 22 44 23.9 +0.7**
CFR Carcaliu 81.13 352 ⇑P **P 22 44 23.3 +0.1**
CFR Carcaliu 81.13 352 ⇑P **P 22 44 23.3 +0.1**
ZEI Tsey 81.15 340 *e*P **P 22 44 20.5 -3.2**
ZEI pmax pmax
comp=Z,22nm,0.7s
SOC Sochi 81.17 343 *e*P **P 22 44 23.2 -0.3**
SOC *e* 22 47 24.6
SOC *e*PPP PPP 22 49 18.2
SOC *e*S **S 22 54 30.7 -0.5**
SOC *e*SSS SSS 23 03 12.8
SOC pmax pmax
comp=Z,47nm,0.6s
ARR Arges 81.20 354 ⇓P **P 22 44 24.7 +1.0**
OZLJ Ozalj 81.21 1 *i* P **P 22 44 24.4 +0.8**
MOSL Moslavina 81.21 360 *i* P **P 22 44 24.7 +1.0**
GZR Gura Zlata 81.28 355 ⇑P **P 22 44 24.8 +0.7**
GZR Gura Zlata 81.28 355 ⇑P **P 22 44 24.8 +0.7**
BOJS Bojanci 81.32 1 *i* P **P 22 44 25.0 +0.8**
BNI Bardonecchia 81.43 7 IAmb IAmb 22 44 45.0
comp=Z,35nm,0.9s
UMPA Umpang Tak 81.46 286 P **P 22 44 26.7 +1.3**
AKT Akhty 81.55 337 *e*P **P 22 44 26.6 +0.9**
AKT *e* 22 44 31.7
AKT pmax pmax
comp=Z,58nm,0.8s
FRGS Fruska Gora 81.62 357 ⇑*i*P **P 22 44 26.2 +0.3**
HARR Harsova 81.63 352 ⇓P **P 22 44 26.3 +0.4**
HARR Harsova 81.63 352 ⇓P **P 22 44 26.3 +0.4**
UTHA Uthaitani 81.64 285 P **P 22 44 27.0 +0.7**
MPSI Mapaga 81.66 259 P **P 22 44 26.0 -0.4**
TLB Topalu 81.72 352 ⇓P **P 22 44 26.5 +0.2**
TLB Topalu 81.72 352 ⇓P **P 22 44 26.5 +0.2**
TIRR Tirgusor 81.82 351 ⇓P **P 22 44 26.9 0.0**
TIRR Tirgusor 81.82 351 ⇓P **P 22 44 26.9 0.0**
PRMA PARMA 81.93 4 P **P 22 44 28.4 +1.0**
MDVR Moldovita 81.94 356 ⇑P **P 22 44 27.9 +0.3**
GEYT Alibeck 81.97 328 P **P 22 44 28.6 +0.6**
comp=Z,14nm,0.8s,baz=2.9,slow=8.7,SNR=34
GEYT LR LR 23 26 08.1
comp=Z,464nm,18.6s,baz=0.0,slow=40
GEYT Alibeck 81.97 328 P **P 22 44 28.5 +0.6**
GYA0B ALIBECK ARRAY 81.97 328 IAmb IAmb 22 44 33.9
comp=Z,24nm,0.9s
TBLG Delisi 81.98 339 *i* P **P 22 44 29.7 +1.9**
TBLG IAML_P
comp=Z,4μm,0.5s
HUMR Humele 82.02 354 ⇑P **P 22 44 27.5 -0.4**
BTNK Botanikuri 82.02 339 *i* P **P 22 44 30.4 +2.3**
BLY Banja Luka 82.08 359 *e*P **P 22 44 28.2 0.0**
BLY Banja Luka 82.08 359 IAmb IAmb 22 44 44.5
comp=Z,18nm,1.1s
DGRG David-gareji 82.11 338 *i* P **P 22 44 30.6 +2.0**
NVLJ Novalja 82.26 1 *i* P **P 22 44 29.6 +0.4**
UDBI Udbina 82.30 0 *i* P **P 22 44 30.8 +1.3**
MSSA Maissana 82.34 5 P **P 22 44 30.5 +0.8**
ZCCA Zocca 82.37 4 IAmb IAmb 22 44 47.3
comp=Z,37nm,1.0s
MGRS Mrkonjic Grad 82.41 359 *e*P **P 22 44 31.0 +1.0**
AKH Akhalkalaki 82.55 340 ⇑P **P 22 44 32.8 +1.7**
AKH Akhalkalaki 82.55 340 IAmb IAmb 22 44 36.3
comp=Z,20nm,0.7s
SKI Saint Kitts 82.58 71 P **P 22 44 31.6 +0.3**
SKI pmax pmax
comp=Z,81nm,1.1s
SKI Saint Kitts 82.58 71 P **P 22 44 31.6 +0.3**
EPOS Posof 82.62 340 *i* P **P 22 44 33.9 +2.6**
DIVS Divibare 82.68 357 ⇑*i*P **P 22 44 32.0 +0.5**
HAPS Han Pijesak,BI 82.71 358 *e*P **P 22 44 31.4 -0.3**
BATM Batumi 82.73 341 ⇑P **P 22 44 31.9 +0.1**
KHLT Khaolaem Dam 82.74 285 P **P 22 44 29.3 -2.8**
DUGI Dugi Otok 82.83 1 *i* P **P 22 44 33.0 +0.8**
ANWB Willy Bob 82.85 70 P **P 22 44 32.5 -0.2**
BBLS Lazići 82.92 358 ⇑*i*P **P 22 44 33.8 +1.0**
MORI Morici 82.96 0 *i* P **P 22 44 33.5 +0.7**
PBRG Braganca 82.97 17 *e*P **P 22 44 33.8 +0.7**
comp=Z,61nm,1.8s
PBRG *e*pP **sP 22 44 45.0 +0.1**
DBOC Borcka 82.98 341 *i* P **P 22 44 34.2 +1.1**
DBOC IAML_P
comp=Z,51nm,0.2s
ARTV Artvin 83.09 341 *i* P **P 22 44 35.3 +1.4**
ZIRJ Zirje 83.17 0 *i* P **P 22 44 34.0 +0.1**
RUDO Rudo 83.17 358 ⇑*i*P **P 22 44 32.6 -1.4**
PLVB Pleven 83.17 354 ⇓P **P 22 44 34.2 +0.2**
DAGI Agillar 83.19 341 *i* P **P 22 44 36.1 +1.9**
DAGI IAML_P
comp=Z,586nm,0.7s
POLO Lamas de Olo 83.20 18 *e*pP pP 22 44 46.9 +3.9
OSSC Osservatorio P 83.21 4 IAmb IAmb 22 44 48.4
comp=Z,22nm,0.9s
EAK Akyaka 83.22 339 *i* P **P 22 44 36.6 +2.0**
EAK IAML_P
comp=Z,322nm,0.8s
DBAD Bademkaya 83.29 341 *i* P **P 22 44 36.1 +1.3**
DBAD IAML_P
comp=Z,565nm,0.8s
PVRL Vila Real 83.31 18 *e*P **P 22 44 35.1 +0.3**
comp=Z,69nm,1.4s
DDEM Demirkent 83.40 341 *i* P **P 22 44 37.1 +1.8**
DDEM IAML_P
comp=Z,447nm,0.5s
GNI Garni 83.50 338 *i* P **P 22 44 37.5 +1.6**
SNR=7.6
GNI Garni 83.50 338 P **P 22 44 37.7 +1.7**
SNR=8.3
GNI P **P 22 44 37.7 +1.7**
SNR=8.3
GNI Garni 83.50 338*c e*P **P 22 44 37.6 +1.7**
GNI pmax pmax
comp=Z,99nm,1.3s
GNI MLR MLR
comp=Z,1μm,19.0s
GNI Garni 83.50 338 IAmb IAmb 22 44 46.2
comp=Z,22nm,0.8s
DIGO Kars 83.53 340 *i* P **P 22 44 38.8 +2.5**
DIGO IAML_P
comp=Z,793nm,0.5s
MVO Moncorvo 83.54 18 *e*P **P 22 44 37.1 +1.1**
comp=Z,60nm,1.9s
ELND Elena 83.55 353 ⇑P **P 22 44 35.9 -0.1**
UPM Unac-Piva 83.60 358 *e*P **P 22 44 37.1 +0.7**
PHET Kaeng Krachan 83.64 283 P **P 22 44 37.8 +1.0**
HVAR Hvar 83.65 360 *i* P **P 22 44 37.1 +0.7**
DIKM Dikmen 83.78 346 ⇑P **P 22 44 37.2 +0.1**
HRA Herat 83.80 323 IAmb IAmb 22 44 48.9
comp=Z,17nm,0.9s
PVIS Viseu 83.82 18 *e*P **P 22 44 38.4 +1.0**
comp=Z,62nm,1.2s
BRY Bratogost 83.91 358 ⇑*i*P **P 22 44 38.0 +0.1**
IGDI IGDIR 83.91 339 *i* P **P 22 44 40.5 +2.6**
IGDI IAML_P
comp=Z,212nm,0.9s
STON Ston 83.95 359 *i* P **P 22 44 37.8 -0.1**
STON Ston 83.95 359 *e*P **P 22 44 37.2 -0.7**
NRCA Norcia 83.95 2 IAmb IAmb 22 44 50.8
comp=Z,33nm,1.0s
VTS Vitosha 84.02 355 P **P 22 44 38.5 0.0**
VTS Vitosha 84.02 355 ⇑P **P 22 44 38.6 0.0**
VTS Vitosha 84.02 355 ⇑P **P 22 44 38.6 0.0**
VTS Vitosha 84.02 355 IAmb IAmb 22 44 50.5
comp=Z,21nm,1.1s
TREB Trebinje 84.09 358 *e*P **P 22 44 37.7 -1.0**
KRIK Erzurum-spir 84.10 341 *i* P **P 22 44 41.6 +2.5**
KRIK IAML_P
comp=Z,990nm,0.8s
DBRK Dubrovnik 84.14 359 *i* P **P 22 44 38.8 -0.2**
HOMI Horasan 84.19 341 *i* P **P 22 44 41.6 +2.0**
HOMI IAML_P
comp=Z,293nm,0.1s
MTE Manteigas 84.19 18 *e*P **P 22 44 40.1 +0.8**
comp=Z,72nm,1.7s
MTE *e*pP **sP 22 44 52.0 +0.8**
MTE Manteigas 84.19 18 P **P 22 44 39.9 +0.5**
COI Coimbra 84.21 19 *e*pP pP 22 44 50.7 +2.7
COI Coimbra 84.21 19 P **P 22 44 39.7 +0.3**
COI pmax pmax
comp=Z,102nm,1.3s
COI Coimbra 84.21 19 P **P 22 44 39.7 +0.3**
AKDA Akdag 84.24 341 *i* P P 22 44 46.4 +6.6
EATA Eleskirt 84.25 340 *i* P **P 22 44 42.2 +2.2**
EATA IAML_P
comp=Z,708nm,0.8s
BAYB BAYBURT 84.30 342 *i* P **P 22 44 42.8 +2.7**
BAYB IAML_P
comp=Z,456nm,0.5s
PCAS Casmilo, Conde 84.35 19 *e*P **P 22 44 42.2 +2.1**
comp=Z,44nm,1.8s
PTBC PUERTO BERRIO, 84.35 87 *e*P **P 22 44 39.6 -0.8**
PTBC PUERTO BERRIO, 84.35 87 *e*P **P 22 44 39.6 -0.8**
HCY Herceg Novi 84.36 358 *e*P **P 22 44 39.7 -0.4**
PDG Podgorica 84.36 358 ⇑*i*P **P 22 44 40.3 +0.3**
PDG Podgorica 84.36 358 ⇑P **P 22 44 40.3 +0.3**
AQU L'Aquila 84.44 2 *e*P **P 22 44 42.4 +1.8**
KOPT Kop Dagi 84.49 342 *i* P **P 22 44 44.4 +3.2**
KOPT IAML_P
comp=Z,449nm,0.6s
ILGA Ilgaz 84.58 347 IAmb IAmb 22 44 45.5
comp=Z,27nm,1.2s
KELT Kelkit 84.59 343 *i* P **P 22 44 43.3 +1.8**
KELT IAML_P
comp=Z,686nm,0.9s
DRME Dracevica, Mon 84.61 358 ⇑*i*P **P 22 44 41.4 +0.1**
TUTA Tutak 84.62 340 *i* P **P 22 44 44.8 +3.0**
TUTA IAML_P
comp=Z,54nm,0.1s
CLDR Caldiran 84.64 339 *i* P **P 22 44 43.6 +1.7**
BKB Balikpapan 84.70 261 P **P 22 44 42.5 +0.3**
PCBR Castelo Branco 84.75 18 *e*P **P 22 44 42.8 +0.7**
SKO Skopje 84.75 356 *i* P **P 22 44 43.3 +1.2**
SDV Santo Domingo 84.75 82 P **P 22 44 42.5 -0.2**
SDV IAmb IAmb 22 44 43.0
comp=Z,9.1nm,0.8s
SDV Santo Domingo 84.75 82 *e*P **P 22 44 42.4 -0.3**
SDV Santo Domingo 84.75 82 *e*P **P 22 44 42.4 -0.3**
PAMC Pamplona, Colo 84.76 85 *e*P **P 22 44 42.3 -0.7**
PAMC Pamplona, Colo 84.76 85 *e*P **P 22 44 42.3 -0.7**
PTOM Tomar 84.78 19 *e*P **P 22 44 44.8 +2.5**
GUY2C Guyana, Caldas 84.85 88 *e*P **P 22 44 41.9 -1.6**
GUY2C Guyana, Caldas 84.85 88 *e*P **P 22 44 41.9 -1.6**
STIP Stip 85.00 356 *i* P **P 22 44 43.5 +0.2**
CTA Charters Tower 85.05 226 P **P 22 44 43.1 -0.5**
comp=Z,3.9nm,0.8s,baz=76,slow=7.4,SNR=4.9
CTAO Charters Tower 85.05 226 P **P 22 44 43.5 -0.2**
CTAO pmax pmax
comp=Z,18nm,1.3s
CTAO Charters Tower 85.05 226 P **P 22 44 43.5 -0.2**
CTAO IAmb IAmb 22 44 59.4
comp=Z,18nm,1.3s
BARC Barichara 85.07 86 *e*P **P 22 44 44.3 0.0**
BARC Barichara 85.07 86 *e*P **P 22 44 44.3 0.0**
SGRT San Giovanni R 85.07 0 P **P 22 44 44.6 +0.8**
PHP Peshkopia 85.07 357 P **P 22 44 43.9 +0.1**
RREF El Recreo 85.12 88 *e*P P 22 44 40.1 -5.0
RREF El Recreo 85.12 88 *e*P P 22 44 40.1 -5.0
NVR Nevrokopi 85.25 354 P **P 22 44 45.3 +0.7**
SPBC San Pablo de B 85.28 87 *e*P **P 22 44 44.5 -0.7**
SPBC San Pablo de B 85.28 87 *e*P **P 22 44 44.5 -0.7**
RDO Rodhopi 85.34 353 P **P 22 44 45.3 +0.3**
VAY Valandovo 85.35 355 *i* P **P 22 44 46.1 +1.0**
TIR Tirane 85.43 357 P **P 22 44 45.9 +0.5**
TIR pmax pmax
comp=Z,41nm,1.0s
TIR Tirane 85.43 357 P **P 22 44 45.9 +0.5**
KNT Kendrikon 85.49 355 P **P 22 44 46.7 +0.9**
SRS Serrai 85.50 354 P **P 22 44 46.4 +0.6**
ESBB Sonseca Array 85.51 16 IAmb IAmb 22 44 58.8
comp=Z,22nm,1.1s
ESDC Sonseca Array 85.52 16 P **P 22 44 46.3 +0.3**
comp=Z,2.7nm,0.5s,baz=341,slow=4.8,SNR=38
ESDC PP **PP 22 48 03.0 -0.7**
comp=Z,0.6nm,0.6s,baz=348,slow=8.2,SNR=4.1
ESDC LR LR 23 25 23.5
comp=Z,137nm,18.7s,baz=305,slow=37
ESDC Sonseca Array 85.52 16 P **P 22 44 46.2 +0.2**
MUSM Mu-Merkez 85.54 340 *i* P **P 22 44 48.5 +2.3**
PAB San Pablo 85.58 16 P **P 22 44 46.7 +0.3**
PAB pmax pmax
comp=Z,10.0nm,1.2s
PAB San Pablo 85.58 16 P **P 22 44 46.7 +0.3**
OHR Ohrid 85.63 357 *i* P **P 22 44 47.8 +1.2**
PESTR Estremoz 85.67 18 P **P 22 44 47.3 +0.6**
RUSC La Rusia 85.68 86 *e*P **P 22 44 47.2 -0.5**
RUSC La Rusia 85.68 86 *e*P **P 22 44 47.2 -0.5**
BLIS Bitlis-Merkez 85.72 340 *i* P **P 22 44 49.2 +2.0**
BLIS IAML_P
comp=Z,35nm,0.6s
GRG Griva 85.72 355 P **P 22 44 47.1 +0.1**
ANTO Ankara 85.87 347 P **P 22 44 49.0 +1.2**
SNR=13
ANTO P **P 22 44 49.0 +1.2**
SNR=13
ANTO Ankara 85.87 347 ⇑P **P 22 44 49.0 +1.2**
ANTO Ankara 85.87 347 ⇑P **P 22 44 49.0 +1.2**
BR131 Keskin Array S 85.90 347 P **P 22 44 48.8 +0.8**
SNR=28
BR131 P **P 22 44 48.8 +0.8**
SNR=28
BRTR Keskin Array B 85.90 347 P **P 22 44 47.8 -0.2**
BRTR Keskin Array B 85.90 347 P **P 22 44 48.7 +0.8**
comp=Z,21nm,0.9s,baz=16,slow=2.0,SNR=108
BRTR LR LR 23 27 37.8
comp=Z,189nm,19.0s,baz=0.5,slow=39
BRTR Keskin Array B 85.90 347 P **P 22 44 47.8 -0.2**
BR231 Keskin MP Arra 85.90 347 P **P 22 44 49.6 +1.7**
THAS Thassos island 85.94 354 P **P 22 44 48.3 +0.3**
FNA Florina 85.94 356 P **P 22 44 48.5 +0.4**
SMTH Samothraki Isl 86.01 353 P **P 22 44 48.3 -0.1**
KAPI Kappang 86.06 256 P **P 22 44 49.4 +0.5**
KAPI pmax pmax
comp=Z,76nm,1.4s
KAPI Kappang 86.06 256 P **P 22 44 49.4 +0.5**
MATE Matera 86.17 360 ⇑P **P 22 44 50.8 +1.6**
PNCL Nicolau / Gran 86.22 19 *e*P **P 22 44 49.9 +0.5**
comp=Z,38nm,1.8s
PNCL *e*pP **pwP 22 45 00.8 -0.1**
OUR Ouranopolis 86.25 354 P **P 22 44 49.6 +0.1**
NEST Nestorio 86.32 356 P **P 22 44 49.6 -0.4**
KSM Kuching 86.42 268 IAmb IAmb 22 44 59.9
comp=Z,19nm,0.9s
LIT Litokhoron 86.57 355 IAmb IAmb 22 45 03.0
comp=Z,26nm,1.0s
LIA Limnos Island 86.61 353 P **P 22 44 51.5 +0.2**
KPRO Kipourio 86.77 356 P **P 22 44 52.1 -0.1**
SRN Sarande 86.89 357 P **P 22 44 52.6 -0.1**
OTAV Otavalo 86.99 94 IAmb IAmb 22 44 55.4
comp=Z,10nm,0.8s
OTAV Otavalo 86.99 94 *e*P **P 22 44 54.9 +0.8**
OTAV Otavalo 86.99 94 *e*P **P 22 44 54.9 +0.8**
KEK Kerkira 87.06 357 P **P 22 44 53.3 -0.2**
IGT Igoumenitsa 87.22 357 P **P 22 44 54.4 +0.1**
XOR Xorichti 87.26 355 P **P 22 44 53.7 -0.9**
SURT Suratani 87.29 281 P **P 22 44 56.1 +1.1**
SOEI Soe 87.33 250 P **P 22 44 53.9 -1.3**
SOEI IAmb IAmb 22 45 11.3
comp=Z,12nm,0.8s
TIP Timpagrande 87.64 360 ⇓P **P 22 44 56.9 +0.5**
AGG Agios Georgios 87.65 355 IAmb IAmb 22 45 07.7
comp=Z,19nm,1.0s
TRTT Trang 87.66 280 P **P 22 44 57.8 +1.0**
MAKR Makrakomi, Fth 87.67 355 P **P 22 44 58.2 +1.7**
EVR Evrytania 87.78 356 P **P 22 44 57.6 +0.4**
EIDS Eidsvold 87.80 220 P **P 22 44 57.2 +0.2**
GAZ Gaziantep 87.85 343 P **P 22 44 58.9 +1.4**
GAZ IAmb IAmb 22 45 10.1
comp=Z,16nm,0.9s
MRKA Markates 87.90 354 P **P 22 44 56.9 -0.7**
ISP Isparta 88.17 349 IAmb IAmb 22 45 10.9
comp=Z,19nm,1.1s
EFP Efpalio 88.27 356 P **P 22 45 00.1 +0.8**
LAKA Lakka 88.45 356 P **P 22 45 00.1 -0.1**
PTL Penteli 88.54 354 P **P 22 44 59.2 -1.5**
PBA Port Blair 88.61 288 P P 22 45 01.3 0.0
KLV Kalavryta, Ach 88.64 355 P **P 22 45 00.8 -0.4**
RLS Riolos of Patr 88.65 356 P **P 22 45 01.3 +0.2**
TOSP Speyside 88.70 73 P **P 22 45 02.2 +0.5**
DRO Drossia 88.75 356 P **P 22 45 01.7 +0.1**
DID Didima 89.11 354 P **P 22 45 02.4 -1.0**
KULM Kulim 89.13 278 IAmb IAmb 22 45 16.9
comp=Z,14nm,0.9s
CLTB Caltabellotta 89.20 2 P **P 22 45 04.4 +0.5**
ELL Elmali 89.30 349 P **P 22 45 04.3 -0.1**
ELL pmax pmax
comp=Z,41nm,1.3s
ELL Elmali 89.30 349 P **P 22 45 04.3 -0.1**
KNRA Kununurra 89.75 243 P **P 22 45 06.8 +0.4**
KNRA IAmb IAmb 22 45 21.6
comp=Z,20nm,1.2s
SANT Santorini 90.09 353 P **P 22 45 07.3 -0.7**
SANT IAmb IAmb 22 45 20.3
comp=Z,13nm,1.0s
WB2 Warramunga Arr 90.46 236 P **P 22 45 09.1 -0.6**
WRA Warramunga Arr 90.46 236 P **P 22 45 09.0 -0.7**
WRA Warramunga Arr 90.46 236 P **P 22 45 08.9 -0.7**
comp=Z,1.5nm,0.7s,baz=36,slow=5.9,SNR=11
WRA LR LR 23 21 41.0
comp=Z,86nm,22.0s,baz=80,slow=33
WRA Warramunga Arr 90.46 236 P **P 22 45 09.0 -0.7**
LEF Lefka 90.53 346 ⇓P **P 22 45 10.5 +0.5**
CSS Mathiatis 90.62 346 IAmb IAmb 22 45 21.9
comp=Z,20nm,1.0s
KARP Karpathos 90.77 351 P **P 22 45 11.3 +0.2**
KEST Kesra 90.88 6 P **P 22 45 13.1 +1.3**
comp=Z,2.4nm,0.7s,baz=266,slow=7.8,SNR=5.9
KEST Kesra 90.88 6 P **P 22 45 12.6 +0.9**
KEST IAmb IAmb 22 45 24.0
comp=Z,20nm,1.1s
HYB Hyderabad 91.51 302 *i* P **P 22 45 14.0 -0.8**
comp=Z,43nm,0.8s
HYB *e* 22 45 25.0
PSI Prapat 92.14 278 LR LR 23 25 47.4
comp=Z,84nm,21.8s,baz=16,slow=35
RPSI Rantau Prapat 92.23 278 IAmb IAmb 22 45 35.8
comp=Z,11nm,0.8s
FITZ Fitzroy Crossi 93.42 244 P **P 22 45 23.8 +0.4**
FITZ IAmb IAmb 22 45 24.4
comp=Z,7.6nm,0.8s
SHME Shamm 93.53 325 P **P 22 45 23.1 -1.0**
ASAR Alice Springs 93.82 235 P **P 22 45 24.6 -0.6**
ASAR Alice Springs 93.82 235 P **P 22 45 24.4 -0.7**
comp=Z,2.6nm,1.0s,baz=25,slow=4.2,SNR=13
ASAR PKKP **PKKPbc 23 02 28.4 +1.2**
comp=Z,0.8nm,0.5s,baz=204,slow=2.1,SNR=16
ASAR LR LR 23 22 45.5
comp=Z,108nm,20.4s,baz=33,slow=32
ASAR Alice Springs 93.82 235 P **P 22 45 24.6 -0.6**
GSI Gunungsitoli 94.14 278 P **P 22 45 27.7 +0.7**
MSFE Esma-Masafi 94.16 324 P **P 22 45 26.1 -0.9**
MDH Madha 94.17 324 P **P 22 45 26.1 -0.9**
UOSS Minazif 94.52 324 P **P 22 45 26.9 -1.7**
UOSS Minazif 94.52 324 P **P 22 45 26.4 -2.2**
UOSS IAmb IAmb 22 45 37.9
comp=Z,20nm,1.3s
LEM Lembang 94.64 265 LR LR 23 29 46.5
comp=Z,25nm,19.2s,baz=33,slow=37
HATD Hatta, Dubai 94.66 324 P **P 22 45 28.4 -0.8**
NAZ Nazwa, Dubai 94.67 325 *i* P **P 22 45 29.0 -0.3**
SNR=6.7
ASHO Ashiyiah 94.81 324 P **P 22 45 29.0 -0.9**
SMDO Samad 95.59 322 P **P 22 45 33.2 -0.5**
SMDO P **P 22 45 33.2 -0.5**
WBK Wadi Bani Khal 95.66 321 P **P 22 45 33.9 0.0**
WBK P **P 22 45 33.9 0.0**
STKA Stephens Creek 97.37 224 P Pdif 22 45 41.4 +0.2
comp=Z,1.5nm,0.6s,baz=352,slow=14,SNR=2.8
STKA LR LR 23 28 40.7
comp=Z,100nm,18.4s,baz=25,slow=35
STKA Stephens Creek 97.37 224 IAmb IAmb 22 45 47.9
comp=Z,2.1nm,1.5s
PTGA Pitinga 98.74 79 *e*P **P 22 45 47.6 -0.2**
PTGA Pitinga 98.74 79 *e*P **P 22 45 47.6 -0.2**
RAYN Ar Rayn 99.18 333 P **Pdif 22 45 50.3 +0.5**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 99.18 333 P **Pdif 22 45 50.3 +0.5**
RAYN IAmb IAmb 22 45 51.1
comp=Z,6.2nm,0.8s
TORD Torodi Ar. Bea 112.41 15 PKiKP **PKiKP 22 50 43.3 -0.9**
comp=Z,0.8nm,0.5s,baz=338,slow=3.3,SNR=14
TORD PP **PP 22 51 33.6 +4.5**
comp=Z,1.3nm,1.1s,baz=329,slow=6.9,SNR=3.5
TORD PKKPbc **PKKPbc 23 01 31.5 -0.2**
comp=Z,1.0nm,0.6s,baz=150,slow=2.2,SNR=11
DBIC Dimbokro 117.40 24 PKP **PKPdf 22 50 53.5 -0.3**
comp=Z,2.9nm,0.7s,baz=294,slow=2.1,SNR=6.5
CPUP Villa Florida 120.34 94 *e*P **PKiKP 22 50 59.2 +0.1**
CPUP Villa Florida 120.34 94 *e*P **PKiKP 22 50 59.2 +0.1**
RCLB Rio Claro- Sao 123.22 83 *e*P **PKiKP 22 51 05.4 +0.4**
RCLB Rio Claro- Sao 123.22 83 *e*P **PKiKP 22 51 05.4 +0.4**
KMBO Kilima Mbogo 124.94 334 PKP **PKiKP 22 51 09.5 +0.5**
comp=Z,2.6nm,0.8s,baz=6.5,slow=4.0,SNR=12
LSZ Lusaka 140.68 342 PKIKP **PKPdf 22 51 32.4 -5.4**
LSZ Lusaka 140.68 342 **PKPdf 22 51 32.4 -5.4**
QSPA South Pole Qui 143.32 180 PKPpre 22 51 37.5
QSPA PKPdf **PKPdf 22 51 41.6 +0.7**
TSUM Tsumeb 145.70 358 **PKPbc 22 51 47.1 +0.1**
LBTB Lobatse 150.66 343 PKIKP **PKiKP 22 52 00.9 +0.2**
LBTB Lobatse 150.66 343 **PKiKP 22 52 00.9 +0.2**
MAW Mawson 153.94 219 PKIKP **PKiKP 22 52 06.1 +0.1**
MAW 22 52 19.3
MAW Mawson 153.94 219 PKPbc **PKiKP 22 52 06.1 +0.1**
comp=Z,5.4nm,0.7s,baz=135,slow=2.8,SNR=30
MAW Mawson 153.94 219 **PKiKP 22 52 06.1 +0.1**
MAW **PKPab 22 52 19.4 -0.1**
MAW pPKPab **pPKPab 22 52 28.5 +0.4**
BOSA Boshof 154.23 342 PKP2 **PKPab 22 52 22.2 +0.3**
BOSA Boshof 154.23 342 PKPbc **PKiKP 22 52 08.3 +0.3**
comp=Z,5.4nm,0.6s,baz=39,slow=2.3,SNR=18
BOSA Boshof 154.23 342 PKPab **PKPab 22 52 22.1 +0.3**
BOSA pPKPab **sPKPab 22 52 32.8 -0.9**

IDC 02 22:39:29.3±49.0, 18°.15S×172°.03W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/35, mbtmp4.2/3, Error ellipse: s-maj=955.8km s-min=188.3km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.87**	**243**	P	P	22 47 37.8	+0.1
	1.2nm,0.4s,baz=87,slow=10,SNR=1.4						
WRA	**Warramunga Arr**	**50.55**	**259**	P	P	22 48 29.7	-0.2
	1.2nm,0.3s,baz=98,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**50.56**	**254**	P	P	22 48 29.8	-0.2
	2.3nm,0.7s,baz=90,slow=8.3,SNR=16						

ISCJB ***02*** *22:42:02.8±0.3,23°.84N±0°.02×122°.01E±0°.02,h26km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=139.9*
JMA ***02*** *22:42:02.5±0.1,23°.81N×121°.98E,h29km±3km,M2.2*
TAP ***02*** *22:42:03.6,23°.87N×121°.96E,h34km,ML2.9,C*
ISC 02 22:42:03.0±1.0,23°.84N±0°.02×121°.97E±0°.02,h30km±9km, n63,σ9°43/114,3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.35**	**280**	P	**Pb**	**22 42 10.8**	**-0.3**
	baz=276						
ENLB				*e*S	**Sn**	**22 42 17.7**	**-0.3**
	baz=276						
HWA	**Hwalien**	**0.36**	**292**	P	**Pn**	**22 42 12.0**	**-0.3**
	baz=285						
HWA				*e*S	**Sn**	**22 42 19.1**	**+0.6**
	baz=285						
TWD	**Chiawan**	**0.42**	**305**	⇓*i*P	**Pb**	**22 42 12.3**	**+0.1**
	baz=297						
TWD				*e*S	**Sb**	**22 42 18.5**	**0.0**
	baz=297						
NACB	**Ninganchiao**	**0.48**	**314**	⇓*i*P	**Pb**	**22 42 13.0**	**-0.2**
	baz=309						
NACB				*e*S	**Sb**	**22 42 20.2**	**+0.1**
	baz=309						
ESL	**Shilin**	**0.50**	**267**	P	**Pb**	**22 42 13.3**	**-0.1**
	baz=258						
ESL				*e*S	**Sn**	**22 42 21.1**	**-0.6**
	baz=258						
EGFH	**Guangfu**	**0.53**	**251**	P	**Pb**	**22 42 14.1**	**+0.1**
	baz=240						
EGFH				*e*S	**Sn**	**22 42 22.1**	**-0.4**
	baz=240						
ETLH	**Xiulin Townshi**	**0.58**	**309**	*i*P	**Pb**	**22 42 14.5**	**-0.3**
	baz=308						
ETLH				*e*S	**Sb**	**22 42 22.8**	**-0.1**
	baz=308						
HGSD	**Ruisui**	**0.61**	**236**	*e*P	**Pn**	**22 42 15.6**	**-0.2**
	baz=226						
HGSD				*e*S	**Sn**	**22 42 24.5**	**0.0**
	baz=226						
NANB	**Nanao**	**0.62**	**341**	⇓*i*P	**Pb**	**22 42 15.3**	**-0.1**
	baz=332						
NANB				*e*S	**Sb**	**22 42 24.2**	**+0.3**
	baz=332						
ENA	**Nanau**	**0.62**	**340**	P	**Pb**	**22 42 15.3**	**-0.2**
	baz=331						
ENA				*e*S	**Sb**	**22 42 24.4**	**+0.4**
	baz=331						
WHF	**Hehuan Shan**	**0.72**	**295**	P	**Pb**	**22 42 16.9**	**-0.4**
	baz=285						
WHF				*e*S	**Sn**	**22 42 28.0**	**+0.2**
	baz=285						
EOS1	**EOS1**	**0.72**	**11**	P	**Pb**	**22 42 17.4**	**+0.3**
	baz=22						
EOS1				*e*S	**Sn**	**22 42 27.8**	**+0.6**
	baz=22						
CHGB	**Renai**	**0.76**	**287**	*i*P	**Pn**	**22 42 17.7**	**-0.3**
	baz=285						
CHGB				*e*S	**Sn**	**22 42 28.5**	**-0.2**
	baz=285						
YULB	**Yu-li**	**0.77**	**234**	P	**Pn**	**22 42 17.3**	**-0.5**
	baz=245						
YULB				*e*S	**Sb**	**22 42 27.5**	**-0.5**
	baz=245						
VWDT	**VWDT**	**0.77**	**264**	*i*P	**Pb**	**22 42 17.9**	**0.0**
	baz=261						
VWDT				*e*S	**Sn**	**22 42 28.3**	**-0.1**
	baz=261						
TWC	**Suao**	**0.77**	**352**	P	**Pb**	**22 42 18.0**	**0.0**
	baz=353						
TWC				*e*S	**Sn**	**22 42 28.6**	**+0.1**
	baz=353						
TWF1	**Yuli**	**0.79**	**232**	P	**Pn**	**22 42 17.8**	**-0.4**
	baz=243						
TWF1				*e*S	**Sn**	**22 42 28.7**	**-0.2**
	baz=243						
NNSB	**Datong**	**0.80**	**317**	P	**Pn**	**22 42 18.0**	**-0.4**
	baz=316						
NNSB				*e*S	**Sb**	**22 42 28.7**	**-0.3**
	baz=316						
NNS	**Nan Shan**	**0.81**	**317**	P	**Pn**	**22 42 18.2**	**-0.4**
	baz=317						
NNS				*e*S	**Sn**	**22 42 29.3**	**-0.4**
	baz=317						
TWT	**Tachien**	**0.84**	**300**	*i*P	**Pb**	**22 42 19.2**	**0.0**
	baz=298						
TDCB	**Techi**	**0.85**	**299**	P	**Pn**	**22 42 19.2**	**+0.1**
	baz=297						
TDCB				*e*S	**Sb**	**22 42 30.8**	**+0.2**
	baz=297						
NDT	**Datong Townshi**	**0.87**	**331**	P	**Pn**	**22 42 19.3**	**0.0**
	baz=331						
NDT				*e*S	**Sn**	**22 42 30.9**	**0.0**
	baz=331						
ENTT	**Nioudou**	**0.88**	**335**	P	**Pn**	**22 42 19.4**	**0.0**
	baz=335						
ENTT				*e*S	**Sb**	**22 42 31.2**	**0.0**
	baz=335						
TWE	**Neicheng**	**0.92**	**342**	P	**Pn**	**22 42 20.1**	**+0.1**
	baz=343						
TWE				*e*S	**Sb**	**22 42 32.3**	**-0.1**
	baz=343						
SSLB	**Suanglung**	**0.94**	**267**	P	**Pn**	**22 42 20.3**	**+0.1**
	baz=265						
SSLB				*e*S	**Sn**	**22 42 31.8**	**-0.9**
	baz=265						
SLBB	**Yuanshan**	**0.96**	**341**	P	**Pn**	**22 42 19.9**	**-0.6**
	baz=243						
DPDB	**Guoxing**	**0.98**	**282**	P	**Pb**	**22 42 21.2**	**-0.3**
	baz=286						
YHNB	**Yeheng**	**0.99**	**327**	P	**Pn**	**22 42 21.1**	**+0.1**
	baz=314						
YHNB				*e*S	**Sn**	**22 42 33.6**	**-0.4**
	baz=314						
YUS	**Yu-Shan**	**1.00**	**250**	P	**Pb**	**22 42 21.9**	**-0.2**
	baz=247						
YUS				*e*S	**Sn**	**22 42 34.7**	**-0.1**
	baz=247						
NSK	**Sanguang**	**1.00**	**326**	P	**Pn**	**22 42 21.3**	**+0.1**
	baz=314						
NSK				*e*S	**Sn**	**22 42 33.5**	**-0.8**
	baz=314						
TYC	**Yuchr**	**1.02**	**274**	P	**Pn**	**22 42 21.5**	**+0.1**
	baz=272						
TYC				*e*S	**Sb**	**22 42 35.5**	**+0.2**
	baz=272						
NWLT	**Wulai**	**1.03**	**335**	P	**Pn**	**22 42 21.6**	**+0.2**
	baz=323						
NWLT				*e*S	**Sb**	**22 42 35.2**	**-0.2**
	baz=323						
WHP	**Taichung City**	**1.04**	**295**	P	**Pb**	**22 42 22.4**	**-0.1**
	baz=294						
WHYT	**Xinyi Township**	**1.04**	**262**	P	**Pb**	**22 42 22.3**	**-0.1**
	baz=250						
WHYT				*e*S	**Sn**	**22 42 35.2**	**+0.1**
	baz=250						
JYNG	**Yonagunijimaku**	**1.07**	**55**	P	**Pn**	**22 42 22.3**	**+0.2**
JYNG				*e*S	**Sn**	**22 42 36.0**	**0.0**
ELDTW	**Lidau**	**1.09**	**234**	P	**Pn**	**22 42 21.9**	**-0.5**
	baz=220						
ELDTW				*e*S	**Sn**	**22 42 35.8**	**-0.8**
	baz=220						
YOJ	**Yonaguni jima**	**1.13**	**57**	P	**Pn**	**22 42 23.0**	**+0.2**
YOJ				*e*S	**Sn**	**22 42 37.3**	**-0.1**
TIPB	**Shuangxi**	**1.13**	**353**	P	**Pb**	**22 42 23.7**	**-0.4**
	baz=6.0						
TIPB				*e*S	**Sb**	**22 42 38.2**	**-0.3**
	baz=6.0						
WJS	**Zhushan**	**1.14**	**269**	P	**Pb**	**22 42 24.6**	**+0.4**
	baz=268						
WNT	**Mingjian**	**1.18**	**272**	P	**Pb**	**22 42 25.2**	**+0.3**
	baz=270						
NSTT	**Nanjuang**	**1.19**	**312**	P	**Pb**	**22 42 24.9**	**-0.1**
	baz=311						
NSTT				*e*S	**Sb**	**22 42 39.8**	**-0.2**
	baz=311						
TWA	**Mucha**	**1.19**	**343**	P	**Pb**	**22 42 24.9**	**-0.1**
	baz=331						
TWA				*e*S	**Sb**	**22 42 40.1**	**+0.1**
	baz=331						
WLTB	**Daxi**	**1.20**	**327**	P	**Pb**	**22 42 24.9**	**-0.3**
	baz=326						
WLTB				*e*S	**Sb**	**22 42 41.0**	**+0.6**
	baz=326						
TWQ1	**Liyutan**	**1.21**	**295**	*e*P	**Pb**	**22 42 25.3**	**0.0**
	baz=294						
CHN5	**Tsauling**	**1.21**	**259**	P	**Pb**	**22 42 25.4**	**-0.1**
	baz=248						
CHN5				*e*S	**Sb**	**22 42 41.3**	**+0.5**
	baz=248						
NSY	**Sanyi**	**1.25**	**298**	*e*P	**Pb**	**22 42 26.1**	**+0.1**
	baz=297						
STYT	**Tauyuan**	**1.30**	**239**	P	**Pn**	**22 42 26.0**	**+0.7**
	baz=237						
STYT				*e*S	**Sb**	**22 42 42.5**	**-0.9**
	baz=237						
TPUB	**Ta-pu**	**1.35**	**247**	P	**Pb**	**22 42 27.2**	**-0.4**
	baz=245						
TPUB				*e*S	**Sb**	**22 42 45.1**	**+0.6**
	baz=245						
YM01	**YM01**	**1.35**	**344**	P	**Pn**	**22 42 26.7**	**+0.8**
	baz=328						
YM01				*e*S	**Sn**	**22 42 43.2**	**+0.3**
	baz=328						
TWS1	**Kuangyinshan**	**1.35**	**338**	*e*S	**Sb**	**22 42 44.2**	**-0.5**
	baz=338						
CHN4	**Tsaushan**	**1.36**	**249**	P	**Pb**	**22 42 27.8**	**0.0**
	baz=247						
CHN4				*e*S	**Sb**	**22 42 46.2**	**+1.3**
	baz=247						
YM04	**YM04**	**1.37**	**343**	*e*S	**Sn**	**22 42 43.2**	**0.0**
	baz=332						
WTP	**Ta-pu**	**1.38**	**245**	P	**Pb**	**22 42 28.0**	**-0.3**
	baz=243						
WTP				*e*S	**Sb**	**22 42 45.8**	**+0.2**
	baz=243						
CHN1	**Nanshi**	**1.48**	**244**	*e*P	**Pb**	**22 42 29.7**	**-0.2**
	baz=242						
CHN1				*e*S	**Sb**	**22 42 48.6**	**+0.3**
	baz=242						
TWK	**Hsinying**	**1.48**	**248**	P	**Pb**	**22 42 29.6**	**-0.4**
	baz=245						
TWK				*e*S	**Sb**	**22 42 49.0**	**+0.7**
	baz=245						
IRIF	**Iriomote-Funau**	**1.68**	**73**	P	**Pn**	**22 42 31.0**	**+0.6**
IRIF				*e*S	**Sn**	**22 42 50.9**	**0.0**
HATJ	**Hateruma jima**	**1.69**	**82**	P	**Pn**	**22 42 30.6**	**+0.1**
HATJ				*e*S	**Sn**	**22 42 51.1**	**0.0**
MASBT	**Mashibuluo**	**1.74**	**226**	P	**Pn**	**22 42 32.0**	**+0.8**
	baz=216						
JKRS	**Kuro-shima**	**1.90**	**78**	P	**Pn**	**22 42 34.2**	**+0.8**
JKRS				*e*S	**Sn**	**22 42 56.8**	**+0.4**
JIJ	**Ishigaki jima**	**2.05**	**75**	P	**Pn**	**22 42 35.2**	**-0.3**
JIJ				*e*S	**Sn**	**22 42 58.9**	**-1.1**
PHUB	**P'eng-hu**	**2.23**	**262**	*e*S	**Sn**	**22 43 04.8**	**+0.4**
	baz=246						
PNG	**Penghu**	**2.23**	**263**	P	**Pn**	**22 42 38.8**	**+0.8**
	baz=261						
PNG				*e*S	**Sn**	**22 43 04.9**	**+0.3**
	baz=261						
JISG	**Ishigakijimahi**	**2.26**	**70**	P	**Pn**	**22 42 38.2**	**-0.2**
JISG				*e*S	**Sn**	**22 43 03.8**	**-1.4**

ISCJB ***02*** *23:01:59.7±0.6,2°.72S±0°.05×127°.90E±0°.05,h35km, mb4.1/2,MS3.5/1,Error ellipse: s-maj=7.2km s-min=6.7km az=135.4*
DJA ***02*** *23:02:00.2±2.7,3°S±4°×12°8E±°,h25km±30km,M4.1/10, mb4.6/2,mB5.1/1,MLv3.9/10,Mw(mB)4.4/1*
IDC ***02*** *23:02:02.1±3.4,3°.25S×128°.61E,h0km,mb4.1/2, mb1 4.2/5,mb1mx3.6/35,mbtmp4.0/5,ML4.0/3,MS3.4/2, Ms1 3.4/2,ms1mx2.8/37,Error ellipse: s-maj=59.2km s-min=19.3km az=102.0*
ISC 02 23:02:01.1±0.9,2°.84S±0°.05×127°.92E±0°.05,h35km,n16, σ2°59/19,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.89**	**162**	P	**Pn**	**23 02 17.8**	**+0.6**
AAI				S	**Sn**	**23 02 32.8**	**+4.0**
NLAI	**Namlea**	**0.91**	**244**	P	**Pn**	**23 02 18.2**	**+0.7**
MSAI	**Masohi**	**1.13**	**117**	P	**Pn**	**23 02 21.9**	**+1.5**
SANI	**Sanana**	**2.08**	**292**	P	**Pn**	**23 02 32.8**	**-0.8**
LBMI	**Labuha**	**2.22**	**349**	P	**Sn**	**23 03 07.6**	**+5.8**
BNDI	**Bandanaira**	**2.59**	**130**	P	**Pn**	**23 02 42.1**	**+1.5**
TNTI	**Ternate**	**3.63**	**351**	P	**Pn**	**23 02 53.3**	**-1.5**
SWI	**Sorong**	**3.87**	**60**	P	**Pn**	**23 02 57.8**	**-0.4**
SIJI	**Sorong**	**3.87**	**60**	Pn	**Pn**	**23 02 58.5**	**+0.2**
	18nm,0.3s,baz=236,slow=4.8,SNR=64						
SIJI				Sn	**Sn**	**23 03 42.6**	**0.0**
	12nm,0.3s,baz=5.8,slow=23,SNR=16						
FAKI	**Fak Fak**	**4.32**	**91**	P	**Pn**	**23 03 04.2**	**-0.2**
APSI	**Ampana**	**6.55**	**287**	P	**Pn**	**23 03 35.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.33**	**188**	Pn	**Pn**	**23 05 36.3**	**+1.3**
	0.2nm,0.3s,baz=15,slow=13,SNR=1.9						
FITZ				LR	LR	23 10 42.6	
	comp=Z,72nm,21.0s,baz=345,slow=35						
WRA	**Warramunga Arr**	**18.12**	**160**	P	**Pn**	**23 06 09.2**	**-1.0**
	0.6nm,0.3s,baz=343,slow=13,SNR=26						
WRA				S	**Sn**	**23 09 25.0**	**-6.5**
	baz=337,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**21.50**	**165**	P	**P**	**23 06 46.8**	**-0.4**
	3.8nm,0.7s,baz=345,slow=11,SNR=30						
ASAR				S	**S**	**23 10 41.8**	**-2.0**
	0.4nm,0.7s,baz=357,slow=25,SNR=4.7						
CTA	**Charters Tower**	**24.78**	**135**	LR	LR	23 17 16.9	
	comp=Z,150nm,18.5s,baz=212,slow=38						
STKA	**Stephens Creek**	**31.63**	**157**	P	**P**	**23 08 20.9**	**0.0**
	3.1nm,0.8s,baz=337,slow=5.9,SNR=4.8						

IDC 02 23:27:59.2±3.6,18°.64N×120°.52E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/40,mbtmp3.5/4,MS3.1/1,Ms1 3.1/1, ms1mx2.5/37,Error ellipse: s-maj=364.3km s-min=25.2km az=62.0,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**28.93**	**135**	LR	LR	23 46 36.5	
	comp=Z,35nm,18.2s,baz=14,slow=39						
WRA	**Warramunga Arr**	**40.67**	**160**	P	P	23 35 41.7	+0.2
	0.2nm,0.6s,baz=342,slow=9.0,SNR=1.9						
MKAR	**Makanchi Array**	**42.05**	**321**	P	P	23 35 51.7	-0.9
	0.3nm,0.9s,baz=122,slow=8.5,SNR=2.5						
ASAR	**Alice Springs**	**44.03**	**162**	P	P	23 36 08.5	-0.4
	0.3nm,0.5s,baz=341,slow=7.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.06**	**324**	P	P	23 36 25.5	+0.7
	0.3nm,0.4s,baz=123,slow=7.7,SNR=2.4						

ISCJB ***02*** *23:46:56.7±0.4,20°.10N±0°.04×147°.12E±0°.08,h40km, mb3.9/15,Error ellipse: s-maj=11.0km s-min=4.8km az=9.7*
NEIC ***02*** *23:46:57.9±1.8,20°.12N±0°.07×147°.2E±0°.1,h34km±5km, mb4.2/14*
IDC ***02*** *23:46:58.5±0.7,20°.03N×147°.18E,h42km±6km,mb3.7/15, mb1 3.9/19,mb1mx3.8/50,mbtmp4.0/19,ML4.3/3,Error ellipse: s-maj=18.5km s-min=13.1km az=105.0*
ISC 02 23:46:58.5±0.5,20°.09N±0°.06×147°.2E±0°.1,h40km,n47, σ1°00/45,mb4.1/18,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.62**	**202**	Pn	**Pn**	**23 47 52.7**	**+0.6**
SARN				Sn	**Sn**	**23 48 33.7**	**+0.1**
ANA2	**Anatahan**	**3.98**	**201**	Pn	**Pn**	**23 47 57.5**	**+0.5**
ANA2				Sn	**Sn**	**23 48 42.8**	**+0.5**
GUMO	**Guam**	**6.83**	**199**	P	**Pn**	**23 48 36.1**	**-0.1**
	11nm,0.3s,baz=15,slow=20,SNR=3.8						
GUMO				S	**Sn**	**23 49 51.1**	**-1.6**
	5.8nm,0.3s,baz=182,slow=13,SNR=1.8						
JCJ	**Chichijima**	**8.34**	**328**	P	**Pn**	**23 48 55.9**	**-1.0**
	5.3nm,0.3s,baz=296,slow=22,SNR=7.3						
JCJ				S	Sn	23 50 19.2	-11
	3.4nm,0.3s,baz=256,slow=22,SNR=1.6						
MJAR	**Matsushiro Arr**	**18.18**	**336**	P	**P**	**23 51 07.1**	**-0.6**
	0.0nm,0.3s,baz=163,slow=10,SNR=2.7						
MAJO	**Matsushiro**	**18.18**	**336**		**P**	**23 51 06.8**	**-1.0**
MJB9	**Matsu-Tunnel**	**18.18**	**336**		**P**	**23 51 06.8**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**18.49**	**92**	T	T	00 09 29.6	
	baz=280,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**18.50**	**92**	T	T	00 09 31.1	
	baz=280,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**18.51**	**92**	T	T	00 09 30.5	
	baz=280,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**18.55**	**88**	T	T	00 09 25.7	
	baz=276,slow=74,SNR=18						
H11N2	**WAKE ISLAND Hy**	**18.55**	**88**	T	T	00 09 25.9	
	baz=276,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**18.57**	**88**	T	T	00 09 27.1	
	baz=276,slow=74,SNR=15						
JNU	**Nakatsue**	**19.48**	**315**	P	**P**	**23 51 22.6**	**+0.6**
	0.5nm,0.3s,baz=96,slow=10,SNR=5.2						
JNU	**Nakatsue**	**19.48**	**315**	IAmb	IAmb	23 51 26.2	
	comp=Z,9.3nm,0.9s						
KSRS	**Korea Array**	**24.09**	**320**	P	**P**	**23 52 11.0**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=150,slow=9.1,SNR=10						
YHNB	**Yeheng**	**24.27**	**286**	P	**P**	**23 52 10.8**	**-1.3**
YHNB				IAmb	IAmb	23 52 17.0	
	comp=Z,5.5nm,0.7s						
USA0B	**Ussuriysk Arra**	**27.17**	**336**	P	**P**	**23 52 35.9**	**-2.2**
PETK	**Petropavlovsk-**	**33.95**	**11**	P	**P**	**23 53 38.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=215,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**41.72**	**198**	P	**P**	**23 54 42.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=18,slow=8.6,SNR=5.1						
WRA	**Warramunga Arr**	**41.72**	**198**	IAmb	IAmb	23 54 42.9	
	comp=Z,0.1nm,1.1s						
SONM	**Songino Array**	**42.96**	**320**	P	**P**	**23 54 53.6**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=131,slow=6.1,SNR=4.7						
SONM	**Songino Array**	**42.96**	**320**	IAmb	IAmb	23 55 00.4	
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**45.37**	**197**	P	**P**	**23 55 12.1**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=18,slow=6.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**45.43**	**276**	P	**P**	**23 55 13.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=92,slow=6.3,SNR=4.8						
LSA	**Lhasa**	**51.29**	**292**	P	**P**	**23 56 01.7**	**+2.3**
ZALV	**Zalesovo Beam**	**57.78**	**322**	P	**P**	**23 56 45.6**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=106,slow=7.0,SNR=3.7						
MKAR	**Makanchi Array**	**58.52**	**313**	P	**P**	**23 56 51.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=87,slow=9.6,SNR=8.4						
ILAR	**Eielson Array**	**61.79**	**26**	P	**P**	**23 57 12.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=252,slow=5.7,SNR=9.8						
ILAR				pP	**pP**	**23 57 24.2**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=257,slow=5.3,SNR=5.2						
BMAR	**Burnt Mountain**	**63.29**	**24**	P	**P**	**23 57 24.1**	**+1.1**
BCAR	**Beaver Creek A**	**63.70**	**29**	P	**P**	**23 57 26.6**	**+0.9**
NIL	**Nilore**	**66.08**	**299**	P	**P**	**23 57 43.7**	**+2.0**
BVAR	**Borovoye Array**	**66.30**	**320**	P	**P**	**23 57 43.3**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=94,slow=7.8,SNR=12						
ABKAR	**Akbulak array**	**73.28**	**317**	P	**P**	**23 58 26.2**	**+0.5**
YKA	**Yellowknife Ar**	**76.11**	**28**	P	**P**	**23 58 42.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=286,slow=5.9,SNR=5.2						
YKA				pP	**PcP**	**23 58 54.3**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=286,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**76.11**	**28**	P	**P**	**23 58 42.0**	**+0.2**
SAO	**San Andreas Ge**	**79.32**	**55**	P	**P**	**23 58 58.9**	**-1.4**
KVN	**Kaiserville**	**81.15**	**52**	P	**P**	**23 59 10.3**	**0.0**
KVN				IAmb	IAmb	23 59 12.2	
	comp=Z,1.9nm,0.7s						
NVAR	**Mina Array Bea**	**81.19**	**52**	P	**P**	**23 59 11.6**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=268,slow=6.0,SNR=13						
NVAR				pP	**sP**	**23 59 24.3**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=264,slow=6.0,SNR=7.2						
NVAR	**Mina Array Bea**	**81.19**	**52**	P	**P**	**23 59 11.8**	**+1.2**
NV11	**Mina Array Sit**	**81.30**	**52**	P	**P**	**23 59 11.3**	**+0.2**
NV11				IAmb	IAmb	23 59 13.1	
	comp=Z,2.6nm,0.9s						
PDAR	**Pinedale Array**	**85.86**	**46**	P	**P**	**23 59 33.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=225,slow=3.7,SNR=2.9						
PDAR				pP	**sP**	**23 59 47.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=133,slow=55,SNR=2.6						
PDAR	**Pinedale Array**	**85.86**	**46**	P	**P**	**23 59 33.8**	**-0.7**
FINES	**FINESS Array B**	**86.21**	**336**	P	**P**	**23 59 34.5**	**-1.0**
	comp=Z,2.3nm,1.1s,baz=108,slow=6.2,SNR=5.3						
ULM	**Lac du Bonnet**	**90.67**	**35**	P	**P**	**23 59 56.8**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=315,slow=5.7,SNR=2.5						
ULM	**Lac du Bonnet**	**90.67**	**35**	IAmb	IAmb	00 00 03.1	
	comp=Z,4.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**132.62**	**311**	PKP	**PKPdf**	**00 06 10.1**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=29,slow=3.3,SNR=3.2						
TORD				pPKP	**sPKPdf**	**00 06 23.1**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=303,slow=40,SNR=1.8						

IDC ***03*** *00:05:55.9±1.0,0°.96N×85°.45W,h0km,mb3.8/9, mb1 4.1/14,mb1mx3.9/39,mbtmp4.0/14,ML3.5/5,MS3.5/13, Ms1 3.5/13,ms1mx3.3/34,Error ellipse: s-maj=27.6km s-min=16.5km az=57.0*
ISCJB ***03*** *00:05:56.5±0.5,1°.01N±0°.05×85°.26W±0°.05,h10km, mb3.7/9,MS3.4/5,Error ellipse: s-maj=7.5km s-min=6.9km az=139.3*
NEIC ***03*** *00:05:58.1±2.4,0°.92N±0°.06×85°.28W±0°.08,h10km±1km, mb4.1/9*
ISC 03 00:05:57.8±0.6,0°.95N±0°.08×85°.28W±0°.08,h10km,n58, σ1°32/47,mb4.0/10,MS3.3/5,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**5.25**	**252**	Pn	**Pn**	**00 07 17.2**	**+0.7**
OTAV	**Otavalo**	**6.87**	**96**	Pn	**Pn**	**00 07 39.2**	**+0.1**
BBAC	**Balboa, Cauca**	**8.11**	**82**	*e*P	**Pn**	**00 07 54.6**	**-1.2**
BBAC	**Balboa, Cauca**	**8.11**	**82**	*e*P	**Pn**	**00 07 54.6**	**-1.2**
POPC	**Popayan, Colom**	**8.75**	**79**	*e*P	**Pn**	**00 08 04.1**	**-0.6**
POPC	**Popayan, Colom**	**8.75**	**79**	*e*P	**Pn**	**00 08 04.1**	**-0.6**
JTS	**Las Juntas de**	**9.29**	**2**	Pn	**Pn**	**00 08 11.3**	**-0.5**
	0.9nm,0.3s,baz=153,slow=19,SNR=4.8						
JTS				LR	LR	00 10 57.9	
	comp=Z,167nm,20.1s,baz=230,slow=32						
JTS	**Las Juntas de**	**9.29**	**2**		**Pn**	**00 08 13.9**	**+2.0**
YOTC	**Yotoco, Valle**	**9.42**	**71**	*e*P	**Pn**	**00 08 11.2**	**-2.6**
YOTC				*e*P		00 08 13.8	
YOTC	**Yotoco, Valle**	**9.42**	**71**	*e*P	**Pn**	**00 08 11.2**	**-2.6**
YOTC				*e*P		00 08 13.8	
FLOC	**Florencia**	**9.65**	**86**	*e*P	**Pn**	**00 08 17.9**	**+1.0**
FLOC	**Florencia**	**9.65**	**86**	*e*P	**Pn**	**00 08 17.9**	**+1.0**
BCIP	**Isla Barro Col**	**9.80**	**

SAML IAmb IAmb 00 11 30.6
comp=Z,5.1nm,1.1s
PTGA Pitinga 25.37 94 P **P 00 11 26.5 +1.0**
comp=Z,1.9nm,0.8s,baz=311,slow=8.3,SNR=4.6
PTGA Pitinga 25.37 94 IAmb IAmb 00 11 36.1
comp=Z,3.8nm,0.9s
SJG San Juan 25.38 47 LR LR 00 20 31.7
comp=Z,102nm,21.8s,baz=270,slow=34
CBYP Canovanas 25.70 47 P **P 00 11 27.7 -0.7**
LVC Limon Verde 28.34 147 LR LR 00 23 43.6
comp=Z,135nm,18.9s,baz=342,slow=38
SIV San Ignacio 29.24 126 LR LR 00 24 34.1
comp=Z,118nm,18.6s,baz=109,slow=38
TXAR Lajitas Array 33.22 330 P **P 00 12 34.8 -0.5**
comp=Z,0.1nm,0.3s,baz=155,slow=9.6,SNR=3.7
TXAR LR LR 00 24 52.2
comp=Z,64nm,19.7s,baz=0.0,slow=34
PLCA Paso Flores 43.60 164 P **P 00 14 01.6 -0.8**
comp=Z,1.9nm,1.1s,baz=338,slow=5.4,SNR=2.7
PLCA Paso Flores 43.60 164 IAmb IAmb 00 14 15.0
comp=Z,3.5nm,0.9s
NVAR Mina Array Bea 48.04 325 P **P 00 14 36.9 -0.7**
comp=Z,0.4nm,0.8s,baz=144,slow=6.3,SNR=3.9
NVAR Mina Array Bea 48.04 325 P **P 00 14 37.5 -0.1**
ULM Lac du Bonnet 49.94 351 P **P 00 14 50.4 -1.4**
comp=Z,2.3nm,0.6s,baz=139,slow=11,SNR=2.1
ESDC Sonseca Array 82.71 50 P **P 00 18 21.7 -0.5**
comp=Z,0.6nm,0.7s,baz=273,slow=4.8,SNR=4.5
ESDC Sonseca Array 82.71 50 P **P 00 18 20.7 -1.5**
VNA3 Neumayer Olymp 86.29 162 P **P 00 18 38.8 -0.7**
VNA1 Neumayer--Stat 86.60 161 P **P 00 18 41.9 +0.9**
TORD Torodi Ar. Bea 86.84 77 P **P 00 18 44.7 +1.3**
comp=Z,0.3nm,0.9s,baz=239,slow=8.3,SNR=3.1
VNA2 Neumayer--Watz 86.94 161 P **P 00 18 41.8 -0.9**
baz=309,slow=5.8
H11S2 WAKE ISLAND Hyl 106.75 290 T T 02 19 24.8
baz=75
H11S1 WAKE ISLAND Hyl 106.75 290 T T 02 19 26.1
baz=75
H11S3 WAKE ISLAND Hyl 106.77 290 T T 02 19 26.3
baz=75

IDC ***03*** *00:12:34.7±0.5, 49°.52S×117°.32E, h0km, mb4.7/15, mb1 4.8/16, mb1mx4.6/29, mbtmp4.7/16, ML3.2/1, MS4.6/16, Ms1 4.6/16, ms1mx4.5/24, Error ellipse: s-maj=23.1km s-min=13.7km az=124.0*

BJI ***03*** *00:12:35.0±0.0, 49°.60S×117°.30E, h10km, mb5.0/26, mB5.4/16, Ms5.1/12, Ms7 4.8/13*

MOS ***03*** *00:12:35.3±1.2, 49°.48S×117°.32E, h10km, mb5.1/19, Error ellipse: s-maj=16.8km s-min=9.5km az=80.8*

ISCJB ***03*** *00:12:35.3±0.2, 49°.55S±0°.04×117°.36E±0°.06, h12km, mb4.9/37, MS4.7/25, Error ellipse: s-maj=5.7km s-min=5.1km az=178.2*

NEIC ***03*** *00:12:36.8±1.3, 49°.54S±0°.08×117°.3E±0°.1, h10km±1km, mb5.1/75*

GCMT ***03*** *00:12:37.8±0.1, 49°.58S±0°.01×117°.39E±0°.01, h12km, MW5.3/116, Moment Tensor Solution. s72,c103; s116,c206; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=1.02±.01; Mθθ0.74±.01; Mφφ0.27±.02; Mrθ=0.01±.04; Mrφ=0.49±.01; Mθφ0.19±.04; Best double couple: M=1.05200×10^17 NP1:φs131.00000°, δ49.00000°, λ=78.00000°. NP2:φs294.00000°, δ43.00000°, λ=103.00000°. Principal axes: T 1.0550, Plg3.0000°, Azm213.0000°; N -0.0090, Plg9.0000°, Azm303.0000°; P -1.0500, Plg81.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 00:12:37.0±0.3, 49°.57S±0°.05×117°.41E±0°.06, h12km, n260, σ1s02/248, mb5.0/60, MS4.7/25, 2C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.86**	**349**	T	T	00 31 20.1	
baz=170,slow=74,SNR=141							
H01W1	**Cape Leeuwin H**	**14.86**	**350**	T	T	00 31 17.0	
baz=170,slow=74,SNR=102							
H01W3	**Cape Leeuwin H**	**14.87**	**349**	T	T	00 31 17.5	
baz=170,slow=74,SNR=105							
NWAO	**Narrogin (SRO)**	**16.63**	**359**	P	**Pn**	**00 16 29.8**	**0.0**
NWAO				pmax	pmax		
comp=Z,76nm,0.9s							
NWAO	**Narrogin (SRO)**	**16.63**	**359**	Pn	**Pn**	**00 16 28.5**	**-1.3**
comp=Z,4.1nm,0.3s,baz=181,slow=9.7,SNR=33							
NWAO				LR	LR	00 21 14.5	
comp=Z,5μm,21.8s,baz=206,slow=31							
NWAO	**Narrogin (SRO)**	**16.63**	**359**	P	**Pn**	**00 16 29.8**	**0.0**
CASY	**Casey**	**17.13**	**189**		**Pn**	**00 16 34.8**	**-1.1**
CASY				IAmb	IAmb	00 16 41.8	
comp=Z,138nm,1.3s							
FORT	**Forrest**	**20.42**	**27**	P	Pn	00 17 14.9	-1.1
FORT				IAmb	IAmb	00 17 19.6	
comp=Z,121nm,1.4s							
MORW	**Morawa**	**20.50**	**357**	P	**P**	**00 17 15.5**	**+0.7**
MORW				IAmb	IAmb	00 17 24.5	
comp=Z,124nm,1.2s							
TAU	**Tasmania Unive**	**21.64**	**84**	P	**P**	**00 17 26.5**	**-0.4**
TAU				pmax	pmax		
comp=Z,112nm,1.5s							
TAU	**Tasmania Unive**	**21.64**	**84**	P	**P**	**00 17 26.5**	**-0.4**
TAU				IAmb	IAmb	00 17 34.8	
comp=Z,112nm,1.5s							
BBOO	**Buckleboo**	**21.75**	**47**	P	**P**	**00 17 28.0**	**-0.2**
BBOO				IAmb	IAmb	00 17 33.1	
comp=Z,118nm,1.1s							
TOO	**Toolangi**	**23.47**	**70**	P	**P**	**00 17 47.4**	**+1.1**
TOO				pmax	pmax		
comp=Z,25nm,1.2s							
TOO	**Toolangi**	**23.47**	**70**	P	**P**	**00 17 47.4**	**+1.1**
STKA	**Stephens Creek**	**25.29**	**55**	P	**P**	**00 18 03.8**	**+0.6**
comp=Z,14nm,1.0s,baz=206,slow=11,SNR=8.6							
STKA				LR	LR	00 26 07.1	
comp=Z,2μm,21.3s,baz=216,slow=32							
STKA	**Stephens Creek**	**25.29**	**55**	P	**P**	**00 18 03.7**	**+0.5**
MCQ	**Macquarie Isla**	**25.74**	**117**	P	**P**	**00 18 08.1**	**+1.1**
MCQ				pmax	pmax		
comp=Z,185nm,1.5s							
MCQ	**Macquarie Isla**	**25.74**	**117**	P	**P**	**00 18 08.1**	**+1.1**
GIRL	**Giralia**	**26.99**	**354**	P	**P**	**00 18 17.5**	**-1.0**
CAN	**Canberra**	**27.08**	**70**	P	**P**	**00 18 20.2**	**+0.8**
CAN				pmax	pmax		
comp=Z,37nm,1.5s							
CAN	**Canberra**	**27.08**	**70**	P	**P**	**00 18 20.2**	**+0.8**
PSA00	**Pilbara Seismi**	**28.00**	**5**	P	**P**	**00 18 25.1**	**-2.6**
PSA00	**Pilbara Seismi**	**28.00**	**5**	P	**P**	**00 18 27.9**	**+0.2**
PSA00				IAmb	IAmb	00 18 34.0	
comp=Z,21nm,1.2s							
ASAR	**Alice Springs**	**28.91**	**33**	P	**P**	**00 18 34.5**	**-1.3**
ASAR	**Alice Springs**	**28.91**	**33**	P	**P**	**00 18 34.8**	**-1.0**
comp=Z,5.3nm,0.8s,baz=213,slow=8.6,SNR=32							
ASAR				PcP	**PcP**	**00 21 43.4**	**-1.4**
comp=Z,1.6nm,1.1s,baz=258,slow=1.8,SNR=4.0							
ASAR				LR	LR	00 28 57.1	
comp=Z,3μm,19.5s,baz=190,slow=34							
ASAR	**Alice Springs**	**28.91**	**33**	P	**P**	**00 18 34.5**	**-1.3**
AS31	**Alice Springs**	**28.91**	**33**	P	**P**	**00 18 35.1**	**-0.7**
ARMA	**Armidale**	**32.07**	**66**	P	**P**	**00 19 04.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**32.09**	**15**	P	**P**	**00 19 04.0**	**+0.2**
FITZ				IAmb	IAmb	00 19 12.0	
comp=Z,29nm,1.1s							
MAW	**Mawson**	**32.24**	**216**	P	**P**	**00 19 05.0**	**+0.3**
MAW				pmax	pmax		
comp=Z,3.0nm,0.8s							
MAW	**Mawson**	**32.24**	**216**	P	**P**	**00 19 04.9**	**+0.2**
comp=Z,19nm,1.1s,baz=83,slow=10.0,SNR=21							
MAW				LR	LR	00 30 08.6	
comp=Z,2μm,18.9s,baz=88,slow=33							
MAW	**Mawson**	**32.24**	**216**	P	**P**	**00 19 05.0**	**+0.3**
WRA	**Warramunga Arr**	**32.51**	**31**	*eP*	**P**	**00 19 06.5**	**-1.1**
WRA				pmax	pmax		
comp=Z,21nm,1.2s							
WRA	**Warramunga Arr**	**32.51**	**31**	P	**P**	**00 19 06.5**	**-1.1**
comp=Z,14nm,1.0s,baz=202,slow=8.5,SNR=24							
WRA				PcP	**PcP**	**00 21 52.3**	**-1.9**
comp=Z,2.4nm,1.0s,baz=201,slow=2.3,SNR=4.9							
WRA				LR	LR	00 31 12.3	
comp=Z,2μm,20.7s,baz=190,slow=34							
WRA	**Warramunga Arr**	**32.51**	**31**	P	**P**	**00 19 06.4**	**-1.1**
WRAB	**Tennant Creek**	**32.52**	**31**	*i P*	**P**	**00 19 06.6**	**-1.1**
WRAB				pmax	pmax		
comp=Z,26nm,1.2s							
WHZ	**Wether Hill Ro**	**33.67**	**103**	P	**P**	**00 19 18.7**	**+1.2**
WHZ				IAmb	IAmb	00 19 37.3	
comp=Z,30nm,1.4s							
SBA	**Scott Base**	**33.73**	**163**	P	**P**	**00 19 19.1**	**+1.4**
SBA				pmax	pmax		
comp=Z,27nm,1.5s							
SBA	**Scott Base**	**33.73**	**163**	P	**P**	**00 19 19.1**	**+1.4**
SBA				IAmb	IAmb	00 19 31.5	
comp=Z,27nm,1.4s							
MLZ	**Mavora Lakes**	**34.01**	**103**	P	**P**	**00 19 18.6**	**-1.8**
MLZ				IAmb	IAmb	00 19 28.6	
comp=Z,29nm,1.4s							
WKZ	**Wanaka**	**34.81**	**102**	P	**P**	**00 19 27.7**	**+0.3**
WKZ				IAmb	IAmb	00 19 34.5	
comp=Z,36nm,1.4s							
KNRA	**Kununurra**	**35.05**	**19**	P	**P**	**00 19 29.2**	**-0.4**
EIDS	**Eidsvold**	**35.55**	**60**	P	**P**	**00 19 33.9**	**0.0**
RPZ	**Rata Peaks**	**36.63**	**102**	LR	LR	00 31 56.4	
comp=Z,1μm,18.9s,baz=246,slow=32							
RPZ	**Rata Peaks**	**36.63**	**102**	P	**P**	**00 19 43.5**	**+0.5**
RPZ				IAmb	IAmb	00 20 01.6	
comp=Z,53nm,1.4s							
CTA	**Charters Tower**	**37.33**	**48**	P	**P**	**00 19 49.4**	**+0.3**
comp=Z,16nm,1.1s,baz=234,slow=11,SNR=5.1							
CTA				LR	LR	00 33 51.7	
comp=Z,838nm,21.9s,baz=212,slow=34							
CTAO	**Charters Tower**	**37.33**	**48**	P	**P**	**00 19 49.5**	**+0.3**
CTAO				pmax	pmax		
comp=Z,28nm,1.1s							
CTAO	**Charters Tower**	**37.33**	**48**	P	**P**	**00 19 49.5**	**+0.3**
CTAO				IAmb	IAmb	00 19 57.0	
comp=Z,28nm,1.1s							
MTN	**Manton Dam**	**38.33**	**22**	P	**P**	**00 19 56.3**	**-1.2**
QRZ	**Quartz Range**	**39.03**	**99**	P	**P**	**00 20 04.4**	**+1.1**
QRZ				IAmb	IAmb	00 20 13.5	
comp=Z,44nm,1.5s							
NNZ	**Nelson**	**39.37**	**100**	P	**P**	**00 20 06.8**	**+0.7**
NNZ				IAmb	IAmb	00 20 13.5	
comp=Z,40nm,1.3s							
BSWZ	**Blackbirch Sta**	**39.42**	**101**	P	**P**	**00 20 07.6**	**+1.0**
BATI	**Baumata**	**39.58**	**10**	P	**P**	**00 20 08.6**	**+0.5**
CMWZ	**Cape Campbell**	**39.62**	**101**	P	**P**	**00 20 08.7**	**+0.4**
SOEI	**Soe**	**40.10**	**11**	P	**P**	**00 20 14.2**	**+1.7**
SOEI	**Soe**	**40.10**	**11**	P	**P**	**00 20 12.8**	**+0.3**
SOEI				IAmb	IAmb	00 20 27.0	
comp=Z,66nm,1.2s							
QSPA	**South Pole Qui**	**40.56**	**180**	P	**P**	**00 20 16.1**	**+0.2**
comp=Z,12nm,1.1s,baz=312,slow=5.2,SNR=15							
QSPA				PcP	**PcP**	**00 22 16.9**	**-0.9**
comp=Z,6.5nm,1.1s,baz=337,slow=5.4,SNR=5.1							
QSPA	**South Pole Qui**	**40.56**	**180**	P	**P**	**00 20 15.9**	**0.0**
QSPA				IAmb	IAmb	00 20 18.5	
comp=Z,41nm,1.4s							
SYO	**Syowa Base**	**40.75**	**213**	*↑iP*	**P**	**00 20 15.6**	**-1.6**
SYO	**Syowa Base**	**40.75**	**213**	*↑esP*	sP	00 20 23.0	+2.2
EDFI	**Ende, Flores**	**40.84**	**6**	P	**P**	**00 20 18.6**	**-0.1**
COEN	**Coen**	**41.31**	**40**	P	**P**	**00 20 22.2**	**-0.2**
BFZ	**Birch Farm**	**41.49**	**101**	P	**P**	**00 20 23.5**	**-0.2**
BFZ				IAmb	IAmb	00 20 25.2	
comp=Z,35nm,1.3s							
NGJI	**Ngawi**	**42.36**	**351**	P	P	00 20 42.2	+11
BKZ	**Black Stump Fm**	**42.48**	**99**	P	**P**	**00 20 31.8**	**-0.1**
CISI	**Cisompet, Garu**	**42.64**	**346**	P	**P**	**00 20 34.3**	**+1.0**
CISI	**Cisompet, Garu**	**42.64**	**346**	P	**P**	**00 20 33.5**	**+0.2**
KPJI	**Karang Pucung**	**42.69**	**348**	P	**P**	**00 20 34.8**	**+1.1**
CRZF	**Crozet Islands**	**42.73**	**248**	P	**P**	**00 20 34.2**	**+0.5**
CRZF				IAmb	IAmb	00 20 44.5	
comp=Z,58nm,1.2s							
SMRI	**Semarang**	**42.78**	**350**	P	**P**	**00 20 34.1**	**-0.3**
SAUI	**Saumlaki**	**43.05**	**20**	P	**P**	**00 20 36.5**	**-0.1**
URZ	**Urewera**	**43.39**	**98**	P	**P**	**00 20 39.5**	**+0.3**
comp=Z,7.2nm,0.8s,baz=226,slow=4.1,SNR=5.5							
URZ	**Urewera**	**43.39**	**98**	P	**P**	**00 20 39.5**	**+0.3**
MXZ	**Matakaoa Point**	**44.57**	**98**	P	**P**	**00 20 48.7**	**+0.1**
MXZ				IAmb	IAmb	00 20 49.9	
comp=Z,44nm,1.3s							
SPSI	**Sidrap Palu**	**45.48**	**3**	P	**P**	**00 20 57.0**	**+1.0**
KLSI		**45.99**	**342**	P	**P**	**00 21 01.1**	**+1.0**
NLAI	**Namlea**	**46.89**	**13**	P	**P**	**00 21 07.6**	**+0.5**
PMG	**Port Moresby**	**47.08**	**42**	P	**P**	**00 21 09.1**	**+0.5**
PMG				pmax	pmax		
comp=Z,61nm,1.4s							
PMG	**Port Moresby**	**47.08**	**42**	P	**P**	**00 21 09.3**	**+0.7**
comp=Z,12nm,0.7s,baz=221,slow=11,SNR=3.8							
PMG	**Port Moresby**	**47.08**	**42**	P	**P**	**00 21 09.1**	**+0.5**
LHSI	**Lahat**	**47.08**	**341**	P	**P**	**00 21 09.8**	**+1.2**
DZM	**Mont Dzumac**	**47.20**	**73**	*eS*	**S**	**00 28 01.5**	**-0.7**
comp=Z,329nm,28.4s							
DZM				*e*LR	LR	00 34 29.9	
comp=Z,2μm,29.6s							
TPI	**Tanjungpandan**	**47.38**	**347**	P	**P**	**00 21 11.4**	**+0.5**
SANI	**Sanana**	**47.91**	**12**	P	**P**	**00 21 14.4**	**-0.6**
FAKI	**Fak Fak**	**48.17**	**20**	P	**P**	**00 21 17.8**	**+0.7**
FAKI	**Fak Fak**	**48.17**	**20**	P	**P**	**00 21 17.2**	**+0.1**
MPSI	**Mapaga**	**49.76**	**3**	P	**P**	**00 21 29.8**	**+0.6**
PDSI	**Padang**	**50.60**	**338**	P	**P**	**00 21 36.4**	**+0.7**
SMPI	**Sarmi**	**50.77**	**28**	P	**P**	**00 21 38.1**	**+1.2**
JAY	**Jayapura**	**50.91**	**31**	P	**P**	**00 21 36.2**	**-1.9**
comp=Z,8.6nm,0.9s,baz=269,slow=8.9,SNR=3.9							
KSM	**Kuching**	**51.21**	**351**	P	**P**	**00 21 40.2**	**0.0**
KSM				IAmb	IAmb	00 21 41.6	
comp=Z,42nm,1.2s							
BKNI	**Bangkinang**	**51.66**	**339**	P	**P**	**00 21 43.7**	**+0.1**
SNAA	**Sanae**	**51.96**	**200**	P	**P**	**00 21 44.6**	**-0.7**
SNAA	**Sanae**	**51.96**	**200**	P	**P**	**00 21 44.6**	**-0.7**
SNAA				pmax	pmax		
comp=Z,22nm,1.2s							
SNAA	**Sanae**	**51.96**	**200**	P	**P**	**00 21 44.6**	**-0.7**
SNAA				IAmb	IAmb	00 21 57.5	
comp=Z,22nm,1.2s							
SBUM	**Sibu**	**52.01**	**353**	P	**P**	**00 21 46.5**	**+0.3**
SBUM				IAmb	IAmb	00 21 47.8	
comp=Z,20nm,1.1s							
MYKOM	**Kota Tinggi**	**52.48**	**343**		**P**	**00 21 49.8**	**+0.1**
MYKOM				IAmb	IAmb	00 21 50.8	
comp=Z,45nm,1.3s							
GSI	**Gunungsitoli**	**53.48**	**335**	P	**P**	**00 21 57.1**	**+0.1**
VNA2	**Neumayer--Watz**	**53.51**	**200**	P	**P**	**00 21 57.3**	**+0.6**
baz=134,slow=6.6							
VNA3	**Neumayer Olymp**	**53.76**	**199**	P	**P**	**00 21 57.5**	**-1.1**
VNA1	**Neumayer--Stat**	**53.91**	**200**	P	**P**	**00 21 58.8**	**-0.8**
RPSI	**Rantau Prapat**	**54.45**	**337**	P	**P**	**00 22 03.4**	**-0.8**
RPSI					**P**	**00 22 03.9**	**-0.3**
RPSI				IAmb	IAmb	00 22 05.3	
comp=Z,36nm,1.2s							
PSI	**Prapat**	**54.56**	**337**	P	**P**	**00 22 03.4**	**-1.7**
PSI				*PP	**P**	**00 22 03.9**	**-1.2**
PSI				pmax	pmax		
comp=Z,36nm,1.2s							
KKM	**Kota Kinabalu**	**55.39**	**359**	P	**P**	**00 22 10.4**	**-0.7**
KKM				IAmb	IAmb	00 22 17.1	
comp=Z,14nm,1.1s							
IPM	**Ipoh**	**55.68**	**340**	P	**P**	**00 22 12.4**	**-0.6**
IPM					**P**	**00 22 12.7**	**-0.3**
RER	**Riviere de l'E**	**55.89**	**277**	P	**P**	**00 22 14.5**	**-0.2**
H08S2	**Diego Garcia H**	**56.13**	**303**	T	T	01 22 35.6	
baz=147,slow=76,SNR=34							
H08S1	**Diego Garcia H**	**56.14**	**303**	T	T	01 22 47.0	
baz=147,slow=76,SNR=26							
H08S3	**Diego Garcia H**	**56.15**	**303**	T	T	01 22 37.1	
baz=147,slow=76,SNR=34							
H08N1	**Diego Garcia H**	**58.02**	**302**	T	T	01 25 11.0	
baz=114,SNR=8.3							
H08N3	**Diego Garcia H**	**58.03**	**302**	T	T	01 25 07.1	
baz=114,SNR=7.5							
H08N2	**Diego Garcia H**	**58.04**	**302**	T	T	01 25 10.3	
baz=114,SNR=11							
KAAM	**Kaadhehdhoo**	**62.71**	**308**	P	**P**	**00 23 01.5**	**-0.2**
ABPO	**Ambohimpanom**	**62.96**	**272**	P	**P**	**00 23 02.5**	**-1.2**
ABPO				pmax	pmax		
comp=Z,18nm,1.5s							
ABPO	**Ambohimpanom**	**62.96**	**272**	P	**P**	**00 23 02.5**	**-1.2**
ABPO				IAmb	IAmb	00 23 15.7	
comp=Z,18nm,1.5s							
PALK	**Pallekele**	**65.02**	**319**	P	**P**	**00 23 15.0**	**-2.0**
PALK				pmax	pmax		
comp=Z,35nm,1.4s							
PALK	**Pallekele**	**65.02**	**319**	P	**P**	**00 23 15.0**	**-2.0**
PMSA	**Palmer Station**	**65.99**	**179**	P	**P**	**00 23 24.6**	**+2.1**
PATS	**Pohnpei**	**66.49**	**45**	P	**P**	**00 23 27.1**	**+0.6**
GUMO	**Guam**	**67.39**	**29**	LR	LR	00 53 14.8	
comp=Z,467nm,18.4s,baz=203,slow=36							
PBKT	**Sadao Pong**	**67.44**	**343**	IAmb	IAmb	00 23 33.3	
comp=Z,19nm,1.3s							
MSEY	**Mahe Island**	**68.48**	**289**	P	**P**	**00 23 39.0**	**-0.2**
MSEY				pmax	pmax		
comp=Z,41nm,1.4s							
MSEY	**Mahe Island**	**68.48**	**289**	P	**P**	**00 23 39.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**69.68**	**341**	P	**P**	**00 23 46.0**	**-0.4**
comp=Z,9.4nm,1.0s,baz=189,slow=5.7,SNR=54							
CMAR				LR	LR	00 50 35.2	
comp=Z,214nm,21.3s,baz=182,slow=33							
CMAR	**Chiang Mai Arr**	**69.68**	**341**	P	**P**	**00 23 45.0**	**-1.3**
CHTO	**Chiang Mai**	**70.02**	**341**	P	**P**	**00 23 48.4**	**-0.1**
CHTO				pmax	pmax		
comp=Z,16nm,1.3s							
CHTO	**Chiang Mai**	**70.02**	**341**	P	**P**	**00 23 48.4**	**-0.1**
CHTO				IAmb	IAmb	00 23 49.3	
comp=Z,16nm,1.3s							
BOSA	**Boshof**	**70.12**	**249**	P	**P**	**00 23 48.5**	**-0.8**
comp=Z,4.7nm,1.1s,baz=171,slow=13,SNR=2.9							
BOSA				LR	LR	00 49 05.4	
comp=Z,569nm,19.6s,baz=149,slow=31							
SLVN	**Son La**	**71.60**	**347**	IAmb	IAmb	00 24 08.8	
comp=Z,30nm,1.5s							
KNMB	**Chin-men Tao**	**73.70**	**1**	P	**P**	**00 24 10.6**	**+0.2**
TBI	**Tubuai**	**74.55**	**108**	*eS*	**S**	**00 33 52.7**	**+1.9**
comp=Z,143nm,34.5s							
TBI	**Tubuai**	**74.55**	**108**	*e*LR	LR	00 47 11.0	
comp=Z,362nm,30.2s,baz=225							
HYB	**Hyderabad**	**75.03**	**322**	*i P*	**P**	**00 24 18.0**	**-0.4**
KMI	**Kunming**	**75.50**	**346**	P	**P**	**00 24 23.0**	**+1.9**
KMI				pP	pwP	00 24 28.5	-0.5
KMI				sP	PcP	00 24 31.6	-2.5
KMI				S	**S**	**00 34 03.0**	**+1.7**
KMI				SS	**SS**	**00 38 53.3**	**+0.5**
KMI				pmax	pmax		
comp=Z,47nm,1.3s							
KMI				pmax	pmax		
comp=Z,420nm,3.3s							
KMI				LR	LR		
comp=Z,520nm,23.9s							
KMI				LR	LR		
comp=Z,440nm,23.3s							
KMI				LR	LR		
comp=Z,700nm,19.8s							
KMI	**Kunming**	**75.50**	**346**	P	**P**	**00 24 21.6**	**+0.5**
KMI				pmax	pmax		
comp=Z,60nm,1.1s							
KMI	**Kunming**	**75.50**	**346**	P	**P**	**00 24 21.6**	**+0.5**
POO	**Poona**	**78.00**	**318**	*eP*	P	00 24 42.0	+6.8
LSZ	**Lusaka**	**78.04**	**261**	P	**P**	**00 24 36.0**	**+0.3**
LSZ				pmax	pmax		
comp=Z,25nm,1.4s							
LSZ	**Lusaka**	**78.04**	**261**	P	**P**	**00 24 36.0**	**+0.3**
LSZ				IAmb	IAmb	00 24 36.3	
comp=Z,25nm,1.4s							
PPT2	**Papeete2**	**78.74**	**104**	*e*LQ	LQ	00 45 45.6	
comp=Z,499nm,32.0s							
PPT2				*e*LR	LR	00 49 07.9	
comp=Z,488nm,28.5s,baz=234							
PPT	**Papeete**	**78.75**	**104**	P	**P**	**00 24 39.5**	**0.0**
PPT	**Papeete**	**78.75**	**104**	LR	LR	00 53 53.4	
comp=Z,213nm,19.1s,baz=192,slow=32							
PPT	**Papeete**	**78.75**	**104**	P	**P**	**00 24 39.5**	**0.0**
CD2	**Chengdu**	**81.04**	**348**	*eP*	**P**	**00 24 53.5**	**+2.1**
NJ2	**Nanjing**	**81.27**	**1**	*eP*	**P**	**00 24 55.2**	**+2.7**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.6s							
TSUM	**Tsumeb**	**81.77**	**250**	P	**P**	**00 24 55.7**	**-0.2**
TSUM				IAmb	IAmb	00 24 57.7	
comp=Z,22nm,1.4s							
LSA	**Lhasa**	**82.31**	**337**	IAmb	IAmb	00 25 05.8	
comp=Z,25nm,1.5s							
KMBO	**Kilima Mbogo**	**82.76**	**277**	P	**P**	**00 25 02.2**	**+1.0**
KMBO				pmax	pmax		
comp=Z,6.0nm,1.3s							
KMBO	**Kilima Mbogo**	**82.76**	**277**	P	**P**	**00 25 01.5**	**+0.3**
comp=Z,0.5nm,0.2s,baz=141,slow=6.6,SNR=8.9							
KMBO				LR	LR	00 55 28.8	
comp=Z,217nm,18.8s,baz=96,slow=31							
KMBO	**Kilima Mbogo**	**82.76**	**277**	P	**P**	**00 25 02.2**	**+1.0**
JNU	**Nakatsue**	**83.19**	**11**	P	**P**	**00 25 03.1**	**+0.4**
KSAR	**Wonju Array Be**	**87.13**	**8**	P	**P**	**00 25 21.5**	**-0.7**
KSAR	**Wonju Array Be**	**87.13**	**8**	P	**P**	**00 25 21.5**	**-0.7**
KSRS	**Korea Array**	**87.15**	**8**	P	**P**	**00 25 22.6**	**+0.4**
comp=Z,2.6nm,0.9s,baz=185,slow=5.1,SNR=7.5							
KSRS				LR	LR	01 03 12.6	
comp=Z,118nm,21.9s,baz=182,slow=35							
MJAR	**Matsushiro Arr**	**87.70**	**17**	LR	LR	01 02 03.0	
comp=Z,187nm,21.6s,baz=160,slow=34							
XMAS	**Kiritimati**	**88.39**	**85**	P	**P**	**00 25 26.6**	**-2.3**
PLCA	**Paso Flores**	**89.81**	**174**	*eP*	**P**	**00 25 35.5**	**+0.1**
PLCA				pmax	pmax		
comp=Z,7.0nm,1.2s							
PLCA	**Paso Flores**	**89.81**	**174**	P	**P**	**00 25 34.8**	**-0.6**
comp=Z,7.0nm,1.2s,baz=186,slow=5.0,SNR=5.3							
PLCA				LR	LR	01 06 31.8	
comp=Z,217nm,18.0s,baz=208,slow=36							
PLCA	**Paso Flores**	**89.81**	**174**	P	**P**	**00 25 35.0**	**-0.4**
GTA	**Gaotai**	**89.95**	**346**	*eP*	**P**	**00 25 35.4**	**-0.3**
GTA				pP	sP	00 25 39.8	+0.5
GTA				sP	pwP	00 25 42.4	-1.3
GTA				pmax	pmax		
comp=Z,13nm,1.4s							
GTA				pmax	pmax		
comp=Z,65nm,5.7s							
GTA				LR	LR		
comp=Z,180nm,18.9s							
GTA				LR	LR		
comp=Z,190nm,21.6s							
GTA				LR	LR		
comp=Z,290nm,20.3s							
HHC	**Hu-ho-hao-te**	**90.18**	**356**	P	**P**	**00 25

comp=Z,14nm,1.5s
SONM Songino Array 97.49 353 LR LR 01 12 40.5
comp=Z,106nm,19.0s,baz=175,slow=37
KLR Kul'dur 99.19 9 *i* P **Pdif 00 26 19.1 +1.5**
KLR pmax pmax
comp=Z,3.0nm,1.2s
AAK Ala-Archa 99.23 329 *i* P **Pdif 00 26 17.3 -0.9**
AAK pmax pmax
comp=Z,2.0nm,1.1s
PETK Petropavlovsk- 107.83 24 PP PP 00 31 15.1 -10
comp=Z,7.2nm,1.1s,baz=225,slow=8.2,SNR=4.4
H10S2 ASCENSION HYDR 108.27 231 T T 02 29 11.7
baz=147,slow=74,SNR=7.0
H10S3 ASCENSION HYDR 108.28 231 T T 02 29 15.0
baz=73,slow=74,SNR=4.8
TORD Torodi Ar. Bea 116.53 259 PKP **PKPdf 00 31 19.5 -1.4**
comp=Z,0.8nm,1.2s,baz=52,slow=2.4,SNR=3.4
TORD PP **PP 00 32 28.6 +0.7**
comp=Z,0.9nm,1.0s,baz=144,slow=5.5,SNR=3.9
BILL Bilibino 122.83 20 *i* PKIKP **PKiKP 00 31 37.3 +5.7**
BILL pmax pmax
comp=Z,4.0nm,1.1s
OBN Obninsk 124.17 317 *e*PKIKP **PKPdf 00 31 33.0 -1.3**
OBN *e* 00 33 21.3
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,96nm,15.0s
KLMR Klimovskoe 126.51 323 *e*PKIKP **PKPdf 00 31 35.6 -3.0**
KLMR *e* 00 33 36.4
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR Klimovskoe 126.51 323 *e*PKPdf **PKPdf 00 31 35.7 -2.9**
KLMR AMP 00 31 38.2
comp=Z,24nm,1.5s
KLMR *e*PP **PP 00 33 36.4 +0.9**
KOLS Kolonicke sedl 127.52 304 *e*PKIKP **PKiKP 00 31 42.7 +1.2**
KOLS Kolonicke sedl 127.52 304 *e*PKP **PKiKP 00 31 42.7 +1.2**
OTAV Otavalo 129.01 159 PKIKP **PKPdf 00 31 45.8 +0.3**
OTAV Otavalo 129.01 159 **PKPdf 00 31 45.8 +0.3**
VYHS Vyhne 129.15 302 *e*PKP **PKiKP 00 31 47.9 +3.1**
ROSC El Rosal 134.33 164 PKP **PKPdf 00 31 55.0 -0.5**
comp=Z,3.2nm,0.4s,baz=105,slow=1.4,SNR=5.8
ILAR Eielson Array 135.52 37 PKIKP **PKPdf 00 31 54.7 -0.9**
ILAR Eielson Array 135.52 37 PKP **PKPdf 00 31 54.9 -0.7**
comp=Z,1.6nm,1.1s,baz=261,slow=2.8,SNR=6.5
ILAR Eielson Array 135.52 37 **PKPdf 00 31 54.7 -0.9**
BCAR Beaver Creek A 137.00 41 **PKPdf 00 31 58.7 +0.3**
DAWY Dawson 138.34 40 **PKiKP 00 32 02.2 -0.8**
ZAIG Zacatecas 138.81 116 **PKiKP 00 32 04.7 -0.8**
SDV Santo Domingo 138.90 168 **PKPdf 00 32 03.3 -0.4**
NVAR Mina Array Bea 139.28 84 PKP **PKPdf 00 32 04.2 +0.5**
comp=Z,2.1nm,1.0s,baz=210,slow=4.5,SNR=5.0
NVAR Mina Array Bea 139.28 84 **PKiKP 00 32 05.6 -0.3**
PAHR Pah Rah Range 139.29 82 **PKPdf 00 32 03.2 -0.4**
TXAR Lajitas Array 142.99 108 PKP 00 32 08.2
comp=Z,3.5nm,0.9s,baz=204,slow=2.7,SNR=6.1
PLID Pearl Lake 144.16 76 **PKPab 00 32 09.8 -0.1**
ANMO Albuquerque 144.93 98 PKIKP **PKPab 00 32 12.9 -0.1**
ANMO Albuquerque 144.93 98 **PKPab 00 32 12.9 -0.1**
C36M Paulatuk 145.08 33 P **PKPbc 00 32 11.9 -0.2**
baz=272
TCUT Toone Canyon 145.20 85 **PKPdf 00 32 14.4 +0.3**
RDMU Red Mountain 146.11 87 **PKPab 00 32 17.1 -0.2**
MSO Missoula 146.20 75 **PKPdf 00 32 15.8 +0.4**
AHID Auburn Hatcher 146.22 83 **PKPab 00 32 17.3 -0.3**
S22A 4UR Ranch, Cre 146.35 94 P **PKPab 00 32 18.2 -0.2**
baz=235
S22A 4UR Ranch, Cre 146.35 94 **PKPbc 00 32 17.6 0.0**
REDW Red Top Meadow 146.66 82 **PKPab 00 32 18.7 -0.6**
MSTX Muleshoe 146.67 103 P **PKPbc 00 32 18.1 -0.3**
baz=230
MSTX Muleshoe 146.67 103 **PKPdf 00 32 17.2 +0.5**
FXWY Fox Creek 146.67 81 **PKPbc 00 32 17.6 -0.6**
O20A White River Ci 146.75 89 P **PKPbc 00 32 18.7 +0.1**
baz=238
O20A White River Ci 146.75 89 **PKPab 00 32 19.2 -0.6**
IMW Indian Meadow 146.85 81 **PKPab 00 32 19.5 -0.7**
QLMT Earthquake Lak 146.95 79 **PKPab 00 32 20.9 +0.4**
SMCO Snowmass 147.06 91 **PKPbc 00 32 19.5 -0.2**
WALA Waterton Lakes 147.07 71 **PKPbc 00 32 19.0 0.0**
YPP Pitchstone Pla 147.10 81 **PKPab 00 32 21.3 +0.1**
PDAR Pinedale Array 147.21 84 PKPbc **PKPbc 00 32 19.4 -0.3**
comp=Z,5.3nm,0.9s,baz=208,slow=2.5,SNR=18
PDAR Pinedale Array 147.21 84 **PKPbc 00 32 19.1 -0.7**
SDCO Great Sand Dun 147.21 95 **PKPbc 00 32 19.1 -0.9**
H17A Grant Village 147.31 80 P **PKPab 00 32 22.0 0.0**
baz=244
T25A Trinidad 147.57 96 P **PKPbc 00 32 21.6 +0.7**
baz=234
T25A Trinidad 147.57 96 **PKPbc 00 32 21.1 +0.2**
435B Jarrell 147.73 112 P **PKPbc 00 32 20.7 -0.6**
baz=224
435B Jarrell 147.73 112 **PKPbc 00 32 21.8 +0.5**
ABTX Abilene, Hawle 147.75 108 P **PKPdf 00 32 19.1 +0.7**
baz=227
DAG Danmarks Havn 147.84 343 *i* PKP2 **PKPdf 00 32 18.5 +1.3**
DAG pmax pmax
comp=Z,33nm,1.2s
DAG Danmarks Havn 147.84 343 *i* P **PKPdf 00 32 18.5 +1.3**
comp=Z,21nm,1.2s
AMTX Amarillo 147.95 102 **PKPbc 00 32 22.1 +0.3**
Q24A Divide 148.13 93 P **PKPbc 00 32 23.1 +0.6**
baz=236
HKT Hockley 148.17 116 PKP2 **PKiKP 00 32 23.2 -0.9**
HKT Hockley 148.17 116 **PKiKP 00 32 23.2 -0.9**
N23A Red Feather La 148.64 89 P **PKiKP 00 32 25.3 +0.2**
baz=239
N23A Red Feather La 148.64 89 **PKiKP 00 32 24.9 -0.3**
K22A Casper 149.12 86 P **PKiKP 00 32 25.4 -0.6**
baz=242
YKA Yellowknife Ar 149.12 45 PKP2 **PKPbc 00 32 22.1 -1.7**
YKA Yellowknife Ar 149.12 45 PKPbc **PKPbc 00 32 23.1 -0.7**
comp=Z,3.4nm,0.8s,baz=283,slow=2.2,SNR=12
YKA Yellowknife Ar 149.12 45 **PKPbc 00 32 22.1 -1.7**
EGMT Eagleton 149.29 75 **PKPbc 00 32 25.0 +0.2**
WMOK Wichita Mounta 149.69 106 PKP2 **PKPbc 00 32 26.3 +0.1**
WMOK Wichita Mounta 149.69 106 PKPbc **PKPbc 00 32 26.3 +0.1**
NATX Nacogdoches 150.17 115 **PKiKP 00 32 27.9 -0.3**
X34A Smith Ranch, M 150.19 107 **PKiKP 00 32 28.1 -0.1**
U32A Winter Ranch, 150.58 103 **PKiKP 00 32 29.1 +0.1**
FNO Franklin 150.89 106 PKPab **PKPab 00 32 36.1 -0.3**
LAO LASA Array 151.04 79 PKPab **PKPab 00 32 37.0 +0.3**
RES Resolute Bay 151.40 17 PKPbc **PKPbc 00 32 27.9 -1.1**
comp=Z,13nm,1.0s,baz=290,slow=4.5,SNR=7.5
RES Resolute Bay 151.40 17 **PKPbc 00 32 28.1 -0.9**
RES PKPab **PKPab 00 32 37.7 +0.3**
RSSD Black Hills 151.41 85 PKIKP **PKPdf 00 32 24.0 -0.1**
RSSD 00 32 38.6
RSSD Black Hills 151.41 85 **PKPdf 00 32 24.0 -0.1**
RSSD PKPab **PKPab 00 32 38.6 0.0**
CBKS Cedar Bluff 151.55 98 PKIKP **PKPdf 00 32 24.6 +0.3**
CBKS 00 32 31.5
CBKS Cedar Bluff 151.55 98 PKPdf **PKPdf 00 32 24.6 +0.3**
CBKS **PKiKP 00 32 31.6 +0.6**
TUL1 Leonard 152.31 107 P **PKiKP 00 32 32.4 -0.1**
baz=230
ULM Lac du Bonnet 158.65 75 PKPab **PKPab 00 33 07.7 -1.4**
comp=Z,10nm,1.1s,baz=56,slow=1.7,SNR=3.8

NIED ***03*** *00:18:00, 43.°80N×148.°00E, h71km, Mw4.7 Best double couple: M₀1.23000×10¹⁶ NP1:ϕs55.00000°, δ47.00000°, λ-131.00000°. NP2:ϕs287.00000°, δ57.00000°, λ-55.00000°.*
BJI ***03*** *00:18:20.8±0.0, 44.°22N×148.°47E, h64km, mb5.0/62, mB5.1/40, Ms4.3/25, Ms7 4.0/21*
NEIC ***03*** *00:18:21.7±1.4, 44.°20N±0.°07×148.°2E±0.°1, h35km±2km, mb4.9/297*
ISCJB ***03*** *00:18:24.7±0.3, 44.°12N±0.°02×148.°15E±0.°03, h79km±2km, mb4.9/138, Error ellipse: s-maj=4.0km s-min=2.7km az=151.9*
IDC ***03*** *00:18:24.6±2.1, 44.°20N×148.°10E, h63km±18km, mb4.5/30, mb1 4.6/38, mb1mx4.5/49, mbtmp4.7/38, MS3.7/19, Ms1 3.7/19, ms1mx3.5/50, Error ellipse: s-maj=12.3km s-min=9.8km az=146.0*
JMA ***03*** *00:18:24.7±0.2, 43.°81N×147.°96E, h1km, M4.5*
MOS ***03*** *00:18:24.8±0.9, 44.°12N×148.°13E, h82km, mb4.9/68, Error ellipse: s-maj=5.6km s-min=4.1km az=111.6*
MOS Felt (III) at Gornyy, Goryachiye Klyuchi, (II-III) at Reydovo, Kuril'sk.
SKHL ***03*** *00:18:26.7±0.6, 44.°23N×148.°11E, h96km±5km, mb5.3/2, msh5.9/1*
SKHL Felt (III-IV) at Gornyi, Goryachie Kluchi; (II-III) at Reidovo, kuril'sk.
GCMT ***03*** *00:18:28.7±0.5, 43.°95N±0.°03×148.°14E±0.°04, h27km±2km, MW5.0/69, Moment Tensor Solution. s9,c10; s69,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.31±.19; Mθθ1.36±.13; Mϕϕ-1.05±.14; Mrθ4.24±.66; Mϕϕ0.12±.11; Mθr-0.26±.19; Best double couple: M₀4.33600×10¹⁶ NP1:ϕs274.00000°, δ85.00000°, λ-86.00000°. NP2: ϕs58.00000°, δ7.00000°, λ-126.00000°. Principal axes: T 4.8460, Plg39.0000°, Azm1.0000°; N -1.0240, Plg4.0000°, Azm94.0000°; P -3.8250, Plg50.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 00:18:24.4±0.5, 44.°17N±0.°03×148.°15E±0.°03, h63km±4km, h62km:pP-P, n739,σ1$50/751, mb4.9/258, 43C-32D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.08**	**349**	⇑ *i*PN	**Pn**	**00 18 46.5**	**+3.0**
KUR				*i* S	**Sn**	**00 19 01.8**	**+4.1**
KUR				pmax	pmax		
	comp=Z,4μm,0.2s						
KUR				smax	smax		
	comp=N,20μm,0.2s						
KUR				smax	smax		
	comp=E,14μm,0.3s						
KUR	**Kuril'sk**	**1.08**	**349**	*i* P	**Pn**	**00 18 46.0**	**+2.5**
KUR				AMB	AMB	00 18 47.0	
	comp=E,4μm,0.4s						
KUR				*i* S	**Sn**	**00 19 01.0**	**+3.3**
KUR				A	A	00 19 04.0	
	comp=E,20μm,0.6s						
KUR				A	A	00 19 04.0	
	comp=E,15μm,0.6s						
KUR				A	A	00 19 05.0	
	comp=E,60μm,1.8s						
KUR				A	A	00 19 05.0	
	comp=E,65μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**1.65**	**266**	⇑ *i*PN	**Pn**	**00 18 53.2**	**+2.1**
YUK				*i* S	**Sn**	**00 19 13.4**	**+2.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,11μm,0.5s						
YUK				smax	smax		
	comp=E,16μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.65**	**266**	*i* P	**Pn**	**00 18 53.0**	**+1.9**
YUK				AMB	AMB	00 18 56.0	
	comp=E,1μm,0.2s						
YUK				*i* S	**Sn**	**00 19 13.0**	**+1.7**
YUK				A	A	00 19 16.0	
	comp=E,11μm,0.5s						
YUK				A	A	00 19 16.0	
	comp=E,16μm,0.5s						
LAGR	**Lagunnoye**	**1.70**	**267**	⇑ *i*PN	**Pn**	**00 18 53.7**	**+1.9**
LAGR				*i* S	**Sn**	**00 19 14.6**	**+2.0**
LAGR				pmax	pmax		
	comp=Z,423nm,0.1s						
LAGR				smax	smax		
	comp=N,3μm,0.2s						
LAGR				smax	smax		
	comp=E,2μm,0.2s						
LAGR	**Lagunnoye**	**1.70**	**267**	*i* P	**Pn**	**00 18 54.0**	**+2.2**
LAGR				AMB	AMB	00 18 55.0	
	comp=E,423nm,0.2s						
LAGR				*i* S	**Sn**	**00 19 14.0**	**+1.4**
LAGR				A	A	00 19 15.0	
	comp=E,3μm,0.2s						
LAGR				A	A	00 19 15.0	
	comp=E,2μm,0.2s						
GRPR	**Tuman**	**1.72**	**265**	⇑ *i*PN	**Pn**	**00 18 54.1**	**+2.0**
GRPR				*i* S	**Sn**	**00 19 14.7**	**+1.7**
GRPR				pmax	pmax		
	comp=Z,442nm,0.2s						
GRPR				smax	smax		
	comp=E,4μm,0.2s						
GRPR				smax	smax		
	comp=N,11μm,0.4s						
GRPR	**Tuman**	**1.72**	**265**	*i* P	**Pn**	**00 18 54.0**	**+2.0**
GRPR				AMB	AMB	00 18 55.0	
	comp=N,442nm,0.2s						
GRPR				*i* S	**Sn**	**00 19 14.0**	**+1.0**
GRPR				A	A	00 19 16.0	
	comp=N,11μm,0.4s						
GRPR				A	A	00 19 16.0	
	comp=N,4μm,0.4s						
NEM2	**Nemuro 2**	**1.92**	**246**	P	**Pn**	**00 18 55.6**	**+0.9**
NEM2				*e*S	**Sn**	**00 19 17.9**	**+0.1**
NMR	**Nemuro--Hokkai**	**1.93**	**246**	*c i*PN	**Pn**	**00 18 55.7**	**+0.9**
NMR				*i* S	**Sn**	**00 19 18.0**	**0.0**
NMR	**Nemuro--Hokkai**	**1.93**	**246**	*i* P	**Pn**	**00 18 55.0**	**+0.2**
NMR				*i* S	**Sn**	**00 19 18.0**	**0.0**
GLVR	**Golovnino**	**1.95**	**258**	⇑ *i*PN	**Pn**	**00 18 57.2**	**+2.1**
GLVR				*i* S	**Sn**	**00 19 20.6**	**+2.2**
GLVR				pmax	pmax		
	comp=Z,2μm,0.3s						
GLVR				smax	smax		
	comp=E,3μm,0.2s						
GLVR				smax	smax		
	comp=N,12μm,0.3s						
GLVR	**Golovnino**	**1.95**	**258**	*i* P	**Pn**	**00 18 57.0**	**+1.9**
GLVR				AMB	AMB	00 18 57.0	
	comp=N,2μm,0.3s						
GLVR				*i* S	**Sn**	**00 19 20.0**	**+1.6**
GLVR				A	A	00 19 24.0	
	comp=N,12μm,0.3s						
GLVR				A	A	00 19 24.0	
	comp=N,3μm,0.3s						
JRA	**Rausu**	**2.19**	**265**	P	**Pn**	**00 19 01.3**	**+2.9**
JRA				*e*S	**Sn**	**00 19 28.0**	**+3.5**
JNSB	**Nemuroshibetsu**	**2.30**	**261**	P	**Pn**	**00 19 02.5**	**+2.6**
JNSB				*e*S	**Sn**	**00 19 29.8**	**+2.7**
JKHN	**Kushirohamanak**	**2.43**	**244**	P	**Pn**	**00 19 02.8**	**+1.2**
JKHN				*e*S	**Sn**	**00 19 30.4**	**+0.3**
JNK	**Nakash**	**2.55**	**258**	P	**Pn**	**00 19 05.2**	**+1.9**
JNK				*e*S	**Sn**	**00 19 34.6**	**+1.5**
JAK	**Akkeshi**	**2.77**	**246**	P	**Pn**	**00 19 07.2**	**+0.9**
JAK				*e*S	**Sn**	**00 19 37.5**	**-1.0**
JTKR	**Abashiri--Toko**	**3.06**	**268**	P	**Pn**	**00 19 13.2**	**+2.9**
JAR	**Ashorobuto**	**3.29**	**256**	P	**Pn**	**00 19 15.7**	**+2.3**
JAR				*e*S	**Sn**	**00 19 53.3**	**+2.0**
JOB	**Onbets**	**3.38**	**249**	P	**Pn**	**00 19 16.4**	**+1.7**
JOB				*e*S	**Sn**	**00 19 54.6**	**+1.1**
JMP	**Maruseppu**	**3.45**	**269**	P	**Pn**	**00 19 18.8**	**+3.1**
JCH	**Churui**	**3.82**	**248**	P	**Pn**	**00 19 21.7**	**+1.1**
JCH				*e*S	**Sn**	**00 20 03.7**	**-0.6**
JKK2	**Kamakawa 2**	**3.91**	**267**	P	**Pn**	**00 19 25.2**	**+3.4**
ASAJ	**Asahikawa**	**4.00**	**271**	P	**Pn**	**00 19 26.5**	**+3.5**
	comp=N,33nm,0.3s,baz=79,slow=17,SNR=124						
ASAJ				S	**Sn**	**00 20 11.1**	**+2.5**
	comp=N,20nm,0.3s,baz=120,slow=13,SNR=6.5						
ASAJ				LR	LR	00 21 05.6	
	comp=N,690nm,21.7s,baz=147,slow=41						
JSE	**Soyaes**	**4.05**	**283**	P	**Pn**	**00 19 27.1**	**+3.3**
JFR	**Furan**	**4.15**	**258**	P	**Pn**	**00 19 27.7**	**+2.5**
JFR				*e*S	**Sn**	**00 20 14.8**	**+2.3**
ERM	**Erimo**	**4.24**	**241**	*ce*PN	**Pn**	**00 19 29.3**	**+2.9**
ERM				pmax	pmax		
	comp=Z,240nm,1.3s						
ERM	**Erimo**	**4.24**	**241**	Pn	**Pn**	**00 19 25.6**	**-0.8**
JNBK	**Urakawa-nobuka**	**4.37**	**246**	P	**Pn**	**00 19 28.9**	**+0.7**
JNBK				*e*S	**Sn**	**00 20 16.3**	**-1.5**
JWK2	**Keihoku**	**4.60**	**287**	P	**Pn**	**00 19 35.9**	**+4.7**
YSS	**Yuzh-Sakhalins**	**4.70**	**308**	*i*PN	**Pn**	**00 19 35.9**	**+3.3**
YSS				*e*S	**Sn**	**00 20 27.2**	**+1.4**
YSS				pmax	pmax		
	comp=Z,450nm,0.4s						
YSS				smax	smax		
	comp=N,130nm,1.2s						
YSS				MLR	MLR		
	comp=Z,400nm,19.0s						
YSS	**Yuzh-Sakhalins**	**4.70**	**308**	*i* P	**Pn**	**00 19 35.0**	**+2.4**
YSS				AMB	AMB	00 19 37.0	
	comp=Z,450nm,0.4s						
YSS				*e*S	**Sn**	**00 20 27.0**	**+1.2**
YSS				A	A	00 20 29.0	
	comp=Z,130nm,0.9s						
YSS				A	A	00 20 29.0	
	comp=Z,78nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.70**	**308**	Pn	**Pn**	**00 19 31.0**	**-1.7**
JEW	**Eniwo**	**5.05**	**257**	P	**Pn**	**00 19 40.9**	**+3.4**
JRBN	**Rebuntou**	**5.19**	**286**	P	**Pn**	**00 19 42.9**	**+3.5**
JKB	**Kayabe**	**5.69**	**249**	P	**Pn**	**00 19 47.4**	**+1.1**
JKB				*e*S	**Sn**	**00 20 47.6**	**-2.6**
UGL	**Uglegorsk**	**6.45**	**322**	*c i*PN	**Pn**	**00 20 01.0**	**+4.4**
UGL				*e*S	**Sn**	**00 21 12.9**	**+4.2**
UGL				pmax	pmax		
	comp=Z,1μm,1.3s						
UGL				pmax	pmax		
	comp=Z,573nm,0.8s						
UGL				smax	smax		
	comp=E,1μm,2.4s						
UGL				smax	smax		
	comp=N,2μm,2.6s						
UGL				MLR	MLR		
	comp=Z,1μm,10.0s						
TYV	**Tymovskoe**	**7.65**	**333**	*e*PN	**Pn**	**00 20 16.8**	**+3.7**
TYV				pmax	pmax		
	comp=Z,700nm,2.7s						
TYV				pmax	pmax		
	comp=Z,91nm,1.0s						
TYV	**Tymovskoe**	**7.65**	**333**	*e*P	**Pn**	**00 20 16.0**	**+2.9**
TYV				AMB	AMB	00 20 17.0	
	comp=Z,700nm,2.7s						
TYV				AMB	AMB	00 20 19.0	
	comp=Z,91nm,0.8s						
TYV				*e*S	**Sn**	**00 21 39.0**	**+0.8**
TYV				A	A	00 21 40.0	
	comp=Z,30nm,0.8s						
TEY	**Ternei**	**8.28**	**280**	⇓ *e*PN	**Pn**	**00 20 25.6**	**+3.9**
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY	**Ternei**	**8.28**	**280**	*e*P	**Pn**	**00 20 24.2**	**+2.5**
SKR	**Severo-Kuril's**	**8.46**	**37**	*e*PN	**Pn**	**00 20 24.8**	**+0.8**
SKR				pmax	pmax		
	comp=Z,100nm,2.6s						
SKR				pmax	pmax		
	comp=Z,105nm,0.7s						
SKR				MLR	MLR		
	comp=Z,200nm,18.0s						
SKR				MLR	MLR		
	comp=Z,300nm,16.0s						
SKR	**Severo-Kuril's**	**8.46**	**37**	*e*P	**Pn**	**00 20 25.1**	**+1.1**
SKR				AMB	AMB	00 20 26.0	
	comp=Z,100nm,2.6s						
SKR				AMB	AMB	00 20 29.0	
	comp=Z,105nm,0.7s						
SKR				*e*S	**Sn**	**00 21 57.0**	**-0.9**
SKR				A	A	00 22 09.0	
	comp=Z,86nm,0.8s						
SKR				A	A	00 22 09.0	
	comp=Z,82nm,0.8s						
OKH	**Okha**	**9.99**	**342**	*c i*PN	**Pn**	**00 20 49.4**	**+4.5**
OKH				pmax	pmax		
	comp=Z,200nm,10.9s						
OKH				MLR	MLR		
	comp=Z,400nm,13.0s						
OKH	**Okha**	**9.99**	**342**	*i* P	**Pn**	**00 20 49.0**	**+4.1**
NKL	**Nikolayevsk**	**10.24**	**334**	*e*PN	**Pn**	**00 20 50.4**	**+2.0**
NKL				pmax	pmax		
	comp=E,15nm,1.2s						
NKL				pmax	pmax		
	comp=Z,37nm,1.2s						
GRNR	**Gornyy**	**10.31**	**314**	*e*PN	**Pn**	**00 20 53.2**	**+3.8**
GRNR				pmax	pmax		
	comp=Z,63nm,1.0s						
MJAR	**Matsushiro Arr**	**10.74**	**228**	P	**Pn**	**00 20 55.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=29,slow=16,SNR=22						
MJAR				S	**Sn**	**00 22 50.0**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=75,slow=14,SNR=2.5						
MJAR	**Matsushiro Arr**	**10.74**	**228**		**Pn**	**00 20 53.9**	**-1.5**
MJB9	**Matsu-Tunnel**	**10.74**	**228**		**Pn**	**00 20 55.0**	**-0.4**
MAJO	**Matsushiro**	**10.74**	**228**	*c i*PN	**Pn**	**00 20 54.9**	**-0.5**
MAJO	**Matsushiro**	**10.74**	**228**		**Pn**	**00 20 55.0**	**-0.4**
MAT	**Matsushiro**	**10.74**	**228**	P	**Pn**	**00 20 54.8**	**-0.6**
MAT				S	**Sn**	**00 22 50.8**	**-3.2**
PEA0B	**Petropavlovsk-**	**10.94**	**32**	*i* PN	**Pn**	**00 20 57.0**	**-0.9**
PEA0B	**Petropavlovsk-**	**10.94**	**32**		**Pn**	**00 20 55.1**	**-2.8**
PETK	**Petropavlovsk-**	**10.94**	**32**	P	**Pn**	**00 20 58.1**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=203,slow=7.5,SNR=38						
PETK	**Petropavlovsk-**	**10.94**	**32**		**Pn**	**00 20 55.7**	**-2.2**
PET	**Petropavlovsk**	**11.25**	**34**	*e*PN	**Pn**	**00 21 05.2**	**+3.1**
PET				*e*S	**Sn**	**00 23 13.3**	**+7.2**
PET				MLR	MLR		
	comp=Z,600nm,21.0s						
PET				MLR	MLR		
	comp=Z,500nm,15.0s						
PET	**Petropavlovsk**	**11.25**	**34**	Pn	**Pn**	**00 20 59.1**	**-3.0**
USA0B	**Ussuriysk Arra**	**11.61**	**276**	*i* PN	**Pn**	**00 21 08.5**	**+1.4**
USA0B	**Ussuriysk Arra**	**11.61**	**276**		**Pn**	**00 21 04.9**	**-2.1**
USRK	**Ussuriysk Ar.**	**11.61**	**276**	P	**Pn**	**00 21 07.8**	**+0.7**
	baz=90,slow=13,SNR=21						
USRK				LR	LR	00 25 43.0	
	comp=Z,153nm,19.2s,baz=71,slow=38						
USRK	**Ussuriysk Ar.**	**11.61**	**276**		**Pn**	**00 21 06.5**	**-0.6**
INU	**Inuyama**	**12.28**	**228**		**Pn**	**00 21 15.0**	**-1.3**
KLR	**Kul'dur**	**12.33**	**300**	*i* PN	**Pn**	**00 21 18.6**	**+1.6**
KLR	**Kul'dur**	**12.33**	**300**	P	**Pn**	**00 21 15.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=96,slow=9.2,SNR=3.4						
KLR				LR	LR	00 26 06.8	
	comp=Z,312nm,20.4s,baz=115,slow=38						
KLR	**Kul'dur**	**12.33**	**300**	*e*P	**Pn**	**00 21 18.6**	**+1.6**
MSHR	**Mys Shultsa**	**12.47**	**269**	*i* PN	**Pn**	**00 21 20.3**	**+1.5**
JHJ2	**Mitsune**	**12.81**	**213**	Pn	**Pn**	**00 21 20.8**	**-2.8**
MDJ	**Mudanjiang**	**13.28**	**278**		**Pn**	**00 21 27.6**	**-2.3**
MA2	**Magadan**	**15.51**	**5**	*ce*P	**Pn**	**00 21 59.2**	**+0.2**
MA2				pmax	pmax		
	comp=Z,188nm,1.7s						
MA2	**Magadan**	**15.51**	**5**	P	**Pn**	**00 21 58.7**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=155,slow=5.0,SNR=13						
MA2				LR	LR	00 27 17.4	
	comp=Z,363nm,21.7s,baz=190,slow=34						
MA2	**Magadan**	**15.51**	**5**		**Pn**	**00 21 57.8**	**-1.1**
MA2				IAmb	IAmb	00 22 03.9	
	comp=Z,101nm,1.1s						
CN2	**Changchun**	**16.34**	**277**	*e*P	**P**	**00 22 11.9**	**+0.4**
CN2				*es*P	sP	00 22 35.1	+2.6
CN2				*e*S	**Sn**	**00 25 10.8**	**+0.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,210nm,16.0s						
CN2				LR	LR		
	comp=Z,230nm,16.0s						
ZEA	**Zeya**	**16.67**	**312**	*e*P	**Pn**	**00 22 13.8**	**+0.1**
ZEA				*e*S	**Sn**	**00 25 18.0**	**+0.1**
ZEA				pmax	pmax		
	comp=N,29nm,1.2s						
ZEA				pmax	pmax		
	comp=E,29nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
ZEA				pmax	pmax		
	comp=E,200nm,3.0s						
ZEA				pmax	pmax		
	comp=Z,200nm,3.0s						
ZEA				smax	smax		
	comp=E,200nm,5.0s						
ZEA				smax	smax		
	comp=N,400nm,7.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,12.0s						
ZEA				MLR	MLR		
	comp=E,200nm,14.0s						
ZEA				MLR	MLR		
	comp=N,300nm,12.0s						
KSRS	**Korea Array**	**16.70**	**253**	P	**Pn**	**00 22 14.3**	**+0.3**
	comp=N,0.4nm,0.3s,baz=61,slow=12,SNR=16						
KSRS				LR	LR	00 28 20.3	
	comp=N,73nm,19.2s,baz=62,slow=36						
KS19	**Wonju Array Si**	**16.71**	**253**		**Pn**	**00 22 12.7**	**-1.6**
KSAR	**Wonju Array Be**	**16.73**	**253**	P	**Pn**	**00 22 12.9**	**-1.6**
KSAR	**Wonju Array Be**	**16.73**	**253**	P	**Pn**	**00 22 12.9**	**-1.6**
JNU	**Nakatsue**	**17.39**	**236**	P	**Pn**	**

SNY pmax pmax
comp=N,54nm,1.0s
SEY Seymchan 18.95 6 *i* P **P 00 22 39.0 -1.1**
SEY Seymchan 18.95 6 P **P 00 22 40.2 +0.1**
comp=N,3.0nm,0.3s,baz=188,slow=8.5,SNR=18
HIA Hailar 20.07 295 P **P 00 22 47.9 -4.5**
HIA pmax pmax
comp=Z,11nm,0.6s
HIA Hailar 20.07 295 P **P 00 22 47.9 -4.5**
YAK Yakutsk 20.90 335 *d iP* **P 00 22 58.9 -2.3**
YAK *e*S **S 00 26 44.9 -5.6**
YAK *e**SS **sS 00 27 13.1 +0.6**
YAK pmax pmax
comp=Z,165nm,0.9s
YAK pmax pmax
comp=N,56nm,1.0s
YAK pmax pmax
comp=E,49nm,1.1s
YAK smax smax
comp=N,243nm,2.0s
YAK smax smax
comp=E,274nm,1.6s
YAK Yakutsk 20.90 335 P **00 22 58.6 -2.6**
comp=E,72nm,0.4s,baz=218,slow=4.0,SNR=47
YAK S **S 00 26 41.7 -8.8**
comp=E,5.9nm,0.4s,baz=107,slow=19,SNR=5.6
YAK Yakutsk 20.90 335 P **P 00 22 58.5 -2.7**
JOW Kunigami 23.59 229 P **P 00 23 28.9 -0.6**
BJI Beijing 23.99 271 P **P 00 23 33.5 +0.5**
BJI S **S 00 27 45.2 -0.2**
BJI pmax pmax
comp=E,20nm,0.8s
BJT Baijiatuau 24.00 271 P **P 00 23 32.3 -0.8**
BJT pmax pmax
comp=Z,23nm,1.1s
BJT Baijiatuau 24.00 271 P **P 00 23 32.3 -0.8**
KIWB Kanaga Island 24.27 59 P **P 00 23 31.7 -3.7**
TIA Tai'an 24.89 262 P **P 00 23 42.0 +0.8**
TIA pmax pmax
comp=Z,11nm,0.6s
SSE Sheshan 24.90 247 P **P 00 23 38.8 -2.5**
SSE IAmb IAmb 00 23 40.0
comp=Z,40nm,0.6s
GSTR Great Sitkin T 24.96 59 P **P 00 23 41.3 -0.4**
BOD Bodaibo 25.13 315 *eP* **P 00 23 39.8 -3.4**
BOD pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 25.76 16 *i* P **P 00 23 48.1 -0.6**
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,228nm,19.0s
BILL Bilibino 25.76 16 *eP* **P 00 23 48.1 -0.6**
BILL Bilibino 25.76 16 P **P 00 23 48.5 -0.3**
NJ2 Nanjing 25.89 252 *eP* **P 00 23 52.7 +2.4**
NJ2 pmax pmax
comp=Z,37nm,0.7s
HHC Hu-ho-hao-te 27.03 276 P **P 00 24 05.0 +4.4**
HHC pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 28.53 292 *ceP* **P 00 24 14.4 +0.4**
ULN pmax pmax
comp=Z,27nm,0.8s
ULN Ulaanbaatar 28.53 292 *eP* **P 00 24 14.4 +0.4**
ULN Ulaanbaatar 28.53 292 P **P 00 24 14.6 +0.5**
ULN IAmb IAmb 00 24 15.5
comp=Z,23nm,0.8s
H11N2 WAKE ISLAND Hy 28.96 141 T T 00 55 15.1
baz=332,slow=76,SNR=1126
SONM Songino Array 28.97 292 P **P 00 24 18.4 +0.5**
comp=Z,12nm,0.6s,baz=82,slow=8.6,SNR=76
SONM PcP **PcP 00 27 24.5 -0.7**
comp=Z,1.0nm,0.8s,baz=94,slow=1.9,SNR=2.5
SONM LR LR 00 36 33.8
comp=Z,164nm,19.0s,baz=90,slow=38
SONM Songino Array 28.97 292 P **P 00 24 17.6 -0.3**
H11N1 WAKE ISLAND Hy 28.98 141 T T 00 55 15.9
baz=332,slow=76,SNR=975
H11N3 WAKE ISLAND Hy 28.98 141 T T 00 55 16.2
baz=332,slow=76,SNR=868
H11S1 WAKE ISLAND Hy 29.95 143 T T 00 56 29.7
baz=333,slow=76,SNR=980
H11S3 WAKE ISLAND Hy 29.96 143 T T 00 56 29.0
baz=333,slow=76,SNR=795
H11S2 WAKE ISLAND Hy 29.97 143 T T 00 56 30.7
baz=333,slow=76,SNR=1004
TLY Talaya 30.35 300 *eP* **P 00 24 29.6 -0.4**
TLY pmax pmax
comp=Z,27nm,1.6s
TLY MLR MLR
comp=Z,353nm,14.0s
TLY Talaya 30.35 300 LR LR 00 37 28.5
comp=Z,135nm,18.7s,baz=86,slow=38
TLY Talaya 30.35 300 *eP* **P 00 24 30.0 0.0**
TLY Talaya 30.35 300 P **P 00 24 29.5 -0.5**
ZAK Zakamensk 30.69 298 *eP* **P 00 24 32.2 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
XAN Xi'an 31.81 265 P **P 00 24 43.4 +0.4**
XAN pP sP 00 25 04.2 -1.4
XAN PP **PnPn 00 25 51.8 +2.4**
XAN S **S 00 29 52.8 +4.0**
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN pmax pmax
comp=Z,170nm,5.4s
XAN Xi'an 31.81 265 P **P 00 24 42.5 -0.5**
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN Xi'an 31.81 265 P **P 00 24 42.5 -0.5**
LZH Lanzhou 34.48 272 *eP* **P 00 25 07.9 +1.5**
LZH pP pP 00 25 19.0 -2.7
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,95nm,4.3s
LZH LR LR
comp=Z,350nm,14.1s
LZH LR LR
comp=Z,250nm,11.4s
LZH LR LR
comp=Z,410nm,14.8s
GTA Gaotai 35.93 280 ⇓P **P 00 25 20.1 +1.3**
GTA S **S 00 30 53.2 +0.6**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,66nm,5.0s
GTA LR LR
comp=Z,75nm,13.6s
GTA LR LR
comp=Z,96nm,12.2s
GTA LR LR
comp=Z,95nm,15.5s
SVW2 Sparrevohn 36.77 42 P **P 00 25 24.9 -0.6**
SVW2 IAmb IAmb 00 25 30.9
comp=Z,20nm,1.2s
CD2 Chengdu 37.16 264 *eP* **P 00 25 28.0 -1.2**
CD2 pmax pmax
comp=Z,90nm,0.6s
GYA Guiyang 37.72 256 ⇑ *iP* **P 00 25 34.4 +0.3**
GYA PP **PnPn 00 27 03.7 +0.9**
GYA S **S 00 31 20.4 +0.4**
GYA SS **SnSn 00 33 56.6 -8.3**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,470nm,17.6s
GYA LR LR
comp=Z,430nm,18.3s
GYA LR LR
comp=Z,600nm,18.6s
IMAR Indian Mountai 37.89 34 P **P 00 25 35.0 +0.1**
RSO Redoubt South 38.16 43 P **P 00 25 39.0 +1.5**
PPLA Purkeypile 38.40 40 P **P 00 25 40.4 +1.0**
PPLA IAmb IAmb 00 25 45.4
comp=Z,24nm,1.2s
KDAK Kodiak Island 38.43 48 *i* P **P 00 25 40.0 +0.5**
KDAK Kodiak Island 38.43 48 P **P 00 25 38.1 -1.4**
comp=Z,21nm,1.0s,baz=312,slow=2.6,SNR=22
KDAK Kodiak Island 38.43 48 P **P 00 25 39.8 +0.3**
BPAW Bear Paw Mtn. 38.95 38 P **P 00 25 44.6 +0.7**
KTH Kantishna Hill 38.97 38 IAmb IAmb 00 25 47.9
comp=Z,37nm,1.2s
CNPM China Poot 38.98 45 P **P 00 25 44.7 +0.6**
CNPM IAmb IAmb 00 25 52.2
comp=Z,52nm,1.4s
MLY Manley 39.08 36 P **P 00 25 45.5 +0.5**
MLY IAmb IAmb 00 25 47.1
comp=Z,16nm,1.0s
KWAJ Kwajalein Atol 39.09 149 P **P 00 25 45.3 -0.2**
KWAJ pmax pmax
comp=Z,264nm,1.2s
KWAJ Kwajalein Atol 39.09 149 P **P 00 25 45.3 -0.2**
NRIK Noril'sk 39.23 331 P **P 00 25 44.0 -2.1**
comp=Z,3.2nm,0.4s,baz=97,slow=7.4,SNR=11
NRIK PcP **PcP 00 27 54.1 +0.3**
comp=Z,1.7nm,0.4s,baz=54,slow=6.0,SNR=4.0
NRIK S **S 00 31 35.5 -6.1**
comp=Z,0.6nm,0.4s,baz=351,slow=11,SNR=3.7
NRIK LR LR 00 43 30.7
comp=Z,151nm,18.1s,baz=74,slow=38
COLD Coldfoot 39.41 33 P **P 00 25 47.9 +0.3**
BWN Browne 39.62 37 P **P 00 25 50.3 +0.9**
TOLK Toolik Lake Re 39.76 30 P **P 00 25 50.5 -0.1**
TOLK IAmb IAmb 00 25 53.9
comp=Z,15nm,0.9s
NEA Nenana 39.78 37 P **P 00 25 51.2 +0.5**
NEA IAmb IAmb 00 25 56.4
comp=Z,15nm,0.6s
SEW Seward 39.83 44 P **P 00 25 51.6 +0.5**
SEW IAmb IAmb 00 25 58.9
comp=Z,18nm,1.0s
MCK McKinley 39.86 38 P **P 00 25 52.0 +0.6**
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 39.86 38 P **P 00 25 52.0 +0.6**
MCK IAmb IAmb 00 26 01.6
comp=Z,15nm,1.0s
RND Reindeer 39.90 39 P **P 00 25 52.0 +0.2**
RND pmax pmax
comp=Z,15nm,1.1s
RND Reindeer 39.90 39 P **P 00 25 52.0 +0.2**
MDM Murphy Dome 40.14 36 P **P 00 25 54.2 +0.4**
MDM IAmb IAmb 00 25 55.8
comp=Z,13nm,0.8s
WRH Wood River Hil 40.21 37 P **P 00 25 54.6 +0.3**
WRH IAmb IAmb 00 25 57.5
comp=Z,13nm,0.9s
SML Sawmill 40.23 41 IAmb IAmb 00 25 57.7
comp=Z,43nm,0.9s
COLA College 40.31 36 *i* P **P 00 25 54.6 -0.4**
COLA pmax pmax
comp=Z,29nm,1.1s
IL31 40.72 37 P **P 00 25 58.4 -0.1**
IL31 IAmb IAmb 00 26 01.2
comp=Z,14nm,0.9s
ILAR Eielson Array 40.72 37 P **P 00 25 59.1 +0.6**
comp=Z,9.1nm,0.8s,baz=262,slow=7.7,SNR=45
ILAR LR LR 00 46 12.8
comp=Z,96nm,18.3s,baz=236,slow=41
ILAR Eielson Array 40.72 37 P **P 00 25 58.4 -0.1**
DGZ Jazzator, Alta 40.83 300 *i* P **P 00 26 00.0 +0.2**
PRP Porcupine Dome 41.27 35 P **P 00 26 03.0 -0.1**
PRP IAmb IAmb 00 26 08.8
comp=Z,17nm,0.8s
KMI Kunming 41.31 258 P **P 00 26 05.1 +1.0**
KMI pmax pmax
comp=Z,29nm,1.1s
KMI pmax pmax
comp=Z,120nm,4.6s
KMI Kunming 41.31 258 P **P 00 26 04.0 -0.1**
KMI pmax pmax
comp=Z,33nm,1.1s
KMI Kunming 41.31 258 P **P 00 26 04.0 -0.1**
KMI IAmb IAmb 00 26 06.3
comp=Z,33nm,1.1s
ZAA0 Zalesovo Array 41.32 307 **PcP 00 28 01.4 +0.5**
ZALV Zalesovo Beam 41.32 307 P **P 00 26 02.8 -0.8**
comp=Z,3.0nm,0.4s,baz=60,slow=6.4,SNR=18
ZALV PcP **PcP 00 28 01.3 +0.5**
comp=Z,8.9nm,0.7s,baz=79,slow=2.6,SNR=15
ZALV pPcP 00 28 20.9
comp=Z,2.9nm,0.6s,baz=82,slow=3.4,SNR=4.1
ZALV LR LR 00 43 55.4
comp=Z,81nm,18.1s,baz=24,slow=37
ZALV Zalesovo Beam 41.32 307 P **P 00 26 02.1 -1.4**
ZALV **PcP 00 28 01.0 +0.2**
FYU Fort Yukon 41.35 34 P **P 00 26 04.7 +1.1**
BMAR Burnt Mountain 41.59 32 P **P 00 26 06.6 +0.9**
RIDG Independent Ri 41.67 38 IAmb IAmb 00 26 09.0
comp=Z,17nm,0.9s
DOT Dot Lake 42.03 38 P **P 00 26 09.3 +0.1**
SCRK Sand Creek 42.03 38 P **P 00 26 09.9 +0.5**
SCRK IAmb IAmb 00 26 11.8
comp=Z,18nm,0.8s
WMQ Urumqi 42.61 292 *eP* **P 00 26 14.9 +0.6**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,92nm,3.7s
WMQ LR LR
comp=Z,370nm,29.0s
WMQ LR LR
comp=Z,1μm,29.1s
WMQ LR LR
comp=Z,150nm,29.3s
VRDI Verde Repeater 42.62 42 P **P 00 26 13.9 -0.3**
VRDI IAmb IAmb 00 26 28.3
comp=Z,31nm,1.3s
MCARA McCarthy VSAT 42.80 41 P **P 00 26 15.8 +0.3**
MCARA IAmb IAmb 00 26 27.9
comp=Z,19nm,1.0s
TGL Tana Glacier 42.99 42 P **P 00 26 13.4 -3.9**
TGL IAmb IAmb 00 26 20.2
comp=Z,22nm,1.1s
WAX Waxell Ridge 43.04 43 P **P 00 26 18.5 +1.0**
WAX IAmb IAmb 00 26 20.6
comp=Z,26nm,0.9s
BCAR Beaver Creek A 43.12 39 P **P 00 26 19.5 +1.4**
EGAK Eagle 43.17 36 IAmb IAmb 00 26 22.0
comp=Z,20nm,1.0s
BALM Baldy 43.18 42 P **P 00 26 19.6 +0.9**
BALM IAmb IAmb 00 26 21.5
comp=Z,15nm,0.9s
BARN Barnard Glacie 43.50 42 P **P 00 26 20.2 -1.2**
BARN IAmb IAmb 00 26 34.1
comp=Z,21nm,1.0s
YAH Yahtse 43.59 43 P **P 00 26 23.0 +0.8**
YAH IAmb IAmb 00 26 34.5
comp=Z,57nm,1.4s
CTGM Chitina Glacie 43.68 42 P **P 00 26 23.7 +1.0**
CTGM IAmb IAmb 00 26 34.8
comp=Z,22nm,1.0s
PCA Pinnacle 44.38 43 P **P 00 26 28.1 -0.2**
PCA IAmb IAmb 00 26 41.1
comp=Z,38nm,1.4s
EPYK Eagle Plains 44.77 34 IAmb IAmb 00 26 34.1
comp=Z,35nm,0.9s
MK31 Makanchi Array 45.03 298 *i* P **P 00 26 33.8 +0.2**
MK31 pmax pmax
comp=Z,17nm,0.6s
MK31 Makanchi Array 45.03 298 IAmb IAmb 00 26 34.9
comp=Z,23nm,0.7s
MKAR Makanchi Array 45.03 298 P **P 00 26 33.9 +0.3**
comp=Z,28nm,0.8s,baz=78,slow=8.5,SNR=136
MKAR PcP **PcP 00 28 13.9 +0.3**
comp=Z,3.6nm,0.7s,baz=55,slow=4.9,SNR=3.5
MKAR LR LR 00 46 21.8
comp=Z,159nm,19.3s,baz=71,slow=37
MKAR Makanchi Array 45.03 298 P **P 00 26 33.3 -0.3**
MAKZ Makanchi 45.22 298 P **P 00 26 35.8 +0.7**
MAKZ pmax pmax
comp=Z,26nm,0.7s
MAKZ Makanchi 45.22 298 P **P 00 26 35.8 +0.7**
INK Inuvik 45.67 31 P **P 00 26 39.1 +0.8**
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 45.67 31 P **P 00 26 39.6 +1.3**
comp=Z,15nm,0.5s,baz=277,slow=6.0,SNR=55
INK Inuvik 45.67 31 P **P 00 26 39.1 +0.8**
NONG Nongkai 45.73 250 P **P 00 26 41.1 +1.7**
comp=Z,0.5nm,1.1s,comp=Z,143nm
KURK Kurchatov 45.89 304 *ceP* **P 00 26 40.0 -0.3**
KURK pmax pmax
comp=Z,23nm,0.9s
KURK Kurchatov 45.89 304 *eP* **P 00 26 39.9 -0.3**
KURK Kurchatov 45.89 304 P **P 00 26 39.7 -0.6**
KURK IAmb IAmb 00 26 41.1
comp=Z,19nm,0.8s
WHY Whitehorse 46.82 41 P **P 00 26 48.0 +0.4**
WHY IAmb IAmb 00 26 51.6
comp=Z,12nm,1.2s
LSA Lhasa 46.90 272 P **P 00 26 50.8 +1.8**
PAYA Payao 47.08 254 P **P 00 26 52.9 +2.9**
comp=Z,15μm,0.7s,comp=Z,854μm
JIS Juneau Island 47.77 44 P **P 00 26 55.5 +0.6**
JIS IAmb IAmb 00 26 57.3
comp=Z,25nm,1.5s
CHAI Chaiyaphum 48.04 249 P **P 00 26 58.4 +1.0**
comp=Z,38μm,0.9s
CMMT Chiang Mai 48.09 254 P **P 00 26 58.9 +1.1**
comp=Z,5.6nm,0.9s,comp=Z,184nm
CHTO Chiang Mai 48.09 254 P **P 00 26 58.4 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 48.09 254 P **P 00 26 58.4 +0.6**
PBKT Sadao Pong 48.25 251 P **P 00 27 02.1 +3.1**
comp=Z,2.1nm,1.4s,comp=Z,883nm
CMAR Chiang Mai Arr 48.33 254 P **P 00 27 00.4 +0.7**
CMAR Chiang Mai Arr 48.33 254 P **P 00 27 00.9 +1.2**
comp=Z,1.6nm,0.6s,baz=38,slow=8.0,SNR=12
CMAR Chiang Mai Arr 48.33 254 P **P 00 27 00.4 +0.7**
SHL Shillong 48.78 267 P **P 00 27 02.9 -0.4**
SHL pmax pmax
comp=Z,27nm,0.9s
SHL Shillong 48.78 267 P **P 00 27 02.9 -0.4**
BRVK Borovoye 49.84 309 *ceP* **P 00 27 10.6 -0.2**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 49.84 309 *eP* **P 00 27 10.6 -0.2**
BRVK Borovoye 49.84 309 P **P 00 27 10.3 -0.5**
DLBC Dease Lake 49.88 43 P **P 00 27 12.6 +1.5**
comp=Z,1.7nm,0.6s,baz=260,slow=4.2,SNR=4.8
UMPA Umpang Tak 49.94 252 P **P 00 27 15.7 +3.7**
comp=Z,24μm,1.1s
UTHA Uthaitani 50.00 251 P **P 00 27 14.9 +2.5**
comp=Z,12μm,0.9s
TARG Taragay, Kyrgy 50.08 293 P **P 00 27 13.8 +0.5**
TARG IAmb IAmb 00 27 20.2
comp=Z,7.7nm,0.9s
TAPN Taplejung 50.72 272 *eP* **P 00 27 18.4 +0.3**
comp=Z,23nm,0.8s
TKM2 Tokmak 2 50.97 296 *i* P **P 00 27 20.3 +0.5**
TKM2 pmax pmax
comp=Z,18nm,1.1s
TKM2 Tokmak 2 50.97 296 P **P 00 27 20.7 +1.0**
SNR=10.0
KBK Karagaybulak 51.52 296 P **P 00 27 24.6 +0.7**
SNR=18
USP Ospenovka 51.52 296 P **P 00 27 24.7 +1.0**
SNR=13
KZA Kyzart 51.60 295 P **P 00 27 26.5 +1.8**
SNR=5.1
JIRN Jiri 51.63 273 *eP* **P 00 27 25.7 +0.6**
comp=Z,75nm,0.8s
RAMN Ramite 51.75 272 *eP* **P 00 27 26.0 +0.2**
comp=Z,63nm,0.6s
AAK Ala-Archa 51.82 296 *i* P **P 00 27 26.7 +0.7**
SNR=8.8
AAK Ala-Archa 51.82 296 *ceP* **P 00 27 26.2 +0.1**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 51.82 296 P **P 00 27 26.7 +0.7**
SNR=8.0
AAK Ala-Archa 51.82 296 *eP* **P 00 27 26.2 +0.1**
AAK Ala-Archa 51.82 296 P **P 00 27 26.8 +0.8**
AAK IAmb IAmb 00 27 28.3
comp=Z,11nm,0.9s
KKN Kakani 52.21 274 *eP* **P 00 27 29.6 +0.4**
comp=Z,54nm,0.9s
PKI Pulchoki 52.24 274 *eP* **P 00 27 29.5 -0.1**
comp=Z,60nm,1.2s
PKIN Phulchoki 52.25 274 *eP* **P 00 27 29.3 -0.2**
comp=Z,42nm,1.1s
EKS2 Erkin-Say 52.27 296 P **P 00 27 30.3 +1.0**
SNR=7.3
SBUM Sibu 52.29 228 P **P 00 27 29.4 -0.1**
HUH Hualalai 52.30 99 P **P 00 27 30.0 0.0**
KSH Kashi 52.38 292 P **P 00 27 34.8 +4.6**
KSH PP **PP 00 29 33.9 +4.8**
KSH S **S 00 34 57.9 +6.6**
KSH SS **SS 00 38 35.0 +5.7**
KSH pmax pmax
comp=Z,47nm,1.1s
KSH pmax pmax
comp=Z,220nm,5.5s
KSH LR LR
comp=Z,250nm,11.5s
KSH LR LR
comp=Z,280nm,14.4s
KSH LR LR
comp=Z,360nm,16.7s
DMN Daman 52.44 274 *eP* **P 00 27 31.4 +0.5**
comp=Z,64nm,0.8s
GKN Gorkha 52.55 274 *eP* **P 00 27 32.0 +0.4**
comp=Z,84nm,1.0s
AML Almayashu 52.59 296 P **P 00 27 33.3 +1.3**
SNR=5.4
DANN Dangsing 52.97 275 *eP* **P 00 27 35.7 +0.8**
comp=Z,120nm,0.8s
SVE Sverdlovsk 53.33 317 *eP* **P 00 27 35.8 -0.9**
SVE pmax pmax
comp=Z,44nm,1.1s
PMG Port Moresby 53.33 181 P **P 00 27 37.2 +0.1**
comp=Z,15nm,0.8s,baz=99,slow=21,SNR=3.3
KOLN Koldanda 53.42 275 *eP* **P 00 27 38.6 +0.5**
comp=Z,76nm,1.0s
ARSB Arslanbob 53.45 295 P **P 00 27 39.1 +1.1**
KK31 Karatay Array 54.15 298 *i* P **P 00 27 43.2 +0.2**
KK31 pmax pmax
comp=Z,28nm,1.1s
KK31 Karatay Array 54.15 298 IAmb IAmb 00 27 44.8
comp=Z,22nm,1.0s
KKAR Karatay Array 54.15 298 P **P 00 27 43.0 0.0**
KKAR Karatay Array 54.15 298 P **P 00 27 43.0 0.0**
KKAR Karatay Array 54.15 298 IAmb IAmb 00 27 44.8
comp=Z,22nm,1.0s
RES Resolute Bay 54.35 17 P **P 00 27 44.1 +0.1**
comp=Z,9.6nm,0.4s,baz=345,slow=5.9,SNR=76
RES Resolute Bay 54.35 17 IAmb IAmb 00 27 45.9
comp=Z,20nm,1.0s
ARU Arti 54.53 317 *c iP* **P 00 27 44.0 -1.5**
ARU 00 28 41.4
ARU S **S 00 35 17.6 -2.1**
ARU SS **SS 00 38 55.8 -6.5**
ARU pmax pmax
comp=Z,51nm,1.2s
ARU Arti 54.53 317 P **P 00 27 44.1 -1.5**
YKW3 Yellowknife Ar 55.01 34 P **P 00 27 49.3 +0.4**
YKW3 IAmb IAmb 00 27 54.0
comp=Z,15nm,1.1s
YKA Yellowknife Ar 55.05 34 P **P 00 27 49.2 0.0**
comp=Z,2.6nm,0.4s,baz=297,slow=7.3,SNR=6.8
HSPB Hornsund (broa 55.52 348 *eP* **P 00 27 51.6 -0.8**
KULM Kulim 56.79 241 P **P 00 28 02.4 +0.2**
KULM IAmb IAmb 00 28 04.5
comp=Z,19nm,1.0s
IPM Ipoh 57.18 240 P **P 00 28 04.6 -0.4**
IPM IAmb IAmb 00 28 15.3
comp=Z,9.3nm,1.0s
TULEG Thule 57.29 10 IAmb IAmb 00 28 05.2
comp=Z,17nm,0.9s
NIL Nilore 57.36 287 P **P 00 28 05.0 -1.1**
NIL pmax pmax
comp=Z,32nm,0.9s
NIL Nilore 57.36 287 P **P 00 28 05.0 -1.1**
AB31 Akbulak array 57.36 309 *i* P **P 00 28 05.6 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 57.36 309 P **P 00 28 05.5 -0.3**
ABKAR Akbulak array 57.36 309 IAmb IAmb 00 28 07.7
comp=Z,38nm,1.4s
MMRI Maumere 57.56 211 P **P 00 28 07.1 -0.4**
MMRI IAmb IAmb 00 28 12.0
comp=Z,13nm,0.8s
PRGR Permogore 57.61 326 *eP* **P 00 28 05.1 -2.3**
PRGR pmax pmax
comp=Z,22nm,0.9s
AKTO Aktyubinsk 57.80 311 P **P 00 28 08.4 -0.6**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
SOEI Soe 57.88 208 P **P 00 28 08.9 -1.0**
SOEI IAmb IAmb 00 28 16.1
comp=Z,19nm,0.8s

COEN Coen 58.03 186 P P 00 28 10.6 -0.2
COEN IAmb IAmb 00 28 12.8
comp=Z,21nm,1.2s
APA Apatity 58.29 336⇓ iP P 00 28 10.0 -2.0
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,600nm,17.0s
KEV Kevo 58.57 340 P P 00 28 13.2 -0.8
KEV pmax pmax
comp=Z,24nm,1.1s
KEV Kevo 58.57 340 P P 00 28 13.2 -0.8
HAMF Hammerfest 58.74 341 eP P 00 28 13.7 -1.4
TMCR Tamitsa 58.95 331 eP P 00 28 14.3 -2.4
TMCR pmax pmax
comp=Z,38nm,1.2s
ARCES ARCESS Array B 59.10 340 P P 00 28 16.3 -1.4
comp=Z,6.2nm,0.4s,baz=47,slow=8.4,SNR=101
ARCES LR LR 00 58 09.7
comp=Z,68nm,18.7s,baz=354,slow=40
ARCES ARCESS Array B 59.10 340 P P 00 28 15.9 -1.7
ARE0 ARCESS Array S 59.10 340 eP P 00 28 17.2 -0.5
ARE0 ARCESS Array S 59.10 340 P P 00 28 16.6 -1.1
RPSI Rantau Prapat 59.87 241 IAmb IAmb 00 28 24.7
comp=Z,11nm,0.9s
KTK1 Kautokeino 60.04 340 eP P 00 28 23.1 -1.0
BKNI Bangkinang 60.42 237 P P 00 28 28.6 +1.1
KLMR Klimovskoe 60.46 328 eP P 00 28 24.9 -2.2
KLMR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 60.46 328 eP P 00 28 24.9 -2.2
KLMR AMP 00 28 26.8
comp=Z,20nm,0.9s
TRO Tromso 60.58 342 eP P 00 28 26.5 -1.3
SMRI Semarang 61.29 224 P P 00 28 33.4 +0.1
PINE Pine Mountain 61.93 55 P P 00 28 37.8 +0.2
PINE IAmb IAmb 00 28 40.4
comp=Z,16nm,1.1s
KHMM Horse Mountain 61.93 59 P P 00 28 37.4 -0.2
KNRA Kununurra 62.13 201 P P 00 28 39.0 +0.1
KNRA IAmb IAmb 00 28 40.0
comp=Z,23nm,1.1s
STEI Steigen 62.76 342 eP P 00 28 41.5 -0.9
LOF Lofoten 62.97 343 eP P 00 28 43.9 0.0
JTMT Jette 63.36 48 P P 00 28 45.7 -1.2
JTMT IAmb IAmb 00 28 58.2
comp=Z,9.5nm,1.1s
MOD Modoc Plateau 63.42 57 P P 00 28 47.0 -0.4
SUMG Summit 63.46 2 i P P 00 28 47.8 +0.2
SUMG Summit 63.46 2 i P P 00 28 47.8 +0.2
HYB Hyderabad 63.50 269 i P P 00 28 47.0 -1.2
HYB es P pP 00 29 06.0 +1.2
HYB e 00 29 15.0
PLID Pearl Lake 64.02 52 P P 00 28 51.7 +0.3
ORV Oroville 64.09 59 P P 00 28 51.6 -0.1
ORV pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 64.09 59 P P 00 28 51.6 -0.1
MSO Missoula 64.10 49 IAmb IAmb 00 29 04.5
comp=Z,8.8nm,1.1s
HRA Herat 64.35 294 IAmb IAmb 00 28 57.4
comp=Z,21nm,1.2s
MOR8 Moi Rana 64.37 341 eP P 00 28 51.2 -2.0
BEKR Beckworth 64.60 58 P P 00 28 55.7 +0.4
BEKR IAmb IAmb 00 28 57.1
comp=Z,6.4nm,0.9s
FINES FINESS Array B 64.82 333 P P 00 28 55.2 -0.9
comp=Z,20nm,0.6s,baz=39,slow=7.3,SNR=253
FINES LR LR 00 58 54.2
comp=Z,92nm,19.8s,baz=1.0,slow=38
GEYT Alibeck 64.86 299 P P 00 28 57.2 +0.3
comp=Z,6.5nm,0.5s,baz=59,slow=0.9,SNR=18
GEYT Alibeck 64.86 299 P P 00 28 57.5 +0.6
GYA0B ALIBECK ARRAY 64.86 299 IAmb IAmb 00 28 59.9
comp=Z,13nm,0.9s
FFC Flin Flon 64.93 37 i P P 00 28 58.5 +1.5
FFC Flin Flon 64.93 37 P P 00 28 57.2 +0.2
FFC IAmb IAmb 00 29 08.0
comp=Z,19nm,1.1s
WRA Warramunga Arr 65.04 194 P P 00 28 57.4 -0.7
comp=Z,7.9nm,1.1s,baz=15,slow=7.0,SNR=12
WRA Warramunga Arr 65.04 194 P P 00 28 57.2 -0.8
PAHR Pah Rah Range 65.30 58 P P 00 28 59.9 +0.1
FITZ Fitzroy Crossi 65.30 204 IAmb IAmb 00 29 01.2
comp=Z,9.7nm,0.9s
OBN Obninsk 65.40 324⇓ eP P 00 28 59.2 -0.7
OBN e 00 29 29.5
OBN pmax pmax
comp=Z,30nm,1.7s
OBN Obninsk 65.40 324 eP P 00 28 59.2 -0.7
OBN Obninsk 65.40 324 P P 00 28 59.6 -0.3
SCO Scoresbysund 65.43 356 P P 00 29 00.0 +0.1
SCO pmax pmax
comp=Z,14nm,1.1s
SCO Scoresbysund 65.43 356 P P 00 28 60.0 +0.1
SCO IAmb IAmb 00 29 02.1
comp=Z,14nm,1.1s
PNTR Pine Nut 65.54 59 P P 00 29 01.9 +0.5
PNTR IAmb IAmb 00 29 16.1
comp=Z,14nm,1.1s
VRH Novokhopyorsk 65.68 319 eP P 00 29 00.3 -1.6
VRH pmax pmax
comp=Z,40nm,1.1s
CMB Columbia Colle 65.70 60 P P 00 29 02.0 -0.3
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB Columbia Colle 65.70 60 P P 00 29 01.9 -0.3
YERR Yerington 65.83 59 P P 00 29 03.5 +0.2
YERR IAmb IAmb 00 29 15.8
comp=Z,19nm,1.2s
WAKR Walker 66.00 59 IAmb IAmb 00 29 06.7
comp=Z,9.7nm,1.1s
LPSR Galich'ya Gora 66.06 321 eP P 00 29 03.6 -0.6
LPSR pmax pmax
comp=Z,50nm,1.5s
BOZ Bozeman (W) 66.12 49 P P 00 29 06.3 +1.3
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 66.12 49 P P 00 29 06.3 +1.3
BOZ IAmb IAmb 00 29 22.3
comp=Z,7.0nm,0.7s
KVN Kaiserville 66.48 58 P P 00 29 07.4 -0.1
KVN pmax pmax
comp=Z,9.0nm,0.9s
KVN Kaiserville 66.48 58 P P 00 29 07.4 -0.1
KVN IAmb IAmb 00 29 09.5
comp=Z,8.8nm,0.9s
RYN Ryan 66.49 59 IAmb IAmb 00 29 09.5
comp=Z,7.5nm,0.9s
NVAR Mina Array Bea 66.74 59 P P 00 29 10.3 +1.1
comp=Z,8.1nm,0.9s,baz=292,slow=6.7,SNR=42
VSU Vasula 66.82 331 ceP P 00 29 08.4 -0.6
VSU pmax pmax
comp=Z,94nm,1.2s
VSU Vasula 66.82 331 eP P 00 29 08.6 -0.4
VSU IAmb IAmb 00 29 10.0
comp=Z,71nm,0.9s
NV11 Mina Array Sit 66.83 58 P P 00 29 10.2 +0.6
VSR Storozhevoye 66.88 320 i P P 00 29 09.1 -0.4
VSR pmax pmax
comp=Z,31nm,0.6s
VORD Divnogorie 66.99 319 eP P 00 29 09.7 -0.5
VORD pmax pmax
comp=Z,40nm,1.3s
YHH Holmes Hill 67.06 49 P P 00 29 11.7 +0.5
IMW Indian Meadow 67.59 50 IAmb IAmb 00 29 16.7
comp=Z,8.2nm,1.1s
FXWY Fox Creek 67.70 50 P P 00 29 14.9 -0.3
MOOW Moose Ponds 67.79 50 P P 00 29 16.8 +1.0
TPAW Teton Pass 67.84 51 P P 00 29 17.1 +1.0
TPAW IAmb IAmb 00 29 18.8
comp=Z,6.5nm,0.9s
LOHW Long Hollow 67.95 50 P P 00 29 17.6 +0.9
REDW Red Top Meadow 67.98 51 P P 00 29 18.1 +1.1
REDW IAmb IAmb 00 29 26.0
comp=Z,9.4nm,1.1s
DZM Mont Dzumac 68.02 162 LR LR 00 53 29.9
comp=Z,80nm,21.5s,baz=144,slow=31
DZM Mont Dzumac 68.02 162 P P 00 29 18.4 +1.4
DZM IAmb IAmb 00 29 29.3
comp=Z,20nm,1.2s
SFJD Kangerlussuaq 68.24 8 P P 00 29 17.3 -0.5
SFJD pmax pmax
comp=Z,69nm,1.4s
SFJD Kangerlussuaq 68.24 8 P P 00 29 17.3 -0.5

ASAR Alice Springs 68.76 194 P P 00 29 21.8 +0.2
comp=Z,4.1nm,0.8s,baz=13,slow=5.7,SNR=26
ASAR Alice Springs 68.76 194 P P 00 29 21.6 +0.1
GROC Groznyy 68.83 310 eP P 00 29 20.6 -1.3
GROC e 00 29 44.0
GROC e 00 31 50.9
GROC pmax pmax
comp=Z,19nm,1.9s
AKT Akhty 68.87 308 eP P 00 29 22.7 +0.3
AKT e*PP pP 00 29 42.3 +3.1
AKT e 00 29 45.2
AKT e*SP PcP 00 29 52.5 +6.0
AKT e 00 31 54.2
AKT pmax pmax
comp=Z,44nm,1.2s
DUG Dugway, Tooele 68.91 54 P P 00 29 22.9 +0.2
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 68.91 54 P P 00 29 22.9 +0.2
TPNV Topopah Spring 68.94 59 P P 00 29 22.9 0.0
TPNV Topopah Spring 68.94 59 P P 00 29 22.9 0.0
TPNV IAmb IAmb 00 29 24.8
comp=Z,9.6nm,1.0s
SLIT Slitere, Latvi 68.98 332 eP P 00 29 21.0 -1.6
SLIT IAmb IAmb 00 29 23.4
comp=Z,237nm,1.0s
IZAR Zarasai 69.04 329 eP P 00 29 22.8 -0.1
IZAR IAmb IAmb 00 29 23.6
comp=Z,6.0nm,0.7s
IZAR ePP PP 00 31 55.0 -0.5
GOF Gofitskoye 69.08 313⇑ i P P 00 29 24.1 +0.6
GOF pmax pmax
comp=Z,96nm,0.6s
PD31 Pinedale Array 69.09 50 P P 00 29 23.7 -0.2
PDAR Pinedale Array 69.09 50 P P 00 29 24.2 +0.4
comp=Z,2.7nm,0.9s,baz=256,slow=2.0,SNR=15
PDAR Pinedale Array 69.09 50 P P 00 29 24.0 +0.1
DOMB Dombas 69.13 341 eP P 00 29 23.1 -0.5
ISAL Salakas 69.22 329 eP P 00 29 23.9 -0.1
ISAL IAmb IAmb 00 29 25.8
comp=Z,29nm,1.2s
ISAL epP pP 00 29 39.7 -1.2
ISAL esP PcP 00 29 47.4 -0.1
ISAL ePP PP 00 31 56.6 -0.4
EIDS Eidsvold 69.25 177 P P 00 29 26.2 +1.7
IIGN Ignalina 69.35 329 eP P 00 29 25.0 +0.1
IIGN IAmb IAmb 00 29 26.8
comp=Z,19nm,0.9s
PSUT Pine Spring 69.37 56 P P 00 29 26.3 +0.6
JLU Jordanelle 69.44 53 P P 00 29 25.6 -0.4
NB2 NORSAR Subarra 69.47 339 P P 00 29 24.9 -0.7
comp=Z,4.5nm,0.4s,baz=39,slow=6.2
NB2 NORSAR Subarra 69.47 339 P P 00 29 24.9 -0.7
baz=39,slow=6.2
NOA NORSAR Array B 69.47 339 P P 00 29 25.1 -0.5
comp=Z,5.7nm,0.4s,baz=33,slow=6.5,SNR=167
NOA LR LR 01 04 46.3
comp=Z,60nm,18.0s,baz=20,slow=40
NACGM Naroch 69.48 328 e P 00 29 25.0 -0.7
AKN Aaknes 69.49 342 eP P 00 29 26.2 +0.4
NLU North Lily Min 69.50 54 P P 00 29 26.7 +0.3
NC602 NORSAR Array S 69.64 339 eP P 00 29 26.0 -0.6
MPU Maple Canyon 69.72 54 P P 00 29 28.1 +0.4
SHPR Sheep Range 69.89 58 P P 00 29 29.1 +0.3
KIV Kislovodsk 70.01 312 i P P 00 29 30.8 +1.4
SNR=8.6
KIV Kislovodsk 70.01 312 eP P 00 29 30.3 +1.0
KIV pmax pmax
comp=Z,203nm,1.1s
KIV MLR MLR
comp=Z,191nm,17.0s
KIV Kislovodsk 70.01 312 eP P 00 29 30.3 +1.0
KIV Kislovodsk 70.01 312 P P 00 29 30.4 +1.1
KBZ Khabaz 70.06 312 i P P 00 29 30.1 +0.7
KBZ Khabaz 70.06 312 P P 00 29 30.6 +1.2
comp=Z,42nm,1.0s,baz=52,slow=3.2,SNR=69
KBZ LR LR 01 03 28.1
comp=Z,86nm,20.3s,baz=56,slow=39
KBZ Khabaz 70.06 312 eP P 00 29 30.1 +0.7
PABE Paberze 70.06 330 eP P 00 29 28.8 -0.4
PABE IAmb IAmb 00 29 30.4
comp=Z,106nm,1.2s
ZEI Tsey 70.14 311 eP P 00 29 29.7 -0.6
ZEI pmax pmax
comp=Z,21nm,0.9s
SHA1 Shidzhatmaz 70.18 312 i P P 00 29 30.2 -0.3
PSAD1 Pilbara Seismi 70.27 208 P P 00 29 30.7 -0.2
PSAD1 IAmb IAmb 00 29 32.0
comp=Z,16nm,1.1s
CCUT Cedar City 70.31 57 P P 00 29 31.8 +0.3
PSAC1 Pilbara Seismi 70.35 208 P P 00 29 31.2 -0.2
PSAC1 IAmb IAmb 00 29 32.5
comp=Z,17nm,1.0s
PSAB2 Pilbara Seismi 70.35 208 P P 00 29 31.0 -0.4
PSAB2 IAmb IAmb 00 29 32.4
comp=Z,22nm,1.1s
PSAA2 Pilbara Seismi 70.36 208 P P 00 29 31.4 -0.1
PSAA2 IAmb IAmb 00 29 32.5
comp=Z,16nm,1.1s
PBUR Paburg 70.37 331 IAmb IAmb 00 29 32.2
comp=Z,152nm,1.4s
PSAB3 Pilbara Seismi 70.39 208 P P 00 29 31.7 +0.1
PSAB3 IAmb IAmb 00 29 32.7
comp=Z,9.6nm,0.9s
PSAC3 Pilbara Seismi 70.43 208 P P 00 29 31.3 -0.5
PSAC3 IAmb IAmb 00 29 32.5
comp=Z,14nm,0.9s
PSAD3 Pilbara Seismi 70.46 208 P P 00 29 31.7 -0.4
PSAD3 IAmb IAmb 00 29 33.2
comp=Z,20nm,1.1s
SKAR Skarslia 70.50 340 eP P 00 29 31.6 -0.4
RDMU Red Mountain 70.53 52 P P 00 29 33.1 +0.4
HYA Hoyanger 70.57 342 eP P 00 29 32.6 +0.3
P17A Butcher Ranch, 70.59 54 P P 00 29 33.5 +0.5
MTPU Mount Pierson 70.69 56 P P 00 29 34.0 +0.1
ULM Lac du Bonnet 70.73 38 P P 00 29 33.3 -0.1
comp=Z,2.6nm,0.5s,baz=315,slow=7.1,SNR=4.6
ULM Lac du Bonnet 70.73 38 P P 00 29 33.3 -0.1
ULM IAmb IAmb 00 29 40.7
comp=Z,9.2nm,1.1s
LCMT Little Creek M 70.73 57 P P 00 29 34.4 +0.5
SRU San Rafael Swe 70.96 54 P P 00 29 35.4 +0.1
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 70.96 54 P P 00 29 35.4 +0.1
PFO Pinyon Flats O 70.96 62 P P 00 29 35.2 -0.2
PFO pmax pmax
comp=Z,4.0nm,1.0s
PFO Pinyon Flats O 70.96 62 P P 00 29 35.2 -0.2
KNB Kanab 70.98 57 P P 00 29 35.7 +0.2
KNB pmax pmax
comp=Z,7.0nm,1.1s
KNB Kanab 70.98 57 P P 00 29 35.7 +0.2
AKH Akhalkalaki 71.30 310 P P 00 29 38.8 +1.5
AKH pmax pmax
comp=Z,20nm,1.2s
AKH Akhalkalaki 71.30 310 P P 00 29 38.8 +1.5
AKH IAmb IAmb 00 29 40.8
comp=Z,20nm,1.2s
GNI Garni 71.45 308 P P 00 29 38.4 +0.2
GNI pmax pmax
comp=Z,29nm,1.1s
GNI Garni 71.45 308 P P 00 29 38.4 +0.2
AKASG Malin Array Be 71.66 324 P P 00 29 39.1 0.0
AKASG pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 71.66 324 P P 00 29 38.8 -0.3
comp=Z,6.5nm,0.5s,baz=38,slow=5.7,SNR=16
AKASG Malin Array Be 71.66 324 P P 00 29 39.1 0.0
AKBB Malin Array Si 71.66 324 IAmb IAmb 00 29 39.7
comp=Z,15nm,0.9s
U15A North Rim 71.69 57 P P 00 29 40.4 +0.5
SOC Sochi 71.84 313 eP P 00 29 39.5 -0.8
SOC ePPP PPP 00 33 59.5
SOC eS S 00 38 53.4 -2.5
SOC eSS SS 00 43 32.7 +0.6
SOC eSSS SSS 00 46 47.5
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,99nm,13.0s
KARS Kars 72.06 309 P P 00 29 42.5 +0.6
KARS pmax pmax
comp=Z,46nm,0.8s

KARS Kars 72.06 309 P P 00 29 42.5 +0.6
Y12C Blythe 72.09 60 P P 00 29 42.4 +0.4
ANN Anapa 72.15 316⇑ iP P 00 29 42.0 -0.1
ANN pmax pmax
comp=Z,47nm,1.3s
AGMN Agassiz Nation 72.16 39 IAmb IAmb 00 29 51.4
comp=Z,19nm,1.4s
PV09 Paradox Valley 72.17 54 P P 00 29 42.5 -0.3
PV21 Cone Mtn., Par 72.22 53 P P 00 29 43.8 +0.8
PV23 Carpenter Ridg 72.27 53 P P 00 29 43.1 -0.3
N23A Red Feather La 72.34 50 P P 00 29 43.9 +0.2
N23A IAmb IAmb 00 29 45.2
comp=Z,18nm,1.5s
GLA Glamis 72.36 61 P P 00 29 43.8 +0.1
GLA pmax pmax
comp=Z,7.0nm,1.0s
GLA Glamis 72.36 61 P P 00 29 43.8 +0.1
PV20 West Nyswonger 72.37 54 P P 00 29 44.3 +0.4
PV19 Morning Glory 72.39 54 P P 00 29 44.0 +0.1
PV17 East Wray Mesa 72.42 54 P P 00 29 44.8 +0.7
PV17 IAmb IAmb 00 29 45.8
comp=Z,11nm,0.8s
PV16 Nyswonger Mesa 72.42 54 P P 00 29 44.4 +0.2
PV11 David Mesa, Pa 72.46 54 P P 00 29 45.0 +0.7
PV18 Skein Mesa, Pa 72.47 54 IAmb IAmb 00 29 46.1
comp=Z,11nm,1.1s
PV12 Saucer Basin, 72.49 53 P P 00 29 45.4 +0.8
PV07 Paradox Valley 72.49 53 P P 00 29 44.7 +0.1
PV03 Paradox Valley 72.50 54 P P 00 29 45.3 +0.7
PV02 Paradox Valley 72.60 54 P P 00 29 46.2 +1.0
PV02 IAmb IAmb 00 29 59.6
comp=Z,13nm,1.5s
PV01 Paradox Valley 72.74 53 P P 00 29 46.9 +0.8
SMCO Snowmass 72.94 52 P P 00 29 47.7 +0.2
113A Mohawk Valley, 73.22 61 P P 00 29 49.0 +0.4
ISCO Idaho Springs 73.28 51 P P 00 29 49.9 +0.6
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO Idaho Springs 73.28 51 P P 00 29 49.9 +0.6
MVCO Mesa Verde 73.41 54 IAmb IAmb 00 30 02.8
comp=Z,14nm,1.5s
BSD Bornholm Skovb 73.43 334⇓ iP P 00 29 49.4 -0.1
BSD pmax pmax
comp=Z,3.0nm,0.3s
BSD Bornholm Skovb 73.43 334⇓ iP P 00 29 49.4 -0.1
comp=Z,2.7nm,0.3s
MNCI Minicoy 73.58 266 P P 00 29 51.1 +0.1
BANOM Banah 73.68 290 P P 00 29 51.9 +0.4
SIM Simferopol' 73.69 317 deP P 00 29 50.9 -0.3
SIM pmax pmax
comp=Z,25nm,1.0s
SHME Shamm 73.70 290 P P 00 29 51.9 +0.3
SORM Soroca 73.97 323 ⇑P P 00 29 52.7 -0.1
S22A 4UR Ranch, Cre 74.01 53 P P 00 29 53.8 +0.2
MDH Madha 74.09 290 P P 00 29 53.3 -0.6
W18A Petrified Fore 74.11 56 P P 00 29 54.4 +0.3
BEL Belsk 74.12 329 eP P 00 29 54.3 +0.7
BEL Belsk 74.12 329 eP P 00 29 54.3 +0.7
BEL eP P 00 29 54.3 +0.7
Q24A Divide 74.12 51 P P 00 29 54.7 +0.4
MSFE Esma-Masafi 74.14 290 P P 00 29 55.2 +0.9
GKP Gorka Klasztor 74.21 332 eP P 00 29 54.1 0.0
GKP Gorka Klasztor 74.21 332 eP P 00 29 54.1 0.0
GKP eP P 00 29 54.1 0.0
EYMN Ely 74.36 37 P P 00 29 55.1 0.0
EYMN IAmb IAmb 00 30 03.2
comp=Z,21nm,1.3s
X18A Snowflake 74.38 57 P P 00 29 56.0 +0.3
UOSS Minazif 74.39 290 P P 00 29 55.8 +0.2
UOSS Minazif 74.39 290 P P 00 29 56.0 +0.4
UOSS IAmb IAmb 00 29 56.7
comp=Z,12nm,0.8s
LVV L'vov 74.48 326 eP P 00 29 56.3 +0.6
HATD Hatta, Dubai 74.52 290 i P P 00 29 57.0 +0.6
SNR=7.6
HMDM Hanimaadhoo 74.53 264 P P 00 29 56.7 +0.1
ASHO Ashiyiah 74.66 289 P P 00 29 57.2 -0.1
NAZ Nazwa, Dubai 74.73 290 P P 00 29 58.1 +0.5
KWP Kalwaria Pacla 75.15 327 eP P 00 30 00.6 +1.0
KWP Kalwaria Pacla 75.15 327 eP P 00 30 00.6 +1.0
KWP eP P 00 30 00.6 +1.0
ECSD EROS Data Cent 75.17 43 IAmb IAmb 00 30 01.0
comp=Z,11nm,1.1s
ASUD Al Ashush, Dub 75.19 290 P P 00 30 00.7 +0.4
E38A The Farm, Brul 75.36 38 IAmb IAmb 00 30 01.6
comp=Z,12nm,0.7s
TUC Tucson 75.38 59 P P 00 30 02.0 +0.7
TUC pmax pmax
comp=Z,3.0nm,1.0s
TUC Tucson 75.38 59 P P 00 30 02.0 +0.7
BUR08 Bucovina Ar. S 75.70 324 IAmb IAmb 00 30 04.6
comp=Z,23nm,1.1s
BURAR Bucovina Array 75.72 324 ⇑P P 00 30 03.2 +0.1
BURAR mb 00 30 04.8
BURAR mb 00 30 05.9
BURAR Bucovina Array 75.72 324 P P 00 30 03.0 0.0
BIR Birlad 75.72 322 ⇑P P 00 30 04.0 +1.0
BIR mb 00 30 05.5
OJC Ojcow 75.80 329 eP P 00 30 03.7 +0.4
OJC Ojcow 75.80 329 eP P 00 30 03.7 +0.4
OJC eP P 00 30 03.7 +0.4
T25A Trinidad 75.81 52 P P 00 30 04.5 +0.6
BIZ Bicaz 75.87 323 ⇑P P 00 30 04.4 +0.6
KOLS Kolonicke sedl 75.88 327 eP P 00 30 04.5 +0.6
KOLS pmax pmax
comp=Z,24nm,1.2s
KOLS Kolonicke sedl 75.88 327 eP P 00 30 04.4 +0.6
STHS Stebnicka Huta 75.89 327 eP P 00 30 05.7 +1.8
STHS pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 75.89 327 eP P 00 30 05.7 +1.8
TESR Tescani 75.96 323 ⇑P P 00 30 04.2 -0.1
TLCR 76.01 321 ⇓P P 00 30 04.9 +0.3
TLCR mb 00 30 06.6
RUE Ruedersdorf 76.02 333 eP P 00 30 04.6 +0.1
RUE ePP PP 00 32 54.2 -0.7
UZH Uzhgorod 76.11 326 eP P 00 30 04.3 -0.8
UZH i 00 30 20.0
UZH e 00 30 31.6
ANMO Albuquerque 76.17 55 P P 00 30 06.3 +0.3
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 76.17 55 P P 00 30 06.3 +0.3
NIE Niedzica 76.26 328 eP P 00 30 06.7 +0.7
NIE Niedzica 76.26 328 eP P 00 30 06.7 +0.7
NIE eP P 00 30 06.7 +0.7
PETR Petresti 76.32 322 ⇓P P 00 30 07.9 +1.6
CFR Carcaliu 76.33 321 ⇓P P 00 30 06.5 +0.1
ODBI Odobesti 76.36 322 ⇓P P 00 30 07.4 +0.8
LENM Lemitar 76.41 56 P P 00 30 07.5 +0.2
TRPA Tarpa 76.42 326 ⇑P P 00 30 07.4 +0.6
TRPA mb 00 30 09.7
VRI Vrincioaia 76.43 322 ⇑P P 00 30 07.5 +0.5
TOPG Topolog 76.45 321 ⇓P P 00 30 07.7 +0.6
ARCR ARCALIA 76.50 324 ⇑P P 00 30 08.9 +1.6
KSP Ksiaz 76.55 331 eP P 00 30 07.9 +0.3
KSP Ksiaz 76.55 331 eP P 00 30 07.9 +0.3
KSP eP P 00 30 07.9 +0.3
BNM Barren Site 76.63 55 P P 00 30 09.0 +0.4
OZUR 76.66 323 ⇑P P 00 30 09.4 +1.0
OKC Ostrava-Krasne 76.72 329 eP P 00 30 08.6 +0.1
OKC Ostrava-Krasne 76.72 329 eP P 00 30 08.6 +0.1
TIRR Tirgusor 76.75 320 P P 00 30 08.8 0.0
TIRR pmax pmax
comp=Z,83nm,1.1s
TIRR Tirgusor 76.75 320 ⇓P P 00 30 08.6 -0.2
TIRR Tirgusor 76.75 320 ⇓P P 00 30 08.6 -0.2
TIRR Tirgusor 76.75 320 P P 00 30 08.8 0.0
LANS Liptovska Anna 76.79 328 eP P 00 30 10.7 +1.7
LANS pmax pmax
comp=Z,18nm,1.0s
LANS Liptovska Anna 76.79 328 eP P 00 30 10.7 +1.7
HARR Harsova 76.80 321 ⇑P P 00 30 08.9 -0.1
HARR mb 00 30 12.0
OSTC Ostas 76.81 331 eP P 00 30 09.6 +0.5
FORT Forrest 76.82 198 P P 00 30 09.4 +0.3
TLB Topalu 76.83 321 ⇑P P 00 30 09.7 +0.5
CHVC Chvalec 76.84 331 eP P 00 30 10.1 +0.8
UPC Upice 76.93 331 eP P 00 30 10.2 +0.5
UPC Upice 76.93 331 eP P 00 30 10.2 +0.5
DOPR Dopca 76.94 323 ⇓P P 00 30 10.2 +0.3
KECS Kecovo 76.94 327 eP P 00 30 11.2 +1.4

KECS pmax pmax
comp=Z,9.0nm,1.3s
KECS Kecovo 76.94 327 *eP* **P 00 30 11.1 +1.3**
319A Douglas 76.95 59 P **P 00 30 10.7 +0.4**
319A IAmb IAmb 00 30 12.2
comp=Z,9.9nm,0.8s
DPC Dobruska-Polom 76.95 331 *eP* **P 00 30 10.5 +0.6**
DPC *e* 00 30 26.2
DPC Dobruska-Polom 76.95 331 *eP* **P 00 30 10.5 +0.6**
DPC *ex* x 00 30 26.2
SCHQ Schefferville 76.98 20 P **P 00 30 10.1 +0.1**
comp=Z,5.2nm,0.5s,baz=285,slow=8.2,SNR=3.1
SCHQ LR LR 01 07 18.6
comp=Z,99nm,19.9s,baz=30,slow=38
MORC Moravsky Berou 76.99 330 ⇓P **P 00 30 10.7 +0.6**
MORC mb 00 30 12.8
MORC Moravsky Berou 76.99 330 *eP* **P 00 30 10.5 +0.4**
KRLC Kraliky 77.02 330 *eP* **P 00 30 11.0 +0.7**
KRLC Kraliky 77.02 330 *eP* **P 00 30 11.0 +0.7**
MLR Muntele Rosu 77.06 322 ⇓P **P 00 30 11.2 +0.4**
MLR Muntele Rosu 77.06 322 IAmb IAmb 00 30 12.7
comp=Z,8.0nm,0.8s
ISR Istrita 77.09 322 ⇑P **P 00 30 11.7 +0.9**
CJR Cluj-Napoca 77.11 324 ⇓P **P 00 30 11.8 +0.9**
CLL Collm 77.27 333 *i* P **P 00 30 11.2 -0.4**
CLL pmax pmax
comp=Z,44nm,1.1s
CLL Collm 77.27 333 *i* P **P 00 30 11.7 +0.1**
comp=Z,44nm,1.1s
CLL *e*pP **PcP 00 30 23.0 +1.0**
ICOR Ion Corvin 77.30 320 ⇑P **P 00 30 14.4 +2.5**
BRG Berggiesshubel 77.33 332 *e*PKP **P 00 30 11.9 0.0**
comp=Z,21nm,1.1s
BRG Berggiesshubel 77.33 332 *eP* **P 00 30 11.9 0.0**
BRG pmax pmax
comp=Z,21nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,21nm,1.4s
BRG pmax pmax
comp=Z,19nm,1.5s
BRG pmax pmax
comp=Z,22nm,1.9s
PVCC Panska Ves 77.41 332 *eP* **P 00 30 13.0 +0.6**
PVCC Panska Ves 77.41 332 *eP* **P 00 30 13.0 +0.6**
DRGR 77.42 325 ⇓P **P 00 30 12.5 -0.1**
VOIR 77.50 323 ⇓P **P 00 30 15.3 +2.2**
E43A Lone Tree Farm 77.51 36 P **P 00 30 12.0 -1.0**
E43A IAmb IAmb 00 30 13.0
comp=Z,8.1nm,0.8s
RASA Rasa 77.52 321 ⇓P **P 00 30 15.3 +2.2**
VYHS Vyhne 77.57 328 *eP* **P 00 30 14.1 +0.7**
VYHS pmax pmax
comp=Z,24nm,1.2s
VYHS Vyhne 77.57 328 *eP* **P 00 30 14.1 +0.7**
PSZ Piszkesteto 77.63 327 ⇓P **P 00 30 14.4 +0.6**
PSZ mb 00 30 16.8
PSZ Piszkesteto 77.63 327 IAmb IAmb 00 30 15.3
comp=Z,9.9nm,0.9s
JAVC Velka Javorina 77.70 329 *eP* **P 00 30 15.6 +1.4**
VRAC Vranov 77.72 330 ⇓P **P 00 30 14.9 +0.7**
VRAC mb 00 30 17.9
VRAC Vranov 77.72 330 *eP* **P 00 30 14.6 +0.4**
ARR Arges 77.73 323 ⇑P **P 00 30 16.1 +1.7**
BR131 Keskin Array S 77.77 314 IAmb IAmb 00 30 18.3
comp=Z,8.7nm,0.9s
BRTR Keskin Array B 77.77 314 P **P 00 30 14.7 -0.1**
BRTR Keskin Array B 77.77 314 P **P 00 30 15.3 +0.5**
comp=Z,7.6nm,1.1s,baz=68,slow=4.2,SNR=24
BRTR Keskin Array B 77.77 314 P **P 00 30 14.7 -0.1**
PRA Prague 77.84 332 *eP* **P 00 30 15.6 +0.8**
PRA Prague 77.84 332 *eP* **P 00 30 15.6 +0.8**
GOPC GO Pecny, Ondr 77.85 331 *eP* **P 00 30 15.4 +0.5**
GOPC GO Pecny, Ondr 77.85 331 *eP* **P 00 30 15.4 +0.5**
PRU Pruhonice 77.88 331 *eP* **P 00 30 15.3 +0.3**
PRU Pruhonice 77.88 331 *eP* **P 00 30 15.3 +0.3**
KRUC Moravsky 78.00 330 *eP* **P 00 30 16.1 +0.4**
SMOL Smolenice 78.08 329 *eP* **P 00 30 17.4 +1.2**
SMOL pmax pmax
comp=Z,19nm,1.3s
SMOL Smolenice 78.08 329 *eP* **P 00 30 17.4 +1.2**
ANTO Ankara 78.10 315 P **P 00 30 17.4 +0.9**
ANTO pmax pmax
comp=Z,21nm,0.8s
ANTO Ankara 78.10 315 ⇓ **P 00 30 18.4 +1.9**
ANTO Ankara 78.10 315 P **P 00 30 17.4 +0.9**
TREC Trest 78.13 331 *eP* **P 00 30 16.9 +0.4**
TREC Trest 78.13 331 *eP* **P 00 30 16.9 +0.4**
SCIA State Center 78.19 42 P **P 00 30 17.6 +0.7**
SCIA IAmb IAmb 00 30 27.7
comp=Z,19nm,1.1s
MODS Modra-Piesok 78.25 329 *eP* **P 00 30 17.1 -0.1**
MODS pmax pmax
comp=Z,41nm,1.4s
MODS Modra-Piesok 78.25 329 *eP* **P 00 30 17.1 -0.1**
PBCC Pribram 78.32 332 *eP* **P 00 30 17.6 +0.1**
SRO Srobarova 78.33 328 *eP* **P 00 30 18.8 +1.3**
SRO pmax pmax
comp=Z,31nm,0.9s
SRO Srobarova 78.33 328 *eP* **P 00 30 18.8 +1.3**
NKC Novy Kostel 78.37 333 *eP* **P 00 30 18.2 +0.4**
NKC Novy Kostel 78.37 333 *eP* **P 00 30 18.2 +0.4**
COPA Copaceanca 78.45 322 ⇓P **P 00 30 19.6 +1.4**
GZR Gura Zlata 78.51 324 ⇑P **P 00 30 18.6 -0.1**
BZS Buzias 78.81 325 ⇑P **P 00 30 20.7 +0.4**
KLYT Kilyos 78.92 318 ⇓P **P 00 30 22.4 +1.5**
KHC Kasperske Hory 78.94 332 *eP* **P 00 30 21.0 +0.1**
KHC *e* 00 30 40.8
KHC Kasperske Hory 78.94 332 *eP* **P 00 30 21.0 +0.1**
KHC *ex* x 00 30 40.8
KHC Kasperske Hory 78.94 332 IAmb IAmb 00 30 24.2
comp=Z,9.7nm,0.9s
ELND Elena 79.10 321 ⇓P **P 00 30 23.6 +1.7**
GEC2 GERESS Array S 79.14 331 IAmb IAmb 00 30 24.8
comp=Z,10nm,0.9s
GERES GERESS Array B 79.14 331 P **P 00 30 21.9 -0.2**
comp=Z,4.7nm,0.7s,baz=33,slow=5.7,SNR=45
GERES LR LR 01 09 14.1
comp=Z,89nm,19.1s,baz=104,slow=39
CONA Conrad Observa 79.15 330 *eP* **P 00 30 23.0 +0.8**
comp=Z,28nm,1.2s,SNR=12
PLVB Pleven 79.31 322 ⇑P **P 00 30 23.4 +0.5**
MDVR Moldovita 79.45 324 ⇓P **P 00 30 23.4 -0.4**
MORH Mrgy, Hungar 79.52 327 *eP* **P 00 30 22.9 -1.2**
VLDQ Val d'Or 79.75 29 IAmb IAmb 00 30 33.5
comp=Z,16nm,1.1s
MOA Molln 79.79 330 *eP* **P 00 30 26.4 +0.9**
comp=Z,13nm,1.0s
ARSA Arzberg 79.84 329 *eP* **P 00 30 26.4 +0.5**
comp=Z,16nm,1.1s,SNR=8.2
FRGS Fruska Gora 79.92 326 *eP* **P 00 30 26.0 -0.4**
MEM Membach 80.02 337 P **P 00 30 26.9 +0.2**
MEM PcP **PcP 00 30 34.1 +0.1**
MEM pP **pP 00 30 37.0 -6.9**
SOKA Soboth 80.50 329 *eP* **P 00 30 29.7 +0.2**
comp=Z,29nm,1.0s,SNR=9.4
PERS Pernice 80.51 329 *i* P **P 00 30 29.6 +0.1**
VTS Vitosha 80.53 322 P **P 00 30 30.4 +0.6**
VTS Vitosha 80.53 322 ⇑P **P 00 30 30.4 +0.6**
VTS mb 00 30 33.6
BMRD Maredsous 80.65 337 P **P 00 30 30.2 +0.1**
RDO Rodhopi 80.66 320 P **P 00 30 30.7 +0.4**
STU Stuttgart 80.69 334 IAmb IAmb 00 30 33.3
comp=Z,23nm,0.9s
DIVS Divibare 80.72 325 *eP* **P 00 30 30.1 -0.6**
KBA Koelnbreinsper 80.77 331 *eP* **P 00 30 32.1 +1.1**
comp=Z,27nm,1.0s,SNR=9.0
OBKA Obir 80.82 330 *eP* **P 00 30 31.3 +0.1**
comp=Z,10.0nm,0.9s
MYKA Terra Mystica 81.05 330 *eP* **P 00 30 32.5 +0.1**
comp=Z,13nm,0.9s,SNR=5.8
CRES Cresnjev 81.07 329 *eP* **P 00 30 31.9 -0.6**
HDIL Hopedale 81.10 41 P **P 00 30 32.8 +0.1**
HDIL IAmb IAmb 00 30 43.3
comp=Z,28nm,1.1s
BBLS Lazići 81.15 325 *eP* **P 00 30 32.8 -0.2**
HAPS Han Pijesak,Bl 81.16 326 *eP* **P 00 30 32.4 -0.7**
WATA Walderalm 81.16 322 *i* P **P 00 30 33.2 +0.1**
comp=Z,37nm,1.1s,SNR=19
WTTA Wattenberg 81.20 332 *eP* **P 00 30 33.7 +0.3**
comp=Z,30nm,0.8s,SNR=9.0
LJU Ljubljana 81.23 329 *eP* **P 00 30 31.9 -1.4**
NVR Nevrokopi 81.27 321 P **P 00 30 33.9 +0.3**
RETA Reutte 81.31 332 *eP* **P 00 30 34.3 +0.5**
comp=Z,38nm,1.6s,SNR=10
BLY Banja Luka 81.31 327 *eP* **P 00 30 32.9 -0.8**
BLY Banja Luka 81.31 327 P **P 00 30 35.0 +1.3**
BLY IAmb IAmb 00 30 38.7
comp=Z,15nm,1.4s
MOTA Moosalm 81.31 332 *eP* **P 00 30 34.0 0.0**
comp=Z,51nm,1.0s,SNR=13
EZN Ezine 81.33 319 ⇓P **P 00 30 34.4 +0.6**
EZN mb 00 30 37.4
ABTA Abfaltersbach 81.35 331 *e*PcP **P 00 30 35.7 +1.6**
comp=Z,11nm,1.3s
BFO Black Forest 81.36 334 P **P 00 30 34.1 +0.1**
BFO pmax pmax
comp=Z,22nm,1.1s
BFO Black Forest 81.36 334 P **P 00 30 34.1 +0.1**
BFO IAmb IAmb 00 30 36.3
comp=Z,22nm,1.1s
RUDO Rudo 81.37 325 *eP* **P 00 30 33.4 -0.7**
SQTA Sankt Quirin 81.39 332 *eP* **P 00 30 34.5 +0.2**
comp=Z,25nm,0.8s,SNR=9.2
BOJS Bojanci 81.42 329 *i* P **P 00 30 33.8 -0.4**
CSS Mathiatis 81.48 311 IAmb IAmb 00 30 44.3
comp=Z,9.6nm,1.0s
CEY Cerknica 81.52 329 *eP* **P 00 30 33.8 -1.1**
SRS Serrai 81.57 321 P **P 00 30 33.4 -1.8**
MGRS Mrkonjic Grad 81.63 327 *eP* **P 00 30 35.8 +0.3**
STAL STALIGIAL 81.70 331 IAmb IAmb 00 30 37.9
comp=Z,17nm,0.9s
P43A Skaggs, Pawnee 81.72 41 P **P 00 30 36.4 +0.4**
P43A IAmb IAmb 00 30 46.2
comp=Z,12nm,0.9s
DAVA Damuels 81.77 333 *eP* **P 00 30 36.1 -0.2**
comp=Z,22nm,1.0s
TRI Trieste 81.79 330 P **P 00 30 37.1 +0.9**
TRI pmax pmax
comp=Z,23nm,1.1s
TRI Trieste 81.79 330 P **P 00 30 37.1 +0.9**
TRI IAmb IAmb 00 30 37.8
comp=Z,23nm,1.1s
O44A Mansfield 81.81 40 P **P 00 30 36.8 +0.4**
O44A IAmb IAmb 00 30 46.7
comp=Z,12nm,1.1s
LIA Limnos Island 81.81 319 P **P 00 30 34.9 -1.5**
TX31 Lajitas Ar. Si 81.82 57 IAmb IAmb 00 30 38.4
comp=Z,6.7nm,0.8s
TX32 Lajitas Array 81.82 57 IAmb IAmb 00 30 38.4
comp=Z,6.8nm,0.8s
TXAR Lajitas Array 81.82 57 P **P 00 30 37.1 +0.3**
TXAR Lajitas Array 81.82 57 P **P 00 30 37.6 +0.8**
comp=Z,5.2nm,0.7s,baz=300,slow=4.2,SNR=59
TXAR Lajitas Array 81.82 57 P **P 00 30 37.1 +0.3**
ECH Echery 81.82 335 IAmb IAmb 00 30 39.2
comp=Z,24nm,1.0s
UPM Unac-Piva 81.90 325 *eP* **P 00 30 36.2 -0.9**
CCM Cathedral Cave 82.12 43 P **P 00 30 38.1 -0.1**
CCM pmax pmax
comp=Z,11nm,1.0s
CCM Cathedral Cave 82.12 43 P **P 00 30 38.1 -0.1**
CCM IAmb IAmb 00 30 39.0
comp=Z,11nm,0.9s
PLG Polygyros 82.23 321 P **P 00 30 38.2 -0.5**
CTI Castel Tesino 82.25 331 IAmb IAmb 00 30 40.8
comp=Z,12nm,0.9s
BRY Bratogost 82.30 325 *eP* **P 00 30 37.2 -2.0**
PDG Podgorica 82.40 324 *eP* **P 00 30 39.0 -0.4**
PDG Podgorica 82.40 324 ⇓P **P 00 30 39.1 -0.4**
PDG mb 00 30 42.3
RAYN Ar Rayn 82.47 295 *i* P **P 00 30 41.1 +0.8**
SNR=9.3
RAYN Ar Rayn 82.47 295 P **P 00 30 41.2 +1.0**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 82.47 295 P **P 00 30 41.2 +1.0**
RAYN IAmb IAmb 00 30 44.8
comp=Z,8.8nm,0.9s
TREB Trebinje 82.53 325 *eP* **P 00 30 39.8 -0.4**
DRME Dracevica, Mon 82.63 324 *eP* **P 00 30 40.1 -0.6**
U40A Yellville 82.63 45 IAmb IAmb 00 30 53.0
comp=Z,14nm,1.1s
STON Ston 82.67 326 *eP* **P 00 30 37.6 -3.3**
HCY Herceg Novi 82.70 325 *eP* **P 00 30 38.3 -2.8**
FNA Florina 82.83 322 IAmb IAmb 00 30 44.6
comp=Z,16nm,1.1s
LIT Litokhoron 82.89 321 P **P 00 30 42.5 +0.4**
LIT pmax pmax
comp=Z,9.0nm,0.9s
LIT Litokhoron 82.89 321 P **P 00 30 42.5 +0.4**
LIT IAmb IAmb 00 30 44.7
comp=Z,9.1nm,0.9s
TIR Tirane 83.03 323 ⇑P **P 00 30 43.1 +0.3**
TIR mb 00 30 45.9
NEST Nestorio 83.28 322 P **P 00 30 43.7 -0.5**
SIUC Southern Illin 83.38 42 P **P 00 30 44.5 -0.2**
SIUC IAmb IAmb 00 30 45.5
comp=Z,14nm,0.8s
SENIN Lac Senin/Sane 83.42 334 IAmb IAmb 00 30 51.0
comp=Z,18nm,1.2s
MEDO Medina 83.59 32 P **P 00 30 45.4 -0.2**
PPT Papeete 83.63 122 P **P 00 30 46.7 +0.6**
PPT Papeete 83.63 122 P **P 00 30 47.0 +1.0**
comp=Z,68nm,1.1s,baz=200,slow=8.1,SNR=4.1
PPT Papeete 83.63 122 P **P 00 30 46.6 +0.6**
MIAR Mount Ida 83.65 47 IAmb IAmb 00 30 47.0
comp=Z,8.0nm,0.9s
PPTF Pamatai, Papee 83.65 122 P **P 00 30 46.8 +0.5**
E62A Clayton Lake 83.66 25 P **P 00 30 46.1 +0.2**
E62A IAmb IAmb 00 30 51.4
comp=Z,25nm,1.2s
WHAR Wooly Hollow 83.75 46 P **P 00 30 46.1 -0.4**
WHAR IAmb IAmb 00 30 47.6
comp=Z,18nm,1.1s
M52A Chesterland 83.80 35 P **P 00 30 45.3 -1.5**
AGG Agios Georgios 83.83 321 IAmb IAmb 00 30 48.9
comp=Z,8.2nm,1.1s
W41B Gary Mavity, V 83.86 46 P **P 00 30 47.8 +0.7**
W41B IAmb IAmb 00 30 48.1
comp=Z,6.7nm,1.0s
J56A Wolcott 84.10 31 P **P 00 30 46.2 -2.0**
KARP Karpathos 84.27 315 P **P 00 30 48.8 -0.5**
VLC Villacollemand 84.34 331 P **P 00 30 50.8 +1.3**
WCI Wyandotte Cave 84.36 40 P **P 00 30 49.5 -0.2**
WCI pmax pmax
comp=Z,8.0nm,1.0s
WCI Wyandotte Cave 84.36 40 P **P 00 30 49.5 -0.2**
WCI IAmb IAmb 00 31 07.3
comp=Z,7.8nm,0.9s
THR6 Thira Island, 84.51 317 P **P 00 30 48.5 -1.9**
OSSC Osservatorio P 84.59 330 IAmb IAmb 00 30 53.5
comp=Z,19nm,1.1s
LAKA Lakka 84.63 320 P **P 00 30 48.7 -2.3**
SCTE Santa Cesarea 84.68 324 P **P 00 30 50.7 -0.5**
PDO Prodromos 84.70 321 P **P 00 30 50.7 -0.7**
BNI Bardonecchia 84.79 334 IAmb IAmb 00 30 55.5
comp=Z,17nm,1.1s
AQU L'Aquila 84.80 328 IAmb IAmb 00 31 02.7
comp=Z,16nm,1.0s
N54A Moraine State 84.85 34 P **P 00 30 52.5 +0.4**
M55A Ridgway 84.91 33 P **P 00 30 51.8 -0.6**
EVGI Lefkada island 84.92 321 P **P 00 30 51.5 -1.0**
H62A Milan 84.97 27 P **P 00 30 53.1 +0.5**
H62A IAmb IAmb 00 31 10.5
comp=Z,7.3nm,1.0s
T47A Sharon Grove 84.97 41 IAmb IAmb 00 30 54.2
comp=Z,12nm,0.8s
DRO Drossia 84.98 320 P **P 00 30 52.1 -0.7**
RLS Riolos of Patr 85.01 321 P **P 00 30 52.2 -0.7**
Q51A Peebles 85.04 38 IAmb IAmb 00 31 05.0
comp=Z,14nm,0.9s
FSK Fiskardo 85.09 321 P **P 00 30 51.3 -2.0**
LATE Laterza 85.17 329 P **P 00 30 54.1 +0.4**
SSB Saint Sauveur 85.25 335 IAmb IAmb 00 30 57.6
comp=Z,9.7nm,0.9s
VLS Valsamata 85.31 321 P **P 00 30 53.5 -0.9**
LAST Lasithi 85.42 316 P **P 00 30 54.4 -0.7**
M57A Sunshine Farm, 85.66 32 P **P 00 30 56.3 +0.1**
M57A IAmb IAmb 00 31 04.7
comp=Z,12nm,1.1s
L59A Walton 85.71 31 P **P 00 30 56.4 -0.1**
L59A IAmb IAmb 00 31 07.3
comp=Z,18nm,1.1s
VAM Vamos 85.86 317 P **P 00 30 55.3 -1.9**
TIP Timpagrande 86.15 324 ⇑P **P 00 30 58.6 -0.1**
TIP mb 00 31 03.0
TIP Timpagrande 86.15 324 IAmb IAmb 00 31 00.9
comp=Z,5.8nm,0.9s
Q56A Snyder Ridge, 86.80 35 P **P 00 31 02.5 +0.7**
TUWZ Tuamarina 88.31 161 P **P 00 31 08.9 +0.4**
BHW Baring Head 88.52 160 P **P 00 31 10.2 +0.7**
FOZ Fox Glacier 89.44 164 P **P 00 31 15.9 +2.1**
LBZ Lake Benmore 90.33 164 P **P 00 31 19.4 +1.5**
KEST Kesra 92.11 328 P **P 00 31 26.3 -0.5**
comp=Z,2.3nm,0.7s,baz=331,slow=1.1,SNR=7.4
ESDC Sonseca Array 92.83 339 P **P 00 31 30.3 +0.2**
comp=Z,1.1nm,0.7s,baz=27,slow=3.7,SNR=8.2
ESDC Sonseca Array 92.83 339 P **P 00 31 29.3 -0.8**
TORD Torodi Ar. Bea 115.29 323 PKP **PKiKP 00 36 57.5 -1.6**
comp=Z,0.3nm,0.4s,baz=6.6,slow=2.3,SNR=10
BDFB Brasilia 148.42 31 PKPbc **PKPbc 00 38 04.2 0.0**
comp=Z,6.9nm,0.8s,baz=275,slow=4.0,SNR=8.6
SNAA Sanae 149.07 197 PKPbc **PKPbc 00 38 04.1 -0.1**
SNAA Sanae 149.07 197 pPKP pPKPdf 00 38 25.7 +7.7
SNAA Sanae 149.07 197 PKP2 **PKPbc 00 38 03.9 -0.3**
SNAA Sanae 149.07 197 **PKPbc 00 38 03.9 -0.3**
VNA2 Neumayer--Watz 150.59 196 PKPbc **PKPbc 00 38 07.8 +0.1**
VNA2 Neumayer--Watz 150.59 196 pPKP pPKPdf 00 38 29.8 +9.4
VNA3 Neumayer Olymp 150.76 194 PKPbc **PKPbc 00 38 08.1 -0.1**
VNA3 Neumayer Olymp 150.76 194 pPKP pPKPdf 00 38 29.4 +8.7
VNA1 Neumayer--Stat 150.99 196 PKPbc **PKiKP 00 38 09.1 -0.1**
VNA1 Neumayer--Stat 150.99 196 pPKP pPKPdf 00 38 30.1 +9.2
PLCA Paso Flores 151.42 97 PKPbc **PKPbc 00 38 10.6 -0.1**
comp=Z,4.3nm,1.0s,baz=298,slow=3.0,SNR=8.2
PLCA PKPab **PKPab 00 38 18.7 -0.6**
comp=Z,3.6nm,0.8s,baz=287,slow=3.7,SNR=6.9
CPUP Villa Florida 152.79 58 PKPbc **PKPbc 00 38 14.0 -0.1**
comp=Z,1.0nm,0.5s,baz=331,slow=3.0,SNR=3.0
CPUP PKPab **pPKPdf 00 38 24.0 -1.1**
comp=Z,1.8nm,0.9s,baz=20,slow=2.5,SNR=3.9

IDC 03 00:30:54.4±3.0, 35°.96N×100°.46E, h0km, mb1 3.4/3, mb1mx3.1/52, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=66.5km s-min=30.0km az=100.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.65**	**19**	Pn	Pn	00 33 54.0	-1.7
	0.2nm,0.3s,baz=205,slow=16,SNR=3.7						
SONM				Lg	Lg	00 37 40.4	
	0.1nm,0.3s,baz=204,slow=25,SNR=3.0						
MKAR	**Makanchi Array**	**17.36**	**314**	P	Pn	00 34 58.3	+0.3
	0.0nm,0.3s,baz=112,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**17.49**	**185**	P	Pn	00 35 00.2	+0.5
	baz=354,slow=11,SNR=4.6						

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*IDC **03** 00:37:59.9±0.9, 37°.50N×142°.75E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/49, mbtmp3.7/9, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/49, Error ellipse: s-maj=23.5km s-min=20.1km az=103.0*

*NIED **03** 00:38:00, 37°.50N×142°.60E, h14km, Mw3.8 Best double couple: M0 5.49000×10^14 NP1:φ0=24.00000°, δ44.00000°, λ-108.00000°. NP2:φ0=228.00000°, δ49.00000°, λ-74.00000°.*

*ISCJB **03** 00:38:01.2±0.5, 37°.58N±0°.04×142°.74E±0°.05, h21km, mb3.7/7, MS3.9/1, Error ellipse: s-maj=6.1km s-min=5.0km az=33.4*

*JMA **03** 00:38:02.0±0.3, 37°.54N×142°.56E, h15km±4km, M4.1*

*NEIC **03** 00:38:04.7±1.8, 37°.53N±0°.07×142°.7E±0°.1, h35km±3km, mb4.5/7*

ISC 03 00:38:02.8±0.7, 37°.59N±0°.05×142°.70E±0°.06, h21km, n50, σ1§65/46, mb3.9/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.21**	**307**	P	**Pn**	**00 38 23.3**	**-1.2**
JIKH				*e*S	**Sb**	**00 38 38.3**	**-1.9**
JIO	**Ouri**	**1.37**	**310**	P	**Pn**	**00 38 25.8**	**-0.9**
JMST	**Minamisoumatoc**	**1.44**	**276**	P	**Pn**	**00 38 25.8**	**-1.8**
JMST				*e*S	**Sn**	**00 38 43.5**	**-2.4**
JFK	**Kawauchi**	**1.47**	**262**	P	**Pn**	**00 38 26.4**	**-1.6**
JMM	**Marumori**	**1.54**	**281**	P	**Pn**	**00 38 27.4**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.59**	**253**	P	**Pn**	**00 38 28.0**	**-1.7**
ONAJ				*e*S	**Sn**	**00 38 45.9**	**-3.7**
JOU	**Okura**	**1.79**	**296**	P	**Pn**	**00 38 32.2**	**-0.2**
JOU				*e*S	**Sn**	**00 38 54.1**	**-0.3**
JMK	**Ichinoseki**	**1.79**	**320**	P	**Pn**	**00 38 32.5**	**+0.1**
JFT	**Otama**	**1.88**	**269**	P	**Pn**	**00 38 32.7**	**-0.9**
JYS	**Shirataka**	**2.18**	**288**	P	**Pn**	**00 38 38.4**	**+0.7**
JOM	**Ohasama**	**2.18**	**330**	P	**Pn**	**00 38 38.5**	**+0.7**
JYK	**Kaneyama**	**2.27**	**307**	P	**Pn**	**00 38 39.3**	**+0.3**
JFY	**Yanaizu**	**2.39**	**267**	P	**Pn**	**00 38 41.3**	**+0.7**
JAG	**Ashikaga**	**2.84**	**247**	P	**Pn**	**00 38 46.8**	**-0.1**
JAW	**Awa shima**	**2.86**	**289**	P	**Pn**	**00 38 50.0**	**+2.9**
MJAR	**Matsushiro Arr**	**3.74**	**255**	Pn	**Pn**	**00 39 00.0**	**+0.8**
	0.4nm,0.3s,baz=82,slow=13,SNR=25						
MJAR				Sn	**Sn**	**00 39 45.4**	**+2.8**
	0.4nm,0.3s,baz=150,slow=31,SNR=6.1						
MAJO	**Matsushiro**	**3.74**	**255**		**Pn**	**00 39 00.9**	**+1.7**
MJB9	**Matsu-Tunnel**	**3.74**	**255**		**Pn**	**00 39 01.5**	**+2.3**
ERM	**Erimo**	**4.44**	**4**	Pn	**Pn**	**00 39 09.4**	**+0.7**
JHJ2	**Mitsune**	**5.05**	**209**	Pn	**Pn**	**00 39 17.4**	**+0.2**
INU	**Inuyama**	**5.09**	**246**		**Pn**	**00 39 19.4**	**+1.6**
ASAJ	**Asahikawa**	**6.52**	**359**	Pn	**Pn**	**00 39 39.4**	**+1.9**
	1.4nm,0.3s,baz=209,slow=6.0,SNR=7.7						
ASAJ				Sn	**Sn**	**00 40 50.8**	**-0.4**
	0.3nm,0.3s,baz=254,slow=32,SNR=2.2						
JKA	**Kamikawa-asahi**	**6.52**	**359**		**Pn**	**00 39 39.4**	**+1.9**
JKA					**Sn**	**00 40 50.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.45**	**313**	Pn	Pn	00 40 37.2	+5.9
	baz=118,slow=14,SNR=7.0						
USRK	**Ussuriysk Ar.**	**10.45**	**313**		**Pn**	**00 40 32.3**	**+1.0**
KSRS	**Korea Array**	**11.74**	**274**	Pn	**Pn**	**00 40 53.6**	**+4.7**
	0.1nm,0.3s,baz=96,slow=14,SNR=3.4						
KLR	**Kul'dur**	**14.08**	**329**	LR	LR	00 46 52.1	
	comp=Z,66nm,20.5s,baz=152,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.57**	**123**	T	T	01 12 48.3	
	baz=316,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**27.58**	**124**	T	T	01 12 50.2	
	baz=316,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.59**	**123**	T	T	01 12 45.8	
	baz=316,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.32**	**126**	T	T	01 13 42.2	
	baz=317,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.32**	**126**	T	T	01 13 43.7	
	baz=317,slow=76,SNR=15						
SONM	**Songino Array**	**28.34**	**303**	P	**P**	**00 43 55.5**	**+0.3**
	0.9nm,0.8s,baz=98,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**28.34**	**303**	IAmb	IAmb	00 44 04.7	
	comp=Z,1.0nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**28.34**	**126**	T	T	01 13 44.0	
	baz=317,slow=76,SNR=13						
FALS	**False Pass**	**39.98**	**47**		**S**	**00 51 36.1**	**-3.5**
FAKI	**Fak Fak**	**41.45**	**196**	P	**P**	**00 45 46.6**	**-1.4**
FAKI				IAmb	IAmb	00 46 00.2	
	comp=Z,6.3nm,1.0s						
ZALV	**Zalesovo Beam**	**42.30**	**312**	P	**P**	**00 45 55.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=77,slow=7.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.30**	**312**	P	**P**	**00 45 54.5**	**-0.2**
MKAR	**Makanchi Array**	**44.70**	**302**	P	**P**	**00 46 15.0**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=79,slow=9.0,SNR=4.2						
ILAR	**Eielson Array**	**48.48**	**33**	P	**P**	**00 46 44.1**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=268,slow=6.2,SNR=11						
WRA	**Warramunga Arr**	**57.76**	**189**	P	**P**	**00 47 52.0**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=7.8,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**57.76**	**189**	IAmb	IAmb	00 47 52.6	
	comp=Z,0.2nm,0.9s						
ASAR	**Alice Springs**	**61.48**	**189**	P	**P**	**00 48 17.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=20,slow=5.8,SNR=5.9						
FORT	**Forrest**	**69.38**	**193**	P	**P**	**00 49 07.2**	**-1.6**
AKASG	**Malin Array Be**	**74.48**	**323**	LR	LR	01 25 02.2	
	comp=Z,63nm,18.7s,baz=45,slow=38						
LIT	**Litokhoron**	**85.23**	**318**	P	**P**	**00 50 38.1**	**+0.3**
LIT				IAmb	IAmb	00 50 41.5	
	comp=Z,5.2nm,0.9s						
DSB	**Dublin**	**85.65**	**342**	P	**P**	**00 50 40.1**	**+0.5**
KARP	**Karpathos**	**85.86**	**312**	P	**P**	**00 50 40.6**	**-0.4**
TXAR	**Lajitas Array**	**88.97**	**53**	P	**P**	**00 50 57.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=272,slow=2.3,SNR=3.1						

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*NAO **03** 00:42:30.7±2.3, 67°.79N×20°.19E, ML2.3*

*ISCJB **03** 00:42:30.5±0.4, 67°.78N±0°.02×20°.37E±0°.06, h0km, Error ellipse: s-maj=3.3km s-min=3.1km az=158.7*

*HEL **03** 00:42:31.6±0.1, 67°.83N×20°.19E, h0km, ML1.9,*

ML2.2(UPP), Explosion
*UPP **03** 00:42:31.0±0.1, 67°.82N×20°.19E, h5km±4km, ML2.2, Explosion*
*BER **03** 00:42:33.7±4.1, 67°.74N×20°.34E, h0km, ML1.7, ML2.3(NAO), Suspected explosion*
*IDC **03** 00:42:33.1±1.3, 67°.86N×20°.60E, h0km, mb1 2.9/3, mb1mx2.8/44, mbtmp2.7/3, ML1.7/3, Error ellipse: s-maj=21.4km s-min=7.8km az=121.0*
ISC 03 00:42:31.9±0.8, 67°.81N±0°.02×20°.24E±0°.02, h0km, n44, σ1§71/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**273**	P	**Pg**	**00 42 35.4**	**-1.2**
RATU				S	**Sg**	**00 42 39.2**	**-0.5**
RATU	**Laukkuluspa**	**0.24**	**273**	*i* P	**Pg**	**00 42 35.4**	**-1.2**
RATU				*i* S	**Sg**	**00 42 39.2**	**-0.5**
KOVU	**Salmi**	**0.41**	**356**	P	**Pg**	**00 42 38.5**	**-1.3**
KOVU	**Salmi**	**0.41**	**356**	*i* P	**Pg**	**00 42 38.5**	**-1.3**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**00 42 44.2**	**-1.1**
DUNU				S	**Sg**	**00 42 54.0**	**-0.4**
DUNU	**Dundret**	**0.70**	**169**	*i* P	**Pg**	**00 42 44.2**	**-1.1**
DUNU				*i* S	**Sg**	**00 42 54.0**	**-0.4**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**00 42 44.2**	**-1.2**
LANU	**Lannavaara**	**0.70**	**69**	*e*P	**Pg**	**00 42 44.2**	**-1.2**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**00 42 45.6**	**-0.8**
MASU	**Masugnsbyn**	**0.76**	**117**	*i* P	**Pg**	**00 42 45.6**	**-0.8**
KIF	**Kilpisjarvi**	**1.22**	**10**	Pg	**Pg**	**00 42 54.7**	**-0.5**
KIF				Lg	Lg	00 43 10.9	
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*PB	**Pg**	**00 42 54.0**	**-1.1**
KIF				MSG		00 43 09.7	
	comp=Z,12nm,0.2s						
KIF				*e*SB	**Sg**	**00 43 10.2**	**-0.8**
KIF	**Kilpisjarvi**	**1.22**	**10**	Pn	**Pg**	**00 42 54.7**	**-0.5**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**00 42 56.0**	**-2.0**
PAJU	**Pajala**	**1.36**	**124**	*e*P	**Pg**	**00 42 56.0**	**-2.0**
HEF	**Hetta**	**1.42**	**63**	Pg	**Pg**	**00 42 56.9**	**-2.1**
HEF				Lg	Lg	00 43 17.4	
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pg**	**00 42 56.8**	**-2.2**
	baz=244						
HEF				MSG		00 43 15.4	
	comp=Z,8.4nm,0.2s						
HEF				*e*SN	**Sn**	**00 43 21.4**	**+3.2**
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pg**	**00 42 57.1**	**-1.9**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**00 42 58.1**	**-1.5**
ERTU	**Ertsjaerv**	**1.47**	**148**	*e*P	**Pn**	**00 42 58.1**	**-1.5**
ERTU				*e*SN	**Sn**	**00 43 21.0**	**+1.4**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**00 43 01.0**	**-1.0**
KTK1				*e*S	**Sg**	**00 43 24.8**	**+0.3**
KTK1				IAML		00 43 28.7	
	comp=Z,6.8nm,0.4s						
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**00 43 01.6**	**-0.9**
HARU	**Harads**	**1.68**	**170**	*e*P	**Pn**	**00 43 01.6**	**-0.9**
STEI	**Steigen**	**1.90**	**276**	*e*P	**Pn**	**00 43 05.4**	**0.0**
STEI				*e*S	**Sn**	**00 43 31.1**	**+1.2**
STEI				IAML		00 43 37.7	
	comp=Z,12nm,0.6s						
TOF	**Tornio**	**2.37**	**135**	*e*P	**Pn**	**00 43 12.3**	**+0.4**
TOF				MSG		00 43 42.6	
	comp=Z,5.8nm,0.2s						
TOF				*e*SG	**Sb**	**00 43 45.9**	**+0.9**
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	**Pn**	**00 43 14.5**	**+1.7**
	baz=282						
SGF				*e*SG	**Sg**	**00 43 49.7**	**-0.3**
RNF	**Rovaniemi**	**2.55**	**116**	*e*PB	**Pn**	**00 43 15.5**	**+1.0**
RNF				*e*SG	**Sb**	**00 43 51.5**	**+1.1**
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	**Pn**	**00 43 15.2**	**+0.2**
	baz=229,slow=14						
ARA0				Sn	**Sn**	**00 43 48.9**	**+1.8**
	baz=231,slow=22						
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	**Pn**	**00 43 15.2**	**+0.2**
	baz=229,slow=14						
ARA0				Sn	**Sn**	**00 43 48.9**	**+1.8**
	baz=231,slow=22						
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**00 43 15.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=229,slow=14,SNR=23						
ARCES				Lg	Lg	00 43 50.4	
	comp=Z,2.2nm,0.3s,baz=231,slow=25,SNR=16						
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 43 15.2**	**+0.2**
	baz=233						
ARE0				*e*SB	**Sn**	**00 43 48.9**	**+1.8**
HAMF	**Hammerfest**	**3.10**	**22**	*e*P	**Pn**	**00 43 23.5**	**+1.5**
HAMF				*e*S	**Sn**	**00 43 59.5**	**-0.1**
HAMF				IAML		00 44 04.5	
	comp=Z,8.3nm,0.4s						
KEV	**Kevo**	**3.14**	**48**	Pn	**Pn**	**00 43 21.9**	**-0.6**
KEV				Sn	**Sn**	**00 44 00.1**	**-0.6**
KEV				Lg	Lg	00 44 09.3	
KEV	**Kevo**	**3.14**	**48**	*e*PB	**Pb**	**00 43 26.1**	**-2.4**
KEV				MSG		00 44 04.8	
	comp=Z,4.4nm,0.2s						
KEV	**Kevo**	**3.14**	**48**	Pn	**Pn**	**00 43 21.9**	**-0.6**
KEV				Sn	**Sn**	**00 44 00.1**	**-0.6**
OUL	**Oulu**	**3.56**	**138**	*e*PG	**Pb**	**00 43 37.1**	**+1.6**
MSF	**Maaselka**	**3.96**	**115**	*e*PB	**Pn**	**00 43 38.0**	**+4.2**
KU6	**Riekki**	**4.20**	**111**	*e*PG	**Pb**	**00 43 48.2**	**+1.6**
	baz=296						
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**00 43 46.1**	**0.0**
	baz=259,slow=12						
APA0				Sn	**Sn**	**00 44 41.8**	**-1.3**
	baz=258,slow=22						
APA0				Lg	Lg	00 45 02.0	
	baz=276,slow=22						
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**00 43 46.1**	**0.0**
	baz=259,slow=12						
APA0				Sn	**Sn**	**00 44 41.8**	**-1.3**
	baz=258,slow=22						
APA0				Sg	**Sb**	**00 45 02.0**	**+5.3**
	baz=276,slow=22						
FIA0	**FINESS Array S**	**6.86**	**156**	Lg	Lg	00 46 05.7	
	baz=338,slow=37						
FIA0	**FINESS Array S**	**6.86**	**156**	Sg	**Sg**	**00 46 05.7**	**-6.4**
	baz=338,slow=37						
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**00 44 14.2**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=344,slow=14,SNR=2.9						
FINES				Lg	Lg	00 46 09.4	
	comp=Z,0.3nm,0.3s,baz=343,slow=26,SNR=6.9						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**00 44 28.2**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=24,slow=16,SNR=3.2						
NOA				Lg	Lg	00 46 37.6	
	comp=Z,0.0nm,0.3s,baz=52,slow=24,SNR=3.5						

UPP 03 00:42:32.8±0.1, 67°.83N×20°.19E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 42 37.4	+0.2
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 42 39.9	+2.8
KOVU	**Salmi**	**0.40**	**359**	P	Pg	00 42 40.5	0.0
KOVU				S	Sg	00 42 46.2	+0.5
KOVU	**Salmi**	**0.40**	**359**	P	Pb	00 42 42.5	-0.3
LANU	**Lannavaara**	**0.72**	**71**	P	Pg	00 42 46.3	-0.2
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 42 46.3	-0.3
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	00 42 47.6	-0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 42 58.2	-1.2
PAJU	**Pajala**	**1.39**	**124**	P	Pb	00 42 60.0	+0.4
PAJU				S	Sn	00 43 18.2	-0.2

*ISCJB **03** 00:54:25.5±0.4, 19°.88S±0°.09×178°.11W±0°.09, h600km, mb3.8/11, Error ellipse: s-maj=14.8km s-min=8.3km az=138.8*
*NEIC **03** 00:54:25.1±1.1, 19°.9S±0°.1×178°.1W±0°.1, h583km±8km, mb4.0/15*
*IDC **03** 00:54:27.6±2.7, 19°.94S×178°.12W, h606km±30km, mb3.2/11, mb1 3.5/12, mb1mx3.2/32, mbtmp4.2/12, Error ellipse: s-maj=31.5km s-min=13.8km az=154.0*
ISC 03 00:54:26.4±0.6, 19°.9S±0°.1×178°.1W±0°.1, h600km, n52, σ1§15/52, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.63**	**259**	P	**P**	**00 57 32.6**	**+1.2**
	0.4nm,0.3s,baz=114,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**14.63**	**259**	P	**P**	**00 57 30.6**	**-0.8**
OUZ	**Omahuta**	**16.98**	**204**	P	**P**	**00 57 53.0**	**+0.5**
OUZ				IAmb	IAmb	00 58 06.7	
	comp=Z,3.6nm,1.0s						
KNTN	**Kanton**	**18.08**	**21**	P	**P**	**00 58 02.6**	**-0.2**
CTA	**Charters Tower**	**33.49**	**263**	P	**P**	**01 00 18.4**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=90,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**38.01**	**243**	P	**P**	**01 00 54.8**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=64,slow=11,SNR=3.4						
BBOO	**Buckleboo**	**42.77**	**243**	P	**P**	**01 01 32.4**	**-0.3**
ASAR	**Alice Springs**	**44.60**	**256**	P	**P**	**01 01 47.0**	**0.0**
	comp=Z,3.6nm,0.5s,baz=90,slow=7.7,SNR=41						
ASAR				PcP	**PcP**	**01 03 17.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=108,slow=4.2,SNR=6.3						
ASAR				S	**S**	**01 07 40.3**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=92,slow=15,SNR=5.6						
WB2	**Warramunga Arr**	**44.61**	**261**	P	**P**	**01 01 47.0**	**-0.1**
WRA	**Warramunga Arr**	**44.62**	**261**	P	**P**	**01 01 47.0**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=98,slow=7.0,SNR=27						
WRA	**Warramunga Arr**	**44.62**	**261**	P	**P**	**01 01 46.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.05**	**262**	P	**P**	**01 02 49.6**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=71,slow=3.6,SNR=17						
MJAR	**Matsushiro Arr**	**69.65**	**324**	P	**P**	**01 04 37.5**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=153,slow=6.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**69.65**	**324**	IAmb	IAmb	01 04 37.6	
	comp=Z,0.8nm,0.9s						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**01 04 40.4**	**+0.5**
QSPA				IAmb	IAmb	01 04 40.9	
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**	**80.61**	**43**	P	**P**	**01 05 39.2**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=232,slow=9.3,SNR=5.8						
NVAR	**Mina Array Bea**	**80.61**	**43**	P	**P**	**01 05 38.0**	**0.0**
BMN	**Battle Mountai**	**82.42**	**42**	P	**P**	**01 05 48.6**	**+1.5**
F10A	**Beach Ranch, E**	**85.54**	**38**	P	**P**	**01 06 02.2**	**0.0**
RND	**Reindeer**	**86.09**	**13**	P	**P**	**01 06 04.8**	**+0.4**
TXAR	**Lajitas Array**	**86.77**	**57**	P	**P**	**01 06 10.4**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=225,slow=6.0,SNR=7.6						
TXAR	**Lajitas Array**	**86.77**	**57**	P	**P**	**01 06 08.6**	**+0.2**
HDA	**Harding Lake**	**87.37**	**13**	P	**P**	**01 06 10.9**	**+0.6**
HDA				IAmb	IAmb	01 06 11.5	
	comp=Z,3.0nm,0.7s						
CCB	**Clear Creek Bu**	**87.40**	**13**	P	**P**	**01 06 10.5**	**+0.1**
MCMT	**McKenzie Canyo**	**87.51**	**40**	P	**P**	**01 06 12.7**	**+1.0**
IMAR	**Indian Mountai**	**87.54**	**10**	P	**P**	**01 06 11.1**	**+0.1**
IL31		**87.70**	**13**	P	**P**	**01 06 11.4**	**-0.3**
IL31				IAmb	IAmb	01 06 12.1	
	comp=Z,3.7nm,1.0s						
ILAR	**Eielson Array**	**87.70**	**13**	P	**P**	**01 06 11.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=212,slow=5.0,SNR=11						
PDAR	**Pinedale Array**	**88.54**	**43**	P	**P**	**01 06 17.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=190,slow=4.5,SNR=6.0						
PDAR	**Pinedale Array**	**88.54**	**43**	P	**P**	**01 06 16.9**	**+0.4**
BOZ	**Bozeman (W)**	**88.64**	**40**	P	**P**	**01 06 15.8**	**-1.0**
BOZ				IAmb	IAmb	01 06 17.2	
	comp=Z,2.5nm,0.8s						
SNAA	**Sanae**	**88.65**	**178**	P	**P**	**01 06 15.6**	**-0.8**
SNAA				IAmb	IAmb	01 06 24.8	
	comp=Z,1.6nm,1.1s						
VNA3	**Neumayer Olymp**	**88.79**	**176**	P	**P**	**01 06 16.3**	**-0.7**
VNA2	**Neumayer--Watz**	**89.23**	**177**	P	**P**	**01 06 18.6**	**-0.4**
	baz=183,slow=3.5						
VNA1	**Neumayer--Stat**	**89.45**	**177**	P	**P**	**01 06 19.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**01 06 25.1**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=111,slow=2.0,SNR=4.4						
PLAL	**Pickwick Lake**	**101.11**	**57**		pP	01 09 12.2	-11
MKAR	**Makanchi Array**	**110.71**	**314**	PKiKP	**PKiKP**	**01 11 50.7**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=354,slow=1.2,SNR=3.6						
ARCES	**ARCESS Array B**	**128.28**	**350**	PKP	**PKiKP**	**01 12 25.4**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=46,slow=3.5,SNR=7.3						
FINES	**FINESS Array B**	**135.14**	**344**	PKP	**PKiKP**	**01 12 39.0**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=50,slow=4.3,SNR=3.5						
AKASG	**Malin Array Be**	**142.42**	**331**	PKhKP	PKPpre	01 12 48.4	
	comp=Z,1.0nm,0.3s,baz=42,slow=4.1,SNR=3.6						
BR131	**Keskin Array S**	**146.35**	**313**	PKPbc	**PKiKP**	**01 13 01.0**	**-2.6**
BRTR	**Keskin Array B**	**146.35**	**313**	PKPbc	**PKiKP**	**01 13 01.6**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=138,slow=4.2,SNR=10						
BRTR	**Keskin Array B**	**146.35**	**313**		**PKiKP**	**01 13 01.4**	**-2.2**
BURAR	**Bucovina Array**	**146.47**	**331**		**PKPab**	**01 13 02.5**	**-1.7**
CLL	**Collm**	**147.42**	**347**	*i* PKPbc	**PKPab**	**01 13 04.3**	**-3.4**
	comp=Z,7.0nm,0.9s						
CLL				*i* PKPab	**PKiKP**	**01 13 08.4**	**+3.2**
GERES	**GERESS Array B**	**149.56**	**345**	PKPbc	**PKiKP**	**01 13 09.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=29,slow=3.0,SNR=12						
CONA	**Conrad Observa**	**149.80**	**341**	*e*PKiKP	**PKiKP**	**01 13 10.3**	**-0.1**
	comp=Z,1.8nm,0.6s						
WTTA	**Wattenberg**	**151.54**	**346**	*e*PKiKP	**PKiKP**	**01 13 14.0**	**-0.1**
	comp=Z,1.8nm,0.4s						
MYKA	**Terra Mystica**	**151.62**	**343**	*e*PKPbc	**PKiKP**	**01 13 13.6**	**-0.5**
	comp=Z,1.5nm,0.4s						
ABTA	**Abfaltersbach**	**151.81**	**344**	*e*PKPbc	**PKiKP**	**01 13 14.2**	**-0.3**
	comp=Z,1.2nm,0.4s						
TORD	**Toroldi Ar. Bea**	**173.33**	**178**	PKPab	**PKPab**	**01 15 00.5**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=140,slow=3.2,SNR=2.6						

IDC 03 01:18:40.9±4.5, 13°.14N×143°.69E, h105km±36km, mb3.3/4, mb1 3.6/4, mb1mx3.2/41, mbtmp3.6/4, Error ellipse: s-maj=99.0km s-min=19.8km az=117.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.23**	**68**	P	Pn	01 19 04.9	+0.7
	baz=207,slow=6.8						
GUMO				LR	LR	01 19 21.3	
	comp=Z,34nm,19.8s,baz=146,slow=33						
GUMO				S	Sn	01 19 21.8	-0.1
	386nm,0.3s,baz=100,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**34.14**	**196**	P	P	01 25 15.1	-0.9
	1.0nm,0.8s,baz=22,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**37.81**	**195**	P	P	01 25 47.6	+0.3
	0.3nm,0.6s,baz=19,slow=13,SNR=9.4						
ILAR	**Eielson Array**	**69.46**	**25**	P	P	01 29 36.5	-1.0
	0.2nm,0.6s,baz=236,slow=6.3,SNR=4.9						
NVAR	**Mina Array Bea**	**88.09**	**51**	P	P	01 31 21.6	+1.4
	0.6nm,0.7s,baz=260,slow=5.2,SNR=5.4						

*NEIC **03** 01:44:02.4±1.3, 24°.04S±0°.06×66°.69W±0°.09, h187km±2km, mb4.5/23, Md4.0(SJA)*
*ISCJB **03** 01:44:02.2±0.2, 24°.03S±0°.02×66°.84W±0°.03, h210km±2km, mb3.8/10, Error ellipse: s-maj=4.0km s-min=3.0km az=151.4*
*SJA **03** 01:44:02.5±1.0, 24°.05S×66°.83W, h217km±6km, ML4.0, MW3.9*
*VAO **03** 01:44:03.2±0.3, 24°.04S×66°.98W, h227km, mb4.2*
*IDC **03** 01:44:03.3±1.0, 23°.95S×66°.69W, h194km±8km, mb3.6/10, mb1 3.9/16, mb1mx3.8/26, mbtmp4.2/16, Error ellipse: s-maj=14.7km s-min=12.2km az=24.0*
*GUC **03** 01:44:05.0±0.5, 23°.84S×67°.32W, h239km±8km, ML5.0*
ISC 03 01:44:03.1±0.6, 24°.07S±0°.04×66°.83W±0°.04, h206km±6km, n180, σ1§54/222, mb4.2/18, 15C-3D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.37**	**119**	*i* P	**Pn**	**01 44 37.6**	**+1.2**
SLA				*i* S	**S**	**01 45 02.8**	**+0.7**
SLA				IAML		01 45 04.4	
	comp=Z,389nm,0.6s						
HJA	**Humahuaca**	**1.56**	**57**	*i* P	**Pn**	**01 44 38.8**	**+0.5**
HJA				IAML		01 44 41.5	
	comp=Z,641nm,0.5s						
AZAP	**Zapla**	**1.62**	**96**	⇓*i* P	**Pn**	**01 44 39.2**	**+0.5**
AZAP				IAML		01 44 39.7	
	comp=Z,598nm,0.5s						
AZAP				*i* S	**S**	**01 45 08.1**	**+2.2**
YJA	**Yavi**	**2.24**	**33**	⇓*i* P	**Pn**	**01 44 45.6**	**+0.6**
LVC	**Limon Verde**	**2.40**	**307**	⇓*i* P	**Pn**	**01 44 47.5**	**+0.8**
LVC				*i* S	**S**	**01 45 20.3**	**+0.2**
LVC	**Limon Verde**	**2.40**	**307**	P	**Pn**	**01 44 47.4**	**+0.8**
	comp=Z,94nm,0.3s,baz=150,slow=5.8,SNR=856						
LVC				S	**S**	**01 45 20.1**	**0.0**
	comp=Z,102nm,0.3s,baz=63,slow=21,SNR=30						
LVC	**Limon Verde**	**2.40**	**307**		**Pn**	**01 44 47.2**	**+0.5**
LVC				Sn	**S**	**01 45 20.4**	**+0.3**
LVC	**Limon Verde**	**2.40**	**307**	⇓*i* P	**Pn**	**01 44 47.4**	**+0.8**
LVC				*i* S	**S**	**01 45 20.1**	**0.0**
LVC				*i* S	S	01 45 20.8	+0.7
LVC				IAML		01 45 23.8	
	comp=Z,429nm,0.6s						
LVC	**Limon Verde**	**2.40**	**307**	*e*P	**Pn**	**01 44 47.5**	**+0.8**
LVC				*e*S	**S**	**01 45 20.2**	**+0.2**
LVC	**Limon Verde**	**2.40**	**307**	*e*P	**Pn**	**01 44 47.5**	**+0.8**
LVC				*e*S	**S**	**01 45 20.2**	**+0.2**
PB15	**IPOC Station P**	**2.57**	**289**	⇑*i* P	**Pn**	**01 44 49.3**	**+0.9**
PB15	**IPOC Station P**	**2.57**	**289**	*i* P	**Pn**	**01 44 49.3**	**+0.9**
PB15				*i* S	**S**	**01 45 23.2**	**0.0**
GO02	**Mina Guanaco**	**2.74**	**246**	⇑*i* P	**Pn**	**01 44 51.4**	**+1.0**
GO02				*i* S	**S**	**01 45 27.6**	**+0.8**
GO02	**Mina Guanaco**	**2.74**	**246**		**Pn**	**01 44 50.9**	**+0.5**
GO02				Sn	**S**	**01 45 26.8**	**0.0**
PB06	**IPOC Station P**	**2.86**	**298**	⇑*i* P	**Pn**	**01 44 52.3**	**+0.7**
PB06				*i* S	**S**	**01 45 28.0**	**-1.0**
PB06				IAML		01 45 31.1	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	**2.86**	**298**	*i* P	**Pn**	**01 44 52.3**	**+0.7**
PB06				*i* S	**S**	**01 45 28.0**	**-1.0**
AHML	**Horco Molle**	**3.03**	**154**	*i* P	**Pn**	**01 44 54.0**	**+0.6**
AHML				*i* S	**S**	**01 45 31.8**	**-0.6**
PB09	**IPOC Station P**	**3.17**	**315**	⇑*i* P	**Pn**	**01 44 56.0**	**+0.8**
PB09				*i* S	**S**	**01 45 34.6**	**-0.9**
PB09	**IPOC Station P**	**3.17**	**315**	*i* P	**Pn**	**01 44 56.0**	**+0.8**
PB09				*i* S	**S**	**01 45 35.2**	**-0.3**
PB14	**IPOC Station P**	**3.31**	**260**	⇑*i* P	**Pn**	**01 44 57.3**	**+0.4**
PB14				*e*S	**S**	**01 45 37.3**	**-1.1**
PB14	**IPOC Station P**	**3.31**	**260**	*i* P	**Pn**	**01 44 57.4**	**+0.4**
PB14				*i* S	**S**	**01 45 37.1**	**-1.5**
PB03	**IPOC Station P**	**3.36**	**306**	⇑*i* P	**Pn**	**01 44 57.6**	**+0.1**
PB03				*i* S	**S**	**01 45 37.6**	**-2.0**
PB03				IAML		01 45 38.6	
	comp=E,2μm,0.2s						
PB10	**IPOC Station P**	**3.46**	**278**	⇑*i* P	**Pn**	**01 44 58.9**	**+0.5**
PB10				*i* S	**S**	**01 45 39.7**	**-1.7**
PB10	**IPOC Station P**	**3.46**	**278**		**Pn**	**01 44 58.8**	**+0.3**
PB10				Sn	**S**	**01 45 40.8**	**-0.5**
PB10	**IPOC Station P**	**3.46**	**278**	*i* P	**Pn**	**01 44 59.1**	**+0.6**
PB10				*i* S	**S**	**01 45 40.4**	**-0.9**
PB04	**IPOC Station P**	**3.51**	**299**	⇑*i* P	**Pn**	**01 44 59.4**	**+0.1**
PB04				*i* S	**S**	**01 45 40.8**	**-2.0**
PB04				IAML		01 45 43.3	
	comp=N,2μm,0.5s						
PB04	**IPOC Station P**	**3.51**	**299**		**Pn**	**01 44 59.4**	**+0.1**
PB04				Sn	**S**	**01 45 40.4**	**-2.4**
PB04	**IPOC Station P**	**3.51**	**299**	*i* P	**Pn**	**01 44 59.4**	**+0.1**
PB04				*i* S	**S**	**01 45 40.8**	**-2.0**
PB07	**IPOC Station P**	**3.66**	**309**	⇑*i* P	**Pn**	**01 45 01.0**	**-0.1**
PB07				*i* S	**S**	**01 45 43.7**	**-2.3**
PB07				IAML		01 45 45.4	
	comp=E,1μm,0.6s						
PB01	**IPOC Station P**	**3.88**	**320**	⇑*i* P	**Pn**	**01 45 03.3**	**-0.5**
PB01				*i* S	**S**	**01 45 48.5**	**-2.5**
PB01				IAML		01 45 51.5	
	comp=E,1μm,0.7s						
PB01	**IPOC Station P**	**3.88**	**320**		**Pn**	**01 45 03.4**	**-0.4**
PB01				Sn	**S**	**01 45 48.8**	**-2.2**
PB02	**IPOC Station P**	**3.94**	**313**	⇑*i* P	**Pn**	**01 45 03.9**	**-0.6**
PB02				*i* S	**S**	**01 45 49.0**	**-3.1**
CYA	**Choya**	**4.46**	**168**	*i* P	**Pn**	**01 45 12.1**	**+1.3**
CYA				*i* S	**S**	**01 46 04.5**	**+0.7**
PB08	**IPOC Station P**	**4.46**	**331**	⇑*i* P	**Pn**	**01 45 11.4**	**+0.2**
PB08				IAML		01 46 08.5	
	comp=N,594nm,0.8s						
GO03	**Copiap**	**4.67**	**220**		**Pn**	**01 45 12.9**	**-0.5**
GO03				Sn	**S**	**01 46 06.1**	**-2.5**
VCA	**Vinchina**	**4.81**	**195**	*e*P	**Pn**	**01 45 18.3**	**+2.9**
GO01	**Chusmiza**	**4.90**	**333**	⇑*i* P	**Pn**	**01 45 16.2**	**-0.6**
GO01				*i* S	**S**	**01 46 11.5**	**-3.0**
GO01	**Chusmiza**	**4.90**	**333**		**Pn**	**01 45 16.4**	**-0.4**
GO01				Sn	**S**	**01 46 12.8**	**-1.8**
PB11	**IPOC Station P**	**5.02**	**328**		**Pn**	**01 45 16.5**	**-1.6**
MNMC	**Minye Minye**	**5.54**	**332**	*e*P	**Pn**	**01 45 23.7**	**-1.2**
MNMC				*e*S	**S**	**01 46 25.7**	**-3.6**
MNMC	**Minye Minye**	**5.54**	**332**		**Pn**	**01 45 24.0**	**-0.9**
MNMC				Sn	**S**	**01 46 25.9**	**-3.3**
LCO	**Las Campanas**	**6.02**	**214**		**Pn**	**01 45 30.3**	**-0.7**
LCO	**Las Campanas**	**6.02**	**214**	*e*P	**Pn**	**01 45 30.2**	**-0.7**
LCO	**Las Campanas**	**6.02**	**214**	*e*P	**Pn**	**01 45 30.2**	**-0.7**
ACCO	**Cerro Coronel**	**6.79**	**197**	*i* P	**Pn**	**01 45 42.1**	**+1.1**
ACCO				*i* S	**S**	**01 46 57.7**	**-0.9**
AMOG	**MOGNA**	**7.00**	**192**	*i* P	**Pn**	**01 45 43.2**	**-0.2**
AMOG				*i* S	**S**	**01 46 59.1**	**-4.1**
GO04	**Tololo Observa**	**7.04**	**209**	Pn	**Pn**	**01 45 42.4**	**-1.6**
RTLL	**Cerro Villicun**	**7.38**	**191**	*i* P	**Pn**

VAS01	Vassouras-RJ	21.57	90	eP		P		01 48 37.2	+0.5
PTGA	Pitinga	24.13	17	P		P		01 49 00.7	+0.4
	comp=Z,2.1nm,0.5s,baz=202,slow=16,SNR=6.0								
PTGA	Pitinga	24.13	17	IAmb		IAmb		01 49 02.5	
	comp=Z,2.7nm,0.8s								
PTGA	Pitinga	24.13	17	eP		P		01 49 00.1	-0.3
PTGA	Pitinga	24.13	17	eP		P		01 49 00.1	-0.3
BSFB	Barra de Sao F	24.72	83	eP		P		01 49 05.1	-0.6
BSFB	Barra de Sao F	24.72	83	eP		P		01 49 05.1	-0.6
RIB01	Linhares ES	25.00	84	eP		P		01 49 07.5	-0.6
RIB01	Linhares ES	25.00	84	eP		P		01 49 07.5	-0.6
NBIT	Itapeh - BA	27.33	76	eP		P		01 49 28.8	-0.3
NBIT	Itapeh - BA	27.33	76	eP		P		01 49 28.8	-0.3
NBPN	Ponto Novo - B	28.53	67	eP		P		01 49 39.2	-0.6
NBPN	Ponto Novo - B	28.53	67	eP		P		01 49 39.2	-0.6
NBLA	Lagarto - SE	30.51	70	eP		P		01 49 55.8	-1.4
NBLA	Lagarto - SE	30.51	70	eP		P		01 49 55.8	-1.4
NBTA	Tacaratu-PE	31.22	66	eP		P		01 50 02.5	-1.1
NBTA	Tacaratu-PE	31.22	66	eP		P		01 50 02.5	-1.1
NBPS	Pedro II - PI	31.32	55	eP		P		01 50 03.5	-0.8
NBPS	Pedro II - PI	31.32	55	eP		P		01 50 03.5	-0.8
NBMA	Muriti-CE	31.61	63	eP		P		01 50 06.9	0.0
NBMA	Muriti-CE	31.61	63	eP		P		01 50 06.9	0.0
NBPB	Pedra_Branca-C	32.02	59	eP		P		01 50 10.1	-0.4
NBPB	Pedra_Branca-C	32.02	59	eP		P		01 50 10.1	-0.4
NBAN	Anadia - AL	32.46	69	eP		P		01 50 13.2	-1.0
NBAN	Anadia - AL	32.46	69	eP		P		01 50 13.2	-1.0
NBPA	Parau_RN	33.87	62	eP		P		01 50 25.5	-0.9
NBPA	Parau_RN	33.87	62	eP		P		01 50 25.5	-0.9
NBPV	Pedro Velho	34.99	65	eP		P		01 50 35.7	-0.3
NBPV	Pedro Velho	34.99	65	eP		P		01 50 35.7	-0.3
VNA3	Neumayer Olymp	57.04	161	P		P		01 53 29.3	+2.2
VNA1	Neumayer--Stat	57.23	160	P		P		01 53 31.1	+2.7
VNA2	Neumayer--Watz	57.60	160	P		P		01 53 33.3	+2.2
	baz=288,slow=8.2								
SNAA	Sanae	59.24	161	P		P		01 53 44.5	+2.1
SNAA	Sanae	59.24	161	P		P		01 53 43.4	+1.0
SNAA				IAmb		IAmb		01 53 45.2	
	comp=Z,3.5nm,0.8s								
833A	Chaparral WMA,	60.80	327	P		P		01 53 54.8	+1.3
833A				IAmb		IAmb		01 53 56.0	
	comp=Z,11nm,0.7s								
JCT	Junction City	62.78	328	P		P		01 54 07.9	+1.2
JCT				IAmb		IAmb		01 54 08.9	
	comp=Z,6.3nm,0.6s								
WVT	Waverly	63.08	341	P		P		01 54 08.8	+0.4
WVT				IAmb		IAmb		01 54 09.3	
	comp=Z,7.6nm,0.8s								
TXAR	Lajitas Array	63.82	324	P		P		01 54 15.5	+1.8
	comp=Z,0.8nm,0.7s,baz=156,slow=8.6,SNR=7.8								
PBMO	Poplar Bluff	64.48	339	IAmb		IAmb		01 54 19.0	
	comp=Z,6.6nm,0.6s								
CCM	Cathedral Cave	65.91	339	P		P		01 54 27.6	+0.8
CCM				IAmb		IAmb		01 54 28.1	
	comp=Z,6.8nm,0.6s								
QSPA	South Pole Qui	66.14	180	P		P		01 54 30.7	+2.6
DBIC	Dimbokro	67.67	71	P		P		01 54 38.1	-0.3
	comp=Z,2.0nm,0.8s,baz=214,slow=7.6,SNR=4.1								
SDCO	Great Sand Dun	71.42	328	IAmb		IAmb		01 55 57.1	
	comp=Z,11nm,1.8s								
SYO	Syowa Base	73.43	159⇑	eP		P		01 55 12.6	+0.3
SYO	Syowa Base	73.43	159⇑	ePcP		PcP		01 55 25.4	-1.9
TORD	Torodi Ar. Bea	76.45	69	P		P		01 55 30.0	-0.5
	comp=Z,1.2nm,0.5s,baz=276,slow=5.8,SNR=38								
TORD	Torodi Ar. Bea	76.45	69	P		P		01 55 30.6	+0.1
PDAR	Pinedale Array	77.28	329	P		P		01 55 36.8	+1.9
	comp=Z,0.5nm,0.5s,baz=134,slow=7.4,SNR=8.5								
ULM	Lac du Bonnet	78.34	341	P		P		01 55 39.7	-0.5
	comp=Z,2.9nm,0.6s,baz=151,slow=6.5,SNR=9.1								
ULM	Lac du Bonnet	78.34	341	IAmb		IAmb		01 57 43.5	
	comp=Z,33nm,1.8s								
NVAR	Mina Array Bea	78.69	321	P		P		01 55 44.6	+2.0
	comp=Z,0.3nm,0.5s,baz=154,slow=6.2,SNR=4.8								
KVN	Kaiserville	79.00	322	IAmb		IAmb		01 55 47.3	
	comp=Z,2.6nm,0.8s								
MAW	Mawson	81.33	163	P		P		01 55 58.4	+2.4
	comp=Z,4.0nm,0.7s,baz=214,slow=6.8,SNR=14								
MAW	Mawson	81.33	163	P		P		01 55 58.0	+2.0
HRY	Holter Researc	81.34	331	P		P		01 55 58.4	+1.9
ESDC	Sonseca Array	86.34	43	P		P		01 56 24.1	+2.1
	comp=Z,0.3nm,0.5s,baz=235,slow=4.5,SNR=3.5								
YKA	Yellowknife Ar	94.24	340	P		P		01 56 59.6	+1.4
	comp=Z,1.5nm,0.6s,baz=134,slow=4.7,SNR=9.6								
ASAR	Alice Springs	128.46	204	PKP		PKiKP		02 02 47.4	+0.7
	comp=Z,1.7nm,0.7s,baz=128,slow=2.1,SNR=4.2								
WRA	Warramunga Arr	131.64	207	PKP		PKiKP		02 02 53.2	+0.1
	comp=Z,1.7nm,0.6s,baz=154,slow=2.0,SNR=4.9								
PETK	Petropavlovsk-	135.76	323	PKP		PKiKP		02 03 00.8	+0.4
	comp=Z,0.6nm,0.5s,baz=49,slow=3.4,SNR=4.2								
ZALV	Zalesovo Beam	143.38	28	PKP		PKPdf		02 03 11.7	-0.8
	comp=Z,2.8nm,0.6s,baz=306,slow=5.1,SNR=13								
KSH	Kashi	145.11	55	PKP		PKPbc		02 03 12.7	-3.4
KSH				pPKP		pPKPab		02 04 09.7	+0.2
KSH				PP		PP		02 06 35.2	-2.0
KSH				SKS		SKSdf		02 09 57.7	-8.2
MK31	Makanchi Array	146.47	40			PKPab		02 03 19.6	-1.6
MKAR	Makanchi Array	146.47	40	PKPbc		PKPab		02 03 19.7	-1.5
	comp=Z,3.9nm,0.6s,baz=308,slow=2.8,SNR=19								
MKAR	Makanchi Array	146.47	40			PKPab		02 03 20.0	-1.3
SIJI	Sorong	149.62	218	PKPbc		PKiKP		02 03 30.9	+0.9
	comp=Z,3.8nm,0.5s,baz=333,slow=9.4,SNR=4.2								
SONM	Songino Array	155.67	11	PKPab		PKPab		02 04 01.6	+2.1
	comp=Z,0.5nm,0.4s,baz=323,slow=3.9,SNR=4.1								

*IDC **03** 01:48:25.2±1.2, 38°.82N×21°.98E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.5/47, mbtmp3.6/12, ML3.5/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/47, Error ellipse: s-maj=17.9km s-min=17.3km az=65.0*
*ATH **03** 01:48:25.8, 38°.81N×21°.92E, h23km, ML3.3/38, Error ellipse: s-maj=0.7km s-min=0.5km az=206.0*
*TIR **03** 01:48:25.8, 39°.02N×22°.08E, h12km, Md3.8/7*
*ISCJB **03** 01:48:26.6±0.2, 38°.82N±0°.01×21°.92E±0°.02, h19km±2km, mb3.6/7, Error ellipse: s-maj=2.2km s-min=1.7km az=145.6*
*BEO **03** 01:48:26.0±1.2, 38°.79N×22°.04E, h0km, ML3.2/7*
*THE **03** 01:48:26.3, 38°.81N×21°.95E, h0km±1km, ML3.6/13, Error ellipse: s-maj=1.8km s-min=0.4km az=313.0*
*ISK **03** 01:48:27.3, 38°.83N×22°.03E, h23km, ML3.2/22*
*DDA **03** 01:48:47.4, 38°.82N×22°.03E, h21km, ML3.4*

ISC 03 01:48:26.6±0.8, 38°.79N±0°.01×21°.92E±0°.01, h12km±5km, n316, σ1°07/370, mb3.5/7, 19C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EVR	**Evrytania**	**0.15**	**324**	P		**Pg**	**01 48 29.9**	**-0.3**
EVR				S		**Sg**	**01 48 32.4**	**-0.4**
	55μm,0.5s							
EVR	**Evrytania**	**0.15**	**324**	P		**Pg**	**01 48 29.9**	**-0.3**
EVR				S		**Sg**	**01 48 33.0**	**+0.1**
EVR				AML		AML	01 48 33.1	
EVR				AML		AML	01 48 33.3	
MAKR	**Makrakomi, Fth**	**0.27**	**37**	P		**Pg**	**01 48 32.5**	**+0.2**
MAKR				S		**Sg**	**01 48 35.9**	**-0.2**
	40μm,0.4s							
MAKR	**Makrakomi, Fth**	**0.27**	**37**	P		**Pg**	**01 48 32.7**	**+0.4**
MAKR				S		**Sg**	**01 48 36.6**	**+0.5**
MAKR				AML		AML	01 48 37.9	
	comp=E,91153μm,0.3s							
MAKR				AML		AML	01 48 39.4	
	comp=N,54011μm,0.2s							
PVO	**Paravola**	**0.36**	**241**	P		**Pg**	**01 48 33.1**	**-0.6**
PVO				S		**Sb**	**01 48 39.6**	**-0.9**
	comp=N,3μm,0.5s							
PVO	**Paravola**	**0.36**	**241**	P		**Pg**	**01 48 33.1**	**-0.6**
PVO				S		**Sb**	**01 48 39.6**	**-0.9**
PVO				AML		AML	01 48 45.0	
	comp=N,6568μm,0.5s							
PVO				AML		AML	01 48 45.7	
	comp=E,8854μm,0.5s							
EFP	**Efpalio**	**0.37**	**182**	P		**Pg**	**01 48 33.6**	**-0.3**
EFP				S		**Sb**	**01 48 39.4**	**-1.3**
	comp=E,18μm,0.4s							
EFP	**Efpalio**	**0.37**	**182**	P		**Pg**	**01 48 33.7**	**-0.2**
EFP				S		**Sb**	**01 48 39.8**	**-1.0**
EFP				AML		AML	01 48 42.6	
	comp=E,36611μm,0.4s							
EFP				AML		AML	01 48 42.8	
	comp=N,35650μm,0.3s							
AGG	**Agios Georgios**	**0.39**	**54**	P		**Pg**	**01 48 34.4**	**0.0**
AGG				S		**Sg**	**01 48 40.6**	**+0.9**
	comp=N,11μm,0.2s							
AGG	**Agios Georgios**	**0.39**	**54**	P		**Pg**	**01 48 34.4**	**0.0**
AGG				S		**Sg**	**01 48 40.6**	**+0.9**
AGG				AML		AML	01 48 41.5	
	comp=E,19995μm,0.3s							
AGG				AML		AML	01 48 42.5	
	comp=N,23853μm,0.2s							
AGG	**Agios Georgios**	**0.39**	**54**	PG		**Pg**	**01 48 34.4**	**0.0**
AGG				SG		**Sg**	**01 48 40.5**	**+0.9**
SERG	**Sergoula**	**0.39**	**164**	P		**Pg**	**01 48 34.1**	**-0.4**
SERG				S		**Sb**	**01 48 40.5**	**-1.1**
	comp=N,14μm,0.3s							
SERG	**Sergoula**	**0.39**	**164**	P		**Pg**	**01 48 34.0**	**-0.4**
SERG				S		**Sb**	**01 48 40.3**	**-1.3**
SERG				AML		AML	01 48 43.2	
	comp=E,31713μm,0.2s							
SERG				AML		AML	01 48 44.7	
	comp=N,26404μm,0.4s							
KALE	**Kalithea**	**0.44**	**157**	P		**Pg**	**01 48 34.8**	**-0.4**
KALE				S		**Sb**	**01 48 41.8**	**-1.0**
	comp=N,9μm,0.3s							
KALE	**Kalithea**	**0.44**	**157**	P		**Pg**	**01 48 34.8**	**-0.4**
KALE				S		**Sb**	**01 48 42.1**	**-0.7**
KALE				AML		AML	01 48 44.1	
	comp=E,22634μm,0.3s							
KALE				AML		AML	01 48 44.5	
	comp=N,15804μm,0.3s							
TRIZ	**Trizonia**	**0.44**	**164**	P		**Pg**	**01 48 34.9**	**-0.5**
TRIZ				S		**Sb**	**01 48 42.3**	**-0.7**
	comp=N,16μm,0.4s							
TRIZ	**Trizonia**	**0.44**	**164**	P		**Pg**	**01 48 34.8**	**-0.5**
TRIZ				S		**Sb**	**01 48 42.2**	**-0.7**
UPR	**University Cam**	**0.52**	**192**	P		**Pg**	**01 48 36.7**	**-0.1**
UPR	**University Cam**	**0.52**	**192**	P		**Pb**	**01 48 36.9**	**-0.7**
UPR				S		**Sb**	**01 48 44.7**	**-0.5**
DLFA	**Delphi**	**0.55**	**125**	P		**Pg**	**01 48 36.7**	**-0.6**
DLFA				S		**Sb**	**01 48 45.2**	**-0.8**
DLFA				AML		AML	01 48 51.0	
	comp=E,6960μm,0.3s							
DLFA				AML		AML	01 48 51.0	
	comp=N,5934μm,0.4s							
LAKA	**Lakka**	**0.55**	**175**	P		**Pg**	**01 48 36.8**	**-0.6**
LAKA				S		**Sb**	**01 48 45.0**	**-1.2**
	comp=N,1μm,0.7s							
LAKA	**Lakka**	**0.55**	**175**	P		**Pg**	**01 48 36.8**	**-0.6**
LAKA				S		**Sb**	**01 48 45.0**	**-1.2**
LAKA				AML		AML	01 48 53.0	
	comp=N,2877μm,0.5s							
LAKA				AML		AML	01 48 54.1	
	comp=E,2696μm,0.4s							
AXAR	**Agios Charalam**	**0.58**	**92**	P		**Pg**	**01 48 37.9**	**0.0**
AXAR				S		**Sb**	**01 48 46.4**	**-0.5**
AXAR				AML		AML	01 48 47.1	
	comp=E,23523μm,0.3s							
AXAR				AML		AML	01 48 47.8	
	comp=N,15744μm,0.3s							
DSF	**Desfina**	**0.61**	**129**	P		**Pg**	**01 48 37.5**	**-1.0**
DSF				S		**Sb**	**01 48 46.5**	**-1.3**
	comp=N,4μm,0.2s							
DSF	**Desfina**	**0.61**	**129**	P		**Pg**	**01 48 37.7**	**-0.8**
DSF				S		**Sb**	**01 48 46.6**	**-1.2**
DSF				AML		AML	01 48 49.1	
	comp=N,10068μm,0.2s							
DSF				AML		AML	01 48 52.1	
	comp=E,6699μm,0.2s							
PDO	**Prodromos**	**0.61**	**252**	P		**Pg**	**01 48 38.4**	**-0.1**
PDO	**Prodromos**	**0.61**	**252**	P		**Pg**	**01 48 38.4**	**-0.1**
PDO				AML		AML	01 48 51.8	
	comp=E,6289μm,0.7s							
PDO				AML		AML	01 48 51.9	
	comp=N,7668μm,0.6s							
KLV	**Kalavryta, Ach**	**0.77**	**166**	P		**Pg**	**01 48 41.0**	**-0.5**
KLV				S		**Sb**	**01 48 52.9**	**+0.5**
	comp=N,4μm,0.6s							
KLV	**Kalavryta, Ach**	**0.77**	**166**	P		**Pg**	**01 48 41.0**	**-0.5**
KLV				S		**Sb**	**01 48 52.7**	**+0.2**
KLV				AML		AML	01 48 53.7	
	comp=N,7205μm,0.5s							
KLV				AML		AML	01 48 53.8	
	comp=E,9221μm,0.8s							
THL	**Klokotos Trika**	**0.77**	**5**	P		**Pg**	**01 48 40.8**	**-0.8**
THL				S		**Sg**	**01 48 52.4**	**+0.7**
	comp=E,3μm,0.5s							
THL	**Klokotos Trika**	**0.77**	**5**	P		**Pg**	**01 48 40.7**	**-0.8**
THL				S		**Sg**	**01 48 51.8**	**+0.1**
THL				AML		AML	01 48 53.7	
	comp=E,6598μm,0.7s							
THL				AML		AML	01 48 54.8	
	comp=N,5064μm,0.3s							
RLS	**Riolos of Patr**	**0.82**	**206**	P		**Pb**	**01 48 42.3**	**-0.4**
RLS				S		**Sn**	**01 48 54.9**	**-1.1**
	comp=N,2μm,0.6s							
RLS	**Riolos of Patr**	**0.82**	**206**	P		**Pg**	**01 48 42.2**	**-0.2**
RLS				AML		AML	01 48 55.9	
	comp=N,5624μm,0.6s							
RLS				AML		AML	01 48 56.8	
	comp=E,4106μm,0.5s							
LKR	**Lokris**	**0.85**	**99**	P		**Pg**	**01 48 42.4**	**-0.7**
LKR	**Lokris**	**0.85**	**99**	P		**Pg**	**01 48 42.5**	**-0.6**
LKR				S		**Sb**	**01 48 54.7**	**-0.1**
LKR				AML		AML	01 48 58.1	
	comp=E,4693μm,0.3s							
LKR				AML		AML	01 48 58.7	
	comp=N,4116μm,0.2s							
DRO	**Drossia**	**0.86**	**191**	P		**Pg**	**01 48 42.4**	**-0.7**
DRO	**Drossia**	**0.86**	**191**	P		**Pg**	**01 48 42.3**	**-0.8**
DRO				AML		AML	01 48 57.0	
	comp=E,8548μm,0.8s							
DRO				AML		AML	01 48 59.2	
	comp=N,4706μm,0.4s							
MGNA	**Meganis**	**0.90**	**262**	P		**Pg**	**01 48 43.1**	**-0.7**
PROD	**Prodromos**	**0.94**	**124**	P		**Pg**	**01 48 43.7**	**-0.9**
PROD				AML		AML	01 49 02.6	
	comp=N,3627μm,0.3s							
PROD				AML		AML	01 49 03.2	
	comp=E,4506μm,0.4s							
LRSO	**Larissa Observ**	**0.95**	**22**	P		**Pg**	**01 48 44.0**	**-0.9**
LRSO	**Larissa Observ**	**0.95**	**22**	P		**Pg**	**01 48 44.0**	**-0.9**
LRSO				S		**Sg**	**01 48 57.4**	**0.0**
LRSO				AML		AML	01 49 04.1	
	comp=N,8524μm,0.3s							
LRSO				AML		AML	01 49 04.7	
	comp=E,8626μm,0.6s							
TSLK	**Tsoukalades, L**	**0.99**	**272**	P		**Pg**	**01 48 45.1**	**-0.6**
TSLK	**Tsoukalades, L**	**0.99**	**272**	P		**Pg**	**01 48 45.2**	**-0.4**
EVGI	**Lefkada island**	**1.00**	**261**	P		**Pg**	**01 48 44.9**	**-1.1**
EVGI	**Lefkada island**	**1.00**	**261**	P		**Pg**	**01 48 45.1**	**-0.9**
FSK	**Fiskardo**	**1.12**	**253**	P		**Pb**	**01 48 46.6**	**-1.2**
FSK	**Fiskardo**	**1.12**	**253**	P		**Pb**	**01 48 46.9**	**-0.9**
KFL	**Anninata**	**1.12**	**233**	P		**Pb**	**01 48 47.1**	**-0.9**
KFL	**Anninata**	**1.12**	**233**	P		**Pb**	**01 48 47.3**	**-0.7**
LTK	**Loutraki**	**1.12**	**133**	P		**Pb**	**01 48 47.2**	**-0.8**
LTK	**Loutraki**	**1.12**	**133**	P		**Pg**	**01 48 47.7**	**-0.6**
MEV	**Metsovon**	**1.13**	**332**	P		**Pb**	**01 48 47.3**	**-0.8**
NEO	**Neokhori**	**1.14**	**63**	P		**Pb**	**01 48 46.9**	**-1.3**
NEO	**Neokhori**	**1.14**	**63**	P		**Pb**	**01 48 47.6**	**-0.6**
NEO				S		**Sg**	**01 49 03.2**	**0.0**
NEO				AML		AML	01 49 08.2	
	comp=N,6245μm,0.3s							
NEO				AML		AML	01 49 11.6	
	comp=E,2869μm,0.3s							
XOR	**Xorichti**	**1.14**	**60**	P		**Pb**	**01 48 47.4**	**-0.9**
XOR	**Xorichti**	**1.14**	**60**	P		**Pb**	**01 48 47.7**	**-0.7**
XOR				S		**Sb**	**01 49 03.2**	**0.0**
XOR				AML		AML	01 49 07.2	
	comp=N,4771μm,0.3s							
XOR				AML		AML	01 49 07.4	
	comp=E,4838μm,0.7s							
LOUT	**Loutraki**	**1.15**	**134**	P		**Pb**	**01 48 47.4**	**-1.1**
LOUT	**Loutraki**	**1.15**	**134**	P		**Pb**	**01 48 48.0**	**-0.5**
LOUT				AML		AML	01 49 09.1	
	comp=N,406μm,0.5s							
LOUT				AML		AML	01 49 13.5	
	comp=E,447μm,0.8s							
ACOR	**Acrocorinthos**	**1.17**	**140**	P		**Pn**	**01 48 48.7**	**-0.1**
ACOR				AML		AML	01 49 13.4	
	comp=E,841μm,0.4s							
ACOR				AML		AML	01 49 19.9	
	comp=N,1427μm,0.7s							
JAN	**Janina**	**1.20**	**316**	P		**Pn**	**01 48 48.2**	**-1.1**
JAN	**Janina**	**1.20**	**316**	P		**Pn**	**01 48 48.3**	**-1.0**
JAN				S		**Sb**	**01 49 04.6**	**-0.2**
JAN				AML		AML	01 49 12.9	
	comp=N,2615μm,0.6s							
JAN				AML		AML	01 49 15.5	
	comp=E,3040μm,0.3s							
VIL2	**Platees**	**1.21**	**118**	P		**Pg**	**01 48 50.2**	**+0.4**
VIL2				S		**Sn**	**01 49 08.0**	**+2.4**
VIL2				AML		AML	01 49 11.7	
	comp=N,2233μm,0.3s							
VIL2				AML		AML	01 49 18.1	
	comp=E,2741μm,0.8s							
VLS	**Valsamata**	**1.21**	**240**	P		**Pn**	**01 48 47.9**	**-1.5**
VLS	**Valsamata**	**1.21**	**240**	P		**Pn**	**01 48 48.2**	**-1.2**
KPRO	**Kipourio**	**1.24**	**340**	P		**Pn**	**01 48 48.8**	**-1.1**
KPRO	**Kipourio**	**1.24**	**340**	P		**Pn**	**01 48 48.8**	**-1.1**
KPRO				AML		AML	01 49 12.3	
	comp=N,7576μm,0.5s							
KPRO				AML		AML	01 49 12.4	
	comp=E,5969μm,0.5s							
VILL	**Villia**	**1.26**	**119**	P		**Pn**	**01 48 49.8**	**-0.3**
SKIA	**Skiathos**	**1.26**	**72**	P		**Pn**	**01 48 49.6**	**-0.5**
SKIA	**Skiathos**	**1.26**	**72**	P		**Pn**	**01 48 49.9**	**-0.2**
SKIA				AML		AML	01 49 13.2	
	comp=E,823μm,0.4s							
SKIA				AML		AML	01 49 16.4	
	comp=N,854μm,0.5s							
AMT	**Artemida-Makis**	**1.27**	**188**	P		**Pb**	**01 48 50.1**	**-0.4**
AMT	**Artemida-Makis**	**1.27**	**188**	P		**Pg**	**01 48 50.4**	**-0.6**
AMT				AML		AML	01 49 18.4	
	comp=N,3236μm,0.6s							
AMT				AML		AML	01 49 22.1	
	comp=E,3204μm,0.5s							
MRKA	**Markates**	**1.30**	**93**	P		**Pb**	**01 48 50.9**	**-0.2**
MRKA	**Markates**	**1.30**	**93**	P		**Pb**	**01 48 50.9**	**-0.2**
MRKA				AML		AML	01 49 09.6	
	comp=E,637μm,0.3s							
MRKA				AML		AML	01 49 14.3	
	comp=N,988μm,0.4s							
VLMS	**Volimes, Zakyn**	**1.35**	**228**	P		**Pn**	**01 48 50.8**	**-0.5**
LIT	**Litokhoron**	**1.38**	**18**	P		**Pn**	**01 48 51.3**	**-0.4**
LIT	**Litokhoron**	**1.38**	**18**	P		**Pn**	**01 48 51.5**	**-0.2**
IGT	**Igoumenitsa**	**1.44**	**301**	P		**Pn**	**01 48 52.5**	**-0.1**
IGT	**Igoumenitsa**	**1.44**	**301**	P		**Pb**	**01 48 53.4**	**+0.1**
IGT				AML		AML	01 49 25.7	
	comp=E,1063μm,0.4s							
IGT				AML		AML	01 49 27.6	
	comp=N,1050μm,0.5s							
VLX	**Vlachokerasia**	**1.47**	**166**	P		**Pb**	**01 48 53.3**	**-0.6**
VLX	**Vlachokerasia**	**1.47**	**166**	P		**Pb**	**01 48 53.4**	**-0.5**
EPID	**Epidavros**	**1.51**	**141**	P		**Pb**	**01 48 53.8**	**-0.8**
KZN	**Kozani**	**1.52**	**356**	P		**Pn**	**01 48 53.8**	**+0.1**
KZN	**Kozani**	**1.52**	**356**	P		**Pn**	**01 48 53.7**	**+0.1**
KZN				S		**Sn**	**01 49 13.5**	**0.0**
KZN				AML		AML	01 49 18.3	
	comp=E,4067μm,0.4s							
KZN				AML		AML	01 49 20.7	
	comp=N,2219μm,0.6s							
PENT	**Pentalofos**	**1.53**	**337**	P		**Pn**	**01 48 53.8**	**-0.1**
PENT	**Pentalofos**	**1.53**	**337**	P		**Pn**	**01 48 53.7**	**-0.1**
ALNA	**Alonissos**	**1.56**	**76**	P		**Pn**	**01 48 54.0**	**-0.1**
AOS	**Alonnisos**	**1.57**	**76**	P		**Pn**	**01 48 53.8**	**-0.6**
AOS	**Alonnisos**	**1.57**	**76**	P		**Pn**	**01 48 53.9**	**-0.4**
AOS	**Alonnisos**	**1.57**	**76**	PN		**Pn**	**01 48 53.8**	**-0.6**
AOS				SN		**Sn**	**01 49 12.3**	**-2.4**
KTI	**Kastanea**	**1.60**	**5**	P		**Pn**	**01 48 55.5**	**+0.5**
ITM	**Ithomi**	**1.61**	**180**	P		**Pb**	**01 48 56.4**	**+0.1**
ITM	**Ithomi**	**1.61**	**180**	P		**Pb**	**01 48 56.2**	**-0.1**
ITM				AML		AML	01 49 32.1	
	comp=N,1108μm,0.7s							
ITM				AML		AML	01 49 34.4	
	comp=E,823μm,0.9s							
ITM	**Ithomi**	**1.61**	**180**	PN		**Pb**	**01 48 56.2**	**-0.1**
EREA	**Eretria**	**1.62**	**103**	P		**Pn**	**01 48 55.4**	**+0.4**
EREA	**Eretria**	**1.62**	**103**	P		**Pb**	**01 48 55.5**	**-0.9**
EREA				AML		AML	01 49 22.7	
	comp=E,964μm,0.5s							
EREA				AML		AML	01 49 27.2	
	comp=N,829μm,0.4s							
ATH	**Athens Observa**	**1.63**	**120**	P		**Pn**	**01 48 55.3**	**+0.1**
ATH	**Athens Observa**	**1.63**	**120**	P		**Pn**	**01 48 55.5**	**+0.3**
ATH				S		**Sb**	**01 49 16.1**	**-1.0**
ATH				AML		AML	01 49 23.7	
	comp=E,1424μm,0.3s							
ATH				AML		AML	01 49 26.5	
	comp=N,2089μm,0.4s							
DID	**Didima**	**1.65**	**141**	P		**Pn**	**01 48 55.7**	**+0.2**
DID	**Didima**	**1.65**	**141**	P		**Pn**	**01 48 55.7**	**+0.2**
DID				AML		AML	01 49 24.9	
	comp=E,1327μm,0.6s							
DID				AML		AML	01 49 25.3	
	comp=N,1357μm,0.5s							
ATHU	**Athens Univers**	**1.68**	**119**	P		**Pn**	**01 48 56.1**	**+0.2**
ATHU	**Athens Univers**	**1.68**	**119**	P		**Pn**	**01 48 56.1**	**+0.

MHLA Plaka, Milos I 2.85 135 P **Pn** **01 49 12.3 +0.5**
MHLO Agia Marina, M 2.88 136 P **Pn** **01 49 13.2 +0.9**
MHLO Agia Marina, M 2.88 136 P **Pn** **01 49 13.0 +0.7**
STIP Stip 2.91 4 *i* Pn **Pn** **01 49 14.1 +1.4**
NVR Nevrokopi 2.96 30 P **Pn** **01 49 13.0 -0.4**
NVR Nevrokopi 2.96 30 P **Pn** **01 49 13.3 -0.1**
SCTE Santa Cesarea 2.96 297 P **Pn** **01 49 14.4 +0.9**
KAVA Kavala 2.97 41 P **Pn** **01 49 12.6 -1.0**
KAVA Kavala 2.97 41 P **Pn** **01 49 12.6 -1.0**
TIR Tirane 3.00 329 *i* PN **Pb** **01 49 18.0 -2.0**
TIR *i* SN **Sb** **01 49 55.4 -1.2**
TIR Tirane 3.00 329 P **Pn** **01 49 15.1 +1.1**
TIR Tirane 3.00 329 ⇑P **Pn** **01 49 16.1 +2.1**
TIR AML AML 01 50 14.9
SIGR SIGRI 3.09 81 P **Pn** **01 49 15.7 +0.4**
SIGR SIGRI 3.09 81 PN **Pn** **01 49 15.1 -0.2**
PHP Peshkopia 3.10 339 P **Pn** **01 49 17.0 +1.5**
PHP Peshkopia 3.10 339 *i* PN **Pn** **01 49 17.9 +2.5**
PHP *i* SN **Sb** **01 49 58.2 -1.4**
ANKY Antikythira Is 3.12 159 P **Pn** **01 49 16.1 +0.5**
ANKY Antikythira Is 3.12 159 P **Pn** **01 49 16.5 +0.9**
SKO Skopje 3.20 354 *i* Pn **Pn** **01 49 17.7 +1.0**
SMTH Samothraki Isl 3.25 58 P **Pn** **01 49 16.1 -1.4**
SMTH Samothraki Isl 3.25 58 P **Pn** **01 49 16.3 -1.2**
CHOS Chios island 3.26 96 P **Pn** **01 49 18.6 +0.9**
CHOS Chios island 3.26 96 PN **Pn** **01 49 17.8 +0.1**
APE Apeiranthos 3.33 120 P **Pn** **01 49 19.1 +0.5**
APE Apeiranthos 3.33 120 ⇑P **Pn** **01 49 19.2 +0.5**
APE Apeiranthos 3.33 120 PN **Pn** **01 49 18.9 +0.3**
BOZC Bozcaada 3.37 71 *i* P **Pn** **01 49 19.1 0.0**
BOZC Bozcaada 3.37 71 PN **Pn** **01 49 18.9 -0.2**
PRK Paraskevi 3.42 81 P **Pn** **01 49 21.3 +1.5**
PRK Paraskevi 3.42 81 P **Pn** **01 49 21.2 +1.5**
EZN Ezine 3.57 72 ⇓P **Pn** **01 49 22.0 +0.2**
EZN AML AML 01 50 28.6
EZN Ezine 3.57 72 PN **Pn** **01 49 20.9 -0.9**
PUK Puka 3.60 335 *i* PN **Pn** **01 49 25.3 +3.0**
PUK *i* SN **Sb** **01 50 10.3 -3.6**
CMBO Columbo, Santo 3.61 129 P **Pn** **01 49 23.8 +1.4**
THR5 Thira Island, 3.61 130 P **Pn** **01 49 23.3 +0.9**
ZEY zmir 3.64 97 *i* P **Pn** **01 49 24.1 +1.3**
ZEY IAML_P
comp=Z,321nm,0.2s
RDO Rodhopi 3.64 49 P **Pn** **01 49 21.8 -1.0**
RDO Rodhopi 3.64 49 P **Pn** **01 49 21.8 -1.0**
RDO Rodhopi 3.64 49 PN **Pn** **01 49 21.8 -1.0**
THR3 Thira Island, 3.65 130 P **Pn** **01 49 23.9 +1.0**
URLA Izmir 3.69 95 *i* P **Pn** **01 49 24.9 +1.4**
URLA IAML_P
comp=Z,329nm,0.2s
URLA Izmir 3.69 95 PN **Pn** **01 49 23.5 0.0**
AMGA Amorgos Island 3.71 121 P **Pn** **01 49 24.5 +0.8**
SANT Santorini 3.71 130 ⇑P **Pn** **01 49 24.8 +1.0**
SANT Santorini 3.71 130 PN **Pn** **01 49 24.0 +0.2**
IMMV Iera Moni Meta 3.71 153 P **Pn** **01 49 25.0 +1.2**
IMMV Iera Moni Meta 3.71 153 PN **Pn** **01 49 24.4 +0.6**
BOSS Bosilegrad 3.72 6 *e*Pn **Pn** **01 49 24.7 +0.7**
AYVA Ayvalik 3.75 81 *i* P **Pn** **01 49 25.4 +1.1**
ENEZ Enez 3.79 58 PN **Pn** **01 49 24.5 -0.4**
BCI Bajram Curri 3.84 339 *i* PN **Pn** **01 49 28.1 +2.5**
BCI *i* SN **Sn** **01 50 16.2 +5.5**
VAM Vamos 3.84 151 P **Pn** **01 49 26.0 +0.5**
GELI Tayfur-Gelibol 3.87 64 PN **Pn** **01 49 25.3 -0.6**
DKL Dikili 3.90 84 PN **Pn** **01 49 26.4 +0.1**
CGL1 Ceglie Messapi 3.90 300 *e*Pn **Pn** **01 49 29.4 +3.0**
ANAF Anafi Island 3.91 127 P **Pn** **01 49 27.5 +1.0**
KDZ Kurdzhali 3.91 42 PN **Pn** **01 49 25.3 -1.2**
PLD Plovdiv 3.93 32 PN **Pn** **01 49 26.5 -0.3**
VTS Vitosha 3.95 14 *e*Pn **Pn** **01 49 27.5 +0.3**
VTS Vitosha 3.95 14 P **Pn** **01 49 27.2 0.0**
VTS Vitosha 3.95 14 ⇑P **Pn** **01 49 27.4 +0.2**
VTS AML AML 01 50 15.9
TAR1 Taranto 3.98 297 *e*Pn **Pn** **01 49 28.7 +1.3**
DRME Dracevica, Mon 3.98 329 *e*Pn **Pn** **01 49 29.1 +1.6**
ERIK Erikli-Kesan 4.01 61 PN **Pn** **01 49 27.1 -0.7**
SMG Samos 4.02 104 P **Pn** **01 49 28.8 +0.8**
BARS Barje 4.02 359 *e*Pn **Pn** **01 49 28.4 +0.4**
ZEDA zmir-Bergama 4.03 86 *i* P **Pn** **01 49 29.1 +1.0**
ZEDA IAML_P
comp=Z,302nm,0.2s
TIP Timpagrande 4.04 277 P **Pn** **01 49 29.7 +1.3**
TIP Timpagrande 4.04 277 ⇑P **Pn** **01 49 30.0 +1.6**
FASA Fasano 4.06 301 *e*Pn **Pn** **01 49 33.0 +4.5**
LPK Lapseki 4.06 66 PN **Pn** **01 49 27.9 -0.6**
PDG Podgorica 4.16 332 *e*Pn **Pn** **01 49 31.5 +1.6**
PDG Podgorica 4.16 332 ⇑P **Pn** **01 49 31.4 +1.4**
PDG AML AML 01 50 25.6
KESN Edirne-Kesan 4.19 60 *i* P **Pn** **01 49 29.2 -1.5**
NOCI Noci 4.24 300 P **Pn** **01 49 31.8 +0.7**
UKOP Uzunkopru-Edir 4.31 56 PN **Pn** **01 49 31.8 -0.1**
GVD Gavdhos 4.31 156 PN **Pn** **01 49 33.1 +1.1**
GCAM G?zelcaml? 4.32 103 PN **Pn** **01 49 32.7 +0.6**
KRBG Karabiga-Canak 4.45 67 PN **Pn** **01 49 33.9 0.0**
SELS Selova 4.46 352 *e*Pn **Pn** **01 49 34.4 +0.3**
RKY Sarkoy-Tekirda 4.47 63 PN **Pn** **01 49 34.3 0.0**
HCY Herceg Novi 4.49 326 *e*Pn **Pn** **01 49 34.6 +0.2**
ZAPS Zavoj 4.51 7 *e*Pn **Pn** **01 49 36.1 +1.3**
BAI Bari 4.51 302 *e*Pn **Pn** **01 49 35.9 +1.1**
BALY Balya 4.52 76 *i* P **Pn** **01 49 36.4 +1.4**
BALY IAML_P
comp=Z,172nm,0.3s
SG1 Sgolgore (BA) 4.53 299 *e*Pn **Pn** **01 49 36.2 +1.2**
STEP BALIKESIR_Sava 4.55 81 *i* P **Pn** **01 49 36.5 +1.2**
BODT Bodrum 4.60 110 PN **Pn** **01 49 36.7 +0.7**
SJES Sjenica 4.70 342 *e*Pn **Pn** **01 49 39.6 +2.1**
TREB Trebinje 4.77 326 *e*Pn **Pn** **01 49 39.0 +0.7**
TREB *e*Sn **Sn** **01 50 35.0 +1.5**
TREB Trebinje 4.77 326 *e*Pn **Pn** **01 49 38.7 +0.4**
EDRB Edirne 4.78 49 PN **Pn** **01 49 38.3 -0.2**
DBRK Dubrovnik 4.82 325 *e*Pn **Pn** **01 49 40.8 +1.9**
DBRK Sn **Sn** **01 50 36.1 +1.3**
BRY Bratogost 4.84 329 *e*Pn **Pn** **01 49 41.3 +1.9**
BOVS Bovan 4.84 358 *e*Pn **Pn** **01 49 39.5 +0.2**
IVAS Ivanjica 4.96 345 *e*Pn **Pn** **01 49 39.8 -1.2**
UPM Unac-Piva 4.96 334 *e*Pn **Pn** **01 49 43.3 +2.2**
ZAGS Zajecar 5.02 3 *e*Pn **Pn** **01 49 41.9 +0.1**
PLVB Pleven 5.02 23 ⇑P **Pn** **01 49 41.3 -0.5**
ELND Elena 5.10 35 ⇓P **Pn** **01 49 43.1 +0.2**
ELND AML AML 01 49 44.1
DURS Dursunbey 5.15 79 *i* P **Pn** **01 49 44.8 +1.1**
DURS IAML_P
comp=Z,100nm,0.1s
GRUS Gruza 5.17 350 *e*Pn **Pn** **01 49 44.6 +0.8**
STON Ston 5.18 323 *e*Pn **Pn** **01 49 43.8 -0.2**
STON Sn **Sn** **01 50 42.6 -1.0**
STON Ston 5.18 323 *e*Pn **Pn** **01 49 42.8 -1.1**
RUDO Rudo 5.19 339 *e*Pn **Pn** **01 49 45.1 +1.0**
BBLS Lazići 5.41 340 *e*Pn **Pn** **01 49 47.6 +0.4**
BBLS Lazići 5.41 340 *e*Pn **Pn** **01 49 46.6 -0.6**
DIVS Divibare 5.50 345 *e*Pn **Pn** **01 49 48.5 +0.1**
DIVS Divibare 5.50 345 *e*Pn **Pn** **01 49 48.0 -0.4**
TRUS Trudelj 5.54 349 *e*Pn **Pn** **01 49 49.4 +0.4**
HAPS Han Pijesak,BI 5.74 338 *e*Pn **Pn** **01 49 51.9 +0.1**
HVAR Hvar 6.03 318 *e*Pn **Pn** **01 49 56.1 +0.5**
HVAR Sn **Sn** **01 51 00.7 -3.8**
FRGS Fruska Gora 6.55 347 *e*Pn **Pn** **01 50 03.3 +0.4**
FRGS Fruska Gora 6.55 347 *e*Pn **Pn** **01 50 03.2 +0.4**
GZR Gura Zlata 6.63 5 ⇑P **Pn** **01 50 04.2 +0.3**
MGRS Mrkonjic Grad 6.69 329 *e*Pn **Pn** **01 50 08.7 +4.0**
ZIRJ Zirje 6.78 318 *e*Pn **Pn** **01 50 06.7 +0.8**
ZIRJ Sn **Sn** **01 51 20.4 -2.6**
LOT Lotru 6.79 11 ⇑P **Pn** **01 50 06.7 +0.6**
BZS Buzias 6.82 358 ⇑P **Pn** **01 50 05.7 -0.8**
ARR Arges 6.87 16 ⇑P **Pn** **01 50 07.2 0.0**
MORI Morici 6.89 319 *e*Pn **Pn** **01 50 09.2 +1.7**
MORI Sn **Sn** **01 51 25.0 -0.9**
BLY Banja Luka 6.92 331 *e*Pn **Pn** **01 50 08.6 +0.7**
BLY Banja Luka 6.92 331 ⇑P **Pn** **01 50 08.2 +0.3**
VOIR 7.03 18 ⇑P **Pn** **01 50 09.9 +0.4**
ISR Istrita 7.20 27 ⇑P **Pn** **01 50 13.3 +1.6**
DUGI Dugi Otok 7.32 317 *e*Pn **Pn** **01 50 14.5 +1.1**
DUGI Sn **Sn** **01 51 34.3 -2.0**
MLR Muntele Rosu 7.33 23 Pn **Pn** **01 50 14.8 +1.2**
comp=Z,2.6nm,0.3s,baz=341,slow=24,SNR=23
MLR LR LR 01 53 33.4
comp=Z,102nm,18.1s,baz=297,slow=42
MLR Muntele Rosu 7.33 23 ⇓P **Pn** **01 50 15.0 +1.4**
UDBI Udbina 7.35 323 *e*Pn **Pn** **01 50 15.6 +1.7**
DOPR Dopca 7.61 19 ⇑P **Pn** **01 50 17.0 -0.4**
BISRR Bisoca 7.63 26 ⇑P **Pn** **01 50 19.4 +1.7**

NVLJ Novalja 7.81 320 *e*Pn **Pn** **01 50 20.8 +0.7**
OZUR 7.84 20 ⇑P **Pn** **01 50 20.9 +0.5**
PLOR Plostina 7.87 25 ⇓P **Pn** **01 50 22.5 +1.5**
VRI Vrincioaia 7.91 25 ⇓P **Pn** **01 50 21.9 +0.5**
CRES Cresnjev 8.50 328 *e*Pn **Pn** **01 50 28.3 -1.3**
CEY Cerknica 8.89 324 *e*Pn **Pn** **01 50 33.9 -1.0**
BRTR Keskin Array B 9.14 80 Pn **Pn** **01 50 40.7 +2.3**
comp=Z,0.2nm,0.3s,baz=256,slow=12,SNR=9.1
BURAR Bucovina Array 9.14 14 ⇑P **Pn** **01 50 39.7 +1.3**
PSZ Piszkesteto 9.24 351 ⇑P **Pn** **01 50 40.8 +1.0**
ARSA Arzberg 9.66 333 *e*Pn **Pn** **01 50 45.3 -0.1**
comp=Z,0.5nm,0.3s
VYHS Vyhne 9.95 348 *e* **Pn** **01 50 51.5 +2.1**
KEST Kesra 10.48 257 Pn **Pn** **01 50 59.4 +2.6**
comp=Z,0.1nm,0.3s,baz=174,slow=18,SNR=2.7
ABTA Abfaltersbach 10.53 322 *e*Pn **Pn** **01 50 58.0 +0.6**
comp=Z,0.9nm,0.4s
MOA Molln 10.63 331 *e*Pn **Pn** **01 51 00.0 +1.4**
comp=Z,0.6nm,0.3s
VRAC Vranov 11.19 342 Pn **Pn** **01 51 06.9 +0.6**
comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=4.5
WTTA Wattenberg 11.32 322 *e*Pn **Pn** **01 51 09.7 +1.4**
comp=Z,0.5nm,0.3s
WATA Walderalm 11.40 322 Pn **Pn** **01 51 10.9 +1.6**
comp=Z,1.2nm,0.4s
MOTA Moosalm 11.64 321 *e*Pn **Pn** **01 51 14.3 +1.7**
comp=Z,1.0nm,0.4s
GERES GERESS Array B 11.66 332 Pn **Pn** **01 51 14.2 +1.3**
comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=5.3
GERES Sn **Sn** **01 53 22.9 -0.2**
comp=Z,0.1nm,0.3s,baz=139,slow=22,SNR=3.9
HFS Hagfors 21.99 349 P **P** **01 53 20.3 0.0**
comp=Z,1.1nm,0.5s,baz=177,slow=8.8,SNR=8.0
FINES FINESS Array B 22.82 5 P **P** **01 53 28.1 -1.1**
comp=Z,1.8nm,1.0s,baz=167,slow=9.2,SNR=4.1
NB2 NORSAR Subarra 23.25 347 P **P** **01 53 33.5 -0.2**
comp=Z,3.0nm,1.2s,baz=158,slow=11
NOA NORSAR Array B 23.25 347 P **P** **01 53 33.0 -0.7**
comp=Z,0.7nm,0.9s,baz=151,slow=9.1,SNR=4.4
EKA Eskdalemuir Ar 23.58 323 P **P** **01 53 36.0 -1.0**
comp=Z,2.8nm,0.7s,baz=121,slow=9.8,SNR=5.3
TORD Torodi Ar. Bea 31.20 221 P **P** **01 54 46.8 +0.9**
comp=Z,0.5nm,0.8s,baz=21,slow=8.4,SNR=4.5
MKAR Makanchi Array 44.04 59 P **P** **01 56 33.8 -0.4**
comp=Z,0.7nm,0.6s,baz=284,slow=6.3,SNR=5.0
ZALV Zalesovo Beam 44.46 49 P **P** **01 56 37.3 -0.1**
comp=Z,0.7nm,0.4s,baz=302,slow=8.5,SNR=3.8

ISCJB ***03*** *01:54:31.9±0.2, 7˚.19S±0˚.02×120˚.80E±0˚.02, h10km, mb4.4/20, MS3.9/14, Error ellipse: s-maj=3.5km s-min=2.9km az=23.8*
NEIC ***03*** *01:54:33.0±2.5, 7˚.16S±0˚.06×120˚.85E±0˚.06, h4km±3km, mb4.6/25*
DJA ***03*** *01:54:36.1±0.5, 7˚S±1˚×12˚1E±˚, h30km±6km, M4.9/41, mB5.4/25, mb4.8/41, MLv5.1/27, Mw(mB)4.8/25, Mwp5.4/1*
IDC ***03*** *01:54:37.1±3.2, 7˚.15S×120˚.98E, h32km±24km, mb4.2/15, mb1 4.4/20, mb1mx4.3/37, mbtmp4.5/20, ML4.7/5, MS3.9/17, Ms1 3.9/17, ms1mx3.6/48, Error ellipse: s-maj=18.3km s-min=7.8km az=57.0*
ISC 03 01:54:33.5±0.3,**7˚21S**±0˚.05×**120˚.84E**±0˚.05,**h10km**,**n152,** σ1**38**/146,**mb4.5**/28,**MS3.9**/14,**2C, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.75**	**151**	P	**Pn**		**01 55 03.7**	**-0.3**
EDFI					S	**Sn**	**01 55 26.5**	**+0.1**
MMRI	**Maumere**	**1.98**	**136**	P	**Pn**		**01 55 07.2**	**+0.1**
MMRI	**Maumere**	**1.98**	**136**		**Pn**		**01 55 07.8**	**+0.6**
BKSI	**Bulukumba**	**2.00**	**339**	P	**Pn**		**01 55 05.1**	**-2.3**
BBSI	**Bau Bau**	**2.42**	**45**	P	**Pn**		**01 55 13.9**	**+0.7**
KAPI	**Kappang**	**2.43**	**333**	Pn	**Pn**		**01 55 13.0**	**-0.3**
	380nm,0.3s,baz=159,slow=9.3,SNR=672							
KAPI					Sn	**Sn**	**01 55 43.3**	**+0.1**
	219nm,0.3s,baz=225,slow=22,SNR=11							
KAPI					LR	LR	01 56 20.4	
	comp=Z,2μm,19.8s,baz=294,slow=42							
WSI	**Waingapu**	**2.50**	**192**	P	**Pn**		**01 55 16.6**	**+2.3**
WBSI	**Waikabubak, Su**	**2.81**	**211**	P	**Pn**		**01 55 19.2**	**+0.6**
BNSI	**Bone**	**2.88**	**345**	P	**Pn**		**01 55 19.2**	**-0.3**
SPSI	**Sidrap Palu**	**3.39**	**342**	P	**Pn**		**01 55 26.6**	**0.0**
PLAI	**Plampang**	**3.44**	**242**	P	**Pn**		**01 55 27.2**	**0.0**
KDI	**Kendari**	**3.68**	**29**	P	**Pn**		**01 55 31.6**	**+1.1**
BATI	**Baumata**	**4.08**	**137**	Pn	**Pb**		**01 55 41.2**	**-4.3**
	69nm,0.3s,baz=294,slow=1.6,SNR=101							
BATI					LR	LR	01 57 33.0	
	comp=Z,2μm,21.3s,baz=205,slow=44							
BATI	**Baumata**	**4.08**	**137**	P	**Pn**		**01 55 39.9**	**+3.8**
TWSI	**Taliwang, Sumb**	**4.21**	**249**	P	**Pn**		**01 55 37.5**	**-0.3**
SOEI	**Soe**	**4.23**	**127**	P	**Pn**		**01 55 41.9**	**+3.7**
SOEI	**Soe**	**4.23**	**127**		**Pn**		**01 55 42.0**	**+3.9**
TTSI	**Tana Toraja**	**4.26**	**346**	P	**Pn**		**01 55 39.3**	**+0.8**
SRBI	**Singaraja**	**5.65**	**261**	P	**Pn**		**01 55 57.2**	**-0.4**
	287nm,0.5s,5μm1.2nm							
DNP	**Denpasar**	**5.77**	**255**	P	**Pn**		**01 55 58.8**	**-0.4**
IGBI	**Denpasar**	**5.86**	**254**	P	**Pn**		**01 56 01.3**	**+0.7**
	663nm,0.4s,12μm3.0nm							
KBKI	**Kotabaru**	**6.06**	**310**	P	**Pn**		**01 56 03.0**	**-0.3**
APSI	**Ampana**	**6.31**	**7**	P	**Pn**		**01 56 07.0**	**+0.4**
LUWI	**Luwuk**	**6.42**	**18**	P	**Pn**		**01 56 08.6**	**+0.4**
LUWI	**Luwuk**	**6.42**	**18**		**Pn**		**01 56 08.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.75**	**259**	P	**Pn**		**01 56 12.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**6.75**	**259**		**Pn**		**01 56 12.4**	**-0.3**
KMMI	**Kalianget**	**6.83**	**271**	P	**Pn**		**01 56 14.0**	**+0.2**
SANI	**Sanana**	**7.25**	**45**	P	**Pn**		**01 56 20.3**	**+0.7**
	117nm,0.6s,1μm0.4nm							
NLAI	**Namlea**	**7.37**	**58**	P	**Pn**		**01 56 22.1**	**+0.8**
GMJI	**Gumukmas**	**7.41**	**261**	P	**Pn**		**01 56 21.3**	**-0.5**
MPSI	**Mapaga**	**7.55**	**353**	P	**Pn**		**01 56 24.0**	**+0.2**
MRSI	**Marisa**	**7.71**	**8**	P	**Pn**		**01 56 26.3**	**+0.4**
AAI	**Ambon**	**8.11**	**65**	P	**Pn**		**01 56 32.5**	**+1.1**
GRJI	**Gresik**	**8.30**	**271**	P	**Pn**		**01 56 33.6**	**-0.5**
MSAI	**Masohi**	**8.92**	**65**	P	**Pn**		**01 56 43.3**	**+0.8**
PWJI	**Pagerwojo**	**9.00**	**264**	P	**Pn**		**01 56 43.3**	**-0.3**
NGJI	**Ngawi**	**9.31**	**268**	P	**Pn**		**01 56 47.4**	**-0.5**
LBMI	**Labuha**	**9.31**	**46**	P	**Pn**		**01 56 50.0**	**+2.1**
PCJI	**Pacitan**	**9.63**	**264**	P	**Pn**		**01 56 52.0**	**-0.3**
WOJI	**Wonogiri, Jawa**	**9.85**	**266**	P	**Pn**		**01 56 55.1**	**-0.3**
TNTI	**Ternate**	**10.26**	**40**	P	**Pn**		**01 57 04.4**	**+3.5**
	51nm,0.7s							
SMRI	**Semarang**	**10.32**	**270**	P	**Pn**		**01 57 03.4**	**+1.6**
	331nm,1.0s							
SMRI	**Semarang**	**10.32**	**270**		**Pn**		**01 57 02.2**	**+0.4**
KNRA	**Kunounrra**	**11.45**	**138**		**Pn**		**01 57 16.9**	**-0.3**
MTN	**Manton Dam**	**11.58**	**120**		**Pn**		**01 57 19.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.79**	**157**	Pn	**Pn**		**01 57 22.4**	**+0.5**
	1.8nm,0.3s,baz=1.7,slow=7.6,SNR=74							
FITZ					LR	LR	02 02 54.1	
	comp=Z,398nm,18.9s,baz=323,slow=42							
FITZ	**Fitzroy Crossi**	**11.79**	**157**		**Pn**		**01 57 22.8**	**+0.9**
STKI	**Sintang**	**11.81**	**307**	P	**Pn**		**01 57 22.2**	**0.0**
	39nm,0.7s,11μm							
KPJI	**Karang Pucung**	**11.82**	**269**	P	**Pn**		**01 57 22.9**	**+0.6**
FAKI	**Fak Fak**	**12.13**	**70**	P	**Pn**		**01 57 28.0**	**+1.4**
FAKI	**Fak Fak**	**12.13**	**70**		**Pn**		**01 57 27.5**	**+0.9**
SWI	**Sorong**	**12.15**	**59**	P	**Pn**		**01 57 28.0**	**+1.2**
SIJI	**Sorong**	**12.15**	**59**	Pn	**Pn**		**01 57 27.5**	**+0.6**
	1.9nm,0.3s,baz=245,slow=4.6,SNR=10							
SIJI					LR	LR	02 02 17.4	
	comp=Z,393nm,21.6s,baz=178,slow=38							
SBUM	**Sibu**	**12.89**	**318**	Pn	**Pn**		**01 57 37.7**	**+0.8**
CISI	**Cisompet, Garu**	**12.92**	**268**	P	**Pn**		**01 57 37.2**	**-0.3**
CISI	**Cisompet, Garu**	**12.92**	**268**		**Pn**		**01 57 38.7**	**+1.2**
LEM	**Lembang**	**13.13**	**271**	Pn	**Pn**		**01 57 44.4**	**+4.0**
	4.1nm,0.3s,baz=89,slow=7.8,SNR=15							
LEM					LR	LR	02 03 11.5	
	comp=Z,443nm,20.1s,baz=59,slow=39							
KSM	**Kuching**	**13.60**	**309**	Pn	**Pn**		**01 57 46.3**	**-0.3**
TPI	**Tanjungpandan**	**13.86**	**288**	P	**Pn**		**01 57 50.1**	**-0.1**
	57nm,1.5s,855nm							
CGJI	**Cibinong**	**15.05**	**271**	P	**Pn**		**01 58 05.5**	**-0.9**
KLSI		**16.22**	**278**	P	**Pn**		**01 58 21.6**	**-0.1**
KASI	**Kota Agung**	**16.33**	**275**	P	**Pn**		**01 58 22.5**	**-0.6**
LHSI	**Lahat**	**17.56**	**280**	P	**Pn**		**01 58 38.2**	**-0.4**
WRA	**Warramunga Arr**	**18.21**	**135**	P	**Pn**		**01 58 45.4**	**-1.3**
	4.4nm,0.3s,baz=314,slow=12,SNR=93							
WRA					S	**Sn**	**02 02 09.4**	**-0.7**
	baz=312,slow=22,SNR=7.2							
WRA					LR	LR	02 06 44.2	
	comp=Z,571nm,19.6s,baz=305,slow=40							
WRA	**Warramunga Arr**	**18.21**	**135**		**Pn**		**01 58 45.5**	**-1.1**
WRAB	**Tennant Creek**	**18.21**	**135**	P	**Pn**		**01 58 46.4**	**-0.2**
WRAB					IAmb	IAmb	01 58 49.3	
	comp=Z,33nm,0.6s							
WB2	**Warramunga Arr**	**18.22**	**135**	P	**Pn**		**01 58 46.0**	**-0.8**
SMPI	**Sarmi**	**18.54**	**75**	P	**Pn**		**01 58 52.3**	**+1.6**
MYKOM	**Kota Tinggi**	**19.17**	**297**	P	**Pn**		**01 58 57.6**	**-0.7**
GENI	**Genyem**	**19.79**	**78**	P	**Pn**		**01 59 04.7**	**-1.0**
KRJI	**Kerinci**	**19.97**	**284**	P	**P**		**01 59 05.6**	**-0.7**
JAY	**Jayapura**	**20.33**	**78**	P	Pn		01 59 12.3	+0.2
	comp=Z,13nm,0.8s,baz=304,slow=7.3,SNR=5.9							
JAY					LR	LR	02 07 38.2	
	comp=Z,180nm,19.7s,baz=258,slow=39							
JAY	**Jayapura**	**20.33**	**78**	P	Pn		01 59 12.2	0.0
AS31	**Alice Springs**	**20.62**	**144**	P	**P**		**01 59 14.0**	**+0.8**
AS31					IAmb	IAmb	01 59 18.0	
	comp=Z,12nm,0.7s							
ASAR	**Alice Springs**	**20.62**	**144**	P	**P**		**01 59 14.2**	**+0.9**
	comp=Z,27nm,0.6s,baz=330,slow=13,SNR=146							
ASAR					S	**S**	**02 03 01.6**	**-2.3**
	comp=Z,4.5nm,0.9s,baz=325,slow=22,SNR=7.0							
ASAR					LR	LR	02 08 11.0	
	comp=Z,234nm,20.7s,baz=320,slow=40							
ASAR	**Alice Springs**	**20.62**	**144**	P	**P**		**01 59 13.8**	**+0.6**
BKNI	**Bangkinang**	**21.12**	**290**	P	**P**		**01 59 18.2**	**-0.5**
BKNI	**Bangkinang**	**21.12**	**290**	P	**P**		**01 59 19.9**	**+1.2**
PDSI	**Padang**	**21.26**	**286**	P	**P**		**01 59 20.9**	**+0.7**
IPM	**Ipoh**	**22.93**	**300**	P	**P**		**01 59 39.2**	**+1.1**
IPM					IAmb	IAmb	01 59 43.8	
	comp=Z,10nm,0.8s							
RPSI	**Rantau Prapat**	**23.98**	**293**	P	**P**		**01 59 49.9**	**+1.3**
PSI	**Prapat**	**24.03**	**294**	P	**P**		**01 59 49.5**	**+0.4**
	comp=Z,13nm,0.6s,baz=133,slow=9.3,SNR=17							
PSI					LR	LR	02 09 48.9	
	comp=Z,375nm,18.0s,baz=134,slow=38							
GSI	**Gunungsitoli**	**24.71**	**289**	P	**P**		**01 59 55.3**	**+0.1**
GSI	**Gunungsitoli**	**24.71**	**289**	P	**P**		**01 59 56.3**	**+1.1**
NWAO	**Narrogin (SRO)**	**25.81**	**187**	P	**P**		**02 00 06.0**	**+1.1**
	comp=Z,4.8nm,0.6s,baz=28,slow=7.6,SNR=5.9							
NWAO					LR	LR	02 11 32.2	
	comp=Z,252nm,18.6s,baz=358,slow=39							
TRTT	**Trang**	**25.85**	**305**	P	P		02 00 21.0	+16
PMG	**Port Moresby**	**26.13**	**97**	LR	LR		02 12 41.0	
	comp=Z,558nm,18.7s,baz=130,slow=42							
STKA	**Stephens Creek**	**31.26**	**144**	P	**P**		**02 00 54.2**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=318,slow=8.7,SNR=16							
STKA					LR	LR	02 15 06.5	
	comp=Z,210nm,19.5s,baz=327,slow=39							
STKA	**Stephens Creek**	**31.26**	**144**	P	**P**		**02 00 54.6**	**+1.0**
UMPA	**Umpang Tak**	**31.85**	**317**	P	P		02 01 12.0	+13
CMAR	**Chiang Mai Arr**	**33.42**	**320**	P	**P**		**02 01 13.5**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=141,slow=6.8,SNR=8.2							
CMAR					PcP	**PcP**	**02 03 56.1**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=182,slow=2.3,SNR=3.1							
CMAR					LR	LR	02 18 53.9	
	comp=Z,150nm,18.6s,baz=164,slow=44							
CMAR	**Chiang Mai Arr**	**33.42**	**320**	P	**P**		**02 01 12.9**	**+0.2**
CHTO	**Chiang Mai**	**33.69**	**320**	P	**P**		**02 01 15.6**	**+0.5**
CHTO					IAmb	IAmb	02 01 20.7	
	comp=Z,6.5nm,1.1s							
KMI	**Kunming**	**36.65**	**332**	P	P		02 01 44.8	+4.0
KMI					pmax	pmax		
	comp=Z,7.0nm,1.1s							
WHN	**Wuhan**	**38.05**	**351**	P	**P**		**02 01 48.7**	**-3.5**
NJ2	**Nanjing**	**39.08**	**357**	*e*P	**P**		**02 02 02.1**	**+1.2**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
KSAR	**Wonju Array Be**	**44.90**	**8**	P	**P**		**02 02 49.2**	**+0.8**
KSRS	**Korea Array**	**44.92**	**8**	P	**P**		**02 02 49.3**	**+0.8**
	comp=Z,5.7nm,0.9s,baz=183,slow=9.3,SNR=20							
KSRS					LR	LR	02 20 45.1	
	comp=Z,44nm,21.9s,baz=150,slow=35							
KS19	**Wonju Array Si**	**44.96**	**8**	P	**P**		**02 02 48.4**	**-0.5**
MJAR	**Matsushiro Arr**	**46.47**

comp=Z,3.5nm,1.0s,baz=41,slow=7.5,SNR=6.3
MAW Mawson 71.53 200 IAmb IAmb 02 05 56.6
comp=Z,1.8nm,1.2s
GEYT Alibeck 73.55 313 P **P 02 06 08.1 +1.1**
comp=Z,1.4nm,0.6s,baz=159,slow=6.3,SNR=3.9
BRVK Borovoye 73.67 331 P **P 02 06 06.9 -0.5**
BRVK IAmb IAmb 02 06 08.4
comp=Z,20nm,1.9s
ABKAR Akbulak array 77.17 324 P **P 02 06 26.9 -0.7**
RAYN Ar Rayn 79.57 295 P **P 02 06 40.9 -0.5**
RAYN IAmb IAmb 02 06 45.7
comp=Z,8.2nm,1.1s
NRIK Noril'sk 79.75 349 P **P 02 06 44.6 +3.2**
comp=Z,2.2nm,0.5s,baz=125,slow=4.4,SNR=3.7
SYO Syowa Base 80.17 201⇑ *e*P **P 02 06 45.0 +1.3**
SYO Syowa Base 80.17 201⇑ *e*sP sP 02 06 49.7 +2.2
BRTR Keskin Array B 92.41 310 P **P 02 07 43.6 -1.3**
comp=Z,0.6nm,0.9s,baz=119,slow=1.5,SNR=4.0
SNAA Sanae 93.20 195 P **P 02 07 47.8 -0.1**
VNA2 Neumayer--Watz 94.83 195 P **P 02 07 55.5 +0.2**
baz=116,slow=3.1
VNA3 Neumayer Olymp 95.20 194 P **P 02 07 58.1 +1.1**
NVAR Mina Array Bea 118.48 50 PKP **PKPdf 02 13 21.2 -1.0**
comp=Z,0.5nm,0.9s,baz=268,slow=5.4,SNR=2.3
TORD Torodi Ar. Bea 119.93 281 PKP **PKPdf 02 13 24.0 -1.3**
comp=Z,0.3nm,0.7s,baz=72,slow=1.7,SNR=4.4
V53A Saluda 144.33 34 PKiKP 02 14 12.5 -1.7
KMSC Kings Mountain 145.53 33 PKPab 02 14 13.9 +1.0
CPUP Villa Florida 146.62 183 PKPbc **PKPab 02 14 17.1 -0.1**
comp=Z,2.7nm,1.0s,baz=169,slow=5.2,SNR=2.9
MNMC Minye Minye 151.88 159 PKPdf 02 14 22.3 -1.3

*SJA **03** 01:56:00.4±1.2, 30.°35S×72.°13W, h34km±12km, ML3.7, MW3.7*
*GUC **03** 01:56:04.2±0.6, 30.°42S×71.°50W, h40km±4km, ML3.9*
ISC 03 01:55:59.5±1.7, 30.°41S±0.°03×71.°80W±0.°06, h2km±15km, n23, σ1°56/39, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.69**	**44⇑**	*i*P	**Pn**	**01 56 16.4**	**+0.2**
LSCH				*i*S	**Sb**	**01 56 24.8**	**+0.6**
LSCH				IAML		01 56 26.1	
comp=N,3μm,0.4s							
GO04	**Tololo Observa**	**0.90**	**75⇑**	*e*P	**Pb**	**01 56 18.6**	**+0.7**
GO04				*i*S	**Sg**	**01 56 29.1**	**+0.8**
GO04				IAML		01 56 31.0	
comp=N,34μm,0.2s							
GO04	**Tololo Observa**	**0.90**	**75**	*e*P	**Pn**	**01 56 19.0**	**-0.3**
GO04				*i*S	**Sb**	**01 56 29.6**	**-0.8**
CO02	**Combarbal**	**1.05**	**139⇑**	*i*P	**Pn**	**01 56 21.6**	**+0.3**
CO02				*i*S	**Sg**	**01 56 34.6**	**+1.4**
CO02				IAML		01 56 37.3	
comp=E,17μm,0.2s							
LCO	**Las Campanas**	**1.69**	**35⇓**	*e*P	**Pg**	**01 56 32.0**	**+0.1**
LCO				*i*S	**Sg**	**01 56 53.7**	**-0.1**
LCO				IAML		01 56 55.4	
comp=E,2μm,0.3s							
LCO	**Las Campanas**	**1.69**	**35**	*i*P	**Pg**	**01 56 32.0**	**+0.1**
LCO				*i*S	**Sg**	**01 56 54.3**	**+0.5**
ACDV	**Cuesta del Vie**	**2.33**	**85**	*i*P	**Pb**	**01 56 43.2**	**+0.9**
ACDV				*i*S	**Sg**	**01 57 14.0**	**-0.4**
ACDV				IAML		01 57 18.0	
comp=Z,215nm,0.6s							
ACCO	**Cerro Coronel**	**2.37**	**95**	*i*P	**Pb**	**01 56 43.5**	**+0.5**
RTLS	**Leoncito**	**2.55**	**123**	*i*P	**Pb**	**01 56 46.5**	**+0.3**
RTLS				*i*S	**Sg**	**01 57 20.9**	**-0.6**
RTLS				IAML		01 57 29.5	
comp=Z,223nm,0.3s							
ROC1	**El Roble**	**2.64**	**166**	*e*P	**Pn**	**01 56 44.9**	**+1.5**
ROC1				*i*S	**Sb**	**01 57 19.1**	**-1.6**
PEL	**Peldehue**	**2.88**	**161**	*e*P	**Pn**	**01 56 48.5**	**+2.0**
PEL				*i*S	**Sb**	**01 57 29.1**	**+1.6**
AMOG	**MOGNA**	**2.90**	**101**	*i*P	**Pb**	**01 56 50.8**	**-1.1**
AMOG				*i*S	**Sg**	**01 57 33.8**	**+1.2**
ZON	**Zonda**	**2.91**	**114**	*i*P	**Pb**	**01 56 51.2**	**-0.9**
RTLL	**Cerro Villicun**	**3.00**	**109**	*i*P	**Pb**	**01 56 51.2**	**-2.5**
RTLL				*i*S	**Sb**	**01 57 28.6**	**-2.2**
RTLL				IAML		01 57 40.5	
comp=Z,247nm,0.4s							
AGUA	**GUANDACOL**	**3.01**	**73**	*i*P	**Pb**	**01 56 53.6**	**-0.4**
AGUA				*i*S	**Sb**	**01 57 29.6**	**-1.6**
AGUA				IAML		01 57 43.4	
comp=Z,102nm,0.2s							
GO03	**Copiap**	**3.12**	**26**	*i*P	**Pn**	**01 56 52.0**	**+2.2**
GO03				*i*S	**Sg**	**01 57 38.3**	**-1.5**
RTCV	**Cerro Valdivia**	**3.15**	**118**	*i*P	**Pb**	**01 56 54.3**	**-1.9**
RTCV				*i*S	**Sb**	**01 57 34.7**	**-0.3**
ARCO	**CERRO ARCO**	**3.44**	**136**	*i*P	**Pb**	**01 56 59.7**	**-1.6**
VCA	**Vinchina**	**3.54**	**63**	*i*P	**Pb**	**01 57 01.1**	**-1.9**
VCA				IAML		01 57 06.6	
comp=Z,457nm,0.2s							
VCA				*i*S	**Sb**	**01 57 43.7**	**-2.8**
AAGR	**Agrelo**	**3.67**	**137**	*i*P	**Pb**	**01 57 02.3**	**-2.9**
ACAN	**Cantantal**	**4.36**	**116**	*i*P	**Pn**	**01 57 10.2**	**+3.4**
GO05	**Huala**	**4.59**	**181**	*i*P	**Pn**	**01 57 10.0**	**+0.1**
CYA	**Choya**	**5.58**	**71**	*i*P	**Pn**	**01 57 26.0**	**+2.4**

*IDC **03** 02:22:23.4±3.0, 51.°60N×160.°37E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.4/52, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=90.9km s-min=43.5km az=32.0*
*KRSC **03** 02:22:28.2±1.8, 51.°49N×159.°69E, h68km±25km, ML4.2*
ISC 03 02:22:31.6±2.2, 51.°5N±0.°1×159.°6E±0.°1, h50km±17km, n30, σ1°22/37, mb3.9/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.00**	**287**	*e*P	**Pn**	**02 22 47.7**	**-1.5**
KDTR				*e*S	**Sn**	**02 23 02.2**	**-0.1**
RUS	**Russkaya**	**1.14**	**324**	*e*P	**Pn**	**02 22 49.4**	**-1.7**
RUS				*e*S	**Sn**	**02 23 05.3**	**-0.4**
MTVR	**Mutnovka**	**1.31**	**318**	*e*P	**Pn**	**02 22 52.4**	**-1.2**
MTVR				*e*S	**Sn**	**02 23 11.4**	**+1.4**
ASAK	**Asacha**	**1.37**	**310**	*e*P	**Pn**	**02 22 53.8**	**-0.5**
GRL	**Gorelyy**	**1.41**	**318**	*e*P	**Pn**	**02 22 54.3**	**-0.6**
GRL				*e*S	**Sn**	**02 23 14.1**	**+1.8**
KRMR	**Karymshinskiy**	**1.60**	**326**	*e*P	**Pn**	**02 22 56.3**	**-1.1**
SPN	**Mys Shipunski**	**1.60**	**9**	*e*P	**Pn**	**02 22 57.3**	**-0.1**
SPN				*e*S	**Sn**	**02 23 19.5**	**+2.6**
DALK	**Dalny**	**1.60**	**341**	*e*P	**Pn**	**02 22 56.2**	**-1.2**
PET	**Petropavlovsk**	**1.62**	**339**	*e*P	**Pn**	**02 22 56.0**	**-1.6**
PET				*e*S	**Sn**	**02 23 17.2**	**-0.1**
PAU	**Pauzhetka**	**1.75**	**269**	*e*P	**Pn**	**02 22 59.0**	**-0.5**
UGLR	**Uglovaya**	**1.76**	**344**	*e*P	**Pn**	**02 22 59.6**	**-0.1**
SMAR	**Somma**	**1.81**	**344**	*e*P	**Pn**	**02 23 01.3**	**+0.7**
SDLR	**Sedlovina**	**1.82**	**346**	*e*P	**Pn**	**02 22 58.8**	**-1.7**
AVH	**Avacha**	**1.83**	**343**	*e*P	**Pn**	**02 23 00.7**	**+0.1**
KRER	**Koryakskii**	**1.86**	**344**	*e*P	**Pn**	**02 23 00.6**	**-0.6**
KOK	**Koryaka**	**1.87**	**342**	*e*P	**Pn**	**02 23 00.9**	**-0.3**
KRX	**Arik**	**1.93**	**343**	*e*P	**Pn**	**02 23 01.3**	**-0.8**
PETK	**Petropavlovsk-**	**1.98**	**324**	Pn	**Pn**	**02 23 02.0**	**-0.5**
45nm,0.3s,baz=128,slow=17,SNR=372							
PETK				Sn	**Sn**	**02 23 29.9**	**+3.8**
24nm,0.3s,baz=153,slow=26,SNR=6.4							
APC	**Apacha**	**2.06**	**314**	*e*P	**Pn**	**02 23 04.2**	**+0.5**
SKR	**Severo-Kuril's**	**2.36**	**251**	*e*P	**Pn**	**02 23 08.5**	**+0.8**
GNL	**Ganaly**	**2.41**	**336**	*e*P	**Pn**	**02 23 07.9**	**-0.6**
KII	**Karymskiy**	**2.52**	**358**	*e*P	**Pn**	**02 23 10.1**	**0.0**
KZV	**Kizimen**	**3.62**	**6**	*e*P	**Pn**	**02 23 24.1**	**-1.1**
TUMD	**Tumrok D**	**3.72**	**7**	*e*P	**Pn**	**02 23 25.2**	**-1.3**
TUMR	**Tumrok**	**3.78**	**5**	*e*P	**Pn**	**02 23 27.0**	**-0.4**
FINES	**FINESS Array B**	**61.45**	**337**	P	**P**	**02 32 41.7**	**-0.5**
0.4nm,0.4s,baz=35,slow=7.0,SNR=8.3							
NB2	**NORSAR Subarra**	**64.97**	**344**	P	**P**	**02 33 05.3**	**-0.3**
comp=Z,2.4nm,1.2s,baz=22,slow=6.5							
NOA	**NORSAR Array B**	**64.97**	**344**	P	**P**	**02 33 05.7**	**0.0**
comp=Z,0.7nm,0.8s,baz=18,slow=6.4,SNR=3.6							
AKASG	**Malin Array Be**	**69.81**	**329**	P	**P**	**02 33 35.8**	**-0.5**
comp=Z,0.7nm,0.3s,baz=29,slow=5.9,SNR=4.6							
BRTR	**Keskin Array B**	**77.64**	**320**	P	**P**	**02 34 22.7**	**+0.1**
comp=Z,0.9nm,0.9s,baz=44,slow=3.8,SNR=4.3							

*ISCJB **03** 02:23:21.0±0.8, 36.°03N±0.°06×139.°83E±0.°08, h116km±5km, mb3.3/2, Error ellipse: s-maj=11.4km s-min=8.6km az=24.1*
*JMA **03** 02:23:22.4±0.1, 36.°04N×139.°82E, h107km±1km, M3.0*
*IDC **03** 02:23:22.3±2.3, 36.°20N×139.°85E, h116km±17km, mb3.0/2, mb1 3.2/4, mb1mx2.9/48, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/13, Error ellipse: s-maj=30.4km s-min=26.1km az=99.0*
ISC 03 02:23:22.0±1.1, 36.°04N±0.°07×139.°83E±0.°08, h111km±8km, n15, σ0°91/23, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.35**	**58**	P	**Pn**	**02 23 38.3**	**+0.2**
JYT				S	**Sn**	**02 23 50.4**	**+0.2**
JAG	**Ashikaga**	**0.49**	**322**	P	**Pn**	**02 23 39.0**	**+0.1**
JAG				S	**Sn**	**02 23 51.6**	**0.0**
JRY	**Ryogami san**	**0.75**	**268**	P	**Pn**	**02 23 41.2**	**+0.3**
JKT	**Katashina**	**0.86**	**327**	P	**Pn**	**02 23 42.3**	**+0.3**
JKT				S	**Sn**	**02 23 57.9**	**+0.8**
JOD2	**Odawara 2**	**0.98**	**218**	P	**Pn**	**02 23 42.6**	**-0.5**
JOD2				S	**Sn**	**02 23 57.9**	**-1.2**
JYN	**Shimob**	**1.18**	**243**	P	**Pn**	**02 23 45.1**	**-0.1**
JYN				S	**Sn**	**02 24 02.7**	**-0.1**
JFNN	**Fujinakano**	**1.26**	**228**	P	**Pn**	**02 23 46.1**	**0.0**
JFNN				S	**Sn**	**02 24 04.2**	**-0.1**
JHK	**Hiroka**	**1.37**	**332**	P	**Pn**	**02 23 47.8**	**+0.5**
MJAR	**Matsushiro Arr**	**1.40**	**291**	P	**Pn**	**02 23 47.3**	**-0.4**
3.5nm,0.3s,baz=111,slow=10,SNR=179							
MJAR				S	**Sn**	**02 24 06.8**	**-0.4**
1.3nm,0.3s,baz=35,slow=19,SNR=9.5							
MAT	**Matsushiro**	**1.40**	**291**	P	**Pn**	**02 23 47.8**	**+0.1**
MAT				S	**Sn**	**02 24 06.8**	**-0.4**
MAT	**Matsushiro**	**1.40**	**291**	P	**Pn**	**02 23 47.8**	**+0.1**
ASAJ	**Asahikawa**	**8.34**	**14**	P	**Pn**	**02 25 17.8**	**-2.1**
1.2nm,0.3s,baz=221,slow=9.3,SNR=7.0							
ASAJ				LR	LR	02 28 43.2	
comp=Z,90nm,20.1s,baz=84,slow=39							
KSRS	**Korea Array**	**9.66**	**282**	P	**Pn**	**02 25 40.3**	**+2.5**
0.1nm,0.3s,baz=96,slow=12,SNR=5.4							
MKAR	**Makanchi Array**	**43.57**	**303**	P	**P**	**02 31 13.7**	**-1.1**
0.3nm,0.5s,baz=73,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**55.92**	**186**	P	**P**	**02 32 49.2**	**+0.8**
0.3nm,0.7s,baz=0.2,slow=7.6,SNR=4.4							

*ISCJB **03** 02:31:10.1±0.8, 44.°48N±0.°06×148.°22E±0.°09, h72km±6km, mb3.4/9, Error ellipse: s-maj=14.2km s-min=5.4km az=43.3*
*JMA **03** 02:31:10.3±0.3, 44.°03N×148.°08E, h0km, M4.2*
*SKHL **03** 02:31:10.3±0.8, 44.°59N×148.°25E, h79km±6km, mb4.7/5*
*MOS **03** 02:31:10.4±1.2, 44.°58N×148.°11E, h75km, mb3.9/5, Error ellipse: s-maj=12.8km s-min=9.7km az=137.5*
*IDC **03** 02:31:14.7±3.2, 44.°81N×148.°09E, h84km±25km, mb3.2/7, mb1 3.5/9, mb1mx3.3/51, mbtmp3.6/9, Error ellipse: s-maj=51.2km s-min=20.3km az=168.0*
ISC 03 02:31:10.3±1.3, 44.°45N±0.°07×148.°29E±0.°09, h59km±10km, n52, σ1°34/66, mb3.6/9, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.84**	**339⇓**	*i*PN	**Pn**	**02 31 25.7**	**-0.5**
KUR				*i*S	**Sn**	**02 31 37.7**	**-0.2**
KUR				pmax	pmax		
comp=Z,593nm,0.3s							
KUR				smax	smax		
comp=E,2μm,0.2s							
KUR				smax	smax		
comp=N,2μm,0.3s							
KUR	**Kuril'sk**	**0.84**	**339**	*i*P	**Pn**	**02 31 25.0**	**-1.2**
KUR				AMB	AMB	02 31 28.0	
comp=N,593nm,0.3s							
KUR				*i*S	**Sn**	**02 31 36.9**	**-1.0**
KUR				A	A	02 31 38.0	
comp=N,2μm,0.3s							
KUR				A	A	02 31 38.0	
comp=N,2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.80**	**257**	*e*PN	**Pn**	**02 31 39.3**	**+0.3**
YUK				*e*S	**Sn**	**02 32 00.5**	**-0.2**
YUK				pmax	pmax		
comp=Z,403nm,0.2s							
YUK				smax	smax		
comp=N,708nm,0.3s							
YUK				smax	smax		
comp=E,365nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.80**	**257**	*e*P	**Pn**	**02 31 39.0**	**0.0**
YUK				AMB	AMB	02 31 40.0	
comp=E,403nm,0.3s							
YUK				*e*S	**Sn**	**02 32 00.0**	**-0.7**
YUK				A	A	02 32 03.0	
comp=E,708nm,0.3s							
YUK				A	A	02 32 03.0	
comp=E,498nm,0.3s							
LAGR	**Lagunnoye**	**1.84**	**258**	*e*PN	**Pn**	**02 31 38.7**	**-0.9**
LAGR				*i*S	**Sn**	**02 32 00.9**	**-0.9**
LAGR				pmax	pmax		
comp=Z,184nm,0.2s							
LAGR				smax	smax		
comp=N,1μm,0.3s							
LAGR				smax	smax		
comp=E,538nm,0.3s							
LAGR	**Lagunnoye**	**1.84**	**258**	*e*P	**Pn**	**02 31 39.7**	**+0.1**
LAGR				AMB	AMB	02 31 44.0	
comp=E,184nm,0.2s							
LAGR				*i*S	**Sn**	**02 32 01.1**	**-0.7**
LAGR				A	A	02 32 06.0	
comp=E,1μm,0.3s							
LAGR				A	A	02 32 06.0	
comp=E,538nm,0.3s							
GRPR	**Tuman**	**1.87**	**257**	*e*PN	**Pn**	**02 31 40.4**	**+0.4**
GRPR				*e*S	**Sn**	**02 32 03.5**	**+1.0**
GRPR				pmax	pmax		
comp=Z,123nm,0.3s							
GRPR				smax	smax		
comp=E,695nm,0.3s							
GRPR				smax	smax		
comp=N,897nm,0.2s							
GRPR	**Tuman**	**1.87**	**257**	*e*P	**Pn**	**02 31 40.0**	**0.0**
GRPR				AMB	AMB	02 31 40.0	
comp=N,123nm,0.3s							
GRPR				*e*S	**Sn**	**02 32 02.7**	**+0.2**
GRPR				A	A	02 32 05.0	
comp=N,897nm,0.3s							
GRPR				A	A	02 32 05.0	
comp=N,695nm,0.3s							
GLVR	**Golovnino**	**2.12**	**251**	*e*PN	**Pn**	**02 31 43.5**	**+0.1**
GLVR				*e*S	**Sn**	**02 32 09.7**	**+1.1**
GLVR				pmax	pmax		
comp=Z,61nm,0.1s							
GLVR				smax	smax		
comp=E,548nm,0.2s							
GLVR				smax	smax		
comp=N,761nm,0.3s							
GLVR	**Golovnino**	**2.12**	**251**	AMB	AMB	02 31 43.0	
comp=N,61nm,0.3s							
GLVR				*e*P	**Pn**	**02 31 43.8**	**+0.4**
GLVR				*e*S	**Sn**	**02 32 09.0**	**+0.4**
GLVR				A	A	02 32 11.0	
comp=N,761nm,0.3s							
GLVR				A	A	02 32 11.0	
comp=N,548nm,0.3s							
NEM2	**Nemuro 2**	**2.14**	**240**	P	**Pn**	**02 31 43.2**	**-0.4**
NEM2				*e*S	**Sn**	**02 32 07.1**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.15**	**241**	*c i*PN	**Pn**	**02 31 43.2**	**-0.5**
NMR				*i*S	**Sn**	**02 32 07.5**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.15**	**241**	*i*P	**Pn**	**02 31 43.2**	**-0.5**
JRA	**Rausu**	**2.34**	**258**	P	**Pn**	**02 31 47.9**	**+1.6**
JRA				*e*S	**Sn**	**02 32 15.1**	**+1.2**
JNSB	**Nemuroshibetsu**	**2.46**	**255**	P	**Pn**	**02 31 49.3**	**+1.3**
JKHN	**Kushirohamanak**	**2.65**	**240**	P	**Pn**	**02 31 50.8**	**+0.2**
JKHN				*e*S	**Sn**	**02 32 20.5**	**-1.0**
JNK	**Nakash**	**2.72**	**253**	P	**Pn**	**02 31 52.6**	**+1.0**
JNK				*e*S	**Sn**	**02 32 23.6**	**+0.3**
JAK	**Akkeshi**	**2.99**	**242**	P	**Pn**	**02 31 55.4**	**+0.2**
JAK				*e*S	**Sn**	**02 32 28.5**	**-1.2**
JTKR	**Abashiri--Toko**	**3.19**	**263**	P	**Pn**	**02 32 01.2**	**+3.3**
JAR	**Ashorobuto**	**3.47**	**252**	P	**Pn**	**02 32 03.6**	**+1.8**
JAR				*e*S	**Sn**	**02 32 44.2**	**+2.6**
JCH	**Churui**	**4.03**	**245**	P	**Pn**	**02 32 10.3**	**+0.9**
JKK2	**Kamakawa 2**	**4.03**	**264**	P	**Pn**	**02 32 12.5**	**+3.0**
ASAJ	**Asahikawa**	**4.11**	**267**	P	**Pn**	**02 32 12.7**	**+2.2**
comp=N,3.0nm,0.3s,baz=62,slow=20,SNR=20							
ASAJ				S	Sn	02 33 10.9	+14
comp=N,0.8nm,0.3s,baz=3.4,slow=19,SNR=4.2							
ERM	**Erimo**	**4.47**	**239**	*i*PN	**Pn**	**02 32 18.2**	**+2.7**
JNBK	**Urakawa-nobuka**	**4.59**	**244**	P	**Pn**	**02 32 18.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.62**	**305⇑**	*e*PN	**Pn**	**02 32 18.4**	**+0.9**
YSS				pmax	pmax		
comp=Z,20nm,0.7s							
JKB	**Kayabe**	**5.89**	**247**	P	**Pn**	**02 32 36.4**	**+1.4**
JKB				*e*S	**Sn**	**02 33 40.5**	**-0.6**
JOT	**Ohata**	**6.14**	**243**	P	**Pn**	**02 32 39.0**	**+0.6**
JOT				*e*S	**Sn**	**02 33 44.9**	**-2.3**
PETK	**Petropavlovsk-**	**10.65**	**32**	PN	**Pn**	**02 33 42.0**	**+2.1**
PETK	**Petropavlovsk-**	**10.65**	**32**	P	**Pn**	**02 33 42.0**	**+2.1**
comp=Z,0.2nm,0.3s,baz=185,slow=11,SNR=3.6							
MAJO	**Matsushiro**	**11.01**	**228**	*i*PN	**Pn**	**02 33 45.5**	**+0.5**
HIA	**Hailar**	**20.05**	**294**	*i*P	**P**	**02 35 35.8**	**-2.6**
HIA				pmax	pmax		
comp=Z,14nm,0.9s							
YAK	**Yakutsk**	**20.70**	**335**	*i*P	**P**	**02 35 43.1**	**-2.1**
YAK				pmax	pmax		
comp=Z,4.0nm,0.8s							
ULN	**Ulaanbaatar**	**28.53**	**292**	*i*P	**P**	**02 37 00.1**	**-0.2**
ULN				pmax	pmax		
comp=Z,1.0nm,0.9s							
ULN	**Ulaanbaatar**	**28.53**	**292**	*e*P	**P**	**02 37 00.1**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**29.12**	**142**	T	T	03 07 53.6	
baz=332,slow=76,SNR=211							
H11N1	**WAKE ISLAND Hy**	**29.13**	**142**	T	T	03 07 55.1	
baz=332,slow=76,SNR=218							
H11N3	**WAKE ISLAND Hy**	**29.14**	**142**	T	T	03 07 52.0	
baz=332,slow=76,SNR=237							
H11S1	**WAKE ISLAND Hy**	**30.11**	**143**	T	T	03 09 06.8	
baz=334,slow=76,SNR=401							
H11S3	**WAKE ISLAND Hy**	**30.12**	**143**	T	T	03 09 07.0	
baz=334,slow=76,SNR=226							
H11S2	**WAKE ISLAND Hy**	**30.13**	**143**	T	T	03 09 09.2	
baz=334,slow=76,SNR=297							
ILAR	**Eielson Array**	**40.43**	**37**	P	**P**	**02 38 42.5**	**+0.1**
comp=Z,0.3nm,0.6s,baz=277,slow=8.0,SNR=3.5							
MKAR	**Makanchi Array**	**44.99**	**297**	P	**P**	**02 39 20.1**	**+0.5**
comp=Z,0.2nm,0.5s,baz=86,slow=8.8,SNR=2.8							
MKAR				PcP	**PcP**	**02 41 00.1**	**+0.3**
comp=Z,0.6nm,0.6s,baz=59,slow=2.8,SNR=4.3							
KURK	**Kurchatov**	**45.82**	**304**	*i*P	**P**	**02 39 24.3**	**-1.8**
KURK				pmax	pmax		
comp=Z,1.0nm,0.9s							
KURK	**Kurchatov**	**45.82**	**304**	*e*P	**P**	**02 39 24.3**	**-1.8**
FINES	**FINESS Array B**	**64.62**	**333**	*e*P	**P**	**02 41 40.6**	**-0.5**
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**64.62**	**333**	P	**P**	**02 41 39.7**	**-1.5**
comp=Z,1.2nm,0.7s,baz=32,slow=8.2,SNR=9.1							
NVAR	**Mina Array Bea**	**66.51**	**59**	P	**P**	**02 41 55.6**	**+1.5**
comp=Z,0.5nm,0.7s,baz=309,slow=5.7,SNR=4.1							
NOA	**NORSAR Array B**	**69.24**	**339**	*e*P	**P**	**02 42 10.1**	**-0.5**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**69.24**	**339**	P	**P**	**02 42 09.5**	**-1.1**
comp=Z,0.6nm,0.8s,baz=31,slow=6.7,SNR=4.9							
GERES	**GERESS Array B**	**78.94**	**331**	P	**P**	**02 43 06.6**	**-0.7**
comp=Z,0.2nm,0.4s,baz=39,slow=6.3,SNR=3.4							
TXAR	**Lajitas Array**	**81.58**	**57**	P	**P**	**02 43 22.7**	**+0.8**
comp=Z,0.4nm,0.5s,baz=291,slow=3.5,SNR=5.0							

*DJA **03** 02:35:28.3±0.3, 8.°S±4.°×10.°8E±.°, h10km, M5.0/24, mB5.4/9, mb5.2/12, MLv5.2/24, Mw(mB)4.9/9*
*ISCJB **03** 02:35:30.8±0.5, 7.°81S±0.°05×108.°01E±0.°03, h90km±3km, mb4.5/30, Error ellipse: s-maj=8.8km s-min=4.0km az=29.1*
*NEIC **03** 02:35:30.9±1.5, 7.°86S±0.°08×107.°98E±0.°06, h76km±5km, mb4.7/50*
*IDC **03** 02:35:32.8±0.8, 7.°74S×108.°04E, h89km±6km, mb4.1/24, mb1 4.2/25, mb1mx4.0/47, mbtmp4.4/25, MS3.4/2, Ms1 3.4/2, ms1mx3.2/44, Error ellipse: s-maj=15.0km s-min=9.9km az=55.0*
ISC 03 02:35:31.4±0.8, 7.°88S±0.°06×107.°94E±0.°05, h79km±7km, n172, σ1°51/167, mb4.6/51, 3C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.34**	**339**	P	**Pn**	**02 35 40.6**	**-3.4**
CISI	**Cisompet, Garu**	**0.34**	**339**		**Pn**	**02 35 40.8**	**-3.2**
CMJI	**Cimerak**	**0.52**	**80**	P	**Pn**	**02 35 41.8**	**-3.4**
LEM	**Lembang**	**1.09**	**343**	P	**Pn**	**02 35 52.6**	**+0.9**
887nm,0.3s,baz=339,slow=7.4,SNR=364							
LEM				S	**Sn**	**02 36 08.0**	**+1.1**
846nm,0.3s,baz=288,slow=19,SNR=10							
KPJI	**Karang Pucung**	**1.12**	**61**	P	**Pn**	**02 35 51.2**	**-0.7**
SKJI	**Sukabumi**	**1.62**	**302**	P	**Pn**	**02 35 57.8**	**-0.5**
TNG	**Tangerang**	**2.12**	**323**	P	Pn	02 36 12.5	+7.5
TNG				P	Pn	02 36 12.5	+7.5
YOGI	**Yogyakarta**	**2.34**	**89**	P	**Pn**	**02 36 06.1**	**-1.7**
SBJI	**Serang**	**2.50**	**314**	P	**Pn**	**02 36 11.3**	**+1.3**
CGJI	**Cibinong**	**2.56**	**299**	P	**Pn**	**02 36 09.5**	**-1.2**
UGM	**Wanagama**	**2.56**	**91**	P	**Pn**	**02 36 09.3**	**-1.6**
UGM	**Wanagama**	**2.56**	**91**		**Pn**	**02 36 09.1**	**-1.8**
SMRI	**Semarang**	**2.62**	**72**	P	**Pn**	**02 36 12.3**	**+0.7**
SMRI	**Semarang**	**2.62**	**72**		**Pn**	**02 36 12.2**	**+0.7**
WOJI	**Wonogiri, Jawa**	**2.96**	**89**	P	**Pn**	**02 36 14.8**	**-1.4**
PCJI	**Pacitan**	**3.22**	**96**	P	**Pn**	**02 36 18.5**	**-1.3**
XMIS	**Christmas Isla**	**3.43**	**221**		Pn	02 36 16.2	-6.5
NGJI	**Ngawi**	**3.53**	**82**	P	**Pn**	**02 36 25.4**	**+1.5**
BLSI	**

FAKI	**Fak Fak**	**24.69**	**80**	P	**P**	**02 40 45.3**	**0.0**
FAKI				IAmb	IAmb	02 40 49.0	
comp=Z,13nm,0.6s							
CMAR	**Chiang Mai Arr**	**27.63**	**341**	P	**P**	**02 41 11.1**	**-0.7**
comp=Z,0.6nm,0.3s,baz=178,slow=8.3,SNR=5.6							
CMAR				PcP	**PcP**	**02 44 28.8**	**+1.3**
comp=Z,3.5nm,0.7s,baz=204,slow=3.1,SNR=11							
CMAR	**Chiang Mai Arr**	**27.63**	**341**	P	**P**	**02 41 10.5**	**-1.2**
WRA	**Warramunga Arr**	**28.24**	**118**	P	**P**	**02 41 17.6**	**+0.3**
comp=Z,2.1nm,0.5s,baz=289,slow=11,SNR=12							
WRA				PcP	**PcP**	**02 44 29.1**	**0.0**
comp=Z,1.0nm,0.5s,baz=304,slow=2.0,SNR=5.6							
WRA	**Warramunga Arr**	**28.24**	**118**	P	**P**	**02 41 16.6**	**-0.7**
WRAB	**Tennant Creek**	**28.25**	**118**	P	**P**	**02 41 17.0**	**-0.3**
WRAB				IAmb	IAmb	02 41 58.4	
comp=Z,17nm,0.6s							
WB2	**Warramunga Arr**	**28.25**	**118**	P	**P**	**02 41 17.1**	**-0.2**
AS31	**Alice Springs**	**29.43**	**125**	P	**P**	**02 41 27.6**	**-0.2**
ASAR	**Alice Springs**	**29.43**	**125**	P	**P**	**02 41 27.4**	**-0.3**
comp=Z,1.2nm,0.4s,baz=304,slow=8.8,SNR=18							
ASAR				PcP	**PcP**	**02 44 32.7**	**+0.6**
comp=Z,1.8nm,0.5s,baz=303,slow=2.2,SNR=11							
ASAR	**Alice Springs**	**29.43**	**125**	P	**P**	**02 41 26.5**	**-1.3**
ASAR					**PcP**	**02 44 32.1**	**+0.1**
H08S2	**Diego Garcia H**	**35.11**	**268**	T	T	03 19 30.2	
baz=93,slow=76,SNR=57							
H08S3	**Diego Garcia H**	**35.12**	**268**	T	T	03 19 30.1	
baz=93,slow=76,SNR=51							
H08S1	**Diego Carcia H**	**35.13**	**268**	T	T	03 19 30.8	
baz=93,slow=76,SNR=34							
SHL	**Shillong**	**36.73**	**335**	P	**P**	**02 42 32.0**	**+0.6**
SHL				IAmb	IAmb	02 43 18.0	
comp=Z,5.3nm,0.8s							
STKA	**Stephens Creek**	**39.37**	**132**	P	**P**	**02 42 53.8**	**+0.4**
comp=Z,12nm,0.4s,baz=314,slow=7.4,SNR=68							
STKA				PcP	**PcP**	**02 45 01.0**	**+0.6**
comp=Z,3.8nm,0.5s,baz=312,slow=1.9,SNR=4.3							
STKA	**Stephens Creek**	**39.37**	**132**	P	**P**	**02 42 52.7**	**-0.7**
ODAN	**Odare**	**39.87**	**331**	*e*P	**P**	**02 42 56.2**	**-1.6**
comp=Z,9.4nm,0.4s							
TAPN	**Taplejung**	**40.13**	**331**	*e*P	**P**	**02 42 58.8**	**-1.2**
comp=Z,8.0nm,0.5s							
RAMN	**Ramite**	**40.33**	**330**	*e*P	**P**	**02 43 00.3**	**-1.4**
comp=Z,5.3nm,0.3s							
NJ2	**Nanjing**	**41.05**	**14**	*e*P	**P**	**02 43 10.0**	**+2.8**
NJ2				pmax	pmax		
comp=Z,12nm,0.7s							
JIRN	**Jiri**	**41.12**	**330**	*e*P	**P**	**02 43 07.3**	**-1.0**
comp=Z,12nm,0.3s							
PKI	**Pulchoki**	**41.44**	**329**	*e*P	**P**	**02 43 10.1**	**-0.8**
PKIN	**Phulchoki**	**41.45**	**329**	*e*P	**P**	**02 43 10.4**	**-0.5**
comp=Z,3.7nm,0.4s							
GUN	**Gumba**	**41.48**	**330**	*e*P	**P**	**02 43 10.0**	**-1.2**
comp=Z,10nm,0.5s							
DMN	**Daman**	**41.63**	**329**	*e*P	**P**	**02 43 11.7**	**-0.6**
GKN	**Gorkha**	**42.19**	**329**	*e*P	**P**	**02 43 16.6**	**-0.2**
comp=Z,15nm,0.3s							
KOLN	**Koldanda**	**42.55**	**327**	*e*P	**P**	**02 43 18.7**	**-1.0**
comp=Z,12nm,0.4s							
DANN	**Dangsing**	**42.92**	**328**	*e*P	**P**	**02 43 22.2**	**-0.7**
comp=Z,23nm,0.3s							
GTA	**Gaotai**	**47.65**	**351**	*e*P	**P**	**02 44 01.9**	**+2.0**
GTA				pP	pP	02 44 15.4	-4.3
GTA				sP	sP	02 44 22.2	-6.6
GTA				pmax	pmax		
comp=Z,5.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**48.60**	**4**	P	**P**	**02 44 11.3**	**+4.1**
HHC				pmax	pmax		
comp=Z,8.0nm,0.9s							
KSRS	**Korea Array**	**48.82**	**21**	PcP	**PcP**	**02 45 32.9**	**+0.5**
comp=Z,0.9nm,0.8s,baz=204,slow=2.7,SNR=4.2							
MJAR	**Matsushiro Arr**	**52.53**	**31**	P	**P**	**02 44 35.5**	**-1.3**
comp=Z,0.9nm,0.6s,baz=210,slow=7.1,SNR=4.1							
NIL	**Nilore**	**52.81**	**323**	P	**P**	**02 44 38.3**	**-0.6**
NIL				IAmb	IAmb	02 44 38.8	
comp=Z,12nm,0.8s							
WMQ	**Urumqi**	**54.63**	**342**	*e*P	**P**	**02 44 51.2**	**-0.8**
WMQ				pmax	pmax		
comp=Z,16nm,0.7s							
WMQ				pmax	pmax		
comp=Z,74nm,5.7s							
WMQ				LR	LR		
comp=N,450nm,5.5s							
WMQ				LR	LR		
comp=E,400nm,11.3s							
WMQ				LR	LR		
comp=Z,180nm,24.1s							
SONM	**Songino Array**	**55.48**	**359**	P	**P**	**02 44 58.0**	**-0.2**
comp=Z,2.1nm,0.6s,baz=170,slow=8.0,SNR=14							
SONM				PcP	**PcP**	**02 45 57.6**	**+0.2**
comp=Z,7.6nm,0.4s,baz=175,slow=3.7,SNR=27							
SONM	**Songino Array**	**55.48**	**359**	P	**P**	**02 44 57.8**	**-0.4**
ULN	**Ulaanbaatar**	**55.51**	**359**	P	**P**	**02 44 58.4**	**0.0**
ULN				IAmb	IAmb	02 44 59.5	
comp=Z,4.2nm,0.8s							
KSH	**Kashi**	**55.68**	**330**	P	**P**	**02 44 58.7**	**-1.0**
KSH				pP	pP	02 45 14.4	-5.4
KSH				PP	**PP**	**02 47 04.6**	**-0.3**
KSH				S	**S**	**02 52 34.8**	**-5.4**
KSH				sS	pS	02 53 04.6	+2.2
KSH	**Kashi**	**55.68**	**330**	SS	**SS**	**02 56 21.7**	**-5.2**
KSH				pmax	pmax		
comp=Z,21nm,0.8s							
KSH				pmax	pmax		
comp=Z,190nm,3.6s							
KSH				LR	LR		
comp=N,420nm,9.9s							
KSH				LR	LR		
comp=E,700nm,18.0s							
KSH				LR	LR		
comp=Z,470nm,18.6s							
KBL	**Kabul**	**55.97**	**321**	P	**P**	**02 45 00.4**	**-1.6**
KBL				IAmb	IAmb	02 45 01.8	
comp=Z,6.6nm,0.6s							
USRK	**Ussuriysk Ar.**	**56.21**	**21**	P	**P**	**02 45 02.3**	**-1.0**
comp=Z,0.8nm,0.5s,baz=191,slow=6.6,SNR=4.5							
NRN	**Naryn**	**57.15**	**332**	IAmb	IAmb	02 45 10.6	
comp=Z,4.0nm,0.6s							
ARSB	**Arslanbob**	**58.53**	**330**	P	**P**	**02 45 20.0**	**+0.1**
ARSB				IAmb	IAmb	02 45 27.2	
comp=Z,9.6nm,0.7s							
BTK	**Batken**	**58.73**	**327**	P	**P**	**02 45 20.9**	**-0.4**
MK31	**Makanchi Array**	**59.02**	**340**	P	**P**	**02 45 22.2**	**-0.9**
MK31				IAmb	IAmb	02 45 23.6	
comp=Z,3.1nm,0.7s							
MKAR	**Makanchi Array**	**59.02**	**340**	P	**P**	**02 45 21.6**	**-1.4**
comp=Z,4.1nm,0.4s,baz=154,slow=7.6,SNR=46							
MKAR				PcP	**PcP**	**02 46 11.9**	**+0.7**
comp=Z,1.9nm,0.6s,baz=137,slow=6.0,SNR=3.7							
MKAR	**Makanchi Array**	**59.02**	**340**	P	**P**	**02 45 22.0**	**-1.0**
UOSS	**Minazif**	**60.01**	**305**	P	**P**	**02 45 30.2**	**0.0**
UOSS				IAmb	IAmb	02 45 31.4	
comp=Z,20nm,1.4s							
HRA	**Herat**	**60.28**	**317**	P	**P**	**02 45 31.1**	**-1.1**
HRA				IAmb	IAmb	02 46 19.4	
comp=Z,4.2nm,0.9s							
ASAJ	**Asahikawa**	**60.50**	**28**	P	**P**	**02 45 33.1**	**0.0**
comp=Z,3.4nm,0.7s,baz=157,slow=7.7,SNR=4.8							
JKA	**Kamikawa-asahi**	**60.50**	**28**	P	**P**	**02 45 33.1**	**0.0**
KLR	**Kul'dur**	**60.57**	**18**	P	**P**	**02 45 32.4**	**-1.2**
comp=Z,2.2nm,0.5s,baz=201,slow=4.7,SNR=9.6							
KK31	**Karatay Array**	**61.09**	**329**	P	**P**	**02 45 37.3**	**+0.1**
KKAR	**Karatay Array**	**61.09**	**329**	P	**P**	**02 45 36.2**	**-1.0**
KURK	**Kurchatov**	**63.64**	**340**	P	**P**	**02 45 53.7**	**-0.3**
KURK				IAmb	IAmb	02 46 46.1	
comp=Z,7.8nm,1.4s							
ZALV	**Zalesovo Beam**	**64.61**	**345**	P	**P**	**02 45 59.1**	**-1.2**
comp=Z,1.7nm,0.3s,baz=152,slow=6.4,SNR=9.0							
ZALV				PcP	**PcP**	**02 46 32.6**	**-1.0**
comp=Z,1.6nm,0.4s,baz=159,slow=2.1,SNR=4.9							
ZALV	**Zalesovo Beam**	**64.61**	**345**	P	**P**	**02 45 59.0**	**-1.4**
GEYT	**Alibeck**	**65.03**	**318**	P	**P**	**02 46 03.3**	**-0.1**
comp=Z,12nm,0.6s,baz=141,slow=5.7,SNR=27							
GEYT	**Alibeck**	**65.03**	**318**	P	**P**	**02 46 03.7**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**65.03**	**318**	IAmb	IAmb	02 46 04.5	
comp=Z,14nm,0.8s							
MAW	**Mawson**	**66.80**	**197**	P	**P**	**02 46 15.3**	**+1.0**
comp=Z,2.9nm,0.6s,baz=74,slow=5.4,SNR=11							
MAW	**Mawson**	**66.80**	**197**	P	**P**	**02 46 14.6**	**+0.3**
RAYN	**Ar Rayn**	**68.48**	**299**	P	**P**	**02 46 25.8**	**+0.1**
RAYN				IAmb	IAmb	02 46 51.7	
comp=Z,13nm,1.6s							
BRVK	**Borovoye**	**68.60**	**337**	P	**P**	**02 46 25.1**	**-0.7**
BRVK				IAmb	IAmb	02 46 26.7	
comp=Z,9.7nm,1.4s							
ABKAR	**Akbulak array**	**70.64**	**329**	P	**P**	**02 46 37.6**	**-0.8**
KMBO	**Kilima Mbogo**	**70.71**	**272**	P	**P**	**02 46 41.3**	**+1.3**
comp=Z,0.4nm,0.4s,baz=89,slow=4.3,SNR=4.2							
PETK	**Petropavlovsk-**	**73.91**	**29**	P	**P**	**02 46 57.1**	**-0.7**
comp=Z,2.6nm,0.7s,baz=204,slow=3.2,SNR=5.7							
SYO	**Syowa Base**	**75.00**	**200∥**	*e*PcP	**PcP**	**02 47 16.0**	**-1.3**
SYO	**Syowa Base**	**75.00**	**200∥**	*e*pP	pP	02 47 24.4	+0.4
SYO	**Syowa Base**	**75.00**	**200∥**	*e*sP	sP	02 47 33.0	+0.7
ARU	**Arti**	**75.81**	**334**	P	**P**	**02 47 08.8**	**+0.1**
ARU				IAmb	IAmb	02 47 09.6	
comp=Z,18nm,1.4s							
TBLG	**Delisi**	**75.87**	**316**	P	**P**	**02 47 09.1**	**-0.3**
KARS	**Kars**	**76.58**	**315**	P	**P**	**02 47 14.0**	**+0.4**
MATP	**Matopo**	**77.43**	**251**	*i* P	**P**	**02 47 20.3**	**+1.4**
MATP	**Matopo**	**77.43**	**251**	*i* P	**P**	**02 47 20.3**	**+1.4**
KBZ	**Khabaz**	**77.92**	**318**	P	**P**	**02 47 21.1**	**+0.3**
comp=Z,2.6nm,0.7s,baz=98,slow=3.1,SNR=7.1							
LSZ	**Lusaka**	**78.12**	**256**	P	**P**	**02 47 23.2**	**+0.4**
KIV	**Kislovodsk**	**78.15**	**318**	P	**P**	**02 47 22.3**	**+0.1**
KIV				IAmb	IAmb	02 47 25.3	
comp=Z,5.0nm,0.8s							
BOSA	**Boshof**	**79.87**	**242**	*i* P	**P**	**02 47 33.1**	**+1.0**
BOSA	**Boshof**	**79.87**	**242**	P	**P**	**02 47 32.9**	**+0.8**
comp=Z,1.2nm,0.5s,baz=110,slow=5.6,SNR=7.8							
BOSA	**Boshof**	**79.87**	**242**	*i* P	**P**	**02 47 33.1**	**+1.0**
BOSA	**Boshof**	**79.87**	**242**	IAmb	IAmb	02 49 50.8	
comp=Z,30nm,1.6s							
CSS	**Mathiatis**	**82.05**	**307**	P	**P**	**02 47 43.1**	**-0.3**
CSS				IAmb	IAmb	02 47 45.3	
comp=Z,15nm,1.1s							
QSPA	**South Pole Qui**	**82.12**	**180**	P	**P**	**02 47 43.6**	**+0.3**
comp=Z,3.5nm,0.8s,baz=132,slow=1.9,SNR=18							
QSPA	**South Pole Qui**	**82.12**	**180**	P	**P**	**02 47 42.9**	**-0.4**
QSPA				IAmb	IAmb	02 47 49.0	
comp=Z,11nm,1.3s							
BR131	**Keskin Array S**	**83.10**	**312**	P	**P**	**02 47 48.3**	**-0.6**
BRTR	**Keskin Array B**	**83.10**	**312**	P	**P**	**02 47 48.6**	**-0.3**
comp=Z,2.7nm,0.8s,baz=140,slow=6.1,SNR=19							
BRTR	**Keskin Array B**	**83.10**	**312**	P	**P**	**02 47 48.5**	**-0.4**
OBN	**Obninsk**	**85.96**	**327**	P	**P**	**02 48 02.5**	**-0.3**
KLMR	**Klimovskoe**	**86.58**	**333**	*e*	**P**	**02 48 04.5**	**-1.1**
KLMR				AMP		02 48 08.1	
comp=Z,25nm,1.4s							
KARP	**Karpathos**	**87.09**	**306**	P	**P**	**02 48 08.5**	**-0.3**
BALB	**Balikesir**	**87.39**	**310**	P	**P**	**02 48 09.5**	**-0.5**
AKASG	**Malin Array Be**	**88.96**	**321**	P	**P**	**02 48 17.0**	**-0.2**
comp=Z,0.4nm,0.4s,baz=90,slow=4.3,SNR=6.5							
SNAA	**Sanae**	**88.97**	**197**	P	**P**	**02 48 18.4**	**+1.3**
MLR	**Muntele Rosu**	**89.98**	**316**	P	**P**	**02 48 22.7**	**+0.4**
VNA2	**Neumayer--Watz**	**90.62**	**197**	P	**P**	**02 48 25.0**	**+0.3**
baz=100,slow=4.0							
BURAR	**Bucovina Array**	**90.88**	**318**	P	**P**	**02 48 26.5**	**0.0**
VNA1	**Neumayer--Stat**	**91.00**	**197**	P	**P**	**02 48 28.4**	**+2.0**
VNA3	**Neumayer Olymp**	**91.13**	**197**	P	**P**	**02 48 28.4**	**+1.3**
AGG	**Agios Georgios**	**91.50**	**309**	P	**P**	**02 48 28.9**	**-0.5**
AGG				IAmb	IAmb	02 48 30.2	
comp=Z,4.3nm,0.9s							
FINES	**FINESS Array B**	**92.98**	**332**	P	**P**	**02 48 35.7**	**0.0**
comp=Z,2.6nm,0.6s,baz=112,slow=5.7,SNR=31							
FINES				PKiKP	**PKiKP**	**02 53 21.9**	**-0.8**
comp=Z,0.8nm,0.6s,baz=107,slow=3.3,SNR=8.9							
FINES	**FINESS Array B**	**92.98**	**332**	P	**P**	**02 48 35.2**	**-0.4**
ARCES	**ARCESS Array B**	**94.68**	**340**	P	**P**	**02 48 42.8**	**-0.6**
comp=Z,1.2nm,0.6s,baz=99,slow=5.6,SNR=9.5							
ARCES				PKiKP	**PKiKP**	**02 53 25.8**	**+0.4**
comp=Z,1.8nm,0.9s,baz=131,slow=2.5,SNR=5.7							
GERES	**GERESS Array B**	**98.66**	**318**	P	**P**	**02 49 02.0**	**+0.1**
comp=Z,0.4nm,0.6s,baz=88,slow=3.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**107.50**	**281**	PKiKP	**PKiKP**	**02 53 49.5**	**-0.6**
comp=Z,0.8nm,0.6s,baz=57,slow=1.7,SNR=15							
ESDC	**Sonseca Array**	**111.83**	**310**	PKiKP	**PKiKP**	**02 53 58.1**	**+0.5**
comp=Z,0.3nm,0.4s,baz=25,slow=3.0,SNR=7.0							
YKA	**Yellowknife Ar**	**117.35**	**21**	PKP	**PKPdf**	**02 54 07.4**	**-0.1**
comp=Z,1.5nm,0.5s,baz=329,slow=0.6,SNR=19							
NVAR	**Mina Array Bea**	**128.49**	**46**	PKP	**PKiKP**	**02 54 31.4**	**+0.9**
comp=Z,0.7nm,0.7s,baz=263,slow=2.4,SNR=5.8							
PDAR	**Pinedale Array**	**132.14**	**37**	PKP	**PKPdf**	**02 54 37.1**	**+0.4**
comp=Z,0.9nm,0.6s,baz=133,slow=2.3,SNR=9.1							
SCHQ	**Schefferville**	**132.99**	**356**	PKP	**PKiKP**	**02 54 39.3**	**+0.5**
comp=Z,3.5nm,0.4s,baz=276,slow=12,SNR=3.7							
ULM	**Lac du Bonnet**	**133.33**	**21**	PKP	**PKiKP**	**02 54 39.1**	**-0.5**
comp=Z,3.6nm,0.7s,baz=61,slow=4.3,SNR=6.1							
TXAR	**Lajitas Array**	**143.43**	**50**	PKP	PKPbc	02 54 55.9	+0.9
comp=Z,1.5nm,0.5s,baz=264,slow=0.3,SNR=23							
BDFB	**Brasilia**	**146.63**	**226**	PKPbc	**PKPab**	**02 55 06.9**	**+0.6**
comp=Z,2.7nm,0.4s,baz=110,slow=3.0,SNR=9.7							

DJA 03 02:36:54.1±1.0, 7°S±2°×12°1E±°, h32km±15km, M4.0/13, MLv4.0/13, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.79**	**152**	P	Pn	02 37 22.8	-0.2
EDFI				S	Sn	02 37 45.5	+0.8
BKSI	**Bulukumba**	**1.96**	**339**	P	Pn	02 37 24.3	-0.8
BKSI				S	Sn	02 37 49.0	+0.4
MMRI	**Maumere**	**2.02**	**137**	P	Pn	02 37 26.1	+0.1
MMRI				S	Sn	02 37 51.0	+0.8
BBSI	**Bau Bau**	**2.40**	**46**	P	Pn	02 37 31.1	-0.1
BNSI	**Bone**	**2.83**	**345**	P	Pn	02 37 38.0	+0.8
WBSI	**Waikabubak, Su**	**2.85**	**210**	P	Pn	02 37 37.3	-0.1
SPSI	**Sidrap Palu**	**3.34**	**342**	P	Pn	02 37 44.3	+0.1
SPSI				S	Sn	02 38 26.4	+3.5
PLAI	**Plampang**	**3.45**	**241**	P	Pn	02 37 46.1	+0.5
PLAI				S	Sn	02 38 27.2	+1.8
BATI	**Baumata**	**4.12**	**137**	P	Pn	02 37 54.9	-0.1
TTSI	**Tana Toraja**	**4.21**	**346**	P	Pn	02 37 58.5	+2.4
SOEI	**Soe**	**4.27**	**127**	P	Pn	02 38 00.5	+3.5

*BJI **03** 02:42:50.0±0.0, 6°.16S×149°.14E, h88km, mb5.4/79, mB5.5/57, Ms5.2/70, Ms7 5.0/65*
*ISCJB **03** 02:42:53.6±0.5, 5°.89S±0°.02×148°.77E±0°.02, h97km±4km, mb5.7/130, Error ellipse: s-maj=3.7km s-min=3.1km az=40.0*
*DJA **03** 02:42:53.8±0.6, 6°S±3°×14°9E±°, h96km±5km, M6.1/34, mB6.3/30, mb5.9/34, MLv6.5/2, Mw(mB)6.0/30, Mwp5.8/5*
*MOS **03** 02:42:53.3±1.1, 5°.86S×148°.80E, h90km, mb5.5/25, MS5.2/9, Error ellipse: s-maj=7.4km s-min=4.9km az=106.9*
*NEIC **03** 02:42:54.1, 5°.86S×148°.85E, h88km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.63; $M_{\theta\theta}$1.78; $M_{\phi\phi}$-3.42; $M_{r\theta}$-1.54; $M_{\theta\phi}$-0.52; $M_{\phi r}$-2.13; Fault plane solution: $M_0$3.99000×10^{17} NP1:ϕ_s216.19000°, δ74.27000°, λ124.76000°. NP2:ϕ_s327.53000°, δ37.74000°, λ26.28000°. Principal axes: T 3.4564, Plg49.0000°, Azm164.0000°; N 0.9093, Plg33.0000°, Azm26.0000°; P -4.3657, Plg22.0000°, Azm281.0000°;*
*NEIC **03** 02:42:54.9, 6°.09S×148°.70E, h100km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.66; $M_{\theta\theta}$3.67; $M_{\phi\phi}$-6.33; $M_{r\theta}$-1.26; $M_{\theta\phi}$0.47; $M_{\phi r}$-1.05; Fault plane solution: $M_0$5.76000×10^{17} NP1:ϕ_s317.00000°, δ61.00000°, λ22.00000°. NP2:ϕ_s216.00000°, δ71.00000°, λ149.00000°. Principal axes: T 4.6109, Plg35.0000°, Azm174.0000°; N 1.8506, Plg54.0000°, Azm7.0000°; P -6.4615, Plg6.0000°, Azm268.0000°;*
*IDC **03** 02:42:54.7±0.3, 5°.94S×148°.85E, h91km±2km, mb5.1/36, mb1 5.1/42, mb1mx5.1/47, mbtmp5.5/42, MS4.7/27, Ms1 4.7/27, ms1mx4.5/37 Error ellipse: s-maj=8.1km s-min=6.0km az=96.0*
*NEIC **03** 02:42:54.1±1.8, 5°.86S±0°.07×148°.85E±0°.07, h89km±3km, mb5.9/238, Mwb5.7, Mww5.8, Mwc5.9(GCMT)*
*NEIC **03** 02:42:56, 6°.00S×148°.96E, h92km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.65; $M_{\theta\theta}$4.86; $M_{\phi\phi}$-7.51; $M_{r\theta}$-1.84; $M_{\theta\phi}$-0.15; $M_{\phi r}$-2.33; Fault plane solution: $M_0$7.24000×10^{17} NP1:ϕ_s318.00000°, δ58.00000°, λ15.00000°. NP2:ϕ_s220.00000°, δ78.00000°, λ147.00000°. Principal axes: T 5.9847, Plg32.0000°, Azm175.0000°; N 2.0568, Plg55.0000°, Azm21.0000°; P -8.0416, Plg13.0000°, Azm272.0000°;*
*GCMT **03** 02:42:57.2±0.1, 5°.99S±0°.01×148°.94E±0°.01, h94km, MW5.8/133, Moment Tensor Solution. s130,c266; s133,c380; Duration: 2±0 Moment tensor: Scale 10^{17} Nm; M_{rr}2.62±.05; $M_{\theta\theta}$4.90±.06; $M_{\phi\phi}$-7.53±.06; $M_{r\theta}$-1.85±.04; $M_{\theta\phi}$-0.01±.06; $M_{\phi r}$-2.31±.04; Best double couple: $M_0$7.03800×10^{17} NP1:ϕ_s220.00000°, δ78.00000°, λ148.00000°. NP2:ϕ_s317.00000°, δ59.00000°, λ15.00000°.*

Principal axes: T 6.0310, Plg31.0000°, Azm174.0000°; N 2.0020, Plg56.0000°, Azm21.0000°; P -8.0440, Plg13.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 03 02:42:54.2±0.2, 5°.92S±0°.03×148°.85E±0°.03, h92km±1km, h92km:pP-P, n913, σ1°70/997, mb5.8/229, 25C-23D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.55**	**63**	P	**Pn**	**02 43 47.0**	**-0.2**
8μm,0.3s,baz=287,slow=0.0,SNR=2522							
PMG	**Port Moresby**	**3.84**	**206**	P	**Pn**	**02 43 53.2**	**+2.1**
1μm,0.3s,baz=345,slow=5.1,SNR=491							
PMG				S	**Sn**	**02 44 37.5**	**+2.3**
1μm,0.3s,baz=148,slow=19,SNR=5.0							
PMG	**Port Moresby**	**3.84**	**206**		**Pn**	**02 43 54.2**	**+3.1**
PMG				Sn	**Sn**	**02 44 37.1**	**+1.9**
MANU	**Manus Island**	**4.13**	**339**		**Pn**	**02 43 58.6**	**+3.6**
MMPI	**Merauke**	**8.77**	**253**	P	**Pn**	**02 44 58.7**	**+0.5**
JAY	**Jayapura**	**8.80**	**292**	P	**Pn**	**02 44 59.1**	**+0.5**
2.3nm,0.3s,baz=86,slow=3.2,SNR=20							
JAY	**Jayapura**	**8.80**	**292**	P	**Pn**	**02 44 58.4**	**-0.2**
COEN	**Coen**	**9.74**	**215**	P	**Pn**	**02 45 12.5**	**+1.1**
baz=9.8,SNR=138							
COEN	**Coen**	**9.74**	**215**		**Pn**	**02 45 12.5**	**+1.1**
SMPI	**Sarmi**	**10.84**	**291**	P	**Pn**	**02 45 27.3**	**+0.9**
HNR	**Honiara**	**11.54**	**108**	P	**Pn**	**02 45 35.9**	**0.0**
HNR						02 47 46.3	
HNR	**Honiara**	**11.54**	**108**	P	**Pn**	**02 45 35.0**	**-0.9**
29nm,0.3s,baz=300,slow=1.4,SNR=15							
HNR				S	**Sn**	**02 47 46.3**	**+3.4**
11nm,0.3s,baz=114,slow=20,SNR=2.1							
HNR				LR	LR	02 49 33.1	
comp=Z,4μm,20.3s,baz=276,slow=35							
HNR	**Honiara**	**11.54**	**108**	*e*P	**Pn**	**02 45 36.0**	**0.0**
HNR	**Honiara**	**11.54**	**108**		**Pn**	**02 45 35.9**	**0.0**
MTSU	**Mount Surprise**	**12.92**	**200**	P	**Pn**	**02 45 56.7**	**+2.4**
baz=13,SNR=153							
SRPI	**Serui, Papua**	**13.20**	**287**	P	**Pn**	**02 45 58.3**	**+0.2**
BAKI	**Biak**	**13.55**	**290**	P	**Pn**	**02 46 02.7**	**0.0**
CTA	**Charters Tower**	**14.30**	**190**	P	**Pn**	**02 46 14.0**	**+1.5**
baz=14							
CTA	**Charters Tower**	**14.30**	**190**	P	**Pn**	**02 46 13.2**	**+0.7**
4.2nm,0.3s,baz=14,slow=14,SNR=52							
CTAO	**Charters Tower**	**14.30**	**190**	P	**Pn**	**02 46 13.9**	**+1.5**
CTAO	**Charters Tower**	**14.30**	**190**		**Pn**	**02 46 13.9**	**+1.5**
RKPI	**Ransiki, Papua**	**15.28**	**286**	P	**Pn**	**02 46 25.6**	**+0.7**
FAKI	**Fak Fak**	**16.81**	**280**	P	**Pn**	**02 46 43.5**	**-0.6**
565nm,1.4s,7μm							
FAKI	**Fak Fak**	**16.81**	**280**		**Pn**	**02 46 41.4**	**-2.6**
FAKI				IAmb	IAmb	02 46 57.1	
comp=Z,387nm,0.9s							
QIS	**Mount Isa**	**17.09**	**211**	P	**P**	**02 46 48.4**	**+0.7**
baz=17,SNR=128							
KDU	**Kakadu**	**17.49**	**246**	P	**P**	**02 46 51.4**	**-0.8**
baz=18,SNR=497							
SAUI	**Saumlaki**	**17.54**	**262**	P	**Pn**	**02 46 54.1**	**+1.2**
comp=Z,7μm,1.2s,comp=Z,61μm							
SAUI	**Saumlaki**	**17.54**	**262**	P	**Pn**	**02 46 53.9**	**+1.0**
SIJI	**Sorong**	**18.25**	**285**	P	**P**	**02 46 59.8**	**-0.8**
comp=Z,3.5nm,0.3s,baz=87,slow=9.0,SNR=36							
SIJI				LR	LR	02 55 31.8	
comp=Z,3μm,20.4s,baz=129,slow=42							
SWI	**Sorong**	**18.25**	**285**	P	**P**	**02 46 59.5**	**-1.1**
comp=Z,458nm,0.8s,comp=Z,8μmcomp=Z,13μm							
MTN	**Manton Dam**	**18.77**	**247**	P	**Pn**	**02 47 07.7**	**-0.1**
baz=19,SNR=280							
MTN	**Manton Dam**	**18.77**	**247**	P	**Pn**	**02 47 07.3**	**-0.4**
BNDI	**Bandanaira**	**18.91**	**273**	P	**Pn**	**02 47 08.7**	**-0.7**
comp=Z,2μm,1.1s,comp=Z,33μmcomp=Z,23μm							

comp=Z,596nm,0.7s,comp=Z,5μm
CMSA Cobar Meteorol 25.65 186 P P 02 48 16.1 +0.7
baz=26,SNR=211
FITZ Fitzroy Crossi 25.68 240 P P 02 48 17.3 +1.5
baz=26,SNR=1000
FITZ Fitzroy Crossi 25.68 240 P P 02 48 17.2 +1.5
comp=Z,2μm,0.8s,baz=69,slow=9.0,SNR=802
FITZ pP **pP 02 48 36.6 +0.5**
comp=Z,1μm,0.9s,baz=60,slow=10.0,SNR=3.7
FITZ S **S 02 52 36.4 -1.4**
comp=Z,76nm,0.9s,baz=120,slow=20,SNR=2.3
FITZ LR LR 02 58 58.6
comp=Z,3μm,22.0s,baz=73,slow=38
KDI Kendari 26.20 273 P P 02 48 20.0 -0.6
LUWI Luwuk 26.47 280 P P 02 48 22.4 -0.6
MMRI Maumere 26.53 263 P P 02 48 22.4 -1.1
DAV Davao City (W) 26.56 299⇓ *e*P P 02 48 33.0 +9.2
STKA Stephens Creek 26.70 194 P P 02 48 25.1 +0.2
baz=27,SNR=61
STKA Stephens Creek 26.70 194 P P 02 48 25.0 +0.2
STKA S **S 02 52 53.1 -0.5**
STKA pmax pmax
comp=Z,83nm,1.0s
STKA Stephens Creek 26.70 194 P P 02 48 25.1 +0.2
comp=Z,342nm,1.0s,baz=22,slow=9.0,SNR=39
STKA S **S 02 52 53.1 -0.5**
comp=Z,15nm,0.8s,baz=90,slow=19,SNR=1.5
STKA ScP **ScP 02 55 18.6 +0.3**
comp=Z,52nm,1.1s,baz=17,slow=7.8,SNR=6.1
STKA LR LR 03 00 00.2
comp=Z,2μm,18.6s,baz=9.7,slow=38
STKA Stephens Creek 26.70 194 P P 02 48 25.0 +0.2
STKA Stephens Creek 26.70 194 ScP 02 55 20.5 +2.2
KCP Kidapawan 26.96 298⇓ *e*P **P 02 48 26.6 -0.9**
MGCD Mangrove Creek 27.23 176 P P 02 48 30.8 +1.3
baz=27,SNR=40
WRKA Warakurna 27.37 224 P P 02 48 32.2 +1.2
baz=28,SNR=212
CTBH Cotabato--PC H 27.80 298⇓ *i*P P 02 48 50.0 +15
RIV Riverview 27.85 176 P P 02 48 36.4 +1.3
baz=28,SNR=4.8
CGP Cagayan de Oro 28.00 300⇓ *e*P **P 02 48 43.5 +6.8**
YNG Young 28.24 181 P P 02 48 39.8 +1.2
baz=28,SNR=22
HTT Hallett 28.88 197 P P 02 48 45.2 +0.9
baz=29,SNR=39
KAPI Kappang 28.97 270 *ce*P **P 02 48 45.9 +0.6**
KAPI pmax pmax
comp=Z,116nm,1.7s
KAPI Kappang 28.97 270 P P 02 48 46.1 +0.7
comp=Z,52nm,0.9s,baz=102,slow=3.5,SNR=20
KAPI ScP **ScP 02 55 25.8 +0.2**
comp=Z,66nm,1.1s,baz=203,slow=0.3,SNR=8.1
KAPI LR LR 03 03 05.0
comp=Z,1μm,20.5s,baz=299,slow=42
KAPI Kappang 28.97 270 P P 02 48 44.9 -0.4
CNB Canberra Magne 29.25 179 P P 02 48 48.8 +1.2
baz=29,SNR=31
CAN Canberra 29.25 180 P P 02 48 48.8 +1.1
CAN pmax pmax
comp=Z,445nm,1.4s
CAN Canberra 29.25 180 P P 02 48 48.8 +1.1
BBOO Buckleboo 29.28 202 P P 02 48 48.6 +0.8
baz=29,SNR=28
BBOO Buckleboo 29.28 202 P P 02 48 48.0 +0.1
BBOO IAmb IAmb 02 48 49.9
comp=Z,654nm,1.8s
FUNA Funafuti 30.22 97 P P 02 48 57.5 +1.2
MSVF Nonsavu 30.84 115 *i* P **P 02 49 02.3 +0.4**
MSVF pmax pmax
comp=Z,48nm,0.7s
ARPS Mount Arapiles 31.36 191 P P 02 49 07.2 +1.0
baz=32,SNR=32
FORT Forrest 31.50 216 P P 02 49 08.8 +1.3
baz=32,SNR=35
FORT Forrest 31.50 216 P P 02 49 08.4 +0.9
TOO Toolangi 31.65 185 P P 02 49 10.1 +1.4
baz=32,SNR=82
TOO Toolangi 31.65 185 P P 02 49 09.9 +1.2
TOO pmax pmax
comp=Z,631nm,1.1s
TOO Toolangi 31.65 185 P P 02 49 09.9 +1.2
MBWA Marble Bar 32.01 239 P P 02 49 13.0 +0.9
TGY Tagaytay City 34.10 306 P P 02 49 30.3 -0.1
comp=Z,195nm,0.6s,baz=311,slow=14,SNR=8.7
TGY pP **pP 02 49 52.4 +0.8**
comp=Z,632nm,0.7s,baz=148,slow=2.5,SNR=5.0
TGY LR LR 03 01 31.0
comp=Z,578nm,20.6s,baz=124,slow=33
KKM Kota Kinabalu 34.67 290 P P 02 49 32.8 -2.7
KKM IAmb IAmb 02 49 51.7
comp=Z,126nm,0.9s
MEEK Meekatharra 35.41 231 P P 02 49 42.9 +1.3
baz=36,SNR=146
KMBL Kambalda 35.76 222 P P 02 49 45.7 +1.3
baz=36,SNR=50
MOO Moorlands 36.40 182 P P 02 49 51.8 +2.2
baz=36,SNR=39
TAU Tasmania Unive 36.86 182 P P 02 49 55.0 +1.4
TAU pmax pmax
comp=Z,708nm,1.2s
TAU Tasmania Unive 36.86 182 P P 02 49 55.0 +1.4
GIRL Giralia 37.29 240 P P 02 49 58.7 +1.1
baz=37,SNR=43
GIRL Giralia 37.29 240 P P 02 49 59.2 +1.7
JOW Kunigami 38.17 329 P P 02 50 07.2 +2.2
comp=Z,30nm,0.9s,baz=144,slow=12,SNR=44
JOW Kunigami 38.17 329 P P 02 50 06.6 +1.7
JOW IAmb IAmb 02 50 08.4
comp=Z,142nm,0.9s
MORW Morawa 38.60 229 P P 02 50 09.8 +1.3
baz=39,SNR=29
KLBR Kellerberrin 38.70 225 P P 02 50 10.2 +0.8
baz=39,SNR=40
RAO Raoul Island 39.02 130 P P 02 50 12.5 +0.5
RAO pmax pmax
comp=Z,720nm,1.1s
RAO Raoul Island 39.02 130 P P 02 50 12.5 +0.5
KSM Kuching 39.18 280 IAmb IAmb 02 50 29.7
comp=Z,105nm,0.9s
TWG Pinlang 39.42 317 IAmb IAmb 02 51 06.3
comp=Z,183nm,0.8s
AFI Afiamalu 39.54 105 P P 02 50 16.7 +0.1
AFI pmax pmax
comp=Z,394nm,1.2s
AFI Afiamalu 39.54 105 P P 02 50 16.7 +0.1
AFI IAmb IAmb 02 50 37.8
comp=Z,394nm,1.2s
YULB Yu-li 39.66 318 P P 02 50 17.6 +0.2
YULB IAmb IAmb 02 51 08.9
comp=Z,148nm,1.0s
NWAO Narrogin (SRO) 39.83 223 P P 02 50 20.0 +1.3
baz=40,SNR=18
NWAO Narrogin (SRO) 39.83 223 P P 02 50 20.0 +1.3
comp=Z,65nm,0.9s,baz=53,slow=8.3,SNR=24
NWAO Narrogin (SRO) 39.83 223 P P 02 50 19.3 +0.6
NWAO IAmb IAmb 02 50 29.0
comp=Z,225nm,1.2s
TOZ Tahuroa Road 39.88 146 P P 02 50 20.2 +1.2
NACB Ninganchiao 40.01 319 P P 02 50 20.3 +0.1
MUN Mundaring 40.01 225 P P 02 50 21.5 +1.3
baz=40,SNR=22
TPUB Ta-pu 40.04 317 IAmb IAmb 02 50 46.8
comp=Z,130nm,1.0s
HIZ Hauiti 40.10 148 P P 02 50 22.9 +2.0
HIZ Hauiti 40.10 148 P P 02 50 22.0 +1.2
SSLB Suanglung 40.16 318 P P 02 50 22.2 +0.7
YHNB Yeheng 40.50 320 P P 02 50 24.9 +0.5
TATO Taipei 40.65 320 P P 02 50 26.0 +0.5
CISI Cisompet, Garu 40.77 265 P P 02 50 25.6 -1.2
TWVZ Taurewa 40.82 148 P P 02 50 24.1 -2.7
LEM Lembang 40.98 266 P P 02 50 28.4 -0.2
comp=Z,197nm,0.7s,baz=63,slow=8.4,SNR=32
LEM LR LR 03 09 53.2
comp=Z,896nm,21.9s,baz=81,slow=40
RKGY Rocky Gully 40.99 222 P P 02 50 30.3 +2.0
baz=41,SNR=16
URZ Urewera 41.15 145 P P 02 50 29.8 +0.3
comp=Z,47nm,0.5s,baz=337,slow=3.6,SNR=47
URZ ScP **ScP 02 56 08.6 -0.4**
comp=Z,34nm,1.1s,baz=28,slow=2.3,SNR=6.7
URZ Urewera 41.15 145 P P 02 50 30.1 +0.6
MRHZ Matea Rd 41.17 147 P P 02 50 30.5 +0.7
MOVZ Moawhango 41.23 148 P P 02 50 31.9 +1.6
MTHZ Maungataniwha 41.42 146 P P 02 50 32.6 +0.9
BKZ Black Stump Fm 41.45 147 IAmb IAmb 02 50 33.8
comp=Z,224nm,1.1s
KWHZ Kaweka Forest 41.60 147 P P 02 50 34.5 +1.3
SNGZ Shannon Statio 41.65 146 P P 02 50 34.7 +1.1
KRHZ Kereru 41.73 148 P P 02 50 35.0 +0.7
MCHZ McNeill Hill 41.76 147 P P 02 50 35.8 +1.4
NIUE Niue 42.20 112 P P 02 50 39.4 +1.1
baz=42,SNR=5.5
NIUE Niue 42.20 112 P P 02 50 38.9 +0.6
NIUE IAmb IAmb 02 50 43.8
comp=Z,335nm,1.0s
KNMB Chin-men Tao 42.34 317 P P 02 50 40.1 +0.8
KNMB IAmb IAmb 02 51 06.3
comp=Z,512nm,1.4s
RPZ Rata Peaks 42.41 156 P P 02 50 39.8 +0.1
comp=Z,260nm,0.9s,baz=329,slow=1.7,SNR=74
JNU Nakatsue 42.41 337 P P 02 50 41.5 +1.6
comp=Z,150nm,0.7s,baz=141,slow=1.2,SNR=45
JNU pP **pP 02 51 01.4 -0.1**
comp=Z,106nm,0.9s,baz=133,slow=5.6,SNR=5.5
JNU ScP **ScP 02 56 13.1 -1.0**
comp=Z,16nm,0.9s,baz=120,slow=3.3,SNR=4.6
JNU Nakatsue 42.41 337 P P 02 50 41.0 +1.1
JNU IAmb IAmb 02 51 14.0
comp=Z,266nm,1.0s
BFZ Birch Farm 42.42 149 P P 02 50 39.7 -0.1
DCZ Deep Cove 42.49 161 IAmb IAmb 02 50 42.7
comp=Z,347nm,1.1s
QZH Quanzhou 42.52 317⇑ *i*P **P 02 50 41.9 +1.1**
QZH pP **pP 02 51 03.9 +1.2**
QZH S **S 02 56 56.7 +0.2**
QZH sS **sS 02 57 39.0 +5.2**
QZH pmax pmax
comp=Z,69nm,0.9s
LBZ Lake Benmore 42.63 157 IAmb IAmb 02 50 42.9
comp=Z,358nm,1.1s
XMIS Christmas Isla 42.96 261 P P 02 50 45.2 +0.6
WHZ Wether Hill Ro 43.12 160 P P 02 50 46.2 +0.8
WHZ IAmb IAmb 02 50 47.2
comp=Z,455nm,1.5s
ODZ Otahua Downs 43.36 157 IAmb IAmb 02 50 49.1
comp=Z,202nm,1.4s
MJAR Matsushiro Arr 43.40 348 P P 02 50 48.4 +0.6
comp=Z,90nm,0.9s,baz=168,slow=8.6,SNR=172
MJAR pP **pP 02 51 10.2 +1.0**
comp=Z,141nm,1.1s,baz=166,slow=8.0,SNR=12
MJAR ScP **ScP 02 56 16.4 -1.6**
comp=Z,2.9nm,0.7s,baz=180,slow=5.9,SNR=4.3
MJAR Matsushiro Arr 43.40 348 P P 02 50 47.9 +0.2
MJAR **ScP 02 56 15.9 -2.1**
MAJO Matsushiro 43.40 348 P P 02 50 48.4 +0.6
MAJO pmax pmax
comp=Z,513nm,1.4s
MAJO Matsushiro 43.40 348 P P 02 50 48.4 +0.6
MAT Matsushiro 43.40 348 P P 02 50 48.5 +0.7
MAT S **S 02 57 07.6 -1.6**
MJB9 Matsu-Tunnel 43.41 348 P P 02 50 48.1 +0.3
HKPS Hong Kong Po S 44.04 311 P P 02 50 52.2 -1.0
HKPS IAmb IAmb 02 51 29.0
comp=Z,215nm,1.0s
SSE Sheshan 45.32 326 IAmb IAmb 02 51 06.4
comp=Z,156nm,0.9s
MYKOM Kota Tinggi 45.58 278 P P 02 51 04.8 -0.7
MYKOM IAmb IAmb 02 51 21.5
comp=Z,248nm,1.0s
QIZ Qiongzhong 45.73 304 P P 02 51 06.9 +0.4
QIZ S **S 02 57 44.3 +1.0**
QIZ pmax pmax
comp=Z,40nm,0.8s
QIZ LR LR
comp=Z,720nm,7.9s
QIZ LR LR
comp=Z,1μm,25.7s
QIZ LR LR
comp=Z,2μm,28.8s
TJN Taejon 46.65 336 *i* P **P 02 51 14.2 +0.8**
NJ2 Nanjing 47.36 325⇑ *i*P **P 02 51 21.2 +2.2**
NJ2 pP **pP 02 51 41.6 +0.4**
NJ2 sP **sP 02 51 51.6 0.0**
NJ2 S **S 02 58 08.6 +2.4**
NJ2 sS **sS 02 58 44.5 +0.5**
NJ2 pmax pmax
comp=Z,90nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,4.3s
NJ2 LR LR
comp=Z,1μm,13.7s
NJ2 LR LR
comp=Z,2μm,15.6s
NJ2 LR LR
comp=Z,2μm,23.7s
KSRS Korea Array 47.37 337 P P 02 51 20.1 +1.2
comp=Z,47nm,0.8s,baz=151,slow=8.7,SNR=89
KSRS pP **pP 02 51 42.1 +1.0**
comp=Z,124nm,1.0s,baz=153,slow=6.9,SNR=14
KSRS LR LR 03 09 39.6
comp=Z,630nm,21.9s,baz=162,slow=34
KSAR Wonju Array Be 47.37 337 P P 02 51 20.1 +1.1
KSAR Wonju Array Be 47.37 337 P P 02 51 20.1 +1.1
ERM Erimo 47.99 354 *c i*P **P 02 51 25.5 +1.8**
ERM pmax pmax
comp=Z,128nm,1.8s
ERM Erimo 47.99 354 P P 02 51 25.0 +1.2
ERM IAmb IAmb 02 51 59.8
comp=Z,150nm,1.1s
IPM Ipoh 48.86 281 P P 02 51 29.8 -1.1
IPM pP **pP 02 51 46.7 -6.5**
WHN Wuhan 49.05 320⇓ *i*P **P 02 51 34.5 +2.4**
WHN pP **pP 02 51 55.8 +1.5**
WHN S **S 02 58 32.3 +2.2**
WHN pmax pmax
comp=Z,130nm,1.2s
WHN pmax pmax
comp=Z,3μm,4.6s
WHN LR LR
comp=Z,4μm,16.6s
MCQ Macquarie Isla 49.12 172 P P 02 51 34.1 +1.9
baz=49,SNR=13
MCQ Macquarie Isla 49.12 172 P P 02 51 33.9 +1.7
MCQ pmax pmax
comp=Z,739nm,1.2s
MCQ Macquarie Isla 49.12 172 P P 02 51 33.9 +1.7
KULM Kulim 49.39 282 IAmb IAmb 02 51 51.5
comp=Z,164nm,0.7s
YUK Yuzh-Kuril'sk 49.80 357 *e*P **P 02 51 37.8 +0.3**
YUK *e* 02 52 56.5
YUK *e* 02 53 32.1
YUK *e*PPP PPP 02 54 29.5
YUK *e*S **S 02 58 39.3 -0.8**
YUK *e* 03 01 19.4
YUK *e*SS **SS 03 02 13.6 -0.5**
YUK *e*SSS SSS 03 03 43.4
YUK pmax pmax
comp=Z,342nm,1.1s
YUK pmax pmax
comp=E,75nm,0.6s
YUK pmax pmax
comp=N,187nm,1.1s
YUK pmax pmax
comp=Z,471nm,1.6s
YUK MLR MLR
comp=Z,292nm,19.0s
YUK MLR MLR
comp=N,400nm,18.0s
JKA Kamikawa-asahi 50.13 354 P P 02 51 41.9 +1.8
JKA **pP 02 52 04.0 +1.8**
ASAJ Asahikawa 50.13 354 P P 02 51 41.9 +1.8
comp=N,58nm,1.0s,baz=226,slow=13,SNR=20
ASAJ pP **pP 02 52 04.0 +1.8**
comp=N,117nm,1.0s,baz=209,slow=8.4,SNR=9.2
ASAJ LR LR 03 09 25.6
comp=N,220nm,20.8s,baz=192,slow=32
RPSI Rantau Prapat 50.58 278 P P 02 51 42.0 -2.1
RPSI Rantau Prapat 50.58 278 IAmb IAmb 02 52 00.0
comp=Z,146nm,1.1s
PSI Prapat 50.60 278 P P 02 51 42.0 -2.4
PSI Prapat 50.60 278 P P 02 51 42.0 -2.4
comp=Z,36nm,0.7s,baz=97,slow=3.4
TRTT Trang 50.90 285 P P 02 51 45.3 -1.1
comp=Z,69nm,0.8s,comp=Z,887nm
KUR Kuril'sk 50.93 359 *c i*P **P 02 51 48.2 +2.1**
KUR *e* 02 53 41.4
KUR *e*S **S 02 58 59.4 +3.6**
KUR pmax pmax
comp=Z,1μm,1.2s
KUR pmax pmax
comp=N,278nm,1.4s
KUR pmax pmax
comp=E,177nm,1.3s
KUR MLR MLR
comp=Z,298nm,14.0s
NONG Nongkai 51.00 299 P **P 02 51 46.2 -0.9**
comp=Z,2.8nm,0.9s
VLA Vladivostok 51.18 344 *i* P **P 02 51 48.4 +0.4**
VLA pmax pmax
comp=Z,61nm,0.9s
CHAI Chaiyaphum 51.20 296 P **P 02 51 47.5 -1.1**
comp=Z,103μm,0.8s,comp=Z,787μm
PATY Pattaya 51.21 292 P **P 02 51 49.9 +1.2**
comp=Z,51μm,0.8s
DL2 Dalian 51.24 333 P **P 02 51 50.6 +2.1**
DL2 pP **pP 02 52 10.5 -0.3**
DL2 S **S 02 59 00.5 +0.2**
DL2 sS **sS 02 59 35.2 -3.4**
DL2 pmax pmax
comp=Z,87nm,0.9s
DL2 pmax pmax
comp=Z,390nm,4.8s
DL2 LR LR
comp=Z,1μm,16.6s
DL2 LR LR
comp=Z,1μm,19.1s
DL2 LR LR
comp=Z,2μm,24.7s
TIA Tai'an 51.39 327 P **P 02 51 50.7 +1.0**
TIA pP **pP 02 52 12.6 +0.4**
TIA S **S 02 58 59.2 -3.3**
TIA pmax pmax
comp=Z,53nm,0.9s
TIA pmax pmax
comp=Z,510nm,3.7s
TIA LR LR
comp=Z,1μm,22.1s
TIA LR LR
comp=Z,2μm,17.8s
TIA LR LR
comp=Z,510nm,21.4s
GSI Gunungsitoli 51.69 276 IAmb IAmb 02 52 07.3
comp=Z,154nm,0.7s
TEY Ternei 51.91 349⇑ *e*P **P 02 51 54.3 +1.0**
TEY *e* 02 52 16.5
TEY *e* 02 52 27.6
TEY pmax pmax
comp=Z,100nm,1.7s
TEY pmax pmax
comp=N,20nm,1.2s
TEY pmax pmax
comp=Z,30nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.0s
RAR Rarotonga 51.96 112 P **P 02 51 54.9 +0.6**
RAR *PP **pP 02 52 15.9 -0.6**
RAR pmax pmax
comp=Z,594nm,1.9s
RAR Rarotonga 51.96 112 P **P 02 51 54.8 +0.6**
comp=Z,75nm,1.0s,baz=233,slow=7.2,SNR=7.8
RAR pP **pP 02 52 15.8 -0.7**
comp=Z,61nm,1.0s,baz=273,slow=5.0,SNR=4.4
RAR Rarotonga 51.96 112 P **P 02 51 54.9 +0.6**
RAR **pP 02 52 15.9 -0.6**
GYA Guiyang 52.02 310⇑ *i*P **P 02 51 55.6 +0.9**
GYA pP pP 02 52 19.1 +1.8
GYA sP sP 02 52 28.7 +1.0
GYA PP **PP 02 53 58.8 +5.0**
GYA S **S 02 59 06.2 -5.5**
GYA sS sS 02 59 49.7 -0.4
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,400nm,6.4s
GYA LR LR
comp=Z,360nm,17.0s
GYA LR LR
comp=Z,250nm,17.9s
GYA LR LR
comp=Z,500nm,17.4s
SURT Suratani 52.03 286 P **P 02 51 53.7 -1.2**
comp=Z,100nm,1.1s,comp=Z,893nm
ENH Enshi 52.12 316 P **P 02 51 55.9 +0.6**
ENH pP **pP 02 52 17.3 -0.5**
ENH IAmb IAmb 02 52 20.4
comp=Z,150nm,1.0s
USA0B Ussuriysk Arra 52.16 345 *i* P **P 02 51 55.7 +0.5**
USRK Ussuriysk Ar. 52.16 345 P **P 02 51 56.3 +1.0**
comp=Z,28nm,0.7s,baz=170,slow=6.9,SNR=27
USRK pP **pP 02 52 18.2 +0.6**
comp=Z,58nm,0.8s,baz=167,slow=7.0,SNR=14
USRK LR LR 03 11 45.1
comp=Z,659nm,21.6s,baz=147,slow=33
USRK PKP2ab 03 23 09.2
comp=Z,3.3nm,0.8s,baz=339,slow=4.7,SNR=5.6
PKDT Phuket 52.22 285 P **P 02 51 54.9 -1.3**
comp=Z,84nm,1.0s,comp=Z,2μm
PBKT Sadao Pong 52.35 296 P **P 02 51 57.1 -0.1**
SNY Shenyang 52.83 336 ⇓P **P 02 52 01.4 +1.2**
SNY S **S 02 59 23.6 +1.7**
SNY pmax pmax
comp=Z,40nm,1.8s
SNY pmax pmax
comp=Z,550nm,3.5s
SNY LR LR
comp=Z,790nm,15.7s
SNY LR LR
comp=Z,930nm,19.1s
SNY LR LR
comp=Z,2μm,29.9s
YSS Yuzh-Sakhalins 52.92 355α *i*P **P 02 52 02.0 +1.2**
YSS *e*PP **pP 02 52 24.4 +1.2**
YSS *i* S **S 02 59 24.7 +1.7**
YSS *i* 03 00 05.8
YSS pmax pmax
comp=Z,70nm,1.3s
YSS pmax pmax
comp=Z,500nm,2.5s
YSS smax smax
comp=E,800nm,9.0s
YSS MLR MLR
comp=Z,300nm,12.0s
YSS Yuzh-Sakhalins 52.92 355 P **P 02 52 01.7 +0.9**
MDJ Mudanjiang 53.21 343 P **P 02 52 04.4 +1.4**
MDJ S **S 02 59 28.5 +1.5**
MDJ pmax pmax
comp=Z,28nm,1.0s
MDJ pmax pmax
comp=Z,330nm,3.1s
MDJ LR LR
comp=Z,530nm,11.5s
MDJ LR LR
comp=Z,1μm,19.4s
MDJ LR LR
comp=Z,540nm,18.8s
MDJ Mudanjiang 53.21 343 IAmb IAmb 02 52 30.5
comp=Z,428nm,2.0s
SRDT SRDT 53.27 293 P **P 02 52 04.0 0.0**
comp=Z,53nm,1.1s,comp=Z,18μm
UTHA Uthaitani 53.37 294 P **P 02 52 04.2 -0.5**
comp=Z,102μm,1.0s,comp=Z,787μm
NANT Nan 53.42 299 P P 02 52 19.2 +14
CN2 Changchun 53.82 339 *e*P **P 02 52 08.9 +1.4**
CN2 *e*S **S 02 59 33.2 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,660nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,860nm,23.0s
KHLT Khaolaem Dam 53.90 293 P **P 02 52 05.3 -3.3**
comp=Z,68nm,1.3s,comp=Z,1μm
UMPA Umpang Tak 54.12 295 P **P 02 52 09.6 -0.6**
comp=Z,166μm,1.0s
XMAS Kiritimati 54.21 83 P **P 02 52 12.4 +1.5**
XMAS **pP 02 52 33.7 +0.2**
LAMP Lampang 54.26 298 P **P 02 52 12.1 +1.0**
comp=Z,100μm,1.0s
PAYA Payao 54.36 299 P **P 02 52 11.6 -0.3**
comp=Z,200μm,1.0s
KMI Kunming 54.42 307 P **P 02 52 13.6 +1.1**
KMI pP pP 02 52 38.8 +3.6

KMI			sP	sP	02 52 47.4	+1.9
KMI			PcP	**PcP**	**02 53 19.3**	**+4.1**
KMI			S	**S**	**02 59 44.9**	**+0.4**
KMI			sS	sS	03 00 24.0	+1.8
KMI			SS	**SS**	**03 03 28.5**	**+0.3**
KMI			pmax	pmax		
comp=Z,51nm,1.2s						
KMI			pmax	pmax		
comp=Z,420nm,4.0s						
KMI			LR	LR		
comp=Z,2μm,22.7s						
KMI			LR	LR		
comp=Z,790nm,27.3s						
KMI			LR	LR		
comp=Z,2μm,29.5s						
KMI	**Kunming**	**54.42 307**	IAmb	IAmb	02 52 41.1	
comp=Z,223nm,1.1s						
BJT	**Baijiatuau**	**54.74 329**	P	**P**	**02 52 14.3**	**+0.1**
BJT			pmax	pmax		
comp=Z,188nm,1.7s						
BJT	**Baijiatuau**	**54.74 329**	P	**P**	**02 52 14.3**	**+0.1**
BJT			IAmb	IAmb	02 52 42.8	
comp=Z,188nm,1.7s						
BJI	**Beijing**	**54.75 330**	P	**P**	**02 52 15.4**	**+1.1**
BJI			pP	**pP**	**02 52 36.2**	**-0.8**
BJI			S	**S**	**02 59 39.8**	**-8.1**
BJI			pmax	pmax		
comp=Z,16nm,1.2s						
BJI			LR	LR		
comp=Z,1μm,25.1s						
BJI			LR	LR		
comp=Z,1μm,25.7s						
BJI			LR	LR		
comp=Z,2μm,40.6s						
XAN	**Xi'an**	**54.81 319**	P	**P**	**02 52 16.2**	**+1.3**
XAN			pP	pP	02 52 37.6	+0.1
XAN			PcP	**PcP**	**02 53 17.1**	**+0.9**
XAN			PP	**PP**	**02 54 21.2**	**+2.5**
XAN			S	**S**	**02 59 47.5**	**-1.6**
XAN			pmax	pmax		
comp=Z,75nm,0.9s						
XAN			pmax	pmax		
comp=Z,510nm,6.7s						
XAN			LR	LR		
comp=Z,1μm,23.7s						
XAN			LR	LR		
comp=Z,760nm,22.9s						
XAN			LR	LR		
comp=Z,1μm,43.6s						
XAN	**Xi'an**	**54.81 319**	P	**P**	**02 52 14.7**	**-0.2**
XAN			pmax	pmax		
comp=Z,317nm,1.1s						
XAN	**Xi'an**	**54.81 319**	P	**P**	**02 52 14.7**	**-0.2**
CM31	**Chiang Mai Arr**	**54.84 297**	P	**P**	**02 52 14.8**	**-0.5**
CM31			pP	**pP**	**02 52 34.8**	**-3.2**
CM31			IAmb	IAmb	02 52 43.1	
comp=Z,124nm,1.2s						
CMAR	**Chiang Mai Arr**	**54.84 297**	P	**P**	**02 52 14.5**	**-0.9**
CMAR			*PP	**pP**	**02 52 35.0**	**-3.0**
CMAR	**Chiang Mai Arr**	**54.84 297**	P	**P**	**02 52 14.7**	**-0.7**
comp=Z,19nm,0.9s,baz=121,slow=6.0,SNR=72						
CMAR			pP	**pP**	**02 52 33.7**	**-4.3**
comp=Z,34nm,0.8s,baz=121,slow=5.8,SNR=8.6						
CMAR			LR	LR	03 15 12.6	
comp=Z,261nm,21.7s,baz=116,slow=35						
CMAR			PKP2ab		03 23 03.5	
comp=Z,2.3nm,0.8s,baz=287,slow=4.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**54.84 297**	P	**P**	**02 52 14.5**	**-0.9**
CMAR			pP	**pP**	**02 52 35.0**	**-3.0**
CMMT	**Chiang Mai**	**54.96 298**	P	**P**	**02 52 15.6**	**-0.7**
comp=Z,36nm,1.3s,comp=Z,404nm						
CHTO	**Chiang Mai**	**54.97 298**	P	**P**	**02 52 15.6**	**-0.7**
CHTO			pmax	pmax		
comp=Z,118nm,1.3s						
CHTO	**Chiang Mai**	**54.97 298**	P	**P**	**02 52 15.6**	**-0.7**
CHTO			IAmb	IAmb	02 52 43.7	
comp=Z,118nm,1.3s						
MHMT	**Maesarieng**	**55.63 297**	P	**P**	**02 52 21.3**	**+0.2**
comp=Z,66nm,0.8s,comp=Z,1μm						
CD2	**Chengdu**	**56.55 313**	P	**P**	**02 52 27.2**	**-0.2**
CD2			S	**S**	**03 00 12.5**	**+0.1**
CD2			SS	**SS**	**03 04 02.0**	**+0.7**
CD2			pmax	pmax		
comp=Z,120nm,0.6s						
CD2			pmax	pmax		
comp=Z,860nm,5.5s						
CD2			LR	LR		
comp=Z,4μm,20.6s						
CD2			LR	LR		
comp=Z,4μm,26.0s						
CD2			LR	LR		
comp=Z,1μm,12.8s						
SKR	**Severo-Kuril's**	**56.73 6**	*e*P	P	02 52 17.4	-11
SKR			*e*		02 52 49.9	
SKR			pmax	pmax		
comp=Z,600nm,1.7s						
SKR			pmax	pmax		
comp=Z,100nm,4.9s						
SKR			pmax	pmax		
comp=Z,216nm,1.3s						
TYV	**Tymovskoe**	**56.81 355**	*e*P	**P**	**02 52 30.7**	**+1.9**
TYV			*e*S	**pP**	**02 52 53.4**	**+2.0**
TYV			pmax	pmax		
comp=Z,100nm,1.5s						
KLR	**Kul'dur**	**56.92 347**	*i* P	**P**	**02 52 30.2**	**+0.6**
KLR			pmax	pmax		
comp=Z,153nm,1.5s						
KLR	**Kul'dur**	**56.92 347**	P	**P**	**02 52 30.5**	**+0.9**
comp=Z,37nm,0.8s,baz=165,slow=5.1,SNR=62						
KLR			pP	**pP**	**02 52 53.1**	**+0.8**
comp=Z,63nm,1.1s,baz=164,slow=6.2,SNR=5.3						
GRNR	**Gornyy**	**57.48 351**	*e*P	**P**	**02 52 35.4**	**+1.9**
GRNR			pmax	pmax		
comp=Z,25nm,1.0s						
BTO	**Baotou**	**58.43 326**	*e*P	**P**	**02 52 41.4**	**+0.9**
NKL	**Nikolayevsk**	**59.26 354**	*e*P	P	02 53 02.9	+17
NKL			*e*S	**S**	**03 00 49.3**	**+2.6**
NKL			pmax	pmax		
comp=Z,33nm,1.1s						
NKL			pmax	pmax		
comp=N,3.0nm,0.8s						
NKL			pmax	pmax		
comp=E,22nm,1.2s						
PEA0B	**Petropavlovsk-**	**59.29 6**	*i* P	**P**	**02 52 47.1**	**+1.0**
PETK	**Petropavlovsk-**	**59.29 6**	P	**P**	**02 52 46.9**	**+0.8**
comp=E,378nm,1.1s,baz=162,slow=3.8,SNR=153						
PETK			pP	**pP**	**02 53 10.5**	**+1.7**
comp=E,279nm,1.1s,baz=164,slow=6.4,SNR=7.0						
PETK			LR	LR	03 15 29.6	
comp=E,576nm,21.2s,baz=209,slow=33						
PETK			PKP2bc		03 22 26.6	
comp=E,3.1nm,0.7s,baz=316,slow=4.1,SNR=5.3						
PET	**Petropavlovsk**	**59.31 7**	*e*P	**P**	**02 52 47.5**	**+1.3**
PET			*e**PP	**pP**	**02 53 07.3**	**-1.6**
PET			*e*S	**S**	**03 00 46.2**	**-1.2**
PET			*e*PS		03 01 13.3	
PET			pmax	pmax		
comp=Z,267nm,1.0s						
PET	**Petropavlovsk**	**59.31 7**	P	**P**	**02 52 47.0**	**+0.8**
LZH	**Lanzhou**	**59.36 318**	*e*P	**P**	**02 52 49.1**	**+1.9**
LZH			pP	pP	02 53 11.4	+1.3
LZH			S	**S**	**03 00 45.6**	**-3.5**
LZH			sS	sS	03 01 28.2	+0.9
LZH			SS	**SS**	**03 04 43.6**	**-2.0**
LZH			pmax	pmax		
comp=Z,64nm,1.0s						
LZH			pmax	pmax		
comp=Z,400nm,6.1s						
LZH			LR	LR		
comp=Z,1μm,16.3s						
LZH			LR	LR		
comp=Z,800nm,16.8s						
LZH			LR	LR		
comp=Z,1μm,17.3s						
POHA	**Pohakuloa**	**60.36 63**	P	**P**	**02 52 54.8**	**+0.4**
POHA			IAmb	IAmb	02 52 56.1	
comp=Z,133nm,0.9s						
HIA	**Hailar**	**60.54 339**	P	**P**	**02 52 55.7**	**+1.0**
HIA			*PP	**pP**	**02 53 17.4**	**-0.5**
HIA			pmax	pmax		
comp=Z,107nm,0.9s						
HIA	**Hailar**	**60.54 339**	P	**P**	**02 52 55.7**	**+1.0**
HIA				**pP**	**02 53 17.4**	**-0.5**
HIA			IAmb	IAmb	02 53 20.1	
comp=Z,107nm,0.9s						
PPT	**Papeete**	**61.16 107**	P	**P**	**02 53 00.0**	**+0.5**
comp=Z,102nm,1.0s,baz=14,slow=6.2,SNR=6.6						
PPT			pP	**pP**	**02 53 24.7**	**+2.1**
comp=Z,92nm,0.9s,baz=119,slow=4.2,SNR=4.7						
PPT2	**Papeete2**	**61.16 107**	*e*P	**P**	**02 53 01.1**	**+1.5**
comp=Z,136nm,1.2s						
PPT2			*e*pP	**pP**	**02 53 21.2**	**-1.5**
comp=Z,130nm,1.2s						
PPT2			*e*S	**S**	**03 01 10.7**	**-1.8**
comp=Z,851nm,22.8s						
PPT2			*e*LQ	LQ	03 08 35.1	
comp=Z,4μm,28.5s						
PPT2			*e*LR	LR	03 11 10.2	
comp=Z,1μm,28.0s						
PAE	**Paea**	**61.16 107**	*e*P	**P**	**02 53 00.6**	**+1.1**
comp=Z,28nm,1.2s						
PAE			*e*pP	**pP**	**02 53 21.0**	**-1.5**
comp=Z,19nm,1.2s						
PPTF	**Pamatai, Papee**	**61.17 107**	P	**P**	**02 53 00.2**	**+0.5**
PPTF			IAmb	IAmb	02 53 28.5	
comp=Z,134nm,1.0s						
TIAR	**Tiarei**	**61.38 107**	*e*P	**P**	**02 53 02.6**	**+1.5**
comp=Z,79nm,1.1s						
TIAR			*e*pP	**pP**	**02 53 22.5**	**-1.6**
comp=Z,80nm,1.3s						
TVO	**Taravao**	**61.48 107**	*e*P	**P**	**02 53 03.2**	**+1.4**
comp=Z,66nm,1.2s						
TVO			*e*pP	**pP**	**02 53 23.2**	**-1.6**
comp=Z,55nm,1.1s						
SAIH	**SAIHA**	**61.49 299**	*e*P	**P**	**02 53 01.1**	**-0.7**
SAIH			IAmb	IAmb	02 53 06.2	
comp=Z,103nm,0.8s						
SAIH			IAML		02 53 36.3	
comp=E,931nm,1.1s						
SAIH			IAML		02 53 38.9	
comp=N,38nm,1.1s						
SAIH			IAML		02 53 39.1	
comp=E,49nm,0.4s						
IMP	**Imphal**	**61.52 302**	*e*P	**P**	**02 53 00.3**	**-1.6**
IMP			IAmb	IAmb	02 53 02.7	
comp=Z,36nm,0.8s						
IMP			*e*S	**S**	**03 01 17.0**	**+0.2**
TBI	**Tubuai**	**61.71 113**	*e*P	**P**	**02 53 04.3**	**+1.1**
comp=Z,722nm,1.2s						
TBI			*e*pP	**pP**	**02 53 24.7**	**-1.3**
comp=Z,430nm,1.2s						
TBI			*e*S	**S**	**03 01 17.8**	**-1.4**
comp=Z,881nm,23.2s						
TBI			*e*LQ	LQ	03 08 48.2	
comp=Z,3μm,32.2s						
TBI			*e*LR	LR	03 11 27.2	
comp=Z,5μm,37.2s						
KOHI	**KOHIMA**	**61.72 303**	*e*P	**P**	**02 53 01.7**	**-1.7**
KOHI			IAmb	IAmb	02 53 04.0	
comp=Z,97nm,0.6s						
KOHI			IAML		02 53 29.6	
comp=N,47nm,0.5s						
KOHI			*e*S	**S**	**03 01 15.3**	**-4.2**
KOHI			IAML		03 01 26.2	
comp=N,4.0nm,0.6s						
KOHI			IAML		03 01 27.1	
comp=E,5.0nm,0.5s						
ZEA	**Zeya**	**62.16 346**	*e*P	**P**	**02 53 06.8**	**+1.2**
ZEA			*e**PP	**pP**	**02 53 30.0**	**+1.2**
ZEA			*e*S	**S**	**03 01 24.0**	**+0.3**
ZEA			*e*PS	**PnS**	**03 01 59.0**	**+6.4**
ZEA			pmax	pmax		
comp=Z,400nm,2.0s						
ZEA			pmax	pmax		
comp=N,200nm,1.5s						
ZEA			pmax	pmax		
comp=N,100nm,0.8s						
ZEA			pmax	pmax		
comp=E,42nm,0.8s						
ZEA			pmax	pmax		
comp=Z,170nm,1.0s						
ZEA			smax	smax		
comp=N,600nm,11.0s						
ZEA			smax	smax		
comp=E,500nm,11.0s						
AZL	**Aizawl**	**62.18 301**	*e*P	**P**	**02 53 05.0**	**-1.4**
AZL			IAmb	IAmb	02 53 12.5	
comp=Z,56nm,1.0s						
AZL			IAML		02 53 45.4	
comp=E,69nm,0.9s						
AZL			IAML		02 53 46.0	
comp=N,22nm,0.8s						
AZL			*e*S	**S**	**03 01 23.0**	**-2.3**
AZL			IAML		03 01 24.3	
comp=E,5.4nm,0.4s						
MEH	**Mehetia**	**62.61 107**	*e*pP	pP	02 53 30.9	-1.5
comp=E,39nm,0.9s						
PMOR	**Pomariorio Ree**	**62.69 104**	*e*P	**P**	**02 53 11.2**	**+1.4**
PMOR			*e*pP	**pP**	**02 53 31.4**	**-1.5**
comp=E,488nm,1.1s						
VAH	**Vaihoa**	**62.95 104**	*e*P	**P**	**02 53 12.6**	**+1.1**
comp=E,173nm,1.2s						
VAH			*e*pP	**pP**	**02 53 33.0**	**-1.7**
comp=E,130nm,1.0s						
SHL	**Shillong**	**63.52 302**	*e*P	**P**	**02 53 14.4**	**-1.0**
SHL			IAmb	IAmb	02 53 23.0	
comp=Z,78nm,1.1s						
SHL	**Shillong**	**63.52 302**	IAmb	IAmb	02 54 26.9	
comp=Z,161nm,1.1s						
GTA	**Gaotai**	**63.87 319**	P	**P**	**02 53 19.0**	**+1.6**
GTA			pP	pP	02 53 42.4	+1.8
GTA			sP	PcP	02 53 56.2	+3.8
GTA			S	**S**	**03 01 44.0**	**-1.9**
GTA			sS	sS	03 02 26.7	+1.9
GTA			SS	**SS**	**03 05 58.0**	**+2.0**
GTA			pmax	pmax		
comp=Z,16nm,1.0s						
GTA			pmax	pmax		
comp=Z,270nm,7.8s						
GTA			LR	LR		
comp=Z,570nm,18.6s						
GTA			LR	LR		
comp=Z,470nm,20.6s						
GTA			LR	LR		
comp=Z,780nm,20.3s						
ADK	**Adak**	**64.67 23**	P	**P**	**02 53 22.5**	**+0.4**
ADK			*PP	**pP**	**02 53 43.8**	**-1.6**
ADK			pmax	pmax		
comp=Z,315nm,1.1s						
ADK	**Adak**	**64.67 23**	P	**P**	**02 53 22.5**	**+0.4**
ADK			IAmb	IAmb	02 53 24.8	
comp=Z,315nm,1.1s						
ADK				**pP**	**02 53 43.8**	**-1.6**
ULN	**Ulaanbaatar**	**64.94 330**	P	**P**	**02 53 25.3**	**+1.1**
ULN	**Ulaanbaatar**	**64.94 330**	P	**P**	**02 53 25.3**	**+1.1**
SONM	**Songino Array**	**65.25 330**	P	**P**	**02 53 26.8**	**+0.7**
comp=Z,9.9nm,0.6s,baz=143,slow=5.7,SNR=29						
SONM			pP	**pP**	**02 53 51.0**	**+1.6**
comp=Z,123nm,1.0s,baz=145,slow=6.4,SNR=24						
SONM			PKP2bc		03 22 08.2	
comp=Z,12nm,1.1s,baz=278,slow=2.1,SNR=14						
SONM	**Songino Array**	**65.25 330**	P	**P**	**02 53 26.4**	**+0.3**
MA2	**Magadan**	**65.31 1**	*d* P	**P**	**02 53 27.6**	**+1.5**
MA2			pmax	pmax		
comp=Z,150nm,0.9s						
MA2	**Magadan**	**65.31 1**	P	**P**	**02 53 28.0**	**+1.9**
comp=Z,93nm,0.8s,baz=157,slow=6.1,SNR=28						
MA2			pP	**pP**	**02 53 50.4**	**+0.8**
comp=Z,127nm,0.9s,baz=166,slow=7.2,SNR=8.0						
MA2	**Magadan**	**65.31 1**	P	**P**	**02 53 27.0**	**+0.9**
MA2				**pP**	**02 53 49.2**	**-0.4**
MA2			IAmb	IAmb	02 53 51.6	
comp=Z,322nm,1.1s						
LSA	**Lhasa**	**65.67 306**	P	**P**	**02 53 29.8**	**+0.1**
LSA			pmax	pmax		
comp=Z,51nm,0.8s						
LSA	**Lhasa**	**65.67 306**	P	**P**	**02 53 29.8**	**+0.1**
CASY	**Casey**	**65.83 196**	P	**P**	**02 53 30.1**	**+0.7**
CASY			IAmb	IAmb	02 53 31.2	
comp=Z,212nm,1.1s						
ATKA	**Atka Island**	**65.90 24**	IAmb	IAmb	02 53 31.8	
comp=Z,314nm,1.4s						
TAPN	**Taplejung**	**67.65 303**	*e*P	**P**	**02 53 41.0**	**-1.1**
comp=Z,164nm,1.0s						
ODAN	**Odare**	**67.76 302**	*e*P	**P**	**02 53 41.7**	**-1.0**
comp=Z,127nm,0.9s						
BOK	**Bokaro**	**68.09 298**	*e*P	**P**	**02 53 44.6**	**0.0**
BOK			IAmb	IAmb	02 54 11.6	
comp=Z,43nm,1.0s						
BOK			*e*S	**S**	**03 02 35.1**	**-2.5**
RAMN	**Ramite**	**68.45 302**	*e*P	**P**	**02 53 45.9**	**-1.2**
comp=Z,48nm,0.6s						
ZAK	**Zakamensk**	**68.46 331**	*e*P	**P**	**02 53 46.4**	**-0.1**
ZAK			pmax	pmax		
comp=Z,29nm,1.2s						
SEY	**Seymchan**	**68.72 2**	*i* P	**P**	**02 53 48.6**	**+1.0**
SEY	**Seymchan**	**68.72 2**	P	**P**	**02 53 50.0**	**+2.3**
comp=Z,39nm,0.9s,baz=173,slow=6.4,SNR=32						
SEY			pP	**PcP**	**02 54 12.0**	**+0.2**
comp=Z,138nm,0.9s,baz=171,slow=5.3,SNR=19						
JIRN	**Jiri**	**69.03 302**	*e*P	**P**	**02 53 49.5**	**-1.3**
comp=Z,66nm,0.8s						
TLY	**Talaya**	**69.14 332**	*e*P	**P**	**02 53 50.7**	**+0.2**
TLY			*e*		02 54 15.5	
TLY			*e*S	**S**	**03 02 50.3**	**+1.4**
TLY			*e*		03 03 41.5	
TLY			pmax	pmax		
comp=Z,43nm,1.4s						
TLY	**Talaya**	**69.14 332**	P	**P**	**02 53 53.8**	**+3.3**
comp=Z,4.8nm,0.6s,baz=151,slow=5.0,SNR=4.3						
TLY			pP	**pP**	**02 54 15.6**	**+1.5**
comp=Z,68nm,0.9s,baz=163,slow=5.0,SNR=15						
TLY	**Talaya**	**69.14 332**	P	**P**	**02 53 50.8**	**+0.3**
TLY			IAmb	IAmb	02 54 17.3	
comp=Z,99nm,1.0s						
PALK	**Pallekele**	**69.24 280**	P	**P**	**02 53 53.7**	**+1.7**
comp=Z,26nm,0.9s,baz=117,slow=6.2,SNR=10						
PALK	**Pallekele**	**69.24 280**	P	**P**	**02 53 52.2**	**+0.3**
YAK	**Yakutsk**	**69.36 350**	*e*P	**P**	**02 53 53.1**	**+1.5**
YAK			*e*		02 54 16.0	
YAK			*e*		02 56 26.4	
YAK			*e*S	**S**	**03 02 53.2**	**+2.3**
YAK			*e**SS	**pS**	**03 03 21.9**	**+3.7**
YAK			*e*SSS	SSS	03 10 28.9	
YAK			pmax	pmax		
comp=Z,47nm,1.1s						
YAK			pmax	pmax		
comp=N,23nm,1.2s						
YAK			pmax	pmax		
comp=E,6.0nm,1.3s						
YAK			pmax	pmax		
comp=Z,110nm,1.9s						
YAK			pmax	pmax		
comp=N,133nm,1.9s						
YAK			pmax	pmax		
comp=E,71nm,1.8s						
YAK			smax	smax		
comp=E,105nm,2.8s						
YAK			smax	smax		
comp=N,42nm,2.0s						
YAK	**Yakutsk**	**69.36 350**	P	**P**	**02 53 52.9**	**+1.3**
comp=N,8.8nm,0.5s,baz=104,slow=1.0,SNR=10						
YAK			pP	**pP**	**02 54 16.2**	**+1.0**
comp=N,42nm,0.7s,baz=6.7,slow=2.1,SNR=5.8						
YAK	**Yakutsk**	**69.36 350**	P	**P**	**02 53 52.5**	**+0.9**
YAK			IAmb	IAmb	02 54 18.1	
comp=Z,204nm,1.1s						
GUN	**Gumba**	**69.37 303**	*e*P	**P**	**02 53 51.7**	**-1.2**
comp=Z,129nm,0.7s						
BOD	**Bodaibo**	**69.50 341**	*e*P	**P**	**02 53 53.7**	**+1.1**
BOD			pmax	pmax		
comp=Z,20nm,1.7s						
PKI	**Pulchoki**	**69.66 302**	*e*P	**P**	**02 53 53.0**	**-1.6**
comp=Z,70nm,1.1s						
PKIN	**Phulchoki**	**69.67 302**	*e*P	**P**	**02 53 53.1**	**-1.5**
comp=Z,47nm,0.9s						
KKN	**Kakani**	**69.83 302**	*e*P	**P**	**02 53 54.3**	**-1.3**
comp=Z,100nm,0.9s						
DMN	**Daman**	**69.92 302**	*e*P	**P**	**02 53 55.1**	**-1.1**
comp=Z,200nm,1.1s						
UNV	**Unalaska Valle**	**70.32 26**	IAmb	IAmb	02 54 03.1	
comp=Z,92nm,0.7s						
TAOE	**Nuku Hiva Isla**	**70.39 97**	*e*S	**S**	**03 03 06.3**	**+1.2**
comp=Z,386nm,23.9s						
TAOE	**Nuku Hiva Isla**	**70.39 97**	*e*LR	LR	03 15 33.1	
comp=Z,872nm,28.4s						
MOY	**Mondy**	**70.40 331**	*e*P	**P**	**02 54 00.8**	**+2.4**
MOY			pmax	pmax		
comp=Z,247nm,1.4s						
GKN	**Gorkha**	**70.44 302**	*e*P	**P**	**02 53 58.3**	**-0.9**
comp=Z,138nm,0.8s						
KOLN	**Koldanda**	**71.24 302**	*e*P	**P**	**02 54 02.7**	**-1.4**
comp=Z,206nm,1.1s						
DANN	**Dangsing**	**71.28 302**	*e*P	**P**	**02 54 02.7**	**-1.8**
comp=Z,84nm,0.8s						
SBA	**Scott Base**	**72.50 176**	P	**P**	**02 54 12.5**	**+2.0**
SBA			pmax	pmax		
comp=Z,145nm,1.2s						
SBA	**Scott Base**	**72.50 176**	P	**P**	**02 54 12.5**	**+2.0**
SBA			IAmb	IAmb	02 54 13.5	
comp=Z,145nm,1.2s						
TRD	**Trivandrum**	**73.09 281**	*e*P	**P**	**02 54 17.8**	**+2.6**
TRD			IAmb	IAmb	02 54 20.6	
comp=Z,50nm,0.7s						
HYB	**Hyderabad**	**73.16 290**	*i* P	**P**	**02 54 14.0**	**-1.5**
HYB			*e*		02 54 36.0	
HYB			*e*		02 54 53.0	
HYB	**Hyderabad**	**73.16 290**	*e*P	**P**	**02 54 14.6**	**-0.9**
WMQ	**Urumqi**	**73.94 319**	*e*P	**P**	**02 54 22.0**	**+2.4**
WMQ			pP	pP	02 54 43.5	-0.1
WMQ			sP	sP	02 54 53.0	-0.6
WMQ			S	**S**	**03 03 44.0**	**-0.6**
WMQ			SKS	**SKSac**	**03 04 14.8**	**-3.9**
WMQ			pmax	pmax		
comp=Z,22nm,0.7s						
WMQ			pmax	pmax		
comp=Z,88nm,4.3s						
WMQ			LR	LR		
comp=Z,440nm,18.1s						
WMQ			LR	LR		
comp=Z,120nm,16.9s						
WMQ			LR	LR		
comp=Z,930nm,29.3s						
WMQ	**Urumqi**	**73.94 319**	P	**P**	**02 54 20.6**	**+1.0**
WMQ			pmax	pmax		
comp=Z,217nm,1.3s						
WMQ	**Urumqi**	**73.94 319**	P	**P**	**02 54 20.6**	**+1.0**
WMQ			IAmb	IAmb	02 54 56.8	
comp=Z,217nm,1.3s						
BILL	**Bilibino**	**74.81 7**	*d* *i* P	**P**	**02 54 25.5**	**+1.4**
BILL			*i*		02 54 46.3	
BILL			*i*		02 57 14.6	
BILL			*i* SS	SS	03 08 48.6	+5.5
BILL			pmax	pmax		
comp=Z,84nm,0.8s						
BILL			MLR	MLR		
comp=Z,263nm,19.0s						
BILL	**Bilibino**	**74.81 7**	P	**P**	**02 54 24.1**	**0.0**
BILL			IAmb	IAmb	02 54 50.9	
comp=Z,295nm,1.1s						
BHPL	**Bhopal**	**75.45 296**	*e*P	**P**	**02 54 27.2**	**-1.5**
BHPL			IAmb	IAmb	02 54 51.4	
comp=Z,28nm,0.5s						
CHGN	**Chignik**	**75.49 27**	P	**P**	**02 54 28.8**	**+0.7**
CHGN			IAmb	IAmb	02 54 33.4	
comp=Z,190nm,1.0s						
CHIR	**Chirikof Islan**	**76.52 29**	P	**P**	**02 54 34.5**	**+0.5**
CHIR			IAmb	IAmb	02 54 36.6	
comp=Z,274nm,0.9s						
DDI	**Dehra Dun**	**76.61 303**	*e*P	**P**	**02 54 34.4**	**-0.9**
DDI			IAmb	IAmb	02 54 37.0	
comp=Z,30nm,0.3s						
DGZ	**Jazzator, Alta**	**76.64 324**	*i* P	**P**	**02 54 35.6**	**+0.5**
NDI	**New Delhi**	**76.91 301**	*ex*	P	02 54 31.0	-5.9
SII	**Sitkinak Islan**	**77.60 28**	IAmb	IAmb	02 54 42.1	
comp=Z,189nm,1.0s						
POO	**Poona**	**77.76 290**	*ex*	P	02 54 49.0	+7.1
ANM	**Nome**	**78.05 18**	IAmb	IAmb	02 54 45.2	
comp=Z,259nm,1.5s						
OHAK	**Old Harbor**	**78.36 28**	P	**P**	**02 54 44.9**	**+0.7**
OHAK				**pP**	**02 55 07.3**	**-1.0**
OHAK			IAmb	IAmb	02 55 20.0	
comp=Z,84nm,0.9s						
DHRM	**DHARAMSHALA**	**78.56 304**	*e*P	**P**	**02 54 44.7**	**-1.6**
DHRM			IAmb	IAmb	02 54 55.7	
comp=Z,57nm,0.8s						
MK31	**Makanchi Array**	**78.61 320**	*i* P	**P**	**02 54 44.8**	**-1.2**
MK31			pmax	pmax		
comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**78.61 320**	P	**P**	**02 54 45.4**	**-0.6**
comp=Z,11nm,0.9s,baz=99,slow=7.1,SNR=29						
MKAR			pP	**pP**	**02 55 09.9**	**-0.1**
comp=Z,16nm,0.8s,baz=104,slow=4.6,SNR=8.3						
MKAR			PKKPbc	**PKKPbc**	**03 13 40.7**	**-2.6**
comp=Z,1.6nm,0.9s,baz=352,slow=2.9,SNR=5.9						
MKAR			PKPPKP	**P'P'df**	**03 21 42.0**	**-2.3**
comp=Z,3.0nm,1.1s,baz=284,slow=0.5,SNR=6.7						

MAKZ	**Makanchi**	78.82	320	P	**P**	02 54 48.4	+1.3
MAKZ				pmax	pmax		
comp=Z,26nm,0.7s							
MAKZ	**Makanchi**	78.82	320	P	**P**	02 54 47.3	+0.2
KDAK	**Kodiak Island**	78.97	28	P	**P**	02 54 48.5	+0.9
KDAK				*PP	**pP**	02 55 09.4	-2.4
KDAK				pmax	pmax		
comp=Z,171nm,1.3s							
KDAK	**Kodiak Island**	78.97	28	P	**P**	02 54 48.8	+1.1
comp=Z,69nm,1.1s,baz=214,slow=1.2,SNR=34							
KDAK				LR	LR	03 23 46.9	
comp=Z,304nm,22.0s,baz=234,slow=31							
KDAK	**Kodiak Island**	78.97	28	P	**P**	02 54 48.5	+0.9
KDAK					**pP**	02 55 09.4	-2.4
KDAK				IAmb	IAmb	02 55 17.7	
comp=Z,171nm,1.3s							
PDGK	**Podgornoye**	79.29	316	P	**P**	02 54 49.3	-0.6
PDGK				pmax	pmax		
comp=Z,28nm,0.6s							
SVW2	**Sparrevohn**	79.42	24	IAmb	IAmb	02 54 53.3	
comp=Z,114nm,1.0s							
ZAA0	**Zalesovo Array**	79.93	327	P	**P**	02 54 52.9	0.0
ZALV	**Zalesovo Beam**	79.93	327	P	**P**	02 54 52.7	-0.2
ZALV	**Zalesovo Beam**	79.93	327	P	**P**	02 54 52.5	-0.4
comp=Z,16nm,0.6s,baz=113,slow=5.9,SNR=35							
ZALV				pP	**pP**	02 55 16.6	-0.5
comp=Z,44nm,0.7s,baz=108,slow=4.7,SNR=13							
ZALV				PKKPbc	**PKKPbc**	03 13 38.6	-2.0
comp=Z,3.5nm,0.8s,baz=298,slow=3.1,SNR=10							
ZALV				PKPPKP	**P'P'df**	03 21 44.4	+3.0
comp=Z,5.8nm,1.0s,baz=298,slow=6.4,SNR=9.9							
ZALV				LR	LR	03 26 59.8	
comp=Z,243nm,21.8s,baz=114,slow=33							
ZALV	**Zalesovo Beam**	79.93	327	P	**P**	02 54 52.7	-0.2
KSH	**Kashi**	80.70	311	P	**P**	02 54 56.8	-0.8
KSH				sP	sP	02 55 36.9	+5.1
KSH				PP	**PP**	02 58 04.4	+1.6
KSH				S	**S**	03 04 51.7	-6.4
KSH				pmax	pmax		
comp=Z,60nm,1.2s							
KSH				pmax	pmax		
comp=Z,800nm,9.8s							
KSH				LR	LR		
comp=Z,310nm,10.2s							
KSH				LR	LR		
comp=Z,400nm,13.0s							
KSH				LR	LR		
comp=Z,200nm,12.4s							
BRLK	**Bradley Lake**	80.72	26	IAmb	IAmb	02 54 58.8	
comp=Z,118nm,0.9s							
RDOG	**Red Dog Mine**	81.14	16	IAmb	IAmb	02 55 29.5	
comp=Z,151nm,1.3s							
NIL	**Nilore**	81.38	305	P	**P**	02 55 00.6	-0.6
NIL				pmax	pmax		
comp=Z,125nm,0.9s							
NIL	**Nilore**	81.38	305	P	**P**	02 55 00.6	-0.6
NIL				IAmb	IAmb	02 55 47.6	
comp=Z,124nm,0.8s							
SEW	**Seward**	81.52	26	IAmb	IAmb	02 55 03.3	
comp=Z,177nm,1.0s							
BOOM	**Boomskoye usch**	81.53	314	P	**P**	02 55 02.3	+0.3
BOOM	**Boomskoye usch**	81.53	314	P	**P**	02 55 02.3	+0.3
RC01	**Rabbit Creek A**	81.86	26	IAmb	IAmb	02 55 04.9	
comp=Z,211nm,1.2s							
TKM2	**Tokmak 2**	81.89	315	*i* P	**P**	02 55 02.9	-1.0
TKM2				pmax	pmax		
comp=Z,26nm,0.7s							
KURK	**Kurchatov**	82.25	323	P	**P**	02 55 04.9	-0.4
KURK				*PP	**pP**	02 55 29.5	0.0
KURK	**Kurchatov**	82.25	323	P	**P**	02 55 04.9	-0.4
KURK					**pP**	02 55 29.5	0.0
KURBB	**Kurchatov Arra**	82.28	323	P	**P**	02 55 04.9	-0.6
comp=Z,4.8nm,0.7s,baz=107,slow=4.1,SNR=4.2							
KURBB				pP	**pP**	02 55 29.5	-0.2
comp=Z,19nm,0.8s,baz=116,slow=4.2,SNR=6.5							
PMR	**Palmer**	82.35	25	IAmb	IAmb	02 55 06.7	
comp=Z,88nm,0.8s							
GHO	**Glory Hole Cre**	82.52	25	IAmb	IAmb	02 55 08.4	
comp=Z,111nm,0.9s							
KNK	**Knik Glacier**	82.56	26	IAmb	IAmb	02 55 08.9	
comp=Z,108nm,1.0s							
KTH	**Kantishna Hill**	82.56	23	P	**P**	02 55 06.8	0.0
KTH				IAmb	IAmb	02 55 08.0	
comp=Z,174nm,1.0s							
AAK	**Ala-Archa**	82.60	314	P	**P**	02 55 10.1	+2.5
AAK				pmax	pmax		
comp=Z,20nm,0.8s							
AAK	**Ala-Archa**	82.60	314	P	**P**	02 55 07.8	+0.3
comp=Z,9.2nm,0.7s,baz=125,slow=3.1,SNR=16							
AAK	**Ala-Archa**	82.60	314	P	**P**	02 55 08.1	+0.6
TRF	**Thorofare Moun**	82.76	23	IAmb	IAmb	02 55 09.0	
comp=Z,85nm,0.9s							
IMAR	**Indian Mountai**	82.78	20	P	**P**	02 55 08.1	+0.3
BPAW	**Bear Paw Mtn.**	82.81	23	IAmb	IAmb	02 55 09.5	
comp=Z,85nm,1.0s							
GLI	**Glacier Island**	82.91	26	IAmb	IAmb	02 55 10.0	
comp=Z,188nm,0.9s							
HIN	**Hinchinbrook I**	82.97	27	IAmb	IAmb	02 55 11.0	
comp=Z,175nm,1.1s							
MAW	**Mawson**	83.02	203	P	**P**	02 55 09.5	+0.4
baz=83,SNR=29							
MAW	**Mawson**	83.02	203	P	**P**	02 55 09.5	+0.4
comp=Z,46nm,1.0s,baz=82,slow=6.2,SNR=63							
MAW				LR	LR	03 30 22.8	
comp=Z,456nm,20.1s,baz=82,slow=34							
MAW	**Mawson**	83.02	203	P	**P**	02 55 09.4	+0.4
FID	**Port Fidalgo**	83.13	27	IAmb	IAmb	02 55 11.5	
comp=Z,150nm,0.9s							
SCM	**Sheep Creek Mo**	83.23	25	IAmb	IAmb	02 55 12.5	
comp=Z,221nm,1.0s							
MLY	**Manley**	83.36	22	IAmb	IAmb	02 55 13.0	
comp=Z,121nm,0.9s							
ARSB	**Arslanbob**	83.37	313	P	**P**	02 55 11.1	-0.5
ARSB				IAmb	IAmb	02 56 29.2	
comp=Z,174nm,1.6s							
BWN	**Browne**	83.43	23	IAmb	IAmb	02 55 13.0	
comp=Z,254nm,1.0s							
DHY	**Denali Highway**	83.75	24	IAmb	IAmb	02 55 15.1	
comp=Z,146nm,0.8s							
NEA	**Nenana**	83.77	23	IAmb	IAmb	02 55 14.2	
comp=Z,114nm,1.0s							
RAGM	**Ragged Mountai**	83.79	27	IAmb	IAmb	02 55 16.3	
comp=Z,130nm,1.1s							
HMT	**Hamilton**	83.96	27	IAmb	IAmb	02 55 15.8	
comp=Z,85nm,0.8s							
QSPA	**South Pole Qui**	84.04	180	P	**P**	02 55 14.7	+0.2
comp=Z,215nm,0.9s,baz=344,slow=1.2,SNR=507							
QSPA				pP	**pP**	02 55 38.0	-0.4
comp=Z,111nm,1.0s,baz=178,slow=0.5,SNR=5.5							
QSPA	**South Pole Qui**	84.04	180	P	**P**	02 55 14.6	+0.2
WRH	**Wood River Hil**	84.10	23	IAmb	IAmb	02 55 15.8	
comp=Z,168nm,1.0s							
CCB	**Clear Creek Bu**	84.29	23	IAmb	IAmb	02 55 16.5	
comp=Z,128nm,1.0s							
TCOL	**CIGO, UAF Yank**	84.37	23	P	**P**	02 55 15.3	-0.6
baz=243							
COLA	**College**	84.37	23	*i* P	**P**	02 55 15.0	-0.9
COLA				pmax	pmax		
comp=Z,175nm,1.0s							
COLA	**College**	84.37	23	P	**P**	02 55 15.0	-0.9
COLA				IAmb	IAmb	02 55 17.0	
comp=Z,157nm,0.9s							
HDA	**Harding Lake**	84.51	23	P	**P**	02 55 16.1	-0.6
baz=244							
GLB	**Gilahina Butte**	84.59	26	IAmb	IAmb	02 55 19.0	
comp=Z,92nm,0.9s							
CRQM	**Cirque**	84.63	27	IAmb	IAmb	02 55 20.4	
comp=Z,79nm,0.9s							
POKR	**Poker Plat Res**	84.64	22	P	**P**	02 55 17.1	-0.2
baz=244							
VRDI	**Verde Repeater**	84.67	27	IAmb	IAmb	02 55 19.5	
comp=Z,69nm,0.9s							
BTK	**Batken**	84.68	311	P	**P**	02 55 17.6	-0.6
BTK				pmax	pmax		
comp=Z,41nm,1.2s							
BTK	**Batken**	84.68	311	P	**P**	02 55 17.6	-0.6
IL31		84.69	23	P	**P**	02 55 16.5	-1.0
IL31				IAmb	IAmb	02 55 18.3	
comp=Z,110nm,0.8s							
ILAR	**Eielson Array**	84.69	23	P	**P**	02 55 16.5	-1.1
ILAR	**Eielson Array**	84.69	23	P	**P**	02 55 15.7	-1.9
comp=Z,91nm,0.9s,baz=249,slow=3.5,SNR=393							
ILAR				PKKP	**PKKPdf**	03 13 25.8	+4.0
comp=Z,0.8nm,0.8s,baz=18,slow=0.5,SNR=7.5							
ILAR				PKPPKP	**P'P'df**	03 21 32.8	+0.7
comp=Z,1.1nm,0.9s,baz=6.6,slow=0.6,SNR=6.1							
ILAR				LR	LR	03 31 53.7	
comp=Z,251nm,18.3s,baz=258,slow=35							
ILAR	**Eielson Array**	84.69	23	P	**P**	02 55 16.5	-1.1
TGL	**Tana Glacier**	84.77	27	IAmb	IAmb	02 55 20.0	
comp=Z,86nm,1.0s							
GAR	**Garm**	84.84	310	P	**P**	02 55 19.1	+0.1
GAR				IAmb	IAmb	02 56 15.3	
comp=Z,89nm,1.1s							
MCARA	**McCarthy VSAT**	84.92	27	IAmb	IAmb	02 55 21.2	
comp=Z,74nm,0.9s							
KBL	**Kabul**	84.98	305	P	**P**	02 55 20.1	+0.2
KBL				*PP	**pP**	02 55 40.7	-3.5
KBL				pmax	pmax		
comp=Z,19nm,1.0s							
KBL	**Kabul**	84.98	305	P	**P**	02 55 20.1	+0.2
KBL					**pP**	02 55 40.7	-3.5
RIDG	**Independent Ri**	85.07	24	IAmb	IAmb	02 55 21.0	
comp=Z,109nm,0.9s							
MENT	**Mentasta**	85.22	25	IAmb	IAmb	02 55 22.1	
comp=Z,52nm,0.7s							
DOT	**Dot Lake**	85.35	24	IAmb	IAmb	02 55 23.1	
comp=Z,177nm,1.0s							
BARN	**Barnard Glacie**	85.42	27	IAmb	IAmb	02 55 23.6	
comp=Z,78nm,0.8s							
SCRK	**Sand Creek**	85.51	24	IAmb	IAmb	02 55 23.4	
comp=Z,64nm,1.0s							
TOLK	**Toolik Lake Re**	85.53	19	P	**P**	02 55 22.8	+1.1
baz=241							
TOLK	**Toolik Lake Re**	85.53	19	IAmb	IAmb	02 55 24.0	
comp=Z,53nm,0.8s							
CTGM	**Chitina Glacie**	85.53	27	IAmb	IAmb	02 55 24.7	
comp=Z,111nm,0.9s							
KK31	**Karatay Array**	85.56	314	P	**P**	02 55 21.7	-0.7
KK31				pmax	pmax		
comp=Z,49nm,1.0s							
KK31	**Karatay Array**	85.56	314	P	**P**	02 55 21.7	-0.7
KKAR	**Karatay Array**	85.56	314	P	**P**	02 55 21.3	-1.1
KKAR	**Karatay Array**	85.56	314	P	**P**	02 55 21.2	-1.1
NRIK	**Noril'sk**	85.77	342	P	**P**	02 55 20.1	-2.8
comp=Z,6.9nm,0.6s,baz=126,slow=4.1,SNR=10							
NRIK				pP	**pP**	02 55 47.8	+0.6
comp=Z,96nm,0.9s,baz=114,slow=6.4,SNR=19							
NRIK				LR	LR	03 32 25.9	
comp=Z,244nm,21.4s,baz=126,slow=35							
BCPM	**Bancas Point**	85.98	29	P	**P**	02 55 24.9	+0.8
BCPM				IAmb	IAmb	02 55 26.3	
comp=Z,76nm,1.0s							
BCAR	**Beaver Creek A**	86.08	25	P	**P**	02 55 24.7	+0.2
FYU	**Fort Yukon**	86.08	21	IAmb	IAmb	02 55 27.1	
comp=Z,169nm,1.2s							
BMAR	**Burnt Mountain**	86.67	21	P	**P**	02 55 27.1	-0.2
EGAK	**Eagle**	86.95	24	IAmb	IAmb	02 55 31.2	
comp=Z,181nm,1.1s							
BVAR	**Borovoye Array**	87.79	324	P	**P**	02 55 32.0	-1.0
comp=Z,10nm,0.8s,baz=104,slow=6.3,SNR=22							
BVAR				pP	**pP**	02 55 57.2	-0.4
comp=Z,45nm,0.9s,baz=104,slow=6.3,SNR=15							
BRVK	**Borovoye**	87.86	324	P	**P**	02 55 33.2	-0.1
BRVK				*PP	**pP**	02 55 55.5	-2.4
BRVK				pmax	pmax		
comp=Z,67nm,1.3s							
BRVK	**Borovoye**	87.86	324	P	**P**	02 55 33.2	-0.1
BRVK				pP	**pP**	02 55 55.5	-2.4
SKAG	**Skagway**	87.92	30	IAmb	IAmb	02 55 35.9	
comp=Z,84nm,0.9s							
BESE	**Bessie Mountai**	87.93	31	IAmb	IAmb	02 55 36.0	
comp=Z,104nm,1.0s							
WHY	**Whitehorse**	88.45	29	IAmb	IAmb	02 55 38.2	
comp=Z,69nm,0.9s							
WRAK	**Wrangell Islan**	88.74	33	IAmb	IAmb	02 56 08.8	
comp=Z,55nm,1.1s							
EPYK	**Eagle Plains**	89.21	23	P	**P**	02 55 40.3	+0.9
baz=253							
EPYK	**Eagle Plains**	89.21	23	IAmb	IAmb	02 55 41.9	
comp=Z,172nm,1.2s							
DLBC	**Dease Lake**	90.37	31	P	**P**	02 55 45.7	+0.6
comp=Z,14nm,0.9s,baz=247,slow=5.7,SNR=18							
DLBC				LR	LR	03 29 08.9	
comp=Z,446nm,21.5s,baz=268,slow=31							
DLBC	**Dease Lake**	90.37	31	IAmb	IAmb	02 56 16.8	
comp=Z,96nm,1.6s							
BBB	**Bella Bella**	90.38	38	LR	LR	03 33 06.3	
comp=Z,444nm,18.1s,baz=256,slow=33							
HRA	**Herat**	90.51	304	P	**P**	02 55 45.0	-1.5
HRA					**pP**	02 56 09.4	-1.6
INK	**Inuvik**	90.91	21	P	**P**	02 55 44.9	-2.3
comp=Z,69nm,1.1s,baz=263,slow=4.6,SNR=55							
INK				LR	LR	03 31 25.0	
comp=Z,310nm,21.9s,baz=240,slow=32							
INK	**Inuvik**	90.91	21	IAmb	IAmb	02 55 49.5	
comp=Z,70nm,1.0s							
SYO	**Syowa Base**	91.29	200	‖ *i* P	**P**	02 55 47.6	-1.5
SYO	**Syowa Base**	91.29	200	‖ *i* PcP	**PcP**	02 55 51.1	+1.1
SYO	**Syowa Base**	91.29	200	‖ *i* sP	sP	02 56 24.2	+1.7
M02C	**Callahan**	92.60	49	P	**P**	02 55 56.9	+1.1
baz=264							
HUMO	**Hull Mountain**	92.64	48	IAmb	IAmb	02 56 53.0	
comp=Z,30nm,1.0s							
N02D	**Trinity Center**	92.67	49	P	**P**	02 55 57.1	+1.0
baz=265							
YBH	**Yreka Blue Hor**	92.74	49	LR	LR	03 32 19.9	
comp=Z,232nm,21.1s,baz=264,slow=32							
WDC	**Whiskeytown Da**	92.76	50	P	**P**	02 55 57.2	+0.7
WDC				*PP	**pP**	02 56 18.7	-2.4
WDC				pmax	pmax		
comp=Z,35nm,1.5s							
WDC	**Whiskeytown Da**	92.76	50	P	**P**	02 55 57.2	+0.7
WDC					**pP**	02 56 18.7	-2.4
O03E	**Paynes Creek**	93.29	50	P	**P**	02 55 59.0	-0.1
baz=265							
M04C	**Macdoel**	93.39	49	P	**P**	02 56 00.0	+0.5
baz=265							
ORV	**Oroville**	93.46	51	P	**P**	02 55 59.3	-0.4
ORV				pmax	pmax		
comp=Z,58nm,2.0s							
ORV	**Oroville**	93.46	51	P	**P**	02 55 59.3	-0.4
ORV				IAmb	IAmb	02 56 23.7	
comp=Z,58nm,2.0s							
AB31	**Akbulak array**	93.72	319	*i* P	**P**	02 55 59.4	-1.3
AB31				pmax	pmax		
comp=Z,9.0nm,0.7s							
ABKAR	**Akbulak array**	93.72	319	P	**P**	02 55 59.8	-0.9
AFDM	**Forest Hills D**	93.82	51	P	**P**	02 56 01.0	-0.5
AFDM					**pP**	02 56 23.3	-2.7
J05D	**Fort Rock, OR**	93.96	47	P	**P**	02 56 03.0	+0.9
baz=266							
GEYT	**Alibeck**	94.17	308	P	**P**	02 56 02.9	-0.2
comp=Z,2.1nm,0.8s,baz=183,slow=8.9,SNR=4.9							
GEYT				pP	**pP**	02 56 26.7	-0.9
comp=Z,4.5nm,0.6s,baz=153,slow=1.7,SNR=5.4							
GEYT				LR	LR	03 40 09.9	
comp=Z,561nm,21.9s,baz=80,slow=36							
GEYT	**Alibeck**	94.17	308	P	**P**	02 56 03.6	+0.5
GYA0B	**ALIBECK ARRAY**	94.17	308	P	**P**	02 56 03.5	+0.4
CMB	**Columbia Colle**	94.21	52	P	**P**	02 56 02.9	-0.4
CMB				*PP	**pP**	02 56 26.4	-1.5
CMB	**Columbia Colle**	94.21	52	P	**P**	02 56 02.9	-0.4
CMB					**pP**	02 56 26.4	-1.5
A36M	**Sachs Harbour**	94.32	18	P	**P**	02 56 03.3	+0.4
baz=264							
BEKR	**Beckworth**	94.36	51	IAmb	IAmb	02 56 05.9	
comp=Z,60nm,2.0s							
PKM	**Mcpherson Peak**	94.45	56	P	**P**	02 56 05.9	+1.3
baz=266							
C36M	**Paulatuk**	94.47	21	P	**P**	02 56 04.3	+0.6
baz=265							
MOD	**Modoc Plateau**	94.55	48	P	**P**	02 56 04.9	0.0
MOD					**pP**	02 56 28.6	-0.9
PNTR	**Pine Nut**	94.90	51	IAmb	IAmb	02 56 48.5	
comp=Z,45nm,1.7s							
ARU	**Arti**	95.05	326	*c i* P	**P**	02 56 05.3	-1.3
ARU				*PP	**pP**	02 56 30.2	-1.1
ARU						02 59 54.8	
ARU				S	**SKSac**	03 06 31.9	-1.9
ARU				pmax	pmax		
comp=Z,8.0nm,1.2s							
ARU	**Arti**	95.05	326	P	**P**	02 56 06.1	-0.4
comp=Z,0.5nm,0.3s,baz=1.0,slow=3.7,SNR=5.3							
ARU				pP	**pP**	02 56 28.8	-2.5
comp=Z,5.5nm,0.9s,baz=103,slow=5.3,SNR=6.3							
ARU	**Arti**	95.05	326	P	**P**	02 56 06.2	-0.4
ARU					**pP**	02 56 29.3	-2.0
ARU				IAmb	IAmb	02 56 32.6	
comp=Z,29nm,1.1s							
AKTO	**Aktyubinsk**	95.05	320	P	**P**	02 56 05.6	-1.2
comp=Z,0.9nm,0.6s,baz=92,slow=9.3,SNR=3.9							
AKTO				pP	**pP**	02 56 30.7	-0.7
comp=Z,3.7nm,0.9s,baz=92,slow=7.6,SNR=6.0							
AKTO				PP	**PP**	02 59 57.6	+0.3
comp=Z,8.4nm,1.2s,baz=113,slow=8.4,SNR=3.1							
VES	**Vestal, Richgr**	95.10	55	P	**P**	02 56 07.6	+0.2
baz=266							
ISA	**Isabella, Lake**	95.59	55	P	**P**	02 56 10.2	+0.5
baz=267							
ISA	**Isabella, Lake**	95.59	55	P	**P**	02 56 09.7	0.0
ISA				pmax	pmax		
comp=Z,11nm,1.0s							
ISA	**Isabella, Lake**	95.59	55	P	**P**	02 56 09.7	0.0
MWC	**Mount Wilson**	95.85	56	IAmb	IAmb	02 56 13.3	
comp=Z,33nm,1.1s							
TIN	**Tinemaha, Big**	95.86	53	P	**P**	02 56 12.0	+1.1
baz=267							
NVAR	**Mina Array Bea**	95.87	52	P	**P**	02 56 11.3	+0.2
comp=Z,6.0nm,0.9s,baz=259,slow=6.6,SNR=28							
NVAR				pP	**pP**	02 56 33.8	-1.9
comp=Z,3.3nm,0.9s,baz=258,slow=6.9,SNR=3.7							
EDW2	**Edwards Air Fo**	95.94	56	P	**P**	02 56 12.0	+0.7
baz=267							
CWC	**Cottonwood Cre**	95.95	54	P	**P**	02 56 11.7	+0.3
baz=267							
LRMC	**Laurel Mtn Rad**	96.22	55	P	**P**	02 56 13.5	+0.8
baz=267							
MPMC	**Manual Prospec**	96.41	54	P	**P**	02 56 14.2	+0.6
baz=267							
GRAC	**Grapevine Rang**	96.55	54	P	**P**	02 56 14.7	+0.8
baz=268							
FURC	**Furnace Creek,**	96.93	54	P	**P**	02 56 16.4	+0.8
baz=268							
GSC	**Goldstone, Bar**	96.93	55	P	**P**	02 56 16.9	+1.1
baz=268							
NEW	**Newport**	97.07	42	P	Pdif	02 56 16.3	+0.2
baz=269							
PFO	**Pinyon Flats O**	97.15	57	P	Pdif	02 56 18.2	+1.3
baz=268							
PFO	**Pinyon Flats O**	97.15	57	*i* P	Pdif	02 56 18.3	+1.4
PFO	**Pinyon Flats O**	97.15	57	P	Pdif	02 56 17.2	+0.3
SHOC	**Shoshone, Teco**	97.39	55	P	Pdif	02 56 18.4	+0.6
baz=268							
TPNV	**Topopah Spring**	97.44	54	P	Pdif	02 56 19.0	+0.8
baz=268							
BELC	**Belle Mtn. Jos**	97.55	57	P	Pdif	02 56 19.7	+1.0
baz=268							
TUQ	**Turquoise Moun**	97.66	55	P	Pdif	02 56 20.3	+1.1
baz=268							
GMRC	**Granite Mounta**	97.85	56	P	Pdif	02 56 21.0	+0.9
baz=268							
R11A	**Troy Canyon, C**	98.00	52	P	Pdif	02 56 21.4	+0.7
baz=269							
YKW3	**Yellowknife Ar**	98.24	28	IAmb	IAmb	02 56 47.7	
comp=Z,39nm,1.4s							
YKA	**Yellowknife Ar**	98.25	28	P	Pdif	02 56 21.2	+0.2
comp=Z,6.7nm,0.9s,baz=278,slow=4.8,SNR=16							
YKA				pP	pP	02 56 44.1	-1.6
comp=Z,9.3nm,1.0s,baz=274,slow=4.5,SNR=6.2							
YKA				PP	**PP**	03 00 23.2	+1.7
comp=Z,1.7nm,0.9s,baz=278,slow=6.9,SNR=3.5							
YKA				PKiKP	**PKiKP**	03 00 53.6	+0.5
comp=Z,0.9nm,0.6s,baz=287,slow=1.8,SNR=4.1							
YKA				PKKPbc	**PKKPbc**	03 12 51.8	-3.3
comp=Z,3.1nm,0.9s,baz=94,slow=2.8,SNR=6.2							
YKA	**Yellowknife Ar**	98.25	28	P	**P**	02 56 20.7	-0.2
YKA					**pP**	02 56 44.9	-0.8
IRM	**Iron Mountain**	98.26	56	P	Pdif	02 56 22.9	+1.1
baz=268							
SHPR	**Sheep Range**	98.30	54	P	Pdif	02 56 22.8	+0.7
SHPR					pP	02 56 45.7	-1.0
PDMCI	**Parker Dam,Lak**	99.09	56	P	**Pdif**	02 56 26.4	+1.0
baz=269							
W13A	**Hualapai Mount**	99.32	56	P	**Pdif**	02 56 27.0	+0.3
W13A					**pP**	02 56 49.8	-1.6
SNAA	**Sanae**	100.36	189	P	**Pdif**	02 56 30.1	-0.2
SNAA	**Sanae**	100.36	189	PP	**PP**	03 00 37.3	+0.2
SNAA				SKS	**SKSac**	03 06 59.5	-1.2
SNAA	**Sanae**	100.36	189	*c i* P	**Pdif**	02 56 29.9	-0.4
SNAA	**Sanae**	100.36	189		**Pdif**	02 56 30.0	-0.4
SPUT	**South Promonto**	100.42	49		**Pdif**	02 56 32.1	+0.8
VNA3	**Neumayer Olymp**	101.68	187	P	**Pdif**	02 56 35.8	-0.4
VNA3				SKS	**SKSac**	03 07 06.2	-0.7
VNA2	**Neumayer--Watz**	101.68	188	P	**Pdif**	02 56 36.1	0.0
baz=154,slow=3.8							
VNA2	**Neumayer--Watz**	101.68	188	PP	**PP**	03 00 46.1	-0.9
baz=153,slow=5.4							
VNA2				SKS	**SKSac**	03 07 06.0	-1.0
VNA1	**Neumayer--Stat**	102.05	188	P	**Pdif**	02 56 37.8	0.0
VNA1	**Neumayer--Stat**	102.05	188	PP	**PP**	03 00 49.3	-0.3
MAK	**Makhachkala**	102.31	313	*e P*	**Pdif**	02 56 37.5	-2.0
MAK				*i*		03 00 57.5	
MAK				*e* PS	PS	03 09 56.6	-4.5
MAK				*e*		03 10 52.7	
MAK				*e* SS	SS	03 15 21.5	-1.9
MAK				pmax	pmax		
comp=Z,213nm,1.7s							
RES	**Resolute Bay**	102.46	14	P	**Pdif**	02 56 40.4	+0.9
comp=Z,6.4nm,0.9s,baz=300,slow=7.2,SNR=8.9							
BW06	**Boulder Array**	102.51	48	P	**Pdif**	02 56 40.4	-0.4
baz=274							
BW06	**Boulder Array**	102.51	48		**Pdif**	02 56 40.5	-0.2
PDAR	**Pinedale Array**	102.51	48	P	**Pdif**	02 56 40.3	-0.4
comp=Z,3.4nm,0.9s,baz=234,slow=2.4,SNR=19							
P

comp=Z,0.7nm,0.8s,baz=122,slow=1.1,SNR=3.3
BRTR PP **PP** **03 02 12.8 +1.1**
comp=Z,1.9nm,1.0s,baz=116,slow=4.3,SNR=4.1
BRTR PKKPbc **PKKPbc** **03 12 08.8 -0.3**
comp=Z,3.4nm,0.9s,baz=228,slow=4.1,SNR=14
BRTR PKKP **PKKPdf** **03 12 30.8 +1.1**
comp=Z,1.7nm,1.0s,baz=200,slow=3.8,SNR=4.4
SUMG Summit 113.27 2 *i* P **PP** **03 02 04.5 -7.6**
SUMG Summit 113.27 2 *i* P **PKKPbc** **03 12 06.0 -3.7**
comp=Z,54nm,1.1s
PABE Paberze 114.08 329 *e*P **PKKPbc** **03 12 04.1 -1.8**
SORM Soroca 114.47 321 ⇑P **PKKPbc** **03 12 03.2 -1.1**
MILM Milestii Mici 114.58 319 ⇓P **PKKPbc** **03 12 02.3 -1.7**
CFR Carcaliu 115.58 318 ⇑P **PKKPbc** **03 11 59.5 -1.0**
BOSA Boshof 115.79 234 *i* P **PKPdf** **03 01 25.1 -1.8**
BOSA Boshof 115.79 234 PKP **PKPdf** **03 01 26.4 -0.5**
comp=Z,4.1nm,0.9s,baz=118,slow=1.9,SNR=3.7
BOSA Boshof 115.79 234 *i* P **PKPdf** **03 01 25.1 -1.8**
MATP Matopo 115.83 244 *i* P **PKPdf** **03 01 26.4 -0.8**
MATP Matopo 115.83 244 *i* P **PKPdf** **03 01 26.4 -0.8**
U40A Yellville 116.18 52 P **PKiKP** **03 01 28.0 +0.7**
baz=283
HFS Hagfors 116.21 337 PKKPbc PKKPbc 03 11 56.8 -2.0
comp=Z,4.5nm,0.9s,baz=190,slow=2.6,SNR=7.5
BIZ Bicaz 116.32 320 ⇑P **PKKPbc** **03 12 02.6 +4.6**
BISRR Bisoca 116.41 318 ⇑P **PKKPbc** **03 12 02.3 +4.6**
NB2 NORSAR Subarra116.57 338 PKPdf **PKPdf** **03 01 27.1 -0.2**
comp=Z,2.3nm,1.1s,baz=44,slow=1.9
NOA NORSAR Array B116.57 338 PKP **PKPdf** **03 01 27.2 -0.2**
comp=Z,0.7nm,0.8s,baz=48,slow=1.9,SNR=3.6
NOA PP **PP** **03 02 35.4 +0.2**
comp=Z,1.0nm,0.8s,baz=30,slow=5.3,SNR=3.4
NOA SKP **SKPdf** **03 04 51.4 -3.3**
comp=Z,4.0nm,1.1s,baz=52,slow=2.1,SNR=4.1
NOA PKKPbc **PKKPbc** **03 11 55.2 -2.4**
comp=Z,4.5nm,0.9s,baz=51,slow=3.5,SNR=11
NOA PKKP **PKKPdf** **03 12 18.9 -4.4**
comp=Z,4.0nm,0.8s,baz=52,slow=3.5,SNR=11
BURAR Bucovina Array 116.63 321 ⇓P **PKKPbc** **03 11 56.6 -0.4**
ISR Istrita 116.67 318 ⇑P **PKKPbc** **03 11 54.4 -2.3**
MLR Muntele Rosu 116.93 319 SKP **SKPdf** **03 04 53.0 -3.0**
comp=Z,6.3nm,0.8s,baz=186,slow=7.9,SNR=3.8
MLR Muntele Rosu 116.93 319 ⇓P **PKKPbc** **03 11 54.8 -1.2**
CCM Cathedral Cave 117.03 50 PKIKP **PKPdf** **03 01 28.7 -0.1**
CCM Cathedral Cave 117.03 50 **PKPdf** **03 01 28.7 -0.1**
I42A Draeger Farm, 117.03 43 P **PKiKP** **03 01 29.3 +0.6**
baz=289
VOIR 117.54 319 ⇓P **PKKPbc** **03 11 53.2 -0.5**
ARR Arges 117.84 319 ⇓P **PKKPbc** **03 11 51.7 -1.0**
ELND Elena 117.85 316 ⇓P **PKKPbc** **03 11 50.6 -1.8**
KOLS Kolonicke sedl 117.90 323 *e*PKIKP **PKiKP** **03 01 31.6 +1.4**
KOLS *e* 03 02 47.0
KOLS Kolonicke sedl 117.90 323 *e*PKP **PKiKP** **03 01 31.6 +1.4**
KOLS *e*PP **PP** **03 02 47.0 +2.0**
P43A Skaggs, Pawnee 117.90 48 P **PKiKP** **03 01 31.2 +0.7**
baz=287
CJR Cluj-Napoca 118.00 320 ⇓P **PKKPbc** **03 11 51.1 -1.0**
TRPA Tarpa 118.08 322 ⇑P **PKKPbc** **03 11 49.8 -1.9**
STHS Stebnicka Huta 118.30 324 *e*PKIKP **PKiKP** **03 01 33.8 +2.8**
STHS Stebnicka Huta 118.30 324 *e*PKP **PKiKP** **03 01 33.8 +2.8**
DRGR 118.52 321 ⇓P **PKKPbc** **03 11 49.3 -1.0**
GZR Gura Zlata 119.04 319 ⇓P **PKKPbc** **03 11 46.1 -2.2**
E46A Sault Ste Mari 119.15 39 P **PKiKP** **03 01 32.8 +0.1**
baz=294
E46A Sault Ste Mari 119.15 39 **PKiKP** **03 01 33.0 +0.3**
LANS Liptovska Anna 119.45 324 *e*PKIKP **PKiKP** **03 01 35.1 +1.8**
LANS Liptovska Anna 119.45 324 *e*PKP **PKiKP** **03 01 35.1 +1.8**
P46A Rosedale 119.62 47 P **PKiKP** **03 01 34.8 +1.0**
baz=288
BZS Buzias 119.70 320 ⇑P **PKKPbc** **03 11 45.3 -0.5**
VTS Vitosha 119.78 316 PKIKP **PKPdf** **03 01 34.1 -0.1**
VTS Vitosha 119.78 316 ⇓P **PKKPbc** **03 11 45.5 0.0**
VTS Vitosha 119.78 316 **PKPdf** **03 01 34.1 -0.1**
HOPE Hope Point 119.85 176 **PKPdf** **03 01 33.7 0.0**
OKC Ostrava-Krasne 119.88 326 *e*PKIKP **PKiKP** **03 01 37.0 +3.0**
OKC Ostrava-Krasne 119.88 326 *e*PKPDF **PKiKP** **03 01 37.0 +3.0**
MDVR Moldovita 119.97 319 ⇓P **PKKPbc** **03 11 39.6 -5.2**
SRS Serrai 120.06 315 P **PKKPbc** **03 11 43.8 -0.5**
VYHS Vyhne 120.13 324 *e*PKIKP **PKiKP** **03 01 37.0 +2.4**
VYHS Vyhne 120.13 324 *e*PKP **PKiKP** **03 01 37.0 +2.4**
SANT Santorini 120.15 309 ⇓P **PKKPbc** **03 11 39.9 -3.9**
MORC Moravsky Berou 120.25 326 ⇓P **PKKPbc** **03 11 42.4 -1.6**
MORC Moravsky Berou 120.25 326 *e*PKP **PKiKP** **03 01 35.5 +0.7**
MORC *e*PKKP **PKKPab** **03 11 42.2 -1.7**
MORC *e* 03 12 06.5
E48A Lockeyer 120.44 39 P **PKiKP** **03 01 35.3 +0.1**
baz=296
T47A Sharon Grove 120.49 50 P **PKiKP** **03 01 36.5 +0.9**
baz=287
KNT Kendrikon 120.54 315 P **PKKPbc** **03 11 41.9 -0.7**
DPC Dobruska-Polom 120.63 327 *e*PKIKP **PKiKP** **03 01 36.3 +0.8**
DPC MLR MLR
comp=Z,600nm,22.4s
DPC Dobruska-Polom 120.63 327 *e*PKPDF **PKiKP** **03 01 36.3 +0.8**
DPC AMS AMS 03 46 40.0
comp=Z,600nm,22.4s
JAVC Velka Javorina 120.63 325 *e*PKP **PKiKP** **03 01 37.2 +1.6**
JAVC *e*PKKP **PKKPab** **03 11 42.1 -0.1**
JAVC *e* 03 12 06.0
CHVC Chvalec 120.65 327 *e*PKPDF **PKiKP** **03 01 36.1 +0.6**
CHVC AMS AMS 03 46 30.0
comp=Z,800nm,28.9s
UPC Upice 120.71 327 AMS AMS 03 44 40.0
comp=Z,700nm,26.3s
VAY Valandovo 120.71 315 *i* P **PKKPbc** **03 11 41.6 -0.3**
WCI Wyandotte Cave 120.73 49 P **PKiKP** **03 01 36.4 +0.3**
baz=288
WCI Wyandotte Cave 120.73 49 PKIKP **PKiKP** **03 01 36.8 +0.8**
WCI Wyandotte Cave 120.73 49 **PKiKP** **03 01 36.8 +0.8**
SRO Srobarova 120.76 323 *e*PKIKP **PKiKP** **03 01 36.6 +0.8**
SRO Srobarova 120.76 323 *e*PKP **PKiKP** **03 01 36.6 +0.8**
L48A N Adams 120.80 44 P **PKPdf** **03 01 35.8 -0.2**
baz=292
STIP Stip 120.85 316 *i* P **PKKPbc** **03 11 41.6 +0.2**
PTL Penteli 120.88 311 P **PKKPbc** **03 11 40.3 -0.9**
Q48A North Vernon 120.92 48 P **PKiKP** **03 01 37.2 +0.8**
baz=289
P48A Milroy 120.97 47 P **PKiKP** **03 01 37.0 +0.6**
baz=290
VRAC Vranov 121.02 326 PKKPab PKKPab 03 11 36.7 -3.8
comp=Z,4.4nm,1.0s,baz=254,slow=7.4,SNR=6.4
VRAC Vranov 121.02 326 *e*PKP **PKiKP** **03 01 38.1 +1.8**
VRAC *e*PKKP **PKKPab** **03 11 39.4 -1.1**
MODS Modra-Piesok 121.10 324 *e*PKIKP **PKiKP** **03 01 39.0 +2.5**
MODS Modra-Piesok 121.10 324 *e*PKP **PKiKP** **03 01 39.0 +2.5**
PLCA Paso Flores 121.17 146 PKP **PKiKP** **03 01 37.2 +0.2**
comp=Z,19nm,1.0s,baz=233,slow=4.0,SNR=31
PLCA SKP 03 05 03.8
comp=Z,4.3nm,0.9s,baz=229,slow=6.7,SNR=3.8
PLCA PKKPab **PKKPab** **03 11 42.3 +1.1**
comp=Z,1.3nm,0.7s,baz=210,slow=5.0,SNR=3.9
PLCA Paso Flores 121.17 146 *e*P **PKiKP** **03 01 37.2 +0.2**
PLCA Paso Flores 121.17 146 *e*P **PKiKP** **03 01 37.2 +0.2**
KRUC Moravsky 121.25 325 *e*PKP **PKiKP** **03 01 37.1 +0.4**
KRUC *e*PKKP **PKKPab** **03 11 38.4 -1.0**
SKO Skopje 121.26 316 *i* P **PKKPbc** **03 11 39.5 -0.4**
N49A Columbus Grove 121.35 45 P **PKiKP** **03 01 37.6 +0.4**
baz=292
GO06 Curarrehue 121.40 144 **PKiKP** **03 01 37.5 0.0**
P49A Miami Univ. Ec 121.46 47 P **PKiKP** **03 01 37.8 +0.3**
baz=290
PVCC Panska Ves 121.48 328 *e*PKIKP **PKiKP** **03 01 37.8 +0.7**
PVCC MLR MLR
comp=Z,900nm,31.5s
PVCC Panska Ves 121.48 328 *e*PKPDF **PKiKP** **03 01 37.8 +0.7**
PVCC AMS AMS 03 47 00.0
comp=Z,900nm,31.5s
O49A Covington 121.50 46 P **PKiKP** **03 01 38.0 +0.5**
baz=291
S49A Springfield 121.62 49 P **PKiKP** **03 01 38.2 +0.4**
baz=289
TREC Trest 121.64 326 *e*PKIKP **PKiKP** **03 01 37.9 +0.4**
TREC *e* 03 02 04.8
TREC MLR MLR
comp=Z,900nm,33.7s
TREC Trest 121.64 326 *e*PKPDF **PKiKP** **03 01 37.9 +0.4**
TREC *e*x x 03 02 04.8
TREC *e*SKP 03 05 03.2
TREC AMS AMS 03 44 20.0
comp=Z,900nm,33.7s
U49A Red Boiling Sp 121.65 51 P **PKiKP** **03 01 38.2 +0.3**
baz=288
LRAL Lakeview Retre 121.65 55 P **PKiKP** **03 01 38.5 +0.5**
baz=285

T49A Edmonton 121.65 50 P **PKiKP** **03 01 38.3 +0.4**
baz=288
W49A Belvidere 121.68 52 P **PKPdf** **03 01 37.9 0.0**
baz=287
AGG Agios Georgios 121.69 313 P **PKKPbc** **03 11 37.3 -0.9**
GOPC GO Pecny, Ondr 121.69 327 *e*PKIKP **PKiKP** **03 01 38.1 +0.5**
GOPC *e* 03 02 08.1
GOPC MLR MLR
comp=Z,600nm,19.5s
GOPC GO Pecny, Ondr 121.69 327 *e*PKP **PKiKP** **03 01 38.1 +0.5**
GOPC *e*x x 03 02 08.1
GOPC AMS AMS 03 45 40.0
comp=Z,600nm,19.5s
V49A McMinnville 121.77 51 P **PKiKP** **03 01 38.4 +0.2**
baz=287
PRU Pruhonice 121.79 327 *e*PKIKP **PKiKP** **03 01 37.8 0.0**
PRU *e* 03 02 03.6
PRU MLR MLR
comp=Z,1μm,33.8s
PRU Pruhonice 121.79 327 *e*PKPDF **PKiKP** **03 01 37.8 0.0**
PRU *e*x x 03 02 03.6
PRU AMS AMS 03 45 40.0
comp=Z,1μm,33.8s
PRA Prague 121.80 327 AMS AMS 03 47 20.0
comp=Z,1μm,35.2s
CLL Collm 121.86 329 *i* PKIKP **PKiKP** **03 01 38.2 +0.4**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL pmax pmax
comp=Z,18nm,1.4s
CLL MLR MLR
comp=Z,400nm,20.0s
CLL Collm 121.86 329 *i* PKPdf **PKiKP** **03 01 38.2 +0.4**
comp=Z,5.0nm,0.8s
CLL *i* (PKiKP) 03 01 40.4
comp=Z,8.0nm,0.7s
CLL *e*pPKPdf **pPKPdf** **03 02 04.0 +0.7**
CLL *e*pPP 03 03 34.0
CLL *i* PKKPbc **PKKPab** **03 11 36.9 +0.1**
comp=Z,18nm,1.4s
CLL *e*PS **PS** **03 13 00.0 -6.9**
CLL *e*PPS PPS 03 14 30.0
CLL *e*PKKSbc PKKSbc 03 15 26.0 -2.7
CLL *e*SS SS 03 19 42.0 +0.3
CLL *e*SSS SSS 03 24 12.0
CLL *e* 03 25 06.0
CLL *e*SSSS 03 27 42.0
CLL *e* 03 33 30.0
CLL LmV 03 57 00.0
comp=Z,400nm,20.0s
CLL Collm 121.86 329 **PKiKP** **03 01 38.0 +0.2**
OHR Ohrid 122.03 315 *i* P **PKKPbc** **03 11 37.4 +0.4**
EVR Evrytania 122.11 313 P **PKKPbc** **03 11 37.3 +0.6**
N50A Nevada 122.13 45 P **PKiKP** **03 01 39.4 +0.7**
baz=292
CONA Conrad Observa 122.14 324 *e*PKiKP **PKiKP** **03 01 39.0 +0.4**
comp=Z,3.6nm,0.6s
CONA *i* PKKPab **PKKPab** **03 11 35.8 0.0**
comp=Z,7.2nm,1.0s,SNR=6.0
R50A Paris 122.17 48 P **PKiKP** **03 01 39.2 +0.3**
baz=290
T50A Nancy 122.21 50 P **PKiKP** **03 01 39.2 +0.2**
baz=289
LSQQ Lebel-sur-Quev 122.22 34 P **PKiKP** **03 01 39.0 +0.4**
baz=303
S50A Richmond 122.32 49 P **PKiKP** **03 01 39.5 +0.3**
baz=290
U50A Jamestown 122.39 50 P **PKiKP** **03 01 39.9 +0.5**
baz=288
W50A Signal Mountai 122.40 52 P **PKiKP** **03 01 39.7 +0.2**
baz=287
V50A Pikevile 122.43 51 P **PKiKP** **03 01 39.6 +0.2**
baz=288
ACSO Alum Creek Sta 122.45 46 P **PKiKP** **03 01 39.9 +0.5**
baz=292
Z50A Ashland 122.47 54 P **PKiKP** **03 01 39.9 +0.3**
baz=286
D52A ZEK Kipawa Sen 122.48 37 P **PKiKP** **03 01 39.4 +0.2**
baz=300
PDG Podgorica 122.56 317 ⇑P **PKKPab** **03 11 34.6 +0.7**
N51A Ashland 122.62 45 P **PKiKP** **03 01 40.2 +0.5**
baz=293
Q51A Peebles 122.64 47 P **PKiKP** **03 01 40.2 +0.4**
baz=291
P51A Williamsport 122.68 46 P **PKPdf** **03 01 39.6 0.0**
baz=292
ARSA Arzberg 122.68 324 *e*PKiKP **PKPdf** **03 01 39.3 -0.1**
comp=Z,1.8nm,1.0s
ARSA *e*PKKPab **PKKPab** **03 11 33.8 +0.5**
comp=Z,12nm,1.4s
NKC Novy Kostel 122.77 328 *e*PKIKP **PKiKP** **03 01 40.2 +0.5**
NKC MLR MLR
comp=Z,1μm,36.7s
NKC Novy Kostel 122.77 328 *e*PKPDF **PKiKP** **03 01 40.2 +0.5**
NKC AMS AMS 03 43 20.0
comp=Z,1μm,36.7s
KHC Kasperske Hory 122.78 327 *e*PKIKP **PKiKP** **03 01 39.9 +0.1**
KHC *e* 03 02 05.8
KHC *e* 03 02 18.5
KHC MLR MLR
comp=Z,700nm,23.3s
KHC Kasperske Hory 122.78 327 *e*PKP **PKiKP** **03 01 39.9 +0.1**
KHC *e*x x 03 01 53.2
KHC *e*pPKP **pPKPdf** **03 02 05.8 +0.7**
KHC *e*x x 03 02 18.5
KHC *e*x x 03 04 09.0
KHC *e*SKP 03 05 05.4
KHC AMS AMS 03 49 00.0
comp=Z,700nm,23.3s
KHC Kasperske Hory 122.78 327 **PKiKP** **03 01 40.2 +0.4**
W51A Cleveland 122.84 52 P **PKiKP** **03 01 40.8 +0.5**
baz=288
GERES GERESS Array B 122.87 326 PKIKP **PKiKP** **03 01 40.3 +0.2**
GERES GERESS Array B 122.87 326 PKP **PKiKP** **03 01 40.2 +0.1**
comp=Z,3.8nm,0.7s,baz=63,slow=1.8,SNR=36
GERES PKKPbc **PKKPab** **03 11 32.9 +0.3**
comp=Z,2.7nm,0.8s,baz=242,slow=2.9,SNR=13
BLY Banja Luka 122.89 321 ⇑P **PKKPbc** **03 11 33.3 -0.4**
T51A Gray 122.90 49 P **PKiKP** **03 01 41.0 +0.6**
baz=290
S51A Beattyville 122.94 49 P **PKiKP** **03 01 40.7 +0.3**
baz=290
V51A Loudon 122.97 51 P **PKiKP** **03 01 41.1 +0.6**
baz=288
MOA Molln 123.10 325 *e*PKiKP **PKPdf** **03 01 40.4 +0.2**
comp=Z,1.0nm,0.6s
MOA *e*PKKPab **PKKPab** **03 11 31.8 +0.3**
comp=Z,14nm,1.1s
CHGQ Chibougamau 123.15 32 P **PKiKP** **03 01 40.6 +0.1**
baz=306
G53A Haliburton 123.26 39 P **PKPdf** **03 01 40.2 -0.4**
baz=299
SOKA Soboth 123.27 324 *e*PKiKP **PKPdf** **03 01 40.4 -0.3**
comp=Z,1.8nm,0.5s
SOKA *e*PKKPab **PKKPbc** **03 11 31.8 -0.6**
comp=Z,14nm,1.1s
P52A Corning 123.28 46 P **PKiKP** **03 01 41.1 +0.1**
baz=292
SCHQ Schefferville 123.44 24 PKP **PKiKP** **03 01 41.4 +0.5**
comp=Z,6.6nm,0.6s,baz=308,slow=2.6,SNR=4.1
W52A Murphy 123.52 52 P **PKiKP** **03 01 42.4 +0.8**
baz=288
V52A Sevierville 123.53 51 P **PKiKP** **03 01 42.4 +0.7**
baz=289
OBKA Obir 123.64 324 *e*PKKPab PKKPab 03 11 30.5 +1.1
comp=Z,13nm,1.0s
X52A Dahlonega 123.69 52 P **PKPdf** **03 01 42.0 +0.2**
baz=288
Z52A Williamson 123.70 54 P **PKiKP** **03 01 43.0 +0.9**
baz=287
N53A Lisbon 123.73 44 P **PKiKP** **03 01 42.3 +0.4**
baz=294
Y52A Lilburn 123.78 53 P **PKiKP** **03 01 42.6 +0.4**
baz=287
P53A Whipple 123.87 46 P **PKiKP** **03 01 42.8 +0.6**
baz=293
T53A Wise 123.96 49 P **PKiKP** **03 01 43.4 +0.8**
baz=291
Q53A Leroy 124.02 47 P **PKiKP** **03 01 42.8 +0.3**
baz=293
KBA Koelnbreinsper 124.04 325 *e*PKPdf **PKPdf** **03 01 41.5 -0.7**
comp=Z,1.3nm,0.6s
KBA *e*PKKPab **PKKPab** **03 11 28.3 +0.5**
comp=Z,12nm,1.2s
W53A Cullowhee 124.08 51 P **PKiKP** **03 01 43.8 +0.9**
baz=289

MYKA Terra Mystica 124.11 324 *e*PKKPab PKKPab 03 11 28.5 +1.2
comp=Z,13nm,1.1s,SNR=7.5
U53A Fall Branch 124.14 50 P **PKiKP** **03 01 43.1 +0.2**
baz=290
Y53A Monroe 124.17 53 P **PKiKP** **03 01 43.0 +0.1**
baz=288
X53A Estanollee 124.19 52 P **PKiKP** **03 01 43.9 +0.9**
baz=288
V53A Saluda 124.19 51 P **PKiKP** **03 01 43.8 +0.8**
baz=290
TGUH Tegucigalpa,Un 124.26 77 **PKPdf** **03 01 43.6 +0.2**
O54A Avella 124.31 45 P **PKiKP** **03 01 43.8 +0.7**
baz=294
BG3 Lake Jocassee 124.32 51 **PKiKP** **03 01 43.8 +0.6**
Q54A Coxs Mills 124.46 46 P **PKiKP** **03 01 43.6 +0.2**
baz=293
D56A ZEC Mazanza, M 124.57 35 P **PKiKP** **03 01 43.6 +0.2**
baz=304
S54A Dingess, Beckl 124.57 48 P **PKiKP** **03 01 44.0 +0.3**
baz=292
T54A Tazewell 124.65 49 P **PKiKP** **03 01 44.4 +0.5**
baz=291
R54A Victor 124.66 47 P **PKiKP** **03 01 44.1 +0.2**
baz=293
ABTA Abfaltersbach 124.70 325 *e*PKiKP **PKPdf** **03 01 43.2 -0.2**
comp=Z,9.3nm,1.2s,SNR=8.2
ABTA *e*PKKPab **PKKPab** **03 11 25.7 +0.9**
comp=Z,6.8nm,0.8s
L55A Hinsdale 124.76 42 P **PKiKP** **03 01 44.2 +0.2**
baz=297
V54A Nebo 124.82 50 P **PKiKP** **03 01 45.2 +0.9**
baz=290
TIGA Tifton 124.86 56 P **PKiKP** **03 01 44.7 +0.3**
baz=286
Y54A Tignall 124.87 53 P **PKiKP** **03 01 45.4 +1.1**
baz=288
WATA Walderalm 124.90 326 *e*PKiKP **PKPdf** **03 01 44.0 +0.1**
comp=Z,3.2nm,0.6s
WTTA Wattenberg 124.91 326 *e*PKiKP **PKiKP** **03 01 44.5 +0.3**
comp=Z,15nm,0.8s,SNR=11
WTTA *e*PKKPab **PKKPab** **03 11 24.9 +0.9**
comp=Z,10nm,1.2s
254A Abbeville 124.96 55 P **PKiKP** **03 01 45.4 +0.9**
baz=287
Q55A Buckhannon 125.00 46 P **PKiKP** **03 01 44.9 +0.4**
baz=294
MOTA Moosalm 125.16 326 *e*PKiKP **PKiKP** **03 01 44.7 0.0**
comp=Z,9.7nm,0.7s,SNR=14
MOTA *e*PKKPab **PKKPab** **03 11 24.1 +1.1**
comp=Z,3.3nm,0.6s
SQTA Sankt Quirin 125.17 326 PKiKP **PKiKP** **03 01 45.0 +0.3**
comp=Z,8.6nm,0.7s
SQTA *e*PKKPab **PKKPab** **03 11 23.6 +0.8**
comp=Z,4.5nm,0.6s
RETA Reutte 125.27 326 PKiKP **PKPdf** **03 01 44.2 -0.2**
comp=Z,8.4nm,1.7s
RETA *e*PKKPab **PKKPab** **03 11 22.4 0.0**
comp=Z,3.0nm,0.6s
BLA Blacksburg 125.45 48 P **PKiKP** **03 01 46.0 +0.5**
baz=292
O56A Blue Knob Stat 125.53 44 P **PKiKP** **03 01 45.7 +0.2**
baz=296
DAVA Damuels 125.87 327 *e*PKiKP **PKiKP** **03 01 46.4 +0.2**
comp=Z,5.2nm,0.8s,SNR=5.5
S56A Natural Bridge 125.89 47 P **PKiKP** **03 01 46.6 +0.3**
baz=293
V56A Mocksville 125.91 50 P **PKiKP** **03 01 47.0 +0.6**
baz=291
M57A Sunshine Farm, 126.02 42 P **PKiKP** **03 01 47.0 +0.6**
baz=298
356A Blackshear 126.09 55 P **PKiKP** **03 01 47.3 +0.5**
baz=287
H58A Gabriels 126.34 37 P **PKiKP** **03 01 47.5 +0.5**
baz=303
NRCA Norcia 126.40 320 **PKPdf** **03 01 46.4 -0.4**
V57A Coltrane Farms 126.43 49 P **PKiKP** **03 01 47.9 +0.5**
baz=292
N58A Sunbury 126.53 42 P **PKiKP** **03 01 47.9 +0.4**
baz=298
W57A Gilead 126.53 50 P **PKiKP** **03 01 48.1 +0.5**
baz=291
JTS Las Juntas de 126.61 82 *c i*PKIKP **PKiKP** **03 01 48.8 +0.4**
JTS Las Juntas de 126.61 82 **PKPdf** **03 01 47.9 +0.1**
TUE Stuetta 126.65 326 **PKiKP** **03 01 47.7 -0.1**
I60A Shoreham 127.19 38 P **PKiKP** **03 01 49.6 +1.0**
baz=303
AAGR Agrelo 127.25 140 *e*P **PKPdf** **03 01 49.1 +0.3**
ASAL Salagasta 127.56 139 *e*P **PKPdf** **03 01 49.5 +0.2**
TRQA Tornquist 127.69 149 PKIKP **PKPdf** **03 01 48.9 -0.5**
TRQA Tornquist 127.69 149 **PKPdf** **03 01 48.9 -0.5**
TRQA Tornquist 127.69 149 *e*P **PKPdf** **03 01 48.8 -0.6**
TRQA Tornquist 127.69 149 *e*P **PKPdf** **03 01 48.8 -0.6**
GO04 Tololo Observa 127.74 136 **PKPdf** **03 01 50.0 +0.1**
RTLS Leoncito 127.76 138 *e*P **PKPdf** **03 01 50.4 +0.3**
RTCV Cerro Valdivia 128.22 139 *e*P **PKPdf** **03 01 50.5 -0.1**
LCO Las Campanas 128.49 135 PKIKP **PKPdf** **03 01 51.8 +0.4**
LCO Las Campanas 128.49 135 **PKPdf** **03 01 51.8 +0.4**
LCO Las Campanas 128.49 135 *e*P **PKPdf** **03 01 51.9 +0.4**
LCO Las Campanas 128.49 135 *e*P **PKPdf** **03 01 51.9 +0.4**
AROD Rodeo 128.65 137 *e*P **PKiKP** **03 01 52.5 0.0**
ACCO Cerro Coronel 128.67 137 *e*P **PKPdf** **03 01 51.9 +0.1**
AMOG MOGNA 128.84 138 *e*P **PKPdf** **03 01 51.9 +0.1**
GO03 Copiap 129.65 133 **PKiKP** **03 01 54.1 -0.1**
AGUA GUANDACOL 129.74 137 *e*P **PKiKP** **03 01 54.2 -0.2**
PRVC Isla de Provid 130.03 78 *e*P **PKPdf** **03 01 54.4 0.0**
PRVC Isla de Provid 130.03 78 *e*P **PKPdf** **03 01 54.4 0.0**
VCA Vinchina 130.40 136 *e*P **PKiKP** **03 01 55.5 -0.3**
NNA Nana 131.21 111 *c i*PKIKP **PKiKP** **03 01 57.8 +0.2**
NNA pmax pmax
comp=Z,115nm,1.3s
GO02 Mina Guanaco 131.51 131 **PKPdf** **03 01 57.5 +0.1**
KEST Kesra 132.46 314 PKP **PKiKP** **03 02 00.1 +0.5**
comp=Z,3.6nm,0.6s,baz=66,slow=0.7,SNR=13
KEST SKPbc **SKPbc** **03 05 15.4 -1.9**
comp=Z,19nm,1.0s,baz=266,slow=1.5,SNR=7.7
KEST Kesra 132.46 314 **PKPdf** **03 01 59.0 +0.5**
OTAV Otavalo 132.46 95 PKIKP **PKPdf** **03 01 59.4 -0.2**
OTAV Otavalo 132.46 95 **PKPdf** **03 01 59.4 -0.2**
LVC Limon Verde 133.44 129 *e*P **PKPdf** **03 02 01.2 +0.2**
LVC Limon Verde 133.44 129 *e*P **PKPdf** **03 02 01.2 +0.2**
BBAC Balboa, Cauca 133.87 93 *e*P **PKPdf** **03 02 01.3 -0.6**
BBAC Balboa, Cauca 133.87 93 *e*P **PKPdf** **03 02 01.3 -0.6**
CRUC La Cruz 134.11 94 *e*P **PKiKP** **03 02 04.2 +0.3**
CRUC La Cruz 134.11 94 *e*P **PKiKP** **03 02 04.2 +0.3**
PB11 IPOC Station P 134.32 125 **PKPdf** **03 02 02.0 -0.5**
SOTA Rioblanco 134.52 93 *e*P **PKiKP** **03 02 04.5 -0.5**
SOTA Rioblanco 134.52 93 *e*P **PKiKP** **03 02 04.5 -0.5**
PCON Cinco Dias 134.75 93 *e*P **PKiKP** **03 02 05.1 -0.4**
PCON Cinco Dias 134.75 93 *e*P **PKiKP** **03 02 05.1 -0.4**
GO01 Chusmiza 134.75 125 **PKPdf** **03 02 02.7 -1.1**
YOTC Yotoco, Valle 134.95 90 *e*P **PKPdf** **03 02 02.2 -1.7**
YOTC Yotoco, Valle 134.95 90 *e*P **PKPdf** **03 02 02.2 -1.7**
PLMC San Jos del P 135.07 89 *e*P **PKPdf** **03 02 02.6 -1.4**
PLMC San Jos del P 135.07 89 *e*P **PKPdf** **03 02 02.6 -1.4**
FLOC Florencia 135.40 94 *e*P **PKPdf** **03 02 04.2 -0.4**
FLOC Florencia 135.40 94 *e*P **PKPdf** **03 02 04.2 -0.4**
HELC Santa Helena 135.88 87 *e*P **PKPdf** **03 02 04.5 -1.3**
HELC Santa Helena 135.88 87 *e*P **PKPdf** **03 02 04.5 -1.3**
GUY2C Guyana, Caldas 136.00 89 *e*P PKPdf 03 01 55.2 -11
GUY2C Guyana, Caldas 136.00 89 *e*P PKPdf 03 01 55.2 -11
RREF El Recreo 136.00 89 *e*P **PKPdf** **03 01 59.6 -6.9**
RREF El Recreo 136.00 89 *e*P **PKPdf** **03 01 59.6 -6.9**
TOLC Tolima 136.01 90 *e*P **PKPdf** **03 02 06.1 +0.1**
TOLC Tolima 136.01 90 *e*P **PKPdf** **03 02 06.1 +0.1**
PTLC Puerto Leguiza 136.07 96 *e*P **PKPdf** **03 02 06.0 +0.2**
PTLC Puerto Leguiza 136.07 96 *e*P **PKPdf** **03 02 06.0 +0.2**
SJCC San Jacinto, C 136.24 82 *e*P PKPdf 03 01 57.6 -8.5
SJCC San Jacinto, C 136.24 82 *e*P PKPdf 03 01 57.6 -8.5
NORC Norcasia 136.51 88 *e*P **PKPdf** **03 01 59.0 -7.6**
NORC Norcasia 136.51 88 *e*P **PKPdf** **03 01 59.0 -7.6**
ZARC Zaragoza, Cauc 136.58 85 *e*P **PKPdf** **03 01 59.5 -7.3**
ZARC Zaragoza, Cauc 136.58 85 *e*P **PKPdf** **03 01 59.5 -7.3**
PLTB Pedras Altas 136.84 152 *e*P PKiKP 03 02 16.5 +8.0
PLTB Pedras Altas 136.84 152 *e*P PKiKP 03 02 16.5 +8.0
PTBC PUERTO BERRIO136.96 87 *e*P PKPdf 03 01 54.2 -13
PTBC PUERTO BERRIO136.96 87 *e*P PKPdf 03 01 54.2 -13
ROSC El Rosal 137.02 89 PKhKP PKPpre 03 02 02.4
comp=Z,21nm,0.5s,baz=146,slow=12,SNR=7.6
ROSC SKPbc **SKPbc** **03 05 34.4 +1.4**
comp=Z,20nm,0.7s,baz=23,slow=3.4,SNR=10.0
LPAZ La Paz 137.27 122 PKHKP PKPpre 03 01 58.9
LPAZ 03 02 08.5
LPAZ La Paz 137.27 122 PKhKP PKPpre 03 01 56.4
comp=Z,11nm,1.0s,baz=225,slow=2.3,SNR=16

LPAZ SKPbc **SKPbc** 03 05 35.6 +1.6
comp=Z,73nm,1.1s,baz=281,slow=1.8,SNR=22
LPAZ La Paz 137.27 122 PKPpre 03 01 58.9
LPAZ PKPdf **PKPdf** 03 02 08.5 -0.2
SPBC San Pablo de B 137.31 88 *eP* **PKPdf** 03 02 00.7 -7.5
SPBC San Pablo de B 137.31 88 *eP* **PKPdf** 03 02 00.7 -7.5
SMLC San Martn de 137.36 83 *eP* PKPdf 03 01 57.1 -11
SMLC San Martn de 137.36 83 *eP* PKPdf 03 01 57.1 -11
BRRC Barranca, Sant 137.71 86 *eP* **PKPdf** 03 02 05.0 -3.8
BRRC Barranca, Sant 137.71 86 *eP* **PKPdf** 03 02 05.0 -3.8
OCAC Ocana 138.11 84 *eP* PKPdf 03 01 56.6 -13
OCAC Ocana 138.11 84 *eP* PKPdf 03 01 56.6 -13
BARC Barichara 138.23 87 *eP* **PKPdf** 03 02 04.8 -5.2
BARC Barichara 138.23 87 *eP* **PKPdf** 03 02 04.8 -5.2
RUSC La Rusia 138.30 88 *eP* PKPdf 03 01 59.4 -11
RUSC La Rusia 138.30 88 *eP* PKPdf 03 01 59.4 -11
ESDC Sonseca Array 138.42 328 PKP **PKPdf** 03 02 10.2 +0.7
comp=Z,0.2nm,0.3s,baz=26,slow=2.3,SNR=4.7
MVO Moncorvo 138.82 332 *e*PKPdf **PKPdf** 03 02 07.8 -2.4
PCAB Cabril 138.84 333 *e*PKPdf **PKiKP** 03 02 12.9 +0.5
POLO Lamas de Olo 139.01 333 *e*PKPdf **PKiKP** 03 02 12.1 -0.7
CPUP Villa Florida 139.11 143 PKIKP **PKPdf** 03 02 11.4 +0.3
CPUP Villa Florida 139.11 143 PKhKP PKPpre 03 02 00.6
comp=Z,4.4nm,0.9s,baz=243,slow=3.1,SNR=7.3
CPUP SKPbc **SKPbc** 03 05 38.5 +0.4
comp=Z,40nm,1.1s,baz=266,slow=2.7,SNR=9.3
CPUP Villa Florida 139.11 143 PKPdf **PKPdf** 03 02 11.4 +0.3
CPUP Villa Florida 139.11 143 *eP* PKPdf 03 02 01.2 -10
CPUP Villa Florida 139.11 143 *eP* PKPdf 03 02 01.2 -10
URIC Uribia, Colomb 139.27 79 *eP* PKPdf 03 02 03.2 -8.4
URIC Uribia, Colomb 139.27 79 *eP* PKPdf 03 02 03.2 -8.4
MTE Manteigas 139.66 332 *e*PKPdf **PKiKP** 03 02 14.2 +0.1
CNLB Canela 140.17 153 *eP* **PKiKP** 03 02 15.2 -0.3
CNLB Canela 140.17 153 *eP* **PKiKP** 03 02 15.2 -0.3
SDV Santo Domingo 140.75 83 PKPdf **PKPdf** 03 02 14.0 -0.6
SDV Santo Domingo 140.75 83 *eP* **PKPdf** 03 02 09.2 -5.4
SDV Santo Domingo 140.75 83 *eP* **PKPdf** 03 02 09.2 -5.4
ALMR Almeirim 141.13 332 *e*PKPdf **PKiKP** 03 02 18.1 +1.0
ITAB Concordia 141.29 149 *eP* **PKPdf** 03 02 10.1 -4.9
ITAB Concordia 141.29 149 *eP* **PKPdf** 03 02 10.1 -4.9
PBDV Barranco-do-Ve 142.31 329 *e*PKPdf **PKPdf** 03 02 16.3 -0.2
PTGB Pitanga 143.36 147 *eP* PKPbc 03 02 16.0 -0.2
PTGB Pitanga 143.36 147 *eP* PKPbc 03 02 16.0 -0.2
OBIP Obispado Ponce 143.37 68 PKPdf **PKPdf** 03 02 19.4 +0.5
AQDB Aquidauana 144.36 138 *eP* **PKPab** 03 02 19.0 +0.2
AQDB Aquidauana 144.36 138 *eP* **PKPab** 03 02 19.0 +0.2
TRCB Terra Rica 144.56 144 *eP* PKPbc 03 02 19.8 0.0
TRCB Terra Rica 144.56 144 *eP* PKPbc 03 02 19.8 0.0
SAML Samuel 144.82 115 PKIKP **PKPab** 03 02 20.1 -0.6
SAML Samuel 144.82 115 **PKPab** 03 02 20.1 -0.6
SAML Samuel 144.82 115 *eP* **PKPab** 03 02 18.9 -1.8
SAML Samuel 144.82 115 *eP* **PKPab** 03 02 18.9 -1.8
FRTB Fartura 145.80 149 *eP* **PKPdf** 03 02 23.4 +0.3
FRTB Fartura 145.80 149 *eP* **PKPdf** 03 02 23.4 +0.3
H07N1 FLORES T-PHASE 146.38 360 *e*PKP **PKPab** 03 02 26.4 +0.6
SPB Sao Paulo 146.63 152 *eP* **PKPdf** 03 02 22.0 -2.4
SPB Sao Paulo 146.63 152 *eP* **PKPdf** 03 02 22.0 -2.4
H07S1 FLORES T-PHASE 146.69 0 *e*PKP **PKPab** 03 02 27.3 +0.2
SHEL Horse Pasture 146.75 229 PKP2 **PKPab** 03 02 27.6 -0.3
SHEL Horse Pasture 146.75 229 PKPbc **PKPab** 03 02 27.6 -0.3
TOAO Torodi Ar. Sit 146.85 285 PKPbc **PKPbc** 03 02 27.1 +0.2
TORD Torodi Ar. Bea 146.85 285 PKPbc **PKPdf** 03 02 25.0 0.0
comp=Z,3.7nm,0.5s,baz=48,slow=3.3,SNR=65
TORD pPKPbc **pPKPdf** 03 02 50.9 +0.4
comp=Z,37nm,0.9s,baz=92,slow=3.3,SNR=7.6
TORD Torodi Ar. Bea 146.85 285 PKPbc **PKPbc** 03 02 27.0 0.0
PP1B Ponte de Pedra 146.90 135 *eP* **PKPbc** 03 02 26.2 -0.8
PP1B Ponte de Pedra 146.90 135 *eP* **PKPbc** 03 02 26.2 -0.8
ADH Angra Heroismo 147.22 354 *e*PKP **PKPab** 03 02 28.9 -0.2
VAO Valinhos 147.36 152 *eP* **PKPbc** 03 02 27.8 -0.5
VAO Valinhos 147.36 152 *eP* **PKPbc** 03 02 27.8 -0.5
HOR Horta 147.47 356 *e*PKP **PKPbc** 03 02 28.9 +1.0
PCAN Candelaria 147.52 356 *e*PKP **PKPbc** 03 02 28.9 +0.8
RCLB Rio Claro- Sao 147.59 151 *eP* **PKPbc** 03 02 29.2 +0.4
RCLB Rio Claro- Sao 147.59 151 *eP* **PKPbc** 03 02 29.2 +0.4
BART Pico Bartolome 147.83 351 *e*PKP **PKPdf** 03 02 27.3 +1.2
CMLA Cha da Macela 147.90 352 *e*PKP **PKPdf** 03 02 25.4 -0.7
BB19B Bebedouro 148.22 148 *eP* **PKPdf** 03 02 28.2 +1.0
BB19B Bebedouro 148.22 148 *eP* **PKPdf** 03 02 28.2 +1.0
FDF Fort de France 149.25 71 PKP2 **PKPbc** 03 02 33.4 +0.1
FDF Fort de France 149.25 71 **PKPbc** 03 02 33.4 +0.1
VAS01 Vassouras-RJ 149.50 157 *eP* **PKPdf** 03 02 30.7 +1.5
VAS01 Vassouras-RJ 149.50 157 *eP* **PKPdf** 03 02 30.7 +1.5
DUB01 Friburgo-RJ 150.08 159 *eP* **PKiKP** 03 02 36.1 +0.1
DUB01 Friburgo-RJ 150.08 159 *eP* **PKiKP** 03 02 36.1 +0.1
BSCB Bom Sucesso 150.09 154 *eP* **PKPbc** 03 02 33.4 -1.9
BSCB Bom Sucesso 150.09 154 *eP* **PKPbc** 03 02 33.4 -1.9
CLDB Colider 150.33 124 *eP* **PKPdf** 03 02 30.2 -0.5
CLDB Colider 150.33 124 *eP* **PKPdf** 03 02 30.2 -0.5
PTGA Pitinga 150.48 102 **PKPdf** 03 02 30.7 -0.2
PTGA PKPbc **PKPbc** 03 02 36.0 -0.3
PTGA PKPab **PKPab** 03 02 42.6 -0.6
PTGA Pitinga 150.48 102 *eP* **PKPdf** 03 02 31.1 +0.2
PTGA Pitinga 150.48 102 *eP* **PKPdf** 03 02 31.1 +0.2
CAM01 Campos-RJ 150.56 160 *eP* **PKPbc** 03 02 36.2 0.0
CAM01 Campos-RJ 150.56 160 *eP* **PKPbc** 03 02 36.2 0.0
PMNB Patos De Minas 151.40 149 *eP* **PKPdf** 03 02 31.7 -0.6
PMNB Patos De Minas 151.40 149 *eP* **PKPdf** 03 02 31.7 -0.6
ALF01 Guarapari-ES 152.00 161 *eP* **PKPbc** 03 02 39.6 0.0
ALF01 Guarapari-ES 152.00 161 *eP* **PKPbc** 03 02 39.6 0.0
BDFB Brasília 152.84 142 PKIKP **PKPdf** 03 02 34.3 -0.2
BDFB 03 02 53.0
BDFB Brasília 152.84 142 PKP **PKPdf** 03 02 35.2 +0.7
comp=Z,11nm,0.9s,baz=162,slow=3.1,SNR=11
BDFB pPKPbc **PKPbc** 03 02 41.8 0.0
comp=Z,46nm,0.5s,baz=171,slow=0.7,SNR=84
BDFB pPKPbc **pPKPbc** 03 03 06.7 -0.5
comp=Z,69nm,0.8s,baz=238,slow=1.8,SNR=5.1
BDFB Brasília 152.84 142 **PKPdf** 03 02 34.3 -0.2
BDFB PKPbc **PKPbc** 03 02 41.9 +0.2
BDFB PKPab **PKPab** 03 02 53.0 +0.1
SJMB Sao Joao De Ma 153.61 158 *eP* **PKPdf** 03 02 35.6 +0.1
SJMB Sao Joao De Ma 153.61 158 *eP* **PKPdf** 03 02 35.6 +0.1
BSFB Barra de Sao F 153.61 159 *eP* **PKPbc** 03 02 43.3 +0.1
BSFB Barra de Sao F 153.61 159 *eP* **PKPbc** 03 02 43.3 +0.1
KIC Kosan Boka 153.74 272 *e*PKP1 **PKiKP** 03 02 49.4 +5.6
comp=Z,93nm,0.9s
DBIC Dimbokro 153.85 273 PKPbc **PKiKP** 03 02 45.4 +1.4
comp=Z,6.6nm,0.8s,baz=114,slow=4.0,SNR=8.7
DBIC pPKPbc **sPKPdf** 03 03 10.7 -0.4
comp=Z,42nm,0.9s,baz=95,slow=2.0,SNR=13
TIC Toumodi 154.01 273 *e*PKP1 **PKiKP** 03 02 49.2 +4.9
LIC Lamto 154.02 272 *e*PKP1 **PKiKP** 03 02 48.4 +4.1
comp=Z,194nm,1.0s
PEXB Peixe 155.27 136 *eP* **PKPdf** 03 02 36.8 -1.1
PEXB Peixe 155.27 136 *eP* **PKPdf** 03 02 36.8 -1.1
NBMO Morrinhos-CE 167.24 136 *eP* **PKPab** 03 03 54.7 -0.7
NBMO Morrinhos-CE 167.24 136 *eP* **PKPab** 03 03 54.7 -0.7
RCBR Riachuelo 167.40 158 *eP* **PKPab** 03 03 55.1 -0.9
RCBR Riachuelo 167.40 158 *eP* **PKPab** 03 03 55.1 -0.9

*UPA **03** 03:04:47.9±0.8, 6°.29N×78°.22W, h26km±10km, MW3.7*
*RSNC **03** 03:04:48.6±1.5, 6°.28N×78°.23W, h39km±31km, ML3.2, Mw3.4*
ISC 03 03:04:48.3±2.0, 6°.32N±0°.04×78°.21W±0°.03, h31km±18km, n32, σ0°80/56, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.91**	**26**	*eP*		**Pn**	**03 05 05.3**	**+0.3**
PTAC				*eS*		**Sb**	**03 05 17.4**	**-0.2**
PTAC				*i*			03 05 20.1	
comp=Z,2μm,0.2s								
PTAC	**Punta Ardita,**	**0.91**	**26**	*eP*		**Pn**	**03 05 05.3**	**+0.3**
PTAC				*eS*		**Sb**	**03 05 17.4**	**-0.2**
DBBC	**Dabeiba**	**2.10**	**71**	*eP*		**Pn**	**03 05 21.8**	**+0.4**
DBBC				*i*			03 05 49.5	
comp=Z,148nm,0.4s								
UPD2	**Meteti**	**2.22**	**5**	*eP*		**Pn**	**03 05 23.3**	**+0.2**
UPD2				*eS*		**Sn**	**03 05 49.5**	**0.0**
UPD2				*i*			03 05 55.1	
comp=Z,121nm,0.4s								
UPD2	**Meteti**	**2.22**	**5**	*eP*		**Pn**	**03 05 22.6**	**-0.5**
UPD2				*eS*		**Sn**	**03 05 50.0**	**+0.5**
PLMC	**San Jos del P**	**2.37**	**126**	*eP*		**Pn**	**03 05 24.2**	**-1.0**
PLMC				*eS*		**Sn**	**03 05 50.8**	**-2.6**
PLMC				*i*			03 05 55.2	
comp=Z,270nm,0.2s								
AZU	**Azuero**	**2.52**	**306**	*eP*		**Pn**	**03 05 27.1**	**0.0**
AZU				*eS*		**Sn**	**03 05 55.3**	**-1.6**
AZU				*i*			03 06 00.7	
comp=Z,412nm,0.4s								
AZU	**Azuero**	**2.52**	**306**	*eP*		**Pn**	**03 05 27.0**	**-0.1**
AZU				*eS*		**Sn**	**03 05 56.8**	**-0.1**
HELC	**Santa Helena**	**2.66**	**93**	*eP*		**Pn**	**03 05 30.3**	**+0.9**
HELC				*eS*		**Sn**	**03 06 00.8**	**-0.1**
HELC				*i*			03 06 03.5	
comp=Z,63nm,0.3s								
HELC	**Santa Helena**	**2.66**	**93**	*eP*		**Pn**	**03 05 29.6**	**+0.1**
HELC				*eS*		**Sn**	**03 06 01.1**	**+0.2**
CACAO	**El Cacao, Vera**	**2.83**	**291**	*eP*		**Pn**	**03 05 30.6**	**-0.8**
CACAO				*eS*		**Sn**	**03 06 03.9**	**-0.5**
UPA	**Univ. de Panam**	**2.96**	**334**	*eP*		**Pn**	**03 05 32.4**	**-0.7**
UPA				*eS*		**Sn**	**03 06 06.3**	**-1.2**
UPA				*i*			03 06 12.0	
comp=Z,36nm,0.6s								
UPA	**Univ. de Panam**	**2.96**	**334**	*eP*		**Pn**	**03 05 32.8**	**-0.4**
UPA				*eS*		**Sn**	**03 06 07.9**	**+0.3**
YOTC	**Yotoco, Valle**	**2.97**	**141**	*eP*		**Pn**	**03 05 33.3**	**-0.1**
YOTC				*i*			03 06 17.9	
comp=Z,48nm,0.3s								
CHPO	**Chepo, Panama**	**2.97**	**342**	*eP*		**Pn**	**03 05 32.9**	**-0.5**
CHPO				*eS*		**Sn**	**03 06 07.4**	**-0.6**
CHOR3	**La Chorrera**	**2.99**	**329**	*eP*		**Pn**	**03 05 33.4**	**-0.3**
CHOR3				*eS*		**Sn**	**03 06 08.6**	**+0.1**
PNME	**Penonome**	**3.01**	**316**	*eP*		**Pn**	**03 05 34.1**	**+0.2**
PNME				*eS*		**Sn**	**03 06 09.2**	**+0.2**
OCU3	**Ocu, Herrera**	**3.02**	**303**	*eP*		**Pn**	**03 05 34.5**	**+0.5**
OCU3				*eS*		**Sn**	**03 06 09.7**	**+0.5**
GUY2C	**Guyana, Caldas**	**3.03**	**111**	*eP*		**Pn**	**03 05 35.4**	**+0.8**
GUY2C				*i*			03 06 16.6	
comp=Z,44nm,0.5s								
ZANG	**Zanguenga, Cho**	**3.10**	**328**	*eP*		**Pn**	**03 05 34.9**	**-0.2**
ZANG				*eS*		**Sn**	**03 06 11.4**	**+0.3**
RREF	**El Recreo**	**3.17**	**116**	*eP*		**Pn**	**03 05 38.0**	**+1.3**
RREF				*i*			03 06 21.9	
comp=Z,80nm,0.7s								
BCIP	**Isla Barro Col**	**3.26**	**330**	*eP*		**Pn**	**03 05 36.8**	**-0.5**
BCIP				*eS*		**Sn**	**03 06 16.3**	**+1.2**
BCIP				*i*			03 06 29.2	
comp=Z,64nm,0.7s								
BCIP	**Isla Barro Col**	**3.26**	**330**	*eP*		**Pn**	**03 05 36.3**	**-1.0**
BCIP				*eS*		**Sn**	**03 06 15.0**	**-0.1**
STIA3	**Santiago, Vera**	**3.27**	**303**	*eP*		**Pn**	**03 05 38.0**	**+0.6**
STIA3				*eS*		**Sn**	**03 06 14.6**	**-0.6**
GMAL	**Guarumal, Vera**	**3.33**	**296**	*eP*		**Pn**	**03 05 39.1**	**+0.8**
GMAL				*eS*		**Sn**	**03 06 16.3**	**-0.6**
MLIR	**Monte Lirio**	**3.33**	**331**	*eP*		**Pn**	**03 05 37.6**	**-0.7**
MLIR				*eS*		**Sn**	**03 06 17.1**	**+0.3**
SFRA3	**San Francisco,**	**3.35**	**305**	*eP*		**Pn**	**03 05 38.3**	**-0.3**
SFRA3				*eS*		**Sn**	**03 06 16.8**	**-0.5**
NORC	**Norcasia**	**3.40**	**103**	*eP*		**Pn**	**03 05 38.8**	**-0.5**
NORC				*i*			03 06 27.0	
comp=Z,40nm,0.7s								
PTBC	**PUERTO BERRIO,**	**3.73**	**86**	*eS*		**Sn**	**03 06 27.8**	**+1.0**
BBAC	**Balboa, Cauca**	**4.37**	**167**	*eP*		**Pn**	**03 05 54.0**	**+1.1**
BBAC				*i*			03 06 46.2	
comp=Z,17nm,0.3s								
SJCC	**San Jacinto, C**	**4.65**	**40**	*eP*		**Pn**	**03 05 56.8**	**+0.3**
SJCC				*eS*		**Sn**	**03 06 48.7**	**-0.8**
CHGR2	**Aguacate**	**4.69**	**304**	*eP*		**Pn**	**03 05 59.6**	**+2.5**

*ISCJB **03** 03:11:48.4±1.9, 3°.23S±0°.06×35°.5E±0°.1, h10km, Error ellipse: s-maj=20.7km s-min=6.4km az=16.0*
*EAF **03** 03:11:50.1±0.4, 3°.18S×35°.29E, h59km±12km*
ISC 03 03:11:46.9±2.7, 3°.17S±0°.07×35°.4E±0°.2, h10km, n5, σ1§72/10, Tanzania

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BBAT	**Babati**	**1.11**	**158**	*iP*		**Pg**	**03 12 09.5**	**+1.1**
BBAT				*iS*		**Sg**	**03 12 23.6**	**+0.8**
KOND	**Kondoa**	**1.79**	**166**	*iP*		**Pn**	**03 12 18.6**	**+0.6**
KOND				*iS*		**Sn**	**03 12 39.0**	**-1.9**
KIBA	**Kibaya**	**2.45**	**150**	*iP*		**Pn**	**03 12 27.5**	**+0.3**
KIBA				*iS*		**Sn**	**03 12 55.1**	**-2.2**
KMBO	**Kilima Mbogo**	**2.78**	**43**	*iP*		**Pn**	**03 12 32.5**	**+0.7**
KMBO				*iS*		Sn	03 12 49.1	-16
KMBO				*iS*		**Sb**	**03 13 08.4**	**-2.7**
KIBK	**Kibwezi**	**2.82**	**73**	*iP*		**Pn**	**03 12 33.6**	**+1.5**
KIBK				*iS*		**Sn**	**03 13 06.5**	**+0.2**
KIBK				*iS*		Sb	03 13 07.3	-4.8

*NIED **03** 03:43:00, 23°.60N×121°.50E, h11km, Mw4.0 Best double couple: M0:1.24000×10^15 NP1:φ≈55.00000°, δ53.00000°, λ147.00000°. NP2:φ≈166.00000°, δ64.00000°, λ42.00000°.*
*JMA **03** 03:43:13.6±0.1, 23°.64N×121°.50E, h4km, M4.1*
*IDC **03** 03:43:13.1±0.6, 23°.65N×121°.64E, h0km, mb3.9/17, mb1 4.0/19, mb1mx3.9/44, mbtmp3.9/19, ML2.8/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/47, Error ellipse: s-maj=20.5km s-min=13.8km az=70.0*
*ISCJB **03** 03:43:13.9±0.2, 23°.660N±0°.009×121°.52E±0°.01, h6km±1km, mb3.9/20, MS4.1/4, Error ellipse: s-maj=1.9km s-min=1.2km az=34.0*
*ASIES **03** 03:43:14.5, 23°.70N×121°.40E, h19km, MW3.9*
*TAP **03** 03:43:14.3, 23°.68N×121°.47E, h10km, ML4.6, C*
*NEIC **03** 03:43:14.2±1.0, 23°.66N±0°.02×121°.49E±0°.06, h6km±4km, mb4.5/15*
*BJI **03** 03:43:15.2±0.0, 23°.70N×121°.48E, h8km, mb4.3/23, mB4.6/9, ML4.4/7, Ms4.2/18, Ms7 4.1/16*
ISC 03 03:43:14.0±1.0, 23°.67N±0°.01×121°.51E±0°.02, h1km±6km, n229, σ1§19/327, mb4.1/24, MS4.4/5, 20C-36D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.07**	**271**	*iP*		**Pg**	**03 43 16.5**	**+1.1**
EGFH				*iS*		**Sg**	**03 43 17.7**	**+1.4**
ESL	**Shilin**	**0.16**	**335**	*iP*		**Pg**	**03 43 17.9**	**+0.8**
ESL				*iS*		**Sg**	**03 43 19.8**	**+0.5**
HGSD	**Ruisui**	**0.19**	**203**	↑P		**Pg**	**03 43 19.4**	**+1.7**
EHY	**Hungye**	**0.23**	**227**	*iP*		**Pg**	**03 43 19.0**	**+0.5**
EHY				*eS*		**Sg**	**03 43 21.7**	**+0.2**
ENLB	**Shoufeng**	**0.25**	**20**	*iP*		**Pg**	**03 43 19.7**	**+0.9**
ENLB				S		**Sg**	**03 43 25.2**	**+3.1**
HWA	**Hwalien**	**0.32**	**16**	↓P		**Pb**	**03 43 21.9**	**-0.5**
YULB	**Yu-li**	**0.33**	**215**	↑P		**Pg**	**03 43 21.0**	**+0.6**
YULB				S		**Sg**	**03 43 25.0**	**+0.3**
YULB	**Yu-li**	**0.33**	**215**			**Pg**	**03 43 20.6**	**+0.2**
VWDT	**VWDT**	**0.35**	**284**	↓P		**Pg**	**03 43 21.1**	**+0.5**
VWDT				S		**Sg**	**03 43 25.1**	**0.0**
TWF1	**Yuli**	**0.37**	**212**	*iP*		**Pg**	**03 43 21.7**	**+0.7**
TWF1				S		**Sg**	**03 43 26.3**	**+0.5**
TWD	**Chiawan**	**0.42**	**11**	*iP*		**Pg**	**03 43 23.0**	**+1.0**
TWD				S		**Sg**	**03 43 28.4**	**+0.9**
CHGB	**Renai**	**0.50**	**322**	↓P		**Pg**	**03 43 24.0**	**+0.5**
CHGB				S		**Sg**	**03 43 29.6**	**-0.4**
NACB	**Ninganchiao**	**0.51**	**9**	↓P		**Pg**	**03 43 24.3**	**+0.6**
NACB	**Ninganchiao**	**0.51**	**9**			**Pg**	**03 43 24.4**	**+0.6**
SSLB	**Suanglung**	**0.52**	**283**	↓P		**Pg**	**03 43 24.1**	**+0.1**
SSLB				S		**Sg**	**03 43 29.9**	**-0.8**
SSLB	**Suanglung**	**0.52**	**283**			**Pg**	**03 43 23.8**	**-0.2**
WHF	**Hehuan Shan**	**0.52**	**335**	*iP*		**Pg**	**03 43 24.4**	**+0.3**
WHF				S		**Sg**	**03 43 30.9**	**0.0**
ETLH	**Xiulin Townshi**	**0.54**	**358**	*eP*		**Pg**	**03 43 24.7**	**+0.4**
ETLH				*eS*		**Sg**	**03 43 31.4**	**+0.1**
YUS	**Yu-Shan**	**0.54**	**251**	↑*iP*		**Pg**	**03 43 24.9**	**+0.5**
YUS				*eS*		**Sg**	**03 43 31.0**	**-0.4**
CHKT	**Chengkung**	**0.58**	**193**	*eP*		**Pb**	**03 43 26.9**	**+0.1**
CHKT				*eS*		**Sb**	**03 43 35.9**	**+0.3**
SMLT	**Sun Moon Lake**	**0.60**	**291**	↓*iP*		**Pg**	**03 43 25.7**	**+0.3**
SMLT				*eS*		**Sg**	**03 43 32.1**	**-1.0**
WHYT	**Xinyi Township**	**0.60**	**273**	P		**Pg**	**03 43 25.7**	**+0.2**
WHYT				S		**Sg**	**03 43 32.8**	**-0.5**
DPDB	**Guoxing**	**0.64**	**305**	↓*iP*		**Pg**	**03 43 26.8**	**+0.5**
DPDB				*eS*		**Sg**	**03 43 33.9**	**-0.8**
ELDTW	**Lidau**	**0.66**	**223**	↑*iP*		**Pg**	**03 43 26.4**	**-0.2**
ELDTW				*eS*		**Sg**	**03 43 34.1**	**-0.9**
TWT	**Tachien**	**0.66**	**333**	↓*iP*		**Pg**	**03 43 27.2**	**+0.6**
TWT				S		**Sg**	**03 43 34.6**	**-0.6**
ALS	**Alishan**	**0.66**	**256**	↑*iP*		**Pg**	**03 43 27.4**	**+0.7**
ALS				*eS*		**Sg**	**03 43 34.6**	**-0.7**
TDCB	**Techi**	**0.66**	**331**	↓P		**Pg**	**03 43 27.3**	**+0.5**
TDCB				*eS*		**Sg**	**03 43 34.2**	**-1.1**
WJS	**Zhushan**	**0.73**	**282**	P		**Pb**	**03 43 28.8**	**-0.7**
WJS				S		**Sb**	**03 43 39.2**	**-0.7**
CHN5	**Tsauling**	**0.76**	**265**	↓*iP*		**Pb**	**03 43 29.5**	**-0.6**
CHN5				S		**Sg**	**03 43 39.0**	**+0.4**
NNSB	**Datong**	**0.77**	**352**	↓P		**Pg**	**03 43 29.2**	**+0.5**
NNSB				S		**Sg**	**03 43 38.6**	**0.0**
NNS	**Nan Shan**	**0.78**	**351**	↓*iP*		**Pg**	**03 43 29.4**	**+0.5**
NNS				S		**Sg**	**03 43 38.9**	**-0.1**
WNT	**Mingjian**	**0.78**	**286**	↓P		**Pb**	**03 43 30.1**	**-0.3**
WNT				S		**Sb**	**03 43 41.6**	**+0.1**
ENA	**Nanau**	**0.79**	**16**	P		**Pg**	**03 43 29.4**	**+0.3**
ENA				S		**Sb**	**03 43 40.2**	**-1.4**
NANB	**Nanao**	**0.79**	**16**	↑*iP*		**Pg**	**03 43 29.5**	**+0.4**
NANB				S		**Sg**	**03 43 40.3**	**+0.9**
WHP	**Taichung City**	**0.80**	**320**	↓*iP*		**Pg**	**03 43 29.7**	**+0.5**
STYT	**Tauyuan**	**0.85**	**234**	↑*iP*		**Pg**	**03 43 30.6**	**+0.3**
STYT				S		**Sg**	**03 43 41.7**	**+0.3**
WGK	**Gukeng**	**0.87**	**271**	*eP*		**Pg**	**03 43 31.0**	**+0.4**
WGK				S		**Sn**	**03 43 44.4**	**-2.1**
TPUB	**Ta-pu**	**0.88**	**246**	↑P		**Pb**	**03 43 31.8**	**-0.4**
TPUB				*eS*		**Sg**	**03 43 42.1**	**-0.3**
TPUB	**Ta-pu**	**0.88**	**246**			**Pg**	**03 43 31.2**	**+0.3**
WDLH	**Douliu**	**0.89**	**272**	*eP*		**Pb**	**03 43 32.2**	**0.0**
WDLH				*eS*		**Sn**	**03 43 44.9**	**-2.2**
CHN4	**Tsaushan**	**0.90**	**250**	↑P		**Pb**	**03 43 32.2**	**-0.1**
CHN4				S		**Sb**	**03 43 44.4**	**-0.3**
TCU	**Taichung**	**0.90**	**302**	↓*eP*		**Pn**	**03 43 32.6**	**-1.1**
TCU				*eS*		**Sb**	**03 43 44.6**	**-0.2**
WTP	**Ta-pu**	**0.92**	**243**	↑*iP*		**Pb**	**03 43 32.4**	**-0.3**
WTP				*eS*		**Sg**	**03 43 44.0**	**+0.4**
NDT	**Datong Townshi**	**0.93**	**0**	↓*iP*		**Pb**	**03 43 32.4**	**-0.5**
NDT				S		**Sg**	**03 43 44.3**	**+0.4**
TWGBT	**Beinan**	**0.93**	**205**	*eP*		**Pg**	**03 43 31.0**	**-0.8**
TWG	**Pinlang**	**0.93**	**205**	*eP*		**Pg**	**03 43 30.5**	**-1.4**
TWG				*eS*		**Sg**	**03 43 44.7**	**+0.8**
TWG	**Pinlang**	**0.93**	**205**			**Pg**	**03 43 31.6**	**-0.3**
TWQ1	**Liyutan**	**0.95**	**315**	*eP*		**Pb**	**03 43 33.1**	**-0.2**
TWQ1				*eS*		**Sn**	**03 43 47.0**	**-1.8**
CHN2	**Minshiung**	**0.96**	**262**	*eP*		**Pn**	**03 43 33.5**	**-1.0**
CHN2				*eS*		**Sn**	**03 43 46.6**	**-2.1**
WCHH	**Zhanghua**	**0.96**	**295**	↓*iP*		**Pn**	**03 43 33.8**	**-0.8**
WCHH				S		**Sn**	**03 43 47.0**	**-1.8**
TTN	**Taitung**	**0.97**	**200**	*eP*		**Pb**	**03 43 33.3**	**-0.2**
TTN				*eS*		**Sn**	**03 43 47.7**	**-1.3**
ENTT	**Nioudou**	**0.97**	**3**	↓P		**Pb**	**03 43 33.2**	**-0.4**
ENTT				S		**Sb**	**03 43 45.9**	**-1.0**
TWC	**Suao**	**0.99**	**18**	*eP*		**Pg**	**03 43 33.0**	**0.0**
TWC				*eS*		**Sb**	**03 43 46.4**	**-1.0**
YHNB	**Yeheng**	**1.00**	**353**	↓P		**Pb**	**03 43 33.8**	**-0.4**
YHNB				*eS*		**Sg**	**03 43 45.5**	**-0.8**
YHNB	**Yeheng**	**1.00**	**353**			**Pg**	**03 43 33.3**	**0.0**
CHY	**Chiayi**	**1.01**	**261**	*eP*		**Pn**	**03 43 34.3**	**-0.9**
CHY				S		**Sn**	**03 43 48.4**	**-1.6**
NSY	**Sanyi**	**1.01**	**318**	*eP*		**Pn**	**03 43 34.7**	**-0.6**
NSY				S		**Sb**	**03 43 47.9**	**-0.2**
NSK	**Sanguang**	**1.01**	**352**	↓*iP*		**Pb**	**03 43 33.9**	**-0.5**
NSK				S		**Sg**	**03 43 46.3**	**-0.3**
TWK	**Hsinying**	**1.02**	**247**	↑P		**Pb**	**03 43 34.2**	**-0.2**
TWK				S		**Sb**	**03 43 48.3**	**0.0**
CHN1	**Nanshi**	**1.02**	**242**	↑*iP*		**Pb**	**03 43 34.4**	**0.0**
CHN1				S		**Sb**	**03 43 48.1**	**-0.2**
SNST	**Tainan City**	**1.03**	**245**	↑P		**Pb**	**03 43 34.5**	**-0.1**
SNST				*eS*		**Sb**	**03 43 48.2**	**-0.4**
SGST	**Jiashian**	**1.03**	**236**	↑*iP*		**Pg**	**03 43 33.5**	**-0.2**
SGST				*eS*		**Sb**	**03 43 47.8**	**-0.8**
SLGT	**Liugui**	**1.04**	**230**	*eP*		**Pb**	**03 43 34.3**	**-0.4**
WDJ	**Daj

	baz=321						
EOS1	**EOS1**	**1.05**	**33**	*e*P	**Pn**	**03 43 36.2**	**+0.5**
	baz=50						
TWE	**Neicheng**	**1.06**	**8**	⇓P	**Pb**	**03 43 34.8**	**-0.3**
	baz=358						
TWE				S	**Sb**	**03 43 48.6**	**-0.9**
	baz=358						
NSTT	**Nanjuang**	**1.06**	**334**	⇓P	**Pb**	**03 43 35.0**	**-0.2**
	baz=335						
NSTT				S	**Sg**	**03 43 48.3**	**+0.1**
	baz=335						
PTSB	**Yuanli**	**1.07**	**317**	⇓P	**Pn**	**03 43 35.8**	**-0.2**
	baz=317						
PTSB				S	**Sb**	**03 43 49.2**	**-0.5**
	baz=317						
RLNB	**Erlin**	**1.07**	**282**	*e*P	**Pb**	**03 43 34.9**	**-0.4**
	baz=283						
RLNB				*e*S	**Sn**	**03 43 50.3**	**-1.4**
	baz=283						
NMLH	**Miaoli**	**1.08**	**323**	⇓*e*P	**Pn**	**03 43 36.3**	**0.0**
	baz=323						
NMLH				S	**Sb**	**03 43 49.8**	**-0.4**
	baz=323						
SLBB	**Yuanshan**	**1.09**	**6**	*e*P	**Pg**	**03 43 34.6**	**-0.2**
	baz=6.0						
NWLT	**Wulai**	**1.10**	**360**	⇓P	**Pb**	**03 43 35.5**	**-0.4**
	baz=359						
NWLT				*e*S	**Sg**	**03 43 49.2**	**-0.3**
	baz=359						
ILA	**Ilan**	**1.11**	**11**	*e*P	**Pb**	**03 43 35.7**	**-0.3**
	baz=10.0						
ILA				*e*S	**Sb**	**03 43 50.6**	**-0.5**
	baz=10.0						
WLGB	**Puzi**	**1.12**	**261**	P	**Pn**	**03 43 36.3**	**-0.5**
	baz=262						
WLGB				S	**Sn**	**03 43 51.9**	**-0.9**
	baz=262						
WTCT	**Ta-ch'eng**	**1.14**	**280**	*e*P	**Pn**	**03 43 36.3**	**-0.7**
	baz=269						
WTCT				S	**Sn**	**03 43 51.4**	**-1.9**
	baz=269						
WSF	**Szhu**	**1.18**	**269**	*e*P	**Pn**	**03 43 36.8**	**-0.8**
	baz=270						
WSF				S	**Sn**	**03 43 52.5**	**-1.7**
	baz=270						
ECL	**Taimali**	**1.18**	**206**	*e*P	**Pb**	**03 43 36.2**	**-1.0**
	baz=215						
ECL				*e*S	**Sg**	**03 43 50.3**	**-1.6**
	baz=215						
WMLT	**Mailiao**	**1.18**	**277**	*e*P	**Pb**	**03 43 35.5**	**-1.7**
	baz=276						
CHN3	**Shinhua**	**1.20**	**241**	*e*P	**Pn**	**03 43 38.1**	**+0.2**
	baz=243						
CHN3				*e*S	**Sn**	**03 43 54.8**	**0.0**
	baz=243						
WLTB	**Daxi**	**1.20**	**349**	*e*P	**Pn**	**03 43 38.1**	**+0.2**
	baz=357						
WLTB				*e*S	**Sn**	**03 43 53.4**	**-1.5**
	baz=357						
SBCB	**Hsinchu**	**1.22**	**337**	⇓P	**Pn**	**03 43 38.6**	**+0.5**
	baz=337						
SBCB				*e*S	**Sn**	**03 43 55.0**	**-0.2**
	baz=337						
NTC	**Toucheng**	**1.22**	**14**	⇓P	**Pg**	**03 43 37.6**	**+0.2**
	baz=13						
SSD	**Sandimen**	**1.22**	**221**	P	**Pb**	**03 43 36.9**	**-0.9**
	baz=216						
SSD				S	**Sb**	**03 43 53.4**	**-0.6**
	baz=216						
HSN	**Hsinchu**	**1.23**	**337**	⇓P	**Pg**	**03 43 39.2**	**+1.6**
	baz=338						
HSN				*e*S	**Sn**	**03 43 55.5**	**-0.1**
	baz=338						
SCLT	**Jiali**	**1.30**	**248**	*e*P	**Pg**	**03 43 39.9**	**+1.0**
	baz=249						
SCLT				*e*S	**Sn**	**03 43 57.8**	**+0.5**
	baz=249						
TATO	**Taipei**	**1.30**	**359**	P	**Pg**	**03 43 39.1**	**+0.2**
	baz=357						
TATO				S	**Sb**	**03 43 55.2**	**-1.3**
	baz=357						
TATO	**Taipei**	**1.30**	**359**		**Pg**	**03 43 39.1**	**+0.2**
TWM1	**Shoushan**	**1.30**	**230**	*e*P	**Pg**	**03 43 40.2**	**+1.2**
	baz=230						
TWM1				*e*S	**Sn**	**03 43 59.3**	**+2.0**
	baz=230						
TWA	**Mucha**	**1.31**	**3**	*e*P	**Pb**	**03 43 38.9**	**-0.4**
	baz=353						
TWA				S	**Sb**	**03 43 55.7**	**-1.0**
	baz=353						
MASBT	**Mashibuluo**	**1.32**	**218⇑**	*e*P	**Pn**	**03 43 38.8**	**-0.7**
	baz=214						
MASBT				*e*S	**Sn**	**03 43 57.1**	**-0.7**
	baz=214						
SGLT	**Jiouru**	**1.32**	**225**	*e*P	**Pg**	**03 43 40.6**	**+1.2**
	baz=217						
SGLT				*e*S	**Sn**	**03 44 00.2**	**+2.4**
	baz=217						
NCUH	**Zhongli**	**1.33**	**347**	P	**Pg**	**03 43 40.6**	**+1.1**
	baz=346						
NCUH				S	**Sn**	**03 43 58.7**	**+0.7**
	baz=346						
NCU	**National Centr**	**1.33**	**347**	*e*P	**Pg**	**03 43 39.5**	**+0.1**
	baz=346						
NCU				S	**Sn**	**03 43 58.0**	**0.0**
	baz=346						
TAI1	**Yung-k'ang**	**1.33**	**242**	*e*P	**Pg**	**03 43 40.7**	**+1.2**
	baz=255						
TAI1				*e*S	**Sg**	**03 43 59.6**	**+2.8**
	baz=255						
TIPB	**Shuangxi**	**1.33**	**13**	⇓P	**Pb**	**03 43 39.5**	**-0.3**
	baz=9.0						
TIPB				*e*S	**Sb**	**03 43 55.0**	**-2.3**
	baz=9.0						
TAP	**Taipei**	**1.37**	**360**	*e*P	**Pb**	**03 43 40.0**	**-0.3**
	baz=358						
TAP				*e*S	**Sg**	**03 43 57.9**	**0.0**
	baz=358						
TAP1	**Taipei**	**1.37**	**1**	⇓*e*P	**Pg**	**03 43 40.9**	**+0.8**
	baz=358						
TAP1				*e*S	**Sb**	**03 43 56.5**	**-1.8**
	baz=358						
TWB1	**Santiao Chiao**	**1.41**	**18**	*e*P	**Pb**	**03 43 40.8**	**-0.2**
	baz=5.0						
TWB1				*e*S	**Sg**	**03 43 59.6**	**+0.4**
	baz=5.0						
SNJT	**Kaohsiung City**	**1.41**	**230**	*e*P	**Pg**	**03 43 42.0**	**+0.9**
	baz=234						
SNJT				*e*S	**Sg**	**03 44 03.0**	**+3.6**
	baz=234						
EAST	**Anshuo**	**1.42**	**206**	*e*P	**Pn**	**03 43 39.2**	**-1.6**
	baz=198						
NWF	**Wu-fen Shan**	**1.42**	**10**	*e*P	**Pg**	**03 43 42.0**	**+0.8**
	baz=7.0						
NWF				*e*S	**Sb**	**03 43 59.1**	**-0.8**
	baz=7.0						
TAW	**Tawu**	**1.42**	**203**	*e*P	**Pn**	**03 43 40.1**	**-0.8**
	baz=195						
WFSB	**Wu-fen Shan**	**1.42**	**10**	*e*P	**Pg**	**03 43 41.2**	**0.0**
	baz=7.0						
WFSB				*e*S	**Sb**	**03 43 59.0**	**-0.9**
	baz=7.0						
TWS1	**Kuangyinshan**	**1.43**	**357**	*e*P	**Pg**	**03 43 41.5**	**+0.1**
	baz=9.0						
TWS1				*e*S	**Sg**	**03 44 00.4**	**+0.5**
	baz=9.0						
YM01	**YM01**	**1.47**	**2**	*e*P	**Pn**	**03 43 41.2**	**-0.4**
	baz=359						
YM01				*e*S	**Sn**	**03 44 00.4**	**-1.2**
	baz=359						
YM04	**YM04**	**1.48**	**1**	*e*P	**Pb**	**03 43 42.1**	**-0.2**
	baz=358						
YM04				*e*S	**Sb**	**03 44 00.9**	**-0.7**
	baz=358						
YM10	**YM10**	**1.48**	**2**	*e*P	**Pb**	**03 43 42.1**	**-0.2**
	baz=359						
NTST	**Danshui**	**1.49**	**358**	*e*P	**Pg**	**03 43 42.6**	**0.0**
	baz=15						
YM05	**YM05**	**1.49**	**2**	*e*P	**Pb**	**03 43 42.1**	**-0.4**
	baz=359						
YM05				*e*S	**Sg**	**03 44 01.7**	**-0.2**
	baz=359						
YM11	**YM11**	**1.49**	**2**	⇓*e*P	**Pg**	**03 43 42.7**	**0.0**
	baz=359						
ANP	**Anpu**	**1.51**	**0**	*e*P	**Pg**	**03 43 42.9**	**-0.1**
	baz=17						
YM08	**YM08**	**1.52**	**3**	*e*P	**Pb**	**03 43 42.6**	**-0.3**
	baz=360						
YM08				*e*S	**Sb**	**03 44 02.2**	**-0.4**
	baz=360						
SCZT	**Fangliau**	**1.53**	**213**	*e*P	**Pn**	**03 43 42.3**	**0.0**
	baz=210						
SCZT				*e*S	**Sb**	**03 44 02.9**	**0.0**
	baz=210						
JYNG	**Yonagunijimaku**	**1.53**	**59**	P	**Pn**	**03 43 42.2**	**-0.2**
JYNG				*e*S	**Sb**	**03 44 02.4**	**-0.6**
YOJ	**Yonaguni jima**	**1.59**	**60**	P	**Pn**	**03 43 43.0**	**-0.2**
YOJ				*e*S	**Sn**	**03 44 03.6**	**-0.7**
YOJ	**Yonaguni jima**	**1.59**	**60**		**Pn**	**03 43 43.1**	**0.0**
TWY	**Chenhua**	**1.60**	**3**	*e*P	**Pg**	**03 43 45.0**	**+0.2**
	baz=360						
LAY	**Lan-yu**	**1.62**	**179**	*e*P	**Pn**	**03 43 41.2**	**-2.5**
	baz=168						
WLCH	**Liuqiu**	**1.67**	**219**	*e*P	**Pg**	**03 43 47.6**	**+1.5**
	baz=226						
TWP	**Hsiaoliuchiu**	**1.69**	**219**	*e*P	**Pg**	**03 43 47.9**	**+1.6**
	baz=226						
WDGT	**Dungji**	**1.74**	**257**	*e*P	**Pn**	**03 43 44.5**	**-0.8**
	baz=259						
WDGT				*e*S	**Sn**	**03 44 06.7**	**-1.4**
	baz=259						
PHUB	**P'eng-hu**	**1.78**	**265**	*e*P	**Pn**	**03 43 45.0**	**-0.9**
	baz=266						
PHUB				*e*S	**Sn**	**03 44 08.0**	**-1.1**
	baz=266						
PNG	**Penghu**	**1.79**	**267**	*e*P	**Pn**	**03 43 45.1**	**-0.9**
	baz=268						
PNG				*e*S	**Sn**	**03 44 08.2**	**-1.2**
	baz=268						
HEN	**Hengchun**	**1.80**	**203**	*e*P	**Pb**	**03 43 47.9**	**+0.2**
	baz=200						
TWKBT	**Hengchun**	**1.83**	**201**	*e*P	**Pb**	**03 43 47.2**	**-1.1**
	baz=197						
TSEB	**Hengchuen, Pin**	**1.85**	**198**	*e*P	**Pb**	**03 43 47.5**	**-1.0**
	baz=192						
VCHM	**Qimei**	**1.96**	**257**	*e*P	**Pn**	**03 43 47.1**	**-1.2**
	baz=255						
PCYT	**Pengchaiyu**	**2.02**	**15**	*e*P	**Pn**	**03 43 49.2**	**0.0**
	baz=12						
IRIF	**Iriomote-Funau**	**2.14**	**71**	P	**Pn**	**03 43 51.0**	**+0.2**
IRIF				*e*S	**Sb**	**03 44 18.8**	**-1.7**
HATJ	**Hateruma jima**	**2.14**	**79**	P	**Pn**	**03 43 51.0**	**+0.2**
HATJ				*e*S	**Sn**	**03 44 18.1**	**+0.1**
VWUC	**VWUC**	**2.29**	**305**	*e*P	**Pn**	**03 43 51.6**	**-1.3**
	baz=303						
JKRS	**Kuro-shima**	**2.36**	**76**	P	**Pn**	**03 43 54.1**	**+0.3**
JKRS				*e*S	**Sn**	**03 44 23.1**	**-0.3**
PTTC	**Pingtan**	**2.41**	**319**	*e*P	**Pn**	**03 43 53.5**	**-1.0**
	baz=317						
JIJ	**Ishigaki jima**	**2.51**	**73**	P	**Pn**	**03 43 55.5**	**-0.4**
JIJ				*e*S	**Sn**	**03 44 26.6**	**-0.5**
PTMZ	**Houxiangcun**	**2.57**	**303**	*e*P	**Pn**	**03 43 55.9**	**-0.8**
	baz=305						
PTMZ				*e*S	**Sn**	**03 44 27.1**	**-1.5**
	baz=305						
JISG	**Ishigakijimahi**	**2.72**	**70**	P	**Pn**	**03 43 58.4**	**-0.4**
JISG				*e*S	**Sn**	**03 44 32.2**	**-0.1**
MATB	**Ma-tsu**	**2.85**	**331**	*e*P	**Pn**	**03 43 59.8**	**-0.7**
	baz=329						
MATB				*e*S	**Sn**	**03 44 33.6**	**-1.9**
	baz=329						
KNM	**Kinmen**	**2.91**	**285**	*e*P	**Pn**	**03 44 02.2**	**+0.9**
	baz=282						
QZH	**Quanzhou**	**2.95**	**296**	Pn	**Pn**	**03 44 01.4**	**-0.5**
QZH				Sn	**Sn**	**03 44 38.7**	**+0.8**
QZH				smax	smax		
	comp=N,600nm,0.7s						
QZH				smax	smax		
	comp=E,370nm,0.7s						
KNMB	**Chin-men Tao**	**2.96**	**286⇑**	*e*P	**Pn**	**03 44 01.1**	**-0.9**
	baz=289						
KNMB				*e*S	**Sn**	**03 44 36.0**	**-2.2**
	baz=289						
KNMB	**Chin-men Tao**	**2.96**	**286**		**Pn**	**03 44 01.3**	**-0.8**
JTJ	**Tarama**	**3.08**	**71**	P	**Pn**	**03 44 03.9**	**+0.2**
JTJ				*e*S	**Sn**	**03 44 41.8**	**+0.7**
LYJJ	**Jianjiangzhen**	**3.28**	**331**	*e*P	**Pn**	**03 44 05.2**	**-1.2**
	baz=329						
MHZQ	**Yeshan**	**3.31**	**318**	*e*P	**Pn**	**03 44 06.5**	**-0.3**
	baz=316						
ZPLA	**Ao Xicun**	**3.45**	**275**	*e*P	**Pn**	**03 44 08.4**	**-0.4**
	baz=272						
AXDP	**Jialang**	**3.45**	**292⇑**	*e*P	**Pn**	**03 44 08.3**	**-0.6**
	baz=290						
XPSS	**Dashiqiu**	**3.46**	**340**	*e*P	**Pn**	**03 44 08.3**	**-0.6**
	baz=325						
JIRB	**Irabujima**	**3.54**	**70**	P	**Pn**	**03 44 10.3**	**+0.2**
ZZJH	**Jiuhuzhen**	**3.63**	**283**	*e*P	**Pn**	**03 44 10.2**	**-1.1**
	baz=281						
JIKM	**Ikemajima**	**3.63**	**69**	S	**Sn**	**03 44 56.1**	**+1.2**
JMJ	**Miyako jima 2**	**3.64**	**71**	*e*P	**Pn**	**03 44 12.1**	**+0.6**
	baz=73						
JMJ2	**Miyako jima3**	**3.65**	**72**	P	**Pn**	**03 44 12.1**	**+0.6**
JMJ2				*e*S	**Sn**	**03 44 55.5**	**+0.3**
VDOS	**Pratas Island**	**5.32**	**237**	*e*P	**Pn**	**03 44 36.1**	**+1.5**
	baz=230						
JOW	**Kunigami**	**6.89**	**61**	*e*P	**Pn**	**03 44 55.1**	**-1.0**
	baz=70						
JOW	**Kunigami**	**6.89**	**61**	Pn	**Pn**	**03 44 55.1**	**-1.0**
	0.6nm,0.3s,baz=153,slow=14,SNR=12						
JOW	**Kunigami**	**6.89**	**61**	Pn	**Pn**	**03 44 55.3**	**-0.8**
NJ2	**Nanjing**	**8.68**	**345**	*e*P	**Pn**	**03 45 21.3**	**+0.7**
NJ2				S	**Sn**	**03 46 58.7**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2				smax	smax		
	comp=N,150nm,1.0s						
NJ2				smax	smax		
	comp=E,130nm,1.3s						
NJ2				LR	LR		
	comp=E,910nm,5.7s						
NJ2				LR	LR		
	comp=Z,1μm,9.9s						
WHN	**Wuhan**	**9.36**	**319**	P	Pn	03 45 37.8	+7.9
WHN				LR	LR		
	comp=Z,3μm,12.2s						
JNU	**Nakatsue**	**12.51**	**39**	Pn	**Pn**	**03 46 15.0**	**+1.8**
	0.2nm,0.3s,baz=162,slow=13,SNR=3.7						
GYA	**Guiyang**	**13.74**	**285**	*e*P	**Pn**	**03 46 31.5**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSAR	**Wonju Array Be**	**14.78**	**20**	Pn	**Pn**	**03 46 43.8**	**-0.3**
KSRS	**Korea Array**	**14.80**	**20**	Pn	**P**	**03 46 47.0**	**-3.6**
	0.9nm,0.3s,baz=195,slow=11,SNR=19						
KSRS				LR	LR	03 52 35.8	
	comp=Z,62nm,18.3s,baz=212,slow=38						
KS19	**Wonju Array Si**	**14.83**	**20**	Pn	**Pn**	**03 46 45.4**	**+0.6**
XAN	**Xi'an**	**15.10**	**316**	P	**P**	**03 46 59.3**	**+5.4**
XAN	**Xi'an**	**15.10**	**316**	P	**P**	**03 46 59.4**	**+5.5**
XAN				pP	sP	03 47 03.4	+8.9
XAN				pP	pP	03 47 03.7	+9.2
XAN				S	**S**	**03 50 01.4**	**+7.3**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,390nm,4.4s						
XAN				LR	LR		
	comp=N,540nm,5.5s						
XAN				LR	LR		
	comp=E,600nm,7.1s						
XAN				LR	LR		
	comp=Z,690nm,9.8s						
KMI	**Kunming**	**17.16**	**279**	P	**Pn**	**03 47 15.3**	**0.0**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KMI				LR	LR		
	comp=Z,310nm,12.2s						
KMI				LR	LR		
	comp=Z,610nm,12.2s						
CD2	**Chengdu**	**17.34**	**298**	*e*P	**Pn**	**03 47 17.0**	**-0.3**
CD2				S	**Sn**	**03 50 30.7**	**-0.1**
CD2				LR	LR		
	comp=Z,810nm,9.6s						
CD2				LR	LR		
	comp=Z,1μm,9.2s						
HHC	**Hu-ho-hao-te**	**19.06**	**336**	P	**P**	**03 47 36.3**	**-1.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MJAR	**Matsushiro Arr**	**19.29**	**44**	P	**P**	**03 47 37.7**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=237,slow=9.5,SNR=4.1						
LZH	**Lanzhou**	**19.65**	**313**	*e*P	**P**	**03 47 43.8**	**-0.6**
LZH				pP	sP	03 47 47.7	+2.8
LZH				sP	pP	03 47 51.0	+6.1
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
PBKT	**Sadao Pong**	**20.52**	**254**	P	Pn	03 47 56.3	+0.4
CMMT	**Chiang Mai**	**21.57**	**261**	P	**P**	**03 48 11.1**	**+6.0**
	comp=Z,6.7nm,1.2s						
CHTO	**Chiang Mai**	**21.57**	**261**	P	**P**	**03 48 05.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.68**	**260**	P	**P**	**03 48 07.2**	**+1.0**
	comp=Z,4.9nm,0.9s,baz=63,slow=8.5,SNR=9.1						
CMAR	**Chiang Mai Arr**	**21.68**	**260**	P	**P**	**03 48 06.2**	**0.0**
UTHA	**Uthaitani**	**22.27**	**253**	P	P	03 48 28.6	+16
SBUM	**Sibu**	**22.93**	**204**	P	**P**	**03 48 19.0**	**-0.6**
GTA	**Gaotai**	**24.16**	**316**	*e*P	**P**	**03 48 32.7**	**+0.9**
GTA				pP	sP	03 48 36.7	+4.3
GTA				sP	pP	03 48 39.5	+7.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,90nm,5.3s						
GTA				LR	LR		
	comp=Z,110nm,12.0s						
GTA				LR	LR		
	comp=Z,330nm,12.0s						
GTA				LR	LR		
	comp=Z,330nm,12.4s						
KSM	**Kuching**	**24.59**	**208**	P	**P**	**03 48 34.8**	**-1.0**
KSM				IAmb	IAmb	03 48 42.1	
	comp=Z,13nm,1.2s						
KLR	**Kul'dur**	**26.76**	**15**	P	**P**	**03 48 54.2**	**-0.9**
	comp=Z,3.6nm,1.0s,baz=189,slow=7.5,SNR=3.7						
SONM	**Songino Array**	**26.96**	**337**	P	**P**	**03 48 55.0**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=156,slow=9.2,SNR=3.4						
SONM	**Songino Array**	**26.96**	**337**	P	**P**	**03 48 56.1**	**-1.0**
SHL	**Shillong**	**26.97**	**280**	P	**P**	**03 48 57.0**	**-0.5**
SHL				IAmb	IAmb	03 49 00.3	
	comp=Z,17nm,1.2s						
JAY	**Jayapura**	**32.04**	**142**	LR	LR	04 00 07.1	
	comp=Z,90nm,22.0s,baz=3.0,slow=32						
WMQ	**Urumqi**	**34.23**	**314**	*e*P	**P**	**03 50 01.1**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,34nm,3.9s						
WMQ				LR	LR		
	comp=Z,530nm,29.0s						
WMQ				LR	LR		
	comp=Z,1μm,28.8s						
MK31	**Makanchi Array**	**38.91**	**316**	P	**P**	**03 50 41.5**	**+0.3**
MKAR	**Makanchi Array**	**38.91**	**316**	P	**P**	**03 50 40.1**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=96,slow=12,SNR=10						
MKAR	**Makanchi Array**	**38.91**	**316**	P	**P**	**03 50 40.4**	**-0.8**
ZAA0	**Zalesovo Array**	**40.84**	**327**	P	**P**	**03 50 56.2**	**-0.8**
ZALV	**Zalesovo Beam**	**40.84**	**327**	P	**P**	**03 50 57.3**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=122,slow=8.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**40.84**	**327**	P	**P**	**03 50 56.6**	**-0.4**
KSH	**Kashi**	**41.43**	**303**	*e*P	**P**	**03 51 05.1**	**+2.8**
KSH				PP	**PnPn**	**03 52 45.7**	**+3.3**
KSH				S	**S**	**03 57 21.7**	**+3.3**
KSH				SS	**SS**	**04 00 21.7**	**-0.4**
KSH				LR	LR		
	comp=Z,270nm,14.9s						
KSH				LR	LR		
	comp=Z,200nm,9.4s						
KSH				LR	LR		
	comp=Z,130nm,9.9s						
FITZ	**Fitzroy Crossi**	**41.71**	**174**	P	**P**	**03 51 02.9**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=345,slow=8.9,SNR=4.9						
FITZ	**Fitzroy Crossi**	**41.71**	**174**	IAmb	IAmb	03 51 10.0	
	comp=Z,10nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**42.22**	**86**	T	T	04 36 10.8	
	baz=283,slow=74,SNR=169						
H11N2	**WAKE ISLAND Hy**	**42.23**	**86**	T	T	04 36 12.0	
	baz=283,slow=74,SNR=169						
H11N3	**WAKE ISLAND Hy**	**42.24**	**86**	T	T	04 36 07.6	
	baz=283,slow=74,SNR=273						
H11S3	**WAKE ISLAND Hy**	**42.34**	**88**	T	T	04 36 18.1	
	baz=284,slow=75,SNR=315						
H11S1	**WAKE ISLAND Hy**	**42.35**	**88**	T	T	04 36 18.6	
	baz=284,slow=75,SNR=139						
H11S2	**WAKE ISLAND Hy**	**42.36**	**88**	T	T	04 36 22.6	
	baz=284,slow=75,SNR=161						
KURK	**Kurchatov**	**42.68**	**320**	P	**P**	**03 51 13.0**	**+0.8**
KURBB	**Kurchatov Arra**	**42.69**	**320**	P	**P**	**03 51 12.4**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=102,slow=9.5,SNR=16						
AAK	**Ala-Archa**	**43.05**	**308**	P	**P**	**03 51 14.4**	**-1.1**
AAK				IAmb	IAmb	03 51 54.6	
	comp=Z,20nm,1.9s						
WRAB	**Tennant Creek**	**45.11**	**163**	P	**P**	**03 51 31.1**	**-0.9**
WRA	**Warramunga Arr**	**45.12**	**163**	P	**P**	**03 51 30.9**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=344,slow=8.7,SNR=5.4						
KKAR	**Karatay Array**	**46.02**	**308**	P	**P**	**03 51 38.6**	**-0.5**
BRVK	**Borovoye**	**48.33**	**321**	P	**P**	**03 51 56.2**	**-0.7**
BRVK				IAmb	IAmb	03 52 04.8	
	comp=Z,5.5nm,1.1s						
ASAR	**Alice Springs**	**48.57**	**165**	P	**P**	**03 51 57.2**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=356,slow=14,SNR=10						
ASAR	**Alice Springs**	**48.57**	**165**	P	**P**	**03 51 58.6**	**-0.5**
ABKAR	**Akbulak array**	**54.01**	**315**	P	**P**	**03 52 39.1**	**-0.6**
STKA	**Stephens Creek**	**58.48**	**160**	P	**P**	**03 53 11.1**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=332,slow=7.0,SNR=4.1						
STKA	**Stephens Creek**	**58.48**	**160**	IAmb	IAmb	03 54 02.4	
	comp=Z,10nm,2.0s						
KBZ	**Khabaz**	**66.03**	**309**	P	**P**	**03 54 03.5**	**+1.2**
	comp=Z,2.1nm,1.0s,baz=90,slow=10,SNR=2.4						
IMAR	**Indian Mountai**	**66.51**	**26**	P	**P**	**03 54 05.7**	**+0.7**
RND	**Reindeer**	**68.96**	**29**	P	**P**	**03 54 20.1**	**-0.6**
ILAR	**Eielson Array**	**69.53**	**27**	P	**P**	**03 54 23.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=277,slow=4.8,SNR=6.5						
BMAR	**Burnt Mountain**	**69.88**	**24**	P	**P**	**03 54 25.7**	**-0.5**
EGAK	**Eagle**	**71.91**	**27**	P	**P**	**03 54 38.1**	**-0.4**
FINES	**FINESS Array B**	**72.04**	**330**	P	**P**	**03 54 39.3**	**0.0**
	comp=Z,2.0nm,1.0s,baz=350,slow=4.5,SNR=8.8						
BCAR	**Beaver Creek A**	**72.15**	**28**	P	**P**	**03 54 39.4**	**-0.7**
DAWY	**Dawson**	**72.86**	**27**	P	**P**	**03 54 44.1**	**-0.2**
BRTR	**Keskin Array B**	**73.72**	**307**	P	**P**	**03 54 50.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=92,slow=6.1,SNR=4.7						
WHY	**Whitehorse**	**76.05**	**30**	P	**P**	**03 55 03.1**	**+0.1**
NOA	**NORSAR Array B**	**78.82**	**332**	P	**P**	**03 55 19.5**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=62,slow=5.2,SNR=2.8						
VTS	**Vitosha**	**80.10**	**312**	P	**P**	**03 55 25.9**	**0.0**
VYHS	**Vyhne**	**80.55**	**319**	*e*P	P	03 55 32.3	+4.3
YKA	**Yellowknife Ar**	**83.33**	**23**	P	**P**	**03 55 41.4**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=310,slow=5.1,SNR=4.5						
GERES	**GERESS Array B**	**83.43**	**321**	P	**P**	**03 55 41.7**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=33,slow=4.0,SNR=3.3						
KEST	**Kesra**

ANTU					IAML		03 48 12.6	
	comp=E,149nm,0.2s							
CLCH	**Cerro Calan**	**0.66**	**59**	⇓*i*P		**Pn**	**03 48 02.4**	**-0.1**
CLCH				*i* S		**Sn**	**03 48 12.4**	**-0.2**
CLCH					IAML		03 48 17.2	
	comp=E,111nm,0.2s							
PEL	**Peldehue**	**0.74**	**37**	*e*P		**Pn**	**03 48 03.4**	**0.0**
PEL				*e*S		**Sn**	**03 48 14.5**	**+0.2**
PEL					IAML		03 48 17.0	
	comp=E,78nm,0.4s							
PEL	**Peldehue**	**0.74**	**37**	*e*P		**Pn**	**03 48 03.5**	**0.0**
ROC1	**El Roble**	**0.78**	**12**	*e*P		**Pn**	**03 48 04.1**	**0.0**
ROC1				*i* S		**Sn**	**03 48 15.6**	**+0.1**
ROCH	**El Roble**	**0.78**	**12**	*e*P		**Pn**	**03 48 04.1**	**-0.1**
ROCH	**El Roble**	**0.78**	**12**	*e*P		**Pn**	**03 48 04.1**	**-0.1**
ROCH				*i* S		**Sn**	**03 48 15.6**	**0.0**
LMEL	**Las Melosas**	**0.84**	**98**	⇓*i*P		**Pn**	**03 48 04.8**	**-0.1**
LMEL				*i* S		**Sn**	**03 48 17.1**	**+0.3**
FCH	**Farellones**	**0.87**	**62**	⇓*i*P		**Pn**	**03 48 05.2**	**-0.2**
FCH				*i* S		**Sn**	**03 48 17.8**	**+0.1**

*ISCJB **03** 03:48:54.0±0.7, 12°.17N±0°.07×87°.25W±0°.07, h35km, Error ellipse: s-maj=12.7km s-min=5.4km az=138.0*
*SNET **03** 03:48:54.2±0.3, 12°.16N×87°.49W, h15km±17km, ML3.4*
*UCR **03** 03:48:54.7±0.7, 12°.16N×87°.17W, h31km±5km, MW3.8*
ISC 03 03:48:55.0±1.5, 12°.22N±0°.07×87°.24W±0°.06, h35km, n16, σ0s85/17, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.51**	**21**	*e*P	**Pn**	**03 49 06.0**	**+0.1**
CNGN	**Cerro Negro**	**0.59**	**62**	*e*P	**Pn**	**03 49 06.0**	**-1.0**
CNCH	**Conchagua**	**1.20**	**331**	⇓*i*P	**Pn**	**03 49 15.0**	**-0.4**
CNCH					IAML	03 49 16.1	
	comp=Z,2μm,0.4s						
CNCH				*e*S	**Sn**	**03 49 31.4**	**+0.9**
ESTN	**Estel**	**1.21**	**44**	*e*P	**Pn**	**03 49 15.6**	**-0.1**
LCND	**La Caada**	**1.25**	**329**	⇓*i*P	**Pn**	**03 49 15.6**	**-0.4**
LCND					IAML	03 49 16.3	
	comp=Z,791nm,0.2s						
MATN	**Matagalpa**	**1.46**	**61**	*e*P	**Pn**	**03 49 18.6**	**-0.3**
RCON	**San Juan de Ri**	**1.64**	**40**	*e*P	**Pn**	**03 49 21.8**	**+0.3**
COEB	**Comit de Eme**	**1.79**	**315**	*e*P	**Pn**	**03 49 23.1**	**-0.4**
COEB					IAML	03 49 51.8	
	comp=Z,208nm,0.5s						
ACON	**Acoyapa**	**2.03**	**97**	*e*P	**Pn**	**03 49 25.1**	**-1.6**
PAVA	**Las Pavas**	**2.22**	**312**	*e*P	**Pn**	**03 49 28.8**	**-0.7**
GB1A	**Borinquen Arri**	**2.28**	**128**	*e*P	**Pn**	**03 49 30.3**	**0.0**
BUEV	**Buena Vista**	**2.28**	**128**	*e*P	**Pn**	**03 49 31.2**	**+0.9**
CUI	**Cuipilapa**	**2.56**	**127**	*e*P	**Pn**	**03 49 33.1**	**-1.0**
JTS	**Las Juntas de**	**2.95**	**130**	*e*P	**Pn**	**03 49 38.5**	**-0.9**
ARE1	**Arenal 1**	**3.03**	**125**	*e*P	**Pn**	**03 49 41.8**	**+1.3**
LCR2	**La Lucha 2**	**4.02**	**128**	*e*P	**Pn**	**03 49 54.4**	**+0.1**

*ISCJB **03** 03:51:22.1±0.4, 8°.37S±0°.05×123°.84E±0°.06, h200km, mb3.4/5, Error ellipse: s-maj=8.7km s-min=5.3km az=143.1*
*IDC **03** 03:51:22.2±2.3, 8°.07S×124°.01E, h158km±37km, mb3.4/5, mb1 3.6/8, mb1mx3.4/34, mbtmp4.0/8, MS3.8/1, Ms1 3.8/1, ms1mx2.7/21, Error ellipse: s-maj=52.3km s-min=27.7km az=55.0*
*DJA **03** 03:51:22.2±0.4, 8°.5±4°.×12°.4E±°., h167km±5km, M4.2/14, mb4.5/6, mB5.0/3, MLv4.0/14, Mw(mB)4.4/3*
*NEIC **03** 03:51:22.9±1.7, 8°.3S±0°.1×123°.9E±0°.1, h178km±10km, mb4.1/6*
ISC 03 03:51:23.4±0.7, 8°.45S±0°.06×123°.85E±0°.07, h200km, n30, σ2s02/33, mb3.4/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.36**	**163**	P	**Pn**	**03 51 55.2**	**-0.9**
SOEI	**Soe**	**1.36**	**163**		**Pn**	**03 51 55.1**	**-0.9**
MMRI	**Maumere**	**1.61**	**263**	P	**Pn**	**03 51 56.1**	**-2.0**
MMRI	**Maumere**	**1.61**	**263**	Pn	**Pn**	**03 51 56.0**	**-2.2**
BATI	**Baumata**	**1.76**	**186**	P	**Pn**	**03 51 59.6**	**0.0**
	103nm,0.3s,baz=229,slow=0.6,SNR=88						
BATI				S	**Sn**	**03 52 29.1**	**+1.3**
	28nm,0.3s,baz=108,slow=20,SNR=4.1						
BATI	**Baumata**	**1.76**	**186**	P	**Pn**	**03 51 59.5**	**-0.1**
EDFI	**Ende, Flores**	**2.16**	**262**	P	**Pn**	**03 52 02.0**	**-1.7**
WSI	**Waingapu**	**3.72**	**251**	P	**Sn**	**03 53 06.1**	**-1.3**
WBSI	**Waikabubak, Su**	**4.56**	**255**	P	**Pn**	**03 52 31.5**	**-0.9**
BKSI	**Bulukumba**	**4.83**	**310**	P	**Pn**	**03 52 32.7**	**-3.1**
PLAI	**Plampang**	**6.02**	**266**	P	**Pn**	**03 52 50.3**	**-0.7**
	38nm,0.7s,2μm0.3nm						
TWSI	**Taliwang, Sumb**	**6.90**	**267**	P	**Pn**	**03 53 01.2**	**-1.2**
LUWI	**Luwuk**	**7.43**	**352**	P	**Pn**	**03 53 06.9**	**-2.5**
MTN	**Manton Dam**	**8.38**	**122**		**Pn**	**03 53 21.2**	**-0.5**
KNRA	**Kununurra**	**8.64**	**147**		**Pn**	**03 53 24.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**9.75**	**170**	P	**Pn**	**03 53 39.8**	**+0.3**
	0.6nm,0.3s,baz=355,slow=11,SNR=30						
FITZ				S	**Sn**	**03 55 26.1**	**-2.4**
	5.6nm,0.3s,baz=129,slow=14,SNR=16						
FITZ	**Fitzroy Crossi**	**9.75**	**170**		**Pn**	**03 53 40.3**	**+0.8**
FITZ					**Sn**	**03 55 26.9**	**-1.6**
SMRI	**Semarang**	**13.36**	**275**	Pn	**Pn**	**03 54 26.3**	**+0.7**
WB0	**Warramunga Arr**	**15.19**	**139**		**P**	**03 54 48.9**	**+0.3**
WB0				IAmb	IAmb	03 55 20.4	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**15.28**	**139**	P	**P**	**03 54 50.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=311,slow=14,SNR=7.2						
WRA				S	**S**	**03 57 31.7**	**-7.3**
	comp=Z,0.9nm,0.3s,baz=314,slow=23,SNR=5.5						
WB2	**Warramunga Arr**	**15.29**	**139**	P	**P**	**03 54 51.5**	**+1.9**
WB2				IAmb	IAmb	03 55 21.4	
	comp=Z,23nm,1.8s						
AS31	**Alice Springs**	**17.94**	**149**	P	**Pn**	**03 55 21.7**	**+0.9**
AS31				IAmb	IAmb	03 55 27.2	
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**17.94**	**149**	P	**Pn**	**03 55 23.9**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=328,slow=12,SNR=33						
ASAR				S	**S**	**03 58 36.7**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=321,slow=20,SNR=7.8						
CTA	**Charters Tower**	**24.56**	**120**	LR	LR	04 07 54.6	
	comp=Z,194nm,19.2s,baz=43,slow=40						
MJAR	**Matsushiro Arr**	**46.74**	**16**	P	**P**	**03 59 32.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=196,slow=9.0,SNR=6.7						
USRK	**Ussuriysk Ar.**	**52.91**	**7**	P	**P**	**04 00 19.5**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=198,slow=5.6,SNR=4.4						
SONM	**Songino Array**	**58.13**	**346**	P	**P**	**04 00 57.3**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=157,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**58.13**	**346**	IAmb	IAmb	04 00 57.6	
	comp=Z,0.7nm,0.9s						
MKAR	**Makanchi Array**	**66.26**	**330**	P	**P**	**04 01 51.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=143,slow=7.5,SNR=4.5						
PETK	**Petropavlovsk-**	**67.73**	**21**	P	**P**	**04 01 59.7**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=205,slow=2.8,SNR=4.7						

*NNC **03** 04:20:17.3±0.5, 42°.94N×78°.28E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=5.0km s-min=1.5km az=170.0*
*SOME **03** 04:20:18.2, 42°.93N×78°.28E, h15km*
*KRNET **03** 04:20:18.2±0.1, 42°.93N×78°.26E, h17km, mb3.0*
ISC 03 04:20:18.1±0.9, 42°.93N±0°.02×78°.28E±0°.02, h7km±8km, n68, σ0s91/128, 39C-57D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.16**	**36**	P	**Pg**	**04 20 21.7**	**+0.1**
	190nm,0.1s						
SATY				S	**Sg**	**04 20 24.4**	**+0.5**
	1μm,0.1s						
SATY	**Saty**	**0.16**	**36**	⇑*i*P	**Pg**	**04 20 21.7**	**+0.1**
	211nm,0.1s						
SATY				⇑*i*S	**Sg**	**04 20 24.4**	**+0.5**
	1μm,0.1s						
ZHN	**Zhinishke**	**0.27**	**26**	⇑*i*P	**Pg**	**04 20 23.5**	**0.0**
	baz=29						
ZHN				⇓*i*S	**Sg**	**04 20 27.4**	**+0.3**
	baz=29						
ZHN	**Zhinishke**	**0.27**	**26**	⇑*i*P	**Pg**	**04 20 23.5**	**0.0**
	313nm,0.1s						
ZHN				⇓*i*S	**Sg**	**04 20 27.4**	**+0.3**
	1μm,0.2s						
PRZ	**Przheval'sk**	**0.45**	**168**	⇑*i*P	**Pb**	**04 20 28.0**	**-0.5**
	baz=65						
PRZ				⇑*i*S	**Sb**	**04 20 34.2**	**-1.3**
	baz=65						
ANVS	**Anan'yevo**	**0.47**	**252**	⇓*i*P	**Pg**	**04 20 27.4**	**+0.1**
	baz=52						
ANVS				⇓*i*S	**Sg**	**04 20 33.1**	**-0.3**
	baz=52						
KURS	**Kuram**	**0.57**	**352**	P	**Pg**	**04 20 28.6**	**-0.5**
	3.1nm,0.1s						
KURS				S	**Sg**	**04 20 36.3**	**-0.2**
	39nm,0.2s						
KURS	**Kuram**	**0.57**	**352**	⇑*i*P	**Pg**	**04 20 28.9**	**-0.2**
	baz=53						
KURS				⇑*i*S	**Sg**	**04 20 36.7**	**+0.2**
	baz=53						
KURS	**Kuram**	**0.57**	**352**	⇑*i*P	**Pg**	**04 20 28.9**	**-0.2**
	5.5nm,0.1s						
KURS				⇑*i*S	**Sg**	**04 20 36.7**	**+0.2**
	68nm,0.3s						
UZB	**Uzynbulak**	**0.59**	**68**	⇓*i*P	**Pg**	**04 20 29.7**	**+0.1**
	baz=69						
UZB				⇓*i*S	**Sg**	**04 20 37.5**	**+0.2**
	baz=69						
UZB	**Uzynbulak**	**0.59**	**68**	⇓*i*P	**Pg**	**04 20 29.7**	**+0.1**
	23nm,0.1s						
UZB				⇓*i*S	**Sg**	**04 20 37.5**	**+0.2**
	364nm,0.2s						
KPKS	**Kokpek**	**0.62**	**29**	⇑*i*P	**Pg**	**04 20 29.8**	**-0.3**
	baz=31						
KPKS				⇑*i*S	**Sg**	**04 20 38.2**	**+0.1**
	baz=31						
KPKS	**Kokpek**	**0.62**	**29**	⇑*i*P	**Pg**	**04 20 29.8**	**-0.3**
	43nm,0.2s						
KPKS				⇑*i*S	**Sg**	**04 20 38.2**	**+0.1**
	77nm,0.3s						
KOTS	**Kotyrbulak**	**0.91**	**290**	P	**Pg**	**04 20 35.0**	**-0.5**
	43nm,0.2s						
KOTS				S	**Sg**	**04 20 47.2**	**-0.2**
	27nm,0.3s						
KOTS	**Kotyrbulak**	**0.91**	**290**	⇑*i*P	**Pg**	**04 20 35.2**	**-0.3**
	baz=90						
KOTS				⇓*e*S	**Sg**	**04 20 47.5**	**+0.2**
	baz=90						
KOTS	**Kotyrbulak**	**0.91**	**290**	⇑*i*P	**Pg**	**04 20 35.2**	**-0.3**
	43nm,0.2s						
KOTS				⇓*e*S	**Sg**	**04 20 47.5**	**+0.2**
	53nm,0.3s						
MDOK	**Medeo**	**0.93**	**285**	⇑P	**Pg**	**04 20 35.3**	**-0.7**
	7.8nm,0.5s						
MDOK				⇓S	**Sg**	**04 20 47.8**	**-0.3**
	13nm,0.5s						
MDOK	**Medeo**	**0.93**	**285**	Pg	**Pg**	**04 20 35.2**	**-0.7**
	9.8nm,0.2s						
MDOK				Lg	Lg	04 20 47.7	
	15nm,0.3s						
MDOK	**Medeo**	**0.93**	**285**	⇓*i*P	**Pg**	**04 20 35.3**	**-0.7**
	baz=85						
MDOK				⇓*e*S	**Sg**	**04 20 47.8**	**-0.3**
	baz=85						
MDOK	**Medeo**	**0.93**	**285**	⇓*i*P	**Pg**	**04 20 35.3**	**-0.7**
	9.8nm,0.2s						
MDOK				⇓*e*S	**Sg**	**04 20 47.8**	**-0.3**
	24nm,0.4s						
PDGK	**Podgornoye**	**0.98**	**65**	P	**Pg**	**04 20 36.1**	**-0.7**
	5.1nm,0.1s						
PDGK				S	**Sg**	**04 20 49.2**	**-0.3**
	24nm,0.2s						
PDGK	**Podgornoye**	**0.98**	**65**	⇑P	**Pg**	**04 20 36.0**	**-0.9**
	4.6nm,0.4s						
PDGK				⇑S	**Sg**	**04 20 48.6**	**-0.9**
	19nm,0.4s						
TNSS	**Tian-Shan**	**0.98**	**277**	P	**Pg**	**04 20 36.3**	**-0.7**
	5.1nm,0.2s						
TNSS				S	**Sg**	**04 20 49.6**	**-0.2**
	26nm,0.3s						
TNSS	**Tian-Shan**	**0.98**	**277**	⇑*i*P	**Pg**	**04 20 36.4**	**-0.6**
	baz=77						
TNSS				⇓*e*S	**Sg**	**04 20 50.0**	**+0.2**
	baz=77						
TNSS	**Tian-Shan**	**0.98**	**277**	⇑*i*P	**Pg**	**04 20 36.4**	**-0.6**
	5.4nm,0.1s						
TNSS				⇓*e*S	**Sg**	**04 20 50.0**	**+0.2**
	34nm,0.2s						
KDJ	**Kajisay**	**1.14**	**226**	⇑*i*P	**Pg**	**04 20 39.3**	**-0.6**
	baz=25						
KDJ				⇑*i*S	**Sg**	**04 20 54.1**	**-0.6**
	baz=25						
IZV	**Izvestkoviy**	**1.23**	**276**	P	**Pb**	**04 20 40.8**	**-0.8**
	7.2nm,0.1s						
IZV				S	**Sb**	**04 20 57.1**	**-0.6**
	41nm,0.4s						
IZV	**Izvestkoviy**	**1.23**	**276**	*e*P	**Pb**	**04 20 40.9**	**-0.8**
	baz=75						
IZV				⇓*e*S	**Sb**	**04 20 57.3**	**-0.4**
	baz=75						
IZV	**Izvestkoviy**	**1.23**	**276**	*e*P	**Pb**	**04 20 40.9**	**-0.8**
	7.8nm,0.1s						
IZV				⇓*e*S	**Sb**	**04 20 57.3**	**-0.4**
	42nm,0.5s						
TARG	**Taragay, Kyrgy**	**1.25**	**196**	⇓*i*P	**Pb**	**04 20 41.3**	**-0.9**
	baz=96						
TARG				⇓*i*S	**Sb**	**04 20 57.7**	**-0.9**
	baz=96						
CHKK	**Chushkaly**	**1.32**	**315**	P	**Pn**	**04 20 42.4**	**-0.6**
	13nm,0.1s						
CHKK				S	**Sb**	**04 20 59.7**	**-0.6**
	37nm,0.3s						
CHKK	**Chushkaly**	**1.32**	**315**	⇓*e*P	**Pn**	**04 20 42.4**	**-0.6**
	baz=16						
CHKK				⇓*i*S	**Sb**	**04 20 59.8**	**-0.6**
	baz=16						
CHKK	**Chushkaly**	**1.32**	**315**	⇓*e*P	**Pn**	**04 20 42.4**	**-0.6**
	13nm,0.2s						
CHKK				⇓*i*S	**Sb**	**04 20 59.8**	**-0.6**
	36nm,0.2s						
ARXS	**Arharly**	**1.33**	**346**	P	**Pn**	**04 20 42.1**	**-1.0**
	8.5nm,0.2s						
ARXS				S	**Sb**	**04 20 59.4**	**-1.2**
	44nm,0.1s						
ARXS	**Arharly**	**1.33**	**346**	⇓*i*P	**Pn**	**04 20 42.7**	**-0.4**
	8.3nm,0.2s						
ARXS				⇓*i*S	**Sb**	**04 20 60.0**	**-0.6**
	44nm,0.2s						
MTBS	**Maitube**	**1.37**	**279**	P	**Pn**	**04 20 43.5**	**-0.2**
	6.8nm,0.2s						
MTBS				S	**Sg**	**04 21 01.9**	**-0.3**
	11nm,0.2s						
MTBS	**Maitube**	**1.37**	**279**	⇑*e*P	**Pg**	**04 20 44.1**	**-0.3**
	baz=79						
MTBS				⇓*i*S	**Sg**	**04 21 02.2**	**+0.1**
	baz=79						
MTBS	**Maitube**	**1.37**	**279**	⇑*e*P	**Pg**	**04 20 44.1**	**-0.3**
	6.8nm,0.1s						
MTBS				⇓*i*S	**Sg**	**04 21 02.2**	**+0.1**
	18nm,0.2s						
KTBS	**Karatobe**	**1.40**	**305**	P	**Pn**	**04 20 43.9**	**-0.2**
	19nm,0.2s						
KTBS				S	**Sn**	**04 21 02.5**	**-0.4**
	32nm,0.2s						
KTBS	**Karatobe**	**1.40**	**305**	⇓*i*P	**Pb**	**04 20 44.1**	**-0.6**
	22nm,0.3s						
KTBS				⇑*i*S	**Sn**	**04 21 02.5**	**-0.4**
	48nm,0.2s						
ULHL	**Ulahol**	**1.65**	**246**	⇑*i*P	**Pb**	**04 20 48.3**	**-0.6**
	baz=46						
ULHL				⇑*i*S	**Sb**	**04 21 09.4**	**-0.6**
	baz=46						
KST	**Kastek**	**1.70**	**275**	P	**Pb**	**04 20 49.4**	**-0.4**
	5.1nm,0.1s						
KST				S	**Sb**	**04 21 11.8**	**+0.3**
	11nm,0.4s						
KST	**Kastek**	**1.70**	**275**	⇓*i*P	**Pb**	**04 20 49.5**	**-0.3**
	baz=75						
KST				⇓*i*S	**Sb**	**04 21 11.6**	**+0.2**
	baz=75						
KST	**Kastek**	**1.70**	**275**	⇓*i*P	**Pb**	**04 20 49.5**	**-0.3**
	8.1nm,0.2s						
KST				⇓*i*S	**Sb**	**04 21 11.6**	**+0.2**
	21nm,0.7s						
BOOM	**Boomskoye usch**	**1.78**	**257**	⇓*i*P	**Pb**	**04 20 50.5**	**-0.6**
	baz=56						
BOOM				⇓*i*S	**Sb**	**04 21 13.7**	**+0.1**
	baz=56						
DJR	**Jarkent**	**1.78**	**38**	P	**Pb**	**04 20 50.1**	**-1.1**
	39nm,0.3s						
DJR				S	**Sb**	**04 21 13.1**	**-0.7**
	45nm,0.2s						
DJR	**Jarkent**	**1.78**	**38**	⇑*e*P	**Pb**	**04 20 50.5**	**-0.6**
	39nm,0.3s						
DJR				*e*S	**Sb**	**04 21 13.8**	**+0.1**
	45nm,0.3s						
DGS	**Degeres**	**1.86**	**281**	P	**Pb**	**04 20 52.2**	**-0.2**
	7.5nm,0.2s						
DGS				S	**Sg**	**04 21 16.7**	**-1.2**
	23nm,0.4s						
DGS	**Degeres**	**1.86**	**281**	⇓*i*P	**Pb**	**04 20 52.3**	**-0.2**
	baz=81						
DGS				⇓*e*S	**Sg**	**04 21 16.9**	**-1.0**
	baz=81						
DGS	**Degeres**	**1.86**	**281**	⇓*i*P	**Pb**	**04 20 52.3**	**-0.2**
	9.9nm,0.3s						
DGS				⇓*e*S	**Sg**	**04 21 16.9**	**-1.0**
	23nm,0.3s						
TKM2	**Tokmak 2**	**1.97**	**271**	⇓Pg	**Pb**	**04 20 54.0**	**-0.4**
	4.0nm,0.7s						
TKM2				⇓Lg	Lg	04 21 20.7	
	18nm,0.6s						
TKM2	**Tokmak 2**	**1.97**	**271**	⇓*i*P	**Pb**	**04 20 53.8**	**-0.6**
	baz=71						
TKM2				⇓*i*S	**Sb**	**04 21 19.4**	**+0.2**
	baz=71						
NRN	**Naryn**	**2.26**	**229**	⇓*i*P	**Pb**	**04 20 57.9**	**-1.5**
	baz=29						
NRN				⇓*i*S	**Sb**	**04 21 26.3**	**-1.3**
	baz=29						
KZA	**Kyzart**	**2.39**	**250**	⇑*e*P	**Pb**	**04 20 59.6**	**-2.1**
	baz=50						
KZA				⇑*i*S	**Sb**	**04 21 29.5**	**-2.1**
	baz=50						
KBK	**Karagaybulak**	**2.46**	**265**	⇑*i*P	**Pb**	**04 21 00.7**	**-2.1**
	baz=65						
KBK				⇑*i*S	**Sn**	**04 21 30.8**	**+1.5**
	baz=65						
KAPS	**Kapalarasan**	**2.48**	**18**	Pg	**Pb**	**04 21 02.7**	**-0.3**
	20nm,0.2s						
KAPS				Lg	Lg	04 21 35.7	
	9.6nm,0.3s						
KAPS	**Kapalarasan**	**2.48**	**18**	*e*P	**Pb**	**04 21 02.7**	**-0.3**
	20nm,0.3s						
KAPS				*e*S	**Sg**	**04 21 35.7**	**-2.2**
	20nm,0.4s						
CHMS	**Chumysh**	**2.59**	**273**	⇓*i*P	**Pb**	**04 21 02.5**	**-2.3**
	baz=73						
CHMS				⇓*i*S	**Sn**	**04 21 33.7**	**+1.6**
	baz=73						
USP	**Ospenovka**	**2.79**	**278**	⇓*e*P	**Pn**	**04 21 05.0**	**+1.8**
	baz=78						
USP				⇓*i*S	**Sn**	**04 21 38.3**	**+1.3**
	baz=78						
AAK	**Ala-Archa**	**2.80**	**265**	⇓Pg	**Pb**	**04 21 07.8**	**-0.7**
	1.7nm,0.3s						
AAK				⇑Lg	Lg	04 21 45.2	
	18nm,0.8s						
AAK	**Ala-Archa**	**2.80**	**265**	⇓*i*P	**Pn**	**04 21 05.3**	**+1.9**
	baz=65						
AAK				⇓*i*S	**Sn**	**04 21 38.9**	**+1.4**
	baz=65						
UCH	**Uchtor**	**2.87**	**257**	⇑*e*P	**Pn**	**04 21 06.5**	**+1.9**
	baz=57						
UCH				⇑*i*S	**Sn**	**04 21 41.2**	**+1.6**
	baz=57						
EKS2	**Erkin-Say**	**3.32**	**267**	⇑*i*P	**Pn**	**04 21 12.5**	**+1.9**
	baz=67						
EKS2				⇑*e*S	**Sn**	**04 21 51.5**	**+1.2**
	baz=67						
AML	**Almayashu**	**3.48**	**258**	⇓*i*P	**Pn**	**04 21 14.7**	**+1.7**
	baz=58						
AML				⇓*i*S	**Sn**	**04 21 55.3**	**+0.7**
	baz=58						
MRKS	**Merke**	**3.72**	**269**	Pg	**Pb**	**04 21 24.9**	**+0.7**
	1.7nm,0.2s						
MRKS				Lg	Lg	04 22 12.7	
	7.5nm,0.4s						
MRKS	**Merke**	**3.72**	**269**	*e*P	**Pb**	**04 21 24.9**	**+0.7**
	1.7nm,0.3s						
MRKS				*e*S	**Sb**	**04 22 12.7**	**+3.3**
	7.5nm,0.3s						
MK31	**Makanchi Array**	**4.80**	**35**	⇓Pn	**Pn**	**04 21 32.9**	**+2.0**
	0.5nm,0.2s,baz=210,slow=14,SNR=11						
MK31				⇓Lg	Lg	04 22 47.1	
	0.2nm,0.2s,baz=213,slow=29,SNR=3.1						
KK31	**Karatay Array**	**5.70**	**274**	⇑Lg	Lg	04 23 17.5	
	1.0nm,0.5s,baz=91,slow=29,SNR=5.3						

*SOME **03** 04:22:35.9, 40°.35N×77°.22E, h10km*
*KRNET **03** 04:22:37.4±0.1, 40°.48N×77°.17E, h15km, mb2.6*
*NNC **03** 04:22:38.4±1.1, 40°.48N×77°.28E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=7.1km s-min=5.9km az=174.0*
ISC 03 04:22:36.0±2.6, 40°.4N±0°.1×77°.12E±0°.04, h7km±16km, n45, σ1s31/72, 23C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.32**	**320**	⇓*e*P	**Pg**	**04 23 02.3**	**+1.0**
	baz=17						
NRN				⇓*i*S	**Sg**	**04 23 20.7**	**+2.2**
	baz=17						
TARG	**Taragay, Kyrgy**	**1.40**	**21**	⇑*i*P	**Pg**	**04 23 03.0**	**+0.1**
	baz=21						
TARG				⇑*i*S	**Sg**	**04 23 22.0**	**+0.9**
	baz=21						
KDJ	**Kajisay**	**1.71**	**1**	⇑*i*P	**Pg**	**04 23 08.5**	**-0.2**
	baz=1.0						
KDJ				⇑*i*S	**Sg**	**04 23 31.2**	**+0.4**
	baz=1.0						
ULHL	**Ulahol**	**1.94**	**340**	⇑*i*P	**Pg**	**04 23 13.2**	**+0.1**
	baz=39						
ULHL				⇑*i*S	**Sg**	**04 23 38.7**	**+0.4**
	baz=39						
KZA	**Kyzart**	**2.17**	**320**	⇑*i*P	**Pb**	**04 23 17.0**	**+1.1**
	baz=19						
KZA				⇑*i*S	**Sg**	**04 23 45.9**	**0.0**
	baz=19						
KZA	**Kyzart**	**2.17**	**320**	⇑*i*P	**Pb**	**04 23 17.0**	**+1.1**
	baz=19						
KZA				⇑*i*S	**Sg**	**04 23 45.9**	**0.0**
	baz=19						
BOOM	**Boomskoye usch**	**2.25**	**337**	⇓*e*P	**Pb**	**04 23 17.5**	**+0.5**
	baz=36						
BOOM				⇓*i*S	**Sg**	**04 23 46.9**	**-1.3**
	baz=36						
ANVS	**Anan'yevo**	**2.39**	**10**	⇓*e*P	**Pb**	**04 23 19.2**	**-0.3**
	baz=9.0						
ANVS				⇓*i*S	**Sb**	**04 23 49.8**	**+0.5**
	baz=9.0						
ARLS	**Aral**	**2.56

10nm,0.2s
MTBS Maitube 2.75 349 *e*P **Pg 04 23 27.8 -0.9**
3.9nm,0.1s
MTBS *e*S **Sg 04 24 05.3 +0.9**
11nm,0.3s
KST Kastek 2.76 342 Pg **Pb 04 23 27.4 +1.7**
3.7nm,0.3s
KST Lg Lg 04 24 04.3
12nm,0.5s
KST Kastek 2.76 342 *e*P **Pg 04 23 27.9 -0.9**
3.7nm,0.3s
KST *e*S **Sg 04 24 05.1 +0.6**
12nm,0.5s
SATY Saty 2.80 20 Pg **Pb 04 23 27.5 +1.1**
10nm,0.3s
SATY Lg Lg 04 24 04.8
33nm,0.5s
SATY Saty 2.80 20 *e*P **Pb 04 23 27.5 +1.1**
10nm,0.3s
SATY *e*S **Sg 04 24 04.8 -1.2**
33nm,0.5s
KOTS Kotyrbulak 2.81 360 Pg **Pg 04 23 29.0 -0.8**
18nm,0.4s
KOTS Lg Lg 04 24 07.0
85nm,0.6s
KOTS Kotyrbulak 2.81 360 *e*P **Pg 04 23 28.9 -0.9**
18nm,0.3s
KOTS *e*S **Sg 04 24 07.4 +1.2**
88nm,0.7s
AAK Ala-Archa 2.97 319 ⇑Pg **Pg 04 23 34.4 +1.7**
7.5nm,1.4s
AAK ⇓Lg Lg 04 24 12.8
12nm,1.3s
AAK Ala-Archa 2.97 319 ⇑*i*P **Pb 04 23 28.0 -1.2**
baz=18
AAK ⇑*i*S **Sb 04 24 04.8 -0.9**
baz=18
DGS Degeres 2.99 341 Pg **Pg 04 23 32.8 -0.5**
1.9nm,0.4s
DGS Lg Lg 04 24 13.5
5.7nm,0.4s
DGS Degeres 2.99 341 *e*P **Pg 04 23 32.2 -1.1**
3.6nm,0.4s
DGS *e*S **Sg 04 24 12.7 +0.6**
8.7nm,0.6s
AML Almayashu 3.10 305 ⇑*i*P **Pb 04 23 30.0 -1.6**
baz=3.0
AML ⇑*i*S **Sb 04 24 08.2 -1.5**
baz=3.0
KURS Kuram 3.16 14 Pg **Pb 04 23 34.2 +1.7**
4.5nm,0.4s
KURS Lg Lg 04 24 16.0
10nm,0.6s
KURS Kuram 3.16 14 *e*P **Pg 04 23 34.5 -2.0**
4.5nm,0.4s
KURS *e*S **Sg 04 24 16.7 -0.8**
10nm,0.6s
KTBS Karatobe 3.30 354 Pg **Pg 04 23 37.6 -1.6**
5.5nm,0.5s
KTBS Lg Lg 04 24 21.9
6.8nm,0.5s
KTBS Karatobe 3.30 354 *e*P **Pg 04 23 37.6 -1.6**
5.5nm,0.5s
KTBS *e*S **Sg 04 24 21.9 -0.1**
22nm,0.7s
PDGK Podgornoye 3.40 31 Pg **Pb 04 23 38.3 +1.7**
1.6nm,0.4s
PDGK Lg Lg 04 24 23.3
9.8nm,0.6s
PDGK Podgornoye 3.40 31 ⇑Pg **Pb 04 23 38.2 +1.7**
4.7nm,0.9s
PDGK ⇓Lg Lg 04 24 22.9
11nm,0.6s
CHKK Chushkaly 3.43 358 Pg **Pg 04 23 39.9 -1.8**
4.1nm,0.4s
CHKK Lg Lg 04 24 25.7
15nm,0.3s
CHKK Chushkaly 3.43 358 *e*P **Pg 04 23 39.9 -1.8**
4.1nm,0.4s
CHKK *e*S **Sg 04 24 25.9 -0.2**
16nm,0.6s
MRKS Merke 3.73 310 *e*P **Pg 04 23 46.1 -1.3**
1.1nm,0.2s
MRKS *e*S **Sg 04 24 36.2 +0.4**
2.2nm,0.5s
ARXS Arharly 3.82 8 Pg **Pg 04 23 46.7 -2.5**
2.9nm,0.4s
ARXS Lg Lg 04 24 37.3
11nm,0.6s
ARXS Arharly 3.82 8 *e*P **Pg 04 23 46.7 -2.5**
2.9nm,0.4s
ARXS *e*S **Sg 04 24 37.3 -1.5**
11nm,0.6s
DJR Jarkent 4.38 26 Pg **Pb 04 23 56.0 +2.8**
1.9nm,0.2s
DJR Lg Lg 04 24 53.3
2.4nm,0.3s
DJR Jarkent 4.38 26 *e*P **Pb 04 23 55.9 +2.8**
1.9nm,0.2s
DJR *e*S **Sg 04 24 53.4 -3.1**
3.3nm,0.4s

ISCJB ***03*** *04:26:51.3±0.2, 44°.67N±0°.02×124°.11E±0°.03, h7km, mb4.6/71, MS4.1/13, Error ellipse: s-maj=3.3km s-min=3.0km az=146.6*
MOS ***03*** *04:26:51.7±0.9, 44°.66N×124°.11E, h11km, mb4.9/34, MS4.2/5, Error ellipse: s-maj=7.3km s-min=4.6km az=120.7*
BJI ***03*** *04:26:52.4±0.0, 44°.64N×124°.13E, h10km, mb4.7/44, mB4.7/31, ML5.1/19, Ms4.6/41, Ms7 4.4/40*
NEIC ***03*** *04:26:53.8±1.5, 44°.73N±0°.07×124°.15E±0°.09, h11km±2km, mb4.7/103*
IDC ***03*** *04:26:54.6±2.8, 44°.61N×124°.14E, h20km±18km, mb4.2/32, mb1 4.3/37, mb1mx4.3/44, mbtmp4.3/37, ML4.4/3, MS3.9/10, Ms1 3.9/10, ms1mx3.3/47, Error ellipse: s-maj=11.9km s-min=10.5km az=8.0*
ISC 03 04:26:53.2±0.7, 44°.73N±0°.03×124°.17E±0°.03, h8km±4km, n334, σ1$31/346, mb4.7/120, MS4.1/13, 23C-13D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNY	**Shenyang**	**2.93**	**189**	⇑Pg	**Pg**	**04 27 49.1**	**-0.2**
SNY				Sg	**Sb**	**04 28 22.2**	**+0.6**
SNY				smax	smax		
	comp=N,2μm,0.8s						
SNY				smax	smax		
	comp=E,2μm,0.5s						
MDJ	**Mudanjiang**	**3.87**	**90**	Pg	**Pb**	**04 28 04.5**	**+2.8**
MDJ				Sg	**Sg**	**04 28 58.7**	**+1.3**
MDJ	**Mudanjiang**	**3.87**	**90**		**Pn**	**04 27 53.3**	**+0.3**
HIA	**Hailar**	**5.46**	**328**	P	**Pn**	**04 28 14.0**	**-0.9**
HIA	**Hailar**	**5.46**	**328**	Pn	**Pn**	**04 28 14.0**	**-0.9**
USA0B	**Ussuriysk Arra**	**5.62**	**93**	P	**Pn**	**04 28 18.4**	**+1.3**
USA0B	**Ussuriysk Arra**	**5.62**	**93**		**Pn**	**04 28 18.4**	**+1.3**
USRK	**Ussuriysk Ar.**	**5.62**	**93**	P	**Pn**	**04 28 17.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**5.62**	**93**	Pn	**Pn**	**04 28 16.4**	**-0.6**
	baz=275,slow=13,SNR=11						
USRK				Pg	**Pg**	**04 28 38.8**	**-2.0**
	baz=279,slow=17,SNR=36						
USRK				Lg	Lg	04 29 53.5	
	baz=289,slow=27,SNR=7.3						
USRK	**Ussuriysk Ar.**	**5.62**	**93**		**Pn**	**04 28 17.3**	**+0.2**
VLA	**Vladivostok**	**5.80**	**103**	*e*P	**Pn**	**04 28 21.1**	**+1.6**
DL2	**Dalian**	**6.12**	**199**	Pn	**Pn**	**04 28 23.0**	**-0.9**
DL2				Sn	**Sn**	**04 29 30.0**	**-4.0**
DL2				smax	smax		
	comp=E,330nm,0.7s						
DL2				smax	smax		
	comp=E,400nm,0.9s						
DL2				LR	LR		
	comp=E,1μm,10.0s						
DL2				LR	LR		
	comp=E,3μm,10.0s						
DL2				LR	LR		
	comp=E,1μm,9.2s						
KLR	**Kul'dur**	**6.87**	**46**	Pn	**Pn**	**04 28 34.6**	**+0.5**
	comp=E,8.0nm,0.3s,baz=232,slow=13,SNR=79						
KLR				Pg	**Pg**	**04 29 01.5**	**-3.1**
	comp=E,11nm,0.3s,baz=255,slow=17,SNR=7.2						
KLR				Lg	Lg	04 30 30.5	
	comp=E,38nm,0.3s,baz=163,slow=19,SNR=7.3						
BJI	**Beijing**	**7.54**	**234**	Pn	**Pn**	**04 28 41.5**	**-2.0**
BJI				LR	LR		
	comp=E,4μm,10.0s						
BJI				LR	LR		
	comp=E,3μm,10.5s						
BJI				LR	LR		
	comp=E,1μm,17.8s						
BJT	**Baijiatuau**	**7.56**	**234**	P	**Pn**	**04 28 44.2**	**+0.5**
BJT	**Baijiatuau**	**7.56**	**234**	Pn	**Pn**	**04 28 44.2**	**+0.5**
KS19	**Wonju Array Si**	**7.74**	**158**		**Pn**	**04 28 47.2**	**+1.1**
KSRS	**Korea Array**	**7.80**	**157**	Pn	**Pn**	**04 28 47.0**	**+0.1**
	comp=E,1.6nm,0.3s,baz=343,slow=13,SNR=28						
KSRS				Pg	Pg	04 29 16.3	-6.1
	comp=E,3.3nm,0.3s,baz=340,slow=17,SNR=19						
KSRS				Lg	Lg	04 30 57.3	
	comp=E,6.7nm,0.3s,baz=337,slow=30,SNR=12						
KSRS				LR	LR	04 31 26.3	
	comp=E,67nm,21.7s,baz=34,slow=35						
KSAR	**Wonju Array Be**	**7.80**	**158**	P	**Pn**	**04 28 46.3**	**-0.6**
KSAR	**Wonju Array Be**	**7.80**	**158**		**Pn**	**04 28 46.3**	**-0.6**
TJN	**Taejon**	**8.69**	**163**	*ce*P	**Pn**	**04 28 58.7**	**-0.4**
ZEA	**Zeya**	**9.24**	**11**	*e*P	**Pn**	**04 29 06.0**	**-0.7**
ZEA				*e*		04 30 58.6	
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
ZEA				smax	smax		
	comp=N,31nm,0.8s						
ZEA				smax	smax		
	comp=Z,67nm,0.8s						
ZEA				smax	smax		
	comp=E,110nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,8.0s						
ZEA				MLR	MLR		
	comp=E,2μm,4.0s						
ZEA				MLR	MLR		
	comp=N,2μm,7.0s						
HHC	**Hu-ho-hao-te**	**10.04**	**252**	P	**Pn**	**04 29 18.2**	**+0.4**
HHC				S	**Sn**	**04 31 11.3**	**+0.6**
HHC				pmax	pmax		
	comp=N,13nm,0.9s						
HHC				pmax	pmax		
	comp=N,14nm,5.0s						
GRNR	**Gornyy**	**10.22**	**49**	*e*P	**Pn**	**04 29 22.0**	**+1.9**
GRNR				pmax	pmax		
	comp=Z,11nm,0.5s						
ULN	**Ulaanbaatar**	**12.25**	**291**	*ce*P	**Pn**	**04 29 46.7**	**-1.3**
ULN				pmax	pmax		
	comp=Z,33nm,1.3s						
ULN	**Ulaanbaatar**	**12.25**	**291**	Pn	**Pn**	**04 29 46.1**	**-1.9**
SONM	**Songino Array**	**12.68**	**290**	P	**Pn**	**04 29 52.3**	**-1.7**
SONM	**Songino Array**	**12.68**	**290**	Pn	**Pn**	**04 29 50.0**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=96,slow=12,SNR=12						
SONM				Sn	Sn	04 32 04.2	-11
	comp=Z,0.7nm,0.3s,baz=98,slow=21,SNR=7.4						
SONM				Lg	Lg	04 33 29.9	
	comp=Z,1.3nm,0.3s,baz=91,slow=26,SNR=3.6						
SONM				LR	LR	04 35 12.7	
	comp=Z,833nm,18.6s,baz=98,slow=39						
SONM	**Songino Array**	**12.68**	**290**		**Pn**	**04 29 52.2**	**-1.7**
JNU	**Nakatsue**	**12.70**	**154**	Lg	Lg	04 33 34.6	
	comp=Z,0.2nm,0.3s,baz=14,slow=18,SNR=5.8						
ASAJ	**Asahikawa**	**13.19**	**86**	LR	LR	04 35 07.2	
	comp=Z,555nm,18.7s,baz=325,slow=37						
NJ2	**Nanjing**	**13.32**	**200**	*e*P	**Pn**	**04 30 02.9**	**+0.4**
NJ2				S	**Sn**	**04 32 32.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,22nm,0.8s						
NJ2				LR	LR		
	comp=Z,710nm,7.6s						
NJ2				LR	LR		
	comp=Z,820nm,7.1s						
NJ2				LR	LR		
	comp=Z,500nm,7.6s						
MJB9	**Matsu-Tunnel**	**13.41**	**123**	Pn	**Pn**	**04 30 05.4**	**+1.5**
MAJO	**Matsushiro**	**13.42**	**123**	P	**Pn**	**04 30 05.8**	**+1.9**
MAJO	**Matsushiro**	**13.42**	**123**	Pn	**Pn**	**04 30 05.8**	**+1.9**
MAT	**Matsushiro**	**13.42**	**123**	P	**P**	**04 30 15.0**	**+1.5**
MAT				S	**Sn**	**04 32 31.4**	**-1.9**
MJAR	**Matsushiro Arr**	**13.42**	**123**	Pn	**Pn**	**04 30 04.5**	**+0.6**
	baz=328,slow=11,SNR=3.2						
MJAR				LR	LR	04 34 45.0	
	comp=Z,264nm,19.3s,baz=310,slow=35						
MJAR	**Matsushiro Arr**	**13.42**	**123**	Pn	**Pn**	**04 30 03.4**	**-0.5**
INU	**Inuyama**	**13.57**	**129**	Pn	**Pn**	**04 30 07.4**	**+1.5**
BOD	**Bodaibo**	**14.55**	**338**	*e*P	**P**	**04 30 25.7**	**-0.1**
BOD				pmax	pmax		
	comp=Z,13nm,1.4s						
OKH	**Okha**	**15.09**	**48**	*de*P	P	04 30 45.7	+14
OKH				MLR	MLR		
	comp=Z,1μm,11.0s						
ZAK	**Zakamensk**	**15.18**	**299**	*e*P	**P**	**04 30 32.9**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TLY	**Talaya**	**15.32**	**304**	P	**Pn**	**04 30 29.5**	**-0.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TLY	**Talaya**	**15.32**	**304**	Lg	Lg	04 34 58.0	
	comp=Z,0.0nm,0.3s,baz=126,slow=19,SNR=7.8						
TLY				LR	LR	04 37 06.5	
	comp=Z,357nm,18.3s,baz=112,slow=40						
TLY	**Talaya**	**15.32**	**304**	Pn	**Pn**	**04 30 29.5**	**-0.2**
XAN	**Xi'an**	**15.88**	**233**	P	**Pn**	**04 30 35.0**	**-2.0**
XAN				S	**Sn**	**04 33 30.0**	**-3.2**
XAN				LR	LR		
	comp=Z,1μm,9.8s						
XAN				LR	LR		
	comp=Z,770nm,11.0s						
XAN				LR	LR		
	comp=Z,820nm,12.7s						
WHN	**Wuhan**	**16.14**	**212**	⇓P	**P**	**04 30 43.4**	**-0.2**
WHN				pmax	pmax		
	comp=Z,32nm,0.8s						
MOY	**Mondy**	**16.90**	**303**	*e*P	**P**	**04 30 53.8**	**+1.7**
MOY				pmax	pmax		
	comp=Z,27nm,1.4s						
YAK	**Yakutsk**	**17.63**	**9**	*e*P	**Pn**	**04 30 58.7**	**-0.3**
YAK				*e*S	**Sn**	**04 34 13.4**	**-1.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,65nm,2.5s						
YAK				pmax	pmax		
	comp=N,54nm,2.2s						
YAK				pmax	pmax		
	comp=E,56nm,2.0s						
YAK				smax	smax		
	comp=N,57nm,2.2s						
YAK				smax	smax		
	comp=E,26nm,2.0s						
YAK				MLR	MLR		
	comp=Z,75nm,10.0s						
YAK				MLR	MLR		
	comp=N,52nm,9.0s						
YAK	**Yakutsk**	**17.63**	**9**	P	**Pn**	**04 30 59.1**	**+0.2**
	comp=N,0.1nm,0.3s,baz=17,slow=1.9,SNR=6.4						
YAK				Lg	Lg	04 36 14.2	
	comp=N,0.1nm,0.3s,baz=270,slow=20,SNR=5.2						
YAK	**Yakutsk**	**17.63**	**9**	Pn	**Pn**	**04 30 57.6**	**-1.3**
LZH	**Lanzhou**	**17.69**	**248**	*e*P	**P**	**04 31 01.1**	**+0.1**
LZH				pP	sP	04 31 04.8	+0.6
LZH				sP	pP	04 31 07.5	+4.3
LZH				pmax	pmax		
	comp=N,22nm,1.1s						
LZH				pmax	pmax		
	comp=N,100nm,4.3s						
LZH				LR	LR		
	comp=N,1μm,10.8s						
LZH				LR	LR		
	comp=N,1μm,13.0s						
LZH				LR	LR		
	comp=N,1μm,14.1s						
ENH	**Enshi**	**18.50**	**224**	P	**Pn**	**04 31 10.4**	**+0.5**
GTA	**Gaotai**	**18.82**	**262**	P	**P**	**04 31 13.3**	**-0.1**
GTA				pP	sP	04 31 16.6	0.0
GTA				sP	pP	04 31 20.6	+5.0
GTA				pmax	pmax		
	comp=N,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=N,94nm,4.6s						
GTA				LR	LR		
	comp=N,580nm,10.7s						
GTA				LR	LR		
	comp=N,1μm,12.4s						
GTA				LR	LR		
	comp=N,1μm,14.1s						
YHNB	**Yeheng**	**20.14**	**187**	P	**P**	**04 31 27.7**	**-0.1**
YHNB				IAmb	IAmb	04 31 33.6	
	comp=Z,43nm,0.8s						
SSLB	**Suanglung**	**21.05**	**188**	P	**P**	**04 31 37.7**	**+0.1**
CD2	**Chengdu**	**21.14**	**236**	*e*P	**P**	**04 31 38.0**	**-0.6**
CD2				S	**S**	**04 35 33.2**	**-0.8**
CD2				pmax	pmax		
	comp=Z,200nm,0.8s						
CD2				LR	LR		
	comp=Z,900nm,5.7s						
CD2				LR	LR		
	comp=Z,760nm,6.7s						
GYA	**Guiyang**	**23.04**	**224**	⇑*i*P	**P**	**04 31 57.7**	**-1.3**
GYA				PP	**PnPn**	**04 32 25.7**	**+1.9**
GYA				S	**S**	**04 36 05.4**	**-4.8**
GYA				SS	**SnSn**	**04 36 48.9**	**+6.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.6s						
GYA				pmax	pmax		
	comp=Z,90nm,3.1s						
GYA				LR	LR		
	comp=Z,550nm,12.6s						
GYA				LR	LR		
	comp=Z,350nm,11.9s						
GYA				LR	LR		
	comp=Z,570nm,11.8s						
PEA0B	**Petropavlovsk-**	**23.39**	**57**	*i*P	**P**	**04 32 03.6**	**+1.3**
PETK	**Petropavlovsk-**	**23.39**	**57**	P	**P**	**04 32 03.3**	**+1.0**
	comp=Z,9.8nm,0.8s,baz=238,slow=5.9,SNR=17						
PETK				LR	LR	04 42 16.3	
	comp=Z,226nm,18.5s,baz=242,slow=39						
PETK	**Petropavlovsk-**	**23.39**	**57**	P	**P**	**04 32 03.1**	**+0.8**
PET	**Petropavlovsk**	**23.96**	**57**	*e*P	**P**	**04 32 14.0**	**+6.3**
PET				*e*S	**S**	**04 36 23.2**	**-1.1**
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET				MLR	MLR		
	comp=Z,700nm,16.0s						
SEY	**Seymchan**	**24.36**	**32**	*i*P	**P**	**04 32 11.4**	**+0.1**
SEY	**Seymchan**	**24.36**	**32**	P	**P**	**04 32 12.9**	**+1.5**
	comp=Z,4.9nm,1.0s,baz=224,slow=10,SNR=6.4						
DGZ	**Jazzator, Alta**	**25.27**	**295**	*i*P	**P**	**04 32 19.9**	**-0.1**
WMQ	**Urumqi**	**26.00**	**281**	*e*P	**P**	**04 32 28.0**	**+1.5**
WMQ				pP	pP	04 32 29.0	+0.1
WMQ				pmax	pmax		
	comp=Z,25nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,70nm,5.3s						
WMQ				LR	LR		
	comp=Z,290nm,10.1s						
WMQ				LR	LR		
	comp=Z,630nm,13.1s						
WMQ				LR	LR		
	comp=Z,550nm,15.1s						
KMI	**Kunming**	**26.15**	**229**	P	**P**	**04 32 28.6**	**+0.4**
KMI				pP	sP	04 32 31.5	0.0
KMI				sP	pP	04 32 33.7	+3.1
KMI				S	**S**	**04 37 00.3**	**0.0**
KMI				SS	**SnSn**	**04 38 06.3**	**+7.9**
KMI				pmax	pmax		
	comp=Z,17nm,0.7s						
KMI				pmax	pmax		
	comp=Z,190nm,3.1s						
KMI				LR	LR		
	comp=Z,880nm,18.3s						
KMI				LR	LR		
	comp=Z,610nm,18.8s						
KMI				LR	LR		
	comp=Z,820nm,16.4s						
ZAA0	**Zalesovo Array**	**26.94**	**304**	P	**P**	**04 32 34.8**	**0.0**
ZALV	**Zalesovo Beam**	**26.94**	**304**	*i*P	**P**	**04 32 35.1**	**+0.3**
ZALV	**Zalesovo Beam**	**26.94**	**304**	P	**P**	**04 32 34.6**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=92,slow=7.2,SNR=10						
ZALV				PcP	**PcP**	**04 35 55.7**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=90,slow=1.5,SNR=5.3						
ZALV				LR	LR	04 43 49.6	
	comp=Z,232nm,18.1s,baz=94,slow=38						
MK31	**Makanchi Array**	**29.05**	**289**	P	**P**	**04 32 53.9**	**+0.2**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**29.05**	**289**	P	**P**	**04 32 53.9**	**+0.2**
MKAR	**Makanchi Array**	**29.05**	**289**	P	**P**	**04 32 54.0**	**+0.3**
MKAR						04 36 00.6	
MKAR	**Makanchi Array**	**29.05**	**289**	P	**P**	**04 32 53.5**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=88,slow=9.5,SNR=17						
MKAR				PcP	**PcP**	**04 36 00.6**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=104,slow=1.5,SNR=6.8						
MKAR				LR	LR	04 45 02.2	
	comp=Z,203nm,19.4s,baz=90,slow=37						
MKAR	**Makanchi Array**	**29.05**	**289**	P	**P**	**04 32 54.0**	**+0.3**
NRIK	**Noril'sk**	**30.82**	**336**	P	**P**	**04 33 08.8**	**-0.3**
	comp=Z,7.4nm,0.7s,baz=126,slow=9.6,SNR=6.2						
KURK	**Kurchatov**	**30.83**	**298**	*ce*P	**P**	**04 33 09.8**	**+0.4**
KURK				pmax	pmax		
	comp=Z,14nm,1.3s						
KURK	**Kurchatov**	**30.83**	**298**	P	**P**	**04 33 09.3**	**-0.1**
KURK				IAmb	IAmb	04 33 12.1	
	comp=Z,8.0nm,0.7s						
KURK	**Kurchatov**	**30.83**	**298**		**PcP**	**04 36 05.9**	**-0.3**
KURBB	**Kurchatov Arra**	**30.89**	**298**	P	**P**	**04 33 09.6**	**-0.4**
	comp=Z,5.5nm,0.7s,baz=84,slow=9.7,SNR=23						
KURBB				PcP	**PcP**	**04 36 05.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=84,slow=2.1,SNR=6.2						
BILL	**Bilibino**	**31.92**	**28**	*i*P	**P**	**04 33 19.9**	**+1.0**
BILL				*i*		04 34 27.8	
BILL				*i*		04 36 10.1	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,278nm,18.0s						
SHL	**Shillong**	**32.30**	**245**	P	**P**	**04 33 22.6**	**-0.2**
SHL				pmax	pmax		
	comp=Z,36nm,1.5s						
SHL	**Shillong**	**32.30**	**245**	P	**P**	**04 33 22.6**	**-0.2**
CHTO	**Chiang Mai**	**33.32**	**227**	P	**P**	**04 33 30.9**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**33.32**	**227**	P	**P**	**04 33 30.9**	**-0.7**
TARG	**Taragay, Kyrgy**	**33.57**	**282**	IAmb	IAmb	04 33 38.4	
	comp=Z,9.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**33.61**	**227**	P	**P**	**04 33 33.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**33.61**	**227**	P	**P**	**04 33 31.0**	**-3.1**
	comp=Z,0.7nm,0.4s,baz=30,slow=7.5,SNR=6.6						
CMAR				LR	LR	04 46 55.0	
	comp=Z,65nm,19.5s,baz=0.0,slow=36						
CMAR	**Chiang Mai Arr**	**33.61**	**227**	P	**P**	**04 33 33.6**	**-0.5**
TAPN	**Taplejung**	**33.85**	**252**	*e*P	**P**	**04 33 35.5**	**-1.0**
	comp=Z,11nm,0.6s						
JIRN	**Jiri**	**34.69**	**254**	*e*P	**P**	**04 33 42.6**	**-1.3**
	comp=Z,13nm,0.5s						
GUN	**Gumba**	**34.74**	**254**	*e*P	**P**	**04 33 43.8**	**-0.5**
	comp=Z,14nm,0.6s						
RAMN	**Ramite**	**34.87**	**252**	*e*P	**P**	**04 33 43.1**	**-2.1**
	comp=Z,28nm,0.8s						
NRN	**Naryn**	**34.93**	**282**	IAmb	IAmb	04 33 49.4	
	comp=Z,7.9nm,0.9s						
KKN	**Kakani**	**35.23**	**255**	*e*P	**P**	**04 33 47.2**	**-1.2**
	comp=Z,13nm,0.4s						
PKI	**Pulchoki**	**35.28**	**254**	*e*P	**P**	**04 33 47.3**	**-1.6**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**35.29**	**254**	*e*P	**P**	**04 33 47.3**	**-1.6**
	comp=Z,6.0nm,0.5s						
AAK	**Ala-Archa**	**35.54**	**285**	*ce*P	**P**	**04 33 51.3**	**+0.5**
AAK				pmax	pmax		
	comp=Z,24nm,1.3s						
AAK	**Ala-Archa**	**35.54**	**285**	P	**P**	**04 33 51.1**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=99,slow=7.8,SNR=18						
AAK	**Ala-Archa**	**35.54**	**285**	P	**P**	**04 33 51.2**	**+0.3**
AAK				IAmb	IAmb	04 33 54.4	
	comp=Z,15nm,0.9s						
BVAR	**Borovoye Array**	**35.58**	**303**	P	**P**	**04 33 50.2**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=86,slow=9.4,SNR=22						
BVAR				PcP	**PcP**	**04 36 18.0**	**-1.5**
	comp=Z,1.4nm,0.5s,baz=108,slow=3.2,SNR=4.8						
BRVK	**Borovoye**	**35.63**	**303**	*ce*P	**P**	**04 33 52.1**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**35.63**	**303**	P	**P**	**04 33 51.5**	**+0.2**
KSH	**Kashi**	**35.71**	**279**	P	**P**	**04 33 56.0**	**+3.8**
KSH				PP	**PP**	**04 35 17.9**	**+4.8**
KSH				S	**S**	**04 39 33.7**	**+4.5**
KSH				SS	**SnSn**	**04 41 55.6**	**+5.3**
KSH				pmax	pmax		
	comp=Z,20nm,0.6s						

KSH pmax pmax
comp=Z,100nm,5.1s
KSH LR LR
comp=Z,770nm,13.2s
KSH LR LR
comp=Z,750nm,12.9s
KSH LR LR
comp=Z,1μm,14.6s
DANN Dangsing 35.93 257 *e*P **P 04 33 53.7 -0.8**
comp=Z,41nm,0.5s
KOLN Koldanda 36.40 256 *e*P **P 04 33 57.1 -1.3**
comp=Z,15nm,0.8s
ARSB Arslanbob 37.08 283 IAmb IAmb 04 34 09.7
comp=Z,9.0nm,0.8s
KK31 Karatay Array 38.10 287 P **P 04 34 12.2 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KK31 Karatay Array 38.10 287 P **P 04 34 12.2 -0.3**
KKAR Karatay Array 38.10 287 P **P 04 34 12.5 +0.1**
KKAR Karatay Array 38.10 287 P **P 04 34 12.6 +0.1**
KKM Kota Kinabalu 39.15 193 P **P 04 34 21.2 -0.3**
KKM IAmb IAmb 04 34 23.5
comp=Z,26nm,1.0s
GAR Garm 39.90 281 P **P 04 34 27.9 +0.2**
NIL Nilore 40.39 272 P **P 04 34 32.5 +0.8**
NIL pmax pmax
comp=Z,7.0nm,0.7s
NIL Nilore 40.39 272 P **P 04 34 32.5 +0.8**
SVE Sverdlovsk 40.49 311 *e*P **P 04 34 33.2 +1.0**
SVE pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 41.70 310 *ce*P **P 04 34 42.8 +0.7**
ARU pmax pmax
comp=Z,13nm,1.3s
ARU Arti 41.70 310 P **P 04 34 42.2 +0.1**
comp=Z,1.9nm,0.6s,baz=140,slow=4.3,SNR=7.4
ARU Arti 41.70 310 P **P 04 34 42.1 0.0**
ABKAR Akbulak array 42.87 300 P **P 04 34 51.6 -0.2**
KBL Kabul 42.92 276 P **P 04 34 52.7 +0.1**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 42.92 276 P **P 04 34 52.7 +0.1**
SBUM Sibu 43.40 198 P **P 04 34 55.7 -0.7**
AKTO Aktyubinsk 43.66 302 P **P 04 34 58.1 0.0**
comp=Z,2.6nm,0.7s,baz=86,slow=11,SNR=8.9
PRGR Permogore 46.86 320 *e*P **P 04 35 21.3 -2.0**
PRGR pmax pmax
comp=Z,16nm,0.9s
PSI Prapat 47.31 215 LR LR 04 56 38.3
comp=Z,143nm,18.6s,baz=2.5,slow=38
HRA Herat 47.80 280 P **P 04 35 31.4 +0.1**
HRA IAmb IAmb 04 35 34.7
comp=Z,8.8nm,1.4s
GEYT Alibeck 48.85 286 P **P 04 35 40.2 +1.0**
comp=Z,3.6nm,0.8s,baz=35,slow=3.6,SNR=6.2
GEYT LR LR 04 58 02.7
comp=Z,185nm,19.4s,baz=60,slow=38
GEYT Alibeck 48.85 286 P **P 04 35 40.8 +1.6**
TMCR Tamitsa 49.35 325 *e*P **P 04 35 43.3 +0.8**
TMCR pmax pmax
comp=Z,12nm,0.5s
COLA College 49.84 34 P **P 04 35 47.4 +1.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 49.84 34 P **P 04 35 47.4 +1.1**
COLA IAmb IAmb 04 35 47.7
comp=Z,7.7nm,0.8s
WRH Wood River Hil 49.89 34 P **P 04 35 48.1 +1.4**
WRH IAmb IAmb 04 35 51.9
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 49.90 320 *e*P **P 04 35 45.4 -1.4**
KLMR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 49.90 320 *e*P **P 04 35 45.5 -1.4**
KLMR AMP 04 35 47.9
comp=Z,20nm,1.0s
BMAR Burnt Mountain 50.14 30 P **P 04 35 49.5 +0.9**
FYU Fort Yukon 50.22 31 IAmb IAmb 04 35 53.1
comp=Z,18nm,1.2s
ILAR Eielson Array 50.26 34 P **P 04 35 49.2 -0.3**
ILAR Eielson Array 50.26 34 P **P 04 35 49.0 -0.5**
comp=Z,2.5nm,0.7s,baz=285,slow=7.2,SNR=28
ILAR Eielson Array 50.26 34 P **P 04 35 49.2 -0.3**
HDA Harding Lake 50.37 34 IAmb IAmb 04 36 36.9
comp=Z,25nm,1.8s
KDAK Kodiak Island 50.42 44 *ce*P **P 04 35 50.9 +0.1**
PRP Porcupine Dome 50.51 33 P **P 04 35 52.7 +1.2**
PRP IAmb IAmb 04 35 53.4
comp=Z,7.9nm,0.9s
DHY Denali Highway 50.71 36 P **P 04 35 52.8 -0.3**
DHY IAmb IAmb 04 35 53.6
comp=Z,7.5nm,0.9s
ARCES ARCESS Array B 51.77 334 P **P 04 36 00.8 -0.1**
comp=Z,1.2nm,0.5s,baz=63,slow=9.0,SNR=19
ARCES PcP **PcP 04 37 13.3 -0.6**
comp=Z,3.8nm,0.9s,baz=44,slow=6.9,SNR=4.4
DOT Dot Lake 51.84 35 IAmb IAmb 04 36 06.3
comp=Z,8.5nm,1.2s
VRH Novokhopyorsk 52.84 309 *e*P **P 04 36 08.3 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
DAWY Dawson 53.51 33 IAmb IAmb 04 36 15.8
comp=Z,17nm,1.7s
INK Inuvik 53.52 27 P **P 04 36 14.2 +0.5**
comp=Z,8.1nm,0.8s,baz=314,slow=7.5,SNR=19
INK Inuvik 53.52 27 IAmb IAmb 04 36 15.3
comp=Z,10nm,0.9s
LPSR Galich'ya Gora 53.71 311 *e*P **P 04 36 14.6 -0.8**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 53.76 315 *e*P **P 04 36 16.3 +0.6**
OBN pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 54.25 309 *e*P **P 04 36 18.5 -0.8**
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 54.30 309 *e*P **P 04 36 18.9 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
FIA1 FINESS Array S 55.47 325 P **P 04 36 28.3 +0.3**
FINES FINESS Array B 55.47 325 P **P 04 36 28.1 +0.1**
comp=Z,15nm,0.9s,baz=69,slow=7.1,SNR=52
FINES PcP **PcP 04 37 26.6 -1.4**
comp=Z,2.7nm,0.7s,baz=67,slow=4.7,SNR=3.7
FINES FINESS Array B 55.47 325 P **P 04 36 27.9 -0.1**
KBZ Khabaz 55.84 300 P **P 04 36 31.7 +0.8**
comp=Z,1.1nm,0.5s,baz=61,slow=11,SNR=4.2
KIV Kislovodsk 55.85 300 *e*P **P 04 36 31.6 +0.4**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,238nm,17.0s
KIV Kislovodsk 55.85 300 P **P 04 36 31.4 +0.2**
KIV IAmb IAmb 04 36 32.7
comp=Z,14nm,1.1s
SHA1 Shidzhatmaz 55.98 300 *i*P **P 04 36 31.7 -0.6**
GNI Garni 56.59 295 *ce*P **P 04 36 37.3 +0.7**
GNI pmax pmax
comp=Z,38nm,1.6s
GNI Garni 56.59 295 P **P 04 36 38.0 +1.4**
GNI IAmb IAmb 04 36 45.4
comp=Z,18nm,1.4s
VSU Vasula 56.76 321 *ce*P **P 04 36 38.0 +0.8**
VSU pmax pmax
comp=Z,68nm,1.3s
VSU Vasula 56.76 321 *e*P **P 04 36 37.4 +0.2**
VSU IAmb IAmb 04 36 38.3
comp=Z,35nm,0.7s
IZAR Zarasai 58.47 319 IAmb IAmb 04 36 53.0
comp=Z,12nm,0.8s
ISAL Salakas 58.63 319 *e*P **P 04 36 50.6 +0.2**
ISAL IAmb IAmb 04 36 52.1
comp=Z,13nm,0.9s
IIGN Ignalina 58.71 319 *e*P **P 04 36 51.3 +0.3**
IIGN IAmb IAmb 04 36 52.8
comp=Z,9.6nm,0.7s
SLIT Slitere, Latvi 59.19 322 *e*P **P 04 36 53.6 -0.6**
SLIT IAmb IAmb 04 36 56.9
comp=Z,111nm,0.5s
PABE Paberze 59.67 320 *e*P **P 04 36 57.9 +0.2**
PABE IAmb IAmb 04 37 01.0
comp=Z,32nm,0.7s
AKASG Malin Array Be 59.86 313 P **P 04 36 59.2 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 59.86 313 P **P 04 36 58.6 -0.4**
comp=Z,15nm,0.7s,baz=46,slow=7.3,SNR=14
AKASG Malin Array Be 59.86 313 P **P 04 36 59.2 +0.2**
DLBC Dease Lake 60.37 36 P **P 04 37 03.8 +1.2**
DLBC IAmb IAmb 04 37 07.0
comp=Z,9.5nm,1.1s
NB2 NORSAR Subarra 61.49 329 P **P 04 37 09.3 -0.8**
comp=Z,3.2nm,0.6s,baz=44,slow=6.5
NOA NORSAR Array B 61.49 329 P **P 04 37 09.2 -0.9**
comp=Z,1.2nm,0.5s,baz=56,slow=7.1,SNR=20
SORM Soroca 61.82 311 ⇓P **P 04 37 12.4 0.0**
FITZ Fitzroy Crossi 62.53 178 P **P 04 37 17.0 -0.4**
LVV L'vov 63.06 314 *e*P **P 04 37 20.5 -0.2**
YKA Yellowknife Ar 63.28 26 P **P 04 37 21.0 -1.0**
YKA Yellowknife Ar 63.28 26 P **P 04 37 21.0 -1.0**
comp=Z,1.4nm,0.8s,baz=314,slow=7.7,SNR=4.2
BEL Belsk 63.41 318 *e*P **P 04 37 23.5 +0.5**
BEL Belsk 63.41 318 *e*P **P 04 37 23.5 +0.5**
BEL *e*P **P 04 37 23.5 +0.5**
TESR Tescani 63.72 310 ⇓P **P 04 37 25.5 +0.3**
BIZ Bicaz 63.75 311 ⇑P **P 04 37 25.9 +0.5**
BUR08 Bucovina Ar. S 63.80 312 P **P 04 37 26.2 +0.5**
BURAR Bucovina Array 63.81 312 ⇓P **P 04 37 26.4 +0.5**
BURAR Bucovina Array 63.81 312 P **P 04 37 26.0 +0.1**
BR131 Keskin Array S 63.81 301 IAmb IAmb 04 37 30.1
comp=Z,4.4nm,0.9s
BRTR Keskin Array B 63.81 301 P **P 04 37 25.7 -0.3**
comp=Z,3.6nm,0.8s,baz=72,slow=4.9,SNR=19
BRTR Keskin Array B 63.81 301 P **P 04 37 25.6 -0.4**
KWP Kalwaria Pacla 63.85 315 *e*P **P 04 37 27.2 +1.2**
KWP Kalwaria Pacla 63.85 315 *e*P **P 04 37 27.2 +1.2**
KWP *e*P **P 04 37 27.2 +1.2**
VRI Vrincioaia 64.08 310 ⇓P **P 04 37 27.9 +0.4**
ANTO Ankara 64.24 301 P **P 04 37 28.9 +0.1**
ANTO pmax pmax
comp=Z,6.0nm,0.6s
ANTO Ankara 64.24 301 P **P 04 37 28.9 +0.1**
KOLS Kolonicke sedl 64.51 314 *e*P **P 04 37 31.0 +0.7**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 64.51 314 *e*P **P 04 37 31.0 +0.7**
BMR Baia Mare 64.68 313 ⇑P **P 04 37 32.1 +0.7**
UZH Uzhgorod 64.69 314 *e*P **P 04 37 33.0 +1.5**
MLR Muntele Rosu 64.74 310 P **P 04 37 32.7 +0.7**
MLR pmax pmax
comp=Z,27nm,1.5s
MLR Muntele Rosu 64.74 310 ⇓P **P 04 37 32.9 +0.9**
MLR Muntele Rosu 64.74 310 P **P 04 37 32.7 +0.7**
TRPA Tarpa 64.89 314 ⇓P **P 04 37 33.3 +0.6**
TRPA mb 04 37 36.0
OJC Ojcow 64.92 317 *e*P **P 04 37 33.5 +0.6**
OJC Ojcow 64.92 317 *e*P **P 04 37 33.5 +0.6**
OJC *e*P **P 04 37 33.5 +0.6**
WRAB Tennant Creek 65.01 169 P **P 04 37 33.3 -0.4**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 65.01 169 P **P 04 37 33.4 -0.4**
WRA Warramunga Arr 65.02 169 P **P 04 37 32.0 -1.8**
comp=Z,7.1nm,0.8s,baz=352,slow=7.0,SNR=28
WRA Warramunga Arr 65.02 169 P **P 04 37 31.8 -2.0**
NIE Niedzica 65.19 316 *e*P **P 04 37 35.9 +1.1**
NIE Niedzica 65.19 316 *e*P **P 04 37 35.9 +1.1**
NIE *e*P **P 04 37 35.9 +1.1**
VOIR 65.26 310 ⇓P **P 04 37 35.7 +0.4**
ARR Arges 65.53 310 ⇓P **P 04 37 38.3 +1.3**
DRGR 65.65 312 ⇑P **P 04 37 38.9 +1.1**
LANS Liptovska Anna 65.78 316 *e*P **P 04 37 39.9 +1.3**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 65.78 316 *e*P **P 04 37 39.9 +1.3**
LANS *e*PP **PP 04 40 01.5 -1.3**
YLV Yalova 65.86 304 ⇑P P 04 37 46.6 +7.3
OKC Ostrava-Krasne 65.98 317 *e*P **P 04 37 40.1 +0.3**
OKC *e* 04 37 42.4
OKC Ostrava-Krasne 65.98 317 *e*P **P 04 37 40.1 +0.3**
OKC *e*pP **pP 04 37 42.4 +0.1**
RAYN Ar Rayn 65.99 280 P **P 04 37 40.4 +0.1**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 65.99 280 P **P 04 37 40.4 +0.1**
RAYN IAmb IAmb 04 37 41.9
comp=Z,3.2nm,0.7s
KSP Ksiaz 66.19 319 *e*P **P 04 37 41.8 +0.6**
KSP Ksiaz 66.19 319 *e*P **P 04 37 41.8 +0.6**
KSP *e*P **P 04 37 41.8 +0.6**
MORC Moravsky Berou 66.31 317 P **P 04 37 42.5 +0.5**
MORC pmax pmax
comp=Z,11nm,1.0s
MORC Moravsky Berou 66.31 317 ⇑P **P 04 37 42.4 +0.4**
MORC mb 04 37 43.6
MORC Moravsky Berou 66.31 317 *e*P **P 04 37 42.5 +0.5**
MORC Moravsky Berou 66.31 317 P **P 04 37 42.5 +0.5**
PSZ Piszkesteto 66.38 315 P **P 04 37 43.0 +0.5**
PSZ pmax pmax
comp=Z,19nm,1.2s
PSZ Piszkesteto 66.38 315 ⇓P **P 04 37 43.5 +1.0**
PSZ mb 04 37 45.9
PSZ Piszkesteto 66.38 315 P **P 04 37 43.0 +0.5**
ELND Elena 66.40 308 ⇑P **P 04 37 42.0 -0.6**
CHVC Chvalec 66.48 319 *e*P **P 04 37 43.6 +0.6**
CHVC *ex* x 04 37 45.5
KRLC Kraliky 66.48 318 *e*P **P 04 37 43.4 +0.3**
KRLC *e* 04 37 45.5
KRLC Kraliky 66.48 318 *e*P **P 04 37 43.4 +0.3**
KRLC *e*pP **pP 04 37 45.5 -0.1**
DPC Dobruska-Polom 66.51 318 *e*P **P 04 37 44.3 +1.0**
DPC *e* 04 37 46.3
DPC Dobruska-Polom 66.51 318 *e*P **P 04 37 44.3 +1.0**
DPC *e*pP **pP 04 37 46.3 +0.5**
GZR Gura Zlata 66.52 311 ⇑P **P 04 37 44.1 +0.6**
VYHS Vyhne 66.53 316 *e*P **P 04 37 44.4 +1.0**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 66.53 316 *e*P **P 04 37 44.4 +1.0**
UPC Upice 66.55 319 *e*P **P 04 37 44.1 +0.6**
UPC *e* 04 37 46.0
UPC Upice 66.55 319 *e*P **P 04 37 44.1 +0.6**
UPC *e*pP **pP 04 37 46.0 0.0**
PLVB Pleven 66.81 309 ⇑P **P 04 37 45.4 +0.2**
JAVC Velka Javorina 66.86 316 *e*P **P 04 37 47.1 +1.5**
BZS Buzias 66.99 312 ⇓P **P 04 37 46.6 +0.3**
VRAC Vranov 67.09 317 ⇓P **P 04 37 47.9 +1.0**
VRAC mb 04 37 50.3
VRAC Vranov 67.09 317 *e*P **P 04 37 47.4 +0.5**
SMOL Smolenice 67.21 316 *e*P **P 04 37 49.1 +1.4**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 67.21 316 *e*P **P 04 37 49.1 +1.4**
PVCC Panska Ves 67.22 319 *e*P **P 04 37 48.6 +0.9**
PVCC *e* 04 37 50.6
PVCC Panska Ves 67.22 319 *e*P **P 04 37 48.6 +0.9**
PVCC *e*pP **pP 04 37 50.6 +0.4**
BRG Berggiesshubel 67.27 320 *e*P **P 04 37 48.1 +0.1**
comp=Z,12nm,1.2s
BRG Berggiesshubel 67.27 320 *e*P **P 04 37 48.1 +0.1**
BRG pmax pmax
comp=Z,12nm,1.2s
KRUC Moravsky 67.35 317 *e*P **P 04 37 49.0 +0.4**
MODS Modra-Piesok 67.38 316 *e*P **P 04 37 49.2 +0.4**
MODS Modra-Piesok 67.38 316 *e*P **P 04 37 49.2 +0.4**
CLL Collm 67.39 321 *i*P **P 04 37 48.7 -0.1**
CLL *e* 04 38 15.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 67.39 321 *i*P **P 04 37 48.7 -0.1**
comp=Z,7.0nm,0.8s
CLL *e*PcP **PcP 04 38 15.0 -1.3**
CLL Collm 67.39 321 P **P 04 37 49.2 +0.4**
GOPC GO Pecny, Ondr 67.53 319 *e*P **P 04 37 51.6 +1.9**
GOPC GO Pecny, Ondr 67.53 319 *e*P **P 04 37 51.6 +1.9**
PRU Pruhonice 67.60 319 *e*P **P 04 37 50.5 +0.4**
PRU *e* 04 37 52.8
PRU Pruhonice 67.60 319 *e*P **P 04 37 50.5 +0.4**
PRU *e*pP **pP 04 37 52.8 +0.2**
TREC Trest 67.63 318 *e*P **P 04 37 50.9 +0.6**
TREC *e* 04 37 53.2
TREC Trest 67.63 318 *e*P **P 04 37 50.9 +0.6**
TREC *e*pP **pP 04 37 53.2 +0.3**
VTS Vitosha 68.08 309 P **P 04 37 54.2 +0.8**
VTS pmax pmax
comp=Z,10.0nm,0.9s
VTS Vitosha 68.08 309 ⇑P **P 04 37 53.8 +0.4**
VTS mb 04 37 57.1
VTS Vitosha 68.08 309 P **P 04 37 54.2 +0.8**
CONA Conrad Observa 68.38 317 *e*pP **P 04 37 56.4 +1.2**
comp=Z,7.0nm,0.9s
NKC Novy Kostel 68.40 320 *e*P **P 04 37 56.2 +1.0**
NKC Novy Kostel 68.40 320 *e*P **P 04 37 56.2 +1.0**
ASAR Alice Springs 68.64 170 P **P 04 37 55.5 -1.4**
comp=Z,3.7nm,0.9s,baz=351,slow=5.9,SNR=17
KHC Kasperske Hory 68.64 319 *e*P **P 04 37 57.3 +0.5**
KHC *e* 04 37 58.8
KHC Kasperske Hory 68.64 319 *e*P **P 04 37 57.3 +0.5**
KHC *e*pP **pP 04 37 58.8 -0.5**
KHC *ex* x 04 38 09.5
KHC Kasperske Hory 68.64 319 P **P 04 37 56.8 0.0**
KHC IAmb IAmb 04 37 59.9
comp=Z,15nm,1.7s
GERES GERESS Array B 68.79 318 P **P 04 37 57.9 +0.2**
comp=Z,1.6nm,0.6s,baz=46,slow=6.3,SNR=16
ARSA Arzberg 69.01 316 *e*pP **P 04 38 00.3 +1.2**
comp=Z,8.0nm,1.3s
SOKA Soboth 69.65 316 *e*pP **P 04 38 03.8 +0.7**
comp=Z,3.7nm,0.5s
OBKA Obir 70.01 316 *e*pP **P 04 38 05.9 +0.6**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 70.20 317 *e*pP **P 04 38 07.2 +0.7**
comp=Z,12nm,1.1s
MYKA Terra Mystica 70.37 317 *e*pP **P 04 38 08.0 +0.5**
comp=Z,7.9nm,0.9s
WATA Walderalm 70.86 318 *e*pP **P 04 38 10.9 +0.3**
comp=Z,8.5nm,1.3s
WTTA Wattenberg 70.89 318 *e*pP **P 04 38 11.3 +0.5**
comp=Z,4.5nm,0.7s
MOTA Moosalm 71.08 319 *e*pP **P 04 38 12.3 +0.3**
comp=Z,4.1nm,0.7s
SQTA Sankt Quirin 71.12 318 *e*pP **P 04 38 12.5 +0.3**
comp=Z,10nm,1.7s
RETA Reutte 71.14 319 *e*pP **P 04 38 12.9 +0.7**
comp=Z,17nm,1.6s
BFO Black Forest 71.64 321 *ce*P **P 04 38 16.0 +0.9**
BFO Black Forest 71.64 321 P **P 04 38 15.5 +0.4**
BFO IAmb IAmb 04 38 16.4
comp=Z,11nm,1.0s
DAVA Damuels 71.69 319 *e*pP **P 04 38 16.2 +0.5**
comp=Z,8.5nm,0.7s
TUE Stuetta 72.54 319 P **P 04 38 20.8 0.0**
TUE IAmb IAmb 04 38 24.0
comp=Z,7.2nm,0.8s
BMO Blue Mountains 75.47 40 IAmb IAmb 04 38 39.7
comp=Z,16nm,1.5s
HRY Holter Researc 76.43 36 P **P 04 38 43.6 +0.3**
MFID Camas Ranch 77.26 40 IAmb IAmb 04 38 49.9
comp=Z,6.5nm,1.0s
BEKR Beckworth 77.77 45 IAmb IAmb 04 38 52.7
comp=Z,5.5nm,0.9s
BMN Battle Mountai 78.90 43 IAmb IAmb 04 38 59.6
comp=Z,6.0nm,0.9s
YERR Yerington 79.00 45 IAmb IAmb 04 38 60.0
comp=Z,8.5nm,1.1s
ULM Lac du Bonnet 79.20 25 P **P 04 38 57.2 -1.2**
comp=Z,3.0nm,0.6s,baz=330,slow=7.0,SNR=5.6
REDW Red Top Meadow 79.53 37 IAmb IAmb 04 39 03.2
comp=Z,16nm,1.7s
KVN Kaiserville 79.53 44 IAmb IAmb 04 39 03.0
comp=Z,7.4nm,1.2s
ELK Elko 79.61 42 P **P 04 39 02.3 +1.1**
comp=Z,1.7nm,0.8s,baz=358,slow=4.8,SNR=6.8
NVAR Mina Array Bea 79.90 45 P **P 04 39 03.8 +1.0**
comp=Z,3.0nm,1.0s,baz=295,slow=4.3,SNR=12
KEST Kesra 80.55 312 P **P 04 39 06.7 +0.5**
comp=Z,4.3nm,0.9s,baz=11,slow=4.2,SNR=5.5
KEST Kesra 80.55 312 P **P 04 39 06.9 +0.8**
KEST IAmb IAmb 04 39 07.9
comp=Z,12nm,1.1s
PDAR Pinedale Array 80.56 37 P **P 04 39 06.1 -0.2**
comp=Z,1.2nm,1.1s,baz=299,slow=3.1,SNR=5.3
PDAR Pinedale Array 80.56 37 P **P 04 39 05.9 -0.4**
DUG Dugway, Tooele 81.18 41 IAmb IAmb 04 39 13.4
comp=Z,8.0nm,1.4s
RSSD Black Hills 81.70 33 P **P 04 39 12.6 +0.3**
RSSD pmax pmax
comp=Z,9.0nm,1.2s
RSSD Black Hills 81.70 33 P **P 04 39 12.6 +0.3**
RSSD IAmb IAmb 04 39 13.4
comp=Z,9.1nm,1.1s
SHPR Sheep Range 82.97 44 P **P 04 39 20.1 +1.1**
SHPR IAmb IAmb 04 39 21.6
comp=Z,5.7nm,1.2s
ESDC Sonseca Array 83.90 322 P **P 04 39 23.2 -0.4**
comp=Z,1.0nm,0.7s,baz=27,slow=4.4,SNR=6.6
ESDC Sonseca Array 83.90 322 P **P 04 39 23.6 0.0**
PV03 Paradox Valley 84.56 39 P **P 04 39 28.5 +1.3**
PFO Pinyon Flats O 84.57 47 *ce*P **P 04 39 30.7 +3.5**
PFO Pinyon Flats O 84.57 47 P **P 04 39 28.3 +1.0**
PFO IAmb IAmb 04 39 30.4
comp=Z,7.8nm,1.1s
ECSD EROS Data Cent 84.73 28 IAmb IAmb 04 39 28.5
comp=Z,8.6nm,1.1s
G40A Rib Lake 85.35 24 P **P 04 39 30.5 -0.3**
WUAZ Wupatki 85.61 42 IAmb IAmb 04 39 35.1
comp=Z,8.9nm,1.1s
Y14A Wickenburg 86.07 44 IAmb IAmb 04 39 36.4
comp=Z,4.0nm,0.8s
X16A Lo Mia Camp, P 86.46 43 IAmb IAmb 04 39 39.4
comp=Z,5.4nm,0.9s
ANMO Albuquerque 88.37 39 *ce*P **P 04 39 45.0 -0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 88.37 39 P **P 04 39 47.0 +1.1**
ANMO IAmb IAmb 04 39 48.3
comp=Z,5.1nm,1.1s
KMBO Kilima Mbogo 88.59 267 P **P 04 39 47.3 0.0**
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 88.59 267 P **P 04 39 47.9 +0.6**
comp=Z,0.5nm,0.4s,baz=17,slow=2.0,SNR=4.3
KMBO Kilima Mbogo 88.59 267 P **P 04 39 47.3 0.0**
TXAR Lajitas Array 94.36 40 P **P 04 40 14.1 +0.4**
comp=Z,0.4nm,0.7s,baz=275,slow=6.2,SNR=4.8
SDV Santo Domingo 124.99 18 **PKPdf 04 45 53.6 -1.0**
SNAA Sanae 143.23 205 PKPdf PKPbc 04 46 23.1 -0.6
VNA2 Neumayer--Watz 144.87 205 PKPbc **PKPab 04 46 27.3 -1.3**
VNA1 Neumayer--Stat 145.24 206 PKPbc **PKPbc 04 46 28.6 -1.2**
VNA3 Neumayer Olymp 145.42 204 PKPbc **PKPdf 04 46 28.9 -1.5**
LPAZ La Paz 149.81 24 PKPbc **PKPbc 04 46 44.0 -0.8**
comp=Z,3.6nm,0.8s,baz=0.0,slow=2.0,SNR=9.5
BDFB Brasilia 150.26 345 PKIKP **PKPbc 04 46 44.0 -1.3**
BDFB Brasilia 150.26 345 PKPbc **PKPbc 04 46 44.0 -1.3**
comp=Z,1.8nm,0.9s,baz=104,slow=19,SNR=3.5
CPUP Villa Florida 161.60 4 PKP **PKPdf 04 46 52.7 -2.0**
comp=Z,2.9nm,1.0s,baz=84,slow=4.8,SNR=2.9

ANF ***03*** *04:35:15.1±0.2,34°.00N×116°.60W,h15km±1km,ML2.3/25,*
Error ellipse: s-maj=1.6km s-min=1.3km az=68.0
NEIC ***03*** *04:35:15.6±0.8,34°.00N±0°.01×116°.66W±0°.03,h8km±7km*
PAS ***03*** *04:35:16.1±1.6,34°.02N±0°.02×116°.59W±0°.05,h11km±5km,*
ML2.5
SCEDC ***03*** *04:35:16.2,34°.02N×116°.59W,h11km*
ISC 03 04:35:15.6±0.9,34°.01N±0°.02×116°.59W±0°.02,h13km±8km,
n39,σ0°72/69,Southern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.37**	**313**	P			**Pg**	**04 35 23.1**	**-0.1**
BBRC	baz=131,SNR=43			S			**Sg**	**04 35 28.5**	**+0.2**
PFO	**Pinyon Flats O**	**0.41**	**164**	P			**Pg**	**04 35 23.9**	**+0.1**
PFO	baz=345,SNR=43			S			**Sg**	**04 35 29.7**	**+0.3**
PFO	**Pinyon Flats O**	**0.41**	**164**		Sg		**Sg**	**04 35 23.8**	**-0.1**
BELC	**Belle Mtn. Jos**	**0.49**	**91**	P			**Pg**	**04 35 25.4**	**0.0**
BELC	baz=272,SNR=23			S			**Sg**	**04 35 32.3**	**+0.3**
MURC	**Murrieta**	**0.65**	**231**	P			**Pg**	**04 35 28.1**	**-0.1**
MURC	baz=50,SNR=8.4			S			**Sg**	**04 35 36.9**	**+0.1**
HEC	**Hector,Ludlow**	**0.85**	**15**	P			**Pg**	**04 35 31.4**	**-0.7**
HEC	baz=195,SNR=36			S			**Sg**	**04 35 42.8**	**-0.4**
BFSC	**Mount Baldy Ra**	**0.91**	**285**	P			**Pg**	**04 35 32.7**	**-0.6**
	baz=104,SNR=6.9								

BFSC				S	Sg	04 35 44.9	-0.3
	baz=104						
RRX	**Edison Barstow**	**0.93**	**339**	P	**Pg**	04 35 33.1	-0.4
	baz=158,SNR=8.8						
RRX				S	Sg	04 35 45.8	+0.1
	baz=158						
BC3	**Big Chuckawall**	**1.01**	**110**	P	**Pg**	04 35 34.9	-0.2
	baz=292,SNR=14						
BC3				S	Sg	04 35 48.6	+0.2
	baz=292						
GMRC	**Granite Mounta**	**1.09**	**45**	P	**Pb**	04 35 35.8	-0.7
	baz=225,SNR=19						
GMRC				S	Sg	04 35 50.5	-0.5
	baz=225						
MONP2	**Monument Peak**	**1.12**	**173**	P	**Pb**	04 35 36.7	-0.3
	baz=353,SNR=19						
MONP2				S	Sb	04 35 52.0	+0.3
	baz=353						
109C	**Camp Elliot, M**	**1.20**	**201**	P	**Pn**	04 35 37.3	-0.8
	baz=21,SNR=9.7						
109C				S	Sb	04 35 52.8	-0.8
	baz=21						
109C	**Camp Elliot, M**	**1.20**	**201**		**Pn**	04 35 37.3	-0.8
109C				Sg	Sb	04 35 52.9	-0.6
IRM	**Iron Mountain**	**1.21**	**83**	P	**Pn**	04 35 37.2	-1.2
	baz=264,SNR=15						
IRM				S	Sb	04 35 54.1	0.0
	baz=264						
MWC	**Mount Wilson**	**1.23**	**280**		**Pn**	04 35 38.5	-0.2
SWSC	**Sam W. Stewart**	**1.25**	**148**	P	**Pn**	04 35 37.4	-1.4
	baz=329,SNR=22						
SWSC				S	Sb	04 35 55.6	+0.5
	baz=329						
GSC	**Goldstone, Bar**	**1.30**	**352**	P	**Pn**	04 35 39.2	-0.4
	baz=172,SNR=23						
GSC				S	Sb	04 35 56.4	-0.3
	baz=172						
GSC	**Goldstone, Bar**	**1.30**	**352**		**Pn**	04 35 39.3	-0.3
BAR	**Barrett**	**1.33**	**183**		**Pn**	04 35 39.5	-0.4
PASC	**Pasadena Art C**	**1.33**	**277**	Pn	**Pn**	04 35 40.1	+0.2
PASC					**Sn**	04 35 58.4	+0.8
IKP	**In-Ko-Pah, Jac**	**1.41**	**163**	Pn	**Pn**	04 35 40.4	-0.8
	baz=344,SNR=6.4						
IKP				Pg	Pb	04 35 42.2	+0.3
	baz=344						
IKP				Sn	Sn	04 35 58.1	-1.6
	baz=344						
IKP				Sg	Sb	04 36 00.8	+0.9
	baz=344						
EDW2	**Edwards Air Fo**	**1.45**	**307**	Pn	**Pn**	04 35 41.2	-0.4
	baz=126,SNR=12						
EDW2				Pg	Pb	04 35 42.3	-0.2
	baz=126						
EDW2				S	Sn	04 36 00.8	+0.3
	baz=126						
TUQ	**Turquoise Moun**	**1.53**	**21**	P	**Pn**	04 35 43.7	+1.0
	baz=201						
TUQ				S	Sg	04 36 04.3	-0.6
	baz=201						
CIS	**Catalina Islan**	**1.64**	**249**	P	**Pn**	04 35 44.1	-0.1
	baz=67						
CIS				S	Sn	04 36 05.8	+0.8
	baz=67						
Y12C	**Blythe**	**1.74**	**98**	Pg	**Pb**	04 35 48.5	+1.1
	baz=280						
Y12C				Sg	Sg	04 36 11.0	-0.6
	baz=280						
Y12C	**Blythe**	**1.74**	**98**		**Pn**	04 35 46.9	+1.3
GLA	**Glamis**	**1.76**	**122**		**Pn**	04 35 47.0	+1.2
NEE2	**Needles Airpor**	**1.80**	**65**	Pg	**Pb**	04 35 49.2	+0.7
	baz=246						
NEE2				Sg	Sg	04 36 12.8	-0.7
	baz=246						
OSI	**Osito Audit: C**	**1.86**	**290**	Sg	**Sb**	04 36 13.7	+0.9
	baz=108						
SHOC	**Shoshone, Teco**	**1.90**	**8**	P	**Pn**	04 35 47.3	-0.5
	baz=188,SNR=13						
SHOC				Sg	Sg	04 36 16.2	-0.7
	baz=188						
ARVC	**Arvin**	**2.16**	**302**	Sg	**Sb**	04 36 22.8	+1.6
	baz=120						
MPMC	**Manual Prospec**	**2.17**	**340**	Pn	**Pn**	04 35 51.4	-0.3
	baz=160						
MPMC				Pg	Pb	04 35 55.7	+0.7
	baz=160						
MPMC				Sg	Sg	04 36 25.0	-0.6
	baz=160						
ISA	**Isabella, Lake**	**2.26**	**317**	Pg	**Pb**	04 35 57.2	+0.8
	baz=136						
ISA	**Isabella, Lake**	**2.26**	**317**	Pn	**Pn**	04 35 52.8	0.0
DAC	**Darwin (Calif)**	**2.41**	**340**	Pn	**Pn**	04 35 54.7	-0.2
W13A	**Hualapai Mount**	**2.48**	**63**	Pn	**Pn**	04 35 56.7	+0.7
SHPR	**Sheep Range**	**2.75**	**25**	Pn	**Pn**	04 35 59.1	-0.5
TPNV	**Topopah Spring**	**2.95**	**5**	P	**Pn**	04 36 02.9	+0.6
	baz=186						
TPNV				Sg	Sg	04 36 48.2	-2.1
	baz=186						
TPNV	**Topopah Spring**	**2.95**	**5**	Pn	**Pn**	04 36 03.4	+1.0

ISCJB ***03*** *04:44:04.9±0.1, 55°.61N±0°.03×162°.35W±0°.03, h151km±1km, mb4.4/50, Error ellipse: s-maj=4.5km s-min=2.0km az=154.8*
NEIC ***03*** *04:44:06.0±1.9, 55°.53N±0°.08×162°.26W±0°.06, h149km±4km*
MOS ***03*** *04:44:05.0±1.0, 55°.69N×162°.35W, h149km, mb4.4/18, Error ellipse: s-maj=10.5km s-min=8.9km az=90.0*
AEIC ***03*** *04:44:07.2±2.5, 55°.40N±0°.09×162°.16W±0°.08, h144km±4km, ML4.3, mb4.6/124(NEIC)*
IDC ***03*** *04:44:07.3±0.6, 55°.66N×162°.53W, h155km±4km, mb4.0/25, mb1 4.2/27, mb1mx3.9/61, mbtmp4.4/27, Error ellipse: s-maj=14.3km s-min=7.0km az=4.0*
ISC 03 04:44:06.3±0.4, 55°.54N±0°.06×162°.24W±0°.03, h149km±3km, h149km:pP-P, n492, σ18.24/510, mb4.5/90, 3C, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLHA	**Black Hill**	**0.19**	**31**		**Pn**	04 44 26.1	-0.3
PN6	**Pavlof North-6**	**0.20**	**117**		**Pn**	04 44 26.4	-0.1
FALS	**False Pass**	**0.96**	**225**		**Pn**	04 44 29.1	-1.5
FALS	**False Pass**	**0.96**	**225**		**Sn**	04 44 47.7	-1.4
SDPT	**Sand Point**	**1.02**	**100**		**Pn**	04 44 29.9	-1.2
SDPT	**Sand Point**	**1.02**	**100**		**Sn**	04 44 48.5	-1.4
SSLW	**Shishaldin Wes**	**1.33**	**235**		**Pn**	04 44 32.9	-1.1
SSBA	**Shishaldin**	**1.33**	**235**		**Pn**	04 44 33.0	-1.0
SSBA					**Sn**	04 44 54.1	-1.2
VNWF	**Veniaminof 8**	**1.63**	**67**		**Pn**	04 44 37.5	+0.3
WESE	**West Dahl East**	**1.73**	**233**		**Pn**	04 44 37.9	-0.4
WEBT	**Westdahl Beart**	**1.73**	**238**		**Pn**	04 44 37.7	-0.6
WESP	**Westdahl Peak**	**1.78**	**235**		**Pn**	04 44 38.6	-0.2
WESP					**Sn**	04 45 02.5	-1.2
VNHG	**Veniaminof 1**	**1.86**	**67**		**Pn**	04 44 40.0	+0.3
VNSG	**Veniaminof 6**	**1.87**	**71**		**Pn**	04 44 39.8	0.0
CHGN	**Chignik**	**2.28**	**69**		**Pn**	04 44 43.9	-0.6
CHGN	**Chignik**	**2.28**	**69**		**Sn**	04 45 13.8	-0.3
AKSA	**Akutan Strait**	**2.45**	**236**		**Pn**	04 44 46.4	-0.3
AKSA					**Sn**	04 45 17.9	+0.2
AKSA	**Akutan Strait**	**2.45**	**236**		**Pn**	04 44 46.2	-0.5
AKUT	**Akutan**	**2.48**	**237**		**Pn**	04 44 46.3	-0.8
AKUT					**Sn**	04 45 16.6	-1.8
AKGG	**Akutan Green G**	**2.55**	**240**		**Pn**	04 44 47.3	-0.6
AKGG					**Sn**	04 45 19.2	-0.8
AKLV	**Akutan Long Va**	**2.56**	**239**		**Pn**	04 44 47.1	-0.9
AKLV					**Sn**	04 45 19.5	-0.7
AKBBA	**Akutan Broad B**	**2.58**	**237**		**Pn**	04 44 46.7	-1.6
AKBBA					**Sn**	04 45 19.1	-1.6
ZRO	**Akutan Zero**	**2.61**	**238**		**Pn**	04 44 47.9	-0.7
AKMO	**Akutan Morgan**	**2.62**	**238**		**Pn**	04 44 48.1	-0.7
AKRB	**Akutan Reef Bi**	**2.63**	**239**		**Pn**	04 44 48.4	-0.5
AKRB					**Sn**	04 45 21.8	0.0
ANNW	**Aniakchak Nort**	**2.66**	**56**		**Pn**	04 44 50.1	+0.8
ANNE	**Aniakchak Nort**	**2.71**	**58**		**Pn**	04 44 50.0	+0.1
UNV	**Unalaska Valle**	**3.00**	**237**		**Pn**	04 44 52.3	-1.3
UNV					**Sn**	04 45 27.6	-2.5
MTBL	**Makushin Table**	**3.02**	**240**		**Pn**	04 44 53.0	-0.8
MNAT	**Makushin Natee**	**3.07**	**239**		**Pn**	04 44 53.5	-0.9
MSW	**Makushin Switc**	**3.10**	**240**		**Pn**	04 44 53.8	-1.0
MSW					**Sn**	04 45 31.7	-0.7
MCIR	**Makushin Cirqu**	**3.13**	**241**		**Pn**	04 44 54.7	-0.6
MREP	**Makushin Rep't**	**3.14**	**238**		**Pn**	04 44 54.4	-1.0
MGOD	**Makushin Gods**	**3.21**	**239**		**Pn**	04 44 55.5	-0.8
PLBL	**Peulik Blue Cr**	**3.69**	**52**		**Pn**	04 45 03.5	+1.1
CHIR	**Chirikof Islan**	**3.75**	**83**		**Pn**	04 45 02.0	-1.2
CHIR					**Sn**	04 45 43.9	-3.5
PLK1	**Peulik 1**	**3.84**	**52**		**Pn**	04 45 04.9	+0.6
PLK3	**Peulik 3**	**3.94**	**54**		**Pn**	04 45 06.4	+0.8
OKFG	**Magazine Ridge**	**3.94**	**239**		**Pn**	04 45 04.5	-1.2
OKFG					**Sn**	04 45 49.6	-2.1
OKNC	**Okmok New Cone**	**4.02**	**241**		**Pn**	04 45 05.6	-1.1
OKNC					**Sn**	04 45 52.4	-1.2
OKTU	**Okmok Mt. Tuli**	**4.02**	**240**		**Pn**	04 45 05.6	-1.1
OKCE	**Okmok Cone E**	**4.05**	**241**		**Pn**	04 45 06.5	-0.7
CAHL	**Cahill**	**4.57**	**54**		**Pn**	04 45 14.1	+0.2
SII	**Sitkinak Islan**	**4.63**	**74**		**Pn**	04 45 13.6	-1.1
NIKH	**Nikolski High**	**4.66**	**239**		**Pn**	04 45 13.8	-1.3
SPIA	**Saint Paul Isl**	**4.75**	**293**		**Pn**	04 45 15.8	-0.4
OHAK	**Old Harbor**	**5.25**	**68**		**Pn**	04 45 20.7	-2.2
KDAK	**Kodiak Island**	**5.78**	**63**	P	**Pn**	04 45 27.9	-2.0
KDAK	**Kodiak Island**	**5.78**	**63**	P	**Pn**	04 45 28.2	-1.7
	52nm,0.3s,baz=201,slow=4.2,SNR=970						
KDAK				S	**Sn**	04 46 28.7	-6.5
	32nm,0.3s,baz=284,slow=17,SNR=15						
KDAK	**Kodiak Island**	**5.78**	**63**		**Pn**	04 45 27.9	-2.0
SVW2	**Sparrevohn**	**6.58**	**29**		**Pn**	04 45 40.7	+0.2
ILW	**Iliamna West**	**6.64**	**43**		**Pn**	04 45 42.1	+0.5
IVE	**Iliamna Volcan**	**6.66**	**44**		**Pn**	04 45 42.2	+0.5
RED	**Redoubt Volcan**	**7.01**	**42**		**Pn**	04 45 47.0	+0.6
HOM	**Homer**	**7.03**	**50**	Pn	**Pn**	04 45 47.2	+0.7
RDWB	**Redoubt West**	**7.03**	**41**		**Pn**	04 45 47.4	+0.7
RSO	**Redoubt South**	**7.05**	**42**		**Pn**	04 45 47.5	+0.5
CNPM	**China Poot**	**7.14**	**52**		**Pn**	04 45 47.3	-0.7
DFR	**Drift River**	**7.16**	**41**		**Pn**	04 45 49.0	+0.7
BRLK	**Bradley Lake**	**7.41**	**51**		**Pn**	04 45 50.1	-1.5
BRSE	**Bradley Lake S**	**7.46**	**51**		**Pn**	04 45 51.0	-1.4
SPWE	**Spurr West**	**7.67**	**38**		**Pn**	04 45 56.6	+1.5
SPNN	**North Nagishla**	**7.68**	**37**		**Pn**	04 45 56.7	+1.3
CKL	**Chakachamna La**	**7.69**	**38**		**Pn**	04 45 56.5	+1.1
KOFP	**Korovin Flat P**	**7.73**	**250**		**Pn**	04 45 55.2	-0.8
CKT	**Bend**	**7.74**	**39**		**Pn**	04 45 57.4	+1.3
KOWE	**Korovin West**	**7.77**	**251**		**Pn**	04 45 55.9	-0.6
SPCP	**Crater Peak Br**	**7.80**	**39**		**Pn**	04 45 58.2	+1.2
ATKA	**Atka Island**	**7.82**	**250**		**Pn**	04 45 55.4	-1.7
SPCG	**Spurr Capps Gl**	**7.87**	**39**		**Pn**	04 45 58.1	+0.3
CGLM	**Capps Glacier**	**7.88**	**39**		**Pn**	04 45 59.0	+1.0
TT01	**Tatalina**	**8.04**	**21**		**Pn**	04 45 59.9	-0.1
SLKM	**Skilak Lake**	**8.08**	**47**		**Pn**	04 45 60.0	-0.7
SEW	**Seward**	**8.21**	**51**		**Pn**	04 46 00.8	-1.4
SUA	**Susitna One**	**8.44**	**41**		**Pn**	04 46 04.6	-0.9
SKT	**Skwentna**	**8.51**	**36**		**Pn**	04 46 07.1	+0.8
RC01	**Rabbit Creek A**	**8.61**	**45**		**Pn**	04 46 06.3	-1.2
GSTR	**Great Sitkin T**	**8.88**	**253**		**Pn**	04 46 10.3	-0.9
GSMY	**Great Sitkin M**	**8.90**	**253**		**Pn**	04 46 10.8	-0.7
GSTD	**Great Sitkin T**	**8.94**	**253**		**Pn**	04 46 10.8	-1.3
PPLA	**Purkeypile**	**8.98**	**31**		**Pn**	04 46 14.8	+2.1
PWL	**Port Wells**	**9.06**	**48**		**Pn**	04 46 11.6	-2.1
PMR	**Palmer**	**9.13**	**43**	P	**Pn**	04 46 12.9	-1.6
PMR	**Palmer**	**9.13**	**43**		**Pn**	04 46 12.9	-1.6
ADAG	**Mount Adagdak**	**9.22**	**253**		**Pn**	04 46 14.6	-1.2
KNK	**Knik Glacier**	**9.30**	**45**		**Pn**	04 46 15.0	-1.8
ADK	**Adak**	**9.31**	**253**	P	**Pn**	04 46 15.2	-1.8
ADK	**Adak**	**9.31**	**253**		**Pn**	04 46 15.2	-1.8
GHO	**Glory Hole Cre**	**9.32**	**43**		**Pn**	04 46 14.1	-3.0
SML	**Sawmill**	**9.57**	**43**		**Pn**	04 46 18.7	-1.8
KIKV	**Kanaga Island**	**9.58**	**254**		**Pn**	04 46 19.4	-1.2
KIWB	**Kanaga Island**	**9.58**	**253**		**Pn**	04 46 19.4	-1.2
GLI	**Glacier Island**	**9.60**	**50**		**Pn**	04 46 18.3	-2.5
HIN	**Hinchinbrook I**	**9.66**	**53**		**Pn**	04 46 19.9	-1.7
KIMD	**Kanaga Island**	**9.67**	**253**		**Pn**	04 46 20.0	-1.8
FID	**Port Fidalgo**	**9.82**	**51**		**Pn**	04 46 20.9	-2.7
JPK	**Jack Peak**	**9.90**	**50**		**Pn**	04 46 22.8	-2.0
TAPA	**Tanaga Point A**	**9.96**	**254**		**Pn**	04 46 25.2	-0.5
TRF	**Thorofare Moun**	**9.97**	**33**		**Pn**	04 46 25.8	0.0
TAFP	**Tanaga Falls P**	**10.02**	**255**		**Pn**	04 46 25.4	-1.0
IMAR	**Indian Mountai**	**11.25**	**18**		**Pn**	04 46 43.2	+0.7
VRDI	**Verde Repeater**	**11.36**	**52**		**Pn**	04 46 42.8	-1.3
HDA	**Harding Lake**	**11.70**	**34**	P	**Pn**	04 46 46.5	-1.9
	baz=227,SNR=5.6						
TCOL	**CIGO, UAF Yank**	**11.74**	**31**	P	**Pn**	04 46 48.5	-0.4
	baz=223						
COLA	**College**	**11.74**	**31**	P	**Pn**	04 46 48.9	0.0
COLA	**College**	**11.74**	**31**		**Pn**	04 46 48.9	0.0
ILAR	**Eielson Array**	**11.96**	**33**	P	**Pn**	04 46 49.0	-2.8
	0.8nm,0.3s,baz=225,slow=14,SNR=30						
ILAR				S	**Sn**	04 48 57.8	-6.0
	0.5nm,0.3s,baz=215,slow=22,SNR=3.1						
ILAR				ScP	**ScP**	04 55 43.3	+0.5
	0.1nm,0.3s,baz=279,slow=3.1,SNR=11						
ILAR	**Eielson Array**	**11.96**	**33**		**Pn**	04 46 49.3	-2.6
POKR	**Poker Plat Res**	**12.04**	**31**	P	**Pn**	04 46 52.3	-0.5
	baz=224						
DOT	**Dot Lake**	**12.23**	**41**		**Pn**	04 46 55.5	+0.1
BCAR	**Beaver Creek A**	**12.83**	**46**		**Pn**	04 47 01.4	-1.7
EGAK	**Eagle**	**13.91**	**40**		**Pn**	04 47 16.1	-0.7
TOLK	**Toolik Lake Re**	**14.37**	**19**	P	**P**	04 47 25.9	+0.7
	baz=210						
BMAR	**Burnt Mountain**	**14.52**	**28**	Pn	**Pn**	04 47 25.1	+0.7
BESE	**Bessie Mountai**	**15.15**	**67**	IAmb	IAmb	04 47 46.2	
	comp=Z,32nm,0.8s						
WHY	**Whitehorse**	**15.27**	**59**	IAmb	IAmb	04 47 39.8	
	comp=Z,24nm,0.7s						
JIS	**Juneau Island**	**15.41**	**68**	IAmb	IAmb	04 47 43.9	
	comp=Z,23nm,0.5s						
EPYK	**Eagle Plains**	**16.32**	**38**	P	**P**	04 47 47.1	+0.3
	baz=240						
WRAK	**Wrangell Islan**	**16.69**	**75**	IAmb	IAmb	04 48 23.5	
	comp=Z,70nm,1.8s						
DLBC	**Dease Lake**	**17.69**	**67**	P	**Pn**	04 48 04.6	+1.4
	comp=Z,0.5nm,0.3s,baz=276,slow=11,SNR=12						
DLBC				S	**Sn**	04 51 21.7	+0.4
	comp=Z,0.3nm,0.3s,baz=21,slow=3.7,SNR=3.4						
INK	**Inuvik**	**18.36**	**35**	P	**Pn**	04 48 10.4	-0.4
INK				pmax	pmax		
	comp=Z,16nm,1.3s						
INK	**Inuvik**	**18.36**	**35**	P	**P**	04 48 08.1	-1.0
	comp=Z,1.2nm,0.3s,baz=212,slow=13,SNR=19						
INK				ScP	**ScP**	04 55 54.9	+0.6
	comp=Z,0.4nm,0.3s,baz=289,slow=3.1,SNR=12						
INK	**Inuvik**	**18.36**	**35**	P	**Pn**	04 48 10.4	-0.4
BILL	**Bilibino**	**19.15**	**323**	*i* P	**P**	04 48 17.2	-0.5
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL	**Bilibino**	**19.15**	**323**	P	**P**	04 48 18.5	+0.8
PET	**Petropavlovsk**	**22.76**	**280**	*e*P	**P**	04 48 56.1	+0.5
PET				pmax	pmax		
	comp=Z,41nm,1.7s						
PEA0B	**Petropavlovsk-**	**23.27**	**281**	*i* P	**P**	04 48 59.9	-0.3
PETK	**Petropavlovsk-**	**23.27**	**281**	P	**P**	04 49 00.5	+0.3
PETK	**Petropavlovsk-**	**23.27**	**281**	P	**P**	04 48 59.5	-0.7
	comp=Z,7.0nm,0.6s,baz=86,slow=16,SNR=19						
PETK	**Petropavlovsk-**	**23.27**	**281**	P	**P**	04 49 00.5	+0.3
SEY	**Seymchan**	**23.90**	**307**	*i* P	**P**	04 49 05.0	-0.9
SEY	**Seymchan**	**23.90**	**307**	P	**P**	04 49 04.9	-0.9
	comp=Z,14nm,0.6s,baz=103,slow=8.3,SNR=25						
SEY				ScP	**ScP**	04 56 07.6	-0.5
	comp=Z,1.9nm,0.7s,baz=288,slow=20,SNR=3.6						
YKW3	**Yellowknife Ar**	**24.96**	**54**	P	**P**	04 49 16.1	+0.7
YKW3				IAmb	IAmb	04 49 55.7	
	comp=Z,42nm,1.4s						
YKA	**Yellowknife Ar**	**24.97**	**54**	P	**P**	04 49 17.6	+2.1
YKA	**Yellowknife Ar**	**24.97**	**54**	P	**P**	04 49 16.6	+1.1
	comp=Z,3.0nm,0.6s,baz=275,slow=9.4,SNR=17						
YKA				pP	**pP**	04 49 49.0	+2.6
	comp=Z,11nm,0.8s,baz=276,slow=9.6,SNR=11						
YKA				ScP	**ScP**	04 56 12.1	+1.0
	comp=Z,0.9nm,0.5s,baz=283,slow=3.2,SNR=7.5						
YKA	**Yellowknife Ar**	**24.97**	**54**	P	**P**	04 49 17.6	+2.1
NEW	**Newport**	**28.34**	**86**	P	**P**	04 49 48.1	+2.2
	baz=302,SNR=6.4						
NEW	**Newport**	**28.34**	**86**	P	**P**	04 49 48.1	+2.2
	comp=Z,9.0nm,0.7s,baz=306,slow=8.0,SNR=15						
NEW	**Newport**	**28.34**	**86**	IAmb	IAmb	04 49 48.9	
	comp=Z,10nm,0.9s						
J05D	**Fort Rock, OR**	**28.92**	**98**	P	**P**	04 49 54.3	+3.1
	baz=309						
M04C	**Macdoel**	**29.55**	**101**	P	**P**	04 50 00.1	+3.3
	baz=312						
WALA	**Waterton Lakes**	**29.74**	**82**	IAmb	IAmb	04 50 04.5	
	comp=Z,39nm,1.9s						
MSO	**Missoula**	**30.93**	**86**	P	**P**	04 50 10.7	+1.8
	baz=304						
MSO	**Missoula**	**30.93**	**86**	IAmb	IAmb	04 50 11.0	
	comp=Z,5.0nm,0.6s						
PAHR	**Pah Rah Range**	**32.33**	**101**	P	**P**	04 50 22.6	+1.3
PAHR				IAmb	IAmb	04 50 24.4	
	comp=Z,12nm,1.1s						
DLMT	**Dillon**	**32.54**	**87**	IAmb	IAmb	04 50 27.0	
	comp=Z,15nm,1.7s						
EGMT	**Eagleton**	**32.63**	**81**	P	**P**	04 50 25.5	+1.8
	baz=303						
EGMT	**Eagleton**	**32.63**	**81**	IAmb	IAmb	04 50 26.2	
	comp=Z,15nm,1.0s						
YERR	**Yerington**	**32.91**	**102**	IAmb	IAmb	04 50 29.7	
	comp=Z,11nm,1.1s						
BOZ	**Bozeman (W)**	**32.95**	**86**	P	**P**	04 50 28.4	+1.8
	baz=306,SNR=14						
BOZ	**Bozeman (W)**	**32.95**	**86**	P	**P**	04 50 27.1	+0.5
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BOZ	**Bozeman (W)**	**32.95**	**86**	P	**P**	04 50 27.1	+0.5
NVAR	**Mina Array Bea**	**33.82**	**102**	P	**P**	04 50 36.8	+2.4
	comp=Z,3.9nm,0.8s,baz=299,slow=8.2,SNR=27						
NVAR				pP	**pP**	04 51 07.6	+1.5
	comp=Z,1.1nm,0.7s,baz=306,slow=7.7,SNR=2.5						
NVAR				PcP	**PcP**	04 53 09.8	+0.1
	comp=Z,0.7nm,0.7s,baz=276,slow=2.5,SNR=4.0						
NVAR				ScP	**ScP**	04 56 40.5	+0.3
	comp=Z,1.5nm,0.8s,baz=297,slow=2.9,SNR=8.0						
NVAR	**Mina Array Bea**	**33.82**	**102**	P	**P**	04 50 35.8	+1.5
NVAR	**Mina Array Bea**	**33.82**	**102**		**ScP**	04 56 41.1	+0.9
ELK	**Elko**	**33.96**	**96**	P	**P**	04 50 37.8	+2.3
	comp=Z,6.9nm,0.6s,baz=308,slow=8.9,SNR=32						
ELK	**Elko**	**33.96**	**96**	P	**P**	04 50 37.1	+1.6
ELK				IAmb	IAmb	04 50 38.5	
	comp=Z,7.0nm,0.7s						
H17A	**Grant Village**	**34.27**	**87**	P	**P**	04 50 41.9	+3.7
	baz=308,SNR=5.7						
YAK	**Yakutsk**	**34.35**	**309**	*i* P	**P**	04 50 37.0	-1.2
YAK				pmax	pmax		
	comp=Z,36nm,0.6s						
YAK	**Yakutsk**	**34.35**	**309**	P	**P**	04 50 36.8	-1.5
	comp=Z,24nm,0.4s,baz=263,slow=0.4,SNR=11						
YAK	**Yakutsk**	**34.35**	**309**	P	**P**	04 50 37.1	-1.2
RLMT	**Red Lodge**	**34.57**	**85**	P	**P**	04 50 43.7	+3.0
	baz=307						
YSS	**Yuzh-Sakhalins**	**34.65**	**279**	*e*P	**P**	04 50 43.2	+2.2
YSS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SNOW	**Snow King Moun**	**34.75**	**88**	P	**P**	04 50 44.0	+1.8
LAO	**LASA Array**	**35.36**	**80**	P	**P**	04 50 49.7	+2.5
	baz=305,SNR=5.4						
GRAC	**Grapevine Rang**	**35.37**	**103**	P	**P**	04 50 50.2	+2.9
	baz=316						
CWC	**Cottonwood Cre**	**35.37**	**104**	P	**P**	04 50 49.9	+2.3
	baz=317						
R11A	**Troy Canyon, C**	**35.40**	**99**	P	**P**	04 50 49.7	+1.9
	baz=314,SNR=16						
R11A	**Troy Canyon, C**	**35.40**	**99**	IAmb	IAmb	04 50 50.6	
	comp=Z,11nm,1.1s						
DGMT	**Dagmar**	**35.48**	**77**	P	**P**	04 50 50.1	+1.9
	baz=304						
DUG	**Dugway, Tooele**	**35.70**	**94**	P	**P**	04 50 52.3	+2.0
	baz=312,SNR=8.2						
BW06	**Boulder Array**	**35.87**	**88**	P	**P**	04 50 53.4	+1.6
	baz=309,SNR=12						
PD31	**Pinedale Array**	**35.87**	**88**	IAmb	IAmb	04 50 55.2	
	comp=Z,6.7nm,0.6s						
PDAR	**Pinedale Array**	**35.87**	**88**	P	**P**	04 50 53.5	+1.7
	comp=Z,6.6nm,0.5s,baz=315,slow=3.7,SNR=90						
PDAR				ScP	**ScP**	04 56 47.0	-0.5
	comp=Z,0.5nm,0.7s,baz=302,slow=1.7,SNR=4.4						
PDAR	**Pinedale Array**	**35.87**	**88**	P	**P**	04 50 53.0	+1.2
MPMC	**Manual Prospec**	**35.98**	**104**	P	**P**	04 50 54.8	+2.1
	baz=317,SNR=7.9						
TPNV	**Topopah Spring**	**36.02**	**102**	P	**P**	04 50 55.3	+2.2
	baz=316,SNR=11						
TPNV	**Topopah Spring**	**36.02**	**102**	IAmb	IAmb	04 50 55.8	
	comp=Z,10nm,0.7s						
FURC	**Furnace Creek,**	**36.03**	**103**	P	**P**	04 50

comp=Z,21nm,1.0s
EYMN Ely 42.68 69 P P 04 51 48.9 +0.9
baz=308
EYMN Ely 42.68 69 P P 04 51 48.4 +0.5
ANMO Albuquerque 42.97 95 P P 04 51 52.2 +1.6
baz=316
ANMO Albuquerque 42.97 95 P P 04 51 50.7 +0.1
ANMO pmax pmax
comp=Z,23nm,1.6s
ANMO Albuquerque 42.97 95 P P 04 51 50.7 +0.1
ANMO IAmb IAmb 04 51 53.1
comp=Z,23nm,1.6s
BGNE Belgrade 43.20 81 P P 04 51 53.5 +1.3
baz=312
E38A The Farm, Brul 43.48 71 P P 04 51 55.0 +0.6
baz=309,SNR=6.3
SPMN Marine on St. 43.68 73 P P 04 51 56.9 +1.0
baz=310,SNR=5.8
MAJO Matsushiro 43.97 270 *i* P **P 04 51 57.9 -0.5**
MAJO pmax pmax
comp=Z,20nm,1.7s
MAJO Matsushiro 43.97 270 P P 04 51 57.7 -0.7
MAJO IAmb IAmb 04 51 59.9
comp=Z,8.8nm,0.5s
MAT Matsushiro 43.97 270 P P 04 51 58.0 -0.4
MJAR Matsushiro Arr 43.97 270 P P 04 51 58.1 -0.3
MJAR 04 53 41.0
MJAR pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Arr 43.97 270 P P 04 51 56.8 -1.6
comp=Z,4.3nm,0.5s,baz=35,slow=6.3,SNR=26
MJAR PcP **PcP 04 53 41.0 -0.4**
comp=Z,1.1nm,0.5s,baz=47,slow=4.8,SNR=4.4
MJAR Matsushiro Arr 43.97 270 P P 04 51 58.1 -0.3
MJB9 Matsu-Tunnel 43.97 270 P P 04 51 57.9 -0.5
MJB9 IAmb IAmb 04 51 59.9
comp=Z,8.4nm,0.5s
121A Cookes Peak, D 43.99 98 P P 04 52 01.0 +2.2
baz=318,SNR=14
G39A Holcombe 44.53 72 P P 04 52 03.2 +0.5
baz=310,SNR=12
G40A Rib Lake 45.06 72 P P 04 52 07.6 +0.7
baz=310
NRIK Noril'sk 45.61 332 P P 04 52 10.0 -0.9
comp=Z,2.9nm,0.5s,baz=63,slow=9.0,SNR=4.9
KSU1 Kansas State U 45.63 83 P P 04 52 12.1 +0.6
baz=314
AMTX Amarillo 45.72 91 P P 04 52 13.6 +1.2
baz=316
MSTX Muleshoe 45.77 93 P P 04 52 13.9 +1.1
baz=317,SNR=6.1
MSTX Muleshoe 45.77 93 P P 04 52 12.7 0.0
MSTX IAmb IAmb 04 52 14.8
comp=Z,9.5nm,0.8s
F42A Maple Grove Fa 45.85 70 P P 04 52 14.2 +1.0
baz=310
F42A Maple Grove Fa 45.85 70 IAmb IAmb 04 52 15.0
comp=Z,18nm,1.1s
MNTX Cornudas Mount 45.96 97 P P 04 52 16.4 +2.1
baz=318,SNR=22
MNTX Cornudas Mount 45.96 97 IAmb IAmb 04 52 17.2
comp=Z,14nm,0.8s
I41A Arkdale 46.03 73 P P 04 52 15.2 +0.7
baz=311
E43A Lone Tree Farm 46.06 68 P P 04 52 15.6 +0.9
baz=310
JFWS Jewell Farm 46.58 74 P P 04 52 18.7 -0.2
baz=312
L40A Anamosa 46.62 76 P P 04 52 19.6 +0.4
baz=312
L40A Anamosa 46.62 76 IAmb IAmb 04 52 19.5
comp=Z,16nm,1.1s
I42A Draeger Farm, 46.66 72 P P 04 52 20.0 +0.6
baz=311
E46A Sault Ste Mari 47.48 67 P P 04 52 26.6 +0.8
baz=311
WMOK Wichita Mounta 47.48 88 P P 04 52 27.0 +1.0
baz=316,SNR=20
WMOK Wichita Mounta 47.48 88 P P 04 52 26.3 +0.3
WMOK *PP **pP 04 52 59.1 -0.4**
WMOK pmax pmax
comp=Z,15nm,0.6s
WMOK Wichita Mounta 47.48 88 P P 04 52 26.3 +0.3
WMOK **pP 04 52 59.1 -0.4**
G46A Petoskey 47.88 68 P P 04 52 29.6 +0.8
baz=312,SNR=6.2
D48A Paudash Townsh 48.24 64 P P 04 52 32.2 +0.6
baz=311
TUL1 Leonard 48.33 85 P P 04 52 33.0 +0.6
baz=316,SNR=5.1
TUL1 Leonard 48.33 85 IAmb IAmb 04 52 33.6
comp=Z,10nm,0.7s
GLMI Grayling 48.34 69 P P 04 52 33.3 +0.9
baz=312
ABTX Abilene, Hawle 48.53 91 P P 04 52 35.1 +1.1
baz=318,SNR=8.9
H47A Mio 48.70 68 P P 04 52 36.2 +1.0
baz=312
TX31 Lajitas Ar. Si 48.71 97 IAmb IAmb 04 52 38.1
comp=Z,15nm,0.8s
TX32 Lajitas Array 48.71 97 IAmb IAmb 04 52 38.1
comp=Z,15nm,0.8s
TXAR Lajitas Array 48.72 97 P P 04 52 37.0 +1.4
comp=Z,14nm,0.8s,baz=301,slow=5.9,SNR=140
TXAR PcP **PcP 04 53 59.0 +0.6**
comp=Z,1.0nm,0.5s,baz=230,slow=1.5,SNR=7.1
TXAR ScP **ScP 04 57 37.3 -1.6**
comp=Z,0.4nm,0.7s,baz=268,slow=2.7,SNR=4.1
TXAR Lajitas Array 48.72 97 P P 04 52 36.5 +0.9
KSRS Korea Array 49.15 279 P P 04 52 38.0 -0.6
comp=Z,3.4nm,0.6s,baz=43,slow=7.2,SNR=15
KSRS pP **pP 04 53 13.2 +0.9**
comp=Z,0.5nm,0.3s,baz=46,slow=5.4,SNR=2.5
KSRS PcP **PcP 04 53 59.3 -0.3**
comp=Z,1.5nm,0.7s,baz=52,slow=4.4,SNR=5.6
KSAR Wonju Array Be 49.18 279 P P 04 52 38.4 -0.5
KSAR *PP **pP 04 53 12.4 -0.1**
KSAR Wonju Array Be 49.18 279 P P 04 52 38.4 -0.5
KSAR **pP 04 53 12.4 -0.1**
P43A Skaggs, Pawnee 49.22 77 P P 04 52 39.2 +0.1
baz=314
D50A G1974 Best Tow 49.25 63 P P 04 52 39.9 +0.6
baz=312
CCM Cathedral Cave 49.37 80 P P 04 52 39.7 -0.7
baz=315
CCM Cathedral Cave 49.37 80 P P 04 52 40.0 -0.3
CCM pmax pmax
comp=Z,6.0nm,0.6s
CCM Cathedral Cave 49.37 80 P P 04 52 40.0 -0.3
CCM IAmb IAmb 04 52 40.6
comp=Z,6.1nm,0.6s
MGMO Mountain Grove 49.43 81 P P 04 52 40.2 -0.7
MGMO IAmb IAmb 04 52 40.7
comp=Z,10nm,0.8s
HPIG 49.44 101 IAmb IAmb 04 52 43.1
comp=Z,5.8nm,0.6s
O44A Mansfield 49.44 76 P P 04 52 40.8 -0.1
baz=314
U40A Yellville 49.67 82 P P 04 52 42.1 -0.6
baz=316,SNR=8.9
U40A Yellville 49.67 82 IAmb IAmb 04 52 42.7
comp=Z,9.8nm,0.9s
W39A Magazine 49.98 84 P P 04 52 44.9 -0.1
baz=316
JCT Junction City 50.04 93 P P 04 52 46.5 +1.0
baz=319,SNR=12
SFIN Lafayette 50.04 74 P P 04 52 45.7 +0.4
baz=314
WHTX Lake Whitney, 50.24 90 P P 04 52 47.9 +0.9
baz=318,SNR=8.3
WHTX Lake Whitney, 50.24 90 IAmb IAmb 04 52 48.9
comp=Z,16nm,0.8s
L48A N Adams 50.40 71 P P 04 52 48.5 +0.4
baz=314
FCAR Ozark Folk Cen 50.42 82 P P 04 52 47.4 -0.9
FCAR IAmb IAmb 04 52 48.1
comp=Z,14nm,1.0s
N47A Urbana 50.45 73 P P 04 52 48.3 -0.2
baz=314
MIAR Mount Ida 50.57 85 P P 04 52 49.9 +0.5
baz=317
MIAR Mount Ida 50.57 85 IAmb IAmb 04 52 50.6
comp=Z,9.7nm,1.1s
BUKO Buck Lake 50.64 65 P P 04 52 50.5 +0.7
baz=313
L49A Milan 50.64 71 P P 04 52 50.5 +0.7
baz=314

W41B Gary Mavity, V 50.86 83 P P 04 52 51.0 -0.6
baz=316
W41B Gary Mavity, V 50.86 83 IAmb IAmb 04 52 55.2
comp=Z,31nm,1.6s
X40A Basin Creek Fa 51.03 84 P P 04 52 52.9 +0.1
baz=317
435B Jarrell 51.07 91 IAmb IAmb 04 52 55.2
comp=Z,8.7nm,0.8s
E54A Lac Daplat, Po 51.09 62 P P 04 52 53.3 +0.2
baz=313
N49A Columbus Grove 51.24 72 P P 04 52 53.9 -0.5
baz=314
WLAR White Oak Lake 51.46 85 IAmb IAmb 04 52 57.4
comp=Z,12nm,0.6s
D55A Sainte-Anne-du 51.54 61 P P 04 52 56.5 0.0
baz=314
P48A Milroy 51.60 74 P P 04 52 56.5 -0.6
baz=315,SNR=6.0
TLY Talaya 51.80 308 *i* P **P 04 52 56.7 -1.7**
TLY pmax pmax
comp=Z,2.0nm,0.7s
D56A ZEC Mazanza, M 51.87 60 P P 04 52 58.8 -0.2
baz=314
833A Chaparral WMA, 51.90 95 IAmb IAmb 04 53 01.1
comp=Z,11nm,0.9s
P49A Miami Univ. Ec 51.93 74 P P 04 52 58.6 -0.9
baz=315
O50A Cable 52.09 72 P P 04 53 00.5 -0.2
baz=315
G55A Calabogie 52.14 63 P P 04 53 01.1 +0.1
baz=314
ACSO Alum Creek Sta 52.38 72 P P 04 53 02.9 +0.1
baz=315
P50A Jamestown 52.38 73 P P 04 53 02.6 -0.2
baz=315
T47A Sharon Grove 52.43 78 P P 04 53 03.5 +0.2
baz=316
T47A Sharon Grove 52.43 78 IAmb IAmb 04 53 04.5
comp=Z,24nm,1.5s
E57A Chemin Saint G 52.62 60 P P 04 53 04.1 -0.4
baz=314
O51A Pataskala 52.64 72 P P 04 53 04.8 +0.1
baz=315
WVT Waverly 52.65 79 P P 04 53 05.2 +0.4
baz=316
WVT Waverly 52.65 79 P P 04 53 04.9 +0.1
WVT *PP **pP 04 53 38.7 -0.3**
WVT pmax pmax
comp=Z,11nm,0.6s
WVT Waverly 52.65 79 P P 04 53 04.9 +0.1
WVT **pP 04 53 38.7 -0.3**
N52A McGinn's Farm, 52.66 70 P P 04 53 04.6 -0.2
baz=315
Q50A Georgetown 52.83 74 P P 04 53 06.1 0.0
baz=316
ULN Ulaanbaatar 52.88 302 *i* P **P 04 53 04.5 -2.0**
ULN pmax pmax
comp=Z,1.0nm,1.0s
L54A Sinclairville 52.91 67 P P 04 53 07.5 +0.8
baz=315
OXF Oxford 52.94 81 P P 04 53 07.2 +0.2
baz=317,SNR=13
R50A Paris 53.04 74 P P 04 53 07.6 0.0
baz=316,SNR=8.5
Q51A Peebles 53.04 73 P P 04 53 07.7 +0.1
baz=316,SNR=5.8
O52A Adamsville 53.08 71 P P 04 53 07.9 0.0
baz=315
N53A Lisbon 53.12 70 P P 04 53 08.1 -0.1
baz=315
SONM Songino Array 53.21 303 P P 04 53 08.5 -0.5
SONM *PP **pP 04 53 43.3 +0.1**
SONM 04 54 14.6
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 53.21 303 P P 04 53 08.3 -0.7
comp=Z,0.9nm,0.5s,baz=37,slow=6.6,SNR=8.5
SONM pP **pP 04 53 44.1 +0.9**
comp=Z,2.1nm,0.7s,baz=58,slow=6.4,SNR=5.9
SONM PcP **PcP 04 54 14.8 -0.1**
comp=Z,3.8nm,0.8s,baz=80,slow=2.1,SNR=9.1
SONM ScP **ScP 04 57 57.5 -0.6**
comp=Z,1.5nm,0.6s,baz=45,slow=4.8,SNR=4.2
SONM Songino Array 53.21 303 P P 04 53 08.5 -0.5
SONM **pP 04 53 43.3 +0.1**
SONM **PcP 04 54 14.6 -0.2**
M54A Oil Creek Stat 53.24 68 P P 04 53 09.6 +0.4
baz=315
O53A New Philadelph 53.32 71 P P 04 53 09.6 -0.1
baz=316
PLAL Pickwick Lake 53.35 80 P P 04 53 09.8 -0.2
PLAL IAmb IAmb 04 53 11.8
comp=Z,8.5nm,0.8s
PLAL **pP 04 53 43.3 -0.9**
L55A Hinsdale 53.41 67 P P 04 53 11.2 +0.8
baz=315
R51A Hillsboro 53.43 74 P P 04 53 11.0 +0.5
baz=316,SNR=20
S50A Richmond 53.43 75 P P 04 53 10.5 -0.1
baz=316
N54A Moraine State 53.46 69 P P 04 53 10.7 0.0
baz=315
CLTN Cedars of Leba 53.51 78 P P 04 53 11.4 +0.3
CLTN IAmb IAmb 04 53 12.4
comp=Z,8.2nm,0.8s
CLTN **pP 04 53 45.1 -0.3**
U49A Red Boiling Sp 53.51 77 P P 04 53 11.1 -0.1
baz=316
I57A Carthage 53.60 64 P P 04 53 12.1 +0.4
baz=315
K56A Middlesex 53.62 66 P P 04 53 12.8 +0.9
baz=315
T50A Nancy 53.66 76 P P 04 53 12.1 -0.1
baz=316
M55A Ridgway 53.75 68 P P 04 53 13.3 +0.5
baz=316
P53A Whipple 53.77 71 P P 04 53 12.8 -0.1
baz=316
O54A Avella 53.81 70 P P 04 53 13.3 0.0
baz=316
L56A Greenwood 53.90 66 P P 04 53 14.7 +0.7
baz=316
V49A McMinnville 53.99 78 P P 04 53 14.5 -0.1
baz=317,SNR=5.4
M56A Emporium 54.04 67 P P 04 53 15.5 +0.5
baz=316
U50A Jamestown 54.10 76 P P 04 53 15.3 -0.2
baz=317
N55A Marion Center 54.12 69 P P 04 53 15.7 +0.1
baz=316
I58A Old Forge 54.12 63 P P 04 53 15.9 +0.3
baz=315
P54A Burton 54.17 71 P P 04 53 15.8 -0.1
baz=316
T51A Gray 54.20 75 P P 04 53 16.4 +0.3
baz=317
J58A Remsen 54.20 64 P P 04 53 16.6 +0.5
baz=316
W49A Belvidere 54.26 78 P P 04 53 16.2 -0.4
baz=317
R53A Hurricane 54.30 73 P P 04 53 17.1 +0.2
baz=316
X48A Hartselle 54.31 80 P P 04 53 16.4 -0.6
baz=317
L57A Andrews Acres 54.37 66 P P 04 53 17.9 +0.5
baz=316
N56A West Decatur 54.39 68 P P 04 53 17.8 +0.3
baz=316
Q54A Coxs Mills 54.43 71 P P 04 53 17.7 0.0
baz=316
MCWV Mont Chateau 54.47 70 P P 04 53 18.1 +0.1
baz=316
V50A Pikeville 54.50 77 P P 04 53 18.0 -0.3
baz=317
U51A La Follette 54.58 76 P P 04 53 18.9 -0.1
baz=317
P55A Reedsville 54.59 70 P P 04 53 19.2 +0.2
baz=316
T52A Hallie 54.62 74 P P 04 53 19.6 +0.4
baz=317
S53A Williamson 54.67 73 P P 04 53 19.7 +0.1
baz=317
BINY Binghamton 54.67 65 P P 04 53 20.1 +0.6
baz=316
M57A Sunshine Farm, 54.70 67 P P 04 53 20.4 +0.7
baz=316
W50A Signal Mountai 54.73 78 P P 04 53 19.6 -0.4
baz=317

W50A Signal Mountai 54.73 78 IAmb IAmb 04 53 54.9
comp=Z,14nm,1.1s
SSPA Standing Stone 54.81 68 P P 04 53 21.3 +0.8
baz=316
V51A Loudon 54.82 77 P P 04 53 20.2 -0.5
baz=317
Q55A Buckhannon 54.83 71 P P 04 53 20.7 0.0
baz=316
L58A Harry Jones Me 54.85 65 P P 04 53 21.4 +0.6
baz=316
N57A Milroy 54.90 68 P P 04 53 21.6 +0.5
baz=316
R54A Victor 54.92 72 P P 04 53 21.2 -0.2
baz=317
T53A Wise 54.96 74 P P 04 53 21.9 +0.2
baz=317
S54A Dingess, Beckl 55.03 73 P P 04 53 22.3 +0.2
baz=317
ARCES ARCESS Array B 55.10 357 P P 04 53 21.4 -0.8
comp=Z,2.9nm,1.0s,baz=24,slow=7.0,SNR=9.2
ARCES PcP **PcP 04 54 20.6 -1.0**
comp=Z,1.6nm,0.7s,baz=12,slow=5.1,SNR=4.6
Y49A Blount Mountai 55.10 80 P P 04 53 21.9 -0.8
baz=318,SNR=5.4
Y49A Blount Mountai 55.10 80 IAmb IAmb 04 53 22.9
comp=Z,16nm,1.1s
P56A Dayton Farm, R 55.12 70 P P 04 53 22.9 +0.1
baz=316
V52A Sevierville 55.21 76 P P 04 53 23.4 0.0
baz=317
O57A Amberson 55.25 68 P P 04 53 24.2 +0.6
baz=316,SNR=5.0
LRAL Lakeview Retre 55.38 81 P P 04 53 23.8 -0.9
baz=318
U53A Fall Branch 55.39 75 P P 04 53 24.7 0.0
baz=317
T54A Tazewell 55.42 73 P P 04 53 25.3 +0.2
baz=317
M59A Waymart 55.43 66 P P 04 53 25.6 +0.7
baz=316
S55A Lewisburg 55.49 72 P P 04 53 25.8 +0.4
baz=317
P57A Homestead Farm 55.58 69 P P 04 53 26.1 +0.2
baz=317
W52A Murphy 55.58 77 P P 04 53 25.9 -0.1
baz=318
HHC Hu-ho-hao-te 55.62 293 P P 04 53 25.9 -0.5
U54A Nelsons Funny 55.69 74 P P 04 53 27.1 +0.2
baz=317
Q57A Strasburg 55.69 70 P P 04 53 26.9 +0.1
baz=317
N59A State Game Lan 55.71 66 P P 04 53 27.5 +0.5
baz=317
Z50A Ashland 55.83 80 P P 04 53 27.1 -0.8
baz=318
Y51A Rockmart 55.83 79 P P 04 53 26.7 -1.2
baz=318
O59A Robesonia 55.94 67 P P 04 53 28.9 +0.4
baz=317
W53A Cullowhee 55.94 76 P P 04 53 28.8 0.0
baz=318
P58A Pank, Wackersv 55.95 68 P P 04 53 28.7 +0.1
baz=317
X52A Dahlonega 55.95 77 P P 04 53 28.6 -0.2
baz=318,SNR=5.6
M60A Port Jervis 56.01 65 P P 04 53 29.3 +0.3
baz=317
S56A Natural Bridge 56.06 72 P P 04 53 30.0 +0.5
baz=317,SNR=5.2
U55A TA2, Sparta 56.12 74 P P 04 53 30.2 +0.2
baz=317
Q58A Fox Den Farm, 56.15 69 P P 04 53 30.3 +0.2
baz=317
R57A Stanardsville 56.17 70 P P 04 53 30.5 +0.3
baz=317
T56A Rocky Mt 56.29 72 P P 04 53 31.4 +0.3
baz=317
S57A Dark Hollow, R 56.33 71 P P 04 53 31.8 +0.4
baz=317
250A Grady 56.58 81 P P 04 53 32.8 -0.4
baz=319
U56A King 56.60 73 P P 04 53 33.5 +0.2
baz=318
Y53A Monroe 56.68 78 P P 04 53 33.6 -0.3
baz=318
Z52A Williamson 56.71 79 P P 04 53 33.3 -0.8
baz=318
T57A Hurt 56.73 72 P P 04 53 34.3 +0.1
baz=318
X54A Belton 56.84 76 P P 04 53 34.2 -0.7
baz=318
V56A Mocksville 56.93 74 P P 04 53 35.7 0.0
baz=318
152A Waverly Hall 56.93 79 P P 04 53 34.5 -1.2
baz=318
KMSC Kings Mountain 56.97 75 P P 04 53 35.8 -0.1
baz=318
GOGA Godfrey 57.08 78 P P 04 53 35.5 -1.2
baz=318
U57A Blanch 57.10 72 P P 04 53 36.9 +0.1
baz=318
Z53A Monticello 57.12 78 P P 04 53 36.0 -0.9
baz=318
T58A Grand View Acr 57.16 71 P P 04 53 37.0 -0.2
baz=318
Y54A Tignall 57.17 77 P P 04 53 36.5 -0.8
baz=318
Z54A Sparta 57.55 77 P P 04 53 39.0 -1.0
baz=318
Y55A Saluda 57.58 76 P P 04 53 39.6 -0.5
baz=318
T59A Double "B" Far 57.66 71 P P 04 53 41.2 +0.5
baz=318
V58A Windy Hill, Pi 57.70 73 P P 04 53 41.3 +0.3
baz=318
ZALV Zalesovo Beam 57.81 320 *i* P **P 04 53 41.6 +0.1**
U59A Littleton 57.99 71 P P 04 53 43.5 +0.5
baz=318
NJ2 Nanjing 58.17 281 *e*P **P 04 53 43.3 -1.0**
NJ2 pmax pmax
comp=Z,14nm,0.5s
V59A Middlesex 58.19 72 P P 04 53 44.7 +0.3
baz=318
W58A Raeford 58.21 73 P P 04 53 44.7 +0.2
baz=318
254A Abbeville 58.27 79 P P 04 53 43.8 -1.2
baz=319
TLIG Tlapa 60.84 102 P P 04 54 03.5 +0.6
WHN Wuhan 61.82 284 P P 04 54 03.5 -5.7
GTA Gaotai 62.65 300 P P 04 54 14.0 -0.8
GTA pP pP 04 54 45.2 -4.9
GTA sP sP 04 55 01.0 -5.2
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.3s
GTA LR LR
comp=N,72nm,18.9s
GTA LR LR
comp=E,160nm,16.1s
GTA LR LR
comp=Z,83nm,16.5s
KURK Kurchatov 62.67 321 P P 04 54 13.9 -0.6
KURK *PP **pP 04 54 50.0 +0.2**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 62.67 321 P P 04 54 13.9 -0.6
KURK **pP 04 54 50.0 +0.2**
KURK IAmb IAmb 04 54 52.0
comp=Z,6.6nm,1.1s
FINES FINESS Array B 63.17 356 P P 04 54 17.1 -0.6
FINES FINESS Array B 63.17 356 P P 04 54 16.7 -1.0
comp=Z,1.7nm,0.5s,baz=15,slow=7.2,SNR=29
FINES pP **PcP 04 54 54.6 +0.8**
comp=Z,3.2nm,0.8s,baz=28,slow=8.6,SNR=4.6
FINES FINESS Array B 63.17 356 P P 04 54 17.1 -0.6
LZH Lanzhou 63.19 295 *e*P **P 04 54 17.0 -1.5**
LZH pP pP 04 54 51.8 -1.9
LZH sP sP 04 55 05.2 -4.7
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.6s
BRVK Borovoye 63.43 328 *ce*P **P 04 54 19.5 -0.1**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 63.43 328 P P 04 54 18.5 -1.0

BRVK pP **PcP** **04 54 55.7 +0.7**
BRVK IAmb IAmb 04 54 57.4
comp=Z,6.2nm,0.9s
NOA NORSAR Array B 63.65 4 P P 04 54 19.8 -1.1
comp=Z,0.9nm,0.8s,baz=356,slow=6.8,SNR=13
MK31 Makanchi Array 64.54 317 P **P 04 54 26.5 -0.5**
MK31 pmax pmax
comp=Z,5.0nm,1.3s
MK31 Makanchi Array 64.54 317 P **P 04 54 26.5 -0.5**
MKAR Makanchi Array 64.54 317 P **P 04 54 26.5 -0.5**
MKAR 04 55 01.4
MKAR Makanchi Array 64.54 317 P **P 04 54 25.5 -1.5**
comp=Z,1.3nm,0.4s,baz=42,slow=6.5,SNR=22
MKAR pP **pP** **04 55 01.4 -1.0**
comp=Z,0.7nm,0.7s,baz=49,slow=6.5,SNR=2.3
MKAR Makanchi Array 64.54 317 P **P 04 54 26.4 -0.5**
WMQ Urumqi 64.75 311 *eP* **P 04 54 30.0 +1.6**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,100nm,3.7s
WMQ LR LR
comp=N,280nm,29.0s
WMQ LR LR
comp=E,2μm,29.0s
WMQ LR LR
comp=Z,150nm,29.1s
OBN Obninsk 68.64 349 *eP* **P 04 54 55.2 +2.5**
OBN pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 69.78 332 P **P 04 54 59.0 -0.9**
ABKAR pP **pP** **04 55 36.8 +1.0**
AAK Ala-Archa 71.02 319 *ceP* **P 04 55 10.3 +2.6**
AAK pmax pmax
comp=Z,7.0nm,1.6s
KKAR Karatay Array 72.05 322 P **P 04 55 12.2 -1.5**
KKAR *PP **pP** **04 55 50.2 +0.4**
KKAR Karatay Array 72.05 322 P **P 04 55 12.2 -1.5**
KKAR **pP** **04 55 50.2 +0.4**
KSH Kashi 73.15 317 P **P 04 55 24.4 +4.0**
KSH PP **PP** **04 58 11.7 +7.1**
KSH S **SKiKP** **05 04 38.1 +1.5**
KSH SKS **SKSac** **05 05 10.7 -1.5**
KSH Kashi 73.15 317 SS SS 05 09 25.7 +6.6
KSH pmax pmax
comp=Z,350nm,5.9s
KSH LR LR
comp=N,360nm,14.9s
KSH LR LR
comp=E,210nm,12.3s
KSH LR LR
comp=Z,170nm,20.3s
CLL Collm 73.44 3 *eP* **P 04 55 25.0 +3.3**
GERES GERESS Array B 75.93 3 P **P 04 55 35.8 -0.4**
comp=Z,0.3nm,0.6s,baz=0,0,slow=5.3,SNR=4.4
BURAR Bucovina Array 77.02 355 P **P 04 55 42.3 -0.1**
TAPN Taplejung 78.31 301 *eP* **P 04 55 49.0 -1.1**
comp=Z,15nm,0.8s
PAYA Payao 78.61 287 P **P 04 55 51.2 -0.3**
comp=Z,52μm,0.6s,comp=Z,652μm
GUN Gumba 78.72 303 *eP* **P 04 55 51.8 -0.6**
comp=Z,6.8nm,0.3s
JIRN Jiri 78.78 303 *eP* **P 04 55 52.2 -0.6**
comp=Z,40nm,0.4s
KKN Kakani 79.10 304 *eP* **P 04 55 54.0 -0.3**
RAMN Ramite 79.18 302 *eP* **P 04 55 53.9 -0.9**
PKI Pulchoki 79.23 303 *eP* **P 04 55 53.7 -1.5**
comp=Z,3.9nm,0.4s
GKN Gorkha 79.23 304 *eP* **P 04 55 54.5 -0.4**
PKIN Phulchoki 79.23 303 *eP* **P 04 55 53.8 -1.3**
comp=Z,4.8nm,0.4s
NIL Nilore 79.33 316 P **P 04 55 55.2 -0.1**
NIL pmax pmax
comp=Z,6.0nm,0.6s
NIL Nilore 79.33 316 P **P 04 55 55.2 -0.1**
NIL IAmb IAmb 04 55 56.3
comp=Z,5.8nm,0.6s
DMN Daman 79.34 304 *eP* **P 04 55 55.3 -0.4**
comp=Z,5.7nm,0.3s
DANN Dangsing 79.34 305 *eP* **P 04 54 54.9 -0.8**
comp=Z,35nm,0.7s
CHTO Chiang Mai 79.56 288 P **P 04 55 55.4 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 79.56 288 P **P 04 55 55.4 -1.2**
CM31 Chiang Mai Arr 79.85 288 P **P 04 55 58.0 -0.3**
CM31 IAmb IAmb 04 55 58.5
comp=Z,7.9nm,0.8s
CMAR Chiang Mai Arr 79.85 288 P **P 04 55 57.3 -0.9**
comp=Z,6.9nm,0.7s,baz=18,slow=5.4,SNR=34
KOLN Koldanda 79.91 305 *eP* **P 04 55 57.8 -0.9**
comp=Z,5.2nm,0.5s
ESDC Sonseca Array 83.36 17 P **P 04 56 16.1 -0.3**
comp=Z,1.3nm,0.7s,baz=349,slow=4.7,SNR=9.5
ESDC Sonseca Array 83.36 17 P **P 04 56 16.5 +0.1**
SBUM Sibu 85.47 268 P **P 04 56 27.5 +0.3**
WRA Warramunga Arr 92.28 237 P **P 04 56 58.1 -1.1**
comp=Z,1.2nm,1.0s,baz=37,slow=5.4,SNR=7.3
FITZ Fitzroy Crossi 95.05 245 P **P 04 57 11.9 -0.1**
comp=Z,2.1nm,0.8s,baz=47,slow=3.8,SNR=4.1
ASAR Alice Springs 95.67 236 P **P 04 57 14.0 -0.7**
comp=Z,0.5nm,0.8s,baz=19,slow=8.0,SNR=5.2
PLCA Paso Flores 123.20 115 PKP **PKiKP** **05 02 44.6 -0.1**
comp=Z,1.0nm,0.7s,baz=270,slow=7.1,SNR=3.9
QSPA South Pole Qui 145.32 180 PKPbc **PKPdf** **05 03 24.7 0.0**
comp=Z,2.0nm,0.4s,baz=223,slow=0.8,SNR=28
BOSA Boshof 152.55 346 PKPbc **PKPbc** **05 03 44.3 -0.4**
comp=Z,3.0nm,0.7s,baz=2.0,slow=3.2,SNR=6.2

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*IDC **03** 04:51:02.5±1.7, 26°.98S×178°.40W, h304km±23km, mb3.2/4, mb1 3.5/5, mb1mx3.2/44, mbtmp4.0/5, Error ellipse: s-maj=45.0km s-min=23.5km az=159.0*
*ISCJB **03** 04:51:03.3±0.8, 27°.05S±0°.05×178°.9W±0°.1, h300km, Error ellipse: s-maj=12.4km s-min=6.8km az=9.9*
ISC 03 04:51:04.8±1.0, 27°.21S±0°.08×179°.0W±0°.2, h300km, n24, σ1§20/38, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**2.24**	**156**	P	**Pn**	**04 51 54.3**	**+0.9**
RIZ				S	**S**	**04 52 33.3**	**+1.0**
RAO	**Raoul Island**	**2.25**	**155**	P	**Pn**	**04 51 54.0**	**+0.5**
RAO	216nm,0.3s,baz=54,slow=1.2,SNR=11			S	**S**	**04 52 31.4**	**-0.9**
	275nm,0.3s,baz=78,slow=12,SNR=8.2						
GLKZ	**Green Lake**	**2.25**	**156**	P	**Pn**	**04 51 54.0**	**+0.4**
GLKZ				S	**S**	**04 52 32.9**	**+0.4**
MXZ	**Matakaoa Point**	**10.58**	**192**	P	**P**	**04 53 32.1**	**-0.7**
MXZ				S	**S**	**04 55 28.1**	**-0.4**
WMGZ	**Waiomatatini S**	**10.81**	**191**	P	**P**	**04 53 35.5**	**+0.2**
WMGZ				S	**S**	**04 55 33.7**	**-0.1**
HAZ	**Te Kaha**	**10.87**	**194**	P	**P**	**04 53 36.8**	**+0.8**
HAZ				S	**S**	**04 55 36.3**	**+1.2**
RUGZ	**Raukumara Rang**	**11.09**	**194**	P	**P**	**04 53 38.0**	**-0.7**
RUGZ				S	**S**	**04 55 38.5**	**-1.8**
MWZ	**Matawai**	**11.48**	**194**	P	**P**	**04 53 43.8**	**+1.0**
MWZ				S	**S**	**04 55 48.1**	**-0.8**
URZ	**Urewera**	**11.50**	**196**	P	**P**	**04 53 43.0**	**0.0**
URZ	baz=270,slow=9.1,SNR=3.8			S	**S**	**04 55 49.2**	**-0.2**
	4.3nm,0.3s,baz=275,slow=20,SNR=12						
URZ	**Urewera**	**11.50**	**196**	P	**P**	**04 53 42.7**	**-0.4**
URZ				S	**S**	**04 55 49.6**	**+0.2**
RIGZ	**Rimuhau**	**11.79**	**193**	P	**Pn**	**04 53 45.1**	**+0.4**
RIGZ				S	**S**	**04 55 55.1**	**-0.9**
RTZ	**Ruatahuna**	**11.87**	**196**	P	**Pn**	**04 53 45.9**	**+0.2**
RTZ				S	**S**	**04 55 56.4**	**-1.5**
ARHZ	**Aropaoanui**	**12.48**	**195**	P	**P**	**04 53 54.2**	**+0.2**
ARHZ				S	**S**	**04 56 10.1**	**-1.5**
KWHZ	**Kaweka Forest**	**12.77**	**196**	P	**P**	**04 53 57.1**	**-0.1**
KWHZ				S	**S**	**04 56 17.7**	**-0.5**
KRHZ	**Kereru**	**12.99**	**196**	P	**Pn**	**04 53 58.6**	**-0.7**
KRHZ				S	**S**	**04 56 20.9**	**-2.1**
KAHZ	**Kahuranaki**	**13.02**	**194**	P	**Pn**	**04 53 59.7**	**+0.2**
KAHZ				S	**S**	**04 56 23.2**	**-0.5**
ASAR	**Alice Springs**	**42.50**	**264**	P	**P**	**04 58 33.5**	**+2.0**
	0.3nm,0.3s,baz=96,slow=8.0,SNR=9.0						
WRA	**Warramunga Arr**	**43.19**	**269**	P	**P**	**04 58 38.3**	**+1.2**
	0.9nm,0.8s,baz=106,slow=8.5,SNR=7.1						
MJAR	**Matsushiro Arr**	**75.13**	**326**	P	**P**	**05 02 11.7**	**-2.6**
	2.1nm,0.5s,baz=151,slow=5.4,SNR=11						
NVAR	**Mina Array Bea**	**86.50**	**43**	P	P	05 03 08.8	-5.6
	0.7nm,0.7s,baz=232,slow=8.7,SNR=5.6						

FINES	**FINESS Array B**	**141.86**	**341**	PKhKP	PKPpre	05 09 51.8
	2.1nm,0.9s,baz=44,slow=4.2,SNR=4.4					
NOA	**NORSAR Array B**	**145.47**	**351**	PKPbc	**PKPdf**	**05 10 04.0 -2.7**
	0.4nm,0.6s,baz=9.0,slow=3.1,SNR=3.2					
AKASG	**Malin Array Be**	**148.22**	**325**	PKPbc	**PKPdf**	**05 10 12.5 +1.1**
	0.6nm,0.4s,baz=50,slow=3.6,SNR=2.2					
BRTR	**Keskin Array B**	**150.22**	**303**	PKPbc	**PKPdf**	**05 10 17.9 +2.6**
	0.4nm,0.6s,baz=131,slow=4.4,SNR=3.0					

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*IDC **03** 05:03:37.2±0.7, 5°.06S×152°.52E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.1/41, mbtmp4.3/15, MS3.0/3, Ms1 3.0/3, ms1mx2.8/28, Error ellipse: s-maj=21.2km s-min=13.7km az=89.0*
*NEIC **03** 05:03:41.9±1.2, 5°.14S±0°.07×152°.52E±0°.09, h36km±4km, mb4.5/29*
*ISCJB **03** 05:03:44.0±0.4, 5°.05S±0°.04×152°.22E±0°.07, h55km, mb4.3/18, MS3.8/2, Error ellipse: s-maj=9.7km s-min=5.6km az=14.8*
ISC 03 05:03:44.9±0.5, 4°.99S±0°.05×152°.33E±0°.08, h55km, n71, σ1§49/72, mb4.4/28, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.74**	**336**	Pn	**Pn**	**05 03 58.8**	**-0.6**
	2μm,0.3s,baz=136,slow=1.0,SNR=517						
KRVT				Sn	**Sn**	**05 04 09.8**	**-0.1**
	2μm,0.3s,baz=143,slow=20,SNR=52						
KRVT				LR	LR	05 04 27.6	
	comp=Z,859nm,20.3s,baz=107,slow=56						
MANU	**Manus Island**	**5.75**	**300**	Pn	**Pn**	**05 05 07.4**	**-0.3**
PMG	**Port Moresby**	**6.75**	**229**	Pn	**Pn**	**05 05 24.6**	**+3.2**
	8.9nm,0.3s,baz=83,slow=4.4,SNR=19						
PMG				Sn	**Sn**	**05 06 41.0**	**+4.0**
	7.7nm,0.3s,baz=107,slow=14,SNR=5.5						
PMG	**Port Moresby**	**6.75**	**229**		**Pn**	**05 05 20.3**	**-1.1**
PMG					**Sn**	**05 06 35.3**	**-1.7**
HNR	**Honiara**	**8.75**	**121**	LR	LR	05 09 22.7	
	comp=Z,90nm,20.2s,baz=303,slow=40						
JAY	**Jayapura**	**11.85**	**282**	LR	LR	05 10 47.2	
	comp=Z,62nm,18.5s,baz=198,slow=36						
COEN	**Coen**	**12.68**	**225**	Pn	**Pn**	**05 06 42.2**	**-0.4**
FAKI	**Fak Fak**	**20.13**	**275**	P	**P**	**05 08 15.7**	**+1.0**
FAKI				IAmb	IAmb	05 08 20.5	
	comp=Z,10.0nm,0.8s						
EIDS	**Eidsvold**	**20.30**	**183**	P	**P**	**05 08 12.3**	**-4.0**
SIJI	**Sorong**	**21.42**	**280**	P	**P**	**05 08 29.6**	**+1.0**
	comp=Z,14nm,0.7s,baz=93,slow=18,SNR=3.3						
DZM	**Mont Dzumac**	**21.80**	**142**	P	**P**	**05 08 35.9**	**+3.3**
	comp=Z,5.6nm,0.6s,baz=270,slow=5.1,SNR=8.3						
MTN	**Manton Dam**	**22.33**	**248**	P	**P**	**05 08 37.8**	**-0.5**
MTN				IAmb	IAmb	05 08 40.0	
	comp=Z,9.4nm,0.5s						
WB0	**Warramunga Arr**	**22.82**	**228**	P	**P**	**05 08 42.5**	**-0.9**
WB0				IAmb	IAmb	05 08 44.4	
	comp=Z,17nm,0.6s						
WR0	**Warramunga Arr**	**22.83**	**228**	P	**P**	**05 08 42.3**	**-1.2**
WR0				IAmb	IAmb	05 08 44.6	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**22.95**	**228**	P	**P**	**05 08 44.0**	**-0.9**
WRAB				IAmb	IAmb	05 08 45.7	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**22.96**	**228**	P	**P**	**05 08 44.0**	**-0.9**
WB2				IAmb	IAmb	05 08 45.8	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**22.97**	**228**	P	**P**	**05 08 45.1**	**+0.1**
	comp=Z,18nm,0.6s,baz=52,slow=10,SNR=37						
WRA				LR	LR	05 18 24.2	
	comp=Z,39nm,18.4s,baz=315,slow=38						
WRA	**Warramunga Arr**	**22.97**	**228**	P	**P**	**05 08 43.6**	**-1.3**
KNRA	**Kununurra**	**25.47**	**244**	P	**P**	**05 09 07.6**	**-0.5**
AS31	**Alice Springs**	**25.69**	**222**	P	**P**	**05 09 07.8**	**-2.3**
ASAR	**Alice Springs**	**25.70**	**222**	P	**P**	**05 09 10.4**	**+0.3**
	comp=Z,8.6nm,0.7s,baz=57,slow=8.7,SNR=31						
ASAR	**Alice Springs**	**25.70**	**222**	P	**P**	**05 09 09.8**	**-0.4**
LHI	**Lord Howe Isla**	**27.14**	**167**	P	**P**	**05 09 24.3**	**+1.3**
STKA	**Stephens Creek**	**28.58**	**199**	P	**P**	**05 09 35.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=40,slow=15,SNR=3.4						
STKA	**Stephens Creek**	**28.58**	**199**	P	**P**	**05 09 34.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**29.15**	**241**	P	**P**	**05 09 40.8**	**-0.4**
	comp=Z,12nm,0.6s,baz=60,slow=6.6,SNR=53						
FITZ	**Fitzroy Crossi**	**29.15**	**241**	P	**P**	**05 09 40.7**	**-0.4**
FITZ				IAmb	IAmb	05 09 41.6	
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**31.57**	**207**	P	**P**	**05 09 59.9**	**-2.4**
FORT	**Forrest**	**34.35**	**219**	P	**P**	**05 10 23.8**	**-2.7**
PSAC2	**Pilbara Seismi**	**35.48**	**239**	P	**P**	**05 10 36.3**	**-0.2**
PSAD1	**Pilbara Seismi**	**35.50**	**240**	P	**P**	**05 10 35.9**	**-0.7**
PSAB2	**Pilbara Seismi**	**35.51**	**239**	P	**P**	**05 10 35.6**	**-1.1**
PSA00	**Pilbara Seismi**	**35.53**	**239**	P	**P**	**05 10 36.7**	**-0.2**
URZ	**Urewera**	**40.06**	**149**	P	**P**	**05 11 17.1**	**+2.2**
URZ				IAmb	IAmb	05 11 33.5	
	comp=Z,6.2nm,1.1s						
GIRL	**Giralia**	**40.76**	**241**	P	**P**	**05 11 21.8**	**+0.8**
MORW	**Morawa**	**41.86**	**231**	P	**P**	**05 11 29.6**	**-0.3**
MORW				IAmb	IAmb	05 11 30.7	
	comp=Z,6.2nm,0.8s						
JNU	**Nakatsue**	**43.02**	**333**	P	**P**	**05 11 40.1**	**+0.9**
	comp=Z,5.2nm,1.1s,baz=207,slow=11,SNR=2.7						
JNU	**Nakatsue**	**43.02**	**333**	P	**P**	**05 11 40.5**	**+1.4**
JNU				IAmb	IAmb	05 11 48.8	
	comp=Z,19nm,1.5s						
KSRS	**Korea Array**	**47.96**	**334**	P	**P**	**05 12 19.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=150,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**57.53**	**295**	P	**P**	**05 13 30.2**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=117,slow=5.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	**57.53**	**295**	P	**P**	**05 13 30.0**	**+0.8**
PETK	**Petropavlovsk-**	**58.06**	**4**	P	**P**	**05 13 33.1**	**+0.9**
	comp=Z,2.6nm,1.0s,baz=201,slow=7.6,SNR=3.1						
PETK	**Petropavlovsk-**	**58.06**	**4**	P	**P**	**05 13 34.3**	**+2.1**
HHC	**Hu-ho-hao-te**	**58.92**	**325**	P	**P**	**05 13 41.1**	**+2.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ	**Urumqi**	**75.56**	**318**	*eP*	**P**	**05 15 24.9**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,13nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,50nm,5.1s						
WMQ				LR	LR		
	comp=N,640nm,28.8s						
WMQ				LR	LR		
	comp=E,800nm,29.3s						
WMQ				LR	LR		
	comp=Z,230nm,28.8s						
MK31	**Makanchi Array**	**80.16**	**319**	P	**P**	**05 15 49.4**	**0.0**
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**05 15 50.9**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=106,slow=6.9,SNR=5.9						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**05 15 50.5**	**+1.1**
ZAA0	**Zalesovo Array**	**81.05**	**326**	P	**P**	**05 15 53.6**	**-0.3**
ZAA0				IAmb	IAmb	05 15 55.0	
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**81.05**	**326**	P	**P**	**05 15 54.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=109,slow=5.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**81.05**	**326**	P	**P**	**05 15 54.0**	**+0.1**
MCK	**McKinley**	**81.22**	**23**	P	**P**	**05 15 55.6**	**+1.0**
MCK				IAmb	IAmb	05 16 06.4	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**82.51**	**22**	P	**P**	**05 16 00.3**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=247,slow=5.4,SNR=5.8						
KSH	**Kashi**	**82.70**	**311**	*eP*	**P**	**05 16 04.7**	**+1.6**
KSH	**Kashi**	**82.70**	**311**	S	S	05 26 07.4	-10
KURK	**Kurchatov**	**83.63**	**322**	P	**P**	**05 16 07.2**	**-0.2**
KURK				IAmb	IAmb	05 16 09.2	
	comp=Z,3.2nm,1.1s						
KURBB	**Kurchatov Arra**	**83.66**	**322**	P	**P**	**05 16 08.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=102,slow=4.0,SNR=9.2						
BCAR	**Beaver Creek A**	**83.77**	**25**	P	**P**	**05 16 09.3**	**+1.3**
DHAK	**Deception Hill**	**83.89**	**29**	P	**P**	**05 16 08.0**	**-0.7**
MAW	**Mawson**	**85.22**	**203**	P	**P**	**05 16 15.8**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=101,slow=6.5,SNR=12						
MAW	**Mawson**	**85.22**	**203**	P	**P**	**05 16 14.4**	**-0.8**
NVAR	**Mina Array Bea**	**92.57**	**52**	P	**P**	**05 16 51.5**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=266,slow=5.9,SNR=4.7						
NVAR	**Mina Array Bea**	**92.57**	**52**	P	**P**	**05 16 50.9**	**-0.2**
GERES	**GERESS Array B**	**123.97**	**328**	PKP	**PKPdf**	**05 22 37.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=50,slow=2.1,SNR=6.8						
GERES	**GERESS Array B**	**123.97**	**328**		**PKPdf**	**05 22 35.5**	**-1.7**
LPAZ	**La Paz**	**134.74**	**119**	PKP	**PKiKP**	**05 23 00.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=193,slow=12,SNR=3.8						
LPAZ	**La Paz**	**134.74**	**119**		**PKPdf**	**05 22 56.8**	**-2.5**
TORD	**Torodi Ar. Bea**	**149.91**	**288**	PKPbc	**PKPbc**	**05 23 28.3**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=14,slow=4.7,SNR=27						
TORD	**Torodi Ar. Bea**	**149.91**	**288**		**PKPdf**	**05 23 23.3**	**-2.0**
TORD				PKPbc	**PKPbc**	**05 23 29.6**	**-0.6**
BDFB	**Brasilia**	**151.26**	**136**	PKPbc	**PKiKP**	**05 23 33.8**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=295,slow=3.4,SNR=5.3						
BDFB	**Brasilia**	**151.26**	**136**		**PKPab**	**05 23 38.8**	**-2.7**

IDC 03 05:07:22.4±0.9, 27°.07N×142°.17E, h114km±48km, mb3.3/3, mb1 3.5/3, mb1mx3.0/34, mbtmp3.6/3, Error ellipse: s-maj=327.7km s-min=25.2km az=86.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.03**	**33**	P	Pn	05 07 38.4	+0.3
	161nm,0.3s,baz=1.4,slow=17,SNR=294						
JCJ				S	Sn	05 07 50.1	+0.4
	676nm,0.3s,baz=287,slow=19,SNR=53						
WRA	**Warramunga Arr**	**47.35**	**190**	P	P	05 15 44.2	-0.7
	0.7nm,0.3s,baz=11,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**51.07**	**190**	P	P	05 16 13.6	+0.4
	0.1nm,0.5s,baz=20,slow=6.1,SNR=3.0						
FINES	**FINESS Array B**	**77.96**	**334**	P	P	05 19 07.6	-0.1
	0.3nm,0.4s,baz=71,slow=6.0,SNR=6.7						

IDC 03 05:21:35.2±2.3, 13°.85S×167°.62E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/40, mbtmp3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/38, Error ellipse: s-maj=121.2km s-min=36.5km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.82**	**229**	P	P	05 27 44.4	+0.1
	1.9nm,0.9s,baz=64,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**32.38**	**255**	P	P	05 28 06.5	-0.4
	0.7nm,0.3s,baz=86,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**33.31**	**248**	P	P	05 28 15.2	+0.2
	0.8nm,0.6s,baz=78,slow=9.1,SNR=11						
LEM	**Lembang**	**59.32**	**270**	LR	LR	05 58 39.1	
	comp=Z,82nm,18.4s,baz=158,slow=38						
ARCES	**ARCESS Array B**	**119.49**	**346**	PKP	PKPdf	05 40 25.7	-0.7
	2.5nm,0.9s,baz=54,slow=1.6,SNR=3.9						
FINES	**FINESS Array B**	**125.04**	**339**	PKP	PKPdf	05 40 37.2	+0.1
	2.0nm,1.0s,baz=62,slow=3.3,SNR=2.6						

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*NIED **03** 05:25:00, 36°.00N×140°.20E, h65km, Mw5.1 Best double couple: M0:4.35000×10^16 NP1:φs190.00000°, δ28.00000°, λ97.00000°. NP2:φs2.00000°, δ63.00000°, λ86.00000°.*
*BJI **03** 05:25:07.5±0.0, 35°.81N×140°.57E, h65km, mb5.1/72, mB5.2/45, Ms4.4/57, Ms7 4.3/54*
*ISCJB **03** 05:25:14.0±0.2, 35°.90N±0°.02×140°.07E±0°.02, h77km±1km, mb5.0/170, Error ellipse: s-maj=2.8km s-min=2.0km az=141.2*
*JMA **03** 05:25:14.9±0.1, 36°.01N×140°.11E, h63km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs5.00000°, δ68.00000°, λ86.00000°. NP2:φs195.00000°, δ22.00000°, λ99.00000°. Principal axes: T Plg67.0000°, Azm268.0000°; N Plg4.0000°, Azm6.0000°; P Plg23.0000°, Azm98.0000°;*
JMA Felt IV J1.
*MOS **03** 05:25:14.4±1.0, 35°.95N×140°.03E, h81km, mb5.2/89, MS4.1/9 Error ellipse: s-maj=6.1km s-min=4.0km az=118.6*
*IDC **03** 05:25:15.5±1.3, 35°.90N×140°.04E, h78km±10km, mb4.7/42, mb1 4.8/44, mb1mx4.7/49, mbtmp5.0/44, MS3.9/28, Ms1 3.9/28, ms1mx3.8/43, Error ellipse: s-maj=10.5km s-min=7.6km az=98.0*
*NEIC **03** 05:25:15.3±1.8, 35°.97N±0°.06×140°.12E±0°.07, h77km±4km, mb5.1/286*
*GCMT **03** 05:25:18.1±0.2, 35°.96N±0°.01×140°.19E±0°.02, h62km±1km, MW5.1/107, Moment Tensor Solution. s77,c113; s107,c168; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.00±.14; Mθθ-0.13±.11; Mφφ-4.86±.10; Mrθ-0.60±.08; Mrφ-1.03±.09; Mθφ2.47±.09; Best double couple: M0:5.64200×10^16 NP1:φs1.00000°, δ58.00000°, λ78.00000°. NP2:φs202.00000°, δ34.00000°, λ108.00000°. Principal axes: T 5.7000, Plg74.0000°, Azm240.0000°; N -0.1100, Plg10.0000°, Azm7.0000°; P -5.5830, Plg12.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 05:25:14.1±0.4, 35°.94N±0°.03×140°.13E±0°.03, h70km±3km, h70km:pP-P, n1036, σ1§37/1093, mb5.1/279, 92C-50D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**11**	↑P	**Pn**	**05 25 24.9**	**-0.3**
JYT				*eS*	**Sn**	**05 25 32.4**	**-0.9**
JIHU	**Itakohorinouch**	**0.32**	**86**	↑P	**Pn**	**05 25 25.9**	**+0.5**
JIHU				*eS*	**Sn**	**05 25 35.4**	**+1.7**
TOK	**Tokyo**	**0.39**	**230**	↓P	**Pn**	**05 25 27.6**	**+1.7**
TOK				*eS*	**Sn**	**05 25 38.0**	**+3.4**
JSMT	**Sammumatsuo**	**0.40**	**139**	↑P	**Pn**	**05 25 27.1**	**+1.1**
JSMT				*eS*	**Sn**	**05 25 35.6**	**+0.9**
JHYU	**Hitachinakayam**	**0.54**	**43**	↑P	**Pn**	**05 25 27.0**	**-0.4**
JAG	**Ashikaga**	**0.73**	**312**	↓P	**Pn**	**05 25 29.3**	**-0.1**
JAG				*eS*	**Sn**	**05 25 40.1**	**-0.5**
JHO	**Hitachi**	**0.76**	**28**	↑P	**Pn**	**05 25 29.3**	**-0.4**
JSGW	**Sagamiharawaka**	**0.82**	**246**	↓P	**Pn**	**05 25 31.0**	**+0.6**
BSO4	**Boso 4**	**0.97**	**170**	↑P	**Pn**	**05 25 32.9**	**+0.8**
JRY	**Ryogami san**	**1.00**	**275**	↓P	**Pn**	**05 25 33.1**	**+0.5**
JRY				*eS*	**Sn**	**05 25 46.8**	**+0.4**
JSB	**Shiboa**	**1.04**	**351**	↓P	**Pn**	**05 25 33.3**	**+0.2**
JOD2	**Odawara 2**	**1.08**	**232**	↓P	**Pn**	**05 25 34.0**	**+0.3**
JOD2				*eS*	**Sn**	**05 25 47.8**	**-0.5**
JKT	**Katashina**	**1.09**	**319**	↓P	**Pn**	**05 25 33.8**	**0.0**
JKT				*eS*	**Sn**	**05 25 48.2**	**-0.3**
BSO3	**Boso 3**	**1.18**	**165**	↑P	**Pn**	**05 25 35.2**	**+0.5**
JFFD	**Fukushimafurud**	**1.20**	**17**	↑P	**Pn**	**05 25 35.0**	**-0.2**
AJI	**Ajiro2**	**1.23**	**224**	↓P	**Pn**	**05 25 35.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.28**	**25**	↑P	**Pn**	**05 25 36.1**	**-0.1**
JHTM	**Izuhat

JSSY	**Shinshiroyabe**	2.37	245	⇓P	Pn	05 25 51.9	+1.1
JAO	**Obara**	2.43	255	⇓P	Pn	05 25 53.0	+1.3
JOU	**Okura**	2.46	10	P	Pn	05 25 53.3	+1.3
JSD	**Sado**	2.57	325	⇓P	Pn	05 25 53.9	+0.4
JIKH	**Ishinomakikobu**	2.59	24	P	Pn	05 25 53.9	+0.1
INU	**Inuyama**	2.60	258		Pn	05 25 55.1	+1.2
JYA	**Atsumi**	2.67	353	⇓P	Pn	05 25 55.9	+1.1
JSZ	**Suzu**	2.68	305	⇓P	Pn	05 25 55.6	+0.6
JAA	**Atsumi**	2.77	243	⇓P	Pn	05 25 57.2	+1.0
JYTA	**Yamagatataniai**	2.78	264	⇓P	Pn	05 25 57.8	+1.5
JHJ2	**Mitsune**	2.83	185		Pn	05 25 57.3	+0.2
JJH	**Hakui**	2.87	291	⇓P	Pn	05 25 59.0	+1.5
JKMT	**Kesennumamotoy**	3.06	20	P	Pn	05 26 00.3	+0.2
JKG	**Kaga**	3.09	277	⇓P	Pn	05 26 02.4	+1.8
JMK	**Ichinoseki**	3.13	16	P	Pn	05 26 01.7	+0.7
JHG	**Hegura jima**	3.20	307	⇓P	Pn	05 26 02.7	+0.7
JFM	**Mihama**	3.40	264	⇓P	Pn	05 26 06.0	+1.3
JKN2	**Miekihoku**	3.59	243	⇓P	Pn	05 26 08.0	+0.7
MIYJ	**Miyakonagasawa**	3.87	20	P	Pn	05 26 11.1	0.0
JMMH	**Miemihama**	3.98	239	⇓P	Pn	05 26 12.9	+0.2
JKZ	**Kuzumaki**	4.15	13	⇓P	Pn	05 26 15.9	+0.9
JTH	**Tanohata**	4.22	18	⇓P	Pn	05 26 16.3	+0.4
JAH	**Hinai**	4.26	5	⇑P	Pn	05 26 18.2	+1.7
JAJ2	**Tsuna**	4.55	252	⇓P	Pn	05 26 21.2	+0.7
ERM	**Erimo**	6.51	20	*ce*P	Pn	05 26 46.2	-1.0
ERM				pmax	pmax		
	comp=Z,86nm,0.6s						
ERM	**Erimo**	6.51	20		Pn	05 26 46.2	-1.0
ERM				Sn	Sn	05 27 56.4	-3.5
JHIK	**Hikimi**	6.86	261	P	Pn	05 26 53.6	+1.6
JNU	**Nakatsue**	8.13	252	P	Pn	05 27 10.8	+1.3
	comp=Z,2.9nm,0.3s,baz=54,slow=11,SNR=32						
JNU				LR	LR	05 30 40.3	
	comp=Z,2μm,19.4s,baz=65,slow=40						
ASAJ	**Asahikawa**	8.38	12	P	Pn	05 27 10.8	-2.0
	comp=Z,14nm,0.3s,baz=208,slow=11,SNR=90						
ASAJ				S	Sn	05 28 42.9	-2.9
	comp=Z,4.6nm,0.3s,baz=5.7,slow=22,SNR=3.7						
ASAJ				LR	LR	05 31 16.0	
	comp=Z,360nm,21.8s,baz=201,slow=43						
JKA	**Kamikawa-asahi**	8.38	12		Pn	05 27 10.8	-2.0
JKA					Sn	05 28 42.9	-2.9
NMR	**Nemuro--Hokkai**	8.58	28	*c i*P	Pn	05 27 12.2	-3.3
GLVR	**Golovnino**	8.82	26	*e*P	Pn	05 27 16.0	-2.8
GLVR				pmax	pmax		
	comp=Z,173nm,0.6s						
JCJ	**Chichijima**	8.99	168	P	Pn	05 27 18.6	-2.6
	comp=Z,31nm,0.3s,baz=8.7,slow=22,SNR=16						
JCJ				S	Sn	05 28 51.6	-9.3
	comp=Z,34nm,0.3s,baz=287,slow=19,SNR=4.4						
GRPR	**Tuman**	9.13	27	*e*P	Pn	05 27 20.3	-2.7
GRPR				pmax	pmax		
	comp=Z,213nm,0.3s						
LAGR	**Lagunnoye**	9.19	26	*e*P	Pn	05 27 20.8	-3.0
LAGR				pmax	pmax		
	comp=Z,137nm,0.5s						
YUK	**Yuzh-Kuril'sk**	9.20	27	*e*P	Pn	05 27 21.2	-2.7
YUK				pmax	pmax		
	comp=Z,239nm,0.3s						
TEY	**Ternei**	9.47	345	⇓*e*P	Pn	05 27 33.1	+5.5
TEY				*e*		05 29 16.3	
TEY				pmax	pmax		
	comp=N,50nm,0.6s						
TEY				pmax	pmax		
	comp=Z,50nm,0.6s						
TEY				pmax	pmax		
	comp=E,30nm,0.6s						
VLA	**Vladivostok**	9.58	321	*i*P	Pn	05 27 31.9	+2.7
KSRS	**Korea Array**	9.92	282	P	Pn	05 27 37.3	+3.5
	comp=E,4.7nm,0.3s,baz=95,slow=14,SNR=72						
KSRS				LR	LR	05 31 17.4	
	comp=E,1μm,20.0s,baz=100,slow=37						
KSRS				PcP	**PcP**	05 33 41.8	+1.4
	comp=E,0.1nm,0.3s,baz=111,slow=0.6,SNR=9.9						
KSAR	**Wonju Array Be**	9.95	282	P	Pn	05 27 36.5	+2.3
KSAR	**Wonju Array Be**	9.95	282		Pn	05 27 36.5	+2.3
KS19	**Wonju Array Si**	9.97	283		Pn	05 27 37.4	+2.9
TJN	**Taejon**	10.33	276	*ce*P	Pn	05 27 42.6	+3.1
USRK	**Ussuriysk Ar.**	10.33	325	P	Pn	05 27 42.0	+2.5
	baz=141,slow=12,SNR=103						
USRK	**Ussuriysk Ar.**	10.33	325		Pn	05 27 41.9	+2.5
USA0B	**Ussuriysk Arra**	10.34	325	P	Pn	05 27 41.8	+2.3
USA0B	**Ussuriysk Arra**	10.34	325		Pn	05 27 41.8	+2.3
KUR	**Kuril'sk**	10.98	30	*e*P	Pn	05 27 46.1	-2.2
KUR				pmax	pmax		
	comp=Z,92nm,0.8s						
KUR				MLR	MLR		
	comp=Z,308nm,13.0s						
KUR				MLR	MLR		
	comp=N,259nm,10.0s						
KUR				MLR	MLR		
	comp=E,327nm,10.0s						
YSS	**Yuzh-Sakhalins**	11.18	9	⇓*i*P	Pn	05 27 49.4	-1.5
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,700nm,15.0s						
YSS	**Yuzh-Sakhalins**	11.18	9		Pn	05 27 49.4	-1.5
MDJ	**Mudanjiang**	11.81	320	P	Pn	05 28 01.6	+2.0
MDJ				S	Sn	05 30 14.6	+5.0
MDJ				sS		05 30 19.2	
MDJ				pmax	pmax		
	comp=Z,42nm,1.3s						
MDJ				LR	LR		
	comp=Z,900nm,20.8s						
MDJ				LR	LR		
	comp=Z,400nm,21.4s						
MDJ				LR	LR		
	comp=Z,1μm,28.3s						
MDJ	**Mudanjiang**	11.81	320		Pn	05 28 01.7	+2.0
UGL	**Uglegorsk**	13.21	6	*e*P	P	05 28 36.3	+10
UGL				pmax	pmax		
	comp=Z,44nm,0.9s						
UGL				MLR	MLR		
	comp=Z,2μm,20.0s						
UGL				MLR	MLR		
	comp=E,1μm,16.0s						
JOW	**Kunigami**	13.59	231		Pn	05 28 19.5	-4.3
SNY	**Shenyang**	14.16	300	⇓P	P	05 28 34.5	-2.1
SNY				S	S	05 31 17.3	-6.3
SNY				pmax	pmax		
	comp=E,81nm,1.5s						
SNY				LR	LR		
	comp=E,800nm,12.6s						
SNY				LR	LR		
	comp=E,860nm,15.3s						
SNY				LR	LR		
	comp=E,1μm,15.3s						
KLR	**Kul'dur**	14.63	338	*i*P	Pn	05 28 35.3	-1.9
KLR	**Kul'dur**	14.63	338	P	Pn	05 28 36.0	-1.3
	comp=E,0.5nm,0.3s,baz=135,slow=12,SNR=17						
DL2	**Dalian**	14.99	287	P	P	05 28 45.7	-0.2
DL2				sP		05 29 06.9	
DL2				S	S	05 31 34.8	-5.9
DL2				pmax	pmax		
	comp=E,240nm,1.1s						
DL2				pmax	pmax		
	comp=E,560nm,5.4s						
DL2				LR	LR		
	comp=E,640nm,15.7s						
DL2				LR	LR		
	comp=E,1μm,15.0s						
DL2				LR	LR		
	comp=E,970nm,16.4s						
TYV	**Tymovskoe**	15.03	6	*e*P	Pn	05 28 36.8	-5.5
TYV				pmax	pmax		
	comp=Z,16nm,1.7s						
GRNR	**Gornyy**	15.06	351	*e*P	Pn	05 28 39.1	-3.7
GRNR				pmax	pmax		
	comp=Z,17nm,1.0s						
SSE	**Sheshan**	16.51	258		P	05 29 04.4	+1.6
SSE				IAmb	IAmb	05 29 07.0	
	comp=Z,63nm,0.9s						
NJ2	**Nanjing**	18.06	264	⇓*i*P	P	05 29 20.0	+0.2
NJ2				pmax	pmax		
	comp=Z,37nm,0.7s						
NJ2				LR	LR		
	comp=Z,690nm,14.7s						
NJ2				LR	LR		
	comp=Z,580nm,13.7s						
NJ2				LR	LR		
	comp=Z,1μm,16.2s						
TIA	**Tai'an**	18.59	278	P	P	05 29 25.1	-0.6
TIA				pP	pP	05 29 42.5	+2.4
TIA				S	Sn	05 33 01.1	+7.0
TIA				pmax	pmax		
	comp=Z,120nm,1.0s						
TIA				LR	LR		
	comp=Z,100nm,12.1s						
TIA				LR	LR		
	comp=Z,710nm,12.1s						
TIA				LR	LR		
	comp=Z,1μm,13.5s						
YOJ	**Yonaguni jima**	18.67	237	P	P	05 29 25.0	-1.6
YOJ				pmax	pmax		
	comp=Z,103nm,1.0s						
YOJ	**Yonaguni jima**	18.67	237	P	P	05 29 25.0	-1.6
YOJ				IAmb	IAmb	05 29 27.0	
	comp=Z,103nm,1.0s						
SKR	**Severo-Kuril's**	18.71	33	*e*P	Pn	05 29 27.6	-0.3
SKR				*e*S	S	05 32 52.0	-3.8
SKR				pmax	pmax		
	comp=Z,25nm,0.8s						
SKR				pmax	pmax		
	comp=Z,200nm,3.3s						
SKR				pmax	pmax		
	comp=Z,100nm,6.7s						
SKR				MLR	MLR		
	comp=Z,100nm,16.0s						
SKR				MLR	MLR		
	comp=Z,200nm,15.0s						
BJI	**Beijing**	19.30	289	P	P	05 29 33.2	-0.2
BJI				S	S	05 33 05.0	-3.1
BJI				pmax	pmax		
	comp=Z,47nm,1.2s						
BJI				LR	LR		
	comp=Z,230nm,8.4s						
BJI				LR	LR		
	comp=Z,320nm,13.4s						
BJI				LR	LR		
	comp=Z,860nm,39.2s						
BJT	**Baijiatuau**	19.30	289	P	P	05 29 31.9	-1.5
BJT				pmax	pmax		
	comp=Z,51nm,0.9s						
BJT	**Baijiatuau**	19.30	289	P	P	05 29 31.9	-1.5
TATO	**Taipei**	19.40	241	P	P	05 29 34.4	-0.2
TATO				IAmb	IAmb	05 29 35.4	
	comp=Z,138nm,1.3s						
YHNB	**Yeheng**	19.67	240	P	P	05 29 38.0	+0.3
NACB	**Ninganchiao**	19.83	239	P	P	05 29 38.4	-0.9
NACB				IAmb	IAmb	05 29 40.8	
	comp=Z,113nm,1.5s						
ZEA	**Zeya**	19.94	337	*e*P	P	05 29 37.8	-2.4
ZEA				pmax	pmax		
	comp=N,52nm,0.8s						
ZEA				pmax	pmax		
	comp=E,31nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,72nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,400nm,15.0s						
ZEA				MLR	MLR		
	comp=E,300nm,12.0s						
HIA	**Hailar**	19.98	318	P	P	05 29 38.5	-2.2
HIA				pmax	pmax		
	comp=Z,47nm,1.2s						
HIA	**Hailar**	19.98	318	P	P	05 29 38.5	-2.2
SSLB	**Suanglung**	20.53	239	P	P	05 29 45.1	-1.8
YULB	**Yu-li**	20.55	238	P	P	05 29 46.1	-1.0
TPUB	**Ta-pu**	21.07	239	P	P	05 29 52.1	-0.6
TPUB				IAmb	IAmb	05 30 08.0	
	comp=Z,101nm,1.1s						
TWG	**Pinlang**	21.09	237	P	P	05 29 50.6	-2.2
PEA0B	**Petropavlovsk-**	21.15	30	*i*P	P	05 29 54.0	+0.7
PEA0B	**Petropavlovsk-**	21.15	30	P	P	05 29 51.2	-2.1
PETK	**Petropavlovsk-**	21.15	30	P	P	05 29 54.2	+0.9
	comp=Z,9.3nm,0.9s,baz=209,slow=9.7,SNR=8.9						
PETK				LR	LR	05 37 37.6	
	comp=Z,238nm,21.7s,baz=233,slow=35						
PETK	**Petropavlovsk-**	21.15	30	P	P	05 29 52.0	-1.3
PET	**Petropavlovsk**	21.49	32	*e*P	P	05 29 57.7	+0.9
PET				*e*S	S	05 33 47.8	-3.3
PET				pmax	pmax		
	comp=Z,32nm,1.3s						
PET				MLR	MLR		
	comp=Z,600nm,19.0s						
PET				MLR	MLR		
	comp=Z,600nm,19.0s						
PET	**Petropavlovsk**	21.49	32	P	P	05 29 57.5	+0.7
KNMB	**Chin-men Tao**	21.95	245	P	P	05 30 00.2	-1.8
KNMB				IAmb	IAmb	05 30 05.2	
	comp=Z,57nm,0.7s						
WHN	**Wuhan**	22.19	263	⇑*i*P	P	05 30 03.8	-0.8
WHN				S	S	05 34 05.4	+0.6
WHN				pmax	pmax		
	comp=Z,240nm,0.8s						
WHN				pmax	pmax		
	comp=Z,1μm,3.8s						
WHN				LR	LR		
	comp=Z,3μm,13.2s						
WHN				LR	LR		
	comp=Z,2μm,11.7s						
WHN				LR	LR		
	comp=Z,3μm,20.6s						
GUMO	**Guam**	22.66	168	P	P	05 30 10.5	+0.8
GUMO				pmax	pmax		
	comp=Z,348nm,1.4s						
GUMO	**Guam**	22.66	168	P	P	05 30 09.3	-0.5
	comp=Z,66nm,0.7s,baz=180,slow=20,SNR=2.7						
GUMO	**Guam**	22.66	168	P	P	05 30 10.5	+0.8
HHC	**Hu-ho-hao-te**	22.87	291	P	P	05 30 10.8	-1.0
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
BTO	**Baotou**	24.03	290	*e*P	P	05 30 23.4	+0.8
MA2	**Magadan**	24.64	13	P	P	05 30 29.8	+1.9
MA2				pmax	pmax		
	comp=Z,51nm,0.8s						
MA2	**Magadan**	24.64	13	P	P	05 30 28.7	+0.8
	comp=Z,21nm,0.8s,baz=189,slow=12,SNR=7.6						
MA2				LR	LR	05 40 32.1	
	comp=Z,219nm,20.8s,baz=194,slow=37						
MA2	**Magadan**	24.64	13	P	P	05 30 29.8	+1.9
MA2				IAmb	IAmb	05 30 44.5	
	comp=Z,51nm,0.8s						
XAN	**Xi'an**	25.59	275	P	P	05 30 35.3	-1.5
XAN				pmax	pmax		
	comp=Z,49nm,1.0s						
XAN	**Xi'an**	25.59	275	P	P	05 30 35.4	-1.4
XAN				pmax	pmax		
	comp=Z,46nm,1.0s						
XAN	**Xi'an**	25.59	275	P	P	05 30 35.4	-1.4
XAN				IAmb	IAmb	05 30 38.6	
	comp=Z,46nm,1.0s						
ENH	**Enshi**	26.22	266	P	P	05 30 41.9	-0.6
YAK	**Yakutsk**	26.93	349	*e*P	P	05 30 48.0	-0.4
YAK				*e*		05 31 38.1	
YAK				*e*		05 34 08.4	
YAK				*e*S	S	05 35 21.8	+1.7
YAK				pmax	pmax		
	comp=Z,84nm,1.3s						
YAK				pmax	pmax		
	comp=N,41nm,0.9s						
YAK				pmax	pmax		
	comp=E,19nm,1.1s						
YAK				pmax	pmax		
	comp=Z,60nm,1.5s						
YAK				pmax	pmax		
	comp=N,63nm,1.4s						
YAK				pmax	pmax		
	comp=E,25nm,1.4s						
YAK				smax	smax		
	comp=E,65nm,1.9s						
YAK				smax	smax		
	comp=N,81nm,2.0s						
YAK	**Yakutsk**	26.93	349	P	P	05 30 49.8	+1.3
	comp=N,13nm,0.4s,baz=32,slow=6.8,SNR=13						
YAK				LR	LR	05 41 26.3	
	comp=N,212nm,18.4s,baz=168,slow=36						
YAK	**Yakutsk**	26.93	349	P	P	05 30 48.0	-0.4
YAK				IAmb	IAmb	05 30 51.4	
	comp=Z,121nm,1.4s						
ULN	**Ulaanbaatar**	27.14	306	P	P	05 30 50.6	-0.1
	SNR=16						
ULN	**Ulaanbaatar**	27.14	306	*ce*P	P	05 30 50.0	-0.8
ULN				pmax	pmax		
	comp=Z,220nm,1.7s						
ULN	**Ulaanbaatar**	27.14	306	P	P	05 30 50.2	-0.6
SONM	**Songino Array**	27.56	306	P	P	05 30 53.8	-0.7
	comp=Z,21nm,1.0s,baz=109,slow=9.3,SNR=47						
SONM				PcP	**PcP**	05 34 11.3	+0.6
	comp=Z,2.3nm,0.9s,baz=114,slow=3.5,SNR=3.2						
SONM	**Songino Array**	27.56	306	P	P	05 30 53.8	-0.7
BOD	**Bodaibo**	27.92	330	*e*P	P	05 30 56.9	-0.6
BOD				pmax	pmax		
	comp=Z,35nm,0.9s						
SEY	**Seymchan**	28.07	12	P	P	05 30 58.8	+0.1
	comp=Z,1.8nm,0.3s,baz=195,slow=8.7,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	28.52	117	T	T	06 01 23.1	
	baz=308,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	28.53	117	T	T	06 01 04.9	
	baz=308,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	28.54	117	T	T	06 01 19.7	
	baz=308,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	29.18	119	T	T	06 02 14.4	
	baz=314,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	29.18	120	T	T	06 02 14.8	
	baz=314,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	29.20	119	T	T	06 02 11.3	
	baz=314,slow=76,SNR=50						
LZH	**Lanzhou**	29.25	281	*e*P	P	05 31 09.6	-0.1
LZH				pP	pP	05 31 26.4	+0.1
LZH				sS	sS	05 36 21.8	-4.3
LZH				pmax	pmax		
	comp=Z,34nm,1.2s						
LZH				pmax	pmax		
	comp=Z,230nm,4.5s						
LZH				LR	LR		
	comp=Z,680nm,13.6s						
LZH				LR	LR		
	comp=Z,840nm,14.1s						
LZH				LR	LR		
	comp=Z,930nm,14.2s						
GYA	**Guiyang**	30.02	261	⇑*i*P	P	05 31 15.2	-1.4
GYA				pP	pP	05 31 35.3	+2.1
GYA				sP	sP	05 31 41.3	-0.1
GYA				PP	**PnPn**	05 32 13.1	-2.9
GYA				S	S	05 36 04.3	-5.6
GYA				sS	sS	05 36 35.7	-2.7
GYA				pmax	pmax		
	comp=Z,80nm,1.0s						
GYA				pmax	pmax		
	comp=Z,280nm,4.0s						
GYA				LR	LR		
	comp=Z,360nm,17.3s						
GYA				LR	LR		
	comp=Z,240nm,17.0s						
GYA				LR	LR		
	comp=Z,360nm,17.2s						
ZAK	**Zakamensk**	30.16	310	*e*P	P	05 31 15.4	-2.1
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s						
TLY	**Talaya**	30.29	313	P	P	05 31 18.6	0.0
	SNR=5.8						
TLY				P	P	05 31 18.6	0.0
	SNR=5.8						
TLY	**Talaya**	30.29	313	*e*P	P	05 31 18.9	+0.4
TLY				*e*S	S	05 36 20.2	+6.9
TLY				pmax	pmax		
	comp=Z,28nm,0.8s						
TLY				MLR	MLR		
	comp=Z,653nm,15.0s						
TLY	**Talaya**	30.29	313	P	P	05 31 17.3	-1.2
	comp=Z,7.2nm,0.6s,baz=95,slow=7.4,SNR=6.5						
TLY	**Talaya**	30.29	313	P	P	05 31 18.5	0.0
CD2	**Chengdu**	30.65	271	*e*P	P	05 31 21.5	-0.5
CD2				S	S	05 36 19.5	0.0
CD2				LR	LR		
	comp=Z,730nm,10.8s						
CD2				LR	LR		
	comp=Z,1μm,10.3s						
QIZ	**Qiongzhong**	31.54	246	P	P	05 31 30.7	+0.8
QIZ				IAmb	IAmb	05 31 31.0	
	comp=Z,46nm,1.2s						
MOY	**Mondy**	31.87	312	*e*P	P	05 31 31.7	-0.9
MOY				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA	**Gaotai**	31.91	289	P	P	05 31 32.2	-0.9
GTA				pP	pP	05 31 46.4	-3.4
GTA				sP	sP	05 31 51.8	-6.2
GTA				PcP	**PcP**	05 34 23.4	+1.4
GTA				S	S	05 36 37.0	-2.2
GTA				sS	sS	05 37 03.8	-4.0
GTA				pmax	pmax		
	comp=Z,28nm,0.9s						
GTA				pmax	pmax		
	comp=Z,100nm,4.2s						
GTA				LR	LR		
	comp=Z,190nm,18.2s						
GTA				LR	LR		
	comp=Z,220nm,18.2s						
GTA				LR	LR		
	comp=Z,340nm,17.2s						
KMI	**Kunming**	33.78	262	P	P	05 31 49.1	-0.5
KMI				pP	pP	05 32 04.0	-2.4
KMI				sP	sP	05 32 12.1	-2.5
KMI				S	S	05 37 05.4	-3.2
KMI				pmax	pmax		
	comp=Z,46nm,1.0s						
KMI				pmax	pmax		
	comp=Z,170nm,4.6s						
KMI				LR	LR		
	comp=Z,600nm,21.8s						
KMI				LR	LR		
	comp=Z,460nm,22.2s						
KMI				LR	LR		
	comp=Z,550nm,21.3s						
KMI	**Kunming**	33.78	262	P	P	05 31 49.1	-0.5
KMI				pmax	pmax		
	comp=Z,42nm,1.0s						
KMI	**Kunming**	33.78	262	P	P	05 31 49.1	-0.5
SLVN	**Son La**	34.75	255	P	P	05 31 57.7	-0.2
SLVN				IAmb	IAmb	05 32 02.7	
	comp=Z,15nm,0.9s						
BILL	**Bilibino**	35.37	17	*i*P	P	05 32 02.5	-0.1
BILL				*i*		05 33 23.9	
BILL				*i*		05 34 31.9	
BILL				*i*S	S	05 37 37.2	+5.5
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,105nm,17.0s						
BILL	**Bilibino**	35.37	17	P	P	05 32 03.0	+0.5
BILL				IAmb	IAmb	05 32 03.9	
	comp=Z,30nm,1.5s						
TNTI	**Ternate**	36.95	202	P	P	05 32 17.8	+1.2
NONG	**Nongkai**	37.18	251	P	P	05 32 18.4	-0.2
	comp=Z,1.8nm,0.8s						
DLV	**T Lat**	37.23	238	P	P	05 32 18.5	-0.7
DLV				IAmb	IAmb	05 32 19.9	
	comp=Z,30nm,0.9s						
SIJI	**Sorong**	37.54	195	P	P	05 32 20.1	-1.6
	comp=Z,28nm,0.9s,baz=23,slow=14,SNR=4.4						
KMSI	**Cibinong**	38.26	207	P	P	05 32 26.6	-1.0
	comp=Z,114nm,0.5s						
JAY	**Jayapura**	38.26	179	P	P	05 32 28.1	+0.4
	comp=Z,7.1nm,0.6s,baz=117,slow=4.5,SNR=2.9						
JAY				LR	LR	05 47 16.5	
	comp=Z,48nm,21.7s,baz=354,slow=35						
PAYA	**Payao**	38.99	256	P	P	05 32 36.3	+2.4
	comp=Z,24μm,0.8s,comp=Z,360μm						
MRSI	**Marisa**	39.13	210	P	P	05 32 33.7	-1.2
	comp=Z,26nm,1.1s						
CHAI	**Chaiyaphum**	39.36	250	P	P	05 32 36.2	-0.7
	comp=Z,156μm,0.9s						
FAKI	**Fak Fak**	39.36	192	P	P	05 32 36.8	0.0
FAKI	**Fak Fak**	39.36	192	P	P	05 32 37.5	+0.7
FAKI				IAmb	IAmb	05 32 39.4	
	comp=Z,32nm,0.9s						
PBKT	**Sadao Pong**	39.73	251	P	P	05 32 39.5	-0.5
	comp=Z,21nm,1.2s						
PBKT	**Sadao Pong**	39.73	251	P	P	05 32 39.6	-0.5
CMMT	**Chiang Mai**	40.02	256	P	P	05 32 42.0	-0.4
	comp=Z,5.4nm,1.0s						
CHTO	**Chiang Mai**	40.02	256	P	P	05 32 40.7	-1.7
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	**Chiang Mai**	40.02	256	P	P	05 32 40.7	-1.7
SANI	**Sanana**	40.04	202	P	P	05 32 40.2	-2.3
	comp=Z,98nm,0.6s,comp=Z,939nm						
MPSI	**Mapaga**	40.11	212	P	P	05 32 42.1	-1.0
	comp=Z,7.9nm,0.8s						
DGZ	**Jazzator, Alta**	40.20	307	*c i*P	P	05 32 44.1	+0.3
CM31	**Chiang Mai Arr**	40.22	255	P	P	05 32 43.5	-0.5
	SNR=5.5						
CM31	**Chiang Mai Arr**	40.22	255	P	P	05 32 42.4	-1.7
CMAR	**Chiang Mai Arr**	40.22	255	P	P	05 32 43.5	-0.5
	comp=Z,8.7nm,0.9s,baz=50,slow=7.4,SNR=31						

CMAR PcP **PcP** **05 34 48.2 +1.2**
comp=Z,4.8nm,0.9s,baz=30,slow=1.9,SNR=10
CMAR LR LR 05 51 10.3
comp=Z,212nm,18.2s,baz=16,slow=39
WMQ Urumqi 40.42 298 *e*P **P** **05 32 47.7 +2.2**
WMQ pP pP 05 32 59.3 -3.4
WMQ sP sP 05 33 10.2 -0.5
WMQ pmax pmax
comp=Z,31nm,1.5s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,630nm,28.9s
WMQ LR LR
comp=Z,870nm,29.1s
WMQ LR LR
comp=Z,160nm,26.9s
WMQ Urumqi 40.42 298 P **P** **05 32 47.0 +1.5**
WMQ pmax pmax
comp=Z,40nm,0.8s
WMQ Urumqi 40.42 298 P **P** **05 32 47.0 +1.5**
MHMT Maesarieng 41.17 256 P **P** **05 32 52.8 +0.9**
comp=Z,15nm,0.8s,comp=Z,1μm
LSA Lhasa 41.28 276 P **P** **05 32 54.5 +1.3**
LSA Lhasa 41.28 276 P **P** **05 32 53.7 +0.4**
LSA pmax pmax
comp=Z,63nm,1.0s
LSA Lhasa 41.28 276 P **P** **05 32 53.7 +0.4**
UTHA Uthaitani 41.51 251 P **P** **05 32 55.9 +1.3**
comp=Z,19μm,0.7s,comp=Z,247μm
UMPA Umpang Tak 41.58 253 P **P** **05 32 56.8 +1.6**
comp=Z,38μm,0.9s
ZAA0 Zalesovo Array 41.90 313 P **P** **05 32 57.4 0.0**
ZALV Zalesovo Beam 41.90 313*c i*P **P** **05 32 56.9 -0.5**
ZALV Zalesovo Beam 41.90 313 P **P** **05 32 57.7 +0.4**
comp=Z,40nm,0.7s,baz=95,slow=7.2,SNR=131
ZALV PcP **PcP** **05 34 51.7 -0.1**
comp=Z,7.0nm,0.7s,baz=109,slow=3.3,SNR=4.4
ZALV Zalesovo Beam 41.90 313 P **P** **05 32 57.4 0.0**
SBUM Sibu 42.16 224 P **P** **05 32 58.3 -1.7**
SHL Shillong 42.36 270 P **P** **05 33 00.6 -1.1**
SNR=5.6
SHL Shillong 42.36 270 P **P** **05 33 00.5 -1.3**
SHL pmax pmax
comp=Z,18nm,0.6s
SHL Shillong 42.36 270 P **P** **05 33 00.5 -1.3**
SHL IAmb IAmb 05 33 01.5
comp=Z,18nm,0.6s
KHLT Khaolaem Dam 42.62 251 P **P** **05 33 01.0 -2.7**
comp=Z,14nm,1.1s
BKB Balikpapan 42.88 215 P **P** **05 33 05.5 -0.3**
MK31 Makanchi Array 43.83 303 P **P** **05 33 13.7 +0.5**
MK31 Makanchi Array 43.83 303 P **P** **05 33 13.7 +0.5**
MKAR Makanchi Array 43.83 303 P **P** **05 33 13.5 +0.3**
comp=Z,46nm,0.9s,baz=89,slow=9.8,SNR=159
MKAR PcP **PcP** **05 34 58.4 -0.1**
comp=Z,2.4nm,0.7s,baz=84,slow=4.5,SNR=2.1
MKAR ScP **ScP** **05 38 43.6 -0.4**
comp=Z,0.8nm,0.8s,baz=103,slow=3.1,SNR=2.4
MKAR LR LR 05 51 41.4
comp=Z,116nm,19.4s,baz=80,slow=36
NRIK Noril'sk 43.83 336 P **P** **05 33 12.9 +0.1**
comp=Z,7.5nm,0.5s,baz=117,slow=8.3,SNR=13
NRIK PcP **PcP** **05 34 59.0 +1.0**
comp=Z,8.2nm,0.8s,baz=105,slow=4.3,SNR=3.8
SPSI Sidrap Palu 44.04 210 P **P** **05 33 14.1 -1.0**
comp=Z,11nm,0.8s
MAKZ Makanchi 44.04 303 P **P** **05 33 15.3 +0.4**
MAKZ pmax pmax
comp=Z,85nm,1.1s
MAKZ Makanchi 44.04 303 P **P** **05 33 15.3 +0.4**
KSM Kuching 44.05 226 P **P** **05 33 14.6 -0.6**
KSM IAmb IAmb 05 33 15.9
comp=Z,23nm,0.7s
SIMRM Sittwe 44.14 262 P **P** **05 33 16.3 +0.4**
SIMRM IAmb IAmb 05 33 17.2
comp=Z,28nm,0.9s
BNSI Bone 44.30 209 P **P** **05 33 17.1 -0.1**
STKI Sintang 44.54 223 P **P** **05 33 18.9 -0.2**
TAPN Taplejung 44.99 274 *e*P **P** **05 33 23.1 +0.1**
comp=Z,40nm,0.5s
KAPI Kappang 45.00 209 P **P** **05 33 22.2 -0.5**
KAPI pmax pmax
comp=Z,35nm,0.8s
KAPI Kappang 45.00 209 P **P** **05 33 22.1 -0.7**
comp=Z,25nm,0.7s,baz=32,slow=5.4,SNR=13
KAPI Kappang 45.00 209 P **P** **05 33 22.2 -0.5**
KAPI IAmb IAmb 05 33 23.9
comp=Z,35nm,0.8s
BKSI Bulukumba 45.14 209 P **P** **05 33 23.2 -0.6**
comp=Z,14nm,0.7s
ODAN Odare 45.45 274 *e*P **P** **05 33 26.4 -0.2**
comp=Z,32nm,0.7s
PMG Port Moresby 45.59 170 P **P** **05 33 28.1 +0.8**
PMG pmax pmax
comp=Z,16nm,0.9s
PMG Port Moresby 45.59 170 P **P** **05 33 28.1 +0.8**
PMG IAmb IAmb 05 33 42.1
comp=Z,16nm,0.8s
KURK Kurchatov 45.80 309 P **P** **05 33 28.7 0.0**
SNR=54
KURK Kurchatov 45.80 309*ce*P **P** **05 33 28.6 -0.1**
KURK pmax pmax
comp=Z,176nm,1.0s
KURK Kurchatov 45.80 309 P **P** **05 33 28.9 +0.2**
KURBB Kurchatov Arra 45.86 309 P **P** **05 33 29.4 +0.2**
comp=Z,82nm,0.9s,baz=78,slow=7.7,SNR=312
RAMN Ramite 46.05 274 *e*P **P** **05 33 31.3 0.0**
comp=Z,163nm,0.7s
JIRN Jiri 46.09 276 *e*P **P** **05 33 32.2 +0.4**
comp=Z,303nm,0.8s
GUN Gumba 46.23 276 *e*P **P** **05 33 33.2 +0.3**
comp=Z,68nm,0.7s
TRTT Trang 46.28 243 P **P** **05 33 33.4 +0.5**
comp=Z,41nm,1.0s
PDGK Podgornoye 46.38 299 P **P** **05 33 33.2 -0.4**
PDGK pmax pmax
comp=Z,103nm,1.1s
PKI Pulchoki 46.76 276 *e*P **P** **05 33 36.7 -0.2**
PKIN Phulchoki 46.76 276 *e*P **P** **05 33 36.7 -0.2**
comp=Z,59nm,0.8s
KKN Kakani 46.77 276 *e*P **P** **05 33 36.9 0.0**
comp=Z,100nm,0.9s
DMN Daman 46.98 276 *e*P **P** **05 33 38.7 +0.1**
comp=Z,72nm,1.0s
GKN Gorkha 47.20 277 *e*P **P** **05 33 40.3 +0.1**
comp=Z,386nm,1.0s
PKDT Phuket 47.23 244 P **P** **05 33 41.6 +1.3**
comp=Z,57nm,1.1s
KULM Kulim 47.37 239 P **P** **05 33 39.6 -1.9**
KULM IAmb IAmb 05 33 42.3
comp=Z,18nm,1.0s
MMRI Maumere 47.44 204 P **P** **05 33 41.2 -0.6**
IPM Ipoh 47.69 238 P **P** **05 33 43.2 -0.7**
EDFI Ende, Flores 47.73 205 P **P** **05 33 43.5 -0.7**
comp=Z,25nm,0.8s
DANN Dangsing 47.76 278 *e*P **P** **05 33 45.3 +0.6**
comp=Z,569nm,0.9s
MYKOM Kota Tinggi 47.78 233 P **P** **05 33 44.0 -0.6**
MYKOM IAmb IAmb 05 33 45.3
comp=Z,20nm,1.1s
SOEI Soe 47.85 201 P **P** **05 33 44.6 -0.6**
comp=Z,80nm,1.0s,comp=Z,908nm
SOEI Soe 47.85 201 P **P** **05 33 43.8 -1.4**
TARG Taragay, Kyrgy 47.96 297 P **P** **05 33 47.5 +1.2**
IMAR Indian Mountai 48.12 30 P **P** **05 33 47.9 +1.4**
KOLN Koldanda 48.13 277 *e*P **P** **05 33 47.6 +0.1**
comp=Z,254nm,1.2s
RSO Redoubt South 48.40 38 P **P** **05 33 49.7 +0.6**
BATI Baumata 48.46 202 P **P** **05 33 49.1 -0.6**
comp=Z,60nm,0.6s,baz=29,slow=2.4,SNR=8.4
BATI Baumata 48.46 202 P **P** **05 33 49.7 -0.1**
KDAK Kodiak Island 48.60 41*ce*P **P** **05 33 51.6 +1.2**
KDAK Kodiak Island 48.60 41 P **P** **05 33 51.1 +0.8**
comp=Z,5.9nm,0.3s,baz=96,slow=9.2,SNR=5.8
HOM Homer 48.98 39 P **P** **05 33 53.9 +0.6**
BOOM Boomskoye usch 49.11 298 P **P** **05 33 55.6 +0.8**
BOOM pmax pmax
comp=Z,27nm,1.0s
BOOM Boomskoye usch 49.11 298 P **P** **05 33 55.6 +0.8**
BOOM IAmb IAmb 05 33 58.8
comp=Z,27nm,0.9s
BPAW Bear Paw Mtn. 49.20 33 P **P** **05 33 55.7 +0.8**
BPAW IAmb IAmb 05 33 58.0
comp=Z,17nm,1.2s
KTH Kantishna Hill 49.23 33 P **P** **05 33 56.3 +1.1**
KTH IAmb IAmb 05 33 58.3
comp=Z,25nm,1.0s
TKM2 Tokmak 2 49.24 299 *i* P **P** **05 33 56.1 +0.3**
TKM2 pmax pmax
comp=Z,51nm,0.9s
TKM2 Tokmak 2 49.24 299 P **P** **05 33 56.7 +0.9**
SNR=44
MTN Manton Dam 49.26 192 P **P** **05 33 55.5 -0.3**
MLY Manley 49.32 32 P **P** **05 33 58.0 +2.1**
MLY IAmb IAmb 05 33 59.0
comp=Z,18nm,0.8s
NRN Naryn 49.34 297 P **P** **05 33 57.4 +0.6**
NRN pmax pmax
comp=Z,34nm,1.1s
NRN Naryn 49.34 297 P **P** **05 33 57.4 +0.6**
NRN IAmb IAmb 05 34 00.2
comp=Z,34nm,1.1s
TRF Thorofare Moun 49.51 34 P **P** **05 33 59.0 +1.5**
TRF IAmb IAmb 05 34 16.8
comp=Z,14nm,0.8s
TWSI Taliwang, Sumb 49.54 211 P **P** **05 33 57.7 -0.3**
COEN Coen 49.71 176 P **P** **05 34 00.3 +1.0**
COEN IAmb IAmb 05 34 01.3
comp=Z,20nm,0.9s
KZA Kyzart 49.71 298 P **P** **05 34 01.2 +1.6**
SNR=19
KBK Karagaybulak 49.77 299 P **P** **05 34 00.8 +1.0**
SNR=44
CHMS Chumysh 49.82 299 P **P** **05 34 00.6 +0.6**
SNR=15
RC01 Rabbit Creek A 49.85 37 P **P** **05 34 01.1 +1.2**
RC01 IAmb IAmb 05 34 04.2
comp=Z,22nm,1.0s
BWN Browne 49.87 33 P **P** **05 34 02.3 +2.3**
KSH Kashi 49.91 294 P **P** **05 34 04.9 +4.1**
KSH pP sP 05 34 23.4 -3.0
KSH PP **PP** **05 36 02.0 +6.0**
KSH S **S** **05 41 08.1 +2.2**
KSH sS sS 05 41 41.8 +5.9
KSH SS **SS** **05 44 39.7 +0.5**
KSH pmax pmax
comp=Z,92nm,1.3s
KSH pmax pmax
comp=Z,270nm,4.1s
KSH LR LR
comp=Z,380nm,13.3s
KSH LR LR
comp=Z,290nm,12.1s
KSH LR LR
comp=Z,350nm,13.8s
TOLK Toolik Lake Re 49.91 27 P **P** **05 34 02.3 +2.0**
baz=267,SNR=5.7
TOLK Toolik Lake Re 49.91 27 P **P** **05 34 02.2 +1.9**
TOLK IAmb IAmb 05 34 03.3
comp=Z,16nm,1.0s
USP Ospenovka 49.93 300 P **P** **05 34 01.4 +0.6**
SNR=17
FRU1 Bishkek 49.96 299 P **P** **05 34 01.8 +0.7**
FRU1 pmax pmax
comp=Z,88nm,1.1s
FRU1 Bishkek 49.96 299 P **P** **05 34 01.8 +0.7**
NEA Nenana 50.03 32 P **P** **05 34 03.0 +1.8**
NEA IAmb IAmb 05 34 04.2
comp=Z,29nm,0.9s
AAK Ala-Archa 50.10 299 *i* P **P** **05 34 02.7 +0.4**
SNR=19
AAK Ala-Archa 50.10 299 P **P** **05 34 02.8 +0.5**
SNR=7.9
AAK P **P** **05 34 02.8 +0.5**
SNR=7.9
AAK Ala-Archa 50.10 299*ce*P **P** **05 34 03.0 +0.7**
AAK pmax pmax
comp=Z,34nm,1.3s
AAK Ala-Archa 50.10 299 LR LR 05 56 47.8
comp=Z,249nm,18.8s,baz=73,slow=38
AAK Ala-Archa 50.10 299 P **P** **05 34 02.8 +0.5**
SNR=18
AAK Ala-Archa 50.10 299 P **P** **05 34 02.6 +0.3**
MCK McKinley 50.11 33 P **P** **05 34 03.2 +1.3**
MCK pmax pmax
comp=Z,18nm,0.8s
MCK McKinley 50.11 33 P **P** **05 34 03.2 +1.3**
MCK IAmb IAmb 05 34 06.3
comp=Z,18nm,0.8s
PMR Palmer 50.12 36 P **P** **05 34 02.5 +0.7**
PMR pmax pmax
comp=Z,13nm,0.9s
PMR Palmer 50.12 36 P **P** **05 34 02.5 +0.7**
PMR IAmb IAmb 05 34 19.5
comp=Z,12nm,0.9s
RND Reindeer 50.16 34 P **P** **05 34 03.2 +0.9**
RND pmax pmax
comp=Z,20nm,0.8s
RND Reindeer 50.16 34 P **P** **05 34 03.2 +0.9**
RND IAmb IAmb 05 34 04.3
comp=Z,20nm,0.8s
UCH Uchtor 50.20 298 P **P** **05 34 04.6 +1.2**
SNR=14
GHO Glory Hole Cre 50.20 36 P **P** **05 34 03.5 +0.8**
GHO IAmb IAmb 05 34 20.7
comp=Z,22nm,0.8s
PSI Prapat 50.34 239 P **P** **05 34 03.2 -1.1**
comp=Z,30nm,0.9s,baz=26,slow=5.9,SNR=13
PSI LR LR 05 55 21.0
comp=Z,94nm,21.8s,baz=27,slow=36
MDM Murphy Dome 50.39 32 P **P** **05 34 05.9 +2.0**
RPSI Rantau Prapat 50.42 239 P **P** **05 34 03.3 -1.5**
RPSI IAmb IAmb 05 34 07.8
comp=Z,27nm,0.9s
RPSI Rantau Prapat 50.42 239 P **P** **05 34 03.2 -1.5**
WRH Wood River Hil 50.46 32 P **P** **05 34 05.3 +0.8**
WRH IAmb IAmb 05 34 23.1
comp=Z,11nm,0.7s
SML Sawmill 50.48 36 P **P** **05 34 05.6 +0.8**
SML IAmb IAmb 05 34 22.8
comp=Z,21nm,0.8s
BVAR Borovoye Array 50.55 313 P **P** **05 34 05.3 0.0**
comp=Z,21nm,0.8s,baz=79,slow=7.7,SNR=31
TCOL CIGO, UAF Yank 50.55 32 P **P** **05 34 07.2 +2.1**
baz=272
COLA College 50.55 32 P **P** **05 34 06.3 +1.2**
COLA pmax pmax
comp=Z,22nm,0.6s
COLA College 50.55 32 P **P** **05 34 06.3 +1.2**
CCB Clear Creek Bu 50.58 32 P **P** **05 34 06.6 +1.3**
BRVK Borovoye 50.60 313 P **P** **05 34 05.9 +0.2**
SNR=20
BRVK Borovoye 50.60 313*ce*P **P** **05 34 06.0 +0.3**
BRVK pmax pmax
comp=Z,41nm,1.0s
BRVK Borovoye 50.60 313 P **P** **05 34 06.0 +0.3**
EKS2 Erkin-Say 50.60 299 P **P** **05 34 06.4 +0.4**
SNR=10
BKNI Bangkinang 50.72 235 P **P** **05 34 07.0 0.0**
BKNI Bangkinang 50.72 235 P **P** **05 34 06.8 -0.2**
POKR Poker Plat Res 50.72 31 P **P** **05 34 09.0 +2.5**
baz=272
AML Almayashu 50.81 298 P **P** **05 34 09.2 +1.3**
SNR=51
DHY Denali Highway 50.84 34 P **P** **05 34 08.7 +1.1**
DHY IAmb IAmb 05 34 25.5
comp=Z,8.7nm,0.8s
PMBI Palembang 50.85 228 P **P** **05 34 08.9 +0.9**
HDA Harding Lake 50.96 32 P **P** **05 34 09.2 +1.0**
baz=273
HDA Harding Lake 50.96 32 P **P** **05 34 08.9 +0.7**
HDA IAmb IAmb 05 34 10.0
comp=Z,20nm,0.8s
IL31 50.97 32 P **P** **05 34 09.5 +1.3**
IL31 IAmb IAmb 05 34 10.1
comp=Z,20nm,0.8s
ILAR Eielson Array 50.97 32 P **P** **05 34 09.1 +0.8**
comp=Z,18nm,0.8s,baz=271,slow=6.2,SNR=112
ILAR Eielson Array 50.97 32 P **P** **05 34 08.9 +0.7**
PWJI Pagerwojo 51.21 217 P **P** **05 34 07.4 -3.2**
PRP Porcupine Dome 51.50 31 P **P** **05 34 13.5 +1.1**
PRP IAmb IAmb 05 34 15.2
comp=Z,14nm,0.9s
ARSB Arslanbob 51.55 298 P **P** **05 34 14.3 +1.2**
FYU Fort Yukon 51.57 29 P **P** **05 34 15.1 +2.4**
FYU IAmb IAmb 05 34 16.4
comp=Z,28nm,1.0s
BMAR Burnt Mountain 51.78 28 P **P** **05 34 16.7 +2.3**
RIDG Independent Ri 51.93 33 P **P** **05 34 15.6 0.0**
RIDG IAmb IAmb 05 34 33.0
comp=Z,9.6nm,0.8s
KPJI Karang Pucung 52.09 221 P **P** **05 34 15.2 -2.0**
SCRK Sand Creek 52.28 33 P **P** **05 34 19.0 +0.8**
SCRK IAmb IAmb 05 34 20.4
comp=Z,22nm,0.9s
DOT Dot Lake 52.28 33 P **P** **05 34 19.1 +1.0**
DOT IAmb IAmb 05 34 35.8
comp=Z,13nm,0.8s
LHSI Lahat 52.32 229 P **P** **05 34 17.6 -1.3**
GSI Gunungsitoli 52.35 239 P **P** **05 34 17.1 -2.1**
GSI Gunungsitoli 52.35 239 P **P** **05 34 18.0 -1.2**
LEM Lembang 52.37 222 P **P** **05 34 18.9 -0.6**
comp=Z,59nm,0.8s,baz=336,slow=13,SNR=8.7
KNRA Kununurra 52.45 194 P **P** **05 34 19.6 -0.1**
MENT Mentasta 52.52 34 P **P** **05 34 21.8 +1.9**
MENT IAmb IAmb 05 34 40.3
comp=Z,26nm,1.1s
GLB Gilahina Butte 52.67 36 P **P** **05 34 23.3 +2.2**
GLB IAmb IAmb 05 34 24.0
comp=Z,17nm,1.3s
KK31 Karatay Array 52.78 300 P **P** **05 34 22.3 +0.2**
KK31 pmax pmax
comp=Z,36nm,1.0s
KK31 Karatay Array 52.78 300 P **P** **05 34 22.5 +0.4**
KKAR Karatay Array 52.78 300 P **P** **05 34 22.3 +0.2**
KKAR pmax pmax
comp=Z,49nm,1.1s
KKAR Karatay Array 52.78 300 P **P** **05 34 22.3 +0.2**
KKAR Karatay Array 52.78 300 P **P** **05 34 22.5 +0.4**
KKAR IAmb IAmb 05 34 25.7
comp=Z,50nm,1.1s
NDI New Delhi 52.86 281 *e*P **P** **05 34 20.0 -2.9**
LWLI Liwa 52.94 227 P **P** **05 34 24.4 +0.8**
MCARA McCarthy VSAT 53.05 36 P **P** **05 34 26.0 +2.2**
MCARA IAmb IAmb 05 34 37.8
comp=Z,22nm,0.9s
CRQM Cirque 53.09 37 P **P** **05 34 26.7 +2.4**
CRQM IAmb IAmb 05 34 28.2
comp=Z,26nm,1.1s
BCAR Beaver Creek A 53.38 34 P **P** **05 34 27.4 +1.2**
EGAK Eagle 53.41 32 P **P** **05 34 27.2 +0.9**
EGAK IAmb IAmb 05 34 46.6
comp=Z,12nm,0.7s
BALM Baldy 53.43 36 P **P** **05 34 27.9 +1.2**
BALM IAmb IAmb 05 34 29.3
comp=Z,18nm,1.0s
BTK Batken 53.51 297 P **P** **05 34 27.6 0.0**
BTK pmax pmax
comp=Z,13nm,0.9s
BTK Batken 53.51 297 P **P** **05 34 27.6 0.0**
BTK IAmb IAmb 05 34 41.0
comp=Z,13nm,0.8s
BARN Barnard Glacie 53.76 36 P **P** **05 34 29.3 +0.2**
BARN IAmb IAmb 05 34 32.4
comp=Z,14nm,1.1s
YAH Yahtse 53.84 37 P **P** **05 34 30.2 +0.4**
YAH IAmb IAmb 05 34 37.8
comp=Z,23nm,1.0s
CTGM Chitina Glacie 53.93 36 P **P** **05 34 30.6 +0.2**
CTGM IAmb IAmb 05 34 33.6
comp=Z,17nm,1.0s
NIL Nilore 53.98 288 P **P** **05 34 31.2 +0.2**
NIL pmax pmax
comp=Z,34nm,0.9s
NIL Nilore 53.98 288 P **P** **05 34 31.2 +0.2**
TAS Tashkent 54.20 299 P **P** **05 34 33.1 +0.6**
TAS pmax pmax
comp=Z,58nm,0.4s
TAS Tashkent 54.20 299 P **P** **05 34 33.1 +0.6**
GAR Garm 54.23 296 P **P** **05 34 33.0 +0.1**
DAWY Dawson 54.28 32 P **P** **05 34 33.6 +0.8**
EPYK Eagle Plains 54.98 29 P **P** **05 34 39.8 +2.0**
baz=280
EPYK Eagle Plains 54.98 29 P **P** **05 34 38.9 +1.1**
SVE Sverdlovsk 55.28 319|| *e*P **P** **05 34 40.7 +0.6**
SVE pmax pmax
comp=Z,47nm,1.4s
FITZ Fitzroy Crossi 55.47 197 P **P** **05 34 42.4 +0.6**
comp=Z,55nm,1.1s,baz=20,slow=7.7,SNR=48
FITZ Fitzroy Crossi 55.47 197 P **P** **05 34 42.3 +0.6**
WB0 Warramunga Arr 55.67 187 P 05 34 51.5 +8.3
INK Inuvik 55.83 27 P **P** **05 34 45.1 +1.4**
INK pmax pmax
comp=Z,17nm,0.8s
INK Inuvik 55.83 27 P **P** **05 34 45.1 +1.4**
INK IAmb IAmb 05 34 46.1
comp=Z,17nm,0.8s
WRAB Tennant Creek 55.84 187*ce*P **P** **05 34 44.3 -0.1**
WRAB pmax pmax
comp=Z,57nm,1.7s
WB2 Warramunga Arr 55.85 187 P **P** **05 34 44.4 -0.1**
WB2 IAmb IAmb 05 34 46.1
comp=Z,22nm,0.8s
WR0 Warramunga Arr 55.85 186 P **P** **05 34 44.3 -0.2**
WR0 IAmb IAmb 05 34 46.1
comp=Z,36nm,1.1s
WRA Warramunga Arr 55.85 187 P **P** **05 34 44.3 -0.2**
comp=Z,18nm,0.7s,baz=3.2,slow=7.4,SNR=319
WRA LR LR 05 58 45.6
comp=Z,47nm,20.3s,baz=15,slow=36
WRA Warramunga Arr 55.85 187 P **P** **05 34 44.0 -0.5**
ARU Arti 56.49 319*c i*P **P** **05 34 48.7 -0.1**
ARU *PP **pP** **05 35 08.6 +1.9**
ARU 05 35 44.3
ARU 05 36 52.9
ARU PPP PPP 05 38 12.3
ARU S **S** **05 42 36.3 +1.8**
ARU SS **SS** **05 46 19.5 -2.6**
ARU pmax pmax
comp=Z,94nm,1.7s
ARU Arti 56.49 319 P **P** **05 34 48.6 -0.1**
KBL Kabul 56.84 291 P **P** **05 34 51.5 -0.3**
KBL pmax pmax
comp=Z,38nm,1.3s
KBL Kabul 56.84 291 P **P** **05 34 51.5 -0.3**
WHY Whitehorse 57.08 36 P **P** **05 34 54.1 +1.2**
WHY IAmb IAmb 05 34 56.8
comp=Z,11nm,1.1s
HYB Hyderabad 57.14 268 *i* P **P** **05 34 53.0 -0.9**
SKAG Skagway 57.19 37 P **P** **05 34 55.2 +1.6**
SKAG IAmb IAmb 05 34 57.7
comp=Z,20nm,1.2s
A36M Sachs Harbour 57.65 22 P **P** **05 34 58.3 +1.6**
baz=287
BESE Bessie Mountai 57.68 38 P **P** **05 34 59.0 +1.9**
BESE IAmb IAmb 05 35 01.4
comp=Z,14nm,1.2s
AB31 Akbulak array 57.85 310 P **P** **05 34 57.7 -0.7**
AB31 pmax pmax
comp=Z,53nm,1.4s
ABKAR Akbulak array 57.85 310 P **P** **05 34 57.9 -0.5**
JIS Juneau Island 58.00 38 P **P** **05 35 01.0 +1.7**
JIS IAmb IAmb 05 35 02.9
comp=Z,15nm,1.0s
POHA Pohakuloa 58.17 88 P **P** **05 35 01.6 +0.2**
C36M Paulatuk 58.85 24 P **P** **05 35 06.2 +1.2**
baz=289,SNR=6.2
AS31 Alice Springs 59.58 187 P **P** **05 35 10.4 -0.2**
ASAR Alice Springs 59.58 187 P **P** **05 35 10.4 -0.1**
comp=Z,7.8nm,0.9s,baz=11,slow=6.4,SNR=55
ASAR LR LR 06 01 03.6
comp=Z,70nm,20.2s,baz=35,slow=36
ASAR PKP2bc 06 04 50.4
comp=Z,2.8nm,0.9s,baz=177,slow=2.6,SNR=13
MBWA Marble Bar 59.98 202 P **P** **05 35 13.5 +0.1**
SNR=9.9
MBWA Marble Bar 59.98 202 P **P** **05 35 13.7 +0.3**
DLBC Dease Lake 60.12 37 P **P** **05 35 15.4 +1.3**
DLBC IAmb IAmb 05 35 33.6
comp=Z,8.9nm,0.9s
PSAD1 Pilbara Seismi 60.23 202 P **P** **05 35 15.4 +0.3**
PSAC2 Pilbara Seismi 60.31 202 P **P** **05 35 15.8 +0.1**
PSA00 Pilbara Seismi 60.34 202 P **P** **05 35 15.8 0.0**
POO Poona 60.38 272 *e*P P 05 35 23.0 +6.7
PRGR Permogore 61.12 327 *e*P **P** **05 35 18.3 -2.3**
PRGR pmax pmax
comp=Z,39nm,0.9s
PALK Pallekele 61.12 257 P **P** **05 35 21.8 +0.4**
comp=Z,18nm,0.7s,baz=113,slow=2.5,SNR=12
PALK Pallekele 61.12 257 P **P** **05 35 21.3 -0.1**
PALK IAmb IAmb 05 35 22.9
comp=Z,19nm,0.8s
EIDS Eidsvold 61.85 169 P **P** **05 35 26.3 +0.4**
EIDS IAmb IAmb 05 35 27.4

comp=Z,16nm,0.8s
HRA Herat 62.01 294 P P 05 35 27.8 +0.4
HRA IAmb IAmb 05 35 28.5
comp=Z,8.8nm,0.8s
DZM Mont Dzumac 62.85 152 *e*P **P 05 35 35.0 +2.2**
DZM comp=Z,46nm,1.3s *e*pP **pP 05 35 51.9 +0.8**
comp=Z,72nm,1.2s
TMCR Tamitsa 63.20 331 *e*P **P 05 35 33.8 -0.8**
TMCR pmax pmax
comp=Z,26nm,0.6s
GEYT Alibeck 63.45 299 P **P 05 35 36.9 +0.2**
comp=Z,14nm,0.9s,baz=48,slow=2.4,SNR=22
GEYT Alibeck 63.45 299 P **P 05 35 37.3 +0.5**
GYA0B ALIBECK ARRAY 63.45 299 P **P 05 35 35.9 -0.8**
RES Resolute Bay 63.91 14 P **P 05 35 39.1 0.0**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 63.91 14 P **P 05 35 39.1 0.0**
KLMR Klimovskoe 64.12 328 *e*P **P 05 35 39.7 -1.0**
KLMR pmax pmax
comp=Z,49nm,1.3s
KLMR Klimovskoe 64.12 328 *e*P **P 05 35 39.7 -1.0**
KLMR AMP 05 35 41.8
comp=Z,49nm,1.3s
ARCES ARCESS Array B 64.65 339 P **P 05 35 44.6 +0.6**
comp=Z,11nm,0.8s,baz=54,slow=6.5,SNR=22
ARCES LR LR 06 09 23.9
comp=Z,98nm,18.9s,baz=356,slow=41
ARCES ARCESS Array B 64.65 339 P **P 05 35 44.5 +0.5**
ARE0 ARCESS Array S 64.65 339 P **P 05 35 44.4 +0.3**
YKA Yellowknife Ar 65.27 30 P **P 05 35 49.0 +0.9**
YKA Yellowknife Ar 65.27 30 P **P 05 35 49.0 +0.9**
comp=Z,3.9nm,0.8s,baz=301,slow=6.4,SNR=9.0
YKA Yellowknife Ar 65.27 30 P **P 05 35 48.6 +0.5**
TULEG Thule 66.31 7 P **P 05 35 55.1 +0.5**
TULEG IAmb IAmb 05 35 55.9
comp=Z,16nm,1.0s
DAG Danmarks Havn 66.77 355 *i* P **P 05 35 57.9 +0.4**
DAG pmax pmax
comp=Z,23nm,1.0s
DAG Danmarks Havn 66.77 355 *i* P **P 05 35 57.9 +0.4**
comp=Z,23nm,1.0s
ARMA Armidale 66.89 169 P **P 05 35 59.9 +1.0**
ARMA IAmb IAmb 05 36 01.1
comp=Z,14nm,0.9s
FORT Forrest 67.33 191 P **P 05 36 02.1 +0.5**
STKA Stephens Creek 67.48 179 P **P 05 36 03.2 +0.7**
comp=Z,18nm,0.8s,baz=342,slow=6.8,SNR=28
STKA LR LR 06 04 45.1
comp=Z,60nm,21.1s,baz=22,slow=35
STKA Stephens Creek 67.48 179 P **P 05 36 03.1 +0.6**
VRH Novokhopyorsk 67.69 318 *e*P **P 05 36 02.9 -0.8**
VRH pmax pmax
comp=Z,40nm,0.8s
OBN Obninsk 68.35 323⇑*i*P **P 05 36 08.1 +0.3**
OBN *i* 05 36 30.9
OBN *e* 05 36 33.6
OBN *e* 05 38 37.3
OBN pmax pmax
comp=Z,61nm,1.3s
OBN MLR MLR
comp=Z,167nm,17.0s
OBN Obninsk 68.35 323 P **P 05 36 08.0 +0.2**
LPSR Galich'ya Gora 68.47 320 *e*P **P 05 36 07.8 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.9s
BBOO Buckleboo 68.50 184 P **P 05 36 09.2 +0.4**
BBOO IAmb IAmb 05 36 10.6
comp=Z,28nm,0.9s
MORW Morawa 68.53 203 P **P 05 36 09.0 -0.1**
MORW IAmb IAmb 05 36 11.3
comp=Z,28nm,0.9s
AKT Akhty 68.89 306 *e*P **P 05 36 11.2 -0.4**
AKT *e**PP **pP 05 36 28.7 -1.5**
AKT *e* 05 36 34.5
AKT pmax pmax
comp=Z,26nm,1.0s
VSR Storozhevoye 69.07 319 *i* P **P 05 36 12.0 -0.3**
VSR pmax pmax
comp=Z,68nm,0.9s
VORD Divnogorie 69.13 318 *e*P **P 05 36 12.5 -0.2**
VORD pmax pmax
comp=Z,30nm,1.1s
FIA1 FINESS Array S 69.29 332 P **P 05 36 13.7 +0.1**
FINES FINESS Array B 69.29 332 P **P 05 36 13.7 +0.2**
FINES FINESS Array B 69.29 332 P **P 05 36 13.6 0.0**
comp=Z,25nm,0.8s,baz=74,slow=6.8,SNR=68
FINES LR LR 06 10 03.7
comp=Z,72nm,21.4s,baz=56,slow=39
GOF Gofitskoye 70.04 312⇑*e*P **P 05 36 18.7 +0.2**
GOF pmax pmax
comp=Z,45nm,0.7s
BANOM Banah 70.57 288 P **P 05 36 22.8 +0.7**
SHME Shamm 70.63 289 P **P 05 36 22.4 -0.1**
ZEI Tsey 70.69 309 *e*P **P 05 36 21.6 -1.1**
ZEI pmax pmax
comp=Z,15nm,1.0s
TBLG Delisi 70.70 308 P **P 05 36 23.3 +0.7**
TBLG Delisi 70.70 308 P **P 05 36 23.3 +0.7**
KBZ Khabaz 70.82 310 *i* P **P 05 36 24.0 +0.7**
KBZ Khabaz 70.82 310 P **P 05 36 23.9 +0.7**
comp=Z,28nm,0.9s,baz=46,slow=3.7,SNR=47
KBZ LR LR 06 11 37.4
comp=Z,79nm,18.8s,baz=50,slow=39
KIV Kislovodsk 70.83 311 *i* P **P 05 36 24.1 +0.7**
SNR=7.7
KIV Kislovodsk 70.83 311 P **P 05 36 24.1 +0.7**
SNR=18
KIV P **P 05 36 24.1 +0.7**
SNR=18
KIV Kislovodsk 70.83 311 *e*P **P 05 36 23.9 +0.4**
KIV pmax pmax
comp=Z,204nm,1.1s
KIV MLR MLR
comp=Z,276nm,18.0s
KIV Kislovodsk 70.83 311⇑P **P 05 36 24.8 +1.3**
KIV mb 05 36 25.9
KIV Kislovodsk 70.83 311 P **P 05 36 24.2 +0.8**
VSU Vasula 70.86 329*ce*P **P 05 36 23.7 +0.5**
VSU pmax pmax
comp=Z,114nm,1.0s
VSU Vasula 70.86 329 *e*P **P 05 36 23.4 +0.2**
VSU IAmb IAmb 05 36 24.5
comp=Z,84nm,0.8s
SHA1 Shidzhatmaz 70.97 311 *i* P **P 05 36 24.9 +0.5**
MSFE Esma-Masafi 70.97 288 P **P 05 36 25.4 +0.9**
UOSS Minazif 71.15 287 P **P 05 36 25.9 +0.4**
UOSS Minazif 71.15 287 P **P 05 36 25.1 -0.5**
UOSS IAmb IAmb 05 36 26.6
comp=Z,12nm,0.8s
HATD Hatta, Dubai 71.27 287 P **P 05 36 27.3 +1.0**
HATD Hatta, Dubai 71.27 287 P **P 05 36 26.6 +0.3**
KAAM Kaadhehdhoo 71.32 257 P **P 05 36 27.1 +0.5**
KAAM IAmb IAmb 05 36 42.3
comp=Z,34nm,0.9s
ASHO Ashiyiah 71.40 287 *i* P **P 05 36 27.3 +0.2**
SNR=7.5
GNI Garni 71.52 306 P **P 05 36 28.8 +0.9**
GNI Garni 71.52 306 P **P 05 36 29.1 +1.3**
SNR=7.6
GNI Garni 71.52 306*ce*P **P 05 36 28.7 +0.9**
GNI pmax pmax
comp=Z,87nm,1.3s
GNI Garni 71.52 306 P **P 05 36 28.7 +0.9**
GNI IAmb IAmb 05 36 35.5
comp=Z,36nm,1.2s
NEW Newport 71.63 43 P **P 05 36 29.9 +1.7**
baz=304
AKH Akhalkalaki 71.67 308 P **P 05 36 29.5 +0.9**
AKH pmax pmax
comp=Z,20nm,0.9s
AKH Akhalkalaki 71.67 308⇑P **P 05 36 30.4 +1.8**
AKH Akhalkalaki 71.67 308 P **P 05 36 29.5 +0.9**
AKH IAmb IAmb 05 36 30.8
comp=Z,20nm,0.9s
SUMG Summit 71.77 360 *i* P **P 05 36 30.2 +1.2**
comp=Z,68nm,0.8s
SUMG Summit 71.77 360 P **P 05 36 29.8 +0.8**
SUMG IAmb IAmb 05 36 31.3
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 71.79 200 P **P 05 36 28.9 -0.1**
NWAO pmax pmax
comp=Z,39nm,0.9s
NWAO Narrogin (SRO) 71.79 200 P **P 05 36 28.9 -0.1**

YBH Yreka Blue Hor 71.83 51 P **P 05 36 30.8 +1.3**
comp=Z,3.7nm,1.0s,baz=144,slow=1.8,SNR=4.1
YBH Yreka Blue Hor 71.83 51 P **P 05 36 28.9 -0.7**
PINE Pine Mountain 71.83 49 P **P 05 36 29.7 +0.1**
MHTO MHTO 71.85 283 P **P 05 36 29.9 +0.1**
SNR=5.6
MHTO P **P 05 36 29.9 +0.1**
SNR=5.6
J05D Fort Rock, OR 71.93 49 P **P 05 36 32.4 +2.3**
baz=302
ASUD Al Ashush, Dub 71.99 288 P **P 05 36 31.3 +0.7**
KARS Kars 72.35 308 P **P 05 36 33.2 +0.5**
KARS pmax pmax
comp=Z,69nm,1.0s
KARS Kars 72.35 308 P **P 05 36 33.2 +0.5**
M04C Macdoel 72.36 51 P **P 05 36 34.8 +2.1**
baz=303
IZAR Zarasai 72.77 327 *e*P **P 05 36 35.1 +0.4**
IZAR IAmb IAmb 05 36 36.1
comp=Z,10.0nm,0.7s
MICGM Minsk 72.81 326 *e* **P 05 36 36.0 +1.0**
MNK Minsk 72.81 326 *e*P **P 05 36 36.0 +1.0**
SOC Sochi 72.85 312 *e*P **P 05 36 34.9 -0.5**
SOC *e*PPP PPP 05 41 05.1
SOC *e*S **S 05 45 57.2 +1.2**
SOC *e*SS **SS 05 50 37.4 +0.8**
SOC *e*SSS SSS 05 53 41.1
SOC pmax pmax
comp=Z,28nm,0.7s
SOC MLR MLR
comp=Z,185nm,19.0s
ISAL Salakas 72.93 327 *e*P **P 05 36 36.0 +0.4**
ISAL IAmb IAmb 05 36 37.5
comp=Z,22nm,0.9s
WALA Waterton Lakes 72.94 41 P **P 05 36 36.7 +0.7**
IIGN Ignalina 73.03 327 *e*P **P 05 36 36.9 +0.6**
IIGN IAmb IAmb 05 36 37.7
comp=Z,12nm,0.7s
NACGM Naroch 73.06 326 *e* **P 05 36 36.0 -0.4**
SCO Scoresbysund 73.09 354 *i* P **P 05 36 37.8 +1.5**
SCO pmax pmax
comp=Z,21nm,1.0s
SCO Scoresbysund 73.09 354 *i* P **P 05 36 37.8 +1.5**
comp=Z,21nm,1.0s
O03E Paynes Creek 73.18 52 P **P 05 36 38.4 +0.8**
baz=303
SLIT Slitere, Latvi 73.22 330 *e*P **P 05 36 36.9 -0.4**
SLIT IAmb IAmb 05 36 38.0
comp=Z,196nm,0.9s
MOD Modoc Plateau 73.25 50 P **P 05 36 38.7 +0.6**
BMO Blue Mountains 73.43 46 P **P 05 36 40.4 +1.4**
BMO pmax pmax
comp=Z,12nm,1.2s
BMO Blue Mountains 73.43 46 P **P 05 36 40.4 +1.4**
JTMT Jette 73.50 43 P **P 05 36 38.7 -0.6**
JTMT IAmb IAmb 05 36 42.0
comp=Z,16nm,0.9s
ANN Anapa 73.53 314*c i* P **P 05 36 39.4 0.0**
ANN pmax pmax
comp=Z,59nm,1.3s
ORV Oroville 73.78 53 P **P 05 36 40.8 -0.2**
ORV pmax pmax
comp=Z,7.0nm,1.1s
ORV Oroville 73.78 53 P **P 05 36 40.8 -0.2**
PABE Paberze 73.92 328 *e*P **P 05 36 41.5 +0.1**
PABE IAmb IAmb 05 36 43.0
comp=Z,58nm,0.8s
PLID Pearl Lake 74.06 46 P **P 05 36 42.7 -0.1**
MSO Missoula 74.22 43 P **P 05 36 44.3 +0.8**
baz=306
MSO Missoula 74.22 43 P **P 05 36 44.2 +0.6**
BEKR Beckworth 74.34 52 P **P 05 36 45.7 +1.2**
AKASG Malin Array Be 74.52 322 P **P 05 36 45.0 -0.1**
AKASG Malin Array Be 74.52 322 P **P 05 36 45.0 -0.1**
comp=Z,22nm,0.7s,baz=47,slow=6.1,SNR=32
AKASG LR LR 06 12 08.8
comp=Z,180nm,18.3s,baz=30,slow=38
AKASG Malin Array Be 74.52 322 P **P 05 36 45.0 -0.1**
AKBB Malin Array Si 74.52 322 P **P 05 36 45.0 0.0**
AKBB pmax pmax
comp=Z,37nm,0.8s
AKBB Malin Array Si 74.52 322 P **P 05 36 45.0 0.0**
NC405 NORSAR Array S 74.57 337 P **P 05 36 45.6 +0.4**
NC303 NORSAR Array S 74.60 337 P **P 05 36 45.6 +0.3**
NC204 NORSAR Array S 74.75 337 P **P 05 36 46.9 +0.7**
NB201 NORSAR Array S 74.75 337 P **P 05 36 46.4 +0.1**
NB2 NORSAR Subarra 74.79 337 P **P 05 36 46.3 -0.2**
comp=Z,6.5nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 74.79 337 P **P 05 36 46.6 +0.1**
comp=Z,15nm,0.8s,baz=40,slow=5.8,SNR=42
NOA PP **PP 05 39 32.3 -1.5**
comp=Z,2.0nm,0.8s,baz=44,slow=8.5,SNR=3.6
NOA LR LR 06 12 36.2
comp=Z,103nm,19.3s,baz=50,slow=38
NBO00 NORSAR Array S 74.93 337 P **P 05 36 46.9 -0.3**
PAHR Pah Rah Range 75.05 52 P **P 05 36 49.4 +0.8**
MFID Camas Ranch 75.12 47 P **P 05 36 50.5 +1.6**
FFC Flin Flon 75.18 32*ce*P **P 05 36 50.2 +1.4**
FFC Flin Flon 75.18 32 P **P 05 36 49.5 +0.7**
FFC IAmb IAmb 05 36 50.6
comp=Z,20nm,0.9s
CMB Columbia Colle 75.35 54 P **P 05 36 51.3 +1.1**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 75.35 54 P **P 05 36 51.2 +1.1**
SIM Simferopol' 75.37 315*ce*P **P 05 36 49.1 -1.0**
SIM pmax pmax
comp=Z,37nm,0.8s
FCC Fort Churchill 75.44 26 P **P 05 36 50.4 +0.3**
FCC pmax pmax
comp=Z,39nm,1.3s
FCC Fort Churchill 75.44 26 P **P 05 36 50.4 +0.3**
FCC IAmb IAmb 05 36 52.5
comp=Z,38nm,1.3s
HRY Holter Researc 75.46 43 P **P 05 36 51.9 +1.2**
YERR Yerington 75.55 52 P **P 05 36 52.7 +1.2**
WAKR Walker 75.70 53 P **P 05 36 53.0 +0.6**
EGMT Eagleton 75.77 41 P **P 05 36 53.8 +1.4**
baz=308
EGMT Eagleton 75.77 41 P **P 05 36 53.0 +0.6**
EGMT IAmb IAmb 05 36 54.8
comp=Z,19nm,1.0s
DLMT Dillon 75.84 44 P **P 05 36 54.8 +1.8**
DLMT IAmb IAmb 05 36 56.1
comp=Z,17nm,1.0s
BMN Battle Mountai 76.00 50 P **P 05 36 55.3 +1.3**
BMN pmax pmax
comp=Z,12nm,1.1s
BMN Battle Mountai 76.00 50 P **P 05 36 55.3 +1.3**
MCMT McKenzie Canyo 76.02 45 P **P 05 36 54.8 +0.7**
RYN Ryan 76.22 52 P **P 05 36 55.8 +0.6**
BOZ Bozeman (W) 76.24 43 P **P 05 36 56.8 +1.6**
baz=308
BOZ Bozeman (W) 76.24 43 P **P 05 36 56.5 +1.2**
BOZ pmax pmax
comp=Z,12nm,1.0s
BOZ Bozeman (W) 76.24 43 P **P 05 36 56.5 +1.2**
KVN Kaiserville 76.25 52 P **P 05 36 56.4 +1.0**
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 76.25 52 P **P 05 36 56.4 +1.0**
NVAR Mina Array Bea 76.47 52 P **P 05 36 58.5 +1.8**
comp=Z,4.9nm,0.8s,baz=287,slow=5.5,SNR=27
NV11 Mina Array Sit 76.57 52 P **P 05 36 58.4 +1.2**
SORM Soroca 76.57 320⇑P **P 05 36 57.0 +0.2**
PAGB Antelope Grade 76.74 56 P **P 05 36 57.6 -0.5**
ELK Elko 77.04 49 P **P 05 37 00.7 +0.7**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 77.04 49 P **P 05 37 00.7 +0.7**
KIS Kishinev 77.05 319 *e*P **P 05 37 03.0 +3.5**
KIS LRM MLR 06 13 48.0
comp=Z,300nm,16.0s
TIN Tinemaha, Big 77.31 53 P **P 05 37 03.9 +2.5**
baz=306
H17A Grant Village 77.57 44 P **P 05 37 06.2 +3.3**
baz=308
LVV L'vov 77.64 323 *e*P **P 05 37 03.2 +0.4**
IMW Indian Meadow 77.68 44 P **P 05 37 04.5 +1.0**
BEL Belsk 77.78 326 *e*P **P 05 37 04.5 +1.0**
BEL Belsk 77.78 326 *e*P **P 05 37 04.5 +1.0**
BEL *e*P **P 05 37 04.5 +1.0**
FXWY Fox Creek 77.79 45 P **P 05 37 04.4 +0.4**
GRAC Grapevine Rang 77.91 53 P **P 05 37 06.6 +2.0**

baz=306
HVU Hansel Valley 77.91 47 P **P 05 37 04.8 +0.1**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 77.91 47 P **P 05 37 04.8 +0.1**
ILGA Ilgaz 77.94 312 P **P 05 37 06.3 +1.3**
ILGA IAmb IAmb 05 37 07.2
comp=Z,33nm,0.8s
SNOW Snow King Moun 78.05 45 P **P 05 37 05.2 -0.3**
REDW Red Top Meadow 78.06 45 P **P 05 37 05.8 +0.3**
BIR Birlad 78.14 319⇑P **P 05 37 07.0 +1.4**
BIR mb 05 37 07.3
PRAR RASCA 78.17 321⇑P **P 05 37 05.9 +0.1**
PRAR mb 05 37 06.8
TLCR 78.19 318⇑P **P 05 37 06.3 +0.3**
TLCR mb 05 37 06.9
R11A Troy Canyon, C 78.25 51 P **P 05 37 08.4 +1.8**
baz=307
R11A Troy Canyon, C 78.25 51 P **P 05 37 08.2 +1.6**
BGU Big Grassy Mou 78.28 48 P **P 05 37 08.4 +1.7**
AHID Auburn Hatcher 78.28 45 P **P 05 37 08.2 +1.4**
MPMC Manual Prospec 78.38 54 P **P 05 37 08.7 +1.3**
baz=306
KWP Kalwaria Pacla 78.41 324 *e*P **P 05 37 08.1 +1.0**
KWP Kalwaria Pacla 78.41 324 *e*P **P 05 37 08.1 +1.0**
KWP *e*P **P 05 37 08.1 +1.0**
KWP Kalwaria Pacla 78.41 324 P **P 05 37 08.0 +1.0**
LAO LASA Array 78.47 40 P **P 05 37 09.2 +1.6**
baz=311
LAO LASA Array 78.47 40 P **P 05 37 08.3 +0.7**
LAO IAmb IAmb 05 37 10.0
comp=Z,15nm,1.0s
TESR Tescani 78.50 320⇑P **P 05 37 08.1 +0.5**
BIZ Bicaz 78.51 320⇑P **P 05 37 08.6 +0.9**
BUR08 Bucovina Ar. S 78.51 321 P **P 05 37 08.4 +0.6**
BUR08 IAmb IAmb 05 37 08.9
comp=Z,15nm,0.8s
BURAR Bucovina Array 78.52 321⇑P **P 05 37 08.6 +0.8**
BURAR mb 05 37 09.6
BURAR Bucovina Array 78.52 321 P **P 05 37 08.3 +0.5**
FURC Furnace Creek, 78.55 53 P **P 05 37 10.4 +2.3**
baz=306
CFR Carcaliu 78.57 318⇑P **P 05 37 08.2 +0.2**
TOPG Topolog 78.63 318⇑P **P 05 37 08.9 +0.5**
TPNV Topopah Spring 78.66 53 P **P 05 37 10.8 +1.9**
baz=307
TPNV Topopah Spring 78.66 53 P **P 05 37 10.1 +1.2**
TPNV pmax pmax
comp=Z,6.0nm,0.8s
TPNV Topopah Spring 78.66 53 P **P 05 37 10.1 +1.2**
PETR Petresti 78.70 319⇑P **P 05 37 10.6 +1.8**
ODBI Odobesti 78.77 319⇑P **P 05 37 10.9 +1.8**
ODBI mb 05 37 12.3
BR131 Keskin Array S 78.79 311 P **P 05 37 09.9 +0.4**
SNR=12
BR131 Keskin Array S 78.79 311 P **P 05 37 09.9 +0.4**
BR131 pmax pmax
comp=Z,14nm,0.9s
BR131 Keskin Array S 78.79 311 P **P 05 37 09.9 +0.4**
BR131 IAmb IAmb 05 37 11.1
comp=Z,14nm,0.9s
BRTR Keskin Array B 78.79 311 P **P 05 37 10.0 +0.4**
BRTR Keskin Array B 78.79 311 P **P 05 37 09.9 +0.4**
comp=Z,9.3nm,0.8s,baz=102,slow=4.3,SNR=54
BRTR PP **PP 05 40 07.2 -1.0**
comp=Z,4.5nm,1.1s,baz=69,slow=6.8,SNR=6.2
BRTR LR LR 06 14 23.5
comp=Z,46nm,19.9s,baz=2.5,slow=37
BRTR Keskin Array B 78.79 311 P **P 05 37 09.7 +0.1**
DUG Dugway, Tooele 78.85 48 P **P 05 37 11.9 +1.9**
baz=308
DUG Dugway, Tooele 78.85 48 P **P 05 37 11.8 +1.9**
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 78.85 48 P **P 05 37 11.8 +1.9**
DUG IAmb IAmb 05 37 12.8
comp=Z,14nm,1.1s
TIRR Tirgusor 78.88 317⇑P **P 05 37 10.0 +0.3**
VRI Vrincioaia 78.88 319⇑P **P 05 37 11.1 +1.4**
PLOR Plostina 78.93 319⇑P **P 05 37 11.4 +1.3**
HARR Harsova 78.99 318⇑P **P 05 37 11.0 +0.7**
HARR mb 05 37 11.6
TLB Topalu 79.00 318⇑P **P 05 37 11.4 +1.1**
KOLS Kolonicke sedl 79.09 324 *e*P **P 05 37 11.6 +0.8**
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 79.09 324 *e*P **P 05 37 11.6 +0.8**
BISRR Bisoca 79.10 319⇑P **P 05 37 12.4 +1.4**
TCUT Toone Canyon 79.12 47 P **P 05 37 13.1 +1.6**
BW06 Boulder Array 79.17 45 P **P 05 37 12.9 +1.2**
baz=309
BW06 Boulder Array 79.17 45 P **P 05 37 11.9 +0.2**
PD31 Pinedale Array 79.17 45 P **P 05 37 11.7 0.0**
PDAR Pinedale Array 79.17 45 P **P 05 37 12.6 +0.9**
comp=Z,3.7nm,0.8s,baz=274,slow=2.5,SNR=24
ANTO Ankara 79.22 312 P **P 05 37 12.5 +0.7**
SNR=5.3
ANTO P **P 05 37 12.5 +0.7**
SNR=5.3
ANTO Ankara 79.22 312 P **P 05 37 12.3 +0.5**
ANTO pmax pmax
comp=Z,23nm,0.6s
ANTO Ankara 79.22 312⇑P **P 05 37 12.6 +0.8**
ANTO mb 05 37 13.1
ANTO Ankara 79.22 312 P **P 05 37 12.3 +0.5**
ANTO IAmb IAmb 05 37 13.0
comp=Z,23nm,0.6s
PSUT Pine Spring 79.22 50 P **P 05 37 12.9 +0.8**
OZUR 79.23 320⇑P **P 05 37 13.1 +1.4**
BR231 Keskin MP Arra 79.25 312 P **P 05 37 12.2 +0.2**
BR231 IAmb IAmb 05 37 13.2
comp=Z,15nm,0.7s
STHS Stebnicka Huta 79.25 324 *e*P **P 05 37 12.6 +0.9**
STHS pmax pmax
comp=Z,12nm,0.9s
STHS Stebnicka Huta 79.25 324 *e*P **P 05 37 12.6 +0.9**
UZH Uzhgorod 79.29 323 *e*P **P 05 37 11.3 -0.6**
UZH *e* 05 37 17.1
UZH *e* 05 37 44.8
ARCR ARCALIA 79.31 321⇑P **P 05 37 13.6 +1.6**
OJC Ojcow 79.36 326 *e*P **P 05 37 13.0 +0.7**
OJC Ojcow 79.36 326 *e*P **P 05 37 13.0 +0.7**
OJC *e*P **P 05 37 13.0 +0.7**
OJC Ojcow 79.36 326 P **P 05 37 12.5 +0.2**
JLU Jordanelle 79.42 47 P **P 05 37 12.8 -0.3**
ICOR Ion Corvin 79.44 317⇑P **P 05 37 13.9 +1.2**
NLU North Lily Min 79.45 48 P **P 05 37 13.5 +0.3**
TRPA Tarpa 79.51 323⇑P **P 05 37 15.9 +2.8**
DOPR Dopca 79.52 320⇑P **P 05 37 14.4 +1.2**
MLR Muntele Rosu 79.54 319 P **P 05 37 13.7 +0.2**
MLR pmax pmax
comp=Z,20nm,1.3s
MLR Muntele Rosu 79.54 319⇑P **P 05 37 13.9 +0.4**
MLR Muntele Rosu 79.54 319 P **P 05 37 13.7 +0.2**
MLR IAmb IAmb 05 37 15.2
comp=Z,20nm,1.3s
SHPR Sheep Range 79.62 52 P **P 05 37 15.7 +1.5**
MPU Maple Canyon 79.67 48 P **P 05 37 15.3 +0.9**
NIE Niedzica 79.69 325 *e*P **P 05 37 15.2 +1.1**
NIE Niedzica 79.69 325 *e*P **P 05 37 15.2 +1.1**
NIE *e*P **P 05 37 15.2 +1.1**
SECR 79.78 319⇑P **P 05 37 16.1 +1.4**
SECR mb 05 37 16.4
HEC Hector,Ludlow 79.86 54 P **P 05 37 17.8 +2.4**
baz=307
CJR Cluj-Napoca 79.94 321⇑P **P 05 37 16.5 +1.0**
VOIR 80.05 320⇑P **P 05 37 17.3 +1.1**
RAYN Ar Rayn 80.10 292 *i* P **P 05 37 16.7 -0.2**
SNR=15
RAYN Ar Rayn 80.10 292 P **P 05 37 16.2 -0.6**
RAYN pmax pmax
comp=Z,22nm,0.9s
RAYN Ar Rayn 80.10 292 P **P 05 37 16.2 -0.6**
RAYN IAmb IAmb 05 37 18.1
comp=Z,22nm,0.9s
CCUT Cedar City 80.13 51 P **P 05 37 17.6 +0.7**
KECS Kecovo 80.26 324 *e*P **P 05 37 18.3 +1.2**
KECS pmax pmax
comp=Z,7.0nm,1.0s
KECS Kecovo 80.26 324 *e*P **P 05 37 18.3 +1.2**
LANS Liptovska Anna 80.27 325 *e*P **P 05 37 18.8 +1.6**
LANS pmax pmax
comp=Z,10.0nm,0.9s

LANS Liptovska Anna 80.27 325 eP P 05 37 18.8 +1.6
ARR Arges 80.31 320 ⇑P P 05 37 19.1 +1.5
GMRC Granite Mounta 80.33 54 P P 05 37 19.7 +1.7
baz=307,SNR=6.7
DRGR 80.34 322 ⇑P P 05 37 18.5 +0.8
TMUT Trail Mountain 80.38 48 P P 05 37 19.9 +1.6
OKC Ostrava-Krasne 80.38 326 eP P 05 37 18.8 +1.0
OKC Ostrava-Krasne 80.38 326 eP P 05 37 18.8 +1.0
KSP Ksiaz 80.48 328 eP P 05 37 18.7 +0.4
KSP Ksiaz 80.48 328 eP P 05 37 18.7 +0.4
KSP eP P 05 37 18.7 +0.4
RAZG Razgrad 80.50 318 ⇑P P 05 37 18.8 +0.2
PFO Pinyon Flats O 80.51 55 P P 05 37 20.7 +1.7
baz=307
PFO Pinyon Flats O 80.51 55ceP P 05 37 21.1 +2.2
PFO Pinyon Flats O 80.51 55 P P 05 37 18.7 -0.2
LCMT Little Creek M 80.54 51 P P 05 37 20.8 +1.7
P17A Butcher Ranch, 80.55 48 P P 05 37 20.6 +1.5
RDMU Red Mountain 80.55 46 P P 05 37 20.2 +1.0
BELC Belle Mtn. Jos 80.58 55 P P 05 37 21.2 +1.9
baz=307
Q16A Castle Valley 80.64 48 P P 05 37 20.2 +0.6
MORC Moravsky Berou 80.70 326 P P 05 37 19.7 +0.1
MORC pmax pmax
comp=Z,17nm,0.9s
MORC Moravsky Berou 80.70 326 ⇑P P 05 37 20.3 +0.8
MORC mb 05 37 21.4
MORC Moravsky Berou 80.70 326 eP P 05 37 19.9 +0.3
MORC Moravsky Berou 80.70 326 P P 05 37 19.7 +0.1
MORC IAmb IAmb 05 37 21.4
comp=Z,17nm,0.9s
LOT Lotru 80.71 320 ⇑P P 05 37 20.4 +0.6
CHVC Chvalec 80.77 328 eP P 05 37 20.3 +0.4
KNB Kanab 80.80 51 P P 05 37 20.1 -0.4
KNB pmax pmax
comp=Z,20nm,1.2s
KNB Kanab 80.80 51 P P 05 37 20.1 -0.4
DPC Dobruska-Polom 80.82 327 eP P 05 37 20.8 +0.6
DPC Dobruska-Polom 80.82 327 eP P 05 37 20.8 +0.6
UPC Upice 80.84 328 eP P 05 37 21.1 +0.8
UPC Upice 80.84 328 eP P 05 37 21.1 +0.8
DEV Deva 80.86 321 ⇑P P 05 37 21.1 +0.7
SRU San Rafael Swe 80.91 48 P P 05 37 22.5 +1.4
SRU pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael Swe 80.91 48 P P 05 37 22.5 +1.4
PSZ Piszkesteto 80.94 324 P P 05 37 21.8 +0.9
PSZ pmax pmax
comp=Z,32nm,1.0s
PSZ Piszkesteto 80.94 324 P P 05 37 21.8 +0.9
PSZ IAmb IAmb 05 37 23.0
comp=Z,32nm,1.0s
K22A Casper 80.95 43 P P 05 37 22.5 +1.3
baz=311
MONP2 Monument Peak 80.96 56 P P 05 37 23.1 +1.6
baz=307
ULM Lac du Bonnet 80.98 33 P P 05 37 21.6 +0.6
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 80.98 33 P P 05 37 20.6 -0.4
comp=Z,6.2nm,0.8s,baz=340,slow=5.7,SNR=7.4
ULM LR LR 06 13 28.4
comp=Z,78nm,20.7s,baz=352,slow=36
ULM Lac du Bonnet 80.98 33 P P 05 37 21.6 +0.6
VYHS Vyhne 81.03 325 eP P 05 37 22.2 +0.9
VYHS pmax pmax
comp=Z,23nm,1.2s
VYHS Vyhne 81.03 325 eP P 05 37 22.2 +0.9
VYHS ePP PP 05 40 29.2 +3.0
IRM Iron Mountain 81.05 54 P P 05 37 23.8 +2.1
baz=308,SNR=5.6
BC3 Big Chuckawall 81.15 55 P P 05 37 24.0 +1.6
baz=307,SNR=7.0
GZR Gura Zlata 81.26 321 ⇑P P 05 37 23.1 +0.5
ELND Elena 81.27 317 ⇑P P 05 37 23.4 +0.7
JAVC Velka Javorina 81.30 326 eP P 05 37 24.5 +1.7
IKP In-Ko-Pah, Jac 81.32 56 P P 05 37 25.1 +1.9
baz=307
RSSD Black Hills 81.33 41 P P 05 37 24.6 +1.4
baz=312
RSSD Black Hills 81.33 41 P P 05 37 23.5 +0.3
RSSD pmax pmax
comp=Z,7.0nm,1.2s
RSSD Black Hills 81.33 41 P P 05 37 23.6 +0.3
SWSC Sam W. Stewart 81.35 56 P P 05 37 25.0 +1.7
baz=307
PVCC Panska Ves 81.45 328 eP P 05 37 24.2 +0.7
PVCC Panska Ves 81.45 328 eP P 05 37 24.2 +0.7
BRG Berggiesshubel 81.46 329 eP P 05 37 23.7 +0.2
comp=Z,14nm,1.0s
BRG Berggiesshubel 81.46 329 eP P 05 37 23.7 +0.2
BRG pmax pmax
comp=Z,14nm,1.0s
VRAC Vranov 81.47 327 ⇑P P 05 37 24.7 +1.1
VRAC mb 05 37 25.7
VRAC Vranov 81.47 327 eP P 05 37 24.3 +0.7
U15A North Rim 81.50 51 P P 05 37 26.0 +1.7
EDRB Edirne 81.50 316 P P 05 37 23.7 -0.2
CLL Collm 81.52 330 ⇑iP P 05 37 23.8 0.0
CLL e*PP pP 05 37 41.0 -1.8
CLL pmax pmax
comp=Z,27nm,1.0s
CLL Collm 81.52 330 ⇑iP P 05 37 23.8 0.0
comp=Z,27nm,1.0s
CLL e(pP) pP 05 37 41.0 -1.8
CLL Collm 81.52 330 P P 05 37 24.0 +0.2
CLL IAmb IAmb 05 37 25.0
comp=Z,25nm,0.9s
SRE Strehaia 81.54 320 ⇑P P 05 37 26.0 +1.9
O20A White River Ci 81.61 46 P P 05 37 26.3 +1.6
baz=310,SNR=5.6
O20A White River Ci 81.61 46 P P 05 37 24.1 -0.7
PDMCI Parker Dam,Lak 81.62 54 P P 05 37 26.6 +1.9
baz=308,SNR=5.9
PLVB Pleven 81.65 318 ⇑P P 05 37 25.8 +1.2
SMOL Smolenice 81.66 326 eP P 05 37 26.2 +1.6
SMOL pmax pmax
comp=Z,20nm,0.9s
SMOL Smolenice 81.66 326 eP P 05 37 26.2 +1.6
BZS Buzias 81.70 321 ⇑P P 05 37 25.1 +0.2
Y12C Blythe 81.71 54 P P 05 37 27.2 +2.0
baz=308,SNR=10.0
Y12C Blythe 81.71 54 P P 05 37 26.2 +1.0
Y12C IAmb IAmb 05 37 28.4
comp=Z,12nm,0.9s
KRUC Moravsky 81.73 326 eP P 05 37 25.5 +0.5
GOPC GO Pecny, Ondr 81.81 328 eP P 05 37 25.5 +0.1
GOPC GO Pecny, Ondr 81.81 328 eP P 05 37 25.5 +0.1
MODS Modra-Piesok 81.83 326 eP P 05 37 25.9 +0.3
MODS pmax pmax
comp=Z,18nm,1.0s
MODS Modra-Piesok 81.83 326 eP P 05 37 25.9 +0.3
PRU Pruhonice 81.86 328 eP P 05 37 26.1 +0.5
PRU e 05 37 43.7
PRU Pruhonice 81.86 328 eP P 05 37 26.1 +0.5
PRU epP pP 05 37 43.7 -1.0
ISP Isparta 81.88 311 P P 05 37 25.6 -0.5
ISP pmax pmax
comp=Z,11nm,0.7s
ISP Isparta 81.88 311 P P 05 37 25.6 -0.5
ISP IAmb IAmb 05 37 26.9
comp=Z,10nm,0.7s
CSS Mathiatis 81.91 307 P P 05 37 26.5 +0.3
CSS Mathiatis 81.91 307 P P 05 37 25.9 -0.3
CSS IAmb IAmb 05 37 27.4
comp=Z,17nm,0.7s
GLA Glamis 81.93 55 P P 05 37 28.5 +2.1
baz=308
TREC Trest 81.97 327 eP P 05 37 26.6 +0.4
TREC Trest 81.97 327 eP P 05 37 26.6 +0.4
PV09 Paradox Valley 82.14 48 P P 05 37 29.5 +1.8
PV21 Cone Mtn., Par 82.19 48 P P 05 37 27.4 -0.6
PV21 IAmb IAmb 05 37 30.7
comp=Z,12nm,0.8s
MDVR Moldovita 82.23 321 ⇑P P 05 37 27.8 +0.1
PV23 Carpenter Ridg 82.24 48 P P 05 37 28.4 +0.2
PV23 IAmb IAmb 05 37 31.0
comp=Z,27nm,1.2s
BALB Balikesir 82.29 314 P P 05 37 28.1 +0.1
PV20 West Nyswonger 82.34 48 P P 05 37 29.2 +0.6
PV20 IAmb IAmb 05 37 31.4
comp=Z,18nm,0.9s
PV04 Paradox Valley 82.34 48 P P 05 37 26.8 -1.8

PV19 Morning Glory 82.35 48 P P 05 37 28.7 0.0
PV19 IAmb IAmb 05 37 31.5
comp=Z,19nm,0.8s
PV17 East Wray Mesa 82.38 48 P P 05 37 30.3 +1.4
PV17 IAmb IAmb 05 37 31.6
comp=Z,28nm,1.1s
PV16 Nyswonger Mesa 82.39 48 P P 05 37 30.5 +1.6
PV16 IAmb IAmb 05 37 39.1
comp=Z,11nm,0.8s
AGMN Agassiz Nation 82.42 34 P P 05 37 28.7 +0.1
baz=317
PV11 David Mesa, Pa 82.42 48 P P 05 37 30.4 +1.3
PV11 IAmb IAmb 05 37 32.0
comp=Z,41nm,1.5s
PV05 Paradox Valley 82.43 48 P P 05 37 29.4 +0.2
PV05 IAmb IAmb 05 37 32.0
comp=Z,21nm,0.9s
PV18 Skein Mesa, Pa 82.43 48 P P 05 37 28.7 -0.5
PV18 IAmb IAmb 05 37 31.9
comp=Z,18nm,1.2s
PV12 Saucer Basin, 82.45 48 P P 05 37 29.3 +0.1
PV03 Paradox Valley 82.47 48 P P 05 37 30.1 +0.8
PV13 Radium Mtn., P 82.54 48 P P 05 37 31.3 +1.6
PV13 IAmb IAmb 05 37 32.5
comp=Z,16nm,0.9s
PV02 Paradox Valley 82.56 48 P P 05 37 31.4 +1.6
NKC Novy Kostel 82.56 329 eP P 05 37 30.0 +0.7
NKC Novy Kostel 82.56 329 eP P 05 37 30.0 +0.7
Y14A Wickenburg 82.59 53 P P 05 37 31.0 +1.2
MANT Manisa 82.64 313 P P 05 37 30.3 +0.1
RDO Rodhopi 82.64 316 P P 05 37 30.1 +0.2
WUAZ Wupatki 82.65 51 P P 05 37 32.5 +2.3
baz=309,SNR=8.1
WUAZ Wupatki 82.65 51 P P 05 37 32.0 +1.7
WUAZ IAmb IAmb 05 37 33.2
comp=Z,13nm,0.9s
PV01 Paradox Valley 82.71 48 P P 05 37 30.7 +0.1
MORH Mrgy, Hungar 82.75 323 eP P 05 37 30.2 -0.1
CONA Conrad Observa 82.81 326 ePcP P 05 37 31.8 +1.1
comp=Z,16nm,1.3s
113A Mohawk Valley, 82.81 55 P P 05 37 31.9 +1.0
VTS Vitosha 82.92 318 P P 05 37 32.3 +0.8
VTS Vitosha 82.92 318 P P 05 37 32.4 +0.9
VTS pmax pmax
comp=Z,17nm,0.9s
VTS Vitosha 82.92 318 P P 05 37 32.4 +0.9
VTS IAmb IAmb 05 37 33.6
comp=Z,17nm,0.9s
KHC Kasperske Hory 82.92 328 eP P 05 37 31.1 -0.1
KHC Kasperske Hory 82.92 328 eP P 05 37 31.1 -0.1
KHC ex x 05 37 42.4
KHC Kasperske Hory 82.92 328 P P 05 37 31.2 -0.1
FRGS Fruska Gora 82.93 322 ⇑iP P 05 37 31.6 +0.3
ELL Elmali 82.94 311 P P 05 37 31.6 -0.1
ELL pmax pmax
comp=Z,30nm,0.7s
ELL Elmali 82.94 311 P P 05 37 31.6 -0.1
EZN Ezine 83.08 315 P P 05 37 32.2 +0.1
GEC2 GERESS Array S 83.08 328 P P 05 37 32.6 +0.5
GERES GERESS Array B 83.08 328 P P 05 37 32.5 +0.3
comp=Z,3.9nm,0.8s,baz=35,slow=4.9,SNR=35
GERES PP PP 05 40 45.7 +2.5
comp=Z,0.7nm,0.7s,baz=46,slow=5.9,SNR=4.0
GERES LR LR 06 16 03.6
comp=Z,83nm,19.2s,baz=84,slow=37
GERES GERESS Array B 83.08 328 P P 05 37 32.0 -0.1
BFZ Birch Farm 83.16 153 P P 05 37 32.1 -0.1
BFZ IAmb IAmb 05 37 35.5
comp=Z,30nm,1.2s
X16A Lo Mia Camp, P 83.30 52 P P 05 37 33.3 -0.4
X16A IAmb IAmb 05 37 37.3
comp=Z,14nm,0.9s
MVCO Mesa Verde 83.35 48 P P 05 37 35.6 +1.7
baz=311,SNR=6.9
MVCO Mesa Verde 83.35 48 P P 05 37 35.1 +1.1
ISCO Idaho Springs 83.35 45 P P 05 37 35.5 +1.5
baz=312
ISCO Idaho Springs 83.35 45 P P 05 37 34.0 0.0
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 83.35 45 P P 05 37 34.0 0.0
NVR Nevrokopi 83.44 317 P P 05 37 34.5 +0.4
ARSA Arzberg 83.46 326 ePcP P 05 37 34.6 +0.6
comp=Z,9.9nm,1.1s,SNR=5.5
THAS Thassos island 83.47 316 P P 05 37 34.4 +0.3
GRA1 Grafenberg Arr 83.49 329 P P 05 37 34.6 +0.5
GRA1 IAmb IAmb 05 37 36.1
comp=Z,24nm,0.9s
GRF Grafenberg Arr 83.49 329 P P 05 37 34.6 +0.5
GRF pmax pmax
comp=Z,24nm,0.9s
DIVS Divibare 83.58 321 ⇑iP P 05 37 34.9 +0.1
MOA Molln 83.58 327 ePcP P 05 37 35.3 +0.6
comp=Z,16nm,1.1s,SNR=5.1
YER Yerkesik 83.69 312 P P 05 37 36.5 +1.1
SRS Serrai 83.75 317 P P 05 37 35.4 -0.2
214A Organ Pipe Nat 83.95 55 P P 05 37 38.8 +2.0
baz=309
214A Organ Pipe Nat 83.95 55 P P 05 37 37.6 +0.7
214A IAmb IAmb 05 37 39.5
comp=Z,12nm,0.9s
S22A 4UR Ranch, Cre 84.00 47 P P 05 37 39.6 +2.3
baz=312,SNR=13
S22A 4UR Ranch, Cre 84.00 47 P P 05 37 38.0 +0.7
S22A IAmb IAmb 05 37 40.6
comp=Z,11nm,1.0s
BBLS Lazići 84.05 321 ⇑iP P 05 37 37.9 +0.7
KNT Kendrikon 84.10 318 P P 05 37 37.6 +0.2
PERS Pernice 84.11 325 iP P 05 37 37.7 +0.3
SOKA Soboth 84.11 326 ePcP P 05 37 37.8 +0.4
comp=Z,25nm,0.9s,SNR=9.9
STIP Stip 84.12 318 iP P 05 37 37.1 -0.4
HAPS Han Pijesak,Bl 84.12 322 eP P 05 37 37.5 -0.1
VAY Valandovo 84.17 318 iP P 05 37 38.4 +0.7
X18A Snowflake 84.18 51 P P 05 37 39.3 +1.1
X18A IAmb IAmb 05 37 40.9
comp=Z,11nm,0.9s
Q24A Divide 84.18 45 P P 05 37 39.8 +1.6
baz=312
CHOS Chios island 84.19 314 P P 05 37 38.3 +0.3
RUDO Rudo 84.24 321 eP P 05 37 37.7 -0.4
SKO Skopje 84.33 319 iP P 05 37 39.8 +1.3
PLG Polygyros 84.34 317 P P 05 37 38.3 -0.3
OBKA Obir 84.46 326 eP P 05 37 39.1 -0.1
comp=Z,4.6nm,0.8s
BLY Banja Luka 84.52 323 ⇑iP P 05 37 39.4 0.0
BLY Banja Luka 84.52 323 P P 05 37 39.3 0.0
BLY IAmb IAmb 05 37 40.9
comp=Z,15nm,0.9s
LEGS Legarje 84.52 325 iP P 05 37 39.4 -0.1
CRES Cresnjev 84.55 325 ⇑iP P 05 37 39.4 -0.2
KBA Koelnbreinsper 84.58 327 ePcP P 05 37 40.0 +0.1
comp=Z,9.8nm,0.9s
EYMN Ely 84.61 32 P P 05 37 40.2 +0.4
baz=320
PMOR Pomariorio Ree 84.70 113 eT T 07 10 19.0
comp=Z,6.5nm,0.2s
MYKA Terra Mystica 84.78 326 eP P 05 37 39.9 -0.9
comp=Z,8.9nm,0.8s
SDCO Great Sand Dun 84.79 46 P P 05 37 43.2 +1.9
baz=312,SNR=9.5
SDCO Great Sand Dun 84.79 46 P P 05 37 42.5 +1.2
SDCO IAmb IAmb 05 37 44.1
comp=Z,11nm,1.1s
MGRS Mrkonjic Grad 84.81 323 eP P 05 37 41.2 +0.3
MEM Membach 84.81 333 P P 05 37 40.5 -0.2
MEM pP pP 05 37 58.5 -1.4
MEM sP sP 05 38 05.8 -1.7
LJU Ljubljana 84.82 325 iP P 05 37 40.8 -0.1
LJU Ljubljana 84.82 325 eP P 05 37 40.5 -0.4
STU Stuttgart 85.04 330 P P 05 37 42.2 +0.2
STU pmax pmax
comp=Z,28nm,1.2s
STU Stuttgart 85.04 330 P P 05 37 42.2 +0.2
STU IAmb IAmb 05 37 43.4
comp=Z,28nm,1.2s
LIT Litokhoron 85.06 317 P P 05 37 41.7 -0.6
LIT Litokhoron 85.06 317 P P 05 37 42.5 +0.2
LIT pmax pmax
comp=Z,58nm,0.8s
LIT Litokhoron 85.06 317 P P 05 37 42.5 +0.2
TUC Tucson 85.06 53 P P 05 37 44.3 +1.8
baz=310
TUC Tucson 85.06 53 P P 05 37 42.5 0.0

TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC Tucson 85.06 53 P P 05 37 42.5 0.0
TUC IAmb IAmb 05 37 45.1
comp=Z,9.5nm,0.9s
PPT Papeete 85.08 116 LR LR 06 08 56.2
comp=Z,98nm,19.8s,baz=294,slow=31
CEY Cerknica 85.09 325 eP P 05 37 41.5 -0.9
PPT2 Papeete2 85.10 116 eS S 05 48 05.6 -1.4
comp=Z,40nm,22.8s
PPT2 Papeete2 85.10 116 eLR LR 06 04 22.8
comp=Z,712nm,32.5s,baz=311
PDG Podgorica 85.15 320 ⇑iP P 05 37 42.9 +0.3
PDG Podgorica 85.15 320 P P 05 37 42.6 0.0
BRY Bratogost 85.18 321 eP P 05 37 42.5 -0.5
FNA Florina 85.19 318 P P 05 37 42.0 -0.9
FNA pmax pmax
comp=Z,15nm,1.0s
FNA Florina 85.19 318 P P 05 37 42.0 -0.9
FNA IAmb IAmb 05 37 43.7
comp=Z,15nm,1.0s
ABTA Abfaltersbach 85.20 327 eP P 05 37 42.1 -0.8
comp=Z,8.6nm,0.9s
BCLA Clavier 85.23 333 P P 05 37 42.2 -0.7
BCLA PcP PcP 05 37 45.1 -0.8
OHR Ohrid 85.27 319 eP P 05 37 43.9 +0.5
MOTA Moosalm 85.36 328 ePcP P 05 37 43.8 0.0
comp=Z,20nm,2.1s
DRME Dracevica, Mon 85.36 320 ⇑iP P 05 37 44.0 +0.3
RETA Reutte 85.39 328 ePcP P 05 37 44.2 +0.3
comp=Z,13nm,0.9s
SQTA Sankt Quirin 85.41 328 eP P 05 37 43.1 -0.9
comp=Z,5.6nm,0.8s
ECSD EROS Data Cent 85.41 37 P P 05 37 44.6 +0.6
baz=317,SNR=6.1
ECSD EROS Data Cent 85.41 37 P P 05 37 44.3 +0.4
STAL STALIGIAL 85.48 326 P P 05 37 42.9 -1.4
STAL IAmb IAmb 05 37 44.1
comp=Z,15nm,0.9s
HCY Herceg Novi 85.53 321 eP P 05 37 44.7 +0.2
TIR Tirane 85.60 319 P P 05 37 45.2 +0.3
TIR pmax pmax
comp=Z,21nm,0.8s
TIR Tirane 85.60 319 P P 05 37 45.2 +0.3
TIR IAmb IAmb 05 37 46.4
comp=Z,21nm,0.8s
E38A The Farm, Brul 85.62 33 P P 05 37 45.3 +0.4
baz=320
BFO Black Forest 85.74 330 ceP P 05 37 45.9 +0.4
BFO Black Forest 85.74 330 P P 05 37 45.3 -0.2
BFO IAmb IAmb 05 37 46.7
comp=Z,16nm,1.0s
T25A Trinidad 85.84 46 P P 05 37 48.2 +1.7
baz=313
T25A Trinidad 85.84 46 P P 05 37 47.0 +0.5
T25A IAmb IAmb 05 37 49.0
comp=Z,17nm,0.9s
AGG Agios Georgios 85.89 316 P P 05 37 44.6 -1.9
AGG pmax pmax
comp=Z,7.0nm,0.9s
AGG Agios Georgios 85.89 316 P P 05 37 44.6 -1.9
DAVA Damuels 85.92 329 ePcP P 05 37 46.5 -0.1
comp=Z,19nm,1.2s
MAKR Makrakomi, Fth 86.01 316 P P 05 37 46.2 -0.8
ANMO Albuquerque 86.08 49 P P 05 37 49.6 +1.9
baz=312
ANMO Albuquerque 86.08 49 ceP P 05 37 47.2 -0.5
ANMO pmax pmax
comp=Z,7.0nm,0.8s
ANMO Albuquerque 86.08 49 P P 05 37 48.1 +0.5
SPMN Marine on St. 86.11 34 P P 05 37 48.0 +0.6
CTI Castel Tesino 86.12 327 P P 05 37 46.6 -0.9
CTI pmax pmax
comp=Z,7.0nm,0.9s
CTI Castel Tesino 86.12 327 P P 05 37 46.6 -0.9
LENM Lemitar 86.28 50 P P 05 37 48.6 -0.1
BGNE Belgrade 86.32 40 P P 05 37 48.8 +0.3
BGNE IAmb IAmb 05 37 50.4
comp=Z,23nm,0.9s
BNM Barren Site 86.50 50 P P 05 37 50.2 +0.4
SCHQ Schefferville 86.66 15 P P 05 37 49.9 0.0
comp=Z,12nm,0.8s,baz=341,slow=8.0,SNR=5.8
SCHQ LR LR 06 19 57.5
comp=Z,52nm,19.4s,baz=339,slow=38
SCHQ Schefferville 86.66 15 IAmb IAmb 05 37 52.2
comp=Z,14nm,0.9s
121A Cookes Peak, D 86.85 52 P P 05 37 53.7 +2.2
baz=311
121A Cookes Peak, D 86.85 52 P P 05 37 53.0 +1.5
TAOE Nuku Hiva Isla 86.92 103 eLR LR 06 05 35.2
comp=Z,489nm,31.5s
G40A Rib Lake 87.25 33 P P 05 37 53.6 +0.6
baz=321
ITM Ithomi 87.40 315 P P 05 37 52.9 -0.9
MATE Matera 87.76 321 ⇑P P 05 37 55.8 +0.4
MURB Monte Urbino 87.86 325 P P 05 37 56.0 +0.1
NRCA Norcia 87.91 324 P P 05 37 56.6 +0.4
ACER Acerenza 88.05 321 P P 05 37 57.1 +0.2
AQU L'Aquila 88.13 324 P P 05 37 57.3 +0.1
AQU L'Aquila 88.13 324 ⇑iP P 05 37 57.3 +0.1
AQU L'Aquila 88.13 324 P P 05 37 57.4 +0.1
INTR Introdacqua 88.15 323 P P 05 37 56.5 -0.9
INTR IAmb IAmb 05 37 59.1
comp=Z,17nm,0.7s
I41A Arkdale 88.34 34 P P 05 37 59.3 +1.1
baz=322
I41A Arkdale 88.34 34 P P 05 37 59.3 +1.1
I41A IAmb IAmb 05 37 59.9
comp=Z,24nm,1.1s
MSEY Mahe Island 88.39 263 ceP P 05 38 00.9 +2.0
SCIA State Center 88.44 37 P P 05 38 00.6 +2.0
baz=320
D46A Sault St. Mari 88.51 29 P P 05 37 60.0 +1.1
baz=326
D47A Chapleau 88.73 28 P P 05 38 00.2 +0.3
baz=326
KSU1 Kansas State U 88.81 41 P P 05 38 01.5 +1.1
baz=317
E46A Sault Ste Mari 88.83 29 P P 05 38 01.2 +0.8
baz=326
TBI Tubuai 88.87 120 eLR LR 06 05 58.2
comp=Z,341nm,34.8s,baz=310
TBI Tubuai 88.87 120 eT T 07 15 42.2
comp=Z,9.1nm,0.3s
I42A Draeger Farm, 88.90 33 P P 05 38 01.8 +1.0
baz=322
F45A CMU Biological 88.91 30 P P 05 38 02.3 +1.5
baz=325
MNTX Cornudas Mount 88.92 51 P P 05 38 02.4 +1.2
baz=312
H43A Windswept, Lux 88.94 32 P P 05 38 02.1 +1.1
baz=323
AMTX Amarillo 89.00 46 P P 05 38 03.5 +2.0
baz=314
AMTX Amarillo 89.00 46 P P 05 38 02.6 +1.1
AMTX IAmb IAmb 05 38 04.0
comp=Z,11nm,0.9s
E47A Iron Bridge 89.16 28 P P 05 38 02.2 +0.3
baz=326
LSQQ Lebel-sur-Quev 89.17 23 P P 05 38 02.8 +0.9
baz=331
CHGQ Chibougamau 89.23 21 P P 05 38 02.8 +0.6
baz=333
L40A Anamosa 89.28 36 P P 05 38 03.2 +0.7
baz=321
G46A Petoskey 89.47 30 P P 05 38 04.2 +0.7
baz=325
D50A G1974 Best Tow 89.83 26 P P 05 38 05.6 +0.5
baz=329
H46A Fife Lake 89.97 31 P P 05 38 07.2 +1.4
baz=325
GLMI Grayling 89.98 30 P P 05 38 07.4 +1.6
baz=325
D51A Lot 18 Range I 90.07 26 P P 05 38 06.4 +0.3
baz=329
H47A Mio 90.33 30 P P 05 38 09.3 +1.9
baz=326
I46A Reed City 90.36 31 P P 05 38 08.9 +1.4
baz=325
LPIG La Paz 90.63 59 LR LR 06 10 10.3
comp=Z,44nm,21.9s,baz=302,slow=30
J46A Howard City 90.75 32 P P 05 38 11.2 +1.8
baz=324
WMOK Wichita Mounta 90.78 45 P P 05 38 10.9 +1.2
baz=316
J47A Sunmer 91.19 31 P P 05 38 13.5 +2.1

baz=325
J47A Sunmer 91.19 31 P P 05 38 12.7 +1.2
HDIL Hopedale 91.36 35 P P 05 38 13.4 +1.1
baz=322
HDIL Hopedale 91.36 35 P P 05 38 12.5 +0.2
TUL1 Leonard 91.60 42 P P 05 38 14.6 +1.1
baz=318
TUL1 Leonard 91.60 42 P P 05 38 13.6 0.0
TUL1 IAmb IAmb 05 38 14.9
comp=Z,8.4nm,0.8s
TX31 Lajitas Ar. Si 91.61 52 P P 05 38 14.1 +0.3
TX32 Lajitas Array 91.61 52 P P 05 38 14.8 +1.0
TXAR Lajitas Array 91.61 52 P P 05 38 15.3 +1.5
comp=Z,3.6nm,0.7s,baz=299,slow=2.9,SNR=42
TXAR PKKPbc **PKKPbc 05 55 33.6 +1.8**
comp=Z,0.2nm,0.5s,baz=116,slow=2.1,SNR=3.5
TXAR LR LR 06 13 11.7
comp=Z,67nm,22.0s,baz=0.0,slow=31
TXAR Lajitas Array 91.61 52 P P 05 38 14.4 +0.6
ABTX Abilene, Hawle 91.79 47 P P 05 38 16.3 +1.8
baz=316
D57A Chemin Vers le 91.95 23 P P 05 38 16.0 +1.1
baz=333
P43A Skaggs, Pawnee 91.97 36 P P 05 38 16.1 +1.0
baz=322
HHAR Hobbs 92.32 41 P P 05 38 16.9 0.0
HHAR IAmb IAmb 05 38 18.0
comp=Z,7.4nm,0.9s
CCM Cathedral Cave 92.36 38 P P 05 38 17.9 +1.0
baz=321
L48A N Adams 92.42 32 P P 05 38 18.4 +1.2
baz=325
U40A Yellville 92.84 40 P P 05 38 19.6 +0.4
baz=320
U40A Yellville 92.84 40 P P 05 38 19.0 -0.2
ALFO Alfred 92.87 24 P P 05 38 20.0 +0.9
baz=332
P46A Rosedale 93.07 35 P P 05 38 20.6 +0.4
baz=323
JCT Junction City 93.21 48 P P 05 38 22.2 +1.0
baz=315
JCT Junction City 93.21 48 P P 05 38 21.5 +0.4
JCT pmax pmax
comp=Z,5.0nm,1.0s
JCT Junction City 93.21 48 P P 05 38 21.5 +0.4
JCT IAmb IAmb 05 38 22.4
comp=Z,5.3nm,0.9s
WHTX Lake Whitney, 93.53 46 P P 05 38 24.1 +1.6
baz=317
O50A Cable 94.25 32 P P 05 38 26.7 +1.0
baz=326
ACSO Alum Creek Sta 94.45 32 P P 05 38 27.3 +0.8
baz=326
WCI Wyandotte Cave 94.61 35 P P 05 38 28.0 +0.7
baz=324
WCI Wyandotte Cave 94.61 35 P P 05 38 27.6 +0.3
WCI pmax pmax
comp=Z,5.0nm,1.1s
WCI Wyandotte Cave 94.61 35 P P 05 38 27.6 +0.3
WCI IAmb IAmb 05 38 38.3
comp=Z,5.0nm,1.1s
P51A Williamsport 95.04 32 P P 05 38 29.1 -0.1
baz=326
O53A New Philadelph 95.17 31 P P 05 38 30.6 +0.8
baz=328
T47A Sharon Grove 95.23 36 P P 05 38 31.1 +0.9
baz=323
KEST Kesra 95.25 322 LR LR 06 25 46.6
comp=Z,73nm,18.5s,baz=304,slow=38
Q51A Peebles 95.29 33 P P 05 38 31.1 +0.7
baz=326
Q51A Peebles 95.29 33 P P 05 38 30.3 -0.1
Q51A IAmb IAmb 05 38 31.6
comp=Z,9.6nm,0.8s
S49A Springfield 95.44 35 P P 05 38 31.9 +0.8
baz=325
T49A Edmonton 95.88 35 P P 05 38 33.7 +0.6
baz=324
S50A Richmond 95.93 34 P P 05 38 33.9 +0.5
baz=325
U49A Red Boiling Sp 96.24 36 P P 05 38 35.2 +0.4
baz=324
T50A Nancy 96.27 35 P P 05 38 35.6 +0.7
baz=325
ESDC Sonseca Array 97.80 333 P P 05 38 40.9 -0.9
comp=Z,0.7nm,0.8s,baz=26,slow=4.9,SNR=3.7
ESDC LR LR 06 29 13.1
comp=Z,43nm,19.2s,baz=335,slow=39
ESDC Sonseca Array 97.80 333 P P 05 38 40.6 -1.2
TORD Torodi Ar. Bea 117.34 313 PKP PKPdf 05 43 51.1 -1.1
comp=Z,1.0nm,0.6s,baz=352,slow=3.8,SNR=6.8
TORD PP **PP 05 44 60.0 -3.3**
comp=Z,2.0nm,1.0s,baz=14,slow=10,SNR=4.0
MAW Mawson 118.11 205 PKP PKiKP 05 43 52.6 +0.6
comp=Z,3.2nm,0.7s,baz=48,slow=3.7,SNR=11
MAW Mawson 118.11 205 PKiKP 05 43 52.3 +0.3
LBTB Lobatse 123.47 262 PKP PKiKP 05 44 04.3 +0.3
comp=Z,17nm,0.8s,baz=140,slow=3.1,SNR=20
LBTB Lobatse 123.47 262 PKPdf 05 44 03.5 -0.3
SMLC San Martn de 125.07 43 *eP* **PKPdf 05 44 06.4 -0.7**
SMLC San Martn de 125.07 43 *eP* **PKPdf 05 44 06.4 -0.7**
BOSA Boshof 125.34 258 PKP **PKiKP 05 44 07.8 +0.2**
comp=Z,9.6nm,0.9s,baz=79,slow=3.0,SNR=12
BOSA Boshof 125.34 258 PKPdf 05 44 07.4 +0.1
QSPA South Pole Qui 125.69 180 PKPdf 05 44 06.4 -0.3
ZARC Zaragoza, Cauc 125.70 44 *eP* **PKiKP 05 44 08.7 0.0**
ZARC Zaragoza, Cauc 125.70 44 *eP* **PKiKP 05 44 08.7 0.0**
OCAC Ocana 125.94 42 *eP* **PKiKP 05 44 09.6 +0.3**
OCAC Ocana 125.94 42 *eP* **PKiKP 05 44 09.6 +0.3**
DBIC Dimbokro 126.35 315 PKP **PKPdf 05 44 09.6 0.0**
comp=Z,2.3nm,0.6s,baz=344,slow=4.5,SNR=4.4
DBIC Dimbokro 126.35 315 PKPdf 05 44 09.1 -0.4
PTBC PUERTO BERRIO 126.70 45 *eP* **PKPdf 05 44 10.2 0.0**
PTBC PUERTO BERRIO 126.70 45 *eP* **PKPdf 05 44 10.2 0.0**
SYO Syowa Base 126.77 206‖ *eX* **Pdif 05 40 43.0 -6.6**
SYO Syowa Base 126.77 206‖ *eX* **Pdif 05 41 01.0 +11**
SDV Santo Domingo 126.82 39 PKPdf 05 44 10.8 +0.1
TSUM Tsumeb 127.13 272 PKPdf 05 44 10.5 -0.4
GUY2C Guyana, Caldas 127.24 47 *eP* **PKiKP 05 44 12.3 -0.1**
GUY2C Guyana, Caldas 127.24 47 *eP* **PKiKP 05 44 12.3 -0.1**
BARC Barichara 127.38 43 *eP* **PKPdf 05 44 11.2 -0.6**
BARC Barichara 127.38 43 *eP* **PKPdf 05 44 11.2 -0.6**
RREF El Recreo 127.51 47 *eP* **PKiKP 05 44 13.6 +0.5**
RREF El Recreo 127.51 47 *eP* **PKiKP 05 44 13.6 +0.5**
YOTC Yotoco, Valle 127.64 48 *eP* **PKiKP 05 44 12.7 0.0**
YOTC Yotoco, Valle 127.64 48 *eP* **PKiKP 05 44 12.7 0.0**
SPBC San Pablo de B 127.64 45 *eP* **PKiKP 05 44 12.7 0.0**
SPBC San Pablo de B 127.64 45 *eP* **PKiKP 05 44 12.7 0.0**
RUSC La Rusia 128.01 44 *eP* **PKiKP 05 44 13.6 -0.3**
RUSC La Rusia 128.01 44 *eP* **PKiKP 05 44 13.6 -0.3**
ROSC El Rosal 128.16 46 PKP **PKiKP 05 44 14.2 +0.1**
comp=Z,7.7nm,0.8s,baz=113,slow=17,SNR=5.0
ROSC El Rosal 128.16 46 PKiKP 05 44 14.4 +0.3
BBAC Balboa, Cauca 128.61 51 *eP* **PKiKP 05 44 14.6 -0.2**
BBAC Balboa, Cauca 128.61 51 *eP* **PKiKP 05 44 14.6 -0.2**
PCON Cinco Dias 128.90 50 *eP* **PKPdf 05 44 14.5 -0.6**
PCON Cinco Dias 128.90 50 *eP* **PKPdf 05 44 14.5 -0.6**
VILC Villavicencio, 129.11 46 *eP* **PKiKP 05 44 16.3 +0.7**
VILC Villavicencio, 129.11 46 *eP* **PKiKP 05 44 16.3 +0.7**
OTAV Otavalo 129.19 54 PKIKP **PKPdf 05 44 15.9 +0.3**
OTAV Otavalo 129.19 54 PKPdf 05 44 15.9 +0.3
SNAA Sanae 139.40 197 PKPdf **PKPdf 05 44 25.0 -7.3**
PTGA Pitinga 140.30 33 PKiKP PKPpre 05 44 30.3
comp=Z,2.2nm,0.5s,baz=313,slow=8.1,SNR=5.0
VNA2 Neumayer--Watz 140.98 196 PKPdf **PKPdf 05 44 28.3 -6.8**
VNA3 Neumayer Olymp 141.25 195 PKPdf **PKPdf 05 44 30.3 -5.3**
VNA1 Neumayer--Stat 141.38 196 PKPdf **PKPdf 05 44 30.6 -5.2**
SAML Samuel 145.75 44 PKP2 **PKPbc 05 44 45.7 0.0**
SAML Samuel 145.75 44 PKPbc 05 44 45.7 0.0
LPAZ La Paz 148.14 59 PKPbc **PKPbc 05 44 51.7 -1.5**
comp=Z,10nm,0.8s,baz=339,slow=3.8,SNR=18
LPAZ La Paz 148.14 59 PKPbc 05 44 51.8 -1.4
PB11 IPOC Station P 149.28 66 PKPdf 05 44 51.1 0.0
PB11 **PKiKP 05 44 56.8 +0.2**
GO01 Chusmiza 149.57 66 PKiKP 05 44 58.0 +0.3
LVC Limon Verde 151.52 70 PKIKP **PKiKP 05 45 02.7 +1.2**
LVC Limon Verde 151.52 70 PKiKP 05 45 02.6 +1.2
SIV San Ignacio 152.58 49 PKP **PKPdf 05 44 56.5 +0.3**
comp=Z,3.7nm,0.8s,baz=74,slow=1.4,SNR=22
LCO Las Campanas 153.16 84 PKIKP **PKiKP 05 45 05.9 +1.4**
LCO Las Campanas 153.16 84 PKiKP 05 45 05.9 +1.4
PLCA Paso Flores 155.53 111 PKP **PKPdf 05 44 59.6 0.0**
comp=Z,2.2nm,1.1s,baz=281,slow=7.5,SNR=3.3
BDFB Brasilia 158.51 22 PKPab **PKPab 05 45 40.1 +1.0**
comp=Z,1.6nm,0.6s,baz=319,slow=12,SNR=3.5

IDC ***03*** *05:28:01.8±0.5, 52°.94S×27°.25E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/36, mbtmp4.2/15, MS3.7/4, Ms1 3.6/4, ms1mx3.2/26, Error ellipse: s-maj=20.1km s-min=15.2km az=49.0*
ISCJB ***03*** *05:28:02.3±0.3, 52°.86S±0°.05×27°.4E±0°.1, h13km, mb4.3/16, MS3.5/4, Error ellipse: s-maj=8.7km s-min=7.1km az=4.0*
NEIC ***03*** *05:28:03.4±1.8, 52°.89S±0°.03×27°.5E±0°.2, h10km±2km, mb4.6/37*
ISC 03 05:28:03.8±0.3, 52°.89S±0°.07×27°.43E±0°.08, h13km, n86, σ0s86/93, mb4.5/27, MS3.7/4, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**17.04**	**78**	P	**Pn**	**05 32 02.1**	**+0.5**
CRZF				IAmb	IAmb	05 32 14.6	
comp=Z,21nm,0.7s							
SYO	**Syowa Base**	**17.15**	**165⇑**	*e*Pn	**Pn**	**05 32 01.4**	**-1.4**
SUR	**Sutherland**	**21.05**	**344**	P	**P**	**05 32 48.4**	**+0.8**
comp=Z,22nm,0.8s,baz=155,slow=14,SNR=8.1							
SUR				LR	LR	05 39 01.6	
comp=Z,361nm,19.4s,baz=171,slow=31							
SUR	**Sutherland**	**21.05**	**344**	P	**P**	**05 32 47.7**	**0.0**
SUR				IAmb	IAmb	05 32 53.3	
comp=Z,28nm,0.8s							
MAW	**Mawson**	**22.48**	**144**	P	**P**	**05 33 03.1**	**+0.6**
comp=Z,5.7nm,1.0s,baz=278,slow=14,SNR=6.8							
MAW				LR	LR	05 40 14.5	
comp=Z,68nm,20.0s,baz=243,slow=32							
MAW	**Mawson**	**22.48**	**144**	P	**P**	**05 33 03.9**	**+1.5**
SNAA	**Sanae**	**23.04**	**204**	P	**P**	**05 33 10.8**	**+2.4**
SNAA	**Sanae**	**23.04**	**204**	P	**P**	**05 33 09.7**	**+1.3**
SNAA				IAmb	IAmb	05 33 25.9	
comp=Z,19nm,0.8s							
VNA2	**Neumayer--Watz**	**23.82**	**208**	P	**P**	**05 33 17.2**	**+1.2**
baz=46,slow=11							
VNA1	**Neumayer--Stat**	**23.93**	**209**	P	**P**	**05 33 18.9**	**+1.8**
BOSA	**Boshof**	**24.31**	**355**	P	**P**	**05 33 20.8**	**-0.3**
comp=Z,2.9nm,0.9s,baz=178,slow=13,SNR=4.6							
BOSA				LR	LR	05 41 02.3	
comp=Z,189nm,21.1s,baz=172,slow=32							
BOSA	**Boshof**	**24.31**	**355**	P	**P**	**05 33 21.1**	**0.0**
VNA3	**Neumayer Olymp**	**24.62**	**208**	P	**P**	**05 33 24.2**	**+0.7**
LBTB	**Lobatse**	**27.87**	**356**	LR	LR	05 43 21.0	
comp=Z,223nm,19.4s,baz=175,slow=33							
WIN	**Windhoek**	**31.29**	**341**	P	**P**	**05 34 23.6**	**-0.2**
WIN				IAmb	IAmb	05 34 39.3	
comp=Z,13nm,1.1s							
TSUM	**Tsumeb**	**34.49**	**343**	P	**P**	**05 34 51.9**	**+0.3**
TSUM				IAmb	IAmb	05 35 00.3	
comp=Z,6.9nm,0.9s							
ABPO	**Ambohimpanom**	**37.15**	**32**	P	**P**	**05 35 14.8**	**+0.4**
QSPA	**South Pole Qui**	**37.33**	**180**	P	**P**	**05 35 15.4**	**-0.1**
comp=Z,7.7nm,0.8s,baz=65,slow=1.9,SNR=49							
QSPA	**South Pole Qui**	**37.33**	**180**	P	**P**	**05 35 15.4**	**-0.1**
QSPA				IAmb	IAmb	05 35 24.8	
comp=Z,6.9nm,0.7s							
LSZ	**Lusaka**	**37.53**	**1**	P	**P**	**05 35 17.3**	**-0.3**
LSZ				IAmb	IAmb	05 35 25.7	
comp=Z,7.1nm,0.8s							
PMSA	**Palmer Station**	**44.60**	**218**	P	**P**	**05 36 14.7**	**-0.4**
SBA	**Scott Base**	**47.15**	**169**	P	**P**	**05 36 35.9**	**+0.8**
KMBO	**Kilima Mbogo**	**52.23**	**12**	P	**P**	**05 37 13.9**	**-0.9**
KMBO				IAmb	IAmb	05 37 28.3	
comp=Z,5.1nm,1.3s							
GO10	**Punta Arenas**	**54.46**	**227**	P	**P**	**05 37 31.1**	**+0.5**
TRQA	**Tornquist**	**60.45**	**245**	P	**P**	**05 38 12.1**	**-0.9**
TRQA				IAmb	IAmb	05 38 13.2	
comp=Z,7.5nm,0.9s							
PLCA	**Paso Flores**	**63.05**	**238**	P	**P**	**05 38 30.1**	**-0.4**
comp=Z,2.0nm,0.7s,baz=164,slow=6.9,SNR=9.1							
PLCA	**Paso Flores**	**63.05**	**238**	P	**P**	**05 38 30.5**	**-0.1**
PLCA				IAmb	IAmb	05 38 38.8	
comp=Z,4.2nm,0.9s							
GO06	**Curarrehue**	**64.38**	**238**	P	**P**	**05 38 38.4**	**-0.9**
GO06				IAmb	IAmb	05 38 39.5	
comp=Z,5.7nm,1.0s							
NWAO	**Narrogin (SRO)**	**64.40**	**111**	P	**P**	**05 38 39.3**	**-0.1**
DBIC	**Dimbokro**	**65.36**	**324**	P	**P**	**05 38 46.9**	**+1.1**
comp=Z,2.9nm,0.9s,baz=140,slow=11,SNR=2.9							
DBIC	**Dimbokro**	**65.36**	**324**	IAmb	IAmb	05 38 53.3	
comp=Z,12nm,1.1s							
ATD	**Arta Tunnel**	**65.51**	**17**	P	**P**	**05 38 46.1**	**-0.7**
MCQ	**Macquarie Isla**	**65.68**	**151**	P	**P**	**05 38 47.1**	**-0.2**
CPUP	**Villa Florida**	**66.39**	**257**	P	**P**	**05 38 51.3**	**-1.1**
comp=Z,3.8nm,0.7s,baz=137,slow=6.6,SNR=12							
CPUP	**Villa Florida**	**66.39**	**257**	P	**P**	**05 38 52.0**	**-0.4**
CPUP				IAmb	IAmb	05 39 00.1	
comp=Z,6.4nm,0.8s							
BDFB	**Brasilia**	**68.91**	**272**	P	**P**	**05 39 08.6**	**0.0**
TOA0	**Torodi Ar. Sit**	**69.40**	**333**	P	**P**	**05 39 11.4**	**+0.1**
TOA0				IAmb	IAmb	05 39 19.5	
comp=Z,3.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**69.40**	**333**	P	**P**	**05 39 11.3**	**0.0**
comp=Z,1.3nm,0.7s,baz=169,slow=8.5,SNR=8.4							
TORD	**Torodi Ar. Bea**	**69.40**	**333**	P	**P**	**05 39 11.0**	**-0.3**
RCBR	**Riachuelo**	**69.47**	**288**	P	**P**	**05 39 10.6**	**-1.3**
comp=Z,155nm,0.7s,baz=162,slow=0.6,SNR=5.0							
RCBR	**Riachuelo**	**69.47**	**288**	P	**P**	**05 39 12.8**	**+0.9**
LCO	**Las Campanas**	**72.02**	**246**	P	**P**	**05 39 28.8**	**+1.2**
PSAB3	**Pilbara Seismi**	**74.50**	**105**	P	**P**	**05 39 40.9**	**-1.2**
PSAB3				IAmb	IAmb	05 39 55.5	
comp=Z,6.9nm,1.1s							
STKA	**Stephens Creek**	**78.05**	**127**	P	**P**	**05 40 02.6**	**+0.5**
comp=Z,1.6nm,0.7s,baz=214,slow=15,SNR=2.7							
STKA	**Stephens Creek**	**78.05**	**127**	IAmb	IAmb	05 40 11.3	
comp=Z,1.8nm,1.1s							
CAN	**Canberra**	**78.55**	**135**	P	**P**	**05 40 04.2**	**-0.7**
LPAZ	**La Paz**	**80.48**	**256**	P	**P**	**05 40 15.8**	**-0.5**
comp=Z,0.6nm,0.6s,baz=89,slow=8.1,SNR=4.2							
LPAZ	**La Paz**	**80.48**	**256**	IAmb	IAmb	05 40 17.4	
comp=Z,1.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**80.60**	**107**	P	**P**	**05 40 16.0**	**-0.1**
comp=Z,2.8nm,0.8s,baz=174,slow=0.1,SNR=3.7							
FITZ	**Fitzroy Crossi**	**80.60**	**107**	P	**P**	**05 40 15.3**	**-0.8**
FITZ				IAmb	IAmb	05 40 16.9	
comp=Z,5.9nm,1.1s							
ASAR	**Alice Springs**	**80.79**	**117**	P	**P**	**05 40 17.6**	**+0.5**
comp=Z,2.0nm,0.8s,baz=203,slow=5.8,SNR=8.4							
ASAR	**Alice Springs**	**80.79**	**117**	P	**P**	**05 40 17.0**	**-0.2**
RPSI	**Rantau Prapat**	**81.08**	**74**	P	**P**	**05 40 20.3**	**+1.6**
PSI	**Prapat**	**81.17**	**73**	P	**P**	**05 40 20.3**	**+1.0**
comp=Z,1.1nm,0.3s,baz=312,slow=14,SNR=2.3							
NNZ	**Nelson**	**81.75**	**155**	P	**P**	**05 40 20.5**	**-1.4**
SAML	**Samuel**	**83.31**	**264**	P	**P**	**05 40 30.1**	**-0.3**
SAML				IAmb	IAmb	05 40 38.5	
comp=Z,5.6nm,0.9s							
WRA	**Warramunga Arr**	**84.03**	**115**	P	**P**	**05 40 35.0**	**+0.9**
comp=Z,1.0nm,0.7s,baz=212,slow=3.9,SNR=6.1							
WRA	**Warramunga Arr**	**84.03**	**115**	P	**P**	**05 40 32.4**	**-1.7**
KSM	**Kuching**	**86.86**	**83**	P	**P**	**05 40 48.4**	**+0.2**
KSM				IAmb	IAmb	05 40 50.2	
comp=Z,7.0nm,0.9s							
BKB	**Balikpapan**	**88.68**	**90**	P	**P**	**05 40 57.7**	**+0.8**
BRTR	**Keskin Array B**	**92.40**	**5**	P	**P**	**05 41 14.3**	**+0.6**
comp=Z,0.7nm,0.6s,baz=166,slow=7.3,SNR=2.7							
KSH	**Kashi**	**101.18**	**36**	*e*P	**Pdif**	**05 41 54.5**	**+1.0**
S22A	**4UR Ranch, Cre**	**145.10**	**263**		**PKPbc**	**05 47 40.2**	**-0.1**
ULM	**Lac du Bonnet**	**145.44**	**289**	PKPbc	**PKPdf**	**05 47 39.4**	**-1.1**
comp=Z,3.6nm,0.7s,baz=123,slow=7.2,SNR=6.0							
X16A	**Lo Mia Camp, P**	**145.58**	**254**		**PKPdf**	**05 47 40.1**	**-1.5**
ISCO	**Idaho Springs**	**145.67**	**267**	PKPdf	**PKPdf**	**05 47 41.0**	**-0.6**
PV22	**Blue Mesa, Par**	**146.79**	**262**		**PKPdf**	**05 47 42.7**	**-0.8**
Y12C	**Blythe**	**146.88**	**250**		**PKPdf**	**05 47 42.9**	**-0.5**
Y12C				PKPbc	**PKPbc**	**05 47 45.4**	**0.0**
RSSD	**Black Hills**	**147.23**	**274**		**PKPdf**	**05 47 44.8**	**+0.7**
W13A	**Hualapai Mount**	**147.48**	**252**		**PKPdf**	**05 47 44.9**	**+0.2**
TMUT	**Trail Mountain**	**148.73**	**261**		**PKPdf**	**05 47 46.4**	**-0.4**
SZCU	**Shurtz Canyon**	**148.74**	**257**		**PKPdf**	**05 47 47.1**	**+0.4**
CCUT	**Cedar City**	**148.87**	**256**		**PKPdf**	**05 47 48.0**	**+1.0**
SHPR	**Sheep Range**	**149.20**	**253**		**PKPdf**	**05 47 48.3**	**+0.8**
PD31	**Pinedale Array**	**149.82**	**268**	PKPdf	**PKPdf**	**05 47 47.1**	**-1.2**
PD31					**sPKPbc**	**05 47 56.9**	**+0.1**
PDAR	**Pinedale Array**	**149.82**	**268**	PKPbc	**PKPbc**	**05 47 51.6**	**-1.5**
comp=Z,0.7nm,0.8s,baz=106,slow=4.8,SNR=5.0							
PDAR	**Pinedale Array**	**149.82**	**268**		**PKPdf**	**05 47 48.7**	**+0.4**
PDAR				PKPbc	**sPKPbc**	**05 47 57.1**	**+0.3**
PDAR				PKPab	**pPKPab**	**05 48 01.0**	**-0.5**
PETK	**Petropavlovsk-**	**150.55**	**69**	PKPbc	**PKPbc**	**05 47 52.6**	**-1.6**
comp=Z,2.8nm,0.8s,baz=318,slow=6.2,SNR=3.3							
AHID	**Auburn Hatcher**	**150.76**	**267**		**PKPdf**	**05 47 50.3**	**+0.6**
AHID				PKPab	**sPKPab**	**05 48 06.5**	**+0.3**
TPAW	**Teton Pass**	**151.07**	**268**		**PKPdf**	**05 47 50.8**	**+0.5**
TPAW					**sPKPab**	**05 48 07.8**	**+0.3**
FXWY	**Fox Creek**	**151.20**	**268**		**PKPbc**	**05 47 55.1**	**-1.3**
FXWY				PKPab	**PKPab**	**05 48 05.5**	**+1.1**
ELK	**Elko**	**152.04**	**259**		**PKPdf**	**05 47 51.3**	**-0.5**
NV11	**Mina Array Sit**	**152.26**	**252**		**PKPdf**	**05 47 52.7**	**+0.6**
NV11				PKPbc	**PKiKP**	**05 47 59.8**	**+0.7**
NV11				PKPab	**PKPab**	**05 48 08.4**	**-0.3**
NVAR	**Mina Array Bea**	**152.34**	**252**	PKPbc	**PKiKP**	**05 47 59.2**	**-0.2**
comp=Z,1.2nm,0.6s,baz=114,slow=1.8,SNR=3.5							
NVAR	**Mina Array Bea**	**152.34**	**252**		**PKPdf**	**05 47 53.1**	**+0.8**
NVAR				PKPbc	**PKiKP**	**05 47 59.7**	**+0.3**
NVAR				PKPab	**PKPab**	**05 48 08.4**	**-0.8**
WHY	**Whitehorse**	**167.60**	**316**		**PKPab**	**05 49 16.0**	**+1.3**

ISCJB ***03*** *05:58:45.1±0.7, 41°.06N±0°.04×127°.21W±0°.06, h10km, mb3.2/2, MS3.2/1, Error ellipse: s-maj=6.9km s-min=4.6km az=151.2*
ANF ***03*** *05:58:45.6±1.5, 41°.07N×127°.12W, h1km, ML3.6/6, Error ellipse: s-maj=14.9km s-min=10.1km az=54.0*
NEIC ***03*** *05:58:46.5±2.3, 41°.16N±0°.05×127°.2W±0°.1, h10km±2km, mb3.8/4*
IDC ***03*** *05:58:47.3±2.1, 41°.25N×127°.06W, h0km, mb3.4/2, mb1 3.6/6, mb1mx3.5/40, mbtmp3.3/6, ML3.3/4, MS3.2/4, Ms1 3.2/4, ms1mx2.9/22, Error ellipse: s-maj=35.7km s-min=19.3km az=24.0*
ISC 03 05:58:46.8±1.5, 41°.00N±0°.05×127°.22W±0°.09, h10km, n83, σ1s79/92, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**2.25**	**103**		**Pn**	**05 59 23.9**	**-0.2**
JCC	**Jacoby Creek,**	**2.42**	**93**	Pn	**Pn**	**05 59 25.4**	**-1.1**
JCC				Sn	**Sn**	**05 59 55.1**	**-1.1**
KSMM	**Slide Mountain**	**2.46**	**108**		**Pn**	**05 59 25.6**	**-1.4**
KBO	**Bosley Butte**	**2.55**	**61**	Pn	**Pn**	**05 59 25.7**	**-2.5**
KHMM	**Horse Mountain**	**2.65**	**92**		**Pn**	**05 59 29.2**	**-0.5**
KHMM				Sn	**Sn**	**06 00 01.4**	**-0.5**
KCRM	**Chalk Rock**	**2.65**	**101**		**Pn**	**05 59 29.1**	**-0.6**
KMRM	**Mail Ridge**	**2.78**	**105**		**Pn**	**05 59 32.2**	**+0.7**
KMRM				Sn	**Sb**	**06 00 08.3**	**-2.5**
KEBM	**Edson Butte**	**2.85**	**48**	Pn	**Pn**	**05 59 30.0**	**-2.4**
KEBM				Sn	Sn	05 59 52.9	-14
KCSM	**Cold Springs**	**2.85**	**98**		**Pn**	**05 59 32.1**	**-0.4**
KOMM	**Orleans Mounta**	**2.86**	**83**		**Pn**	**05 59 27.9**	**-4.7**
L02E	**Cave Junction**	**2.95**	**66**	P	**Pn**	**05 59 31.1**	**-2.6**
baz=249,SNR=43							
KTRM	**Thompson Ridge**	**3.03**	**71**		**Pn**	**05 59 33.0**	**-1.9**
KHBM	**Hayfork Bally**	**3.05**	**95**		**Pn**	**05 59 34.2**	**-1.1**
KCPM	**Cahto Peak**	**3.08**	**114**		**Pn**	**05 59 36.0**	**+0.5**
KCPM					**Sn**	**06 00 12.5**	**0.0**
K02D	**Willamette Mer**	**3.15**	**56**	P	**Pn**	**05 59 34.5**	**-2.0**
baz=238,SNR=11							
M02C	**Callahan**	**3.32**	**82**	P	**Pn**	**05 59 37.5**	**-1.3**
baz=266,SNR=42							
M02C				S	**Sn**	**06 00 16.3**	**-2.0**
baz=266							
M02C	**Callahan**	**3.32**	**82**		**Pn**	**05 59 37.7**	**-1.2**
LGPM	**Granite Peak**	**3.33**	**90**		**Pn**	**05 59 38.0**	**-0.9**
LBPM	**Beegum Peak**	**3.37**	**100**		**Pn**	**05 59 39.4**	**-0.2**
N02D	**Trinity Center**	**3.42**	**89**	P	**Pn**	**05 59 39.5**	**-0.7**
baz=274,SNR=25							
N02D				S	**Sn**	**06 00 20.2**	**-0.6**
baz=274							
N02D	**Trinity Center**	**3.42**	**89**		**Pn**	**05 59 39.8**	**-0.4**
YBH	**Yreka Blue Hor**	**3.47**	**76**	Pn	**Pn**	**05 59 40.5**	**-0.4**
5.9nm,0.3s,baz=266,slow=14,SNR=114							
YBH				Sn	**Sn**	**06 00 20.4**	**-1.8**
2.8nm,0.3s,baz=156,slow=18,SNR=2.2							
YBH				LR	LR	06 00 45.2	
comp=Z,315nm,19.6s,baz=270,slow=36							
YBH	**Yreka Blue Hor**	**3.47**	**76**		**Pn**	**05 59 40.6**	**-0.3**
O02D	**Mt. Diablo Mer**	**3.47**	**102**	P	**Pn**	**05 59 40.7**	**-0.3**
baz=288,SNR=46							
O02D				S	**Sn**	**06 00 21.9**	**-0.3**
baz=288							
LAMM	**Antelope Mount**	**3.51**	**79**		**Pn**	**05 59 41.4**	**-0.2**
HUMO	**Hull Mountain**	**3.57**	**62**		**Pn**	**05 59 40.5**	**-1.7**
WDC	**Whiskeytown Da**	**3.58**	**95**		**Pn**	**05 59 42.3**	**0.0**
WDC				Sn	**Sn**	**06 00 25.6**	**+1.0**
B040	**Montague**	**3.70**	**76**		**Pn**	**05 59 43.2**	**-0.8**
HOPS	**Hopland Field**	**3.77**	**121**	Pn	**Pn**	**05 59 44.7**	**-0.2**
HOPS				Sn	**Sn**	**06 00 31.1**	**+1.8**
LGBM	**Gray Butte**	**3.81**	**83**		**Pn**	**05 59 46.7**	**+0.9**
LHEM	**Herd Peak**	**3.82**	**79**		**Pn**	**05 59 46.3**	**+0.4**
M03C	**McCloud**	**3.86**	**84**		**Pn**	**05 59 46.8**	**+0.5**
L04D	**Klamath Falls**	**3.88**	**70**	P	**Pn**	**05 59 45.9**	**-0.7**
baz=254,SNR=78							
L04D				S	**Sn**	**06 00 33.1**	**+0.8**
baz=254							
I03D	**Drain, OR**	**3.93**	**46**	P	**Pn**	**05 59 44.3**	**-2.9**
baz=227,SNR=15							
M04C	**Macdoel**	**4.12**	**77**	P	**Pn**	**05 59 49.7**	**-0.2**
baz=262,SNR=5.3							
O03E	**Paynes Creek**	**4.18**	**98**	P	**Pn**	**05 59 50.2**	**-0.5**
baz=284,SNR=25							
O03E				S	**Sn**	**06 00 38.6**	**-1.1**
baz=284							
**MCCM

H11N2	**WAKE ISLAND Hy**	**59.29**	**270**	T	T	07 12 43.6	
	baz=53,slow=75,SNR=369						
H11N1	**WAKE ISLAND Hy**	**59.31**	**270**	T	T	07 12 44.8	
	baz=53,slow=75,SNR=563						
H11S1	**WAKE ISLAND Hy**	**60.17**	**269**	T	T	07 13 48.3	
	baz=52,slow=75,SNR=257						
H11S2	**WAKE ISLAND Hy**	**60.18**	**269**	T	T	07 13 49.8	
	baz=52,slow=75,SNR=235						
H11S3	**WAKE ISLAND Hy**	**60.19**	**269**	T	T	07 13 49.5	
	baz=52,slow=75,SNR=195						
MJAR	**Matsushiro Arr**	**70.19**	**301**	LR	LR	06 37 57.4	
	comp=Z,12nm,18.8s,baz=70,slow=34						

KNET ***03*** *06:03:08.0±0.1,42°.69N×75°.71E, h5km±1km, ml1.1, Error ellipse: s-maj=0.6km s-min=0.3km az=58.0*
SOME ***03*** *06:03:07.5, 42°.67N×75°.67E*
ISCJB ***03*** *06:03:08.3±0.5, 42°.67N±0°.03×75°.69E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=3.0km az=162.4*
NNC ***03*** *06:03:08.5±0.4, 42°.70N×75°.65E, h0km, mb2.7, mpv2.8, Error ellipse: s-maj=2.2km s-min=1.7km az=169.0, Suspected Mining explosion.*

ISC 03 06:03:08.2±0.8, 42°.69N±0°.03×75°.67E±0°.02, h0km, n14, σ0°63/25, 9C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**348**	⇑P	**Pg**	**06 03 12.8**	**-0.1**
	1.8nm,0.2s						
TKM2				⇓S	**Sg**	**06 03 16.4**	**+0.4**
	7.8nm,0.3s						
TKM2	**Tokmak 2**	**0.24**	**348**	⇑P	**Pg**	**06 03 13.0**	**+0.1**
	7.7nm,0.1s,SNR=14						
TKM2				⇓S	**Sg**	**06 03 16.7**	**+0.7**
	28nm,0.1s						
KST	**Kastek**	**0.42**	**31**	P	**Pg**	**06 03 16.1**	**-0.2**
	9.1nm,0.2s						
KST				S	**Sg**	**06 03 22.3**	**+0.6**
	8.2nm,0.3s						
KBK	**Karagaybulak**	**0.53**	**267**	⇑P	**Pg**	**06 03 18.9**	**+0.5**
	5.1nm,0.1s,SNR=9.0						
KBK				⇓S	**Sb**	**06 03 27.4**	**-1.4**
	9.4nm,0.3s						
ULHL	**Ulahol**	**0.61**	**136**	⇑P	**Pg**	**06 03 19.6**	**-0.3**
	5.2nm,0.2s,SNR=6.0						
ULHL				⇓S	**Sg**	**06 03 28.6**	**+0.8**
	5.3nm,0.2s						
KZA	**Kyzart**	**0.68**	**207**	P	**Pg**	**06 03 21.6**	**+0.4**
	4.4nm,0.2s,SNR=8.2						
IZV	**Izvestkoviy**	**0.78**	**63**	P	**Pg**	**06 03 22.9**	**-0.2**
	7.3nm,0.1s						
IZV				S	**Sg**	**06 03 34.0**	**+0.8**
	6.3nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**267**	⇑P	**Pb**	**06 03 25.7**	**-0.5**
	1.7nm,0.7s						
AAK				⇑S	**Sb**	**06 03 37.1**	**-1.4**
	2.4nm,0.8s						
KNDC	**Almaty**	**1.09**	**60**	⇑P	**Pb**	**06 03 29.7**	**-0.3**
	14nm,0.3s						
KNDC				⇓S	**Sb**	**06 03 45.1**	**+0.2**
	30nm,0.8s						
MDOK	**Medeo**	**1.12**	**64**	⇓P	**Pg**	**06 03 29.7**	**0.0**
	14nm,1.4s						
MDOK				⇑S	**Sb**	**06 03 45.7**	**-0.1**
	5.0nm,0.7s						
EKS2	**Erkin-Say**	**1.39**	**270**	⇓P	**Pb**	**06 03 35.1**	**-0.2**
	3.9nm,0.1s,SNR=13						
CHKK	**Chushkaly**	**1.52**	**39**	P	**Pn**	**06 03 36.5**	**-0.1**
	1.3nm,0.2s						
CHKK				S	**Sn**	**06 03 57.7**	**+0.6**
	4.9nm,0.2s						
MRKS	**Merke**	**1.80**	**273**	P	**Pn**	**06 03 41.1**	**+0.4**
	6.3nm,0.1s						
MRKS				S	**Sg**	**06 04 06.7**	**+0.7**
	2.4nm,0.2s						
PDGK	**Podgornoye**	**2.88**	**76**	⇑Pg	**Pb**	**06 03 59.8**	**-0.7**
	2.5nm,1.0s						
PDGK				⇓Lg	Lg	06 04 40.4	
	2.9nm,1.1s						

IDC ***03*** *06:05:50.4±2.0, 24°.47S×179°.94E, h500km±21km, mb3.3/8, mb1 3.6/10, mb1mx3.3/38, mbtmp4.2/10, Error ellipse: s-maj=23.4km s-min=16.8km az=148.0*
ISCJB ***03*** *06:05:51.7±0.4, 24°.46S±0°.05×179°.85E±0°.09, h517km, mb3.7/7, Error ellipse: s-maj=10.4km s-min=7.0km az=6.3*
NEIC ***03*** *06:05:52.5±1.9, 24°.5S±0°.1×179°.92E±0°.07, h520km±9km, mb4.2/20*

ISC 03 06:05:52.3±0.7, 24°.54S±0°.08×180°.0E±0°.1, h517km, n45, σ1°08/50, mb3.9/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**11.99**	**206**	P	**P**	**06 08 33.0**	**+2.5**
DZM	**Mont Dzumac**	**12.68**	**278**	P	**P**	**06 08 37.1**	**-1.0**
	0.7nm,0.3s,baz=139,slow=20,SNR=10						
DZM	**Mont Dzumac**	**12.68**	**278**	P	**P**	**06 08 39.2**	**+1.1**
MXZ	**Matakaoa Point**	**13.06**	**186**	P	**P**	**06 08 43.5**	**+1.8**
URZ	**Urewera**	**13.89**	**189**	P	**P**	**06 08 49.3**	**-1.2**
	1.3nm,0.3s,baz=2.7,slow=3.7,SNR=12						
URZ				S	**S**	**06 11 15.4**	**-1.9**
	0.8nm,0.3s,baz=100,slow=22,SNR=9.5						
URZ	**Urewera**	**13.89**	**189**	P	**P**	**06 08 49.3**	**-1.2**
URZ					**S**	**06 11 18.9**	**+1.6**
BKZ	**Black Stump Fm**	**14.88**	**191**	P	**P**	**06 09 00.1**	**-0.8**
BKZ					**S**	**06 11 34.8**	**-1.6**
BFZ	**Birch Farm**	**16.40**	**190**	P	**P**	**06 09 14.4**	**-2.0**
MSWZ	**Moikau Station**	**17.28**	**192**	P	**P**	**06 09 24.2**	**-0.9**
QRZ	**Quartz Range**	**17.39**	**199**	P	**P**	**06 09 25.3**	**-0.7**
PLWZ	**Palliser**	**17.43**	**192**	P	**P**	**06 09 26.2**	**-0.3**
NNZ	**Nelson**	**17.52**	**197**	P	**P**	**06 09 28.0**	**+0.8**
TUWZ	**Tuamarina**	**17.58**	**195**	P	**P**	**06 09 27.2**	**-0.5**
THZ	**Tophouse**	**18.15**	**197**	P	**P**	**06 09 32.9**	**-0.2**
THZ				IAmb	IAmb	06 09 46.1	
	comp=Z,14nm,1.2s						
RPZ	**Rata Peaks**	**20.48**	**199**	P	**P**	**06 09 53.6**	**-0.6**
	comp=Z,5.0nm,0.4s,baz=248,slow=5.5,SNR=3.1						
ARMA	**Armidale**	**25.78**	**251**	P	**P**	**06 10 43.4**	**+1.5**
ARMA				IAmb	IAmb	06 10 47.1	
	comp=Z,15nm,1.4s						
EIDS	**Eidsvold**	**26.19**	**262**	P	**P**	**06 10 45.7**	**+0.3**
EIDS				IAmb	IAmb	06 11 00.7	
	comp=Z,7.4nm,1.2s						
CTAO	**Charters Tower**	**31.46**	**271**	P	**P**	**06 11 31.5**	**+0.1**
CTAO				IAmb	IAmb	06 11 32.1	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**06 11 56.8**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=98,slow=14,SNR=6.3						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**06 11 57.1**	**+0.4**
AS31	**Alice Springs**	**41.91**	**261**	P	**P**	**06 12 56.8**	**-0.6**
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	**06 12 56.8**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=95,slow=7.0,SNR=24						
ASAR				ScP	**ScP**	**06 17 42.8**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=116,slow=4.2,SNR=3.0						
WB2	**Warramunga Arr**	**42.33**	**267**	P	**P**	**06 12 59.7**	**-1.1**
WB2				IAmb	IAmb	06 12 60.0	
	comp=Z,3.7nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**06 12 59.6**	**-1.3**
	comp=Z,3.9nm,0.6s,baz=104,slow=8.1,SNR=41						
WRA				ScP	**ScP**	**06 17 46.6**	**+2.6**
	comp=Z,2.0nm,0.9s,baz=101,slow=3.9,SNR=8.9						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**06 12 59.8**	**-1.1**
FORT	**Forrest**	**46.07**	**250**	P	**P**	**06 13 28.6**	**-1.0**
KNRA	**Kununurra**	**48.66**	**270**	P	**P**	**06 13 49.0**	**-0.3**
KNRA				IAmb	IAmb	06 13 57.8	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.76**	**266**	P	**P**	**06 14 04.4**	**-0.2**
FITZ				IAmb	IAmb	06 14 05.1	
	comp=Z,3.9nm,0.8s						
QSPA	**South Pole Qui**	**65.54**	**180**	P	**P**	**06 15 45.3**	**+1.1**
QSPA				IAmb	IAmb	06 15 50.2	
	comp=Z,3.4nm,1.2s						
MAW	**Mawson**	**77.14**	**200**	P	**P**	**06 16 52.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**79.72**	**347**	P	**P**	**06 17 05.6**	**-0.2**
PEA0B				IAmb	IAmb	06 17 10.5	
	comp=Z,27nm,1.3s						
PETK	**Petropavlovsk-**	**79.72**	**347**	P	**P**	**06 17 05.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=114,slow=5.4,SNR=3.5						
PETK	**Petropavlovsk-**	**79.72**	**347**	P	**P**	**06 17 05.6**	**-0.2**
NVAR	**Mina Array Bea**	**85.23**	**44**	P	**P**	**06 17 34.3**	**0.0**
	comp=Z,0.9nm,0.8s,baz=225,slow=8.9,SNR=6.8						
NVAR	**Mina Array Bea**	**85.23**	**44**	P	**P**	**06 17 34.5**	**+0.1**
NV11	**Mina Array Sit**	**85.32**	**44**	P	**P**	**06 17 34.8**	**+0.1**
NV11				IAmb	IAmb	06 17 47.1	
	comp=Z,2.8nm,1.4s						
KVN	**Kaiserville**	**85.72**	**44**	P	**P**	**06 17 37.0**	**+0.3**
TMUT	**Trail Mountain**	**90.30**	**46**	P	**P**	**06 17 59.3**	**+1.1**
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**06 18 01.1**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=214,slow=6.2,SNR=19						
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**06 18 01.3**	**+0.8**
PDAR	**Pinedale Array**	**93.17**	**44**	P	**P**	**06 18 10.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=232,slow=4.4,SNR=4.4						
PDAR	**Pinedale Array**	**93.17**	**44**	P	**P**	**06 18 10.9**	**-0.4**
ARCES	**ARCESS Array B**	**132.51**	**348**	PKP	**PKPdf**	**06 24 05.7**	**-1.3**
	comp=Z,4.2nm,1.1s,baz=70,slow=3.0,SNR=3.7						
FINES	**FINESS Array B**	**139.04**	**341**	SKPbc	**SKPbc**	**06 27 05.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=72,slow=4.5,SNR=3.4						
AKASG	**Malin Array Be**	**145.49**	**327**	PKPbc	**PKPdf**	**06 24 29.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=44,slow=4.3,SNR=2.7						

ASRS ***03*** *06:14:39.7±0.2, 52°N±3°×9°9E±°, h5km, MLh5.5/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
IDC ***03*** *06:14:45.5±0.5, 51°.77N×99°.28E, h0km, mb4.2/21, mb1 4.2/27, mb1mx4.1/69, mbtmp4.1/27, ML3.5/6, MS3.6/18, Ms1 3.6/18, ms1mx3.4/49, Error ellipse: s-maj=16.2km s-min=6.8km az=5.0*
MOS ***03*** *06:14:45.5±1.8, 51°.88N×99°.06E, h12km, mb4.6/19, MS3.8/6, Error ellipse: s-maj=6.4km s-min=5.5km az=19.4*
MOS Felt (III) at Orlik.
BJI ***03*** *06:14:45.9±0.0, 51°.89N×98°.96E, h10km, mb4.5/38, mB4.7/33, Ms4.6/24, Ms7 4.3/21*
NEIC ***03*** *06:14:46.7±2.8, 51°.88N±0°.09×99°.03E±0°.08, h10km±2km, mb4.5/47*

ISC 03 06:14:45.6±1.1, 52°.03N±0°.03×99°.21E±0°.02, h2km±7km, n242, σ2°35/281, mb4.4/58, MS3.7/17, 10C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.63**	**36**	⇓iPG	**Pg**	**06 14 59.0**	**+1.4**
ORL				*e*		06 15 09.2	
ORL				pmax	pmax		
	comp=Z,1μm,0.2s						
ORL				smax	smax		
	comp=N,4μm,1.3s						
MOY	**Mondy**	**1.17**	**108**	⇑iPG	**Pg**	**06 15 08.8**	**+0.9**
MOY				*e*		06 15 26.5	
MOY				pmax	pmax		
	comp=Z,962nm,0.2s						
MOY				smax	smax		
	comp=N,3μm,0.5s						
MOY	**Mondy**	**1.17**	**108**	Pg	**Pg**	**06 15 08.9**	**+0.9**
MOY				Sg	**Sn**	**06 15 26.6**	**+1.1**
TDJR	**Todzha**	**1.95**	**282**	*e*PN	**Pn**	**06 15 16.9**	**-2.8**
TDJR				*e*		06 15 40.7	
TDJR	**Todzha**	**1.95**	**282**	Pg	**Pn**	**06 15 17.3**	**-2.4**
TDJR				Sg	**Sn**	**06 15 40.5**	**-4.2**
ARS	**Arshan**	**1.99**	**92**	*e*PN	**Pb**	**06 15 22.7**	**+0.2**
ARS				*e*		06 15 52.3	
ARS				pmax	pmax		
	comp=Z,3μm,0.3s						
ARS				smax	smax		
	comp=N,31μm,0.8s						
TLY	**Talaya**	**2.77**	**96**	*e*PN	**Pb**	**06 15 33.6**	**-2.2**
TLY				*e*		06 15 37.2	
TLY				*e*		06 16 16.1	
TLY				pmax	pmax		
	comp=Z,996nm,0.3s						
TLY				smax	smax		
	comp=N,5.0nm,0.6s						
TLY	**Talaya**	**2.77**	**96**	Pg	**Pb**	**06 15 33.7**	**-2.2**
	comp=N,0.7nm,0.3s,baz=279,slow=12,SNR=137						
TLY				Lg	Lg	06 16 14.2	
	comp=N,3.2nm,0.3s,baz=15,slow=10,SNR=4.6						
TLY	**Talaya**	**2.77**	**96**	Pg	**Pb**	**06 15 37.0**	**+1.2**
TLY				Sg	**Sg**	**06 16 14.9**	**+0.3**
TLY	**Talaya**	**2.77**	**96**		**Pn**	**06 15 33.0**	**+2.0**
TLY				Sn	**Sb**	**06 16 10.2**	**0.0**
KZLR	**Kyzyl**	**2.96**	**266**	PN	**Pn**	**06 15 34.4**	**+0.8**
KZLR						06 16 09.2	
KZLR	**Kyzyl**	**2.96**	**266**	Pg	**Pn**	**06 15 34.5**	**+0.8**
KZLR				Sg	**Sn**	**06 16 09.2**	**-0.5**
ZAK	**Zakamensk**	**3.05**	**121**	*e*PN	**Pb**	**06 15 40.2**	**-0.4**
ZAK				*e*		06 16 23.9	
ZAK				pmax	pmax		
	comp=Z,2μm,0.8s						
ZAK				smax	smax		
	comp=N,4μm,0.9s						
ZAK	**Zakamensk**	**3.05**	**121**	Pg	**Pb**	**06 15 41.0**	**+0.4**
ZAK				Sg	**Sg**	**06 16 24.9**	**+1.5**
IRK	**Irkutsk**	**3.13**	**84**	*e*PN	**Pb**	**06 15 42.0**	**+0.1**
IRK				*e*		06 16 24.0	
IRK				pmax	pmax		
	comp=Z,1μm,0.7s						
IRK				smax	smax		
	comp=N,13μm,1.4s						
MINR	**Mina**	**4.15**	**316**	Pg	**Pb**	**06 15 57.2**	**-2.0**
MINR				Sg	**Sb**	**06 16 51.0**	**+1.3**
TRG	**Tyrgan**	**4.43**	**78**	*e*PN	**Pn**	**06 15 56.4**	**+2.6**
TRG				*e*		06 16 07.9	
TRG				*e*S	**Sn**	**06 16 47.7**	**+1.7**
TRG				*e*		06 17 06.1	
TRG				pmax	pmax		
	comp=Z,765nm,0.6s						
TRG				smax	smax		
	comp=N,4μm,1.1s						
CERR	**Cheremushki**	**4.84**	**283**	P	**Pn**	**06 15 56.6**	**-2.7**
CERR				Pg	**Pb**	**06 16 08.8**	**-2.2**
CERR				Sg	**Sb**	**06 17 07.4**	**-2.2**
OGRR	**Ongureny**	**5.33**	**69**	*e*PN	**Pn**	**06 16 09.1**	**+2.9**
OGRR				*e*		06 16 24.8	
OGRR				*e*		06 17 34.0	
OGRR				pmax	pmax		
	comp=Z,258nm,1.0s						
OGRR				smax	smax		
	comp=N,4μm,2.1s						
GZL	**Zheleznogorsk**	**5.39**	**324**	Pg	**Pb**	**06 16 19.4**	**-1.0**
GZL				Sg	**Sb**	**06 17 29.6**	**+4.2**
GZLN	**Zheleznogorsk**	**5.40**	**326**	Pg	**Pb**	**06 16 21.4**	**+0.9**
GZLN				Sg	**Sb**	**06 17 30.0**	**+4.3**
SONM	**Songino Array**	**6.26**	**129**	Pn	**Pn**	**06 16 18.3**	**-0.7**
	comp=N,0.3nm,0.3s,baz=313,slow=16,SNR=13						
SONM				Pg	**Pb**	**06 16 37.3**	**+2.1**
	comp=N,10.0nm,0.3s,baz=310,slow=18,SNR=63						
SONM				Lg	Lg	06 18 03.7	
	comp=N,31nm,0.3s,baz=310,slow=29,SNR=10						
SONM				LR	LR	06 19 01.6	
	comp=N,803nm,20.4s,baz=318,slow=42						
SONM	**Songino Array**	**6.26**	**129**		**Pb**	**06 16 38.3**	**+3.1**
LUZB	**Luzhba, Kemero**	**6.46**	**289**	P	**Pn**	**06 16 22.3**	**+0.8**
LUZB				Pg	**Pb**	**06 16 36.4**	**-2.1**
LUZB				Sg	**Sb**	**06 17 56.2**	**+0.2**
ULN	**Ulaanbaatar**	**6.56**	**126**	⇑*e*PN	**Pn**	**06 16 23.1**	**0.0**
ULN	**Ulaanbaatar**	**6.56**	**126**	Pg	**Pb**	**06 16 43.6**	**+3.2**
ULN				Sg	**Sg**	**06 18 14.8**	**-1.2**
ULN	**Ulaanbaatar**	**6.56**	**126**	Pn	**Pb**	**06 16 43.8**	**+3.4**
ULN					**Pb**	**06 16 43.9**	**+3.5**
ULN					LR	06 18 10.4	
SYVR	**Suvo**	**6.74**	**72**	*e*PN	**Pn**	**06 16 27.1**	**+1.7**
SYVR				*e*S	**Sg**	**06 18 15.8**	**-6.0**
SYVR				smax	smax		
	comp=N,2μm,2.1s						
TASR	**Tashtagol**	**6.97**	**280**	P	**Pn**	**06 16 28.1**	**-0.6**
TASR				Pg	**Pb**	**06 16 44.3**	**-3.0**
TASR				Sg	**Sb**	**06 18 10.0**	**-1.0**
CUR	**Chagan-Uzun**	**7.11**	**258**	P	**Pn**	**06 16 28.0**	**-2.7**
CUR				Pg	**Pb**	**06 16 51.0**	**+1.3**
CUR				Sg	**Sb**	**06 18 20.3**	**+5.2**
SLNR	**Muhor-Tarhata,**	**7.16**	**256**	Pg	**Pb**	**06 16 53.0**	**+2.4**
SLNR				Sg	Sb	06 18 23.4	+7.0
NIZ	**Nizh Angarsk**	**7.16**	**54**	*e*PN	**Pn**	**06 16 33.0**	**+1.8**
NIZ				*e*		06 16 57.1	
NIZ				*e*S	**Sn**	**06 17 54.0**	**+0.9**
NIZ				*e*		06 18 31.5	
NIZ				pmax	pmax		
	comp=Z,140nm,0.9s						
NIZ				smax	smax		
	comp=N,2μm,1.1s						
ULGR	**Ulagan, Altay**	**7.19**	**263**	P	**Pn**	**06 16 31.5**	**-0.2**
ULGR				Pg	**Pb**	**06 16 51.5**	**+0.4**
ULGR				Sg	**Sb**	**06 18 21.6**	**+4.4**
ARTR	**Artybash**	**7.38**	**273**	P	**Pn**	**06 16 31.5**	**-2.7**
ARTR				Pg	Pb	06 16 59.1	+4.8
ARTR				Sg	**Sb**	**06 18 27.4**	**+4.7**
BRCR	**Berchikul'**	**7.38**	**304**	P	**Pn**	**06 16 34.4**	**+0.1**
BRCR				Pg	**Pb**	**06 16 54.0**	**-0.3**
BRCR				Sg	**Sb**	**06 18 28.8**	**+6.0**
AKAR	**Aktash**	**7.48**	**261**	P	**Pn**	**06 16 32.9**	**-2.9**
AKAR				Pg	**Pb**	**06 16 57.1**	**+1.0**
AKAR				Sg	**Sb**	**06 18 31.3**	**+5.5**
CHBI	**Chibit, Altay**	**7.56**	**261**	P	**Pn**	**06 16 34.4**	**-2.4**
CHBI				Pg	**Pb**	**06 16 58.9**	**+1.5**
CHBI				Sg	**Sb**	**06 18 33.5**	**+5.7**
YLYR	**Ulyunkhan**	**7.69**	**64**	P	**Pn**	**06 16 40.3**	**+1.9**
YLYR				Pg	**Pg**	**06 17 09.7**	**-3.0**
YLYR				S	**Sn**	**06 18 13.1**	**+7.1**
YLYR				Sg	**Sg**	**06 18 52.3**	**+0.2**
DGZ	**Jazzator, Alta**	**7.81**	**257**	⇓iPN	**Pn**	**06 16 36.0**	**-4.2**
DGZ	**Jazzator, Alta**	**7.81**	**257**	P	**Pn**	**06 16 38.0**	**-2.2**
DGZ				Pg	**Pb**	**06 17 04.1**	**+2.4**
DGZ				Sg	**Sb**	**06 18 40.5**	**+5.4**
ELT	**Eltsovka**	**7.99**	**284**	P	**Pn**	**06 16 45.5**	**+3.0**
ELT				Pg	**Pb**	**06 17 05.2**	**+0.6**
ELT				Sg	**Sb**	**06 18 44.7**	**+4.7**
GALT	**Gorno-Altaysk,**	**8.19**	**275**	P	**Pn**	**06 16 41.8**	**-3.5**
GALT				Pg	**Pb**	**06 17 08.1**	**+0.1**
GALT				Sg	Sb	06 18 50.1	+4.3
ELDR	**Elanda**	**8.21**	**269**	P	**Pn**	**06 16 43.5**	**-2.0**
ELDR				Pg	Pb	06 17 11.9	+3.6
ELDR				Sg	Sb	06 18 55.7	+9.3
TUNR	**Tungur**	**8.32**	**262**	P	**Pn**	**06 16 49.0**	**+1.9**
TUNR				Pg	Pb	06 17 15.5	+5.2
TUNR				Sg	Sg	06 19 01.8	-11
SALR	**Pechorkino, Sa**	**8.45**	**292**	Pg	**Pb**	**06 17 11.9**	**-0.5**
SALR				Sg	Sb	06 18 59.3	+6.0
KEM	**Kemerovo**	**8.46**	**298**	Pg	**Pb**	**06 17 16.4**	**+3.7**
KEM				Sg	Sb	06 19 03.5	+10
ASR1	**Anjero-Sudjens**	**8.76**	**303**	Sg	Sg	06 19 10.7	-16
ZAA0	**Zalesovo Array**	**8.89**	**288**	Pn	**Pn**	**06 16 54.2**	**-0.7**
ZALV	**Zalesovo Beam**	**8.89**	**288**	Pn	**Pn**	**06 16 55.2**	**+0.3**
	comp=N,0.8nm,0.3s,baz=95,slow=12,SNR=16						
ZALV				Lg	Lg	06 19 12.8	
	comp=N,13nm,0.3s,baz=101,slow=25,SNR=12						
ZALV				LR	LR	06 20 29.5	
	comp=N,147nm,21.6s,baz=94,slow=38						
ZALV	**Zalesovo Beam**	**8.89**	**288**		**Pn**	**06 16 54.8**	**-0.1**
UKR	**Ust'-Kan**	**9.08**	**269**	P	**Pn**	**06 16 58.9**	**+1.3**
UKR				Pg		06 17 27.1	
UKR				Sg	Sn	06 19 21.5	+41
WMQ	**Urumqi**	**11.26**	**228**	*e*P	**Pn**	**06 17 28.1**	**+0.6**
WMQ				pP		06 17 31.8	
WMQ				sP		06 17 34.5	
WMQ				PP	**PnPn**	**06 17 36.9**	**+1.9**
WMQ				S	**Sn**	**06 19 33.3**	**-0.6**
WMQ				pmax	pmax		
	comp=N,31nm,0.9s						
WMQ				pmax	pmax		
	comp=N,66nm,4.5s						
MK31	**Makanchi Array**	**12.19**	**251**	P	**Pn**	**06 17 40.7**	**+0.6**
MK31	**Makanchi Array**	**12.19**	**251**		**Pn**	**06 17 40.7**	**+0.6**
MKAR	**Makanchi Array**	**12.19**	**251**	Pn	**Pn**	**06 17 39.3**	**-0.8**
	comp=N,0.6nm,0.3s,baz=79,slow=12,SNR=22						
MKAR				Lg	Lg	06 21 07.8	
	comp=N,1.5nm,0.3s,baz=74,slow=29,SNR=5.0						
MKAR				LR	LR	06 22 23.5	
	comp=N,228nm,20.6s,baz=50,slow=38						
MKAR	**Makanchi Array**	**12.19**	**251**		**Pn**	**06 17 38.2**	**-2.0**
MAKZ	**Makanchi**	**12.37**	**252**	P	**Pn**	**06 17 40.5**	**-2.0**
MAKZ	**Makanchi**	**12.37**	**252**	Pn	**Pn**	**06 17 40.5**	**-2.0**
GTA	**Gaotai**	**12.63**	**178**	P	**Pn**	**06 17 47.1**	**+0.9**
GTA				pP		06 17 51.9	
GTA				sP		06 17 55.3	
GTA				S	**Sn**	**06 20 11.4**	**+3.9**
GTA				sS		06 20 17.2	
GTA				pmax	pmax		
	comp=N,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=N,42nm,4.5s						
GTA				LR	LR		
	comp=N,910nm,9.6s						
GTA				LR	LR		
	comp=N,2μm,8.7s						
GTA				LR	LR		
	comp=N,1μm,12.0s						
KURK	**Kurchatov**	**12.93**	**272**	P	**Pn**	**06 17 52.0**	**+1.9**
KURK	**Kurchatov**	**12.93**	**272**		**Pn**	**06 17 47.6**	**-2.5**
KURBB	**Kurchatov Arra**	**13.01**	**272**	Pn	**Pn**	**06 17 52.0**	**+0.8**
	comp=N,0.3nm,0.3s,baz=76,slow=14,SNR=10						
KURBB				Lg	Lg	06 21 22.8	
	comp=N,0.3nm,0.3s,baz=74,slow=32,SNR=6.7						
HIA	**Hailar**	**13.31**	**94**	⇑*e*P	**Pn**	**06 17 59.0**	**+3.5**
HIA	**Hailar**	**13.31**	**94**	Pn	**Pn**	**06 17 58.0**	**+2.6**
HHC	**Hu-ho-hao-te**	**14.04**	**138**	P	**P**	**06 18 09.4**	**-4.1**
LZH	**Lanzhou**	**16.28**	**166**	*e*P	**P**	**06 18 38.8**	**+0.3**
LZH				pP	sP	06 18 43.3	+2.9
LZH				sP	pP	06 18 46.6	+6.8
LZH				pmax	pmax		
	comp=N,36nm,1.0s						
LZH				pmax	pmax		
	comp=N,120nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,10.0s						
LZH				LR	LR		
	comp=N,1μm,10.8s						
LZH				LR	LR		
	comp=N,1μm,11.3s						
BJT	**Baijiatuau**	**16.77**	**129**	P	**P**	**06 18 44.0**	**+0.2**
BJT				pmax	pmax		
	comp=Z,20nm,1.0s						
BJT	**Baijiatuau**	**16.77**	**129**		**P**	**06 18 44.0**	**+0.2**
ZEA	**Zeya**	**16.97**	**73**	*e*P	**P**	**06 18 45.4**	**-0.4**

XAN S Sn 06 22 20.1 -29
XAN pmax pmax
comp=Z,16nm,0.9s
XAN pmax pmax
comp=Z,420nm,4.5s
XAN LR LR
comp=N,650nm,3.9s
XAN LR LR
comp=E,930nm,11.3s
XAN LR LR
comp=Z,760nm,13.5s
XAN Xi'an 19.30 155 P P 06 19 10.8 -0.9
XAN pP sP 06 19 19.3 +5.7
XAN pmax pmax
comp=Z,16nm,0.9s
XAN pmax pmax
comp=Z,400nm,5.4s
XAN LR LR
comp=Z,760nm,13.5s
XAN Xi'an 19.30 155 P Pn 06 19 11.0 -1.7
XAN pmax pmax
comp=Z,24nm,1.2s
XAN Xi'an 19.30 155 P Pn 06 19 10.9 -1.7
XAN IAmb IAmb 06 19 14.0
comp=Z,24nm,1.2s
CN2 Changchun 19.34 105 *e*P **Pn 06 19 12.8 -0.2**
CN2 *e*S **Sn 06 22 44.7 -5.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,900nm,10.0s
KSH Kashi 20.37 241 P Pn 06 19 29.9 +4.5
KSH PP PnPn 06 19 52.0 +12
KSH S Sn 06 23 14.3 -0.9
KSH sS pS 06 23 20.3 -1.0
KSH SS SnSn 06 23 45.6 +16
KSH pmax pmax
comp=Z,110nm,7.6s
KSH LR LR
comp=Z,270nm,11.5s
KSH LR LR
comp=Z,100nm,10.8s
KLR Kul'dur 20.74 85⇓ *e*P Pn 06 19 28.5 -1.0
KLR pmax pmax
comp=Z,3.0nm,0.8s
KLR Kul'dur 20.74 85 P Pn 06 19 28.1 -1.4
comp=Z,3.6nm,0.9s,baz=280,slow=6.4,SNR=8.4
KLR Lg Lg 06 25 38.7
comp=Z,6.2nm,1.1s,baz=184,slow=6.9,SNR=4.9
ARSB Arslanbob 20.82 249 P Pn 06 19 27.9 -2.9
ARSB IAmb IAmb 06 19 37.4
comp=Z,28nm,1.1s
KK31 Karatay Array 21.20 256 P **P 06 19 28.9 -3.4**
KK31 pmax pmax
comp=Z,15nm,1.1s
KK31 Karatay Array 21.20 256 P **P 06 19 28.9 -3.4**
KKAR Karatay Array 21.20 256 P **P 06 19 29.1 -3.2**
KKAR Karatay Array 21.20 256 P **P 06 19 29.1 -3.2**
KKAR Karatay Array 21.20 256 P **P 06 19 28.9 -3.4**
KKAR IAmb IAmb 06 19 41.0
comp=Z,15nm,1.1s
SVE Sverdlovsk 22.72 297⇑ *e*P **P 06 19 51.1 +2.7**
SVE pmax pmax
comp=Z,40nm,1.4s
BTK Batken 22.90 250 P **P 06 19 47.7 -2.8**
BTK pmax pmax
comp=Z,20nm,1.3s
BTK Batken 22.90 250 P **P 06 19 47.7 -2.8**
BTK IAmb IAmb 06 19 57.0
comp=Z,20nm,1.3s
TAS Tashkent 22.99 254 P **P 06 19 52.2 +0.8**
TAS pmax pmax
comp=Z,44nm,0.6s
TAS Tashkent 22.99 254 P **P 06 19 52.2 +0.8**
ENH Enshi 23.03 157 P **P 06 19 50.7 -1.2**
ENH IAmb IAmb 06 20 06.6
comp=Z,23nm,1.3s
USA0B Ussuriysk Arra 23.09 97 *de*P **P 06 19 53.5 +1.2**
USA0B Ussuriysk Arra 23.09 97 P **P 06 19 52.7 +0.3**
USRK Ussuriysk Ar. 23.09 97 P **P 06 19 51.6 -0.8**
comp=Z,4.3nm,0.8s,baz=330,slow=5.0,SNR=9.6
USRK Lg Lg 06 26 57.5
comp=Z,0.8nm,0.5s,baz=316,slow=28,SNR=3.5
USRK Ussuriysk Ar. 23.09 97 P **P 06 19 51.0 -1.3**
LSA Lhasa 23.10 198 P **P 06 19 49.7 -3.3**
LSA pmax pmax
comp=Z,12nm,1.2s
LSA Lhasa 23.10 198 P **P 06 19 49.7 -3.3**
LSA IAmb IAmb 06 20 01.1
comp=Z,12nm,1.2s
VLA Vladivostok 23.61 99⇑ *e*P **P 06 19 57.3 -0.3**
VLA pmax pmax
comp=Z,11nm,1.2s
GAR Garm 23.89 248 P **P 06 19 58.4 -2.1**
ARU Arti 23.90 297 *c i*P **P 06 19 58.4 -1.9**
ARU S **S 06 24 15.0 -2.1**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU MLR MLR
comp=Z,252nm,13.0s
ARU Arti 23.90 297 P **P 06 20 02.1 +1.7**
comp=Z,1.5nm,0.5s,baz=91,slow=6.2,SNR=7.4
ARU LR LR 06 31 37.5
comp=Z,70nm,18.2s,baz=134,slow=42
ARU Arti 23.90 297 P **P 06 20 01.0 +0.7**
NJ2 Nanjing 24.58 137 *e*P **P 06 20 08.4 +1.6**
NJ2 pmax pmax
comp=Z,15nm,0.5s
CHGR Chuyangaron 24.79 249 P **P 06 20 09.1 +0.4**
CHGR IAmb IAmb 06 20 25.8
comp=Z,15nm,0.8s
KS19 Wonju Array Si 24.79 115 P **P 06 20 09.3 +0.6**
KSAR Wonju Array Be 24.84 115 P **P 06 20 09.0 -0.1**
KSAR Wonju Array Be 24.84 115 P **P 06 20 09.0 -0.1**
ABKAR Akbulak array 24.85 279 P **P 06 20 06.5 -2.5**
ABKAR Akbulak array 24.85 279 P **P 06 20 06.4 -2.7**
ABKAR IAmb IAmb 06 20 15.2
comp=Z,9.2nm,0.9s
KSRS Korea Array 24.86 115 P **P 06 20 09.3 +0.1**
comp=Z,19nm,0.9s,baz=317,slow=8.6,SNR=48
KSRS LR LR 06 29 07.6
comp=Z,54nm,18.8s,baz=316,slow=35
AKTO Aktyubinsk 25.60 283 P **P 06 20 17.0 +1.1**
AKTO Aktyubinsk 25.60 283 P **P 06 20 17.0 +1.1**
comp=Z,20nm,0.6s,baz=256,slow=4.2,SNR=33
AKTO LR LR 06 30 21.0
comp=Z,71nm,19.7s,baz=67,slow=36
GUN Gumba 26.08 208 *e*P **P 06 20 19.4 -1.4**
comp=Z,92nm,1.0s
TAPN Taplejung 26.12 204 *e*P **P 06 20 19.4 -1.7**
NIL Nilore 26.23 236 P **P 06 20 20.7 -1.0**
NIL pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 26.23 236 P **P 06 20 20.7 -1.0**
NIL IAmb IAmb 06 20 29.9
comp=Z,14nm,0.9s
JIRN Jiri 26.23 207 *e*P **P 06 20 20.6 -1.6**
DANN Dangsing 26.32 212 *e*P **P 06 20 20.9 -2.0**
comp=Z,108nm,0.9s
KKN Kakani 26.37 209 *e*P **P 06 20 22.0 -1.3**
PKIN Phulchoki 26.54 208 *e*P **P 06 20 23.0 -1.8**
PKI Pulchoki 26.54 208 *e*P **P 06 20 23.6 -1.3**
comp=Z,56nm,1.0s
DMN Daman 26.59 209 *e*P **P 06 20 23.9 -1.4**
comp=Z,41nm,1.0s
ODAN Odare 26.67 204 *e*P **P 06 20 24.3 -1.7**
RAMN Ramite 26.79 206 *e*P **P 06 20 24.9 -2.2**
KOLN Koldanda 26.91 212 *e*P **P 06 20 26.3 -1.9**
comp=Z,52nm,0.9s
KMI Kunming 27.00 173 P **P 06 20 30.4 +1.4**
KMI pP sP 06 20 33.8 +2.8
KMI sP pP 06 20 34.9 +4.5
KMI pmax pmax
comp=Z,18nm,0.7s
KMI pmax pmax
comp=Z,120nm,3.1s
KMI LR LR
comp=Z,470nm,14.2s
KMI LR LR
comp=Z,230nm,12.7s
KMI LR LR
comp=Z,380nm,14.9s
SHL Shillong 27.01 195 P **P 06 20 27.1 -1.9**
SHL Shillong 27.01 195 P **P 06 20 27.1 -1.9**
KBL Kabul 27.78 243 P **P 06 20 37.0 +1.1**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 27.78 243 P **P 06 20 37.0 +1.1**
KBL IAmb IAmb 06 20 48.7
comp=Z,4.8nm,0.6s
PRGR Permogore 30.00 310 *e*P **P 06 20 53.1 -2.0**
PRGR pmax pmax
comp=Z,19nm,0.8s
MJAR Matsushiro Arr 31.48 104 P **P 06 21 08.2 -0.3**
MJAR pmax pmax
comp=Z,1.0nm,1.1s
MJAR Matsushiro Arr 31.48 104 P **P 06 21 06.6 -1.9**
comp=Z,1.8nm,1.0s,baz=295,slow=12,SNR=4.1
MJAR Matsushiro Arr 31.48 104 P **P 06 21 08.2 -0.3**
GEYT Alibeck 31.84 260 P **P 06 21 10.7 -1.0**
comp=Z,6.0nm,0.7s,baz=9.2,slow=4.7,SNR=6.2
GEYT LR LR 06 34 53.4
comp=Z,119nm,18.8s,baz=0.0,slow=38
GEYT Alibeck 31.84 260 P **P 06 21 10.6 -1.0**
KLMR Klimovskoe 33.04 309 *e*P **P 06 21 22.3 +0.5**
KLMR pmax pmax
comp=Z,32nm,0.8s
KLMR Klimovskoe 33.04 309 *e*P **P 06 21 22.3 +0.5**
KLMR AMP 06 21 25.1
comp=Z,32nm,0.8s
CMAR Chiang Mai Arr 33.50 180 P **P 06 21 25.1 -1.2**
CMAR Chiang Mai Arr 33.50 180 P **P 06 21 24.6 -1.7**
comp=Z,1.3nm,0.3s,baz=0.0,slow=8.4,SNR=4.9
CMAR LR LR 06 35 47.3
comp=Z,136nm,19.9s,baz=2.5,slow=38
CMAR Chiang Mai Arr 33.50 180 P **P 06 21 25.1 -1.2**
PETK Petropavlovsk- 34.71 65 P **P 06 21 37.1 +0.6**
comp=Z,3.6nm,1.0s,baz=260,slow=6.9,SNR=4.8
PETK LR LR 06 35 42.5
comp=Z,38nm,19.6s,baz=39,slow=36
BILL Bilibino 35.00 37 *i* P **P 06 21 39.3 +0.5**
BILL *i* 06 23 04.6
BILL *i* 06 24 12.0
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,165nm,15.0s
OBN Obninsk 36.22 300⇑ *e*P **P 06 21 47.6 -1.8**
OBN *e* 06 23 08.7
OBN *e*S **S 06 27 36.2 +6.2**
OBN *e*SS **SnSn 06 29 57.6 +2.3**
OBN pmax pmax
comp=Z,10.0nm,1.3s
OBN MLR MLR
comp=Z,112nm,15.0s
OBN Obninsk 36.22 300 LR LR 06 38 57.2
comp=Z,38nm,19.2s,baz=181,slow=40
ARCES ARCESS Array B 37.15 326 P **P 06 21 58.1 +0.9**
ARCES ARCESS Array B 37.15 326 P **P 06 21 59.3 +2.1**
comp=Z,1.3nm,0.8s,baz=73,slow=10.0,SNR=6.2
ARCES PcP **PcP 06 24 18.7 +1.6**
comp=Z,1.9nm,0.9s,baz=88,slow=3.8,SNR=5.6
ARCES LR LR 06 39 02.4
comp=Z,164nm,18.0s,baz=150,slow=39
ARCES ARCESS Array B 37.15 326 P **P 06 21 58.1 +0.9**
KBZ Khabaz 37.81 280 P **P 06 22 05.0 +2.0**
comp=Z,1.8nm,0.8s,baz=358,slow=4.6,SNR=4.5
KIV Kislovodsk 37.81 281 *e*P **P 06 22 00.9 -2.3**
KIV 06 32 20.9
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,121nm,16.0s
KIV Kislovodsk 37.81 281 P **P 06 22 04.9 +1.6**
KIV IAmb IAmb 06 22 07.8
comp=Z,9.7nm,1.0s
GNI Garni 38.72 274 P **P 06 22 12.4 +1.4**
GNI pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 38.72 274 P **P 06 22 12.4 +1.4**
GNI IAmb IAmb 06 22 29.0
comp=Z,6.3nm,0.8s
AKH Akhalkalaki 38.75 277 P **P 06 22 12.8 +1.6**
AKH pmax pmax
comp=Z,8.0nm,1.0s
AKH Akhalkalaki 38.75 277 P **P 06 22 12.8 +1.6**
AKH IAmb IAmb 06 22 16.1
comp=Z,8.2nm,1.0s
FIA1 FINESS Array S 39.12 313 P **P 06 22 16.3 +2.4**
FIA1 IAmb IAmb 06 22 17.3
comp=Z,14nm,0.8s
FINES FINESS Array B 39.13 313 P **P 06 22 16.1 +2.1**
comp=Z,9.4nm,0.6s,baz=72,slow=8.9,SNR=53
FINES LR LR 06 39 55.0
comp=Z,156nm,19.2s,baz=70,slow=38
FINES FINESS Array B 39.13 313 P **P 06 22 16.3 +2.4**
VSU Vasula 39.94 309⇑ *e*P **P 06 22 17.8 -2.9**
VSU pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 42.15 297 P **P 06 22 40.2 +1.2**
comp=Z,1.5nm,0.5s,baz=54,slow=8.9,SNR=2.8
AKASG Malin Array Be 42.15 297 P **P 06 22 40.7 +1.6**
AKBB Malin Array Si 42.15 297 P **P 06 22 39.9 +0.8**
AKBB pmax pmax
comp=Z,6.0nm,1.1s
AKBB Malin Array Si 42.15 297 P **P 06 22 39.9 +0.8**
SUW Suwalki 43.71 304 P **P 06 22 52.8 +1.2**
SUW pmax pmax
comp=Z,15nm,0.7s
SUW Suwalki 43.71 304 P **P 06 22 52.8 +1.2**
NC405 NORSAR Array S 45.53 317 P **P 06 23 08.8 +2.7**
BR131 Keskin Array S 45.76 281 P **P 06 23 09.0 +0.6**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 45.76 281 P **P 06 23 09.0 +0.6**
BR131 IAmb IAmb 06 23 16.6
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 45.76 281 P **P 06 23 08.6 +0.3**
comp=Z,2.8nm,0.7s,baz=90,slow=8.5,SNR=9.4
BRTR LR LR 06 44 47.9
comp=Z,45nm,18.3s,baz=358,slow=39
NB2 NORSAR Subarra 45.78 317 P **P 06 23 10.2 +2.1**
comp=Z,9.8nm,0.7s,baz=59,slow=7.9
NOA NORSAR Array B 45.78 317 P **P 06 23 10.2 +2.1**
comp=Z,7.9nm,0.6s,baz=59,slow=7.8,SNR=26
NOA LR LR 06 43 50.8
comp=Z,172nm,19.8s,baz=60,slow=38
NC204 NORSAR Array S 45.84 318 P **P 06 23 11.1 +2.5**
NBO00 NORSAR Array S 45.96 317 P **P 06 23 11.2 +1.7**
NAO01 NORSAR Array S 46.02 317 P **P 06 23 10.9 +1.0**
BUR08 Bucovina Ar. S 46.02 295 P **P 06 23 11.8 +1.5**
BUR08 IAmb IAmb 06 23 26.5
comp=Z,9.4nm,1.4s
BURAR Bucovina Array 46.03 295 P **P 06 23 10.9 +0.6**
KOLS Kolonicke sedl 46.90 298 *e*P **P 06 23 19.9 +2.8**
KOLS Kolonicke sedl 46.90 298 *e*P **P 06 23 19.9 +2.8**
MORC Moravsky Berou 48.95 302 *e*P **P 06 23 36.2 +3.3**
VYHS Vyhne 49.01 300 *e*P **P 06 23 36.9 +3.5**
VYHS Vyhne 49.01 300 *e*P **P 06 23 36.9 +3.5**
DPC Dobruska-Polom 49.25 303 *e*P P 06 23 38.8 +3.6
DPC *e* 06 23 44.7
DPC Dobruska-Polom 49.25 303 *e*P P 06 23 38.8 +3.6
DPC *ex* x 06 23 44.7
RAYN Ar Rayn 49.63 256 P **P 06 23 37.8 -0.6**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 49.63 256 P **P 06 23 37.8 -0.6**
RAYN IAmb IAmb 06 23 44.8
comp=Z,6.7nm,0.8s
VRAC Vranov 49.72 302 *e*P **P 06 23 41.7 +2.9**
IMAR Indian Mountai 49.96 31 P **P 06 23 40.4 0.0**
KRUC Moravsky 49.97 302 *e*P **P 06 23 43.9 +3.2**
BRG Berggiesshubel 50.16 305 *e*P **P 06 23 44.9 +2.8**
comp=Z,4.3nm,0.7s
BRG Berggiesshubel 50.16 305 *e*P **P 06 23 44.9 +2.8**
comp=Z,4.3nm,0.7s
BRG Berggiesshubel 50.16 305 *e*P **P 06 23 44.9 +2.8**
BRG pmax pmax
comp=Z,4.0nm,0.7s
TREC Trest 50.31 302 *e*P **P 06 23 46.3 +3.0**
TREC Trest 50.31 302 *e*P **P 06 23 46.3 +3.0**
CLL Collm 50.37 306 P **P 06 23 45.0 +1.3**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 50.37 306 *e*P **P 06 23 43.0 -0.7**
CLL *i* Pmax 06 23 46.3
comp=Z,7.0nm,0.7s
CLL LmV 06 46 00.0
comp=Z,200nm,18.9s
CLL Collm 50.37 306 P **P 06 23 45.0 +1.3**
CLL IAmb IAmb 06 23 47.4
comp=Z,6.4nm,0.7s
PRU Pruhonice 50.38 303 *e*P **P 06 23 46.9 +3.1**
PRU Pruhonice 50.38 303 *e*P **P 06 23 46.9 +3.1**
CONA Conrad Observa 50.94 301 *e*pP **P 06 23 51.5 +3.3**
comp=Z,0.5nm,0.4s
KHC Kasperske Hory 51.40 303 *e*P **P 06 23 54.5 +3.0**
KHC Kasperske Hory 51.40 303 *e*P **P 06 23 54.5 +3.0**
GERES GERESS Array B 51.52 303 P **P 06 23 54.2 +1.7**
comp=Z,0.7nm,0.7s,baz=52,slow=8.6,SNR=5.5
GERES GERESS Array B 51.52 303 P **P 06 23 52.5 +0.1**
ARSA Arzberg 51.54 300 *e*pP **P 06 23 56.1 +3.5**
comp=Z,1.5nm,0.6s
BMAR Burnt Mountain 51.68 26 P **P 06 23 53.6 +0.2**
MOA Molln 51.84 301 *e*pP P 06 23 58.4 +3.6
comp=Z,1.8nm,0.8s
NEA Nenana 52.36 30 P **P 06 24 01.0 +2.5**
KBA Koelnbreinsper 52.81 301 *e*pP P 06 24 05.8 +3.6
comp=Z,1.1nm,0.6s
IL31 52.90 29 P **P 06 24 01.7 -0.6**
IL31 IAmb IAmb 06 24 08.4
comp=Z,4.3nm,1.1s
ILAR Eielson Array 52.90 29 P **P 06 24 02.3 -0.1**
comp=Z,2.0nm,0.9s,baz=317,slow=4.8,SNR=10
ILAR LR LR 06 51 46.6
comp=Z,98nm,18.1s,baz=304,slow=42
ILAR Eielson Array 52.90 29 P **P 06 24 02.0 -0.4**
MYKA Terra Mystica 52.94 301 *e*pP **P 06 24 05.6 +2.6**
comp=Z,4.5nm,0.8s
MOTA Moosalm 53.81 303 *e*pP **P 06 24 12.8 +3.3**
comp=Z,1.6nm,0.7s
DAVA Damuels 54.48 303 *e*pP **P 06 24 17.8 +3.4**
comp=Z,3.3nm,0.7s
BCAR Beaver Creek A 55.69 29 P **P 06 24 23.2 +0.4**
ATD Arta Tunnel 60.55 250 LR LR 06 55 26.9
comp=Z,30nm,18.5s,baz=44,slow=40
ESDC Sonseca Array 66.96 305 P **P 06 25 41.5 +2.0**
comp=Z,0.8nm,0.8s,baz=36,slow=7.2,SNR=9.3
PVAQ Vaqueiros 70.59 306 P **P 06 26 01.6 -0.4**
PMG Port Moresby 73.70 130 P **P 06 26 20.1 -0.7**
PMG pmax pmax
comp=Z,32nm,1.1s
PMG Port Moresby 73.70 130 P **P 06 26 20.1 -0.7**
KMBO Kilima Mbogo 74.03 247 P **P 06 26 22.5 -0.7**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 74.03 247 P **P 06 26 22.5 -0.7**
WRAB Tennant Creek 77.95 146 *ce*P **P 06 26 44.1 -0.9**
WRAB pmax pmax
comp=Z,10.0nm,1.7s
WRAB Tennant Creek 77.95 146 P **P 06 26 43.8 -1.2**
WRAB IAmb IAmb 06 26 45.3
comp=Z,3.6nm,0.7s
AS31 Alice Springs 81.27 148 P **P 06 27 00.8 -2.2**
ASAR Alice Springs 81.27 148 P **P 06 27 01.1 -1.8**
comp=Z,2.3nm,0.8s,baz=344,slow=5.7,SNR=18
ASAR Alice Springs 81.27 148 P **P 06 27 00.8 -2.2**
ORIO Orleans, Innes 82.79 356 P **P 06 27 11.6 +0.8**
ORIO IAmb IAmb 06 27 14.1
comp=Z,7.0nm,1.5s
NVAR Mina Array Bea 84.16 29 P **P 06 27 19.6 +1.3**
comp=Z,0.3nm,0.8s,baz=333,slow=3.0,SNR=2.5
TORD Torodi Ar. Bea 84.32 284 P **P 06 27 21.3 +2.2**
comp=Z,0.9nm,0.6s,baz=25,slow=5.1,SNR=11
CPUP Villa Florida 148.81 316 PKPbc **PKPab 06 34 36.0 -2.2**
comp=Z,4.2nm,1.1s,baz=353,slow=4.7,SNR=5.3

IDC ***03*** *06:16:17.2±1.0, 60°.53N×141°.16W, h0km, mb3.5/5, mb1 3.8/9, mb1mx3.6/63, mbtmp3.6/9, ML3.6/4, Error ellipse: s-maj=18.8km s-min=10.8km az=47.0*
ISCJB ***03*** *06:16:18.3±0.2, 60°.46N±0°.02×141°.48W±0°.03, h19km±2km, mb3.3/5, Error ellipse: s-maj=2.9km s-min=2.1km az=30.4*
AEIC ***03*** *06:16:18.3±1.9, 60°.49N±0°.01×141°.46W±0°.03, h12km±2km, ML3.4*
PGC ***03*** *06:16:18.7±0.0, 60°.47N×141°.41W, h1km, ML3.5/11, 169km Wnw of Yakutat, Ak Southeastern Alaska*
ISC 03 06:16:18.2±0.8, 60°.48N±0°.02×141°.42W±0°.01, h19km±2km, n127, σ1§16/181, mb3.3/5, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKAV	**Rock Avalanche**	**0.18**	**168**	P	**Pg**	**06 16 22.4**	**-0.7**
RKAV				S	**Sg**	**06 16 25.8**	**-0.6**
RKAV	**Rock Avalanche**	**0.18**	**168**		**Pg**	**06 16 22.4**	**-0.7**
RKAV					**Sg**	**06 16 26.2**	**-0.2**
YAH	**Yahtse**	**0.20**	**235**	Pg	**Pg**	**06 16 22.8**	**-0.5**
YAH				Sg	**Sg**	**06 16 26.0**	**-0.9**
YAH					**Sb**	**06 16 26.2**	**+0.4**
GRNC	**Granite Creek**	**0.30**	**327**	P	**Pg**	**06 16 24.8**	**-0.2**
GRNC				S	**Sg**	**06 16 29.4**	**-0.3**
GRNC	**Granite Creek**	**0.30**	**327**		**Pg**	**06 16 24.5**	**-0.5**
GRNC					**Sb**	**06 16 29.7**	**-0.1**
MESA	**MESA**	**0.40**	**221**	P	**Pg**	**06 16 26.6**	**0.0**
MESA				S	**Sb**	**06 16 32.9**	**+0.2**
MESA	**MESA**	**0.40**	**221**		**Pg**	**06 16 26.5**	**0.0**
MESA					**Pg**	**06 16 26.6**	**0.0**
MESA					**Sg**	**06 16 31.3**	**-0.9**
CHX	**Chaix Hills**	**0.44**	**160**		**Pg**	**06 16 27.3**	**0.0**
SAMH	**Samovar Hills**	**0.47**	**137**	P	**Pg**	**06 16 27.9**	**0.0**
SAMH				S	**Sb**	**06 16 35.6**	**+0.9**
SAMH	**Samovar Hills**	**0.47**	**137**		**Pg**	**06 16 27.7**	**-0.1**
SAMH					**Sb**	**06 16 36.2**	**+1.6**
CTGM	**Chitina Glacie**	**0.49**	**5**	P	**Pg**	**06 16 28.1**	**-0.1**
CTGM				S	**Sb**	**06 16 35.1**	**-0.2**
CTGM	**Chitina Glacie**	**0.49**	**5**	Pg	**Pg**	**06 16 28.1**	**-0.1**
CTGM				Sg	**Sg**	**06 16 34.5**	**-0.5**
CTGM					**Sb**	**06 16 35.3**	**0.0**
BARN	**Barnard Glacie**	**0.60**	**349**	Pg	**Pg**	**06 16 29.7**	**-0.5**
BARN				Sg	**Sg**	**06 16 37.6**	**-0.6**
BARN					**Sb**	**06 16 38.0**	**-0.2**
KIAG	**Kiagna River**	**0.64**	**315**	P	**Pg**	**06 16 30.0**	**-1.0**
KIAG				S	**Sg**	**06 16 38.7**	**-0.9**
KIAG	**Kiagna River**	**0.64**	**315**		**Pg**	**06 16 29.9**	**-1.1**
KIAG					**Sg**	**06 16 38.9**	**-0.7**
KULT	**Kultieth River**	**0.69**	**251**		**Pg**	**06 16 31.5**	**-0.3**
KULT					**Sb**	**06 16 41.5**	**+0.9**
PCA	**Pinnacle**	**0.69**	**123**	P	**Pg**	**06 16 31.4**	**-0.5**
PCA				S	**Sb**	**06 16 41.8**	**+0.8**
PCA	**Pinnacle**	**0.69**	**123**		**Pg**	**06 16 31.4**	**-0.5**
PCA				Sg	**Sb**	**06 16 41.7**	**+0.8**
WAX	**Waxell Ridge**	**0.71**	**268**		**Pg**	**06 16 31.6**	**-0.6**
WAX					**Pb**	**06 16 31.7**	**-0.3**
WAX	**Waxell Ridge**	**0.71**	**268**		**Sb**	**06 16 42.1**	**+0.8**
WAX	**Waxell Ridge**	**0.71**	**268**		**Sb**	**06 16 42.4**	**+1.0**
BALM	**Baldy**	**0.72**	**321**	P	**Pg**	**06 16 31.2**	**-1.2**
BALM				S	**Sg**	**06 16 41.0**	**-1.1**
BALM	**Baldy**	**0.72**	**321**	Pg	**Pg**	**06 16 31.2**	**-1.2**
BALM					**Pg**	**06 16 31.3**	**-1.2**
BALM					**Sg**	**06 16 40.9**	**-1.1**
TGL	**Tana Glacier**	**0.75**	**293**		**Pg**	**06 16 31.5**	**-1.4**
TGL				Sg	**Sg**	**06 16 41.8**	**-1.1**
PTPK	**Patty Peak**	**0.88**	**325**	P	**Pb**	**06 16 34.0**	**-1.0**
PTPK				S	**Sb**	**06 16 45.4**	**-1.0**
PTPK	**Patty Peak**	**0.88**	**325**		**Pb**	**06 16 33.9**	**-1.0**
PTPK					**Sb**	**06 16 46.1**	**-0.2**
CRQM	**Cirque**	**0.89**	**289**		**Pb**	**06 16 33.3**	**-1.9**
KHIT	**Khitrov Hills**	**0.91**	**269**		**Pb**	**06 16 35.2**	**-0.1**
GRIN	**Grindle Hills**	**0.96**	**259**		**Pb**	**06 16 36.2**	**-0.1**
GRIN					**Sg**	**06 16 50.0**	**+0.4**
BGLC	**Bering Glacier**	**0.99**	**250**		**Pb**	**06 16 37.1**	**+0.4**
BCPM	**Bancas Point**	**1.04**	**120**		**Pb**	**06 16 36.5**	**-1.1**
BCPM				Sg	**Sn**	**06 16 52.0**	**+0.3**
BERG	**Berg Lake**	**1.13**	**267**		**Pn**	**06 16 39.0**	**-0.1**
MCARA	**McCarthy VSAT**	**1.20**	**320**		**Pn**	**06 16 38.9**	**-1.1**
SUCK	**Suckling Hills**	**1.24**	**252**		**Pb**	**06 16 41.4**	**+0.3**
VRDI	**Verde Repeater**	**1.25**	**308**		**Pn**	**06 16 39.3**	**-1.5**
VRDI				Sg	**Sb**	**06 16 56.8**	**-0.2**
NICHA	**Nichawak Mount**	**1.29**	**260**		**Pn**	**06 16 41.8**	**+0.5**
PNL	**Peninsula**	**1.30**	**128**	P	**Pn**	**06 16 40.2**	**-1.2**
PNL				S	**Sb**	**06 16 58.5**	**+0.1**
PNL	**Peninsula**	**1.30**	**128**		**Pn**	**06 16 40.2**	**-1.2**
PNL					**Sn**	**06 16 58.9**	**+0.6**
YKU2	**Yakutat**	**1.31**	**137**		**Pn**	**06 16 41.4**	**-0.1**
YUK2	**White River**	**1.34**	**12**	P	**Pb**	**06 16 42.9**	**0.0**

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YUK2                                    S   Sg      06 17 01.4 -0.3
YUK2  White River          1.34  12         Pb      06 16 42.5 -0.4
YUK2                                        Sg      06 17 01.4 -0.3
YUK3  Moose Creek          1.38  19   Pn    Pb      06 16 43.7 +0.1
YUK3                                    Sg  Sg      06 17 02.7 -0.3
YUK3  Moose Creek          1.38  19         Pb      06 16 43.4 -0.3
HMT   Hamilton             1.42 266         Pn      06 16 43.7 +0.7
HMT                                         Pb      06 16 44.5 +0.5
HMT                                         Sb      06 17 02.3 +0.6
GLB   Gilahina Butte       1.51 311         Pn      06 16 43.6 -0.8
GLB   Gilahina Butte       1.51 311         Pn      06 16 44.4  0.0
GLB                                         Sb      06 17 04.5  0.0
YUK6  Outpost Mounta       1.57  71   Pn    Pb      06 16 46.5 -0.4
YUK6                                    Sn  Sb      06 17 07.2 +0.7
YUK6                                    Sg  Sg      06 17 09.0 -0.1
YUK6  Outpost Mounta       1.57  71         Pb      06 16 46.5 -0.4
YUK4  Talbot Arm           1.61  56   Pn    Pg      06 16 48.9 -0.3
YUK4                                    Sg  Sg      06 17 12.1 +1.8
YUK4  Talbot Arm           1.61  56         Pg      06 16 49.0 -0.2
RAGM  Ragged Mountai       1.62 268         Pb      06 16 46.9 -0.5
RAGM                                        Pn      06 16 47.1 +1.4
YUK7  Dusty Glacier        1.62  87   Pn    Pn      06 16 46.9 +0.8
YUK7                                    Sg  Sg      06 17 09.5 -1.2
YUK7  Dusty Glacier        1.62  87         Pb      06 16 47.2 -0.5
GOAT  Goat Mountain        1.64 275         Pn      06 16 46.5 +0.4
GOAT                                        Sg      06 17 10.1 -0.9
YUK1  Sand Pete Hill       1.74  14   Pn    Pb      06 16 49.5 -0.1
YUK1                                    Sg  Sg      06 17 13.2 -1.0
YUK1  Sand Pete Hill       1.74  14         Pb      06 16 50.1 +0.5
YUK5  Granite Creek        1.87  68   Pn    Pb      06 16 51.2 -0.6
YUK5                                    Sg  Sg      06 17 16.5 -1.9
YUK5  Granite Creek        1.87  68         Pb      06 16 51.2 -0.6
HYT   Haines Junctio       1.96  78   Pn    Pn      06 16 51.7 +1.1
HYT                                     Sn  Sb      06 17 17.0 -0.5
HYT                                     Sg  Sg      06 17 20.1 -1.3
HYT   Haines Junctio       1.96  78         Pb      06 16 52.1 -1.3
BVCY  Beaver Creek         1.96   8   Pn    Pb      06 16 53.1 -0.3
BVCY                                    Sg  Sg      06 17 20.8 -0.5
BVCY  Beaver Creek         1.96   8         Pb      06 16 53.0 -0.3
DHAK  Deception Hill       2.14 129         Pn      06 16 52.9 -0.1
DHAK  Deception Hill       2.14 129         Sb      06 17 23.1 +0.7
EYAK  Cordova Ski Ar       2.14 274         Pn      06 16 53.5 +0.6
FID   Port Fidalgo         2.51 278         Pn      06 16 58.8 +0.8
PS11  TAPS Pump St11       2.53 311         Pn      06 17 00.1 +1.8
BCAR  Beaver Creek A       2.60 356         Pn      06 16 59.9 +0.6
JPK   Jack Peak            2.60 285         Pn      06 16 59.7 +0.3
MENT  Mentasta             2.70 337         Pn      06 17 02.3 +1.7
GLI   Glacier Island       2.82 281   Pn    Pn      06 17 02.9 +0.6
PAX   Paxson               3.16 324   Pn    Pn      06 17 08.0 +1.0
PAX                                     Sg  Sb      06 17 53.3 +1.5
PAX   Paxson               3.16 324         Pn      06 17 07.3 +0.4
SCM   Sheep Creek Mo       3.17 298         Pn      06 17 07.9 +0.8
SCM                                         Pb      06 17 08.4 -5.5
SKAG  Skagway              3.23 106         Pn      06 17 08.6 +0.7
WHY   Whitehorse           3.23  84   Pn    Pn      06 17 08.9 +0.9
WHY                                     Sn  Sn      06 17 47.8 +1.7
WHY                                     Sg  Sg      06 18 00.2 -1.8
WHY   Whitehorse           3.23  84         Pn      06 17 09.3 +1.2
DOT   Dot Lake             3.42 340   Pn    Pn      06 17 12.1 +1.6
DOT                                     Sn  Sn      06 17 54.1 +3.6
DOT   Dot Lake             3.42 340         Pn      06 17 12.5 +2.0
PWL   Port Wells           3.42 279         Pn      06 17 12.3 +1.8
KNK   Knik Glacier         3.56 288         Pn      06 17 14.2 +1.7
SML   Sawmill              3.61 295         Pn      06 17 13.8 +0.7
SCRK  Sand Creek           3.71 342         Pn      06 17 16.4 +1.8
DAWY  Dawson               3.72  14   Pn    Pn      06 17 17.0 +2.3
DAWY                                    Sn  Sn      06 18 00.7 +2.7
DAWY  Dawson               3.72  14         Pn      06 17 16.9 +2.3
DHY   Denali Highway       3.85 315         Pn      06 17 18.3 +1.8
BESE  Bessie Mountai       3.85 117   Pn    Pn      06 17 15.9 -0.5
BESE  Bessie Mountai       3.85 117         Pn      06 17 16.2 -0.3
GHO   Glory Hole Cre       3.86 293         Pn      06 17 17.9 +1.3
PMR   Palmer               3.91 290         Pn      06 17 18.6 +1.3
SEW   Seward              4.01 268         Pn      06 17 18.9 +0.3
RC01  Rabbit Creek A       4.12 282         Pn      06 17 20.7 +0.5
RC01                                        Sb      06 18 20.8 +1.3
WAT1  Susitna Watana       4.14 308         Pn      06 17 21.5 +1.1
WAT2  Susitna Watana       4.22 309         Pn      06 17 22.9 +1.2
JIS   Juneau Island        4.22 118         Pn      06 17 21.1 -0.4
EGAK  Eagle                4.32   2         Pn      06 17 25.7 +2.9
RND   Reindeer             4.58 313         Pn      06 17 28.1 +1.7
HDA   Harding Lake         4.71 329   Pn    Pn      06 17 30.3 +2.2
IL31                       4.99 332         Pn      06 17 33.0 +0.9
ILAR  Eielson Array        4.99 332   Pn    Pn      06 17 33.1 +1.1
      0.8nm,0.3s,baz=151,slow=13,SNR=53
ILAR                                    Lg  Lg      06 18 51.0
      0.6nm,0.3s,baz=137,slow=27,SNR=5.0
CNPM  China Poot           5.02 263         Pn      06 17 33.0 +0.5
WRH   Wood River Hil       5.06 325         Pn      06 17 33.5 +0.5
SKT   Skwentna             5.11 292         Pn      06 17 35.2 +1.4
CCB   Clear Creek Bu       5.12 328         Pn      06 17 34.6 +0.8
TRF   Thorofare Moun       5.14 309         Pn      06 17 36.1 +1.9
DLBC  Dease Lake           6.16 104   Pn    Pn      06 17 47.9 -0.3
      1.3nm,0.3s,baz=288,slow=7.4,SNR=24
DLBC                                    Sn  Sn      06 18 54.5 -3.6
      0.4nm,0.3s,baz=46,slow=9.5,SNR=3.3
DLBC                                    Lg  Lg      06 19 30.3
      0.9nm,0.3s,baz=155,slow=16,SNR=3.9
DLBC  Dease Lake           6.16 104         Pn      06 17 46.9 -1.3
DLBC  Dease Lake           6.16 104         Pn      06 17 47.4 -0.8
WRAK  Wrangell Islan       6.26 127   Pn    Pn      06 17 49.6 +0.1
KDAK  Kodiak Island        6.35 250   Pn    Pn      06 17 50.9 +0.3
      1.6nm,0.3s,baz=61,slow=10,SNR=40
KDAK                                    Sn  Sn      06 18 58.8 -3.7
      0.5nm,0.3s,baz=235,slow=19,SNR=8.9
KDAK  Kodiak Island        6.35 250         Pn      06 17 51.4 +0.7
OHAK  Old Harbor           6.96 247   Pn    Pn      06 17 58.5 -0.6
INK   Inuvik               8.56  20   Pn    Pn      06 18 22.2 +1.3
      0.3nm,0.3s,baz=202,slow=14,SNR=12
INK                                     Sn  Sn      06 19 55.3 -1.6
      0.4nm,0.3s,baz=245,slow=17,SNR=2.3
INK                                     Lg  Lg      06 20 45.7
      baz=246,slow=20,SNR=2.8
INK   Inuvik               8.56  20         Pn      06 18 21.8 +0.8
INK   Inuvik               8.56  20         Pn      06 18 21.8 +0.8
YKA   Yellowknife Ar      12.93  69   Pn    Pn      06 19 20.7  0.0
      0.1nm,0.3s,baz=273,slow=13,SNR=4.4
YKA                                     Sn  Sn      06 21 39.3 -4.6
      0.1nm,0.3s,baz=270,slow=23,SNR=4.6
RES   Resolute Bay        21.86  31   P   P       06 21 09.8 +0.5
      2.8nm,1.1s,baz=258,slow=12,SNR=2.5
PDAR  Pinedale Array      26.17 118   P   P       06 21 53.2 +1.8
      0.2nm,0.6s,baz=324,slow=6.8,SNR=2.4
NVAR  Mina Array Bea      26.43 136   P   P       06 21 56.1 +2.3
      0.5nm,0.7s,baz=299,slow=9.2,SNR=3.2
TXAR  Lajitas Array       40.06 124   P   P       06 23 54.0 +1.9
      0.3nm,0.7s,baz=326,slow=7.8,SNR=4.3
H11N2 WAKE ISLAND Hy 54.49 245        T   T       07 24 14.6
      baz=27,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 54.50 245        T   T       07 24 15.0
      baz=27,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 54.51 245        T   T       07 24 06.3
      baz=27,slow=76,SNR=16
H11S1 WAKE ISLAND Hy 55.65 245        T   T       07 25 35.2
      baz=25,slow=76,SNR=21
H11S2 WAKE ISLAND Hy 55.66 245        T   T       07 25 31.0
      baz=25,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 55.67 245        T   T       07 25 36.7
      baz=25,slow=76,SNR=12
FINES FINESS Array B      58.03   7   P   P       06 26 09.1 -0.1
      1.1nm,1.0s,baz=23,slow=7.5,SNR=2.4
```

*NEIC **03** 06:19:55.0±3.0, 8°.30S±0°.04×102°.73E±0°.10, h10km±1km, mb4.4/7*
*ISCJB **03** 06:19:56.3±0.6, 8°.05S±0°.08×102°.95E±0°.05, h10km, mb3.9/8, Error ellipse: s-maj=12.2km s-min=6.8km az=19.1*
*IDC **03** 06:19:56.6±1.4, 8°.11S×102°.67E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.7/57, mbtmp4.0/9, ML4.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/43, Error ellipse: s-maj=49.5km s-min=17.0km az=48.0*

ISC 03 06:19:57.5±0.7, 8°.20S±0°.09×102°.87E±0°.08, h10km, n28, σ2°.02/31, mb4.0/10, Southwest of Sumatera

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
XMIS  Christmas Isla      3.57 130         Pn      06 20 51.7 -1.2
XMIS                                    Sn  Sn      06 21 31.5 -3.7
MNAI  Manna               3.81   1   Pn    Pn      06 20 54.2 -2.1
LEM   Lembang             4.91  74   Pn    Pn      06 21 12.9 +1.5
      13nm,0.3s,baz=327,slow=1.8,SNR=12
LEM                                     Sn  Sn      06 22 08.1 -0.4
      6.2nm,0.3s,baz=127,slow=20,SNR=2.7
LEM                                     LR  LR      06 22 57.9
      comp=Z,99nm,18.6s,baz=195,slow=36
CISI  Cisompet, Garu      4.95  83         Pn      06 21 11.1 -0.8
CISI                                    Sn  Sn      06 22 07.3 -2.0
UGM   Wanagama            7.59  88   Pn    Pn      06 21 47.5 -0.7
JAGI  Jajag, Banyuwa     11.17  92   Pn    Pn      06 22 36.5 -0.9
FITZ  Fitzroy Crossi     24.23 116   P   P       06 25 17.9 +3.1
      1.9nm,0.8s,baz=255,slow=4.9,SNR=5.2
FITZ  Fitzroy Crossi     24.23 116   P   P       06 25 14.7 -0.1
FITZ                                    IAmb IAmb   06 25 28.0
      comp=Z,8.9nm,1.3s
KNRA  Kununurra          26.39 109   P   P       06 25 33.0 -1.3
KNRA                                    IAmb IAmb   06 25 48.4
      comp=Z,10.0nm,0.9s
CMAR  Chiang Mai Arr     26.77 352   P   P       06 25 37.7  0.0
      comp=Z,1.2nm,0.5s,baz=180,slow=7.4,SNR=8.0
CMAR  Chiang Mai Arr     26.77 352   P   P       06 25 35.3 -2.3
PALK  Pallekele          26.91 304   P   P       06 25 36.4 -2.7
PALK                                    IAmb IAmb   06 25 51.9
      comp=Z,9.8nm,1.1s
SLVN  Son La             29.36   2   P   P       06 25 58.5 -2.5
WRA   Warramunga Arr     32.62 114   P   P       06 26 33.0 +3.3
      comp=Z,1.3nm,0.7s,baz=286,slow=11,SNR=15
WRA   Warramunga Arr     32.62 114   P   P       06 26 33.4 +3.7
WB2   Warramunga Arr     32.63 114   P   P       06 26 33.5 +3.7
ASAR  Alice Springs      33.47 121   P   P       06 26 38.9 +1.7
      comp=Z,0.6nm,0.7s,baz=290,slow=6.9,SNR=6.3
ASAR  Alice Springs      33.47 121   P   P       06 26 37.8 +0.7
STKA  Stephens Creek     42.99 129   P   P       06 27 58.5 +1.2
      comp=Z,2.0nm,0.7s,baz=298,slow=8.2,SNR=4.1
SONM  Songino Array      55.87   3   P   P       06 29 35.4 -0.1
      comp=Z,2.5nm,0.8s,baz=175,slow=7.8,SNR=5.7
MKAR  Makanchi Array     57.73 343   P   P       06 29 47.9 -0.7
      comp=Z,1.5nm,1.0s,baz=161,slow=9.2,SNR=13
ABKAR Akbulak array      68.41 331   P   P       06 30 59.4 -0.1
BRTR  Keskin Array B     79.59 313   P   P       06 32 04.8 -0.4
      comp=Z,0.7nm,0.7s,baz=110,slow=6.9,SNR=4.2
BURAR Bucovina Array     87.77 319   P   P       06 32 49.2 +2.2
BUR08 Bucovina Ar. S     87.78 319   P   P       06 32 49.3 +2.2
LVZ   Lovozero           89.54 339   P   P       06 32 56.4 +1.6
TXAR  Lajitas Array     147.39  46   PKPbc PKiKP 06 39 44.0 -0.7
      comp=Z,0.6nm,0.6s,baz=285,slow=0.9,SNR=11
TXAR  Lajitas Array     147.39  46         PKiKP   06 39 44.1 -0.6
```

DJA 03 06:26:18.3±0.3, 3°S±3°×12°8E±°, h10km, M4.4/11, mb5.0/4, mB4.7/1, MLv4.1/11, Mw(mB)4.0/1, Seram

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
MSAI  Masohi              0.48 102   P   Pb      06 26 28.3 -0.5
MSAI                                    S   Sb      06 26 35.1 -0.8
AAI   Ambon               0.51 211   P   Pb      06 26 29.1 -0.3
NLAI  Namlea              1.36 270   P   Pb      06 26 43.9 +0.1
SANI  Sanana              2.74 296   P   Pn      06 27 01.1 -1.3
SWI   Sorong              3.67  50   P   Pn      06 27 15.5 +0.4
FAKI  Fak Fak             3.80  85   P   Pn      06 27 17.6 +0.7
SAUI  Saumlaki            5.49 149   P   Pn      06 27 40.1  0.0
KMSI  Cibinong            5.87 310   P   Pn      06 27 45.5  0.0
      138nm,0.5s,0.6nm
```

*ISCJB **03** 06:33:18.3±0.3, 38°.57N±0°.04×93°.53E±0°.03, h10km, mb4.0/21, MS3.2/3, Error ellipse: s-maj=5.8km s-min=3.5km az=18.6*
*NEIC **03** 06:33:19.7±1.2, 38°.56N±0°.06×93°.53E±0°.06, h10km±1km, mb4.2/30*
*BJI **03** 06:33:19.2±0.0, 38°.50N×93°.56E, h5km, mb4.4/15, mB4.5/10, ML4.2/14, Ms3.8/21, Ms7 3.8/20*
*IDC **03** 06:33:23.6±4.5, 38°.54N×93°.63E, h33km±35km, mb3.9/22, mb1 4.0/27, mb1mx3.9/49, mbtmp4.1/27, ML3.7/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/55, Error ellipse: s-maj=18.6km s-min=11.1km az=30.0*

ISC 03 06:33:20.0±0.4, 38°.56N±0°.06×93°.50E±0°.04, h10km, n90, σ1°.93/100, mb4.2/27, MS3.2/3, 2C-1D, Qinghai

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
GTA   Gaotai              4.99  78   Pn    Pn      06 34 37.8 +2.7
GTA                                     Sn  Sn      06 35 34.2 +1.3
GTA                                     Sg  Sg      06 36 02.5 +2.3
GTA                                     smax smax
      comp=N,700nm,0.9s
GTA                                     smax smax
      comp=E,690nm,1.3s
GTA                                     LR  LR
      comp=N,700nm,8.3s
GTA                                     LR  LR
      comp=E,690nm,9.3s
GTA                                     LR  LR
      comp=Z,900nm,9.3s
WMQ   Urumqi              6.84 322   ePn   Pn      06 35 02.5 +2.1
WMQ                                     Sn  Sn      06 36 20.5 +2.2
WMQ                                     smax smax
      comp=N,160nm,1.1s
WMQ                                     smax smax
      comp=E,160nm,1.1s
WMQ   Urumqi              6.84 322   Pn    Pn      06 35 00.0 -0.3
WMQ                                     Sn  Sn      06 36 15.8 -2.5
LZH   Lanzhou             8.60 104   eP    Pn      06 35 24.2 -0.5
LZH                                     pP  Pg      06 35 27.3 -37
LZH                                     sP          06 35 31.4
LZH                                     pmax pmax
      comp=Z,25nm,1.0s
LZH                                     pmax pmax
      comp=Z,93nm,4.6s
LZH                                     LR  LR
      comp=N,380nm,9.2s
LZH                                     LR  LR
      comp=Z,510nm,9.8s
MK31  Makanchi Array     11.64 319   P   Pn      06 36 06.6 +0.5
      7.6nm,0.6s,baz=128,slow=14,SNR=92
MK31                                    ⇑S  Sn      06 38 13.5 -2.6
      24nm,1.0s,baz=129,slow=24,SNR=7.6
MK31  Makanchi Array     11.64 319         Pn      06 36 05.9 -0.2
MK31                                    Sn  Sn      06 38 15.9 -0.2
MKAR  Makanchi Array     11.64 319   Pn    Pn      06 36 06.6 +0.5
      2.6nm,0.3s,baz=126,slow=13,SNR=68
MKAR                                    Sn  Sn      06 38 13.6 -2.5
      1.1nm,0.3s,baz=129,slow=24,SNR=5.3
MKAR                                    Lg  Lg      06 39 39.4
      baz=108,slow=25,SNR=4.0
MKAR  Makanchi Array     11.64 319         Pn      06 36 04.9 -1.2
MKAR                                    Sn  Sn      06 38 14.7 -1.4
MAKZ  Makanchi           11.81 318   ⇑P    Pn      06 36 08.8 +0.3
      22nm,1.1s
MAKZ                                    ⇓S  Sn      06 38 16.7 -3.6
      13nm,0.8s
MAKZ  Makanchi           11.81 318         Pn      06 36 08.8 +0.3
TARG  Taragay, Kyrgy     12.42 290   Pn    Pn      06 36 17.6 +0.4
SHL   Shillong           13.03 186         Pn      06 36 25.1 -0.3
SONM  Songino Array      13.19  41   Pn    Pn      06 36 29.9 +2.6
      0.4nm,0.3s,baz=224,slow=15,SNR=9.6
SONM                                    Lg  Lg      06 40 11.3
      0.3nm,0.3s,baz=230,slow=24,SNR=4.5
SONM                                    LR  LR      06 41 43.2
      comp=Z,114nm,19.4s,baz=228,slow=38
SONM  Songino Array      13.19  41         Pn      06 36 28.6 +1.2
XAN   Xi'an              13.23 105   P   P       06 36 34.0 -3.9
XAN                                     pP  Pn      06 36 37.5 +10
XAN                                     pmax pmax
      comp=Z,3.0nm,0.8s
KSH   Kashi              13.66 279   P   P       06 36 38.3 -4.5
KSH                                     PP  PnPn    06 36 49.9 +8.3
KSH                                     S   Sn      06 39 12.8 +7.1
KSH                                     LR  LR
      comp=N,240nm,10.4s
KSH                                     LR  LR
      comp=Z,350nm,12.1s
BOOM  Boomskoye usch     13.92 292   Pn    Pn      06 36 37.4  0.0
HHC   Hu-ho-hao-te       14.10  75   P   Pn      06 36 41.0 +1.3
TLY   Talaya             14.92  25   Lg  Lg      06 41 04.8
      0.0nm,0.3s,baz=145,slow=22,SNR=3.0
TLY                                     LR  LR      06 42 44.3
      comp=Z,68nm,20.7s,baz=184,slow=38
AAK   Ala-Archa          15.00 292   Pn    Pn      06 36 54.2 +2.1
      0.2nm,0.3s,baz=190,slow=12,SNR=2.4
AAK                                     LR  LR      06 43 26.8
      comp=Z,93nm,20.5s,baz=101,slow=40
AAK   Ala-Archa          15.00 292         Pn      06 36 51.9 -0.2
AAK                                     IAmb IAmb   06 37 00.6
      comp=Z,5.6nm,0.8s
KMI   Kunming            15.52 147   P   P       06 37 01.9 -1.6
KMI                                     pmax pmax
      comp=Z,9.0nm,0.9s
KMI                                     pmax pmax
      comp=Z,140nm,4.7s
KMI                                     LR  LR
      comp=Z,570nm,19.7s
KMI                                     LR  LR
      comp=Z,230nm,12.0s
ARSB  Arslanbob          15.98 286   Pn    Pn      06 37 04.9  0.0
ARSB                                    IAmb IAmb   06 37 24.2
      comp=Z,21nm,1.4s
KURBB Kurchatov Arra     16.06 323   Pn    Pn      06 37 04.3 -1.4
      comp=Z,0.2nm,0.3s,baz=128,slow=13,SNR=11
KURBB                                   Sn  Sn      06 39 57.3 -6.4
      comp=Z,0.0nm,0.3s,baz=118,slow=25,SNR=3.1
KURBB                                   Lg  Lg      06 41 53.2
      baz=130,slow=26,SNR=2.6
KURK  Kurchatov          16.08 324   Pn    Pn      06 37 06.8 +0.9
KURK                                    IAmb IAmb   06 37 10.2
      comp=Z,10.0nm,0.6s
KURK  Kurchatov          16.08 324         Sn      06 39 57.3 -7.0
GYA   Guiyang            16.38 134   eP    P       06 37 11.4 -1.5
GYA                                     pmax pmax
      comp=Z,10.0nm,0.8s
ZAA0  Zalesovo Array     16.50 342         Pn      06 37 11.6 +0.2
ZALV  Zalesovo Beam      16.50 342   Pn    Pn      06 37 12.1 +0.7
      comp=Z,0.8nm,0.3s,baz=172,slow=14,SNR=8.1
ZALV  Zalesovo Beam      16.50 342         Pn      06 37 11.1 -0.2
NIL   Nilore             17.07 260   P   Pn      06 37 18.4 -0.4
BJT   Baijiatuau         17.60  78   P   Pn      06 37 23.9 -1.4
BTK   Batken             17.61 282   P   P       06 37 26.3 -0.3
KK31  Karatay Array      17.96 292   P   P       06 37 30.6 +0.3
KKAR  Karatay Array      17.96 292   P   Pn      06 37 29.5 -0.3
KKAR  Karatay Array      17.96 292   P   P       06 37 30.7 +0.4
KKAR                                    IAmb IAmb   06 37 34.8
      comp=Z,8.2nm,1.1s
GAR   Garm               18.08 279   P   P       06 37 31.9 +0.1
GAR                                     IAmb IAmb   06 37 49.0
      comp=Z,9.9nm,0.7s
GAR                                     Sn  Sn      06 40 54.4 +1.3
WHN   Wuhan              18.92 109   P   Pn      06 37 43.1 +1.7
CM31  Chiang Mai Arr     20.59 165   P   Pn      06 38 00.2 -1.2
CM31                                    IAmb IAmb   06 38 00.8
      comp=Z,17nm,1.5s
CMAR  Chiang Mai Arr     20.59 165   P   Pn      06 38 00.1 -1.3
      comp=Z,2.9nm,0.7s,baz=342,slow=9.6,SNR=7.9
CMAR  Chiang Mai Arr     20.59 165   P   P       06 37 58.1 -1.1
BVAR  Borovoye Array     21.52 320   P   P       06 38 09.7 +0.8
      comp=Z,5.8nm,0.7s,baz=122,slow=11,SNR=12
BRVK  Borovoye           21.59 320   P   P       06 38 09.6 -0.2
BRVK                                    IAmb IAmb   06 38 14.5
      comp=Z,10.0nm,0.7s
HIA   Hailar             21.61  52   P   P       06 38 10.2 +0.1
HIA                                     IAmb IAmb   06 38 16.1
      comp=Z,7.7nm,0.8s
ABKAR Akbulak array      26.23 305   P   P       06 38 55.5 +0.6
ABKAR Akbulak array      26.23 305   P   P       06 38 54.7 -0.2
ABKAR                                   IAmb IAmb   06 39 02.8
      comp=Z,5.2nm,1.1s
KSRS  Korea Array        27.05  82   P   P       06 39 01.3 -1.2
      comp=Z,1.4nm,0.6s,baz=281,slow=7.7,SNR=6.7
KSRS                                    LR  LR      06 50 54.2
      comp=Z,52nm,18.9s,baz=306,slow=39
AKTO  Aktyubinsk         27.69 307   P   P       06 39 10.1 +2.1
      comp=Z,4.2nm,0.7s,baz=67,slow=5.2,SNR=13
ARU   Arti               29.17 319   P   P       06 39 21.9 +0.7
      comp=Z,1.8nm,0.5s,baz=116,slow=6.7,SNR=12
ARU   Arti               29.17 319   P   P       06 39 21.6 +0.5
KLR   Kul'dur            29.26  56   P   P       06 39 22.0 -0.1
      comp=Z,1.5nm,0.7s,baz=261,slow=10,SNR=4.4
KLR                                     LR  LR      06 51 55.2
      comp=Z,71nm,18.4s,baz=254,slow=38
NRIK  Noril'sk           31.00 356   P   P       06 39 37.3  0.0
      comp=Z,2.6nm,0.6s,baz=164,slow=5.9,SNR=6.6
MJAR  Matsushiro Arr     35.24  79   P   P       06 40 13.1 -1.5
      comp=Z,0.7nm,0.6s,baz=285,slow=9.6,SNR=3.7
MJAR                                    LR  LR      06 54 38.1
      comp=Z,38nm,19.3s,baz=30,slow=36
MJAR  Matsushiro Arr     35.24  79   P   P       06 40 13.7 -0.9
RPSI  Rantau Prapat      36.04 171   P   P       06 40 20.7 -0.9
RPSI                                    IAmb IAmb   06 40 38.7
      comp=Z,4.7nm,1.0s
GSI   Gunungsitoli       37.27 173   P   P       06 40 32.6 +0.5
MYKOM Kota Tinggi        37.80 163   P   P       06 40 36.6 +0.1
KBZ   Khabaz             37.97 294   P   P       06 40 39.2 +1.4
      comp=Z,3.6nm,0.7s,baz=87,slow=3.3,SNR=6.7
ILGA  Ilgaz              45.21 293   P   P       06 41 37.0 -0.4
PETK  Petropavlovsk-     45.49  50   P   P       06 41 39.9 +0.6
      comp=Z,1.0nm,0.6s,baz=311,slow=2.2,SNR=6.3
PETK  Petropavlovsk-     45.49  50   P   P       06 41 38.0 -1.2
BR131 Keskin Array S     45.67 291   P   P       06 41 41.0  0.0
BRTR  Keskin Array B     45.67 291   P   P       06 41 42.3 +1.2
      comp=Z,4.4nm,0.8s,baz=100,slow=7.5,SNR=14
BRTR  Keskin Array B     45.67 291   P   P       06 41 41.5 +0.5
AKASG Malin Array Be     45.93 307   P   P       06 41 42.9 +0.2
      comp=Z,0.2nm,0.3s,baz=70,slow=7.2,SNR=2.3
FINES FINESS Array B     46.45 322   P   P       06 41 47.2 +0.6
      comp=Z,1.9nm,0.6s,baz=74,slow=7.7,SNR=12
FINES FINESS Array B     46.45 322   P   P       06 41 47.4 +0.8
ARCES ARCESS Array B     46.81 333   P   P       06 41 50.4 +1.0
      comp=Z,1.2nm,0.6s,baz=91,slow=7.3,SNR=12
ARCES                                   PcP PcP     06 43 21.6 -0.6
      comp=Z,0.9nm,0.7s,baz=99,slow=5.6,SNR=3.8
ARCES ARCESS Array B     46.81 333   P   P       06 41 49.0 -0.4
KIS   Kishinev           47.00 302   LRM MLR     06 42 20.0
      comp=Z,500nm,15.0s
ELL   Elmali             49.47 289   P   P       06 42 10.1 -0.5
NB2   NORSAR Subarra     53.59 323   P   P       06 42 40.5 -0.4
      comp=Z,0.9nm,0.6s,baz=74,slow=7.9
NOA   NORSAR Array B     53.59 323   P   P       06 42 41.1 +0.2
      comp=Z,0.9nm,0.6s,baz=77,slow=7.8,SNR=5.8
GERES GERESS Array B     56.10 308   P   P       06 43 00.7 +1.3
      comp=Z,0.3nm,0.6s,baz=98,slow=5.2,SNR=3.5
ILAR  Eielson Array      66.74  24   P   P       06 44 11.3 +0.4
      comp=Z,1.4nm,0.8s,baz=296,slow=5.6,SNR=16
ILAR  Eielson Array      66.74  24   P   P       06 44 10.2 -0.7
WB0   Warramunga Arr     69.55 139   P   P       06 44 28.8 -0.3
WB0                                     IAmb IAmb   06 44 35.2
      comp=Z,2.5nm,0.8s
BCAR  Beaver Creek A     69.55  24   P   P       06 44 28.2 -0.4
WRA   Warramunga Arr     69.67 139   P   P       06 44 29.3 -0.5
      comp=Z,2.3nm,0.9s,baz=340,slow=6.5,SNR=10
WRA   Warramunga Arr     69.67 139   P   P       06 44 29.4 -0.5
VRDI  Verde Repeater     70.34  26   P   P       06 44 33.9 +0.2
ESDC  Sonseca Array      71.57 306   P   P       06 44 42.2 +0.8
      comp=Z,1.7nm,0.8s,baz=50,slow=6.7,SNR=9.1
ESDC  Sonseca Array      71.57 306   P   P       06 44 41.5 +0.1
AS31  Alice Springs      72.57 141   P   P       06 44 46.6 -0.8
AS31                                    IAmb IAmb   06 44 47.9
      comp=Z,1.0nm,0.6s
ASAR  Alice Springs      72.57 141   P   P       06 44 47.4  0.0
      comp=Z,2.7nm,0.6s,baz=331,slow=6.2,SNR=47
STKA  Stephens Creek     83.15 140   P   P       06 45 45.6 -0.4
      comp=Z,3.1nm,0.6s,baz=320,slow=5.0,SNR=8.4
STKA  Stephens Creek     83.15 140   P   P       06 45 45.6 -0.4
STKA                                    IAmb IAmb   06 45 46.3
      comp=Z,0.9nm,0.8s
TORD  Torodi Ar. Bea     83.33 281   P   P       06 45 47.7 +0.2
      comp=Z,1.2nm,0.9s,baz=24,slow=7.5,SNR=6.1
TORD  Torodi Ar. Bea     83.33 281   P   P       06 45 47.3 -0.2
CPUP  Villa Florida     152.65 288   PKPbc PKPbc 06 53 16.0 -1.0
      comp=Z,2.1nm,0.9s,baz=99,slow=2.1,SNR=3.8
```

*IDC **03** 06:47:17.2±0.8, 29°.34N×81°.76E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/51, mbtmp3.8/16, ML4.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/43, Error ellipse: s-maj=23.2km s-min=14.9km az=45.0*
*DMN **03** 06:47:20.4±0.3, 29°.64N×81°.60E, h10km, Ml4.5/6, Error ellipse: s-maj=11.1km s-min=5.8km az=33.0*
*ISCJB **03** 06:47:21.2±0.3, 29°.53N±0°.04×81°.79E±0°.04, h31km, mb3.7/14, MS3.5/1, Error ellipse: s-maj=7.3km s-min=2.7km az=31.7*
*NEIC **03** 06:47:22.4±1.2, 29°.38N±0°.10×81°.87E±0°.07, h39km±10km, mb4.0/13*
*NDI **03** 06:47:22.8±2.3, 29°.36N×81°.77E, h10km, ML3.7, mb4.0(NEIC)*

ISC 03 06:47:22.0±0.4, 29°.41N±0°.05×81°.86E±0°.03, h31km, n67, σ1°.92/83, mb3.9/18, Nepal

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
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LGTI	Lohaghat	1.41	272	*e*P	Pb	06 47 47.8 +0.1
LGTI				*e*S	Sb	06 48 07.9 +2.6
DANN	Dangsing	1.97	122	*e*Pn	Pb	06 47 56.5 -0.9
DANN				*e*Sn	Sb	06 48 22.9 +1.2
KOLN	Koldanda	2.24	137	*e*Pn	Pb	06 48 00.6 -1.3
KOLN				*e*Sn	Sb	06 48 30.3 +1.1
	393nm,0.5s					
GKN	Gorkha	2.81	119	*e*Pn	Pn	06 48 08.0 +3.0
GKN				*e*Sn	Sb	06 48 43.8 -1.9
	403nm,0.2s					
DMN	Daman	3.37	121	*e*Pn	Pn	06 48 15.8 +3.0
KKN	Kakani	3.41	117	*e*Pn	Pn	06 48 16.7 +3.4
DDI	Dehra Dun	3.43	286	*e*P	Pn	06 48 16.6 +3.2
DDI				*e*S	Sn	06 48 55.2 +2.2
DDI				IAML		06 48 56.5
	comp=N,872nm,0.3s					
DDI				IAML		06 48 57.0
	comp=E,522nm,0.3s					
PKIN	Phulchoki	3.61	120	*e*Pn	Pn	06 48 19.1 +3.1
PKIN				*e*Sn	Sn	06 49 02.2 +4.5
	comp=E,101nm,0.2s					
PKI	Pulchoki	3.62	120	*e*Pn	Pn	06 48 19.2 +3.0
GUN	Gumba	3.83	112	*e*Pn	Pn	06 48 22.1 +2.9
GUN				*e*Sn	Sn	06 49 07.5 +4.1
	comp=E,186nm,0.6s					
NDI	New Delhi	4.13	261	*ex*	Pb	06 48 34.0 0.0
NDI				*ex*	Sn	06 49 13.0 +2.7
JIRN	Jiri	4.19	114	*e*Pn	Pn	06 48 27.0 +2.9
JIRN				*e*Sn	Sn	06 49 15.9 +3.8
	comp=E,322nm,0.2s					
AYAN	Aya Nagar	4.25	259	*e*S	Sn	06 49 13.5 +0.3
SMLA	Simla	4.41	294	*e*P	Pn	06 48 28.0 +1.3
SMLA				*e*S	Sn	06 49 17.7 +0.7
SMLA				IAML		06 49 19.7
	comp=N,152nm,0.3s					
SMLA				IAML		06 49 20.1
	comp=E,196nm,0.5s					
RAMN	Ramite	4.85	119	*e*Pn	Pn	06 48 35.5 +2.5
RAMN				*e*Sn	Sn	06 49 30.0 +1.8
	comp=E,241nm,0.3s					
ODAN	Odare	5.50	116	*e*Pn	Pn	06 48 44.5 +2.5
TAPN	Taplejung	5.54	110	*e*Pn	Pn	06 48 45.5 +2.8
DHRM	DHARAMSHALA	5.56	302	*e*P	Pn	06 48 45.8 +3.0
DHRM				*e*S	Sn	06 49 44.9 -0.8
DHRM				IAML		06 49 48.7
	comp=N,127nm,0.7s					
DHRM				IAML		06 49 49.5
	comp=E,113nm,0.3s					
BOK	Bokaro	6.65	146	*e*P	Pn	06 48 59.0 +1.4
BOK				*e*S	Sn	06 50 12.7 +0.3
BHPL	Bhopal	7.32	214	*e*S	Sn	06 50 25.0 -4.0
BHPL				IAML		06 50 28.5
	comp=E,52nm,0.6s					
BHPL				IAML		06 50 32.0
	comp=N,57nm,0.7s					
LSA	Lhasa	8.09	86	Pn	Pn	06 49 18.1 +0.3
LSA				Sn	Sn	06 50 47.7 -0.8
CHCP	Chirah Chowk	8.47	302	P	Pn	06 49 23.9 +1.3
NIL	Nilore	8.48	302	Pn	Pn	06 49 23.2 +0.5
NIL				Sn	Sn	06 50 54.3 -3.0
THW	Thamme Wali	9.31	294	P	Pn	06 49 34.6 +0.5
CEP	Cherat	9.56	300	P	Pn	06 49 37.1 -0.5
CEP				S	Sn	06 51 20.0 -4.0
SHL	Shillong	9.69	111		Pn	06 49 39.2 -0.2
SHL				Sn	Sn	06 51 23.6 -3.7
HYB	Hyderabad	12.32	195	*i* P	Pn	06 50 14.0 -1.4
HYB				*e*S	Sn	06 52 23.0 -8.7
NRN	Naryn	12.91	340	Pn	Pn	06 50 24.3 +0.7
BOOM	Boomskoye usch	13.90	341	Pn	Pn	06 50 37.7 +0.7
ARSB	Arslanbob	13.91	331		Pn	06 50 35.1 -1.9
KK31	Karatay Array	16.43	329	Pn	Pn	06 51 07.7 -2.5
KKAR	Karatay Array	16.43	329		Pn	06 51 07.5 -2.7
KKAR	Karatay Array	16.43	329	Pn	Pn	06 51 07.2 -3.0
KKAR				IAmb	IAmb	06 51 14.6
	comp=Z,1.9nm,0.7s					
MK31	Makanchi Array	17.36	1	P	Pn	06 51 21.7 -0.1
MKAR	Makanchi Array	17.36	1	P	Pn	06 51 20.2 -1.6
	comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=7.2					
MKAR	Makanchi Array	17.36	1	P	Pn	06 51 20.7 -1.2
MAKZ	Makanchi	17.37	0	P	P	06 51 23.1 0.0
CMAR	Chiang Mai Arr	19.02	121	P	Pn	06 51 42.7 +0.4
	comp=Z,0.8nm,0.3s,baz=306,slow=11,SNR=10					
KURBB	Kurchatov Arra	21.34	354	P	P	06 52 06.3 0.0
	comp=Z,1.6nm,0.6s,baz=178,slow=9.9,SNR=15					
KURK	Kurchatov	21.42	354	P	P	06 52 07.0 -0.2
KURK				IAmb	IAmb	06 52 22.0
	comp=Z,4.1nm,0.8s					
SLVN	Son La	21.45	107	P	P	06 52 08.6 +0.7
SLVN				IAmb	IAmb	06 52 18.4
	comp=Z,9.7nm,1.2s					
GEYT	Alibeck	21.47	300	P	P	06 52 08.0 0.0
GYA0B	ALIBECK ARRAY	21.47	300	P	P	06 52 07.8 -0.1
ZAA0	Zalesovo Array	24.61	4	P	P	06 52 39.4 +0.1
ZAA0				IAmb	IAmb	06 52 40.7
	comp=Z,4.9nm,1.1s					
ZALV	Zalesovo Beam	24.61	4	P	P	06 52 39.9 +0.6
	comp=Z,2.1nm,0.7s,baz=194,slow=11,SNR=11					
ZALV	Zalesovo Beam	24.61	4	P	P	06 52 40.1 +0.8
BVAR	Borovoye Array	25.06	344	P	P	06 52 43.0 -0.4
	comp=Z,0.4nm,0.5s,baz=126,slow=11,SNR=3.2					
ABKAR	Abkulak array	25.92	326	P	P	06 52 51.3 +0.1
ABKAR	Abkulak array	25.92	326	P	P	06 52 51.5 +0.3
ABKAR				IAmb	IAmb	06 52 54.9
	comp=Z,2.7nm,0.7s					
SONM	Songino Array	26.38	39	P	P	06 52 57.7 +2.1
	comp=Z,2.8nm,0.9s,baz=230,slow=8.9,SNR=12					
SONM	Songino Array	26.38	39	P	P	06 52 55.5 -0.1
ASF	Jabal al Asfar	38.52	286	LR	LR	07 10 58.2
	comp=Z,89nm,21.7s,baz=172,slow=37					
KSRS	Korea Array	38.95	66	P	P	06 54 44.5 -0.7
	comp=Z,0.6nm,0.6s,baz=261,slow=8.6,SNR=4.3					
BRTR	Keskin Array B	40.60	298	P	P	06 54 59.5 +0.5
	comp=Z,0.8nm,0.7s,baz=120,slow=11,SNR=5.1					
BRTR	Keskin Array B	40.60	298	P	P	06 54 59.1 0.0
ELL	Elmali	43.70	294	P	P	06 55 25.7 +1.3
BURAR	Bucovina Array	46.82	309	P	P	06 55 48.8 -0.1
FINES	FINESS Array B	48.38	328	P	P	06 56 00.9 +0.2
	comp=Z,0.8nm,0.5s,baz=115,slow=8.6,SNR=7.1					
ARCES	ARCESS Array B	51.14	338	P	P	06 56 22.2 +0.6
	comp=Z,1.4nm,0.8s,baz=88,slow=7.9,SNR=3.7					
NOA	NORSAR Array B	55.42	326	P	P	06 56 52.8 -0.5
	comp=Z,0.6nm,0.7s,baz=91,slow=7.4,SNR=2.8					
ESDC	Sonseca Array	68.92	304	P	P	06 58 23.9 -0.3
	comp=Z,0.3nm,0.5s,baz=52,slow=6.8,SNR=5.4					
WRA	Warramunga Arr	70.47	128	P	P	06 58 34.0 +0.2
	comp=Z,1.8nm,0.5s,baz=322,slow=6.1,SNR=25					
WB2	Warramunga Arr	70.48	128	P	P	06 58 32.7 -1.1
ASAR	Alice Springs	72.72	131	P	P	06 58 47.3 0.0
	comp=Z,1.8nm,0.7s,baz=314,slow=6.2,SNR=24					
ASAR	Alice Springs	72.72	131	P	P	06 58 46.3 -1.0
TORD	Torodi Ar. Bea	75.19	277	P	P	06 59 01.3 -0.7
	comp=Z,0.2nm,0.5s,baz=17,slow=7.5,SNR=3.1					
ILAR	Eielson Array	78.76	19	P	P	06 59 21.5 +0.3
	comp=Z,0.7nm,0.8s,baz=291,slow=4.6,SNR=6.2					

ISCJB ***03*** *06:53:49.8±0.3,23°.60S±0°.05×112°.64W±0°.07,h10km, mb4.2/11,MS4.0/8,Error ellipse: s-maj=9.9km s-min=6.3km az=150.2*

IDC ***03*** *06:53:50.2±0.8,23°.62S×112°.75W,h0km,mb4.2/11, mb1 4.5/11,mb1mx4.3/28,mbtmp4.2/11,MS3.7/7, Ms1 3.7/7,ms1mx3.4/19,Error ellipse: s-maj=34.3km s-min=18.2km az=45.0*

NEIC ***03*** *06:53:51.4±1.3,23°.7S±0°.1×112°.7W±0°.1,h10km±1km, mb4.8/145*

BJI ***03*** *06:53:53.0±0.0,23°.70S×112°.80W,h10km,Ms7 4.7/2*

GCMT ***03*** *06:53:55.3±0.6,23°.76S±0°.04×112°.52W±0°.04,h22km±1km, MW4.9/67,Moment Tensor Solution. s19,c26; s67,c87; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.95±.21; $M_{\theta\theta}$2.38±.13; $M_{\phi\phi}$0.57±.12; $M_{r\theta}$0.18±.18; $M_{\theta\phi}$-0.53±.08; $M_{r\phi}$0.40±.25; Best double couple: $M_0$2.76500×10^16 NP1:ϕ_s278.00000°,δ46.00000°,λ-100.00000°. NP2: ϕ_s112.00000°,δ45.00000°,λ-80.00000°. Principal axes: T 2.5260, Plg1.0000°, Azm15.0000°; N 0.4830, Plg7.0000°, Azm285.0000°; P -3.0050, Plg83.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 06:53:51.4±0.4,23°.65S±0°.09×112°.68W±0°.10,h10km, n215,σ0.80/207,mb4.8/67,MS3.9/8,1C,Easter Island

Code	region Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	4.60	140	LR	LR	06 56 18.3	
	comp=Z,420nm,18.4s,baz=290,slow=32						
NNA	Nana	35.93	77	P	P	07 00 53.5	+1.1
NNA				IAmb	IAmb	07 01 02.1	
	comp=Z,16nm,1.0s						
LCO	Las Campanas	37.86	107	P	P	07 01 07.9	-1.1
PLCA	Paso Flores	39.10	126	P	P	07 01 20.9	+2.0
	comp=Z,1.4nm,1.1s,baz=293,slow=10,SNR=3.2						
PLCA	Paso Flores	39.10	126	P	P	07 01 19.0	0.0
GO02	Mina Guanaco	39.15	101	P	P	07 01 19.8	0.0
GO02				IAmb	IAmb	07 01 37.4	
	comp=Z,27nm,1.4s						
CFA	Coronel Fontan	39.95	111	P	P	07 01 27.0	+0.8
	comp=Z,4.9nm,1.1s,baz=256,slow=7.8,SNR=7.0						
PB11	IPOC Station P	40.05	93	P	P	07 01 27.4	+0.1
GO01	Chusmiza	40.50	93	P	P	07 01 31.9	+0.5
OTAV	Otavalo	40.84	59	P	P	07 01 32.7	-1.4
LPAZ	La Paz	42.37	89	P	P	07 01 48.3	+1.4
	comp=Z,4.1nm,0.7s,baz=260,slow=4.6,SNR=15						
LPAZ	La Paz	42.37	89	P	P	07 01 45.4	-1.6
TLIG	Tlapa	43.22	20	P	P	07 01 53.2	+0.2
TLIG				IAmb	IAmb	07 01 56.8	
	comp=Z,24nm,1.5s						
MOIG	Morelia	44.50	16	P	P	07 02 03.3	-0.1
MOIG				IAmb	IAmb	07 02 10.8	
	comp=Z,18nm,1.0s						
ESTN	Estel	44.68	38	P	P	07 02 05.6	+0.8
ESTN				IAmb	IAmb	07 02 14.6	
	comp=Z,19nm,1.3s						
ESPN	Las Esperanzas	45.16	41	P	P	07 02 08.6	0.0
ESPN				IAmb	IAmb	07 02 11.0	
	comp=Z,19nm,1.5s						
TRQA	Tornquist	45.30	121	P	P	07 02 10.8	+1.2
TRQA				IAmb	IAmb	07 02 14.2	
	comp=Z,10nm,1.1s						
BCIP	Isla Barro Col	45.77	48	P	P	07 02 11.6	-1.8
BCIP				IAmb	IAmb	07 02 13.1	
	comp=Z,16nm,1.1s						
ROSC	El Rosal	46.91	58	LR	LR	07 18 30.9	
	comp=Z,74nm,19.1s,baz=202,slow=32						
SAML	Samuel	49.45	81	P	P	07 02 41.9	-0.3
SDV	Santo Domingo	52.29	57	P	P	07 03 03.7	0.0
HSIG		52.39	2	P	P	07 03 03.5	-0.4
HSIG				IAmb	IAmb	07 03 07.9	
	comp=Z,12nm,1.4s						
KVTX	Kingsville	52.86	17	P	P	07 03 09.5	+2.2
833A	Chaparral WMA,	53.23	15	P	P	07 03 10.5	+0.4
833A				IAmb	IAmb	07 03 19.8	
	comp=Z,9.6nm,0.8s						
TX32	Lajitas Array	53.38	10	P	P	07 03 11.5	+0.2
TXAR	Lajitas Array	53.38	10	P	P	07 03 12.4	+1.0
	comp=Z,0.7nm,0.8s,baz=191,slow=11,SNR=6.4						
TXAR				LR	LR	07 20 24.8	
	comp=Z,29nm,20.4s,baz=0.0,slow=30						
TXAR	Lajitas Array	53.38	10	P	P	07 03 11.7	+0.3
319A	Douglas	54.81	4	P	P	07 03 23.4	+1.6
319A				IAmb	IAmb	07 03 36.5	
	comp=Z,6.9nm,1.1s						
JCT	Junction City	55.22	14	P	P	07 03 25.1	+0.5
JCT				IAmb	IAmb	07 03 29.4	
	comp=Z,13nm,1.0s						
214A	Organ Pipe Nat	55.29	360	P	P	07 03 25.2	+0.1
MNTX	Cornudas Mount	55.47	8	P	P	07 03 26.2	-0.3
TUC	Tucson	55.67	2	P	P	07 03 28.8	+0.9
HKT	Hockley	55.69	18	P	P	07 03 27.9	0.0
HKT				IAmb	IAmb	07 03 31.1	
	comp=Z,8.2nm,1.2s						
PTGA	Pitinga	55.91	74	P	P	07 03 29.7	-0.3
435B	Jarrell	56.02	16	P	P	07 03 30.9	+0.5
435B				IAmb	IAmb	07 03 32.5	
	comp=Z,18nm,1.4s						
121A	Cookes Peak, D	56.06	5	P	P	07 03 32.3	+1.5
121A				IAmb	IAmb	07 03 37.4	
	comp=Z,8.2nm,0.9s						
113A	Mohawk Valley,	56.11	359	P	P	07 03 32.3	+1.4
BAR	Barrett	56.14	356	P	P	07 03 32.5	+1.3
PFO	Pinyon Flats O	57.05	356	P	P	07 03 38.3	+0.5
Y12C	Blythe	57.11	358	P	P	07 03 39.1	+1.1
Y14A	Wickenburg	57.27	360	P	P	07 03 39.0	-0.3
-ABTX	Abilene, Hawle	57.32	13	P	P	07 03 38.9	-0.7
PASC	Pasadena Art C	57.74	355	P	P	07 03 43.2	+0.8
PASC				IAmb	IAmb	07 03 45.0	
	comp=Z,16nm,1.3s						
LENM	Lemitar	57.75	6	P	P	07 03 44.0	+1.2
BNM	Barren Site	57.77	6	P	P	07 03 44.4	+1.4
X18A	Snowflake	57.91	3	P	P	07 03 44.4	+0.5
X18A				IAmb	IAmb	07 03 46.4	
	comp=Z,11nm,1.2s						
LPM	Los Pinos Moun	57.92	6	P	P	07 03 44.2	+0.2
061Z	Ochoppi	58.04	34	P	P	07 03 44.0	-0.7
MSTX	Muleshoe	58.07	10	P	P	07 03 44.7	-0.2
MSTX				IAmb	IAmb	07 03 48.0	
	comp=Z,5.2nm,0.8s						
W13A	Hualapai Mount	58.44	359	P	P	07 03 47.4	-0.3
W18A	Petrified Fore	58.51	3	P	P	07 03 47.8	-0.3
ANMO	Albuquerque	58.57	6	P	P	07 03 48.1	-0.5
GSC	Goldstone, Bar	58.76	356	P	P	07 03 49.3	-0.4
GSC				IAmb	IAmb	07 03 52.3	
	comp=Z,14nm,1.5s						
059A	Moore Haven	58.83	33	P	P	07 03 50.3	+0.1
WUAZ	Wupatki	58.85	1	P	P	07 03 51.4	+0.9
WUAZ				IAmb	IAmb	07 03 54.1	
	comp=Z,11nm,1.4s						
ISA	Isabella, Lake	59.24	355	P	P	07 03 53.4	+0.4
ISA				IAmb	IAmb	07 03 55.4	
	comp=Z,7.0nm,1.4s						
060A	Indiantown	59.28	34	P	P	07 03 53.4	0.0
VBMS	Vicksburg	59.45	22	P	P	07 03 53.9	-0.5
WMOK	Wichita Mounta	59.55	13	P	P	07 03 54.5	-0.6
U15A	North Rim	59.75	0	P	P	07 03 57.9	+1.1
U15A				IAmb	IAmb	07 03 59.4	
	comp=Z,13nm,1.4s						
KHU	Kahuku	59.76	312	P	P	07 03 57.1	0.0
DAC	Darwin (Calif)	59.78	355	P	P	07 03 58.9	+2.0
SHPR	Sheep Range	59.87	358	P	P	07 03 58.3	+0.8
SHPR				IAmb	IAmb	07 04 00.5	
	comp=Z,12nm,1.2s						
LCMT	Little Creek M	60.34	359	P	P	07 04 00.8	+0.2
KNB	Kanab	60.34	360	P	P	07 04 01.9	+1.2
TPNV	Topopah Spring	60.36	357	P	P	07 04 00.7	-0.1
MVCO	Mesa Verde	60.66	4	P	P	07 04 03.4	+0.5
PKCU	Pink Cliffs	60.77	0	P	P	07 04 04.3	+0.5
CCUT	Cedar City	60.87	359	P	P	07 04 06.1	+1.7
BDFB	Brasilia	60.99	95	P	P	07 04 05.7	+0.1
	comp=Z,4.6nm,0.9s,baz=228,slow=8.5,SNR=4.8						
BDFB	Brasilia	60.99	95	IAmb	IAmb	07 04 19.2	
	comp=Z,16nm,1.5s						
UALR	University of	61.23	19	P	P	07 04 06.2	-0.3
UALR				IAmb	IAmb	07 04 11.1	
	comp=Z,8.1nm,1.1s						
S22A	4UR Ranch, Cre	61.31	5	P	P	07 04 07.4	0.0
TUL1	Leonard	61.35	16	P	P	07 04 06.9	-0.5
TUL1				IAmb	IAmb	07 04 07.3	
	comp=Z,5.9nm,0.8s						
SDCO	Great Sand Dun	61.44	6	P	P	07 04 08.0	-0.3
R11A	Troy Canyon, C	61.73	357	P	P	07 04 10.7	+0.6
CMB	Columbia Colle	61.78	353	P	P	07 04 10.5	+0.2
CMB				IAmb	IAmb	07 04 17.3	
	comp=Z,6.0nm,1.2s						
PV04	Paradox Valley	61.81	3	P	P	07 04 11.5	+0.8
PV04				IAmb	IAmb	07 04 11.8	
	comp=Z,8.1nm,1.2s						
PSUT	Pine Spring	61.86	359	P	P	07 04 11.7	+0.6
PV22	Blue Mesa, Par	61.96	3	P	P	07 04 11.5	-0.2
NV11	Mina Array Sit	61.96	355	P	P	07 04 12.1	+0.5
NV11				IAmb	IAmb	07 04 17.3	
	comp=Z,9.1nm,1.1s						
NVAR	Mina Array Bea	61.97	355	P	P	07 04 13.3	+1.5
	comp=Z,4.2nm,0.8s,baz=185,slow=9.9,SNR=29						
NVAR				LR	LR	07 25 00.9	
	comp=Z,81nm,19.1s,baz=146,slow=30						
NVAR	Mina Array Bea	61.97	355	P	P	07 04 13.2	+1.3
PV21	Cone Mtn., Par	61.98	3	P	P	07 04 12.0	+0.2
PV21				IAmb	IAmb	07 04 13.5	
	comp=Z,4.4nm,0.8s						
Q16A	Castle Valley	62.25	1	P	P	07 04 14.3	+0.6
SRU	San Rafael Swe	62.46	2	P	P	07 04 15.1	0.0
KVN	Kaiserville	62.58	355	P	P	07 04 16.7	+0.9
KVN				IAmb	IAmb	07 04 18.3	
	comp=Z,11nm,1.4s						
YERR	Yerington	62.60	354	P	P	07 04 16.0	0.0
YERR				IAmb	IAmb	07 04 18.2	
	comp=Z,5.1nm,0.9s						
TMUT	Trail Mountain	62.63	1	P	P	07 04 16.0	-0.3
PLAL	Pickwick Lake	62.81	23	P	P	07 04 16.5	-0.7
PLAL				IAmb	IAmb	07 04 17.6	
	comp=Z,6.2nm,0.7s						
P17A	Butcher Ranch,	62.82	2	P	P	07 04 17.8	+0.5
VCNR	Virginia City	62.95	354		P	07 04 17.1	-1.2
VCNR				IAmb	IAmb	07 04 20.1	
	comp=Z,8.0nm,1.3s						
KSCO	Kaye Shedlock'	63.04	9	P	P	07 04 18.6	-0.2
NNZ	Nelson	63.05	234	P	P	07 04 18.2	-0.8
NLU	North Lily Min	63.27	1	P	P	07 04 20.2	-0.3
MPU	Maple Canyon	63.34	1	P	P	07 04 21.4	+0.6
ORV	Oroville	63.41	352	P	P	07 04 21.8	+0.7
ORV				IAmb	IAmb	07 04 23.6	
	comp=Z,7.7nm,1.3s						
DUG	Dugway, Tooele	63.51	360	P	P	07 04 22.2	+0.2
PBMO	Poplar Bluff	63.66	20	P	P	07 04 22.4	-0.4
QRZ	Quartz Range	63.75	235	P	P	07 04 23.9	+0.3
SWET	Sewanee	63.80	24	P	P	07 04 22.4	-1.5
KCPM	Cahto Peak	63.82	351	P	P	07 04 25.6	+1.6
BMN	Battle Mountai	63.89	356	P	P	07 04 26.0	+1.6
BMN				IAmb	IAmb	07 04 30.1	
	comp=Z,13nm,1.4s						
WVT	Waverly	63.93	22	P	P	07 04 23.1	-1.5
WVT				IAmb	IAmb	07 04 24.7	
	comp=Z,5.8nm,0.7s						
JLU	Jordanelle	63.93	1	P	P	07 04 24.0	-0.8
RDMU	Red Mountain	63.95	3	P	P	07 04 25.1	+0.1
ELK	Elko	64.11	358	P	P	07 04 25.5	-0.5
ELK				IAmb	IAmb	07 04 28.2	
	comp=Z,8.6nm,1.4s						
TCUT	Toone Canyon	64.44	1	P	P	07 04 27.2	-1.0
W52A	Murphy	64.47	26	P	P	07 04 28.0	-0.2
CCM	Cathedral Cave	64.60	19	P	P	07 04 28.9	0.0
BG3	Lake Jocassee	64.79	27	P	P	07 04 29.9	-0.4
BG3				IAmb	IAmb	07 04 34.5	
	comp=Z,6.8nm,1.0s						
JSC	Jenkinsville	64.89	28	P	P	07 04 30.7	-0.2
T47A	Sharon Grove	64.95	22	P	P	07 04 31.2	0.0
TKL	Tuckaleechee C	65.02	26	LR	LR	07 28 32.7	
	comp=Z,77nm,18.5s,baz=184,slow=32						
MOD	Modoc Plateau	65.60	354	P	P	07 04 37.2	+1.6
MOD				IAmb	IAmb	07 04 40.6	
	comp=Z,6.9nm,0.9s						
AHID	Auburn Hatcher	66.10	1	P	P	07 04 38.7	-0.1
BW06	Boulder Array	66.14	3	P	P	07 04 38.4	-0.8
BW06				IAmb	IAmb	07 04 43.0	
	comp=Z,7.6nm,1.2s						
PD31	Pinedale Array	66.14	3	P	P	07 04 38.6	-0.5
PD31				IAmb	IAmb	07 04 40.5	
	comp=Z,3.9nm,0.8s						
PDAR	Pinedale Array	66.14	3	P	P	07 04 38.6	-0.5
	comp=Z,2.4nm,0.7s,baz=172,slow=6.6,SNR=25						
PDAR	Pinedale Array	66.14	3	P	P	07 04 38.8	-0.4
K22A	Casper	66.21	5	P	P	07 04 39.0	-0.6
K22A				IAmb	IAmb	07 04 42.4	
	comp=Z,8.3nm,1.1s						
WCI	Wyandotte Cave	66.35	22	P	P	07 04 39.5	-0.8
WCI				IAmb	IAmb	07 04 40.3	
	comp=Z,6.0nm,0.7s						
QSPA	South Pole Qui	66.51	180	P	P	07 04 40.6	-0.6
REDW	Red Top Meadow	66.70	1	P	P	07 04 43.5	+0.8
REDW				IAmb	IAmb	07 04 46.0	
	comp=Z,4.4nm,0.9s						
MFID	Camas Ranch	66.79	358	P	P	07 04 43.0	-0.2
SNOW	Snow King Moun	66.80	2	P	P	07 04 43.4	0.0
TPAW	Teton Pass	66.82	1	P	P	07 04 43.7	+0.1
LOHW	Long Hollow	66.95	2	P	P	07 04 44.1	-0.2
LOHW				IAmb	IAmb	07 04 47.4	
	comp=Z,5.5nm,0.9s						
FXWY	Fox Creek	66.97	1	P	P	07 04 44.4	0.0
FXWY				IAmb	IAmb	07 04 47.7	
	comp=Z,4.5nm,0.9s						
MOOW	Moose Ponds	67.09	2	P	P	07 04 45.0	-0.1
MOOW				IAmb	IAmb	07 04 52.7	
	comp=Z,12nm,1.4s						
IMW	Indian Meadow	67.23	1	P	P	07 04 46.0	-0.2
IMW				IAmb	IAmb	07 04 49.4	
	comp=Z,6.5nm,1.0s						
FLWY	Flagg Ranch	67.42	2	P	P	07 04 47.5	+0.2
HDIL	Hopedale	67.48	19	P	P	07 04 47.6	+0.2
RSSD	Black Hills	67.90	7	P	P	07 04 50.2	0.0
RSSD				IAmb	IAmb	07 04 54.6	
	comp=Z,8.7nm,1.1s						
YHH	Holmes Hill	68.12	1	P	P	07 04 52.0	+0.2
MCMT	McKenzie Canyo	68.14	360	P	P	07 04 52.5	+0.7
QLMT	Earthquake Lak	68.15	1	P	P	07 04 53.0	+1.2
YHL	Hebgen Lake	68.18	1	P	P	07 04 51.9	-0.2
BMO	Blue Mountains	68.30	356	P	P	07 04 53.0	+0.4
BMO				IAmb	IAmb	07 04 55.4	
	comp=Z,13nm,1.4s						
PLID	Pearl Lake	68.47	357	P	P	07 04 53.5	-0.4
RLMT	Red Lodge	68.51	3	P	P	07 04 53.7	-0.3
RLMT				IAmb	IAmb	07 04 58.1	
	comp=Z,8.9nm,1.1s						
DLMT	Dillon	68.68	0	P	P	07 04 54.8	-0.3
DLMT				IAmb	IAmb	07 04 56.0	
	comp=Z,8.4nm,1.2s						
U61A	Possum Corner	68.78	31	P	P	07 04 55.9	+0.2
G08A	Pilot Rock	68.84	355	P	P	07 04 56.0	0.0
G08A				IAmb	IAmb	07 04

Code	Station Name	Δ°	ΔZ°	Phase	ID	ISC	Time h m s	Res ISC
BPAW	**Bear Paw Mtn.**	**92.42**	**344**	P	**P**		**07 07 01.6**	**-0.3**
INK	**Inuvik**	**92.96**	**352**	P	**P**		**07 07 04.0**	**-0.2**
FYU	**Fort Yukon**	**93.23**	**348**	P	**P**		**07 07 05.7**	**+0.1**
BMAR	**Burnt Mountain**	**93.86**	**348**	P	**P**		**07 07 09.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**117.31**	**87**	PKP	**PKPdf**		**07 12 37.0**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=252,slow=2.3,SNR=3.2							
TORD	**Torodi Ar. Bea**	**117.31**	**87**		**PKPdf**		**07 12 37.0**	**-0.9**
KSRS	**Korea Array**	**126.85**	**300**	PKP	**PKPdf**		**07 12 56.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=144,slow=2.3,SNR=4.7							
NJ2	**Nanjing**	**134.03**	**292**	*e*PKP	**PKPdf**		**07 13 07.6**	**-1.8**
WHN	**Wuhan**	**137.81**	**290**	PKP	**PKPdf**		**07 13 17.3**	**+0.8**
HHC	**Hu-ho-hao-te**	**139.31**	**306**	PKP	**PKPdf**		**07 13 20.0**	**+0.9**
SONM	**Songino Array**	**140.75**	**318**	PKP	**PKPdf**		**07 13 22.1**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=354,slow=1.6,SNR=2.9							
ZAA0	**Zalesovo Array**	**147.00**	**341**		**PKPdf**		**07 13 33.2**	**+1.1**
ZALV	**Zalesovo Beam**	**147.00**	**341**	PKPbc	**PKPdf**		**07 13 33.3**	**+1.3**
	comp=Z,4.4nm,0.6s,baz=17,slow=2.2,SNR=15							
ZALV	**Zalesovo Beam**	**147.00**	**341**		**PKPdf**		**07 13 32.1**	**0.0**
BR131	**Keskin Array S**	**147.40**	**53**		**PKPbc**		**07 13 35.7**	**-0.2**
BRTR	**Keskin Array B**	**147.40**	**53**	PKPbc	**PKPbc**		**07 13 36.0**	**+0.1**
	comp=Z,3.3nm,1.0s,baz=222,slow=1.7,SNR=12							
GTA	**Gaotai**	**148.36**	**307**	PKPbc	**PKPbc**		**07 13 39.0**	**+0.6**
GTA				pPKP	pPKPab		07 13 44.0	+0.1
GTA				LR	LR			
	comp=Z,140nm,19.2s							
CSS	**Mathiatis**	**148.43**	**61**		**PKPdf**		**07 13 33.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**150.08**	**266**	PKPbc	**PKPbc**		**07 13 44.4**	**+1.2**
	comp=Z,5.2nm,0.9s,baz=77,slow=0.6,SNR=28							
CHTO	**Chiang Mai**	**150.17**	**267**		**PKPbc**		**07 13 44.1**	**+0.7**
MMAI	**Mount Meron Ar**	**150.49**	**64**	PKPbc	**PKPbc**		**07 13 43.9**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=306,slow=4.8,SNR=3.7							
EIL	**Elat**	**150.52**	**71**	PKPbc	**PKPbc**		**07 13 43.3**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=17,slow=4.9,SNR=5.7							
BVAR	**Borovoye Array**	**150.57**	**356**	PKPbc	**PKPbc**		**07 13 43.3**	**0.0**
	comp=Z,2.3nm,0.7s,baz=2.7,slow=3.1,SNR=8.2							
BVAR				PKPab	**PKPab**		**07 13 50.1**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=342,slow=1.4,SNR=8.7							
KURK	**Kurchatov**	**151.59**	**345**		**PKPbc**		**07 13 45.2**	**-0.5**
KURK					**PKPab**		**07 13 53.9**	**-0.3**
KBZ	**Khabaz**	**151.65**	**39**	PKPbc	**PKPbc**		**07 13 46.7**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=214,slow=4.6,SNR=5.2							
KURBB	**Kurchatov Arra**	**151.69**	**345**	PKPbc	**PKPbc**		**07 13 45.2**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=22,slow=2.0,SNR=18							
KURBB				PKPab	**PKPab**		**07 13 53.9**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=23,slow=4.5,SNR=7.5							
ASF	**Jabal al Asfar**	**151.88**	**66**	PKPbc	**PKPbc**		**07 13 47.6**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=259,slow=3.3,SNR=4.4							
AKTO	**Aktyubinsk**	**152.29**	**13**	PKPbc	**PKPbc**		**07 13 47.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=332,slow=4.0,SNR=4.6							
ABKAR	**Akbulak array**	**153.79**	**11**		**PKPdf**		**07 13 41.2**	**-1.5**
ABKAR					**PKPbc**		**07 13 50.3**	**-0.4**
ABKAR	**Akbulak array**	**153.79**	**11**		**PKPdf**		**07 13 41.4**	**-1.4**
WMQ	**Urumqi**	**153.82**	**325**	*e*PKPbc	**PKPdf**		**07 13 42.3**	**-0.8**
WMQ				LR	LR			
	comp=Z,110nm,29.1s							
MKAR	**Makanchi Array**	**153.96**	**336**	PKPbc	**PKPbc**		**07 13 50.7**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=33,slow=2.1,SNR=18							
MKAR	**Makanchi Array**	**153.96**	**336**		**PKPdf**		**07 13 42.5**	**-0.7**
MKAR				PKPbc	**PKPbc**		**07 13 50.7**	**-0.5**
MKAR				PKPab	**PKPab**		**07 14 02.6**	**-1.8**
KSH	**Kashi**	**162.56**	**337**	*e*PKP	**PKPdf**		**07 13 55.7**	**+1.8**
GEYT	**Alibeck**	**163.73**	**27**	PKP	**PKPdf**		**07 13 55.9**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=251,slow=4.4,SNR=3.8							

BJI ***03*** *06:54:02.1±0.0, 10.°02N×92.°82E, h51km, mb4.7/50, mB4.9/37, Ms5.2/25, Ms7 4.9/26*

NDI ***03*** *06:54:04.1±2.6, 10.°39N×92.°56E, h5km±19km, mb4.4, ML4.4, mb4.8(NEIC)*

MOS ***03*** *06:54:04.8±1.0, 10.°51N×92.°91E, h50km, mb5.0/40, Error ellipse: s-maj=7.2km s-min=4.9km az=98.3*

ISCJB ***03*** *06:54:06.9±0.4, 10.°48N±0.°02×92.°88E±0.°03, h69km±4km, mb4.7/90, Error ellipse: s-maj=5.2km s-min=2.9km az=148.0*

NEIC ***03*** *06:54:07.3±1.8, 10.°55N±0.°02×92.°87E±0.°08, h55km±6km, mb4.8/77*

IDC ***03*** *06:54:08.2±1.6, 10.°49N×92.°98E, h60km±13km, mb4.2/36, mb1 4.3/38, mb1mx4.2/59, mbtmp4.5/38, MS4.0/13, Ms1 4.0/13, ms1mx3.8/35, Error ellipse: s-maj=13.0km s-min=8.3km az=56.0*

DJA ***03*** *06:54:08.5±0.3, 11.°N±2.°×9.°3E±.°, h50km±4km, M4.9/25, mB5.3/6, mb4.8/25, MLv5.1/3, Mw(mB)4.7/6*

ISC 03 06:54:06.9±0.4, 10.46N±0.°04×92.77E±0.°04, h54km±3km, h54km:pP-P, n339, σ1°69/376, mb4.7/107, MS4.1/18, 17C-14D, Andaman Islands region

Code	Station Name	Δ°	ΔZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.19**	**359**	*e*P		Pn	06 54 26.8	-0.5
PBA				*i* x		x	06 54 28.8	
PBA				*e*S		Sn	06 54 45.3	+2.9
PBA				IAML			06 54 50.5	
	comp=E,7μm,0.4s							
PBA				IAML			06 54 50.9	
	comp=N,4μm,0.3s							
PBA	**Port Blair**	**1.19**	**359**			Pn	06 54 26.7	-0.6
PBA						Sn	06 54 40.9	-1.5
DGPR	**DIGLIPUR**	**2.70**	**3**	*e*P		**Pn**	**06 54 52.0**	**+4.1**
DGPR				*e*S		**Sn**	**06 55 25.9**	**+6.5**
CMBY	**CAMPBELL BAY**	**3.62**	**162**	*e*P		**Pn**	**06 55 01.8**	**+1.4**
CMBY				*e*S		**Sn**	**06 55 41.8**	**-0.2**
CMBY				IAML			06 55 44.6	
	comp=E,2μm,0.4s							
CMBY				IAML			06 55 46.1	
	comp=N,1μm,0.2s							
PKDT	**Phuket**	**6.06**	**114**	P		**Pn**	**06 55 35.5**	**+1.5**
	comp=N,75nm,0.5s,comp=N,5μmcomp=N,0.9nm							
LHMI	**Lhok Sumawe**	**6.64**	**141**	P		**Pn**	**06 55 43.9**	**+1.9**
	comp=N,335nm,0.6s,comp=N,3μmcomp=N,1.2nm							
LHMI				S		**Sn**	**06 57 00.0**	**+3.5**
	comp=N,335nm,0.6s,comp=N,3μmcomp=N,1.2nm							
LHMI	**Lhok Sumawe**	**6.64**	**141**			**Pn**	**06 55 43.0**	**+0.9**
KHLT	**Khaolaem Dam**	**7.12**	**52**	P		**Pn**	**06 55 46.7**	**-1.9**
	comp=N,338nm,1.0s,comp=N,3μmcomp=N,1.1nm							
MLSI	**Meulaboh, Aceh**	**7.13**	**149**	P		**Pn**	**06 55 50.5**	**+1.8**
	comp=N,252nm,1.0s,comp=N,0.8nm							
MLSI				S		**Sn**	**06 57 12.2**	**+3.7**
	comp=N,252nm,1.0s,comp=N,0.8nm							
TRTT	**Trang**	**7.31**	**110**	P		**Pn**	**06 55 51.9**	**+0.7**
	comp=N,85nm,0.7s,comp=N,0.3nm							
UMPA	**Umpang Tak**	**8.22**	**45**	P		**Pn**	**06 56 04.6**	**+0.9**
	comp=N,276μm,0.8s,comp=N,728nm							
UTHA	**Uthaitani**	**8.24**	**51**	P		**Pn**	**06 56 05.7**	**+1.8**
	comp=N,93μm,0.9s,comp=N,832μmcomp=N,329nm							
PATY	**Pattaya**	**8.29**	**72**	P		**Pn**	**06 56 06.5**	**+1.9**
	comp=N,298μm,0.6s,comp=N,1μm							
TPTI		**8.39**	**148**	P		**Pn**	**06 56 09.8**	**+3.9**
	comp=N,32nm,1.0s							
SKLT	**Songkhla**	**8.42**	**112**	P		Pn	06 56 22.2	+16
MHMT	**Maesarieng**	**9.15**	**33**	P		**Pn**	**06 56 18.4**	**+2.0**
	comp=N,47nm,1.0s,comp=N,1μmcomp=N,0.2nm							
KULM	**Kulim**	**9.34**	**123**			**Pn**	**06 56 18.9**	**-0.2**
KULM					Sn	**Sn**	**06 58 02.6**	**-0.1**
PSI	**Prapat**	**9.76**	**141**	P		**Pn**	**06 56 27.0**	**+2.2**
PSI							06 58 15.8	
PSI	**Prapat**	**9.76**	**141**	P		**Pn**	**06 56 27.4**	**+2.6**
	comp=N,2.4nm,0.3s,baz=331,slow=12,SNR=15							
PSI				S		**Sn**	**06 58 15.8**	**+2.7**
	comp=N,1.4nm,0.3s,baz=288,slow=16,SNR=2.2							
PSI				LR		LR	07 00 35.4	
	comp=N,792nm,20.3s,baz=317,slow=40							
RPSI	**Rantau Prapat**	**9.84**	**141**			**Pn**	**06 56 27.0**	**+1.1**
RPSI	**Rantau Prapat**	**9.84**	**141**			**Pn**	**06 56 27.4**	**+1.5**
RPSI						**Sn**	**06 58 15.8**	**+0.8**
CM31	**Chiang Mai Arr**	**9.94**	**36**			**Pn**	**06 56 29.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**9.94**	**36**	P		**Pn**	**06 56 28.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**9.94**	**36**	P		**Pn**	**06 56 28.5**	**+1.3**
	comp=N,5.0nm,0.3s,baz=225,slow=15,SNR=49							
CMAR				LR		LR	07 00 36.2	
	comp=N,859nm,20.2s,baz=214,slow=40							
CMAR	**Chiang Mai Arr**	**9.94**	**36**			**Pn**	**06 56 28.4**	**+1.2**
PBKT	**Sadao Pong**	**10.02**	**52**	P		**Pn**	**06 56 30.2**	**+2.0**
PBKT	**Sadao Pong**	**10.02**	**52**			**Pn**	**06 56 28.4**	**+0.2**
IPM	**Ipoh**	**10.11**	**125**			**Pn**	**06 56 29.0**	**-0.6**
CHTO	**Chiang Mai**	**10.22**	**35**	P		**Pn**	**06 56 29.9**	**-1.2**
CHTO	**Chiang Mai**	**10.22**	**35**			**Pn**	**06 56 29.9**	**-1.2**
CMMT	**Chiang Mai**	**10.22**	**35**	P		**Pn**	**06 56 33.8**	**+2.7**
	comp=N,22nm,1.3s,comp=N,343nm							
GSI	**Gunungsitoli**	**10.28**	**152**	Pn		**Pn**	**06 56 30.5**	**-1.3**
LAMP	**Lampang**	**10.40**	**39**	P		Pn	06 56 39.2	+5.7
	comp=N,87μm,0.8s							
CHAI	**Chaiyaphum**	**10.47**	**58**	P		**Pn**	**06 56 37.0**	**+2.5**
	comp=N,51μm,1.1s							
PAYA	**Payao**	**11.19**	**37**	P		**Pn**	**06 56 45.9**	**+1.6**
	comp=N,187μm,0.9s							
VIS	**Vishakhapatnam**	**11.66**	**309**	*i* P		**Pn**	**06 56 49.2**	**-1.4**
VIS				*i* P		**Pn**	**06 56 49.2**	**-1.4**
VIS				*ex*		x	06 56 54.0	
	comp=Z,189nm,1.1s							
VIS				*ex*		x	06 56 54.0	
	comp=Z,189nm,1.1s							
VIS				*i* S		Sn	06 58 47.9	-11
PALK	**Pallekele**	**12.34**	**256**	P		**Pn**	**06 57 00.5**	**+0.4**
PALK	**Pallekele**	**12.34**	**256**	P		**Pn**	**06 57 00.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=116,slow=9.4,SNR=7.9							
PALK				S		**Sn**	**06 59 07.9**	**-8.3**
	comp=Z,5.7nm,0.3s,baz=116,slow=23,SNR=9.5							
PALK				LR		LR	07 01 26.0	
	comp=Z,1μm,21.7s,baz=115,slow=35							
PALK	**Pallekele**	**12.34**	**256**			**Pn**	**06 57 00.5**	**+0.4**
PALK						**Sn**	**06 59 10.3**	**-5.9**
NONG	**Nongkai**	**12.57**	**52**	P		**Pn**	**06 57 05.5**	**+2.4**
	comp=Z,0.6nm,1.0s							
PDSI	**Padang**	**13.65**	**145**	P		**P**	**06 57 22.1**	**-3.0**
	comp=Z,24nm,0.9s,comp=Z,851nm							
MYKOM	**Kota Tinggi**	**13.98**	**127**			**Pn**	**06 57 22.3**	**0.0**
SHL	**Shillong**	**15.04**	**357**	P		**Pn**	**06 57 32.1**	**-4.4**
SHL	**Shillong**	**15.04**	**357**			**Pn**	**06 57 32.1**	**-4.4**
SLVN	**Son La**	**15.20**	**43**			**Pn**	**06 57 36.2**	**-2.2**
SLVN				IAmb		IAmb	06 57 44.8	
	comp=Z,76nm,1.1s							
HYB	**Hyderabad**	**15.43**	**298**	*i* P		**Pn**	**06 57 41.0**	**-0.3**
HYB				*e*S		**Sn**	**07 00 31.0**	**-0.3**
NGP	**Nagpur**	**16.93**	**311**	*e*P		**Pn**	**06 58 00.0**	**-0.3**
NGP				*e*P		**P**	**06 58 03.6**	**+2.0**
NGP				*ex*		x	06 58 06.5	
	comp=Z,45nm,1.5s							
ODAN	**Odare**	**17.08**	**343**	*e*P		**P**	**06 58 03.4**	**0.0**
	comp=Z,18nm,0.4s							
KMI	**Kunming**	**17.38**	**32**	P		**P**	**06 58 07.5**	**+0.8**
KMI				pP		pP	06 58 18.5	+0.2
KMI				sP		sP	06 58 24.7	-0.3
KMI				S		**Sn**	**07 01 18.9**	**+0.1**
KMI				pmax		pmax		
	comp=Z,43nm,1.0s							
KMI				pmax		pmax		
	comp=Z,140nm,4.7s							
KMI	**Kunming**	**17.38**	**32**	P		**Pn**	**06 58 03.7**	**-2.3**
KMI				pmax		pmax		
	comp=Z,51nm,1.1s							
KMI	**Kunming**	**17.38**	**32**	P		**Pn**	**06 58 03.7**	**-2.3**
RAMN	**Ramite**	**17.40**	**341**	*e*P		**P**	**06 58 07.4**	**+0.5**
	comp=Z,17nm,0.5s							
TAPN	**Taplejung**	**17.46**	**345**	*e*P		**P**	**06 58 08.2**	**+0.6**
JIRN	**Jiri**	**18.19**	**341**	*e*P		**Pn**	**06 58 17.0**	**+0.9**
PKI	**Pulchoki**	**18.38**	**339**	*e*P		**Pn**	**06 58 18.6**	**+0.3**
	comp=Z,53nm,1.1s							
PKIN	**Phulchoki**	**18.39**	**339**	*e*P		**Pn**	**06 58 19.8**	**+1.5**
DMN	**Daman**	**18.52**	**338**	*e*P		**Pn**	**06 58 20.9**	**+1.0**
GUN	**Gumba**	**18.53**	**340**	*e*P		**Pn**	**06 58 21.5**	**+1.4**
QIZ	**Qiongzhong**	**18.56**	**61**	P		**P**	**06 58 18.7**	**-0.8**
QIZ				S		**Sn**	**07 01 46.0**	**-1.1**
QIZ				LR		LR		
	comp=Z,630nm,20.2s							
KKN	**Kakani**	**18.62**	**339**	*e*P		**Pn**	**06 58 22.6**	**+1.5**
GKN	**Gorkha**	**19.05**	**337**	*e*P		**Pn**	**06 58 26.8**	**+0.6**
LSA	**Lhasa**	**19.20**	**356**	P		**Pn**	**06 58 27.7**	**-0.6**
LSA				pmax		pmax		
	comp=Z,27nm,1.0s							
LSA	**Lhasa**	**19.20**	**356**	P		**Pn**	**06 58 27.7**	**-0.6**
KOLN	**Koldanda**	**19.26**	**335**	*e*P		**Pn**	**06 58 29.0**	**+0.3**
KSM	**Kuching**	**19.58**	**116**	P		**P**	**06 58 30.6**	**-0.1**
DANN	**Dangsing**	**19.70**	**336**	*e*P		**Pn**	**06 58 34.0**	**-0.1**
	comp=Z,27nm,0.4s							
GYA	**Guiyang**	**20.62**	**38**	*i* P		Pn	06 58 46.1	+1.3
GYA				pP		sP	06 59 00.6	0.0
GYA				PP		**PnPn**	**06 59 08.7**	**+6.9**
GYA				S		**S**	**07 02 28.9**	**-0.9**
GYA				sS		sS	07 02 51.9	+2.8
GYA				SS		**SnSn**	**07 03 03.7**	**+11**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GYA				pmax		pmax		
	comp=Z,90nm,4.5s							
GYA				LR		LR		
	comp=Z,600nm,16.5s							
SBUM	**Sibu**	**20.89**	**111**	P		**P**	**06 58 44.8**	**-0.1**
STKI	**Sintang**	**21.28**	**118**	P		**P**	**06 58 53.3**	**+4.2**
	comp=Z,23nm,0.5s,comp=Z,14μm							
LEM	**Lembang**	**22.66**	**139**	LR		LR	07 07 47.0	
	comp=Z,248nm,20.5s,baz=271,slow=36							
KKM	**Kota Kinabalu**	**23.61**	**99**	P		**P**	**06 59 11.1**	**-2.2**
KKM				IAmb		IAmb	06 59 25.8	
	comp=Z,26nm,1.1s							
ENH	**Enshi**	**25.11**	**36**	P		**P**	**06 59 25.7**	**-1.2**
H08S3	**Diego Garcia H**	**27.04**	**229**	T		T	07 27 48.1	
	baz=48,slow=75,SNR=208							
H08S2	**Diego Garcia H**	**27.04**	**229**	T		T	07 27 43.4	
	baz=48,slow=75,SNR=152							
H08S1	**Diego Carcia H**	**27.06**	**229**	T		T	07 27 48.7	
	baz=48,slow=75,SNR=172							
LZH	**Lanzhou**	**27.41**	**20**	*e*P		**P**	**06 59 48.0**	**+0.3**
LZH				pP		pP	07 00 01.2	+0.2
LZH				sP		sP	07 00 06.6	-0.7
LZH				pmax		pmax		
	comp=Z,27nm,1.2s							
LZH				pmax		pmax		
	comp=Z,110nm,4.3s							
LZH				LR		LR		
	comp=Z,2μm,14.1s							
LZH				LR		LR		
	comp=Z,2μm,11.9s							
LZH				LR		LR		
	comp=Z,2μm,14.1s							
XAN	**Xi'an**	**27.74**	**30**	P		**P**	**06 59 48.9**	**-1.6**
XAN				pmax		pmax		
	comp=Z,15nm,1.1s							
XAN	**Xi'an**	**27.74**	**30**	P		**P**	**06 59 49.0**	**-1.6**
XAN				pmax		pmax		
	comp=Z,19nm,1.1s							
XAN	**Xi'an**	**27.74**	**30**	P		**P**	**06 59 49.0**	**-1.5**
XAN				IAmb		IAmb	06 59 49.8	
	comp=Z,19nm,1.1s							
TGY	**Tagaytay City**	**27.75**	**80**	LR		LR	07 10 43.3	
	comp=Z,377nm,18.5s,baz=230,slow=36							
KNMB	**Chin-men Tao**	**28.05**	**57**	P		**P**	**06 59 50.8**	**-2.6**
KNMB				IAmb		IAmb	07 00 06.8	
	comp=Z,30nm,0.8s							
WHN	**Wuhan**	**28.32**	**42**	*e*P		**P**	**06 59 52.5**	**-3.1**
NIL	**Nilore**	**29.21**	**325**	P		**P**	**07 00 03.9**	**+0.3**
NIL				pmax		pmax		
	comp=Z,12nm,1.0s							
NIL	**Nilore**	**29.21**	**325**	P		**P**	**07 00 03.9**	**+0.3**
GTA	**Gaotai**	**29.50**	**11**	P		**P**	**07 00 07.1**	**+0.9**
GTA				pP		pP	07 00 17.8	-1.8
GTA				sP		sP	07 00 22.0	-3.8
GTA				PcP		**PcP**	**07 03 12.1**	**+1.5**
GTA				pmax		pmax		
	comp=Z,13nm,1.4s							
TWG	**Pinlang**	**29.70**	**62**	P		**P**	**07 00 07.0**	**-1.0**
MRSI	**Marisa**	**30.65**	**107**	P		**P**	**07 00 21.1**	**+4.6**
	comp=Z,16nm,0.5s							
KAPI	**Kappang**	**30.96**	**119**	LR		LR	07 13 17.2	
	comp=Z,191nm,20.4s,baz=119,slow=37							
BKSI	**Bulukumba**	**31.43**	**119**	P		**P**	**07 00 24.4**	**+1.0**
	comp=Z,21nm,1.2s							
NJ2	**Nanjing**	**32.28**	**44**	*e*P		**P**	**07 00 32.1**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
KMSI	**Cibinong**	**32.54**	**106**	P		**P**	**07 00 35.6**	**+2.4**
	comp=Z,110nm,0.6s							
KSH	**Kashi**	**32.57**	**335**	P		**P**	**07 00 33.5**	**+0.2**
KSH				PcP		**PcP**	**07 03 19.6**	**+0.8**
KSH				S		**S**	**07 05 43.2**	**-1.9**
KSH				SS		**SnSn**	**07 07 42.0**	**-1.7**
KSH				pmax		pmax		
	comp=Z,130nm,4.4s							
KSH				LR		LR		
	comp=Z,5μm,17.7s							
KSH				LR		LR		
	comp=Z,3μm,10.7s							
KSH				LR		LR		
	comp=Z,940nm,11.2s							
WMQ	**Urumqi**	**33.52**	**353**	*e*P		**P**	**07 00 40.9**	**-0.6**
WMQ				pmax		pmax		
	comp=Z,11nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,80nm,4.3s							
WMQ				LR		LR		
	comp=Z,850nm,29.0s							
NRN	**Naryn**	**34.20**	**337**	P		**P**	**07 00 48.3**	**+0.7**
NRN				pmax		pmax		
	comp=Z,14nm,1.2s							
NRN	**Naryn**	**34.20**	**337**	P		**P**	**07 00 48.4**	**+0.7**
NRN				IAmb		IAmb	07 00 50.1	
	comp=Z,14nm,1.2s							
HHC	**Hu-ho-hao-te**	**34.52**	**26**	P		**P**	**07 00 50.9**	**+0.7**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,14nm,5.4s							
EDFI	**Ende, Flores**	**34.53**	**123**	P		**P**	**07 00 49.3**	**-1.3**
GAR	**Garm**	**34.77**	**329**	P		**P**	**07 00 53.5**	**+1.1**
GAR				IAmb		IAmb	07 00 54.7	
	comp=Z,18nm,1.0s							
MMRI	**Maumere**	**34.93**	**122**	P		**P**	**07 00 53.6**	**-0.3**
BOOM	**Boomskoye usch**	**35.14**	**338**	P		**P**	**07 00 56.7**	**+1.1**
BOOM				pmax		pmax		
	comp=Z,8.0nm,1.0s							
BOOM	**Boomskoye usch**	**35.14**	**338**	P		**P**	**07 00 56.7**	**+1.1**
BOOM				IAmb		IAmb	07 00 57.9	
	comp=Z,8.0nm,0.9s							
BTK	**Batken**	**35.33**	**330**	P		**P**	**07 00 59.8**	**+2.6**
BTK				pmax		pmax		
	comp=Z,13nm,0.9s							
BTK	**Batken**	**35.33**	**330**	P		**P**	**07 00 59.8**	**+2.6**
BTK				IAmb		IAmb	07 01 02.1	
	comp=Z,13nm,0.8s							
ARSB	**Arslanbob**	**35.34**	**334**	P		**P**	**07 00 58.1**	**+0.8**
ARSB				IAmb		IAmb	07 01 00.3	
	comp=Z,15nm,0.8s							
KBK	**Karagaybulak**	**35.65**	**337**	P		**P**	**07 01 02.6**	**+2.6**
	SNR=5.7							
AML	**Almayashu**	**35.70**	**335**	P		**P**	**07 01 02.8**	**+2.1**
	SNR=6.7							
AAK	**Ala-Archa**	**35.81**	**337**	*de*P		**P**	**07 01 01.9**	**+0.6**
AAK				pmax		pmax		
	comp=Z,11nm,1.1s							
AAK	**Ala-Archa**	**35.81**	**337**	P		**P**	**07 01 03.3**	**+1.9**
	comp=Z,7.1nm,0.9s,baz=177,slow=7.4,SNR=11							
AAK	**Ala-Archa**	**35.81**	**337**	P		**P**	**07 01 03.8**	**+2.5**
	SNR=5.7							
AAK	**Ala-Archa**	**35.81**	**337**	P		**P**	**07 01 01.7**	**+0.4**
AAK				IAmb		IAmb	07 01 04.5	
	comp=Z,12nm,1.1s							
CHMS	**Chumysh**	**36.02**	**337**	P		**P**	**07 01 04.8**	**+1.9**
	SNR=5.5							
USP	**Ospenovka**	**36.34**	**337**	P		**P**	**07 01 07.5**	**+1.8**
	SNR=8.0							
BATI	**Baumata**	**36.95**	**123**	P		**P**	**07 01 08.6**	**-2.6**
	comp=Z,24nm,0.7s,baz=279,slow=3.4,SNR=4.7							
SOEI	**Soe**	**37.22**	**122**	P		**P**	**07 01 13.4**	**-0.2**
SOEI				IAmb		IAmb	07 01 24.7	
	comp=Z,22nm,1.1s							
MK31	**Makanchi Array**	**37.29**	**348**	P		**P**	**07 01 13.7**	**0.0**
MK31				pmax		pmax		
	comp=Z,9.0nm,1.0s							
MK31	**Makanchi Array**	**37.29**	**348**	P		**P**	**07 01 13.7**	**0.0**
MK31				IAmb		IAmb	07 01 15.1	
	comp=Z,8.8nm,1.0s							
MKAR	**Makanchi Array**	**37.29**	**348**	P		**P**	**07 01 13.7**	**0.0**
MKAR	**Makanchi Array**	**37.29**	**348**	P		**P**	**07 01 13.9**	**+0.3**
	comp=Z,10.0nm,0.9s,baz=164,slow=8.1,SNR=37							
MKAR				PcP		**PcP**	**07 03 32.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=151,slow=2.8,SNR=3.9							
MKAR	**Makanchi Array**	**37.29**	**348**	P		**P**	**07 01 13.7**	**0.0**
MAKZ	**Makanchi**	**37.36**	**348**	P		**P**	**07 01 14.5**	**+0.2**
MAKZ				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MAKZ	**Makanchi**	**37.36**	**348**	P		**P**	**07 01 14.5**	**+0.2**
MAKZ				IAmb		IAmb	07 01 15.6	
	comp=Z,5.7nm,0.7s							
KK31	**Karatay Array**	**37.86**	**333**	P		**P**	**07 01 18.5**	**-0.1**
KK31				pmax		pmax		
	comp=Z

HIA IAmb IAmb 07 02 15.6
comp=Z,33nm,1.4s
BVAR Borovoye Array 46.12 341 P P 07 02 26.3 +0.6
comp=Z,4.1nm,0.8s,baz=147,slow=6.9,SNR=18
BVAR PcP **PcP 07 04 01.4 +0.3**
comp=Z,1.6nm,0.7s,baz=157,slow=7.8,SNR=3.3
BRVK Borovoye 46.18 341 P **P 07 02 26.5 +0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 46.18 341 P P 07 02 26.5 +0.3
BRVK IAmb IAmb 07 02 27.7
comp=Z,8.4nm,1.0s
RAYN Ar Rayn 46.83 292 P **P 07 02 33.3 +1.5**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 46.83 292 P **P 07 02 33.4 +1.5**
RAYN IAmb IAmb 07 02 47.4
comp=Z,9.3nm,0.9s
ABKAR Akbulak array 47.33 331 P P 07 02 36.4 +1.2
ABKAR Akbulak array 47.33 331 P **P 07 02 36.5 +1.3**
ABKAR IAmb IAmb 07 02 37.8
comp=Z,14nm,1.0s
USA0B Ussuriysk Arra 47.66 38⇑*iP* **P 07 02 37.0 -0.9**
USA0B Ussuriysk Arra 47.66 38 P **P 07 02 35.8 -2.2**
USA0B IAmb IAmb 07 02 38.4
comp=Z,8.9nm,1.1s
USRK Ussuriysk Ar. 47.66 38 P **P 07 02 36.9 -1.0**
USRK Ussuriysk Ar. 47.66 38 P **P 07 02 37.3 -0.7**
comp=Z,2.7nm,0.6s,baz=229,slow=8.5,SNR=7.2
USRK Ussuriysk Ar. 47.66 38 P **P 07 02 36.9 -1.0**
MJB9 Matsu-Tunnel 48.48 50 P **P 07 02 41.2 -3.2**
MJB9 IAmb IAmb 07 02 49.4
comp=Z,9.3nm,1.1s
MJB9 **PcP 07 04 09.7 -0.2**
MAJO Matsushiro 48.48 50 P **P 07 02 41.4 -3.1**
MAJO 07 04 09.8
MAJO pmax pmax
comp=Z,8.0nm,1.0s
MAJO Matsushiro 48.48 50 P **P 07 02 41.4 -3.1**
MAJO IAmb IAmb 07 02 49.4
comp=Z,8.4nm,1.0s
MAJO **PcP 07 04 09.8 -0.1**
MJAR Matsushiro Arr 48.49 50 P **P 07 02 43.2 -1.3**
MJAR 07 04 09.8
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 48.49 50 P **P 07 02 44.4 0.0**
comp=Z,2.8nm,0.9s,baz=250,slow=9.8,SNR=8.9
MJAR PcP **PcP 07 04 10.3 +0.4**
comp=Z,7.8nm,0.8s,baz=244,slow=4.1,SNR=20
MJAR Matsushiro Arr 48.49 50 P **P 07 02 43.2 -1.3**
MJAR **PcP 07 04 09.8 -0.1**
AKTO Aktyubinsk 49.04 331 P **P 07 02 49.5 +1.0**
comp=Z,3.5nm,0.7s,baz=131,slow=11,SNR=12
NWAO Narrogin (SRO) 49.05 153 P **P 07 02 46.9 -1.8**
NWAO pmax pmax
comp=Z,12nm,1.0s
NWAO Narrogin (SRO) 49.05 153 P **P 07 02 46.9 -1.8**
NWAO IAmb IAmb 07 02 57.0
comp=Z,12nm,0.9s
WRKA Warakurna 49.44 136 P **P 07 02 51.1 -0.8**
baz=50,SNR=25
BOD Bodaibo 49.98 15 *eP* **P 07 02 54.4 -1.0**
BOD pmax pmax
comp=Z,17nm,1.1s
KLR Kul'dur 50.39 32*ceP* **P 07 02 57.9 -0.9**
KLR pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 50.39 32 P **P 07 02 58.8 0.0**
baz=260,slow=5.9,SNR=8.9
WB0 Warramunga Arr 50.81 126 P **P 07 03 01.3 -1.1**
WRA Warramunga Arr 50.87 126 P **P 07 03 01.6 -1.1**
comp=Z,11nm,0.6s,baz=305,slow=8.6,SNR=130
WRA PcP **PcP 07 04 18.7 -0.2**
comp=Z,3.1nm,0.9s,baz=304,slow=3.3,SNR=5.0
WRA ScP **ScP 07 08 09.0 -1.7**
comp=Z,1.3nm,0.8s,baz=314,slow=3.8,SNR=5.4
WRA Warramunga Arr 50.87 126 P **P 07 03 01.7 -1.1**
WRAB Tennant Creek 50.87 126*c iP* **P 07 03 01.8 -0.9**
WRAB pmax pmax
comp=Z,16nm,1.3s
WRAB Tennant Creek 50.87 126 P **P 07 03 01.9 -0.9**
WB2 Warramunga Arr 50.88 126 P **P 07 03 01.9 -0.9**
WB2 pP **pP 07 03 16.5 -0.3**
ZEA Zeya 51.18 26 *eP* **P 07 03 04.6 0.0**
ZEA pmax pmax
comp=Z,170nm,1.0s
GNI Garni 51.68 313*deP* **P 07 03 08.6 -0.2**
GNI pmax pmax
comp=Z,16nm,0.9s
SVE Sverdlovsk 52.51 338⇑*iP* **P 07 03 15.7 +1.3**
SVE pmax pmax
comp=Z,26nm,1.1s
AS31 Alice Springs 52.61 131 P **P 07 03 14.6 -1.2**
AS31 IAmb IAmb 07 03 15.8
comp=Z,5.9nm,0.9s
ASAR Alice Springs 52.61 131 P **P 07 03 14.5 -1.3**
ASAR Alice Springs 52.61 131 P **P 07 03 14.8 -1.0**
comp=Z,20nm,0.8s,baz=305,slow=6.9,SNR=150
ASAR PcP **PcP 07 04 25.6 +0.3**
comp=Z,4.1nm,0.8s,baz=311,slow=4.1,SNR=7.1
ASAR ScP **ScP 07 08 16.7 -1.5**
comp=Z,1.9nm,0.8s,baz=304,slow=4.0,SNR=8.4
ASAR LR LR 07 26 57.3
comp=Z,85nm,21.9s,baz=318,slow=38
ASAR Alice Springs 52.61 131 P **P 07 03 14.4 -1.3**
ARU Arti 52.99 337*d iP* **P 07 03 17.9 -0.1**
ARU *PP **pP 07 03 32.6 +0.2**
ARU 07 04 24.0
ARU 07 05 14.4
ARU S **S 07 10 46.1 +2.5**
ARU SS **SS 07 14 26.6 +3.3**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 52.99 337 P **P 07 03 18.3 +0.3**
ARU IAmb IAmb 07 03 19.7
comp=Z,11nm,1.0s
ZEI Tsey 53.25 316 *eP* **P 07 03 21.5 +1.1**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
ABPO Ambohimpanom 53.61 237 P **P 07 03 26.6 +3.3**
ABPO pmax pmax
comp=Z,12nm,1.2s
ABPO Ambohimpanom 53.61 237 P **P 07 03 26.6 +3.3**
ABPO IAmb IAmb 07 03 27.4
comp=Z,12nm,1.1s
GRNR Gornyy 53.75 33 *eP* **P 07 03 21.5 -2.2**
GRNR pmax pmax
comp=Z,25nm,1.0s
KBZ Khabaz 54.28 317⇑*eP* **P 07 03 28.5 +0.9**
KBZ Khabaz 54.28 317 P **P 07 03 29.1 +1.5**
comp=Z,0.9nm,0.3s,baz=246,slow=19,SNR=3.1
ASAJ Asahikawa 54.39 43 P **P 07 03 28.3 -0.2**
comp=Z,5.6nm,0.7s,baz=117,slow=18,SNR=5.3
JKA Kamikawa-asahi 54.40 43 P **P 07 03 28.3 -0.2**
KIV Kislovodsk 54.51 317 *eP* **P 07 03 27.5 -1.9**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 54.51 317 P **P 07 03 30.9 +1.4**
KIV IAmb IAmb 07 03 50.1
comp=Z,20nm,1.3s
QIS Mount Isa 55.42 124 P **P 07 03 35.9 -0.4**
baz=56,SNR=4.2
YSS Yuzh-Sakhalins 55.62 39 P **P 07 03 37.7 +0.4**
YSS pmax pmax
comp=Z,28nm,0.7s
YSS Yuzh-Sakhalins 55.62 39 P **P 07 03 37.7 +0.4**
KMBO Kilima Mbogo 56.41 262 P **P 07 03 43.9 +0.1**
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 56.41 262 P **P 07 03 46.4 +2.6**
comp=Z,0.9nm,0.6s,baz=27,slow=2.4,SNR=3.2
KMBO LR LR 07 25 17.1
comp=Z,163nm,20.6s,baz=90,slow=33
KMBO Kilima Mbogo 56.41 262 P **P 07 03 43.9 +0.1**
YAK Yakutsk 58.00 20 *eP* **P 07 03 52.5 -1.3**
YAK *e**PP **pP 07 04 07.3 -0.9**
YAK *eS* **S 07 11 48.7 -1.5**
YAK *e**SS **sS 07 12 12.9 -1.3**
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,87nm,2.8s
YAK pmax pmax
comp=N,102nm,2.5s
YAK pmax pmax
comp=E,58nm,2.3s
YAK smax smax
comp=N,51nm,2.3s
YAK smax smax
comp=E,60nm,2.5s
YAK Yakutsk 58.00 20 P **P 07 03 53.2 -0.6**
VRH Novokhopyorsk 58.05 325 *eP* **P 07 03 53.4 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
ANN Anapa 58.34 317 *eP* **P 07 03 57.2 +0.7**
ANN pmax pmax
comp=Z,29nm,0.8s
ANN MLR MLR
comp=E,414nm,16.0s
ANN MLR MLR
comp=N,557nm,16.0s
ANN MLR MLR
comp=Z,491nm,16.0s
NRIK Noril'sk 58.91 358 P **P 07 03 59.7 -0.4**
comp=Z,1.7nm,0.3s,baz=162,slow=6.0,SNR=7.6
VORD Divnogorie 59.34 324 *eP* **P 07 04 04.6 +1.2**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 59.51 324 *eP* **P 07 04 03.4 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BBOO Buckleboo 59.63 138 P **P 07 04 05.6 -0.1**
baz=60,SNR=8.5
BBOO Buckleboo 59.63 138 P **P 07 04 05.4 -0.2**
BRTR Keskin Array B 59.73 310 P **P 07 04 06.6 +0.1**
BRTR Keskin Array B 59.73 310 P **P 07 04 06.5 -0.1**
comp=Z,0.7nm,0.7s,baz=126,slow=6.3,SNR=5.1
BRTR LR LR 07 33 42.6
comp=Z,99nm,18.6s,baz=144,slow=40
BRTR Keskin Array B 59.73 310 P **P 07 04 06.6 +0.1**
BR131 Keskin Array S 59.73 310 P **P 07 04 06.7 +0.1**
BR131 pmax pmax
comp=Z,6.0nm,1.5s
BR131 Keskin Array S 59.73 310 P **P 07 04 06.7 +0.1**
LPSR Galich'ya Gora 60.20 325 *eP* **P 07 04 06.5 -2.8**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
CTA Charters Tower 60.76 120 P **P 07 04 13.3 -0.3**
comp=Z,3.5nm,0.7s,baz=318,slow=11,SNR=4.4
CTAO Charters Tower 60.76 120 P **P 07 04 13.8 +0.2**
CTAO pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 60.76 120 P **P 07 04 13.8 +0.2**
CTAO IAmb IAmb 07 04 23.4
comp=Z,7.6nm,1.0s
PRGR Permogore 61.45 337 *eP* **P 07 04 14.9 -2.6**
PRGR *e**PP **pP 07 04 30.5 -1.7**
PRGR *e**SP **sP 07 04 37.0 -1.3**
PRGR pmax pmax
comp=Z,22nm,1.0s
HTT Hallett 61.91 137 P **P 07 04 21.4 +0.2**
baz=62,SNR=9.5
QLP Quilpie 62.07 128 P **P 07 04 22.9 +0.6**
baz=62,SNR=22
OBN Obninsk 62.48 327*deP* **P 07 04 25.6 +1.0**
OBN *i* 07 04 43.1
OBN *e* 07 06 43.1
OBN *eS* **S 07 12 47.7 -0.1**
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,97nm,14.0s
STKA Stephens Creek 62.86 134 P **P 07 04 27.6 0.0**
baz=63,SNR=16
STKA Stephens Creek 62.86 134 P **P 07 04 27.8 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 62.86 134 P **P 07 04 27.5 -0.1**
comp=Z,14nm,0.7s,baz=314,slow=6.3,SNR=23
STKA LR LR 07 32 48.0
comp=Z,85nm,21.7s,baz=320,slow=37
STKA Stephens Creek 62.86 134 P **P 07 04 27.8 +0.2**
KLMR Klimovskoe 63.55 334 *eP* **P 07 04 30.6 -1.0**
KLMR pmax pmax
comp=Z,18nm,1.2s
KLMR Klimovskoe 63.55 334 *eP* **P 07 04 30.7 -0.9**
KLMR AMP 07 04 33.0
comp=Z,18nm,1.2s
MA2 Magadan 65.13 28 P **P 07 04 41.5 -0.4**
MA2 pmax pmax
comp=Z,42nm,1.1s
MA2 Magadan 65.13 28 P **P 07 04 41.7 -0.3**
comp=Z,19nm,0.8s,baz=227,slow=1.1,SNR=4.1
MA2 Magadan 65.13 28 P **P 07 04 41.5 -0.4**
RMQ Roma 65.60 125 P **P 07 04 46.9 +1.3**
baz=66,SNR=12
CMSA Cobar Meteorol 65.64 132 P **P 07 04 46.1 +0.4**
baz=66,SNR=22
VRI Vrincioaia 65.91 316⇑P **P 07 04 46.5 -0.9**
VRI Vrincioaia 65.91 316⇑P **P 07 04 46.5 -0.9**
PLOR Plostina 65.96 316⇓P **P 07 04 49.4 +1.7**
PLOR Plostina 65.96 316⇓P **P 07 04 49.4 +1.7**
MLR Muntele Rosu 66.39 315⇓P **P 07 04 52.1 +1.5**
MLR Muntele Rosu 66.39 315⇓P **P 07 04 52.1 +1.5**
MLR Muntele Rosu 66.39 315 P **P 07 04 51.5 +0.9**
MLR IAmb IAmb 07 05 06.3
comp=Z,9.7nm,1.2s
PETK Petropavlovsk- 66.72 36 P **P 07 04 51.3 -1.0**
PETK Petropavlovsk- 66.72 36 P **P 07 04 51.0 -1.4**
comp=Z,2.8nm,1.0s,baz=221,slow=14,SNR=3.6
PETK Petropavlovsk- 66.72 36 P **P 07 04 51.3 -1.0**
SEY Seymchan 67.17 25⇑*iP* **P 07 04 54.9 -0.1**
BURAR Bucovina Array 67.24 317⇑P **P 07 04 56.4 +0.6**
BURAR Bucovina Array 67.24 317 P **P 07 04 56.2 +0.3**
BUR08 Bucovina Ar. S 67.25 317 P **P 07 04 56.5 +0.6**
TOO Toolangi 68.66 137 P **P 07 05 06.2 +1.4**
baz=69,SNR=7.0
DRGR 68.80 316⇓P **P 07 05 07.0 +1.3**
DRGR 68.80 316⇓P **P 07 05 07.0 +1.3**
TRPA Tarpa 69.10 318⇑P **P 07 05 08.6 +1.3**
ARMA Armidale 69.60 128 P **P 07 05 12.5 +1.6**
baz=70,SNR=7.5
ARMA Armidale 69.60 128 P **P 07 05 12.5 +1.6**
ARMA IAmb IAmb 07 05 13.2
comp=Z,16nm,0.8s
SUW Suwalki 69.63 324 P **P 07 05 10.5 0.0**
SUW pmax pmax
comp=Z,46nm,1.4s
SUW Suwalki 69.63 324 P **P 07 05 10.5 0.0**
FIA1 FINESS Array S 69.80 332 P **P 07 05 11.3 -0.1**
FIA1 IAmb IAmb 07 05 27.9
comp=Z,13nm,1.3s
FINES FINESS Array B 69.81 332 P **P 07 05 11.3 -0.1**
FINES FINESS Array B 69.81 332 P **P 07 05 11.8 +0.4**
comp=Z,4.9nm,1.0s,baz=124,slow=10,SNR=8.0
FINES FINESS Array B 69.81 332 P **P 07 05 11.3 -0.1**
CAN Canberra 69.92 134 P **P 07 05 13.6 +0.9**
CAN pmax pmax
comp=Z,51nm,1.5s
CAN Canberra 69.92 134 P **P 07 05 13.6 +0.9**
VYHS Vyhne 71.59 318 *eP* **P 07 05 23.6 +1.0**
VYHS Vyhne 71.59 318 *eP* **P 07 05 23.6 +1.0**
ARCES ARCESS Array B 72.39 340 P **P 07 05 26.8 -0.2**
ARCES ARCESS Array B 72.39 340 P **P 07 05 27.3 +0.3**
comp=Z,7.0nm,1.0s,baz=98,slow=6.9,SNR=12
ARCES ARCESS Array B 72.39 340 P **P 07 05 26.8 -0.2**
MORC Moravsky Berou 72.55 319⇑P **P 07 05 29.8 +1.4**
MORC Moravsky Berou 72.55 319⇑P **P 07 05 29.8 +1.4**
MORC Moravsky Berou 72.55 319 P **P 07 05 28.5 +0.1**
DPC Dobruska-Polom 73.37 319 *eP* **P 07 05 34.9 +1.7**
DPC *e* 07 05 45.6
DPC Dobruska-Polom 73.37 319 *eP* **P 07 05 34.9 +1.7**
DPC *ex* x 07 05 45.6
CONA Conrad Observa 73.54 317 *eP* **P 07 05 34.7 +0.4**
comp=Z,3.2nm,1.0s
SOKA Soboth 74.06 316 *i P* **P 07 05 38.2 +0.8**
comp=Z,9.2nm,1.2s
BILL Bilibino 74.20 22⇓*eP* **P 07 05 36.8 -0.9**
BILL *i* 07 05 51.6
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,248nm,17.0s
LBTB Lobatse 74.32 240 LR LR 07 33 39.6
comp=Z,110nm,20.3s,baz=70,slow=32
GEC2 GERESS Array S 75.01 318 P **P 07 05 43.6 +0.7**
GERES GERESS Array B 75.01 318 P **P 07 05 43.2 +0.3**
GERES GERESS Array B 75.01 318 P **P 07 05 43.6 +0.7**
comp=Z,3.5nm,0.8s,baz=76,slow=5.6,SNR=21
GERES GERESS Array B 75.01 318 P **P 07 05 43.2 +0.3**
KHC Kasperske Hory 75.10 318 *eP* **P 07 05 43.9 +0.6**
KHC *e* 07 05 58.1
KHC Kasperske Hory 75.10 318 *eP* **P 07 05 43.9 +0.6**
KHC *ep*P **pP 07 05 58.1 -0.5**
CLL Collm 75.52 320 *eP* **P 07 05 46.0 +0.4**
BOSA Boshof 75.83 237 P **P 07 05 50.3 +2.4**
BOSA pmax pmax
comp=Z,11nm,1.1s
BOSA Boshof 75.83 237 P **P 07 05 49.8 +1.8**
comp=Z,3.3nm,0.8s,baz=351,slow=20,SNR=4.1
BOSA LR LR 07 34 31.2
comp=Z,190nm,20.1s,baz=46,slow=32
BOSA Boshof 75.83 237 P **P 07 05 50.3 +2.4**
BOSA IAmb IAmb 07 06 07.7
comp=Z,10nm,1.1s
WTTA Wattenberg 76.39 316 P **P 07 05 50.8 -0.1**
comp=Z,4.7nm,0.9s
SQTA Sankt Quirin 76.68 316 P **P 07 05 52.8 +0.3**
comp=Z,3.1nm,0.6s
MOTA Moosalm 76.75 316 P **P 07 05 53.2 +0.3**
comp=Z,7.2nm,1.0s
NB2 NORSAR Subarra 76.83 330 P **P 07 05 53.0 +0.1**
comp=Z,1.3nm,0.9s,baz=92,slow=5.3
NOA NORSAR Array B 76.83 330 P **P 07 05 52.8 -0.1**
comp=Z,2.7nm,1.0s,baz=94,slow=5.4,SNR=4.1
RETA Reutte 76.98 316 P **P 07 05 54.0 -0.1**
comp=Z,4.9nm,1.0s
KEST Kesra 78.67 304 P **P 07 06 05.9 +2.2**
comp=Z,2.1nm,0.9s,baz=80,slow=19,SNR=2.3
MAW Mawson 80.79 191 P **P 07 06 15.9 +1.6**
MAW pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 80.79 191 P **P 07 06 15.8 +1.5**
comp=Z,2.1nm,0.9s,baz=359,slow=9.0,SNR=5.1
MAW Mawson 80.79 191 P **P 07 06 15.9 +1.6**
SYO Syowa Base 87.47 197⇑*eX* **P 07 06 44.0 -4.2**
TORD Torodi Ar. Bea 88.70 283 P **P 07 06 56.7 +1.4**
comp=Z,0.6nm,0.8s,baz=77,slow=4.4,SNR=3.3
IMAR Indian Mountai 89.76 22 P **P 07 06 60.0 +0.7**
TOLK Toolik Lake Re 89.96 19 P **P 07 07 01.4 +1.1**
TOLK IAmb IAmb 07 07 02.5
comp=Z,10.0nm,1.0s
SKT Skwentna 92.43 25 P **P 07 07 12.3 +0.6**
MCK McKinley 92.63 23 P **P 07 07 13.3 +0.7**
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 92.63 23 P **P 07 07 13.3 +0.7**
IL31 92.86 22 P **P 07 07 12.4 -1.1**
IL31 IAmb IAmb 07 07 14.7
comp=Z,5.4nm,0.9s
ILAR Eielson Array 92.86 22 P **P 07 07 12.9 -0.8**
ILAR Eielson Array 92.86 22 P **P 07 07 12.8 -0.9**
comp=Z,3.6nm,0.8s,baz=301,slow=4.3,SNR=32
ILAR PP **PP 07 10 55.5 -0.5**
comp=Z,0.9nm,1.0s,baz=303,slow=7.1,SNR=4.3
PRP Porcupine Dome 92.94 21 P **P 07 07 15.0 +0.8**
HDA Harding Lake 93.03 22 P **P 07 07 13.1 -1.4**
INK Inuvik 94.88 16 P **P 07 07 22.6 -0.2**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 94.88 16 P **P 07 07 23.2 +0.4**
comp=Z,5.9nm,1.0s,baz=260,slow=2.0,SNR=6.7
INK Inuvik 94.88 16 P **P 07 07 22.6 -0.2**
MENT Mentasta 95.04 23 P **P 07 07 23.5 -0.2**
BCAR Beaver Creek A 95.69 22 P **P 07 07 27.6 +0.8**
DAWY Dawson 95.93 20 P **P 07 07 28.4 +0.6**
DAWY IAmb IAmb 07 07 29.2
comp=Z,3.1nm,0.9s
PDAR Pinedale Array 123.22 20 PKP **PKPdf 07 12 58.5 +0.1**
comp=Z,0.8nm,0.6s,baz=119,slow=1.9,SNR=6.4
NVAR Mina Array Bea 123.36 29 PKP **PKiKP 07 12 59.2 +0.2**
comp=Z,1.7nm,0.7s,baz=326,slow=2.1,SNR=13
R11A Troy Canyon, C 124.69 27 **PKiKP 07 13 02.2 +0.6**
TXAR Lajitas Array 137.37 21 PKIKP **PKPdf 07 13 23.0 -2.3**
TXAR 07 16 06.0
TXAR Lajitas Array 137.37 21 PKP **PKPdf 07 13 22.9 -2.5**
comp=Z,0.3nm,0.4s,baz=270,slow=0.8,SNR=3.6
TXAR PP **PP 07 16 06.0 -3.5**
comp=Z,0.5nm,0.9s,baz=357,slow=3.7,SNR=3.2
TXAR SKPbc **SKPbc 07 16 53.8 -0.6**
comp=Z,1.8nm,0.9s,baz=318,slow=1.7,SNR=7.9
TXAR Lajitas Array 137.37 21 **PKPdf 07 13 23.0 -2.3**
BDFB Brasilia 141.50 258 PKP **PKPdf 07 13 34.4 +1.3**
comp=Z,2.0nm,0.8s,baz=66,slow=20,SNR=2.1
PLCA Paso Flores 146.44 203 PKPbc **PKPab 07 13 43.8 +0.4**
comp=Z,2.6nm,0.8s,baz=225,slow=4.4,SNR=12
CPUP Villa Florida 147.65 237 PKPbc **PKPbc 07 13 47.1 +0.9**
comp=Z,1.7nm,0.7s,baz=93,slow=7.8,SNR=3.9
ROSC El Rosal 160.09 319 PKP **PKPdf 07 14 01.7 -0.1**
comp=Z,3.9nm,0.4s,baz=162,slow=18,SNR=3.6

IDC ***03*** *07:02:04.5±0.7, 35°.46N×88°.15E, h0km, mb4.0/17, mb1 4.2/21, mb1mx4.0/57, mbtmp4.0/21, ML3.3/4, MS4.4/22, Ms1 4.4/22, ms1mx4.2/36, Error ellipse: s-maj=22.0km s-min=13.1km az=30.0*

NEIC ***03*** *07:02:05.4±2.3, 35°.53N±0°.07×88°.23E±0°.08, h10km±2km, mb4.5/49*

MOS ***03*** *07:02:05.5±1.3, 35°.48N×88°.22E, h23km, mb4.8/32, MS4.6/7, Error ellipse: s-maj=7.2km s-min=4.2km az=120.8*

ISCJB ***03*** *07:02:07.3±0.2, 35°.54N±0°.02×88°.25E±0°.03, h33km, mb4.5/59, MS4.5/32, Error ellipse: s-maj=3.7km s-min=2.8km az=139.7*

GCMT ***03*** *07:02:08.4±0.2, 35°.55N±0°.02×88°.13E±0°.01, h26km±1km, MW5.1/97, Moment Tensor Solution. s34,c40; s97,c158; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.55±.19; Mθθ=4.75±.15; Mφφ=5.30±.15; Mrθ=0.62±.32; Mrφ=0.54±.12; Mθφ=0.34±.30; Best double couple: M=5.10800×10^16 NP1:φs=48.00000°, δ87.00000°, λ=8.00000°. NP2: φs=138.00000°, δ82.00000°, λ=177.00000°. Principal axes: T 5.3530, Plg4.0000°, Azm93.0000°; N -0.4890, Plg81.0000°, Azm208.0000°; P -4.8640, Plg8.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***03*** *07:02:08.0±0.0, 35°.67N×88°.28E, h8km, mb4.7/27, mB4.9/17, ML4.7/4, Ms4.8/30, Ms7 4.5/26*

ISC 03 07:02:09.5±0.3,**35°.54N**±0°.04×**88°.18E**±0°.04,**h35**km,**n264,**
σ2°**18**/256,**mb4.5**/76,**MS4.5**/32,**19C-14D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.34**	**156**	P	**Pn**	**07 03 39.2**	**-1.7**
LSA	**Lhasa**	**6.34**	**156**		**Pn**	**07 03 39.2**	**-1.7**
GUN	**Gumba**	**7.85**	**195**	*eP*	**Pn**	**07 04 03.4**	**+1.8**
JIRN	**Jiri**	**8.04**	**193**	*eP*	**Pn**	**07 04 05.1**	**+0.9**
DANN	**Dangsing** 37nm,0.7s	**8.09**	**209**	*eP*	**Pn**	**07 04 05.9**	**+1.1**
GKN	**Gorkha**	**8.10**	**203**	*eP*	**Pn**	**07 04 06.1**	**+1.3**
TAPN	**Taplejung** 70nm,0.8s	**8.18**	**183**	*eP*	**Pn**	**07 04 06.2**	**+0.2**
WMQ	**Urumqi**	**8.28**	**358**	*eP*	**Pn**	**07 04 08.0**	**+0.9**
WMQ				S	**Sn**	**07 05 40.6**	**+1.2**
WMQ				smax	smax		
	comp=N,83nm,1.9s						
WMQ				smax	smax		
	comp=E,150nm,1.5s						
WMQ	**Urumqi**	**8.28**	**358**	P	**Pn**	**07 04 06.6**	**-0.5**
WMQ	**Urumqi**	**8.28**	**358**		**Pn**	**07 04 06.6**	**-0.5**
PKI	**Pulchoki**	**8.29**	**197**	*eP*	**Pn**	**07 04 08.5**	**+0.9**
DMN	**Daman**	**8.33**	**199**	*eP*	**Pn**	**07 04 09.2**	**+1.1**
RAMN	**Ramite**	**8.67**	**189**	*eP*	**Pn**	**07 04 12.7**	**0.0**
ODAN	**Odare** 61nm,0.6s	**8.68**	**185**	*eP*	**Pn**	**07 04 11.7**	**-1.2**
GTA	**Gaotai**	**10.02**	**64**	P	**Pn**	**07 04 32.2**	**+1.1**
GTA				pP		07 04 35.4	
GTA				sP		07 04 38.3	
GTA				S	**Sn**	**07 06 22.6**	**+0.3**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,160nm,4.3s						
GTA				smax	smax		
	comp=N,37nm,1.4s						
GTA				smax	smax		

comp=E,27nm,1.8s
GTA LR LR
comp=N,7μm,13.1s
GTA LR LR
comp=E,3μm,10.6s
GTA LR LR
comp=Z,3μm,13.1s
TARG Taragay, Kyrgy 10.20 310 Pn 07 04 34.8 +1.0
PDGK Podgornoye 10.27 322 P **Pn 07 04 34.7 +0.2**
PDGK pmax pmax
comp=Z,61nm,1.4s
SHL Shillong 10.44 161 P **Pn 07 04 35.0 -1.9**
SHL Shillong 10.44 161 Pn 07 04 35.0 -1.9
KSH Kashi 10.47 296 P Pn 07 04 42.1 +4.8
KSH pP 07 04 45.4
KSH PP **PnPn 07 04 51.6 +6.7**
KSH S Sn 07 06 43.3 +10
KSH sS 07 06 48.3
KSH SS **SnSn 07 06 57.0 +12**
KSH pmax pmax
comp=Z,550nm,5.7s
KSH LR LR
comp=Z,8μm,15.1s
KSH LR LR
comp=Z,5μm,12.5s
KSH LR LR
comp=Z,3μm,14.0s
NRN Naryn 11.21 305 P **Pn 07 04 46.2 -1.3**
NRN Naryn 11.21 305 Pn 07 04 46.2 -1.3
BOOM Boomskoye usch 11.77 310 P **Pn 07 04 52.4 -2.7**
BOOM Boomskoye usch 11.77 310 Pn 07 04 52.4 -2.7
MK31 Makanchi Array 12.08 340 P **Pn 07 04 57.7 -1.5**
MK31 Makanchi Array 12.08 340 Pn 07 04 57.7 -1.5
MKAR Makanchi Array 12.08 340 P **Pn 07 04 56.8 -2.3**
MKAR Makanchi Array 12.08 340 Pn **Pn 07 04 56.6 -2.5**
comp=Z,0.8nm,0.3s,baz=150,slow=12,SNR=34
MKAR Lg Lg 07 08 14.7
comp=Z,0.0nm,0.3s,baz=161,slow=27,SNR=2.9
MKAR LR LR 07 10 37.3
comp=Z,1μm,19.0s,baz=157,slow=42
MKAR Makanchi Array 12.08 340 Pn 07 04 56.8 -2.3
MAKZ Makanchi 12.18 339 P **Pn 07 04 58.8 -1.7**
MAKZ Makanchi 12.18 339 Pn 07 04 58.8 -1.7
TKM2 Tokmak 2 12.22 311 *i* P **Pn 07 05 01.0 -0.2**
TKM2 pmax pmax
comp=Z,22nm,1.2s
NIL Nilore 12.45 266 P **Pn 07 05 02.6 -1.6**
NIL Nilore 12.45 266 Pn 07 05 02.6 -1.6
LZH Lanzhou 12.73 83 *e*P **Pn 07 05 07.3 -0.9**
LZH pP P 07 05 11.6 -7.3
LZH sP 07 05 15.3
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.2s
LZH LR LR
comp=Z,1μm,12.5s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,1μm,13.7s
AAK Ala-Archa 12.77 308 *de*P **Pn 07 05 09.0 +0.3**
AAK pmax pmax
comp=Z,27nm,1.4s
AAK Ala-Archa 12.77 308 Pn **Pn 07 05 08.8 +0.1**
comp=Z,0.1nm,0.3s,baz=112,slow=19,SNR=13
AAK LR LR 07 10 35.5
comp=Z,1μm,18.7s,baz=110,slow=40
AAK Ala-Archa 12.77 308 Pn 07 05 06.8 -1.9
ARSB Arslanbob 13.23 300 Pn **Pn 07 05 10.8 -4.2**
CD2 Chengdu 13.83 105 *e*P **Pn 07 05 26.5 +3.4**
CD2 S **Sn 07 08 00.8 +5.3**
CD2 LR LR
comp=Z,5μm,7.3s
CD2 LR LR
comp=Z,5μm,11.0s
CD2 LR LR
comp=Z,5μm,11.2s
DGZ Jazzator, Alta 14.16 358⇑*e*P **Pn 07 05 26.6 -1.1**
BTK Batken 14.45 293 P **Pn 07 05 30.0 -1.5**
BTK Batken 14.45 293 Pn 07 05 30.0 -1.5
GAR Garm 14.64 289 Pn 07 05 34.8 +0.7
CHGR Chuyangaron 15.49 287 Pn **Pn 07 05 44.0 -1.5**
CHGR IAmb IAmb 07 06 01.3
comp=Z,21nm,1.1s
KK31 Karatay Array 15.60 304 P **Pn 07 05 45.7 -1.1**
KK31 pmax pmax
comp=Z,20nm,1.3s
KK31 Karatay Array 15.60 304 Pn **Pn 07 05 45.7 -1.1**
KKAR Karatay Array 15.60 304 P **Pn 07 05 45.3 -1.5**
KKAR pmax pmax
comp=Z,20nm,1.3s
KKAR Karatay Array 15.60 304 Pn **Pn 07 05 45.3 -1.5**
KKAR Karatay Array 15.60 304 Pn 07 05 45.7 -1.1
KBL Kabul 15.71 272 P **Pn 07 05 46.5 -1.9**
KBL pmax pmax
comp=Z,25nm,1.2s
KBL Kabul 15.71 272 Pn 07 05 46.5 -1.9
KBL IAmb IAmb 07 05 54.4
comp=Z,25nm,1.1s
KMI Kunming 16.28 126 P **P 07 05 57.4 -1.1**
KMI pP pP 07 06 05.5 -3.5
KMI S **Sn 07 08 54.1 -1.4**
KMI SS **SnSn 07 09 13.3 +4.7**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,220nm,4.0s
KMI LR LR
comp=Z,4μm,14.7s
KMI LR LR
comp=Z,3μm,14.2s
KMI LR LR
comp=Z,1μm,10.7s
KURBB Kurchatov Arra 16.62 338 Pn **Pn 07 05 56.2 -3.4**
comp=Z,0.1nm,0.3s,baz=149,slow=11,SNR=26
KURBB Lg Lg 07 10 51.2
comp=Z,0.0nm,0.3s,baz=160,slow=30,SNR=3.4
KURK Kurchatov 16.67 338⇓*i*P **Pn 07 05 59.0 -1.3**
KURK pmax pmax
comp=Z,25nm,1.7s
KURK Kurchatov 16.67 338 Pn 07 05 59.0 -1.3
XAN Xi'an 17.11 89 P P 07 06 15.9 +8.5
XAN pP sP 07 06 21.4 -1.6
XAN S **S 07 09 28.1 +4.4**
XAN pmax pmax
comp=Z,20nm,1.3s
XAN LR LR
comp=N,1μm,10.8s
XAN LR LR
comp=E,980nm,9.2s
XAN LR LR
comp=Z,1μm,16.2s
XAN Xi'an 17.11 89 P **Pn 07 06 03.3 -2.6**
XAN Xi'an 17.11 89 Pn 07 06 03.3 -2.6
GYA Guiyang 18.23 115⇑*i*P **P 07 06 19.7 -0.2**
GYA PP **sP 07 06 37.3 +1.9**
GYA S **Sn 07 09 38.6 -3.8**
GYA SS **SnSn 07 10 04.7 +8.6**
GYA pmax pmax
comp=Z,40nm,1.4s
GYA pmax pmax
comp=Z,80nm,3.3s
GYA LR LR
comp=Z,2μm,10.4s
GYA LR LR
comp=Z,1μm,9.6s
GYA LR LR
comp=Z,1μm,10.4s
SONM Songino Array 18.27 42 P **P 07 06 18.0 -2.2**
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 18.27 42 P **Pn 07 06 21.2 +0.9**
comp=Z,0.0nm,0.3s,baz=228,slow=13,SNR=8.4
SONM Lg Lg 07 11 39.6
baz=232,slow=27,SNR=3.6
SONM LR LR 07 13 57.7
comp=Z,747nm,20.6s,baz=232,slow=39
SONM Songino Array 18.27 42 P **P 07 06 18.0 -2.2**
ZAK Zakamensk 18.44 32 *e*P **Pn 07 06 22.7 +0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
ZAA0 Zalesovo Array 18.56 354 P **P 07 06 20.8 -2.3**
ZAA0 IAmb IAmb 07 06 25.6
comp=Z,44nm,1.3s
ZALV Zalesovo Beam 18.56 354⇓*e*P **P 07 06 21.2 -1.9**
ZALV Zalesovo Beam 18.56 354 P **P 07 06 20.6 -2.5**
comp=Z,0.1nm,0.3s,baz=173,slow=10,SNR=27
ZALV LR LR 07 14 27.1
comp=Z,2μm,19.2s,baz=179,slow=40
ZALV Zalesovo Beam 18.56 354 P **P 07 06 20.9 -2.3**
ENH Enshi 18.64 100 P **P 07 06 23.9 -0.3**
ENH IAmb IAmb 07 06 35.6
comp=Z,34nm,1.1s
ULN Ulaanbaatar 18.65 43⇑*e*P **Pn 07 06 26.2 +1.2**
ULN Ulaanbaatar 18.65 43 P **P 07 06 22.4 -2.1**
HHC Hu-ho-hao-te 19.11 67 P **Pn 07 06 33.5 +3.1**
HHC pmax pmax
comp=Z,6.0nm,1.2s
CHTO Chiang Mai 19.19 147 P **P 07 06 29.3 -1.1**
CHTO pmax pmax
comp=Z,4.0nm,1.2s
CHTO Chiang Mai 19.19 147 P **P 07 06 29.3 -1.1**
MHMT Maesarieng 19.34 151 P **Pn 07 06 36.9 +3.7**
comp=Z,44nm,1.9s,comp=Z,982nm
CM31 Chiang Mai Arr 19.51 148 P **P 07 06 33.6 -0.2**
CM31 IAmb IAmb 07 06 43.6
comp=Z,26nm,1.3s
CMAR Chiang Mai Arr 19.51 148 P **P 07 06 32.5 -1.3**
CMAR Chiang Mai Arr 19.51 148 P **Pn 07 06 35.5 +0.3**
comp=Z,0.6nm,0.3s,baz=328,slow=11,SNR=14
CMAR LR LR 07 14 13.6
comp=Z,496nm,18.4s,baz=334,slow=38
CMAR Chiang Mai Arr 19.51 148 P **P 07 06 32.5 -1.3**
TLY Talaya 19.57 30 *e*P **Pn 07 06 35.4 -0.4**
TLY pmax pmax
comp=Z,31nm,1.5s
TLY MLR MLR
comp=Z,2μm,10.0s
TLY Talaya 19.57 30 LR LR 07 14 36.9
comp=Z,1μm,19.4s,baz=218,slow=38
TLY Talaya 19.57 30 P **P 07 06 33.2 -1.1**
SLVN Son La 19.75 132 P **P 07 06 33.7 -2.8**
SLVN IAmb IAmb 07 06 44.1
comp=Z,18nm,1.2s
HYB Hyderabad 19.98 208 *i* P **Pn 07 06 41.0 +0.1**
IRK Irkutsk 20.25 29 *e*P Pn 07 06 44.1 +0.3
IRK pmax pmax
comp=Z,100nm,1.8s
HRA Herat 21.27 274 P **P 07 06 52.4 -0.7**
BVAR Borovoye Array 21.52 330 P **P 07 06 55.7 +0.3**
comp=Z,4.1nm,0.8s,baz=140,slow=12,SNR=15
BRVK Borovoye 21.59 330 *i* P **P 07 06 56.6 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 21.59 330 P **P 07 06 55.6 -0.5**
BRVK IAmb IAmb 07 07 10.9
comp=Z,14nm,0.9s
NONG Nongkai 21.89 139 P **P 07 07 03.2 +3.6**
comp=Z,1.1nm,1.5s
PBKT Sadao Pong 22.07 146 P **P 07 07 07.4 +5.9**
UTHA Uthaitani 22.31 150 P **P 07 07 09.1 +5.0**
comp=Z,21μm,1.0s,comp=Z,337μm
WHN Wuhan 22.47 95 P **P 07 07 09.9 +4.2**
WHN S **S 07 11 11.1 +1.0**
WHN pmax pmax
comp=Z,350nm,1.9s
WHN pmax pmax
comp=Z,1μm,4.7s
WHN LR LR
comp=Z,2μm,4.8s
WHN LR LR
comp=Z,2μm,8.8s
WHN LR LR
comp=Z,2μm,7.6s
BJT Baijiatuau 22.53 70 P **P 07 07 05.9 -0.3**
BJT pmax pmax
comp=Z,24nm,1.3s
BJT Baijiatuau 22.53 70 P **P 07 07 05.9 -0.3**
BJT IAmb IAmb 07 07 12.1
comp=Z,24nm,1.3s
KHLT Khaolaem Dam 22.67 153 P **P 07 07 08.6 +0.7**
comp=Z,23nm,1.7s
CHAI Chaiyaphum 23.13 144 P **P 07 07 18.9 +6.3**
comp=Z,9μm,0.9s
TIA Tai'an 23.43 80 P **P 07 07 18.9 +3.4**
TIA pmax pmax
comp=Z,10.0nm,0.7s
TIA LR LR
comp=Z,1μm,10.0s
TIA LR LR
comp=Z,980nm,14.2s
TIA LR LR
comp=Z,710nm,16.4s
PBA Port Blair 24.14 169 P P 07 07 22.2 0.0
GEYT Alibeck 24.16 285 P **P 07 07 23.4 +0.9**
comp=Z,1.6nm,0.7s,baz=102,slow=13,SNR=3.1
GEYT Alibeck 24.16 285 P **P 07 07 22.4 -0.1**
GYA0B ALIBECK ARRAY 24.16 285 P **P 07 07 23.4 +0.9**
GYA0B IAmb IAmb 07 07 28.1
comp=Z,11nm,1.3s
AB31 Akbulak array 24.78 312 P **P 07 07 27.8 -0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 24.78 312 P **P 07 07 28.7 +0.8**
ABKAR Akbulak array 24.78 312 P **P 07 07 29.0 +1.1**
ABKAR IAmb IAmb 07 07 34.7
comp=Z,15nm,0.9s
NJ2 Nanjing 25.68 89 *e*P **P 07 07 41.9 +5.7**
NJ2 pmax pmax
comp=Z,35nm,0.8s
NJ2 LR LR
comp=Z,980nm,9.0s
NJ2 LR LR
comp=Z,800nm,12.8s
NJ2 LR LR
comp=Z,510nm,12.8s
AKTO Aktyubinsk 26.39 314 P **P 07 07 43.1 +0.7**
comp=Z,7.7nm,0.9s,baz=117,slow=9.5,SNR=11
AKTO LR LR 07 19 21.1
comp=Z,1μm,18.0s,baz=119,slow=39
DL2 Dalian 26.76 73 *e*P P 07 07 54.7 +8.8
DL2 S S 07 12 32.7 +13
DL2 sS sS 07 12 48.5 +10
DL2 pmax pmax
comp=Z,68nm,1.5s
DL2 pmax pmax
comp=Z,410nm,4.7s
DL2 LR LR
comp=N,1μm,16.2s
DL2 LR LR
comp=E,690nm,16.1s
DL2 LR LR
comp=Z,900nm,14.2s
HIA Hailar 26.82 49 *i* P **P 07 07 46.2 -0.2**
SVE Sverdlovsk 28.25 328⇑*i*P **P 07 08 00.8 +1.8**
SVE pmax pmax
comp=Z,27nm,1.4s
SVE MLR MLR
comp=Z,705nm,13.0s
ARU Arti 28.95 325 *c i*P **P 07 08 05.2 -0.1**
ARU PPP PPP 07 09 03.7
ARU S **S 07 12 56.9 +3.4**
ARU SS **SnSn 07 14 16.2 -1.6**
ARU pmax pmax
comp=Z,18nm,1.5s
ARU MLR MLR
comp=Z,761nm,16.0s
ARU Arti 28.95 325 P **P 07 08 04.9 -0.4**
ARU IAmb IAmb 07 08 07.9
comp=Z,16nm,1.3s
PALK Pallekele 28.96 195 P **P 07 08 04.0 -1.8**
PALK pmax pmax
comp=Z,31nm,0.8s
PALK Pallekele 28.96 195 P **P 07 08 04.0 -1.8**
KSAR Wonju Array Be 31.82 75 P **P 07 08 30.1 -0.7**
KSAR Wonju Array Be 31.82 75 P **P 07 08 30.1 -0.7**
KSRS Korea Array 31.85 75 P **P 07 08 32.0 +1.0**
comp=Z,2.9nm,0.9s,baz=270,slow=9.0,SNR=10
YOJ Yonaguni jima 31.97 101 P **P 07 08 29.9 -2.4**
YOJ pmax pmax
comp=Z,166nm,1.3s
YOJ Yonaguni jima 31.97 101 P **P 07 08 29.9 -2.4**
NRIK Noril'sk 33.86 360 P **P 07 08 48.7 +0.4**
comp=Z,4.2nm,0.9s,baz=148,slow=4.5,SNR=10
NRIK LR LR 07 23 44.8
comp=Z,2μm,19.9s,baz=182,slow=38
PSI Prapat 34.07 161 P **P 07 08 50.9 +0.1**
PSI pmax pmax
comp=Z,17nm,1.5s
RPSI Rantau Prapat 34.17 161 P **P 07 08 50.9 -0.6**
RPSI IAmb IAmb 07 08 54.3
comp=Z,17nm,1.5s
GNI Garni 34.35 291⇓*e*P **P 07 08 54.3 +1.1**
GNI pmax pmax
comp=Z,8.0nm,1.0s
KLR Kul'dur 34.48 53⇑*e*P **P 07 08 53.1 -0.8**
KLR pmax pmax
comp=Z,14nm,2.2s
AKH Akhalkalaki 35.17 293 P **P 07 09 02.7 +2.5**
AKH pmax pmax
comp=Z,6.0nm,0.8s
AKH Akhalkalaki 35.17 293 P **P 07 09 02.7 +2.5**
AKH IAmb IAmb 07 09 13.3
comp=Z,6.0nm,0.8s
KBZ Khabaz 35.45 297 LR LR 07 26 06.1
comp=Z,383nm,19.0s,baz=82,slow=41
KIV Kislovodsk 35.60 298 *e*P **P 07 09 05.4 +1.6**
KIV pmax pmax
comp=Z,13nm,0.9s
VRH Novokhopyorsk 36.56 310 *e*P **P 07 09 11.8 +0.1**
VRH pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 37.31 328 *e*P **P 07 09 14.3 -3.7**
PRGR pmax pmax
comp=Z,18nm,1.1s
VORD Divnogorie 38.06 309 *e*P **P 07 09 24.7 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 38.16 310 *e*P **P 07 09 25.9 +0.6**
VSR pmax pmax
comp=Z,20nm,1.4s
LPSR Galich'ya Gora 38.44 312 *e*P **P 07 09 27.4 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 38.74 264 P **P 07 09 30.9 +0.3**
RAYN pmax pmax
comp=Z,5.0nm,1.3s
RAYN Ar Rayn 38.74 264 P **P 07 09 30.9 +0.3**
KKM Kota Kinabalu 39.06 132 P **P 07 09 32.6 -0.8**
KKM IAmb IAmb 07 09 47.1
comp=Z,16nm,1.1s
KLMR Klimovskoe 39.80 325 *e*P **P 07 09 37.9 -1.0**
KLMR *e* 07 11 10.3
KLMR pmax pmax
comp=Z,49nm,1.4s
KLMR Klimovskoe 39.80 325 *e*P **P 07 09 37.9 -1.0**
KLMR AMP 07 09 41.2
comp=Z,49nm,1.4s
KLMR *e*PP **PP 07 11 10.3 -0.2**
KLMR LQ LQ 07 23 14.6
KLMR LQ LQ 07 23 14.6
KLMR LR LR 07 26 14.8
MJAR Matsushiro Arr 40.09 73 P **P 07 09 43.7 +1.9**
comp=Z,1.7nm,1.0s,baz=258,slow=4.8,SNR=5.0
MJAR LR LR 07 27 32.5
comp=Z,336nm,18.3s,baz=320,slow=38
TMCR Tamitsa 41.48 329 *e*P **P 07 09 51.7 -1.0**
TMCR pmax pmax
comp=Z,44nm,1.1s
ASAJ Asahikawa 41.99 61 LR LR 07 28 10.0
comp=Z,497nm,20.8s,baz=320,slow=37
BR131 Keskin Array S 42.84 293 P **P 07 10 04.7 +0.3**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BR131 Keskin Array S 42.84 293 P **P 07 10 04.7 +0.3**
BRTR Keskin Array B 42.84 293 P **P 07 10 04.5 +0.2**
BRTR Keskin Array B 42.84 293 P **P 07 10 05.5 +1.1**
comp=Z,1.6nm,0.8s,baz=104,slow=10,SNR=4.5
BRTR Keskin Array B 42.84 293 P **P 07 10 04.5 +0.2**
ANTO Ankara 43.45 293 P **P 07 10 09.9 +0.7**
ANTO pmax pmax
comp=Z,9.0nm,0.6s
ANTO Ankara 43.45 293 P **P 07 10 09.9 +0.7**
AKASG Malin Array Be 44.43 309 P **P 07 10 16.6 -0.2**
comp=Z,0.8nm,0.4s,baz=81,slow=7.3,SNR=3.7
AKASG LR LR 07 32 32.2
comp=Z,599nm,18.3s,baz=80,slow=41
TOPG Topolog 45.69 301⇓P **P 07 10 28.9 +2.0**
VSU Vasula 45.80 320⇓*e*P **P 07 10 29.0 +1.5**
VSU pmax pmax
comp=Z,53nm,1.7s
VSU Vasula 45.80 320 *e*P **P 07 10 24.9 -2.6**
VSU IAmb IAmb 07 10 29.5
comp=Z,23nm,0.8s
LEM Lembang 45.95 153 LR LR 07 30 33.7
comp=Z,238nm,18.4s,baz=279,slow=37
IZAR Zarasai 46.03 316 *e*P **P 07 10 30.6 +1.2**
IZAR IAmb IAmb 07 10 33.5
comp=Z,5.7nm,0.6s
IIGN Ignalina 46.05 316 *e*P **P 07 10 31.0 +1.4**
ISAL Salakas 46.10 316 *e*P **P 07 10 30.9 +0.9**
ISAL IAmb IAmb 07 10 34.0
comp=Z,8.7nm,0.9s
FINES FINESS Array B 46.30 324 P **P 07 10 31.7 +0.2**
comp=Z,1.3nm,0.7s,baz=97,slow=9.8,SNR=8.0
FINES LR LR 07 31 06.9
comp=Z,342nm,19.4s,baz=92,slow=38
TESR Tescani 46.61 303⇑P **P 07 10 35.2 +1.1**
VRI Vrincioaia 46.66 302⇑P **P 07 10 37.0 +2.4**
VRI Vrincioaia 46.66 302⇑P **P 07 10 37.0 +2.4**
PLOR Plostina 46.72 302⇑P **P 07 10 37.1 +2.1**
PLOR Plostina 46.72 302⇑P **P 07 10 37.1 +2.1**
BIZ Bicaz 46.91 304⇓P **P 07 10 38.0 +1.6**
ISR Istrita 46.92 301⇑P **P 07 10 39.5 +2.8**
ISR Istrita 46.92 301⇑P **P 07 10 39.5 +2.8**
OZUR 47.27 303⇑P **P 07 10 41.5 +2.2**
MLR Muntele Rosu 47.27 302 P **P 07 10 39.9 +0.4**
MLR pmax pmax
comp=Z,35nm,1.3s
MLR Muntele Rosu 47.27 302⇑P **P 07 10 41.3 +1.9**
MLR Muntele Rosu 47.27 302 P **P 07 10 39.9 +0.4**
PABE Paberze 47.33 316 *e*P **P 07 10 40.5 +1.0**
PABE IAmb IAmb 07 10 43.0
comp=Z,21nm,1.1s
BURAR Bucovina Array 47.39 305⇓P **P 07 10 41.7 +1.4**
BURAR Bucovina Array 47.39 305⇓P **P 07 10 41.7 +1.4**
BURAR Bucovina Array 47.39 305 P **P 07 10 40.0 -0.4**
BUR08 Bucovina Ar. S 47.40 305 P **P 07 10 41.4 +1.0**
BUR08 IAmb IAmb 07 10 57.2
comp=Z,5.0nm,1.2s
DOPR Dopca 47.56 303⇓P **P 07 10 43.5 +1.9**
ARCES ARCESS Array B 47.67 335 P **P 07 10 42.2 +0.1**
comp=Z,3.1nm,0.9s,baz=93,slow=7.0,SNR=11
ARCES LR LR 07 32 31.9
comp=Z,396nm,18.1s,baz=101,slow=38
ELND Elena 47.85 299⇑P P 07 10 49.6 +5.8
VOIR 47.90 302⇓P **P 07 10 44.7 +0.5**
VOIR 47.90 302⇓P **P 07 10 44.7 +0.5**
SLIT Slitere, Latvi 48.16 319 *e*P **P 07 10 50.2 +4.3**
SLIT IAmb IAmb 07 10 54.4
comp=Z,175nm,1.1s
ARR Arges 48.20 302⇓P **P 07 10 47.7 +1.1**
KOLS Kolonicke sedl 49.11 307 *e*P **P 07 10 57.2 +3.7**
KOLS Kolonicke sedl 49.11 307 *e*P **P 07 10 57.1 +3.6**
DRGR 49.22 304⇑P **P 07 10 55.6 +1.2**
DRGR 49.22 304⇑P **P 07 10 55.6 +1.2**
VTS Vitosha 49.81 299 P **P 07 10 55.8 -3.3**
VTS pmax pmax
comp=Z,5.0nm,1.2s
VTS Vitosha 49.81 299 P **P 07 10 55.8 -3.3**
VTS IAmb IAmb 07 11 08.1
comp=Z,4.6nm,1.2s
OJC Ojcow 50.47 309 P **P 07 11 02.0 -1.7**
OJC pmax pmax
comp=Z,9.0nm,1.0s
OJC Ojcow 50.47 309 P **P 07 11 02.0 -1.7**
OJC IAmb IAmb 07 11 09.3
comp=Z,9.4nm,1.0s
PSZ Piszkesteto 50.86 306 P **P 07 11 05.7 -1.2**
PSZ pmax pmax
comp=Z,7.0nm,1.1s
PSZ Piszkesteto 50.86 306 P **P 07 11 05.7 -1.2**
PSZ IAmb IAmb 07 11 13.8
comp=Z,7.0nm,1.1s
VYHS Vyhne 51.43 307 *e*P **P 07 11 11.8 +0.8**
VYHS pmax pmax
comp=Z,28nm,1.7s
VYHS Vyhne 51.43 307 *e*P **P 07 11 11.8 +0.8**
OKC Ostrava-Krasne 51.59 309 AMS AMS 07 36 20.0
comp=Z,500nm,17.7s
MORC Moravsky Berou 51.98 309 P **P 07 11 15.4 +0.2**
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 51.98 309⇑P **P 07 11 17.2 +2.0**

MORC	**Moravsky Berou**	**51.98 309**	*e*P	**P**	**07 11 16.1 +0.9**	
MORC	**Moravsky Berou**	**51.98 309**	P	**P**	**07 11 15.4 +0.2**	
MORC			IAmb	IAmb	07 11 20.4	
	comp=Z,7.2nm,1.1s					
JAVC	**Velka Javorina**	**52.10 308**	*e*P	**P**	**07 11 17.9 +1.8**	
DPC	**Dobruska-Polom**	**52.62 310**	*e*P	**P**	**07 11 21.3 +1.4**	
DPC			*e*		07 11 23.8	
DPC			MLR	MLR		
	comp=Z,500nm,20.6s					
DPC	**Dobruska-Polom**	**52.62 310**	*e*P	**P**	**07 11 21.3 +1.4**	
DPC			*e*pP	pP	07 11 23.8 -8.3	
DPC			AMS	AMS	07 35 20.0	
	comp=Z,500nm,20.6s					
VRAC	**Vranov**	**52.69 309**	*e*P	**P**	**07 11 20.9 +0.5**	
CHVC	**Chvalec**	**52.74 310**	AMS	AMS	07 35 30.0	
	comp=Z,600nm,14.9s					
UPC	**Upice**	**52.78 310**	*e*P	**P**	**07 11 22.7 +1.7**	
UPC			*e*		07 11 25.5	
UPC			MLR	MLR		
	comp=Z,700nm,18.2s					
UPC	**Upice**	**52.78 310**	*e*P	**P**	**07 11 22.7 +1.7**	
UPC			*e*pP	**pP**	**07 11 25.5 -7.7**	
UPC			AMS	AMS	07 35 20.0	
	comp=Z,700nm,18.2s					
KRUC	**Moravsky**	**52.87 308**	*e*P	**P**	**07 11 22.9 +1.2**	
BILL	**Bilibino**	**53.17 27**	*i* P	**P**	**07 11 23.9 +0.3**	
BILL			pmax	pmax		
	comp=Z,3.0nm,1.2s					
NB2	**NORSAR Subarra**	**53.48 324**	P	**P**	**07 11 26.9 +0.8**	
	comp=Z,10nm,1.1s,baz=81,slow=7.4					
NOA	**NORSAR Array B**	**53.48 324**	P	**P**	**07 11 25.5 -0.6**	
	comp=Z,1.5nm,0.9s,baz=79,slow=6.9,SNR=3.2					
NOA			LR	LR	07 35 18.4	
	comp=Z,350nm,18.9s,baz=90,slow=37					
CONA	**Conrad Observa**	**53.50 307**	*e*PKiKP	**P**	**07 11 27.2 +0.8**	
	comp=Z,6.4nm,1.1s					
PVCC	**Panska Ves**	**53.67 311**	AMS	AMS	07 35 50.0	
	comp=Z,500nm,13.5s					
GOPC	**GO Pecny, Ondr**	**53.69 310**	AMS	AMS	07 36 00.0	
	comp=Z,500nm,21.3s					
PRU	**Pruhonice**	**53.82 310**	AMS	AMS	07 36 10.0	
	comp=Z,600nm,18.8s					
PRA	**Prague**	**53.87 310**	AMS	AMS	07 36 00.0	
	comp=Z,700nm,24.1s					
ARSA	**Arzberg**	**53.90 306**	*e*PKiKP	P	07 11 35.1 +5.8	
	comp=Z,2.7nm,0.9s					
BRG	**Berggiesshubel**	**53.98 311**	*e*P	**P**	**07 11 31.6 +1.7**	
	comp=Z,14nm,1.6s					
	comp=N,489nm,19.2s					
	comp=E,379nm,14.0s					
	comp=Z,456nm,16.7s					
BRG	**Berggiesshubel**	**53.98 311**	*e*P	**P**	**07 11 31.5 +1.7**	
BRG			pmax	pmax		
	comp=Z,14nm,1.6s					
BRG			MLR	MLR		
	comp=N,489nm,19.2s					
BRG			MLR	MLR		
	comp=E,379nm,14.0s					
BRG			MLR	MLR		
	comp=Z,456nm,16.7s					
SOKA	**Soboth**	**54.38 306**	*e*PKiKP	**P**	**07 11 36.1 +3.2**	
	comp=Z,2.8nm,0.6s					
CLL	**Collm**	**54.45 312**	*e*P	**P**	**07 11 37.0 +3.8**	
CLL			pmax	pmax		
	comp=Z,17nm,1.6s					
CLL	**Collm**	**54.45 312**	*e*P	**P**	**07 11 33.0 -0.2**	
CLL			*e*SSS	SSS	07 25 06.0	
GEC2	**GERESS Array S**	**54.65 309**	P	**P**	**07 11 35.2 +0.4**	
GEC2			IAmb	IAmb	07 11 42.3	
	comp=Z,7.4nm,1.0s					
GERES	**GERESS Array B**	**54.65 309**	P	**P**	**07 11 35.0 +0.2**	
GERES	**GERESS Array B**	**54.65 309**	P	**P**	**07 11 36.1 +1.2**	
	comp=Z,2.1nm,0.7s,baz=61,slow=6.4,SNR=12					
GERES			LR	LR	07 37 22.6	
	comp=Z,321nm,18.7s,baz=86,slow=39					
GERES	**GERESS Array B**	**54.65 309**	P	**P**	**07 11 35.0 +0.2**	
KHC	**Kasperske Hory**	**54.65 309**	*e*P	**P**	**07 11 36.0 +1.2**	
KHC			*e*		07 11 39.0	
KHC			MLR	MLR		
	comp=Z,600nm,8.2s					
KHC	**Kasperske Hory**	**54.65 309**	*e*P	**P**	**07 11 36.0 +1.2**	
KHC			*e*pP	pP	07 11 39.0 -8.0	
KHC			AMS	AMS	07 38 00.0	
	comp=Z,600nm,8.2s					
NKC	**Novy Kostel**	**55.06 311**	AMS	AMS	07 36 50.0	
	comp=Z,700nm,17.0s					
WATA	**Walderalm**	**56.45 307**	*e*pPKiKP	**P**	**07 11 47.2 -0.6**	
	comp=Z,5.4nm,1.1s					
SQTA	**Sankt Quirin**	**56.72 307**	*e*pPKiKP	P	07 11 55.4 +5.6	
	comp=Z,7.4nm,0.9s					
MOTA	**Moosalm**	**56.75 308**	*e*pPKiKP	P	07 11 55.4 +5.4	
	comp=Z,12nm,1.3s					
KMBO	**Kilima Mbogo**	**59.83 244**	P	**P**	**07 12 09.0 -3.0**	
KMBO			pmax	pmax		
	comp=Z,3.0nm,1.1s					
KMBO	**Kilima Mbogo**	**59.83 244**	P	**P**	**07 12 14.7 +2.7**	
	comp=Z,0.8nm,0.4s,baz=19,slow=8.0,SNR=4.1					
KMBO	**Kilima Mbogo**	**59.83 244**	P	**P**	**07 12 09.0 -3.0**	
KMBO			IAmb	IAmb	07 12 20.6	
	comp=Z,3.3nm,1.1s					
ESK	**Eskdalemuir**	**62.38 320**	P	**P**	**07 12 29.3 +0.8**	
ESK			pmax	pmax		
	comp=Z,18nm,1.1s					
ESK	**Eskdalemuir**	**62.38 320**	P	**P**	**07 12 29.3 +0.8**	
PSAB3	**Pilbara Seismi**	**64.27 147**	P	**P**	**07 12 39.8 -1.4**	
IMAR	**Indian Mountai**	**68.23 23**	P	**P**	**07 13 09.2 +3.1**	
ESDC	**Sonseca Array**	**69.85 305**	P	**P**	**07 13 16.8 +0.1**	
	comp=Z,0.1nm,0.3s,baz=46,slow=7.9,SNR=3.0					
ESDC	**Sonseca Array**	**69.85 305**	P	**P**	**07 13 15.5 -1.3**	
BPAW	**Bear Paw Mtn.**	**70.35 24**	P	**P**	**07 13 18.4 -0.9**	
BPAW			IAmb	IAmb	07 13 30.0	
	comp=Z,5.5nm,1.4s					
WRAB	**Tennant Creek**	**70.41 134**	P	**P**	**07 13 17.9 -2.3**	
WRAB			pmax	pmax		
	comp=Z,15nm,1.3s					
WRAB	**Tennant Creek**	**70.41 134**	P	**P**	**07 13 17.9 -2.3**	
WRA	**Warramunga Arr**	**70.41 134**	P	**P**	**07 13 18.0 -2.2**	
WRA	**Warramunga Arr**	**70.41 134**	P	**P**	**07 13 19.8 -0.5**	
	comp=Z,2.5nm,0.9s,baz=329,slow=5.8,SNR=11					
WRA	**Warramunga Arr**	**70.41 134**	P	**P**	**07 13 18.1 -2.2**	
WB2	**Warramunga Arr**	**70.42 134**	P	**P**	**07 13 17.0 -3.3**	
COLA	**College**	**70.81 22**	‖ *e*P	**P**	**07 13 23.0 +1.0**	
COLA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
ILAR	**Eielson Array**	**71.17 22**	P	**P**	**07 13 23.9 -0.4**	
	comp=Z,0.9nm,1.0s,baz=292,slow=4.8,SNR=4.2					
ILAR			LR	LR	07 46 43.6	
	comp=Z,349nm,20.2s,baz=314,slow=38					
AS31	**Alice Springs**	**73.08 137**	P	**P**	**07 13 35.4 -0.8**	
ASAR	**Alice Springs**	**73.08 137**	P	**P**	**07 13 34.9 -1.4**	
ASAR	**Alice Springs**	**73.08 137**	P	**P**	**07 13 36.1 -0.2**	
	comp=Z,1.9nm,0.9s,baz=340,slow=7.0,SNR=10					
ASAR	**Alice Springs**	**73.08 137**	P	**P**	**07 13 34.9 -1.4**	
BCAR	**Beaver Creek A**	**73.96 21**	P	**P**	**07 13 41.1 +0.1**	
FORT	**Forrest**	**75.88 145**	P	**P**	**07 13 51.5 -0.8**	
LSZ	**Lusaka**	**75.99 239**	P	**P**	**07 13 53.0 -0.4**	
LSZ			pmax	pmax		
	comp=Z,3.0nm,0.9s					
LSZ	**Lusaka**	**75.99 239**	P	**P**	**07 13 53.0 -0.4**	
LSZ			IAmb	IAmb	07 14 00.0	
	comp=Z,2.6nm,0.8s					
TORD	**Torodi Ar. Bea**	**79.66 279**	P	**P**	**07 14 13.3 -0.6**	
	comp=Z,0.3nm,0.6s,baz=38,slow=5.5,SNR=4.1					
TORD			LR	LR	07 53 25.2	
	comp=Z,171nm,18.2s,baz=355,slow=39					
YKA	**Yellowknife Ar**	**80.59 11**	LR	LR	07 54 47.9	
	comp=Z,12nm,18.8s,baz=338,slow=39					
BOSA	**Boshof**	**87.09 232**	P	**P**	**07 14 50.8 -1.1**	
BOSA			pmax	pmax		
	comp=Z,9.0nm,1.3s					
BOSA	**Boshof**	**87.09 232**	P	**P**	**07 14 50.8 -1.1**	
SCHQ	**Schefferville**	**87.46 346**	LR	LR	07 57 53.8	
	comp=Z,110nm,20.5s,baz=328,slow=38					
DBIC	**Dimbokro**	**88.63 277**	LR	LR	08 01 40.7	
	comp=Z,186nm,18.4s,baz=40,slow=40					
ULM	**Lac du Bonnet**	**94.51 3**	LR	LR	08 02 18.7	
	comp=Z,98nm,18.8s,baz=354,slow=38					
CPUP	**Villa Florida**	**149.15 278**	PKPbc	**PKiKP**	**07 21 55.9 +0.3**	
	comp=Z,1.8nm,0.9s,baz=48,slow=4.4,SNR=5.2					

IDC ***03*** *07:04:43.6±2.6, 52°.51N×169°.42W, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.4/47, mbtmp3.6/4, ML3.1/3, Error ellipse: s-maj=61.4km s-min=27.9km az=168.0*
ISCJB ***03*** *07:04:46.9±0.7, 52°.25N±0°.10×169°.45W±0°.09, h40km, mb3.3/1, Error ellipse: s-maj=15.3km s-min=5.1km az=154.9*
AEIC ***03*** *07:04:46.3±1.7, 52°.30N±0°.06×169°.4W±0°.1, h11km±6km, ML3.5, mb3.9/11(NEIC)*

ISC 03 07:04:48.4±1.2, 52°.3N±0°.1×169°.35W±0°.08, h40km, n50, σ1°65/46, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.74**	**24**		**Pn**	**07 05 00.8**	**-1.6**
NIKH					Pn	07 05 11.2	+8.8
OKWR	**Okmok West Rim**	**1.34**	**31**		**Pn**	**07 05 10.4**	**-0.3**
OKCE	**Okmok Cone E**	**1.34**	**32**		**Pn**	**07 05 10.3**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.35**	**36**		**Pn**	**07 05 10.3**	**-0.5**
OKWE	**Okmok W'ng Wal**	**1.36**	**29**		**Pn**	**07 05 10.6**	**-0.4**
OKNC	**Okmok New Cone**	**1.38**	**32**		**Pn**	**07 05 11.2**	**0.0**
OKNC					**Sn**	**07 05 30.1**	**+1.9**
OKFG	**Magazine Ridge**	**1.42**	**37**		**Pn**	**07 05 10.9**	**-0.8**
OKFG					**Sn**	**07 05 31.2**	**+2.0**
OKRE	**Okmok R'deer P**	**1.42**	**30**		**Pn**	**07 05 11.4**	**-0.4**
MREP	**Makushin Rep't**	**2.19**	**45**		**Pn**	**07 05 22.4**	**+0.1**
MCIR	**Makushin Cirqu**	**2.23**	**41**		**Pn**	**07 05 23.9**	**+1.0**
MSW	**Makushin Switc**	**2.24**	**43**		**Pn**	**07 05 23.0**	**0.0**
UNV	**Unalaska Valle**	**2.32**	**47**		**Pn**	**07 05 23.9**	**-0.1**
MTBL	**Makushin Table**	**2.33**	**43**		**Pn**	**07 05 24.6**	**+0.3**
AKMO	**Akutan Morgan**	**2.70**	**47**		**Pn**	**07 05 29.4**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.70**	**46**		**Pn**	**07 05 30.6**	**+1.3**
AKGG	**Akutan Green G**	**2.78**	**45**		**Pn**	**07 05 31.7**	**+1.3**
AKUT	**Akutan**	**2.83**	**48**	Pn	**Pn**	**07 05 32.2**	**+1.1**
KOFP	**Korovin Flat P**	**2.91**	**271**		**Pn**	**07 05 32.1**	**-0.2**
ATKA	**Atka Island**	**2.98**	**270**	Pn	**Pn**	**07 05 32.5**	**-0.5**
GSTR	**Great Sitkin T**	**4.13**	**270**	Pn	**Pn**	**07 05 48.4**	**-0.6**
ADK	**Adak**	**4.54**	**268**	Pn	**Pn**	**07 05 54.6**	**0.0**
SPIA	**Saint Paul Isl**	**4.92**	**354**	Pn	**Pn**	**07 06 00.8**	**+1.1**
SDPT	**Sand Point**	**6.08**	**56**	Pn	**Pn**	**07 06 19.2**	**+3.6**
CHGN	**Chignik**	**7.55**	**54**	Pn	**Pn**	**07 06 38.0**	**+2.2**
OHAK	**Old Harbor**	**10.51**	**56**	Pn	**Pn**	**07 07 15.8**	**-0.4**
KDAK	**Kodiak Island**	**11.07**	**54**	Pn	**Pn**	**07 07 23.0**	**-0.9**
	0.4nm,0.3s,baz=209,slow=6.5,SNR=9.5						
KDAK				Sn	**Sn**	**07 09 20.9**	**-5.3**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.2						
KDAK	**Kodiak Island**	**11.07**	**54**		**Pn**	**07 07 24.3**	**+0.4**
SEW	**Seward**	**13.52**	**47**	Pn	**Pn**	**07 07 57.5**	**+0.2**
GHO	**Glory Hole Cre**	**14.55**	**41**	Pn	**Pn**	**07 08 12.3**	**+0.8**
BPAW	**Bear Paw Mtn.**	**15.21**	**32**		**P**	**07 08 23.8**	**-0.7**
BPAW				IAmb	IAmb	07 08 28.4	
	comp=Z,2.7nm,0.7s						
SCM	**Sheep Creek Mo**	**15.24**	**43**	Pn	**Pn**	**07 08 21.2**	**+0.6**
EYAK	**Cordova Ski Ar**	**15.38**	**48**	Pn	**Pn**	**07 08 23.7**	**+1.4**
GLB	**Gilahina Butte**	**16.59**	**47**	Pn	**Pn**	**07 08 38.2**	**+0.4**
GLB				IAmb	IAmb	07 08 53.2	
	comp=Z,9.3nm,1.3s						
CCB	**Clear Creek Bu**	**16.62**	**34**	Pn	**P**	**07 08 39.2**	**-0.9**
VRDI	**Verde Repeater**	**16.67**	**47**	Pn	**Pn**	**07 08 39.4**	**+0.4**
VRDI				IAmb	IAmb	07 08 45.0	
	comp=Z,21nm,1.5s						
WAX	**Waxell Ridge**	**16.70**	**50**		**P**	**07 08 41.2**	**+0.1**
WAX				IAmb	IAmb	07 08 45.7	
	comp=Z,30nm,1.4s						
ILAR	**Eielson Array**	**17.01**	**34**	Pn	**Pn**	**07 08 39.7**	**-3.3**
	comp=Z,0.0nm,0.3s,baz=232,slow=13,SNR=2.4						
BCAR	**Beaver Creek A**	**18.10**	**43**		**P**	**07 08 56.9**	**+0.4**
EGAK	**Eagle**	**19.09**	**38**	P	**Pn**	**07 09 13.7**	**+5.3**
HYT	**Haines Junctio**	**19.34**	**51**	P	**Pn**	**07 09 13.3**	**+1.8**
HYT				IAmb	IAmb	07 09 19.5	
	comp=Z,3.4nm,0.8s						
PETK	**Petropavlovsk-**	**19.89**	**285**	P	**P**	**07 09 14.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=13,SNR=4.3						
SKAG	**Skagway**	**20.21**	**56**	P	Pn	07 09 22.1	+0.5
SKAG				IAmb	IAmb	07 09 28.5	
	comp=Z,5.8nm,0.8s						
INK	**Inuvik**	**23.40**	**33**	P	**P**	**07 09 53.1**	**-0.1**
INK				IAmb	IAmb	07 10 00.6	
	comp=Z,5.4nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**37.40**	**219**	T	T	07 53 20.9	
	baz=24,slow=76,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**37.41**	**219**	T	T	07 53 03.7	
	baz=24,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**37.42**	**219**	T	T	07 53 16.5	
	baz=24,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**38.59**	**218**	T	T	07 53 27.9	
	baz=23,slow=76,SNR=75						
H11S2	**WAKE ISLAND Hy**	**38.60**	**218**	T	T	07 53 45.1	
	baz=23,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**38.61**	**218**	T	T	07 53 18.1	
	baz=23,slow=76,SNR=41						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**07 12 23.9**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=309,slow=3.8,SNR=4.9						

ISCJB ***03*** *07:12:18.4±1.2, 53°.46N±0°.05×163°.50W±0°.04, h15km±7km, mb3.6/7, Error ellipse: s-maj=8.0km s-min=3.9km az=178.3*
IDC ***03*** *07:12:18.8±1.3, 53°.54N×163°.62W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.6/41, mbtmp3.6/10, ML3.0/2, Error ellipse: s-maj=28.6km s-min=18.0km az=5.0*
AEIC ***03*** *07:12:20.8±1.3, 53°.41N±0°.04×163°.64W±0°.02, h28km±7km, ML3.4*

ISC 03 07:12:19.8±3.6, 53°.46N±0°.07×163°.66W±0°.04, h11km±23km, n58, σ1°13/61, mb3.6/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.15**	**332**		**Pb**	**07 12 41.6**	**-0.2**
WESP	**Westdahl Peak**	**1.21**	**329**		**Pn**	**07 12 42.5**	**-0.2**
WESP					**Sb**	**07 12 59.2**	**+0.8**
WEBT	**Westdahl Beart**	**1.31**	**331**		**Pn**	**07 12 43.9**	**-0.1**
SSBA	**Shishaldin**	**1.34**	**348**		**Pn**	**07 12 44.4**	**-0.2**
SSBA					**Sb**	**07 13 03.7**	**+1.5**
AKSA	**Akutan Strait**	**1.39**	**300**		**Pn**	**07 12 44.7**	**-0.4**
AKSA	**Akutan Strait**	**1.39**	**300**		**Pn**	**07 12 44.5**	**-0.6**
FALS	**False Pass**	**1.41**	**6**		**Pn**	**07 12 45.1**	**-0.2**
FALS				Sn	**Sn**	**07 13 04.0**	**+0.1**
AKUT	**Akutan**	**1.43**	**299**		**Pn**	**07 12 45.4**	**-0.2**
AKUT					**Pn**	**07 12 45.4**	**-0.2**
AKUT					**Sn**	**07 13 03.6**	**-0.8**
AKUT					**Sb**	**07 13 03.8**	**-0.8**
AKBBA	**Akutan Broad B**	**1.50**	**296**		**Pn**	**07 12 45.2**	**-1.4**
AKLV	**Akutan Long Va**	**1.54**	**298**		**Pn**	**07 12 46.7**	**-0.5**
AKLV					**Sn**	**07 13 06.4**	**-0.8**
AKMO	**Akutan Morgan**	**1.54**	**295**		**Pn**	**07 12 46.8**	**-0.3**
AKMO					**Sn**	**07 13 06.5**	**-0.6**
AKGG	**Akutan Green G**	**1.57**	**299**		**Pn**	**07 12 47.5**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.58**	**296**		**Pn**	**07 12 48.0**	**+0.2**
UNV	**Unalaska Valle**	**1.74**	**284**		**Pn**	**07 12 49.4**	**-0.6**
UNV	**Unalaska Valle**	**1.74**	**284**		**Sn**	**07 13 11.8**	**-0.3**
MNAT	**Makushin Natee**	**1.85**	**284**		**Pn**	**07 12 51.2**	**-0.3**
MTBL	**Makushin Table**	**1.87**	**287**		**Pn**	**07 12 52.4**	**+0.6**
MREP	**Makushin Rep't**	**1.87**	**282**		**Pn**	**07 12 51.9**	**0.0**
MSW	**Makushin Switc**	**1.92**	**285**		**Pn**	**07 12 52.1**	**-0.3**
MSW					**Sn**	**07 13 16.2**	**-0.3**
MCIR	**Makushin Cirqu**	**1.99**	**286**		**Pn**	**07 12 53.6**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**2.63**	**270**		**Pn**	**07 13 02.7**	**+0.5**
SDPT	**Sand Point**	**2.65**	**43**		**Pn**	**07 13 02.4**	**-0.1**
NIKH	**Nikolski High**	**3.17**	**263**		**Pn**	**07 13 09.0**	**-0.5**
VNHG	**Veniaminof 1**	**3.79**	**41**		**Pn**	**07 13 18.9**	**+0.7**
CHGN	**Chignik**	**4.16**	**45**	Pn	**Pn**	**07 13 23.2**	**+0.1**
CHIR	**Chirikof Islan**	**5.23**	**60**	Pn	**Pn**	**07 13 37.2**	**-0.7**
SPIA	**Saint Paul Isl**	**5.29**	**317**	Pn	**Pn**	**07 13 38.9**	**+0.2**
SII	**Sitkinak Islan**	**6.27**	**57**	Pn	**Pn**	**07 13 52.0**	**-0.1**
OHAK	**Old Harbor**	**7.01**	**53**	Pn	**Pn**	**07 14 00.4**	**-1.8**
KDAK	**Kodiak Island**	**7.62**	**51**	Pn	**Pn**	**07 14 08.4**	**-2.1**
	0.3nm,0.3s,baz=213,slow=5.6,SNR=20						
KDAK				Sn	Sn	07 15 28.0	-8.7
	0.3nm,0.3s,baz=144,slow=19,SNR=3.5						
KDAK	**Kodiak Island**	**7.62**	**51**		**Pn**	**07 14 08.6**	**-2.0**
SUA	**Susitna One**	**10.60**	**36**	Pn	**Pn**	**07 14 51.0**	**-0.5**
SKT	**Skwentna**	**10.70**	**32**	Pn	**Pn**	**07 14 52.2**	**-0.7**
KNK	**Knik Glacier**	**11.40**	**40**	Pn	**Pn**	**07 15 01.8**	**-0.6**
EYAK	**Cordova Ski Ar**	**12.04**	**47**	Pn	**Pn**	**07 15 09.4**	**-1.7**
SCM	**Sheep Creek Mo**	**12.09**	**40**	Pn	**Pn**	**07 15 10.7**	**-1.2**
DHY	**Denali Highway**	**12.85**	**35**	Pn	**Pn**	**07 15 19.1**	**-3.3**
WAX	**Waxell Ridge**	**13.29**	**50**	Pn	**Pn**	**07 15 26.7**	**-1.6**
GLB	**Gilahina Butte**	**13.30**	**45**	Pn	**Pn**	**07 15 27.1**	**-1.3**
VRDI	**Verde Repeater**	**13.35**	**46**	Pn	**Pn**	**07 15 27.7**	**-1.5**
YAH	**Yahtse**	**13.77**	**51**	Pn	**Pn**	**07 15 34.2**	**-0.8**
ILAR	**Eielson Array**	**14.17**	**30**	Pn	**Pn**	**07 15 38.8**	**-1.4**
	0.1nm,0.3s,baz=228,slow=12,SNR=3.7						
SCRK	**Sand Creek**	**14.60**	**36**	P	**Pn**	**07 15 50.8**	**+4.6**
INK	**Inuvik**	**20.55**	**32**	P	**P**	**07 16 57.4**	**-0.6**
	1.4nm,0.8s,baz=257,slow=5.7,SNR=4.1						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**07 16 56.7**	**-1.3**
PETK	**Petropavlovsk-**	**22.92**	**285**	P	**P**	**07 17 24.4**	**+0.9**
	1.8nm,0.8s,baz=69,slow=13,SNR=8.1						
YKA	**Yellowknife Ar**	**26.89**	**51**	P	**P**	**07 18 00.6**	**+0.2**
	1.0nm,0.7s,baz=270,slow=8.1,SNR=3.8						
NVAR	**Mina Array Bea**	**34.29**	**97**	P	**P**	**07 19 07.2**	**+1.0**
	0.7nm,0.9s,baz=311,slow=7.0,SNR=3.2						
PDAR	**Pinedale Array**	**36.82**	**84**	P	**P**	**07 19 28.4**	**+0.5**
	0.4nm,0.8s,baz=317,slow=3.8,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**40.58**	**225**	T	T	08 03 43.4	
	baz=26,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**40.59**	**225**	T	T	08 03 43.9	
	baz=26,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.60**	**225**	T	T	08 03 44.8	
	baz=26,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**41.75**	**225**	T	T	08 05 11.2	
	baz=25,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**41.76**	**225**	T	T	08 05 06.9	
	baz=25,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**41.77**	**225**	T	T	08 05 07.2	
	baz=25,slow=76,SNR=30						
TXAR	**Lajitas Array**	**49.32**	**94**	P	**P**	**07 21 08.9**	**0.0**
	0.6nm,0.6s,baz=298,slow=5.9,SNR=8.4						
SONM	**Songino Array**	**53.66**	**303**	P	**P**	**07 21 41.6**	**+0.4**
	0.2nm,0.3s,baz=41,slow=9.9,SNR=2.6						
ARCES	**ARCESS Array B**	**57.13**	**356**	P	**P**	**07 22 05.1**	**-0.7**
	3.5nm,1.1s,baz=19,slow=8.6,SNR=2.7						

BJI ***03*** *07:25:55.7±0.0, 2°.55N×67°.04E, h5km, mb4.7/14, mB5.0/11, Ms4.6/5, Ms7 4.3/4*
ISCJB ***03*** *07:25:56.6±0.3, 2°.79N±0°.05×67°.00E±0°.05, h10km, mb4.3/19, MS3.8/22, Error ellipse: s-maj=7.6km s-min=6.3km az=138.5*
IDC ***03*** *07:25:57.4±0.7, 2°.83N×66°.96E, h0km, mb4.2/13, mb1 4.3/14, mb1mx3.9/48, mbtmp4.2/14, ML3.9/1, MS3.7/21, Ms1 3.7/21, ms1mx3.6/39, Error ellipse: s-maj=24.0km s-min=17.3km az=47.0*
NEIC ***03*** *07:25:58.1±1.9, 2°.78N±0°.09×67°.03E±0°.08, h10km±1km, mb4.5/27*
GCMT ***03*** *07:26:00.1±0.4, 2°.95N±0°.03×67°.00E±0°.03, h19km±1km, MW4.9/73, Moment Tensor Solution. s18,c22; s73,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.55±.17; $M_{\theta\theta}$1.18±.13; $M_{\phi\phi}$0.37±.13; $M_{r\theta}$1.59±.29; $M_{\theta\phi}$1.39±.09; $M_{\phi r}$-0.84±.28; Best double couple: $M_0$2.64000×10^{16} NP1:ϕ_s267.00000°, δ67.00000°, λ-53.00000°. NP2: ϕ_s24.00000°, δ43.00000°, λ-144.00000°. Principal axes: T 2.4130, Plg14.0000°, Azm331.0000°; N 0.4540, Plg34.0000°, Azm70.0000°; P -2.8680, Plg53.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 07:25:58.3±0.4, 2°.81N±0°.06×67°.00E±0°.06, h10km, n100, σ1°59/89, mb4.5/29, MS3.8/22, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**6.42**	**111**		**Pn**	**07 27 32.4**	**-0.6**
KAAM				Sn	**Sn**	**07 28 41.3**	**-5.0**
HMDM	**Hanimaadhoo**	**7.31**	**57**		**Pn**	**07 27 45.1**	**-0.1**
H08N2	**Diego Garcia H**	**9.91**	**156**	T	T	07 38 26.5	
	baz=336,slow=76,SNR=4201						
H08N3	**Diego Garcia H**	**9.93**	**156**	T	T	07 38 21.8	
	baz=336,slow=76,SNR=2842						
H08N1	**Diego Garcia H**	**9.93**	**156**	T	T	07 38 25.6	
	baz=336,slow=76,SNR=2546						
DGAR	**Diego Garcia**	**11.52**	**152**		**Sn**	**07 30 53.3**	**+1.5**
PALK	**Pallekele**	**14.35**	**71**	Pn	**Pn**	**07 29 22.7**	**+1.0**
	0.5nm,0.3s,baz=295,slow=13,SNR=3.7						
PALK			LR	LR	07 33 54.5	
	comp=Z,333nm,18.3s,baz=297,slow=33						
PALK	**Pallekele**	**14.35**	**71**		**Pn**	**07 29 21.6**	**-0.1**
PALK	**Pallekele**	**14.35**	**71**		**Pn**	**07 29 22.2**	**+0.4**
HYB	**Hyderabad**	**18.42**	**37**	*i* P	**Pn**	**07 30 17.0**	**+3.0**

comp=Z,4.6nm,0.8s
ZALV Zalesovo Beam 53.03 13 P P 07 35 14.8 -0.7
comp=Z,3.4nm,0.7s,baz=217,slow=7.2,SNR=11
ZALV LR LR 07 58 06.2
comp=Z,91nm,19.1s,baz=222,slow=36
ZALV Zalesovo Beam 53.03 13 P P 07 35 15.4 0.0
HHC Hu-ho-hao-te 55.14 40 P P 07 35 33.7 +2.5
HHC pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 56.22 31 P P 07 35 40.3 +1.5
comp=Z,3.0nm,0.9s,baz=227,slow=7.0,SNR=7.2
SONM LR LR 07 59 52.9
comp=Z,120nm,19.9s,baz=158,slow=36
SONM Songino Array 56.22 31 P P 07 35 39.0 +0.2
YULB Yu-li 56.30 64 P P 07 35 40.0 +0.2
YULB IAmb IAmb 07 35 54.4
comp=Z,11nm,1.3s
NJ2 Nanjing 56.66 53 *eP* **P 07 35 43.0 +0.9**
NJ2 pmax pmax
comp=Z,15nm,0.9s
TIR Tirane 57.07 319 P P 07 35 45.0 +0.1
BURAR Bucovina Array 57.33 328 P P 07 35 45.8 -1.0
AKASG Malin Array Be 57.34 332 P P 07 35 45.3 -1.3
comp=Z,0.2nm,0.3s,baz=141,slow=6.2,SNR=3.7
AKASG LR LR 08 03 11.0
comp=Z,61nm,19.1s,baz=240,slow=39
AKASG Malin Array Be 57.34 332 P P 07 35 46.1 -0.5
BUR08 Bucovina Ar. S 57.36 328 P P 07 35 46.8 -0.2
BUR08 IAmb IAmb 07 35 50.5
comp=Z,3.9nm,1.3s
H01W3 Cape Leeuwin H 57.93 135 T T 08 38 22.9
baz=300,slow=75,SNR=50
H01W2 Cape Leeuwin H 57.94 135 T T 08 38 22.9
baz=300,slow=75,SNR=49
H01W1 Cape Leeuwin H 57.95 135 T T 08 38 24.2
baz=300,slow=75,SNR=58
ACER Acerenza 59.45 317 P P 07 36 01.3 -0.2
KOLS Kolonicke sedl 59.70 327 *eP* **P 07 36 04.3 +1.2**
VYHS Vyhne 61.35 326 *eP* **P 07 36 14.9 +0.5**
GERES GERESS Array B 64.48 324 LR LR 08 04 31.4
comp=Z,64nm,22.0s,baz=7.5,slow=36
KSRS Korea Array 65.43 50 LR LR 08 07 48.1
comp=Z,20nm,18.3s,baz=100,slow=38
FINES FINESS Array B 66.09 340 LR LR 08 08 43.2
comp=Z,63nm,18.2s,baz=93,slow=39
NRIK Noril'sk 67.83 8 LR LR 08 07 46.3
comp=Z,45nm,21.7s,baz=210,slow=37
WRA Warramunga Arr 69.78 112 P P 07 37 10.5 +1.0
comp=Z,5.8nm,0.9s,baz=288,slow=5.9,SNR=21
WRA LR LR 08 04 49.0
comp=Z,58nm,19.4s,baz=285,slow=33
WRA Warramunga Arr 69.78 112 P P 07 37 09.6 +0.1
WB2 Warramunga Arr 69.80 112 P P 07 37 09.1 -0.5
ASAR Alice Springs 70.13 116 P P 07 37 12.3 +0.7
comp=Z,2.4nm,0.8s,baz=289,slow=5.5,SNR=16
ASAR LR LR 08 03 23.1
comp=Z,65nm,21.6s,baz=291,slow=32
ASAR Alice Springs 70.13 116 P P 07 37 12.0 +0.4
AS31 Alice Springs 70.13 116 P P 07 37 10.7 -0.9
KLR Kul'dur 71.58 39 P P 07 37 20.8 +1.0
comp=Z,3.4nm,0.8s,baz=278,slow=7.4,SNR=10.0
NOA NORSAR Array B 71.59 335 P P 07 37 19.2 -0.5
comp=Z,1.5nm,1.0s,baz=112,slow=6.6,SNR=3.3
NOA LR LR 08 10 01.1
comp=Z,37nm,21.8s,baz=110,slow=37
ESDC Sonseca Array 73.60 310 P P 07 37 32.1 0.0
comp=Z,1.0nm,0.8s,baz=80,slow=5.2,SNR=5.5
ESDC Sonseca Array 73.60 310 P P 07 37 32.0 -0.1
ESK Eskdalemuir 76.51 326 P P 07 37 49.0 +0.5
YSS Yuzh-Sakhalins 78.24 43 P P 07 37 56.6 -1.8
STKA Stephens Creek 78.45 123 P P 07 38 00.8 +0.8
comp=Z,3.4nm,0.7s,baz=351,slow=9.6,SNR=3.5
STKA LR LR 08 07 56.2
comp=Z,131nm,21.6s,baz=215,slow=32
STKA Stephens Creek 78.45 123 P P 07 37 57.5 -2.4
ASCN Ascension 81.84 262 P P 07 38 18.4 -0.1
VNA2 Neumayer--Watz 87.57 198 P P 07 38 48.1 +1.8
baz=80,slow=5.8
VNA3 Neumayer Olymp 88.37 198 P P 07 38 51.6 +1.5
PDAR Pinedale Array 134.53 356 PKP **PKPdf 07 45 18.1 +0.5**
comp=Z,0.6nm,0.8s,baz=36,slow=2.4,SNR=3.2
PDAR Pinedale Array 134.53 356 PKPdf 07 45 17.8 +0.1
MNMC Minye Minye 134.58 246 PKPdf 07 45 17.6 -0.8
N23A Red Feather La 136.03 352 PKPdf 07 45 19.5 -1.1
SMCO Snowmass 137.85 353 PKPdf 07 45 23.2 -0.9
PV17 East Wray Mesa 138.95 355 PKPdf 07 45 25.8 -0.2
ANMO Albuquerque 141.95 351 PKPdf 07 45 29.3 -2.2
LENM Lemitar 142.79 352 PKPdf 07 45 30.7 -2.3
121A Cookes Peak, D 144.51 352 PKPab 07 45 34.3 0.0
JCT Junction City 144.58 340 PKPbc 07 45 34.7 +0.1
MNTX Cornudas Mount 144.93 349 PKPab 07 45 34.1 -1.5
TUC Tucson 145.01 357 PKPab 07 45 35.1 -0.9
OTAV Otavalo 145.33 274 PKPbc 07 45 35.1 -2.9
OTAV pPKPab 07 45 40.1 -0.6
214A Organ Pipe Nat 145.43 360 PKPbc 07 45 36.6 -0.7
TX31 Lajitas Ar. Si 146.81 345 PKPdf 07 45 37.3 -2.6
TX32 Lajitas Array 146.81 345 PKPab 07 45 42.8 0.0
TXAR Lajitas Array 146.81 345 PKPbc **PKPab 07 45 43.0 +0.1**
comp=Z,5.7nm,0.8s,baz=49,slow=2.2,SNR=36
TXAR Lajitas Array 146.81 345 PKPdf **PKPdf 07 45 38.8 -1.1**
TXAR **PKPab 07 45 42.6 -0.2**
HPIG 149.59 347 PKPdf **PKPdf 07 45 41.5 -3.2**
HPIG **pPKPbc 07 45 51.6 -0.2**

IDC ***03*** *07:27:10.0±1.0, 38°.32N×93°.40E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.5/52, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=51.7km s-min=17.8km az=51.0*
ISCJB ***03*** *07:27:12.9±0.9, 38°.5N±0°.1×93°.4E±0°.2, h33km, mb3.6/7, Error ellipse: s-maj=22.7km s-min=13.5km az=135.3*
ISC 03 07:27:15.6±1.2, 38°.6N±0°.2×93°.4E±0°.1, h35km, n11, σ1§29/12, mb3.6/7, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.58**	**319**	Pn			**Pn**	**07 29 58.0**	**-0.4**
	0.7nm,0.3s,baz=123,slow=13,SNR=20								
MKAR							Sn	**07 32 04.1**	**-2.3**
	0.3nm,0.3s,baz=129,slow=25,SNR=5.2								
SONM	**Songino Array**	**13.27**	**41**	Pn			**Pn**	**07 30 21.1**	**-0.3**
	baz=228,slow=15,SNR=3.1								
SONM					Lg		Lg	07 34 06.4	
	0.2nm,0.3s,baz=232,slow=30,SNR=5.8								
KURBB	**Kurchatov Arra**	**16.01**	**324**	Pn			**Pn**	**07 30 57.8**	**-0.1**
	0.2nm,0.3s,baz=136,slow=11,SNR=4.9								
ZALV	**Zalesovo Beam**	**16.48**	**342**	Pn			**P**	**07 31 06.3**	**+0.1**
	0.3nm,0.3s,baz=154,slow=8.0,SNR=3.0								
BVAR	**Borovoye Array**	**21.46**	**320**	P			**P**	**07 32 01.0**	**+0.2**
	0.8nm,0.7s,baz=120,slow=8.5,SNR=4.8								
AKASG	**Malin Array Be**	**45.86**	**307**	P			**P**	**07 35 35.1**	**+0.9**
	0.2nm,0.3s,baz=72,slow=7.1,SNR=3.8								
FINES	**FINESS Array B**	**46.39**	**322**	P			**P**	**07 35 38.3**	**+0.2**
	1.0nm,0.8s,baz=69,slow=12,SNR=3.3								
ARCES	**ARCESS Array B**	**46.77**	**333**	P			**P**	**07 35 43.5**	**+2.4**
	3.4nm,1.1s,baz=87,slow=7.3,SNR=3.2								
NOA	**NORSAR Array B**	**53.54**	**323**	P			**P**	**07 36 32.6**	**+0.1**
	0.4nm,0.7s,baz=75,slow=7.5,SNR=2.6								
WRA	**Warramunga Arr**	**69.72**	**139**	P			**P**	**07 38 20.6**	**-1.4**
	0.5nm,1.0s,baz=333,slow=5.7,SNR=2.4								
ASAR	**Alice Springs**	**72.62**	**141**	P			**P**	**07 38 38.6**	**-0.9**
	0.5nm,0.7s,baz=334,slow=6.6,SNR=5.3								

IDC ***03*** *07:47:59.7±1.2, 35°.81N×88°.49E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.6/40, mbtmp3.8/9, ML2.9/3, Error ellipse: s-maj=81.9km s-min=18.1km az=57.0*
ISCJB ***03*** *07:48:02.3±0.9, 35°.9N±0°.2×88°.7E±0°.4, h33km, mb3.6/5, Error ellipse: s-maj=50.6km s-min=12.2km az=152.2*
ISC 03 07:48:04.7±1.1, 35°.9N±0°.2×88°.6E±0°.4, h35km, n9, σ0§93/9, mb3.6/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.83**	**339**	Pn			**Pn**	**07 50 50.9**	**-0.1**
	0.3nm,0.3s,baz=150,slow=14,SNR=8.0								
KURBB	**Kurchatov Arra**	**16.38**	**337**	Pn			**Pn**	**07 51 50.6**	**-1.2**
	0.0nm,0.3s,baz=145,slow=11,SNR=5.4								
ZALV	**Zalesovo Beam**	**18.21**	**353**	P			**Pn**	**07 52 15.1**	**+0.6**
	0.1nm,0.3s,baz=180,slow=11,SNR=5.8								
CMAR	**Chiang Mai Arr**	**19.67**	**149**	P			**P**	**07 52 30.4**	**-0.3**
	baz=340,slow=9.6,SNR=5.0								
BVAR	**Borovoye Array**	**21.36**	**329**	P			**P**	**07 52 48.9**	**+0.2**
	0.7nm,0.5s,baz=146,slow=12,SNR=5.6								
AKTO	**Aktyubinsk**	**26.35**	**313**	P			**P**	**07 53 38.9**	**+1.6**
	1.2nm,0.7s,baz=114,slow=16,SNR=4.9								
FINES	**FINESS Array B**	**46.17**	**324**	P			**P**	**07 56 24.8**	**-0.8**
	1.0nm,0.7s,baz=104,slow=5.9,SNR=2.6								
ARCES	**ARCESS Array B**	**47.46**	**335**	P			**P**	**07 56 35.3**	**-0.2**
	1.9nm,1.0s,baz=94,slow=7.3,SNR=4.3								
WRA	**Warramunga Arr**	**70.46**	**134**	P			**P**	**07 59 15.9**	**+0.2**
	0.5nm,1.0s,baz=322,slow=6.7,SNR=3.3								

KRNET ***03*** *08:10:29.9±0.1, 43°.19N×78°.26E, h16km, mb2.8*
NNC ***03*** *08:10:29.2±0.4, 43°.21N×78°.32E, h0km, mb2.8, mpv2.9, Error ellipse: s-maj=4.0km s-min=2.1km az=0.0*
SOME ***03*** *08:10:30.2, 43°.18N×78°.27E, h5km*
ISC 03 08:10:29.9±0.8, 43°.19N±0°.02×78°.28E±0°.02, h8km±7km, n45, σ0§54/87, 27C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.11**	**100**	⇑	*i*	P	**Pg**	**08 10 32.4**	**-0.2**
	baz=98								
ZHN				⇑	*i*	S	**Sg**	**08 10 34.0**	**-0.4**
	baz=98								
ZHN	**Zhinishke**	**0.11**	**100**	⇑	*i*	P	**Pg**	**08 10 32.4**	**-0.2**
	500nm,0.0s								
ZHN				⇑	*i*	S	**Sg**	**08 10 34.0**	**-0.4**
	698nm,0.1s								
SATY	**Saty**	**0.16**	**145**			P	**Pg**	**08 10 33.3**	**+0.1**
	121nm,0.1s								
SATY						S	**Sg**	**08 10 35.6**	**0.0**
	514nm,0.1s								
SATY	**Saty**	**0.16**	**145**	⇑	*e*	P	**Pg**	**08 10 33.3**	**+0.1**
	121nm,0.1s								
SATY				⇑	*i*	S	**Sg**	**08 10 35.7**	**0.0**
	644nm,0.2s								
KURS	**Kuram**	**0.31**	**345**			P	**Pg**	**08 10 36.3**	**+0.2**
	18nm,0.1s								
KURS						S	**Sg**	**08 10 40.7**	**+0.4**
	11nm,0.2s								
KURS	**Kuram**	**0.31**	**345**	⇓	*i*	P	**Pg**	**08 10 36.3**	**+0.2**
	baz=47								
KURS				⇑	*i*	S	**Sg**	**08 10 40.8**	**+0.6**
	baz=47								
KURS	**Kuram**	**0.31**	**345**	⇓	*i*	P	**Pg**	**08 10 36.3**	**+0.2**
	19nm,0.1s								
KURS				⇑	*i*	S	**Sg**	**08 10 40.8**	**+0.6**
	12nm,0.4s								
KPKS	**Kokpek**	**0.40**	**46**	⇑	*e*	P	**Pg**	**08 10 37.7**	**-0.1**
	baz=49								
KPKS				⇓	*i*	S	**Sg**	**08 10 43.0**	**-0.1**
	baz=49								
KPKS	**Kokpek**	**0.40**	**46**	⇑	*e*	P	**Pg**	**08 10 37.7**	**-0.1**
	14nm,0.1s								
KPKS				⇓	*i*	S	**Sg**	**08 10 43.0**	**-0.1**
	82nm,0.3s								
UZB	**Uzynbulak**	**0.54**	**94**	⇑	*e*	P	**Pg**	**08 10 40.0**	**-0.5**
	9.3nm,0.1s								
UZB				⇓	*i*	S	**Sg**	**08 10 46.9**	**-0.7**
	52nm,0.1s								
ANVS	**Anan'yevo**	**0.61**	**228**	⇑	*i*	P	**Pg**	**08 10 41.6**	**0.0**
	baz=28								
ANVS				⇑	*i*	S	**Sg**	**08 10 49.0**	**-0.6**
	baz=28								
PDGK	**Podgornoye**	**0.89**	**80**	⇑		P	**Pg**	**08 10 46.2**	**-0.8**
	2.4nm,0.6s								
PDGK				⇑		S	**Sg**	**08 10 57.5**	**-1.2**
	2.9nm,0.3s								
MDOK	**Medeo**	**0.90**	**269**	*e*		P	**Pg**	**08 10 47.0**	**-0.3**
	baz=69								
MDOK				*e*		S	**Sg**	**08 10 58.8**	**-0.2**
	baz=69								
MDOK	**Medeo**	**0.90**	**269**	*e*		P	**Pg**	**08 10 47.0**	**-0.3**
	2.1nm,0.2s								
MDOK				*e*		S	**Sg**	**08 10 58.8**	**-0.2**
	8.5nm,0.4s								
TNSS	**Tian-Shan**	**0.99**	**262**			P	**Pg**	**08 10 48.6**	**-0.3**
	3.0nm,0.2s								
TNSS						S	**Sg**	**08 11 01.9**	**+0.1**
	8.3nm,0.3s								
TNSS	**Tian-Shan**	**0.99**	**262**	⇓	*i*	P	**Pg**	**08 10 48.7**	**-0.3**
	baz=62								
TNSS				⇑	*i*	S	**Sg**	**08 11 02.1**	**+0.3**
	baz=62								
TNSS	**Tian-Shan**	**0.99**	**262**	⇓	*i*	P	**Pg**	**08 10 48.6**	**-0.3**
	2.9nm,0.2s								
TNSS				⇑	*i*	S	**Sg**	**08 11 02.1**	**+0.3**
	474nm,0.4s								
ARXS	**Arharly**	**1.08**	**342**			P	**Pg**	**08 10 50.2**	**-0.4**
	1.2nm,0.1s								
ARXS						S	**Sg**	**08 11 04.2**	**-0.3**
	5.5nm,0.1s								
ARXS	**Arharly**	**1.08**	**342**	*e*		P	**Pg**	**08 10 50.2**	**-0.4**
	1.2nm,0.1s								
ARXS				⇑	*i*	S	**Sg**	**08 11 04.3**	**-0.3**
	5.8nm,0.1s								
CHKK	**Chushkaly**	**1.15**	**306**			P	**Pg**	**08 10 51.2**	**-0.9**
	1.1nm,0.1s								
CHKK						S	**Sg**	**08 11 06.1**	**-0.9**
	9.7nm,0.1s								
CHKK	**Chushkaly**	**1.15**	**306**	*e*		P	**Pg**	**08 10 51.1**	**-0.9**
	baz=7.0								
CHKK				*e*		S	**Sg**	**08 11 06.1**	**-0.9**
	baz=7.0								
CHKK	**Chushkaly**	**1.15**	**306**	*e*		P	**Pg**	**08 10 51.1**	**-0.9**
	1.8nm,0.2s								
CHKK				*e*		S	**Sg**	**08 11 06.2**	**-0.9**
	9.5nm,0.2s								
IZV	**Izvestkoviy**	**1.23**	**263**			P	**Pg**	**08 10 52.4**	**-1.1**
	3.5nm,0.1s								
IZV						S	**Sg**	**08 11 08.3**	**-1.2**
	16nm,0.4s								
IZV	**Izvestkoviy**	**1.23**	**263**	*e*		P	**Pg**	**08 10 53.2**	**-0.3**
	baz=63								
IZV				*e*		S	**Sb**	**08 11 09.7**	**+0.1**
	baz=63								
IZV	**Izvestkoviy**	**1.23**	**263**	*e*		P	**Pg**	**08 10 53.2**	**-0.3**
	3.5nm,0.1s								
IZV				*e*		S	**Sb**	**08 11 09.7**	**+0.1**
	16nm,0.4s								
KDJ	**Kajisay**	**1.33**	**218**	⇑	*i*	P	**Pn**	**08 10 55.2**	**+0.2**
	baz=17								
KDJ				⇑	*i*	S	**Sg**	**08 11 12.4**	**-0.4**
	baz=17								
MTBS	**Maitube**	**1.36**	**268**			P	**Pg**	**08 10 56.6**	**+0.7**
	5.1nm,0.2s								
MTBS						S	**Sn**	**08 11 15.6**	**+2.1**
	9.8nm,0.2s								
MTBS	**Maitube**	**1.36**	**268**	*e*		P	**Pn**	**08 10 54.9**	**-0.3**
	baz=68								
MTBS				*e*		S	**Sg**	**08 11 12.6**	**-0.9**
	baz=68								
MTBS	**Maitube**	**1.36**	**268**	*e*		P	**Pn**	**08 10 54.9**	**-0.3**
	5.1nm,0.2s								
MTBS				*e*		S	**Sg**	**08 11 12.6**	**-0.9**
	6.6nm,0.3s								
TARG	**Taragay, Kyrgy**	**1.50**	**194**	⇑	*i*	P	**Pn**	**08 10 57.9**	**+0.4**
	baz=93								
TARG				⇑	*i*	S	**Sb**	**08 11 17.8**	**+0.3**
	baz=93								
DJR	**Jarkent**	**1.58**	**43**			P	**Pn**	**08 10 58.4**	**+0.1**
	2.0nm,0.2s								
DJR						S	**Sn**	**08 11 18.5**	**-0.5**
	3.5nm,0.3s								
DJR	**Jarkent**	**1.58**	**43**	*e*		P	**Pb**	**08 10 59.4**	**-0.1**
	1.8nm,0.2s								
DJR				*e*		S	**Sb**	**08 11 20.3**	**+0.7**
	5.6nm,0.2s								
KST	**Kastek**	**1.71**	**266**			P	**Pb**	**08 11 01.3**	**-0.2**
	3.7nm,0.4s								
KST						S	**Sb**	**08 11 23.6**	**+0.4**
	3.3nm,0.3s								
KST	**Kastek**	**1.71**	**266**	*e*		P	**Pb**	**08 11 01.2**	**-0.3**
	baz=66								
KST				*e*		S	**Sb**	**08 11 23.2**	**0.0**
	baz=66								
KST	**Kastek**	**1.71**	**266**	*e*		P	**Pb**	**08 11 01.2**	**-0.3**
	2.1nm,0.1s								
KST				*e*		S	**Sb**	**08 11 23.2**	**0.0**
	4.7nm,0.3s								
ULHL	**Ulahol**	**1.77**	**239**	⇓	*i*	P	**Pb**	**08 11 02.6**	**-0.2**
	baz=38								
ULHL				⇓	*i*	S	**Sb**	**08 11 25.5**	**+0.2**
	baz=38								
DGS	**Degeres**	**1.84**	**273**			P	**Pb**	**08 11 03.5**	**-0.3**
	2.1nm,0.1s								
DGS						S	**Sb**	**08 11 27.3**	**+0.4**
	11nm,0.2s								
DGS	**Degeres**	**1.84**	**273**	*e*		P	**Pb**	**08 11 03.5**	**-0.3**
	baz=73								
DGS				*e*		S	**Sb**	**08 11 27.3**	**+0.4**
	11nm,0.2s								
BOOM	**Boomskoye usch**	**1.86**	**249**	⇑	*e*	P	**Pb**	**08 11 04.4**	**+0.2**
	baz=49								
BOOM				⇑	*i*	S	**Sb**	**08 11 27.9**	**+0.3**
	baz=49								
TKM2	**Tokmak 2**	**1.99**	**263**	⇑		Pg	**Pb**	**08 11 06.2**	**-0.2**
	0.9nm,0.3s								
TKM2				⇑		Lg	Lg	08 11 33.7	
	4.8nm,0.7s								
TKM2	**Tokmak 2**	**1.99**	**263**	⇓	*e*	P	**Pb**	**08 11 06.3**	**-0.1**
	baz=63								
TKM2				⇓	*i*	S	**Sb**	**08 11 31.6**	**+0.2**
	baz=63								
KAPS	**Kapalarasan**	**2.23**	**20**	Pg			**Pb**	**08 11 11.0**	**+0.4**
	1.0nm,0.2s								
KAPS					Lg		Lg	08 11 40.2	
	2.5nm,0.3s								
KAPS	**Kapalarasan**	**2.23**	**20**	*e*		P	**Pb**	**08 11 11.2**	**+0.7**
	0.5nm,0.1s								
KAPS				*e*		S	**Sg**	**08 11 40.5**	**-1.1**
	8.2nm,0.4s								
AAK	**Ala-Archa**	**2.84**	**260**	⇑		Pg	**Pb**	**08 11 20.6**	**-0.3**
	4.5nm,1.3s								
AAK				⇓		Lg	Lg	08 11 59.0	
	2.9nm,0.9s								

ISCJB ***03*** *08:13:17.5±0.2, 18°.38N±0°.03×69°.23W±0°.02, h109km±3km, mb3.9/16, Error ellipse: s-maj=4.8km s-min=3.1km az=7.6*
NEIC ***03*** *08:13:18.7±1.4, 18°.40N±0°.08×69°.21W±0°.03, h101km±8km, mb4.3/24*
IDC ***03*** *08:13:19.9±2.0, 18°.30N×69°.12W, h121km±19km, mb3.6/15, mb1 3.8/18, mb1mx3.6/50, mbtmp4.1/18, Error ellipse: s-maj=19.1km s-min=11.2km az=81.0*
OSPL ***03*** *08:13:20.5±2.8, 18°.22N×69°.32W, h79km±22km, ML4.2*
ISC 03 08:13:18.3±0.6, 18°.29N±0°.05×69°.27W±0°.03, h104km±6km, n125, σ1§54/139, mb4.1/20, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.51**	**348**				**Pn**	**08 13 33.1**	**-1.6**
SDD	**Santo Domingo**	**0.63**	**286**				**Pn**	**08 13 35.8**	**+0.2**
SDD					Sn		**Sn**	**08 13 48.7**	**+0.2**
PCDR	**Punta Cana, DR**	**0.88**	**75**	*i*	P		**Pn**	**08 13 37.3**	**-0.5**
PCDR				*e*	S		**Sn**	**08 13 51.0**	**-1.4**
PCDR				IAML				08 13 55.9	
	comp=Z,9μm,0.6s								
PCDR	**Punta Cana, DR**	**0.88**	**75**				**Pn**	**08 13 37.2**	**-0.5**
PCDR					Sn		**Sn**	**08 13 50.2**	**-2.1**
BANI	**BANI**	**1.04**	**276**				**Pn**	**08 13 40.4**	**+0.8**
BANI					Sn		**Sn**	**08 13 57.2**	**+1.6**
LOBA1	**Barahona**	**1.73**	**264**	*i*	P		**Pn**	**08 13 47.8**	**+0.2**
LOBA1				*e*	S		**Sn**	**08 14 07.7**	**-2.2**
LOBA1				IAML				08 14 10.4	
	comp=Z,4μm,0.4s								
SC01	**Santiago de lo**	**1.79**	**310**				**Pn**	**08 13 49.2**	**+0.8**
MPR	**Mayaguez**	**2.03**	**92**	*e*	P		**Pn**	**08 13 52.2**	**+0.8**
MPR				*e*	S		**Sn**	**08 14 15.2**	**-1.4**
MPR				IAML				08 14 26.3	
	comp=Z,840nm,0.4s								
MPR	**Mayaguez**	**2.03**	**92**				**Pn**	**08 13 51.8**	**+0.4**
MPR					Sn		**Sn**	**08 14 17.0**	**+0.3**
SDDR	**Presa de Saban**	**2.03**	**290**	*i*	P		**Pn**	**08 13 52.6**	**+1.1**
SDDR				*e*	S		**Sn**	**08 14 14.5**	**-2.4**
SDDR				IAML				08 14 25.3	
	comp=Z,706nm,0.5s								
SDDR	**Presa de Saban**	**2.03**	**290**				**Pn**	**08 13 52.1**	**+0.6**
SDDR					Sn		**Sn**	**08 14 17.6**	**+0.7**
AGPR	**Aguadilla, PR**	**2.06**	**85**	*i*	P		**Pn**	**08 13 52.5**	**+0.7**
AGPR				*e*	S		**Sn**	**08 14 16.5**	**-0.9**
AGPR				IAML				08 14 24.8	
	comp=Z,3μm,0.3s								
AGPR	**Aguadilla, PR**	**2.06**	**85**				**Pn**	**08 13 52.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.07**	**97**				**Pn**	**08 13 51.6**	**-0.4**
MLPR	**Magueyes Islan**	**2.14**	**98**				**Pn**	**08 13 52.2**	**-0.7**
MLPR					Sn		**Sn**	**08 14 17.1**	**-2.2**
AOPR	**Arecibo Observ**	**2.39**	**88**				**Pn**	**08 13 57.1**	**+1.0**
OBIP	**Obispado Ponce**	**2.55**	**95**				**Pn**	**08 13 57.9**	**-0.3**
EMPR	**Esperanza - Ma**	**2.61**	**85**				**Pn**	**08 13 60.0**	**+1.0**
EMPR					Sn		**Sn**	**08 14 33.7**	**+3.5**
ICMP	**Isla Caja de M**	**2.64**	**98**	Pn			**Pn**	**08 13 57.8**	**-1.6**
ICMP					Sn		**Sn**	**08 14 31.8**	**+0.9**
SJG	**San Juan**	**2.97**	**93**	P			**Pn**	**08 14 02.7**	**-1.1**
	comp=Z,84nm,0.3s,baz=293,slow=10,SNR=160								
SJG				S			**Sn**	**08 14 37.8**	**-1.0**
	comp=Z,90nm,0.3s,baz=114,slow=20,SNR=6.6								
SJG	**San Juan**	**2.97**	**93**				**Pn**	**08 14 03.6**	**-0.1**
IGPR	**InterUniversit**	**3.03**	**96**				**Pn**	**08 14 03.8**	**-0.6**
IGPR					Sn		**Sn**	**08 14 39.8**	**-0.4**
GCPR	**Guaynabo City**	**3.03**	**89**				**Pn**	**08 14 04.0**	**-0.5**
GCPR					Sn		**Sn**	**08 14 39.5**	**-0.7**
PDPR	**Patillas Dam,**	**3.10**	**94**				**Pn**	**08 14 05.3**	**-0.2**
CBYP	**Canovanas**	**3.25**	**90**				**Pn**	**08 14 07.2**	**-0.3**
HUMP	**Col San Antoni**	**3.25**	**92**				**Pn**	**08 14 07.3**	**-0.3**
MTP	**Monte Pirata**	**3.54**	**92**				**Pn**	**08 14 11.0**	**-0.4**
STVI	**Saint Thomas**	**4.10**	**88**				**Pn**	**08 14 17.9**	**-1.0**
GTBY	**Guantanamo Bay**	**5.76**	**287**	*i*	P		**Pn**	**08 14 39.2**	**-2.1**
GTBY				*e*	S		**Sn**	**08 15 39.8**	**-6.3**
GTBY				IAML				08 15 52.8	
	comp=Z,23nm,0.4s								
GTBY	**Guantanamo Bay**	**5.76**	**287**				**Pn**	**08 14 39.0**	**-2.4**
SKI	**Saint Kitts**	**6.29**	**98**	Pn			**Pn**	**08 14 49.9**	**+1.2**
URIC	**Uribia, Colomb**	**7.05**	**202**	*e*	P		**Pn**	**08 14 59.1**	**+0.1**
URIC	**Uribia, Colomb**	**7.05**	**202**	*e*	P		**Pn**	**08 14 59.1**	**+0.1**
ANWB	**Willy Bob**	**7.15**	**94**	Pn			**Pn**	**08 15 00.2**	**-0.1**
MTDJ	**Mount Denham**	**7.85**	**271**	Pn			**Pn**	**08

PLMC San Jos del P 14.96 208 *eP* **P 08 16 48.1 +0.7**
PLMC San Jos del P 14.96 208 *eP* **P 08 16 48.1 +0.7**
658A Bunnell 15.58 318 Pn **Pn 08 16 50.4 -1.7**
YOTC Yotoco, Valle 15.81 207 *eP* **P 08 16 59.4 +2.5**
YOTC Yotoco, Valle 15.81 207 *eP* **P 08 16 59.4 +2.5**
GUVC San Jose del G 15.99 192 *eP* **P 08 17 00.1 +1.3**
GUVC San Jose del G 15.99 192 *eP* **P 08 17 00.1 +1.3**
656A Willston 16.38 315 Pn **Pn 08 17 00.6 -1.5**
Y60A Bolivia 17.58 335 P **P 08 17 16.4 +0.2**
SOTA Rioblanco 17.59 205 *eP* **Pn 08 17 20.1 +2.6**
SOTA Rioblanco 17.59 205 *eP* **Pn 08 17 20.1 +2.6**
NHSC New Hope 17.71 329 P **Pn 08 17 20.1 +1.9**
JSC Jenkinsville 19.19 328 P **P 08 17 34.0 +0.2**
HODGE Hodges 19.66 326 P **P 08 17 39.3 +0.3**
HODGE IAmb IAmb 08 17 41.7
comp=Z,15nm,1.3s
GOGA Godfrey 19.72 323 P **P 08 17 39.6 0.0**
PTGA Pitinga 21.00 153 P **P 08 17 54.8 +1.3**
comp=Z,1.7nm,0.5s,baz=352,slow=14,SNR=7.1
Z50A Ashland 21.10 318 P **P 08 17 54.4 -0.1**
Z50A IAmb IAmb 08 17 59.9
comp=Z,6.8nm,0.8s
LRAL Lakeview Retre 21.65 316 P **P 08 18 00.6 +0.3**
LRAL IAmb IAmb 08 18 03.4
comp=Z,14nm,1.4s
TZTN Tazewell 22.12 328 P **P 08 18 04.9 -0.4**
TZTN IAmb IAmb 08 18 21.8
comp=Z,9.3nm,1.0s
PLAL Pickwick Lake 23.58 319 P **P 08 18 20.1 +0.6**
WVT Waverly 24.18 321 P **P 08 18 25.2 +0.3**
ATAH Atahualpa 26.82 200 P **P 08 18 52.6 +3.2**
comp=Z,8.5nm,0.8s,baz=28,slow=6.6,SNR=3.9
SAML Samuel 27.72 167 IAmb IAmb 08 18 58.1
comp=Z,6.3nm,0.8s
NNA Nana 30.99 194 P **P 08 19 27.4 +1.3**
comp=Z,6.9nm,0.5s,baz=340,slow=6.7,SNR=4.0
TXAR Lajitas Array 33.22 296 P **P 08 19 45.9 +0.3**
comp=Z,0.2nm,0.5s,baz=126,slow=7.9,SNR=8.4
TXAR PcP **PcP 08 22 25.4 -0.5**
comp=Z,0.3nm,0.7s,baz=118,slow=3.4,SNR=3.1
LPAZ La Paz 34.37 178 P **P 08 19 56.6 +0.5**
comp=Z,3.2nm,0.7s,baz=7.1,slow=1.6,SNR=14
LPAZ La Paz 34.37 178 IAmb IAmb 08 20 01.3
comp=Z,3.0nm,0.7s
SIV San Ignacio 35.01 166 P **P 08 20 00.8 -0.2**
comp=Z,1.1nm,0.4s,baz=335,slow=8.4,SNR=13
MNMC Minye Minye 37.19 181 IAmb IAmb 08 20 20.9
comp=Z,9.2nm,0.9s
LVC Limon Verde 40.65 179 P **P 08 20 48.6 -0.1**
comp=Z,2.8nm,0.3s,baz=356,slow=9.5,SNR=24
LVC Limon Verde 40.65 179 IAmb IAmb 08 20 49.5
comp=Z,5.8nm,0.7s
PDAR Pinedale Array 41.87 314 PcP **PcP 08 22 51.1 -1.3**
comp=Z,0.4nm,0.6s,baz=113,slow=4.4,SNR=4.1
CPUP Villa Florida 45.84 165 P **P 08 21 29.0 -1.1**
comp=Z,0.5nm,0.3s,baz=351,slow=12,SNR=4.9
CPUP Villa Florida 45.84 165 IAmb IAmb 08 21 40.2
comp=Z,12nm,1.4s
NVAR Mina Array Bea 46.98 306 P **P 08 21 40.6 +1.4**
comp=Z,0.6nm,0.8s,baz=102,slow=7.5,SNR=3.1
CFA Coronel Fontan 49.61 179 P **P 08 21 58.6 -0.5**
comp=Z,1.6nm,0.3s,baz=349,slow=9.7,SNR=6.8
YKA Yellowknife Ar 54.10 336 P **P 08 22 34.0 +1.9**
comp=Z,2.1nm,1.1s,baz=118,slow=7.7,SNR=3.2
YKA Yellowknife Ar 54.10 336 P **P 08 22 34.0 +1.9**
PLCA Paso Flores 58.73 181 P **P 08 23 04.7 -0.5**
comp=Z,1.3nm,0.9s,baz=28,slow=9.6,SNR=7.7
PLCA Paso Flores 58.73 181 IAmb IAmb 08 23 18.7
comp=Z,4.8nm,1.5s
TORD Torodi Ar. Bea 68.14 83 P **P 08 24 06.8 -0.9**
comp=Z,0.5nm,0.5s,baz=299,slow=6.6,SNR=4.6
ILAR Eielson Array 68.34 333 P **P 08 24 06.7 -1.4**
comp=Z,0.3nm,0.5s,baz=96,slow=4.2,SNR=5.7
ARCES ARCESS Array B 74.69 21 P **P 08 24 45.7 -0.5**
comp=Z,1.2nm,0.6s,baz=299,slow=2.5,SNR=6.9
FINES FINESS Array B 76.65 29 P **P 08 24 56.9 -0.5**
comp=Z,2.6nm,1.1s,baz=272,slow=5.0,SNR=5.8
ASAR Alice Springs 157.72 252 PKPab **PKPab 08 33 34.8 -1.5**
comp=Z,0.6nm,0.7s,baz=99,slow=4.7,SNR=6.6

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*ISCJB **03** 08:16:03.2±0.3, 18°.74N±0°.04×145°.54E±0°.08, h200km, mb3.7/17, Error ellipse: s-maj=10.9km s-min=5.0km az=176.7*
*NEIC **03** 08:16:03.9±1.7, 18°.74N±0°.04×145°.7E±0°.1, h194km±8km, mb4.4/25*
*IDC **03** 08:16:05.7±2.1, 18°.69N×145°.46E, h204km±20km, mb3.6/17, mb1 3.7/19, mb1mx3.5/56, mbtmp4.1/19, MS2.4/1, Ms1 2.4/1, ms1mx2.1/39, Error ellipse: s-maj=18.3km s-min=9.6km az=81.0*
ISC 03 08:16:04.5±0.4, 18°.73N±0°.05×145°.60E±0°.10, h200km, n64, σ1°25/64, mb4.0/24, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.02**	**175**		**Pn**	**08 16 41.2**	**-2.2**
GUMO	**Guam**	**5.16**	**188**	P	**Pn**	**08 17 21.4**	**+0.4**
GUMO	15nm,0.3s,baz=321,slow=18,SNR=7.2			S	**Sn**	**08 18 18.7**	**-2.6**
GUMO	14nm,0.3s,baz=38,slow=19,SNR=3.9			LR	LR	08 18 33.4	
GUMO	**Guam**	**5.16**	**188**		**Pn**	**08 17 21.8**	**+0.8**
GUMO	comp=Z,40nm,21.6s,baz=146,slow=29				**Sn**	**08 18 22.5**	**+1.1**
JCJ	**Chichijima**	**8.90**	**340**	P	**Pn**	**08 18 09.4**	**0.0**
JCJ	6.0nm,0.3s,baz=112,slow=23,SNR=7.3			S	**Sn**	**08 19 45.0**	**-4.3**
JOW	**Kunigami**	**17.88**	**300**	P	**P**	**08 19 59.4**	**+0.3**
JOW	15nm,0.3s,baz=90,slow=20,SNR=5.9			IAmb	IAmb	08 20 04.8	
MJAR	**Matsushiro Arr**	**18.90**	**341**	P	**Pn**	**08 20 13.2**	**+0.1**
MJAR	comp=Z,0.1nm,0.3s,baz=159,slow=9.3,SNR=9.4 **Matsushiro Arr**	**18.90**	**341**	P	**Pn**	**08 20 12.3**	**-0.8**
MJAR					**S**	**08 23 35.7**	**+1.5**
MAJO	**Matsushiro**	**18.90**	**341**	P	**P**	**08 20 09.9**	**-0.2**
MAJO				IAmb	IAmb	08 20 16.6	
MJB9	comp=Z,6.7nm,0.6s **Matsu-Tunnel**	**18.91**	**341**	P	**P**	**08 20 09.9**	**-0.2**
MJB9				IAmb	IAmb	08 20 16.6	
H11S3	comp=Z,6.9nm,0.6s **WAKE ISLAND Hy**	**19.99**	**87**	T	T	08 41 26.9	
H11S1	baz=274,slow=75,SNR=6.2 **WAKE ISLAND Hy**	**20.00**	**87**	T	T	08 41 24.5	
H11S2	baz=274,slow=75,SNR=5.2 **WAKE ISLAND Hy**	**20.00**	**87**	T	T	08 41 26.4	
H11N1	baz=274,slow=75,SNR=6.0 **WAKE ISLAND Hy**	**20.13**	**84**	T	T	08 41 41.5	
H11N2	baz=267 **WAKE ISLAND Hy**	**20.13**	**84**	T	T	08 41 59.5	
H11N3	baz=267 **WAKE ISLAND Hy**	**20.14**	**84**	T	T	08 42 06.2	
	baz=267						
FAKI	**Fak Fak**	**25.21**	**213**	P	**P**	**08 21 09.7**	**-2.4**
FAKI				IAmb	IAmb	08 21 16.7	
JKA	comp=Z,8.8nm,0.5s **Kamikawa-asahi**	**25.44**	**355**	P	**P**	**08 21 16.7**	**+2.9**
ASAJ	**Asahikawa**	**25.44**	**355**	P	**P**	**08 21 16.7**	**+2.9**
	comp=Z,1.9nm,0.6s,baz=194,slow=8.3,SNR=3.9						
MTN	**Manton Dam**	**34.46**	**206**	P	**P**	**08 22 34.0**	**+0.5**
MTN				IAmb	IAmb	08 22 34.9	
KNRA	comp=Z,23nm,1.1s **Kununurra**	**38.00**	**207**	P	**P**	**08 23 04.6**	**+1.2**
WRAB	**Tennant Creek**	**39.98**	**197**	P	**P**	**08 23 20.3**	**+0.6**
WRAB				IAmb	IAmb	08 23 22.3	
WB2	comp=Z,8.6nm,0.6s **Warramunga Arr**	**39.98**	**197**	P	**P**	**08 23 19.8**	**-0.1**
WB2				IAmb	IAmb	08 23 24.3	
WRA	comp=Z,6.6nm,0.8s **Warramunga Arr**	**39.99**	**197**	P	**P**	**08 23 20.3**	**+0.4**
WRA	comp=Z,4.6nm,0.5s,baz=19,slow=8.6,SNR=59			PcP	**PcP**	**08 25 21.5**	**+0.4**
WRA	comp=Z,1.2nm,0.4s,baz=14,slow=3.2,SNR=8.7 **Warramunga Arr**	**39.99**	**197**	P	**P**	**08 23 20.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.52**	**209**	P	**P**	**08 23 32.8**	**+0.3**
SONM	**Songino Array**	**43.06**	**321**	P	**P**	**08 23 45.5**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=134,slow=7.5,SNR=3.4						
SONM	**Songino Array**	**43.06**	**321**	P	**P**	**08 23 43.9**	**-0.9**
AS31	**Alice Springs**	**43.66**	**196**	P	**P**	**08 23 49.8**	**+0.2**
ASAR	**Alice Springs**	**43.66**	**196**	P	**P**	**08 23 49.8**	**+0.2**
ASAR	comp=Z,1.6nm,0.7s,baz=18,slow=7.4,SNR=24			PcP	**PcP**	**08 25 33.5**	**+0.3**
ASAR	comp=Z,0.8nm,0.6s,baz=22,slow=3.3,SNR=5.2 **Alice Springs**	**43.66**	**196**	P	**P**	**08 23 49.4**	**-0.1**
EIDS	**Eidsvold**	**44.16**	**173**	P	**P**	**08 23 53.5**	**0.0**
EIDS	comp=Z,8.2nm,1.3s			IAmb	IAmb	08 24 09.4	
DZM	**Mont Dzumac**	**45.39**	**152**	P	**P**	**08 24 04.0**	**+0.6**
DZM	comp=Z,8.3nm,0.7s,baz=22,slow=5.4,SNR=11 **Mont Dzumac**	**45.39**	**152**	IAmb	IAmb	08 24 05.9	
BKNI	comp=Z,35nm,1.5s **Bangkinang**	**47.39**	**252**	P	**P**	**08 24 19.8**	**+0.7**
SHL	**Shillong**	**49.95**	**288**	P	**P**	**08 24 38.8**	**+0.1**
RIM	**Rim**	**55.64**	**79**	P	**P**	**08 25 18.4**	**-1.9**
ANM	**Nome**	**56.20**	**23**	P	**P**	**08 25 22.1**	**-1.3**
ZALV	**Zalesovo Beam**	**57.94**	**322**	P	**P**	**08 25 35.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=120,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**08 25 39.2**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=87,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**08 25 38.0**	**-0.9**
KURK	**Kurchatov**	**61.19**	**318**	P	**P**	**08 25 56.9**	**-1.0**
KURBB	**Kurchatov Arra**	**61.24**	**318**	P	**P**	**08 25 58.6**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=92,slow=7.5,SNR=9.9						
NRIK	**Noril'sk**	**61.55**	**340**	P	**P**	**08 26 00.6**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=134,slow=9.2,SNR=4.2						
ILAR	**Eielson Array**	**63.66**	**26**	P	**P**	**08 26 14.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=250,slow=5.9,SNR=6.6						
BVAR	**Borovoye Array**	**66.39**	**320**	P	**P**	**08 26 32.6**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=104,slow=7.1,SNR=7.9						
BRVK	**Borovoye**	**66.46**	**320**	P	**P**	**08 26 32.0**	**-0.3**
BRVK				IAmb	IAmb	08 26 34.6	
	comp=Z,3.4nm,0.8s						
KKAR	**Karatay Array**	**66.68**	**310**	P	**P**	**08 26 34.6**	**+0.7**
INK	**Inuvik**	**69.38**	**23**	P	**P**	**08 26 51.9**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=184,slow=8.1,SNR=5.7						
INK	**Inuvik**	**69.38**	**23**	P	**P**	**08 26 52.0**	**+1.7**
ABKAR	**Akbulak array**	**73.25**	**317**	P	**P**	**08 27 14.3**	**+0.5**
ABKAR	**Akbulak array**	**73.25**	**317**	P	**P**	**08 27 14.0**	**+0.2**
ABKAR				IAmb	IAmb	08 27 14.7	
	comp=Z,2.5nm,0.9s						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**08 27 41.7**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=288,slow=5.5,SNR=3.0						
YKA				pP	**pP**	**08 28 29.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=291,slow=5.1,SNR=2.6						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**08 27 41.0**	**+0.5**
D05A	**Enumclaw**	**78.10**	**44**	P	**P**	**08 27 41.4**	**+0.1**
ARCES	**ARCESS Array B**	**82.44**	**342**	P	**P**	**08 28 05.0**	**+0.9**
	comp=Z,3.2nm,1.1s,baz=80,slow=8.4,SNR=5.7						
NVAR	**Mina Array Bea**	**83.19**	**52**	P	**P**	**08 28 10.7**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=316,slow=3.8,SNR=3.9						
NVAR				pP	**pwP**	**08 28 59.5**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=274,slow=6.1,SNR=5.3						
NVAR	**Mina Array Bea**	**83.19**	**52**	P	**P**	**08 28 07.6**	**-1.2**
HRY	**Holter Researc**	**84.85**	**42**	P	**P**	**08 28 17.6**	**+0.7**
FINES	**FINESS Array B**	**86.82**	**335**	P	**P**	**08 28 24.8**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=63,slow=4.9,SNR=13						
PDAR	**Pinedale Array**	**87.87**	**45**	P	**P**	**08 28 32.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=247,slow=0.7,SNR=3.5						
WUAZ	**Wupatki**	**89.41**	**53**	P	**P**	**08 28 38.4**	**-0.7**
WUAZ				IAmb	IAmb	08 28 52.9	
	comp=Z,5.2nm,1.1s						
O20A	**White River Ci**	**89.84**	**47**	P	**P**	**08 28 39.6**	**-1.5**
PLCA	**Paso Flores**	**142.09**	**133**	PKhKP	PKPpre	08 35 09.8	
	comp=Z,1.3nm,1.1s,baz=236,slow=6.4,SNR=3.5						
LPAZ	**La Paz**	**147.76**	**91**	PKPbc	**PKiKP**	**08 35 28.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=337,slow=2.3,SNR=5.7						

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*IDC **03** 08:18:31.8±1.0, 35°.92N×74°.42E, h0km, mb3.9/11, mb1 4.1/18, mb1mx3.8/57, mbtmp4.0/18, ML4.0/7, MS3.2/1, Ms1 3.2/1, ms1mx2.4/42, Error ellipse: s-maj=20.9km s-min=17.7km az=18.0*
*ISCJB **03** 08:18:39.6±0.3, 36°.05N±0°.03×74°.49E±0°.06, h100km, mb3.7/11, Error ellipse: s-maj=7.3km s-min=3.0km az=160.5*
*NNC **03** 08:18:42.2±2.8, 36°.49N×72°.93E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=21.5km s-min=14.6km az=0.0*
*NEIC **03** 08:18:43.1±1.9, 36°.23N±0°.08×74°.4E±0°.1, h89km±11km, mb4.3/3*
ISC 03 08:18:42.4±0.5, 36°.15N±0°.05×74°.28E±0°.05, h100km, n82, σ2°75/81, mb3.7/11, 9C-5D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.62**	**199**	P	**Pn**	**08 19 25.4**	**+2.3**
NIL	**Nilore**	**2.63**	**199**	Pn	**Pn**	**08 19 25.3**	**+2.0**
CEP	**Cherat**	**3.03**	**221**	P	**Pn**	**08 19 31.3**	**+2.7**
JMU	**Jammu**	**3.46**	**171**	*eP*	**Pn**	**08 19 35.5**	**+1.2**
JMU				*eS*	**Sn**	**08 20 14.5**	**+0.1**
THW	**Thamme Wali**	**3.95**	**213**	P	**Pn**	**08 19 43.8**	**+2.9**
DHRM	**DHARAMSHALA**	**4.23**	**156**	*eP*	**Pn**	**08 19 45.2**	**+0.3**
DHRM				*eS*	**Sn**	**08 20 30.6**	**-2.7**
DHRM				IAML		08 20 35.5	
	comp=E,1μm,0.1s						
DHRM				IAML		08 20 35.6	
	comp=N,757nm,0.3s						
GAR	**Garm**	**4.25**	**313**	Pn	**Pn**	**08 19 46.2**	**+1.2**
KBL	**Kabul**	**4.57**	**251**	Pn	**Pn**	**08 19 51.3**	**+1.8**
BTK	**Batken**	**4.77**	**326**		**Pn**	**08 19 53.9**	**+1.9**
NRN	**Naryn**	**5.45**	**14**		**Pn**	**08 20 01.0**	**-0.5**
SMLA	**Simla**	**5.55**	**154**	*eP*	**Pn**	**08 20 02.0**	**-0.6**
SMLA				*eS*	**Sn**	**08 21 00.2**	**-4.9**
SMLA				IAML		08 21 03.2	
	comp=N,542nm,0.0s						
SMLA				IAML		08 21 03.5	
	comp=E,779nm,0.4s						
KZA	**Kyzart**	**5.97**	**7**	P	**Pn**	**08 20 08.6**	**0.0**
	SNR=55						
AML	**Almayashu**	**6.00**	**356**	P	**Pn**	**08 20 09.1**	**+0.2**
	SNR=31						
TARG	**Taragay, Kyrgy**	**6.21**	**25**	Pn	**Pn**	**08 20 11.6**	**-0.4**
ULHL	**Ulahol**	**6.28**	**13**	P	**Pn**	**08 20 12.9**	**+0.2**
	SNR=16						
KDJ	**Kajisay**	**6.39**	**20**	Pn	**Pn**	**08 20 12.8**	**-1.2**
BOOM	**Boomskoye usch**	**6.46**	**11**		**Pn**	**08 20 15.4**	**+0.3**
AAK	**Ala-Archa**	**6.49**	**1**	P	**Pn**	**08 20 15.8**	**+0.4**
	comp=E,4.3nm,0.4s						
AAK				⇑S	**Sn**	**08 21 29.3**	**+1.3**
	comp=E,17nm,0.6s						
AAK	**Ala-Archa**	**6.49**	**1**	Pn	**Pn**	**08 20 15.2**	**-0.2**
	comp=E,2.8nm,0.3s,baz=162,slow=6.5,SNR=21						
AAK				Sn	**Sn**	**08 21 25.7**	**-2.3**
	comp=E,2.0nm,0.3s,baz=126,slow=19,SNR=3.5						
AAK	**Ala-Archa**	**6.49**	**1**	P	**Pn**	**08 20 15.6**	**+0.2**
	SNR=12						
AAK	**Ala-Archa**	**6.49**	**1**	Pn	**Pn**	**08 20 15.7**	**+0.4**
EKS2	**Erkin-Say**	**6.52**	**357**	P	**Pn**	**08 20 16.2**	**+0.4**
	SNR=11						
KBK	**Karagaybulak**	**6.52**	**4**	P	**Pn**	**08 20 17.0**	**+1.1**
	SNR=6.3						
DDI	**Dehra Dun**	**6.61**	**150**	*eP*	**Pn**	**08 20 15.7**	**-1.3**
DDI				*eS*	**Sn**	**08 21 24.4**	**-6.6**
DDI				IAML		08 21 30.8	
	comp=E,822nm,0.6s						
DDI				IAML		08 21 31.6	
	comp=N,856nm,0.2s						
TKM2	**Tokmak 2**	**6.84**	**8**	⇓P	**Pn**	**08 20 20.4**	**+0.2**
	comp=N,28nm,0.6s						
TKM2				⇑S	**Sn**	**08 21 40.1**	**+3.4**
	comp=N,38nm,0.6s						
TKM2	**Tokmak 2**	**6.84**	**8**	P	**Pn**	**08 20 20.4**	**+0.2**
	SNR=18						
CHMS	**Chumysh**	**6.85**	**3**	P	**Pn**	**08 20 20.7**	**+0.4**
	SNR=8.6						
JOSI	**Joshimath**	**7.11**	**140**	*eP*	**Pn**	**08 20 21.7**	**-2.3**
JOSI				IAML		08 21 41.5	
	comp=N,249nm,0.4s						
JOSI				IAML		08 21 43.2	
	comp=E,222nm,0.4s						
USP	**Ospenovka**	**7.12**	**1**	P	**Pn**	**08 20 24.2**	**+0.4**
	SNR=7.3						
MDOK	**Medeo**	**7.33**	**16**	⇓P	Pn	08 20 34.0	+7.3
	comp=E,8.9nm,0.7s						
MDOK				⇑S	Sn	08 21 58.4	+10
	comp=E,61nm,1.2s						
KK31	**Karatay Array**	**7.53**	**338**	⇑P	Pn	08 20 24.7	-4.7
	comp=E,28nm,0.5s,baz=152,slow=12,SNR=284						
KK31				⇓S	**Sn**	**08 21 45.1**	**-8.1**
	comp=E,30nm,0.5s,baz=171,slow=26,SNR=4.9						
KK31	**Karatay Array**	**7.53**	**338**	Pn	**Pn**	**08 20 29.7**	**+0.3**
KK31				Sn	**Sn**	**08 21 49.2**	**-4.0**
KKAR	**Karatay Array**	**7.53**	**338**	Pn	**Pn**	**08 20 29.7**	**+0.3**
KKAR				Sn	**Sn**	**08 21 49.3**	**-3.9**
KKAR	**Karatay Array**	**7.53**	**338**	Pn	**Pn**	**08 20 29.6**	**+0.1**
KKAR				Sn	**Sn**	**08 21 49.2**	**-4.0**
NDI	**New Delhi**	**7.84**	**161**	*eP*	**Pn**	**08 20 33.0**	**-0.8**
NDI				*eS*	**Sn**	**08 21 55.0**	**-5.9**
KUDL	**Kundal**	**8.19**	**166**	*eP*	Pn	08 20 29.5	-9.0
KUDL				*eS*	Sn	08 21 53.7	-16
PDGK	**Podgornoye**	**8.22**	**28**	⇓P	Pn	08 20 44.8	+5.9
	comp=E,12nm,0.7s						
PDGK				⇑S	Sn	08 22 24.5	+14
	comp=E,18nm,0.7s						
DANN	**Dangsing**	**11.16**	**131**	*eP*	Pn	08 21 13.0	-6.2
	comp=E,17nm,0.2s						
KOLN	**Koldanda**	**11.50**	**134**	*eP*	Pn	08 21 18.6	-5.0
	comp=E,7.8nm,0.2s						
GKN	**Gorkha**	**11.95**	**130**	*eP*	Pn	08 21 24.0	-5.6
	comp=E,24nm,0.2s						
MAKZ	**Makanchi**	**12.11**	**26**	Pn	**Pn**	**08 21 30.0**	**-1.4**
MK31	**Makanchi Array**	**12.21**	**27**	⇑P	**P**	**08 21 39.3**	**-1.7**
	comp=E,3.7nm,0.8s,baz=208,slow=20,SNR=7.4						
MK31	**Makanchi Array**	**12.21**	**27**	Pn	**Pn**	**08 21 32.7**	**0.0**
MKAR	**Makanchi Array**	**12.21**	**27**	Pn	**Pn**	**08 21 30.9**	**-1.8**
	comp=E,0.3nm,0.3s,baz=208,slow=17,SNR=8.0						
MKAR				Sn	**Sn**	**08 23 40.7**	**-6.1**
	comp=E,0.2nm,0.3s,baz=203,slow=22,SNR=2.6						
MKAR	**Makanchi Array**	**12.21**	**27**	Pn	**Pn**	**08 21 29.8**	**-2.9**
KKN	**Kakani**	**12.51**	**129**	*eP*	Pn	08 21 30.7	-6.3
DMN	**Daman**	**12.52**	**130**	*eP*	Pn	08 21 31.8	-5.5
	comp=E,13nm,0.4s						
PKIN	**Phulchoki**	**12.73**	**129**	*eP*	Pn	08 21 33.8	-6.2
	comp=E,12nm,0.4s						
PKI	**Pulchoki**	**12.74**	**129**	*eP*	Pn	08 21 34.2	-6.0
	comp=E,23nm,0.5s						
GUN	**Gumba**	**12.81**	**127**	*eP*	Pn	08 21 34.3	-6.8
	comp=E,14nm,0.4s						
GEYT	**Alibeck**	**13.04**	**283**	Pn	**Pn**	**08 21 42.0**	**-1.8**
	comp=E,0.3nm,0.3s,baz=99,slow=8.9,SNR=3.0						
GEYT				Sn	**Sn**	**08 24 02.5**	**-4.7**
	comp=E,2.2nm,0.3s,baz=110,slow=23,SNR=7.0						
GEYT	**Alibeck**	**13.04**	**283**		**Pn**	**08 21 42.2**	**-1.6**
GEYT					**Sn**	**08 24 02.7**	**-4.5**
GYA0B	**ALIBECK ARRAY**	**13.04**	**283**		**Sn**	**08 24 04.4**	**-2.8**
JIRN	**Jiri**	**13.18**	**127**	*eP*	Pn	08 21 40.0	-6.0
	comp=E,41nm,0.4s						
RAMN	**Ramite**	**13.93**	**128**	*eP*	Pn	08 21 48.8	-6.9
TAPN	**Taplejung**	**14.39**	**124**	*eP*	Pn	08 21 55.3	-6.3
	comp=E,11nm,0.3s						
ODAN	**Odare**	**14.50**	**126**	*eP*	Pn	08 21 56.3	-6.7
KURBB	**Kurchatov Arra**	**14.79**	**11**	Pn	**Pn**	**08 22 03.2**	**-3.1**
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=27						
KURK	**Kurchatov**	**14.90**	**11**	Pn	**Pn**	**08 22 05.1**	**-2.5**
AB31	**Akbulak array**	**16.77**	**326**	⇑P	**Pn**	**08 22 29.9**	**-1.1**
	comp=E,3.2nm,0.5s,baz=134,slow=13,SNR=107						
AB31				⇑S	Sn	08 25 24.3	-13
	comp=E,3.2nm,0.6s,baz=138,slow=24,SNR=7.4						
ABKAR	**Akbulak array**	**16.77**	**326**	Pn	**Pn**	**08 22 30.1**	**-0.9**
ABKAR	**Akbulak array**	**16.77**	**326**	Pn	**Pn**	**08 22 29.8**	**-1.2**
ABKAR				IAmb	IAmb	08 22 31.5	
	comp=Z,5.6nm,0.5s						
BVAR	**Borovoye Array**	**17.10**	**352**	Pn	**Pn**	**08 22 32.8**	**-2.1**
	comp=Z,3.9nm,0.3s,baz=157,slow=10,SNR=43						
BRVK	**Borovoye**	**17.14**	**352**	Pn	**Pn**	**08 22 34.1**	**-1.4**
BRVK				IAmb	IAmb	08 22 40.0	
	comp=Z,15nm,0.7s						
AKTO	**Aktyubinsk**	**18.49**	**326**	⇑P	**P**	**08 22 48.9**	**-1.5**
	comp=Z,7.0nm,0.5s						
AKTO				⇓S	S	08 26 05.4	-11
	comp=Z,8.0nm,1.1s						
AKTO	**Aktyubinsk**	**18.49**	**326**	P	**Pn**	**08 22 52.5**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=124,slow=10,SNR=22						
AKTO				S	**S**	**08 26 08.0**	**-8.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.4						
ZAA0	**Zalesovo Array**	**19.26**	**19**	P	**P**	**08 22 58.6**	**-0.2**
ZAA0				IAmb	IAmb	08 23 00.7	
	comp=Z,8.7nm,0.5s						
ZALV	**Zalesovo Beam**	**19.26**	**19**	P	**P**	**08 22 58.6**	**-0.1**
	comp=Z,4.0nm,0.3s,baz=213,slow=12,SNR=36						
ARU	**Arti**	**22.91**	**337**	P	**P**	**08 23 39.9**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=145,slow=18,SNR=2.6						
TLY	**Talaya**	**26.01**	**44**	P	**P**	**08 24 06.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=252,slow=3.2,SNR=3.3						
SONM	**Songino Array**	**26.38**	**54**	P	**P**	**08 24 11.4**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=248,slow=8.5,SNR=3.3						
PALK	**Pallekele**	**29.33**	**167**	LR	LR	08 37 34.1	
	comp=Z,44nm,19.3s,baz=295,slow=39						
FINES	**FINESS Array B**	**39.27**	**326**	P	**P**	**08 26 04.5**	**+3.7**
	comp=Z,2.5nm,0.3s,baz=118,slow=9.4,SNR=28						
ARCES	**ARCESS Array B**	**42.49**	**337**	P	**P**	**08 26 30.8**	**+3.4**
	comp=Z,1.5nm,0.5s,baz=113,slow=9.5,SNR=25						
NB2	**NORSAR Subarra**	**46.26**	**323**	P	**P**	**08 27 00.4**	**+3.0**
	comp=Z,0.9nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**46.26**	**323**	P	**P**	**08 27 00.7**	**+3.2**
	comp=Z,1.1nm,0.5s,baz=94,slow=7.6,SNR=6

WESP					Sb	08 50 49.6	-0.1
WEBT	**Westdahl Beart**	**1.34**	**330**		**Pn**	**08 50 34.8**	**+0.1**
SSBA	**Shishaldin**	**1.37**	**347**		**Pb**	**08 50 36.6**	**+0.6**
SSBA					**Sb**	**08 50 53.1**	**-0.2**
FALS	**False Pass**	**1.43**	**4**		**Pn**	**08 50 36.1**	**+0.3**
FALS				Sn	**Sn**	**08 50 54.5**	**+0.3**
FALS	**False Pass**	**1.43**	**4**		**Sn**	**08 50 55.1**	**+0.9**
AKSA	**Akutan Strait**	**1.43**	**300**		**Pn**	**08 50 35.6**	**-0.2**
AKSA					**Sn**	**08 50 53.5**	**-0.8**
AKUT	**Akutan**	**1.47**	**299**		**Pn**	**08 50 36.2**	**-0.2**
AKUT					**Pb**	**08 50 36.8**	**-0.7**
AKUT					**Sn**	**08 50 54.5**	**-0.7**
AKBBA	**Akutan Broad B**	**1.54**	**296**		**Pn**	**08 50 35.8**	**-1.6**
AKBBA					**Sn**	**08 50 55.7**	**-1.2**
ZRO	**Akutan Zero**	**1.56**	**296**		**Pn**	**08 50 37.3**	**-0.4**
AKMO	**Akutan Morgan**	**1.57**	**296**		**Pn**	**08 50 38.4**	**+0.5**
AKMO					**Sn**	**08 50 55.6**	**-2.3**
AKLV	**Akutan Long Va**	**1.57**	**298**		**Pn**	**08 50 37.5**	**-0.4**
AKLV					**Sn**	**08 50 57.3**	**-0.7**
AKGG	**Akutan Green G**	**1.61**	**299**		**Pn**	**08 50 38.3**	**-0.1**
AKGG					**Sn**	**08 50 58.6**	**-0.2**
UNV	**Unalaska Valle**	**1.78**	**284**		**Pn**	**08 50 40.2**	**-0.5**
UNV				Sn	**Sn**	**08 51 01.2**	**-1.7**
UNV	**Unalaska Valle**	**1.78**	**284**		**Sn**	**08 51 01.8**	**-1.0**
MTBL	**Makushin Table**	**1.91**	**287**		**Pn**	**08 50 42.6**	**+0.1**
MREP	**Makushin Rep't**	**1.91**	**283**		**Pn**	**08 50 43.0**	**+0.4**
MSW	**Makushin Switc**	**1.95**	**285**		**Pn**	**08 50 42.6**	**-0.5**
MSW					**Sn**	**08 51 06.8**	**-0.5**
MCIR	**Makushin Cirqu**	**2.02**	**286**		**Pn**	**08 50 43.4**	**-0.8**
SDPT	**Sand Point**	**2.65**	**42**		**Pn**	**08 50 53.2**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**2.66**	**271**		**Pn**	**08 50 53.8**	**+0.9**
CHGN	**Chignik**	**4.15**	**44**	Pn	**Pn**	**08 51 14.3**	**+1.1**
OHAK	**Old Harbor**	**7.00**	**53**	Pn	**Pn**	**08 51 53.9**	**+1.6**
KDAK	**Kodiak Island**	**7.60**	**51**	Pn	**Pn**	**08 51 58.7**	**-1.9**
	0.4nm,0.3s,baz=236,slow=7.3,SNR=8.4						
KDAK				Sn	**Sn**	**08 53 19.4**	**-7.0**
	0.2nm,0.3s,baz=218,slow=18,SNR=3.1						
SCM	**Sheep Creek Mo**	**12.08**	**39**	Pn	**Pn**	**08 53 01.2**	**-0.8**
ILAR	**Eielson Array**	**14.18**	**30**	Pn	**Pn**	**08 53 29.6**	**-0.9**
	0.0nm,0.3s,baz=225,slow=14,SNR=2.9						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**08 54 49.4**	**+1.3**
	0.8nm,0.7s,baz=232,slow=9.2,SNR=3.4						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**08 54 49.6**	**+1.5**
PETK	**Petropavlovsk-**	**22.96**	**285**	P	**P**	**08 55 15.9**	**+1.9**
	0.8nm,0.7s,baz=87,slow=9.4,SNR=3.8						
YBH	**Yreka Blue Hor**	**29.55**	**97**	LR	LR	09 05 28.4	
	comp=Z,46nm,19.4s,baz=310,slow=31						
H11N2	**WAKE ISLAND Hy**	**40.59**	**225**	T	T	09 41 32.2	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**40.59**	**225**	T	T	09 41 34.2	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**40.61**	**225**	T	T	09 41 38.9	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**41.76**	**225**	T	T	09 42 55.4	
	baz=27						
H11S2	**WAKE ISLAND Hy**	**41.77**	**225**	T	T	09 42 57.9	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**41.78**	**225**	T	T	09 42 56.3	
	baz=27						
TXAR	**Lajitas Array**	**49.29**	**94**	P	**P**	**08 58 59.5**	**+0.9**
	0.2nm,0.5s,baz=291,slow=5.2,SNR=6.5						

NIED ***03*** *08:52:00, 38.°30N×142.°80E, h17km, Mw5.1 Best double couple: M0=4.25000×10^16 NP1:φs=125.00000°, δ15.00000°, λ42.00000°. NP2:φs=354.00000°, δ80.00000°, λ101.00000°.*

BJI ***03*** *08:52:52.2±0.0, 38.°24N×142.°62E, h23km, mb5.3/80, mB5.4/53, Ms5.2/80, Ms7 5.1/76*

JMA ***03*** *08:52:52.9±0.1, 38.°28N×142.°76E, h31km±3km, M5.3*

JMA Felt II J1.

ISCJB ***03*** *08:52:53.6±0.5, 38.°24N±0.°01×142.°65E±0.°02, h25km±3km, mb5.3/192, MS4.9/69, Error ellipse: s-maj=2.7km s-min=2.0km az=139.7*

GCMT ***03*** *08:52:55.7±0.2, 38.°28N±0.°01×142.°75E±0.°01, h24km, MW5.0/98, Moment Tensor Solution. s44,c60; s98,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.08±.10; Mθθ0.04±.07; Mφφ-2.12±.07; Mrθ-1.29±.11; Mrφ1.02±.05; Mθφ3.68±.10; Best double couple: M0=4.52900×10^16 NP1:φs340.00000°, δ75.00000°, λ91.00000°. NP2: φs155.00000°, δ15.00000°, λ85.00000°. Principal axes: T 4.3080, Plg60.0000°, Azm252.0000°; N 0.4410, Plg1.0000°, Azm160.0000°; P -4.7500, Plg30.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***03*** *08:52:55.6±0.9, 38.°36N×142.°61E, h38km, mb5.4/104, MS5.2/18 Error ellipse: s-maj=5.5km s-min=3.9km az=112.2*

NEIC ***03*** *08:52:56.7±1.4, 38.°27N±0.°06×142.°70E±0.°10, h35km±1km, mb5.2/320*

IDC ***03*** *08:52:56.5±2.5, 38.°27N×142.°64E, h37km±20km, mb4.6/33, mb1 4.8/40, mb1mx4.7/47, mbtmp4.8/40, ML3.9/8, MS4.6/31, Ms1 4.6/31, ms1mx4.4/39, Error ellipse: s-maj=11.7km s-min=9.3km az=115.0*

ISC 03 08:52:55.0±0.5, 38.°28N±0.°03×142.°71E±0.°03, h28km±2km, h28km:pP-P, n1043, σ1933/1101, mb5.3/307, MS5.0/71, 79C-27D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
JIKH	**Ishinomakikobu**	**0.98**	**272**	⇑P	**Pn**	**08 53 11.2**		**-1.7**
JIKH				S	**Sn**	**08 53 24.0**		**-1.8**
JIO	**Ouri**	**1.08**	**279**	⇑P	**Pn**	**08 53 12.9**		**-1.4**
JIO				S	**Sn**	**08 53 26.9**		**-1.5**
JKMT	**Kesennumamotoy**	**1.10**	**299**	⇑P	**Pn**	**08 53 13.0**		**-1.6**
JKMT				S	**Sn**	**08 53 27.1**		**-1.8**
OFUJ	**Ofunato**	**1.14**	**315**	⇑P	**Pn**	**08 53 13.5**		**-1.6**
OFUJ				*e*S	**Sn**	**08 53 28.6**		**-1.2**
JMK	**Ichinoseki**	**1.34**	**300**	⇑P	**Pn**	**08 53 16.7**		**-1.2**
JMK				*e*S	**Sn**	**08 53 33.7**		**-1.1**
JOFO	**Osakifurukawao**	**1.45**	**283**	⇑P	**Pb**	**08 53 18.8**		**-2.5**
MIYJ	**Miyakonagasawa**	**1.47**	**332**	⇑P	**Pn**	**08 53 18.0**		**-1.6**
JMST	**Minamisoumatoc**	**1.54**	**249**	⇑P	**Pn**	**08 53 18.9**		**-1.8**
JMM	**Marumori**	**1.57**	**255**	⇑P	**Pn**	**08 53 19.6**		**-1.4**
JMM				*e*S	**Sn**	**08 53 39.7**		**-0.7**
JOU	**Okura**	**1.61**	**274**	⇑P	**Pn**	**08 53 21.0**		**-0.6**
JOU				*e*S	**Sb**	**08 53 42.1**		**-1.9**
JOM	**Ohasama**	**1.62**	**317**	⇑P	**Pn**	**08 53 21.0**		**-0.8**
JOM				*e*S	**Sn**	**08 53 41.2**		**-0.6**
JFK	**Kawauchi**	**1.72**	**238**	⇑P	**Pn**	**08 53 21.3**		**-1.8**
ONAJ	**Iwakimizuishiy**	**1.92**	**233**	⇑P	**Pn**	**08 53 24.1**		**-1.8**
JYK	**Kaneyama**	**1.95**	**290**	⇑P	**Pn**	**08 53 25.8**		**-0.4**
JRG	**Rokugo**	**1.96**	**305**	⇑P	**Pn**	**08 53 26.1**		**-0.4**
JKZ	**Kuzumaki**	**2.01**	**328**	⇑P	**Pn**	**08 53 26.9**		**-0.2**
JFT	**Otama**	**2.03**	**249**	⇑P	**Pn**	**08 53 26.9**		**-0.4**
JFFD	**Fukushimafurud**	**2.08**	**236**	⇑P	**Pn**	**08 53 26.6**		**-1.5**
JYS	**Shirataka**	**2.08**	**269**	⇑P	**Pn**	**08 53 27.5**		**-0.6**
JANG	**Nango**	**2.28**	**336**	P	**Pn**	**08 53 30.2**		**-0.7**
JYW	**Yuwa**	**2.32**	**304**	⇑P	**Pn**	**08 53 31.6**		**+0.3**
JYA	**Atsumi**	**2.37**	**278**	⇑P	**Pn**	**08 53 32.0**		**-0.1**
JHO	**Hitachi**	**2.38**	**226**	P	**Pn**	**08 53 30.3**		**-1.9**
JFY	**Yanaizu**	**2.53**	**251**	P	**Pn**	**08 53 34.0**		**-0.3**
JHYU	**Hitachinakayam**	**2.57**	**222**	P	**Pn**	**08 53 33.9**		**-0.9**
JIHU	**Itakohorinouch**	**2.90**	**218**	⇑P	**Pn**	**08 53 38.9**		**-0.4**
JAG	**Ashikaga**	**3.19**	**235**	P	**Pn**	**08 53 42.9**		**-0.4**
JGK	**Kuni**	**3.67**	**243**	P	**Pn**	**08 53 51.5**		**+1.6**
ERM	**Erimo**	**3.74**	**5**	*d*iP	**Pn**	**08 53 49.1**		**-1.8**
ERM	**Erimo**	**3.74**	**5**		**Pn**	**08 53 50.3**		**-0.6**
BSO4	**Boso 4**	**3.80**	**211**	P	**Pn**	**08 53 51.4**		**-0.2**
BSO1	**Boso 1**	**3.88**	**202**	⇓P	**Pn**	**08 53 51.5**		**-0.8**
BSO3	**Boso 3**	**3.90**	**208**	P	**Pn**	**08 53 52.0**		**-0.8**
MJAR	**Matsushiro Arr**	**3.98**	**245**	P	**Pn**	**08 53 55.8**		**+1.5**
MJAR	**Matsushiro Arr**	**3.98**	**245**	Pn	**Pn**	**08 53 54.7**		**+0.5**
	13nm,0.3s,baz=69,slow=11,SNR=480							
MJAR				LR	LR	08 55 39.9		
	comp=Z,21μm,18.1s,baz=65,slow=42							
MJAR	**Matsushiro Arr**	**3.98**	**245**		**Pn**	**08 53 55.8**		**+1.5**
MAJO	**Matsushiro**	**3.98**	**246**	*c*iP	**Pn**	**08 53 55.7**		**+1.5**
MAJO	**Matsushiro**	**3.98**	**246**		**Pn**	**08 53 56.2**		**+2.0**
MAT	**Matsushiro**	**3.98**	**246**	P	**Pn**	**08 53 55.9**		**+1.7**
MAT				S	**Sn**	**08 54 40.3**		**+0.3**
MAT	**Matsushiro**	**3.98**	**246**	P	**Pn**	**08 53 55.9**		**+1.7**
MJB9	**Matsu-Tunnel**	**3.98**	**246**		**Pn**	**08 53 56.1**		**+1.8**
JOD2	**Odawara 2**	**4.19**	**225**	⇑P	**Pn**	**08 53 57.0**		**-0.1**
JYN	**Shimob**	**4.34**	**231**	P	**Pn**	**08 53 59.9**		**+0.6**
AJI	**Ajiro2**	**4.35**	**223**	P	**Pn**	**08 53 58.6**		**-0.6**
JIM2	**Oshima 3**	**4.43**	**218**	P	**Pn**	**08 53 58.9**		**-1.5**
JHTM	**Izuhatsuma**	**4.46**	**223**	⇑P	**Pn**	**08 53 59.8**		**-0.9**
JFNN	**Fujinakano**	**4.47**	**228**	P	**Pn**	**08 54 01.4**		**+0.5**
JIZS	**Izushimoda**	**4.71**	**222**	P	**Pn**	**08 54 03.2**		**-1.0**
JGN	**Niukaw**	**4.77**	**246**	P	**Pn**	**08 54 07.3**		**+2.2**
SHZ3	**Shizuoka 3**	**4.84**	**230**	P	**Pn**	**08 54 07.2**		**+1.2**
JNY	**Yasuok**	**4.86**	**235**	⇑P	**Pn**	**08 54 08.3**		**+1.9**
JGF	**Kuroka**	**5.05**	**240**	⇑P	**Pn**	**08 54 10.7**		**+1.7**
JAR	**Ashorobuto**	**5.07**	**9**	⇓P	**Pn**	**08 54 07.0**		**-2.2**
JSG	**Sagara**	**5.12**	**227**	P	**Pn**	**08 54 11.2**		**+1.3**
JYZW	**Yoshizawa**	**5.17**	**232**	P	**Pn**	**08 54 11.4**		**+0.8**
HMMJ	**Hamamatsu 2**	**5.27**	**231**	⇑P	**Pn**	**08 54 12.9**		**+0.9**
JAO	**Obara**	**5.31**	**237**	P	**Pn**	**08 54 14.0**		**+1.5**
INU	**Inuyama**	**5.42**	**239**		**Pn**	**08 54 15.7**		**+1.7**
JKG	**Kaga**	**5.47**	**250**	⇑P	**Pn**	**08 54 17.4**		**+2.8**
JYTA	**Yamagatataniai**	**5.49**	**243**	⇑P	**Pn**	**08 54 16.6**		**+1.7**
JICN	**Ichinomiyachia**	**5.57**	**239**	P	**Pn**	**08 54 17.9**		**+1.9**
NMR	**Nemuro--Hokkai**	**5.57**	**23**	*d*iP	**Pn**	**08 54 13.1**		**-2.9**
NMR				*i*S	**Sn**	**08 55 13.7**		**-5.4**
NEM2	**Nemuro 2**	**5.57**	**23**	⇓P	**Pn**	**08 54 13.0**		**-3.0**
JHJ2	**Mitsune**	**5.67**	**205**		**Pn**	**08 54 16.0**		**-1.4**
JHJ2				Sn	**Sn**	**08 55 19.3**		**-2.3**
JAA	**Atsumi**	**5.78**	**233**	P	**Pn**	**08 54 19.4**		**+0.5**
ASAJ	**Asahikawa**	**5.83**	**359**	Pn	**Pn**	**08 54 19.5**		**0.0**
	7.1nm,0.3s,baz=224,slow=9.9,SNR=38							
ASAJ				Sn	**Sn**	**08 55 23.6**		**-1.8**
	6.3nm,0.3s,baz=147,slow=22,SNR=3.9							
ASAJ				LR	LR	08 57 09.0		
	comp=Z,5μm,19.8s,baz=203,slow=43							
JKA	**Kamikawa-asahi**	**5.83**	**359**		**Pn**	**08 54 19.5**		**0.0**
GLVR	**Golovnino**	**5.85**	**20**	*e*P	**Pn**	**08 54 17.4**		**-2.4**
GLVR				*e*S	**Sn**	**08 55 22.0**		**-3.9**
GLVR				pmax	pmax			
	comp=Z,261nm,0.4s							
JFM	**Mihama**	**6.05**	**245**	P	**Pn**	**08 54 25.1**		**+2.5**
GRPR	**Tuman**	**6.15**	**21**	*e*P	**Pn**	**08 54 21.3**		**-2.7**
GRPR				*e*S	**Sn**	**08 55 28.1**		**-5.3**
GRPR				pmax	pmax			
	comp=Z,425nm,0.4s							
JIE	**Ise**	**6.21**	**233**	P	**Pn**	**08 54 25.0**		**+0.2**
LAGR	**Lagunnoye**	**6.22**	**21**	*e*P	**Pn**	**08 54 22.3**		**-2.5**
LAGR				*e*S	**Sn**	**08 55 30.3**		**-4.6**
LAGR				pmax	pmax			
	comp=Z,466nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**21**	⇑*i*P	**Pn**	**08 54 22.5**		**-2.4**
YUK				*e*S	**Sn**	**08 55 30.4**		**-4.6**
YUK				pmax	pmax			
	comp=Z,309nm,0.4s							
JKN2	**Miekihoku**	**6.58**	**234**	P	**Pn**	**08 54 29.8**		**-0.1**
KUR	**Kuril'sk**	**7.94**	**27**	*e*P	**Pn**	**08 54 46.6**		**-1.9**
KUR				*e*S	**Sn**	**08 56 11.6**		**-5.7**
KUR				pmax	pmax			
	comp=Z,112nm,0.4s							
KUR				pmax	pmax			
	comp=N,52nm,0.5s							
KUR				pmax	pmax			
	comp=E,37nm,0.4s							
KUR				smax	smax			
	comp=N,243nm,0.5s							
KUR				smax	smax			
	comp=E,126nm,0.5s							
TEY	**Ternei**	**8.15**	**328**	⇓*e*P	Pn	08 54 54.7		+3.4
TEY				*e*S	**Sn**	**08 56 27.8**		**+5.4**
TEY				MLR	MLR			
	comp=E,2μm,16.0s							
TEY				MLR	MLR			
	comp=N,4μm,15.0s							
TEY				MLR	MLR			
	comp=Z,6μm,16.0s							
YSS	**Yuzh-Sakhalins**	**8.66**	**0**	⇑*i*P	**Pn**	**08 54 58.8**		**+0.4**
YSS				*e*S	**Sn**	**08 56 31.3**		**-3.9**
YSS				pmax	pmax			
	comp=Z,20nm,1.4s							
YSS				MLR	MLR			
	comp=Z,4μm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.66**	**0**		**Pn**	**08 54 59.2**		**+0.8**
VLA	**Vladivostok**	**9.53**	**304**	*c*iP	**Pn**	**08 55 12.4**		**+2.1**
MSHR	**Mys Shultsa**	**9.79**	**300**	⇓*e*P	**Pn**	**08 55 14.1**		**+0.1**
USA0B	**Ussuriysk Arra**	**10.00**	**310**	*c*eP	**Pn**	**08 55 18.6**		**+1.8**
USA0B	**Ussuriysk Arra**	**10.00**	**310**		**Pn**	**08 55 18.5**		**+1.8**
USRK	**Ussuriysk Ar.**	**10.00**	**310**	P	Pn	08 55 19.9		+3.1
USRK	**Ussuriysk Ar.**	**10.00**	**310**	Pn	**Pn**	**08 55 17.9**		**+1.2**
	baz=122,slow=13,SNR=46							
USRK				LR	LR	08 58 57.0		
	comp=Z,5μm,19.3s,baz=115,slow=36							
USRK	**Ussuriysk Ar.**	**10.00**	**310**		Pn	08 55 19.9		+3.1
UGL	**Uglegorsk**	**10.80**	**358**	*e*P	Pn	08 55 33.6		+5.9
UGL				pmax	pmax			
	comp=Z,41nm,1.5s							
UGL				MLR	MLR			
	comp=Z,3μm,21.0s							
UGL				MLR	MLR			
	comp=N,2μm,19.0s							
UGL				MLR	MLR			
	comp=E,4μm,15.0s							
JNU	**Nakatsue**	**10.91**	**245**	Pn	**Pn**	**08 55 29.6**		**+0.3**
	comp=E,2.1nm,0.3s,baz=62,slow=4.5,SNR=51							
JNU				LR	LR	09 00 00.6		
	comp=E,11μm,18.9s,baz=62,slow=39							
JNU	**Nakatsue**	**10.91**	**245**		**Pn**	**08 55 30.4**		**+1.2**
JCJ	**Chichijima**	**11.16**	**182**	Pn	**Pn**	**08 55 28.2**		**-4.5**
	comp=E,29nm,0.3s,baz=88,slow=22,SNR=33							
JCJ				Sn	Sn	08 57 25.6		-11
	comp=E,70nm,0.3s,baz=32,slow=22,SNR=11							
MDJ	**Mudanjiang**	**11.69**	**307**	P	**Pn**	**08 55 41.4**		**+1.5**
MDJ				pP		08 55 43.7		
MDJ				sP		08 55 45.8		
MDJ				S	**Sn**	**08 57 56.4**		**+6.9**
MDJ				pmax	pmax			
	comp=E,16nm,1.3s							
MDJ				pmax	pmax			
	comp=E,680nm,4.0s							
MDJ				LR	LR			
	comp=E,4μm,13.8s							
MDJ				LR	LR			
	comp=E,4μm,14.5s							
MDJ				LR	LR			
	comp=E,8μm,14.8s							
MDJ	**Mudanjiang**	**11.69**	**307**		**Pn**	**08 55 41.1**		**+1.2**
KSRS	**Korea Array**	**11.72**	**271**	Pn	**Pn**	**08 55 42.8**		**+2.5**
	comp=E,0.9nm,0.3s,baz=80,slow=13,SNR=38							
KSRS				LR	LR	08 59 58.7		
	comp=E,6μm,18.6s,baz=66,slow=36							
KSAR	**Wonju Array Be**	**11.75**	**270**	P	**Pn**	**08 55 43.0**		**+2.3**
KSAR	**Wonju Array Be**	**11.75**	**270**		**Pn**	**08 55 43.0**		**+2.3**
KS19	**Wonju Array Si**	**11.76**	**271**	Pn	**Pn**	**08 55 41.7**		**+0.8**
TJN	**Taejon**	**12.36**	**266**	*c*iP	**Pn**	**08 55 51.0**		**+1.9**
TYV	**Tymovskoe**	**12.58**	**360**	*e*P	**P**	**08 56 04.5**		**+1.3**
TYV				pmax	pmax			
	comp=Z,12nm,1.1s							
TYV				MLR	MLR			
	comp=E,3μm,17.0s							
TYV				MLR	MLR			
	comp=Z,3μm,17.0s							
GRNR	**Gornyy**	**13.26**	**342**	*e*P	**Pn**	**08 56 00.0**		**-1.3**
GRNR				pmax	pmax			
	comp=Z,13nm,1.0s							
KLR	**Kul'dur**	**13.49**	**328**	Pn	**Pn**	**08 56 03.3**		**-1.2**
	comp=Z,0.5nm,0.3s,baz=132,slow=12,SNR=13							
CN2	**Changchun**	**14.14**	**298**	*e*P	**Pn**	**08 56 12.8**		**-0.5**
CN2				*e*S	**Sn**	**08 58 50.5**		**+1.3**
CN2				SS	**S**	**08 59 03.8**		**-5.8**
CN2				pmax	pmax			
	comp=Z,20nm,1.5s							
CN2				pmax	pmax			
	comp=Z,200nm,8.0s							
CN2				LR	LR			
	comp=Z,5μm,13.0s							
CN2				LR	LR			
	comp=Z,3μm,13.0s							
CN2				LR	LR			
	comp=Z,4μm,14.0s							
NKL	**Nikolayevsk**	**14.94**	**355**	*e*P	**P**	**08 56 28.4**		**-0.9**
NKL				*e*S	**Sn**	**08 59 02.7**		**-5.7**
NKL				pmax	pmax			
	comp=Z,16nm,1.4s							
NKL				pmax	pmax			
	comp=N,6.0nm,0.8s							
NKL				pmax	pmax			
	comp=E,10.0nm,1.2s							
SNY	**Shenyang**	**15.07**	**290**	⇑P	**P**	**08 56 26.5**		**-4.4**
SNY				S	**Sn**	**08 59 05.8**		**-6.1**
SNY				pmax	pmax			
	comp=E,34nm,1.4s							
SNY				pmax	pmax			
	comp=E,830nm,7.7s							
SNY				LR	LR			
	comp=E,5μm,16.5s							
SNY				LR	LR			
	comp=E,3μm,20.2s							
SNY				LR	LR			
	comp=E,9μm,14.2s							
OKH	**Okha**	**15.27**	**1**	*de*P	**P**	**08 56 34.9**		**+1.8**
OKH				*i*S	**Sn**	**08 59 19.0**		**+2.4**
OKH				pmax	pmax			
	comp=Z,100nm,10.3s							
OKH				smax	smax			
	comp=E,300nm,12.3s							
OKH				MLR	MLR			
	comp=Z,3μm,16.0s							
SKR	**Severo-Kuril's**	**15.63**	**33**	*e*P	**P**	**08 56 37.5**		**+0.5**
SKR				pmax	pmax			
	comp=Z,95nm,1.2s							
SKR				pmax	pmax			
	comp=Z,300nm,3.4s							
SKR				MLR	MLR			
	comp=Z,1μm,16.0s							
SKR				MLR	MLR			
	comp=Z,1μm,15.0s							
DL2	**Dalian**	**16.50**	**279**	P	**P**	**08 56 45.4**		**-1.4**
DL2				S	**S**	**08 59 51.0**		**-6.8**
DL2				pmax	pmax			
	comp=Z,280nm,1.3s							
DL2				pmax	pmax			
	comp=Z,730nm,7.2s							
DL2				LR	LR			
	comp=Z,3μm,14.0s							
DL2				LR	LR			
	comp=Z,3μm,15.6s							
DL2				LR	LR			
	comp=Z,5μm,15.0s							
JOW	**Kunigami**	**16.66**	**231**	Pn	**P**	**08 56 47.8**		**-1.0**
	comp=Z,0.2nm,0.3s,baz=124,slow=13,SNR=5.0							
JOW	**Kunigami**	**16.66**	**231**		**P**	**08 56 47.1**		**-1.7**
PEA0B	**Petropavlovsk-**	**18.09**	**30**	*d*iP	**P**	**08 57 05.2**		**+0.9**
PEA0B	**Petropavlovsk-**	**18.09**	**30**	P	**P**	**08 57 05.4**		**+1.1**
PEA0B				IAmb	IAmb	08 57 07.0		
	comp=Z,218nm,1.4s							
PETK	**Petropavlovsk-**	**18.09**	**30**	P	**P**	**08 57 05.1**		**+0.8**
	comp=Z,0.3nm,0.3s,baz=202,slow=6.1,SNR=26							
PETK	**Petropavlovsk-**	**18.09**	**30**	P	**P**	**08 57 04.8**		**+0.5**
PET	**Petropavlovsk**	**18.41**	**32**	*κ iP*	**Pn**	**08 57 09.0**		**+1.0**
PET				*e*S	**Sn**	**09 00 30.6**		**-2.2**
PET				pmax	pmax			
	comp=Z,179nm,1.4s							
PET				pmax	pmax			
	comp=Z,600nm,12.6s							
PET	**Petropavlovsk**	**18.41**	**32**	P	**Pn**	**08 57 09.2**		**+1.1**
PET				IAmb	IAmb	08 57 10.6		
	comp=Z,321nm,1.4s							
ZEA	**Zeya**	**18.75**	**330**	*e*P	**P**	**08 57 08.2**		**-3.4**
ZEA				*e*S	**Sn**	**09 00 40.0**		**-1.0**
ZEA				pmax	pmax			
	comp=N,62nm,0.8s							
ZEA				pmax	pmax			
	comp=E,42nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,82nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,400nm,10.0s							
ZEA				smax	smax			
	comp=E,300nm,6.0s							
ZEA				MLR	MLR			
	comp=N,2μm,15.0s							
ZEA				MLR	MLR			
	comp=E,4μm,15.0s							
ZEA				MLR	MLR			
	comp=Z,5μm,15.0s							
SSE	**Sheshan**	**19.07**	**254**	P	**Pn**	**08 57 16.1**		**-0.1**
SSE				S	**S**	**09 00 48.4**		**-1.5**
SSE				pmax	pmax			
	comp=Z,110nm,1.0s							
SSE				pmax	pmax			
	comp=Z,290nm,3.6s							
SSE				LR	LR			
	comp=Z,1μm,12.7s							
SSE				LR	LR			
	comp=Z,2μm,14.2s							
SSE	**Sheshan**	**19.07**	**254**	P	**Pn**	**08 57 13.8**		**-2.3**
HIA	**Hailar**	**19.81**	**311**	P	**P**	**08 57 21.3**		**-1.9**
HIA				pmax	pmax			
	comp=Z,51nm,1.0s							
HIA	**Hailar**	**19.81**	**311**	P	**P**	**08 57 21.4**		**-1.9**
NJ2	**Nanjing**	**20.44**	**260**	⇑*i*P	**P**	**08 57 28.2**		**-2.0**
NJ2				pP	**pP**	**08 57 37.6**		**+0.2**
NJ2				S	**S**	**09 01 16.2**		**-1.5**
NJ2				pmax	pmax			
	comp=Z,60nm,1.3s							
NJ2				LR	LR			
	comp=Z,4μm,17.1s							
NJ2				LR	LR			
	comp=Z,5μm,16.1s							
NJ2				LR	LR			
	comp=Z,7μm,16.1s							
TIA	**Tai'an**	**20.46**	**272**	P	**P**	**08 57 28.7**		**-1.6**
TIA				pmax	pmax			
	comp=Z,370nm,1.6s							
TIA				LR	LR			
	comp=Z,2μm,10.7s							
TIA				LR	LR		

CIT pmax pmax
comp=Z,661nm,1.7s
WHN Wuhan 24.57 260⇑ *i*P **P 08 58 11.7 -0.9**
WHN S **S 09 02 33.3 +1.6**
WHN pmax pmax
comp=Z,350nm,1.3s
WHN pmax pmax
comp=Z,2μm,12.9s
WHN LR LR
comp=Z,6μm,11.8s
WHN LR LR
comp=Z,6μm,12.4s
WHN LR LR
comp=Z,12μm,16.2s
KNMB Chin-men Tao 24.83 243 P **P 08 58 14.3 -0.6**
YAK Yakutsk 25.10 345 *e*P **P 08 58 16.2 -0.8**
YAK *e**PP **sP 08 58 30.7 +2.8**
YAK *e* 08 58 49.4
YAK *e*S **S 09 02 39.2 -0.4**
YAK *e**SS **sS 09 02 56.5 +4.1**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,58nm,1.1s
YAK pmax pmax
comp=N,50nm,1.1s
YAK pmax pmax
comp=E,51nm,1.0s
YAK smax smax
comp=N,590nm,3.3s
YAK smax smax
comp=E,331nm,3.3s
YAK MLR MLR
comp=Z,660nm,15.0s
YAK MLR MLR
comp=N,389nm,15.0s
YAK MLR MLR
comp=E,508nm,16.0s
YAK Yakutsk 25.10 345 P **P 08 58 16.1 -0.9**
comp=E,18nm,0.6s,baz=160,slow=18,SNR=12
YAK Yakutsk 25.10 345 P **P 08 58 16.6 -0.4**
YAK IAmb IAmb 08 58 28.7
comp=Z,86nm,1.0s
BTO Baotou 25.27 286 *e*P **P 08 58 18.2 -0.8**
BOD Bodaibo 27.05 326 *e*P **P 08 58 33.7 -1.0**
BOD pmax pmax
comp=Z,57nm,1.5s
XAN Xi'an 27.51 272 P **P 08 58 38.3 -0.9**
XAN pmax pmax
comp=Z,65nm,1.4s
XAN pmax pmax
comp=Z,360nm,2.9s
XAN LR LR
comp=Z,2μm,13.2s
XAN LR LR
comp=Z,2μm,12.3s
XAN LR LR
comp=Z,3μm,15.3s
XAN Xi'an 27.51 272 P **P 08 58 38.5 -0.7**
XAN pmax pmax
comp=Z,46nm,0.9s
XAN Xi'an 27.51 272 P **P 08 58 38.5 -0.7**
XAN IAmb IAmb 08 58 45.8
comp=Z,46nm,0.9s
ULN Ulaanbaatar 27.54 302 P **P 08 58 39.9 +0.5**
SNR=47
ULN Ulaanbaatar 27.54 302 *c i*P **P 08 58 39.6 +0.2**
ULN pmax pmax
comp=Z,62nm,1.5s
ULN Ulaanbaatar 27.54 302 P **P 08 58 40.2 +0.7**
H11N2 WAKE ISLAND Hy 27.96 125 T T 09 27 52.1
baz=317,slow=75,SNR=1086
H11N1 WAKE ISLAND Hy 27.96 125 T T 09 27 52.7
baz=317,slow=75,SNR=829
SONM Songino Array 27.97 302 P **P 08 58 44.1 +0.8**
SONM pmax pmax
comp=Z,69nm,1.4s
SONM Songino Array 27.97 302 P **P 08 58 42.7 -0.5**
comp=Z,17nm,0.9s,baz=98,slow=8.4,SNR=83
SONM LR LR 09 10 15.9
comp=Z,2μm,19.1s,baz=94,slow=37
SONM Songino Array 27.97 302 P **P 08 58 44.1 +0.8**
H11N3 WAKE ISLAND Hy 27.97 125 T T 09 27 53.4
baz=317,slow=75,SNR=931
ENH Enshi 28.48 264 P **P 08 58 47.4 -0.4**
H11S1 WAKE ISLAND Hy 28.73 127 T T 09 28 55.1
baz=318,slow=76,SNR=722
H11S3 WAKE ISLAND Hy 28.73 127 T T 09 28 56.4
baz=318,slow=76,SNR=970
H11S2 WAKE ISLAND Hy 28.74 127 T T 09 28 56.7
baz=318,slow=76,SNR=542
IRK Irkutsk 30.05 310 *e*P **P 08 59 00.9 -0.6**
IRK pmax pmax
comp=Z,112nm,1.8s
TLY Talaya 30.32 309 P **P 08 59 04.4 +0.5**
SNR=35
TLY Talaya 30.32 309 *c i*P **P 08 59 04.4 +0.5**
TLY *e*S **S 09 04 03.0 +0.8**
TLY pmax pmax
comp=Z,195nm,1.4s
TLY MLR MLR
comp=Z,7μm,14.0s
TLY Talaya 30.32 309 P **P 08 59 04.0 +0.1**
comp=Z,7.2nm,0.6s,baz=112,slow=8.5,SNR=42
TLY Talaya 30.32 309 P **P 08 59 04.2 +0.3**
TLY IAmb IAmb 08 59 06.1
comp=Z,57nm,1.2s
ZAK Zakamensk 30.33 306 *e*P **P 08 59 03.6 -0.5**
ZAK pmax pmax
comp=Z,58nm,1.4s
LZH Lanzhou 30.89 278 *e*P **P 08 59 09.8 +0.5**
LZH pP sP 08 59 18.1 -2.2
LZH S **S 09 04 17.9 +6.1**
LZH pmax pmax
comp=Z,56nm,1.2s
LZH pmax pmax
comp=Z,320nm,4.3s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,4μm,13.6s
LZH LR LR
comp=Z,4μm,14.4s
ADK Adak 31.30 51 P **P 08 59 12.9 +0.5**
ADK pmax pmax
comp=Z,137nm,1.3s
ADK Adak 31.30 51 P **P 08 59 12.9 +0.5**
GSTR Great Sitkin T 31.71 51 P **P 08 59 17.0 +0.8**
MOY Mondy 31.94 308 *e*P **P 08 59 18.6 +0.3**
MOY pmax pmax
comp=Z,95nm,2.1s
GYA Guiyang 32.45 259⇑ *i*P **P 08 59 22.3 -0.8**
GYA pP pP 08 59 30.2 -0.7
GYA PP **PnPn 09 00 28.7 -1.8**
GYA S **S 09 04 31.6 -4.6**
GYA sS pS 09 04 45.9 +0.6
GYA SS **SnSn 09 06 27.0 -3.3**
GYA pmax pmax
comp=Z,80nm,1.1s
GYA pmax pmax
comp=Z,190nm,3.8s
GYA LR LR
comp=Z,2μm,16.2s
GYA LR LR
comp=Z,2μm,14.3s
GYA LR LR
comp=Z,3μm,14.9s
BILL Bilibino 32.54 16⇑ *i*P **P 08 59 24.0 +0.8**
BILL *i* 08 59 31.6
BILL *i* 08 59 42.1
BILL *i* 09 02 10.5
BILL *i* S **S 09 04 37.5 +1.0**
BILL *i* SS **SnSn 09 06 37.4 +6.1**
BILL pmax pmax
comp=Z,18nm,1.0s
BILL MLR MLR
comp=Z,1μm,21.0s
BILL Bilibino 32.54 16 P **P 08 59 24.0 +0.8**
BILL IAmb IAmb 08 59 33.2
comp=Z,54nm,1.2s
CD2 Chengdu 32.71 269 P **P 08 59 25.1 -0.1**
CD2 pP sP 08 59 35.2 -1.1
CD2 sP pP 08 59 40.0 +6.9
CD2 S **S 09 04 39.0 -1.1**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,290nm,4.1s
CD2 LR LR
comp=Z,4μm,14.7s
CD2 LR LR
comp=Z,4μm,14.2s
CD2 LR LR
comp=Z,5μm,15.2s
GTA Gaotai 33.20 286 P **P 08 59 30.0 +0.5**
GTA pP pP 08 59 37.4 +0.1
GTA sP sP 08 59 41.8 +1.2
GTA PcP **PcP 09 02 13.0 +1.2**
GTA S **S 09 04 46.0 -1.6**
GTA sS sS 09 05 01.1 +0.5
GTA PcS **PcS 09 05 58.2 +0.8**
GTA SS **SnSn 09 06 51.7 +3.6**
GTA pmax pmax
comp=Z,60nm,1.2s
GTA pmax pmax
comp=Z,290nm,5.1s
GTA LR LR
comp=Z,2μm,18.6s
GTA LR LR
comp=Z,3μm,16.5s
GTA LR LR
comp=Z,5μm,17.2s
QIZ Qiongzhong 34.38 245 P **P 08 59 40.8 +1.0**
QIZ S **S 09 05 07.8 +1.8**
QIZ LR LR
comp=Z,2μm,16.8s
QIZ LR LR
comp=Z,2μm,12.5s
QIZ LR LR
comp=Z,3μm,14.0s
KMI Kunming 36.17 261 P **P 08 59 55.2 -0.2**
KMI pP sP 09 00 06.1 -0.4
KMI sP pP 09 00 11.1 +7.8
KMI PP **PP 09 01 19.1 +1.2**
KMI S **S 09 05 32.9 -1.0**
KMI sS sS 09 05 48.8 +1.8
KMI SS **SnSn 09 07 56.8 -3.9**
KMI pmax pmax
comp=Z,79nm,1.3s
KMI pmax pmax
comp=Z,420nm,4.4s
KMI LR LR
comp=Z,3μm,16.1s
KMI LR LR
comp=Z,2μm,17.7s
KMI LR LR
comp=Z,3μm,14.4s
KMI Kunming 36.17 261 P **P 08 59 55.2 -0.2**
KMI pmax pmax
comp=Z,76nm,1.0s
KMI Kunming 36.17 261 P **P 08 59 55.2 -0.2**
SLVN Son La 37.35 254 P **P 09 00 05.2 -0.1**
NONG Nongkai 39.89 251 P **P 09 00 27.3 +0.8**
comp=Z,0.9nm,0.9s
TNTI Ternate 39.91 204 P **P 09 00 26.6 0.0**
comp=Z,84nm,1.6s,comp=Z,2μm
TNTI Ternate 39.91 204 P **P 09 00 26.9 +0.2**
KKM Kota Kinabalu 40.09 224 P **P 09 00 29.1 +0.7**
KKM IAmb IAmb 09 00 48.1
comp=Z,48nm,1.1s
DLV T Lat 40.21 238 P **P 09 00 30.3 +0.9**
DLV IAmb IAmb 09 00 31.7
comp=Z,101nm,1.4s
SMPI Sarmi 40.24 186 P **P 09 00 28.0 -1.4**
comp=Z,60nm,1.2s
SIJI Sorong 40.36 198 P **P 09 00 30.3 -0.2**
comp=Z,36nm,0.9s,baz=13,slow=9.8,SNR=8.6
DGZ Jazzator, Alta 40.51 305 *c i*P **P 09 00 32.8 +1.2**
JAY Jayapura 40.64 183 P **P 09 00 33.0 +0.3**
JAY Jayapura 40.64 183 P **P 09 00 33.0 +0.3**
comp=Z,47nm,1.0s,baz=345,slow=4.2,SNR=13
JAY Jayapura 40.64 183 P **P 09 00 33.1 +0.3**
comp=Z,360nm,1.1s,comp=Z,4μm
GENI Genyem 40.74 184 P **P 09 00 34.5 +1.0**
comp=Z,73nm,0.9s,comp=Z,4μm
WMQ Urumqi 41.21 296 *e*P **P 09 00 38.8 +1.5**
WMQ pP sP 09 00 46.7 -1.8
WMQ PcP **PcP 09 02 37.8 +1.8**
WMQ S **S 09 06 49.3 +0.1**
WMQ pmax pmax
comp=Z,41nm,1.3s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,830nm,17.5s
WMQ LR LR
comp=Z,900nm,16.5s
WMQ LR LR
comp=Z,900nm,19.7s
WMQ Urumqi 41.21 296 P **P 09 00 38.4 +1.1**
WMQ pmax pmax
comp=Z,61nm,1.0s
WMQ Urumqi 41.21 296 P **P 09 00 38.4 +1.1**
WMQ IAmb IAmb 09 00 50.1
comp=Z,61nm,1.0s
KMSI Cibinong 41.29 209 P **P 09 00 38.5 +0.4**
PAYA Payao 41.57 255 P P 09 00 43.5 +3.0
comp=Z,32μm,0.7s
ZAA0 Zalesovo Array 41.85 311 P **P 09 00 42.4 +0.1**
ZAA0 IAmb IAmb 09 00 43.7
comp=Z,70nm,1.2s
ZALV Zalesovo Beam 41.85 311 P **P 09 00 42.0 -0.3**
comp=Z,18nm,0.6s,baz=89,slow=6.5,SNR=70
ZALV PcP **PcP 09 02 37.7 0.0**
comp=Z,8.4nm,0.7s,baz=114,slow=3.3,SNR=4.8
ZALV LR LR 09 18 48.1
comp=Z,1μm,19.0s,baz=83,slow=37
ZALV Zalesovo Beam 41.85 311 P **P 09 00 42.5 +0.3**
CHAI Chaiyaphum 42.11 249 P **P 09 00 45.5 +0.7**
comp=Z,44μm,0.9s
FAKI Fak Fak 42.12 196 P **P 09 00 44.5 -0.4**
comp=Z,51nm,1.6s,comp=Z,893nm
FAKI Fak Fak 42.12 196 P **P 09 00 44.6 -0.4**
FAKI IAmb IAmb 09 01 02.6
comp=Z,57nm,1.2s
MRSI Marisa 42.19 212 P **P 09 00 45.7 +0.2**
comp=Z,138nm,1.3s,comp=Z,1μm
LAMP Lampang 42.25 255 P **P 09 00 47.6 +1.6**
comp=Z,67μm,1.1s
PBKT Sadao Pong 42.44 251 P **P 09 00 48.2 +0.7**
PBKT Sadao Pong 42.44 251 P **P 09 00 48.2 +0.7**
NRIK Noril'sk 42.57 334 P **P 09 00 47.9 -0.1**
comp=Z,7.1nm,0.6s,baz=128,slow=6.3,SNR=13
CMMT Chiang Mai 42.59 255 P **P 09 00 48.9 +0.1**
comp=Z,18nm,1.2s
CHTO Chiang Mai 42.60 255 P **P 09 00 49.0 +0.2**
SNR=13
CHTO Chiang Mai 42.60 255 P **P 09 00 48.8 0.0**
CHTO pmax pmax
comp=Z,78nm,1.5s
CHTO Chiang Mai 42.60 255 P **P 09 00 48.8 0.0**
CHTO IAmb IAmb 09 00 50.2
comp=Z,78nm,1.5s
KOHI KOHIMA 42.63 268 *e*P **P 09 00 46.7 -2.5**
CM31 Chiang Mai Arr 42.81 255 P **P 09 00 50.9 +0.3**
SNR=9.3
CM31 Chiang Mai Arr 42.81 255 P **P 09 00 50.9 +0.3**
CM31 IAmb IAmb 09 00 52.3
comp=Z,51nm,1.5s
CMAR Chiang Mai Arr 42.81 255 P **P 09 00 50.4 -0.2**
comp=Z,5.1nm,0.7s,baz=51,slow=6.0,SNR=39
CMAR PcP **PcP 09 02 42.4 +0.8**
comp=Z,3.0nm,0.6s,baz=47,slow=4.2,SNR=4.7
CMAR LR LR 09 21 28.6
comp=Z,1μm,18.1s,baz=36,slow=40
SANI Sanana 43.00 205 P **P 09 00 50.9 -1.2**
comp=Z,77nm,0.7s,comp=Z,912nm
LSA Lhasa 43.13 275 P **P 09 00 54.7 +1.1**
LSA pmax pmax
comp=Z,48nm,1.2s
LSA Lhasa 43.13 275 P **P 09 00 54.7 +1.1**
LSA IAmb IAmb 09 00 56.8
comp=Z,48nm,1.2s
MPSI Mapaga 43.20 214 P **P 09 00 53.6 0.0**
comp=Z,36nm,1.1s,comp=Z,505nm
LUWI Luwuk 43.24 210 P **P 09 00 53.8 -0.1**
comp=Z,143nm,1.1s
LUWI Luwuk 43.24 210 P **P 09 00 53.3 -0.6**
MSAI Masohi 43.34 200 P **P 09 00 55.8 +1.0**
comp=Z,20nm,1.1s
APSI Ampana 43.57 211 P **P 09 00 57.0 +0.4**
comp=Z,170nm,1.2s,comp=Z,2μm
MHMT Maesarieng 43.75 256 P **P 09 00 58.8 +0.7**
comp=Z,66nm,0.8s,comp=Z,1μm
AAI Ambon 43.87 201 P P 09 01 05.3 +6.2
SVW2 Sparrevohn 43.91 38 P **P 09 00 59.4 +0.5**
UTHA Uthaitani 44.21 251 P **P 09 01 02.8 +1.0**
comp=Z,28μm,1.2s,comp=Z,337μm
BNDI Bandanaira 44.22 198 P **P 09 01 01.7 -0.1**
comp=Z,243nm,1.3s
UMPA Umpang Tak 44.24 253 P **P 09 01 04.0 +1.9**
comp=Z,66μm,1.7s
GUWA GUWAHATI 44.30 270 *e*P **P 09 01 02.9 +0.4**
MK31 Makanchi Array 44.34 301 *i* P **P 09 01 03.0 +0.4**
MK31 pmax pmax
comp=Z,51nm,0.9s
MK31 Makanchi Array 44.34 301 P **P 09 01 02.9 +0.3**
MK31 IAmb IAmb 09 01 05.8
comp=Z,36nm,0.8s
MKAR Makanchi Array 44.34 301 P **P 09 01 02.9 +0.3**
comp=Z,21nm,0.7s,baz=85,slow=9.7,SNR=76
MKAR LR LR 09 19 27.5
comp=Z,643nm,21.1s,baz=78,slow=36
MKAR Makanchi Array 44.34 301 P **P 09 01 02.8 +0.2**
SHL Shillong 44.45 269 P **P 09 01 03.4 -0.5**
SNR=18
SHL Shillong 44.45 269 P **P 09 01 03.5 -0.5**
SHL pmax pmax
comp=Z,66nm,1.2s
SHL Shillong 44.45 269 *e*P **P 09 01 04.3 +0.4**
SHL Shillong 44.45 269 P **P 09 01 03.5 -0.5**
SHL IAmb IAmb 09 01 14.4
comp=Z,66nm,1.2s
MAKZ Makanchi 44.55 301 P **P 09 01 04.6 +0.4**
MAKZ pmax pmax
comp=Z,64nm,1.2s
MAKZ Makanchi 44.55 301 P **P 09 01 04.6 +0.4**
MAKZ IAmb IAmb 09 01 07.5
comp=Z,64nm,1.2s
AZL Aizawl 44.74 266 *e*P **P 09 01 06.0 -0.1**
IMAR Indian Mountai 45.05 31 P **P 09 01 09.1 +1.1**
SAIH SAIHA 45.15 264 *e*P **P 09 01 09.7 +0.2**
SRDT SRDT 45.22 250 P **P 09 01 11.1 +1.2**
comp=Z,19nm,1.2s,comp=Z,14μm
SBUM Sibu 45.27 226 P **P 09 01 10.8 +0.5**
RSO Redoubt South 45.29 39 P **P 09 01 11.3 +1.2**
KHLT Khaolaem Dam 45.33 251 P **P 09 01 08.8 -1.9**
comp=Z,37nm,1.2s,comp=Z,610nm
KDAK Kodiak Island 45.48 43 P **P 09 01 12.1 +0.6**
KDAK pmax pmax
comp=Z,68nm,1.1s
KDAK Kodiak Island 45.48 43 P **P 09 01 11.4 -0.1**
comp=Z,30nm,0.8s,baz=275,slow=4.0,SNR=34
KDAK Kodiak Island 45.48 43 P **P 09 01 12.1 +0.6**
PPLA Purkeypile 45.55 36 P **P 09 01 14.2 +2.0**
PPLA IAmb IAmb 09 01 15.3
comp=Z,60nm,1.5s
DHUB DHUBRI 45.72 271 *e*P **P 09 01 14.2 +0.5**
AGT Agartala 45.79 267 *e*P **P 09 01 15.9 +1.5**
SKT Skwentna 45.86 37 P **P 09 01 15.7 +1.2**
BELO BELONIA 45.97 266 *e*P **P 09 01 17.7 +2.0**
KURK Kurchatov 45.98 307 P **P 09 01 15.8 +0.3**
SNR=56
KURK Kurchatov 45.98 307 *c i*P **P 09 01 15.5 0.0**
KURK pmax pmax
comp=Z,164nm,1.3s
KURK Kurchatov 45.98 307 P **P 09 01 15.7 +0.2**
KURBB Kurchatov Arra 46.05 307 P **P 09 01 15.9 -0.2**
comp=Z,65nm,0.5s,baz=82,slow=8.2,SNR=432
BPAW Bear Paw Mtn. 46.12 34 P **P 09 01 18.0 +1.6**
KTH Kantishna Hill 46.14 35 P **P 09 01 18.4 +1.7**
KTH IAmb IAmb 09 01 27.5
comp=Z,37nm,1.1s
TTSI Tana Toraja 46.26 213 P **P 09 01 17.4 -0.6**
comp=Z,27nm,1.4s,comp=Z,2μm
TRF Thorofare Moun 46.42 35 P **P 09 01 20.1 +1.1**
RC01 Rabbit Creek A 46.74 38 P **P 09 01 22.5 +1.2**
RC01 IAmb IAmb 09 01 22.8
comp=Z,51nm,1.2s
BWN Browne 46.78 34 P **P 09 01 23.5 +1.9**
TAPN Taplejung 46.88 274 *e*P **P 09 01 23.8 +0.5**
TOLK Toolik Lake Re 46.89 28 P **P 09 01 24.1 +1.6**
baz=266,SNR=6.2
TOLK Toolik Lake Re 46.89 28 P **P 09 01 23.8 +1.4**
TOLK IAmb IAmb 09 01 32.8
comp=Z,44nm,1.4s
NEA Nenana 46.95 33 P **P 09 01 23.2 +0.3**
NEA IAmb IAmb 09 01 33.8
comp=Z,44nm,1.1s
PMR Palmer 47.01 37 P **P 09 01 23.5 +0.1**
PMR pmax pmax
comp=Z,39nm,1.2s
PMR Palmer 47.01 37 P **P 09 01 23.5 +0.1**
PMR IAmb IAmb 09 01 33.1
comp=Z,39nm,1.2s
MCK McKinley 47.02 34 P **P 09 01 24.6 +1.0**
MCK pmax pmax
comp=Z,29nm,1.2s
MCK McKinley 47.02 34 P **P 09 01 24.6 +1.0**
MCK IAmb IAmb 09 01 33.7
comp=Z,29nm,1.2s
RND Reindeer 47.07 35 P **P 09 01 24.7 +0.7**
RND pmax pmax
comp=Z,46nm,1.2s
RND Reindeer 47.07 35 P **P 09 01 24.7 +0.7**
RND IAmb IAmb 09 01 33.8
comp=Z,46nm,1.2s
GHO Glory Hole Cre 47.10 37 P **P 09 01 25.2 +0.9**
GHO IAmb IAmb 09 01 35.7
comp=Z,33nm,1.0s
SPSI Sidrap Palu 47.11 212 P **P 09 01 25.0 +0.3**
comp=Z,31nm,1.3s
PDGK Podgornoye 47.11 297 P **P 09 01 24.6 -0.1**
PDGK pmax pmax
comp=Z,100nm,1.4s
KSM Kuching 47.16 227 P **P 09 01 26.1 +1.0**
MDM Murphy Dome 47.31 33 P **P 09 01 27.6 +1.8**
MDM IAmb IAmb 09 01 36.6
comp=Z,47nm,1.1s
BNSI Bone 47.36 211 P **P 09 01 27.9 +1.3**
comp=Z,123nm,1.1s,comp=Z,1μm
ODAN Odare 47.37 273 *e*P **P 09 01 27.3 +0.3**
comp=Z,134nm,0.8s
SML Sawmill 47.38 37 P **P 09 01 27.5 +1.1**
SML IAmb IAmb 09 01 38.8
comp=Z,43nm,1.2s
WRH Wood River Hil 47.38 33 P **P 09 01 27.3 +1.0**
COLA College 47.47 33⇑ *e*P **P 09 01 28.4 +1.4**
COLA pmax pmax
comp=Z,7.0nm,1.0s
COLA College 47.47 33 P **P 09 01 28.5 +1.6**
COLA IAmb IAmb 09 01 37.0
comp=Z,35nm,1.4s
CCB Clear Creek Bu 47.50 33 P **P 09 01 27.9 +0.7**
POKR Poker Plat Res 47.65 33 P **P 09 01 30.0 +1.6**
baz=271
STKI Sintang 47.65 225 P **P 09 01 30.7 +1.7**
DHY Denali Highway 47.75 35 P **P 09 01 30.2 +0.8**
SCM Sheep Creek Mo 47.85 37 P **P 09 01 31.9 +1.8**
SCM pmax pmax
comp=Z,31nm,1.0s
SCM Sheep Creek Mo 47.85 37 P **P 09 01 31.9 +1.8**
SCM IAmb IAmb 09 01 34.0
comp=Z,31nm,1.0s
HDA Harding Lake 47.88 33 P **P 09 01 30.6 +0.5**
baz=272
HDA Harding Lake 47.88 33 P **P 09 01 30.2 +0.1**
HDA IAmb IAmb 09 01 39.8
comp=Z,22nm,1.0s
IL31 47.89 33 P **P 09 01 30.9 +0.7**
IL31 IAmb IAmb 09 01 40.0
comp=Z,22nm,0.9s
ILAR Eielson Array 47.89 33 P **P 09 01 30.4 +0.2**
comp=Z,9.2nm,0.8s,baz=267,slow=6.2,SNR=79
JIRN Jiri 47.93 275 *e*P **P 09 01 32.1 +0.6**
comp=Z,376nm,1.3s
RAMN Ramite 47.95 274 *e*P **P 09 01 31.9 +0.4**
GUN Gumba 48.06 275 *e*P **P 09 01 32.9 +0.4**
comp=Z,240nm,0.8s
KAPI Kappang 48.06 211 P **P 09 01 33.3 +1.2**
KAPI pmax pmax
comp=Z,179nm,1.4s
KAPI Kappang 48.06 211 P **P 09 01 33.3 +1.2**

BKSI Bulukumba 48.19 211 P **P** **09 01 34.3 +1.2**
comp=Z,21nm,1.0s,comp=Z,882nm
PRP Porcupine Dome 48.43 32 P **P** **09 01 35.3 +0.7**
PRP IAmb IAmb 09 01 45.2
comp=Z,17nm,0.9s
FYU Fort Yukon 48.51 31 P **P** **09 01 35.4 +0.4**
KKN Kakani 48.59 275 *e*P **P** **09 01 36.7 +0.3**
comp=Z,105nm,0.6s
PKI Pulchoki 48.59 275 *e*P **P** **09 01 36.5 0.0**
comp=Z,136nm,1.0s
PKIN Phulchoki 48.59 275 *e*P **P** **09 01 36.4 -0.1**
comp=Z,32nm,0.5s
BMAR Burnt Mountain 48.74 29 P **P** **09 01 38.8 +2.0**
TARG Taragay, Kyrgy 48.78 296 P **P** **09 01 38.0 0.0**
TARG IAmb IAmb 09 01 52.8
comp=Z,37nm,1.1s
DMN Daman 48.81 275 *e*P **P** **09 01 38.3 +0.2**
comp=Z,104nm,1.0s
GKN Gorkha 48.99 276 *e*P **P** **09 01 39.7 +0.3**
comp=Z,639nm,1.3s
SKLT Songkhla 49.00 242 P **P** **09 01 41.5 +2.1**
comp=Z,49nm,1.3s,comp=Z,600nm
TRTT Trang 49.18 243 P **P** **09 01 41.8 +1.0**
comp=Z,62nm,1.4s,comp=Z,1μm
DOT Dot Lake 49.20 34 P **P** **09 01 40.3 -0.1**
SCRK Sand Creek 49.20 34 P **P** **09 01 40.6 +0.1**
SCRK IAmb IAmb 09 01 50.4
comp=Z,36nm,1.2s
MENT Mentasta 49.42 35 P **P** **09 01 43.1 +1.1**
MENT IAmb IAmb 09 01 53.1
comp=Z,26nm,1.0s
DANN Dangsing 49.52 277 *e*P **P** **09 01 44.3 +0.7**
comp=Z,653nm,1.0s
GLB Gilahina Butte 49.56 37 P **P** **09 01 44.4 +1.2**
GLB IAmb IAmb 09 01 54.9
comp=Z,22nm,1.3s
VRDI Verde Repeater 49.76 37 P **P** **09 01 46.0 +1.1**
BOOM Boomskoye usch 49.85 297 P **P** **09 01 46.7 +0.9**
BOOM pmax pmax
comp=Z,78nm,1.5s
BOOM Boomskoye usch 49.85 297 P **P** **09 01 46.7 +0.9**
KOLN Koldanda 49.91 276 *e*P **P** **09 01 47.0 +0.5**
comp=Z,481nm,1.4s
MCARA McCarthy VSAT 49.95 37 P **P** **09 01 47.3 +1.2**
MCARA IAmb IAmb 09 02 02.4
comp=Z,56nm,1.3s
TKM2 Tokmak 2 49.95 298 *i* P **P** **09 01 46.9 +0.3**
TKM2 pmax pmax
comp=Z,83nm,1.3s
TKM2 Tokmak 2 49.95 298 P **P** **09 01 47.7 +1.1**
SNR=40
BOK Bokaro 50.06 270 *e*P **P** **09 01 47.8 +0.4**
PKDT Phuket 50.10 245 P **P** **09 01 49.0 +1.2**
NRN Naryn 50.15 296 P **P** **09 01 48.9 +0.5**
NRN pmax pmax
comp=Z,17nm,1.3s
NRN Naryn 50.15 296 P **P** **09 01 48.9 +0.5**
BALM Baldy 50.32 38 P **P** **09 01 49.9 +0.8**
BALM IAmb IAmb 09 01 59.5
comp=Z,29nm,1.3s
KULM Kulim 50.33 240 P **P** **09 01 50.3 +0.8**
EGAK Eagle 50.34 33 P **P** **09 01 49.5 +0.6**
MMRI Maumere 50.43 207 P **P** **09 01 51.6 +1.4**
comp=Z,112nm,1.2s,comp=Z,6μm
MMRI Maumere 50.43 207 P **P** **09 01 50.1 -0.1**
KZA Kyzart 50.47 297 P **P** **09 01 52.4 +1.6**
SNR=9.4
KBK Karagaybulak 50.49 298 P **P** **09 01 51.6 +0.9**
SNR=21
CHMS Chumysh 50.51 298 P **P** **09 01 51.2 +0.5**
SNR=6.6
BRVK Borovoye 50.55 312 P **P** **09 01 51.2 +0.4**
BRVK P **P** **09 01 51.2 +0.4**
SNR=14
BRVK Borovoye 50.55 312 *c i*P **P** **09 01 51.0 +0.2**
BRVK pmax pmax
comp=Z,28nm,0.8s
BRVK Borovoye 50.55 312 P **P** **09 01 51.2 +0.4**
BRVK IAmb IAmb 09 01 52.4
comp=Z,37nm,1.1s
USP Ospenovka 50.60 299 P **P** **09 01 51.9 +0.6**
SNR=14
FRU1 Bishkek 50.66 298 P **P** **09 01 52.7 +0.9**
FRU1 pmax pmax
comp=Z,76nm,1.4s
FRU1 Bishkek 50.66 298 P **P** **09 01 52.6 +0.9**
IPM Ipoh 50.67 239 P **P** **09 01 52.3 +0.2**
EDFI Ende, Flores 50.73 207 P **P** **09 01 52.0 -0.6**
comp=Z,84nm,1.3s,comp=Z,1μm
SOEI Soe 50.80 204 P **P** **09 01 53.1 0.0**
comp=Z,112nm,1.1s,comp=Z,1μm
SOEI Soe 50.80 204 P **P** **09 01 52.7 -0.4**
AAK Ala-Archa 50.81 298 *i* P **P** **09 01 53.4 +0.4**
SNR=11
AAK Ala-Archa 50.81 298 P **P** **09 01 53.5 +0.4**
SNR=13
AAK Ala-Archa 50.81 298 *c i*P **P** **09 01 53.2 +0.1**
AAK pmax pmax
comp=Z,27nm,1.1s
AAK Ala-Archa 50.81 298 LR LR 09 24 22.4
comp=Z,521nm,19.4s,baz=63,slow=37
AAK Ala-Archa 50.81 298 P **P** **09 01 53.6 +0.6**
SNR=10
AAK Ala-Archa 50.81 298 P **P** **09 01 53.6 +0.6**
MYKOM Kota Tinggi 50.83 234 P **P** **09 01 54.3 +1.0**
KSH Kashi 50.84 294 P P 09 01 57.7 +4.4
KSH pP sP 09 02 07.4 +2.8
KSH PP PP 09 03 56.0 +6.5
KSH S **S** **09 09 11.3 +3.5**
KSH sS sS 09 09 28.2 +7.1
KSH SS **SS** **09 12 44.7 +2.5**
KSH pmax pmax
comp=Z,150nm,1.6s
KSH pmax pmax
comp=Z,670nm,9.4s
KSH LR LR
comp=Z,2μm,12.7s
KSH LR LR
comp=Z,2μm,14.6s
KSH LR LR
comp=Z,2μm,12.9s
TPRI Tanjung Pinang 51.07 233 P **P** **09 01 57.2 +2.1**
EKS2 Erkin-Say 51.30 298 P **P** **09 01 57.3 +0.6**
SNR=8.2
BATI Baumata 51.42 204 LR LR 09 21 54.3
comp=Z,450nm,20.9s,baz=22,slow=34
AML Almayashu 51.54 298 P **P** **09 02 00.0 +1.2**
SNR=13
EPYK Eagle Plains 51.93 30 P **P** **09 02 02.5 +1.5**
baz=280,SNR=12
EPYK Eagle Plains 51.93 30 P **P** **09 02 02.0 +1.0**
EPYK IAmb IAmb 09 02 12.0
comp=Z,45nm,1.0s
COEN Coen 51.97 179 P **P** **09 02 02.3 +0.6**
BWNR Bhubaneshwar 51.97 267 *e*P **P** **09 01 59.5 -2.3**
BWNR IAmb IAmb 09 02 07.8
comp=Z,22nm,0.5s
MTN Manton Dam 52.00 194 P **P** **09 02 01.6 -0.3**
TPI Tanjungpandan 52.12 227 P **P** **09 02 04.1 +1.2**
comp=Z,58nm,1.2s,comp=Z,2μm
TWSI Taliwang, Sumb 52.62 213 P **P** **09 02 06.4 -0.1**
comp=Z,79nm,1.1s
HYT Haines Junctio 52.68 37 P **P** **09 02 08.5 +1.7**
HYT IAmb IAmb 09 02 18.5
comp=Z,54nm,1.1s
SRBI Singaraja 52.77 215 P **P** **09 02 08.1 +0.4**
comp=Z,53nm,1.7s,comp=Z,1μm
INK Inuvik 52.80 28 P **P** **09 02 08.3 +1.0**
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 52.80 28 P **P** **09 02 07.8 +0.4**
comp=Z,4.4nm,0.4s,baz=275,slow=6.8,SNR=57
INK Inuvik 52.80 28 P **P** **09 02 08.3 +1.0**
LHMI Lhok Sumawe 52.94 243 P **P** **09 02 10.1 +1.1**
comp=Z,114nm,1.1s
LHMI Lhok Sumawe 52.94 243 P **P** **09 02 08.8 -0.2**
PSI Prapat 53.31 240 P **P** **09 02 12.2 +0.3**
PSI pmax pmax
comp=Z,37nm,1.0s
PSI Prapat 53.31 240 LR LR 09 25 26.9
comp=Z,833nm,20.4s,baz=32,slow=37
SMLA Simla 53.36 283 *e*P **P** **09 02 11.9 -0.1**
RPSI Rantau Prapat 53.39 239 P **P** **09 02 12.2 -0.1**
RPSI IAmb IAmb 09 02 13.4
comp=Z,37nm,1.0s

KK31 Karatay Array 53.39 300 P **P** **09 02 12.1 0.0**
KK31 pmax pmax
comp=Z,33nm,1.0s
KK31 Karatay Array 53.39 300 P **P** **09 02 12.1 0.0**
KK31 IAmb IAmb 09 02 13.0
comp=Z,33nm,0.9s
KKAR Karatay Array 53.39 300 P **P** **09 02 12.1 0.0**
KKAR pmax pmax
comp=Z,33nm,1.0s
KKAR Karatay Array 53.39 300 P **P** **09 02 12.1 0.0**
KKAR IAmb IAmb 09 02 13.0
comp=Z,33nm,0.9s
JMBI JAMBI 53.61 231 P **P** **09 02 14.5 +0.6**
BKNI Bangkinang 53.75 236 P **P** **09 02 16.5 +1.6**
comp=Z,255nm,1.2s,comp=Z,3μm
BKNI Bangkinang 53.75 236 P **P** **09 02 15.9 +1.0**
PMBI Palembang 53.94 229 P **P** **09 02 17.9 +1.5**
WHY Whitehorse 53.97 37 P **P** **09 02 18.1 +1.9**
SKAG Skagway 54.08 39 P **P** **09 02 17.2 +0.4**
SMRI Semarang 54.18 221 P **P** **09 02 19.6 +1.5**
comp=Z,127nm,1.2s
SMRI Semarang 54.18 221 P **P** **09 02 18.4 +0.4**
BTK Batken 54.32 296 P **P** **09 02 19.0 0.0**
BTK Batken 54.32 296 P **P** **09 02 19.0 0.0**
BTK IAmb IAmb 09 02 25.7
comp=Z,46nm,1.1s
PWJI Pagerwojo 54.33 219 P **P** **09 02 18.4 -0.7**
comp=Z,103nm,1.2s,comp=Z,8μm
SDSI Sungai Dareh 54.45 234 P **P** **09 02 21.4 +1.3**
comp=Z,149nm,1.3s
UGM Wanagama 54.87 220 P **P** **09 02 23.5 +0.4**
comp=Z,301nm,1.3s
UGM Wanagama 54.87 220 P **P** **09 02 22.8 -0.3**
JIS Juneau Island 54.89 40 P **P** **09 02 24.6 +1.9**
JIS IAmb IAmb 09 02 34.1
comp=Z,24nm,1.1s
SVE Sverdlovsk 54.90 318 *d i*P **P** **09 02 23.7 +0.9**
SVE *e*S **S** **09 10 01.0 -1.2**
SVE pmax pmax
comp=Z,60nm,0.8s
SVE MLR MLR
comp=Z,3μm,16.0s
TAS Tashkent 54.90 298 P **P** **09 02 24.1 +1.0**
TAS pmax pmax
comp=Z,117nm,1.4s
TAS Tashkent 54.90 298 P **P** **09 02 24.1 +1.0**
PDSI Padang 55.06 235 P **P** **09 02 25.7 +1.2**
comp=Z,15nm,1.3s,comp=Z,906nm
GAR Garm 55.10 295 P **P** **09 02 25.1 +0.4**
NIL Nilore 55.20 288 P **P** **09 02 26.5 +1.1**
NIL pmax pmax
comp=Z,72nm,0.9s
NIL Nilore 55.20 288 P **P** **09 02 26.5 +1.1**
KNRA Kununurra 55.25 196 P **P** **09 02 26.0 +0.3**
GSI Gunungsitoli 55.32 240 P **P** **09 02 27.5 +1.1**
comp=Z,222nm,1.4s,comp=Z,3μm
GSI Gunungsitoli 55.32 240 P **P** **09 02 27.2 +0.8**
LHSI Lahat 55.41 230 P **P** **09 02 27.9 +0.9**
comp=Z,235nm,1.1s,comp=Z,3μm
LEM Lembang 55.49 224 LR LR 09 27 04.4
comp=Z,362nm,20.0s,baz=158,slow=37
MASI Maura Aman, Be 55.65 232 P **P** **09 02 30.7 +1.9**
comp=Z,266nm,1.2s
ARU Arti 56.11 318 *c i*P **P** **09 02 31.8 +0.3**
ARU 09 03 28.4
ARU 09 04 33.1
ARU S **S** **09 10 20.4 +1.9**
ARU 09 12 18.3
ARU SS **SS** **09 14 06.3 +1.9**
ARU pmax pmax
comp=Z,107nm,1.6s
ARU MLR MLR
comp=Z,2μm,16.0s
ARU Arti 56.11 318 P **P** **09 02 31.9 +0.4**
KASI Kota Agung 56.19 228 P **P** **09 02 31.7 -0.8**
NGP Nagpur 56.82 272 *e*P **P** **09 02 36.7 -0.4**
DLBC Dease Lake 57.01 39 P **P** **09 02 39.8 +1.8**
comp=Z,6.2nm,0.9s,baz=292,slow=7.8,SNR=11
DLBC Dease Lake 57.01 39 P P 09 02 40.6 +2.6
DLBC IAmb IAmb 09 02 49.1
comp=Z,30nm,1.3s
AB31 Akbulak array 57.92 310 P **P** **09 02 44.0 -0.5**
AB31 pmax pmax
comp=Z,21nm,0.7s
ABKAR Akbulak array 57.92 310 P **P** **09 02 44.6 +0.1**
ABKAR Akbulak array 57.92 310 P **P** **09 02 44.6 +0.1**
ABKAR IAmb IAmb 09 02 45.1
comp=Z,27nm,0.7s
KBL Kabul 57.93 291 P **P** **09 02 45.0 0.0**
KBL pmax pmax
comp=Z,56nm,1.1s
KBL Kabul 57.93 291 P **P** **09 02 45.0 0.0**
WB0 Warramunga Arr 58.27 189 P **P** **09 02 46.5 -0.6**
FITZ Fitzroy Crossi 58.33 199 LR LR 09 29 13.4
comp=Z,151nm,18.6s,baz=18,slow=37
FITZ Fitzroy Crossi 58.33 199 P **P** **09 02 48.0 +0.5**
WRAB Tennant Creek 58.44 189 *c i*P **P** **09 02 47.5 -0.8**
WRAB pmax pmax
comp=Z,141nm,1.3s
WRAB Tennant Creek 58.44 189 P **P** **09 02 47.8 -0.5**
WR0 Warramunga Arr 58.44 189 P **P** **09 02 48.1 -0.2**
WB2 Warramunga Arr 58.45 189 P **P** **09 02 47.8 -0.6**
WRA Warramunga Arr 58.45 189 P **P** **09 02 47.5 -0.8**
comp=Z,82nm,1.0s,baz=7.1,slow=7.3,SNR=184
WRA Warramunga Arr 58.45 189 P **P** **09 02 47.2 -1.2**
HYB Hyderabad 59.26 268 *i* P **P** **09 02 53.0 -1.3**
comp=Z,136nm,1.2s
PRGR Permogore 60.28 327 *e*P **P** **09 03 01.0 +0.4**
PRGR *e**PP **sP** **09 03 13.7 +1.8**
PRGR pmax pmax
comp=Z,42nm,1.0s
APA Apatity 61.97 336⇑ *i*P **P** **09 03 08.6 -3.4**
APA pmax pmax
comp=Z,9.0nm,0.7s
APA MLR MLR
comp=Z,1μm,13.0s
TMCR Tamitsa 62.14 331 *e*P **P** **09 03 12.8 -0.3**
TMCR pmax pmax
comp=Z,58nm,1.1s
AS31 Alice Springs 62.17 189 P **P** **09 03 13.7 -0.2**
ASAR Alice Springs 62.17 189 P **P** **09 03 13.7 -0.1**
ASAR Alice Springs 62.17 189 P **P** **09 03 13.3 -0.5**
comp=Z,24nm,0.9s,baz=9.6,slow=5.7,SNR=138
ASAR LR LR 09 29 45.2
comp=Z,234nm,19.9s,baz=15,slow=36
ASAR Alice Springs 62.17 189 P **P** **09 03 13.7 -0.1**
YKA Yellowknife Ar 62.21 31 P **P** **09 03 14.6 +1.0**
YKA Yellowknife Ar 62.21 31 P **P** **09 03 14.2 +0.6**
comp=Z,3.5nm,0.9s,baz=294,slow=6.8,SNR=8.8
YKA Yellowknife Ar 62.21 31 P **P** **09 03 14.6 +1.0**
HRA Herat 62.96 294 P **P** **09 03 20.0 +0.6**
HRA IAmb IAmb 09 03 28.6
comp=Z,36nm,1.4s
PSAD1 Pilbara Seismi 63.19 204 P **P** **09 03 20.6 +0.1**
ARCES ARCESS Array B 63.19 339 P **P** **09 03 20.2 +0.1**
comp=Z,2.7nm,0.6s,baz=52,slow=7.6,SNR=16
ARCES ARCESS Array B 63.19 339 P P **09 03 19.9 -0.2**
KLMR Klimovskoe 63.25 328 *e*P **P** **09 03 18.6 -2.0**
KLMR *e* 09 05 36.7
KLMR pmax pmax
comp=Z,48nm,1.5s
KLMR Klimovskoe 63.25 328 *e*P **P** **09 03 18.7 -1.9**
KLMR AMP 09 03 22.8
comp=Z,48nm,1.5s
KLMR *e*PP **PP** **09 05 36.7 -2.7**
PSAC2 Pilbara Seismi 63.27 204 P **P** **09 03 21.3 +0.2**
PSAC1 Pilbara Seismi 63.27 204 P **P** **09 03 21.3 +0.2**
PSAB2 Pilbara Seismi 63.27 204 P **P** **09 03 20.8 -0.4**
PSA00 Pilbara Seismi 63.29 204 P **P** **09 03 21.1 -0.2**
PALK Pallekele 63.64 258 P **P** **09 03 24.1 +0.2**
PALK Pallekele 63.64 258 P **P** **09 03 24.0 +0.1**
PALK pmax pmax
comp=Z,54nm,1.4s
PALK Pallekele 63.64 258 P **P** **09 03 24.1 +0.1**
EIDS Eidsvold 63.80 172 P **P** **09 03 25.2 +0.7**
EIDS IAmb IAmb 09 03 26.3
comp=Z,24nm,1.0s
DZM Mont Dzumac 64.04 155 *e*P **P** **09 03 26.6 +0.3**
comp=Z,102nm,1.4s
DZM *e*S **S** **09 12 03.0 +2.0**
comp=Z,110nm,23.9s
GEYT Alibeck 64.13 299 P **P** **09 03 26.8 0.0**
comp=Z,9.4nm,0.7s,baz=11,slow=2.3,SNR=16
GEYT LR LR 09 32 28.9

comp=Z,572nm,19.8s,baz=100,slow=37
GEYT Alibeck 64.13 299 P **P** **09 03 27.2 +0.4**
GYA0B ALIBECK ARRAY 64.13 299 P **P** **09 03 27.1 +0.2**
GYA0B IAmb IAmb 09 03 39.2
comp=Z,27nm,1.1s
DAG Danmarks Havn 64.62 355 *i* P **P** **09 03 29.5 +0.2**
DAG *i* 09 03 38.8
DAG Danmarks Havn 64.62 355 *i* P **P** **09 03 29.5 +0.2**
DAG *i* 09 03 38.8
D03D Eldon 65.50 48 P P 09 03 37.9 +2.3
baz=300
B05A Bryant 65.71 47 P **P** **09 03 37.8 +1.0**
baz=301
C06D Leavenworth 66.57 47 P **P** **09 03 44.4 +1.9**
baz=302
LTY Liberty 67.05 47 P **P** **09 03 46.2 +0.6**
LTY IAmb IAmb 09 03 47.6
comp=Z,39nm,1.4s
B08A Colville Reser 67.23 46 P **P** **09 03 47.6 +0.9**
B08A IAmb IAmb 09 03 48.8
comp=Z,38nm,1.4s
VRH Novokhopyorsk 67.34 318 *e*P **P** **09 03 47.0 -0.2**
VRH pmax pmax
comp=Z,20nm,0.7s
VRH MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 67.71 323‖ *e*P **P** **09 03 50.1 +0.6**
OBN *e* 09 06 19.1
OBN *i* S **S** **09 12 47.0 +2.1**
OBN *i* SS **SS** **09 17 03.4 -2.0**
OBN pmax pmax
comp=Z,72nm,1.7s
OBN MLR MLR
comp=Z,849nm,14.0s
OBN Obninsk 67.71 323 P **P** **09 03 49.6 +0.1**
LPSR Galich'ya Gora 68.00 320 *e*P **P** **09 03 50.9 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.7s
LPSR MLR MLR
comp=Z,1μm,16.0s
C09A Chrisman Ranch 68.13 46 P **P** **09 03 53.1 +0.8**
C09A IAmb IAmb 09 04 02.9
comp=Z,47nm,1.3s
HAWA Hanford 68.17 48 P **P** **09 03 54.1 +1.5**
FIA1 FINESS Array S 68.19 332 P **P** **09 03 52.7 +0.3**
FINES FINESS Array B 68.19 332 P **P** **09 03 52.6 +0.2**
FINES FINESS Array B 68.19 332 P **P** **09 03 52.3 -0.1**
comp=Z,14nm,0.7s,baz=46,slow=8.2,SNR=38
FINES FINESS Array B 68.19 332 P **P** **09 03 52.6 +0.2**
F07A Phinny Hill Vi 68.21 48 P **P** **09 03 54.5 +1.6**
J04D Umpqua Nationa 68.33 52 P **P** **09 03 55.3 +1.4**
baz=303
E08A Dider Farm, El 68.39 47 P **P** **09 03 54.9 +0.9**
E08A IAmb IAmb 09 04 07.5
comp=Z,27nm,1.5s
NEW Newport 68.52 45 P **P** **09 03 55.7 +0.9**
baz=304
NEW Newport 68.52 45 P **P** **09 03 55.4 +0.6**
NEW pmax pmax
comp=Z,34nm,1.3s
NEW Newport 68.52 45 P **P** **09 03 55.2 +0.4**
comp=Z,7.2nm,0.7s,baz=306,slow=5.0,SNR=15
NEW Newport 68.52 45 P **P** **09 03 55.4 +0.6**
NEW IAmb IAmb 09 04 06.1
comp=Z,34nm,1.2s
VSR Storozhevoye 68.67 319 *e*P **P** **09 03 55.1 -0.5**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=Z,2μm,15.0s
VORD Divnogorie 68.75 319 *e*P **P** **09 03 55.8 -0.3**
VORD pmax pmax
comp=Z,40nm,1.6s
PINE Pine Mountain 68.75 51 P **P** **09 03 57.7 +1.2**
L04D Klamath Falls 68.76 53 P **P** **09 03 58.3 +1.7**
baz=303
YBH Yreka Blue Hor 68.77 53 P **P** **09 03 58.1 +1.6**
YBH pmax pmax
comp=Z,36nm,1.5s
YBH Yreka Blue Hor 68.77 53 P **P** **09 03 57.5 +1.0**
comp=Z,5.4nm,0.8s,baz=330,slow=3.3,SNR=12
YBH Yreka Blue Hor 68.77 53 P **P** **09 03 58.1 +1.6**
YBH IAmb IAmb 09 03 59.4
comp=Z,36nm,1.4s
J05D Fort Rock, OR 68.84 51 P **P** **09 03 58.7 +1.7**
baz=303
ARMA Armidale 68.85 172 P **P** **09 03 57.5 +0.6**
ARMA IAmb IAmb 09 04 00.1
comp=Z,30nm,1.2s
M02C Callahan 68.86 54 P **P** **09 03 58.6 +1.5**
baz=303
AKT Akhty 69.16 307 *e*P **P** **09 03 59.0 0.0**
AKT *e* 09 04 22.7
AKT pmax pmax
comp=Z,31nm,1.3s
N02D Trinity Center 69.18 54 P **P** **09 04 01.0 +1.9**
baz=303
M04C Macdoel 69.29 53 P **P** **09 04 01.3 +1.5**
baz=303
GROC Groznyy 69.41 309 *e*P **P** **09 03 57.9 -2.5**
GROC *e* 09 06 31.6
GROC pmax pmax
comp=Z,55nm,1.1s
SUMG Summit 69.43 0 *i* P **P** **09 04 01.4 +0.9**
SUMG pmax pmax
comp=Z,22nm,0.7s
SUMG Summit 69.43 0 *i* P **P** **09 04 01.4 +0.9**
comp=Z,22nm,0.7s
SUMG Summit 69.43 0 P **P** **09 04 01.1 +0.6**
SUMG IAmb IAmb 09 04 10.5
comp=Z,14nm,0.7s
O02D Mt. Diablo Mer 69.56 55 P **P** **09 04 03.2 +1.7**
baz=303
F10A Beach Ranch, E 69.74 47 P **P** **09 04 03.5 +1.0**
HMDM Hanimaadhoo 69.78 263 P **P** **09 04 02.6 -0.4**
STKA Stephens Creek 69.81 181 P **P** **09 04 02.5 -0.3**
comp=Z,15nm,0.8s,baz=345,slow=6.4,SNR=18
STKA LR LR 09 44 18.3
comp=Z,50nm,18.2s,baz=12,slow=44
STKA Stephens Creek 69.81 181 P **P** **09 04 01.1 -1.7**
WALA Waterton Lakes 69.82 43 P **P** **09 04 03.9 +0.9**
WALA IAmb IAmb 09 04 13.6
comp=Z,44nm,1.4s
VSU Vasula 69.90 330 *c i*P **P** **09 04 03.2 +0.2**
VSU pmax pmax
comp=Z,52nm,1.0s
VSU Vasula 69.90 330 *e*P **P** **09 04 03.6 +0.5**
VSU IAmb IAmb 09 04 04.5
comp=Z,72nm,0.9s
GOF Gofitskoye 70.03 312⇑ *i*P **P** **09 04 04.8 +0.7**
GOF pmax pmax
comp=Z,48nm,0.9s
FORT Forrest 70.06 193 P **P** **09 04 03.3 -0.9**
O03E Paynes Creek 70.13 54 P **P** **09 04 05.4 +0.4**
baz=304
MOD Modoc Plateau 70.18 52 P **P** **09 04 06.7 +1.3**
BMO Blue Mountains 70.33 48 P **P** **09 04 07.3 +1.2**
BMO pmax pmax
comp=Z,30nm,1.5s
BMO Blue Mountains 70.33 48 P **P** **09 04 07.3 +1.2**
BMO IAmb IAmb 09 04 16.9
comp=Z,30nm,1.4s
JTMT Jette 70.38 44 P **P** **09 04 07.6 +1.1**
JTMT IAmb IAmb 09 04 17.3
comp=Z,29nm,1.2s
NCK Nalchik 70.58 310‖ *e*P **P** **09 04 08.3 +0.7**
NCK pmax pmax
comp=Z,15nm,1.1s
ORV Oroville 70.73 55 P **P** **09 04 08.9 +0.4**
ORV pmax pmax
comp=Z,22nm,1.4s
ORV Oroville 70.73 55 P **P** **09 04 08.9 +0.4**
ZEI Tsey 70.80 310 *e*P **P** **09 04 07.5 -1.6**
ZEI pmax pmax
comp=Z,20nm,1.3s
KIV Kislovodsk 70.86 311 *i* P **P** **09 04 10.1 +0.7**
SNR=10
KIV Kislovodsk 70.86 311 P **P** **09 04 10.1 +0.7**
SNR=19
KIV P **P** **09 04 10.1 +0.7**
SNR=19
KIV Kislovodsk 70.86 311 *e*P **P** **09 04 10.0 +0.7**
KIV *e*S **S** **09 13 23.0 +0.2**
KIV *e*SS **SS** **09 17 56.9 +2.1**
KIV pmax pmax

comp=Z,159nm,1.0s
KIV pmax pmax
comp=Z,54nm,3.0s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 70.86 311 ⇓P **P 09 04 10.5 +1.1**
KIV mb 09 04 11.7
KIV Kislovodsk 70.86 311 P **P 09 04 10.2 +0.7**
KBZ Khabaz 70.87 311 *c iP* **P 09 04 09.9 +0.7**
KBZ Khabaz 70.87 311 P **P 09 04 10.0 +0.7**
comp=Z,15nm,0.9s,baz=88,slow=3.4,SNR=28
KBZ LR LR 09 40 09.5
comp=Z,928nm,18.4s,baz=38,slow=40
PLID Pearl Lake 70.95 47 P **P 09 04 11.0 +0.9**
SCO Scoresbysund 70.97 355 *i* P **P 09 04 10.5 +1.1**
SCO pmax pmax
comp=Z,17nm,1.3s
SCO Scoresbysund 70.97 355 *i* P **P 09 04 10.5 +1.1**
comp=Z,17nm,1.3s
BBOO Buckleboo 71.00 186 P **P 09 04 10.6 +0.6**
MSO Missoula 71.11 45 P **P 09 04 11.0 +0.2**
baz=306
MSO Missoula 71.11 45 P **P 09 04 11.4 +0.6**
BEKR Beckworth 71.29 54 P **P 09 04 12.5 +0.3**
BEKR IAmb IAmb 09 04 14.1
comp=Z,16nm,0.9s
AFDM Forest Hills D 71.41 55 P **P 09 04 13.9 +1.1**
MORW Morawa 71.49 204 P **P 09 04 13.4 +0.4**
JLN Jalan Bani Buh 71.55 284 P **P 09 04 14.3 +0.6**
SNR=6.7
JLN P **P 09 04 14.3 +0.6**
SNR=6.7
WBK Wadi Bani Khal 71.63 285 P **P 09 04 15.3 +1.0**
SNR=13
WBK P **P 09 04 15.3 +1.0**
SNR=13
BIDO Bidbid 71.76 286 P **P 09 04 15.7 +0.8**
SNR=6.4
BIDO P **P 09 04 15.7 +0.8**
SNR=6.4
BANOM Banah 71.78 289 *i* P **P 09 04 14.8 -0.3**
SNR=7.4
GNI Garni 71.78 307 P **P 09 04 16.4 +1.3**
GNI Garni 71.78 307 P **P 09 04 16.4 +1.3**
SNR=7.4
GNI P **P 09 04 16.4 +1.3**
SNR=7.4
GNI Garni 71.78 307 *c iP* **P 09 04 16.2 +1.1**
GNI pmax pmax
comp=Z,104nm,1.7s
GNI Garni 71.78 307 P **P 09 04 15.9 +0.8**
GNI IAmb IAmb 09 04 24.9
comp=Z,36nm,1.1s
SHME Shamm 71.83 289 *i* P **P 09 04 15.5 +0.1**
SNR=7.0
AKH Akhalkalaki 71.83 309 P **P 09 04 16.7 +1.3**
AKH pmax pmax
comp=Z,12nm,0.9s
AKH Akhalkalaki 71.83 309 ⇑P **P 09 04 16.6 +1.2**
AKH Akhalkalaki 71.83 309 P **P 09 04 16.7 +1.3**
MFID Camas Ranch 72.03 49 P **P 09 04 16.1 -0.3**
MICGM Minsk 72.03 326 *eP* **P 09 04 17.0 +0.9**
MICGM *e*LR LR 09 38 06.0
MICGM LRM MLR 09 38 32.0
comp=Z,2.8nm,16.0s
MNK Minsk 72.03 326 *eP* **P 09 04 17.0 +0.9**
MNK MLR MLR
comp=Z,3µm,16.0s
VCNR Virginia City 72.06 54 P **P 09 04 18.0 +1.2**
ISAL Salakas 72.07 328 *eP* **P 09 04 16.5 +0.2**
ISAL IAmb IAmb 09 04 18.3
comp=Z,14nm,0.9s
SMDO Samad 72.08 285 P **P 09 04 17.5 +0.4**
SNR=8.4
SMDO P **P 09 04 17.5 +0.4**
SNR=8.4
FFC Flin Flon 72.10 33 *i* P **P 09 04 17.8 +1.3**
FFC Flin Flon 72.10 33 P **P 09 04 17.1 +0.6**
FFC IAmb IAmb 09 04 26.7
comp=Z,26nm,1.1s
MDH Madha 72.13 288 P **P 09 04 16.1 -1.1**
IIGN Ignalina 72.18 328 *eP* **P 09 04 16.7 -0.3**
IIGN IAmb IAmb 09 04 19.2
comp=Z,19nm,1.2s
SLIT Slitere, Latvi 72.20 331 *eP* **P 09 04 17.0 0.0**
SLIT IAmb IAmb 09 04 18.0
comp=Z,106nm,0.8s
MSFE Esma-Masafi 72.20 288 P **P 09 04 17.6 -0.1**
PNTR Pine Nut 72.21 54 P **P 09 04 18.0 +0.2**
CMB Columbia Colle 72.31 55 P **P 09 04 19.1 +1.0**
CMB pmax pmax
comp=Z,12nm,0.9s
CMB Columbia Colle 72.31 55 P **P 09 04 19.1 +1.0**
HOQ Hoqain 72.34 286 P **P 09 04 18.8 +0.3**
SNR=11
HOQ P **P 09 04 18.8 +0.3**
SNR=11
HRY Holter Researc 72.34 44 P **P 09 04 19.6 +1.3**
UOSS Minazif 72.40 288 *i* P **P 09 04 18.9 +0.1**
SNR=8.8
UOSS Minazif 72.40 288 P **P 09 04 18.3 -0.5**
UOSS IAmb IAmb 09 04 20.2
comp=Z,64nm,1.4s
JMDO Jabal Madar 72.42 285 P **P 09 04 19.3 +0.2**
SNR=11
JMDO P **P 09 04 19.3 +0.2**
SNR=11
YERR Yerington 72.50 54 P **P 09 04 20.5 +1.0**
YERR IAmb IAmb 09 04 30.2
comp=Z,46nm,1.4s
HATD Hatta, Dubai 72.52 288 *i* P **P 09 04 19.9 +0.4**
SNR=8.6
HATD Hatta, Dubai 72.52 288 P **P 09 04 20.0 +0.4**
SNR=7.2
HATD P **P 09 04 20.0 +0.4**
SNR=7.2
WAKR Walker 72.65 55 P **P 09 04 22.0 +1.7**
WAKR IAmb IAmb 09 04 30.6
comp=Z,31nm,1.4s
EGMT Eagleton 72.66 42 P **P 09 04 20.9 +0.8**
baz=308,SNR=6.2
EGMT Eagleton 72.66 42 P **P 09 04 20.9 +0.8**
EGMT IAmb IAmb 09 04 30.6
comp=Z,48nm,1.4s
ASHO Ashiyiah 72.66 288 *i* P **P 09 04 20.3 -0.1**
SNR=9.5
ASHO Ashiyiah 72.66 288 P **P 09 04 20.7 +0.3**
SNR=8.8
DLMT Dillon 72.73 46 P **P 09 04 21.9 +1.3**
DLMT IAmb IAmb 09 04 31.4
comp=Z,43nm,1.4s
NAZ Nazwa, Dubai 72.78 288 P **P 09 04 20.9 -0.2**
SOC Sochi 72.83 312 *eP* **P 09 04 21.7 +0.7**
SOC *e*PPP PPP 09 08 51.5
SOC *e*S **SKiKP 09 13 48.3 -4.1**
SOC *e*SS **SS 09 18 23.0 -1.6**
SOC pmax pmax
comp=Z,16nm,0.5s
SOC MLR MLR
comp=Z,770nm,17.0s
BSY Bisya 72.90 286 P **P 09 04 22.3 +0.4**
SNR=8.7
BSY P **P 09 04 22.3 +0.4**
SNR=8.7
BMN Battle Mountai 72.93 52 P **P 09 04 23.4 +1.5**
BMN pmax pmax
comp=Z,32nm,1.5s
BMN Battle Mountai 72.93 52 P **P 09 04 23.4 +1.5**
BMN IAmb IAmb 09 04 33.0
comp=Z,32nm,1.4s
PABE Paberze 73.02 329 *eP* **P 09 04 22.3 +0.4**
PABE IAmb IAmb 09 04 22.9
comp=Z,32nm,0.8s
ARQ Araqi 73.08 287 P **P 09 04 23.5 +0.6**
SNR=8.9
ARQ P **P 09 04 23.5 +0.6**
SNR=8.9
BOZ Bozeman (W) 73.13 45 P **P 09 04 23.9 +0.9**
baz=308,SNR=11
BOZ Bozeman (W) 73.13 45 P **P 09 04 23.8 +0.8**
BOZ pmax pmax
comp=Z,31nm,1.4s
BOZ Bozeman (W) 73.13 45 P **P 09 04 23.9 +0.8**
BOZ IAmb IAmb 09 04 33.8
comp=Z,31nm,1.4s
RYN Ryan 73.16 54 P **P 09 04 24.3 +0.9**

KVN Kaiserville 73.19 53 P **P 09 04 24.7 +1.2**
KVN pmax pmax
comp=Z,40nm,1.4s
KVN Kaiserville 73.19 53 P **P 09 04 24.7 +1.2**
KVN IAmb IAmb 09 04 34.4
comp=Z,40nm,1.4s
NC405 NORSAR Array S 73.22 337 P **P 09 04 23.6 +0.5**
NC405 IAmb IAmb 09 04 32.6
comp=Z,28nm,1.1s
ASUD Al Ashush, Dub 73.24 288 P **P 09 04 23.9 +0.1**
ALNE Al Ain 73.25 288 *i* P **P 09 04 24.0 +0.1**
SNR=5.6
MHTO MHTO 73.32 284 P **P 09 04 24.6 +0.3**
SNR=18
MHTO P **P 09 04 24.6 +0.3**
SNR=18
NC204 NORSAR Array S 73.38 338 P **P 09 04 23.3 -0.8**
MDPB Devils Postpil 73.39 55 P **P 09 04 26.3 +1.5**
NB201 NORSAR Array S 73.40 338 P **P 09 04 24.1 -0.1**
NB201 IAmb IAmb 09 04 34.4
comp=Z,53nm,1.4s
ANN Anapa 73.40 314 *eP* **P 09 04 24.0 -0.4**
ANN pmax pmax
comp=Z,51nm,1.3s
ANN MLR MLR
comp=N,622nm,16.0s
ANN MLR MLR
comp=Z,888nm,16.0s
ANN MLR MLR
comp=E,558nm,16.0s
NVAR Mina Array Bea 73.42 54 P **P 09 04 26.2 +1.3**
comp=E,8.6nm,0.8s,baz=286,slow=6.3,SNR=34
NVAR LR LR 09 30 48.1
comp=E,272nm,21.6s,baz=271,slow=31
NVAR Mina Array Bea 73.42 54 P **P 09 04 26.0 +1.0**
NB2 NORSAR Subarra 73.43 338 P **P 09 04 24.4 +0.1**
comp=Z,3.5nm,0.6s,baz=37,slow=6.2
NOA NORSAR Array B 73.43 338 P **P 09 04 24.4 +0.1**
comp=Z,10nm,0.9s,baz=40,slow=4.9,SNR=20
NOA LR LR 09 39 53.0
comp=Z,622nm,19.0s,baz=25,slow=38
NV11 Mina Array Sit 73.51 54 P **P 09 04 26.4 +1.0**
MLAC Mammoth, Mammo 73.55 55 P P 09 04 28.2 +2.5
baz=306
NBO00 NORSAR Array S 73.57 338 P **P 09 04 25.5 +0.4**
KOPR Koprukoy-ERZUR 73.67 308 *eP* P 09 04 35.6 +9.2
QLMT Earthquake Lak 73.71 45 P **P 09 04 27.3 +0.8**
PAGB Antelope Grade 73.73 57 P **P 09 04 27.9 +1.4**
PAGB IAmb IAmb 09 04 28.9
comp=Z,28nm,0.9s
YHL Hebgen Lake 73.84 45 P **P 09 04 28.6 +1.2**
YHB Horse Butte 73.89 45 P **P 09 04 28.8 +1.2**
AKASG Malin Array Be 73.93 323 P **P 09 04 27.5 +0.1**
comp=Z,8.5nm,0.5s,baz=44,slow=6.6,SNR=13
AKASG LR LR 09 39 43.0
comp=Z,533nm,18.5s,baz=30,slow=38
AKASG Malin Array Be 73.93 323 P **P 09 04 27.4 +0.1**
AKBB Malin Array Si 73.93 323 P **P 09 04 27.5 +0.1**
AKBB pmax pmax
comp=Z,33nm,1.2s
AKBB Malin Array Si 73.93 323 P **P 09 04 27.5 +0.1**
AKBB IAmb IAmb 09 04 28.5
comp=Z,33nm,1.1s
ELK Elko 73.96 51 P **P 09 04 29.4 +1.3**
ELK pmax pmax
comp=Z,16nm,1.4s
ELK Elko 73.96 51 P **P 09 04 29.4 +1.3**
YHH Holmes Hill 74.06 45 P **P 09 04 30.2 +1.5**
YMR Madison River 74.07 45 P **P 09 04 30.0 +1.3**
YNR Norris Junctio 74.20 45 P P 09 04 31.6 +2.1
SUW Suwalki 74.39 328 *eP* **P 09 04 30.7 +0.7**
SUW Suwalki 74.39 328 *eP* **P 09 04 30.7 +0.7**
SUW *eP* **P 09 04 30.7 +0.7**
VES Vestal, Richgr 74.43 57 P **P 09 04 30.8 +0.2**
baz=306,SNR=6.7
H17A Grant Village 74.46 45 P **P 09 04 33.0 +2.0**
baz=309,SNR=5.5
PKM Mcpherson Peak 74.51 58 P **P 09 04 32.9 +1.6**
baz=306
IMW Indian Meadow 74.57 46 P **P 09 04 32.9 +1.2**
IMW IAmb IAmb 09 04 43.2
comp=Z,41nm,1.4s
FLWY Flagg Ranch 74.59 46 P **P 09 04 32.8 +1.2**
FLWY IAmb IAmb 09 04 43.6
comp=Z,42nm,1.4s
FXWY Fox Creek 74.68 46 P **P 09 04 33.5 +1.3**
FXWY IAmb IAmb 09 04 43.5
comp=Z,28nm,1.4s
NWAO Narrogin (SRO) 74.71 202 P **P 09 04 32.0 0.0**
NWAO pmax pmax
comp=Z,90nm,1.3s
NWAO Narrogin (SRO) 74.71 202 P **P 09 04 32.0 0.0**
RLMT Red Lodge 74.73 44 P **P 09 04 33.8 +1.3**
baz=309
RLMT Red Lodge 74.73 44 P **P 09 04 33.5 +1.0**
RLMT IAmb IAmb 09 04 43.6
comp=Z,27nm,1.3s
CWC Cottonwood Cre 74.73 56 P **P 09 04 33.2 +0.7**
baz=306
MOOW Moose Ponds 74.77 46 P **P 09 04 34.2 +1.5**
MOOW IAmb IAmb 09 04 44.2
comp=Z,39nm,1.5s
TPAW Teton Pass 74.81 46 P **P 09 04 35.1 +2.0**
TPAW IAmb IAmb 09 04 44.4
comp=Z,43nm,1.4s
GRAC Grapevine Rang 74.86 55 P **P 09 04 34.5 +1.3**
baz=307,SNR=9.4
ISA Isabella, Lake 74.94 56 P **P 09 04 33.7 +0.1**
baz=306,SNR=5.3
ISA Isabella, Lake 74.94 56 P **P 09 04 33.5 -0.1**
ISA pmax pmax
comp=Z,21nm,1.5s
ISA Isabella, Lake 74.94 56 P **P 09 04 33.5 -0.1**
SNOW Snow King Moun 74.94 46 P **P 09 04 35.0 +1.2**
REDW Red Top Meadow 74.95 46 P **P 09 04 34.5 +0.7**
REDW IAmb IAmb 09 04 44.9
comp=Z,41nm,1.5s
BNGB Bingl 75.00 308 *eP* **P 09 04 35.3 +1.3**
ARVC Arvin 75.02 57 P **P 09 04 34.7 +0.7**
baz=306
DAC Darwin (Calif) 75.15 55 P **P 09 04 36.1 +1.1**
DAC pmax pmax
comp=Z,10.0nm,1.0s
DAC Darwin (Calif) 75.15 55 P **P 09 04 36.1 +1.1**
SIM Simferopol' 75.15 316 *ceP* **P 09 04 33.4 -1.2**
SIM pmax pmax
comp=Z,16nm,0.8s
SIM MLR MLR
comp=Z,440nm,14.0s
AHID Auburn Hatcher 75.18 47 P **P 09 04 35.4 +0.3**
BGU Big Grassy Mou 75.18 49 P **P 09 04 36.5 +1.4**
R11A Troy Canyon, C 75.19 53 P **P 09 04 36.3 +1.1**
baz=307,SNR=18
R11A Troy Canyon, C 75.19 53 P **P 09 04 36.1 +0.9**
R11A IAmb IAmb 09 04 46.0
comp=Z,27nm,1.4s
DGMT Dagmar 75.22 39 P **P 09 04 36.3 +1.3**
baz=312
DGMT Dagmar 75.22 39 P **P 09 04 35.6 +0.6**
DGMT IAmb IAmb 09 04 45.2
comp=Z,45nm,1.1s
MPMC Manual Prospec 75.34 56 P **P 09 04 36.9 +0.8**
baz=307,SNR=13
LAO LASA Array 75.36 42 P **P 09 04 37.2 +1.3**
baz=311,SNR=7.3
LAO LASA Array 75.36 42 P **P 09 04 37.4 +1.5**
LAO IAmb IAmb 09 04 46.8
comp=Z,53nm,1.2s
FURC Furnace Creek, 75.50 55 P **P 09 04 38.0 +1.2**
baz=307,SNR=12
MZR Muzera 75.55 288 P **P 09 04 37.4 +0.1**
LRMC Laurel Mtn Rad 75.56 56 P **P 09 04 38.2 +0.8**
baz=307
TPNV Topopah Spring 75.61 54 P **P 09 04 38.6 +1.0**
baz=307,SNR=7.7
EDW2 Edwards Air Fo 75.72 57 P **P 09 04 39.2 +1.0**
baz=307,SNR=7.9
DUG Dugway, Tooele 75.76 50 P **P 09 04 39.7 +1.3**
baz=308,SNR=15
DUG Dugway, Tooele 75.76 50 P **P 09 04 39.2 +0.8**
DUG pmax pmax
comp=Z,14nm,0.8s
DUG Dugway, Tooele 75.76 50 P **P 09 04 39.2 +0.8**
TCUT Toone Canyon 76.03 48 P **P 09 04 41.6 +1.6**
BW06 Boulder Array 76.06 46 P **P 09 04 40.7 +0.5**

baz=310,SNR=8.2
BW06 Boulder Array 76.06 46 P **P 09 04 40.7 +0.5**
PD31 Pinedale Array 76.06 46 P **P 09 04 40.8 +0.6**
PDAR Pinedale Array 76.06 46 P **P 09 04 40.6 +0.5**
comp=Z,6.4nm,0.7s,baz=272,slow=1.0,SNR=63
PDAR LR LR 09 34 08.2
comp=Z,182nm,21.8s,baz=336,slow=32
CTU Camp Tracy 76.09 49 P **P 09 04 40.9 +0.6**
PSUT Pine Spring 76.15 52 P **P 09 04 41.4 +0.7**
GSC Goldstone, Bar 76.24 56 P **P 09 04 42.0 +0.8**
baz=307,SNR=6.9
GSC Goldstone, Bar 76.24 56 P **P 09 04 41.9 +0.8**
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone, Bar 76.24 56 P **P 09 04 41.9 +0.8**
BFSC Mount Baldy Ra 76.32 57 P **P 09 04 42.8 +1.1**
baz=307
JLU Jordanelle 76.33 49 P **P 09 04 42.8 +1.1**
NLU North Lily Min 76.36 50 P **P 09 04 43.0 +1.1**
KVT Kavak 76.51 312 *eP* **P 09 04 43.8 +1.3**
SHPR Sheep Range 76.57 54 P **P 09 04 44.4 +1.3**
MPU Maple Canyon 76.58 49 P **P 09 04 44.1 +1.0**
KIS Kishinev 76.61 320 *eP* **P 09 04 43.0 +0.1**
KIS LRM MLR 09 41 00.0
comp=Z,1µm,16.0s
DIKM Dikmen 76.61 313 ⇑P **P 09 04 44.3 +1.3**
DIKM mb 09 05 00.8
TUQ Turquoise Moun 76.73 55 P **P 09 04 45.0 +1.0**
baz=308
BBRC Big Bear Solar 76.80 57 P **P 09 04 45.2 +0.8**
baz=308
HEC Hector,Ludlow 76.83 56 P **P 09 04 45.4 +0.9**
baz=308,SNR=9.0
LVV L'vov 76.97 324 *eP* **P 09 04 45.5 +0.6**
MURC Murrieta 77.01 57 P **P 09 04 46.0 +0.5**
baz=308
CCUT Cedar City 77.06 52 P **P 09 04 47.3 +1.4**
MSU Marysvale 77.19 51 P **P 09 04 48.4 +1.7**
MSU Marysvale 77.19 51 P **P 09 04 48.4 +1.7**
TMUT Trail Mountain 77.29 50 P **P 09 04 48.4 +1.1**
GMRC Granite Mounta 77.30 56 P **P 09 04 48.1 +0.9**
baz=308
RDMU Red Mountain 77.45 48 P **P 09 04 49.3 +1.2**
P17A Butcher Ranch, 77.46 49 P **P 09 04 49.4 +1.4**
LCMT Little Creek M 77.47 53 P **P 09 04 49.5 +1.4**
PFO Pinyon Flats O 77.49 57 P **P 09 04 48.8 +0.5**
PFO pmax pmax
comp=Z,12nm,1.2s
PFO Pinyon Flats O 77.49 57 P **P 09 04 48.8 +0.5**
TPFO Pinon Flats 77.50 57 P **P 09 04 48.6 +0.3**
baz=308,SNR=5.3
109C Camp Elliot, M 77.50 58 P **P 09 04 49.0 +0.8**
baz=308
Q16A Castle Valley 77.55 50 P **P 09 04 50.0 +1.4**
KWP Kalwaria Pacla 77.71 325 *eP* **P 09 04 50.1 +1.1**
KWP Kalwaria Pacla 77.71 325 *eP* **P 09 04 50.1 +1.1**
KWP *eP* **P 09 04 50.1 +1.1**
KWP Kalwaria Pacla 77.71 325 P **P 09 04 50.2 +1.2**
KNB Kanab 77.73 52 P **P 09 04 50.7 +1.1**
KNB pmax pmax
comp=Z,48nm,1.5s
KNB Kanab 77.73 52 P **P 09 04 50.7 +1.1**
SRU San Rafael Swe 77.82 50 P **P 09 04 50.7 +0.6**
SRU pmax pmax
comp=Z,19nm,0.7s
SRU San Rafael Swe 77.82 50 P **P 09 04 50.6 +0.6**
K22A Casper 77.84 45 P **P 09 04 50.9 +0.8**
baz=311,SNR=5.9
K22A Casper 77.84 45 P **P 09 04 50.9 +0.8**
K22A IAmb IAmb 09 05 00.4
comp=Z,42nm,1.2s
ILGA Ilgaz 77.88 313 P **P 09 04 51.8 +1.4**
ILGA IAmb IAmb 09 04 52.5
comp=Z,21nm,0.9s
ULM Lac du Bonnet 77.89 34 P **P 09 04 50.5 +0.5**
comp=Z,3.3nm,0.6s,baz=315,slow=7.1,SNR=4.2
ULM LR LR 09 38 47.8
comp=Z,114nm,21.8s,baz=338,slow=35
ULM Lac du Bonnet 77.89 34 P **P 09 04 50.5 +0.5**
ULM IAmb IAmb 09 05 00.7
comp=Z,21nm,1.2s
BUR08 Bucovina Ar. S 77.95 322 P **P 09 04 51.3 +0.7**
MONP2 Monument Peak 77.96 58 P **P 09 04 51.1 +0.2**
baz=308
BURAR Bucovina Array 77.96 322 ⇑P **P 09 04 51.2 +0.6**
BURAR mb 09 05 02.1
BURAR Bucovina Array 77.96 322 P **P 09 04 51.2 +0.6**
BIZ Bicaz 78.00 321 ⇓P **P 09 04 52.1 +1.4**
IRM Iron Mountain 78.02 56 P **P 09 04 52.0 +0.9**
baz=308,SNR=9.5
TESR Tescani 78.03 321 ⇓P **P 09 04 51.7 +0.9**
BC3 Big Chuckawall 78.13 57 P **P 09 04 52.4 +0.6**
baz=308,SNR=8.1
CFR Carcaliu 78.19 319 ⇑P **P 09 04 51.7 -0.1**
RSSD Black Hills 78.21 43 P **P 09 04 52.5 +0.3**
baz=312
RSSD Black Hills 78.21 43 P **P 09 04 52.8 +0.6**
RSSD pmax pmax
comp=Z,33nm,1.4s
RSSD Black Hills 78.21 43 P **P 09 04 52.8 +0.6**
RSSD IAmb IAmb 09 05 02.3
comp=Z,33nm,1.4s
KMRS Kahramanmaras 78.25 309 *eP* **P 09 04 52.9 +0.6**
W13A Hualapai Mount 78.25 55 P **P 09 04 53.7 +1.1**
TOPG Topolog 78.27 319 ⇑P **P 09 04 53.2 +1.0**
IKP In-Ko-Pah, Jac 78.31 58 P **P 09 04 53.6 +0.8**
baz=308
SWSC Sam W. Stewart 78.34 57 P **P 09 04 53.4 +0.6**
baz=308
KOLS Kolonicke sedl 78.41 325 *eP* **P 09 04 53.9 +1.0**
KOLS pmax pmax
comp=Z,14nm,1.4s
KOLS Kolonicke sedl 78.41 325 *eP* **P 09 04 53.9 +1.0**
U15A North Rim 78.43 53 P **P 09 04 55.1 +1.4**
U15A IAmb IAmb 09 05 04.8
comp=Z,38nm,1.5s
VRI Vrincioaia 78.44 320 ⇑P **P 09 04 54.0 +0.9**
PLOR Plostina 78.48 320 ⇓P **P 09 04 53.4 0.0**
O20A White River Ci 78.51 48 P **P 09 04 54.6 +0.7**
baz=311,SNR=6.2
O20A White River Ci 78.51 48 P **P 09 04 54.9 +1.0**
O20A IAmb IAmb 09 05 04.2
comp=Z,22nm,1.2s
TIRR Tirgusor 78.53 318 P **P 09 04 54.3 +0.6**
TIRR pmax pmax
comp=Z,92nm,1.5s
TIRR Tirgusor 78.53 318 ⇑P **P 09 04 53.9 +0.3**
TIRR Tirgusor 78.53 318 P **P 09 04 54.2 +0.6**
OJC Ojcow 78.57 327 P **P 09 04 54.7 +0.9**
OJC pmax pmax
comp=Z,45nm,1.2s
OJC Ojcow 78.57 327 *eP* **P 09 04 54.6 +0.9**
OJC *eP* **P 09 04 54.6 +0.9**
OJC Ojcow 78.57 327 P **P 09 04 54.7 +0.9**
OJC IAmb IAmb 09 04 55.9
comp=Z,45nm,1.2s
PDMCI Parker Dam,Lak 78.58 55 P **P 09 04 55.2 +1.1**
baz=309,SNR=7.2
UZH Uzhgorod 78.62 324 *eP* **P 09 04 53.9 -0.1**
UZH *e* 09 05 02.4
UZH *e*S **S 09 14 45.0 -3.9**
BISRR Bisoca 78.66 320 ⇑P **P 09 04 54.4 -0.1**
Y12C Blythe 78.68 56 P **P 09 04 55.5 +0.9**
baz=309,SNR=9.5
Y12C Blythe 78.68 56 P **P 09 04 55.8 +1.1**
OZUR 78.75 321 ⇑P **P 09 04 56.3 +1.4**
ARCR ARCALIA 78.75 322 ⇑P **P 09 04 56.2 +1.4**
BR131 Keskin Array S 78.79 312 P **P 09 04 55.6 +0.2**
SNR=7.1
BR131 P **P 09 04 55.6 +0.2**
SNR=7.1
BR131 Keskin Array S 78.79 312 P **P 09 04 56.3 +0.9**
BR131 pmax pmax
comp=Z,16nm,1.3s
BR131 Keskin Array S 78.79 312 P **P 09 04 56.3 +0.9**
BRTR Keskin Array B 78.79 312 P **P 09 04 55.6 +0.2**
comp=Z,14nm,1.3s,baz=101,slow=4.4,SNR=21
BRTR LR LR 09 44 17.0
comp=Z,233nm,18.7s,baz=6.5,slow=39
GLA Glamis 78.92 57 P **P 09 04 57.3 +1.3**
baz=309
NIE Niedzica 78.94 326 *eP* **P 09 04 57.1 +1.2**
NIE Niedzica 78.94 326 *eP* **P 09 04 57.1 +1.2**
NIE *eP* **P 09 04 57.1 +1.2**

DOPR	Dopca	79.03	321	⇑P	P	09 04 57.2 +0.7
ISR	Istrita	79.05	320	⇓P	P	09 04 58.1 +1.5
ICOR	Ion Corvin	79.09	318	⇑P	P	09 04 57.1 +0.3
MLR	Muntele Rosu	79.09	320	P	P	09 04 57.4 +0.5
MLR				pmax	pmax	
	comp=Z,34nm,1.4s					
MLR	Muntele Rosu	79.09	320	⇓P	P	09 04 57.7 +0.8
MLR	Muntele Rosu	79.09	320	P	P	09 04 57.4 +0.5
MLR				IAmb	IAmb	09 04 59.7
	comp=Z,34nm,1.4s					
PV21	Cone Mtn., Par	79.10	49	P	P	09 04 58.8 +1.6
PV21				IAmb	IAmb	09 04 59.5
	comp=Z,17nm,0.8s					
PV23	Carpenter Ridg	79.15	49	P	P	09 04 59.0 +1.5
PV23				IAmb	IAmb	09 05 08.4
	comp=Z,60nm,1.3s					
ANTO	Ankara	79.19	313	P	P	09 04 58.4 +0.9
	SNR=5.0					
ANTO				P	P	09 04 58.4 +0.9
	SNR=5.0					
ANTO	Ankara	79.19	313	P	P	09 04 57.9 +0.5
ANTO				pmax	pmax	
	comp=Z,23nm,1.1s					
ANTO	Ankara	79.19	313	P	P	09 04 57.9 +0.5
ANTO				IAmb	IAmb	09 04 59.4
	comp=Z,23nm,1.1s					
PV22	Blue Mesa, Par	79.23	49	P	P	09 04 59.3 +1.4
PV22				IAmb	IAmb	09 05 08.7
	comp=Z,37nm,1.4s					
PV20	West Nyswonger	79.25	49	P	P	09 04 59.5 +1.5
PV20				IAmb	IAmb	09 05 00.2
	comp=Z,23nm,1.0s					
PV04	Paradox Valley	79.25	49	P	P	09 04 59.4 +1.5
PV04				IAmb	IAmb	09 05 08.9
	comp=Z,59nm,1.4s					
PV19	Morning Glory	79.26	49	P	P	09 04 59.6 +1.5
CEYT	Ceyhan	79.28	309	eP	P	09 04 58.5 +0.6
PV17	East Wray Mesa	79.29	49	P	P	09 04 58.7 +0.5
PV16	Nyswonger Mesa	79.30	49	P	P	09 04 59.3 +1.0
PV16				IAmb	IAmb	09 05 08.3
	comp=Z,23nm,1.0s					
AFSR	Afar-Bala (An	79.30	312	eP	P	09 04 59.4 +1.3
AGMN	Agassiz Nation	79.32	35	P	P	09 04 58.0 +0.1
	baz=317					
AGMN	Agassiz Nation	79.32	35	P	P	09 04 58.7 +0.7
N23A	Red Feather La	79.33	46	P	P	09 04 59.8 +1.3
	baz=312,SNR=8.0					
N23A	Red Feather La	79.33	46	P	P	09 05 00.1 +1.6
N23A				IAmb	IAmb	09 05 09.5
	comp=Z,48nm,1.4s					
PV11	David Mesa, Pa	79.33	49	P	P	09 04 60.0 +1.5
PV11				IAmb	IAmb	09 05 10.1
	comp=Z,21nm,0.9s					
PV05	Paradox Valley	79.34	50	P	P	09 05 00.2 +1.6
PV18	Skein Mesa, Pa	79.34	49	P	P	09 05 00.0 +1.5
PV18				IAmb	IAmb	09 05 10.2
	comp=Z,24nm,1.2s					
PV12	Saucer Basin,	79.36	49	P	P	09 05 00.0 +1.4
PV12				IAmb	IAmb	09 05 11.7
	comp=Z,28nm,1.2s					
PV03	Paradox Valley	79.37	49	P	P	09 05 00.1 +1.4
PV03				IAmb	IAmb	09 05 19.3
	comp=Z,28nm,1.4s					
PV07	Paradox Valley	79.37	49	P	P	09 05 00.5 +1.8
CJR	Cluj-Napoca	79.38	322	⇓P	P	09 05 00.1 +1.7
PV13	Radium Mtn., P	79.45	50	P	P	09 05 00.7 +1.5
PV13				IAmb	IAmb	09 05 09.9
	comp=Z,44nm,1.2s					
PV02	Paradox Valley	79.47	49	P	P	09 05 00.7 +1.4
PV02				IAmb	IAmb	09 05 01.7
	comp=Z,27nm,1.3s					
YUVA	Yuva-Kibriscik	79.48	314	eP	P	09 04 59.0 -0.1
LANS	Liptovska Anna	79.51	326	eP	P	09 05 00.9 +1.9
LANS				pmax	pmax	
	comp=Z,10.0nm,1.2s					
LANS	Liptovska Anna	79.51	326	eP	P	09 05 00.9 +1.9
Y14A	Wickenburg	79.55	55	P	P	09 05 00.5 +1.0
KECS	Kecovo	79.55	325	eP	P	09 05 00.3 +1.1
KECS				pmax	pmax	
	comp=Z,5.0nm,1.0s					
KECS	Kecovo	79.55	325	eP	P	09 05 00.3 +1.1
OKC	Ostrava-Krasne	79.56	327	AMS	AMS	09 43 00.0
	comp=Z,900nm,17.2s					
KSP	Ksiaz	79.58	329	eP	P	09 05 00.3 +1.0
KSP	Ksiaz	79.58	329	eP	P	09 05 00.3 +1.0
KSP				eP	P	09 05 00.3 +1.0
VOIR		79.58	321	⇑P	P	09 05 00.1 +0.6
WUAZ	Wupatki	79.58	53	P	P	09 05 01.3 +1.5
	baz=310,SNR=6.2					
WUAZ	Wupatki	79.58	53	P	P	09 05 00.9 +1.0
WUAZ				IAmb	IAmb	09 05 02.2
	comp=Z,21nm,1.1s					
PV01	Paradox Valley	79.62	49	P	P	09 05 01.4 +1.4
PV01				IAmb	IAmb	09 05 10.8
	comp=Z,31nm,1.4s					
DRGR		79.75	323	⇓P	P	09 05 00.5 +0.1
113A	Mohawk Valley,	79.79	56	P	P	09 05 01.3 +0.6
ARR	Arges	79.83	321	⇓P	P	09 05 02.7 +1.8
CHVC	Chvalec	79.87	329	eP	P	09 05 01.5 +0.6
CHVC				ex	x	09 05 04.3
CHVC				AMS	AMS	09 43 10.0
	comp=Z,1μm,20.1s					
MORC	Moravsky Berou	79.87	327	P	P	09 05 01.7 +0.8
MORC				pmax	pmax	
	comp=Z,34nm,1.3s					
MORC	Moravsky Berou	79.87	327	⇑P	P	09 05 02.0 +1.1
MORC				mb		09 05 03.2
MORC	Moravsky Berou	79.87	327	eP	P	09 05 01.8 +0.8
MORC	Moravsky Berou	79.87	327	P	P	09 05 01.7 +0.8
MORC				IAmb	IAmb	09 05 03.1
	comp=Z,34nm,1.3s					
DPC	Dobruska-Polom	79.94	328	eP	P	09 05 02.2 +0.9
DPC				e		09 05 07.3
DPC				MLR	MLR	
	comp=Z,1μm,17.4s					
DPC	Dobruska-Polom	79.94	328	eP	P	09 05 02.2 +0.9
DPC				ex	x	09 05 07.3
DPC				AMS	AMS	09 43 00.0
	comp=Z,1μm,17.4s					
UPC	Upice	79.95	329	eP	P	09 05 01.8 +0.5
UPC				MLR	MLR	
	comp=Z,1μm,19.6s					
UPC	Upice	79.95	329	eP	P	09 05 01.8 +0.5
UPC				AMS	AMS	09 43 00.0
	comp=Z,1μm,19.6s					
SVRH	Sivrihisar-ESK	80.20	313	eP	P	09 05 01.0 -2.0
PSZ	Piszkesteto	80.23	325	P	P	09 05 04.0 +1.0
PSZ				pmax	pmax	
	comp=Z,33nm,1.2s					
PSZ	Piszkesteto	80.23	325	⇑P	P	09 05 03.3 +0.4
PSZ				mb		09 05 06.2
PSZ	Piszkesteto	80.23	325	P	P	09 05 04.0 +1.0
PSZ				IAmb	IAmb	09 05 05.3
	comp=Z,32nm,1.2s					
X16A	Lo Mia Camp, P	80.24	54	P	P	09 05 04.8 +1.4
ISCO	Idaho Springs	80.25	47	P	P	09 05 04.7 +1.2
	baz=312,SNR=6.8					
ISCO	Idaho Springs	80.25	47	P	P	09 05 05.0 +1.5
ISCO				pmax	pmax	
	comp=Z,12nm,1.2s					
ISCO	Idaho Springs	80.25	47	P	P	09 05 05.0 +1.5
MVCO	Mesa Verde	80.26	50	P	P	09 05 04.7 +1.0
	baz=311,SNR=7.3					
MVCO	Mesa Verde	80.26	50	P	P	09 05 04.6 +1.0
MVCO				IAmb	IAmb	09 05 14.3
	comp=Z,38nm,1.5s					
VYHS	Vyhne	80.28	326	eP	P	09 05 04.3 +1.2
VYHS				pmax	pmax	
	comp=Z,25nm,1.4s					
VYHS	Vyhne	80.28	326	eP	P	09 05 04.3 +1.2
BRG	Berggiesshubel	80.50	330	eP	P	09 05 04.7 +0.5
	comp=Z,12nm,1.2s					
	comp=N,850nm,20.9s					
	comp=E,1μm,23.2s					
	comp=Z,1μm,18.1s					
BRG	Berggiesshubel	80.50	330	eP	P	09 05 04.7 +0.5
BRG				pmax	pmax	
	comp=Z,12nm,1.2s					
BRG				MLR	MLR	
	comp=N,850nm,20.9s					
JAVC	Velka Javorina	80.51	327	eP	P	09 05 06.0 +1.6
PVCC	Panska Ves	80.52	329	AMS	AMS	09 43 30.0
	comp=N,1μm,16.8s					
CLL	Collm	80.52	331	⇑iP	P	09 05 04.4 +0.1
CLL				i		09 05 14.4
CLL				eS	S	09 15 12.0 +3.0
CLL				pmax	pmax	
	comp=Z,30nm,1.2s					
CLL	Collm	80.52	331	⇑iP	P	09 05 04.4 +0.1
	comp=Z,30nm,1.2s					
CLL				i pP	sP	09 05 14.4 -1.5
CLL				esPcP		09 05 27.0
CLL				eS	S	09 15 12.0 +3.0
CLL				e(SS)		09 19 54.0
CLL	Collm	80.52	331	P	P	09 05 04.2 -0.1
CLL				IAmb	IAmb	09 05 05.8
	comp=Z,22nm,1.1s					
BORA	Eskisehir	80.52	314	eP	P	09 05 02.4 -2.3
LADK	Ladik-KONYA	80.54	312	eP	P	09 05 05.4 +0.5
KIZK	Mersin	80.60	309	eP	P	09 05 04.7 -0.4
VRAC	Vranov	80.63	328	⇑P	P	09 05 06.0 +1.0
VRAC				mb		09 05 07.5
VRAC	Vranov	80.63	328	eP	P	09 05 06.0 +1.0
GZR	Gura Zlata	80.73	322	⇑P	P	09 05 05.9 +0.2
SMOL	Smolenice	80.88	327	eP	P	09 05 08.1 +1.8
SMOL				pmax	pmax	
	comp=Z,16nm,1.1s					
SMOL	Smolenice	80.88	327	eP	P	09 05 08.1 +1.8
KEBE	Keben-Mersin	80.89	309	eP	P	09 05 06.7 0.0
KRUC	Moravsky	80.90	328	eP	P	09 05 07.2 +0.8
GOPC	GO Pecny, Ondr	80.91	329	eP	P	09 05 07.2 +0.7
GOPC				MLR	MLR	
	comp=Z,1μm,16.5s					
GOPC	GO Pecny, Ondr	80.91	329	eP	P	09 05 07.2 +0.7
GOPC				AMS	AMS	09 43 40.0
	comp=Z,1μm,16.5s					
S22A	4UR Ranch, Cre	80.91	49	P	P	09 05 08.8 +1.8
	baz=312					
S22A	4UR Ranch, Cre	80.91	49	P	P	09 05 08.9 +1.8
S22A				IAmb	IAmb	09 05 18.4
	comp=Z,34nm,1.4s					
ELND	Elena	80.92	318	⇑P	P	09 05 05.3 -1.4
214A	Organ Pipe Nat	80.93	56	P	P	09 05 07.8 +0.8
	baz=310					
214A	Organ Pipe Nat	80.93	56	P	P	09 05 08.2 +1.3
PRA	Prague	80.93	329	AMS	AMS	09 43 50.0
	comp=Z,1μm,15.8s					
PRU	Pruhonice	80.95	329	eP	P	09 05 07.2 +0.5
PRU				MLR	MLR	
	comp=Z,1μm,17.3s					
PRU	Pruhonice	80.95	329	eP	P	09 05 07.2 +0.5
PRU				AMS	AMS	09 43 50.0
	comp=Z,1μm,17.3s					
IKL	Isikli	81.04	309	eP	P	09 05 07.9 +0.5
MODS	Modra-Piesok	81.05	327	eP	P	09 05 07.8 +0.5
MODS				pmax	pmax	
	comp=Z,33nm,1.4s					
MODS	Modra-Piesok	81.05	327	eP	P	09 05 07.8 +0.5
Q24A	Divide	81.07	47	P	P	09 05 09.4 +1.4
	baz=313					
TREC	Trest	81.10	328	eP	P	09 05 08.3 +0.8
TREC				MLR	MLR	
	comp=Z,1μm,19.4s					
TREC	Trest	81.10	328	eP	P	09 05 08.3 +0.8
TREC				AMS	AMS	09 43 40.0
	comp=Z,1μm,19.4s					
X18A	Snowflake	81.11	53	P	P	09 05 09.7 +1.5
BZS	Buzias	81.13	323	⇓P	P	09 05 08.3 +0.6
RAYN	Ar Rayn	81.13	293	iP	P	09 05 08.5 +0.3
	SNR=16					
RAYN	Ar Rayn	81.13	293	P	P	09 05 08.4 +0.3
RAYN				pmax	pmax	
	comp=Z,46nm,1.4s					
RAYN	Ar Rayn	81.13	293	P	P	09 05 08.4 +0.3
RAYN				IAmb	IAmb	09 05 09.6
	comp=Z,46nm,1.4s					
BERE	Bereket-Mersin	81.25	310	eP	P	09 05 07.8 -0.9
SHUT	Suhut-Afyon	81.36	313	eP	P	09 05 09.7 +0.5
KCTX	Karacabey (Bur	81.44	315	eP	P	09 05 08.3 -1.2
OGNE	Ogallala	81.47	44	P	P	09 05 10.8 +1.1
	baz=314					
OGNE	Ogallala	81.47	44	P	P	09 05 10.1 +0.3
EYMN	Ely	81.53	33	P	P	09 05 10.2 +0.4
EYMN				IAmb	IAmb	09 05 18.9
	comp=Z,26nm,1.2s					
NKC	Novy Kostel	81.59	330	eP	P	09 05 11.3 +1.2
NKC				e		09 05 20.8
NKC				MLR	MLR	
	comp=Z,1μm,18.6s					
NKC	Novy Kostel	81.59	330	eP	P	09 05 11.3 +1.2
NKC				epP	sP	09 05 20.8 -0.9
NKC				AMS	AMS	09 44 10.0
	comp=Z,1μm,18.6s					
MRMT	Marmara Adasi	81.62	316	eP	P	09 05 18.8 +8.3
SDCO	Great Sand Dun	81.69	48	P	P	09 05 12.3 +1.0
	baz=313,SNR=6.5					
SDCO	Great Sand Dun	81.69	48	P	P	09 05 12.7 +1.5
MDVR	Moldovita	81.69	322	⇑P	P	09 05 10.5 -0.2
RKY	Sarkoy-Tekirda	81.79	316	eP	P	09 05 19.9 +8.5
KRBG	Karabiga-Canak	81.93	316	eP	P	09 05 12.9 +0.9
CONA	Conrad Observa	82.00	327	ePcP	PcP	09 05 13.7 -4.2
	comp=Z,17nm,1.3s,SNR=8.3					
KHC	Kasperske Hory	82.01	329	eP	P	09 05 12.7 +0.3
KHC				e		09 05 21.3
KHC				MLR	MLR	
	comp=Z,1μm,18.6s					
KHC	Kasperske Hory	82.01	329	eP	P	09 05 12.7 +0.3
KHC				epP	sP	09 05 21.3 -2.6
KHC				AMS	AMS	09 44 20.0
	comp=Z,1μm,18.6s					
KHC	Kasperske Hory	82.01	329	P	P	09 05 12.7 +0.3
TUC	Tucson	82.02	55	P	P	09 05 13.9 +1.1
	baz=310					
TUC	Tucson	82.02	55	P	P	09 05 13.3 +0.5
TUC				pmax	pmax	
	comp=Z,17nm,1.4s					
TUC	Tucson	82.02	55	P	P	09 05 13.3 +0.5
KDZ	Kurdzhali	82.06	318	eP	P	09 05 14.2 +1.4
CSS	Mathiatis	82.10	309	eP	P	09 05 13.5 +0.4
CSS	Mathiatis	82.10	309	P	P	09 05 13.2 +0.1
BALB	Balikesir	82.13	315	P	P	09 05 13.0 -0.1
GEC2	GERESS Array S	82.19	329	P	P	09 05 14.1 +0.7
GERES	GERESS Array B	82.19	329	P	P	09 05 13.6 +0.2
GERES	GERESS Array B	82.19	329	P	P	09 05 13.3 -0.1
	comp=Z,2.2nm,0.8s,baz=54,slow=7.4,SNR=12					
GERES				LR	LR	09 44 51.0
	comp=Z,916nm,19.1s,baz=40,slow=38					
GERES	GERESS Array B	82.19	329	P	P	09 05 13.6 +0.2
ECSD	EROS Data Cent	82.30	39	P	P	09 05 14.4 +0.4
	baz=317					
ECSD	EROS Data Cent	82.30	39	P	P	09 05 14.5 +0.5
ENEZ	Enez	82.31	317	eP	P	09 05 13.9 -0.1
RDO	Rodhopi	82.36	317	eP	P	09 05 14.7 +0.4
MMLI	Mount Malkishu	82.44	305	eP	P	09 05 15.6 +0.7
KULA	Kula-Manisa	82.47	314	eP	P	09 05 15.2 +0.2
KSCO	Kaye Shedlock'	82.47	46	P	P	09 05 16.3 +1.2
	baz=314					
KSCO	Kaye Shedlock'	82.47	46	P	P	09 05 15.8 +0.7
KSCO				IAmb	IAmb	09 05 26.2
	comp=Z,27nm,1.3s					
GRA1	Grafenberg Arr	82.50	331	P	P	09 05 15.9 +1.0
GRA1				IAmb	IAmb	09 05 17.1
	comp=Z,34nm,1.1s					
GRF	Grafenberg Arr	82.50	331	P	P	09 05 15.9 +1.0
GRF				pmax	pmax	
	comp=Z,34nm,1.1s					
VTS	Vitosha	82.51	320	P	P	09 05 16.3 +1.1
VTS				pmax	pmax	
	comp=Z,17nm,1.0s					
VTS	Vitosha	82.51	320	⇑P	P	09 05 16.4 +1.1
VTS				mb		09 05 17.1
VTS	Vitosha	82.51	320	P	P	09 05 16.3 +1.1
VTS				IAmb	IAmb	09 05 17.5
	comp=Z,17nm,1.0s					
E38A	The Farm, Brul	82.53	34	P	P	09 05 15.6 +0.6
	baz=320					
ARSA	Arzberg	82.67	327	eP	P	09 05 16.7 +0.9
	comp=Z,16nm,1.7s					
MOA	Molln	82.73	328	eP	P	09 05 16.9 +0.7
	comp=Z,15nm,1.4s					
T25A	Trinidad	82.74	48	P	P	09 05 17.7 +1.0
	baz=313					
T25A	Trinidad	82.74	48	P	P	09 05 18.1 +1.4
ELL	Elmali	82.96	312	P	P	09 05 18.3 +0.6
ELL				pmax	pmax	
	comp=Z,56nm,1.0s					
ELL	Elmali	82.96	312	P	P	09 05 18.3 +0.6
ANMO	Albuquerque	83.00	51	P	P	09 05 19.6 +1.6
	baz=312					
ANMO	Albuquerque	83.00	51	⇑eP	P	09 05 19.5 +1.6
ANMO				pmax	pmax	
	comp=Z,21nm,1.7s					
ANMO	Albuquerque	83.00	51	P	P	09 05 19.6 +1.6
ANMO				IAmb	IAmb	09 05 29.0
	comp=Z,18nm,1.2s					
BOZC	Bozcaada	83.00	316	eP	P	09 05 17.2 -0.4
DKL	Dikili	83.07	315	eP	P	09 05 17.6 -0.4
LENM	Lemitar	83.20	52	P	P	09 05 19.6 +0.5
Y22D	IRIS PASSCAL I	83.30	52	P	P	09 05 21.0 +1.5
	baz=312					
AYDB	Zeytinkoy-Aydi	83.30	314	eP	P	09 05 20.1 +0.7
SOKA	Soboth	83.32	327	eP	P	09 05 19.7 +0.4
	comp=Z,29nm,1.3s,SNR=12					
BNM	Barren Site	83.43	51	P	P	09 05 21.7 +1.4
FETY	Fethiye	83.52	312	eP	P	09 05 19.9 -0.5
SIGR	SIGRI	83.55	316	eP	P	09 05 20.9 +0.4
319A	Douglas	83.59	55	P	P	09 05 22.0 +1.0
319A				IAmb	IAmb	09 05 31.6
	comp=Z,33nm,1.2s					
TURN	Turunc	83.63	313	eP	P	09 05 23.2 +2.3
YER	Yerkesik	83.64	313	eP	P	09 05 22.4 +1.3
DALY	Dalyan (Mula)	83.64	312	eP	P	09 05 21.9 +0.9
STIP	Stip	83.71	320	iP	P	09 05 21.1 -0.2
KBA	Koelnbreinsper	83.73	328	ePcP	P	09 05 22.9 +1.4
	comp=Z,9.2nm,1.0s					
KNT	Kendrikon	83.73	319	eP	P	09 05 21.5 +0.1
URLA	Izmir	83.74	315	eP	P	09 05 21.8 +0.3
PMOR	Pomariorio Ree	83.75	115	eT	T	10 37 12.9
	comp=Z,15nm,0.2s					
121A	Cookes Peak, D	83.79	53	P	P	09 05 23.2 +1.1
	baz=312					
121A	Cookes Peak, D	83.79	53	P	P	09 05 23.4 +1.3
121A				IAmb	IAmb	09 05 33.1
	comp=Z,27nm,1.2s					
VAY	Valandovo	83.79	319	iP	P	09 05 22.7 +1.1
MLSB	Milas	83.82	313	eP	P	09 05 22.6 +0.6
GCAM	G?zelcaml?	83.84	314	eP	P	09 05 22.9 +0.9
SCHQ	Schefferville	83.85	17	LR	LR	09 46 21.5
	comp=Z,176nm,18.4s,baz=327,slow=38					
SKO	Skopje	83.89	320	iP	P	09 05 23.8 +1.6
CHOS	Chios island	84.02	315	eP	P	09 05 23.5 +0.5
HORT	Hortiatis	84.04	318	eP	P	09 05 22.7 -0.4
HSIG		84.04	58	P	P	09 05 24.1 +0.9
KZIT	Kziot	84.10	305	eP	P	09 05 24.5 +1.0
G40A	Rib Lake	84.16	34	P	P	09 05 23.6 0.0
	baz=321					
BODT	Bodrum	84.25	313	eP	P	09 05 24.6 +0.5
WATA	Walderalm	84.25	329	ePcP	P	09 05 25.7 +1.6
	comp=Z,9.4nm,1.2s					
HRFI	Mount Harif	84.25	304	eP	P	09 05 25.3 +1.0
WTTA	Wattenberg	84.28	329	ePcP	PcP	09 05 24.7 -3.3
	comp=Z,14nm,1.6s					
PPT	Papeete	84.28	117	LR	LR	09 35 11.7
	comp=Z,147nm,21.2s,baz=314,slow=30					
PPT2	Papeete2	84.30	118	eS	S	09 15 51.6 +3.0
	comp=Z,71nm,27.0s					
PPT2	Papeete2	84.30	118	eLR	LR	09 31 52.7
	comp=Z,622nm,24.2s					
PPT2	Papeete2	84.30	118	eT	T	10 37 55.5
	comp=Z,4.3nm,0.3s					
DAT	Datca	84.33	313	eP	P	09 05 24.5 -0.2
PAE	Paea	84.34	118	eT	T	10 37 57.6
	comp=Z,5.6nm,0.3s					
ARG	Arkhangelos	84.36	312	eP	P	09 05 25.0 +0.3
MOTA	Moosalm	84.43	329	ePcP	P	09 05 25.5 +0.4
	comp=Z,32nm,1.6s,SNR=5.3					
TIAR	Tiarei	84.44	117	eT	T	10 38 04.9
	comp=Z,2.5nm,0.3s					
RETA	Reutte	84.45	330	ePcP	P	09 05 25.7 +0.7
	comp=Z,32nm,1.3s,SNR=6.4					
SQTA	Sankt Quirin	84.49	329	ePcP	P	09 05 25.5 +0.2
	comp=Z,15nm,1.4s					
EIL	Elat	84.55	304	eP	P	09 05 26.9 +1.1
PDG	Podgorica	84.63	322	⇓P	P	09 05 26.3 +0.4
PDG	Podgorica	84.63	322	P	P	09 05 25.9 0.0
PDG				IAmb	IAmb	09 05 27.9
	comp=Z,20nm,0.9s					
STAL	STALIGIAL	84.64	328	P	P	09 05 25.4 -0.6
STAL				IAmb	IAmb	09 05 26.7
	comp=Z,20nm,1.2s					
AOS	Alonnisos	84.66	317	eP	P	09 05 25.8 -0.3
TVO	Taravao	84.66	117	eT	T	10 38 21.2
	comp=Z,1.6nm,0.4s					
BFO	Black Forest	84.71	331	⇑eP	P	09 05 27.2 +0.9
BFO	Black Forest	84.71	331	P	P	09 05 26.3 0.0
BFO				IAmb	IAmb	09 05 28.0
	comp=Z,34nm,1.3s					
LIT	Litokhoron	84.72	318	P	P	09 05 26.3 -0.2
LIT				pmax	pmax	
	comp=Z,40nm,1.1s					
LIT	Litokhoron	84.72	318	P	P	09 05 26.3 -0.2
FNA	Florina	84.80	319	P	P	09 05 27.3 +0.4
FNA				pmax	pmax	
	comp=Z,21nm,1.3s					
FNA	Florina	84.80	319	P	P	09 05 27.3 +0.4
FNA				IAmb	IAmb	09 05 28.0
	comp=Z,21nm,1.3s					
OHR	Ohrid	84.85	320	iP	P	09 05 27.6 +0.5
DAVA	Damuels	84.97	330	ePcP	P	09 05 28.2 +0.4
	comp=Z,17nm,1.0s					
APE	Apeiranthos	85.25	314	eP	P	09 05 28.4 -0.8
KARP	Karpathos	85.39	312	eP	P	09 05 29.5 -0.4
KARP	Karpathos	85.39	312	P	P	09 05 30.3 +0.4
D46A	Sault St. Mari	85.46	30	P	P	09 05 30.2 +0.2
	baz=325					
MEH	Mehetia	85.55	117	eT	T	10 39 28.2
	comp=Z,22nm,0.3s					
D47A	Chapleau	85.69	29	P	P	09 05 31.2 0.0
	baz=326					
I42A	Draeger Farm,	85.81	35	P	P	09 05 32.3 +0.5
	baz=322					
TUE	Stuetta	85.84	330	P	P	09 05 32.6 +0.4
TUE				IAmb	IAmb	09 05 48.5
	comp=Z,14nm,1.1s					
MNTX	Cornudas Mount	85.85	52	P	P	09 05 33.1 +0.8
	baz=313					
MNTX	Cornudas Mount	85.85	52	P	P	09 05 33.2 +1.0
MNTX				IAmb	IAmb	09 05 42.6
	comp=Z,19nm,1.4s					
MSTX	Muleshoe	85.89	49	P	P	09 05 33.9 +1.3
	baz=314					
MSTX	Muleshoe	85.89	49	P	P	09 05 33.0 +0.5
E47A	Iron Bridge	86.12	30	P	P	09 05 33.8 +0.5
	baz=326					
CHGQ	Chibougamau	86.28	23	P	P	09 05 34.6 +0.5
	baz=332					
G46A	Petoskey	86.41	31	P	P	09 05 35.7 +1.0
	baz=324					
ITM	Ithomi	87.16	317	P	P	09 05 38.7 +0.1
ITM				IAmb	IAmb	09 05 39.1
	comp=Z,16nm,0.9s					
NRCA	Norcia	87.19	325	P	P	09 05 38.9 +0.2
NRCA				IAmb	IAmb	09 05 44.6
	comp=Z,20nm,1.3s					
KTHA	Kythira Island	87.21	315	eP	P	09 05 36.7 -2.2
IMMV	Iera Moni Meta	87.27	314	eP	P	09 05 38.1 -1.1
WMOK	Wichita Mounta	87.67	46	P	P	09 05 41.8 +0.7
WMOK				pmax	pmax	
	comp=Z,17nm,1.4s					
WMOK	Wichita Mounta	87.67	46	P	P	09 05 41.8 +0.7
WMOK				IAmb	IAmb	09 05 51.3
	comp=Z,17nm,1.4s					
HDIL	Hopedale	88.25	37	P	P	09 05 42.1 -1.7
	baz=322					
HDIL	Hopedale	88

D56A	**ZEC Mazanza, M**	**88.68**	**25**	P	**P**	**09 05 46.9**	**+1.2**
	baz=332						
CCM	**Cathedral Cave**	**89.25**	**40**	P	**P**	**09 05 49.0**	**+0.5**
	baz=321						
CCM	**Cathedral Cave**	**89.25**	**40**	P	**P**	**09 05 49.1**	**+0.6**
CCM				pmax	pmax		
	comp=Z,22nm,1.1s						
CCM	**Cathedral Cave**	**89.25**	**40**	P	**P**	**09 05 49.1**	**+0.6**
CCM				IAmb	IAmb	09 05 58.4	
	comp=Z,22nm,1.1s						
L48A	**N Adams**	**89.34**	**33**	P	**P**	**09 05 49.9**	**+1.0**
	baz=325						
MGMO	**Mountain Grove**	**89.42**	**41**	P	**P**	**09 05 49.7**	**+0.4**
MGMO				IAmb	IAmb	09 05 58.8	
	comp=Z,19nm,1.1s						
SFIN	**Lafayette**	**89.42**	**36**	P	**P**	**09 05 50.1**	**+0.9**
	baz=323						
G55A	**Calabogie**	**89.58**	**27**	P	**P**	**09 05 48.4**	**-1.5**
	baz=330						
U40A	**Yellville**	**89.72**	**42**	P	**P**	**09 05 51.1**	**+0.3**
	baz=320						
U40A	**Yellville**	**89.72**	**42**	P	**P**	**09 05 51.0**	**+0.3**
U40A				IAmb	IAmb	09 06 00.5	
	comp=Z,22nm,1.1s						
ALFO	**Alfred**	**89.88**	**25**	P	**P**	**09 05 52.0**	**+0.7**
	baz=331						
JCT	**Junction City**	**90.13**	**50**	P	**P**	**09 05 53.1**	**+0.4**
	baz=316						
JCT	**Junction City**	**90.13**	**50**	P	**P**	**09 05 53.3**	**+0.5**
JCT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
JCT	**Junction City**	**90.13**	**50**	P	**P**	**09 05 53.3**	**+0.5**
WHTX	**Lake Whitney,**	**90.42**	**47**	P	**P**	**09 05 54.6**	**+0.5**
	baz=317						
WHTX	**Lake Whitney,**	**90.42**	**47**	P	**P**	**09 05 54.8**	**+0.7**
WHTX				IAmb	IAmb	09 06 04.4	
	comp=Z,24nm,1.1s						
FCAR	**Ozark Folk Cen**	**90.46**	**42**	P	**P**	**09 05 54.4**	**+0.3**
ATD	**Arta Tunnel**	**90.55**	**285**	P	**P**	**09 05 55.6**	**+0.7**
PBMO	**Poplar Bluff**	**90.64**	**40**	P	**P**	**09 05 55.5**	**+0.5**
MIAR	**Mount Ida**	**90.70**	**43**	P	**P**	**09 05 56.1**	**+0.8**
	baz=319						
MIAR	**Mount Ida**	**90.70**	**43**	P	**P**	**09 05 55.6**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,24nm,1.2s						
MIAR	**Mount Ida**	**90.70**	**43**	P	**P**	**09 05 55.6**	**+0.3**
MIAR				IAmb	IAmb	09 06 05.6	
	comp=Z,24nm,1.2s						
WHAR	**Wooly Hollow**	**90.83**	**42**	P	**P**	**09 05 56.3**	**+0.4**
WHAR				IAmb	IAmb	09 06 05.7	
	comp=Z,19nm,1.1s						
W41B	**Gary Mavity, V**	**90.94**	**42**	P	**P**	**09 05 56.6**	**+0.2**
	baz=320						
W41B	**Gary Mavity, V**	**90.94**	**42**	P	**P**	**09 05 56.6**	**+0.2**
W41B				IAmb	IAmb	09 06 11.8	
	comp=Z,17nm,1.4s						
O50A	**Cable**	**91.16**	**34**	P	**P**	**09 05 58.7**	**+1.3**
	baz=325						
ZAIG	**Zacatecas**	**93.81**	**57**	P	**P**	**09 06 11.9**	**+1.7**
ZAIG				IAmb	IAmb	09 06 21.2	
	comp=Z,22nm,1.5s						
KEST	**Kesra**	**94.64**	**324**	LR	LR	09 53 39.9	
	comp=Z,654nm,18.3s,baz=322,slow=38						
ESDC	**Sonseca Array**	**96.61**	**335**	P	**P**	**09 06 22.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=19,slow=5.0,SNR=4.4						
ESDC				LR	LR	09 55 37.0	
	comp=Z,560nm,18.1s,baz=40,slow=39						
ESDC	**Sonseca Array**	**96.61**	**335**	P	**P**	**09 06 21.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**117.16**	**316**	PKP	**PKiKP**	**09 11 36.9**	**-1.1**
	comp=Z,0.9nm,1.0s,baz=52,slow=0.4,SNR=3.9						
TORD				PP	**PP**	**09 12 44.9**	**-2.6**
	comp=Z,1.5nm,1.0s,baz=26,slow=5.8,SNR=5.1						
MAW	**Mawson**	**121.11**	**206**	PKP	**PKiKP**	**09 11 43.9**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=16,slow=5.0,SNR=5.0						
QSPA	**South Pole Qui**	**128.02**	**180**		**PKiKP**	**09 11 57.2**	**-0.7**
SYO	**Syowa Base**	**129.78**	**207**	⇓*e*PP	PP	09 14 17.2	+4.7
SNAA	**Sanae**	**142.24**	**197**	PKPdf	**PKPdf**	**09 12 20.2**	**-3.5**
VNA2	**Neumayer--Watz**	**143.80**	**196**	PKPdf	**PKPdf**	**09 12 23.7**	**-2.6**
VNA3	**Neumayer Olymp**	**144.03**	**195**	PKPdf	**PKPdf**	**09 12 24.6**	**-2.2**
VNA1	**Neumayer--Stat**	**144.20**	**196**	PKPdf	**PKPdf**	**09 12 25.5**	**-1.4**
LPAZ	**La Paz**	**145.17**	**60**	PKPbc	**PKiKP**	**09 12 30.8**	**-4.2**
	comp=Z,2.3nm,0.7s,baz=311,slow=4.5,SNR=10						
PB11	**IPOC Station P**	**146.45**	**66**	PKPbc	**PKiKP**	**09 12 35.9**	**-1.1**
PLCA	**Paso Flores**	**154.31**	**106**	PKPbc	**PKiKP**	**09 12 53.1**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=297,slow=4.5,SNR=5.0						

*ISCJB **03** 08:54:54.7±0.7, 22°.48S±0°.03×69°.08W±0°.05, h89km±7km, Error ellipse: s-maj=7.8km s-min=5.7km az=172.1*
*GUC **03** 08:54:54.3±0.6, 22°.49S×69°.11W, h90km±3km, ML3.8*
*SJA **03** 08:54:54.0±1.0, 22°.51S×69°.10W, h85km±4km, ML3.6, MW3.5*

ISC 03 08:54:56.3±1.4, 22°.49S±0°.04×69°.12W±0°.05, h77km±8km, n21, σ0°86/35, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.23**	**123**	⇓*i*P	**Pn**	**08 55 07.5**	**-0.8**
LVC				*i* S	**Sn**	**08 55 17.3**	**+0.3**
LVC	**Limon Verde**	**0.23**	**123**	*i* P	**Pn**	**08 55 07.2**	**-1.0**
LVC				*e*S	**Sn**	**08 55 17.3**	**+0.3**
LVC				IAML		08 55 19.2	
	comp=Z,621nm,0.1s						
PB06	**IPOC Station P**	**0.48**	**242**	⇓*e*P	**Pn**	**08 55 09.0**	**-0.7**
PB06				*i* S	**Sn**	**08 55 20.6**	**+1.1**
PB06				IAML		08 55 21.4	
	comp=N,7μm,0.2s						
PB06	**IPOC Station P**	**0.48**	**242**	*i* P	**Pn**	**08 55 08.8**	**-0.9**
PB06				*e*S	**Sn**	**08 55 20.9**	**+1.3**
PB09	**IPOC Station P**	**0.70**	**350**	⇑*i*P	**Pn**	**08 55 11.4**	**-0.4**
PB09				*i* S	**Sn**	**08 55 24.7**	**+1.4**
PB09				IAML		08 55 25.5	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**0.70**	**350**	*i* P	**Pn**	**08 55 11.2**	**-0.6**
PB09				*e*S	**Sn**	**08 55 24.5**	**+1.2**
PB03	**IPOC Station P**	**0.73**	**306**	⇑*i*P	**Pn**	**08 55 11.6**	**-0.7**
PB03				*i* S	**Sn**	**08 55 24.6**	**+0.6**
PB03				IAML		08 55 26.1	
	comp=E,3μm,0.2s						
PB15	**IPOC Station P**	**0.79**	**204**	⇓*e*P	**Pn**	**08 55 12.0**	**-1.0**
PB15				*i* S	**Sn**	**08 55 26.1**	**+0.9**
PB15				IAML		08 55 30.5	
	comp=E,6μm,0.2s						
PB15	**IPOC Station P**	**0.79**	**204**	*i* P	**Pn**	**08 55 11.9**	**-1.0**
PB15				IAML		08 55 30.3	
	comp=Z,4μm,0.2s						
PB04	**IPOC Station P**	**0.97**	**279**	⇑*i*P	**Pn**	**08 55 14.2**	**-0.7**
PB04				*i* S	**Sn**	**08 55 29.6**	**+0.8**
PB04				IAML		08 55 32.3	
	comp=N,3μm,0.1s						
PB04	**IPOC Station P**	**0.97**	**279**	*i* P	**Pn**	**08 55 13.8**	**-1.1**
PB07	**IPOC Station P**	**1.04**	**316**	⇑*i*P	**Pn**	**08 55 15.1**	**-0.7**
PB07				*i* S	**Sn**	**08 55 31.0**	**+0.7**
PB07				IAML		08 55 31.9	
	comp=N,3μm,0.3s						
PB02	**IPOC Station P**	**1.37**	**328**	⇑*i*P	**Pn**	**08 55 19.1**	**-0.8**
PB02				*i* S	**Sn**	**08 55 37.8**	**+0.2**
PB02				IAML		08 55 39.0	
	comp=E,4μm,0.1s						
PB01	**IPOC Station P**	**1.48**	**346**	⇑*e*P	**Pn**	**08 55 20.5**	**-0.7**
PB01				*i* S	**Sn**	**08 55 40.1**	**0.0**
PB01				IAML		08 55 41.4	
	comp=E,4μm,0.4s						
PB10	**IPOC Station P**	**1.68**	**232**	*e*P	**Pn**	**08 55 22.9**	**-0.8**
PB10				*i* S	**Sn**	**08 55 46.0**	**+1.4**
PB10				IAML		08 55 53.4	
	comp=N,546nm,0.8s						
PB10	**IPOC Station P**	**1.68**	**232**	*i* P	**Pn**	**08 55 23.2**	**-0.5**
PB14	**IPOC Station P**	**2.44**	**209**	*e*P	**Pn**	**08 55 34.0**	**-0.2**
PB14				*i* S	**Sn**	**08 56 04.0**	**+0.7**
PB14				IAML		08 56 11.2	
	comp=E,351nm,0.4s						
PB14	**IPOC Station P**	**2.44**	**209**	*i* P	**Pn**	**08 55 33.5**	**-0.8**
HJA	**Humahuaca**	**3.49**	**103**	*e*P	**Pn**	**08 55 49.0**	**+0.3**
AZAP	**Zapla**	**4.10**	**116**	⇓*i*P	**Pn**	**08 55 56.2**	**-0.6**
AHML	**Horco Molle**	**5.49**	**142**	*i* P	**Pn**	**08 56 14.6**	**-1.0**

KRNET 03 09:11:36.7±0.1, 42°.97N×72°.65E, h35km, mb1.6, 2C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**1.28**	**204**	⇓*i*P	Pn	09 12 00.2	+2.1
	baz=3.0						
ARK				⇓*i*S	Sn	09 12 17.0	+2.9
	baz=3.0						
ARLS	**Aral**	**1.66**	**131**	⇑*i*P	Pn	09 12 05.2	+1.7
	baz=31						
ARLS				⇑*i*S	Sn	09 12 26.9	+3.3
	baz=31						
ARSB	**Arslanbob**	**1.66**	**171**	⇓*i*P	Pn	09 12 05.7	+2.2
	baz=71						
ARSB				⇓*i*S	Sn	09 12 26.7	+3.1
	baz=71						

NNC 03 09:11:37.0±0.2, 42°.72N×70°.83E, h0km, mpv1.4, 8C-12D, Error ellipse: s-maj=3.5km s-min=1.1km az=58.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.43**	**329**	⇓P	Pg	09 11 45.7	+0.4
KK06				⇓S	Sg	09 11 51.9	+0.9
KK07	**Karatay Array**	**0.44**	**327**	⇓P	Pg	09 11 46.1	+0.7
KK07				⇑S	Sg	09 11 52.0	+0.9
KK02	**Karatay Array**	**0.45**	**328**	⇓P	Pg	09 11 45.7	+0.1
KK02				⇑S	Sg	09 11 52.2	+0.9
KK31	**Karatay Array**	**0.45**	**328**	⇓P	Pg	09 11 45.8	+0.2
	1.1nm,0.8s						
KK31				⇓S	Sg	09 11 52.1	+0.8
	20nm,1.1s,baz=149,slow=31,SNR=37						
KK01	**Karatay Array**	**0.45**	**328**	⇑P	Pg	09 11 45.7	0.0
KK01				⇑S	Sg	09 11 52.2	+0.8
KK03	**Karatay Array**	**0.45**	**328**	⇓P	Pg	09 11 45.9	+0.3
KK03				⇑S	Sg	09 11 52.4	+0.9
KK04	**Karatay Array**	**0.45**	**328**	⇑P	Pg	09 11 45.9	+0.2
KK04				⇓S	Sg	09 11 52.4	+0.8
KK05	**Karatay Array**	**0.45**	**330**	⇓P	Pg	09 11 46.2	+0.5
KK05				⇓S	Sg	09 11 52.2	+0.7
KK08	**Karatay Array**	**0.46**	**327**	⇑P	Pg	09 11 46.3	+0.6
KK08				⇓S	Sg	09 11 52.6	+0.9
KK09	**Karatay Array**	**0.47**	**329**	⇓P	Pg	09 11 46.2	+0.2
KK09				⇑S	Sg	09 11 52.6	+0.6

*SOME **03** 09:41:48.9, 39°.25N×73°.37E, h20km*
*KRNET **03** 09:41:55.0±0.1, 39°.56N×73°.27E, mb3.1*
*NNC **03** 09:41:55.0±1.7, 39°.53N×73°.40E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.9km s-min=5.7km az=176.0*

ISC 03 09:41:55.0±1.6, 39°.61N±0°.08×73°.39E±0°.03, h10km, n34, σ2°17/56, 20C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.74**	**350**	⇑*i*P	**Pg**	**09 42 27.9**	**-0.4**
	baz=53						
ARSB				⇑*i*S	**Sg**	**09 42 53.0**	**+2.2**
	baz=53						
BTK	**Batken**	**2.03**	**283**	⇑*i*P	**Pb**	**09 42 31.8**	**-0.2**
	baz=86						
BTK				⇑*i*S	**Sb**	**09 42 58.2**	**+0.9**
	baz=86						
ARLS	**Aral**	**2.35**	**17**	⇑*e*P	**Pb**	**09 42 38.4**	**+0.8**
	baz=19						
ARLS				⇑*i*S	**Sg**	**09 43 10.6**	**-0.1**
	baz=19						
ARK	**Arkit**	**2.44**	**334**	⇓*e*P	**Pb**	**09 42 38.2**	**-0.8**
	baz=37						
ARK				⇓*i*S	**Sb**	**09 43 09.8**	**+0.7**
	baz=37						
AML	**Almayashu**	**2.53**	**5**	⇑*i*P	**Pb**	**09 42 40.7**	**0.0**
	baz=7.0						
AML				⇑*i*S	**Sb**	**09 43 14.1**	**+2.2**
	baz=7.0						
NRN	**Naryn**	**2.70**	**47**	⇓*i*P	**Pb**	**09 42 43.2**	**-0.3**
	baz=47						
NRN				⇓*i*S	**Sb**	**09 43 18.1**	**+1.3**
	baz=47						
KZA	**Kyzart**	**2.84**	**29**	⇑*i*P	**Pb**	**09 42 45.6**	**-0.4**
	baz=30						
KZA				⇑*i*S	**Sb**	**09 43 22.5**	**+1.6**
	baz=30						
EKS2	**Erkin-Say**	**3.06**	**5**	⇓*i*P	**Pb**	**09 42 48.0**	**-1.6**
	baz=7.0						
EKS2				⇓*i*S	**Sb**	**09 43 26.4**	**-0.6**
	baz=7.0						
MRKS	**Merke**	**3.13**	**358**	*e*P	**Pb**	**09 42 52.5**	**+1.7**
	9.2nm,0.5s						
MRKS				*e*S	**Sg**	**09 43 36.5**	**+0.9**
	12nm,0.3s						
AAK	**Ala-Archa**	**3.13**	**15**	⇑Pg	**Pg**	**09 42 53.3**	**-1.8**
	6.7nm,0.5s						
AAK				Lg	Lg	09 43 35.9	
	14nm,0.6s						
AAK	**Ala-Archa**	**3.13**	**15**	⇓*i*P	**Pb**	**09 42 48.9**	**-2.0**
	baz=16						
AAK				⇓*i*S	**Sb**	**09 43 28.5**	**-0.7**
	baz=16						
ULHL	**Ulahol**	**3.40**	**39**	⇑*i*P	**Pb**	**09 42 53.3**	**-2.2**
	baz=39						
ULHL				⇑*i*S	**Sb**	**09 43 35.6**	**-1.4**
	baz=39						
IUG	**Iuzhnay**	**3.59**	**316**	Pg	**Pb**	**09 42 59.8**	**+1.2**
	0.7nm,0.2s						
IUG				Lg	Lg	09 43 49.7	
	2.9nm,0.6s						
IUG	**Iuzhnay**	**3.59**	**316**	*e*P	**Pb**	**09 42 59.8**	**+1.2**
	1.1nm,0.5s						
IUG				*e*S	**Sg**	**09 43 49.7**	**-0.5**
	30nm,0.6s						
TKM2	**Tokmak 2**	**3.70**	**26**	⇑Pg	**Pg**	**09 43 04.4**	**-1.5**
	7.8nm,1.4s						
TKM2				⇑Lg	Lg	09 43 56.2	
	8.8nm,0.7s						
KST	**Kastek**	**3.94**	**29**	Pg	**Pg**	**09 43 07.3**	**-3.1**
	4.3nm,0.3s						
KST				Lg	Lg	09 44 02.2	
	15nm,0.9s						
KST	**Kastek**	**3.94**	**29**	*e*P	**Pg**	**09 43 07.9**	**-2.5**
	4.5nm,0.6s						
KST				*e*S	**Sg**	**09 44 03.4**	**+2.0**
	17nm,0.7s						
DGS	**Degeres**	**4.04**	**26**	Pg	**Pg**	**09 43 09.9**	**-2.5**
	2.8nm,0.4s						
DGS				Lg	Lg	09 44 06.7	
	14nm,0.7s						
DGS	**Degeres**	**4.04**	**26**	*e*P	**Pg**	**09 43 10.0**	**-2.5**
	2.8nm,0.4s						
DGS				*e*S	**Sg**	**09 44 07.2**	**+2.4**
	14nm,0.7s						
KK31	**Karatay Array**	**4.10**	**329**	⇑Pn	**Pn**	**09 43 00.8**	**+3.1**
	0.4nm,0.4s,baz=134,slow=13,SNR=9.6						
KK31				⇓Pg	**Pg**	**09 43 10.8**	**-2.8**
	1.4nm,0.4s,baz=145,slow=17,SNR=8.7						
KK31				⇑Sn	**Sb**	**09 43 52.0**	**-4.9**
	3.4nm,0.4s,baz=145,slow=23,SNR=5.6						
KK31				⇑Lg	Lg	09 44 06.8	
	4.1nm,0.6s,baz=0.0,slow=0.1,SNR=4.2						
BRLS	**Borolday**	**4.34**	**323**	Pg	**Pb**	**09 43 12.6**	**+1.3**
	0.5nm,0.2s						
BRLS				Lg	Lg	09 44 11.4	
	7.1nm,0.4s						
BRLS	**Borolday**	**4.34**	**323**	*e*P	**Pb**	**09 43 13.0**	**+1.7**
	0.5nm,0.2s						
BRLS				*e*S	**Sg**	**09 44 11.4**	**-2.7**
	7.8nm,0.7s						
TNSS	**Tian-Shan**	**4.34**	**37**	Pg	**Pg**	**09 43 15.4**	**-2.8**
	3.4nm,0.3s						
TNSS				Lg	Lg	09 44 15.8	
	12nm,0.5s						
TNSS	**Tian-Shan**	**4.34**	**37**	*e*P	**Pg**	**09 43 15.3**	**-2.8**
	3.4nm,0.3s						
TNSS				*e*S	**Sg**	**09 44 16.1**	**+1.6**
	12nm,0.5s						
MDOK	**Medeo**	**4.49**	**37**	Pg	**Pg**	**09 43 20.7**	**-0.3**
	4.7nm,0.7s						
MDOK				⇑Lg	Lg	09 44 20.4	
	11nm,0.8s						
MDOK	**Medeo**	**4.49**	**37**	Pg	**Pg**	**09 43 18.1**	**-2.8**
	2.4nm,0.3s						
MDOK				Lg	Lg	09 44 20.5	
	9.3nm,0.7s						
MDOK	**Medeo**	**4.49**	**37**	*e*P	**Pb**	**09 43 16.6**	**+2.7**
	2.4nm,0.3s						
MDOK				*e*S	**Sg**	**09 44 18.9**	**-0.2**
	9.3nm,0.7s						
KOTS	**Kotyrbulak**	**4.57**	**37**	Pg	**Pb**	**09 43 17.8**	**+2.4**
	9.7nm,0.3s						
KOTS				Lg	Lg	09 44 20.3	
	18nm,0.3s						
KOTS	**Kotyrbulak**	**4.57**	**37**	*e*P	**Pb**	**09 43 18.1**	**+2.7**
	9.7nm,0.3s						
KOTS				*e*S	**Sg**	**09 44 20.8**	**-1.0**
	18nm,0.3s						
KTBS	**Karatobe**	**4.78**	**30**	Pg	**Pg**	**09 43 22.7**	**-3.8**
	0.9nm,0.0s						
KTBS				Lg	Lg	09 44 28.7	
	9.7nm,0.4s						
KTBS	**Karatobe**	**4.78**	**30**	*e*P	**Pg**	**09 43 22.7**	**-3.8**
	0.9nm,0.0s						
KTBS				*e*S	**Sg**	**09 44 28.7**	**+0.2**
	15nm,0.6s						
CHKK	**Chushkaly**	**5.02**	**31**	Pg	**Pg**	**09 43 27.3**	**-3.8**
	0.9nm,0.4s						
CHKK				Lg	Lg	09 44 36.6	
	5.6nm,0.3s						
CHKK	**Chushkaly**	**5.02**	**31**	*e*P	**Pg**	**09 43 27.3**	**-3.8**
	1.1nm,0.6s						
CHKK				*e*S	**Sg**	**09 44 36.6**	**+0.5**
	5.6nm,0.3s						
PDGK	**Podgornoye**	**5.90**	**49**	⇑Pg	**Pg**	**09 43 45.0**	**-2.9**
	5.6nm,1.2s						
PDGK				⇓Lg	Lg	09 45 03.5	
	5.0nm,0.8s						

*IDC **03** 10:08:54.5±0.3, 19°.38S×172°.59W, h0km, mb5.3/28, mb1 5.4/30, mb1mx5.4/35, mbtmp5.3/30, ML5.3/2, MS4.7/22, Ms1 4.7/22, ms1mx4.4/42, Error ellipse: s-maj=14.7km s-min=12.0km az=144.0*
*NEIC **03** 10:08:54.9±1.9, 19°.21S±0°.07×172°.53W±0°.08, h4km±1km, mb5.7/344, Ms_20 5.1/254, Mwb5.6, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.06; $M_{\theta\theta}$0.65; $M_{\phi\phi}$1.40; $M_{r\theta}$0.26; $M_{\theta\phi}$0.62; $M_{\phi r}$1.86; Fault plane solution: $M_0$2.69000×10^{17} NP1:ϕ_s37.30000°, δ24.13000°, λ-69.85000°. NP2:ϕ_s195.40000°, δ67.43000°, λ-98.77000°. Principal axes: T 2.4636, Plg22.0000°, Azm292.0000°; N 0.4011, Plg8.0000°, Azm199.0000°; P -2.8647, Plg66.0000°, Azm90.0000°;*
*ISCJB **03** 10:08:55.0±0.1, 19°.23S±0°.02×172°.63W±0°.03, h9km, mb5.4/83, MS4.9/41 Error ellipse: s-maj=4.0km s-min=2.4km az=38.4*
*BJI **03** 10:08:55.5±0.0, 18°.79S×172°.32W, h6km, mb5.5/56, mB5.9/44, Ms5.2/35, Ms7 5.0/39*
*MOS **03** 10:08:56.3±1.1, 19°.25S×172°.66W, h17km, mb5.8/44, MS4.8/7, Error ellipse: s-maj=9.6km s-min=7.9km az=44.6*
*GCMT **03** 10:08:58.9±0.1, 19°.33S±0°.01×172°.29W±0°.01, h12km, MW5.5/135, Moment Tensor Solution. s101,c178; s135,c265; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.73±.02; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$1.68±.02; $M_{r\theta}$0.01±.06; $M_{\theta\phi}$0.78±.02; $M_{\phi r}$0.49±.05; Best double couple: $M_0$1.92700×10^{17} NP1:ϕ_s196.00000°, δ52.00000°, λ-98.00000°. NP2:ϕ_s29.00000°, δ39.00000°, λ-80.00000°. Principal axes: T 2.0500, Plg7.0000°, Azm291.0000°; N -0.2490, Plg6.0000°, Azm201.0000°; P -1.8040, Plg81.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 10:08:59, 19°.31S×172°.28W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.76; $M_{\theta\theta}$0.04; $M_{\phi\phi}$1.72; $M_{r\theta}$0.01; $M_{\theta\phi}$0.77; $M_{\phi r}$0.22; Fault plane solution: $M_0$1.92000×10^{17} NP1:ϕ_s24.00000°, δ42.00000°, λ-86.00000°. NP2:ϕ_s199.00000°, δ48.00000°, λ-93.00000°. Principal axes: T 2.0294, Plg3.0000°, Azm291.0000°; N -0.2541, Plg3.0000°, Azm201.0000°; P -1.7753, Plg86.0000°, Azm72.0000°;*

ISC 03 10:08:55.8±0.5, 19°.49S±0°.04×172°.55W±0°.04, h13km±2km, h12km:pP-P, n1251, σ1°91/1016, mb5.7/223, MS5.1/282, 70C-48D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.51**	**81**		**Pn**	**10 09 31.9**	**-4.5**
NIUE				Sn	**Sn**	**10 09 59.6**	**-7.2**
AFI	**Afiamalu**	**5.60**	**8**	P	Pn	10 10 11.5	-7.4
AFI	**Afiamalu**	**5.60**	**8**		Pn	10 10 11.5	-7.5
MSVF	**Nonsavu**	**9.09**	**280**	*i*P	**Pn**	**10 11 08.5**	**+1.7**
RIZ	**Raoul Island**	**10.88**	**206**	P	**Pn**	**10 11 30.8**	**-0.4**
RIZ				S	**Sn**	**10 13 27.8**	**-5.1**
RAO	**Raoul Island**	**10.88**	**206**	P	**Pn**	**10 11 31.9**	**+0.6**
RAO	**Raoul Island**	**10.88**	**206**	Pn	**Pn**	**10 11 31.6**	**+0.3**
	28nm,0.3s,baz=66,slow=20,SNR=2.6						
RAO				Sn	**Sn**	**10 13 27.9**	**-5.0**
	110nm,0.3s,baz=88,slow=22,SNR=9.4						
RAO	**Raoul Island**	**10.88**	**206**		**Pn**	**10 11 31.9**	**+0.6**
GLKZ	**Green Lake**	**10.89**	**206**	P	**Pn**	**10 11 32.9**	**+1.6**
GLKZ				S	**Sn**	**10 13 27.2**	**-5.9**
RAR	**Rarotonga**	**12.10**	**100**	P	Pn	10 11 43.1	-5.0
RAR	**Rarotonga**	**12.10**	**100**	Pn	**Pn**	**10 11 44.1**	**-4.0**
	100nm,0.3s,baz=262,slow=9.5,SNR=120						
RAR				Sn	Sn	10 13 50.7	-12
	11nm,0.3s,baz=107,slow=19,SNR=2.7						
RAR				LR	LR	10 15 19.0	
	comp=Z,3μm,19.4s,baz=222,slow=32						
RAR	**Rarotonga**	**12.10**	**100**		Pn	10 11 43.1	-5.0
FUNA	**Funafuti**	**13.52**	**323**		**Pn**	**10 12 05.0**	**-2.4**
MXZ	**Matakaoa Point**	**19.70**	**202**	P	**Pn**	**10 13 29.3**	**+3.0**
MXZ				S	S	10 16 53.8	-13
GRZ	**Great Barrier**	**19.75**	**210**	P	**Pn**	**10 13 29.6**	**+2.7**
DZM	**Mont Dzumac**	**19.81**	**259**	*e*P	**Pn**	**10 13 27.6**	**-0.3**
DZM				*e*S	**S**	**10 17 06.4**	**-3.1**
	2μm,22.4s						
DZM				*e*LR	LR	10 18 10.0	
	comp=Z,8μm,26.2s						
DZM	**Mont Dzumac**	**19.81**	**259**	P	**P**	**10 13 25.9**	**-0.5**
	5.7nm,0.3s,baz=79,slow=18,SNR=36						
DZM				S	**S**	**10 16 59.2**	**-10**
	0.1nm,0.3s,baz=131,slow=20,SNR=2.1						
DZM				LR	LR	10 19 55.3	
	comp=Z,4μm,18.7s,baz=88,slow=33						
DZM	**Mont Dzumac**	**19.81**	**259**	P	**P**	**10 13 26.9**	**+0.6**
DZM				IAmb	IAmb	10 13 30.9	
	comp=Z,244nm,0.9s						
OUZ	**Omahuta**	**19.

RAHZ	**Arahi**	**21.34 203**	P	**P**	**10 13 47.5 +4.8**	
WHHZ	**Waihua**	**21.43 202**	P	**P**	**10 13 48.7 +5.1**	
TLZ	**Tolley Road**	**21.44 206**	P	**P**	**10 13 49.5 +5.7**	
WHTZ	**Whakaora**	**21.55 205**	P	P	10 13 54.9 +10	
NMHZ	**Naumai**	**21.60 203**	P	**P**	**10 13 50.8 +5.3**	
ARHZ	**Aropaoanui**	**21.68 202**	P	**P**	**10 13 52.5 +6.2**	
BKZ	**Black Stump Fm**	**21.78 203**	P	**P**	**10 13 49.6 +2.2**	
BKZ	**Black Stump Fm**	**21.78 203**	P	**P**	**10 13 48.8 +1.4**	
BKZ			IAMs_20	IAMs_20	10 22 36.7	
	comp=Z,2μm,18.0s					
RATZ	**Rangitukua**	**21.80 205**	P	**P**	**10 13 54.3 +6.7**	
TBI	**Tubuai**	**21.82 104**	*e*P	**P**	**10 13 49.3 +1.3**	
	comp=Z,953nm,1.2s					
TBI			*e*S	**S**	**10 17 44.0 -5.2**	
	comp=Z,2μm,26.2s					
TBI			*e*LR	LR	10 18 41.7	
	comp=Z,8μm,32.0s,baz=276					
PAE	**Paea**	**21.84 89**	*e*P	**P**	**10 13 48.8 +0.5**	
	comp=Z,50nm,1.3s					
PAE	**Paea**	**21.84 89**	*e*T	T	10 35 53.5	
	comp=Z,6.8nm,0.3s					
RITZ	**Rihia Road**	**21.86 205**	P	**P**	**10 13 54.1 +5.8**	
PPT2	**Papeete2**	**21.86 89**	*e*P	**P**	**10 13 49.6 +1.1**	
	comp=Z,237nm,1.4s					
PPT2			*e*S	**S**	**10 17 43.9 -6.2**	
	comp=Z,8μm,26.0s					
PPT2			*e*LR	LR	10 18 49.8	
	comp=Z,10μm,28.8s,baz=266					
PPT2	**Papeete2**	**21.86 89**	*e*T	T	10 35 55.1	
	comp=Z,6.6nm,0.4s					
PPT	**Papeete**	**21.86 89**	P	**P**	**10 13 45.6 -2.9**	
PPT					10 13 50.5	
PPT	**Papeete**	**21.86 89**	P	**P**	**10 13 50.5 +2.0**	
	comp=Z,93nm,1.1s,baz=325,slow=3.3,SNR=3.9					
PPT			LR	LR	10 21 23.9	
	comp=Z,2μm,18.1s,baz=244,slow=34					
PPT	**Papeete**	**21.86 89**	P	**P**	**10 13 45.6 -2.9**	
HIZ	**Hauiti**	**21.88 207**	P	**P**	**10 13 55.4 +6.9**	
HIZ	**Hauiti**	**21.88 207**	P	**P**	**10 13 54.6 +6.1**	
HIZ			IAmb	IAmb	10 14 07.7	
	comp=Z,383nm,1.3s					
HIZ			IAMs_20	IAMs_20	10 21 56.4	
	comp=Z,2μm,20.0s					
MCHZ	**McNeill Hill**	**21.94 203**	P	**P**	**10 13 52.3 +3.1**	
CKHZ	**Cape Kidnapper**	**22.00 202**	P	**P**	**10 13 52.5 +2.7**	
KWHZ	**Kaweka Forest**	**22.03 203**	P	**P**	**10 13 54.4 +4.3**	
TIAR	**Tiarei**	**22.08 89**	*e*P	**P**	**10 13 51.5 +0.7**	
	comp=Z,73nm,1.4s					
WTVZ	**West Tongariro**	**22.08 205**	P	**P**	**10 13 53.6 +2.8**	
TWVZ	**Taurewa**	**22.11 206**	P	**P**	**10 13 55.5 +4.4**	
NGZ	**Ngauruhoe**	**22.13 205**	P	**P**	**10 13 56.8 +5.5**	
TVO	**Taravao**	**22.14 89**	*e*P	**P**	**10 13 52.1 +0.6**	
	comp=Z,71nm,1.2s					
TVO	**Taravao**	**22.14 89**	*e*T	T	10 36 02.0	
	comp=Z,1.9nm,0.4s					
KAHZ	**Kahuranaki**	**22.19 202**	P	**P**	**10 13 57.5 +5.7**	
FWVZ	**Far West T-bar**	**22.22 205**	P	**P**	**10 13 55.8 +3.4**	
BHHZ	**Black Hill Sta**	**22.22 204**	P	**P**	**10 13 54.2 +2.0**	
WHVZ	**Whangaehu Hut**	**22.23 205**	P	**P**	**10 13 56.7 +4.2**	
KRHZ	**Kereru**	**22.24 203**	P	**P**	**10 13 55.0 +2.6**	
TRVZ	**Turoa**	**22.26 205**	P	**P**	**10 13 57.0 +4.2**	
MOVZ	**Moawhango**	**22.27 204**	P	**P**	**10 13 53.8 +1.0**	
PKVZ	**Pokaka**	**22.33 205**	P	**P**	**10 13 57.7 +4.3**	
PXZ	**Pawanui**	**22.40 202**	P	**P**	**10 13 57.7 +3.6**	
VRZ	**Vera Road**	**22.43 207**	P	**P**	**10 13 55.8 +1.4**	
PNHZ	**Pukenui**	**22.54 203**	P	**P**	**10 13 58.8 +3.2**	
PRHZ	**Porangahau**	**22.69 202**	P	**P**	**10 14 02.8 +5.6**	
TSZ	**Takapari Road**	**22.75 203**	P	**P**	**10 13 59.8 +1.9**	
DVHZ	**Dannevirke**	**22.89 203**	P	**P**	**10 14 03.1 +3.8**	
KHEZ	**Kahui Hut**	**22.89 208**	P	**P**	**10 14 03.3 +4.0**	
ANWZ	**Angora Road**	**22.92 202**	P	**P**	**10 14 05.1 +5.6**	
BFZ	**Birch Farm**	**23.20 202**	P	**P**	**10 14 05.7 +3.3**	
BFZ	**Birch Farm**	**23.20 202**	P	**P**	**10 14 06.2 +3.7**	
BFZ			IAmb	IAmb	10 14 27.9	
	comp=Z,144nm,1.0s					
MEH	**Mehetia**	**23.24 90**	*e*P	**P**	**10 14 03.3 +0.2**	
	comp=Z,33nm,1.2s					
MRZ	**Mangatainoka R**	**23.42 203**	P	**P**	**10 14 07.3 +2.6**	
HOWZ	**Holdsworth Sta**	**23.65 203**	P	**P**	**10 14 10.1 +3.1**	
OGWZ	**Otaki Gorge**	**23.71 204**	P	**P**	**10 14 10.3 +2.8**	
PMOR	**Pomariorio Ree**	**23.95 83**	*e*P	**P**	**10 14 09.8 -0.2**	
	comp=Z,279nm,1.4s					
PMOR	**Pomariorio Ree**	**23.95 83**	*e*T	T	10 38 49.2	
	comp=Z,16nm,0.2s					
MSWZ	**Moikau Station**	**24.20 203**	P	**P**	**10 14 14.1 +1.9**	
SNZO	**South Karori**	**24.31 204**	P	**P**	**10 14 15.5 +2.4**	
SNZO			IAmb	IAmb	10 14 28.4	
	comp=Z,224nm,1.3s					
SNZO	**South Karori**	**24.31 204**	IAMs_20	IAMs_20	10 25 16.9	
	comp=Z,1μm,20.0s					
PLWZ	**Palliser**	**24.33 203**	P	**P**	**10 14 15.8 +2.4**	
BHW	**Baring Head**	**24.34 203**	P	**P**	**10 14 15.4 +2.1**	
TCW	**Tory Channel**	**24.39 205**	P	**P**	**10 14 16.5 +2.6**	
TUWZ	**Tuamarina**	**24.71 205**	P	**P**	**10 14 16.9 +0.1**	
NNZ	**Nelson**	**24.76 206**	P	**P**	**10 14 17.4 +0.2**	
NNZ			IAMs_20	IAMs_20	10 24 56.7	
	comp=Z,1μm,18.0s					
QRZ	**Quartz Range**	**24.80 208**	P	**P**	**10 14 18.9 +1.3**	
QRZ			IAmb	IAmb	10 14 32.4	
	comp=Z,142nm,0.9s					
QRZ			IAMs_20	IAMs_20	10 25 09.7	
	comp=Z,1μm,19.0s					
BSWZ	**Blackbirch Sta**	**24.98 205**	P	**P**	**10 14 21.3 +2.1**	
TARA	**Tarawa**	**25.15 324**	P	**P**	**10 14 19.1 -1.8**	
TARA			IAmb	IAmb	10 14 22.0	
	comp=Z,124nm,1.0s					
THZ	**Tophouse**	**25.41 206**	P	**P**	**10 14 25.3 +2.1**	
THZ			IAMs_20	IAMs_20	10 24 21.0	
	comp=Z,2μm,19.0s					
DSZ	**Denniston Nort**	**25.87 208**	P	P	10 14 36.6 +9.4	
XMAS	**Kiritimati**	**26.04 36**	P	**P**	**10 14 26.8 -2.2**	
XMAS			IAmb	IAmb	10 14 33.7	
	comp=Z,159nm,1.0s					
XMAS			IAMs_20	IAMs_20	10 22 43.8	
	comp=Z,3μm,19.0s					
GVZ	**Greta Valley S**	**26.37 204**	P	P	10 14 43.6 +12	
LTZ	**Lake Taylor**	**26.52 206**	IAmb	IAmb	10 15 04.3	
	comp=Z,146nm,1.3s					
INZ	**Inchbonnie**	**26.82 207**	P	P	10 14 45.1 +9.3	
OKCZ	**Okains Bay**	**27.01 203**	P	P	10 14 52.3 +15	
OXZ	**Oxford**	**27.07 205**	IAmb	IAmb	10 14 52.3	
	comp=Z,203nm,1.3s					
MQZ	**McQueen's Vall**	**27.15 204**	P	P	10 14 51.0 +12	
RPZ	**Rata Peaks**	**27.79 206**	P	**P**	**10 14 45.5 +0.9**	
	comp=Z,18nm,0.7s,baz=332,slow=2.8,SNR=6.0					
LHI	**Lord Howe Isla**	**28.20 239**	P	**P**	**10 14 51.5 +3.2**	
LHI			IAmb	IAmb	10 14 53.5	
	comp=Z,145nm,0.9s					
HNR	**Honiara**	**28.41 287**	P	**P**	**10 14 50.0 -0.3**	
HNR			pmax	pmax		
	comp=Z,178nm,1.3s					
HNR			MLR	MLR		
	comp=Z,3μm,18.0s					
HNR	**Honiara**	**28.41 287**	P	**P**	**10 14 50.8 +0.4**	
	comp=Z,77nm,0.8s,baz=108,slow=20,SNR=2.7					
HNR			LR	LR	10 24 39.7	
	comp=Z,2μm,18.4s,baz=128,slow=33					
HNR	**Honiara**	**28.41 287**	P	**P**	**10 14 50.0 -0.3**	
HNR			IAmb	IAmb	10 15 09.5	
	comp=Z,178nm,1.3s					
HNR	**Honiara**	**28.41 287**	IAMs_20	IAMs_20	10 25 02.4	
	comp=Z,3μm,18.0s					
WHZ	**Wether Hill Ro**	**30.86 207**	IAmb	IAmb	10 15 27.5	
	comp=Z,88nm,1.1s					
TAOE	**Nuku Hiva Isla**	**33.08 76**	*e*T	T	10 49 43.9	
	comp=Z,17nm,0.2s					
EIDS	**Eidsvold**	**34.05 253**	P	**P**	**10 15 39.6 -0.4**	
	baz=34,SNR=13					
EIDS	**Eidsvold**	**34.05 253**	P	**P**	**10 15 39.2 -0.8**	
EIDS			IAmb	IAmb	10 15 43.0	
	comp=Z,89nm,1.4s					
EIDS			IAMs_20	IAMs_20	10 26 42.6	
	comp=Z,2μm,20.0s					
ARMA	**Armidale**	**34.12 244**	P	**P**	**10 15 41.7 +1.0**	
	baz=34,SNR=14					
ARMA	**Armidale**	**34.12 244**	P	**P**	**10 15 41.6 +1.0**	
ARMA			IAmb	IAmb	10 15 44.5	
	comp=Z,88nm,1.1s					
ARMA			IAMs_20	IAMs_20	10 26 14.3	
	comp=Z,2μm,20.0s					
MGCD	**Mangrove Creek**	**35.13 240**	P	**P**	**10 15 52.0 +2.8**	
	baz=35,SNR=12					
RMQ	**Roma**	**36.19 252**	P	**P**	**10 15 58.7 +0.2**	
	baz=36,SNR=16					
CNB	**Canberra Magne**	**37.05 237**	P	**P**	**10 16 07.2 +1.4**	
	baz=37,SNR=21					
CAN	**Canberra**	**37.34 237**	IAmb	IAmb	10 16 12.6	
	comp=Z,136nm,1.0s					
CAN			IAMs_20	IAMs_20	10 27 45.1	
	comp=Z,1μm,20.0s					
YNG	**Young**	**37.58 239**	P	**P**	**10 16 12.7 +2.5**	
	baz=38,SNR=5.0					
KRVT	**Keravat (AS076**	**37.69 289**	LR	LR	10 30 13.3	
	comp=Z,2μm,19.7s,baz=124,slow=34					
CTA	**Charters Tower**	**38.70 262**	S	**S**	**10 22 12.5 -4.3**	
	comp=Z,2.7nm,0.7s,baz=35,slow=10,SNR=4.0					
CTAO	**Charters Tower**	**38.70 262**	P	**P**	**10 16 19.0 -0.8**	
CTAO			pmax	pmax		
	comp=Z,346nm,1.6s					
CTAO			MLR	MLR		
	comp=Z,2μm,18.0s					
CTAO	**Charters Tower**	**38.70 262**	P	**P**	**10 16 19.0 -0.8**	
CTAO			IAmb	IAmb	10 16 23.3	
	comp=Z,346nm,1.6s					
CTAO	**Charters Tower**	**38.70 262**	IAMs_20	IAMs_20	10 31 32.3	
	comp=Z,2μm,18.0s					
PATS	**Pohnpei**	**38.83 310**	P	**P**	**10 16 20.2 -0.7**	
	baz=39,SNR=3.4					
PATS	**Pohnpei**	**38.83 310**	IAMs_20	IAMs_20	10 31 03.1	
	comp=Z,3μm,18.0s					
CMSA	**Cobar Meteorol**	**39.33 244**	P	**P**	**10 16 25.1 +0.2**	
	baz=39,SNR=24					
PMG	**Port Moresby**	**40.20 279**	*ce*P	**P**	**10 16 32.4 +0.1**	
PMG			pmax	pmax		
	comp=Z,576nm,1.1s					
PMG	**Port Moresby**	**40.20 279**	P	**P**	**10 16 31.9 -0.4**	
PMG			IAmb	IAmb	10 16 36.0	
	comp=Z,124nm,1.0s					
PMG	**Port Moresby**	**40.20 279**	IAMs_20	IAMs_20	10 32 35.9	
	comp=Z,3μm,18.0s					
QLP	**Quilpie**	**40.25 252**	P	**P**	**10 16 32.3 -0.3**	
	baz=40,SNR=22					
TOO	**Toolangi**	**40.64 235**	P	**P**	**10 16 37.4 +1.6**	
	baz=41,SNR=13					
TOO	**Toolangi**	**40.64 235**	P	**P**	**10 16 37.3 +1.4**	
TOO			pmax	pmax		
	comp=Z,63nm,1.1s					
TOO	**Toolangi**	**40.64 235**	P	**P**	**10 16 37.3 +1.4**	
TOO			IAMs_20	IAMs_20	10 29 25.4	
	comp=Z,1μm,20.0s					
MTSU	**Mount Surprise**	**40.78 265**	P	**P**	**10 16 36.3 -0.9**	
	baz=41,SNR=14					
MOO	**Moorlands**	**40.90 227**	P	**P**	**10 16 37.3 -0.6**	
	baz=41,SNR=4.6					
COEN	**Coen**	**42.67 270**	P	**P**	**10 16 52.1 -0.6**	
	baz=43,SNR=16					
COEN	**Coen**	**42.67 270**	IAMs_20	IAMs_20	10 31 10.6	
	comp=Z,817nm,18.0s					
STKA	**Stephens Creek**	**42.84 244**	P	**P**	**10 16 54.4 +0.5**	
	baz=43,SNR=18					
STKA	**Stephens Creek**	**42.84 244**	P	**P**	**10 16 53.5 -0.4**	
	comp=Z,35nm,1.0s,baz=89,slow=11,SNR=26					
STKA			LR	LR	10 32 25.5	
	comp=Z,1μm,19.1s,baz=75,slow=33					
STKA	**Stephens Creek**	**42.84 244**	P	**P**	**10 16 54.0 +0.1**	
STKA			IAMs_20	IAMs_20	10 31 45.2	
	comp=Z,308nm,20.0s					
MANU	**Manus Island**	**42.86 289**	IAMs_20	IAMs_20	10 32 28.5	
	comp=Z,1μm,21.0s					
KIP	**Kipapa**	**43.08 20**	P	**P**	**10 16 54.6 -1.1**	
KIP			pmax	pmax		
	comp=Z,168nm,1.1s					
KIP	**Kipapa**	**43.08 20**	P	**P**	**10 16 54.6 -1.1**	
KIP			IAmb	IAmb	10 16 56.4	
	comp=Z,168nm,1.1s					
ARPS	**Mount Arapiles**	**43.32 237**	P	**P**	**10 16 58.7 +1.0**	
	baz=44,SNR=7.1					
QIS	**Mount Isa**	**44.84 260**	P	**P**	**10 17 09.3 -0.8**	
	baz=45,SNR=8.3					
HTT	**Hallett**	**45.23 242**	P	**P**	**10 17 13.5 +0.4**	
	baz=45,SNR=26					
BBOO	**Buckleboo**	**47.58 243**	P	**P**	**10 17 31.7 +0.2**	
	baz=48,SNR=13					
BBOO	**Buckleboo**	**47.58 243**	P	**P**	**10 17 31.5 0.0**	
BBOO			IAmb	IAmb	10 17 36.1	
	comp=Z,102nm,1.1s					
BBOO			IAMs_20	IAMs_20	10 34 41.8	
	comp=Z,1μm,20.0s					
JAY	**Jayapura**	**48.68 284**	LR	LR	10 36 50.5	
	comp=Z,725nm,20.4s,baz=104,slow=34					
JAY	**Jayapura**	**48.68 284**	P	**P**	**10 17 40.0 -0.3**	
	comp=Z,613nm,1.3s,comp=Z,12μm					
GENI	**Genyem**	**49.14 284**	P	**P**	**10 17 44.4 +0.6**	
WR9	**Warramunga Arr**	**49.66 260**	IAMs_20	IAMs_20	10 39 42.4	
	comp=Z,274nm,18.0s					
WR8	**Warramunga Arr**	**49.67 260**	IAMs_20	IAMs_20	10 39 44.8	
	comp=Z,314nm,18.0s					
WR7	**Warramunga Arr**	**49.69 260**	IAMs_20	IAMs_20	10 39 43.4	
	comp=Z,275nm,18.0s					
WR6	**Warramunga Arr**	**49.71 260**	IAMs_20	IAMs_20	10 39 52.9	
	comp=Z,305nm,18.0s					
WR5	**Warramunga Arr**	**49.74 260**	IAMs_20	IAMs_20	10 39 53.5	
	comp=Z,288nm,18.0s					
ASAR	**Alice Springs**	**49.74 255**	P	**P**	**10 17 47.4 -0.9**	
ASAR					10 19 10.2	
ASAR	**Alice Springs**	**49.74 255**	P	**P**	**10 17 47.5 -0.8**	
	comp=Z,174nm,1.1s,baz=99,slow=6.9,SNR=268					
ASAR			PcP	**PcP**	**10 19 10.7 +1.4**	
	comp=Z,14nm,0.9s,baz=91,slow=5.9,SNR=3.0					
ASAR			S	**S**	**10 24 52.2 -5.3**	
	comp=Z,3.7nm,0.7s,baz=92,slow=15,SNR=12					
ASAR			LR	LR	10 36 38.0	
	comp=Z,845nm,21.3s,baz=92,slow=34					
ASAR	**Alice Springs**	**49.74 255**	P	**P**	**10 17 47.4 -0.9**	
ASAR				**PcP**	**10 19 10.2 +0.9**	
WR4	**Warramunga Arr**	**49.76 260**	IAMs_20	IAMs_20	10 39 46.1	
	comp=Z,258nm,19.0s					
WR3	**Warramunga Arr**	**49.78 260**	IAMs_20	IAMs_20	10 39 46.6	
	comp=Z,265nm,18.0s					
WC3	**Warramunga Arr**	**49.79 260**	IAMs_20	IAMs_20	10 39 46.9	
	comp=Z,266nm,19.0s					
WR2	**Warramunga Arr**	**49.80 260**	IAMs_20	IAMs_20	10 39 55.2	
	comp=Z,250nm,18.0s					
WB7	**Warramunga Arr**	**49.80 260**	IAMs_20	IAMs_20	10 39 46.2	
	comp=Z,239nm,18.0s					
WB8	**Warramunga Arr**	**49.80 260**	IAMs_20	IAMs_20	10 39 46.3	
	comp=Z,275nm,18.0s					
WB9	**Warramunga Arr**	**49.80 260**	IAMs_20	IAMs_20	10 39 55.3	
	comp=Z,294nm,18.0s					
WB5	**Warramunga Arr**	**49.81 260**	IAMs_20	IAMs_20	10 39 55.4	
	comp=Z,297nm,18.0s					
WB3	**Warramunga Arr**	**49.81 260**	IAMs_20	IAMs_20	10 38 10.5	
	comp=Z,278nm,18.0s					
WB4	**Warramunga Arr**	**49.81 260**	IAMs_20	IAMs_20	10 39 47.4	
	comp=Z,271nm,18.0s					
WB2	**Warramunga Arr**	**49.81 260**	IAmb	IAmb	10 17 51.7	
	comp=Z,116nm,1.1s					
WB2			IAMs_20	IAMs_20	10 39 39.5	
	comp=Z,286nm,19.0s					
WB1	**Warramunga Ar.**	**49.81 260**	IAMs_20	IAMs_20	10 39 47.5	
	comp=Z,260nm,19.0s					
WRAB	**Tennant Creek**	**49.81 260**	P	**P**	**10 17 47.2 -1.7**	
WRAB			pmax	pmax		
	comp=Z,131nm,1.1s					
WRAB	**Tennant Creek**	**49.81 260**	P	**P**	**10 17 47.2 -1.7**	
WRAB			IAmb	IAmb	10 17 51.7	
	comp=Z,131nm,1.1s					
WRAB	**Tennant Creek**	**49.81 260**	IAMs_20	IAMs_20	10 38 12.3	
	comp=Z,2μm,19.0s					
WC4	**Warramunga Arr**	**49.82 260**	IAMs_20	IAMs_20	10 39 47.7	
	comp=Z,295nm,20.0s					
WR1	**Warramunga Arr**	**49.82 260**	IAMs_20	IAMs_20	10 39 47.8	
	comp=Z,225nm,19.0s					
WRA	**Warramunga Arr**	**49.82 260**	P	**P**	**10 17 47.2 -1.7**	
WRA			pmax	pmax		
	comp=Z,8.0nm,1.0s					
WRA	**Warramunga Arr**	**49.82 260**	P	**P**	**10 17 47.8 -1.2**	
	comp=Z,94nm,1.0s,baz=97,slow=6.8,SNR=143					
WRA			PcP	**PcP**	**10 19 11.3 +1.6**	
	comp=Z,14nm,1.0s,baz=86,slow=4.0,SNR=3.2					
WRA			S	**S**	**10 24 51.7 -7.0**	
	comp=Z,3.2nm,1.1s,baz=101,slow=14,SNR=5.5					
WRA			LR	LR	10 38 32.9	
	comp=Z,2μm,18.2s,baz=100,slow=36					
WRA	**Warramunga Arr**	**49.82 260**	P	**P**	**10 17 47.2 -1.7**	
WC1	**Warramunga Arr**	**49.83 260**	IAMs_20	IAMs_20	10 38 19.9	
	comp=Z,261nm,20.0s					
SMPI	**Sarmi**	**50.72 284**	P	**P**	**10 17 55.6 -0.1**	
	comp=Z,58nm,1.1s					
GUMO	**Guam**	**53.28 305**	P	**P**	**10 18 16.5 +1.8**	
GUMO			pmax	pmax		
	comp=Z,453nm,1.4s					
GUMO	**Guam**	**53.28 305**	P	**P**	**10 18 16.5 +1.8**	
BAKI	**Biak**	**53.42 284**	P	**P**	**10 18 16.4 +0.5**	
MTN	**Manton Dam**	**54.30 268**	IAmb	IAmb	10 18 25.3	
	comp=Z,55nm,0.8s					
MTN			IAMs_20	IAMs_20	10 38 54.4	
	comp=Z,850nm,20.0s					
FORT	**Forrest**	**54.39 246**	IAMs_20	IAMs_20	10 36 34.6	
	comp=Z,1μm,22.0s					
KNRA	**Kununurra**	**55.85 264**	P	**P**	**10 18 34.7 +1.1**	
KNRA			IAMs_20	IAMs_20	10 38 57.2	
	comp=Z,1μm,22.0s					
FAKI	**Fak Fak**	**56.33 280**	P	**P**	**10 18 37.3 +0.3**	
BNDI	**Bandanaira**	**57.95 277**	P	**P**	**10 18 48.8 +0.3**	
SWI	**Sorong**	**58.01 282**	P	**P**	**10 18 49.3 +0.4**	
FITZ	**Fitzroy Crossi**	**58.25 260**	S	**S**	**10 26 46.8 -5.8**	
	comp=Z,3.4nm,1.0s,baz=63,slow=11,SNR=2.7					
SBA	**Scott Base**	**59.26 185**	P	**P**	**10 19 00.4 +3.8**	
SBA			pmax	pmax		
	comp=Z,82nm,1.2s					
SBA	**Scott Base**	**59.26 185**	P	**P**	**10 19 00.4 +3.8**	
SBA			IAmb	IAmb	10 19 02.9	
	comp=Z,82nm,1.1s					
SOEI	**Soe**	**61.62 269**	P	**P**	**10 19 15.3 +1.4**	
BATI	**Baumata**	**62.06 269**	LR	LR	10 47 06.8	
	comp=Z,1μm,18.2s,baz=142,slow=37					
TNTI	**Ternate**	**62.23 282**	P	**P**	**10 19 17.9 +0.1**	
SANI	**Sanana**	**62.48 278**	P	**P**	**10 19 19.5 0.0**	
	comp=Z,73nm,1.4s,comp=Z,1μm					
PSAD2	**Pilbara Seismi**	**62.77 255**	IAMs_20	IAMs_20	10 49 22.2	
	comp=Z,3μm,19.0s					
PSAB3	**Pilbara Seismi**	**62.87 255**	IAMs_20	IAMs_20	10 47 04.0	
	comp=Z,2μm,19.0s					
PSAB2	**Pilbara Seismi**	**62.88 255**	IAMs_20	IAMs_20	10 48 49.0	
	comp=Z,2μm,18.0s					
PSA00	**Pilbara Seismi**	**62.89 255**	P	**P**	**10 19 22.3 +0.1**	
PSA00			IAmb	IAmb	10 19 34.7	
	comp=Z,72nm,1.1s					
PSA00			IAMs_20	IAMs_20	10 47 38.3	
	comp=Z,2μm,19.0s					
PSA00	**Pilbara Seismi**	**62.89 255**	P	**P**	**10 19 20.6 -1.5**	
PSA00			IAmb	IAmb	10 19 25.2	
	comp=Z,38nm,1.0s					
PSAA2	**Pilbara Seismi**	**62.89 255**	IAMs_20	IAMs_20	10 48 24.3	
	comp=Z,2μm,19.0s					
PSAC3	**Pilbara Seismi**	**62.89 255**	IAMs_20	IAMs_20	10 45 25.5	
	comp=Z,2μm,20.0s					
PSAD1	**Pilbara Seismi**	**62.92 255**	IAMs_20	IAMs_20	10 46 21.3	
	comp=Z,2μm,19.0s					
PSAD3	**Pilbara Seismi**	**62.93 255**	IAMs_20	IAMs_20	10 47 58.5	
	comp=Z,2μm,20.0s					
MBWA	**Marble Bar**	**63.07 256**	P	**P**	**10 19 23.8 +0.4**	
MBWA			IAmb	IAmb	10 19 27.4	
	comp=Z,45nm,0.8s					
MBWA	**Marble Bar**	**63.07 256**	IAMs_20	IAMs_20	10 46 08.2	
	comp=Z,2μm,19.0s					
NWAO	**Narrogin (SRO)**	**63.39 242**	P	**P**	**10 19 26.6 +1.3**	
NWAO			pmax	pmax		
	comp=Z,98nm,1.2s					
NWAO	**Narrogin (SRO)**	**63.39 242**	P	**P**	**10 19 26.6 +1.3**	
EDFI	**Ende, Flores**	**64.35 269**	P	**P**	**10 19 31.8 -0.2**	
	comp=Z,63nm,1.1s,comp=Z,2μm					
MORW	**Morawa**	**64.94 246**	IAmb	IAmb	10 19 49.0	
	comp=Z,82nm,1.1s					
MORW			IAMs_20	IAMs_20	10 46 39.3	
	comp=Z,1μm,19.0s					
LUWI	**Luwuk**	**65.84 278**	P	**P**	**10 19 41.8 +0.2**	
LUWI	**Luwuk**	**65.84 278**	P	**P**	**10 19 42.1 +0.5**	
DAV	**Davao City (W)**	**66.37 287**	⇑*i*P	**P**	**10 19 46.1 +1.1**	
DAV	**Davao City (W)**	**66.37 287**	IAMs_20	IAMs_20	10 49 04.6	
	comp=Z,588nm,19.0s					
APSI	**Ampana**	**66.93 278**	P	**P**	**10 19 48.8 +0.2**	
CASY	**Casey**	**67.06 205**	P	**P**	**10 19 51.0 +2.5**	
KAPI	**Kappang**	**67.33 273**	P	**P**	**10 19 51.4 +0.3**	
KAPI			pmax	pmax		
	comp=Z,52nm,1.1s					
KAPI	**Kappang**	**67.33 273**	P	**P**	**10 19 51.4 +0.3**	
KAPI			IAmb	IAmb	10 20 05.4	
	comp=Z,52nm,1.1s					
CTBH	**Cotabato--PC H**	**67.64 287**	⇓*i*P	**P**	**10 19 53.8 +0.8**	
SPSI	**Sidrap Palu**	**67.66 274**	P	**P**	**10 19 53.3 +0.1**	
GIRL	**Giralia**	**67.75 253**	IAMs_20	IAMs_20	10 48 57.4	
	comp=Z,2μm,20.0s					
JHJ2	**Mitsune**	**69.32 318**	P	**P**	**10 20 03.3 +0.1**	
QSPA	**South Pole Qui**	**70.58 180**	P	**P**	**10 20 12.9 +2.3**	
QSPA	**South Pole Qui**	**70.58 180**	IAMs_20	IAMs_20	10 53 05.7	
	comp=Z,1μm,19.0s					
ATKA	**Atka Island**	**71.40 359**	P	**P**	**10 20 14.2 -1.3**	
JAGI	**Jajag, Banyuwa**	**71.54 267**	P	**P**	**10 20 15.8 -1.4**	
INU	**Inuyama**	**72.53 319**	P	**P**	**10 20 22.3 -0.3**	
INU			IAmb	IAmb	10 20 24.5	
	comp=Z,53nm,1.1s					
INU			IAMs_20	IAMs_20	10 55 44.0	
	comp=Z,293nm,19.0s					
MJAR	**Matsushiro Arr**	**72.58 320**	P	**P**	**10 20 21.5 -1.4**	
MJAR			pmax	pmax		
	comp=Z,28nm,1.3s					
MJAR	**Matsushiro Arr**	**72.58 320**	P	**P**	**10 20 22.7 -0.2**	
	comp=Z,36nm,1.0s,baz=161,slow=6.0,SNR=84					
MJAR			LR	LR	10 53 20.8	
	comp=Z,152nm,18.0s,baz=135,sl

VES	Vestal, Richgr	74.75	43	P	P	10 20 36.0	+0.3	
	baz=232,SNR=14							
IKP	In-Ko-Pah, Jac	74.82	47	P	P	10 20 36.9	+0.7	
	baz=235,SNR=13							
VOG	Valley Oaks Go	74.86	42	P	P	10 20 36.6	+0.3	
	baz=232							
EDW2	Edwards Air Fo	74.87	44	P	P	10 20 37.1	+0.6	
	baz=233,SNR=21							
ISA	Isabella, Lake	75.03	43	P	P	10 20 38.2	+0.8	
	baz=232,SNR=22							
ISA	Isabella, Lake	75.03	43	IAms_20	IAms_20	10 46 45.6		
	comp=Z,638nm,20.0s							
SKR	Severo-Kuril's	75.13	340	*e*P	P	10 20 31.0	-6.4	
SKR				*e*S	S	10 30 13.8	-1.7	
SKR				*e*SSS	SSS	10 38 11.5		
SKR				pmax	pmax			
	comp=Z,36nm,1.0s							
SKR				pmax	pmax			
	comp=Z,500nm,5.2s							
SKR				pmax	pmax			
	comp=Z,200nm,7.2s							
SKR				pmax	pmax			
	comp=Z,100nm,5.0s							
SKR				pmax	pmax			
	comp=Z,200nm,8.0s							
SKR				MLR	MLR			
	comp=Z,200nm,15.0s							
SKR				MLR	MLR			
	comp=Z,100nm,19.0s							
PFO	Pinyon Flats O	75.14	46	P	P	10 20 38.6	+0.5	
	baz=234,SNR=10							
PFO	Pinyon Flats O	75.14	46	*d* P	P	10 20 38.3	+0.2	
PFO				pmax	pmax			
	comp=Z,41nm,1.1s							
PFO	Pinyon Flats O	75.14	46	P	P	10 20 38.4	+0.3	
PFO	Pinyon Flats O	75.14	46	IAms_20	IAms_20	10 57 45.7		
	comp=Z,572nm,19.0s							
JNU	Nakatsue	75.19	314	P	P	10 20 38.8	+0.5	
	comp=Z,55nm,0.8s,baz=102,slow=1.3,SNR=34							
JNU	Nakatsue	75.19	314	IAms_20	IAms_20	10 47 22.1		
	comp=Z,472nm,21.0s							
SWSC	Sam W. Stewart	75.20	47	P	P	10 20 38.9	+0.6	
	baz=235							
BBRC	Big Bear Solar	75.21	45	P	P	10 20 39.2	+0.6	
	baz=234							
O02D	Mt. Diablo Mer	75.30	37	P	P	10 20 40.0	+1.1	
	baz=228,SNR=12							
CMB	Columbia Colle	75.32	40	IAms_20	IAms_20	10 46 43.9		
	comp=Z,760nm,21.0s							
ASAJ	Asahikawa	75.43	328	P	P	10 20 39.9	+0.5	
	comp=Z,20nm,0.9s,baz=143,slow=8.8,SNR=15							
LRMC	Laurel Mtn Rad	75.44	44	P	P	10 20 40.4	+0.6	
	baz=233,SNR=23							
RRX	Edison Barstow	75.52	44	P	P	10 20 40.6	+0.4	
	baz=234							
BELC	Belle Mtn. Jos	75.68	46	P	P	10 20 41.9	+0.6	
	baz=234,SNR=13							
WDC	Whiskeytown Da	75.71	37	IAmb	IAmb	10 20 43.0		
	comp=Z,85nm,1.6s							
CWC	Cottonwood Cre	75.76	43	P	P	10 20 42.3	+0.6	
	baz=232							
BC3	Big Chuckawall	75.85	46	P	P	10 20 43.0	+0.8	
	baz=235,SNR=26							
MDPB	Devils Postpil	75.87	41	IAms_20	IAms_20	10 51 55.5		
	comp=Z,908nm,18.0s							
N02D	Trinity Center	75.88	37	P	P	10 20 43.1	+0.9	
	baz=228,SNR=8.2							
GSC	Goldstone, Bar	75.90	44	P	P	10 20 42.9	+0.5	
	baz=234,SNR=20							
GSC	Goldstone, Bar	75.90	44	IAms_20	IAms_20	11 00 36.7		
	comp=Z,642nm,18.0s							
OMMB	Old Mammoth Mi	75.90	41	IAms_20	IAms_20	10 47 04.5		
	comp=Z,961nm,20.0s							
MPMC	Manual Prospec	75.91	43	P	P	10 20 43.3	+0.7	
	baz=233,SNR=51							
GLA	Glamis	75.93	47	P	P	10 20 43.6	+1.0	
	baz=235							
HEC	Hector,Ludlow	75.94	45	P	P	10 20 43.0	+0.3	
	baz=234,SNR=16							
O03E	Paynes Creek	75.94	38	P	P	10 20 42.6	+0.1	
	baz=229,SNR=12							
DAC	Darwin (Calif)	75.97	43	IAms_20	IAms_20	10 47 39.5		
	comp=Z,831nm,20.0s							
MLAC	Mammoth, Mammo	76.02	41	P	P	10 20 44.2	+0.9	
	baz=232,SNR=9.4							
TIN	Tinemaha, Big	76.04	42	P	P	10 20 44.0	+0.8	
	baz=232							
M02C	Callahan	76.07	36	P	P	10 20 44.2	+0.9	
	baz=228,SNR=6.6							
RUBR	Rubicon Trail	76.11	39	IAms_20	IAms_20	10 46 57.6		
	comp=Z,784nm,21.0s							
WAKR	Walker	76.19	40	IAmb	IAmb	10 20 46.3		
	comp=Z,94nm,1.5s							
WAKR				IAms_20	IAms_20	10 47 50.0		
	comp=Z,853nm,20.0s							
IRM	Iron Mountain	76.34	46	P	P	10 20 45.8	+0.8	
	baz=235,SNR=38							
GMRC	Granite Mounta	76.36	45	P	P	10 20 45.6	+0.5	
	baz=234,SNR=16							
YBH	Yreka Blue Hor	76.38	36	IAmb	IAmb	10 20 47.1		
	comp=Z,52nm,1.1s							
PET	Petropavlovsk	76.41	343	*e*P	P	10 20 44.0	-0.7	
PET				*e*S	S	10 30 27.3	-2.2	
PET				pmax	pmax			
	comp=Z,42nm,1.8s							
PET				MLR	MLR			
	comp=Z,300nm,18.0s							
PET				MLR	MLR			
	comp=Z,200nm,17.0s							
PET	Petropavlovsk	76.41	343	P	P	10 20 43.7	-1.0	
PET				IAmb	IAmb	10 20 46.9		
	comp=Z,149nm,1.8s							
PNTR	Pine Nut	76.46	40	IAmb	IAmb	10 20 47.6		
	comp=Z,64nm,1.1s							
PNTR				IAms_20	IAms_20	10 48 13.1		
	comp=Z,806nm,18.0s							
113A	Mohawk Valley,	76.51	48	IAms_20	IAms_20	10 46 39.1		
	comp=Z,522nm,20.0s							
K02D	Willamette Mer	76.51	35	P	P	10 20 46.3	+0.6	
	baz=227							
HSIG		76.53	52	IAms_20	IAms_20	10 47 28.2		
	comp=Z,496nm,20.0s							
Y12C	Blythe	76.54	47	P	P	10 20 46.8	+0.8	
	baz=235,SNR=15							
Y12C	Blythe	76.54	47	IAms_20	IAms_20	10 59 00.7		
	comp=Z,528nm,18.0s							
GRAC	Grapevine Rang	76.55	43	P	P	10 20 47.1	+1.1	
	baz=233,SNR=6.0							
FURC	Furnace Creek,	76.56	43	P	P	10 20 46.6	+0.6	
	baz=233,SNR=16							
VCNR	Virginia City	76.56	40	IAmb	IAmb	10 20 50.8		
	comp=Z,44nm,1.0s							
VCNR				IAms_20	IAms_20	10 47 56.7		
	comp=Z,716nm,19.0s							
TUQ	Turquoise Moun	76.56	45	P	P	10 20 46.8	+0.6	
	baz=234,SNR=8.4							
SHOC	Shoshone, Teco	76.61	44	P	P	10 20 46.8	+0.5	
	baz=234,SNR=14							
YERR	Yerington	76.61	40	IAmb	IAmb	10 20 48.3		
	comp=Z,77nm,1.3s							
YERR				IAms_20	IAms_20	10 47 47.1		
	comp=Z,865nm,19.0s							
214A	Organ Pipe Nat	76.73	49	P	P	10 20 48.1	+1.0	
	baz=237							
214A	Organ Pipe Nat	76.73	49	IAms_20	IAms_20	10 50 50.3		
	comp=Z,784nm,18.0s							
PEA0B	Petropavlovsk-	76.75	342	*d* P	P	10 20 46.5	-0.2	
PETK	Petropavlovsk-	76.75	342	P	P	10 20 46.6	-0.2	
	comp=Z,26nm,0.9s,baz=111,slow=8.1,SNR=27							
PETK				LR	LR	10 47 24.5		
	comp=Z,152nm,20.9s,baz=206,slow=30							
PETK	Petropavlovsk-	76.75	342	P	P	10 20 46.8	+0.1	
RYN	Ryan	76.83	41	IAmb	IAmb	10 20 52.3		
	comp=Z,61nm,1.2s							
RYN				IAms_20	IAms_20	10 48 03.5		
	comp=Z,716nm,20.0s							
NVAR	Mina Array Bea	76.84	41	P	P	10 20 48.4	+0.5	
	comp=Z,35nm,1.0s,baz=225,slow=8.6,SNR=105							
NVAR				LR	LR	10 48 08.2		
	comp=Z,721nm,19.6s,baz=262,slow=31							
NVAR	Mina Array Bea	76.84	41	P	P	10 20 47.8	0.0	
M04C	Macdoel	76.90	36	P	P	10 20 48.6	+0.6	
	baz=229,SNR=9.2							
SBUM	Sibu	76.93	277	IAms_20	IAms_20	10 58 21.3		
	comp=Z,119nm,20.0s							
L04D	Klamath Falls	76.93	36	P	P	10 20 48.8	+0.6	
	baz=228,SNR=6.2							
NV11	Mina Array Sit	76.93	41	IAmb	IAmb	10 20 50.3		
	comp=Z,86nm,1.2s							
NV11				IAms_20	IAms_20	10 47 45.7		
	comp=Z,966nm,20.0s							
PAHR	Pah Rah Range	76.98	39	IAmb	IAmb	10 20 50.5		
	comp=Z,68nm,1.4s							
PAHR				IAms_20	IAms_20	10 48 17.9		
	comp=Z,698nm,20.0s							
PDMCI	Parker Dam,Lak	77.11	46	P	P	10 20 50.2	+1.0	
	baz=236,SNR=12							
TPNV	Topopah Spring	77.24	43	P	P	10 20 50.8	+0.7	
	baz=234,SNR=14							
TPNV	Topopah Spring	77.24	43	IAmb	IAmb	10 20 52.4		
	comp=Z,144nm,2.0s							
TPNV				IAms_20	IAms_20	10 47 27.1		
	comp=Z,868nm,20.0s							
YULB	Yu-li	77.32	301	IAmb	IAmb	10 20 59.3		
	comp=Z,106nm,1.5s							
KVN	Kaiserville	77.35	40	IAmb	IAmb	10 20 52.5		
	comp=Z,64nm,1.3s							
KVN				IAms_20	IAms_20	10 47 30.6		
	comp=Z,661nm,19.0s							
YSS	Yuzh-Sakhalins	77.42	330κ	*i* P	P	10 20 51.3	+0.7	
YSS				*e*		10 21 02.8		
YSS				pmax	pmax			
	comp=Z,90nm,1.3s							
YSS				pmax	pmax			
	comp=Z,800nm,5.3s							
YSS				MLR	MLR			
	comp=Z,300nm,14.0s							
YSS	Yuzh-Sakhalins	77.42	330	P	P	10 20 51.3	+0.7	
YSS				IAms_20	IAms_20	10 48 26.5		
	comp=Z,337nm,19.0s							
K04D	Chiloquin, OR	77.51	36	P	P	10 20 51.9	+0.6	
	baz=228							
Y14A	Wickenburg	77.69	47	IAms_20	IAms_20	10 52 18.8		
	comp=Z,495nm,18.0s							
SHPR	Sheep Range	77.69	44	IAms_20	IAms_20	10 47 50.1		
	comp=Z,567nm,21.0s							
J04D	Umpqua Nationa	77.72	35	P	P	10 20 53.5	+0.8	
	baz=228,SNR=5.9							
SSLB	Suanglung	77.79	301	IAmb	IAmb	10 21 05.6		
	comp=Z,50nm,1.1s							
CISI	Cisompet, Garu	77.79	266	IAmb	IAmb	10 21 05.3		
	comp=Z,96nm,1.1s							
CISI				IAms_20	IAms_20	10 48 18.9		
	comp=Z,481nm,21.0s							
MOD	Modoc Plateau	77.85	37	IAmb	IAmb	10 20 55.1		
	comp=Z,84nm,1.4s							
OHAK	Old Harbor	78.11	11	IAmb	IAmb	10 20 55.2		
	comp=Z,138nm,1.4s							
LEM	Lembang	78.20	267	P	P	10 20 57.2	+1.3	
	comp=Z,88nm,0.8s,baz=94,slow=3.9,SNR=18							
J05D	Fort Rock, OR	78.23	36	P	P	10 20 56.3	+0.9	
	baz=229,SNR=15							
TUC	Tucson	78.37	50	P	P	10 20 57.8	+1.4	
	baz=238							
TUC	Tucson	78.37	50	P	P	10 20 56.9	+0.5	
TUC				pmax	pmax			
	comp=Z,48nm,1.2s							
TUC	Tucson	78.37	50	P	P	10 20 56.9	+0.5	
TUC	Tucson	78.37	50	IAms_20	IAms_20	10 52 24.7		
	comp=Z,730nm,19.0s							
R11A	Troy Canyon, C	78.49	42	P	P	10 20 57.5	+0.5	
	baz=234,SNR=33							
R11A	Troy Canyon, C	78.49	42	IAms_20	IAms_20	10 48 06.1		
	comp=Z,604nm,20.0s							
PINE	Pine Mountain	78.72	35	IAmb	IAmb	10 21 00.2		
	comp=Z,87nm,1.1s							
BMN	Battle Mountai	78.73	40	IAmb	IAmb	10 21 00.1		
	comp=Z,81nm,1.3s							
BMN				IAms_20	IAms_20	11 01 32.2		
	comp=Z,882nm,18.0s							
KDAK	Kodiak Island	78.76	11	*i* P	P	10 20 57.6	-0.2	
KDAK	Kodiak Island	78.76	11	P	P	10 20 57.9	+0.1	
I05D	Terrebonne, OR	78.87	35	P	P	10 20 59.1	+0.3	
	baz=228							
319A	Douglas	78.98	51	IAmb	IAmb	10 21 02.5		
	comp=Z,63nm,1.1s							
319A				IAms_20	IAms_20	10 52 20.0		
	comp=Z,784nm,18.0s							
X16A	Lo Mia Camp, P	79.03	47	IAms_20	IAms_20	10 52 37.0		
	comp=Z,615nm,18.0s							
TEY	Ternei	79.14	326ǁ	*e*P	P	10 21 01.2	+1.0	
TEY				pmax	pmax			
	comp=E,10.0nm,1.0s							
TEY				pmax	pmax			
	comp=N,10.0nm,1.1s							
TEY				pmax	pmax			
	comp=Z,10.0nm,2.0s							
F04D	Rainier, OR	79.17	33	P	P	10 21 01.4	+1.2	
	baz=227							
F04A	Amboy	79.37	33	IAmb	IAmb	10 21 05.4		
	comp=Z,85nm,1.4s							
TJN	Taejon	79.41	315	*de*P	P	10 21 02.4	+0.5	
G05D	Wamic, OR	79.48	34	P	P	10 21 02.4	+0.3	
	baz=228							
U15A	North Rim	79.55	45	IAms_20	IAms_20	10 49 36.4		
	comp=Z,473nm,22.0s							
HPIG		79.56	57	IAms_20	IAms_20	10 52 44.9		
	comp=Z,1μm,18.0s							
KSRS	Korea Array	79.64	316	P	P	10 21 05.0	+1.9	
	comp=Z,50nm,1.0s,baz=134,slow=5.9,SNR=116							
KSAR	Wonju Array Be	79.66	316	P	P	10 21 04.2	+1.0	
KSAR	Wonju Array Be	79.66	316	P	P	10 21 04.2	+1.0	
WUAZ	Wupatki	79.67	47	P	P	10 21 05.3	+1.8	
	baz=237							
KS19	Wonju Array Si	79.70	316	IAmb	IAmb	10 21 06.5		
	comp=Z,170nm,1.4s							
E04D	Cinebar	79.71	32	P	P	10 21 03.6	+0.3	
	baz=227							
F05D	White Salmon	79.83	34	P	P	10 21 04.3	+0.3	
	baz=228							
D03D	Eldon	80.12	32	P	P	10 21 06.2	+0.7	
	baz=227							
ELK	Elko	80.12	40	IAms_20	IAms_20	10 55 10.1		
	comp=Z,882nm,18.0s							
ZAIG	Zacatecas	80.19	62	IAms_20	IAms_20	10 55 36.1		
	comp=Z,539nm,20.0s							
QZH	Quanzhou	80.23	301	P	P	10 21 09.9	+3.4	
QZH				S	S	10 31 18.0	+6.2	
QZH				pmax	pmax			
	comp=Z,730nm,7.0s							
TYV	Tymovskoe	80.35	333	*e*P	P	10 21 20.1	+14	
TYV				pmax	pmax			
	comp=Z,700nm,4.2s							
TYV				pmax	pmax			
	comp=Z,62nm,1.4s							
D05A	Enumclaw	80.43	32	IAmb	IAmb	10 21 09.3		
	comp=Z,168nm,1.4s							
VLA	Vladivostok	80.52	322	*de*P	P	10 21 08.8	+1.1	
VLA				pmax	pmax			
	comp=Z,14nm,1.0s							
W18A	Petrified Fore	80.59	48	P	P	10 21 09.7	+1.1	
	baz=238							
W18A	Petrified Fore	80.59	48	IAms_20	IAms_20	10 53 20.3		
	comp=Z,464nm,19.0s							
MSHR	Mys Shultsa	80.62	321⇑	*e*P	P	10 21 09.8	+1.6	
F07A	Phinny Hill Vi	80.64	34	IAms_20	IAms_20	10 51 47.2		
	comp=Z,2μm,18.0s							
121A	Cookes Peak, D	80.66	51	P	P	10 21 10.6	+1.6	
	baz=240,SNR=13							
121A	Cookes Peak, D	80.66	51	IAmb	IAmb	10 21 14.7		
	comp=Z,73nm,1.3s							
121A				IAms_20	IAms_20	10 49 50.4		
	comp=Z,929nm,20.0s							
G08A	Pilot Rock	80.77	35	IAmb	IAmb	10 21 10.8		
	comp=Z,64nm,1.2s							
B05A	Bryant	81.11	31	P	P	10 21 11.0	+0.3	
	baz=227,SNR=9.1							
E07A	Sunnyside	81.11	34	IAmb	IAmb	10 21 15.2		
	comp=Z,53nm,1.1s							
USRK	Ussuriysk Ar.	81.13	323	P	P	10 21 10.9	0.0	
USRK	Ussuriysk Ar.	81.13	323	P	P	10 21 11.9	+0.9	
	comp=Z,9.9nm,1.1s,baz=113,slow=4.4,SNR=30							
USRK	Ussuriysk Ar.	81.13	323	P	P	10 21 10.9	0.0	
USA0B	Ussuriysk Arra	81.13	323	*d* P	P	10 21 11.7	+0.8	
USA0B	Ussuriysk Arra	81.13	323	IAmb	IAmb	10 21 13.7		
	comp=Z,177nm,1.9s							
USA0B				IAms_20	IAms_20	10 54 11.0		
	comp=Z,276nm,20.0s							
HAWA	Hanford	81.17	34	IAmb	IAmb	10 21 12.8		
	comp=Z,65nm,1.3s							
DUG	Dugway, Tooele	81.32	42	P	P	10 21 12.8	+0.5	
	baz=236							
DUG	Dugway, Tooele	81.32	42	IAms_20	IAms_20	10 55 41.8		
	comp=Z,673nm,19.0s							
BMO	Blue Mountains	81.41	36	IAms_20	IAms_20	10 51 11.6		
	comp=Z,863nm,20.0s							
TLIG	Tlapa	81.44	68	IAms_20	IAms_20	10 52 49.1		
	comp=Z,755nm,18.0s							
SVW2	Sparrevohn	81.46	8	IAmb	IAmb	10 21 13.1		
	comp=Z,92nm,1.5s							
C06D	Leavenworth	81.47	32	P	P	10 21 12.9	+0.2	
	baz=228							
E08A	Dider Farm, El	81.49	34	IAmb	IAmb	10 21 14.4		
	comp=Z,70nm,1.4s							
SEW	Seward	81.51	11	IAmb	IAmb	10 21 24.5		
	comp=Z,74nm,1.0s							
SEW				IAms_20	IAms_20	10 57 50.2		
	comp=Z,1μm,20.0s							
B06A	Marblemount	81.58	32	IAms_20	IAms_20	10 52 29.8		
	comp=Z,1μm,19.0s							
MNTX	Cornudas Mount	82.03	52	P	P	10 21 17.3	+1.3	
	baz=241							
MNTX	Cornudas Mount	82.03	52	IAmb	IAmb	10 21 18.8		
	comp=Z,82nm,1.4s							
Y22D	IRIS PASSCAL I	82.06	50	IAms_20	IAms_20	10 54 21.3		
	comp=Z,477nm,19.0s							
PMBI	Palembang	82.14	270	IAms_20	IAms_20	10 58 10.8		
	comp=Z,435nm,20.0s							
F10A	Beach Ranch, E	82.15	35	IAmb	IAmb	10 21 17.6		
	comp=Z,67nm,1.4s							
TX31	Lajitas Ar. Si	82.23	55	IAmb	IAmb	10 21 22.9		
	comp=Z,100nm,1.4s							
TX32	Lajitas Array	82.23	55	IAmb	IAmb	10 21 22.9		
	comp=Z,100nm,1.4s							
TXAR	Lajitas Array	82.23	55	P	P	10 21 17.7	+0.4	
TXAR	Lajitas Array	82.23	55	P	P	10 21 18.6	+1.3	
	comp=Z,19nm,1.0s,baz=212,slow=6.8,SNR=104							
TXAR				LR	LR	10 51 31.1		
	comp=Z,388nm,18.9s,baz=0.0,slow=31							
TXAR	Lajitas Array	82.23	55	P	P	10 21 17.7	+0.4	
PLID	Pearl Lake	82.28	37	IAmb	IAmb	10 21 18.8		
	comp=Z,76nm,1.7s							
HIN	Hinchinbrook I	82.36	13	IAms_20	IAms_20	10 57 12.7		
	comp=Z,995nm,18.0s							
MVCO	Mesa Verde	82.54	46	P	P	10 21 18.9	+0.1	
	baz=239,SNR=6.2							
SUA	Susitna One	82.55	10	IAmb	IAmb	10 21 21.5		
	comp=Z,57nm,1.0s							
SUA				IAms_20	IAms_20	10 58 08.7		
	comp=Z,835nm,18.0s							
PV05	Paradox Valley	82.58	45	IAms_20	IAms_20	11 00 54.0		
	comp=Z,692nm,20.0s							
EYAK	Cordova Ski Ar	82.66	13	P	P	10 21 18.1	-0.4	
EYAK				IAmb	IAmb	10 21 22.2		
	comp=Z,72nm,1.2s							
EYAK				IAms_20	IAms_20	10 58 20.6		
	comp=Z,1μm,21.0s							
GLI	Glacier Island	82.68	12	IAms_20	IAms_20	10 54 13.0		
	comp=Z,668nm,20.0s							
FID	Port Fidalgo	82.69	13	IAmb	IAmb	10 21 19.5		
	comp=Z,106nm,1.4s							
FID				IAms_20	IAms_20	10 58 51.2		
	comp=Z,740nm,19.0s							
C09A	Chrisman Ranch	82.74	33	IAmb	IAmb	10 21 20.8		
	comp=Z,67nm,1.4s							
C09A				IAms_20	IAms_20	10 51 55.6		
	comp=Z,1μm,20.0s							
RAGM	Ragged Mountai	82.75	14	IAmb	IAmb	10 21 23.6		
	comp=Z,100nm,1.2s							
RAGM				IAms_20	IAms_20	10 58 07.9		
	comp=Z,2μm,18.0s							
MDJ	Mudanjiang	82.75	322	P	P	10 21 20.6	+1.1	
MDJ				pP	PcP	10 21 23.2	-1.1	
MDJ				sP	sP	10 21 24.9	+2.7	
MDJ				S	S	10 31 41.3	+4.1	
MDJ				pmax	pmax			
	comp=Z,57nm,1.7s							
MDJ				pmax	pmax			
	comp=Z,930nm,8.4s							
MDJ				LR	LR			
	comp=Z,720nm,12.4s							
MDJ				LR	LR			
	comp=Z,470nm,13.8s							
MDJ				LR	LR			
	comp=Z,960nm,13.2s							
MDJ	Mudanjiang	82.75	322	IAms_20	IAms_20	10 50 45.0		
	comp=Z,382nm,22.0s							
PV17	East Wray Mesa	82.78	45	IAmb	IAmb	10 21 25.1		
	comp=Z,84nm,1.3s							
PV19	Morning Glory	82.78	45	IAmb	IAmb	10 21 22.5		
	comp=Z,75nm,1.3s							
HMT	Hamilton	82.79	14	IAms_20	IAms_20	10 57 14.1		
	comp=Z,2μm,19.0s							
PV18	Skein Mesa, Pa	82.80	45	P	P	10 21 20.9	+0.7	
PV18				IAmb	IAmb	10 21 22.5		
	comp=Z,60nm,1.2s							
PV20	West Nyswonger	82.81	45	IAmb	IAmb	10 21 25.2		
	comp=Z,69nm,1.1s							
PV13	Radium Mtn., P	82.81	45	IAmb	IAmb	10 21 25.4		
	comp=Z,87nm,1.3s							
ANMO	Albuquerque	82.82	49	P	P	10 21 21.4	+1.1	
	baz=240							
ANMO	Albuquerque	82.82	49	*d* P	P	10 21 21.5	+1.1	
ANMO				pmax	pmax			
	comp=Z,62nm,1.7s							
ANMO	Albuquerque	82.82	49	P	P	10 21 20.9	+0.5	
ANMO				IAmb	IAmb	10 21 27.0		
	comp=Z,39nm,1.1s							
PV16	Nyswonger Mesa	82.83	45	IAmb	IAmb	10 21 25.4		
	comp=Z,63nm,1.2s							
PV16				IAms_20	IAms_20	11 03 35.7		
	comp=Z,623nm,18.0s							
PV23	Carpenter Ridg	82.84	45	IAmb	IAmb	10 21 22.8		
	comp=Z,55nm,1.0s							
WRAK	Wrangell Islan	82.84	21	IAmb	IAmb	10 21 21.6		
	comp=Z,84nm,1.4s							
PV03	Paradox Valley	82.84	45	IAmb	IAmb	10 21 25.4		
	comp=Z,72nm,1.3s							
PV11	David Mesa, Pa	82.85	45	IAmb	IAmb	10 21 25.5		
	comp=Z,116nm,1.4s							
NKL	Nikolayevsk	82.86	334	*e*P	P	10 21 17.5	-2.3	
NKL				*e*S	S	10 31 26.1	-12	
NKL				pmax	pmax			
	comp=E,6.0nm,1.4s							
NKL				pmax	pmax			
	comp=Z,42nm,1.4s							
NKL				pmax	pmax			
	comp=N,5.0nm,0.8s							
PV04	Paradox Valley	82.88	45	IAmb	IAmb	10 21 23.1		
	comp=Z,60nm,1.2s							
PV02	Paradox Valley	82.89	45	IAmb	IAmb	10 21 25.8		
	comp=Z,57nm,1.2s							
PV02				IAms_20	IAms_20	11 02 17.0		
	comp=Z,2μm,18.0s							
SKT	Skwentna	82.91	10	IAmb	IAmb	10 21 19.9		
	comp=Z,100nm,1.4s							
PV12	Saucer Basin,	82.91	45	IAmb	IAmb	10 21 23.3		
	comp=Z,102nm,1.2s							
KNK	Knik Glacier	82.91

comp=Z,529nm,19.0s
TGL Tana Glacier 83.49 14 IAMs_20 IAMs_20 10 55 13.6
comp=Z,1μm,18.0s
RDMU Red Mountain 83.59 43 P **P** **10 21 24.2 -0.1**
NEW Newport 83.63 34 P **P** **10 21 23.6 -0.4**
baz=231,SNR=6.7
NEW Newport 83.63 34 IAMs_20 IAMs_20 10 53 20.2
comp=Z,2μm,18.0s
BESE Bessie Mountai 83.77 19 IAmb IAmb 10 21 26.2
comp=Z,76nm,1.4s
VRDI Verde Repeater 83.77 14 IAMs_20 IAMs_20 10 55 54.9
comp=Z,856nm,20.0s
AHID Auburn Hatcher 83.82 41 IAmb IAmb 10 21 29.8
comp=Z,63nm,1.1s
AHID IAMs_20 IAMs_20 10 57 54.9
comp=Z,866nm,19.0s
BALM Baldy 83.85 14 IAMs_20 IAMs_20 10 57 21.1
comp=Z,794nm,19.0s
GLB Gilahina Butte 83.88 13 IAMs_20 IAMs_20 10 57 35.6
comp=Z,687nm,19.0s
S22A 4UR Ranch, Cre 83.95 47 P **P** **10 21 27.8 +1.5**
baz=240,SNR=51
S22A 4UR Ranch, Cre 83.95 47 IAmb IAmb 10 21 29.1
comp=Z,97nm,1.4s
MCARA McCarthy VSAT 84.00 14 P **P** **10 21 25.4 -0.1**
MCARA IAmb IAmb 10 21 26.9
comp=Z,92nm,1.2s
MCARA IAMs_20 IAMs_20 10 57 54.2
comp=Z,918nm,18.0s
CTGM Chitina Glacie 84.03 15 IAmb IAmb 10 21 27.1
comp=Z,52nm,1.0s
CTGM IAMs_20 IAMs_20 11 01 38.8
comp=Z,502nm,20.0s
MAW Mawson 84.19 198 P **P** **10 21 28.6 +2.0**
comp=Z,53nm,1.0s,baz=122,slow=6.3,SNR=93
MAW Mawson 84.19 198 P **P** **10 21 28.6 +2.0**
O20A White River Ci 84.22 44 P **P** **10 21 28.1 +0.7**
baz=239,SNR=25
O20A White River Ci 84.22 44 IAmb IAmb 10 21 32.2
comp=Z,64nm,1.2s
REDW Red Top Meadow 84.30 40 P **P** **10 21 27.3 -0.5**
REDW IAmb IAmb 10 21 29.7
comp=Z,83nm,1.4s
TPAW Teton Pass 84.31 40 IAmb IAmb 10 21 29.9
comp=Z,70nm,1.4s
KLR Kul'dur 84.38 327 P **P** **10 21 28.2 +0.5**
comp=Z,11nm,1.1s,baz=122,slow=6.5,SNR=9.5
DLMT Dillon 84.39 38 IAmb IAmb 10 21 32.6
comp=Z,68nm,1.1s
SNOW Snow King Moun 84.41 40 IAmb IAmb 10 21 30.4
comp=Z,52nm,1.2s
MSO Missoula 84.47 36 P **P** **10 21 28.0 -0.4**
baz=234,SNR=12
MSO Missoula 84.47 36 P **P** **10 21 27.1 -1.3**
KTH Kantishna Hill 84.48 10 IAmb IAmb 10 21 29.3
comp=Z,64nm,1.2s
KTH IAMs_20 IAMs_20 11 00 15.8
comp=Z,845nm,19.0s
TRF Thorofare Moun 84.49 10 IAMs_20 IAMs_20 10 55 30.0
comp=Z,1μm,20.0s
IMW Indian Meadow 84.54 40 IAmb IAmb 10 21 33.7
comp=Z,64nm,1.2s
SMCO Snowmass 84.58 45 IAmb IAmb 10 21 31.9
comp=Z,76nm,1.4s
SMCO IAMs_20 IAMs_20 10 53 46.4
comp=Z,571nm,22.0s
DL2 Dalian 84.61 314 ⇓P **P** **10 21 30.7 +1.6**
DL2 S **S** **10 31 57.7 +1.6**
DL2 pmax pmax
comp=Z,77nm,1.3s
DL2 pmax pmax
comp=Z,700nm,6.5s
DL2 LR LR
comp=Z,370nm,19.9s
DL2 LR LR
comp=Z,440nm,19.2s
DL2 LR LR
comp=Z,450nm,21.7s
RND Reindeer 84.69 10 IAMs_20 IAMs_20 10 55 02.1
comp=Z,607nm,20.0s
CN2 Changchun 84.73 320 *e*P **P** **10 21 30.5 +0.9**
CN2 *e*S **S** **10 31 55.4 -1.8**
CN2 sS ScS 10 32 06.1 -2.2
CN2 pmax pmax
comp=Z,40nm,1.8s
CN2 pmax pmax
comp=Z,700nm,9.0s
CN2 LR LR
comp=Z,1μm,11.0s
BW06 Boulder Array 84.77 41 P **P** **10 21 30.1 -0.1**
baz=238,SNR=26
PDAR Pinedale Array 84.77 41 P **P** **10 21 30.0 -0.2**
comp=Z,18nm,0.9s,baz=219,slow=3.5,SNR=78
PDAR LR LR 10 53 00.6
comp=Z,396nm,19.5s,baz=250,slow=31
PDAR Pinedale Array 84.77 41 P **P** **10 21 29.5 -0.7**
FLWY Flagg Ranch 84.79 40 IAmb IAmb 10 21 35.1
comp=Z,92nm,1.2s
JTMT Jette 84.83 35 IAMs_20 IAMs_20 10 54 13.1
comp=Z,900nm,20.0s
SDCO Great Sand Dun 84.87 47 P **P** **10 21 31.7 +0.8**
baz=241,SNR=29
SDCO Great Sand Dun 84.87 47 P **P** **10 21 31.1 +0.2**
PAX Paxson 84.91 12 IAmb IAmb 10 21 31.0
comp=Z,96nm,1.4s
BPAW Bear Paw Mtn. 84.99 9 IAmb IAmb 10 21 30.5
comp=Z,50nm,1.3s
BPAW IAMs_20 IAMs_20 10 56 34.2
comp=Z,724nm,19.0s
MSTX Muleshoe 85.03 52 P **P** **10 21 32.6 +1.0**
baz=243
MSTX Muleshoe 85.03 52 IAMs_20 IAMs_20 10 52 22.3
comp=Z,757nm,21.0s
H17A Grant Village 85.03 39 P **P** **10 21 32.9 +1.4**
baz=237,SNR=5.4
BOZ Bozeman (W) 85.08 38 P **P** **10 21 32.0 +0.5**
baz=236,SNR=40
BOZ Bozeman (W) 85.08 38 IAmb IAmb 10 21 33.4
comp=Z,55nm,1.2s
833A Chaparral WMA, 85.15 58 P **P** **10 21 32.9 +0.8**
baz=245
833A Chaparral WMA, 85.15 58 IAMs_20 IAMs_20 10 52 41.3
comp=Z,574nm,19.0s
MENT Mentasta 85.24 13 P **P** **10 21 31.8 0.0**
MENT IAMs_20 IAMs_20 10 59 59.7
comp=Z,726nm,18.0s
BWN Browne 85.30 10 IAMs_20 IAMs_20 10 56 14.1
comp=Z,795nm,19.0s
T25A Trinidad 85.33 48 P **P** **10 21 33.8 +0.6**
baz=242
T25A Trinidad 85.33 48 IAMs_20 IAMs_20 10 56 24.8
comp=Z,482nm,18.0s
RWWY Rawlins 85.69 43 IAmb IAmb 10 21 39.1
comp=Z,47nm,1.1s
Q24A Divide 85.70 46 P **P** **10 21 35.9 +0.8**
baz=241,SNR=6.1
NEA Nenana 85.74 10 IAmb IAmb 10 21 36.2
comp=Z,69nm,1.2s
NEA IAMs_20 IAMs_20 11 00 09.4
comp=Z,861nm,20.0s
JCT Junction City 85.75 56 P **P** **10 21 35.3 +0.2**
baz=245
JCT Junction City 85.75 56 IAmb IAmb 10 21 39.6
comp=Z,70nm,1.6s
JCT IAMs_20 IAMs_20 10 55 52.7
comp=Z,602nm,20.0s
BCAR Beaver Creek A 85.76 14 P **P** **10 21 33.7 -0.7**
ISCO Idaho Springs 85.80 45 P **P** **10 21 36.4 +0.9**
baz=240,SNR=10
DOT Dot Lake 85.80 12 IAMs_20 IAMs_20 10 57 05.6
comp=Z,685nm,19.0s
WALA Waterton Lakes 85.80 34 IAmb IAmb 10 21 36.3
comp=Z,63nm,1.4s
HDA Harding Lake 85.94 11 P **P** **10 21 35.0 -0.3**
baz=204
HDA Harding Lake 85.94 11 IAMs_20 IAMs_20 11 00 56.4
comp=Z,618nm,18.0s
GO06 Curarrehue 85.96 131 IAmb IAmb 10 21 40.1
comp=Z,66nm,1.1s
KVTX Kingsville 86.04 59 IAMs_20 IAMs_20 11 05 58.8
comp=Z,801nm,18.0s
WHN Wuhan 86.05 304⇑*i*P **P** **10 21 38.5 +2.0**
WHN S **S** **10 32 16.5 +5.7**
WHN pmax pmax
comp=Z,280nm,1.6s
WHN pmax pmax
comp=Z,2μm,4.6s
WHN LR LR
comp=Z,1μm,19.6s
SCRK Sand Creek 86.11 12 IAmb IAmb 10 21 37.6
comp=Z,70nm,1.1s
N23A Red Feather La 86.12 44 P **P** **10 21 38.0 +1.0**
baz=240
PLCA Paso Flores 86.18 132 P **P** **10 21 38.9 +1.6**
comp=Z,26nm,1.0s,baz=264,slow=5.2,SNR=47
PLCA LR LR 10 55 46.1
comp=Z,290nm,18.2s,baz=276,slow=33
PLCA Paso Flores 86.18 132 IAmb IAmb 10 21 41.3
comp=Z,75nm,1.2s
PLCA Paso Flores 86.18 132 *e*P **P** **10 21 40.1 +2.8**
PLCA Paso Flores 86.18 132 *e*P **P** **10 21 40.1 +2.8**
RLMT Red Lodge 86.21 39 P **P** **10 21 37.8 +0.5**
baz=238,SNR=6.3
TCOL CIGO, UAF Yank 86.21 10 P **P** **10 21 36.2 -0.4**
baz=203
COLA College 86.22 10*d i*P **P** **10 21 35.8 -0.7**
COLA pmax pmax
comp=Z,176nm,1.0s
COLA College 86.22 10 P **P** **10 21 35.5 -1.0**
AMTX Amarillo 86.25 51 P **P** **10 21 38.5 +0.9**
baz=243
AMTX Amarillo 86.25 51 IAMs_20 IAMs_20 10 56 54.5
comp=Z,868nm,19.0s
ILAR Eielson Array 86.29 11 P **P** **10 21 35.8 -1.1**
ILAR Eielson Array 86.29 11 P **P** **10 21 36.2 -0.7**
comp=Z,22nm,0.8s,baz=226,slow=4.9,SNR=226
ILAR PKKPbc **PKKPbc** **10 39 36.0 -2.0**
comp=Z,0.6nm,0.8s,baz=352,slow=1.2,SNR=5.4
ILAR PKPPKP **P'P'df** **10 47 43.5 +6.1**
comp=Z,0.8nm,1.1s,baz=327,slow=4.9,SNR=4.5
ILAR LR LR 10 59 08.8
comp=Z,294nm,18.4s,baz=184,slow=35
ILAR Eielson Array 86.29 11 P **P** **10 21 35.8 -1.1**
IMAR Indian Mountai 86.39 8 P **P** **10 21 37.0 -0.4**
TIA Tai'an 86.46 310 P **P** **10 21 39.8 +1.3**
TIA S **S** **10 32 20.7 +6.1**
TIA pmax pmax
comp=Z,43nm,0.9s
TIA LR LR
comp=Z,260nm,17.8s
TIA LR LR
comp=Z,230nm,18.5s
TIA LR LR
comp=Z,280nm,15.7s
POKR Poker Plat Res 86.51 10 P **P** **10 21 37.6 -0.4**
baz=204
K22A Casper 86.62 42 P **P** **10 21 39.3 0.0**
baz=240
K22A Casper 86.62 42 IAmb IAmb 10 21 42.9
comp=Z,69nm,1.9s
CCIG Comitan 86.64 72 IAmb IAmb 10 21 56.8
comp=Z,155nm,2.0s
CCIG IAMs_20 IAMs_20 10 58 15.5
comp=Z,627nm,18.0s
SEY Seymchan 86.66 345⇑*e*P **P** **10 21 39.2 +0.4**
SEY Seymchan 86.66 345 P **P** **10 21 38.2 -0.5**
comp=Z,34nm,1.1s,baz=136,slow=7.8,SNR=5.5
BKNI Bangkinang 86.72 271 IAMs_20 IAMs_20 11 08 17.3
comp=Z,1μm,20.0s
ABTX Abilene, Hawle 86.79 54 P **P** **10 21 41.0 +0.8**
baz=245
ABTX Abilene, Hawle 86.79 54 IAMs_20 IAMs_20 10 57 20.0
comp=Z,946nm,18.0s
DAWY Dawson 87.17 14 P **P** **10 21 41.2 -0.1**
GO05 Huala 87.32 126 IAMs_20 IAMs_20 10 58 26.4
comp=Z,985nm,19.0s
EGAK Eagle 87.40 13 IAMs_20 IAMs_20 11 00 23.9
comp=Z,881nm,18.0s
KSCO Kaye Shedlock' 87.45 47 P **P** **10 21 43.9 +0.5**
baz=242
KSCO Kaye Shedlock' 87.45 47 IAmb IAmb 10 21 49.0
comp=Z,62nm,1.4s
EGMT Eagleton 87.50 37 P **P** **10 21 43.3 0.0**
baz=237
EGMT Eagleton 87.50 37 IAmb IAmb 10 21 45.0
comp=Z,49nm,1.6s
EGMT IAMs_20 IAMs_20 10 55 27.0
comp=Z,916nm,20.0s
435B Jarrell 87.61 56 P **P** **10 21 45.0 +0.9**
baz=246
435B Jarrell 87.61 56 IAmb IAmb 10 21 49.0
comp=Z,30nm,0.9s
435B IAMs_20 IAMs_20 10 57 32.9
comp=Z,1μm,18.0s
APG El Apazote 87.69 73 LR LR 10 51 01.9
comp=Z,185nm,19.2s,baz=270,slow=29
COLD Coldfoot 88.04 9 IAmb IAmb 10 21 52.1
comp=Z,63nm,1.8s
IPM Ipoh 88.12 275 IAMs_20 IAMs_20 11 05 36.8
comp=Z,334nm,20.0s
WHTX Lake Whitney, 88.20 55 P **P** **10 21 47.8 +0.8**
baz=246
WHTX Lake Whitney, 88.20 55 IAmb IAmb 10 21 51.1
comp=Z,74nm,1.4s
WHTX IAMs_20 IAMs_20 10 54 53.7
comp=Z,848nm,20.0s
FYU Fort Yukon 88.21 11 IAmb IAmb 10 22 22.5
comp=Z,108nm,1.9s
WMOK Wichita Mounta 88.33 52 P **P** **10 21 48.0 +0.4**
baz=245
WMOK Wichita Mounta 88.33 52 IAmb IAmb 10 21 52.1
comp=Z,61nm,1.6s
BILL Bilibino 88.65 352*d i*P **P** **10 21 47.4 -0.8**
BILL *i* 10 21 58.0
BILL *i* SS SS 10 38 31.9 +5.9
BILL pmax pmax
comp=Z,41nm,1.3s
BILL Bilibino 88.65 352 P **P** **10 21 47.5 -0.7**
BILL IAmb IAmb 10 21 49.5
comp=Z,49nm,1.3s
HKT Hockley 88.66 58 P **P** **10 21 50.2 +1.2**
HKT pmax pmax
comp=Z,69nm,1.6s
HKT Hockley 88.66 58 P **P** **10 21 50.2 +1.2**
HKT IAmb IAmb 10 21 52.1
comp=Z,69nm,1.6s
VNA3 Neumayer Olymp 88.73 175 P **P** **10 21 50.7 +1.9**
KULM Kulim 88.74 276 IAMs_20 IAMs_20 11 08 07.3
comp=Z,2μm,18.0s
OGNE Ogallala 88.75 46 P **P** **10 21 50.0 +0.5**
baz=243
SYO Syowa Base 88.76 191⇑*i*P **P** **10 21 49.0 0.0**
SYO Syowa Base 88.76 191⇓*i*pP pP 10 21 51.4 +0.4
SNAA Sanae 88.80 177 P **P** **10 21 50.7 +1.5**
SNAA Sanae 88.80 177*d i*P **P** **10 21 50.6 +1.4**
SNAA Sanae 88.80 177 P **P** **10 21 50.0 +0.8**
SNAA IAmb IAmb 10 21 54.8
comp=Z,50nm,1.0s
SNAA IAMs_20 IAMs_20 11 02 54.0
comp=Z,865nm,18.0s
LAO LASA Array 88.84 39 P **P** **10 21 50.8 +1.0**
baz=240
BJT Baijiatuau 88.85 313 IAmb IAmb 10 21 52.7
comp=Z,100nm,1.4s
BJT Baijiatuau 88.85 313 IAMs_20 IAMs_20 10 59 50.6
comp=Z,305nm,19.0s
BJI Beijing 88.86 313 P **P** **10 21 50.8 +1.0**
BJI S **S** **10 32 34.8 -2.5**
BJI pmax pmax
comp=Z,46nm,1.4s
BJI LR LR
comp=Z,170nm,11.6s
BJI LR LR
comp=Z,190nm,19.0s
BJI LR LR
comp=Z,300nm,25.6s
RSSD Black Hills 88.92 42 P **P** **10 21 50.1 -0.3**
baz=241
RSSD Black Hills 88.92 42 P **P** **10 21 49.8 -0.6**
RSSD pmax pmax
comp=Z,25nm,1.2s
RSSD MLR MLR
comp=Z,800nm,18.0s
RSSD Black Hills 88.92 42 P **P** **10 21 49.9 -0.6**
RSSD Black Hills 88.92 42 IAMs_20 IAMs_20 11 00 48.2
comp=Z,833nm,18.0s
PEL Peldehue 88.98 125 IAmb IAmb 10 21 57.3
comp=Z,56nm,1.0s
EFI East Falkland 89.08 145*de*P **P** **10 21 53.0 +2.3**
EFI pmax pmax
comp=Z,126nm,1.0s
EFI East Falkland 89.08 145 P **P** **10 21 53.1 +2.3**
BMAR Burnt Mountain 89.10 10 P **P** **10 21 51.0 +0.6**
VNA2 Neumayer--Watz 89.23 175 P **P** **10 21 53.5 +2.3**
baz=177,slow=3.1
ZEA Zeya 89.33 329*de*P **P** **10 21 52.8 +1.1**
ZEA *e* 10 32 36.0
ZEA pmax pmax
comp=E,37nm,1.4s
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=Z,110nm,1.2s
ZEA pmax pmax
comp=Z,800nm,4.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
SKLT Songkhla 89.39 278 P **P** **10 21 56.2 +3.2**
VNA1 Neumayer--Stat 89.42 175 P **P** **10 21 53.4 +1.3**
TOLK Toolik Lake Re 89.45 8 P **P** **10 21 52.4 +0.3**
baz=202
RPSI Rantau Prapat 89.50 273 IAMs_20 IAMs_20 11 08 32.8
comp=Z,954nm,22.0s
PSI Prapat 89.54 273 P **P** **10 21 54.2 +0.4**
comp=Z,49nm,1.0s,baz=147,slow=3.1,SNR=42
EPYK Eagle Plains 89.73 14 P **P** **10 21 53.7 +0.3**
baz=214
TGUH Tegucigalpa,Un 90.26 75 P **P** **10 21 58.2 +1.1**
TGUH IAmb IAmb 10 22 02.4
comp=Z,91nm,1.5s
TGUH IAMs_20 IAMs_20 10 56 13.9
comp=Z,386nm,19.0s
NATX Nacogdoches 90.29 56 P **P** **10 21 57.7 +0.9**
baz=247
NATX Nacogdoches 90.29 56 IAmb IAmb 10 21 59.6
comp=Z,141nm,1.9s
TRTT Trang 90.48 278 P **P** **10 22 00.7 +2.6**
TIY Taiyuan 90.50 310 *e*P **P** **10 21 59.8 +2.1**
TIY SKS **SKSac** **10 32 29.6 +0.5**
TIY S **S** **10 32 49.6 -3.3**
TIY pmax pmax
comp=Z,65nm,1.2s
TIY pmax pmax
comp=Z,420nm,9.4s
TIY LR LR
comp=Z,150nm,8.3s
TIY LR LR
comp=Z,420nm,13.1s
LCO Las Campanas 90.55 121 P **P** **10 22 01.2 +2.6**
LCO pmax pmax
comp=Z,109nm,1.2s
LCO Las Campanas 90.55 121 P **P** **10 22 01.2 +2.6**
LCO Las Campanas 90.55 121 *e*P **P** **10 22 01.1 +2.6**
LCO Las Campanas 90.55 121 *e*P **P** **10 22 01.1 +2.6**
GYA Guiyang 90.67 298⇑*i*P **P** **10 22 01.1 +2.3**
GYA PP **PP** **10 25 35.7 +1.4**
GYA SKS **SKSac** **10 32 27.4 -3.3**
GYA S **ScS** **10 33 02.2 +3.7**
GYA SS **SS** **10 39 01.9 +4.7**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA pmax pmax
comp=Z,240nm,5.4s
GYA LR LR
comp=Z,170nm,18.5s
GYA LR LR
comp=Z,260nm,18.1s
GYA LR LR
comp=Z,200nm,18.0s
NONG Nongkai 90.76 289 P **P** **10 22 01.0 +1.8**
DGMT Dagmar 90.91 38 P **P** **10 21 59.9 +0.6**
baz=241
DGMT Dagmar 90.91 38 IAmb IAmb 10 22 05.4
comp=Z,36nm,1.1s
HIA Hailar 90.93 323 IAMs_20 IAMs_20 10 56 39.5
comp=Z,265nm,21.0s
TUL1 Leonard 91.04 52 P **P** **10 22 01.3 +1.1**
baz=247
TUL1 Leonard 91.04 52 P **P** **10 22 00.7 +0.5**
TUL1 IAmb IAmb 10 22 02.4
comp=Z,44nm,1.2s
CHAI Chaiyaphum 91.06 286 P **P** **10 22 02.4 +1.7**
PATY Pattaya 91.09 283 P **P** **10 22 04.1 +3.3**
JTS Las Juntas de 91.14 80*de*P **P** **10 22 02.8 +1.7**
JTS pmax pmax
comp=Z,47nm,1.1s
JTS Las Juntas de 91.14 80 P **P** **10 22 03.5 +2.3**
JTS Las Juntas de 91.14 80 IAMs_20 IAMs_20 10 58 36.6
comp=Z,258nm,19.0s
SLVN Son La 91.21 292 IAMs_20 IAMs_20 11 11 08.8
comp=Z,2μm,19.0s
NNA Nana 91.33 103*de*P **P** **10 22 04.2 +2.1**
NNA pmax pmax
comp=Z,19nm,0.8s
TEIG Tepich 91.46 69 IAMs_20 IAMs_20 10 59 47.2
comp=Z,393nm,18.0s
GO03 Copiap 91.47 120 IAmb IAmb 10 22 06.7
comp=Z,88nm,1.6s
XAN Xi'an 91.67 305 P **P** **10 22 04.7 +1.5**
XAN pP pwP 10 22 11.0 -2.8
XAN pmax pmax
comp=Z,27nm,1.3s
XAN pmax pmax
comp=Z,260nm,3.9s
XAN Xi'an 91.67 305 IAmb IAmb 10 22 06.0
comp=Z,48nm,1.2s
XAN Xi'an 91.67 305 IAMs_20 IAMs_20 11 11 06.0
comp=Z,822nm,19.0s
KSU1 Kansas State U 91.72 49 P **P** **10 22 04.0 +0.8**
baz=246
INK Inuvik 92.03 14 IAMs_20 IAMs_20 10 59 17.1
comp=Z,1μm,20.0s
MIAR Mount Ida 92.19 54 P **P** **10 22 06.5 +0.9**
baz=248
MIAR Mount Ida 92.19 54 IAmb IAmb 10 22 10.4
comp=Z,42nm,1.7s
PBKT Sadao Pong 92.21 287 P **P** **10 22 08.2 +2.2**
PBKT Sadao Pong 92.21 287 IAMs_20 IAMs_20 11 11 07.0
comp=Z,2μm,19.0s
WLAR White Oak Lake 92.23 55 IAmb IAmb 10 22 10.8
comp=Z,56nm,1.3s
WLAR IAMs_20 IAMs_20 11 00 35.3
comp=Z,1μm,18.0s
W39A Magazine 92.28 54 P **P** **10 22 06.7 +0.8**
baz=248
W39A Magazine 92.28 54 IAmb IAmb 10 22 08.1
comp=Z,34nm,1.3s
Z41A Richland Creek 92.31 56 P **P** **10 22 07.2 +1.1**
baz=248
ESPN Las Esperanzas 92.37 78 IAMs_20 IAMs_20 10 52 16.1
comp=Z,288nm,22.0s
HHC Hu-ho-hao-te 92.39 313 P **P** **10 22 08.6 +2.2**
HHC pmax pmax
comp=Z,7.0nm,0.9s
GO02 Mina Guanaco 92.95 118 IAmb IAmb 10 22 14.0
comp=Z,37nm,1.1s
YAK Yakutsk 93.17 336 *e*P **P** **10 22 08.3 -1.1**
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK Yakutsk 93.17 336 P **P** **10 22 08.7 -0.7**
YAK IAmb IAmb 10 22 09.8
comp=Z,28nm,0.9s
UTHA Uthaitani 93.26 285 P **P** **10 22 13.2 +2.4**
TRQA Tornquist 93.33 132 P **P** **10 22 12.0 +1.1**
TRQA pmax pmax
comp=Z,25nm,1.4s
TRQA Tornquist 93.33 132 P **P** **10 22 12.0 +1.1**
TRQA Tornquist 93.33 132 *e*P **P** **10 22 12.3 +1.4**
TRQA Tornquist 93.33 132 *e*P **P** **10 22 12.3 +1.4**
BTO Baotou 93.37 312 *e*P **P** **10 22 12.5 +1.5**
U40A Yellville 93.41 53 P **P** **10 22 11.7 +0.6**
baz=248
U40A Yellville 93.41 53 IAmb IAmb 10 22 15.6
comp=Z,35nm,1.4s
W41B Gary Mavity, V 93.44 54 P **P** **10 22 12.3 +1.0**
baz=249
WHAR Wooly Hollow 93.45 54 IAmb IAmb 10 22 17.6
comp=Z,50nm,1.6s
KMI Kunming 93.51 295 P **P** **10 22 14.3 +2.2**
KMI pP sP 10 22 17.6 +2.7
KMI sP pwP 10 22 19.5 -3.3
KMI S **S** **10 33 21.6 +0.7**
KMI SS **SS** **10 39 42.0 +3.6**
KMI pmax pmax
comp=Z,22nm,1.3s
KMI pmax pmax
comp=Z,160nm,3.1s

KMI LR LR
comp=Z,280nm,25.4s
KMI LR LR
comp=Z,460nm,25.4s
KMI LR LR
comp=Z,590nm,27.5s
KMI Kunming 93.51 295 IAMs_20 IAMs_20 11 09 06.5
comp=Z,701nm,19.0s
YKA Yellowknife Ar 93.51 23 P **P** **10 22 10.3 -0.6**
YKA Yellowknife Ar 93.51 23 P **P** **10 22 10.8 -0.1**
comp=Z,8.0nm,0.9s,baz=236,slow=4.2,SNR=20
YKA Yellowknife Ar 93.51 23 P **P** **10 22 10.3 -0.6**
ECSD EROS Data Cent 93.57 45 P **P** **10 22 12.5 +0.8**
baz=246
KHLT Khaolaem Dam 93.79 284 P **P** **10 22 12.7 -0.6**
OTAV Otavalo 93.94 91 IAMs_20 IAMs_20 10 56 53.2
comp=Z,445nm,19.0s
UMPA Umpang Tak 94.00 286 P **P** **10 22 17.0 +2.7**
PAYA Payao 94.11 289 P **P** **10 22 17.2 +2.4**
MGMO Mountain Grove 94.14 52 IAmb IAmb 10 22 16.3
comp=Z,36nm,1.1s
LVC Limon Verde 94.52 116 P **P** **10 22 20.3 +3.2**
LVC pmax pmax
comp=Z,80nm,1.2s
LVC Limon Verde 94.52 116 P **P** **10 22 20.3 +3.2**
LVC Limon Verde 94.52 116 *e*P **P** **10 22 20.8 +3.7**
LVC Limon Verde 94.52 116 *e*P **P** **10 22 20.8 +3.7**
CD2 Chengdu 94.62 301 *e*P **P** **10 22 18.0 +1.1**
CD2 pmax pmax
comp=Z,660nm,4.7s
CM31 Chiang Mai Arr 94.65 288 P **P** **10 22 19.1 +1.9**
SNR=14
CMAR Chiang Mai Arr 94.65 288 P **P** **10 22 18.8 +1.6**
CMAR Chiang Mai Arr 94.65 288 P **P** **10 22 19.2 +2.0**
comp=Z,16nm,1.1s,baz=106,slow=3.4,SNR=48
CMAR PKKPbc **PKKPdf** **10 39 15.6 +0.6**
comp=Z,0.6nm,0.3s,baz=275,slow=4.5,SNR=4.4
CMAR Chiang Mai Arr 94.65 288 P **P** **10 22 18.8 +1.6**
CMMT Chiang Mai 94.76 288 P **P** **10 22 20.0 +2.2**
CHTO Chiang Mai 94.77 288 P **P** **10 22 19.3 +1.5**
SNR=18
CHTO Chiang Mai 94.77 288 P **P** **10 22 19.1 +1.4**
CHTO pmax pmax
comp=Z,36nm,1.2s
CHTO Chiang Mai 94.77 288 P **P** **10 22 19.1 +1.4**
CHTO IAmb IAmb 10 22 32.4
comp=Z,36nm,1.2s
CHTO Chiang Mai 94.77 288 IAMs_20 IAMs_20 11 11 31.6
comp=Z,1μm,21.0s
PB11 IPOC Station P 94.98 113 P **P** **10 22 21.5 +2.5**
FFC Flin Flon 95.06 33 P **P** **10 22 18.0 -0.2**
FFC Flin Flon 95.06 33 P **P** **10 22 18.0 -0.2**
FFC IAmb IAmb 10 22 19.3
comp=Z,61nm,1.8s
C36M Paulatuk 95.06 15 P **P** **10 22 17.8 -0.1**
baz=225
CCM Cathedral Cave 95.22 52 P **P** **10 22 19.7 +0.3**
baz=250
CCM Cathedral Cave 95.22 52 P **P** **10 22 18.9 -0.5**
CCM pmax pmax
comp=Z,57nm,2.0s
CCM Cathedral Cave 95.22 52 P **P** **10 22 18.9 -0.5**
CCM IAmb IAmb 10 22 21.0
comp=Z,57nm,1.9s
MNMC Minye Minye 95.27 112 P **P** **10 22 22.7 +2.2**
MNMC IAmb IAmb 10 22 24.9
comp=Z,46nm,1.2s
OXF Oxford 95.39 55 IAMs_20 IAMs_20 11 03 23.1
comp=Z,1μm,19.0s
GO01 Chusmiza 95.41 113 IAmb IAmb 10 22 25.8
comp=Z,40nm,1.6s
MHMT Maesarieng 95.47 287 P **P** **10 22 24.9 +3.9**
AGMN Agassiz Nation 95.84 41 P **P** **10 22 21.8 -0.2**
baz=247
AGMN Agassiz Nation 95.84 41 IAmb IAmb 10 22 22.6
comp=Z,34nm,1.3s
LZH Lanzhou 96.28 306 *e*P **P** **10 22 26.4 +1.9**
LZH sP pwP 10 22 38.9 +3.8
LZH PP **PP** **10 26 16.6 -1.6**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,190nm,5.4s
LZH LR LR
comp=Z,250nm,13.6s
LZH LR LR
comp=Z,460nm,14.1s
LZH LR LR
comp=Z,490nm,14.6s
ULM Lac du Bonnet 96.59 39⇓ *e*P **P** **10 22 25.2 -0.1**
ULM Lac du Bonnet 96.59 39 P **P** **10 22 23.9 -1.4**
comp=Z,7.9nm,1.1s,baz=269,slow=6.4,SNR=5.3
ULM LR LR 11 00 37.0
comp=Z,720nm,18.9s,baz=250,slow=32
ULM Lac du Bonnet 96.59 39 IAmb IAmb 10 22 26.7
comp=Z,58nm,1.6s
L40A Anamosa 96.63 48 P **P** **10 22 26.2 +0.5**
baz=250
SPMN Marine on St. 96.66 44 P **P** **10 22 26.3 +0.5**
baz=249
X48A Hartselle 97.22 56 IAMs_20 IAMs_20 11 03 56.5
comp=Z,633nm,19.0s
LPAZ La Paz 97.65 110 P **P** **10 22 31.6 -0.1**
comp=Z,3.2nm,1.0s,baz=278,slow=3.0,SNR=11
LPAZ PP **PP** **10 26 32.0 +2.7**
comp=Z,2.0nm,1.1s,baz=226,slow=5.6,SNR=3.6
LPAZ LR LR 10 56 18.6
comp=Z,421nm,21.6s,baz=276,slow=29
LPAZ La Paz 97.65 110 P Pdif 10 22 34.1 +2.3
LPAZ IAmb IAmb 10 22 35.9
comp=Z,20nm,1.6s
LPAZ La Paz 97.65 110 *e*P Pdif 10 22 34.8 +3.0
LPAZ La Paz 97.65 110 *e*P Pdif 10 22 34.8 +3.0
Z50A Ashland 97.73 58 IAMs_20 IAMs_20 11 11 22.2
comp=Z,772nm,18.0s
G39A Holcombe 97.76 45 P Pdif 10 22 31.6 +0.7
baz=250
T47A Sharon Grove 97.97 54 P Pdif 10 22 32.2 +0.3
baz=252
T47A Sharon Grove 97.97 54 IAmb IAmb 10 22 35.4
comp=Z,27nm,1.4s
ULN Ulaanbaatar 98.01 318 *ce*P Pdif 10 22 32.5 +0.4
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 98.01 318 IAMs_20 IAMs_20 11 15 50.2
comp=Z,699nm,22.0s
PBA Port Blair 98.19 279 IAMs_20 IAMs_20 11 12 05.8
comp=Z,1μm,20.0s
G40A Rib Lake 98.40 45 P **P** **10 22 33.4 -0.2**
baz=251
SONM Songino Array 98.41 318 P **P** **10 22 32.1 -1.8**
comp=Z,0.7nm,0.6s,baz=64,slow=3.4,SNR=3.6
SONM PP **PP** **10 26 32.8 -1.4**
comp=Z,0.2nm,0.2s,baz=133,slow=6.5,SNR=5.4
SONM Songino Array 98.41 318 P **P** **10 22 33.5 -0.3**
EYMN Ely 98.45 42 IAmb IAmb 10 22 37.5
comp=Z,28nm,1.4s
U49A Red Boiling Sp 98.84 54 Pdiff Pdif 10 22 35.7 -0.1
baz=252
ROSC El Rosal 99.34 88 LR LR 10 58 46.7
comp=Z,215nm,20.4s,baz=226,slow=30
ROSC El Rosal 99.34 88 IAMs_20 IAMs_20 11 06 00.9
comp=Z,195nm,20.0s
COWI Conover 99.38 44 IAmb IAmb 10 22 39.6
comp=Z,22nm,1.1s
D41A Chassel 100.05 44 Pdiff **Pdif** **10 22 41.5 +0.6**
baz=252
GTA Gaotai 100.35 308 *e*P **Pdif** **10 22 47.0 +4.3**
GTA pP pwP 10 22 53.0 -0.3
GTA sP sP 10 22 56.1 +11
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,4.8s
GTA LR LR
comp=Z,180nm,18.9s
GTA LR LR
comp=Z,330nm,23.0s
GTA LR LR
comp=Z,570nm,24.7s
SIMRM Sittwe 100.61 288 IAMs_20 IAMs_20 11 12 21.4
comp=Z,270nm,19.0s
FCC Fort Churchill 100.64 31 IAMs_20 IAMs_20 11 16 37.2
comp=Z,3μm,21.0s
TLY Talaya 101.32 321 IAMs_20 IAMs_20 11 14 37.4
comp=Z,658nm,20.0s

LSA Lhasa 104.69 297 IAMs_20 IAMs_20 11 13 07.9
comp=Z,1μm,20.0s
T59A Double "B" Far 105.33 56 IAMs_20 IAMs_20 11 16 06.2
comp=Z,979nm,18.0s
SDDR Presa de Saban 106.35 75 IAMs_20 IAMs_20 10 59 41.2
comp=Z,421nm,21.0s
PALK Pallekele 108.15 271 IAMs_20 IAMs_20 11 20 52.1
comp=Z,2μm,20.0s
CPNY Central Park 108.83 52 IAMs_20 IAMs_20 11 07 53.4
comp=Z,827nm,19.0s
WMQ Urumqi 110.16 311 *e*P **PKiKP** **10 27 27.8 +0.2**
WMQ pmax pmax
comp=Z,74nm,6.7s
WMQ LR LR
comp=N,590nm,10.7s
WMQ LR LR
comp=E,550nm,11.9s
WMQ LR LR
comp=Z,600nm,23.7s
WMQ Urumqi 110.16 311 IAMs_20 IAMs_20 11 14 30.7
comp=Z,944nm,20.0s
PTGA Pitinga 110.98 99 IAMs_20 IAMs_20 11 04 20.5
comp=Z,668nm,22.0s
ZSN Zaisan 112.53 314 *e*PP **PP** **10 28 17.2 -1.4**
ZAA0 Zalesovo Array 112.92 321 IAMs_20 IAMs_20 11 12 55.3
comp=Z,377nm,21.0s
ZALV Zalesovo Beam 112.92 321 PKiKP **PKiKP** **10 27 31.4 -1.0**
comp=Z,3.4nm,0.9s,baz=166,slow=0.6,SNR=9.1
ZALV PP **PP** **10 28 15.7 -5.4**
comp=Z,1.5nm,0.8s,baz=108,slow=3.2,SNR=2.3
ZALV SKKS **SKKSdf** **10 46 00.6 +5.8**
comp=Z,0.3nm,0.3s,baz=171,slow=12,SNR=3.8
SKI Saint Kitts 113.80 79 IAMs_20 IAMs_20 11 07 19.1
comp=Z,417nm,18.0s
MKAR Makanchi Array 114.24 313 *i* PKIKP PKPdf 10 27 33.9 -1.3
MKAR Makanchi Array 114.24 313 PKP PKPdf 10 27 34.9 -0.3
comp=Z,1.7nm,0.7s,baz=54,slow=2.5,SNR=10
MKAR PKKPbc **PKKPbc** **10 38 15.8 -0.7**
comp=Z,1.3nm,1.1s,baz=291,slow=3.4,SNR=4.4
MKAR Makanchi Array 114.24 313 PKPdf 10 27 33.9 -1.3
MAKZ Makanchi 114.45 313 IAMs_20 IAMs_20 11 26 34.1
comp=Z,1μm,22.0s
KURK Kurchatov 116.72 318 *d i* PKIKP **PKPdf** **10 27 38.9 -0.9**
KURK pmax pmax
comp=Z,19nm,1.7s
KURK Kurchatov 116.72 318 **PKPdf** **10 27 39.5 -0.2**
KURK Kurchatov 116.72 318 IAMs_20 IAMs_20 11 28 28.3
comp=Z,983nm,20.0s
KURBB Kurchatov Arra 116.78 318 PKP **PKPdf** **10 27 39.4 -0.5**
comp=Z,3.8nm,0.9s,baz=108,slow=1.9,SNR=16
KURBB PP **PP** **10 28 41.9 -6.6**
comp=Z,4.6nm,1.2s,baz=94,slow=6.9,SNR=9.1
TARG Taragay, Kyrgy 117.22 308 **PKiKP** **10 27 41.6 -0.1**
TARG IAMs_20 IAMs_20 11 15 09.2
comp=Z,911nm,18.0s
KDJ Kajisay 117.70 308 IAMs_20 IAMs_20 11 15 12.8
comp=Z,898nm,19.0s
MDOK Medeo 117.83 309 *e*PP PP 10 28 52.7 -3.5
KUU Kurty 118.35 310 *e*PKP **PKPdf** **10 27 41.4 -1.8**
KUU Kurty 118.35 310 *e*PKIKP **PKPdf** **10 27 41.3 -1.8**
KSH Kashi 118.52 305 PKP **PKiKP** **10 27 45.3 +1.5**
KSH PP PP 10 29 10.5 +9.4
KSH PKS **PKSdf** **10 31 20.3 -0.3**
KSH SKS **SKSdf** **10 34 55.8 -0.1**
KSH AMB AMB
comp=Z,610nm,5.4s
KSH LR LR
comp=Z,1μm,18.0s
NRN Naryn 118.56 307 IAMs_20 IAMs_20 11 15 16.2
comp=Z,920nm,20.0s
BOOM Boomskoye usch 118.63 308 IAMs_20 IAMs_20 11 26 54.3
comp=Z,1μm,19.0s
SGDS Sogindy 119.59 309 *e*PKP **PKPdf** **10 27 44.0 -1.7**
AAK Ala-Archa 119.70 309⇑ *i* PKIKP **PKiKP** **10 27 46.2 +0.1**
AAK pmax pmax
comp=Z,5.0nm,1.3s
AAK Ala-Archa 119.70 309 PKP **PKiKP** **10 27 46.1 0.0**
comp=Z,1.0nm,0.3s,baz=178,slow=20,SNR=4.9
AAK PKKPbc **PKKPab** **10 37 58.4 +1.2**
comp=Z,0.8nm,0.3s,baz=242,slow=8.4,SNR=4.8
AAK Ala-Archa 119.70 309 **PKPdf** **10 27 45.9 -0.1**
AAK Ala-Archa 119.70 309 IAMs_20 IAMs_20 11 27 24.6
comp=Z,1μm,18.0s
NIL Nilore 120.37 298 IAMs_20 IAMs_20 11 24 42.8
comp=Z,918nm,21.0s
KBS Kingsbay 120.48 359⇑ *i* PKIKP **PKiKP** **10 27 46.8 +0.4**
KBS pmax pmax
comp=Z,268nm,1.7s
KBS Kingsbay 120.48 359 *e*PKPdf **PKiKP** **10 27 47.0 +0.6**
BRZS Berezniki 120.57 317 *e*PKP **PKPdf** **10 27 45.2 -2.1**
BRZS *e*PP **PP** **10 29 11.1 -3.5**
BRZS Berezniki 120.57 317 *e*PKIKP **PKPdf** **10 27 45.1 -2.1**
BRZS *e* 10 29 11.0
SUMG Summit 120.93 15 PKIKP **PKiKP** **10 27 47.9 0.0**
SUMG Summit 120.93 15 *i* P **PKiKP** **10 27 48.1 +0.2**
SUMG Summit 120.93 15 **PKiKP** **10 27 47.9 0.0**
DAG Danmarks Havn 121.19 7 *i* PKIKP **PKPdf** **10 27 47.0 -0.7**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 121.19 7 *i* P **PKPdf** **10 27 47.0 -0.7**
comp=Z,6.4nm,0.9s
BVAR Borovoye Array 121.58 321 PKIKP **PKPdf** **10 27 49.0 -0.1**
BVAR Borovoye Array 121.58 321 PKP **PKPdf** **10 27 49.0 -0.1**
comp=Z,9.1nm,0.9s,baz=96,slow=3.0,SNR=33
BRVK Borovoye 121.63 321 P **PKPdf** **10 27 49.1 0.0**
SNR=7.7
BRVK Borovoye 121.63 321 *d i* PKIKP **PKPdf** **10 27 48.8 -0.4**
BRVK Borovoye 121.63 321 **PKPdf** **10 27 48.9 -0.2**
BRVK Borovoye 121.63 321 IAMs_20 IAMs_20 11 29 50.7
comp=Z,1μm,21.0s
BTK Batken 122.50 306 IAMs_20 IAMs_20 11 15 36.1
comp=Z,925nm,21.0s
KKAR Karatay Array 122.61 309 PKIKP **PKPdf** **10 27 51.0 -0.4**
KKAR Karatay Array 122.61 309 **PKPdf** **10 27 51.0 -0.4**
GAR Garm 122.90 304 IAMs_20 IAMs_20 11 15 36.1
comp=Z,2μm,20.0s
IUG luzhnay 123.02 308 *e*PKP **PKPdf** **10 27 51.3 -1.1**
IUG luzhnay 123.02 308 *e*PKIKP **PKPdf** **10 27 51.2 -1.1**
TAS Tashkent 123.61 307 IAMs_20 IAMs_20 11 28 20.3
comp=Z,2μm,19.0s
CHGR Chuyangaron 123.81 304 IAMs_20 IAMs_20 11 28 27.3
comp=Z,2μm,22.0s
KBL Kabul 123.90 299 IAMs_20 IAMs_20 11 27 37.5
comp=Z,1μm,20.0s
OPO Ambohidratompo 125.67 228 PKP **PKiKP** **10 27 59.6 +1.0**
comp=Z,3.8nm,0.9s,baz=118,slow=4.4,SNR=3.7
SVE Sverdlovsk 126.00 327⇓ *i* PKIKP **PKiKP** **10 27 58.1 +0.3**
SVE pmax pmax
comp=Z,34nm,1.4s
SCO Scoresbysund 126.06 12 PKIKP **PKPdf** **10 27 56.0 -1.2**
SCO Scoresbysund 126.06 12 *i* P **PKiKP** **10 27 57.6 0.0**
comp=Z,25nm,1.1s
SCO Scoresbysund 126.06 12 **PKPdf** **10 27 56.0 -1.2**
MSEY Mahe Island 127.02 248 IAMs_20 IAMs_20 11 13 46.5
comp=Z,745nm,18.0s
ARU Arti 127.22 327 *i* PKIKP **PKiKP** **10 28 00.5 +0.2**
ARU 10 29 56.3
ARU 10 35 11.7
ARU SP SP 10 40 02.7 +1.2
ARU SS **SS** **10 46 58.7 -8.7**
ARU Arti 127.22 327 PKP **PKPdf** **10 27 59.2 -0.6**
comp=Z,2.7nm,0.5s,baz=101,slow=1.3,SNR=22
ARU PP **PP** **10 29 55.4 -3.5**
comp=Z,0.4nm,0.3s,baz=44,slow=6.7,SNR=4.9
ARU Arti 127.22 327 **PKPdf** **10 27 59.5 -0.3**
HAMF Hammerfest 127.93 353 *e*PKPdf **PKPdf** **10 28 00.8 +0.1**
KEV Kevo 128.34 351 PKIKP **PKiKP** **10 28 02.0 -0.1**
KEV Kevo 128.34 351 **PKiKP** **10 28 02.0 -0.1**
ARCES ARCESS Array B 128.75 352 PKP **PKPdf** **10 28 02.6 +0.2**
comp=Z,12nm,0.8s,baz=13,slow=1.3,SNR=67
ARE0 ARCESS Array S 128.75 352 *e*PKPdf **PKiKP** **10 28 02.9 -0.1**
ABKAR Abkulak array 128.83 318 **PKPdf** **10 28 02.6 -0.5**
BOSA Boshof 129.18 200 PKIKP **PKiKP** **10 28 05.9 +0.5**
BOSA Boshof 129.18 200 PKP **PKiKP** **10 28 06.4 +1.0**
comp=Z,9.0nm,1.0s,baz=170,slow=5.8,SNR=6.7
BOSA Boshof 129.18 200 **PKiKP** **10 28 05.9 +0.5**
TRO Tromso 129.37 355 *e*PKPdf **PKiKP** **10 28 03.9 -0.3**
HRA Herat 129.52 299 IAMs_20 IAMs_20 11 37 28.3
comp=Z,569nm,21.0s
KTK1 Kautokeino 129.53 353 *e*PKPdf **PKiKP** **10 28 04.2 -0.4**
AKTO Aktyubinsk 129.66 320 PKhKP PKPpre 10 27 59.4
comp=Z,1.0nm,0.3s,baz=45,slow=20,SNR=4.7
AKTO PKP **PKiKP** **10 28 05.4 0.0**
comp=Z,1.8nm,0.5s,baz=81,slow=3.3,SNR=11
PRGR Permogore 130.21 337 *e*PKIKP **PKPdf** **10 28 01.1 -4.2**

PRGR pmax pmax
comp=Z,44nm,1.3s
RCBR Riachuelo 130.47 116 IAMs_20 IAMs_20 11 28 28.2
comp=Z,33μm,21.0s
KIRV Kirov 130.54 333 PKP **PKiKP** **10 28 06.8 -0.1**
comp=Z,17nm,0.7s,baz=54,slow=3.1,SNR=9.5
STEI Steigen 131.32 356 *e*PKPdf **PKPdf** **10 28 05.9 -1.3**
ASHT Ashkhabad 132.31 304 IAMs_20 IAMs_20 11 16 34.4
comp=Z,754nm,19.0s
GEYT Alibeck 132.53 304 PKP **PKPdf** **10 28 10.9 +0.4**
comp=Z,3.4nm,0.8s,baz=29,slow=6.6,SNR=4.6
GYA0B ALIBECK ARRAY 132.53 304 IAMs_20 IAMs_20 11 16 37.0
comp=Z,704nm,19.0s
KLMR Klimovskoe 132.89 339 *e*PKIKP **PKPdf** **10 28 08.3 -2.1**
KLMR pmax pmax
comp=Z,43nm,1.6s
KLMR Klimovskoe 132.89 339 *e*PKPdf **PKPdf** **10 28 08.4 -2.0**
KLMR AMP 10 28 11.7
comp=Z,43nm,1.6s
UOSS Minazif 134.73 286 IAMs_20 IAMs_20 11 30 38.6
comp=Z,632nm,19.0s
NSS Namsos 134.89 357 *e*PKPdf **PKPdf** **10 28 13.6 -0.4**
FINES FINESS Array B 136.09 347 PKIKP **PKPdf** **10 28 14.3 -2.0**
FINES FINESS Array B 136.09 347 PKP **PKPdf** **10 28 15.5 -0.9**
comp=Z,13nm,1.0s,baz=56,slow=4.8,SNR=9.4
FINES FINESS Array B 136.09 347 **PKPdf** **10 28 14.3 -2.0**
WIN Windhoek 137.15 193 IAMs_20 IAMs_20 11 35 17.3
comp=Z,568nm,19.0s
DOMB Dombas 137.47 359 *e*PKPdf **PKPdf** **10 28 19.2 +0.2**
OBN Obninsk 138.16 335 *d i* PKIKP **PKPdf** **10 28 20.5 +0.1**
OBN *e* 10 28 26.0
OBN *e* 10 31 10.2
OBN *e*SS SS 10 49 47.6 +28
OBN pmax pmax
comp=Z,65nm,1.7s
NB2 NORSAR Subarra 138.41 357 PKP **PKPdf** **10 28 20.8 0.0**
comp=Z,1.6nm,0.7s,baz=8.0,slow=2.5
NOA NORSAR Array B 138.41 357 PKP **PKPdf** **10 28 21.0 +0.3**
comp=Z,3.0nm,1.0s,baz=13,slow=4.1,SNR=5.9
VRH Novokhopyorsk 138.44 328 *e*PKIKP **PKPdf** **10 28 20.1 -0.9**
VRH pmax pmax
comp=Z,40nm,1.5s
VSU Vasula 138.61 345⇑ *i* PKIKP **PKPdf** **10 28 21.7 +0.6**
VSU pmax pmax
comp=Z,80nm,1.7s
SKAR Skarslia 138.85 359 *e*PKPdf **PKPdf** **10 28 21.5 -0.1**
LPSR Galich'ya Gora 138.90 331 *e*PKIKP **PKPdf** **10 28 22.4 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
HFS Hagfors 139.16 355 PKP **PKPdf** **10 28 22.1 0.0**
comp=Z,5.0nm,0.6s,baz=64,slow=3.4,SNR=6.0
VSR Storozhevoye 139.70 329 *e*PKIKP **PKPdf** **10 28 23.1 -0.2**
VSR pmax pmax
comp=Z,40nm,1.4s
KONO Kongsberg 139.86 358 *e*PKPdf **PKPdf** **10 28 22.9 -0.5**
LSZ Lusaka 139.88 212 PKIKP **PKPdf** **10 28 25.0 +0.1**
LSZ Lusaka 139.88 212 **PKPdf** **10 28 25.0 +0.1**
TSUM Tsumeb 140.28 195 IAMs_20 IAMs_20 11 25 48.4
comp=Z,648nm,20.0s
GOF Gofitskoye 141.05 319⇑ *e*PKIKP **PKiKP** **10 28 29.5 +0.8**
ISAL Salakas 141.32 343 *e*P **PKiKP** **10 28 29.4 +0.5**
NCK Nalchik 141.44 316⇑ *i* PKIKP **PKiKP** **10 28 28.2 -1.4**
IIGN Ignalina 141.48 343 *e*P **PKiKP** **10 28 29.6 +0.4**
MICGM Minsk 141.73 341 *e* **PKPdf** **10 28 26.0 -0.9**
MNK Minsk 141.73 341 *e*PKIKP **PKPdf** **10 28 26.0 -0.9**
KBZ Khabaz 141.78 317 PP PP 10 31 26.6 -4.9
comp=Z,3.2nm,0.9s,baz=44,slow=3.6,SNR=4.9
KIV Kislovodsk 141.81 318 *i* PKIKP **PKPdf** **10 28 28.5 +1.0**
KIV *e* 10 31 29.2
KIV *e*SS SS 10 50 01.5 -2.4
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,982nm,24.0s
KIV Kislovodsk 141.81 318 *e*P **PKPdf** **10 28 22.2 -5.3**
KIV Kislovodsk 141.81 318 IAMs_20 IAMs_20 11 15 05.0
comp=Z,483nm,18.0s
PBUR Paburg 141.94 347 *e*P **PKPdf** **10 28 25.1 -2.1**
PABE Paberze 141.94 345 *e*P **PKPdf** **10 28 21.7 -5.5**
GNI Garni 142.03 311⇓ *i* PKIKP **PKiKP** **10 28 30.2 -0.9**
GNI pmax pmax
comp=Z,91nm,2.5s
GNI Garni 142.03 311 *e*P **PKPdf** **10 28 24.2 -3.9**
GNI Garni 142.03 311 IAMs_20 IAMs_20 11 36 29.2
comp=Z,592nm,20.0s
AKH Akhalkalaki 142.41 313 IAMs_20 IAMs_20 11 15 02.7
comp=Z,492nm,20.0s
DOMR Dombai 142.80 317⇑ *e*P **Pdif** **10 25 51.5 +0.1**
KIBK Kibwezi 142.94 238 P **PKPdf** **10 28 29.2 -1.3**
SNR=11
EKA Eskdalemuir Ar 143.32 10 PKP PKPbc 10 28 27.4 +0.7
comp=Z,8.4nm,1.0s,baz=296,slow=3.9,SNR=3.9
SUW Suwalki 143.49 344 PKIKP PKPbc 10 28 26.8 -0.4
SUW Suwalki 143.49 344 *e*PKP PKPbc 10 28 27.7 +0.4
SUW *e*PKP PKPbc 10 28 27.7 +0.4
SUW Suwalki 143.49 344 PKPbc 10 28 26.8 -0.4
BATM Batumi 143.54 315 *e*P PKPbc 10 28 28.5 +0.6
VANB Van 143.57 309 *e*P PKPbc 10 28 27.8 -0.4
SOC Sochi 143.86 319 *e*PKHKP PKPpre 10 28 24.8
SOC *e*PPP PPP 10 34 56.1
SOC *e*SS SS 10 50 24.0 -3.3
SOC *e*SSS SSS 10 55 52.8
SOC pmax pmax
comp=Z,27nm,0.8s
AKDM Akdamar-Van 143.97 309 *e*P **PKPdf** **10 28 30.5 -1.1**
KOPR Koprukoy-ERZUR 144.13 312 *e*P **PKPdf** **10 28 31.5 -0.4**
KMBO Kilima Mbogo 144.29 238 P **PKPdf** **10 28 33.5 +0.5**
SNR=58
KMBO Kilima Mbogo 144.29 238 PKIKP **PKPdf** **10 28 32.7 -0.3**
KMBO Kilima Mbogo 144.29 238 PKP **PKPdf** **10 28 33.0 0.0**
comp=Z,38nm,1.0s,baz=91,slow=3.9,SNR=80
KMBO Kilima Mbogo 144.29 238 **PKPdf** **10 28 32.6 -0.3**
DAMY Dhamar 144.39 268 **PKPdf** **10 28 33.6 +0.5**
DAMY IAMs_20 IAMs_20 11 14 59.0
comp=Z,488nm,19.0s
CHOM Cayeli-Rize 144.40 315 *e*P **PKPdf** **10 28 31.5 -0.6**
AKASG Malin Array Be 144.40 336 PKP **PKPab** **10 28 29.7 -0.2**
comp=Z,12nm,0.7s,baz=37,slow=4.4,SNR=18
AKASG PKKP **PKKPdf** **10 37 37.3 -4.1**
comp=Z,0.7nm,0.4s,baz=236,slow=6.7,SNR=2.4
RAYN Ar Rayn 144.44 283 PKIKP PKPbc 10 28 31.6 +0.4
RAYN Ar Rayn 144.44 283 PKPbc 10 28 31.6 +0.4
RAYN IAMs_20 IAMs_20 11 17 31.3
comp=Z,652nm,22.0s
ANN Anapa 144.56 322 *e*PKIKP PKPbc 10 28 31.0 +0.2
ANN pmax pmax
comp=Z,149nm,1.1s
GURO Guroymak-BITLI 144.58 310 *e*P **PKPdf** **10 28 33.0 +0.4**
VRTB Varto-Mus 144.75 311 *e*P **PKiKP** **10 28 34.8 -1.9**
ATD Arta Tunnel 145.04 262 P **PKiKP** **10 28 36.1 -1.7**
SNR=10
ATD Arta Tunnel 145.04 262 PKPbc **PKPdf** **10 28 34.9 +0.9**
comp=Z,72nm,1.1s,baz=107,slow=3.1,SNR=17
ATD Arta Tunnel 145.04 262 IAMs_20 IAMs_20 11 17 46.8
comp=Z,652nm,21.0s
ASCN Ascension 145.29 140 **PKPdf** **10 28 36.2 +1.8**
SVAN Silvan-Diyarba 145.34 310 *e*P **PKPdf** **10 28 35.0 +1.2**
BNGB Bingl 145.37 311 *e*P **PKPab** **10 28 35.4 +1.4**
EUZM Uzumlu 145.75 313 *i* P **PKiKP** **10 28 37.8 -0.9**
EUZM IAML_P
comp=Z,714nm,0.1s
ERZN Erzincan 145.79 313 *e*P **PKiKP** **10 28 37.2 -1.6**
KELT Kelkit 145.85 314 *i* P **PKiKP** **10 28 37.8 -1.2**
KELT IAML_P
comp=Z,2μm,1.1s
CMLA Cha da Macela 146.04 51 *i* PKP2 **PKiKP** **10 28 38.9 -0.3**
BEL Belsk 146.07 345 *e*PKP2 **PKPab** **10 28 36.4 +0.5**
BEL Belsk 146.07 345 *e*PKP **PKPab** **10 28 36.4 +0.5**
BEL *e*PKP **PKPab** **10 28 36.4 +0.5**
TNCL Tunceli-Merkez 146.12 312 *i* P **PKiKP** **10 28 38.5 -1.0**
TNCL IAML_P
comp=Z,36nm,0.3s
MAZI Mazidag 146.15 309 *e*P **PKPbc** **10 28 36.1 -0.2**
DYBB Diyarbakir 146.18 310 *e*P **PKPab** **10 28 37.9 +0.9**
SIM Simferopol' 146.33 325 *d i* PKP2 **PKPbc** **10 28 36.2 -0.2**
SIM pmax pmax
comp=Z,72nm,0.8s
REFA Refahiye_ERZN 146.53 313 *i* P **PKiKP** **10 28 39.5 -0.9**
REFA IAML_P
comp=Z,1μm,0.7s
SVRC Sivrice-ELAZID 146.60 311 *e*P **PKiKP** **10 28 39.8 -0.8**
RUE Ruedersdorf 146.71 353 *e*P **PKPbc** **10 28 36.7 -0.5**
KEMA Kemaliye 146.78 313 *i* P **PKiKP** **10 28 40.6 -0.1**
KEMA IAML_P

comp=Z,839nm,0.8s
ELZG Elazig 146.78 311 *i* P **PKiKP 10 28 40.9 0.0**
ELZG IAML_P
comp=Z,2μm,0.7s
LVV L'vov 146.97 340 *e*PKP2 **PKPbc 10 28 38.5 +0.4**
CUZAR Zara_SIVAS 146.98 315 *i* P **PKiKP 10 28 41.3 0.0**
RSDY Resadiye-TOKAT 147.02 316 *e*P **PKPab 10 28 40.4 +0.3**
MALT Malatya 147.25 312 *e*P **PKPab 10 28 41.3 +0.1**
HEKM Malatya_Hekimh 147.33 313 *i* P **PKiKP 10 28 42.3 +0.3**
HEKM IAML_P
comp=Z,754nm,0.7s
URFA Urfa 147.34 310 *e*P **PKPab 10 28 40.9 -0.7**
CUKAN kangal_SIVAS 147.46 314 *i* P **PKiKP 10 28 42.5 +0.3**
KIS Kishinev 147.48 332 *e*PKP **PKPdf 10 28 38.0 +0.9**
SVSK Karacayir 147.48 315 *e*P **PKiKP 10 28 42.1 +0.1**
KVT Kavak 147.49 318 *e*P **PKPab 10 28 41.6 -0.4**
MILM Milestii Mici 147.54 332 ⇑P **PKPbc 10 28 40.1 +0.4**
KWP Kalwaria Pacla 147.54 341 PKP2 **PKPbc 10 28 40.2 +0.5**
KWP Kalwaria Pacla 147.54 341 *e*PKP **PKPbc 10 28 40.4 +0.7**
KWP *e*PKP **PKPbc 10 28 40.4 +0.7**
KWP Kalwaria Pacla 147.54 341 **PKPbc 10 28 40.2 +0.5**
TOKT Tokat 147.57 316 *e*P **PKiKP 10 28 41.4 -0.9**
WTSB Winterswijk 147.59 1 *e*PKPbc **PKPbc 10 28 38.8 -1.0**
comp=Z,64nm,0.8s
DIKM Dikmen 147.67 319 ⇑P **PKiKP 10 28 42.1 -0.3**
DIKM Dikmen 147.67 319 *e*P **PKiKP 10 28 41.9 -0.5**
DARE Darende-Malaty 147.80 313 *e*P PKPab 10 28 54.5 +11
OJC Ojcow 147.80 345 PKiKP **PKPdf 10 28 37.6 +0.1**
OJC Ojcow 147.80 345 *e*PKP **PKPbc 10 28 40.9 +0.5**
OJC *e*PKP **PKPbc 10 28 40.9 +0.5**
OJC Ojcow 147.80 345 **PKPdf 10 28 37.6 +0.1**
KSP Ksiaz 147.94 349 *e*PKP2 **PKiKP 10 28 41.8 -0.8**
KSP Ksiaz 147.94 349 *e*PKP **PKiKP 10 28 41.8 -0.8**
KSP *e*PKP **PKiKP 10 28 41.8 -0.8**
CLL Collm 147.95 353 ⇓*e*PKiKP **PKPdf 10 28 38.0 +0.3**
CLL *i* 10 28 41.4
CLL pmax pmax
comp=Z,164nm,1.5s
CLL Collm 147.95 353 *e*PKPdf **PKPdf 10 28 38.0 +0.3**
CLL ⇓*i*PKPbc **PKPbc 10 28 41.4 +0.6**
comp=Z,164nm,1.5s
CLL *i* (PKiKP) 10 28 45.0
CLL *i* 10 28 53.2
CLL *e* 10 29 33.0
CLL *e*SSS SSS 10 56 48.0
CLL Collm 147.95 353 **PKPdf 10 28 37.9 +0.1**
CLL **PKPbc 10 28 41.4 +0.6**
FURI Furi 148.01 255 IAMs_20 IAMs_20 11 18 11.7
comp=Z,774nm,18.0s
CHVC Chvalec 148.23 350 *e*PKPDF **PKPdf 10 28 39.5 +1.2**
CHVC ⇑*e*PKP **pPKPbc 10 28 42.5 -1.2**
BZK Bozkurt 148.25 321 *e*P **PKPbc 10 28 42.2 +0.3**
PRAR RASCA 148.26 335 ⇑P **PKPbc 10 28 41.8 +0.1**
BRG Berggiesshubel 148.27 352 *i* PKP **PKPdf 10 28 39.2 +0.9**
comp=Z,29nm,1.3s
BRG Berggiesshubel 148.27 352 *i* PKP **PKiKP 10 28 42.4 -0.9**
comp=Z,106nm,1.3s
BRG Berggiesshubel 148.27 352 *i* PKP **PKPab 10 28 45.0 +0.4**
comp=Z,124nm,1.4s
BRG Berggiesshubel 148.27 352 *i* PKIKP **PKPdf 10 28 39.2 +0.9**
BRG *i* 10 28 42.4
BRG *i* 10 28 45.0
BRG pmax pmax
comp=Z,3.0nm,1.3s
BRG pmax pmax
comp=Z,29nm,1.3s
BRG pmax pmax
comp=Z,106nm,1.4s
KOLS Kolonicke sedl 148.29 341 *e*PKIKP **PKPdf 10 28 39.7 +1.3**
KOLS *e* 10 28 43.1
KOLS Kolonicke sedl 148.29 341 *e*PKP **PKPdf 10 28 39.7 +1.3**
KOLS *e* 10 28 43.1
UPC Upice 148.31 350 *e*PKIKP **PKPdf 10 28 39.5 +1.1**
UPC *e* 10 28 42.6
UPC Upice 148.31 350 *e*PKPDF **PKPdf 10 28 39.5 +1.1**
UPC ⇑*e*PKP **pPKPbc 10 28 42.6 -1.3**
DPC Dobruska-Polom 148.41 349 *e*PKIKP **PKPdf 10 28 39.5 +0.9**
DPC *e* 10 28 43.2
DPC Dobruska-Polom 148.41 349 *e*PKPDF **PKPdf 10 28 39.5 +0.9**
DPC ⇑*e*PKP **pPKPbc 10 28 43.2 -1.0**
DPC *ex* x 10 28 54.1
NIE Niedzica 148.41 344 *e*PKP2 **PKiKP 10 28 43.2 -0.5**
NIE Niedzica 148.41 344 *e*PKP **PKiKP 10 28 43.2 -0.5**
NIE *e*PKP **PKiKP 10 28 43.2 -0.5**
BUR08 Bucovina Ar. S 148.42 337 PKPdf **PKPdf 10 28 39.0 +0.2**
BUR08 **pPKPbc 10 28 43.3 -1.0**
BURAR Bucovina Array 148.44 337 ⇓PKP2 **PKiKP 10 28 43.6 -0.3**
BURAR Bucovina Array 148.44 337 ⇓P **PKiKP 10 28 43.6 -0.3**
BURAR Bucovina Array 148.44 337 **PKPdf 10 28 39.0 +0.2**
BURAR PKPbc **pPKPbc 10 28 43.2 -1.2**
PVCC Panska Ves 148.52 351 *e*PKP2 **PKiKP 10 28 43.3 -0.6**
PVCC Panska Ves 148.52 351 ⇑*e*PKP **PKiKP 10 28 43.3 -0.6**
PVCC *e*PKPAB **PKPab 10 28 46.3 +0.7**
OKC Ostrava-Krasne 148.54 347 *e*PKP2 **PKPbc 10 28 43.0 +0.6**
OKC Ostrava-Krasne 148.54 347 ⇑*e*PKP **PKPbc 10 28 43.0 +0.6**
OKC *e*PKPAB **pPKPab 10 28 46.6 -1.2**
OKC *ex* x 10 28 54.9
UZH Uzhgorod 148.56 341 *e*PKIKP **PKPdf 10 28 39.0 +0.2**
UZH *e* 10 28 42.4
KRLC Kraliky 148.59 348 *e*PKP2 **PKiKP 10 28 43.5 -0.6**
KRLC Kraliky 148.59 348 ⇑*e*PKP **PKiKP 10 28 43.5 -0.6**
BIZ Bicaz 148.66 335 ⇑P **PKiKP 10 28 44.1 -0.2**
KMRS Kahramanmaras 148.70 311 *e*P **PKiKP 10 28 44.4 -0.3**
MORC Moravsky Berou 148.72 347 PKIKP **PKPdf 10 28 39.5 +0.4**
MORC 10 28 44.0
MORC Moravsky Berou 148.72 347 ⇑P **PKiKP 10 28 43.6 -0.7**
MORC Moravsky Berou 148.72 347 *e*PKP **PKPdf 10 28 40.1 +1.0**
MORC *e* 10 28 43.7
MORC Moravsky Berou 148.72 347 **PKPdf 10 28 39.5 +0.4**
MORC PKPbc **PKiKP 10 28 44.0 -0.3**
YOZ Yozgat 148.73 316 *e*P **PKiKP 10 28 44.5 -0.4**
HGN Heimansgroeve 148.77 2 *e*PKPbc **PKiKP 10 28 44.0 -0.4**
comp=Z,263nm,1.8s
TESR Tescani 148.78 334 ⇓P **PKPbc 10 28 43.4 +0.3**
TLCR 148.85 330 ⇑PKP2 **PKiKP 10 28 44.3 -0.4**
TLCR 148.85 330 ⇑P **PKiKP 10 28 44.3 -0.4**
LANS Liptovska Anna 148.87 345 *e*PKP2 **PKiKP 10 28 45.3 +0.6**
LANS Liptovska Anna 148.87 345 *e*PKP **PKiKP 10 28 45.3 +0.6**
LANS *e* 10 28 48.1
TRPA Tarpa 148.92 340 ⇓P **PKiKP 10 28 44.3 -0.4**
ILGA Ilgaz 148.96 320 **PKPdf 10 28 40.8 +0.7**
ILGA PKPbc **sPKPbc 10 28 45.8 -1.0**
ILGA IAMs_20 IAMs_20 11 28 58.0
comp=Z,637nm,22.0s
PRA Prague 148.99 351 *e*PKP2 **PKiKP 10 28 44.5 -0.3**
PRA Prague 148.99 351 ⇑*e*PKP **PKiKP 10 28 44.5 -0.3**
PRA *e*PKPAB **PKPab 10 28 47.4 -0.1**
BMR Baia Mare 149.00 339 ⇓PKP2 **PKPbc 10 28 43.9 +0.2**
BMR Baia Mare 149.00 339 ⇓P **PKPbc 10 28 43.9 +0.2**
PRU Pruhonice 149.05 351 *e*PKIKP **PKPdf 10 28 40.1 +0.5**
PRU *e* 10 28 43.7
PRU Pruhonice 149.05 351 *e*PKPDF **PKPdf 10 28 40.1 +0.5**
PRU ⇑*e*PKP **PKPbc 10 28 43.7 0.0**
PRU *ex* x 10 28 55.2
KURC Kurucasile-Bar 149.07 322 *e*P **PKPbc 10 28 43.2 -0.8**
NKC Novy Kostel 149.07 354 *e*PKP2 **PKPbc 10 28 44.0 +0.2**
NKC Novy Kostel 149.07 354 ⇑*e*PKP **PKPbc 10 28 44.0 +0.2**
GOPC GO Pecny, Ondr 149.09 351 *e*PKIKP **PKPdf 10 28 40.3 +0.6**
GOPC *e* 10 28 44.3
GOPC GO Pecny, Ondr 149.09 351 *e*PKPDF **PKPdf 10 28 40.3 +0.6**
GOPC ⇑*e*PKP **PKPbc 10 28 44.3 +0.5**
GOPC *ex* x 10 28 56.4
CFR Carcaliu 149.17 331 ⇑PKIKP **PKPdf 10 28 41.4 +1.5**
CFR Carcaliu 149.17 331 ⇑P **PKPdf 10 28 41.4 +1.5**
ARCR ARCALIA 149.20 337 ⇑P **PKiKP 10 28 45.6 +0.2**
KECS Kecovo 149.22 343 *e*PKP2 **PKiKP 10 28 45.1 -0.3**
KECS Kecovo 149.22 343 *e*PKP **PKiKP 10 28 45.1 -0.3**
KECS *e* 10 28 48.2
VRI Vrincioaia 149.26 333 ⇓PKP2 **PKPbc 10 28 44.6 +0.2**
VRI Vrincioaia 149.26 333 ⇓P **PKPbc 10 28 44.6 +0.2**
VRI Vrincioaia 149.26 333 *e*P **PKiKP 10 28 45.0 -0.6**
TOPG Topolog 149.29 330 ⇑P **PKiKP 10 28 45.7 +0.1**
PLOR Plostina 149.31 333 ⇑PKP2 **PKPbc 10 28 45.0 +0.5**
PLOR Plostina 149.31 333 ⇑P **PKPbc 10 28 45.0 +0.5**
VRAC Vranov 149.36 348 ⇑PKP2 **PKiKP 10 28 45.6 0.0**
VRAC Vranov 149.36 348 PKP **PKPdf 10 28 40.5 +0.4**
comp=Z,12nm,1.1s,baz=33,slow=4.3,SNR=5.5
VRAC PKPbc **PKiKP 10 28 45.0 -0.6**
comp=Z,20nm,1.1s,baz=14,slow=0.7,SNR=18
VRAC Vranov 149.36 348 ⇑P **PKiKP 10 28 45.6 0.0**
VRAC Vranov 149.36 348 *e*PKP **PKPdf 10 28 41.0 +0.9**
VRAC *e* 10 28 45.1
PBCC Pribram 149.42 352 *e*PKP **PKiKP 10 28 45.5 -0.3**
PBCC *ex* x 10 28 49.7
OZUR 149.47 334 ⇑P **PKiKP 10 28 46.3 +0.3**
JAVC Velka Javorina 149.57 347 *e*PKP **PKPdf 10 28 42.5 +2.0**
JAVC *e* 10 28 45.9
TREC Trest 149.57 350 *e*PKIKP **PKPdf 10 28 41.3 +0.8**
TREC *e* 10 28 45.8
TREC Trest 149.57 350 *e*PKPDF **PKPdf 10 28 41.3 +0.8**
TREC ⇑*e*PKP **PKiKP 10 28 45.8 -0.3**
TIRR Tirgusor 149.59 330 PKP2 **PKiKP 10 28 45.7 -0.5**
TIRR Tirgusor 149.59 330 ⇓P **PKiKP 10 28 46.2 0.0**
TIRR Tirgusor 149.59 330 **PKiKP 10 28 45.7 -0.5**
TIRR IAMs_20 IAMs_20 11 22 18.7
comp=Z,1μm,19.0s
KRUC Moravsky 149.63 348 *e*PKP **PKPdf 10 28 41.4 +0.8**
KRUC *e* 10 28 45.8
HARR Harsova 149.64 330 ⇑PKP2 **PKPbc 10 28 45.7 +0.4**
HARR Harsova 149.64 330 ⇑P **PKPbc 10 28 45.7 +0.4**
VYHS Vyhne 149.64 345 *e*PKP2 **PKiKP 10 28 46.3 0.0**
VYHS Vyhne 149.64 345 *e*PKP **PKiKP 10 28 46.3 0.0**
VYHS *e* 10 28 50.1
MBAR Mbarara 149.66 231 PKP **PKPdf 10 28 43.0 +1.1**
comp=Z,2.7nm,0.2s,baz=72,slow=19,SNR=3.1
MBAR PKPbc **pPKPbc 10 28 48.0 -0.6**
comp=Z,5.1nm,0.2s,baz=83,slow=3.4,SNR=14
MBAR Mbarara 149.66 231 PKPdf **PKPdf 10 28 42.3 +0.4**
MBAR **PKiKP 10 28 47.8 +0.2**
MBAR IAMs_20 IAMs_20 11 42 25.5
comp=Z,722nm,21.0s
TLB Topalu 149.67 330 ⇑PKP2 **PKiKP 10 28 46.6 +0.2**
TLB Topalu 149.67 330 ⇑P **PKiKP 10 28 46.6 +0.2**
GRA1 Grafenberg Arr 149.72 355 **PKPbc 10 28 45.6 +0.2**
GRF Grafenberg Arr 149.72 355 PKP2 **PKPbc 10 28 45.6 +0.2**
DOPR Dopca 149.74 335 ⇓P **PKiKP 10 28 47.2 +0.7**
CEYT Ceyhan 149.74 311 *e*P **PKiKP 10 28 47.2 +0.4**
EFOR EFORIE 149.76 329 ⇑P **PKiKP 10 28 47.1 +0.5**
BR131 Keskin Array S 149.77 317 P **PKPdf 10 28 41.7 +0.3**
SNR=62
BR131 Keskin Array S 149.77 317 **PKPdf 10 28 41.5 +0.3**
BR131 PKPbc **PKiKP 10 28 46.6 -0.4**
BRTR Keskin Array B 149.77 317 PKP **PKPdf 10 28 41.6 +0.3**
comp=Z,34nm,1.0s,baz=124,slow=1.8,SNR=70
BRTR PKPbc **PKiKP 10 28 46.5 -0.4**
comp=Z,34nm,1.0s,baz=125,slow=2.6,SNR=87
BRTR Keskin Array B 149.77 317 **PKPdf 10 28 41.0 -0.3**
BRTR PKPbc **PKiKP 10 28 46.5 -0.6**
MFTR Murfatlar 149.79 329 ⇑P **PKiKP 10 28 47.0 +0.3**
CJR Cluj-Napoca 149.79 338 ⇓PKP2 **PKiKP 10 28 46.8 +0.1**
CJR Cluj-Napoca 149.79 338 ⇓P **PKiKP 10 28 46.8 +0.1**
WLF Walferdange 149.88 2 PKP2 **PKiKP 10 28 46.7 0.0**
WLF Walferdange 149.88 2 P **PKiKP 10 28 46.7 0.0**
MLR Muntele Rosu 149.89 334 PKP **PKPdf 10 28 41.0 -0.3**
comp=Z,6.4nm,1.1s,baz=62,slow=2.8,SNR=5.2
MLR PKPbc **PKiKP 10 28 46.7 -0.4**
comp=Z,56nm,1.1s,baz=49,slow=1.2,SNR=37
MLR Muntele Rosu 149.89 334 ⇑P **PKPbc 10 28 46.0 -0.1**
MLR Muntele Rosu 149.89 334 IAMs_20 IAMs_20 11 22 33.2
comp=Z,748nm,18.0s
PSZ Piszkesteto 149.90 343 ⇑PKP2 **PKiKP 10 28 46.4 -0.5**
PSZ Piszkesteto 149.90 343 ⇑P **PKiKP 10 28 46.4 -0.5**
PSZ Piszkesteto 149.90 343 **PKPdf 10 28 40.1 -1.0**
PSZ PKPbc **PKiKP 10 28 46.4 -0.5**
YURE YUREGIR 149.91 311 *e*P **PKiKP 10 28 48.1 +0.9**
ISR Istrita 149.93 332 ⇑PKP2 **PKiKP 10 28 47.3 +0.2**
ISR Istrita 149.93 332 ⇑P **PKiKP 10 28 47.3 +0.2**
SMOL Smolenice 149.95 347 *e*PKP2 **PKiKP 10 28 47.6 +0.7**
SMOL Smolenice 149.95 347 *e*PKP **PKiKP 10 28 47.6 +0.7**
SMOL *e* 10 28 51.4
MANR Mangalia 149.97 329 ⇓P **PKiKP 10 28 47.6 +0.5**
KHC Kasperske Hory 150.02 352 PKIKP **PKPdf 10 28 40.8 -0.4**
KHC 10 28 46.9
KHC Kasperske Hory 150.02 352 *e*PKPDF **PKPdf 10 28 41.7 +0.5**
KHC ⇑*e*PKP **PKiKP 10 28 46.6 -0.5**
KHC *ex* x 10 29 03.3
KHC Kasperske Hory 150.02 352 **PKPdf 10 28 40.8 -0.4**
KHC PKPbc **PKiKP 10 28 46.9 -0.1**
DRGR 150.04 339 ⇓PKP2 **PKiKP 10 28 47.2 0.0**
DRGR 150.04 339 ⇓P **PKiKP 10 28 47.2 0.0**
YAYX Yaylak 150.10 316 *e*P **PKiKP 10 28 47.5 -0.1**
KARA Karaisali 150.11 312 *e*P **PKiKP 10 28 47.9 +0.3**
MODS Modra-Piesok 150.11 347 *e*PKP2 **PKiKP 10 28 47.2 0.0**
MODS Modra-Piesok 150.11 347 *e*PKP **PKiKP 10 28 47.1 -0.1**
MODS *e* 10 28 50.1
KRTS Karatas 150.21 311 *e*P **PKiKP 10 28 47.9 +0.1**
SECR 150.21 333 ⇑P **PKPbc 10 28 47.0 +0.3**
ANTO Ankara 150.22 318 P **PKPdf 10 28 43.1 +1.2**
SNR=52
ANTO Ankara 150.22 318 *e*P **PKiKP 10 28 48.3 +0.5**
ANTO Ankara 150.22 318 PKPdf **PKPdf 10 28 42.2 +0.4**
ANTO **PKiKP 10 28 48.1 +0.3**
ANTO Ankara 150.22 318 IAMs_20 IAMs_20 11 43 55.6
comp=Z,381nm,22.0s
SERE Sereflikochisa 150.25 316 *e*P **PKiKP 10 28 47.9 -0.1**
PSN Preselentsi 150.27 329 P **PKiKP 10 28 47.5 -0.2**
GERES GERESS Array B 150.29 352 PKP **PKPdf 10 28 41.9 +0.2**
comp=Z,12nm,1.1s,baz=129,slow=1.4,SNR=4.4
GERES PKPbc **PKiKP 10 28 47.6 -0.1**
comp=Z,20nm,1.0s,baz=45,slow=1.5,SNR=30
AFSR Afar-Bala (An 150.29 318 *e*P **PKiKP 10 28 48.5 +0.5**
VOIR 150.31 335 ⇑PKIKP **PKiKP 10 28 48.1 +0.3**
VOIR 150.31 335 ⇑P **PKiKP 10 28 48.1 +0.3**
LEHL Lehliu 150.31 331 ⇑P **PKiKP 10 28 47.8 0.0**
KALB Balgarevo 150.36 328 ⇓P **PKiKP 10 28 47.7 -0.1**
ARR Arges 150.53 335 ⇑P **PKiKP 10 28 49.4 +1.1**
KULU Kulu 150.56 317 *e*P **PKiKP 10 28 48.3 -0.3**
YUVA Yuva-Kibriscik 150.59 320 *e*P **PKiKP 10 28 48.5 -0.1**
MERS Mersin 150.67 312 *e*P **PKiKP 10 28 48.9 +0.1**
TOTH TOTAH 150.72 304 *e*P **PKPdf 10 28 43.4 +0.6**
ASF Jabal al Asfar 150.75 301 PKP **PKPdf 10 28 44.0 +1.0**
comp=Z,4.1nm,0.8s,baz=127,slow=2.2,SNR=7.8
ASF PKPbc **PKiKP 10 28 48.9 -0.3**
comp=Z,17nm,1.1s,baz=287,slow=2.2,SNR=22
ASF Jabal al Asfar 150.75 301 P **PKiKP 10 28 49.7 +0.5**
DEV Deva 150.75 338 ⇑PKIKP **PKiKP 10 28 48.5 -0.1**
DEV Deva 150.75 338 ⇑P **PKiKP 10 28 48.5 -0.1**
QASN Qassioun 150.78 304 *e*P **PKPdf 10 28 43.8 +0.8**
CONA Conrad Observa 150.82 348 *ep*PKPdf **PKPdf 10 28 43.4 +0.8**
comp=Z,16nm,1.2s
CONA *ep*PKiKP **PKPbc 10 28 48.8 +0.6**
comp=Z,21nm,0.7s
SIRR Siria 150.85 340 ⇑P **PKiKP 10 28 49.6 +0.7**
CHBY Cihanbeyli 150.89 316 *e*P **PKiKP 10 28 49.2 -0.1**
PRD Provadia 151.01 329 P **PKiKP 10 28 49.8 +0.6**
AUMIH MIHALICIK 151.04 320 *e*P **PKiKP 10 28 49.7 +0.1**
BRBR Barbar 151.08 304 *e*P **PKPdf 10 28 44.7 +1.1**
KIZK Mersin 151.12 311 *e*P **PKiKP 10 28 49.9 +0.2**
RAZG Razgrad 151.16 331 ⇑P **PKiKP 10 28 49.9 +0.4**
SAUV Serdivan-Sakar 151.18 322 *e*P **PKiKP 10 28 49.9 +0.3**
MOA Molln 151.18 350 *ep*PKPbc **PKPbc 10 28 49.1 +0.2**
comp=Z,9.8nm,0.6s,SNR=9.9
GZR Gura Zlata 151.22 337 ⇑P **PKiKP 10 28 49.8 +0.1**
BFO Black Forest 151.22 359 PKIKP **PKPdf 10 28 42.1 -1.0**
BFO 10 28 49.3
BFO Black Forest 151.22 359 **PKPdf 10 28 42.1 -1.0**
BFO PKPbc **PKiKP 10 28 49.3 -0.2**
AUSIV SIVRIHISAR 151.26 319 *e*P **PKiKP 10 28 50.3 +0.3**
GULT Gulveren 151.26 322 *e*P **PKiKP 10 28 50.4 +0.4**
SVRH Sivrihisar-ESK 151.26 319 *e*P **PKiKP 10 28 50.4 +0.4**
SILI Silifke-Mersin 151.34 311 *e*P **PKiKP 10 28 50.1 0.0**
KIZT Kizilcal 151.38 318 *e*P **PKiKP 10 28 50.5 +0.2**
KSDI Kefar Szold 151.38 304 P **PKPdf 10 28 44.6 +0.8**
BZS Buzias 151.43 339 ⇓P **PKiKP 10 28 50.3 +0.2**
SRCK Saricakaya, Es 151.45 321 *e*P **PKiKP 10 28 50.5 +0.2**
LADK Ladik-KONYA 151.45 316 *e*P **PKiKP 10 28 50.2 -0.3**
HRT Hereke 151.50 323 *e*P **PKiKP 10 28 50.6 +0.2**
ARSA Arzberg 151.54 348 *ep*PKPdf **PKPdf 10 28 44.3 +0.7**
comp=Z,9.0nm,1.4s
ARSA *ep*PKPbc **PKPbc 10 28 49.7 -0.1**
comp=Z,10.0nm,1.0s,SNR=6.8
EREN Erenkoy 151.55 310 *e*P **PKiKP 10 28 51.0 +0.4**
KLYT Kilyos 151.56 324 *e*P **PKiKP 10 28 51.4 +1.0**
IKL Isikli 151.56 311 *e*P **PKiKP 10 28 50.7 +0.1**
KONT Konya--Tatoy 151.59 316 *e*P **PKiKP 10 28 51.4 +0.7**
CIFT Cifteler, Eski 151.60 319 *e*P **PKiKP 10 28 50.9 +0.2**
ZIMR 151.61 332 ⇑P **PKiKP 10 28 51.5 +1.1**
TEVE Tevekalti-Mers 151.64 312 *e*P **PKiKP 10 28 50.9 0.0**
MMAI Mount Meron Ar 151.65 304 PKP **PKPdf 10 28 44.8 +0.5**
comp=Z,1.1nm,0.2s,baz=71,slow=6.2,SNR=3.3
MMAI PKPbc **PKPbc 10 28 50.7 +0.1**
comp=Z,6.2nm,0.5s,baz=38,slow=16,SNR=13
MMAI PKPab **pPKPab 10 29 00.4 -0.9**
comp=Z,37nm,0.9s,baz=61,slow=6.8,SNR=10
BORA Eskisehir 151.65 321 *e*P **PKiKP 10 28 51.1 +0.3**
SZH Strazhica 151.66 331 P **PKiKP 10 28 50.6 0.0**
ISK Istanbul-Kandi 151.68 324 *e*P **PKiKP 10 28 50.9 +0.2**
KAVV Kandilli-Istan 151.68 324 *e*P **PKiKP 10 28 50.9 +0.2**
SRE Strehaia 151.68 336 ⇑P **PKiKP 10 28 51.4 +0.8**
AKKU Akkuyu-Mersin 151.70 311 *e*P **PKiKP 10 28 51.3 +0.4**
ADVT Abdulvahap 151.72 322 *e*P **PKiKP 10 28 51.2 +0.4**
BGKT Bogazkoy 151.75 325 *e*P **PKPbc 10 28 50.1 -0.3**
BUY Buyukada 151.79 324 *e*P **PKiKP 10 28 51.1 +0.2**
CAVI Cavuskoy 151.81 322 *e*P **PKiKP 10 28 51.4 +0.4**
BERE Bereket-Mersin 151.84 312 *e*P **PKiKP 10 28 51.6 +0.2**
MMLI Mount Malkishu 151.84 303 *e*P **PKiKP 10 28 51.9 +0.6**
MMLI Mount Malkishu 151.84 303 P **PKPdf 10 28 45.3 +0.7**
CTKS Kestanelik-??a 151.86 325 *e*P **PKiKP 10 28 51.3 +0.3**
ELND Elena 151.94 330 ⇓P **PKPdf 10 28 46.1 +1.7**
RETA Reutte 151.95 355 *ep*PKiKP **PKiKP 10 28 51.0 -0.1**
comp=Z,57nm,1.3s,SNR=10
PVL Pavlikeni 151.97 331 P **PKiKP 10 28 51.4 +0.2**
TEKE Tekeli-Mersin 152.01 312 *e*P **PKiKP 10 28 51.4 -0.1**
WATA Walderalm 152.02 354 *ep*PKPdf **PKPdf 10 28 45.0 +0.5**
comp=Z,9.6nm,1.3s
WATA *ep*PKiKP **PKPbc 10 28 51.3 +0.3**
comp=Z,72nm,1.3s,SNR=11
SLVT Silivri 152.03 325 *e*P **PKiKP 10 28 52.1 +0.7**
GEMT Gemlik 152.03 323 *e*P **PKiKP 10 28 52.3 +0.9**
MOTA Moosalm 152.06 355 *ep*PKPdf **PKPdf 10 28 44.9 +0.3**
comp=Z,13nm,1.2s
MOTA *i* pPKiKP **PKiKP 10 28 51.4 0.0**
comp=Z,57nm,1.0s,SNR=13
KBA Koelnbreinsper 152.07 351 *ep*PKPdf **PKPdf 10 28 44.7 0.0**
comp=Z,13nm,1.4s
KBA *ep*PKPbc **PKiKP 10 28 50.9 -0.6**
comp=Z,12nm,0.6s,SNR=5.5
WTTA Wattenberg 152.09 354 *ep*PKPdf **PKPdf 10 28 45.1 +0.4**
comp=Z,13nm,1.2s
WTTA *ep*PKiKP **PKiKP 10 28 51.7 +0.1**
comp=Z,45nm,0.7s,SNR=13
ARMT Armutlu 152.12 324 *e*P **PKiKP 10 28 51.8 +0.1**
PLVB Pleven 152.15 333 ⇑P **PKiKP 10 28 51.8 +0.2**
SQTA Sankt Quirin 152.17 355 *i* pPKPdf **PKPdf 10 28 45.0 +0.3**
comp=Z,13nm,1.3s
SQTA *i* pPKiKP **PKiKP 10 28 51.8 +0.1**
comp=Z,50nm,1.1s,SNR=10
SOKA Soboth 152.18 349 *ep*PKPdf **PKPdf 10 28 45.4 +0.7**
comp=Z,20nm,1.5s
SOKA *i* pPKPbc **PKiKP 10 28 51.4 -0.3**
comp=Z,47nm,1.2s,SNR=7.2
JDRJ Daraweish 152.19 299 P **PKiKP 10 28 53.1 +0.8**
DAVA Damuels 152.21 356 *ep*PKPdf **PKPdf 10 28 46.8 +2.0**
comp=Z,13nm,1.3s
DAVA *ep*PKiKP **PKiKP 10 28 52.0 +0.2**
comp=Z,46nm,0.9s,SNR=6.9
SHUT Suhut-Afyon 152.41 318 *e*P **PKiKP 10 28 53.3 +0.9**
CSS Mathiatis 152.42 309 *e*P **PKiKP 10 28 52.9 +0.5**
CSS Mathiatis 152.42 309 P **PKPdf 10 28 45.1 -0.2**
OBKA Obir 152.43 349 *ep*PKPbc **PKPbc 10 28 51.4 -0.5**
comp=Z,4.5nm,0.6s
MYKA Terra Mystica 152.46 351 *ep*PKPdf **PKPdf 10 28 45.2 +0.1**
comp=Z,14nm,1.6s
MYKA *ep*PKPbc **PKiKP 10 28 51.5 -0.8**
comp=Z,41nm,1.4s,SNR=5.6
ABTA Abfaltersbach 152.50 352 *ep*PKPdf **PKPdf 10 28 45.2 0.0**
comp=Z,12nm,1.2s
ABTA *i* pPKPbc **PKiKP 10 28 51.9 -0.5**
comp=Z,51nm,0.7s,SNR=9.6
TVSB Tavsanli 152.51 321 *e*P **PKiKP 10 28 53.3 +0.7**
MPEP Malo Peshtene 152.55 334 P **PKiKP 10 28 52.7 +0.3**
AMAZ Amatzia 152.55 301 P **PKPdf 10 28 46.3 +0.7**
LEF Lefka 152.67 310 *e*P **PKiKP 10 28 53.1 +0.2**
DAVOX Davos/Dischmat 152.71 356 PKP **PKPdf 10 28 46.1 +0.5**
comp=Z,1.7nm,0.8s,baz=205,slow=6.8,SNR=3.5
DAVOX PKPbc **PKiKP 10 28 53.4 +0.5**
comp=Z,34nm,0.9s,baz=45,slow=1.4,SNR=26
DAVOX PKPab **pPKPab 10 29 04.5 -0.8**
comp=Z,21nm,0.7s,baz=78,slow=3.9,SNR=10
EDC Edincik 152.83 324 *e*P **PKiKP 10 28 53.4 +0.3**
LJU Ljubljana 152.88 349 *i* PKPdf **PKPdf 10 28 45.9 +0.3**
LJU *i* PKPbc **PKiKP 10 28 53.1 +0.1**
LJU *i* PKPab **PKPab 10 29 02.8 -1.0**
HRFI Mount Harif 152.91 298 P **PKPdf 10 28 46.3 +0.1**
PGB Panagyurishte 153.02 332 P **PKiKP 10 28 54.5 +1.0**
BCK Bucak 153.03 316 *e*P **PKPbc 10 28 53.5 0.0**
TUE Stuetta 153.05 357 **PKPdf 10 28 45.7 -0.5**
TUE PKPbc **PKiKP 10 28 54.0 +0.4**
TUE PKPab **pPKPab 10 29 05.6 -1.2**
EIL Elat 153.08 297 PKPbc **PKiKP 10 28 54.5 +0.6**
comp=Z,14nm,1.0s,baz=1.1,slow=4.6,SNR=7.4
EIL PKPab **PKPab 10 29 06.0 +0.7**
comp=Z,19nm,1.1s,baz=26,slow=2.9,SNR=3.8
EIL Elat 153.08 297 *e*P **PKiKP 10 28 54.9 +1.0**
EIL Elat 153.08 297 P **PKiKP 10 28 54.5 +0.6**
KRBG Karabiga-Canak 153.11 325 *e*P **PKiKP 10 28 54.8 +1.2**
KDZ Kurdzhali 153.15 329 P **PKPbc 10 28 53.5 -0.1**
KZIT Kziot 153.17 300 *e*P **PKiKP 10 28 55.2 +1.1**
KZIT Kziot 153.17 300 P **PKiKP 10 28 54.4 +0.3**
BOJS Bojanci 153.27 348 *e*PKPdf **PKPdf 10 28 46.5 +0.3**
BOJS *i* PKPbc **pPKPbc 10 28 54.5 -1.3**
CTI Castel Tesino 153.29 353 IAMs_20 IAMs_20 11 49 01.6
comp=Z,436nm,20.0s
BALB Balikesir 153.31 323 *e*P **PKiKP 10 28 54.5 +0.4**
BALB Balikesir 153.31 323 **PKPdf 10 28 46.1 -0.3**
BALB PKPbc **PKiKP 10 28 54.1 0.0**
BALB **PKPab 10 29 05.7 -0.2**
TRI Trieste 153.34 350 IAMs_20 IAMs_20 11 23 35.8
comp=Z,540nm,21.0s
VTS Vitosha 153.37 333 P **PKiKP 10 28 54.5 +0.2**
VTS Vitosha 153.37 333 ⇑P **PKPbc 10 28 53.9 -0.3**
VTS Vitosha 153.37 333 IAMs_20 IAMs_20 11 22 51.7
comp=Z,430nm,20.0s
LPK Lapseki 153.41 326 *e*P **PKiKP 10 28 54.9 +0.6**
KORT Korkueli 153.44 316 *e*P **PKiKP 10 28 54.9 +0.2**
ENEZ Enez 153.46 327 *e*P **PKPbc 10 28 54.1 -0.1**
RDO Rodhopi 153.47 328 *e*P **PKiKP 10 28 54.7 +0.3**
BLY Banja Luka 153.54 344 **PKPdf 10 28 44.8 -1.8**
BLY PKPbc **PKiKP 10 28 54.9 +0.5**
BLY **PKPab 10 29 06.7 +0.1**
ELL Elmali 153.88 316 *e*P **PKiKP 10 28 56.8 +1.3**
ELL Elmali 153.88 316 IAMs_20 IAMs_20 11 31 12.9
comp=Z,1μm,22.0s
TEOL Teolo 153.97 353 IAMs_20 IAMs_20 11 45 11.5
comp=Z,410nm,22.0s
MMB Musomiste 153.98 331 P **PKPbc 10 28 55.3 -0.1**
EZN Ezine 154.03 325 ⇑P **PKPbc 10 28 54.7 -0.8**
KKB Krupnik 154.04 333 P **PKiKP 10 28 56.0 +0.4**
**BOZC Bozc

	comp=Z,413nm,20.0s							
AGG	**Agios Georgios**	**156.67**	**330**	IAMs_20	IAMs_20	11 18 31.1		
	comp=Z,166nm,19.0s							
PESTR	**Estremoz**	**156.71**	**31**		**PKPdf**	**10 28 50.8**	**-0.3**	
PESTR					**PKPab**	**10 29 19.7**	**-0.7**	
SGRT	**San Giovanni R**	**156.72**	**344**	IAMs_20	IAMs_20	11 43 32.3		
	comp=Z,503nm,21.0s							
EVO	**Evora**	**156.76**	**32**	*e*PKPab	**PKPab**	**10 29 20.3**	**-0.3**	
PNCL	**Nicolau / Gran**	**156.82**	**33**	*e*PKPdf	**PKPdf**	**10 28 52.7**	**+1.4**	
PNCL	**Nicolau / Gran**	**156.82**	**33**	*e*PKPab	**PKPab**	**10 29 21.2**	**+0.4**	
SANT	**Santorini**	**156.92**	**320**	IAMs_20	IAMs_20	11 44 46.3		
	comp=Z,325nm,20.0s							
PTEO	**Sao Teotonio**	**157.14**	**35**	*e*PKPab	**PKPab**	**10 29 23.2**	**+1.0**	
PBEJ	**Beja**	**157.22**	**33**	*e*PKPdf	**PKPdf**	**10 28 53.4**	**+1.6**	
MORF	**Marmelete**	**157.35**	**35**	*e*P	**PKPdf**	**10 28 51.8**	**-0.3**	
MORF	**Marmelete**	**157.35**	**35**	*e*PKPdf	**PKPdf**	**10 28 53.7**	**+1.6**	
MORF	**Marmelete**	**157.35**	**35**	*e*PKPab	**PKPab**	**10 29 22.5**	**-0.7**	
PFVI	**Vila Bisbo**	**157.38**	**36**	*e*PKPdf	**PKPdf**	**10 28 54.0**	**+2.0**	
PFVI	**Vila Bisbo**	**157.38**	**36**	*e*PKPab	**PKPab**	**10 29 24.0**	**+0.7**	
SCTE	**Santa Cesarea**	**157.41**	**338**	IAMs_20	IAMs_20	11 26 17.5		
	comp=Z,234nm,22.0s							
PCVE	**Castro Verde**	**157.43**	**34**	*e*PKPab	**PKPab**	**10 29 24.4**	**+0.9**	
ESDC	**Sonseca Array**	**157.61**	**24**	PKP	**PKPdf**	**10 28 53.3**	**+1.0**	
	comp=Z,1.0nm,0.9s,baz=11,slow=3.0,SNR=5.3							
ESDC				PKPab	**PKPab**	**10 29 24.0**	**-0.3**	
	comp=Z,3.4nm,0.8s,baz=318,slow=4.2,SNR=9.9							
ESDC	**Sonseca Array**	**157.61**	**24**		**PKPdf**	**10 28 53.0**	**+0.7**	
ESDC					**PKPab**	**10 29 24.2**	**0.0**	
PVAQ	**Vaqueiros**	**157.77**	**33**	*e*PKPdf	**PKPdf**	**10 28 53.9**	**+1.4**	
PVAQ	**Vaqueiros**	**157.77**	**33**	*e*PKPab	**PKPab**	**10 29 25.6**	**+0.6**	
PBDV	**Barranco-do-Ve**	**157.78**	**34**	*e*PKPdf	**PKPdf**	**10 28 54.4**	**+1.8**	
ITM	**Ithomi**	**158.30**	**327**	PKPdf	**PKPdf**	**10 28 52.5**	**-0.7**	
ITM					**PKPab**	**10 29 26.8**	**-0.6**	
KTHA	**Kythira Island**	**158.39**	**324**	*e*P	PKPdf	10 28 41.4	-12	
TIP	**Timpagrande**	**158.80**	**340**	⇑P	**PKPab**	**10 29 27.7**	**-1.7**	
TIP	**Timpagrande**	**158.80**	**340**	PKPdf	**PKPdf**	**10 28 53.3**	**-0.5**	
TIP					**PKPab**	**10 29 29.6**	**+0.2**	
TIP				IAMs_20	IAMs_20	11 32 14.9		
	comp=Z,371nm,21.0s							
PALE	**Palemas**	**161.38**	**30**	P	**PKPdf**	**10 28 58.0**	**+1.2**	
OUK	**Oukaimeden**	**161.92**	**47**	P	**PKPdf**	**10 29 00.0**	**+2.2**	
LIC	**Lamto**	**162.07**	**136**	*e*PKIKP	**PKPdf**	**10 28 57.6**	**-0.5**	
	comp=Z,26nm,0.6s							
KIC	**Kosan Boka**	**162.36**	**136**	*e*PKIKP	**PKPdf**	**10 28 58.0**	**-0.4**	
	comp=Z,54nm,1.2s							
TIC	**Toumodi**	**162.39**	**135**	*e*PKIKP	**PKPdf**	**10 28 58.0**	**-0.4**	
TAF	**Taforalt**	**162.41**	**28**	P	**PKPdf**	**10 29 01.0**	**+3.1**	
DBIC	**Dimbokro**	**162.52**	**135**	PKP	**PKPdf**	**10 28 56.8**	**-1.7**	
	comp=Z,8.1nm,0.9s,baz=255,slow=1.1,SNR=5.6							
DBIC	**Dimbokro**	**162.52**	**135**		**PKPdf**	**10 28 58.0**	**-0.4**	
JBK	**JBK**	**162.74**	**29**	P	**PKPdf**	**10 29 00.0**	**+1.7**	
OUZM	**OUZ**	**162.85**	**46**	P	**PKPdf**	**10 29 01.0**	**+2.5**	
MDT	**Midelt**	**162.90**	**37**	PKP	**PKPdf**	**10 28 56.8**	**-1.7**	
	comp=Z,11nm,1.1s,baz=338,slow=1.2,SNR=10							
MDT				PKPab	**pPKPab**	**10 29 48.9**	**-0.7**	
	comp=Z,8.0nm,1.0s,baz=356,slow=3.0,SNR=5.4							
MDT	**Midelt**	**162.90**	**37**	P	**PKPdf**	**10 29 00.4**	**+1.9**	
KEST	**Kesra**	**163.74**	**354**	PKP	**PKPdf**	**10 28 59.0**	**-0.2**	
	comp=Z,4.1nm,0.8s,baz=270,slow=6.1,SNR=4.4							
KEST				PKPab	**PKPab**	**10 29 51.6**	**+0.6**	
	comp=Z,6.9nm,1.0s,baz=12,slow=11,SNR=3.9							
TORD	**Torodi Ar. Bea**	**171.61**	**138**	PKP	**PKPdf**	**10 29 03.2**	**-1.9**	
	comp=Z,12nm,1.1s,baz=182,slow=0.6,SNR=29							
TORD				PKPab	**sPKPab**	**10 30 29.1**	**+0.1**	
	comp=Z,7.2nm,1.0s,baz=282,slow=4.0,SNR=7.5							
TORD				PP	**PP**	**10 34 18.2**	**+1.7**	
	comp=Z,2.2nm,1.0s,baz=210,slow=8.6,SNR=5.5							
TORD	**Torodi Ar. Bea**	**171.61**	**138**		**PKPdf**	**10 29 03.6**	**-1.5**	
TORD					**pPKPab**	**10 30 27.6**	**-0.8**	

*NNC **03** 10:21:45.6±2.7, 36°.96N×70°.92E, h0km, mb4.1, mpv3.8,*
Error ellipse: s-maj=21.5km s-min=16.8km az=166.0
ISC 03 10:21:47.6±3.3, 36°.7N±0°.2×71°.0E±0°.1, h150km, n9, σ0 55/13, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.77**	**20**	P	**Pn**	**10 23 10.9**	**-0.6**
	SNR=11						
EKS2	**Erkin-Say**	**6.29**	**19**	P	**Pn**	**10 23 18.2**	**0.0**
	SNR=13						
KK31	**Karatay Array**	**6.37**	**357**	⇑P	**Pn**	**10 23 18.7**	**-0.5**
	2.5nm,0.2s,baz=176,slow=12,SNR=113						
KK31				⇓S	**Sn**	**10 24 30.4**	**-0.6**
	2.6nm,0.4s,baz=184,slow=22,SNR=5.8						
AAK	**Ala-Archa**	**6.47**	**23**	⇓P	**Pn**	**10 23 20.2**	**-0.5**
	4.4nm,0.4s						
AAK				⇑S	**Sn**	**10 24 34.1**	**+0.5**
	4.2nm,0.5s						
AAK	**Ala-Archa**	**6.47**	**23**	P	**Pn**	**10 23 20.5**	**-0.1**
	SNR=7.8						
USP	**Ospenovka**	**7.04**	**21**	P	**Pn**	**10 23 28.0**	**-0.2**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.11**	**28**	⇑P	**Pn**	**10 23 28.5**	**-0.7**
	2.2nm,0.5s						
TKM2				⇑S	**Sn**	**10 24 49.4**	**+0.5**
	1.9nm,0.8s						
TKM2	**Tokmak 2**	**7.11**	**28**	P	**Pn**	**10 23 28.6**	**-0.7**
	SNR=6.2						
AB31	**Akbulak array**	**14.89**	**331**	⇑P	**P**	**10 25 12.9**	**+0.5**
	1.1nm,0.5s,baz=180,slow=31,SNR=26						
AB31				⇑S	**Sn**	**10 27 55.8**	**+0.1**
	11nm,1.1s,baz=167,slow=23,SNR=5.3						

*PDG **03** 10:22:02.8±0.5, 37°.78N×21°.22E, h13km, ML4.2/10, Error*
ellipse: s-maj=0.8km s-min=1.0km az=0.0
*ATH **03** 10:22:03.1, 37°.79N×21°.27E, h21km, ML3.7/48, Error*
ellipse: s-maj=0.8km s-min=0.5km az=13.0
*THE **03** 10:22:03.5, 37°.80N×21°.28E, h0km±1km, ML3.7/8, Error*
ellipse: s-maj=1.9km s-min=0.4km az=306.0
*ISCJB **03** 10:22:03.2±0.3, 37°.77N±0°.02×21°.16E±0°.02, h30km±2km,*
mb4.0/20, MS2.7/1, Error ellipse: s-maj=3.1km
s-min=1.9km az=34.2
*NEIC **03** 10:22:04.3±2.5, 37°.68N±0°.05×21°.23E±0°.06, h35km±7km*
*IDC **03** 10:22:06.7±2.1, 37°.85N×21°.19E, h60km±20km, mb3.7/18,*
mb1 3.8/26, mb1mx3.6/63, mbtmp3.9/26, ML3.6/8, MS3.7/8,
Ms1 3.7/8, ms1mx3.1/66, Error ellipse: s-maj=19.0km
s-min=12.8km az=156.0
ISC 03 10:22:03.3±0.8, 37.79N±0°.02×21°.24E±0°.02, h26km±6km, n302, σ1 $72/347, mb4.1/27, 16C-13D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.33**	**33**	P	**Pb**	**10 22 10.2**	**-0.5**
RLS				S	**Sb**	**10 22 14.6**	**-1.1**
	31μm,0.4s						
RLS	**Riolos of Patr**	**0.33**	**33**	P	**Pb**	**10 22 10.3**	**-0.5**
RLS				S	**Sb**	**10 22 14.7**	**-1.1**
RLS				AML	AML	10 22 16.5	
	comp=N,71223μm,0.5s						
RLS				AML	AML	10 22 18.0	
	comp=E,53966μm,0.4s						
DRO	**Drossia**	**0.41**	**66**	P	**Pb**	**10 22 11.1**	**-0.9**
DRO				S	**Sb**	**10 22 16.3**	**-1.6**
	comp=E,33μm,0.5s						
DRO	**Drossia**	**0.41**	**66**	P	**Pb**	**10 22 11.1**	**-0.9**
DRO				S	**Sb**	**10 22 17.6**	**-0.4**
DRO				AML	AML	10 22 20.7	
	comp=E,63284μm,0.4s						
DRO				AML	AML	10 22 21.8	
	comp=N,63440μm,0.5s						
AMT	**Artemida-Makis**	**0.45**	**124**	P	**Pb**	**10 22 12.0**	**-0.7**
AMT				S	**Sb**	**10 22 18.5**	**-0.6**
	comp=N,11μm,0.5s						
AMT	**Artemida-Makis**	**0.45**	**124**	P	**Pb**	**10 22 11.8**	**-0.9**
AMT				S	**Sb**	**10 22 18.7**	**-0.4**
AMT				AML	AML	10 22 25.4	
	comp=N,21835μm,0.5s						
AMT				AML	AML	10 22 26.1	
	comp=E,22162μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.47**	**281**	P	**Pb**	**10 22 13.2**	**+0.2**
VLMS				S	**Sb**	**10 22 19.8**	**+0.2**
VLMS				AML	AML	10 22 23.0	
	comp=E,56944μm,0.2s						
VLMS				AML	AML	10 22 24.1	
	comp=N,41678μm,0.3s						
KFL	**Anninata**	**0.48**	**312**	P	**Pb**	**10 22 13.3**	**0.0**
KFL				S	**Sb**	**10 22 20.1**	**+0.1**
	comp=N,15μm,0.4s						
KFL	**Anninata**	**0.48**	**312**	P	**Pb**	**10 22 13.2**	**0.0**
KFL				S	**Sb**	**10 22 20.3**	**+0.3**
KFL				AML	AML	10 22 27.9	
	comp=N,34054μm,0.3s						
KFL				AML	AML	10 22 29.8	
	comp=E,26681μm,0.6s						
VLS	**Valsamata**	**0.65**	**307**	P	**Pb**	**10 22 15.8**	**-0.2**
VLS				S	**Sn**	**10 22 26.7**	**+0.5**
	comp=E,6μm,0.4s						
VLS	**Valsamata**	**0.65**	**307**	P	**Pb**	**10 22 15.9**	**-0.1**
VLS				S	**Sn**	**10 22 25.7**	**-0.6**
VLS				AML	AML	10 22 28.1	
	comp=E,10663μm,0.4s						
VLS				AML	AML	10 22 30.6	
	comp=N,11542μm,0.3s						
UPR	**University Cam**	**0.66**	**41**	P	**Pb**	**10 22 16.0**	**-0.1**
UPR	**University Cam**	**0.66**	**41**	P	**Pb**	**10 22 16.1**	**0.0**
UPR				S	**Sb**	**10 22 25.4**	**+0.5**
LAKA	**Lakka**	**0.74**	**52**	P	**Pb**	**10 22 16.6**	**-0.9**
LAKA	**Lakka**	**0.74**	**52**	P	**Pb**	**10 22 16.8**	**-0.7**
LAKA				S	**Sb**	**10 22 27.7**	**+0.4**
LAKA				AML	AML	10 22 31.9	
	comp=N,12033μm,0.9s						
LAKA				AML	AML	10 22 33.1	
	comp=E,9624μm,1.0s						
KLV	**Kalavryta, Ach**	**0.76**	**70**	P	**Pb**	**10 22 17.1**	**-0.9**
KLV				S	**Sb**	**10 22 28.6**	**+0.6**
	comp=E,4μm,0.8s						
KLV	**Kalavryta, Ach**	**0.76**	**70**	P	**Pb**	**10 22 17.3**	**-0.6**
KLV				S	**Sb**	**10 22 28.1**	**0.0**
KLV				AML	AML	10 22 32.5	
	comp=N,6023μm,0.6s						
KLV				AML	AML	10 22 34.2	
	comp=E,6750μm,0.8s						
PDO	**Prodromos**	**0.81**	**357**	P	**Pb**	**10 22 18.8**	**0.0**
PDO	**Prodromos**	**0.81**	**357**	P	**Pb**	**10 22 18.9**	**+0.2**
PDO				S	**Sn**	**10 22 30.4**	**0.0**
PDO				AML	AML	10 22 33.6	
	comp=E,58361μm,0.3s						
PDO				AML	AML	10 22 35.1	
	comp=N,48631μm,0.3s						
ITM	**Ithomi**	**0.81**	**138**	P	**Pb**	**10 22 18.3**	**-0.5**
ITM				S	**Sn**	**10 22 30.1**	**-0.3**
	comp=N,4μm,0.7s						
ITM	**Ithomi**	**0.81**	**138**	P	**Pb**	**10 22 18.4**	**-0.5**
ITM				S	**Sn**	**10 22 30.0**	**-0.4**
ITM				AML	AML	10 22 38.6	
	comp=N,10589μm,0.7s						
ITM				AML	AML	10 22 39.2	
	comp=E,6324μm,0.7s						
ITM	**Ithomi**	**0.81**	**138**		**Pb**	**10 22 17.9**	**-0.9**
EFP	**Efpalio**	**0.83**	**39**	P	**Pb**	**10 22 18.2**	**-0.8**
EFP	**Efpalio**	**0.83**	**39**	P	**Pb**	**10 22 18.6**	**-0.4**
EFP				AML	AML	10 22 34.6	
	comp=E,9576μm,0.4s						
EFP				AML	AML	10 22 38.4	
	comp=N,8971μm,0.5s						
FSK	**Fiskardo**	**0.86**	**322**	P	**Pb**	**10 22 19.5**	**0.0**
FSK	**Fiskardo**	**0.86**	**322**	P	**Pb**	**10 22 19.5**	**0.0**
FSK				S	**Sn**	**10 22 32.2**	**+0.8**
PVO	**Paravola**	**0.86**	**15**	P	**Pb**	**10 22 19.5**	**-0.1**
PVO	**Paravola**	**0.86**	**15**	P	**Pb**	**10 22 19.5**	**-0.1**
PVO				AML	AML	10 22 35.8	
	comp=N,15979μm,0.3s						
PVO				AML	AML	10 22 37.0	
	comp=E,13454μm,0.4s						
TRIZ	**Trizonia**	**0.88**	**48**	P	**Pb**	**10 22 18.8**	**-1.0**
TRIZ	**Trizonia**	**0.88**	**48**	P	**Pb**	**10 22 19.0**	**-0.8**
TRIZ				S	**Sn**	**10 22 32.2**	**+0.3**
SERG	**Sergoula**	**0.90**	**46**	P	**Pb**	**10 22 19.3**	**-0.9**
SERG	**Sergoula**	**0.90**	**46**	P	**Pb**	**10 22 19.6**	**-0.7**
SERG				S	**Sb**	**10 22 32.0**	**+0.2**
SERG				AML	AML	10 22 40.1	
	comp=E,9278μm,0.5s						
SERG				AML	AML	10 22 42.8	
	comp=N,10417μm,0.4s						
KALE	**Kalithea**	**0.93**	**49**	P	**Pn**	**10 22 19.8**	**-1.0**
KALE	**Kalithea**	**0.93**	**49**	P	**Pn**	**10 22 20.7**	**-0.1**
KALE				S	**Sb**	**10 22 32.9**	**+0.1**
KALE				AML	AML	10 22 41.3	
	comp=E,10824μm,0.6s						
KALE				AML	AML	10 22 41.4	
	comp=N,12590μm,0.7s						
MGNA	**Meganis**	**0.94**	**338**	P	**Pb**	**10 22 21.2**	**+0.3**
MGNA				S	**Sn**	**10 22 34.3**	**+0.9**
MGNA				AML	AML	10 22 38.1	
	comp=E,10684μm,0.2s						
MGNA				AML	AML	10 22 39.4	
	comp=N,7058μm,0.3s						
EVGI	**Lefkada island**	**0.95**	**331**	P	**Pn**	**10 22 21.0**	**0.0**
EVGI	**Lefkada island**	**0.95**	**331**	P	**Pb**	**10 22 21.5**	**+0.3**
EVGI				S	**Sn**	**10 22 34.8**	**+1.0**
KLMT	**Kalamata**	**0.97**	**138**	P	**Pb**	**10 22 22.1**	**+0.6**
KLMT				S	**Sn**	**10 22 36.1**	**+1.9**
	comp=N,5μm,0.8s						
PYL	**PYLOS**	**0.97**	**156**	P	**Pn**	**10 22 20.5**	**-0.8**
PYL	**PYLOS**	**0.97**	**156**	P	**Pn**	**10 22 20.7**	**-0.6**
PYL				S	**Sn**	**10 22 34.6**	**+0.3**
PYL				AML	AML	10 22 39.2	
	comp=N,5382μm,0.7s						
PYL				AML	AML	10 22 40.0	
	comp=E,5024μm,0.6s						
VLX	**Vlachokerasia**	**0.99**	**114**	P	**Pb**	**10 22 22.2**	**+0.3**
VLX	**Vlachokerasia**	**0.99**	**114**	P	**Pb**	**10 22 22.3**	**+0.4**
VLX				AML	AML	10 22 41.5	
	comp=N,9852μm,0.6s						
VLX				AML	AML	10 22 43.5	
	comp=E,11174μm,0.5s						
TSLK	**Tsoukalades, L**	**1.14**	**336**	P	**Pb**	**10 22 24.1**	**-0.1**
TSLK	**Tsoukalades, L**	**1.14**	**336**	P	**Pb**	**10 22 25.6**	**+1.4**
TSLK				AML	AML	10 22 48.4	
	comp=N,13033μm,0.8s						
TSLK				AML	AML	10 22 48.8	
	comp=E,9965μm,0.6s						
DSF	**Desfina**	**1.19**	**58**	P	**Pn**	**10 22 24.4**	**0.0**
DSF	**Desfina**	**1.19**	**58**	P	**Pn**	**10 22 24.7**	**+0.3**
DSF				AML	AML	10 22 49.6	
	comp=N,6676μm,0.4s						
DSF				AML	AML	10 22 53.0	
	comp=E,4974μm,0.4s						
DLFA	**Delphi**	**1.21**	**55**	P	**Pn**	**10 22 24.9**	**+0.4**
DLFA				AML	AML	10 22 50.9	
	comp=N,5483μm,0.4s						
DLFA				AML	AML	10 22 51.5	
	comp=E,5400μm,0.5s						
EVR	**Evrytania**	**1.21**	**21**	P	**Pn**	**10 22 25.0**	**+0.3**
EVR	**Evrytania**	**1.21**	**21**	P	**Pb**	**10 22 25.4**	**-0.2**
EVR				AML	AML	10 22 47.8	
	comp=E,4135μm,0.7s						
EVR				AML	AML	10 22 51.8	
	comp=N,6517μm,0.6s						
LOUT	**Loutraki**	**1.39**	**81**	P	**Pb**	**10 22 28.6**	**+0.1**
LOUT	**Loutraki**	**1.39**	**81**	P	**Pb**	**10 22 28.8**	**+0.3**
LOUT				S	**Sb**	**10 22 47.1**	**+1.3**
LOUT				AML	AML	10 22 52.4	
	comp=N,1392μm,0.6s						
LOUT				AML	AML	10 22 54.7	
	comp=E,1981μm,1.0s						
LTK	**Loutraki**	**1.39**	**80**	P	**Pb**	**10 22 27.8**	**-0.7**
LTK	**Loutraki**	**1.39**	**80**	P	**Pb**	**10 22 29.1**	**+0.6**
LTK				AML	AML	10 22 51.5	
	comp=E,6765μm,0.4s						
LTK				AML	AML	10 22 52.4	
	comp=N,8674μm,0.4s						
PROD	**Prodromos**	**1.39**	**70**	P	**Pb**	**10 22 28.5**	**-0.1**
PROD				S	**Sb**	**10 22 47.9**	**+2.0**
PROD				AML	AML	10 22 52.3	
	comp=N,8170μm,0.5s						
PROD				AML	AML	10 22 53.1	
	comp=E,10534μm,0.4s						
MAKR	**Makrakomi, Fth**	**1.41**	**29**	P	**Pb**	**10 22 28.5**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.41**	**29**	P	**Pb**	**10 22 30.0**	**+1.1**
MAKR				AML	AML	10 22 57.4	
	comp=N,8791μm,0.5s						
MAKR				AML	AML	10 22 58.0	
	comp=E,12113μm,0.5s						
AXAR	**Agios Charalam**	**1.48**	**48**	P	**Pb**	**10 22 29.8**	**-0.4**
AXAR				AML	AML	10 22 57.9	
	comp=E,10914μm,1.2s						
AXAR				AML	AML	10 22 58.3	
	comp=N,10172μm,0.7s						
EPID	**Epidavros**	**1.50**	**96**	P	**Pb**	**10 22 30.9**	**+0.5**
AGG	**Agios Georgios**	**1.50**	**34**	P	**Pb**	**10 22 29.9**	**-0.6**
AGG	**Agios Georgios**	**1.50**	**34**	P	**Pb**	**10 22 30.3**	**-0.2**
AGG				AML	AML	10 22 57.3	
	comp=N,3994μm,0.5s						
AGG				AML	AML	10 22 59.7	
	comp=E,3090μm,0.9s						
AGG	**Agios Georgios**	**1.50**	**34**		**Pb**	**10 22 30.6**	**+0.1**
KRND	**KRANIDI**	**1.57**	**104**	P	**Pb**	**10 22 31.8**	**+0.2**
KRND	**KRANIDI**	**1.57**	**104**	P	**Pb**	**10 22 31.5**	**-0.1**
KRND				AML	AML	10 22 58.5	
	comp=N,5465μm,0.6s						
KRND				AML	AML	10 22 59.4	
	comp=E,5047μm,1.0s						
DID	**Didima**	**1.61**	**99**	P	**Pb**	**10 22 32.2**	**-0.1**
DID	**Didima**	**1.61**	**99**	P	**Pb**	**10 22 32.5**	**+0.1**
DID				AML	AML	10 23 00.7	
	comp=E,4538μm,0.6s						
DID				AML	AML	10 23 00.9	
	comp=N,3491μm,0.6s						
LKR	**Lokris**	**1.63**	**58**	P	**Pb**	**10 22 32.2**	**-0.5**
LKR	**Lokris**	**1.63**	**58**	P	**Pb**	**10 22 32.6**	**-0.1**
LKR				AML	AML	10 22 59.1	
	comp=E,3909μm,0.6s						
LKR				AML	AML	10 23 02.0	
	comp=N,2507μm,0.9s						
VIL2	**Platees**	**1.66**	**75**	P	**Pb**	**10 22 33.4**	**+0.3**
VIL2				AML	AML	10 22 59.4	
	comp=N,5801μm,0.6s						
VIL2				AML	AML	10 23 00.8	
	comp=E,8357μm,1.0s						
VILL	**Villia**	**1.68**	**76**	P	**Pb**	**10 22 33.0**	**-0.5**
VLI	**Veliai**	**1.72**	**128**	P	**Pb**	**10 22 33.9**	**-0.3**
VLI	**Veliai**	**1.72**	**128**	P	**Pb**	**10 22 34.5**	**+0.3**
THL	**Klokotos Trika**	**1.88**	**19**	P	**Pb**	**10 22 36.6**	**-0.2**
THL	**Klokotos Trika**	**1.88**	**19**	P	**Pb**	**10 22 36.8**	**-0.1**
THL				AML	AML	10 23 11.0	
	comp=N,1674μm,0.6s						
THL				AML	AML	10 23 11.5	
	comp=E,2314μm,0.6s						
IGT	**Igoumenitsa**	**1.88**	**338**	P	**Pb**	**10 22 35.7**	**-1.3**
IGT	**Igoumenitsa**	**1.88**	**338**	P	**Pb**	**10 22 36.5**	**-0.5**
IGT				AML	AML	10 23 19.9	
	comp=N,1104μm,0.7s						
IGT				AML	AML	10 23 21.0	
	comp=E,2113μm,0.6s						
JAN	**Janina**	**1.89**	**351**	P	**Pb**	**10 22 36.6**	**-0.6**
JAN	**Janina**	**1.89**	**351**	P	**Pb**	**10 22 36.8**	**-0.4**
JAN				AML	AML	10 23 13.5	
	comp=N,1877μm,0.5s						
JAN				AML	AML	10 23 13.9	
	comp=E,2184μm,0.5s						
ATH	**Athens Observa**	**1.97**	**84**	P	**Pb**	**10 22 37.5**	**-0.9**
ATH	**Athens Observa**	**1.97**	**84**	P	**Pb**	**10 22 37.5**	**-0.9**
ATH				AML	AML	10 23 05.2	
	comp=E,4067μm,0.5s						
ATH				AML	AML	10 23 05.8	
	comp=N,2911μm,0.5s						
MEV	**Metsovon**	**2.00**	**360**	P	**Pb**	**10 22 37.7**	**-1.3**
ATHU	**Athens Univers**	**2.02**	**84**	P	**Pb**	**10 22 37.9**	**-1.4**
ATHU	**Athens Univers**	**2.02**	**84**	P	**Pb**	**10 22 37.9**	**-1.4**
MRKA	**Markates**	**2.06**	**63**	P	**Pb**	**10 22 38.3**	**-1.7**
MRKA	**Markates**	**2.06**	**63**	P	**Pb**	**10 22 38.4**	**-1.7**
MRKA				AML	AML	10 23 08.4	
	comp=N,3461μm,0.5s						
MRKA				AML	AML	10 23 10.0	
	comp=E,2536μm,0.5s						
KTHR	**Kythira**	**2.08**	**137**	P	**Pb**	**10 22 39.5**	**-0.7**
PTL	**Penteli**	**2.09**	**82**	P	**Pb**	**10 22 39.0**	**-1.5**
PTL	**Penteli**	**2.09**	**82**	P	**Pb**	**10 22 39.2**	**-1.3**
PTL				AML	AML	10 23 08.1	
	comp=E,3192μm,0.7s						
PTL				AML	AML	10 23 08.4	
	comp=N,2767μm,0.7s						
KTHA	**Kythira Island**	**2.11**	**136**	P	**Pb**	**10 22 39.9**	**-0.9**
KTHA	**Kythira Island**	**2.11**	**136**	P	**Pb**	**10 22 39.5**	**-1.3**
KTHA				AML	AML	10 23 22.6	
	comp=N,1213μm,0.7s						
KTHA				AML	AML	10 23 24.2	
	comp=E,1807μm,0.8s						
KPRO	**Kipourio**	**2.17**	**2**	P	**Pb**	**10 22 40.6**	**-1.3**
KPRO	**Kipourio**	**2.17**	**2**	P	**Pb**	**10 22 40.2**	**-1.7**
KPRO				AML	AML	10 23 23.4	
	comp=E,3112μm,0.7s						
KPRO				AML	AML	10 23 25.2	
	comp=N,2698μm,0.9s						
NEO	**Neokhori**	**2.17**	**45**	P	**Pb**	**10 22 40.2**	**-1.7**
NEO	**Neokhori**	**2.17**	**45**	P	**Pb**	**10 22 40.2**	**-1.7**
NEO				S	**Sb**	**10 23 06.7**	**-1.7**
NEO				AML	AML	10 23 11.8	
	comp=N,1617μm,0.7s						
NEO				AML	AML	10 23 12.2	
	comp=E,2565μm,0.6s						
XOR	**Xorichti**	**2.20**	**44**	P	**Pb**	**10 22 40.4**	**-1.9**
XOR	**Xorichti**	**2.20**	**44**	P	**Pb**	**10 22 40.5**	**-1.8**
XOR				AML	AML	10 23 11.6	
	comp=N,1885μm,0.8s						
XOR				AML	AML	10 23 12.7	
	comp=E,1319μm,0.5s						
KASA	**Kassiopi**	**2.21**	**333**	P	**Pb**	**10 22 41.0**	**-1.4**
KASA				AML	AML	10 23 22.7	
	comp=E,1520μm,0.7s						
KASA				AML	AML	10 23 26.2	
	comp=N,852μm,0.5s						
EREA	**Eretria**	**2.21**	**73**	P	**Pb**	**10 22 41.1**	**-1.5**
SKIA	**Skiathos**	**2.23**	**51**	P	**Pb**	**10 22 41.1**	**-1.7**
SKIA	**Skiathos**	**2.23**	**51**	P	**Pb**	**10 22 41.1**	**-1.7**
SKIA				AML	AML	10 23 17.6	
	comp=E,1712μm,0.7s						
SKIA				AML	AML	10 23 18.4	
	comp=N,965μm,0.6s						
KEK

OUR	Ouranopolis	3.32 39	P	Pn	10 22 55.9	+2.3
VAM	Vamos	3.36 134	P	Pn	10 22 56.7	+2.6
SOH	Sokhos	3.45 28	P	Pn	10 22 57.9	+2.6
APE	Apeiranthos	3.49 101	⇓P	Pn	10 22 56.8	+0.9
KNT	Kendrikon	3.61 20	P	Pn	10 23 00.1	+2.6
SANT	Santorini	3.66 111	⇑P	Pn	10 22 58.2	0.0
SANT			AML	AML	10 24 21.4	
SANT	Santorini	3.66 111		Pn	10 22 60.0	+1.8
VAY	Valandovo	3.68 16	*i* Pn	Pn	10 23 00.8	+2.3
TIR	Tirane	3.71 344	⇓P	Pn	10 22 53.9	-5.1
TIR			AML	AML	10 23 57.4	
TIR	Tirane	3.71 344		Pn	10 23 01.4	+2.4
LIA	Limnos Island	3.73 54	P	Pn	10 23 00.8	+1.6
TIP	Timpagrande	3.78 293	⇓P	Pn	10 23 03.6	+3.7
TIP			AML	AML	10 23 50.3	
TIP	Timpagrande	3.78 293		Pn	10 23 01.1	+1.1
CHOS	Chios island	3.84 80	P	Pn	10 23 03.2	+2.3
SIGR	SIGRI	3.89 67	P	Pn	10 23 04.0	+2.6
CGL1	Ceglie Messapi	4.09 316	*e*Pn	Pn	10 23 06.5	+2.3
CGL1			Sn	Sn	10 23 52.4	+1.1
TAR1	Taranto	4.12 313	*e*Pn	Pn	10 23 06.7	+2.2
TAR1			Sn	Sn	10 23 52.5	+0.7
MMB	Musomiste	4.25 26	P	Pn	10 23 08.5	+2.0
FASA	Fasano	4.27 316	*e*Pn	Pn	10 23 08.6	+2.0
FASA			Sn	Sn	10 23 55.9	+0.3
KKB	Krupnik	4.32 19	P	Pn	10 23 11.1	+3.8
ULC	Ulcinj	4.45 340	⇓*i*Pn	Pn	10 23 11.2	+2.1
ULC			*e*Sn	Sn	10 24 03.0	+3.0
EZN	Ezine	4.46 61	⇓P	Pn	10 23 01.9	-7.4
EZN			⇑S	Sn	10 23 34.6	-26
EZN			AML	AML	10 24 22.1	
MATE	Matera	4.54 310	⇓P	Pn	10 23 10.5	+0.2
MATE			AML	AML	10 25 02.9	
DRME	Dracevica, Mon	4.67 341	*e*Pn	Pn	10 23 12.9	+0.8
DRME	Dracevica, Mon	4.67 341	*e*Pn	Pn	10 23 14.4	+2.3
DRME			*e*Sn	Sn	10 24 08.8	+3.3
RZN	Rozhen	4.73 33	P	Pn	10 23 15.6	+2.5
BUM	Brajici-Budva	4.86 339	⇓*i*Pn	Pn	10 23 16.9	+2.2
BUM			*e*Sn	Sn	10 24 12.9	+2.8
PDG	Podgorica	4.88 342	*e*Pn	Pn	10 23 15.4	+0.4
PDG	Podgorica	4.88 342	⇑P	Pn	10 23 09.6	-5.4
PDG			⇓S	Sn	10 23 54.4	-16
PDG			AML	AML	10 24 14.1	
PDG	Podgorica	4.88 342		Pn	10 23 16.1	+1.1
TTG	Podgorica	4.88 342	⇑*i*Pn	Pn	10 23 16.9	+1.9
TTG			*e*Sn	Sn	10 24 13.7	+3.0
PVY	Plav	4.90 349	⇓*i*Pn	Pn	10 23 17.9	+2.5
PVY			*e*Sn	Sn	10 24 14.0	+2.6
KDZ	Kurdzhali	5.03 39	P	Pn	10 23 18.1	+1.1
VTS	Vitosha	5.06 17	P	Pn	10 23 20.5	+2.9
VTS	Vitosha	5.06 17	⇑P	Pn	10 23 08.6	-9.0
VTS			AML	AML	10 24 22.1	
VTS	Vitosha	5.06 17		Pn	10 23 19.9	+2.3
CEME	Cevo	5.08 340	⇑*i*Pn	Pn	10 23 20.1	+2.3
CEME			*e*Sn	Sn	10 24 18.1	+2.5
ACER	Acerenza	5.09 308		Pn	10 23 18.1	+0.2
HCY	Herceg Novi	5.11 337	*e*Pn	Pn	10 23 18.2	0.0
HCY	Herceg Novi	5.11 337	⇑*i*Pn	Pn	10 23 20.4	+2.2
HCY			*e*Sn	Sn	10 24 19.2	+2.9
IVA	Berane	5.18 349	⇑*i*Pn	Pn	10 23 20.9	+1.7
IVA			*e*Sn	Sn	10 24 21.1	+2.9
KOME	Kolasin	5.23 346	⇑*i*Pn	Pn	10 23 22.2	+2.3
KOME			*e*Sn	Sn	10 24 22.2	+2.9
KARP	Karpathos	5.26 113		Pn	10 23 22.9	+2.7
NKME	Niksic	5.27 341	*e*Pn	Pn	10 23 22.2	+1.7
NKY	Niksic	5.31 342	⇑*i*Pn	Pn	10 23 22.6	+1.6
NKY			*e*Sn	Sn	10 24 23.9	+2.6
TREB	Trebinje	5.40 337	*e*Pn	Pn	10 23 22.0	-0.1
DBRK	Dubrovnik	5.42 335	*i* Pn	Pn	10 23 22.6	+0.2
DBRK			Sn	Sn	10 24 19.0	-4.9
VAE	Valguarnera	5.43 269	P	Pn	10 23 24.8	+2.1
	comp=E,1.3nm,0.3s,baz=116,slow=15,SNR=2.6					
VAE			S	Sn	10 24 22.1	-2.1
	comp=E,3.6nm,0.3s,baz=148,slow=3.5,SNR=5.5					
BRY	Bratogost	5.51 339	*e*Pn	Pn	10 23 24.1	+0.3
BRY	Bratogost	5.51 339	⇑*i*Pn	Pn	10 23 26.1	+2.3
BRY			*e*Sn	Sn	10 24 28.7	+2.3
BALB	Balikesir	5.51 68		Pn	10 23 27.0	+3.3
UPM	Unac-Piva	5.70 343	⇓*i*Pn	Pn	10 23 29.4	+3.0
UPM			*e*Sn	Sn	10 24 33.3	+2.3
WDD	Wied Dalam	5.73 252		Pn	10 23 27.4	+0.7
STON	Ston	5.75 333	*e*Pn	Pn	10 23 26.5	-0.5
STON			Sn	Sn	10 24 27.1	-5.0
STON	Ston	5.75 333	*e*Pn	Pn	10 23 26.8	-0.2
SGRT	San Giovanni R	5.80 315	Pn	Pn	10 23 28.3	+0.6
MPEP	Malo Peshtene	5.88 18	P	Pn	10 23 31.8	+3.1
RUDO	Rudo	6.00 347	*e*Pn	Pn	10 23 29.5	-0.8
BBLS	Lazići	6.23 348	*e*Pn	Pn	10 23 34.4	+0.8
ELND	Elena	6.24 33	⇓P	Pn	10 23 24.9	-8.7
PVL	Pavlikeni	6.26 29	P	Pn	10 23 34.6	+0.7
DIVS	Divibare	6.38 352	*e*Pn	Pn	10 23 35.7	+0.1
HVAR	Hvar	6.51 327	*e*Pn	Pn	10 23 37.1	-0.2
HVAR			Sn	Sn	10 24 44.9	-5.8
HAPS	Han Pijesak,BI	6.53 345	*e*Pn	Pn	10 23 37.2	-0.5
TEKS	Tekeris	6.88 350	*e*Pn	Pn	10 23 41.3	-1.2
INTR	Introdacqua	7.04 309		Pn	10 23 47.8	+3.1
ZIRJ	Zirje	7.24 326	*e*Pn	Pn	10 23 48.2	+0.9
ZIRJ			Sn	Sn	10 25 04.4	-4.3
MGRS	Mrkonjic Grad	7.33 336	*e*Pn	Pn	10 23 49.6	+0.9
MORI	Morici	7.38 327	*e*Pn	Pn	10 23 50.2	+0.9
MORI			Sn	Sn	10 25 09.2	-2.9
FRGS	Fruska Gora	7.44 352	*e*Pn	Pn	10 23 48.9	-1.3
BLY	Banja Luka	7.60 338	*e*Pn	Pn	10 23 52.7	+0.4
BLY	Banja Luka	7.60 338	⇑P	Pn	10 23 47.7	-4.6
BLY	Banja Luka	7.60 338	Pn	Pn	10 23 51.9	-0.3
GZR	Gura Zlata	7.69 8	⇑P	Pn	10 23 45.9	-7.6
DUGI	Dugi Otok	7.77 325	*e*Pn	Pn	10 23 56.0	+1.3
DUGI			Sn	Sn	10 25 18.5	-3.2
NRCA	Norcia	8.00 312		Pn	10 23 58.4	+0.5
NVLJ	Novalja	8.30 327	*i* Pn	Pn	10 24 02.6	+0.7
MLR	Muntele Rosu	8.46 23	P	Pn	10 24 07.6	+3.3
	comp=E,0.1nm,0.3s,baz=186,slow=9.2,SNR=3.7					
MLR	Muntele Rosu	8.46 23	Pn	Pn	10 23 56.4	-7.9
MLR	Muntele Rosu	8.46 23		Pn	10 24 07.8	+3.4
MOSL	Moslavina	8.51 338	*e*Pn	Pn	10 24 04.1	-0.7
MORH	Mrgy, Hungar	8.64 348	*e*Pn	Pn	10 24 05.9	-0.7
OZLJ	Ozalj	8.93 333	*e*Pn	Pn	10 24 11.2	+0.7
PLOR	Plostina	9.01 25	⇓P	Pn	10 24 04.0	-7.7
VRI	Vrincioaia	9.05 25	⇓P	Pn	10 24 03.1	-9.1
DRGR		9.06 6	⇑P	Pn	10 24 05.4	-7.1
CRES	Cresnjev	9.12 334	*e*Pn	Pn	10 24 12.4	-0.7
CEY	Cerknica	9.43 330	*e*Pn	Pn	10 24 16.9	-0.6
LJU	Ljubljana	9.65 331	*e*Pn	Pn	10 24 18.9	-1.5
KEST	Kesra	9.76 261	P	Pn	10 24 23.6	+1.5
	comp=E,0.2nm,0.3s,baz=45,slow=19,SNR=3.1					
KEST			LR	LR	10 29 16.0	
	comp=E,97nm,19.5s,baz=306,slow=44					
BRTR	Keskin Array B	9.88 75	P	Pn	10 24 26.9	+3.2
	comp=E,0.2nm,0.3s,baz=262,slow=13,SNR=7.5					
BRTR			LR	LR	10 29 17.1	
	comp=E,176nm,19.1s,baz=284,slow=44					
OBKA	Obir	10.03 332	*e*Pn	Pn	10 24 26.9	+1.2
	comp=E,2.8nm,0.3s					
OBKA			Sn	Sn	10 26 15.0	-2.4
	comp=E,14nm,0.8s					
PSZ	Piszkesteto	10.18 355	Pn	Pn	10 24 28.7	+1.0
ARSA	Arzberg	10.35 338	*e*Pn	Pn	10 24 30.0	-0.1
	comp=E,0.7nm,0.2s					
MYKA	Terra Mystica	10.48 330	Pn	Pn	10 24 35.6	+3.8
	comp=E,0.7nm,0.3s					
MYKA			Sn	Sn	10 26 26.8	-1.5
	comp=E,1.4nm,0.4s					
STAL	STALIGIAL	10.57 326	Pn	Pn	10 24 33.3	+0.2
VYHS	Vyhne	10.85 351	*e*PN	Pn	10 24 42.8	+6.0
VYHS			*e*SN	Sn	10 26 33.5	-3.8
CONA	Conrad Observa	10.87 340	*e*Pn	Pn	10 24 40.0	+2.8
	comp=E,0.5nm,0.3s					
CTI	Castel Tesino	10.91 322	Pn	Pn	10 24 39.9	+2.1
KBA	Koelnbreinsper	10.96 330	*e*Pn	Pn	10 24 39.4	+0.9
	comp=E,1.0nm,0.3s					
KBA			Sn	Sn	10 26 37.0	-3.3
	comp=E,1.6nm,0.4s					
MSSA	Maissana	10.99 310	Pn	Pn	10 24 43.5	+4.6
ABTA	Abfaltersbach	11.04 327	Pn	Pn	10 24 40.8	+1.3
	comp=E,1.1nm,0.3s					
ABTA			*e*Sn	Sn	10 26 43.5	+1.4
	comp=E,6.6nm,0.7s					
MOA	Molln	11.28 335	*e*Pn	Pn	10 24 44.3	+1.5
	comp=E,1.2nm,0.2s					
MOA			Sn	Sn	10 26 45.1	-2.8
	comp=E,1.3nm,0.4s					
WTTA	Wattenberg	11.82 326	Pn	Pn	10 24 51.5	+1.2
	comp=E,1.5nm,0.3s					
WTTA			Sn	Sn	10 26 58.0	-3.4
	comp=E,5.5nm,0.6s					
WATA	Walderalm	11.90 326	*e*Pn	Pn	10 24 52.9	+1.6
	comp=E,1.4nm,0.2s					
WATA			Sn	Sn	10 26 59.5	-3.8
	comp=E,0.9nm,0.3s					
SQTA	Sankt Quirin	11.98 325	*e*Pn	Pn	10 24 53.9	+1.6
	comp=E,0.3nm,0.1s					
MOTA	Moosalm	12.12 325	*e*Pn	Pn	10 24 55.3	+1.0
	comp=E,2.9nm,0.7s					
MOTA			Sn	Sn	10 27 07.7	-0.9
	comp=E,3.5nm,0.7s					
GERES	GERESS Array B	12.33 336	P	Pn	10 24 57.8	+0.6
	comp=E,0.4nm,0.3s,baz=162,slow=13,SNR=3.9					
KHC	Kasperske Hory	12.62 336	*e*PN	Pn	10 24 57.8	-3.3
KHC	Kasperske Hory	12.62 336	Pn	Pn	10 25 02.4	+1.3
SENIN	Lac Senin/Sane	13.43 314	Pn	Pn	10 25 15.9	+3.6
AKASG	Malin Array Be	14.11 21	P	Pn	10 25 22.6	+1.3
	comp=E,0.9nm,0.3s,baz=216,slow=10,SNR=1.9					
SUW	Suwalki	16.29 4	P	P	10 25 52.5	-0.4
BCLA	Clavier	17.00 323	Pn	Pn	10 25 58.4	-0.7
BCLA	Clavier	17.00 323	pP	pP	10 26 05.2	-2.5
DOU	Dourbes	17.13 321	P	P	10 26 03.2	+0.9
KBZ	Khabaz	17.43 63	P	P	10 26 05.6	+0.1
	comp=E,0.2nm,0.3s,baz=277,slow=8.1,SNR=2.2					
ESDC	Sonseca Array	19.74 283	P	P	10 26 31.3	+0.2
	comp=E,0.1nm,0.3s,baz=81,slow=11,SNR=7.7					
MDT	Midelt	21.64 265	P	P	10 26 52.0	+0.2
	comp=E,2.3nm,0.9s,baz=63,slow=4.5,SNR=4.3					
HFS	Hagfors	22.88 350	P	P	10 27 03.6	-1.0
	comp=E,2.9nm,0.5s,baz=159,slow=13,SNR=18					
PVAQ	Vaqueiros	22.91 278		P	10 27 05.6	+0.4
NC602	NORSAR Array S	23.77 348	P	P	10 27 14.1	+0.6
FINES	FINESS Array B	23.88 6	P	P	10 27 13.6	-0.8
	comp=E,3.4nm,0.5s,baz=182,slow=9.2,SNR=44					
FINES			LR	LR	10 36 51.4	
	comp=E,75nm,19.4s,baz=204,slow=37					
FINES	FINESS Array B	23.88 6	P	P	10 27 14.1	-0.3
FIA1	FINESS Array S	23.88 6	P	P	10 27 13.8	-0.6
FIA1			IAmb	IAmb	10 27 18.1	
	comp=E,5.4nm,0.7s					
NAO01	NORSAR Array S	23.99 347	P	P	10 27 15.6	+0.1
EKA	Eskdalemuir Ar	24.08 325	P	P	10 27 15.6	-0.7
	comp=Z,2.1nm,0.6s,baz=128,slow=9.9,SNR=6.9					
ESK	Eskdalemuir	24.09 325	P	P	10 27 18.1	+1.6
ESK			IAmb	IAmb	10 27 26.7	
	comp=Z,18nm,1.1s					
NC405	NORSAR Array S	24.11 349	P	P	10 27 18.0	+1.4
NC405			IAmb	IAmb	10 27 25.1	
	comp=Z,6.0nm,0.8s					
NB2	NORSAR Subarra	24.12 348	P	P	10 27 16.3	-0.4
	comp=Z,18nm,1.4s,baz=159,slow=9.3					
NOA	NORSAR Array B	24.12 348	P	P	10 27 16.1	-0.6
	comp=Z,1.0nm,0.5s,baz=164,slow=9.2,SNR=6.3					
NOA			LR	LR	10 37 39.2	
	comp=Z,26nm,18.6s,baz=165,slow=39					
TOA0	Torodi Ar. Sit	30.09 221	P	P	10 28 11.7	+0.9
TOA0			IAmb	IAmb	10 28 12.3	
	comp=Z,3.4nm,0.7s					
TORD	Torodi Ar. Bea	30.09 221	P	P	10 28 10.7	-0.1
	comp=Z,3.6nm,0.7s,baz=33,slow=9.0,SNR=20					
TORD	Torodi Ar. Bea	30.09 221	P	P	10 28 09.9	-0.8
ARCES	ARCESS Array B	31.89 3	P	P	10 28 25.6	-0.5
	comp=Z,1.9nm,0.5s,baz=191,slow=10,SNR=15					
ARCES			LR	LR	10 43 59.3	
	comp=Z,43nm,19.8s,baz=306,slow=41					
ARE0	ARCESS Array S	31.89 3	P	P	10 28 27.6	+1.4
KEV	Kevo	32.18 4	P	P	10 28 30.5	+1.9
KEV			IAmb	IAmb	10 28 38.0	
	comp=Z,6.4nm,1.0s					
BVAR	Borovoye Array	36.94 49	P	P	10 29 09.8	-0.1
	comp=Z,1.4nm,0.5s,baz=256,slow=5.8,SNR=5.1					
KK31	Karatay Array	37.43 66	⇑P	P	10 29 13.9	-0.4
	comp=Z,1.5nm,0.7s,baz=152,slow=17,SNR=6.7					
KKAR	Karatay Array	37.43 66	P	P	10 29 14.0	-0.3
KURBB	Kurchatov Arra	42.01 53	P	P	10 29 51.7	-0.5
	comp=Z,1.9nm,0.7s,baz=276,slow=8.4,SNR=4.3					
KURK	Kurchatov	42.05 53	P	P	10 29 52.0	-0.6
KURK			IAmb	IAmb	10 30 01.1	
	comp=Z,7.7nm,1.1s					
KSH	Kashi	42.22 70	*e*P	P	10 29 54.4	+0.1
MK31	Makanchi Array	45.02 58	P	P	10 30 18.1	+1.5
MK31			IAmb	IAmb	10 30 24.8	
	comp=Z,1.9nm,0.8s					
MKAR	Makanchi Array	45.02 58	P	P	10 30 16.0	-0.6
	comp=Z,1.1nm,0.5s,baz=275,slow=7.3,SNR=13					
MKAR	Makanchi Array	45.02 58	P	P	10 30 15.8	-0.8
ZAA0	Zalesovo Array	45.53 48	P	P	10 30 20.2	-0.3
ZALV	Zalesovo Beam	45.53 48	P	P	10 30 19.8	-0.7
	comp=Z,4.2nm,0.4s,baz=275,slow=9.1,SNR=13					
WMQ	Urumqi	49.45 61	*e*P	P	10 30 53.6	+2.4
WMQ			pmax	pmax		
	comp=Z,13nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,36nm,3.6s					
WMQ			LR	LR		
	comp=N,520nm,29.1s					
WMQ			LR	LR		
	comp=E,800nm,28.9s					
WMQ			LR	LR		
	comp=Z,120nm,28.8s					
SONM	Songino Array	60.27 51	P	P	10 32 07.6	-1.9
	comp=Z,0.3nm,0.4s,baz=302,slow=6.6,SNR=3.0					
HHC	Hu-ho-hao-te	66.79 56	P	P	10 32 51.0	-1.7
CMAR	Chiang Mai Arr	69.38 82	P	P	10 33 08.2	-0.9
	comp=Z,0.6nm,0.4s,baz=303,slow=8.4,SNR=6.4					
SADO	Sadowa	70.94 312	LR	LR	11 05 36.2	
	comp=Z,236nm,19.1s,baz=203,slow=37					
INK	Inuvik	72.55 350	P	P	10 33 26.4	-1.1
	comp=Z,1.9nm,0.3s,baz=0.0,slow=20,SNR=26					
INK	Inuvik	72.55 350	P	P	10 33 26.6	-0.9
INK			IAmb	IAmb	10 33 32.6	
	comp=Z,6.7nm,1.3s					
KLR	Kul'dur	73.81 40	P	P	10 33 34.3	-1.1
	comp=Z,0.7nm,0.4s,baz=319,slow=11,SNR=4.0					
ILAR	Eielson Array	77.35 355	P	P	10 33 54.5	-0.9
	comp=Z,0.2nm,0.7s,baz=346,slow=3.0,SNR=3.6					
ILAR	Eielson Array	77.35 355	P	P	10 33 57.1	+1.8
KSRS	Korea Array	79.14 51	P	P	10 34 05.1	-0.6
	comp=Z,0.3nm,0.5s,baz=326,slow=3.5,SNR=3.9					
PCRV	Puerto La Cruz	80.61 276	LR	LR	11 04 19.6	
	comp=Z,312nm,20.3s,slow=32					
BDFB	Brasilia	83.86 245	LR	LR	11 12 44.4	
	comp=Z,276nm,18.9s,baz=233,slow=36					
MJAR	Matsushiro Arr	85.85 46	P	P	10 34 41.5	+0.7
	comp=Z,1.1nm,0.8s,baz=317,slow=4.5,SNR=3.9					
ASAR	Alice Springs	121.56 97	PKP	PKPdf	10 40 53.9	-1.0
	comp=Z,0.2nm,0.7s,baz=315,slow=1.6,SNR=3.7					
ASAR	Alice Springs	121.56 97		PKPdf	10 40 54.4	-0.5

JMA 03 10:30:55.0±0.2, 24°.70N×123°.24E, h34km±4km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.32	221	P	Pb	10 31 02.7	-0.3
YOJ				S	Sn	10 31 08.1	+0.2
JYNG	Yonagunijimaku	0.36	227	P	Pb	10 31 03.3	-0.4
JYNG				S	Sn	10 31 09.3	-0.3
IRIF	Iriomote-Funau	0.58	129	P	Pn	10 31 06.3	-0.4
IRIF				S	Sb	10 31 14.6	-0.4
HATJ	Hateruma jima	0.82	141	P	Pn	10 31 09.9	-0.3
JKRS	Kuro-shima	0.84	123	P	Pb	10 31 11.0	-0.2
JIJ	Ishigaki jima	0.89	112	P	Pn	10 31 11.3	+0.2
JIJ				*e*S	Sn	10 31 21.9	-0.8
JISG	Ishigakijimahi	0.98	96	P	Pn	10 31 12.2	-0.1
JISG				*e*S	Sn	10 31 23.7	-1.4
JTJ	Tarama	1.33	92	P	Pn	10 31 17.6	+0.4
JTJ				S	Sn	10 31 33.6	-0.1

TAP 03 10:31:07.5, 24°.48N×121°.43E, h5km±1km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	Nan Shan	0.07	232	P	Pg	10 31 09.2	+0.1
NNS	baz=225			S	Sg	10 31 10.3	0.0
NNSB	Datong	0.07	219	P	Pg	10 31 09.1	-0.1
NNSB	baz=219			*e*S	Sg	10 31 10.3	0.0
NDT	Datong Townshi	0.14	32	P	Pg	10 31 11.0	+0.6
NDT	baz=32			*e*S	Sg	10 31 13.3	+0.9
YHNB	Yeheng	0.20	346	*e*P	Pg	10 31 12.1	+0.7
YHNB	baz=345			S	Sg	10 31 14.9	+0.9
ENTT	Nioudou	0.20	38	P	Pg	10 31 12.0	+0.4
ENTT	baz=39			*e*S	Sg	10 31 15.0	+0.8
NSK	Sanguang	0.21	342	*e*P	Pg	10 31 12.7	+1.1
NSK	baz=343			S	Sg	10 31 15.3	+1.0
NANB	Nanao	0.30	100	*e*S	Sg	10 31 18.8	+1.6
NWLT	Wulai	0.30	13	P	Pg	10 31 14.0	+0.5
NWLT	baz=12			*e*S	Sg	10 31 18.4	+0.9

*IDC **03** 10:36:34.0±63.0, 20°.74S×176°.60W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=1173.0km s-min=177.4km az=84.0*
*ISCJB **03** 10:37:55.1±0.7, 22°.98S±0°.10×179°.4E±0°.1, h553km, mb3.5/3, Error ellipse: s-maj=13.7km s-min=12.7km az=153.9*
*NEIC **03** 10:37:56.9±1.3, 23°.0S±0°.1×179°.5E±0°.2, h570km±16km, mb4.3/16*
ISC 03 10:37:56.2±0.8, 23°.0S±0°.1×179°.4E±0°.1, h553km, n23, σ0°93/23, mb4.1/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	10.68	70	P	P	10 40 20.8	-0.5
FUNA	Funafuti	14.43	359	P	P	10 41 01.3	+1.3
BKZ	Black Stump Fm	16.27	188	P	P	10 41 17.9	-0.2
QRZ	Quartz Range	18.67	197	P	P	10 41 40.5	+0.7
QRZ				IAmb	IAmb	10 41 56.3	
	comp=Z,33nm,1.4s						
THZ	Tophouse	19.46	195	P	P	10 41 47.1	0.0
THZ				IAmb	IAmb	10 42 03.7	
	comp=Z,22nm,1.4s						
KHZ	Kahutara	19.94	193	P	P	10 41 51.8	+0.5
LTZ	Lake Taylor	20.57	195	P	P	10 41 55.9	-1.3
LTZ				IAmb	IAmb	10 42 11.2	
	comp=Z,12nm,1.2s						
EIDS	Eidsvold	25.95	259	P	P	10 42 46.2	+0.9
EIDS				IAmb	IAmb	10 43 00.0	
	comp=Z,5.1nm,1.1s						
TOO	Toolangi	32.49	236	P	P	10 43 43.5	+1.7
TOO				IAmb	IAmb	10 43 50.8	
	comp=Z,23nm,1.3s						
STKA	Stephens Creek	34.58	247	P	P	10 44 00.3	+1.0
	comp=Z,0.6nm,0.4s,baz=63,slow=11,SNR=3.0						
STKA	Stephens Creek	34.58	247	P	P	10 43 58.1	-1.2
AS31	Alice Springs	41.67	260	P	P	10 44 57.4	+0.3
ASAR	Alice Springs	41.67	260	P	P	10 44 57.3	+0.2
	comp=Z,1.3nm,0.7s,baz=93,slow=7.6,SNR=20						
ASAR	Alice Springs	41.67	260	P	P	10 44 57.4	+0.3
WB2	Warramunga Arr	41.95	265	P	P	10 44 58.5	-0.7
WB2				IAmb	IAmb	10 45 08.7	
	comp=Z,8.9nm,1.5s						
WRA	Warramunga Arr	41.96	265	P	P	10 44 58.8	-0.5
	comp=Z,0.3nm,0.3s,baz=95,slow=8.1,SNR=24						
WRA	Warramunga Arr	41.96	265	P	P	10 44 59.1	-0.2
KNRA	Kununurra	48.18	269	P	P	10 45 46.9	-0.1
KNRA				IAmb	IAmb	10 45 47.2	
	comp=Z,12nm,1.2s						
FITZ	Fitzroy Crossi	50.38	265	P	P	10 46 04.1	+0.9
MORW	Morawa	56.69	249	P	P	10 46 47.7	0.0
MORW				IAmb	IAmb	10 46 50.0	
	comp=Z,24nm,1.5s						
QSPA	South Pole Qui	67.04	180	P	P	10 47 54.8	+0.4
QSPA				IAmb	IAmb	10 48 04.8	
	comp=Z,5.7nm,1.4s						
JHJ2	Mitsune	67.42	325	P	P	10 47 56.6	-0.5
UGM	Wanagama	67.58	271	P	P	10 47 56.5	-2.1

*ISK **03** 10:43:10.9, 40°.34N×37°.31E, h3km, ML2.8/4*
*DDA **03** 10:43:10.5, 40°.37N×37°.38E, h7km±2km, ML3.3*
*ISCJB **03** 10:43:11.2±0.5, 40°.37N±0°.03×37°.35E±0°.04, h2km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=149.3*
ISC 03 10:43:10.8±1.0, 40°.35N±0°.03×37°.37E±0°.03, h9km±8km, n13, σ0°48/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	Resadiye-TOKAT	0.05	325	PG	Pg	10 43 12.8	0.0
SVSK	Karacayir	0.52	213	PG	Pg	10 43 20.9	0.0
SVSK				SG	Sb	10 43 28.8	-0.9
SCER	sogukcermik	0.53	200	*i* P	Pg	10 43 21.2	+0.2
SCER				*i* S	Sb	10 43 29.7	-0.3
CUZAR	Zara_SIVAS	0.56	146	*i* P	Pg	10 43 22.1	+0.4
CUZAR				*i* S	Sb	10 43 31.2	+0.2
ERBA	Erbaa	0.57	305	*i* P	Pg	10 43 22.3	+0.4
TOKT	Tokat	0.63	267	PG	Pg	10 43 22.7	-0.3
TOKT				SG	Sg	10 43 31.9	+0.6
TOKA	Tokat	0.68	268	*i* P	Pb	10 43 24.7	-0.2
TOKA				*i* S	Sn	10 43 37.0	-0.3
TOKA				IAML_P			
	comp=Z,3μm,0.1s						
ORDU	Ordu-Boztepe	0.74	30	*i* P	Pb	10 43 25.6	-0.3
ORDU				*i* S	S

11nm,0.5s
PVAQ Vaqueiros 1.84 343 P Pn 10 45 42.8 -0.6
PVAQ S Sn 10 46 04.0 -2.1
PVAQ Vaqueiros 1.84 343 P Pn 10 45 44.1 +0.7
PVAQ S Sn 10 46 04.8 -1.3
11nm,0.5s
EGRO El Granado 1.92 350 P Pn 10 45 45.5 +1.0
0.9nm,0.1s
EGRO S Sn 10 46 06.9 -1.1
11nm,0.3s,SNR=14
EMIJ Mijas 2.06 63 P Pn 10 45 47.1 +0.8
1.5nm,0.1s,SNR=17
EMIJ S Sn 10 46 10.0 -1.4
4.5nm,0.3s,SNR=5.0
PFVI Vila Bisbo 2.06 316 *e*Pn **Pn 10 45 47.3 +0.9**
PFVI *e*Sn **Sn 10 46 11.3 -0.3**
PFVI A A 10 46 24.0
6.3nm,0.6s
PFVI Vila Bisbo 2.06 316 P Pn 10 45 47.2 +0.8
0.7nm,0.1s,SNR=7.9
PFVI S Sn 10 46 11.2 -0.3
5.9nm,0.1s,SNR=7.9
MORF Marmelete 2.10 323 *e*P **Pn 10 45 47.7 +0.8**
MORF *e*S **Sn 10 46 11.3 -1.2**
MORF AML AML 10 46 17.8
comp=E,12nm,0.2s
MORF Marmelete 2.10 323 *e*Pn **Pn 10 45 47.7 +0.8**
MORF *e*Sn **Sn 10 46 11.7 -0.8**
MORF A A 10 46 18.7
comp=E,5.7nm,0.3s
MORF Marmelete 2.10 323 P Pn 10 45 47.7 +0.8
MORF S Sn 10 46 11.7 -0.8
comp=E,5.7nm,0.3s
PCVE Castro Verde 2.14 338 *e*Pn **Pn 10 45 48.5 +1.1**
PCVE *e*Sn **Sn 10 46 12.6 -0.6**
PCVE A A 10 46 14.4
comp=E,5.6nm,0.2s
PCVE Castro Verde 2.14 338 P Pn 10 45 48.5 +1.1
PCVE S Sn 10 46 12.6 -0.6
comp=E,5.6nm,0.2s
EMIN Mina Concepcio 2.14 8 ⇓P **Pn 10 45 48.2 +0.8**
comp=E,0.1nm,0.1s,SNR=18
EMIN S Sn 10 46 11.2 -2.1
comp=E,6.4nm,0.2s,SNR=22
ZHG ZHG 2.22 171 P Pn 10 45 51.1 +2.5
ZHG S Sn 10 46 14.3 -1.0
PVLZ Peæn de 2.29 101 *e*P **Pn 10 45 50.2 +0.8**
PVLZ *e*S **Sn 10 46 18.2 +1.4**
PVLZ Peæn de 2.29 101 P Pn 10 45 50.2 +0.8
PVLZ S Sn 10 46 18.2 +1.4
PTEO Sao Teotonio 2.33 325 *e*Sn **Sn 10 46 17.4 -0.3**
PTEO A A 10 46 24.9
comp=E,3.5nm,0.6s
PTEO Sao Teotonio 2.33 325 S Sn 10 46 17.4 -0.3
comp=E,1.8nm,0.6s
EMAL Malaga-Limoner 2.39 61 *e*P **Pn 10 45 52.8 +2.1**
EMAL *e*S **Sn 10 46 19.8 +0.5**
PBEJ Beja 2.46 345 *e*Pn **Pn 10 45 52.9 +1.2**
PBEJ *e*Sn **Sn 10 46 20.4 -0.7**
PBEJ A A 10 46 21.1
comp=E,3.8nm,0.4s
PBEJ Beja 2.46 345 P Pn 10 45 52.9 +1.2
PBEJ S Sn 10 46 20.4 -0.7
comp=E,1.9nm,0.4s
HORN Hornachuelos 2.62 33 P Pn 10 45 54.0 +0.1
HORN S Sn 10 46 27.4 +2.5
PNCL Nicolau / Gran 2.73 335 *e*Pn **Pn 10 45 56.4 +1.1**
PNCL *e*Sn **Sn 10 46 27.1 -0.4**
PNCL A A 10 46 28.5
comp=E,2.1nm,0.7s
PNCL Nicolau / Gran 2.73 335 P Pn 10 45 56.4 +1.1
PNCL S Sn 10 46 27.1 -0.4
comp=E,2.1nm,0.7s
ECAB El Cabril 2.75 28 P Pn 10 45 56.8 +1.2
comp=E,0.2nm,0.1s,SNR=5.6
ECAB S Sn 10 46 25.3 -2.8
comp=E,3.5nm,0.2s,SNR=15
EGOR Sierra Gorda, 2.79 57 P Pn 10 45 58.2 +2.1
comp=E,4.5nm,0.3s,SNR=18
EGOR S Sn 10 46 27.1 -1.8
comp=E,4.2nm,0.3s,SNR=7.9
AKLM AKL 2.85 113 P Pn 10 45 55.6 -1.3
AKLM S Sn 10 46 32.5 +2.1
EVO Evora 2.98 345 *e*Pn **Pn 10 46 00.0 +1.3**
EVO *e*Sn **Sn 10 46 33.2 -0.3**
EVO A A 10 46 33.9
comp=E,4.0nm,0.4s
EVO Evora 2.98 345 ⇓*i*P **Pn 10 45 60.0 +1.3**
EVO *e*S **Sn 10 46 32.1 -1.4**
EVO Evora 2.98 345 P Pn 10 46 00.0 +1.3
EVO S Sn 10 46 33.2 -0.3
comp=E,4.0nm,0.4s
ELGU Los Guajares, 3.02 65 P Pn 10 45 59.2 -0.1
comp=E,0.9nm,0.1s,SNR=7.9
ELGU S Sn 10 46 35.8 +1.2
comp=E,3.9nm,0.2s,SNR=7.9
EBAD Badajoz 3.10 0 P Pn 10 46 01.6 +1.2
comp=E,0.1nm,0.2s,SNR=7.6
EBAD S Sn 10 46 34.7 -1.7
comp=E,2.0nm,0.3s,SNR=6.5
EADA Adamuz 3.20 37 P Pn 10 46 03.2 +1.5
comp=E,1.0nm,0.1s,SNR=7.9
EADA S Sn 10 46 35.9 -2.9
comp=E,4.5nm,0.2s,SNR=7.9
PESTR Estremoz 3.25 352 *e*Pn **Pn 10 46 03.4 +1.2**
PESTR *e*Sn **Sn 10 46 39.0 -0.9**
PESTR A A 10 46 45.6
comp=E,1.7nm,0.5s
EALB Alboran 3.27 84 S Sn 10 46 40.5 -0.1
comp=E,4.1nm,0.2s,SNR=7.9
EQUE Quentar 3.30 61 P Pn 10 46 05.0 +2.0
comp=E,1.0nm,0.2s,SNR=4.9
EQUE S Sn 10 46 41.3 0.0
comp=E,2.6nm,0.3s
MD31 3.36 145 P Pn 10 46 02.4 -1.5
MD31 S Sn 10 46 36.7 -6.0
MDT Midelt 3.47 144 P Pn 10 46 03.7 -1.8
MDT S Sn 10 46 43.7 -1.9
PMTG Montargil 3.54 345 *e*Pn **Pn 10 46 08.1 +1.8**
PMTG *e*Sn **Sn 10 46 47.4 +0.3**
PMTG A A 10 46 49.0
comp=E,2.3nm,1.0s
PMTG Montargil 3.54 345 P Pn 10 46 08.1 +1.8
PMTG S Sn 10 46 47.4 +0.3
comp=E,2.3nm,1.0s
EBER Berja 3.58 68 S Sn 10 46 47.1 -1.2
comp=E,0.1nm,0.1s,SNR=7.9
ALMR Almeirim 3.71 341 *e*Pn **Pn 10 46 10.4 +1.9**
ALMR Almeirim 3.71 341 P **Pn 10 46 10.4 +1.9**
PMAFR Mafra 3.75 332 *e*Pn **Pn 10 46 11.0 +1.9**
PMAFR Mafra 3.75 332 P **Pn 10 46 10.8 +1.7**
comp=E,3.0nm,0.2s,SNR=7.9
PMAFR S Sn 10 46 53.7 +1.5
comp=E,4.5nm,0.2s,SNR=7.9
PMRV Marv??o 3.79 356 *e*Pn **Pn 10 46 11.0 +1.4**
PMRV *e*Sn **Sn 10 46 52.3 -0.7**
PMRV A A 10 46 53.4
comp=E,3.6nm,0.2s
PMRV Marv??o 3.79 356 P Pn 10 46 11.0 +1.4
PMRV S Sn 10 46 52.3 -0.7
comp=E,3.6nm,0.2s
EQES Quesada 3.85 55 S Sn 10 46 53.1 -1.6
comp=E,3.9nm,0.2s,SNR=7.9
PCBR Castelo Branco 4.20 355 *e*Pn **Pn 10 46 16.8 +1.6**
PCBR *e*Sn **Sn 10 47 01.9 -1.1**
PCBR A A 10 47 03.5
comp=E,3.7nm,0.6s
PCBR Castelo Branco 4.20 355 P Pn 10 46 16.8 +1.6
PCBR S Sn 10 47 01.9 -1.1
comp=E,1.9nm,0.6s
SESP Santiago Espad 4.37 54 P Pn 10 46 19.0 +1.3
comp=E,1.9nm,0.2s,SNR=7.9
SESP S Sn 10 47 04.9 -2.6
comp=E,4.1nm,0.2s,SNR=7.9
PAB San Pablo 4.44 28 S Sn 10 47 05.8 -3.3
comp=E,2.9nm,0.2s,SNR=7.9
EPLA Plasencia 4.48 10 P Pn 10 46 21.2 +2.2
comp=E,0.1nm,0.2s,SNR=7.2
EPLA S Sn 10 47 08.2 -1.7
comp=E,3.6nm,0.2s,SNR=7.9
OUK Oukaimeden 4.48 189 P Pn 10 46 14.7 -4.6
OUK S Sn 10 47 04.2 -6.2
ESDC Sonseca Array 4.71 30 S Sn 10 47 13.0 -2.5
comp=E,1.7nm,0.2s,baz=215,slow=23,SNR=9.3
OUZM OUZ 4.73 177 P Pn 10 46 19.6 -3.0
OUZM S Sn 10 47 13.0 -3.2
MTE Manteigas 4.76 355 *e*Sn **Sn 10 47 15.1 -1.7**
MTE A A 10 47 17.7
comp=E,4.7nm,0.5s
MTE Manteigas 4.76 355 S Sn 10 47 15.1 -1.7
comp=E,2.3nm,0.5s
EMUR La Murta 5.15 63 P Pn 10 46 29.8 +1.7
comp=E,0.3nm,0.2s,SNR=7.9
TTIG Tnine Tigouga, 5.22 193 P Pn 10 46 23.7 -5.5
TTIG S Sn 10 47 18.3 -10
ETOB Tobarra 5.32 54 ⇑P **Pn 10 46 31.5 +1.1**
comp=E,5.6nm,0.1s,SNR=18
ETOB S Sn 10 47 27.5 -2.8
comp=E,3.5nm,0.2s,SNR=8.9
GUD Guadarrama 5.49 24 P Pn 10 46 34.5 +1.7
comp=E,0.1nm,0.1s,SNR=4.0
GUD S Sn 10 47 31.5 -3.0
comp=E,1.0nm,0.3s,SNR=7.9
MVO Moncorvo 5.51 0 *e*Pn **Pn 10 46 34.9 +1.8**
MVO *e*Sn **Sn 10 47 32.1 -3.0**
MVO A A 10 47 35.6
comp=E,4.7nm,0.7s
MVO Moncorvo 5.51 0 P Pn 10 46 34.7 +1.7
comp=E,0.6nm,0.1s,SNR=7.9
MVO S Sn 10 47 33.1 -2.0
comp=E,8.8nm,0.3s,SNR=7.9
POLO Lamas de Olo 5.75 354 *e*Sn **Sn 10 47 39.2 -1.7**
POLO A A 10 47 41.3
comp=E,2.6nm,0.4s
POLO Lamas de Olo 5.75 354 S Sn 10 47 39.2 -1.7
comp=E,2.6nm,0.4s
ELOB Lobios 6.26 353 S Sn 10 47 52.3 -1.1
comp=E,4.1nm,0.3s,SNR=7.9
ECAL Calabor 6.29 2 P Pn 10 46 46.4 +2.7
comp=E,0.5nm,0.2s,SNR=7.9
ECAL S Sn 10 47 52.4 -1.7
comp=E,2.1nm,0.4s,SNR=7.9
ETOR Torete 6.49 36 P Pn 10 46 48.4 +2.0
comp=E,2.8nm,0.2s,SNR=7.9
ETOR S Sn 10 47 57.7 -1.3
comp=E,14nm,0.2s,SNR=12
EMOS Mosqueruela 7.01 46 S **Sn 10 48 10.5 -1.3**
comp=E,0.5nm,0.2s,SNR=4.0

*ISCJB **03** 10:52:42.9±0.6, 12°.94N±0°.05×88°.83W±0°.03, h70km±3km, mb3.6/6, Error ellipse: s-maj=9.4km s-min=4.1km az=26.4*
*SNET **03** 10:52:43.2±0.8, 12°.94N×88°.84W, h59km±6km, ML4.0*
*NEIC **03** 10:52:44.6±2.8, 12°.99N±0°.09×88°.84W±0°.07, h67km±9km, mb3.9/28, Md4.0(SNET)*
*IDC **03** 10:52:49.6±1.3, 13°.44N×88°.88W, h100km±14km, mb3.4/6, mb1 3.7/10, mb1mx3.4/44, mbtmp3.7/10, Error ellipse: s-maj=35.7km s-min=11.4km az=39.0*
*UCR **03** 10:53:01.1±1.0, 12°.71N×87°.46W, h52km±26km, MW4.1*
ISC 03 10:52:43.6±1.1, 12°.96N±0°.08×88°.85W±0°.05, h64km±8km, n84, σ1°.18/96, mb3.9/17, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.46**	**36**	*e*P	**Pn**	**10 52 54.9**	**-0.6**
ALJI				*e*S	**Sn**	**10 53 04.5**	**+0.3**
ALJI				IAML		10 53 05.0	
comp=Z,11μm,0.2s							
COEB	**Comit de Eme**	**0.62**	**30**	*e*P	**Pn**	**10 52 56.9**	**-0.5**
COEB				*e*S	**Sn**	**10 53 07.2**	**-0.2**
SNVI	**San Vicente**	**0.65**	**1**	*e*P	**Pn**	**10 52 57.3**	**-0.5**
UESV	**Universidad de**	**0.68**	**5**	*e*P	**Pn**	**10 52 57.6**	**-0.4**
UESV				*e*S	**Sn**	**10 53 08.6**	**+0.2**
PAVA	**Las Pavas**	**0.76**	**353**	*e*P	**Pn**	**10 52 58.7**	**-0.3**
PAVA				*e*S	**Sn**	**10 53 11.2**	**+1.0**
PAVA				IAML		10 53 12.4	
comp=Z,13μm,0.4s							
UDBS	**Universidad Do**	**0.81**	**338**	*e*P	**Pn**	**10 52 59.3**	**-0.3**
UDBS				*e*S	**Sn**	**10 53 11.9**	**+0.6**
UDBS				IAML		10 53 13.1	
comp=Z,10μm,0.3s							
SNET	**Serv Nac Est T**	**0.82**	**333**	*e*P	**Pn**	**10 52 59.1**	**-0.5**
SNET				*e*S	**Sn**	**10 53 11.2**	**-0.3**
SNET				IAML		10 53 16.1	
comp=Z,4μm,0.2s							
SNET	**Serv Nac Est T**	**0.82**	**333**		**Pn**	**10 52 59.0**	**-0.7**
SNET				Sn	**Sn**	**10 53 12.0**	**+0.5**
OPAM	**Oficina de Pla**	**0.83**	**336**	*e*P	**Pn**	**10 52 59.4**	**-0.3**
OPAM				*e*S	**Sn**	**10 53 11.9**	**+0.3**
LFU	**La Fuente**	**0.83**	**342**	*i* P	**Pn**	**10 52 59.6**	**-0.2**
UESS	**Universidad de**	**0.83**	**336**	*e*P	**Pn**	**10 52 59.6**	**-0.2**
UESS				IAML		10 53 13.2	
comp=Z,4μm,0.2s							
UEES	**Universidad Ev**	**0.85**	**333**	*e*P	**Pn**	**10 52 59.6**	**-0.5**
UEES				*e*S	**Sn**	**10 53 12.5**	**+0.4**
UEES				IAML		10 53 15.2	
comp=Z,5μm,0.2s							
LCND	**La Caada**	**1.00**	**69**	*e*P	**Pn**	**10 53 01.3**	**-0.5**
LCND				*e*S	**Sn**	**10 53 15.2**	**0.0**
LCND				IAML		10 53 17.6	
comp=Z,6μm,0.4s							
VICT	**Victoria**	**1.02**	**11**	*e*P	**Pn**	**10 53 02.1**	**-0.1**
VICT				*e*S	**Sn**	**10 53 16.6**	**+0.7**
FAGO	**Alcalda de S**	**1.03**	**44**	*e*P	**Pn**	**10 53 01.8**	**-0.5**
FAGO				*e*S	**Sn**	**10 53 16.1**	**0.0**
CNCH	**Conchagua**	**1.04**	**72**	*e*P	**Pn**	**10 53 02.0**	**-0.4**
SBLS	**San Blas**	**1.16**	**319**	*e*P	**Pn**	**10 53 04.3**	**+0.2**
SNJE	**San Jose**	**1.17**	**321**	*e*P	**Pn**	**10 53 04.3**	**+0.1**
LLGN	**La Laguna**	**1.20**	**356**	*e*P	**Pn**	**10 53 04.5**	**-0.1**
LLGN				*e*S	**Sn**	**10 53 20.9**	**+0.7**
LLGN				IAML		10 53 25.0	
comp=Z,1μm,0.4s							
RTR	**El Retiro**	**1.22**	**320**	*e*P	**Pn**	**10 53 05.2**	**+0.3**
UNIC	**Universidad Ca**	**1.23**	**326**	*e*P	**Pn**	**10 53 05.0**	**+0.2**
UNIC				*e*S	**Sn**	**10 53 22.0**	**+1.2**
MTO3	**Montecristo**	**1.52**	**341**	*e*P	**Pn**	**10 53 08.9**	**0.0**
CRIN	**San Cristobal**	**1.77**	**98**	*e*P	**Pn**	**10 53 11.9**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.88**	**54**		**Pn**	**10 53 13.6**	**-0.1**
IXG	**Ixpaco**	**1.97**	**308**	*e*P	**Pn**	**10 53 15.0**	**+0.1**
CNGN	**Cerro Negro**	**2.15**	**102**	*e*P	**Pn**	**10 53 15.4**	**-1.7**
ESTN	**Estel**	**2.42**	**86**	*e*P	**Pn**	**10 53 20.6**	**-0.3**
ESTN	**Estel**	**2.42**	**86**		**Pn**	**10 53 20.6**	**-0.3**
ESTN				Sn	**Sn**	**10 53 50.2**	**+0.7**
APG	**El Apazote**	**2.57**	**323**	P	**Pn**	**10 53 23.9**	**+0.8**
comp=Z,2.2nm,0.3s,baz=129,slow=13,SNR=9.6							
MATN	**Matagalpa**	**2.85**	**90**	*e*P	**Pn**	**10 53 26.2**	**-0.6**
ACON	**Acoyapa**	**3.72**	**105**	*e*P	**Pn**	**10 53 40.9**	**+2.3**
ACON	**Acoyapa**	**3.72**	**105**		**Pn**	**10 53 40.9**	**+2.3**
BUEV	**Buena Vista**	**3.99**	**122**	*e*P	Pn	10 53 37.9	-4.5
ESPN	**Las Esperanzas**	**4.50**	**99**	*e*P	**Pn**	**10 53 48.6**	**-0.7**
ESPN	**Las Esperanzas**	**4.50**	**99**		**Pn**	**10 53 49.0**	**-0.3**
CCIG	**Comitan**	**4.59**	**316**	Pn	**Pn**	**10 53 53.9**	**+3.2**
JTS	**Las Juntas de**	**4.64**	**124**	P	Pn	10 54 00.3	+9.0
comp=Z,7.8nm,0.3s,baz=339,slow=6,9,SNR=24							
JTS				S	Sn	10 54 59.4	+15
comp=Z,2.0nm,0.3s,baz=351,slow=19,SNR=8.9							
JTS	**Las Juntas de**	**4.64**	**124**	*e*P	**Pn**	**10 53 53.5**	**+2.2**
LCR2	**La Lucha 2**	**5.72**	**123**	*e*P	**Pn**	**10 54 08.5**	**+2.2**
CMIG	**Matias Romero**	**7.13**	**306**	P	**Pn**	**10 54 27.1**	**+1.8**
comp=Z,0.5nm,0.3s,baz=142,slow=11,SNR=9.4							
CMIG				S	**Sn**	**10 55 43.2**	**-1.9**
comp=Z,0.6nm,0.3s,baz=114,slow=20,SNR=3.1							
TEIG	**Tepich**	**7.25**	**4**	P	**Pn**	**10 54 28.3**	**+1.4**
comp=Z,2.5nm,0.3s,baz=138,slow=14,SNR=20							
TEIG	**Tepich**	**7.25**	**4**	Pn	**Pn**	**10 54 28.6**	**+1.7**
TLIG	**Tlapa**	**10.44**	**297**	Pn	**Pn**	**10 55 07.7**	**-3.0**
352A	**Blakely**	**18.79**	**10**	P	**Pn**	**10 57 00.0**	**+1.1**
Z50A	**Ashland**	**20.38**	**7**	P	Pn	10 57 18.5	+0.7
Z50A				IAmb	IAmb	10 57 28.0	
comp=Z,5.1nm,1.1s							
Y49A	**Blount Mountai**	**20.93**	**6**	P	Pn	10 57 21.9	-2.3
Y49A				IAmb	IAmb	10 57 24.6	
comp=Z,6.0nm,0.9s							
GOGA	**Godfrey**	**20.95**	**13**	P	Pn	10 57 22.1	-2.4
GOGA				IAmb	IAmb	10 57 24.4	
comp=Z,6.3nm,0.8s							
Y52A	**Lilburn**	**21.27**	**11**	P	**P**	**10 57 27.5**	**+2.8**
Y52A				IAmb	IAmb	10 57 28.1	
comp=Z,6.8nm,0.7s							
TXAR	**Lajitas Array**	**21.33**	**322**	P	**P**	**10 57 26.3**	**+0.8**
comp=Z,1.0nm,0.7s,baz=138,slow=11,SNR=13							
TXAR	**Lajitas Ar. Si**	**21.33**	**322**	P	**P**	**10 57 26.6**	**+1.1**
TX31	**Lajitas Ar. Si**	**21.33**	**322**	P	**P**	**10 57 26.7**	**+1.2**
TX32	**Lajitas Array**	**21.33**	**322**	P	**P**	**10 57 26.4**	**+0.9**
MIAR	**Mount Ida**	**21.92**	**349**	P	**P**	**10 57 34.5**	**+2.9**
HODGE	**Hodges**	**22.01**	**15**	P	**P**	**10 57 33.5**	**+0.9**
HODGE				IAmb	IAmb	10 57 48.2	
comp=Z,9.3nm,1.2s							
SWET	**Sewanee**	**22.32**	**6**	P	**P**	**10 57 35.8**	**-0.2**
W41B	**Gary Mavity, V**	**22.33**	**353**	P	**P**	**10 57 37.1**	**+1.0**
PAULI	**Pauline**	**22.68**	**15**	P	**P**	**10 57 40.2**	**+0.4**
PAULI				IAmb	IAmb	10 57 51.8	
comp=Z,5.4nm,1.1s							
BIRD	**Birdtown, Kers**	**22.89**	**18**	P	**P**	**10 57 42.4**	**+0.4**
BIRD				IAmb	IAmb	10 57 43.0	
comp=Z,6.0nm,0.8s							
FCAR	**Ozark Folk Cen**	**23.03**	**353**	P	**P**	**10 57 43.0**	**-0.3**
KMSC	**Kings Mountain**	**23.11**	**16**	P	**P**	**10 57 44.1**	**-0.1**
U40A	**Yellville**	**23.58**	**352**	P	**P**	**10 57 48.8**	**+0.2**
U40A				IAmb	IAmb	10 57 50.0	
comp=Z,5.1nm,0.7s							
V56A	**Mocksville**	**23.97**	**17**	P	**P**	**10 57 51.3**	**-0.8**
V58A	**Windy Hill, Pi**	**24.38**	**19**	P	**P**	**10 57 55.4**	**-0.3**
V58A				IAmb	IAmb	10 58 11.7	
comp=Z,6.8nm,1.1s							
CCM	**Cathedral Cave**	**25.09**	**356**	P	**P**	**10 58 01.5**	**-0.8**
WCI	**Wyandotte Cave**	**25.27**	**5**	P	**P**	**10 58 02.9**	**-1.0**
WCI				IAmb	IAmb	10 58 06.5	
comp=Z,3.7nm,0.9s							
Q54A	**Coxs Mills**	**26.88**	**14**	P	**P**	**10 58 15.8**	**-2.6**
N54A	**Moraine State**	**28.96**	**14**	P	**P**	**10 58 36.0**	**-1.0**
N54A				IAmb	IAmb	10 58 44.6	
comp=Z,1.8nm,0.6s							
S22A	**4UR Ranch, Cre**	**29.44**	**330**	P	**P**	**10 58 42.9**	**+1.2**
PV12	**Saucer Basin,**	**30.87**	**328**	P	**P**	**10 58 55.6**	**+1.4**
PV12				IAmb	IAmb	10 58 56.2	
comp=Z,1.8nm,0.6s							
SADO	**Sadowa**	**32.77**	**13**	P	**P**	**10 59 08.4**	**-2.1**
comp=Z,4.1nm,0.5s,baz=181,slow=1.6,SNR=5.8							
SADO	**Sadowa**	**32.77**	**13**	P	**P**	**10 59 08.9**	**-1.6**
PDAR	**Pinedale Array**	**34.69**	**333**	P	**P**	**10 59 26.1**	**-1.4**
comp=Z,0.2nm,0.4s,baz=126,slow=9.1,SNR=2.8							
REDW	**Red Top Meadow**	**35.75**	**332**	P	**P**	**10 59 37.0**	**+0.4**
FXWY	**Fox Creek**	**36.04**	**332**	P	**P**	**10 59 40.5**	**+1.4**
FXWY				IAmb	IAmb	10 59 44.9	
comp=Z,1.3nm,1.1s							
NVAR	**Mina Array Bea**	**36.43**	**319**	P	**P**	**10 59 42.8**	**+0.3**
comp=Z,0.1nm,0.3s,baz=122,slow=9.6,SNR=3.0							
NVAR				PcP	**PcP**	**11 02 06.3**	**+0.8**
comp=Z,0.4nm,0.5s,baz=142,slow=3.4,SNR=3.3							
MCMT	**McKenzie Canyo**	**37.79**	**332**	P	**P**	**10 59 55.3**	**+1.3**
EGMT	**Eagleton**	**39.06**	**338**	P	**P**	**11 00 04.9**	**+0.5**
FFC	**Flin Flon**	**42.93**	**349**	P	**P**	**11 00 35.1**	**-0.8**
FFC				IAmb	IAmb	11 00 52.8	
comp=Z,1.5nm,0.8s							
YKA	**Yellowknife Ar**	**52.77**	**345**	P	**P**	**11 01 50.2**	**-1.7**
comp=Z,1.5nm,0.6s,baz=129,slow=8.8,SNR=14							
DLBC	**Dease Lake**	**54.87**	**335**	P	**P**	**11 02 07.5**	**+0.1**
ILAR	**Eielson Array**	**65.01**	**336**	P	**P**	**11 03 14.7**	**-2.1**
comp=Z,0.5nm,0.7s,baz=124,slow=5.6,SNR=9.3							
ILAR	**Eielson Array**	**65.01**	**336**	P	**P**	**11 03 15.0**	**-1.8**
RND	**Reindeer**	**65.28**	**335**	P	**P**	**11 03 17.9**	**-0.7**
TOLK	**Toolik Lake Re**	**67.55**	**340**	P	**P**	**11 03 31.7**	**-1.3**

*ISK **03** 10:54:50.2, 38°.74N×31°.08E, h13km, ML1.7/6*
*ISCJB **03** 10:54:51.5±0.6, 38°.71N±0°.05×31°.18E±0°.04, h8km±8km, Error ellipse: s-maj=8.4km s-min=4.4km az=151.6*
*DDA **03** 10:54:51.8, 38°.65N×31°.12E, h7km±1km, ML2.8*
ISC 03 10:54:51.3±1.0, 38°.71N±0°.03×31°.13E±0°.03, h17km±8km, n11, σ0°.80/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.14**	**273**	*i* P	**Pg**	**10 54 55.5**	**+0.1**
BOLV				*i* S	**Sb**	**10 54 58.4**	**0.0**
BOLV				IAML_P			
comp=Z,13μm,0.1s							
KIZT	**Kizilcal**	**0.61**	**74**	PG	**Pg**	**10 55 03.6**	**+0.1**
KIZT				SG	**Sb**	**10 55 12.4**	**+0.3**
AFYO	**Afyonkarahisar**	**0.65**	**277**	*i* P	**Pn**	**10 55 05.7**	**-0.2**
AFYO				*i* S	**Sn**	**10 55 15.0**	**-0.9**
DOGA	**KONYA_Doganhis**	**0.74**	**145**	*i* P	**Pg**	**10 55 04.3**	**-1.5**
DOGA				IAML_P			
comp=Z,1μm,0.1s							
BAGO	**Egridir - ISPA**	**0.77**	**200**	*i* P	**Pb**	**10 55 06.7**	**+0.4**
BAGO				*i* S	**Sb**	**10 55 16.6**	**+0.1**
AUSIV	**SIVRIHISAR**	**0.80**	**24**	PG	**Pb**	**10 55 05.9**	**-0.9**
AUSIV				SG	**Sg**	**10 55 17.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**0.80**	**23**	PG	**Pb**	**10 55 06.0**	**-0.9**
SVRH				SG	**Sb**	**10 55 17.4**	**0.0**
LADK	**Ladik-KONYA**	**1.10**	**117**	PN	**Pn**	**10 55 12.5**	**+0.4**
LADK				SN	**Sn**	**10 55 28.5**	**+1.5**
KONT	**Konya--Tatoy**	**1.24**	**128**	PN	**Pn**	**10 55 13.8**	**-0.1**
KONT				SN	**Sg**	**10 55 32.1**	**+0.8**
BORA	**Eskisehir**	**1.28**	**336**	*i* P	**Pg**	**10 55 17.2**	**+1.1**
BORA				IAML_P			
comp=Z,926nm,0.1s							
CHBY	**Cihanbeyli**	**1.39**	**95**	PN	**Pb**	**10 55 16.8**	**-0.1**

*BJI **03** 11:03:34.6±0.0, 4°.14N×123°.77E, h548km, mb6.1/89, mB5.8/56*
*MAN **03** 11:03:38.7, 4°.63N×123°.48E, h561km, MS6.0*
MAN Intensity III - Malita Davao del Sur; Intensity II - Davao City.
*NEIC **03** 11:03:38.4±2.9, 4°.66N±0°.07×123°.35E±0°.07, h532km±1km, mb5.8/295, Mwb6.0, Mwc6.0, Mww5.9, Mwc6.0(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.33; $M_{\theta\theta}$0.37; $M_{\phi\phi}$-0.04; $M_{r\theta}$-0.61; $M_{\theta\phi}$0.17; $M_{\phi r}$-0.87; Fault plane solution: $M_0$1.13000×10^{18} NP1:ϕ_s37.97000°, δ81.89000°, λ-102.34000°. NP2:ϕ_s275.15000°, δ14.73000°, λ-33.70000°. Principal axes: T 1.1028, Plg36.0000°, Azm139.0000°; N 0.0552, Plg12.0000°, Azm40.0000°; P -1.1579, Plg52.0000°, Azm294.0000°;*
*ISCJB **03** 11:03:39.7±0.1, 4°.66N±0°.01×123°.40E±0°.02, h560km±1km, mb5.8/223 Error ellipse: s-maj=2.5km s-min=2.1km az=157.7*
*MOS **03** 11:03:39.6±0.8, 4°.64N×123°.40E, h561km, mb5.9/78, Error ellipse: s-maj=6.9km s-min=3.9km az=114.1*
*IDC **03** 11:03:40.8±0.5, 4°.65N×123°.39E, h552km±5km, mb5.3/46, mb1 5.3/50, mb1mx5.3/51, mbtmp6.2/50, Error ellipse: s-maj=6.9km s-min=5.1km az=80.0*
*DJA **03** 11:03:40.5±0.1, 5°.N±2°.×12°.3E±°, h543km±2km, M5.7/145, mB6.0/131, mb5.9/145, MLv6.3/14, Mw(mB)5.7/131, Mwp5.5/6*
*GCMT **03** 11:03:41.4±0.1, 4°.76N±0°.01×123°.28E±0°.01, h543km, MW6.0/126, Moment Tensor Solution. s126,c278; s86,c104; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.32±.01; $M_{\theta\theta}$0.46±.01; $M_{\phi\phi}$-0.14±.01; $M_{r\theta}$-0.49±.01; $M_{\theta\phi}$0.21±.01; $M_{\phi r}$-0.83±.01; Best double couple: $M_0$1.07000×10^{18} NP1:ϕ_s36.00000°, δ82.00000°, λ-110.00000°. NP2:ϕ_s283.00000°, δ21.00000°, λ-24.00000°. Principal axes: T 1.0380, Plg34.0000°, Azm142.0000°; N 0.0630, Plg20.0000°, Azm39.0000°; P -1.1010, Plg50.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*NEIC **03** 11:03:42, 4°.78N×123°.42E, h544km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.32; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-0.15; $M_{r\theta}$-0.47; $M_{\theta\phi}$0.23; $M_{\phi r}$-0.87; Fault plane solution: $M_0$1.09000×10^{18} NP1:ϕ_s283.00000°, δ22.00000°, λ-23.00000°. NP2:ϕ_s34.00000°, δ82.00000°, λ-110.00000°. Principal axes: T 1.0499, Plg34.0000°, Azm141.0000°; N 0.0809, Plg20.0000°, Azm37.0000°; P -1.1308, Plg49.0000°, Azm282.0000°;*
*NEIC **03** 11:03:50, 4°

KCP	**Kidapawan**	2.89	35⇓	*e*P	**P**	11 04 55.1 -0.5
KCP				*i* S	**S**	11 05 57.3 +0.8
DMPH	**Davao City--Mi**	3.21	41⇓	*i*P	**P**	11 04 56.8 -0.6
DMPH				*i* S	**S**	11 05 57.2 -2.8
DAV	**Davao City (W)**	3.24	42	P	**P**	11 04 57.0 -0.6
	SNR=297					
DAV	**Davao City (W)**	3.24	42	P	**P**	11 04 56.5 -1.1
DAV				S	**S**	11 05 58.0 -2.4
DCPH	**Dipolog City**	3.92	359⇑	*e*P	**P**	11 05 04.8 +2.5
CGP	**Cagayan de Oro**	4.00	19⇓	*i*P	**P**	11 05 02.0 -0.8
KMSI	**Cibinong**	4.08	172	P	**P**	11 05 03.4 -0.1
MRSI	**Marisa**	4.39	199	P	**P**	11 05 05.4 -0.4
MRSI				S	**S**	11 06 13.7 -1.6
BIPH	**Bislig**	4.59	40⇑	*e*P	**P**	11 05 05.0 -2.3
BIPH				*e*S	**S**	11 06 16.1 -2.1
SNPH	**Sibulan**	4.67	358⇑	*e*P	**P**	11 05 08.1 0.0
TNTI	**Ternate**	5.52	134	P	**P**	11 05 13.5 -1.7
	13μm,1.0s,126μm22μm39nm					
TNTI	**Ternate**	5.52	134	P	**P**	11 05 13.6 -1.6
TNTI				S	**S**	11 06 27.2 -5.4
MPSI	**Mapaga**	5.52	219	P	**P**	11 05 14.7 -0.5
	953nm,0.7s,15μm4μm4.1nm					
LLP	**Lapu-Lapu**	5.67	6⇑	*i*P	**P**	11 05 15.3 -1.1
LUWI	**Luwuk**	5.68	186	P	**P**	11 05 14.6 -2.0
	8μm,1.2s,94μm11μm91nm					
LUWI	**Luwuk**	5.68	186	P	**P**	11 05 15.0 -1.7
LUWI				S	**S**	11 06 29.7 -5.4
APSI	**Ampana**	5.79	198	P	**P**	11 05 16.8 -0.8
	4μm,0.6s,45μm13nm					
JAP	**San Jose, Anti**	6.24	347⇓	*i*P	**P**	11 05 21.7 +0.2
LBMI	**Labuha**	6.66	142	P	**P**	11 05 24.4 -1.1
	10μm,0.6s,112μm68nm					
PLP	**Palo**	6.67	13⇑	*e*P	**P**	11 05 25.2 -0.4
SANI	**Sanana**	7.13	159	P	**P**	11 05 26.9 -3.1
	6μm,0.7s,131μm43nm					
KKM	**Kota Kinabalu**	7.29	281	P	**P**	11 05 31.5 -0.2
KKM				S	**S**	11 07 00.7 -1.9
KKM					**ScP**	11 13 49.7 +0.4
SMKI	**Samarinda**	7.99	231	P	**P**	11 05 40.8 +2.4
	3μm,1.2s,27μm11nm					
TTSI	**Tana Toraja**	8.43	205	P	**P**	11 05 42.3 -0.4
	7μm,1.2s,55μm					
KDI	**Kendari**	8.58	185	P	**P**	11 05 43.1 -1.1
	2μm,1.2s,28μm					
NLAI	**Namlea**	8.66	155	P	**P**	11 05 45.9 +0.9
	6μm,0.6s,53μm					
BKB	**Balikpapan**	8.75	228	P	**P**	11 05 47.2 +1.2
	5μm,1.2s,52μm					
BKB	**Balikpapan**	8.75	228	P	**P**	11 05 47.1 +1.2
BKB				S	**S**	11 07 30.8 +2.0
GQP	**Guinayangan**	9.25	354⇓	*e*P	**P**	11 05 51.0 +0.1
SPSI	**Sidrap Palu**	9.29	203	P	**P**	11 05 49.7 -1.6
	2μm,0.9s,24μm4μm					
AAI	**Ambon**	9.56	150	P	**P**	11 05 54.6 +0.5
	4μm,0.6s,37μm					
BNSI	**Bone**	9.56	200	P	**P**	11 05 54.0 -0.1
	3μm,0.8s,30μm					
SWI	**Sorong**	9.57	125	P	**P**	11 05 53.9 -0.3
	1μm,1.1s,12μm					
SIJI	**Sorong**	9.58	125	P	**P**	11 05 54.0 -0.3
	76nm,0.3s,baz=323,slow=8.0,SNR=189					
SIJI				S	**S**	11 07 43.1 -1.1
	baz=254,slow=22,SNR=4.1					
MSAI	**Masohi**	9.67	145	P	**P**	11 05 56.3 +1.1
	507nm,0.6s,7μm					
TGY	**Tagaytay City**	9.71	346	P	**P**	11 05 55.9 +0.3
	1μm,0.3s,baz=161,slow=1.9,SNR=160					
TGY				S	**S**	11 07 45.1 -1.5
	baz=302,slow=21,SNR=1.4					
TGY	**Tagaytay City**	9.71	346⇑	*i*P	**P**	11 05 56.5 +0.8
BBSI	**Bau Bau**	10.10	185	P	**P**	11 05 59.9 +0.3
	584nm,1.3s,5μm					
KAPI	**Kappang**	10.26	201	P	**P**	11 05 59.5 -1.7
KAPI				S	**S**	11 07 57.4 +0.6
KAPI	**Kappang**	10.26	201	P	**P**	11 06 00.1 -1.1
	23nm,0.3s,baz=36,slow=1.7,SNR=50					
KAPI				S	**S**	11 07 57.1 +0.2
	11nm,0.3s,baz=117,slow=6.2,SNR=2.9					
KAPI	**Kappang**	10.26	201	P	**P**	11 05 59.5 -1.7
KAPI				S	**S**	11 07 57.4 +0.6
BKSI	**Bulukumba**	10.42	198	P	**P**	11 06 00.8 -2.1
	440nm,1.2s,4μm					
KBKI	**Kotabaru**	10.70	223	P	**P**	11 06 05.7 0.0
	832nm,1.2s,7μm					
BNDI	**Bandanaira**	11.18	144	P	**P**	11 06 10.5 -0.2
	7μm,0.8s,68μm					
PALU	**Palau**	11.34	76	P	**P**	11 06 12.1 -0.1
	baz=11,SNR=112					
SBUM	**Sibu**	11.37	259	P	**P**	11 06 13.6 +1.0
SBUM				S	**S**	11 08 18.1 +0.4
SBUM				ScP	**ScP**	11 13 55.0 +1.0
FAKI	**Fak Fak**	11.60	130	P	**P**	11 06 14.5 -0.5
	1μm,0.8s,13μm					
FAKI	**Fak Fak**	11.60	130	P	**P**	11 06 14.3 -0.7
FAKI				S	**S**	11 08 20.9 -1.3
FAKI				ScP	**ScP**	11 13 55.5 +1.1
RKPI	**Ransiki, Papua**	12.38	119	P	**P**	11 06 23.5 +0.4
	537nm,0.8s,8μm					
STKI	**Sintang**	12.75	249	P	**P**	11 06 27.6 +0.8
	575nm,1.0s,18μm					
MMRI	**Maumere**	13.24	185	P	**P**	11 06 31.6 -0.3
	2μm,0.7s,21μm					
MMRI	**Maumere**	13.24	185	P	**P**	11 06 31.2 -0.7
EDFI	**Ende, Flores**	13.41	187	P	**P**	11 06 32.8 -1.0
	2μm,0.7s,16μm					
KSM	**Kuching**	13.45	257	P	**P**	11 06 34.1 +0.1
KSM				S	**S**	11 08 57.1 +0.2
KSM					**ScP**	11 13 57.7 +0.5
PBKI	**Pangkalan Bun**	13.81	238	P	**P**	11 06 35.0 -2.8
	1μm,1.1s,12μm					
BAKI	**Biak**	13.96	114	P	**P**	11 06 39.2 -0.1
	2μm,1.0s,22μm					
SOEI	**Soe**	14.33	177	P	**P**	11 06 42.3 -0.9
	2μm,0.7s,22μm					
SOEI	**Soe**	14.33	177	P	**P**	11 06 42.1 -1.1
SOEI					**ScP**	11 14 00.3 +1.4
SRPI	**Serui, Papua**	14.37	116	P	**P**	11 06 43.1 -0.4
	2μm,1.1s,32μm					
PLAI	**Plampang**	14.51	203	P	**P**	11 06 43.3 -1.6
	2μm,1.3s,23μm					
WSI	**Waingapu**	14.55	192	P	**P**	11 06 42.8 -2.5
	4μm,0.7s,36μm					
WBSI	**Waikabubak, Su**	14.74	196	P	**P**	11 06 45.3 -2.0
	826nm,0.7s,9μm					
BATI	**Baumata**	14.75	179	P	**P**	11 06 46.8 -0.6
	1μm,0.3s,baz=359,slow=0.7,SNR=597					
BATI				S	**S**	11 09 20.6 -0.6
	36nm,0.3s,baz=58,slow=23,SNR=6.4					
BATI	**Baumata**	14.75	179	P	**P**	11 06 46.8 -0.6
	5μm,0.9s,42μm					
TWSI	**Taliwang, Sumb**	14.79	206	P	**P**	11 06 46.4 -1.4
	2μm,1.2s,14μm					
SAUI	**Saumlaki**	14.81	148	P	**P**	11 06 46.7 -1.3
	3μm,0.5s,36μm					
SAUI	**Saumlaki**	14.81	148	P	**P**	11 06 46.0 -2.0
SAUI					**ScP**	11 14 01.5 +1.9
KMMI	**Kalianget**	14.95	219	P	**P**	11 06 49.2 -0.2
	1μm,1.2s,10μm					
SRBI	**Singaraja**	15.05	213	P	**P**	11 06 48.8 -1.6
	718nm,1.3s,8μm					
DNP	**Denpasar**	15.55	212	P	**P**	11 06 54.9 -0.5
	4μm,1.1s,33μm					
IGBI	**Denpasar**	15.70	212	P	**P**	11 06 55.9 -1.0
	3μm,0.6s,33μm					
GRJI	**Gresik**	15.83	224	P	**P**	11 06 56.6 -1.6
	374nm,1.2s,3μm					
JAGI	**Jajag, Banyuwa**	15.96	215	P	**P**	11 06 58.8 -0.7
	1μm,0.9s,14μm					
JAGI	**Jajag, Banyuwa**	15.96	215	P	**P**	11 06 58.2 -1.3
JAGI					**ScP**	11 14 00.5 -1.3
GMJI	**Gumukmas**	16.22	218	P	**P**	11 07 00.7 -1.3
	1μm,1.1s,11μm					
DLV	**T Lat**	16.44	297	P	**P**	11 07 04.9 +0.7
DLV					**ScP**	11 14 03.8 +0.8
SMPI	**Sarmi**	16.66	113	P	**P**	11 07 06.5 +0.6
	1μm,0.8s,21μm					
NGJI	**Ngawi**	16.86	225	P	**P**	11 07 08.3 +0.6
	510nm,1.1s					
PWJI	**Pagerwojo**	17.09	223	P	**P**	11 07 08.4 -1.4
	229nm,0.9s,3μm					
TPI	**Tanjungpandan**	17.36	245	P	**P**	11 07 13.2 +0.9
	656nm,1.1s,10μm					
SMRI	**Semarang**	17.38	228	P	**P**	11 07 13.1 +0.6
	303nm,1.6s					
SMRI	**Semarang**	17.38	228	P	**P**	11 07 12.7 +0.1
SMRI				IAmb	IAmb	11 07 29.7
	comp=Z,247nm,1.0s					
WOJI	**Wonogiri, Jawa**	17.57	225	P	**P**	11 07 13.9 -0.3
	comp=Z,387nm,1.1s,comp=Z,4μm					
PCJI	**Pacitan**	17.64	224	P	**P**	11 07 14.9 +0.1
	comp=Z,571nm,1.1s,comp=Z,6μm					
UGM	**Wanagama**	17.90	226	P	**P**	11 07 18.1 +0.8
	comp=Z,833nm,1.5s,comp=Z,10μm					
UGM	**Wanagama**	17.90	226	P	**P**	11 07 17.3 -0.1
UGM					**ScP**	11 14 05.6 -0.2
UGM				ScS	**ScS**	11 17 47.8 +0.6
YOGI	**Yogyakarta**	18.00	227	P	**P**	11 07 19.3 +1.1
	comp=Z,2μm,0.8s,comp=Z,14μm					
TWG	**Pinlang**	18.21	353	P	**P**	11 07 19.4 -0.6
TWG					ScS	11 17 44.0 -3.8
GENI	**Genyem**	18.23	113	P	**P**	11 07 20.8 +0.5
	comp=Z,3μm,1.0s,comp=Z,34μmcomp=Z,16μm					
JAY	**Jayapura**	18.70	112	P	**P**	11 07 24.7 +0.2
	comp=Z,72nm,0.3s,baz=250,slow=5.3,SNR=138					
JAY				S	**S**	11 10 24.6 -2.0
	comp=Z,0.3nm,0.3s,baz=114,slow=3.2,SNR=2.5					
JAY	**Jayapura**	18.70	112	P	**P**	11 07 24.6 0.0
	comp=Z,7μm,0.9s,comp=Z,76μm					
KPJI	**Karang Pucung**	18.71	231	P	**P**	11 07 25.6 +1.0
	comp=Z,510nm,1.1s,comp=Z,8μm					
JCJI	**Jatiwangi**	18.72	234	P	**P**	11 07 28.2 +3.5
	comp=Z,1μm,1.1s,comp=Z,19μm					
TPUB	**Ta-pu**	18.74	352	ScP	**ScP**	11 14 08.4 +0.9
YULB	**Yu-li**	18.75	354	P	**P**	11 07 23.9 -1.0
YULB					ScS	11 17 49.3 -0.3
MTN	**Manton Dam**	18.99	156	P	**P**	11 07 26.6 -0.5
	baz=19,SNR=460					
MTN	**Manton Dam**	18.99	156	P	**P**	11 07 26.2 -1.0
SSLB	**Suanglung**	19.18	353	P	**P**	11 07 28.7 -0.1
SSLB					ScS	11 17 50.2 -0.8
TPRI	**Tanjung Pinang**	19.21	259	P	**P**	11 07 30.1 +0.9
	comp=Z,847nm,1.2s,comp=Z,18μm					
CMJI	**Cimerak**	19.36	230	P	**P**	11 07 32.0 +1.4
	comp=Z,136nm,0.7s,comp=Z,2μm					
KDU	**Kakadu**	19.43	152	P	**P**	11 07 30.7 -0.5
	baz=20,SNR=972					
LEM	**Lembang**	19.44	234	P	**P**	11 07 32.5 +1.0
	comp=Z,14nm,0.3s,baz=32,slow=7.7,SNR=56					
LEM				S	**S**	11 10 39.7 +0.8
	comp=Z,2.1nm,0.3s,baz=314,slow=18,SNR=2.9					
DSRI	**Dabo**	19.48	255	P	**P**	11 07 32.5 +0.8
	comp=Z,1μm,1.3s,comp=Z,21μm					
QIZ	**Qiongzhong**	19.48	318	P	**P**	11 07 31.2 -0.4
QIZ				sP	**sP**	11 09 49.0 -2.5
QIZ				S	**S**	11 10 39.8 +0.7
QIZ				pmax	pmax	
	comp=Z,300nm,0.9s					
QIZ				pmax	pmax	
	comp=Z,2μm,5.8s					
QIZ	**Qiongzhong**	19.48	318	P	**P**	11 07 32.5 +0.9
QIZ				IAmb	IAmb	11 07 33.7
	comp=Z,420nm,1.0s					
QIZ				ScP	**ScP**	11 14 10.6 +1.3
NACB	**Ninganchiao**	19.50	355	IAmb	IAmb	11 07 35.8
	comp=Z,273nm,0.6s					
HKPS	**Hong Kong Po S**	19.69	334	P	**P**	11 07 34.1 +0.7
HKPS				IAmb	IAmb	11 07 35.6
	comp=Z,331nm,1.2s					
YOJ	**Yonaguni jima**	19.71	359	P	**P**	11 07 34.0 +0.4
YOJ				pmax	pmax	
	comp=Z,1μm,0.8s					
YOJ	**Yonaguni jima**	19.71	359	P	**P**	11 07 34.0 +0.4
YOJ					**ScP**	11 14 10.1 +0.5
CISI	**Cisompet, Garu**	19.71	232	P	**P**	11 07 33.1 -0.7
	comp=Z,334nm,0.7s,comp=Z,3μm					
CISI	**Cisompet, Garu**	19.71	232	IAmb	IAmb	11 07 41.1
	comp=Z,240nm,0.8s					
CISI					**ScP**	11 14 09.4 -0.6
MYKOM	**Kota Tinggi**	19.72	262	P	**P**	11 07 34.5 +0.6
YHNB	**Yeheng**	20.01	355	P	**P**	11 07 35.9 -0.5
YHNB				ScP	**ScP**	11 14 10.4 -0.1
PMBI	**Palembang**	20.07	248	P	**P**	11 07 39.5 +2.5
	comp=Z,1μm,1.3s,comp=Z,21μm					
PMBI	**Palembang**	20.07	248	P	**P**	11 07 38.9 +1.8
SBJI	**Serang**	20.29	238	P	**P**	11 07 40.6 +1.6
	comp=Z,1μm,1.1s,comp=Z,12μm					
KNMB	**Chin-men Tao**	20.29	347	P	**P**	11 07 38.4 -0.5
KNMB				IAmb	IAmb	11 07 59.4
	comp=Z,159nm,0.7s					
KNMB					**PcP**	11 11 30.9 +4.0
TATO	**Taipei**	20.30	355	P	**P**	11 07 37.7 -1.2
SKJI	**Sukabumi**	20.41	236	P	**P**	11 07 41.4 +1.3
	comp=Z,419nm,1.1s,comp=Z,5μm					
BLSI	**Bandar Lampung**	20.68	241	P	**P**	11 07 43.8 +1.3
	comp=Z,974nm,0.5s,comp=Z,13μm					
JMBI	**JAMBI**	20.70	253	P	**P**	11 07 45.2 +2.5
	comp=Z,3μm,1.2s,comp=Z,29μm					
QZH	**Quanzhou**	20.71	348⇓	*i*P	**P**	11 07 43.4 +0.8
QZH				sP	**sP**	11 10 03.6 -1.4
QZH				S	**S**	11 10 54.8 -3.6
QZH				pmax	pmax	
	comp=Z,160nm,1.0s					
QZH				pmax	pmax	
	comp=Z,850nm,7.3s					
GZH	**Guangzhou**	20.75	333	P	**P**	11 07 47.3 +4.3
GZH				sP	**sP**	11 10 08.0 +2.5
GZH				S	**S**	11 11 06.2 +7.0
GZH				pmax	pmax	
	comp=Z,2μm,5.6s					
KLSI		20.83	244	P	**P**	11 07 44.6 +0.7
	comp=Z,313nm,1.3s,comp=Z,6μm					
KNRA	**Kununurra**	20.87	165	P	**P**	11 07 44.2 0.0
	baz=21,SNR=1000					
KNRA	**Kununurra**	20.87	165	P	**P**	11 07 43.8 -0.4
CGJI	**Cibinong**	20.91	238	P	**P**	11 07 44.8 +0.2
	comp=Z,678nm,0.6s,comp=Z,7μm					
MMPI	**Merauke**	21.36	128	P	**P**	11 07 49.3 +0.6
	comp=Z,2μm,0.4s,comp=Z,20μm					
KASI	**Kota Agung**	21.41	242	P	**P**	11 07 50.0 +0.9
	comp=Z,972nm,0.9s,comp=Z,9μm					
LHSI	**Lahat**	21.57	247	P	**P**	11 07 51.5 +1.0
	comp=Z,616nm,1.0s,comp=Z,12μm					
LWLI	**Liwa**	21.57	244	P	**P**	11 07 51.2 +0.5
	comp=Z,528nm,1.1s,comp=Z,6μm					
RGRI	**Rengat**	21.62	257	P	**P**	11 07 52.5 +1.5
	comp=Z,270nm,0.9s,comp=Z,18μm					
MNAI	**Manna**	22.30	247	P	**P**	11 07 59.3 +2.2
	comp=Z,1μm,1.0s,comp=Z,13μm					
IPM	**Ipoh**	22.30	270	P	**P**	11 07 56.7 -0.5
IPM					**ScP**	11 14 17.1 +0.6
MASI	**Maura Aman, Be**	22.51	250	P	**P**	11 08 00.4 +1.4
	comp=Z,2μm,1.0s,comp=Z,15μm					
JOW	**Kunigami**	22.55	11	P	**P**	11 08 00.1 +1.0
	comp=Z,12nm,0.5s,baz=177,slow=14,SNR=72					
JOW	**Kunigami**	22.55	11	P	**P**	11 07 59.8 +0.7
JOW					**S**	11 11 29.2 +1.7
JOW				ScP	**ScP**	11 14 17.8 +1.0
SDSI	**Sungai Dareh**	22.64	256	P	**P**	11 08 00.5 +0.4
	comp=Z,273nm,1.2s,comp=Z,5μm					
KULM	**Kulim**	22.67	273	P	**P**	11 08 00.3 -0.2
KULM				IAmb	IAmb	11 08 02.3
	comp=Z,391nm,0.9s					
KULM				ScP	**ScP**	11 14 18.0 +0.7
FITZ	**Fitzroy Crossi**	22.70	174	P	**P**	11 08 00.5 -0.1
	baz=23,SNR=1000					
FITZ	**Fitzroy Crossi**	22.70	174	P	**P**	11 08 00.4 -0.1
	comp=Z,272nm,0.5s,baz=3.8,slow=7.1,SNR=845					
FITZ				S	**S**	11 11 26.6 -3.4
	comp=Z,60nm,0.8s,baz=244,slow=23,SNR=2.0					
FITZ				ScP	**ScP**	11 14 17.1 -0.2
	comp=Z,82nm,0.7s,baz=190,slow=2.2,SNR=8.1					
FITZ	**Fitzroy Crossi**	22.70	174		**ScP**	11 14 17.5 +0.2
FITZ	**Fitzroy Crossi**	22.70	174	P	**P**	11 08 00.2 -0.3
BKNI	**Bangkinang**	22.74	260	P	**P**	11 08 01.7 +0.7
	comp=Z,1μm,1.1s,comp=Z,14μm					
BKNI	**Bangkinang**	22.74	260	P	**P**	11 08 01.5 +0.4
SKLT	**Songkhla**	22.80	277	P	**P**	11 08 02.6 +1.1
	comp=Z,390nm,1.1s,comp=Z,4μm					
KRJI	**Kerinci**	22.92	253	P	**P**	11 08 03.8 +1.1
	comp=Z,428nm,1.3s,comp=Z,6μm					
GUMO	**Guam**	22.97	66	P	**P**	11 08 02.4 -0.6
GUMO				pmax	pmax	
	comp=Z,207nm,0.8s					
GUMO	**Guam**	22.97	66	P	**P**	11 08 01.9 -1.1
	comp=Z,184nm,0.7s,baz=183,slow=5.0,SNR=18					
GUMO	**Guam**	22.97	66	P	**P**	11 08 02.4 -0.6
GUMO				IAmb	IAmb	11 08 03.2
	comp=Z,207nm,0.8s					
PDSI	**Padang**	23.57	257	P	**P**	11 08 08.0 -0.5
	comp=Z,172nm,1.2s,comp=Z,3μm					
PATY	**Pattaya**	23.72	292	P	**P**	11 08 10.4 +0.7
	comp=Z,216μm,0.9s					
TRTT	**Trang**	23.78	279	P	**P**	11 08 11.0 +0.8
	comp=Z,658nm,1.1s,comp=Z,7μm					
CHAI	**Chaiyaphum**	23.82	300	P	**P**	11 08 11.0 +0.4
NONG	**Nongkai**	23.88	306	P	**P**	11 08 11.5 +0.4
	comp=Z,33nm,0.9s,comp=Z,225nm					
TMDB	**BangkokBB_BH_I**	24.20	293	P	**P**	11 08 16.6 +2.7
	comp=Z,209nm,1.2s					
PSI	**Prapat**	24.49	267	P	**P**	11 08 17.1 +0.4
	comp=Z,518nm,0.9s,baz=82,slow=5.3,SNR=352					
PSI				PcP	**PcP**	11 11 36.3 +0.3
	comp=Z,78nm,0.8s,baz=121,slow=1.8,SNR=5.8					
PSI				S	**S**	11 11 58.5 -0.1
	comp=Z,12nm,0.8s,baz=256,slow=22,SNR=4.9					
PSI				ScP	**ScP**	11 14 22.1 -0.4
	comp=Z,113nm,0.9s,baz=147,slow=1.0,SNR=19					
PPSI	**Pulau Pagai**	24.50	253	P	**P**	11 08 17.2 +0.5
	comp=Z,416nm,0.8s,comp=Z,5μm					
RPSI	**Rantau Prapat**	24.50	266		**S**	11 11 58.5 0.0
RPSI	**Rantau Prapat**	24.50	266	P	**P**	11 08 16.8 +0.2
RPSI				PcP	**PcP**	11 11 36.1 +0.2
RPSI				ScP	**ScP**	11 14 22.4 0.0
MANU	**Manus Island**	24.85	105	P	**P**	11 08 20.3 +0.6
PBKT	**Sadao Pong**	24.99	300	P	**P**	11 08 21.6 +0.7
	comp=Z,235nm,1.4s,comp=Z,3μm					
PBKT	**Sadao Pong**	24.99	300	P	**P**	11 08 21.9 +1.0
PBKT				IAmb	IAmb	11 08 23.4
	comp=Z,412nm,1.0s					
PBKT				ScP	**ScP**	11 14 25.1 +1.4
SISI	**Saibi**	25.00	257	P	**P**	11 08 20.4 -0.7
	comp=Z,755nm,1.0s,comp=Z,8μm					
PKDT	**Phuket**	25.12	279	P	**P**	11 08 22.7 +0.6
	comp=Z,1μm,1.0s,comp=Z,13μm					
SLVN	**Son La**	25.17	313	IAmb	IAmb	11 08 25.6
	comp=Z,359nm,1.0s					
PBSI	**Pulau Batu**	25.52	260	P	**P**	11 08 26.2 +0.5
	comp=Z,308nm,0.8s,comp=Z,6μm					
SRDT	**SRDT**	25.79	294	P	**P**	11 08 29.3 +1.3
	comp=Z,400nm,1.1s					
MBWA	**Marble Bar**	25.89	188	P	**P**	11 08 28.2 -0.6
	SNR=32					
MBWA	**Marble Bar**	25.89	188	P	**P**	11 08 27.8 -1.0
MBWA					**ScP**	11 14 26.6 +0.4
UTHA	**Uthaitani**	25.92	296	P	**P**	11 08 29.8 +0.6
GSI	**Gunungsitoli**	26.00	263	P	**P**	11 08 29.1 -0.8
	comp=Z,1μm,1.1s,comp=Z,12μm					
GSI	**Gunungsitoli**	26.00	263	P	**P**	11 08 28.8 -1.1
GSI				PcP	**PcP**	11 11 40.4 +1.0
TPTI		26.19	268	P	**P**	11 08 32.0 +0.4
	comp=Z,221nm,0.8s,comp=Z,3μm					
NANT	**Nan**	26.25	304	P	**P**	11 08 33.5 +1.4
PSA00	**Pilbara Seismi**	26.28	187	P	**P**	11 08 31.1 -1.1
PSA00				ScP	**ScP**	11 14 27.5 +0.1
PSA00	**Pilbara Seismi**	26.28	187	IAmb	IAmb	11 08 33.9
	comp=Z,473nm,0.7s					
LHMI	**Lhok Sumawe**	26.36	272	P	**P**	11 08 34.1 +1.0
	comp=Z,804nm,0.8s,comp=Z,9μm					
SSE	**Sheshan**	26.40	356	P	**P**	11 08 34.6 +1.5
SSE				S	**S**	11 12 30.4 +2.6
SSE	**Sheshan**	26.40	356	IAmb	IAmb	11 08 36.0
	comp=Z,136nm,0.8s					
KHLT	**Khaolaem Dam**	26.42	294	P	**P**	11 08 31.5 -2.1
	comp=Z,842nm,1.0s,comp=Z,9μm					
WRAB	**Tennant Creek**	26.69	157	*c i*P	**P**	11 08 35.2 -0.7
WRAB				pmax	pmax	
	comp=Z,748nm,0.5s					
WRAB	**Tennant Creek**	26.69	157	P	**P**	11 08 35.1 -0.7
WRAB				ScP	**ScP**	11 14 29.3 +0.7
UMPA	**Umpang Tak**	26.69	297	P	**P**	11 08 36.4 +0.5
WRA	**Warramunga Arr**	26.69	157	P	**P**	11 08 35.1 -0.8
	comp=Z,897nm,0.5s,baz=335,slow=9.7,SNR=757					
WRA				S	**S**	11 12 28.4 -4.4
	comp=Z,42nm,0.8s,baz=331,slow=16,SNR=4.6					
WRA				ScP	**ScP**	11 14 28.1 -0.5
	comp=Z,106nm,0.7s,baz=336,slow=3.5,SNR=15					
WRA				ScS	**ScS**	11 18 17.7 -2.9
	comp=Z,7.5nm,0.9s,baz=291,slow=3.0,SNR=4.7					
WRA				P3KPbc		11 40 56.3
	comp=Z,0.4nm,0.6s,baz=154,slow=3.1,SNR=6.7					
WRA				PKP2ab		11 44 58.4
	comp=Z,1.0nm,0.8s,baz=140,slow=3.9,SNR=5.4					
WRA	**Warramunga Arr**	26.69	157	P	**P**	11 08 34.2 -1.7
WRA				ScP	**ScP**	11 14 29.2 +0.5
WB2	**Warramunga Arr**	26.70	157	IAmb	IAmb	11 08 37.3
	comp=Z,195nm,0.6s					
MLSI	**Meulaboh, Aceh**	26.92	270	P	**P**	11 08 37.2 -0.8
	comp=Z,642nm,0.8s,comp=Z,10μm					
COEN	**Coen**	26.95	134	P	**P**	11 08 36.9 -1.3
	baz=27,SNR=181					
COEN	**Coen**	26.95	134	IAmb	IAmb	11 08 39.4
	comp=Z,183nm,0.6s					
GYA	**Guiyang**	26.96	325⇓	*i*P	**P**	11 08 40.1 +1.8
GYA				sP	sP	11 11 09.0 -4.0
GYA				PcP	**PcP**	11 11 43.0 +1.4
GYA				S	**S**	11 12 40.4 +3.4
GYA				ScP	**ScP**	11 14 30.3 +0.8
GYA				ScS	**ScS**	11 18 21.0 -0.9
GYA				pmax

KMI PcP **PcP** **11 11 47.3 +1.8**
KMI S **S** **11 13 02.8 +2.6**
KMI ScP **ScP** **11 14 35.9 +1.6**
KMI ScS **ScS** **11 18 29.9 +0.9**
KMI pmax pmax
comp=Z,310nm,1.3s
KMI pmax pmax
comp=Z,2μm,6.6s
KMI Kunming 28.43 318 IAmb IAmb 11 08 54.9
comp=Z,238nm,0.8s
GIRL Giralia 28.56 198 P **P** **11 08 52.9 +0.7**
baz=29,SNR=52
GIRL Giralia 28.56 198 P **P** **11 08 53.0 +0.9**
GIRL **ScP** **11 14 35.6 +1.2**
JCJ Chichijima 28.64 37 P **P** **11 08 52.0 -0.8**
comp=Z,1μm,0.5s,baz=265,slow=3.7,SNR=119
ENH Enshi 28.68 334 P **P** **11 08 54.1 +1.0**
ENH PcP **PcP** **11 11 46.5 +0.7**
ENH ScP **ScP** **11 14 35.4 +0.7**
JNU Nakatsue 29.18 13 P **P** **11 08 57.0 -0.5**
comp=Z,70nm,0.7s,baz=265,slow=2.1,SNR=97
JNU S **S** **11 13 08.6 -2.6**
comp=Z,8.4nm,0.8s,baz=17,slow=8.9,SNR=1.5
QIS Mount Isa 29.67 148 P **P** **11 09 01.8 -0.1**
baz=30,SNR=768
WRKA Warakurna 29.88 171 P **P** **11 09 03.8 +0.2**
baz=30,SNR=962
ASAR Alice Springs 29.94 160 P **P** **11 09 04.2 +0.1**
comp=Z,714nm,0.5s,baz=337,slow=7.0
ASAR S **S** **11 13 21.6 -1.6**
comp=Z,100nm,0.9s,baz=343,slow=16,SNR=9.8
ASAR ScP **ScP** **11 14 38.5 -0.4**
comp=Z,179nm,0.7s,baz=342,slow=2.9,SNR=30
ASAR ScS **ScS** **11 18 33.0 -2.9**
comp=Z,14nm,0.9s,baz=346,slow=5.6,SNR=6.4
ASAR P3KPbc 11 40 45.5
comp=Z,2.3nm,0.8s,baz=147,slow=3.2,SNR=15
ASAR Alice Springs 29.94 160 P **P** **11 09 04.0 -0.1**
ASAR ScP **ScP** **11 14 38.8 -0.1**
ASAR ScS **ScS** **11 18 33.7 -2.2**
KRVT Keravat (AS076 29.95 107 P **P** **11 09 05.3 +0.9**
comp=Z,2μm,0.8s,baz=351,slow=0.6,SNR=34
MTSU Mount Surprise 30.62 138 P **P** **11 09 10.2 +0.1**
baz=31,SNR=359
MEEK Meekatharra 31.44 188 P **P** **11 09 16.5 -0.4**
baz=32,SNR=379
TJN Taejon 31.79 6*d* *i*P **P** **11 09 19.4 -0.4**
TIA Tai'an 31.95 350 P **P** **11 09 21.7 +0.6**
TIA PcP **PcP** **11 11 55.5 +1.2**
TIA S **S** **11 13 53.7 +0.2**
TIA ScP **ScP** **11 14 46.2 +0.8**
TIA pmax pmax
comp=Z,230nm,0.8s
CD2 Chengdu 32.01 327⇓ *i*P **P** **11 09 22.6 +0.8**
CD2 pP pP 11 10 52.0 -1.8
CD2 PcP **PcP** **11 11 53.2 -1.5**
CD2 S **S** **11 13 54.3 -0.4**
CD2 sS sS 11 16 48.6 +4.0
CD2 pmax pmax
comp=Z,700nm,0.6s
CD2 pmax pmax
comp=Z,2μm,4.2s
XAN Xi'an 32.20 337 P **P** **11 09 24.0 +0.6**
XAN pP pP 11 10 57.8 +2.3
XAN PcP **PcP** **11 11 55.8 +0.6**
XAN S **S** **11 13 58.3 +0.8**
XAN ScS **ScS** **11 18 48.7 +1.7**
XAN pmax pmax
comp=Z,600nm,0.9s
XAN Xi'an 32.20 337 P **P** **11 09 23.5 +0.2**
XAN 11 11 56.0
XAN pmax pmax
comp=Z,659nm,0.7s
XAN Xi'an 32.20 337 P **P** **11 09 23.5 +0.2**
XAN PcP **PcP** **11 11 56.0 +0.8**
XAN ScP **ScP** **11 14 46.4 0.0**
JHJ2 Mitsune 32.20 26 P **P** **11 09 21.5 -1.9**
JHJ2 IAmb IAmb 11 09 27.3
comp=Z,596nm,1.6s
JHJ2 ScP **ScP** **11 14 47.2 +0.9**
KSAR Wonju Array Be 32.90 7 P **P** **11 09 29.4 +0.2**
KSAR 11 11 57.4
KSAR Wonju Array Be 32.90 7 P **P** **11 09 29.4 +0.2**
KSAR PcP **PcP** **11 11 57.4 +0.4**
KSAR ScP **ScP** **11 14 49.2 +0.5**
KSRS Korea Array 32.92 7 P **P** **11 09 30.2 +1.0**
comp=Z,82nm,0.7s,baz=181,slow=8.9,SNR=174
KSRS PcP **PcP** **11 11 58.0 +0.9**
comp=Z,28nm,0.8s,baz=189,slow=3.6,SNR=10
KSRS S **S** **11 14 12.1 +3.9**
comp=Z,3.8nm,0.8s,baz=190,slow=5.8,SNR=3.0
KSRS ScP **ScP** **11 14 49.2 +0.5**
comp=Z,23nm,0.7s,baz=187,slow=2.9,SNR=19
INU Inuyama 33.05 21 IAmb IAmb 11 09 32.5
comp=Z,155nm,0.7s
CTA Charters Tower 33.29 138 P **P** **11 09 33.7 +0.9**
comp=Z,748nm,1.0s,baz=322,slow=11,SNR=229
CTA S **S** **11 14 14.6 +0.2**
comp=Z,9.5nm,0.6s,baz=39,slow=23,SNR=3.6
CTA ScP **ScP** **11 14 50.9 +0.4**
comp=Z,149nm,0.8s,baz=284,slow=5.2,SNR=15
CTAO Charters Tower 33.29 138 P **P** **11 09 33.4 +0.6**
CTAO pmax pmax
comp=Z,638nm,0.9s
CTAO Charters Tower 33.29 138 P **P** **11 09 33.4 +0.6**
CTAO ScP **ScP** **11 14 50.7 +0.3**
SIMRM Sittwe 33.45 300 IAmb IAmb 11 09 37.2
comp=Z,284nm,0.9s
DL2 Dalian 34.15 358⇓ *i*P **P** **11 09 39.9 +0.3**
DL2 pP **pP** **11 11 10.3 -3.2**
DL2 PcP **PcP** **11 12 01.2 +0.7**
DL2 sP **sP** **11 12 17.4 -0.1**
DL2 S **S** **11 14 25.5 -1.2**
DL2 ScP **ScP** **11 14 53.3 +0.2**
DL2 ScS **ScS** **11 18 55.3 -1.7**
DL2 pmax pmax
comp=Z,340nm,0.7s
DL2 pmax pmax
comp=Z,770nm,4.4s
MORW Morawa 34.25 191 P **P** **11 09 40.6 -0.1**
baz=34,SNR=800
TIY Taiyuan 34.41 345 *e*P **P** **11 09 42.8 +0.9**
TIY pP **pwP** **11 11 16.6 -0.9**
TIY S **S** **11 14 33.2 +2.3**
TIY ScS **ScS** **11 18 59.7 +1.0**
TIY pmax pmax
comp=Z,650nm,0.7s
TIY pmax pmax
comp=Z,1μm,3.5s
MAJO Matsushiro 34.54 21 P **P** **11 09 41.7 -1.3**
MAJO 11 12 02.2
MAJO pmax pmax
comp=Z,181nm,0.9s
MAJO Matsushiro 34.54 21 P **P** **11 09 41.7 -1.3**
MAJO IAmb IAmb 11 09 44.3
comp=Z,181nm,0.9s
MAJO PcP **PcP** **11 12 02.2 +0.4**
MAJO **ScP** **11 14 55.4 +0.8**
MAT Matsushiro 34.54 21 P **P** **11 09 41.8 -1.2**
MAT S **S** **11 14 29.6 -3.2**
MJAR Matsushiro Arr 34.54 21 P **P** **11 09 42.3 -0.7**
comp=Z,165nm,0.8s,baz=192,slow=8.9,SNR=204
MJAR PcP **PcP** **11 12 02.5 +0.7**
comp=Z,36nm,0.8s,baz=202,slow=3.6,SNR=7.8
MJAR S **S** **11 14 29.2 -3.6**
comp=Z,15nm,1.2s,baz=202,slow=14,SNR=4.8
MJAR ScP **ScP** **11 14 55.1 +0.5**
comp=Z,74nm,0.8s,baz=204,slow=5.4,SNR=25
MJAR ScS **ScS** **11 18 59.9 +0.5**
comp=Z,1.1nm,0.8s,baz=335,slow=5.5,SNR=3.0
MJAR Matsushiro Arr 34.54 21 P **P** **11 09 41.2 -1.8**
MJAR PcP **PcP** **11 12 02.2 +0.4**
MJAR **ScP** **11 14 55.3 +0.7**
MJB9 Matsu-Tunnel 34.54 21 IAmb IAmb 11 09 44.3
comp=Z,178nm,0.9s
PATS Pohnpei 34.80 85 P **P** **11 09 44.9 -0.6**
baz=35,SNR=7.0
PATS Pohnpei 34.80 85 P **P** **11 09 46.0 +0.5**
PATS IAmb IAmb 11 09 49.0
comp=Z,344nm,0.9s
PATS ScP **ScP** **11 14 57.9 +1.9**
FORT Forrest 35.50 173 P **P** **11 09 51.5 +0.5**
baz=36,SNR=1000
BRDH Bariadhala 35.55 303 S **S** **11 14 50.0 +1.6**
comp=Z,0.7nm,0.3s,baz=288,slow=24,SNR=2.4

BJT Baijiatuau 35.82 350 P **P** **11 09 53.6 +0.1**
BJT 11 12 06.6
BJT 11 15 00.6
BJT pmax pmax
comp=Z,211nm,0.8s
BJT Baijiatuau 35.82 350 P **P** **11 09 53.6 +0.1**
BJT IAmb IAmb 11 09 55.3
comp=Z,211nm,0.8s
BJT PcP **PcP** **11 12 06.6 +1.1**
BJT **ScP** **11 15 00.6 +1.4**
KMBL Kambalda 35.84 182 P **P** **11 09 53.9 +0.1**
baz=36,SNR=481
BJI Beijing 35.84 351 P **P** **11 09 54.2 +0.5**
BJI pP **pP** **11 11 27.6 -0.5**
BJI PcP **PcP** **11 12 06.5 +0.9**
BJI S **S** **11 14 51.4 -0.7**
BJI ScS **ScS** **11 19 07.6 +1.3**
BJI pmax pmax
comp=Z,230nm,0.9s
LZH Lanzhou 36.10 333⇑ P **P** **11 09 58.0 +1.8**
LZH pP pP 11 11 31.9 +1.4
LZH PcP **PcP** **11 12 07.7 +1.0**
LZH sP sP 11 12 34.7 +0.4
LZH S **S** **11 14 57.2 +0.7**
LZH ScS **ScS** **11 19 07.6 -0.8**
LZH pmax pmax
comp=Z,290nm,1.1s
LZH pmax pmax
comp=Z,1μm,5.4s
KLBR Kellerberrin 36.43 188 P **P** **11 09 58.6 -0.1**
baz=37,SNR=59
QLP Quilpie 37.02 148 P **P** **11 10 04.2 +0.6**
baz=37,SNR=187
SNY Shenyang 37.03 0⇓ P **P** **11 10 03.5 +0.1**
SNY S **S** **11 15 09.4 -0.3**
SNY pmax pmax
comp=Z,830nm,2.2s
MUN Mundaring 37.05 190 P **P** **11 10 03.7 -0.1**
baz=37,SNR=180
HHC Hu-ho-hao-te 37.59 345 P **P** **11 10 09.7 +1.5**
HHC pmax pmax
comp=Z,66nm,1.2s
BTO Baotou 37.77 343 *e*P **P** **11 10 10.9 +1.2**
NWAO Narrogin (SRO) 37.82 188 P **P** **11 10 10.4 +0.5**
baz=38,SNR=253
NWAO Narrogin (SRO) 37.82 188 P **P** **11 10 10.5 +0.5**
SNR=32
NWAO Narrogin (SRO) 37.82 188 P **P** **11 10 10.6 +0.6**
NWAO pmax pmax
comp=Z,2μm,1.5s
NWAO Narrogin (SRO) 37.82 188 P **P** **11 10 10.5 +0.5**
comp=Z,528nm,0.6s,baz=24,slow=7.9,SNR=456
NWAO Narrogin (SRO) 37.82 188 P **P** **11 10 10.6 +0.6**
MSHR Mys Shultsa 38.40 9*d* *i*P **P** **11 10 15.4 +0.8**
HNR Honiara 39.01 111 P **P** **11 10 18.6 -1.4**
HNR pmax pmax
comp=Z,615nm,0.6s
HNR Honiara 39.01 111 *e*P **P** **11 10 19.0 -1.0**
HNR Honiara 39.01 111 P **P** **11 10 18.6 -1.4**
CN2 Changchun 39.04 2 *e*P **P** **11 10 19.0 -0.7**
CN2 pmax pmax
comp=Z,60nm,0.6s
VLA Vladivostok 39.05 10*d* *i*P **P** **11 10 20.7 +0.9**
VLA pmax pmax
comp=Z,90nm,0.8s
BBOO Buckleboo 39.14 163 P **P** **11 10 21.1 +0.4**
baz=39,SNR=361
LSA Lhasa 39.37 313 *i* P **P** **11 10 25.3 +2.1**
SNR=193
RMQ Roma 39.50 143 P **P** **11 10 24.3 +0.6**
baz=40,SNR=208
RKGY Rocky Gully 39.51 188 P **P** **11 10 24.9 +1.3**
baz=40,SNR=331
USA0B Ussuriysk Arra 40.12 10*d* *i*P **P** **11 10 28.9 +0.5**
USA0B Ussuriysk Arra 40.12 10 P **P** **11 10 28.5 +0.1**
USA0B IAmb IAmb 11 10 30.7
comp=Z,126nm,0.7s
USRK Ussuriysk Ar. 40.12 10 P **P** **11 10 28.8 +0.4**
comp=Z,99nm,0.6s,baz=200,slow=6.9,SNR=203
USRK PcP **PcP** **11 12 19.4 +0.4**
comp=Z,34nm,0.8s,baz=219,slow=4.8,SNR=5.4
USRK S **S** **11 15 53.2 -1.8**
comp=Z,11nm,1.1s,baz=197,slow=12,SNR=4.2
USRK ScS **ScS** **11 19 29.3 -1.9**
comp=Z,1.6nm,0.8s,baz=149,slow=8.9,SNR=3.4
EIDS Eidsvold 40.16 139 P **P** **11 10 29.1 +0.1**
baz=40,SNR=270
EIDS Eidsvold 40.16 139 P **P** **11 10 28.6 -0.4**
EIDS ScP **ScP** **11 15 17.2 +1.1**
MDJ Mudanjiang 40.18 7 P **P** **11 10 29.6 +0.7**
MDJ S **S** **11 15 55.6 -0.4**
MDJ pmax pmax
comp=Z,710nm,1.9s
MDJ Mudanjiang 40.18 7 IAmb IAmb 11 10 31.9
comp=Z,291nm,0.8s
STKA Stephens Creek 40.24 156 P **P** **11 10 30.2 +0.7**
baz=40,SNR=701
STKA Stephens Creek 40.24 156 P **P** **11 10 30.4 +0.9**
comp=Z,632nm,0.6s,baz=331,slow=8.0,SNR=857
STKA PP **PP** **11 12 19.0 +0.5**
comp=Z,163nm,0.6s,baz=329,slow=10,SNR=5.4
STKA ScP **ScP** **11 15 15.9 -0.4**
comp=Z,39nm,0.6s,baz=319,slow=8.1,SNR=3.8
STKA S **S** **11 15 57.5 +0.4**
comp=Z,79nm,0.8s,baz=271,slow=10,SNR=7.8
STKA Stephens Creek 40.24 156 P **P** **11 10 30.0 +0.4**
STKA **PP** **11 12 18.1 -0.5**
STKA ScP **ScP** **11 15 16.1 -0.2**
H01W3 Cape Leeuwin H 40.27 192 P **P** **11 10 31.1 +1.6**
baz=13,slow=5.6,SNR=11
H01W1 Cape Leeuwin H 40.28 192 P **P** **11 10 31.3 +1.8**
baz=13,slow=5.6,SNR=8.8
H01W2 Cape Leeuwin H 40.29 192 P **P** **11 10 31.4 +1.8**
baz=13,slow=5.6,SNR=11
HTT Hallett 40.62 160 P **P** **11 10 33.7 +1.1**
baz=41,SNR=322
GTA Gaotai 40.67 332⇓ P **P** **11 10 34.6 +1.6**
GTA pP pP 11 12 13.9 +3.5
GTA PcP **PP** **11 12 21.9 -0.5**
GTA sP sP 11 13 09.8 -2.5
GTA ScP **ScP** **11 15 18.9 +0.8**
GTA S **S** **11 16 04.4 +1.0**
GTA ScS **ScS** **11 19 33.6 -1.5**
GTA pmax pmax
comp=Z,650nm,0.9s
GTA pmax pmax
comp=Z,1μm,7.9s
TAPN Taplejung 40.82 307 *e*P **P** **11 10 35.9 +1.3**
ODAN Odare 40.85 307 *e*P **P** **11 10 36.0 +1.2**
ERM Erimo 41.18 22*d* *i*P **P** **11 10 37.9 +1.1**
ERM pmax pmax
comp=Z,104nm,0.9s
ERM Erimo 41.18 22 P **P** **11 10 37.5 +0.7**
ERM IAmb IAmb 11 10 40.0
comp=Z,113nm,0.6s
RAMN Ramite 41.52 306 *e*P **P** **11 10 41.6 +1.4**
CMSA Cobar Meteorol 41.78 151 P **P** **11 10 43.1 +1.3**
baz=42,SNR=695
TEY Ternei 41.86 14⇓ *i*P **P** **11 10 42.8 +0.6**
TEY *e* 11 12 25.5
TEY *e* 11 16 17.9
TEY pmax pmax
comp=N,120nm,0.8s
TEY pmax pmax
comp=Z,370nm,0.6s
TEY pmax pmax
comp=E,300nm,5.4s
TEY pmax pmax
comp=N,200nm,9.4s
JIRN Jiri 42.16 307 *e*P **P** **11 10 46.6 +1.3**
GUN Gumba 42.52 307 *e*P **P** **11 10 49.3 +1.2**
PALK Pallekele 42.54 276 *i* P **P** **11 10 48.8 +0.7**
SNR=70
PALK Pallekele 42.54 276 P **P** **11 10 48.8 +0.7**
comp=N,284nm,1.0s,baz=116,slow=7.6,SNR=54
PALK PcP **PcP** **11 12 28.8 +1.0**
comp=N,86nm,0.9s,baz=295,slow=3.2,SNR=4.3
PALK ScP **ScP** **11 15 26.9 +0.9**
comp=N,120nm,0.8s,baz=115,slow=2.2,SNR=21
PALK Pallekele 42.54 276 P **P** **11 10 48.6 +0.6**
PALK IAmb IAmb 11 10 50.2
comp=Z,549nm,1.2s
PALK **ScP** **11 15 27.0 +0.9**
PKI Pulchoki 42.75 306 *e*P **P** **11 10 50.6 +0.7**
PKIN Phulchoki 42.76 306 *e*P **P** **11 10 50.5 +0.6**

KKN Kakani 42.94 307 *e*P **P** **11 10 52.2 +0.9**
DMN Daman 43.01 306 *e*P **P** **11 10 52.7 +0.9**
GKN Gorkha 43.55 307 *e*P **P** **11 10 56.8 +0.9**
YUK Yuzh-Kuril'sk 43.94 23*c* *i*P **P** **11 10 59.7 +1.3**
ARMA Armidale 44.10 144 P **P** **11 11 01.9 +1.9**
baz=44,SNR=161
KOLN Koldanda 44.29 306 *e*P **P** **11 11 03.1 +1.4**
DANN Dangsing 44.40 307 *e*P **P** **11 11 03.7 +1.1**
H11S3 WAKE ISLAND Hy 44.45 68 P **P** **11 11 03.5 +1.0**
baz=242,slow=7.3,SNR=4.2
H11S1 WAKE ISLAND Hy 44.46 68 P **P** **11 11 03.7 +1.1**
baz=242,slow=7.3,SNR=2.7
H11S2 WAKE ISLAND Hy 44.46 68 P **P** **11 11 03.7 +1.0**
baz=242,slow=7.3,SNR=2.5
HIA Hailar 44.57 357 P **P** **11 11 03.8 +0.5**
HIA 11 12 35.2
HIA pmax pmax
comp=Z,208nm,0.7s
HIA Hailar 44.57 357 P **P** **11 11 03.8 +0.5**
HIA IAmb IAmb 11 11 05.1
comp=Z,208nm,0.7s
HIA **PcP** **11 12 35.2 +1.1**
HIA **ScP** **11 15 35.4 +1.8**
WAKE Wake Island 44.59 67 P **P** **11 11 04.7 +0.8**
WAKE IAmb IAmb 11 11 05.9
comp=Z,940nm,1.6s
ARPS Mount Arapiles 44.65 159 P **P** **11 11 04.7 +0.7**
baz=45,SNR=781
H11N1 WAKE ISLAND Hy 44.91 67 P **P** **11 11 07.4 +1.3**
baz=241,slow=9.9,SNR=7.2
H11N2 WAKE ISLAND Hy 44.92 67 P **P** **11 11 07.5 +1.3**
baz=241,slow=9.9,SNR=5.8
H11N3 WAKE ISLAND Hy 44.93 67 P **P** **11 11 07.5 +1.3**
baz=241,slow=9.9,SNR=8.7
KLR Kul'dur 44.99 8 P **P** **11 11 06.3 -0.1**
comp=Z,79nm,0.5s,baz=200,slow=6.3,SNR=247
KLR ScS ScS 11 19 59.5 -2.4
comp=Z,0.7nm,0.3s,baz=338,slow=20,SNR=6.4
ULN Ulaanbaatar 45.29 345 P **P** **11 11 10.0 +1.0**
SNR=186
ULN P **P** **11 11 10.0 +1.0**
SNR=186
ULN Ulaanbaatar 45.29 345*d* *i*P **P** **11 11 09.8 +0.8**
ULN pmax pmax
comp=Z,377nm,0.9s
ULN Ulaanbaatar 45.29 345 P **P** **11 11 09.3 +0.3**
ULN IAmb IAmb 11 11 11.1
comp=Z,308nm,0.8s
YNG Young 45.35 151 P **P** **11 11 10.9 +1.4**
baz=46,SNR=33
YSS Yuzh-Sakhalins 45.35 19κ *i*P **P** **11 11 09.4 +0.2**
YSS *e* 11 12 37.4
YSS *e*S **S** **11 17 05.5 -4.1**
YSS *e*SS **ScS** **11 20 02.2 -2.0**
YSS pmax pmax
comp=Z,120nm,0.4s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 45.35 19 P **P** **11 11 09.0 -0.2**
YSS IAmb IAmb 11 11 11.1
comp=Z,101nm,0.5s
SONM Songino Array 45.44 344 P **P** **11 11 10.9 +0.8**
comp=Z,364nm,0.8s,baz=158,slow=8.9,SNR=1039
SONM PcP **PcP** **11 12 37.7 +0.3**
comp=Z,46nm,0.7s,baz=167,slow=4.3,SNR=4.8
SONM ScP **ScP** **11 15 37.4 0.0**
comp=Z,36nm,0.9s,baz=156,slow=5.1,SNR=8.2
SONM S **S** **11 17 10.1 -1.1**
comp=Z,5.8nm,0.9s,baz=261,slow=28,SNR=3.6
SONM P4KPbc 11 48 50.5
comp=Z,0.9nm,0.7s,baz=161,slow=4.4,SNR=6.4
SONM Songino Array 45.44 344 P **P** **11 11 10.6 +0.5**
SONM PcP **PcP** **11 12 37.1 -0.2**
SONM ScP **ScP** **11 15 38.1 +0.7**
SONM Songino Array 45.44 344 IAmb IAmb 11 48 50.8
comp=Z,0.9nm,0.8s
HYB Hyderabad 45.68 290 *i* P **P** **11 11 13.0 +0.7**
comp=Z,240nm,1.0s
HYB *e* 11 11 56.5
HYB *e*ScP **ScP** **11 15 38.5 -0.4**
HYB *e*S **S** **11 17 16.0 +0.7**
KUR Kuril'sk 45.74 24*d* *i*P **P** **11 11 12.9 +0.7**
KUR *e* 11 12 56.3
KUR *i* S **S** **11 17 14.9 -0.1**
KUR *e* 11 20 09.5
KUR pmax pmax
comp=Z,357nm,1.1s
KUR pmax pmax
comp=Z,680nm,1.9s
JBP Jabalpur 45.75 298⇓ *e*P **P** **11 11 14.3 +1.6**
JBP AMB AMB 11 11 20.2
comp=Z,222nm,1.0s
JBP *e*S **S** **11 17 17.0 +1.1**
MGCD Mangrove Creek 45.89 147 P **P** **11 11 15.7 +2.2**
baz=46,SNR=56
NGP Nagpur 46.04 295 *i* P **P** **11 11 13.7 -1.2**
NGP *e*S **S** **11 17 20.1 0.0**
RIV Riverview 46.39 148 P **P** **11 11 18.7 +1.3**
baz=46,SNR=14
CNB Canberra Magne 46.64 150 P **P** **11 11 20.7 +1.4**
baz=47,SNR=457
TOO Toolangi 46.76 156 P **P** **11 11 21.7 +1.6**
baz=47,SNR=130
TOO Toolangi 46.76 156 IAmb IAmb 11 11 23.4
comp=Z,411nm,0.9s
GRNR Gornyy 47.25 11⇓ *i*P **P** **11 11 25.0 +1.4**
GRNR *e* 11 13 30.6
GRNR *e* 11 17 40.5
GRNR pmax pmax
comp=N,42nm,1.0s
GRNR pmax pmax
comp=Z,78nm,1.0s
LGTI Lohaghat 47.66 306 *e*P **P** **11 11 28.1 +1.1**
CIT Chita 47.93 352 *e*P **P** **11 11 30.0 +1.4**
CIT *e* 11 12 47.3
CIT pmax pmax
comp=Z,396nm,1.9s
MILA Mila 47.94 152 P **P** **11 11 30.2 +1.3**
baz=48,SNR=9.1
ZAK Zakamensk 48.63 343 *e*P **P** **11 11 34.2 +0.3**
ZAK *e* 11 12 49.4
ZAK pmax pmax
comp=Z,114nm,1.0s
ZAK pmax pmax
comp=Z,60nm,0.8s
TYV Tymovskoe 48.81 16 *e*P P 11 11 49.5 +14
TYV pmax pmax
comp=Z,600nm,2.6s
TYV pmax pmax
comp=Z,69nm,0.9s
ZEA Zeya 49.05 3 *e*P **P** **11 11 37.0 +0.2**
ZEA *e* 11 13 20.0
ZEA *e*S **S** **11 17 58.0 -2.4**
ZEA *e*SS **ScS** **11 20 25.0 -3.8**
ZEA *e*SSS SSS 11 21 43.0
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=E,31nm,0.8s
ZEA pmax pmax
comp=Z,130nm,0.8s
ZEA pmax pmax
comp=Z,600nm,8.0s
ZEA pmax pmax
comp=N,400nm,5.0s
ZEA pmax pmax
comp=N,400nm,8.0s
ZEA pmax pmax
comp=Z,500nm,8.0s
ZEA smax smax
comp=N,700nm,6.0s
LHI Lord Howe Isla 49.47 139 P **P** **11 11 40.2 -0.1**
baz=50,SNR=10
LHI Lord Howe Isla 49.47 139 IAmb IAmb 11 11 43.2
comp=Z,257nm,0.7s
TARA Tarawa 49.55 92 P **P** **11 11 42.7 +1.4**
TLY Talaya 49.69 344 P **P** **11 11 42.9 +1.3**
SNR=154
TLY P **P** **11 11 42.9 +1.3**
SNR=154
TLY Talaya 49.69 344*d* *i*P **P** **11 11 42.7 +1.1**
TLY *e*S **S** **11 18 09.3 0.0**
TLY *e* 11 20 32.5
TLY pmax pmax
comp=Z,915nm,0.9s

TLY	**Talaya**	**49.69 344**	P	**P**	**11 11 42.9 +1.3**
	comp=Z,348nm,0.7s,baz=177,slow=5.7,SNR=428				
TLY			ScP	**ScP**	**11 15 55.5 +0.4**
	comp=Z,14nm,0.7s,baz=198,slow=3.8,SNR=5.0				
TLY			S	**S**	**11 18 10.8 +1.4**
	comp=Z,4.9nm,0.8s,baz=321,slow=16,SNR=2.8				
TLY			ScS	**ScS**	**11 20 33.1 -0.3**
	comp=Z,1.2nm,0.6s,baz=312,slow=21,SNR=6.1				
TLY	**Talaya**	**49.69 344**	P	**P**	**11 11 42.4 +0.8**
TLY			IAmb	IAmb	11 11 44.5
	comp=Z,368nm,0.8s				
TLY			PcP	**PcP**	**11 12 52.5 0.0**
TLY			ScP	**ScP**	**11 15 55.5 +0.4**
KAD	**Karad**	**49.78 289**	*e*P	**P**	**11 11 42.9 0.0**
DZM	**Mont Dzumac**	**49.78 124**	*e*P	**P**	**11 11 44.2 +1.3**
	comp=Z,591nm,1.0s				
DZM	**Mont Dzumac**	**49.78 124**	IAmb	IAmb	11 11 45.3
	comp=Z,304nm,1.0s				
HMDM	**Hanimaadhoo**	**50.00 275**	P	**P**	**11 11 45.3 +0.7**
	SNR=17				
HMDM	**Hanimaadhoo**	**50.00 275**	P	**P**	**11 11 44.5 0.0**
IRK	**Irkutsk**	**50.03 345**	*e*P	**P**	**11 11 44.5 +0.4**
IRK			*e*		11 18 17.3
IRK			pmax	pmax	
	comp=Z,347nm,1.9s				
WMQ	**Urumqi**	**50.11 327**	*e*P	**P**	**11 11 46.5 +1.6**
WMQ			pP	pP	11 13 28.2 +0.6
WMQ			S	**S**	**11 18 16.5 +1.1**
WMQ			ScS	**ScS**	**11 20 34.1 -2.6**
WMQ			SS	**SS**	**11 22 00.2 +1.6**
WMQ			pmax	pmax	
	comp=Z,500nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,2μm,3.6s				
POO	**Poona**	**50.29 290**⇑	*i*P	**P**	**11 11 46.0 -0.6**
	comp=Z,810nm,1.0s				
MOY	**Mondy**	**50.45 342**	*e*P	**P**	**11 11 48.6 +1.3**
MOY			pmax	pmax	
	comp=Z,376nm,2.2s				
KAAM	**Kaadhehdhoo**	**50.51 267**	IAmb	IAmb	11 11 50.3
	comp=Z,426nm,0.9s				
BOM	**Bombay**	**51.31 290**	*i* P	**P**	**11 11 53.4 -0.6**
BOM			*i* P	P	11 11 57.4 +3.4
BOM			AMP		11 12 03.7
	comp=Z,1μm,3.3s				
BOM			AMP		11 12 03.7
	comp=Z,1μm,3.3s				
MOO	**Moorlands**	**51.60 158**	P	**P**	**11 11 57.3 +1.6**
	baz=52,SNR=8.1				
TAU	**Tasmania Unive**	**52.06 158**	P	**P**	**11 11 59.8 +0.9**
TAU			pmax	pmax	
	comp=Z,152nm,0.8s				
TAU	**Tasmania Unive**	**52.06 158**	P	**P**	**11 11 59.8 +0.9**
DGAR	**Diego Garcia**	**52.23 257***d*	*i*P	**P**	**11 12 00.1 -0.6**
DGAR			pmax	pmax	
	comp=Z,508nm,1.0s				
DGAR	**Diego Garcia**	**52.23 257**	P	**P**	**11 12 00.4 -0.3**
DGAR			IAmb	IAmb	11 12 02.3
	comp=Z,423nm,0.9s				
H08S2	**Diego Garcia H**	**52.24 257**	P	**P**	**11 12 00.2 -0.3**
	baz=48,slow=8.8,SNR=17				
H08S3	**Diego Garcia H**	**52.24 257**	P	**P**	**11 11 59.9 -0.6**
	baz=48,slow=8.8,SNR=16				
H08S1	**Diego Garcia H**	**52.26 257**	P	**P**	**11 12 00.3 -0.3**
	baz=48,slow=8.8,SNR=18				
JMU	**Jammu**	**53.13 308**	*e*P	**P**	**11 12 05.5 -1.3**
H08N1	**Diego Carcia H**	**53.42 259**	P	**P**	**11 12 04.2 -4.7**
	baz=112,slow=3.7,SNR=11				
H08N2	**Diego Garcia H**	**53.44 259**	P	**P**	**11 12 05.0 -4.0**
	baz=112,slow=3.7,SNR=12				
H08N3	**Diego Garcia H**	**53.45 259**	P	**P**	**11 12 05.0 -4.0**
	baz=112,slow=3.7,SNR=12				
SKR	**Severo-Kuril's**	**53.45 25**	*e*P	**P**	**11 12 09.3 +0.6**
SKR			*e*S	**S**	**11 18 58.4 -1.1**
SKR			pmax	pmax	
	comp=Z,200nm,3.3s				
SKR			pmax	pmax	
	comp=Z,100nm,5.6s				
SKR			pmax	pmax	
	comp=Z,99nm,1.0s				
BOD	**Bodaibo**	**53.55 354**⇑	*i*P	**P**	**11 12 09.6 +0.3**
BOD			*e*S	**ScS**	**11 20 58.5 -1.7**
BOD			pmax	pmax	
	comp=Z,201nm,0.9s				
ZSN	**Zaisan**	**53.97 328**	*e*S	**S**	**11 19 06.7 +0.1**
DGZ	**Jazzator, Alta**	**54.20 332***d*	*i*P	**P**	**11 12 15.1 +0.8**
NFK	**Norfolk Island**	**54.32 131**	P	**P**	**11 12 16.5 +1.3**
	baz=54,SNR=12				
SHLS	**Shalkode**	**54.55 321**	*i* P	**P**	**11 12 16.2 -0.7**
SHLS			*e*S	**S**	**11 19 12.5 -2.1**
SHLS	**Shalkode**	**54.55 321**	*i* P	**P**	**11 12 16.1 -0.7**
SHLS			*e*S	**S**	**11 19 12.5 -2.1**
PDGK	**Podgornoye**	**54.62 322**	P	**P**	**11 12 17.6 +0.3**
PDGK			pmax	pmax	
	comp=Z,735nm,0.8s				
NIL	**Nilore**	**54.75 308**	P	**P**	**11 12 19.2 +0.9**
NIL			pmax	pmax	
	comp=Z,749nm,1.2s				
NIL	**Nilore**	**54.75 308**	P	**P**	**11 12 19.2 +0.9**
NIL			IAmb	IAmb	11 12 20.4
	comp=Z,749nm,1.1s				
UZB	**Uzynbulak**	**54.82 321**⇓	*i*P	**P**	**11 12 19.9 +1.1**
	comp=Z,226nm,0.9s				
UZB			*e*pP	**pP**	**11 14 05.7 +1.7**
UZB			*i* S	**S**	**11 19 18.7 +0.6**
UZB	**Uzynbulak**	**54.82 321***d*	*i*P	**P**	**11 12 19.8 +1.1**
UZB			*e**PP	**pP**	**11 14 05.7 +1.7**
UZB			*i* S	**S**	**11 19 18.7 +0.6**
UZB			pmax	pmax	
	comp=Z,226nm,0.9s				
TARG	**Taragay, Kyrgy**	**54.88 319**	IAmb	IAmb	11 12 30.3
	comp=Z,330nm,0.8s				
MK31	**Makanchi Array**	**54.94 327**	*e*P	**P**	**11 12 20.3 +0.9**
MK31			pmax	pmax	
	comp=Z,273nm,0.4s				
MKAR	**Makanchi Array**	**54.94 327**	P	**P**	**11 12 20.4 +1.0**
	comp=Z,498nm,0.3s,baz=121,slow=7.6,SNR=2573				
MKAR			PcP	**PcP**	**11 13 13.1 +0.4**
	comp=Z,224nm,0.7s,baz=114,slow=4.4,SNR=12				
MKAR			ScP	**ScP**	**11 16 18.6 +0.4**
	comp=Z,45nm,0.8s,baz=121,slow=4.7,SNR=6.5				
MKAR			S	**S**	**11 19 21.5 +2.1**
	comp=Z,24nm,0.8s,baz=126,slow=12,SNR=10.0				
MKAR			ScS	**ScS**	**11 21 07.8 -3.0**
	comp=Z,3.0nm,1.0s,baz=207,slow=13,SNR=1.9				
MKAR			PKPPKP	**P'P'df**	**11 42 10.3 -7.5**
	comp=Z,4.8nm,0.9s,baz=318,slow=3.4,SNR=22				
MKAR			P4KPbc		11 49 31.4
	comp=Z,11nm,0.8s,baz=116,slow=5.5,SNR=60				
KSH	**Kashi**	**55.07 316**	P	**P**	**11 12 22.7 +2.2**
KSH			PcP	**PcP**	**11 13 14.1 +0.6**
KSH			sP	sP	11 15 05.5 -0.2
KSH			PcS	**PcS**	**11 17 11.5 -3.0**
KSH			S	**S**	**11 19 21.4 -0.1**
KSH			ScS	**ScS**	**11 21 08.7 -3.6**
KSH			pmax	pmax	
	comp=Z,940nm,1.0s				
KSH			pmax	pmax	
	comp=Z,3μm,7.1s				
MAKZ	**Makanchi**	**55.12 326**	P	**P**	**11 12 21.3 +0.7**
MAKZ					11 13 13.5
MAKZ			pmax	pmax	
	comp=Z,680nm,0.6s				
MAKZ	**Makanchi**	**55.12 326**	P	**P**	**11 12 21.3 +0.7**
MAKZ			PcP	**PcP**	**11 13 13.5 0.0**
MAKZ			ScP	**ScP**	**11 16 19.2 +0.2**
SATY	**Saty**	**55.16 321**⇓	*i*P	**P**	**11 12 22.5 +1.4**
	comp=Z,848nm,0.8s				
SATY			*e*pP	**pP**	**11 14 08.3 +1.7**
SATY			*i* S	**S**	**11 19 24.7 +2.2**
	comp=Z,188nm,3.2s				
SATY	**Saty**	**55.16 321***d*	*i*P	**P**	**11 12 22.4 +1.4**
SATY			*e**PP	**pP**	**11 14 08.2 +1.7**
SATY			*i* S	**S**	**11 19 24.6 +2.1**
SATY			pmax	pmax	
	comp=Z,848nm,0.8s				
SATY			smax	smax	
	comp=N,188nm,3.2s				
KPKS	**Kokpek**	**55.19 321**⇓	*i*P	**P**	**11 12 22.4 +1.1**
	comp=N,514nm,0.8s				
KPKS			*i* S	**S**	**11 19 24.4 +1.4**
KPKS	**Kokpek**	**55.19 321***d*	*i*P	**P**	**11 12 22.3 +1.1**
KPKS			*i* S	**S**	**11 19 24.3 +1.4**
KPKS			pmax	pmax	
	comp=Z,514nm,0.8s				
ZHN	**Zhinishke**	**55.20 321**⇓	*i*P	**P**	**11 12 22.3 +0.9**
	comp=Z,233nm,0.9s				
ZHN	**Zhinishke**	**55.20 321***d*	*i*P	**P**	**11 12 22.2 +0.9**
ZHN			pmax	pmax	
	comp=Z,233nm,0.9s				
PEA0B	**Petropavlovsk-**	**55.91 24***d*	*i*P	**P**	**11 12 26.9 +1.0**
PEA0B	**Petropavlovsk-**	**55.91 24**	IAmb	IAmb	11 12 29.3
	comp=Z,180nm,0.8s				
PETK	**Petropavlovsk-**	**55.91 24**	P	**P**	**11 12 26.8 +0.9**
	comp=Z,137nm,0.7s,baz=201,slow=2.2,SNR=239				
PETK			PcP	**PcP**	**11 13 17.7 +1.4**
	comp=Z,18nm,0.7s,baz=251,slow=11,SNR=10				
PETK			ScP	**ScP**	**11 16 23.2 +0.9**
	comp=Z,12nm,0.7s,baz=189,slow=3.5,SNR=4.7				
PETK	**Petropavlovsk-**	**55.91 24**	P	**P**	**11 12 26.2 +0.3**
NRN	**Naryn**	**55.92 318**	IAmb	IAmb	11 12 29.2
	comp=Z,399nm,0.8s				
MDOK	**Medeo**	**56.07 320**	*i* P	**P**	**11 12 28.8 +1.3**
MDOK			*e*pP	**pP**	**11 14 12.0 -1.4**
MDOK			*i* S	**S**	**11 19 36.3 +1.9**
MDOK	**Medeo**	**56.07 320**	*i* P	**P**	**11 12 28.7 +1.3**
MDOK			*i* S	**S**	**11 19 36.2 +1.9**
TNSS	**Tian-Shan**	**56.07 320**	*i* P	**P**	**11 12 29.4 +1.7**
TNSS	**Tian-Shan**	**56.07 320**	*i* P	**P**	**11 12 29.4 +1.7**
ULHL	**Ulahol**	**56.15 319**	P	**P**	**11 12 30.5 +2.5**
	SNR=16				
TDK	**Taldyqorghan**	**56.17 323**	*i* P	**P**	**11 12 29.1 +1.1**
	comp=Z,745nm,0.8s				
TDK			*e*pP	**pP**	**11 14 14.1 +0.2**
TDK			*e*S	**S**	**11 19 36.6 +1.2**
TDK	**Taldyqorghan**	**56.17 323**	*i* P	**P**	**11 12 29.0 +1.1**
TDK			*e**PP	**pP**	**11 14 14.1 +0.2**
TDK			*e*S	**S**	**11 19 36.5 +1.2**
TDK			pmax	pmax	
	comp=Z,745nm,0.8s				
AAA	**Alma-Ata**	**56.18 320**⇓	*i*P	**P**	**11 12 29.5 +1.5**
	comp=Z,541nm,0.9s				
AAA	**Alma-Ata**	**56.18 320***d*	*i*P	**P**	**11 12 29.5 +1.5**
AAA			pmax	pmax	
	comp=Z,541nm,0.9s				
PET	**Petropavlovsk**	**56.24 25**	*e*P	**P**	**11 12 29.0 +0.9**
PET			*e*S	**S**	**11 19 36.5 +0.7**
PET			*e*SP	**SPn**	**11 19 44.7 -2.3**
PET			*e*		11 21 17.3
PET			pmax	pmax	
	comp=Z,400nm,1.5s				
PET			pmax	pmax	
	comp=Z,236nm,1.4s				
PET	**Petropavlovsk**	**56.24 25**	P	**P**	**11 12 28.9 +0.8**
PET			IAmb	IAmb	11 12 30.7
	comp=Z,411nm,1.4s				
CHKK	**Chushkaly**	**56.45 321**⇓	*i*P	**P**	**11 12 30.6 +0.8**
CHKK	**Chushkaly**	**56.45 321**⇓	*i*P	**P**	**11 12 30.6 +0.8**
BOOM	**Boomskoye usch**	**56.46 319**	IAmb	IAmb	11 12 32.6
	comp=Z,255nm,0.9s				
KZA	**Kyzart**	**56.72 318**	P	**P**	**11 12 34.2 +2.0**
	SNR=92				
KUU	**Kurty**	**56.88 321**⇓	*i*P	**P**	**11 12 33.9 +1.1**
	comp=Z,1μm,0.9s				
KUU			*e*pP	**pP**	**11 14 20.7 +1.5**
KUU			*i* S	**S**	**11 19 45.5 +1.0**
KUU	**Kurty**	**56.88 321***d*	*i*P	**P**	**11 12 33.9 +1.1**
KUU			*e**PP	**pP**	**11 14 20.7 +1.5**
KUU			*i* S	**S**	**11 19 45.5 +1.0**
KUU			pmax	pmax	
	comp=Z,1μm,0.9s				
TKM2	**Tokmak 2**	**56.88 319**	P	**P**	**11 12 34.4 +1.3**
	SNR=845				
FUNA	**Funafuti**	**57.16 103**	P	**P**	**11 12 36.3 +1.2**
KBK	**Karagaybulak**	**57.18 319**	P	**P**	**11 12 36.7 +1.6**
	SNR=124				
YAK	**Yakutsk**	**57.45 4***d*	*i*P	**P**	**11 12 36.6 +0.4**
YAK			*e**PP	**pP**	**11 14 21.3 -3.1**
YAK			*e*		11 14 49.7
YAK			*e*S	**S**	**11 19 50.4 -0.6**
YAK			*e*		11 21 24.2
YAK			*e*SS	**SS**	**11 23 51.4 -1.6**
YAK			pmax	pmax	
	comp=Z,709nm,0.8s				
YAK			pmax	pmax	
	comp=E,37nm,0.8s				
YAK			pmax	pmax	
	comp=N,104nm,0.8s				
YAK			pmax	pmax	
	comp=Z,100nm,1.8s				
YAK			pmax	pmax	
	comp=E,40nm,1.3s				
YAK			pmax	pmax	
	comp=N,102nm,1.5s				
YAK			smax	smax	
	comp=N,527nm,2.4s				
YAK			smax	smax	
	comp=E,371nm,2.8s				
YAK	**Yakutsk**	**57.45 4**	P	**P**	**11 12 36.6 +0.4**
	comp=E,710nm,0.8s,baz=337,slow=0.8,SNR=254				
YAK			S	**S**	**11 19 50.2 -0.8**
	comp=E,6.8nm,0.5s,baz=313,slow=23,SNR=17				
YAK			ScS	**ScS**	**11 21 26.2 -2.2**
	comp=E,4.1nm,0.3s,baz=322,slow=23,SNR=22				
YAK	**Yakutsk**	**57.45 4**	P	**P**	**11 12 36.3 +0.1**
FRU1	**Bishkek**	**57.46 319**	P	**P**	**11 12 37.8 +0.9**
FRU1					11 13 23.9
FRU1			pmax	pmax	
	comp=Z,226nm,0.7s				
FRU1	**Bishkek**	**57.46 319**	P	**P**	**11 12 37.8 +0.9**
FRU1			IAmb	IAmb	11 12 39.6
	comp=Z,226nm,0.7s				
FRU1			PcP	**PcP**	**11 13 23.9 +1.1**
CHMS	**Chumysh**	**57.47 319**	P	**P**	**11 12 37.8 +1.0**
	SNR=131				
AAK	**Ala-Archa**	**57.47 319**	*i* P	**P**	**11 12 38.5 +1.5**
	SNR=346				
AAK	**Ala-Archa**	**57.47 319**	P	**P**	**11 12 38.5 +1.5**
	SNR=149				
AAK	**Ala-Archa**	**57.47 319***d*	*i*P	**P**	**11 12 38.2 +1.2**
AAK			pmax	pmax	
	comp=Z,362nm,1.0s				
AAK	**Ala-Archa**	**57.47 319**	ScP	**ScP**	**11 16 30.1 +0.5**
	comp=Z,39nm,0.8s,baz=116,slow=8.6,SNR=5.6				
AAK			P4KPbc		11 49 43.2
	comp=Z,6.7nm,0.8s,baz=99,slow=4.2,SNR=12				
AAK	**Ala-Archa**	**57.47 319**	P	**P**	**11 12 38.6 +1.5**
	SNR=308				
AAK	**Ala-Archa**	**57.47 319**	P	**P**	**11 12 38.0 +0.9**
AAK			IAmb	IAmb	11 12 41.1
	comp=Z,396nm,1.1s				
AAK			PcP	**PcP**	**11 13 23.8 +0.8**
AAK			ScP	**ScP**	**11 16 29.8 +0.2**
USP	**Ospenovka**	**57.76 319**	P	**P**	**11 12 40.0 +1.1**
	SNR=20				
SGDS	**Sogindy**	**57.76 320**⇓	*i*P	**P**	**11 12 39.5 +0.6**
	comp=Z,151nm,0.9s				
SGDS			*e*pP	**pP**	**11 14 26.2 +0.4**
SGDS			*i* S	**S**	**11 19 56.8 +1.0**
AML	**Almayashu**	**57.78 318**	P	**P**	**11 12 41.0 +1.6**
	SNR=39				
EKS2	**Erkin-Say**	**57.95 318**	P	**P**	**11 12 41.9 +1.6**
	SNR=28				
SEM	**Semipalatinsk**	**58.19 329**	*i* P	**P**	**11 12 41.5 -0.3**
	comp=Z,64nm,0.5s				
SEM	**Semipalatinsk**	**58.19 329**	*i* P	**P**	**11 12 41.5 -0.3**
SEM			pmax	pmax	
	comp=Z,64nm,0.5s				
ZAA0	**Zalesovo Array**	**58.30 334**	IAmb	IAmb	11 12 43.2
	comp=Z,359nm,0.9s				
ZALV	**Zalesovo Beam**	**58.30 334***d*	*i*P	**P**	**11 12 41.8 -0.4**
ZALV	**Zalesovo Beam**	**58.30 334**	P	**P**	**11 12 42.0 -0.2**
	comp=Z,329nm,0.7s,baz=120,slow=6.1,SNR=552				
ZALV			S	**S**	**11 20 00.8 -1.4**
	comp=Z,29nm,0.9s,baz=119,slow=12,SNR=12				
ZALV			ScS	**ScS**	**11 21 29.4 -5.8**
	comp=Z,6.5nm,0.7s,baz=163,slow=11,SNR=3.7				
ZALV			P4KPbc		11 49 44.5
	comp=Z,2.4nm,0.8s,baz=145,slow=3.1,SNR=6.2				
ZALV	**Zalesovo Beam**	**58.30 334**	P	**P**	**11 12 41.8 -0.4**
MSVF	**Nonsavu**	**58.31 114***c*	*i*P	**P**	**11 12 44.5 +1.5**
MSVF			pmax	pmax	
	comp=Z,219nm,0.9s				
KBL	**Kabul**	**58.34 308**	P	**P**	**11 12 43.7 +0.5**
KBL			pmax	pmax	
	comp=Z,687nm,0.8s				
KBL	**Kabul**	**58.34 308**	P	**P**	**11 12 43.6 +0.5**
MA2	**Magadan**	**58.69 16***d*	*i*P	**P**	**11 12 46.1 +1.4**
MA2			pmax	pmax	
	comp=Z,407nm,0.7s				
MA2	**Magadan**	**58.69 16**	P	**P**	**11 12 46.0 +1.4**
	comp=Z,423nm,0.7s,baz=198,slow=7.6,SNR=154				
MA2			PcP	**PcP**	**11 13 28.2 +1.0**
	comp=Z,71nm,0.7s,baz=149,slow=23,SNR=1.2				
MA2	**Magadan**	**58.69 16**	P	**P**	**11 12 45.5 +0.9**
MA2			IAmb	IAmb	11 12 47.7
	comp=Z,410nm,0.7s				
GAR	**Garm**	**58.88 313**	P	**P**	**11 12 47.3 +0.7**
BTK	**Batken**	**58.91 315**	P	**P**	**11 12 47.5 +0.8**
BTK			pmax	pmax	
	comp=Z,431nm,0.9s				
BTK	**Batken**	**58.91 315**	P	**P**	**11 12 47.5 +0.8**
BTK			IAmb	IAmb	11 12 49.0
	comp=Z,431nm,0.9s				
KURBB	**Kurchatov Arra**	**59.21 328**	S	**S**	**11 20 13.7 0.0**
	comp=Z,7.8nm,0.9s,baz=137,slow=11,SNR=6.3				
KURBB			P4KPbc		11 49 50.1
	comp=Z,3.8nm,0.9s,baz=131,slow=3.4,SNR=18				
KURK	**Kurchatov**	**59.21 329**	P	**P**	**11 12 49.2 +0.8**
	SNR=484				
KURK	**Kurchatov**	**59.21 329***d*	*i*P	**P**	**11 12 48.9 +0.5**
KURK			pmax	pmax	
	comp=Z,2μm,0.8s				
DZA	**Taraz**	**59.68 318**	*e*P	**P**	**11 12 50.8 -1.0**
DZA	**Taraz**	**59.68 318**	*e*P	**P**	**11 12 50.7 -1.0**
IUG	**Iuzhnay**	**60.26 317**⇓	*i*P	**P**	**11 12 56.8 +1.0**
IUG			*i* S	**S**	**11 20 29.3 +1.8**
IUG	**Iuzhnay**	**60.26 317***d*	*i*P	**P**	**11 12 56.7 +1.0**
IUG			*i* S	**S**	**11 20 29.3 +1.8**
KK31	**Karatay Array**	**60.32 318**	P	**P**	**11 12 56.6 +0.7**
KK31			pmax	pmax	
	comp=Z,693nm,1.0s				
KK31	**Karatay Array**	**60.32 318**	IAmb	IAmb	11 12 58.2
	comp=Z,593nm,0.9s				
KKAR	**Karatay Array**	**60.32 318**	P	**P**	**11 12 56.2 +0.3**
KKAR	**Karatay Array**	**60.32 318**	P	**P**	**11 12 56.2 +0.3**
KKAR	**Karatay Array**	**60.32 318**	IAmb	IAmb	11 12 58.2
	comp=Z,593nm,0.9s				
BRLS	**Borolday**	**60.74 317**	*e*S	**S**	**11 20 33.3 +0.1**
MIDW	**Midway**	**60.80 60**	P	**P**	**11 13 00.5 +1.1**
MIDW			IAmb	IAmb	11 13 01.5
	comp=Z,241nm,1.1s				
OUZ	**Omahuta**	**61.56 134**	P	**P**	**11 13 05.8 +1.7**
SEY	**Seymchan**	**61.94 15**	P	**P**	**11 13 07.6 +1.5**
	comp=Z,63nm,0.6s,baz=208,slow=5.7,SNR=108				
SEY			S	**S**	**11 20 50.3 +3.1**
	comp=Z,3.1nm,0.9s,baz=86,slow=16,SNR=3.3				
BRZS	**Berezniki**	**62.05 326**⇓	*i*P	**P**	**11 13 07.7 +0.6**
	comp=Z,477nm,0.8s				
BRZS			*i* S	**S**	**11 20 49.4 +0.3**
BRZS	**Berezniki**	**62.05 326***d*	*i*P	**P**	**11 13 07.7 +0.6**
BRZS			*i* S	**S**	**11 20 49.3 +0.3**
BRZS			pmax	pmax	
	comp=Z,477nm,0.8s				
AWAZ	**Awhitu Peninsu**	**63.20 136**	P	**P**	**11 13 17.9 +3.2**
MBAZ	**Motutapu North**	**63.23 135**	P	**P**	**11 13 17.0 +2.1**
DCZ	**Deep Cove**	**63.28 147**	IAmb	IAmb	11 13 17.9
	comp=Z,302nm,0.9s				
ETAZ	**East Tamaki Re**	**63.34 135**	P	**P**	**11 13 19.0 +3.4**
WIAZ	**Waiheke Island**	**63.41 135**	P	**P**	**11 13 18.0 +1.9**
HRA	**Herat**	**63.71 306**	P	**P**	**11 13 18.5 +0.1**
HRA			IAmb	IAmb	11 13 19.9
	comp=Z,246nm,0.9s				
HRA			PcP	**PcP**	**11 13 49.4 +0.8**
QRZ	**Quartz Range**	**63.73 140**	IAmb	IAmb	11 13 20.3
	comp=Z,320nm,1.0s				
NBEZ	**Newall Road No**	**63.78 138**	P	**P**	**11 13 20.6 +2.2**
KHEZ	**Kahui Hut**	**63.89 138**	P	**P**	**11 13 21.2 +2.0**
DREZ	**Durham Road**	**63.96 138**	P	**P**	**11 13 21.9 +2.3**
WHZ	**Wether Hill Ro**	**63.98 147**	IAmb	IAmb	11 13 20.8
	comp=Z,204nm,1.2s				
PREZ	**Palmer Road**	**64.01 138**	P	**P**	**11 13 22.0 +2.1**
HIZ	**Hauiti**	**64.06 137**	IAmb	IAmb	11 13 23.2
	comp=Z,271nm,1.1s				
TOZ	**Tahuroa Road**	**64.12 136**	P	**P**	**11 13 22.3 +1.7**
JLN	**Jalan Bani Buh**	**64.19 292**	P	**P**	**11 13 21.0 -0.4**
	SNR=54				
LREZ	**Lake Rotokare**	**64.23 138**	P	**P**	**11 13 23.4 +2.2**
VRZ	**Vera Road**	**64.30 138**	P	**P**	**11 13 23.0 +1.3**
LBZ	**Lake Benmore**	**64.32 145**	IAmb	IAmb	11 13 24.3
	comp=Z,399nm,0.9s				
RPZ	**Rata Peaks**	**64.44 144**	IAmb	IAmb	11 13 25.2
	comp=Z,191nm,0.7s				
TLZ	**Tolley Road**	**64.44 137**	P	**P**	**11 13 24.5 +1.8**
THZ	**Tophouse**	**64.47 141**	IAmb	IAmb	11 13 24.7
	comp=Z,156nm,0.8s				
LTZ	**Lake Taylor**	**64.64 142**	IAmb	IAmb	11 13 26.3
	comp=Z,162nm,0.8s				
WBK	**Wadi Bani Khal**	**64.64 293**	P	**P**	**11 13 24.2 0.0**
	SNR=91				
BVAR	**Borovoye Array**	**64.77 328**	S	**S**	**11 21 21.9 +0.1**
	comp=Z,6.8nm,0.8s,baz=113,slow=11,SNR=5.9				
BRVK	**Borovoye**	**64.84 328**	P	**P**	**11 13 25.4 +0.6**
	SNR=256				
BRVK	**Borovoye**	**64.84 328***d*	*i*P	**P**	**11 13 25.2 +0.4**
BRVK			pmax	pmax	
	comp=Z,802nm,1.0s				
BRVK	**Borovoye**	**64.84 328**	P	**P**	**11 13 24.9 +0.1**
WTVZ	**West Tongariro**	**64.86 137**	P	**P**	**11 13 26.9 +1.5**
KATZ	**Kakaramea**	**64.86 137**	P	**P**	**11 13 27.3 +1.9**
WSAR	**Wadi Sarin**	**65.02 293**	P	**P**	**11 13 26.4 -0.2**
	SNR=35				
KHZ	**Kahutara**	**65.22 141**	IAmb	IAmb	11 13 28.5
	comp=Z,146nm,1.1s				
KNTN	**Kanton**	**65.24 95**	P	**P**	**11 13 29.3 +1.2**
KNTN			IAmb	IAmb	11 13 30.5
	comp=Z,141nm,0.7s				
CRLZ	**Canterbury Las**	**65.30 143**	IAmb	IAmb	11 13 30.1
	comp=Z,296nm,1.6s				
SNZO	**South Karori**	**65.38 140**	P	**P**	**11 13 27.3 -1.1**
MQZ	**McQueen's Vall**	**65.39 143**	IAmb	IAmb	11 13 30.3
	comp=Z,231nm,1.3s				
JMDO	**Jabal Madar**	**65.42 292**	P	**P**	**11 13 28.8 -0.3**
	SNR=92				
MHTO	**MHTO**	**65.42 291**	P	**P**	**11 13 29.0 -0.2**
	SNR=92				
URZ	**Urewera**	**65.49 136**	S	**S**	**11 21 31.0 +0.2**
	comp=Z,5.9nm,0.8s,baz=194,slow=22,SNR=6.7				
URZ	**Urewera**	**65.49 136**	IAmb	IAmb	11 13 32.1
	comp=Z,156nm,0.8s				
BIDO	**Bidbid**	**65.51 294**	P	**P**	**11 13 29.6 0.0**
	SNR=85				
SMDO	**Samad**	**65.53 293**	P	**P**	**11 13 29.4 -0.5**
	SNR=44				
DQM	**DQM**	**65.75 290**	P	**P**	**11 13 31.5 +0.3**
	SNR=59				
MCQ	**Macquarie Isla**	**65.94 158**	P	**P**	**11 13 33.1 +1.5**
	baz=66,SNR=14				
MCQ	**Macquarie Isla**	**65.94 158**	IAmb	IAmb	11 13 35.0
	comp=Z,470nm,1.0s				
MXZ	**Matakaoa Point**	**66.01 135**	P	**P**	**11 13 32.5 +0.1**
MXZ			IAmb	IAmb	11 13 34.6
	comp=Z,292nm,0.8s				
BFZ	**Birch Farm**	**66.07 138**	IAmb	IAmb	11 13 34.1
	comp=Z,305nm,0.9s				
HOQ	**Hoqain**	**66.26 294**	P	**P**	**11 13 34.0 -0.3**
	SNR=38				
HOQ			P	**P**	**11 13 34.0 -0.3**
	SNR=38				
BSY	**Bisya**	**66.28 293**	P	**P**	**11 13 34.3 -0.2**
	SNR=31				
AFI	**Afiamalu**	**66.89

HATD Hatta, Dubai 67.45 295 *i* P **P 11 13 41.5 -0.1**
SNR=60
HATD Hatta, Dubai 67.45 295 P **P 11 13 41.6 -0.1**
SNR=34
SHAO Shalim 67.45 287 *i* P **P 11 13 42.0 +0.2**
SNR=49
SHAO Shalim 67.45 287 P **P 11 13 41.9 +0.2**
SNR=16
MSFE Esma-Masafi 67.47 295 *i* P **P 11 13 41.7 -0.1**
SNR=75
ASHO Ashiyiah 67.50 295 *i* P **P 11 13 41.9 -0.1**
SNR=62
ASHO Ashiyiah 67.50 295 P **P 11 13 42.0 0.0**
SNR=33
ASHT Ashkhabad 67.54 309 P **P 11 13 43.6 +1.7**
ASHT pmax pmax
comp=Z,587nm,0.9s
ASHT Ashkhabad 67.54 309 P **P 11 13 43.6 +1.7**
SHME Shamm 67.56 296 *i* P **P 11 13 42.3 0.0**
SNR=27
ALNE Al Ain 67.72 294 *i* P **P 11 13 43.8 +0.4**
SNR=45
GEYT Alibeck 67.74 309 P **P 11 13 44.4 +1.1**
comp=Z,415nm,0.8s,baz=134,slow=4.3,SNR=487
GEYT S **S 11 21 58.7 +1.2**
comp=Z,0.8nm,0.3s,baz=144,slow=40,SNR=2.1
GEYT Alibeck 67.74 309 P **P 11 13 43.8 +0.6**
GYA0B ALIBECK ARRAY 67.74 309 P **P 11 13 43.8 +0.6**
GYA0B IAmb IAmb 11 13 45.5
comp=Z,475nm,0.9s
NAZ Nazwa, Dubai 67.89 295 *i* P **P 11 13 44.0 -0.3**
SNR=24
NAZ Nazwa, Dubai 67.89 295 P **P 11 13 44.0 -0.3**
SNR=14
NAZ P **P 11 13 44.0 -0.3**
SNR=14
FAQ Al Faqa, Dubai 67.93 295 *i* P **P 11 13 44.3 -0.2**
SNR=11
FAQ Al Faqa, Dubai 67.93 295 P **P 11 13 44.5 0.0**
SNR=7.4
UMQ Umm Al-Quwin 67.94 296 *i* P **P 11 13 45.5 +1.0**
SNR=11
UMQ Umm Al-Quwin 67.94 296 P **P 11 13 45.6 +1.0**
SNR=6.6
DMTO DMTO 68.08 287 P **P 11 13 45.6 0.0**
SNR=7.2
DMTO P **P 11 13 45.6 0.0**
SNR=7.2
ADK Adak 68.11 35 P **P 11 13 46.1 +1.0**
ADK pmax pmax
comp=Z,144nm,1.1s
ADK Adak 68.11 35 P **P 11 13 46.1 +1.0**
ADK IAmb IAmb 11 13 47.1
comp=Z,144nm,1.1s
ASUD Al Ashush, Dub 68.16 295 *i* P **P 11 13 46.4 +0.5**
SNR=30
ASUD Al Ashush, Dub 68.16 295 P **P 11 13 46.4 +0.5**
SNR=25
ASUD P **P 11 13 46.4 +0.5**
SNR=25
AJN Ajban 68.46 294 *i* P **P 11 13 47.6 -0.1**
SNR=35
AJN Ajban 68.46 294 P **P 11 13 48.1 +0.3**
SNR=38
AJN P **P 11 13 48.1 +0.3**
SNR=38
MSEY Mahe Island 68.47 263 *i* P **P 11 13 47.9 -0.3**
SNR=25
MSEY Mahe Island 68.47 263 P **P 11 13 47.8 -0.3**
SNR=12
MSEY Mahe Island 68.47 263 *i* P **P 11 13 48.1 0.0**
MSEY Mahe Island 68.47 263 P **P 11 13 47.5 -0.6**
MSEY IAmb IAmb 11 13 49.1
comp=Z,181nm,1.1s
GSTR Great Sitkin T 68.55 35 P **P 11 13 48.5 +0.7**
NRIK Noril'sk 68.78 347 P **P 11 13 49.2 +0.5**
comp=Z,350nm,0.7s,baz=132,slow=6.0,SNR=417
NRIK S **S 11 22 07.5 -0.8**
comp=Z,14nm,0.9s,baz=239,slow=22,SNR=20
RBK Rabkut 68.78 287 P **P 11 13 49.5 -0.4**
SNR=20
RBK P **P 11 13 49.5 -0.4**
SNR=20
WHFO Wadi Hawf 69.21 287 P **P 11 13 51.6 -0.8**
SNR=55
AB31 Akbulak array 69.36 321 P **P 11 13 52.7 +0.1**
AB31 pmax pmax
comp=Z,248nm,0.7s
BILL Bilibino 69.56 16*d* *i*P **P 11 13 53.3 -0.2**
BILL *i* 11 14 12.4
BILL *i* *PP **pP 11 15 50.7 +2.8**
BILL *i* S **S 11 22 08.4 -8.8**
BILL pmax pmax
comp=Z,71nm,1.2s
ABTO Aybut 69.65 287 P **P 11 13 54.6 -0.5**
SNR=36
ABTO P **P 11 13 54.6 -0.5**
SNR=36
ATKA Atka Island 69.66 36 IAmb IAmb 11 13 56.3
comp=Z,291nm,0.6s
NIUE Niue 69.69 112 P **P 11 13 57.2 +2.0**
baz=70,SNR=19
MZR Muzera 69.72 293 *i* P **P 11 13 55.9 +0.5**
SNR=66
MZR Muzera 69.72 293 P **P 11 13 55.8 +0.4**
SNR=38
AKTO Aktyubinsk 70.89 322 S **S 11 22 32.5 -0.6**
comp=Z,7.5nm,0.9s,baz=346,slow=19,SNR=13
RER Riviere de l'E 71.04 246 P **P 11 14 03.6 +0.3**
RER IAmb IAmb 11 14 05.9
comp=Z,178nm,0.9s
CASY Casey 71.36 185 P **P 11 14 04.1 +0.1**
SVE Sverdlovsk 71.46 329*c* *i*P **P 11 14 05.1 +0.2**
SVE *i* S **S 11 22 36.8 -2.3**
SVE pmax pmax
comp=Z,723nm,0.9s
ARU Arti 72.41 328*d* *i*P **P 11 14 10.0 -0.4**
ARU 11 16 59.5
ARU PPP PPP 11 18 46.9
ARU S **SKiKP 11 22 47.9 +1.5**
ARU SSS SSS 11 31 03.5
ARU pmax pmax
comp=Z,484nm,0.8s
ARU Arti 72.41 328 S **SKiKP 11 22 46.3 0.0**
comp=Z,2.7nm,0.7s,baz=193,slow=23,SNR=14
ARU Arti 72.41 328 P **P 11 14 09.6 -0.8**
ARU IAmb IAmb 11 14 11.2
comp=Z,439nm,0.8s
NIKH Nikolski High 73.00 36 IAmb IAmb 11 14 21.5
comp=Z,158nm,0.8s
GAMB Gambell 74.94 25 P **P 11 14 25.6 +1.0**
AKUT Akutan 75.07 35 IAmb IAmb 11 14 27.5
comp=Z,251nm,0.7s
KEKH Kekaha 76.13 69 IAmb IAmb 11 14 35.6
comp=Z,216nm,0.9s
AKT Akhty 76.21 311 *e*P **P 11 14 33.0 +0.7**
AKT *e* 11 14 41.6
AKT pmax pmax
comp=Z,523nm,1.0s
MAK Makhachkala 76.53 313 *e*P **P 11 14 34.1 +0.2**
MAK *e*PP **pP 11 16 29.3 -1.7**
MAK *e*SP **sP 11 17 26.3 -2.0**
MAK *e* 11 17 35.0
MAK *e*PPP PPP 11 19 27.1
MAK *e*S **S 11 23 35.1 +0.1**
MAK *e*SS **SS 11 28 46.1 +0.3**
MAK *e*SSS SSS 11 32 15.0
MAK pmax pmax
comp=Z,314nm,1.2s
MAK MLR MLR
comp=Z,535nm,18.0s
FALS False Pass 76.56 35 IAmb IAmb 11 14 35.5
comp=Z,413nm,0.6s
RAYN Ar Rayn 77.07 293 *i* P **P 11 14 37.5 +0.2**
SNR=9.4
RAYN Ar Rayn 77.07 293 P **P 11 14 36.9 -0.4**
RAYN pmax pmax
comp=Z,472nm,0.9s
RAYN Ar Rayn 77.07 293 P **P 11 14 36.9 -0.4**
RAYN IAmb IAmb 11 14 39.1
comp=Z,472nm,0.8s
DDFL Dedoflistskaro 77.41 311 *i* P **P 11 14 43.4 +4.6**
KIP Kipapa 77.70 69⇑*eP* **P 11 14 41.7 +1.0**
KIP pmax pmax
comp=Z,63nm,0.9s
KIP Kipapa 77.70 69 P **P 11 14 42.7 +2.0**

KIRV Kirov 77.73 329 S **S 11 23 42.6 -4.4**
comp=Z,37nm,1.0s,baz=340,slow=24,SNR=38
GROC Groznyy 77.80 313 *e*P **P 11 14 40.8 0.0**
GROC *e* 11 14 47.6
GROC *e**PP **pP 11 16 37.4 -1.0**
GROC *e**SP **sP 11 17 35.0 -0.5**
GROC *e* 11 17 47.8
GROC *e*S **S 11 23 47.7 -0.7**
GROC pmax pmax
comp=Z,400nm,1.0s
DAMY Dhamar 78.22 284 IAmb IAmb 11 14 46.7
comp=Z,259nm,0.9s
SDPT Sand Point 78.32 34 IAmb IAmb 11 14 45.1
comp=Z,502nm,1.1s
GNI Garni 78.35 310 *i* P **P 11 14 45.4 +1.3**
SNR=25
GNI Garni 78.35 310*d* *i*P **P 11 14 45.1 +1.1**
GNI pmax pmax
comp=Z,375nm,1.0s
GNI Garni 78.35 310 *e*P **P 11 14 45.4 +1.3**
GNI Garni 78.35 310 P **P 11 14 44.8 +0.7**
GNI IAmb IAmb 11 15 13.4
comp=Z,212nm,0.9s
BTNK Botanikuri 78.42 311 *i* P **P 11 14 45.2 +1.1**
BTNK IAML_P
comp=Z,4μm,0.9s
TBLG Delisi 78.46 311 *i* P **P 11 14 45.9 +1.5**
TBLG IAML_P
comp=Z,8μm,0.8s
TBLG Delisi 78.46 311 *e*P **P 11 14 45.4 +1.0**
TBLG Delisi 78.46 311 IAmb IAmb 11 14 46.4
comp=Z,296nm,0.9s
OPO Ambohidratompo 78.47 250 P **P 11 14 45.1 +0.1**
comp=Z,90nm,0.5s,baz=72,slow=5.0,SNR=161
ABPO Ambohimpanom 78.50 250 P **P 11 14 44.7 -0.5**
ABPO pmax pmax
comp=Z,136nm,0.8s
ABPO Ambohimpanom 78.50 250 P **P 11 14 44.7 -0.5**
KZRT Kazreti 78.69 311 *i* P **P 11 14 47.8 +2.1**
CLDR Caldiran 78.93 309 *e*P **P 11 14 48.5 +1.3**
XMAS Kiritimati 79.03 89 P **P 11 14 50.6 +2.7**
XMAS IAmb IAmb 11 14 51.5
comp=Z,194nm,0.9s
DYDN Diyadin 79.13 309 *i* P **P 11 14 50.2 +2.0**
DYDN IAML_P
comp=Z,65nm,0.1s
ZEI Tsey 79.16 313 *e*P **P 11 14 44.2 -4.1**
ZEI pmax pmax
comp=Z,216nm,0.7s
EAK Akyaka 79.25 310 *i* P **P 11 14 50.6 +1.8**
EAK IAML_P
comp=Z,8μm,0.9s
VANB Van 79.31 308 *e*P **P 11 14 49.8 +0.7**
AKH Akhalkalaki 79.38 311 ⇓P **P 11 14 51.0 +1.5**
AKH Akhalkalaki 79.38 311 *e*P **P 11 14 51.1 +1.6**
AKH Akhalkalaki 79.38 311 IAmb IAmb 11 14 52.1
comp=Z,390nm,0.9s
NCK Nalchik 79.42 313*de*P **P 11 14 49.6 +0.1**
NCK pmax pmax
comp=Z,147nm,0.8s
RAR Rarotonga 79.45 112 P **P 11 14 51.7 +1.7**
RAR pmax pmax
comp=Z,218nm,2.0s
RAR Rarotonga 79.45 112 P **P 11 14 51.6 +1.7**
comp=Z,26nm,0.9s,baz=233,slow=9.0,SNR=3.6
ONI Oni 79.47 312 *e*P **P 11 14 51.1 +1.3**
AKDM Akdamar-Van 79.62 308 *e*P **P 11 14 52.1 +1.3**
RDOG Red Dog Mine 79.65 22 P **P 11 14 51.4 +1.3**
KARS Kars 79.65 310 *e*P **P 11 14 51.8 +0.9**
FOMA Nahampoana Res 79.71 244 P **P 11 14 51.4 +0.1**
SNR=9.0
ATD Arta Tunnel 79.84 281 IAmb IAmb 11 14 55.5
comp=Z,323nm,0.9s
GOF Gofitskoye 79.92 315⇓*iP* **P 11 14 52.3 +0.3**
GOF pmax pmax
comp=Z,224nm,1.1s
KBZ Khabaz 79.94 313*d* *i*P **P 11 14 52.2 +0.1**
KBZ Khabaz 79.94 313 P **P 11 14 52.4 +0.3**
comp=Z,127nm,0.9s,baz=108,slow=3.2,SNR=113
KBZ S **S 11 24 10.7 +0.1**
comp=Z,2.9nm,0.9s,baz=6.2,slow=21,SNR=7.9
EPOS Posof 79.95 311 *i* P **P 11 14 54.3 +1.9**
MLAZ Malazgirt-MUS 79.99 309 *e*P **P 11 14 54.2 +1.5**
KIV Kislovodsk 80.11 314 *i* P **P 11 14 53.1 -0.1**
SNR=22
KIV Kislovodsk 80.11 314 P **P 11 14 53.3 +0.2**
SNR=31
KIV Kislovodsk 80.11 314 *e*P **P 11 14 52.8 -0.3**
KIV *e**PP **pP 11 16 51.8 +0.2**
KIV *e**SP **sP 11 17 45.3 -3.3**
KIV *e*S **S 11 24 12.1 -0.4**
KIV *e*SSS SSS 11 33 12.6
KIV pmax pmax
comp=Z,384nm,1.0s
KIV pmax pmax
comp=Z,1μm,4.6s
KIV MLR MLR
comp=Z,1μm,19.0s
KIV Kislovodsk 80.11 314 ⇑P **P 11 14 53.2 +0.1**
KIV mb 11 14 55.5
KIV Kislovodsk 80.11 314 *e*P **P 11 14 53.5 +0.4**
KIV Kislovodsk 80.11 314 P **P 11 14 53.1 -0.1**
PRGR Permogore 80.13 332⇓*iP* **P 11 14 52.3 -0.4**
PRGR pmax pmax
comp=Z,507nm,0.8s
AIN Ainahou 80.13 71 IAmb IAmb 11 14 57.5
comp=Z,503nm,1.2s
MLH Mauna Loa 80.19 71 IAmb IAmb 11 14 57.8
comp=Z,342nm,0.9s
SENK Senkaya-Erzuru 80.20 310 *e*P **P 11 14 55.2 +1.4**
WRMHI West Rim 80.28 71 IAmb IAmb 11 14 57.8
comp=Z,268nm,0.9s
SDHHI Sand Hill 80.28 71 IAmb IAmb 11 14 57.8
comp=Z,335nm,0.9s
UWE Uwekahuna 80.28 71 IAmb IAmb 11 14 58.0
comp=Z,292nm,1.0s
UWB Uwekahuna B 80.30 71 P **P 11 14 56.9 +2.3**
UWB IAmb IAmb 11 14 57.9
comp=Z,188nm,1.1s
RIM Rim 80.30 71 IAmb IAmb 11 14 58.0
comp=Z,294nm,1.0s
SBLHI Steaming Bluff 80.31 71 IAmb IAmb 11 14 58.0
comp=Z,271nm,1.3s
KKO Keanakako`i 80.31 71 IAmb IAmb 11 14 58.0
comp=Z,274nm,0.9s
BYL Byron's Ledge 80.32 71 IAmb IAmb 11 14 58.0
comp=Z,206nm,1.0s
PUH Pauahi 80.36 71 IAmb IAmb 11 14 58.2
comp=Z,290nm,0.9s
GURO Guroymak-BITLI 80.38 308 *e*P **P 11 14 56.2 +1.5**
KOPR Koprukoy-ERZUR 80.56 310 *e*P **P 11 14 57.0 +1.3**
BATM Batumi 80.73 311 ⇓P **P 11 14 56.9 +0.6**
BATM Batumi 80.73 311 *e*P **P 11 14 57.1 +0.8**
CRZF Crozet Islands 80.78 222 P **P 11 14 57.4 +1.0**
VRTB Varto-Mus 80.84 309 *e*P **P 11 14 59.5 +2.4**
SVAN Silvan-Diyarba 81.02 308 *e*P **P 11 14 58.0 +0.1**
VRH Novokhopyorsk 81.19 321 *e*P **P 11 14 57.9 -0.5**
VRH *e*S S 11 24 13.4 -9.4
VRH pmax pmax
comp=Z,700nm,0.7s
VRH smax smax
comp=N,540nm,1.2s
CHOM Cayeli-Rize 81.42 311 *e*P **P 11 15 00.7 +0.8**
BNGB Bingl 81.44 309 *e*P **P 11 15 00.8 +0.6**
MAZI Mazidag 81.61 307 *e*P **P 11 15 00.8 -0.3**
SVW2 Sparrevohn 81.61 29 P **P 11 15 02.0 +1.6**
SVW2 IAmb IAmb 11 15 03.9
comp=Z,123nm,0.8s
DYBB Diyarbakir 81.85 308 *e*P **P 11 15 03.4 +1.2**
ERZN Erzincan 82.19 309 *e*P **P 11 15 04.2 +0.2**
SOC Sochi 82.25 313*d* *i*P **P 11 15 03.4 -0.6**
SOC *i* *PP **pP 11 17 01.5 -1.8**
SOC *e*S **S 11 24 28.5 -5.3**
SOC *e*S **SKSac 11 24 31.5 -0.4**
SOC *e*SS **SS 11 30 13.0 +2.7**
SOC *e*SSS SSS 11 33 48.9
SOC pmax pmax
comp=Z,319nm,1.0s
OHAK Old Harbor 82.50 33 P **P 11 15 05.6 +0.7**
OHAK IAmb IAmb 11 15 07.7
comp=Z,287nm,0.8s
SVRC Sivrice-ELAZID 82.51 308 *e*P **P 11 15 06.5 +0.8**
VORD Divnogorie 82.70 321 *e*P **P 11 15 05.8 -0.3**
VORD *e*S S 11 24 28.6 -9.4
VORD pmax pmax
comp=Z,730nm,1.0s
VORD smax smax
comp=E,30nm,2.9s
VORR Voronezh 82.78 321 *e*P **P 11 15 05.0 -1.5**
VORR *e*S **S 11 24 35.0 -3.7**
VORR pmax pmax
comp=Z,2μm,0.6s
VSR Storozhevoye 82.79 321*d* *i*P **P 11 15 05.8 -0.8**
VSR pmax pmax
comp=Z,804nm,0.8s
IMAR Indian Mountai 82.87 24 P **P 11 15 07.4 +0.8**
URFA Urfa 82.90 307 *e*P **P 11 15 08.2 +0.7**
KDAK Kodiak Island 82.90 32 *i* P **P 11 15 07.8 +0.8**
KDAK Kodiak Island 82.90 32 P **P 11 15 08.2 +1.3**
comp=Z,123nm,0.7s,baz=262,slow=2.2,SNR=121
KDAK Kodiak Island 82.90 32 P **P 11 15 07.8 +0.8**
KDAK IAmb IAmb 11 15 09.6
comp=Z,119nm,0.7s
LPSR Galich'ya Gora 82.98 322 *e*P **P 11 15 07.4 0.0**
LPSR *e*S S 11 24 29.6 -11
LPSR pmax pmax
comp=Z,950nm,0.8s
LPSR smax smax
comp=E,460nm,2.2s
KLMR Klimovskoe 82.99 331*d* *i*P **P 11 15 07.0 -0.2**
KLMR *e* 11 18 26.1
KLMR *e*S **S 11 24 34.5 -5.9**
KLMR pmax pmax
comp=Z,815nm,0.8s
KLMR Klimovskoe 82.99 331⇓*iP* **P 11 15 07.1 -0.2**
KLMR *i* P **P 11 15 07.1 -0.2**
KLMR *i* P **P 11 15 07.1 -0.2**
KLMR AMP 11 15 08.3
comp=Z,815nm,0.8s
KLMR *e*PP **PP 11 18 26.1 -2.1**
KLMR *e*S **S 11 24 34.5 -5.9**
KLMR *e*S **S 11 24 34.5 -5.9**
MALT Malatya 83.20 308 *e*P **P 11 15 10.8 +1.7**
MAW Mawson 83.47 200 P **P 11 15 10.0 +0.5**
baz=84,SNR=146
MAW Mawson 83.47 200 P **P 11 15 09.9 +0.5**
comp=Z,40nm,0.6s,baz=65,slow=4.9,SNR=142
MAW S **S 11 24 38.3 -6.6**
comp=Z,5.7nm,1.0s,baz=236,slow=21,SNR=12
MAW PKKPbc **PKKPbc 11 33 24.5 -2.8**
comp=Z,4.4nm,0.7s,baz=226,slow=3.5,SNR=16
SKT Skwentna 83.61 28 P **P 11 15 09.7 -0.8**
TMCR Tamitsa 83.83 334 *e*P **P 11 15 11.2 -0.2**
TMCR *e*S **S 11 24 39.7 -8.8**
TMCR pmax pmax
comp=Z,315nm,0.9s
BRLK Bradley Lake 83.86 31 IAmb IAmb 11 18 20.9
comp=Z,139nm,1.1s
ANN Anapa 83.89 314*d* *i*P **P 11 15 11.7 -0.5**
ANN *e**PP **pP 11 17 11.6 -0.5**
ANN *e* 11 18 44.0
ANN *e*S S 11 24 38.8 -11
ANN *e* 11 24 47.8
ANN pmax pmax
comp=E,228nm,0.8s
ANN pmax pmax
comp=Z,1μm,0.7s
ANN pmax pmax
comp=N,359nm,0.8s
ANN pmax pmax
comp=Z,371nm,3.5s
RSDY Resadiye-TOKAT 84.03 310 *e*P **P 11 15 14.0 +1.0**
FURI Furi 84.09 278 P **P 11 15 16.6 +2.4**
FURI IAmb IAmb 11 15 19.8
comp=Z,253nm,1.0s
SVSK Karacayir 84.29 310 *e*P **P 11 15 14.9 +0.7**
OBN Obninsk 84.41 325*d* *i*P **P 11 15 14.0 -0.4**
OBN *e* 11 18 39.6
OBN *i* S **S 11 24 51.2 -3.3**
OBN *e*SS **SS 11 30 48.4 +7.3**
OBN pmax pmax
comp=Z,507nm,0.7s
OBN Obninsk 84.41 325 S S 11 24 42.6 -12
comp=Z,2.6nm,0.4s,baz=317,slow=23,SNR=13
OBN Obninsk 84.41 325 P **P 11 15 14.0 -0.4**
KMRS Kahramanmaras 84.43 307 *e*P **P 11 15 15.8 +0.7**
BWN Browne 84.60 26 IAmb IAmb 11 15 17.6
comp=Z,123nm,1.0s
TOLK Toolik Lake Re 84.62 22 P **P 11 15 16.6 +1.3**
baz=269
TOKT Tokat 84.63 310 *e*P **P 11 15 15.7 -0.3**
PMR Palmer 84.74 29 P **P 11 15 15.0 -0.9**
PMR pmax pmax
comp=Z,27nm,0.9s
PMR Palmer 84.74 29 P **P 11 15 15.0 -0.9**
MCK McKinley 84.83 27 IAmb IAmb 11 15 18.0
comp=Z,124nm,0.7s
GHO Glory Hole Cre 84.84 28 P **P 11 15 16.7 +0.1**
RND Reindeer 84.87 27 IAmb IAmb 11 15 17.9
comp=Z,105nm,0.7s
TOTH TOTAH 84.95 303 *e*P **P 11 15 18.9 +1.2**
KVT Kavak 84.98 311 *e*P **P 11 15 18.3 +0.6**
KNK Knik Glacier 85.06 29 P **P 11 15 17.9 +0.3**
QASN Qassioun 85.07 303 *e*P **P 11 15 19.7 +1.4**
LVZ Lovozero 85.26 338⇑*eP* **P 11 15 17.8 -0.6**
LVZ pmax pmax
comp=Z,155nm,0.8s
LVZ Lovozero 85.26 338 P **P 11 15 17.5 -0.9**
LVZ IAmb IAmb 11 15 23.9
comp=Z,186nm,0.9s
TCOL CIGO, UAF Yank 85.29 25 P **P 11 15 18.3 -0.3**
baz=271
COLA College 85.30 25*de*P **P 11 15 18.6 0.0**
COLA pmax pmax
comp=Z,28nm,0.9s
COLA College 85.30 25 P **P 11 15 17.9 -0.6**
HWQ Hawqa 85.31 304 *e*P **P 11 15 20.1 +0.6**
BRBR Barbar 85.34 303 *e*P **P 11 15 20.8 +0.9**
CEYT Ceyhan 85.36 307 *e*P **P 11 15 20.4 +0.9**
RCY Rachaya 85.44 303 *e*P **P 11 15 21.1 +0.9**
YURE YUREGIR 85.46 306 *e*P **P 11 15 21.0 +0.9**
POKR Poker Plat Res 85.47 25 P **P 11 15 19.5 +0.1**
baz=271
SHBL Chebaa 85.52 303 *e*P **P 11 15 21.4 +0.8**
DIKM Dikmen 85.56 311 ⇓P **P 11 15 20.5 +0.1**
DIKM mb 11 15 22.0
DIKM Dikmen 85.56 311 *e*P **P 11 15 19.8 -0.6**
QRWL Qaraoun 85.56 303 *e*P **P 11 15 21.4 +0.7**
BHL Bhannes 85.57 304 *e*P **P 11 15 21.2 +0.4**
YOZ Yozgat 85.59 309 *e*P **P 11 15 20.8 0.0**
SCM Sheep Creek Mo 85.60 28 P **P 11 15 20.3 +0.1**
SCM pmax pmax
comp=Z,47nm,0.7s
SCM Sheep Creek Mo 85.60 28 P **P 11 15 20.3 +0.1**
DQRL Deir Qamar 85.65 303 *e*P **P 11 15 21.8 +0.7**
KRTS Karatas 85.68 306 *e*P **P 11 15 21.5 +0.4**
HDA Harding Lake 85.70 26 P **P 11 15 19.7 -0.9**
baz=272
HDA Harding Lake 85.70 26 IAmb IAmb 11 15 21.4
comp=Z,94nm,0.8s
SBA Scott Base 85.70 172 P **P 11 15 21.1 +0.8**
SBA pmax pmax
comp=Z,78nm,1.3s
SBA Scott Base 85.70 172 P **P 11 15 21.1 +0.8**
SBA **PKKPbc 11 33 20.0 -2.3**
IL31 85.71 25 P **P 11 15 19.0 -1.6**
IL31 PKKPdf **PKKPbc 11 33 18.8 -3.0**
ILAR Eielson Array 85.71 25 P **P 11 15 19.2 -1.4**
comp=Z,14nm,0.6s,baz=274,slow=4.4,SNR=149
ILAR PKKPbc **PKKPbc 11 33 18.9 -2.9**
comp=Z,1.3nm,0.6s,baz=106,slow=1.5,SNR=15
ILAR SKKPbc SKKPbc 11 36 02.8 -3.7
comp=Z,2.1nm,0.9s,baz=122,slow=2.6,SNR=6.0
ILAR Eielson Array 85.71 25 P **P 11 15 18.9 -1.7**
ILAR PKKPdf **PKKPbc 11 33 18.4 -3.4**
APA Apatity 85.74 337⇓*iP* **P 11 15 18.9 -1.8**
APA *i* *PP **pP 11 17 16.0 -5.2**
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,1μm,22.0s
MMLI Mount Malkishu 85.83 302 *e*P **P 11 15 22.5 +0.5**
KARA Karaisali 85.90 307 *e*P **P 11 15 22.1 -0.1**
SIM Simferopol' 86.25 315*de*P **P 11 15 21.9 -1.7**
SIM 11 18 19.1
SIM *e*S **SKSac 11 24 53.8 -3.2**
SIM pmax pmax
comp=Z,331nm,0.8s

KMBO **Kilima Mbogo** 86.25 269 *i* P P 11 15 25.5 +1.0
SNR=110
KMBO **Kilima Mbogo** 86.25 269 P P 11 15 25.6 +1.0
comp=Z,121nm,0.9s,baz=61,slow=6.1,SNR=231
KMBO **Kilima Mbogo** 86.25 269 P P 11 15 25.3 +0.7
KMBO IAmb IAmb 11 15 26.9
comp=Z,189nm,1.1s
HRFI **Mount Harif** 86.29 300 *e*P P 11 15 24.0 -0.2
MERS **Mersin** 86.35 307 *e*P P 11 15 23.8 -0.6
EIL **Elat** 86.38 299 *e*P P 11 15 24.7 +0.1
EIL **Elat** 86.38 299 P P 11 15 25.3 +0.7
comp=Z,323nm,1.0s
BZK **Bozkurt** 86.48 312 *e*P P 11 15 24.2 -0.5
BMAR **Burnt Mountain** 86.53 23 P P 11 15 25.2 +0.8
BMAR PKKPdf PKKPbc 11 33 17.3 -2.8
KIZK **Mersin** 86.67 306 *e*P P 11 15 25.5 -0.3
EREN **Erenkoy** 86.71 305 *e*P P 11 15 26.0 0.0
ILGA **Ilgaz** 86.75 311 IAmb IAmb 11 15 27.8
comp=Z,207nm,0.8s
KZIT **Kziot** 86.79 301 *e*P P 11 15 27.1 +0.6
YAYX **Yaylak** 86.80 309 *e*P P 11 15 26.2 -0.3
SILI **Silifke-Mersin** 86.86 306 *e*P P 11 15 26.7 +0.1
BR131 **Keskin Array S** 86.88 309 P P 11 15 26.1 -0.8
SNR=104
BR131 **Keskin Array S** 86.88 309 IAmb IAmb 11 15 28.1
comp=Z,134nm,0.9s
BRTR **Keskin Array B** 86.88 309 P P 11 15 26.1 -0.8
comp=Z,106nm,0.8s,baz=122,slow=5.2,SNR=315
BRTR PP PP 11 19 03.8 +3.7
comp=Z,17nm,0.9s,baz=120,slow=8.8,SNR=7.5
BRTR **Keskin Array B** 86.88 309 P P 11 15 25.3 -1.6
SERE **Sereflikochisa** 86.99 309 *e*P P 11 15 26.2 -1.2
KEBE **Keben-Mersin** 87.02 306 *e*P P 11 15 27.7 +0.2
IKL **Isikli** 87.06 306 *e*P P 11 15 27.4 -0.2
TEVE **Tevekalti-Mers** 87.24 306 *e*P P 11 15 28.3 -0.3
GLB **Gilahina Butte** 87.30 29 P P 11 15 28.4 +0.2
AFSR **Afar-Bala (An** 87.34 309 *e*P P 11 15 28.9 -0.1
KULU **Kulu** 87.42 309 *e*P P 11 15 28.1 -1.3
BERE **Bereket-Mersin** 87.42 306 *e*P P 11 15 29.5 0.0
KURC **Kurucasile-Bar** 87.43 312 *e*P P 11 15 28.9 -0.3
CSS **Mathiatis** 87.43 305 P P 11 15 29.3 -0.2
CSS **Mathiatis** 87.43 305 *e*P P 11 15 29.5 +0.1
CSS **Mathiatis** 87.43 305 P P 11 15 29.2 -0.2
comp=Z,52nm,0.8s
CSS **Mathiatis** 87.43 305 IAmb IAmb 11 15 31.2
comp=Z,157nm,0.8s
ANTO **Ankara** 87.52 310 P P 11 15 29.2 -0.6
SNR=11
ANTO **Ankara** 87.52 310 P P 11 15 29.0 -0.8
ANTO pmax pmax
comp=Z,69nm,0.9s
ANTO **Ankara** 87.52 310 ⇓P P 11 15 29.4 -0.4
ANTO mb 11 15 30.1
ANTO **Ankara** 87.52 310 *e*P P 11 15 29.7 -0.1
ANTO **Ankara** 87.52 310 P P 11 15 29.0 -0.8
TEKE **Tekeli-Mersin** 87.53 306 *e*P P 11 15 29.3 -0.5
PUL **Pulkovo** 87.58 330*c* *i*P P 11 15 29.3 -0.2
PUL pmax pmax
comp=Z,321nm,0.5s
TGL **Tana Glacier** 87.83 29 P P 11 15 31.4 +0.5
TGL IAmb IAmb 11 15 33.0
comp=Z,77nm,0.7s
WAX **Waxell Ridge** 87.85 30 IAmb IAmb 11 15 33.4
comp=Z,95nm,0.6s
KEV **Kevo** 87.90 340 P P 11 15 28.6 -2.2
KEV pmax pmax
comp=Z,65nm,0.9s
KEV **Kevo** 87.90 340 P P 11 15 28.6 -2.2
LADK **Ladik-KONYA** 87.98 308 *e*P P 11 15 30.8 -1.2
BALM **Baldy** 88.04 29 IAmb IAmb 11 15 34.2
comp=Z,57nm,0.6s
BCAR **Beaver Creek A** 88.08 27 P P 11 15 32.7 +0.9
BCAR PKKPdf PKKPbc 11 33 13.6 -2.6
KIZT **Kizilcal** 88.30 309 *e*P P 11 15 32.9 -0.6
MESA **MESA** 88.32 30 IAmb IAmb 11 15 35.9
comp=Z,55nm,0.7s
YUVA **Yuva-Kibriscik** 88.33 310 *e*P P 11 15 32.9 -0.7
BARN **Barnard Glacie** 88.37 29 IAmb IAmb 11 15 36.2
comp=Z,146nm,0.6s
YAH **Yahtse** 88.41 30 IAmb IAmb 11 15 36.5
comp=Z,88nm,0.8s
ARCES **ARCESS Array B** 88.45 340 P P 11 15 32.5 -0.9
comp=Z,128nm,0.8s,baz=86,slow=4.8,SNR=205
ARCES PKiKP PKiKP 11 20 29.8 -0.1
comp=Z,4.7nm,0.8s,baz=83,slow=1.7,SNR=5.7
ARCES S SKSac 11 25 06.3 -2.8
comp=Z,3.3nm,0.8s,baz=81,slow=16,SNR=3.9
ARCES PKKPbc PKKPbc 11 33 12.1 -3.3
comp=Z,1.3nm,0.5s,baz=247,slow=4.1,SNR=9.4
ARCES **ARCESS Array B** 88.45 340 P P 11 15 32.2 -1.1
ARCES PKKPdf PKKPdf 11 33 11.8 +3.3
ARE0 **ARCESS Array S** 88.45 340 *e*P P 11 15 32.6 -0.7
AUSIV **SIVRIHISAR** 88.52 309 *e*P P 11 15 34.2 -0.3
AUMIH **MIHALICIK** 88.53 310 *e*P P 11 15 33.4 -1.2
SVRH **Sivrihisar-ESK** 88.53 309 *e*P P 11 15 34.5 -0.1
CTGM **Chitina Glacie** 88.54 29 P P 11 15 35.1 +0.9
CTGM IAmb IAmb 11 15 37.0
comp=Z,89nm,0.7s
PPT **Papeete** 88.55 108 P P 11 15 37.6 +2.7
comp=Z,64nm,0.8s,baz=273,slow=9.3,SNR=6.2
PPT2 **Papeete2** 88.56 108 *e*P P 11 15 38.2 +3.2
comp=Z,66nm,1.0s
PAE **Paea** 88.56 108 *e*P P 11 15 37.8 +2.9
comp=Z,5.7nm,0.9s
TIAR **Tiarei** 88.77 108 *e*P P 11 15 39.0 +3.0
comp=Z,10nm,0.8s
HAMF **Hammerfest** 88.87 341 *e*P P 11 15 34.2 -1.1
TVO **Taravao** 88.88 108 *e*P P 11 15 39.6 +3.1
comp=Z,15nm,0.8s
CIFT **Cifteler, Eski** 88.90 309 *e*P P 11 15 34.5 -1.7
DAWY **Dawson** 89.02 26 P P 11 15 36.6 +0.4
DAWY PKKPdf PKKPdf 11 33 09.0 +1.5
AKASG **Malin Array Be** 89.09 321 P P 11 15 35.7 -1.0
comp=Z,102nm,0.8s,baz=67,slow=4.8,SNR=75
AKASG **Malin Array Be** 89.09 321 P P 11 15 35.6 -1.1
SRCK **Saricakaya, Es** 89.17 310 *e*P P 11 15 36.6 -0.8
TBI **Tubuai** 89.19 113 *e*P P 11 15 40.7 +2.9
comp=Z,335nm,0.9s
GULT **Gulveren** 89.22 310 *e*P P 11 15 37.1 -0.6
BORA **Eskisehir** 89.32 310 *e*P P 11 15 37.3 -0.9
SAUV **Serdivan-Sakar** 89.33 311 *e*P P 11 15 36.6 -1.5
KTK1 **Kautokeino** 89.33 339 *e*P P 11 15 36.2 -1.3
SHUT **Suhut-Afyon** 89.37 308 *e*P P 11 15 37.9 -0.6
FINES **FINESS Array B** 89.46 332 P P 11 15 37.3 -0.9
comp=Z,219nm,0.7s,baz=94,slow=6.1,SNR=395
FINES S SKSac 11 25 14.3 -0.9
comp=Z,3.9nm,0.8s,baz=98,slow=7.9,SNR=3.9
FINES **FINESS Array B** 89.46 332 P P 11 15 36.5 -1.7
MICGM **Minsk** 89.46 325⇓*e*P P 11 15 37.0 -1.4
MICGM PM 11 15 39.0
comp=Z,1.2nm,1.0s
MICGM PM 11 15 39.0
comp=E,0.3nm,1.8s
MICGM *e*pP pP 11 17 43.0 +3.0
MICGM *e*sP sP 11 18 07.0 -29
MICGM *e*PP PP 11 19 17.0 -2.7
MICGM *e*SKS SKSac 11 25 14.0 -1.5
MICGM *e*S S 11 25 38.0 -3.9
MICGM *e*SS SS 11 30 51.0 -63
MNK **Minsk** 89.46 325⇓*e*P P 11 15 37.0 -1.4
MNK *e*PP pP 11 17 43.0 +3.0
MNK *e* 11 19 17.0
MNK *e* 11 25 14.0
MNK *e*S S 11 25 38.0 -3.9
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=E,290nm,1.8s
HSPB **Hornsund (broa** 89.48 348 *e*P P 11 15 36.3 -1.7
KBS **Kingsbay** 89.52 350*c* *i*P P 11 15 37.8 -0.3
KBS pmax pmax
comp=Z,261nm,0.7s
KBS **Kingsbay** 89.52 350 *e*P P 11 15 37.9 -0.3
KBS **Kingsbay** 89.52 350 P P 11 15 37.2 -0.9
KBS IAmb IAmb 11 15 39.1
comp=Z,75nm,0.8s
VSU **Vasula** 89.57 329*d* *i*P P 11 15 37.5 -1.2
VSU pmax pmax
comp=Z,449nm,0.8s
VSU **Vasula** 89.57 329 *e*P P 11 15 37.7 -1.0
VSU IAmb IAmb 11 15 39.2
comp=Z,404nm,0.7s
KORT **Korkueli** 89.67 307 *e*P P 11 15 38.9 -1.1
EPYK **Eagle Plains** 89.73 23 P P 11 15 39.6 +0.1
baz=281
EPYK **Eagle Plains** 89.73 23 P P 11 15 39.6 +0.1
EPYK PKKPdf PKKPdf 11 33 08.7 +2.5
CAVI **Cavuskoy** 89.75 310 *e*P P 11 15 39.6 -0.5
KIS **Kishinev** 89.77 317⇓*i*P P 11 15 36.0 -4.0
comp=Z,380nm,1.0s
KIS *e*pP pP 11 17 32.0 -10
MILM **Milestii Mici** 89.78 317 ⇓P P 11 15 38.9 -1.1
PMOR **Pomariorio Ree** 89.94 105 *e*P P 11 15 44.4 +3.0
comp=Z,90nm,0.9s
TLCR **89.97 315** ⇑P P 11 15 40.6 -0.3
TLCR mb 11 15 41.3
NACGM **Naroch** 90.04 325 *e*P P 11 15 40.0 -1.0
NACGM PM 11 15 41.0
comp=Z,0.9nm,1.0s
NACGM *e*LR LR 11 38 42.0
ELL **Elmali** 90.05 307 P P 11 15 40.5 -1.2
ELL pmax pmax
comp=Z,186nm,0.9s
ELL **Elmali** 90.05 307 *e*P P 11 15 41.1 -0.6
ELL **Elmali** 90.05 307 P P 11 15 40.5 -1.2
ELL IAmb IAmb 11 15 42.0
comp=Z,186nm,0.9s
YLV **Yalova** 90.07 311 ⇓P P 11 15 40.6 -1.1
YLV mb 11 15 41.7
YLV **Yalova** 90.07 311 *e*P P 11 15 40.7 -0.9
TVSB **Tavsanli** 90.12 309 *e*P P 11 15 41.4 -0.5
VAH **Vaihoa** 90.21 105 *e*P P 11 15 45.4 +2.8
comp=Z,51nm,0.9s
IZAR **Zarasai** 90.22 326 *e*P P 11 15 41.7 -0.2
IZAR IAmb IAmb 11 15 42.9
comp=Z,52nm,0.7s
GEMT **Gemlik** 90.22 310 *e*P P 11 15 41.5 -0.7
BUY **Buyukada** 90.23 311 *e*P P 11 15 41.3 -1.0
KLYT **Kilyos** 90.25 311 ⇓P P 11 15 41.4 -0.9
KLYT mb 11 15 42.1
KLYT **Kilyos** 90.25 311 *e*P P 11 15 41.6 -0.7
KAVV **Kandilli-Istan** 90.25 311 *e*P P 11 15 40.9 -1.5
ISK **Istanbul-Kandi** 90.25 311 *e*P P 11 15 41.5 -0.9
IIGN **Ignalina** 90.30 325 *e*P P 11 15 42.0 -0.2
IIGN IAmb IAmb 11 15 43.0
comp=Z,46nm,0.8s
TOPG **Topolog** 90.32 315 ⇓P P 11 15 42.1 -0.5
ISAL **Salakas** 90.32 326 *e*P P 11 15 41.9 -0.4
ISAL IAmb IAmb 11 15 43.2
comp=Z,41nm,0.9s
TIRR **Tirgusor** 90.34 314 ⇓P P 11 15 42.0 -0.7
TIRR **Tirgusor** 90.34 314 IAmb IAmb 11 15 43.1
comp=Z,187nm,0.9s
AKAS **Kas** 90.35 306 *e*P P 11 15 41.4 -1.7
CFR **Carcaliu** 90.45 315 ⇓P P 11 15 42.5 -0.6
BGKT **Bogazkoy** 90.46 311 *e*P P 11 15 42.6 -0.7
ARMT **Armutlu** 90.46 311 *e*P P 11 15 42.2 -1.2
KALB **Balgarevo** 90.46 313 ⇑P P 11 15 43.4 +0.1
INK **Inuvik** 90.53 21 P P 11 15 43.0 +0.1
comp=Z,27nm,0.9s,baz=272,slow=4.2,SNR=32
INK S SKSac 11 25 20.2 -0.8
comp=Z,4.4nm,0.7s,baz=35,slow=11,SNR=41
INK PKKPbc PKKPdf 11 33 06.7 +1.9
comp=Z,3.8nm,0.5s,baz=312,slow=15,SNR=40
INK SKKPbc SKKPbc 11 35 52.0 -3.6
comp=Z,3.8nm,0.8s,baz=52,slow=4.6,SNR=5.0
INK **Inuvik** 90.53 21 P P 11 15 42.9 -0.1
INK PKKPdf 11 33 06.3 +1.6
TLB **Topalu** 90.59 315 ⇓P P 11 15 43.2 -0.6
IAS **Iasi** 90.59 317 ⇓P P 11 15 43.8 +0.1
PSN **Preselentsi** 90.60 314 P P 11 15 43.5 -0.4
CTKS **Kestanelik-??a** 90.65 311 *e*P P 11 15 42.6 -1.6
HARR **Harsova** 90.65 315 ⇓P P 11 15 43.9 -0.2
HARR mb 11 15 44.7
TRO **Tromso** 90.68 340 *e*P P 11 15 42.3 -1.4
FETY **Fethiye** 90.72 307 P P 11 15 43.4 -1.3
FETY **Fethiye** 90.72 307 *e*P P 11 15 43.7 -1.0
ICOR **Ion Corvin** 90.82 314 ⇓P P 11 15 45.0 +0.1
KULA **Kula-Manisa** 90.85 309 P P 11 15 43.8 -1.5
KULA **Kula-Manisa** 90.85 309 *e*P P 11 15 44.1 -1.2
SLVT **Silivri** 90.87 311 *e*P P 11 15 44.7 -0.5
KCTX **Karacabey (Bur** 90.88 310 *e*P P 11 15 43.5 -1.8
PETR **Petresti** 91.01 316 ⇓P P 11 15 46.7 +0.9
DALY **Dalyan (Mula)** 91.04 307 *e*P P 11 15 45.3 -0.8
TURN **Turunc** 91.08 307 *e*P P 11 15 47.2 +1.0
ODBI **Odobesti** 91.13 316 ⇑P P 11 15 47.2 +0.9
ODBI mb 11 15 48.2
PRD **Provadia** 91.22 313 P P 11 15 46.1 -0.7
GRER 91.24 316 ⇑P P 11 15 47.7 +0.9
GRER mb 11 15 49.0
EDC **Edincik** 91.24 310 *e*P P 11 15 46.0 -0.9
YER **Yerkesik** 91.30 307 P P 11 15 46.2 -1.2
YER **Yerkesik** 91.30 307 *e*P P 11 15 46.8 -0.6
TESR **Tescani** 91.31 317 ⇓P P 11 15 46.8 -0.3
BALB **Balikesir** 91.32 310 *e*P P 11 15 45.4 -1.9
VRI **Vrincioaia** 91.34 316 ⇓P P 11 15 47.3 0.0
VRI **Vrincioaia** 91.34 316 *e*P P 11 15 47.4 +0.1
PLOR **Plostina** 91.40 316 ⇓P P 11 15 47.5 -0.1
BISRR **Bisoca** 91.40 316 ⇓P P 11 15 47.7 0.0
MRMT **Marmara Adasi** 91.41 311 *e*P P 11 15 46.7 -1.1
LEHL **Lehliu** 91.47 315 ⇑P P 11 15 48.2 +0.4
PRAR **RASCA** 91.47 318 ⇓P P 11 15 47.6 -0.3
PRAR mb 11 15 48.8
AYDB **Zeytinkoy-Aydi** 91.52 308 *e*P P 11 15 47.7 -0.7
PABE **Paberze** 91.54 326 *e*P P 11 15 47.5 -0.5
PABE IAmb IAmb 11 15 48.7
comp=Z,278nm,0.7s
PABE *e*PP PP 11 19 36.4 +0.6
ISR **Istrita** 91.58 315 ⇑P P 11 15 48.1 -0.3
BIZ **Bicaz** 91.61 317 ⇑P P 11 15 48.5 0.0
KRBG **Karabiga-Canak** 91.66 311 *e*P P 11 15 47.9 -1.0
MLSB **Milas** 91.68 307 *e*P P 11 15 48.6 -0.5
RKY **Sarkoy-Tekirda** 91.72 311 *e*P P 11 15 48.5 -0.7
SKAG **Skagway** 91.74 30 IAmb IAmb 11 15 51.9
comp=Z,75nm,0.9s
RAZG **Razgrad** 91.82 314 ⇓P P 11 15 49.2 -0.3
SULR 91.84 315 ⇓P P 11 15 49.7 +0.1
EDRB **Edirne** 91.89 312 P P 11 15 48.9 -1.0
EDRB **Edirne** 91.89 312 *e*P P 11 15 49.2 -0.7
JMB **Yambol** 91.92 313 P P 11 15 49.4 -0.6
MLR **Muntele Rosu** 91.94 316 S SKSac 11 25 29.5 -0.7
comp=Z,6.1nm,0.8s,baz=19,slow=23,SNR=9.1
MLR SKKPbc SKKPbc 11 35 51.5 -0.1
comp=Z,2.9nm,0.8s,baz=137,slow=5.3,SNR=5.5
MLR **Muntele Rosu** 91.94 316 ⇓P P 11 15 49.9 -0.3
MLR ⇑P sP 11 18 50.1 +1.9
MLR **Muntele Rosu** 91.94 316 IAmb IAmb 11 15 51.1
comp=Z,98nm,0.8s
OZUR 91.96 316 ⇓P P 11 15 50.0 -0.2
SLIT **Slitere, Latvi** 92.04 328 *e*P P 11 15 48.7 -1.5
SLIT IAmb IAmb 11 15 49.4
comp=Z,154nm,0.7s
GCAM **G?zelcaml?** 92.06 308 *e*P P 11 15 50.6 -0.2
LPK **Lapseki** 92.07 311 *e*P P 11 15 50.1 -0.7
SYO **Syowa Base** 92.08 201 ⇑*i*P P 11 15 49.2 -0.9
SYO **Syowa Base** 92.08 201 ⇓*i*PcP PcP 11 15 51.8 +1.3
SYO **Syowa Base** 92.08 201 ⇑*e*pP pP 11 17 48.8 -1.6
BODT **Bodrum** 92.08 307 *e*P P 11 15 50.0 -0.9
BURAR **Bucovina Array** 92.11 318 ⇓P P 11 15 51.0 +0.1
BURAR mb 11 15 52.8
BURAR **Bucovina Array** 92.11 318 P P 11 15 50.6 -0.3
BESE **Bessie Mountai** 92.17 31 IAmb IAmb 11 15 53.9
comp=Z,43nm,0.9s
ERIK **Erikli-Kesan** 92.22 311 *e*P P 11 15 50.7 -0.7
DOPR **Dopca** 92.25 316 ⇑P P 11 15 51.5 0.0
SUW **Suwalki** 92.26 324 *e*P P 11 15 50.7 -0.6
SUW **Suwalki** 92.26 324 *e*P P 11 15 50.7 -0.6
SUW *e*P P 11 15 50.7 -0.6
SZH **Strazhica** 92.28 314 P P 11 15 50.4 -1.2
ELND **Elena** 92.37 313 ⇓P P 11 15 51.5 -0.5
SMG **Samos** 92.37 308 P P 11 15 51.5 -0.7
KARP **Karpathos** 92.40 306 P P 11 15 51.1 -1.3
KARP **Karpathos** 92.40 306 *e*P P 11 15 51.9 -0.5
STEI **Steigen** 92.46 339 *e*P P 11 15 50.7 -1.2
URLA **Izmir** 92.47 309 *e*P P 11 15 51.8 -0.9
JIS **Juneau Island** 92.48 31 IAmb IAmb 11 15 55.2
comp=Z,48nm,0.9s
EZN **Ezine** 92.48 310 P P 11 15 51.6 -1.0
EZN **Ezine** 92.48 310 ⇓P P 11 15 51.8 -0.7
EZN **Ezine** 92.48 310 *e*P P 11 15 51.9 -0.7
ENEZ **Enez** 92.48 311 *e*P P 11 15 50.9 -1.7
LVV **L'vov** 92.51 320 *e*P P 11 15 52.1 -0.5
LVV *e* 11 19 45.2
LVV *e* 11 25 25.9
LVV *e*S S 11 26 04.1 -5.0
LVV pmax pmax
comp=Z,200nm,1.4s
PBUR **Paburg** 92.57 327 *e*P P 11 15 52.6 0.0
VOIR 92.57 316 ⇓P P 11 15 52.2 -0.9
PRK **Paraskevi** 92.60 310 P P 11 15 52.8 -0.4
BOZC **Bozcaada** 92.69 310 *e*P P 11 15 52.6 -1.0
MBAR **Mbarara** 92.70 270*d* *i*P P 11 15 54.1 -0.3
MBAR pmax pmax
comp=Z,15nm,0.9s
MBAR **Mbarara** 92.70 270 P P 11 15 53.3 -1.1
PVL **Pavlikeni** 92.72 314 P P 11 15 53.5 -0.1
DIM **Dimitrovgrad** 92.75 312 P P 11 15 53.0 -0.8
ARCR **ARCALIA** 92.78 317 ⇓P P 11 15 54.4 +0.5
RDO **Rodhopi** 92.88 311 P P 11 15 53.0 -1.4
RDO **Rodhopi** 92.88 311 *e*P P 11 15 53.2 -1.2
CHOS **Chios island** 92.89 309 P P 11 15 53.3 -1.4
CHOS **Chios island** 92.89 309 *e*P P 11 15 53.7 -1.0
KDZ **Kurdzhali** 92.90 312 P P 11 15 53.0 -1.5
KDZ **Kurdzhali** 92.90 312 *e*P P 11 15 53.7 -0.8
SIGR **SIGRI** 92.93 310 P P 11 15 53.3 -1.4
SIGR **SIGRI** 92.93 310 *e*P P 11 15 53.5 -1.2
SMTH **Samothraki Isl** 92.99 311 P P 11 15 53.0 -2.0
LOF **Lofoten** 93.00 339 *e*P P 11 15 52.8 -1.5
PLVB **Pleven** 93.20 314 ⇓P P 11 15 55.4 -0.5
ZKR **Zakros** 93.22 305 *e*P P 11 15 55.8 -0.4
AMGA **Amorgos Island** 93.24 307 P P 11 15 54.0 -2.2
BMR **Baia Mare** 93.25 318 ⇓P P 11 15 56.4 +0.5
MOR8 **Moi Rana** 93.33 337 *e*P P 11 15 53.5 -2.5
LIA **Limnos Island** 93.34 310 P P 11 15 55.2 -1.4
CJR **Cluj-Napoca** 93.35 317 ⇑P P 11 15 57.0 +0.5
PLD **Plovdiv** 93.35 313 P P 11 15 55.1 -1.5
PLD **Plovdiv** 93.35 313 *e*P P 11 15 55.2 -1.4
KWP **Kalwaria Pacla** 93.39 320 P P 11 15 56.8 +0.2
KWP pmax pmax
comp=Z,2μm,1.0s
KWP **Kalwaria Pacla** 93.39 320 *e*P P 11 15 56.6 0.0
KWP *e*P P 11 15 56.6 0.0
KWP **Kalwaria Pacla** 93.39 320 P P 11 15 56.8 +0.2
ANAF **Anafi Island** 93.40 307 P P 11 15 54.8 -2.2
RZN **Rozhen** 93.41 312 P P 11 15 55.4 -1.7
LOT **Lotru** 93.46 316 ⇓P P 11 15 56.9 -0.2
LOT **Lotru** 93.46 316 *e*P P 11 15 57.7 +0.5
C36M **Paulatuk** 93.46 19 P P 11 15 56.5 +0.1
baz=293
APE **Apeiranthos** 93.49 307*d* *i*P P 11 15 55.1 -2.3
APE pmax pmax
comp=Z,17nm,0.8s
APE **Apeiranthos** 93.49 307 ⇑P P 11 15 55.1 -2.3
APE **Apeiranthos** 93.49 307 *e*P P 11 15 55.6 -1.8
THAS **Thassos island** 93.58 311 P P 11 15 56.1 -1.5
SANT **Santorini** 93.65 307 P P 11 15 55.4 -2.7
SANT **Santorini** 93.65 307 ⇓P P 11 15 56.1 -2.0
SANT **Santorini** 93.65 307 IAmb IAmb 11 15 57.3
comp=Z,38nm,0.9s
KAVA **Kavala** 93.67 311 P P 11 15 56.5 -1.6
PGB **Panagyurishte** 93.67 313 P P 11 15 57.2 -0.9
THR3 **Thira Island,** 93.69 307 P P 11 15 57.4 -0.8
KONS **Konsvik** 93.72 338 *e*P P 11 15 56.0 -1.7
TRPA **Tarpa** 93.79 319 ⇓P P 11 15 57.8 -0.6
TRPA mb 11 15 59.8
KOLS **Kolonicke sedl** 93.81 320 *e*P P 11 15 59.0 +0.5
KOLS pmax pmax
comp=Z,82nm,1.0s
KOLS **Kolonicke sedl** 93.81 320 *e*P P 11 15 59.0 +0.5
LAST **Lasithi** 93.81 306 P P 11 15 58.1 -0.9
KLNR **Kaliningrad** 93.84 325*d* *i*P P 11 15 58.0 -0.5
KLNR pmax pmax
comp=Z,262nm,0.9s
MPEP **Malo Peshtene** 93.84 314 P P 11 15 58.2 -0.6
UZH **Uzhgorod** 93.86 319 ⇑*i*P P 11 15 59.0 +0.3
DRGR 93.94 317 ⇓P P 11 15 58.9 -0.3
DEV **Deva** 93.97 316 ⇑P P 11 15 59.8 +0.5
WRAK **Wrangell Islan** 93.99 33 IAmb IAmb 11 16 01.8
comp=Z,58nm,0.8s
SRE **Strehaia** 93.99 315 ⇓P P 11 15 59.6 +0.2
NVR **Nevrokopi** 94.10 312 P P 11 15 57.9 -2.2
BEL **Belsk** 94.13 323 *e*P P 11 16 00.0 +0.1
BEL **Belsk** 94.13 323 *e*P P 11 16 00.0 +0.1
BEL *e*P P 11 16 00.0 +0.1
GZR **Gura Zlata** 94.15 316 ⇓P P 11 16 00.0 -0.2
MMB **Musomiste** 94.16 312 P P 11 15 58.7 -1.6
OUR **Ouranopolis** 94.18 311 P P 11 15 58.5 -1.9
OUR **Ouranopolis** 94.18 311 *e*P P 11 15 59.0 -1.4
SRS **Serrai** 94.34 312 P P 11 15 59.0 -2.1
VTS **Vitosha** 94.34 313 P P 11 16 00.0 -1.3
VTS **Vitosha** 94.34 313 P P 11 16 00.3 -1.0
VTS **Vitosha** 94.34 313 ⇑P P 11 16 00.4 -0.9
VTS mb 11 16 01.7
VTS **Vitosha** 94.34 313 IAmb IAmb 11 16 01.7
comp=Z,50nm,0.8s
STHS **Stebnicka Huta** 94.37 320 *e*P P 11 16 02.5 +1.4
STHS pmax pmax
comp=Z,45nm,0.9s
STHS **Stebnicka Huta** 94.37 320 *e*P P 11 16 02.5 +1.4
AOS **Alonnisos** 94.45 310 P P 11 15 59.1 -2.6
AOS **Alonnisos** 94.45 310 *e*P P 11 16 00.0 -1.7
PAIG **Paliouri** 94.47 311 P P 11 15 59.2 -2.5
QSPA **South Pole Qui** 94.54 180 P P 11 16 02.1 +0.5
comp=Z,16nm,0.6s,baz=300,slow=1.1,SNR=114
QSPA **South Pole Qui** 94.54 180 IAmb IAmb 11 16 03.9
comp=Z,64nm,1.5s
PLG **Polygyros** 94.58 311 P P 11 16 00.5 -1.8
KKB **Krupnik** 94.58 313 P P 11 16 01.1 -1.1
DLBC **Dease Lake** 94.66 30 P P 11 16 03.2 +1.0
DLBC PKKPdf PKKPdf 11 32 57.7 +0.3
SIRR **Siria** 94.75 317 ⇑P P 11 16 03.2 +0.3
HORT **Hortiatis** 94.80 311 P P 11 16 00.8 -2.5
VAM **Vamos** 94.81 306 P P 11 16 02.8 -0.6
KNT **Kendrikon** 94.84 312 P P 11 16 01.1 -2.3
KNT **Kendrikon** 94.84 312 *e*P P 11 16 01.9 -1.5
NSS **Namsos** 94.88 336 *e*P P 11 16 01.4 -1.6
BZS **Buzias** 94.91 316 ⇓P P 11 16 02.8 -0.8
XOR **Xorichti** 94.94 310 P P 11 16 01.3 -2.6
NIE **Niedzica** 94.97 320 *e*P P 11 16 04.2 +0.4
NIE **Niedzica** 94.97 320 *e*P P 11 16 04.2 +0.4
NIE *e*P P 11 16 04.2 +0.4
IMMV **Iera Moni Meta** 94.98 306 P P 11 16 03.0 -1.1
IMMV **Iera Moni Meta** 94.98 306 *e*P P 11 16 03.7 -0.4
GVDS **Gavdos** 94.99 305 P P 11 16 03.3 -0.9
GVD **Gavdhos** 94.99 305 *e*P P 11 16 03.5 -0.7
MDVR **Moldovita** 95.01 316 ⇓P P 11 16 03.9 -0.3
VILL **Villia** 95.06 309 P P 11 16 01.3 -3.2
VAY **Valandovo** 95.06 312 *i*P P 11 16 02.8 -1.6
KECS **Kecovo** 95.06 319 *e*P P 11 16 04.5 +0.3
KECS pmax pmax
comp=Z,66nm,0.9s
KECS **Kecovo** 95.06 319 *e*P P 11 16 04.5 +0.3
OJC **Ojcow** 95.11 321 *e*P P 11 16 04.2 -0.2
OJC **Ojcow** 95.11 321 *e*P P 11 16 04.2 -0.2
OJC *e*P P 11 16 04.2 -0.2
RODP **Rodopos** 95.14 306 P P 11 16 04.2 -0.7
DID **Didima** 95.23 308 P P 11 16 01.9 -3.4
STIP **Stip** 95.27 312 *i*P P 11 16 03.0 -2.3
KRND **KRANIDI** 95.32 308 P P 11 16 02.6 -3.0
LIT **Litokhoron** 95.34 311 P P 11 16 03.4 -2.3
LIT **Litokhoron** 95.34 311 P P 11 16 03.4 -2.3
LIT pmax pmax
comp=Z,89nm,0.9s
LIT **Litokhoron** 95.34 311 P P 11 16 03.4 -2.3
LIT IAmb IAmb 11 16 04.9
comp=Z,89nm,0.9s
ANKY **Antikythira Is** 95.46 307 P P 11 16 04.0 -2.3
LANS **Liptovska Anna** 95.56 320 *e*P P 11 16 07.8 +1.3
LANS pmax pmax
comp=Z,42nm,0.8s
LANS **Liptovska Anna** 95.56 320 *e*P P 11 16 07.8 +1.3
PSZ **Piszkesteto** 95.57 319 ⇑P P 11 16 06.1 -0.5
PSZ mb 11 16 07.5
PSZ **Piszkesteto** 95.57 319 IAmb IAmb 11 16 07.5
comp=Z,74nm,0.9s
KTHA **Kythira Island** 95.58 307 P P 11 16 04.9 -2.0
KTHA **Kythira Island** 95.58 307 *e*P P 11 16 05.5 -1.4
VLI **Veliai** 95.60 307 P P 11 16 04.2 -2.7
KTHR **Kythira** 95.63 307 P P 11 16 05.5 -1.6
HFS **Hagfors** 95.66 332 PKKPbc PKKPbc 11 32 54.0 -2.9
comp=Z,3.7nm,1.0s,baz=169,slow=3.0,SNR=4.0
AGG **Agios Georgios** 95.66 310 P P 11 16 04.6 -2.6
AGG **Agios Georgios** 95.66 310 *e*P P 11 16 04.8 -2.4
AGG **Agios Georgios** 95.66 310 IAmb IAmb 11 16 05.8
comp=Z,48nm,0.9s
MAKR **Makrakomi, Fth** 95.82 310 P P 11 16 05.2 -2.7
GKP **Gorka Klasztor** 95.88 325 *e*P P 11 16 07.4 -0.4

GKP	**Gorka Klasztor**	**95.88**	**325**	*e*P	**P**	**11 16 07.4**	**-0.4**
GKP				*e*P	**P**	**11 16 07.4**	**-0.4**
DAG	**Danmarks Havn**	**95.90**	**352**	*i* P	**P**	**11 16 06.0**	**-1.4**
DAG				pmax	pmax		
	comp=Z,48nm,0.8s						
DAG	**Danmarks Havn**	**95.90**	**352**	*i* P	**P**	**11 16 06.0**	**-1.4**
	comp=Z,64nm,0.8s						
KALE	**Kalithea**	**95.92**	**309**	P	**P**	**11 16 06.1**	**-2.3**
KLV	**Kalavryta, Ach**	**95.98**	**309**	P	**P**	**11 16 06.5**	**-2.2**
SERG	**Sergoula**	**95.98**	**309**	P	**P**	**11 16 06.7**	**-2.0**
FNA	**Florina**	**96.05**	**312**	*e*P	**P**	**11 16 06.9**	**-2.0**
LAKA	**Lakka**	**96.08**	**309**	P	**P**	**11 16 06.5**	**-2.6**
EFP	**Efpalio**	**96.10**	**309**	P	**P**	**11 16 06.8**	**-2.3**
VYHS	**Vyhne**	**96.13**	**320**	*e*P	**P**	**11 16 08.9**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,36nm,1.1s						
VYHS	**Vyhne**	**96.13**	**320**	*e*P	**P**	**11 16 08.9**	**-0.1**
MATP	**Matopo**	**96.19**	**250**	P	**P**	**11 16 09.3**	**-0.7**
	comp=Z,47nm,0.8s,baz=99,slow=5.0,SNR=71						
LSZ	**Lusaka**	**96.22**	**255**	P	**P**	**11 16 09.5**	**-0.8**
	SNR=8.5						
LSZ	**Lusaka**	**96.22**	**255**	P	**P**	**11 16 09.0**	**-1.3**
LSZ				pmax	pmax		
	comp=Z,51nm,1.0s						
LSZ	**Lusaka**	**96.22**	**255**	P	**P**	**11 16 09.0**	**-1.3**
LSZ				IAmb	IAmb	11 16 10.7	
	comp=Z,51nm,0.9s						
OKC	**Ostrava-Krasne**	**96.23**	**321**	*e*P	**P**	**11 16 09.0**	**-0.4**
OKC	**Ostrava-Krasne**	**96.23**	**321**	*e*PDIFF	**P**	**11 16 09.0**	**-0.4**
FRGS	**Fruska Gora**	**96.25**	**316**	⇓*i*P	**P**	**11 16 08.9**	**-0.8**
ITM	**Ithomi**	**96.31**	**308**	IAmb	IAmb	11 16 09.6	
	comp=Z,46nm,0.8s						
DRO	**Drossia**	**96.34**	**309**	P	**P**	**11 16 09.0**	**-1.2**
DIVS	**Divibare**	**96.36**	**315**	⇓*i*P	**P**	**11 16 09.1**	**-1.2**
NB201	**NORSAR Array S**	**96.45**	**333**	IAmb	IAmb	11 16 10.0	
	comp=Z,63nm,0.9s						
NC602	**NORSAR Array S**	**96.45**	**333**	*e*P	**P**	**11 16 08.7**	**-1.5**
NC602	**NORSAR Array S**	**96.45**	**333**	P	**P**	**11 16 08.4**	**-1.8**
NC602				IAmb	IAmb	11 20 03.1	
	comp=Z,80nm,1.1s						
NB2	**NORSAR Subarra**	**96.49**	**333**	P	**P**	**11 16 08.6**	**-1.8**
	comp=Z,3.5nm,0.5s,baz=76,slow=5.9						
NB2	**NORSAR Subarra**	**96.49**	**333**	P	**P**	**11 16 08.6**	**-1.8**
	baz=76,slow=5.9						
NOA	**NORSAR Array B**	**96.49**	**333**	P	**P**	**11 16 08.9**	**-1.5**
	comp=Z,50nm,0.8s,baz=69,slow=4.6,SNR=162						
NOA				PP	**PP**	**11 20 15.3**	**+1.8**
	comp=Z,3.8nm,0.8s,baz=70,slow=7.2,SNR=3.6						
PYL	**PYLOS**	**96.51**	**308**	P	**P**	**11 16 08.0**	**-3.0**
PDO	**Prodromos**	**96.62**	**310**	P	**P**	**11 16 10.8**	**-0.7**
MORC	**Moravsky Berou**	**96.62**	**321**	⇓P	**P**	**11 16 11.1**	**-0.2**
MORC	**Moravsky Berou**	**96.62**	**321**	*e*PDIFF	**P**	**11 16 11.3**	**0.0**
MORC	**Moravsky Berou**	**96.62**	**321**	IAmb	IAmb	11 16 12.6	
	comp=Z,52nm,0.9s						
SRO	**Srobarova**	**96.63**	**319**	*e*P	**P**	**11 16 11.6**	**+0.3**
SRO				pmax	pmax		
	comp=Z,74nm,0.8s						
SRO	**Srobarova**	**96.63**	**319**	*e*P	**P**	**11 16 11.6**	**+0.3**
BSD	**Bornholm Skovb**	**96.65**	**327**	⇓*i*P	**P**	**11 16 10.5**	**-0.7**
BSD				pmax	pmax		
	comp=Z,65nm,0.8s						
BSD	**Bornholm Skovb**	**96.65**	**327**	⇓*i*P	**P**	**11 16 10.5**	**-0.7**
	comp=Z,65nm,0.8s						
NBO00	**NORSAR Array S**	**96.69**	**333**	IAmb	IAmb	11 16 11.5	
	comp=Z,68nm,0.8s						
JAVC	**Velka Javorina**	**96.78**	**320**	*e*PDIFF	**P**	**11 16 13.1**	**+1.1**
MORH	**Mrgy, Hungar**	**96.80**	**317**	*e*P	**P**	**11 16 10.4**	**-1.7**
BBLS	**Lazići**	**96.83**	**315**	⇓P	**P**	**11 16 12.0**	**-0.4**
KRLC	**Kraliky**	**97.02**	**322**	*e*P	Pdif	11 16 13.2	+0.2
KRLC	**Kraliky**	**97.02**	**322**	*e*PDIFF	Pdif	11 16 13.2	+0.2
EVGI	**Lefkada island**	**97.02**	**310**	P	**P**	**11 16 11.4**	**-1.9**
SMOL	**Smolenice**	**97.03**	**320**	*e*P	Pdif	11 16 15.3	+2.2
SMOL				pmax	pmax		
	comp=Z,12nm,0.8s						
SMOL	**Smolenice**	**97.03**	**320**	*e*P	Pdif	11 16 15.3	+2.2
SMOL				*e*PP	**PP**	**11 20 19.9**	**+1.9**
DOMB	**Dombas**	**97.05**	**334**	*e*P	**P**	**11 16 12.2**	**-0.7**
TIR	**Tirane**	**97.05**	**312**	P	**P**	**11 16 12.3**	**-1.0**
TIR				pmax	pmax		
	comp=Z,58nm,0.9s						
TIR	**Tirane**	**97.05**	**312**	P	**P**	**11 16 12.3**	**-1.0**
TIR				IAmb	IAmb	11 16 17.2	
	comp=Z,58nm,0.9s						
IGT	**Igoumenitsa**	**97.08**	**311**	P	**P**	**11 16 10.4**	**-3.1**
HAPS	**Han Pijesak,BI**	**97.09**	**315**	*e*P	**P**	**11 16 12.7**	**-0.9**
KSP	**Ksiaz**	**97.11**	**322**	*e*P	Pdif	11 16 13.7	+0.3
KSP	**Ksiaz**	**97.11**	**322**	*e*P	Pdif	11 16 13.7	+0.3
KSP				*e*P	Pdif	11 16 13.7	+0.3
OSL	**Oslo**	**97.12**	**332**	*e*P	Pdif	11 16 12.3	-0.9
MODS	**Modra-Piesok**	**97.16**	**320**	*e*P	**P**	**11 16 12.7**	**-1.0**
MODS				pmax	pmax		
	comp=Z,24nm,1.0s						
MODS	**Modra-Piesok**	**97.16**	**320**	*e*P	**P**	**11 16 12.7**	**-1.0**
DPC	**Dobruska-Polom**	**97.23**	**322**	*e*P	**P**	**11 16 14.0**	**0.0**
DPC	**Dobruska-Polom**	**97.23**	**322**	*e*PDIFF	**P**	**11 16 14.0**	**0.0**
DPC				*ex*	x	11 16 14.2	
PDG	**Podgorica**	**97.26**	**314**	⇓*i*P	Pdif	11 16 13.0	-1.2
PDG	**Podgorica**	**97.26**	**314**	⇓P	Pdif	11 16 13.1	-1.1
PDG	**Podgorica**	**97.26**	**314**	IAmb	IAmb	11 16 14.9	
	comp=Z,38nm,0.8s						
CHVC	**Chvalec**	**97.32**	**322**	*e*PDIFF	Pdif	11 16 14.3	-0.1
VRAC	**Vranov**	**97.35**	**321**	P	**P**	**11 16 14.9**	**+0.4**
	comp=Z,57nm,0.8s,baz=89,slow=3.0,SNR=72						
VRAC				PP	**PP**	**11 20 25.2**	**+4.8**
	comp=Z,12nm,0.9s,baz=81,slow=5.0,SNR=5.0						
VRAC	**Vranov**	**97.35**	**321**	⇓P	**P**	**11 16 15.0**	**+0.5**
VRAC	**Vranov**	**97.35**	**321**	*e*PDIFF	**P**	**11 16 14.8**	**+0.4**
DRME	**Dracevica, Mon**	**97.36**	**313**	*e*P	Pdif	11 16 13.6	-1.1
UPC	**Upice**	**97.37**	**322**	*e*P	Pdif	11 16 14.4	-0.2
UPC	**Upice**	**97.37**	**322**	*e*PDIFF	Pdif	11 16 14.4	-0.2
UPC				*ex*	x	11 16 18.9	
MOL	**Molde**	**97.47**	**335**	*e*P	Pdif	11 16 14.1	-0.6
KRUC	**Moravsky**	**97.54**	**321**	*e*PDIFF	**P**	**11 16 15.5**	**+0.2**
BRY	**Bratogost**	**97.66**	**314**	*e*P	Pdif	11 16 14.9	-1.3
KONO	**Kongsberg**	**97.76**	**332**	*ce*P	Pdif	11 16 14.5	-1.5
KONO				pmax	pmax		
	comp=Z,47nm,0.8s						
KONO	**Kongsberg**	**97.76**	**332**	*e*P	Pdif	11 16 14.7	-1.3
TREB	**Trebinje**	**97.84**	**314**	*e*P	Pdif	11 16 15.7	-1.1
AKN	**Aaknes**	**97.87**	**335**	*e*P	Pdif	11 16 16.4	-0.1
SKAR	**Skarslia**	**97.94**	**333**	*e*P	Pdif	11 16 16.4	-0.5
TREC	**Trest**	**98.05**	**321**	*e*P	**P**	**11 16 18.0**	**+0.4**
TREC	**Trest**	**98.05**	**321**	*e*PDIFF	**P**	**11 16 18.0**	**+0.4**
TREC				*ex*	x	11 16 24.5	
BLY	**Banja Luka**	**98.16**	**316**	*e*P	Pdif	11 16 17.8	-0.4
BLY	**Banja Luka**	**98.16**	**316**		Pdif	11 16 17.8	-0.4
CONA	**Conrad Observa**	**98.19**	**320**	*e*Pdiff	Pdif	11 16 18.3	-0.1
	comp=Z,15nm,0.9s,SNR=7.1						
CONA				*e*PP	**PP**	**11 20 28.0**	**+1.1**
	comp=Z,11nm,1.1s						
PVCC	**Panska Ves**	**98.25**	**322**	*e*P	Pdif	11 16 18.3	-0.1
PVCC	**Panska Ves**	**98.25**	**322**	*e*PDIFF	Pdif	11 16 18.3	-0.1
PVCC				*ex*	x	11 16 24.5	
GOPC	**GO Pecny, Ondr**	**98.30**	**322**	*e*P	Pdif	11 16 18.5	-0.2
GOPC	**GO Pecny, Ondr**	**98.30**	**322**	*e*PDIFF	Pdif	11 16 18.5	-0.2
GOPC				*ex*	x	11 16 28.5	
MGRS	**Mrkonjic Grad**	**98.31**	**316**	*e*P	Pdif	11 16 17.6	-1.3
KOGS	**Kog**	**98.35**	**318**	*i* Pdiff	Pdif	11 16 18.6	-0.3
KOGS				*e*SKSac	**SKSac**	**11 26 01.4**	**-1.9**
PRU	**Pruhonice**	**98.43**	**322**	*e*P	Pdif	11 16 19.1	-0.1
PRU	**Pruhonice**	**98.43**	**322**	*e*PDIFF	Pdif	11 16 19.1	-0.1
PRA	**Prague**	**98.47**	**322**	*e*P	**P**	**11 16 19.7**	**+0.2**
PRA	**Prague**	**98.47**	**322**	*e*PDIFF	**P**	**11 16 19.7**	**+0.2**
BRG	**Berggiesshubel**	**98.52**	**323**	*i* P	**P**	**11 16 19.8**	**+0.1**
	comp=Z,89nm,0.9s						
BRG				*e*pP	**pwP**	**11 18 24.8**	**+0.3**
	comp=Z,11nm,1.2s						
BRG				PP	PP	11 20 20.0	-9.1
BRG				SKS	**SKSac**	**11 26 03.0**	**-1.0**
BRG				S	**ScS**	**11 26 58.0**	**-2.2**
	comp=N,466nm,18.7s						
	comp=E,806nm,24.9s						
	comp=Z,671nm,20.6s						
BRG	**Berggiesshubel**	**98.52**	**323**	*i* P	**P**	**11 16 19.8**	**+0.1**
BRG				*e**PP	**pwP**	**11 18 24.8**	**+0.3**
BRG						11 26 03.0	
BRG				S	**ScS**	**11 26 58.0**	**-2.2**
BRG				pmax	pmax		
	comp=Z,124nm,0.9s						
BRG				pmax	pmax		
	comp=Z,89nm,1.2s						
BRG				MLR	MLR		
	comp=N,11μm,18.7s						
BRG				MLR	MLR		
	comp=E,466nm,24.9s						
BRG				MLR	MLR		
	comp=Z,806nm,20.6s						
ARSA	**Arzberg**	**98.60**	**319**	*e*Pdiff	Pdif	11 16 19.8	-0.3
	comp=Z,20nm,0.9s,SNR=8.2						
ARSA				PKiKP	PKiKP	11 20 39.9	-8.3
	comp=Z,6.0nm,1.1s						
ARSA				*e*SKSac	**SKSac**	**11 26 04.7**	**0.0**
	comp=Z,8.3nm,1.5s						
HYA	**Hoyanger**	**98.67**	**334**	*e*P	Pdif	11 16 19.8	-0.2
PBCC	**Pribram**	**98.86**	**322**	*e*PDIFF	**P**	**11 16 21.6**	**+0.3**
CLL	**Collm**	**98.94**	**323**	*i* P	Pdif	11 16 21.2	-0.3
CLL				*e*		11 26 06.0	
CLL				*e*S	**ScS**	**11 27 02.0**	**-1.7**
CLL				pmax	pmax		
	comp=Z,38nm,1.0s						
CLL	**Collm**	**98.94**	**323**	⇓*i*Pdif	Pdif	11 16 21.2	-0.3
	comp=Z,38nm,1.0s						
CLL				*e*		11 19 27.0	
CLL				*e*PP	**PP**	**11 20 30.0**	**-2.3**
CLL				*e*		11 20 35.0	
CLL				*e*		11 21 12.0	
CLL				*e*(PPP)		11 22 30.0	
CLL				*e*		11 23 18.0	
CLL				*e*PPPP		11 24 30.0	
CLL				*e*		11 25 21.0	
CLL				*e*SKSac	**SKSac**	**11 26 06.0**	**-0.1**
CLL				*e*SKKSac	**SKKSac**	**11 26 42.0**	**+1.9**
CLL				*e*Sdif	**ScS**	**11 27 02.0**	**-1.7**
CLL				*e*PS	**PS**	**11 29 45.0**	**-1.9**
CLL				*es*Sdiff	sS	11 30 40.0	-4.2
CLL				*e*		11 32 12.0	
CLL				*e*SS	SS	11 33 54.0	-13
CLL				*e*		11 37 30.0	
CLL				*e*SSS	SSS	11 38 06.0	
CLL				*e*SSSS		11 41 30.0	
CLL				*e*		11 42 42.0	
CLL				*e*		11 44 18.0	
CLL	**Collm**	**98.94**	**323**	IAmb	IAmb	11 16 22.5	
	comp=Z,35nm,0.9s						
FOO	**Floro**	**98.96**	**335**	*e*P	Pdif	11 16 21.1	-0.2
LBTB	**Lobatse**	**99.01**	**246**	IAmb	IAmb	11 20 32.1	
	comp=Z,22nm,1.1s						
ODD1	**Odda**	**99.02**	**333**	*e*P	**Pdif**	**11 16 21.3**	**-0.4**
PERS	**Pernice**	**99.05**	**319**	*i* Pdiff	**Pdif**	**11 16 21.7**	**-0.5**
PERS				*e*SKSac	**SKSac**	**11 26 03.9**	**-3.0**
CRES	**Cresnjev**	**99.05**	**318**	*e*P	**Pdif**	**11 16 21.5**	**-0.6**
SOKA	**Soboth**	**99.09**	**319**	*e*Pdiff	**Pdif**	**11 16 22.0**	**-0.4**
	comp=Z,22nm,0.8s,SNR=6.9						
SOKA				PP	**PP**	**11 20 37.1**	**+3.5**
	comp=Z,9.3nm,0.9s						
MUD	**Monsted U'grnd**	**99.22**	**329**	*i* P	**Pdif**	**11 16 22.2**	**-0.4**
MUD				pmax	pmax		
	comp=Z,56nm,0.9s						
MUD	**Monsted U'grnd**	**99.22**	**329**	*i* P	**Pdif**	**11 16 22.2**	**-0.4**
	comp=Z,56nm,0.9s						
MOA	**Molln**	**99.25**	**320**	*e*Pdiff	**Pdif**	**11 16 23.0**	**+0.1**
	comp=Z,57nm,0.8s,SNR=22						
MOA				PKiKP	**PKiKP**	**11 20 46.5**	**-2.8**
	comp=Z,9.3nm,0.9s						
KHC	**Kasperske Hory**	**99.29**	**321**	*e*P	**Pdif**	**11 16 23.2**	**0.0**
KHC	**Kasperske Hory**	**99.29**	**321**	*e*PDIFF	**Pdif**	**11 16 23.2**	**0.0**
KHC				*ex*	x	11 16 28.9	
KHC				*ex*	x	11 16 42.5	
KHC				*ex*	x	11 17 06.5	
KHC				*ex*	x	11 19 50.5	
KHC				*ex*	x	11 20 15.0	
GEC2	**GERESS Array S**	**99.30**	**321**	IAmb	IAmb	11 16 24.4	
	comp=Z,39nm,1.0s						
GERES	**GERESS Array B**	**99.30**	**321**	P	**Pdif**	**11 16 23.2**	**0.0**
	comp=Z,31nm,0.9s,baz=76,slow=5.6,SNR=77						
GERES				PKKPbc	**PKKPbc**	**11 32 45.5**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=177,slow=2.3,SNR=5.7						
GERES	**GERESS Array B**	**99.30**	**321**		**Pdif**	**11 16 22.6**	**-0.7**
BLS5	**Blasjo**	**99.31**	**332**	*e*P	**Pdif**	**11 16 22.8**	**-0.2**
BOSA	**Boshof**	**99.35**	**242**	P	**Pdif**	**11 16 24.0**	**0.0**
BOSA	**Boshof**	**99.35**	**242**	P	**Pdif**	**11 16 23.9**	**0.0**
	comp=Z,10.0nm,1.1s,baz=66,slow=4.0,SNR=5.3						
BOSA	**Boshof**	**99.35**	**242**	IAmb	IAmb	11 17 29.2	
	comp=Z,65nm,2.0s						
OBKA	**Obir**	**99.46**	**318**	*e*Pdiff	**Pdif**	**11 16 23.5**	**-0.5**
	comp=Z,26nm,1.0s						
OBKA				PP	**PP**	**11 20 37.4**	**+1.0**
	comp=Z,4.3nm,0.7s						
LJU	**Ljubljana**	**99.61**	**318**	*i* Pdiff	**Pdif**	**11 16 24.4**	**-0.2**
LJU	**Ljubljana**	**99.61**	**318**	⇓*i*P	**Pdif**	**11 16 24.3**	**-0.3**
NKC	**Novy Kostel**	**99.63**	**323**	*e*P	**Pdif**	**11 16 24.9**	**+0.3**
NKC	**Novy Kostel**	**99.63**	**323**	*e*PDIFF	**Pdif**	**11 16 24.9**	**+0.3**
NKC				*ex*	x	11 16 30.3	
CEY	**Cerknica**	**99.76**	**318**	⇓*i*P	**Pdif**	**11 16 24.9**	**-0.4**
TIP	**Timpagrande**	**99.86**	**311**	⇓P	**Pdif**	**11 16 25.6**	**-0.4**
KMY	**Karmoy**	**99.96**	**333**	*e*P	**Pdif**	**11 16 25.4**	**-0.4**
YKW3	**Yellowknife Ar**	**99.98**	**24**	IAmb	IAmb	11 16 27.9	
	comp=Z,50nm,2.0s						
MYKA	**Terra Mystica**	**100.02**	**319**	*i* Pdiff	**Pdif**	**11 16 25.4**	**-1.1**
	comp=Z,5.6nm,0.8s						
MYKA				*e*SKSac	**SKSac**	**11 26 10.3**	**-1.4**
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**100.02**	**24**	P	**Pdif**	**11 16 26.7**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=300,slow=4.4,SNR=26						
YKA				PKiKP	**PKiKP**	**11 20 50.2**	**0.0**
	comp=Z,2.0nm,0.7s,baz=296,slow=1.7,SNR=17						
YKA				SKP	**SKiKP**	**11 23 32.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=308,slow=1.8,SNR=8.6						
YKA				PKKPbc	**PKKPbc**	**11 32 40.6**	**-4.4**
	comp=Z,3.0nm,0.5s,baz=125,slow=3.5,SNR=29						
YKA				SKKPbc	**SKKPbc**	**11 35 28.0**	**-4.3**
	comp=Z,4.6nm,0.9s,baz=116,slow=1.9,SNR=10						
YKA	**Yellowknife Ar**	**100.02**	**24**		**Pdif**	**11 16 26.5**	**+0.5**
YKA					**PKKPbc**	**11 32 41.6**	**-3.4**
KBA	**Koelnbreinsper**	**100.08**	**319**	*i* Pdiff	**Pdif**	**11 16 25.8**	**-1.0**
	comp=Z,12nm,1.0s						
KBA				PKiKP	**PP**	**11 20 45.9**	**+4.8**
	comp=Z,2.5nm,0.6s						
KBA				SKSac	**SKSac**	**11 26 10.1**	**-2.0**
	comp=Z,7.1nm,1.0s						
ABTA	**Abfaltersbach**	**100.72**	**319**	*i* Pdiff	**Pdif**	**11 16 28.2**	**-1.4**
	comp=Z,18nm,0.9s						
ABTA				*e*SKSac	**SKSac**	**11 26 15.2**	**+0.1**
	comp=Z,9.9nm,1.4s						
WTTA	**Wattenberg**	**101.12**	**320**	*e*Pdiff	**Pdif**	**11 16 30.8**	**-0.7**
	comp=Z,41nm,0.9s,SNR=13						
WTTA				PKiKP	**PKiKP**	**11 20 51.1**	**-1.8**
	comp=Z,13nm,0.9s						
WTTA				*e*SKSac	**SKSac**	**11 26 15.5**	**-1.7**
	comp=Z,9.4nm,0.9s						
WATA	**Walderalm**	**101.13**	**320**	*e*Pdiff	**Pdif**	**11 16 30.8**	**-0.8**
	comp=Z,33nm,1.1s,SNR=10						
WATA				PKiKP	**PKiKP**	**11 20 51.0**	**-1.9**
	comp=Z,13nm,1.0s						
WATA				*e*SKSac	**SKSac**	**11 26 15.6**	**-1.6**
	comp=Z,8.4nm,0.9s						
SQTA	**Sankt Quirin**	**101.41**	**320**	*e*Pdiff	**Pdif**	**11 16 32.2**	**-0.5**
	comp=Z,31nm,1.0s,SNR=8.6						
SQTA				PKiKP	**PKiKP**	**11 20 52.4**	**-1.0**
	comp=Z,12nm,1.1s						
SQTA				*e*SKSac	**SKSac**	**11 26 17.2**	**-1.2**
	comp=Z,11nm,1.2s						
MOTA	**Moosalm**	**101.43**	**320**	*e*Pdiff	**Pdif**	**11 16 32.1**	**-0.8**
	comp=Z,39nm,1.0s,SNR=13						
MOTA				PKiKP	**PKiKP**	**11 20 53.5**	**+0.1**
	comp=Z,24nm,0.8s						
MOTA				*e*SKSac	**SKSac**	**11 26 18.4**	**-0.2**
	comp=Z,18nm,1.1s						
SCO	**Scoresbysund**	**101.53**	**349**	*i* P	**Pdif**	**11 16 33.0**	**+0.4**
SCO				pmax	pmax		
	comp=Z,14nm,0.8s						
SCO	**Scoresbysund**	**101.53**	**349**	*i* P	**Pdif**	**11 16 33.0**	**+0.4**
	comp=Z,14nm,0.8s						
RETA	**Reutte**	**101.60**	**320**	*e*Pdiff	**Pdif**	**11 16 33.1**	**-0.5**
	comp=Z,15nm,1.2s						
RETA				PKiKP	**PKiKP**	**11 20 54.9**	**+1.2**
	comp=Z,7.0nm,0.8s						
RETA				SKSac	**SKSac**	**11 26 20.2**	**+1.0**
	comp=Z,16nm,1.2s						
SUMG	**Summit**	**102.05**	**354**	*i* P	**PKiKP**	**11 20 48.0**	**-6.2**
SUMG	**Summit**	**102.05**	**354**	*i* P	**PKiKP**	**11 20 48.4**	**-5.8**
	comp=Z,30nm,0.9s						
DAVA	**Damuels**	**102.23**	**320**	*e*Pdiff	**Pdif**	**11 16 36.2**	**-0.2**
	comp=Z,16nm,1.1s						
DAVA				*e*SKSac	**SKSac**	**11 26 22.9**	**+0.5**
	comp=Z,11nm,1.2s						
DAVOX	**Davos/Dischmat**	**102.41**	**320**	P	**Pdif**	**11 16 37.4**	**+0.1**
	comp=Z,22nm,0.8s,baz=97,slow=4.7,SNR=22						
BFO	**Black Forest**	**102.83**	**322**	*i* P	**Pdif**	**11 16 38.3**	**-0.6**
BFO	**Black Forest**	**102.83**	**322**		**Pdif**	**11 16 38.3**	**-0.6**
TUE	**Stuetta**	**102.87**	**320**		**Pdif**	**11 16 40.5**	**+1.2**
SNAA	**Sanae**	**105.23**	**195**	P	**Pdif**	**11 16 50.1**	**+1.0**
SNAA	**Sanae**	**105.23**	**195**	PKKP	**PKKPbc**	**11 32 26.1**	**-4.0**
SNAA				SKS	**SKSac**	**11 26 34.5**	**-0.2**
SNAA				x	x	11 32 46.8	
SNAA	**Sanae**	**105.23**	**195**	*i* P	**Pdif**	**11 16 49.2**	**+0.1**
SNAA	**Sanae**	**105.23**	**195**		**Pdif**	**11 16 49.2**	**+0.1**
SNAA					**PKKPbc**	**11 32 25.8**	**-4.3**
EKA	**Eskdalemuir Ar**	**105.86**	**332**	Pdiff	**Pdif**	**11 16 52.8**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=99,slow=5.2,SNR=5.6						
EKA				PKiKP	**PKiKP**	**11 21 01.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=29,slow=4.6,SNR=7.6						
EKA				PKKPbc	**PKKPbc**	**11 32 25.4**	**-2.4**
	comp=Z,2.7nm,0.5s,baz=242,slow=2.9,SNR=10						
VNA2	**Neumayer--Watz**	**106.86**	**195**	PKKP	**PKKPbc**	**11 32 22.4**	**-2.7**
VNA2	**Neumayer--Watz**	**106.86**	**195**	PKiKP	**PKiKP**	**11 21 03.1**	**+0.6**
VNA2				SKS	**SKSac**	**11 26 41.6**	**-0.1**
VNA2	**Neumayer--Watz**	**106.86**	**195**	SKiKP	**SKiKP**	**11 23 45.6**	**+0.2**
VNA2				x	x	11 32 39.4	
VNA3	**Neumayer Olymp**	**107.23**	**194**	PKKP	**PKKPbc**	**11 32 19.8**	**-4.1**
VNA3	**Neumayer Olymp**	**107.23**	**194**	PKiKP	**PKiKP**	**11 21 03.5**	**+0.2**
VNA3	**Neumayer Olymp**	**107.23**	**194**	SKiKP	**SKiKP**	**11 23 46.6**	**+0.5**
VNA3				x	x	11 32 37.8	
VNA1	**Neumayer--Stat**	**107.26**	**195**	PKKP	**PKKPbc**	**11 32 21.5**	**-2.3**
VNA1	**Neumayer--Stat**	**107.26**	**195**	SKiKP	**SKiKP**	**11 23 46.4**	**+0.3**
VNA1				x	x	11 32 37.2	
CMAH	**Djebel Manchou**	**107.67**	**311**	P	**PP**	**11 21 37.4**	**+0.6**
ABSA	**Djebel Ababsia**	**107.74**	**310**	P	**PP**	**11 21 38.8**	**+1.4**
CAEH	**'Ain El Ouahch**	**108.05**	**311**	P	**PP**	**11 21 39.4**	**0.0**
MSO	**Missoula**	**108.11**	**37**	PKiKP	**PKiKP**	**11 21 06.2**	**+0.4**
	baz=298						
CKFL	**Kef-Lekhel**	**108.28**	**311**	P	**PP**	**11 21 43.5**	**+2.3**
CASM	**Ain Smara**	**108.50**	**311**	P	**PP**	**11 21 44.0**	**+1.3**
CTEI	**Djebel Teioual**	**108.63**	**310**	P	**PP**	**11 21 45.6**	**+1.8**
NVAR	**Mina Array Bea**	**108.74**	**47**	Pdiff	**Pdif**	**11 17 06.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=272,slow=5.4,SNR=7.5						
NVAR				PKiKP	**PKiKP**	**11 21 08.4**	**+1.0**
	comp=Z,4.4nm,0.8s,baz=234,slow=2.6,SNR=14						
NVAR				PP	**PP**	**11 21 44.2**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=275,slow=6.1,SNR=5.9						
NVAR				SKP	**SKiKP**	**11 23 51.1**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=227,slow=2.5,SNR=4.2						
NVAR				PKKPbc	**PKKPbc**	**11 32 18.6**	**0.0**
	comp=Z,4.3nm,0.8s,baz=131,slow=4.6,SNR=22						
NVAR				PKKP	**PKKPdf**	**11 32 32.4**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=210,slow=30,SNR=9.9						
NVAR				SKKPbc	**SKKPbc**	**11 35 07.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=157,slow=4.0,SNR=4.4						
NVAR	**Mina Array Bea**	**108.74**	**47**		**Pdif**	**11 17 07.2**	**+1.5**
NVAR					**PKKPbc**	**11 32 18.6**	**0.0**
NVAR					**PKKPdf**	**11 32 31.8**	**+0.2**
CWC	**Cottonwood Cre**	**109.65**	**49**	PKiKP	**PKiKP**	**11 21 10.5**	**+1.5**
	baz=292						
EGMT	**Eagleton**	**109.98**	**35**	PKiKP	**PKiKP**	**11 21 09.9**	**+0.7**
	baz=302						
**BOZ

ULM SKKPbc **SKKPbc** 11 34 45.5 -2.4
comp=Z,5.8nm,0.9s,baz=14,slow=2.1,SNR=5.3
ULM Lac du Bonnet 115.70 27 PKPdf 11 21 19.3 -0.7
ULM **SKPdf** 11 24 02.5 -0.5
ULM PKKPbc **PKKPbc** 11 31 53.4 -2.6
ULM **PKKPab** 11 31 59.6 -2.8
TAF Taforalt 115.74 312 P **PKiKP** 11 21 22.0 +1.4
PV01 Paradox Valley 115.77 44 PKiKP 11 21 21.9 +1.1
PV01 **PKKPbc** 11 31 55.2 -0.5
PV01 **PKKPab** 11 32 02.6 +0.3
MVO Moncorvo 115.81 320 *e*PKPdf **PKiKP** 11 21 21.5 +1.0
GOG Mont Gurugu 115.98 313 P **PKiKP** 11 21 22.0 +0.9
JBK JBK 116.06 312 P **PKiKP** 11 21 23.0 +1.6
N23A Red Feather La 116.10 40 P **PKiKP** 11 21 22.4 +1.1
baz=303
PCAB Cabril 116.14 321 *e*PKPdf **PKiKP** 11 21 22.0 +0.9
POLO Lamas de Olo 116.18 321 *e*PKPdf **PKiKP** 11 21 22.2 +0.9
TDRA Tendrara 116.21 310 P **PKiKP** 11 21 23.0 +1.2
MVCO Mesa Verde 116.27 44 P **PKiKP** 11 21 23.4 +1.6
baz=299
MVCO Mesa Verde 116.27 44 PKiKP 11 21 22.4 +0.6
MVCO SKPdf **SKiKP** 11 24 05.3 +0.4
MVCO **PKKPbc** 11 31 53.6 -0.4
MVCO **PKKPab** 11 31 59.3 -0.7
HORN Hornachuelos 116.35 316 P **PKiKP** 11 21 22.1 +0.5
W18A Petrified Fore 116.37 47 P **PKiKP** 11 21 23.9 +1.9
baz=297
X18A Snowflake 116.48 48 PKiKP 11 21 23.4 +1.2
X18A **SKiKP** 11 24 06.0 +0.6
MTE Manteigas 116.55 320 *e*PKPdf **PKiKP** 11 21 22.9 +0.9
PVIS Viseu 116.60 320 *e*PKPdf **PKiKP** 11 21 22.7 +0.6
PALE Palemas 116.67 313 P **PKiKP** 11 21 23.0 +0.7
PCBR Castelo Branco 116.81 319 *e*PKPdf **PKiKP** 11 21 23.2 +0.8
TUC Tucson 116.82 50 P **PKiKP** 11 21 24.3 +1.6
baz=295
TUC Tucson 116.82 50 PKIKP **PKiKP** 11 21 23.8 +1.0
TUC Tucson 116.82 50 PKiKP 11 21 23.8 +1.0
TUC **SKiKP** 11 24 06.7 +0.7
ISCO Idaho Springs 116.90 41 P **PKiKP** 11 21 23.9 +0.9
baz=303
ISCO Idaho Springs 116.90 41 PKIKP **PKiKP** 11 21 23.7 +0.7
ISCO Idaho Springs 116.90 41 PKiKP 11 21 23.7 +0.7
ISCO **SKiKP** 11 24 06.3 +0.1
AKLM AKL 116.94 313 P **PKiKP** 11 21 23.3 +0.4
PMRV Marv??o 116.97 319 *e*PKPdf **PKiKP** 11 21 23.4 +0.6
AGMN Agassiz Nation 117.10 28 P **PKPdf** 11 21 22.3 -0.4
baz=315
AGMN Agassiz Nation 117.10 28 PKPdf 11 21 21.9 -0.8
AGMN **SKPdf** 11 24 05.4 -0.4
S22A 4UR Ranch, Cre 117.16 43 P **PKiKP** 11 21 24.7 +1.1
baz=301
PCAS Casmilo, Conde 117.35 320 *e*PKPdf **PKiKP** 11 21 24.3 +0.8
PESTR Estremoz 117.40 318 *e*PKPdf **PKiKP** 11 21 24.3 +0.7
PESTR Estremoz 117.40 318 PKiKP 11 21 23.9 +0.3
SMIR Smir Dam 117.49 314 P **PKiKP** 11 21 24.2 +0.4
PTOM Tomar 117.53 320 *e*PKPdf **PKiKP** 11 21 24.6 +0.8
Q24A Divide 117.65 41 P **PKiKP** 11 21 25.3 +0.8
baz=303
PMTG Montargil 117.71 319 *e*PKPdf **PKiKP** 11 21 25.3 +1.1
CHEFC Chefchaouen 117.74 314 P **PKiKP** 11 21 26.0 +1.5
EVO Evora 117.86 318 *e*PKPdf **PKiKP** 11 21 25.4 +0.9
ALMR Almeirim 117.89 319 *e*P **PKiKP** 11 21 25.3 +0.7
ALMR Almeirim 117.89 319 *e*PKPdf **PKiKP** 11 21 25.4 +0.9
PBEJ Beja 118.03 318 *e*PKPdf **PKiKP** 11 21 25.2 +0.4
SDCO Great Sand Dun 118.06 43 P **PKiKP** 11 21 26.5 +1.2
baz=302
SDCO Great Sand Dun 118.06 43 PKiKP 11 21 25.8 +0.5
SDCO **SKiKP** 11 24 08.9 +0.4
PVAQ Vaqueiros 118.25 317 *e*PKPdf **PKiKP** 11 21 25.6 +0.3
MDT Midelt 118.26 311 SKKPbc SKKPbc 11 34 41.8 +2.2
comp=Z,1.7nm,0.8s,baz=149,slow=4.1,SNR=4.4
MDT Midelt 118.26 311 P **PKiKP** 11 21 26.4 +0.8
PCVE Castro Verde 118.35 317 *e*PKPdf **PKiKP** 11 21 26.4 +0.9
PNCL Nicolau / Gran 118.42 318 *e*PKPdf **PKiKP** 11 21 26.6 +1.0
PMAFR Mafra 118.46 319 *e*PKPdf **PKiKP** 11 21 27.2 +1.5
PBDV Barranco-do-Ve 118.48 317 *e*PKPdf **PKPdf** 11 21 25.4 -0.3
CZD Col de Zad 118.49 312 P **PKiKP** 11 21 28.0 +1.7
OGNE Ogallala 118.52 38 P **PKPdf** 11 21 25.6 -0.2
baz=306
ANMO Albuquerque 118.82 46 P **PKiKP** 11 21 28.1 +1.4
baz=300
ANMO Albuquerque 118.82 46⇑*e*PKIKP **PKiKP** 11 21 28.1 +1.4
ANMO pmax pmax
comp=Z,10.0nm,0.8s
ANMO Albuquerque 118.82 46 PKiKP 11 21 27.7 +0.9
ANMO SKPdf **SKiKP** 11 24 10.4 +0.4
ANMO **PKKPab** 11 31 48.4 -0.3
PTEO Sao Teotonio 118.86 318 *e*PKPdf **PKiKP** 11 21 27.5 +1.0
Y22D IRIS PASSCAL I 118.91 47 P **PKiKP** 11 21 28.7 +1.9
baz=299
MORF Marmelete 118.94 317 *e*P **PKiKP** 11 21 27.1 +0.4
MORF Marmelete 118.94 317 *e*PKPdf **PKiKP** 11 21 27.8 +1.1
121A Cookes Peak, D 119.00 49 P **PKiKP** 11 21 28.7 +1.6
baz=298
T25A Trinidad 119.12 43 P **PKiKP** 11 21 28.8 +1.5
baz=302
PFVI Vila Bisbo 119.15 317 *e*PKPdf **PKiKP** 11 21 28.1 +1.0
PFVI Vila Bisbo 119.15 317 PKiKP 11 21 28.0 +1.0
KSCO Kaye Shedlock' 119.26 40 P **PKiKP** 11 21 28.1 +0.7
baz=305
EYMN Ely 119.35 26 P **PKiKP** 11 21 27.2 +0.1
baz=319
EYMN Ely 119.35 26 PKPdf 11 21 26.8 -0.3
EYMN **SKiKP** 11 24 10.5 +0.1
ZHG ZHG 119.48 313 P **PKiKP** 11 21 29.0 +1.1
TOA0 Torodi Ar. Sit 119.48 288 PKPdf 11 21 28.1 -0.1
TOA0 **PKKPab** 11 31 45.9 +0.5
TORD Torodi Ar. Bea 119.48 288 PKP **PKPdf** 11 21 26.4 -1.8
comp=Z,39nm,0.6s,baz=280,slow=41,SNR=115
TORD PP **PP** 11 23 03.2 +3.3
comp=Z,32nm,1.0s,baz=75,slow=6.0,SNR=9.4
TORD PKKPbc **PKKPbc** 11 31 43.5 +1.8
comp=Z,5.2nm,0.8s,baz=283,slow=4.4,SNR=14
TORD SKKPbc SKKPbc 11 34 36.1 +0.9
comp=Z,2.3nm,0.7s,baz=307,slow=3.7,SNR=8.8
ECSD EROS Data Cent 119.87 33 P **PKiKP** 11 21 28.4 +0.1
baz=312
SCHQ Schefferville 120.13 7 PKP **PKiKP** 11 21 28.7 +0.2
comp=Z,28nm,0.4s,baz=20,slow=2.6,SNR=29
SCHQ PP **PP** 11 23 05.5 +3.3
comp=Z,19nm,0.8s,baz=15,slow=5.7,SNR=6.1
SCHQ SKP **SKiKP** 11 24 12.2 +0.5
comp=Z,17nm,0.7s,baz=350,slow=3.6,SNR=4.3
SCHQ SKKPbc **SKKPbc** 11 34 30.8 -3.6
comp=Z,7.2nm,0.7s,baz=207,slow=3.2,SNR=3.7
E38A The Farm, Brul 120.33 27 P **PKiKP** 11 21 29.1 0.0
baz=319
LPIG La Paz 120.43 59 PKP **PKiKP** 11 21 30.5 +0.6
comp=Z,8.0nm,0.3s,baz=222,slow=3.7,SNR=4.0
BGNE Belgrade 120.54 35 P **PKPdf** 11 21 29.6 0.0
baz=310
OUZM OUZ 120.76 310 P **PKiKP** 11 21 31.1 +0.5
SPMN Marine on St. 120.77 29 P **PKiKP** 11 21 30.2 +0.2
baz=317
SPMN Marine on St. 120.77 29 PKKPbc 11 31 36.1 -1.9
MNTX Cornudas Mount 121.19 49 P **PKiKP** 11 21 32.3 +1.1
baz=299
MNTX Cornudas Mount 121.19 49 PKiKP 11 21 31.9 +0.7
MNTX SKPdf **SKiKP** 11 24 14.5 -0.1
MNTX **PKKPbc** 11 31 34.7 -1.4
CBKS Cedar Bluff 121.20 39 P **PKiKP** 11 21 31.2 +0.1
baz=307
D41A Chassel 121.30 25 P **PKiKP** 11 21 31.5 +0.5
baz=322
G39A Holcombe 121.50 28 P **PKiKP** 11 21 31.4 0.0
baz=319
COWI Conover 121.80 26 PKiKP 11 21 32.1 +0.1
COWI SKPdf **SKPdf** 11 24 14.7 -0.2
COWI PKKPbc **PKKPbc** 11 31 31.4 -2.9
MSTX Muleshoe 121.93 45 P **PKiKP** 11 21 33.1 +0.3
baz=302
G40A Rib Lake 121.96 27 P **PKiKP** 11 21 32.5 +0.1
baz=320
AMTX Amarillo 122.20 43 P **PKiKP** 11 21 33.2 -0.1
baz=304
E43A Lone Tree Farm 122.50 25 P **PKPdf** 11 21 33.1 0.0
baz=323
E43A Lone Tree Farm 122.50 25 PKiKP 11 21 33.5 +0.1
F42A Maple Grove Fa 122.50 26 P **PKiKP** 11 21 33.5 +0.1
baz=322
MATQ Matagami 122.83 16 P **PKPdf** 11 21 33.2 -0.5
baz=335
KSU1 Kansas State U 122.93 37 P **PKiKP** 11 21 34.5 +0.1
baz=310

SCIA State Center 122.94 32 P **PKiKP** 11 21 34.4 0.0
baz=315
I41A Arkdale 123.03 28 P **PKPdf** 11 21 33.9 -0.3
baz=319
U32A Winter Ranch, 123.13 41 PKPdf 11 21 34.7 0.0
U32A **SKiKP** 11 24 18.4 +0.1
D46A Sault St. Mari 123.25 22 P **PKiKP** 11 21 35.2 +0.3
baz=327
D47A Chapleau 123.45 21 P **PKiKP** 11 21 35.3 0.0
baz=328
CHGQ Chibougamau 123.53 14 P **PKPdf** 11 21 35.1 +0.1
baz=339
E46A Sault Ste Mari 123.58 23 P **PKiKP** 11 21 35.6 +0.1
baz=326
I42A Draeger Farm, 123.61 28 P **PKPdf** 11 21 35.2 -0.1
baz=320
I42A Draeger Farm, 123.61 28 PKPdf 11 21 35.5 +0.1
I42A **PKKPbc** 11 31 25.5 -1.9
TX31 Lajitas Ar. Si 123.62 50 PKiKP 11 21 36.6 +0.4
TXAR Lajitas Array 123.62 50 PKP **PKiKP** 11 21 36.5 +0.3
comp=Z,8.9nm,0.8s,baz=237,slow=1.2,SNR=65
TXAR PKKPbc **PKKPbc** 11 31 27.1 +0.1
comp=Z,2.3nm,0.5s,baz=143,slow=4.7,SNR=29
TXAR Lajitas Array 123.62 50 PKPdf 11 21 35.9 0.0
LSQQ Lebel-sur-Quev 123.65 16 P **PKPdf** 11 21 35.1 -0.2
baz=336
F45A CMU Biological 123.66 24 P **PKiKP** 11 21 36.3 +0.6
baz=325
JFWS Jewell Farm 123.71 29 P **PKPdf** 11 21 35.4 -0.2
baz=319
D48A Paudash Townsh 123.81 20 P **PKPdf** 11 21 35.8 +0.1
baz=329
L40A Anamosa 123.86 31 P **PKPdf** 11 21 35.6 -0.2
baz=317
L40A Anamosa 123.86 31 PKPdf 11 21 35.3 -0.6
L40A SKPdf **SKPdf** 11 24 18.6 -0.2
E47A Iron Bridge 123.90 22 P **PKiKP** 11 21 36.4 +0.3
baz=328
G45A Suttons Bay 124.13 25 P **PKiKP** 11 21 37.0 +0.4
baz=324
G46A Petoskey 124.23 24 P **PKiKP** 11 21 37.0 +0.2
baz=325
WMOK Wichita Mounta 124.24 42 P **PKiKP** 11 21 37.5 +0.3
baz=306
WMOK Wichita Mounta 124.24 42 PKIKP **PKPdf** 11 21 36.8 -0.1
WMOK Wichita Mounta 124.24 42 PKPdf 11 21 36.9 -0.1
WMOK **PKKPbc** 11 31 22.8 -1.9
E48A Lockeyer 124.28 21 P **PKiKP** 11 21 37.2 +0.2
baz=329
H45A Beulah 124.30 25 P **PKiKP** 11 21 37.5 +0.5
baz=324
D50A G1974 Best Tow 124.48 19 P **PKPdf** 11 21 36.9 0.0
baz=332
F48A Evansville 124.67 22 P **PKiKP** 11 21 37.5 -0.2
baz=328
D51A Lot 18 Range I 124.70 19 P **PKPdf** 11 21 37.1 -0.2
baz=332
H46A Fife Lake 124.72 25 P **PKiKP** 11 21 37.9 +0.1
baz=325
GLMI Grayling 124.73 24 P **PKiKP** 11 21 38.1 +0.2
baz=325
G47A Hillman 124.75 23 P **PKiKP** 11 21 38.2 +0.3
baz=326
K43A Burlington 124.79 28 P **PKPdf** 11 21 37.6 -0.1
baz=320
E50A Wahnapitae 124.83 20 P **PKiKP** 11 21 37.9 -0.1
baz=330
ABTX Abilene, Hawle 124.86 45 P **PKiKP** 11 21 38.8 +0.3
baz=304
F49A Sandfield 124.94 22 P **PKiKP** 11 21 38.3 +0.1
baz=329
N41A Harden Midland 125.03 32 P **PKiKP** 11 21 38.5 -0.1
baz=317
H47A Mio 125.08 24 P **PKiKP** 11 21 38.8 +0.2
baz=326
D52A ZEK Kipawa Sen 125.11 18 P **PKPdf** 11 21 38.2 0.0
baz=333
E51A G1948 Merrick 125.15 19 P **PKPdf** 11 21 38.4 +0.2
baz=332
D53A Lac Vacive, Po 125.23 18 P **PKPdf** 11 21 38.3 0.0
baz=334
H48A Harrisville 125.35 23 P **PKiKP** 11 21 39.3 +0.3
baz=327
L44A Lake County Fo 125.39 28 P **PKiKP** 11 21 39.1 -0.2
baz=321
TUL1 Leonard 125.46 39 P **PKiKP** 11 21 39.8 +0.2
baz=310
TUL1 Leonard 125.46 39 PKiKP 11 21 39.5 -0.1
D54A Lac Fusel, La 125.47 17 P **PKPdf** 11 21 38.1 -0.8
baz=335
J46A Howard City 125.50 26 P **PKPdf** 11 21 39.1 +0.2
baz=324
F51A Arnstein 125.54 20 P **PKPdf** 11 21 39.2 +0.2
baz=331
TOBO Tobermory, Bru 125.59 21 P **PKiKP** 11 21 39.4 -0.1
baz=329
I48A Sherman Twp 125.63 24 P **PKiKP** 11 21 40.1 +0.4
baz=326
E52A Mattawa 125.64 19 P **PKPdf** 11 21 39.1 -0.1
baz=333
F52A Sundridge 125.86 19 P **PKiKP** 11 21 40.0 -0.1
baz=332
E53A Dumoine, Ponti 125.87 18 P **PKPdf** 11 21 39.7 +0.1
baz=334
JCT Junction City 125.92 47 P **PKiKP** 11 21 41.1 +0.4
baz=303
D55A Sainte-Anne-du 125.92 16 P **PKiKP** 11 21 40.3 +0.1
baz=337
M44A Midewin, Midew 125.94 29 P **PKiKP** 11 21 40.3 -0.1
baz=320
KLBO Killbear Provi 125.94 20 P **PKiKP** 11 21 40.1 -0.1
baz=331
J47A Sunmer 125.94 25 P **PKiKP** 11 21 40.8 +0.5
baz=325
HDIL Hopedale 125.95 31 P **PKiKP** 11 21 40.3 -0.1
baz=318
HDIL Hopedale 125.95 31 PKPdf 11 21 39.5 -0.4
E54A Lac Daplat, Po 125.97 17 P **PKPdf** 11 21 39.7 -0.1
baz=334
K46A Dorr 125.97 26 P **PKiKP** 11 21 40.6 +0.2
baz=323
D56A ZEC Mazanza, M 126.09 15 P **PKiKP** 11 21 40.4 -0.2
baz=338
ALGO Algonquin Park 126.13 18 P **PKiKP** 11 21 40.4 -0.2
baz=333
BUKO Buck Lake 126.14 20 P **PKPdf** 11 21 40.4 +0.3
baz=332
BMRO Meriville Lake 126.24 22 P **PKiKP** 11 21 41.3 +0.5
baz=329
LATQ La Tuque 126.27 14 P **PKiKP** 11 21 41.0 +0.2
baz=340
E55A Montcerf-Lytto 126.28 17 P **PKPdf** 11 21 40.4 +0.1
baz=336
K47A Vermontville 126.33 26 P **PKiKP** 11 21 41.2 +0.1
baz=324
J48A Bridge Port 126.33 24 P **PKiKP** 11 21 40.9 -0.2
baz=326
D57A Chemin Vers le 126.34 15 P **PKiKP** 11 21 40.8 -0.2
baz=339
BRCO Bruce Peninsul 126.46 22 P **PKiKP** 11 21 41.6 +0.3
baz=329
E56A St. Veronique 126.48 16 P **PKiKP** 11 21 41.2 -0.1
baz=337
P43A Skaggs, Pawnee 126.51 31 P **PKiKP** 11 21 41.5 -0.1
baz=318
P43A Skaggs, Pawnee 126.51 31 PKPdf 11 21 41.2 +0.1
D58A Chemin du LacG 126.51 14 P **PKiKP** 11 21 41.2 -0.2
baz=340
PMPS Porto Santo 126.52 318 *e*PKPdf **PKiKP** 11 21 42.5 +0.8
J49A Marlette 126.54 24 P **PKiKP** 11 21 41.3 -0.2
baz=326
BASO Ashfield 126.57 22 P **PKiKP** 11 21 42.3 +0.8
baz=328
K48A Perry 126.59 25 P **PKiKP** 11 21 41.6 0.0
baz=325
G54A Lake Saint Pet 126.61 19 P **PKPdf** 11 21 41.1 +0.1
baz=333
PEMO Pembroke 126.63 18 P **PKPdf** 11 21 41.2 +0.1
baz=334
H52A Wyevale 126.68 21 P **PKPdf** 11 21 41.4 +0.3
baz=331
G53A Haliburton 126.69 19 P **PKiKP** 11 21 41.5 -0.2
baz=332
CLWO Collingwood 126.70 21 P **PKiKP** 11 21 41.8 0.0
baz=330
CCM Cathedral Cave 126.73 34 P **PKiKP** 11 21 42.0 -0.1
baz=315
CCM Cathedral Cave 126.73 34 PKIKP **PKPdf** 11 21 41.6 +0.1

CCM Cathedral Cave 126.73 34 PKPdf 11 21 41.6 +0.1
WHTX Lake Whitney, 126.74 44 P **PKiKP** 11 21 43.0 +0.8
baz=306
F55A Otter Lake 126.76 17 P **PKPdf** 11 21 41.3 0.0
baz=335
SADO Sadowa 126.82 20 PKPdf 11 21 41.5 0.0
E57A Chemin Saint G 126.84 15 P **PKiKP** 11 21 41.8 -0.2
baz=338
D59A Saint-Raymond 126.84 13 P **PKiKP** 11 21 42.2 +0.3
baz=341
K49A Clarkson 126.89 25 P **PKiKP** 11 21 42.5 +0.3
baz=326
U40A Yellville 126.97 37 P **PKiKP** 11 21 42.5 -0.1
baz=313
I51A Listowel 126.99 22 P **PKPdf** 11 21 41.4 -0.4
baz=329
D61A St Aubert, Com 127.00 12 P **PKPdf** 11 21 41.9 +0.2
baz=343
BANO Bancroft 127.00 19 P **PKiKP** 11 21 42.2 -0.2
baz=333
I52A Shelburne 127.07 21 P **PKiKP** 11 21 42.7 +0.1
baz=330
KIC Kosan Boka 127.09 282 *e*PKIKP **PKPdf** 11 21 42.3 -0.5
comp=Z,197nm,0.8s
E58A La Victoria 127.09 14 P **PKiKP** 11 21 42.6 +0.1
baz=339
M47A Cromwell 127.10 27 P **PKiKP** 11 21 42.6 -0.1
baz=323
PMAR Madeira 127.11 318 *e*PKPdf **PKiKP** 11 21 44.7 +1.5
D60A Saint Jean D'O 127.12 12 P **PKiKP** 11 21 42.7 +0.2
baz=342
DBIC Dimbokro 127.14 282 PKP **PKPdf** 11 21 42.8 -0.1
comp=Z,76nm,0.9s,baz=59,slow=2.1,SNR=50
DBIC PP **PP** 11 23 48.9 -1.9
comp=Z,37nm,1.0s,baz=62,slow=7.5,SNR=5.8
DBIC SKPbc SKPbc 11 24 08.2
comp=Z,60nm,0.9s,baz=70,slow=4.3,SNR=9.8
L48A N Adams 127.16 26 P **PKiKP** 11 21 43.0 +0.2
baz=324
G55A Calabogie 127.17 18 P **PKPdf** 11 21 42.0 -0.1
baz=335
SFIN Lafayette 127.17 29 P **PKPdf** 11 21 42.4 +0.2
baz=321
SFIN Lafayette 127.17 29 PKPdf 11 21 42.4 +0.2
W39A Magazine 127.18 38 P **PKiKP** 11 21 43.0 -0.1
baz=311
H53A Bobcaygeon 127.18 20 P **PKiKP** 11 21 42.8 0.0
baz=332
K50A Casco 127.24 24 P **PKPdf** 11 21 42.4 +0.1
baz=327
PMOZ Porto Moniz, M 127.24 318 *e*PKPdf **PKiKP** 11 21 45.1 +1.7
F57A Harrington 127.25 16 P **PKiKP** 11 21 42.9 +0.1
baz=337
PLVO Plevna 127.25 18 P **PKiKP** 11 21 43.0 +0.1
baz=334
TIC Toumodi 127.31 282 *e*PKIKP **PKPdf** 11 21 42.8 -0.5
L49A Milan 127.31 25 P **PKiKP** 11 21 43.3 +0.2
baz=325
D62A Allapoint, All 127.34 11 P **PKiKP** 11 21 42.9 0.0
baz=344
D62A Allapoint, All 127.34 11 PKPdf 11 21 42.6 +0.2
435B Jarrell 127.35 45 P **PKiKP** 11 21 44.7 +1.2
baz=305
ORIO Orleans, Innes 127.35 17 P **PKiKP** 11 21 43.0 -0.1
baz=336
ALFO Alfred 127.36 16 P **PKPdf** 11 21 42.2 -0.3
baz=337
833A Chaparral WMA, 127.36 49 P **PKiKP** 11 21 45.2 +1.7
baz=302
LIC Lamto 127.39 281 *e*PKIKP **PKPdf** 11 21 42.4 -1.0
comp=Z,339nm,0.8s
M48A Edgerton 127.41 26 P **PKiKP** 11 21 43.2 -0.1
baz=324
M48A Edgerton 127.41 26 PKPdf 11 21 42.7 0.0
N47A Urbana 127.45 28 P **PKiKP** 11 21 43.2 -0.2
baz=323
I53A Kortright Cn E 127.49 21 P **PKiKP** 11 21 43.4 +0.1
baz=331
ACTO Acton 127.51 21 P **PKiKP** 11 21 43.6 +0.2
baz=330
E60A Ste Agathe de 127.53 13 P **PKiKP** 11 21 43.4 0.0
baz=341
DELO Deloro Mine 127.55 19 P **PKiKP** 11 21 43.4 -0.1
baz=333
H55A Tweed 127.66 19 P **PKPdf** 11 21 43.2 +0.1
baz=334
E61A Lac Etchemin 127.68 12 P **PKiKP** 11 21 43.8 0.0
baz=342
E62A Clayton Lake 127.69 11 P **PKPdf** 11 21 42.9 -0.1
baz=344
F59A Saint Guilaume 127.70 14 P **PKiKP** 11 21 43.8 +0.1
baz=340
P46A Rosedale 127.70 30 P **PKiKP** 11 21 44.3 +0.4
baz=320
FCAR Ozark Folk Cen 127.72 37 PKiKP 11 21 44.2 +0.1
K51A Iona Station 127.72 23 P **PKiKP** 11 21 44.3 +0.5
baz=328
MIAR Mount Ida 127.73 39 P **PKiKP** 11 21 44.8 +0.6
baz=311
DRWO Darlington Wes 127.75 20 P **PKiKP** 11 21 43.7 -0.2
baz=332
N48A Decatur 127.77 27 P **PKiKP** 11 21 44.2 +0.2
baz=323
F60A Warwick 127.79 14 P **PKiKP** 11 21 44.1 +0.2
baz=341
I55A Frankford 127.80 19 P **PKiKP** 11 21 44.3 +0.3
baz=333
G57A Newington 127.82 16 P **PKiKP** 11 21 43.9 -0.1
baz=337
H56A Elgin 127.91 18 P **PKiKP** 11 21 44.1 -0.1
baz=335
K52A Tillsonburg 127.98 22 P **PKiKP** 11 21 45.3 +0.9
baz=329
F61A St Evariste 128.00 13 P **PKiKP** 11 21 44.4 +0.1
baz=342
G58A Ormstown 128.03 16 P **PKiKP** 11 21 45.2 +0.8
baz=338
S44A Carbondale 128.08 33 P **PKiKP** 11 21 45.3 +0.5
baz=317
E63A Oxbow 128.09 10 P **PKiKP** 11 21 44.4 -0.1
baz=345
E63A Oxbow 128.09 10 PKiKP 11 21 44.3 -0.2
N49A Columbus Grove 128.10 26 P **PKiKP** 11 21 44.6 -0.1
baz=324
W41B Gary Mavity, V 128.13 37 P **PKiKP** 11 21 45.2 +0.3
baz=313
E64A Bridgewater 128.19 10 P **PKPdf** 11 21 44.1 +0.1
baz=346
M50A Fremont 128.20 25 P **PKiKP** 11 21 44.9 +0.1
baz=326
H57A Richville 128.29 17 P **PKiKP** 11 21 45.0 0.0
baz=336
F62A Pittston Farm, 128.29 12 P **PKiKP** 11 21 45.2 +0.2
baz=343
J54A Appleton 128.31 20 P **PKiKP** 11 21 45.1 0.0
baz=332
LONY Lake Ozonia 128.37 16 P **PKiKP** 11 21 45.2 0.0
baz=337
MEDO Medina 128.47 20 P **PKiKP** 11 21 45.5 +0.2
baz=332
G60A Masonville 128.52 14 P **PKiKP** 11 21 45.4 0.0
baz=340
G61A St-Isidore-de- 128.54 13 P **PKiKP** 11 21 45.4 0.0
baz=341
H59A Cadyville 128.59 16 P **PKiKP** 11 21 45.4 -0.2
baz=338
J55A Hilton 128.60 20 P **PKPdf** 11 21 45.1 +0.2
baz=333
M51A Elyria 128.62 25 P **PKiKP** 11 21 45.8 +0.1
baz=327
O49A Covington 128.62 27 P **PKiKP** 11 21 45.5 -0.3
baz=324
F64A Sherman 128.64 10 P **PKiKP** 11 21 45.3 -0.3
baz=345
F63A Nahmakanta, Br 128.65 11 P **PKPdf** 11 21 44.4 -0.5
baz=344
H58A Gabriels 128.67 16 P **PKiKP** 11 21 45.9 +0.1
baz=338
N50A Nevada 128.68 26 P **PKPdf** 11 21 45.1 -0.1
baz=325
I57A Carthage 128.68 18 P **PKiKP** 11 21 46.1 +0.3
baz=336
P48A Milroy 128.69 29 P **PKPdf** 11 21 45.4 +0.2
baz=322
NATX Nacogdoches 128.79 42 P **PKiKP** 11 21 47.9 +1.6
baz=308
L53A Girard 128.86 23 P **PKiKP** 11 21 47.0 +0.8
baz=329

K54A	Basiliko Farm,	128.87	21	P		PKPdf	11 21 45.3 -0.1
	baz=331						
N51A	Ashland	128.88	25	P		PKiKP	11 21 46.6 +0.3
	baz=326						
H60A	Morristown	128.93	15	P		PKiKP	11 21 46.7 +0.4
	baz=339						
Q48A	North Vernon	128.96	29	P		PKiKP	11 21 47.2 +0.7
	baz=322						
P49A	Miami Univ. Ec	128.97	28	P		PKiKP	11 21 46.8 +0.3
	baz=323						
L54A	Sinclairville	128.97	22	P		PKiKP	11 21 46.9 +0.5
	baz=330						
O50A	Cable	128.98	27	P		PKiKP	11 21 46.4 -0.1
	baz=325						
K55A	Perry	128.99	20	P		PKiKP	11 21 46.4 -0.1
	baz=332						
PKME	Peaks-Kenny Pk	129.04	12	P		PKiKP	11 21 47.1 +0.7
	baz=344						
USHA	Ushuaia	129.05	171	PKP		PKiKP	11 21 47.1 +1.0
	comp=Z,7.4nm,0.6s,baz=206,slow=3.8,SNR=4.1						
USHA				SKPbc		SKPbc	11 24 15.6 +0.7
	comp=Z,133nm,0.9s,baz=183,slow=6.2,SNR=23						
Z41A	Richland Creek	129.05	40	P		PKiKP	11 21 46.8 0.0
	baz=311						
J57A	Williamstown	129.06	18	P		PKiKP	11 21 47.2 +0.7
	baz=335						
G63A	Kingsbury	129.11	12	P		PKiKP	11 21 47.3 +0.7
	baz=343						
I58A	Old Forge	129.11	17	P		PKiKP	11 21 47.1 +0.4
	baz=336						
M53A	Wl Miller and	129.14	23	P		PKiKP	11 21 47.0 +0.2
	baz=329						
H61A	Lyndonville	129.15	14	P		PKiKP	11 21 47.3 +0.6
	baz=340						
G64A	Maxfield	129.15	11	P		PKiKP	11 21 46.8 +0.1
	baz=344						
ACSO	Alum Creek Sta	129.19	26	P		PKiKP	11 21 47.4 +0.5
	baz=325						
WCI	Wyandotte Cave	129.23	30	P		PKiKP	11 21 47.5 +0.5
	baz=321						
K56A	Middlesex	129.27	20	P		PKiKP	11 21 47.3 +0.2
	baz=333						
Q49A	Aurora	129.31	29	P		PKiKP	11 21 47.4 +0.3
	baz=323						
J58A	Remsen	129.32	18	P		PKiKP	11 21 47.7 +0.6
	baz=336						
J58A	Remsen	129.32	18			PKiKP	11 21 47.4 +0.3
J58A						PP	11 24 15.7 +13
I59A	Olmsteadville	129.33	16	P		PKiKP	11 21 47.8 +0.7
	baz=338						
P50A	Jamestown	129.33	27	P		PKPdf	11 21 46.7 +0.2
	baz=324						
L55A	Hinsdale	129.34	21	P		PKiKP	11 21 47.0 -0.2
	baz=332						
G65A	Princeton	129.42	10	P		PKiKP	11 21 47.8 +0.6
	baz=346						
O51A	Pataskala	129.42	26	P		PKiKP	11 21 47.2 -0.2
	baz=326						
LBNH	Lisbon	129.43	14	P		PKiKP	11 21 48.0 +0.7
	baz=340						
I60A	Shoreham	129.44	16	P		PKiKP	11 21 47.9 +0.6
	baz=338						
J59A	Piesco	129.46	17	P		PKiKP	11 21 47.4 0.0
	baz=337						
H63A	New Sharon	129.46	12	P		PKiKP	11 21 47.2 -0.1
	baz=343						
M54A	Oil Creek Stat	129.47	22	P		PKiKP	11 21 47.3 -0.2
	baz=330						
K57A	Scipio Center	129.51	19	P		PKiKP	11 21 47.4 -0.1
	baz=334						
N53A	Lisbon	129.61	24	P		PKiKP	11 21 48.2 +0.4
	baz=328						
L56A	Greenwood	129.69	20	P		PKiKP	11 21 47.7 -0.2
	baz=333						
K58A	Earlville	129.75	18	P		PKiKP	11 21 48.1 +0.1
	baz=335						
P51A	Williamsport	129.77	27	P		PKiKP	11 21 47.8 -0.3
	baz=325						
O52A	Adamsville	129.78	25	P		PKiKP	11 21 48.1 0.0
	baz=327						
H65A	Eastbrook	129.78	11	P		PKiKP	11 21 47.9 0.0
	baz=345						
N54A	Moraine State	129.82	23	P		PKiKP	11 21 48.5 +0.3
	baz=329						
M55A	Ridgway	129.84	22	P		PKPdf	11 21 47.8 +0.4
	baz=331						
Q50A	Georgetown	129.87	28	P		PKPdf	11 21 47.7 +0.2
	baz=324						
H66A	Whiting	129.87	10	P		PKPdf	11 21 47.7 +0.5
	baz=346						
I63A	Otisfield	129.92	13	P		PKiKP	11 21 48.6 +0.4
	baz=342						
O53A	New Philadelph	129.93	25	P		PKiKP	11 21 48.3 -0.1
	baz=327						
K59A	Cooperstown	129.99	18	P		PKiKP	11 21 48.5 0.0
	baz=336						
WVT	Waverly	130.00	33	P		PKiKP	11 21 48.3 -0.4
	baz=318						
WVT	Waverly	130.00	33	PKIKP		PKPdf	11 21 47.5 -0.3
WVT	Waverly	130.00	33			PKPdf	11 21 47.5 -0.3
WVT						SKPbc	11 24 19.0 +0.1
Q51A	Peebles	130.01	27	P		PKPdf	11 21 47.7 0.0
	baz=324						
M56A	Emporium	130.04	21	P		PKPdf	11 21 47.9 +0.1
	baz=332						
L57A	Andrews Acres	130.05	20	P		PKPdf	11 21 47.9 +0.1
	baz=333						
P52A	Corning	130.05	26	P		PKPdf	11 21 48.2 +0.4
	baz=326						
S49A	Springfield	130.07	30	P		PKPdf	11 21 48.1 +0.2
	baz=322						
R50A	Paris	130.15	29	P		PKPdf	11 21 48.3 +0.3
	baz=323						
BINY	Binghamton	130.16	19	P		PKiKP	11 21 48.5 -0.4
	baz=334						
OXF	Oxford	130.28	36	P		PKiKP	11 21 49.2 0.0
	baz=315						
O54A	Avella	130.33	24	P		PKiKP	11 21 48.9 -0.3
	baz=328						
L58A	Harry Jones Me	130.34	19	P		PKiKP	11 21 49.0 -0.2
	baz=335						
N55A	Marion Center	130.36	22	P		PKiKP	11 21 49.3 0.0
	baz=330						
J62A	Henniker	130.41	15	P		PKiKP	11 21 49.2 0.0
	baz=340						
K60A	Five Rivers En	130.41	17	P		PKiKP	11 21 49.8 +0.6
	baz=337						
L59A	Walton	130.46	18	P		PKPdf	11 21 48.9 +0.3
	baz=336						
T49A	Edmonton	130.48	31	P		PKiKP	11 21 49.3 -0.3
	baz=321						
R51A	Hillsboro	130.49	28	P		PKiKP	11 21 50.5 +0.9
	baz=324						
P53A	Whipple	130.49	25	P		PKiKP	11 21 49.2 -0.4
	baz=327						
N56A	West Decatur	130.50	22	P		PKiKP	11 21 49.2 -0.4
	baz=331						
K61A	Williamstown	130.54	16	P		PKiKP	11 21 49.5 -0.1
	baz=338						
M57A	Sunshine Farm,	130.54	20	P		PKPdf	11 21 49.1 +0.4
	baz=333						
Q52A	Bidwell	130.55	26	P		PKPdf	11 21 48.8 +0.1
	baz=326						
S50A	Richmond	130.59	29	P		PKPdf	11 21 49.2 +0.3
	baz=322						
O55A	Ligonier	130.73	23	P		PKiKP	11 21 50.2 +0.2
	baz=330						
M58A	Price's Panora	130.74	20	P		PKPdf	11 21 49.3 +0.3
	baz=334						
P54A	Burton	130.78	24	P		PKPdf	11 21 49.3 +0.1
	baz=328						
U49A	Red Boiling Sp	130.81	31	P		PKPdf	11 21 49.8 +0.5
	baz=320						
K62A	Royalston	130.82	15	P		PKiKP	11 21 50.2 +0.1
	baz=339						
V48A	Smith Brothers	130.84	33	P		PKPdf	11 21 49.8 +0.4
	baz=319						
R52A	Catlettsburg	130.89	27	P		PKiKP	11 21 50.1 -0.3
	baz=325						
T50A	Nancy	130.89	30	P		PKiKP	11 21 50.1 -0.4
	baz=322						
SSPA	Standing Stone	130.89	21	P		PKiKP	11 21 49.9 -0.5
	baz=332						
SSPA	Standing Stone	130.89	21			PKPdf	11 21 49.5 +0.2
SSPA						SKPbc	11 24 21.8 -0.4
L61A	Hillsdale 1, H	130.90	17	P		PKiKP	11 21 50.0 -0.3
	baz=338						
L61B	Northampton	130.91	16	P		PKiKP	11 21 50.6 +0.3
	baz=339						
N57A	Milroy	130.91	21	P		PKPdf	11 21 49.8 +0.4
	baz=332						
M59A	Waymart	130.93	19	P		PKiKP	11 21 50.0 -0.4
	baz=335						
Q53A	Leroy	130.96	26	P		PKiKP	11 21 50.3 -0.3
	baz=326						
O56A	Blue Knob Stat	130.96	22	P		PKiKP	11 21 50.3 -0.3
	baz=331						
MCWV	Mont Chateau	130.99	24	P		PKiKP	11 21 50.8 +0.2
	baz=329						
S51A	Beattyville	131.01	29	P		PKPdf	11 21 49.8 +0.1
	baz=323						
P55A	Reedsville	131.12	24	P		PKiKP	11 21 50.4 -0.5
	baz=329						
N58A	Sunbury	131.13	20	P		PKPdf	11 21 50.2 +0.5
	baz=333						
HRV	Adam Dziewonsk	131.15	15	P		PKiKP	11 21 51.2 +0.4
	baz=340						
Q54A	Coxs Mills	131.15	25	P		PKiKP	11 21 50.6 -0.3
	baz=327						
R53A	Hurricane	131.21	27	P		PKPdf	11 21 50.2 +0.2
	baz=326						
S52A	Salyersville	131.22	28	P		PKiKP	11 21 50.6 -0.5
	baz=324						
V49A	McMinnville	131.31	32	P		PKPdf	11 21 50.3 0.0
	baz=320						
O57A	Amberson	131.36	21	P		PKPdf	11 21 50.3 +0.1
	baz=332						
U50A	Jamestown	131.36	31	P		PKPdf	11 21 50.9 +0.5
	baz=321						
T51A	Gray	131.38	29	P		PKPdf	11 21 50.8 +0.4
	baz=323						
N59A	State Game Lan	131.38	19	P		PKPdf	11 21 50.7 +0.4
	baz=334						
Q55A	Buckhannon	131.46	24	P		PKPdf	11 21 51.0 +0.5
	baz=328						
P56A	Dayton Farm, R	131.52	23	P		PKiKP	11 21 51.4 -0.2
	baz=330						
W49A	Belvidere	131.60	33	P		PKPdf	11 21 51.0 +0.2
	baz=319						
N60A	Cedar Hill Far	131.64	19	P		PKPdf	11 21 51.3 +0.5
	baz=335						
M61A	Granite Spring	131.65	17	P		PKiKP	11 21 51.5 -0.3
	baz=337						
S53A	Williamson	131.66	27	P		PKPdf	11 21 51.5 +0.5
	baz=325						
X48A	Hartselle	131.67	34	P		PKPdf	11 21 51.0 0.0
	baz=318						
O58A	Lewisberry	131.69	21	P		PKPdf	11 21 51.0 +0.1
	baz=333						
T52A	Hallie	131.72	28	P		PKiKP	11 21 51.7 -0.5
	baz=324						
R54A	Victor	131.75	26	P		PKPdf	11 21 51.1 0.0
	baz=327						
Q56A	Snyder Ridge,	131.78	24	P		PKPdf	11 21 51.4 +0.3
	baz=329						
O59A	Robesonia	131.78	20	P		PKPdf	11 21 51.5 +0.4
	baz=334						
V50A	Pikevile	131.80	31	P		PKiKP	11 21 52.1 -0.2
	baz=321						
U51A	La Follette	131.80	30	P		PKiKP	11 21 52.6 +0.2
	baz=322						
P57A	Homestead Farm	131.85	22	P		PKiKP	11 21 52.0 -0.3
	baz=331						
L64A	Middleborough	131.86	14	P		PKiKP	11 21 51.7 -0.5
	baz=341						
PAL	Palisades	131.89	18	P		PKiKP	11 21 52.2 -0.1
	baz=337						
TZTN	Tazewell	131.90	29	P		PKiKP	11 21 52.0 -0.5
	baz=323						
S54A	Dingess, Beckl	131.93	26	P		PKPdf	11 21 51.4 -0.1
	baz=326						
O60A	Telford	132.04	19	P		PKiKP	11 21 52.5 -0.2
	baz=334						
W50A	Signal Mountai	132.05	32	P		PKiKP	11 21 52.4 -0.5
	baz=320						
V51A	Loudon	132.09	31	P		PKiKP	11 21 52.4 -0.5
	baz=322						
U52A	Thorn Hill	132.11	29	P		PKPdf	11 21 52.1 +0.3
	baz=323						
P58A	Pank, Wackersv	132.12	22	P		PKPdf	11 21 52.1 +0.5
	baz=332						
R56A	Bull Pasture M	132.23	24	P		PKiKP	11 21 52.8 -0.4
	baz=329						
CPCT	Cooper Cave	132.27	31			PKPdf	11 21 52.3 +0.2
CPCT						SKPbc	11 24 27.1 -0.1
P59A	Jarrettsville	132.32	21	P		PKiKP	11 21 52.9 -0.3
	baz=333						
W51A	Cleveland	132.37	32	P		PKiKP	11 21 54.1 +0.6
	baz=321						
P60A	Greenville	132.42	20	P		PKiKP	11 21 52.9 -0.5
	baz=334						
T54A	Tazewell	132.42	27	P		PKPdf	11 21 52.9 +0.5
	baz=325						
V52A	Sevierville	132.44	30	P		PKiKP	11 21 53.2 -0.4
	baz=322						
Q58A	Fox Den Farm,	132.45	22	P		PKiKP	11 21 53.2 -0.3
	baz=331						
Y49A	Blount Mountai	132.46	34	P		PKiKP	11 21 53.6 -0.1
	baz=318						
U53A	Fall Branch	132.52	29	P		PKPdf	11 21 52.9 +0.3
	baz=324						
R57A	Stanardsville	132.68	24	P		PKiKP	11 21 53.8 -0.2
	baz=330						
T55A	Pulaski	132.73	26	P		PKiKP	11 21 53.9 -0.3
	baz=326						
LRAL	Lakeview Retre	132.73	35	P		PKiKP	11 21 53.8 -0.5
	baz=317						
X51A	Calhoun	132.78	32	P		PKiKP	11 21 54.9 +0.6
	baz=320						
S56A	Natural Bridge	132.79	25	P		PKPdf	11 21 53.2 +0.2
	baz=328						
BLA	Blacksburg	132.81	26	P		PKPdf	11 21 53.2 +0.1
	baz=327						
W52A	Murphy	132.85	31	P		PKPdf	11 21 53.9 +0.6
	baz=322						
R58A	Rapidan	132.89	23	P		PKPdf	11 21 53.2 0.0
	baz=330						
V53A	Saluda	132.96	29	P		PKiKP	11 21 54.3 -0.5
	baz=323						
S57A	Dark Hollow, R	132.97	24	P		PKPdf	11 21 53.3 0.0
	baz=329						
Q60A	Greensboro	133.07	21	P		PKiKP	11 21 54.4 -0.3
	baz=333						
U55A	TA2, Sparta	133.12	27	P		PKPdf	11 21 54.4 +0.6
	baz=326						
T56A	Rocky Mt	133.13	26	P		PKPdf	11 21 53.9 +0.2
	baz=327						
W53A	Cullowhee	133.18	30	P		PKiKP	11 21 55.0 -0.3
	baz=322						
Z50A	Ashland	133.18	34	P		PKPdf	11 21 54.5 +0.6
	baz=318						
CBN	Corbin Frederi	133.21	23	P		PKiKP	11 21 55.0 -0.1
	baz=331						
R58B	Mineral	133.23	23	P		PKiKP	11 21 54.7 -0.4
	baz=330						
X52A	Dahlonega	133.25	31	P		PKiKP	11 21 55.2 -0.2
	baz=321						
V54A	Nebo	133.29	29	P		PKiKP	11 21 54.9 -0.4
	baz=324						
S58A	Poland Farm, P	133.46	24	P		PKiKP	11 21 55.6 0.0
	baz=330						
T57A	Hurt	133.49	25	P		PKiKP	11 21 55.1 -0.6
	baz=328						
U56A	King	133.55	27	P		PKPdf	11 21 55.2 +0.7
	baz=326						
V55A	Taylorsville	133.57	28	P		PKiKP	11 21 55.6 -0.3
	baz=325						
S59A	Mechanicsville	133.63	23	P		PKiKP	11 21 56.7 +0.8
	baz=331						
X53A	Estanollee	133.64	31	P		PKiKP	11 21 55.7 -0.3
	baz=322						
W54A	Cherokee Point	133.73	29	P		PKPdf	11 21 55.5 +0.6
	baz=324						
Y52A	Liburn	133.74	32	P		PKiKP	11 21 56.5 +0.2
	baz=321						
T58A	Grand View Acr	133.84	25	P		PKPdf	11 21 55.4 +0.5
	baz=329						
250A	Grady	133.92	36	P		PKPdf	11 21 56.0 +0.7
	baz=317						
S60A	Water View	133.92	22	P		PKiKP	11 21 57.3 +0.8
	baz=332						
U57A	Blanch	133.94	26	P		PKPdf	11 21 55.9 +0.7
	baz=328						
V56A	Mocksville	133.94	27	P		PKPdf	11 21 55.9 +0.7
	baz=326						
Y53A	Monroe	134.00	32	P		PKiKP	11 21 56.5 -0.3
	baz=321						
BRAL	Brewton	134.04	37	P		PKiKP	11 21 58.1 +1.2
	baz=316						
BRAL	Brewton	134.04	37			PKPdf	11 21 54.4 -1.1
BRAL						SKPbc	11 24 33.4 +0.4
Z52A	Williamson	134.06	33	P		PKiKP	11 21 56.7 -0.3
	baz=320						
X54A	Belton	134.07	30	P		PKiKP	11 21 56.2 -0.7
	baz=323						
KMSC	Kings Mountain	134.10	29	P		PKPdf	11 21 55.9 +0.3
	baz=325						
V57A	Coltrane Farms	134.20	26	P		PKPdf	11 21 56.0 +0.3
	baz=327						
T59A	Double "B" Far	134.22	24	P		PKiKP	11 21 56.7 -0.4
	baz=330						
U58A	Oxford	134.30	25	P		PKiKP	11 21 57.4 0.0
	baz=329						
T60A	Surry	134.39	23	P		PKPdf	11 21 56.7 +0.7
	baz=332						
GOGA	Godfrey	134.40	32	P		PKiKP	11 21 58.0 +0.3
	baz=321						
Z53A	Monticello	134.45	32	P		PKiKP	11 21 57.3 -0.4
	baz=321						
Y54A	Tignall	134.45	31	P		PKiKP	11 21 57.5 -0.2
	baz=322						
W56A	Indian Trail	134.46	28	P		PKiKP	11 21 57.7 -0.1
	baz=326						
V58A	Windy Hill, Pi	134.57	26	P		PKPdf	11 21 56.6 +0.3
	baz=328						
U59A	Littleton	134.65	24	P		PKPdf	11 21 56.9 +0.4
	baz=330						
W57A	Gilead	134.71	27	P		PKPdf	11 21 56.7 +0.1
	baz=326						
W57A	Gilead	134.71	27			PKPpre	11 21 44.8
W57A				PKPdf		PKiKP	11 21 58.3 +0.1
W57A						SKPbc	11 24 35.1 0.0
X56A	White Oak	134.77	29	P		PKPdf	11 21 57.5 +0.7
	baz=325						
252A	Lumpkin	134.79	34	P		PKPdf	11 21 57.3 +0.4
	baz=319						
153A	Fort Valley	134.79	33	P		PKiKP	11 21 57.8 -0.7
	baz=320						
U60A	Pendleton	134.81	24	P		PKiKP	11 21 57.6 -0.7
	baz=331						
Y55A	Saluda	134.81	30	P		PKiKP	11 21 57.9 -0.6
	baz=323						
Z54A	Sparta	134.87	32	P		PKPdf	11 21 57.7 +0.7
	baz=322						
V59A	Middlesex	134.97	25	P		PKPdf	11 21 57.5 +0.4
	baz=329						
352A	Blakely	135.06	35	P		PKPdf	11 21 58.2 +0.8
	baz=318						
253A	Americus	135.08	34	P		PKiKP	11 21 58.3 -0.8
	baz=320						
W58A	Raeford	135.17	27	P		PKPdf	11 21 58.0 +0.5
	baz=327						
Y56A	Pelion	135.20	30	P		PKiKP	11 21 59.6 +0.4
	baz=324						
X58A	Rowland	135.51	27	P		PKPdf	11 21 58.7 +0.6
	baz=327						
155A	Kite	135.54	32	P		PKPdf	11 21 58.7 +0.4
	baz=322						
Z56A	Williston	135.55	30	P		PKiKP	11 21 59.2 -0.8
	baz=324						
TIGA	Tifton	135.85	34	P		PKiKP	11 21 59.8 -0.8
	baz=320						
Z57A	Bowman	135.90	29	P		PKiKP	11 22 00.0 -0.7
	baz=324						
X60A	Albert Glenn T	136.09	26	P		PKPdf	11 21 59.7 +0.5
	baz=329						
Z58A	St. Stephen	136.30	29	P		PKiKP	11 22 00.6 -0.9
	baz=326						
PLCA	Paso Flores	141.94	163	PKhKP		PKPpre	11 22 06.2
	comp=Z,4.3nm,0.4s,baz=229,slow=4.7,SNR=46						
PLCA				SKPbc		SKiKP	11 24 56.1 -0.5
	comp=Z,18nm,0.6s,baz=255,slow=2.4,SNR=12						
PLCA	Paso Flores	141.94	163	eP		PKPdf	11 22 07.8 -2.0
PLCA	Paso Flores	141.94	163	eP		PKPdf	11 22 07.8 -2.0
CRIN	San Cristobal	145.18	60	eP		PKiKP	11 22 19.7 -0.6
MATN	Matagalpa	146.04	59	eP		PKPbc	11 22 20.5 +1.0
TRQA	Tornquist	146.38	172	PKP2		PKPbc	11 22 19.5 -0.3
TRQA	Tornquist	146.38	172			PKPbc	11 22 19.5 -0.3
TRQA	Tornquist	146.38	172	eP		PKPdf	11 22 16.3 -1.2
TRQA	Tornquist	146.38	172	eP		PKPdf	11 22 16.3 -1.2
ACON	Acoyapa	147.14	60	eP		PKiKP	11 22 23.9 -0.3
ACON	Acoyapa	147.14	60			PKiKP	11 22 23.4 -0.8
ACON						SKPbc	11 25 07.7 -0.1
CUI	Cuipilapa	147.75	62	eP		PKPbc	11 22 24.8 +0.7
ESPN	Las Esperanzas	147.78	58			PKPbc	11 22 23.9 -0.1
JTS	Las Juntas de	148.10	62	eP		PKiKP	11 22 26.2 -0.1
JTS	Las Juntas de	148.10	62			PKPdf	11 22 22.1 +1.1
JTS				PKPbc		PKiKP	11 22 25.8 -0.5
JTS				PKPab		PKPab	11 22 31.8 +1.9
ARE1	Arenal 1	148.23	62	eP		PKiKP	11 22 26.3 -0.2
CEDE	Laguna Cedeo	148.24	62	eP		PKiKP	11 22 26.3 -0.3
ROC1	El Roble	148.76	156	PKPab		PKPab	11 22 33.1 +0.8
LCR2	La Lucha 2	149.18	62	eP		PKiKP	11 22 30.2 +1.5
GTBY	Guantanamo Bay	149.55	36			PKPbc	11 22 28.5 +0.2
GTBY				PKPab		PKPab	11 22 37.0 +1.4
PRVC	Isla de Provid	149.59	54	eP		PKiKP	11 22 29.1 -0.1
PRVC	Isla de Provid	149.59	54	eP		PKiKP	11 22 29.1 -0.1
OGAUY	Aigu	150.40	183	eP		PKPdf	11 22 24.8 +0.8
OGAUY	Aigu	150.40	183	eP		PKPdf	11 22 24.8 +0.8
CFA	Coronel Fontan	151.04	159	PKP		PKPdf	11 22 25.4 +0.2
	comp=Z,4.4nm,0.5s,baz=199,slow=2.8,SNR=7.5						
CFA				PKPbc		PKiKP	11 22 31.8 -0.1
	comp=Z,54nm,0.5s,baz=213,slow=2.4,SNR=37						
CFA				PKPab		PKPab	11 22 42.2 +0.7
	comp=Z,41nm,0.4s,baz=232,slow=2.6,SNR=5.4						
LCO	Las Campanas	152.32	153	PKIKP		PKPbc	11 22 34.8 0.0
LCO							11 22 47.3
LCO	Las Campanas	152.32	153			PKPbc	11 22 34.8 0.0
LCO				PKPab		PKPab	11 22 47.3 0.0
LCO	Las Campanas	152.32	153	eP		PKPdf	11 22 27.3 -0.1
LCO	Las Campanas	152.32	153	eP		PKPdf	11 22 27.3 -0.1
PLTB	Pedras Altas	152.87	186	eP		PKPdf	11 22 27.3 -0.5
PLTB	Pedras Altas	152.87	186	eP		PKPdf	11 22 27.3 -0.5
BCIP	Isla Barro Col	153.08	59	eP		PKPdf	11 22 28.1 -0.5
BCIP	Isla Barro Col	153.08	59	eP		PKPdf	11 22 28.1 -0.5
BCIP	Isla Barro Col	153.08	59	eP		PKPdf	11 22 28.9 +0.3
DR12	Loma Pena Alta	153.53	28	PKPbc		PKPbc	11 22 36.6 -0.7
DR12						PKPab	11 22 53.3 +0.8
CPSB	Cacapava Do Su	154.20	186	eP		PKPdf	11 22 29.3 -0.4
CPSB	Cacapava Do Su	154.20	186	eP		PKPdf	11 22 29.3 -0.4
SJG	San Juan	155.51	22	PKP		PKPdf	11 22 32.1 +0.4
	comp=Z,8.0nm,0.3s,baz=83,slow=4.2,SNR=4.3						
SJG				PKPab		PKPab	11 23 01.0 +0.2
	comp=Z,26nm,0.7s,baz=43,slow=5.8,SNR=8.3						
SJG	San Juan	155.51	22			PKPab	11 23 00.6 -0.2
MTP	Monte Pirata	155.74	21	PKPdf		PKPdf	11 22 31.3 -0.7
MTP						PKPab	11 23 01.6 -0.2
SJCC	San Jacinto, C	156.52	52	eP		PKPdf	11 22 34.0 +0.8
SJCC	San Jacinto, C	156.52	52	eP		PKPdf	11 22 34.0 +0.8
DBBC	Dabeiba	157.26	60	eP		PKPdf	11 22 35.9 +1.7
DBBC	Dabeiba	157.26	60	eP		PKPdf	11 22 35.9 +1.7
OTAV	Otavalo	157.64	78	eP		PKPdf	11 22 35.9 +0.7
OTAV	Otavalo	157.64	78	eP		PKPdf	11 22 35.9 +0.7
OTAV	Otavalo	157.64	78	PKIKP		PKPdf	11 22 36.3 +1.1
OTAV	Otavalo	157.64	78			PKPdf	11 22 36.3 +1.1
OTAV						PKPab	11 23 12.9 +1.8
OTAV	Otavalo	157.64	78	eP		PKPdf	11 22 33.7 -1.5
OTAV	Otavalo	157.64	78	eP		PKPdf	11 22 33.7 -1.5

CPUP SKP **SKPdf** **11 25 16.2 +0.9**
comp=Z,6.9nm,0.8s,baz=129,slow=0.5,SNR=3.2
CPUP Villa Florida 158.42 178 *eP* **PKPdf** **11 22 35.0 -0.2**
CPUP Villa Florida 158.42 178 *eP* **PKPdf** **11 22 35.0 -0.2**
YOTC Yotoco, Valle 158.49 67 *eP* **PKPdf** **11 22 36.7 +0.9**
YOTC Yotoco, Valle 158.49 67 *eP* **PKPdf** **11 22 36.7 +0.9**
LVC Limon Verde 158.53 147 PKP **PKPdf** **11 22 37.8 +2.0**
comp=Z,4.6nm,0.8s,baz=238,slow=3.5,SNR=6.6
LVC PKPab **PKPab** **11 23 16.6 +2.2**
comp=Z,28nm,0.9s,baz=233,slow=4.0,SNR=19
LVC Limon Verde 158.53 147 **PKPab** **11 23 16.2 +1.8**
LVC Limon Verde 158.53 147 *eP* **PKPdf** **11 22 36.0 +0.1**
LVC Limon Verde 158.53 147 *eP* **PKPdf** **11 22 36.0 +0.1**
NNA Nana 158.69 111 PKP **PKPdf** **11 22 37.3 +1.4**
comp=Z,11nm,0.8s,baz=271,slow=6.2,SNR=4.7
NNA PKPab **PKPab** **11 23 16.4 +1.3**
comp=Z,11nm,0.7s,baz=305,slow=6.3,SNR=3.6
CRUC La Cruz 158.75 74 *eP* **PKPdf** **11 22 38.0 +1.6**
CRUC La Cruz 158.75 74 *eP* **PKPdf** **11 22 38.0 +1.6**
GUY2C Guyana, Caldas 158.85 63 *eP* **PKPdf** **11 22 36.9 +0.3**
GUY2C Guyana, Caldas 158.85 63 *eP* **PKPdf** **11 22 36.9 +0.3**
SOTA Rioblanco 158.91 72 *eP* **PKPdf** **11 22 38.2 +1.5**
SOTA Rioblanco 158.91 72 *eP* **PKPdf** **11 22 38.2 +1.5**
PTBC PUERTO BERRIO 159.00 58 *eP* **PKPdf** **11 22 35.8 -0.5**
PTBC PUERTO BERRIO 159.00 58 *eP* **PKPdf** **11 22 35.8 -0.5**
RREF El Recreo 159.01 63 *eP* **PKPdf** **11 22 38.2 +1.2**
RREF El Recreo 159.01 63 *eP* **PKPdf** **11 22 38.2 +1.2**
PCON Cinco Dias 159.04 71 *eP* **PKPdf** **11 22 38.6 +1.6**
PCON Cinco Dias 159.04 71 *eP* **PKPdf** **11 22 38.6 +1.6**
NORC Norcasia 159.13 61 *eP* **PKPdf** **11 22 36.2 -0.2**
NORC Norcasia 159.13 61 *eP* **PKPdf** **11 22 36.2 -0.2**
BSFB Barra de Sao F 159.13 226 *eP* **PKPdf** **11 22 36.6 +0.4**
BSFB Barra de Sao F 159.13 226 *eP* **PKPdf** **11 22 36.6 +0.4**
NBAN Anadia - AL 159.23 255 *eP* **PKPdf** **11 22 36.7 +0.3**
NBAN Anadia - AL 159.23 255 *eP* **PKPdf** **11 22 36.7 +0.3**
RCBR Riachuelo 159.35 266 PKIKP **PKPdf** **11 22 36.8 +0.2**
RCBR 11 23 17.8
RCBR Riachuelo 159.35 266 PKPab **PKPab** **11 23 18.7 +0.6**
comp=Z,129nm,0.8s,baz=90,slow=4.2,SNR=8.2
RCBR Riachuelo 159.35 266 **PKPdf** **11 22 36.8 +0.2**
RCBR **PKPab** **11 23 17.8 -0.3**
RCBR Riachuelo 159.35 266 *eP* **PKPdf** **11 22 35.0 -1.7**
RCBR Riachuelo 159.35 266 *eP* **PKPdf** **11 22 35.0 -1.7**
SJMB Sao Joao De Ma 159.46 226 *eP* **PKPdf** **11 22 37.0 +0.4**
SJMB Sao Joao De Ma 159.46 226 *eP* **PKPdf** **11 22 37.0 +0.4**
PTGB Pitanga 159.57 192 *eP* **PKPdf** **11 22 36.6 -0.1**
PTGB Pitanga 159.57 192 *eP* **PKPdf** **11 22 36.6 -0.1**
SPBC San Pablo de B 159.78 60 *eP* **PKPdf** **11 22 37.5 +0.3**
SPBC San Pablo de B 159.78 60 *eP* **PKPdf** **11 22 37.5 +0.3**
ROSC El Rosal 159.95 62 PKP **PKPdf** **11 22 39.0 +1.2**
comp=Z,15nm,0.6s,baz=152,slow=18,SNR=7.0
ROSC PKPab **PKPab** **11 23 21.2 +0.2**
comp=Z,8.9nm,0.5s,baz=223,slow=24,SNR=3.0
BARC Barichara 160.04 56 *eP* **PKPdf** **11 22 38.0 +0.3**
BARC Barichara 160.04 56 *eP* **PKPdf** **11 22 38.0 +0.3**
BSCB Bom Sucesso 160.09 214 *eP* **PKPdf** **11 22 36.9 -0.5**
BSCB Bom Sucesso 160.09 214 *eP* **PKPdf** **11 22 36.9 -0.5**
FRTB Fartura 160.20 199 *eP* **PKPdf** **11 22 37.0 -0.3**
FRTB Fartura 160.20 199 *eP* **PKPdf** **11 22 37.0 -0.3**
NBLI Livramento-PB 160.27 261 *eP* **PKPdf** **11 22 37.6 -0.1**
NBLI Livramento-PB 160.27 261 *eP* **PKPdf** **11 22 37.6 -0.1**
NBLA Lagarto - SE 160.33 250 *eP* **PKPdf** **11 22 37.6 -0.1**
NBLA Lagarto - SE 160.33 250 *eP* **PKPdf** **11 22 37.6 -0.1**
RUSC La Rusia 160.50 58 *eP* **PKPdf** **11 22 38.2 -0.3**
RUSC La Rusia 160.50 58 *eP* **PKPdf** **11 22 38.2 -0.3**
NBPA Parau_RN 160.56 266 *eP* **PKPdf** **11 22 37.6 -0.4**
NBPA Parau_RN 160.56 266 *eP* **PKPdf** **11 22 37.6 -0.4**
SDV Santo Domingo 160.60 46 **PKPdf** **11 22 38.5 +0.3**
SDV Santo Domingo 160.60 46 *eP* **PKPdf** **11 22 37.4 -0.8**
SDV Santo Domingo 160.60 46 *eP* **PKPdf** **11 22 37.4 -0.8**
NBTA Tacaratu-PE 161.07 255 *eP* **PKPdf** **11 22 38.3 -0.2**
NBTA Tacaratu-PE 161.07 255 *eP* **PKPdf** **11 22 38.3 -0.2**
BB19B Bebedouro 161.89 205 *eP* **PKPdf** **11 22 38.5 -0.7**
BB19B Bebedouro 161.89 205 *eP* **PKPdf** **11 22 38.5 -0.7**
NBMA Muriti-CE 162.06 260 *eP* **PKPdf** **11 22 39.5 -0.1**
NBMA Muriti-CE 162.06 260 *eP* **PKPdf** **11 22 39.5 -0.1**
PCMB Pacaembu 162.36 197 *eP* **PKPdf** **11 22 39.3 -0.3**
PCMB Pacaembu 162.36 197 *eP* **PKPdf** **11 22 39.3 -0.3**
NBPN Ponto Novo - B 162.62 248 *eP* **PKPdf** **11 22 40.3 +0.3**
NBPN Ponto Novo - B 162.62 248 *eP* **PKPdf** **11 22 40.3 +0.3**
PMNB Patos De Minas 162.99 215 *eP* **PKPdf** **11 22 40.3 0.0**
PMNB Patos De Minas 162.99 215 *eP* **PKPdf** **11 22 40.3 0.0**
NBPB Pedra_Branca-C 163.03 266 *eP* **PKPdf** **11 22 40.2 -0.3**
NBPB Pedra_Branca-C 163.03 266 *eP* **PKPdf** **11 22 40.2 -0.3**
NBMO Morrinhos-CE 163.43 274 *eP* **PKPdf** **11 22 40.5 -0.3**
NBMO Morrinhos-CE 163.43 274 *eP* **PKPdf** **11 22 40.5 -0.3**
LPAZ La Paz 163.81 136 PKP **PKPdf** **11 22 43.1 +1.3**
comp=Z,8.5nm,0.8s,baz=4.1,slow=0.6,SNR=32
LPAZ PKPab **PKPab** **11 23 39.5 +1.4**
comp=Z,6.9nm,0.7s,baz=175,slow=2.7,SNR=6.1
LPAZ La Paz 163.81 136 *eP* **PKPdf** **11 22 40.6 -1.2**
LPAZ La Paz 163.81 136 *eP* **PKPdf** **11 22 40.6 -1.2**
ITRB Iturama 163.84 202 *eP* **PKPdf** **11 22 40.8 -0.3**
ITRB Iturama 163.84 202 *eP* **PKPdf** **11 22 40.8 -0.3**
AQDB Aquidauana 164.24 183 *eP* **PKPdf** **11 22 40.9 -0.4**
AQDB Aquidauana 164.24 183 *eP* **PKPdf** **11 22 40.9 -0.4**
NBPS Pedro II - PI 164.89 270 *eP* **PKPdf** **11 22 41.9 -0.3**
NBPS Pedro II - PI 164.89 270 *eP* **PKPdf** **11 22 41.9 -0.3**
BDFB Brasilia 166.19 217 PKIKP **PKPdf** **11 22 42.9 -0.3**
BDFB 11 23 48.5
BDFB Brasilia 166.19 217 PKP **PKPdf** **11 22 43.8 +0.6**
comp=Z,9.6nm,0.9s,baz=135,slow=3.4,SNR=12
BDFB PKPab **PKPab** **11 23 48.6 +0.7**
comp=Z,11nm,0.5s,baz=118,slow=4.2,SNR=13
BDFB Brasilia 166.19 217 **PKPdf** **11 22 42.9 -0.3**
BDFB **PKPab** **11 23 48.5 +0.7**
SIV San Ignacio 167.90 159 PKP **PKPdf** **11 22 44.8 +0.5**
comp=Z,14nm,0.8s,baz=161,slow=1.4,SNR=66
SIV PKPab **PKPab** **11 23 55.3 +0.1**
comp=Z,10nm,0.7s,baz=211,slow=4.9,SNR=16
ARAG Araguaiana, MT 168.04 203 *eP* **PKPdf** **11 22 43.6 -0.8**
ARAG Araguaiana, MT 168.04 203 *eP* **PKPdf** **11 22 43.6 -0.8**
PEXB Peixe 168.94 227 *eP* **PKPdf** **11 22 45.5 +0.4**
PEXB Peixe 168.94 227 *eP* **PKPdf** **11 22 45.5 +0.4**
MDP Montagnes des 169.55 338 PKP **PKPdf** **11 22 46.0 +0.6**
comp=Z,10nm,0.8s,baz=86,slow=1.1,SNR=4.3
MDP PKPab **PKPab** **11 24 02.3 -0.2**
comp=Z,62nm,0.9s,baz=18,slow=4.9,SNR=15
MDP PP **PP** **11 27 51.1 -0.8**
comp=Z,22nm,0.9s,baz=58,slow=5.0,SNR=7.0
SMTB Santa Maria do 170.12 244 *eP* **PKPdf** **11 22 45.6 -0.2**
SMTB Santa Maria do 170.12 244 *eP* **PKPdf** **11 22 45.6 -0.2**
SAML Samuel 172.19 124 PKIKP **PKPdf** **11 22 46.5 -0.3**
SAML 11 24 15.0
SAML Samuel 172.19 124 **PKPdf** **11 22 46.5 -0.3**
SAML **PKPab** **11 24 15.0 +0.5**
SAML Samuel 172.19 124 *eP* **PKPdf** **11 22 46.2 -0.6**
SAML Samuel 172.19 124 *eP* **PKPdf** **11 22 46.2 -0.6**
CLDB Colider 173.76 187 *eP* **PKPdf** **11 22 46.2 -1.2**
CLDB Colider 173.76 187 *eP* **PKPdf** **11 22 46.2 -1.2**
PTGA Pitinga 174.86 41 PKP **PKPdf** **11 22 47.5 -0.3**
comp=Z,16nm,1.1s
PTGA PKPab **PKPab** **11 24 26.7 +0.4**
comp=Z,19nm,0.8s,baz=347,slow=6.8,SNR=17
PTGA Pitinga 174.86 41 **PKPdf** **11 22 47.3 -0.5**
PTGA **PKPab** **11 24 26.1 -0.2**
PTGA Pitinga 174.86 41 *eP* **PKPdf** **11 22 46.8 -1.0**
PTGA Pitinga 174.86 41 *eP* **PKPdf** **11 22 46.8 -1.0**

ISCJB ***03*** *11:04:00.6±0.8, 39°.09N±0°.04×142°.72E±0°.06, h38km±8km, mb3.8/7, Error ellipse: s-maj=9.1km s-min=4.8km az=27.4*
JMA ***03*** *11:04:00.5±0.1, 39°.05N×142°.71E, h36km±2km, M4.2*
NIED ***03*** *11:04:00, 39°.00N×142°.70E, h32km, Mw3.9 Best double couple: M0 7.16000×10^14 NP1:φ=56.00000°, δ=22.00000°, λ=122.00000°. NP2:φ=202.00000°, δ=72.00000°, λ=78.00000°.*
NEIC ***03*** *11:04:02.8±1.4, 39°.06N±0°.08×142°.8E±0°.1, h46km±10km, mb4.2/10*
IDC ***03*** *11:04:03.3±2.7, 39°.12N×142°.63E, h50km±22km, mb3.7/7, mb1 3.8/12, mb1mx3.7/60, mbtmp3.8/12, ML3.3/4, MS3.1/1, Ms1 3.1/1, ms1mx2.8/44, Error ellipse: s-maj=28.0km s-min=16.5km az=135.0*
ISC 03 11:04:00.7±2.0, 39°.06N±0°.05×142°.69E±0°.08, h26km±13km, n59, σ1=10/64, mb4.1/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.80**	**272**	P	**Pb**	**11 04 15.7**	**-0.2**
OFUJ				S	**Sb**	**11 04 26.4**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.85**	**308**	P	**Pb**	**11 04 16.3**	**-0.5**
MIYJ				S	**Sb**	**11 04 27.4**	**-0.4**
JKMT	**Kesennumamotoy**	**0.98**	**256**	P	**Pn**	**11 04 18.2**	**-0.6**
JKMT				S	**Sb**	**11 04 30.8**	**-0.7**
JTH	**Tanohata**	**1.09**	**324**	P	**Pn**	**11 04 19.8**	**-0.4**
JTH				S	**Sn**	**11 04 33.9**	**-0.6**
JMK	**Ichinoseki**	**1.15**	**265**	P	**Pn**	**11 04 20.9**	**-0.2**
JMK				S	**Sn**	**11 04 35.6**	**-0.5**
JOM	**Ohasama**	**1.16**	**291**	P	**Pn**	**11 04 21.2**	**-0.1**
JOM				S	**Sn**	**11 04 36.3**	**0.0**
JIO	**Ouri**	**1.21**	**240**	P	**Pn**	**11 04 21.2**	**-0.7**
JIO				*e*S	**Sn**	**11 04 35.9**	**-1.6**
JANG	**Nango**	**1.59**	**326**	P	**Pn**	**11 04 26.7**	**-0.5**
JRG	**Rokugo**	**1.63**	**282**	P	**Pn**	**11 04 28.1**	**+0.3**
JRG				S	**Sb**	**11 04 49.9**	**-0.4**
JOU	**Okura**	**1.73**	**247**	P	**Pn**	**11 04 29.2**	**+0.1**
JYK	**Kaneyama**	**1.82**	**266**	P	**Pn**	**11 04 30.8**	**+0.4**
JMM	**Marumori**	**1.91**	**232**	P	**Pn**	**11 04 30.9**	**-0.6**
ERM	**Erimo**	**2.97**	**7**	Pn	**Pn**	**11 04 45.5**	**-0.7**
MAJO	**Matsushiro**	**4.35**	**236**	Pn	**Pn**	**11 05 07.1**	**+2.0**
MAT	**Matsushiro**	**4.35**	**236**	P	**Pn**	**11 05 07.1**	**+1.9**
MAT				S	**Sn**	**11 05 57.3**	**+2.3**
MJAR	**Matsushiro Arr**	**4.35**	**236**	P	**Pn**	**11 05 07.2**	**+2.0**
	1.1nm,0.3s,baz=39,slow=13,SNR=142						
MJAR				LR	LR	11 06 57.1	
	comp=Z,218nm,19.0s,baz=110,slow=40						
MJAR	**Matsushiro Arr**	**4.35**	**236**	Pn	**Pn**	**11 05 06.8**	**+1.6**
MJB9	**Matsu-Tunnel**	**4.35**	**236**	Pn	**Pn**	**11 05 07.1**	**+1.9**
ASAJ	**Asahikawa**	**5.05**	**359**	P	**Pn**	**11 05 15.2**	**+0.5**
	1.5nm,0.3s,baz=214,slow=8.5,SNR=19						
ASAJ				S	**Sn**	**11 06 12.8**	**+0.5**
	baz=120,slow=20,SNR=2.3						
JKA	**Kamikawa-asahi**	**5.05**	**359**		**Pn**	**11 05 15.2**	**+0.5**
JKA					**Sn**	**11 06 12.8**	**+0.5**
INU	**Inuyama**	**5.85**	**232**	Pn	**Pn**	**11 05 27.3**	**+1.6**
JHJ2	**Mitsune**	**6.38**	**202**	Pn	**Pn**	**11 05 30.4**	**-2.5**
YSS	**Yuzh-Sakhalins**	**7.89**	**0**		**Pn**	**11 05 54.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.52**	**306**	P	**Pn**	**11 06 16.2**	**+0.3**
	baz=104,slow=13,SNR=2.6						
USRK	**Ussuriysk Ar.**	**9.52**	**306**		**Pn**	**11 06 19.7**	**+3.7**
KSRS	**Korea Array**	**11.72**	**267**	P	**Pn**	**11 06 47.5**	**+1.3**
	0.2nm,0.3s,baz=81,slow=14,SNR=4.7						
KLR	**Kul'dur**	**12.83**	**326**	P	**Pn**	**11 07 01.8**	**+0.4**
	0.1nm,0.3s,baz=126,slow=14,SNR=6.3						
SONM	**Songino Array**	**27.56**	**300**	P	**P**	**11 09 45.2**	**-0.4**
	0.6nm,0.3s,baz=92,slow=7.8,SNR=4.8						
SONM	**Songino Array**	**27.56**	**300**	P	**P**	**11 09 45.3**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.41**	**126**	T	T	11 40 24.6	
	baz=318,slow=75,SNR=300						
H11N1	**WAKE ISLAND Hy**	**28.42**	**126**	T	T	11 40 30.6	
	baz=318,slow=75,SNR=252						
H11N3	**WAKE ISLAND Hy**	**28.43**	**126**	T	T	11 40 24.4	
	baz=318,slow=75,SNR=207						
H11S1	**WAKE ISLAND Hy**	**29.20**	**128**	T	T	11 41 22.8	
	baz=319,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.21**	**128**	T	T	11 41 32.4	
	baz=319,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.22**	**128**	T	T	11 41 30.6	
	baz=319,slow=76,SNR=13						
ZALV	**Zalesovo Beam**	**41.33**	**311**	P	**P**	**11 11 43.0**	**-1.0**
	2.3nm,0.5s,baz=66,slow=7.3,SNR=6.8						
ZALV	**Zalesovo Beam**	**41.33**	**311**	P	**P**	**11 11 46.0**	**+2.1**
MKAR	**Makanchi Array**	**43.93**	**301**	P	**P**	**11 12 04.4**	**-0.9**
	2.3nm,0.7s,baz=83,slow=9.2,SNR=18						
KURK	**Kurchatov**	**45.51**	**307**	P	**P**	**11 12 16.6**	**-1.1**
KURK				IAmb	IAmb	11 12 17.2	
	comp=Z,4.9nm,0.9s						
TRF	**Thorofare Moun**	**45.79**	**35**	P	**P**	**11 12 21.8**	**+1.7**
TRF				IAmb	IAmb	11 12 22.2	
	comp=Z,4.6nm,1.1s						
PMR	**Palmer**	**46.40**	**38**	P	**P**	**11 12 24.5**	**-0.1**
RND	**Reindeer**	**46.44**	**35**	P	**P**	**11 12 24.8**	**-0.2**
RND				IAmb	IAmb	11 12 33.2	
	comp=Z,3.3nm,1.1s						
HDA	**Harding Lake**	**47.24**	**34**	P	**P**	**11 12 31.1**	**-0.1**
SCM	**Sheep Creek Mo**	**47.24**	**37**	P	**P**	**11 12 31.7**	**+0.4**
ILAR	**Eielson Array**	**47.25**	**33**	P	**P**	**11 12 30.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=268,slow=6.1,SNR=14						
ILAR	**Eielson Array**	**47.25**	**33**	P	**P**	**11 12 30.3**	**-0.9**
SCRK	**Sand Creek**	**48.56**	**34**	P	**P**	**11 12 40.8**	**-0.8**
SCRK				IAmb	IAmb	11 12 42.0	
	comp=Z,2.0nm,0.9s						
MENT	**Mentasta**	**48.80**	**36**	P	**P**	**11 12 44.5**	**+1.2**
MENT				IAmb	IAmb	11 12 46.4	
	comp=Z,1.8nm,0.8s						
VRDI	**Verde Repeater**	**49.16**	**38**	P	**P**	**11 12 46.4**	**+0.2**
BCAR	**Beaver Creek A**	**49.66**	**35**	P	**P**	**11 12 50.1**	**+0.2**
INK	**Inuvik**	**52.12**	**28**	P	**P**	**11 13 08.2**	**0.0**
	comp=Z,0.9nm,0.4s,baz=290,slow=7.3,SNR=7.9						
INK	**Inuvik**	**52.12**	**28**	P	**P**	**11 13 08.4**	**+0.2**
RES	**Resolute Bay**	**60.39**	**15**	P	**P**	**11 14 06.5**	**-0.6**
LTY	**Liberty**	**66.53**	**48**	P	**P**	**11 14 48.1**	**-0.1**
JTMT	**Jette**	**69.84**	**44**	P	**P**	**11 15 09.2**	**+0.1**
PDAR	**Pinedale Array**	**75.53**	**46**	P	**P**	**11 15 42.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=151,slow=0.5,SNR=5.7						
CLL	**Collm**	**79.84**	**331**	*e*P	**P**	**11 16 07.0**	**+0.4**
TXAR	**Lajitas Array**	**88.09**	**53**	P	**P**	**11 16 48.5**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=3.0						
TXAR	**Lajitas Array**	**88.09**	**53**	P	**P**	**11 16 48.6**	**-0.7**

IDC 03 11:17:04.2±2.0, 2°.37N×125°.59E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/46, mbtmp3.5/3, Error ellipse: s-maj=184.9km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**159**	P	P	11 22 17.5	-1.2
	1.1nm,0.7s,baz=337,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**27.11**	**163**	P	P	11 22 50.3	+1.1
	0.6nm,0.9s,baz=340,slow=7.0,SNR=5.6						
MKAR	**Makanchi Array**	**58.03**	**326**	P	P	11 26 58.9	-0.2
	0.2nm,0.4s,baz=130,slow=7.2,SNR=5.7						

NEIC ***03*** *11:35:47.9±0.9, 60°.02N±0°.04×153°.1W±0°.1, h114km±4km*
AEIC 03 11:35:49±1.4, 60°.01N±0°.04×153°.06W±0°.05, h109km±4km, ML2.8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.03**	**63**		Pn	11 36 03.7	-0.5
IVE					Sn	11 36 15.3	-0.2
ILS	**Iliamna Low So**	**0.05**	**183**		Pn	11 36 04.1	-0.1
ILW	**Iliamna West**	**0.07**	**326**		Pn	11 36 03.9	-0.3
ILW					Sn	11 36 15.9	+0.2
RED	**Redoubt Volcan**	**0.44**	**19**		Pn	11 36 05.0	-0.5
RSO	**Redoubt South**	**0.48**	**18**		Pn	11 36 05.5	-0.4
RSO				Sn	Sn	11 36 18.9	+0.3
RDWB	**Redoubt West**	**0.50**	**13**		Pn	11 36 05.3	-0.6
RDWB					Sn	11 36 17.9	-0.8
NCT	**North Crescent**	**0.56**	**7**		Pn	11 36 06.0	-0.3
NCT					Sn	11 36 18.7	-0.6
RDJH	**Redoubt Jeurge**	**0.60**	**12**		Pn	11 36 06.2	-0.5
RDJH					Sn	11 36 19.4	-0.5
DFR	**Drift River**	**0.62**	**18**		Pn	11 36 06.2	-0.5
AU22	**Augustine Moun**	**0.65**	**193**		Pn	11 36 07.2	+0.3
AU22					Sn	11 36 20.9	+0.7
RDT	**Redoubt**	**0.66**	**30**		Pn	11 36 06.4	-0.6
AUQ	**Augustine Qik'**	**0.68**	**195**		Pn	11 36 07.2	0.0
AUQ					Sn	11 36 21.7	+1.0
AUI	**Augustine Isla**	**0.70**	**196**		Pn	11 36 07.1	-0.1
HOM	**Homer**	**0.80**	**115**		Pn	11 36 23.2	+0.7
HOM	**Homer**	**0.80**	**115**		Pn	11 36 08.1	0.0
CNPM	**China Poot**	**1.04**	**117**		Pn	11 36 10.2	-0.4
CNPM	**China Poot**	**1.04**	**117**		Sn	11 36 26.1	-0.8
BRLK	**Bradley Lake**	**1.12**	**101**		Pn	11 36 11.0	-0.5
BRLK					Sn	11 36 28.0	-0.4
BRSE	**Bradley Lake S**	**1.20**	**102**		Pn	11 36 11.9	-0.3
CAPN	**Captain Cook N**	**1.22**	**50**		Pn	11 36 13.7	+1.3
CKL	**Chakachamna La**	**1.25**	**16**		Pn	11 36 12.6	-0.3
SPCR	**Spurr Chakacha**	**1.27**	**19**		Pn	11 36 12.7	-0.4
CKT	**Bend**	**1.27**	**19**		Pn	11 36 13.0	-0.2
SPWE	**Spurr West**	**1.30**	**11**		Pn	11 36 13.7	+0.2
SPBG	**Spurr Blockage**	**1.30**	**15**		Pn	11 36 13.4	-0.1
SPBG					Sn	11 36 32.1	0.0
SPCP	**Crater Peak Br**	**1.34**	**19**		Pn	11 36 13.9	-0.1
SPCP					Sn	11 36 33.0	+0.1
SPNN	**North Nagishla**	**1.38**	**7**		Pn	11 36 14.2	-0.2
SPNN					Sn	11 36 32.8	-0.9
SPCG	**Spurr Capps Gl**	**1.39**	**21**		Pn	11 36 14.3	-0.2
CGLM	**Capps Glacier**	**1.41**	**21**		Pn	11 36 14.4	-0.3
SLKM	**Sklik Lake**	**1.50**	**69**		Pn	11 36 15.3	-0.5
SLKM					Sn	11 36 34.8	-1.3
SVW2	**Sparrevohn**	**1.66**	**312**		Pn	11 36 16.9	-0.8
SEW	**Seward**	**1.81**	**85**		Pn	11 36 18.1	-1.4
SUA	**Susitna One**	**1.85**	**37**		Pn	11 36 20.2	0.0
RC01	**Rabbit Creek A**	**1.97**	**55**		Pn	11 36 21.0	-0.5
KCG	**Knife Ck. Glac**	**2.00**	**213**		Pn	11 36 22.1	+0.1
SKT	**Skwentna**	**2.12**	**20**		Pn	11 36 23.6	+0.2
KDAK	**Kodiak Island**	**2.24**	**173**		Pn	11 36 23.7	-1.3
CAHL	**Cahill**	**2.27**	**212**		Pn	11 36 24.4	-1.1
PWL	**Port Wells**	**2.50**	**68**		Pn	11 36 26.5	-1.8
PMR	**Palmer**	**2.50**	**49**		Pn	11 36 27.3	-1.0
KNK	**Knik Glacier**	**2.67**	**56**		Pn	11 36 28.9	-1.6
GHO	**Glory Hole Cre**	**2.69**	**47**		Pn	11 36 30.1	-0.8
OHAK	**Old Harbor**	**2.79**	**183**		Pn	11 36 30.6	-1.5
PPLA	**Purkeypile**	**2.93**	**8**		Pn	11 36 34.3	+0.2
SML	**Sawmill**	**2.93**	**50**		Pn	11 36 33.4	-0.7
GLI	**Glacier Island**	**3.08**	**71**		Pn	11 36 34.8	-1.2
TT01	**Tatalina**	**3.24**	**335**		Pn	11 36 37.5	-0.6
HIN	**Hinchinbrook I**	**3.30**	**80**		Pn	11 36 38.0	-0.9
SCM	**Sheep Creek Mo**	**3.35**	**54**		Pn	11 36 38.4	-1.2
SCM					Sn	11 37 16.6	-2.0
FID	**Port Fidalgo**	**3.35**	**74**		Pn	11 36 37.6	-1.9
SII	**Sitkinak Islan**	**3.51**	**190**		Pn	11 36 40.8	-0.9
WAT1	**Susitna Watana**	**3.57**	**35**		Pn	11 36 41.8	-0.7
WAT2	**Susitna Watana**	**3.66**	**34**		Pn	11 36 43.3	-0.5
EYAK	**Cordova Ski Ar**	**3.68**	**78**		Pn	11 36 43.1	-0.9
TRF	**Thorofare Moun**	**3.70**	**20**		Pn	11 36 43.6	-0.8
KTH	**Kantishna Hill**	**3.70**	**15**	Pn	Pn	11 36 43.4	-0.9
KTH					Sn	11 37 28.3	+1.2
CHUM	**Lake Minchumin**	**3.91**	**5**		Pn	11 36 46.5	-0.4
RND	**Reindeer**	**3.96**	**29**		Pn	11 36 46.8	-0.9
DHY	**Denali Highway**	**4.11**	**39**		Pn	11 36 49.0	-0.8
GOAT	**Goat Mountain**	**4.19**	**78**		Pn	11 36 50.0	-0.8
MCK	**McKinley**	**4.22**	**26**		Pn	11 36 50.8	-0.4
BPAW	**Bear Paw Mtn.**	**4.22**	**12**		Pn	11 36 50.7	-0.6
HMT	**Hamilton**	**4.41**	**82**	Pn	Pn	11 36 53.2	-0.6
BWN	**Browne**	**4.51**	**20**		Pn	11 36 54.4	-0.7
PAX	**Paxson**	**4.70**	**47**	Pn	Pn	11 36 56.4	-1.3
GLB	**Gilahina Butte**	**4.77**	**68**		Pn	11 36 56.5	-2.1
VRDI	**Verde Repeater**	**4.89**	**71**	Pn	Pn	11 36 59.4	-1.0
KHIT	**Khitrov Hills**	**4.91**	**81**		Pn	11 36 59.2	-1.4
WRH	**Wood River Hil**	**5.05**	**25**		Pn	11 37 01.3	-1.0
WAX	**Waxell Ridge**	**5.11**	**81**		Pn	11 37 02.4	-0.8
TGL	**Tana Glacier**	**5.13**	**77**		Pn	11 37 02.9	-0.7
KULT	**Kultieth River**	**5.18**	**83**		Pn	11 37 03.5	-0.7
CCB	**Clear Creek Bu**	**5.26**	**25**		Pn	11 37 04.0	-1.2
HDA	**Harding Lake**	**5.26**	**30**		Pn	11 37 04.2	-1.1
BALM	**Baldy**	**5.39**	**74**		Pn	11 37 06.2	-0.9
PS08	**TAPS Pump Stn8**	**5.41**	**30**		Pn	11 37 06.1	-1.0
TCOL	**CIGO, UAF Yank**	**5.45**	**24**		Pn	11 37 07.1	-0.6
COLA	**College**	**5.45**	**24**		Pn	11 37 06.7	-1.1
COLA	**College**	**5.45**	**24**		Pn	11 37 06.9	-0.8
MDM	**Murphy Dome**	**5.45**	**22**		Pn	11 37 06.7	-1.1
MESA	**MESA**	**5.56**	**83**		Pn	11 37 08.8	-0.7
IL31		**5.58**	**28**		Pn	11 37 08.2	-1.3
ILAR	**Eielson Array**	**5.58**	**28**		Pn	11 37 07.7	-1.7
YAH	**Yahtse**	**5.66**	**81**		Pn	11 37 10.1	-0.7
BARN	**Barnard Glacie**	**5.73**	**74**		Pn	11 37 10.8	-0.9
POKR	**Poker Plat Res**	**5.75**	**24**		Pn	11 37 11.2	-0.6
SCRK	**Sand Creek**	**5.84**	**43**		Pn	11 37 12.1

JOW	**Kunigami**	**0.79 337**	⇑P		**Pb**	**12 17 10.9 -0.7**
JOW			*e*S		**Sb**	**12 17 20.8 -1.2**
JOW	**Kunigami**	**0.79 337**	Pn		**Pb**	**12 17 11.0 -0.6**
	416nm,0.3s,baz=149,slow=12,SNR=7974					
JOW			Sn		**Sb**	**12 17 18.4 -3.6**
	596nm,0.3s,baz=125,slow=12,SNR=30					
JOW	**Kunigami**	**0.79 337**			**Pb**	**12 17 10.9 -0.7**
JOW			Sn		**Sb**	**12 17 21.5 -0.4**
JYRO	**Yoronjima**	**0.93 350**	⇑P		**Pb**	**12 17 13.0 -1.0**
JYRO			*e*S		**Sb**	**12 17 24.7 -1.3**
JIH	**Iheya**	**1.10 328**	⇑P		**Pn**	**12 17 15.6 -0.8**
JOKE	**Okinoerabujima**	**1.26 358**	⇑P		**Pn**	**12 17 18.0 -0.5**
JOKE			*e*S		**Sn**	**12 17 33.5 -1.2**
JAGN	**Aguni-jima**	**1.33 292**	⇑P		**Pn**	**12 17 18.7 -0.8**
JKE	**Kume jima 2**	**1.67 278**	⇑P		**Pn**	**12 17 22.5 -1.7**
JTK	**Tokunoshima**	**1.70 10**	⇑P		**Pn**	**12 17 24.2 -0.5**
JTK			*e*S		**Sn**	**12 17 44.5 -1.2**
JMZ	**Minamidaito 2**	**2.35 96**	⇓P		**Pn**	**12 17 31.9 -1.7**
JMZ			S		**Sn**	**12 17 58.1 -3.7**
JKDJ	**Kitadaitoujima**	**2.41 93**	⇓P		**Pn**	**12 17 32.8 -1.6**
JKDJ			*e*S		**Sn**	**12 18 00.0 -3.1**
JOGS	**Gusukube**	**3.20 246**	P		**Pn**	**12 17 44.3 -1.0**
JOGS			S		**Sn**	**12 18 20.2 -2.5**
JIKM	**Ikemajima**	**3.27 250**	P		**Pn**	**12 17 45.0 -1.2**
JIKM			S		**Sn**	**12 18 21.5 -2.8**
JMJ2	**Miyako jima3**	**3.27 246**	P		**Pn**	**12 17 45.0 -1.3**
JMJ2			S		**Sn**	**12 18 21.7 -2.8**
JIRB	**Irabujima**	**3.37 249**	P		**Pn**	**12 17 46.0 -1.6**
JTJ	**Tarama**	**3.83 249**	P		**Pn**	**12 17 52.3 -1.7**
JTJ			S		**Sn**	**12 18 34.4 -3.9**
JISG	**Ishigakijimahi**	**4.18 250**	P		**Pn**	**12 17 56.1 -2.7**
JISG			S		**Sn**	**12 18 41.0 -5.9**
JIJ	**Ishigaki jima**	**4.41 248**	S		**Sn**	**12 18 46.9 -5.6**
YOJ	**Yonaguni jima**	**5.34 253**	P		**Pn**	**12 18 11.5 -3.2**
YOJ	**Yonaguni jima**	**5.34 253**			**Pn**	**12 18 11.5 -3.2**
TATO	**Taipei**	**6.54 262**	Pn		**Pn**	**12 18 32.0 +0.8**
NACB	**Ninganchiao**	**6.65 255**			**Pn**	**12 18 29.4 -3.3**
NACB			Sn		**Sn**	**12 19 42.7 -5.1**
YHNB	**Yeheng**	**6.71 259**			**Pn**	**12 18 33.0 -0.6**
YULB	**Yu-li**	**7.18 250**			**Pn**	**12 18 35.5 -4.5**
YULB			Sn		Sn	12 19 51.6 -9.4
JNU	**Nakatsue**	**7.27 15**	Pn		**Pn**	**12 18 42.1 +0.9**
	8.4nm,0.3s,baz=243,slow=0.6,SNR=94					
JNU			Sn		**Sn**	**12 20 02.0 -0.9**
	2.7nm,0.3s,baz=145,slow=16,SNR=2.9					
JNU			LR		LR	12 21 58.8
	comp=Z,5μm,19.4s,baz=196,slow=42					
JNU	**Nakatsue**	**7.27 15**			**Pn**	**12 18 41.4 +0.2**
JNU			Sn		**Sn**	**12 20 03.1 +0.1**
SSLB	**Suanglung**	**7.33 253**			**Pn**	**12 18 38.2 -3.9**
SSLB			Sn		**Sn**	**12 19 59.0 -5.6**
TWG	**Pinlang**	**7.62 246**			Pn	12 18 40.3 -5.7
TPUB	**Ta-pu**	**7.79 251**			**Pn**	**12 18 45.5 -2.9**
QZH	**Quanzhou**	**9.13 265**	P		**Pn**	**12 19 09.3 +2.5**
QZH			S		**Sn**	**12 20 45.3 -3.6**
QZH			LR		LR	
	comp=N,6μm,11.8s					
QZH			LR		LR	
	comp=E,7μm,11.4s					
QZH			LR		LR	
	comp=Z,7μm,12.3s					
TJN	**Taejon**	**10.30 354**	⇑*e*P		**Pn**	**12 19 23.9 +1.2**
NJ2	**Nanjing**	**10.40 307**	*e*P		**Pn**	**12 19 24.8 +0.7**
NJ2			S		**Sn**	**12 21 21.4 +1.6**
NJ2			pmax		pmax	
	comp=Z,18nm,1.4s					
NJ2			pmax		pmax	
	comp=Z,400nm,4.7s					
NJ2			LR		LR	
	comp=N,15μm,10.4s					
NJ2			LR		LR	
	comp=E,20μm,10.9s					
NJ2			LR		LR	
	comp=Z,28μm,11.8s					
KSAR	**Wonju Array Be**	**11.32 357**	P		**Pn**	**12 19 37.8 +1.1**
KSAR	**Wonju Array Be**	**11.32 357**			**Pn**	**12 19 37.8 +1.1**
KSRS	**Korea Array**	**11.34 357**	Pn		**Pn**	**12 19 37.0 +0.2**
	0.1nm,0.3s,baz=175,slow=14,SNR=23					
KSRS			LR		LR	12 24 20.6
	comp=Z,5μm,18.1s,baz=177,slow=40					
KS19	**Wonju Array Si**	**11.38 357**			**Pn**	**12 19 38.2 +0.6**
INU	**Inuyama**	**11.70 36**			**Pn**	**12 19 43.6 +1.7**
JHJ2	**Mitsune**	**11.98 52**	Pn		**Pn**	**12 19 48.8 +3.0**
JCJ	**Chichijima**	**12.18 82**	LR		LR	12 23 50.0
	comp=Z,940nm,20.4s,baz=258,slow=34					
MAJO	**Matsushiro**	**13.24 36**	⇑*e*P		**Pn**	**12 20 03.2 +0.3**
MAJO	**Matsushiro**	**13.24 36**			**Pn**	**12 20 05.4 +2.5**
MAT	**Matsushiro**	**13.24 36**	P		**P**	**12 20 08.8 -3.8**
MAT			*e*S		**Sn**	**12 22 27.4 -1.9**
MJAR	**Matsushiro Arr**	**13.24 36**	Pn		**Pn**	**12 20 03.3 +0.4**
	0.1nm,0.3s,baz=247,slow=14,SNR=6.7					
MJAR	**Matsushiro Arr**	**13.24 36**			**Pn**	**12 20 05.4 +2.5**
MJB9	**Matsu-Tunnel**	**13.24 36**			**Pn**	**12 20 05.5 +2.6**
WHN	**Wuhan**	**13.33 293**	⇑P		**Pn**	**12 20 04.6 +0.4**
WHN			pmax		pmax	
	comp=Z,58nm,1.2s					
WHN			pmax		pmax	
	comp=Z,970nm,6.4s					
WHN			LR		LR	
	comp=N,12μm,14.8s					
WHN			LR		LR	
	comp=E,25μm,11.5s					
WHN			LR		LR	
	comp=Z,30μm,12.7s					
TGY	**Tagaytay City**	**13.94 213**	LR		LR	12 26 37.2
	comp=Z,2μm,18.3s,baz=22,slow=42					
DL2	**Dalian**	**14.06 337**	⇑*i*P		**Pn**	**12 20 14.8 +0.7**
DL2			S		**Sn**	**12 22 54.5 +5.2**
DL2			pmax		pmax	
	comp=Z,80nm,1.3s					
DL2			pmax		pmax	
	comp=Z,1μm,9.7s					
DL2			LR		LR	
	comp=N,7μm,13.2s					
DL2			LR		LR	
	comp=E,2μm,15.3s					
DL2			LR		LR	
	comp=Z,9μm,13.0s					
TIA	**Tai'an**	**14.08 318**	P		**Pn**	**12 20 17.2 +2.8**
TIA			LR		LR	
	comp=N,7μm,12.8s					
TIA			LR		LR	
	comp=E,7μm,12.8s					
TIA			LR		LR	
	comp=Z,13μm,13.5s					
SNY	**Shenyang**	**16.23 346**	⇑P		**P**	**12 20 45.1 -0.6**
SNY			S		**Sn**	**12 23 47.8 +5.7**
SNY			pmax		pmax	
	comp=Z,40nm,1.8s					
SNY			pmax		pmax	
	comp=Z,2μm,12.2s					
SNY			LR		LR	
	comp=N,6μm,13.3s					
SNY			LR		LR	
	comp=E,3μm,10.0s					
SNY			LR		LR	
	comp=Z,11μm,13.9s					
BJT	**Baijiatuau**	**17.34 326**	P		**P**	**12 20 57.9 -0.2**
BJT			pmax		pmax	
	comp=Z,91nm,1.4s					
BJT	**Baijiatuau**	**17.34 326**	P		**P**	**12 20 57.9 -0.2**
BJI	**Beijing**	**17.35 326**	P		**P**	**12 20 57.8 -0.4**
BJI			S		**S**	**12 24 16.6 -1.0**
BJI			pmax		pmax	
	comp=Z,24nm,2.0s					
BJI			LR		LR	
	comp=Z,13μm,13.1s					
BJI			LR		LR	
	comp=Z,6μm,12.4s					
BJI			LR		LR	
	comp=Z,4μm,14.3s					
ENH	**Enshi**	**17.37 288**	P		**Pn**	**12 20 57.0 -0.4**
CN2	**Changchun**	**17.85 352**	*e*P		**P**	**12 21 04.0 +0.4**
CN2			*e*S		**Sn**	**12 24 20.0 -1.3**
CN2			pmax		pmax	
	comp=Z,20nm,1.6s					
CN2			pmax		pmax	
	comp=Z,200nm,8.0s					
CN2			LR		LR	
	comp=Z,10μm,12.0s					
CN2			LR		LR	
	comp=Z,5μm,12.0s					
CN2			LR		LR	
	comp=Z,11μm,12.0s					

TIY	**Taiyuan**	**17.94 314**	*e*P		**P**	**12 21 06.5 +1.7**
TIY			pP		**pP**	**12 21 10.9 0.0**
TIY			sP		**pwP**	**12 21 13.7 +0.2**
TIY			S		**Sn**	**12 24 22.4 -1.4**
TIY			sS		**S**	**12 24 31.1 +1.4**
TIY			SS			12 24 43.3
TIY			pmax		pmax	
	comp=Z,82nm,1.3s					
TIY			pmax		pmax	
	comp=Z,1μm,10.3s					
TIY			LR		LR	
	comp=Z,8μm,12.4s					
TIY			LR		LR	
	comp=Z,5μm,12.1s					
TIY			LR		LR	
	comp=Z,10μm,12.9s					
USA0B	**Ussuriysk Arra**	**18.26 8**	*de*P		**Pn**	**12 21 07.0 -1.2**
USRK	**Ussuriysk Ar.**	**18.26 8**	P		**Pn**	**12 21 06.9 -1.3**
	baz=188,slow=9.4,SNR=18					
USRK	**Ussuriysk Ar.**	**18.26 8**	P		**P**	**12 21 09.2 +1.0**
MDJ	**Mudanjiang**	**18.49 2**	P		**Pn**	**12 21 11.6 +0.6**
MDJ			sP		pP	12 21 15.6 -1.1
MDJ			S		**Sn**	**12 24 34.8 -2.1**
MDJ			LR		LR	
	comp=Z,3μm,13.4s					
MDJ			LR		LR	
	comp=Z,3μm,12.0s					
MDJ			LR		LR	
	comp=Z,4μm,13.2s					
QIZ	**Qiongzhong**	**18.71 252**	P		**P**	**12 21 12.2 -1.1**
QIZ			S		**Sn**	**12 24 40.2 -2.2**
QIZ			pmax		pmax	
	comp=Z,33nm,1.8s					
QIZ			pmax		pmax	
	comp=Z,810nm,3.4s					
QIZ			LR		LR	
	comp=Z,6μm,20.4s					
QIZ			LR		LR	
	comp=Z,2μm,18.0s					
QIZ			LR		LR	
	comp=Z,4μm,20.4s					
QIZ	**Qiongzhong**	**18.71 252**	P		**Pn**	**12 21 13.6 -0.2**
XAN	**Xi'an**	**18.78 300**	P		**P**	**12 21 12.7 -1.4**
XAN			S		**S**	**12 24 49.8 +3.5**
XAN			pmax		pmax	
	comp=Z,54nm,1.4s					
XAN			pmax		pmax	
	comp=Z,870nm,8.0s					
XAN			LR		LR	
	comp=Z,7μm,12.4s					
XAN			LR		LR	
	comp=Z,5μm,13.1s					
XAN			LR		LR	
	comp=Z,8μm,13.9s					
XAN	**Xi'an**	**18.78 300**	P		**P**	**12 21 11.9 -2.2**
XAN			pmax		pmax	
	comp=Z,115nm,1.3s					
XAN	**Xi'an**	**18.78 300**	P		**P**	**12 21 11.9 -2.2**
DAV	**Davao City (W)**	**19.15 189**	⇓*e*P		**Pn**	**12 21 19.2 +0.1**
CTBH	**Cotabato--PC H**	**19.23 193**	⇓*i*P		**Pn**	**12 21 22.8 +2.7**
KCP	**Kidapawan**	**19.28 191**	⇑*e*P		**P**	**12 21 20.2 +0.5**
GUMO	**Guam**	**19.68 126**	P		**Pn**	**12 21 26.3 +0.8**
GUMO			pmax		pmax	
	comp=Z,772nm,1.5s					
GUMO	**Guam**	**19.68 126**	LR		LR	12 28 56.6
	comp=Z,670nm,18.1s,baz=314,slow=37					
GUMO	**Guam**	**19.68 126**	P		**Pn**	**12 21 26.3 +0.8**
GYA	**Guiyang**	**19.70 276**	⇓*i*P		**P**	**12 21 24.8 +0.6**
GYA			pP		pP	12 21 30.0 -0.3
GYA			PP		**PnPn**	**12 21 44.9 +5.3**
GYA			S		**S**	**12 24 58.7 -6.5**
GYA			SS		**SnSn**	**12 25 29.0 +8.3**
GYA			pmax		pmax	
	comp=Z,30nm,1.2s					
GYA			pmax		pmax	
	comp=Z,710nm,6.0s					
GYA			LR		LR	
	comp=Z,5μm,10.9s					
GYA			LR		LR	
	comp=Z,3μm,13.1s					
GYA			LR		LR	
	comp=Z,4μm,13.4s					
ERM	**Erimo**	**19.88 33**	P		**Pn**	**12 21 26.8 -0.8**
ERM			pmax		pmax	
	comp=Z,57nm,1.0s					
ERM	**Erimo**	**19.88 33**	P		**Pn**	**12 21 26.8 -0.8**
HHC	**Hu-ho-hao-te**	**20.41 320**	P		**P**	**12 21 31.1 -0.8**
BTO	**Baotou**	**21.17 318**	*e*P		**P**	**12 21 40.1 0.0**
BTO			S		Sn	12 25 41.3 -0.3
ASAJ	**Asahikawa**	**21.25 29**	P		**P**	**12 21 39.7 -1.0**
	comp=Z,2.5nm,0.6s,baz=226,slow=16,SNR=5.2					
ASAJ			LR		LR	12 30 14.2
	comp=Z,2μm,21.3s,baz=229,slow=38					
JKA	**Kamikawa-asahi**	**21.25 29**	P		**P**	**12 21 39.7 -1.0**
CD2	**Chengdu**	**22.35 288**	P		**P**	**12 21 50.6 -2.2**
CD2			sP		pP	12 21 59.0 0.0
CD2			S		**S**	**12 25 54.9 -2.5**
CD2			pmax		pmax	
	comp=Z,70nm,0.8s					
CD2			pmax		pmax	
	comp=Z,390nm,6.3s					
CD2			LR		LR	
	comp=Z,7μm,17.7s					
CD2			LR		LR	
	comp=Z,18μm,13.7s					
CD2			LR		LR	
	comp=Z,16μm,13.7s					
SGSI	**Sangihe**	**22.48 188**	P		**P**	**12 21 53.8 -0.4**
	comp=Z,220nm,0.9s,comp=Z,4μm					
YUK	**Yuzh-Kuril'sk**	**22.70 34**	*e*P		**P**	**12 21 50.1 -6.3**
YUK			*e*PPP		PPP	12 22 22.1
YUK			*e*S		**S**	**12 25 59.7 -3.6**
YUK			*e*SSS		SSS	12 26 46.3
YUK			pmax		pmax	
	comp=Z,110nm,1.1s					
YUK			pmax		pmax	
	comp=E,173nm,1.2s					
YUK			pmax		pmax	
	comp=Z,190nm,1.5s					
YUK			MLR		MLR	
	comp=N,776nm,17.0s					
YUK			MLR		MLR	
	comp=Z,885nm,17.0s					
KKM	**Kota Kinabalu**	**23.20 213**	P		**P**	**12 22 02.7 +0.9**
KKM			IAmb		IAmb	12 22 14.8
	comp=Z,91nm,1.5s					
KLR	**Kul'dur**	**23.22 5**	*ce*P		**P**	**12 22 01.1 -0.5**
KLR			pmax		pmax	
	comp=Z,50nm,2.0s					
KLR	**Kul'dur**	**23.22 5**	P		**P**	**12 21 59.9 -1.7**
	comp=Z,6.0nm,0.9s,baz=186,slow=8.6,SNR=16					
KLR			LR		LR	12 31 53.6
	comp=Z,1μm,18.4s,baz=180,slow=39					
KMI	**Kunming**	**23.35 273**	P		**P**	**12 22 03.4 0.0**
KMI			pP		pwP	12 22 11.8 -0.8
KMI			PP		sP	12 22 34.8 +22
KMI			S		**S**	**12 26 12.6 -2.5**
KMI			sS		pS	12 26 23.2 +0.8
KMI			SS		**SnSn**	**12 26 54.6 +4.0**
KMI			pmax		pmax	
	comp=Z,92nm,1.4s					
KMI			pmax		pmax	
	comp=Z,740nm,6.4s					
KMI			LR		LR	
	comp=Z,4μm,13.7s					
KMI			LR		LR	
	comp=Z,5μm,10.4s					
KMI			LR		LR	
	comp=Z,5μm,12.7s					
KMI	**Kunming**	**23.35 273**	IAmb		IAmb	12 22 05.5
	comp=Z,151nm,1.3s					
LZH	**Lanzhou**	**23.38 301**	*e*P		**P**	**12 22 01.8 -1.8**
LZH			sP		sP	12 22 13.0 +0.2
LZH			PP		pwP	12 22 33.1 +21
LZH			S		**S**	**12 26 18.3 +3.0**
LZH			sS		sS	12 26 25.1 -1.5
LZH			pmax		pmax	
	comp=Z,120nm,1.0s					
LZH			pmax		pmax	
	comp=Z,710nm,4.5s					
LZH			LR		LR	
	comp=Z,5μm,13.0s					
LZH			LR		LR	
	comp=Z,4μm,12.5s					
LZH			LR		LR	
	comp=Z,5μm,13.5s					
YSS	**Yuzh-Sakhalins**	**23.64 25**	*oe*P		**P**	**12 22 06.6 +0.9**
YSS			*e*			12 22 15.4
YSS			*e*S		**S**	**12 26 18.5 -0.3**
YSS			pmax		pmax	
	comp=Z,2μm,2.0s					
YSS			pmax		pmax	
	comp=E,900nm,2.2s					
YSS			pmax		pmax	
	comp=Z,260nm,1.3s					
YSS			MLR		MLR	
	comp=Z,2μm,17.0s					
YSS	**Yuzh-Sakhalins**	**23.64 25**	P		**P**	**12 22 06.0 +0.3**
KUR	**Kuril'sk**	**24.56 34**	P		**P**	**12 22 13.4 -1.0**
KUR			pmax		pmax	
	comp=Z,246nm,1.4s					
KUR			pmax		pmax	
	comp=E,47nm,1.5s					
KUR			pmax		pmax	
	comp=N,37nm,1.0s					
KUR			pmax		pmax	
	comp=Z,965nm,3.5s					
KUR			pmax		pmax	
	comp=N,719nm,3.0s					
KUR			pmax		pmax	
	comp=E,451nm,3.2s					
KUR			MLR		MLR	
	comp=Z,800nm,18.0s					
KUR			MLR		MLR	
	comp=E,1μm,22.0s					
NONG	**Nongkai**	**24.89 256**	P		**P**	**12 22 18.6 +1.0**
	comp=E,1.3nm,1.2s					
TNTI	**Ternate**	**25.21 183**	P		**P**	**12 22 21.6 +1.1**
	comp=E,119nm,1.1s,comp=E,2μm					
TNTI	**Ternate**	**25.21 183**	P		**P**	**12 22 20.3 -0.1**
TNTI			IAmb		IAmb	12 22 32.2
	comp=Z,118nm,1.0s					
GRNR	**Gornyy**	**25.35 12**	*e*P		**P**	**12 22 22.6 +1.2**
GRNR			pmax		pmax	
	comp=N,77nm,1.2s					
GRNR			pmax		pmax	
	comp=Z,100nm,1.2s					
KMSI	**Cibinong**	**25.77 191**	P		**P**	**12 22 27.4 +1.9**
MRSI	**Marisa**	**26.28 195**	P		**P**	**12 22 30.8 +0.7**
CHAI	**Chaiyaphum**	**26.81 253**	P		**P**	**12 22 35.9 +0.9**
	comp=Z,40μm,1.1s,comp=Z,382μm					
SIJI	**Sorong**	**26.93 174**	P		**P**	**12 22 35.0 -1.0**
	comp=Z,11nm,0.8s,baz=334,slow=18,SNR=4.1					
SIJI			LR		LR	12 32 34.4
	comp=Z,655nm,20.8s,baz=7.5,slow=35					
TYV	**Tymovskoe**	**26.96 20**	*e*P		P	12 22 50.7 +15
TYV			pmax		pmax	
	comp=Z,200nm,2.7s					
TYV			pmax		pmax	
	comp=Z,16nm,1.7s					
TYV			MLR		MLR	
	comp=Z,1μm,19.0s					
TYV			MLR		MLR	
	comp=E,3μm,16.0s					
MPSI	**Mapaga**	**26.96 200**	P		**P**	**12 22 37.7 +1.4**
	comp=E,22nm,1.1s,comp=E,327nm					
PAYA	**Payao**	**27.32 262**	P		**P**	**12 22 42.2 +2.6**
	comp=E,46μm,1.2s					
PBKT	**Sadao Pong**	**27.40 255**	P		**P**	**12 22 41.4 +1.1**
	comp=E,22nm,1.1s,comp=E,382nm					
PBKT	**Sadao Pong**	**27.40 255**	P		**P**	**12 22 40.9 +0.6**
GTA	**Gaotai**	**27.49 306**	⇑P		**P**	**12 22 39.4 -1.7**
GTA			pP		pP	12 22 44.6 -3.0
GTA			sP		sP	12 22 47.9 -2.4
GTA			S		**S**	**12 27 21.4 +0.7**
GTA			sS		pS	12 27 29.7 +1.6
GTA			pmax		pmax	
	comp=E,79nm,1.2s					
GTA			pmax		pmax	
	comp=E,390nm,5.4s					
GTA			LR		LR	
	comp=E,4μm,12.4s					
GTA			LR		LR	
	comp=E,4μm,15.1s					
GTA			LR		LR	
	comp=E,7μm,13.7s					
ULN	**Ulaanbaatar**	**27.55 328**	P		**P**	**12 22 40.5 -1.0**
	SNR=34					
ULN	**Ulaanbaatar**	**27.55 328**	*ce*P		**P**	**12 22 39.7 -1.9**
ULN			pmax		pmax	
	comp=Z,73nm,1.5s					
ULN	**Ulaanbaatar**	**27.55 328**	P		**P**	**12 22 40.0 -1.5**
ULN			IAmb		IAmb	12 22 45.3
	comp=Z,173nm,1.6s					
LUWI	**Luwuk**	**27.57 193**	P		**P**	**12 22 42.2 +0.4**
ZEA	**Zeya**	**27.62 358**	*e*P		**P**	**12 22 44.4 +2.5**
ZEA			*e*S		**S**	**12 27 24.0 +1.9**
ZEA			pmax		pmax	
	comp=Z,400nm,12.0s					
ZEA			pmax		pmax	
	comp=Z,12nm,1.0s					
ZEA			smax		smax	
	comp=N,900nm,16.0s					
ZEA			MLR		MLR	
	comp=Z,3μm,14.0s					
ZEA			MLR		MLR	
	comp=N,3μm,13.0s					
ZEA			MLR		MLR	
	comp=E,2μm,13.0s					
APSI	**Ampana**	**27.69 195**	P		**P**	**12 22 43.4 +0.6**
LAMP	**Lampang**	**27.82 260**	P		**P**	**12 22 45.7 +1.7**
	comp=E,55μm,0.9s					
SONM	**Songino Array**	**27.85 327**	P		**P**	**12 22 42.4 -1.8**
SONM			pmax		pmax	
	comp=Z,46nm,1.2s					
SONM	**Songino Array**	**27.85 327**	P		**P**	**12 22 42.8 -1.4**
	comp=Z,33nm,1.1s,baz=142,slow=7.4,SNR=34					
SONM			LR		LR	12 35 04.5
	comp=Z,2μm,19.2s,baz=142,slow=39					
SONM	**Songino Array**	**27.85 327**	P		**P**	**12 22 42.4 -1.8**
RKPI	**Ransiki, Papua**	**27.97 168**	P		**P**	**12 22 45.6 +0.3**
SANI	**Sanana**	**28.10 186**	P		**P**	**12 22 45.2 -1.3**
	comp=Z,98nm,1.1s,comp=Z,900nm					
CMMT	**Chiang Mai**	**28.32 261**	P		**P**	**12 22 48.7 +0.1**
	comp=Z,16nm,1.0s,comp=Z,250nm					
CHTO	**Chiang Mai**	**28.33 261**	P		**P**	**12 22 48.6 0.0**
	SNR=14					
CHTO	**Chiang Mai**	**28.33 261**	P		**P**	**12 22 48.0 -0.6**
CHTO			pmax		pmax	
	comp=Z,30nm,1.1s					
CHTO	**Chiang Mai**	**28.33 261**	P		**P**	**12 22 48.0 -0.6**
CMAR	**Chiang Mai Arr**	**28.45 261**	P		**P**	**12 22 48.5 -1.2**
	comp=Z,12nm,1.0s,baz=63,slow=7.9,SNR=39					
CMAR			PcP		**PcP**	**12 26 01.9 +0.3**
	comp=Z,1.3nm,0.7s,baz=52,slow=1.5,SNR=4.6					
CMAR			LR		LR	12 35 25.5
	comp=Z,1μm,18.5s,baz=74,slow=39					
CMAR	**Chiang Mai Arr**	**28.45 261**	P		**P**	**12 22 49.0 -0.7**
CMAR					**PcP**	**12 26 02.7 +1.1**
NKL	**Nikolayevsk**	**28.49 15**	*e*P		**P**	**12 22 49.6 0.0**
NKL			*e*S		**S**	**12 27 37.2 +1.6**
NKL			pmax		pmax	
	comp=E,11nm,1.4s					
NKL			pmax		pmax	
	comp=Z,65nm,1.4s					
NKL			pmax		pmax	
	comp=N,6.0nm,1.1s					
SMKI	**Samarinda**	**28.60 204**	P		**P**	**12 22 52.3 +1.3**
SRPI	**Serui, Papua**	**28.77 164**	P		**P**	**12 22 51.3 -1.1**
FAKI	**Fak Fak**	**29.06 173**	P		**P**	**12 22 55.0 -0.1**
	comp=N,75nm,1.0s,comp=N,2μm					
FAKI	**Fak Fak**	**29.06 173**	P		**P**	**12 22 54.6 -0.4**
FAKI			IAmb		IAmb	12 23 07.3
	comp=Z,63nm,0.9s					
UTHA	**Uthaitani**	**29.15 255**	P		**P**	**12 22 57.9 +2.0**
	comp=Z,25μm,1.2s,comp=Z,315μm					
NLAI	**Namlea**	**29.20 183**	P		**P**	**12 22 57.3 +1.0**
MSAI	**Masohi**	**29.27 179**	P		**P**	**12 22 58.1 +1.2**
	comp=Z,22nm,1.2s,comp=Z,258nm					
MHMT	**Maesarieng**	**29.45 261**	P		**P**	**12 23 00.0 +1.4**
	comp=Z,35nm,0.9s,comp=Z,1μm					
SMPI	**Sarmi**	**29.58 159**	P		**P**	**12 23 00.5 +0.8**
AAI	**Ambon**	**29.61 181**	P		**P**	**12 22 59.3 -0.7**
	comp=Z,76nm,1.0s,comp=Z,1μm					
KSM	**Kuching**	**30.17 219**	P		**P**	**12 23 04.5 -0.5**
KSM			IAmb		IAmb	12 23 15.9
	comp=Z,44nm,1.0s					
TTSI	**Tana Toraja**	**30.20 198**	P		**P**	**12 23 05.9 +0.7**
KHLT	**Khaolaem Dam**	**30.23 254**	P		**P**	**12 23 04.2 -1.3**
	comp=Z,30nm,1.5s					
KDI	**Kendari**	**30.44 192**	P		**P**	**12 23 08.9 +1.6**

GENI	Genyem	30.63 157	P	P	12 23 10.9	+1.9
	comp=Z,68nm,0.5s					
STKI	Sintang	30.72 215	P	P	12 23 08.1	-1.6
JAY	Jayapura	30.75 156	LR	LR	12 33 31.2	
	comp=Z,797nm,19.2s,baz=358,slow=32					
SPSI	Sidrap Palu	31.09 197	P	P	12 23 14.2	+1.2
KBKI	Kotabaru	31.62 204	P	P	12 23 18.4	+0.7
TLY	Talaya	31.80 330	P	P	12 23 17.3	-1.7
	SNR=9.1					
TLY	Talaya	31.80 330	*c iP*	P	12 23 17.0	-2.0
TLY			*e*		12 24 31.5	
TLY			*e*		12 26 09.7	
TLY			*e*S	S	12 28 32.2	+4.4
TLY			pmax	pmax		
	comp=Z,49nm,1.8s					
TLY			MLR	MLR		
	comp=Z,9μm,12.0s					
TLY	Talaya	31.80 330	LR	LR	12 38 04.3	
	comp=Z,1μm,19.0s,baz=133,slow=40					
TLY	Talaya	31.80 330	P	P	12 23 17.1	-2.0
BBSI	Bau Bau	31.95 191	P	P	12 23 22.5	+2.0
KAPI	Kappang	32.10 197	LR	LR	12 36 44.7	
	comp=Z,469nm,18.8s,baz=117,slow=37					
SHL	Shillong	33.01 277	P	P	12 23 29.2	-0.8
	SNR=37					
SHL	Shillong	33.01 277	P	P	12 23 28.9	-1.2
SHL			pmax	pmax		
	comp=Z,123nm,1.2s					
SHL	Shillong	33.01 277	P	P	12 23 28.9	-1.2
SURT	Suratani	33.03 244	P	P	12 23 31.8	+1.7
	comp=Z,44nm,1.2s					
LSA	Lhasa	33.22 285	P	P	12 23 31.8	-0.4
LSA	Lhasa	33.22 285	P	P	12 23 31.6	-0.6
LSA			pmax	pmax		
	comp=Z,19nm,1.1s					
LSA	Lhasa	33.22 285	P	P	12 23 31.6	-0.6
IPM	Ipoh	34.06 236	P	P	12 23 39.2	0.0
PEA0B	Petropavlovsk-	34.62 31	‖ *eP*	P	12 23 44.2	+0.6
PETK	Petropavlovsk-	34.62 31	P	P	12 23 42.2	-1.3
	comp=Z,4.9nm,1.1s,baz=235,slow=13,SNR=6.7					
PETK			LR	LR	12 38 48.9	
	comp=Z,377nm,18.4s,baz=235,slow=38					
PETK	Petropavlovsk-	34.62 31	P	P	12 23 43.1	-0.5
PET	Petropavlovsk	35.02 32	*eP*	P	12 23 46.6	-0.3
PET			*e*S	S	12 29 17.3	-0.2
PET			pmax	pmax		
	comp=Z,200nm,3.3s					
PET			pmax	pmax		
	comp=Z,200nm,8.2s					
PET			pmax	pmax		
	comp=Z,42nm,1.4s					
PET			MLR	MLR		
	comp=Z,700nm,20.0s					
PET			MLR	MLR		
	comp=Z,900nm,18.0s					
PET	Petropavlovsk	35.02 32	P	P	12 23 47.7	+0.7
PET			IAmb	IAmb	12 23 53.6	
	comp=Z,63nm,1.3s					
MMRI	Maumere	35.08 191	P	P	12 23 48.6	+0.7
EDFI	Ende, Flores	35.29 192	P	P	12 23 50.3	+0.5
SOEI	Soe	35.89 187	P	P	12 23 53.6	-1.3
	comp=Z,92nm,1.0s					
H11S3	WAKE ISLAND Hy	35.92 94	T	T	13 02 16.3	
	baz=291					
YAK	Yakutsk	35.93 1	*eP*	P	12 23 55.0	+0.4
YAK			*e**PP	pwP	12 24 05.6	+1.0
YAK			*e*S	S	12 29 30.9	-0.4
YAK			*e*SS	SnSn	12 31 50.9	-4.8
YAK			*e*SSS	SSS	12 32 17.6	
YAK			pmax	pmax		
	comp=Z,32nm,1.1s					
YAK			pmax	pmax		
	comp=N,26nm,1.1s					
YAK			pmax	pmax		
	comp=E,6.0nm,1.3s					
YAK			pmax	pmax		
	comp=Z,78nm,2.5s					
YAK			pmax	pmax		
	comp=N,74nm,2.3s					
YAK			pmax	pmax		
	comp=E,55nm,2.7s					
YAK			smax	smax		
	comp=E,74nm,2.7s					
YAK			smax	smax		
	comp=N,127nm,2.7s					
YAK			MLR	MLR		
	comp=Z,805nm,14.0s					
YAK			MLR	MLR		
	comp=E,554nm,14.0s					
YAK			MLR	MLR		
	comp=N,905nm,15.0s					
YAK	Yakutsk	35.93 1	P	P	12 23 54.5	-0.1
	comp=N,3.9nm,0.4s,baz=192,slow=1.8,SNR=14					
YAK	Yakutsk	35.93 1	P	P	12 23 54.3	-0.4
YAK			IAmb	IAmb	12 24 13.4	
	comp=Z,48nm,1.0s					
H11S1	WAKE ISLAND Hy	35.93 94	T	T	13 02 17.5	
	baz=291					
H11S2	WAKE ISLAND Hy	35.94 94	T	T	13 02 17.5	
	baz=291					
PLAI	Plampang	36.28 198	P	P	12 23 57.2	-1.0
BATI	Baumata	36.41 188	P	P	12 23 59.0	-0.2
	comp=Z,53nm,0.7s,baz=116,slow=1.6,SNR=8.6					
BATI	Baumata	36.41 188	P	P	12 23 58.7	-0.6
	comp=Z,70nm,0.8s,comp=Z,486nm					
TAPN	Taplejung	36.45 281	*eP*	P	12 23 59.5	-0.5
	comp=Z,249nm,1.2s					
TWSI	Taliwang, Sumb	36.46 200	P	P	12 24 00.9	+1.2
	comp=Z,66nm,1.4s					
JMBI	JAMBI	36.65 225	P	P	12 24 01.7	+0.4
PSI	Prapat	36.74 236	P	P	12 24 02.1	-0.2
	comp=Z,3.2nm,0.3s,baz=359,slow=9.1,SNR=5.5					
ODAN	Odare	36.80 281	*eP*	P	12 24 02.4	-0.5
	comp=Z,493nm,1.1s					
BKNI	Bangkinang	36.92 230	P	P	12 24 05.5	+1.8
PMBI	Palembang	36.95 222	P	P	12 24 05.7	+1.8
NGJI	Ngawi	37.21 209	P	P	12 24 07.1	+1.0
WMQ	Urumqi	37.47 309	*eP*	P	12 24 07.7	-0.5
WMQ			pP	pP	12 24 13.3	-1.5
WMQ			sP	sP	12 24 16.2	-1.3
WMQ			pmax	pmax		
	comp=Z,44nm,1.5s					
WMQ			pmax	pmax		
	comp=Z,160nm,3.7s					
WMQ			LR	LR		
	comp=Z,2μm,14.1s					
WMQ			LR	LR		
	comp=Z,2μm,12.7s					
WMQ			LR	LR		
	comp=Z,2μm,14.1s					
WMQ	Urumqi	37.47 309	P	P	12 24 07.4	-0.8
WMQ			pmax	pmax		
	comp=Z,327nm,1.9s					
WMQ	Urumqi	37.47 309	P	P	12 24 07.4	-0.8
RAMN	Ramite	37.49 281	*eP*	P	12 24 07.9	-0.8
	comp=Z,146nm,1.2s					
JIRN	Jiri	37.75 282	*eP*	P	12 24 10.4	-0.7
	comp=Z,274nm,1.4s					
KRVT	Keravat (AS076	37.79 140	LR	LR	12 37 23.7	
	comp=Z,410nm,19.8s,baz=320,slow=32					
WOJI	Wonogiri, Jawa	37.87 209	P	P	12 24 12.0	+0.4
GUN	Gumba	37.99 283	*eP*	P	12 24 12.6	-0.5
	comp=Z,281nm,1.1s					
UGM	Wanagama	38.11 210	P	P	12 24 13.8	+0.1
KPJI	Karang Pucung	38.35 213	P	P	12 24 17.4	+1.7
KLSI		38.38 221	P	P	12 24 17.4	+1.4
PKI	Pulchoki	38.45 282	*eP*	P	12 24 15.9	-1.0
	comp=Z,317nm,1.2s					
PKIN	Phulchoki	38.46 282	*eP*	P	12 24 15.9	-1.0
	comp=Z,223nm,1.2s					
KKN	Kakani	38.53 283	*eP*	P	12 24 16.9	-0.6
	comp=Z,235nm,1.0s					
LEM	Lembang	38.57 215	P	P	12 24 18.6	+0.8
	comp=Z,8.0nm,0.4s,baz=315,slow=19,SNR=1.6					
LEM	Lembang	38.57 215	P	P	12 24 17.7	0.0
DMN	Daman	38.71 282	*eP*	P	12 24 18.4	-0.6
	comp=Z,377nm,1.3s					
MTN	Manton Dam	38.79 176	P	P	12 24 18.2	-1.1
MTN			IAmb	IAmb	12 24 27.5	
	comp=Z,69nm,0.9s					
GKN	Gorkha	39.06 283	*eP*	P	12 24 21.1	-0.8
	comp=Z,444nm,1.3s					
DGZ	Jazzator, Alta	39.45 318	‖ *eP*	P	12 24 21.9	-3.0
PMG	Port Moresby	39.63 151	⇑ *eP*	P	12 24 27.1	+0.7
PMG			pmax	pmax		
	comp=Z,68nm,1.0s					
PMG	Port Moresby	39.63 151	LR	LR	12 38 40.6	
	comp=Z,896nm,20.4s,baz=322,slow=33					
DANN	Dangsing	39.79 284	*eP*	P	12 24 27.6	-0.5
	comp=Z,476nm,1.0s					
KOLN	Koldanda	40.01 283	*eP*	P	12 24 29.4	-0.4
	comp=Z,382nm,1.0s					
SEY	Seymchan	40.04 17	‖ *eP*	P	12 24 30.8	+1.5
SEY	Seymchan	40.04 17	P	P	12 24 29.9	+0.6
	comp=Z,3.8nm,0.5s,baz=200,slow=7.4,SNR=15					
MK31	Makanchi Array	41.88 312	*i* P	P	12 24 43.7	-1.1
MK31			pmax	pmax		
	comp=Z,42nm,1.3s					
MKAR	Makanchi Array	41.88 312	P	P	12 24 43.3	-1.5
MKAR	Makanchi Array	41.88 312	P	P	12 24 43.9	-0.9
	comp=Z,6.5nm,0.7s,baz=96,slow=11,SNR=62					
MKAR			PcP	PcP	12 26 40.2	-0.1
	comp=Z,2.1nm,0.8s,baz=98,slow=3.9,SNR=2.7					
MKAR			LR	LR	12 43 17.5	
	comp=Z,332nm,18.2s,baz=99,slow=38					
MKAR			PKKP	PKKPdf	12 48 24.1	-1.6
	comp=Z,0.4nm,0.9s,baz=134,slow=6.9,SNR=3.6					
MKAR	Makanchi Array	41.88 312	P	P	12 24 43.3	-1.5
MAKZ	Makanchi	42.10 312	P	P	12 24 45.2	-1.3
MAKZ			pmax	pmax		
	comp=Z,73nm,1.4s					
MAKZ	Makanchi	42.10 312	P	P	12 24 45.6	-0.9
MAKZ			IAmb	IAmb	12 24 47.9	
	comp=Z,101nm,1.4s					
ZAA0	Zalesovo Array	42.56 323	P	P	12 24 48.1	-2.0
ZALV	Zalesovo Beam	42.56 323	*c iP*	P	12 24 48.3	-1.9
ZALV	Zalesovo Beam	42.56 323	P	P	12 24 49.0	-1.1
	comp=Z,3.3nm,0.7s,baz=111,slow=8.1,SNR=13					
ZALV			LR	LR	12 43 53.7	
	comp=Z,1μm,19.0s,baz=122,slow=38					
ZALV	Zalesovo Beam	42.56 323	P	P	12 24 47.8	-2.4
PDGK	Podgornoye	43.24 306	P	P	12 24 54.9	-1.1
PDGK			pmax	pmax		
	comp=Z,112nm,1.5s					
FITZ	Fitzroy Crossi	44.03 184	P	P	12 25 02.5	+0.2
	comp=Z,22nm,0.9s,baz=4.7,slow=8.5,SNR=14					
FITZ	Fitzroy Crossi	44.03 184	IAmb	IAmb	12 25 11.6	
	comp=Z,33nm,0.9s					
TARG	Taragay, Kyrgy	44.33 304	IAmb	IAmb	12 25 14.6	
	comp=Z,68nm,1.3s					
KDJ	Kajisay	44.82 304	IAmb	IAmb	12 25 18.8	
	comp=Z,107nm,1.4s					
KURK	Kurchatov	45.16 317	P	P	12 25 10.2	-0.9
	SNR=32					
KURK	Kurchatov	45.16 317	*ceP*	P	12 25 09.5	-1.6
KURK			pmax	pmax		
	comp=Z,74nm,1.3s					
KURK	Kurchatov	45.16 317	P	P	12 25 09.7	-1.4
KURBB	Kurchatov Arra	45.19 316	P	P	12 25 10.2	-1.1
	comp=Z,16nm,0.8s,baz=105,slow=7.9,SNR=85					
KURBB			PcP	PcP	12 26 50.6	-0.6
	comp=Z,2.1nm,1.0s,baz=103,slow=3.9,SNR=2.1					
NGP	Nagpur	45.47 275	*eP*	P	12 25 13.8	-0.2
NGP			*e*S	S	12 32 04.4	+10
KSH	Kashi	45.63 301	P	P	12 25 18.6	+3.4
KSH			sP	pwP	12 25 25.4	+0.3
KSH			PP	PP	12 27 06.7	+4.6
KSH			S	S	12 32 00.6	+4.0
KSH			sS	sS	12 32 08.6	+0.6
KSH			ScS	ScS	12 35 11.1	+0.9
KSH			pmax	pmax		
	comp=Z,190nm,1.6s					
KSH			pmax	pmax		
	comp=Z,500nm,9.4s					
KSH			LR	LR		
	comp=Z,3μm,18.0s					
KSH			LR	LR		
	comp=Z,1μm,14.9s					
KSH			LR	LR		
	comp=Z,700nm,21.2s					
NRN	Naryn	45.66 303	IAmb	IAmb	12 25 25.6	
	comp=Z,68nm,1.3s					
TKM2	Tokmak 2	46.04 305	P	P	12 25 18.1	-0.4
TKM2			pmax	pmax		
	comp=Z,55nm,1.3s					
TKM2	Tokmak 2	46.04 305	P	P	12 25 18.4	0.0
	SNR=24					
WRAB	Tennant Creek	46.10 173	*d iP*	P	12 25 18.7	-0.1
WRAB			pmax	pmax		
	comp=Z,29nm,1.1s					
WRAB	Tennant Creek	46.10 173	P	P	12 25 18.1	-0.7
WRAB			IAmb	IAmb	12 25 28.0	
	comp=Z,46nm,0.8s					
WRA	Warramunga Arr	46.10 173	P	P	12 25 17.6	-1.3
WRA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
WRA	Warramunga Arr	46.10 173	P	P	12 25 18.7	-0.1
	comp=Z,20nm,1.0s,baz=351,slow=8.1,SNR=71					
WRA			LR	LR	12 45 11.3	
	comp=Z,444nm,19.1s,baz=0.0,slow=37					
WRA	Warramunga Arr	46.10 173	P	P	12 25 17.6	-1.3
KZA	Kyzart	46.25 304	P	P	12 25 21.6	+1.2
	SNR=7.0					
KBK	Karagaybulak	46.50 305	P	P	12 25 21.9	-0.1
	SNR=6.3					
CHMS	Chumysh	46.66 305	P	P	12 25 23.4	+0.3
	SNR=10					
AAK	Ala-Archa	46.83 305	*i* P	P	12 25 24.3	-0.3
	SNR=8.6					
AAK	Ala-Archa	46.83 305	P	P	12 25 24.4	-0.3
	SNR=6.3					
AAK	Ala-Archa	46.83 305	*c iP*	P	12 25 23.9	-0.8
AAK			pmax	pmax		
	comp=Z,14nm,1.3s					
AAK	Ala-Archa	46.83 305	P	P	12 25 24.6	-0.1
	comp=Z,1.9nm,0.6s,baz=93,slow=9.2,SNR=13					
AAK	Ala-Archa	46.83 305	P	P	12 25 24.9	+0.3
	SNR=6.2					
AAK	Ala-Archa	46.83 305	P	P	12 25 23.0	-1.7
USP	Uspenovka	46.86 306	P	P	12 25 24.9	+0.1
	SNR=5.6					
HYB	Hyderabad	47.06 270	*i* P	P	12 25 26.0	-0.6
HYB			*e*		12 25 35.0	
EKS2	Erkin-Say	47.36 305	P	P	12 25 29.1	+0.4
	SNR=7.7					
AML	Almayashu	47.41 304	P	P	12 25 30.2	+0.8
	SNR=9.0					
BILL	Bilibino	47.68 18	*c iP*	P	12 25 31.2	+0.5
BILL			*i*		12 27 00.1	
BILL			*i* S	S	12 32 16.6	-8.3
BILL			*i* SS	ScS	12 35 24.0	+1.7
BILL			pmax	pmax		
	comp=Z,27nm,1.2s					
BILL			MLR	MLR		
	comp=Z,1μm,17.0s					
BILL	Bilibino	47.68 18	P	P	12 25 32.2	+1.6
BILL			IAmb	IAmb	12 25 35.6	
	comp=Z,36nm,1.2s					
NIL	Nilore	48.12 293	P	P	12 25 33.8	-0.9
NIL			pmax	pmax		
	comp=Z,65nm,1.2s					
NIL	Nilore	48.12 293	P	P	12 25 33.8	-0.9
NIL			IAmb	IAmb	12 25 43.4	
	comp=Z,65nm,1.2s					
PSA00	Pilbara Seismi	48.15 191	IAmb	IAmb	12 25 43.7	
	comp=Z,31nm,0.9s					
CTA	Charters Tower	49.00 158	P	P	12 25 41.0	-0.4
CTA	Charters Tower	49.00 158	P	P	12 25 41.0	-0.4
	comp=Z,22nm,1.0s,baz=357,slow=12,SNR=5.2					
CTAO	Charters Tower	49.00 158	P	P	12 25 42.0	+0.6
CTAO			pmax	pmax		
	comp=Z,37nm,1.0s					
CTAO	Charters Tower	49.00 158	P	P	12 25 42.0	+0.6
CTAO			IAmb	IAmb	12 25 51.4	
	comp=Z,37nm,0.9s					
PALK	Pallekele	49.24 256	P	P	12 25 44.3	+0.8
PALK	Pallekele	49.24 256	⇑ *eP*	P	12 25 52.6	+9.1
PALK	Pallekele	49.24 256	LR	LR	12 46 58.6	
	comp=Z,486nm,21.6s,baz=110,slow=37					
NRIK	Noril'sk	49.48 342	P	P	12 25 42.6	-1.9
	comp=Z,11nm,1.1s,baz=119,slow=5.7,SNR=8.1					
NRIK			LR	LR	12 49 09.0	
	comp=Z,1μm,18.1s,baz=135,slow=39					
BTK	Batken	49.59 301	IAmb	IAmb	12 25 55.0	
	comp=Z,67nm,1.7s					
ASAR	Alice Springs	49.74 174	P	P	12 25 46.8	-0.2
	comp=Z,10nm,1.0s,baz=354,slow=6.9,SNR=51					
ASAR			LR	LR	12 48 30.1	
	comp=Z,237nm,18.3s,baz=348,slow=38					
ASAR	Alice Springs	49.74 174	P	P	12 25 47.2	+0.2
KK31	Karatay Array	49.77 305	*i* P	P	12 25 47.3	+0.2
KK31			pmax	pmax		
	comp=Z,26nm,1.1s					
KK31	Karatay Array	49.77 305	IAmb	IAmb	12 25 57.2	
	comp=Z,74nm,1.4s					
KKAR	Karatay Array	49.77 305	P	P	12 25 46.8	-0.4
KKAR	Karatay Array	49.77 305	P	P	12 25 46.8	-0.4
KKAR	Karatay Array	49.77 305	IAmb	IAmb	12 25 57.2	
	comp=Z,74nm,1.4s					
BVAR	Borovoye Array	50.61 318	P	P	12 25 53.0	-0.3
BVAR	Borovoye Array	50.61 318	P	P	12 25 53.0	-0.3
	comp=Z,6.7nm,0.7s,baz=90,slow=7.4,SNR=51					
BRVK	Borovoye	50.67 318	P	P	12 25 53.4	-0.4
	SNR=25					
BRVK	Borovoye	50.67 318	*c iP*	P	12 25 52.8	-1.0
BRVK			pmax	pmax		
	comp=Z,41nm,1.2s					
BRVK	Borovoye	50.67 318	P	P	12 25 52.9	-0.9
BRVK			IAmb	IAmb	12 25 54.8	
	comp=Z,74nm,1.4s					
POO	Poona	50.93 273	*eP*	P	12 26 03.5	+7.3
KBL	Kabul	51.48 295	P	P	12 26 00.1	-0.3
KBL			pmax	pmax		
	comp=Z,116nm,1.3s					
KBL	Kabul	51.48 295	P	P	12 26 00.1	-0.3
EIDS	Eidsvold	55.58 155	P	P	12 26 30.0	-0.1
SVE	Sverdlovsk	56.58 322	*eP*	P	12 26 37.0	0.0
SVE			pmax	pmax		
	comp=Z,70nm,1.7s					
SVE			MLR	MLR		
	comp=Z,4μm,13.0s					
AB31	Akbulak array	56.99 313	*i* P	P	12 26 39.4	-0.6
AB31			pmax	pmax		
	comp=Z,31nm,1.1s					
ABKAR	Akbulak array	56.99 313	P	P	12 26 38.6	-1.4
ABKAR	Akbulak array	56.99 313	IAmb	IAmb	12 26 50.0	
	comp=Z,35nm,1.1s					
ARU	Arti	57.71 322	*c iP*	P	12 26 43.9	-1.1
ARU					12 27 37.4	
ARU					12 28 54.0	
ARU			S	S	12 34 43.6	+1.5
ARU			SS	SS	12 38 37.0	+4.7
ARU			pmax	pmax		
	comp=Z,54nm,1.6s					
ARU			MLR	MLR		
	comp=Z,3μm,17.0s					
ARU	Arti	57.71 322	P	P	12 26 44.4	-0.5
ARU			IAmb	IAmb	12 26 54.5	
	comp=Z,48nm,1.3s					
AKTO	Aktyubinsk	58.17 315	P	P	12 26 47.0	-1.3
	comp=Z,2.6nm,0.5s,baz=73,slow=11,SNR=8.8					
STKA	Stephens Creek	58.97 167	LR	LR	12 51 18.1	
	comp=Z,205nm,21.2s,baz=354,slow=35					
GEYT	Alibeck	59.66 300	P	P	12 26 59.6	+0.7
	comp=Z,6.0nm,0.6s,baz=130,slow=2.3,SNR=16					
GEYT			LR	LR	12 57 05.2	
	comp=Z,901nm,18.2s,baz=85,slow=40					
GEYT	Alibeck	59.66 300	P	P	12 26 59.0	0.0
GYA0B	ALIBECK ARRAY	59.66 300	IAmb	IAmb	12 27 18.4	
	comp=Z,34nm,1.1s					
NWAO	Narrogin (SRO)	59.69 191	P	P	12 26 59.2	+0.3
	comp=Z,8.6nm,0.9s,baz=345,slow=20,SNR=2.3					
DZM	Mont Dzumac	60.30 139	*eP*	P	12 27 05.0	+1.5
	comp=Z,78nm,1.1s					
DZM			*e*S	S	12 35 13.4	-3.3
	comp=Z,505nm,25.4s					
DZM			*e*LR	LR	12 44 41.9	
	comp=Z,813nm,24.4s					
DZM	Mont Dzumac	60.30 139	P	P	12 27 05.0	+1.5
	comp=Z,9.0nm,0.9s,baz=313,slow=19,SNR=2.8					
DZM	Mont Dzumac	60.30 139	P	P	12 27 04.8	+1.4
IMAR	Indian Mountai	61.44 27	P	P	12 27 11.6	+1.1
KIRV	Kirov	62.55 325	P	P	12 27 17.7	-0.4
	comp=Z,11nm,0.6s,baz=168,slow=2.1,SNR=10					
JLN	Jalan Bani Buh	62.62 283	P	P	12 27 19.3	+0.2
	SNR=9.2					
JLN			P	P	12 27 19.3	+0.2
	SNR=9.2					
BPAW	Bear Paw Mtn.	62.67 29	IAmb	IAmb	12 27 27.7	
	comp=Z,57nm,1.7s					
WBK	Wadi Bani Khal	62.86 283	P	P	12 27 21.4	+0.6
	SNR=6.2					
WBK			P	P	12 27 21.4	+0.6
	SNR=6.2					
WSAR	Wadi Sarin	62.96 284	P	P	12 27 22.0	+0.6
	SNR=6.8					
TOLK	Toolik Lake Re	62.99 24	P	P	12 27 22.7	+1.8
	baz=273					
TOLK	Toolik Lake Re	62.99 24	IAmb	IAmb	12 27 29.2	
	comp=Z,61nm,1.6s					
TRF	Thorofare Moun	63.03 30	P	P	12 27 24.3	+2.8
TRF			IAmb	IAmb	12 27 41.7	
	comp=Z,20nm,1.2s					
BIDO	Bidbid	63.31 284	P	P	12 27 23.8	0.0
	SNR=7.8					
SMDO	Samad	63.52 284	P	P	12 27 25.5	+0.2
	SNR=9.5					
SMDO			P	P	12 27 25.5	+0.2
	SNR=9.5					
MCK	McKinley	63.61 29	P	P	12 27 26.5	+1.4
MCK			pmax	pmax		
	comp=Z,74nm,1.4s					
MCK	McKinley	63.61 29	P	P	12 27 26.5	+1.4
RND	Reindeer	63.68 30	IAmb	IAmb	12 27 41.8	
	comp=Z,43nm,1.1s					
JMDO	Jabal Madar	63.70 283	P	P	12 27 23.9	-2.4
	SNR=8.8					
TCOL	CIGO, UAF Yank	63.96 28	P	P	12 27 29.4	+2.1
	baz=276					
COLA	College	63.96 28	⇑ *eP*	P	12 27 30.0	+2.7
COLA			pmax	pmax		
	comp=Z,26nm,2.4s					
HOQ	Hoqain	64.00 285	P	P	12 27 28.3	0.0
	SNR=9.6					
HOQ			P	P	12 27 28.3	0.0
	SNR=9.6					
CCB	Clear Creek Bu	64.00 28	P	P	12 27 29.3	+1.7
CCB			IAmb	IAmb	12 27 45.0	
	comp=Z,30nm,1.8s					
KNK	Knik Glacier	64.09 32	IAmb	IAmb	12 27 30.5	
	comp=Z,42nm,1.3s					
PRGR	Permogore	64.10 328	*eP*	P	12 27 25.6	-2.7
PRGR			pmax	pmax		
	comp=Z,26nm,1.4s					
POKR	Poker Plat Res	64.11 28	P	P	12 27 29.0	+0.6
	baz=276					
BANOM	Banah	64.14 288	P	P	12 27 29.6	+0.4
BANOM			P	P	12 27 29.6	+0.4
SHME	Shamm	64.24 288	P	P	12 27 30.3	+0.4
MHTO	MHTO	64.27 282	P	P	12 27 29.7	-0.4
	SNR=12					
MHTO			P	P	12 27 29.7	-0.4
	SNR=12					
MDH	Madha	64.34 287	P	P	12 27 29.5	-1.0
ILAR	Eielson Array	64.38 28	P	P	12 27 30.4	+0.2
	comp=Z,1.1nm,0.8s,baz=251,slow=5.3,SNR=9.2					
ILAR			LR	LR	12 58 44.7	
	comp=Z,246nm,18.3s,baz=302,slow=39					
ILAR	Eielson Array	64.38 28	P	P	12 27 31.3	+1.1
HDA	Harding Lake	64.40 29	P	P	12 27 30.9	+0.7
	baz=277					
HDA	Harding Lake	64.40 29	IAmb	IAmb	12 27 40.4	
	comp=Z,17nm,1.0s					
MSFE	Esma-Masafi	64.44 287	P	P	12 27 31.8	+0.6
UOSS	Minazif	64.53 287	P	P	12 27 31.2	-0.6
SCM	Sheep Creek Mo	64.57 32	P	P	12 27 33.3	+1.8
SCM			pmax	pmax		
	comp=Z,31nm,1.2s					
SCM	Sheep Creek Mo	64.57 32	P	P	12 27 33.3	+1.8
SCM			IAmb	IAmb	12 27 46.3	
	comp=Z,31nm,1.2s					
HATD	Hatta, Dubai	64.63 286	P	P	12 27 32.7	+0.3
ASHO	Ashiyiah	64.73 286	*i* P	P	12 27 33.1	-0.1
	SNR=11					
ASHO	Ashiyiah	64.73 286	P	P	12 27 33.6	+0.4
	SNR=6.8					
ASHO			P	P	12 27 33.6	+0.4
	SNR=6.8					
ARQ	Araqi	64.76 285	P	P	12 27 33.6	+0.3
	SNR=5.4					
ARQ			P	P	12 27 33.6	+0.3
	SNR=5.4					
MSVF	Nonsavu	64.85 127	⇑ *iP*	P	12 27 36.4	+2.5
MSVF			pmax	pmax		
	comp=Z,18nm,1.1s					
BMAR	Burnt Mountain	64.97 25	P	P	12 27 36.6	+2.6
NAZ	Nazwa, Dubai	64.98 287	P	P	12 27 35.4	+0.7
ALNE	Al Ain	65.20 286	*i* P	P	12 27 37.1	+0.9

SNR=6.4
SCRK Sand Creek 65.75 29 IAmb IAmb 12 27 56.6
comp=Z,23nm,1.2s
DOT Dot Lake 65.77 29 P **P** **12 27 39.6 +0.4**
DOT IAmb IAmb 12 27 55.4
comp=Z,30nm,1.2s
GLB Gilahina Butte 66.29 32 P **P** **12 27 43.9 +1.3**
GLB IAmb IAmb 12 28 00.2
comp=Z,33nm,1.3s
AKT Akhty 66.69 306 *e*P **P** **12 27 46.1 +0.5**
AKT *e* 12 28 13.8
AKT *e* 12 30 11.8
AKT pmax pmax
comp=Z,32nm,1.0s
BCAR Beaver Creek A 66.89 30 P **P** **12 27 47.6 +1.2**
TMCR Tamitsa 67.09 332 *e*P **P** **12 27 46.1 -1.4**
TMCR pmax pmax
comp=Z,48nm,1.0s
KLMR Klimovskoe 67.14 328 *e*P **P** **12 27 46.5 -1.4**
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR Klimovskoe 67.14 328 *e*P **P** **12 27 46.6 -1.4**
KLMR AMP 12 27 57.9
comp=Z,33nm,1.4s
KLMR LQ LQ 12 53 41.6
KLMR LQ LQ 12 53 41.6
KLMR LR LR 12 59 13.2
GROC Groznyy 67.63 308 *e*P **P** **12 27 51.7 +0.3**
GROC *e* 12 28 17.7
GROC *e* 12 30 19.2
GROC pmax pmax
comp=Z,26nm,0.5s
APA Apatity 68.12 336⇑ *i*P **P** **12 27 53.4 -0.6**
APA pmax pmax
comp=Z,14nm,1.0s
APA MLR MLR
comp=Z,2μm,19.0s
EPYK Eagle Plains 68.22 26 P **P** **12 27 56.5 +1.7**
baz=285
EPYK Eagle Plains 68.22 26 IAmb IAmb 12 28 08.9
comp=Z,48nm,1.6s
VRH Novokhopyorsk 68.24 317 *e*P **P** **12 27 53.8 -1.3**
VRH pmax pmax
comp=Z,20nm,1.2s
VRH MLR MLR
comp=Z,1μm,10.0s
INK Inuvik 68.87 23 IAmb IAmb 12 28 06.4
comp=Z,25nm,1.2s
GOF Gofitskoye 69.03 311⇑ *e*P **P** **12 27 59.5 -0.7**
GOF pmax pmax
comp=Z,110nm,2.0s
ZEI Tsey 69.08 308 *e*P **P** **12 27 57.6 -3.2**
ZEI pmax pmax
comp=Z,25nm,1.0s
GNI Garni 69.24 305 P **P** **12 28 03.1 +1.3**
GNI Garni 69.24 305 P **P** **12 28 03.0 +1.3**
SNR=14
GNI Garni 69.24 305*c i*P **P** **12 28 02.4 +0.7**
GNI pmax pmax
comp=Z,67nm,1.3s
GNI Garni 69.24 305 P **P** **12 28 02.6 +0.9**
GNI IAmb IAmb 12 28 15.6
comp=Z,48nm,1.1s
HYT Haines Junctio 69.41 31 P **P** **12 28 03.4 +1.0**
HYT IAmb IAmb 12 28 19.9
comp=Z,20nm,1.2s
KBZ Khabaz 69.51 309*ce*P **P** **12 28 03.2 +0.1**
KBZ Khabaz 69.51 309 P **P** **12 28 03.0 -0.1**
comp=Z,15nm,1.0s,baz=74,slow=7.1,SNR=23
KBZ LR LR 13 04 20.3
comp=Z,595nm,18.1s,baz=102,slow=41
LPSR Galich'ya Gora 69.53 319 *e*P **P** **12 28 01.9 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.3s
LPSR MLR MLR
comp=Z,2μm,15.0s
KIV Kislovodsk 69.59 310 *i* P **P** **12 28 04.8 +1.0**
SNR=16
KIV Kislovodsk 69.59 310 P **P** **12 28 04.5 +0.7**
SNR=21
KIV Kislovodsk 69.59 310 *e*P **P** **12 28 03.7 -0.1**
KIV *e*S **S** **12 37 11.4 +0.8**
KIV pmax pmax
comp=Z,121nm,1.1s
KIV pmax pmax
comp=Z,329nm,4.8s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 69.59 310 P **P** **12 28 04.5 +0.7**
AKH Akhalkalaki 69.77 307 P **P** **12 28 05.8 +0.8**
AKH pmax pmax
comp=Z,33nm,1.1s
AKH Akhalkalaki 69.77 307⇑P **P** **12 28 07.0 +2.0**
AKH Akhalkalaki 69.77 307 P **P** **12 28 05.8 +0.8**
AKH IAmb IAmb 12 28 17.3
comp=Z,32nm,1.1s
VORD Divnogorie 69.78 318 *e*P **P** **12 28 02.9 -1.7**
VORD pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 69.78 318 *e*P **P** **12 28 03.4 -1.3**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR MLR MLR
comp=Z,1μm,13.0s
OBN Obninsk 70.15 322⇓ *i*P **P** **12 28 06.4 -0.4**
OBN *i* 12 28 16.0
OBN *i* 12 28 28.0
OBN *e* 12 30 39.7
OBN *e*S **S** **12 37 17.4 +1.0**
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,2μm,15.0s
ARCES ARCESS Array B 70.25 339 P **P** **12 28 06.4 -0.8**
ARCES ARCESS Array B 70.25 339 P **P** **12 28 06.9 -0.3**
comp=Z,7.9nm,1.0s,baz=69,slow=4.0,SNR=10.0
ARCES LR LR 13 03 04.1
comp=Z,315nm,20.1s,baz=42,slow=40
ARCES ARCESS Array B 70.25 339 P **P** **12 28 06.4 -0.8**
WHY Whitehorse 70.69 31 IAmb IAmb 12 28 26.9
comp=Z,42nm,1.8s
C36M Paulatuk 71.69 21 P **P** **12 28 17.3 +1.4**
baz=296
SOC Sochi 71.76 310*c i*P **P** **12 28 16.5 -0.3**
SOC *e*S **S** **12 37 35.4 -0.2**
SOC *e*SSS SSS 12 45 12.9
SOC pmax pmax
comp=Z,64nm,1.5s
ANN Anapa 72.90 312 *e*P **P** **12 28 23.3 -0.3**
ANN *e**PP **pP** **12 28 29.0 -1.7**
ANN *e* 12 28 33.4
ANN *e* 12 31 02.5
ANN *e*S **S** **12 37 47.3 -1.3**
ANN pmax pmax
comp=Z,70nm,1.2s
FINES FINESS Array B 73.15 331 P **P** **12 28 24.4 -0.4**
comp=Z,12nm,0.9s,baz=59,slow=5.2,SNR=23
FINES LR LR 13 04 13.8
comp=Z,816nm,19.1s,baz=69,slow=39
FINES FINESS Array B 73.15 331 P **P** **12 28 24.8 0.0**
VSU Vasula 74.05 328*de*P **P** **12 28 30.6 +0.5**
VSU pmax pmax
comp=Z,147nm,1.3s
VSU Vasula 74.05 328 *e*P **P** **12 28 30.8 +0.8**
VSU IAmb IAmb 12 28 31.7
comp=Z,135nm,1.2s
RAYN Ar Rayn 74.19 289 *i* P **P** **12 28 32.1 +0.5**
SNR=12
RAYN Ar Rayn 74.19 289 P **P** **12 28 31.6 0.0**
RAYN pmax pmax
comp=Z,80nm,1.5s
RAYN Ar Rayn 74.19 289 P **P** **12 28 31.6 0.0**
RAYN IAmb IAmb 12 28 43.6
comp=Z,80nm,1.4s
SIM Simferopol' 75.05 313*ce*P **P** **12 28 34.8 -1.4**
SIM S **S** **12 38 12.5 -0.4**
SIM pmax pmax
comp=Z,29nm,1.2s
MICGM Minsk 75.07 324 *e*P **P** **12 28 36.0 -0.1**
MICGM *e*LR LR 13 03 10.0
MICGM LRM MLR 13 05 22.0
comp=Z,5.6nm,12.0s
IZAR Zarasai 75.41 325 *e*P **P** **12 28 38.8 +0.7**
DAG Danmarks Havn 75.43 353 *i* P **P** **12 28 37.8 0.0**
DAG pmax pmax
comp=Z,100nm,1.5s
DAG Danmarks Havn 75.43 353 *i* P **P** **12 28 37.8 0.0**
comp=Z,36nm,1.5s
DIKM Dikmen 75.51 309⇑P **P** **12 28 40.4 +1.5**
DIKM mb 12 28 41.1
ISAL Salakas 75.55 325 *e*P **P** **12 28 38.8 0.0**
ISAL IAmb IAmb 12 28 40.3
comp=Z,17nm,1.1s
IIGN Ignalina 75.59 325 *e*P **P** **12 28 40.0 +1.0**
IIGN IAmb IAmb 12 28 41.4
comp=Z,18nm,1.3s
RES Resolute Bay 75.61 11 IAmb IAmb 12 28 45.5
comp=Z,33nm,1.1s
AKASG Malin Array Be 75.86 320 P **P** **12 28 39.5 -1.1**
comp=Z,26nm,1.1s,baz=52,slow=5.8,SNR=22
AKASG LR LR 13 03 44.8
comp=Z,629nm,19.6s,baz=50,slow=37
AKASG Malin Array Be 75.86 320 P **P** **12 28 40.2 -0.4**
AKBB Malin Array Si 75.86 320 IAmb IAmb 12 28 41.7
comp=Z,53nm,1.3s
PABE Paberze 76.68 326 *e*P **P** **12 28 45.8 +0.6**
PABE IAmb IAmb 12 28 47.3
comp=Z,81nm,1.2s
MSEY Mahe Island 77.03 258 P **P** **12 28 50.2 +2.1**
BR131 Keskin Array S 77.39 308 P **P** **12 28 50.0 +0.2**
SNR=31
BR131 Keskin Array S 77.39 308 IAmb IAmb 12 28 51.5
comp=Z,54nm,1.2s
BRTR Keskin Array B 77.39 308 P **P** **12 28 49.2 -0.6**
comp=Z,22nm,1.0s,baz=100,slow=4.3,SNR=82
BRTR LR LR 13 07 06.1
comp=Z,134nm,20.2s,baz=11,slow=39
BRTR Keskin Array B 77.39 308 P **P** **12 28 50.0 +0.2**
KIS Kishinev 77.63 316 *e*P **P** **12 28 50.0 -0.8**
KIS Kishinev 77.63 316 *e*PcP **PcP** **12 29 04.0 +3.1**
KIS LRM MLR 13 07 16.0
comp=Z,2μm,15.0s
SUW Suwalki 77.77 324 *e*P **P** **12 28 51.5 +0.1**
SUW Suwalki 77.77 324 *e*P **P** **12 28 51.5 +0.1**
SUW *e*P **P** **12 28 51.5 +0.1**
TOTH TOTAH 77.84 301 *e*P **P** **12 28 53.0 +0.7**
TOTH TOTAH 77.84 301 *e*P **P** **12 28 53.2 +0.9**
QASN Qassioun 77.89 301 *e*P **P** **12 28 53.9 +1.2**
QASN Qassioun 77.89 301 *e*P P 12 28 42.9 -10
ANTO Ankara 77.93 308 P **P** **12 28 53.4 +0.6**
SNR=12
ANTO Ankara 77.93 308 P **P** **12 28 53.0 +0.3**
ANTO pmax pmax
comp=Z,40nm,1.1s
ANTO Ankara 77.93 308 P **P** **12 28 53.0 +0.3**
ANTO IAmb IAmb 12 28 54.6
comp=Z,40nm,1.1s
BR231 Keskin MP Arra 77.95 308 P **P** **12 28 53.4 +0.5**
BR231 IAmb IAmb 12 28 54.8
comp=Z,42nm,1.2s
BRBR Barbar 78.19 301 *e*P **P** **12 28 55.0 +0.6**
BRBR Barbar 78.19 301 *e*P **P** **12 28 55.0 +0.6**
TLCR 78.40 315⇑P **P** **12 28 55.7 +0.6**
TLCR mb 12 29 04.8
YKA Yellowknife Ar 78.49 25 P **P** **12 28 56.0 +0.7**
YKA Yellowknife Ar 78.49 25 P **P** **12 28 56.2 +1.0**
comp=Z,1.8nm,0.7s,baz=303,slow=5.6,SNR=8.3
YKA LR LR 13 06 11.8
comp=Z,18nm,18.5s,baz=324,slow=38
YKA Yellowknife Ar 78.49 25 P **P** **12 28 56.0 +0.7**
TOPG Topolog 78.81 315⇑P **P** **12 28 57.9 +0.5**
CFR Carcaliu 78.84 315⇑P **P** **12 28 58.2 +0.7**
TIRR Tirgusor 78.97 314 P **P** **12 28 58.0 -0.2**
TIRR pmax pmax
comp=Z,86nm,1.3s
TIRR Tirgusor 78.97 314⇑P **P** **12 28 59.2 +1.0**
TIRR Tirgusor 78.97 314 P **P** **12 28 58.0 -0.2**
PRAR RASCA 79.07 317⇑P **P** **12 28 59.3 +0.5**
PRAR mb 12 29 09.5
TLB Topalu 79.16 314⇑P **P** **12 28 59.2 0.0**
PETR Petresti 79.17 316⇓P **P** **12 29 01.2 +1.9**
HARR Harsova 79.18 314⇓P **P** **12 29 00.5 +1.1**
HARR mb 12 29 01.7
TESR Tescani 79.19 317⇑P **P** **12 28 59.8 +0.3**
BIZ Bicaz 79.33 317⇑P **P** **12 29 00.7 +0.5**
VRI Vrincioaia 79.42 316⇑P **P** **12 29 01.5 +0.7**
PSN Preselentsi 79.46 313 P **P** **12 29 02.4 +1.5**
PLOR Plostina 79.48 316⇑P **P** **12 29 02.8 +1.7**
ICOR Ion Corvin 79.52 314⇓P **P** **12 29 02.6 +1.4**
CSS Mathiatis 79.54 304 P **P** **12 29 01.9 +0.3**
comp=Z,13nm,1.2s
CSS Mathiatis 79.54 304 P **P** **12 29 01.5 -0.1**
CSS IAmb IAmb 12 29 12.5
comp=Z,44nm,1.0s
BURAR Bucovina Array 79.56 318⇑P **P** **12 29 02.0 +0.5**
BURAR mb 12 29 03.6
BURAR Bucovina Array 79.56 318 P **P** **12 29 01.7 +0.1**
BISRR Bisoca 79.58 316⇑P **P** **12 29 02.7 +1.0**
NB2 NORSAR Subarra 79.58 334 P **P** **12 29 00.5 -0.9**
comp=Z,4.1nm,0.9s,baz=51,slow=5.6
NOA NORSAR Array B 79.58 334 P **P** **12 29 00.8 -0.5**
comp=Z,9.3nm,1.0s,baz=52,slow=5.5,SNR=12
NOA LR LR 13 09 26.3
comp=Z,723nm,19.1s,baz=75,slow=40
NC204 NORSAR Array S 79.62 334 IAmb IAmb 12 29 14.9
comp=Z,70nm,1.2s
OZUR 79.91 316⇑P **P** **12 29 04.4 +1.0**
BEL Belsk 80.08 323 *e*P **P** **12 29 05.7 +1.6**
BEL Belsk 80.08 323 *e*P **P** **12 29 05.7 +1.6**
BEL *e*P **P** **12 29 05.7 +1.6**
MLR Muntele Rosu 80.08 316⇑P **P** **12 29 05.8 +1.3**
MLR Muntele Rosu 80.08 316 IAmb IAmb 12 29 06.4
comp=Z,43nm,1.3s
KWP Kalwaria Pacla 80.09 321 P **P** **12 29 05.0 +0.8**
KWP pmax pmax
comp=Z,747nm,1.3s
KWP Kalwaria Pacla 80.09 321 *e*P **P** **12 29 05.1 +0.8**
KWP *e*P **P** **12 29 05.1 +0.8**
KWP Kalwaria Pacla 80.09 321 P **P** **12 29 05.0 +0.8**
DOPR Dopca 80.21 316⇑P **P** **12 29 06.1 +1.1**
SECR 80.21 315⇑P **P** **12 29 05.9 +0.8**
SECR mb 12 29 08.5
ARCR ARCALIA 80.33 318⇓P **P** **12 29 07.3 +1.7**
EIL Elat 80.48 298 P **P** **12 29 07.4 +0.7**
comp=Z,23nm,1.8s
VOIR 80.67 316⇑P **P** **12 29 08.5 +1.0**
KOLS Kolonicke sedl 80.68 320 *e*P **P** **12 29 08.1 +0.7**
KOLS Kolonicke sedl 80.68 320 *e*P **P** **12 29 08.1 +0.7**
UZH Uzhgorod 80.81 320 *e*P **P** **12 29 07.3 -0.8**
UZH *e* 12 29 16.0
UZH *e*S **S** **12 39 10.4 -4.4**
UZH MLR MLR
comp=N,200nm,15.0s
UZH MLR MLR
comp=E,200nm,15.0s
UZH MLR MLR
comp=Z,100nm,15.0s
TRPA Tarpa 80.91 319⇑P **P** **12 29 09.1 +0.4**
TRPA mb 12 29 22.9
ARR Arges 80.96 316⇑P **P** **12 29 10.6 +1.5**
SZH Strazhica 81.11 314 P **P** **12 29 10.4 +0.5**
SUMG Summit 81.19 356 *i* P **P** **12 29 11.0 +0.8**
SUMG Summit 81.19 356 *i* P **P** **12 29 11.0 +0.8**
ELL Elmali 81.30 307 P **P** **12 29 11.0 -0.2**
ELL Elmali 81.30 307 P **P** **12 29 11.0 -0.2**
OJC Ojcow 81.43 322 P **P** **12 29 11.7 +0.3**
OJC pmax pmax
comp=Z,72nm,1.3s
OJC Ojcow 81.43 322 *e*P **P** **12 29 12.0 +0.6**
OJC *e*P **P** **12 29 12.0 +0.6**
OJC Ojcow 81.43 322 P **P** **12 29 11.7 +0.3**
OJC IAmb IAmb 12 29 26.3
comp=Z,72nm,1.3s
SCO Scoresbysund 81.44 350 *i* P **P** **12 29 12.0 +1.0**
SCO pmax pmax
comp=Z,45nm,1.4s
SCO Scoresbysund 81.44 350 *i* P **P** **12 29 12.0 +1.0**
comp=Z,45nm,1.4s
DRGR 81.46 318⇑P **P** **12 29 12.6 +0.8**
NIE Niedzica 81.56 321 *e*P **P** **12 29 13.8 +1.7**
NIE Niedzica 81.56 321 *e*P **P** **12 29 13.8 +1.7**
NIE *e*P **P** **12 29 13.8 +1.7**
DIM Dimitrovgrad 81.93 313 P **P** **12 29 15.0 +0.8**
LANS Liptovska Anna 82.17 321 *e*P **P** **12 29 17.4 +2.0**
LANS Liptovska Anna 82.17 321 *e*P **P** **12 29 17.4 +2.0**
KDZ Kurdzhali 82.20 313 P **P** **12 29 16.1 +0.4**
EZN Ezine 82.44 311⇑P **P** **12 29 16.8 -0.1**
EZN mb 12 29 18.6
PLD Plovdiv 82.45 313 P **P** **12 29 17.4 +0.5**
MPEP Malo Peshtene 82.48 315 P **P** **12 29 18.1 +1.0**
OKC Ostrava-Krasne 82.54 322 *e*P **P** **12 29 18.9 +1.6**
OKC *e* 12 29 28.5
OKC MLR MLR
comp=Z,1μm,15.6s
OKC Ostrava-Krasne 82.54 322 *e*P **P** **12 29 18.9 +1.6**
OKC *es*P **pwP** **12 29 28.5 +0.5**
OKC AMS AMS 13 08 40.0
comp=Z,1μm,15.6s
PGB Panagyurishte 82.59 314 P **P** **12 29 18.6 +0.8**
PRK Paraskevi 82.74 310 P **P** **12 29 18.6 +0.1**
VYHS Vyhne 82.86 321 *e*P **P** **12 29 20.2 +1.2**
VYHS Vyhne 82.86 321 *e*P **P** **12 29 20.2 +1.2**
MORC Moravsky Berou 82.91 322⇑P **P** **12 29 20.9 +1.7**
MORC mb 12 29 31.4
MORC Moravsky Berou 82.91 322 *e*P **P** **12 29 19.0 -0.2**
KSP Ksiaz 83.00 324 *e*P **P** **12 29 20.5 +0.8**
KSP Ksiaz 83.00 324 *e*P **P** **12 29 20.5 +0.8**
KSP *e*P **P** **12 29 20.5 +0.8**
SIGR SIGRI 83.04 310 P **P** **12 29 19.0 -1.1**
MDVR Moldovita 83.06 317⇑P **P** **12 29 20.2 +0.1**
THAS Thassos island 83.16 312 P **P** **12 29 18.7 -1.9**
VTS Vitosha 83.16 314 P **P** **12 29 21.2 +0.4**
VTS Vitosha 83.16 314 P **P** **12 29 21.5 +0.7**
VTS Vitosha 83.16 314 P **P** **12 29 21.9 +1.1**
VTS pmax pmax
comp=Z,82nm,1.4s
VTS Vitosha 83.16 314⇑P **P** **12 29 21.8 +0.9**
VTS mb 12 29 36.3
VTS Vitosha 83.16 314 P **P** **12 29 21.9 +1.1**
DPC Dobruska-Polom 83.26 323 *e*P **P** **12 29 21.8 +0.8**
DPC MLR MLR
comp=Z,2μm,13.9s
DPC Dobruska-Polom 83.26 323 *e*P **P** **12 29 21.8 +0.8**
DPC AMS AMS 13 10 30.0
comp=Z,2μm,13.9s
CHVC Chvalec 83.27 324 AMS AMS 13 10 20.0
comp=Z,2μm,12.9s
CHOS Chios island 83.29 309 P **P** **12 29 20.3 -1.2**
JAVC Velka Javorina 83.33 322 *e*P **P** **12 29 23.1 +1.7**
UPC Upice 83.34 324 AMS AMS 13 10 30.0
comp=Z,3μm,13.3s
MMB Musomiste 83.34 313 P **P** **12 29 21.5 -0.1**
RUE Ruedersdorf 83.39 326 *e*P **P** **12 29 23.1 +1.5**
RUE IAmb IAmb 12 29 24.3
comp=Z,63nm,1.1s
KKB Krupnik 83.63 314 P **P** **12 29 23.3 +0.2**
SRS Serrai 83.66 313 P **P** **12 29 21.8 -1.4**
VRAC Vranov 83.68 322⇑P **P** **12 29 24.7 +1.5**
VRAC mb 12 29 27.8
VRAC Vranov 83.68 322 *e*P **P** **12 29 24.0 +0.8**
MODS Modra-Piesok 83.81 321 *e*P **P** **12 29 24.3 +0.4**
MODS Modra-Piesok 83.81 321 *e*P **P** **12 29 24.3 +0.4**
KRUC Moravsky 83.92 322 *e*P **P** **12 29 25.1 +0.7**
PVCC Panska Ves 84.09 324 AMS AMS 13 11 00.0
comp=Z,2μm,12.2s
KNT Kendrikon 84.09 313 P **P** **12 29 23.6 -1.9**
PAIG Paliouri 84.18 312 P **P** **12 29 25.2 -0.7**
B08A Colville Reser 84.21 38 IAmb IAmb 12 29 40.3
comp=Z,18nm,1.4s
BRG Berggiesshubel 84.22 325 *e*P **P** **12 29 26.2 +0.3**
comp=Z,26nm,1.4s
BRG *i* 12 29 36.7
comp=Z,52nm,1.6s
comp=N,981nm,10.3s
comp=E,985nm,16.1s
comp=Z,2μm,15.7s
BRG Berggiesshubel 84.22 325 *e*P **P** **12 29 26.2 +0.3**
BRG *i* 12 29 36.7
BRG pmax pmax
comp=Z,1.0nm,1.4s
BRG pmax pmax
comp=Z,27nm,1.6s
BRG MLR MLR
comp=N,52μm,10.3s
BRG MLR MLR
comp=E,981nm,16.1s
BRG MLR MLR
comp=Z,985nm,15.7s
VAY Valandovo 84.23 313 *i* P **P** **12 29 26.8 +0.7**
TREC Trest 84.29 323 *e*P **P** **12 29 27.5 +1.2**
TREC *e* 12 29 37.9
TREC MLR MLR
comp=Z,2μm,18.0s
TREC Trest 84.29 323 *e*P **P** **12 29 27.5 +1.2**
TREC *es*P **pwP** **12 29 37.9 +0.8**
TREC AMS AMS 13 09 40.0
comp=Z,2μm,18.0s
STIP Stip 84.30 314 *i* P **P** **12 29 25.9 -0.5**
GOPC GO Pecny, Ondr 84.32 324 *e*P **P** **12 29 27.9 +1.4**
GOPC *e* 12 29 38.0
GOPC MLR MLR
comp=Z,2μm,12.7s
GOPC GO Pecny, Ondr 84.32 324 *e*P **P** **12 29 27.9 +1.4**
GOPC *es*P **pwP** **12 29 38.0 +0.8**
GOPC AMS AMS 13 11 10.0
comp=Z,2μm,12.7s
AOS Alonnisos 84.41 311 P **P** **12 29 25.6 -1.5**
PRU Pruhonice 84.41 324 *e*P **P** **12 29 27.5 +0.6**
PRU *e* 12 29 38.2
PRU MLR MLR
comp=Z,2μm,12.4s
PRU Pruhonice 84.41 324 *e*P **P** **12 29 27.5 +0.6**
PRU *es*P **pwP** **12 29 38.2 +0.6**
PRU AMS AMS 13 11 00.0
comp=Z,2μm,12.4s
PRA Prague 84.42 324 AMS AMS 13 11 20.0
comp=Z,2μm,14.4s
CLL Collm 84.46 325 P **P** **12 29 27.3 +0.2**
CLL pmax pmax
comp=Z,72nm,1.6s
CLL Collm 84.46 325 *i* P **P** **12 29 27.4 +0.3**
comp=Z,49nm,1.4s
CLL *i* sP **sP** **12 29 36.7 +0.1**
comp=Z,56nm,1.5s
CLL *e*PP **PP** **12 32 39.0 -2.8**
CLL *e*S **S** **12 39 52.0 0.0**
CLL *e*PPS PPS 12 41 01.0
CLL *e* 12 46 42.0
CLL *e* 12 49 54.0
CLL *e* 12 53 42.0
CLL LmH 13 04 00.0
comp=N,2μm,21.3s
CLL LmH 13 04 00.0
comp=E,2μm,21.3s
CLL Collm 84.46 325 P **P** **12 29 27.3 +0.2**
SKO Skopje 84.64 314 *i* P **P** **12 29 29.4 +1.3**
SANT Santorini 84.66 308⇑P **P** **12 29 27.7 -0.8**
SANT mb 12 29 41.2
XOR Xorichti 84.78 311 P **P** **12 29 26.8 -2.2**
CONA Conrad Observa 84.84 321 *e*PcP **P** **12 29 30.3 +1.1**
comp=E,24nm,1.4s
PBCC Pribram 84.88 324 AMS AMS 13 11 20.0
comp=E,500nm,14.4s
LIT Litokhoron 84.89 312 P **P** **12 29 27.3 -2.2**
LIT Litokhoron 84.89 312 P **P** **12 29 28.9 -0.6**
LIT pmax pmax
comp=Z,104nm,1.5s
LIT Litokhoron 84.89 312 P **P** **12 29 28.9 -0.6**
LAST Lasithi 85.22 307 P **P** **12 29 30.4 -1.0**
LKR Lokris 85.27 311 P **P** **12 29 29.6 -1.8**
FNA Florina 85.28 313 IAmb IAmb 12 29 44.4
comp=Z,23nm,1.3s
NKC Novy Kostel 85.37 325 AMS AMS 13 10 50.0
comp=Z,2μm,15.2s
ARSA Arzberg 85.41 321 PcP **P** **12 29 32.3 +0.3**
comp=Z,15nm,1.5s
KHC Kasperske Hory 85.42 323 *e*P **P** **12 29 32.4 +0.4**
KHC *e* 12 29 42.5
KHC MLR MLR
comp=Z,2μm,10.8s
KHC Kasperske Hory 85.42 323 *e*P **P** **12 29 32.4 +0.4**
KHC *es*P **pwP** **12 29 42.5 -0.3**
KHC AMS AMS 13 11 40.0
comp=Z,2μm,10.8s
KHC Kasperske Hory 85.42 323 IAmb IAmb 12 29 46.3
comp=Z,26nm,1.8s
GEC2 GERESS Array S 85.52 323 IAmb IAmb 12 29 46.7
comp=Z,57nm,1.7s
GERES GERESS Array B 85.52 323 P **P** **12 29 32.4 -0.2**
GERES GERESS Array B 85.52 323 P **P** **12 29 32.8 +0.2**
comp=Z,2.1nm,0.7s,baz=46,slow=3.9,SNR=8.3
GERES LR LR 13 11 05.5

comp=Z,2µm,18.0s,baz=70,slow=38
GERES **GERESS Array B** 85.52 323 P P 12 29 32.4 -0.2
AGG **Agios Georgios** 85.53 311 IAmb IAmb 12 29 44.9
comp=Z,27nm,1.1s
PINE **Pine Mountain** 85.73 43 IAmb IAmb 12 29 45.8
comp=Z,41nm,1.4s
MOA **Molln** 85.78 322 *e*PcP P 12 29 34.7 +0.9
comp=Z,21nm,2.1s
PDG **Podgorica** 85.79 316 ⇑P P 12 29 33.9 0.0
PDG mb 12 29 47.8
SOKA **Soboth** 86.01 321 P P 12 29 34.2 -0.8
comp=Z,7.7nm,0.8s
KLV **Kalavryta, Ach** 86.15 311 P P 12 29 30.4 -5.5
IMMV **Iera Moni Meta** 86.15 308 P P 12 29 34.7 -1.2
VLI **Veliai** 86.27 309 P P 12 29 29.7 -6.7
KTHA **Kythira Island** 86.41 309 P P 12 29 31.3 -5.8
AMT **Artemida-Makis** 86.71 310 P P 12 29 37.8 -0.8
KBA **Koelnbreinsper** 86.73 322 PcP P 12 29 39.6 +0.9
comp=Z,7.6nm,0.7s
ITM **Ithomi** 86.73 310 P P 12 29 37.5 -1.2
MYKA **Terra Mystica** 86.83 321 pP P 12 29 41.9 +2.9
comp=Z,19nm,2.1s
FSK **Fiskardo** 87.01 312 P P 12 29 37.8 -2.2
MOD **Modoc Plateau** 87.15 44 IAmb IAmb 12 29 52.1
comp=Z,21nm,1.2s
ABTA **Abfaltersbach** 87.39 322 *e*PcP P 12 29 41.9 +0.1
comp=Z,22nm,1.4s
WATA **Walderalm** 87.56 323 PcP P 12 29 43.1 +0.4
comp=Z,18nm,1.3s
WTTA **Wattenberg** 87.56 323 *e*PcP P 12 29 43.8 +1.1
comp=Z,18nm,1.3s
ORV **Oroville** 87.64 47 P P 12 29 44.1 +1.1
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV **Oroville** 87.64 47 P P 12 29 44.1 +1.1
MOTA **Moosalm** 87.81 323 *e*pP P 12 29 47.3 +3.4
comp=Z,13nm,1.4s
SQTA **Sankt Quirin** 87.82 323 *e*pP P 12 29 47.0 +3.1
comp=Z,11nm,1.2s
RETA **Reutte** 87.91 323 *e*PcP P 12 29 46.2 +2.0
comp=Z,10.0nm,1.5s
BEKR **Beckworth** 88.21 46 P P 12 29 47.4 +1.4
DAVA **Damuels** 88.50 323 PcP P 12 29 48.0 +0.8
comp=Z,12nm,1.3s
FFC **Flin Flon** 88.55 27 P P 12 29 47.2 +0.2
FFC pmax pmax
comp=Z,13nm,1.0s
FFC **Flin Flon** 88.55 27 P P 12 29 47.2 +0.2
FFC IAmb IAmb 12 29 57.6
comp=Z,13nm,0.9s
BFO **Black Forest** 88.67 325 *ce*P P 12 29 49.8 +2.0
CMB **Columbia Colle** 89.19 48 IAmb IAmb 12 30 04.7
comp=Z,17nm,1.5s
DOU **Dourbes** 89.39 328 PcP P 12 29 52.0 +1.0
NVAR **Mina Array Bea** 90.34 46 P P 12 29 55.8 -0.3
comp=Z,0.7nm,0.8s,baz=278,slow=6.1,SNR=3.4
NVAR LR LR 13 02 53.3
comp=Z,68nm,21.3s,baz=272,slow=30
NVAR **Mina Array Bea** 90.34 46 P P 12 29 58.0 +2.0
PPT **Papeete** 90.51 109 LR LR 13 03 20.8
comp=Z,288nm,21.3s,baz=300,slow=31
PPT2 **Papeete2** 90.52 109 *e*LR LR 12 58 36.1
comp=Z,508nm,21.8s,baz=298
KMBO **Kilima Mbogo** 91.72 270 P P 12 30 02.8 -0.1
comp=Z,0.5nm,0.3s,baz=57,slow=9.3,SNR=6.0
KMBO **Kilima Mbogo** 91.72 270 P P 12 30 03.6 +0.7
R11A **Troy Canyon, C** 92.13 45 P P 12 30 06.1 +1.7
baz=306
R11A **Troy Canyon, C** 92.13 45 P P 12 30 05.8 +1.4
MPMC **Manual Prospec** 92.21 48 P P 12 30 06.8 +2.0
baz=305
LAO **LASA Array** 92.24 34 IAmb IAmb 12 30 19.1
comp=Z,20nm,1.4s
TPNV **Topopah Spring** 92.52 47 P P 12 30 07.5 +1.4
baz=306
PDAR **Pinedale Array** 93.04 39 P P 12 30 09.6 +1.0
comp=Z,0.8nm,1.0s,baz=315,slow=0.6,SNR=5.9
PDAR **Pinedale Array** 93.04 39 P P 12 30 09.0 +0.4
GSC **Goldstone, Bar** 93.10 48 IAmb IAmb 12 30 19.9
comp=Z,13nm,1.1s
TBI **Tubuai** 93.22 114 *e*S S 12 41 09.6 -5.6
comp=Z,297nm,26.0s
SHPR **Sheep Range** 93.49 46 P P 12 30 11.5 +0.9
GMRC **Granite Mounta** 94.17 48 P P 12 30 15.6 +1.9
baz=306
PFO **Pinyon Flats O** 94.30 49 P P 12 30 15.6 +1.2
baz=305
PFO **Pinyon Flats O** 94.30 49 ⇑*e*P P 12 30 15.0 +0.6
PFO pmax pmax
comp=Z,13nm,1.5s
PFO **Pinyon Flats O** 94.30 49 P P 12 30 15.3 +1.0
PFO IAmb IAmb 12 30 25.4
comp=Z,13nm,1.2s
ULM **Lac du Bonnet** 94.37 27 LR LR 13 17 01.8
comp=Z,214nm,18.7s,baz=332,slow=38
BC3 **Big Chuckawall** 94.96 49 P P 12 30 19.0 +1.7
baz=306
KEST **Kesra** 95.93 314 LR LR 13 19 09.1
comp=Z,290nm,19.6s,baz=276,slow=39
SCHQ **Schefferville** 98.31 9 LR LR 13 17 21.8
comp=Z,249nm,22.0s,baz=340,slow=37
SYO **Syowa Base** 113.75 203 ⇓*e*X Pdif 12 31 36.6 -3.4
TORD **Torodi Ar. Bea** 115.30 301 PP PP 12 36 35.7 -1.4
comp=Z,1.4nm,1.0s,baz=64,slow=6.8,SNR=5.4
SNAA **Sanae** 127.12 197 PKPdf PKiKP 12 35 58.3 0.0
VNA2 **Neumayer--Watz** 128.75 197 PKPdf PKiKP 12 36 02.0 +0.4
VNA3 **Neumayer Olymp** 129.14 196 PKPdf PKPdf 12 36 01.9 +0.3
VNA1 **Neumayer--Stat** 129.15 197 PKPdf PKPdf 12 36 01.9 +0.3
PLCA **Paso Flores** 158.41 137 PKIKP PKPdf 12 36 51.8 -0.1
PLCA **Paso Flores** 158.41 137 PKP PKPdf 12 36 52.7 +0.8
comp=Z,1.1nm,1.1s,baz=277,slow=16,SNR=1.8
PLCA **Paso Flores** 158.41 137 PKPdf 12 36 51.8 -0.1
LPAZ **La Paz** 161.60 61 PKP PKPdf 12 36 57.3 +0.5
comp=Z,0.5nm,0.8s,baz=217,slow=5.1,SNR=1.7

ISCJB ***03*** *12:19:20.2±0.7, 17°.90S±0°.04×178°.60W±0°.04, h553km±9km, mb4.5/29, Error ellipse: s-maj=8.1km s-min=4.7km az=137.0*
IDC ***03*** *12:19:20.2±1.8, 17°.99S×178°.43W, h546km±19km, mb4.1/25, mb1 4.2/26, mb1mx4.0/45, mbtmp5.0/26, Error ellipse: s-maj=12.5km s-min=10.9km az=127.0*
NEIC ***03*** *12:19:22.2±1.9, 17°.9S±0°.1×178°.5W±0°.1, h564km±6km, mb4.5/132*
ISC 03 12:19:21.0±0.9, 18°.00S±0°.07×178°.48W±0°.07, h557km±11km**, n209, σ1927/207, mb4.5/84, 1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.62	59	P	P	12 21 14.2	-1.2
NIUE	Niue	8.18	99	P	P	12 21 21.8	+1.0
GLKZ	Green Lake	11.23	177	P	P	12 21 49.0	-2.5
DZM	Mont Dzumac	14.74	252	P	P	12 22 27.4	-0.4
4.8nm,0.3s,baz=173,slow=15,SNR=42							
DZM	Mont Dzumac	14.74	252	P	P	12 22 29.1	+1.3
KNTN	Kanton	16.52	24	P	P	12 22 44.1	-1.1
OUZ	Omahuta	18.55	201	P	P	12 23 06.7	+3.3
OUZ	Omahuta	18.55	201	P	P	12 23 06.7	+3.3
OUZ				IAmb	IAmb	12 23 07.4	
comp=Z,22nm,1.2s							
GRZ	Great Barrier	18.96	195	P	P	12 23 09.1	+1.9
WCZ	Waipu Caves	18.97	198	P	P	12 23 10.3	+3.0
KUZ	Kuaotunu	19.37	194	P	P	12 23 13.1	+2.2
WIAZ	Waiheke Island	19.55	195	P	P	12 23 15.2	+2.6
MBAZ	Motutapu North	19.59	196	P	P	12 23 15.2	+2.3
MXZ	Matakaoa Point	19.70	188	P	P	12 23 06.7	-7.1
ETAZ	East Tamaki Re	19.76	196	P	P	12 23 17.1	+2.7
MKAZ	Moumakai	19.84	195	P	P	12 23 17.4	+2.2
WMGZ	Waiomatatini S	19.94	187	P	P	12 23 16.8	+0.8
AWAZ	Awhitu Peninsu	19.94	196	P	P	12 23 18.5	+2.4
HAZ	Te Kaha	19.96	189	P	P	12 23 16.4	+0.2
RUGZ	Raukumara Rang	20.18	189	P	P	12 23 19.2	+0.8
URZ	Urewera	20.55	190	P	P	12 23 20.0	-1.6
comp=Z,11nm,0.6s,baz=283,slow=5.7,SNR=7.5							
URZ				S	S	12 26 32.0	-4.2
comp=Z,5.1nm,0.8s,baz=98,slow=14,SNR=4.2							
URZ	Urewera	20.55	190	P	P	12 23 20.0	-1.6
URZ	Urewera	20.55	190	P	P	12 23 19.9	-1.6
URZ				IAmb	IAmb	12 23 28.7	
comp=Z,10nm,0.7s							
MWZ	Matawai	20.56	189	P	P	12 23 22.1	+0.4
RTZ	Ruatahuna	20.92	190	P	P	12 23 24.1	-1.0
BKZ	Black Stump Fm	21.54	191	P	P	12 23 29.8	-0.8
BKZ	Black Stump Fm	21.54	191	P	P	12 23 28.9	-1.6
BKZ				IAmb	IAmb	12 23 45.7	
comp=Z,14nm,1.4s							
BFZ	Birch Farm	23.06	190	P	P	12 23 45.2	+1.1
BFZ				IAmb	IAmb	12 23 46.9	
comp=Z,47nm,1.5s							
MSWZ	Moikau Station	23.95	192	P	P	12 23 54.7	+2.7
QRZ	Quartz Range	24.03	197	P	P	12 23 53.7	+1.0
NNZ	Nelson	24.18	195	P	P	12 23 54.4	+0.5
NNZ				IAmb	IAmb	12 23 56.4	
comp=Z,15nm,0.9s							
TUWZ	Tuamarina	24.24	194	P	P	12 23 55.6	+1.1
LTZ	Lake Taylor	25.93	196	P	P	12 24 08.0	-1.5
LTZ				IAmb	IAmb	12 24 11.0	
comp=Z,12nm,0.6s							
OXZ	Oxford	26.50	196	P	P	12 24 13.8	-0.6
RPZ	Rata Peaks	27.12	197	P	P	12 24 17.9	-2.0
comp=Z,3.8nm,0.4s,baz=0.2,slow=3.9,SNR=5.5							
RPZ	Rata Peaks	27.12	197	P	P	12 24 18.1	-1.7
RPZ				IAmb	IAmb	12 24 24.6	
comp=Z,16nm,1.0s							
EIDS	Eidsvold	29.18	250	P	P	12 24 37.7	-0.3
ARMA	Armidale	29.84	240	P	P	12 24 45.4	+1.5
CTA	Charters Tower	33.37	261	P	P	12 25 14.3	+0.3
comp=Z,27nm,0.6s,baz=96,slow=11,SNR=59							
CTAO	Charters Tower	33.37	261	P	P	12 25 14.0	+0.1
CAN	Canberra	33.60	233	P	P	12 25 16.1	+0.3
CAN				IAmb	IAmb	12 25 17.7	
comp=Z,15nm,0.6s							
PMG	Port Moresby	34.41	280	P	P	12 25 23.3	+0.6
comp=Z,54nm,0.8s,baz=74,slow=7.2,SNR=9.4							
PMG	Port Moresby	34.41	280	P	P	12 25 23.8	+1.0
COEN	Coen	37.04	271	P	P	12 25 45.4	+0.8
TOO	Toolangi	37.06	231	P	P	12 25 45.5	+1.1
STKA	Stephens Creek	38.53	241	P	P	12 25 57.7	+1.3
comp=Z,28nm,0.5s,baz=91,slow=10,SNR=56							
STKA	Stephens Creek	38.53	241	P	P	12 25 57.6	+1.1
STKA				IAmb	IAmb	12 25 58.5	
comp=Z,12nm,1.1s							
JAY	Jayapura	42.87	286	P	P	12 26 31.9	+0.7
comp=Z,16nm,0.4s,baz=166,slow=6.1,SNR=22							
BBOO	Buckleboo	43.31	241	P	P	12 26 34.7	+0.4
KHLU	Kahalu`u	43.44	32	P	P	12 26 36.1	+0.6
MLH	Mauna Loa	43.61	32	P	P	12 26 37.2	+0.2
HMH	Humu'ula Sheep	43.66	32	P	P	12 26 38.4	+0.9
POHA	Pohakuloa	43.76	32	P	P	12 26 38.4	+0.2
KEKH	Kekaha	43.77	26	P	P	12 26 36.1	-1.8
WB2	Warramunga Arr	44.54	260	P	P	12 26 43.6	-0.4
WB2				IAmb	IAmb	12 26 44.5	
comp=Z,5.7nm,0.5s							
WRAB	Tennant Creek	44.54	260	P	P	12 26 43.5	-0.5
WRA	Warramunga Arr	44.55	260	P	P	12 26 43.7	-0.4
comp=Z,22nm,0.4s,baz=91,slow=7.9,SNR=174							
WRA				PcP	PcP	12 28 14.5	-0.6
comp=Z,4.8nm,0.7s,baz=100,slow=3.0,SNR=4.6							
WRA				ScP	ScP	12 31 15.0	+0.4
comp=Z,0.7nm,0.8s,baz=93,slow=4.0,SNR=2.7							
WRA	Warramunga Arr	44.55	260	P	P	12 26 43.3	-0.8
WRA				PcP	PcP	12 28 15.3	+0.1
AS31	Alice Springs	44.70	254	P	P	12 26 45.5	+0.3
ASAR	Alice Springs	44.70	254	P	P	12 26 45.6	+0.3
comp=Z,215nm,0.6s,baz=88,slow=8.4,SNR=971							
ASAR				PcP	PcP	12 28 15.2	-0.5
comp=Z,5.3nm,0.5s,baz=103,slow=3.9,SNR=4.2							
ASAR				ScP	ScP	12 31 15.7	+0.5
comp=Z,1.1nm,0.7s,baz=101,slow=4.1,SNR=4.7							
ASAR				S	S	12 32 36.4	-5.5
comp=Z,0.4nm,0.8s,baz=89,slow=15,SNR=2.9							
ASAR	Alice Springs	44.70	254	P	P	12 26 45.1	-0.2
ASAR				PcP	PcP	12 28 15.8	+0.1
MTN	Manton Dam	48.73	269	P	P	12 27 14.8	-0.8
FORT	Forrest	49.91	245	P	P	12 27 23.5	-0.6
FORT				PcP	PcP	12 28 34.6	+0.3
KNRA	Kununurra	50.41	264	P	P	12 27 27.3	-0.8
SIJI	Sorong	52.19	283	P	P	12 27 41.3	+0.3
comp=Z,34nm,0.5s,baz=119,slow=5.4,SNR=16							
FITZ	Fitzroy Crossi	52.95	261	P	P	12 27 46.5	+0.2
comp=Z,7.5nm,0.3s,baz=111,slow=5.0,SNR=99							
FITZ	Fitzroy Crossi	52.95	261	P	P	12 27 46.2	-0.1
SOEI	Soe	56.01	270	P	P	12 28 09.2	+1.2
BATI	Baumata	56.46	270	P	P	12 28 12.1	+1.1
comp=Z,26nm,0.4s,baz=187,slow=2.0,SNR=5.7							
PSA00	Pilbara Seismi	57.82	255	P	P	12 28 18.5	-1.6
PSA00	Pilbara Seismi	57.82	255	P	P	12 28 19.7	-0.4
PSA00				IAmb	IAmb	12 28 20.5	
comp=Z,30nm,0.6s							
NWAO	Narrogin (SRO)	59.11	242	P	P	12 28 28.3	-0.3
comp=Z,10nm,0.6s,baz=122,slow=5.9,SNR=8.7							
NWAO	Narrogin (SRO)	59.11	242	P	P	12 28 28.5	-0.1
NWAO				IAmb	IAmb	12 28 28.9	
comp=Z,21nm,0.9s							
SBA	Scott Base	60.33	184	P	P	12 28 38.5	+2.7
MORW	Morawa	60.39	246	P	P	12 28 36.4	-0.8
MORW				IAmb	IAmb	12 28 37.5	
comp=Z,16nm,0.7s							
KAPI	Kappang	61.63	274	P	P	12 28 45.8	+0.2
comp=Z,4.5nm,0.4s,baz=137,slow=3.6,SNR=3.9							
KAPI	Kappang	61.63	274	P	P	12 28 46.0	+0.4
GIRL	Giralia	62.81	253	P	P	12 28 54.2	+1.2
JAGI	Jajag, Banyuwa	65.97	269	P	P	12 29 12.0	-1.2
CASY	Casey	66.03	205	P	P	12 29 13.1	+0.5
CASY				IAmb	IAmb	12 29 13.9	
comp=Z,18nm,1.2s							
MJAR	Matsushiro Arr	67.94	323	P	P	12 29 24.5	-0.3
comp=Z,2.0nm,0.6s,baz=149,slow=5.7,SNR=9.8							
MJAR	Matsushiro Arr	67.94	323	P	P	12 29 24.5	-0.3
KKM	Kota Kinabalu	68.70	284	P	P	12 29 30.2	+0.3
KKM				IAmb	IAmb	12 29 30.8	
comp=Z,9.5nm,0.8s							
UGM	Wanagama	69.58	268	P	P	12 29 35.1	-0.1
ATKA	Atka Island	70.00	3	P	P	12 29 36.0	-0.7
QSPA	South Pole Qui	72.06	180	P	P	12 29 49.7	+0.8
comp=Z,11nm,0.7s,baz=314,slow=0.6,SNR=73							
QSPA	South Pole Qui	72.06	180	P	P	12 29 49.5	+0.6
QSPA				IAmb	IAmb	12 29 50.7	
comp=Z,14nm,0.8s							
CISI	Cisompet, Garu	72.25	268	P	P	12 29 50.0	-1.0
CISI				IAmb	IAmb	12 29 52.1	
comp=Z,29nm,0.7s							
UNV	Unalaska Valle	72.28	7	P	P	12 29 48.7	-1.4
UNV				IAmb	IAmb	12 29 54.3	
comp=Z,47nm,1.2s							
KSM	Kuching	72.63	277	P	P	12 29 53.3	+0.3
KSM				IAmb	IAmb	12 29 54.5	
comp=Z,34nm,0.8s							
LEM	Lembang	72.65	268	P	P	12 29 53.5	+0.2
comp=Z,52nm,0.6s,baz=38,slow=6.7,SNR=13							
PEA0B	Petropavlovsk-	73.75	345	P	P	12 29 58.0	-0.5
PEA0B				IAmb	IAmb	12 30 02.6	
comp=Z,14nm,1.1s							
PETK	Petropavlovsk-	73.75	345	P	P	12 29 58.1	-0.4
comp=Z,3.9nm,0.6s,baz=106,slow=7.6,SNR=13							
PETK	Petropavlovsk-	73.75	345	P	P	12 29 58.5	0.0
SDPT	Sand Point	74.64	11	P	P	12 30 02.1	-1.3
KSRS	Korea Array	74.72	318	P	P	12 30 04.1	-0.3
comp=Z,0.8nm,0.7s,baz=130,slow=7.7,SNR=3.5							
CHGN	Chignik	75.92	11	P	P	12 30 09.8	-0.7
CHGN				IAmb	IAmb	12 30 21.5	
comp=Z,45nm,1.3s							
PAGB	Antelope Grade	76.75	45	P	P	12 30 17.0	+1.3
PAGB				IAmb	IAmb	12 30 17.0	
comp=Z,34nm,1.4s							
SII	Sitkinak Islan	77.03	14	P	P	12 30 16.6	-0.1
SII				IAmb	IAmb	12 30 33.4	
comp=Z,46nm,0.9s							
PASC	Pasadena Art C	77.33	48	P	P	12 30 19.6	+0.7
MWC	Mount Wilson	77.45	48	P	P	12 30 20.1	+0.4
MWC				IAmb	IAmb	12 30 20.9	
comp=Z,10nm,0.7s							
OHAK	Old Harbor	77.83	14	P	P	12 30 21.1	+0.1
OHAK				IAmb	IAmb	12 30 38.9	
comp=Z,49nm,1.4s							
ISA	Isabella, Lake	77.92	46	P	P	12 30 23.2	+1.1
NJ2	Nanjing	77.94	310	*e*P	P	12 30 23.5	+1.3
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
NJ2				pmax	pmax		
comp=Z,11nm,0.6s							
CMB	Columbia Colle	77.95	43	P	P	12 30 23.1	+0.9
WDC	Whiskeytown Da	78.05	40	P	P	12 30 23.8	+1.2
AFDM	Forest Hills D	78.09	42	P	P	12 30 23.6	+0.7
ORV	Oroville	78.10	41	P	P	12 30 23.6	+0.7
KDAK	Kodiak Island	78.50	14	P	P	12 30 24.5	-0.1
KDAK				IAmb	IAmb	12 30 31.3	
comp=Z,26nm,1.1s							
MDPB	Devils Postpil	78.58	44	P	P	12 30 26.6	+0.8
OMMB	Old Mammoth Mi	78.63	44	P	P	12 30 27.3	+1.2
YBH	Yreka Blue Hor	78.63	39	P	P	12 30 27.1	+1.3
WAKR	Walker	78.83	43	P	P	12 30 28.2	+1.1
MYKOM	Kota Tinggi	78.84	276	P	P	12 30 28.0	+0.6
MYKOM				IAmb	IAmb	12 30 28.2	
comp=Z,6.9nm,0.6s							
GSC	Goldstone, Bar	78.89	47	P	P	12 30 28.1	+0.8
GSC				IAmb	IAmb	12 30 37.5	
comp=Z,10nm,1.1s							
BEKR	Beckworth	79.00	42	P	P	12 30 28.6	+0.7
HUMO	Hull Mountain	79.01	38	P	P	12 30 29.0	+1.3
PNTR	Pine Nut	79.05	43	P	P	12 30 29.0	+0.8
PNTR				IAmb	IAmb	12 30 30.0	
comp=Z,14nm,0.8s							
YERR	Yerington	79.22	43	P	P	12 30 30.0	+0.9
YERR				IAmb	IAmb	12 30 30.6	
comp=Z,18nm,1.2s							
PAHR	Pah Rah Range	79.53	42	P	P	12 30 31.3	+0.7
PAHR				IAmb	IAmb	12 30 32.2	
comp=Z,17nm,1.4s							
NVAR	Mina Array Bea	79.53	44	P	P	12 30 31.6	+0.8
comp=Z,5.0nm,0.7s,baz=224,slow=8.4,SNR=20							
NVAR	Mina Array Bea	79.53	44	P	P	12 30 31.7	+0.9
NV11	Mina Array Sit	79.63	44	P	P	12 30 32.0	+0.8
KVN	Kaiserville	80.00	43	P	P	12 30 33.6	+0.4
MOD	Modoc Plateau	80.19	40	P	P	12 30 34.8	+0.7
MOD				IAmb	IAmb	12 30 35.6	
comp=Z,11nm,0.7s							
CNPM	China Poot	80.38	14	P	P	12 30 34.4	-0.1
H04A	Detroit Lake	80.70	37	P	P	12 30 36.9	+0.4
H04A				IAmb	IAmb	12 30 42.4	
comp=Z,14nm,1.1s							
PINE	Pine Mountain	80.90	38	P	P	12 30 38.9	+1.1
PINE				IAmb	IAmb	12 30 39.8	
comp=Z,16nm,0.9s							
RSO	Redoubt South	80.90	13	P	P	12 30 36.7	-0.7
Y14A	Wickenburg	80.92	50	P	P	12 30 39.1	+1.2
E03A	Lebam	81.06	35	P	P	12 30 39.1	+0.9
R11A	Troy Canyon, C	81.30	45	P	P	12 30 40.9	+1.0
BMN	Battle Mountai	81.32	43	IAmb	IAmb	12 30 41.6	
comp=Z,8.7nm,0.9s							
F04A	Amboy	81.32	36	P	P	12 30 40.3	+0.8
F04A				IAmb	IAmb	12 30 43.8	
comp=Z,15nm,1.2s							
NLWA	Neilton Lookou	81.42	34	P	P	12 30 41.1	+1.0
NLWA				IAmb	IAmb	12 30 52.2	
comp=Z,27nm,1.2s							
TUC	Tucson	81.81	52		P	12 30 44.5	+1.9
LON	Longmire	82.15	35	P	P	12 30 44.0	+0.2
SUA	Susitna One	82.23	13	P	P	12 30 43.4	-0.6
LCMT	Little Creek M	82.24	47	P	P	12 30 45.9	+1.2
X16A	Lo Mia Camp, P	82.29	50	P	P	12 30 45.7	+0.7
IPM	Ipoh	82.37	277	P	P	12 30 46.2	+0.5
IPM				IAmb	IAmb	12 30 46.9	
comp=Z,14nm,0.7s							
CCUT	Cedar City	82.42	47	P	P	12 30 46.6	+0.9
KNB	Kanab	82.53	47	P	P	12 30 47.3	+1.1
GLI	Glacier Island	82.55	15	P	P	12 30 44.9	-0.7
GLI				IAmb	IAmb	12 30 45.8	
comp=Z,30nm,1.0s							
U15A	North Rim	82.63	48	IAmb	IAmb	12 30 49.0	
comp=Z,14nm,0.8s							
PMR	Palmer	82.70	14	P	P	12 30 45.6	-0.5
PMR				IAmb	IAmb	12 30 47.5	
comp=Z,18nm,1.4s							
WUAZ	Wupatki	82.85	49	P	P	12 30 49.2	+1.4
GHO	Glory Hole Cre	82.91	14	IAmb	IAmb	12 30 47.5	
comp=Z,22nm,0.6s							
HAWA	Hanford	83.21	37	P	P	12 30 49.8	+0.6
HAWA				IAmb	IAmb	12 30 50.3	
comp=Z,8.1nm,0.7s							
WAX	Waxell Ridge	83.30	17	P	P	12 30 49.4	+0.1
WAX				IAmb	IAmb	12 30 50.5	
comp=Z,31nm,1.2s							
SCM	Sheep Creek Mo	83.33	14	P	P	12 30 49.3	-0.1
SCM				IAmb	IAmb	12 30 49.7	
comp=Z,16nm,0.6s							
MTPU	Mount Pierson	83.47	47	P	P	12 30 52.9	+1.8
TGL	Tana Glacier	83.56	17	P	P	12 30 50.3	-0.4
TGL				IAmb	IAmb	12 31 03.2	
comp=Z,15nm,1.1s							
MAW	Mawson	83.76	200	P	P	12 30 51.9	+0.4
comp=Z,3.6nm,0.5s,baz=136,slow=4.7,SNR=25							
MAW	Mawson	83.76	200	P	P	12 30 52.1	+0.6
VRDI	Verde Repeater	83.78	16	P	P	12 30 51.6	-0.2
VRDI				IAmb	IAmb	12 30 53.9	
comp=Z,11nm,1.1s							
RPSI	Rantau Prapat	83.79	275	P	P	12 30 52.3	-0.4
RPSI				IAmb	IAmb	12 30 53.3	
comp=Z,15nm,0.9s							
PSI	Prapat	83.83	275	P	P	12 30 52.3	-0.8
comp=Z,8.3nm,0.5s,baz=115,slow=1.3,SNR=6.5							
SEY	Seymchan	83.85	347	P	P	12 30 50.3	-1.6
comp=Z,4.2nm,0.6s,baz=164,slow=5.5,SNR=9.0							
GLB	Gilahina Butte	83.87	16	P	P	12 30 52.0	-0.1
GLB				IAmb	IAmb	12 30 52.5	
comp=Z,9.3nm,0.6s							
BALM	Baldy	83.92	17	P	P	12 30 52.3	-0.2
BALM				IAmb	IAmb	12 30 52.5	
comp=Z,10nm,0.6s							
TRF	Thorofare Moun	84.11	12	IAmb	IAmb	12 30 53.4	
comp=Z,15nm,0.7s							
BARN	Barnard Glacie	84.13	17	P	P	12 30 53.7	+0.1
BARN				IAmb	IAmb	12 30 54.3	
comp=Z,9.0nm,0.9s							
F10A	Beach Ranch, E	84.31	38	P	P	12 30 54.9	+0.2
F10A				IAmb	IAmb	12 30 55.7	
comp=Z,12nm,0.9s							
RND	Reindeer	84.37	13	IAmb	IAmb	12 30 54.7	
comp=Z,13nm,0.8s							
DHY	Denali Highway	84.40	14	P	P	12 30 54.2	-0.6
MCK	McKinley	84.64	13	P	P	12 30 55.3	-0.6
MCK				IAmb	IAmb	12 30 55.8	
comp=Z,11nm,1.1s							
GSI	Gunungsitoli	84.64	273	P	P	12 30 58.1	+1.2
GSI				IAmb	IAmb	12 30 58.8	
comp=Z,22nm,1.0s							
HDA	Harding Lake	85.66	13	IAmb	IAmb	12 31 00.7	
comp=Z,11nm,1.2s							
CCB	Clear Creek Bu	85.68	13	P	P	12 30 59.8	-1.0
CCB				IAmb	IAmb	12 30 60.0	
comp=Z,4.5nm,0.5s							
IL31		85.99	13	P	P	12 31 01.3	-0.9
IL31				IAmb	IAmb	12 31 02.0	
comp=Z,3.4nm,0.5

KSH				AMB	AMB	
	comp=Z,320nm,9.2s					
KSH				LR	LR	
	comp=N,260nm,10.1s					
KSH				LR	LR	
	comp=E,180nm,9.7s					
KSH				LR	LR	
	comp=Z,370nm,18.3s					
BUR08	**Bucovina Ar. S**	**144.65**	**332**		**PKPab**	**12 37 56.0 +0.4**
BURAR	**Bucovina Array**	**144.66**	**332**		PKPbc	12 37 54.9 -0.1
BR131	**Keskin Array S**	**144.80**	**315**		**PKPdf**	**12 37 55.2 -0.1**
BRTR	**Keskin Array B**	**144.80**	**315**	PKP	**PKPdf**	**12 37 54.9 -0.4**
	comp=Z,2.3nm,0.6s,baz=116,slow=2.9,SNR=12					
BRTR	**Keskin Array B**	**144.80**	**315**		**PKPdf**	**12 37 55.2 -0.1**
CLL	**Collm**	**145.53**	**347**	*e*PKPbc	**PKPbc**	**12 37 57.0 -0.3**
MBAR	**Mbarara**	**145.83**	**240**	PKPbc	**PKPbc**	**12 38 00.0 +0.5**
	comp=Z,5.0nm,0.2s,baz=162,slow=21,SNR=8.8					
MBAR	**Mbarara**	**145.83**	**240**		**PKPbc**	**12 37 59.6 +0.1**
CSS	**Mathiatis**	**147.08**	**307**		**PKPbc**	**12 38 01.5 -0.7**
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	**PKPbc**	**12 38 03.4 0.0**
	comp=Z,0.4nm,0.4s,baz=48,slow=4.3,SNR=4.4					
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	**PKPbc**	**12 38 03.5 +0.2**
DOU	**Dourbes**	**147.88**	**356**	PKPab	**PKPab**	**12 38 08.5 +0.2**
EZN	**Ezine**	**149.45**	**321**	⇑P	**PKPbc**	**12 38 06.3 -1.6**
KARP	**Karpathos**	**151.33**	**313**	PKPbc	**PKPbc**	**12 38 11.9 -0.5**
FNA	**Florina**	**151.58**	**327**	PKPbc	**PKPbc**	**12 38 12.3 -0.6**
ESDC	**Sonseca Array**	**157.88**	**11**	PKPab	**PKPab**	**12 38 50.3 -0.8**
	comp=Z,0.2nm,0.4s,baz=350,slow=4.1,SNR=3.8					
ESDC	**Sonseca Array**	**157.88**	**11**		**PKPab**	**12 38 50.0 -1.1**

JMA 03 12:24:10.3±0.3, 26°.13N×128°.52E, h42km±4km, M2.2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.59**	**311**	P	Pn	12 24 22.0	-0.3
JNTH				*e*S	Sn	12 24 30.6	-0.3
JJT3	**Tamagusuku3**	**0.66**	**271**	P	Pn	12 24 23.4	+0.1
JJT3				*e*S	Sn	12 24 33.5	+0.9
JOW	**Kunigami**	**0.73**	**343**	P	Pn	12 24 24.6	+0.3
JOW				S	Sn	12 24 34.5	+0.2
JYRO	**Yoronjima**	**0.89**	**356**	P	Pn	12 24 26.7	+0.3
JIH	**Iheya**	**1.03**	**331**	P	Pn	12 24 28.3	0.0
JIH				*e*S	Sn	12 24 42.7	+1.2
JOKE	**Okinoerabujima**	**1.23**	**2**	P	Pn	12 24 31.4	+0.4
JOKE				S	Sn	12 24 46.7	+0.3
JAGN	**Aguni-jima**	**1.23**	**292**	P	Pn	12 24 32.0	+0.9
JAGN				*e*S	Sn	12 24 47.8	+1.3
JKE	**Kume jima 2**	**1.57**	**278**	P	Pn	12 24 35.9	+0.2
JKE				*e*S	Sn	12 24 55.6	+0.8
JTK	**Tokunoshima**	**1.69**	**13**	P	Pn	12 24 37.6	+0.2
JTK				S	Sn	12 24 58.1	+0.2
JMZ	**Minamidaito 2**	**2.45**	**97**	P	Pn	12 24 45.1	-2.7
JKDJ	**Kitadaitoujima**	**2.50**	**94**	P	Pn	12 24 46.3	-2.2

JMA 03 12:24:34.0±0.3, 26°.12N×128°.46E, h40km±4km, M2.2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.56**	**315**	P	Pn	12 24 45.3	-0.2
JNTH				*e*S	Sn	12 24 54.0	+0.3
JJT3	**Tamagusuku3**	**0.61**	**272**	P	Pn	12 24 46.0	-0.2
JOW	**Kunigami**	**0.73**	**347**	P	Pn	12 24 48.1	+0.2
JOW				*e*S	Sn	12 24 57.2	-0.6
JYRO	**Yoronjima**	**0.90**	**359**	P	Pn	12 24 50.1	-0.1
JYRO				S	Sn	12 25 01.8	-0.2
JIH	**Iheya**	**1.01**	**334**	S	Sn	12 25 05.7	+0.9
JAGN	**Aguni-jima**	**1.19**	**293**	*e*S	Sn	12 25 10.3	+1.2
JOKE	**Okinoerabujima**	**1.24**	**5**	*e*S	Sn	12 25 09.4	-1.0
JKE	**Kume jima 2**	**1.52**	**278**	P	Pn	12 24 59.3	+0.6
JKE				S	Sn	12 25 17.5	+0.3
JTK	**Tokunoshima**	**1.72**	**15**	S	Sn	12 25 22.7	+0.6
JMZ	**Minamidaito 2**	**2.50**	**96**	P	Pn	12 25 07.7	-4.5
JMZ				*e*S	Sn	12 25 34.4	-7.1
JMZ	**Minamidaito 2**	**2.50**	**96**	S	Pn	12 25 07.7	-4.5
JKDJ	**Kitadaitoujima**	**2.56**	**93**	P	Pn	12 25 08.8	-4.2
JKDJ				S	Sn	12 25 36.6	-6.3
JKDJ	**Kitadaitoujima**	**2.56**	**93**	S	Pn	12 25 08.8	-4.2

*IDC **03** 12:27:50.5±0.7, 26°.11N×128°.38E, h0km, mb4.1/19, mb1 4.2/22, mb1mx4.0/56, mbtmp4.1/22, ML3.4/3, Error ellipse: s-maj=21.5km s-min=12.4km az=90.0*
*NEIC **03** 12:27:52.6±1.7, 26°.09N±0°.06×128°.4E±0°.1, h13km±5km, mb4.5/23*
*JMA **03** 12:27:54.1±0.2, 26°.12N×128°.57E, h41km±4km, M3.8*

ISC 03 12:27:51.2±1.4, 26°.01N±0°.05×128°.63E±0°.04, h10km±7km, n102, σ1$75/123, mb4.4/34, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.74**	**313**	P	**Pg**	**12 28 06.3 +0.7**
JNTH				S	**Sg**	**12 28 15.7 +0.3**
JJT3	**Tamagusuku3**	**0.77**	**280**	P	**Pb**	**12 28 07.8 +1.0**
JJT3				*e*S	**Sb**	**12 28 17.9 +0.5**
JOW	**Kunigami**	**0.88**	**339**	P	**Pg**	**12 28 08.6 +0.4**
JOW				S	**Sg**	**12 28 19.7 0.0**
JOW	**Kunigami**	**0.88**	**339**	Pn	**Pg**	**12 28 08.4 +0.2**
	115nm,0.3s,baz=143,slow=13,SNR=61					
JOW				Sn	**Sg**	**12 28 18.9 -0.8**
	121nm,0.3s,baz=94,slow=16,SNR=18					
JOW	**Kunigami**	**0.88**	**339**		**Pg**	**12 28 08.6 +0.4**
JOW					**Sg**	**12 28 19.9 +0.3**
JYRO	**Yoronjima**	**1.02**	**351**	P	**Pg**	**12 28 10.6 -0.3**
JYRO				*e*S	**Sg**	**12 28 22.4 -1.9**
JIH	**Iheya**	**1.18**	**330**	P	**Pb**	**12 28 13.3 -0.5**
JIH				*e*S	**Sb**	**12 28 26.9 -2.2**
JOKE	**Okinoerabujima**	**1.35**	**358**	P	**Pn**	**12 28 15.6 -0.6**
JOKE				*e*S	**Sb**	**12 28 31.0 -2.9**
JAGN	**Aguni-jima**	**1.37**	**295**	P	**Pn**	**12 28 16.3 -0.2**
JAGN				*e*S	**Sb**	**12 28 31.6 -3.1**
JKE	**Kume jima 2**	**1.69**	**281**	P	**Pn**	**12 28 20.1 -0.7**
JKE				*e*S	**Sn**	**12 28 40.3 -2.2**
JTK	**Tokunoshima**	**1.79**	**9**	P	**Pn**	**12 28 21.8 -0.5**
JTK				*e*S	**Sn**	**12 28 41.4 -3.7**
JMZ	**Minamidaito 2**	**2.34**	**94**	P	**Pn**	**12 28 29.1 -0.7**
JMZ				S	**Sn**	**12 28 54.7 -3.9**
JKDJ	**Kitadaitoujima**	**2.40**	**91**	P	**Pn**	**12 28 30.0 -0.6**
JKDJ				S	**Sn**	**12 28 56.9 -3.2**
YOJ	**Yonaguni jima**	**5.32**	**254**	Pn	**Pn**	**12 29 09.2 -1.5**
NACB	**Ninganchiao**	**6.64**	**256**	Pn	**Pn**	**12 29 26.9 -2.0**
NACB				Sn	**Sn**	**12 30 38.6 -6.0**
YHNB	**Yeheng**	**6.70**	**260**	Pn	**Pn**	**12 29 30.5 +0.7**
YHNB				Sn	**Sn**	**12 30 44.4 -1.9**
YULB	**Yu-li**	**7.16**	**250**	Pn	Pn	12 29 32.5 -3.6
SSLB	**Suanglung**	**7.31**	**254**		**Pn**	**12 29 35.7 -2.5**
SSLB				Sn	**Sn**	**12 30 54.5 -6.8**
JNU	**Nakatsue**	**7.35**	**15**	Pn	**Pn**	**12 29 39.5 +0.8**
	1.9nm,0.3s,baz=209,slow=8.5,SNR=27					
JNU				Sn	**Sn**	**12 30 59.6 -2.7**
	0.3nm,0.3s,baz=358,slow=16,SNR=3.0					
JNU	**Nakatsue**	**7.35**	**15**		**Pn**	**12 29 39.7 +1.0**
JNU				Sn	**Sn**	**12 31 01.0 -1.3**
TWG	**Pinlang**	**7.58**	**247**	Pn	Pn	12 29 38.0 -3.9
TPUB	**Ta-pu**	**7.76**	**251**	Pn	**Pn**	**12 29 43.1 -1.3**
TPUB				Sn	**Sn**	**12 31 05.1 -7.3**
NJ2	**Nanjing**	**10.46**	**307**	*e*P	**Pn**	**12 30 21.0 -0.3**
KSRS	**Korea Array**	**11.43**	**357**	Pn	**Pn**	**12 30 32.8 -1.7**
	0.1nm,0.3s,baz=178,slow=14,SNR=7.6					
WHN	**Wuhan**	**13.37**	**293**	P	**P**	**12 31 11.6 +0.9**
USA0B	**Ussuriysk Arra**	**18.35**	**8**	P	**P**	**12 32 08.2 +2.3**
USRK	**Ussuriysk Ar.**	**18.35**	**8**	P	**Pn**	**12 32 06.9 +1.1**
	baz=178,slow=7.6,SNR=9.7					
USRK	**Ussuriysk Ar.**	**18.35**	**8**	P	**P**	**12 32 08.2 +2.3**
XAN	**Xi'an**	**18.83**	**300**	P	**P**	**12 32 12.1 +0.8**
XAN				pP	pwP	12 32 20.0 +3.4
XAN				pmax	pmax	
	comp=Z,10.0nm,0.7s					
HHC	**Hu-ho-hao-te**	**20.48**	**320**	P	**P**	**12 32 29.5 +0.1**
HHC				pmax	pmax	
	comp=Z,7.0nm,0.9s					
ASAJ	**Asahikawa**	**21.32**	**29**	P	**P**	**12 32 38.7 +0.4**
	comp=Z,1.3nm,0.5s,baz=233,slow=10,SNR=3.9					
JKA	**Kamikawa-asahi**	**21.32**	**29**	P	**P**	**12 32 38.7 +0.4**
KLR	**Kul'dur**	**23.31**	**5**	P	**P**	**12 33 00.1 +0.8**
	comp=Z,1.5nm,0.6s,baz=281,slow=3.0,SNR=7.0					
KMI	**Kunming**	**23.36**	**274**	P	**P**	**12 33 02.7 +2.4**
KMI				pmax	pmax	
	comp=Z,10.0nm,0.8s					
LZH	**Lanzhou**	**23.43**	**301**	*e*P	**P**	**12 33 00.1 -0.8**
LZH				pP	pP	12 33 04.4 +1.3
LZH				sP	pwP	12 33 07.2 +1.0
LZH				pmax	pmax	
	comp=Z,21nm,1.0s					
YSS	**Yuzh-Sakhalins**	**23.72**	**25**	P	**P**	**12 33 04.9 +1.6**
GTA	**Gaotai**	**27.55**	**306**	P	**P**	**12 33 37.2 -1.3**
GTA				pP	pP	12 33 42.2 +1.7
GTA				sP	pwP	12 33 45.5 +0.8
GTA				pmax	pmax	
	comp=Z,15nm,1.1s					
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**12 33 40.5 -1.3**
	comp=Z,3.0nm,0.7s,baz=138,slow=10,SNR=15					
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**12 33 44.0 +2.2**
CMAR	**Chiang Mai Arr**	**28.44**	**261**	P	**P**	**12 33 46.7 +0.2**
	comp=Z,0.9nm,0.8s,baz=62,slow=7.2,SNR=5.7					
CMAR	**Chiang Mai Arr**	**28.44**	**261**	P	**P**	**12 33 46.4 -0.1**
TAPN	**Taplejung**	**36.48**	**281**	*e*P	**P**	**12 34 57.4 +0.3**
	comp=Z,21nm,1.0s					
ODAN	**Odare**	**36.82**	**281**	*e*P	**P**	**12 35 00.0 0.0**
	comp=Z,36nm,0.7s					
RAMN	**Ramite**	**37.51**	**281**	*e*P	**P**	**12 35 05.9 +0.1**
WMQ	**Urumqi**	**37.53**	**309**	*e*P	**P**	**12 35 08.4 +2.8**
WMQ				pP	pwP	12 35 11.2 -0.6
WMQ				S	**S**	**12 40 56.2 +1.5**
WMQ				sS	ScP	12 40 59.0 -12
WMQ				pmax	pmax	
	comp=Z,16nm,0.6s					
WMQ				pmax	pmax	
	comp=Z,230nm,4.5s					
WMQ				LR	LR	
	comp=N,920nm,29.1s					
WMQ				LR	LR	
	comp=E,810nm,29.1s					
WMQ				LR	LR	
	comp=Z,190nm,17.1s					
JIRN	**Jiri**	**37.77**	**282**	*e*P	**P**	**12 35 08.7 +0.5**
GUN	**Gumba**	**38.01**	**283**	*e*P	**P**	**12 35 10.2 0.0**
	comp=Z,9.8nm,0.4s					
PKI	**Pulchoki**	**38.47**	**282**	*e*P	**P**	**12 35 13.6 -0.4**
	comp=Z,13nm,0.5s					
PKIN	**Phulchoki**	**38.48**	**282**	*e*P	**P**	**12 35 13.9 -0.1**
	comp=Z,12nm,0.4s					
KKN	**Kakani**	**38.55**	**283**	*e*P	**P**	**12 35 14.8 +0.2**
DMN	**Daman**	**38.73**	**282**	*e*P	**P**	**12 35 15.9 -0.2**
GKN	**Gorkha**	**39.09**	**283**	*e*P	**P**	**12 35 18.7 -0.3**
DANN	**Dangsing**	**39.81**	**284**	*e*P	**P**	**12 35 25.7 +0.5**
	comp=Z,50nm,0.8s					
KOLN	**Koldanda**	**40.03**	**283**	*e*P	**P**	**12 35 27.1 +0.2**
	comp=Z,22nm,0.8s					
SEY	**Seymchan**	**40.12**	**17**	P	**P**	**12 35 27.1 +0.1**
	comp=Z,2.6nm,0.6s,baz=213,slow=6.3,SNR=7.9					
MK31	**Makanchi Array**	**41.95**	**312**	P	**P**	**12 35 41.2 -1.1**
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**12 35 40.1 -2.1**
	comp=Z,1.6nm,0.6s,baz=99,slow=10,SNR=16					
MKAR				PcP	**PcP**	**12 37 38.1 +0.5**
	comp=Z,0.4nm,0.5s,baz=96,slow=2.9,SNR=3.3					
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**12 35 41.5 -0.8**
MAKZ	**Makanchi**	**42.16**	**312**	P	**P**	**12 35 43.1 -0.9**
ZALV	**Zalesovo Beam**	**42.64**	**323**	P	**P**	**12 35 45.2 -2.6**
	comp=Z,0.8nm,0.4s,baz=112,slow=8.4,SNR=4.1					
ZALV	**Zalesovo Beam**	**42.64**	**323**	P	**P**	**12 35 44.8 -3.0**
KURK	**Kurchatov**	**45.23**	**317**	P	**P**	**12 36 07.6 -0.9**
KURK				IAmb	IAmb	12 36 08.7
	comp=Z,6.9nm,1.2s					
KURBB	**Kurchatov Arra**	**45.26**	**317**	P	**P**	**12 36 07.1 -1.7**
	comp=Z,1.1nm,0.4s,baz=103,slow=9.1,SNR=17					
KSH	**Kashi**	**45.68**	**301**	P	**P**	**12 36 16.0 +3.5**
KSH				pP	pwP	12 36 21.6 +2.9
KSH				PcP	**PcP**	**12 37 53.2 +2.7**
KSH				S	**S**	**12 42 57.7 +2.0**
KSH				sS	sS	12 43 07.5 +8.1
KSH				ScS	**ScS**	**12 46 08.1 -1.1**
KSH				pmax	pmax	
	comp=Z,560nm,7.7s					
KSH				LR	LR	
	comp=N,980nm,13.2s					
KSH				LR	LR	
	comp=E,1μm,13.7s					
KSH				LR	LR	
	comp=Z,740nm,15.7s					
WRA	**Warramunga Arr**	**46.01**	**173**	P	**P**	**12 36 16.0 +1.0**
	comp=Z,1.7nm,0.6s,baz=353,slow=8.4,SNR=15					
WRA	**Warramunga Arr**	**46.01**	**173**	P	**P**	**12 36 16.2 +1.2**
WB2	**Warramunga Arr**	**46.02**	**173**	P	**P**	**12 36 16.3 +1.2**
AS31	**Alice Springs**	**49.65**	**174**	P	**P**	**12 36 44.4 +1.2**
ASAR	**Alice Springs**	**49.65**	**174**	P	**P**	**12 36 44.6 +1.4**
	comp=Z,0.8nm,0.6s,baz=10,slow=9.6,SNR=19					
KK31	**Karatay Array**	**49.83**	**306**	P	**P**	**12 36 45.1 +0.6**
KK31				IAmb	IAmb	12 36 46.4
	comp=Z,2.2nm,0.8s					
KKAR	**Karatay Array**	**49.83**	**306**	P	**P**	**12 36 45.0 +0.4**
KAR	**Karatay Array**	**49.83**	**306**	P	**P**	**12 36 45.4 +0.8**
KKAR				IAmb	IAmb	12 36 46.4
	comp=Z,2.2nm,0.8s					
BVAR	**Borovoye Array**	**50.68**	**318**	P	**P**	**12 36 49.7 -1.0**
	comp=Z,1.4nm,0.6s,baz=80,slow=8.1,SNR=7.8					
ABKAR	**Akbulak array**	**57.06**	**313**	P	**P**	**12 37 37.6 +0.1**
ABKAR				IAmb	IAmb	12 37 38.7
	comp=Z,3.8nm,0.7s					
MCK	**McKinley**	**63.68**	**29**	P	**P**	**12 38 24.0 +1.4**
RND	**Reindeer**	**63.75**	**30**	P	**P**	**12 38 23.9 +0.7**
DHY	**Denali Highway**	**64.45**	**30**	P	**P**	**12 38 29.0 +1.1**
DHY				IAmb	IAmb	12 38 39.9
	comp=Z,6.7nm,1.2s					
ILAR	**Eielson Array**	**64.46**	**28**	P	**P**	**12 38 27.5 -0.1**
	comp=Z,0.3nm,0.5s,baz=248,slow=4.6,SNR=5.2					
ILAR	**Eielson Array**	**64.46**	**28**	P	**P**	**12 38 27.3 -0.4**
HDA	**Harding Lake**	**64.48**	**29**	P	**P**	**12 38 28.4 +0.6**
BMAR	**Burnt Mountain**	**65.05**	**25**	P	**P**	**12 38 33.2 +1.7**
KBZ	**Khabaz**	**69.58**	**310**	P	**P**	**12 39 01.0 +0.5**
	comp=Z,2.6nm,0.8s,baz=60,slow=1.9,SNR=4.7					
ARCES	**ARCESS Array B**	**70.34**	**339**	P	**P**	**12 39 05.1 +0.3**
	comp=Z,3.6nm,1.0s,baz=48,slow=7.2,SNR=5.2					
ARCES	**ARCESS Array B**	**70.34**	**339**	P	**P**	**12 39 04.5 -0.3**
JIS	**Juneau Island**	**71.79**	**34**	P	**P**	**12 39 15.4 +1.7**
FIA1	**FINESS Array S**	**73.23**	**331**	P	**P**	**12 39 22.3 +0.1**
FIA1				IAmb	IAmb	12 39 24.0
	comp=Z,5.1nm,1.1s					
FINES	**FINESS Array B**	**73.23**	**331**	P	**P**	**12 39 21.8 -0.5**
	comp=Z,2.4nm,0.8s,baz=58,slow=4.9,SNR=10					
FINES	**FINESS Array B**	**73.23**	**331**	P	**P**	**12 39 22.2 -0.1**
RES	**Resolute Bay**	**75.69**	**11**	P	**P**	**12 39 38.6 +2.2**
	comp=Z,3.9nm,0.6s,baz=297,slow=6.3,SNR=14					
RES	**Resolute Bay**	**75.69**	**11**	P	**P**	**12 39 37.6 +1.3**
RES				IAmb	IAmb	12 39 42.1
	comp=Z,5.3nm,0.8s					
AKASG	**Malin Array Be**	**75.93**	**320**	P	**P**	**12 39 37.7 -0.4**
	comp=Z,2.6nm,0.5s,baz=64,slow=5.9,SNR=3.0					
AKASG	**Malin Array Be**	**75.93**	**320**	P	**P**	**12 39 38.3 +0.1**
AKBB	**Malin Array Si**	**75.93**	**320**	P	**P**	**12 39 38.0 -0.2**
AKBB				IAmb	IAmb	12 39 38.2
	comp=Z,4.1nm,0.6s					
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**12 39 47.3 +0.1**
	comp=Z,2.9nm,0.8s,baz=97,slow=5.1,SNR=11					
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**12 39 47.2 0.0**
NC405	**NORSAR Array S**	**79.43**	**334**	P	**P**	**12 39 57.6 +0.1**
NC405				IAmb	IAmb	12 39 57.7
	comp=Z,4.8nm,0.7s					
BUR08	**Bucovina Ar. S**	**79.63**	**318**	P	**P**	**12 40 00.3 +1.3**
BUR08				IAmb	IAmb	12 40 02.2
	comp=Z,2.1nm,0.7s					
BURAR	**Bucovina Array**	**79.63**	**318**	P	**P**	**12 39 59.8 +0.7**
NB2	**NORSAR Subarra**	**79.67**	**334**	P	**P**	**12 39 58.3 -0.6**
	comp=Z,0.9nm,0.6s,baz=52,slow=5.6					
NOA	**NORSAR Array B**	**79.67**	**334**	P	**P**	**12 39 58.3 -0.6**
	comp=Z,1.8nm,0.7s,baz=51,slow=5.5,SNR=5.7					
BRG	**Berggiesshubel**	**84.30**	**325**	*e*P	P	12 40 30.6 +7.2
	comp=Z,23nm,1.9s					
CLL	**Collm**	**84.54**	**325**	*i* P	**P**	**12 40 24.0 -0.5**
	comp=Z,52nm,2.0s					

*IDC **03** 12:33:13.5±1.0, 26°.10N×128°.60E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/45, mbtmp3.9/9, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/35, Error ellipse: s-maj=39.4km s-min=14.7km az=74.0*
*ISCJB **03** 12:33:15.4±0.8, 26°.08N±0°.03×128°.67E±0°.04, h27km±5km, mb3.8/8, MS3.4/1, Error ellipse: s-maj=5.7km s-min=5.3km az=34.9*
*NEIC **03** 12:33:15.8±1.8, 26°.04N±0°.03×128°.5E±0°.1, h12km±5km, mb4.3/9*
*JMA **03** 12:33:17.1±0.3, 26°.11N×128°.57E, h40km±4km, M3.4*

ISC 03 12:33:15.8±1.5, 26°.08N±0°.05×128°.62E±0°.04, h16km±9km, n43, σ1$60/55, mb4.0/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.69**	**309**	P	**Pb**	**12 33 29.3 -0.2**
JJT3	**Tamagusuku3**	**0.76**	**275**	P	**Pn**	**12 33 30.9 -0.9**
JJT3				S	**Sg**	**12 33 41.0 +0.4**
JOW	**Kunigami**	**0.81**	**337**	P	**Pg**	**12 33 31.7 +0.1**
JOW				*e*S	**Sg**	**12 33 42.2 -0.2**
JOW	**Kunigami**	**0.81**	**337**	Pn	**Pg**	**12 33 31.7 +0.1**
	78nm,0.3s,baz=146,slow=12,SNR=53					
JOW				Sn	**Sg**	**12 33 42.0 -0.4**
	204nm,0.3s,baz=191,slow=14,SNR=46					
JOW	**Kunigami**	**0.81**	**337**		**Pg**	**12 33 31.6 -0.1**
JOW					**Sg**	**12 33 42.1 -0.3**
JYRO	**Yoronjima**	**0.95**	**351**	P	**Pb**	**12 33 33.7 -0.2**
JYRO				*e*S	**Sb**	**12 33 45.4 -0.9**
JIH	**Iheya**	**1.12**	**328**	P	**Pb**	**12 33 36.3 -0.4**
JIH				S	**Sb**	**12 33 50.4 -0.7**
JOKE	**Okinoerabujima**	**1.28**	**358**	P	**Pn**	**12 33 38.7 -0.3**
JOKE				S	**Sb**	**12 33 54.3 -1.3**
JAGN	**Aguni-jima**	**1.34**	**293**	P	**Pn**	**12 33 39.4 -0.4**
JKE	**Kume jima 2**	**1.67**	**279**	P	**Pn**	**12 33 43.2 -1.1**
JKE				*e*S	**Sn**	**12 34 02.4 -3.0**
JTK	**Tokunoshima**	**1.73**	**10**	P	**Pn**	**12 33 44.8 -0.3**
JMZ	**Minamidaito 2**	**2.35**	**96**	P	**Pn**	**12 33 52.4 -1.3**
JMZ				S	**Sn**	**12 34 18.5 -3.7**
JKDJ	**Kitadaitoujima**	**2.41**	**92**	P	**Pn**	**12 33 53.3 -1.2**
JKDJ				S	**Sn**	**12 34 20.1 -3.5**
NACB	**Ninganchiao**	**6.65**	**255**	Pn	**Pn**	**12 34 50.7 -2.1**
YHNB	**Yeheng**	**6.71**	**259**	Pn	**Pn**	**12 34 55.1 +1.4**
YULB	**Yu-li**	**7.18**	**250**	Pn	**Pn**	**12 34 55.5 -4.5**
JNU	**Nakatsue**	**7.29**	**15**	Pn	**Pn**	**12 35 02.9 +1.4**
	0.9nm,0.3s,baz=195,slow=9.3,SNR=20					
JNU				Sn	**Sn**	**12 36 21.0 -3.0**
	baz=126,slow=8.7,SNR=2.1					
JNU	**Nakatsue**	**7.29**	**15**		**Pn**	**12 35 03.0 +1.4**
JNU					**Sn**	**12 36 22.4 -1.6**
SSLB	**Suanglung**	**7.33**	**253**	Pn	**Pn**	**12 34 59.6 -2.6**
TWG	**Pinlang**	**7.61**	**246**	Pn	**Pn**	**12 35 01.8 -4.2**
TPUB	**Ta-pu**	**7.78**	**251**	Pn	**Pn**	**12 35 06.9 -1.4**
HKPS	**Hong Kong Po S**	**13.75**	**257**	Pn	**Pn**	**12 36 31.2 +1.2**
SIJI	**Sorong**	**26.91**	**174**	LR	LR	12 50 32.4
	comp=Z,107nm,19.0s,baz=172,slow=39					
SONM	**Songino Array**	**27.87**	**327**	P	**P**	**12 39 06.2 +1.4**
	0.4nm,0.5s,baz=134,slow=8.3,SNR=3.1					
CMAR	**Chiang Mai Arr**	**28.45**	**261**	P	**P**	**12 39 10.6 +0.5**
	0.4nm,0.3s,baz=64,slow=8.1,SNR=2.5					
KNRA	**Kununurra**	**41.51**	**180**	P	**P**	**12 41 02.6 +0.4**
KNRA				IAmb	IAmb	12 41 17.3
	comp=Z,14nm,1.1s					
FITZ	**Fitzroy Crossi**	**44.01**	**184**	P	**P**	**12 41 23.9 +1.3**
FITZ				IAmb	IAmb	12 41 41.2
	comp=Z,7.3nm,1.3s					
KURK	**Kurchatov**	**45.17**	**317**	P	**P**	**12 41 31.5 -0.2**
KURBB	**Kurchatov Arra**	**45.21**	**316**	P	**P**	**12 41 30.6 -1.3**
	comp=Z,0.6nm,0.4s,baz=104,slow=9.7,SNR=3.9					
WRA	**Warramunga Arr**	**46.08**	**173**	P	**P**	**12 41 39.2 +0.1**
	comp=Z,1.9nm,0.6s,baz=353,slow=8.4,SNR=22					
WRA	**Warramunga Arr**	**46.08**	**173**	P	**P**	**12 41 39.2 +0.1**
WB2	**Warramunga Arr**	**46.08**	**173**	P	**P**	**12 41 38.7 -0.4**
WB2				IAmb	IAmb	12 41 42.0
	comp=Z,3.3nm,1.0s					
AS31	**Alice Springs**	**49.72**	**174**	P	**P**	**12 42 08.2 +0.9**
ASAR	**Alice Springs**	**49.72**	**174**	P	**P**	**12 42 08.1 +0.8**
	comp=Z,1.1nm,0.8s,baz=9.3,slow=11,SNR=22					
ASAR				PcP	**PcP**	**12 43 27.9 -0.4**
	comp=Z,0.3nm,0.9s,baz=347,slow=3.8,SNR=2.6					
ABKAR	**Akbulak array**	**57.01**	**313**	P	**P**	**12 43 01.6 +1.0**
RND	**Reindeer**	**63.70**	**30**	P	**P**	**12 43 47.2 +0.9**
SCRK	**Sand Creek**	**65.77**	**29**	P	**P**	**12 44 00.6 +0.8**
SCRK				IAmb	IAmb	12 44 20.1
	comp=Z,1.9nm,1.2s					
FINES	**FINESS Array B**	**73.17**	**331**	P	**P**	**12 44 45.0 -0.4**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.5,SNR=4.3					
FINES	**FINESS Array B**	**73.17**	**331**	P	**P**	**12 44 46.5 +1.2**
AKASG	**Malin Array Be**	**75.88**	**320**	P	**P**	**12 45 00.5 -0.8**
	comp=Z,0.4nm,0.4s,baz=61,slow=6.1,SNR=2.6					
BRTR

PB02 eS Sn 12 44 33.1 -0.7
PB02 IAML 12 44 35.1
comp=N,2μm,0.4s
PB03 IPOC Station P 1.43 244⇑ iP Pn 12 44 12.7 -0.1
PB03 eS Sn 12 44 33.3 -0.7
PB03 IAML 12 44 34.9
comp=E,595nm,0.2s
PB07 IPOC Station P 1.44 258⇑ iP Pn 12 44 13.0 0.0
PB07 eS Sn 12 44 33.6 -0.7
PB07 IAML 12 44 35.5
comp=E,849nm,0.3s
PB08 IPOC Station P 1.47 330⇓ iP Pn 12 44 14.9 +1.4
PB08 eS Sn 12 44 36.2 +1.0
PB06 IPOC Station P 1.69 221⇑ iP Pn 12 44 15.8 +0.1
PB06 eS Sn 12 44 39.0 -0.4
PB06 IAML 12 44 39.8
comp=E,487nm,0.2s
PB06 IPOC Station P 1.69 221 i P Pn 12 44 15.9 +0.2
PB04 IPOC Station P 1.89 241 eP Pn 12 44 17.9 -0.1
PB04 IAML 12 44 49.7
comp=N,312nm,0.4s
PB04 IPOC Station P 1.89 241 i P Pn 12 44 17.9 -0.1
GO01 Chusmiza 1.91 336 eP Pn 12 44 19.9 +1.2
GO01 eS Sn 12 44 46.0 +1.6
GO01 IAML 12 44 50.0
comp=N,517nm,0.2s
PB11 IPOC Station P 2.05 324 eP Pn 12 44 20.4 +0.4
PB11 eS Sn 12 44 47.0 +0.2
PB11 IAML 12 44 49.1
comp=E,513nm,0.4s
PB15 IPOC Station P 2.05 210⇑ iP Pn 12 44 20.4 +0.4
PB15 i S Sn 12 44 47.1 +0.2
PB15 IPOC Station P 2.05 210 i P Pn 12 44 20.4 +0.4
PB15 eS Sn 12 44 47.1 +0.2
MNMC Minye Minye 2.56 333 eP Pn 12 44 27.4 +1.1
MNMC eS Sn 12 44 59.6 +1.4
YJA Yavi 2.76 106⇑ iP Pn 12 44 30.3 +1.3
PB10 IPOC Station P 2.90 224 i P Pn 12 44 30.6 +0.1
HJA Humahuaca 3.27 123 i P Pn 12 44 37.5 +1.9
HJA IAML 12 44 39.2
comp=Z,19nm,0.3s
PB14 IPOC Station P 3.70 210 i P Pn 12 44 40.7 -0.4
AZAP Zapla 4.13 133 i P Pn 12 44 47.5 +0.8
LPAZ La Paz 5.11 3 P Pn 12 45 02.0 +1.8
comp=Z,1.1nm,0.3s,baz=170,slow=8.5,SNR=26
LPAZ S Sn 12 45 55.5 -3.2
comp=Z,0.1nm,0.3s,baz=192,slow=17,SNR=1.6
SIV San Ignacio 8.77 53 P Pn 12 45 46.2 -2.7
comp=Z,3.0nm,0.3s,baz=255,slow=11,SNR=51
PLCA Paso Flores 19.34 185 P P 12 48 00.6 +0.9
comp=Z,0.0nm,0.3s,baz=24,slow=20,SNR=2.2
BDFB Brasilia 20.13 77 LR LR 12 57 29.6
comp=Z,146nm,18.0s,baz=297,slow=42
PTGA Pitinga 22.14 23 P P 12 48 28.8 -1.0
comp=Z,1.4nm,0.3s,baz=199,slow=14,SNR=4.8
DBIC Dimbokro 68.23 73 P P 12 54 28.3 -3.1
comp=Z,1.4nm,0.4s,baz=212,slow=9.5,SNR=2.3
TORD Torodi Ar. Bea 76.86 70 P P 12 55 22.2 -0.2
comp=Z,0.7nm,0.4s,baz=252,slow=5.6,SNR=12
YKA Yellowknife Ar 91.28 340 P P 12 56 35.8 +1.3
comp=Z,0.5nm,0.5s,baz=136,slow=4.5,SNR=5.9
ASAR Alice Springs 130.21 207 PKP PKPdf 13 02 41.0 +1.3
comp=Z,0.5nm,0.9s,baz=126,slow=1.6,SNR=3.8
WRA Warramunga Arr 133.27 210 PKP PKPdf 13 02 46.7 +1.1
comp=Z,0.2nm,0.4s,baz=153,slow=1.7,SNR=4.7
MKAR Makanchi Array 145.28 36 PKPbc PKPbc 13 03 07.7 +1.1
comp=Z,0.6nm,0.6s,baz=4.3,slow=4.9,SNR=5.9

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*ISCJB **03** 12:46:34.4±0.9, 25°.6N±0°.1×140°.8E±0°.2, h150km, mb3.3/3, Error ellipse: s-maj=25.8km s-min=12.1km az=22.7*
*IDC **03** 12:46:36.2±3.5, 25°.68N×140°.74E, h153km±47km, mb3.2/3, mb1 3.3/5, mb1mx3.0/31, mbtmp3.7/5, Error ellipse: s-maj=102.8km s-min=19.9km az=85.0*
ISC 03 12:46:35.7±1.2, 25°.7N±0°.1×140°.8E±0°.2, h150km, n6, σ0°88/7, mb3.6/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.87**	**41**	P	**Pn**	**12 47 10.3**	**+1.0**
	63nm,0.3s,baz=283,slow=18,SNR=95						
JCJ				S	**Sn**	**12 47 34.1**	**-1.2**
	83nm,0.3s,baz=307,slow=23,SNR=30						
MJAR	**Matsushiro Arr**	**11.04**	**349**	P	**Pn**	**12 49 09.7**	**+0.3**
	0.1nm,0.3s,baz=160,slow=10,SNR=6.1						
ASAJ	**Asahikawa**	**18.44**	**4**	P	**Pn**	**12 50 41.9**	**+0.3**
	0.3nm,0.3s,baz=232,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**45.79**	**188**	P	**P**	**12 54 42.8**	**+0.3**
	1.1nm,0.6s,baz=11,slow=8.6,SNR=20						
ASAR	**Alice Springs**	**49.52**	**188**	P	**P**	**12 55 10.9**	**-0.3**
	0.1nm,0.6s,baz=1.9,slow=6.9,SNR=6.3						
FINES	**FINESS Array B**	**78.65**	**334**	P	**P**	**12 58 20.0**	**-0.7**
	1.0nm,0.7s,baz=46,slow=5.5,SNR=3.6						

JMA 03 12:50:56.3±0.4, 26°.14N×128°.54E, h41km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.60**	**309**	P	Pn	12 51 08.4	0.0
JNTH				eS	Sn	12 51 16.8	-0.2
JOW	**Kunigami**	**0.73**	**341**	P	Pn	12 51 10.1	-0.1
JOW				S	Sn	12 51 20.7	+0.5
JYRO	**Yoronjima**	**0.89**	**355**	P	Pn	12 51 12.5	+0.2
JIH	**Iheya**	**1.03**	**330**	P	Pn	12 51 15.0	+0.7
JMZ	**Minamidaito 2**	**2.43**	**97**	P	Pn	12 51 31.0	-2.6
JKDJ	**Kitadaitoujima**	**2.49**	**94**	P	Pn	12 51 32.5	-1.8

JMA 03 12:51:22.1±0.2, 26°.14N×128°.48E, h40km±3km, M1.1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.56**	**313**	P	Pn	12 51 33.5	-0.1
JJT3	**Tamagusuku3**	**0.63**	**270**	P	Pn	12 51 34.5	0.0
JJT3				S	Sn	12 51 43.7	+0.3
JOW	**Kunigami**	**0.71**	**345**	P	Pn	12 51 35.9	+0.1
JYRO	**Yoronjima**	**0.88**	**358**	P	Pn	12 51 38.3	+0.3
JOKE	**Okinoerabujima**	**1.22**	**4**	S	Sn	12 51 58.0	0.0
JMZ	**Minamidaito 2**	**2.49**	**97**	P	Pn	12 51 56.8	-3.3
JMZ				S	Sn	12 52 23.2	-6.0
JMZ	**Minamidaito 2**	**2.49**	**97**	S	Pn	12 51 56.8	-3.3
JKDJ	**Kitadaitoujima**	**2.54**	**94**	P	Pn	12 51 57.6	-3.2
JKDJ				eS	Sn	12 52 26.0	-4.5

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*NIED **03** 12:59:00, 26°.20N×128°.50E, h14km, Mw4.5 Best double couple: M0=6.05000×10^15 NP1:φs=234.00000°, δ38.00000°, λ92.00000°. NP2:φs=52.00000°, δ52.00000°, λ89.00000°.*
*BJI **03** 12:59:31.8±0.0, 25°.89N×128°.57E, h10km, mb4.5/39, mB4.8/26, Ms4.5/24, Ms7 4.4/23*
*IDC **03** 12:59:32.9±0.7, 26°.13N×128°.58E, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.1/39, mbtmp4.1/23, ML3.5/3, MS3.7/13, Ms1 3.7/13, ms1mx3.4/48, Error ellipse: s-maj=19.7km s-min=13.7km az=90.0*
*NEIC **03** 12:59:34.9±1.8, 26°.01N±0°.04×128°.45E±0°.05, h9km±4km, mb4.6/43*
*MOS **03** 12:59:35.4±1.2, 26°.11N×128°.45E, h22km, mb4.9/19, Error ellipse: s-maj=9.6km s-min=6.2km az=108.1*
*ISCJB **03** 12:59:37.0±0.7, 26°.12N±0°.03×128°.52E±0°.03, h32km±4km, mb4.4/45, MS4.0/16, Error ellipse: s-maj=5.3km s-min=4.2km az=139.8*
*JMA **03** 12:59:38.3±0.3, 26°.17N×128°.49E, h39km±3km, M4.2*
ISC 03 12:59:36.0±1.4, 26°.10N±0°.04×128°.53E±0°.03, h15km±8km, n197, σ1°85/218, mb4.6/55, MS3.9/16, 18C-12D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.61**	**313**	P	**Pn**	**12 59 49.3**	**-0.9**
JJT3	**Tamagusuku3**	**0.67**	**274**	P	**Pn**	**12 59 50.8**	**-0.2**
JJT3				eS	**Sn**	**12 59 59.7**	**-1.5**
JOW	**Kunigami**	**0.76**	**343**	P	**Pn**	**12 59 51.7**	**-0.5**
JOW				S	**Sb**	**13 00 01.3**	**+0.1**
JOW	**Kunigami**	**0.76**	**343**	Pn	**Pn**	**12 59 51.7**	**-0.5**
	180nm,0.3s,baz=148,slow=12,SNR=1547						
JOW				Sn	**Sb**	**13 00 01.3**	**+0.1**
	baz=102,slow=14						
JOW	**Kunigami**	**0.76**	**343**	Pn	**Pn**	**12 59 51.8**	**-0.5**
JOW				Sg	**Sb**	**13 00 02.0**	**+0.9**
JYRO	**Yoronjima**	**0.92**	**356**	P	**Pn**	**12 59 53.9**	**-0.5**
JYRO				eS	**Sb**	**13 00 05.7**	**-0.1**
JIH	**Iheya**	**1.06**	**332**	P	**Pn**	**12 59 56.6**	**+0.3**
JIH				eS	**Sb**	**13 00 09.3**	**-0.3**
JAGN	**Aguni-jima**	**1.25**	**293**	P	**Pg**	**12 59 59.4**	**-0.8**
JAGN				eS	**Sb**	**13 00 14.3**	**-0.9**
JOKE	**Okinoerabujima**	**1.25**	**2**	P	**Pn**	**12 59 58.7**	**-0.3**
JOKE				S	**Sb**	**13 00 13.0**	**-2.4**
JKE	**Kume jima 2**	**1.58**	**278**	P	**Pn**	**13 00 03.2**	**-0.3**
JKE				eS	**Sn**	**13 00 22.2**	**-1.4**
JTK	**Tokunoshima**	**1.72**	**13**	P	**Pn**	**13 00 04.8**	**-0.6**
JTK				eS	**Sn**	**13 00 25.0**	**-2.1**
JMZ	**Minamidaito 2**	**2.44**	**96**	P	**Pn**	**13 00 12.1**	**-3.2**
JMZ				eS	**Sn**	**13 00 38.7**	**-6.2**
JKDJ	**Kitadaitoujima**	**2.50**	**93**	P	**Pn**	**13 00 13.1**	**-3.0**
JKDJ				S	**Sn**	**13 00 40.8**	**-5.4**
YOJ	**Yonaguni jima**	**5.25**	**253**	P	**Pn**	**13 00 52.0**	**-2.0**
YOJ	**Yonaguni jima**	**5.25**	**253**	Pn	**Pn**	**13 00 52.0**	**-2.0**
NACB	**Ninganchiao**	**6.57**	**254**	Pn	**Pn**	**13 01 09.4**	**-2.7**
NACB				Sn	**Sn**	**13 02 21.2**	**-5.5**
YHNB	**Yeheng**	**6.62**	**259**	Pn	**Pn**	**13 01 13.0**	**+0.1**
YHNB				Sn	**Sn**	**13 02 27.5**	**-0.7**
YULB	**Yu-li**	**7.11**	**249**		**Pn**	**13 01 15.7**	**-3.8**
SSLB	**Suanglung**	**7.25**	**253**		**Pn**	**13 01 18.9**	**-2.6**
JNU	**Nakatsue**	**7.29**	**16**	Pn	**Pn**	**13 01 22.4**	**+0.4**
	2.7nm,0.3s,baz=194,slow=8.8,SNR=46						
JNU				Sn	**Sn**	**13 02 41.3**	**-3.2**
	0.2nm,0.3s,baz=166,slow=9.4,SNR=1.8						
JNU	**Nakatsue**	**7.29**	**16**		**Pn**	**13 01 22.9**	**+0.9**
TWG	**Pinlang**	**7.54**	**246**		**Pn**	**13 01 20.7**	**-4.7**
TPUB	**Ta-pu**	**7.70**	**250**		**Pn**	**13 01 25.5**	**-2.2**
NJ2	**Nanjing**	**10.33**	**307**	eP	**Pn**	**13 02 03.4**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
NJ2				LR	LR		
	comp=N,2μm,11.4s						
NJ2				LR	LR		
	comp=E,2μm,12.3s						
NJ2				LR	LR		
	comp=Z,3μm,11.4s						
KSRS	**Korea Array**	**11.33**	**358**	Pn	**Pn**	**13 02 17.7**	**+0.4**
	0.1nm,0.3s,baz=177,slow=13,SNR=6.7						
KSRS				LR	LR	13 07 02.6	
	comp=Z,443nm,18.2s,baz=176,slow=40						
INU	**Inuyama**	**11.75**	**36**	Pn	**Pn**	**13 02 23.6**	**+0.5**
JCJ	**Chichijima**	**12.26**	**82**	LR	LR	13 06 50.3	
	comp=Z,86nm,18.4s,baz=252,slow=36						
WHN	**Wuhan**	**13.25**	**293**	P	**P**	**13 02 53.5**	**+0.1**
WHN				S	**Sn**	**13 05 10.8**	**+0.2**
WHN				LR	LR		
	comp=N,930nm,3.7s						
WHN				LR	LR		
	comp=E,3μm,12.9s						
WHN				LR	LR		
	comp=Z,3μm,16.1s						
MJAR	**Matsushiro Arr**	**13.29**	**36**	Pn	**Pn**	**13 02 44.0**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=217,slow=12,SNR=3.2						
MJAR				LR	LR	13 07 48.2	
	comp=Z,134nm,19.4s,baz=220,slow=37						
USA0B	**Ussuriysk Arra**	**18.27**	**8⇑**	eP	**P**	**13 03 50.8**	**+1.8**
USA0B	**Ussuriysk Arra**	**18.27**	**8**	P	**P**	**13 03 51.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**18.27**	**8**	P	**Pn**	**13 03 48.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**18.27**	**8**	P	**Pn**	**13 03 48.0**	**-1.0**
	baz=182,slow=8.5,SNR=9.3						
USRK	**Ussuriysk Ar.**	**18.27**	**8**	P	**P**	**13 03 51.4**	**+2.3**
XAN	**Xi'an**	**18.70**	**300**	P	**Pn**	**13 03 55.1**	**+0.8**
XAN				S	**Sn**	**13 07 15.1**	**-8.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN				pmax	pmax		
	comp=Z,170nm,5.3s						
XAN				LR	LR		
	comp=Z,730nm,13.8s						
XAN				LR	LR		
	comp=Z,640nm,12.7s						
XAN				LR	LR		
	comp=Z,720nm,14.7s						
XAN	**Xi'an**	**18.70**	**300**	P	**Pn**	**13 03 54.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**18.70**	**300**	P	**Pn**	**13 03 54.5**	**+0.2**
GYA	**Guiyang**	**19.61**	**276**	eP	**Pn**	**13 04 08.0**	**+2.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GUMO	**Guam**	**19.75**	**126**	LR	LR	13 12 25.3	
	comp=Z,111nm,18.0s,baz=350,slow=39						
ASAJ	**Asahikawa**	**21.29**	**29**	P	**P**	**13 04 19.1**	**-2.8**
	comp=Z,2.9nm,0.9s,baz=294,slow=20,SNR=2.4						
JKA	**Kamikawa-asahi**	**21.29**	**29**	P	**P**	**13 04 19.1**	**-2.8**
CD2	**Chengdu**	**22.27**	**288**	eP	**P**	**13 04 31.6**	**-1.1**
CD2				S	**S**	**13 08 35.9**	**-1.4**
CD2				LR	LR		
	comp=Z,2μm,11.0s						
CD2				LR	LR		
	comp=Z,2μm,11.0s						
KLR	**Kul'dur**	**23.23**	**5**	P	**P**	**13 04 40.8**	**-1.7**
	comp=Z,1.6nm,0.4s,baz=194,slow=6.2,SNR=8.2						
KMI	**Kunming**	**23.27**	**273**	P	**P**	**13 04 42.2**	**-1.2**
KMI				pP	pP	13 04 45.3	-1.9
KMI				sP	sP	13 04 47.6	-1.3
KMI				S	**S**	**13 08 47.1**	**-8.3**
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
KMI				pmax	pmax		
	comp=Z,140nm,3.9s						
KMI				LR	LR		
	comp=Z,430nm,12.9s						
KMI				LR	LR		
	comp=Z,640nm,9.4s						
KMI				LR	LR		
	comp=Z,490nm,10.2s						
LZH	**Lanzhou**	**23.31**	**301**	eP	**P**	**13 04 43.1**	**-0.5**
LZH				pP	sP	13 04 47.2	-2.0
LZH				sP	pwP	13 04 49.5	-0.8
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
YSS	**Yuzh-Sakhalins**	**23.67**	**25⇑**	iP	**P**	**13 04 47.8**	**+0.9**
YSS				e		13 04 59.7	
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,11.0s						
YSS	**Yuzh-Sakhalins**	**23.67**	**25**	P	**P**	**13 04 48.0**	**+1.1**
KUR	**Kuril'sk**	**24.61**	**34**	P	**P**	**13 04 56.6**	**+1.0**
KUR				S	**S**	**13 09 20.3**	**+4.1**
KUR				pmax	pmax		
	comp=Z,73nm,1.4s						
KUR				MLR	MLR		
	comp=Z,139nm,13.0s						
TNTI	**Ternate**	**25.21**	**183**	P	**P**	**13 05 06.3**	**+5.0**
GRNR	**Gornyy**	**25.36**	**12**	eP	**P**	**13 05 03.8**	**+1.4**
MRSI	**Marisa**	**26.26**	**195**	P	**P**	**13 05 14.6**	**+3.8**
MPSI	**Mapaga**	**26.93**	**199**	P	**P**	**13 05 20.5**	**+3.6**
GTA	**Gaotai**	**27.42**	**306**	⇑P	**P**	**13 05 20.2**	**-1.1**
GTA				pP	sP	13 05 25.3	-1.7
GTA				sP	pwP	13 05 28.4	+0.2
GTA				pmax	pmax		
	comp=Z,22nm,0.9s						
GTA				pmax	pmax		
	comp=Z,75nm,4.1s						
GTA				LR	LR		
	comp=Z,460nm,13.1s						
GTA				LR	LR		
	comp=Z,430nm,13.4s						
GTA				LR	LR		
	comp=Z,760nm,13.4s						
ULN	**Ulaanbaatar**	**27.51**	**328**	c iP	**P**	**13 05 23.7**	**+1.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**27.51**	**328**	P	**P**	**13 05 22.6**	**+0.6**
ULN				IAmb	IAmb	13 05 24.9	
	comp=Z,7.5nm,0.8s						
SONM	**Songino Array**	**27.80**	**327**	P	**P**	**13 05 23.4**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=140,slow=10,SNR=20						
SONM				LR	LR	13 17 44.7	
	comp=Z,191nm,18.5s,baz=194,slow=39						
SONM	**Songino Array**	**27.80**	**327**	P	**P**	**13 05 26.5**	**+1.9**
SANI	**Sanana**	**28.09**	**185**	P	**P**	**13 05 28.4**	**+1.1**
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.37**	**261**	P	**P**	**13 05 29.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.37**	**261**	P	**P**	**13 05 28.9**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=48,slow=7.4,SNR=11						
CMAR	**Chiang Mai Arr**	**28.37**	**261**	P	**P**	**13 05 29.6**	**-0.2**
MSAI	**Masohi**	**29.28**	**179**	P	**P**	**13 05 39.2**	**+1.4**
SHL	**Shillong**	**32.92**	**277**	P	**P**	**13 06 09.8**	**-0.3**
SHL				pmax	pmax		
	comp=Z,16nm,1.1s						
SHL	**Shillong**	**32.92**	**277**	P	**P**	**13 06 09.8**	**-0.3**
PETK	**Petropavlovsk-**	**34.67**	**31**	LR	LR	13 21 03.4	
	comp=Z,71nm,19.1s,baz=241,slow=37						
YAK	**Yakutsk**	**35.93**	**1**	P	**P**	**13 06 35.7**	**+0.2**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK	**Yakutsk**	**35.93**	**1**	P	**P**	**13 06 35.7**	**+0.2**
TAPN	**Taplejung**	**36.37**	**281**	eP	**P**	**13 06 40.0**	**-0.1**
	comp=Z,33nm,1.1s						
ODAN	**Odare**	**36.72**	**281**	eP	**P**	**13 06 43.4**	**+0.4**
	comp=Z,71nm,0.8s						
RAMN	**Ramite**	**37.40**	**281**	eP	**P**	**13 06 48.5**	**-0.3**
WMQ	**Urumqi**	**37.40**	**309**	eP	**P**	**13 06 49.4**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,79nm,4.3s						
WMQ				LR	LR		
	comp=Z,740nm,29.2s						
WMQ				LR	LR		
	comp=Z,840nm,28.9s						
WMQ				LR	LR		
	comp=Z,190nm,18.9s						
JIRN	**Jiri**	**37.66**	**282**	eP	**P**	**13 06 51.7**	**+0.5**
KRVT	**Keravat (AS076**	**37.85**	**140**	LR	LR	13 20 11.6	
	comp=Z,48nm,18.7s,baz=289,slow=33						
GUN	**Gumba**	**37.90**	**283**	eP	**P**	**13 06 53.7**	**+0.5**
PKI	**Pulchoki**	**38.36**	**282**	eP	**P**	**13 06 56.7**	**-0.4**
PKIN	**Phulchoki**	**38.37**	**282**	eP	**P**	**13 06 56.7**	**-0.4**
	comp=Z,15nm,0.4s						
KKN	**Kakani**	**38.45**	**283**	eP	**P**	**13 06 57.9**	**+0.3**
DMN	**Daman**	**38.62**	**282**	eP	**P**	**13 06 59.7**	**+0.5**
GKN	**Gorkha**	**38.98**	**283**	eP	**P**	**13 07 02.4**	**+0.4**
	comp=Z,27nm,0.5s						
LWLI	**Liwa**	**38.99**	**221**	P	**P**	**13 07 04.1**	**+2.0**
DGZ	**Jazzator, Alta**	**39.40**	**318⇓**	eP	**P**	**13 07 02.6**	**-2.6**
DANN	**Dangsing**	**39.70**	**284**	eP	**P**	**13 07 08.4**	**+0.2**
	comp=Z,37nm,0.5s						
KOLN	**Koldanda**	**39.92**	**283**	eP	**P**	**13 07 10.0**	**0.0**
	comp=Z,43nm,1.0s						
MK31	**Makanchi Array**	**41.82**	**312**	P	**P**	**13 07 24.3**	**-0.8**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**41.82**	**312**	P	**P**	**13 07 24.3**	**-0.8**
MKAR	**Makanchi Array**	**41.82**	**312**	P	**P**	**13 07 24.6**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=98,slow=10,SNR=25						
MKAR				PcP	**PcP**	**13 09 21.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=85,slow=3.5,SNR=4.0						
MKAR	**Makanchi Array**	**41.82**	**312**	P	**P**	**13 07 24.7**	**-0.4**
MKAR				PcP	**PcP**	**13 09 20.5**	**-0.5**
MAKZ	**Makanchi**	**42.03**	**312**	P	**P**	**13 07 26.9**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,13nm,1.5s						
MAKZ	**Makanchi**	**42.03**	**312**	P	**P**	**13 07 26.9**	**0.0**
MAKZ				IAmb	IAmb	13 07 36.2	
	comp=Z,13nm,1.4s						
ZAA0	**Zalesovo Array**	**42.51**	**323**	P	**P**	**13 07 29.4**	**-1.2**
ZALV	**Zalesovo Beam**	**42.51**	**323⇓**	eP	**P**	**13 07 29.7**	**-0.9**
ZALV	**Zalesovo Beam**	**42.51**	**323**	P	**P**	**13 07 28.4**	**-2.2**
	comp=Z,1.8nm,0.5s,baz=112,slow=9.1,SNR=7.4						
ZALV				PcP	**PcP**	**13 09 21.4**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=113,slow=3.3,SNR=2.2						
ZALV				LR	LR	13 26 33.6	
	comp=Z,156nm,18.6s,baz=132,slow=38						
ZALV	**Zalesovo Beam**	**42.51**	**323**	P	**P**	**13 07 29.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**44.02**	**184**	P	**P**	**13 07 43.1**	**0.0**
TARG	**Taragay, Kyrgy**	**44.25**	**304**	P	**P**	**13 07 46.7**	**+1.3**
KURK	**Kurchatov**	**45.10**	**317**	d iP	**P**	**13 07 51.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	**Kurchatov**	**45.10**	**317**	P	**P**	**13 07 50.8**	**-0.6**
KURK				IAmb	IAmb	13 07 51.9	
	comp=Z,12nm,1.2s						
KSH	**Kashi**	**45.55**	**301**	P	**P**	**13 07 59.8**	**+4.3**
KSH				PP	**PP**	**13 09 47.4**	**+5.4**
KSH				S	**S**	**13 14 43.1**	**+5.9**
KSH				sS	sS	13 14 50.3	+6.0
KSH				SS	**SS**	**13 18 00.0**	**-0.9**
KSH				pmax	pmax		
	comp=Z,230nm,5.8s						
KSH				LR	LR		
	comp=Z,500nm,13.3s						
KSH				LR	LR		
	comp=Z,280nm,11.6s						
KSH				LR	LR		
	comp=Z,280nm,12.9s						
NRN	**Naryn**	**45.59**	**303**	P	**P**	**13 07 55.2**	**-0.7**
NRN				pmax	pmax		
	comp=Z,12nm,1.4s						
NRN	**Naryn**	**45.59**	**303**	P	**P**	**13 07 55.2**	**-0.7**
NRN				IAmb	IAmb	13 08 10.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**46.12**	**172**	P	**P**	**13 07 59.1**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=353,slow=8.5,SNR=33						
WRA	**Warramunga Arr**	**46.12**	**172**	P	**P**	**13 07 59.2**	**-0.7**
WB2	**Warramunga Arr**	**46.12**	**172**	P	**P**	**13 07 59.4**	**-0.4**
BILL	**Bilibino**	**47.71**	**18**	i P	**P**	**13 08 13.5**	**+1.8**
BILL				i		13 08 22.1	
BILL				i		13 09 39.8	
BILL				i		13 10 06.5	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	**Bilibino**	**47.71**	**18**	P	**P**	**13 08 15.1**	**+3.3**
BILL				IAmb	IAmb	13 08 15.1	
	comp=Z,9.3nm,1.2s						
NRIK	**Noril'sk**	**49.45**	**342**	LR	LR	13 31 02.4	
	comp=Z,87nm,18.4s,baz=156,slow=38						
KK31	**Karatay Array**	**49.70**	**305**	P	**P**	**13 08 28.4**	**+0.9**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KK31	**Karatay Array**	**49.70**	**305**	P	**P**	**13 08 28.4**	**+0.9**
KK31				IAmb	IAmb	13 08 38.6	
	comp=Z,7.7nm,1.4s						
KKAR	**Karatay Array**	**49.70**	**305**	P	**P**	**13 08 28.3**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KKAR	**Karatay Array**	**49.70**	**305**	P	**P**	**13 08 28.2**	**+0.8**
KKAR				IAmb	IAmb	13 08 38.6	
	comp=Z,7.7nm,1.4s						
AS31	**Alice Springs**	**49.75**	**174**	P	**P**	**13 08 27.3**	**-0.6**
ASAR	**Alice Springs**	**49.75**	**174**	P	**P**	**13 08 27.7**	**-0.2**
ASAR	**Alice Springs**	**49.75**	**174**	P	**P**	**13 08 27.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=12,slow=9.6,SNR=38						
ASAR	**Alice Springs**	**49.75**	**174**	P	**P**	**13 08 27.7**	**-0.2**
BRVK	**Borovoye**	**50.62**	**318**	de P	**P**	**13 08 34.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**50.62**	**318**	P	**P**	**13 08 33.9**	**-0.3**
BRVK				IAmb	IAmb	13 08 35.2	
	comp=Z,4.6nm,0.

DHY	**Denali Highway**	**64.42**	**30**	P	**P**	**13 10 12.3**	**+0.7**
DHY				IAmb	IAmb	13 10 25.1	
comp=Z,6.3nm,1.3s							
HDA	**Harding Lake**	**64.44**	**29**	P	**P**	**13 10 11.8**	**+0.4**
HDA				IAmb	IAmb	13 10 12.0	
comp=Z,4.5nm,0.8s							
MSVF	**Nonsavu**	**64.92**	**127⇑**	*e*P	**P**	**13 10 18.3**	**+3.0**
MSVF				pmax	pmax		
comp=Z,60nm,5.0s							
BMAR	**Burnt Mountain**	**65.01**	**25**	P	**P**	**13 10 17.1**	**+1.9**
DOT	**Dot Lake**	**65.81**	**29**	P	**P**	**13 10 20.9**	**+0.5**
DOT				IAmb	IAmb	13 10 36.1	
comp=Z,7.8nm,1.4s							
GLB	**Gilahina Butte**	**66.33**	**32**	P	**P**	**13 10 24.9**	**+1.0**
GLB				IAmb	IAmb	13 10 27.1	
comp=Z,7.4nm,1.2s							
VRDI	**Verde Repeater**	**66.55**	**32**	P	**P**	**13 10 26.3**	**+0.9**
EGAK	**Eagle**	**66.84**	**28**	P	**P**	**13 10 28.4**	**+1.4**
EGAK				IAmb	IAmb	13 10 45.2	
comp=Z,6.3nm,1.4s							
BCAR	**Beaver Creek A**	**66.93**	**30**	P	**P**	**13 10 28.9**	**+1.3**
TGL	**Tana Glacier**	**66.94**	**32**	P	**P**	**13 10 29.1**	**+1.3**
INK	**Inuvik**	**68.90**	**23**	P	**P**	**13 10 38.9**	**-0.9**
comp=Z,1.0nm,0.5s,baz=324,slow=5.5,SNR=6.6							
INK	**Inuvik**	**68.90**	**23**	P	**P**	**13 10 39.1**	**-0.6**
INK				IAmb	IAmb	13 10 42.1	
comp=Z,6.5nm,1.2s							
KBZ	**Khabaz**	**69.45**	**309**	*de*P	**P**	**13 10 44.7**	**+1.1**
KBZ	**Khabaz**	**69.45**	**309**	P	**P**	**13 10 43.6**	**0.0**
comp=Z,3.2nm,0.8s,baz=131,slow=6.7,SNR=5.6							
KIV	**Kislovodsk**	**69.53**	**310**	*e*P	**P**	**13 10 43.9**	**-0.4**
KIV				pmax	pmax		
comp=Z,16nm,0.9s							
ARCES	**ARCESS Array B**	**70.22**	**339**	P	**P**	**13 10 47.6**	**-0.4**
comp=Z,3.0nm,1.0s,baz=48,slow=1.8,SNR=6.4							
ARCES	**ARCESS Array B**	**70.22**	**339**	P	**P**	**13 10 48.3**	**+0.3**
FIA1	**FINESS Array S**	**73.10**	**331**	P	**P**	**13 11 05.5**	**+0.1**
FIA1				IAmb	IAmb	13 11 14.8	
comp=Z,6.4nm,1.1s							
FINES	**FINESS Array B**	**73.11**	**331**	P	**P**	**13 11 04.7**	**-0.7**
comp=Z,3.1nm,0.7s,baz=66,slow=6.1,SNR=18							
FINES	**FINESS Array B**	**73.11**	**331**	P	**P**	**13 11 04.8**	**-0.6**
VSU	**Vasula**	**74.00**	**328⇑**	*e*P	**P**	**13 11 09.8**	**-0.9**
VSU				pmax	pmax		
comp=Z,28nm,1.1s							
AKASG	**Malin Array Be**	**75.80**	**320**	P	**P**	**13 11 19.9**	**-1.4**
comp=Z,1.1nm,0.4s,baz=64,slow=6.0,SNR=4.2							
AKASG				LR	LR	13 45 49.9	
comp=Z,105nm,18.4s,baz=315,slow=37							
AKASG	**Malin Array Be**	**75.80**	**320**	P	**P**	**13 11 20.7**	**-0.7**
AKBB	**Malin Array Si**	**75.80**	**320**	*i*P	**P**	**13 11 21.2**	**-0.1**
AKBB	**Malin Array Si**	**75.80**	**320**	IAmb	IAmb	13 11 21.4	
comp=Z,5.2nm,0.6s							
AKBB				P	**P**	**13 11 21.4**	**+0.1**
BR131	**Keskin Array S**	**77.32**	**308**	P	**P**	**13 11 30.9**	**+0.5**
BR131				pmax	pmax		
comp=Z,5.0nm,0.8s							
BR131	**Keskin Array S**	**77.32**	**308**	P	**P**	**13 11 30.9**	**+0.5**
BR131				IAmb	IAmb	13 11 33.6	
comp=Z,4.9nm,0.8s							
BRTR	**Keskin Array B**	**77.32**	**308**	P	**P**	**13 11 30.3**	**-0.1**
BRTR	**Keskin Array B**	**77.32**	**308**	P	**P**	**13 11 30.8**	**+0.4**
comp=Z,4.4nm,0.9s,baz=103,slow=4.3,SNR=20							
BRTR	**Keskin Array B**	**77.32**	**308**	P	**P**	**13 11 30.3**	**-0.1**
YKA	**Yellowknife Ar**	**78.53**	**25**	P	**P**	**13 11 34.1**	**-2.3**
comp=Z,0.8nm,0.5s,baz=305,slow=5.9,SNR=4.6							
YKA	**Yellowknife Ar**	**78.53**	**25**	P	**P**	**13 11 35.2**	**-1.2**
TOPG	**Topolog**	**78.75**	**314**	⇓P	**P**	**13 11 37.7**	**-0.4**
TESR	**Tescani**	**79.13**	**317**	⇑P	**P**	**13 11 40.3**	**+0.2**
NC405	**NORSAR Array S**	**79.30**	**334**	P	**P**	**13 11 40.7**	**-0.1**
VRI	**Vrincioaia**	**79.36**	**316**	⇓P	**P**	**13 11 42.4**	**+1.0**
VRI	**Vrincioaia**	**79.36**	**316**	⇓P	**P**	**13 11 42.4**	**+1.0**
PLOR	**Plostina**	**79.42**	**316**	⇑P	**P**	**13 11 42.0**	**+0.3**
PLOR	**Plostina**	**79.42**	**316**	⇑P	**P**	**13 11 42.0**	**+0.3**
BUR08	**Bucovina Ar. S**	**79.50**	**318**	P	**P**	**13 11 43.2**	**+1.0**
BUR08				IAmb	IAmb	13 11 48.1	
comp=Z,8.7nm,1.4s							
BURAR	**Bucovina Array**	**79.50**	**318**	⇑P	**P**	**13 11 42.2**	**0.0**
BURAR	**Bucovina Array**	**79.50**	**318**	⇑P	**P**	**13 11 42.2**	**0.0**
BURAR	**Bucovina Array**	**79.50**	**318**	P	**P**	**13 11 42.7**	**+0.5**
NB201	**NORSAR Array S**	**79.51**	**334**	P	**P**	**13 11 42.0**	**+0.2**
NB2	**NORSAR Subarra**	**79.55**	**334**	P	**P**	**13 11 41.5**	**-0.6**
comp=Z,1.3nm,0.6s,baz=54,slow=5.3							
NOA	**NORSAR Array B**	**79.55**	**334**	P	**P**	**13 11 41.6**	**-0.6**
comp=Z,1.9nm,0.6s,baz=52,slow=5.5,SNR=7.5							
NOA				LR	LR	13 52 07.4	
comp=Z,83nm,19.8s,baz=220,slow=40							
NC204	**NORSAR Array S**	**79.58**	**334**	P	**P**	**13 11 42.1**	**-0.2**
OZUR		**79.85**	**316**	⇑P	**P**	**13 11 44.2**	**+0.2**
MLR	**Muntele Rosu**	**80.02**	**316**	⇓P	**P**	**13 11 46.4**	**+1.3**
MLR	**Muntele Rosu**	**80.02**	**316**	⇓P	**P**	**13 11 46.4**	**+1.3**
MLR	**Muntele Rosu**	**80.02**	**316**	P	**P**	**13 11 45.9**	**+0.8**
MLR				IAmb	IAmb	13 11 46.7	
comp=Z,8.9nm,1.2s							
DOPR	**Dopca**	**80.15**	**316**	⇑P	**P**	**13 11 46.5**	**+0.8**
VOIR		**80.61**	**316**	⇑P	**P**	**13 11 48.3**	**+0.1**
VOIR		**80.61**	**316**	⇑P	**P**	**13 11 48.3**	**+0.1**
ELL	**Elmali**	**81.23**	**307**	P	**P**	**13 11 51.4**	**-0.4**
ELL				pmax	pmax		
comp=Z,23nm,0.7s							
ELL	**Elmali**	**81.23**	**307**	P	**P**	**13 11 51.4**	**-0.4**
LOT	**Lotru**	**81.40**	**316**	⇑P	**P**	**13 11 53.0**	**+0.5**
VYHS	**Vyhne**	**82.81**	**321**	*e*P	**P**	**13 12 00.7**	**+1.0**
VYHS	**Vyhne**	**82.81**	**321**	*e*P	**P**	**13 12 00.7**	**+1.0**
VTS	**Vitosha**	**83.10**	**314**	⇑P	**P**	**13 12 03.1**	**+1.7**
VTS	**Vitosha**	**83.10**	**314**	⇑P	**P**	**13 12 03.1**	**+1.7**
CLL	**Collm**	**84.41**	**325**	*i* P	**P**	**13 12 06.7**	**-1.1**
CLL				pmax	pmax		
comp=Z,63nm,2.4s							
CLL	**Collm**	**84.41**	**325**	*i* P	**P**	**13 12 06.7**	**-1.1**
comp=Z,63nm,2.4s							
CLL				LmV		13 53 00.0	
comp=Z,200nm,19.4s							
GERES	**GERESS Array B**	**85.46**	**323**	P	**P**	**13 12 12.7**	**-0.6**
comp=Z,0.8nm,0.7s,baz=46,slow=7.0,SNR=2.6							
GERES	**GERESS Array B**	**85.46**	**323**	P	**P**	**13 12 12.9**	**-0.3**
PPT	**Papeete**	**90.59**	**109**	LR	LR	13 46 11.9	
comp=Z,33nm,20.2s,baz=294,slow=31							
SCHQ	**Schefferville**	**98.32**	**9**	LR	LR	14 01 14.4	
comp=Z,118nm,19.2s,baz=320,slow=38							

NEIC ***03*** *13:13:25.1±1.7, 18°.2S±0°.2×175°.8W±0°.2, h468km±13km, mb4.5/20*
ISCJB ***03*** *13:13:26.4±1.1, 18°.3S±0°.1×175°.9W±0°.2, h500km, mb4.3/6, Error ellipse: s-maj=20.2km s-min=17.5km az=136.9*
IDC ***03*** *13:13:34.2±7.3, 18°.42S×176°.67W, h504km±70km, mb3.8/7, mb1 3.9/8, mb1mx3.2/42, mbtmp4.6/8, Error ellipse: s-maj=53.3km s-min=24.5km az=53.0*

ISC 03 13:13:27.0±0.9, 18°.5S±0°.1×175°.8W±0°.1, h500km, n32, σ2°71/35, mb4.5/16, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.04**	**255**	P		**P**	**13 16 57.4**	**-1.1**
0.6nm,0.3s,baz=67,slow=22,SNR=6.0								
DZM	**Mont Dzumac**	**17.04**	**255**	P		**P**	**13 16 58.1**	**-0.5**
DZM				IAmb		IAmb	13 17 04.2	
comp=Z,26nm,1.2s								
URZ	**Urewera**	**20.64**	**196**	P		**P**	**13 17 37.2**	**+5.9**
comp=Z,6.4nm,0.9s,baz=72,slow=19,SNR=4.3								
URZ				S		**S**	**13 20 44.5**	**-5.2**
comp=Z,4.2nm,1.0s,baz=73,slow=19,SNR=2.9								
BFZ	**Birch Farm**	**23.15**	**196**	P		**P**	**13 17 57.2**	**+3.3**
SNZO	**South Karori**	**24.15**	**198**	P		**P**	**13 18 05.1**	**+2.3**
ARMA	**Armidale**	**31.83**	**242**	P		**P**	**13 19 11.7**	**+1.4**
CTAO	**Charters Tower**	**35.81**	**261**	P		**P**	**13 19 43.4**	**-0.5**
CTAO				IAmb		IAmb	13 19 44.4	
comp=Z,10nm,0.8s								
PMG	**Port Moresby**	**37.01**	**279**	P		**P**	**13 19 54.7**	**+0.8**
PMG				IAmb		IAmb	13 20 05.3	
comp=Z,25nm,1.1s								
COEN	**Coen**	**39.60**	**270**	P		**P**	**13 20 15.3**	**+0.4**
COEN				IAmb		IAmb	13 21 24.5	
comp=Z,45nm,1.6s								
STKA	**Stephens Creek**	**40.55**	**242**	P		**P**	**13 20 23.9**	**+1.6**
comp=Z,3.4nm,0.3s,baz=94,slow=10,SNR=21								
STKA	**Stephens Creek**	**40.55**	**242**	P		**P**	**13 20 23.7**	**+1.4**
BBOO	**Buckleboo**	**45.31**	**242**	P		**P**	**13 21 00.9**	**+1.2**
JAY	**Jayapura**	**45.46**	**285**	P		**P**	**13 21 02.7**	**+1.6**
comp=Z,13nm,0.6s,baz=116,slow=4.4,SNR=16								
WC3	**Warramunga Arr**	**46.94**	**260**	P		**P**	**13 21 12.0**	**-0.3**
WB2	**Warramunga Arr**	**46.96**	**260**	P		**P**	**13 21 12.0**	**-0.4**
WRAB	**Tennant Creek**	**46.97**	**260**	P		**P**	**13 21 12.0**	**-0.5**
WRAB				IAmb		IAmb	13 21 12.8	
comp=Z,8.9nm,0.9s								
WRA	**Warramunga Arr**	**46.98**	**260**	P		**P**	**13 21 12.3**	**-0.3**
comp=Z,6.6nm,0.6s,baz=98,slow=7.1,SNR=136								
WRA				PcP		**pP**	**13 22 39.6**	**-6.4**
comp=Z,0.4nm,0.5s,baz=90,slow=3.9,SNR=2.9								
WRA	**Warramunga Arr**	**46.98**	**260**	P		**P**	**13 21 11.8**	**-0.8**
AS31	**Alice Springs**	**47.03**	**255**	P		**P**	**13 21 13.1**	**+0.1**
ASAR	**Alice Springs**	**47.03**	**255**	P		**P**	**13 21 13.2**	**+0.2**
comp=Z,33nm,1.1s,baz=93,slow=7.2,SNR=222								
ASAR				PcP		**pP**	**13 22 40.3**	**-6.1**
comp=Z,0.7nm,0.6s,baz=97,slow=4.3,SNR=5.0								
ASAR	**Alice Springs**	**47.03**	**255**	P		**P**	**13 21 12.5**	**-0.5**
MTN	**Manton Dam**	**51.27**	**268**	P		**P**	**13 21 44.3**	**-0.2**
MTN				IAmb		IAmb	13 23 46.5	
comp=Z,16nm,1.2s								
FORT	**Forrest**	**52.01**	**245**	P		**P**	**13 21 50.1**	**+0.5**
FORT				IAmb		IAmb	13 23 50.1	
comp=Z,35nm,1.1s								
KNRA	**Kununurra**	**52.91**	**264**	P		**P**	**13 21 56.1**	**-0.1**
KNRA				IAmb		IAmb	13 21 57.3	
comp=Z,14nm,0.8s								
SIJI	**Sorong**	**54.79**	**282**	P		**P**	**13 22 10.4**	**+0.7**
comp=Z,24nm,0.7s,baz=134,slow=7.7,SNR=10								
FITZ	**Fitzroy Crossi**	**55.39**	**260**	P		**P**	**13 22 14.3**	**+0.6**
FITZ				IAmb		IAmb	13 22 15.2	
comp=Z,13nm,1.6s								
SOEI	**Soe**	**58.56**	**270**	P		**P**	**13 22 36.1**	**+0.4**
SOEI				IAmb		IAmb	13 22 39.0	
comp=Z,17nm,0.8s								
PHWY	**Pilot Hill**	**88.09**	**45**	P		**P**	**13 25 24.4**	**+0.1**
PHWY				IAmb		IAmb	13 25 27.1	
comp=Z,12nm,0.8s								
PHWY				pP		**pP**	**13 27 08.8**	**-5.9**
SYO	**Syowa Base**	**89.12**	**192⇓**	*e*X		**P**	**13 25 27.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**91.43**	**289**	P		P	13 25 44.4	+4.6
comp=Z,0.2nm,0.3s,baz=110,slow=3.9,SNR=4.8								
ARCES	**ARCESS Array B**	**127.31**	**351**	PKP		**PKiKP**	**13 31 39.4**	**+5.0**
comp=Z,1.1nm,0.8s,baz=90,slow=1.8,SNR=2.4								
BRTR	**Keskin Array B**	**146.95**	**316**	PKPbc		**PKPab**	**13 32 16.9**	**+0.4**
comp=Z,0.4nm,0.6s,baz=21,slow=2.0,SNR=2.4								

IDC ***03*** *13:19:58.9±1.0, 26°.04N×128°.27E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/48, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=44.7km s-min=15.6km az=82.0*
ISCJB ***03*** *13:20:00.8±0.7, 26°.09N±0°.03×128°.66E±0°.03, h30km±5km, mb3.7/7, Error ellipse: s-maj=5.7km s-min=4.7km az=7.5*
NEIC ***03*** *13:20:00.2±3.0, 26°.07N±0°.05×128°.50E±0°.08, h18km±6km, mb4.3/4*
JMA ***03*** *13:20:03.6±0.2, 26°.15N×128°.50E, h39km±3km, M3.3*

ISC 03 13:20:01.5±1.5, 26°.08N±0°.05×128°.60E±0°.04, h24km±10km, n46, σ1°05/58, mb3.9/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.68**	**310**	P		**Pb**	**13 20 14.9**	**+0.2**
JNTH				S		**Sb**	**13 20 22.9**	**-0.8**
JJT3	**Tamagusuku3**	**0.74**	**275**	P		**Pb**	**13 20 16.4**	**+0.7**
JJT3				*e*S		**Sb**	**13 20 25.2**	**-0.2**
JOW	**Kunigami**	**0.80**	**339**	P		**Pb**	**13 20 17.2**	**+0.4**
JOW				*e*S		**Sb**	**13 20 27.6**	**+0.3**
JOW	**Kunigami**	**0.80**	**339**	Pn		**Pb**	**13 20 17.3**	**+0.4**
30nm,0.3s,baz=173,slow=13,SNR=88								
JOW				Sn		**Sb**	**13 20 26.9**	**-0.4**
baz=94,slow=16								
JYRO	**Yoronjima**	**0.95**	**352**	P		**Pb**	**13 20 19.5**	**+0.2**
JYRO				*e*S		**Sb**	**13 20 31.1**	**-0.4**
JIH	**Iheya**	**1.11**	**329**	P		**Pn**	**13 20 21.8**	**+0.3**
JIH				S		**Sb**	**13 20 35.3**	**-0.7**
JOKE	**Okinoerabujima**	**1.27**	**359**	P		**Pn**	**13 20 24.3**	**+0.5**
JOKE				S		**Sn**	**13 20 39.6**	**-0.6**
JAGN	**Aguni-jima**	**1.32**	**293**	P		**Pn**	**13 20 24.9**	**+0.5**
JAGN				*e*S		**Sn**	**13 20 39.5**	**-1.7**
JKE	**Kume jima 2**	**1.65**	**279**	P		**Pn**	**13 20 28.7**	**-0.2**
JKE				*e*S		**Sn**	**13 20 48.1**	**-1.2**
JTK	**Tokunoshima**	**1.73**	**10**	P		**Pn**	**13 20 30.5**	**+0.5**
JTK				*e*S		**Sn**	**13 20 50.3**	**-1.0**
JMZ	**Minamidaito 2**	**2.37**	**96**	P		**Pn**	**13 20 38.2**	**-0.7**
JMZ				S		**Sn**	**13 21 04.5**	**-2.7**
JKDJ	**Kitadaitoujima**	**2.43**	**92**	P		**Pn**	**13 20 39.1**	**-0.6**
JKDJ				S		**Sn**	**13 21 06.8**	**-1.8**
YULB	**Yu-li**	**7.16**	**250**	Pn		Pn	13 21 41.4	-3.4
JNU	**Nakatsue**	**7.29**	**15**	Pn		**Pn**	**13 21 48.4**	**+1.8**
0.9nm,0.3s,baz=3.9,slow=5.7,SNR=12								
JNU				Sn		**Sn**	**13 23 07.1**	**-1.4**
0.1nm,0.3s,baz=46,slow=3.5,SNR=1.5								
JNU	**Nakatsue**	**7.29**	**15**			**Pn**	**13 21 48.1**	**+1.6**
SSLB	**Suanglung**	**7.31**	**253**	Pn		**Pn**	**13 21 44.8**	**-2.0**
TPUB	**Ta-pu**	**7.76**	**251**	Pn		**Pn**	**13 21 51.4**	**-1.6**
KSAR	**Wonju Array Be**	**11.34**	**357**	Pn		**Pn**	**13 22 41.2**	**-0.8**
KS19	**Wonju Array Si**	**11.40**	**357**	Pn		**Pn**	**13 22 42.1**	**-0.7**
JHJ2	**Mitsune**	**12.01**	**52**	Pn		**Pn**	**13 22 50.5**	**-0.6**
SONM	**Songino Array**	**27.86**	**327**	P		**P**	**13 25 49.7**	**+0.5**
1.2nm,0.9s,baz=136,slow=9.6,SNR=5.2								
SONM	**Songino Array**	**27.86**	**327**	P		**P**	**13 25 49.3**	**0.0**
TLY	**Talaya**	**31.81**	**330**	P		**P**	**13 26 22.8**	**-1.3**
TLY				IAmb		IAmb	13 26 24.7	
comp=Z,5.9nm,0.8s								
TAPN	**Taplejung**	**36.43**	**281**	*e*P		**P**	**13 27 05.3**	**+0.5**
ODAN	**Odare**	**36.78**	**281**	*e*P		**P**	**13 27 09.0**	**+1.3**
comp=Z,14nm,0.6s								
RAMN	**Ramite**	**37.47**	**281**	*e*P		**P**	**13 27 14.6**	**+1.0**
JIRN	**Jiri**	**37.73**	**282**	*e*P		**P**	**13 27 17.2**	**+1.3**
PKI	**Pulchoki**	**38.43**	**282**	*e*P		**P**	**13 27 22.6**	**+0.8**
comp=Z,11nm,0.8s								
PKIN	**Phulchoki**	**38.44**	**282**	*e*P		**P**	**13 27 22.7**	**+0.9**
comp=Z,8.9nm,0.8s								
KKN	**Kakani**	**38.51**	**283**	*e*P		**P**	**13 27 23.6**	**+1.3**
DMN	**Daman**	**38.69**	**282**	*e*P		**P**	**13 27 24.9**	**+1.0**
GKN	**Gorkha**	**39.05**	**283**	*e*P		**P**	**13 27 27.8**	**+1.0**
DANN	**Dangsing**	**39.77**	**284**	*e*P		**P**	**13 27 34.4**	**+1.5**
comp=Z,27nm,0.8s								
KOLN	**Koldanda**	**39.99**	**283**	*e*P		**P**	**13 27 35.9**	**+1.2**
comp=Z,16nm,0.9s								
MKAR	**Makanchi Array**	**41.88**	**312**	P		**P**	**13 27 48.6**	**-1.2**
comp=Z,0.5nm,0.6s,baz=100,slow=10,SNR=5.1								
MKAR	**Makanchi Array**	**41.88**	**312**	P		**P**	**13 27 49.9**	**+0.1**
WRA	**Warramunga Arr**	**46.09**	**172**	P		**P**	**13 28 24.9**	**+1.2**
comp=Z,1.0nm,0.5s,baz=352,slow=8.2,SNR=16								
AS31	**Alice Springs**	**49.72**	**174**	P		**P**	**13 28 50.9**	**-0.9**
AS31				IAmb		IAmb	13 30 18.5	
comp=Z,1.7nm,1.4s								
ASAR	**Alice Springs**	**49.72**	**174**	P		**P**	**13 28 52.7**	**+0.9**
comp=Z,0.5nm,0.5s,baz=7.4,slow=11,SNR=16								
ASAR	**Alice Springs**	**49.72**	**174**	P		**P**	**13 28 51.6**	**-0.2**
ABKAR	**Abkulak array**	**56.99**	**313**	P		**P**	**13 29 45.7**	**+0.7**
ABKAR	**Abkulak array**	**56.99**	**313**	P		**P**	**13 29 45.6**	**+0.7**
ABKAR				IAmb		IAmb	13 29 48.0	
comp=Z,4.3nm,1.2s								
FINES	**FINESS Array B**	**73.16**	**331**	P		**P**	**13 31 30.6**	**+0.8**
comp=Z,1.6nm,0.8s,baz=64,slow=4.4,SNR=6.7								
BRTR	**Keskin Array B**	**77.39**	**308**	P		**P**	**13 31 55.2**	**+0.4**
comp=Z,0.8nm,0.8s,baz=52,slow=4.8,SNR=4.6								
BRTR	**Keskin Array B**	**77.39**	**308**	P		**P**	**13 31 53.6**	**-1.2**
NOA	**NORSAR Array B**	**79.59**	**334**	P		**P**	**13 32 06.8**	**+0.4**
comp=Z,1.0nm,0.9s,baz=56,slow=5.5,SNR=2.3								

JSO ***03*** *13:32:16.4±1.3, 34°N±6°×3°6E±°, h0km, M2.6/2, Mjma2.8/2, MLv2.5/2*
NSSC ***03*** *13:32:17.8±0.4, 33°.70N×35°.85E, h17km±2km, ML2.2*
GRAL ***03*** *13:32:18.2±0.2, 33°.75N×35°.85E, h0km±32km, MD3.0*

ISC 03 13:32:17.4±1.1, 33°.75N±0°.04×35°.86E±0°.04, h10km±11km, n13, σ0°42/22, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.23**	**312**	*e*P		**Pg**	**13 32 22.2**	**+0.1**
DQRL	**Deir Qamar**	**0.24**	**259**	*e*P		**Pg**	**13 32 22.4**	**0.0**
DQRL				*e*S		**Sg**	**13 32 25.7**	**-0.1**
QRWL	**Qaraoun**	**0.25**	**216**	*e*P		**Pg**	**13 32 22.6**	**0.0**
RCY	**Rachaya**	**0.26**	**184**	*e*P		**Pg**	**13 32 22.6**	**-0.1**
RCY				*e*S		**Sg**	**13 32 25.9**	**-0.2**
BEYL	**Beirut**	**0.33**	**292**	*e*P		**Pg**	**13 32 23.9**	**0.0**
BRBR	**Barbar**	**0.35**	**167**	*e*P		**Pg**	**13 32 24.4**	**0.0**
BRBR				*e*S		**Sg**	**13 32 29.5**	**+0.4**
BRBR				AML		AML	13 32 30.7	
comp=N,251nm,0.5s								
BRBR				AML		AML	13 32 32.3	
comp=E,189nm,0.3s								
QASN	**Qassioun**	**0.41**	**122**	*e*P		**Pb**	**13 32 26.2**	**-0.7**
QASN				*e*S		**Sg**	**13 32 32.1**	**+1.1**
QASN				AML		AML	13 32 33.7	
comp=E,778nm,0.3s								
QASN				AML		AML	13 32 33.8	
comp=Z,226nm,0.3s								
QASN				AML		AML	13 32 34.7	
comp=N,235nm,0.9s								
SHBL	**Chebaa**	**0.41**	**193**	*e*P		**Pg**	**13 32 25.5**	**-0.1**
SHBL				*e*S		**Sg**	**13 32 30.9**	**-0.2**
HWQ	**Hawqa**	**0.53**	**8**	*e*P		**Pg**	**13 32 27.9**	**+0.1**
TOTH	**TOTAH**	**0.62**	**129**	*e*P		**Pb**	**13 32 30.1**	**-0.3**
TOTH				*e*S		**Sg**	**13 32 37.5**	**0.0**
TOTH				AML		AML	13 32 42.7	
comp=N,72nm,0.4s								
TOTH				AML		AML	13 32 50.5	
comp=E,73nm,0.4s								
SHMJ	**Saham**	**1.02**	**184**	P		**Pb**	**13 32 37.2**	**-0.1**
SHMJ				S		**Sn**	**13 32 52.7**	**+0.3**
MMLI	**Mount Malkishu**	**1.36**	**196**	P		**Pb**	**13 32 42.8**	**-0.2**
MMLI				S		**Sg**	**13 33 02.1**	**+0.9**
ASF	**Jabal al Asfar**	**1.80**	**151**	P		**Pb**	**13 32 50.4**	**-0.2**
ASF				S		**Sg**	**13 33 15.1**	**-0.3**

IDC ***03*** *13:33:49.5±1.9, 6°.18S×129°.86E, h154km±24km, mb3.5/2, mb1 3.5/7, mb1mx3.2/33, mbtmp4.0/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=21.2km s-min=17.5km az=93.0*
ISCJB ***03*** *13:33:50.1±0.3, 6°.11S±0°.03×130°.02E±0°.04, h200km, mb3.8/2, Error ellipse: s-maj=5.8km s-min=3.5km az=16.2*
DJA ***03*** *13:33:50.4±0.2, 6°S±2°×13°0E±°, h175km±5km, M4.2/12, mb4.0/12, mB4.8/6, MLv4.5/12, Mw(mB)4.1/6*
NEIC ***03*** *13:33:50.4±0.8, 6°.17S±0°.06×129°.86E±0°.08, h180km±11km, mb4.3/18*

ISC 03 13:33:50.4±0.6, 6°.17S±0°.04×130°.00E±0°.05, h200km, n49, σ2°17/61, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.64**	**357**	P		**Pn**	**13 34 25.0**	**-0.4**
BNDI				S		**Sn**	**13 34 52.3**	**-0.4**
SAUI	**Saumlaki**	**2.22**	**144**	P		**Pn**	**13 34 31.3**	**+0.1**
SAUI				S		**Sn**	**13 34 59.1**	**-4.0**
SAUI	**Saumlaki**	**2.22**	**144**	Pn		**Pn**	**13 34 33.0**	**+1.8**
MSAI	**Masohi**	**3.00**	**339**	P		**Pn**	**13 34 40.8**	**+0.7**
MSAI				S		**Sn**	**13 35 16.4**	**-2.6**
FAKI	**Fak Fak**	**3.93**	**35**	P		**Pn**	**13 34 50.7**	**-0.7**
FAKI				S		**Sn**	**13 35 35.7**	**-3.6**
FAKI	**Fak Fak**	**3.93**	**35**			**Pn**	**13 34 50.5**	**-0.9**
SIJI	**Sorong**	**5.42**	**14**	P		**Pn**	**13 35 09.3**	**-0.9**
5.9nm,0.3s,baz=240,slow=23,SNR=35								
SIJI				S		**Sn**	**13 36 06.8**	**-6.5**
9.1nm,0.3s,baz=243,slow=9.5,SNR=19								
SWI	**Sorong**	**5.42**	**14**	P		**Pn**	**13 35 09.0**	**-1.2**
SWI				S		**Sn**	**13 36 09.8**	**-3.5**
SANI	**Sanana**	**5.72**	**316**	P		**Pn**	**13 35 15.8**	**+1.7**
RKPI	**Ransiki, Papua**	**6.23**	**42**	P		**Pn**	**13 35 21.8**	**+1.1**
700nm,0.6s,13μm3.5nm								
RKPI				S		**Sn**	**13 36 29.0**	**-3.2**
700nm,0.6s,13μm3.5nm								
SOEI	**Soe**	**6.70**	**238**	P		**Pn**	**13 35 28.6**

comp=E,116μm,0.2s
HORT AML AML 13 39 40.8
comp=N,123μm,0.2s
KNT Kendrikon 0.38 21 ⇑*i*Pg **Pg 13 39 33.9 +0.1**
KNT *i* Sg **Sg 13 39 39.0 -0.1**
KNT Kendrikon 0.38 21 P **Pg 13 39 33.9 +0.1**
KNT S **Sg 13 39 38.8 -0.4**
KNT AML AML 13 39 39.2
comp=E,204μm,0.3s
KNT AML AML 13 39 40.8
comp=N,196μm,0.1s
SOH Sokhos 0.48 88 *i* Pg **Pb 13 39 36.4 +0.3**
SOH Sokhos 0.48 88 P **Pb 13 39 36.1 0.0**
VAY Valandovo 0.53 348 ⇑*i*Pg **Pb 13 39 36.9 +0.1**
VAY *i* Sg **Sb 13 39 44.5 +0.3**
VAY *e*Lg Lg 13 39 44.6
comp=N,146nm,0.3s
VAY *e*Lg Lg 13 39 44.7
comp=E,207nm,0.3s
PLG Polygyros 0.70 127 P **Pb 13 39 40.2 +0.4**
PLG S **Sb 13 39 49.4 +0.2**
LIT Litokhoron 0.72 194 P **Pn 13 39 41.5 -0.1**
LIT S **Sn 13 39 52.1 -0.2**
SRS Serrai 0.73 64 *i* Pg **Pb 13 39 40.6 +0.3**
SRS Serrai 0.73 64 P **Pg 13 39 39.9 -0.4**
SRS S **Sg 13 39 49.3 -0.7**
STIP Stip 0.97 336 *i* Pg **Pg 13 39 44.9 0.0**
NVR Nevrokopi 1.02 57 P **Pg 13 39 46.0 +0.2**
NVR S **Sg 13 39 59.1 -0.1**
MMB Musomiste 1.09 44 *i* Pg **Pg 13 39 47.4 +0.3**
PAIG Paliouri 1.14 140 P **Pg 13 39 48.2 +0.2**
KAVA Kavala 1.38 81 P **Pg 13 39 52.7 +0.3**
THAS Thassos island 1.54 97 P **Pg 13 39 56.0 +0.5**

NIED ***03*** *13:51:00, 43°.70N×147°.50E, h35km, Mw3.7 Best double couple: M₀=4.24000×10¹⁴ NP1:φ₀=252.00000°, δ27.00000°, λ133.00000°. NP2:φ₀=26.00000°, δ71.00000°, λ71.00000°.*
IDC ***03*** *13:51:50.0±2.0, 43°.89N×148°.01E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/42, mbtmp3.8/12, ML2.7/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/40, Error ellipse: s-maj=50.8km s-min=20.2km az=147.0*
ISCJB ***03*** *13:51:54.8±0.7, 43°.76N±0°.05×147°.79E±0°.06, h48km±6km, mb3.8/11, Error ellipse: s-maj=9.5km s-min=5.2km az=137.5*
NEIC ***03*** *13:51:55±1.5, 43°.8N±0°.1×148°.1E±0°.1, h41km±6km, mb4.4/4*
MOS ***03*** *13:51:55.7±1.1, 43°.81N×147°.70E, h53km, mb4.1/2, Error ellipse: s-maj=9.3km s-min=8.6km az=68.0*
JMA ***03*** *13:51:55.1±0.3, 43°.67N×147°.49E, h2km±4km, M3.9*
SKHL ***03*** *13:51:56.4±0.4, 43°.74N×147°.72E, h62km±6km, mb4.8/5*
ISC 03 13:51:54.9±2.5, 43°.74N±0°.07×147°.85E±0°.08, h33km±11km, n84, σ1§63/96, mb3.8/11, 6C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.47**	**282**	⇓*i*PN	**Pn**	**13 52 18.6**	**-0.5**
YUK				*i* S	**Sn**	**13 52 35.2**	**-2.0**
YUK				pmax	pmax		
	comp=Z,592nm,0.3s						
YUK				smax	smax		
	comp=N,980nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**282**	*i* P	**Pn**	**13 52 18.7**	**-0.4**
YUK				AMB	AMB	13 52 21.0	
	comp=E,392nm,0.3s						
YUK				*i* S	**Sn**	**13 52 35.0**	**-2.2**
YUK				A	A	13 52 38.0	
	comp=E,980nm,0.2s						
YUK				A	A	13 52 38.0	
	comp=E,1μm,0.2s						
KUR	**Kuril'sk**	**1.50**	**0**	⇑*i*PN	**Pn**	**13 52 20.3**	**+0.9**
KUR				*e*S	**Sn**	**13 52 38.0**	**+0.2**
KUR				pmax	pmax		
	comp=Z,27nm,0.2s						
KUR				smax	smax		
	comp=E,386nm,0.2s						
KUR				smax	smax		
	comp=N,420nm,0.3s						
KUR	**Kuril'sk**	**1.50**	**0**	*i* P	**Pn**	**13 52 20.0**	**+0.6**
KUR				AMB	AMB	13 52 22.0	
	comp=N,270nm,0.2s						
KUR				*i* S	**Sn**	**13 52 38.0**	**+0.2**
KUR				A	A	13 52 39.0	
	comp=N,637nm,0.3s						
KUR				A	A	13 52 39.0	
	comp=N,523nm,0.3s						
GRPR	**Tuman**	**1.53**	**280**	*e*PN	**Pn**	**13 52 19.1**	**-0.8**
GRPR				*e*S	**Sn**	**13 52 36.2**	**-2.4**
GRPR				pmax	pmax		
	comp=Z,407nm,0.2s						
GRPR				smax	smax		
	comp=E,781nm,0.4s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR	**Tuman**	**1.53**	**280**	*e*P	**Pn**	**13 52 19.0**	**-0.8**
GRPR				AMB	AMB	13 52 22.0	
	comp=N,407nm,0.3s						
GRPR				*e*S	**Sn**	**13 52 36.0**	**-2.6**
GRPR				A	A	13 52 36.0	
	comp=N,1μm,0.4s						
GRPR				A	A	13 52 36.0	
	comp=N,781nm,0.4s						
LAGR	**Lagunnoye**	**1.53**	**283**	*i* PN	**Pn**	**13 52 19.3**	**-0.6**
LAGR				*i* S	**Sn**	**13 52 36.6**	**-2.0**
LAGR				pmax	pmax		
	comp=Z,228nm,0.3s						
LAGR				smax	smax		
	comp=E,949nm,0.2s						
LAGR				smax	smax		
	comp=N,1μm,0.5s						
LAGR	**Lagunnoye**	**1.53**	**283**	*i* P	**Pn**	**13 52 19.0**	**-0.9**
LAGR				AMB	AMB	13 52 21.0	
	comp=N,228nm,0.3s						
LAGR				*i* S	**Sn**	**13 52 36.0**	**-2.6**
LAGR				A	A	13 52 40.0	
	comp=N,1μm,0.5s						
LAGR				A	A	13 52 40.0	
	comp=N,849nm,0.5s						
NEM2	**Nemuro 2**	**1.58**	**257**	P	**Pn**	**13 52 19.8**	**-0.8**
NEM2				*e*S	**Sn**	**13 52 37.2**	**-2.6**
NMR	**Nemuro--Hokkai**	**1.59**	**257**	*c i*PN	**Pn**	**13 52 20.0**	**-0.7**
NMR				*i* S	**Sn**	**13 52 41.1**	**+1.0**
NMR	**Nemuro--Hokkai**	**1.59**	**257**	*i* P	**Pn**	**13 52 20.0**	**-0.7**
GLVR	**Golovnino**	**1.69**	**271**	⇑*i*PN	**Pn**	**13 52 22.3**	**+0.2**
GLVR				*i* S	**Sn**	**13 52 41.5**	**-1.1**
GLVR				pmax	pmax		
	comp=Z,277nm,0.3s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,529nm,0.3s						
GLVR	**Golovnino**	**1.69**	**271**	*i* P	**Pn**	**13 52 22.0**	**-0.1**
GLVR				AMB	AMB	13 52 26.0	
	comp=E,277nm,0.3s						
GLVR				*i* S	**Sn**	**13 52 41.0**	**-1.6**
GLVR				A	A	13 52 41.0	
	comp=E,1μm,0.3s						
GLVR				A	A	13 52 41.0	
	comp=E,529nm,0.3s						
JRA	**Rausu**	**1.99**	**277**	P	**Pn**	**13 52 26.4**	**+0.2**
JRA				*e*S	**Sn**	**13 52 49.2**	**-0.7**
JNSB	**Nemuroshibetsu**	**2.06**	**272**	P	**Pn**	**13 52 27.7**	**+0.4**
JKHN	**Kushirohamanak**	**2.07**	**252**	P	**Pn**	**13 52 27.5**	**+0.2**
JNK	**Nakash**	**2.28**	**267**	P	**Pn**	**13 52 30.3**	**+0.1**
JAK	**Akkeshi**	**2.42**	**253**	P	**Pn**	**13 52 32.2**	**+0.1**
JTKR	**Abashiri--Toko**	**2.86**	**276**	P	**Pn**	**13 52 39.1**	**+0.9**
JTKR				*e*S	**Sn**	**13 53 12.7**	**+1.2**
JAR	**Ashorobuto**	**3.00**	**263**	P	**Pn**	**13 52 41.0**	**+0.8**
JAR				*e*S	**Sn**	**13 53 15.3**	**+0.3**
JOB	**Onbets**	**3.05**	**256**	P	**Pn**	**13 52 41.5**	**+0.7**
JOB				*e*S	**Sn**	**13 53 15.7**	**-0.4**
JMP	**Maruseppu**	**3.26**	**276**	P	**Pn**	**13 52 45.0**	**+1.3**
JCH	**Churui**	**3.47**	**253**	P	**Pn**	**13 52 47.3**	**+0.7**
JCH				*e*S	**Sn**	**13 53 25.4**	**-1.1**
JKA	**Kamikawa-asahi**	**3.81**	**278**		**Pn**	**13 52 53.4**	**+2.1**
JKA					**Sn**	**13 53 40.8**	**+5.8**
ASAJ	**Asahikawa**	**3.82**	**278**	Pn	**Pn**	**13 52 53.4**	**+2.1**
	comp=E,1.4nm,0.3s,baz=80,slow=14,SNR=14						
ASAJ				Sn	**Sn**	**13 53 40.8**	**+5.8**
	comp=E,1.5nm,0.3s,baz=59,slow=18,SNR=2.1						
ASAJ				LR	LR	13 54 29.6	
	comp=E,132nm,19.4s,baz=110,slow=41						
ERM	**Erimo**	**3.86**	**245**	*de*PN	**Pn**	**13 52 54.9**	**+3.0**
ERM	**Erimo**	**3.86**	**245**		**Pn**	**13 52 55.0**	**+3.1**
JFR	**Furan**	**3.87**	**263**	P	**Pn**	**13 52 53.9**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.01**	**250**	P	**Pn**	**13 52 55.2**	**+1.1**
JEW	**Eniwo**	**4.76**	**261**	P	**Pn**	**13 53 07.0**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.82**	**314**	⇓*e*PN	**Pn**	**13 53 06.4**	**+1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
YSS	**Yuzh-Sakhalins**	**4.82**	**314**	*e*P	**Pn**	**13 53 06.4**	**+1.2**
YSS				AMB	AMB	13 53 06.8	
	comp=Z,10.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.82**	**314**		**Pn**	**13 53 06.0**	**+0.8**
JRBN	**Rebuntou**	**5.13**	**292**	P	**Pn**	**13 53 11.0**	**+1.6**
SKR	**Severo-Kuril's**	**8.94**	**36**	⇑*e*PN	**Pn**	**13 54 04.4**	**+2.9**
SKR	**Severo-Kuril's**	**8.94**	**36**	*e*P	**Pn**	**13 54 04.4**	**+2.9**
MAJO	**Matsushiro**	**10.30**	**229**	PN	**Pn**	**13 54 22.5**	**+2.2**
MAJO	**Matsushiro**	**10.30**	**229**	Pn	**Pn**	**13 54 22.5**	**+2.2**
MJAR	**Matsushiro Arr**	**10.30**	**229**	Pn	**Pn**	**13 54 21.6**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=38,slow=14,SNR=3.0						
MJAR	**Matsushiro Arr**	**10.30**	**229**		**Pn**	**13 54 21.2**	**+0.9**
MJB9	**Matsu-Tunnel**	**10.30**	**229**	Pn	**Pn**	**13 54 22.5**	**+2.2**
PETK	**Petropavlovsk-**	**11.42**	**31**	PN	**Pn**	**13 54 34.3**	**-1.3**
PETK	**Petropavlovsk-**	**11.42**	**31**	Pn	**Pn**	**13 54 32.9**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=206,slow=13,SNR=2.7						
PETK				LR	LR	13 59 40.3	
	comp=Z,67nm,18.6s,baz=62,slow=42						
PETK	**Petropavlovsk-**	**11.42**	**31**		**Pn**	**13 54 34.3**	**-1.3**
PET	**Petropavlovsk**	**11.73**	**34**	⇓*e*PN	Pn	13 54 45.1	+5.3
PET	**Petropavlovsk**	**11.73**	**34**	*e*P	**Pn**	**13 54 42.1**	**+2.3**
JHJ2	**Mitsune**	**12.33**	**213**	Pn	**Pn**	**13 54 47.8**	**-0.3**
KLR	**Kul'dur**	**12.38**	**302**	⇑*e*PN	**Pn**	**13 54 48.8**	**+0.1**
KLR	**Kul'dur**	**12.38**	**302**	*e*P	**Pn**	**13 54 48.8**	**+0.1**
MA2	**Magadan**	**15.96**	**5**	P	**Pn**	**13 55 34.8**	**-2.0**
MA2				pmax	pmax		
	comp=Z,204nm,1.7s						
MA2	**Magadan**	**15.96**	**5**	Pn	**Pn**	**13 55 34.8**	**-2.0**
KS19	**Wonju Array Si**	**16.39**	**254**	Pn	**Pn**	**13 55 43.1**	**+0.8**
KS19				IAmb	IAmb	13 56 29.2	
	comp=Z,62nm,1.8s						
JNU	**Nakatsue**	**16.97**	**237**	Pn	**Pn**	**13 55 49.5**	**-0.3**
JNU				IAmb	IAmb	13 56 12.8	
	comp=Z,45nm,1.7s						
GSTR	**Great Sitkin T**	**25.37**	**58**	P	**P**	**13 57 16.4**	**-2.4**
H11N2	**WAKE ISLAND Hy**	**28.76**	**140**	T	T	14 28 29.3	
	baz=331,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**28.77**	**140**	T	T	14 28 28.3	
	baz=331,slow=76,SNR=83						
H11N3	**WAKE ISLAND Hy**	**28.78**	**140**	T	T	14 28 30.5	
	baz=331,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**29.74**	**142**	T	T	14 29 41.7	
	baz=332,slow=76,SNR=144						
H11S3	**WAKE ISLAND Hy**	**29.74**	**142**	T	T	14 29 42.9	
	baz=332,slow=76,SNR=154						
H11S2	**WAKE ISLAND Hy**	**29.75**	**142**	T	T	14 29 41.7	
	baz=332,slow=76,SNR=137						
ILAR	**Eielson Array**	**41.20**	**36**	P	**P**	**13 59 35.0**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=283,slow=8.0,SNR=2.9						
MK31	**Makanchi Array**	**45.04**	**298**	P	**P**	**14 00 07.3**	**0.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,1.9s						
MK31	**Makanchi Array**	**45.04**	**298**	P	**P**	**14 00 07.3**	**0.0**
MKAR	**Makanchi Array**	**45.04**	**298**	*e*P	**P**	**14 00 07.3**	**-0.1**
MKAR	**Makanchi Array**	**45.04**	**298**	P	**P**	**14 00 06.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=72,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**45.04**	**298**	*e*P	**P**	**14 00 07.3**	**-0.1**
MKAR	**Makanchi Array**	**45.04**	**298**	P	**P**	**14 00 07.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**48.01**	**254**	P	**P**	**14 00 31.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**48.01**	**254**	P	**P**	**14 00 31.8**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=46,slow=5.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**48.01**	**254**	P	**P**	**14 00 31.3**	**+0.4**
AAK	**Ala-Archa**	**51.82**	**296**	⇑*e*P	**P**	**14 01 00.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**51.82**	**296**	*e*P	**P**	**14 01 00.4**	**+0.6**
KKAR	**Karatay Array**	**54.17**	**298**	P	**P**	**14 01 16.8**	**-0.1**
KKAR	**Karatay Array**	**54.17**	**298**	P	**P**	**14 01 16.8**	**-0.1**
ABKAR	**Akbulak array**	**57.47**	**309**	P	**P**	**14 01 40.5**	**+0.1**
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**14 02 30.8**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=60,slow=9.1,SNR=6.4						
NOA	**NORSAR Array B**	**69.80**	**339**	P	**P**	**14 03 01.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=31,slow=6.6,SNR=4.9						
HFS	**Hagfors**	**69.90**	**338**	P	**P**	**14 03 01.1**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=64,slow=6.8,SNR=6.6						
KBZ	**Khabaz**	**70.19**	**312**	P	**P**	**14 03 04.5**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=52,slow=7.2,SNR=5.3						
KBZ	**Khabaz**	**70.19**	**312**	*e*P	**P**	**14 03 06.4**	**+2.2**
AKASG	**Malin Array Be**	**71.89**	**324**	P	**P**	**14 03 14.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=36,slow=5.6,SNR=3.1						
CLL	**Collm**	**77.56**	**333**	*e*P	**P**	**14 03 48.0**	**+0.8**
CLL	**Collm**	**77.56**	**333**	*e*P	**P**	**14 03 48.0**	**+0.8**
EKA	**Eskdalemuir Ar**	**78.28**	**344**	P	**P**	**14 03 50.4**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=32,slow=7.0,SNR=2.8						

SOME ***03*** *14:27:58.9, 42°.10N×76°.00E, h15km*
KRNET 03 14:27:58.6±0.1, 42°.09N×75°.99E, h15km, mb1.9, 10C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.25**	**49**	⇑*i*P	Pg	14 28 03.9	-0.3
	baz=49						
ULHL				⇑*i*S	Sg	14 28 07.3	-0.7
	baz=49						
BOOM	**Boomskoye usch**	**0.41**	**355**	⇑*i*P	Pg	14 28 06.7	-0.3
	baz=55						
BOOM				⇑*i*S	Sg	14 28 12.4	-0.2
	baz=55						
KZA	**Kyzart**	**0.55**	**270**	⇑*i*P	Pg	14 28 09.2	-0.5
	baz=70						
KZA				⇑*i*S	Sg	14 28 17.0	-0.1
	baz=70						
NRN	**Naryn**	**0.65**	**179**	⇑*i*P	Pg	14 28 11.3	-0.2
	baz=81						
NRN				⇑*i*S	Sb	14 28 20.9	0.0
	baz=81						
TKM2	**Tokmak 2**	**0.89**	**341**	⇓*i*P	Pb	14 28 15.4	-0.5
	baz=41						
TKM2				⇓*i*S	Sg	14 28 26.9	-0.6
	baz=41						
KDJ	**Kajisay**	**0.89**	**87**	⇓*i*P	Pb	14 28 15.6	-0.3
	baz=87						
KDJ				⇓*i*S	Sg	14 28 27.3	-0.3
	baz=87						
KST	**Kastek**	**0.96**	**359**	*e*P	Pb	14 28 17.1	0.0
	baz=59						
KST				*e*S	Sg	14 28 30.1	+0.3
	baz=59						
KST	**Kastek**	**0.96**	**359**	*e*P	Pb	14 28 17.1	0.0
	1.6nm,0.1s						
KST				*e*S	Sg	14 28 30.1	+0.3
	1.7nm,0.2s						
KBK	**Karagaybulak**	**0.96**	**307**	⇓*i*P	Pb	14 28 16.7	-0.4
	baz=7.0						
KBK				⇓*i*S	Sb	14 28 29.8	+0.1
	baz=7.0						
DGS	**Degeres**	**1.17**	**352**	*e*P	Pb	14 28 20.9	+0.3
	baz=52						
DGS				*e*S	Sn	14 28 36.3	0.0
	baz=52						
DGS	**Degeres**	**1.17**	**352**	*e*P	Pg	14 28 20.9	-0.3
	0.5nm,0.2s						
DGS				*e*S	Sn	14 28 36.4	0.0
	1.1nm,0.1s						
AAK	**Ala-Archa**	**1.24**	**297**	⇑*e*P	Pn	14 28 21.4	-0.2
	baz=97						
AAK				⇑*i*S	Sb	14 28 37.9	+0.2
	baz=97						
ARLS	**Aral**	**1.26**	**260**	⇓*i*P	Pn	14 28 21.7	-0.2
	baz=61						
ARLS				⇓*i*S	Sn	14 28 38.9	+0.2
	baz=61						
MDOK	**Medeo**	**1.33**	**36**	*e*P	Pb	14 28 23.3	-0.1
	baz=36						
MDOK				*e*S	Sn	14 28 40.6	+0.2
	baz=36						
MDOK	**Medeo**	**1.33**	**36**	*e*P	Pb	14 28 23.3	-0.2
	0.8nm,0.2s						
MDOK				*e*S	Sn	14 28 40.5	+0.1
	1.7nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.40**	**104**	⇓*i*P	Pn	14 28 24.3	+0.3
	baz=4.0						
TARG				⇓*e*S	Sb	14 28 43.2	+0.6
	baz=4.0						
KOTS	**Kotyrbulak**	**1.42**	**35**	*e*P	Pb	14 28 25.1	+0.2
	baz=35						
KOTS				*e*S	Sg	14 28 43.8	-0.6
	baz=35						
KOTS	**Kotyrbulak**	**1.42**	**35**	*e*P	Pb	14 28 25.1	+0.2
	1.9nm,0.4s						
KOTS				*e*S	Sg	14 28 43.8	-0.6
	4.6nm,0.4s						
KTBS	**Karatobe**	**1.70**	**17**	*e*P	Pg	14 28 30.6	-0.8
	baz=12						
KTBS				*e*S	Sg	14 28 53.2	-0.3
	baz=12						
KTBS	**Karatobe**	**1.70**	**17**	*e*P	Pg	14 28 30.6	-0.8
	0.6nm,0.2s						
KTBS				*e*S	Sg	14 28 53.2	-0.4
	2.3nm,0.2s						

ISK ***03*** *14:28:17.9, 40°.24N×41°.89E, h23km, ML2.4/4*
DDA ***03*** *14:28:19.2, 40°.12N×41°.97E, h6km±5km, ML2.9*
ISCJB ***03*** *14:28:20.1±0.7, 40°.13N±0°.04×42°.13E±0°.06, h8km±9km, Error ellipse: s-maj=8.4km s-min=5.7km az=31.9*
ISC 03 14:28:19.8±1.0, 40°.15N±0°.03×42°.06E±0°.05, h12km±9km, n12, σ1§50/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPR	**Koprukoy-ERZUR**	**0.22**	**224**	PG	**Pg**	**14 28 24.3**	**-0.4**
KOPR				SG	**Sg**	**14 28 28.9**	**+0.9**
EATA	**Eleskirt**	**0.44**	**131**	*i* P	**Pg**	**14 28 28.5**	**-0.2**
EATA				*i* S	**Sb**	**14 28 37.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**0.47**	**29**	PG	**Pg**	**14 28 28.1**	**-1.0**
SENK				SG	**Sg**	**14 28 35.9**	**+0.5**
AKDA	**Akdag**	**0.53**	**265**	*i* P	**Pn**	**14 28 34.5**	**+1.1**
DDEM	**Demirkent**	**0.77**	**343**	*i* P	**Pb**	**14 28 35.2**	**-0.1**
DDEM				*i* S	**Sn**	**14 28 48.7**	**+0.4**
KRIK	**Erzurum-spir**	**0.88**	**282**	*i* P	**Pn**	**14 28 38.0**	**-0.2**
KRIK				IAML_P			
	comp=Z,944nm,0.2s						
DBAD	**Bademkaya**	**0.91**	**343**	*i* P	**Pb**	**14 28 37.6**	**+0.1**
DBAD				*i* S	**Sb**	**14 28 50.5**	**+0.9**
DBAD				IAML_P			
	comp=Z,2μm,0.2s						
KARS	**Kars**	**0.92**	**58**	PG	**Pg**	**14 28 36.9**	**-0.6**
DAGI	**Agillar**	**0.93**	**353**	*i* P	**Pg**	**14 28 37.3**	**-0.5**
DAGI				*i* S	**Sb**	**14 28 52.4**	**+2.1**
DAGI				IAML_P			
	comp=Z,1μm,0.2s						
ARTV	**Artvin**	**1.04**	**355**	*i* P	**Pg**	**14 28 39.4**	**-0.4**
ARTV				*i* S	**Sb**	**14 28 55.3**	**+1.9**
ARTV				IAML_P			
	comp=Z,1μm,0.1s						
CHOM	**Cayeli-Rize**	**1.36**	**314**	PN	Pn	14 28 39.8	-4.8
BAYT	**Aydıntepe-Bayb**	**1.48**	**280**	PN	**Pn**	**14 28 42.2**	**-4.2**

NNC 03 14:28:42.3±0.3, 43°.19N×77°.58E, h0km, mb1.5, mpv1.9, 5C-3D, Error ellipse: s-maj=5.9km s-min=1.4km az=176.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.39**	**266**	⇑P	Pg	14 28 49.9	+0.1
	1.6nm,0.8s						
MDOK				⇓S	Sg	14 28 55.6	+0.7
	0.8nm,0.6s						
KNDC	**Almaty**	**0.45**	**273**	⇓P	Pg	14 28 51.2	+0.3
	4.4nm,0.3s						
KNDC				⇓S	Sg	14 28 57.5	+0.7
	9.8nm,0.5s						
SATY	**Saty**	**0.62**	**102**	P	Pg	14 28 53.8	-0.3
	0.9nm,0.1s						
SATY				S	Sg	14 29 02.8	+0.7
	3.7nm,0.2s						
ARXS	**Arharly**	**1.03**	**10**	P	Pg	14 29 01.9	-0.2
	0.5nm,0.5s						
ARXS				S	Sb	14 29 16.6	-0.7
	3.5nm,0.4s						
PDGK	**Podgornoye**	**1.40**	**84**	P	Pg	14 29 08.3	-0.8
	0.1nm,0.2s						
PDGK				S	Sb	14 29 27.7	-0.2
	0.6nm,0.6s						
PDGK	**Podgornoye**	**1.40**	**84**	⇑P	Pg	14 29 08.7	-0.4
	1.7nm,1.3s						
PDGK				⇑S	Sg	14 29 27.3	0.0
	1.7nm,0.9s						
TKM2	**Tokmak 2**	**1.48**	**260**	⇑P	Pg	14 29 10.7	+0.1
	0.2nm,0.3s						
TKM2				⇑S	Sn	14 29 30.8	+0.2
	0.8nm,0.8s						

IDC 03 14:39:15.4±1.8, 7°.45S×128°.26E, h174km±22km, mb2.7/1, mb1 3.1/5, mb1mx2.8/35, mbtmp3.6/5, Error ellipse: s-maj=31.5km s-min=17.1km az=108.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.30**	**239**	P	Pn	14 40 33.4	+0.2
	3.9nm,0.3s,baz=101,slow=5.2,SNR=14						
BATI				S	Sn	14 41 27.9	-6.4
	3.0nm,0.3s,baz=117,slow=6.8,SNR=2.6						
SIJI	**Sorong**	**7.20**	**25**	P	Pn	14 40 58.1	-0.1
	1.3nm,0.3s,baz=251,slow=23,SNR=8.2						
SIJI				S	Sn	14 42 19.9	+0.7
	0.3nm,0.3s,baz=233,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi**	**10.88**	**193**	P	Pn	14 41 43.3	-3.4
	0.6nm,0.3s,baz=19,slow=12,SNR=39						
FITZ				S	Sn	14 43 36.5	-11
	0.2nm,0.3s,baz=42,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**13.75**	**155**	P	Pn	14 42 21.3	-2.0
	0.2nm,0.3s,baz=329,slow=13,SNR=5.7						
WRA				S	Sn	14 44 43.5	-13
	0.5nm,0.3s,baz=334,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**17.01**	**162**	P	Pn	14 43 03.9	+0.6
	0.2nm,0.3s,baz=338,slow=11,SNR=23						
ASAR				S	S	14 46 00.1	-11
	0.1nm,0.3s,baz=320,slow=18,SNR=3.1						
MKAR	**Makanchi Array**	**67.67**	**328**	P	P	14 49 53.7	-0.1
	0.1nm,0.4s,baz=121,slow=7.4,SNR=2.8						

NIED ***03*** *14:52:00, 36°.30N×137°.20E, h250km, Mw4.0 Best double couple: M₀=1.16000×10¹⁵ NP1:φ₀=141.00000°, δ52.00000°, λ-44.00000°. NP2:φ₀=262.00000°, δ57.00000°, λ-133.00000°.*
ISCJB ***03*** *14:52:02.5±0.4, 36°.32N±0°.04×137°.14E±0°.06, h260km±3km, mb3.5/8, Error ellip

JSD	Sado	1.90	27	P	Pn	14 52 46.3	+1.3
JSD				eS	S	14 53 18.7	+0.4
JOD2	Odawara 2	1.90	124	P	Pn	14 52 45.6	+0.4
JOD2				eS	S	14 53 19.2	+0.7
JIE	Ise	1.99	191	P	Pn	14 52 46.1	+0.1
JIE				eS	S	14 53 18.9	-1.0
JNS	Sasagawa	2.26	49	P	Pn	14 52 49.3	+1.0
TK02	Tokai 2	2.45	168	P	Pn	14 52 50.4	+0.4
JWY	Kouya	2.49	212	P	Pn	14 52 50.6	-0.1
JWY				eS	S	14 53 27.1	-1.4
JAW	Awa shima	2.68	38	P	Pn	14 52 53.6	+1.2
TTO1	TONANKAI O.B.S	2.74	187	P	Pn	14 52 53.7	+0.8
JTNC	Tanabenakahech	2.83	207	P	Pn	14 52 54.0	-0.2
JTNC				eS	S	14 53 33.1	-1.6
JOI	OKI	3.17	270	P	Pn	14 52 57.6	0.0
JNU	Nakatsue	6.10	240	P	Pn	14 53 32.9	+0.3
	0.9nm,0.3s,baz=61,slow=2.4,SNR=17						
KSRS	Korea Array	7.49	281	P	Pn	14 53 51.0	+1.2
	0.1nm,0.3s,baz=106,slow=12,SNR=5.3						
USRK	Ussuriysk Ar.	8.78	335	P	Pn	14 54 08.1	+2.0
	baz=152,slow=12,SNR=43						
ASAJ	Asahikawa	8.80	26	P	Pn	14 54 05.2	-1.0
	26nm,0.3s,baz=231,slow=11,SNR=352						
ASAJ				S	S	14 55 39.0	-6.9
	1.3nm,0.3s,baz=136,slow=33,SNR=3.4						
JCJ	Chichijima	10.16	154	P	Pn	14 54 16.8	-6.9
	8.7nm,0.3s,baz=358,slow=20,SNR=26						
JCJ				S	S	14 56 03.6	-14
	16nm,0.3s,baz=289,slow=22,SNR=12						
KLR	Kul'dur	13.47	345	P	Pn	14 55 03.9	-0.4
	2.3nm,0.3s,baz=149,slow=9.9,SNR=84						
PETK	Petropavlovsk-	22.09	34	P	P	14 56 36.9	-0.1
	2.0nm,1.0s,baz=243,slow=9.3,SNR=5.4						
SONM	Songino Array	25.39	306	P	P	14 57 06.9	-0.3
	0.3nm,0.4s,baz=98,slow=11,SNR=2.7						
MKAR	Makanchi Array	41.59	302	P	P	14 59 25.9	-0.1
	0.3nm,0.7s,baz=94,slow=10,SNR=3.3						
MKAR				PcP	PcP	15 01 17.8	0.0
	0.6nm,0.8s,baz=57,slow=4.5,SNR=4.2						
WRA	Warramunga Arr	56.05	183	P	P	15 01 15.0	-0.6
	5.0nm,0.4s,baz=359,slow=7.6,SNR=110						
ASAR	Alice Springs	59.77	183	P	P	15 01 41.0	-0.3
	1.2nm,0.4s,baz=359,slow=6.2,SNR=64						
NVAR	Mina Array Bea	78.10	51	P	P	15 03 34.9	+0.9
	0.8nm,0.8s,baz=287,slow=5.8,SNR=3.9						
PDAR	Pinedale Array	80.54	43	P	P	15 03 48.4	+1.3
	0.2nm,0.5s,baz=300,slow=1.8,SNR=2.6						
TXAR	Lajitas Array	93.20	50	P	P	15 04 48.9	+0.2
	0.7nm,0.6s,baz=293,slow=2.9,SNR=6.5						

*IDC **03** 15:08:22.9±1.3, 4°.30S×145°.24E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=48.9km s-min=21.7km az=107.0*
*ISCJB **03** 15:08:34.6±0.6, 4°.66S±0°.07×145°.2E±0°.1, h100km, mb3.4/5, Error ellipse: s-maj=16.6km s-min=9.2km az=12.0*
*NEIC **03** 15:08:36.5±1.3, 4°.7S±0°.1×145°.2E±0°.2, h106km±9km, mb4.5/11*
ISC 03 15:08:35.8±0.8, **4°.63S**±0°.10×**145°.2E**±0°.2, **h100**km, **n22,** σ0§**98**/21, **mb3.7/7,1C, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.14	158	Pn	Pn	15 09 50.2	-0.2
WRAB	Tennant Creek	18.52	214	P	Pn	15 12 45.6	-0.2
WRAB				IAmb	IAmb	15 12 47.7	
	comp=Z,16nm,1.1s						
WB2	Warramunga Arr	18.52	214	P	P	15 12 44.6	0.0
WRA	Warramunga Arr	18.53	214	P	P	15 12 44.6	+0.1
	comp=Z,0.3nm,0.3s,baz=32,slow=11,SNR=11						
WRA	Warramunga Arr	18.53	214	P	P	15 12 44.2	-0.4
KNRA	Kununurra	19.52	235	P	P	15 12 55.0	-0.4
KNRA				IAmb	IAmb	15 13 29.0	
	comp=Z,72nm,1.6s						
AS31	Alice Springs	21.83	209	P	P	15 13 21.1	+0.9
ASAR	Alice Springs	21.83	209	P	P	15 13 20.2	-0.1
	comp=Z,0.4nm,0.5s,baz=41,slow=7.6,SNR=11						
ASAR	Alice Springs	21.83	209	P	P	15 13 20.0	-0.2
FITZ	Fitzroy Crossi	23.34	233	P	P	15 13 35.0	-0.4
	comp=Z,2.0nm,0.6s,baz=44,slow=10,SNR=10						
FITZ	Fitzroy Crossi	23.34	233	P	P	15 13 34.5	-0.9
FITZ				IAmb	IAmb	15 13 39.8	
	comp=Z,13nm,1.5s						
STKA	Stephens Creek	27.32	187	P	P	15 14 12.4	+1.2
	comp=Z,1.9nm,0.9s,baz=16,slow=14,SNR=3.9						
MJAR	Matsushiro Arr	41.47	352	P	P	15 16 14.5	+1.6
MAJO	Matsushiro	41.47	352	P	P	15 16 13.8	+0.9
MAJO				IAmb	IAmb	15 17 26.3	
	comp=Z,18nm,1.6s						
MJB9	Matsu-Tunnel	41.48	352	P	P	15 16 13.9	+1.0
MJB9				IAmb	IAmb	15 17 26.3	
	comp=Z,19nm,1.6s						
RAO	Raoul Island	42.65	129	P	P	15 16 22.9	+0.3
MKAR	Makanchi Array	75.30	321	P	P	15 20 08.0	-0.1
	comp=Z,0.2nm,0.4s,baz=108,slow=4.7,SNR=3.2						
MKAR	Makanchi Array	75.30	321	P	P	15 20 07.9	-0.1
PPLA	Purkeypile	82.03	24	P	P	15 20 44.9	+0.1
ILAR	Eielson Array	84.94	23	P	P	15 20 57.2	-2.3
	comp=Z,0.7nm,0.7s,baz=247,slow=5.4,SNR=8.5						
ILAR	Eielson Array	84.94	23	P	P	15 20 57.6	-1.9
SYO	Syowa Base	91.25	200	eX	P	15 21 36.6	+7.1

*IDC **03** 15:24:22.9±1.1, 10°.36N×61°.74W, h0km, mb3.7/4, mb1 4.3/10, mb1mx3.9/38, mbtmp4.2/10, ML3.9/6, Error ellipse: s-maj=25.4km s-min=21.5km az=54.0*
*ISCJB **03** 15:24:30.3±0.5, 10°.31N±0°.03×62°.05W±0°.04, h72km±5km, Error ellipse: s-maj=7.3km s-min=3.5km az=42.8*
*NEIC **03** 15:24:30.3±2.8, 10°.21N±0°.06×61°.95W±0°.06, h65km±4km*
*TRN **03** 15:24:31.7, 10°.25N×61°.94W, h47km, MD4.6*
TRN Felt in North Trinidad, MMI II, III.
ISC 03 15:24:30.1±0.8, **10°.24N**±0°.04×**62°.01W**±0°.04, **h57**km±7km, **n84,** σ1§**53**/113, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.46	333	eP	Pn	15 24 42.6	+1.2
GUIV				eS	Sn	15 24 50.3	+0.7
GUIV	Guiria	0.46	333		Pn	15 24 42.6	+1.2
GUIV					Sn	15 24 50.3	+0.7
TRN	Trinidad (W)	0.72	56	eP	Pn	15 24 45.6	+1.2
TRN				eS	Sn	15 24 54.4	-0.5
TRN	Trinidad (W)	0.72	56		Pn	15 24 45.6	+1.2
TRN					Sn	15 24 54.4	-0.5
TOSP	Speyside	1.79	54	eP	Pn	15 24 59.0	+0.3
TOSP	Speyside	1.79	54	e	Pn	15 25 10.1	+11
TOSP				eS	Sn	15 25 19.9	-0.5
TOSP	Speyside	1.79	54		Pn	15 24 58.9	+0.2
TOSP	Speyside	1.79	54		Sn	15 25 19.9	-0.5
ORIV	Oritupano	1.80	230	eP	Pn	15 25 01.5	+2.6
ORIV				eS	Sn	15 25 24.1	+3.4
ORIV				eS		15 25 30.2	
ORIV	Oritupano	1.80	230		Pn	15 25 01.5	+2.6
ORIV					Sn	15 25 24.1	+3.4
GRGR	Grenville	1.92	10	eP	Pn	15 25 01.0	+0.6
GRGR				eS	Sn	15 25 24.3	+0.9
GRGR	Grenville	1.92	10		Pn	15 25 00.7	+0.3
GRGR	Grenville	1.92	10		Sn	15 25 24.3	+0.9
GRHS	Sauteurs	2.01	10	eP	Pn	15 25 03.0	+1.3
GRHS				eS	Sn	15 25 26.5	+0.9
GRSS	Sisters	2.08	11	eP	Pn	15 25 04.9	+2.2
GRSS				eS	Sn	15 25 28.1	+0.6
GRSS	Sisters	2.08	11		Pn	15 25 03.0	+0.3
GRSS					Sn	15 25 26.3	-1.3
GRSS	Sisters	2.08	11		Pn	15 25 04.9	+2.2
GRSS					Sn	15 25 28.1	+0.6
PLCV	Puerto La Cruz	2.54	269		Pn	15 25 11.1	+2.2
PLCV					Sn	15 25 38.1	-0.7
PCRV	Puerto La Cruz	2.59	269	Pn	Pn	15 25 11.1	+1.5
	76nm,0.3s,baz=87,slow=6.9,SNR=1110						
PCRV				Sn	Sn	15 25 38.1	-1.8
	22nm,0.3s,baz=16,slow=7.4,SNR=5.5						
FCV	Fort Charlotte	3.00	14	eP	Pn	15 25 16.9	+1.8
FCV	Fort Charlotte	3.00	14		Pn	15 25 16.9	+1.8
SVB	Belmont	3.10	14	eP	Pn	15 25 18.0	+1.3
SVB				eS	Sn	15 25 52.9	+0.3
SVB	Belmont	3.10	14		Pn	15 25 17.4	+0.7
SVB	Belmont	3.10	14		Sn	15 25 52.9	+0.3
SVCV	St. Vincent, C	3.13	16	eP	Pn	15 25 18.2	+1.2
SVCV				eS	Sn	15 25 53.9	+0.6
SVCV	St. Vincent, C	3.13	16		Pn	15 25 18.2	+1.2
SVCV					Sn	15 25 53.9	+0.6
SVV	Soufriere Volc	3.16	14	eP	Pn	15 25 19.4	+2.0
SVV				eS	Sn	15 25 54.6	+0.7
SVV	Soufriere Volc	3.16	14		Pn	15 25 19.4	+2.0
SVV					Sn	15 25 54.6	+0.7
MCLT	Moule a Chique	3.60	17	eP	Pn	15 25 24.9	+1.4
MCLT				eS	Sn	15 26 04.3	-0.6
MCLT	Moule a Chique	3.60	17		Pn	15 25 24.7	+1.2
MCLT	Moule a Chique	3.60	17		Sn	15 26 04.3	-0.6
SLDE	Delcer	3.66	15	eP	Pn	15 25 25.7	+1.4
SLDE				eS	Sn	15 26 05.3	-1.0
SLDE	Delcer	3.66	15		Pn	15 25 25.7	+1.4
SLDE					Sn	15 26 05.3	-1.0
SLB	Belfond	3.69	15	eP	Pn	15 25 27.0	+2.2
SLB				eS	Sn	15 26 06.9	-0.2
SLB	Belfond	3.69	15		Pn	15 25 27.0	+2.2
SLB					Sn	15 26 06.9	-0.2
SLPA	Patience	3.75	16	eP	Pn	15 25 27.9	+2.4
SLPA				eS	Sn	15 26 08.1	-0.4
SLPA	Patience	3.75	16		Pn	15 25 27.9	+2.4
SLPA					Sn	15 26 08.1	-0.4
BBGH	Gun Hill	3.75	39	eP	Pn	15 25 27.3	+1.7
BBGH				eS	Sn	15 26 07.7	-0.8
BBGH	Gun Hill	3.75	39	Pn	Pn	15 25 25.0	-0.6
BBGH	Gun Hill	3.75	39		Sn	15 26 07.7	-0.8
SLBI	Saint Lucia, B	3.90	15	eP	Pn	15 25 28.4	+0.9
SLBI				eS	Sn	15 26 11.9	-0.1
SLBI	Saint Lucia, B	3.90	15		Pn	15 25 28.4	+0.9
SLBI					Sn	15 26 11.9	-0.1
FDF	Fort de France	4.55	11	eP	Pn	15 25 37.9	+1.4
FDF	Fort de France	4.55	11	eS	Sn	15 26 27.5	-0.6
FDF	Fort de France	4.55	11		Pn	15 25 37.4	+0.9
FDF	Fort de France	4.55	11		Sn	15 26 27.5	-0.6
MDPO	Dominica; Chan	5.33	6	eP	Pn	15 25 49.6	+2.4
MDPO	Dominica; Chan	5.33	6	eS	Sn	15 26 45.8	-1.5
DWS	Wesley	5.34	7	eP	Pn	15 25 49.5	+2.2
DWS	Wesley	5.34	7	eS	Sn	15 26 45.6	-1.9
DWS	Wesley	5.34	7		Pn	15 25 49.5	+2.2
DWS					Sn	15 26 45.6	-1.9
BAUV	El Baul	6.09	258	eP	Pn	15 26 01.0	+3.4
BAUV	El Baul	6.09	258	e	Pn	15 26 06.7	+9.1
BAUV	El Baul	6.09	258	eS	Sn	15 27 06.2	+0.3
BAUV	El Baul	6.09	258		Pn	15 26 01.0	+3.4
BAUV					Sn	15 27 06.2	+0.3
SKI	Saint Kitts	7.09	354	eP	Pn	15 26 13.5	+2.2
SKI	Saint Kitts	7.09	354		Pn	15 26 12.8	+1.5
ANWB	Willy Bob	7.39	2	eP	Pn	15 26 17.6	+2.2
ANWB	Willy Bob	7.39	2	Pn	Pn	15 26 17.1	+1.7
SABA	Saba	7.44	351	Pn	Pn	15 26 17.7	+1.6
MTP	Monte Pirata	8.54	337	Pn	Pn	15 26 31.3	+0.2
STVI	Saint Thomas	8.56	341	Pn	Pn	15 26 32.3	+0.9
SDV	Santo Domingo	8.61	262	Pn	Pn	15 26 32.1	-0.2
	14nm,0.3s,baz=74,slow=8.6,SNR=18						
SDV				Sn	Sn	15 28 03.1	-5.1
	6.9nm,0.3s,baz=61,slow=19,SNR=4.0						
SDV	Santo Domingo	8.61	262		Pn	15 26 31.6	-0.7
CUPR	Culebra, Puert	8.63	339	Pn	Pn	15 26 32.9	+0.6
PDPR	Patillas Dam,	8.66	334	Pn	Pn	15 26 32.7	-0.1
HUMP	Col San Antoni	8.70	335	Pn	Pn	15 26 33.4	+0.1
SJG	San Juan	8.80	333	Pn	Pn	15 26 33.6	-1.1
	0.9nm,0.3s,baz=170,slow=3.9,SNR=2.5						
SJG				Sn	Sn	15 28 02.0	-10
	1.6nm,0.3s,baz=208,slow=17,SNR=3.2						
GCPR	Guaynabo City	8.94	334	Pn	Pn	15 26 37.1	+0.4
CRPR	Cabo Rojo, PR	9.17	328	Pn	Pn	15 26 40.7	+0.9
AOPR	Arecibo Observ	9.28	331	Pn	Pn	15 26 42.3	+1.0
MPR	Mayaguez	9.36	328	Pn	Pn	15 26 44.6	+2.3
AGPR	Aguadilla, PR	9.56	329	Pn	Pn	15 26 47.3	+2.2
MDP	Montagnes des	10.59	118	Pn	Pn	15 26 54.3	-4.9
	1.4nm,0.3s,baz=308,slow=16,SNR=28						
MDP				Sn	Sn	15 28 42.9	-14
	19nm,0.3s,baz=294,slow=20,SNR=16						
PTGA	Pitinga	11.08	169	Pn	Pn	15 27 03.7	-2.3
	7.2nm,0.3s,baz=352,slow=18,SNR=53						
PTGA				Sn	Sn	15 28 59.0	-9.5
	5.3nm,0.3s,baz=282,slow=16,SNR=8.3						
PTGA	Pitinga	11.08	169		Pn	15 27 03.8	-2.2
ROSC	El Rosal	13.33	247	Pn	Pn	15 27 38.1	+1.1
	1.4nm,0.3s,baz=84,slow=7.7,SNR=2.8						
SAML	Samuel	19.10	184	P	P	15 28 49.0	+0.7
SAML				IAmb	IAmb	15 28 52.9	
	comp=Z,3.3nm,0.9s						
SIV	San Ignacio	26.08	178	P	P	15 29 59.1	+0.5
	comp=Z,0.2nm,0.3s,baz=283,slow=18,SNR=2.0						
T25A	Trinidad	46.61	312	P	PcP	15 34 25.1	-1.2
PV21	Cone Mtn., Par	50.49	312		S	15 40 33.0	-0.1
PDAR	Pinedale Array	52.51	317	P	P	15 33 38.4	+0.5
	comp=Z,0.6nm,0.5s,baz=110,slow=10.0,SNR=7.4						
ILAR	Eielson Array	78.63	334	P	P	15 36 24.8	-0.9
	comp=Z,0.2nm,0.7s,baz=76,slow=3.7,SNR=3.9						
FINES	FINESS Array B	80.17	29	P	P	15 36 34.7	+0.6
	comp=Z,1.0nm,0.6s,baz=266,slow=5.0,SNR=6.7						

*IDC **03** 15:32:34.6±1.2, 17°.40N×147°.88E, h0km, mb3.6/9, mb1 3.9/10, mb1mx3.6/43, mbtmp3.7/10, ML4.2/1, Error ellipse: s-maj=40.9km s-min=19.3km az=98.0*
*ISCJB **03** 15:32:36.1±1.1, 17°.41N±0°.10×147°.8E±0°.2, h21km, mb3.7/8, Error ellipse: s-maj=32.7km s-min=13.0km az=11.4*
ISC 03 15:32:38.2±1.3, **17°.4N**±0°.1×**147°.7E**±0°.2, **h21**km, **n10,** σ1§**16**/11, **mb3.6/8, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.64	217	Pn	Pn	15 33 48.7	+1.5
	9.7nm,0.3s,baz=37,slow=5.1,SNR=8.1						
GUMO				Sn	Sn	15 34 38.0	-2.4
	15nm,0.3s,baz=17,slow=19,SNR=5.8						
MJAR	Matsushiro Arr	20.88	338	P	P	15 37 18.5	-0.6
	0.3nm,0.3s,baz=164,slow=10.0,SNR=3.4						
WRA	Warramunga Arr	39.33	200	P	P	15 40 06.3	+0.3
	0.4nm,0.7s,baz=30,slow=8.9,SNR=5.4						
ASAR	Alice Springs	42.95	199	P	P	15 40 36.1	+0.3
	0.5nm,1.0s,baz=19,slow=8.9,SNR=4.2						
SONM	Songino Array	45.39	321	P	P	15 40 56.0	+0.6
	0.3nm,0.5s,baz=104,slow=9.4,SNR=2.2						
CMAR	Chiang Mai Arr	46.31	279	P	P	15 41 03.3	+0.4
	0.4nm,0.7s,baz=67,slow=5.0,SNR=4.4						
ZALV	Zalesovo Beam	60.24	323	P	P	15 42 44.7	-0.1
	0.9nm,0.5s,baz=108,slow=6.2,SNR=4.6						
ILAR	Eielson Array	64.01	26	P	P	15 43 09.1	-0.8
	0.3nm,0.5s,baz=258,slow=7.0,SNR=5.1						
ARCES	ARCESS Array B	84.35	343	P	P	15 45 08.8	+0.3
	2.6nm,1.0s,baz=61,slow=9.4,SNR=3.2						
FINES	FINESS Array B	88.90	336	P	P	15 45 30.0	-0.8
	3.0nm,1.1s,baz=26,slow=9.9,SNR=3.3						

*IDC **03** 15:34:58.4±2.1, 17°.57S×178°.90W, h500km±23km, mb3.2/10, mb1 3.5/10, mb1mx3.2/33, mbtmp4.1/10, Error ellipse: s-maj=23.4km s-min=15.7km az=145.0*
*NEIC **03** 15:34:59.1±1.7, 17°.6S±0°.1×178°.9W±0°.1, h506km±5km, mb4.8/24*
*ISCJB **03** 15:35:00.2±0.4, 17°.69S±0°.07×178°.87W±0°.07, h539km, mb3.5/9, Error ellipse: s-maj=10.5km s-min=7.9km az=140.5*
ISC 03 15:35:01.3±0.5, **17°.7S**±0°.1×**178°.82W**±0°.09, **h539**km, **n42,** σ1§**23**/44, **mb4.5**/19, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.75	62	P	P	15 36 54.5	-1.9
NIUE	Niue	8.56	101	P	P	15 37 02.4	-2.0
MXZ	Matakaoa Point	19.96	187	P	P	15 38 57.6	+0.2
MXZ				IAmb	IAmb	15 39 18.7	
	comp=Z,38nm,1.2s						
URZ	Urewera	20.80	189	P	P	15 39 04.1	-0.9
	comp=Z,2.5nm,0.3s,baz=344,slow=18,SNR=9.0						
URZ	Urewera	20.80	189	P	P	15 39 05.0	0.0
URZ				IAmb	IAmb	15 39 17.2	
	comp=Z,15nm,1.2s						
BKZ	Black Stump Fm	21.79	190	P	P	15 39 13.9	-0.1
BKZ				IAmb	IAmb	15 40 02.6	
	comp=Z,22nm,1.6s						
MSWZ	Moikau Station	24.19	191	P	P	15 39 34.5	-0.8
QRZ	Quartz Range	24.23	196	P	P	15 39 37.2	+1.5
QRZ				IAmb	IAmb	15 40 30.7	
	comp=Z,77nm,1.9s						
LHI	Lord Howe Isla	24.31	231	P	P	15 39 33.8	-2.7
NNZ	Nelson	24.39	194	P	P	15 39 37.9	+0.8
NNZ				IAmb	IAmb	15 40 02.3	
	comp=Z,57nm,1.2s						
KHZ	Kahutara	25.50	193	P	P	15 39 47.3	+0.5
FOZ	Fox Glacier	27.50	198	P	P	15 40 05.1	+0.7
FOZ				IAmb	IAmb	15 41 00.4	
	comp=Z,67nm,1.5s						
EIDS	Eidsvold	28.98	249	P	P	15 40 17.3	-0.4
EIDS				IAmb	IAmb	15 40 47.8	
	comp=Z,56nm,1.9s						
CTAO	Charters Tower	33.10	260	P	P	15 40 53.0	0.0
CTAO				IAmb	IAmb	15 41 40.2	
	comp=Z,51nm,1.9s						
STKA	Stephens Creek	38.39	241	P	P	15 41 37.0	+0.3
	comp=Z,2.0nm,0.5s,baz=92,slow=11,SNR=9.0						
STKA	Stephens Creek	38.39	241	P	P	15 41 37.2	+0.5
TAOE	Nuku Hiva Isla	38.58	82	P	P	15 41 39.2	+0.6
BBOO	Buckleboo	43.17	241	P	P	15 42 15.2	+0.4
BBOO				IAmb	IAmb	15 43 32.0	
	comp=Z,80nm,1.7s						
WB2	Warramunga Arr	44.27	259	P	P	15 42 22.4	-1.2
WRAB	Tennant Creek	44.28	259	P	P	15 42 23.9	+0.4
WRA	Warramunga Arr	44.29	259	P	P	15 42 22.1	-1.5
	comp=Z,1.1nm,0.8s,baz=97,slow=6.9,SNR=11						
WRA				ScP	ScP	15 47 00.6	+3.5
	comp=Z,0.7nm,1.0s,baz=85,slow=3.4,SNR=4.0						
WRA	Warramunga Arr	44.29	259	P	P	15 42 22.6	-1.0
AS31	Alice Springs	44.47	254	P	P	15 42 25.1	+0.1
ASAR	Alice Springs	44.47	254	P	P	15 42 25.0	-0.1
	comp=Z,8.4nm,0.5s,baz=88,slow=8.1,SNR=178						
ASAR				PcP	PcP	15 43 57.9	+1.0
	comp=Z,0.2nm,0.4s,baz=105,slow=3.6,SNR=3.7						
ASAR				ScP	ScP	15 47 00.5	+2.6
	comp=Z,0.2nm,0.6s,baz=95,slow=4.1,SNR=5.4						
ASAR	Alice Springs	44.47	254	P	P	15 42 24.5	-0.5
ASAR					PcP	15 43 57.5	+0.6
FORT	Forrest	49.75	244	P	P	15 43 04.5	0.0
FORT				IAmb	IAmb	15 43 32.5	
	comp=Z,46nm,1.1s						
KNRA	Kununurra	50.12	264	P	P	15 43 07.6	+0.1
KNRA				IAmb	IAmb	15 44 02.8	
	comp=Z,34nm,1.2s						
SIJI	Sorong	51.80	283	P	P	15 43 19.2	-0.5
	comp=Z,5.3nm,0.6s,baz=104,slow=8.1,SNR=6.1						
FITZ	Fitzroy Crossi	52.68	260	P	P	15 43 26.6	+0.6
MJAR	Matsushiro Arr	67.50	324	P	P	15 45 02.5	-1.4
	comp=Z,0.4nm,0.4s,baz=149,slow=6.0,SNR=5.2						
MJAR	Matsushiro Arr	67.50	324	IAmb	IAmb	15 45 11.1	
	comp=Z,4.3nm,1.6s						
NVAR	Mina Array Bea	79.54	44	P	P	15 46 12.5	-0.2
	comp=Z,0.5nm,0.6s,baz=222,slow=8.8,SNR=4.3						
NVAR	Mina Array Bea	79.54	44	P	P	15 46 12.3	-0.4
BRLK	Bradley Lake	80.46	14	P	P	15 46 17.2	+0.4
BCPM	Bancas Point	83.63	19	P	P	15 46 33.5	+0.7
JLU	Jordanelle	85.21	45	pP	pP	15 48 30.7	-7.2
ILAR	Eielson Array	85.76	13	P	P	15 46 42.3	-0.9
	comp=Z,0.2nm,0.7s,baz=226,slow=4.4,SNR=3.8						
ILAR	Eielson Array	85.76	13	P	P	15 46 42.0	-1.1
HIA	Hailar	85.96	325	P	P	15 46 44.1	-0.3
HIA				IAmb	IAmb	15 47 01.8	
	comp=Z,29nm,1.1s						
TXAR	Lajitas Array	86.21	58	P	P	15 46 48.1	+1.9
	comp=Z,0.8nm,0.7s,baz=216,slow=5.6,SNR=6.1						
TXAR	Lajitas Array	86.21	58	P	P	15 46 48.0	+1.7
PDAR	Pinedale Array	87.46	44	P	P	15 46 53.7	+1.7
	comp=Z,0.3nm,0.5s,baz=229,slow=4.2,SNR=3.6						

*ISK **03** 16:00:03.9, 38°.78N×43°.45E, h8km, ML2.4/9*
*DDA **03** 16:00:03.8, 38°.81N×43°.57E, h7km±6km, ML3.1*
*ISCJB **03** 16:00:05.0±0.6, 38°.76N±0°.03×43°.52E±0°.05, h20km±6km, Error ellipse: s-maj=7.6km s-min=4.9km az=32.9*
ISC 03 16:00:04.7±1.1, **38°.80N**±0°.03×**43°.47E**±0°.04, **h19**km±2km, **n15,** σ0§**64**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.21	21	i P	Pb	16 00 08.9	-0.7
VMUR				i S	Sg	16 00 14.9	+1.1
VMUR				IAML_P			
	comp=Z,6μm,0.1s						
VANB	Van	0.21	198	PG	Pb	16 00 09.8	+0.3
TVAN	Van	0.27	191	i P	Pb	16 00 10.5	-0.4
TVAN				i S	Sg	16 00 16.6	+1.3
TVAN				IAML_P			
	comp=Z,10μm,0.1s						
CLDR	Caldiran	0.49	45	i P	Pg	16 00 13.6	-1.2
CLDR	Caldiran	0.49	45	PG	Pg	16 00 14.3	-0.4
CLDR				SG	Sb	16 00 22.1	+0.4
GEVA	Gevas	0.58	214	i P	Pb	16 00 15.5	-0.8
ADCV	BITLIS_Adilcev	0.59	271	i P	Pb	16 00 16.5	+0.2
ADCV				i S	Sn	16 00 27.2	0.0
ADCV				IA

DGPR				*e*S	Sn	16 15 02.9	-19
DGPR				IAML		16 15 21.8	
	comp=E,129nm,0.4s						
PALK	**Pallekele**	**12.60**	**287**	Pn	**Pn**	**16 14 20.3**	**-0.7**
	comp=E,1.0nm,0.3s,baz=116,slow=14,SNR=10.0						
PALK				Sn	Sn	16 16 26.9	-15
	comp=E,10.0nm,0.3s,baz=103,slow=0.1,SNR=16						
PALK				LR	LR	16 18 46.8	
	comp=E,133nm,18.2s,baz=116,slow=36						
PBKT	**Sadao Pong**	**15.02**	**31**	P	**Pn**	**16 14 56.4**	**+2.5**
	comp=E,3.6nm,1.6s,comp=E,404nm						
CM31	**Chiang Mai Arr**	**15.77**	**22**		**Pn**	**16 15 02.4**	**-1.5**
CM31				IAmb	IAmb	16 15 19.2	
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**15.77**	**22**	Pn	**Pn**	**16 15 02.2**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=214,slow=13,SNR=20						
CMAR				LR	LR	16 20 44.5	
	comp=Z,87nm,18.4s,baz=186,slow=36						
CMAR	**Chiang Mai Arr**	**15.77**	**22**	Pn	**Pn**	**16 15 00.9**	**-3.0**
CHTO	**Chiang Mai**	**16.10**	**21**	P	**Pn**	**16 15 10.5**	**+2.3**
CMMT	**Chiang Mai**	**16.10**	**21**	P	**P**	**16 15 11.0**	**-0.5**
	comp=Z,4.8nm,1.2s						
NONG	**Nongkai**	**17.42**	**35**	P	**Pn**	**16 15 24.7**	**-0.1**
LEM	**Lembang**	**18.09**	**125**	LR	LR	16 23 07.4	
	comp=Z,50nm,20.0s,baz=270,slow=39						
HYB	**Hyderabad**	**19.53**	**315**	*i* P	**Pn**	**16 15 54.0**	**+3.4**
	comp=Z,2μm,1.0s						
HYB				*e*S	**Sn**	**16 19 23.0**	**-7.0**
BOK	**Bokaro**	**21.03**	**342**	*e*P	**P**	**16 16 07.3**	**+1.7**
BOK				IAML		16 16 09.5	
	comp=E,6.6nm,0.2s						
BOK				IAmb	IAmb	16 16 20.3	
	comp=Z,14nm,0.8s						
SHL	**Shillong**	**21.71**	**358**	*e*P	**P**	**16 16 13.4**	**+0.3**
SHL				IAML		16 19 18.5	
	comp=E,61nm,0.1s						
SHL				IAML		16 19 18.6	
	comp=N,54nm,0.1s						
KMI	**Kunming**	**23.27**	**23**	P	**P**	**16 16 29.2**	**-0.4**
KMI				pP	pwP	16 16 36.7	-0.4
KMI				pmax	pmax		
	comp=N,12nm,0.6s						
H08S2	**Diego Garcia H**	**23.27**	**241**	T	T	16 41 52.8	
	baz=61,slow=75,SNR=58						
H08S3	**Diego Garcia H**	**23.27**	**241**	T	T	16 41 52.3	
	baz=61,slow=75,SNR=63						
H08S1	**Diego Carcia H**	**23.29**	**241**	T	T	16 41 54.8	
	baz=61,slow=75,SNR=54						
WHN	**Wuhan**	**33.49**	**35**	P	P	16 18 12.9	+12
GTA	**Gaotai**	**36.05**	**9**	P	**P**	**16 18 25.1**	**+1.8**
GTA				pP	pwP	16 18 32.2	+1.3
GTA				sP	sP	16 18 35.0	+9.3
GTA				pmax	pmax		
	comp=N,2.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**38.92**	**125**	P	**P**	**16 18 48.2**	**+0.4**
	comp=N,1.8nm,0.7s,baz=319,slow=9.3,SNR=2.7						
FITZ	**Fitzroy Crossi**	**38.92**	**125**	IAmb	IAmb	16 19 10.0	
	comp=Z,15nm,1.6s						
WMQ	**Urumqi**	**40.16**	**354**	*e*P	**P**	**16 18 58.1**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.7s						
HHC	**Hu-ho-hao-te**	**40.59**	**22**	P	**P**	**16 19 03.8**	**+2.3**
MKAR	**Makanchi Array**	**43.84**	**350**	P	**P**	**16 19 27.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=152,slow=8.2,SNR=5.3						
MKAR	**Makanchi Array**	**43.84**	**350**	P	**P**	**16 19 26.9**	**-1.0**
SONM	**Songino Array**	**45.43**	**13**	P	**P**	**16 19 40.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=188,slow=11,SNR=3.5						
KSRS	**Korea Array**	**46.41**	**39**	LR	LR	16 39 46.2	
	comp=Z,17nm,21.4s,baz=5.0,slow=37						
WRA	**Warramunga Arr**	**47.05**	**122**	P	**P**	**16 19 53.1**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=297,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**48.38**	**126**	P	**P**	**16 20 04.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=294,slow=7.7,SNR=5.1						
ASAR				PcP	**PcP**	**16 21 30.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=313,slow=3.4,SNR=3.0						
ZAA0	**Zalesovo Array**	**50.47**	**354**	P	**P**	**16 20 19.2**	**-0.2**
ZALV	**Zalesovo Beam**	**50.47**	**354**	P	**P**	**16 20 17.9**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=170,slow=7.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**50.47**	**354**	P	**P**	**16 20 19.0**	**-0.3**
KOLS	**Kolonicke sedl**	**74.48**	**320**	*e*P	**P**	**16 23 01.1**	**+0.9**
VYHS	**Vyhne**	**76.63**	**319**	*e*P	**P**	**16 23 12.3**	**-0.3**
GERES	**GERESS Array B**	**80.05**	**319**	P	**P**	**16 23 31.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=117,slow=5.6,SNR=4.1						
NOA	**NORSAR Array B**	**82.68**	**331**	LR	LR	17 03 58.8	
	comp=Z,14nm,18.4s,baz=295,slow=38						

ISCJB ***03*** *16:23:47.1±0.4, 6°.57S±0°.04×129°.82E±0°.05, h150km, mb4.1/2, Error ellipse: s-maj=7.5km s-min=4.9km az=169.1*
NEIC ***03*** *16:23:49.9±2.5, 6°.56S±0°.07×129°.86E±0°.08, h165km±10km, mb4.5/8*
IDC ***03*** *16:23:50.1±2.0, 6°.61S×129°.88E, h159km±23km, mb3.7/3, mb1 3.7/7, mb1mx3.3/34, mbtmp4.2/7, Error ellipse: s-maj=26.7km s-min=15.9km az=73.0*
ISC 03 16:23:48.6±0.6, 6°.65S±0°.06×129°.83E±0°.07, h150km, n35, σ1$96/42, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.97**	**132**	Pn	**Pn**	**16 24 27.9**	**+4.4**
FAKI	**Fak Fak**	**4.42**	**33**	Pn	**Pn**	**16 24 55.4**	**+1.0**
SIJI	**Sorong**	**5.92**	**14**	P	**Pn**	**16 25 15.0**	**+0.8**
	3.1nm,0.3s,baz=174,slow=19,SNR=32						
SIJI				S	**Sn**	**16 26 17.8**	**-3.5**
	7.2nm,0.3s,baz=246,slow=23,SNR=4.6						
MTN	**Manton Dam**	**6.29**	**168**	Pn	**Pn**	**16 25 20.9**	**+1.7**
SOEI	**Soe**	**6.31**	**240**	Pn	**Pn**	**16 25 22.7**	**+3.1**
BATI	**Baumata**	**7.05**	**239**	P	**Pn**	**16 25 32.1**	**+2.8**
	6.5nm,0.3s,baz=85,slow=11,SNR=8.7						
BATI				S	**Sn**	**16 26 48.5**	**+0.1**
	6.8nm,0.3s,baz=174,slow=22,SNR=10						
LUWI	**Luwuk**	**8.97**	**308**	Pn	**Pn**	**16 25 52.9**	**-2.1**
KNRA	**Kununurra**	**9.04**	**187**	Pn	**Pn**	**16 25 56.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**12.09**	**199**	P	**Pn**	**16 26 37.4**	**+1.2**
	0.4nm,0.3s,baz=13,slow=12,SNR=8.6						
FITZ				S	**Sn**	**16 28 44.6**	**-5.3**
	0.6nm,0.3s,baz=92,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**12.09**	**199**	Pn	**Pn**	**16 26 37.2**	**+1.1**
WRAB	**Tennant Creek**	**13.92**	**162**	Pn	**Pn**	**16 26 57.4**	**-2.2**
WRAB				P	P	16 27 04.0	+1.1
WRA	**Warramunga Arr**	**13.93**	**162**	P	**Pn**	**16 26 57.9**	**-1.7**
	0.9nm,0.3s,baz=345,slow=11,SNR=14						
WRA				S	Sn	16 29 24.6	-9.4
	1.7nm,0.3s,baz=330,slow=22,SNR=8.3						
WRA	**Warramunga Arr**	**13.93**	**162**	Pn	**Pn**	**16 26 58.1**	**-1.5**
WRA				P	**P**	**16 27 02.9**	**-0.1**
WB2	**Warramunga Arr**	**13.93**	**162**	Pn	**Pn**	**16 26 58.0**	**-1.7**
WB2				P	**P**	**16 27 03.1**	**+0.1**
COEN	**Coen**	**15.00**	**120**	P	**Pn**	**16 27 15.2**	**+2.0**
COEN				IAmb	IAmb	16 28 07.4	
	comp=Z,52nm,1.6s						
JAGI	**Jajag, Banyuwa**	**15.64**	**262**	P	**Pn**	**16 27 22.6**	**+1.5**
JAGI				IAmb	IAmb	16 27 23.8	
	comp=Z,70nm,1.3s						
AS31	**Alice Springs**	**17.37**	**167**		**P**	**16 27 42.9**	**+1.8**
ASAR	**Alice Springs**	**17.37**	**167**	P	**P**	**16 27 43.0**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=344,slow=9.9,SNR=71						
ASAR				S	**S**	**16 30 50.0**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=355,slow=27,SNR=6.5						
ASAR	**Alice Springs**	**17.37**	**167**	P	**P**	**16 27 42.2**	**+1.1**
CTA	**Charters Tower**	**20.80**	**132**	P	**P**	**16 28 19.3**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=296,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**20.80**	**132**	P	**P**	**16 28 19.3**	**+1.0**
CTAO				IAmb	IAmb	16 28 33.2	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**27.40**	**158**	P	**P**	**16 29 20.6**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=336,slow=9.1,SNR=8.8						
CAN	**Canberra**	**33.55**	**151**	P	**P**	**16 30 16.1**	**+1.8**
HIZ	**Hauiti**	**51.53**	**135**	P	**P**	**16 32 37.6**	**-1.6**
ODAN	**Odare**	**52.90**	**311**	*e*P	**P**	**16 32 49.1**	**-0.6**
TAPN	**Taplejung**	**52.92**	**312**	*e*P	**P**	**16 32 49.5**	**-0.5**
	comp=Z,4.1nm,0.3s						
RAMN	**Ramite**	**53.54**	**311**	*e*P	**P**	**16 32 54.4**	**0.0**
	comp=Z,5.9nm,0.4s						
JIRN	**Jiri**	**54.23**	**311**	*e*P	**P**	**16 32 59.0**	**-0.6**
GUN	**Gumba**	**54.59**	**311**	*e*P	**P**	**16 33 01.7**	**-0.5**
PKI	**Pulchoki**	**54.77**	**310**	*e*P	**P**	**16 33 02.2**	**-1.2**
GKN	**Gorkha**	**55.58**	**310**	*e*P	**P**	**16 33 08.4**	**-0.6**
KOLN	**Koldanda**	**56.24**	**310**	*e*P	**P**	**16 33 13.1**	**-0.7**
MK31	**Makanchi Array**	**67.84**	**327**	P	**P**	**16 34 30.8**	**+0.2**
MK31				IAmb	IAmb	16 34 31.6	
	comp=Z,2.1nm,0.6s						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**16 34 31.2**	**+0.6**
	comp=Z,2.8nm,0.4s,baz=114,slow=7.9,SNR=41						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**16 34 30.7**	**+0.1**

JMA 03 16:24:21.1±0.2, 27°.38N×140°.77E, h457km, M3.6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.29**	**102**	P	P	16 25 19.4	+0.4
CBIJ				S	S	16 26 05.0	-0.9
JHH2	**Haha-jima-NKT2**	**1.46**	**120**	P	P	16 25 20.0	+0.3
JHH2				*e*S	S	16 26 07.0	-0.1
JHU	**Hanno**	**8.54**	**352**	P	P	16 26 23.9	+1.6
JRY	**Ryogami san**	**8.76**	**350**	P	P	16 26 26.5	+1.9
JYT	**Yasato**	**8.84**	**357**	P	P	16 26 26.4	+1.0
JAG	**Ashikaga**	**9.09**	**353**	P	P	16 26 29.0	+0.8
JWT	**Wachi**	**9.12**	**331**	P	P	16 26 30.7	+2.2
JHO	**Hitachi**	**9.21**	**359**	P	P	16 26 31.7	+2.3
JFK	**Kasauchi**	**9.96**	**0**	P	P	16 26 40.7	+3.1
JMM	**Marumori**	**10.46**	**0**	P	P	16 26 46.2	+3.2

ISCJB ***03*** *16:49:28.2±0.6, 32°.06N±0°.06×138°.04E±0°.09, h380km, mb3.0/6, Error ellipse: s-maj=10.8km s-min=7.5km az=172.0*
JMA ***03*** *16:49:29.2±0.1, 31°.98N×137°.73E, h402km, M3.1*
IDC ***03*** *16:49:29.9±1.4, 32°.17N×137°.88E, h392km±15km, mb2.8/6, mb1 2.8/9, mb1mx2.7/62, mbtmp3.5/9, Error ellipse: s-maj=32.7km s-min=16.5km az=75.0*
ISC 03 16:49:28.7±0.8, 32°.08N±0°.08×137°.93E±0°.09, h380km, n18, σ2$30/19, mb3.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.90**	**57**	P	**Pn**	**16 50 26.2**	**+4.2**
JIE	**Ise**	**2.52**	**336**	P	**Pn**	**16 50 29.4**	**+3.0**
JKN2	**Miekihoku**	**2.56**	**328**	P	**Pn**	**16 50 29.2**	**+2.5**
JTNC	**Tanabenakahech**	**2.61**	**312**	P	**Pn**	**16 50 29.3**	**+2.2**
JWY	**Kouya**	**2.90**	**318**	P	**Pn**	**16 50 32.0**	**+2.5**
JAI	**Aioi**	**3.39**	**301**	P	**Pn**	**16 50 35.6**	**+1.9**
MJAR	**Matsushiro Arr**	**4.46**	**3**	P	**Pn**	**16 50 46.3**	**+2.2**
	0.2nm,0.3s,baz=178,slow=11,SNR=16						
MJAR				S	**S**	**16 51 45.2**	**+0.1**
	0.0nm,0.3s,baz=302,slow=14,SNR=4.2						
JYT	**Yasato**	**4.54**	**24**	S	**S**	**16 51 43.0**	**-3.6**
JHO	**Hitachi**	**5.02**	**25**	*e*S	**S**	**16 51 53.0**	**-2.7**
JNU	**Nakatsue**	**6.04**	**282**	P	**Pn**	**16 51 02.0**	**+1.0**
	0.3nm,0.3s,baz=83,slow=17,SNR=4.1						
CBIJ	**Chichi jima**	**6.19**	**142**	*e*S	**S**	**16 52 16.6**	**-2.8**
KSRS	**Korea Array**	**9.82**	**306**	P	**P**	**16 51 44.8**	**0.0**
	0.0nm,0.3s,baz=116,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**44.50**	**306**	P	**P**	**16 57 03.6**	**-0.4**
	0.7nm,0.6s,baz=86,slow=9.0,SNR=6.3						
KURBB	**Kurchatov Arra**	**46.95**	**311**	P	**P**	**16 57 21.8**	**-1.0**
	0.3nm,0.4s,baz=92,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**51.84**	**184**	P	**P**	**16 58 00.2**	**+0.6**
	0.3nm,0.8s,baz=0.1,slow=7.6,SNR=7.3						
BVAR	**Borovoye Array**	**51.90**	**315**	P	**P**	**16 57 59.0**	**-0.7**
	0.2nm,0.3s,baz=108,slow=8.1,SNR=2.3						
ASAR	**Alice Springs**	**55.56**	**184**	P	**P**	**16 58 27.0**	**+0.8**
	0.2nm,0.8s,baz=14,slow=7.8,SNR=1.2						
FINES	**FINESS Array B**	**71.84**	**332**	P	**P**	**17 00 10.5**	**-0.3**
	0.7nm,0.4s,baz=44,slow=4.8,SNR=8.8						

AZER ***03*** *16:52:01.8±4.0, 41°.86N×39°.90E, h20km, ml3.7/4, Error ellipse: s-maj=87.7km s-min=26.5km az=8.0*
ISK ***03*** *16:52:03.2, 42°.42N×40°.93E, h2km, ML3.6/9*
TIF ***03*** *16:52:04.5, 42°.39N×41°.04E, h22km±1km*
IDC ***03*** *16:52:04.3±1.0, 42°.85N×40°.65E, h0km, mb3.1/3, mb1 3.3/6, mb1mx3.1/46, mbtmp3.2/6, ML3.3/2, Error ellipse: s-maj=13.9km s-min=9.8km az=167.0*
MOS ***03*** *16:52:05.1±0.0, 42°.43N×41°.01E, h2km, MPVA4.3*
ISCJB ***03*** *16:52:06.7±0.7, 42°.35N±0°.02×40°.87E±0°.02, h22km±6km, Error ellipse: s-maj=3.0km s-min=2.6km az=28.3*
DDA ***03*** *16:52:06.9, 42°.24N×41°.11E, h22km±1km, ML3.7*
ISC 03 16:52:04.2±1.1, 42°.38N±0°.02×40°.89E±0°.02, h6km±9km, n138, σ1$70/212, 27C-4D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.98**	**142**	P	**Pg**	**16 52 23.6**	**+0.6**
BATM				S	**Sb**	**16 52 36.9**	**+0.1**
BATM	**Batumi**	**0.98**	**142**	⇑*i*PG	**Pg**	**16 52 23.6**	**+0.6**
BATM				*i* S	**Sb**	**16 52 37.4**	**+0.6**
BATM	**Batumi**	**0.98**	**142**	*i* P	**Pb**	**16 52 24.4**	**0.7**
BATM				*i* S	**Sb**	**16 52 37.6**	**+0.9**
BATM	**Batumi**	**0.98**	**142**	*i* Pg	**Pg**	**16 52 23.6**	**+0.6**
BATM				*i* Sg	**Sb**	**16 52 37.4**	**+0.6**
BATM	**Batumi**	**0.98**	**142**	⇑P	**Pg**	**16 52 23.6**	**+0.6**
BATM				⇑S	**Sb**	**16 52 37.4**	**+0.6**
BATM				AML	AML	16 52 37.8	
BATM	**Batumi**	**0.98**	**142**	PG	**Pg**	**16 52 23.6**	**+0.6**
BATM				SG	**Sb**	**16 52 37.3**	**+0.5**
DOMR	**Dombai**	**1.06**	**30**	⇑*i*PG	**Pg**	**16 52 23.6**	**-0.9**
DOMR	**Dombai**	**1.06**	**30**	*i* Pg	**Pg**	**16 52 23.4**	**-1.1**
DOMR				*e*Sg	**Sg**	**16 52 35.8**	**-2.4**
DBOC	**Borcka**	**1.19**	**151**	*i* P	**Pb**	**16 52 27.1**	**0.0**
DBOC				*i* S	**Sg**	**16 52 42.2**	**-0.1**
CHOM	**Cayeli-Rize**	**1.29**	**184**	PN	**Pn**	**16 52 28.8**	**0.0**
RPOR	**Krasnaya Polya**	**1.40**	**341**	*e*PG	**Pb**	**16 52 30.9**	**+0.2**
RPOR				*e*S	**Sg**	**16 52 49.8**	**+0.8**
RPOR	**Krasnaya Polya**	**1.40**	**341**	*e*Pg	**Pb**	**16 52 30.9**	**+0.2**
RPOR				*e*Sg	**Sg**	**16 52 49.8**	**+0.8**
ARTV	**Artvin**	**1.43**	**147**	*i* P	**Pn**	**16 52 30.2**	**-0.6**
ARTV				*i* S	**Sb**	**16 52 48.1**	**-1.7**
ARTV				IAML_P			
	comp=Z,37μm,0.2s						
SOC	**Sochi**	**1.48**	**325**	*e*PG	**Pb**	**16 52 32.0**	**-0.1**
SOC				*e*		16 52 52.6	
SOC				pmax	pmax		
	comp=Z,241nm,0.8s						
SOC				smax	smax		
	comp=N,197nm,0.3s						
SOC				smax	smax		
	comp=E,936nm,0.5s						
SOC	**Sochi**	**1.48**	**325**	*i* Pg	**Pb**	**16 52 32.5**	**+0.4**
SOC				*i* Sg	**Sg**	**16 52 53.6**	**+1.9**
DBAD	**Bademkaya**	**1.49**	**156**	*i* P	**Pn**	**16 52 31.2**	**-0.4**
DBAD				*i* S	**Sn**	**16 52 49.1**	**-2.3**
DAGI	**Agillar**	**1.51**	**149**	*i* P	**Pn**	**16 52 32.0**	**0.0**
DAGI				*i* S	**Sn**	**16 52 50.1**	**-1.9**
DAGI				IAML_P			
	comp=Z,9μm,0.3s						
TKB	**Tkibuli**	**1.56**	**90**	P	**Pn**	**16 52 31.1**	**-1.4**
TKB				S	**Sn**	**16 52 50.8**	**-2.3**
DDEM	**Demirkent**	**1.62**	**156**	*i* P	**Pn**	**16 52 33.8**	**+0.3**
DDEM				*i* S	**Sn**	**16 52 54.2**	**-0.5**
EPOS	**Posof**	**1.63**	**122**	*i* P	**Pn**	**16 52 33.5**	**-0.1**
EPOS				*i* S	**Sn**	**16 52 53.8**	**-1.1**
SHA1	**Shidzhatmaz**	**1.87**	**43**	⇑*i*PN	**Pn**	**16 52 38.0**	**+1.0**
SHA1	**Shidzhatmaz**	**1.87**	**43**	*e*Pg	**Pn**	**16 52 37.5**	**+0.5**
SHA1				*e*Sg	**Sb**	**16 53 02.2**	**-0.6**
ONI	**Oni**	**1.91**	**83**	P	**Pn**	**16 52 36.3**	**-1.0**
ONI	**Oni**	**1.91**	**83**	*e*PN	**Pn**	**16 52 36.3**	**-1.0**
ONI	**Oni**	**1.91**	**83**	*e*Pg	**Pn**	**16 52 36.3**	**-1.0**
ONI				*e*Sg	**Sn**	**16 53 00.7**	**-1.0**
ONI	**Oni**	**1.91**	**83**	PN	**Pn**	**16 52 37.0**	**-0.3**
ONI				SN	**Sb**	**16 53 02.5**	**-1.0**
KBZ	**Khabaz**	**1.99**	**47**	*i* PN	**Pn**	**16 52 39.4**	**+1.0**
KBZ	**Khabaz**	**1.99**	**47**	Pg	**Pb**	**16 52 39.9**	**-1.0**
	comp=Z,8.5nm,0.3s,baz=238,slow=9.5,SNR=115						
KBZ				Lg	Lg	16 53 03.9	
	comp=Z,33nm,0.3s,baz=92,slow=18,SNR=20						
KBZ	**Khabaz**	**1.99**	**47**	*i* Pg	**Pn**	**16 52 39.4**	**+1.0**
KBZ				*i* Sg	**Sn**	**16 53 04.2**	**+0.5**
KRIK	**Erzurum-spir**	**2.04**	**179**	*i* P	**Pb**	**16 52 41.5**	**-0.3**
KRIK				IAML_P			
	comp=Z,14μm,0.1s						
KIV	**Kislovodsk**	**2.05**	**39**	⇑*i*PN	**Pb**	**16 52 41.1**	**-0.8**
KIV	**Kislovodsk**	**2.05**	**39**	⇑P	**Pb**	**16 52 41.0**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.05**	**74**	*e*PN	**Pn**	**16 52 39.9**	**+0.4**
DIGR				pmax	pmax		
	comp=Z,23nm,0.6s						
DIGR	**Digorskoe uzhe**	**2.05**	**74**	*e*Pg	**Pn**	**16 52 39.8**	**+0.4**
DIGR				*e*Sg	**Sn**	**16 53 06.2**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**2.06**	**196**	PN	**Pn**	**16 52 40.7**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.12**	**148**	PN	**Pn**	**16 52 41.3**	**+0.9**
AKH	**Akhalkalaki**	**2.17**	**116**	P	**Pn**	**16 52 41.8**	**+0.7**
AKH				S	**Sn**	**16 53 08.0**	**-0.4**
AKH	**Akhalkalaki**	**2.17**	**116**	*e*PN	**Pn**	**16 52 41.8**	**+0.7**
AKH				*e*S	**Sn**	**16 53 08.9**	**+0.5**
AKH	**Akhalkalaki**	**2.17**	**116**	*e*Pg	**Pn**	**16 52 41.9**	**+0.7**
AKH				*e*Sg	**Sn**	**16 53 08.9**	**+0.5**
AKH	**Akhalkalaki**	**2.17**	**116**	⇓P	**Pn**	**16 52 42.4**	**+1.3**
AKH				⇑S	**Sb**	**16 53 10.5**	**-0.8**
AKH				AML	AML	16 53 12.0	
AKH	**Akhalkalaki**	**2.17**	**116**	PN	**Pn**	**16 52 41.3**	**+0.2**
AKH				SN	**Sn**	**16 53 09.5**	**+1.1**
BAYB	**BAYBURT**	**2.17**	**193**	*i* P	**Pb**	**16 52 43.6**	**-0.5**
BAYB				IAML_P			
	comp=Z,891nm,0.2s						
ZEI	**Tsey**	**2.26**	**79**	*e*PN	**Pn**	**16 52 43.1**	**+0.8**
ZEI				*e*S	**Sn**	**16 53 11.3**	**+0.7**
ZEI	**Tsey**	**2.26**	**79**	*e*Pg	**Pn**	**16 52 43.1**	**+0.8**
ZEI				*e*Sg	**Sn**	**16 53 11.3**	**+0.7**
NCK	**Nalchik**	**2.28**	**60**	*e*PN	**Pb**	**16 52 45.0**	**-0.7**
NCK				*e*S	**Sb**	**16 53 14.7**	**+0.6**
NCK	**Nalchik**	**2.28**	**60**	*e*Pg	**Pb**	**16 52 45.0**	**-0.7**
NCK				*e*Sg	**Sb**	**16 53 13.6**	**-0.5**
AKDA	**Akdag**	**2.30**	**171**	*i* P	**Pg**	**16 52 49.3**	**+0.9**
PYA1	**Pyatigorsk**	**2.33**	**43**	⇑*e*PN	**Pb**	**16 52 45.5**	**-1.1**
PYA1				*e*S	**Sn**	**16 53 12.5**	**+0.5**
PYA1	**Pyatigorsk**	**2.33**	**43**	*e*Pg	**Pb**	**16 52 45.0**	**-1.6**
PYA1				*e*Sg	**Sb**	**16 53 14.7**	**-1.0**
KBTC	**Kuba-Taba**	**2.34**	**51**	⇑*i*PN	**Pb**	**16 52 45.6**	**-1.1**
KBTC				*e*S	**Sb**	**16 53 13.8**	**-2.1**
KBTC	**Kuba-Taba**	**2.34**	**51**	*e*Pg	**Pb**	**16 52 45.3**	**-1.4**
KBTC				*e*Sg	**Sb**	**16 53 15.8**	**0.0**
LSNR	**Lesken**	**2.34**	**66**	*e*PN	**Pb**	**16 52 45.7**	**-1.1**
LSNR				*e*S	**Sb**	**16 53 16.7**	**+0.8**
LSNR	**Lesken**	**2.34**	**66**	*e*Pg	**Pn**	**16 52 43.9**	**+0.6**
NVNR	**Nevinnomyssk**	**2.36**	**19**	*e*Pn	**Pb**	**16 52 47.1**	**-0.1**
NVNR				*e*Sn	**Sb**	**16 53 16.9**	**+0.3**
KOPT	**Kop Dagi**	**2.38**	**187**	*i* P	**Pb**	**16 52 47.0**	**-0.6**
KOPT				IAML_P			
	comp=Z,1μm,0.2s						
KARS	**Kars**	**2.40**	**136**	*e*PN	**Pn**	**16 52 45.8**	**+1.6**
KARS	**Kars**	**2.40**	**136**	PN	**Pn**	**16 52 45.8**	**+1.6**
KORR	**Kora**	**2.44**	**72**	*e*PN	**Pb**	**16 52 48.0**	**-0.6**
KORR				*e*S	**Sb**	**16 53 19.2**	**+0.3**
KORR				pmax	pmax		
	comp=Z,18nm,0.4s						
KORR				smax	smax		
	comp=E,65nm,0.4s						
KORR	**Kora**	**2.44**	**72**	*e*Pn	**Pb**	**16 52 47.1**	**-1.4**
KORR				*e*Sn	**Sb**	**16 53 19.2**	**+0.3**
HOMI	**Horasan**	**2.46**	**162**	*i* P	**Pb**	**16 52 47.5**	**-1.5**
KOPR	**Koprukoy-ERZUR**	**2.50**	**163**	PN	**Pn**	**16 52 46.7**	**+1.2**
STDR	**Stavd-Durt**	**2.53**	**66**	*e*PN	**Pb**	**16 52 49.0**	**-1.1**
STDR				*e*S	**Sn**	**16 53 18.7**	**+1.7**
STDR	**Stavd-Durt**	**2.53**	**66**	*e*Pn	**Pb**	**16 52 49.0**	**-1.1**
STDR				*e*Sn	**Sn**	**16 53 18.7**	**+1.7**
KELT	**Kelkit**	**2.55**	**209**	*i* P	**Pn**	**16 52 48.3**	**+2.0**
LACR	**Lac**	**2.55**	**79**	*e*PN	**Pn**	**16 52 47.1**	**+0.8**
LACR				*e*S	**Sb**	**16 53 20.4**	**-1.8**
LACR				pmax	pmax		
	comp=Z,43nm,0.6s						
LACR				smax	smax		
	comp=N,182nm,0.6s						
LACR	**Lac**	**2.55**	**79**	*e*Pn	**Pn**	**16 52 46.9**	**+0.6**
LACR				*e*Sn	**Sn**	**16 53 18.8**	**+1.1**
ARNR	**Ardon**	**2.62**	**71**	*e*PN	**Pb**	**16 52 50.0**	**-1.6**
ARNR				*e*S	**Sb**	**16

comp=E,0.2nm,0.3s,baz=56,slow=16,SNR=2.4
BRTR Sn **Sn** **16 54 47.1 +2.2**
comp=E,0.2nm,0.3s,baz=39,slow=19,SNR=2.1
TLCR **9.17 292** ⇑P **Pn** **16 54 16.5 -0.6**
TIRR **Tirgusor** **9.32 287** ⇑P **Pn** **16 54 18.0 -1.0**
TLB **Topalu** **9.60 288** ⇑P **Pn** **16 54 21.4 -1.4**
CFR **Carcaliu** **9.64 291** ⇑P **Pn** **16 54 22.8 -0.6**
VRI **Vrincioaia** **10.76 294** ⇓P **Pn** **16 54 37.3 -1.5**
MLR **Muntele Rosu** **11.22 291** Pn **Pn** **16 54 42.2 -2.9**
comp=E,0.1nm,0.3s,baz=116,slow=16,SNR=1.6
MLR Sn **Sn** **16 56 46.9 -4.0**
comp=E,0.1nm,0.3s,baz=267,slow=20,SNR=1.5
MLR **Muntele Rosu** **11.22 291** ⇑P **Pn** **16 54 43.3 -1.9**
AKASG **Malin Array Be** **11.55 320** Pn **Pn** **16 54 47.1 -2.5**
comp=E,0.9nm,0.3s,baz=136,slow=14,SNR=1.9
AKASG Sn Sn 16 56 47.2 -12
comp=E,0.6nm,0.3s,baz=135,slow=39,SNR=1.4
DOPR **Dopca** **11.70 293** ⇑P **Pn** **16 54 50.3 -1.2**
VOIR **11.83 290** ⇑P **Pn** **16 54 51.5 -2.0**
OBN **Obninsk** **13.05 349**⇑ *e*P **Pn** **16 55 14.3 +4.3**
OBN pmax pmax
comp=Z,4.0nm,0.9s
VYHS **Vyhne** **16.61 299** *e*P **Pn** **16 55 57.3 -0.3**
VYHS **Vyhne** **16.61 299** *e*P **Pn** **16 55 57.3 -0.3**
ARU **Arti** **18.08 33**⇑ *e*P **Pn** **16 56 14.9 -0.9**
ARU pmax pmax
comp=Z,1.0nm,1.0s
FINES **FINESS Array B** **21.07 340** P **P** **16 56 43.5 -5.3**
comp=Z,0.7nm,0.8s,baz=145,slow=12,SNR=1.2
BRVK **Borovoye** **22.32 51**⇑ *e*P **P** **16 57 02.9 +0.6**
BRVK pmax pmax
comp=Z,13nm,4.4s
BVAR **Borovoye Array** **22.37 51** P **P** **16 57 03.4 +0.5**
comp=Z,0.1nm,0.3s,baz=251,slow=9.0,SNR=1.2
AAK **Ala-Archa** **24.68 78**⇓ *e*P **P** **16 57 28.8 +2.8**
AAK pmax pmax
comp=Z,5.0nm,2.0s
KURBB **Kurchatov Arra** **26.95 59** P **P** **16 57 46.1 -0.1**
comp=Z,0.5nm,0.5s,baz=272,slow=9.5,SNR=4.2
KURK **Kurchatov** **27.01 59**⇓ *e*P **P** **16 57 48.9 +2.2**
MK31 **Makanchi Array** **29.56 67**⇑ *e*P **P** **16 58 10.8 +1.2**

IDC ***03*** *16:54:18.6±1.6, 11°.57S×165°.04E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/34, mbtmp3.8/6, ML4.0/2, MS2.8/3, Ms1 2.8/3, ms1mx2.5/25, Error ellipse: s-maj=33.1km s-min=31.8km az=119.0*
ISCJB ***03*** *16:54:22.0±1.1, 11°.8S±0°.1×165°.0E±0°.1, h35km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=20.6km s-min=10.4km az=44.4*
NEIC ***03*** *16:54:24.1±0.4, 11°.71S±0°.10×165°.01E±0°.09, h37km±13km, mb4.3/3*
ISC 03 16:54:23.5±1.2, 11°.8S±0°.1×165°.0E±0°.1, h35km, n17, σ1§10/15, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.51**	**294**	Pn	**Pn**	**16 55 41.4**	**-1.8**
	6.4nm,0.3s,baz=152,slow=17,SNR=4.2						
HNR				Sn	**Sn**	**16 56 45.9**	**+0.6**
	3.9nm,0.3s,baz=160,slow=22,SNR=5.7						
HNR				LR	LR	16 58 08.4	
	comp=Z,28nm,19.4s,baz=194,slow=42						
HNR	**Honiara**	**5.51**	**294**		**Pn**	**16 55 43.1**	**0.0**
DZM	**Mont Dzumac**	**10.34**	**173**	Pn	**Pn**	**16 56 51.0**	**+1.4**
	0.9nm,0.3s,baz=304,slow=16,SNR=33						
DZM				Sn	**Sn**	**16 58 42.3**	**-2.1**
	0.2nm,0.3s,baz=249,slow=21,SNR=2.6						
DZM				LR	LR	17 00 26.8	
	comp=Z,64nm,18.7s,baz=42,slow=35						
DZM	**Mont Dzumac**	**10.34**	**173**		**Pn**	**16 56 50.7**	**+1.1**
STKA	**Stephens Creek**	**29.45**	**224**	LR	LR	17 11 22.6	
	comp=Z,38nm,19.3s,baz=33,slow=35						
H11S2	**WAKE ISLAND Hy**	**30.10**	**3**	T	T	17 32 00.7	
	baz=185,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.11**	**3**	T	T	17 31 59.1	
	baz=185,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.12**	**3**	T	T	17 32 04.8	
	baz=185						
WRAB	**Tennant Creek**	**30.58**	**251**	P	**P**	**17 00 34.5**	**+0.2**
WRAB				IAmb	IAmb	17 01 06.6	
	comp=Z,30nm,2.0s						
WB2	**Warramunga Arr**	**30.58**	**251**	P	**P**	**17 00 35.6**	**+1.3**
WB2				IAmb	IAmb	17 01 15.7	
	comp=Z,3.4nm,1.9s						
WRA	**Warramunga Arr**	**30.59**	**251**	P	**P**	**17 00 35.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=80,slow=8.8,SNR=5.7						
WRA	**Warramunga Arr**	**30.59**	**251**	P	**P**	**17 00 35.0**	**+0.6**
ASAR	**Alice Springs**	**31.85**	**244**	P	**P**	**17 00 45.8**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=68,slow=10.0,SNR=4.6						
ILAR	**Eielson Array**	**84.41**	**19**	P	**P**	**17 06 51.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=238,slow=5.2,SNR=4.2						
ILAR	**Eielson Array**	**84.41**	**19**	P	**P**	**17 06 52.1**	**+0.1**
MKAR	**Makanchi Array**	**93.56**	**317**	P	**P**	**17 07 35.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=93,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**93.56**	**317**	P	**P**	**17 07 35.6**	**-0.5**

ISCJB ***03*** *16:58:44.5±1.1, 24°.14S±0°.07×67°.08W±0°.04, h172km±16km, Error ellipse: s-maj=12.0km s-min=5.4km az=17.6*
SJA ***03*** *16:58:44.0±0.9, 24°.19S×67°.02W, h174km±15km, ML2.9, MW2.8*
GUC ***03*** *16:58:45.5±0.5, 23°.87S×67°.41W, h220km±11km, ML4.2*
ISC 03 16:58:42.6±2.6, 24°.16S±0°.07×67°.03W±0°.05, h196km±27km, n18, σ1§46/29, 2C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.76**	**58**	*i* P	**Pn**	**16 59 20.0**	**+1.2**
HJA				IAML		16 59 21.1	
	comp=Z,37nm,0.6s						
HJA				*e*S	**Sn**	**16 59 46.3**	**-0.7**
AZAP	**Zapla**	**1.80**	**93**	⇓ *i*P	**Pn**	**16 59 19.8**	**+0.8**
AZAP				IAML		16 59 20.2	
	comp=Z,96nm,0.3s						
AZAP				*e*S	**Sn**	**16 59 45.4**	**-1.9**
ASTB	**Santa Barbara**	**2.37**	**85**	*i* P	**Pn**	**16 59 25.7**	**+0.7**
YJA	**Yavi**	**2.42**	**36**	*i* P	**Pn**	**16 59 27.1**	**+1.3**
YJA				*e*S	**Sn**	**16 59 59.0**	**-0.4**
PB15	**IPOC Station P**	**2.43**	**292**	⇑ *i*P	**Pn**	**16 59 27.2**	**+1.6**
PB15				*i* S	**Sn**	**16 59 58.8**	**-0.3**
PB15	**IPOC Station P**	**2.43**	**292**	*i* P	**Pn**	**16 59 27.2**	**+1.6**
PB06	**IPOC Station P**	**2.74**	**301**	⇑ *i*P	**Pn**	**16 59 30.6**	**+1.4**
PB06				*i* S	**Sn**	**17 00 04.7**	**-0.8**
PB06				IAML		17 00 06.9	
	comp=E,382nm,0.2s						
AHML	**Horco Molle**	**3.03**	**150**	*i* P	**Pn**	**16 59 33.0**	**+0.6**
PB14	**IPOC Station P**	**3.11**	**261**	*i* P	**Pn**	**16 59 34.6**	**+1.0**
PB09	**IPOC Station P**	**3.11**	**319**	⇓ *i*P	**Pn**	**16 59 35.4**	**+1.8**
PB09				*e*S	**Sn**	**17 00 12.7**	**-0.6**
PB09	**IPOC Station P**	**3.11**	**319**	*i* P	**Pn**	**16 59 35.4**	**+1.8**
PB03	**IPOC Station P**	**3.27**	**309**	⇓ *i*P	**Pn**	**16 59 36.4**	**+1.0**
PB03				*e*S	**Sn**	**17 00 15.3**	**-1.4**
PB03				IAML		17 00 17.0	
	comp=E,339nm,0.4s						
PB10	**IPOC Station P**	**3.29**	**281**	⇓ *i*P	**Pn**	**16 59 36.8**	**+1.3**
PB10				*e*S	**Sn**	**17 00 16.2**	**-0.6**
PB10	**IPOC Station P**	**3.29**	**281**	*i* P	**Pn**	**16 59 36.8**	**+1.3**
PB04	**IPOC Station P**	**3.39**	**302**	*e*P	**Pn**	**16 59 38.0**	**+1.0**
PB04				*e*S	**Sn**	**17 00 17.2**	**-2.2**
PB04				IAML		17 00 19.5	
	comp=N,250nm,0.1s						
PB04	**IPOC Station P**	**3.39**	**302**	*i* P	**Pn**	**16 59 38.0**	**+1.0**
PB07	**IPOC Station P**	**3.57**	**312**	⇓ *i*P	**Pn**	**16 59 39.9**	**+0.8**
PB07				*e*S	**Sn**	**17 00 21.1**	**-2.3**
PB07				IAML		17 00 22.7	
	comp=N,351nm,0.3s						
PB02	**IPOC Station P**	**3.87**	**316**	*e*P	**Pn**	**16 59 43.2**	**+0.5**
PB02				*e*S	**Sn**	**17 00 26.9**	**-3.0**
PB02				IAML		17 00 30.9	
	comp=E,196nm,0.2s						

TIF ***03*** *17:01:21.1, 42°.38N×40°.95E, h46km±1km*
NORS ***03*** *17:01:23.4±0.0, 42°.53N×41°.32E, h9km, MPVA2.8*
DDA ***03*** *17:01:23.3, 42°.27N×42°.22E, h7km±7km, ML2.7*
ISC 03 17:01:21.4±2.0, 42°.39N±0°.05×41°.17E±0°.09, h9km±12km, n13, σ0§97/26, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.88**	**153**	P	**Pg**	**17 01 39.4**	**+1.1**
BATM				S	**Sn**	**17 01 52.9**	**+0.1**
BATM	**Batumi**	**0.88**	**153**	*i* P	**Pb**	**17 01 39.8**	**+1.0**
BATM				*i* S	**Sn**	**17 01 52.5**	**-0.3**
DBOC	**Borcka**	**1.11**	**160**	*i* P	**Pg**	**17 01 42.0**	**-0.7**
DBOC				*i* S	**Sb**	**17 01 57.9**	**+0.6**
ARTV	**Artvin**	**1.33**	**155**	*i* P	**Pn**	**17 01 46.5**	**+0.1**
ARTV				*i* S	**Sb**	**17 02 02.9**	**-1.0**
ARTV				IAML_P			
	comp=Z,942nm,0.1s						
TKB	**Tkibuli**	**1.35**	**91**	P	**Pg**	**17 01 47.3**	**0.0**
TKB				S	**Sn**	**17 02 06.6**	**+2.1**
DAGI	**Agillar**	**1.43**	**157**	*i* P	**Pn**	**17 01 48.0**	**+0.4**
DAGI				*i* S	**Sb**	**17 02 05.8**	**-0.7**
DAGI				IAML_P			
	comp=Z,179nm,0.1s						
DBAD	**Bademkaya**	**1.43**	**164**	*i* P	**Pn**	**17 01 47.1**	**-0.5**
DBAD				*i* S	**Sb**	**17 02 05.5**	**-1.0**
DBAD				IAML_P			
	comp=Z,531nm,0.1s						
DDEM	**Demirkent**	**1.56**	**164**	*i* P	**Pn**	**17 01 49.6**	**+0.3**
DDEM				*i* S	**Sn**	**17 02 08.5**	**-1.3**
DDEM				IAML_P			
	comp=Z,370nm,0.1s						
ONI	**Oni**	**1.70**	**83**	P	**Pb**	**17 01 53.0**	**+0.2**
ONI				S	**Sg**	**17 02 17.6**	**+1.6**
SHA1	**Shidzhatmaz**	**1.73**	**39**	*e*Pg	**Pb**	**17 01 54.0**	**+0.5**
SHA1				*e*Sg	**Sg**	**17 02 17.0**	**0.0**
DIGR	**Digorskoe uzhe**	**1.85**	**73**	*e*Pg	**Pg**	**17 01 56.7**	**-0.1**
DIGR				*e*Sg	**Sg**	**17 02 21.0**	**+0.1**
ZEI	**Tsey**	**2.06**	**78**	*e*Pg	**Pg**	**17 01 59.9**	**-0.9**
ZEI				*e*Sg	**Sg**	**17 02 27.1**	**-0.3**
LACR	**Lac**	**2.35**	**78**	*e*Pg	**Pb**	**17 02 03.8**	**-0.1**
LACR				*e*Sg	**Sg**	**17 02 34.7**	**-2.2**

NEIC ***03*** *17:03:18.2±2.4, 33°.26N±0°.02×115°.97W±0°.02, h5km±6km*
ANF ***03*** *17:03:18.2±0.3, 33°.29N×116°.01W, h8km±5km, ML2.5/21, Error ellipse: s-maj=2.6km s-min=2.3km az=63.0*
PAS ***03*** *17:03:19.4±2.3, 33°.27N±0°.02×116°.00W±0°.02, h6km±6km, ML2.6*
MEX ***03*** *17:03:21.4±0.6, 33°.47N×116°.65W, h20km±999km, MD3.6*
ISC 03 17:03:17.9±1.0, 33°.27N±0°.02×115°.99W±0°.02, h16km±9km, n40, σ0§93/64, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.36**	**154**	P	**Pb**	**17 03 26.2**	**+0.3**
	baz=333,SNR=73						
SWSC				S	**Sb**	**17 03 31.5**	**+0.1**
	baz=333						
PFO	**Pinyon Flats O**	**0.52**	**311**	P	**Pb**	**17 03 28.9**	**+0.2**
	baz=131,SNR=12						
PFO				S	**Sb**	**17 03 35.8**	**-0.3**
	baz=131						
PFO	**Pinyon Flats O**	**0.52**	**311**		**Pb**	**17 03 28.9**	**+0.2**
PFO				Sg	**Sb**	**17 03 35.7**	**-0.3**
MONP2	**Monument Peak**	**0.52**	**224**	P	**Pb**	**17 03 29.0**	**+0.1**
	baz=41,SNR=26						
MONP2				S	**Sg**	**17 03 35.8**	**+0.4**
	baz=41						
BC3	**Big Chuckawall**	**0.59**	**49**	P	**Pn**	**17 03 30.7**	**-1.1**
	baz=232,SNR=61						
BC3				S	**Sn**	**17 03 39.1**	**-2.1**
	baz=232						
IKP	**In-Ko-Pah, Jac**	**0.63**	**189**	P	**Pb**	**17 03 30.9**	**+0.4**
	baz=7.5,SNR=9.9						
IKP				S	**Sb**	**17 03 39.3**	**+0.2**
	baz=7.5						
BELC	**Belle Mtn. Jos**	**0.73**	**360**	P	**Pn**	**17 03 33.0**	**-0.7**
	baz=181,SNR=20						
BELC				S	**Sn**	**17 03 43.3**	**-1.3**
	baz=181						
BAR	**Barrett**	**0.82**	**224**		**Pb**	**17 03 34.1**	**+0.3**
BAR				Sg	**Sg**	**17 03 44.4**	**-0.3**
GLA	**Glamis**	**1.00**	**102**	P	**Pn**	**17 03 37.0**	**-0.4**
	baz=284						
GLA				S	**Sb**	**17 03 49.9**	**0.0**
	baz=284						
GLA	**Glamis**	**1.00**	**102**	Pg	**Pn**	**17 03 37.0**	**-0.4**
GLA				Sg	**Sn**	**17 03 50.2**	**-0.9**
109C	**Camp Elliot, M**	**1.01**	**248**	P	**Pn**	**17 03 37.5**	**+0.1**
	baz=66,SNR=34						
109C				S	**Sb**	**17 03 50.5**	**+0.4**
	baz=66						
109C	**Camp Elliot, M**	**1.01**	**248**		**Pn**	**17 03 37.6**	**+0.1**
TJIG	**Tijuana**	**1.01**	**215**	*e*P	**Pg**	**17 03 37.4**	**-0.1**
TJIG				*i* S	**Sb**	**17 03 50.0**	**-0.2**
MURC	**Murrieta**	**1.06**	**288**	P	**Pn**	**17 03 39.0**	**+0.9**
	baz=107,SNR=13						
MURC				S	**Sn**	**17 03 53.0**	**+0.3**
	baz=107						
CBX	**Cerro Bola**	**1.11**	**211**	*e*P	**Pb**	**17 03 39.0**	**+0.1**
CBX				*e*S	**Sb**	**17 03 53.1**	**0.0**
IRM	**Iron Mountain**	**1.13**	**38**	P	**Pn**	**17 03 40.0**	**+0.9**
	baz=220,SNR=25						
IRM				S	**Sn**	**17 03 55.4**	**+1.0**
	baz=220						
BBRC	**Big Bear Solar**	**1.26**	**322**	P	**Pg**	**17 03 42.4**	**+0.3**
	baz=142,SNR=5.3						
BBRC				S	**Sn**	**17 03 59.2**	**+1.4**
	baz=142						
Y12C	**Blythe**	**1.32**	**68**	P	**Pb**	**17 03 41.7**	**-0.6**
	baz=250,SNR=9.1						
Y12C				S	**Sg**	**17 04 00.3**	**-0.1**
	baz=250						
Y12C	**Blythe**	**1.32**	**68**		**Pb**	**17 03 41.6**	**-0.6**
GMRC	**Granite Mounta**	**1.53**	**10**	Pg	**Pg**	**17 03 48.3**	**+0.8**
	baz=191,SNR=8.9						
GMRC				S	**Sg**	**17 04 07.9**	**+0.5**
	baz=191						
HEC	**Hector,Ludlow**	**1.58**	**350**	S	**Sg**	**17 04 09.9**	**+1.0**
	baz=170						
BFSC	**Mount Baldy Ra**	**1.69**	**305**	Pg	**Pg**	**17 03 50.0**	**-0.5**
	baz=124						
RRX	**Edison Barstow**	**1.81**	**333**	Pg	**Pg**	**17 03 52.8**	**+0.2**
	baz=152						
RRX				Sg	**Sg**	**17 04 17.3**	**+1.3**
	baz=152						
NEE2	**Needles Airpor**	**1.88**	**37**	Sg	**Sg**	**17 04 18.6**	**+0.2**
	baz=218						
MWC	**Mount Wilson**	**1.97**	**299**		**Pg**	**17 03 54.6**	**-1.1**
MWC				Sn	**Sg**	**17 04 19.5**	**-1.7**
PASC	**Pasadena Art C**	**2.04**	**297**	Pg	**Pg**	**17 03 57.7**	**+0.7**
GSC	**Goldstone, Bar**	**2.13**	**342**	Sg	**Sg**	**17 04 27.1**	**+0.5**
	baz=162						
GSC	**Goldstone, Bar**	**2.13**	**342**		**Pg**	**17 03 58.8**	**0.0**
GSC					LR	17 04 27.5	
DECC	**Green Verdugo**	**2.18**	**297**	Sg	**Sg**	**17 04 26.3**	**-1.9**
	baz=116						
SPIG	**San Pedro Mart**	**2.26**	**169**	*i* P	**Pg**	**17 04 00.8**	**-0.5**
SPIG				*i* S	**Sg**	**17 04 30.2**	**-0.6**
EDW2	**Edwards Air Fo**	**2.31**	**315**	Pg	**Pg**	**17 04 01.5**	**-0.7**
	baz=134,SNR=7.0						
EDW2				Sg	**Sg**	**17 04 30.7**	**-1.5**
	baz=134						
W13A	**Hualapai Mount**	**2.52**	**43**	Pn	**Pb**	**17 04 00.1**	**-2.9**
W13A					**Sn**	**17 04 30.2**	**+1.1**
Y14A	**Wickenburg**	**2.58**	**74**		**Pg**	**17 04 09.3**	**+2.0**
SHOC	**Shoshone, Teco**	**2.63**	**355**	Sg	**Sg**	**17 04 42.7**	**+0.2**
	baz=175						
MPMC	**Manual Prospec**	**3.04**	**336**	Pg	**Pg**	**17 04 15.7**	**-0.5**
	baz=156						
MPMC				Sg	**Sg**	**17 04 55.7**	**+0.1**
	baz=156						
ISA	**Isabella, Lake**	**3.15**	**320**	Pn	**Pn**	**17 04 06.9**	**0.0**
KNB	**Kanab**	**4.55**	**34**	Pn	**Pn**	**17 04 27.3**	**+1.0**
R11A	**Troy Canyon, C**	**5.08**	**4**	Pn	**Pn**	**17 04 35.6**	**+2.0**
X18A	**Snowflake**	**5.18**	**74**	Pn	**Pn**	**17 04 35.5**	**+0.5**
NVAR	**Mina Array Bea**	**5.48**	**341**	Pn	**Pn**	**17 04 40.2**	**+1.1**

BJI ***03*** *17:10:21.5±0.0, 18°.39S×174°.88W, h207km, mb5.2/52, mB5.2/32*
ISCJB ***03*** *17:10:21.8±0.9, 18°.61S±0°.04×175°.57W±0°.03, h197km±8km, mb5.2/84, Error ellipse: s-maj=6.4km s-min=3.8km az=148.6*
MOS ***03*** *17:10:21.5±0.8, 18°.54S×175°.55W, h193km, mb5.3/10, Error ellipse: s-maj=9.0km s-min=8.4km az=101.3*
IDC ***03*** *17:10:23.9±3.1, 18°.62S×175°.47W, h207km±28km, mb4.6/24, mb1 4.7/25, mb1mx4.6/39, mbtmp5.1/25, MS3.2/1, Ms1 3.2/1, ms1mx2.6/36, Error ellipse: s-maj=12.7km s-min=10.6km az=148.0*
NEIC ***03*** *17:10:23.8±2.1, 18°.56S±0°.09×175°.5W±0°.1, h209km±7km, mb5.2/107*
GCMT ***03*** *17:10:28.8±0.4, 18°.76S±0°.03×175°.31W±0°.02, h253km±2km, MW5.1/79, Moment Tensor Solution. s49,c60; s79,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.73±.17; Mθθ4.89±.23; Mφφ-0.15±.19; Mrθ-0.95±.22; Mφθ 1.01±.20; Mφr-3.26±.17; Best double couple: M0:5.90200×10^16 NP1:φs53.00000°, δ60.00000°, λ-119.00000°. NP2:φs281.00000°, δ41.00000°, λ-50.00000°. Principal axes: T 5.3670, Plg10.0000°, Azm164.0000°; N 1.0770, Plg25.0000°, Azm69.0000°; P -6.4370, Plg63.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 17:10:24.3±0.6, 18°.69S±0°.05×175°.43W±0°.05, h214km±5km, h215km:pP-P, n771, σ1§17/784, mb5.1/126, 47C-71D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.22**	**95**	P	**Pn**	**17 11 42.7**	**+0.8**
	baz=5.1,SNR=156						
NIUE	**Niue**	**5.22**	**95**		**Pn**	**17 11 42.9**	**+0.9**
AFI	**Afiamalu**	**5.90**	**37**	P	**Pn**	**17 11 47.6**	**-3.1**
AFI	**Afiamalu**	**5.90**	**37**		**Pn**	**17 11 47.6**	**-3.1**
RAO	**Raoul Island**	**10.76**	**192**	S	**S**	**17 14 52.9**	**-0.7**
	52nm,0.3s,baz=101,slow=21,SNR=3.5						
RAR	**Rarotonga**	**14.93**	**102**	P	**Pn**	**17 13 45.4**	**+0.2**
RAR	**Rarotonga**	**14.93**	**102**	P	**Pn**	**17 13 45.1**	**-0.1**
	1.7nm,0.3s,baz=247,slow=7.0,SNR=12						
RAR	**Rarotonga**	**14.93**	**102**	P	**Pn**	**17 13 45.4**	**+0.2**
DZM	**Mont Dzumac**	**17.33**	**256**	*e*P	**Pn**	**17 14 15.0**	**+1.1**
	315nm,1.2s						
DZM	**Mont Dzumac**	**17.33**	**256**	P	**Pn**	**17 14 14.9**	**+1.1**
	3.1nm,0.3s,baz=80,slow=15,SNR=44						
DZM	**Mont Dzumac**	**17.33**	**256**	Pn	**Pn**	**17 14 15.2**	**+1.3**
DZM				IAmb	IAmb	17 14 16.9	
	comp=Z,96nm,0.8s						
OUZ	**Omahuta**	**19.13**	**208**	P	**P**	**17 14 33.6**	**+2.2**
MXZ	**Matakaoa Point**	**19.59**	**195**	P	**P**	**17 14 36.5**	**+0.2**
MXZ				IAmb	IAmb	17 14 52.5	
	comp=Z,153nm,1.8s						
URZ	**Urewera**	**20.56**	**197**	P	**P**	**17 14 47.1**	**+0.5**
	comp=Z,76nm,0.4s,baz=9.0,slow=3.4,SNR=134						
URZ				S	**S**	**17 18 18.3**	**-5.9**
	comp=Z,14nm,1.0s,baz=112,slow=16,SNR=3.1						
URZ	**Urewera**	**20.56**	**197**	P	**P**	**17 14 46.4**	**-0.3**
URZ				IAmb	IAmb	17 14 49.9	
	comp=Z,135nm,1.1s						
HIZ	**Hauiti**	**21.49**	**201**	P	**P**	**17 14 57.2**	**+0.9**
HIZ				IAmb	IAmb	17 15 11.6	
	comp=Z,61nm,1.0s						
BKZ	**Black Stump Fm**	**21.58**	**197**	P	**P**	**17 14 55.9**	**-1.3**
BKZ				IAmb	IAmb	17 15 01.0	
	comp=Z,30nm,0.8s						
BFZ	**Birch Farm**	**23.06**	**196**	P	**P**	**17 15 11.2**	**+0.2**
BFZ				IAmb	IAmb	17 15 19.3	
	comp=Z,27nm,0.6s						
MSWZ	**Moikau Station**	**24.02**	**197**	P	**P**	**17 15 18.9**	**-0.7**
PLWZ	**Palliser**	**24.16**	**197**	P	**P**	**17 15 21.0**	**+0.1**
QRZ	**Quartz Range**	**24.37**	**203**	P	**P**	**17 15 25.0**	**+2.2**
TUWZ	**Tuamarina**	**24.43**	**200**	P	**P**	**17 15 22.5**	**-0.8**
PAE	**Paea**	**24.57**	**92**	*e*T	T	17 39 49.0	
	comp=Z,3.7nm,0.3s						
PPT2	**Papeete2**	**24.59**	**92**	*e*P	**P**	**17 15 24.4**	**-0.7**
	comp=Z,74nm,1.3s						
PPT2				*e*S	**S**	**17 19 26.9**	**-3.4**
	comp=Z,82nm,26.2s						
PPT2				*e*LQ	LQ	17 20 45.2	
	comp=Z,362nm,24.2s						
PPT2	**Papeete2**	**24.59**	**92**	*e*T	T	17 39 51.0	
	comp=Z,2.6nm,0.3s						
PPT	**Papeete**	**24.59**	**92**	LR	LR	17 21 60.0	
	comp=Z,63nm,21.8s,baz=196,slow=28						
TBI	**Tubuai**	**24.66**	**105**	*e*S	**S**	**17 19 29.3**	**-2.0**
	comp=Z,86nm,23.0s						
TBI				*e*LQ	LQ	17 20 49.4	
	comp=Z,262nm,29.2s						
TBI	**Tubuai**	**24.66**	**105**	*e*T	T	17 40 04.0	
	comp=Z,11nm,0.4s						
THZ	**Tophouse**	**25.06**	**201**	P	**P**	**17 15 29.9**	**+0.8**
THZ				IAmb	IAmb	17 15 38.5	
	comp=Z,28nm,0.6s						
HNR	**Honiara**	**25.57**	**288**	P	**P**	**17 15 34.4**	**+0.5**
	comp=Z,125nm,0.8s,baz=183,slow=4.8,SNR=8.4						
MEH	**Mehetia**	**25.99**	**93**	*e*T	T	17 41 35.5	
	comp=Z,14nm,0.3s						
LTZ	**Lake Taylor**	**26.19**	**201**	P	**P**	**17 15 39.0**	**-0.2**
LTZ				IAmb	IAmb	17 15 48.9	
	comp=Z,45nm,0.7s						
PMOR	**Pomariorio Ree**	**26.59**	**86**	*e*P	**P**	**17 15 42.5**	**-0.6**
	comp=Z,150nm,1.3s						
RPZ	**Rata Peaks**	**27.43**	**202**	P	**P**	**17 15 51.2**	**+1.0**
	comp=Z,15nm,0.6s,baz=16,slow=4.2,SNR=4.5						
EIDS	**Eidsvold**	**31.69**	**252**	P	**P**	**17 16 28.1**	**+0.1**
	baz=32,SNR=16						
EIDS	**Eidsvold**	**31.69**	**252**	P	**P**	**17 16 28.1**	**+0.1**
EIDS				IAmb	IAmb	17 16 29.8	
	comp=Z,47nm,0.8s						
ARMA	**Armidale**	**32.05**	**242**	P	**P**	**17 16 32.0**	**+0.8**
	baz=32,SNR=23						
ARMA	**Armidale**	**32.05**	**242**	P	**P**	**17 16 31.4**	**+0.1**
ARMA				IAmb	IAmb	17 16 35.1	
	comp=Z,92nm,1.3s						
RMQ	**Roma**	**33.88**	**250**	P	**P**	**17 16 47.9**	**+0.9**
	baz=34,SNR=55						
CNB	**Canberra Magne**	**35.25**	**235**	P	**P**	**17 16 59.6**	**+0.9**
	baz=35,SNR=6.0						
CTA	**Charters Tower**	**36.12**	**261**	PcP	**PcP**	**17 19 27.8**	**+0.5**
	comp=Z,16nm,1.0s,baz=217,slow=1.8,SNR=3.3						
CTAO	**Charters Tower**	**36.12**	**261**	P	**P**	**17 17 06.3**	**0.0**
CTAO				pmax	pmax		
	comp=Z,104nm,0.6s						
CTAO	**Charters Tower**	**36.12**	**261**	P	**

WRAB Tennant Creek 47.27 260 P **P** **17 18 35.4 -1.2**
WRAB IAmb IAmb 17 18 36.6
comp=Z,60nm,0.7s
WRA Warramunga Arr 47.28 260 P **P** **17 18 35.5 -1.1**
comp=Z,51nm,0.7s,baz=97,slow=8.1,SNR=331
WRA PcP **PcP** **17 20 04.5 +0.2**
comp=Z,26nm,0.7s,baz=92,slow=3.7,SNR=17
WRA S **S** **17 25 08.5 -5.2**
comp=Z,3.2nm,0.9s,baz=98,slow=14,SNR=4.9
WRA Warramunga Arr 47.28 260 P **P** **17 18 34.4 -2.2**
AS31 Alice Springs 47.31 255 P **P** **17 18 37.2 +0.3**
AS31 IAmb IAmb 17 18 37.9
comp=Z,78nm,0.7s
ASAR Alice Springs 47.31 255 P **P** **17 18 36.5 -0.3**
comp=Z,255nm,0.7s,baz=88,slow=8.6,SNR=2804
ASAR PcP **PcP** **17 20 04.5 +0.1**
comp=Z,33nm,0.6s,baz=104,slow=3.8,SNR=17
ASAR S **S** **17 25 09.3 -4.8**
comp=Z,3.1nm,0.8s,baz=94,slow=15,SNR=11
ASAR Alice Springs 47.31 255 P **P** **17 18 36.2 -0.6**
SMPI Sarmi 47.88 285 P **P** **17 18 41.1 -0.1**
comp=Z,81nm,0.8s
SRPI Serui, Papua 50.19 284 P **P** **17 18 59.0 +0.2**
KDU Kakadu 50.37 269 P **P** **17 18 59.4 -0.8**
baz=50,SNR=72
BAKI Biak 50.58 284 P **P** **17 19 02.1 +0.4**
MTN Manton Dam 51.61 268 P **P** **17 19 08.2 -1.1**
baz=52,SNR=39
MTN Manton Dam 51.61 268 P **P** **17 19 08.3 -1.1**
MTN IAmb IAmb 17 19 09.2
comp=Z,101nm,0.8s
RKPI Ransiki, Papua 52.23 283 P **P** **17 19 13.2 -0.8**
comp=Z,78nm,0.7s,comp=Z,752nm
FORT Forrest 52.24 245 P **P** **17 19 13.2 -0.6**
baz=52,SNR=18
WRKA Warakurna 52.31 252 P **P** **17 19 14.0 -0.4**
baz=52,SNR=235
KNRA Kununurra 53.23 264 P **P** **17 19 20.7 -0.5**
baz=53,SNR=168
KNRA Kununurra 53.23 264 P **P** **17 19 21.2 0.0**
FAKI Fak Fak 53.51 280 P **P** **17 19 22.9 -0.4**
FAKI Fak Fak 53.51 280 P **P** **17 19 22.8 -0.5**
BNDI Bandanaira 55.15 278 P **P** **17 19 34.5 -0.6**
comp=Z,96nm,1.1s
SWI Sorong 55.18 282 P **P** **17 19 35.2 -0.1**
comp=Z,524nm,0.8s,comp=Z,4μm
FITZ Fitzroy Crossi 55.69 260 P **P** **17 19 38.6 -0.3**
baz=56,SNR=76
FITZ Fitzroy Crossi 55.69 260 IAmb IAmb 17 19 40.1
comp=Z,102nm,1.6s
AAI Ambon 57.03 278 P **P** **17 19 47.6 -0.8**
comp=Z,70nm,1.2s
KMBL Kambalda 57.52 244 P **P** **17 19 50.9 -0.8**
baz=58,SNR=4.9
NLAI Namlea 58.21 278 P **P** **17 19 56.5 -0.1**
comp=Z,82nm,1.2s
SOEI Soe 58.90 270 P **P** **17 20 01.9 +0.3**
SOEI Soe 58.90 270 P **P** **17 20 02.3 +0.8**
BATI Baumata 59.35 269 P **P** **17 20 04.5 0.0**
TNTI Ternate 59.39 282 P **P** **17 20 04.2 -0.6**
comp=Z,140nm,0.9s,comp=Z,1μm
TNTI Ternate 59.39 282 P **P** **17 20 04.5 -0.3**
SANI Sanana 59.66 279 P **P** **17 20 05.7 -0.9**
SBA Scott Base 59.84 184 P **P** **17 20 09.3 +2.5**
SBA pmax pmax
comp=Z,8.0nm,0.9s
SBA Scott Base 59.84 184 P **P** **17 20 09.3 +2.5**
PSA00 Pilbara Seismi 60.45 255 P **P** **17 20 11.1 -0.8**
PSA00 Pilbara Seismi 60.45 255 P **P** **17 20 10.1 -1.8**
PSA00 IAmb IAmb 17 20 11.3
comp=Z,43nm,0.8s
MBWA Marble Bar 60.63 256 P **P** **17 20 12.3 -0.8**
SNR=6.0
MEEK Meekatharra 60.81 249 P **P** **17 20 13.1 -1.2**
baz=61,SNR=37
KLBR Kellerberrin 61.02 244 P **P** **17 20 15.1 -0.5**
baz=61,SNR=6.7
MMRI Maumere 61.14 270 P **P** **17 20 14.4 -2.2**
MMRI Maumere 61.14 270 P **P** **17 20 15.6 -1.0**
NWAO Narrogin (SRO) 61.35 242 P **P** **17 20 17.5 -0.2**
baz=61,SNR=6.8
RKGY Rocky Gully 61.44 240 P **P** **17 20 18.5 +0.1**
baz=62,SNR=5.0
MUN Mundaring 62.30 243 P **P** **17 20 23.9 -0.2**
baz=62,SNR=18
KMSI Cibinong 62.47 281 P **P** **17 20 24.9 -0.5**
MORW Morawa 62.77 246 P **P** **17 20 26.7 -0.6**
baz=63,SNR=13
MORW Morawa 62.77 246 P **P** **17 20 26.5 -0.8**
MORW IAmb IAmb 17 20 27.0
comp=Z,34nm,0.9s
LUWI Luwuk 63.02 279 P **P** **17 20 28.6 -0.5**
LUWI Luwuk 63.02 279 P **P** **17 20 28.9 -0.2**
KCP Kidapawan 63.95 288⇓ *eP* **P** **17 20 34.6 -0.6**
KAPI Kappang 64.57 273 P **P** **17 20 38.3 -0.9**
KAPI pmax pmax
comp=Z,19nm,0.8s
KAPI Kappang 64.57 273 P **P** **17 20 38.3 -0.9**
KAPI IAmb IAmb 17 20 39.3
comp=Z,18nm,0.8s
CTBH Cotabato--PC H 64.80 288⇑ *iP* **P** **17 20 38.8 -1.9**
GIRL Giralia 65.38 253 P **P** **17 20 45.2 +0.9**
baz=66,SNR=8.1
JHJ2 Mitsune 66.93 320 P **P** **17 20 54.0 +0.2**
JAGI Jajag, Banyuwa 68.85 268 P **P** **17 21 04.8 -1.4**
INU Inuyama 70.15 320 P **P** **17 21 12.9 -0.8**
INU IAmb IAmb 17 21 14.8
comp=Z,35nm,1.3s
MJAR Matsushiro Arr 70.24 322 P **P** **17 21 13.8 -0.5**
MJAR pmax pmax
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 70.24 322 P **P** **17 21 13.7 -0.6**
comp=Z,37nm,0.8s,baz=157,slow=6.0,SNR=122
MJAR Matsushiro Arr 70.24 322 P **P** **17 21 13.8 -0.5**
MAJO Matsushiro 70.24 322 *diP* **P** **17 21 13.8 -0.5**
MAJO pmax pmax
comp=Z,39nm,0.9s
MAJO Matsushiro 70.24 322 P **P** **17 21 14.1 -0.2**
MAJO IAmb IAmb 17 21 15.0
comp=Z,39nm,0.8s
MAT Matsushiro 70.24 322 P **P** **17 21 13.9 -0.4**
MJB9 Matsu-Tunnel 70.25 322 P **P** **17 21 14.1 -0.3**
MJB9 IAmb IAmb 17 21 15.0
comp=Z,40nm,0.8s
QSPA South Pole Qui 71.38 180 P **P** **17 21 22.6 +1.8**
QSPA IAmb IAmb 17 21 23.6
comp=Z,25nm,0.9s
KKM Kota Kinabalu 71.68 283 P **P** **17 21 23.3 -0.2**
KKM IAmb IAmb 17 21 24.3
comp=Z,41nm,0.8s
KUR Kuril'sk 71.84 334⇓ *eP* **P** **17 21 23.8 +0.2**
UGM Wanagama 72.45 267 P **P** **17 21 27.9 -0.1**
JNU Nakatsue 72.67 315 P **P** **17 21 29.3 +0.4**
JNU IAmb IAmb 17 21 30.0
comp=Z,35nm,0.8s
SBUM Sibu 74.12 278 P **P** **17 21 38.5 +0.8**
TWG Pinlang 74.49 301 P **P** **17 21 38.6 -1.0**
YULB Yu-li 74.58 302 P **P** **17 21 39.1 -1.1**
YULB IAmb IAmb 17 21 40.6
comp=Z,53nm,1.4s
NACB Ninganchiao 74.71 302 P **P** **17 21 40.8 -0.1**
PET Petropavlovsk 74.86 344⇓ *eP* **P** **17 21 41.0 0.0**
PET pmax pmax
comp=Z,15nm,1.8s
TPUB Ta-pu 75.07 301 P **P** **17 21 41.9 -1.1**
CISI Cisompet, Garu 75.11 267 P **P** **17 21 42.2 -1.3**
PEA0B Petropavlovsk- 75.18 344 *deP* **P** **17 21 42.1 -0.8**
PEA0B Petropavlovsk- 75.18 344 P **P** **17 21 41.8 -1.1**
PEA0B IAmb IAmb 17 21 43.9
comp=Z,114nm,1.6s
PETK Petropavlovsk- 75.18 344 P **P** **17 21 43.0 0.0**
PETK Petropavlovsk- 75.18 344 P **P** **17 21 42.9 -0.1**
comp=Z,23nm,0.8s,baz=104,slow=9.0,SNR=35
PETK Petropavlovsk- 75.18 344 P **P** **17 21 43.0 0.0**
YSS Yuzh-Sakhalins 75.41 332⇓ *eP* **P** **17 21 44.9 +0.6**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,100nm,13.0s
KSM Kuching 75.59 277 P **P** **17 21 46.9 +0.7**
VES Vestal, Richgr 76.04 44 P **P** **17 21 49.1 +0.9**
baz=234,SNR=5.5
BFSC Mount Baldy Ra 76.08 46 P **P** **17 21 49.8 +1.2**
baz=236
MONP2 Monument Peak 76.20 48 P **P** **17 21 50.5 +1.0**
baz=237
EDW2 Edwards Air Fo 76.22 46 P **P** **17 21 50.6 +1.3**
baz=235,SNR=8.3
IKP In-Ko-Pah, Jac 76.29 48 P **P** **17 21 51.2 +1.4**
baz=237
ISA Isabella, Lake 76.34 45 P **P** **17 21 51.7 +1.7**
baz=235
O02D Mt. Diablo Mer 76.34 39 P **P** **17 21 51.2 +1.3**
baz=231
PFO Pinyon Flats O 76.56 47⇑ *eP* **P** **17 21 52.4 +1.0**
PFO pmax pmax
comp=Z,8.0nm,1.1s
LRMC Laurel Mtn Rad 76.77 45 P **P** **17 21 53.7 +1.2**
baz=235,SNR=6.9
N02D Trinity Center 76.89 38 P **P** **17 21 54.5 +1.6**
baz=231
TJN Taejon 76.92 316⇑ *eP* **P** **17 21 51.9 -1.2**
O03E Paynes Creek 77.00 39 P **P** **17 21 54.7 +1.1**
baz=232
CWC Cottonwood Cre 77.05 44 P **P** **17 21 55.3 +1.2**
baz=235
M02C Callahan 77.07 38 P **P** **17 21 55.3 +1.4**
baz=231
BELC Belle Mtn. Jos 77.10 47 P **P** **17 21 55.6 +1.3**
baz=237
KSRS Korea Array 77.18 317 P **P** **17 21 55.4 +0.9**
comp=Z,19nm,0.9s,baz=134,slow=6.3,SNR=43
KSAR Wonju Array Be 77.20 317 P **P** **17 21 55.2 +0.6**
KSAR Wonju Array Be 77.20 317 P **P** **17 21 55.2 +0.6**
MPMC Manual Prospec 77.22 45 P **P** **17 21 56.5 +1.4**
baz=235,SNR=10
GSC Goldstone, Bar 77.26 46 P **P** **17 21 56.4 +1.2**
baz=236
BC3 Big Chuckawall 77.29 48 P **P** **17 21 56.8 +1.4**
baz=237
HEC Hector,Ludlow 77.32 46 P **P** **17 21 57.0 +1.5**
baz=236
YBH Yreka Blue Hor 77.37 38 P **P** **17 21 56.9 +1.3**
YBH pmax pmax
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 77.37 38 P **P** **17 21 56.0 +0.3**
comp=Z,6.9nm,0.9s,baz=337,slow=1.5,SNR=11
YBH Yreka Blue Hor 77.37 38 P **P** **17 21 56.9 +1.3**
QZH Quanzhou 77.48 302⇓ *iP* **P** **17 21 57.0 +0.5**
QZH pmax pmax
comp=Z,56nm,0.9s
GMRC Granite Mounta 77.76 47 P **P** **17 21 59.0 +1.0**
baz=237
IRM Iron Mountain 77.78 47 P **P** **17 21 59.4 +1.5**
baz=237
YERR Yerington 77.78 41 P **P** **17 21 58.8 +0.6**
GRAC Grapevine Rang 77.84 44 P **P** **17 21 59.8 +1.6**
baz=235,SNR=6.8
FURC Furnace Creek, 77.87 45 P **P** **17 21 59.6 +1.3**
baz=236
TUQ Turquoise Moun 77.93 46 P **P** **17 22 00.2 +1.3**
baz=237
Y12C Blythe 78.00 48 P **P** **17 22 00.9 +1.7**
baz=238
NVAR Mina Array Bea 78.05 42 P **P** **17 22 00.4 +0.7**
comp=Z,8.1nm,0.7s,baz=224,slow=9.0,SNR=52
NVAR Mina Array Bea 78.05 42 P **P** **17 22 01.0 +1.3**
NV11 Mina Array Sit 78.15 42 P **P** **17 21 59.1 -1.0**
MSHR Mys Shultsa 78.31 323 *ceP* **P** **17 22 01.8 +1.2**
TYV Tymovskoe 78.42 334 *eP* **P** **17 22 01.3 +0.2**
TYV pmax pmax
comp=Z,100nm,2.0s
TYV pmax pmax
comp=Z,29nm,1.2s
KDAK Kodiak Island 78.52 12 *iP* **P** **17 22 01.5 +0.1**
KVN Kaiserville 78.54 42 P **P** **17 22 02.6 +0.3**
KVN pmax pmax
comp=Z,10.0nm,0.8s
KVN Kaiserville 78.54 42 P **P** **17 22 02.6 +0.3**
TPNV Topopah Spring 78.55 45 P **P** **17 22 03.2 +0.9**
baz=236,SNR=14
TPNV Topopah Spring 78.55 45 P **P** **17 22 03.3 +0.9**
TPNV pmax pmax
comp=Z,12nm,0.7s
TPNV Topopah Spring 78.55 45 P **P** **17 22 03.3 +0.9**
PDMCI Parker Dam,Lak 78.56 48 P **P** **17 22 03.8 +1.6**
baz=238
J04D Umpqua Nationa 78.67 37 P **P** **17 22 04.1 +1.2**
baz=231
USA0B Ussuriysk Arra 78.87 324 *deP* **P** **17 22 03.7 0.0**
USRK Ussuriysk Ar. 78.87 324 P **P** **17 22 03.6 -0.1**
comp=Z,9.0nm,0.9s,baz=116,slow=4.4,SNR=21
MOD Modoc Plateau 78.89 39 P **P** **17 22 03.7 -0.3**
SHPR Sheep Range 79.04 45 P **P** **17 22 06.2 +1.2**
J05D Fort Rock, OR 79.20 37 P **P** **17 22 07.1 +1.4**
baz=232
R11A Troy Canyon, C 79.77 44 P **P** **17 22 09.6 +0.7**
baz=236,SNR=5.4
BMN Battle Mountai 79.89 41 P **P** **17 22 10.0 +0.5**
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 79.89 41 P **P** **17 22 10.0 +0.5**
TUC Tucson 79.96 51 P **P** **17 22 11.7 +1.7**
baz=240
MDJ Mudanjiang 80.47 324 P **P** **17 22 13.5 +1.2**
MDJ S **S** **17 32 03.6 +3.1**
MDJ pmax pmax
comp=Z,43nm,1.0s
NJ2 Nanjing 80.63 308 *eP* **P** **17 22 14.4 +1.0**
NJ2 pmax pmax
comp=Z,38nm,0.8s
D03D Eldon 80.89 33 P **P** **17 22 15.4 +1.0**
baz=230
GRNR Gornyy 81.05 331 *eP* **P** **17 22 16.0 +0.8**
GRNR pmax pmax
comp=Z,31nm,1.0s
WUAZ Wupatki 81.13 48 P **P** **17 22 17.8 +1.5**
baz=240
ELK Elko 81.31 42 P **P** **17 22 16.2 -1.0**
comp=Z,4.9nm,0.9s,baz=256,slow=5.2,SNR=11
A04D Lummi Island 81.86 32 P **P** **17 22 20.8 +1.4**
baz=230
B05A Bryant 81.88 33 P **P** **17 22 20.7 +1.1**
baz=230
KLR Kul'dur 82.24 328 *diP* **P** **17 22 21.7 +0.3**
KLR pmax pmax
comp=Z,8.0nm,1.1s
121A Cookes Peak, D 82.29 52 P **P** **17 22 24.5 +2.2**
baz=242
CN2 Changchun 82.38 321 *eP* **P** **17 22 22.6 +0.3**
CN2 pmax pmax
comp=Z,30nm,1.2s
GLI Glacier Island 82.51 14 IAmb IAmb 17 22 23.2
comp=Z,55nm,0.9s
DUG Dugway, Tooele 82.57 43 P **P** **17 22 24.8 +1.2**
baz=238
SKT Skwentna 82.61 11 P **P** **17 22 22.4 -0.7**
GHO Glory Hole Cre 82.92 12 P **P** **17 22 24.5 -0.3**
GHO IAmb IAmb 17 22 25.6
comp=Z,38nm,0.8s
F10A Beach Ranch, E 83.10 37 P **P** **17 22 26.8 +0.7**
F10A IAmb IAmb 17 22 27.4
comp=Z,29nm,1.1s
SCM Sheep Creek Mo 83.31 13 P **P** **17 22 26.9 +0.1**
SCM pmax pmax
comp=Z,42nm,0.8s
SCM Sheep Creek Mo 83.31 13 P **P** **17 22 26.9 +0.1**
SCM IAmb IAmb 17 22 27.6
comp=Z,42nm,0.8s
WHN Wuhan 83.36 305⇑ *iP* **P** **17 22 28.8 +1.2**
WHN pmax pmax
comp=Z,76nm,1.2s
YAH Yahtse 83.36 16 IAmb IAmb 17 22 28.7
comp=Z,41nm,1.1s
TGL Tana Glacier 83.41 15 P **P** **17 22 27.1 -0.3**
TGL IAmb IAmb 17 22 28.6
comp=Z,38nm,1.1s
HVU Hansel Valley 83.44 42 P **P** **17 22 28.6 +0.6**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 83.44 42 P **P** **17 22 28.6 +0.6**
VRDI Verde Repeater 83.66 15 P **P** **17 22 29.0 +0.3**
VRDI IAmb IAmb 17 22 29.9
comp=Z,31nm,1.1s
MNTX Cornudas Mount 83.73 54 P **P** **17 22 31.4 +1.9**
baz=244
GLB Gilahina Butte 83.76 15 P **P** **17 22 28.8 -0.2**
GLB IAmb IAmb 17 22 30.1
comp=Z,42nm,1.2s
BALM Baldy 83.77 16 P **P** **17 22 29.2 +0.1**
BALM IAmb IAmb 17 22 30.3
comp=Z,40nm,1.2s
MCARA McCarthy VSAT 83.90 15 P **P** **17 22 30.0 +0.3**
MCARA IAmb IAmb 17 22 31.0
comp=Z,39nm,1.1s
BARN Barnard Glacie 83.97 16 P **P** **17 22 30.3 0.0**
BARN IAmb IAmb 17 22 31.6
comp=Z,34nm,1.0s
TXAR Lajitas Array 84.04 56 P **P** **17 22 32.4 +1.2**
comp=Z,14nm,1.0s,baz=218,slow=5.7,SNR=69
MAW Mawson 84.07 199 P **P** **17 22 31.6 +0.9**
baz=84,SNR=59
MAW Mawson 84.07 199 P **P** **17 22 31.7 +1.1**
MAW pmax pmax
comp=Z,5.0nm,0.7s
MAW Mawson 84.07 199 P **P** **17 22 31.5 +0.9**
comp=Z,20nm,0.7s,baz=133,slow=6.1,SNR=77
MAW Mawson 84.07 199 P **P** **17 22 31.7 +1.1**
TRF Thorofare Moun 84.19 11 P **P** **17 22 30.8 -0.5**
TRF IAmb IAmb 17 22 31.6
comp=Z,45nm,0.8s
ANMO Albuquerque 84.38 50 P **P** **17 22 34.6 +1.6**
baz=243
ANMO Albuquerque 84.38 50 P **P** **17 22 33.4 +0.4**
comp=Z,9.8nm,0.9s,baz=219,slow=5.5,SNR=31
DHY Denali Highway 84.42 12 P **P** **17 22 31.5 -0.9**
DHY IAmb IAmb 17 22 33.2
comp=Z,44nm,1.4s
RND Reindeer 84.42 12 P **P** **17 22 32.5 +0.1**
RND pmax pmax
comp=Z,108nm,1.0s
RND Reindeer 84.42 12 P **P** **17 22 32.5 +0.1**
NEW Newport 84.50 35 P **P** **17 22 33.3 +0.2**
baz=234
NEW Newport 84.50 35 P **P** **17 22 33.3 +0.2**
comp=Z,3.7nm,0.8s,baz=248,slow=4.0,SNR=7.8
NEW Newport 84.50 35 P **P** **17 22 32.8 -0.2**
PAX Paxson 84.72 13 P **P** **17 22 33.4 -0.5**
PAX pmax pmax
comp=Z,19nm,1.0s
PAX Paxson 84.72 13 P **P** **17 22 33.4 -0.5**
HYT Haines Junctio 84.91 18 P **P** **17 22 35.2 +0.4**
HYT IAmb IAmb 17 22 36.6
comp=Z,28nm,1.1s
BWN Browne 85.00 11 P **P** **17 22 34.8 -0.3**
MENT Mentasta 85.08 14 P **P** **17 22 36.4 +0.8**
MENT IAmb IAmb 17 22 37.0
comp=Z,41nm,1.1s
SEY Seymchan 85.19 346⇑ *iP* **P** **17 22 36.1 0.0**
IPM Ipoh 85.32 276 P **P** **17 22 38.8 +0.8**
S22A 4UR Ranch, Cre 85.41 48 P **P** **17 22 39.9 +1.8**
baz=242
DLBC Dease Lake 85.45 22 P **P** **17 22 37.7 +0.1**
MSO Missoula 85.46 37 P **P** **17 22 37.9 -0.1**
baz=237
O20A White River Ci 85.56 45 P **P** **17 22 39.6 +0.9**
baz=241
DOT Dot Lake 85.63 13 P **P** **17 22 38.7 +0.5**
DOT IAmb IAmb 17 22 39.3
comp=Z,40nm,0.8s
HDA Harding Lake 85.70 12 P **P** **17 22 38.4 -0.2**
baz=207,SNR=43
HDA Harding Lake 85.70 12 P **P** **17 22 38.5 -0.1**
CCB Clear Creek Bu 85.74 12 P **P** **17 22 38.5 -0.2**
TCOL CIGO, UAF Yank 85.94 11 P **P** **17 22 39.1 -0.6**
baz=206,SNR=35
COLA College 85.94 11 P **P** **17 22 39.7 0.0**
COLA pmax pmax
comp=Z,97nm,0.8s
COLA College 85.94 11 P **P** **17 22 39.7 0.0**
KULM Kulim 85.94 277 P **P** **17 22 41.3 +0.4**
KULM IAmb IAmb 17 22 42.7
comp=Z,25nm,0.9s
MDM Murphy Dome 85.95 11 P **P** **17 22 39.8 0.0**
MDM IAmb IAmb 17 22 40.2
comp=Z,49nm,0.9s
SMCO Snowmass 85.97 46 P **P** **17 22 42.1 +1.0**
IMAR Indian Mountai 85.99 9 P **P** **17 22 40.5 +0.5**
BW06 Boulder Array 85.99 42 P **P** **17 22 41.3 +0.5**
baz=240
PDAR Pinedale Array 85.99 42 P **P** **17 22 40.9 +0.1**
comp=Z,2.9nm,0.9s,baz=214,slow=4.1,SNR=13
PDAR PKKPbc **PKKPbc** **17 40 40.2 -1.3**
comp=Z,0.7nm,0.8s,baz=111,slow=8.1,SNR=5.4
IL31 86.03 12 P **P** **17 22 39.8 -0.4**
IL31 IAmb IAmb 17 22 40.8
comp=Z,82nm,1.4s
ILAR Eielson Array 86.03 12 P **P** **17 22 39.9 -0.3**
comp=Z,25nm,1.0s,baz=229,slow=5.8,SNR=104
BOZ Bozeman (W) 86.15 39 P **P** **17 22 42.3 +0.9**
baz=238,SNR=6.6
POKR Poker Plat Res 86.24 11 P **P** **17 22 40.6 -0.6**
baz=206,SNR=8.2
SDCO Great Sand Dun 86.34 48 P **P** **17 22 43.1 +0.3**
baz=243
SKLT Songkhla 86.58 279 P **P** **17 22 46.2 +2.2**
comp=Z,39nm,1.0s
MSTX Muleshoe 86.69 53 P **P** **17 22 45.1 +0.8**
baz=245
DAWY Dawson 87.07 15 P **P** **17 22 45.5 +0.2**
DAWY IAmb IAmb 17 22 46.8
comp=Z,40nm,1.0s
Q24A Divide 87.14 47 P **P** **17 22 47.6 +1.0**
baz=243
ISCO Idaho Springs 87.19 46 P **P** **17 22 47.8 +1.0**
baz=243
EGAK Eagle 87.25 14 P **P** **17 22 46.2 +0.2**
EGAK IAmb IAmb 17 22 47.4
comp=Z,35nm,1.1s
ZEA Zeya 87.25 330 *eP* **P** **17 22 46.8 +0.5**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.0s
RLMT Red Lodge 87.34 40 P **P** **17 22 48.4 +1.1**
baz=240
BILL Bilibino 87.51 353 *ciP* **P** **17 22 46.8 -0.4**
BILL *i* *PP **pP** **17 23 33.7 -5.2**
BILL pmax pmax
comp=Z,25nm,1.2s
GSI Gunungsitoli 87.57 272 P **P** **17 22 50.1 +1.3**
JCT Junction City 87.57 57 P **P** **17 22 49.6 +1.1**
baz=247
TRTT Trang 87.67 279 P **P** **17 22 50.8 +1.6**
comp=Z,96nm,1.1s,comp=Z,1μm
GYA Guiyang 87.89 299⇓ *iP* **P** **17 22 51.4 +1.2**
GYA sP sP 17 24 01.5 -2.4
GYA PP **PP** **17 26 25.6 +5.9**
GYA SKS **SKSac** **17 32 53.3 -5.0**
GYA S **S** **17 33 17.3 +2.2**
GYA SS **SS** **17 39 11.0 +2.8**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,220nm,4.3s
TIY Taiyuan 87.90 311 *eP* **P** **17 22 52.2 +2.3**
TIY pmax pmax
comp=Z,28nm,0.5s
TIY pmax pmax
comp=Z,140nm,4.1s
NONG Nongkai 87.92 290 P **P** **17 22 51.1 +0.8**
comp=Z,0.6nm,1.2s
CHAI Chaiyaphum 88.22 287 P **P** **17 22 52.6 +0.8**
comp=Z,23μm,0.8s
ABTX Abilene, Hawle 88.53 55 P **P** **17 22 54.4 +1.4**
baz=247
HIA Hailar 88.65 324 *diP* **P** **17 22 52.8 -0.3**
HIA pmax pmax
comp=Z,56nm,0.9s
PLCA Paso Flores 88.74 133 P **P** **17 22 55.4 +1.4**
comp=Z,6.4nm,1.3s,baz=319,slow=7.4,SNR=4.2
PLCA PKKPbc **PKKPbc** **17 40 33.2 -0.5**
comp=Z,1.2nm,0.8s,baz=100,slow=4.2,SNR=5.0
BMAR Burnt Mountain 88.83 11 P **P** **17 22 54.6 +1.0**
SURT Suratani 88.87 280 P **P** **17 22 56.8 +1.9**
comp=Z,47nm,1.2s,comp=Z,562nm
PKDT Phuket 88.96 279 P **P** **17 22 57.6 +2.3**
comp=Z,33nm,1.4s
XAN Xi'an 88.99 306 P **P** **17 22 56.7 +1.6**
XAN pmax pmax
comp=Z,52nm,1.4s
SYO Syowa Base 89.01 192⇑ *eP* **P** **17 22 53.0 -1.5**
SYO Syowa Base 89.01 192⇓ *ePcP* **P** **17 22 55.4 +0.9**
TOLK Toolik Lake Re 89.07 9 P **P** **17 22 55.1 +0.5**
baz=204
TOLK Toolik Lake Re 89.07 9 P **P** **17 22 54.9 +0.2**
PBKT Sadao Pong 89.37 288 P **P** **17 22 58.6 +1.5**

comp=Z,13nm,1.4s,comp=Z,454nm
PBKT Sadao Pong 89.37 288 P P 17 22 57.9 +0.8
PBKT IAmb IAmb 17 23 00.6
comp=Z,23nm,1.0s
PHET Kaeng Krachan 89.38 284 P P 17 22 59.5 +2.3
comp=Z,86µm,0.9s,comp=Z,742µm
EPYK Eagle Plains 89.61 15 P P 17 22 57.6 +0.4
baz=216,SNR=8.6
SNAA Sanae 89.73 178 P P 17 22 58.1 +0.1
SNAA Sanae 89.73 178 *d iP* **P 17 22 58.1 +0.1**
SNAA Sanae 89.73 178 P P 17 22 58.0 +0.1
VNA3 Neumayer Olymp 89.77 175 P P 17 22 58.4 +0.3
HHC Hu-ho-hao-te 89.85 313 P P 17 22 58.8 -0.2
HHC pmax pmax
comp=Z,6.0nm,0.9s
LAO LASA Array 89.96 40 P P 17 23 00.8 +1.4
baz=242
WHTX Lake Whitney, 90.00 56 P P 17 23 01.0 +1.3
baz=248
WMOK Wichita Mounta 90.02 53 P P 17 23 00.2 +0.3
baz=247
APG El Apazote 90.09 74 P P 17 23 01.9 +1.1
comp=Z,12nm,1.1s,baz=317,slow=11,SNR=4.8
RSSD Black Hills 90.18 43 P P 17 23 01.1 +0.5
baz=244
VNA2 Neumayer--Watz 90.24 176 P P 17 23 01.2 +0.9
baz=178,slow=3.0
UTHA Uthaitani 90.42 286 P P 17 23 03.7 +1.7
comp=Z,43µm,1.0s,comp=Z,382µm
VNA1 Neumayer--Stat 90.45 176 P P 17 23 02.2 +1.0
KMI Kunming 90.71 296 P P 17 23 04.5 +1.0
KMI pP pwP 17 23 55.9 -3.0
KMI pmax pmax
comp=Z,28nm,1.4s
KMI pmax pmax
comp=Z,110nm,4.6s
KHLT Khaolaem Dam 90.95 285 P P 17 23 03.2 -1.3
comp=Z,27nm,1.2s
UMPA Umpang Tak 91.16 287 P P 17 23 07.0 +1.5
comp=Z,52µm,1.0s,comp=Z,405µm
LAMP Lampang 91.22 289 P P 17 23 07.7 +2.0
comp=Z,109µm,0.9s
PAYA Payao 91.28 290 P P 17 23 07.2 +1.2
comp=Z,82µm,0.9s,comp=Z,697µm
YAK Yakutsk 91.36 337 *eP* **P 17 23 04.1 -1.2**
YAK pmax pmax
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 91.81 289 P P 17 23 09.9 +1.4
SNR=17
CMAR Chiang Mai Arr 91.81 289 P P 17 23 10.2 +1.7
CMAR Chiang Mai Arr 91.81 289 P P 17 23 09.8 +1.3
comp=Z,22nm,0.9s,baz=112,slow=3.0,SNR=124
CMAR Chiang Mai Arr 91.81 289 P P 17 23 10.2 +1.7
CD2 Chengdu 91.87 302 *eP* **P 17 23 08.5 -0.1**
INK Inuvik 91.91 14 P P 17 23 07.7 0.0
comp=Z,28nm,0.9s,baz=217,slow=5.2,SNR=45
INK Inuvik 91.91 14 P P 17 23 07.7 0.0
INK IAmb IAmb 17 23 08.6
comp=Z,34nm,0.9s
CMMT Chiang Mai 91.92 289 P P 17 23 09.9 +0.9
CHTO Chiang Mai 91.93 289 P P 17 23 10.0 +1.0
SNR=12
CHTO Chiang Mai 91.93 289 P P 17 23 10.4 +1.4
CHTO pmax pmax
comp=Z,29nm,0.9s
CHTO Chiang Mai 91.93 289 P P 17 23 10.4 +1.4
CHTO IAmb IAmb 17 23 11.1
comp=Z,29nm,0.8s
DGMT Dagmar 91.99 39 P P 17 23 09.8 +1.1
baz=244
MHMT Maesarieng 92.63 288 P P 17 23 13.9 +1.6
TUL1 Leonard 92.72 53 P P 17 23 12.7 +0.4
baz=249
KSU1 Kansas State U 93.27 50 P P 17 23 15.8 +1.1
baz=249
LZH Lanzhou 93.61 307 *eP* **P 17 23 18.1 +1.5**
LZH pP pwP 17 24 11.4 -0.3
LZH sP sP 17 24 33.9 +3.2
LZH pmax pmax
comp=Z,28nm,1.2s
YKA Yellowknife Ar 93.87 24 P P 17 23 16.9 0.0
comp=Z,5.8nm,0.8s,baz=243,slow=4.3,SNR=19
MIAR Mount Ida 93.95 55 P P 17 23 19.4 +1.4
baz=250
W39A Magazine 94.01 54 P P 17 23 19.4 +1.1
baz=250
ECSD EROS Data Cent 94.94 46 P P 17 23 22.6 +0.3
baz=249
U40A Yellville 95.11 53 P P 17 23 23.9 +0.6
baz=251
ULN Ulaanbaatar 95.59 319 *deP* **P 17 23 24.8 -0.6**
ULN pmax pmax
comp=Z,7.0nm,1.0s
MGMO Mountain Grove 95.81 53 P P 17 23 27.6 +1.1
MGMO IAmb IAmb 17 23 27.9
comp=Z,19nm,0.9s
SONM Songino Array 96.00 318 P P 17 23 25.8 -1.3
comp=Z,2.1nm,1.0s,baz=124,slow=4.2,SNR=8.5
SONM PP PP 17 27 26.2 +3.3
comp=Z,0.9nm,0.8s,baz=91,slow=5.8,SNR=5.9
GTA Gaotai 97.72 309 P Pdif 17 23 35.7 +0.5
GTA pP pwP 17 24 29.0 -1.7
GTA sP sP 17 24 53.4 +4.3
GTA pmax pmax
comp=Z,4.0nm,1.4s
ZALV Zalesovo Beam 110.60 322 PKiKP **PKiKP 17 28 30.5 -0.6**
comp=Z,7.6nm,0.6s,baz=80,slow=1.6,SNR=37
MK31 Makanchi Array 111.71 314 *i* PKIKP **PKiKP 17 28 32.1 -1.4**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 111.71 314 Pdiff **Pdif 17 24 36.7 -0.4**
comp=Z,0.1nm,0.4s,baz=84,slow=7.0,SNR=3.3
MKAR PKiKP **PKiKP 17 28 32.7 -0.8**
comp=Z,4.6nm,0.6s,baz=62,slow=2.5,SNR=54
MKAR PKKPbc **PKKPbc 17 39 27.7 -1.1**
comp=Z,0.3nm,0.7s,baz=260,slow=3.6,SNR=4.2
MAKZ Makanchi 111.93 314 PKIKP **PKiKP 17 28 31.5 -2.4**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
PDGK Podgornoye 113.44 310 PKIKP **PKiKP 17 28 36.0 -1.0**
PDGK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 114.29 318 *c i* PKIKP PKPdf 17 28 37.3 -0.9
KURK pmax pmax
comp=Z,14nm,1.3s
KSH Kashi 115.83 305 PKP **PKiKP 17 28 41.7 0.0**
KSH PP **PP 17 29 53.6 +4.9**
KSH sPKP sPKiKP 17 30 01.2 +3.6
KSH PKS **PKSdf 17 32 16.0 -2.5**
KSH SS SS 17 45 36.2 +3.0
KSH AMB AMB
comp=Z,230nm,4.5s
TKM2 Tokmak 2 116.26 309 PKIKP **PKPdf 17 28 40.6 -2.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.7s
TKM2 Tokmak 2 116.26 309 P **PKPdf 17 28 42.0 -0.6**
SNR=16
KZA Kyzart 116.50 308 P **PKPdf 17 28 43.1 -0.2**
SNR=5.8
KBK Karagaybulak 116.73 309 P **PKPdf 17 28 43.1 -0.3**
SNR=13
CHMS Chumysh 116.89 309 P **PKPdf 17 28 43.1 -0.4**
SNR=10
AAK Ala-Archa 117.07 309 *c i* PKIKP **PKPdf 17 28 43.6 -0.5**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 117.07 309 P **PKPdf 17 28 43.8 -0.3**
SNR=7.9
USP Ospenovka 117.07 310 P **PKPdf 17 28 43.5 -0.4**
SNR=12
EKS2 Erkin-Say 117.60 309 P **PKPdf 17 28 44.8 -0.3**
SNR=11
AML Almayashu 117.65 308 P **PKiKP 17 28 45.5 0.0**
SNR=12
BDFB Brasilia 118.01 120 PKP **PKPdf 17 28 46.3 -0.3**
comp=Z,1.8nm,0.4s,baz=72,slow=1.0,SNR=3.4
BRVK Borovoye 119.29 321 P **PKPdf 17 28 47.1 -0.7**
SNR=5.9
BRVK Borovoye 119.29 321 PKIKP **PKPdf 17 28 47.6 -0.2**
BRVK Borovoye 119.29 321 PKPdf 17 28 47.6 -0.2
KK31 Karatay Array 119.99 309 PKIKP **PKPdf 17 28 49.2 -0.3**
KK31 Karatay Array 119.99 309 PKPdf 17 28 49.2 -0.3
KKAR Karatay Array 119.99 309 PKIKP **PKPdf 17 28 49.3 -0.2**
KKAR Karatay Array 119.99 309 PKPdf 17 28 49.1 -0.4
KKAR Karatay Array 119.99 309 PKPdf 17 28 49.3 -0.2
GAR Garm 120.20 305 PKiKP 17 28 50.2 0.0

SFJD Kangerlussuaq 120.36 22 PKIKP **PKPdf 17 28 48.3 -1.1**
SFJD Kangerlussuaq 120.36 22 PKP **PKPdf 17 28 48.1 -1.3**
comp=Z,8.0nm,0.7s,baz=292,slow=3.3,SNR=4.5
SFJD Kangerlussuaq 120.36 22 PKPdf 17 28 48.2 -1.1
DAG Danmarks Havn 120.70 6 *i* PKIKP **PKPdf 17 28 46.8 -3.0**
DAG pmax pmax
comp=Z,9.0nm,1.1s
DAG Danmarks Havn 120.70 6 *i* P **PKPdf 17 28 46.8 -3.0**
comp=Z,6.8nm,1.1s
CHGR Chuyangaron 121.11 304 PKiKP 17 28 54.6 +2.6
KBL Kabul 121.13 300 PKIKP **PKiKP 17 28 52.9 +0.6**
KBL Kabul 121.13 300 PKiKP 17 28 52.9 +0.6
SVE Sverdlovsk 123.84 327 *e* PKIKP **PKPdf 17 28 56.0 -0.4**
SVE pmax pmax
comp=Z,30nm,0.9s
ARU Arti 125.06 327 *i* PKIKP **PKPdf 17 28 58.6 -0.1**
ARU 17 30 47.0
ARU 17 35 48.8
ARU SP SP 17 40 23.4 -4.8
ARU Arti 125.06 327 PKiKP 17 28 58.9 -0.2
SCO Scoresbysund 125.80 11 PKIKP **PKiKP 17 29 00.3 +0.1**
SCO Scoresbysund 125.80 11 *i P* **PKiKP 17 29 00.0 -0.2**
comp=Z,5.8nm,0.8s
SCO Scoresbysund 125.80 11 PKiKP 17 29 00.3 +0.1
AB31 Akbulak array 126.41 318 *i* PKIKP **PKPdf 17 29 00.5 -1.0**
AB31 pmax pmax
comp=Z,13nm,1.1s
ABKAR Akbulak array 126.41 318 PKiKP 17 29 02.0 0.0
LVZ Lovozero 127.24 346 ⇑ *i* PKIKP **PKPdf 17 29 02.1 -0.6**
ARCES ARCESS Array B 127.55 351 PKIKP **PKiKP 17 29 03.3 -0.5**
ARCES ARCESS Array B 127.55 351 PKP **PKPdf 17 29 02.9 -0.3**
comp=Z,14nm,0.7s,baz=18,slow=1.4,SNR=68
ARCES ARCESS Array B 127.55 351 PKiKP 17 29 03.3 -0.5
PRGR Permogore 128.40 336 *e* PKIKP **PKPdf 17 29 01.0 -3.9**
PRGR pmax pmax
comp=Z,12nm,0.7s
BOSA Boshof 128.90 204 PKP **PKPdf 17 29 07.7 +0.5**
comp=Z,4.4nm,0.8s,baz=172,slow=1.4,SNR=10.0
GEYT Alibeck 129.82 304 PKP **PKPdf 17 29 08.6 +0.1**
comp=Z,6.6nm,0.7s,baz=207,slow=3.0,SNR=18
KLMR Klimovskoe 131.15 338 *e* PKIKP **PKPdf 17 29 07.8 -2.4**
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 131.15 338 *e* PKPdf **PKPdf 17 29 07.9 -2.3**
KLMR AMP 17 29 12.1
comp=Z,29nm,1.4s
FINES FINESS Array B 134.67 346 PKhKP PKPpre 17 29 05.0
comp=Z,1.8nm,0.9s,baz=48,slow=2.8,SNR=3.6
FINES PKP **PKPdf 17 29 16.8 0.0**
comp=Z,11nm,0.8s,baz=64,slow=3.2,SNR=34
OBN Obninsk 136.26 334 *d i* PKIKP **PKiKP 17 29 21.6 -0.1**
OBN *e* 17 31 59.6
OBN *e* SS SS 17 49 53.0 +7.5
OBN pmax pmax
comp=Z,40nm,1.4s
VRH Novokhopyorsk 136.29 327 *e* PKIKP **PKPdf 17 29 19.2 -0.9**
VRH pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 136.86 330 *e* PKIKP **PKPdf 17 29 20.6 -0.5**
LPSR pmax pmax
comp=Z,20nm,1.6s
NB2 NORSAR Subarra 137.43 355 PKP PKPdf 17 29 13.3 -8.7
comp=Z,7.9nm,1.4s,baz=10,slow=3.2
NOA NORSAR Array B 137.43 355 PKP **PKPdf 17 29 22.2 +0.1**
comp=Z,1.7nm,0.8s,baz=13,slow=4.1,SNR=6.3
VSR Storozhevoye 137.59 328 *e* PKIKP **PKPdf 17 29 21.5 -1.1**
VSR pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 139.05 315 *i* PKHKP PKPpre 17 29 19.6
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 139.33 316 PKhKP PKPpre 17 29 18.5
comp=Z,1.7nm,0.8s,baz=89,slow=7.7,SNR=3.7
KIV Kislovodsk 139.37 317 *i* PKIKP **PKiKP 17 29 28.0 -0.5**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,273nm,24.0s
IZAR Zarasai 139.53 341 *eP* **PKPdf 17 29 20.8 -5.2**
ISAL Salakas 139.72 341 *eP* PKPdf 17 29 18.1 -8.2
AKH Akhalkalaki 139.87 313 ⇓ *P* **PKiKP 17 29 28.5 -1.3**
IIGN Ignalina 139.87 341 *eP* PKPdf 17 29 17.8 -8.8
PABE Paberze 140.41 343 *eP* **PKPdf 17 29 21.1 -6.4**
SUW Suwalki 141.93 342 *e* PKP **PKPdf 17 29 25.6 -4.7**
SUW *e* PKP **PKPdf 17 29 25.6 -4.7**
ANN Anapa 142.23 321 *e* PKHKP PKPpre 17 29 16.9
ANN pmax pmax
comp=Z,35nm,1.2s
SRTM Siirt_Merkez 142.24 308 *i P* **PKPdf 17 29 28.0 -3.6**
SRTM IAML_P
comp=Z,520nm,0.5s
MUSM Mu-Merkez 142.28 310 *i P* **PKPdf 17 29 28.1 -3.5**
MUSM IAML_P
comp=Z,11nm,0.2s
KMBO Kilima Mbogo 142.33 242 P **PKPdf 17 29 28.8 -3.8**
SNR=8.9
KMBO Kilima Mbogo 142.33 242 PKhKP PKPpre 17 29 29.3
comp=Z,5.9nm,0.8s,baz=66,slow=5.3,SNR=22
BNGL BINGOL 142.46 310 *i P* **PKPdf 17 29 30.4 -1.7**
AKASG Malin Array Be 142.53 334 PKhKP PKPpre 17 29 26.3
comp=Z,5.6nm,0.6s,baz=38,slow=4.4,SNR=9.1
BAYB BAYBURT 142.58 313 *i P* **PKPdf 17 29 28.1 -4.1**
BAYB IAML_P
comp=Z,327nm,0.6s
HANI Diyarbakir_Han 143.21 310 *i P* PKPbc 17 29 31.7 +0.8
HANI IAML_P
comp=Z,126nm,0.4s
KELT Kelkit 143.32 313 *i P* **PKPdf 17 29 32.4 -1.2**
KELT IAML_P
comp=Z,584nm,0.6s
MARD Mardin 143.32 308 *i P* PKPbc 17 29 31.3 0.0
MARD IAML_P
comp=Z,3µm,0.6s
MAZI Mazidag 143.52 308 *eP* PKPab 17 29 30.8 0.0
DYBB Diyarbakir 143.57 309 *eP* PKPbc 17 29 31.9 0.0
DIYA Diyarbakir 143.59 309 *i P* PKPbc 17 29 32.6 +0.7
DIYA IAML_P
comp=Z,2µm,0.5s
ORDU Ordu-Boztepe 143.90 315 *i P* **PKPdf 17 29 33.8 -0.5**
ORDU IAML_P
comp=Z,42nm,0.1s
SVRC Sivrice-ELAZID 144.01 310 *eP* PKPbc 17 29 33.8 +0.5
SUSE Susehri 144.02 314 *i P* PKPbc 17 29 33.5 +0.2
SUSE IAML_P
comp=Z,414nm,0.7s
SIM Simferopol' 144.08 323 *d i* PKIKP PKPab 17 29 31.5 -1.0
SIM pmax pmax
comp=Z,62nm,0.8s
ELZG Elazig 144.20 311 *i P* **PKPdf 17 29 35.9 +0.8**
ELZG IAML_P
comp=Z,2µm,0.8s
KEMA Kemaliye 144.23 312 *i P* **PKPdf 17 29 35.0 0.0**
KEMA IAML_P
comp=Z,3µm,0.8s
CUZAR Zara_SIVAS 144.46 314 *i P* **PKPdf 17 29 35.2 -0.2**
HPK Haverah Park 144.47 6 *eP* PKPbc 17 29 33.7 -0.2
BEL Belsk 144.54 343 *e* PKIKP **PKPdf 17 29 34.5 -0.5**
BEL Belsk 144.54 343 *e* PKP **PKPdf 17 29 34.5 -0.5**
BEL *e* PKP **PKPdf 17 29 34.5 -0.5**
MALT Malatya 144.67 311 *eP* **PKPdf 17 29 35.5 -0.3**
URFA Urfa 144.73 309 *eP* **PKPdf 17 29 35.6 -0.3**
HEKM Malatya_Hekimh 144.77 312 *i P* **PKPdf 17 29 37.5 +1.4**
HEKM IAML_P
comp=Z,3µm,1.0s
YRC Rhoscolyn 144.78 10 *eP* PKPbc 17 29 34.6 -0.3
ERBA Erbaa 144.78 315 *i P* **PKPdf 17 29 36.2 +0.3**
ERBA IAML_P
comp=Z,3µm,0.9s
SAMS Samsun-Alacam 144.81 317 *i P* **PKPdf 17 29 37.1 +1.3**
SAMS IAML_P
comp=Z,46nm,0.1s
SCER sogukcermik 144.91 314 *i P* **PKPdf 17 29 37.9 +1.6**
SCER IAML_P
comp=Z,2µm,0.8s
CUKAN kangal_SIVAS 144.93 313 *i P* **PKPdf 17 29 37.3 +1.0**
YLL Llanberis 144.94 9 *eP* PKPbc 17 29 33.9 -1.4
SVSK Karacayir 144.98 314 *eP* **PKPdf 17 29 36.9 +0.8**
LBWR Ladybower, Pea 145.01 7 *eP* **PKPdf 17 29 35.6 -0.2**
AKCD Akcadag 145.04 311 *i P* **PKPdf 17 29 38.2 +1.7**
AKCD IAML_P
comp=Z,177nm,0.1s
KVT Kavak 145.05 316 *eP* **PKPdf 17 29 37.4 +1.1**
SURC SANLIURFA_SURC 145.10 308 *i P* **PKPab 17 29 37.6 +0.9**
SURC IAML_P

comp=Z,628nm,0.8s
ATAB Bozova 145.11 309 *i* P **PKiKP 17 29 38.4 -2.0**
ATAB IAML_P
comp=Z,3µm,0.6s
DARE Darende-Malaty 145.24 312 *eP* **PKPab 17 29 37.1 -0.2**
LVV L'vov 145.24 338 ⇑ *i* PKIKP **PKPab 17 29 36.3 -0.5**
STNC Stoke 145.26 7 *eP* **PKPab 17 29 36.8 +0.1**
HAVZ Havza 145.26 317 *i P* **PKiKP 17 29 39.0 -1.7**
HAVZ IAML_P
comp=Z,1µm,0.7s
FOEL Foel Wylfa 145.33 8 *eP* **PKPdf 17 29 36.2 -0.2**
KIS Kishinev 145.46 330 ⇓ *i* PKP **PKPbc 17 29 37.0 -0.2**
comp=Z,270nm,1.0s
RUE Ruedersdorf 145.51 350 *eP* **PKPab 17 29 37.0 -0.6**
MILM Milestii Mici 145.52 330 ⇑ *P* **PKPbc 17 29 37.1 -0.3**
ELBS KAHRAMANMARAS 145.59 311 *i P* **PKPab 17 29 39.6 +0.9**
ELBS IAML_P
comp=Z,853nm,0.8s
GZT Gaziantep 145.69 310 *i P* **PKPab 17 29 39.6 +0.5**
GZT IAML_P
comp=Z,2µm,0.8s
CWF Charnwood Fore 145.71 6 *eP* **PKPbc 17 29 37.6 -0.1**
HLM1 Long Mynd 145.74 8 *eP* **PKPbc 17 29 37.8 -0.1**
KWP Kalwaria Pacla 145.86 339 *e* PKP2 **PKPab 17 29 38.5 -0.7**
KWP Kalwaria Pacla 145.86 339 *e* PKP **PKPab 17 29 38.5 -0.7**
KWP *e* PKP **PKPab 17 29 38.5 -0.7**
WACR West Acre 145.89 4 *eP* **PKPbc 17 29 38.2 -0.1**
IAS Iasi 145.90 332 ⇓ PKP2 **PKPab 17 29 38.8 -0.5**
IAS Iasi 145.90 332 ⇓ *P* **PKPab 17 29 38.8 -0.5**
KMRS Kahramanmaras 146.11 310 *eP* **PKPbc 17 29 39.3 -0.2**
HCB Kahramanmara 146.17 310 *i P* **PKPab 17 29 40.5 -0.3**
HCB IAML_P
comp=Z,678nm,0.5s
AYKD Aykdinkavak 146.21 310 *i P* **PKPab 17 29 40.8 -0.2**
AYKD IAML_P
comp=Z,953nm,0.7s
MCH1 Michaelchurch 146.23 8 *eP* **PKPbc 17 29 39.0 -0.3**
YOZ Yozgat 146.24 315 *eP* **PKPbc 17 29 39.5 -0.5**
BNN Bunyan 146.26 313 *eP* **PKPbc 17 29 39.9 -0.2**
OJC Ojcow 146.26 342 *e* PKP2 **PKPbc 17 29 39.5 0.0**
OJC Ojcow 146.26 342 *e* PKP **PKPbc 17 29 39.5 0.0**
OJC *e* PKP **PKPbc 17 29 39.5 0.0**
OJC Ojcow 146.26 342 PKPab 17 29 40.1 -0.5
PRAR RASCA 146.35 333 ⇑ *P* **PKPbc 17 29 39.1 -0.8**
MONM Monmouth 146.41 8 *eP* **PKPbc 17 29 39.9 +0.1**
ANDN Andirin 146.47 311 *i P* **PKPab 17 29 42.1 +0.1**
ANDN IAML_P
comp=Z,3µm,0.8s
SAIM ADANA 146.49 312 *i P* **PKPab 17 29 41.6 -0.5**
SAIM IAML_P
comp=Z,1µm,0.7s
STHS Stebnicka Huta 146.53 340 *e* PKIKP **PKPdf 17 29 39.2 +0.7**
STHS Stebnicka Huta 146.53 340 *e* PKP **PKPdf 17 29 39.2 +0.7**
BIR Birlad 146.56 330 ⇓ PKP2 **PKPab 17 29 41.6 -0.3**
BIR Birlad 146.56 330 ⇓ *P* **PKPab 17 29 41.6 -0.3**
BUR08 Bucovina Ar. S 146.56 334 PKPab 17 29 42.2 +0.1
BURAR Bucovina Array 146.58 334 ⇓ PKP2 **PKPbc 17 29 41.0 +0.3**
BURAR Bucovina Array 146.58 334 ⇓ *P* **PKPbc 17 29 41.0 +0.3**
BURAR Bucovina Array 146.58 334 PKiKP 17 29 42.6 -0.6
KSP Ksiaz 146.59 346 *e* PKP2 **PKPab 17 29 40.9 -1.0**
KSP Ksiaz 146.59 346 *e* PKP **PKPab 17 29 40.9 -1.0**
KSP *e* PKP **PKPab 17 29 40.9 -1.0**
KOLS Kolonicke sedl 146.61 339 *e* PKP2 **PKPab 17 29 41.2 -0.9**
KOLS Kolonicke sedl 146.61 339 *e* PKP **PKPab 17 29 41.2 -0.9**
BIZ Bicaz 146.74 333 ⇓ *P* **PKPab 17 29 41.6 -1.1**
TLCR 146.76 328 ⇑ PKP2 **PKPab 17 29 41.7 -1.1**
TLCR 146.76 328 ⇑ *P* **PKPab 17 29 41.6 -1.1**
CLL Collm 146.77 350 ⇓ *e* PKIKP **PKPdf 17 29 39.0 +0.2**
CLL *i* 17 29 40.9
CLL pmax pmax
comp=Z,116nm,1.1s
CLL Collm 146.77 350 *e* PKPdf **PKPdf 17 29 39.0 +0.2**
CLL ⇓ *i* PKPbc **PKPbc 17 29 40.9 0.0**
comp=Z,116nm,1.1s
CLL *e* 17 29 55.0
CLL *e* pPKiKP **pPKiKP 17 30 40.0 +2.3**
CLL *e* SKPdf **SKPdf 17 32 53.0 +0.5**
CLL *e* PP **PP 17 33 06.0 +0.2**
CLL Collm 146.77 350 PKPab 17 29 41.6 -1.0
TESR Tescani 146.82 332 ⇑ *P* **PKPbc 17 29 41.3 0.0**
NIE Niedzica 146.83 341 *e* PKP2 **PKPab 17 29 41.8 -1.1**
NIE Niedzica 146.83 341 *e* PKP **PKPab 17 29 41.8 -1.1**
NIE *e* PKP **PKPab 17 29 41.8 -1.1**
UZH Uzhgorod 146.86 338 ⇑ *i* PKP2 **PKPbc 17 29 41.4 +0.2**
CHVC Chvalec 146.88 347 *e* PKP **PKPdf 17 29 39.6 +0.5**
CHVC *ex* x 17 29 41.8
CHVC *ex* x 17 29 49.0
UPC Upice 146.96 347 *e* PKP2 **PKPbc 17 29 41.9 +0.4**
UPC Upice 146.96 347 *e* PKP **PKPbc 17 29 41.9 +0.4**
UPC *ex* x 17 29 48.6
BRG Berggiesshubel 147.03 349 *i* PKP **PKPdf 17 29 39.8 +0.5**
comp=Z,15nm,1.2s
BRG Berggiesshubel 147.03 349 *i* PKP **PKPbc 17 29 41.5 -0.1**
comp=Z,67nm,1.3s
BRG *i* pPKP pPKPab 17 30 41.5 +5.0
comp=Z,18nm,1.3s
BRG Berggiesshubel 147.03 349 *i* PKIKP **PKPdf 17 29 39.8 +0.5**
BRG *i* 17 29 41.5
BRG pmax pmax
comp=Z,2.0nm,1.2s
BRG pmax pmax
comp=Z,15nm,1.3s
BRG pmax pmax
comp=Z,67nm,1.3s
DPC Dobruska-Polom 147.04 346 *e* PKIKP **PKPdf 17 29 39.4 0.0**
DPC *e* 17 29 42.4
DPC Dobruska-Polom 147.04 346 *e* PKP **PKPdf 17 29 39.4 0.0**
DPC *ex* x 17 29 42.4
OKC Ostrava-Krasne 147.07 344 *e* PKP2 **PKPbc 17 29 41.5 -0.3**
OKC Ostrava-Krasne 147.07 344 *e* PKP **PKPbc 17 29 41.5 -0.3**
CFR Carcaliu 147.10 329 ⇓ PKP2 **PKPbc 17 29 42.1 +0.1**
CFR Carcaliu 147.10 329 ⇓ *P* **PKPbc 17 29 42.1 +0.1**
WOL Wolverton 147.12 7 *eP* **PKPbc 17 29 41.8 0.0**
CEYT Ceyhan 147.15 310 *eP* **PKPbc 17 29 42.6 +0.2**
KRLC Kraliky 147.19 345 *e* PKP2 **PKPbc 17 29 42.7 +0.5**
KRLC Kraliky 147.19 345 *e* PKP **PKPbc 17 29 42.7 +0.5**
TRPA Tarpa 147.19 338 ⇓ *P* **PKPbc 17 29 42.2 +0.1**
ODBI Odobesti 147.20 330 ⇓ *P* **PKPab 17 29 43.0 -1.4**
BMR Baia Mare 147.22 336 ⇑ PKP2 **PKPbc 17 29 42.9 +0.6**
BMR Baia Mare 147.22 336 ⇑ *P* **PKPbc 17 29 42.9 +0.6**
PVCC Panska Ves 147.24 348 *e* PKIKP **PKPdf 17 29 40.4 +0.7**
PVCC *e* 17 29 43.0
PVCC Panska Ves 147.24 348 *e* PKP **PKPdf 17 29 40.4 +0.7**
PVCC *ex* x 17 29 43.0
VRI Vrincioaia 147.27 331 ⇓ PKP2 **PKPbc 17 29 42.3 -0.2**
VRI Vrincioaia 147.27 331 ⇓ *P* **PKPbc 17 29 42.3 -0.2**
MORC Moravsky Berou 147.28 344 ⇓ PKP2 **PKPbc 17 29 42.9 +0.4**
MORC Moravsky Berou 147.28 344 ⇓ *P* **PKPbc 17 29 42.9 +0.4**
MORC Moravsky Berou 147.28 344 *e* PKP **PKPdf 17 29 40.1 +0.3**
MORC *e* 17 29 42.6
MORC Moravsky Berou 147.28 344 PKPab 17 29 44.0 -0.8
YURE YUREGIR 147.31 310 *eP* **PKPbc 17 29 43.3 +0.4**
LANS Liptovska Anna 147.32 342 *e* PKP2 **PKiKP 17 29 44.0 -0.6**
LANS Liptovska Anna 147.32 342 *e* PKP **PKiKP 17 29 44.0 -0.6**
BR131 Keskin Array S 147.32 316 P **PKPdf 17 29 39.0 -1.3**
SNR=57
BR131 Keskin Array S 147.32 316 PKP2 **PKPbc 17 29 43.8 +0.8**
BR131 Keskin Array S 147.32 316 PKPbc 17 29 43.8 +0.8
BRTR Keskin Array B 147.32 316 PKP **PKPdf 17 29 39.8 -0.6**
comp=Z,33nm,0.8s,baz=96,slow=2.9,SNR=103
BRTR PKPbc **PKPbc 17 29 42.9 -0.2**
comp=Z,33nm,0.8s,baz=137,slow=3.4,SNR=79
BRTR PP **PP 17 33 09.7 -0.6**
comp=Z,2.5nm,1.1s,baz=101,slow=3.9,SNR=4.1
BRTR Keskin Array B 147.32 316 PKPbc 17 29 43.6 +0.6
PLOR Plostina 147.32 331 ⇓ PKP2 **PKPbc 17 29 42.5 -0.2**
PLOR Plostina 147.32 331 ⇓ *P* **PKPbc 17 29 42.5 -0.2**
ARCR ARCALIA 147.36 335 ⇓ *P* **PKPbc 17 29 43.3 +0.6**
TIRR Tirgusor 147.48 327 ⇑ PKP2 **PKPbc 17 29 43.2 +0.1**
TIRR Tirgusor 147.48 327 ⇑ *P* **PKPbc 17 29 43.2 +0.1**
TIRR Tirgusor 147.48 327 PKPbc 17 29 43.4 +0.4
OZUR 147.53 332 ⇓ *P* **PKPbc 17 29 43.8 +0.5**
KARA Karaisali 147.54 311 *eP* **PKPbc 17 29 43.2 -0.3**
TLB Topalu 147.57 328 ⇓ PKP2 **PKPbc 17 29 43.6 +0.3**
TLB Topalu 147.57 328 ⇓ *P* **PKPbc 17 29 43.6 +0.3**
KECS Kecovo 147.59 340 *e* PKP2 **PKPbc 17 29 43.8 +0.5**
KECS Kecovo 147.59 340 *e* PKP **PKPbc 17 29 43.8 +0.5**
KECS *e* 17 29 46.8
KRTS Karatas 147.60 310 *eP* **PKPbc 17 29 44.1 +0.4**
MFTR Murfatlar 147.67 327 ⇑ *P* **PKiKP 17 29 44.4 -1.0**
PRA Prague 147.71 348 *e* PKP2 **PKPbc 17 29 44.1 +0.6**
PRA Prague 147.71 348 *e* PKP **PKPbc 17 29 44.1 +0.6**

PRU	Pruhonice	147.76 348	*e*PKP2	PKPbc	17 29 43.8 +0.1
PRU	Pruhonice	147.76 348	*e*PKP	PKPbc	17 29 43.8 +0.1
PRU			*e*x	x	17 29 51.6
GOPC	GO Pecny, Ondr	147.78 348	*e*PKIKP	PKPdf	17 29 40.8 +0.2
GOPC			*e*		17 29 43.2
GOPC	GO Pecny, Ondr	147.78 348	*e*PKP	PKPdf	17 29 40.8 +0.2
GOPC			*e*x	x	17 29 43.2
GOPC			*e*x	x	17 29 51.9
DOPR	Dopca	147.80 332	⇑P	PKPdf	17 29 41.1 +0.4
MANR	Mangalia	147.83 326	⇑P	PKiKP	17 29 44.7 -1.1
NKC	Novy Kostel	147.90 350	*e*PKIKP	PKPdf	17 29 41.3 +0.5
NKC			*e*		17 29 44.3
NKC	Novy Kostel	147.90 350	*e*PKP	PKPdf	17 29 41.3 +0.5
NKC			*e*x	x	17 29 44.3
AMRR	Amara	147.91 329	⇑PKP2	PKiKP	17 29 44.9 -1.0
AMRR	Amara	147.91 329	⇑P	PKiKP	17 29 44.9 -1.0
MLR	Muntele Rosu	147.92 331	⇑PKIKP	PKPdf	17 29 40.6 -0.5
MLR	Muntele Rosu	147.92 331	⇑P	PKPdf	17 29 40.6 -0.5
VRAC	Vranov	147.95 345	⇓PKP2	PKPbc	17 29 44.6 +0.4
VRAC	Vranov	147.95 345	⇓P	PKPbc	17 29 44.6 +0.4
VRAC	Vranov	147.95 345	*e*PKP	PKPdf	17 29 41.2 +0.3
VRAC			*e*		17 29 44.3
CJR	Cluj-Napoca	147.96 335	⇑PKP2	PKPbc	17 29 44.7 +0.3
CJR	Cluj-Napoca	147.96 335	⇑P	PKPbc	17 29 44.7 +0.3
JAVC	Velka Javorina	148.09 344	*e*PKP	PKPdf	17 29 42.6 +1.4
JAVC			*e*		17 29 46.0
VYHS	Vyhne	148.09 342	*e*PKP2	PKiKP	17 29 45.4 -0.8
VYHS	Vyhne	148.09 342	*e*PKP	PKiKP	17 29 45.4 -0.8
VYHS			*e*		17 29 48.9
MDB	Medias	148.10 334	⇓PKP2	PKiKP	17 29 45.8 -0.5
MDB	Medias	148.10 334	⇓P	PKiKP	17 29 45.8 -0.5
MEM	Membach	148.13 358	PKiKP	PKPbc	17 29 44.6 0.0
MEM			PKPab	PKiKP	17 29 45.7 -0.5
PBCC	Pribram	148.16 348	*e*PKP	PKPdf	17 29 41.5 +0.3
PBCC			*e*x	x	17 29 44.7
PBCC			*e*x	x	17 30 02.3
BSTI	Sart Tilman	148.16 359	PKiKP	PKPbc	17 29 45.2 +0.5
SECR		148.20 330	⇑P	PKPbc	17 29 45.5 +0.5
TREC	Trest	148.22 346	*e*PKP2	PKiKP	17 29 45.5 -1.0
TREC	Trest	148.22 346	*e*PKP	PKiKP	17 29 45.5 -1.0
KRUC	Moravsky	148.23 345	*e*PKP	PKPdf	17 29 41.5 +0.2
KRUC			*e*		17 29 44.9
DRGR		148.25 336	⇓PKP2	PKPbc	17 29 44.6 -0.5
DRGR		148.25 336	⇓P	PKPbc	17 29 44.6 -0.5
SNF	Seneffe	148.25 0	PKiKP	PKPbc	17 29 45.1 +0.2
SNF			x	x	17 29 48.5
LEHL	Lehliu	148.26 329	⇑P	PKiKP	17 29 45.9 -0.7
PSZ	Piszkesteto	148.28 340	⇓PKP2	PKPbc	17 29 45.2 0.0
PSZ	Piszkesteto	148.28 340	⇓P	PKPbc	17 29 45.2 0.0
BCLA	Clavier	148.33 359	PKPdf	PKPdf	17 29 41.0 -0.5
BCLA			PKiKP	PKiKP	17 29 45.7 -0.9
BCLA			x	x	17 30 10.4
SULR		148.38 330	⇑P	PKiKP	17 29 46.2 -0.6
BMRD	Maredsous	148.46 360	PKiKP	PKPbc	17 29 45.8 +0.3
BMRD			x	x	17 29 49.2
SMOL	Smolenice	148.47 344	*e*PKP2	PKiKP	17 29 47.0 0.0
SMOL	Smolenice	148.47 344	*e*PKP	PKiKP	17 29 47.0 0.0
SMOL			*e*		17 29 50.5
MTUR	Matau	148.52 332	⇑PKP2	PKiKP	17 29 47.6 +0.3
MTUR	Matau	148.52 332	⇑P	PKiKP	17 29 47.6 +0.3
ARR	Arges	148.60 332	⇓P	PKiKP	17 29 47.1 -0.3
GRA1	Grafenberg Arr	148.61 352		PKiKP	17 29 46.9 -0.3
GRF	Grafenberg Arr	148.61 352	PKP2	PKiKP	17 29 46.9 -0.3
MODS	Modra-Piesok	148.64 344	*e*PKP2	PKPbc	17 29 46.1 +0.1
MODS	Modra-Piesok	148.64 344	*e*PKP	PKPbc	17 29 46.1 +0.1
MODS			*e*		17 29 50.6
DOU	Dourbes	148.66 360	PKPdf	PKPdf	17 29 40.8 -1.2
DOU	Dourbes	148.66 360	PKiKP	PKPbc	17 29 46.4 +0.4
DOU	Dourbes	148.66 360	x	PKPab	17 29 49.8 -0.4
KHC	Kasperske Hory	148.77 349	*e*PKIKP	PKPdf	17 29 42.4 +0.1
KHC			*e*		17 29 50.7
KHC	Kasperske Hory	148.77 349	*e*PKP	PKPdf	17 29 42.4 +0.1
KHC			*e*x	x	17 29 46.5
KHC			*e*x	x	17 29 50.7
KHC	Kasperske Hory	148.77 349		PKiKP	17 29 47.4 -0.2
SRO	Srobarova	148.86 342	*e*PKP2	PKiKP	17 29 47.0 -0.8
SRO	Srobarova	148.86 342	*e*PKP	PKiKP	17 29 47.0 -0.8
SRO			*e*		17 29 52.2
PRD	Provadia	148.88 327	P	PKiKP	17 29 47.2 -0.8
GULT	Gulveren	148.91 320	*e*P	PKPbc	17 29 46.7 -0.4
DEV	Deva	148.92 335	⇑PKP2	PKiKP	17 29 47.2 -0.8
DEV	Deva	148.92 335	⇑P	PKiKP	17 29 47.2 -0.8
KIZT	Kizilcal	148.93 316	*e*P	PKPbc	17 29 46.4 -0.8
LADK	Ladik-KONYA	148.96 315	*e*P	PKPbc	17 29 45.6 -1.7
GEC2	GERESS Array S	149.02 348		PKiKP	17 29 47.8 -0.5
GERES	GERESS Array B	149.02 348	PKP	PKPdf	17 29 42.3 -0.5
	comp=Z,15nm,0.9s,baz=29,slow=2.2,SNR=11				
GERES			PKPbc	PKPbc	17 29 47.1 0.0
	comp=Z,19nm,0.7s,baz=49,slow=4.1,SNR=73				
GERES	GERESS Array B	149.02 348		PKiKP	17 29 47.6 -0.5
WLF	Walferdange	149.07 358	PKP2	PKiKP	17 29 48.5 +0.3
WLF	Walferdange	149.07 358	PKPdf	PKPdf	17 29 42.5 -0.1
WLF			PKiKP	PKiKP	17 29 47.6 -0.5
WLF	Walferdange	149.07 358		PKiKP	17 29 48.5 +0.3
RAZG	Razgrad	149.08 328	⇓P	PKPbc	17 29 47.3 +0.1
KONT	Konya--Tatoy	149.09 314	*e*P	PKPbc	17 29 46.3 -1.2
HRT	Hereke	149.19 321	*e*P	PKPbc	17 29 47.2 -0.5
COPA	Copaceanca	149.28 330	⇑P	PKPbc	17 29 47.8 +0.1
GZR	Gura Zlata	149.37 334	⇓P	PKPbc	17 29 47.9 -0.1
ADVT	Abdulvahap	149.38 320	*e*P	PKPbc	17 29 47.1 -1.0
CONA	Conrad Observa	149.41 345	*e*PKiKP	PKiKP	17 29 48.4 -0.6
	comp=Z,50nm,1.0s,SNR=17				
CAVI	Cavuskoy	149.46 320	*e*P	PKPbc	17 29 47.4 -0.9
BGKT	Bogazkoy	149.49 322	*e*P	PKPbc	17 29 48.2 -0.1
ZIMR		149.57 329	⇑PKP2	PKiKP	17 29 49.3 0.0
ZIMR		149.57 329	⇑P	PKiKP	17 29 49.3 0.0
SZH	Strazhica	149.58 328	P	PKPbc	17 29 48.4 -0.1
CTKS	Kestanelik-??a	149.60 323	*e*P	PKPbc	17 29 47.4 -1.2
BZS	Buzias	149.65 336	⇑PKP2	PKPbc	17 29 48.4 -0.2
BZS	Buzias	149.65 336	⇑P	PKPbc	17 29 48.4 -0.2
VLAD	Vladila	149.76 331	⇓P	PKiKP	17 29 49.6 -0.1
SLVT	Silivri	149.78 323	*e*P	PKPbc	17 29 48.9 -0.1
SRE	Strehaia	149.78 333	⇓PKP2	PKiKP	17 29 49.2 -0.6
SRE	Strehaia	149.78 333	⇓P	PKiKP	17 29 49.2 -0.6
CSS	Mathiatis	149.79 308	P	PKPbc	17 29 49.2 -0.1
CSS	Mathiatis	149.79 308		PKiKP	17 29 49.2 -0.5
JMB	Yambol	149.82 327	P	PKPbc	17 29 49.2 +0.1
ARMT	Armutlu	149.83 321	*e*P	PKPbc	17 29 48.4 -0.8
MOA	Molln	149.85 347	*e*PKiKP	PKPbc	17 29 49.0 -0.1
	comp=Z,9.5nm,0.7s,SNR=5.2				
ELND	Elena	149.86 328	⇑P	PKiKP	17 29 49.6 -0.5
BANR	Banloc	150.03 336	⇑P	PKiKP	17 29 50.5 +0.3
LEF	Lefka	150.05 309	*e*P	PKPbc	17 29 49.0 -0.9
ARSA	Arzberg	150.13 345	*e*PKiKP	PKPbc	17 29 49.1 -0.6
	comp=Z,15nm,0.9s				
PLVB	Pleven	150.13 330	⇓P	PKiKP	17 29 50.1 -0.4
TVSB	Tavsanli	150.15 319	*e*P	PKPbc	17 29 49.6 -0.5
EDRB	Edirne	150.17 325	P	PKPbc	17 29 50.0 0.0
EDRB	Edirne	150.17 325	*e*P	PKPbc	17 29 49.0 -1.0
MORH	Mrgy, Hungar	150.18 340	⇓P	PKPbc	17 29 49.4 -0.4
BFO	Black Forest	150.27 355	*i* PKiKP	PKiKP	17 29 50.3 -0.4
MDVR	Moldovita	150.30 335	⇓P	PKiKP	17 29 50.5 -0.5
ISP	Isparta	150.39 315	P	PKPbc	17 29 50.1 -0.7
GEDZ	Gediz	150.42 318	*e*P	PKPbc	17 29 50.4 -0.3
MRMT	Marmara Adasi	150.54 323	*e*P	PKPbc	17 29 49.8 -1.2
BCK	Bucak	150.54 315	*e*P	PKPbc	17 29 50.4 -0.7
EDC	Edincik	150.55 322	*e*P	PKPbc	17 29 50.0 -0.9
FRGS	Fruska Gora	150.71 338	⇓*i*P	PKPbc	17 29 50.9 -0.3
RKY	Sarkoy-Tekirda	150.72 323	*e*P	PKPbc	17 29 50.7 -0.7
KBA	Koelnbreinsper	150.78 348	*e*PKiKP	PKPbc	17 29 50.6 -0.8
	comp=Z,29nm,0.5s,SNR=8.7				
SOKA	Soboth	150.78 345	*e*PKiKP	PKPbc	17 29 50.9 -0.4
	comp=Z,31nm,0.8s,SNR=7.9				
PERS	Pernice	150.80 345	*i* PKPbc	PKPbc	17 29 50.8 -0.6
RETA	Reutte	150.83 351	*i* PKiKP	PKPbc	17 29 51.4 -0.1
	comp=Z,25nm,0.7s,SNR=6.7				
RETA			pPKPab	pPKPab	17 30 51.3 -0.6
	comp=Z,9.6nm,1.2s				
KRBG	Karabiga-Canak	150.85 323	*e*P	PKPbc	17 29 50.6 -1.0
WATA	Walderalm	150.85 350	*e*PKiKP	PKPbc	17 29 51.2 -0.4
	comp=Z,36nm,0.6s,SNR=10				
WTTA	Wattenberg	150.91 350	*i* PKiKP	PKPbc	17 29 51.6 -0.1
	comp=Z,85nm,0.5s,SNR=22				
MOTA	Moosalm	150.92 351	*e*PKiKP	PKPbc	17 29 51.5 -0.3
	comp=Z,50nm,1.0s,SNR=9.4				
KORT	Korkueli	150.95 314	*e*P	PKPbc	17 29 51.5 -0.6
PGB	Panagyurishte	150.98 329	P	PKiKP	17 29 52.0 -0.4
BALB	Balikesir	151.00 321	*e*P	PKPbc	17 29 51.3 -0.6
KDZ	Kurdzhali	151.01 327	P	PKPbc	17 29 51.8 -0.2
SQTA	Sankt Quirin	151.02 351	*e*PKiKP	PKPbc	17 29 51.9 -0.1
	comp=Z,44nm,0.7s,SNR=11				
OBKA	Obir	151.06 346	*e*PKiKP	PKPbc	17 29 51.3 -0.7
	comp=Z,21nm,0.8s,SNR=5.6				
ERIK	Erikli-Kesan	151.11 324	*e*P	PKPbc	17 29 51.8 -0.4
DAVA	Damuels	151.14 353	*e*PKiKP	PKPbc	17 29 52.2 -0.1
	comp=Z,65nm,1.1s,SNR=12				
DAVA			pPKPab	pPKPab	17 30 52.1 -1.2
	comp=Z,22nm,2.0s				
MYKA	Terra Mystica	151.15 347	*i* PKiKP	PKPbc	17 29 51.2 -0.9
	comp=Z,35nm,0.5s,SNR=9.1				
MYKA			*e*pPKPab	pPKPab	17 30 55.6 +2.4
	comp=Z,13nm,1.1s				
KULA	Kula-Manisa	151.21 318	P	PKiKP	17 29 52.8 -0.3
KULA	Kula-Manisa	151.21 318	*e*P	PKPbc	17 29 51.8 -0.8
PTJ	Puntijarka	151.26 343	*i* P	PKiKP	17 29 52.6 -0.4
ABTA	Abfaltersbach	151.26 349	*e*PKiKP	PKPbc	17 29 51.7 -0.8
	comp=Z,67nm,0.6s,SNR=14				
MOSL	Moslavina	151.31 342	*i* P	PKiKP	17 29 52.6 -0.3
RDO	Rodhopi	151.31 326	P	PKPbc	17 29 52.3 -0.3
GELI	Tayfur-Gelibol	151.31 324	*e*P	PKPbc	17 29 51.0 -1.7
RZN	Rozhen	151.35 327	P	PKPbc	17 29 52.5 -0.5
VTS	Vitosha	151.37 330	P	PKPbc	17 29 52.3 -0.6
VTS	Vitosha	151.37 330	P	PKiKP	17 29 53.0 -0.4
VTS	Vitosha	151.37 330	⇓PKIKP	PKPbc	17 29 52.7 -0.3
VTS	Vitosha	151.37 330	⇓P	PKPbc	17 29 52.7 -0.3
ELL	Elmali	151.38 314	*e*P	PKPbc	17 29 52.7 -0.4
CRES	Cresnjev	151.47 344	⇓*i*P	PKPbc	17 29 52.5 -0.4
LJU	Ljubljana	151.50 345	*i* PKPbc	PKPbc	17 29 52.7 -0.2
LJU	Ljubljana	151.50 345	⇓*i*P	PKPbc	17 29 52.4 -0.5
DIVS	Divibare	151.55 336	⇓*i*P	PKPbc	17 29 53.0 -0.2
EZN	Ezine	151.78 323	P	PKPbc	17 29 53.3 -0.4
EZN	Ezine	151.78 323	⇑PKIKP	PKPbc	17 29 53.3 -0.4
EZN	Ezine	151.78 323	⇑P	PKPbc	17 29 53.3 -0.4
EZN	Ezine	151.78 323	*e*P	PKPbc	17 29 52.7 -1.0
CEY	Cerknica	151.81 345	⇓*i*P	PKPbc	17 29 53.2 -0.5
BOJS	Bojanci	151.82 344	*i* PKPbc	PKiKP	17 29 53.7 -0.2
AKAS	Kas	151.86 313	*e*P	PKPbc	17 29 53.1 -1.1
MMB	Musomiste	151.92 328	P	PKPbc	17 29 53.4 -0.7
BOZC	Bozcaada	151.93 323	*e*P	PKPbc	17 29 53.0 -1.1
HAPS	Han Pijesak,BI	151.94 338	⇓*i*P	PKPbc	17 29 53.5 -0.6
BLY	Banja Luka	151.96 341	⇓*i*P	PKPbc	17 29 53.9 -0.1
BLY	Banja Luka	151.96 341	⇓P	PKiKP	17 29 54.0 -0.3
KAVA	Kavala	151.96 327	P	PKPbc	17 29 53.4 -0.7
BBLS	Lazići	151.97 337	*e*P	PKiKP	17 29 54.1 -0.3
FETY	Fethiye	152.00 315	P	PKPbc	17 29 53.9 -0.4
FETY	Fethiye	152.00 315	*e*P	PKPbc	17 29 54.0 -0.4
KKB	Krupnik	152.02 330	P	PKPbc	17 29 54.0 -0.3
NVR	Nevrokopi	152.03 328	P	PKPbc	17 29 53.8 -0.5
AYDB	Zeytinkoy-Aydi	152.03 318	*e*P	PKPbc	17 29 54.1 -0.5
DALY	Dalyan (Mula)	152.19 315	*e*P	PKPbc	17 29 54.1 -0.6
RUDO	Rudo	152.19 337	*e*P	PKPbc	17 29 53.9 -0.7
TURN	Turunc	152.19 316	*e*P	PKiKP	17 29 55.0 0.0
YER	Yerkesik	152.25 316	P	PKiKP	17 29 55.9 +0.7
YER	Yerkesik	152.25 316	*e*P	PKPbc	17 29 54.1 -0.9
MGRS	Mrkonjic Grad	152.28 340	*e*P	PKPbc	17 29 53.8 -1.0
MLSB	Milas	152.49 317	*e*P	PKPbc	17 29 54.6 -0.9
URLA	Izmir	152.58 320	*e*P	PKPbc	17 29 54.1 -1.5
STIP	Stip	152.58 331	*i* PKP	PKPbc	17 29 54.6 -0.9
GCAM	G?zelcaml?	152.59 318	*e*P	PKPbc	17 29 54.7 -0.9
VAY	Valandovo	152.69 330	*i* PKP	PKPbc	17 29 55.1 -0.6
SKO	Skopje	152.70 332	*i* PKP	PKiKP	17 29 56.0 +0.1
NVLJ	Novalja	152.79 344	*i* P	PKPbc	17 29 55.3 -0.5
SMG	Samos	152.84 319	P	PKPbc	17 29 55.5 -0.7
CHOS	Chios island	152.89 321	P	PKPbc	17 29 55.7 -0.7
BODT	Bodrum	152.93 317	P	PKPbc	17 29 55.5 -0.9
BODT	Bodrum	152.93 317	*e*P	PKPbc	17 29 55.2 -1.2
DAT	Datca	152.95 316	*e*P	PKPbc	17 29 54.7 -1.9
BRY	Bratogost	153.12 337	*e*P	PKPbc	17 29 56.3 -0.5
MORI	Morici	153.20 342	*i* P	PKPbc	17 29 56.3 -0.4
PDG	Podgorica	153.25 335	*e*P	PKPdf	17 29 52.7 +3.5
DUGI	Dugi Otok	153.27 343	*i* P	PKPbc	17 29 56.4 -0.5
TREB	Trebinje	153.35 337	*e*P	PKPbc	17 29 56.5 -0.6
ZIRJ	Zirje	153.42 342	*i* P	PKPbc	17 29 56.8 -0.4
HVAR	Hvar	153.60 340	*i* P	PKPbc	17 29 57.2 -0.4
FNA	Florina	153.67 330	P	PKPbc	17 29 57.1 -0.9
OHR	Ohrid	153.68 332	*i* PKP	PKiKP	17 29 58.2 +0.2
AMGA	Amorgos Island	153.97 318	P	PKPbc	17 29 57.2 -1.5
ANAF	Anafi Island	154.34 318	P	PKPbc	17 29 57.7 -1.8
SANT	Santorini	154.53 318	⇓P	PKPbc	17 29 58.4 -1.6
POLO	Lamas de Olo	155.03 22	*e*PKPab	PKPab	17 30 17.9 +0.6
DID	Didima	155.13 323	P	PKPdf	17 29 59.7 +7.6
PVRL	Vila Real	155.15 22	*e*PKPab	PKPab	17 30 18.4 +0.7
LAST	Lasithi	155.25 316	P	PKPdf	17 30 02.0 +10
PVIS	Viseu	155.57 23	*e*PKPab	PKPab	17 30 19.9 +0.3
PCAS	Casmilo, Conde	155.91 25	*e*PKPab	PKPab	17 30 21.4 +0.4
PTOM	Tomar	156.31 26	*e*PKPab	PKPab	17 30 23.2 +0.5
PMTG	Montargil	156.85 26	*e*PKPab	PKPab	17 30 25.8 +0.8
PMRV	Marv??o	156.88 24	*e*PKPab	PKPab	17 30 25.5 +0.3
EVO	Evora	157.39 26	*e*PKPab	PKPab	17 30 27.6 +0.2
PNCL	Nicolau / Gran	157.52 28	*e*PKPab	PKPab	17 30 28.5 +0.5
ESDC	Sonseca Array	157.82 18	PKP	PKPdf	17 29 55.7 +0.2
	comp=Z,1.5nm,0.8s,baz=336,slow=3.3,SNR=7.8				
ESDC			PKPab	PKPab	17 30 29.6 +0.3
	comp=Z,12nm,0.8s,baz=328,slow=3.7,SNR=31				
PCVE	Castro Verde	158.13 28	*e*PKPab	PKPab	17 30 31.5 +0.8
PVAQ	Vaqueiros	158.47 28	*e*PKPab	PKPab	17 30 32.6 +0.5
KEST	Kesra	162.50 347	PKP	PKPdf	17 30 00.9 0.0
	comp=Z,3.9nm,1.0s,baz=70,slow=2.6,SNR=3.8				
KEST			PKPab	PKPab	17 30 49.8 0.0
	comp=Z,4.4nm,0.8s,baz=259,slow=4.2,SNR=5.0				
DBIC	Dimbokro	164.94 141	PKP	PKPdf	17 30 02.7 -0.9
	comp=Z,7.8nm,1.1s,baz=105,slow=4.5,SNR=3.7				
DBIC			PKPab	PKPab	17 31 00.8 -0.2
	comp=Z,3.7nm,0.9s,baz=219,slow=20,SNR=2.9				
TORD	Torodi Ar. Bea	173.84 153	PKP	PKPdf	17 30 07.7 -1.2
	comp=Z,5.4nm,1.1s,baz=345,slow=4.3,SNR=18				
TORD			PKPab	PKPab	17 31 40.7 +0.5
	comp=Z,1.2nm,1.0s,baz=202,slow=3.6,SNR=5.2				

*ISCJB **03** 17:16:51.9±1.0, 33°.4S±0°.2×177°.9W±0°.1, h35km, mb3.6/2, Error ellipse: s-maj=32.8km s-min=12.7km az=157.9*
*IDC **03** 17:16:55.5±7.2, 31°.34S×178°.71W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/39, mbtmp3.8/2, Error ellipse: s-maj=306.6km s-min=59.2km az=158.0*
*NEIC **03** 17:16:55.9±2.2, 33°.4S±0°.2×177°.9W±0°.2, h57km±8km, mb4.1/12*

ISC 03 17:16:54.4±1.3, 33°.3S±0°.3×177°.9W±0°.2, h35km, n18, σ1§57/15, mb4.1/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	20.12	17	P	P	17 21 26.3	+1.0
STKA	Stephens Creek	34.04	261	P	P	17 23 28.8	-6.4
BBOO	Buckleboo	38.37	258		P	17 24 02.9	-9.3
XMAS	Kiritimati	40.12	33	P	P	17 24 25.9	-1.0
PTCN	Pitcairn Islan	42.20	92	P	P	17 24 43.4	-0.6
AS31	Alice Springs	43.15	270	P	P	17 24 52.0	+0.3
AS31				IAmb	IAmb	17 25 10.9	
	comp=Z,2.3nm,1.1s						
ASAR	Alice Springs	43.15	270	P	P	17 24 51.9	+0.2
	comp=Z,0.5nm,0.5s,baz=109,slow=7.8,SNR=3.1						
ASAR	Alice Springs	43.15	270	P	P	17 24 51.9	+0.2
WR0	Warramunga Arr	44.23	275	P	P	17 24 58.9	-1.5
WR0				IAmb	IAmb	17 25 17.9	
	comp=Z,3.8nm,0.9s						
WB2	Warramunga Arr	44.39	275	P	P	17 25 01.4	-0.3
WB2				IAmb	IAmb	17 25 15.1	
	comp=Z,6.5nm,0.9s						
WRAB	Tennant Creek	44.40	275	P	P	17 25 01.1	-0.7
WRAB				IAmb	IAmb	17 25 02.9	
	comp=Z,3.3nm,0.9s						
WRA	Warramunga Arr	44.40	275	P	P	17 25 01.3	-0.5
	comp=Z,0.7nm,0.4s,baz=112,slow=8.1,SNR=12						
WRA	Warramunga Arr	44.40	275	P	P	17 25 01.3	-0.5
WRA	Warramunga Arr	44.40	275	IAmb	IAmb	17 25 10.6	
	comp=Z,0.2nm,1.0s						
FITZ	Fitzroy Crossi	52.53	272	P	P	17 26 02.3	-2.1
FITZ				IAmb	IAmb	17 26 05.5	
	comp=Z,2.6nm,1.1s						
KHLU	Kahalu`u	56.66	25	P	P	17 26 33.8	-0.5
FINES	FINESS Array B	147.93	338	PKPbc	PKPdf	17 36 35.1	+3.1
	comp=Z,1.1nm,0.6s,baz=49,slow=4.2,SNR=6.0						
FINES	FINESS Array B	147.93	338		PKPdf	17 36 35.1	+3.1

SOME 03 17:27:03.8, 42°.20N×81°.08E, h15km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	2.15	294	*e*P	Pb	17 27 42.4	-0.2
	2.6nm,0.2s						
SATY				*e*S	Sb	17 28 10.3	+1.1
	3.8nm,0.1s						
KPKS	Kokpek	2.17	306	*e*P	Pb	17 27 42.6	-0.2
	4.4nm,0.2s						
KPKS				*e*S	Sb	17 28 10.2	+0.6
	5.3nm,0.2s						
DJR	Jarkent	2.33	337	*e*P	Pb	17 27 45.4	-0.2
	0.7nm,0.1s						
DJR				*e*S	Sb	17 28 15.6	+1.4
	1.3nm,0.4s						

KRNET 03 17:27:07.5±0.1, 39°.47N×76°.45E, mb2.3, 10C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.99	350	⇑*i*P	Pn	17 27 43.5	+0.8
	baz=49						
NRN				⇑*i*S	Sb	17 28 09.9	-0.3
	baz=49						
TARG	Taragay, Kyrgy	2.48	24	⇑*i*P	Pn	17 27 50.5	+1.0
	baz=24						
TARG				⇑*e*S	Sn	17 28 21.7	+1.0
	baz=24						
KDJ	Kajisay	2.71	12	⇑*i*P	Pn	17 27 53.6	+1.1
	baz=12						
KDJ				⇑*i*S	Sn	17 28 27.3	+1.2
	baz=12						
KZA	Kyzart	2.76	341	⇓*e*P	Pn	17 27 54.4	+1.0
	baz=41						
KZA				⇓*i*S	Sn	17 28 28.2	+0.6
	baz=41						
BOOM	Boomskoye usch	3.04	353	⇑*i*P	Pn	17 27 58.7	+1.7
	baz=53						
BOOM				⇑*e*S	Sn	17 28 35.1	+0.9
	baz=53						
ANVS	Anan'yevo	3.43	15	⇑*e*P	Pn	17 28 03.7	+1.3
	baz=15						
ANVS				⇑*i*S	Sn	17 28 44.5	+0.6
	baz=15						

IDC 03 17:38:06.5±13.0, 49°.09S×105°.23E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/26, mbtmp3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=796.1km s-min=70.0km az=124.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.63	28	T	T	17 58 14.3	
	baz=207,slow=74						
H01W1	Cape Leeuwin H	15.64	28	T	T	17 58 13.5	
	baz=207,slow=74						
H01W3	Cape Leeuwin H	15.64	28	T	T	17 58 15.8	
	baz=207,slow=74						
ASAR	Alice Springs	33.94	52	P	P	17 44 51.3	-0.1
	1.1nm,1.0s,baz=211,slow=10,SNR=5.1						
ASAR				LR	LR	17 56 54.9	
	comp=Z,40nm,21.3s,baz=193,slow=33						
FITZ	Fitzroy Crossi	35.04	35	LR	LR	17 58 03.0	
	comp=Z,67nm,18.7s,baz=252,slow=34						
WRA	Warramunga Arr	37.26	49	P	P	17 45 19.9	-0.1
	1.6nm,1.1s,baz=216,slow=8.3,SNR=4.8						
WRA				LR	LR	17 59 48.0	
	comp=Z,48nm,19.6s,baz=165,slow=35						
NVAR	Mina Array Bea	147.22	92	PKPbc	PKPbc	17 57 50.7	-0.8
	0.7nm,0.6s,baz=233,slow=4.4,SNR=3.9						

*MOS **03** 17:46:42.1±1.0, 57°.86S×25°.65W, h49km, mb5.7/10, Error ellipse: s-maj=20.6km s-min=11.3km az=109.8*
*IDC **03** 17:46:44.6±0.4, 57°.90S×25°.60W, h63km±2km, mb4.9/17, mb1 4.9/18, mb1mx4.9/19, mbtmp5.2/18, MS4.6/17, Ms1 4.6/17, ms1mx4.5/21, Error ellipse: s-maj=14.0km s-min=11.5km az=48.0*
*ISCJB **03** 17:46:44.7±1.3, 57°.94S±0°.04×25°.67W±0°.08, h77km±12km, mb5.1/31, Error ellip

PLCA Paso Flores 33.16 281 *e*P P **17 53 14.8 +0.3**
PLCA Paso Flores 33.16 281 *e*P P **17 53 14.8 +0.3**
CPSB Cacapava Do Su 33.47 313 *e*P P **17 53 18.9 +1.8**
CPSB Cacapava Do Su 33.47 313 *e*P P **17 53 18.9 +1.8**
CNLB Canela 33.48 318 *e*P P **17 53 19.2 +1.9**
CNLB Canela 33.48 318 *e*P P **17 53 19.2 +1.9**
GO06 Curarrehue 34.48 282 P P **17 53 26.2 +0.3**
JUQB Juquia 37.27 325 *e*P P **17 53 52.5 +2.6**
JUQB Juquia 37.27 325 *e*P P **17 53 52.5 +2.6**
MAN01 Angra dos Reis 37.39 332 *e*P P **17 53 53.9 +3.0**
MAN01 Angra dos Reis 37.39 332 *e*P P **17 53 53.9 +3.0**
SPB Sao Paulo 37.66 326 P P **17 53 53.5 +0.4**
SPB Sao Paulo 37.66 326 *e*P P **17 53 54.6 +1.5**
SPB epP **pP** **17 53 58.2 -6.3**
SPB Sao Paulo 37.66 326 *e*P P **17 53 54.6 +1.5**
SPB epP **pP** **17 53 58.2 -6.3**
DUB01 Friburgo-RJ 37.76 334 *e*P P **17 53 56.4 +2.4**
DUB01 Friburgo-RJ 37.76 334 *e*P P **17 53 56.4 +2.4**
VAS01 Vassouras-RJ 37.82 333 *e*P P **17 53 56.1 +1.7**
VAS01 epP **pP** **17 53 59.6 -6.3**
VAS01 Vassouras-RJ 37.82 333 *e*P P **17 53 56.1 +1.7**
VAS01 epP **pP** **17 53 59.6 -6.3**
CAM01 Campos-RJ 37.84 335 *e*P P **17 53 56.7 +2.2**
CAM01 Campos-RJ 37.84 335 *e*P P **17 53 56.7 +2.2**
VAO Valinhos 38.08 327 *e*P P **17 53 58.8 +2.1**
VAO epP **pP** **17 54 01.8 -6.3**
VAO Valinhos 38.08 327 *e*P P **17 53 58.8 +2.1**
VAO epP **pP** **17 54 01.8 -6.3**
PTGB Pitanga 38.12 319 *e*P P **17 53 57.8 +0.7**
PTGB Pitanga 38.12 319 *e*P P **17 53 57.8 +0.7**
GO05 Huala 38.19 286 P P **17 53 58.4 +0.9**
GO05 IAmb IAmb 17 54 26.2
comp=Z,29nm,0.8s
MAW Mawson 38.19 142 P P **17 53 57.4 +0.3**
comp=Z,57nm,1.0s,baz=234,slow=9.2,SNR=77
MAW LR LR 18 07 24.7
comp=Z,905nm,21.1s,baz=252,slow=32
MAW Mawson 38.19 142 P P **17 53 57.1 +0.1**
FRTB Fartura 38.55 323 *e*P P **17 54 02.4 +1.8**
FRTB epP **pP** **17 54 05.5 -6.6**
FRTB Fartura 38.55 323 *e*P P **17 54 02.4 +1.8**
FRTB epP **pP** **17 54 05.5 -6.6**
CPUP Villa Florida 38.64 311 P P **17 54 01.1 -0.2**
comp=Z,28nm,1.1s,baz=149,slow=7.2,SNR=15
CPUP PcP **PcP** **17 56 12.9 +0.2**
comp=Z,11nm,0.9s,baz=138,slow=2.8,SNR=3.6
CPUP LR LR 18 08 50.6
comp=Z,627nm,20.5s,baz=156,slow=34
CPUP Villa Florida 38.64 311 P P **17 54 01.1 -0.2**
CPUP IAmb IAmb 17 54 04.1
comp=Z,51nm,1.3s
CPUP Villa Florida 38.64 311 *e*P P **17 54 01.9 +0.6**
CPUP Villa Florida 38.64 311 *e*P P **17 54 01.9 +0.6**
RCLB Rio Claro- Sao 38.79 327 *e*P P **17 54 05.5 +2.8**
RCLB Rio Claro- Sao 38.79 327 *e*P P **17 54 05.5 +2.8**
ALF01 Guarapari-ES 38.81 337 *e*P P **17 54 05.4 +2.7**
ALF01 epP **pP** **17 54 08.0 -6.2**
ALF01 Guarapari-ES 38.81 337 *e*P P **17 54 05.4 +2.7**
ALF01 epP **pP** **17 54 08.0 -6.2**
PEL Peldehue 39.03 290 P P **17 54 04.9 +0.3**
PEL pmax pmax
comp=Z,92nm,1.4s
PEL Peldehue 39.03 290 P P **17 54 04.9 +0.3**
PEL IAmb IAmb 17 54 32.3
comp=Z,92nm,1.4s
BSCB Bom Sucesso 39.38 331 *e*P P **17 54 09.7 +2.0**
BSCB Bom Sucesso 39.38 331 *e*P P **17 54 09.7 +2.0**
RIB01 Linhares ES 40.01 338 *e*P P **17 54 15.0 +2.3**
RIB01 Linhares ES 40.01 338 *e*P P **17 54 15.0 +2.3**
TRCB Terra Rica 40.08 319 *e*P P **17 54 14.9 +1.5**
TRCB Terra Rica 40.08 319 *e*P P **17 54 14.9 +1.5**
BB19B Bebedouro 40.37 326 *e*P P **17 54 17.1 +1.3**
BB19B Bebedouro 40.37 326 *e*P P **17 54 17.1 +1.3**
SUR Sutherland 40.37 71 LR LR 18 06 48.4
comp=Z,2µm,21.6s,baz=210,slow=30
SUR Sutherland 40.37 71 P P **17 54 17.5 +1.6**
BSFB Barra de Sao F 40.57 338 *e*P P **17 54 19.4 +2.1**
BSFB Barra de Sao F 40.57 338 *e*P P **17 54 19.4 +2.1**
PCMB Pacaembu 40.72 322 *e*P P **17 54 19.9 +1.2**
PCMB Pacaembu 40.72 322 *e*P P **17 54 19.9 +1.2**
SJMB Sao Joao De Ma 40.76 337 *e*P P **17 54 20.9 +1.9**
SJMB Sao Joao De Ma 40.76 337 *e*P P **17 54 20.9 +1.9**
ITRB Iturama 42.21 324 *e*P P **17 54 32.5 +1.6**
ITRB Iturama 42.21 324 *e*P P **17 54 32.5 +1.6**
AQDB Aquidauana 43.31 317 *e*P P **17 54 39.4 -0.3**
AQDB Aquidauana 43.31 317 *e*P P **17 54 39.4 -0.3**
NBIT Itapeh - BA 44.10 341 *e*P P **17 54 47.9 +1.7**
NBIT Itapeh - BA 44.10 341 *e*P P **17 54 47.9 +1.7**
SBA Scott Base 44.31 184 P P **17 54 48.5 +1.3**
SBA pmax pmax
comp=Z,112nm,1.4s
SBA Scott Base 44.31 184 P P **17 54 48.5 +1.3**
SBA IAmb IAmb 17 54 50.8
comp=Z,112nm,1.4s
GO02 Mina Guanaco 45.07 297 P P **17 54 53.5 -0.7**
BDFB Brasilia 45.36 329 P P **17 54 58.0 +1.8**
comp=Z,31nm,0.8s,baz=146,slow=5.7,SNR=33
BDFB LR LR 18 11 21.5
comp=Z,464nm,21.3s,baz=144,slow=32
BDFB Brasilia 45.36 329 P P **17 54 57.7 +1.4**
BDFB IAmb IAmb 17 54 59.5
comp=Z,58nm,1.1s
BOSA Boshof 45.66 73 P P **17 54 59.0 +0.4**
comp=Z,30nm,0.9s,baz=201,slow=7.6,SNR=35
BOSA LR LR 18 10 05.2
comp=Z,2µm,21.4s,baz=230,slow=31
BOSA Boshof 45.66 73 P P **17 54 58.8 +0.2**
BOSA IAmb IAmb 17 55 00.1
comp=Z,40nm,1.0s
PP1B Ponte de Pedra 45.66 319 *e*P P **17 54 59.8 +1.2**
PP1B Ponte de Pedra 45.66 319 *e*P P **17 54 59.8 +1.2**
ARAG Araguaiana, MT 46.42 324 *e*P P **17 55 06.1 +1.6**
ARAG Araguaiana, MT 46.42 324 *e*P P **17 55 06.1 +1.6**
LVC Limon Verde 46.94 300 P P **17 55 09.0 0.0**
LVC pmax pmax
comp=Z,15nm,0.8s
LVC Limon Verde 46.94 300 P P **17 55 09.0 0.0**
LVC Limon Verde 46.94 300 *e*P P **17 55 09.2 +0.2**
LVC Limon Verde 46.94 300 *e*P P **17 55 09.2 +0.2**
NBLA Lagarto - SE 47.69 344 *e*P P **17 55 16.4 +2.0**
NBLA Lagarto - SE 47.69 344 *e*P P **17 55 16.4 +2.0**
NBPN Ponto Novo - B 48.23 341 *e*P P **17 55 19.9 +1.3**
NBPN Ponto Novo - B 48.23 341 *e*P P **17 55 19.9 +1.3**
PB01 IPOC Station P 48.56 300 P P **17 55 21.1 -0.1**
NBAN Anadia - AL 48.78 346 *e*P P **17 55 24.0 +1.2**
NBAN Anadia - AL 48.78 346 *e*P P **17 55 24.0 +1.2**
LBTB Lobatse 48.79 70 P P **17 55 23.1 +0.1**
LBTB pmax pmax
comp=Z,42nm,1.0s
LBTB Lobatse 48.79 70 P P **17 55 23.1 +0.1**
LBTB IAmb IAmb 17 55 24.5
comp=Z,42nm,0.9s
PEXB Peixe 48.81 330 *e*P P **17 55 25.2 +2.1**
PEXB Peixe 48.81 330 *e*P P **17 55 25.2 +2.1**
NBTA Tacaratu-PE 49.57 344 *e*P P **17 55 30.0 +1.2**
NBTA Tacaratu-PE 49.57 344 *e*P P **17 55 30.0 +1.2**
GO01 Chusmiza 49.62 302 P P **17 55 29.3 -0.4**
GO01 IAmb IAmb 17 56 21.3
comp=Z,39nm,1.2s
NBRF Rio Formoso - 49.62 348 *e*P P **17 55 30.6 +1.4**
NBRF Rio Formoso - 49.62 348 *e*P P **17 55 30.6 +1.4**
TSUM Tsumeb 49.90 58 P P **17 55 32.0 +0.6**
MNMC Minye Minye 50.27 301 P P **17 55 34.0 -0.4**
MNMC IAmb IAmb 17 56 23.2
comp=Z,28nm,0.7s
H10N1 ASCENSION HYDR 50.65 14 T T 18 51 28.5
baz=188,slow=75,SNR=10.0
H10N3 ASCENSION HYDR 50.66 14 T T 18 51 28.5
baz=188,slow=75,SNR=15
H10N2 ASCENSION HYDR 50.67 14 T T 18 51 29.8
baz=188,slow=75,SNR=11
NBLI Livramento-PB 51.14 346 *e*P P **17 55 42.2 +1.5**
NBLI Livramento-PB 51.14 346 *e*P P **17 55 42.2 +1.5**
NBMA Muriti-CE 51.40 343 *e*P P **17 55 44.5 +1.8**
NBMA Muriti-CE 51.40 343 *e*P P **17 55 44.5 +1.8**
SMTB Santa Maria do 51.74 332 *e*P P **17 55 47.5 +2.3**
SMTB Santa Maria do 51.74 332 *e*P P **17 55 47.5 +2.3**
NBPV Pedro Velho 51.87 348 *e*P P **17 55 48.4 +2.3**
NBPV Pedro Velho 51.87 348 *e*P P **17 55 48.4 +2.3**
CASY Casey 51.91 159 P P **17 55 46.7 +0.8**
CASY IAmb IAmb 17 55 48.2
comp=Z,64nm,1.2s

LPAZ La Paz 52.11 305 P P **17 55 48.8 +0.2**
comp=Z,11nm,0.5s,baz=96,slow=6.2,SNR=48
LPAZ La Paz 52.11 305 P P **17 55 48.0 -0.7**
LPAZ IAmb IAmb 17 56 14.8
comp=Z,28nm,0.7s
LPAZ La Paz 52.11 305 *e*P P **17 55 48.8 +0.2**
LPAZ La Paz 52.11 305 *e*P P **17 55 48.8 +0.2**
RCBR Riachuelo 52.52 347 *e*P P **17 55 52.3 +1.2**
RCBR Riachuelo 52.52 347 *e*P P **17 55 52.3 +1.2**
NBPA Parau_RN 52.75 346 *e*P P **17 55 54.3 +1.6**
NBPA Parau_RN 52.75 346 *e*P P **17 55 54.3 +1.6**
NBPB Pedra_Branca-C 53.31 343 *e*P P **17 55 59.3 +2.4**
NBPB Pedra_Branca-C 53.31 343 *e*P P **17 55 59.3 +2.4**
NBCL Cascavel-CE 54.41 344 *e*P P **17 56 06.5 +1.6**
NBCL Cascavel-CE 54.41 344 *e*P P **17 56 06.5 +1.6**
NBPS Pedro II - PI 54.75 341 *e*P P **17 56 09.1 +1.6**
NBPS Pedro II - PI 54.75 341 *e*P P **17 56 09.1 +1.6**
NBMO Morrinhos-CE 55.58 343 *e*P P **17 56 15.0 +1.7**
NBMO Morrinhos-CE 55.58 343 *e*P P **17 56 15.0 +1.7**
SAML Samuel 56.67 314 P P **17 56 21.0 -0.1**
SAML pmax pmax
comp=Z,40nm,1.0s
SAML Samuel 56.67 314 P P **17 56 21.0 -0.1**
SAML IAmb IAmb 17 56 23.7
comp=Z,40nm,0.9s
SAML Samuel 56.67 314 *e*P P **17 56 21.2 0.0**
SAML Samuel 56.67 314 *e*P P **17 56 21.2 0.0**
LSZ Lusaka 58.30 66 P P **17 56 33.4 +0.6**
SNR=9.4
LSZ P P **17 56 33.4 +0.6**
SNR=9.4
LSZ Lusaka 58.30 66 P P **17 56 33.3 +0.6**
LSZ pmax pmax
comp=Z,48nm,0.9s
LSZ Lusaka 58.30 66 P P **17 56 33.3 +0.6**
NNA Nana 59.85 298‖ *e*P P **17 56 43.2 -0.2**
NNA pmax pmax
comp=Z,19nm,1.1s
PTGA Pitinga 63.12 321 P P **17 57 04.7 -0.7**
PTGA Pitinga 63.12 321 *e*P P **17 57 05.6 +0.3**
PTGA Pitinga 63.12 321 *e*P P **17 57 05.6 +0.3**
ABPO Ambohimpanom 65.01 86 P P **17 57 19.4 +1.4**
ABPO pmax pmax
comp=Z,14nm,1.1s
ABPO Ambohimpanom 65.01 86 P P **17 57 19.4 +1.4**
LIC Lamto 66.04 23 *e*P P **17 57 24.6 +0.3**
comp=Z,318nm,0.8s
KIC Kosan Boka 66.23 23 *e*P P **17 57 25.5 0.0**
comp=Z,218nm,0.9s
TIC Toumodi 66.45 22 *e*P P **17 57 27.0 0.0**
DBIC Dimbokro 66.50 23 P P **17 57 28.2 +0.9**
comp=Z,37nm,0.8s,baz=172,slow=7.1,SNR=43
DBIC pP **sP** **17 57 45.3 +1.2**
comp=Z,89nm,0.9s,baz=171,slow=9.2,SNR=22
DBIC LR LR 18 19 19.3
comp=Z,368nm,21.3s,baz=153,slow=29
DBIC Dimbokro 66.50 23 P P **17 57 28.0 +0.7**
FLOC Florencia 71.32 306 *e*P P **17 57 57.2 -0.2**
FLOC Florencia 71.32 306 *e*P P **17 57 57.2 -0.2**
OTAV Otavalo 71.36 303 *e*P P **17 57 58.5 +0.5**
OTAV Otavalo 71.36 303 *e*P P **17 57 58.5 +0.5**
OTAV Otavalo 71.36 303 P P **17 57 58.5 +0.5**
OTAV pmax pmax
comp=Z,38nm,1.3s
OTAV Otavalo 71.36 303 P P **17 57 58.5 +0.5**
OTAV IAmb IAmb 17 58 01.5
comp=Z,38nm,1.2s
OTAV Otavalo 71.36 303 *e*P P **17 57 58.6 +0.5**
OTAV Otavalo 71.36 303 *e*P P **17 57 58.6 +0.5**
SOTA Rioblanco 72.23 305 *e*P P **17 58 04.6 +1.2**
SOTA Rioblanco 72.23 305 *e*P P **17 58 04.6 +1.2**
MBAR Mbarara 72.27 61 *i* P P **17 58 05.4 +2.2**
MBAR Mbarara 72.27 61 P P **17 58 05.3 +2.0**
MBAR IAmb IAmb 17 58 08.0
comp=Z,96nm,1.5s
PCON Cinco Dias 72.31 306 *e*P P **17 58 05.8 +1.9**
PCON Cinco Dias 72.31 306 *e*P P **17 58 05.8 +1.9**
BBAC Balboa, Cauca 72.41 305 *e*P P **17 58 04.1 0.0**
BBAC Balboa, Cauca 72.41 305 *e*P P **17 58 04.1 0.0**
POPC Popayan, Colom 72.62 306 *e*P P **17 58 05.8 +0.4**
POPC Popayan, Colom 72.62 306 *e*P P **17 58 05.8 +0.4**
ORTC Ortega, Tolima 73.23 308 *e*P P **17 58 08.5 -0.2**
ORTC Ortega, Tolima 73.23 308 *e*P P **17 58 08.5 -0.2**
ROSC El Rosal 73.69 309 P P **17 58 11.9 +0.1**
comp=Z,11nm,0.6s,baz=130,slow=5.7,SNR=8.0
ROSC LR LR 18 31 04.8
comp=Z,272nm,21.9s,baz=80,slow=36
ROSC El Rosal 73.69 309 P P **17 58 11.1 -0.7**
YOTC Yotoco, Valle 73.77 307 *e*P P **17 58 10.4 -1.6**
YOTC Yotoco, Valle 73.77 307 *e*P P **17 58 10.4 -1.6**
RUSC La Rusia 74.13 310 *e*P P **17 58 12.9 -1.6**
RUSC La Rusia 74.13 310 *e*P P **17 58 12.9 -1.6**
TOA0 Torodi Ar. Sit 74.26 28 P P **17 58 16.0 +1.4**
SNR=18
TOA0 P P **17 58 16.0 +1.4**
SNR=18
TOA0 Torodi Ar. Sit 74.26 28 P P **17 58 15.3 +0.7**
TORD Torodi Ar. Bea 74.26 28 P P **17 58 14.1 -0.5**
comp=Z,50nm,1.0s,baz=193,slow=5.9,SNR=117
TORD pP **sP** **17 58 32.9 +1.4**
comp=Z,82nm,0.7s,baz=191,slow=8.4,SNR=18
TORD LR LR 18 24 04.1
comp=Z,516nm,21.9s,baz=275,slow=30
TORD Torodi Ar. Bea 74.26 28 P P **17 58 13.8 -0.8**
KIBK Kibwezi 74.29 69 P P **17 58 19.1 +4.1**
SNR=14
GUY2C Guyana, Caldas 74.47 308 *e*P P **17 58 15.7 -0.8**
GUY2C Guyana, Caldas 74.47 308 *e*P P **17 58 15.7 -0.8**
NORC Norcasia 74.57 309 *e*P P **17 58 15.6 -0.9**
NORC Norcasia 74.57 309 *e*P P **17 58 15.6 -0.9**
BARC Barichara 74.80 311 *e*P P **17 58 15.2 -2.9**
BARC Barichara 74.80 311 *e*P P **17 58 15.2 -2.9**
KMBO Kilima Mbogo 74.94 67 P P **17 58 23.6 +4.6**
SNR=7.7
KMBO P P **17 58 23.6 +4.6**
SNR=7.7
KMBO Kilima Mbogo 74.94 67 P P **17 58 21.4 +2.4**
comp=Z,6.4nm,1.0s,baz=211,slow=5.9,SNR=15
KMBO LR LR 18 29 05.8
comp=Z,708nm,18.3s,baz=260,slow=34
PTBC PUERTO BERRIO, 75.28 309 *e*P P **17 58 18.1 -2.4**
PTBC PUERTO BERRIO, 75.28 309 *e*P P **17 58 18.1 -2.4**
SDV Santo Domingo 75.88 314 *e*P P **17 58 24.4 +0.1**
SDV Santo Domingo 75.88 314 *e*P P **17 58 24.4 +0.1**
SDV Santo Domingo 75.88 314 P P **17 58 23.9 -0.4**
SDV Santo Domingo 75.88 314 *e*P P **17 58 24.6 +0.4**
SDV Santo Domingo 75.88 314 *e*P P **17 58 24.6 +0.4**
WHZ Wether Hill Ro 75.98 190 P P **17 58 25.2 +0.9**
WHZ IAmb IAmb 17 58 26.2
comp=Z,59nm,1.2s
ZARC Zaragoza, Cauc 76.30 309 *e*P P **17 58 24.8 -1.7**
ZARC Zaragoza, Cauc 76.30 309 *e*P P **17 58 24.8 -1.7**
MLZ Mavora Lakes 76.49 190 P P **17 58 27.5 +0.3**
MLZ IAmb IAmb 17 58 29.1
comp=Z,93nm,1.3s
SMLC San Martn de 77.17 311 *e*P P **17 58 29.7 -1.6**
SMLC San Martn de 77.17 311 *e*P P **17 58 29.7 -1.6**
LBZ Lake Benmore 77.25 192 P P **17 58 32.6 +1.1**
RPZ Rata Peaks 77.82 192 P P **17 58 35.2 +0.5**
RPZ IAmb IAmb 17 58 53.6
comp=Z,59nm,1.1s
LODK Lodwar 77.98 63 P P **17 58 40.0 +4.0**
SNR=8.0
FDF Fort de France 78.03 325 P P **17 58 36.8 +0.8**
FDF pmax pmax
comp=Z,163nm,1.0s
FDF Fort de France 78.03 325 P P **17 58 36.8 +0.8**
SJCC San Jacinto, C 78.61 310 *e*P P **17 58 38.5 -0.8**
SJCC San Jacinto, C 78.61 310 *e*P P **17 58 38.5 -0.8**
THZ Tophouse 79.52 194 P P **17 58 44.9 +0.8**
TUWZ Tuamarina 79.71 195 P P **17 58 44.7 -0.4**
BFZ Birch Farm 80.11 197 P P **17 58 47.6 +0.4**
BFZ IAmb IAmb 17 59 05.7
comp=Z,81nm,1.4s
BKZ Black Stump Fm 81.55 197 P P **17 58 56.0 +1.0**
BKZ IAmb IAmb 17 58 57.4
comp=Z,74nm,1.4s
URZ Urewera 82.34 198 P P **17 58 59.5 +0.4**
URZ IAmb IAmb 17 59 00.9
comp=Z,64nm,1.1s
MTP Monte Pirata 82.59 322 P P **17 58 59.7 -0.8**
MTP IAmb IAmb 17 59 01.7
comp=Z,65nm,1.1s

STVI Saint Thomas 82.63 323 P P **17 59 01.2 +0.6**
PDPR Patillas Dam, 82.67 322 P P **17 59 00.3 -0.6**
PDPR IAmb IAmb 17 59 01.6
comp=Z,69nm,1.1s
CUPR Culebra, Puert 82.69 322 P P **17 59 00.9 -0.1**
SJG San Juan 82.80 322 P P **17 59 00.4 -1.1**
comp=Z,15nm,0.7s,baz=52,slow=2.4,SNR=4.6
GCPR Guaynabo City 82.96 322 P P **17 59 01.7 -0.7**
GCPR IAmb IAmb 17 59 03.2
comp=Z,86nm,1.4s
MLPR Magueyes Islan 82.97 321 P P **17 59 01.8 -0.6**
CRPR Cabo Rojo, PR 83.02 321 P P **17 59 01.4 -1.2**
JTS Las Juntas de 83.19 302 *de*P P **17 59 04.6 +0.9**
JTS pmax pmax
comp=Z,20nm,1.2s
NWAO Narrogin (SRO) 84.33 149 P P **17 59 12.8 +3.4**
comp=Z,4.7nm,0.9s,baz=238,slow=3.1,SNR=2.3
NWAO LR LR 18 35 27.5
comp=Z,68nm,18.0s,baz=88,slow=35
OUZ Omahuta 85.86 196 P P **17 59 17.0 -0.1**
TBI Tubuai 86.57 230 *e*S S **18 09 52.2 -1.5**
comp=Z,386nm,26.8s
TBI Tubuai 86.57 230 *e*LR LR 18 26 58.5
comp=Z,335nm,30.8s
DGAR Diego Garcia 88.08 101⇑ *e*P P **17 59 27.1 -1.0**
DGAR pmax pmax
comp=Z,128nm,0.9s
H08N3 Diego Garcia H 88.21 99 T T 19 38 27.3
baz=211
H08N1 Diego Carcia H 88.22 99 T T 19 38 26.1
baz=211,slow=74
H08N2 Diego Garcia H 88.23 99 T T 19 38 29.3
baz=211,slow=74
FORT Forrest 88.97 158 P P **17 59 31.9 -0.2**
STKA Stephens Creek 89.96 169 P P **17 59 37.2 +0.5**
STKA pmax pmax
comp=Z,13nm,1.3s
STKA Stephens Creek 89.96 169 P P **17 59 36.8 +0.1**
comp=Z,9.8nm,0.9s,baz=160,slow=6.1,SNR=9.9
STKA LR LR 18 37 15.6
comp=Z,448nm,21.7s,baz=200,slow=34
STKA Stephens Creek 89.96 169 P P **17 59 37.2 +0.5**
PPT2 Papeete2 91.75 232 *e*S S **18 10 40.0 -2.5**
comp=Z,194nm,30.0s
PPT2 Papeete2 91.75 232 *e*LR LR 18 29 13.7
comp=Z,2µm,25.2s,baz=153
PPT Papeete 91.77 232 LR LR 18 32 04.4
comp=Z,466nm,21.2s,baz=176,slow=30
TEIG Tepich 93.42 303 P P **17 59 53.3 +0.7**
comp=Z,21nm,0.9s,baz=139,slow=7.8,SNR=4.9
TEIG pP **sP** **18 00 11.9 +1.8**
comp=Z,22nm,0.8s,baz=321,slow=0.8,SNR=4.0
TAOE Nuku Hiva Isla 95.14 245 *e*LR LR 18 30 52.6
comp=Z,534nm,31.5s
ASAR Alice Springs 96.99 161 P P **18 00 08.3 -0.9**
comp=Z,12nm,0.9s,baz=194,slow=4.4,SNR=64
ASAR PP **PP** **18 04 03.4 -0.9**
comp=Z,1.0nm,0.9s,baz=187,slow=7.1,SNR=5.0
ASAR PKIKP **PKiKP** **18 04 44.3 -0.7**
comp=Z,0.9nm,0.9s,baz=174,slow=1.5,SNR=6.0
ASAR pPKiKP **pPKiKP** **18 05 01.7 +3.8**
comp=Z,0.9nm,0.8s,baz=177,slow=1.4,SNR=1.6
ASAR PKKP **PKKPdf** **18 16 47.7 +0.6**
comp=Z,0.6nm,0.9s,baz=6.8,slow=1.8,SNR=5.8
ASAR LR LR 18 41 45.3
comp=Z,391nm,19.4s,baz=204,slow=34
AS31 Alice Springs 97.00 161 P P **18 00 08.1 -1.1**
KEST Kesra 97.78 28 P Pdif 18 00 12.0 -0.3
comp=Z,6.4nm,1.1s,baz=130,slow=7.9,SNR=2.9
KEST LR LR 18 38 26.8
comp=Z,330nm,21.5s,baz=208,slow=32
ESDC Sonseca Array 98.87 17 P Pdif 18 00 17.8 +0.8
comp=Z,0.1nm,0.3s,baz=206,slow=3.5,SNR=3.4
ESDC pP sP 18 00 35.8 +1.5
comp=Z,1.2nm,0.6s,baz=190,slow=4.7,SNR=3.5
ESDC LR LR 18 40 24.3
comp=Z,65nm,20.5s,baz=170,slow=33
DZM Mont Dzumac 99.72 191 *e*PS PS 18 13 24.8 +1.1
comp=Z,111nm,24.8s
DZM Mont Dzumac 99.72 191 *e*LR LR 18 33 03.8
comp=Z,356nm,25.0s
WRA Warramunga Arr 100.71 161 P **Pdif** **18 00 25.0 -0.9**
WRA Warramunga Arr 100.71 161 P **Pdif** **18 00 25.0 -0.9**
comp=Z,2.2nm,0.8s,baz=198,slow=4.1,SNR=14
WRA PP **PP** **18 04 31.9 -0.8**
comp=Z,2.8nm,1.1s,baz=190,slow=6.1,SNR=4.8
WRA PKIKP **PKiKP** **18 04 51.4 -0.2**
comp=Z,1.4nm,0.8s,baz=184,slow=6.8,SNR=5.3
WRA pPKiKP **pPKiKP** **18 05 08.1 +3.4**
comp=Z,0.9nm,0.7s,baz=216,slow=1.4,SNR=2.5
WRA PKKP **PKKPdf** **18 16 37.7 -2.7**
comp=Z,1.5nm,0.9s,baz=7.0,slow=3.4,SNR=7.1
WRAB Tennant Creek 100.72 161⇑ *e*P **Pdif** **18 00 25.0 -0.9**
TKL Tuckaleechee C 105.11 314 PKiKP **PKiKP** **18 04 58.8 -0.2**
comp=Z,2.5nm,0.8s,baz=117,slow=6.8,SNR=2.2
TXAR Lajitas Array 108.36 296 PKiKP **PKiKP** **18 05 05.2 -0.2**
comp=Z,1.2nm,0.9s,baz=153,slow=3.9,SNR=6.3
TXAR PKKP **PKKPdf** **18 16 29.7 +0.9**
comp=Z,0.2nm,0.7s,baz=228,slow=1.1,SNR=4.9
DAVOX Davos/Dischmat 108.37 25 PP **PP** **18 05 31.9 +1.3**
comp=Z,1.7nm,0.7s,baz=9.5,slow=7.6,SNR=4.0
BRTR Keskin Array B 109.13 45 PKiKP **PKiKP** **18 05 06.4 -0.1**
comp=Z,0.4nm,0.8s,baz=184,slow=4.0,SNR=3.1
BRTR PP **PP** **18 05 37.7 +1.5**
comp=Z,4.4nm,1.2s,baz=189,slow=6.9,SNR=6.3
GERES GERESS Array B 111.20 27 PKiKP **PKiKP** **18 05 10.6 +0.5**
comp=Z,0.2nm,0.3s,baz=205,slow=4.3,SNR=3.1
GERES PP **PP** **18 05 53.3 +2.3**
comp=Z,1.3nm,0.9s,baz=190,slow=6.6,SNR=3.8
MSTX Muleshoe 111.78 299 PKiKP **PKiKP** **18 05 11.9 +0.2**
baz=146
VYHS Vyhne 112.18 30 *e*P **Pdif** **18 01 17.3 +1.3**
VYHS Vyhne 112.18 30 *e*PDIFF **Pdif** **18 01 17.3 +1.3**
121A Cookes Peak, D 112.98 295 PKiKP **PKiKP** **18 05 15.2 +1.1**
baz=145
CLL Collm 113.33 25 *e*PS PS 18 15 39.0 -2.1
CLL *es*PS 18 16 05.0
TUC Tucson 114.28 292 P **PKiKP** **18 05 17.5 +1.0**
baz=144
ANMO Albuquerque 114.31 297 P **PKiKP** **18 05 16.9 +0.3**
baz=145
ANMO Albuquerque 114.31 297 *c i* PKIKP **PKiKP** **18 05 17.5 +0.9**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
SDCO Great Sand Dun 116.14 300 P **PKiKP** **18 05 20.8 +0.7**
baz=144
KIV Kislovodsk 116.25 48 *i* PKIKP **PKiKP** **18 05 20.1 +0.2**
KIV pmax pmax
comp=Z,13nm,1.0s
S22A 4UR Ranch, Cre 116.76 299 P **PKiKP** **18 05 22.3 +0.9**
baz=144
MVCO Mesa Verde 117.11 297 P **PKiKP** **18 05 22.5 +0.5**
baz=144
ECSD EROS Data Cent 117.12 310 P **PKiKP** **18 05 21.5 0.0**
baz=146
AKASG Malin Array Be 117.19 36 PKIKP **PKiKP** **18 05 20.7 -0.6**
AKASG Malin Array Be 117.19 36 PKP **PKiKP** **18 05 20.5 -0.9**
comp=Z,1.2nm,0.5s,baz=258,slow=0.9,SNR=4.1
AKASG Malin Array Be 117.19 36 P **PKiKP** **18 05 20.7 -0.6**
IKP In-Ko-Pah, Jac 117.22 288 P **PKiKP** **18 05 23.1 +1.0**
baz=143
Y12C Blythe 117.29 290 P **PKiKP** **18 05 23.0 +0.9**
baz=143
Y12C Blythe 117.29 290 **PKiKP** **18 05 23.0 +0.9**
PDMCI Parker Dam,Lak 117.54 291 P **PKiKP** **18 05 23.5 +0.9**
baz=143
BC3 Big Chuckawall 117.69 290 P **PKiKP** **18 05 23.9 +0.9**
baz=143
ISCO Idaho Springs 117.84 301 P **PKiKP** **18 05 24.1 +0.7**
baz=144
ISCO Idaho Springs 117.84 301 PKIKP **PKiKP** **18 05 24.0 +0.6**
ISCO Idaho Springs 117.84 301 **PKiKP** **18 05 24.0 +0.6**
IRM Iron Mountain 117.93 290 P **PKiKP** **18 05 24.3 +0.8**
baz=143
SMCO Snowmass 117.97 300 **PKiKP** **18 05 24.3 +0.5**
PFO Pinyon Flats O 118.16 289⇑ *i* PKIKP **PKiKP** **18 05 25.4 +1.4**
BELC Belle Mtn. Jos 118.23 289 P **PKiKP** **18 05 25.2 +1.0**
baz=143
GMRC Granite Mounta 118.68 290 P **PKiKP** **18 05 26.0 +1.0**
baz=143
N23A Red Feather La 118.87 301 P **PKiKP** **18 05 25.8 +0.4**
baz=143
N23A Red Feather La 118.87 301 **PKiKP** **18 05 25.8 +0.4**
HEC Hector,Ludlow 119.06 290 P **PKiKP** **18 05 27.4 +1.7**
baz=142
O20A White River Ci 119.33 299 P **PKiKP** **18 05 26.6 +0.5**
baz=143

TUQ	**Turquoise Moun**	119.33	291	P	**PKiKP**	18 05 27.2	+1.0
	baz=142						
GSC	**Goldstone, Bar**	119.67	290	P	**PKiKP**	18 05 28.0	+1.1
	baz=142						
SHOC	**Shoshone, Teco**	119.87	291	P	**PKiKP**	18 05 28.5	+1.4
	baz=142						
EDW2	**Edwards Air Fo**	119.94	289	P	**PKiKP**	18 05 28.1	+0.8
	baz=142						
LRMC	**Laurel Mtn Rad**	120.25	289	P	**PKiKP**	18 05 28.9	+0.9
	baz=142						
K22A	**Casper**	120.53	302	P	**PKiKP**	18 05 28.2	-0.2
	baz=142						
AGMN	**Agassiz Nation**	120.55	313	P	**PKiKP**	18 05 27.7	-0.3
	baz=144						
RSSD	**Black Hills**	120.58	305	P	**PKiKP**	18 05 28.3	-0.2
	baz=143						
MPMC	**Manual Prospec**	120.61	290	P	**PKiKP**	18 05 29.6	+0.8
	baz=142						
FURC	**Furnace Creek,**	120.61	291	P	**PKiKP**	18 05 29.8	+1.4
	baz=142						
TPNV	**Topopah Spring**	120.68	291	P	**PKiKP**	18 05 29.9	+1.1
	baz=142						
VORD	**Divnogorie**	120.78	42	*e*PKIKP	PKiKP	18 05 39.8	+11
VORD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ISA	**Isabella, Lake**	120.79	289	P	**PKiKP**	18 05 30.3	+1.3
	baz=142						
VSR	**Storozhevoye**	120.94	42	*e*PKIKP	PKiKP	18 05 36.9	+8.2
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
CWC	**Cottonwood Cre**	121.20	290	P	**PKiKP**	18 05 30.8	+0.9
	baz=142						
GRAC	**Grapevine Rang**	121.28	291	P	**PKiKP**	18 05 31.3	+1.4
	baz=141						
SMMC	**Simmler**	121.29	287	P	**PKiKP**	18 05 31.6	+1.6
	baz=142						
R11A	**Troy Canyon, C**	121.44	293	P	**PKiKP**	18 05 31.1	+0.7
	baz=141						
DUG	**Dugway, Tooele**	121.53	296	P	**PKiKP**	18 05 31.1	+0.7
	baz=141						
VRH	**Novokhopyorsk**	121.85	43	*e*PKIKP	PKiKP	18 05 44.1	+14
VRH				pmax	pmax		
	comp=Z,30nm,0.7s						
LPSR	**Galich'ya Gora**	122.00	41	*e*PKIKP	PKiKP	18 05 46.6	+16
LPSR				pmax	pmax		
	comp=Z,20nm,1.2s						
BW06	**Boulder Array**	122.00	300	P	**PKiKP**	18 05 31.0	-0.4
	baz=141						
PD31	**Pinedale Array**	122.00	300	PKPdf	**PKiKP**	18 05 30.9	-0.5
PDAR	**Pinedale Array**	122.00	300	PKP	**PKiKP**	18 05 30.6	-0.8
	comp=Z,2.0nm,0.4s,baz=146,slow=3.4,SNR=16						
PDAR				pPKP	**sPKPdf**	18 05 48.6	-0.3
	comp=Z,0.9nm,0.5s,baz=120,slow=5.3,SNR=3.1						
PDAR	**Pinedale Array**	122.00	300		**PKPdf**	18 05 30.3	-0.9
NB2	**NORSAR Subarra**	122.03	20	PKPdf	**PKiKP**	18 05 30.3	-0.2
	comp=Z,32nm,1.4s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	122.03	20	PKPdf	**PKiKP**	18 05 30.3	-0.2
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	122.03	20	PKP	**PKiKP**	18 05 30.3	-0.2
	comp=Z,3.4nm,0.9s,baz=202,slow=1.8,SNR=4.7						
NOA				pPKP	**sPKPdf**	18 05 47.7	-0.2
	comp=Z,6.1nm,1.0s,baz=202,slow=1.8,SNR=8.1						
NOA				PKKPbc	**PKKPab**	18 15 24.9	-0.3
	comp=Z,0.5nm,0.8s,baz=14,slow=1.9,SNR=3.7						
ULM	**Lac du Bonnet**	122.14	314	PKP	**PKiKP**	18 05 30.3	-0.7
	comp=Z,9.8nm,0.8s,baz=230,slow=4.2,SNR=8.7						
NIL	**Nilore**	122.36	77	PKIKP	**PKiKP**	18 05 32.1	0.0
NIL	**Nilore**	122.36	77	PKPdf	**PKiKP**	18 05 32.1	0.0
NVAR	**Mina Array Bea**	122.86	291	PKP	**PKiKP**	18 05 33.9	+0.7
	comp=Z,5.5nm,0.9s,baz=149,slow=2.7,SNR=19						
NVAR				pPKP	**sPKPdf**	18 05 52.0	+1.4
	comp=Z,1.9nm,0.7s,baz=124,slow=3.5,SNR=3.7						
NVAR	**Mina Array Bea**	122.86	291		**PKiKP**	18 05 34.0	+0.8
PBKT	**Sadao Pong**	123.05	113	PKP	**PKiKP**	18 05 33.9	0.0
VSU	**Vasula**	123.21	30	||*i*PKIKP	**PKiKP**	18 05 32.8	-0.1
VSU				pmax	pmax		
	comp=Z,57nm,1.7s						
KOLN	**Koldanda**	123.23	90	*e*P	**PKPdf**	18 05 33.1	-0.9
	comp=Z,50nm,1.0s						
OBN	**Obninsk**	123.28	37	⇑*i*PKIKP	**PKiKP**	18 05 32.1	-1.0
OBN				*i*		18 05 50.0	
OBN				*e*		18 12 46.0	
OBN				*e*SS	SS	18 24 09.5	+12
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LAO	**LASA Array**	123.56	305	P	**PKiKP**	18 05 34.2	+0.1
	baz=141						
CM31	**Chiang Mai Arr**	123.65	110	PKPdf	**PKiKP**	18 05 35.0	-0.1
CMAR	**Chiang Mai Arr**	123.65	110	PKIKP	**PKiKP**	18 05 34.7	-0.4
CMAR	**Chiang Mai Arr**	123.65	110	PKP	**PKiKP**	18 05 34.5	-0.6
	comp=Z,11nm,0.9s,baz=234,slow=3.8,SNR=53						
CMAR				pPKP	**sPKPdf**	18 05 52.0	-0.3
	comp=Z,21nm,0.8s,baz=223,slow=4.1,SNR=21						
CMAR				PKKPab	**PKKPab**	18 15 24.2	+1.5
	comp=Z,0.2nm,0.4s,baz=17,slow=3.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	123.65	110		**PKiKP**	18 05 34.7	-0.4
RLMT	**Red Lodge**	123.70	302	P	**PKiKP**	18 05 34.8	+0.2
	baz=140						
DANN	**Dangsing**	123.77	90	*e*P	**PKPdf**	18 05 34.1	-1.1
	comp=Z,72nm,1.1s						
DMN	**Daman**	123.91	91	*e*P	**PKPdf**	18 05 34.6	-0.8
	comp=Z,38nm,1.1s						
GKN	**Gorkha**	123.97	91	*e*P	**PKPdf**	18 05 34.3	-1.1
	comp=Z,48nm,1.1s						
PKIN	**Phulchoki**	124.03	92	*e*P	**PKPdf**	18 05 34.5	-1.1
PKI	**Pulchoki**	124.04	92	*e*P	**PKPdf**	18 05 34.8	-0.9
DGMT	**Dagmar**	124.07	308	P	**PKiKP**	18 05 35.5	+0.5
	baz=141						
KKN	**Kakani**	124.14	91	*e*P	**PKPdf**	18 05 34.7	-1.1
	comp=Z,19nm,1.0s						
RAMN	**Ramite**	124.18	93	*e*P	**PKiKP**	18 05 35.9	-0.3
CTBH	**Cotabato--PC H**	124.35	143	||*i*P	PKiKP	18 05 52.0	+15
KCP	**Kidapawan**	124.42	144	||*i*P	**PKPdf**	18 05 35.5	-1.0
JIRN	**Jiri**	124.53	92	*e*P	**PKiKP**	18 05 36.1	-0.9
	comp=Z,83nm,1.0s						
ODAN	**Odare**	124.53	94	*e*P	**PKiKP**	18 05 36.5	-0.4
	comp=Z,46nm,1.1s						
GUN	**Gumba**	124.56	92	*e*P	**PKiKP**	18 05 36.2	-0.9
TAPN	**Taplejung**	125.09	94	*e*P	**PKiKP**	18 05 37.1	-1.0
	comp=Z,30nm,1.2s						
BOZ	**Bozeman (W)**	125.13	301	P	**PKiKP**	18 05 38.2	+0.9
	baz=139						
FINES	**FINESS Array B**	125.61	28	PKP	**PKiKP**	18 05 36.7	-0.8
	comp=Z,7.6nm,0.7s,baz=144,slow=2.9,SNR=56						
FRB	**Frobisher Bay**	125.66	338	PKP	**PKPdf**	18 05 36.3	-0.8
	comp=Z,9.4nm,0.8s,baz=161,slow=4.5,SNR=3.9						
O03E	**Paynes Creek**	126.03	290	P	**PKiKP**	18 05 39.6	+0.4
	baz=139,SNR=20						
EGMT	**Eagleton**	126.12	304	P	**PKiKP**	18 05 39.6	+0.4
	baz=139						
O02D	**Mt. Diablo Mer**	126.44	289	P	**PKiKP**	18 05 41.1	+1.1
	baz=139						
N02D	**Trinity Center**	126.99	290	P	**PKiKP**	18 05 42.0	+0.9
	baz=138,SNR=11						
MSO	**Missoula**	127.12	301	P	**PKiKP**	18 05 41.8	+0.6
	baz=138						
M04C	**Macdoel**	127.16	291	P	**PKiKP**	18 05 42.0	+0.5
	baz=138,SNR=6.8						
M02C	**Callahan**	127.38	290	P	**PKiKP**	18 05 42.9	+1.0
	baz=138,SNR=6.7						
ABKAR	**Akbulak array**	127.71	56		**PKiKP**	18 05 41.2	-0.9
L04D	**Klamath Falls**	127.72	291	P	**PKiKP**	18 05 43.2	+0.6
	baz=138						
FFC	**Flin Flon**	127.96	314	*i* PKIKP	**PKiKP**	18 05 42.9	+0.4
J05D	**Fort Rock, OR**	127.98	293	P	**PKiKP**	18 05 44.1	+1.0
	baz=138,SNR=6.0						
KKAR	**Karatay Array**	128.14	68	PKIKP	**PKiKP**	18 05 42.2	-1.1
KKAR	**Karatay Array**	128.14	68		**PKiKP**	18 05 42.2	-1.1
KSH	**Kashi**	128.25	75	PKP	**PKiKP**	18 05 43.1	-0.7
KSH				sPKP		18 06 20.1	
KSH				PP	**PP**	18 07 51.9	+3.6
KSH				PKS		18 09 21.1	
KSH				SS	SS	18 24 55.6	-4.4
KSH				AMB	AMB		
	comp=Z,230nm,4.4s						
KSH				LR	LR		
	comp=Z,230nm,10.3s						
KSH				LR	LR		
	comp=Z,120nm,10.9s						
KSH				LR	LR		
	comp=Z,250nm,16.2s						
J04D	**Umpqua Nationa**	128.38	292	P	**PKiKP**	18 05 44.7	+0.7
	baz=138						
K02D	**Willamette Mer**	128.75	291	P	**PKiKP**	18 05 45.7	+1.1
	baz=137,SNR=7.8						
I05D	**Terrebonne, OR**	128.80	294	P	**PKiKP**	18 05 45.6	+1.0
	baz=137,SNR=6.5						
KLMR	**Klimovskoe**	128.85	35	*e*PKIKP	**PKPdf**	18 05 42.3	-1.1
KLMR				*e*		18 07 51.6	
KLMR				pmax	pmax		
	comp=Z,61nm,1.3s						
KLMR	**Klimovskoe**	128.85	35	*e*PKPdf	**PKPdf**	18 05 42.4	-1.0
KLMR				AMP		18 05 44.6	
	comp=Z,61nm,1.3s						
KLMR				*e*PP	**PP**	18 07 51.6	-0.1
KLMR				*e*SKP		18 08 57.8	
AML	**Almayashu**	129.02	71	P	**PKiKP**	18 05 45.0	-0.5
	SNR=9.3						
EKS2	**Erkin-Say**	129.45	70	P	**PKiKP**	18 05 45.6	-0.4
	SNR=10.0						
H04D	**Lebanon**	129.62	293	P	**PKiKP**	18 05 46.8	+0.6
	baz=137						
NEW	**Newport**	129.64	300	P	**PKiKP**	18 05 45.7	-0.4
	baz=136						
KZA	**Kyzart**	129.77	72	P	**PKiKP**	18 05 47.0	-0.1
	SNR=5.5						
AAK	**Ala-Archa**	129.79	71	PKIKP	**PKiKP**	18 05 46.5	-0.3
AAK	**Ala-Archa**	129.79	71	P	**PKiKP**	18 05 46.2	-0.6
	SNR=9.4						
AAK	**Ala-Archa**	129.79	71		**PKiKP**	18 05 46.5	-0.3
F05D	**White Salmon**	129.98	295	P	**PKiKP**	18 05 47.7	+0.8
	baz=136						
KBK	**Karagaybulak**	130.03	71	P	**PKiKP**	18 05 48.1	+0.8
	SNR=5.1						
USP	**Ospenovka**	130.25	70	P	**PKiKP**	18 05 46.3	-1.3
	SNR=7.6						
TMCR	**Tamitsa**	131.00	31	*e*PKIKP	**PKPdf**	18 05 46.7	-0.6
TMCR				pmax	pmax		
	comp=Z,42nm,1.5s						
KMI	**Kunming**	131.13	109	PKP	**PKPdf**	18 05 48.8	-0.4
KMI				LR	LR		
	comp=Z,210nm,25.7s						
KMI				LR	LR		
	comp=Z,330nm,24.6s						
KMI				LR	LR		
	comp=Z,310nm,25.7s						
PRGR	**Permogore**	131.36	37	*e*PKIKP	**PKPdf**	18 05 47.2	-0.9
PRGR				pmax	pmax		
	comp=Z,61nm,1.4s						
D03D	**Eldon**	131.94	295	P	**PKiKP**	18 05 52.2	+1.5
	baz=135						
B05A	**Bryant**	131.98	297	P	**PKiKP**	18 05 50.8	+0.1
	baz=134						
ARU	**Arti**	132.29	48	*i* PKIKP	**PKiKP**	18 05 50.3	-0.8
ARU				MLR	MLR		
	comp=Z,237nm,17.0s						
ARU	**Arti**	132.29	48		**PKiKP**	18 05 50.6	-0.5
ARCES	**ARCESS Array B**	132.33	22	PKP	**PKPdf**	18 05 49.4	-0.3
	comp=Z,4.6nm,0.7s,baz=224,slow=1.8,SNR=26						
ARCES				PP	**PP**	18 08 13.8	-0.4
	comp=Z,4.1nm,1.0s,baz=223,slow=8.2,SNR=4.2						
A04D	**Lummi Island**	132.59	297	P	**PKiKP**	18 05 52.0	0.0
	baz=134						
SVE	**Sverdlovsk**	133.40	49	*e*PKIKP	**PKiKP**	18 05 52.6	-0.8
GYA	**Guiyang**	134.20	112	||*i*PKP	**PKiKP**	18 05 55.6	-0.6
GYA				PP	PP	18 08 35.6	+9.0
GYA				PKS		18 09 28.7	
GYA				AMB	AMB		
	comp=Z,150nm,8.5s						
GYA				LR	LR		
	comp=Z,140nm,20.8s						
GYA				LR	LR		
	comp=Z,200nm,20.6s						
GYA				LR	LR		
	comp=Z,190nm,20.7s						
DAG	**Danmarks Havn**	134.46	2	*i* PKIKP	**PKPdf**	18 05 52.4	-1.2
DAG				*i*		18 06 10.4	
DAG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DAG	**Danmarks Havn**	134.46	2	*i* P	**PKPdf**	18 05 52.4	-1.2
	comp=Z,5.6nm,0.9s						
DAG				*i*		18 06 10.4	
BRVK	**Borovoye**	135.02	58	*ce*PKIKP	**PKPdf**	18 05 55.1	-0.2
CD2	**Chengdu**	136.36	106	PKP	**PKPdf**	18 05 58.0	-0.6
MKAR	**Makanchi Array**	136.66	72	PKhKP	PKPpre	18 05 44.9	
	comp=Z,1.1nm,0.8s,baz=257,slow=3.2,SNR=7.4						
MKAR				PKP	**PKPdf**	18 05 57.9	-0.7
	comp=Z,4.3nm,0.9s,baz=276,slow=4.4,SNR=15						
KURK	**Kurchatov**	137.41	66	⇑*e*PKIKP	**PKPdf**	18 05 58.9	-0.9
WMQ	**Urumqi**	137.44	79	*e*PKP	**PKPdf**	18 06 00.2	0.0
WMQ				LR	LR		
	comp=Z,610nm,28.8s						
WMQ				LR	LR		
	comp=Z,1μm,29.2s						
WMQ				LR	LR		
	comp=Z,200nm,29.3s						
YKA	**Yellowknife Ar**	138.07	316	PKhKP	PKPpre	18 05 52.2	
	comp=Z,0.6nm,0.5s,baz=120,slow=2.4,SNR=7.3						
YKA				PKP	**PKPdf**	18 06 00.4	-0.2
	comp=Z,24nm,0.9s,baz=126,slow=2.2,SNR=52						
YKA				PP	**PP**	18 08 50.9	+0.4
	comp=Z,2.4nm,1.0s,baz=112,slow=6.8,SNR=4.4						
YKA				SKP	**SKPdf**	18 09 28.7	-2.6
	comp=Z,3.5nm,1.0s,baz=112,slow=2.7,SNR=4.0						
RES	**Resolute Bay**	139.86	337	PKhKP	PKPpre	18 05 55.9	
	comp=Z,5.6nm,1.0s,baz=60,slow=6.6,SNR=5.5						
LZH	**Lanzhou**	140.45	101	*e*PKP	**PKPdf**	18 06 04.2	-1.9
LZH				LR	LR		
	comp=Z,170nm,15.7s						
LZH				LR	LR		
	comp=Z,230nm,17.9s						
LZH				LR	LR		
	comp=Z,270nm,17.3s						
GTA	**Gaotai**	140.78	94	⇑PKP	**PKPdf**	18 06 05.8	-0.8
GTA				LR	LR		
	comp=Z,100nm,18.2s						
GTA				LR	LR		
	comp=Z,140nm,20.3s						
GTA				LR	LR		
	comp=Z,150nm,18.2s						
WHN	**Wuhan**	141.32	117	PKP	**PKiKP**	18 06 10.1	-0.3
XAN	**Xi'an**	141.49	108	PKP	**PKPdf**	18 06 01.5	-6.4
ZALV	**Zalesovo Beam**	142.40	65	*i* PKIKP	**PKPdf**	18 06 06.4	-2.4
ZALV	**Zalesovo Beam**	142.40	65	PKhKP	PKPpre	18 06 04.2	
	comp=Z,4.8nm,1.0s,baz=239,slow=3.4,SNR=9.5						
NJ2	**Nanjing**	144.68	122	*e*PKP	**PKPdf**	18 06 12.7	-0.8
C36M	**Paulatuk**	144.88	322	P	**PKPdf**	18 06 12.0	-0.7
	baz=113						
TIY	**Taiyuan**	146.13	108	*e*PKPbc	**PKPbc**	18 06 16.3	-0.7
TIY				PP	**PP**	18 09 39.5	-0.2
TIY				SKKS		18 16 23.1	
TIY				AMB	AMB		
	comp=Z,190nm,4.6s						
A36M	**Sachs Harbour**	146.20	327	P	**PKiKP**	18 06 17.1	-2.0
	baz=109						
BTO	**Baotou**	147.05	102	*e*PKPbc	**PKPab**	18 06 19.7	-1.5
INK	**Inuvik**	147.74	318	PKPbc	**PKPbc**	18 06 20.4	0.0
	comp=Z,109nm,1.0s,baz=118,slow=5.5,SNR=3.7						
INK				pPKPbc	**sPKPbc**	18 06 37.8	-0.2
	comp=Z,55nm,0.8s,baz=97,slow=4.6,SNR=4.7						
HHC	**Hu-ho-hao-te**	148.03	103	P	**PKPab**	18 06 26.7	+1.6
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
EPYK	**Eagle Plains**	148.31	314	P	**PKiKP**	18 06 22.5	-1.2
	baz=108						
MOY	**Mondy**	149.32	78	*e*PKHKP	PKPpre	18 06 20.5	
MOY				pmax	pmax		
	comp=Z,101nm,2.0s						
ZAK	**Zakamensk**	149.81	82	*e*PKP2	**PKPbc**	18 06 25.9	-0.5
ZAK				pmax	pmax		
	comp=Z,106nm,1.1s						
NRIK	**Noril'sk**	149.88	41	PKPbc	**PKPbc**	18 06 24.5	-1.3
	comp=Z,17nm,0.8s,baz=293,slow=0.4,SNR=22						
SONM	**Songino Array**	149.97	88	PKP	**PKPdf**	18 06 21.6	-0.3
	comp=Z,7.1nm,1.2s,baz=214,slow=1.7,SNR=12						
SONM				PKPbc	**PKiKP**	18 06 27.0	-0.8
	comp=Z,46nm,1.0s,baz=221,slow=3.3,SNR=122						
SONM				pPKP	**sPKPdf**	18 06 40.0	+0.4
	comp=Z,21nm,0.8s,baz=205,slow=2.8,SNR=14						
SONM				pPKPbc	**sPKPbc**	18 06 44.4	0.0
	comp=Z,63nm,0.9s,baz=212,slow=2.6,SNR=19						
EYAK	**Cordova Ski Ar**	150.13	301		**PKiKP**	18 06 27.9	+0.4
ULN	**Ulaanbaatar**	150.34	89	P	**PKiKP**	18 06 27.8	-0.8
	SNR=15						
TLY	**Talaya**	150.72	80	P	**PKiKP**	18 06 29.0	-0.1
	SNR=10						
TLY	**Talaya**	150.72	80	⇑*e*PKIKP	**PKiKP**	18 06 28.8	-0.3
TLY				*i*		18 06 37.5	
TLY				*e*		18 06 45.6	
TLY				pmax	pmax		
	comp=Z,203nm,1.4s						
TLY	**Talaya**	150.72	80		**PKiKP**	18 06 29.0	-0.1
IRK	**Irkutsk**	151.34	79	*e*PKIKP	**PKPbc**	18 06 29.0	-0.9
IRK				pmax	pmax		
	comp=Z,80nm,1.9s						
DL2	**Dalian**	151.59	118	PKPbc	**PKiKP**	18 06 30.9	-0.3
DL2				PKPab	**pPKPbc**	18 06 43.9	+0.2
DL2				pPKP	**sPKPbc**	18 06 47.6	-0.7
DL2				PP	**PP**	18 10 11.3	+0.1
HDA	**Harding Lake**	151.87	308	P	**PKiKP**	18 06 31.3	+0.3
	baz=104						
ILAR	**Eielson Array**	151.93	309	PKPbc	**PKiKP**	18 06 30.9	-0.3
	comp=Z,118nm,0.9s,baz=137,slow=1.6,SNR=244						
ILAR				pPKPbc	**sPKPbc**	18 06 48.5	+0.1
	comp=Z,30nm,0.8s,baz=143,slow=2.8,SNR=5.4						
GHO	**Glory Hole Cre**	152.00	302		**PKiKP**	18 06 31.9	+0.5
TJN	**Taejon**	152.07	129	*c i*PKIKP	**PKiKP**	18 06 31.4	-0.9
POKR	**Poker Plat Res**	152.24	309	P	**PKiKP**	18 06 31.9	+0.1
	baz=103						
KDAK	**Kodiak Island**	152.34	293	*i* PKIKP	**PKiKP**	18 06 32.4	+0.3
COLA	**College**	152.36	309	*c i*PKIKP	**PKiKP**	18 06 31.6	-0.4
TCOL	**CIGO, UAF Yank**	152.36	309	P	**PKiKP**	18 06 32.0	0.0
	baz=103						
KSRS	**Korea Array**	153.22	128	PKP	**PKPdf**	18 06 26.6	-0.4
	comp=Z,1.4nm,0.8s,baz=94,slow=1.8,SNR=5.2						
KSRS				PKPbc	**PKiKP**	18 06 34.1	-0.6
	comp=Z,10.0nm,1.0s,baz=203,slow=2.2,SNR=19						
KSRS				PKPab	**PKPab**	18 06 45.3	-1.2
	comp=Z,3.8nm,0.9s,baz=203,slow=1.6,SNR=5.6						
KSRS				pPKPbc	**sPKPbc**	18 06 51.7	-0.4
	comp=Z,14nm,0.9s,baz=199,slow=2.1,SNR=13						
TOLK	**Toolik Lake Re**	153.60	317	P	**PKiKP**	18 06 35.5	+1.0
	baz=94						
MJAR	**Matsushiro Arr**	156.13	146	PKP	**PKPdf**	18 06 30.8	-0.3
	comp=Z,1.0nm,0.9s,baz=193,slow=2.9,SNR=3.7						
MJAR				PKPbc	**pPKPdf**	18 06 41.0	-3.2
	comp=Z,3.7nm,1.1s,baz=192,slow=4.8,SNR=6.6						
MJAR				pPKP	**sPKPdf**	18 06 49.5	+0.7
	comp=Z,3.2nm,0.8s,baz=187,slow=3.0,SNR=6.9						
MJAR				PKPab	**PKPab**	18 06 57.6	-1.4
	comp=Z,5.7nm,0.9s,baz=197,slow=3.7,SNR=12						
MJAR				pPKPab	**sPKPab**	18 07 15.8	-0.4
	comp=Z,5.0nm,0.7s,baz=184,slow=5.0,SNR=4.8						
MJAR				PP	**PP**	18 10 42.0	+5.5
	comp=Z,0.5nm,0.9s,baz=188,slow=8.1,SNR=4.1						
MAT	**Matsushiro**	156.14	146	PKP	**PKPdf**	18 06 29.8	-1.3
BOD	**Bodaibo**	158.75	73	*e*PKIKP	**PKPdf**	18 06 30.7	-2.9
BOD				pmax	pmax		
	comp=Z,13nm,1.5s						
USRK	**Ussuriysk Ar.**	160.51	125	PKPab	**PKPab**	18 07 17.2	-0.6
	comp=Z,7.1nm,1.0s,baz=211,slow=2.2,SNR=9.8						
ZEA	**Zeya**	164.27	94	*e*PKIKP	**PKPdf**	18 06 38.4	-1.1
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
GRNR	**Gornyy**	167.38	117	*e*PKP2	**PKPab**	18 07 48.1	+0.3
GRNR				pmax	pmax		
	comp=Z,16nm,1.0s						
BILL	**Bilibino**	168.47	337	*i* PKIKP	**PKPdf**	18 06 37.7	-4.7
BILL				*i*		18 06 53.1	
BILL				*i*		18 07 52.4	
BILL				*i*		18 11 39.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PETK	**Petropavlovsk-**	174.86	203	PKP	**PKPdf**	18 06 45.9	0.0
	comp=Z,8.5nm,1.1s,baz=98,slow=3.0,SNR=6.0						
PETK				pPKP	**sPKPdf**	18 07 02.1	-1.6
	comp=Z,6.8nm,0.8s,baz=102,slow=6.1,SNR=6.1						
PETK				PKPab	**PKPab**	18 08 20.5	-0.3
	comp=Z,18nm,1.0s,baz=108,slow=4.8,SNR=9.1						
PETK				PP	**PP**	18 12 18.4	+4.8
	comp=Z,2.4nm,1.0s,baz=163,slow=5.6,SNR=3.5						

NORS ***03*** *18:05:35.8±0.0, 42°.54N×41°.29E, h2km, MPVA3.5*
ISK ***03*** *18:05:35.7, 42°.39N×41°.02E, h14km, ML2.8/6*
TIF ***03*** *18:05:36.4, 42°.31N×40°.95E, h41km±1km*
DDA ***03*** *18:05:37.0, 42°.23N×41°.09E, h19km, ML3.3*
ISC 03 18:05:35.4±1.4, 42°.38N±0°.02×41°.07E±0°.03, h8km±11km, n33, σ0°90/63, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.91**	**149**	P	**Pn**	**18 05 54.0**	**-0.5**
BATM				S	**Sn**	**18 06 06.8**	**-1.0**
BATM	**Batumi**	**0.91**	**149**	*i* P	**Pn**	**18 05 54.0**	**-0.5**
BATM				*i* S	**Sn**	**18 06 07.6**	**-0.2**
BATM	**Batumi**	**0.91**	**149**	*i* Pg	**Pn**	**18 05 54.0**	**-0.5**
BATM				*i* Sg	**Sn**	**18 06 07.4**	**-0.4**
BATM	**Batumi**	**0.91**	**149**	PG	**Pn**	**18 05 54.0**	**-0.5**
BATM				SG	**Sn**	**18 06 07.4**	**-0.4**
DOMR	**Dombai**	**1.00**	**24**	*i* Pg	**Pb**	**18 05 54.0**	**-1.0**
DOMR				*i* Sg	**Sg**	**18 06 06.4**	**-1.1**
DBOC	**Borcka**	**1.13**	**157**	*i

*NNC **03** 18:09:18.5±3.5, 39.°65N×73.°80E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=27.3km s-min=14.6km az=170.0*

ISC 03 18:09:14.3±1.3, 39.°54N±0.°07×73.°56E±0.°03, h10km, n40, σ2§37/56, MS4.6/5, 24C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.84**	**346**	⇓*i*P	**Pb**	**18 09 48.6**	**+0.5**
	baz=46						
ARSB				⇓*i*S	**Sg**	**18 10 15.0**	**+1.6**
	baz=46						
BTK	**Batken**	**2.18**	**285**	⇓*i*P	**Pb**	**18 09 52.9**	**-0.9**
	baz=87						
BTK				⇓*i*S	**Sg**	**18 10 22.7**	**-1.6**
	baz=87						
ARLS	**Aral**	**2.39**	**14**	⇑*i*P	**Pb**	**18 09 57.0**	**-0.5**
	baz=12						
ARLS				⇑*i*S	**Sb**	**18 10 28.0**	**+0.9**
	baz=12						
ARK	**Arkit**	**2.56**	**332**	⇑*i*P	**Pb**	**18 09 59.0**	**-1.4**
	baz=32						
ARK				⇑*i*S	**Sb**	**18 10 32.8**	**+0.7**
	baz=32						
AML	**Almayashu**	**2.59**	**2**	⇓*i*P	**Pb**	**18 09 59.4**	**-1.7**
	baz=1.0						
AML				⇓*i*S	**Sb**	**18 10 33.5**	**+0.4**
	baz=1.0						
NRN	**Naryn**	**2.65**	**44**	⇑*i*P	**Pn**	**18 09 59.4**	**+2.0**
	baz=42						
NRN				⇑*i*S	**Sb**	**18 10 33.3**	**-1.5**
	baz=42						
KZA	**Kyzart**	**2.84**	**26**	⇓*e*P	**Pn**	**18 10 02.4**	**+2.3**
	baz=25						
KZA				⇓*e*S	**Sb**	**18 10 39.0**	**-1.3**
	baz=25						
EKS2	**Erkin-Say**	**3.12**	**3**	⇑*e*P	**Pb**	**18 10 06.8**	**-3.2**
	baz=2.0						
EKS2				⇑*i*S	**Sb**	**18 10 46.1**	**-2.1**
	baz=2.0						
AAK	**Ala-Archa**	**3.17**	**12**	⇑Pn	**Pb**	**18 10 09.2**	**-1.7**
	8.4nm,0.5s						
AAK				⇓Lg	Lg	18 10 56.2	
	26nm,0.7s						
AAK	**Ala-Archa**	**3.17**	**12**	⇑*i*P	**Pn**	**18 10 07.1**	**+2.7**
	baz=11						
AAK				⇑*i*S	**Sb**	**18 10 46.8**	**-2.9**
	baz=11						
MRKS	**Merke**	**3.21**	**356**	Pg	**Pn**	**18 10 07.9**	**+3.1**
	6.8nm,0.6s						
MRKS				Lg	Lg	18 10 51.3	
	28nm,0.5s						
MRKS	**Merke**	**3.21**	**356**	*e*P	**Pn**	**18 10 08.0**	**+3.1**
	14nm,0.4s						
MRKS				*e*S	**Sb**	**18 10 51.3**	**+0.6**
	28nm,0.5s						
KBK	**Karagaybulak**	**3.28**	**18**	⇑*i*P	**Pn**	**18 10 08.5**	**+2.5**
	baz=17						
KBK				⇑*i*S	**Sb**	**18 10 49.5**	**-3.4**
	baz=17						
BOOM	**Boomskoye usch**	**3.45**	**31**	⇓*e*P	**Pn**	**18 10 10.9**	**+2.6**
	baz=29						
BOOM				⇓*i*S	**Sn**	**18 10 53.0**	**+3.7**
	baz=29						
CHMS	**Chumysh**	**3.57**	**14**	⇑*i*P	**Pn**	**18 10 12.5**	**+2.7**
	baz=13						
CHMS				⇑*i*S	**Sb**	**18 10 56.4**	**-4.5**
	baz=13						
TKM2	**Tokmak 2**	**3.71**	**24**	⇑Pg	**Pg**	**18 10 23.2**	**-2.2**
	5.8nm,0.6s						
TKM2				⇓Lg	Lg	18 11 13.1	
	12nm,0.6s						
TKM2	**Tokmak 2**	**3.71**	**24**	⇑*e*P	**Pn**	**18 10 14.7**	**+2.9**
	baz=23						
TKM2				⇑*i*S	**Sn**	**18 10 59.6**	**+3.9**
	baz=23						
IUG	**luzhnay**	**3.74**	**315**	Pg	**Pn**	**18 10 15.3**	**+3.2**
	0.7nm,0.4s						
IUG				Lg	Lg	18 11 03.3	
	29nm,0.6s						
IUG	**luzhnay**	**3.74**	**315**	*e*P	**Pn**	**18 10 15.3**	**+3.2**
	1.5nm,0.3s						
IUG				*e*S	**Sb**	**18 11 03.3**	**-2.5**
	26nm,0.5s						
KDJ	**Kajisay**	**3.77**	**46**	⇑*i*P	**Pn**	**18 10 15.0**	**+2.3**
	baz=44						
KDJ				⇑*i*S	**Sn**	**18 11 00.5**	**+3.3**
	baz=44						
KST	**Kastek**	**3.94**	**27**	Pg	**Pb**	**18 10 24.6**	**+0.7**
	4.3nm,0.5s						
KST				Lg	Lg	18 11 19.1	
	20nm,0.8s						
KST	**Kastek**	**3.94**	**27**	*e*P	**Pb**	**18 10 24.4**	**+0.5**
	5.4nm,0.6s						
KST				*e*S	**Sg**	**18 11 19.1**	**-1.7**
	25nm,0.7s						
SGDS	**Sogindy**	**3.99**	**11**	Pg	**Pb**	**18 10 26.2**	**+1.5**
	6.2nm,0.8s						
SGDS				Lg	Lg	18 11 21.6	
	15nm,0.8s						
KK31	**Karatay Array**	**4.24**	**328**	⇓Pn	**Pn**	**18 10 22.3**	**+3.4**
	1.0nm,0.3s,baz=134,slow=12,SNR=34						
KK31				⇓Pg	**Pg**	**18 10 34.5**	**-1.0**
	2.9nm,0.5s,baz=144,slow=14,SNR=13						
KK31				⇑Sn	**Sb**	**18 11 16.7**	**-3.4**
	6.2nm,0.6s						
KK31				⇓Lg	Lg	18 11 31.2	
	18nm,0.8s,baz=137,slow=27,SNR=4.9						
MDOK	**Medeo**	**4.47**	**35**	⇑Pg	**Pg**	**18 10 37.8**	**-2.1**
	5.2nm,0.6s						
MDOK				Lg	Lg	18 11 35.9	
	29nm,0.9s						
BRLS	**Borolday**	**4.48**	**322**	*e*P	Pb	18 10 27.7	-5.3
	0.7nm,0.2s						
BRLS				*e*S	**Sb**	**18 11 24.6**	**-2.4**
	5.3nm,0.6s						
KNDC	**Almaty**	**4.48**	**34**	⇑Pg	**Pg**	**18 10 39.0**	**-1.0**
	15nm,0.8s						
KNDC				⇓Lg	Lg	18 11 36.7	
	30nm,0.7s						
KTBS	**Karatobe**	**4.78**	**28**	Pg	**Pb**	**18 10 40.1**	**+1.9**
	3.9nm,0.9s						
KTBS				Lg	Lg	18 11 45.5	
	24nm,0.8s						
KTBS	**Karatobe**	**4.78**	**28**	*e*P	**Pb**	**18 10 39.8**	**+1.6**
	4.7nm,0.5s						
KTBS				*e*S	**Sg**	**18 11 45.6**	**-2.1**
	24nm,0.6s						
CHKK	**Chushkaly**	**5.01**	**30**	Pg	**Pb**	**18 10 43.4**	**+1.3**
	2.6nm,0.8s						
CHKK				Lg	Lg	18 11 51.0	
	7.8nm,0.9s						
CHKK	**Chushkaly**	**5.01**	**30**	*e*P	**Pb**	**18 10 44.0**	**+1.8**
	3.4nm,0.5s						
CHKK				*e*S	**Sg**	**18 11 52.3**	**-3.0**
	7.8nm,0.9s						
PDGK	**Podgornoye**	**5.84**	**48**	⇓Pg	**Pg**	**18 11 02.0**	**-4.2**
	3.5nm,0.8s						
PDGK				⇑Lg	Lg	18 12 20.8	
	8.3nm,1.2s						
ZALV	**Zalesovo Beam**	**16.32**	**24**	P	**P**	**18 13 06.1**	**-0.1**
	0.1nm,0.3s,baz=213,slow=10.0,SNR=3.3						
FINES	**FINESS Array B**	**36.18**	**323**	P	**P**	**18 16 16.6**	**0.0**
	3.9nm,1.1s,baz=115,slow=9.8,SNR=1.6						
NOA	**NORSAR Array B**	**43.23**	**321**	P	**P**	**18 17 14.5**	**-0.9**
	0.5nm,0.6s,baz=108,slow=7.5,SNR=2.6						
LEM	**Lembang**	**55.85**	**138**	LR	LR	18 40 17.7	
	comp=Z,260nm,21.4s,baz=202,slow=36						
SIJI	**Sorong**	**66.20**	**113**	LR	LR	18 49 39.3	
	comp=Z,580nm,21.6s,baz=340,slow=39						
JAY	**Jayapura**	**74.19**	**107**	LR	LR	18 53 10.9	
	comp=Z,393nm,21.9s,baz=192,slow=37						
KRVT	**Keravat (AS076**	**83.86**	**101**	LR	LR	18 54 06.0	
	comp=Z,251nm,21.3s,baz=232,slow=33						
BBB	**Bella Bella**	**86.72**	**13**	LR	LR	19 07 17.9	
	comp=Z,98nm,18.7s,baz=122,slow=39						

*ISCJB **03** 18:12:21.0±0.5, 36.°34N±0.°03×28.°62E±0.°02, h4km±4km, Error ellipse: s-maj=4.5km s-min=3.2km az=170.1*
*ISK **03** 18:12:20.7, 36.°35N×28.°67E, h4km, ML2.6/14*
*DDA **03** 18:12:20.8, 36.°36N×28.°66E, h7km±3km, ML2.7*
*ATH **03** 18:12:20.7, 36.°39N×28.°61E, h24km±2km, ML2.6/1, Error ellipse: s-maj=4.7km s-min=1.8km az=179.0*
*THE **03** 18:12:20.7, 36.°40N×28.°64E, h2km±2km, ML2.4/2, Error ellipse: s-maj=3.0km s-min=1.0km az=122.0*

ISC 03 18:12:21.1±1.1, 36.°37N±0.°03×28.°64E±0.°02, h10km±9km, n43, σ0§81/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.44**	**250**	P	**Pg**	**18 12 29.3**	**-0.5**
ARG				S	**Sg**	**18 12 36.9**	**+1.3**
	888nm,0.3s						
ARG	**Arkhangelos**	**0.44**	**250**	P	**Pg**	**18 12 29.3**	**-0.5**
ARG				S	**Sb**	**18 12 37.1**	**-0.6**
ARG				AML	AML	18 12 37.4	
	comp=N,1312μm,0.3s						
ARG				AML	AML	18 12 37.6	
	comp=E,2288μm,0.2s						
ARG	**Arkhangelos**	**0.44**	**250**	PG	**Pg**	**18 12 30.1**	**+0.3**
ARG				SG	**Sb**	**18 12 37.3**	**-0.5**
FETY	**Fethiye**	**0.44**	**53**	P	**Pg**	**18 12 29.3**	**-0.5**
FETY				S	**Sb**	**18 12 36.2**	**-1.6**
FETY	**Fethiye**	**0.44**	**53**	*i* P	**Pg**	**18 12 29.6**	**-0.2**
FETY				*i* S	**Sb**	**18 12 37.4**	**-0.5**
FETY	**Fethiye**	**0.44**	**53**	PG	**Pg**	**18 12 29.0**	**-0.8**
FETY				SG	**Sb**	**18 12 36.7**	**-1.1**
DALY	**Dalyan (Mula)**	**0.45**	**1**	*i* P	**Pb**	**18 12 30.2**	**-0.9**
DALY				*i* S	**Sb**	**18 12 37.8**	**-0.1**
DALY				IAML_P			
	comp=Z,2μm,0.2s						
DALY	**Dalyan (Mula)**	**0.45**	**1**	PG	**Pb**	**18 12 30.3**	**-0.8**
DALY				SG	**Sb**	**18 12 37.1**	**-0.8**
MRSB	**Marmaris-Mugla**	**0.50**	**314**	PG	**Pb**	**18 12 31.5**	**-0.5**
TURN	**Turunc**	**0.50**	**356**	PG	**Pb**	**18 12 31.8**	**-0.3**
TURN				SG	**Sb**	**18 12 39.9**	**+0.4**
AKAS	**Kas**	**0.79**	**100**	*i* P	**Pb**	**18 12 36.9**	**-0.2**
AKAS				*i* S	**Sn**	**18 12 49.8**	**-0.7**
AKAS				IAML_P			
	comp=Z,3μm,0.1s						
AKAS	**Kas**	**0.79**	**100**	PG	**Pg**	**18 12 35.8**	**-0.5**
KSL	**Kastellorizon**	**0.79**	**106**	P	**Pb**	**18 12 37.2**	**+0.2**
YER	**Yerkesik**	**0.82**	**339**	P	**Pg**	**18 12 36.3**	**-0.6**
YER				S	**Sb**	**18 12 48.1**	**-0.5**
YER	**Yerkesik**	**0.82**	**339**	PG	**Pb**	**18 12 37.7**	**+0.2**
DATC	**Datca-Mugla**	**0.88**	**296**	PG	**Pb**	**18 12 38.8**	**+0.3**
DAT	**Datca**	**0.93**	**293**	*i* P	**Pn**	**18 12 40.0**	**-0.4**
DAT				*i* S	**Sn**	**18 12 53.0**	**-0.8**
DAT				IAML_P			
	comp=Z,706nm,0.2s						
DAT	**Datca**	**0.93**	**293**	PG	**Pn**	**18 12 39.9**	**-0.4**
ELL	**Elmali**	**1.09**	**69**	PG	**Pn**	**18 12 41.9**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.12**	**11**	*i* P	**Pn**	**18 12 42.6**	**-0.4**
TAVA				*i* S	**Sn**	**18 13 00.7**	**+2.3**
GOLH	**Golhisar**	**1.14**	**40**	*i* P	**Pb**	**18 12 42.4**	**-0.6**
GOLH				*i* S	**Sn**	**18 13 01.0**	**+2.0**
GOLH				IAML_P			
	comp=Z,535nm,0.2s						
MLSB	**Milas**	**1.16**	**323**	PN	**Pn**	**18 12 43.9**	**+0.5**
NISR	**Nisiros**	**1.24**	**282**	P	**Pn**	**18 12 44.1**	**-0.5**
BODT	**Bodrum**	**1.27**	**303**	P	**Pn**	**18 12 44.7**	**-0.3**
BODT				S	**Sb**	**18 13 01.5**	**-0.2**
BODT	**Bodrum**	**1.27**	**303**	PN	**Pg**	**18 12 45.9**	**+0.3**
AKUM	**Antalya-Kumluc**	**1.37**	**91**	*i* P	**Pg**	**18 12 47.1**	**-0.3**
AKUM				IAML_P			
	comp=Z,344nm,0.2s						
AYDN	**Tasoluk**	**1.43**	**335**	*i* P	**Pg**	**18 12 48.3**	**-0.2**
AYDN				*i* S	**Sg**	**18 13 08.3**	**+1.3**
AYDN				IAML_P			
	comp=Z,846nm,0.2s						
KARP	**Karpathos**	**1.46**	**236**	P	**Pn**	**18 12 46.9**	**-0.6**
KARP				S	**Sn**	**18 13 07.2**	**+0.5**
	comp=Z,82nm,0.3s						
KARP	**Karpathos**	**1.46**	**236**	P	**Pn**	**18 12 47.4**	**-0.1**
KORT	**Korkueli**	**1.51**	**65**	*i* P	**Pg**	**18 12 50.5**	**+0.4**
KORT				*i* S	**Sg**	**18 13 11.2**	**+1.5**
KORT	**Korkueli**	**1.51**	**65**	PN	**Pg**	**18 12 49.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.69**	**339**	PN	**Pg**	**18 12 52.6**	**-0.8**
GCAM	**G?zelcaml?**	**1.74**	**320**	*i* P	**Pn**	**18 12 52.0**	**+0.5**
GCAM				*i* S	**Sg**	**18 13 16.6**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.75**	**40**	*i* P	**Pb**	**18 12 52.8**	**-0.5**
BRDR				IAML_P			
	comp=Z,478nm,0.2s						
SMG	**Samos**	**1.97**	**313**	P	**Pn**	**18 12 54.2**	**-0.3**
KHAL	**Karahalli**	**2.11**	**18**	*i* P	**Pb**	**18 12 57.5**	**-2.0**
KHAL				*i* S	**Sn**	**18 13 22.9**	**0.0**
KHAL				IAML_P			
	comp=Z,136nm,0.1s						
AMGA	**Amorgos Island**	**2.26**	**283**	P	**Pn**	**18 12 58.6**	**0.0**
ANAF	**Anafi Island**	**2.32**	**271**	P	**Pn**	**18 12 59.5**	**+0.2**
USAK	**Uak-Merkez**	**2.36**	**7**	*i* P	**Pn**	**18 13 00.9**	**+0.9**
USAK				IAML_P			
	comp=Z,140nm,0.1s						
KEPZ	**Antalya-Kepez**	**2.44**	**77**	*i* P	**Pn**	**18 13 02.5**	**+1.4**
KEPZ				IAML_P			
	comp=Z,153nm,0.2s						
ZEY	**zmir**	**2.53**	**318**	*i* P	**Pn**	**18 13 03.2**	**+1.0**
URLA	**Izmir**	**2.57**	**321**	*i* P	**Pn**	**18 13 03.5**	**+0.6**
URLA				IAML_P			
	comp=Z,254nm,0.2s						
APE	**Apeiranthos**	**2.60**	**287**	P	**Pn**	**18 13 03.3**	**+0.1**

*IDC **03** 18:17:28.4±2.6, 3.°86N×92.°66E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.5/52, mbtmp3.8/7, ML3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/46, Error ellipse: s-maj=54.9km s-min=30.3km az=7.0*
*ISCJB **03** 18:17:29.6±0.5, 3.°72N±0.°07×92.°69E±0.°05, h33km, mb3.8/4, MS4.0/1, Error ellipse: s-maj=10.8km s-min=6.8km az=15.8*
*NEIC **03** 18:17:30.7±1.3, 3.°67N±0.°04×92.°70E±0.°07, h27km±6km, mb4.2/15*

ISC 03 18:17:31.7±0.7, 3.°68N±0.°10×92.°73E±0.°06, h35km, n33, σ1§07/30, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.48**	**70**	Pn	**Pn**	**18 18 38.0**	**+0.9**
GSI	**Gunungsitoli**	**5.39**	**116**	Pn	**Pn**	**18 18 50.0**	**+0.4**
PSI	**Prapat**	**6.25**	**98**	Pn	**Pn**	**18 19 03.7**	**+2.1**
	0.8nm,0.3s,baz=291,slow=8.6,SNR=4.3						
PSI				Sn	**Sn**	**18 20 10.4**	**-1.5**
	0.5nm,0.3s,baz=324,slow=23,SNR=1.7						
RPSI	**Rantau Prapat**	**6.27**	**99**		**Pn**	**18 19 03.7**	**+2.0**
RPSI					**Sn**	**18 20 10.4**	**-1.7**
KULM	**Kulim**	**8.06**	**78**	Pn	**Pn**	**18 19 26.4**	**0.0**
PALK	**Pallekele**	**12.49**	**287**	Pn	**Pn**	**18 20 26.6**	**-0.5**
	0.6nm,0.3s,baz=115,slow=16,SNR=7.8						
PALK				Sn	Sn	18 22 32.9	-12
	0.8nm,0.3s,baz=116,slow=7.3,SNR=1.8						
PALK	**Pallekele**	**12.49**	**287**		**Pn**	**18 20 26.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**15.90**	**22**	Pn	**Pn**	**18 21 12.1**	**-0.8**
	0.1nm,0.3s,baz=219,slow=12,SNR=6.6						
CHTO	**Chiang Mai**	**16.23**	**22**	P	**P**	**18 21 20.8**	**+1.0**
KAAM	**Kaadhehdhoo**	**19.97**	**261**	P	**P**	**18 22 00.5**	**-0.6**
DGAR	**Diego Garcia**	**23.04**	**241**	P	**P**	**18 22 33.2**	**-0.8**
H08S2	**Diego Garcia H**	**23.11**	**241**	T	T	18 47 57.8	
	baz=61,slow=75						
H08S3	**Diego Garcia H**	**23.11**	**241**	T	T	18 47 59.0	
	baz=61,slow=75						
H08S1	**Diego Carcia H**	**23.13**	**241**	T	T	18 47 51.9	
	baz=61,slow=75						
KKM	**Kota Kinabalu**	**23.52**	**83**	P	**P**	**18 22 39.8**	**+0.8**
KKM				IAmb	IAmb	18 22 39.9	
	comp=Z,4.2nm,1.0s						
TPUB	**Ta-pu**	**33.29**	**52**	P	**P**	**18 24 06.0**	**-0.3**
SSLB	**Suanglung**	**33.80**	**51**	P	**P**	**18 24 10.5**	**-0.2**
YULB	**Yu-li**	**33.86**	**52**	P	**P**	**18 24 09.0**	**-2.2**
YULB				IAmb	IAmb	18 24 26.5	
	comp=Z,13nm,1.1s						
NACB	**Ninganchiao**	**34.50**	**51**	P	**P**	**18 24 15.4**	**-1.3**
PSA00	**Pilbara Seismi**	**36.54**	**135**	P	**P**	**18 24 36.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**39.00**	**125**	LR	LR	18 41 27.3	
	comp=Z,240nm,20.6s,baz=203,slow=37						
FITZ	**Fitzroy Crossi**	**39.00**	**125**	P	**P**	**18 24 54.8**	**-0.3**
FITZ				IAmb	IAmb	18 24 57.1	
	comp=Z,2.1nm,1.0s						
MORW	**Morawa**	**39.51**	**147**	P	**P**	**18 24 59.4**	**+0.2**
MORW				IAmb	IAmb	18 25 14.4	
	comp=Z,7.3nm,1.1s						
MK31	**Makanchi Array**	**43.89**	**350**	P	**P**	**18 25 35.4**	**+0.6**
MKAR	**Makanchi Array**	**43.89**	**350**	P	**P**	**18 25 35.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=170,slow=8.6,SNR=11						
SONM	**Songino Array**	**45.54**	**13**	P	**P**	**18 25 48.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=8.7,SNR=3.8						
SONM	**Songino Array**	**45.54**	**13**	IAmb	IAmb	18 25 49.9	
	comp=Z,0.6nm,0.9s						
KURK	**Kurchatov**	**48.36**	**348**	P	**P**	**18 26 09.6**	**-0.3**
KURK				IAmb	IAmb	18 26 10.8	
	comp=Z,1.5nm,0.7s						
ZAA0	**Zalesovo Array**	**50.53**	**354**	P	**P**	**18 26 26.8**	**+0.4**
ZAA0				IAmb	IAmb	18 26 27.4	
	comp=Z,2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**50.53**	**354**	P	**P**	**18 26 27.1**	**+0.7**
	comp=Z,2.4nm,0.4s,baz=176,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**50.53**	**354**	P	**P**	**18 26 26.8**	**+0.4**
ABKAR	**Akbulak array**	**53.28**	**334**	P	**P**	**18 26 46.8**	**-0.2**
BRTR	**Keskin Array B**	**64.15**	**313**	P	**P**	**18 28 03.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=133,slow=8.3,SNR=3.5						

*ISCJB **03** 18:20:57.1±0.5, 5.°40S±0.°04×145.°95E±0.°07, h69km, mb3.9/10, Error ellipse: s-maj=9.7km s-min=6.1km az=174.9*
*NEIC **03** 18:21:00.1±1.9, 5.°45S±0.°06×145.°93E±0.°09, h91km±3km, mb4.1/12*
*IDC **03** 18:21:00.0±2.0, 5.°50S×145.°94E, h90km±19km, mb3.7/10, mb1 3.8/14, mb1mx3.6/32, mbtmp4.0/14, MS3.8/3, Ms1 3.8/3, ms1mx2.9/37, Error ellipse: s-maj=20.0km s-min=13.3km az=73.0*

ISC 03 18:20:58.1±0.5, 5.°39S±0.°06×145.°92E±0.°08, h69km, n41, σ1§60/41, mb4.1/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.63**	**23**	Pn	**Pn**	**18 21 54.4**	**+2.5**
PMG	**Port Moresby**	**4.17**	**163**	P	**Pn**	**18 22 00.6**	**+1.2**
	34nm,0.3s,baz=0.2,slow=5.9,SNR=196						
PMG				S	**Sn**	**18 22 47.3**	**+0.4**
	16nm,0.3s,baz=344,slow=14,SNR=4.0						
PMG	**Port Moresby**	**4.17**	**163**		**Pn**	**18 22 00.7**	**+1.4**
PMG					**Sn**	**18 22 48.8**	**+1.9**
JAY	**Jayapura**	**5.94**	**299**	P	**Pn**	**18 22 25.6**	**+2.0**
	1.5nm,0.3s,baz=179,slow=6.8,SNR=15						
JAY				S	Sn	18 23 43.2	+13
	1.4nm,0.3s,baz=93,slow=23,SNR=1.6						
JAY				LR	LR	18 25 06.3	
	comp=Z,96nm,21.4s,baz=171,slow=41						
COEN	**Coen**	**8.93**	**197**		**Pn**	**18 23 06.8**	**+2.3**
COEN				Sn	**Sn**	**18 24 42.6**	**-0.9**
CTA	**Charters Tower**	**14.61**	**179**	P	**Pn**	**18 24 23.6**	**+2.3**
	0.7nm,0.3s,baz=356,slow=15,SNR=5.8						
CTAO	**Charters Tower**	**14.61**	**179**	P	**P**	**18 24 25.7**	**-0.1**
CTAO				PcP	**PcP**	**18 29 28.4**	**-2.2**
SIJI	**Sorong**	**15.31**	**287**	P	**P**	**18 24 33.0**	**-0.7**
	0.6nm,0.3s,baz=104,slow=12,SNR=7.0						
MTN	**Manton Dam**	**16.36**	**242**	P	**P**	**18 24 45.1**	**-0.2**
WRAB	**Tennant Creek**	**18.32**	**217**		**Pn**	**18 25 07.9**	**+0.2**
WRAB				IAmb	IAmb	18 25 13.8	
	comp=Z,6.6nm,1.0s						
WB2	**Warramunga Arr**	**18.33**	**217**		**Pn**	**18 25 07.7**	**-0.1**
WB2				IAmb	IAmb	18 25 15.5	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**18.34**	**217**	P	**P**	**18 25 06.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=38,slow=12,SNR=28						
WRA	**Warramunga Arr**	**18.34**	**217**	P	**Pn**	**18 25 07.3**	**-0.5**
KNRA	**Kununurra**	**19.70**	**237**	P	**P**	**18 25 22.1**	**0.0**
KNRA				PcP	**PcP**	**18 29 35.3**	**-3.4**
AS31	**Alice Springs**	**21.54**	**211**	P	**P**	**18 25 43.7**	**+1.8**
ASAR	**Alice Springs**	**21.54**	**211**	P	**P**	**18 25 42.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=45,slow=7.1,SNR=32						
ASAR				PcP	**PcP**	**18 29 41.3**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=36,slow=1.7,SNR=3.1						
ASAR	**Alice Springs**	**21.54**	**211**	P	**P**	**18 25 43.3**	**+1.4**
SOEI	**Soe**	**21.89**	**257**	P	**P**	**18 25 46.7**	**+0.8**
SOEI				IAmb	IAmb	18 26 04.4	
	comp=Z,16nm,0.7s						
BATI	**Baumata**	**22.56**	**256**	P	**P**	**18 25 53.0**	**+0.1**
	comp=Z,31nm,0.7s,baz=197,slow=4.2,SNR=8.6						
FITZ	**Fitzroy Crossi**	**23.50**	**236**	P	**P**	**18 26 00.6**	**-1.5**
	comp=Z,3.9nm,0.4s,baz=47,slow=12,SNR=44						
FITZ	**Fitzroy Crossi**	**23.50**	**236**	P	**P**	**18 26 01.2**	**-0.9**
FITZ				IAmb	IAmb	18 26 03.8	
	comp=Z,5.4nm,0.8s						
DZM	**Mont Dzumac**	**25.87**	**132**	P	**P**	**18 26 24.0**	**+0.3**
DZM				IAmb	IAmb	18 26 41.5	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**26.66**	**188**	P	**P**	**18 26 28.6**	**-2.0**
	comp=Z,2.3nm,0.9s,baz=11,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**26.66**	**188**	IAmb	IAmb	18 26 38.0	
	comp=Z,0.6nm,0.8s						
STKA				PcP	**PcP**	**18 29 48.3**	**-4.7**
H11S3	**WAKE ISLAND Hy**	**31.35**	**40**	T	T	19 00 30.5	
	baz=222,slow=80						
H11S2	**WAKE ISLAND Hy**	**31.36**	**40**	T	T	19 00 31.6	
	baz=222,slow=80						
H11S1	**WAKE ISLAND Hy**	**31.36**	**40**	T	T	19 00 32.6	
	baz=222,slow=80						
H11N1	**WAKE ISLAND Hy**	**32.37**	**39**	T	T	19 01 46.7	
	baz=220						
H11N3	**WAKE ISLAND Hy**	**32.39**	**39**	T	T	19 01 49.3	
	baz=220,slow=74						
H11N2	**WAKE ISLAND Hy**	**32.39**	**39**	T	T	19 01 48.3	
	baz=220,slow=74						
MAJO	**Matsushiro**	**42.34**	**351**	P	**P**	**18 28 45.4**	**0.0**
MAJO				IAmb	IAmb	18 28 53.8	
	comp=Z,4.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**42.34**	**351**	P	**P**	**18 28 45.5**	**0.0**
MJB9				IAmb	IAmb	18 29 02.8	
	comp=Z,3.8nm,1.1s						
USRK	**Ussuriysk Ar.**	**50.94**	**347**	P	**P**	**18 29 52.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=149,slow=5.9,SNR=4.7		

PRU *e*SG **Sg** **18 33 48.9 +0.3**
comp=Z,24nm,0.4s
CLL Collm 1.88 269 *e*Pg **Pn** **18 33 29.0 +0.6**
CLL *e*Sg **Sg** **18 33 55.0 -0.4**
comp=Z,11nm,0.5s
MORC Moravsky Berou 1.88 148 *e*PN **Pn** **18 33 26.1 -2.4**
MORC *e*SG **Sn** **18 33 52.4 -0.5**
MORC Moravsky Berou 1.88 148 *e*Pn **Pn** **18 33 26.1 -2.4**
baz=334
MORC *e*Sg **Sn** **18 33 52.3 -0.6**
comp=Z,18nm,0.5s,baz=334
OKC Ostrava-Krasne 2.06 137 *e*PG **Pn** **18 33 30.8 -0.1**
OKC *e*SG **Sn** **18 33 58.0 +0.7**
comp=Z,11nm,0.6s
VRAC Vranov 2.10 169 *e*PN **Pn** **18 33 30.2 -1.4**
VRAC *e*SG **Sb** **18 34 01.4 +0.6**
VRAC Vranov 2.10 169 *e*Pn **Pn** **18 33 30.1 -1.5**
baz=354
VRAC *e*Sg **Sb** **18 34 01.4 +0.6**
comp=Z,17nm,0.6s,baz=354
TREC Trest 2.11 189 *e*SG **Sg** **18 34 02.5 -0.3**
comp=Z,19nm,0.2s
PBCC Pribram 2.12 218 *e*SG **Sg** **18 34 03.3 +0.2**
comp=Z,4.8nm,0.5s
KRUC Moravsky 2.33 174 *e*PN **Pn** **18 33 33.4 -1.2**
KRUC *e*SG **Sb** **18 34 08.5 +1.3**
KRUC Moravsky 2.33 174 *e*Pn **Pn** **18 33 33.4 -1.2**
baz=357
KRUC *e*Sg **Sb** **18 34 08.5 +1.3**
comp=Z,14nm,0.5s,baz=357
NKC Novy Kostel 2.52 244 *e*PN **Pn** **18 33 36.7 -0.7**
NKC *e*PG **Pb** **18 33 41.0 -0.3**
NKC *e*SG **Sg** **18 34 17.1 +1.0**
comp=Z,36nm,0.7s
KHC Kasperske Hory 2.73 216 *e*PN **Pn** **18 33 39.4 -0.8**
KHC *e*PG **Pb** **18 33 45.0 +0.2**
KHC *e*SN **Sn** **18 34 13.9 0.0**
KHC *e*SG **Sg** **18 34 22.6 -0.1**
comp=Z,7.8nm,0.6s
SMOL Smolenice 3.01 162 *e*SG **Sb** **18 34 28.7 +1.9**
MODS Modra-Piesok 3.12 164 *e*PN Pn 18 33 40.3 -5.2
MODS *e*SG **Sb** **18 34 31.0 +1.1**
LANS Liptovska Anna 3.15 134 *e*PG **Pg** **18 33 56.4 +1.0**
LANS *e*SG **Sb** **18 34 32.0 +1.1**
VYHS Vyhne 3.42 146 *e*PG **Pg** **18 33 59.5 -1.1**
VYHS *e*SG **Sb** **18 34 41.5 +2.9**
CONA Conrad Observa 3.45 182 *e*Pn **Pn** **18 33 51.5 +1.3**
comp=Z,0.7nm,0.3s
CONA Sg **Sg** **18 34 46.0 +0.1**
comp=Z,12nm,0.6s
MOA Molln 3.70 198 *e*Pn **Pn** **18 33 53.0 -0.6**
comp=Z,0.3nm,0.2s
MOA Sg **Sg** **18 34 53.5 -0.5**
comp=Z,5.2nm,0.6s
ARSA Arzberg 4.14 184 Sg **Sg** **18 35 07.1 -0.9**
comp=Z,3.5nm,0.7s

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*IDC **03** 18:47:21.1±20.0, 20.°91S×174.°16W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.7/50, mbtmp4.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/29, Error ellipse: s-maj=384.4km s-min=173.6km az=81.0*
*ISCJB **03** 18:47:22.1±0.7, 21.°05±0.°2×174.°02W±0.°10, h26km, mb4.1/5, Error ellipse: s-maj=32.0km s-min=12.0km az=171.1*
*NEIC **03** 18:47:24.5±0.8, 21.°0S±0.°2×173.°9W±0.°2, h35km±12km, mb4.5/13*
ISC 03 18:47:23.6±1.2, 21.°0S±0.°3×174.°0W±0.°1, h26km, n21, σ0°69/18, mb4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.93**	**203**	LR	LR	18 52 17.1	
	comp=Z,332nm,21.1s,baz=137,slow=33						
SNZO	**South Karori**	**22.38**	**203**	P	**P**	**18 52 19.7**	**-0.1**
PPT	**Papeete**	**23.25**	**86**	P	**P**	**18 52 29.6**	**+0.4**
PPTF	**Pamatai, Papee**	**23.26**	**86**	P	**P**	**18 52 28.9**	**-0.3**
PPTF				IAmb	IAmb	18 52 42.0	
	comp=Z,24nm,0.9s						
ARMA	**Armidale**	**32.28**	**246**	P	**P**	**18 53 51.9**	**+1.4**
EIDS	**Eidsvold**	**32.37**	**256**	P	**P**	**18 53 50.9**	**-0.3**
EIDS				IAmb	IAmb	18 54 00.8	
	comp=Z,5.8nm,1.1s						
CTA	**Charters Tower**	**37.21**	**264**	P	**P**	**18 54 33.6**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=90,slow=8.0,SNR=1.9						
CTAO	**Charters Tower**	**37.21**	**264**	P	**P**	**18 54 32.7**	**-0.4**
CTAO				IAmb	IAmb	18 54 45.4	
	comp=Z,6.8nm,1.1s						
TOO	**Toolangi**	**38.69**	**236**	P	**P**	**18 54 46.0**	**+0.7**
TOO				IAmb	IAmb	18 55 00.5	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**40.99**	**245**	P	**P**	**18 55 04.7**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=91,slow=9.8,SNR=2.0						
BBOO	**Buckleboo**	**45.72**	**244**	P	**P**	**18 55 42.6**	**-0.1**
BBOO				IAmb	IAmb	18 55 58.2	
	comp=Z,10.0nm,1.1s						
AS31	**Alice Springs**	**48.09**	**257**	P	**P**	**18 56 01.0**	**-0.5**
ASAR	**Alice Springs**	**48.09**	**257**	P	**P**	**18 56 01.0**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=92,slow=6.9,SNR=10						
WB2	**Warramunga Arr**	**48.27**	**262**	P	**P**	**18 56 02.5**	**-0.3**
WB2				IAmb	IAmb	18 56 06.3	
	comp=Z,3.0nm,1.1s						
WRAB	**Tennant Creek**	**48.27**	**262**	P	**P**	**18 56 02.2**	**-0.6**
WRA	**Warramunga Arr**	**48.28**	**262**	P	**P**	**18 56 02.1**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=96,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**48.28**	**262**	IAmb	IAmb	18 56 03.4	
	comp=Z,0.2nm,0.9s						
KNRA	**Kununurra**	**54.40**	**265**	P	**P**	**18 56 49.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**56.71**	**262**	P	**P**	**18 57 06.5**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=106,slow=6.5,SNR=1.0						
FITZ	**Fitzroy Crossi**	**56.71**	**262**	IAmb	IAmb	18 57 12.9	
	comp=Z,4.1nm,1.1s						
GIRL	**Giralia**	**66.05**	**254**	P	**P**	**18 58 08.3**	**-0.3**

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*ISCJB **03** 18:52:12.7±0.3, 3.°16S±0.°03×128.°42E±0.°03, h10km, mb3.6/2, Error ellipse: s-maj=4.5km s-min=3.7km az=12.8*
*DJA **03** 18:52:13.9±0.2, 3.°S±2.°×12.°8E±.°, h10km, M4.4/12, mb4.8/6, mB5.2/5, MLv4.1/12, Mw(mB)4.6/5*
*NEIC **03** 18:52:18.1±2.6, 3.°11S±0.°08×128.°45E±0.°07, h53km±14km, mb4.0/9*
*IDC **03** 18:52:24.4±4.7, 3.°19S×129.°20E, h103km±60km, mb3.3/2, mb1 3.5/5, mb1mx3.1/46, mbtmp3.8/5, Error ellipse: s-maj=82.3km s-min=21.4km az=86.0*
ISC 03 18:52:14.0±0.6, 3.°18S±0.°05×128.°42E±0.°04, h10km, n31, σ1°16/37, mb3.8/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.54**	**108**	P	**Pg**	**18 52 24.0**	**-0.4**
MSAI				S	**Sg**	**18 52 31.7**	**+0.2**
AAI	**Ambon**	**0.56**	**204**	P	**Pg**	**18 52 24.6**	**-0.2**
AAI				S	**Sb**	**18 52 33.4**	**-0.4**
NLAI	**Namlea**	**1.32**	**267**	P	**Pn**	**18 52 37.6**	**-0.9**
NLAI				S	**Sb**	**18 52 54.8**	**-1.0**
BNDI	**Bandanaira**	**2.00**	**132**	P	**Pn**	**18 52 47.3**	**-0.5**
SANI	**Sanana**	**2.67**	**295**	P	**Pn**	**18 52 56.4**	**-0.7**
SANI				S	**Sn**	**18 53 29.3**	**-0.3**
LBMI	**Labuha**	**2.68**	**340**	S	**Sn**	**18 53 31.0**	**+1.2**
SWI	**Sorong**	**3.65**	**51**	P	**Pn**	**18 53 10.7**	**+0.1**
SWI				S	**Sn**	**18 53 55.5**	**+1.7**
SIJI	**Sorong**	**3.65**	**51**	P	**Pn**	**18 53 11.2**	**+0.6**
	35nm,0.3s,baz=234,slow=16,SNR=159						
SIJI				S	**Sn**	**18 53 51.4**	**-2.4**
	baz=233,slow=23,SNR=1.0						
FAKI	**Fak Fak**	**3.83**	**86**	P	**Pn**	**18 53 14.2**	**+1.1**
FAKI	**Fak Fak**	**3.83**	**86**	Pn	**Pn**	**18 53 14.6**	**+1.5**
TNTI	**Ternate**	**4.06**	**345**	P	**Pn**	**18 53 16.6**	**+0.4**
TNTI	**Ternate**	**4.06**	**345**		**Pn**	**18 53 15.6**	**-0.6**
KMSI	**Cibinong**	**5.79**	**310**	P	**Pn**	**18 53 40.4**	**+0.4**
RKPI	**Ransiki, Papua**	**5.99**	**74**	P	**Pn**	**18 53 43.5**	**+0.8**
LUWI	**Luwuk**	**6.03**	**290**	P	**Pn**	**18 53 43.7**	**+0.4**
LUWI	**Luwuk**	**6.03**	**290**		**Pn**	**18 53 44.9**	**+1.6**
APSI	**Ampana**	**7.13**	**288**	P	**Pn**	**18 54 00.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**15.08**	**190**	P	**P**	**18 55 54.5**	**+1.9**
	0.1nm,0.3s,baz=10,slow=11,SNR=4.2						
KKM	**Kota Kinabalu**	**15.24**	**307**	Pn	**Pn**	**18 55 48.4**	**-1.2**
KKM				IAmb	IAmb	18 55 54.4	
	comp=Z,6.6nm,1.0s						
WRAB	**Tennant Creek**	**17.63**	**161**		**P**	**18 56 20.3**	**-0.6**
WRAB				IAmb	IAmb	18 56 38.6	
	comp=Z,3.2nm,1.0s						
WRA	**Warramunga Arr**	**17.64**	**161**	P	**Pn**	**18 56 19.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=343,slow=12,SNR=4.3						
WB2	**Warramunga Arr**	**17.64**	**161**	Pn	**Pn**	**18 56 19.1**	**-1.0**
AS31	**Alice Springs**	**21.05**	**166**	P	**P**	**18 56 59.0**	**+0.6**
AS31				IAmb	IAmb	18 57 05.2	
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**21.05**	**166**	P	**P**	**18 56 58.3**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=348,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.05**	**166**	P	**P**	**18 56 58.9**	**+0.5**
FORT	**Forrest**	**27.46**	**181**	P	**P**	**18 58 00.5**	**+0.2**
YOJ	**Yonaguni jima**	**27.97**	**349**	P	**P**	**18 58 02.2**	**-2.7**
NACB	**Ninganchiao**	**27.98**	**347**	P	**P**	**18 58 05.0**	**0.0**
NACB				IAmb	IAmb	18 58 21.4	
	comp=Z,25nm,1.0s						
CM31	**Chiang Mai Arr**	**36.12**	**308**	P	**P**	**18 59 16.0**	**-0.5**
CM31				IAmb	IAmb	18 59 17.2	
	comp=Z,3.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**36.12**	**308**	P	**P**	**18 59 15.8**	**-0.8**
MKAR	**Makanchi Array**	**64.19**	**327**	P	**P**	**19 02 51.4**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=121,slow=7.6,SNR=4.4						

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*IDC **03** 18:53:54.6±2.2, 24.°29S×179.°89E, h494km±22km, mb3.6/11, mb1 3.8/12, mb1mx3.4/42, mbtmp4.4/12, Error ellipse: s-maj=19.3km s-min=15.8km az=17.0*
*ISCJB **03** 18:53:55.3±0.4, 24.°24S±0.°06×179.°87E±0.°06, h517km, mb4.0/11, Error ellipse: s-maj=8.0km s-min=7.1km az=163.8*
*NEIC **03** 18:53:55.3±1.7, 24.°3S±0.°1×179.°9E±0.°1, h508km±6km, mb4.3/31*
ISC 03 18:53:56.1±0.4, 24.°31S±0.°08×179.°92E±0.°06, h517km, n59, σ1°14/60, mb4.3/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.78**	**63**	P	**P**	**18 56 19.5**	**-2.4**
OUZ	**Omahuta**	**12.17**	**205**	P	**P**	**18 56 38.3**	**+2.0**
DZM	**Mont Dzumac**	**12.59**	**277**	P	**P**	**18 56 42.0**	**+1.0**
	0.9nm,0.3s,baz=209,slow=23,SNR=12						
DZM	**Mont Dzumac**	**12.59**	**277**	P	**P**	**18 56 42.8**	**+1.8**
URZ	**Urewera**	**14.11**	**189**	P	**P**	**18 56 55.2**	**-1.3**
	1.1nm,0.3s,baz=9.4,slow=7.9,SNR=4.6						
URZ				S	**S**	**18 59 24.3**	**-1.1**
	1.4nm,0.3s,baz=64,slow=18,SNR=8.2						
FUNA	**Funafuti**	**15.71**	**357**	P	**P**	**18 57 14.2**	**+0.6**
BFZ	**Birch Farm**	**16.61**	**190**	P	**P**	**18 57 21.8**	**-0.6**
BFZ				IAmb	IAmb	18 57 41.1	
	comp=Z,16nm,1.0s						
QRZ	**Quartz Range**	**17.59**	**199**	P	**P**	**18 57 31.3**	**-0.4**
QRZ				IAmb	IAmb	18 57 36.8	
	comp=Z,19nm,1.1s						
ARMA	**Armidale**	**25.81**	**250**	P	**P**	**18 58 46.8**	**+0.9**
EIDS	**Eidsvold**	**26.17**	**262**	P	**P**	**18 58 50.1**	**+1.0**
CAN	**Canberra**	**28.87**	**240**	P	**P**	**18 59 14.0**	**+1.3**
CAN				IAmb	IAmb	18 59 16.4	
	comp=Z,12nm,1.0s						
PPT	**Papeete**	**29.23**	**83**	P	**P**	**18 59 16.7**	**+0.8**
PPTF	**Pamatai, Papee**	**29.23**	**83**	P	**P**	**18 59 16.8**	**+0.7**
CTA	**Charters Tower**	**31.40**	**271**	P	**P**	**18 59 35.4**	**+0.7**
	comp=Z,25nm,0.3s,baz=94,slow=11,SNR=98						
CTAO	**Charters Tower**	**31.40**	**271**	P	**P**	**18 59 35.7**	**+1.0**
TOO	**Toolangi**	**32.16**	**238**	P	**P**	**18 59 41.2**	**+0.3**
TOO				IAmb	IAmb	18 59 52.0	
	comp=Z,12nm,1.1s						
TAU	**Tasmania Unive**	**32.60**	**227**	P	**P**	**18 59 44.0**	**-0.6**
STKA	**Stephens Creek**	**34.50**	**249**	P	**P**	**19 00 00.5**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=96,slow=12,SNR=20						
STKA	**Stephens Creek**	**34.50**	**249**	P	**P**	**19 00 01.4**	**+0.7**
PMG	**Port Moresby**	**34.56**	**290**	P	**P**	**19 00 01.1**	**-0.3**
PMG				IAmb	IAmb	19 00 02.2	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**39.21**	**247**	P	**P**	**19 00 39.3**	**-0.3**
BBOO				IAmb	IAmb	19 00 44.5	
	comp=Z,8.9nm,1.1s						
AS31	**Alice Springs**	**41.89**	**261**	P	**P**	**19 01 01.1**	**0.0**
ASAR	**Alice Springs**	**41.89**	**261**	P	**P**	**19 01 01.0**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=96,slow=7.4,SNR=87						
ASAR				ScP	**ScP**	**19 05 49.0**	**+3.0**
	comp=Z,0.8nm,0.9s,baz=101,slow=3.7,SNR=4.6						
ASAR				S	**S**	**19 06 38.5**	**-3.4**
	comp=Z,0.2nm,0.8s,baz=100,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**41.89**	**261**	P	**P**	**19 01 00.8**	**-0.3**
WR0	**Warramunga Arr**	**42.12**	**267**	P	**P**	**19 01 02.7**	**-0.2**
WB2	**Warramunga Arr**	**42.29**	**267**	P	**P**	**19 01 03.8**	**-0.5**
WB2				IAmb	IAmb	19 01 04.4	
	comp=Z,6.7nm,0.7s						
WRAB	**Tennant Creek**	**42.30**	**267**	P	**P**	**19 01 03.9**	**-0.4**
WRAB				IAmb	IAmb	19 01 04.4	
	comp=Z,6.8nm,0.8s						
WRA	**Warramunga Arr**	**42.30**	**267**	P	**P**	**19 01 03.8**	**-0.6**
	comp=Z,6.9nm,0.5s,baz=98,slow=8.4,SNR=160						
WRA				ScP	**ScP**	**19 05 50.2**	**+2.5**
	comp=Z,1.7nm,0.9s,baz=106,slow=3.9,SNR=8.6						
WRA	**Warramunga Arr**	**42.30**	**267**	P	**P**	**19 01 03.7**	**-0.6**
JAY	**Jayapura**	**43.61**	**294**	P	**P**	**19 01 14.2**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=67,slow=1.2,SNR=8.2						
PTCN	**Pitcairn Islan**	**45.21**	**102**	P	**P**	**19 01 27.8**	**+0.9**
FORT	**Forrest**	**46.10**	**250**	P	**P**	**19 01 33.0**	**-0.6**
KNRA	**Kununurra**	**48.61**	**270**	P	**P**	**19 01 52.8**	**+0.2**
KNRA				IAmb	IAmb	19 01 55.1	
	comp=Z,22nm,1.1s						
FAKI	**Fak Fak**	**50.63**	**287**	P	**P**	**19 02 07.3**	**-0.3**
FAKI				IAmb	IAmb	19 02 19.5	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P	**P**	**19 02 08.2**	**0.0**
	comp=Z,5.2nm,0.6s,baz=103,slow=6.7,SNR=21						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P	**P**	**19 02 08.4**	**+0.2**
FITZ				IAmb	IAmb	19 02 09.3	
	comp=Z,5.0nm,0.8s						
MORW	**Morawa**	**56.66**	**250**	P	**P**	**19 02 49.9**	**-0.3**
QSPA	**South Pole Qui**	**65.78**	**180**	P	**P**	**19 03 50.3**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=47,slow=0.3,SNR=11						
QSPA	**South Pole Qui**	**65.78**	**180**	P	**P**	**19 03 50.0**	**+0.5**
QSPA				IAmb	IAmb	19 03 52.7	
	comp=Z,4.5nm,0.9s						
KKM	**Kota Kinabalu**	**68.95**	**287**	P	**P**	**19 04 09.6**	**-0.2**
KKM				IAmb	IAmb	19 04 13.9	
	comp=Z,6.6nm,1.1s						
TPUB	**Ta-pu**	**74.49**	**305**	P	**P**	**19 04 40.9**	**-0.9**
TPUB				IAmb	IAmb	19 04 44.1	
	comp=Z,28nm,1.1s						
PMSA	**Palmer Station**	**78.56**	**157**	P	**P**	**19 05 02.4**	**-1.0**
PMSA				IAmb	IAmb	19 05 02.9	
	comp=Z,17nm,1.1s						
AKUT	**Akutan**	**79.09**	**9**	P	**P**	**19 05 04.7**	**-1.6**
PETK	**Petropavlovsk-**	**79.48**	**347**	P	**P**	**19 05 08.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=134,slow=4.3,SNR=4.1						
GO09	**Cerro Castillo**	**81.73**	**143**	P	**P**	**19 05 20.6**	**+0.2**
GO09				IAmb	IAmb	19 05 27.1	
	comp=Z,7.5nm,1.0s						
SNAA	**Sanae**	**84.26**	**179**	P	**P**	**19 05 32.4**	**-0.3**
NVAR	**Mina Array Bea**	**85.10**	**44**	P	**P**	**19 05 38.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=246,slow=6.8,SNR=2.8						
LHMI	**Lhok Sumawe**	**85.75**	**278**		pP	19 07 26.3	-6.6
PLCA	**Paso Flores**	**88.04**	**134**	P	**P**	**19 05 52.9**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=249,slow=10,SNR=3.2						
PLCA	**Paso Flores**	**88.04**	**134**	IAmb	IAmb	19 05 54.5	
	comp=Z,1.4nm,0.8s						
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**19 06 05.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=210,slow=6.3,SNR=16						
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**19 06 05.4**	**+1.5**
MKAR	**Makanchi Array**	**112.37**	**313**	PKiKP	**PKiKP**	**19 11 30.8**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=109,slow=3.3,SNR=2.5						
ARCES	**ARCESS Array B**	**132.27**	**348**	PKP	**PKPdf**	**19 12 09.7**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=83,slow=2.9,SNR=6.5						
FINES	**FINESS Array B**	**138.81**	**341**	SKP		19 15 10.0	
	comp=Z,1.8nm,0.8s,baz=72,slow=4.5,SNR=6.0						
AKASG	**Malin Array Be**	**145.27**	**327**	PKPbc	**PKPdf**	**19 12 34.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=45,slow=3.6,SNR=2.5						
BRTR	**Keskin Array B**	**147.76**	**307**	PKPbc	**PKPbc**	**19 12 42.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=148,slow=6.0,SNR=4.6						
CLL	**Collm**	**151.22**	**343**	*e*PKPbc	**PKPbc**	**19 12 51.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**168.77**	**189**	PKPab	**PKPab**	**19 14 17.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=194,slow=3.3,SNR=3.1						

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*ISCJB **03** 19:17:22.2±0.3, 44.°57N±0.°03×124.°19E±0.°04, h10km, mb3.8/11, MS3.8/2, Error ellipse: s-maj=4.7km s-min=4.0km az=150.2*
*BJI **03** 19:17:22.9±0.0, 44.°61N×124.°05E, h8km, mb4.2/12, mB4.5/11, ML4.6/22, Ms4.3/14, Ms7 4.1/14*
*IDC **03** 19:17:23.1±0.7, 44.°60N×124.°17E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.6/51, mbtmp3.7/14, ML3.4/3, MS3.5/4, Ms1 3.6/4, ms1mx3.0/44, Error ellipse: s-maj=14.9km s-min=12.5km az=17.0*
*NEIC **03** 19:17:26.0±2.1, 44.°63N±0.°07×124.°20E±0.°07, h19km±4km, mb4.0/13*
ISC 03 19:17:24.2±0.5, 44.°56N±0.°05×124.°14E±0.°04, h10km, n55, σ1°67/52, mb3.9/14, 2C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**2.76**	**189**	⇑Pg	**Pg**	**19 18 16.2**	**-0.9**
SNY				Sg	**Sg**	**19 18 52.3**	**-0.5**
SNY				smax	smax		
	comp=N,900nm,0.6s						
SNY				smax	smax		
	comp=E,1μm,0.6s						
MDJ	**Mudanjiang**	**3.89**	**87**	Pg	**Pg**	**19 18 36.1**	**-2.7**
MDJ				Sg	**Sg**	**19 19 30.7**	**+1.5**
MDJ				smax	smax		
	comp=N,2μm,0.9s						
MDJ				smax	smax		
	comp=E,950nm,0.8s						
MDJ	**Mudanjiang**	**3.89**	**87**		**Pn**	**19 18 24.5**	**+0.4**
HIA	**Hailar**	**5.59**	**329**	Pn	**Pn**	**19 18 48.7**	**+1.2**
USRK	**Ussuriysk Ar.**	**5.64**	**91**	Pn	**Pn**	**19 18 48.6**	**+0.6**
	baz=263,slow=13,SNR=6.5						
USRK				Pg	**Pb**	**19 19 05.5**	**+2.9**
	baz=279,slow=17,SNR=9.3						
USRK				Sn	**Sn**	**19 19 54.3**	**+1.5**
	baz=293,slow=24,SNR=4.4						
USRK				Lg	Lg	19 20 21.4	
	baz=279,slow=26,SNR=6.6						
USRK				LR	LR	19 21 22.6	
	comp=Z,418nm,18.6s,baz=280,slow=43						
DL2	**Dalian**	**5.95**	**199**	⇑Pn	**Pn**	**19 18 54.3**	**+2.0**
DL2				Sn	**Sn**	**19 20 02.0**	**+1.5**
DL2				smax	smax		
	comp=N,170nm,0.7s						
DL2				smax	smax		
	comp=E,260nm,0.7s						
DL2				LR	LR		
	comp=N,680nm,12.9s						
DL2				LR	LR		
	comp=E,2μm,11.8s						
DL2				LR	LR		
	comp=Z,530nm,9.4s						
KLR	**Kul'dur**	**7.00**	**45**	Pn	**Pn**	**19 19 06.7**	**0.0**
	1.3nm,0.3s,baz=246,slow=14,SNR=20						
KLR				Pg	Pg	19 19 31.1	-7.0
	2.8nm,0.3s,baz=225,slow=15,SNR=9.0						
KLR				Sn	**Sn**	**19 20 26.0**	**-0.3**
	4.1nm,0.3s,baz=0.0,slow=20,SNR=2.9						
KLR				Lg	Lg	19 21 03.7	
	11nm,0.3s,baz=156,slow=20,SNR=6.7						
BJI	**Beijing**	**7.43**	**235**	*e*Pn	**Pn**	**19 19 10.4**	**-2.2**
BJI				LR	LR		
	comp=N,1μm,10.9s						
BJI				LR	LR		
	comp=E,960nm,7.2s						
BJI				LR	LR		
	comp=Z,440nm,17.1s						
KS19	**Wonju Array Si**	**7.59**	**157**	Pn	**Pn**	**19 19 18.4**	**+3.6**
KSAR	**Wonju Array Be**	**7.65**	**157**	Pn	**Pn**	**19 19 16.4**	**+0.8**
KSRS	**Korea Array**	**7.65**	**157**	Pn	**Pn**	**19 19 18.3**	**+2.6**
	0.5nm,0.3s,baz=342,slow=13,SNR=16						
KSRS				Pg	**Pg**	**19 19 47.5**	**-3.2**
	1.6nm,0.3s,baz=342,slow=17,SNR=17						
KSRS				Lg	Lg	19 21 29.1	
	8.3nm,0.3s,baz=346,slow=30,SNR=13						
KSRS				LR	LR	19 22 39.8	
	comp=Z,289nm,19.0s,baz=6.5,slow=41						
BTO	**Baotou**	**11.13**	**254**	*e*P	Pn	19 20 12.8	+9.3
BTO				S	Sn	19 22 27.1	+19
JNU	**Nakatsue**	**12.56**	**153**	Lg	Lg	19 24 05.7	
	0.2nm,0.3s,baz=258,slow=20,SNR=2.6						
SONM	**Songino Array**	**12.72**	**291**	Pn	**Pn**	**19 20 25.0**	**-0.2**
	0.1nm,0.3s,baz=101,slow=13,SNR=3.5						
SONM				Sn	Sn	19 22 35.5	-11
	0.2nm,0.3s,baz=94,slow=20,SNR=6.1						
SONM				Lg	Lg	19 24 05.6	
	0.5nm,0.3s,baz=87,slow=30,SNR=5.7						
ASAJ	**Asahikawa**	**13.22**	**85**	LR	LR	19 25 38.0	
	comp=Z,266nm,19.9s,baz=336,slow=38						
MJB9	**Matsu-Tunnel**	**13.34**	**122**	Pn	**Pn**	**19 20 34.5**	**+0.9**
MAJO	**Matsushiro**	**13.35**	**122**	Pn	**Pn**	**19 20 34.4**	**+0.7**
TLY	**Talaya**	**15.40**	**305**	Lg	Lg	19 25 32.8	
	0.0nm,0.3s,baz=74,slow=15,SNR=6.5						
WHN	**Wuhan**	**15.98**	**212**	*e*P	P	19 21 21.5	+8.9
LZH	**Lanzhou**	**17.61**	**248**	*e*P	**P**	**19 21 29.8**	**-1.0**
LZH				pP	sP	19 21 34.4	-0.6
LZH				sP	pP	19 21 37.2	+3.6
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,49nm,4.3s						
LZH				LR	LR		
	comp=N,390nm,13.0s						
LZH				LR	LR		
	comp=E,410nm,11.4s						
LZH				LR	LR		
	comp=Z,430nm,14.3s						
YAK	**Yakutsk**	**17.80**	**9**	Lg	Lg	19 26 48.2	
	0.1nm,0.3s,baz=160,slow=18,SNR=4.1						
GTA	**Gaotai**	**18.77**	**263**	*e*P	**Pn**	**19 21 45.2**	**+1.2**
GTA				pP	sP	19 21 48.6	+0.8
GTA				sP	pP	19 21 51.2	+4.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,60nm,4.9s						

comp=Z,6.7nm,1.1s,baz=90,slow=4.6,SNR=8.4
NOA NORSAR Array B 61.62 329 P P 19 27 42.0 +0.4
comp=Z,0.7nm,0.8s,baz=36,slow=4.5,SNR=3.2
BRTR Keskin Array B 63.88 301 P P 19 27 56.6 -0.5
comp=Z,0.6nm,0.8s,baz=64,slow=4.1,SNR=2.4
WRA Warramunga Arr 64.86 169 P P 19 28 03.3 -0.1
comp=Z,2.0nm,0.8s,baz=353,slow=7.1,SNR=14
WRA Warramunga Arr 64.86 169 IAmb IAmb 19 28 04.4
comp=Z,0.2nm,0.9s
ASAR Alice Springs 68.47 170 P P 19 28 26.7 +0.2
comp=Z,0.9nm,0.9s,baz=352,slow=7.5,SNR=7.5
VNA2 Neumayer--Watz 144.71 205 PKPdf **PKPdf 19 36 58.8 -1.0**
VNA1 Neumayer--Stat 145.08 205 PKPdf **PKPdf 19 37 00.0 -0.3**
VNA3 Neumayer Olymp 145.26 204 PKPdf **PKPdf 19 37 00.2 -0.5**

*ISCJB **03** 19:32:09.9±0.3, 43°.06N±0°.01×18°.38E±0°.02, h4km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=24.3*
*PDG **03** 19:32:10.4±0.3, 42°.99N×18°.37E, h20km, MD3.0/11, ML3.1/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*RHSSO **03** 19:32:10.6±0.2, 43°.01N×18°.36E, h8km±2km, ML3.0/1*
*BEO **03** 19:32:10.7±0.2, 43°.01N×18°.32E, h13km±2km, ML2.8/14*
ISC 03 19:32:10.9±0.8,**43°.01N**±0°.02×**18°.39E**±0°.01,**h15**km±6km, **n84**,σ1§**45**/149,**21C-16D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
BRY	**Bratogost**	**0.15**	**136**	⇑*i*Pg			**Pg**	**19 32 14.9**	**-0.1**
BRY				*e*Sg			**Sb**	**19 32 18.4**	**-0.2**
BRY	**Bratogost**	**0.15**	**136**	⇑*i*Pg			**Pg**	**19 32 14.9**	**-0.1**
BRY				*e*Sg			**Sb**	**19 32 18.4**	**-0.2**
TREB	**Trebinje**	**0.30**	**186**	*e*Pg			**Pg**	**19 32 16.5**	**-0.7**
TREB				*e*Sg			**Sb**	**19 32 21.9**	**-0.7**
TREB	**Trebinje**	**0.30**	**186**	⇑*i*Pg			**Pg**	**19 32 16.4**	**-0.7**
TREB				*e*Sg			**Sg**	**19 32 21.7**	**+0.3**
DBRK	**Dubrovnik**	**0.39**	**208**	*i* Pg			**Pg**	**19 32 17.8**	**-0.9**
DBRK				Sg			**Sg**	**19 32 24.2**	**+0.1**
UPM	**Unac-Piva**	**0.42**	**63**	*e*Pg			**Pg**	**19 32 18.9**	**-0.5**
UPM				*e*Sg			**Sg**	**19 32 25.8**	**+0.6**
UPM	**Unac-Piva**	**0.42**	**63**	⇓*i*Pg			**Pg**	**19 32 19.1**	**-0.3**
UPM				*e*Sg			**Sb**	**19 32 26.6**	**+0.2**
NKME	**Niksic**	**0.48**	**121**	*e*Pg			**Pg**	**19 32 19.9**	**-0.5**
NKME				*e*Sg			**Sb**	**19 32 27.8**	**-0.1**
NKY	**Niksic**	**0.48**	**114**	⇑*i*Pg			**Pg**	**19 32 20.0**	**-0.5**
NKY				*e*Sg			**Sb**	**19 32 28.3**	**+0.2**
STON	**Ston**	**0.53**	**255**	*e*Pg			**Pg**	**19 32 20.3**	**-1.0**
STON				*e*Sg			**Sg**	**19 32 28.4**	**+0.1**
STON	**Ston**	**0.53**	**255**	*e*Pg			**Pg**	**19 32 20.5**	**-0.8**
STON				Sg			**Sb**	**19 32 29.0**	**-0.2**
STON	**Ston**	**0.53**	**255**	⇑*i*Pg			**Pg**	**19 32 20.1**	**-1.2**
STON				*e*Sg			**Sg**	**19 32 28.1**	**-0.2**
HCY	**Herceg Novi**	**0.57**	**172**	*e*Pg			**Pg**	**19 32 20.8**	**-1.3**
HCY				*e*Sg			**Sg**	**19 32 29.7**	**0.0**
HCY	**Herceg Novi**	**0.57**	**172**	⇑*i*Pg			**Pg**	**19 32 20.9**	**-1.2**
HCY				*e*Sg			**Sb**	**19 32 30.4**	**0.0**
CEME	**Cevo**	**0.60**	**140**	⇓*i*Pg			**Pg**	**19 32 21.7**	**-1.1**
CEME				*e*Sg			**Sb**	**19 32 31.5**	**0.0**
PLE	**Pljevlja**	**0.80**	**66**	⇓*i*Pg			**Pg**	**19 32 26.2**	**-0.2**
PLE				*e*Sg			**Sn**	**19 32 39.1**	**-0.2**
BUM	**Brajici-Budva**	**0.80**	**152**	⇓*i*Pg			**Pg**	**19 32 25.4**	**-1.0**
BUM				*e*Sg			**Sb**	**19 32 38.0**	**+0.8**
KOME	**Kolasin**	**0.84**	**101**	⇑*i*Pg			**Pg**	**19 32 26.6**	**-0.6**
KOME				*e*Sg			**Sn**	**19 32 40.6**	**+0.2**
PDG	**Podgorica**	**0.86**	**132**	*e*Pg			**Pb**	**19 32 26.5**	**-0.9**
PDG				*e*Sg			**Sn**	**19 32 40.5**	**-0.2**
PDG	**Podgorica**	**0.86**	**132**	⇓*i*Pg			**Pb**	**19 32 26.0**	**-1.5**
PDG				*e*Sg			**Sb**	**19 32 39.2**	**+0.4**
PDG	**Podgorica**	**0.86**	**132**	⇑P			**Pb**	**19 32 26.3**	**-1.2**
PDG				⇓S			**Sn**	**19 32 40.9**	**+0.2**
PDG					AML		AML	19 32 47.6	
TTG	**Podgorica**	**0.86**	**132**	⇑*i*Pg			**Pb**	**19 32 26.6**	**-0.9**
TTG				*e*Sg			**Sn**	**19 32 40.3**	**-0.4**
RUDO	**Rudo**	**0.94**	**49**	*e*Pg			**Pb**	**19 32 27.7**	**-1.1**
RUDO				*e*Sg			**Sb**	**19 32 41.1**	**+0.1**
DRME	**Dracevica, Mon**	**1.01**	**144**	⇓*i*Pg			**Pb**	**19 32 29.1**	**-1.0**
DRME				*e*Sg			**Sg**	**19 32 43.5**	**-0.1**
DRME	**Dracevica, Mon**	**1.01**	**144**	⇓*i*Pg			**Pb**	**19 32 29.2**	**-0.9**
DRME				*e*Sg			**Sn**	**19 32 45.2**	**+0.8**
IVA	**Berane**	**1.11**	**97**	⇑*i*Pg			**Pb**	**19 32 31.9**	**+0.1**
IVA				*e*Sg			**Sn**	**19 32 49.3**	**+2.3**
BBLS	**Lazići**	**1.13**	**40**	*e*Pg			**Pn**	**19 32 32.5**	**+0.3**
BBLS				*e*Sg			**Sn**	**19 32 48.5**	**+1.0**
BBLS	**Lazići**	**1.13**	**40**	*e*Pg			**Pb**	**19 32 31.4**	**-0.7**
BBLS				*e*Sg			**Sb**	**19 32 47.1**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.15**	**21**	*e*Pg			**Pb**	**19 32 31.5**	**-1.0**
HAPS				*e*Sg			**Sn**	**19 32 48.8**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.15**	**21**	*e*Pg			**Pb**	**19 32 31.4**	**-1.0**
HAPS				*e*Sg			**Sb**	**19 32 47.1**	**-0.1**
SJES	**Sjenica**	**1.18**	**77**	*e*Pg			**Pg**	**19 32 33.9**	**+0.2**
SJES				*e*Sg			**Sg**	**19 32 49.8**	**+0.6**
ULC	**Ulcinj**	**1.22**	**149**	⇑*i*Pg			**Pn**	**19 32 32.7**	**-0.7**
ULC				*e*Sg			**Sg**	**19 32 51.5**	**+1.1**
PVY	**Plav**	**1.23**	**109**	⇓*i*Pg			**Pn**	**19 32 33.6**	**0.0**
PVY				*e*Sg			**Sg**	**19 32 52.2**	**+1.7**
IVAS	**Ivanjica**	**1.40**	**66**	*e*Pg			**Pb**	**19 32 36.8**	**0.0**
IVAS				*e*Sg			**Sb**	**19 32 55.2**	**+0.7**
HVAR	**Hvar**	**1.43**	**277**	*e*Pn			**Pn**	**19 32 36.8**	**+0.5**
HVAR				Sg			**Sg**	**19 32 56.4**	**-0.6**
DIVS	**Divibare**	**1.59**	**46**	*e*Pg			**Pn**	**19 32 38.9**	**+0.3**
DIVS				*e*Sg			**Sg**	**19 33 03.6**	**+1.5**
DIVS	**Divibare**	**1.59**	**46**	⇑*i*Pn			**Pn**	**19 32 38.7**	**+0.1**
DIVS				*e*Sn			**Sb**	**19 33 00.3**	**+0.4**
MGRS	**Mrkonjic Grad**	**1.69**	**326**	*e*Pn			**Pn**	**19 32 40.2**	**+0.3**
MGRS				*e*Sn			**Sn**	**19 33 02.1**	**+0.7**
DOB	**Doboj**	**1.73**	**353**	*e*Pn			**Pn**	**19 32 40.7**	**+0.3**
DOB				*e*Sn			**Sn**	**19 33 02.7**	**+0.4**
TEKS	**Tekeris**	**1.74**	**28**	*e*Pn			**Pn**	**19 32 40.2**	**-0.4**
TEKS	**Tekeris**	**1.74**	**28**	*e*Pn			**Pn**	**19 32 40.9**	**+0.3**
TEKS				*e*Sn			**Sb**	**19 33 03.9**	**-0.4**
TRUS	**Trudelj**	**1.90**	**50**	*e*Pn			**Pn**	**19 32 42.9**	**+0.2**
GRUS	**Gruza**	**1.91**	**62**	*e*Pn			**Pn**	**19 32 43.4**	**+0.6**
BLY	**Banja Luka**	**1.94**	**334**	*e*Pg			**Pb**	**19 32 45.5**	**-0.5**
BLY				*e*Sg			**Sg**	**19 33 11.9**	**-1.5**
BLY	**Banja Luka**	**1.94**	**334**	*e*Pn			**Pn**	**19 32 44.1**	**+0.8**
BLY				*e*Sn			**Sn**	**19 33 08.5**	**+1.0**
BLY	**Banja Luka**	**1.94**	**334**	⇓P			**Pb**	**19 32 45.1**	**-0.9**
BLY				⇑S			**Sb**	**19 33 09.1**	**-0.9**
BLY					AML		AML	19 33 22.5	
TIR	**Tirane**	**1.99**	**146**	⇑P			**Pb**	**19 32 45.8**	**-0.9**
TIR				⇑S			**Sb**	**19 33 12.5**	**+1.1**
TIR					AML		AML	19 33 31.6	
SELS	**Selova**	**2.01**	**83**	*e*Pn			**Pn**	**19 32 45.2**	**+1.0**
SELS				*e*Sn			**Sb**	**19 33 11.2**	**-0.7**
ZIRJ	**Zirje**	**2.11**	**289**	*e*Pn			**Pb**	**19 32 47.5**	**-1.2**
ZIRJ				Sn			**Sb**	**19 33 14.4**	**-0.2**
MORI	**Morici**	**2.13**	**294**	*e*Pn			**Pb**	**19 32 48.9**	**-0.3**
MORI				Sn			**Sb**	**19 33 15.8**	**+0.4**
FRGS	**Fruska Gora**	**2.38**	**25**	*e*Pn			**Pn**	**19 32 48.9**	**-0.4**
FRGS	**Fruska Gora**	**2.38**	**25**	*e*Sn			**Sn**	**19 33 19.9**	**+1.7**
UDBI	**Udbina**	**2.43**	**309**	*i* Pn			**Pb**	**19 32 53.8**	**-0.6**
UDBI				Sn			**Sb**	**19 33 23.5**	**-0.7**
BOVS	**Bovan**	**2.50**	**74**	*e*Pn			**Pn**	**19 32 52.5**	**+1.6**
BARS	**Barje**	**2.52**	**93**	*e*Pn			**Pn**	**19 32 52.2**	**+0.9**
BARS				*e*Sn			**Sn**	**19 33 24.2**	**+2.5**
DUGI	**Dugi Otok**	**2.62**	**293**	*e*Pn			**Pn**	**19 32 53.9**	**+1.4**
MATE	**Matera**	**2.68**	**209**	⇓P			**Pb**	**19 32 56.7**	**-1.7**
MATE				⇓S			**Sb**	**19 33 31.8**	**+0.8**
MATE					AML		AML	19 33 48.8	
ZAGS	**Zajecar**	**2.91**	**73**	*e*Pn			**Pn**	**19 32 56.7**	**+0.1**
MDVR	**Moldovita**	**2.98**	**52**	⇓P			**Pn**	**19 32 57.4**	**-0.2**
MDVR				⇑S			**Sn**	**19 33 31.8**	**-1.4**
MDVR					AML		AML	19 33 52.4	
NVLJ	**Novalja**	**2.98**	**303**	*e*Pn			**Pn**	**19 32 59.6**	**+2.1**
NVLJ				Sn			**Sn**	**19 33 35.0**	**+1.9**
BOSS	**Bosilegrad**	**3.05**	**98**	*e*Pn			**Pn**	**19 32 59.2**	**+0.6**
ZAPS	**Zavoj**	**3.12**	**84**	*e*Pn			**Pn**	**19 33 01.2**	**+1.7**
MORH	**Mrgy, Hungar**	**3.21**	**3**	*e*Pn			**Pn**	**19 33 00.5**	**-0.2**
MORH				*e*Sn			**Sn**	**19 33 39.7**	**+1.1**
BZS	**Buzias**	**3.48**	**41**	⇓P			**Pn**	**19 33 04.3**	**-0.2**
BZS					AML		AML	19 34 17.8	
CRES	**Cresnjev**	**3.51**	**324**	*e*Pn			**Pn**	**19 33 04.8**	**-0.1**
CRES				*e*Sn			**Sn**	**19 33 45.9**	**-0.3**
VTS	**Vitosha**	**3.58**	**95**	⇑P			**Pn**	**19 33 06.2**	**+0.2**
VTS				⇓S			**Sn**	**19 33 48.0**	**-0.2**
VTS					AML		AML	19 34 00.4	
CEY	**Cerknica**	**3.94**	**315**	*e*Pn			**Pn**	**19 33 11.1**	**+0.3**
CEY				*e*Sn			**Sn**	**19 33 55.9**	**-0.8**
GZR	**Gura Zlata**	**3.95**	**51**	⇑P			**Pn**	**19 33 10.7**	**-0.2**
GZR				⇑S			**Sn**	**19 33 55.8**	**-1.2**
GZR					AML		AML	19 33 58.8	
OBKA	**Obir**	**4.44**	**323**	Pn			**Pn**	**19 33 20.6**	**+2.8**
	0.7nm,0.2s								
LOT	**Lotru**	**4.57**	**56**	⇑P			**Pn**	**19 33 18.6**	**-0.9**
LOT					AML		AML	19 34 53.5	
ARSA	**Arzberg**	**4.70**	**335**	*e*Pn			**Pn**	**19 33 22.6**	**+1.3**
	1.9nm,0.4s								
ARSA				Sn			**Sn**	**19 34 18.8**	**+3.4**
	2.3nm,0.4s								
DRGR		**4.87**	**38**	⇑P			**Sn**	**19 34 11.4**	**-8.3**
MYKA	**Terra Mystica**	**4.95**	**319**	*e*Pn			**Pn**	**19 33 25.7**	**+1.0**
	1.2nm,0.3s								
CONA	**Conrad Observa**	**5.23**	**341**	*e*Pn			**Pn**	**19 33 31.3**	**+2.7**
	0.4nm,0.2s								
CONA				Sn			**Sn**	**19 34 28.9**	**+0.3**
	2.4nm,0.6s								
VOIR		**5.36**	**61**	⇓P			**Pn**	**19 33 30.1**	**-0.3**
VOIR					AML		AML	19 35 17.0	
MODS	**Modra-Piesok**	**5.42**	**352**	*e*PG			**Pg**	**19 33 51.6**	**-3.0**
VYHS	**Vyhne**	**5.49**	**3**	*e*PN			**Pn**	**19 33 33.2**	**+1.1**
VYHS				*e*PG			**Pg**	**19 33 54.2**	**-1.8**
ABTA	**Abfaltersbach**	**5.60**	**314**	*e*Pn			**Pn**	**19 33 35.9**	**+2.2**
	1.3nm,0.3s								
ABTA				Sn			**Sn**	**19 34 41.2**	**+3.4**
	1.3nm,0.3s								
MOA	**Molln**	**5.64**	**330**	*e*Pn			**Pn**	**19 33 36.8**	**+2.6**
	1.0nm,0.3s								
MOA				Sn			**Sn**	**19 34 39.4**	**+0.8**
	1.3nm,0.2s								
WTTA	**Wattenberg**	**6.39**	**314**	*e*Pn			**Pn**	**19 33 47.5**	**+2.9**
	1.3nm,0.3s								
WTTA				Sn			**Sn**	**19 34 58.3**	**+0.9**
	2.2nm,0.4s								
WATA	**Walderalm**	**6.47**	**314**	*e*Pn			**Pn**	**19 33 49.4**	**+3.7**
	0.6nm,0.2s								
WATA				Sn			**Sn**	**19 35 01.7**	**+2.5**
	3.8nm,0.6s								
SQTA	**Sankt Quirin**	**6.60**	**312**	Pn			**Pn**	**19 33 51.5**	**+4.1**
	1.1nm,0.4s								
MOTA	**Moosalm**	**6.73**	**313**	*e*Pn			**Pn**	**19 33 52.8**	**+3.6**
	1.1nm,0.4s								
MOTA				Sn			**Sn**	**19 35 06.8**	**+1.1**
	1.2nm,0.4s								
KHC	**Kasperske Hory**	**6.97**	**333**	*e*SN			**Sn**	**19 35 15.5**	**+4.0**

*ISCJB **03** 20:16:31.4±0.5, 56°.8S±0°.1×151°.0W±0°.2, h10km, mb4.0/7, MS3.4/6, Error ellipse: s-maj=15.7km s-min=11.8km az=17.9*
*IDC **03** 20:16:32.1±0.7, 56°.79S×150°.86W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/37, mbtmp4.0/7, MS3.4/5, Ms1 3.4/5, ms1mx3.2/17, Error ellipse: s-maj=46.9km s-min=20.2km az=6.0*
*NEIC **03** 20:16:33.2±2.5, 56°.81S±0°.07×150°.7W±0°.2, h10km±1km, mb4.2/15*
ISC 03 20:16:32.9±0.6,**56°.8S**±0°.1×**150°.8W**±0°.1,**h10**km,**n41**, σ1§**40**/22,**mb4.0**/11,**MS3.4**/6,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
RPZ	**Rata Peaks**	**27.28**	**282**	LR			LR	20 30 34.8	
	comp=Z,91nm,21.1s,baz=252,slow=31								
QSPA	**South Pole Qui**	**33.37**	**180**	P			**P**	**20 23 12.0**	**+0.9**
	1.2nm,0.9s,baz=50,slow=3.9,SNR=2.5								
QSPA	**South Pole Qui**	**33.37**	**180**	IAmb			IAmb	20 23 17.4	
	comp=Z,1.2nm,0.9s								
TBI	**Tubuai**	**33.41**	**2**	*e*T			T	20 58 25.4	
	comp=Z,16nm,0.3s								
RAO	**Raoul Island**	**33.49**	**314**	P			**P**	**20 23 12.2**	**+0.1**
PTCN	**Pitcairn Islan**	**35.04**	**34**	P			**P**	**20 23 26.3**	**+0.7**
PPT2	**Papeete2**	**39.13**	**2**	*e*LR			LR	20 34 43.0	
	comp=Z,85nm,26.8s								
PPT	**Papeete**	**39.15**	**2**	LR			LR	20 35 10.6	
	comp=Z,77nm,19.1s,baz=192,slow=29								
NIUE	**Niue**	**40.26**	**331**	P			**P**	**20 24 09.1**	**-0.8**
VAH	**Vaihoa**	**41.53**	**5**	*e*T			T	21 08 34.2	
	comp=Z,27nm,0.3s								
RPN	**Rapa Nui**	**41.73**	**62**	LR			LR	20 37 05.8	
	comp=Z,48nm,20.8s,baz=174,slow=30								
CAN	**Canberra**	**45.24**	**272**	P			**P**	**20 24 49.8**	**-0.4**
TOO	**Toolangi**	**45.52**	**267**	P			**P**	**20 24 51.2**	**-1.3**
TOO				IAmb			IAmb	20 24 54.1	
	comp=Z,5.5nm,0.9s								
SNAA	**Sanae**	**49.88**	**167**	P			**P**	**20 25 24.8**	**-1.0**
SNAA				IAmb			IAmb	20 25 33.7	
	comp=Z,1.9nm,1.1s								
STKA	**Stephens Creek**	**51.89**	**269**	LR			LR	20 45 12.6	
	comp=Z,32nm,19.2s,baz=34,slow=33								
PLCA	**Paso Flores**	**52.15**	**108**	P			**P**	**20 25 40.5**	**-2.9**
GO06	**Curarrehue**	**52.51**	**107**	P			**P**	**20 25 41.9**	**-4.2**
GO06				IAmb			IAmb	20 25 42.2	
	comp=Z,2.0nm,0.9s								
MAW	**Mawson**	**53.45**	**195**	LR			LR	20 47 04.3	
	comp=Z,37nm,18.8s,baz=80,slow=34								
MAW	**Mawson**	**53.45**	**195**	P			**P**	**20 25 53.0**	**+0.6**
TRQA	**Tornquist**	**58.57**	**112**	P			**P**	**20 26 30.1**	**+0.6**
TRQA				IAmb			IAmb	20 26 45.8	
	comp=Z,1.0nm,0.8s								
FORT	**Forrest**	**60.13**	**259**	P			**P**	**20 26 40.0**	**-0.4**
ASAR	**Alice Springs**	**62.53**	**268**	P			**P**	**20 26 57.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=144,slow=6.9,SNR=18								
WRA	**Warramunga Arr**	**65.27**	**271**	P			**P**	**20 27 15.3**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=145,slow=6.0,SNR=4.3								
WRA	**Warramunga Arr**	**65.27**	**271**	IAmb			IAmb	20 27 24.0	
	comp=Z,0.2nm,1.1s								
LVC	**Limon Verde**	**66.99**	**96**	P			**P**	**20 27 27.5**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=247,slow=4.4,SNR=6.0								
LVC	**Limon Verde**	**66.99**	**96**	IAmb			IAmb	20 27 28.6	
	comp=Z,5.6nm,0.8s								
CPUP	**Villa Florida**	**70.22**	**108**	P			**P**	**20 27 46.2**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=158,slow=5.4,SNR=3.8								
CPUP	**Villa Florida**	**70.22**	**108**	IAmb			IAmb	20 27 47.8	
	comp=Z,2.5nm,0.8s								
LPAZ	**La Paz**	**72.53**	**93**	P			**P**	**20 28 02.2**	**+1.5**
	comp=Z,2.0nm,0.9s,baz=183,slow=4.3,SNR=5.3								
LPAZ	**La Paz**	**72.53**	**93**	IAmb			IAmb	20 28 03.3	
	comp=Z,2.4nm,0.9s								
SIV	**San Ignacio**	**76.64**	**99**	P			**P**	**20 28 24.7**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=242,slow=9.7,SNR=4.1								
H10N3	**ASCENSION HYDR**	**106.33**	**134**	T			T	22 30 12.6	
	baz=204,slow=75,SNR=14								
H10N1	**ASCENSION HYDR**	**106.33**	**135**	T			T	22 30 13.0	
	baz=204,slow=75,SNR=13								
H10N2	**ASCENSION HYDR**	**106.34**	**134**	T			T	22 30 13.9	
	baz=204,slow=75,SNR=12								
H08S2	**Diego Garcia H**	**106.67**	**225**	T			T	22 29 54.4	
	baz=157,slow=76,SNR=4.4								
H08S1	**Diego Carcia H**	**106.68**	**225**	T			T	22 29 55.2	
	baz=157,slow=76,SNR=5.7								
H08S3	**Diego Garcia H**	**106.69**	**225**	T			T	22 30 00.1	
	baz=157,slow=76,SNR=7.0								
ILAR	**Eielson Array**	**121.26**	**2**	PKP			**PKiKP**	**20 35 25.5**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=285,slow=2.3,SNR=7.6								
MKAR	**Makanchi Array**	**146.49**	**276**	PKPbc			**PKPbc**	**20 36 13.2**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=123,slow=4.5,SNR=11								
ZALV	**Zalesovo Beam**	**149.00**	**289**	PKPbc			**PKPbc**	**20 36 20.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=114,slow=3.6,SNR=3.8								
ESDC	**Sonseca Array**	**152.44**	**114**	PKPbc			**PKiKP**	**20 36 29.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=246,slow=1.9,SNR=3.0								

*DDA **03** 20:17:12.9, 37°.91N×27°.20E, h7km±2km, ML2.5*
*ISCJB **03** 20:17:13.3±0.5, 37°.92N±0°.05×27°.24E±0°.04, h10km±8km, Error ellipse: s-maj=8.5km s-min=4.8km az=26.9*
*ISK **03** 20:17:13.1, 37°.92N×27°.25E, h4km, ML1.6/7*
ISC 03 20:17:13.4±1.0,**37°.93N**±0°.04×**27°.26E**±0°.04,**h11**km±11km, **n12**,σ0§**31**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
GCAM	**G?zelcaml?**	**0.23**	**185**	*i* P			**Pg**	**20 17 18.4**	**+0.2**
GCAM				*i* S			**Sg**	**20 17 21.7**	**+0.3**
GCAM				IAML_P					
	comp=Z,2μm,0.1s								
GCAM	**G?zelcaml?**	**0.23**	**185**	PG			**Pg**	**20 17 17.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.50**	**88**	PG			**Pg**	**20 17 23.3**	**+0.1**
AYDB				SG			**Sb**	**20 17 31.3**	**-0.3**
AYDN	**Tasoluk**	**0.56**	**119**	*i* P			**Pb**	**20 17 24.9**	**-0.3**
AYDN				*i* S			**Sg**	**20 17 31.4**	**-0.3**
AYDN				IAML_P					
	comp=Z,940nm,0.1s								
ZEY	**zmir**	**0.67**	**298**	*i* P			**Pg**	**20 17 26.5**	**+0.2**
ZEY				*i* S			**Sg**	**20 17 35.6**	**+0.4**
URLA	**Izmir**	**0.68**	**310**	*i* P			**Pg**	**20 17 26.6**	**+0.1**
URLA				*i* S			**Sg**	**20 17 35.1**	**-0.2**
URLA	**Izmir**	**0.68**	**310**	PG			**Pb**	**20 17 26.9**	**-0.3**
MLSB	**Milas**	**0.76**	**147**	PG			**Pb**	**20 17 28.5**	**0.0**
BODT	**Bodrum**	**0.87**	**177**	PG			**Pg**	**20 17 30.2**	**+0.1**
ZEDA	**zmir-Bergama**	**1.04**	**352**	*i* P			**Pn**	**20 17 34.3**	**+0.4**
ZEDA				IAML_P					
	comp=Z,443nm,0.1s								
CHOS	**Chios island**	**1.05**	**296**	PG			**Pn**	**20 17 33.9**	**-0.2**
YER	**Yerkesik**	**1.14**	**134**	PN			**Pn**	**20 17 35.7**	**+0.4**

*ISCJB **03** 20:33:01.0±0.4, 19°.38S±0°.08×177°.60W±0°.08, h550km, mb3.5/9, Error ellipse: s-maj=11.4km s-min=8.3km az=145.5*
*NEIC **03** 20:33:02.9±1.4, 19°.4S±0°.1×177°.5W±0°.1, h565km±4km, mb4.4/32*
*IDC **03** 20:33:03.0±3.7, 19°.44S×177°.46W, h564km±42km, mb3.1/9, mb1 3.4/11, mb1mx3.2/28, mbtmp4.1/11, Error ellipse: s-maj=25.6km s-min=22.0km az=161.0*
ISC 03 20:33:02.0±0.5,**19°.4S**±0°.1×**177°.55W**±0°.09,**h550**km,**n56**, σ1§**09**/51,**mb4.2**/22,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
NIUE	**Niue**	**7.21**	**89**	P			**P**	**20 34 52.8**	**+0.8**
DZM	**Mont Dzumac**	**15.22**	**257**	P			**P**	**20 36 16.5**	**+2.6**
	0.7nm,0.3s,baz=90,slow=19,SNR=6.3								
DZM	**Mont Dzumac**	**15.22**	**257**	IAmb			IAmb	20 36 17.8	
	comp=Z,6.4nm,0.7s								
KNTN	**Kanton**	**17.43**	**20**	P			**P**	**20 36 35.0**	**+0.2**
MXZ	**Matakaoa Point**	**18.51**	**190**	P			**P**	**20 36 42.0**	**-2.4**
URZ	**Urewera**	**19.41**	**193**	P			**P**	**20 36 51.6**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=5.7,slow=10,SNR=10								
URZ	**Urewera**	**19.41**	**193**	IAmb			IAmb	20 36 58.6	
	comp=Z,9.3nm,1.0s								
QRZ	**Quartz Range**	**23.03**	**200**	P			**P**	**20 37 25.4**	**+0.3**
THZ	**Tophouse**	**23.78**	**198**	P			**P**	**20 37 32.0**	**+0.2**
THZ				IAmb			IAmb	20 37 38.8	
	comp=Z,15nm,1.2s								
WHZ	**Wether Hill Ro**	**29.06**	**201**	P			**P**	**20 38 19.5**	**+1.4**
EIDS	**Eidsvold**	**29.58**	**253**	P			**P**	**20 38 21.6**	**-1.3**
EIDS				IAmb			IAmb	20 38 32.8	
	comp=Z,7.3nm,1.1s								
CTAO	**Charters Tower**	**34.04**	**263**	P			**P**	**20 39 01.1**	**+0.1**
CTAO				IAmb			IAmb	20 39 02.5	
	comp=Z,5.4nm,0.9s								
TOO	**Toolangi**	**36.92**	**233**	P			**P**	**20 39 24.9**	**+0.2**
TOO				IAmb			IAmb	20 39 41.

PVAQ	**Vaqueiros**	**1.35**	**20**	P	**Pn**	**21 22 56.8**	**+0.6**
PVAQ				S	**Sn**	**21 23 12.9**	**-0.3**
	3.7nm,0.1s						
PTEO	**Sao Teotonio**	**1.45**	**346**	*e*P	**Pn**	**21 22 58.1**	**+0.5**
PTEO				*e*S	**Sn**	**21 23 15.6**	**0.0**
PTEO				A	A	21 23 17.4	
	4.8nm,0.4s						
PTEO	**Sao Teotonio**	**1.45**	**346**	P	**Pn**	**21 22 58.1**	**+0.5**
PTEO				S	**Sn**	**21 23 15.6**	**0.0**
	2.4nm,0.4s						
PCVE	**Castro Verde**	**1.51**	**8**	*e*P	**Pn**	**21 22 59.2**	**+0.8**
PCVE				*e*S	**Sn**	**21 23 16.9**	**-0.2**
PCVE				A	A	21 23 18.1	
	2.8nm,0.2s						
PCVE	**Castro Verde**	**1.51**	**8**	P	**Pn**	**21 22 59.2**	**+0.8**
PCVE				S	**Sn**	**21 23 16.9**	**-0.2**
	2.8nm,0.2s						
EGRO	**El Granado**	**1.54**	**25**	P	**Pn**	**21 22 59.5**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**21 23 17.7**	**-0.2**
	3.8nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.92**	**10**	*e*Sn	**Sn**	**21 23 25.2**	**-1.8**
PBEJ	**Beja**	**1.92**	**10**	S	**Sn**	**21 23 25.2**	**-1.8**
PNCL	**Nicolau / Gran**	**1.98**	**355**	*e*Sn	**Sn**	**21 23 28.1**	**-0.4**
PNCL				A	A	21 23 31.8	
	1.3nm,0.3s						
PNCL	**Nicolau / Gran**	**1.98**	**355**	S	**Sn**	**21 23 28.1**	**-0.4**
	1.3nm,0.3s						
EMIN	**Mina Concepcio**	**2.08**	**38**	⇑P	**Pn**	**21 23 06.5**	**+0.3**
	0.5nm,0.1s,SNR=18						
EMIN				S	**Sn**	**21 23 29.9**	**-1.2**
	0.5nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.10**	**69**	P	**Pn**	**21 23 07.1**	**+0.7**
	1.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**21 23 30.8**	**-0.5**
	3.9nm,0.3s,SNR=7.9						
EVO	**Evora**	**2.40**	**5**	*e*Sn	**Sn**	**21 23 38.4**	**-0.4**
EVO				A	A	21 23 38.8	
	2.6nm,0.3s						
EVO	**Evora**	**2.40**	**5**	S	**Sn**	**21 23 38.4**	**-0.4**
	2.6nm,0.3s						
PESTR	**Estremoz**	**2.78**	**11**	*e*Sn	**Sn**	**21 23 47.7**	**-0.4**
EBAD	**Badajoz**	**2.81**	**21**	P	**Pn**	**21 23 16.7**	**+0.6**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 23 48.1**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.92**	**345**	P	**Pn**	**21 23 16.5**	**-1.1**
	15nm,0.5s,SNR=4.0						
PMTG	**Montargil**	**2.93**	**1**	*e*Pn	**Pn**	**21 23 19.3**	**+1.6**
PMTG				*e*Sn	**Sn**	**21 23 51.0**	**-0.6**
PMTG				A	A	21 23 52.9	
	1.1nm,0.5s						
PMTG	**Montargil**	**2.93**	**1**	P	**Pn**	**21 23 19.3**	**+1.6**
PMTG				S	**Sn**	**21 23 51.0**	**-0.6**
	1.1nm,0.5s						
ECAB	**El Cabril**	**3.01**	**49**	P	**Pn**	**21 23 19.4**	**+0.6**
	0.2nm,0.1s,SNR=6.2						
ECAB				S	**Sn**	**21 23 53.2**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**3.36**	**12**	*e*Pn	**Pn**	**21 23 24.3**	**+0.7**
PMRV				*e*Sn	**Sn**	**21 24 02.0**	**-0.4**
PMRV	**Marv??o**	**3.36**	**12**	P	**Pn**	**21 23 24.3**	**+0.7**
PMRV				S	**Sn**	**21 24 02.0**	**-0.4**
EADA	**Adamuz**	**3.60**	**55**	P	**Pn**	**21 23 27.4**	**+0.5**
	0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**21 24 06.3**	**-1.8**
	0.7nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.62**	**41**	P	**Pn**	**21 23 41.6**	**+0.7**
	0.1nm,0.1s,SNR=7.9						

*ARE **03** 21:27:18±2.4, 17.°3S±0.°2×71.°3W±0.°4, h25km±9km*
NEIC 03 21:27:16.0±1.5,**17.°0S**±0.°3×**71.°0W**±0.°5,**h82**km±26km,
mb4.0/2,**ML4.0**(ARE),**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**2.48**	**147**		Pn	21 27 54.9	+0.1
MNMC				Sn	Sn	21 28 23.5	-0.8
PB11	**IPOC Station P**	**3.00**	**155**	Pn	Pn	21 28 02.0	+0.4
PB11				Sn	Sn	21 28 36.1	-0.6
GO01	**Chusmiza**	**3.14**	**147**	Pn	Pn	21 28 04.7	+0.9
GO01				S	Sn	21 28 39.8	-0.6
CPUP	**Villa Florida**	**15.71**	**128**	Pn	Pn	21 30 52.5	-0.2
CPUP				IAmb	IAmb	21 31 29.1	
	comp=Z,34nm,1.9s						
OTAV	**Otavalo**	**18.66**	**336**	P	P	21 31 28.3	+0.1
OTAV				IAmb	IAmb	21 31 49.3	
	comp=Z,8.5nm,1.6s						

*ISCJB **03** 21:31:04.5±0.4, 39.°89N±0.°02×25.°99E±0.°03, h6km±3km,*
Error ellipse: s-maj=4.1km s-min=3.0km az=163.3
*ISK **03** 21:31:04.7, 39.°87N×26.°07E, h5km, ML1.9/14*
*ATH **03** 21:31:04.1, 39.°88N×25.°93E, h29km±3km, ML1.6/2, Error*
ellipse: s-maj=4.0km s-min=1.1km az=245.0
*DDA **03** 21:31:05.0, 39.°88N×26.°11E, h6km±1km, ML2.6*
ISC 03 21:31:04.7±0.8,**39.°89N**±0.°02×**26.°01E**±0.°02,**h12**km±5km,
n29,σ0.°63/46,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.05**	**144**	*i* P	**Pg**	**21 31 07.8**	**+0.7**
BOZC				*i* S	**Sg**	**21 31 08.7**	**-0.1**
BOZC				IAML_P			
	comp=Z,38μm,0.1s						
BOZC	**Bozcaada**	**0.05**	**144**	PG	**Pg**	**21 31 06.2**	**-0.8**
EZN	**Ezine**	**0.25**	**104**	PG	**Pg**	**21 31 09.8**	**-0.1**
EZN				SG	**Sg**	**21 31 13.0**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.62**	**35**	PG	**Pb**	**21 31 17.0**	**-0.5**
GELI				SG	**Sb**	**21 31 26.1**	**-0.1**
LIA	**Limnos Island**	**0.64**	**271**	P	**Pg**	**21 31 16.6**	**-0.6**
LIA				S	**Sg**	**21 31 24.4**	**-1.1**
PRK	**Paraskevi**	**0.67**	**162**	P	**Pb**	**21 31 18.5**	**+0.1**
PRK				S	**Sb**	**21 31 27.7**	**+0.1**
PRK				AML	AML	21 31 31.0	
	comp=E,137μm,0.2s						
PRK				AML	AML	21 31 31.1	
	comp=N,112μm,0.2s						
SIGR	**SIGRI**	**0.69**	**190**	P	**Pg**	**21 31 17.3**	**-0.7**
SIGR				S	**Sg**	**21 31 27.5**	**+0.6**
SIGR	**SIGRI**	**0.69**	**190**	PG	**Pg**	**21 31 17.7**	**-0.3**
SIGR				SG	**Sb**	**21 31 28.4**	**+0.4**
SMTH	**Samothraki Isl**	**0.69**	**328**	P	**Pg**	**21 31 17.6**	**-0.5**
SMTH				S	**Sg**	**21 31 26.7**	**-0.5**
SMTH				AML	AML	21 31 28.0	
	comp=E,118μm,0.1s						
SMTH				AML	AML	21 31 28.1	
	comp=N,106μm,0.1s						
LPK	**Lapseki**	**0.75**	**49**	PG	**Pg**	**21 31 18.4**	**-0.9**
AYVA	**Ayvalik**	**0.78**	**138**	*i* P	**Pg**	**21 31 19.5**	**-0.3**
AYVA				*i* S	**Sb**	**21 31 30.4**	**-0.3**
AYVA				IAML_P			
	comp=Z,160nm,0.1s						
ENEZ	**Enez**	**0.86**	**7**	PG	**Pg**	**21 31 21.4**	**+0.1**
ENEZ				SG	**Sb**	**21 31 34.3**	**+1.3**
ERIK	**Erikli-Kesan**	**0.87**	**26**	PG	**Pb**	**21 31 22.1**	**+0.3**
ERIK				SG	**Sb**	**21 31 34.4**	**+1.0**
DKL	**Dikili**	**1.07**	**139**	PG	**Pg**	**21 31 24.6**	**-0.7**
DKL				SG	**Sb**	**21 31 39.7**	**+0.7**
KESN	**Edirne-Kesan**	**1.07**	**28**	*i* P	**Pb**	**21 31 25.5**	**+0.1**
KESN				*i* S	**Sb**	**21 31 40.5**	**+1.1**
KESN				IAML_P			
	comp=Z,190nm,0.1s						
KRBG	**Karabiga-Canak**	**1.11**	**62**	PG	**Pn**	**21 31 26.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.20**	**48**	PN	**Pn**	**21 31 27.9**	**+0.5**
ZEDA	**zmir-Bergama**	**1.23**	**138**	*i* P	**Pn**	**21 31 28.0**	**+0.2**
ZEDA				*i* S	**Sn**	**21 31 44.9**	**+0.5**
ZEDA				IAML_P			
	comp=Z,275nm,0.1s						
BALY	**Balya**	**1.25**	**96**	*i* P	**Pn**	**21 31 28.8**	**+0.7**
BALY				*i* S	**Sn**	**21 31 44.9**	**+0.1**
BALY				IAML_P			
	comp=Z,375nm,0.2s						
RDO	**Rodhopi**	**1.31**	**344**	P	**Pn**	**21 31 28.2**	**-0.6**
MRMT	**Marmara Adasi**	**1.41**	**59**	PN	**Pn**	**21 31 30.6**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.41**	**111**	*i* P	**Pg**	**21 31 31.7**	**-0.1**
STEP				IAML_P			
	comp=Z,274nm,0.1s						
BALB	**Balikesir**	**1.46**	**99**	PN	**Pn**	**21 31 30.8**	**-0.1**
BALB				SN	**Sg**	**21 31 50.7**	**-1.0**
EDC	**Edincik**	**1.49**	**71**	PN	**Pg**	**21 31 32.7**	**-0.7**
EDC				SN	**Sg**	**21 31 51.9**	**-0.9**
CHOS	**Chios island**	**1.50**	**179**	P	**Pn**	**21 31 30.5**	**-1.0**
CHOS	**Chios island**	**1.50**	**179**	PN	**Pb**	**21 31 32.6**	**+0.1**
URLA	**Izmir**	**1.59**	**163**	*i* P	**Pg**	**21 31 35.5**	**+0.3**
URLA	**Izmir**	**1.59**	**163**	PN	**Pb**	**21 31 34.3**	**+0.2**
OUR	**Ouranopolis**	**1.62**	**287**	PN	**Pb**	**21 31 35.5**	**+1.0**

*IDC **03** 21:32:23.8±10.0, 36.°46S×178.°40E, h0km, mb3.5/2,*
mb1 3.7/2, mb1mx3.6/15, mbtmp3.5/2, Error ellipse:
s-maj=390.8km s-min=50.6km az=36.0
ISC 03 21:32:33.5±10.0,**37.°S**±2.°×**17.°8E**±.°,**h35**km,**n7**,σ0.°68/7,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**39.63**	**277**	P	**P**	**21 40 01.8**	**-0.1**
	0.5nm,0.5s,baz=129,slow=8.8,SNR=6.9						
WRA	**Warramunga Arr**	**41.26**	**282**	P	**P**	**21 40 15.7**	**+0.3**
	0.6nm,1.0s,baz=122,slow=7.7,SNR=3.8						
SNAA	**Sanae**	**71.45**	**180**	P	**P**	**21 43 49.8**	**-0.1**
VNA3	**Neumayer Olymp**	**71.75**	**178**	P	**P**	**21 43 51.9**	**+0.2**
VNA2	**Neumayer--Watz**	**72.14**	**178**	P	**P**	**21 43 54.5**	**+0.5**
	baz=179,slow=5.9						
VNA1	**Neumayer--Stat**	**72.39**	**178**	P	**P**	**21 43 56.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**155.78**	**190**	PKPab	**PKPab**	**21 52 49.7**	**-0.9**
	0.2nm,0.4s,baz=177,slow=3.1,SNR=4.2						

JMA 03 21:38:08.0±0.3,**37.°24N**×**144.°32E**,**h42**km,**M3.5**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.50**	**296**	P	Pn	21 38 47.6	+1.4
JIKH				S	Sn	21 39 16.8	+1.4
JIO	**Ouri**	**2.65**	**298**	P	Pn	21 38 49.7	+1.6
JIO				*e*S	Sn	21 39 20.9	+1.9
JKMT	**Kesennumamotoy**	**2.74**	**306**	P	Pn	21 38 50.6	+1.2
JKMT				S	Sn	21 39 22.6	+1.3
JMST	**Minamisoumatoc**	**2.77**	**281**	*e*S	Sn	21 39 23.6	+1.5
OFUJ	**Ofunato**	**2.78**	**312**	P	Pn	21 38 51.2	+1.2
JMK	**Ichinoseki**	**2.98**	**306**	S	Sn	21 39 29.4	+2.1
JFT	**Otama**	**3.19**	**276**	P	Pn	21 38 58.2	+2.6
JFT				*e*S	Sn	21 39 35.1	+2.8
JOM	**Ohasama**	**3.26**	**314**	P	Pn	21 38 58.8	+2.2
JOM				S	Sn	21 39 36.0	+1.8
JYK	**Kaneyama**	**3.55**	**299**	P	Pn	21 39 02.9	+2.4
JRY	**Ryogami san**	**4.53**	**256**	P	Pn	21 39 14.8	+0.8
JRY				*e*S	Sn	21 40 04.9	-0.5
JCH	**Churui**	**5.42**	**352**	P	Pn	21 39 26.0	-0.2
JCH				*e*S	Sn	21 40 23.8	-3.4
NEM2	**Nemuro 2**	**6.21**	**10**	P	Pn	21 39 34.3	-2.8
NEM2				*e*S	Sn	21 40 39.2	-7.6

*ISCJB **03** 21:47:09.6±0.5, 19.°35S±0.°09×172.°50W±0.°06, h13km,*
mb4.1/3, MS2.9/1, Error ellipse: s-maj=13.9km
s-min=7.6km az=168.1
*NEIC **03** 21:47:11.0±1.6, 19.°3S±0.°1×172.°51W±0.°06, h10km±1km,*
mb4.5/8
*IDC **03** 21:47:12.4±1.4, 19.°08S×172.°39W, h0km, mb4.0/4,*
mb1 4.3/5, mb1mx3.8/27, mbtmp4.1/5, ML3.4/1, MS2.9/2,
Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=63.3km
s-min=26.6km az=162.0
ISC 03 21:47:11.6±0.6,**19.°3S**±0.°1×**172.°40W**±0.°07,**h13**km,**n22**,
σ1.°78/22,**mb4.3**/9,**1D**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.35**	**84**		**Pb**	**21 47 51.9**	**-2.0**
NIUE				Sn	**Sn**	**21 48 18.2**	**-0.5**
AFI	**Afiamalu**	**5.42**	**6**	Pn	**Pn**	**21 48 33.1**	**+0.9**
RAR	**Rarotonga**	**12.00**	**101**	Pn	**Pn**	**21 50 05.0**	**+2.5**
	2.1nm,0.3s,baz=259,slow=7.9,SNR=6.3						
RAR				LR	LR	21 53 12.6	
	comp=Z,53nm,20.7s,baz=344,slow=30						
RAR	**Rarotonga**	**12.00**	**101**		**Pn**	**21 50 04.1**	**+1.7**
DZM	**Mont Dzumac**	**19.98**	**258**	P	**Pn**	**21 51 47.8**	**+2.1**
	5.5nm,0.8s,baz=77,slow=18,SNR=3.3						
URZ	**Urewera**	**20.96**	**204**	P	**P**	**21 51 53.7**	**-0.6**
URZ				IAmb	IAmb	21 52 10.1	
	comp=Z,4.7nm,0.8s						
PPT	**Papeete**	**21.72**	**89**	LR	LR	21 59 34.4	
	comp=Z,40nm,18.2s,baz=356,slow=34						
WKZ	**Wanaka**	**29.77**	**207**	P	**P**	**21 53 18.5**	**+0.6**
WKZ				IAmb	IAmb	21 53 35.9	
	comp=Z,55nm,1.2s						
ASAR	**Alice Springs**	**49.91**	**255**	P	**P**	**21 56 08.8**	**+3.4**
	comp=Z,3.5nm,1.0s,baz=96,slow=7.8,SNR=20						
ASAR	**Alice Springs**	**49.91**	**255**	P	**P**	**21 56 04.6**	**-0.8**
WB0	**Warramunga Arr**	**49.96**	**260**	P	**P**	**21 56 03.9**	**-1.9**
WB0				IAmb	IAmb	21 56 16.2	
	comp=Z,3.1nm,1.1s						
WB2	**Warramunga Arr**	**49.98**	**260**	P	**P**	**21 56 05.5**	**-0.4**
WB2				IAmb	IAmb	21 56 13.1	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**49.99**	**260**	P	**P**	**21 56 08.8**	**+2.8**
	comp=Z,1.1nm,0.4s,baz=96,slow=7.6,SNR=22						
WRA	**Warramunga Arr**	**49.99**	**260**	P	**P**	**21 56 04.7**	**-1.3**
WRA				IAmb	IAmb	21 56 11.1	
	comp=Z,0.2nm,1.0s						
SOEI	**Soe**	**61.76**	**269**	P	**P**	**21 57 28.6**	**-2.0**
SOEI				IAmb	IAmb	21 57 29.0	
	comp=Z,8.6nm,0.5s						
PSAA3	**Pilbara Seismi**	**63.05**	**255**	P	**P**	**21 57 38.0**	**-1.0**
PSAA3				IAmb	IAmb	21 57 55.2	
	comp=Z,6.8nm,1.1s						
MJB9	**Matsu-Tunnel**	**72.54**	**320**	P	**P**	**21 58 37.4**	**-1.1**
MJB9				IAmb	IAmb	21 58 50.3	
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**86.09**	**11**	P	**P**	**21 59 53.6**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=212,slow=6.0,SNR=5.5						
ILAR	**Eielson Array**	**86.09**	**11**	P	**P**	**21 59 52.0**	**+0.3**
SYO	**Syowa Base**	**88.96**	**191**	⇓*e*P	**P**	**22 00 05.4**	**-0.2**
BRTR	**Keskin Array B**	**149.74**	**318**	PKPbc	**PKiKP**	**22 07 03.8**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=85,slow=1.7,SNR=2.9						
BRTR	**Keskin Array B**	**149.74**	**318**		**PKPdf**	**22 06 55.0**	**-2.0**

*VIE **03** 21:55:49.3±0.1, 46.°68N×13.°80E, h14km, mb2.0/8,*
ml2.6/10, Error ellipse: s-maj=1.5km s-min=0.9km az=11.0,
#STATIONS ABTA ARSA KBA MOA MYKA OBKA RISI
SOKA WATA WTTA #STATIONS ABTA ARSA KBA
MYKA OBKA RISI SOKA WTTA 6 km S of Afritz felt 3
ems98 at Treffen / Carinthia
*LJU **03** 21:55:49.2, 46.°68N×13.°80E, h12km, ML2.0*
*PRU **03** 21:55:50.5±0.0, 46.°69N×13.°82E, h4km*
*ROM **03** 21:55:50.3±0.2, 46.°62N±0.°01×13.°77E±0.°01, h8km±1km,*
ML2.4/6, Error ellipse: s-maj=1.1km s-min=0.6km
az=205.0
ISC 03 21:55:50.0±0.9,**46.°69N**±0.°02×**13.°81E**±0.°01,**h10**km±7km,
n73,σ0.°63/110,**4C-6D**,**Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	**Terra Mystica**	**0.13**	**244**	*i* Pg	**Pg**	**21 55 53.1**	**0.0**
	128nm,0.2s,SNR=1600						
MYKA				*e*Sg	**Sg**	**21 55 55.2**	**0.0**
	332nm,0.1s						
ACOM	**Acomizza, Ital**	**0.24**	**236**	⇑*e*Pg	**Pg**	**21 55 55.1**	**0.0**
ACOM				*e*Sg	**Sg**	**21 55 58.4**	**-0.2**
ACOM	**Acomizza, Ital**	**0.24**	**236**	P	**Pg**	**21 55 55.1**	**0.0**
ACOM				S	**Sg**	**21 55 58.4**	**-0.2**
PRED	**Cave del Predi**	**0.29**	**215**	⇓*e*Pg	**Pg**	**21 55 55.7**	**-0.3**
PRED				*e*Sg	**Sg**	**21 55 59.5**	**-0.4**
GORS	**Gorjuse**	**0.39**	**161**	⇑*i*Pg	**Pg**	**21 55 57.5**	**-0.2**
GORS				*i* Sg	**Sg**	**21 56 02.7**	**-0.2**
	comp=Z,65nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.42**	**228**	P	**Pg**	**21 55 57.9**	**-0.4**
PTCC				S	**Sg**	**21 56 03.2**	**-0.6**
CADS	**Cadrg**	**0.46**	**186**	*i* Pg	**Pg**	**21 55 58.4**	**-0.5**
CADS				*e*Sg	**Sg**	**21 56 04.9**	**-0.1**
	comp=Z,151nm,0.1s						
PLRO	**Paularo**	**0.47**	**254**	⇑*e*Pg	**Pg**	**21 55 59.0**	**-0.2**
PLRO				*e*Sg	**Sg**	**21 56 05.5**	**-0.1**
ROBS	**Robic**	**0.49**	**205**	⇓*i*Pg	**Pg**	**21 55 58.9**	**-0.6**
ROBS				*i* Sg	**Sg**	**21 56 05.4**	**-0.5**
	comp=Z,44nm,0.1s						
KBA	**Koelnbreinsper**	**0.51**	**321**	*i* Pg	**Pg**	**21 56 00.3**	**+0.4**
	comp=Z,21nm,0.1s,SNR=64						
KBA				*e*Sg	**Sg**	**21 56 06.8**	**+0.2**
	comp=Z,54nm,0.1s						
DRE	**Drenchia**	**0.53**	**193**	⇓*e*Pg	**Pg**	**21 55 59.6**	**-0.6**
DRE				*e*Sg	**Sg**	**21 56 06.8**	**-0.3**
OBKA	**Obir**	**0.54**	**109**	*e*Pg	**Pg**	**21 56 00.7**	**+0.2**
	comp=Z,10nm,0.1s,SNR=99						
OBKA				Sg	**Sb**	**21 56 08.9**	**-0.5**
	comp=Z,34nm,0.1s						
VINO	**Villanova**	**0.56**	**220**	⇓*e*Pg	**Pg**	**21 56 00.4**	**-0.5**
VINO				*e*Sg	**Sg**	**21 56 08.1**	**-0.2**
MOZS	**Mozjanca**	**0.59**	**131**	*i* Pg	**Pg**	**21 56 01.4**	**0.0**
MOZS				*e*Sg	**Sg**	**21 56 09.9**	**+0.7**
	comp=Z,16nm,0.1s						
ZOU	**Zoufplan**	**0.59**	**258**	⇑*e*Pg	**Pg**	**21 56 00.6**	**-0.9**
BAD	**Bernadia**	**0.59**	**221**	*e*Pg	**Pg**	**21 56 01.1**	**-0.5**
GEPF	**Gemona**	**0.62**	**229**	P	**Pg**	**21 56 01.4**	**-0.6**
GEPF				S	**Sg**	**21 56 09.7**	**-0.3**
FUSE	**Fusea**	**0.62**	**244**	*e*Pg	**Pg**	**21 56 01.4**	**-0.6**
COLI	**Coloredo**	**0.63**	**208**	⇓*e*Pg	**Pg**	**21 56 01.5**	**-0.6**
VOJS	**Vojsko**	**0.66**	**175**	*e*Pg	**Pg**	**21 56 02.1**	**-0.6**
BUA	**Buia**	**0.67**	**226**	⇓*e*Pg	**Pg**	**21 56 02.4**	**-0.4**
CLUD	**Cludinico**	**0.68**	**251**	*e*Pg	**Pg**	**21 56 02.6**	**-0.5**
CRNS	**Crni Vrh**	**0.68**	**152**	*i* Pg	**Pg**	**21 56 02.7**	**-0.5**
	comp=Z,17nm,0.1s						
MPRI	**Monte Prat**	**0.72**	**232**	*e*Pg	**Pg**	**21 56 03.4**	**-0.4**
SABO	**M.te Sabotino**	**0.72**	**192**	P	**Pg**	**21 56 03.0**	**-0.9**
JAVS	**Javornik**	**0.81**	**167**	*i* Pg	**Pg**	**21 56 05.0**	**-0.7**
LJU	**Ljubljana**	**0.81**	**142**	*e*Pg	**Pg**	**21 56 05.5**	**-0.2**
LJU	**Ljubljana**	**0.81**	**142**	P	**Pg**	**21 56 05.5**	**-0.2**
CSMI	**Casera Mimoias**	**0.81**	**258**	*e*Pg	**Pg**	**21 56 04.9**	**-0.8**
SOKA	**Soboth**	**0.84**	**90**	*e*Pg	**Pg**	**21 56 06.0**	**-0.2**
	comp=Z,10nm,0.2s,SNR=8.8						
SOKA				*e*Sg	**Sg**	**21 56 17.3**	**+0.1**
	comp=Z,22nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.85**	**133**	*i* Pg	**Pg**	**21 56 06.2**	**-0.1**
VNDS				*e*Sg	**Sg**	**21 56 17.3**	**-0.1**
	comp=Z,26nm,0.3s						
ABTA	**Abfaltersbach**	**0.89**	**274**	*e*Pg	**Pg**	**21 56 06.2**	**-0.9**
	comp=Z,7.7nm,0.1s,SNR=47						
ABTA				Sg	**Sg**	**21 56 18.5**	**-0.4**
	comp=Z,13nm,0.1s						
PERS	**Pernice**	**0.90**	**93**	*i* Pg	**Pg**	**21 56 07.0**	**-0.4**
	comp=Z,29nm,0.1s						
BISS	**Bistriski jare**	**0.91**	**92**	*i* Pg	**Pg**	**21 56 07.1**	**-0.4**
TRI	**Trieste**	**0.98**	**182**	P	**Pg**	**21 56 07.5**	**-1.3**
TRI				S	**Sb**	**21 56 21.7**	**-0.1**
PDKS	**Podkum**	**1.03**	**127**	*i* Pg	**Pg**	**21 56 09.5**	**-0.3**
PDKS				*i* Sg	**Sb**	**21 56 23.8**	**+0.3**
	comp=Z,12nm,0.2s						
VISS	**Visnje**	**1.14**	**141**	*i* Pg	**Pb**	**21 56 11.4**	**-0.3**
MOA	**Molin**	**1.21**	**15**	*e*Pg	**Pn**	**21 56 12.8**	**0.0**
	comp=Z,1.1nm,0.1s,SNR=11						
MOA				Sg	**Sn**	**21 56 29.3**	**0.0**
	comp=Z,5.5nm,0.2s						
RISI	**Rein**	**1.22**	**283**	P	**Pb**	**21 56 12.3**	**-0.9**
RISI				S	**Sb**	**21 56 29.0**	**0.0**
RISI				AML	AML		
	comp=E,316μm,0.5s						
RISI				AML	AML		
	comp=N,282μm,0.3s						
DOBS	**Dobrina**	**1.27**	**114**	*i* Pg	**Pb**	**21 56 13.9**	**0.0**
ARSA	**Arzberg**	**1.30**	**64**	P	**Pb**	**21 56 14.7**	**+0.2**
ARSA				AML	AML		
	comp=E,32μm,1.2s						
ARSA				AML	AML		
	comp=N,30μm,0.3s						
ARSA	**Arzberg**	**1.30**	**64**	Pg	**Pb**	**21 56 14.7**	**+0.2**
	comp=N,1.4nm,0.1s,SNR=9.1						
ARSA				*e*Sg	**Sg**	**21 56 32.0**	**+0.1**
	comp=N,3.0nm,0.1s,SNR=4.8						
BRES	**Bressanone**	**1.43**	**271**	P	**Pn**	**21 56 15.7**	**-0.4**
BRES				S	**Sb**	**21 56 35.4**	**+0.3**
WTTA	**Wattenberg**	**1.59**	**292**	P	**Pb**	**21 56 19.3**	**-0.4**
WTTA				S	**Sg**	**21 56 41.0**	**-0.3**
WTTA				AML	AML		
	comp=E,50μm,0.7s						
WTTA				AML	AML		
	comp=N,45μm,1.6s						
WTTA	**Wattenberg**	**1.59**	**292**	*e*Pg	**Pb**	**21 56 19.2**	**-0.4**
	comp=N,11nm,0.1s						
WTTA				Sg	**Sg**	**21 56 41.7**	**+0.4**
	comp=N,6.9nm,0.3s						
WATA	**Walderalm**	**1.66**	**294**	*e*Pg	**Pb**	**21 56 20.5**	**-0.1**
	comp=N,7.1nm,0.1s						
WATA				Sn	**Sb**	**21 56 42.3**	**+0.6**
	comp=N,4.9nm,0.1s						
ROSI	**Rosskopf**	**1.66**	**279**	P	**Pb**	**21 56 20.2**	**-0.5**
ROSI				AML	AML		
	comp=N,71μm,0.3s						
ROSI				AML	AML		
	comp=E,69μm,0.3s						
PTJ	**Puntijarka**	**1.69**	**117**	*e*Pn	**Pg**	**21 56 22.0**	**-0.4**
PTJ				Sn	**Sb**	**21 56 42.3**	**-0.1**
ABSI	**Aberstueckl**	**1.71**	**272**	P	**Pb**	**21 56 20.9**	**-0.7**
ABSI				S	**Sg**	**21 56 44.7**	**-0.

ISC 03 22:19:15.4±1.4, 33°.94N±0°.05×25°.18E±0°.03, h17km±8km, n79, σ2°.20/110, mb3.6/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.12**	**344**	P	**Pb**	**22 19 35.9**	**-0.4**
SIVA	**Sivas**	**1.12**	**344**	P	**Pb**	**22 19 35.9**	**-0.4**
SIVA				S	**Sb**	**22 19 49.9**	**-0.6**
SIVA				AML	AML	22 19 58.4	
	comp=N,5814μm,0.5s						
SIVA				AML	AML	22 20 03.8	
	comp=E,6946μm,0.6s						
TMBK	**Timbaki Herakl**	**1.18**	**343**	P	**Pn**	**22 19 37.1**	**0.0**
TMBK				S	**Sb**	**22 19 51.1**	**-1.2**
	comp=E,598nm,0.6s						
LAST	**Lasithi**	**1.25**	**11**	P	**Pg**	**22 19 39.2**	**-0.3**
LAST	**Lasithi**	**1.25**	**11**	P	**Pg**	**22 19 38.8**	**-0.6**
GVD	**Gavdhos**	**1.27**	**315**	P	**Pg**	**22 19 39.3**	**-0.7**
GVD				S	**Sb**	**22 19 53.1**	**-1.9**
	comp=E,1μm,0.6s						
GVD	**Gavdhos**	**1.27**	**315**	P	**Pn**	**22 19 38.1**	**-0.2**
GVD				S	**Sb**	**22 19 54.2**	**-0.8**
GVD				AML	AML	22 20 08.8	
	comp=E,2813μm,0.7s						
GVD				AML	AML	22 20 09.2	
	comp=N,2940μm,0.6s						
GVD	**Gavdhos**	**1.27**	**315**	PN	**Pg**	**22 19 39.2**	**-0.7**
GVD				SN	**Sg**	**22 19 56.1**	**-0.5**
GVDS	**Gavdos**	**1.27**	**315**	P	**Pb**	**22 19 38.6**	**-0.3**
GVDS				S	**Sb**	**22 19 54.5**	**-0.5**
	comp=N,600nm,0.6s						
NPS	**Neapolis**	**1.37**	**15**	P	**Pg**	**22 19 41.7**	**-0.1**
NPS	**Neapolis**	**1.37**	**15**	P	**Pg**	**22 19 41.4**	**-0.4**
NPS				S	**Sb**	**22 19 58.4**	**+0.6**
NPS				AML	AML	22 20 02.0	
	comp=N,848μm,0.6s						
NPS				AML	AML	22 20 10.3	
	comp=E,1507μm,0.6s						
ZKR	**Zakros**	**1.46**	**36**	P	**Pg**	**22 19 43.7**	**+0.3**
ZKR	**Zakros**	**1.46**	**36**	P	**Pg**	**22 19 43.5**	**+0.1**
ZKR				S	**Sg**	**22 20 02.8**	**+0.5**
ZKR				AML	AML	22 20 22.8	
	comp=N,466μm,0.5s						
ZKR				AML	AML	22 20 23.4	
	comp=E,1007μm,0.6s						
ZKR	**Zakros**	**1.46**	**36**	PN	**Pb**	**22 19 42.3**	**+0.3**
ZKR				SN	**Sg**	**22 20 01.4**	**-1.0**
STIA	**Sitia Lasithi**	**1.47**	**31**	P	**Pg**	**22 19 44.3**	**+0.6**
PRNS	**Prines Rethymn**	**1.53**	**339**	P	**Pb**	**22 19 42.9**	**-0.3**
PRNS				S	**Sn**	**22 20 00.1**	**-1.2**
VAM	**Vamos**	**1.67**	**331**	P	**Pn**	**22 19 44.0**	**+0.1**
VAM				S	**Sn**	**22 20 04.0**	**-0.9**
	comp=E,592nm,0.6s						
VAM	**Vamos**	**1.67**	**331**	P	**Pn**	**22 19 43.8**	**-0.1**
VAM				S	**Sn**	**22 20 04.1**	**-0.8**
VAM				AML	AML	22 20 16.6	
	comp=E,1322μm,0.8s						
VAM				AML	AML	22 20 20.6	
	comp=N,1057μm,0.6s						
IMMV	**Iera Moni Meta**	**1.81**	**327**	P	**Pn**	**22 19 45.7**	**-0.1**
IMMV	**Iera Moni Meta**	**1.81**	**327**	P	**Pn**	**22 19 46.2**	**+0.4**
IMMV				S	**Sn**	**22 20 07.0**	**-1.3**
IMMV				AML	AML	22 20 25.0	
	comp=N,734μm,0.7s						
IMMV				AML	AML	22 20 28.4	
	comp=E,1300μm,0.9s						
IMMV	**Iera Moni Meta**	**1.81**	**327**	PN	**Pn**	**22 19 46.4**	**+0.6**
KERA	**Keramoti**	**1.96**	**317**	P	**Pn**	**22 19 47.5**	**-0.2**
KARP	**Karpathos**	**2.29**	**45**	P	**Pb**	**22 19 56.1**	**-0.2**
KARP	**Karpathos**	**2.29**	**45**	P	**Pb**	**22 19 56.0**	**-0.2**
KARP	**Karpathos**	**2.29**	**45**	PN	**Pb**	**22 19 54.9**	**-1.4**
ANAF	**Anafi Island**	**2.46**	**11**	P	**Pn**	**22 19 55.6**	**+0.8**
ANKY	**Antikythira Is**	**2.47**	**322**	P	**Pn**	**22 19 55.6**	**+0.8**
KTHA	**Kythira Island**	**2.89**	**324**	PN	**Pn**	**22 20 02.1**	**+1.5**
APE	**Apeiranthos**	**3.14**	**5**	PN	**Pn**	**22 20 05.3**	**+1.2**
DAT	**Datca**	**3.41**	**34**	*i* P	**Pn**	**22 20 10.8**	**+3.0**
DAT	**Datca**	**3.41**	**34**	PN	**Pn**	**22 20 09.4**	**+1.6**
MLSB	**Milas**	**3.96**	**32**	PN	**Pn**	**22 20 17.2**	**+1.8**
DALY	**Dalyan (Mula)**	**4.04**	**44**	*i* P	**Pn**	**22 20 19.2**	**+2.8**
DALY				*i* S	**Sn**	**22 21 00.3**	**-2.9**
DALY				IAML_P			
	comp=Z,108nm,0.1s						
DALY	**Dalyan (Mula)**	**4.04**	**44**	PN	**Pn**	**22 20 18.8**	**+2.4**
YER	**Yerkesik**	**4.07**	**38**	PN	**Pn**	**22 20 18.9**	**+2.0**
GCAM	**G?zelcaml?**	**4.11**	**23**	*i* P	**Pb**	**22 20 23.0**	**-4.2**
GCAM				IAML_P			
	comp=Z,89nm,0.2s						
FETY	**Fethiye**	**4.18**	**49**	*i* P	**Pn**	**22 20 21.0**	**+2.6**
FETY				*i* S	**Sn**	**22 21 04.1**	**-2.6**
FETY				IAML_P			
	comp=Z,282nm,0.2s						
FETY	**Fethiye**	**4.18**	**49**	PN	**Pn**	**22 20 20.5**	**+2.2**
AKAS	**Kas**	**4.29**	**57**	*i* P	**Pn**	**22 20 22.8**	**+2.8**
AKAS				*i* S	**Sn**	**22 21 09.4**	**-0.3**
AKAS				IAML_P			
	comp=Z,872nm,0.1s						
AYDN	**Tasoluk**	**4.32**	**30**	*i* P	**Pn**	**22 20 22.4**	**+2.2**
AYDN				IAML_P			
	comp=Z,163nm,0.3s						
TAVA	**DENIZLI_Tavas**	**4.65**	**40**	*i* P	**Pn**	**22 20 28.4**	**+3.5**
TAVA				*i* S	**Sn**	**22 21 15.9**	**-2.6**
TAVA				IAML_P			
	comp=Z,89nm,0.1s						
AKUM	**Antalya-Kumluc**	**4.86**	**59**	*i* P	**Pn**	**22 20 30.0**	**+2.4**
AKUM				*i* S	**Sn**	**22 21 23.1**	**-0.4**
AKUM				IAML_P			
	comp=Z,496nm,0.1s						
GOLH	**Golhisar**	**4.86**	**46**	*i* P	**Pn**	**22 20 30.5**	**+2.8**
GOLH				IAML_P			
	comp=Z,438nm,0.2s						
KORT	**Korkueli**	**5.21**	**53**	*i* P	**Pn**	**22 20 37.4**	**+4.7**
KORT				*i* S	**Sn**	**22 21 32.4**	**0.0**
KORT				IAML_P			
	comp=Z,368nm,0.3s						
KHAL	**Karahalli**	**5.63**	**37**	*i* P	**Pn**	**22 20 40.2**	**+1.8**
KHAL				*i* S	**Sn**	**22 21 40.7**	**-2.1**
KHAL				IAML_P			
	comp=Z,21nm,0.1s						
USAK	**Uak-Merkez**	**5.69**	**32**	*i* P	**Pn**	**22 20 41.0**	**+1.9**
USAK				IAML_P			
	comp=Z,243nm,0.3s						
CSS	**Mathiatis**	**6.81**	**79**	Pn	**Pn**	**22 20 55.1**	**+0.6**
CSS				Sn	**Sn**	**22 22 08.3**	**-3.4**
KOT	**Kottamia**	**6.92**	**123**	AMP		22 22 00.0	
	baz=124						
OFRI	**`Ofer**	**8.32**	**96**	Pn	**Pn**	**22 21 15.9**	**+0.7**
OFRI				Sn	**Sn**	**22 22 44.9**	**-3.8**
KZIT	**Kziot**	**8.36**	**109**	Sn	**Sn**	**22 22 45.6**	**-4.1**
HNTI	**Hanita**	**8.39**	**93**	Sn	**Sn**	**22 22 47.4**	**-3.1**
SLTI	**Sal'it**	**8.45**	**99**	Pn	**Pn**	**22 21 17.1**	**+0.1**
SLTI				Sn	**Sn**	**22 22 48.0**	**-3.9**
AMAZ	**Amatzia**	**8.55**	**104**	Sn	**Sn**	**22 22 50.2**	**-4.2**
MMA0B	**Mount Meron ar**	**8.59**	**93**	Sg	**Pn**	**22 21 19.8**	**+0.8**
MMA0B	**Mount Meron ar**	**8.59**	**93**	Pn	**Pn**	**22 21 19.9**	**+0.9**
MMA0B				Sn	**Sn**	**22 22 51.9**	**-3.7**
MMAI	**Mount Meron Ar**	**8.59**	**93**	Pn	**Pn**	**22 21 21.6**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=263,slow=14,SNR=6.5						
MMAI				Sn	**Sn**	**22 22 53.7**	**-1.8**
	comp=Z,3.1nm,0.3s,baz=278,slow=20,SNR=10						
MMLI	**Mount Malkishu**	**8.72**	**97**	Pn	**Pn**	**22 21 21.3**	**+0.6**
MMLI				Sn	**Sn**	**22 22 54.1**	**-4.5**
YTIR	**Yattir**	**8.76**	**104**	Pn	**Pn**	**22 21 22.5**	**+1.1**
YTIR				Sn	**Sn**	**22 22 55.7**	**-4.1**
KSDI	**Kefar Szold**	**8.78**	**92**	Sn	**Sn**	**22 22 56.1**	**-3.9**
HMDT	**Nahal Hemdat**	**8.84**	**98**	Pn	**Pn**	**22 21 23.8**	**+1.4**
HMDT				Sn	**Sn**	**22 22 57.9**	**-3.7**
BRTR	**Keskin Array B**	**8.91**	**47**	Pn	**Pn**	**22 21 26.7**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=226,slow=9.8,SNR=2.9						
DSI	**Dead Sea**	**8.91**	**103**	Sn	**Sn**	**22 22 59.7**	**-3.6**
KRMI	**Paran Flat**	**8.95**	**113**	Sn	**Sn**	**22 23 00.4**	**-4.0**
MZDA	**Masada**	**8.98**	**104**	Sn	**Sn**	**22 23 01.4**	**-3.5**
PRNI	**Paran**	**9.06**	**111**	Pn	**Pn**	**22 21 26.1**	**+0.6**
PRNI				Sn	**Sn**	**22 23 03.0**	**-4.1**
HRFI	**Mount Harif**	**9.23**	**112**	Sn	**Sn**	**22 23 07.3**	**-3.9**
MBRI	**Mt Berech**	**9.25**	**114**	Pn	**Pn**	**22 21 28.6**	**+0.5**
MBRI				Sn	**Sn**	**22 23 07.8**	**-4.0**
EIL	**Elat**	**9.34**	**114**	Pn	**Pn**	**22 21 33.0**	**+3.8**
	comp=Z,0.8nm,0.3s,baz=6.8,slow=4.3,SNR=15						
EIL				Sn	**Sn**	**22 23 12.5**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=316,slow=6.2,SNR=7.8						
ASF	**Jabal al Asfar**	**9.99**	**97**	Pn	**Pn**	**22 21 41.3**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=247,slow=7.4,SNR=3.6						
ASF				Sn	**Sn**	**22 23 29.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=5.5						
KBZ	**Khabaz**	**16.89**	**49**	Pn	**P**	**22 23 15.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=217,slow=10,SNR=3.2						
AKASG	**Malin Array Be**	**17.01**	**9**	Pn	**Pn**	**22 23 12.6**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=200,slow=11,SNR=2.5						
GERES	**GERESS Array B**	**17.17**	**334**	Pn	**P**	**22 23 15.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=8.1						
ESDC	**Sonseca Array**	**23.96**	**292**	P	**P**	**22 24 29.2**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=145,slow=11,SNR=3.5						
NOA	**NORSAR Array B**	**28.58**	**346**	P	**P**	**22 25 09.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=160,slow=8.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**29.73**	**232**	P	**P**	**22 25 23.5**	**+2.7**
	comp=Z,0.2nm,0.6s,baz=33,slow=9.1,SNR=6.0						
ARCES	**ARCESS Array B**	**35.65**	**0**	P	**P**	**22 26 10.3**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=165,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**44.44**	**55**	P	**P**	**22 27 27.0**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=268,slow=7.9,SNR=20						
ZALV	**Zalesovo Beam**	**45.84**	**45**	P	**P**	**22 27 36.9**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=273,slow=9.4,SNR=5.6						
SONM	**Songino Array**	**60.25**	**50**	P	**P**	**22 29 24.4**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=271,slow=6.5,SNR=3.9						

GII 03 22:21:04.0±0.0, 33°.33N×35°.72E, h1km, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI	**Neve Ativ**	**0.07**	**171**	Pg	Pg	22 21 05.8	+0.4
NATI				Sg	Sg	22 21 07.3	+1.0
GEM	**Giv'at Ha'Em**	**0.13**	**203**	Pg	Pg	22 21 07.2	+0.7
GEM				Sg	Sg	22 21 09.5	+1.3
KSDI	**Kefar Szold**	**0.15**	**201**	Pg	Pg	22 21 07.4	+0.5
KSDI				Sg	Sg	22 21 10.3	+1.5

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*ISK **03** 22:40:00.9, 38°.95N×43°.42E, h1km, ML1.9/7*
*DDA **03** 22:40:02.6, 38°.89N×43°.52E, h7km±2km, ML2.6*
*ISCJB **03** 22:40:03.1±0.5, 38°.89N±0°.04×43°.52E±0°.07, h12km±7km, Error ellipse: s-maj=11.2km s-min=4.8km az=34.5*

ISC 03 22:40:02.0±1.2, 38°.92N±0°.04×43°.46E±0°.04, h8km±11km, n16, σ1°.04/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**51**	*i* P	**Pg**	**22 40 06.2**	**+1.4**
VMUR				IAML_P			
	comp=Z,7μm,0.1s						
ERCV	**ERCIS-VAN**	**0.14**	**316**	PG	**Pg**	**22 40 03.2**	**-2.0**
VANB	**Van**	**0.33**	**190**	PG	**Pb**	**22 40 10.5**	**+0.3**
TVAN	**Van**	**0.39**	**186**	*i* P	**Pb**	**22 40 11.0**	**-0.4**
TVAN				*i* S	**Sb**	**22 40 16.4**	**-1.2**
TVAN				IAML_P			
	comp=Z,4μm,0.2s						
CLDR	**Caldiran**	**0.42**	**58**	*i* P	**Pb**	**22 40 11.1**	**-0.8**
CLDR				*i* S	**Sb**	**22 40 17.5**	**-0.9**
CLDR				IAML_P			
	comp=Z,3μm,0.1s						
CLDR	**Caldiran**	**0.42**	**58**	PG	**Pg**	**22 40 10.1**	**-0.2**
CLDR				SG	**Sb**	**22 40 17.5**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.58**	**259**	*i* P	**Pb**	**22 40 15.6**	**+1.0**
ADCV				*i* S	**Sb**	**22 40 24.3**	**+1.2**
ADCV				IAML_P			
	comp=Z,1μm,0.2s						
DYDN	**Diyadin**	**0.65**	**16**	*i* P	**Pb**	**22 40 15.9**	**+0.2**
DYDN				IAML_P			
	comp=Z,573nm,0.1s						
TUTA	**Tutak**	**0.70**	**314**	*i* P	**Pn**	**22 40 17.9**	**-0.5**
TUTA				IAML_P			
	comp=Z,2μm,0.1s						
AKDM	**Akdamar-Van**	**0.70**	**213**	PG	**Pg**	**22 40 15.7**	**+0.1**
IGDI	**IGDIR**	**1.06**	**27**	*i* P	**Pn**	**22 40 23.8**	**+0.5**
IGDI				IAML_P			
	comp=Z,85nm,0.1s						
BLIS	**Bitlis-Merkez**	**1.17**	**245**	*i* P	**Pn**	**22 40 25.4**	**+0.7**
BLIS				IAML_P			
	comp=Z,868nm,0.2s						
GURO	**Guroymak-BITLI**	**1.18**	**252**	PN	**Pg**	**22 40 23.9**	**-0.7**
EATA	**Eleskirt**	**1.20**	**322**	*i* P	**Pn**	**22 40 27.2**	**+1.7**
EATA				IAML_P			
	comp=Z,138nm,0.1s						
TASB	**TASBURUN-IGDIR**	**1.22**	**29**	PN	**Pg**	**22 40 25.5**	**0.0**
CUKT	**Cukurca**	**1.67**	**176**	PN	**Pb**	**22 40 32.5**	**-0.6**

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*IDC **03** 22:40:16.4±1.6, 2°.92S×128°.40E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.5/42, mbtmp3.8/4, ML3.7/2, MS3.6/2, Ms1 3.6/2, ms1mx2.7/33, Error ellipse: s-maj=43.9km s-min=26.4km az=78.0*
*DJA **03** 22:40:18.9±0.3, 3°.S±5°.×12°.9E±°, h37km±9km, M3.4/7, MLv3.4/7*
*ISCJB **03** 22:40:19.6±0.6, 2°.94S±0°.05×128°.67E±0°.04, h35km, mb3.7/2, MS3.6/2, Error ellipse: s-maj=7.4km s-min=5.8km az=159.1*

ISC 03 22:40:20.5±1.0, 3°.10S±0°.06×128°.74E±0°.05, h35km, n13, σ2°.43/14, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.31**	**142**	P	**Pn**	**22 40 25.5**	**-3.1**
MSAI				S	**Sn**	**22 40 37.3**	**+3.1**
AAI	**Ambon**	**0.80**	**223**	P	**Pn**	**22 40 33.8**	**-1.5**
NLAI	**Namlea**	**1.64**	**265**	P	**Pn**	**22 40 46.0**	**-0.9**
SANI	**Sanana**	**2.94**	**291**	P	**Pn**	**22 41 04.6**	**-0.1**
SANI				S	**Sn**	**22 41 36.4**	**-2.4**
SWI	**Sorong**	**3.36**	**49**	P	**Pn**	**22 41 11.5**	**+0.9**
SWI				S	**Sn**	**22 41 47.8**	**-1.5**
SIJI	**Sorong**	**3.36**	**49**	Pn	**Pn**	**22 41 12.0**	**+1.4**
	6.6nm,0.3s,baz=240,slow=23,SNR=13						
SIJI				Sn	**Sn**	**22 41 48.4**	**-1.0**
	6.1nm,0.3s,baz=209,slow=22,SNR=11						
FAKI	**Fak Fak**	**3.51**	**87**	P	**Pn**	**22 41 09.2**	**-3.5**
KAPI	**Kappang**	**9.16**	**258**	LR	LR	22 46 43.3	
	comp=Z,24nm,18.6s,baz=119,slow=44						
WRA	**Warramunga Arr**	**17.61**	**162**	P	**P**	**22 44 26.9**	**+2.8**
	0.2nm,0.3s,baz=342,slow=12,SNR=7.6						
WRA				LR	LR	22 52 33.1	
	comp=Z,15nm,18.6s,baz=345,slow=41						
ASAR	**Alice Springs**	**21.05**	**167**	P	**P**	**22 45 04.8**	**+3.2**
	3.9nm,0.8s,baz=343,slow=9.4,SNR=14						
MKAR	**Makanchi Array**	**64.30**	**326**	P	**P**	**22 50 51.7**	**-0.8**
	0.4nm,0.6s,baz=122,slow=6.3,SNR=4.7						
YAK	**Yakutsk**	**64.95**	**0**	LR	LR	23 21 05.8	
	comp=Z,54nm,18.5s,baz=286,slow=38						
KMBO	**Kilima Mbogo**	**91.42**	**269**	LR	LR	23 28 28.7	
	comp=Z,19nm,21.0s,baz=77,slow=32						

IDC 03 22:41:46.3±4.5, 19°.65S×178°.49W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/23, Error ellipse: s-maj=312.5km s-min=34.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.26**	**261**	P	P	22 49 57.9	-0.1
	0.2nm,0.4s,baz=98,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**44.27**	**256**	P	P	22 49 57.9	-0.2
	1.2nm,0.9s,baz=92,slow=8.2,SNR=6.7						
GUMO	**Guam**	**48.91**	**310**	LR	LR	23 06 34.9	
	comp=Z,51nm,22.0s,baz=243,slow=30						
NVAR	**Mina Array Bea**	**80.73**	**44**	P	P	22 54 01.9	0.0
	1.0nm,0.7s,baz=231,slow=6.9,SNR=3.6						

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*NIED **03** 22:56:00, 23°.90N×121°.50E, h29km, Mw4.5 Best double couple: M0=5.87000×10^15 NP1:φ=194.00000°, δ=22.00000°, λ=26.00000°. NP2:φ=80.00000°, δ=81.00000°, λ=110.00000°.*
*NEIC **03** 22:56:10.5±2.0, 23°.86N±0°.02×121°.54E±0°.03, h10km±1km, mb4.4/25, ML4.7(TAP)*
*BJI **03** 22:56:12.6±0.0, 24°.00N×121°.45E, h11km, mb4.4/30, mB4.4/21, ML4.4/9, Ms4.2/26, Ms7 4.1/23*
*JMA **03** 22:56:13.4, 23°.88N×121°.50E, h21km±1km, M4.3*
*ISCJB **03** 22:56:14.2±0.1, 23°.941N±0°.009×121°.53E±0°.01, h27km±1km, mb4.4/23, MS3.7/6, Error ellipse: s-maj=1.9km s-min=1.3km az=37.0*
*TAP **03** 22:56:14.2, 23°.95N×121°.47E, h26km, ML4.9, B*
*ASIES **03** 22:56:14.4, 23°.90N×121°.51E, h32km, MW3.9*
*IDC **03** 22:56:17.3±3.1, 23°.93N×121°.73E, h56km±30km, mb3.8/18, mb1 4.0/19, mb1mx3.8/45, mbtmp4.1/19, ML3.7/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=16.7km s-min=13.7km az=71.0*

ISC 03 22:56:14.1±0.6, 23°.92N±0°.01×121°.52E±0°.02, h26km±3km, n242, σ1°.29/361, mb4.3/34, MS3.9/6, 22C-41D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.07**	**104**	⇓*i*P	**Pb**	**22 56 18.6**	**-0.2**
	baz=111						
ENLB				S	**Sb**	**22 56 23.1**	**+1.2**
	baz=111						
HWA	**Hwalien**	**0.09**	**54**	⇓*i*P	**Pn**	**22 56 19.7**	**+0.8**
	baz=80						
HWA				S	**Sb**	**22 56 23.6**	**+1.5**
	baz=80						
ESL	**Shilin**	**0.13**	**217**	⇓*i*P	**Pb**	**22 56 19.3**	**0.0**
	baz=189						
ESL				*i* S	**Sb**	**22 56 22.6**	**-0.1**
	baz=189						
TWD	**Chiawan**	**0.17**	**23**	⇓*i*P	**Pb**	**22 56 19.8**	**+0.1**
	baz=44						
TWD				*i* S	**Sb**	**22 56 23.6**	**+0.2**
	baz=44						
NACB	**Ninganchiao**	**0.26**	**15**	⇓P	**Pb**	**22 56 20.4**	**-0.3**
	baz=28						
NACB				S	**Sb**	**22 56 24.5**	**-0.7**
	baz=28						
NACB	**Ninganchiao**	**0.26**	**15**		**Pb**	**22 56 19.7**	**-1.0**
NACB					**Sb**	**22 56 24.9**	**-0.3**
EGFH	**Guangfu**	**0.27**	**199**	⇓*i*P	**Pb**	**22 56 20.7**	**-0.1**
	baz=182						
EGFH				*e*S	**Sb**	**22 56 25.8**	**+0.5**
	baz=182						
ETLH	**Xiulin Townshi**	**0.29**	**353**	⇓P	**Pb**	**22 56 20.9**	**-0.3**
	baz=9.0						
ETLH				S	**Sb**	**22 56 25.0**	**-1.0**
	baz=9.0						
WHF	**Hehuan Shan**	**0.32**	**314**	⇑*i*P	**Pb**	**22 56 21.2**	**-0.8**
	baz=312						
WHF				S	**Sb**	**22 56 26.0**	**-1.3**
	baz=312						
CHGB	**Renai**	**0.35**	**294**	⇓P	**Pb**	**22 56 21.7**	**-0.5**
	baz=297						
CHGB				S	**Sb**	**22 56 26.4**	**-1.2**
	baz=297						
VWDT	**VWDT**	**0.39**	**245**	⇑P	**Pb**	**22 56 22.7**	**+0.2**
	baz=232						
VWDT				S	**Sb**	**22 56 27.8**	**-0.5**
	baz=232						
HGSD	**Ruisui**	**0.44**	**192**	⇓P	**Pb**	**22 56 23.5**	**+0.1**
	baz=191						
HGSD				S	**Sb**	**22 56 30.6**	**+1.0**
	baz=191						
EHY	**Hungye**	**0.45**	**204**	⇓*i*P	**Pb**	**22 56 22.8**	**-0.8**
	baz=196						
EHY				S	**Sb**	**22 56 30.9**	**+0.8**
	baz=196						
TWT	**Tachien**	**0.46**	**316**	⇓*i*P	**Pb**	**22 56 23.6**	**-0.2**
	baz=313						
TWT				S	**Sb**	**22 56 29.4**	**-1.0**
	baz=313						
TDCB	**Techi**	**0.47**	**315**	⇓P	**Pb**	**22 56 23.7**	**-0.3**
	baz=313						
TDCB				S	**Sb**	**22 56 29.0**	**-1.7**
	baz=313						
NNSB	**Datong**	**0.52**	**346**	⇑P	**Pb**	**22 56 24.5**	**-0.3**
	baz=354						
NNSB				S	**Sb**	**22 56 31.1**	**-1.0**
	baz=354						
NNS	**Nan Shan**	**0.53**	**345**	⇑*i*P	**Pb**	**22 56 24.7**	**-0.4**
	baz=354						
NNS				S	**Sb**	**22 56 31.4**	**-1.1**
	baz=354						
SSLB	**Suanglung**	**0.54**	**256**	⇑P	**Pb**	**22 56 24.5**	**-0.5**
	baz=252						
SSLB				*e*S	**Sb**	**22 56 30.2**	**-2.3**
	baz=252						
SSLB	**Suanglung**	**0.54**	**256**		**Pb**	**22 56 24.5**	**-0.5**
SSLB				Sg	**Sb**	**22 56 30.8**	**-1.6**
ENA	**Nanau**	**0.54**	**22**	⇑P	**Pb**	**22 56 24.7**	**-0.5**
	baz=34						
ENA				*e*S	**Sb**	**22 56 31.8**	**-0.8**
	baz=34						
NANB	**Nanao**	**0.55**	**22**	⇑*i*P	**Pb**	**22 56 24.6**	**-0.5**
	baz=34						
NANB				S	**Sb**	**22 56 31.7**	**-1.0**
	baz=34						
DPDB	**Guoxing**	**0.56**	**282**	⇓*i*P	**Pb**	**22 56 24.9**	**-0.5**
	baz=275						
DPDB				S	**Sb**	**22 56 31.9**	**-1.2**
	baz=275						
YULB	**Yu-li**	**0.56**	**201**	⇓P	**Pb**	**22 56 24.3**	**-1.2**
	baz=186						
YULB				S	**Sb**	**22 56 33.5**	**+0.2**
	baz=186						
YULB	**Yu-li**	**0.56**	**201**		**Pb**	**22 56 23.7**	**-1.8**
YULB				Sg	**Sb**	**22 56 29.9**	**-3.3**
SMLT	**Sun Moon Lake**	**0.57**	**266**	⇓*e*P	**Pb**	**22 56 25.2**	**-0.5**
	baz=258						
SMLT				*e*S	**Sb**	**22 56 32.5**	**-1.0**
	baz=258						
TWF1	**Yuli**	**0.60**	**200**	⇓*e*P	**Pb**	**22 56 24.9**	**-1.2**
	baz=194						
TWF1				*e*S	**Sn**	**22 56 35.4**	**-0.6**
	baz=194						
TYC	**Yuchr**	**0.61**	**269**	⇓*e*P	**Pb**	**22 56 25.6**	**-0.6**
	baz=265						
TYC				*e*S	**Sb**	**22 56 33.1**	**-1.3**
	baz=265						
WHP	**Taichung City**	**0.64**	**304**	⇓P	**Pb**	**22 56 26.2**	**-0.5**
	baz=304						
WHP				S	**Sb**	**22 56 34.8**	**-0.5**
	baz=304						
WHYT	**Xinyi Township**	**0.65**	**250**	*e*P	**Pb**	**22 56 27.0**	**0.0**
	baz=245						
WHYT				S	**

SLBB	**Yuanshan**	**0.83**	**7**	⇑P	**Pb**	**22 56 28.6**	**-1.5**
	baz=4.0						
SLBB				*e*S	**Sb**	**22 56 39.9**	**-1.1**
	baz=4.0						
CHN5	**Tsauling**	**0.84**	**248**	⇓P	**Pn**	**22 56 30.4**	**0.0**
	baz=243						
CHN5				S	**Sn**	**22 56 41.8**	**-0.1**
	baz=243						
NSTT	**Nanjuang**	**0.85**	**326**	⇓P	**Pn**	**22 56 30.3**	**-0.1**
	baz=323						
NSTT				S	**Sb**	**22 56 40.5**	**-0.9**
	baz=323						
NSY	**Sanyi**	**0.85**	**305**	⇓P	**Pn**	**22 56 30.9**	**+0.5**
	baz=311						
NSY				S	**Sn**	**22 56 41.7**	**-0.4**
	baz=311						
NWLT	**Wulai**	**0.85**	**359**	⇑P	**Pb**	**22 56 29.9**	**-0.5**
	baz=10.0						
NWLT				S	**Sb**	**22 56 40.3**	**-1.1**
	baz=10.0						
ELDTW	**Lidau**	**0.86**	**213**	⇓*e*P	**Pb**	**22 56 29.2**	**-1.4**
	baz=208						
ELDTW				S	**Sb**	**22 56 41.5**	**-0.4**
	baz=208						
ILA	**Ilan**	**0.86**	**14**	*e*P	**Pb**	**22 56 30.5**	**0.0**
	baz=18						
WCHH	**Zhanghua**	**0.90**	**280**	⇓P	**Pn**	**22 56 31.1**	**+0.1**
	baz=277						
WCHH				*e*S	**Sn**	**22 56 44.3**	**+1.1**
	baz=277						
NMLH	**Miaoli**	**0.91**	**313**	⇓P	**Pn**	**22 56 31.5**	**+0.3**
	baz=313						
NMLH				S	**Sb**	**22 56 42.9**	**-0.1**
	baz=313						
WGK	**Gukeng**	**0.91**	**255**	*e*P	**Pb**	**22 56 31.4**	**+0.1**
	baz=251						
WGK				*e*S	**Sn**	**22 56 43.8**	**+0.3**
	baz=251						
PTSB	**Yuanli**	**0.91**	**305**	⇓P	**Pn**	**22 56 31.7**	**+0.4**
	baz=305						
PTSB				*e*S	**Sn**	**22 56 43.5**	**-0.1**
	baz=305						
WDJ	**Dajia District**	**0.91**	**298**	⇓P	**Pn**	**22 56 31.8**	**+0.5**
	baz=297						
WDJ				*e*S	**Sn**	**22 56 44.0**	**+0.5**
	baz=297						
WDLH	**Douliu**	**0.93**	**256**	⇓*e*P	**Pb**	**22 56 31.8**	**+0.2**
	baz=251						
WDLH				*e*S	**Sn**	**22 56 44.4**	**+0.4**
	baz=251						
WLTB	**Daxi**	**0.96**	**345**	⇑*e*P	**Pb**	**22 56 32.9**	**+0.8**
	baz=353						
WLTB				*e*S	**Sn**	**22 56 44.5**	**-0.2**
	baz=353						
NTC	**Toucheng**	**0.97**	**17**	*e*P	**Pn**	**22 56 31.7**	**-0.4**
	baz=21						
NTC				*e*S	**Sb**	**22 56 44.8**	**+0.1**
	baz=21						
SBCB	**Hsinchu**	**1.00**	**331**	⇓P	**Pb**	**22 56 33.5**	**+0.8**
	baz=333						
SBCB				*e*S	**Sn**	**22 56 45.9**	**+0.2**
	baz=333						
HSN	**Hsinchu**	**1.01**	**330**	*e*P	**Pb**	**22 56 34.0**	**+0.9**
	baz=320						
HSN				*e*S	**Sn**	**22 56 47.3**	**+1.3**
	baz=320						
CHN4	**Tsaushan**	**1.02**	**237**	*e*P	**Pb**	**22 56 33.5**	**+0.3**
	baz=232						
CHN4				*e*S	**Sn**	**22 56 47.9**	**+1.6**
	baz=232						
TPUB	**Ta-pu**	**1.03**	**233**	⇑*e*P	**Pb**	**22 56 33.7**	**+0.4**
	baz=221						
TPUB				S	**Sn**	**22 56 47.3**	**+0.9**
	baz=221						
TPUB	**Ta-pu**	**1.03**	**233**		**Pn**	**22 56 31.2**	**-1.7**
TPUB				Sg	**Sb**	**22 56 44.4**	**-2.0**
STYT	**Tauyuan**	**1.03**	**223**	⇓*e*P	**Pb**	**22 56 33.4**	**0.0**
	baz=213						
STYT				*e*S	**Sn**	**22 56 46.7**	**+0.1**
	baz=213						
CHN2	**Minshiung**	**1.03**	**248**	*e*P	**Pb**	**22 56 33.7**	**+0.3**
	baz=244						
CHN2				*e*S	**Sn**	**22 56 47.0**	**+0.5**
	baz=244						
TATO	**Taipei**	**1.05**	**358**	⇑P	**Pb**	**22 56 33.4**	**-0.2**
	baz=14						
TATO				*e*S	**Sn**	**22 56 45.9**	**-1.0**
	baz=14						
TATO	**Taipei**	**1.05**	**358**		**Pn**	**22 56 33.2**	**0.0**
TATO				Sn	**Sn**	**22 56 46.6**	**-0.4**
TWA	**Mucha**	**1.06**	**3**	*e*P	**Pn**	**22 56 33.5**	**+0.2**
	baz=7.0						
TWA				*e*S	**Sb**	**22 56 47.8**	**+0.5**
	baz=7.0						
RLNB	**Erlin**	**1.06**	**269**	⇓P	**Pb**	**22 56 33.7**	**-0.2**
	baz=265						
RLNB				S	**Sb**	**22 56 47.5**	**+0.1**
	baz=265						
WTP	**Ta-pu**	**1.07**	**231**	⇑P	**Pb**	**22 56 34.6**	**+0.5**
	baz=220						
WTP				S	**Sb**	**22 56 48.5**	**+0.9**
	baz=220						
TIPB	**Shuangxi**	**1.08**	**15**	⇑*e*P	**Pn**	**22 56 33.4**	**-0.2**
	baz=19						
TIPB				S	**Sn**	**22 56 47.5**	**-0.3**
	baz=19						
NCUH	**Zhongli**	**1.09**	**344**	⇑*e*P	**Pb**	**22 56 34.8**	**+0.5**
	baz=347						
NCUH				*e*S	**Sb**	**22 56 49.2**	**+1.2**
	baz=347						
NCU	**National Centr**	**1.09**	**344**	*e*P	**Pb**	**22 56 34.8**	**+0.4**
	baz=347						
NCU				S	**Sb**	**22 56 50.1**	**+1.9**
	baz=347						
CHY	**Chiayi**	**1.09**	**247**	*e*P	**Pb**	**22 56 34.2**	**-0.2**
	baz=243						
CHY				S	**Sb**	**22 56 49.2**	**+1.0**
	baz=243						
TAP	**Taipei**	**1.11**	**359**	*e*P	**Pb**	**22 56 34.4**	**-0.3**
	baz=15						
TAP				*e*S	**Sb**	**22 56 49.4**	**+0.5**
	baz=15						
TAP1	**Taipei**	**1.11**	**0**	*e*P	**Pn**	**22 56 34.3**	**+0.3**
	baz=14						
WTCT	**Ta-ch'eng**	**1.14**	**267**	⇓P	**Pn**	**22 56 34.6**	**+0.2**
	baz=264						
WTCT				S	**Sb**	**22 56 49.8**	**+0.3**
	baz=264						
TWK	**Hsinying**	**1.15**	**236**	*e*P	**Pb**	**22 56 35.6**	**+0.2**
	baz=231						
TWK				S	**Sb**	**22 56 51.2**	**+1.2**
	baz=231						
TWB1	**Santiao Chiao**	**1.16**	**21**	*e*P	**Pn**	**22 56 35.0**	**+0.2**
	baz=26						
TWB1				*e*S	**Sb**	**22 56 50.4**	**+0.1**
	baz=26						
NWF	**Wu-fen Shan**	**1.17**	**12**	*e*P	**Pn**	**22 56 35.0**	**+0.1**
	baz=24						
NWF				*e*S	**Sb**	**22 56 51.2**	**+0.7**
	baz=24						
WFSB	**Wu-fen Shan**	**1.17**	**12**	*e*P	**Pn**	**22 56 35.0**	**+0.2**
	baz=23						
WFSB				*e*S	**Sb**	**22 56 50.3**	**-0.1**
	baz=23						
CHN1	**Nanshi**	**1.17**	**231**	*e*P	**Pb**	**22 56 36.0**	**+0.3**
	baz=227						
CHN1				*e*S	**Sb**	**22 56 52.0**	**+1.5**
	baz=227						
SNST	**Tainan City**	**1.17**	**234**	*e*P	**Pb**	**22 56 36.4**	**+0.6**
	baz=229						
SNST				*e*S	**Sb**	**22 56 51.6**	**+1.1**
	baz=229						
TWG	**Pinlang**	**1.17**	**201**	*e*P	**Pn**	**22 56 33.1**	**-1.8**
	baz=184						
TWG	**Pinlang**	**1.17**	**201**		**Pn**	**22 56 32.7**	**-2.2**
TWG				Sn	**Sn**	**22 56 47.6**	**-2.3**
TWGBT	**Beinan**	**1.17**	**200**	⇓*e*P	**Pn**	**22 56 33.0**	**-1.8**
	baz=184						
TWS1	**Kuangyinshan**	**1.18**	**355**	*e*P	**Pb**	**22 56 35.5**	**-0.3**
	baz=10.0						
TWS1				S	**Sb**	**22 56 52.3**	**+1.6**
	baz=10.0						
WMLT	**Mailiao**	**1.20**	**265**	*e*P	**Pb**	**22 56 35.8**	**-0.3**
	baz=261						
WMLT				*e*S	**Sb**	**22 56 52.0**	**+0.8**
	baz=261						
SGST	**Jiashian**	**1.20**	**226**	⇑P	**Pb**	**22 56 36.0**	**-0.3**
	baz=212						
SGST				*e*S	**Sb**	**22 56 53.1**	**+1.7**
	baz=212						
WLGB	**Puzi**	**1.20**	**249**	*e*P	**Pb**	**22 56 36.2**	**-0.1**
	baz=230						
WLGB				*e*S	**Sb**	**22 56 52.6**	**+1.2**
	baz=230						
TTN	**Taitung**	**1.21**	**197**	*e*P	**Pn**	**22 56 34.6**	**-0.7**
	baz=180						
YM01	**YM01**	**1.22**	**2**	*e*P	**Pn**	**22 56 35.5**	**-0.1**
	baz=5.0						
YM01				*e*S	**Sb**	**22 56 52.2**	**+0.2**
	baz=5.0						
WSF	**Szhu**	**1.22**	**257**	*e*P	**Pb**	**22 56 36.0**	**-0.6**
	baz=253						
WSF				*e*S	**Sb**	**22 56 52.4**	**+0.4**
	baz=253						
SLGT	**Liugui**	**1.23**	**221**	*e*P	**Pb**	**22 56 37.0**	**+0.3**
	baz=217						
SLGT				*e*S	**Sb**	**22 56 53.5**	**+1.4**
	baz=217						
YM10	**YM10**	**1.23**	**2**	⇑*e*P	**Pn**	**22 56 35.6**	**-0.1**
	baz=5.0						
YM10				*e*S	**Sb**	**22 56 52.6**	**+0.3**
	baz=5.0						
NTST	**Danshui**	**1.24**	**357**	*e*P	**Pn**	**22 56 36.3**	**+0.5**
	baz=11						
NTST				*e*S	**Sb**	**22 56 54.1**	**+1.6**
	baz=11						
YM11	**YM11**	**1.24**	**2**	*e*P	**Pn**	**22 56 36.0**	**+0.1**
	baz=6.0						
YM11				*e*S	**Sb**	**22 56 52.9**	**+0.3**
	baz=6.0						
ANP	**Anpu**	**1.26**	**360**	*e*P	**Pn**	**22 56 36.1**	**-0.1**
	baz=14						
ANP				*e*S	**Sb**	**22 56 53.0**	**-0.1**
	baz=14						
YM08	**YM08**	**1.26**	**3**	*e*P	**Pn**	**22 56 35.7**	**-0.4**
	baz=6.0						
YM08				*e*S	**Sn**	**22 56 52.4**	**+0.1**
	baz=6.0						
CHN8	**Yiju**	**1.33**	**245**	*e*P	**Pb**	**22 56 38.2**	**-0.2**
	baz=240						
CHN8				*e*S	**Sb**	**22 56 55.7**	**+0.6**
	baz=240						
TWY	**Chenhua**	**1.35**	**3**	*e*P	**Pn**	**22 56 38.0**	**+0.7**
	baz=21						
CHN3	**Shinhua**	**1.35**	**232**	*e*P	**Pb**	**22 56 39.9**	**+1.0**
	baz=241						
CHN3				*e*S	**Sb**	**22 56 58.7**	**+2.9**
	baz=241						
JYNG	**Yonagunijimaku**	**1.40**	**68**	P	**Pb**	**22 56 39.2**	**-0.5**
JYNG				S	**Sb**	**22 56 57.0**	**-0.1**
ECL	**Taimali**	**1.42**	**202**	*e*P	**Pn**	**22 56 38.0**	**-0.3**
	baz=188						
SCLT	**Jiali**	**1.43**	**239**	*e*P	**Pb**	**22 56 40.1**	**0.0**
	baz=234						
SCLT				*e*S	**Sb**	**22 56 59.4**	**+1.5**
	baz=234						
SSD	**Sandimen**	**1.43**	**215**	*e*P	**Pb**	**22 56 39.7**	**-0.4**
	baz=212						
SSD				*e*S	**Sb**	**22 56 59.4**	**+1.5**
	baz=212						
YOJ	**Yonaguni jima**	**1.46**	**68**	*e*P	**Pn**	**22 56 39.8**	**+0.9**
	baz=70						
YOJ				S	**Sb**	**22 56 58.3**	**-0.6**
	baz=70						
YOJ	**Yonaguni jima**	**1.46**	**68**	P	**Pn**	**22 56 39.6**	**+0.8**
YOJ				*e*S	**Sb**	**22 56 58.6**	**-0.2**
YOJ	**Yonaguni jima**	**1.46**	**68**		**Pn**	**22 56 37.6**	**-1.2**
YOJ				Sn	**Sn**	**22 56 55.8**	**-1.4**
TAI1	**Yung-k'ang**	**1.48**	**234**	*e*P	**Pb**	**22 56 41.1**	**+0.2**
	baz=229						
TAI1				*e*S	**Sb**	**22 57 00.9**	**+1.6**
	baz=229						
TWM1	**Shoushan**	**1.49**	**223**	*e*P	**Pb**	**22 56 42.4**	**+1.2**
	baz=219						
SGLT	**Jiouru**	**1.52**	**219**	*e*P	**Pb**	**22 56 42.9**	**+1.2**
	baz=216						
MASBT	**Mashibuluo**	**1.54**	**212**	⇓*e*P	**Pn**	**22 56 40.1**	**+0.2**
	baz=223						
MASBT				S	**Sb**	**22 57 02.0**	**+0.9**
	baz=223						
SNJT	**Kaohsiung City**	**1.59**	**223**	*e*P	**Pb**	**22 56 42.6**	**-0.3**
	baz=219						
EAST	**Anshuo**	**1.65**	**202**	*e*P	**Pn**	**22 56 40.4**	**-1.1**
	baz=191						
TAW	**Tawu**	**1.66**	**200**	*e*P	**Pn**	**22 56 42.5**	**+1.0**
	baz=190						
KAU	**Kaohsiung**	**1.75**	**220**	*e*P	**Pb**	**22 56 44.6**	**-0.9**
	baz=230						
SCZT	**Fangliau**	**1.75**	**208**	*e*P	**Pb**	**22 56 44.9**	**-0.7**
	baz=206						
SCZT				*e*S	**Sb**	**22 57 07.5**	**+0.3**
	baz=206						
PCYT	**Pengchaiyu**	**1.77**	**16**	*e*P	**Pn**	**22 56 43.1**	**0.0**
	baz=18						
WDGT	**Dungji**	**1.83**	**249**	*e*P	**Pn**	**22 56 44.7**	**+0.8**
	baz=232						
WDGT				*e*S	**Sn**	**22 57 06.8**	**+0.6**
	baz=232						
PHUB	**P'eng-hu**	**1.83**	**258**	⇓*e*P	**Pn**	**22 56 44.2**	**+0.2**
	baz=253						
PHUB				*e*S	**Sn**	**22 57 06.2**	**-0.1**
	baz=253						
PNG	**Penghu**	**1.84**	**259**	*e*P	**Pn**	**22 56 44.1**	**+0.2**
	baz=255						
PNG				*e*S	**Sn**	**22 57 06.5**	**+0.1**
	baz=255						
LAY	**Lan-yu**	**1.87**	**179**	*e*P	**Pn**	**22 56 43.6**	**-0.9**
	baz=168						
WLCH	**Liuqiu**	**1.88**	**214**	*e*P	**Pb**	**22 56 47.0**	**-0.9**
	baz=225						
TWP	**Hsiaoliuchiu**	**1.90**	**214**	*e*P	**Pb**	**22 56 47.0**	**-1.1**
	baz=225						
HEN	**Hengchun**	**2.04**	**201**	*e*P	**Pb**	**22 56 49.1**	**-1.4**
	baz=184						
VCHM	**Qimei**	**2.05**	**250**	*e*P	**Pn**	**22 56 47.5**	**+0.6**
	baz=230						
IRIF	**Iriomote-Funau**	**2.06**	**78**	P	**Pn**	**22 56 48.3**	**+1.3**
IRIF				*e*S	**Sn**	**22 57 13.5**	**+1.6**
TWK1	**Hengchun**	**2.08**	**199**	*e*P	**Pn**	**22 56 49.2**	**+1.9**
	baz=185						
TWKBT	**Hengchun**	**2.08**	**198**	*e*P	**Pn**	**22 56 49.2**	**+1.9**
	baz=185						
HATJ	**Hateruma jima**	**2.09**	**86**	P	**Pn**	**22 56 48.5**	**+1.0**
HATJ				*e*S	**Sn**	**22 57 14.8**	**+2.1**
TSEB	**Hengchuen, Pin**	**2.09**	**196**	*e*P	**Pb**	**22 56 50.8**	**-0.6**
	baz=184						
VWUC	**VWUC**	**2.17**	**300**	*e*P	**Pn**	**22 56 47.6**	**-0.9**
	baz=298						
VWUC				*e*S	**Sn**	**22 57 11.9**	**-2.7**
	baz=298						
JKRS	**Kuro-shima**	**2.29**	**82**	P	**Pn**	**22 56 51.8**	**+1.5**
JKRS				S	**Sn**	**22 57 20.3**	**+2.6**
JIJ	**Ishigaki jima**	**2.43**	**79**	P	**Pn**	**22 56 53.0**	**+0.8**
JIJ				S	**Sn**	**22 57 21.5**	**+0.4**
JISG	**Ishigakijimahi**	**2.63**	**75**	P	**Pn**	**22 56 55.9**	**+1.0**
JISG				S	**Sn**	**22 57 26.5**	**+0.5**
MATB	**Ma-tsu**	**2.64**	**328**	⇓*e*P	**Pn**	**22 56 54.4**	**-0.7**
	baz=336						
QZH	**Quanzhou**	**2.86**	**291**	Pn	**Pn**	**22 56 57.2**	**-0.8**
QZH				Sn	**Sn**	**22 57 28.8**	**-2.8**
QZH				smax	smax		
	comp=N,1μm,0.4s						
QZH				smax	smax		
	comp=E,430nm,0.6s						
QZH				LR	LR		
	comp=Z,2μm,12.6s						
KNMB	**Chin-men Tao**	**2.91**	**281**	*e*P	**Pn**	**22 56 58.2**	**-0.6**
	baz=277						
KNMB	**Chin-men Tao**	**2.91**	**281**		**Pn**	**22 56 57.7**	**-1.0**
KNMB				Sn	**Sn**	**22 57 30.6**	**-2.3**
JTJ	**Tarama**	**2.99**	**75**	P	**Pn**	**22 57 00.9**	**+1.1**
JTJ				*e*S	**Sn**	**22 57 36.6**	**+1.8**
JIRB	**Irabujima**	**3.45**	**74**	P	**Pn**	**22 57 07.6**	**+1.4**
JIRB				*e*S	**Sn**	**22 57 48.0**	**+1.8**
JIKM	**Ikemajima**	**3.54**	**73**	P	**Pn**	**22 57 09.1**	**+1.7**
JIKM				S	**Sn**	**22 57 50.2**	**+1.8**
JMJ	**Miyako jima 2**	**3.55**	**75**	*e*P	**Pn**	**22 57 09.4**	**+1.8**
	baz=74						
JMJ				*e*S	**Sn**	**22 57 49.7**	**+1.0**
	baz=74						
JMJ2	**Miyako jima3**	**3.57**	**76**	P	**Pn**	**22 57 09.5**	**+1.7**
JMJ2				*e*S	**Sn**	**22 57 50.7**	**+1.6**
JOGS	**Gusukube**	**3.64**	**76**	*e*S	**Sn**	**22 57 53.6**	**+2.7**
JOW	**Kunigami**	**6.76**	**63**	*e*P	**Pn**	**22 57 51.6**	**-0.1**
	baz=59						
JOW	**Kunigami**	**6.76**	**63**	P	**Pn**	**22 57 51.5**	**-0.1**
	3.2nm,0.3s,baz=163,slow=13,SNR=37						
JOW				S	**Sn**	**22 59 06.5**	**-1.4**
	0.6nm,0.3s,baz=72,slow=19,SNR=2.1						
JOW	**Kunigami**	**6.76**	**63**		**Pn**	**22 57 50.3**	**-1.4**
JOW					**Sn**	**22 59 06.8**	**-1.0**
HKPS	**Hong Kong Po S**	**6.99**	**258**	Pn	**Pn**	**22 57 53.3**	**-1.6**
HKPS					**Sn**	**22 59 12.3**	**-1.2**
GZH	**Guangzhou**	**7.55**	**265**	P	**Pn**	**22 57 58.3**	**-4.3**
GZH				S	Sn	22 59 13.5	-14
GZH				smax	smax		
	comp=N,250nm,1.0s						
GZH				smax	smax		
	comp=E,200nm,1.0s						
NJ2	**Nanjing**	**8.44**	**344**	*e*P	**Pn**	**22 58 14.3**	**-0.4**
NJ2				S	**Sn**	**22 59 45.8**	**-3.2**
NJ2				pmax	pmax		
	comp=Z,48nm,0.8s						
NJ2				smax	smax		
	comp=N,120nm,0.6s						
NJ2				smax	smax		
	comp=E,120nm,1.1s						
NJ2				LR	LR		
	comp=N,760nm,5.0s						
NJ2				LR	LR		
	comp=E,1μm,6.4s						
NJ2				LR	LR		
	comp=Z,940nm,11.4s						
WHN	**Wuhan**	**9.18**	**318**	P	**Pn**	**22 58 26.4**	**+1.6**
WHN				S	**Sn**	**23 00 08.0**	**+0.8**
WHN				LR	LR		
	comp=N,1μm,11.1s						
WHN				LR	LR		
	comp=E,1μm,8.8s						
WHN				LR	LR		
	comp=Z,2μm,15.9s						
GYA	**Guiyang**	**13.69**	**284**	*e*P	**Pn**	**22 59 26.9**	**+0.2**
GYA				S	**Sn**	**23 01 55.8**	**-2.2**
GYA				SS	**SnSn**	**23 02 14.5**	**+4.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,80nm,3.3s						
GYA				LR	LR		
	comp=N,320nm,9.8s						
GYA				LR	LR		
	comp=E,620nm,13.7s						
GYA				LR	LR		
	comp=Z,710nm,13.4s						
KSAR	**Wonju Array Be**	**14.54**	**21**	Pn	**Pn**	**22 59 36.2**	**-2.0**
KSRS	**Korea Array**	**14.56**	**21**	P	**P**	**22 59 44.1**	**-0.6**
	0.8nm,0.3s,baz=200,slow=12,SNR=26						
KSRS				LR	LR	23 06 04.8	
	comp=Z,106nm,19.6s,baz=196,slow=41						
KS19	**Wonju Array Si**	**14.59**	**20**		**Pn**	**22 59 37.9**	**-0.9**
XAN	**Xi'an**	**14.93**	**315**	P	**P**	**22 59 50.9**	**+2.0**
XAN	**Xi'an**	**14.93**	**315**		**Pn**	**22 59 41.3**	**-2.2**
BJT	**Baijiatuau**	**16.67**	**346**	Pn	**Pn**	**23 00 04.9**	**-1.0**
CD2	**Chengdu**	**17.23**	**298**	*e*P	**Pn**	**23 00 13.0**	**-0.1**
CD2				S	**Sn**	**23 03 24.5**	**+0.5**
CD2				LR	LR		
	comp=E,990nm,9.4s						
CD2				LR	LR		
	comp=Z,1μm,9.2s						
MJAR	**Matsushiro Arr**	**19.10**	**45**	LR	LR	23 08 14.6	
	comp=Z,57nm,21.8s,baz=220,slow=38						
LZH	**Lanzhou**	**19.49**	**313**	*e*P	**Pn**	**23 00 42.3**	**+1.6**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
CHAI	**Chaiyaphum**	**20.01**	**250**	P	Pn	23 00 51.6	+4.7
	17μm,0.9s,405μm						
PBKT	**Sadao Pong**	**20.61**	**253**	P	Pn	23 00 55.4	+1.6
PBKT	**Sadao Pong**	**20.61**	**253**	P	**P**	**23 00 49.9**	**-1.6**
PAYA	**Payao**	**20.63**	**261**	P	Pn	23 00 59.3	+5.2
	14μm,1.1s						
CMMT	**Chiang Mai**	**21.62**	**261**	P	**P**	**23 01 06.3**	**+3.9**
	11nm,1.0s						
CHTO	**Chiang Mai**	**21.62**	**261**	P	**P**	**23 01 01.9**	**-0.5**
CHTO				IAmb	IAmb	23 01 07.6	
	comp=Z,15nm,0.8s						
CM31	**Chiang Mai Arr**	**21.73**	**260**	P	**P**	**23 01 02.3**	**-1.3**
CM31				IAmb	IAmb	23 01 08.4	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.73**	**260**	P	**P**	**23 01 06.1**	**+2.5**
	comp=Z,6.4nm,0.8s,baz=63,slow=8.1,SNR=36						
CMAR				LR	LR	23 09 10.2	
	comp=Z,60nm,18.3s,baz=85,slow=35						
CMAR	**Chiang Mai Arr**	**21.73**	**260**	P	**P**	**23 01 04.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**21.97**	**20**	P	**P**	**23 01 05.8**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=209,slow=12,SNR=3.6						
USRK	**Ussuriysk Ar.**	**21.97**	**20**	P	**P**	**23 01 06.2**	**+0.3**
UTHA	**Uthaitani**	**22.36**	**252**	P	**P**	**23 01 15.2**	**+4.8**
	comp=Z,13μm,1.0s						
UMPA	**Umpang Tak**	**22.61**	**254**	P	**P**	**23 01 18.4**	**+5.4**
	comp=Z,20μm,1.1s,comp=Z,450μm						
GTA	**Gaotai**	**23.99**	**315**	⇓P	**P**	**23 01 28.0**	**+1.2**
GTA				pP	pP	23 01 34.2	-0.7
GTA				sP	sP	23 01 37.1	-1.0
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,47nm,4.3s						
GTA				LR	LR		
	comp=Z,140nm,15.8s						
GTA				LR	LR		
	comp=Z,270nm,13.1s						
GTA				LR	LR		
	comp=Z,400nm,15.5s						
KLR	**Kul'dur**	**26.51**	**15**	P	**P**	**23 01 49.3**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=200,slow=9.6,SNR=6.9						
ULN	**Ulaanbaatar**	**26.52**	**338**	P	**P**	**23 01 47.2**	**-2.5**
SONM	**Songino Array**	**26.73**	**337**	P	**P**	**23 01 51.6**	**0.0**
	comp=Z,3.2nm,0.7s,baz=153,slow=9.6,SNR=26						
SONM	**Songino Array**	**26.73**	**337**	P	**P**	**23 01 51.2**	**-0.4**
SHL	**Shillong**	**26.94**	**280**	P	**P**	**23 01 52.0**	**-1.7**
LSA	**Lhasa**	**27.66**	**289**	P	**P**	**23 01 58.1**	**-2.5**
TAPN	**Taplejung**	**30.62**	**284**	*e*P	**P**	**23 02 28.0**	**+1.4**
	comp=Z,38nm,1.3s						
ODAN	**Odare**	**30.92**	**283**	*e*P	**P**	**23 02 30.5**	**+1.3**
RAMN	**Ramite**	**31.62**	**283**	*e*P	**P**	**23 02 36.7**	**+1.3**
JIRN	**Jiri**	**31.96**	**284**	*e*P	**P**	**23 02 40.0**	**+1.5**
	comp=Z,37nm,1.2s						
GUN	**Gumba**	**32.23**	**285**	*e*P	**P**	**23 02 42.2**	**+1.3**
PKI	**Pulchoki**	**32.66**	**284**	*e*P	**P**	**23 02 45.0**	**+0.4**
	comp=Z,13nm,1.1s						
PKIN	**Phulchoki**	**32.67**	**284**	*e*P	**P**	**23 02 45.0**	**+0.4**
KKN	**Kakani**	**32.77**	**285**	*e*P	**P**	**23 02 46.3**	**+0.9**
DMN	**Daman**	**32.93**	**284**	*e*P	**P**	**23 02 47.6**	**+0.7**
GKN	**Gorkha**	**33.33**	**285**	*e*P	**P**	**23 02 50.6**	**+0.3**
	comp=Z,38nm,1.2s						
WMQ	**Urumqi**	**34.06**	**314**	*e*P	**P**	**23 02 59.5**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,81nm,4.9s						
WMQ				LR	LR		
	comp=Z,550nm,29.0s						
WMQ				LR	LR		
	comp=Z,2μm,29.3s						
WMQ				LR	LR		
	comp=Z,76nm,29.2s						
DANN	**Dangsing**	**34.09**	**286**	*e*P	**P**	**23 02 57.9**	**+0.8**
	comp=Z,36nm,1.0s						
KOLN	**Koldanda**	**34.26**	**285**	*e*P	**P**	**23 02 59.2

KSH sS sS 23 10 24.9 +0.2
KSH SS **SS** **23 13 16.4 +2.0**
KSH LR LR
comp=Z,340nm,11.0s
KSH LR LR
comp=Z,310nm,10.1s
KSH LR LR
comp=Z,460nm,14.6s
NRN Naryn 41.59 306 IAmb IAmb 23 04 03.3
comp=Z,6.7nm,0.8s
H11N1 WAKE ISLAND Hy 42.19 87 T T 23 49 15.7
baz=283,slow=75,SNR=40
H11N2 WAKE ISLAND Hy 42.20 87 T T 23 49 17.5
baz=283,slow=75,SNR=32
H11N3 WAKE ISLAND Hy 42.21 87 T T 23 49 16.4
baz=283,slow=75,SNR=40
H11S3 WAKE ISLAND Hy 42.32 88 T T 23 49 16.6
baz=284,slow=74,SNR=96
H11S1 WAKE ISLAND Hy 42.33 88 T T 23 49 30.8
baz=284,slow=74,SNR=65
H11S2 WAKE ISLAND Hy 42.34 88 T T 23 49 22.8
baz=284,slow=74,SNR=54
KURK Kurchatov 42.49 320 P **P** **23 04 06.2 -0.8**
KURK IAmb IAmb 23 04 08.5
comp=Z,7.6nm,1.1s
AAK Ala-Archa 42.91 308 P **P** **23 04 09.2 -1.6**
AAK IAmb IAmb 23 04 12.6
comp=Z,16nm,1.8s
WRA Warramunga Arr 45.35 163 P **P** **23 04 29.1 -1.3**
comp=Z,1.6nm,0.7s,baz=344,slow=8.6,SNR=14
WRA Warramunga Arr 45.35 163 P **P** **23 04 28.1 -2.3**
KK31 Karatay Array 45.88 308 P **P** **23 04 33.3 -1.0**
KK31 IAmb IAmb 23 04 37.0
comp=Z,3.5nm,0.8s
KKAR Karatay Array 45.88 308 P **P** **23 04 31.3 -3.1**
KKAR IAmb IAmb 23 04 37.0
comp=Z,3.5nm,0.8s
KKAR Karatay Array 45.88 308 P **P** **23 04 33.5 -0.9**
KBL Kabul 46.55 296 P **P** **23 04 39.9 -0.1**
ASAR Alice Springs 48.81 165 P **P** **23 04 56.6 -0.6**
comp=Z,0.5nm,0.3s,baz=342,slow=6.8,SNR=8.8
ASAR Alice Springs 48.81 165 P **P** **23 04 55.9 -1.4**
ABKAR Abkulak array 53.84 314 P **P** **23 05 34.4 -0.4**
ABKAR Abkulak array 53.84 314 P **P** **23 05 32.6 -2.2**
ABKAR IAmb IAmb 23 05 37.2
comp=Z,5.3nm,0.8s
GEYT Alibeck 55.20 301 P **P** **23 05 46.6 +1.7**
comp=Z,4.9nm,0.7s,baz=62,slow=7.6,SNR=13
GEYT LR LR 23 33 55.0
comp=Z,66nm,18.2s,baz=15,slow=41
GEYT Alibeck 55.20 301 P **P** **23 05 44.6 -0.3**
STKA Stephens Creek 58.71 160 P **P** **23 06 08.9 -0.6**
comp=Z,0.9nm,0.3s,baz=336,slow=6.5,SNR=3.5
KBZ Khabaz 65.88 309 P **P** **23 06 59.2 +1.6**
comp=Z,2.2nm,0.8s,baz=94,slow=8.7,SNR=6.1
BPAW Bear Paw Mtn. 67.68 28 P **P** **23 07 07.1 -1.6**
ILAR Eielson Array 69.30 27 P **P** **23 07 17.6 -1.2**
comp=Z,0.3nm,0.5s,baz=292,slow=7.0,SNR=5.9
ILAR Eielson Array 69.30 27 P **P** **23 07 17.5 -1.4**
BMAR Burnt Mountain 69.64 24 P **P** **23 07 20.4 -0.6**
ARCES ARCESS Array B 69.90 338 P **P** **23 07 22.8 +0.4**
comp=Z,1.9nm,0.8s,baz=67,slow=9.9,SNR=3.1
FINES FINESS Array B 71.83 330 P **P** **23 07 33.7 -0.6**
comp=Z,1.4nm,0.8s,baz=42,slow=7.2,SNR=9.1
INK Inuvik 73.35 22 P **P** **23 07 42.6 -0.6**
comp=Z,1.9nm,0.8s,baz=318,slow=6.5,SNR=5.6
INK Inuvik 73.35 22 P **P** **23 07 42.3 -0.9**
BR131 Keskin Array S 73.58 307 P **P** **23 07 43.1 -2.2**
BRTR Keskin Array B 73.58 307 P **P** **23 07 45.2 -0.1**
comp=Z,0.6nm,0.7s,baz=94,slow=3.8,SNR=6.0
BRTR Keskin Array B 73.58 307 P **P** **23 07 43.6 -1.7**
NOA NORSAR Array B 78.60 332 P **P** **23 08 12.6 -0.7**
comp=Z,0.9nm,0.8s,baz=82,slow=6.3,SNR=3.6
YKA Yellowknife Ar 83.09 23 P **P** **23 08 36.3 -0.9**
comp=Z,1.6nm,0.7s,baz=311,slow=4.8,SNR=4.4

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*IDC **03** 22:57:26.8±2.9, 36°.28N×140°.70E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/45, mbtmp3.4/2, Error ellipse: s-maj=65.8km s-min=30.5km az=38.0*
*ISCJB **03** 22:57:33.9±0.7, 36°.04N±0°.04×140°.33E±0°.05, h51km±5km, mb3.4/2, Error ellipse: s-maj=7.2km s-min=6.2km az=142.8*
*JMA **03** 22:57:34.6±0.1, 36°.00N×140°.26E, h41km±1km, M3.0*
JMA Felt I J1.
ISC 03 22:57:34.5±1.0, 36°.04N±0°.04×140°.31E±0°.05, h45km±8km, n20, σ0§83/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.19**	**113**	P	**Pn**	**22 57 42.5**	**+0.3**
JIHU				S	**Sn**	**22 57 48.4**	**+0.8**
JYT	**Yasato**	**0.21**	**334**	P	**Pn**	**22 57 42.4**	**0.0**
JYT				S	**Sn**	**22 57 47.7**	**-0.2**
JHYU	**Hitachinakayam**	**0.37**	**37**	P	**Pn**	**22 57 44.1**	**+0.1**
JHYU				S	**Sn**	**22 57 50.8**	**+0.2**
JSMT	**Sammumatsuo**	**0.41**	**164**	P	**Pn**	**22 57 44.2**	**-0.2**
JSMT				S	**Sn**	**22 57 51.5**	**+0.1**
JHO	**Hitachi**	**0.61**	**20**	P	**Pn**	**22 57 47.0**	**+0.1**
JHO				S	**Sn**	**22 57 55.7**	**0.0**
JAG	**Ashikaga**	**0.79**	**299**	P	**Pn**	**22 57 49.1**	**-0.2**
JAG				S	**Sn**	**22 57 59.4**	**-0.6**
JKT	**Katashina**	**1.12**	**311**	P	**Pn**	**22 57 54.1**	**+0.2**
JKT				S	**Sn**	**22 58 08.5**	**+0.3**
JRY	**Ryogami san**	**1.14**	**269**	P	**Pn**	**22 57 53.6**	**-0.5**
JRY				*e*S	**Sn**	**22 58 07.5**	**-1.1**
BSO3	**Boso 3**	**1.25**	**172**	P	**Pn**	**22 57 56.0**	**+0.7**
JOD2	**Odawara 2**	**1.26**	**232**	P	**Pn**	**22 57 55.8**	**+0.1**
JOD2				S	**Sn**	**22 58 11.4**	**-0.1**
MJAR	**Matsushiro Arr**	**1.77**	**287**	Pn	**Pn**	**22 58 03.2**	**+0.5**
	1.3nm,0.3s,baz=92,slow=9.2,SNR=59						
MJAR				Sn	**Sn**	**22 58 26.6**	**+2.6**
	0.7nm,0.3s,baz=111,slow=22,SNR=7.8						
MAT	**Matsushiro**	**1.77**	**287**	P	**Pn**	**22 58 03.5**	**+0.8**
MAT				S	**Sn**	**22 58 25.6**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**28.44**	**118**	T	T	23 33 33.9	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.45**	**118**	T	T	23 33 35.8	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.46**	**118**	T	T	23 33 35.7	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**29.10**	**120**	T	T	23 34 22.6	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**29.11**	**120**	T	T	23 34 23.3	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**29.12**	**120**	T	T	23 34 22.8	
	baz=314						
MKAR	**Makanchi Array**	**43.90**	**303**	P	**P**	**23 05 35.7**	**-1.0**
	0.4nm,0.7s,baz=97,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**55.97**	**187**	P	**P**	**23 07 08.5**	**+0.2**
	0.2nm,0.4s,baz=0.2,slow=7.4,SNR=3.7						

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*ISCJB **03** 22:58:10.4±0.8, 27°.4N±0°.2×140°.2E±0°.2, h479km, mb3.4/5, Error ellipse: s-maj=24.4km s-min=17.7km az=137.4*
*IDC **03** 22:58:10.8±0.7, 27°.53N×140°.05E, h462km±15km, mb3.1/5, mb1 3.2/6, mb1mx2.8/42, mbtmp3.9/6, Error ellipse: s-maj=37.2km s-min=20.5km az=89.0*
ISC 03 22:58:11.1±0.9, 27°.5N±0°.2×140°.3E±0°.2, h479km, n7, σ1§01/8, mb3.3/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.75**	**103**	P	**P**	**22 59 13.2**	**+0.2**
	36nm,0.3s,baz=265,slow=11,SNR=38						
JCJ				S	**S**	**23 00 01.9**	**-1.5**
	32nm,0.3s,baz=286,slow=24,SNR=11						
USRK	**Ussuriysk Ar.**	**17.93**	**340**	P	**P**	**23 01 51.2**	**-0.4**
	baz=170,slow=11,SNR=4.3						
CMAR	**Chiang Mai Arr**	**38.95**	**266**	P	**P**	**23 04 54.2**	**-1.0**
	0.3nm,0.3s,baz=70,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**47.53**	**188**	P	**P**	**23 06 02.9**	**+0.7**
	0.5nm,0.5s,baz=1.6,slow=7.6,SNR=6.4						
ARCES	**ARCESS Array B**	**72.58**	**340**	P	**P**	**23 08 49.5**	**+1.0**
	1.6nm,0.8s,baz=64,slow=8.2,SNR=3.7						
FINES	**FINESS Array B**	**76.81**	**333**	P	**P**	**23 09 12.9**	**+0.5**
	3.7nm,0.8s,baz=68,slow=4.9,SNR=11						
BRTR	**Keskin Array B**	**84.46**	**312**	P	**P**	**23 09 53.1**	**+0.1**
	0.3nm,0.6s,baz=77,slow=3.8,SNR=2.4						

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*IDC **03** 23:10:15.3±0.6, 58°.88N×148°.67E, h0km, mb4.0/20, mb1 4.2/24, mb1mx4.1/49, mbtmp4.0/24, ML4.3/3, MS3.3/12, Ms1 3.4/12, ms1mx3.1/33, Error ellipse: s-maj=14.7km s-min=8.6km az=145.0*
*ISCJB **03** 23:10:16.9±0.2, 58°.75N±0°.03×149°.13E±0°.04, h10km, mb4.2/57, MS3.5/11, Error ellipse: s-maj=3.9km s-min=3.0km az=159.4*
*MOS **03** 23:10:16.7±1.4, 58°.71N×149°.05E, h10km, mb4.7/12, MS3.2/7, Error ellipse: s-maj=9.8km s-min=5.3km az=89.1*
MOS Felt (II) at Magadan, Ola.
*BJI **03** 23:10:17.2±0.0, 58°.80N×149°.20E, h15km, mb4.4/21, mbB4.7/17, Ms4.2/7, Ms7 3.9/6*
*NERS **03** 23:10:18.8±0.0, 59°.19N×148°.74E, h5km*
*NEIC **03** 23:10:20.1±1.6, 58°.80N±0°.07×149°.2E±0°.1, h16km±4km, mb4.7/61*
ISC 03 23:10:18.8±0.3, 58°.83N±0°.04×149°.06E±0°.03, h10km, n233, σ1§96/243, mb4.5/72, MS3.3/11, 39C-13D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MA2	**Magadan**	**1.15**	**49**	⇓*i*P	**Pb**	**23 10 40.3**	**-0.5**
MA2				⇓*i*Pg	**Pn**	**23 10 41.2**	**+0.2**
MA2				Pgmax		23 10 42.2	
	1μm,0.4s						
MA2				*e*Sg	**Sn**	**23 10 58.2**	**+1.4**
MA2				Sgmax		23 10 59.8	
	2μm,0.3s						
MA2				Sgmax		23 10 59.8	
	2μm,0.3s						
MA2	**Magadan**	**1.15**	**49**	*d*iP	**Pb**	**23 10 40.3**	**-0.5**
MA2				*i*		23 10 58.2	
MA2				pmax	pmax		
	comp=Z,2μm,0.6s						
MA2				smax	smax		
	comp=E,2μm,0.2s						
MA2	**Magadan**	**1.15**	**49**	Pg	**Pb**	**23 10 40.3**	**-0.5**
	comp=E,486nm,0.3s,baz=242,slow=15,SNR=589						
MA2				Lg	Lg	23 10 57.3	
	comp=E,523nm,0.3s,baz=163,slow=22,SNR=25						
MA2	**Magadan**	**1.15**	**49**		**Pb**	**23 10 40.2**	**-0.6**
MGD	**Magadan 1**	**1.48**	**34**	*e*	**Sn**	**23 11 00.7**	**-4.3**
MGD				*i* P	**Sb**	**23 11 01.6**	**-3.8**
MGD				Pgmax		23 11 03.2	
	comp=E,1μm,0.2s						
MGD				*e*S	Sg	23 11 23.5	+17
MGD				Sgmax		23 11 24.1	
	comp=E,8μm,0.3s						
TLAR	**Talaya**	**2.85**	**35**	*e*P	**Pn**	**23 11 04.1**	**-0.2**
TLAR				*e*Pg	**Pb**	**23 11 09.6**	**-0.1**
TLAR				Pgmax		23 11 12.9	
	comp=E,1μm,0.4s						
TLAR				*e*Sg	**Sb**	**23 11 47.6**	**+3.0**
TLAR				Sgmax		23 11 50.4	
	comp=E,7μm,0.3s						
OCHR	**Omchak**	**2.90**	**349**	*e*P	**Pn**	**23 11 02.7**	**-2.4**
OCHR				*e*Pg	**Pb**	**23 11 06.5**	**-4.2**
OCHR				Pgmax		23 11 12.1	
	comp=E,890nm,0.4s						
OCHR				*e*Sg	**Sb**	**23 11 43.4**	**-2.8**
OCHR				Sgmax		23 11 50.4	
	comp=E,3μm,0.5s						
OCHR				Sgmax		23 11 50.4	
	comp=E,5μm,0.5s						
OKHR	**Okhotsk**	**3.05**	**282**	*e*P	**Pn**	**23 11 04.7**	**-2.3**
OKHR				Pgmax		23 11 08.0	
	comp=E,190nm,0.3s						
OKHR				*e*S	Pg	23 11 22.3	+5.2
OKHR				Sgmax		23 11 24.9	
	comp=E,2μm,0.2s						
SNGR	**Sinegor'e**	**3.31**	**11**	⇑*i*P	**Pn**	**23 11 09.8**	**-0.8**
SNGR				*e*Pg	**Pb**	**23 11 16.5**	**-1.0**
SNGR				Sgmax		23 11 19.3	
	comp=E,40nm,0.2s						
SNGR				*e*Sg	**Sb**	**23 11 59.7**	**+1.9**
SNGR				Sgmax		23 12 01.3	
	comp=E,2μm,0.4s						
SUUS	**Susuman**	**3.98**	**354**	*e*P	**Pn**	**23 11 17.2**	**-2.7**
SUUS				*e*Pg	**Pb**	**23 11 27.9**	**-1.1**
SUUS				Pgmax		23 11 30.6	
	comp=E,110nm,0.3s						
SUUS				*e*Sg	**Sb**	**23 12 17.7**	**+0.5**
SUUS				Sgmax		23 12 24.4	
	comp=E,4μm,0.4s						
SUUS	**Susuman**	**3.98**	**354**	*e*P	**Pn**	**23 11 17.2**	**-2.7**
SUUS				*e*		23 12 16.7	
SUUS				pmax	pmax		
	comp=Z,110nm,0.3s						
SUUS				smax	smax		
	comp=N,4μm,0.4s						
SEY	**Seymchan**	**4.42**	**20**	*e*P	**Pn**	**23 11 25.3**	**-0.6**
SEY				*e*Pg	**Pb**	**23 11 38.1**	**+1.6**
SEY				Pgmax		23 11 38.6	
	comp=N,130nm,0.3s						
SEY				*e*Sg	**Sb**	**23 12 34.6**	**+4.8**
SEY				Sgmax		23 12 40.8	
	comp=N,2μm,0.2s						
SEY	**Seymchan**	**4.42**	**20**	*e*P	**Pn**	**23 11 25.4**	**-0.5**
SEY				pmax	pmax		
	comp=Z,130nm,0.3s						
SEY	**Seymchan**	**4.42**	**20**	Pn	**Pn**	**23 11 24.9**	**-0.9**
	comp=Z,19nm,0.3s,baz=202,slow=15,SNR=94						
SEY				Lg	Lg	23 12 34.6	
	comp=Z,290nm,0.3s,baz=143,slow=20,SNR=15						
OKH	**Okha**	**6.30**	**215**	*de*P	Pn	23 11 36.3	-15
OKH				MLR	MLR		
	comp=Z,400nm,14.0s						
NKL	**Nikolayevsk**	**7.38**	**223**	*e*P	**Pn**	**23 12 03.0**	**-3.5**
NKL				pmax	pmax		
	comp=Z,18nm,0.6s						
NKL				pmax	pmax		
	comp=E,8.0nm,0.3s						
NKL				pmax	pmax		
	comp=N,2.0nm,0.4s						
NKL				MLR	MLR		
	comp=Z,332nm,13.0s						
NKL				MLR	MLR		
	comp=E,585nm,14.0s						
NKL				MLR	MLR		
	comp=N,70nm,12.0s						
PEA0B	**Petropavlovsk-**	**7.51**	**136**	*c iP*	**Pn**	**23 12 09.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**7.51**	**136**		**Pn**	**23 12 09.2**	**+0.9**
PETK	**Petropavlovsk-**	**7.51**	**136**	Pn	**Pn**	**23 12 09.2**	**+0.9**
	comp=N,21nm,0.3s,baz=319,slow=12,SNR=317						
PETK				LR	LR	23 15 37.6	
	comp=N,212nm,19.5s,baz=55,slow=42						
PETK	**Petropavlovsk-**	**7.51**	**136**		**Pn**	**23 12 08.7**	**+0.5**
PET	**Petropavlovsk**	**7.93**	**133**	*e*P	**Pn**	**23 12 13.8**	**-0.1**
PET				*e*S	**Sn**	**23 13 41.7**	**-1.9**
PET				pmax	pmax		
	comp=Z,21nm,1.0s						
PET				MLR	MLR		
	comp=Z,600nm,18.0s						
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
PET	**Petropavlovsk**	**7.93**	**133**	Pn	**Pn**	**23 12 13.8**	**-0.1**
SKR	**Severo-Kuril's**	**9.12**	**150**	*e*P	Pn	23 12 36.9	+6.5
SKR				pmax	pmax		
	comp=Z,42nm,1.1s						
SKR				pmax	pmax		
	comp=Z,200nm,4.4s						
SKR				MLR	MLR		
	comp=Z,100nm,14.0s						
SKR				MLR	MLR		
	comp=Z,200nm,13.0s						
YAK	**Yakutsk**	**10.09**	**297**	*e*P	**Pn**	**23 12 46.1**	**+2.6**
YAK				*e*S	**Sn**	**23 14 40.6**	**+4.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,26nm,1.3s						
YAK				pmax	pmax		
	comp=N,56nm,1.9s						
YAK				pmax	pmax		
	comp=E,20nm,1.2s						
YAK				smax	smax		
	comp=N,54nm,1.3s						
YAK				smax	smax		
	comp=E,59nm,1.5s						
YAK				pmax	pmax		
	comp=N,2μm,2.0s						
YAK				pmax	pmax		
	comp=E,703nm,1.7s						
YAK	**Yakutsk**	**10.09**	**297**	Lg	Lg	23 15 21.8	
	comp=E,0.1nm,0.3s,baz=335,slow=23,SNR=13						
YAK	**Yakutsk**	**10.09**	**297**	Pn	**Pn**	**23 12 45.7**	**+2.2**
GRNR	**Gornyy**	**10.87**	**227**	*e*P	**Pn**	**23 12 52.2**	**-2.1**
GRNR				*e*		23 14 51.4	
BILL	**Bilibino**	**11.97**	**32**	*i* P	**Pn**	**23 13 10.4**	**+1.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,148nm,15.0s						
YSS	**Yuzh-Sakhalins**	**12.49**	**200**	*e*P	**Pn**	**23 13 16.7**	**+0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
ZEA	**Zeya**	**13.12**	**257**	*e*P	**Pn**	**23 13 24.0**	**-1.0**
ZEA				*e*S	**Sn**	**23 15 54.0**	**+3.2**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,14.0s						
ZEA				MLR	MLR		
	comp=E,400nm,13.0s						
KUR	**Kuril'sk**	**13.64**	**184**	⇓*e*P	**Pn**	**23 13 30.3**	**-1.8**
KLR	**Kul'dur**	**13.96**	**234**	*ce*P	**Pn**	**23 13 34.6**	**-1.8**
KLR	**Kul'dur**	**13.96**	**234**	Pn	**Pn**	**23 13 34.7**	**-1.7**
	comp=E,0.6nm,0.3s,baz=18,slow=14,SNR=8.7						
ASAJ	**Asahikawa**	**15.27**	**198**	Pn	**Pn**	**23 13 53.4**	**-0.9**
	comp=E,1.8nm,0.3s,baz=50,slow=7.9,SNR=8.7						
ASAJ				LR	LR	23 19 57.3	
	comp=E,141nm,19.0s,baz=1.0,slow=38						
SMY	**Shemya**	**15.29**	**103**	P	**Pn**	**23 13 54.4**	**-0.1**
SMY				pmax	pmax		
	comp=Z,117nm,1.1s						
SMY	**Shemya**	**15.29**	**103**	Pn	**Pn**	**23 13 54.4**	**-0.1**
ERM	**Erimo**	**17.24**	**195**	⇑*e*P	**Pn**	**23 14 18.0**	**-1.5**
ERM				pmax	pmax		
	comp=Z,52nm,1.7s						
ERM	**Erimo**	**17.24**	**195**		**Pn**	**23 14 18.9**	**-0.6**
ERM				IAmb	IAmb	23 14 19.6	
	comp=Z,29nm,0.7s						
USA0B	**Ussuriysk Arra**	**18.01**	**223**	P	**Pn**	**23 14 29.0**	**-0.1**
USA0B				pmax	pmax		
	comp=Z,8.0nm,1.2s						
USA0B	**Ussuriysk Arra**	**18.01**	**223**		**Pn**	**23 14 29.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**18.01**	**223**	P	**Pn**	**23 14 27.2**	**-1.8**
	baz=30,slow=12,SNR=2.5						
USRK				LR	LR	23 22 06.5	
	comp=Z,52nm,20.1s,baz=28,slow=40						
USRK	**Ussuriysk Ar.**	**18.01**	**223**		**Pn**	**23 14 28.6**	**-0.5**
BOD	**Bodaibo**	**18.32**	**282**	*e*P	**Pn**	**23 14 26.6**	**-6.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KIWB	**Kanaga Island**	**20.27**	**95**	P	**P**	**23 14 53.7**	**-0.4**
SPIA	**Saint Paul Isl**	**21.39**	**77**		**P**	**23 15 04.8**	**-1.4**
MAJO	**Matsushiro**	**23.41**	**202**	⇑*e*P	**P**	**23 15 28.7**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR	**Matsushiro Arr**	**23.41**	**202**	P	**P**	**23 15 23.8**	**-3.9**
	comp=Z,0.6nm,0.4s,baz=20,slow=11,SNR=4.2						
MJAR				LR	LR	23 24 36.6	
	comp=Z,101nm,18.9s,baz=350,slow=37						
NIKH	**Nikolski High**	**23.98**	**86**	P	**P**	**23 15 33.1**	**-0.1**
INU	**Inuyama**	**24.81**	**204**	P	**P**	**23 15 41.6**	**+0.8**
INU				IAmb	IAmb	23 15 54.2	
	comp=Z,9.6nm,0.8s						
AKUT	**Akutan**	**24.99**	**81**	P	**P**	**23 15 41.8**	**-0.5**
KSRS	**Korea Array**	**25.41**	**222**	P	**P**	**23 15 43.6**	**-2.6**
	comp=Z,1.8nm,0.7s,baz=26,slow=7.7,SNR=4.6						
KSRS				LR	LR	23 25 16.6	
	comp=Z,41nm,19.0s,baz=38,slow=36						
FALS	**False Pass**	**25.85**	**78**	P	**P**	**23 15 48.1**	**-1.9**
TLY	**Talaya**	**26.41**	**274**	⇓*e*P	**P**	**23 15 53.0**	**-2.2**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.1s						
IMAR	**Indian Mountai**	**26.54**	**50**	P	**P**	**23 15 55.7**	**-0.5**
TJN	**Taejon**	**26.58**	**222**	⇑*e*P	**P**	**23 15 56.4**	**-0.4**
ULN	**Ulaanbaatar**	**26.91**	**265**	⇑*e*P	**P**	**23 15 57.0**	**-3.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ULN	**Ulaanbaatar**	**26.91**	**265**	P	**P**	**23 16 00.5**	**+0.5**
SDPT	**Sand Point**	**27.10**	**75**	P	**P**	**23 16 02.0**	**+0.6**
SVW2	**Sparrevohn**	**27.10**	**61**	P	**P**	**23 16 01.9**	**+0.6**
SONM	**Songino Array**	**27.28**	**265**	P	**P**	**23 15 59.9**	**-3.3**
	comp=Z,1.2nm,0.8s,baz=58,slow=9.1,SNR=8.1						
SONM				Lg	Lg	23 24 35.9	
	comp=Z,1.6nm,1.1s,baz=57,slow=24,SNR=3.8						
SONM				LR	LR	23 25 48.9	
	comp=Z,49nm,18.8s,baz=40,slow=34						
SONM	**Songino Array**	**27.28**	**265**	P	**P**	**23 16 00.3**	**-2.9**
CHGN	**Chignik**	**27.69**	**72**	P	**P**	**23 16 04.3**	**-2.3**
KTH	**Kantishna Hill**	**28.35**	**55**	P	**P**	**23 16 13.2**	**+0.6**
KTH				IAmb	IAmb	23 16 20.0	
	comp=Z,12nm,1.4s						
JNU	**Nakatsue**	**28.46**	**213**	LR	LR	23 27 10.6	
	comp=Z,51nm,20.9s,baz=32,slow=36						
RSO	**Redoubt South**	**28.63**	**62**	P	**P**	**23 16 11.9**	**-3.4**
COLA	**College**	**29.21**	**51**	⇑*e*P	**P**	**23 16 18.7**	**-1.3**
COLA				pmax	pmax		
	comp=Z,11nm,1.7s						
HHC	**Hu-ho-hao-te**	**29.60**	**249**	P	**P**	**23 16 26.8**	**+2.9**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
IL31		**29.63**	**51**	P	**P**	**23 16 24.0**	**+0.2**
ILAR	**Eielson Array**	**29.63**	**51**	P	**P**	**23 16 23.9**	**+0.1**
ILAR	**Eielson Array**	**29.63**	**51**	P	**P**	**23 16 23.7**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=281,slow=9.0,SNR=38						
ILAR	**Eielson Array**	**29.63**	**51**	P	**P**	**23 16 23.9**	**+0.1**
KDAK	**Kodiak Island**	**29.84**	**66**	LR	LR	23 27 41.2	
	comp=Z,114nm,18.8s,baz=101,slow=35						
KNK	**Knik Glacier**	**30.18**	**58**	P	**P**	**23 16 29.2**	**+0.4**
KNK				IAmb	IAmb	23 16 29.4	
	comp=Z,8.3nm,0.7s						
SCM	**Sheep Creek Mo**	**30.51**	**57**	P	**P**	**23 16 31.5**	**-0.3**
SCM				pmax	pmax		
	comp=Z,22nm,1.5s						
SCM	**Sheep Creek Mo**	**30.51**	**57**	P	**P**	**23 16 31.5**	**-0.3**
SCM				IAmb	IAmb	23 16 32.9	
	comp=Z,22nm,1.5s						
RAGM	**Ragged Mountai**	**32.30**	**58**		**S**	**23 22 01.4**	**+0.8**
BCAR	**Beaver Creek A**	**32.36**	**53**	P	**P**	**23 16 47.6**	**-0.4**
MCARA	**McCarthy VSAT**	**32.57**	**56**	P	**P**	**23 16 50.3**	**+0.6**
MCARA				IAmb	IAmb	23 17 05.1	
	comp=Z,27nm,1.4s						
BALM	**Baldy**	**33.02**	**56**	P	**P**	**23 16 54.7**	**+0.9**
BALM				IAmb	IAmb	23 17 09.5	
	comp=Z,27nm,1.4s						
BARN	**Barnard Glacie**	**33.30**	**56**	P	**P**	**23 16 56.6**	**+0.2**
BARN				IAmb	IAmb	23 17 03.3	
	comp=Z,13nm,1.1s						
NJ2	**Nanjing**	**33.62**	**231**	*e*P	**P**	**23 17 01.2**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZALV	**Zalesovo Beam**	**34.66**	**291**	⇑*e*P	**P**	**23 17 09.6**	**+1.6**
ZALV	**Zalesovo Beam**	**34.66**	**291**	P	P	23 17 02.9	-5.1
	comp=Z,0.5nm,0.6s,baz=45,slow=6.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**34.66**	**291**	P	**P**	**23 17 09.8**	**+1.7**
YKU2	**Yakutat**	**34.92**	**58**	P	**P**	**23 17 09.9**	**-0.3**
DGZ	**Jazzator, Alta**	**35.90**	**283**	⇑*e*P	**P**	**23 17 18.3**	**-0.6**
GTA	**Gaotai**	**36.57**	**260**	*e*P	**P**	**23 17 22.4**	**-2.4**
GTA		

comp=Z,7.0nm,0.8s
WMQ pmax pmax
comp=Z,54nm,9.1s
WMQ LR LR
comp=Z,500nm,29.1s
WMQ LR LR
comp=Z,1µm,29.2s
DLBC Dease Lake 39.68 54 P P 23 17 50.2 -0.4
comp=Z,0.7nm,0.4s,baz=325,slow=16,SNR=1.5
KURBB Kurchatov Arra 39.75 290 P P 23 17 47.5 -3.8
comp=Z,2.1nm,0.2s,baz=55,slow=8.5,SNR=5.6
RES Resolute Bay 40.29 22 P P 23 17 54.8 -0.6
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 40.29 22 P P 23 17 54.8 -0.6
MK31 Makanchi Array 40.40 283 P P 23 17 59.3 +2.6
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 40.40 283 P P 23 17 59.3 +2.6
MKAR Makanchi Array 40.40 283 P P 23 17 57.6 +0.9
MKAR Makanchi Array 40.40 283 P P 23 17 53.1 -3.7
comp=Z,0.3nm,0.7s,baz=56,slow=7.4,SNR=4.2
MKAR Makanchi Array 40.40 283 P P 23 17 57.6 +0.9
MAKZ Makanchi 40.55 283 P P 23 17 58.5 +0.5
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MAKZ Makanchi 40.55 283 P P 23 17 58.5 +0.5
KNMB Chin-men Tao 40.59 226 P P 23 17 58.9 +0.4
WAKE Wake Island 41.52 154 P P 23 18 06.2 0.0
DIB Dawson Inlet, 41.85 62 P P 23 18 08.3 -0.2
DIB IAmb IAmb 23 18 13.0
comp=Z,26nm,1.3s
BRVK Borovoye 42.09 298⇓ eP P 23 18 11.4 +0.9
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 42.09 298 P P 23 18 11.5 +0.9
DAG Danmarks Havn 44.43 356 eP P 23 18 30.7 +1.7
DAG pmax pmax
comp=Z,10.0nm,1.1s
DAG Danmarks Havn 44.43 356 i P P 23 18 30.7 +1.7
comp=Z,7.8nm,1.1s
BBB Bella Bella 44.52 61 P P 23 18 30.2 +0.2
BBB IAmb IAmb 23 18 45.9
comp=Z,24nm,1.3s
ARU Arti 44.95 308 c iP P 23 18 33.1 -0.4
ARU 23 20 16.8
ARU S **S** **23 25 13.8 +2.5**
ARU SS **SS** **23 28 32.5 +0.3**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 45.70 336 P P 23 18 36.6 -2.6
comp=Z,3.4nm,1.0s,baz=38,slow=9.1,SNR=2.8
ARCES ARCESS Array B 45.70 336 P P 23 18 39.9 +0.7
ARE0 ARCESS Array S 45.70 336 P P 23 18 39.7 +0.5
KDJ Kajisay 46.28 282 P P 23 18 46.4 +2.0
KDJ pmax pmax
comp=Z,9.0nm,1.0s
KDJ Kajisay 46.28 282 P P 23 18 46.4 +2.0
KDJ IAmb IAmb 23 18 59.2
comp=Z,9.1nm,0.9s
BOOM Boomskoye usch 46.65 283 P P 23 18 48.3 +1.0
BOOM pmax pmax
comp=Z,6.0nm,1.0s
BOOM Boomskoye usch 46.65 283 P P 23 18 48.3 +1.0
BOOM IAmb IAmb 23 18 59.0
comp=Z,5.5nm,0.9s
KMI Kunming 46.67 244 P P 23 18 51.5 +3.8
KMI pP sP 23 18 53.8 +1.8
KMI sP pP 23 18 55.6 +4.8
KMI pmax pmax
comp=Z,5.0nm,0.9s
KMI pmax pmax
comp=Z,41nm,3.5s
AAK Ala-Archa 47.27 284⇑ eP P 23 18 52.5 +0.4
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 47.27 284 P P 23 18 53.1 +1.0
SUMG Summit 48.77 3 i P P 23 19 06.0 +2.4
SUMG Summit 48.77 3 i P P 23 19 06.0 +2.4
KSH Kashi 48.83 281 eP P 23 19 10.7 +6.5
KSH S **S** **23 26 14.7 +7.5**
ABKAR Akbulak array 49.42 300 P P 23 19 04.8 -3.6
BTK Batken 51.03 285 P P 23 19 20.7 -0.2
BTK pmax pmax
comp=Z,4.0nm,0.8s
BTK Batken 51.03 285 P P 23 19 20.7 -0.2
ILULI Ilulissat 51.42 9 P P 23 19 24.1 +0.8
ILULI pmax pmax
comp=Z,60nm,1.4s
ILULI Ilulissat 51.42 9 P P 23 19 24.1 +0.8
JOHN Johnston Islan 51.82 126 P P 23 19 26.4 -0.4
GAR Garm 52.09 284 IAmb IAmb 23 19 40.0
comp=Z,5.4nm,0.8s
FINES FINESS Array B 52.19 329 P P 23 19 26.0 -3.1
FINES FINESS Array B 52.19 329 P P 23 19 26.0 -3.1
comp=Z,2.9nm,0.9s,baz=28,slow=8.6,SNR=6.8
FINES FINESS Array B 52.19 329 P P 23 19 28.3 -0.8
HON Honolulu 53.06 111 P P 23 19 36.1 +0.2
HON Honolulu 53.06 111 P P 23 19 36.1 +0.2
CHTO Chiang Mai 53.87 244 P P 23 19 43.0 +1.0
CHTO pmax pmax
comp=Z,6.0nm,1.2s
CHTO Chiang Mai 53.87 244 P P 23 19 43.0 +1.0
CHTO IAmb IAmb 23 19 47.3
comp=Z,5.9nm,1.2s
CMAR Chiang Mai Arr 54.17 244 LR LR 23 43 39.5
comp=Z,21nm,18.1s,baz=0.0,slow=37
OBN Obninsk 54.21 319⇑ eP P 23 19 45.7 +1.7
OBN e 23 21 47.5
OBN eS **S** **23 27 23.4 +2.7**
OBN pmax pmax
comp=Z,6.0nm,1.2s
NIL Nilore 54.73 278 P P 23 19 48.8 +0.6
NIL pmax pmax
comp=Z,11nm,1.4s
NIL Nilore 54.73 278 P P 23 19 48.8 +0.6
NIL IAmb IAmb 23 19 56.2
comp=Z,11nm,1.4s
NB2 NORSAR Subarra 56.05 337 P P 23 19 58.1 +0.8
comp=Z,11nm,1.4s,baz=26,slow=7.4
NOA NORSAR Array B 56.05 337 P P 23 19 54.1 -3.2
comp=Z,2.3nm,0.9s,baz=26,slow=7.1,SNR=5.0
NBO00 NORSAR Array S 56.15 337 P P 23 19 59.1 +1.1
KBL Kabul 56.19 282 P P 23 19 59.7 +0.9
KBL pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 56.19 282 P P 23 19 59.7 +0.9
KBL IAmb IAmb 23 20 01.8
comp=Z,3.5nm,0.8s
VSR Storozhevoye 56.45 315⇓ eP P 23 20 00.5 +0.3
VSR pmax pmax
comp=Z,7.0nm,1.0s
GEYT Alibeck 58.93 293 P P 23 20 14.7 -3.3
comp=Z,3.3nm,0.8s,baz=43,slow=2.6,SNR=4.3
GEYT Alibeck 58.93 293 P P 23 20 15.4 -2.5
GYA0B ALIBECK ARRAY 58.93 293 P P 23 20 18.8 +0.9
GYA0B IAmb IAmb 23 20 23.5
comp=Z,7.4nm,1.0s
NVAR Mina Array Bea 59.34 66 P P 23 20 25.2 +4.2
comp=Z,0.7nm,0.8s,baz=310,slow=7.0,SNR=2.1
PDAR Pinedale Array 59.85 57 P P 23 20 23.8 -0.7
comp=Z,0.3nm,0.5s,baz=346,slow=6.5,SNR=2.1
PDAR Pinedale Array 59.85 57 P P 23 20 24.3 -0.2
AKASG Malin Array Be 60.35 321 P P 23 20 24.0 -3.5
AKASG Malin Array Be 60.35 321 P P 23 20 24.0 -3.5
comp=Z,1.1nm,0.5s,baz=29,slow=7.0,SNR=3.9
PAGB Antelope Grade 60.56 69 P P 23 20 29.0 -0.2
KIV Kislovodsk 60.99 308 P P 23 20 34.5 +2.4
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV Kislovodsk 60.99 308 ⇑P P 23 20 34.8 +2.7
KIV Kislovodsk 60.99 308 P P 23 20 34.5 +2.4
KIV IAmb IAmb 23 20 37.4
comp=Z,7.0nm,0.8s
KBZ Khabaz 61.09 307⇑ eP P 23 20 32.2 -0.4
KBZ Khabaz 61.09 307 P P 23 20 29.4 -3.2
comp=Z,1.4nm,1.0s,baz=46,slow=5.2,SNR=6.6
KBZ LR LR 23 50 17.0
comp=Z,53nm,19.8s,baz=34,slow=39
ZEI Tsey 61.45 306 eP P 23 20 34.5 -0.8
ZEI pmax pmax
comp=Z,3.0nm,0.8s
RDMU Red Mountain 61.62 58 P P 23 20 37.2 +0.7
TBLG Delisi 61.96 305 P P 23 20 39.8 +1.2
TBLG pmax pmax
comp=Z,4.0nm,0.9s
TBLG Delisi 61.96 305 P P 23 20 39.8 +1.2
TBLG IAmb IAmb 23 20 42.5
comp=Z,4.2nm,0.9s
MSU Marysvale 62.13 61 P P 23 20 39.3 -0.7
MSU Marysvale 62.13 61 P P 23 20 39.3 -0.7
Q16A Castle Valley 62.25 60 P P 23 20 40.5 -0.3
SOC Sochi 62.51 309 eP P 23 20 47.6 +5.4
SOC eS **S** **23 29 10.5 +1.2**
SOC eSS **SS** **23 33 08.7 -3.7**
SOC pmax pmax
comp=Z,19nm,0.5s
SOC MLR MLR
comp=Z,31nm,7.0s
AKH Akhalkalaki 62.75 305 ⇓P P 23 20 45.8 +1.8
GNI Garni 63.26 304⇓ eP P 23 20 48.7 +1.3
GNI pmax pmax
comp=Z,17nm,1.5s
GNI Garni 63.26 304 P P 23 20 48.5 +1.1
GNI IAmb IAmb 23 20 56.7
comp=Z,7.1nm,0.9s
PV22 Blue Mesa, Par 63.64 59 P P 23 20 50.4 +0.4
PV22 IAmb IAmb 23 21 07.3
comp=Z,4.1nm,1.0s
OJC Ojcow 63.70 326 P P 23 20 51.7 +1.7
OJC pmax pmax
comp=Z,5.0nm,1.2s
OJC Ojcow 63.70 326 P P 23 20 51.7 +1.7
OJC IAmb IAmb 23 21 02.6
comp=Z,4.5nm,1.2s
KOLS Kolonicke sedl 64.11 324 eP P 23 20 54.4 +1.7
KOLS Kolonicke sedl 64.11 324 eP P 23 20 54.4 +1.7
BUR08 Bucovina Ar. S 64.32 321 P P 23 20 54.7 +0.4
BUR08 IAmb IAmb 23 21 06.8
comp=Z,6.5nm,1.4s
BURAR Bucovina Array 64.34 321 ⇑P P 23 20 50.4 -4.0
BURAR Bucovina Array 64.34 321 ⇑P P 23 20 50.4 -4.0
BURAR Bucovina Array 64.34 321 P P 23 20 52.0 -2.4
CLL Collm 64.54 331 P P 23 20 55.1 -0.4
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 64.54 331 eP P 23 20 57.0 +1.5
comp=Z,7.0nm,1.1s
CLL LV 23 48 00.0
comp=Z,100nm,20.0s
CLL Collm 64.54 331 P P 23 20 55.1 -0.4
CLL IAmb IAmb 23 21 08.7
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 64.55 329 eP P 23 20 58.2 +2.6
DPC Dobruska-Polom 64.55 329 eP P 23 20 58.2 +2.6
TRPA Tarpa 64.74 323 ⇓P P 23 20 58.1 +1.4
LANS Liptovska Anna 64.75 326 eP P 23 20 59.7 +2.8
LANS pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 64.75 326 eP P 23 20 59.7 +2.8
TESR Tescani 64.84 320 ⇑P P 23 20 57.8 +0.3
PLOR Plostina 65.42 320 ⇑P P 23 21 00.2 -1.1
PLOR Plostina 65.42 320 ⇑P P 23 21 00.2 -1.1
VYHS Vyhne 65.52 326 eP P 23 21 03.3 +1.4
VYHS Vyhne 65.52 326 eP P 23 21 03.3 +1.4
DRGR 65.87 323 ⇑P P 23 21 04.6 +0.3
DRGR 65.87 323 ⇑P P 23 21 04.6 +0.3
MLR Muntele Rosu 65.97 320 P P 23 21 06.8 +1.8
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 65.97 320 ⇑P P 23 21 07.7 +2.8
MLR Muntele Rosu 65.97 320 P P 23 21 06.8 +1.8
MLR IAmb IAmb 23 21 16.2
comp=Z,3.5nm,0.9s
HARR Harsova 65.99 318 ⇑P P 23 21 05.0 0.0
HARR Harsova 65.99 318 ⇑P P 23 21 05.0 0.0
VOIR 66.31 320 ⇑P P 23 21 09.6 +2.4
VOIR 66.31 320 ⇑P P 23 21 09.6 +2.4
ARR Arges 66.51 321 ⇑P P 23 21 11.7 +3.3
LEHL Lehliu 66.57 319 ⇑P P 23 21 05.5 -3.2
GERES GERESS Array B 66.62 330 P P 23 21 06.5 -2.5
comp=Z,0.7nm,0.8s,baz=23,slow=7.9,SNR=2.6
GERES GERESS Array B 66.62 330 P P 23 21 09.9 +0.8
SIRR Siria 66.67 323 ⇑P P 23 21 10.6 +1.3
GZR Gura Zlata 67.09 322 ⇑P P 23 21 11.8 -0.3
GZR Gura Zlata 67.09 322 ⇑P P 23 21 11.8 -0.3
BZS Buzias 67.26 323 ⇓P P 23 21 13.8 +0.7
BZS Buzias 67.26 323 ⇓P P 23 21 13.8 +0.7
COPA Copaceanca 67.41 320 ⇑P P 23 21 13.2 -0.8
BR131 Keskin Array S 68.19 311⇑ eP P 23 21 20.0 +0.8
BRTR Keskin Array B 68.19 311 P P 23 21 17.0 -2.2
BRTR Keskin Array B 68.19 311 P P 23 21 17.0 -2.2
comp=Z,1.3nm,0.8s,baz=46,slow=3.6,SNR=2.3
BRTR LR LR 23 55 58.3
comp=Z,18nm,19.1s,baz=360,slow=40
BRTR Keskin Array B 68.19 311 P P 23 21 21.0 +1.8
VTS Vitosha 69.42 320 ⇑P P 23 21 27.8 +1.0
VTS Vitosha 69.42 320 ⇑P P 23 21 27.8 +1.0
VTS Vitosha 69.42 320 P P 23 21 28.5 +1.7
VTS IAmb IAmb 23 21 30.1
comp=Z,6.8nm,1.2s
ESDC Sonseca Array 79.31 339 P P 23 22 22.1 -2.2
comp=Z,0.6nm,0.7s,baz=12,slow=6.6,SNR=3.0
ESDC Sonseca Array 79.31 339 P P 23 22 24.5 +0.2
WRAB Tennant Creek 79.41 194⇑ eP P 23 22 22.5 -2.3
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WB2 Warramunga Arr 79.42 194 P P 23 22 23.1 -1.8
WRA Warramunga Arr 79.42 194 P P 23 22 23.0 -1.9
WRA Warramunga Arr 79.42 194 P P 23 22 22.9 -1.9
comp=Z,3.3nm,0.7s,baz=9.9,slow=5.8,SNR=21
WRA Warramunga Arr 79.42 194 P P 23 22 22.1 -2.7
DZM Mont Dzumac 81.88 164 LR LR 23 55 59.4
comp=Z,40nm,18.6s,baz=53,slow=34
ASAR Alice Springs 83.15 194 P P 23 22 42.5 -2.1
comp=Z,1.6nm,0.6s,baz=9.3,slow=5.2,SNR=22
ASAR Alice Springs 83.15 194 P P 23 22 42.3 -2.3
FORT Forrest 90.98 198 P P 23 23 23.2 +0.7

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*JMA **03** 23:13:06.3±0.1, 23°.89N×121°.53E, h21km±2km, M3.5*
*ISCJB **03** 23:13:07.5±0.2, 23°.928N±0°.010×121°.53E±0°.01,*
h24km±1km, Error ellipse: s-maj=2.2km s-min=1.3km
az=29.8
*TAP **03** 23:13:07.2, 23°.95N×121°.46E, h24km, ML4.0, B*
ISC 03 23:13:07.5±0.9, 23°.93N±0°.01×121°.50E±0°.02, h24km±4km,
n120, σ0°78/206, 11C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng** baz=109	**0.10**	**104**	⇓ *i* P	**Pb**	**23 13 11.4**	**-0.5**
ENLB				S	**Sb**	**23 13 15.7**	**+0.7**
HWA	**Hwalien** baz=80	**0.11**	**64**	⇓ *i* P	**Pn**	**23 13 12.5**	**-1.2**
HWA				*e* S	**Sb**	**23 13 16.7**	**+1.6**
ESL	**Shilin** baz=187	**0.13**	**207**	⇓ *i* P	**Pb**	**23 13 12.1**	**-0.2**
ESL				S	**Sb**	**23 13 15.4**	**0.0**
TWD	**Chiawan** baz=45	**0.18**	**31**	⇓ *i* P	**Pb**	**23 13 12.6**	**-0.1**
TWD				*i* S	**Sb**	**23 13 16.4**	**+0.1**
NACB	**Ninganchiao** baz=29	**0.26**	**20**	⇓P	**Pb**	**23 13 13.4**	**-0.5**
NACB				S	**Sb**	**23 13 17.6**	**-0.5**
EGFH	**Guangfu** baz=181	**0.27**	**194**	⇓P	**Pb**	**23 13 13.5**	**-0.4**
EGFH				*e* S	**Sb**	**23 13 18.4**	**+0.1**
ETLH	**Xiulin Townshi** baz=9.0	**0.28**	**357**	⇑P	**Pb**	**23 13 13.8**	**-0.3**
ETLH				S	**Sb**	**23 13 17.9**	**-0.8**
WHF	**Hehuan Shan** baz=313	**0.30**	**316**	⇑ *i* P	**Pb**	**23 13 14.1**	**-0.7**
WHF				S	**Sb**	**23 13 18.8**	**-1.0**
CHGB	**Renai** baz=297	**0.32**	**294**	⇑P	**Pb**	**23 13 14.5**	**-0.4**
CHGB				S	**Sb**	**23 13 19.1**	**-1.0**
VWDT	**VWDT** baz=236	**0.37**	**242**	⇑P	**Pb**	**23 13 15.5**	**0.0**
VWDT				S	**Sb**	**23 13 20.7**	**-0.2**
TWT	**Tachien** baz=314	**0.44**	**318**	⇑ *i* P	**Pb**	**23 13 16.5**	**-0.2**
TWT				S	**Sb**	**23 13 22.3**	**-0.7**
HGSD	**Ruisui** baz=190	**0.44**	**189**	*e* P	**Pb**	**23 13 16.4**	**-0.3**
HGSD				*e* S	**Sn**	**23 13 24.1**	**-1.4**
TDCB	**Techi** baz=314	**0.45**	**316**	⇑P	**Pb**	**23 13 16.6**	**-0.3**
TDCB				S	**Sb**	**23 13 22.2**	**-1.1**
EHY	**Hungye** baz=195	**0.45**	**201**	*e* P	**Pb**	**23 13 16.4**	**-0.4**
EHY				S	**Sb**	**23 13 23.6**	**+0.4**
NNSB	**Datong** baz=357	**0.51**	**348**	⇑P	**Pb**	**23 13 17.4**	**-0.5**
NNSB				S	**Sb**	**23 13 23.9**	**-1.1**
SSLB	**Suanglung** baz=253	**0.52**	**254**	⇓P	**Pb**	**23 13 17.4**	**-0.6**
SSLB				S	**Sb**	**23 13 23.7**	**-1.4**
NNS	**Nan Shan** baz=357	**0.52**	**347**	⇑ *i* P	**Pb**	**23 13 17.7**	**-0.4**
NNS				S	**Sb**	**23 13 24.3**	**-1.1**
DPDB	**Guoxing** baz=276	**0.53**	**281**	⇓ *i* P	**Pb**	**23 13 17.7**	**-0.5**
DPDB				S	**Sb**	**23 13 24.9**	**-0.7**
ENA	**Nanau** baz=35	**0.55**	**24**	*e* P	**Pb**	**23 13 17.8**	**-0.6**
ENA				*e* S	**Sb**	**23 13 25.6**	**-0.3**
NANB	**Nanao** baz=35	**0.55**	**25**	*e* P	**Pb**	**23 13 17.6**	**-0.9**
NANB				S	**Sb**	**23 13 25.3**	**-0.6**
YULB	**Yu-li** baz=185	**0.56**	**199**	⇓ *e* P	**Pb**	**23 13 17.2**	**-1.6**
YULB				*e* S	**Sb**	**23 13 26.3**	**-0.1**
TYC	**Yuchr** baz=265	**0.59**	**268**	⇓ *i* P	**Pb**	**23 13 18.5**	**-0.6**
TYC				S	**Sb**	**23 13 25.8**	**-1.2**
TWF1	**Yuli** baz=194	**0.60**	**198**	*e* P	**Pb**	**23 13 17.8**	**-1.6**
TWF1				*e* S	**Sn**	**23 13 28.0**	**-1.6**
WHP	**Taichung City** baz=302	**0.61**	**305**	*e* P	**Pb**	**23 13 19.2**	**-0.4**
WHP				*e* S	**Sb**	**23 13 27.1**	**-0.8**
WHYT	**Xinyi Township** baz=247	**0.63**	**249**	*e* P	**Pb**	**23 13 19.6**	**-0.3**
WHYT				S	**Sb**	**23 13 28.5**	**+0.1**
NDT	**Datong Townshi** baz=4.0	**0.67**	**1**	*e* P	**Pb**	**23 13 20.3**	**-0.3**
NDT				*e* S	**Sb**	**23 13 29.5**	**0.0**
ENTT	**Nioudou** baz=15	**0.71**	**5**	*e* P	**Pb**	**23 13 20.8**	**-0.4**
ENTT				*e* S	**Sb**	**23 13 30.6**	**0.0**
WJS	**Zhushan** baz=259	**0.71**	**262**	P	**Pn**	**23 13 21.6**	**-0.4**
WJS				S	**Sn**	**23 13 31.4**	**-0.9**
WNT	**Mingjian** baz=263	**0.75**	**266**	⇓P	**Pn**	**23 13 22.1**	**-0.4**
WNT				S	**Sn**	**23 13 32.6**	**-0.5**
YHNB	**Yeheng** baz=344	**0.75**	**351**	⇑P	**Pb**	**23 13 21.4**	**-0.5**
YHNB				S	**Sb**	**23 13 30.1**	**-1.6**
TWC	**Suao** baz=29	**0.75**	**25**	*e* P	**Pb**	**23 13 21.6**	**-0.3**
TWC				S	**Sb**	**23 13 31.3**	**-0.4**
NSK	**Sanguang** baz=353	**0.76**	**350**	⇓ *i* P	**Pb**	**23 13 21.7**	**-0.3**
NSK				S	**Sb**	**23 13 31.0**	**-0.9**
TCU	**Taichung** baz=284	**0.78**	**286**	⇓P	**Pn**	**23 13 22.9**	**-0.1**
TCU				*e* S	**Sn**	**23 13 34.0**	**0.0**
TWQ1	**Liyutan** baz=310	**0.78**	**302**	P	**Pn**	**23 13 22.7**	**-0.3**
TWQ1				S	**Sb**	**23 13 32.6**	**0.0**
TWE	**Neicheng** baz=24	**0.80**	**11**	*e* P	**Pb**	**23 13 22.4**	**-0.4**
TWE				S	**Sb**	**23 13 33.1**	**-0.2**
CHN5	**Tsauling** baz=242	**0.82**	**246**	P	**Pn**	**23 13 23.3**	**-0.3**
CHN5				S	**Sn**	**23 13 34.8**	**-0.3**
NSY	**Sanyi** baz=314	**0.83**	**306**	⇓P	**Pn**	**23 13 23.8**	**+0.1**
NSY				S	**Sn**	**23 13 35.1**	**0.0**
SLBB	**Yuanshan** baz=20	**0.83**	**9**	*e* P	**Pb**	**23 13 22.0**	**-1.3**
NSTT	**Nanjuang** baz=323	**0.83**	**327**	*e* P	**Pn**	**23 13 23.4**	**-0.4**
NSTT				S	**Sb**	**23 13 33.0**	**-1.1**
CHKT	**Chengkung** baz=186	**0.83**	**188**	*e* P	**Pb**	**23 13 22.4**	**-0.9**
CHKT				*e* S	**Sn**	**23 13 34.2**	**-1.0**
EOS1	**EOS1** baz=46	**0.84**	**43**	*e* P	**Pn**	**23 13 24.4**	**+0.5**
NWLT	**Wulai** baz=3.0	**0.84**	**0**	*e* P	**Pn**	**23 13 23.2**	**-0.7**
NWLT				*e* S	**Sb**	**23 13 33.3**	**-1.2**
ELDTW	**Lidau** baz=208	**0.86**	**211**	P	**Pb**	**23 13 23.1**	**-0.6**
ELDTW				S	**Sn**	**23 13 34.6**	**-1.4**
WCHH	**Zhanghua** baz=277	**0.87**	**280**	⇓ *e* P	**Pn**	**23 13 24.2**	**0.0**
WCHH				*e* S	**Sn**	**23 13 37.2**	**+1.1**
NMLH	**Miaoli** baz=319	**0.89**	**313**	⇓ *e* P	**Pn**	**23 13 24.5**	**+0.1**
NMLH				*e* S	**Sn**	**23 13 36.5**	**-0.1**
WDJ	**Dajia District** baz=297	**0.89**	**298**	⇓P	**Pn**	**23 13 24.5**	**0.0**
WDJ				*e* S	**Sn**	**23 13 37.1**	**+0.6**
PTSB	**Yuanli** baz=305	**0.89**	**306**	⇓P	**Pn**	**23 13 24.4**	**-0.1**
PTSB				S	**Sn**	**23 13 36.9**	**+0.2**
WGK	**Gukeng** baz=250	**0.89**	**254**	*e* P	**Pn**	**23 13 24.5**	**0.0**
WGK				S	**Sn**	**23 13 36.9**	**+0.3**
WDLH	**Douliu** baz=251	**0.91**	**255**	*e* P	**Pn**	**23 13 24.7**	**-0.1**
WDLH				*e* S	**Sn**	**23 13 37.1**	**0.0**
WLTB	**Daxi** baz=354	**0.95**	**346**	*e* P	**Pn**	**23 13 26.0**	**+0.8**
WLTB				*e* S	**Sn**	**23 13 38.2**	**+0.1**
NTC	**Toucheng** baz=21	**0.97**	**18**	*e* P	**Pn**	**23 13 25.9**	**+0.2**
SBCB	**Hsinchu** baz=333	**0.98**	**332**	*e* P	**Pn**	**23 13 26.5**	**+0.7**
SBCB				*e* S	**Sn**	**23 13 39.6**	**+0.7**
HSN	**Hsinchu** baz=319	**0.99**	**331**	*e* P	**Pn**	**23 13 26.3**	**+0.4**
HSN				*e* S	**Sn**	**23 13 40.4**	**+1.2**
CHN4	**Tsaushan** baz=231	**1.01**	**235**	*e* P	**Pn**	**23 13 26.5**	**+0.3**

CHN4				S	Sn	23 13 40.9	+1.3
	baz=231						
TPUB	**Ta-pu**	**1.01**	**232**	*e*P	Pn	23 13 26.3	+0.1
TPUB	baz=220			S	Sn	23 13 40.4	+0.7
CHN2	**Minshiung**	**1.02**	**247**	*e*P	Pb	23 13 26.7	+0.3
CHN2	baz=243			*e*S	Sn	23 13 40.4	+0.6
STYT	**Tauyuan**	**1.02**	**222**	P	Pb	23 13 26.4	-0.1
STYT	baz=211			S	Sn	23 13 39.6	-0.3
RLNB	**Erlin**	**1.04**	**268**	P	Pb	23 13 26.6	-0.2
RLNB	baz=265			*e*S	Sn	23 13 40.7	+0.4
TATO	**Taipei**	**1.04**	**360**	*e*P	Pb	23 13 26.8	0.0
TATO	baz=13			S	Sn	23 13 40.1	-0.3
TWA	**Mucha**	**1.05**	**4**	*e*P	Pb	23 13 27.5	+0.5
TWA	baz=7.0			*e*S	Sn	23 13 40.9	+0.2
WTP	**Ta-pu**	**1.06**	**230**	⇑P	Pb	23 13 27.3	+0.1
WTP	baz=219			*e*S	Sn	23 13 41.9	+1.1
CHY	**Chiayi**	**1.07**	**247**	*e*P	Pb	23 13 27.4	+0.1
CHY	baz=242			*e*S	Sn	23 13 42.4	+1.2
NCUH	**Zhongli**	**1.07**	**345**	*e*P	Pb	23 13 27.8	+0.4
NCUH	baz=347			*e*S	Sn	23 13 42.7	+1.5
NCU	**National Centr**	**1.07**	**345**	*e*P	Pb	23 13 27.9	+0.5
NCU	baz=347			S	Sn	23 13 42.7	+1.5
TIPB	**Shuangxi**	**1.08**	**16**	*e*P	Pb	23 13 27.5	0.0
TIPB	baz=19			*e*S	Sb	23 13 40.7	-0.5
TAP	**Taipei**	**1.11**	**0**	*e*P	Pb	23 13 28.1	+0.1
TAP	baz=14			*e*S	Sn	23 13 42.4	+0.4
TAP1	**Taipei**	**1.11**	**1**	*e*P	Pb	23 13 28.1	+0.1
TAP1	baz=14			*e*S	Sn	23 13 42.1	+0.1
WTCT	**Ta-ch'eng**	**1.11**	**267**	*e*P	Pb	23 13 27.4	-0.6
WTCT	baz=263			*e*S	Sn	23 13 42.9	+0.8
TWK	**Hsinying**	**1.14**	**235**	*e*P	Pb	23 13 28.4	0.0
TWK	baz=230			*e*S	Sn	23 13 44.4	+1.6
CHN1	**Nanshi**	**1.16**	**230**	*e*P	Pb	23 13 28.7	-0.1
CHN1	baz=226			*e*S	Sn	23 13 44.9	+1.6
SNST	**Tainan City**	**1.16**	**233**	*e*P	Pb	23 13 28.7	-0.1
SNST	baz=228			*e*S	Sn	23 13 45.0	+1.7
TWB1	**Santiao Chiao**	**1.17**	**23**	*e*P	Pb	23 13 28.9	0.0
TWB1	baz=26			*e*S	Sb	23 13 43.6	0.0
NWF	**Wu-fen Shan**	**1.17**	**13**	*e*P	Pb	23 13 29.2	+0.2
NWF	baz=24			*e*S	Sb	23 13 44.0	+0.3
WFSB	**Wu-fen Shan**	**1.17**	**13**	*e*P	Pb	23 13 28.6	-0.4
WFSB	baz=22			*e*S	Sb	23 13 44.2	+0.6
TWS1	**Kuangyinshan**	**1.17**	**356**	*e*P	Pb	23 13 29.5	+0.5
TWS1	baz=359			*e*S	Sb	23 13 45.1	+1.3
TWG	**Pinlang**	**1.17**	**200**	*e*P	Pn	23 13 25.9	-2.5
TWGBT	**Beinan**	**1.17**	**199**	*e*P	Pn	23 13 25.7	-2.7
WLGB	**Puzi**	**1.19**	**248**	*e*P	Pb	23 13 28.3	-0.9
WLGB	baz=229			*e*S	Sb	23 13 45.5	+1.3
SGST	**Jiashian**	**1.19**	**225**	*e*P	Pb	23 13 28.5	-0.9
SGST	baz=210			*e*S	Sb	23 13 45.3	+1.0
WSF	**Szhu**	**1.20**	**256**	*e*P	Pb	23 13 29.0	-0.5
WSF	baz=252			*e*S	Sb	23 13 45.4	+0.7
TTN	**Taitung**	**1.21**	**195**	*e*P	Pb	23 13 32.2	+2.4
YM01	**YM01**	**1.21**	**3**	⇑P	Pb	23 13 29.9	+0.1
YM01	baz=6.0			*e*S	Sb	23 13 44.9	-0.2
SLGT	**Liugui**	**1.22**	**220**	*e*P	Pb	23 13 29.8	0.0
YM10	**YM10**	**1.22**	**3**	*e*P	Pb	23 13 29.8	-0.2
YM10	baz=5.0			*e*S	Sb	23 13 45.6	+0.3
NTST	**Danshui**	**1.23**	**358**	*e*P	Pb	23 13 30.1	0.0
YM11	**YM11**	**1.23**	**3**	*e*P	Pb	23 13 30.0	-0.1
YM11	baz=6.0			*e*S	Sb	23 13 46.8	+1.1
ANP	**Anpu**	**1.25**	**1**	*e*P	Pb	23 13 30.3	-0.2
YM08	**YM08**	**1.26**	**4**	*e*P	Pb	23 13 29.9	-0.6
CHN8	**Yiju**	**1.31**	**244**	*e*P	Pb	23 13 31.2	-0.2
CHN8	baz=239			*e*S	Sb	23 13 49.4	+1.5
TWY	**Chenhua**	**1.34**	**4**	*e*P	Pb	23 13 32.0	0.0
ECL	**Taimali**	**1.42**	**201**	*e*P	Pb	23 13 32.7	-0.5
SSD	**Sandimen**	**1.42**	**214**	*e*P	Pb	23 13 32.9	-0.4
SSD	baz=224			*e*S	Sb	23 13 52.0	+1.1
TWM1	**Shoushan**	**1.48**	**222**	*e*P	Pb	23 13 35.1	+0.8
MASBT	**Mashibuluo**	**1.53**	**211**	*e*P	Pn	23 13 33.3	-0.1
MASBT	baz=222			*e*S	Sb	23 13 55.6	+1.4
SNJT	**Kaohsiung City**	**1.58**	**223**	*e*P	Pb	23 13 35.7	-0.4
EAST	**Anshuo**	**1.65**	**201**	*e*P	Pn	23 13 35.1	+0.1
TAW	**Tawu**	**1.66**	**200**	*e*P	Pb	23 13 36.3	-1.0
SCZT	**Fangliau**	**1.75**	**208**	*e*P	Pb	23 13 37.0	-1.9
SCZT	baz=206			*e*S	Sb	23 14 00.8	+0.5
PHUB	**P'eng-hu**	**1.81**	**257**	*e*P	Pn	23 13 37.1	0.0
PHUB	baz=251			*e*S	Sn	23 13 59.9	+0.4
WDGT	**Dungji**	**1.81**	**249**	*e*P	Pn	23 13 37.4	+0.2
PNG	**Penghu**	**1.81**	**259**	*e*P	Pn	23 13 37.3	0.0
PNG	baz=253			*e*S	Sn	23 13 59.8	+0.3
WLCH	**Liuqiu**	**1.88**	**213**	*e*P	Pb	23 13 39.6	-1.5
LAY	**Lan-yu**	**1.88**	**178**	*e*P	Pn	23 13 38.5	+0.4
VCHM	**Qimei**	**2.03**	**250**	*e*P	Pn	23 13 40.3	+0.2
	baz=228						
HEN	**Hengchun**	**2.04**	**200**	*e*P	Pn	23 13 40.6	+0.3
	baz=184						
TWK1	**Hengchun**	**2.08**	**198**	*e*P	Pn	23 13 41.8	+1.0
	baz=184						
TWKBT	**Hengchun**	**2.08**	**198**	*e*P	Pn	23 13 41.5	+0.7
	baz=185						
IRIF	**Iriomote-Funau**	**2.08**	**78**	P	Pn	23 13 41.4	+0.5
HATJ	**Hateruma jima**	**2.12**	**86**	*e*S	Sn	23 14 07.3	+0.4
VWUC	**VWUC**	**2.15**	**300**	*e*P	Pn	23 13 40.5	-1.3
	baz=301						
JKRS	**Kuro-shima**	**2.32**	**82**	P	Pn	23 13 44.6	+0.5
JIJ	**Ishigaki jima**	**2.46**	**79**	P	Pn	23 13 46.1	+0.1
JIJ				*e*S	Sn	23 14 14.7	-0.6
MATB	**Ma-tsu**	**2.62**	**328**	*e*P	Pn	23 13 48.0	-0.4
	baz=336						
JISG	**Ishigakijimahi**	**2.65**	**75**	P	Pn	23 13 48.9	+0.2
JISG				S	Sn	23 14 19.1	-1.0
KNM	**Kinmen**	**2.84**	**280**	*e*P	Pn	23 13 52.4	+1.1
	baz=274						
KNMB	**Chin-men Tao**	**2.89**	**281**	*e*P	Pn	23 13 51.3	-0.7
	baz=276						
JTJ	**Tarama**	**3.01**	**76**	P	Pn	23 13 54.4	+0.7
JIRB	**Irabujima**	**3.47**	**74**	*e*S	Sn	23 14 40.3	0.0
JIKM	**Ikemajima**	**3.56**	**73**	*e*S	Sn	23 14 43.0	+0.5
JMJ2	**Miyako jima3**	**3.59**	**76**	*e*S	Sn	23 14 44.3	+1.1

*VIE **03** 23:41:22.3±3.0, 46°.13N×7°.63E, h0km, mb2.4/5, ml2.8/7,*
Error ellipse: s-maj=18.5km s-min=8.5km az=76.0 20 km
SSE of Sierre
*STR **03** 23:41:26.6±0.9, 47°.N±5°.°×°.°°°, h0km, MLv2.0/7*
*ISCJB **03** 23:41:31.8±0.4, 46°.87N±0°.02×8°.06E±0°.03, h4km±3km,*
Error ellipse: s-maj=3.5km s-min=2.6km az=172.6
*LDG **03** 23:41:33.7±0.1, 46°.93N×8°.26E, h5km, Ml2.2/9, Error*
ellipse: s-maj=2.5km s-min=1.2km az=79.0

ISC 03 23:41:31.7±1.1, 46°.92N±0°.02×8°.28E±0°.02, h14km±10km, n38, σ1°.51/68, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZ	**Kirchzarten**	**1.06**	**347**	Pg	**Pn**	**23 41 53.3**	**+1.1**
KIZ				Sg	**Sn**	**23 42 11.7**	**+4.8**
DAVA	**Damuels**	**1.15**	**71**	Pn	**Pn**	**23 41 53.6**	**0.0**
	6.3nm,0.3s						
CHMF	**Charmoille**	**1.16**	**287**	Pg	**Pn**	**23 41 53.6**	**0.0**
HINF	**Hinteralfeld**	**1.32**	**313**	*e*Pn	**Pg**	**23 41 57.9**	**+0.8**
HINF				*e*Sg	**Sg**	**23 42 14.6**	**+0.3**
	1.6nm,0.2s						
ECH	**Echery**	**1.50**	**330**	Pn	**Pg**	**23 41 59.5**	**-1.1**
CABF	**La Chapelle**	**1.54**	**259**	*e*Pn	**Pb**	**23 42 00.3**	**+0.2**
CABF				*e*Sn	**Sn**	**23 42 19.3**	**+0.5**
	8.3nm,0.4s						
OPP	**Oppenau**	**1.58**	**358**	Pn	**Pg**	**23 42 00.0**	**-2.0**
WLS	**Welschbruch**	**1.62**	**337**	Pn	**Pb**	**23 42 00.9**	**-0.6**
CDF	**Champ du Feu**	**1.64**	**336**	*e*Pn	**Pb**	**23 42 01.5**	**-0.3**
CDF				*e*Sg	**Sg**	**23 42 25.2**	**+0.7**
	2.4nm,0.2s						
HAU	**Haudompre**	**1.70**	**310**	*e*Pn	**Pb**	**23 42 02.5**	**-0.3**
HAU				*e*Sg	**Sg**	**23 42 26.8**	**+0.3**
	1.7nm,0.2s						
LPL	**La Plagne**	**1.77**	**218**	*e*Pn	**Pn**	**23 42 02.7**	**+0.5**
LPL				*e*Sn	**Sn**	**23 42 24.6**	**0.0**
LPG	**La Plagne**	**1.78**	**217**	*e*Pn	**Pn**	**23 42 02.3**	**0.0**
LPG				*e*Sn	**Sn**	**23 42 25.0**	**+0.1**
MOTA	**Moosalm**	**1.97**	**77**	Pn	**Pg**	**23 42 06.2**	**-3.3**
	0.4nm,0.1s						
MOTA				Sn	**Sg**	**23 42 40.1**	**+5.1**
SQTA	**Sankt Quirin**	**2.02**	**80**	Pn	**Pg**	**23 42 08.5**	**-2.0**
	0.9nm,0.2s						
SQTA				Sn	**Sg**	**23 42 39.2**	**+2.5**
OG35	**Corcelles**	**2.07**	**246**	Pg	**Pb**	**23 42 08.0**	**-1.1**
WATA	**Walderalm**	**2.29**	**78**	Pg	Pg	23 42 20.2	+4.7
	1.5nm,0.3s						
WTTA	**Wattenberg**	**2.32**	**80**	Pn	**Pg**	**23 42 12.6**	**-3.5**
	0.7nm,0.2s						
WTTA				*i* Sn	**Sg**	**23 42 49.4**	**+3.3**
PAGF	**Fort de Pagny**	**2.38**	**314**	*e*Pn	**Pn**	**23 42 11.2**	**+0.9**
PAGF	**Fort de Pagny**	**2.38**	**314**	*e*Pg	**Pg**	**23 42 17.4**	**+0.1**
PAGF				*e*Sn	**Sn**	**23 42 39.2**	**-0.1**
PAGF				*e*Sg	**Sg**	**23 42 47.9**	**-0.2**
	1.7nm,0.2s						
MBDF	**Montbardon**	**2.44**	**206**	*e*Pn	**Pn**	**23 42 11.7**	**+0.4**
MBDF	**Montbardon**	**2.44**	**206**	*e*Pg	**Pg**	**23 42 20.8**	**+2.4**
MBDF				*e*Sn	**Sn**	**23 42 40.7**	**-0.2**
MBDF				*e*Sg	**Sg**	**23 42 48.8**	**-1.2**
SFTF	**Sexfontaines**	**2.54**	**301**	*e*Pn	**Pn**	**23 42 13.8**	**+1.2**
SFTF	**Sexfontaines**	**2.54**	**301**	*e*Pg	**Pg**	**23 42 20.3**	**-0.2**
SFTF				*e*Sn	**Sn**	**23 42 43.3**	**-0.1**
SFTF				*e*Sg	**Sg**	**23 42 52.9**	**-0.6**
	1.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.61**	**221**	*e*Pn	**Pn**	**23 42 14.6**	**+1.0**
ORIF				*e*Sn	**Sn**	**23 42 44.7**	**-0.5**
ORIF				*e*Sg	**Sg**	**23 42 56.4**	**+0.8**
MEZF	**Maizieres J'vi**	**2.69**	**307**	*e*Pn	**Pn**	**23 42 15.9**	**+1.3**
MEZF	**Maizieres J'vi**	**2.69**	**307**	*e*Pg	**Pg**	**23 42 23.2**	**-0.1**
MEZF				*e*Sn	**Sn**	**23 42 46.2**	**-0.9**
	7.1nm,0.4s						
MEZF				*e*Sg	**Sg**	**23 42 57.7**	**-0.5**
LOR	**Lormes**	**3.04**	**278**	*e*Pn	**Pn**	**23 42 20.4**	**+0.9**
LOR	**Lormes**	**3.04**	**278**	*e*Pg	**Pg**	**23 42 29.4**	**-0.6**
LOR				*e*Sn	**Sn**	**23 42 54.9**	**-0.8**
LOR				*e*Sg	**Sg**	**23 43 08.1**	**-1.3**
	1.9nm,0.3s						
SBF	**Sospel**	**3.12**	**191**	*e*Pn	**Pn**	**23 42 21.5**	**+1.0**
SBF	**Sospel**	**3.12**	**191**	*e*Pg	**Pg**	**23 42 31.8**	**+0.4**
SBF				*e*Sn	**Sn**	**23 42 56.8**	**-0.8**
SBF				*e*Sg	**Sg**	**23 43 12.3**	**+0.5**
SSF	**Saint Saulge**	**3.27**	**274**	*e*Pn	**Pn**	**23 42 23.7**	**+1.1**
SSF	**Saint Saulge**	**3.27**	**274**	*e*Pg	**Pg**	**23 42 33.8**	**-0.6**
SSF				*e*Sn	**Sn**	**23 43 00.8**	**-0.6**
SSF				*e*Sg	**Sg**	**23 43 15.4**	**-1.4**
	0.6nm,0.2s						
SMRF	**Simiane la Rot**	**3.51**	**214**	*e*Pn	**Pn**	**23 42 26.8**	**+0.9**
SMRF	**Simiane la Rot**	**3.51**	**214**	*e*Pg	**Pg**	**23 42 38.8**	**-0.1**
SMRF				*e*Sn	**Sn**	**23 43 05.4**	**-1.8**
FRF	**La Foret Royal**	**3.55**	**200**	*e*Pn	**Pn**	**23 42 27.0**	**+0.5**
FRF	**La Foret Royal**	**3.55**	**200**	*e*Pg	**Pg**	**23 42 40.1**	**+0.3**
FRF				*e*Sn	**Sn**	**23 43 07.0**	**-1.3**
FRF				*e*Sg	**Sg**	**23 43 25.9**	**+0.1**
KHC	**Kasperske Hory**	**4.18**	**56**	*e*PN	**Pn**	**23 42 35.0**	**-0.2**
KHC				*e*SN	**Sn**	**23 43 23.5**	**-0.4**
KHC				*e*SG	Sg	23 43 58.5	+13
LASF	**Ste Croix**	**4.22**	**229**	*e*Pn	**Pn**	**23 42 38.1**	**+2.5**
LASF				*e*Sn	**Sn**	**23 43 21.9**	**-2.8**

*ISCJB **03** 23:49:39.3±1.0, 17°.5S±0°.3×178°.9W±0°.2, h539km, mb3.6/9,*
Error ellipse: s-maj=43.8km s-min=14.5km az=147.1
*IDC **03** 23:49:40.2±5.4, 17°.59S×178°.84W, h543km±64km, mb3.3/9,*
mb1 3.6/10, mb1mx3.3/24, mbtmp4.2/10, Error ellipse:
s-maj=39.5km s-min=24.6km az=148.0

ISC 03 23:49:39.8±1.2, 17°.6S±0°.3×178°.8W±0°.2, h539km, n12, σ0°.54/11, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**23 52 44.9**	**-0.1**
	0.3nm,0.3s,baz=86,slow=18,SNR=4.4						
STKA	**Stephens Creek**	**38.43**	**241**	P	**P**	**23 56 16.1**	**+0.5**
	3.3nm,0.5s,baz=92,slow=11,SNR=11						
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**23 57 01.6**	**-0.6**
	1.6nm,0.5s,baz=94,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**23 57 03.6**	**0.0**
	20nm,0.6s,baz=88,slow=8.2,SNR=281						
MJAR	**Matsushiro Arr**	**67.41**	**324**	P	**P**	**23 59 42.1**	**+0.2**
	1.6nm,0.7s,baz=145,slow=5.7,SNR=2.9						
PETK	**Petropavlovsk-**	**73.27**	**345**	P	**P**	**00 00 16.7**	**+0.6**
	2.6nm,0.8s,baz=145,slow=5.3,SNR=3.7						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**00 00 50.8**	**0.0**
	0.4nm,0.6s,baz=226,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**85.67**	**13**	P	**P**	**00 01 20.7**	**-0.5**
	0.3nm,0.5s,baz=216,slow=6.5,SNR=5.9						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**00 01 25.1**	**+0.6**
	0.8nm,0.8s,baz=193,slow=4.9,SNR=8.4						
PDAR	**Pinedale Array**	**87.40**	**44**	P	**P**	**00 01 29.6**	**-0.6**
	0.3nm,0.5s,baz=222,slow=2.8,SNR=3.7						
BRTR	**Keskin Array B**	**144.27**	**315**	PKP	PKPbc	00 08 14.3	-0.4
	0.7nm,0.8s,baz=117,slow=2.9,SNR=3.9						
GERES	**GERESS Array B**	**147.20**	**345**	PKPbc	**PKPbc**	**00 08 22.1**	**-0.7**
	0.6nm,0.5s,baz=32,slow=3.5,SNR=6.7						

IDC 03 23:55:39.8±2.3, 6°.80S×129°.61E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=147.2km s-min=32.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.85**	**161**	Pn	Pn	23 58 57.8	+0.3
	0.7nm,0.3s,baz=344,slow=12,SNR=12						
WRA				Sn	Sn	00 01 18.1	-14
	0.8nm,0.3s,baz=337,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**17.27**	**167**	P	Pn	23 59 42.2	-0.3
	0.3nm,0.3s,baz=336,slow=9.5,SNR=8.7						
ASAR				S	Sn	00 02 41.5	-14
	0.2nm,0.3s,baz=342,slow=24,SNR=3.4						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	00 06 40.0	0.0
	0.3nm,0.5s,baz=122,slow=8.1,SNR=5.4						

*ISCJB **04** 00:31:43.2±0.4, 43°.03N±0°.02×17°.34E±0°.02, h1km±2km,*
Error ellipse: s-maj=3.4km s-min=2.1km az=27.4
*BEO **04** 00:31:43.0±0.4, 42°.95N×17°.21E, h3km±2km, ML2.6/10*
*RHSSO **04** 00:31:44.0±0.4, 42°.97N×17°.34E, h5km±2km, ML2.6/1*

ISC 04 00:31:43.1±1.1, 42°.97N±0°.02×17°.29E±0°.02, h1km±10km, n67, σ0°.84/124, 9C-9D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.32**	**108**	*e*Pg	**Pg**	**00 31 49.2**	**0.0**
STON				*e*Sg	**Sg**	**00 31 54.3**	**+0.9**
STON	**Ston**	**0.32**	**108**	*i* Pg	**Pg**	**00 31 49.3**	**0.0**
STON				Sg	**Sg**	**00 31 54.3**	**+0.9**
STON	**Ston**	**0.32**	**108**	⇑*i*Pg	**Pg**	**00 31 49.2**	**0.0**
STON				*e*Sg	**Sg**	**00 31 54.0**	**+0.6**
HVAR	**Hvar**	**0.65**	**289**	*e*Pg	**Pg**	**00 31 54.6**	**-0.9**
HVAR				Sg	**Sb**	**00 32 06.8**	**+0.1**
DBRK	**Dubrovnik**	**0.70**	**115**	*i* Pg	**Pg**	**00 31 56.1**	**-0.5**
DBRK				Sg	**Sg**	**00 32 06.8**	**+1.1**
TREB	**Trebinje**	**0.82**	**108**	*e*Pg	**Pg**	**00 31 59.3**	**+0.4**
TREB				*e*Sg	**Sg**	**00 32 10.4**	**+0.9**
TREB	**Trebinje**	**0.82**	**108**	⇑*i*Pg	**Pg**	**00 31 57.6**	**-1.3**
TREB				*e*Sg	**Sg**	**00 32 09.1**	**-0.4**
BRY	**Bratogost**	**0.92**	**94**	*e*Pg	**Pg**	**00 32 00.0**	**-0.8**
BRY				*e*Sg	**Sg**	**00 32 12.4**	**-0.4**
HCY	**Herceg Novi**	**1.03**	**120**	*e*Pg	**Pg**	**00 32 02.4**	**-0.5**
HCY				*e*Sg	**Sg**	**00 32 15.3**	**-1.0**
UPM	**Unac-Piva**	**1.21**	**78**	*e*Pg	**Pg**	**00 32 05.0**	**-1.3**
UPM				*e*Sg	**Sg**	**00 32 22.0**	**0.0**
ZIRJ	**Zirje**	**1.38**	**300**	*i* Pn	**Pn**	**00 32 09.1**	**-0.3**
ZIRJ				Sn	**Sn**	**00 32 28.8**	**+0.5**
MGRS	**Mrkonjic Grad**	**1.45**	**354**	*e*Pg	**Pn**	**00 32 10.3**	**-0.2**
MGRS				*e*Sg	**Sn**	**00 32 30.4**	**+0.2**
MORI	**Morici**	**1.46**	**308**	*e*Pn	**Pn**	**00 32 10.3**	**-0.2**
MORI				Sn	**Sg**	**00 32 31.2**	**+1.3**
PDG	**Podgorica**	**1.55**	**110**	*e*Pn	**Pn**	**00 32 11.4**	**-0.4**
PDG				*e*Sg	**Sg**	**00 32 33.6**	**+0.7**
PDG	**Podgorica**	**1.55**	**110**	*e*Pn	**Pn**	**00 32 11.2**	**-0.6**
PDG				*e*Sn	**Sn**	**00 32 32.0**	**-0.5**
PDG	**Podgorica**	**1.55**	**110**	⇑P	**Pb**	**00 32 12.4**	**-0.1**
PDG				⇓S	**Sg**	**00 32 33.5**	**+0.6**
PDG				AML	AML	00 32 34.9	
DRME	**Dracevica, Mon**	**1.61**	**119**	*e*Pn	**Pn**	**00 32 13.0**	**+0.4**
DRME				*e*Sn	**Sn**	**00 32 33.7**	**-0.2**
HAPS	**Han Pijesak,Bl**	**1.65**	**47**	*e*Pn	**Pn**	**00 32 13.2**	**-0.1**
HAPS				*e*Sg	**Sg**	**00 32 37.3**	**+1.3**
HAPS	**Han Pijesak,Bl**	**1.65**	**47**	*e*Pn	**Pn**	**00 32 12.6**	**-0.7**
HAPS				*e*Sn	**Sn**	**00 32 34.7**	**-0.4**
RUDO	**Rudo**	**1.65**	**66**	*e*Pn	**Pn**	**00 32 12.5**	**-0.8**
RUDO				*e*Sn	**Sn**	**00 32 34.5**	**-0.6**
BLY	**Banja Luka**	**1.78**	**358**	*e*Pg	**Pb**	**00 32 16.6**	**+0.1**
BLY				*e*Sg	**Sg**	**00 32 41.9**	**+1.6**
BLY	**Banja Luka**	**1.78**	**358**	⇓*i*Pn	**Pb**	**00 32 16.1**	**-0.4**
BLY				*e*Sn	**Sn**	**00 32 38.6**	**+0.4**
BLY	**Banja Luka**	**1.78**	**358**	⇑P	**Pb**	**00 32 16.6**	**+0.1**
BLY				⇓S	**Sg**	**00 32 41.1**	**+0.8**
BLY				AML	AML	00 32 44.0	
BBLS	**Lazići**	**1.79**	**59**	*e*Pn	**Pb**	**00 32 16.4**	**-0.2**
BBLS				*e*Sg	**Sg**	**00 32 42.0**	**+1.5**
BBLS	**Lazići**	**1.79**	**59**	⇓*i*Pn	**Pn**	**00 32 15.5**	**+0.4**
BBLS				*e*Sn	**Sn**	**00 32 38.3**	**-0.2**
DOB	**Doboj**	**1.86**	**18**	*e*Pn	**Pn**	**00 32 15.4**	**-0.6**
DOB				*e*Sn	**Sn**	**00 32 40.1**	**0.0**
BAI	**Bari**	**1.89**	**189**	*e*Pn	**Pb**	**00 32 18.3**	**0.0**
UDBI	**Udbina**	**1.91**	**325**	*i* Pn	**Pb**	**00 32 18.3**	**-0.5**
UDBI				Sn	**Sg**	**00 32 44.6**	**+0.2**
DUGI	**Dugi Otok**	**1.92**	**303**	*e*Pn	**Pn**	**00 32 17.1**	**+0.3**
DUGI				Sn	**Sb**	**00 32 43.6**	**+0.4**
SJES	**Sjenica**	**1.99**	**81**	*e*Pn	**Pb**	**00 32 19.7**	**-0.4**
SJES				*e*Sn	**Sn**	**00 32 42.9**	**-0.7**
FASA	**Fasano**	**2.15**	**179**	*e*Pn	**Pb**	**00 32 22.3**	**-0.6**
SG1	**Sgolgore (BA)**	**2.18**	**192**	*e*Pn	**Pb**	**00 32 23.2**	**-0.1**
IVAS	**Ivanjica**	**2.18**	**73**	*e*Pn	**Pn**	**00 32 21.3**	**+0.8**
IVAS				*e*Sn	**Sn**	**00 32 49.6**	**+1.4**
TEKS	**Tekeris**	**2.27**	**45**	*e*Sn	**Sn**	**00 32 50.2**	**0.0**
TEKS	**Tekeris**	**2.27**	**45**	*e*Pn	**Pn**	**00 32 21.6**	**-0.1**
TEKS				*e*Sn	**Sn**	**00 32 49.4**	**-0.8**
DIVS	**Divibare**	**2.27**	**59**	*e*Pn	**Pn**	**00 32 22.4**	**+0.6**
DIVS				*e*Sn	**Sn**	**00 32 52.2**	**+1.8**
DIVS	**Divibare**	**2.27**	**59**	⇓*i*Pn	**Pn**	**00 32 22.1**	**+0.3**
DIVS				*e*Sn	**Sn**	**00 32 49.4**	**-1.0**
MASS	**Massafra**	**2.34**	**183**	*e*Pn	**Pb**	**00 32 25.5**	**-0.5**
MATE	**Matera**	**2.36**	**191**	⇑P	**Pg**	**00 32 27.5**	**-0.8**
MATE				AML	AML	00 33 22.6	
NVLJ	**Novalja**	**2.37**	**313**	*e*Pn	**Pn**	**00 32 24.3**	**+1.3**
NVLJ				Sn	**Sn**	**00 32 53.7**	**+1.1**
TRUS	**Trudelj**	**2.59**	**60**	*e*Pn	**Pn**	**00 32 27.1**	**+1.0**
GRUS	**Gruza**	**2.66**	**69**	*e*Pn	**Pn**	**00 32 27.7**	**+0.6**
GRUS				*e*Sn	**Sn**	**00 33 01.5**	**+1.5**
MOSL	**Moslavina**	**2.67**	**352**	*e*Pn	**Pn**	**00 32 27.6**	**+0.3**
MOSL				Sn	**Sn**	**00 33 00.6**	**+0.4**
SELS	**Selova**	**2.82**	**84**	*e*Pn	**Pn**	**00 32 30.3**	**+1.0**
FRGS	**Fruska Gora**	**2.84**	**39**	*e*Pn	**Pn**	**00 32 29.3**	**-0.3**
FRGS				*e*Sn	**Sn**	**00 33 04.4**	**-0.1**
FRGS	**Fruska Gora**	**2.84**	**39**	*e*Pn	**Pn**	**00 32 29.1**	**-0.5**
FRGS				*e*Sn	**Sn**	**00 33 04.1**	**-0.4**
RIY	**Rijeka**	**3.10**	**320**	*e*Pn	**Pn**	**00 32 32.9**	**-0.2**
CRES	**Cresnjev**	**3.14**	**336**	*e*Pn	**Pn**	**00 32 34.6**	**+0.9**
CRES				*e*Sn	**Sn**	**00 33 12.2**	**+0.4**
BRJN	**Brijuni**	**3.20**	**308**	*e*Pn	**Pn**	**00 32 34.5**	**0.0**
BRJN				Sn	**Sn**	**00 33 13.2**	**0.0**
KALN

VYHS	**Vyhne**	**5.63**	**11**	*e*PN	**Pn**	**00 33 09.0**	**+1.1**
VYHS				*e*SN	**Sn**	**00 34 11.8**	**-1.3**

*ISCJB **04** 00:32:34.8±0.4, 36°.87N×0°.02×7°.26W±0°.03, h64km±8km, Error ellipse: s-maj=4.4km s-min=3.5km az=42.4*
*CNRM **04** 00:32:34.3, 36°.86N×7°.33W, h69km, ml2.0*
*MDD **04** 00:32:37.4±0.8, 36°.89N×7°.26W, h29km±10km, mbLg2.3/9, Error ellipse: s-maj=8.2km s-min=3.8km az=21.0, PRXIMO*
*INMG **04** 00:32:37.2±1.3, 36°.86N×7°.30W, h24km±4km, ML1.6, Error ellipse: s-maj=3.5km s-min=2.2km az=26.0*
*SFS **04** 00:32:37.0, 36°.91N×7°.19W, h40km, ML3.4, GOLFO DE CADIZ*

ISC 04 00:32:35.9±1.2, **36°.87N**±0°.03×**7°.26W**±0°.03, **h51**km±13km, **n48**, σ1.900/83, **1C-5D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.65**	**326**	*e*Pg	**Pn**	**00 32 49.4**	**+0.4**
PVAQ				*e*Sg	**Sn**	**00 32 57.9**	**-0.7**
PVAQ				A	A	00 32 58.7	
	62nm,0.3s						
PVAQ	**Vaqueiros**	**0.65**	**326**	P	**Pn**	**00 32 48.9**	**-0.1**
PVAQ				S	**Sn**	**00 32 58.8**	**+0.2**
PVAQ	**Vaqueiros**	**0.65**	**326**	P	**Pn**	**00 32 49.4**	**+0.4**
PVAQ				S	**Sn**	**00 32 57.9**	**-0.7**
	62nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.66**	**305**	⇑*e*Pg	**Pn**	**00 32 49.4**	**+0.2**
PBDV				*e*Sg	**Sn**	**00 32 58.0**	**-0.8**
PBDV				A	A	00 33 00.2	
	7.1nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.66**	**305**	P	**Pn**	**00 32 49.4**	**+0.2**
PBDV				S	**Sn**	**00 32 58.0**	**-0.8**
	7.1nm,0.2s						
EGRO	**El Granado**	**0.69**	**345**	⇓P	**Pn**	**00 32 50.0**	**+0.5**
	4.0nm,0.0s,SNR=18						
EGRO				S	**Sn**	**00 32 59.2**	**-0.3**
	26nm,0.1s,SNR=32						
PCVE	**Castro Verde**	**0.99**	**321**	*e*P	**Pn**	**00 32 54.2**	**+0.8**
PCVE				*e*S	**Sn**	**00 33 06.4**	**0.0**
PCVE				A	A	00 33 12.0	
	3.4nm,0.1s						
PCVE	**Castro Verde**	**0.99**	**321**	P	**Pn**	**00 32 54.2**	**+0.8**
PCVE				S	**Sn**	**00 33 06.4**	**0.0**
	3.4nm,0.1s						
EMIN	**Mina Concepcio**	**1.02**	**27**	⇓P	**Pn**	**00 32 54.1**	**+0.3**
	1.2nm,0.1s,SNR=18						
EMIN				S	**Sn**	**00 33 07.9**	**+0.8**
	3.9nm,0.1s,SNR=6.4						
ESPR	**Espera**	**1.13**	**89**	⇓P	**Pn**	**00 32 56.3**	**+1.0**
	2.6nm,0.1s,SNR=18						
ESPR				S	**Sn**	**00 33 10.3**	**+0.6**
	24nm,0.3s,SNR=14						
PBEJ	**Beja**	**1.25**	**338**	*e*S	**Sn**	**00 33 13.0**	**+0.1**
PBEJ				A	A	00 33 19.2	
	4.2nm,0.2s						
PBEJ	**Beja**	**1.25**	**338**	S	**Sn**	**00 33 13.0**	**+0.1**
	2.1nm,0.2s						
PFVI	**Vila Bisbo**	**1.28**	**283**	*e*P	**Pn**	**00 32 57.8**	**+0.4**
PFVI				*e*S	**Sn**	**00 33 12.8**	**-0.7**
PFVI				A	A	00 33 14.3	
	5.9nm,0.4s						
PFVI	**Vila Bisbo**	**1.28**	**283**	P	**Pn**	**00 32 57.9**	**+0.4**
	0.6nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**00 33 12.9**	**-0.7**
	16nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.35**	**301**	*e*S	**Sn**	**00 33 14.9**	**-0.3**
PTEO	**Sao Teotonio**	**1.35**	**301**	S	**Sn**	**00 33 14.9**	**-0.3**
PNCL	**Nicolau / Gran**	**1.60**	**321**	*e*S	**Sn**	**00 33 21.6**	**+0.3**
PNCL				A	A	00 33 32.9	
	2.8nm,0.5s						
PNCL	**Nicolau / Gran**	**1.60**	**321**	S	**Sn**	**00 33 21.6**	**+0.3**
	2.8nm,0.5s						
EVO	**Evora**	**1.77**	**341**	*e*Pn	**Pn**	**00 33 04.9**	**+0.8**
EVO				*e*Sn	**Sn**	**00 33 24.7**	**-0.7**
EVO				A	A	00 33 33.2	
	3.9nm,0.3s						
EVO	**Evora**	**1.77**	**341**	⇓*i*P	**Pn**	**00 33 05.2**	**+1.1**
EVO				*i* S	**Sn**	**00 33 24.6**	**-0.8**
EVO	**Evora**	**1.77**	**341**	P	**Pn**	**00 33 04.9**	**+0.8**
EVO				S	**Sn**	**00 33 24.7**	**-0.7**
	3.9nm,0.3s						
HORN	**Hornachuelos**	**1.87**	**58**	P	**Pn**	**00 33 05.3**	**-0.2**
HORN				S	**Sn**	**00 33 28.2**	**+0.3**
EBAD	**Badajoz**	**1.90**	**6**	⇓P	**Pn**	**00 33 06.4**	**+0.5**
	0.9nm,0.1s,SNR=18						
EBAD				S	**Sn**	**00 33 27.6**	**-1.0**
	0.8nm,0.1s,SNR=5.7						
ECAB	**El Cabril**	**1.90**	**50**	P	**Pn**	**00 33 06.2**	**+0.4**
	0.3nm,0.1s,SNR=8.4						
ECAB				S	**Sn**	**00 33 26.9**	**-1.8**
	0.3nm,0.0s,SNR=9.7						
PESTR	**Estremoz**	**2.02**	**353**	*e*Pn	**Pn**	**00 33 08.1**	**+0.6**
PESTR				*e*Sn	**Sn**	**00 33 31.0**	**-0.5**
PESTR				A	A	00 33 46.1	
	1.9nm,0.4s						
EMIJ	**Mijas**	**2.02**	**98**	S	**Sn**	**00 33 32.7**	**+1.1**
	0.6nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**2.33**	**341**	*e*Pn	**Pn**	**00 33 13.3**	**+1.6**
PMTG				*e*Sn	**Sn**	**00 33 39.7**	**+0.6**
PMTG				A	A	00 33 55.9	
	2.7nm,0.2s						
PMTG	**Montargil**	**2.33**	**341**	P	**Pn**	**00 33 13.3**	**+1.6**
PMTG				S	**Sn**	**00 33 39.7**	**+0.6**
	2.7nm,0.2s						
EADA	**Adamuz**	**2.50**	**58**	P	**Pn**	**00 33 14.9**	**+0.8**
	0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 33 41.9**	**-1.5**
	1.9nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.54**	**84**	S	**Sn**	**00 33 45.6**	**+1.2**
	0.4nm,0.0s,SNR=7.9						
PMRV	**Marv??o**	**2.56**	**358**	*e*Pn	**Pn**	**00 33 15.7**	**+0.8**
PMRV				*e*Sn	**Sn**	**00 33 44.6**	**-0.3**
PMRV				A	A	00 33 46.3	
	1.4nm,0.2s						
PMRV	**Marv??o**	**2.56**	**358**	P	**Pn**	**00 33 15.7**	**+0.8**
PMRV				S	**Sn**	**00 33 44.6**	**-0.3**
	1.4nm,0.2s						
PMAFR	**Mafra**	**2.63**	**323**	S	**Sn**	**00 33 47.1**	**+0.6**
	1.3nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**2.98**	**357**	*e*Pn	**Pn**	**00 33 21.4**	**+0.8**
PCBR				*e*Sn	**Sn**	**00 33 53.9**	**-1.1**
PCBR				A	A	00 33 55.9	
	1.4nm,0.3s						
PCBR	**Castelo Branco**	**2.98**	**357**	P	**Pn**	**00 33 21.4**	**+0.8**
PCBR				S	**Sn**	**00 33 53.9**	**-1.1**
	0.7nm,0.3s						
EQUE	**Quentar**	**3.08**	**83**	S	**Sn**	**00 33 58.8**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
ZHG	**ZHG**	**3.45**	**171**	P	**Pn**	**00 33 25.6**	**-1.5**
ZHG				S	**Sn**	**00 34 09.5**	**+2.7**
EQES	**Quesada**	**3.47**	**73**	P	**Pn**	**00 33 28.1**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 34 07.0**	**-0.3**
	0.7nm,0.1s,SNR=11						
PAB	**San Pablo**	**3.52**	**40**	P	**Pn**	**00 33 29.0**	**+0.8**
	0.5nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**00 34 05.3**	**-3.3**
	0.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.82**	**42**	P	**Pn**	**00 33 33.1**	**+0.9**
	1.5nm,0.1s,SNR=7.9						
ESDC				S	**Sn**	**00 34 14.5**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.95**	**70**	S	**Sn**	**00 34 19.2**	**-0.2**
	7.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.30**	**2**	*e*Pn	**Pn**	**00 33 39.6**	**+0.8**
MVO				*e*Sn	**Sn**	**00 34 25.3**	**-2.3**
MVO				A	A	00 34 25.6	
	2.0nm,0.9s						
MVO	**Moncorvo**	**4.30**	**2**	P	**Pn**	**00 33 39.6**	**+0.8**
	1.0nm,0.1s,SNR=7.3						
MVO				S	**Sn**	**00 34 25.4**	**-2.3**
	1.6nm,0.2s						
GUD	**Guadarrama**	**4.49**	**32**	P	**Pn**	**00 33 42.6**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
MD31	**MD31**	**4.49**	**152**	P	**Pn**	**00 33 40.0**	**-1.4**
MD31				S	**Sn**	**00 34 31.8**	**-0.6**
MDT	**Midelt**	**4.59**	**151**	P	**Pn**	**00 33 42.6**	**-0.2**
MDT				S	**Sn**	**00 34 35.0**	**0.0**
ETOB	**Tobarra**	**4.86**	**67**	P	**Pn**	**00 33 46.7**	**+0.1**
	0.1nm,0.0s,SNR=7.9						
ETOB				S	**Sn**	**00 34 40.1**	**-1.5**
	2.4nm,0.1s,SNR=5.8						
ETOR	**Torete**	**5.67**	**44**	P	**Pn**	**00 33 58.4**	**+0.8**
	0.5nm,0.1s,SNR=4.0						

*HEL **04** 00:44:30.8, 67°.85N×19°.96E, h0km, ML1.8, Explosion*
UPP 04 00:44:32.1±0.0, **67°.82N**×**20°.20E, h0**km, **ML2.0, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 44 36.7	+0.2
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 44 38.9	+2.4
RATU				S	Sg	00 44 42.2	+2.8
KOVU	**Salmi**	**0.41**	**358**	P	Pg	00 44 39.9	0.0
KOVU				S	Sg	00 44 45.4	+0.2
KOVU	**Salmi**	**0.41**	**358**	P	Pb	00 44 42.0	-0.1
KOVU				S	Sb	00 44 47.7	-1.2
KOVU	**Salmi**	**0.41**	**358**	*i* P	Pg	00 44 39.9	0.0
KOVU				*i* S	Sg	00 44 45.4	+0.2
DUNU	**Dundret**	**0.71**	**168**	P	Pg	00 44 45.5	-0.2
DUNU	**Dundret**	**0.71**	**168**	P	Pb	00 44 47.8	+0.4
DUNU	**Dundret**	**0.71**	**168**	*i* P	Pg	00 44 45.5	-0.2
LANU	**Lannavaara**	**0.72**	**70**	P	Pg	00 44 45.5	-0.3
LANU	**Lannavaara**	**0.72**	**70**	*e*P	Pg	00 44 45.3	-0.5
	baz=261						
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 44 46.9	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 44 46.9	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	00 44 55.6	+0.3
	baz=195						
KIF				MSG		00 45 08.4	
	comp=Z,3.7nm,0.2s						
KIF				*e*SB	Sb	00 45 11.6	-0.4
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 44 57.3	-1.2
PAJU	**Pajala**	**1.38**	**124**	P	Pb	00 44 59.6	+0.8
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 44 57.3	-1.2
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 44 58.1	-1.1
	baz=245						
HEF				MSG		00 45 15.6	
	comp=Z,8.8nm,0.2s						
HEF				*e*SN	Sn	00 45 22.2	+3.6
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 44 59.2	-0.9
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	00 44 59.1	-0.9
ERTU				*e*SN	Sb	00 45 19.9	0.0
TOF	**Tornio**	**2.38**	**135**	*e*PB	Pn	00 45 13.8	+1.5
TOF				MSG		00 45 43.9	
	comp=Z,6.0nm,0.2s						
TOF				*e*SG	Sb	00 45 45.5	-0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 45 15.2	-1.8
RNF	**Rovaniemi**	**2.57**	**115**	*e*PB	Pn	00 45 16.8	+1.9
RNF				*e*SG	Sb	00 45 50.9	-0.2
ARE0	**ARCESS Array S**	**2.60**	**46**	*e*P	Pn	00 45 15.9	+0.6
ARE0				*e*SG	Sb	00 45 53.6	+1.7
KEV	**Kevo**	**3.15**	**49**	*e*S	Sn	00 46 02.0	+1.0
KEV				MSG		00 46 04.6	
	comp=Z,2.3nm,0.2s						

*IDC **04** 00:47:10.1±1.9, 26°.42N×143°.20E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/47, mbtmp3.6/6, ML3.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/32, Error ellipse: s-maj=60.6km s-min=17.8km az=64.0*
*ISCJB **04** 00:47:11.7±1.1, 26°.6N±0°.1×143°.5E±0°.1, h33km, mb3.7/5, MS3.0/2, Error ellipse: s-maj=23.3km s-min=11.8km az=136.9*

ISC 04 00:47:14.5±1.5, **26°.5N**±0°.2×**143°.3E**±0°.2, **h35**km, **n10**, σ0.952/8, **mb3.7**/5, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.17**	**301**	Pn	**Pn**	**00 47 33.9**	**-0.6**
	21nm,0.3s,baz=276,slow=23,SNR=22						
JCJ				Sn	**Sn**	**00 47 49.6**	**+0.4**
	107nm,0.3s,baz=282,slow=20,SNR=22						
MJAR	**Matsushiro Arr**	**10.92**	**338**	Pn	**Pn**	**00 49 47.9**	**-0.3**
	0.1nm,0.3s,baz=160,slow=12,SNR=4.2						
JNU	**Nakatsue**	**12.65**	**304**	LR	LR	00 54 32.5	
	comp=Z,27nm,21.1s,baz=240,slow=35						
KLR	**Kul'dur**	**24.40**	**341**	LR	LR	01 02 00.4	
	comp=Z,13nm,19.2s,baz=47,slow=36						
WRA	**Warramunga Arr**	**46.98**	**192**	P	**P**	**00 55 42.4**	**+0.1**
	2.3nm,0.9s,baz=10,slow=8.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**50.60**	**319**	P	**P**	**00 56 10.1**	**+0.4**
	0.3nm,0.4s,baz=111,slow=6.3,SNR=2.4						
ASAR	**Alice Springs**	**50.70**	**191**	P	**P**	**00 56 10.4**	**-0.4**
	0.5nm,0.9s,baz=5.7,slow=6.9,SNR=3.7						
MKAR	**Makanchi Array**	**51.63**	**310**	P	**P**	**00 56 18.2**	**+0.5**
	0.4nm,0.6s,baz=92,slow=7.3,SNR=4.0						
DZM	**Mont Dzumac**	**53.23**	**153**	LR	LR	01 15 33.5	
	comp=Z,48nm,20.2s,baz=93,slow=32						
BVAR	**Borovoye Array**	**59.16**	**318**	P	**P**	**00 57 12.2**	**+0.4**
	0.4nm,0.5s,baz=84,slow=5.9,SNR=3.0						

*ISCJB **04** 00:51:11.9±0.4, 24°.36N±0°.04×122°.97E±0°.02, h47km±5km, Error ellipse: s-maj=6.1km s-min=2.6km az=0.3*
*TAP **04** 00:51:11.9, 24°.37N×122°.96E, h46km, ML2.9, C*
*JMA **04** 00:51:12.0, 24°.41N×122°.98E, h49km±1km, M2.6*

ISC 04 00:51:12.3±1.2, **24°.36N**±0°.05×**122°.98E**±0°.02, **h45**km±7km, **n47**, σ0.997/84, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.10**	**344**	P	**Pn**	**00 51 19.5**	**-0.1**
JYNG				S	**Sn**	**00 51 24.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.11**	**17**	P	**Pn**	**00 51 19.6**	**0.0**
	baz=19						
YOJ				S	**Sn**	**00 51 25.0**	**+0.2**
	baz=19						
YOJ	**Yonaguni jima**	**0.11**	**17**	P	**Pn**	**00 51 19.6**	**0.0**
YOJ				S	**Sn**	**00 51 25.0**	**+0.2**
IRIF	**Iriomote-Funau**	**0.69**	**92**	P	**Pn**	**00 51 25.4**	**-0.3**
IRIF				S	**Sn**	**00 51 35.3**	**-0.1**
EOS1	**EOS1**	**0.80**	**284**	P	**Pn**	**00 51 26.6**	**-0.5**
	baz=292						
EOS1				S	**Sn**	**00 51 37.5**	**-0.4**
	baz=292						
HATJ	**Hateruma jima**	**0.81**	**111**	P	**Pn**	**00 51 27.5**	**+0.1**
HATJ				*e*S	**Sn**	**00 51 38.6**	**+0.2**
JKRS	**Kuro-shima**	**0.95**	**97**	P	**Pn**	**00 51 29.5**	**+0.2**
JKRS				S	**Sn**	**00 51 42.2**	**+0.5**
TWC	**Suao**	**1.06**	**284**	P	**Pn**	**00 51 29.6**	**-1.1**
	baz=283						
TWC				S	**Sn**	**00 51 42.4**	**-2.0**
	baz=283						
JIJ	**Ishigaki jima**	**1.06**	**89**	P	**Pn**	**00 51 30.4**	**-0.4**
JIJ				S	**Sn**	**00 51 43.8**	**-0.7**
TWB1	**Santiao Chiao**	**1.11**	**306**	*e*S	**Sn**	**00 51 44.6**	**-1.0**
	baz=314						
NANB	**Nanao**	**1.12**	**274**	*e*S	**Sn**	**00 51 45.7**	**-0.2**
	baz=282						
TIPB	**Shuangxi**	**1.21**	**301**	P	**Pn**	**00 51 32.6**	**-0.3**
	baz=309						
TIPB				S	**Sn**	**00 51 46.8**	**-1.4**
	baz=309						
JISG	**Ishigakijimahi**	**1.24**	**79**	P	**Pn**	**00 51 33.0**	**-0.2**
JISG				S	**Sn**	**00 51 48.4**	**-0.3**
TWE	**Neicheng**	**1.25**	**287**	*e*P	**Pn**	**00 51 33.6**	**+0.2**
	baz=296						
TWE				*e*S	**Sn**	**00 51 48.6**	**-0.3**
	baz=296						
NACB	**Ninganchiao**	**1.27**	**262**	*e*P	**Pn**	**00 51 33.4**	**-0.3**
	baz=261						
NACB				S	**Sn**	**00 51 49.8**	**+0.2**
	baz=261						
SLBB	**Yuanshan**	**1.28**	**288**	*e*P	**Pn**	**00 51 33.6**	**-0.3**
	baz=297						
SLBB				*e*S	**Sn**	**00 51 48.5**	**-1.4**
	baz=297						
TWD	**Chiawan**	**1.29**	**258**	*e*S	**Sn**	**00 51 50.1**	**+0.1**
	baz=244						
ENTT	**Nioudou**	**1.31**	**283**	*e*P	**Pn**	**00 51 34.5**	**+0.2**
	baz=289						
ENTT				S	**Sn**	**00 51 50.6**	**0.0**
	baz=289						
NDT	**Datong Townshi**	**1.36**	**281**	P	**Pn**	**00 51 35.6**	**+0.8**
	baz=287						
NDT				S	**Sn**	**00 51 52.1**	**+0.4**
	baz=287						
ETLH	**Xiulin Townshi**	**1.37**	**264**	*e*P	**Pn**	**00 51 35.4**	**+0.3**
	baz=263						
ETLH				*e*S	**Sn**	**00 51 52.5**	**+0.4**
	baz=263						
NWLT	**Wulai**	**1.41**	**288**	*e*P	**Pn**	**00 51 35.4**	**-0.1**
	baz=287						
NWLT				S	**Sn**	**00 51 52.3**	**-0.6**
	baz=287						
NNSB	**Datong**	**1.45**	**273**	*e*P	**Pn**	**00 51 37.2**	**+0.9**
	baz=273						
NNS	**Nan Shan**	**1.46**	**274**	*e*S	**Sn**	**00 51 55.2**	**+0.8**
	baz=273						
YHNB	**Yeheng**	**1.49**	**282**	P	**Pn**	**00 51 37.1**	**+0.4**
	baz=291						
YHNB				S	**Sn**	**00 51 54.8**	**-0.3**
	baz=291						
NSK	**Sanguang**	**1.51**	**283**	*e*P	**Pn**	**00 51 38.3**	**+1.3**
	baz=290						
NSK				S	**Sn**	**00 51 55.3**	**-0.2**
	baz=290						
YM10	**YM10**	**1.51**	**302**	*e*P	**Pn**	**00 51 37.5**	**+0.4**
	baz=302						
EGFH	**Guangfu**	**1.57**	**245**	S	**Sn**	**00 51 55.9**	**-1.0**
	baz=244						
WHF	**Hehuan Shan**	**1.57**	**263**	P	**Pn**	**00 51 38.1**	**-0.1**
	baz=250						
WHF				S	**Sn**	**00 51 58.0**	**+0.4**
	baz=250						
JTJ	**Tarama**	**1.60**	**79**	P	**Pn**	**00 51 38.4**	**+0.3**
JTJ				*e*S	**Sn**	**00 51 57.6**	**0.0**
HGSD	**Ruisui**	**1.66**	**239**	*e*P	**Pn**	**00 51 38.3**	**-0.7**
	baz=238						
HGSD				S	**Sn**	**00 51 57.5**	**-1.6**
	baz=238						
TDCB	**Techi**	**1.66**	**267**	*e*P	**Pn**	**00 51 39.8**	**+0.6**
	baz=266						
TDCB				*e*S	**Sn**	**00 51 59.8**	**+0.4**
	baz=266						
CHGB	**Renai**	**1.67**	**260**	*e*P	**Pn**	**00 51 39.6**	**+0.2**
	baz=248						
CHGB				*e*S	**Sn**	**00 52 00.1**	**+0.4**
	baz=248						
VWDT	**VWDT**	**1.78**	**251**	P	**Pn**	**00 51 40.7**	**+0.1**
	baz=240						
VWDT				S	**Sn**	**00 52 01.1**	**-1.0**
	baz=240						
YULB	**Yu-li**	**1.81**	**238**	*e*P	**Pn**	**00 51 40.0**	**-1.1**
	baz=251						
YULB				*e*S	**Sn**	**00 52 01.4**	**-1.5**
	baz=251						
TWF1	**Yuli**	**1.83**	**237**	P	**Pn**	**00 51 40.7**	**-0.7**
	baz=236						
TWF1				S	**Sn**	**00 52 02.4**	**-1.0**
	baz=236						
SSLB	**Suanglung**	**1.93**	**253**	*e*P	**Pn**	**00 51 42.9**	**+0.1**
	baz=253						
SSLB				*e*S	**Sn**	**00 52 05.0**	**-0.9**
	baz=253						
CHKT	**Chengkung**	**1.93**	**230**	S	**Sn**	**00 52 02.3**	**-3.6**
	baz=219						
SMLT	**Sun Moon Lake**	**1.95**	**257**	*e*P	**Pn**	**00 51 43.8**	**+0.7**
	baz=246						
SMLT				*e*S	**Sn**	**00 52 06.4**	**-0.2**
	baz=246						
TYC	**Yuchr**	**1.99**	**257**	P	**Pn**	**00 51 44.0**	**+0.5**
	baz=247						
TYC				*e*S	**Sn**	**00 52 07.2**	**+0.1**
	baz=247						
YUS	**Yu-Shan**	**2.04**	**245**	*e*S	**Sn**	**00 52 08.2**	**-1.0**
	baz=244						
ELDTW	**Lidau**	**2.14**	**237**	P	**Pn**	**00 51 44.5**	**-1.2**
	baz=236						
ELDTW				S	**Sn**	**00 52 08.8**	**-2.2**
	baz=236						
CHN5	**Tsauling**	**2.23**	**251**	*e*S	**Sn**	**00 52 14.3**	**+0.9**
	baz=242						
TPUB	**Ta-pu**	**2.39**	**244**	*e*P	**Pn**	**00 51 50.2**	**+1.1**
	baz=244						
TPUB				*e*S	**Sn**	**00 52 17.8**	**+0.6**
	baz=244						
CHN4	**Tsaushan**	**2.40**	**246**	*e*P	**Pn**	**00 51 51.0**	**+1.9**
	baz=245						
CHN4				S	**Sn**	**00 52 19.2**	**+1.9**
	baz=245						
WTP	**Ta-pu**	**2.43**	**243**	*e*P	**Pn**	**00 51 50.9**	**+1.3**
	baz=242						
WTP				*e*S	**Sn**	**00 52 19.7**	**+1.6**
	baz=242						
TWK	**Hsinying**	**2.52**	**245**	*e*P	**Pn**	**00 51 52.7**	**+1.8**
	baz=244						
TWK				S	**Sn**	**00 52 21.7**	**+1.3**
	baz=244						
CHN1	**Nanshi**	**2.53**	**243**	*e*P	**Pn**	**00 51 52.7**	**+1.8**
	baz=242						
CHN1				*e*S	**Sn**	**00 52 22.5**	**+1.9**
	baz=242						

*BJI **04** 01:06:43.8±0.0, 37°.98S×176°.46E, h200km, mb4.9/8, mB5.2/3*
*NEIC **04** 01:06:44.7±4.8, 37°.52S±0°.07×176°.41E±0°.10, h208km±5km*
*IDC **04** 01:06:44.6±0.6, 37°.35S×176°.38E, h194km±4km, mb4.3/9, mb1 4.5/10, mb1mx4.2/19, mbtmp4.9/10, Error ellipse: s-maj=16.7km s-min=11.9km az=40.0*
*ISCJB **04** 01:06:45.9±0.2, 37°.66S±0°.02×176°.37E±0°.04, h214km±1km, mb4.6/13, Error ellipse: s-maj=5.1km s-min=3.9km az=172.4*
*WEL **04** 01:06:47.7±0.7, 37°.5±5°.×17°.7E±°., h187km±5km, M4.2/49, ML3.9/6, MLv4.2/49, Error ellipse: s-maj=0.0km s-min=0.0km az=35.7*

ISC 04 01:06:46.6±0.5, **37°.68S**±0°.04×**176°.44E**±0°.04, **h214**km±4km, **n236**, σ1.973/275, **mb4.7**/19, **1C, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.15**	**252**	P	**Pn**	**01 07 13.4**	**-1.2**
TGRZ				S	**S**	**01 07 34.6**	**-1.8**
OPRZ	**Ohinepanea**	**0.18**	**151**	P	**Pn**	**01 07 13.2**	**-1.4**
OPRZ				S	**S**	**01 07 34.6**	**-2.0**
LIRZ	**Lichensteins R**	**0.32**	**188**	P	**Pn**	**01 07 14.4**	**-0.4**
MARZ	**Manawahe**	**0.35**	**148**	P	**Pn**	**01 07 14.0**	**-0.9**
KARZ	**Kaharoa**	**0.37**	**205**	P	**Pn**	**01 07 14.4**	**-0.6**
OMRZ	**Omania**	**0.43**	**187**	P	**Pn**	**01 07 14.6**	**-0.6**
OMRZ				S	**S**	**01 07 37.7**	**0.0**
KMRZ	**Kaimai**	**0.43**	**247**	P	**Pn**	**01 07 14.6**	**-0.6**
MKRZ	**Makatiti**	**0.46**	**177**	P	**Pn**	**01 07 15.6**	**+0.2**
WHRZ	**Whale Island**	**0.46**	**112**	P	**Pn**	**01 07 14.8**	**-0.4**
NGRZ	**Ngongotaha**	**0.46**	**205**	P	**Pn**	**01 07 15.2**	**-0.1**
EDRZ	**Edgecumbe**	**0.48**	**151**	P	**Pn**	**01 07 15.3**	**-0.1**
UTU	**Utuhina**	**0.53**	**201**	P	**Pn**	**01 07 15.6**	**

MRHZ	Matea Rd	1.15 181	P	Pn	01 07 19.2	+0.3
MRHZ			S	S	01 07 44.1	-0.1
WATZ	Wairara	1.17 208	P	Pn	01 07 20.0	+1.0
MKAZ	Moumakai	1.17 299	P	Pn	01 07 17.7	-1.3
MKAZ			S	S	01 07 41.2	-2.9
MTHZ	Maungataniwha	1.21 165	P	Pn	01 07 19.4	+0.1
MTHZ			S	S	01 07 44.5	-0.4
HATZ	Hinemaiaia	1.24 193	P	Pn	01 07 20.2	+0.6
RATZ	Rangitukua	1.29 204	P	Pn	01 07 21.0	+1.0
SNGZ	Shannon Statio	1.31 147	P	Pn	01 07 20.2	+0.1
RAHZ	Arahi	1.33 158	P	Pn	01 07 20.9	+0.7
TKGZ	Te Karaka	1.34 125	P	Pn	01 07 19.7	-0.5
TKGZ			S	S	01 07 44.3	-2.1
KBAZ	Karaka Road Bo	1.37 295	P	Pn	01 07 19.6	-0.9
WIAZ	Waiheke Island	1.37 310	P	Pn	01 07 18.8	-1.8
RITZ	Rihia Road	1.37 199	P	Pn	01 07 21.8	+1.3
ETAZ	East Tamaki Re	1.41 301	P	Pn	01 07 19.6	-1.3
KATZ	Kakaramea	1.42 204	P	Pn	01 07 22.0	+1.0
NMHZ	Naumai	1.44 169	P	Pn	01 07 22.2	+1.1
RIGZ	Rimuhau	1.46 135	P	Pn	01 07 21.4	+0.1
BKZ	Black Stump Fm	1.48 178	P	Pn	01 07 21.7	+0.3
BKZ	Black Stump Fm	1.48 178		Pn	01 07 21.7	+0.3
BKZ			S	S	01 07 44.0	-4.6
MXZ	Matakaoa Point	1.49 86	P	Pn	01 07 19.4	-2.1
MXZ			S	S	01 07 44.3	-4.1
MXZ	Matakaoa Point	1.49 86		Pn	01 07 19.3	-2.1
MXZ			S	S	01 07 38.2	-10
PUZ	Puketiti	1.49 106	P	Pn	01 07 19.8	-1.7
HIZ	Hauiti	1.50 236	P	Pn	01 07 22.6	+1.0
HIZ	Hauiti	1.50 236		Pn	01 07 22.6	+1.0
WHHZ	Waihua	1.53 156	P	Pn	01 07 22.4	+0.6
MBAZ	Motutapu North	1.53 306	P	Pn	01 07 20.5	-1.4
KRVZ	Karewarewa	1.54 204	P	Pn	01 07 22.0	+1.0
AWAZ	Awhitu Peninsu	1.56 293	P	Pn	01 07 20.9	-1.2
WMGZ	Waiomatatini S	1.57 96	P	Pn	01 07 20.6	-1.6
EPAZ	Eden Park BICE	1.57 300	P	Pn	01 07 20.9	-1.3
WTVZ	West Tongariro	1.58 205	P	Pn	01 07 23.4	+1.0
TWVZ	Taurewa	1.59 209	P	Pn	01 07 23.6	+1.1
HBAZ	Herne Bay Bore	1.60 301	P	Pn	01 07 21.1	-1.3
CNGZ	Carnagh Statio	1.61 120	P	Pn	01 07 22.3	-0.2
NGZ	Ngauruhoe	1.63 204	P	Pn	01 07 23.9	+1.0
GRZ	Great Barrier	1.63 331	P	Pn	01 07 20.1	-2.7
ARHZ	Aropaoanui	1.64 165	P	Pn	01 07 23.7	+0.9
KNZ	Kokohu	1.65 144	P	Pn	01 07 23.1	+0.3
WTAZ	Waiatarua	1.67 296	P	Pn	01 07 22.0	-1.1
ABAZ	Army Bay	1.68 310	P	Pn	01 07 21.7	-1.5
PRGZ	Paritu Road	1.68 138	P	Pn	01 07 23.2	0.0
TUVZ	Tukino	1.70 201	P	Pn	01 07 24.6	+1.1
FWVZ	Far West T-bar	1.72 204	P	Pn	01 07 24.4	+0.7
WHVZ	Whangaehu Hut	1.73 202	P	Pn	01 07 24.7	+0.8
KWHZ	Kaweka Forest	1.74 180	P	Pn	01 07 24.6	+0.8
TRVZ	Turoa	1.76 203	P	Pn	01 07 25.0	+0.9
MCHZ	McNeill Hill	1.77 174	P	Pn	01 07 25.2	+1.3
MOVZ	Moawhango	1.80 197	P	Pn	01 07 24.9	+0.5
PKVZ	Pokaka	1.82 208	P	Pn	01 07 25.7	+1.2
BHHZ	Black Hill Sta	1.83 189	P	Pn	01 07 25.1	+0.6
MTVZ	Mangateitei	1.86 204	P	Pn	01 07 26.0	+1.1
MHGZ	Mahia Peninsul	1.87 142	P	Pn	01 07 25.3	+0.4
VRZ	Vera Road	1.95 222	P	Pn	01 07 27.4	+1.8
KRHZ	Kereru	1.96 182	P	Pn	01 07 26.5	+0.7
CKHZ	Cape Kidnapper	2.04 166	P	Pn	01 07 27.5	+1.0
KAHZ	Kaharunaki	2.14 171	P	Pn	01 07 28.7	+1.1
MHEZ	Mangahewa	2.17 229	P	Pn	01 07 30.7	+2.8
PNHZ	Pukenui	2.23 185	P	Pn	01 07 29.1	+0.5
DREZ	Durham Road	2.31 229	P	Pn	01 07 31.6	+2.2
WAZ	Wanganui	2.36 208	P	Pn	01 07 31.1	+1.2
PXZ	Pawanui	2.37 172	P	Pn	01 07 30.5	+0.6
WPHZ	Waipukurau	2.38 180	P	Pn	01 07 30.7	+0.7
LREZ	Lake Rotokare	2.39 221	P	Pn	01 07 32.2	+2.0
TSZ	Takapari Road	2.40 189	P	Pn	01 07 30.9	+0.5
WCZ	Waipu Caves	2.42 315	P	Pn	01 07 28.6	-1.9
PREZ	Palmer Road	2.44 226	P	Pn	01 07 33.2	+2.5
PKE	Pukeiti	2.45 231	P	Pn	01 07 32.9	+2.0
KHEZ	Kahui Hut	2.49 229	P	Pn	01 07 33.5	+2.1
NBEZ	Newall Road No	2.57 231	P	Pn	01 07 34.3	+2.2
PRHZ	Porangahau	2.58 177	P	Pn	01 07 32.7	+0.4
DVHZ	Dannevirke	2.62 185	P	Pn	01 07 32.9	+0.2
NMEZ	Namu Road	2.65 229	P	Pn	01 07 35.1	+2.2
OHWZ	Ohakea	2.67 199	P	Pn	01 07 34.2	+1.1
POWZ	Post Office Ro	2.76 191	P	Pn	01 07 34.6	+0.4
ANWZ	Angora Road	2.77 179	P	Pn	01 07 34.9	+0.6
PRWZ	Pori Road	2.89 187	P	Pn	01 07 36.2	+0.5
BFZ	Birch Farm	3.00 183	P	Pn	01 07 37.0	0.0
BFZ	Birch Farm	3.00 183		Pn	01 07 37.0	0.0
BFZ			S	S	01 08 12.3	-3.9
MRZ	Mangatainoka R	3.05 192	P	Pn	01 07 37.8	0.0
TIWZ	Tintock	3.12 188	P	Pn	01 07 38.6	+0.2
CPWZ	Castlepoint	3.23 183	P	Pn	01 07 40.2	+0.7
OGWZ	Otaki Gorge	3.28 197	P	Pn	01 07 40.1	-0.1
HOWZ	Holdsworth Sta	3.29 192	P	Pn	01 07 39.9	-0.4
OUZ	Omahuta	3.36 316	P	Pn	01 07 39.1	-2.1
OUZ	Omahuta	3.36 316		Pn	01 07 39.1	-2.1
KIW	Kapiti Island	3.39 200	P	Pn	01 07 41.1	-0.4
TMWZ	Te Maipa	3.45 187	P	Pn	01 07 41.9	-0.3
MTW	Mount Morrison	3.55 192	P	Pn	01 07 42.7	-0.7
CAW	Cannon Point	3.58 197	P	Pn	01 07 43.5	-0.3
DUWZ	D'Urville Isla	3.68 211	P	Pn	01 07 44.3	-0.7
TRWZ	Traveller	3.76 189	P	Pn	01 07 45.4	-0.5
PAWZ	Paruwai Farm	3.78 192	P	Pn	01 07 45.5	-0.7
MSWZ	Moikau Station	3.84 193	P	Pn	01 07 46.1	-0.9
MSWZ	Moikau Station	3.84 193		Pn	01 07 46.0	-0.9
MSWZ			S	S	01 08 28.7	-5.4
SNZO	South Karori	3.86 200		Pn	01 07 46.4	-0.7
SNZO			S	S	01 08 30.2	-4.4
TCW	Tory Channel	3.90 205	P	Pn	01 07 46.9	-0.7
BHW	Baring Head	3.91 198	P	Pn	01 07 47.0	-0.8
BHW	Baring Head	3.91 198		Pn	01 07 46.8	-1.0
BHW			S	S	01 08 34.2	-1.5
PLWZ	Palliser	3.99 193	P	Pn	01 07 47.8	-0.9
PLWZ	Palliser	3.99 193		Pn	01 07 47.9	-0.8
PLWZ			S	S	01 08 33.8	-3.7
TUWZ	Tuamarina	4.21 207	P	Pn	01 07 50.7	-0.7
TUWZ	Tuamarina	4.21 207		Pn	01 07 50.3	-1.1
TUWZ			S	S	01 08 37.4	-4.9
NNZ	Nelson	4.25 213	P	Pn	01 07 50.7	-1.2
NNZ	Nelson	4.25 213		Pn	01 07 50.9	-1.0
QRZ	Quartz Range	4.37 223	P	Pn	01 07 52.2	-1.2
QRZ	Quartz Range	4.37 223		Pn	01 07 52.4	-1.0
CMWZ	Cape Campbell	4.41 202	P	Pn	01 07 54.0	+0.1
CMWZ	Cape Campbell	4.41 202		Pn	01 07 53.7	-0.2
BSWZ	Blackbirch Sta	4.49 205	P	Pn	01 07 54.0	-0.8
BSWZ	Blackbirch Sta	4.49 205		Pn	01 07 54.0	-0.8
THZ	Tophouse	4.90 213	P	Pn	01 07 58.9	-1.2
THZ	Tophouse	4.90 213		Pn	01 07 59.2	-0.9
KHZ	Kahutara	5.22 204	P	Pn	01 08 03.2	-0.9
DSZ	Denniston Nort	5.41 220	P	Pn	01 08 05.5	-1.0
GVZ	Greta Valley S	5.88 205	P	Pn	01 08 11.2	-1.3
LTZ	Lake Taylor	6.01 211	P	Pn	01 08 12.5	-1.7
AMCZ	Amberley	6.20 207	P	Pn	01 08 15.2	-1.4
INZ	Inchbonnie	6.32 216	P	Pn	01 08 16.0	-2.1
OKCZ	Okains Bay	6.56 202	P	Pn	01 08 19.8	-1.4
OXZ	Oxford	6.56 209	P	Pn	01 08 19.2	-1.9
OXZ	Oxford	6.56 209		Pn	01 08 19.2	-1.9
OXZ			S	S	01 09 32.3	-3.9
CRLZ	Canterbury Las	6.56 205	P	Pn	01 08 19.5	-1.7
CRLZ	Canterbury Las	6.56 205		Pn	01 08 19.3	-1.8
MQZ	McQueen's Vall	6.67 204	P	Pn	01 08 19.2	-3.3
AKCZ	Akaroa Harbour	6.74 202	P	Pn	01 08 21.8	-1.7
WVZ	Waitaha Valley	6.92 217	P	Pn	01 08 23.8	-2.0
RPZ	Rata Peaks	7.28 212	P	Pn	01 08 29.1	-1.4
RPZ	17nm,0.3s,baz=232,slow=1.5,SNR=40					
RPZ			S	S	01 09 48.5	-4.7
	38nm,0.3s,baz=305,slow=2.1,SNR=20					
RPZ	Rata Peaks	7.28 212	P	Pn	01 08 28.7	-1.8
FOZ	Fox Glacier	7.71 219		Pn	01 08 34.3	-1.7
FOZ			S	S	01 09 58.0	-5.4
CTZ	Chatham Island	8.02 141	P	Pn	01 08 41.6	+1.6
LBZ	Lake Benmore	8.19 213	P	Pn	01 08 40.5	-1.8
ODZ	Otahua Downs	8.55 209	P	Pn	01 08 45.5	-1.3
JCZ	Jackson Bay	8.62 220	P	Pn	01 08 45.0	-2.8
WKZ	Wanaka	9.06 216	P	Pn	01 08 51.0	-2.5
HHSZ	Highcliff Hill	9.28 206	P	Pn	01 08 56.0	-0.2
MSZ	Milford Sound	9.48 220	P	Pn	01 08 56.1	-2.7
RAO	Raoul Island	9.64 31	P	Pn	01 08 56.5	-4.5
RAO	34nm,0.3s,baz=262,slow=18,SNR=2.3					
RAO			S	S	01 10 32.5	-17
	40nm,0.3s,baz=213,slow=22,SNR=2.9					
RAO	Raoul Island	9.64 31		Pn	01 08 54.4	-6.6
TUZ	Tuapeka	9.70 209	P	Pn	01 09 01.0	-0.6
MLZ	Mavora Lakes	9.89 216	P	Pn	01 09 02.5	-1.6
MLZ	Mavora Lakes	9.89 216		Pn	01 09 02.4	-1.7
WHZ	Wether Hill Ro	10.36 215	P	Pn	01 09 07.4	-2.8
WHZ	Wether Hill Ro	10.36 215		Pn	01 09 07.3	-2.8
SYZ	Scrubby Hill	10.37 209	P	Pn	01 09 09.8	-0.5
DCZ	Deep Cove	10.43 219	P	Pn	01 09 09.2	-1.7
DCZ	Deep Cove	10.43 219	Pn	Pn	01 09 08.5	-2.4
APZ	The Paps	11.07 212	P	Pn	01 09 17.4	-1.9
DZM	Mont Dzumac	17.79 328	P	P	01 10 38.6	-0.8
	1.7nm,0.3s,baz=167,slow=9.1,SNR=20					
DZM	Mont Dzumac	17.79 328		P	01 10 38.7	-0.6
DZM			IAmb	IAmb	01 10 39.7	
	comp=Z,15nm,0.6s					
TOO	Toolangi	24.46 261	P	P	01 11 48.5	+2.5
STKA	Stephens Creek	29.09 271	P	P	01 12 29.2	+1.9
	comp=Z,16nm,0.8s,baz=94,slow=9.6,SNR=24					
STKA	Stephens Creek	29.09 271	P	P	01 12 29.7	+2.4
CTAO	Charters Tower	31.52 295	P	P	01 12 49.7	+1.0
CTAO			IAmb	IAmb	01 12 51.2	
	comp=Z,18nm,1.2s					
PPT	Papeete	35.89 65	P	P	01 13 26.2	-0.2
	comp=Z,24nm,0.7s,baz=49,slow=22,SNR=3.3					
COEN	Coen	37.82 300	P	P	01 13 43.0	+0.3
COEN			IAmb	IAmb	01 13 44.3	
	comp=Z,9.8nm,0.8s					
AS31	Alice Springs	38.83 279	P	P	01 13 51.5	+0.4
AS31			IAmb	IAmb	01 13 52.1	
	comp=Z,7.4nm,0.7s					
ASAR	Alice Springs	38.83 279	P	P	01 13 48.6	-2.5
	comp=Z,18nm,0.6s,baz=119,slow=8.1,SNR=168					
ASAR			S	S	01 19 35.1	+2.4
	comp=Z,0.9nm,0.6s,baz=126,slow=14,SNR=5.2					
FORT	Forrest	40.23 265	P	P	01 14 03.5	+1.0
WB2	Warramunga Arr	40.51 284	P	P	01 14 04.8	-0.1
WRAB	Tennant Creek	40.52 284	P	P	01 14 05.0	0.0
WRA	Warramunga Arr	40.52 284	P	P	01 14 04.8	-0.1
	comp=Z,12nm,0.4s,baz=124,slow=8.4,SNR=135					
WRA			ScP	ScP	01 19 31.0	-0.9
	comp=Z,0.4nm,0.6s,baz=115,slow=3.8,SNR=4.1					
WRA	Warramunga Arr	40.52 284	P	P	01 14 04.5	-0.5
KNRA	Kununurra	47.31 284	P	P	01 14 58.8	-0.1
KNRA			IAmb	IAmb	01 15 01.3	
	comp=Z,40nm,1.2s					
FITZ	Fitzroy Crossi	48.33 279	P	P	01 15 07.1	+0.4
MORW	Morawa	50.41 261	P	P	01 15 22.7	+0.3
MORW			IAmb	IAmb	01 15 23.5	
	comp=Z,14nm,0.8s					
QSPA	South Pole Qui	52.44 180	P	P	01 15 40.8	+3.8
	comp=Z,7.4nm,0.4s,baz=229,slow=1.9,SNR=30					
QSPA	South Pole Qui	52.44 180	P	P	01 15 40.8	+3.8
QSPA			IAmb	IAmb	01 15 41.8	
	comp=Z,29nm,1.1s					
MAW	Mawson	63.85 203	P	P	01 16 57.1	+1.4
	comp=Z,1.2nm,0.6s,baz=136,slow=6.1,SNR=4.9					
MAW	Mawson	63.85 203	IAmb	IAmb	01 16 59.5	
	comp=Z,0.7nm,1.0s					
PMSA	Palmer Station	67.51 156	P	P	01 17 21.8	+2.7
	comp=Z,16nm,0.7s,baz=212,slow=3.5,SNR=17					
PMSA	Palmer Station	67.51 156	P	P	01 17 21.7	+2.6
SYO	Syowa Base	68.94 195	eP	P	01 17 26.6	-1.3
SNAA	Sanae	70.95 180	P	P	01 17 41.4	+1.2
SNAA	Sanae	70.95 180	P	P	01 17 41.4	+1.2
SNAA			IAmb	IAmb	01 17 43.8	
	comp=Z,9.9nm,1.2s					
VNA3	Neumayer Olymp	71.29 178	P	P	01 17 43.6	+1.4
VNA2	Neumayer--Watz	71.66 179	P	P	01 17 46.0	+1.6
	baz=172,slow=4.4					
VNA1	Neumayer--Stat	71.92 178	P	P	01 17 47.6	+1.8
PLCA	Paso Flores	80.79 135	P	P	01 18 38.6	+2.2
	comp=Z,4.4nm,0.7s,baz=249,slow=5.6,SNR=15					
KSRS	Korea Array	87.16 323	P	P	01 19 08.9	+0.8
	comp=Z,2.0nm,0.7s,baz=144,slow=6.3,SNR=6.2					
NJ2	Nanjing	87.73 314	eP	P	01 19 13.5	+2.5
NJ2			pmax	pmax		
	comp=Z,13nm,0.5s					
WHN	Wuhan	89.28 310	P	P	01 19 19.0	+0.7
CMAR	Chiang Mai Arr	91.64 292	P	P	01 19 29.9	+0.3
	comp=Z,2.1nm,0.6s,baz=149,slow=3.1,SNR=9.1					
HHC	Hu-ho-hao-te	98.11 316	eP	Pdif	01 20 01.0	+2.3
HHC			pmax	pmax		
	comp=Z,4.0nm,1.0s					
LZH	Lanzhou	99.48 308	eP	Pdif	01 20 07.5	+2.5
LZH			pP	pP	01 20 57.6	-0.4
LZH			sP	sP	01 21 18.6	-1.7
LZH			pmax	pmax		
	comp=Z,16nm,1.0s					
WMQ	Urumqi	114.04 308	ePKP	PKiKP	01 25 00.6	+0.8
WMQ			LR	LR		
	comp=Z,480nm,29.0s					
WMQ			LR	LR		
	comp=Z,750nm,29.2s					
WMQ			LR	LR		
	comp=Z,120nm,28.8s					
MKAR	Makanchi Array	118.80 309	PKP	PKiKP	01 25 09.4	+0.5
	comp=Z,0.4nm,0.6s,baz=132,slow=2.1,SNR=2.8					
MKAR	Makanchi Array	118.80 309		PKPdf	01 25 07.5	-1.4
ARCES	ARCESS Array B	144.46 343	PKP	PKPab	01 25 53.2	-1.9
	comp=Z,1.5nm,0.6s,baz=40,slow=2.9,SNR=10					
KBZ	Khabaz	144.64 295	PKP	PKPab	01 25 55.5	-1.0
	comp=Z,1.8nm,0.7s,baz=166,slow=13,SNR=5.1					
LIC	Lamto	148.66 177	ePKIKP	PKPbc	01 26 08.9	+0.1
	comp=Z,22nm,0.5s					
KIC	Kosan Boka	148.80 178	ePKIKP	PKPbc	01 26 08.7	-0.5
	comp=Z,12nm,0.5s					
TIC	Toumodi	149.08 177	ePKIKP	PKPbc	01 26 08.4	-1.5
DBIC	Dimbokro	149.11 177	PKPbc	PKPbc	01 26 09.7	-0.3
	comp=Z,5.1nm,0.6s,baz=150,slow=2.7,SNR=8.9					
DBIC			PKPab	PKPab	01 26 15.0	+0.2
	comp=Z,3.6nm,0.4s,baz=151,slow=4.6,SNR=12					
DBIC	Dimbokro	149.11 177		PKPbc	01 26 09.4	-0.6
DBIC				PKPab	01 26 14.8	0.0
FINES	FINESS Array B	149.90 332	PKPbc	PKPbc	01 26 08.3	-2.2
	comp=Z,2.8nm,0.6s,baz=47,slow=2.7,SNR=14					
FINES			PKPab	PKPab	01 26 14.5	-2.4
	comp=Z,3.4nm,0.7s,baz=48,slow=4.1,SNR=9.4					
BRTR	Keskin Array B	151.03 286	PKPbc	PKPbc	01 26 12.7	-1.3
	comp=Z,0.8nm,0.7s,baz=159,slow=1.8,SNR=6.0					
BRTR			PKPab	PKPab	01 26 21.2	-1.3
	comp=Z,1.2nm,0.7s,baz=142,slow=4.9,SNR=8.8					
BRTR	Keskin Array B	151.03 286		PKPbc	01 26 11.7	-2.4
BRTR				PKPab	01 26 21.1	-1.4
AKASG	Malin Array Be	153.37 310	PKPab	PKPab	01 26 30.4	-1.4
	comp=Z,1.4nm,0.7s,baz=58,slow=4.0,SNR=4.9					
AKASG	Malin Array Be	153.37 310	PKPbc	PKPbc	01 26 16.1	-2.5
AKASG				PKPab	01 26 29.9	-1.9
TORD	Torodi Ar. Bea	155.12 192	PKP	PKPdf	01 26 15.7	+1.2
	comp=Z,0.3nm,0.8s,baz=162,slow=1.9,SNR=3.1					
TORD			PKPab	PKPab	01 26 39.0	-1.0
	comp=Z,1.4nm,0.6s,baz=166,slow=3.3,SNR=11					
TORD	Torodi Ar. Bea	155.12 192		PKPdf	01 26 14.3	-0.2
TORD				PKPab	01 26 38.4	-1.6

IDC ***04*** *01:28:23.1±4.0, 25°.73N×124°.02E, h179km±45km, mb3.6/8, mb1 3.6/9, mb1mx3.3/43, mbtmp4.0/9, Error ellipse: s-maj=54.5km s-min=17.4km az=61.0*
ISCJB ***04*** *01:28:24.4±0.4, 25°.83N±0°.08×124°.12E±0°.06, h205km±7km, mb3.6/8, Error ellipse: s-maj=15.5km s-min=4.6km az=149.0*
JMA ***04*** *01:28:26.6±0.2, 25°.88N×124°.00E, h185km, M4.1*
ISC 04 01:28:25.5±0.7, 25°.87N±0°.09×124°.10E±0°.07, h202km±9km, n32, σ1°32/53, mb3.8/8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	1.29	171	P	Pn	01 28 57.5	-0.1
JISG				eS	S	01 29 20.8	-1.4
JTJ	Tarama	1.34	156	P	Pn	01 28 58.4	+0.4
JTJ				S	S	01 29 21.9	-1.0
JIKM	Ikemajima	1.40	132	P	Pn	01 28 59.5	+1.0
JIKM				S	S	01 29 24.0	+0.3
JIRB	Irabujima	1.42	137	P	Pn	01 28 59.3	+0.6
JIRB				S	S	01 29 23.2	-0.8
JIJ	Ishigaki jima	1.50	178	P	Pn	01 28 58.8	-0.6
JIJ				S	S	01 29 22.8	-2.5
IRIF	Iriomote-Funau	1.56	192	P	Pn	01 28 59.5	-0.4
IRIF				S	S	01 29 25.0	-1.2
JMJ2	Miyako jima3	1.58	135	P	Pn	01 29 01.4	+1.3
JMJ2				eS	S	01 29 26.9	+0.4
JOGS	Gusukube	1.62	133	P	Pn	01 29 01.2	+0.8
JOGS				S	S	01 29 27.7	+0.6
JKRS	Kuro-shima	1.62	183	P	Pn	01 29 00.2	-0.3
JKRS				S	S	01 29 25.5	-1.8
YOJ	Yonaguni jima	1.71	215	P	Pn	01 29 00.9	-0.4
YOJ				eS	S	01 29 27.6	-1.0
JYNG	Yonagunijimaku	1.75	217	P	Pn	01 29 01.5	-0.2
JYNG				S	S	01 29 28.2	-1.1
HATJ	Hateruma jima	1.82	188	P	Pn	01 29 02.3	-0.1
HATJ				S	S	01 29 28.8	-1.8
JKE	Kume jima 2	2.46	79	P	Pn	01 29 10.2	+1.2
JAGN	Aguni-jima	2.92	75	P	Pn	01 29 15.1	+0.9
JAGN				S	S	01 29 51.3	-0.3
JJT3	Tamagusuku3	3.33	84	P	Pn	01 29 20.4	+1.3
JJT3				S	S	01 30 00.8	+0.4
JNTH	Nagotoyohara	3.59	79	P	Pn	01 29 22.8	+0.6
JNTH				eS	S	01 30 04.3	-1.7
JIH	Iheya	3.66	71	P	Pn	01 29 23.9	+0.8
JIH				eS	S	01 30 06.0	-1.7
JOW	Kunigami	3.87	75	P	Pn	01 29 26.2	+0.5
JOW				eS	S	01 30 09.7	-2.7
JOW	Kunigami	3.87	75	P	Pn	01 29 23.6	-2.1
	0.9nm,0.3s,baz=103,slow=16,SNR=20						
JOW				S	S	01 30 05.7	-6.7
	3.4nm,0.3s,baz=179,slow=14,SNR=7.5						
JYRO	Yoronjima	4.07	73	P	Pn	01 29 28.1	0.0
JYRO				eS	S	01 30 13.9	-2.9
JOKE	Okinoerabujima	4.27	69	P	Pn	01 29 30.6	-0.1
JTK	Tokunoshima	4.74	65	P	Pn	01 29 36.3	-0.3
JTK				S	S	01 30 29.2	-2.9
JAMN	Amaminishikomi	5.11	61	P	Pn	01 29 40.4	-0.9
JAMN				eS	S	01 30 37.4	-3.2
KSRS	Korea Array	12.00	15	P	Pn	01 31 11.7	+1.5
	0.4nm,0.3s,baz=199,slow=13,SNR=6.6						
SONM	Songino Array	25.98	332	P	P	01 33 40.8	+1.2
	0.3nm,0.4s,baz=123,slow=7.6,SNR=2.0						
MKAR	Makanchi Array	39.04	313	P	P	01 35 32.6	0.0
	1.5nm,0.5s,baz=100,slow=9.8,SNR=25						
ZALV	Zalesovo Beam	40.34	325	P	P	01 35 42.5	-0.7
	3.5nm,0.6s,baz=117,slow=7.7,SNR=15						
KURBB	Kurchatov Arra	42.59	318	P	P	01 36 01.4	-0.1
	1.0nm,0.5s,baz=109,slow=9.4,SNR=16						
KURBB			PcP	PcP	01 37 51.2	+1.4
	0.6nm,0.4s,baz=91,slow=7.5,SNR=7.3						
WRA	Warramunga Arr	46.61	167	P	P	01 36 32.4	-1.2
	0.4nm,0.5s,baz=132,slow=26,SNR=7.0						
GEYT	Alibeck	56.25	300	P	P	01 37 45.9	+0.9
	2.8nm,0.5s,baz=77,slow=3.2,SNR=9.7						
FINES	FINESS Array B	71.33	330	P	P	01 39 22.9	0.0
	5.1nm,1.0s,baz=236,slow=20,SNR=6.3						
BRTR	Keskin Array B	74.30	307	P	P	01 39 40.6	-0.3
	0.9nm,1.0s,baz=96,slow=7.6,SNR=5.2						

ISCJB ***04*** *01:52:01.0±0.5, 35°.60N±0°.03×97°.39W±0°.03, h12km±3km, Error ellipse: s-maj=5.9km s-min=3.7km az=168.7*
NEIC ***04*** *01:52:01.9±2.4, 35°.59N±0°.05×97°.32W±0°.04, h7km±6km*
TUL ***04*** *01:52:02.0±1.3, 35°.60N±0°.06×97°.39W±0°.05, h6km±1km, mb_Lg3.3/61(NEIC)*
ANF ***04*** *01:52:03.3±1.4, 35°.61N×97°.42W, h19km±11km, ML4.0/8, Error ellipse: s-maj=6.5km s-min=3.7km az=152.0*
ISC 04 01:52:02.1±1.0, 35°.61N±0°.05×97°.38W±0°.04, h8km±7km, n64, σ1°18/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.05	238		Pg	01 52 03.2	-0.6
ADOK	Arcadia Dam	0.05	4		Pg	01 52 03.9	0.0
OK001	Jones High Sch	0.08	122	Pg	Pg	01 52 04.1	-0.2
OK005	Luther M Schoo	0.16	72		Pg	01 52 05.7	+0.2
TUL1	Leonard	1.32	76	P	Pn	01 52 25.8	-1.1
	baz=256						
TUL1				S	Sb	01 52 44.2	-0.2
	baz=256						
TUL1	Leonard	1.32	76		Pn	01 52 25.8	-1.1
WMOK	Wichita Mounta	1.44	233	P	Pn	01 52 27.6	-0.9
	baz=54						
WMOK				S	Sb	01 52 46.7	-1.0
	baz=54						
WMOK	Wichita Mounta	1.44	233		Pn	01 52 27.6	-0.9
WMOK					Sb	01 52 47.2	-0.5
U32A	Winter Ranch,	1.53	301		Pn	01 52 29.9	+0.1
HHAR	Hobbs	2.87	75		Pn	01 52 48.5	+0.4
W39A	Magazine	2.96	97	P	Pn	01 52 49.9	+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,41nm,0.8s						
OXF	**Oxford**	**6.62**	**97**	IAmb_Lg		01 55 32.7	
	comp=Z,34nm,0.9s						
SIUC	**Southern Illin**	**6.89**	**70**	IAmb_Lg		01 55 41.7	
	comp=Z,51nm,0.8s						
Q24A	**Divide**	**7.04**	**301**		**Pn**	**01 53 46.1**	**+0.3**
Q24A				IAmb_Lg		01 55 55.7	
	comp=Z,23nm,0.8s						
SCIA	**State Center**	**7.08**	**26**	IAmb_Lg		01 55 55.8	
	comp=Z,55nm,0.7s						
ANMO	**Albuquerque**	**7.46**	**268**	IAmb_Lg		01 56 18.9	
	comp=Z,7.0nm,1.1s						
833A	**Chaparral WMA,**	**7.46**	**194**	Pn	**Pn**	**01 53 50.3**	**-1.0**
833A				IAmb_Lg		01 56 08.3	
	comp=Z,34nm,0.9s						
PLAL	**Pickwick Lake**	**7.63**	**92**	Pn	**Pn**	**01 53 52.9**	**-0.7**
PLAL					**Sn**	**01 55 16.3**	**-3.9**
BNM	**Barren Site**	**7.74**	**262**	Pn	**Pn**	**01 53 55.3**	**-0.1**
ISCO	**Idaho Springs**	**7.76**	**305**		**Pn**	**01 53 55.3**	**-0.3**
ISCO				Pg	Pb	01 54 23.4	+6.4
ECSD	**EROS Data Cent**	**8.14**	**4**	Pn	**Pn**	**01 53 59.4**	**-1.2**
TX31	**Lajitas Ar. Si**	**8.21**	**222**		**Pn**	**01 54 01.2**	**-0.4**
TXAR	**Lajitas Array**	**8.21**	**222**		**Pn**	**01 54 00.1**	**-1.5**
O44A	**Mansfield**	**8.38**	**55**	IAmb_Lg		01 56 33.6	
	comp=Z,37nm,0.7s						
T47A	**Sharon Grove**	**8.41**	**78**	IAmb_Lg		01 56 38.7	
	comp=Z,42nm,1.3s						
N23A	**Red Feather La**	**8.56**	**311**	IAmb_Lg		01 56 44.9	
	comp=Z,32nm,1.1s						

*IDC **04** 02:29:44.5±0.5, 55°.36S×28°.26W, h0km, mb4.6/13, mb1 4.6/14, mb1mx4.5/19, mbtmp4.6/14, ML4.6/1, MS4.6/16, Ms1 4.6/16, ms1mx4.6/17, Error ellipse: s-maj=17.9km s-min=14.8km az=20.0*

*ISCJB **04** 02:29:47.2±1.8, 55°.36S±0°.06×28°.42W±0°.08, h35km±17km, mb4.6/15, MS4.7/20, Error ellipse: s-maj=10.9km s-min=6.6km az=24.5*

*NEIC **04** 02:29:49.1±2.5, 55°.4S±0°.1×28°.55W±0°.06, h35km±5km, mb4.3/12*

*BJI **04** 02:29:49.0±0.0, 55°.40S×28°.40W, h30km, mB5.1/1, Ms5.2/3, Ms7 5.1/3*

*GCMT **04** 02:29:52.1±0.2, 55°.45S±0°.01×28°.26W±0°.02, h21km±1km, MW5.3/103, Moment Tensor Solution. s64, c86; s103, c160; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr0.31±.02; Mθθ-0.32±.02; Mφφ0.00±.01; Mrθ-0.16±.02; Mrφ0.36±.01; Mθφ0.85±.06; Best double couple: M0 0.98700×1017 NP1:φs342.00000°, δ81.00000°, λ114.00000°. NP2:φs92.00000°, δ25.00000°, λ22.00000°. Principal axes: T 1.0330, Plg49.0000°, Azm277.0000°; N -0.0920, Plg23.0000°, Azm157.0000°; P -0.9410, Plg32.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 02:29:48.0±1.1, 55°.38S±0°.07×28°.52W±0°.05, h28km±7km, n149, σ1§54/144, mb4.5/19, MS4.7/20, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.74**	**280**		**Pn**	**02 30 57.5**	**+0.1**
HOPE				Sn	**Sn**	**02 31 45.5**	**-5.9**
VNA1	**Neumayer--Stat**	**17.70**	**158**	P	**P**	**02 33 53.1**	**+0.4**
VNA3	**Neumayer Olymp**	**17.88**	**160**	P	**P**	**02 33 54.8**	**+0.2**
EFI	**East Falkland**	**17.88**	**270**	P	**P**	**02 33 56.6**	**+1.8**
EFI				S	**Sn**	**02 37 09.8**	**-2.8**
VNA2	**Neumayer--Watz**	**18.10**	**158**	P	**Pn**	**02 33 57.2**	**+0.3**
	baz=317,slow=13						
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**02 34 13.5**	**-0.8**
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**02 34 13.7**	**-0.6**
PMSA	**Palmer Station**	**19.79**	**227**	P	**Pn**	**02 34 18.5**	**+1.3**
	1.6nm,0.3s,baz=76,slow=12,SNR=11						
PMSA				LR	LR	02 40 41.4	
	comp=Z,3μm,19.8s,baz=66,slow=33						
PMSA	**Palmer Station**	**19.79**	**227**	P	**Pn**	**02 34 17.5**	**+0.3**
PMSA	**Palmer Station**	**19.79**	**227**	*eP*	**Pn**	**02 34 19.1**	**+1.8**
PMSA	**Palmer Station**	**19.79**	**227**	*eP*	**Pn**	**02 34 19.1**	**+1.8**
USHA	**Ushuaia**	**22.63**	**255**	P	**P**	**02 34 47.3**	**+1.0**
	15nm,0.9s,baz=341,slow=8.7,SNR=4.2						
USHA				LR	LR	02 41 35.6	
	comp=Z,3μm,19.0s,baz=98,slow=31						
GO09	**Cerro Castillo**	**26.16**	**261**	P	**P**	**02 35 19.1**	**-0.5**
GO09				PcP	**PcP**	**02 38 46.8**	**+0.9**
TRQA	**Tornquist**	**28.37**	**294**	P	**P**	**02 35 38.8**	**-0.7**
PLCA	**Paso Flores**	**31.14**	**280**	P	**P**	**02 36 05.1**	**+1.0**
	1.2nm,0.7s,baz=192,slow=4.2,SNR=5.6						
PLCA				PcP	**PcP**	**02 38 59.7**	**+1.1**
	1.6nm,0.7s,baz=94,slow=3.7,SNR=4.7						
PLCA	**Paso Flores**	**31.14**	**280**	P	**P**	**02 36 03.9**	**-0.2**
PLCA				IAmb	IAmb	02 36 04.1	
	comp=Z,3.4nm,1.2s						
SYO	**Syowa Base**	**32.58**	**142**	‖*eP*	**P**	**02 36 12.2**	**-4.1**
SYO	**Syowa Base**	**32.58**	**142**	‖*eP*	**P**	**02 36 17.4**	**+1.1**
QSPA	**South Pole Qui**	**34.87**	**180**	P	**P**	**02 36 37.4**	**+0.8**
	comp=Z,6.2nm,0.5s,baz=202,slow=2.8,SNR=20						
QSPA	**South Pole Qui**	**34.87**	**180**	P	**P**	**02 36 37.3**	**+0.8**
CPUP	**Villa Florida**	**35.80**	**312**	P	**P**	**02 36 45.7**	**+1.0**
	comp=Z,12nm,0.8s,baz=151,slow=7.3,SNR=31						
CPUP				PcP	**PcP**	**02 39 13.2**	**+1.4**
	comp=Z,2.8nm,1.0s,baz=153,slow=2.3,SNR=3.4						
CPUP				LR	LR	02 50 18.1	
	comp=Z,772nm,20.8s,baz=156,slow=34						
CPUP	**Villa Florida**	**35.80**	**312**	P	**P**	**02 36 44.4**	**-0.3**
CPUP	**Villa Florida**	**35.80**	**312**	*eP*	**P**	**02 36 45.5**	**+0.9**
CPUP	**Villa Florida**	**35.80**	**312**	*eP*	**P**	**02 36 45.5**	**+0.9**
PEL	**Peldehue**	**36.70**	**290**	P	**P**	**02 36 51.7**	**-0.7**
GO04	**Tololo Observa**	**39.08**	**292**	P	**P**	**02 37 12.3**	**-0.3**
GO04				IAmb	IAmb	02 37 12.5	
	comp=Z,12nm,1.3s						
AQDB	**Aquidauana**	**40.40**	**319**	*eP*	**P**	**02 37 23.9**	**+0.5**
AQDB	**Aquidauana**	**40.40**	**319**	*eP*	**P**	**02 37 23.9**	**+0.5**
MAW	**Mawson**	**41.13**	**144**	P	**P**	**02 37 28.9**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=264,slow=5.5,SNR=7.7						
MAW				PcP	**PcP**	**02 39 28.7**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=221,slow=9.3,SNR=2.7						
MAW				LR	LR	02 55 05.6	
	comp=Z,732nm,18.2s,baz=250,slow=37						
MAW	**Mawson**	**41.13**	**144**	P	**P**	**02 37 29.1**	**+0.1**
SUR	**Sutherland**	**41.21**	**77**	P	**P**	**02 37 29.5**	**-0.8**
	comp=Z,11nm,1.1s,baz=209,slow=8.0,SNR=3.1						
BDFB	**Brasilia**	**42.41**	**332**	P	**P**	**02 37 41.5**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=187,slow=12,SNR=4.0						
BDFB				PcP	**PcP**	**02 39 35.3**	**+2.4**
	comp=Z,1.8nm,0.6s,baz=133,slow=6.9,SNR=2.3						
BDFB				LR	LR	02 53 16.3	
	comp=Z,341nm,18.4s,baz=143,slow=33						
BDFB	**Brasilia**	**42.41**	**332**	P	**P**	**02 37 39.3**	**-0.8**
GO02	**Mina Guanaco**	**42.51**	**298**	P	**P**	**02 37 42.7**	**+1.6**
ARAG	**Araguaiana, MT**	**43.47**	**326**	*eP*	**P**	**02 37 48.5**	**-0.1**
ARAG	**Araguaiana, MT**	**43.47**	**326**	*eP*	**P**	**02 37 48.5**	**-0.1**
LVC	**Limon Verde**	**44.31**	**301**	P	**P**	**02 37 56.2**	**+0.5**
LVC				IAmb	IAmb	02 37 56.5	
	comp=Z,1.7nm,1.0s						
LVC	**Limon Verde**	**44.31**	**301**	*eP*	**P**	**02 37 57.9**	**+2.2**
LVC	**Limon Verde**	**44.31**	**301**	*eP*	**P**	**02 37 57.9**	**+2.2**
SALV	**Santo Antonio**	**44.59**	**321**	*eP*	**P**	**02 37 58.3**	**+0.8**
SALV	**Santo Antonio**	**44.59**	**321**	*eP*	**P**	**02 37 58.3**	**+0.8**
PB01	**IPOC Station P**	**45.92**	**302**	P	**P**	**02 38 09.0**	**+0.8**
PB01				IAmb	IAmb	02 38 09.2	
	comp=Z,0.9nm,0.3s						
BOSA	**Boshof**	**46.55**	**78**	P	**P**	**02 38 13.3**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=206,slow=9.0,SNR=7.8						
BOSA				LR	LR	02 53 24.1	
	comp=Z,1μm,21.8s,baz=216,slow=31						
BOSA	**Boshof**	**46.55**	**78**	P	**P**	**02 38 12.1**	**-1.0**
SBA	**Scott Base**	**46.69**	**184**	P	**P**	**02 38 13.6**	**+0.1**
GO01	**Chusmiza**	**46.95**	**303**	P	**P**	**02 38 17.8**	**+1.1**
GO01				PcP	**PcP**	**02 39 51.4**	**+2.5**
PB11	**IPOC Station P**	**47.09**	**302**	P	**P**	**02 38 18.1**	**+0.6**
PB11				IAmb	IAmb	02 38 18.1	
	comp=Z,3.6nm,0.9s						
H10N1	**ASCENSION HYDR**	**48.71**	**19**	T	T	03 31 41.7	
	baz=189,slow=75,SNR=42						
H10N3	**ASCENSION HYDR**	**48.71**	**19**	T	T	03 31 41.7	
	baz=189,slow=75,SNR=63						
H10N2	**ASCENSION HYDR**	**48.73**	**19**	T	T	03 31 41.7	
	baz=189,slow=75,SNR=63						
CLDB	**Colider**	**49.30**	**324**	*eP*	**P**	**02 38 34.0**	**-0.3**
CLDB	**Colider**	**49.30**	**324**	*eP*	**P**	**02 38 34.0**	**-0.3**
LPAZ	**La Paz**	**49.38**	**306**	P	**P**	**02 38 37.3**	**+1.7**
	comp=Z,18nm,0.6s,baz=156,slow=5.8,SNR=59						
LPAZ				PcP	**PcP**	**02 40 00.3**	**+2.4**
	comp=Z,4.2nm,0.5s,baz=135,slow=5.7,SNR=3.3						
LPAZ				LR	LR	02 58 00.1	
	comp=Z,309nm,21.6s,baz=160,slow=34						
LPAZ	**La Paz**	**49.38**	**306**	P	**P**	**02 38 37.2**	**+1.6**
LPAZ	**La Paz**	**49.38**	**306**	*eP*	**P**	**02 38 37.4**	**+1.7**
LPAZ	**La Paz**	**49.38**	**306**	*eP*	**P**	**02 38 37.4**	**+1.7**
LBTB	**Lobatse**	**49.55**	**75**	P	**P**	**02 38 34.9**	**-1.4**
LBTB				IAmb	IAmb	02 38 35.1	
	comp=Z,6.5nm,1.3s						
TSUM	**Tsumeb**	**50.03**	**63**	P	**P**	**02 38 40.7**	**+0.7**
SAML	**Samuel**	**53.80**	**316**	P	**P**	**02 39 07.2**	**-0.8**
SAML	**Samuel**	**53.80**	**316**	*eP*	**P**	**02 39 09.0**	**+1.1**
SAML	**Samuel**	**53.80**	**316**	*eP*	**P**	**02 39 09.0**	**+1.1**
LSZ	**Lusaka**	**58.85**	**71**	P	**P**	**02 39 43.3**	**-0.8**
LIC	**Lamto**	**64.41**	**26**	*eP*	**P**	**02 40 22.1**	**+0.7**
	comp=Z,88nm,2.2s						
KIC	**Kosan Boka**	**64.61**	**26**	*eP*	**P**	**02 40 23.4**	**+0.7**
	comp=Z,49nm,1.5s						
TIC	**Toumodi**	**64.82**	**26**	*eP*	**P**	**02 40 24.7**	**+0.6**
DBIC	**Dimbokro**	**64.88**	**26**	P	**P**	**02 40 25.3**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=231,slow=5.5,SNR=4.5						
DBIC				LR	LR	03 03 01.5	
	comp=Z,214nm,18.7s,baz=180,slow=31						
DBIC	**Dimbokro**	**64.88**	**26**	P	**P**	**02 40 23.9**	**-0.6**
ABPO	**Ambohimpanom**	**66.49**	**90**	P	**P**	**02 40 34.2**	**-0.9**
OTAV	**Otavalo**	**68.66**	**305**	*eP*	**P**	**02 40 50.8**	**+1.7**
OTAV	**Otavalo**	**68.66**	**305**	*eP*	**P**	**02 40 50.8**	**+1.7**
OTAV	**Otavalo**	**68.66**	**305**	P	**P**	**02 40 47.9**	**-1.3**
OTAV	**Otavalo**	**68.66**	**305**	*eP*	**P**	**02 40 52.2**	**+3.1**
OTAV	**Otavalo**	**68.66**	**305**	*eP*	**P**	**02 40 52.2**	**+3.1**
CRUC	**La Cruz**	**69.13**	**307**	*eP*	**P**	**02 40 52.6**	**+0.6**
CRUC	**La Cruz**	**69.13**	**307**	*eP*	**P**	**02 40 52.6**	**+0.6**
SOTA	**Rioblanco**	**69.48**	**307**	*eP*	**P**	**02 40 56.9**	**+2.6**
SOTA	**Rioblanco**	**69.48**	**307**	*eP*	**P**	**02 40 56.9**	**+2.6**
BBAC	**Balboa, Cauca**	**69.67**	**307**	*eP*	**P**	**02 40 55.2**	**0.0**
BBAC	**Balboa, Cauca**	**69.67**	**307**	*eP*	**P**	**02 40 55.2**	**0.0**
ORTC	**Ortega, Tolima**	**70.45**	**310**	*eP*	**P**	**02 41 00.3**	**+0.7**
ORTC	**Ortega, Tolima**	**70.45**	**310**	*eP*	**P**	**02 41 00.3**	**+0.7**
ROSC	**El Rosal**	**70.88**	**311**	P	**P**	**02 41 04.7**	**+2.0**
	comp=Z,7.2nm,0.4s,baz=145,slow=10,SNR=3.3						
ROSC				LR	LR	03 12 42.6	
	comp=Z,276nm,22.0s,baz=194,slow=36						
ROSC	**El Rosal**	**70.88**	**311**	P	**P**	**02 41 02.3**	**-0.4**
ROSC				IAmb	IAmb	02 41 03.1	
	comp=Z,1.6nm,0.4s						
YOTC	**Yotoco, Valle**	**71.00**	**309**	*eP*	**P**	**02 41 02.9**	**-0.2**
YOTC	**Yotoco, Valle**	**71.00**	**309**	*eP*	**P**	**02 41 02.9**	**-0.2**
GUY2C	**Guyana, Caldas**	**71.67**	**310**	*eP*	**P**	**02 41 06.4**	**-1.2**
GUY2C	**Guyana, Caldas**	**71.67**	**310**	*eP*	**P**	**02 41 06.4**	**-1.2**
PTBC	**PUERTO BERRIO,**	**72.46**	**312**	*eP*	**P**	**02 41 09.0**	**-2.8**
PTBC	**PUERTO BERRIO,**	**72.46**	**312**	*eP*	**P**	**02 41 09.0**	**-2.8**
TOA0	**Torodi Ar. Sit**	**72.85**	**31**	P	**P**	**02 41 14.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**72.85**	**31**	P	**P**	**02 41 13.3**	**-0.7**
	comp=Z,9.0nm,0.7s,baz=191,slow=9.2,SNR=91						
TORD				LR	LR	03 06 26.4	
	comp=Z,800nm,21.6s,baz=285,slow=30						
TORD	**Torodi Ar. Bea**	**72.85**	**31**	P	**P**	**02 41 13.3**	**-0.7**
SMLC	**San Martn de**	**74.33**	**313**	*eP*	**P**	**02 41 21.1**	**-1.6**
SMLC	**San Martn de**	**74.33**	**313**	*eP*	**P**	**02 41 21.1**	**-1.6**
KMBO	**Kilima Mbogo**	**75.51**	**70**	LR	LR	03 13 50.9	
	comp=Z,1μm,18.1s,baz=246,slow=35						
TAM	**Tamanrasset**	**83.10**	**31**	P	**P**	**02 42 09.8**	**-1.1**
TBI	**Tubuai**	**86.91**	**232**	*eS*	**S**	**02 53 08.0**	**+1.5**
	comp=Z,287nm,26.5s						
TBI	**Tubuai**	**86.91**	**232**	*eLR*	LR	03 10 10.4	
	comp=Z,649nm,28.5s,baz=157						
H08N3	**Diego Garcia H**	**90.20**	**101**	T	T	04 22 47.0	
	baz=217,slow=76,SNR=76						
H08N1	**Diego Carcia H**	**90.22**	**101**	T	T	04 22 47.0	
	baz=217,slow=76,SNR=58						
H08N2	**Diego Garcia H**	**90.23**	**101**	T	T	04 22 47.0	
	baz=217,slow=76,SNR=42						
PPT2	**Papeete2**	**91.96**	**235**	*eS*	**S**	**02 53 54.2**	**+0.3**
	comp=Z,209nm,27.8s						
PPT2	**Papeete2**	**91.96**	**235**	*eLR*	LR	03 12 29.4	
	comp=Z,420nm,22.8s,baz=155						
PPT	**Papeete**	**91.98**	**235**	LR	LR	03 17 38.2	
	comp=Z,205nm,18.1s,baz=178,slow=31						
STKA	**Stephens Creek**	**92.68**	**172**	LR	LR	03 21 52.7	
	comp=Z,210nm,20.4s,baz=195,slow=34						
TAOE	**Nuku Hiva Isla**	**94.72**	**247**	*eLR*	LR	03 13 43.7	
	comp=Z,446nm,22.7s						
KEST	**Kesra**	**96.37**	**30**	LR	LR	03 21 24.6	
	comp=Z,653nm,21.2s,baz=171,slow=32						
ESDC	**Sonseca Array**	**96.98**	**19**	LR	LR	03 21 35.7	
	comp=Z,169nm,21.7s,baz=210,slow=32						
ASAR	**Alice Springs**	**99.85**	**164**	P	**Pdif**	**02 43 29.0**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=188,slow=5.6,SNR=4.0						
ASAR				LR	LR	03 27 12.1	
	comp=Z,258nm,18.8s,baz=196,slow=34						
DZM	**Mont Dzumac**	**101.81**	**194**	*eLR*	LR	03 17 07.0	
	comp=Z,649nm,23.4s						
WRA	**Warramunga Arr**	**103.57**	**163**	Pdiff	**Pdif**	**02 43 49.7**	**+3.3**
	comp=Z,0.4nm,0.7s,baz=189,slow=4.1,SNR=2.8						
PDAR	**Pinedale Array**	**119.35**	**303**	PKP	**PKPdf**	**02 48 34.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=141,slow=4.6,SNR=5.5						
PDAR	**Pinedale Array**	**119.35**	**303**		**PKPdf**	**02 48 33.3**	**-0.7**
NOA	**NORSAR Array B**	**120.25**	**21**	PKP	**PKiKP**	**02 48 35.7**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=120,slow=3.3,SNR=3.1						
NVAR	**Mina Array Bea**	**120.44**	**294**	PKP	**PKiKP**	**02 48 37.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=149,slow=2.1,SNR=4.0						
NVAR	**Mina Array Bea**	**120.44**	**294**	PKPdf	**PKPdf**	**02 48 36.0**	**-0.2**
FXWY	**Fox Creek**	**120.71**	**303**		**PKiKP**	**02 48 37.1**	**+0.5**
SWI	**Sorong**	**121.55**	**156**	PKP	PKPpre	02 48 29.9	
SWI				PKP	**PKiKP**	**02 48 31.5**	**-7.5**
SWI				PKP	**PKPdf**	**02 48 35.7**	**-3.2**
EGMT	**Eagleton**	**123.39**	**307**		**PKiKP**	**02 48 42.1**	**+0.5**
FINES	**FINESS Array B**	**124.14**	**28**	PKP	**PKiKP**	**02 48 43.0**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=164,slow=2.6,SNR=18						
GAR	**Garm**	**125.66**	**71**		**PKiKP**	**02 48 47.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**126.01**	**111**	PKP	**PKiKP**	**02 48 48.0**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=226,slow=3.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**126.01**	**111**		**PKPdf**	**02 48 46.9**	**-0.3**
KCP	**Kidapawan**	**127.37**	**146**	‖*eP*	**PKPdf**	**02 48 45.1**	**-4.9**
ABKAR	**Abkulak array**	**127.61**	**56**		**PKPdf**	**02 48 49.5**	**+0.3**
ABKAR	**Abkulak array**	**127.61**	**56**		**PKPdf**	**02 48 49.0**	**-0.3**
KKAR	**Karatay Array**	**128.66**	**68**		**PKPdf**	**02 48 51.7**	**+0.2**
KSH	**Kashi**	**129.12**	**75**	*ePKP*	**PKiKP**	**02 48 53.4**	**0.0**
AAK	**Ala-Archa**	**130.47**	**71**	PKP	**PKPdf**	**02 48 55.6**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=174,slow=8.1,SNR=3.7						
AAK	**Ala-Archa**	**130.47**	**71**		**PKPdf**	**02 48 54.8**	**-0.4**
ARCES	**ARCESS Array B**	**130.60**	**22**	PKP	**PKPdf**	**02 48 54.8**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=197,slow=1.3,SNR=12						
YKA	**Yellowknife Ar**	**135.17**	**319**	PKP	**PKPdf**	**02 49 03.8**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=137,slow=2.1,SNR=4.7						
MKAR	**Makanchi Array**	**137.39**	**72**	PKhKP	PKPpre	02 49 03.6	
	comp=Z,0.4nm,0.7s,baz=318,slow=1.6,SNR=3.5						
WMQ	**Urumqi**	**138.51**	**79**	*ePKP*	**PKiKP**	**02 49 12.1**	**-0.1**
WMQ				LR	LR		
	comp=Z,490nm,29.0s						
WMQ				LR	LR		
	comp=Z,460nm,29.1s						
WMQ				LR	LR		
	comp=Z,210nm,28.8s						
ZALV	**Zalesovo Beam**	**142.75**	**64**	PKhKP	PKPpre	02 49 13.9	
	comp=Z,0.7nm,0.4s,baz=251,slow=4.4,SNR=3.4						
ZALV				PKP	**PKPdf**	**02 49 17.7**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=255,slow=4.3,SNR=5.1						
INK	**Inuvik**	**144.81**	**321**	PKP	**PKPdf**	**02 49 20.8**	**+0.4**
	comp=Z,25nm,0.8s,baz=87,slow=4.4,SNR=66						
INK	**Inuvik**	**144.81**	**321**		PKPbc	02 49 19.9	+0.3
BCAR	**Beaver Creek A**	**146.49**	**311**		**PKPab**	**02 49 26.0**	**-0.1**
NJ2	**Nanjing**	**147.33**	**122**	*ePKPbc*	**PKPdf**	**02 49 27.0**	**+1.1**
BMAR	**Burnt Mountain**	**148.68**	**318**		**PKiKP**	**02 49 32.6**	**+0.3**
NRIK	**Noril'sk**	**148.95**	**38**	PKPbc	**PKiKP**	**02 49 32.4**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=164,slow=0.5,SNR=7.2						
BTO	**Baotou**	**149.09**	**101**	*ePKPbc*	**PKPbc**	**02 49 33.5**	**+0.7**
ILAR	**Eielson Array**	**149.11**	**313**	PKPbc	**PKiKP**	**02 49 32.9**	**-0.3**
	comp=Z,17nm,0.8s,baz=128,slow=2.0,SNR=100						
KDAK	**Kodiak Island**	**149.84**	**298**	PKPbc	**PKiKP**	**02 49 35.0**	**+0.1**
	comp=Z,8.3nm,0.4s,baz=188,slow=1.0,SNR=28						
KDAK	**Kodiak Island**	**149.84**	**298**		**PKiKP**	**02 49 34.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**150.12**	**102**	*ePKPbc*	**PKPdf**	**02 49 30.6**	**+0.3**
SONM	**Songino Array**	**151.44**	**86**	PKPbc	**PKPbc**	**02 49 38.5**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=223,slow=3.6,SNR=23						
SONM	**Songino Array**	**151.44**	**86**	PKPdf	**PKPdf**	**02 49 31.3**	**-0.8**
SONM					**PKPbc**	**02 49 38.4**	**+0.2**
SONM				PKPab	**sPKPbc**	**02 49 48.4**	**0.0**
IMAR	**Indian Mountai**	**152.13**	**314**		**PKiKP**	**02 49 40.6**	**+1.2**

PGC 04 03:15:36.0±4.7, 50°.79N×138°.93W, h10km, ML3.4/6, MLSn3.4/6, Mw4.0/6, 558km Wsw of Sandspit, Bc West

Of Vancouver Island, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	**Dawson Inlet,**	**4.66**	**56**	Pn	Pn	03 16 45.2	-1.1
DIB				Sn	Sn	03 17 36.8	-3.7
HG1B	**Mitchell Dam**	**4.73**	**60**	Sn	Sn	03 17 39.0	-3.1
BNB	**Barry Inlet**	**4.81**	**65**	Pn	Pn	03 16 47.7	-0.8
NDB	**Naden**	**4.85**	**47**	Pn	Pn	03 16 48.6	-0.4
MOBC	**Moresby Island**	**4.91**	**59**	Sn	Sn	03 17 44.7	-1.9
HG3B	**Hotspring**	**4.99**	**66**	Pn	Pn	03 16 50.7	-0.1
HG3B				Sn	Sn	03 17 45.1	-3.4
RUBB	**Prince Rupert**	**6.37**	**53**	Pn	Pn	03 17 11.3	+1.6
RUBB				Sn	Sn	03 18 19.8	-2.6
BBB	**Bella Bella**	**6.90**	**74**	Pn	Pn	03 17 18.0	+0.9
BBB				Sn	Sn	03 18 33.7	-1.9
WOSB	**Woss**	**7.92**	**90**	Pn	Pn	03 17 30.7	-0.4
BESE	**Bessie Mountai**	**8.15**	**15**	Pn	Pn	03 17 36.6	+2.3
PNL	**Peninsula**	**8.90**	**358**	Pn	Pn	03 17 46.1	+1.6
PCA	**Pinnacle**	**9.36**	**356**	Pn	Pn	03 17 51.2	+0.4
SAMH	**Samovar Hills**	**9.42**	**354**	Pn	Pn	03 17 52.3	+0.6
UBRB	**Upper Baezaeko**	**9.43**	**71**	Pn	Pn	03 17 52.8	+0.9
MESA	**MESA**	**9.56**	**351**	Pn	Pn	03 17 53.4	-0.3
YUK7	**Dusty Glacier**	**9.77**	**2**	Pn	Pn	03 17 58.9	+2.3
YUK7				P		03 18 06.7	
GRNC	**Granite Creek**	**10.09**	**352**	Pn	Pn	03 18 00.5	-0.5
HYT	**Haines Junctio**	**10.09**	**4**	Pn	Pn	03 18 03.2	+2.3
WHY	**Whitehorse**	**10.15**	**11**	Pn	Pn	03 18 04.5	+2.7
YUK6	**Outpost Mounta**	**10.18**	**2**	Pn	Pn	03 18 04.5	+2.2
KIAG	**Kiagna River**	**10.34**	**351**	Pn	Pn	03 18 03.7	-0.6
YUK5	**Granite Creek**	**10.38**	**3**	Pn	Pn	03 18 07.3	+2.4
YUK4	**Talbot Arm**	**10.58**	**1**	Pn	Pn	03 18 11.6	+3.9
YUK3	**Moose Creek**	**11.04**	**356**	Pn	Pn	03 18 16.3	+2.3
YUK2	**White River**	**11.07**	**355**	Pn	Pn	03 18 16.3	+1.9
DAWY	**Dawson**	**13.31**	**359**	Pn	Pn	03 18 47.2	+2.3

*SOME **04** 04:03:12.5, 43°.05N×81°.03E, h15km*

*NNC **04** 04:03:13.0±0.9, 43°.08N×80°.96E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=7.1km s-min=3.2km az=153.0*

ISC 04 04:03:16.4±1.6, 43°.17N±0°.06×80°.84E±0°.06, h10km, n44, σ1§83/68, 9C-8D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.00**	**280**	⇑P	**Pg**	**04 03 34.3**	**-1.4**
	5.9nm,0.3s						
PDGK				⇓S	**Sb**	**04

MTBS Lg Lg 04 04 56.3
19nm,0.3s
MTBS Maitube 3.23 271 *eP* **Pb 04 04 12.9 -1.0**
3.5nm,0.1s
MTBS *eS* **Sb 04 04 56.3 +3.1**
20nm,0.1s
KUU Kurty 3.35 284 Pg **Pb 04 04 15.2 -0.8**
3.7nm,0.2s
KUU Lg Lg 04 05 00.3
8.7nm,0.3s
KUU Kurty 3.35 284 *eP* **Pb 04 04 15.2 -0.8**
0.4nm,0.1s
KUU *eS* **Sb 04 05 00.3 +3.5**
21nm,0.2s
KST Kastek 3.57 270 Pg **Pb 04 04 20.6 +0.8**
6.0nm,0.6s
KST Lg Lg 04 05 09.7
15nm,0.2s
KST Kastek 3.57 270 *eP* **Pb 04 04 20.6 +0.8**
3.9nm,0.2s
KST *eS* **Sg 04 05 09.7 -1.4**
16nm,0.3s
DGS Degeres 3.70 273 Pg **Pb 04 04 21.8 -0.2**
3.3nm,0.4s
DGS Lg Lg 04 05 11.7
21nm,0.3s
DGS Degeres 3.70 273 *eP* **Pb 04 04 21.8 -0.2**
3.0nm,0.3s
DGS *eS* **Sb 04 05 11.7 +4.7**
21nm,0.2s
MAKZ Makanchi 3.73 12 ⇓Pn **Pn 04 04 13.6 -0.5**
0.6nm,0.2s
MAKZ ⇓Pg **Pb 04 04 22.3 -0.1**
0.9nm,0.5s
MAKZ ⇑Sn **Sn 04 04 59.4 +1.3**
1.5nm,0.3s
MAKZ ⇑Lg Lg 04 05 14.8
3.3nm,0.7s
MK31 Makanchi Array 3.77 15 ⇓Pn **Pn 04 04 13.9 -0.7**
0.2nm,0.2s,baz=201,slow=13,SNR=66
MK31 ⇓Pg **Pb 04 04 23.0 -0.1**
0.3nm,0.3s,baz=190,slow=17,SNR=6.1
MK31 ⇓Sn **Sn 04 04 59.8 +0.7**
0.9nm,0.3s,baz=185,slow=18,SNR=5.1
MK31 ⇑Lg Lg 04 05 15.8
1.6nm,0.3s,baz=194,slow=31,SNR=11
TKM2 Tokmak 2 3.85 268 ⇑Pg **Pb 04 04 26.1 +1.5**
1.7nm,0.4s
TKM2 ⇑Lg Lg 04 05 17.3
5.0nm,0.3s
SGDS Sogindy 4.54 276 Pg **Pb 04 04 37.6 +1.4**
3.4nm,0.7s
SGDS Lg Lg 04 05 38.9
4.9nm,0.3s
AAK Ala-Archa 4.69 266 ⇓Pg **Pb 04 04 39.3 +0.5**
2.9nm,0.9s
AAK ⇑Lg Lg 04 05 41.9
7.4nm,0.8s
KURBB Kurchatov Arra 7.62 349 ⇑Lg Lg 04 07 21.5
6.7nm,0.6s

DJA 04 04:41:43.9±0.3, 7°S±2°×10°8E±°, h10km, M3.9/7, MLv3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.33**	**176**	P	Pg	04 41 50.9	+0.3
CISI				S	Sb	04 41 56.4	-1.1
LEM	**Lembang**	**0.43**	**336**	P	Pg	04 41 51.9	-0.4
LEM				S	Sb	04 41 59.3	-0.9
CMJI	**Cimerak**	**0.86**	**131**	P	Pg	04 42 00.5	0.0
CMJI				S	Sb	04 42 12.6	+0.1
JCJI	**Jatiwangi**	**0.87**	**33**	P	Pg	04 41 56.7	-3.9
KPJI	**Karang Pucung**	**1.14**	**96**	P	Pb	04 42 05.3	-0.4
SKJI	**Sukabumi**	**1.24**	**280**	P	Pn	04 42 06.4	-1.0
SBJI	**Serang**	**1.98**	**303**	P	Pn	04 42 18.6	+1.1
CGJI	**Cibinong**	**2.17**	**286**	P	Pn	04 42 20.9	+0.8
UGM	**Wanagama**	**2.80**	**104**	P	Pn	04 42 28.9	+0.1
PCJI	**Pacitan**	**3.49**	**106**	P	Pn	04 42 38.8	+0.5
KLSI		**3.95**	**309**	P	Pn	04 42 45.3	+0.7
PWJI	**Pagerwojo**	**4.06**	**102**	P	Pn	04 42 47.8	+1.7

*ISCJB **04** 04:53:37.6±0.5, 6°.17S±0°.06×155°.11E±0°.06, h150km, mb4.0/14, Error ellipse: s-maj=10.0km s-min=7.8km az=42.4*
*IDC **04** 04:53:37.5±0.8, 6°.22S×155°.08E, h132km±6km, mb3.8/13, mb1 3.9/16, mb1mx3.7/39, mbtmp4.2/16, MS2.8/2, Ms1 2.8/2, ms1mx2.4/27, Error ellipse: s-maj=14.6km s-min=10.8km az=66.0*
*NEIC **04** 04:53:39.3±2.1, 6°.3S±0°.1×155°.23E±0°.10, h158km±9km, mb4.3/10*
ISC 04 04:53:38.2±0.5, 6°.10S±0°.07×155°.22E±0°.07, h150km, n37, σ2°.00/41, mb4.0/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.65**	**299**	P	**Pn**	**04 54 33.4**	**-0.5**
	12nm,0.3s,baz=51,slow=15,SNR=2.8						
KRVT				S	**Sn**	**04 55 14.4**	**-2.7**
	16nm,0.3s,baz=162,slow=20,SNR=2.7						
KRVT				LR	LR	04 56 10.6	
	comp=Z,77nm,20.1s,baz=16,slow=43						
HNR	**Honiara**	**5.73**	**126**	Pn	**Pn**	**04 55 00.8**	**-0.6**
PMG	**Port Moresby**	**8.64**	**247**	P	**Pn**	**04 55 42.1**	**+1.9**
	2.8nm,0.3s,baz=314,slow=9.7,SNR=4.0						
PMG				S	**Sn**	**04 57 18.6**	**+2.3**
	5.4nm,0.3s,baz=324,slow=22,SNR=6.2						
PMG	**Port Moresby**	**8.64**	**247**		**Pn**	**04 55 42.9**	**+2.7**
PMG					**Sn**	**04 57 15.2**	**-1.1**
CTA	**Charters Tower**	**16.41**	**211**	P	**P**	**04 57 19.9**	**-0.2**
	0.5nm,0.3s,baz=34,slow=13,SNR=6.9						
CTAO	**Charters Tower**	**16.41**	**211**	P	**P**	**04 57 19.9**	**-0.2**
CTAO				IAmb	IAmb	04 57 22.1	
	comp=Z,13nm,1.3s						
DZM	**Mont Dzumac**	**19.23**	**147**	P	**Pn**	**04 57 52.2**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=9.0,slow=14,SNR=7.9						
DZM	**Mont Dzumac**	**19.23**	**147**		**Pn**	**04 57 52.0**	**-1.6**
DZM				IAmb	IAmb	04 57 52.9	
	comp=Z,19nm,1.2s						
WB0	**Warramunga Arr**	**24.38**	**234**	P	**P**	**04 58 42.1**	**-0.7**
WB2	**Warramunga Arr**	**24.51**	**234**	P	**P**	**04 58 43.6**	**-0.3**
WRA	**Warramunga Arr**	**24.52**	**234**	P	**P**	**04 58 43.7**	**-0.2**
	comp=Z,14nm,0.4s,baz=58,slow=9.8,SNR=54						
WRA				LR	LR	05 07 56.8	
	comp=Z,31nm,18.4s,baz=235,slow=35						
WRA	**Warramunga Arr**	**24.52**	**234**	P	**P**	**04 58 42.5**	**-1.4**
H11S3	**WAKE ISLAND Hy**	**26.93**	**25**	T	T	05 27 46.3	
	baz=204,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**26.93**	**25**	T	T	05 27 44.1	
	baz=204,slow=75,SNR=33						
ASAR	**Alice Springs**	**26.94**	**227**	P	**P**	**04 59 04.4**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=59,slow=8.8,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**26.95**	**25**	T	T	05 27 44.1	
	baz=204,slow=75,SNR=21						
STKA	**Stephens Creek**	**28.64**	**205**	P	**P**	**04 59 20.7**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=18,slow=14,SNR=7.0						
STKA	**Stephens Creek**	**28.64**	**205**	IAmb	IAmb	04 59 25.4	
	comp=Z,0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**31.23**	**245**	P	**P**	**04 59 43.2**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=66,slow=6.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**31.23**	**245**	P	**P**	**04 59 42.7**	**-1.1**
FITZ				IAmb	IAmb	04 59 42.8	
	comp=Z,9.3nm,1.4s						
URZ	**Urewera**	**37.67**	**151**	P	**P**	**05 00 40.4**	**+1.5**
	comp=Z,3.2nm,0.5s,baz=326,slow=7.3,SNR=5.1						
URZ	**Urewera**	**37.67**	**151**	P	**P**	**05 00 40.5**	**+1.5**
URZ				IAmb	IAmb	05 00 43.7	
	comp=Z,16nm,1.3s						
KLR	**Kul'dur**	**58.79**	**342**	P	**P**	**05 03 23.4**	**+2.8**
	comp=Z,0.8nm,0.5s						
PETK	**Petropavlovsk-**	**59.02**	**2**	P	**P**	**05 03 25.6**	**+3.5**
	comp=Z,2.6nm,0.6s,baz=150,slow=7.2,SNR=6.8						
PETK	**Petropavlovsk-**	**59.02**	**2**	P	**P**	**05 03 24.6**	**+2.5**
CMAR	**Chiang Mai Arr**	**60.61**	**295**	P	**P**	**05 03 33.4**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=114,slow=6.0,SNR=2.7						
CMAR				pP	**pP**	**05 04 07.0**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=121,slow=5.0,SNR=1.9						
SONM	**Songino Array**	**68.71**	**327**	P	**P**	**05 04 27.6**	**+1.9**
	comp=Z,1.1nm,0.4s,baz=140,slow=6.1,SNR=12						
SONM				pP	**pP**	**05 04 59.6**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=119,slow=5.4,SNR=1.8						
SONM	**Songino Array**	**68.71**	**327**	P	**P**	**05 04 27.7**	**+1.9**
ILAR	**Eielson Array**	**82.46**	**21**	P	**P**	**05 05 45.2**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=240,slow=5.7,SNR=11						
ILAR				pP	**pP**	**05 06 17.3**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=246,slow=4.5,SNR=2.6						
MK31	**Makanchi Array**	**82.89**	**319**	P	**P**	**05 05 47.0**	**+0.8**
MK31				IAmb	IAmb	05 05 48.1	
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**05 05 47.5**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=99,slow=5.6,SNR=10						
MKAR				pP	**pP**	**05 06 20.0**	**-4.0**
	comp=Z,0.6nm,0.5s,baz=75,slow=1.6,SNR=3.1						
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**05 05 47.0**	**+0.8**
ZALV	**Zalesovo Beam**	**83.57**	**326**	P	**P**	**05 05 50.1**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=133,slow=5.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**83.57**	**326**	P	**P**	**05 05 49.5**	**+0.1**
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**05 05 51.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=279,slow=0.7,SNR=13						
QSPA				pP	**pP**	**05 06 22.4**	**-6.1**
	comp=Z,0.9nm,0.6s,baz=342,slow=5.1,SNR=2.4						
MAW	**Mawson**	**85.31**	**203**	P	**P**	**05 05 58.6**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**153.00**	**287**	PKPbc	**PKPbc**	**05 13 18.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=106,slow=2.1,SNR=7.1						

IDC 04 05:03:08.2±2.4, 5°.90S×130°.50E, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.3/35, mbtmp3.4/4, ML3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/33, Error ellipse: s-maj=98.0km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.02**	**201**	Pn	Pn	05 06 14.0	-0.6
	0.1nm,0.3s,baz=39,slow=13,SNR=2.8						
FITZ				Sn	Sn	05 08 20.4	-20
	0.3nm,0.3s,baz=143,slow=9.3,SNR=3.9						
WRA	**Warramunga Arr**	**14.45**	**165**	Pn	Pn	05 06 33.1	-1.0
	0.1nm,0.3s,baz=349,slow=13,SNR=3.3						
WRA				Sn	Sn	05 08 57.3	-18
	0.7nm,0.3s,baz=339,slow=24,SNR=20						
ASAR	**Alice Springs**	**17.97**	**170**	P	P	05 07 20.5	+0.2
	0.1nm,0.3s,baz=350,slow=11,SNR=3.6						
URZ	**Urewera**	**53.07**	**134**	LR	LR	05 34 51.4	
	comp=Z,43nm,18.8s,baz=1.5,slow=36						
MKAR	**Makanchi Array**	**67.58**	**326**	P	P	05 14 06.8	0.0
	0.5nm,0.5s,baz=128,slow=6.2,SNR=4.8						

NNC 04 05:14:41.6±0.2, 46°.42N×81°.88E, h0km, mpv0.9, 18C-4D, Error ellipse: s-maj=0.8km s-min=0.8km az=8.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.39**	**10**	⇑P		05 14 49.3	
	0.3nm,0.5s						
MAKZ				⇑S		05 14 55.0	
	0.2nm,0.2s						
MK08	**Makanchi Array**	**0.44**	**40**	⇓P		05 14 50.4	
MK08				⇑S		05 14 56.5	
MK09	**Makanchi Array**	**0.45**	**38**	⇑P		05 14 50.6	
MK09				⇑S		05 14 56.8	
MK07	**Makanchi Array**	**0.45**	**42**	⇓P		05 14 50.6	
MK07				⇑S		05 14 56.9	
MK03	**Makanchi Array**	**0.45**	**40**	⇑P		05 14 50.6	
MK03				⇑S		05 14 56.9	
MK04	**Makanchi Array**	**0.45**	**39**	⇓P		05 14 50.6	
MK04				⇓S		05 14 56.9	
MK01	**Makanchi Array**	**0.45**	**39**	⇑P		05 14 50.6	
MK01				⇑S		05 14 56.8	
MK02	**Makanchi Array**	**0.46**	**40**	⇑P		05 14 50.7	
MK02				⇑S		05 14 57.1	
MK06	**Makanchi Array**	**0.46**	**40**	⇑P		05 14 50.8	
MK06				⇑S		05 14 57.2	
MK05	**Makanchi Array**	**0.47**	**37**	⇑P		05 14 50.9	
MK05				⇑S		05 14 57.5	
MK31	**Makanchi Array**	**0.47**	**37**	⇑P		05 14 50.9	
	0.1nm,0.2s,baz=310,slow=26,SNR=18						
MK31				⇑S		05 14 57.4	
	0.1nm,0.1s,baz=73,slow=34,SNR=8.3						

IDC 04 05:15:00.5±3.8, 30°.22S×138°.58E, h0km, mb1 3.0/3, mb1mx3.0/25, mbtmp2.8/3, ML2.4/2, Error ellipse: s-maj=113.6km s-min=16.0km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.08**	**123**	Pn	Pn	05 15 50.5	+0.1
	0.2nm,0.3s,baz=297,slow=9.6,SNR=3.5						
STKA				Pg	Pg	05 15 58.1	-1.3
	0.6nm,0.3s,baz=288,slow=15,SNR=7.3						
STKA				Sn	Sn	05 16 27.8	-0.1
	1.2nm,0.3s,baz=312,slow=9.4,SNR=8.0						
STKA				Lg	Lg	05 16 36.7	
	0.9nm,0.3s,baz=2.8,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**7.74**	**326**	Pn	Pn	05 16 54.2	-0.3
	0.1nm,0.3s,baz=148,slow=12,SNR=5.3						
ASAR				Sn	Sn	05 18 22.0	-0.9
	0.1nm,0.3s,baz=152,slow=22,SNR=3.3						
WRA	**Warramunga Arr**	**10.92**	**338**	Pn	Pn	05 17 38.8	+0.6
	baz=153,slow=11,SNR=2.4						

*KNET **04** 05:18:32.6±0.3, 42°.33N×74°.24E, h12km±4km, ml2.1, Error ellipse: s-maj=2.1km s-min=1.1km az=30.0*
*NNC **04** 05:18:33.0±0.7, 42°.32N×74°.25E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=4.6km s-min=3.4km az=159.0*
*SOME **04** 05:18:33.6, 42°.33N×74°.22E, h15km*
*KRNET **04** 05:18:33.1±0.1, 42°.34N×74°.23E, h18km, mb3.1*
ISC 04 05:18:32.4±1.0, 42°.34N±0°.02×74°.14E±0°.02, h5km±9km, n80, σ1°.10/146, 44C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.30**	**112**	⇓*iP*	**Pg**	**05 18 38.1**	**-0.4**
	baz=18						
UCH				⇓*iS*	**Sg**	**05 18 41.8**	**-0.7**
	baz=18						
UCH	**Uchtor**	**0.30**	**112**	⇓P	**Pg**	**05 18 38.1**	**-0.4**
	59nm,0.2s,SNR=295						
UCH				⇓S	**Sg**	**05 18 41.8**	**-0.7**
	186nm,0.1s						
AML	**Almayashu**	**0.39**	**238**	⇑*iP*	**Pb**	**05 18 42.1**	**0.0**
	baz=43						
AML				⇑*iS*	**Sb**	**05 18 48.5**	**0.0**
	baz=43						
AML	**Almayashu**	**0.39**	**238**	⇑P	**Pb**	**05 18 42.1**	**0.0**
	88nm,0.1s,SNR=56						
AML				⇑S	**Sb**	**05 18 48.5**	**0.0**
	87nm,0.1s						
AAK	**Ala-Archa**	**0.40**	**42**	⇑P	**Pg**	**05 18 40.5**	**+0.3**
	22nm,0.1s						
AAK				⇑S	**Sg**	**05 18 45.4**	**0.0**
	162nm,0.4s						
AAK	**Ala-Archa**	**0.40**	**42**	⇑*iP*	**Pg**	**05 18 40.5**	**+0.3**
	baz=33						
AAK				⇑*iS*	**Sg**	**05 18 45.4**	**0.0**
	baz=33						
AAK	**Ala-Archa**	**0.40**	**42**	⇓P	**Pg**	**05 18 40.5**	**+0.3**
	193nm,0.1s,SNR=374						
AAK				⇓S	**Sg**	**05 18 45.6**	**+0.2**
	427nm,0.2s						
EKS2	**Erkin-Say**	**0.42**	**320**	⇑*iP*	**Pb**	**05 18 42.3**	**0.0**
	baz=14						
EKS2				⇑*iS*	**Sb**	**05 18 49.2**	**+0.2**
	baz=14						
EKS2	**Erkin-Say**	**0.42**	**320**	P	**Pb**	**05 18 42.5**	**+0.2**
	8.3nm,0.1s,SNR=53						
EKS2				⇑S	**Sb**	**05 18 49.4**	**+0.4**
	30nm,0.1s						
ARLS	**Aral**	**0.50**	**164**	⇓*iP*	**Pg**	**05 18 42.3**	**+0.2**
	baz=71						
ARLS				⇓*iS*	**Sg**	**05 18 49.0**	**+0.4**
	baz=71						
FRU1	**Bishkek**	**0.59**	**38**	⇑*iP*	**Pg**	**05 18 43.9**	**0.0**
	baz=32						
FRU1				⇑*iS*	**Sg**	**05 18 51.5**	**-0.1**
	baz=32						
KBK	**Karagaybulak**	**0.68**	**62**	⇑*iP*	**Pg**	**05 18 45.2**	**-0.2**
	baz=59						
KBK				⇑*iS*	**Sg**	**05 18 53.3**	**-1.0**
	baz=59						
KBK	**Karagaybulak**	**0.68**	**62**	P	**Pg**	**05 18 45.3**	**-0.2**
	34nm,0.1s,SNR=74						
MRKS	**Merke**	**0.79**	**301**	P	**Pn**	**05 18 49.3**	**-0.9**
	35nm,0.1s						
MRKS				S	**Sb**	**05 19 00.1**	**+0.6**
	43nm,0.2s						
MRKS	**Merke**	**0.79**	**301**	*eP*	**Pn**	**05 18 49.3**	**-0.9**
	baz=99						
MRKS				*eS*	**Sb**	**05 19 00.2**	**+0.6**
	baz=99						
MRKS	**Merke**	**0.79**	**301**	*eP*	**Pn**	**05 18 49.3**	**-0.9**
	37nm,0.1s						
MRKS				*eS*	**Sb**	**05 19 00.1**	**+0.6**
	44nm,0.1s						
CHMS	**Chumysh**	**0.80**	**34**	⇑*iP*	**Pg**	**05 18 47.8**	**+0.1**
	baz=30						
CHMS				⇑*iS*	**Sg**	**05 18 58.1**	**0.0**
	baz=30						
CHMS	**Chumysh**	**0.80**	**34**	⇑P	**Pg**	**05 18 47.9**	**+0.2**
	32nm,0.2s,SNR=34						
CHMS				⇓S	**Sg**	**05 18 58.3**	**+0.2**
	59nm,0.3s						
KZA	**Kyzart**	**0.87**	**107**	⇑*eP*	**Pg**	**05 18 48.2**	**-0.9**
	baz=9.0						
KZA				⇑*iS*	**Sg**	**05 18 59.3**	**-1.1**
	baz=9.0						
KZA	**Kyzart**	**0.87**	**107**	⇑P	**Pg**	**05 18 48.6**	**-0.5**
	15nm,0.3s,SNR=23						
KZA				⇑S	**Sg**	**05 18 59.8**	**-0.6**
	46nm,0.2s						
USP	**Ospenovka**	**0.96**	**16**	⇑*iP*	**Pg**	**05 18 50.8**	**-0.1**
	baz=12						
USP				⇑*iS*	**Sg**	**05 19 03.5**	**+0.1**
	baz=12						
USP	**Ospenovka**	**0.96**	**16**	⇑P	**Pb**	**05 18 51.3**	**-0.3**
	9.0nm,0.1s,SNR=7.9						
USP				⇑S	**Sg**	**05 19 03.8**	**+0.4**
	86nm,0.3s						
TKM2	**Tokmak 2**	**1.22**	**61**	⇑P	**Pg**	**05 18 54.7**	**-1.1**
	2.4nm,0.2s						
TKM2				⇑S	**Sg**	**05 19 09.8**	**-2.0**
	14nm,0.4s						
TKM2	**Tokmak 2**	**1.22**	**61**	⇑*iP*	**Pg**	**05 18 54.7**	**-1.1**
	baz=60						
TKM2				⇑*iS*	**Sg**	**05 19 10.0**	**-1.7**
	baz=60						
TKM2	**Tokmak 2**	**1.22**	**61**	⇑P	**Pg**	**05 18 54.8**	**-1.1**
	6.6nm,0.1s,SNR=62						
ARSB	**Arslanbob**	**1.33**	**221**	⇑*eP*	**Pb**	**05 18 58.5**	**+0.5**
	baz=23						
ARSB				⇑*iS*	**Sn**	**05 19 17.1**	**+1.1**
	baz=23						
BOOM	**Boomskoye usch**	**1.34**	**83**	⇑*eP*	**Pn**	**05 18 56.6**	**-1.4**
	baz=83						
BOOM				⇑*iS*	**Sg**	**05 19 13.6**	**-2.0**
	baz=83						
DGS	**Degeres**	**1.50**	**53**	P	**Pn**	**05 18 60.0**	**-0.1**
	5.8nm,0.2s						
DGS				S	**Sn**	**05 19 18.7**	**-1.4**
	14nm,0.3s						
DGS	**Degeres**	**1.50**	**53**	*eP*	**Pn**	**05 19 00.0**	**-0.1**
	baz=51						
DGS				*eS*	**Sn**	**05 19 18.7**	**-1.4**
	baz=51						
DGS	**Degeres**	**1.50**	**53**	*eP*	**Pn**	**05 18 60.0**	**-0.1**
	5.0nm,0.2s						
DGS				*eS*	**Sn**	**05 19 18.7**	**-1.4**
	19nm,0.2s						
KST	**Kastek**	**1.52**	**62**	P	**Pn**	**05 19 00.6**	**+0.3**
	11nm,0.2s						
KST				S	**Sn**	**05 19 20.0**	**-0.5**
	21nm,0.3s						
KST	**Kastek**	**1.52**	**62**	*eP*	**Pn**	**05 19 00.6**	**+0.3**
	baz=61						
KST				*eS*	**Sn**	**05 19 20.1**	**-0.5**
	baz=61						
KST	**Kastek**	**1.52**	**62**	*eP*	**Pn**	**05 19 00.6**	**+0.3**
	5.1nm,0.1s						
KST				*eS*	**Sn**	**05 19 20.0**	**-0.5**
	20nm,0.3s						
ULHL	**Ulahol**	**1.56**	**93**	⇑*eP*	**Pn**	**05 19 00.3**	**-0.7**
	baz=93						
ULHL				⇑*iS*	**Sn**	**05 19 20.5**	**-1.3**
	baz=93						
NRN	**Naryn**	**1.66**	**123**	⇑*eP*	**Pn**	**05 19 02.3**	**-0.1**
	baz=25						
NRN				⇑*iS*	**Sn**	**05 19 23.4**	**-0.9**
	baz=25						
ARK	**Arkit**	**1.71**	**252**	⇑*iP*	**Pg**	**05 19 05.2**	**0.0**
	baz=52						
ARK				⇑*iS*	**Sg**	**05 19 28.6**	**+1.3**
	baz=52						
MTBS	**Maitube**	**1.86**	**64**	P	**Pn**	**05 19 05.8**	**+0.8**
	7.2nm,0.2s						
MTBS				S	**Sn**	**05 19 28.8**	**-0.1**
	15nm,0.4s						
MTBS	**Maitube**	**1.86**	**64**	*eP*	**Pn**	**05 19 05.9**	**+0.8**
	baz=63						
MTBS				*eS*	**Sn**	**05 19 28.9**	**-0.1**
	baz=63						
MTBS	**Maitube**	**1.86**	**64**	*eP*	**Pn**	**05 19 05.8**	**+0.8**
	5.4nm,0.1s						
MTBS				*eS*	**Sn**	**05 19 28.8**	**-0.1**
	15nm,0.2s						
IZV	**Izvestkoviy**	**1.95**	**68**	P	**Pb**	**05 19 08.5**	**-0.1**
	7.8nm,0.1s						
IZV				S	**Sb**	**05 19 33.6**	**+0.4**
	21nm,0.2s						
IZV	**Izvestkoviy**	**1.95**	**68**	*eP*	**Pb**	**05 19 08.5**	**-0.1**
	baz=68						
IZV				*eS*	**Sb**	**05 19 33.6**	**+0.4**
	baz=68						
IZV	**Izvestkoviy**	**1.95**	**68**	*eP*	**Pb**	**05 19 08.5**	**-0.1**
	7.4nm,0.1s						
IZV				*eS*	**Sb**	**05 19 33.6**	**+0.4**
	21nm,0.1s						
TNSS	**Tian-Shan**	**2.19**	**71**	Pg	**Pb**	**05 19 12.9**	**+0.3**
	12nm,0.5s						
TNSS				Lg	Lg	05 19 41.8	
	30nm,0.5s						
TNSS	**Tian-Shan**	**2.19**	**71**	*eP*	**Pb**	**05 19 12.9**	**+0.3**
	baz=70						
TNSS				*eS*	**Sg**	**05 19 41.8**	**-0.8**
	baz=70						
TNSS	**Tian-Shan**	**2.19**	**71**	*eP*	**Pb**	**05 19 12.9**	**+0.3**
	7.4nm,0.2s						
TNSS				*eS*	**Sg**	**05 19 41.8**	**-0.8**
	32nm,0.3s						
KUU	**Kurty**	**2.24**	**45**	Pg	**Pb**	**05 19 13.2**	**-0.1**
	10nm,0.2s						
KUU				Lg	Lg	05 19 41.9	
	26nm,0.2s						
KUU	**Kurty**	**2.24**	**45**	*eP*	**Pb**	**05 19 13.2**	**-0.1**
	baz=44						
KUU				*eS*	**Sb**	**05 19 41.9**	**+0.6**
	baz=44						
KUU	**Kurty**	**2.24**	**45**	*eP*	**Pb**	**05 19 13.2**	**-0.1**
	10nm,0.2s						
KUU				*eS*	**Sb**	**05 19 41.9**	**+0.6**
	31nm,0.1s						
KDJ	**Kajisay**	**2.27**	**94**	⇓*iP*	**Pn**	**05 19 10.7**	**0.0**
	baz=95						
KDJ				⇓*iS*	**Sn**	**05 19 37.9**	**-1.2**
	baz=95						
MDOK	**Medeo**	**2.29**	**68**	Pg	**Pb**	**05 19 14.3**	**-0.1**
	12nm,0.3s						
MDOK				Lg	Lg	05 19 43.9	
	14nm,0.4s						
MDOK	**Medeo**	**2.29**	**68**	*eP*	**Pb**	**05 19 14.3**	**-0.1**
	baz=67						
MDOK				*eS*	**Sb**	**05 19 43.9**	**+0.8**
	baz=67						
MDOK	**Medeo**	**2.29**	**68**	*eP*	**Pb**	**05 19 14.3**	**-0.1**
	9

KOTS	**Kotyrbulak**	**2.36**	**67**	*e*P	**Pb**	**05 19 15.9**	**+0.4**
	baz=66						
KOTS				*e*S	**Sb**	**05 19 46.0**	**+1.0**
	baz=66						
KOTS	**Kotyrbulak**	**2.36**	**67**	*e*P	**Pb**	**05 19 15.9**	**+0.4**
	21nm,0.2s						
KOTS				*e*S	**Sb**	**05 19 46.1**	**+1.0**
	71nm,0.5s						
CHKK	**Chushkaly**	**2.58**	**53**	Pg	**Pb**	**05 19 19.2**	**+0.1**
	4.5nm,0.2s						
CHKK				Lg	Lg	05 19 52.0	
	30nm,0.2s						
CHKK	**Chushkaly**	**2.58**	**53**	*e*P	**Pb**	**05 19 19.2**	**+0.1**
	baz=52						
CHKK				*e*S	**Sb**	**05 19 52.0**	**+0.9**
	baz=52						
CHKK	**Chushkaly**	**2.58**	**53**	*e*P	**Pb**	**05 19 19.2**	**+0.1**
	3.1nm,0.1s						
CHKK				*e*S	**Sb**	**05 19 52.0**	**+0.9**
	30nm,0.1s						
ANVS	**Anan'yevo**	**2.64**	**79**	⇑*i*P	**Pn**	**05 19 16.7**	**+0.8**
	baz=79						
ANVS				⇑*i*S	**Sn**	**05 19 47.6**	**-0.8**
	baz=79						
KK31	**Karatay Array**	**2.78**	**287**	⇑Pg	**Pg**	**05 19 24.5**	**-1.2**
	0.3nm,0.2s,baz=104,slow=17,SNR=10						
KK31				⇑Lg	Lg	05 20 03.2	
	4.2nm,0.4s,baz=108,slow=27,SNR=18						
IUG	**Iuzhnay**	**3.06**	**268**	*e*P	**Pg**	**05 19 29.8**	**-1.2**
	0.4nm,0.4s						
IUG				*e*S	**Sg**	**05 20 10.9**	**+0.3**
	26nm,0.7s						
KURS	**Kuram**	**3.18**	**67**	Pg	**Pb**	**05 19 29.8**	**+0.5**
	5.8nm,1.0s						
KURS				Lg	Lg	05 20 10.2	
	4.8nm,0.6s						
KURS	**Kuram**	**3.18**	**67**	*e*P	**Pb**	**05 19 29.8**	**+0.5**
	baz=67						
KURS				*e*S	**Sb**	**05 20 10.2**	**+1.9**
	baz=67						
KURS	**Kuram**	**3.18**	**67**	*e*P	**Pb**	**05 19 29.8**	**+0.5**
	3.0nm,0.3s						
KURS				*e*S	**Sb**	**05 20 10.2**	**+1.9**
	6.6nm,0.6s						
SATY	**Saty**	**3.23**	**76**	Pg	**Pb**	**05 19 31.5**	**+1.2**
	8.9nm,0.2s						
SATY				Lg	Lg	05 20 13.1	
	15nm,0.4s						
SATY	**Saty**	**3.23**	**76**	*e*P	**Pb**	**05 19 31.4**	**+1.2**
	5.8nm,0.2s						
SATY				*e*S	**Sb**	**05 20 13.0**	**+3.2**
	12nm,0.1s						
BRLS	**Borolday**	**3.25**	**284**	*e*P	**Pg**	**05 19 34.0**	**-0.6**
	0.4nm,0.2s						
BRLS				*e*S	**Sg**	**05 20 17.0**	**+0.4**
	1.2nm,0.5s						
ARXS	**Arharly**	**3.28**	**54**	Pg	**Pb**	**05 19 31.7**	**+0.6**
	3.1nm,0.3s						
ARXS				Lg	Lg	05 20 13.2	
	11nm,0.5s						
ARXS	**Arharly**	**3.28**	**54**	*e*P	**Pb**	**05 19 31.7**	**+0.6**
	3.1nm,0.3s						
ARXS				*e*S	**Sb**	**05 20 13.2**	**+1.9**
	11nm,0.5s						
KPKS	**Kokpek**	**3.52**	**70**	*e*P	**Pb**	**05 19 36.0**	**+0.7**
	baz=70						
KPKS				*e*S	**Sb**	**05 20 20.6**	**+2.2**
	baz=70						
KPKS	**Kokpek**	**3.52**	**70**	*e*P	**Pb**	**05 19 36.0**	**+0.7**
	2.4nm,0.2s						
KPKS				*e*S	**Sb**	**05 20 20.6**	**+2.2**
	11nm,0.3s						
UZB	**Uzynbulak**	**3.69**	**76**	*e*P	**Pb**	**05 19 38.1**	**0.0**
	baz=76						
UZB				*e*S	**Sb**	**05 20 24.0**	**+0.9**
	baz=76						
UZB	**Uzynbulak**	**3.69**	**76**	*e*P	**Pb**	**05 19 38.1**	**0.0**
	2.1nm,0.2s						
UZB				*e*S	**Sb**	**05 20 24.1**	**+0.9**
	4.4nm,0.4s						
DJR	**Jarkent**	**4.58**	**62**	Pg	**Pb**	**05 19 56.0**	**+2.8**
	1.9nm,0.5s						
DJR				Lg	Lg	05 20 55.4	
	2.5nm,0.5s						
DJR	**Jarkent**	**4.58**	**62**	*e*P	**Pb**	**05 19 55.3**	**+2.1**
	0.7nm,0.1s						
DJR				*e*S	**Sb**	**05 20 53.6**	**+4.9**
	3.5nm,0.5s						
KAPS	**Kapalarasan**	**4.79**	**50**	Pg	**Pb**	**05 19 59.7**	**+2.9**
	1.1nm,0.5s						
KAPS				Lg	Lg	05 21 01.0	
	4.4nm,0.4s						
KAPS	**Kapalarasan**	**4.79**	**50**	*e*P	**Pb**	**05 19 59.7**	**+2.9**
	1.1nm,0.5s						
KAPS				*e*S	**Sg**	**05 21 01.0**	**-5.1**
	4.4nm,0.4s						

KRSC 04 05:38:17.1±1.8, 54.63N×165.92E, h17km±19km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.58**	**3**	*i* P	Pg	05 38 27.6	-0.9
BKI				*e*S	Sg	05 38 34.0	-2.3
KBTR	**Krutoberegovo**	**2.38**	**313**	*e*P	Pn	05 38 55.5	+0.3
MKZ	**Mys Kozlova**	**2.44**	**270**	*e*P	Pb	05 38 59.4	-1.1
MKZ				*e*S	Sb	05 39 28.2	-2.0
SMKR	**Semkarok**	**3.20**	**310**	S	Sb	05 39 49.0	-3.1
TUMD	**Tumrok D**	**3.24**	**282**	*e*S	Sn	05 39 47.9	+2.6
KZV	**Kizimen**	**3.29**	**281**	*e*P	Pb	05 39 11.5	-3.5
KZV				*e*S	Sn	05 39 50.3	+3.6
BDR	**Baidarnaya**	**3.31**	**308**	*e*P	Pb	05 39 12.2	-3.1
BDR				*e*S	Sn	05 39 51.0	+4.0
SRKR	**Sorokina**	**3.37**	**309**	*e*P	Pb	05 39 13.8	-2.6
SRKR				*e*S	Sb	05 39 53.7	-3.5
TUMR	**Tumrok**	**3.40**	**283**	*e*P	Pn	05 39 12.5	+3.1
KLY	**Klyuchi**	**3.44**	**302**	*e*S	Sn	05 39 52.7	+2.5
KMNR	**Kamenistaya**	**3.45**	**291**	P	Pn	05 39 13.8	+3.7
SPN	**Mys Shipunski**	**3.81**	**249**	*e*P	Pn	05 39 19.3	+4.3
SPN				*e*S	Sn	05 40 02.9	+3.5
SRDR	**Sredinnyy**	**3.92**	**298**	*e*P	Pb	05 39 22.2	-3.5
NLC	**Nalytchevo**	**4.16**	**252**	*e*S	Sn	05 40 11.6	+3.8
SMAR	**Somma**	**4.42**	**255**	*e*P	Pn	05 39 28.6	+5.0
UGLR	**Uglovaya**	**4.43**	**254**	*e*P	Pn	05 39 28.3	+4.7
KRER	**Koryakskii**	**4.44**	**256**	*e*P	Pn	05 39 28.9	+5.1
KRER				*e*S	Sn	05 40 19.1	+4.0
AVH	**Avacha**	**4.46**	**255**	*e*P	Pn	05 39 29.1	+5.2
AVH				*e*S	Sn	05 40 19.3	+3.9
KRX	**Arik**	**4.48**	**256**	*e*P	Pn	05 39 29.5	+5.3
KOK	**Koryaka**	**4.51**	**256**	*e*P	Pn	05 39 29.4	+4.8
GNL	**Ganaly**	**4.78**	**262**	*e*P	Pn	05 39 33.2	+4.8
GNL				*e*S	Sn	05 40 27.9	+4.4
RUS	**Russkaya**	**4.94**	**247**	S	Sn	05 40 32.3	+5.3
KRMR	**Karymshinskiy**	**4.97**	**252**	*e*S	Sn	05 40 33.1	+5.3
KDTR	**Khodutka, Kamc**	**5.49**	**242**	*e*P	Pn	05 39 42.0	+4.0
KDTR				*e*S	Sn	05 40 42.1	+1.3

*ISCJB **04** 05:46:30.5±0.8, 32.22S±0.04×70.11W±0.05, h117km±8km, Error ellipse: s-maj=8.7km s-min=4.5km az=34.5*
*SJA **04** 05:46:30.1±0.7, 32.24S×70.09W, h108km±5km, ML2.4, MW2.7*
*GUC **04** 05:46:31.1±0.6, 32.21S×70.27W, h124km±7km, ML2.8*

ISC 04 05:46:31.7±1.8, 32.21S±0.04×70.11W±0.05, h106km±16km, n22, σ0.69/33, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.81**	**59**	*i* P	**Pn**	**05 46 50.4**	**-0.6**
RTLS				*e*S	**Sn**	**05 47 05.6**	**+0.1**
RTLS				IAML		05 47 06.2	
	comp=Z,32nm,0.2s						
PEL	**Peldehue**	**1.04**	**207**	⇓*i*P	**Pn**	**05 46 52.7**	**-0.5**
PEL				*i* S	**Sn**	**05 47 09.5**	**+0.2**
PEL				IAML		05 47 10.1	
	comp=N,240nm,0.3s						
PEL	**Peldehue**	**1.04**	**207**	*i* P	**Pn**	**05 46 52.6**	**-0.5**
ROCH	**El Roble**	**1.07**	**225**	⇑*i*P	**Pn**	**05 46 53.0**	**-0.6**
ROCH				*i* S	**Sn**	**05 47 10.2**	**+0.1**
ROCH				IAML		05 47 13.1	
	comp=N,165nm,0.3s						
ROC1	**El Roble**	**1.08**	**225**	*i* P	**Pn**	**05 46 53.1**	**-0.6**
ROC1				*e*S	**Sn**	**05 47 10.2**	**-0.1**
FCH	**Farellones**	**1.12**	**188**	⇓*i*P	**Pn**	**05 46 54.3**	**+0.1**
FCH				*i* S	**Sn**	**05 47 12.5**	**+1.2**
FCH				IAML		05 47 13.0	
	comp=E,142nm,0.2s						
CLCH	**Cerro Calan**	**1.23**	**197**	*e*P	**Pn**	**05 46 55.4**	**+0.2**
CLCH				*i* S	**Sn**	**05 47 13.6**	**+0.6**
CLCH				IAML		05 47 18.7	
	comp=N,98nm,0.4s						
CO02	**Combarbal**	**1.26**	**323**	*e*P	**Pn**	**05 46 55.0**	**-0.7**
CO02				*e*S	**Sn**	**05 47 13.4**	**-0.2**
RTCV	**Cerro Valdivia**	**1.38**	**76**	*i* P	**Pn**	**05 46 56.3**	**-0.6**
RTCV				*e*S	**Sn**	**05 47 15.9**	**-0.1**
RTCV				IAML		05 47 17.8	
	comp=Z,37nm,0.1s						
ZON	**Zonda**	**1.39**	**62**	*i* P	**Pn**	**05 46 56.4**	**-0.6**
ZON				*e*S	**Sn**	**05 47 16.3**	**+0.1**
ANTU	**Antumapu**	**1.42**	**198**	*e*P	**Pn**	**05 46 57.8**	**+0.4**
ANTU				*e*S	**Sn**	**05 47 18.4**	**+1.5**
ANTU				IAML		05 47 19.1	
	comp=N,258nm,0.3s						
LMEL	**Las Melosas**	**1.63**	**183**	*e*P	**Pn**	**05 47 00.4**	**+0.3**
LMEL				IAML		05 47 27.4	
	comp=E,83nm,0.1s						
RTLL	**Cerro Villicun**	**1.65**	**58**	*i* P	**Pn**	**05 46 59.5**	**-0.7**
RTLL				IAML		05 47 22.0	
	comp=Z,30nm,0.4s						
ACCO	**Cerro Coronel**	**1.85**	**29**	*i* P	**Pn**	**05 47 02.8**	**-0.2**
ACCO				*e*S	**Sn**	**05 47 28.1**	**+1.3**
AMOG	**MOGNA**	**1.88**	**48**	*i* P	**Pn**	**05 47 02.6**	**-0.5**
AMOG				IAML		05 47 27.8	
	comp=Z,17nm,0.3s						
AROD	**Rodeo**	**2.11**	**15**	*i* P	**Pn**	**05 47 06.7**	**+0.4**
GO04	**Tololo Observa**	**2.12**	**344**	*i* P	**Pn**	**05 47 06.2**	**-0.1**
ACDV	**Cuesta del Vie**	**2.21**	**23**	*i* P	**Pn**	**05 47 07.8**	**+0.4**
ACDV				IAML		05 48 21.9	
	comp=Z,28nm,3.3s						
ACAN	**Cantantal**	**2.48**	**92**	*i* P	**Pn**	**05 47 09.9**	**-0.8**
AGUA	**GUANDACOL**	**3.06**	**28**	*i* P	**Pn**	**05 47 18.4**	**0.0**
GO05	**Huala**	**3.17**	**208**	*i* P	**Pn**	**05 47 18.3**	**-1.7**
VCA	**Vinchina**	**3.84**	**26**	*i* P	**Pn**	**05 47 29.0**	**0.0**
VCA				IAML		05 48 16.2	
	comp=Z,11nm,3.1s						

*IDC **04** 05:56:32.9±1.1, 40.11N×21.52E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/49, mbtmp3.7/10, ML3.6/3, MS3.7/2, Ms1 3.7/2, ms1mx2.6/42, Error ellipse: s-maj=17.9km s-min=14.6km az=126.0*
*BEO **04** 05:56:34.6±0.9, 40.04N×21.71E, h0km, ML3.3/9*
*TIR **04** 05:56:34.8, 40.14N×21.73E, h17km, Md3.5/7*
*ATH **04** 05:56:35.5, 40.16N×21.61E, h20km±1km, ML3.4/25, Error ellipse: s-maj=1.3km s-min=0.8km az=311.0*
*SOF **04** 05:56:35.5, 40.15N×21.62E, h15km*
*THE **04** 05:56:36.5, 40.15N×21.57E, h6km±1km, ML3.5/12, Error ellipse: s-maj=1.1km s-min=0.5km az=344.0*
*SKO **04** 05:56:36.3, 40.12N×21.56E, h14km, M3.5, ML3.9*
*PDG **04** 05:56:36.4±0.3, 40.14N×21.65E, h12km, ML3.6/9, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

ISC 04 05:56:35.9±0.8, 40.12N±0.02×21.62E±0.01, h16km±5km, n182, σ1.972/236, mb3.9/6, 25C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.22**	**32**	P	**Pg**	**05 56 41.1**	**0.0**
KZN				S	**Sg**	**05 56 44.4**	**-0.3**
	18μm,0.4s						
KZN	**Kozani**	**0.22**	**32**	P	**Pg**	**05 56 41.2**	**0.0**
KZN				S	**Sg**	**05 56 44.4**	**-0.3**
KZN				AML	AML	05 56 45.1	
	comp=N,29314μm,0.4s						
KZN				AML	AML	05 56 45.9	
	comp=E,43844μm,0.5s						
KPRO	**Kipourio**	**0.25**	**230**	P	**Pg**	**05 56 41.5**	**-0.1**
KPRO	**Kipourio**	**0.25**	**230**	P	**Pg**	**05 56 41.5**	**-0.1**
KPRO				S	**Sg**	**05 56 46.4**	**+1.0**
KPRO				AML	AML	05 56 47.4	
	comp=N,40884μm,0.6s						
KPRO				AML	AML	05 56 50.7	
	comp=E,37006μm,0.3s						
PENT	**Pentalofos**	**0.37**	**282**	P	**Pg**	**05 56 42.7**	**-0.9**
PENT				S	**Sg**	**05 56 48.1**	**-0.8**
	comp=E,14μm,0.6s						
PENT	**Pentalofos**	**0.37**	**282**	P	**Pg**	**05 56 42.8**	**-0.9**
PENT				S	**Sg**	**05 56 47.8**	**-1.1**
PENT				AML	AML	05 56 52.0	
	comp=N,29566μm,0.5s						
PENT				AML	AML	05 56 53.7	
	comp=E,22082μm,0.4s						
MEV	**Metsovon**	**0.45**	**222**	P	**Pb**	**05 56 45.4**	**-0.1**
MEV	**Metsovon**	**0.45**	**222**	P	**Pb**	**05 56 45.4**	**-0.1**
KTI	**Kastanea**	**0.47**	**54**	P	**Pg**	**05 56 45.8**	**+0.3**
NEST	**Nestorio**	**0.53**	**305**	P	**Pg**	**05 56 45.3**	**-1.1**
NEST				S	**Sg**	**05 56 53.0**	**-0.5**
	comp=E,8μm,0.4s						
NEST	**Nestorio**	**0.53**	**305**	P	**Pg**	**05 56 45.3**	**-1.1**
NEST				S	**Sg**	**05 56 53.3**	**-0.2**
NEST				AML	AML	05 56 58.5	
	comp=N,18824μm,0.4s						
NEST				AML	AML	05 56 59.4	
	comp=E,13659μm,0.3s						
THL	**Klokotos Trika**	**0.63**	**151**	P	**Pb**	**05 56 48.5**	**0.0**
THL				S	**Sn**	**05 56 59.7**	**-0.2**
THL	**Klokotos Trika**	**0.63**	**151**	P	**Pb**	**05 56 48.5**	**0.0**
THL				S	**Sn**	**05 56 58.8**	**-1.1**
THL				AML	AML	05 57 01.2	
	comp=N,8692μm,0.4s						
THL				AML	AML	05 57 04.2	
	comp=E,8036μm,0.4s						
LIT	**Litokhoron**	**0.67**	**91**	P	**Pg**	**05 56 49.2**	**+0.1**
LIT				S	**Sn**	**05 57 01.1**	**+0.2**
	comp=E,4μm,0.4s						
LIT	**Litokhoron**	**0.67**	**91**	⇓*i*Pg	**Pg**	**05 56 49.3**	**+0.2**
LIT				*i* Sg	**Sb**	**05 57 00.7**	**+2.4**
LIT	**Litokhoron**	**0.67**	**91**	P	**Pg**	**05 56 49.2**	**+0.1**
LIT				AML	AML	05 57 03.0	
	comp=N,6592μm,0.3s						
LIT				AML	AML	05 57 05.4	
	comp=E,7993μm,0.4s						
FNA	**Florina**	**0.69**	**345**	P	**Pg**	**05 56 48.2**	**-1.2**
FNA				S	**Sg**	**05 56 58.7**	**+0.1**
	comp=E,10μm,0.4s						
FNA	**Florina**	**0.69**	**345**	⇑*i*Pg	**Pg**	**05 56 48.2**	**-1.2**
FNA				*i* Sg	**Sg**	**05 56 59.3**	**+0.6**
FNA	**Florina**	**0.69**	**345**	*i* PG	**Pg**	**05 56 48.3**	**-1.2**
FNA				*i* SG	**Sg**	**05 56 58.3**	**-0.4**
FNA	**Florina**	**0.69**	**345**	P	**Pg**	**05 56 48.3**	**-1.2**
FNA				S	**Sg**	**05 56 57.8**	**-0.9**
FNA				AML	AML	05 56 59.7	
	comp=E,17667μm,0.4s						
FNA				AML	AML	05 56 59.8	
	comp=N,21060μm,0.4s						
JAN	**Janina**	**0.75**	**232**	P	**Pg**	**05 56 50.0**	**-0.5**
JAN	**Janina**	**0.75**	**232**	P	**Pg**	**05 56 50.0**	**-0.5**
JAN				AML	AML	05 57 06.1	
	comp=N,2653μm,0.7s						
JAN				AML	AML	05 57 06.9	
	comp=E,4485μm,0.5s						
IGT	**Igoumenitsa**	**1.15**	**240**	P	**Pb**	**05 56 57.2**	**-0.1**
IGT				S	**Sn**	**05 57 14.5**	**+1.9**
	comp=E,2μm,0.4s						
IGT	**Igoumenitsa**	**1.15**	**240**	*i* PN	**Pb**	**05 56 57.5**	**+0.2**
IGT				*i* SN	**Sn**	**05 57 16.2**	**+3.6**
IGT	**Igoumenitsa**	**1.15**	**240**	P	**Pb**	**05 56 57.3**	**-0.1**
IGT				AML	AML	05 57 19.9	
	comp=E,3694μm,0.5s						
IGT				AML	AML	05 57 21.1	
	comp=N,2909μm,0.4s						
THE	**Thessaloniki**	**1.15**	**63**	P	**Pb**	**05 56 58.1**	**+0.7**
THE				S	**Sn**	**05 57 15.9**	**+3.2**
THE	**Thessaloniki**	**1.15**	**63**	*i* Pg	**Pb**	**05 56 58.0**	**+0.6**
THE	**Thessaloniki**	**1.15**	**63**	P	**Pb**	**05 56 58.0**	**+0.6**
OHR	**Ohrid**	**1.17**	**328**	*i* Pg	**Pb**	**05 56 56.5**	**-1.3**
OHR				*i* Sg	**Sb**	**05 57 13.9**	**+1.2**
OHR				*e*Lg	Lg	05 57 16.2	
	comp=N,2μm,0.6s						
OHR				*e*Lg	Lg	05 57 16.4	
	comp=E,2μm,0.4s						
MAKR	**Makrakomi, Fth**	**1.17**	**160**	P	**Pn**	**05 56 58.8**	**+1.1**
MAKR				S	**Sn**	**05 57 17.6**	**+4.3**
	comp=E,3μm,0.4s						
MAKR	**Makrakomi, Fth**	**1.17**	**160**	P	**Pn**	**05 56 58.7**	**+1.1**
MAKR				AML	AML	05 57 21.8	
	comp=N,5192μm,0.4s						
MAKR				AML	AML	05 57 23.0	
	comp=E,7964μm,0.5s						
EVR	**Evrytania**	**1.21**	**173**	P	**Pn**	**05 56 58.9**	**+0.7**
EVR				S	**Sn**	**05 57 17.8**	**+3.5**
	comp=E,1μm,0.8s						
EVR	**Evrytania**	**1.21**	**173**	P	**Pn**	**05 56 58.8**	**+0.7**
EVR				AML	AML	05 57 23.2	
	comp=N,2368μm,0.6s						
EVR				AML	AML	05 57 23.9	
	comp=E,1971μm,0.4s						
HORT	**Hortiatis**	**1.23**	**67**	P	**Pn**	**05 56 59.1**	**+0.6**
HORT				S	**Sn**	**05 57 17.3**	**+2.5**
HORT	**Hortiatis**	**1.23**	**67**	P	**Pn**	**05 56 59.1**	**+0.6**
HORT				AML	AML	05 57 28.0	
	comp=E,718μm,0.6s						
HORT				AML	AML	05 57 28.8	
	comp=N,956μm,0.5s						
TPE	**Tepelena**	**1.24**	**279**	P	**Pn**	**05 56 59.5**	**+1.0**
TPE	**Tepelena**	**1.24**	**279**	*i* PN	**Pn**	**05 56 59.6**	**+1.0**
TPE				*i* SN	**Sn**	**05 57 19.6**	**+4.6**
SRN	**Sarande**	**1.26**	**260**	P	**Pb**	**05 57 00.0**	**+0.7**
SRN				S	**Sn**	**05 57 16.9**	**+1.5**
SRN	**Sarande**	**1.26**	**260**	*i* PN	**Pg**	**05 57 01.5**	**+1.2**
SRN				*i* SN	**Sn**	**05 57 19.6**	**+4.2**
KASA	**Kassiopi**	**1.34**	**255**	P	**Pg**	**05 57 01.8**	**0.0**
VAY	**Valandovo**	**1.41**	**31**	*e*Pn	**Pn**	**05 57 02.0**	**+1.2**
VAY				*e*Sn	**Sb**	**05 57 21.9**	**+2.5**
VAY	**Valandovo**	**1.41**	**31**	*i* Pg	**Pn**	**05 57 01.7**	**+0.9**
PLG	**Polygyros**	**1.43**	**79**	P	**Pn**	**05 57 01.8**	**+0.7**
KNT	**Kendrikon**	**1.43**	**43**	P	**Pn**	**05 57 01.8**	**+0.6**
KNT	**Kendrikon**	**1.43**	**43**	⇓*i*Pg	**Pn**	**05 57 01.8**	**+0.6**
KNT	**Kendrikon**	**1.43**	**43**	P	**Pn**	**05 57 01.8**	**+0.6**
KNT				AML	AML	05 57 29.1	
	comp=N,835μm,0.4s						
KNT				AML	AML	05 57 29.4	
	comp=E,545μm,0.5s						
XOR	**Xorichti**	**1.43**	**121**	P	**Pb**	**05 57 02.6**	**+0.4**
XOR	**Xorichti**	**1.43**	**121**	P	**Pb**	**05 57 02.5**	**+0.3**
XOR				AML	AML	05 57 32.8	
	comp=N,2591μm,0.6s						
XOR				AML	AML	05 57 40.5	
	comp=E,1363μm,0.7s						
KEK	**Kerkira**	**1.45**	**254**	P	**Pn**	**05 57 02.5**	**+1.0**
KEK				S	**Sg**	**05 57 22.7**	**-0.1**
	comp=E,1μm,0.8s						
KEK	**Kerkira**	**1.45**	**254**	P	**Pg**	**05 57 03.5**	**-0.4**
KEK				AML	AML	05 57 30.8	
	comp=N,2282μm,0.5s						
KEK				AML	AML	05 57 31.2	
	comp=E,2833μm,0.9s						
NEO	**Neokhori**	**1.48**	**123**	P	**Pb**	**05 57 03.5**	**+0.4**
NEO				S	**Sg**	**05 57 24.1**	**+0.4**
	comp=E,2μm,0.7s						
NEO	**Neokhori**	**1.48**	**123**	P	**Pb**	**05 57 03.4**	**+0.3**
NEO				AML	AML	05 57 35.1	
	comp=N,4559μm,0.9s						
NEO				AML	AML	05 57 35.2	
	comp=E,2333μm,0.7s						
TSLK	**Tsoukalades, L**	**1.49**	**210**	P	**Pg**	**05 57 04.5**	**-0.1**
TSLK				S	**Sg**	**05 57 25.0**	**+1.1**
	comp=E,1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.49**	**210**	P	**Pg**	**05 57 04.8**	**+0.3**
PVO	**Paravola**	**1.50**	**183**	P	**Pg**	**05 57 03.8**	**-1.0**
PVO	**Paravola**	**1.50**	**183**	P	**Pb**	**05 57 03.5**	**+0.2**
PVO				AML	AML	05 57 33.9	
	comp=E,1866μm,0.7s						
PVO				AML	AML	05 57 37.2	
	comp=N,1550μm,0.7s						
SOH	**Sokhos**	**1.50**	**62**	P	**Pn**	**05 57 03.6**	**+1.4**
SOH				S	**Sb**	**05 57 24.7**	**+2.5**
	comp=N,785nm,0.8s						
SOH	**Sokhos**	**1.50**	**62**	*i* Pg	**Pb**	**05 57 04.2**	**+0.8**
SOH	**Sokhos**	**1.50**	**62**	P	**Pn**	**05 57 03.3**	**+1.2**
SOH				AML	AML	05 57 28.6	
	comp=N,1307μm,1.0s						
SOH				AML	AML	05 57 32.6	
	comp=E,1881μm,0.6s						
PDO	**Prodromos**	**1.55**	**193**	P	**Pg**	**05 57 05.7**	**-0.1**
AXAR	**Agios Charalam**	**1.57**	**149**	P	**Pb**	**05 57 04.9**	**+0.3**
PAIG	**Paliouri**	**1.60**	**96**	P	**Pn**	**05 57 04.6**	**+1.2**
PAIG	**Paliouri**	**1.60**	**96**	P	**Pn**	**05 57 04.4**	**+1.0**
PAIG				AML	AML	05 57 30.5	
	comp=E,475μm,0.5s						
PAIG				AML	AML	05 57 33.8	
	comp=N,1007μm,0.6s						
STIP	**Stip**	**1.63**	**15**	*i* Pn	**Pn**	**05 57 06.3**	**+2.4**
EVGI	**Lefkada island**	**1.67**	**207**	P	**Pg**	**05 57 07.6**	**-0.4**
EFP	**Efpalio**	**1.70**	**172**	P	**Pg**	**05 57 07.3**	**-1.3**
EFP				AML	AML	05 57 37.5	
	comp=E,2380μm,1.0s						
EFP				AML	AML	05 57 41.7	
	comp=N,2139μm,0.5s						
SKIA	**Skiathos**	**1.72**	**123**	P	**Pn**	**05 57 06.2**	**+1.1**
SKIA				AML	AML	05 57 40.8	
	comp=N,1339μm,0.7s						
SKIA				AML	AML	05 57 41.1	
	comp=E,1311μm,0.5s						
SERG	**Sergoula**	**1.74**	**168**	P	**Pb**	**05 57 07.2**	**-0.1**
SERG				AML	AML	05 57 41.0	
	comp=E,1833μm,0.4s						
SERG				AML	AML	05 57 44.6	
	comp=N,1563μm,0.7s						
KALE	**Kalithea**	**1.77**	**167**	P	**Pb**	**05 57 07.6**	**-0.4**
PHP	**Peshkopia**	**1.80**	**331**	*i* PN	**Pn**	**05 57 07.9**	**+1.6**
PHP				*i* SN	**Sn**	**05 57 30.0**	**+1.1**
SRS	**Serrai**	**1.81**	**56**	P	**Pn**	**05 57 07.3**	**+1.0**
SRS	**Serrai**	**1.81**	**56**	P	**Pn**	**05 57 07.1**	**+0.8**
TIR	**Tirane**	**1.81**	**313**	*i* PN	**Pb**	**05 57 09.9**	**+1.3**
TIR				*i* SN	**Sb**	**05 57 34.2**	**+3.2**
TIR	**Tirane**	**1.81**	**313**	⇑P	**Pn**	**05 57 08.7**	**+2.3**
TIR				⇑S	**Sn**	**05 57 30.5**	**+1.5**
LKR	**Lokris**	**1.82**	**143**	P	**Pb**	**05 57 08.1**	**-0.6**
DSF	**Desfina**	**1.84**	**157**	P	**Pn**	**05 57 08.1**	**+1.2**
SKO	**Skopje**	**1.86**	**356**	*e*Pn	**Pn**	**05 57 08.0**	**+1.0**
SKO	**Skopje**	**1.86**	**356**	*i* Pn	**Pn**	**05 57 08.3**	**+1.2**
LAKA	**Lakka**	**1.90**	**171**	P	**Pb**	**05

BUM	Brajici-Budva	3.00 318	⇑iPn	Pn	05 57 25.0	+2.3
BUM			eSn	Sn	05 58 02.4	+4.1
IVA	Berane	3.04 335	⇓iPn	Pn	05 57 25.6	+2.2
IVA			eSn	Sn	05 58 03.5	+4.0
PGB	Panagyurishte	3.10 38	P	Pn	05 57 25.8	+1.7
SELS	Selova	3.12 353	ePn	Pn	05 57 25.2	+0.8
KOME	Kolasin	3.15 331	⇓iPn	Pn	05 57 27.4	+2.5
KOME			eSn	Sn	05 58 06.2	+3.9
CEME	Cevo	3.16 321	⇑iPn	Pn	05 57 26.9	+1.8
CEME			eSn	Sn	05 58 06.2	+3.7
ZAPS	Zavoj	3.25 13	ePn	Pn	05 57 28.2	+2.1
KDZ	Kurdzhali	3.26 61	P	Pn	05 57 26.6	+0.2
HCY	Herceg Novi	3.31 316	ePn	Pn	05 57 27.4	+0.4
HCY	Herceg Novi	3.31 316	⇓iPn	Pn	05 57 29.1	+2.1
HCY			eSn	Sn	05 58 10.1	+4.1
NKME	Niksic	3.32 324	⇑iPn	Pn	05 57 29.6	+2.4
NKME			eSn	Sn	05 58 10.2	+3.9
FASA	Fasano	3.32 283	ePn	Pn	05 57 28.6	+1.4
SJES	Sjenica	3.37 339	ePn	Pn	05 57 30.1	+2.1
MASS	Massafra	3.45 280	ePn	Pn	05 57 21.1	-7.9
BOVS	Bovan	3.52 1	ePn	Pn	05 57 31.0	+1.2
TREB	Trebinje	3.57 318	ePn	Pn	05 57 32.3	+1.7
TREB	Trebinje	3.57 318	ePn	Pn	05 57 31.2	+0.6
BLKB	Belogradchik	3.59 12	⇑S	Sn	05 58 13.5	+0.5
BRY	Bratogost	3.62 321	ePn	Pn	05 57 32.4	+1.1
BRY	Bratogost	3.62 321	⇓iPn	Pn	05 57 33.6	+2.3
BRY			eSn	Sn	05 58 17.7	+4.0
PLE	Pljevlja	3.62 333	⇑iPn	Pn	05 57 34.2	+2.9
PLE			eSn	Sn	05 58 16.5	+2.8
EZN	Ezine	3.63 93	⇑P	Pn	05 57 34.7	+3.3
EZN			AML	AML	05 58 30.2	
DBRK	Dubrovnik	3.65 315	ePn	Pn	05 57 32.3	+0.7
DBRK			Sn	Sn	05 58 14.3	0.0
UPM	Unac-Piva	3.69 328	⇑iPn	Pn	05 57 34.2	+1.8
UPM			eSn	Sn	05 58 19.1	+3.5
ZAGS	Zajecar	3.72 7	ePn	Pn	05 57 33.3	+0.7
BAI	Bari	3.74 287	ePn	Pn	05 57 34.8	+2.0
BAI			Sn	Sn	05 58 17.0	+0.5
MATE	Matera	3.79 280	⇑P	Pn	05 57 35.1	+1.6
MATE			AML	AML	05 58 32.2	
GRUS	Gruza	3.83 350	ePn	Pn	05 57 35.8	+1.7
SG1	Sgolgore (BA)	3.83 282	ePn	Pn	05 57 35.1	+0.9
SG1			Sn	Sn	05 58 19.2	+0.3
TIP	Timpagrande	3.86 258	⇑P	Pn	05 57 36.6	+1.9
TIP			⇓S	Sn	05 58 21.7	+2.0
RUDO	Rudo	3.88 335	ePn	Pn	05 57 35.9	+1.1
PLVB	Pleven	3.97 34	⇑P	Pn	05 57 37.8	+1.8
PLVB			AML	AML	05 58 58.5	
STON	Ston	4.03 314	ePn	Pn	05 57 37.7	+0.9
STON			Sn	Sn	05 58 23.8	+0.2
BBLS	Lazići	4.09 337	ePn	Pn	05 57 41.0	+3.2
BBLS	Lazići	4.09 337	ePn	Pn	05 57 40.6	+2.8
DIVS	Divibare	4.16 344	ePn	Pn	05 57 40.2	+1.5
DIVS	Divibare	4.16 344	ePn	Pn	05 57 40.0	+1.3
TRUS	Trudelj	4.20 348	ePn	Pn	05 57 40.3	+1.1
ELND	Elena	4.26 47	⇑P	Pn	05 57 41.1	+1.1
APE	Apeiranthos	4.32 134	⇑P	Pn	05 57 43.2	+2.2
HAPS	Han Pijesak,BI	4.43 334	ePn	Pn	05 57 43.9	+1.4
MDVR	Moldovita	4.66 1	⇑P	Pn	05 57 47.2	+1.6
MDVR			AML	AML	05 59 19.8	
TEKS	Tekeris	4.69 341	ePn	Pn	05 57 46.5	+0.5
HVAR	Hvar	4.93 310	ePn	Pn	05 57 49.0	-0.2
HVAR			Sn	Sn	05 58 45.4	-0.5
FRGS	Fruska Gora	5.21 346	ePn	Pn	05 57 55.0	+1.9
FRGS	Fruska Gora	5.21 346	ePn	Pn	05 57 53.9	+0.8
GZR	Gura Zlata	5.34 9	⇑P	Pn	05 57 55.8	+0.8
GZR			AML	AML	05 58 56.2	
BZS	Buzias	5.50 0	⇑P	Pn	05 57 57.9	+0.9
BLY	Banja Luka	5.67 326	ePn	Pn	05 57 53.4	-6.0
BLY	Banja Luka	5.67 326	⇑P	Pn	05 57 59.8	+0.4
ZIRJ	Zirje	5.69 310	ePn	Pn	05 57 59.9	+0.3
VOIR		5.89 24	⇑P	Pn	05 58 04.1	+1.6
UDBI	Udbina	6.18 317	ePn	Pn	05 58 08.0	+1.5
UDBI			Sn	Sn	05 59 16.9	0.0
DUGI	Dugi Otok	6.23 311	ePn	Pn	05 58 07.3	+0.2
DUGI			Sn	Sn	05 59 15.8	-2.1
MLR	Muntele Rosu	6.24 29	Pn	Pn	05 58 09.4	+2.0
	comp=E,2.2nm,0.3s,baz=226,slow=8.8,SNR=23					
MLR			Sn	Sn	05 59 18.3	-0.1
	baz=174,slow=19,SNR=1.7					
MLR			Lg	Lg	06 00 00.2	
	baz=108,slow=19,SNR=2.0					
MLR			LR	LR	06 01 09.8	
	comp=E,118nm,19.6s,baz=18,slow=44					
MLR	Muntele Rosu	6.24 29	⇑P	Pn	05 58 09.8	+2.4
MORH	Mrgy, Hungar	6.47 341	ePn	Pn	05 58 10.9	+0.5
NVLJ	Novalja	6.68 314	ePn	Pn	05 58 13.7	+0.4
NVLJ			Sn	Sn	05 59 26.0	-3.1
VRI	Vrincioaia	6.86 31	⇑P	Pn	05 58 18.5	+2.7
CRES	Cresnjev	7.27 324	ePn	Pn	05 58 20.9	-0.5
BRJN	Brijuni	7.52 312	ePn	Pn	05 58 24.2	-0.6
CEY	Cerknica	7.70 319	ePn	Pn	05 58 27.0	-0.4
PSZ	Piszkesteto	7.90 352	⇑P	Pn	05 58 31.4	+1.4
VYHS	Vyhne	8.61 348	ePN	Pn	05 58 42.1	+2.4
VYHS			eSN	Sn	06 00 12.9	-3.5
BRTR	Keskin Array B	9.25 89	Pn	Pn	05 58 51.4	+2.8
	comp=E,0.1nm,0.3s,baz=271,slow=13,SNR=2.6					
GERES	GERESS Array B	10.39 330	Pn	Pn	05 59 04.5	+0.3
	comp=E,0.2nm,0.3s,baz=148,slow=15,SNR=2.8					
HFS	Hagfors	20.64 349	P	P	06 01 11.8	-2.6
	comp=E,6.1nm,0.9s,baz=150,slow=15,SNR=7.8					
FINES	FINESS Array B	21.53 6	P	P	06 01 23.3	-0.7
	comp=E,5.0nm,0.9s,baz=162,slow=14,SNR=4.2					
NB2	NORSAR Subarra	21.91 346	P	P	06 01 27.2	-0.9
	comp=Z,14nm,1.2s,baz=160,slow=11					
NOA	NORSAR Array B	21.91 346	P	P	06 01 26.6	-1.5
	comp=Z,3.0nm,0.8s,baz=161,slow=11,SNR=5.5					
EKA	Eskdalemuir Ar	22.39 321	P	P	06 01 32.2	-1.1
	comp=Z,2.8nm,0.8s,baz=118,slow=9.1,SNR=5.0					
ARCES	ARCESS Array B	29.55 3	P	P	06 02 37.8	-1.6
	comp=Z,2.2nm,0.8s,baz=193,slow=10,SNR=3.2					
TORD	Torodi Ar. Bea	32.07 219	P	P	06 03 01.5	-0.6
	comp=Z,0.4nm,0.7s,baz=30,slow=9.2,SNR=4.1					
MKAR	Makanchi Array	43.58 60	P	P	06 04 37.0	-2.0
	comp=Z,0.4nm,0.5s,baz=279,slow=8.7,SNR=3.5					
BBB	Bella Bella	84.38 342	LR	LR	06 50 51.8	
	comp=Z,180nm,18.1s,baz=336,slow=39					
ASAR	Alice Springs	121.53 96	PKP	PKPdf	06 15 27.9	-1.0
	comp=Z,0.2nm,0.5s,baz=336,slow=2.0,SNR=2.7					

*IDC **04** 05:57:13.0±0.8, 41°.21N×127°.42W, h0km, mb3.9/14, mb1 4.0/22, mb1mx3.9/49, mbtmp3.9/22, ML3.5/8, MS4.0/36, Ms1 4.0/36, ms1mx3.9/43, Error ellipse: s-maj=19.3km s-min=10.6km az=28.0*

*ISCJB **04** 05:57:15.9±0.8, 41°.15N±0°.02×127°.19W±0°.03, h17km±6km, mb4.1/18, MS3.9/35, Error ellipse: s-maj=4.2km s-min=2.7km az=140.3*

*NEIC **04** 05:57:16.1±2.4, 41°.05N±0°.05×127°.22W±0°.09, h10km±1km, mb4.6/51*

*ANF **04** 05:57:18.8±0.8, 41°.25N×126°.87W, ML4.0/17, Error ellipse: s-maj=7.7km s-min=4.6km az=56.0*

*GCMT **04** 05:57:18.1±0.2, 41°.27N±0°.02×127°.43W±0°.02, h12km, MW4.9/96, Moment Tensor Solution. s50,c57; s96,c148; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.69±.11; Mθθ0.15±.07; Mφφ2.53±.08; Mrθ-0.23±.22; Mφθ-0.19±.05; Mφr-1.05±.19; Best double couple: M0=2.82800×10^16 NP1:φs1.00000°, δ56.00000°, λ-84.00000°. NP2: φs170.00000°, δ35.00000°, λ-100.00000°. Principal axes: T 2.7410, Plg11.0000°, Azm87.0000°; N 0.1670, Plg5.0000°, Azm178.0000°; P -2.9160, Plg78.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 05:57:15.7±3.0, 41°.14N±0°.04×127°.22W±0°.05, h10km±18km, n282, σ1°79/275, mb4.5/34, MS3.9/35, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
KCTM	Capetown	2.29	106	Pn	05 57 53.5	-0.1
KCTM				Sn	05 58 21.6	-0.2
KRPM	Rodgers	2.42	89	Pn	05 57 55.4	+0.1
JCC	Jacoby Creek,	2.44	97	Pn	05 57 54.9	-0.7
JCC				Sn	05 58 25.0	-0.4
KMPM	Mount Pierce	2.46	106	Pn	05 57 56.4	+0.4
KBO	Bosley Butte	2.48	64	Pn	05 57 55.8	-0.6
KSMM	Slide Mountain	2.51	111	Pn	05 57 55.3	-1.3
KHMM	Horse Mountain	2.65	95	Pn	05 57 58.9	+0.2
KHMM				Sn	05 58 31.9	+0.8
KCRM	Chalk Rock	2.68	104	Pn	05 57 58.6	-0.4
KEBM	Edson Butte	2.76	50	Pn	05 57 59.3	-0.8
KMRM	Mail Ridge	2.82	108	Pn	05 58 01.8	+0.8
KMRM				Sn	05 58 38.0	-2.9
KOMM	Orleans Mounta	2.85	86	Pn	05 58 01.8	+0.4
KCSM	Cold Springs	2.88	101	Pn	05 58 01.6	-0.2
L02E	Cave Junction	2.90	68	P	Pn	05 58 01.7	-0.2
	baz=251					
L02E				S	Sn	05 58 35.2	-1.6
	baz=251					
KBSM	Bell Springs	3.02	113	Pn	05 58 03.6	-0.1
KHBM	Hayfork Bally	3.07	98	Pn	05 58 04.9	+0.4
K02D	Willamette Mer	3.07	58	P	Pn	05 58 04.1	-0.3
	baz=241,SNR=46					
K02D				S	Sn	05 58 40.9	-0.4
	baz=241					
KCPM	Cahto Peak	3.13	116	Pn	05 58 05.2	-0.1
KCPM				Sn	Sn	05 58 41.5	-1.4
J01E	Myrtle Point	3.17	49	P	Pn	05 58 05.3	-0.4
	baz=232,SNR=16					
J01E				S	Sn	05 58 42.7	-0.8
	baz=232					
M02C	Callahan	3.30	84	P	Pn	05 58 08.1	+0.5
	baz=267,SNR=141					
M02C				S	Sn	05 58 46.4	-0.5
	baz=267					
N02D	Trinity Center	3.42	91	P	Pn	05 58 09.9	+0.7
	baz=274,SNR=99					
N02D				S	Sn	05 58 49.2	-0.6
	baz=274					
YBH	Yreka Blue Hor	3.44	79	Pn	Pn	05 58 11.0	+1.5
	17nm,0.3s,baz=282,slow=11,SNR=554					
YBH				Sn	Sn	05 58 50.4	0.0
	8.9nm,0.3s,baz=234,slow=15,SNR=2.5					
YBH				LR	LR	05 59 15.8	
	comp=Z,3μm,20.2s,baz=254,slow=34					
YBH	Yreka Blue Hor	3.44	79	Pn	Pn	05 58 11.3	+1.8
YBH				Sn	Sn	05 58 50.5	+0.1
HUMO	Hull Mountain	3.50	64	Pn	Pn	05 58 10.3	0.0
O02D	Mt. Diablo Mer	3.51	105	P	Pn	05 58 11.0	+0.6
	baz=287,SNR=84					
O02D				S	Sn	05 58 52.2	+0.2
	baz=287					
WDC	Whiskeytown Da	3.59	97	Pn	Pn	05 58 12.1	+0.6
WDC				Sn	Sn	05 58 53.1	-0.9
L04D	Klamath Falls	3.84	72	P	Pn	05 58 16.5	+1.5
	baz=256,SNR=126					
HOPS	Hopland Field	3.84	123	Pn	Pn	05 58 14.2	-0.6
HOPS				Sn	Sn	05 59 01.5	+1.5
I03D	Drain, OR	3.84	47	P	Pn	05 58 14.2	-0.6
	baz=230,SNR=37					
I03D				S	Sn	05 58 58.4	-1.6
	baz=230					
I02D	Swisshome	3.87	39	S	Sn	05 59 00.2	-0.6
	baz=222					
M04C	Macdoel	4.09	79	P	Pn	05 58 20.2	+1.7
	baz=263,SNR=47					
GDXM	Geysers	4.12	123	Pn	Pn	05 58 19.0	+0.2
GDXM				Sn	Sn	05 59 09.8	+2.7
O03E	Paynes Creek	4.20	100	P	Pn	05 58 20.4	+0.5
	baz=283,SNR=68					
O03E				S	Sn	05 59 08.9	-0.3
	baz=283					
J04D	Umpqua Nationa	4.34	59	P	Pn	05 58 22.8	+0.9
	baz=243,SNR=18					
K04D	Chiloquin, OR	4.34	68	P	Pn	05 58 22.7	+0.8
	baz=252,SNR=12					
COR	Corvallis	4.49	39	Pn	Pn	05 58 25.2	+1.4
COR				Sn	Sn	05 59 18.1	+2.1
MCCM	Marconi Confer	4.49	130	Pn	Pn	05 58 23.5	-0.3
MCCM				Sn	Sn	05 59 17.2	+1.1
ORV	Oroville	4.65	108	Pn	Pn	05 58 26.4	+0.5
ORV				Sn	Sn	05 59 19.0	-1.0
H04D	Lebanon	4.72	43	P	Pn	05 58 27.9	+0.9
	baz=226,SNR=8.8					
H04D				S	Sn	05 59 21.7	-0.1
	baz=226					
J05D	Fort Rock, OR	4.93	62	P	Pn	05 58 30.6	+0.5
	baz=247,SNR=16					
G03D	McMinnville, O	4.99	34	P	Pn	05 58 31.8	+1.1
	baz=217					
H04A	Detroit Lake	5.12	45	Pn	Pn	05 58 33.2	+0.7
MOD	Modoc Plateau	5.25	79	Pn	Pn	05 58 35.1	+0.8
AFDM	Forest Hills D	5.27	113	Pn	Pn	05 58 35.7	+1.1
AFDM				Sn	Sn	05 59 34.8	-0.6
PINE	Pine Mountain	5.35	58	Pn	Pn	05 58 36.8	+1.0
I05D	Terrebonne, OR	5.38	52	P	Pn	05 58 36.8	+0.7
	baz=236,SNR=6.8					
BEKR	Beckworth	5.38	101	Pn	Pn	05 58 36.5	+0.2
BEKR				Sn	Sn	05 59 40.4	+2.1
F04D	Rainier, OR	5.81	30	P	Pn	05 58 43.2	+1.3
	baz=214					
F04A	Amboy	5.92	34	Pn	Pn	05 58 44.8	+1.3
G05D	Wamic, OR	5.95	45	P	Pn	05 58 45.7	+1.8
	baz=229					
E03A	Lebam	6.01	25	Pn	Pn	05 58 46.0	+1.2
VCNR	Virginia City	6.08	105	Pn	Pn	05 58 48.1	+2.3
CMB	Columbia Colle	6.12	118	Pn	Pn	05 58 45.5	-0.8
CMB				Sn	Sn	05 59 58.3	+1.9
PAHR	Pah Rah Range	6.15	101	Pn	Pn	05 58 46.7	0.0
PNTR	Pine Nut	6.19	107	Pn	Pn	05 58 49.4	+2.0
SAO	San Andreas Ge	6.27	132	Pn	Pn	05 58 46.9	-1.4
SAO				Sn	Sn	05 59 57.7	-2.3
F05D	White Salmon	6.33	40	P	Pn	05 58 50.3	+1.2
	baz=224					
E04D	Cinebar	6.37	30	P	Pn	05 58 51.3	+1.6
	baz=214,SNR=9.0					
YERR	Yerington	6.49	107	Pn	Pn	05 58 53.4	+1.9
WAKR	Walker	6.54	111	Pn	Pn	05 58 52.9	+0.7
NLWA	Neilton Lookou	6.70	20	Pn	Pn	05 58 55.2	+1.1
D04E	Lakebay	6.83	26	P	Pn	05 58 57.1	+1.2
	baz=210					
LON	Longmire	6.83	33	Pn	Pn	05 58 57.8	+1.8
LON				Sn	Sn	06 00 16.3	+2.5
D03D	Eldon	7.04	23	P	Pn	05 58 59.8	+1.0
	baz=207					
F07A	Phinny Hill Vi	7.12	46	Pn	Pn	05 59 01.3	+1.5
D05A	Enumclaw	7.12	30	Pn	Pn	05 59 03.2	+3.3
RYN	Ryan	7.14	108	Pn	Pn	05 59 02.1	+1.7
MDPB	Devils Postpil	7.21	116	Pn	Pn	05 59 04.6	+3.2
OMMB	Old Mammoth Mi	7.28	116	Pn	Pn	05 59 03.8	+1.4
KVN	Kaiserville	7.30	104	Pn	Pn	05 59 02.5	0.0
G08A	Pilot Rock	7.32	53	Pn	Pn	05 59 04.0	+1.2
NVAR	Mina Array Bea	7.38	109	LR	LR	06 02 12.2	
	comp=Z,3μm,18.6s,baz=304,slow=39					
E07A	Sunnyside	7.59	42	Pn	Pn	05 59 09.1	+2.6
BMN	Battle Mountai	7.62	92	Pn	Pn	05 59 09.3	+2.4
HAWA	Hanford	7.65	44	Pn	Pn	05 59 09.1	+1.9
PAGB	Antelope Grade	7.69	132	Pn	Pn	05 59 07.0	-0.8
LTY	Liberty	7.71	35	Pn	Pn	05 59 10.0	+1.8
E08A	Dider Farm, El	7.96	45	Pn	Pn	05 59 13.8	+2.4
PGC	Sidney	7.97	18	Pn	Pn	05 59 13.6	+2.1
B05A	Bryant	8.00	25	P	Pn	05 59 13.9	+2.0
	baz=209					
BMO	Blue Mountains	8.16	60	Pn	Pn	05 59 15.9	+1.6
B06A	Marblemount	8.43	27	Pn	Pn	05 59 19.2	+1.4
PKM	Mcpherson Peak	8.55	135	P	Pn	05 59 20.0	+0.3
	baz=319					
F10A	Beach Ranch, E	8.71	53	Pn	Pn	05 59 23.5	+1.6
MFID	Camas Ranch	8.75	71	Pn	Pn	05 59 22.5	+0.1
ISA	Isabella, Lake	8.78	126	P	Pn	05 59 24.9	+2.2
	baz=311					
ISA	Isabella, Lake	8.78	126	Pn	Pn	05 59 24.3	+1.6
ELK	Elko	9.08	89	Pn	Pn	05 59 29.7	+2.6
	0.1nm,0.3s,baz=280,slow=13,SNR=10					
ELK				LR	LR	06 03 15.1	
	comp=Z,2μm,20.9s,baz=258,slow=39					
PLID	Pearl Lake	9.10	61	Pn	Pn	05 59 28.2	+0.9
B08A	Colville Reser	9.14	35	Pn	Pn	05 59 29.0	+1.4
C09A	Chrisman Ranch	9.23	41	Pn	Pn	05 59 31.8	+3.0
TPNV	Topopah Spring	9.50	113	Pn	Pn	05 59 33.1	+0.3
GSC	Goldstone, Bar	10.05	122	Pn	Pn	05 59 39.7	-0.5
NEW	Newport	10.11	42	P	Pn	05 59 43.7	+2.8
	baz=229					
NEW	Newport	10.11	42	Pn	Pn	05 59 42.0	+1.0
	0.1nm,0.3s,baz=206,slow=11,SNR=5.7					
NEW				LR	LR	06 03 34.6	
	comp=Z,2μm,19.1s,baz=231,slow=38					
NEW	Newport	10.11	42	Pn	Pn	05 59 42.6	+1.6
BFSC	Mount Baldy Ra	10.24	129	P	Pn	05 59 45.1	+2.3
	baz=315					
SHPR	Sheep Range	10.48	112	Pn	Pn	05 59 50.3	+4.1
BGU	Big Grassy Mou	10.73	86	Pn	Pn	05 59 52.2	+2.7
BGU				Sn	Sn	06 01 51.8	+2.1
HVU	Hansel Valley	10.86	82	Pn	Pn	05 59 55.0	+3.6
DUG	Dugway, Tooele	10.99	90	P	Pn	05 59 57.2	+4.1
	baz=280					
DUG	Dugway, Tooele	10.99	90	Pn	Pn	05 59 57.2	+4.1
BBB	Bella Bella	11.06	357	Pn	Pn	05 59 50.0	-3.9
	0.1nm,0.3s,baz=187,slow=14,SNR=2.0					
BBB				LR	LR	06 03 13.4	
	comp=Z,469nm,18.6s,baz=170,slow=33					
BBB	Bella Bella	11.06	357		Pn	05 59 56.6	+2.8
MSO	Missoula	11.12	55	P	Pn	05 59 57.0	+2.1
	baz=244					
MSO	Missoula	11.12	55		Pn	05 59 55.8	+0.9
MCMT	McKenzie Canyo	11.15	66		Pn	05 59 56.2	+0.8
CCUT	Cedar City	11.31	104	Pn	Pn	05 59 59.5	+1.9
PFO	Pinyon Flats O	11.38	128	Pn	Pn	06 00 00.4	+1.9
	0.1nm,0.3s,baz=309,slow=10,SNR=4.0					
PFO				LR	LR	06 04 18.1	
	comp=Z,1μm,19.2s,baz=301,slow=37					
PFO	Pinyon Flats O	11.38	128		Pn	05 59 57.2	-1.3
LRM	Limekiln Ridge	11.70	62		Pn	06 00 07.2	+4.3
MSU	Marysvale	11.86	98	Pn	Pn	06 00 08.1	+3.0
KNB	Kanab	11.92	106	Pn	Pn	06 00 06.9	+1.0
TCUT	Toone Canyon	11.93	85		Pn	06 00 09.7	+3.7
JLU	Jordanelle	11.96	87		Pn	06 00 10.3	+3.8
W13A	Hualapai Mount	12.11	116	Pn	Pn	06 00 08.5	0.0
AHID	Auburn Hatcher	12.12	77		Pn	06 00 08.6	0.0
PKCU	Pink Cliffs	12.13	103	Pn	Pn	06 00 09.0	+0.2
QLMT	Earthquake Lak	12.14	67		Pn	06 00 08.3	-0.5
BOZ	Bozeman (W)	12.19	63		Pn	06 00 09.6	+0.2
FXWY	Fox Creek	12.23	73		Pn	06 00 13.9	+3.8
TPAW	Teton Pass	12.27	74		Pn	06 00 13.9	+3.2
WALA	Waterton Lakes	12.28	45		Pn	06 00 15.2	+4.5
YHB	Horse Butte	12.28	68		Pn	06 00 12.3	+1.4
YHL	Hebgen Lake	12.31	67		Pn	06 00 12.8	+1.5
IMW	Indian Meadow	12.33	72		Pn	06 00 15.2	+3.7
REDW	Red Top Meadow	12.33	74	Pn	Pn	06 00 15.1	+3.6
TMUT	Trail Mountain	12.38	93		Pn	06 00 15.9	+3.6
HRY	Holter Researc	12.41	58		Pn	06 00 13.7	+1.2
SNOW	Snow King Moun	12.41	74		Pn	06 00 14.0	+1.4
YMR	Madison River	12.43	68	Pn	Pn	06 00 15.3	+2.5
MOOW	Moose Ponds	12.45	72		Pn	06 00 16.1	+3.0
Q16A	Castle Valley	12.50	95		Pn	06 00 18.6	+4.8
FLWY	Flagg Ranch	12.52	71		Pn	06 00 18.5	+4.4
YHH	Holmes Hill	12.53	68		Pn	06 00 14.8	+0.5
LOHW	Long Hollow	12.54	73	Pn	Pn	06 00 16.0	+1.7
U15A	North Rim	12.56	107		Pn	06 00 13.5	-1.3
YNR	Norris Junctio	12.64	68	Pn	Pn	06 00 19.4	+3.7
P17A	Butcher Ranch,	12.69	92		Pn	06 00 16.6	+0.1
SRU	San Rafael Swe	12.94	94	Pn	Pn	06 00 19.4	-0.5
YMP	Mirror Lake Pl	13.01	68	Pn	Pn	06 00 21.8	+0.9
BW06	Boulder Array	13.25	77	Pn	Pn	06 00 25.6	+1.5
PD31	Pinedale Array	13.25	77	Pn	Pn	06 00 27.7	+3.7
PDAR	Pinedale Array	13.25	77	Pn	Pn	06 00 27.1	+3.0
	0.1nm,0.3s,baz=264,slow=8.1,SNR=11					
PDAR				LR	LR	06 05 51.9	
	comp=Z,2μm,18.1s,baz=241,slow=39					
PDAR	Pinedale Array	13.25	77		Pn	06 00 27.9	+3.8
Y14A	Wickenburg	13.37	118	Pn	Pn	06 00 25.2	-0.3
RDMU	Red Mountain	13.38	87	Pn	Pn	06 00 30.0	+4.2
GCMT	Greycliff	13.56	64	Pn	Pn	06 00 30.2	+2.0
WUAZ	Wupatki	13.64	109	Pn	Pn	06 00 31.8	+2.4
X16A	Lo Mia Camp, P	14.16	113		Pn	06 00 37.2	+0.7
PV21	Cone Mtn., Par	14.25	94	P	P	06 00 43.1	-2.1
PV19	Morning Glory	14.32	95	P	P	06 00 43.8	-2.1
PV16	Nyswonger Mesa	14.37	95	P	P	06 00 44.4	-2.1
PV11	David Mesa, Pa	14.40	95	P	P	06 00 45.3	-1.5
PV03	Paradox Valley	14.44	96	P	P	06 00 45.4	-1.8
O20A	White River Ci	14.45	88	P	P	06 00 46.7	-0.6
PV13	Radium Mtn., P	14.49	96	P	P	06 00 46.4	-1.4
W18A	Petrified Fore	15.01	108	P	P	06 00 52.8	-0.7
RWWY	Rawlins	15.03	81	Pn	Pn	06 00 48.6	+0.3
RWWY				IAmb	IAmb	06 00 56.8	
	comp=Z,43nm,1.4s						
MVCO	Mesa Verde	15.04	99	P	P	06 00 52.9	-1.0
MVCO				IAmb	IAmb	06 01 01.3	
	comp=Z,28nm,1.4s						
X18A	Snowflake	15.15	110	P	P	06 00 54.6	-0.5
X18A				IAmb	IAmb	06 01 00.2	
	comp=Z,22nm,1.4s						
K22A	Casper	15.49	78	P	Pn	06 00 55.5	+1.2
K22A				IAmb	IAmb	06 01 05.8	
	comp=Z,32nm,1.3s						
SMCO	Snowmass	15.61	91	P	P	06 00 59.6	-0.8
TUC	Tucson	15.83	119	P	P	06 01 02.7	+0.1
N23A	Red Feather La	16.06	84	P	Pn	06 01 03.5	+1.6
LAO	LASA Array	16.10	63	P	P	06 01 06.5	+1.1

EPYK	Eagle Plains	25.83	351	P	P	06 02 48.0 +1.0
MCK	McKinley	25.95	338	P	P	06 02 51.1 +3.1
MCK				IAmb	IAmb	06 02 56.0
	comp=Z,17nm,1.0s					
435B	Jarrell	26.01	104	P	P	06 02 48.9 0.0
435B				IAmb	IAmb	06 02 55.9
	comp=Z,21nm,1.1s					
TRF	Thorofare Moun	26.13	336	P	P	06 02 52.9 +3.0
IL31		26.24	341	P	P	06 02 51.5 +1.0
IL31				IAmb	IAmb	06 02 58.3
	comp=Z,16nm,1.1s					
ILAR	Eielson Array	26.24	341	P	P	06 02 48.8 -1.8
	comp=Z,4.3nm,1.2s,baz=158,slow=8.8,SNR=13					
ILAR				LR	LR	06 11 30.2
	comp=Z,232nm,19.2s,baz=156,slow=33					
ILAR	Eielson Array	26.24	341	P	P	06 02 51.4 +0.8
WRH	Wood River Hil	26.30	340	P	P	06 02 52.4 +1.2
CCB	Clear Creek Bu	26.37	340	P	P	06 02 54.6 +2.8
CCB				IAmb	IAmb	06 03 02.7
	comp=Z,26nm,1.4s					
BWN	Browne	26.44	338	P	P	06 02 54.6 +2.1
JFWS	Jewell Farm	27.38	74	P	P	06 03 01.3 +0.2
INK	Inuvik	27.43	355	LR	LR	06 12 23.5
	comp=Z,66nm,20.2s,baz=105,slow=33					
BMAR	Burnt Mountain	28.01	346	P	P	06 03 08.0 +1.4
IMAR	Indian Mountai	29.00	338	P	P	06 03 17.4 +2.1
TOLK	Toolik Lake Re	30.03	344	P	P	06 03 25.6 +1.1
PLAL	Pickwick Lake	31.23	88	P	P	06 03 35.5 +0.1
N55A	Marion Center	36.05	74	P	P	06 04 17.6 +0.3
V58A	Windy Hill, Pi	37.66	82	P	P	06 04 30.8 -0.2
V58A				IAmb	IAmb	06 04 33.5
	comp=Z,22nm,1.4s					
SCHQ	Schefferville	41.37	50	LR	LR	06 22 22.3
	comp=Z,343nm,19.9s,baz=319,slow=36					
PETK	Petropavlovsk-	50.20	311	P	P	06 06 08.9 -2.5
	comp=Z,2.1nm,0.9s,baz=104,slow=12,SNR=2.6					
PETK				LR	LR	06 24 35.0
	comp=Z,88nm,19.8s,baz=61,slow=33					
PETK	Petropavlovsk-	50.20	311	P	P	06 06 13.0 +1.5
TAOE	Nuku Hiva Isla	51.15	196	eT	T	07 01 11.0
	comp=Z,73nm,0.2s					
PMOR	Pomariorio Ree	59.05	203	eT	T	07 11 00.4
	comp=Z,16nm,0.3s					
VAH	Vaihoa	59.19	203	eT	T	07 11 11.4
	comp=Z,11nm,0.4s					
H11N3	WAKE ISLAND Hy	59.29	270	T	T	07 11 17.2
	baz=53,slow=75,SNR=2945					
H11N2	WAKE ISLAND Hy	59.29	270	T	T	07 11 17.4
	baz=53,slow=75,SNR=1403					
H11N1	WAKE ISLAND Hy	59.31	270	T	T	07 11 18.5
	baz=53,slow=75,SNR=2650					
ROSC	El Rosal	59.41	113	LR	LR	06 36 23.1
	comp=Z,75nm,18.3s,baz=36,slow=40					
OTAV	Otavalo	59.97	120	P	P	06 07 24.5 +1.5
OTAV				IAmb	IAmb	06 07 37.4
	comp=Z,8.9nm,1.2s					
H11S1	WAKE ISLAND Hy	60.17	269	T	T	07 12 25.8
	baz=52,slow=75,SNR=2175					
H11S2	WAKE ISLAND Hy	60.18	269	T	T	07 12 26.3
	baz=52,slow=75,SNR=2033					
H11S3	WAKE ISLAND Hy	60.19	269	T	T	07 12 26.3
	baz=52,slow=75,SNR=1978					
MEH	Mehetia	61.82	203	eT	T	07 14 27.8
	comp=Z,9.5nm,0.2s					
TIAR	Tiarei	61.90	204	eT	T	07 14 34.1
	comp=Z,14nm,0.3s					
PPT	Papeete	61.98	204	LR	LR	06 27 30.0
	comp=Z,84nm,20.1s,baz=14,slow=29					
PPT2	Papeete2	62.01	204	eS	S	06 16 02.2 +1.4
	comp=Z,196nm,26.2s					
PPT2				eLR	LR	06 25 49.1
	comp=Z,212nm,26.0s,baz=18					
PPT2	Papeete2	62.01	204	eT	T	07 14 41.6
	comp=Z,3.7nm,0.4s					
TVO	Taravao	62.09	204	eT	T	07 14 47.9
	comp=Z,1.3nm,0.3s					
NRIK	Noril'sk	66.89	347	LR	LR	06 38 22.4
	comp=Z,61nm,20.0s,baz=46,slow=37					
TBI	Tubuai	67.41	202	eLR	LR	06 28 23.2
	comp=Z,155nm,28.2s,baz=5.7					
ARCES	ARCESS Array B	67.83	10	LR	LR	06 37 04.7
	comp=Z,58nm,20.1s,baz=333,slow=35					
USRK	Ussuriysk Ar.	69.29	311	P	P	06 08 20.8 -2.2
	comp=Z,2.2nm,0.8s,baz=28,slow=6.5,SNR=5.3					
USRK				LR	LR	06 36 46.8
	comp=Z,48nm,20.1s,baz=38,slow=34					
USRK	Ussuriysk Ar.	69.29	311	P	P	06 08 23.0 0.0
MJAR	Matsushiro Arr	70.12	301	LR	LR	06 33 18.6
	comp=Z,120nm,21.6s,baz=55,slow=31					
NNA	Nana	70.36	127	P	P	06 08 30.1 +0.2
NOA	NORSAR Array B	72.69	20	P	P	06 08 43.2 -0.2
	comp=Z,1.1nm,0.9s,baz=325,slow=6.1,SNR=2.5					
NOA				LR	LR	06 40 53.0
	comp=Z,66nm,20.1s,baz=340,slow=36					
PTGA	Pitinga	73.52	106	P	P	06 08 49.5 +0.6
PTGA				IAmb	IAmb	06 08 51.5
	comp=Z,11nm,1.4s					
FINES	FINESS Array B	75.49	13	LR	LR	06 42 44.8
	comp=Z,62nm,20.1s,baz=226,slow=36					
KSRS	Korea Array	75.95	308	LR	LR	06 37 58.8
	comp=Z,79nm,19.9s,baz=44,slow=32					
TLY	Talaya	77.52	330	LR	LR	06 43 50.9
	comp=Z,129nm,20.1s,baz=32,slow=36					
KLMR	Klimovskoe	77.78	7	e	P	06 09 11.8 -0.9
KLMR				AMP		06 09 18.8
	comp=Z,23nm,1.6s					
LPAZ	La Paz	79.05	123	P	P	06 09 20.4 -0.6
	comp=Z,0.6nm,0.7s,baz=354,slow=10,SNR=3.5					
SONM	Songino Array	79.49	327	P	P	06 09 20.4 -2.1
	comp=Z,1.0nm,0.8s,baz=51,slow=4.0,SNR=14					
SONM				LR	LR	06 44 09.5
	comp=Z,104nm,20.1s,baz=32,slow=36					
SONM	Songino Array	79.49	327	P	P	06 09 22.9 +0.5
ZALV	Zalesovo Beam	81.36	342	P	P	06 09 29.4 -2.9
	comp=Z,0.4nm,0.3s,baz=25,slow=4.8,SNR=4.0					
ZALV				LR	LR	06 47 40.4
	comp=Z,91nm,19.6s,baz=27,slow=37					
ZALV	Zalesovo Beam	81.36	342	P	P	06 09 32.2 0.0
HHC	Hu-ho-hao-te	82.53	319	eP	P	06 09 35.5 -3.3
HHC				pmax	pmax	
	comp=Z,8.0nm,1.0s					
HHC				pmax	pmax	
	comp=Z,11nm,5.2s					
OBN	Obninsk	83.12	9	LR	LR	06 45 56.1
	comp=Z,6.7nm,21.8s,baz=152,slow=35					
SIV	San Ignacio	83.44	118	P	P	06 09 43.6 0.0
	comp=Z,0.7nm,0.9s,baz=287,slow=9.0,SNR=4.0					
GERES	GERESS Array B	83.99	25	LR	LR	06 48 37.8
	comp=Z,127nm,18.2s,baz=292,slow=37					
ESDC	Sonseca Array	84.43	40	P	P	06 09 47.8 -0.7
	comp=Z,0.2nm,0.3s,baz=312,slow=5.7,SNR=3.8					
ESDC				LR	LR	06 43 50.3
	comp=Z,79nm,21.2s,baz=250,slow=33					
ESDC	Sonseca Array	84.43	40	P	P	06 09 48.6 +0.1
NJ2	Nanjing	85.06	309	eP	P	06 09 50.4 -1.4
NJ2				pmax	pmax	
	comp=Z,13nm,0.5s					
AKASG	Malin Array Be	86.24	15	P	P	06 09 56.4 -0.9
	comp=Z,0.2nm,0.3s,baz=330,slow=4.3,SNR=3.6					
AKASG				LR	LR	06 48 27.0
	comp=Z,51nm,20.9s,baz=305,slow=36					
DZM	Mont Dzumac	87.92	238	eLR	LR	06 37 43.5
	comp=Z,297nm,31.2s					
MKAR	Makanchi Array	88.59	340	P	P	06 10 07.0 -1.8
	comp=Z,0.3nm,0.6s,baz=33,slow=4.0,SNR=3.5					
MKAR				LR	LR	06 52 18.7
	comp=Z,47nm,20.5s,baz=18,slow=37					
MKAR	Makanchi Array	88.59	340	P	P	06 10 09.1 +0.4
MAKZ	Makanchi	88.66	340	P	P	06 10 08.5 -0.6
MAKZ				IAmb	IAmb	06 10 15.5
	comp=Z,4.8nm,1.1s					
WHN	Wuhan	88.78	311	P	P	06 10 08.1 -1.8
GTA	Gaotai	89.10	325	eP	P	06 10 13.8 +2.4
GTA				pP	pwP	06 10 18.4 +1.3
GTA				sP	sP	06 10 21.0 +6.3
GTA				pmax	pmax	
	comp=Z,6.0nm,1.2s					
ABKAR	Akbulak array	89.76	355	P	P	06 10 14.4 +0.3
ABKAR				IAmb	IAmb	06 10 22.5
	comp=Z,6.2nm,1.4s					
ABKAR	Akbulak array	89.76	355	P	P	06 10 14.2 +0.1
WMQ	Urumqi	89.77	336	eP	P	06 10 15.7 +1.3
WMQ				pmax	pmax	
	comp=Z,9.0nm,0.8s					
WMQ				pmax	pmax	
	comp=Z,23nm,3.6s					
WMQ				LR	LR	
	comp=N,700nm,28.8s					
WMQ				LR	LR	
	comp=E,2μm,29.1s					
WMQ				LR	LR	
	comp=Z,99nm,29.1s					
BDFB	Brasilia	92.25	109	LR	LR	06 56 41.8
	comp=Z,50nm,18.1s,baz=102,slow=39					
KEST	Kesra	93.74	34	LR	LR	06 50 31.6
	comp=Z,82nm,20.9s,baz=269,slow=34					
KBZ	Khabaz	95.05	7	LR	LR	06 55 08.9
	comp=Z,30nm,18.7s,baz=1.0,slow=37					
KSH	Kashi	96.99	342	P	P	06 10 45.5 -2.3
KSH				sP	pwP	06 10 54.3 +0.8
KSH				PP	PP	06 14 46.7 +4.5
KSH	Kashi	96.99	342	S	S	06 22 00.4 -10
KSH	Kashi	96.99	342	SS	SS	06 28 40.4 -4.3
KSH				pmax	pmax	
	comp=Z,310nm,5.3s					
KSH				LR	LR	
	comp=N,540nm,15.6s					
KSH				LR	LR	
	comp=E,160nm,10.0s					
KSH				LR	LR	
	comp=Z,220nm,12.7s					
BRTR	Keskin Array B	97.65	15	LR	LR	06 55 30.6
	comp=Z,22nm,20.1s,baz=0.0,slow=36					

ISC 04 06:04:37.2±2.2, 51°.35N±0°.09×16°.14E±0°.08, h0km, n11, σ0°93/23, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.51	169	ePg	Pg	06 04 47.1	+0.1
KSP				ePg	Pg	06 04 47.1	+0.1
KSP				eSg	Sg	06 04 55.1	+1.5
KSP				eSg	Sg	06 04 55.1	+1.5
CHVC	Chvalec	0.76	184	ePG	Pg	06 04 51.9	+0.2
CHVC				eSG	Sb	06 05 03.6	-0.6
UPC	Upice	0.84	185	ePG	Pg	06 04 53.3	0.0
UPC				eSG	Sb	06 05 06.2	-0.3
	comp=Z,16nm,0.5s						
DPC	Dobruska-Polom	1.00	173	ePG	Pg	06 04 56.0	-0.4
DPC				eSG	Sb	06 05 10.8	-0.4
	comp=Z,5.6nm,0.4s						
PVCC	Panska Ves	1.28	231	eSG	Sn	06 05 20.8	+0.5
	comp=Z,29nm,0.3s						
BRG	Berggiesshubel	1.46	252	PG	Pn	06 05 03.4	-1.3
BRG				SG	Sb	06 05 23.9	-0.4
	14nm,0.4s						
GOPC	GO Pecny, Ondr	1.67	211	ePN	Pn	06 05 06.6	-1.1
GOPC				ePG	Pb	06 05 08.0	-0.8
PRU	Pruhonice	1.69	217	ePG	Pn	06 05 07.4	-0.6
PRU				eSG	Sg	06 05 33.1	+1.5
CLL	Collm	1.96	270	ePg	Pn	06 05 13.0	+1.3
CLL				eSg	Sg	06 05 40.0	-0.3
CLL				LmV		06 46 00.0	
	comp=Z,100nm,18.9s						
NKC	Novy Kostel	2.59	246	eSG	Sg	06 06 02.0	+1.6
KHC	Kasperske Hory	2.76	218	ePN	Pn	06 05 21.9	-0.8
KHC				ePG	Pb	06 05 27.6	+0.3
KHC				eSG	Sg	06 06 05.5	-0.2

*ISCJB **04** 06:10:28.0±1.0, 13°.5N±0°.1×120°.7E±0°.2, h150km, mb3.4/3, Error ellipse: s-maj=23.6km s-min=14.9km az=17.4*
*IDC **04** 06:10:28.1±2.7, 13°.30N×120°.56E, h127km±38km, mb3.2/3, mb1 3.5/3, mb1mx3.1/36, mbtmp3.6/3, Error ellipse: s-maj=122.5km s-min=20.7km az=61.0*
*MAN **04** 06:10:30.4, 13°.53N×120°.68E, h123km, MS3.2*

ISC 04 06:10:29.3±1.2, 13°.5N±0°.1×120°.8E±0°.2, h150km, n6, σ1°03/8, mb3.6/3, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.61	13	P	Pn	06 10 50.6	-0.8
	491nm,0.3s,baz=186,slow=2.7,SNR=22						
TGY				S	Sn	06 11 06.7	-1.5
	246nm,0.3s,baz=194,slow=19,SNR=24						
TGY	Tagaytay City	0.61	13	iP	Pn	06 10 51.0	-0.4
LQP	Lukban	0.95	50	iP	Pn	06 10 54.0	+0.1
LQP				i S	Sn	06 11 13.0	+0.3
WRA	Warramunga Arr	35.81	158	P	P	06 17 13.8	-0.7
	1.1nm,0.6s,baz=332,slow=10,SNR=7.8						
ASAR	Alice Springs	39.10	161	P	P	06 17 42.7	+0.5
	0.4nm,0.3s,baz=337,slow=7.0,SNR=7.8						
MKAR	Makanchi Array	46.24	324	P	P	06 18 40.7	+1.1
	0.1nm,0.3s,baz=132,slow=8.0,SNR=3.2						

ROM 04 06:29:43.0±0.1, 43°.377N±0°.004×12°.521E±0°.006, h9km, ML1.4/7, Error ellipse: s-maj=0.5km s-min=0.3km az=259.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	Monte Foce - G	0.04	105	P	Pg	06 29 44.9	0.0
ATFO				S	Sg	06 29 45.8	-0.4
ATVO	AVT- Monte Val	0.08	274	P	Pg	06 29 45.5	+0.3
ATVO				S	Sg	06 29 47.1	+0.1
ATVO				AML	AML		
	comp=N,196μm,0.5s						
ATVO				AML	AML		
	comp=N,196μm,0.5s						
ATVO				AML	AML		
	comp=E,242μm,1.2s						
ATPI	Pietralunga -	0.11	310	P	Pg	06 29 46.2	+0.5
ATPI				S	Sg	06 29 48.4	+0.8
ATPI				AML	AML		
	comp=E,124μm,0.5s						
ATPI				AML	AML		
	comp=N,174μm,0.1s						
ATPI				AML	AML		
	comp=E,123μm,0.5s						
MURB	Monte Urbino	0.11	179	P	Pg	06 29 46.3	+0.6
MURB				S	Sg	06 29 48.4	+0.8
MURB				AML	AML		
	comp=E,536μm,0.3s						
MURB				AML	AML		
	comp=N,436μm,0.3s						
MURB				AML	AML		
	comp=N,466μm,0.3s						
MURB				AML	AML		
	comp=E,486μm,0.3s						
PIEI	Pieia	0.16	4	P	Pg	06 29 47.3	+0.8
PIEI				S	Sg	06 29 50.3	+1.5
PIEI				AML	AML		
	comp=N,150μm,0.2s						
PIEI				AML	AML		
	comp=E,157μm,0.1s						
PIEI				AML	AML		
	comp=N,150μm,0.2s						
FOSV	Fossato di Vic	0.19	115	P	Pg	06 29 47.7	+0.7
FOSV				S	Sg	06 29 51.0	+1.3
FOSV				AML	AML		
	comp=E,68μm,0.4s						
FOSV				AML	AML		
	comp=N,100μm,0.3s						
ATCC	AVT- Casa Cast	0.21	156	P	Pg	06 29 48.2	+0.9
ATCC				S	Sg	06 29 52.2	+2.0
ATCC				AML	AML		
	comp=E,119μm,0.6s						
ATCC				AML	AML		
	comp=N,178μm,0.2s						
NARO	Abbazia di Nar	0.24	10	P	Pg	06 29 48.6	+0.8
NARO				S	Sg	06 29 52.4	+1.3
ARVD	Arcevia	0.33	68	P	Pg	06 29 50.3	+0.8
ARVD				S	Sb	06 29 55.9	-0.6
SNTG	Esanatoglia	0.33	112	P	Pg	06 29 49.9	+0.4
SNTG				S	Sb	06 29 55.5	-1.0
SNTG				AML	AML		
	comp=E,58μm,1.4s						
SNTG				AML	AML		
	comp=N,91μm,1.3s						
SNTG				AML	AML		
	comp=E,58μm,1.4s						
SNTG				AML	AML		
	comp=N,91μm,1.3s						
ASSB	Assisi San Ben	0.35	163	P	Pg	06 29 50.5	+0.6
ASSB				S	Sb	06 29 56.1	-0.9
T0104	Madonna delle	1.18	149	AML	AML		
	comp=N,4520μm,0.5s						
T0104				AML	AML		
	comp=N,4740μm,0.5s						
T0104				AML	AML		
	comp=E,5070μm,0.2s						
T0104				AML	AML		
	comp=E,4685μm,0.2s						
AQU	L'Aquila	1.21	147	AML	AML		
	comp=N,1305μm,0.7s						
AQU				AML	AML		
	comp=N,1290μm,0.7s						
AQU				AML	AML		
	comp=E,1007μm,0.3s						
AQU				AML	AML		
	comp=E,982μm,0.6s						
CERT	Cerreto	1.47	166	AML	AML		
	comp=E,480μm,0.4s						
CERT				AML	AML		
	comp=N,362μm,1.5s						
LPEL	Lama dei Pelig	1.81	137	AML	AML		
	comp=E,110μm,1.1s						
LPEL				AML	AML		
	comp=N,99μm,1.2s						

ROM 04 06:30:02.3±0.1, 42°.206N±0°.002×13°.283E±0°.006, h9km, ML2.0/11, Error ellipse: s-maj=0.5km s-min=0.2km az=84.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	Madonna delle	0.16	15	P	Pg	06 30 06.6	+0.8
T0104				S	Sg	06 30 09.1	+0.9
T0104				AML	AML		
	comp=E,5070μm,0.2s						
T0104				AML	AML		
	comp=N,4525μm,0.5s						
T0104				AML	AML		
	comp=E,4685μm,0.2s						
T0104				AML	AML		
	comp=N,4740μm,0.5s						
T0104				AML	AML		
	comp=N,4520μm,0.5s						
AQU	L'Aquila	0.17	31	P	Pg	06 30 06.5	+0.6
AQU				S	Sg	06 30 09.5	+1.0
AQU				AML	AML		
	comp=E,1010μm,0.3s						
AQU				AML	AML		
	comp=N,1305μm,0.7s						
AQU				AML	AML		
	comp=E,981μm,0.6s						
AQU				AML	AML		
	comp=E,1008μm,0.3s						
AQU				AML	AML		
	comp=E,982μm,0.6s						
AQU				AML	AML		
	comp=N,1290μm,0.7s						
PTQR	Pietraquaria	0.20	155	P	Pg	06 30 07.3	+0.8
PTQR				S	Sg	06 30 10.7	+1.3
PTQR				AML	AML		
	comp=E,420μm,1.6s						
PTQR				AML	AML		
	comp=N,325μm,1.6s						
CERT	Cerreto	0.34	221	P	Pg	06 30 09.8	+0.8
CERT				S	Sb	06 30 15.4	-0.8
CAMP	Campotosto	0.34	16	P	Pg	06 30 09.8	+0.6
CAMP				S	Sb	06 30 15.2	-1.1
GUAR	Guarcino	0.41	177	P	Pg	06 30 11.0	+0.6
GUAR				AML	AML		
	comp=E,208μm,1.1s						
GUAR				AML	AML		
	comp=N,306μm,0.5s						
VVLD	Villa Vallelon	0.42	143	P	Pb	06 30 11.3	-0.7
VVLD				S	Sb	06 30 18.0	-0.5
VVLD				AML	AML		
	comp=N,148μm,0.3s						
VVLD				AML	AML		
	comp=E,130μm,1.2s						
SMA1	SAN MARTINO	0.43	5	P	Pg	06 30 11.4	+0.7
SMA1				S	Sb	06 30 18.0	-0.7
SMA1				AML	AML		
	comp=E,679μm,0.3s						
SMA1				AML	AML		
	comp=N,355μm,0.3s						
LNSS	Leonessa	0.43	336	P	Pg	06 30 11.1	+0.3
LNSS				S	Sb	06 30 18.2	-0.8
TERO	Teramo	0.48	30	P	Pb	06 30 12.4	-0.6
ARRO	Arrone	0.54	314	P	Pg	06 30 12.9	+0.2
ARRO				S	Sb	06 30 21.3	-0.4
POFI	Posta Fibreno	0.58	147	P	Pg	06 30 14.1	+0.4
POFI				AML	AML		
	comp=E,83μm,0.6s						
POFI				AML	AML		
	comp=N,58μm,1.2s						
NRCA	Norcia	0.64	349	P	Pg	06 30 15.0	+0.3
NRCA				S	Sb	06 30 24.7	-0.1
NRCA				AML	AML		
	comp=N,84μm,1.6s						
NRCA				AML	AML		
	comp=E,133μm,0.1s						
LPEL	Lama dei Pelig	0.69	103	P	Pg	06 30 15.3	-0.3
LPEL				AML	AML		
	comp=N,99μm,1.2s						
LPEL				AML	AML		
	comp=E,110μm,1.1s						
FDMO	Fiordimonte	0.84	350	P	Pb	06 30 18.9	-0.3
MIDA	Miranda	0.92	128	AML	AML		
MIDA				AML	AML		
	comp=E,68μm,1.6s						
MIDA				AML	AML		
	comp=N,61μm,1.2s						
MCIV	Monte Civitell	1.32	296	AML	AML		
	comp=N,264μm,0.2s						
MCIV				AML	AML		
	comp=E,244μm,1.6s						

*ATH **04** 06:30:55.7, 35°.50N×23°.47E, h41km±1km, ML3.1/7, Error ellipse: s-maj=2.9km s-min=1.1km az=224.0*
*ISK **04** 06:30:55.6, 35°.46N×23°.42E, h26km, ML3.3/5*
*ISCJB **04** 06:30:56.2±0.5, 35°.50N±0°.03×23°.45E±0°.04, h24km, mb3.7/6, Error ellipse: s-maj=6.2km s-min=2.7km az=137.6*
*THE **04** 06:30:56.4, 35°.40N×23°.35E, h23km±1km, ML3.0/11, Error ellipse: s-maj=1.7km s-min=0.7km az=65.0*
*IDC **04** 06:30:59.4±4.3, 35°.53N×23°.46E, h103km±42km, mb3.5/6, mb1 3.5/8, mb1mx3.2/56, mbtmp3.7/8, Error ellipse: s-maj=35.9km s-min=22.1km az=138.0*

ISC 04 06:30:54.2±0.8, 35°.48N±0°.03×23°.44E±0°.04, h24km, n51, σ2°12/75, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERA	Keramoti	0.15	139	P	Pn	06 31 02.2	+1.3
KERA				AML	AML	06 31 07.8	
	comp=E,26826μm,0.6s						
KERA				AML	AML	06 31 07.9	
	comp=N,54352μm,0.3s						
KERA				S	Sb	06 31 07.9	+5.5
RODP	Rodopos	0.27	73	P	Pn	06 31 04.0	+1.3
RODP				S	Sb	06 31 10.8	+5.6
	comp=N,610nm,0.5s						
KNDR	Palaiochora Ch	0.32	140	P	Pn	06 31 03.4	+0.1
KNDR				S	Sb	06 31 07.7	+1.4
	comp=N,2μm,0.7s						
ANKY	Antikythira Is	0.40	344	P	Pn	06 31 05.5	+1.0
ANKY				S	Sn	06 31 13.8	+2.5
	comp=N,4μm,0.3s						
ANKY	Antikythira Is	0.40	344	P	Pn	06 31 05.5	+1.0
ANKY				S	Sn	06 31 12.1	+0.8
ANKY				AML	AML	06 31 14.1	
	comp=N,8036μm,0.4s						
ANKY				AML	AML	06 31 14.9	
	comp=E,6840μm,0.3s						
IMMV	Iera Moni Meta	0.44	92	P	Pn	06 31 06.2	+1.1
IMMV				S	Sn	06 31 14.7	+2.4
	comp=E,3μm,0.7s						
IMMV	Iera Moni Meta	0.44	92	P	Pn	06 31 06.1	+1.1
IMMV				S	Sn	06 31 13.8	+1.5
IMMV				AML	AML	06 31 15.5	
	comp=N,5289μm,0.4s						
IMMV				AML	AML	06 31 16.2	
	comp=E,3489μm,0.6s						
IMMV	Iera Moni Meta	0.44	92	PG	Pn	06 31 05.9	+0.9
IMMV				SG	Sn	06 31 13.2	+0.9
CHAN	Chania	0.49	85	P	Pn	06 31 07.1	+1.4
CHAN				S	Sn	06 31 16.2	+2.7
	comp=E,675nm,0.4s						

VAM	Vamos	0.63	96	P	Pn	06 31 08.9	+1.4
VAM				S	Sn	06 31 19.1	+2.3
comp=E,1μm,0.5s							
VAM	Vamos	0.63	96	P	Pn	06 31 09.0	+1.5
VAM				S	Sn	06 31 18.3	+1.5
VAM				AML	AML	06 31 19.6	
comp=N,2717μm,0.4s							
VAM				AML	AML	06 31 20.4	
comp=E,3511μm,0.6s							
GVDS	Gavdos	0.83	140	P	Pb	06 31 10.7	+0.8
GVDS				S	Sn	06 31 22.6	+0.8
comp=E,810nm,0.3s							
GVD	Gavdhos	0.83	140	P	Pn	06 31 11.6	+1.3
GVD				S	Sn	06 31 24.8	+2.9
comp=E,1μm,0.4s							
GVD	Gavdhos	0.83	140	P	Pn	06 31 11.7	+1.3
GVD				S	Sn	06 31 23.9	+2.0
GVD				AML	AML	06 31 35.5	
comp=N,3096μm,0.4s							
GVD				AML	AML	06 31 39.0	
comp=E,1931μm,0.4s							
GVD	Gavdhos	0.83	140	PG	Pn	06 31 11.9	+1.5
GVD				SG	Sn	06 31 23.7	+1.8
KTHA	Kythira Island	0.83	339	P	Pn	06 31 12.3	+1.9
KTHA				S	Sn	06 31 25.1	+3.1
comp=E,1μm,0.5s							
KTHA	Kythira Island	0.83	339	P	Pn	06 31 12.1	+1.7
KTHA				S	Sn	06 31 24.7	+2.7
KTHA				AML	AML	06 31 26.5	
comp=N,1714μm,0.4s							
KTHA				AML	AML	06 31 28.8	
comp=E,3962μm,0.6s							
KTHA	Kythira Island	0.83	339	PG	Pn	06 31 12.3	+1.9
KTHR	Kythira	0.85	336	P	Pn	06 31 12.3	+1.6
KTHR				S	Sn	06 31 25.0	+2.5
comp=E,1μm,0.4s							
PRNS	Prines Rethymn	0.88	97	P	Pn	06 31 12.4	+1.4
PRNS				S	Sn	06 31 25.5	+2.6
SIVA	Sivas	1.21	112	P	Pb	06 31 18.1	+1.7
SIVA	Sivas	1.21	112	P	Pb	06 31 18.7	+2.2
VLI	Veliai	1.30	342	P	Pb	06 31 19.0	+1.1
VLI				S	Sb	06 31 37.3	+3.1
comp=E,510nm,0.5s							
VLI	Veliai	1.30	342	P	Pb	06 31 19.1	+1.2
VLI				S	Sb	06 31 35.8	+1.6
VLI				AML	AML	06 31 40.9	
comp=E,1088μm,0.5s							
VLI				AML	AML	06 31 43.5	
comp=N,945μm,0.5s							
MHLO	Agia Marina, M	1.44	33	P	Pb	06 31 20.2	-0.1
LAST	Lasithi	1.70	100	P	Pb	06 31 25.0	+0.3
LAST				S	Sb	06 31 45.4	-0.3
THR5	Thira Island,	1.81	58	P	Pb	06 31 26.4	-0.2
THR3	Thira Island,	1.84	59	P	Pb	06 31 26.0	-1.2
SANT	Santorini	1.86	61	P	Pn	06 31 25.4	+0.8
CMBO	Columbo, Santo	1.88	58	P	Pb	06 31 26.8	-0.9
DID	Didima	2.03	355	P	Pn	06 31 27.7	+0.8
VLX	Vlachokerasia	2.07	336	P	Pb	06 31 30.7	-0.5
ANAF	Anafi Island	2.09	65	P	Pn	06 31 28.7	+1.1
ANAF				S	Sn	06 31 54.0	+1.1
ITM	Ithomi	2.09	325	PN	Pn	06 31 29.8	+2.1
ZKR	Zakros	2.30	98	PN	Pn	06 31 32.8	+2.2
APE	Apeiranthos	2.32	46	P	Pn	06 31 32.2	+1.3
APE	Apeiranthos	2.32	46	PN	Pn	06 31 32.5	+1.6
AMGA	Amorgos Island	2.40	55	P	Pn	06 31 32.9	+1.0
AMGA				S	Sn	06 32 01.3	+0.7
LTK	Loutraki	2.57	352	P	Pn	06 31 35.8	+1.5
KLV	Kalavryta, Ach	2.76	338	P	Pn	06 31 39.1	+2.1
KARP	Karpathos	3.04	88	P	Pn	06 31 41.8	+1.1
KARP	Karpathos	3.04	88	PN	Pn	06 31 43.4	+2.6
SERG	Sergoula	3.13	340	P	Pn	06 31 44.6	+2.6
BRTR	Keskin Array B	9.13	59	P	Pn	06 33 07.3	+2.7
baz=233,slow=14,SNR=4.4							
GERES	GERESS Array B	15.16	335	P	Pn	06 34 29.3	+2.5
comp=N,0.3nm,0.3s,baz=142,slow=11,SNR=4.5							
FINES	FINESS Array B	26.04	3	P	P	06 36 21.9	-3.3
comp=N,3.9nm,1.0s,baz=169,slow=21,SNR=1.5							
TORD	Torodi Ar. Bea	29.65	227	P	P	06 36 55.7	-2.3
comp=N,0.6nm,0.6s,baz=34,slow=8.8,SNR=5.0							
ARCES	ARCESS Array B	34.13	1	P	P	06 37 32.9	-3.9
comp=N,2.0nm,1.0s,baz=172,slow=8.2,SNR=5.0							
KURBB	Kurchatov Arra	42.02	51	P	P	06 38 39.6	-3.8
comp=N,0.3nm,0.3s,baz=267,slow=9.2,SNR=3.3							
MKAR	Makanchi Array	44.77	57	P	P	06 39 02.5	-3.2
comp=N,0.5nm,0.6s,baz=271,slow=7.9,SNR=5.7							
ZALV	Zalesovo Beam	45.80	46	P	P	06 39 10.4	-3.4
comp=N,0.6nm,0.4s,baz=267,slow=7.0,SNR=3.1							

*IDC **04** 06:31:17.4±4.9, 36°.12N×70°.67E, h200km±50km, mb3.4/4, mb1 3.3/8, mb1mx3.0/52, mbtmp3.9/8, Error ellipse: s-maj=56.1km s-min=35.9km az=126.0*

*ISCJB **04** 06:31:20.2±0.6, 36°.56N±0°.03×70°.25E±0°.08, h204km, mb3.6/3, Error ellipse: s-maj=9.6km s-min=4.3km az=167.2*

*NNC **04** 06:31:25.6±2.5, 36°.93N×70°.33E, h206km±38km, mb3.4, mpv4.5, Error ellipse: s-maj=26.0km s-min=11.8km az=28.0*

ISC 04 06:31:21.1±0.7, **36°.57N**±0°.06×**70°.36E**±0°.09, **h204**km, **n45**, σ1°**19**/45, **mb3.8**/3, **3C-3D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.02	155	⇑P	Pn	06 32 11.5	+0.1
CEP				S	S	06 32 49.0	-1.0
CHCP	Chirah Chowk	3.75	140	⇑P	Pn	06 32 20.5	+0.4
THW	Thamme Wali	3.93	163	P	Pn	06 32 22.0	-0.3
IUG	Iuzhnay	5.58	357	Lg	Lg	06 33 46.6	
96nm,0.7s							
AML	Almayashu	6.12	24	P	Pn	06 32 51.0	+0.6
SNR=110							
BRLS	Borolday	6.47	357	Lg	Lg	06 33 59.9	
11nm,0.3s							
UCH	Uchtor	6.50	28	P	Pn	06 32 56.1	+0.8
SNR=90							
KK31	Karatay Array	6.53	1	P	Pn	06 32 55.8	+0.6
6.2nm,0.4s,baz=194,slow=15,SNR=75							
KK31				⇓S	S	06 34 05.9	-3.7
1.6nm,0.3s,baz=184,slow=15,SNR=3.9							
MRKS	Merke	6.55	19	Lg	Lg	06 34 08.3	
15nm,0.7s							
EKS2	Erkin-Say	6.63	22	P	Pn	06 32 57.7	+1.1
SNR=6.5							
KZA	Kyzart	6.68	33	P	Pn	06 32 57.6	+0.1
SNR=6.9							
AAK	Ala-Archa	6.85	26	⇑P	Pn	06 33 00.1	+0.7
13nm,0.5s							
AAK				⇓S	S	06 34 16.0	-1.4
9.6nm,0.6s							
AAK	Ala-Archa	6.85	26	P	Pn	06 33 00.3	+0.8
7.4nm,0.3s,baz=174,slow=5.4,SNR=48							
AAK				S	S	06 34 16.8	-0.6
1.7nm,0.3s,baz=125,slow=23,SNR=9.0							
AAK	Ala-Archa	6.85	26	P	Pn	06 33 00.2	+0.8
SNR=27							
KBK	Karagaybulak	7.03	29	P	Pn	06 33 03.1	+1.2
SNR=10							
CHMS	Chumysh	7.26	26	P	Pn	06 33 04.3	-0.3
SNR=6.0							
USP	Ospenovka	7.41	24	P	Pn	06 33 07.3	+0.7
SNR=8.7							
TKM2	Tokmak 2	7.52	31	P	Pn	06 33 08.8	+0.7
SNR=46							
SGDS	Sogindy	7.61	24	Lg	Lg	06 34 30.6	
4.1nm,0.6s							
KST	Kastek	7.77	32	P	Pn	06 33 12.2	+0.8
22nm,0.3s							
DGS	Degeres	7.85	30	P	Pn	06 33 12.8	+0.3
5.4nm,0.5s							
MTBS	Maitube	8.04	34	P	Pn	06 33 15.8	+0.9
12nm,0.6s							
IZV	Izvestkoviy	8.05	35	P	Pn	06 33 16.1	+1.0
21nm,0.4s							
TNSS	Tian-Shan	8.21	36	P	Pn	06 33 17.8	+0.4
18nm,0.4s							
KOTS	Kotyrbulak	8.44	36	P	Pn	06 33 21.4	+1.3
48nm,0.5s							
KTBS	Karatobe	8.62	32	P	Pn	06 33 22.1	-0.2
2.2nm,0.5s							
MKAR	Makanchi Array	13.54	37	P	Pn	06 34 23.2	-1.9
0.1nm,0.3s,baz=215,slow=13,SNR=3.8							
DANN	Dangsing	13.96	122	eP	P	06 34 31.3	-1.2
KOLN	Koldanda	14.22	124	eP	Pn	06 34 33.0	-0.9
AB31	Akbulak array	14.78	332	P	Pn	06 34 40.3	0.0
0.7nm,0.4s,baz=153,slow=12,SNR=27							
DMN	Daman	15.35	121	eP	P	06 34 48.6	+0.7
PKIN	Phulchoki	15.57	121	eP	P	06 34 52.2	+1.9
PKI	Pulchoki	15.58	121	eP	P	06 34 52.1	+1.6
GUN	Gumba	15.70	119	eP	Pn	06 34 53.7	+1.7
JIRN	Jiri	16.07	119	eP	Pn	06 34 58.5	+2.0
35nm,0.5s							
BVAR	Borovoye Array	16.45	0	P	Pn	06 35 01.2	+0.7
0.4nm,0.3s,baz=170,slow=10,SNR=4.2							
AKTO	Aktyubinsk	16.47	331	⇓P	P	06 35 01.3	+1.6
5.7nm,0.8s							
AKTO	Aktyubinsk	16.47	331	P	P	06 35 01.2	+1.5
0.5nm,0.3s,baz=144,slow=10.0,SNR=16							
RAMN	Ramite	16.79	120	eP	Pn	06 35 06.0	+1.0
8.2nm,0.5s							
TAPN	Taplejung	17.33	117	eP	Pn	06 35 11.5	+0.1
5.5nm,0.4s							
ODAN	Odare	17.40	119	eP	Pn	06 35 11.9	-0.3
ZALV	Zalesovo Beam	20.07	25	P	P	06 35 38.2	-0.5
0.9nm,0.4s,baz=216,slow=10,SNR=5.2							
FINES	FINESS Array B	37.14	326	P	P	06 38 12.5	+0.7
4.1nm,1.0s,baz=128,slow=9.0,SNR=3.4							
ARCES	ARCESS Array B	40.89	338	P	P	06 38 43.9	+1.1
1.8nm,0.6s,baz=110,slow=8.0,SNR=9.8							
TORD	Torodi Ar. Bea	65.20	268	P	P	06 41 39.1	-1.8
0.4nm,0.4s,baz=48,slow=6.6,SNR=8.2							

IDC 04 06:55:50.0±1.2, **44°.56S**×**37°.56E**, **h0**km, **mb3.8**/3, **mb1 4.1**/3, **mb1mx3.6**/32, **mbtmp3.8**/3, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.7**/24, **Error ellipse: s-maj=100.5km s-min=30.5km az=32.0, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	Matopo	25.22	340	LR	LR	07 09 46.2	
comp=Z,84nm,19.1s,baz=169,slow=33							
TORD	Torodi Ar. Bea	66.03	321	P	P	07 06 38.5	0.0
0.3nm,0.6s,baz=161,slow=7.4,SNR=3.9							
ASAR	Alice Springs	78.07	111	P	P	07 07 51.3	+0.4
1.1nm,0.8s,baz=220,slow=5.6,SNR=8.4							
WRA	Warramunga Arr	80.93	109	P	P	07 08 06.0	-0.4
1.2nm,1.0s,baz=218,slow=5.5,SNR=6.2							
TXAR	Lajitas Array	145.84	257	PKPbc	PKPdf	07 15 30.4	-0.3
1.6nm,1.0s,baz=134,slow=5.2,SNR=9.2							

*IDC **04** 06:58:42.2±1.2, 56°.39N×164°.13E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.7/33, mbtmp3.9/8, ML2.2/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/37, Error ellipse: s-maj=76.3km s-min=18.6km az=139.0*

*KRSC **04** 06:58:42.4±1.0, 56°.24N×164°.28E, h60km±18km, ML4.1*

*ISCJB **04** 06:58:43.7±0.8, 56°.20N±0°.03×164°.22E±0°.04, h22km±6km, mb4.0/11, MS3.2/1, Error ellipse: s-maj=5.1km s-min=3.0km az=152.3*

*MOS **04** 06:58:45.2±1.1, 56°.25N×164°.17E, h43km, mb4.6/3, Error ellipse: s-maj=10.0km s-min=5.5km az=59.9*

*NEIC **04** 06:58:47.6±1.4, 56°.3N±0°.2×164°.2E±0°.2, h33km±3km, mb4.7/32*

ISC 04 06:58:42.5±1.5, **56°.23N**±0°.03×**164°.28E**±0°.03, **h4**km±10km, **n126**, σ1°**54**/155, **mb4.6**/24, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.82	269	eP	Pg	06 58 57.8	-0.4
KBTR				eS	Sg	06 59 08.7	-0.1
KBTR	Krutoberegovo	0.82	269	PN	Pg	06 58 57.8	-0.4
KBTR				S	Sg	06 59 08.7	-0.1
KBG	Krutoberegovo	0.88	272	eP	Pg	06 58 58.7	-0.7
KBG				eS	Sg	06 59 10.5	-0.3
KBG	Krutoberegovo	0.88	272	PN	Pg	06 58 58.7	-0.7
KBG				S	Sg	06 59 10.5	-0.3
BKI	Bering	1.41	137	i P	Pn	06 59 07.9	-1.0
BKI				eS	Sn	06 59 25.4	-2.5
BKI	Bering	1.41	137	PN	Pn	06 59 07.9	-1.0
BKI				S	Sn	06 59 25.4	-2.5
SMKR	Semkarok	1.60	284	eP	Pn	06 59 10.8	-0.9
SMKR				eS	Sn	06 59 30.5	-2.4
SMKR	Semkarok	1.60	284	PN	Pn	06 59 10.8	-0.9
SMKR				S	Sn	06 59 30.5	-2.4
BDR	Baidarnaya	1.74	282	eP	Pn	06 59 13.4	-0.2
BDR				eS	Sn	06 59 35.3	-1.1
BDR	Baidarnaya	1.74	282	PN	Pn	06 59 13.4	-0.2
BDR				S	Sn	06 59 35.3	-1.1
SRKR	Sorokina	1.78	285	eP	Pn	06 59 13.5	-0.7
SRKR				eS	Sn	06 59 34.9	-2.4
SRKR	Sorokina	1.78	285	PN	Pn	06 59 13.5	-0.7
SRKR				S	Sn	06 59 34.9	-2.4
KLY	Klyuchi	2.03	274	eP	Pn	06 59 15.5	-2.0
KLY				eS	Sn	06 59 38.6	-4.6
KLY	Klyuchi	2.03	274	PN	Pn	06 59 15.5	-2.0
KLY				S	Sn	06 59 38.6	-4.6
MKZ	Mys Kozlova	2.23	222	eP	Pn	06 59 18.9	-1.3
MKZ				eS	Sn	06 59 44.2	-3.9
MKZ	Mys Kozlova	2.23	222	PN	Pn	06 59 18.9	-1.3
MKZ				S	Sn	06 59 44.2	-3.9
KPT	Kopyto	2.29	265	eP	Pn	06 59 21.9	+0.7
KPT	Kopyto	2.29	265	PN	Pn	06 59 21.9	+0.7
KMNR	Kamenistaya	2.32	260	eP	Pn	06 59 21.8	+0.2
KMNR	Kamenistaya	2.32	260	PN	Pn	06 59 21.8	+0.2
TUMD	Tumrok D	2.43	246	eP	Pn	06 59 23.4	+0.4
TUMD				eS	Sn	06 59 51.6	-1.6
KOZ	Kozyrevsk	2.47	268	eP	Pn	06 59 23.7	+0.1
KOZ				eS	Sn	06 59 52.8	-1.5
KOZ	Kozyrevsk	2.47	268	PN	Pn	06 59 23.7	+0.1
KOZ				S	Sn	06 59 52.8	-1.5
KZV	Kizimen	2.52	245	eP	Pn	06 59 24.3	-0.2
KZV	Kizimen	2.52	245	PN	Pn	06 59 24.3	-0.2
TUMR	Tumrok	2.52	250	eP	Pn	06 59 25.0	+0.6
TUMR	Tumrok	2.52	250	PN	Pn	06 59 23.4	-1.0
TUMR				S	Sn	06 59 51.6	-4.1
SRDR	Sredinnyy	2.55	274	eP	Pn	06 59 25.3	+0.6
SRDR				eS	Sn	06 59 55.4	-0.8
SRDR	Sredinnyy	2.55	274	PN	Pn	06 59 25.3	+0.6
SRDR				S	Sn	06 59 55.4	-0.8
OSSR	Ossora	3.10	348	i P	Pn	06 59 31.2	-0.9
OSSR				eS	Sn	07 00 04.9	-4.6
OSSR	Ossora	3.10	348	PN	Pn	06 59 31.2	-0.9
OSSR				S	Sn	07 00 04.9	-4.6
ESO	Esso	3.15	267	eP	Pn	06 59 34.3	+1.4
ESO	Esso	3.15	267	PN	Pn	06 59 34.3	+1.4
PALN	Palana	3.68	323	eP	Pn	06 59 40.4	+0.2
PALN	Palana	3.68	323	PN	Pn	06 59 40.4	+0.2
SPN	Mys Shipunski	4.00	220	eP	Pn	06 59 43.7	-0.9
SPN				eS	Sn	07 00 27.5	-4.3
SPN	Mys Shipunski	4.00	220	PN	Pn	06 59 43.7	-0.9
NLC	Nalytchevo	4.20	225	eP	Pn	06 59 46.8	-0.5
NLC				eS	Sn	07 00 33.3	-3.4
NLC	Nalytchevo	4.20	225	PN	Pn	06 59 46.8	-0.5
TILK	Tilichiki	4.34	12	eP	Pn	06 59 48.2	-1.0
TILK				eS	Sn	07 00 38.2	-1.9
TILK	Tilichiki	4.34	12	PN	Pn	06 59 48.2	-1.0
KRER	Koryakskii	4.35	230	eP	Pn	06 59 49.9	+0.4
KRER	Koryakskii	4.35	230	PN	Pn	06 59 49.9	+0.4
SMAR	Somma	4.35	229	eP	Pn	06 59 50.1	+0.5
SMAR	Somma	4.35	229	PN	Pn	06 59 50.1	+0.5
AVH	Avacha	4.38	229	eP	Pn	06 59 50.5	+0.6
AVH				eS	Sn	07 00 38.5	-2.8
AVH	Avacha	4.38	229	PN	Pn	06 59 50.5	+0.6
UGLR	Uglovaya	4.38	228	eP	Pn	06 59 50.2	+0.3
UGLR	Uglovaya	4.38	228	PN	Pn	06 59 50.2	+0.3
KOK	Koryaka	4.40	230	eP	Pn	06 59 50.9	+0.7
KOK	Koryaka	4.40	230	PN	Pn	06 59 50.9	+0.7
GNL	Ganaly	4.45	238	eP	Pn	06 59 51.5	+0.6
GNL	Ganaly	4.45	238	PN	Pn	06 59 51.5	+0.6
DALK	Dalny	4.54	227	eP	Pn	06 59 52.1	+0.1
DALK				eS	Sn	07 00 41.6	-3.6
DALK	Dalny	4.54	227	PN	Pn	06 59 52.1	+0.1
PET	Petropavlovsk	4.59	228	PN	Pn	06 59 52.9	+0.3
PET	Petropavlovsk	4.59	228	Pn	Pn	06 59 53.0	+0.4
PET				Sn	Sn	07 00 43.4	-2.9
PEA0B	Petropavlovsk-	4.94	233	PN	Pn	06 59 59.7	+2.2
PEA0B						07 00 56.1	
PEA0B	Petropavlovsk-	4.94	233	Pn	Pn	06 59 59.7	+2.2
PEA0B				Sn	Sn	07 00 56.1	+1.1
PETK	Petropavlovsk-	4.94	233	Pn	Pn	06 59 58.5	+1.0
0.4nm,0.3s,baz=75,slow=19,SNR=4.8							
PETK				Sn	Sn	07 00 56.5	+1.4
0.7nm,0.3s,baz=36,slow=20,SNR=3.0							
PETK				LR	LR	07 01 50.5	
comp=Z,45nm,18.8s,baz=59,slow=38							
PETK	Petropavlovsk-	4.94	233		Pn	06 59 59.2	+1.7
PETK					Sn	07 00 55.9	+0.8
KRMR	Karymshinskiy	4.95	229	eP	Pn	06 59 58.7	+1.1
KRMR				eS	Sn	07 00 53.2	-2.0
KRMR	Karymshinskiy	4.95	229	PN	Pn	06 59 58.7	+1.1
RUS	Russkaya	5.09	224	eP	Pn	07 00 00.1	+0.6
RUS	Russkaya	5.09	224	PN	Pn	07 00 00.1	+0.6
KMSK	Kamenskaya	6.33	8	eP	Pn	07 00 17.2	+0.7
KMSK	Kamenskaya	6.33	8	PN	Pn	07 00 17.2	+0.7
ASAJ	Asahikawa	18.34	238	LR	LR	07 09 42.3	
comp=Z,22nm,21.1s,baz=16,slow=36							
CHGN	Chignik	20.55	74	P	P	07 03 23.7	+1.8
IMAR	Indian Mountai	22.05	47	P	P	07 03 40.0	+2.0
RSO	Redoubt South	22.62	61	P	P	07 03 47.0	+2.7
KDAK	Kodiak Island	23.25	68	P	P	07 03 49.8	-0.7
3.1nm,0.5s,baz=325,slow=6.5,SNR=4.7							
KDAK	Kodiak Island	23.25	68	P	P	07 03 51.8	+1.2
SUA	Susitna One	23.45	59	P	P	07 03 54.9	+2.1
CNPM	China Poot	23.54	63	P	P	07 03 53.4	-0.2
NEA	Nenana	23.96	51	P	P	07 03 55.0	-2.6
NEA				IAmb	IAmb	07 04 13.3	
comp=Z,22nm,1.2s							
TOLK	Toolik Lake Re	23.99	41	P	P	07 03 58.0	+0.2
CCB	Clear Creek Bu	24.51	50	P	P	07 04 02.8	+0.2
DHY	Denali Highway	24.82	54	P	P	07 04 05.2	-0.4
DHY				IAmb	IAmb	07 04 18.1	
comp=Z,31nm,1.7s							
IL31		24.90	50	P	P	07 04 05.8	-0.3
ILAR	Eielson Array	24.90	50	P	P	07 04 05.4	-0.7
comp=Z,0.6nm,0.7s,baz=266,slow=7.9,SNR=7.6							
ILAR	Eielson Array	24.90	50	P	P	07 04 05.7	-0.4
BMAR	Burnt Mountain	25.77	44	P	P	07 04 14.9	+0.8
MJAR	Matsushiro Arr	26.40	233	LR	LR	07 14 47.3	
comp=Z,70nm,21.2s,baz=115,slow=36							
EGAK	Eagle	27.34	49	P	P	07 04 28.0	-0.2
EGAK				IAmb	IAmb	07 04 59.4	
comp=Z,29nm,1.9s							
INK	Inuvik	29.89	41	P	P	07 04 50.3	-0.5
comp=Z,0.9nm,0.4s,baz=290,slow=7.7,SNR=9.4							
INK	Inuvik	29.89	41	P	P	07 04 51.5	+0.7
INK				IAmb	IAmb	07 05 07.2	
comp=Z,17nm,1.8s							
DLBC	Dease Lake	34.26	58	P	P	07 05 29.9	+0.5
H11N2	WAKE ISLAND Hy	36.50	176	T	T	07 44 32.3	
baz=357,slow=76							
H11N3	WAKE ISLAND Hy	36.51	176	T	T	07 44 30.2	
baz=357,slow=76							
H11N1	WAKE ISLAND Hy	36.52	176	T	T	07 44 34.5	
baz=357,slow=76							
YKA	Yellowknife Ar	39.21	47	P	P	07 06 11.5	+0.2
comp=Z,1.0nm,0.5s,baz=300,slow=8.3,SNR=3.9							
JTMT	Jette	48.06	64	P	P	07 07 23.5	+0.5
JTMT				IAmb	IAmb	07 07 32.9	
comp=Z,6.9nm,1.2s							
ORV	Oroville	49.94	76	P	P	07 07 37.7	+0.4
ORV				pmax	pmax		
comp=Z,16nm,1.9s							
ORV	Oroville	49.94	76	P	P	07 07 37.7	+0.4
ORV				IAmb	IAmb	07 08 37.9	
comp=Z,16nm,1.9s							
MCMT	McKenzie Canyo	50.79	66	P	P	07 07 44.2	+0.3
QLMT	Earthquake Lak	51.51	65	P	P	07 07 50.2	+1.0
RLMT	Red Lodge	52.38	63	P	P	07 07 55.7	-0.1
RLMT				IAmb	IAmb	07 08 38.7	
comp=Z,20nm,1.6s							
FLWY	Flagg Ranch	52.40	65	P	P	07 07 56.3	+0.3
FLWY				IAmb	IAmb	07 09 10.7	
comp=Z,17nm,1.6s							
NVAR	Mina Array Bea	52.48	75	P	P	07 07 57.6	+1.1
comp=Z,0.6nm,0.7s,baz=294,slow=8.8,SNR=4.3							
NVAR	Mina Array Bea	52.48	75	P	P	07 07 58.0	+1.4
FXWY	Fox Creek	52.55	66	P	P	07 07 58.5	+1.4
TPAW	Teton Pass	52.70	66	P	P	07 08 00.3	+2.1
PD31	Pinedale Array	53.93	65	P	P	07 08 08.0	+0.8
PDAR	Pinedale Array	53.93	65	P	P	07 08 07.7	+0.5
comp=Z,1.0nm,0.6s,baz=328,slow=3.2,SNR=12							
PDAR	Pinedale Array	53.93	65	P	P	07 08 08.0	+0.8
CCUT	Cedar City	55.77	72	P	P	07 08 21.8	+1.1
SRU	San Rafael Swe	56.11	69	P	P	07 08 23.7	+0.7
SRU				pmax	pmax		
comp=Z,3.0nm,0.7s							
SRU	San Rafael Swe	56.11	69	P	P	07 08 23.7	+0.7
O20A	White River Ci	56.53	67	P	P	07 08 27.1	+1.1
O20A				IAmb	IAmb	07 08 27.5	
comp=Z,3.9nm,0.7s							
PV22	Blue Mesa, Par	57.44	68	P	P	07 08 33.6	+1.1
PV22				IAmb	IAmb	07 08 34.5	
comp=Z,9.1nm,1.7s							
PV16	Nyswonger Mesa	57.54	69	P	P	07 08 32.8	-0.4
ISCO	Idaho Springs	58.12	65	P	P	07 08 38.6	+1.2
ISCO				pmax	pmax		
comp=Z,3.0nm,1.3s							
ISCO	Idaho Springs	58.12	65	P	P	07 08 38.6	+1.2
X18A	Snowflake	59.86	72	P	P	07 08 49.0	-0.4
X18A				IAmb	IAmb	07 08 51.8	
comp=Z,8.1nm,1.6s							
MNTX	Cornudas Mount	64.47	71	P	P	07 09 21.6	+1.5
MNTX				IAmb	IAmb	07 10 56.5	
comp=Z,9.1nm,1.8s							
TX31	Lajitas Ar. Si	67.24	71	P	P	07 09 38.9	+0.9
TX31				IAmb	IAmb	07 11 03.3	
comp=Z,17nm,1.9s					

7.6nm,0.4s
KTBS Karatobe 1.97 329 Pg Pb 07 07 56.5 -0.4
14nm,0.2s
KTBS Lg Lg 07 08 22.5
14nm,0.7s
CHKK Chushkaly 1.99 336 Pg Pb 07 07 57.3 +0.1
34nm,0.2s
CHKK Lg Lg 07 08 23.7
19nm,0.2s
TKM2 Tokmak 2 2.05 296 ⇑Pn Pn 07 07 56.4 +0.4
2.2nm,0.2s
TKM2 ⇑Lg Lg 07 08 27.1
6.4nm,0.6s
DGS Degeres 2.09 306 Pg Pb 07 07 58.0 -1.1
6.3nm,0.2s
DGS Lg Lg 07 08 25.2
6.0nm,0.2s
ARXS Arharly 2.18 355 Pg Pb 07 07 59.8 -0.8
20nm,0.2s
ARXS Lg Lg 07 08 28.3
13nm,0.3s
KUU Kurty 2.26 326 Pg Pb 07 08 01.2 -0.6
7.7nm,0.3s
KUU Lg Lg 07 08 30.3
6.7nm,0.3s
DJR Jarkent 2.60 28 Pg Pb 07 08 08.1 +0.3
5.8nm,0.2s
DJR Lg Lg 07 08 42.2
10nm,0.4s
AAK Ala-Archa 2.73 284 ⇑Pg Pb 07 08 09.4 -0.7
1.0nm,0.3s
AAK ⇑Lg Lg 07 08 47.3
5.2nm,0.6s
KAPS Kapalarasan 3.37 15 Pg Pb 07 08 21.4 +0.5
1.2nm,0.3s
KAPS Lg Lg 07 09 05.2
2.0nm,0.3s
MRKS Merke 3.67 283 Pg Pb 07 08 27.7 +1.7
2.1nm,0.2s
MRKS Lg Lg 07 09 16.0
2.4nm,0.2s

*IDC **04** 07:12:19.9±4.7,36°.08N×71°.06E, h81km±31km, mb3.6/7, mb1 3.6/13, mb1mx3.4/48, mbtmp3.9/13, MS3.5/2, Ms1 3.5/2, ms1mx2.6/30, Error ellipse: s-maj=47.2km s-min=18.6km az=152.0*
*ISCJB **04** 07:12:20.1±0.4, 36°.12N±0°.03×71°.03E±0°.04, h100km, mb3.8/6, Error ellipse: s-maj=5.1km s-min=3.5km az=145.9*
*NEIC **04** 07:12:24.1±2.4, 36°.30N±0°.05×70°.97E±0°.08, h107km±5km, mb4.0/8*
*NNC **04** 07:12:29.6±2.5, 36°.75N×70°.95E, h159km±32km, mb3.2, mpv3.9, Error ellipse: s-maj=21.1km s-min=15.9km az=32.0*
ISC 04 07:12:22.0±0.6,**36°26N**±0°.05×**71°01E**±0°.05,**h100**km,**n65,** σ2°40/78,**mb4.0/6,2C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.35**	**224**	**Pn**	**Pn**	**07 13 03.4**	**+4.0**
KBL				Sn	**Sn**	**07 13 31.1**	**+3.1**
GAR	**Garm**	**2.79**	**349**		**Pn**	**07 13 07.6**	**+2.6**
GAR				Sn	**Sn**	**07 13 39.7**	**+1.6**
NIL	**Nilore**	**3.19**	**144**		**Pn**	**07 13 13.4**	**+3.1**
NIL				Sn	**Sn**	**07 13 50.3**	**+2.7**
BTK	**Batken**	**3.79**	**358**		**Pn**	**07 13 21.8**	**+3.4**
BTK				Sn	**Sn**	**07 14 04.0**	**+1.8**
ARSB	**Arslanbob**	**5.28**	**16**		**Pn**	**07 13 39.9**	**+1.3**
ARSB				Sn	**Sn**	**07 14 37.5**	**-0.8**
DHRM	**DHARAMSHALA**	**5.93**	**131**	*eP*	**Pn**	**07 13 47.0**	**-0.6**
DHRM				*eS*	**Sn**	**07 14 50.0**	**-4.3**
DHRM				IAML		07 14 54.2	
	comp=E,214nm,0.2s						
DHRM				IAML		07 14 54.4	
	comp=N,194nm,0.1s						
AML	**Almayashu**	**6.22**	**19**	P	**Pn**	**07 13 53.2**	**+1.6**
	SNR=18						
NRN	**Naryn**	**6.47**	**35**	Pn	**Pn**	**07 13 55.3**	**+0.4**
NRN					**Sn**	**07 15 08.8**	**+1.4**
UCH	**Uchtor**	**6.55**	**23**	P	**Pn**	**07 13 57.8**	**+1.7**
	SNR=15						
KZA	**Kyzart**	**6.67**	**28**	P	**Pn**	**07 13 59.1**	**+1.3**
	SNR=5.3						
EKS2	**Erkin-Say**	**6.74**	**18**	P	**Pn**	**07 14 00.4**	**+2.0**
	SNR=20						
KK31	**Karatay Array**	**6.84**	**357**	⇓P	**Pn**	**07 14 01.2**	**+1.5**
	comp=N,2.5nm,0.2s,baz=174,slow=11,SNR=149						
KK31				S	**Sn**	**07 15 12.8**	**-3.3**
	comp=N,9.2nm,0.3s,baz=191,slow=24,SNR=12						
KKAR	**Karatay Array**	**6.84**	**357**		**Pn**	**07 14 01.5**	**+1.8**
KKAR				Sn	**Sn**	**07 15 13.6**	**-2.5**
AAK	**Ala-Archa**	**6.91**	**22**	⇓P	**Pn**	**07 14 02.7**	**+1.9**
	comp=N,5.0nm,0.3s						
AAK				⇓S	**Sn**	**07 15 17.7**	**-0.2**
	comp=N,25nm,0.5s						
AAK	**Ala-Archa**	**6.91**	**22**	P	**Pn**	**07 14 02.3**	**+1.5**
	comp=N,4.3nm,0.3s,baz=197,slow=7.6,SNR=36						
AAK				S	**Sn**	**07 15 16.8**	**-1.2**
	comp=N,5.4nm,0.3s,baz=68,slow=22,SNR=20						
AAK	**Ala-Archa**	**6.91**	**22**	P	**Pn**	**07 14 02.6**	**+1.9**
	SNR=17						
AAK	**Ala-Archa**	**6.91**	**22**		**Pn**	**07 14 03.0**	**+2.2**
AAK					**Sn**	**07 15 19.6**	**+1.6**
SMLA	**Simla**	**7.25**	**133**	*eP*	**Pn**	**07 14 05.6**	**+0.4**
SMLA				*eS*	**Sn**	**07 15 20.4**	**-5.6**
SMLA				IAML		07 15 25.4	
	comp=E,86nm,0.4s						
SMLA				IAML		07 15 26.3	
	comp=N,69nm,0.4s						
CHMS	**Chumysh**	**7.32**	**22**	P	Pn	07 14 01.7	-4.5
	SNR=5.7						
USP	**Ospenovka**	**7.49**	**20**	P	**Pn**	**07 14 10.2**	**+1.7**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.53**	**27**	⇓P	**Pn**	**07 14 10.8**	**+1.5**
	comp=N,3.7nm,0.5s						
TKM2				⇑S	**Sn**	**07 15 31.8**	**-1.3**
	comp=N,8.1nm,0.7s						
TKM2	**Tokmak 2**	**7.53**	**27**	P	**Pn**	**07 14 11.2**	**+1.9**
	SNR=13						
PRZ	**Przheval'sk**	**8.44**	**40**	Pn	**Pn**	**07 14 23.0**	**+1.4**
PRZ				Sn	**Sn**	**07 15 57.7**	**+2.4**
JOSI	**Joshimath**	**9.13**	**126**	*eP*	**Pn**	**07 14 32.4**	**+1.3**
JOSI				*eS*	Sn	07 16 05.9	-6.2
JOSI				IAML		07 16 12.5	
	comp=N,39nm,0.2s						
JOSI				IAML		07 16 13.1	
	comp=E,54nm,0.8s						
KUDL	**Kundal**	**9.33**	**149**	*eP*	Pn	07 14 26.5	-7.0
KUDL				*eS*	Sn	07 16 01.2	-15
GEYT	**Alibeck**	**10.44**	**283**	P	**Pn**	**07 14 48.7**	**+0.1**
	comp=E,0.4nm,0.3s,baz=120,slow=10,SNR=3.4						
GEYT				S	**Sn**	**07 16 40.9**	**-2.7**
	comp=E,1.2nm,0.3s,baz=124,slow=18,SNR=5.8						
GEYT	**Alibeck**	**10.44**	**283**		**Pn**	**07 14 48.8**	**+0.1**
GEYT					**Sn**	**07 16 44.3**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**10.44**	**283**	Pn	**Pn**	**07 14 47.6**	**-1.0**
GYA0B				Sn	**Sn**	**07 16 43.1**	**-0.4**
MAKZ	**Makanchi**	**13.35**	**34**	⇓P	**Pn**	**07 15 27.4**	**+0.1**
	comp=E,2.6nm,1.2s						
DANN	**Dangsing**	**13.35**	**123**	*eP*	Pn	07 15 24.3	-3.5
	comp=E,12nm,0.3s						
MKAR	**Makanchi Array**	**13.48**	**35**	P	**Pn**	**07 15 28.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=218,slow=15,SNR=4.5						
KOLN	**Koldanda**	**13.62**	**125**	*eP*	Pn	07 15 28.2	-3.0
	comp=E,4.9nm,0.2s						
GKN	**Gorkha**	**14.17**	**122**	*eP*	Pn	07 15 35.8	-2.5
	comp=E,11nm,0.2s						
DMN	**Daman**	**14.74**	**122**	*eP*	Pn	07 15 43.0	-2.7
	comp=E,5.3nm,0.3s						
KKN	**Kakani**	**14.75**	**121**	*eP*	**Pn**	**07 15 43.7**	**-2.0**
PKIN	**Phulchoki**	**14.96**	**121**	*eP*	**Pn**	**07 15 46.0**	**-2.5**
	comp=E,5.6nm,0.3s						
PKI	**Pulchoki**	**14.97**	**121**	*eP*	**Pn**	**07 15 46.5**	**-2.2**
	comp=E,7.9nm,0.4s						
GUN	**Gumba**	**15.09**	**119**	*eP*	**Pn**	**07 15 47.6**	**-2.6**
	comp=E,6.0nm,0.3s						
AB31	**Akbulak array**	**15.30**	**332**	P	**Pn**	**07 15 52.6**	**+0.3**
	comp=E,1.1nm,0.3s,baz=141,slow=14,SNR=62						
AB31				⇓S	**Sn**	**07 18 36.6**	**-4.5**
	comp=E,1.3nm,0.5s,baz=161,slow=22,SNR=9.1						
ABKAR	**Akbulak array**	**15.30**	**332**		**Pn**	**07 15 52.2**	**-0.1**
ABKAR				IAmb	IAmb	07 15 54.3	
	comp=Z,9.8nm,1.6s						

KURBB	**Kurchatov Arra**	**15.35**	**18**	P	**Pn**	**07 15 54.9**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=5.1						
KURK	**Kurchatov**	**15.45**	**18**		**Pn**	**07 15 54.9**	**+0.7**
JIRN	**Jiri**	**15.46**	**119**	*eP*	**Pn**	**07 15 52.2**	**-2.7**
	comp=Z,14nm,0.3s						
RAMN	**Ramite**	**16.19**	**121**	*eP*	**Pn**	**07 16 01.7**	**-2.1**
	comp=Z,5.6nm,0.3s						
BVAR	**Borovoye Array**	**16.77**	**359**	P	**P**	**07 16 13.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=163,slow=10,SNR=6.4						
BRVK	**Borovoye**	**16.80**	**358**		**Pn**	**07 16 11.0**	**+0.1**
BRVK				IAmb	IAmb	07 16 15.1	
	comp=Z,4.0nm,1.1s						
AKTO	**Aktyubinsk**	**16.99**	**331**	⇓P	**Pn**	**07 16 13.6**	**+0.3**
	comp=Z,2.8nm,0.6s						
AKTO				⇑S	**Sn**	**07 19 15.4**	**-6.6**
	comp=Z,6.0nm,1.1s						
AKTO	**Aktyubinsk**	**16.99**	**331**	P	**P**	**07 16 16.3**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=144,slow=7.4,SNR=20						
AKTO				S	**Sn**	**07 19 12.8**	**-9.1**
	comp=Z,0.3nm,0.3s,baz=335,slow=22,SNR=6.2						
ZAA0	**Zalesovo Array**	**20.13**	**24**	P	**P**	**07 16 48.5**	**+0.7**
ZAA0				IAmb	IAmb	07 16 52.3	
	comp=Z,3.1nm,0.4s						
ZALV	**Zalesovo Beam**	**20.13**	**24**	P	**P**	**07 16 48.3**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=219,slow=11,SNR=9.2						
ZALV	**Zalesovo Beam**	**20.13**	**24**	P	**P**	**07 16 48.5**	**+0.8**
ARU	**Arti**	**21.86**	**341**	P	**P**	**07 17 09.2**	**+2.9**
	comp=Z,2.3nm,0.2s,baz=139,slow=8.4,SNR=5.8						
ARU	**Arti**	**21.86**	**341**	P	**P**	**07 17 08.7**	**+2.3**
ARU				IAmb	IAmb	07 17 12.9	
	comp=Z,18nm,1.4s						
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**07 19 29.3**	**+2.1**
	comp=Z,1.0nm,0.4s,baz=114,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**07 19 28.4**	**+1.2**
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**07 19 59.2**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=114,slow=8.0,SNR=7.0						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**07 19 59.7**	**+1.9**
NOA	**NORSAR Array B**	**44.58**	**323**	P	**P**	**07 20 23.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=96,slow=7.7,SNR=3.7						
ESDC	**Sonseca Array**	**57.58**	**298**	LR	LR	07 50 11.5	
	comp=Z,22nm,21.6s,baz=350,slow=39						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**07 22 55.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=46,slow=6.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**07 22 56.5**	**+0.2**
TOLK	**Toolik Lake Re**	**71.15**	**15**	P	**P**	**07 23 30.6**	**+1.2**
INK	**Inuvik**	**74.14**	**9**	P	**P**	**07 23 48.1**	**+1.2**
	comp=Z,1.5nm,1.1s,baz=12,slow=4.5,SNR=3.4						
INK	**Inuvik**	**74.14**	**9**	P	**P**	**07 23 48.5**	**+1.5**
INK				IAmb	IAmb	07 25 30.4	
	comp=Z,8.9nm,1.4s						
SCHQ	**Schefferville**	**82.32**	**337**	LR	LR	07 59 59.5	
	comp=Z,50nm,18.9s,baz=9.0,slow=35						

SJA 04 07:21:40.7±0.5,**31°23S×68°40W,h99**km±2km,**ML2.5, MW3.2,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.12**	**215**	*i* P	Pn	07 21 55.0	+0.4
RTLL				*eS*	Sn	07 22 05.3	+0.4
RTLL				IAML		07 22 06.8	
	comp=Z,302nm,0.2s						
RTLL	**Cerro Villicun**	**0.12**	**215**	*eP*	Pn	07 21 55.2	+0.6
RTLL				*eS*	Sn	07 22 05.8	+0.8
RTLL				IAML		07 22 06.1	
	comp=E,400nm,0.2s						
AMOG	**MOGNA**	**0.30**	**344**	*i* P	Pn	07 21 55.9	+0.6
AMOG				*eS*	Sn	07 22 06.4	+0.3
AMOG				IAML		07 22 07.5	
	comp=Z,182nm,0.2s						
AMOG	**MOGNA**	**0.30**	**344**	*eP*	Pn	07 21 56.0	+0.8
AMOG				*eS*	Sn	07 22 07.2	+1.1
ZON	**Zonda**	**0.39**	**218**	*i* P	Pn	07 21 56.3	+0.6
ZON				*eS*	Sn	07 22 07.1	+0.1
ZON				IAML		07 22 08.2	
	comp=Z,120nm,0.1s						
ZON	**Zonda**	**0.39**	**218**	*eP*	Pn	07 21 56.3	+0.6
ZON				*eS*	Sn	07 22 07.9	+1.0
ZON				IAML		07 22 08.1	
	comp=Z,108nm,0.2s						
RTCV	**Cerro Valdivia**	**0.64**	**191**	*i* P	Pn	07 21 58.2	+0.6
RTCV				IAML		07 22 11.1	
	comp=Z,68nm,0.3s						
RTCV	**Cerro Valdivia**	**0.64**	**191**	*eP*	Pn	07 21 58.1	+0.5
RTCV				*eS*	Sn	07 22 11.5	+1.3
ACCO	**Cerro Coronel**	**0.86**	**318**	*i* P	Pn	07 22 01.0	+1.0
ACCO				IAML		07 22 17.9	
	comp=Z,84nm,0.3s						
ACCO	**Cerro Coronel**	**0.86**	**318**	*eP*	Pn	07 22 01.0	+1.0
ACCO				*eS*	Sn	07 22 16.1	+1.8
RTLS	**Leoncito**	**0.95**	**233**	*eP*	Pn	07 22 02.3	+1.5
RTLS				IAML		07 22 03.0	
	comp=Z,112nm,0.3s						
ACDV	**Cuesta del Vie**	**1.23**	**329**	*i* P	Pn	07 22 05.1	+1.3
ACDV	**Cuesta del Vie**	**1.23**	**329**	*eP*	Pn	07 22 05.0	+1.1
AROD	**Rodeo**	**1.41**	**319**	*i* P	Pn	07 22 07.7	+1.5
AROD	**Rodeo**	**1.41**	**319**	*eP*	Pn	07 22 07.7	+1.5
ACAN	**Cantantal**	**1.46**	**136**	*eP*	Pn	07 22 07.2	+0.8
AGUA	**GUANDACOL**	**1.74**	**357**	*eP*	Pn	07 22 11.4	+1.4
GO04	**Tololo Observa**	**2.32**	**296**	*eP*	Pn	07 22 19.1	+1.5
VCA	**Vinchina**	**2.49**	**4**	*eP*	Pn	07 22 21.1	+1.2
VCA				IAML		07 22 54.0	
	comp=Z,11nm,0.2s						
ROC1	**El Roble**	**2.82**	**231**	*i* P	Pn	07 22 25.7	+1.5
ROC1	**El Roble**	**2.82**	**231**	*eP*	Pn	07 22 25.6	+1.3
CYA	**Choya**	**3.58**	**40**	*eP*	Pn	07 22 33.8	-0.5
CYA				IAML		07 23 15.2	
	comp=Z,4.9nm,0.2s						

*ISCJB **04** 07:32:21.6±0.4, 37°.86N±0°.02×26°.32E±0°.03, h7km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=173.1*
*ATH **04** 07:32:21.3, 37°.87N×26°.37E, h29km±1km, ML2.7/6, Error ellipse: s-maj=2.3km s-min=1.0km az=83.0*
*ISK **04** 07:32:21.7, 37°.89N×26°.35E, h8km, ML3.0/25*
*THE **04** 07:32:22.6, 37°.90N×26°.41E, h16km±1km, ML2.7/6, Error ellipse: s-maj=1.5km s-min=0.7km az=51.0*
*DDA **04** 07:32:22.4, 37°.90N×26°.47E, h6km±5km, ML3.1*
ISC 04 07:32:21.6±1.0,**37°90N**±0°.02×**26°42E**±0°.02,**h18**km±3km, **n59,** σ0°78/86,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**zmir**	**0.34**	**12**	*i* P	**Pb**	**07 32 29.8**	**+0.5**
ZEY				*i* S	**Sb**	**07 32 35.9**	**+1.5**
SMG	**Samos**	**0.39**	**120**	P	**Pb**	**07 32 30.9**	**+0.9**
SMG				S	**Sb**	**07 32 36.7**	**+1.1**
	2μm,0.3s						
SMG	**Samos**	**0.39**	**120**	P	**Pb**	**07 32 30.8**	**+0.9**
SMG				S	**Sb**	**07 32 36.6**	**+1.0**
SMG				AML	AML	07 32 38.9	
	comp=N,2769μm,0.3s						
SMG				AML	AML	07 32 39.1	
	comp=E,3453μm,0.2s						
GMLD	**Gumuldur**	**0.43**	**66**	PG	**Pn**	**07 32 31.8**	**-1.1**
GMLD				SG	**Sn**	**07 32 38.7**	**-1.6**
CESE	**eme**	**0.44**	**348**	PG	**Pg**	**07 32 30.6**	**-0.1**
CESE				SG	**Sb**	**07 32 37.5**	**+0.4**
URLA	**Izmir**	**0.48**	**17**	*i* P	**Pn**	**07 32 32.9**	**-0.7**
URLA				*i* S	**Sb**	**07 32 39.6**	**+1.2**
URLA				IAML_P			
	comp=Z,26μm,0.2s						
URLA	**Izmir**	**0.48**	**17**	PG	**Pb**	**07 32 32.0**	**+0.4**
URLA				SG	**Sb**	**07 32 39.5**	**+1.2**
CHOS	**Chios island**	**0.56**	**330**	P	**Pb**	**07 32 33.3**	**+0.4**
CHOS				S	**Sb**	**07 32 42.3**	**+1.7**
	comp=Z,785nm,0.2s						
CHOS	**Chios island**	**0.56**	**330**	P	**Pb**	**07 32 33.4**	**+0.5**
CHOS				S	**Sb**	**07 32 41.7**	**+1.1**
CHOS				AML	AML	07 32 44.1	
	comp=E,1800μm,0.2s						
CHOS				AML	AML	07 32 46.0	
	comp=N,1299μm,0.3s						
CHOS	**Chios island**	**0.56**	**330**	PG	**Pg**	**07 32 33.0**	**+0.1**
CHOS				SG	**Sb**	**07 32 41.4**	**+0.8**
GCAM	**G?zelcaml?**	**0.68**	**107**	*i* P	**Pn**	**07 32 36.0**	**-0.2**
GCAM				IAML_P			
	comp=Z,5μm,0.1s						
GCAM	**G?zelcaml?**	**0.68**	**107**	PG	**Pn**	**07 32 36.5**	**+0.2**
GCAM				SG	**Sn**	**07 32 47.1**	**+0.7**
KRBN	**Karaburun**	**0.70**	**9**	PG	**Pn**	**07 32 36.2**	**-0.4**
KRBN				SG	**Sn**	**07 32 46.7**	**-0.3**
DIDI	**Didim-Aydin**	**0.84**	**128**	PG	**Pn**	**07 32 39.2**	**+0.7**

FOCM	**Foa**	**0.85**	**17**	PG	**Pn**	**07 32 39.1**	**+0.5**
PSRA	**Psara**	**0.93**	**314**	P	**Pb**	**07 32 39.0**	**-0.2**
APE	**Apeiranthos**	**1.09**	**221**	P	**Pb**	**07 32 41.7**	**-0.2**
APE				S	**Sg**	**07 32 57.8**	**+0.8**
	comp=Z,320nm,0.3s						
APE	**Apeiranthos**	**1.09**	**221**	P	**Pb**	**07 32 41.5**	**-0.4**
APE				S	**Sb**	**07 32 55.6**	**-0.2**
APE				AML	AML	07 33 01.1	
	comp=N,718μm,0.2s						
APE				AML	AML	07 33 01.3	
	comp=E,367μm,0.1s						
APE	**Apeiranthos**	**1.09**	**221**	PG	**Pb**	**07 32 41.9**	**0.0**
BODT	**Bodrum**	**1.10**	**139**	P	**Pg**	**07 32 42.7**	**-0.3**
BODT				S	**Sg**	**07 32 57.2**	**-0.2**
BODT	**Bodrum**	**1.10**	**139**	PN	**Pg**	**07 32 43.8**	**+0.8**
AMGA	**Amorgos Island**	**1.15**	**201**	P	**Pn**	**07 32 42.3**	**-0.4**
AMGA				S	**Sb**	**07 32 58.3**	**+0.9**
	comp=E,458nm,0.2s						
AMGA	**Amorgos Island**	**1.15**	**201**	P	**Pn**	**07 32 42.3**	**-0.4**
AMGA				S	**Sb**	**07 32 58.0**	**+0.7**
AMGA				AML	AML	07 33 02.1	
	comp=N,917μm,0.2s						
AMGA				AML	AML	07 33 02.4	
	comp=E,865μm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**1.17**	**87**	PN	**Pg**	**07 32 45.5**	**+1.2**
BDRM	**Kayabasi**	**1.17**	**135**	*i* P	**Pg**	**07 32 45.1**	**+0.8**
AYDN	**Tasoluk**	**1.19**	**101**	*i* P	**Pg**	**07 32 45.3**	**+0.7**
AYDN				*i* S	**Sg**	**07 33 00.2**	**0.0**
AYDN				IAML_P			
	comp=Z,1μm,0.1s						
ZEDA	**zmir-Bergama**	**1.19**	**26**	*i* P	**Pg**	**07 32 44.9**	**+0.4**
ZEDA				IAML_P			
	comp=Z,2μm,0.2s						
DKL	**Dikili**	**1.23**	**18**	PN	**Pg**	**07 32 46.0**	**+0.5**
DKL				SN	**Sg**	**07 33 04.4**	**+2.8**
MLSB	**Milas**	**1.24**	**119**	PN	**Pg**	**07 32 46.5**	**+0.9**
PRK	**Paraskevi**	**1.35**	**355**	P	**Pn**	**07 32 46.0**	**+0.5**
PRK				S	**Sg**	**07 33 05.0**	**-0.3**
PRK				AML	AML	07 33 10.9	
	comp=N,991μm,0.5s						
PRK				AML	AML	07 33 11.3	
	comp=E,986μm,0.6s						
SIGR	**SIGRI**	**1.38**	**342**	P	**Pn**	**07 32 46.3**	**+0.3**
SIGR				S	**Sn**	**07 33 03.7**	**0.0**
	comp=E,165nm,0.4s						
SIGR	**SIGRI**	**1.38**	**342**	P	**Pn**	**07 32 46.3**	**+0.3**
SIGR				S	**Sg**	**07 33 06.1**	**-0.2**
SIGR				AML	AML	07 33 11.5	
	comp=N,328μm,0.4s						
SIGR				AML	AML	07 33 11.7	
	comp=E,341μm,0.5s						
SIGR	**SIGRI**	**1.38**	**342**	PN	**Pb**	**07 32 47.7**	**+0.8**
AYVA	**Ayvalik**	**1.42**	**9**	*i* P	**Pb**	**07 32 47.8**	**+0.2**
GOMA	**Golmarmara-Man**	**1.43**	**55**	PN	**Pg**	**07 32 49.3**	**+0.1**
AKHS	**Akhisar**	**1.47**	**48**	*i* P	**Pg**	**07 32 50.8**	**+0.8**
AKS	**Akhisar**	**1.47**	**48**	PN	**Pg**	**07 32 49.8**	**-0.2**
DAT	**Datca**	**1.49**	**141**	*i* P	**Pb**	**07 32 48.9**	**0.0**
DAT	**Datca**	**1.49**	**141**	PN	**Pg**	**07 32 49.8**	**-0.6**
ANAF	**Anafi Island**	**1.62**	**199**	P	**Pn**	**07 32 49.2**	**-0.1**
ANAF				S	**Sn**	**07 33 09.6**	**-0.2**
	comp=E,698nm,0.2s						
ANAF	**Anafi Island**	**1.62**	**199**	P	**Pn**	**07 32 49.3**	**-0.1**
YER	**Yerkesik**	**1.67**	**117**	PN	**Pg**	**07 32 52.7**	**-1.1**
SERI	**Serifos**	**1.70**	**245**	P	**Pn**	**07 32 50.6**	**+0.2**
THR6	**Thira Island,**	**1.74**	**208**	P	**Pn**	**07 32 51.1**	**+0.1**
MANT	**Manisa**	**1.79**	**70**	*i* P	**Pg**	**07 32 56.2**	**+0.1**
MANT				*i* S	**Sg**	**07 33 18.6**	**-0.7**
MANT				IAML_P			
	comp=Z,1μm,0.2s						
STEP	**BALIKESIR_Sava**	**1.79**	**34**	*i* P	**Pb**	**07 32 53.0**	**-0.9**
STEP				*i* S	**Sg**	**07 33 20.0**	**+0.5**
STEP				IAML_P			
	comp=Z,577nm,0.2s						
KULA	**Kula-Manisa**	**1.87**	**70**	P	**Pn**	**07 32 52.4**	**-0.4**
KULA				S	**Sb**	**07 33 17.5**	**-0.9**
KULA	**Kula-Manisa**	**1.87**	**70**	PN	**Pb**	**07 32 55.7**	**+0.4**
EZN	**Ezine**	**1.92**	**358**	PN	**Pb**	**07 32 55.7**	**-0.4**
BOZC	**Bozcaada**	**1.96**	**352**	*i* P	**Pb**	**07 32 56.3**	**-0.4**
BOZC				IAML_P			
	comp=Z,546nm,0.2s						
BOZC	**Bozcaada**	**1.96**	**352**	PN	**Pb**	**07 32 56.2**	**-0.6**
TURN	**Turunc**	**2.02**	**120**	*i* P	**Pn**	**07 32 55.4**	**+0.7**
TURN				IAML_P			
	comp=Z,264nm,0.1s						
TURN	**Turunc**	**2.02**	**120**	PN	**Pn**	**07 32 54.9**	**+0.1**
BALY	**Balya**	**2.06**	**27**	*i* P	**Pn**	**07 32 56.4**	**+1.0**
BALB	**Balikesir**	**2.08**	**33**	PN	**Pb**	**07 32 58.4**	**-0.4**
USAK	**Uak-Merkez**	**2.20**	**68**	*i* P	**Pg**	**07 33 04.2**	**+0.3**
USAK				*i* S	**Sg**	**07 33 31.8**	**-0.8**
USAK				IAML_P			
	comp=Z,274nm,0.2s						
DURS	**Dursunbey**	**2.34**	**43**	*i* P	**Pg**	**07 33 05.8**	**-0.8**
DURS				IAML_P			
	comp=Z,292nm,0.1s						
LPK	**Lapseki**	**2.48**	**6**	PN	**Pb**	**07 33 03.8**	**-1.9**
GELI	**Tayfur-Gelibol**	**2.49**	**1**	PN	**Pb**	**07 33 04.7**	**-1.2**

*SOME **04** 07:57:25.5, 41°.55N×72°.38E, h5km*
*KRNET **04** 07:57:25.0±0.1, 41°.52N×72°.50E, h14km, mb3.1*
*NNC **04** 07:57:27.5±0.8, 41°.59N×72°.48E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=8.2km s-min=3.0km az=174.0*
ISC 04 07:57:24.6±1.1,**41°53N**±0°.03×**72°51E**±0°.02,**h4**km±11km, **n58,** σ1°28/93,**27C-15D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.41**	**120**	⇓*i* P	**Pg**	**07 57 32.9**	**+0.4**
	baz=18						
ARSB				⇓*i* S	**Sg**	**07 57 39.1**	**+1.2**
	baz=18						
ARK	**Arkit**	**0.49**	**303**	⇑*i* P	**Pg**	**07 57 34.2**	**+0.2

BTK					⇑iS	Sg	07 58 27.1	-0.3
	baz=22							
KZA	**Kyzart**	**2.12**	**74**	⇑iP		**Pb**	**07 58 04.0**	**+0.2**
	baz=74							
KZA					⇑iS	Sg	07 58 32.5	-0.2
	baz=74							
KZA	**Kyzart**	**2.12**	**74**	P		**Pg**	**07 58 05.3**	**+0.1**
	SNR=8.8							
KBK	**Karagaybulak**	**2.13**	**57**	⇓iP		**Pb**	**07 58 03.8**	**-0.1**
	baz=57							
KBK					⇓iS	Sg	07 58 32.4	-0.7
	baz=57							
KBK	**Karagaybulak**	**2.13**	**57**	P		**Pg**	**07 58 05.4**	**-0.1**
	SNR=15							
KK31	**Karatay Array**	**2.16**	**317**	⇑Pn		**Pb**	**07 58 04.4**	**+0.1**
	5.9nm,0.3s,baz=137,slow=16,SNR=160							
KK31				Sn		Sg	07 58 33.5	-0.4
	31nm,0.7s,baz=141,slow=28,SNR=17							
CHMS	**Chumysh**	**2.22**	**48**	⇑iP		**Pb**	**07 58 04.9**	**-0.3**
	baz=48							
CHMS					⇑iS	Sg	07 58 34.2	-1.6
	baz=48							
USP	**Ospenovka**	**2.27**	**40**	⇓iP		**Pb**	**07 58 05.8**	**-0.4**
	baz=40							
USP					⇓iS	Sb	07 58 35.6	+0.9
	baz=40							
USP	**Ospenovka**	**2.27**	**40**	P		**Pg**	**07 58 07.1**	**-1.1**
	SNR=18							
SGDS	**Sogindy**	**2.48**	**39**	Pg		**Pg**	**07 58 11.2**	**-0.8**
	12nm,0.3s							
SGDS				Lg		Lg	07 58 44.3	
	29nm,0.3s							
BRLS	**Borolday**	**2.48**	**308**	Pg		**Pb**	**07 58 10.3**	**+0.5**
	3.7nm,0.6s							
BRLS				Lg		Lg	07 58 42.4	
	81nm,0.5s							
BRLS	**Borolday**	**2.48**	**308**	eP		**Pb**	**07 58 10.3**	**+0.5**
	3.7nm,0.6s							
BRLS					eS	Sg	07 58 42.4	-2.0
	81nm,0.5s							
NRN	**Naryn**	**2.62**	**91**	⇑iP		**Pb**	**07 58 10.8**	**-1.6**
	baz=91							
NRN					⇑iS	Sb	07 58 44.2	-0.9
	baz=91							
TKM2	**Tokmak 2**	**2.68**	**58**	⇑Pn		**Pb**	**07 58 12.9**	**-0.4**
	1.2nm,0.4s							
TKM2					⇑Pg	Pg	07 58 17.6	+1.7
	12nm,0.7s							
TKM2					⇓Lg	Lg	07 58 53.4	
	20nm,0.6s							
TKM2	**Tokmak 2**	**2.68**	**58**	⇓iP		**Pb**	**07 58 11.7**	**-1.5**
	baz=58							
TKM2					⇓iS	Sb	07 58 45.7	-0.9
	baz=58							
TKM2	**Tokmak 2**	**2.68**	**58**	P		**Pb**	**07 58 13.0**	**-0.3**
	SNR=12							
BOOM	**Boomskoye usch**	**2.73**	**68**	⇑iP		**Pb**	**07 58 12.9**	**-1.2**
	baz=68							
BOOM					⇑iS	Sb	07 58 47.5	-0.5
	baz=68							
DGS	**Degeres**	**2.96**	**54**	Pg		**Pg**	**07 58 21.6**	**+0.4**
	10nm,0.3s							
DGS				Lg		Lg	07 59 02.1	
	17nm,0.6s							
DGS	**Degeres**	**2.96**	**54**	eP		**Pg**	**07 58 21.6**	**+0.4**
	6.5nm,0.7s							
DGS					eS	Sg	07 59 02.1	+2.5
	18nm,0.5s							
KST	**Kastek**	**2.97**	**58**	Pg		**Pg**	**07 58 20.4**	**-1.2**
	18nm,0.8s							
KST				Lg		Lg	07 58 59.9	
	26nm,0.6s							
KST	**Kastek**	**2.97**	**58**	eP		**Pg**	**07 58 20.4**	**-1.2**
	12nm,0.5s							
KST					⇑iS	Sg	07 58 59.9	-0.2
	19nm,0.6s							
MTBS	**Maitube**	**3.31**	**60**	Pg		**Pg**	**07 58 26.9**	**-1.2**
	5.1nm,0.2s							
MTBS				Lg		Lg	07 59 11.1	
	15nm,0.3s							
KDJ	**Kajisay**	**3.54**	**79**	⇑iP		**Pn**	**07 58 23.6**	**+3.1**
	baz=79							
KDJ					⇑iS	Sn	07 59 05.8	+2.9
	baz=79							
TNSS	**Tian-Shan**	**3.62**	**64**	Pg		**Pg**	**07 58 32.4**	**-1.5**
	6.2nm,0.4s							
TNSS				Lg		Lg	07 59 21.2	
	13nm,0.6s							
TNSS	**Tian-Shan**	**3.62**	**64**	eP		**Pg**	**07 58 32.6**	**-1.3**
	2.9nm,0.6s							
TNSS					eS	Sg	07 59 21.2	+0.4
	13nm,0.7s							
KUU	**Kurty**	**3.68**	**49**	Pg		**Pg**	**07 58 33.0**	**-2.0**
	1.9nm,0.1s							
KUU				Lg		Lg	07 59 22.1	
	5.7nm,0.3s							
KUU	**Kurty**	**3.68**	**49**	eP		**Pg**	**07 58 33.0**	**-2.0**
	1.9nm,0.1s							
KUU					⇑iS	Sg	07 59 22.1	-0.6
	9.4nm,0.3s							
BTLS	**Baital**	**3.68**	**17**	Pg		**Pg**	**07 58 34.4**	**-0.7**
	0.8nm,0.2s							
BTLS				Lg		Lg	07 59 23.9	
	8.4nm,0.5s							
BTLS	**Baital**	**3.68**	**17**	eP		**Pg**	**07 58 34.4**	**-0.7**
	0.8nm,0.2s							
BTLS					eS	Sg	07 59 23.9	+1.1
	8.4nm,0.5s							
MDOK	**Medeo**	**3.74**	**63**	⇓Pg		**Pg**	**07 58 34.0**	**-2.1**
	4.4nm,0.5s							
MDOK					⇑Lg	Lg	07 59 25.6	
	12nm,0.9s							
MDOK	**Medeo**	**3.74**	**63**	Pg		**Pg**	**07 58 34.9**	**-1.3**
	5.7nm,0.3s							
MDOK				Lg		Lg	07 59 24.9	
	9.5nm,0.7s							
MDOK	**Medeo**	**3.74**	**63**	eP		**Pg**	**07 58 34.9**	**-1.3**
	5.7nm,0.3s							
MDOK					eS	Sg	07 59 24.9	+0.3
	9.5nm,0.7s							
KTBS	**Karatobe**	**3.77**	**53**	Pg		**Pg**	**07 58 35.4**	**-1.4**
	3.9nm,0.5s							
KTBS				Lg		Lg	07 59 25.6	
	25nm,0.4s							
KTBS	**Karatobe**	**3.77**	**53**	eP		**Pg**	**07 58 35.4**	**-1.4**
	3.9nm,0.5s							
KTBS					eS	Sg	07 59 25.6	0.0
	25nm,0.4s							
KOTS	**Kotyrbulak**	**3.81**	**62**	Pg		**Pg**	**07 58 35.7**	**-1.8**
	12nm,0.3s							
KOTS				Lg		Lg	07 59 26.4	
	10.0nm,0.5s							
KOTS	**Kotyrbulak**	**3.81**	**62**	eP		**Pg**	**07 58 37.2**	**-0.4**
	12nm,0.3s							
KOTS					eS	Sg	07 59 28.6	+1.7
	10.0nm,0.5s							
CHKK	**Chushkaly**	**4.03**	**53**	Pg		**Pg**	**07 58 40.6**	**-1.3**
	2.3nm,0.5s							
CHKK				Lg		Lg	07 59 34.7	
	11nm,0.3s							
CHKK	**Chushkaly**	**4.03**	**53**	eP		**Pg**	**07 58 40.6**	**-1.3**
	0.4nm,0.1s							
CHKK					eS	Sg	07 59 34.6	+0.5
	9.7nm,0.4s							
KURS	**Kuram**	**4.62**	**63**	Pg		**Pg**	**07 58 50.7**	**-2.3**
	3.3nm,0.6s							
KURS				Lg		Lg	07 59 52.0	
	5.0nm,0.7s							
KURS	**Kuram**	**4.62**	**63**	eP		**Pg**	**07 58 50.7**	**-2.3**
	1.6nm,0.5s							
KURS					eS	Sg	07 59 52.0	-0.9
	5.0nm,0.7s							
ARXS	**Arharly**	**4.74**	**54**	Pg		**Pg**	**07 58 52.4**	**-2.9**
	3.5nm,0.5s							
ARXS				Lg		Lg	07 59 54.9	
	8.8nm,0.5s							
ARXS	**Arharly**	**4.74**	**54**	eP		**Pg**	**07 58 52.4**	**-2.9**
	3.5nm,0.5s							
ARXS					eS	Sg	07 59 54.9	-1.8
	8.8nm,0.5s							

*ISCJB **04** 07:58:25.3±0.2,22°.97S±0°.03×66°.30W±0°.03,h259km±3km, mb4.3/4,Error ellipse: s-maj=4.6km s-min=4.0km az=174.0*
*NEIC **04** 07:58:25.9±2.7,22°.97S±0°.06×66°.3W±0°.1,h258km±10km, mb4.4/9,Md3.6(SJA)*

*IDC **04** 07:58:25.6±0.8,22°.92S×66°.36W,h250km±13km,mb3.8/3, mb1 3.5/10,mb1mx3.3/30,mbtmp4.0/10,Error ellipse: s-maj=19.5km s-min=13.6km az=99.0*
*SJA **04** 07:58:25.5±0.7,22°.94S×66°.21W,h258km±5km,ML3.3, MW3.6*
*VAO **04** 07:58:26.8±0.4,23°.07S×66°.53W,h284km±5km,mb4.1*
ISC 04 07:58:25.7±0.6,23°.00S±0°.04×66°.32W±0°.04,h253km±7km, n101,σ1°28/120,mb4.3/6,1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.87**	**104**	*i* P	**Pn**	**07 59 01.7**	**+0.9**
HJA				IAML		07 59 01.8	
	comp=Z,1μm,0.3s						
YJA	**Yavi**	**1.11**	**43**	*i* P	**Pn**	**07 59 02.7**	**+0.5**
YJA				IAML		07 59 03.4	
	comp=Z,413nm,0.4s						
YJA				eS	**S**	**07 59 30.0**	**-0.9**
AZAP	**Zapla**	**1.68**	**137**	⇓iP	**Pn**	**07 59 06.1**	**+0.2**
AZAP				IAML		07 59 06.6	
	comp=Z,189nm,0.3s						
AZAP				eS	**S**	**07 59 36.7**	**-1.0**
SLA	**San Lorenzo**	**1.87**	**157**	*i* P	**Pn**	**07 59 08.5**	**+1.0**
SLA				IAML		07 59 08.9	
	comp=Z,41nm,0.3s						
SLA				eS	**S**	**07 59 39.7**	**-0.7**
LVC	**Limon Verde**	**2.42**	**279**	P	**Pn**	**07 59 13.6**	**+0.8**
	comp=Z,28nm,0.3s,baz=94,slow=5.7,SNR=276						
LVC				S	**S**	**07 59 48.8**	**-1.0**
	comp=Z,6.9nm,0.3s,baz=265,slow=21,SNR=14						
LVC	**Limon Verde**	**2.42**	**279**		**Pn**	**07 59 14.1**	**+1.4**
LVC					**S**	**07 59 49.9**	**+0.1**
LVC	**Limon Verde**	**2.42**	**279**	⇑iP	**Pn**	**07 59 14.0**	**+1.4**
LVC				IAML		07 59 14.5	
	comp=Z,72nm,0.6s						
LVC	**Limon Verde**	**2.42**	**279**	eP	**Pn**	**07 59 14.1**	**+1.4**
LVC	**Limon Verde**	**2.42**	**279**	eP	**Pn**	**07 59 14.1**	**+1.4**
PB15	**IPOC Station P**	**2.91**	**265**	*i* P	**Pn**	**07 59 19.1**	**+1.6**
PB15				eS	**S**	**07 59 59.2**	**+0.6**
PB09	**IPOC Station P**	**2.95**	**293**	⇑iP	**Pn**	**07 59 19.8**	**+1.8**
PB06	**IPOC Station P**	**3.01**	**275**	⇑iP	**Pn**	**07 59 20.0**	**+1.4**
PB01	**IPOC Station P**	**3.52**	**303**		**Pn**	**07 59 25.4**	**+1.2**
PB01				S	**S**	**08 00 09.8**	**-0.8**
PB04	**IPOC Station P**	**3.59**	**280**		**Pn**	**07 59 26.4**	**+1.2**
PB04				S	**S**	**08 00 11.9**	**-0.4**
PB04	**IPOC Station P**	**3.59**	**280**	*i* P	**Pn**	**07 59 26.2**	**+1.1**
GO02	**Mina Guanaco**	**3.68**	**234**		**Pn**	**07 59 27.7**	**+1.5**
GO02				S	**S**	**08 00 14.5**	**+0.3**
AHML	**Horco Molle**	**3.88**	**167**	*i* P	**Pn**	**07 59 29.2**	**+1.0**
AHML				IAML		08 00 18.6	
	comp=Z,3.7nm,0.5s						
PB10	**IPOC Station P**	**3.92**	**262**		**Pn**	**07 59 29.9**	**+1.2**
PB10				S	**S**	**08 00 17.6**	**-1.2**
PB10	**IPOC Station P**	**3.92**	**262**	*i* P	**Pn**	**07 59 29.9**	**+1.2**
GO01	**Chusmiza**	**4.26**	**321**		**Pn**	**07 59 34.7**	**+1.5**
GO01				S	**S**	**08 00 25.5**	**-1.3**
PB11	**IPOC Station P**	**4.47**	**315**		**Pn**	**07 59 35.8**	**+0.4**
PB11				S	**S**	**08 00 28.8**	**-2.1**
MNMC	**Minye Minye**	**4.91**	**321**		**Pn**	**07 59 41.9**	**+1.1**
MNMC				S	**S**	**08 00 39.0**	**-1.6**
CYA	**Choya**	**5.44**	**175**	*i* P	**Pn**	**07 59 48.4**	**+1.5**
CYA				IAML		08 00 48.9	
	comp=Z,2.7nm,0.4s						
GO03	**Copiap**	**5.79**	**217**		**Pn**	**07 59 51.4**	**+0.2**
GO03					**S**	**08 00 58.0**	**-1.6**
LPAZ	**La Paz**	**6.89**	**345**	P	**Pn**	**08 00 05.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=175,slow=11,SNR=5.7						
LPAZ				S	**S**	**08 01 22.0**	**-3.8**
	baz=18,slow=16,SNR=2.4						
LPAZ	**La Paz**	**6.89**	**345**		**Pn**	**08 00 05.7**	**0.0**
LPAZ				S	**S**	**08 01 23.7**	**-2.1**
LPAZ	**La Paz**	**6.89**	**345**	eP	**Pn**	**08 00 07.5**	**+1.8**
LPAZ	**La Paz**	**6.89**	**345**	eP	**Pn**	**08 00 07.5**	**+1.8**
ACDV	**Cuesta del Vie**	**7.57**	**199**	*i* P	**Pn**	**08 00 15.5**	**+1.8**
ACCO	**Cerro Coronel**	**7.95**	**197**	*i* P	**Pn**	**08 00 20.2**	**+1.6**
GO04	**Tololo Observa**	**8.19**	**208**	Pn	**Pn**	**08 00 21.4**	**-0.1**
GO04				S	**S**	**08 01 53.8**	**-1.3**
SIV	**San Ignacio**	**8.55**	**36**	P	**Pn**	**08 00 25.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=260,slow=18,SNR=54						
CFA	**Coronel Fontan**	**8.74**	**191**	P	**Pn**	**08 00 27.8**	**-0.5**
	baz=4.4,slow=13						
CFA				S	**S**	**08 01 60.0**	**-7.5**
	comp=Z,3.0nm,0.3s,baz=258,slow=16,SNR=21						
CPUP	**Villa Florida**	**8.83**	**114**	P	**Pn**	**08 00 29.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=304,slow=11,SNR=2.3						
ROC1	**El Roble**	**10.77**	**202**	Pn	**Pn**	**08 00 54.7**	**+0.6**
ROC1				S	**S**	**08 02 54.2**	**-0.6**
TRCB	**Terra Rica**	**12.62**	**92**	eP	**P**	**08 01 21.1**	**+2.0**
TRCB	**Terra Rica**	**12.62**	**92**	eP	**P**	**08 01 21.1**	**+2.0**
GO05	**Huala**	**12.93**	**201**	Pn	**Pn**	**08 01 18.3**	**-2.3**
PTGB	**Pitanga**	**13.16**	**100**	eP	**P**	**08 01 25.3**	**+0.1**
PTGB	**Pitanga**	**13.16**	**100**	eP	**P**	**08 01 25.3**	**+0.1**
CPSB	**Cacapava Do Su**	**13.67**	**125**	eP	**P**	**08 01 30.9**	**+0.3**
CPSB	**Cacapava Do Su**	**13.67**	**125**	eP	**P**	**08 01 30.9**	**+0.3**
PCMB	**Pacaembu**	**14.01**	**87**	eP	**P**	**08 01 36.0**	**+1.5**
PCMB	**Pacaembu**	**14.01**	**87**	eP	**P**	**08 01 36.0**	**+1.5**
PLTB	**Pedras Altas**	**14.27**	**130**	eP	**P**	**08 01 37.9**	**+0.7**
PLTB	**Pedras Altas**	**14.27**	**130**	eP	**P**	**08 01 37.9**	**+0.7**
SAML	**Samuel**	**14.29**	**13**		**Pn**	**08 01 37.4**	**0.0**
SAML	**Samuel**	**14.29**	**13**	eP	**P**	**08 01 37.9**	**+0.3**
SAML	**Samuel**	**14.29**	**13**	eP	**P**	**08 01 37.9**	**+0.3**
ITRB	**Iturama**	**15.23**	**81**	eP	**P**	**08 01 47.4**	**-0.6**
ITRB	**Iturama**	**15.23**	**81**	eP	**P**	**08 01 47.4**	**-0.6**
TRQA	**Tornquist**	**15.47**	**167**		**Pn**	**08 01 51.6**	**+0.3**
TRQA				IAmb	IAmb	08 02 34.8	
	comp=Z,18nm,1.4s						
ARAG	**Araguaiana, MT**	**15.49**	**65**	eP	**Pn**	**08 01 52.3**	**+0.6**
ARAG	**Araguaiana, MT**	**15.49**	**65**	eP	**Pn**	**08 01 52.3**	**+0.6**
CLDB	**Colider**	**15.70**	**42**	eP	**P**	**08 01 52.8**	**-0.3**
CLDB	**Colider**	**15.70**	**42**	eP	**P**	**08 01 52.8**	**-0.3**
BB19B	**Bebedouro**	**16.61**	**87**	eP	**Pn**	**08 02 05.0**	**0.0**
BB19B	**Bebedouro**	**16.61**	**87**	eP	**Pn**	**08 02 05.0**	**0.0**
JUQB	**Juquia**	**17.10**	**97**	eP	**Pn**	**08 02 09.6**	**-1.1**
JUQB	**Juquia**	**17.10**	**97**	eP	**Pn**	**08 02 09.6**	**-1.1**
GO06	**Curarrehue**	**17.11**	**194**	P	**Pn**	**08 02 11.0**	**+0.4**
SPB	**Sao Paulo**	**17.37**	**96**	eP	**P**	**08 02 12.2**	**+0.9**
SPB	**Sao Paulo**	**17.37**	**96**	eP	**P**	**08 02 12.2**	**+0.9**
VAO	**Valinhos**	**17.82**	**94**	eP	**P**	**08 02 17.4**	**+1.0**
VAO	**Valinhos**	**17.82**	**94**	eP	**P**	**08 02 17.4**	**+1.0**
PLCA	**Paso Flores**	**18.04**	**190**	P	**P**	**08 02 18.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=36,slow=8.6,SNR=5.9						
PLCA	**Paso Flores**	**18.04**	**190**	P	**P**	**08 02 18.4**	**-0.1**
BDFB	**Brasilia**	**18.75**	**70**	P	**P**	**08 02 27.4**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=253,slow=11,SNR=10						
BDFB	**Brasilia**	**18.75**	**70**	P	**P**	**08 02 27.9**	**+1.4**
BDFB				IAmb	IAmb	08 02 28.5	
	comp=Z,9.7nm,0.5s						
BSCB	**Bom Sucesso**	**20.08**	**88**	eP	**P**	**08 02 41.5**	**+0.9**
BSCB	**Bom Sucesso**	**20.08**	**88**	eP	**P**	**08 02 41.5**	**+0.9**
PTGA	**Pitinga**	**22.98**	**16**	P	**P**	**08 03 07.1**	**-1.4**
	comp=Z,3.4nm,0.7s,baz=202,slow=10,SNR=9.8						
PTGA	**Pitinga**	**22.98**	**16**	P	**P**	**08 03 08.6**	**+0.1**
PTGA	**Pitinga**	**22.98**	**16**	eP	**P**	**08 03 08.8**	**+0.3**
PTGA	**Pitinga**	**22.98**	**16**	eP	**P**	**08 03 08.8**	**+0.3**
BSFB	**Barra de Sao F**	**24.14**	**85**	eP	**P**	**08 03 19.8**	**+0.7**
BSFB	**Barra de Sao F**	**24.14**	**85**	eP	**P**	**08 03 19.8**	**+0.7**
RIB01	**Linhares ES**	**24.45**	**86**	eP	**P**	**08 03 22.4**	**+0.6**
RIB01	**Linhares ES**	**24.45**	**86**	eP	**P**	**08 03 22.4**	**+0.6**
NBPN	**Ponto Novo - B**	**27.70**	**69**	eP	**P**	**08 03 51.3**	**+0.3**
NBPN	**Ponto Novo - B**	**27.70**	**69**	eP	**P**	**08 03 51.3**	**+0.3**
NBPS	**Pedro II - PI**	**30.33**	**56**	eP	**P**	**08 04 14.9**	**+0.7**
NBPS	**Pedro II - PI**	**30.33**	**56**	eP	**P**	**08 04 14.9**	**+0.7**
NBTA	**Tacaratu-PE**	**30.38**	**68**	eP	**P**	**08 04 14.7**	**+0.1**
NBTA	**Tacaratu-PE**	**30.38**	**68**	eP	**P**	**08 04 14.7**	**+0.1**
NBMA	**Muriti-CE**	**30.71**	**64**	eP	**P**	**08 04 18.1**	**+0.6**
NBMA	**Muriti-CE**	**30.71**	**64**	eP	**P**	**08 04 18.1**	**+0.6**
MDP	**Montagnes des**	**30.96**	**27**	P	**P**	**08 04 19.6**	**0.0**
	comp=Z,2.7nm,0.3s,baz=202,slow=14,SNR=10.0						
NBCL	**Cascavel-CE**	**32.90**	**60**	eP	**P**	**08 04 36.4**	**-0.2**
NBCL	**Cascavel-CE**	**32.90**	**60**	eP	**P**	**08 04 36.4**	**-0.2**
RCBR	**Riachuelo**	**33.93**	**64**	P	**P**	**08 04 44.7**	**-0.8**
	comp=Z,78nm,0.7s,baz=62,slow=1.2,SNR=4.1						
RCBR	**Riachuelo**	**33.93**	**64**	P	**P**	**08 04 45.5**	**0.0**
RCBR	**Riachuelo**	**33.93**	**64**	eP	**P**	**08 04 46.9**	**+1.4**
RCBR	**Riachuelo**	**33.93**	**64**	eP	**P**	**08 04 46.9**	**+1.4**
FDF	**Fort de France**	**37.84**	**8**	P	**P**	**08 05 17.9**	**-0.5**
SNAA	**Sanae**	**60.09**	**161**	P	**P**	**08 08 07.3**	**+1.2**
SNAA				IAmb	IAmb	08 09 01.6	
	comp=Z,16nm,1.8s						
QSPA	**South Pole Qui**	**67.20**	**180**	P	**P**	**08 08 53.8**	**+1.2**
QSPA				IAmb	IAmb	08 09 35.0	
	comp=Z,19nm,1.9s						
TORD	**Torodi Ar. Bea**	**75.63**	**69**	P	**P**	**08 09 44.2**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=241,slow=5.9,SNR=25						
TORD	**Torodi Ar. Bea**	**75.63**	**69**	P	**P**	**08 09 41.7**	**-1.8**
MKAR	**Makanchi Array**	**145.36**	**39**	PKPbc	**PKPdf**	**08 17 33.2**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=254,slow=3.7,SNR=2.9						
MKAR	**Makanchi Array**	**145.36**	**39**		**PKPdf**	**08 17 32.9**	**-0.4**

*IDC **04** 08:04:31.8±0.5,39°.60N×75°.57E,h0km,mb4.5/30, mb1 4.6/37,mb1mx4.5/61,mbtmp4.5/37,ML4.1/6,MS3.9/31, Ms1 3.9/31,ms1mx3.9/39,Error ellipse: s-maj=10.7km s-min=9.8km az=8.0*
*KRNET **04** 08:04:33.2±0.1,39°.64N×75°.63E,mb5.2*
*SOME **04** 08:04:35.3,39°.87N×75°.43E,h5km*
*BJI **04** 08:04:36.5±0.0,39°.78N×75°.54E,h20km,mb4.6/35, mB4.7/22,ML4.5/8,Ms4.3/25,Ms7 4.2/24*
*NNC **04** 08:04:37.1±0.8,39°.89N×75°.44E,h0km,mb5.4,mpv5.2, Error ellipse: s-maj=6.7km s-min=4.2km az=157.0*
*MOS **04** 08:04:38.5±1.0,39°.76N×75°.55E,h60km,mb5.0/42, MS4.2/6,Error ellipse: s-maj=5.3km s-min=3.9km az=104.4*
*ISCJB **04** 08:04:38.5±0.2,39°.62N±0°.01×75°.58E±0°.02,h63km±2km, mb4.7/97,Error ellipse: s-maj=3.0km s-min=2.5km az=178.1*
*NEIC **04** 08:04:39.1±1.5,39°.77N±0°.05×75°.52E±0°.06,h48km±5km, mb4.8/98*
ISC 04 08:04:34.3±0.9,39°.78N±0°.03×75°.53E±0°.02,h14km±5km, n483,σ1°94/552,mb4.8/121,MS4.1/38,77C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.43**	**128**	Pg	**Pn**	**08 04 48.0**	**+1.8**
KSH				Sg	**Sn**	**08 04 57.6**	**+3.6**
KSH				smax	smax		
	comp=N,37μm,0.5s						
KSH				smax	smax		
	comp=E,38μm,0.4s						
NRN	**Naryn**	**1.69**	**12**	⇑iP	**Pg**	**08 05 06.3**	**-0.5**
	baz=8.0						
NRN				⇑iS	**Sg**	**08 05 31.2**	**+2.4**
	baz=8.0						
NRN	**Naryn**	**1.69**	**12**	PN	**Pg**	**08 05 06.4**	**-0.5**
NRN	**Naryn**	**1.69**	**12**		**Pg**	**08 05 06.4**	**-0.5**
NRN				Sn	**Sb**	**08 05 25.7**	**-1.0**
ARLS	**Aral**	**2.27**	**337**	⇑iP	**Pb**	**08 05 15.7**	**+0.5**
	baz=36						
ARLS				⇑iS	**Sg**	**08 05 48.1**	**+0.7**
	baz=36						
KZA	**Kyzart**	**2.31**	**355**	P	**Pb**	**08 05 16.9**	**+1.0**
	SNR=888						
ARSB	**Arslanbob**	**2.48**	**309**	⇑iP	**Pb**	**08 05 19.5**	**+0.7**
	baz=11						
ARSB				⇑iS	**Sg**	**08 05 53.0**	**-1.1**
	baz=11						
ARSB	**Arslanbob**	**2.48**	**309**		**Pb**	**08 05 18.2**	**-0.6**
ARSB				Sn	**Sn**	**08 05 46.1**	**+1.5**
ULHL	**Ulahol**	**2.52**	**12**	⇑iP	**Pb**	**08 05 19.8**	**+0.3**
	baz=10.0						
ULHL				⇑iS	**Sg**	**08 05 53.6**	**-1.8**
	baz=10.0						
ULHL	**Ulahol**	**2.52**	**12**	P	**Pb**	**08 05 20.0**	**+0.5**
	SNR=506						
UCH	**Uchtor**	**2.56**	**343**	⇑iP	**Pb**	**08 05 20.5**	**+0.2**
	baz=42						
UCH				⇑iS	**Sg**	**08 05 56.1**	**-0.7**
	baz=42						
UCH	**Uchtor**	**2.56**	**343**	P	**Pb**	**08 05 20.6**	**+0.2**
	SNR=1358						
TARG	**Taragay, Kyrgy**	**2.60**	**41**		**Pb**	**08 05 21.4**	**+0.4**
TARG				Sn	**Sn**	**08 05 48.7**	**+0.7**
KDJ	**Kajisay**	**2.66**	**27**	⇑iP	**Pb**	**08 05 20.6**	**-1.2**
	baz=25						
KDJ				⇑iS	**Sb**	**08 05 56.0**	**+1.6**
	baz=25						
KDJ	**Kajisay**	**2.66**	**27**	PN	**Pb**	**08 05 22.0**	**+0.2**
KDJ	**Kajisay**	**2.66**	**27**		**Pb**	**08 05 22.0**	**+0.2**
BOOM	**Boomskoye usch**	**2.72**	**6**	⇑iP	**Pb**	**08 05 22.1**	**-0.9**
	baz=5.0						
BOOM				⇑iS	**Sb**	**08 05 57.5**	**+1.2**
	baz=5.0						
BOOM	**Boomskoye usch**	**2.72**	**6**	PN	**Pb**	**08 05 22.9**	**0.0**
BOOM	**Boomskoye usch**	**2.72**	**6**		**Pb**	**08 05 22.9**	**0.0**
AML	**Almayashu**	**2.73**	**330**	⇑iP	**Pb**	**08 05 22.6**	**-0.5**
	baz=30						
AML				⇑iS	**Sb**	**08 05 57.8**	**+1.2**
	baz=30						
AML	**Almayashu**	**2.73**	**330**	P	**Pb**	**08 05 22.7**	**-0.5**
	SNR=448						
KBK	**Karagaybulak**	**2.91**	**351**	*i* P	**Pb**	**08 05 25.7**	**-0.3**
	baz=50						
KBK				*i* S	**Sb**	**08 06 04.0**	**+2.5**
	baz=50						
KBK	**Karagaybulak**	**2.91**	**351**	P	**Pb**	**08 05 25.8**	**-0.3**
	SNR=583						
AAK	**Ala-Archa**	**2.96**	**345**	⇑Pn	**Pb**	**08 05 25.0**	**-1.9**
	923nm,0.6s						
AAK				⇑Lg	Lg	08 06 06.2	
	4μm,

baz=9.0
ARK ⇓iS **Sb** **08 06 13.7 -1.3**
baz=9.0
ANVS Anan'yevo 3.40 28⇑iP **Pb** **08 05 31.2 -3.3**
baz=25
ANVS ⇑iS **Sb** **08 06 13.3 -2.5**
baz=25
MTBS Maitube 3.41 11 Pg **Pb** **08 05 37.1 +2.4**
comp=Z,276nm,0.7s
MTBS Lg Lg 08 06 23.2
comp=Z,735nm,0.4s
MTBS Maitube 3.41 11 eP **Pb** **08 05 37.1 +2.4**
comp=Z,276nm,0.7s
MTBS eS **Sg** **08 06 21.9 -2.0**
comp=Z,735nm,0.4s
TNSS Tian-Shan 3.42 18 Pg **Pb** **08 05 37.0 +2.0**
comp=Z,910nm,0.6s
TNSS Lg Lg 08 06 24.0
comp=Z,1μm,0.7s
TNSS Tian-Shan 3.42 18 eP **Pb** **08 05 37.0 +2.0**
comp=Z,910nm,0.6s
TNSS eS **Sg** **08 06 21.8 -2.5**
comp=Z,1μm,0.7s
MRKS Merke 3.43 330 Pg **Pb** **08 05 37.3 +2.3**
comp=Z,762nm,0.5s
MRKS Lg Lg 08 06 22.4
comp=Z,1μm,0.4s
MRKS Merke 3.43 330 eP **Pb** **08 05 37.3 +2.3**
comp=Z,762nm,0.5s
MRKS eS **Sg** **08 06 22.4 -2.3**
comp=Z,1μm,0.4s
PRZ Przheval'sk 3.46 38⇑iP **Pn** **08 05 31.5 +3.5**
baz=36
PRZ ⇑iS **Sb** **08 06 13.7 -3.8**
baz=36
PRZ Przheval'sk 3.46 38 PN **Pb** **08 05 33.3 -2.2**
PRZ Przheval'sk 3.46 38 **Pb** **08 05 33.4 -2.2**
PRZ Sn **Sn** **08 06 07.8 -1.1**
DGS Degeres 3.46 3 Pg **Pb** **08 05 37.8 +2.3**
comp=Z,646nm,0.6s
DGS Lg Lg 08 06 23.4
comp=Z,2μm,0.6s
DGS Degeres 3.46 3 eP **Pb** **08 05 37.8 +2.3**
comp=Z,646nm,0.6s
DGS eS **Sg** **08 06 23.4 -2.2**
comp=Z,2μm,0.6s
MDOK Medeo 3.57 18⇓Pn **Pb** **08 05 33.4 -3.9**
comp=Z,493nm,0.8s
MDOK ⇑Lg Lg 08 06 28.8
comp=Z,3μm,1.0s
MDOK Medeo 3.57 18 Pg **Pb** **08 05 39.1 +1.8**
comp=Z,405nm,0.8s
MDOK Lg Lg 08 06 27.5
comp=Z,1μm,1.7s
MDOK Medeo 3.57 18 eP **Pb** **08 05 39.1 +1.8**
comp=Z,405nm,0.8s
MDOK eS **Sg** **08 06 25.2 -3.6**
comp=Z,2μm,0.7s
MDOK Medeo 3.57 18 PN **Pb** **08 05 34.0 -3.3**
USP Ospenovka 3.57 348 P **Pb** **08 05 34.3 -3.0**
SNR=280
AAA Alma-Ata 3.58 16 Pg **Pg** **08 05 41.4 -1.5**
comp=Z,361nm,0.5s
AAA Lg Lg 08 06 30.3
comp=Z,1μm,0.8s
AAA Alma-Ata 3.58 16 eP **Pg** **08 05 41.4 -1.5**
comp=Z,361nm,0.5s
AAA eS **Sg** **08 06 29.1 -0.2**
comp=Z,1μm,0.8s
AAA Alma-Ata 3.58 16 ePN **Pg** **08 05 41.4 -1.5**
AAA pmax pmax
comp=Z,361nm,0.5s
KNDC Almaty 3.60 17⇑Pn **Pb** **08 05 34.4 -3.3**
comp=Z,733nm,0.6s
KNDC ⇑Lg Lg 08 06 30.6
comp=Z,7μm,1.1s
BTK Batken 3.63 276⇑iP **Pn** **08 05 34.3 +4.0**
baz=78
BTK ⇑iS **Sb** **08 06 18.8 -3.6**
baz=78
BTK Batken 3.63 276 PN **Pn** **08 05 34.3 +4.0**
BTK Batken 3.63 276 **Pn** **08 05 34.3 +4.0**
BTK Sn **Sn** **08 06 14.3 +1.3**
KOTS Kotyrbulak 3.65 18 Pg **Pg** **08 05 42.4 -1.9**
comp=Z,808nm,0.6s
KOTS Lg Lg 08 06 31.0
comp=Z,2μm,0.9s
KOTS Kotyrbulak 3.65 18 eP **Pg** **08 05 42.4 -1.9**
comp=Z,808nm,0.6s
KOTS eS **Sg** **08 06 31.0 -0.5**
comp=Z,2μm,0.9s
SGDS Sogindy 3.73 350 Pg **Pg** **08 05 43.5 -2.3**
comp=Z,449nm,0.6s
SGDS Lg Lg 08 06 32.9
comp=Z,2μm,0.8s
SATY Saty 3.92 32 Pg **Pg** **08 05 46.9 -2.6**
comp=Z,594nm,0.6s
SATY Lg Lg 08 06 39.7
comp=Z,857nm,0.9s
SATY Saty 3.92 32 eP **Pg** **08 05 46.9 -2.6**
comp=Z,594nm,0.6s
SATY eS **Sg** **08 06 38.4 -1.9**
comp=Z,2μm,0.8s
KTBS Karatobe 4.02 12 Pg **Pg** **08 05 49.1 -2.3**
comp=Z,393nm,0.9s
KTBS Lg Lg 08 06 42.0
comp=Z,2μm,0.9s
KTBS Karatobe 4.02 12 eP **Pg** **08 05 49.1 -2.3**
comp=Z,393nm,0.9s
KTBS eS **Sg** **08 06 42.1 -1.4**
comp=Z,2μm,0.9s
ZHN Zhinishke 4.03 32 eP **Pg** **08 05 49.7 -1.8**
comp=Z,285nm,0.4s
ZHN eS **Sg** **08 06 42.9 -0.7**
comp=Z,278nm,0.4s
GAR Garm 4.12 261 **Pn** **08 05 40.1 +3.2**
KUU Kurty 4.15 8 Pg **Pg** **08 05 51.8 -2.1**
comp=Z,195nm,0.3s
KUU Lg Lg 08 06 45.9
comp=Z,2μm,0.6s
KUU Kurty 4.15 8⇓iP **Pg** **08 05 51.8 -2.1**
comp=Z,195nm,0.3s
KUU eS **Sg** **08 06 46.8 -0.9**
comp=Z,2μm,0.6s
KURS Kuram 4.20 27 Pg **Pb** **08 05 51.0 +3.0**
comp=Z,338nm,0.6s
KURS Lg Lg 08 06 46.4
comp=Z,715nm,0.8s
KURS Kuram 4.20 27 eP **Pb** **08 05 51.0 +3.0**
comp=Z,338nm,0.6s
KURS eS **Sg** **08 06 45.3 -3.8**
comp=Z,587nm,0.8s
CHKK Chushkaly 4.21 14 Pg **Pb** **08 05 51.3 +3.1**
comp=Z,373nm,0.5s
CHKK Lg Lg 08 06 47.2
comp=Z,2μm,0.7s
CHKK Chushkaly 4.21 14⇑iP **Pb** **08 05 51.3 +3.1**
comp=Z,373nm,0.5s
CHKK eS **Sg** **08 06 45.9 -3.7**
comp=Z,2μm,0.9s
UZB Uzynbulak 4.26 37 eP **Pg** **08 05 53.6 -2.4**
comp=Z,169nm,0.5s
UZB eS **Sg** **08 06 49.6 -1.6**
comp=Z,473nm,1.1s
KPKS Kokpek 4.38 32 eP **Pg** **08 05 54.7 -3.4**
comp=Z,526nm,0.6s
KPKS eS **Sg** **08 06 52.3 -2.5**
comp=Z,1μm,0.5s
DZA Taraz 4.43 316 Pg **Pb** **08 05 55.6 +3.6**
comp=Z,431nm,0.7s
DZA Lg Lg 08 06 52.9
comp=Z,1μm,0.5s
DZA Taraz 4.43 316 eP **Pb** **08 05 55.6 +3.6**
comp=Z,431nm,0.7s
DZA eS **Sg** **08 06 53.1 -3.5**
comp=Z,1μm,0.5s
SHLS Shalkode 4.48 40 eP **Pg** **08 06 01.8 +1.6**
comp=Z,182nm,0.8s
SHLS eS **Sg** **08 07 03.6 +5.4**
comp=Z,1μm,0.8s
PDGK Podgornoye 4.62 39⇑Pn **Pn** **08 05 47.6 +3.6**
comp=Z,188nm,0.6s
PDGK ⇑Lg Lg 08 07 01.7
comp=Z,2μm,1.1s
PDGK Podgornoye 4.62 39 PN **Pn** **08 05 47.5 +3.6**
PDGK pmax pmax
comp=Z,188nm,0.6s
PDGK pmax pmax
comp=Z,2μm,1.1s
ARXS Arharly 4.75 20 Pg **Pb** **08 06 01.1 +3.7**
comp=Z,305nm,0.8s
ARXS Lg Lg 08 07 03.8
comp=Z,488nm,0.7s
ARXS Arharly 4.75 20 eP **Pb** **08 06 01.1 +3.7**
comp=Z,305nm,0.8s
ARXS eS **Sg** **08 07 02.5 -4.2**
comp=Z,488nm,0.7s
IUG Iuzhnay 4.79 301 Pg **Pb** **08 06 02.0 +3.9**
comp=Z,46nm,0.5s
IUG Lg Lg 08 07 04.7
comp=Z,2μm,1.1s
IUG Iuzhnay 4.79 301 eP **Pb** **08 06 02.0 +3.9**
comp=Z,46nm,0.5s
IUG eS **Sg** **08 07 04.7 -3.3**
comp=Z,2μm,1.1s
KK31 Karatay Array 5.03 313⇑Pn **Pn** **08 05 52.1 +2.8**
comp=Z,18nm,0.3s,baz=127,slow=12,SNR=307
KK31 ⇑Pg **Pg** **08 06 06.6 -4.0**
comp=Z,50nm,0.5s,baz=129,slow=13,SNR=7.4
KK31 ⇑Sn **Sn** **08 06 51.5 +4.3**
comp=Z,55nm,0.4s,baz=76,slow=44,SNR=5.2
KK31 ⇓Lg Lg 08 07 13.3
comp=Z,290nm,0.7s,baz=134,slow=26,SNR=4.7
KK31 Karatay Array 5.03 313 PN **Pn** **08 05 52.2 +2.9**
KK31 Karatay Array 5.03 313 **Pn** **08 05 52.2 +2.9**
KKAR Karatay Array 5.03 313 PN **Pn** **08 05 52.3 +3.0**
KKAR Karatay Array 5.03 313 **Pn** **08 05 52.3 +3.0**
KKAR Sn **Sn** **08 06 48.8 +1.6**
KKAR Karatay Array 5.03 313 **Pn** **08 05 52.2 +2.9**
KKAR Sn **Sn** **08 06 44.2 -2.9**
DJR Jarkent 5.54 33 Pg **Pg** **08 06 16.9 -3.6**
comp=Z,125nm,1.1s
DJR Lg Lg 08 07 30.4
comp=Z,306nm,1.1s
TDK Taldyqorghan 5.63 21 Pg **Pg** **08 06 18.7 -3.5**
comp=Z,291nm,0.8s
TDK Lg Lg 08 07 34.1
comp=Z,1μm,0.9s
KAPS Kapalarasan 6.18 26 Pg **Pg** **08 06 28.8 -3.9**
comp=Z,118nm,0.5s
KAPS Lg Lg 08 07 50.2
comp=Z,277nm,0.6s
CHCP Chirah Chowk 6.38 197 P Pn 08 06 12.9 +5.0
NIL Nilore 6.39 197 PN **Pn** **08 06 12.8 +4.7**
NIL Nilore 6.39 197 **Pn** **08 06 12.8 +4.7**
NIL Sn **Sn** **08 07 18.4 -2.4**
CEP Cherat 6.62 207 P **Pn** **08 06 15.3 +4.0**
CEP S **Sn** **08 07 28.0 +1.4**
JMU Jammu 7.07 184 eP **Pn** **08 06 21.0 +3.7**
JMU eS **Sn** **08 07 37.0 -0.5**
KBL Kabul 7.36 227 P **Pn** **08 06 23.9 +2.3**
KBL 08 07 45.3
KBL Kabul 7.36 227 **Pn** **08 06 23.9 +2.3**
KBL Sn **Sn** **08 07 45.3 +0.3**
DHRM DHARAMSHALA 7.54 175 eP **Pn** **08 06 27.4 +3.3**
DHRM eS **Sn** **08 07 49.5 +0.1**
DHRM IAML 08 07 57.5
comp=E,513nm,0.1s
SARP Sargodha 8.18 197 P **Pn** **08 06 34.5 +1.9**
MAKZ Makanchi 8.45 32⇓Pn **Pn** **08 06 40.0 +3.7**
comp=E,22nm,0.9s
MAKZ ⇓Lg Lg 08 09 04.1
comp=E,148nm,1.4s
MAKZ Makanchi 8.45 32 P **Pn** **08 06 40.3 +4.0**
MAKZ 08 08 12.6
MAKZ Makanchi 8.45 32 **Pn** **08 06 40.3 +4.0**
MAKZ Sn **Sn** **08 08 12.6 +1.2**
MK31 Makanchi Array 8.57 33 Pn **Pn** **08 06 41.3 +3.4**
comp=E,44nm,0.7s,baz=212,slow=13,SNR=305
MK31 ⇑Lg Lg 08 09 10.1
comp=E,70nm,0.8s
MK31 Makanchi Array 8.57 33 iP **Pn** **08 06 41.2 +3.4**
MK31 pmax pmax
comp=Z,44nm,0.7s
MK31 pmax pmax
comp=Z,70nm,0.8s
MK31 Makanchi Array 8.57 33 **Pn** **08 06 41.4 +3.4**
MKAR Makanchi Array 8.57 33 P **Pn** **08 06 41.0 +3.1**
MKAR Makanchi Array 8.57 33 Pn **Pn** **08 06 41.4 +3.5**
comp=Z,1.4nm,0.3s,baz=210,slow=13,SNR=85
MKAR Lg Lg 08 08 59.4
comp=Z,0.4nm,0.3s,baz=222,slow=23,SNR=2.6
MKAR LR LR 08 10 29.1
comp=Z,888nm,21.8s,baz=216,slow=41
MKAR Makanchi Array 8.57 33 **Pn** **08 06 41.0 +3.1**
SMLA Simla 8.73 171 eP **Pn** **08 06 42.0 +1.8**
SMLA eS **Sn** **08 08 17.3 -1.2**
SMLA IAML 08 08 24.2
comp=N,201nm,0.2s
DDI Dehra Dun 9.66 167 eP **Pn** **08 06 55.9 +2.9**
JOSI Joshimath 9.77 159 eP **Pn** **08 06 56.9 +2.2**
JOSI eS **Sn** **08 08 41.1 -3.2**
JOSI eS 08 08 43.5
JOSI IAML 08 08 46.0
comp=N,261nm,0.7s
JOSI IAML 08 08 46.4
comp=E,222nm,0.3s
WMQ Urumqi 9.94 62 eP Pn 08 07 02.2 +5.5
WMQ S Sn 08 08 57.5 +9.4
WMQ smax smax
comp=E,25nm,0.5s
WMQ smax smax
comp=E,30nm,0.7s
ZSN Zaisan 10.22 38 Pg Pn 08 07 40.0 +39
comp=E,21nm,0.8s
KALG Kalgarh 10.59 165 eP Pn 08 06 52.2 -13
KALG eS Sn 08 08 44.5 -19
KALG IAML 08 08 57.3
comp=E,450nm,0.9s
KURBB Kurchatov Arra 11.04 10⇑Pn **Pn** **08 07 13.2 +1.5**
comp=E,8.3nm,0.7s
KURBB ⇑Lg Lg 08 10 25.6
comp=E,588nm,1.4s
KURBB Kurchatov Arra 11.04 10 Pn **Pn** **08 07 12.6 +0.8**
comp=E,0.3nm,0.3s,baz=194,slow=12,SNR=23
KURBB Lg Lg 08 10 19.0
comp=E,0.5nm,0.3s,baz=204,slow=29,SNR=5.9
SEM Semipalatinsk 11.13 16 Pg Pn 08 08 00.0 +47
comp=E,8.3nm,0.5s
KURK Kurchatov 11.15 10 ceP **Pn** **08 07 15.4 +2.2**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 11.15 10 Pn **Pn** **08 07 14.6 +1.4**
KUDL Kundal 11.63 176 eP Pn 08 07 12.5 -7.4
KUDL eS Sn 08 09 15.3 -14
KUDL IAML 08 09 26.6
comp=E,35nm,0.6s
HRA Herat 11.89 247 **Pn** **08 07 22.4 -1.3**
DGZ Jazzator, Alta 13.02 36⇑iP **Pn** **08 07 41.0 +2.1**
DANN Dangsing 13.28 147 eP **Pn** **08 07 39.4 -3.3**
comp=E,88nm,0.5s
JASL Jaisalmer 13.39 198 eP **Pn** **08 07 42.1 -1.8**
GEYT Alibeck 13.70 268 Pn **Pn** **08 07 45.9 -2.3**
comp=E,2.7nm,0.3s,baz=95,slow=12,SNR=11
GEYT Sn **Sn** **08 10 13.2 -6.9**
comp=E,2.4nm,0.3s,baz=88,slow=14,SNR=4.7
GEYT LR LR 08 13 58.1
comp=E,440nm,19.7s,baz=80,slow=41
GEYT Alibeck 13.70 268 **Pn** **08 07 45.3 -2.9**
GEYT **Sn** **08 10 15.5 -4.6**
GYA0B ALIBECK ARRAY 13.70 268⇑Pn **Pn** **08 07 50.3 +2.1**
GYA0B ⇑Sn **Sn** **08 10 24.7 +4.6**
GYA0B ALIBECK ARRAY 13.70 268 **Pn** **08 07 46.3 -1.9**
GYA0B **Sn** **08 10 17.2 -2.9**
BVAR Borovoye Array 13.71 347 Pn **Pn** **08 07 48.6 +0.4**
comp=E,2.4nm,0.3s,baz=154,slow=13,SNR=51
KOLN Koldanda 13.72 148 eP **Pn** **08 07 45.8 -2.9**
comp=E,49nm,0.5s
BRVK Borovoye 13.76 347⇑Pn **Pn** **08 07 49.4 +0.6**
BRVK ⇑Lg Lg 08 11 51.5
comp=E,442nm,1.7s
BRVK Borovoye 13.76 347⇓iP **Pn** **08 07 50.0 +1.1**
BRVK pmax pmax
comp=E,18nm,1.3s
BRVK Borovoye 13.76 347 **Pn** **08 07 49.5 +0.6**
GKN Gorkha 13.96 145 eP **Pn** **08 07 49.1 -2.8**
comp=Z,111nm,0.6s
KKN Kakani 14.43 143 eP **Pn** **08 07 54.9 -3.5**
comp=Z,109nm,0.6s
DMN Daman 14.51 144 eP **Pn** **08 07 55.9 -3.6**
comp=Z,47nm,0.5s
AB31 Akbulak array 14.58 316 Pn **Pn** **08 07 59.9 -0.2**
comp=Z,11nm,0.5s,baz=127,slow=12,SNR=91
AB31 ⇑Lg Lg 08 12 16.6
comp=Z,16nm,0.8s,baz=253,slow=15,SNR=41
ABKAR Akbulak array 14.58 316 **Pn** **08 07 59.3 -0.8**
ABKAR Akbulak array 14.58 316 Pn **Pn** **08 07 59.4 -0.7**
GUN Gumba 14.62 141 eP **Pn** **08 07 57.2 -3.9**
comp=Z,102nm,0.6s
PKIN Phulchoki 14.67 143 eP **Pn** **08 07 58.0 -3.7**
comp=Z,62nm,0.6s
PKI Pulchoki 14.68 143 eP **Pn** **08 07 58.2 -3.7**
comp=Z,57nm,0.6s
JIRN Jiri 14.98 141 eP **Pn** **08 08 02.1 -3.9**
comp=Z,472nm,0.6s
ZAA0 Zalesovo Array 15.51 21⇑Pn **Pn** **08 08 13.5 +1.0**
comp=Z,5.3nm,1.1s
ZAA0 ⇑Lg Lg 08 12 50.1
comp=Z,14nm,1.4s
ZAA0 Zalesovo Array 15.51 21 **Pn** **08 08 13.4 +1.0**
ZALV Zalesovo Beam 15.51 21 diP **Pn** **08 08 13.2 +0.7**
ZALV Zalesovo Beam 15.51 21 Pn **Pn** **08 08 12.4 0.0**
comp=Z,0.9nm,0.3s,baz=206,slow=11,SNR=44
ZALV Sn **S** **08 11 20.0 +0.4**
comp=Z,0.2nm,0.3s,baz=222,slow=19,SNR=2.5
ZALV Lg Lg 08 12 41.9
comp=Z,0.1nm,0.3s,baz=209,slow=23,SNR=3.0
ZALV LR LR 08 14 37.1
comp=Z,585nm,22.0s,baz=216,slow=39
ZALV Zalesovo Beam 15.51 21 **Pn** **08 08 12.7 +0.2**
RAMN Ramite 15.77 141 eP **Pn** **08 08 11.5 -4.7**
comp=Z,181nm,0.7s
TAPN Taplejung 16.00 137 eP **Pn** **08 08 15.2 -4.1**
ODAN Odare 16.23 139 eP **Pn** **08 08 18.1 -4.1**
comp=Z,147nm,0.7s
AKTO Aktyubinsk 16.28 317⇑Pn **Pn** **08 08 23.3 +0.9**
AKTO ⇑Lg Lg 08 13 11.8
comp=Z,79nm,1.4s
AKTO Aktyubinsk 16.28 317 Pn **Pn** **08 08 22.4 0.0**
comp=Z,1.5nm,0.3s,baz=122,slow=12,SNR=43
AKTO Lg Lg 08 13 09.3
comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=1.7
AKTO LR LR 08 15 43.4
comp=Z,228nm,21.3s,baz=133,slow=41
LSA Lhasa 16.29 123 P **P** **08 08 25.2 -0.9**
LSA pmax pmax
comp=Z,21nm,1.2s
LSA Lhasa 16.29 123 Pn **P** **08 08 25.1 -0.9**
GTA Gaotai 18.71 83 eP **P** **08 08 49.0 -3.5**
GTA pP Pn 08 08 54.1 +1.2
GTA sP pP 08 08 57.3 +0.3
GTA S **Sn** **08 12 14.9 -7.0**
GTA sS S 08 12 20.4 -4.8
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,39nm,4.9s
GTA LR LR
comp=N,260nm,10.3s
GTA LR LR
comp=E,420nm,10.7s
GTA LR LR
comp=Z,620nm,10.3s
NGP Nagpur 18.81 170 eP **Pn** **08 09 00.3 +6.2**
NGP ex x 08 09 12.6
SVE Sverdlovsk 19.65 335 eP **Pn** **08 09 04.5 +0.6**
SVE pmax pmax
comp=Z,55nm,1.3s
ARU Arti 20.05 332 diP Pn 08 09 08.8 +0.2
ARU 08 09 25.3
ARU S Sn 08 12 54.0 +0.2
ARU SS **SnSn** **08 13 13.1 +4.9**
ARU pmax pmax
comp=Z,18nm,0.7s
ARU MLR MLR
comp=Z,756nm,16.0s
ARU Arti 20.05 332 P Pn 08 09 07.9 -0.7
comp=Z,3.8nm,0.3s,baz=166,slow=9.7,SNR=17
ARU Lg Lg 08 15 02.8
comp=Z,2.6nm,0.2s,baz=114,slow=21,SNR=4.3
ARU LR LR 08 17 24.8
comp=Z,717nm,19.5s,baz=131,slow=38
ARU Arti 20.05 332 P Pn 08 09 08.7 +0.1
ARU IAmb IAmb 08 09 16.6
comp=Z,22nm,0.7s
AKT Akhty 21.14 284 eP **P** **08 09 19.3 +0.4**
AKT e 08 09 39.5
AKT pmax pmax
comp=Z,22nm,0.8s
MAK Makhachkala 21.23 288 eP **P** **08 09 22.1 +2.4**
MAK eS **S** **08 13 16.4 +1.1**
MAK pmax pmax
comp=Z,573nm,1.3s
MAK MLR MLR
comp=Z,291nm,14.0s
MOY Mondy 21.26 48 eP **P** **08 09 22.4 +2.3**
MOY pmax pmax
comp=Z,21nm,1.6s
WSAR Wadi Sarin 21.84 226 P **P** **08 09 26.4 0.0**
comp=Z,4.3nm,0.5s,baz=84,slow=8.6,SNR=6.8
UOSS Minazif 21.96 233 P **P** **08 09 29.8 +2.1**
ZAK Zakamensk 22.15 52 eP **P** **08 09 29.8 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
HYB Hyderabad 22.44 172 iP **P** **08 09 31.0 -1.9**
HYB eS **S** **08 13 41.0 +2.1**
GROC Groznyy 22.48 288 eP **P** **08 09 34.5 +1.4**
GROC e 08 09 58.4
GROC eS **S** **08 13 40.1 +0.8**
GROC pmax pmax
comp=Z,145nm,1.2s
LZH Lanzhou 22.59 90 eP **P** **08 09 38.1 +3.5**
LZH pP sP 08 09 48.1 +6.8
LZH sP pP 08 09 52.4 +13
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,350nm,14.1s
LZH LR LR
comp=Z,680nm,15.3s
TLY Talaya 22.79 49 P **P** **08 09 37.1 +0.7**
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 22.79 49 P **P** **08 09 38.4 +2.0**
comp=Z,2.3nm,0.6s,baz=266,slow=14,SNR=3.0
TLY LR LR 08 18 48.8
comp=Z,148nm,21.1s,baz=258,slow=37
TLY Talaya 22.79 49 P **P** **08 09 37.1 +0.7**
TBLG Delisi 23.35 285 P **P** **08 09 43.5 +1.3**
TBLG Delisi 23.35 285 P **P** **08 09 43.5 +1.3**
GNI Garni 23.55 281 iP **P** **08 09 46.6 +2.2**
GNI pmax pmax
comp=Z,133nm,1.1s
GNI Garni 23.55 281 P **P** **08 09 46.1 +1.8**
comp=Z,20nm,0.7s,baz=172,slow=2.6,SNR=13
GNI LR LR 08 20 53.3
comp=Z,107nm,21.4s,baz=70,slow=42
GNI Garni 23.55 281 P **P** **08 09 44.7 +0.3**
GNI IAmb IAmb 08 09 48.3
comp=Z,40nm,1.1s
SONM Songino Array 23.56 60 P **P** **08 09 45.3 +0.9**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 23.56 60 P **P** **08 09 45.4 +0.9**
comp=Z,6.8nm,0.8s,baz=263,slow=10,SNR=48
SONM LR LR 08 20 01.2
comp=Z,537nm,20.4s,baz=268,slow=39
SONM Songino Array 23.56 60 P **P** **08 09 45.3 +0.9**
ZEI Tsey 23.89 288 eP **P** **08 09 47.9 +0.2**
ZEI pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 24.01 60 ciP **P** **08 09 49.7 +1.0**
ULN pmax pmax
comp=Z,17nm,0.7s
ULN Ulaanbaatar 24.01 60 P **P** **08 09 49.6 +0.9**
ULN IAmb IAmb 08 09 50.8
comp=Z,18nm,0.7s
AKH Akhalkalaki 24.31 284 P **P** **08 09 50.7 -0.9**
AKH pmax pmax
comp=Z,22nm,1.1s
AKH Akhalkalaki 24.31 284 P **P** **08 09 50.7 -0.9**
AKH IAmb IAmb 08 10 05.0
comp=Z,22nm,1.1s
KBZ Khabaz 24.57 290 P **P** **08 09 54.1 +0.4**
comp=Z,3.4nm,0.6s,baz=140,slow=6.3,SNR=7.4

KBZ LR LR 08 21 52.7
comp=Z,202nm,19.2s,baz=87,slow=42
CD2 Chengdu 24.59 102 P P 08 09 56.7 +2.7
CD2 S **S 08 14 19.4 +4.8**
CD2 LR LR
comp=Z,490nm,9.2s
CD2 LR LR
comp=Z,530nm,10.6s
CD2 LR LR
comp=Z,680nm,9.4s
KVAR Kislovodsk Arr 24.71 290 P P 08 09 55.6 +0.4
comp=Z,4.3nm,0.4s,baz=78,slow=20,SNR=4.3
KVAR LR LR 08 20 28.4
comp=Z,242nm,21.1s,baz=239,slow=39
KIV Kislovodsk 24.72 290 P P 08 09 55.7 +0.5
KIV pmax pmax
comp=Z,11nm,0.7s
KIV Kislovodsk 24.72 290 P P 08 09 55.7 +0.5
KIRV Kirov 25.13 327 P P 08 09 59.7 +1.1
comp=Z,45nm,0.5s,baz=120,slow=4.1,SNR=14
KIRV LR LR 08 20 36.0
comp=Z,1μm,18.8s,baz=103,slow=38
VRH Novokhopyorsk 26.08 307 *e*P **P 08 10 07.2 0.0**
VRH pmax pmax
comp=Z,30nm,0.6s
KMI Kunming 27.08 114 P P 08 10 22.0 +5.2
KMI pP sP 08 10 29.4 +5.6
KMI sP pP 08 10 33.6 +12
KMI S **S 08 14 56.8 +2.1**
KMI sS sS 08 15 10.0 +7.3
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI pmax pmax
comp=Z,140nm,6.4s
KMI LR LR
comp=Z,180nm,12.8s
KMI LR LR
comp=Z,350nm,14.5s
KMI LR LR
comp=Z,320nm,11.7s
XAN Xi'an 27.20 92 P P 08 10 18.9 +1.2
XAN S **S 08 14 55.4 -0.7**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=Z,450nm,10.2s
XAN LR LR
comp=Z,180nm,9.9s
XAN LR LR
comp=Z,440nm,16.7s
XAN Xi'an 27.20 92 P P 08 10 18.4 +0.7
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN Xi'an 27.20 92 P P 08 10 18.4 +0.7
HHC Hu-ho-hao-te 27.38 76 *e*P **P 08 10 22.3 +3.0**
HHC pmax pmax
comp=Z,5.0nm,0.9s
VSR Storozhevoye 27.66 307 *e*P **P 08 10 21.3 -0.2**
VSR pmax pmax
comp=Z,30nm,1.2s
LPSR Galich'ya Gora 28.07 309 *e*P **P 08 10 24.6 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
PRGR Permogore 28.48 330 *e*P **P 08 10 26.8 -1.9**
PRGR pmax pmax
comp=Z,21nm,0.5s
CHTO Chiang Mai 29.06 129 P P 08 10 33.3 -0.9
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 29.06 129 P P 08 10 33.3 -0.9
GYA Guiyang 29.10 108 *e*P P 08 10 29.8 -5.0
GYA S S 08 15 16.8 -9.5
GYA pmax pmax
comp=Z,20nm,4.9s
GYA LR LR
comp=N,200nm,14.8s
GYA LR LR
comp=E,140nm,15.7s
GYA LR LR
comp=Z,190nm,15.0s
CMAR Chiang Mai Arr 29.33 130 P P 08 10 35.2 -1.5
comp=Z,1.3nm,0.3s,baz=310,slow=7.0,SNR=3.0
CMAR PcP **PcP 08 13 42.8 -0.2**
comp=Z,2.2nm,0.7s,baz=310,slow=3.4,SNR=3.9
CMAR LR LR 08 25 37.2
comp=Z,117nm,18.3s,baz=305,slow=43
CMAR Chiang Mai Arr 29.33 130 P P 08 10 35.9 -0.8
CMAR **PcP 08 13 44.2 +1.1**
OBN Obninsk 30.02 314⇓*e*P **P 08 10 43.4 +1.0**
OBN *SP sP 08 11 02.0 +13
OBN 08 11 43.0
OBN *i* S **S 08 15 38.7 -1.1**
OBN SS **SnSn 08 17 12.0 +0.3**
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,397nm,16.0s
RAYN Ar Rayn 30.08 246 P P 08 10 44.2 +0.8
RAYN pmax pmax
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 30.08 246 P P 08 10 44.2 +0.8
NRIK Noril'sk 30.31 8 P P 08 10 45.5 +0.7
comp=Z,6.9nm,0.8s,baz=188,slow=7.4,SNR=11
NRIK LR LR 08 24 32.1
comp=Z,401nm,19.7s,baz=194,slow=39
DIKM Dikmen 30.39 287 ⇑P **P 08 10 48.2 +2.3**
DIKM mb 08 10 48.8
BOD Bodaibo 30.54 41 *e*P **P 08 10 46.8 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.6s
KLMR Klimovskoe 30.59 326 *e*P **P 08 10 45.4 -2.0**
KLMR pmax pmax
comp=Z,13nm,1.6s
KLMR Klimovskoe 30.59 326 *e*P **P 08 10 45.4 -2.0**
KLMR AMP 08 10 49.0
comp=Z,13nm,1.6s
BZK Bozkurt 31.26 288 ⇑P **P 08 10 54.9 +1.3**
BZK mb 08 10 55.5
ILGA Ilgaz 31.64 286 P P 08 10 58.7 +1.4
ILGA IAmb IAmb 08 10 60.0
comp=Z,15nm,0.8s
BR131 Keskin Array S 32.00 284 P P 08 11 01.3 +1.0
BR131 pmax pmax
comp=Z,18nm,0.6s
BR131 Keskin Array S 32.00 284 P P 08 11 01.3 +1.0
BR131 IAmb IAmb 08 11 02.4
comp=Z,18nm,0.6s
BRTR Keskin Array B 32.00 284 P P 08 11 01.2 +1.0
comp=Z,17nm,0.8s,baz=91,slow=8.3,SNR=65
BRTR LR LR 08 26 17.3
comp=Z,68nm,18.4s,baz=356,slow=41
BRTR Keskin Array B 32.00 284 P P 08 11 01.6 +1.3
ANTO Ankara 32.59 284 P P 08 11 07.5 +2.1
ANTO pmax pmax
comp=Z,16nm,1.1s
ANTO Ankara 32.59 284 P P 08 11 07.5 +2.1
ANTO IAmb IAmb 08 11 08.8
comp=Z,16nm,1.1s
PALK Pallekele 32.70 170 LR LR 08 24 44.4
comp=Z,281nm,20.5s,baz=295,slow=37
WHN Wuhan 32.83 94 P P 08 11 13.7 +6.2
AKASG Malin Array Be 33.86 304 P P 08 11 16.4 +0.2
comp=Z,3.8nm,0.6s,baz=78,slow=8.1,SNR=4.4
AKASG PcP **PcP 08 13 54.2 -0.5**
comp=Z,1.4nm,0.4s,baz=75,slow=3.2,SNR=2.9
AKASG LR LR 08 27 27.6
comp=Z,188nm,19.8s,baz=90,slow=40
AKASG Malin Array Be 33.86 304 P P 08 11 17.2 +1.0
AKASG **PcP 08 13 54.4 -0.3**
AKBB Malin Array Si 33.86 304 *i* P **P 08 11 16.7 +0.5**
AKBB Malin Array Si 33.86 304 P P 08 11 16.9 +0.6
AKBB IAmb IAmb 08 11 17.5
comp=Z,15nm,0.7s
TLB Topalu 35.12 294 ⇑P **P 08 11 28.4 +1.2**
NJ2 Nanjing 35.65 89 *e*P **P 08 11 32.7 +0.9**
NJ2 pmax pmax
comp=Z,12nm,0.7s
ELL Elmali 35.66 280 P P 08 11 34.3 +2.3
ELL pmax pmax
comp=Z,16nm,0.6s
ELL Elmali 35.66 280 P P 08 11 34.4 +2.3
TESR Tescani 35.82 297 ⇑P **P 08 11 34.0 +0.8**
VRI Vrincioaia 35.85 296 ⇑P **P 08 11 35.3 +1.8**
LVZ Lovozero 35.87 335 P P 08 11 33.7 +0.3
LVZ pmax pmax
comp=Z,33nm,0.9s
LVZ Lovozero 35.87 335 P P 08 11 33.7 +0.3
IIGN Ignalina 35.90 312 *e*P **P 08 11 35.5 +1.7**
PLOR Plostina 35.91 296 ⇑P **P 08 11 35.8 +1.8**
IZAR Zarasai 35.92 313 *e*P **P 08 11 35.1 +1.2**
ISAL Salakas 35.97 313 *e*P **P 08 11 35.4 +1.0**
VSU Vasula 36.00 318 *c e*P **P 08 11 35.4 +0.8**
VSU pmax pmax
comp=Z,60nm,1.3s
MANT Manisa 36.13 283 P P 08 11 37.5 +1.3
BIZ Bicaz 36.14 298 ⇑P **P 08 11 37.1 +1.1**
MLR Muntele Rosu 36.45 296 P P 08 11 39.8 +1.1
MLR pmax pmax
comp=Z,16nm,1.0s
MLR Muntele Rosu 36.45 296 ⇑P **P 08 11 41.0 +2.3**
MLR Muntele Rosu 36.45 296 P P 08 11 39.8 +1.1
MLR IAmb IAmb 08 11 43.0
comp=Z,16nm,1.0s
BURAR Bucovina Array 36.66 299 ⇑P **P 08 11 41.9 +1.4**
BURAR Bucovina Array 36.66 299 P P 08 11 40.5 +0.1
BUR08 Bucovina Ar. S 36.66 299 P P 08 11 41.7 +1.1
FIA1 FINESS Array S 36.91 323 P P 08 11 43.3 +1.0
FINES FINESS Array B 36.91 323 P P 08 11 42.8 +0.6
comp=Z,11nm,0.5s,baz=108,slow=8.9,SNR=96
FINES LR LR 08 27 24.6
comp=Z,468nm,18.6s,baz=69,slow=37
CN2 Changchun 36.98 67 *e*P **P 08 11 44.6 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,400nm,15.0s
VOIR 37.08 296 ⇑P **P 08 11 45.1 +1.0**
PABE Paberze 37.19 312 *e*P **P 08 11 46.0 +1.3**
ARCR ARCALIA 37.30 299 ⇑P **P 08 11 48.1 +2.2**
EZN Ezine 37.41 286 ⇑P **P 08 11 48.4 +1.6**
EZN mb 08 11 49.2
LOT Lotru 37.96 296 ⇑P **P 08 11 52.9 +1.3**
KWP Kalwaria Pacla 38.10 303 P P 08 11 53.8 +1.3
KWP pmax pmax
comp=Z,184nm,0.5s
KWP Kalwaria Pacla 38.10 303 *e*P **P 08 11 54.1 +1.6**
KWP *e*P **P 08 11 54.1 +1.6**
KWP Kalwaria Pacla 38.10 303 P P 08 11 53.8 +1.3
KARP Karpathos 38.16 279 P P 08 11 53.7 +0.4
TRPA Tarpa 38.38 301 ⇑P **P 08 11 56.7 +1.8**
TRPA mb 08 11 57.5
KOLS Kolonicke sedl 38.46 302 *e*P **P 08 11 56.0 +0.4**
KOLS Kolonicke sedl 38.46 302 *e*P **P 08 11 56.0 +0.4**
UZH Uzhgorod 38.48 301 ⇓*i*P **P 08 11 56.6 +0.9**
UZH *e* 08 12 09.4
GZR Gura Zlata 38.66 296 ⇓P **P 08 11 58.8 +1.4**
APE Apeiranthos 38.86 282 ⇑P **P 08 11 59.9 +0.8**
APE mb 08 12 00.8
VTS Vitosha 38.94 292 P P 08 11 59.0 -0.8
VTS pmax pmax
comp=Z,4.0nm,0.6s
VTS Vitosha 38.94 292 mb 08 12 02.1
VTS ⇑P **P 08 12 02.4 +2.5**
VTS Vitosha 38.94 292 P P 08 11 59.0 -0.8
STHS Stebnicka Huta 39.07 303 *e*P **P 08 11 58.4 -2.3**
STHS Stebnicka Huta 39.07 303 *e*P **P 08 11 58.4 -2.3**
YAK Yakutsk 39.21 37 *e*P **P 08 12 01.5 -0.2**
YAK *e* 08 14 08.0
YAK *e*S **S 08 17 57.8 -3.4**
YAK *e*SSS SSS 08 21 18.2
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=E,17nm,1.6s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=Z,70nm,3.5s
YAK pmax pmax
comp=N,32nm,2.7s
YAK pmax pmax
comp=E,32nm,3.0s
YAK smax smax
comp=E,80nm,4.4s
YAK smax smax
comp=N,29nm,3.2s
YAK MLR MLR
comp=Z,474nm,14.0s
YAK MLR MLR
comp=E,399nm,18.0s
YAK Yakutsk 39.21 37 P P 08 12 01.9 +0.2
comp=E,8.7nm,0.6s,baz=20,slow=2.1,SNR=4.8
YAK Yakutsk 39.21 37 P P 08 12 01.9 +0.2
YAK IAmb IAmb 08 12 03.5
comp=Z,17nm,0.7s
SIRR Siria 39.27 298 ⇑P **P 08 12 04.8 +2.4**
MDVR Moldovita 39.52 295 ⇑P **P 08 12 06.2 +1.6**
ARCES ARCESS Array B 39.58 335 P P 08 12 05.5 +0.8
comp=Z,7.8nm,0.4s,baz=106,slow=8.9,SNR=125
ARCES LR LR 08 29 03.1
comp=Z,395nm,19.1s,baz=253,slow=37
ARE0 ARCESS Array S 39.58 335 P P 08 12 05.7 +0.9
NIE Niedzica 39.68 303 *e*P **P 08 12 07.5 +1.6**
NIE Niedzica 39.68 303 *e*P **P 08 12 07.5 +1.6**
NIE *e*P **P 08 12 07.5 +1.6**
KECS Kecovo 39.69 301 *e*P **P 08 12 07.9 +2.0**
KECS Kecovo 39.69 301 *e*P **P 08 12 07.9 +2.0**
MDJ Mudanjiang 39.73 65 P P 08 12 07.6 +1.4
MDJ pmax pmax
comp=Z,5.0nm,0.5s
MDJ pmax pmax
comp=Z,150nm,4.8s
MDJ LR LR
comp=Z,110nm,10.0s
MDJ LR LR
comp=Z,450nm,14.2s
OJC Ojcow 39.90 304 *e*P **P 08 12 08.4 +0.8**
OJC Ojcow 39.90 304 *e*P **P 08 12 08.4 +0.8**
OJC *e*P **P 08 12 08.4 +0.8**
OJC Ojcow 39.90 304 P P 08 12 08.5 +0.8
OJC IAmb IAmb 08 12 09.4
comp=Z,17nm,0.8s
LIT Litokhoron 40.16 288 P P 08 12 10.5 +0.6
LIT pmax pmax
comp=Z,8.0nm,1.1s
LIT Litokhoron 40.16 288 P P 08 12 10.5 +0.6
PSZ Piszkesteto 40.17 301 P P 08 12 11.3 +1.4
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 40.17 301 P P 08 12 11.3 +1.4
KLR Kul'dur 40.34 57 *i* P **P 08 12 11.6 +0.2**
KLR pmax pmax
comp=Z,12nm,2.8s
KLR Kul'dur 40.34 57 P P 08 12 11.5 +0.2
comp=Z,2.2nm,0.5s,baz=271,slow=8.0,SNR=8.9
KSAR Wonju Array Be 40.50 76 P P 08 12 13.0 +0.3
KSAR Wonju Array Be 40.50 76 P P 08 12 13.1 +0.3
KSRS Korea Array 40.52 76 P P 08 12 13.2 +0.3
comp=Z,2.2nm,0.8s,baz=281,slow=6.5,SNR=3.1
KSRS LR LR 08 31 43.7
comp=Z,119nm,18.2s,baz=298,slow=40
AGG Agios Georgios 40.61 287 P P 08 12 14.2 +0.6
AGG Agios Georgios 40.61 287 P P 08 12 14.2 +0.6
FNA Florina 40.77 290 P P 08 12 15.4 +0.4
FNA pmax pmax
comp=Z,7.0nm,0.7s
FNA Florina 40.77 290 P P 08 12 15.4 +0.4
VYHS Vyhne 40.77 302 *e*P **P 08 12 16.3 +1.4**
VYHS Vyhne 40.77 302 *e*P **P 08 12 16.3 +1.4**
MORC Moravsky Berou 41.41 304 P P 08 12 21.3 +1.2
MORC pmax pmax
comp=Z,12nm,0.8s
MORC Moravsky Berou 41.41 304 ⇑P **P 08 12 21.5 +1.4**
MORC mb 08 12 22.2
MORC Moravsky Berou 41.41 304 *e*P **P 08 12 21.1 +1.0**
MORC Moravsky Berou 41.41 304 P P 08 12 21.3 +1.2
MORC IAmb IAmb 08 12 22.2
comp=Z,12nm,0.8s
JAVC Velka Javorina 41.47 302 *e*P **P 08 12 23.1 +2.4**
USA0B Ussuriysk Arra 41.49 65 P P 08 12 22.1 +1.3
USA0B pmax pmax
comp=Z,3.0nm,0.7s
USA0B Ussuriysk Arra 41.49 65 P P 08 12 22.1 +1.3
USRK Ussuriysk Ar. 41.49 65 LR LR 08 31 31.1
comp=Z,219nm,19.2s,baz=298,slow=39
ITM Ithomi 41.52 284 P P 08 12 20.4 -0.8
ITM IAmb IAmb 08 12 21.2
comp=Z,11nm,0.6s
PDG Podgorica 41.83 293 ⇑P **P 08 12 24.7 +1.1**
PDG Podgorica 41.83 293 P P 08 12 24.5 +0.9
PDG IAmb IAmb 08 12 25.2
comp=Z,17nm,0.6s
KSP Ksiaz 42.03 306 *e*P **P 08 12 26.3 +1.1**
KSP Ksiaz 42.03 306 *e*P **P 08 12 26.3 +1.1**
KSP *e*P **P 08 12 26.3 +1.1**
VRAC Vranov 42.09 303 *e*P **P 08 12 27.0 +1.3**
DPC Dobruska-Polom 42.09 305 *e*P **P 08 12 27.2 +1.5**
DPC MLR MLR
comp=Z,400nm,15.6s
DPC Dobruska-Polom 42.09 305 *e*P **P 08 12 27.2 +1.5**
DPC AMS AMS 08 33 00.0
comp=Z,400nm,15.6s
CHVC Chvalec 42.22 305 *e*P **P 08 12 28.3 +1.5**
KRUC Moravsky 42.26 303 *e*P **P 08 12 28.7 +1.6**
UPC Upice 42.26 305 *e*P **P 08 12 28.6 +1.5**
UPC Upice 42.26 305 *e*P **P 08 12 28.6 +1.5**
CONA Conrad Observa 42.83 301 *e*P **P 08 12 33.2 +1.4**
comp=Z,15nm,0.9s,SNR=9.1
PVCC Panska Ves 43.17 305 *e*P **P 08 12 35.9 +1.5**
PVCC Panska Ves 43.17 305 *e*P **P 08 12 35.9 +1.5**
PRU Pruhonice 43.28 305 *e*P **P 08 12 36.7 +1.4**
PRU Pruhonice 43.28 305 *e*P **P 08 12 36.7 +1.4**
BRG Berggiesshubel 43.50 306 *i* P **P 08 12 38.2 +1.2**
comp=Z,16nm,0.6s
BRG PP PP 08 14 10.0 -8.1
BRG S **S 08 19 00.0 -5.2**
BRG Berggiesshubel 43.50 306 *i* P **P 08 12 38.2 +1.2**
BRG S **S 08 19 00.0 -5.2**
BRG pmax pmax
comp=Z,14nm,0.6s
PERS Pernice 43.61 300 *i* P **P 08 12 39.4 +1.3**
SOKA Soboth 43.66 300 *e*P **P 08 12 39.4 +0.8**
comp=Z,8.0nm,0.6s,SNR=8.0
NC405 NORSAR Array S 43.76 321 P P 08 12 39.5 +0.5
BOJS Bojanci 43.80 298 *i* P **P 08 12 40.9 +1.4**
NC602 NORSAR Array S 43.85 320 P P 08 12 39.7 -0.1
MOA Molln 43.90 302 *e*P **P 08 12 41.4 +1.0**
comp=Z,6.3nm,0.8s
NC303 NORSAR Array S 43.93 321 P P 08 12 40.8 +0.4
NB201 NORSAR Array S 43.97 321 P P 08 12 41.4 +0.7
VISS Visnje 44.00 299 *i* P **P 08 12 42.6 +1.4**
NB2 NORSAR Subarra 44.01 321 P P 08 12 40.9 -0.1
comp=Z,2.8nm,0.5s,baz=89,slow=8.6
NOA NORSAR Array B 44.01 321 P P 08 12 41.1 +0.1
comp=Z,4.5nm,0.6s,baz=90,slow=8.0,SNR=16
NOA LR LR 08 32 05.8
comp=Z,278nm,19.6s,baz=90,slow=37
CLL Collm 44.01 307⇑*i*P **P 08 12 41.9 +0.8**
CLL pmax pmax
comp=Z,26nm,1.1s
CLL Collm 44.01 307⇑*i*P **P 08 12 41.9 +0.8**
comp=Z,26nm,1.1s
CLL *e* 08 12 47.0
CLL LmV 08 32 00.0
comp=Z,300nm,19.4s
CLL Collm 44.01 307 P P 08 12 41.7 +0.6
CLL IAmb IAmb 08 12 42.7
comp=Z,18nm,0.7s
OBKA Obir 44.02 300 *e*P **P 08 12 43.1 +1.6**
comp=Z,11nm,0.9s
GEC2 GERESS Array S 44.05 303 P P 08 12 43.0 +1.4
GEC2 IAmb IAmb 08 12 43.9
comp=Z,18nm,0.7s
GERES GERESS Array B 44.05 303 P P 08 12 42.7 +1.1
comp=Z,12nm,0.5s,baz=68,slow=7.4,SNR=62
GERES LR LR 08 33 58.6
comp=Z,256nm,19.2s,baz=85,slow=40
KHC Kasperske Hory 44.07 304 *e*P **P 08 12 43.0 +1.3**
KHC Kasperske Hory 44.07 304 *e*P **P 08 12 43.0 +1.3**
KHC Kasperske Hory 44.07 304 P P 08 12 43.0 +1.3
NAO01 NORSAR Array S 44.17 321 P P 08 12 43.7 +1.4
NC204 NORSAR Array S 44.22 321 P P 08 12 43.2 +0.5
JAVS Javornik 44.50 299 *i* P **P 08 12 45.9 +0.5**
TIP Timpagrande 44.64 289 ⇑P **P 08 12 47.1 +0.6**
KBA Koelnbreinsper 44.69 301 *e*P **P 08 12 47.5 +0.6**
comp=Z,4.1nm,0.5s,SNR=5.5
TRI Trieste 44.76 299 P P 08 12 48.0 +0.8
TRI pmax pmax
comp=Z,41nm,0.6s
TRI Trieste 44.76 299 P P 08 12 48.0 +0.8
ABTA Abfaltersbach 45.32 300 *e*P **P 08 12 52.3 +0.5**
comp=Z,6.2nm,0.6s
GRA1 Grafenberg Arr 45.45 305 P P 08 12 54.0 +1.3
GRF Grafenberg Arr 45.45 305 P P 08 12 54.0 +1.3
GRF pmax pmax
comp=Z,28nm,0.8s
CEL Celeste 45.60 288 P P 08 12 54.9 +0.8
CEL IAmb IAmb 08 12 55.9
comp=Z,20nm,0.8s
WTTA Wattenberg 45.77 301 *e*P **P 08 12 55.7 +0.3**
comp=Z,13nm,0.6s,SNR=6.9
WATA Walderalm 45.79 302 *e*P **P 08 12 55.8 +0.2**
comp=Z,5.7nm,0.5s
NRCA Norcia 46.04 295 P P 08 12 58.3 +0.8
NRCA IAmb IAmb 08 12 59.9
comp=Z,18nm,0.9s
SQTA Sankt Quirin 46.06 301 *e*P **P 08 12 58.6 +0.9**
comp=Z,5.4nm,0.4s
CTI Castel Tesino 46.09 300 P P 08 12 57.7 -0.2
CTI pmax pmax
comp=Z,9.0nm,0.9s
CTI Castel Tesino 46.09 300 P P 08 12 57.7 -0.2
CTI IAmb IAmb 08 12 58.3
comp=Z,8.6nm,0.9s
MOTA Moosalm 46.09 302 *e*P **P 08 12 58.0 0.0**
comp=Z,6.3nm,0.6s,SNR=5.2
TEOL Teolo 46.27 299 P P 08 12 59.5 +0.3
RETA Reutte 46.28 302 *e*P **P 08 13 00.4 +1.1**
comp=Z,12nm,0.5s
MURB Monte Urbino 46.31 296 P P 08 13 02.1 +2.4
DAVA Damuels 46.91 302 *e*P **P 08 13 05.0 +0.6**
comp=Z,27nm,0.6s,SNR=7.1
STU Stuttgart 46.96 304 P P 08 13 05.6 +1.0
STU pmax pmax
comp=Z,18nm,0.8s
STU Stuttgart 46.96 304 P P 08 13 05.6 +1.0
STU IAmb IAmb 08 13 06.6
comp=Z,18nm,0.8s
SALO Salr 46.96 300 P P 08 13 05.2 +0.5
TUE Stuetta 47.49 301 P P 08 13 08.7 -0.3
TUE IAmb IAmb 08 13 10.8
comp=Z,7.8nm,0.8s
BFO Black Forest 47.63 304 P P 08 13 10.5 +0.7
BFO pmax pmax
comp=Z,9.0nm,0.6s
BFO Black Forest 47.63 304 P P 08 13 10.5 +0.7
BFO IAmb IAmb 08 13 10.9
comp=Z,8.5nm,0.6s
MJAR Matsushiro Arr 48.50 73 P P 08 13 16.4 -0.3
comp=Z,4.7nm,0.8s,baz=286,slow=9.7,SNR=7.5
MJAR LR LR 08 35 15.2
comp=Z,51nm,19.2s,baz=340,slow=38
SENIN Lac Senin/Sane 48.88 301 P P 08 13 19.9 +0.2
BNI Bardonecchia 49.71 300 P P 08 13 25.9 -0.1
BNI pmax pmax
comp=Z,45nm,1.3s
BNI Bardonecchia 49.71 300 P P 08 13 25.9 -0.1
SSB Saint Sauveur 51.06 301 P P 08 13 35.8 -0.2
SSB pmax pmax
comp=Z,61nm,1.5s
SSB Saint Sauveur 51.06 301 P P 08 13 35.9 -0.2
KEST Kesra 51.41 288 P P 08 13 39.5 +0.6
comp=Z,3.0nm,0.4s,baz=330,slow=1.0,SNR=6.6
KEST Kesra 51.41 288 P P 08 13 40.2 +1.3
KEST IAmb IAmb 08 13 40.3
comp=Z,5.1nm,0.6s
DAG Danmarks Havn 52.61 343 *i* P **P 08 13 47.0 -0.1**
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 52.61 343 *i* P **P 08 13 47.0 -0.1**
comp=Z,7.8nm,0.7s
KMBO Kilima Mbogo 53.67 230 P P 08 13 55.0 -1.1
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 53.67 230 P P 08 13 55.2 -0.9
comp=Z,0.6nm,0.4s,baz=60,slow=20,SNR=2.5
KMBO Kilima Mbogo 53.67 230 P P 08 13 55.0 -1.1
KMBO IAmb IAmb 08 14 07.6
comp=Z,8.3nm,1.3s
BILL Bilibino 54.07 28⇓*e*P **P 08 13 59.4 +1.4**
BILL *SP sP 08 14 17.0 +12
BILL pmax pmax

IDC 04 08:07:12.2±6.6, 7°27'S×129°66'E, h170km±67km, mb3.6/1, mb1 3.2/4, mb1mx2.9/40, mbtmp3.6/4, Error ellipse: s-maj=63.4km s-min=30.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.45**	**200**	P		Pn	08 09 51.7	+0.8
	0.4nm,0.3s,baz=25,slow=9.8,SNR=13							
FITZ				S		Sn	08 11 56.9	-1.1
	1.1nm,0.3s,baz=22,slow=19,SNR=8.2							
WRA	**Warramunga Arr**	**13.39**	**161**	P		Pn	08 10 14.8	-0.9
	0.3nm,0.3s,baz=341,slow=13,SNR=11							
WRA				S		Sn	08 12 37.4	-7.2
	0.8nm,0.3s,baz=337,slow=22,SNR=7.3							
ASAR	**Alice Springs**	**16.81**	**166**	P		Pn	08 10 58.6	+0.9
	0.1nm,0.3s,baz=344,slow=9.5,SNR=8.7							
ASAR				S		S	08 14 03.4	-0.1
	0.2nm,0.3s,baz=351,slow=28,SNR=6.4							
MKAR	**Makanchi Array**	**68.26**	**327**	P		P	08 17 54.5	-0.1
	0.9nm,0.5s,baz=126,slow=7.2,SNR=9.0							

*ISCJB **04** 08:10:53.7±0.2, 12°35'N±0°03'×87°46'W±0°03, h67km, mb4.0/9, Error ellipse: s-maj=5.0km s-min=2.4km az=35.5*
*GCG **04** 08:10:53.8±0.5, 12°55'N×87°23'W, h30km±999km, MD4.5*
*NEIC **04** 08:10:54.9±1.6, 12°34'N±0°05'×87°45'W±0°04, h65km±7km, mb4.5/96, Md4.1(SNET)*
*IDC **04** 08:10:55.1±1.5, 12°45'N×87°27'W, h74km±17km, mb3.8/9, mb1 4.0/12, mb1mx3.7/36, mbtmp4.0/12, MS3.2/5, Ms1 3.2/5, ms1mx2.9/30, Error ellipse: s-maj=33.1km s-min=11.5km az=48.0*
*SNET **04** 08:10:55.2±0.8, 12°37'N×87°63'W, h26km±9km, ML4.1*
*UCR **04** 08:10:59.1±1.3, 12°29'N×87°00'W, h14km±16km, MW4.2, mb4.1(NEIC)*

ISC 04 08:10:54.6±0.5, 12°36'N±0°05'×87°45'W±0°04, h67km, n171, σ1°13/182, mb4.4/50, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.51**	**49**	*eP*		**Pn**	**08 11 07.4**	**0.0**
CNGN	**Cerro Negro**	**0.74**	**79**	*eP*		**Pn**	**08 11 08.4**	**-1.5**
CNCH	**Conchagua**	**0.98**	**337**	*eP*		**Pn**	**08 11 12.3**	**-0.6**
CNCH				IAML			08 11 30.1	
	comp=Z,19μm,0.3s							
LCND	**La Caada**	**1.03**	**335**	*eP*		**Pn**	**08 11 12.8**	**-0.6**
LCND				IAML			08 11 30.5	
	comp=Z,7μm,0.3s							
ESTN	**Estel**	**1.28**	**55**	*eP*		**Pn**	**08 11 17.1**	**+0.4**
ESTN	**Estel**	**1.28**	**55**	Pn		**Pn**	**08 11 17.1**	**+0.4**
ESTN				Sn		**Sn**	**08 11 32.8**	**-0.4**
MASN	**Masaya**	**1.32**	**106**	*eP*		**Pn**	**08 11 17.2**	**+0.1**
ALJI	**Alcalda de J**	**1.46**	**311**	*eP*		**Pn**	**08 11 17.8**	**-1.1**
FAGO	**Alcalda de S**	**1.47**	**334**	*eP*		**Pn**	**08 11 18.9**	**-0.2**
COEB	**Comit de Eme**	**1.55**	**317**	*eP*		**Pn**	**08 11 19.6**	**-0.6**
MATN	**Matagalpa**	**1.59**	**69**	*eP*		**Pn**	**08 11 20.9**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.69**	**6**			**Pn**	**08 11 23.0**	**+0.8**
TGUH					Sn	**Sn**	**08 11 41.8**	**-1.2**
UESV	**Universidad de**	**1.82**	**314**	*eP*		**Pn**	**08 11 23.1**	**-0.7**
COEG	**Centro de Oper**	**1.88**	**312**	*eP*		**Pn**	**08 11 23.7**	**-0.9**
VICT	**Victoria**	**1.97**	**324**	*eP*		**Pn**	**08 11 25.7**	**-0.2**
VICT				IAML			08 11 56.1	
	comp=Z,313nm,0.3s							
PAVA	**Las Pavas**	**1.98**	**313**	*eP*		**Pn**	**08 11 25.6**	**-0.4**
LFU	**La Fuente**	**2.13**	**310**	*eP*		**Pn**	**08 11 28.1**	**0.0**
OPAM	**Oficina de Pla**	**2.17**	**308**	*eP*		**Pn**	**08 11 27.8**	**-0.8**
OPAM				IAML			08 11 58.0	
	comp=Z,1μm,0.3s							
UESS	**Universidad de**	**2.18**	**308**	*eP*		**Pn**	**08 11 28.2**	**-0.5**
SNET	**Serv Nac Est T**	**2.18**	**307**	*eP*		**Pn**	**08 11 27.8**	**-0.9**
SNET				IAML			08 11 59.6	
	comp=Z,1μm,0.2s							
SNET	**Serv Nac Est T**	**2.18**	**307**			**Pn**	**08 11 27.9**	**-0.9**
SNET					Sn	**Sn**	**08 11 53.5**	**-1.3**
UEES	**Universidad Ev**	**2.21**	**308**	*eP*		**Pn**	**08 11 28.3**	**-0.7**
ACON	**Acoyapa**	**2.25**	**100**	*eP*		**Pn**	**08 11 28.9**	**-0.7**
ACON	**Acoyapa**	**2.25**	**100**			**Pn**	**08 11 29.0**	**-0.6**
GB1A	**Borinquen Arri**	**2.53**	**127**	*eP*		**Pn**	**08 11 34.0**	**+0.6**
BUEV	**Buena Vista**	**2.53**	**128**	*eP*		**Pn**	**08 11 34.3**	**+0.8**
SBLS	**San Blas**	**2.58**	**305**	*eP*		**Pn**	**08 11 34.6**	**+0.3**
SBLS				*eS*		**Sn**	**08 12 04.5**	**-0.2**
CUI	**Cuipilapa**	**2.81**	**127**	*eP*		**Pn**	**08 11 37.3**	**+0.1**
ESPN	**Las Esperanzas**	**3.08**	**93**	*eP*		**Pn**	**08 11 41.3**	**+0.5**
ESPN	**Las Esperanzas**	**3.08**	**93**			**Pn**	**08 11 41.0**	**+0.2**
ESPN					Sn	**Sn**	**08 12 16.4**	**-0.2**
JTS	**Las Juntas de**	**3.20**	**130**	P		**Pn**	**08 11 42.4**	**-0.1**
	comp=Z,11nm,0.3s,baz=30,slow=19,SNR=26							
JTS				S		**Sn**	**08 12 18.8**	**-0.6**
	comp=Z,29nm,0.3s,baz=314,slow=8.1,SNR=5.5							
JTS	**Las Juntas de**	**3.20**	**130**	*eP*		**Pn**	**08 11 43.2**	**+0.7**
JTS	**Las Juntas de**	**3.20**	**130**			**Pn**	**08 11 43.2**	**+0.7**
JTS						**Sn**	**08 12 18.6**	**-0.9**
CEDE	**Laguna Cedeo**	**3.27**	**124**	*eP*		**Pn**	**08 11 43.2**	**-0.4**
ARE1	**Arenal 1**	**3.27**	**125**	*eP*		**Pn**	**08 11 44.9**	**+1.3**
IXG	**Ixpaco**	**3.43**	**302**	*eP*		**Pn**	**08 11 47.2**	**+1.4**
FUG	**Fuego 3**	**3.90**	**302**	*eP*		**Pn**	**08 11 55.0**	**+2.7**
FUG				*eS*		**Sn**	**08 12 40.6**	**+3.7**
APG	**El Apazote**	**3.94**	**312**	P		**Pn**	**08 11 54.6**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=176,slow=16,SNR=2.6							
HDC	**Heredia**	**4.02**	**125**			**Pn**	**08 11 55.1**	**+1.1**
HDC					Sn	**Sn**	**08 12 37.2**	**-2.7**
SJS	**Escuela Geolog**	**4.11**	**126**	*eP*		**Pn**	**08 11 59.2**	**+4.1**
LCR2	**La Lucha 2**	**4.27**	**127**	*eP*		**Pn**	**08 11 59.5**	**+2.2**
STG3	**Santiaguito 3,**	**4.64**	**301**	*eP*		**Pn**	**08 12 04.5**	**+2.2**
EDLM	**Las Mercedes**	**4.87**	**129**	*eP*		**Pn**	**08 12 07.6**	**+2.1**
EDPN	**Palmar Norte**	**5.18**	**130**	*eP*		**Pn**	**08 12 11.3**	**+1.7**
EDSV	**San Vito**	**5.63**	**128**	*eP*		**Pn**	**08 12 18.3**	**+2.4**
CCIG	**Comitan**	**5.99**	**311**	Pn		**Pn**	**08 12 20.3**	**-0.5**
CCIG				Sn		**Sn**	**08 13 28.2**	**+0.1**
ICCO	**Coco Island**	**6.79**	**177**	*eP*		**Pn**	**08 12 31.9**	**+0.3**
TEIG	**Tepich**	**7.86**	**354**	Pn		**Pn**	**08 12 47.1**	**+0.9**
BCIP	**Isla Barro Col**	**8.12**	**112**	Pn		**Pn**	**08 12 49.9**	**0.0**
CMIG	**Matias Romero**	**8.59**	**304**	P		**Pn**	**08 12 57.2**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=149,slow=10,0,SNR=16							
CMIG				S		**Sn**	**08 14 29.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=99,slow=19,SNR=2.2							
CMIG				LR		LR	08 16 50.3	
	comp=Z,91nm,20.9s,baz=118,slow=41							
833A	**Chaparral WMA,**	**19.41**	**327**	P		**Pn**	**08 15 16.4**	**-0.7**
LRAL	**Lakeview Retre**	**20.58**	**1**	P		**P**	**08 15 28.5**	**+0.5**
Z50A	**Ashland**	**20.84**	**4**	P		**P**	**08 15 32.3**	**+1.4**
GOGA	**Godfrey**	**21.26**	**9**	P		**P**	**08 15 36.7**	**+1.3**
SJG	**San Juan**	**21.32**	**72**	P		**P**	**08 15 36.1**	**0.0**
SJG				IAmb		IAmb	08 15 59.3	
	comp=Z,18nm,1.1s							
Y49A	**Blount Mountai**	**21.42**	**2**	P		**P**	**08 15 38.1**	**+1.1**
Y52A	**Lilburn**	**21.62**	**8**	P		**P**	**08 15 41.7**	**+2.5**
CUPR	**Culebra, Puert**	**22.16**	**72**	P		**P**	**08 15 45.4**	**+0.2**
CUPR				IAmb		IAmb	08 15 56.7	
	comp=Z,40nm,1.3s							
HODGE	**Hodges**	**22.27**	**11**	P		**P**	**08 15 47.7**	**+1.5**
HODGE				IAmb		IAmb	08 16 12.9	
	comp=Z,23nm,1.5s							
TX31	**Lajitas Ar. Si**	**22.64**	**321**	P		**P**	**08 15 50.4**	**0.0**
TX32	**Lajitas Array**	**22.64**	**321**	P		**P**	**08 15 50.1**	**-0.2**
TXAR	**Lajitas Array**	**22.64**	**321**	P		**P**	**08 15 50.5**	**+0.2**
	comp=Z,7.5nm,0.8s,baz=137,slow=10,SNR=32							
TXAR				LR		LR	08 25 34.8	
	comp=Z,42nm,18.4s,baz=0.0,slow=39							
W50A	**Signal Mountai**	**22.82**	**5**	P		**P**	**08 15 53.7**	**+1.7**
W50A				IAmb		IAmb	08 16 19.2	
	comp=Z,47nm,1.9s							
W52A	**Murphy**	**22.85**	**7**	P		**P**	**08 15 54.6**	**+2.2**
PAULI	**Pauline**	**22.93**	**12**	P		**P**	**08 15 53.3**	**+0.1**
PAULI				IAmb		IAmb	08 16 13.2	
	comp=Z,18nm,1.2s							
BIRD	**Birdtown, Kers**	**23.07**	**15**	P		**P**	**08 15 55.8**	**+1.3**
BIRD				IAmb		IAmb	08 16 37.6	
	comp=Z,44nm,1.8s							
W41B	**Gary Mavity, V**	**23.12**	**350**	P		**P**	**08 15 55.1**	**+0.1**
W41B				IAmb		IAmb	08 16 34.8	
	comp=Z,26nm,1.6s							
CPCT	**Cooper Cave**	**23.14**	**6**	P		**P**	**08 15 56.0**	**+0.9**
CPCT				IAmb		IAmb	08 16 21.5	
	comp=Z,21nm,1.3s							
X58A	**Rowland**	**23.29**	**17**	P		**P**	**08 15 57.7**	**+1.1**
X58A				IAmb		IAmb	08 16 43.6	
	comp=Z,17nm,1.0s							
KMSC	**Kings Mountain**	**23.34**	**13**	P		**P**	**08 15 58.2**	**+1.0**
TKL	**Tuckaleechee C**	**23.43**	**8**	P		**P**	**08 15 58.2**	**+0.2**
	comp=Z,6.8nm,0.8s,baz=228,slow=4.6,SNR=6.3							
TKL				LR		LR	08 24 25.4	
	comp=Z,41nm,19.6s,baz=266,slow=35							
W39A	**Magazine**	**23.45**	**347**	P		**P**	**08 15 58.7**	**+0.7**
W39A				IAmb		IAmb	08 16 40.4	
	comp=Z,58nm,2.0s							
V51A	**Loudon**	**23.50**	**6**	P		**P**	**08 16 00.6**	**+2.0**
V51A				IAmb		IAmb	08 16 13.3	
	comp=Z,28nm,1.5s							
V53A	**Saluda**	**23.58**	**9**	P		**P**	**08 16 00.6**	**+1.3**
V53A				IAmb		IAmb	08 16 26.4	
	comp=Z,25nm,1.4s							
V52A	**Sevierville**	**23.63**	**8**	P		**P**	**08 16 00.6**	**+0.8**
V52A				IAmb		IAmb	08 16 29.3	
	comp=Z,21nm,1.2s							
CLTN	**Cedars of Leba**	**23.65**	**2**	P		**P**	**08 16 00.9**	**+1.0**
WVT	**Waverly**	**23.66**	**359**	P		**P**	**08 15 59.8**	**-0.2**
WVT				IAmb		IAmb	08 16 08.9	
	comp=Z,24nm,1.8s							
W57A	**Gilead**	**23.67**	**15**	P		**P**	**08 16 00.9**	**+0.8**
W57A				IAmb		IAmb	08 16 28.8	
	comp=Z,16nm,1.1s							
FCAR	**Ozark Folk Cen**	**23.80**	**351**	P		**P**	**08 16 00.5**	**-0.8**
LCAR	**Lake Charles**	**23.84**	**353**	P		**P**	**08 16 01.2**	**-0.4**
LCAR				IAmb		IAmb	08 16 02.4	
	comp=Z,23nm,1.9s							
CNNC	**Cliffs of the**	**24.36**	**19**	P		**P**	**08 16 07.3**	**+1.0**
CNNC				IAmb		IAmb	08 16 08.6	
	comp=Z,33nm,1.1s							
SKI	**Saint Kitts**	**24.38**	**75**	P		**P**	**08 16 06.1**	**-0.7**
U40A	**Yellville**	**24.38**	**349**	P		**P**	**08 16 07.1**	**+0.5**
U40A				IAmb		IAmb	08 16 24.9	
	comp=Z,24nm,1.9s							
PBMO	**Poplar Bluff**	**24.46**	**354**	P		**P**	**08 16 05.7**	**-1.6**
V58A	**Windy Hill, Pi**	**24.51**	**16**	P		**P**	**08 16 08.5**	**+0.8**
V58A				IAmb		IAmb	08 16 08.8	
	comp=Z,29nm,1.4s							
WMOK	**Wichita Mounta**	**24.54**	**337**	P		**P**	**08 16 08.4**	**+0.3**
TUL1	**Leonard**	**24.63**	**344**	P		**P**	**08 16 10.1**	**+1.3**
TUL1				IAmb		IAmb	08 16 10.8	
	comp=Z,14nm,0.8s							
MNTX	**Cornudas Mount**	**25.36**	**322**	P		**P**	**08 16 15.5**	**-0.1**
MSTX	**Muleshoe**	**25.65**	**329**	P		**P**	**08 16 17.4**	**-0.8**
MSTX				IAmb		IAmb	08 16 19.4	
	comp=Z,16nm,0.9s							
WCI	**Wyandotte Cave**	**25.78**	**2**	P		**P**	**08 16 19.6**	**+0.4**
WCI				IAmb		IAmb	08 17 06.8	
	comp=Z,17nm,1.3s							
CCM	**Cathedral Cave**	**25.81**	**353**	P		**P**	**08 16 19.8**	**+0.3**
CCM				IAmb		IAmb	08 16 46.0	
	comp=Z,22nm,1.6s							
Q51A	**Peebles**	**26.80**	**7**	P		**P**	**08 16 29.2**	**+0.7**
Q51A				IAmb		IAmb	08 16 52.2	
	comp=Z,12nm,1.0s							
Q54A	**Coxs Mills**	**27.15**	**11**	P		**P**	**08 16 32.7**	**+1.1**
P53A	**Whipple**	**27.54**	**10**	P		**P**	**08 16 36.2**	**+1.1**
O52A	**Adamsville**	**28.08**	**9**	P		**P**	**08 16 40.9**	**+1.0**
ANMO	**Albuquerque**	**28.33**	**326**	P		**P**	**08 16 43.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=143,slow=17,SNR=5.8							
ANMO	**Albuquerque**	**28.33**	**326**	P		**P**	**08 16 42.7**	**+0.3**
SSPA	**Standing Stone**	**29.39**	**15**	P		**P**	**08 16 52.7**	**+1.2**
M54A	**Oil Creek Stat**	**29.82**	**12**	P		**P**	**08 16 55.8**	**+0.4**
N59A	**State Game Lan**	**30.23**	**18**	P		**P**	**08 17 00.1**	**+1.1**
M57A	**Sunshine Farm,**	**30.25**	**16**	P		**P**	**08 16 59.3**	**+0.3**
BGNE	**Belgrade**	**30.41**	**344**	P		**P**	**08 17 00.6**	**0.0**
BGNE				IAmb		IAmb	08 18 00.2	
	comp=Z,11nm,0.8s							
S22A	**4UR Ranch, Cre**	**30.64**	**329**	P		**P**	**08 17 04.4**	**+1.4**
SMCO	**Snowmass**	**31.83**	**330**	P		**P**	**08 17 15.4**	**+1.9**
PV13	**Radium Mtn., P**	**31.98**	**327**	P		**P**	**08 17 15.9**	**+1.2**
PV13				IAmb		IAmb	08 17 17.1	
	comp=Z,3.4nm,0.6s							
PV03	**Paradox Valley**	**32.07**	**327**	P		**P**	**08 17 16.9**	**+1.4**
PV03				IAmb		IAmb	08 17 17.2	
	comp=Z,4.6nm,0.8s							
PV12	**Saucer Basin,**	**32.09**	**327**	P		**P**	**08 17 17.1**	**+1.5**
PV12				IAmb		IAmb	08 17 17.6	
	comp=Z,10nm,0.8s							
PV04	**Paradox Valley**	**32.20**	**327**	P		**P**	**08 17 17.7**	**+1.2**
PV04				IAmb		IAmb	08 17 18.4	
	comp=Z,5.3nm,0.9s							
ECSD	**EROS Data Cent**	**32.24**	**347**	P		**P**	**08 17 16.2**	**-0.5**
ECSD				IAmb		IAmb	08 17 44.4	
	comp=Z,8.6nm,1.0s							
O20A	**White River Ci**	**33.19**	**330**	P		**P**	**08 17 26.3**	**+1.1**
O20A				IAmb		IAmb	08 17 27.7	
	comp=Z,6.7nm,0.9s							
PKCU	**Pink Cliffs**	**33.45**	**323**	P		**P**	**08 17 29.5**	**+1.8**
SRU	**San Rafael Swe**	**33.59**	**327**	P		**P**	**08 17 29.9**	**+1.2**
MTPU	**Mount Pierson**	**33.77**	**324**	P		**P**	**08 17 32.0**	**+1.5**
Q16A	**Castle Valley**	**33.81**	**326**	P		**P**	**08 17 32.4**	**+1.9**
P17A	**Butcher Ranch,**	**33.97**	**327**	P		**P**	**08 17 32.6**	**+0.6**
MSU	**Marysvale**	**34.09**	**324**	P		**P**	**08 17 35.0**	**+1.9**
LPAZ	**La Paz**	**34.28**	**146**	LR		LR	08 32 59.9	
	comp=Z,34nm,18.1s,baz=276,slow=39							
TCRU	**Three Creeks R**	**34.31**	**324**	P		**P**	**08 17 36.1**	**+1.1**
PSUT	**Pine Spring**	**35.08**	**323**	P		**P**	**08 17 42.9**	**+1.3**
JLU	**Jordanelle**	**35.16**	**327**	P		**P**	**08 17 42.9**	**+0.6**
CTU	**Camp Tracy**	**35.38**	**327**	P		**P**	**08 17 44.7**	**+0.6**
D53A	**Lac Vacive, Po**	**35.56**	**11**	P		**P**	**08 17 46.9**	**+1.6**
PD31	**Pinedale Array**	**35.85**	**332**	P		**P**	**08 17 48.8**	**+0.6**
PD31				IAmb		IAmb	08 17 50.3	
	comp=Z,12nm,1.9s							
PDAR	**Pinedale Array**	**35.85**	**332**	P		**P**	**08 17 48.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=127,slow=10,SNR=15							
PDAR	**Pinedale Array**	**35.85**	**332**	P		**P**	**08 17 48.1**	**-0.1**
BW06	**Boulder Array**	**35.85**	**332**	P		**P**	**08 17 48.6**	**+0.4**
BW06				IAmb		IAmb	08 17 50.3	
	comp=Z,14nm,1.9s							
MNMC	**Minye Minye**	**35.90**	**150**	P		**P**	**08 17 50.3**	**+1.4**
SPUT	**South Promonto**	**36.19**	**327**	P		**P**	**08 17 52.2**	**+1.1**
GO01	**Chusmiza**	**36.55**	**150**	P		**P**	**08 17 53.5**	**-1.2**
AHID	**Auburn Hatcher**	**36.58**	**330**	P		**P**	**08 17 55.8**	**+1.4**
AHID				IAmb		IAmb	08 17 56.5	
	comp=Z,5.9nm,0.8s							
HVU	**Hansel Valley**	**36.70**	**328**	P		**P**	**08 17 55.4**	**0.0**
REDW	**Red Top Meadow**	**36.91**	**331**	P		**P**	**08 17 58.1**	**+0.9**
SNOW	**Snow King Moun**	**36.95**	**331**	P		**P**	**08 17 58.3**	**+0.8**
LOHW	**Long Hollow**	**36.99**	**332**	P		**P**	**08 17 58.9**	**+1.0**
TPAW	**Teton Pass**	**37.06**	**331**	P		**P**	**08 17 59.1**	**+0.6**
TPAW				IAmb		IAmb	08 18 00.7	
	comp=Z,7.2nm,0.8s							
MOOW	**Moose Ponds**	**37.16**	**332**	P		**P**	**08 17 60.0**	**+0.7**
FXWY	**Fox Creek**	**37.21**	**331**	P		**P**	**08 18 01.0**	**+1.2**
FXWY				IAmb		IAmb	08 18 07.3	
	comp=Z,8.2nm,1.8s							
IMW	**Indian Meadow**	**37.36**	**332**	P		**P**	**08 18 02.0**	**+0.9**
IMW				IAmb		IAmb	08 18 05.7	
	comp=Z,11nm,1.6s							
FLWY	**Flagg Ranch**	**37.40**	**332**	P		**P**	**08 18 01.3**	**0.0**
RLMT	**Red Lodge**	**37.59**	**334**	P		**P**	**08 18 03.3**	**+0.4**
RLMT				IAmb		IAmb	08 18 24.9	
	comp=Z,13nm,1.7s							
NV11	**Mina Array Sit**	**37.68**	**319**	P		**P**	**08 18 05.5**	**+1.8**
NVAR	**Mina Array Bea**	**37.77**	**319**	P		**P**	**08 18 05.6**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=119,slow=7.3,SNR=10							
NVAR				PcP		**PcP**	**08 20 20.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=150,slow=3.8,SNR=5.7							
NVAR	**Mina Array Bea**	**37.77**	**319**	P		**P**	**08 18 05.5**	**+1.0**
NVAR						**PcP**	**08 20 21.4**	**+1.1**
KVN	**Kaiserville**	**38.00**	**320**	P		**P**	**08 18 06.3**	**-0.1**
KVN				IAmb		IAmb	08 19 32.4	
	comp=Z,16nm,2.0s							
YHL	**Hebgen Lake**	**38.21**	**332**	P		**P**	**08 18 09.6**	**+1.4**
BMN	**Battle Mountai**	**38.30**	**322**	P		**P**	**08 18 10.3**	**+1.4**
MCMT	**McKenzie Canyo**	**38.96**	**331**	P		**P**	**08 18 15.5**	**+1.0**
DLMT	**Dillon**	**39.25**	**332**	P		**P**	**08 18 17.8**	**+1.1**
DLMT				IAmb		IAmb	08 18 33.9	
	comp=Z,14nm,1.6s							
BEKR	**Beckworth**	**39.90**	**319**	P		**P**	**08 18 23.8**	**+1.5**
BEKR				IAmb		IAmb	08 18 38.0	
	comp=Z,14nm,1.7s							
HRY	**Holter Researc**	**39.94**	**334**	P		**P**	**08 18 22.9**	**+0.5**
PLID	**Pearl Lake**	**40.70**	**329**	P		**P**	**08 18 28.9**	**+0.1**
PLID				IAmb		IAmb	08 18 42.4	
	comp=Z,17nm,1.9s							
F10A	**Beach Ranch, E**	**41.94**	**329**	P		**P**	**08 18 39.0**	**+0.1**
SCHQ	**Schefferville**	**45.36**	**17**	P		**P**	**08 19 04.5**	**-1.6**
	comp=Z,7.5nm,0.6s,baz=231,slow=6.4,SNR=3.9							
SCHQ	**Schefferville**	**45.36**	**17**	P		**P**	**08 19 04.9**	**-1.2**
FCC	**Fort Churchill**	**46.58**	**355**	P		**P**	**08 19 14.6**	**-1.0**
BDFB	**Brasilia**	**47.92**	**124**	LR		LR	08 43 03.1	
	comp=Z,53nm,19.9s,baz=199,slow=40							
CPUP	**Villa Florida**	**48.34**	**143**	P		**P**	**08 19 28.9**	**-0.8**
YKA	**Yellowknife Ar**	**53.70**	**345**	P		**P**	**08 20 07.6**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=150,slow=7.5,SNR=4.7							
BILL	**Bilibino**	**54.07**	**28**	P		**P**	**08 13 59.3**	**+1.3**
BILL				IAmb		IAmb	08 14 06.9	
	comp=Z,6.4nm,0.7s							
PETK	**Petropavlovsk-**	**55.12**	**47**	LR		LR	08 37 46.7	
	comp=Z,83nm,20.8s,baz=241,slow=36							
SCO	**Scoresbysund**	**55.49**	**336**	*eP*		**P**	**08 14 05.7**	**-2.5**
SCO	**Scoresbysund**	**55.49**	**336**	*i P*		**P**	**08 14 05.7**	**-2.5**
CART	**Cartagena**	**58.02**	**294**	P		**P**	**08 14 27.1**	**+0.5**
ESBB	**Sonseca Array**	**59.09**	**298**	P		**P**	**08 14 34.4**	**+0.1**
ESBB				IAmb		IAmb	08 14 35.3	
	comp=Z,10nm,0.8s							
ESDC	**Sonseca Array**	**59.09**	**298**	P		**P**	**08 14 34.3**	**0.0**
	comp=Z,7.4nm,0.4s,baz=57,slow=7.1,SNR=56							
ESDC	**Sonseca Array**	**59.09**	**298**	P		**P**	**08 14 34.2**	**0.0**
SUMG	**Summit**	**59.11**	**341**	*i P*		**P**	**08 14 34.9**	**+0.6**
SUMG	**Summit**	**59.11**	**341**	*i P*		**P**	**08 14 34.9**	**+0.6**
COI	**Coimbra**	**61.83**	**300**	P		**P**	**08 14 53.9**	**+1.1**
COI				pmax		pmax		
	comp=Z,47nm,0.8s							
COI	**Coimbra**	**61.83**	**300**	P		**P**	**08 14 53.9**	**+1.1**
PVAQ	**Vaqueiros**	**62.77**	**297**	P		**P**	**08 15 00.0**	**+0.8**
PVAQ				IAmb		IAmb	08 15 00.8	
	comp=Z,14nm,0.9s							
TOLK	**Toolik Lake Re**	**66.81**	**16**	P		**P**	**08 15 25.6**	**+0.5**
COLD	**Coldfoot**	**67.81**	**18**	P		**P**	**08 15 32.1**	**+0.7**
COLD				IAmb		IAmb	08 15 32.8	
	comp=Z,6.3nm,0.9s							
IMAR	**Indian Mountai**	**67.93**	**20**	P		**P**	**08 15 31.7**	**-0.5**
BMAR	**Burnt Mountain**	**68.88**	**15**	P		**P**	**08 15 38.8**	**+0.7**
KIWB	**Kanaga Island**	**69.05**	**39**	P		**P**	**08 15 38.2**	**-1.1**
TOA0	**Torodi Ar. Sit**	**69.33**	**270**	P		**P**	**08 15 41.2**	**-0.4**
TOA0				IAmb		IAmb	08 15 42.1	
	comp=Z,12nm,0.8s							
TORD	**Torodi Ar. Bea**	**69.33**	**270**	P		**P**	**08 15 40.6**	**-1.0**
	comp=Z,10nm,0.5s,baz=44,slow=5.1,SNR=76							
TORD	**Torodi Ar. Bea**	**69.33**	**270**	P		**P**	**08 15 39.6**	**-2.0**
INK	**Inuvik**	**70.05**	**11**	P		**P**	**08 15 45.7**	**+0.5**
INK				pmax		pmax		
	comp=Z,22nm,1.2s							
INK	**Inuvik**	**70.05**	**11**	P		**P**	**08 15 45.7**	**+0.5**
INK				IAmb		IAmb	08 15 46.5	
	comp=Z,22nm,1.2s							
COLA	**College**	**70.30**	**18**	P		**P**	**08 15 47.0**	**+0.2**
COLA				pmax		pmax		
	comp=Z,23nm,1.5s							
COLA	**College**	**70.30**	**18**	P		**P**	**08 15 47.0**	**+0.2**
COLA				IAmb		IAmb	08 15 47.5	
	comp=Z,23nm,1.4s							
LSZ	**Lusaka**	**70.30**	**229**	P		**P**	**08 15 48.3**	**+0.7**
LSZ				pmax		pmax		
	comp=Z,9.0nm,1.1s							
LSZ	**Lusaka**	**70.30**	**229**	P		**P**	**08 15 48.3**	**+0.7**
LSZ				IAmb		IAmb	08 15 58.9	
	comp=Z,9.2nm,1.1s							
WRH

YKA	**Yellowknife Ar**	**53.70**	**345**	P	**P**	**08 20 08.9**	**-0.5**
PLCA	**Paso Flores**	**55.10**	**164**	P	**P**	**08 20 19.6**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=349,slow=7.1,SNR=5.4						
PLCA	**Paso Flores**	**55.10**	**164**	P	**P**	**08 20 20.5**	**+0.6**
DLBC	**Dease Lake**	**55.99**	**335**	P	**P**	**08 20 26.8**	**+0.7**
BCAR	**Beaver Creek A**	**63.33**	**336**	P	**P**	**08 21 15.3**	**-1.2**
ILAR	**Eielson Array**	**66.10**	**336**	P	**P**	**08 21 33.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=162,slow=4.5,SNR=11						
ILAR	**Eielson Array**	**66.10**	**336**	P	**P**	**08 21 33.7**	**-0.7**
BMAR	**Burnt Mountain**	**66.36**	**339**	P	**P**	**08 21 35.6**	**-0.5**
RND	**Reindeer**	**66.39**	**334**	P	**P**	**08 21 36.7**	**+0.3**
ASAR	**Alice Springs**	**139.24**	**248**	PKhKP	PKPpre	08 30 08.8	
	comp=Z,0.3nm,0.7s,baz=117,slow=3.2,SNR=3.2						
ASAR				PKP	**PKPdf**	**08 30 14.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=96,slow=1.9,SNR=5.9						
ASAR	**Alice Springs**	**139.24**	**248**	PKPdf	**PKPdf**	**08 30 15.3**	**+0.5**
WRA	**Warramunga Arr**	**139.25**	**254**	PKP	**PKPdf**	**08 30 14.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=90,slow=1.7,SNR=5.7						
WRA	**Warramunga Arr**	**139.25**	**254**		**PKPdf**	**08 30 15.2**	**+0.3**

*SOME **04** 08:14:21.1,39°.70N×75°.22E,h5km*
*NNC **04** 08:14:26.6±1.3,39°.88N×75°.34E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=9.9km s-min=7.7km az=154.0
*KRNET **04** 08:14:27.0±0.1,39°.82N×75°.54E,mb3.6*

ISC 04 08:14:26.8±1.5,39°.72N±0°.07×75°.25E±0°.03,h10km,n68,
σ2°31/103,32C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.80**	**18**	⇓*iP*	**Pn**	**08 14 57.8**	**-0.5**
	baz=11						
NRN				⇓*iS*	**Sn**	**08 15 20.1**	**-1.3**
	baz=11						
ARLS	**Aral**	**2.25**	**342**	⇓*iP*	**Pb**	**08 15 07.1**	**-0.6**
	baz=36						
ARLS				⇓*iS*	**Sb**	**08 15 37.5**	**+1.9**
	baz=36						
KZA	**Kyzart**	**2.35**	**0**	⇑*iP*	**Pb**	**08 15 07.9**	**-1.7**
	baz=54						
KZA				⇑*iS*	**Sb**	**08 15 38.9**	**0.0**
	baz=54						
KZA	**Kyzart**	**2.35**	**0**	P	**Pb**	**08 15 08.0**	**-1.7**
	SNR=24						
ARSB	**Arslanbob**	**2.35**	**314**	⇑*iP*	**Pb**	**08 15 10.2**	**+0.8**
	baz=8.0						
ARSB				⇑*iS*	**Sg**	**08 15 42.6**	**+0.1**
	baz=8.0						
UCH	**Uchtor**	**2.56**	**348**	⇑*iP*	**Pb**	**08 15 11.4**	**-1.8**
	baz=42						
UCH				⇑*iS*	**Sb**	**08 15 44.9**	**-0.1**
	baz=42						
UCH	**Uchtor**	**2.56**	**348**	P	**Pb**	**08 15 12.0**	**-1.2**
	SNR=89						
ULHL	**Ulahol**	**2.63**	**16**	⇑*iP*	**Pb**	**08 15 11.1**	**-3.1**
	baz=12						
ULHL				⇑*iS*	**Sn**	**08 15 44.3**	**+2.6**
	baz=12						
ULHL	**Ulahol**	**2.63**	**16**	P	**Pb**	**08 15 11.3**	**-2.9**
	SNR=29						
AML	**Almayashu**	**2.68**	**334**	⇓*iP*	**Pb**	**08 15 13.8**	**-1.3**
	baz=29						
AML				⇓*iS*	**Sb**	**08 15 49.1**	**+0.9**
	baz=29						
AML	**Almayashu**	**2.68**	**334**	P	**Pb**	**08 15 14.0**	**-1.1**
	SNR=10						
TARG	**Taragay, Kyrgy**	**2.79**	**43**	⇑*eP*	**Pn**	**08 15 11.9**	**-0.1**
	baz=41						
TARG				⇑*iS*	**Sn**	**08 15 45.9**	**0.0**
	baz=41						
BOOM	**Boomskoye usch**	**2.81**	**10**	⇓*iP*	**Pn**	**08 15 13.6**	**+1.5**
	baz=6.0						
BOOM				⇓*iS*	**Sn**	**08 15 49.1**	**+3.0**
	baz=6.0						
KDJ	**Kajisay**	**2.82**	**31**	⇑*iP*	**Pn**	**08 15 12.8**	**+0.7**
	baz=28						
KDJ				⇑*iS*	**Sn**	**08 15 47.0**	**+0.8**
	baz=28						
KBK	**Karagaybulak**	**2.94**	**356**	⇑*iP*	**Pb**	**08 15 16.3**	**-3.1**
	baz=51						
KBK				⇑*iS*	**Sn**	**08 15 53.0**	**+3.7**
	baz=51						
KBK	**Karagaybulak**	**2.94**	**356**	P	**Pb**	**08 15 17.4**	**-2.1**
	SNR=6.0						
AAK	**Ala-Archa**	**2.97**	**349**	⇑Pn	**Pn**	**08 15 14.3**	**+0.2**
	54nm,0.8s						
AAK				⇑Lg	Lg	08 15 57.8	
	50nm,0.5s						
AAK	**Ala-Archa**	**2.97**	**349**	⇑*iP*	**Pb**	**08 15 17.2**	**-2.7**
	baz=45						
AAK				⇑*eS*	**Sn**	**08 15 54.0**	**+4.1**
	baz=45						
AAK	**Ala-Archa**	**2.97**	**349**	P	**Pb**	**08 15 17.7**	**-2.2**
	SNR=26						
EKS2	**Erkin-Say**	**3.14**	**340**	⇑*iP*	**Pb**	**08 15 19.6**	**-3.2**
	baz=35						
EKS2				⇑*iS*	**Sb**	**08 15 59.3**	**-1.9**
	baz=35						
EKS2	**Erkin-Say**	**3.14**	**340**	P	**Pb**	**08 15 21.0**	**-1.8**
	SNR=8.7						
TKM2	**Tokmak 2**	**3.21**	**5**	⇑Pn	**Pn**	**08 15 18.1**	**+0.6**
	6.7nm,0.3s						
TKM2				⇑Lg	Lg	08 16 04.2	
	116nm,0.6s						
TKM2	**Tokmak 2**	**3.21**	**5**	⇓*iP*	**Pn**	**08 15 19.4**	**+1.9**
	baz=1.0						
TKM2				⇓*iS*	**Sn**	**08 15 59.0**	**+3.1**
	baz=1.0						
TKM2	**Tokmak 2**	**3.21**	**5**	P	**Pb**	**08 15 20.2**	**-3.8**
	SNR=7.0						
CHMS	**Chumysh**	**3.30**	**354**	⇑*iP*	**Pn**	**08 15 21.1**	**+2.6**
	baz=50						
CHMS				⇑*iS*	**Sn**	**08 16 01.5**	**+3.7**
	baz=50						
CHMS	**Chumysh**	**3.30**	**354**	P	**Pb**	**08 15 21.7**	**-3.7**
	SNR=12						
KST	**Kastek**	**3.36**	**9**	Pg	**Pb**	**08 15 24.7**	**-1.9**
	33nm,0.5s						
KST				Lg	Lg	08 16 10.0	
	126nm,0.5s						
KST	**Kastek**	**3.36**	**9**	*eP*	**Pb**	**08 15 24.7**	**-1.9**
	33nm,0.5s						
KST				*eS*	**Sb**	**08 16 10.0**	**+2.4**
	126nm,0.5s						
MRKS	**Merke**	**3.38**	**334**	Pg	**Pb**	**08 15 23.2**	**-3.8**
	22nm,0.4s						
MRKS				Lg	Lg	08 16 07.6	
	29nm,0.3s						
MRKS	**Merke**	**3.38**	**334**	⇑*iP*	**Pb**	**08 15 23.2**	**-3.8**
	22nm,0.3s						
MRKS				*eS*	**Sb**	**08 16 07.6**	**-0.6**
	29nm,0.3s						
BTK	**Batken**	**3.42**	**277**	⇓*iP*	**Pb**	**08 15 27.1**	**-0.5**
	baz=75						
BTK				⇓*iS*	**Sb**	**08 16 10.9**	**+1.5**
	baz=75						
IZV	**Izvestkoviy**	**3.47**	**17**	Pg	**Pb**	**08 15 26.0**	**-2.5**
	32nm,0.6s						
IZV				Lg	Lg	08 16 12.0	
	76nm,0.6s						
IZV	**Izvestkoviy**	**3.47**	**17**	*eP*	**Pb**	**08 15 26.0**	**-2.5**
	32nm,0.6s						
IZV				*eS*	**Sb**	**08 16 12.0**	**+1.3**
	76nm,0.6s						
MTBS	**Maitube**	**3.52**	**14**	Pg	**Pb**	**08 15 27.3**	**-2.0**
	17nm,0.5s						
MTBS				Lg	Lg	08 16 14.5	
	54nm,0.2s						
MTBS	**Maitube**	**3.52**	**14**	*eP*	**Pb**	**08 15 27.3**	**-2.0**
	17nm,0.5s						
MTBS				⇓*iS*	**Sb**	**08 16 14.5**	**+2.5**
	54nm,0.2s						
DGS	**Degeres**	**3.54**	**6**	Pg	**Pb**	**08 15 26.8**	**-2.8**
	15nm,0.7s						
DGS				Lg	Lg	08 16 13.8	
	84nm,0.6s						
DGS	**Degeres**	**3.54**	**6**	*eP*	**Pb**	**08 15 26.8**	**-2.8**
	15nm,0.7s						
DGS				*eS*	**Sb**	**08 16 13.8**	**+1.1**
	84nm,0.6s						
TNSS	**Tian-Shan**	**3.55**	**21**	Pg	**Pb**	**08 15 28.0**	**-2.0**
	23nm,0.5s						
TNSS				Lg	Lg	08 16 15.4	
	72nm,0.7s						
TNSS	**Tian-Shan**	**3.55**	**21**	*eP*	**Pb**	**08 15 28.0**	**-2.0**
	23nm,0.5s						
TNSS				*eS*	**Sb**	**08 16 15.4**	**+2.1**
	72nm,0.7s						
ANVS	**Anan'yevo**	**3.56**	**30**	⇑*iP*	**Pn**	**08 15 22.9**	**+0.6**
	baz=28						
ANVS				⇑*iS*	**Sn**	**08 16 04.2**	**-0.4**
	baz=28						
USP	**Ospenovka**	**3.59**	**351**	P	**Pn**	**08 15 25.5**	**+3.0**
	SNR=11						
MDOK	**Medeo**	**3.69**	**21**	⇓Pg	**Pb**	**08 15 31.1**	**-1.2**
	22nm,0.8s						
MDOK				⇑Lg	Lg	08 16 17.0	
	94nm,0.7s						
MDOK	**Medeo**	**3.69**	**21**	Pg	**Pb**	**08 15 29.6**	**-2.7**
	12nm,0.4s						
MDOK				Lg	Lg	08 16 18.6	
	56nm,0.6s						
MDOK	**Medeo**	**3.69**	**21**	*eP*	**Pb**	**08 15 29.6**	**-2.7**
	12nm,0.4s						
MDOK				*eS*	**Sb**	**08 16 18.6**	**+1.4**
	56nm,0.6s						
SGDS	**Sogindy**	**3.76**	**353**	Pg	**Pb**	**08 15 30.8**	**-2.4**
	20nm,0.5s						
SGDS				Lg	Lg	08 16 20.7	
	76nm,0.6s						
KOTS	**Kotyrbulak**	**3.78**	**21**	Pg	**Pb**	**08 15 31.7**	**-2.0**
	33nm,0.5s						
KOTS				Lg	Lg	08 16 21.7	
	452nm,0.7s						
KOTS	**Kotyrbulak**	**3.78**	**21**	*eP*	**Pb**	**08 15 31.7**	**-2.0**
	33nm,0.5s						
KOTS				*eS*	**Sb**	**08 16 21.7**	**+2.1**
	452nm,0.7s						
SATY	**Saty**	**4.09**	**34**	Pg	**Pb**	**08 15 37.9**	**-1.2**
	22nm,0.4s						
SATY				Lg	Lg	08 16 32.5	
	42nm,0.3s						
SATY	**Saty**	**4.09**	**34**	*eP*	**Pb**	**08 15 37.9**	**-1.2**
	22nm,0.4s						
SATY				*eS*	**Sb**	**08 16 32.5**	**+3.8**
	42nm,0.3s						
KTBS	**Karatobe**	**4.13**	**15**	Pg	**Pb**	**08 15 38.2**	**-1.4**
	15nm,0.6s						
KTBS				Lg	Lg	08 16 33.3	
	106nm,0.6s						
KTBS	**Karatobe**	**4.13**	**15**	*eP*	**Pb**	**08 15 38.2**	**-1.4**
	15nm,0.6s						
KTBS				*eS*	**Sb**	**08 16 33.3**	**+3.8**
	106nm,0.6s						
ZHN	**Zhinishke**	**4.19**	**34**	*eP*	**Pb**	**08 15 39.1**	**-1.7**
	4.8nm,0.2s						
ZHN				*eS*	**Sb**	**08 16 34.3**	**+2.8**
	20nm,0.2s						
KUU	**Kurty**	**4.25**	**11**	Pg	**Pb**	**08 15 40.4**	**-1.3**
	7.8nm,0.3s						
KUU				Lg	Lg	08 16 36.8	
	99nm,0.7s						
KUU	**Kurty**	**4.25**	**11**	*eP*	**Pb**	**08 15 40.4**	**-1.3**
	7.8nm,0.3s						
KUU				⇑*iS*	**Sb**	**08 16 36.8**	**+3.9**
	99nm,0.7s						
CHKK	**Chushkaly**	**4.33**	**17**	Pg	**Pb**	**08 15 41.6**	**-1.4**
	12nm,0.4s						
CHKK				Lg	Lg	08 16 39.0	
	66nm,0.6s						
CHKK	**Chushkaly**	**4.33**	**17**	*eP*	**Pb**	**08 15 41.6**	**-1.4**
	12nm,0.4s						
CHKK				⇓*iS*	**Sb**	**08 16 39.0**	**+3.7**
	66nm,0.6s						
KURS	**Kuram**	**4.35**	**29**	Pg	**Pb**	**08 15 43.2**	**-0.3**
	10nm,0.6s						
KURS				Lg	Lg	08 16 41.8	
	26nm,1.1s						
KURS	**Kuram**	**4.35**	**29**	*eP*	**Pb**	**08 15 43.2**	**-0.3**
	10nm,0.6s						
KURS				*eS*	**Sg**	**08 16 41.9**	**-4.8**
	26nm,1.1s						
UZB	**Uzynbulak**	**4.45**	**38**	*eP*	**Pb**	**08 15 43.0**	**-2.1**
	7.1nm,0.7s						
UZB				*eS*	**Sb**	**08 16 40.9**	**+2.2**
	11nm,0.5s						
KPKS	**Kokpek**	**4.54**	**33**	*eP*	**Pb**	**08 15 44.7**	**-2.0**
	17nm,0.5s						
KPKS				*eS*	**Sb**	**08 16 44.2**	**+2.7**
	44nm,0.5s						
SHLS	**Shalkode**	**4.67**	**41**	*eP*	**Pg**	**08 15 52.5**	**-3.7**
	16nm,0.2s						
SHLS				*eS*	**Sg**	**08 16 57.3**	**+0.5**
	32nm,0.4s						
PDGK	**Podgornoye**	**4.81**	**40**	⇑Pg	**Pb**	**08 15 51.2**	**0.0**
	6.7nm,0.6s						
PDGK				⇓Lg	Lg	08 16 52.6	
	32nm,0.8s						
ARXS	**Arharly**	**4.88**	**22**	Pg	**Pb**	**08 15 51.7**	**-0.7**
	11nm,0.6s						
ARXS				Lg	Lg	08 16 56.7	
	24nm,0.7s						
ARXS	**Arharly**	**4.88**	**22**	*eP*	**Pb**	**08 15 51.7**	**-0.7**
	11nm,0.6s						
ARXS				*eS*	**Sb**	**08 16 56.7**	**+5.4**
	24nm,0.7s						
KK31	**Karatay Array**	**4.91**	**315**	⇑Pg	**Pg**	**08 15 57.9**	**-2.9**
	3.2nm,0.7s,baz=131,slow=17,SNR=3.9						
KK31				⇑Lg	Lg	08 17 03.4	
	6.1nm,0.7s,baz=135,slow=28,SNR=3.8						
BTLS	**Baital**	**5.39**	**351**	Pg	**Pb**	**08 16 02.0**	**+0.9**
	3.1nm,0.8s						
BTLS				Lg	Lg	08 17 13.9	
	4.2nm,0.4s						
DJR	**Jarkent**	**5.71**	**35**	Pg	**Pb**	**08 16 08.8**	**+2.1**
	5.0nm,0.4s						
DJR				Lg	Lg	08 17 25.3	
	11nm,1.0s						
KAPS	**Kapalarasan**	**6.33**	**27**	Pg	**Pb**	**08 16 19.8**	**+2.6**
	6.5nm,0.8s						
KAPS				Lg	Lg	08 17 44.4	
	7.3nm,0.4s						

*ISCJB **04** 08:18:28.0±2.3,14°.19N±0°.09×92°.65W±0°.08,h15km±16km,*
Error ellipse: s-maj=19.0km s-min=8.6km az=38.3
*GCG **04** 08:18:28.1±0.3,15°.05N×92°.30W,h134km±9km,MD3.5*
*MEX **04** 08:18:30.4±0.6,14°.10N×92°.52W,h16km±98km,MD3.8*

ISC 04 08:18:28.3±3.2,14°.4N±0°.1×92°.5W±0°.1,h6km±23km,n7,
σ0°97/12,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.61**	**24**	*i* P	**Pn**	**08 18 44.1**	**+0.6**
THIG				*eS*	**Sn**	**08 18 53.1**	**-0.6**
STG3	**Santiaguito 3,**	**0.99**	**68**	*eP*	**Pn**	**08 18 50.4**	**+1.4**
PCIG		**1.51**	**334**	*eP*	**Pn**	**08 18 56.0**	**+0.2**
PCIG				*i* S	**Sg**	**08 19 16.4**	**-0.4**
FUG	**Fuego 3**	**1.64**	**86**	*eP*	**Pn**	**08 18 57.7**	**0.0**
CCIG	**Comitan**	**1.96**	**11**	*eP*	**Pn**	**08 19 02.6**	**+0.4**
CCIG				*i* S	**Sb**	**08 19 29.6**	**+0.3**
IXG	**Ixpaco**	**2.03**	**95**	*eP*	**Pn**	**08 19 03.3**	**+0.1**
IXG				*eS*	**Sb**	**08 19 30.8**	**-0.5**
TGIG		**2.49**	**347**	*eP*	**Pn**	**08 19 10.9**	**+1.6**
TGIG				*eS*	**Sb**	**08 19 43.0**	**-1.3**

*CNRM **04** 08:26:53.4,36°.33N×8°.35W,h108km,ml3.4*
*SFS **04** 08:26:57.0,36°.57N×7°.97W,h16km,ML2.6,GOLFO DE CADIZ*
*INMG **04** 08:26:57.7±1.6,36°.52N×8°.03W,h18km±4km,ML2.2,Error ellipse: s-maj=5.6km s-min=2.8km az=47.0*
*IGIL **04** 08:26:57.8,36°.51N×8°.05W,h18km,ML2.3*
*MDD **04** 08:26:58.2±1.0,36°.50N×8°.01W,h30km±18km,mbLg2.5/18,*
Error ellipse: s-maj=11.4km s-min=4.8km az=27.0,
PRXIMO

ISC 04 08:26:56.4±1.3,36°.51N±0°.04×7°.98W±0°.03,h32km±12km,
n62,σ1°31/103,2C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.73**	**3**	*eP*	**Pn**	**08 27 11.6**	**+0.9**
PBDV				*eS*	**Sn**	**08 27 21.0**	**+0.2**
PBDV				A	A	08 27 24.0	
	25nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.73**	**3**	P	**Pn**	**08 27 11.6**	**+0.9**
PBDV				S	**Sn**	**08 27 21.0**	**+0.2**
	25nm,0.3s						
PVAQ	**Vaqueiros**	**0.92**	**13**	*eP*	**Pb**	**08 27 14.2**	**+0.3**
PVAQ				*eS*	**Sn**	**08 27 26.4**	**+1.1**
PVAQ				A	A	08 27 26.6	
	33nm,0.1s						
PVAQ	**Vaqueiros**	**0.92**	**13**	P	**Pb**	**08 27 16.5**	**+2.6**
PVAQ				S	Sn	08 27 34.4	+9.1
PVAQ	**Vaqueiros**	**0.92**	**13**	P	**Pb**	**08 27 14.2**	**+0.3**
PVAQ				S	**Sn**	**08 27 26.4**	**+1.1**
	33nm,0.1s						
PFVI	**Vila Bisbo**	**0.92**	**313**	*eP*	**Pn**	**08 27 13.6**	**+0.4**
PFVI				*eS*	**Sn**	**08 27 25.6**	**+0.2**
PFVI				A	A	08 27 26.8	
	24nm,0.2s						
PFVI	**Vila Bisbo**	**0.92**	**313**	P	**Pn**	**08 27 13.6**	**+0.4**
	6.5nm,0.1s,SNR=9.5						
PFVI				S	**Sb**	**08 27 24.6**	**-1.3**
	31nm,0.1s,SNR=5.5						
MORF	**Marmelete**	**0.96**	**326**	*eP*	**Pn**	**08 27 14.1**	**+0.4**
MORF				*eS*	**Sn**	**08 27 26.2**	**-0.2**
MORF				AML	AML	08 27 27.8	
	comp=N,62nm,0.1s						
MORF	**Marmelete**	**0.96**	**326**	*eP*	**Pn**	**08 27 14.2**	**+0.4**
MORF				*eS*	**Sn**	**08 27 26.6**	**+0.2**
MORF				A	A	08 27 27.9	
	comp=N,72nm,0.1s						
MORF	**Marmelete**	**0.96**	**326**	P	**Pn**	**08 27 14.2**	**+0.4**
MORF				S	**Sn**	**08 27 26.6**	**+0.2**
	comp=N,72nm,0.1s						
EGRO	**El Granado**	**1.10**	**21**	⇑P	**Pn**	**08 27 16.8**	**+1.2**
	comp=N,3.2nm,0.1s,SNR=18						
EGRO				S	**Sb**	**08 27 30.8**	**0.0**
	comp=N,12nm,0.1s,SNR=10						
PCVE	**Castro Verde**	**1.12**	**358**	*eP*	**Pb**	**08 27 17.1**	**-0.2**
PCVE				*eS*	**Sb**	**08 27 31.4**	**-0.2**
PCVE				A	A	08 27 32.6	
	comp=N,28nm,0.4s						
PCVE	**Castro Verde**	**1.12**	**358**	P	**Pb**	**08 27 17.1**	**-0.2**
PCVE				S	**Sb**	**08 27 31.4**	**-0.2**
	comp=N,28nm,0.4s						
PTEO	**Sao Teotonio**	**1.20**	**330**	⇑*eP*	**Pn**	**08 27 17.8**	**+0.8**
PTEO				*eS*	**Sb**	**08 27 32.4**	**-1.2**
PTEO				A	A	08 27 33.6	
	comp=N,18nm,0.2s						
PTEO	**Sao Teotonio**	**1.20**	**330**	P	**Pn**	**08 27 17.8**	**+0.8**
PTEO				S	**Sb**	**08 27 32.4**	**-1.2**
	comp=N,9.2nm,0.2s						
PBEJ	**Beja**	**1.52**	**3**	*eS*	**Sb**	**08 27 40.8**	**-2.1**
PBEJ				A	A	08 27 41.2	
	comp=N,11nm,0.3s						
PBEJ	**Beja**	**1.52**	**3**	S	**Sb**	**08 27 40.8**	**-2.1**
	comp=N,5.7nm,0.3s						
EMIN	**Mina Concepcio**	**1.63**	**39**	P	**Pn**	**08 27 23.8**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=9.5						
EMIN				S	**Sn**	**08 27 43.0**	**0.0**
	comp=N,6.0nm,0.1s,SNR=7.0						
PNCL	**Nicolau / Gran**	**1.66**	**345**	⇓*eP*n	**Pn**	**08 27 24.1**	**+0.8**
PNCL				*eS*n	**Sn**	**08 27 43.4**	**-0.2**
PNCL				A	A	08 27 43.6	
	comp=N,13nm,0.3s						
PNCL	**Nicolau / Gran**	**1.66**	**345**	P	**Pn**	**08 27 24.1**	**+0.8**
PNCL				S	**Sn**	**08 27 43.4**	**-0.2**
	comp=N,13nm,0.3s						
ESPR	**Espera**	**1.74**	**77**	P	**Pn**	**08 27 25.5**	**+1.0**
	comp=N,1.6nm,0.2s,SNR=5.8						
ESPR				S	**Sn**	**08 27 45.7**	**+0.1**
	comp=N,54nm,0.3s,SNR=7.9						
EVO	**Evora**	**2.02**	**359**	*e*Sn	**Sn**	**08 27 52.6**	**+0.1**
EVO				A	A	08 27 55.0	
	comp=N,19nm,0.1s						
EVO	**Evora**	**2.02**	**359**	*eP*	**Pn**	**08 27 29.3**	**+0.9**
EVO				*eS*	**Sn**	**08 27 51.3**	**-1.2**
EVO	**Evora**	**2.02**	**359**	P	**Pn**	**08 27 29.3**	**+0.9**
EVO				S	**Sn**	**08 27 51.3**	**-1.2**
ECEU	**Ceuta**	**2.19**	**105**	S	**Sn**	**08 27 57.9**	**+1.1**
	comp=N,6.1nm,0.1s,SNR=4.0						
EBAD	**Badajoz**	**2.37**	**19**	P	**Pn**	**08 27 35.1**	**+1.9**
	comp=N,2.6nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**08 28 00.6**	**-0.5**
	comp=N,2.7nm,0.1s,SNR=5.6						
PESTR	**Estremoz**	**2.38**	**7**	*e*Pn	**Pn**	**08 27 34.8**	**+1.6**
PESTR				*e*Sn	**Sn**	**08 28 01.8**	**+0.5**
PESTR				A	A	08 28 04.6	
	comp=N,4.6nm,0.1s						
PMTG	**Montargil**	**2.56**	**356**	⇓*e*Pn	**Pn**	**08 27 37.4**	**+1.6**
PMTG				*e*Sn	**Sn**	**08 28 07.0**	**+1.1**
PMTG				A	A	08 28 08.9	
	comp=N,13nm,0.1s						
PMTG	**Montargil**	**2.56**	**356**	P	**Pn**	**08 27 37.4**	**+1.6**
PMTG				S	**Sn**	**08 28 07.0**	**+1.1**
	comp=N,13nm,0.1s						
ECAB	**El Cabril**	**2.57**	**52**	P	**Pn**	**08 27 37.0**	**+1.0**
	comp=N,2.4nm,0.2s,SNR=16						
ECAB				S	**Sn**	**08 28 04.2**	**-1.9**
	comp=N,4.2nm,0.2s,SNR=6.9						
PMAFR	**Mafra**	**2.65**	**337**	*e*Pn	**Pn**	**08 27 38.5**	**+1.5**
PMAFR				*e*Sn	**Sn**	**08 28 07.8**	**-0.3**
PMAFR				A	A	08 28 09.3	
	comp=N,30nm,0.3s						
PMAFR	**Mafra**	**2.65**	**337**	P	**Pn**	**08 27 38.6**	**+1.6**
	comp=N,11nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**08 28 08.4**	**+0.3**
	comp=N,28nm,0.1s,SNR=9.4						
PMRV	**Marv??o**	**2.95**	**9**	*e*Pn	**Pn**	**08 27 42.1**	**+1.0**
PMRV				*e*Sn	**Sn**	**08 28 15.5**	**0.0**
PMRV				A	A	08 28 16.9	
	comp=N,6.6nm,1.3s						
PMRV	**Marv??o**	**2.95**	**9**	P	**Pn**	**08 27 42.1**	**+1.0**
PMRV				S	**Sn**	**08 28 15.5**	**0.0**
	comp=N,6.6nm,1.3s						
EGOR	**Sierra Gorda,**	**3.16**	**78**	S	**Sn**	**08 28 21.6**	**+0.7**
	comp=N,2.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.18**	**58**	P	**Pn**	**08 27 45.3**	**+1.1**
	comp=N,1.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 28 19.9**	**-1.2**
	comp=N,3.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.35**	**7**	*e*Pn	**Pn**	**08 27 47.8**	**+1.2**
PCBR				*e*Sn	**Sn**	**08 28 25.5**	**+0.2**
PCBR				A	A	08 28 26.7	
	comp=N,7.2nm,0.2s						
PCBR	**Castelo Branco**	**3.35**	**7**	P	**Pn**	**08 27 47.8**	**+1.2**
PCBR				S	**Sn**	**08 28 25.5**	**+0.2**
	comp=N,3.6nm,0.2s						
ELGU	**Los Guajares,**	**3.52**	**83**	P	**Pn**	**08 27 50.7**	**+1.7**
	comp=N,1.1nm,0.2s,SNR=4.0						
ELGU				S	**Sn**	**08 28 30.8**	**+1.3**
	comp=N,1.2nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.71**	**78**	P	**Pn**	**08 27 53.3**	**+1.7**
	SNR=7.9						
EQUE				S	**Sn**	**08 28 33.6**	**-0.6**
	comp=N,1.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**3.90**	**5**	*e*Sn	**Sn**	**08 28 38.1**	**-0.9**
MTE				A	A	08 28 40.2	
	comp=N,5.6nm,0.3s

comp=N,0.4nm,0.1s,SNR=7.9
ELOB S **Sn** **08 29 12.3 -2.5**
comp=N,2.6nm,0.1s,SNR=7.9
PBRG Braganca 5.38 10 *e*Sn **Sn** **08 29 14.3 -1.0**
PBRG Braganca 5.38 10 S **Sn** **08 29 14.3 -1.0**
ECAL Calabor 5.51 10 S **Sn** **08 29 15.3 -3.4**
comp=N,2.8nm,0.3s,SNR=7.9
ETOB Tobarra 5.54 65 P **Pn** **08 28 17.6 +0.9**
comp=N,0.3nm,0.1s,SNR=7.9
ETOB S **Sn** **08 29 16.3 -3.0**
comp=N,0.5nm,0.1s,SNR=7.9
OUZM OUZ 5.68 169 P Pn 08 28 14.8 -3.9
OUZM S **Sn** **08 29 19.7 -3.1**
TTIG Tnine Tigouga, 5.96 184 P Pn 08 28 16.8 -5.8
TTIG S Sn 08 29 23.1 -6.7
ETOR Torete 6.32 45 P **Pn** **08 28 29.0 +1.4**
comp=N,2.0nm,0.2s,SNR=7.9
ETOR S **Sn** **08 29 36.1 -2.7**
comp=N,3.8nm,0.2s,SNR=7.9

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*SNET **04** 09:07:10.6±1.1, 13°.48N×88°.25W, h170km±5km, ML3.8*
*ISCJB **04** 09:07:11.7±0.4, 13°.51N±0°.10×88°.22W±0°.08, h164km±4km, mb3.6/5, Error ellipse: s-maj=20.3km s-min=5.2km az=37.9*
*IDC **04** 09:07:12.4±1.6, 13°.53N×88°.22W, h161km±15km, mb3.3/5, mb1 3.5/8, mb1mx3.3/33, mbtmp3.7/8, Error ellipse: s-maj=42.4km s-min=15.8km az=37.0*
*UCR **04** 09:07:18.7±3.2, 13°.20N×87°.85W, h20km±999km, MW4.0*
ISC 04 09:07:11.5±0.8, 13°.4N±0°.1×88°.23W±0°.09, h162km±7km, n37, σ1§88/48, mb3.6/5, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGO	**Alcalda de S**	**0.29**	**25**	*e*P	**Pn**	**09 07 34.1**	**+0.7**
FAGO				*e*S	**Sn**	**09 07 50.9**	**+0.6**
COEB	**Comit de Eme**	**0.30**	**283**	*e*P	**Pn**	**09 07 34.0**	**+0.5**
COEB				IAML		09 07 35.2	
comp=Z,1μm,0.5s							
ALJI	**Alcalda de J**	**0.35**	**253⇑**	*e*P	**Pn**	**09 07 34.1**	**+0.5**
ALJI				IAML		09 07 34.5	
comp=Z,1μm,0.2s							
ALJI				*e*S	**Sn**	**09 07 51.9**	**+1.6**
LCND	**La Caada**	**0.35**	**110⇑**	*e*P	**Pn**	**09 07 34.5**	**+0.9**
LCND				IAML		09 07 35.2	
comp=Z,3μm,0.4s							
CNCH	**Conchagua**	**0.42**	**112**	*e*P	**Pn**	**09 07 34.4**	**+0.4**
SNVI	**San Vicente**	**0.62**	**287**	*e*P	**Pn**	**09 07 35.4**	**+0.5**
VICT	**Victoria**	**0.66**	**323**	*e*P	**Pn**	**09 07 36.0**	**+0.9**
COEG	**Centro de Oper**	**0.66**	**287**	*e*P	**Pn**	**09 07 35.4**	**+0.3**
COEG				IAML		09 07 41.1	
comp=Z,400nm,0.3s							
COEG				*e*S	**Sn**	**09 07 54.9**	**+1.8**
PAVA	**Las Pavas**	**0.74**	**292**	*e*P	**Pn**	**09 07 36.1**	**+0.5**
PAVA				*e*S	**Sn**	**09 07 55.9**	**+1.7**
LFU	**La Fuente**	**0.92**	**290**	*e*P	**Pn**	**09 07 37.1**	**+0.3**
OPAM	**Oficina de Pla**	**0.98**	**287**	*e*P	**Pn**	**09 07 36.6**	**-0.7**
SNET	**Serv Nac Est T**	**1.01**	**285**	*e*P	**Pn**	**09 07 37.7**	**+0.2**
SNET				IAML		09 08 02.7	
comp=Z,567nm,0.3s							
UEES	**Universidad Ev**	**1.02**	**286**	*e*P	**Pn**	**09 07 37.7**	**0.0**
SNJE	**San Jose**	**1.41**	**288**	*e*P	**Pn**	**09 07 41.5**	**+0.2**
SBLS	**San Blas**	**1.41**	**287**	*e*P	**Pn**	**09 07 41.5**	**+0.2**
RTR	**El Retiro**	**1.45**	**289**	*e*P	**Pn**	**09 07 42.3**	**+0.6**
RTR				*e*S	**Sn**	**09 08 05.8**	**+1.0**
MTO3	**Montecristo**	**1.46**	**311**	*e*P	**Pn**	**09 07 42.4**	**+0.6**
APG	**El Apazote**	**2.67**	**306**	P	**Pn**	**09 07 56.5**	**+0.9**
comp=Z,2.2nm,0.3s,baz=132,slow=14,SNR=8.8							
APG				S	**Sn**	**09 08 30.3**	**+0.7**
comp=Z,1.4nm,0.3s,baz=131,slow=11,SNR=3.2							
GB1A	**Borinquen Arri**	**3.80**	**133**	*e*P	**Pn**	**09 08 12.7**	**+3.1**
GB1A				*e*S	**Sn**	**09 08 48.6**	**-6.2**
BUEV	**Buena Vista**	**3.80**	**133**	*e*P	**Pn**	**09 08 12.1**	**+2.4**
BUEV				*e*S	**Sn**	**09 08 50.1**	**-4.9**
CUI	**Cuipilapa**	**4.07**	**132**	*e*P	**Pn**	**09 08 15.1**	**+1.9**
CUI				*e*S	**Sn**	**09 08 59.8**	**-1.3**
JTS	**Las Juntas de**	**4.48**	**134**	P	**Pn**	**09 08 19.5**	**+1.2**
comp=Z,6.8nm,0.3s,baz=343,slow=18,SNR=33							
JTS				S	**Sn**	**09 09 07.3**	**-3.2**
comp=Z,13nm,0.3s,baz=345,slow=19,SNR=12							
JTS	**Las Juntas de**	**4.48**	**134**	*e*P	**Pn**	**09 08 19.4**	**+1.0**
CEDE	**Laguna Cedeo**	**4.53**	**130**	*e*P	**Pn**	**09 08 20.2**	**+1.2**
ARE1	**Arenal 1**	**4.53**	**130**	*e*P	**Pn**	**09 08 21.5**	**+2.4**
LCR2	**La Lucha 2**	**5.53**	**131**	*e*P	**Pn**	**09 08 34.5**	**+2.2**
EDLM	**Las Mercedes**	**6.14**	**132**	*e*P	**Pn**	**09 08 42.8**	**+2.5**
EDBA	**Buenos Aires**	**6.45**	**131**	*e*P	**Pn**	**09 08 43.9**	**-0.5**
EDPN	**Palmar Norte**	**6.45**	**133**	*e*P	**Pn**	**09 08 46.3**	**+1.9**
CMIG	**Matias Romero**	**7.38**	**300**	P	**Pn**	**09 08 56.9**	**+0.2**
comp=Z,0.7nm,0.3s,baz=145,slow=12,SNR=32							
CMIG				S	**Sn**	**09 10 15.3**	**-4.1**
comp=Z,0.8nm,0.3s,baz=274,slow=21,SNR=7.4							
TXAR	**Lajitas Array**	**21.34**	**320**	P	**P**	**09 11 46.0**	**-0.1**
comp=Z,1.2nm,0.5s,baz=134,slow=10,SNR=13							
TKL	**Tuckaleechee C**	**22.49**	**10**	P	**P**	**09 11 57.8**	**+0.2**
comp=Z,5.2nm,0.6s,baz=189,slow=7.5,SNR=7.8							
PDAR	**Pinedale Array**	**34.55**	**332**	P	**P**	**09 13 45.4**	**+0.5**
comp=Z,0.3nm,0.5s,baz=131,slow=11,SNR=6.6							
NVAR	**Mina Array Bea**	**36.47**	**319**	P	**P**	**09 14 02.8**	**+1.5**
comp=Z,0.3nm,0.6s,baz=139,slow=5.9,SNR=3.3							
ULM	**Lac du Bonnet**	**37.24**	**352**	P	**P**	**09 14 05.6**	**-1.8**
comp=Z,2.0nm,0.5s,baz=161,slow=8.0,SNR=3.6							
WRA	**Warramunga Arr**	**138.80**	**255**	PKP	**PKPdf**	**09 26 19.4**	**0.0**
comp=Z,1.4nm,0.5s,baz=89,slow=2.2,SNR=26							
ASAR	**Alice Springs**	**138.91**	**249**	PKP	**PKPdf**	**09 26 19.4**	**-0.1**
comp=Z,0.4nm,0.6s,baz=93,slow=2.1,SNR=7.6							

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*ISCJB **04** 09:26:49.9±0.9, 35°.29N±0°.04×23°.34E±0°.07, h31km±4km, Error ellipse: s-maj=10.6km s-min=4.8km az=142.8*
*ATH **04** 09:26:49.6, 35°.34N×23°.40E, h34km±2km, ML2.5/7, Error ellipse: s-maj=2.9km s-min=1.1km az=54.0*
*THE **04** 09:26:50.9, 35°.32N×23°.36E, h27km±1km, ML2.4/8, Error ellipse: s-maj=2.0km s-min=0.9km az=51.0*
ISC 04 09:26:50.3±1.2, 35°.33N±0°.05×23°.38E±0°.05, h30km±7km, n23, σ0§35/39, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERA	**Keramoti**	**0.15**	**74**	P	**Pb**	**09 26 55.8**	**-0.3**
KERA				S	**Sn**	**09 27 00.5**	**0.0**
KERA				AML	AML	09 27 01.8	
comp=N,6215μm,0.3s							
KERA				AML	AML	09 27 03.7	
comp=E,2667μm,0.3s							
KNDR	**Palaiochora Ch**	**0.27**	**110**	P	**Pb**	**09 26 57.2**	**-0.2**
KNDR				S	**Sb**	**09 27 02.4**	**+0.3**
comp=E,815nm,0.5s							
RODP	**Rodopos**	**0.39**	**53**	P	**Pb**	**09 26 58.9**	**-0.1**
RODP				S	**Sn**	**09 27 06.7**	**+0.4**
comp=E,152nm,0.5s							
IMMV	**Iera Moni Meta**	**0.51**	**75**	P	**Pb**	**09 27 00.6**	**-0.3**
IMMV				S	**Sn**	**09 27 09.3**	**0.0**
comp=E,652nm,0.6s							
IMMV	**Iera Moni Meta**	**0.51**	**75**	P	**Pb**	**09 27 00.5**	**-0.4**
IMMV				S	**Sb**	**09 27 08.4**	**+0.2**
IMMV				AML	AML	09 27 09.5	
comp=E,1471μm,0.5s							
IMMV				AML	AML	09 27 09.6	
comp=N,1214μm,0.5s							
ANKY	**Antikythira Is**	**0.54**	**353**	P	**Pb**	**09 27 01.1**	**-0.4**
ANKY				S	**Sn**	**09 27 10.4**	**+0.3**
comp=N,532nm,0.4s							
ANKY	**Antikythira Is**	**0.54**	**353**	P	**Pb**	**09 27 01.0**	**-0.5**
ANKY				S	**Sn**	**09 27 09.6**	**-0.5**
ANKY				AML	AML	09 27 11.1	
comp=N,924μm,0.4s							
ANKY				AML	AML	09 27 11.3	
comp=E,1170μm,0.4s							
CHAN	**Chania**	**0.57**	**70**	P	**Pb**	**09 27 01.9**	**-0.1**
CHAN				S	**Sn**	**09 27 10.9**	**0.0**
comp=E,190nm,0.6s							
VAM	**Vamos**	**0.68**	**83**	P	**Pb**	**09 27 03.3**	**-0.4**
VAM				S	**Sn**	**09 27 13.6**	**+0.2**
comp=E,418nm,0.5s							
VAM	**Vamos**	**0.68**	**83**	P	**Pb**	**09 27 03.2**	**-0.4**
VAM				S	**Sb**	**09 27 12.8**	**0.0**
VAM				AML	AML	09 27 17.0	
comp=E,544μm,0.3s							
VAM				AML	AML	09 27 17.9	
comp=N,780μm,0.3s							
GVDS	**Gavdos**	**0.76**	**129**	P	**Pn**	**09 27 04.6**	**-0.4**
GVDS				S	**Sb**	**09 27 14.9**	**-0.1**
comp=N,340nm,0.4s							
GVD	**Gavdhos**	**0.76**	**130**	P	**Pb**	**09 27 05.2**	**+0.2**
GVD	**Gavdhos**	**0.76**	**130**	P	**Pb**	**09 27 05.0**	**-0.1**
GVD				S	**Sn**	**09 27 15.5**	**+0.1**
GVD				AML	AML	09 27 23.3	
comp=E,612μm,0.3s							
GVD				AML	AML	09 27 23.7	
comp=N,858μm,0.3s							
PRNS	**Prines Rethymn**	**0.92**	**87**	P	**Pn**	**09 27 06.7**	**-0.5**
PRNS				S	**Sb**	**09 27 19.6**	**0.0**
KTHA	**Kythira Island**	**0.96**	**345**	P	**Pb**	**09 27 08.1**	**-0.4**
KTHA				S	**Sn**	**09 27 20.5**	**0.0**
comp=N,332nm,0.5s							
KTHA	**Kythira Island**	**0.96**	**345**	P	**Pn**	**09 27 08.0**	**+0.1**
KTHA				S	**Sb**	**09 27 21.8**	**+1.0**
KTHA				AML	AML	09 27 23.2	
comp=E,954μm,0.5s							
KTHA				AML	AML	09 27 23.5	
comp=N,349μm,0.5s							
KTHR	**Kythira**	**0.98**	**342**	P	**Pn**	**09 27 08.2**	**+0.1**
SIVA	**Sívas**	**1.21**	**104**	P	**Pn**	**09 27 11.7**	**+0.5**
VLI	**Veliai**	**1.43**	**346**	P	**Pn**	**09 27 14.6**	**+0.3**
VLI	**Veliai**	**1.43**	**346**	P	**Pn**	**09 27 14.5**	**+0.2**
VLI				S	**Sb**	**09 27 34.2**	**-0.1**
VLI				AML	AML	09 27 38.7	
comp=E,149μm,0.3s							
VLI				AML	AML	09 27 39.0	
comp=N,134μm,0.5s							
MHLO	**Agia Marina, M**	**1.59**	**31**	P	**Pn**	**09 27 17.1**	**+0.6**
MHLO	**Agia Marina, M**	**1.59**	**31**	P	**Pn**	**09 27 16.6**	**+0.1**
DID	**Didima**	**2.18**	**357**	P	**Pn**	**09 27 24.1**	**-0.4**

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*ATH **04** 09:43:59.3, 40°.16N×21°.56E, h24km±1km, ML3.1/9, Error ellipse: s-maj=1.2km s-min=0.7km az=303.0*
*THE **04** 09:44:00.8, 40°.16N×21°.58E, h9km±1km, ML2.9/11, Error ellipse: s-maj=1.5km s-min=0.7km az=283.0*
*SKO **04** 09:44:00.3, 40°.12N×21°.56E, h14km*
*TIR **04** 09:44:00.7, 40°.18N×21°.57E, h9km, Md3.5/7*
*ISCJB **04** 09:44:00.1±0.3, 40°.19N±0°.02×21°.61E±0°.02, h9km±3km, Error ellipse: s-maj=2.7km s-min=2.5km az=179.1*
*BEO **04** 09:44:02.2±0.7, 40°.26N×21°.66E, h10km±4km, ML2.9/9*
ISC 04 09:44:00.6±0.8, 40°.17N±0°.02×21°.59E±0°.02, h13km±6km, n89, σ1§04/124, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.20**	**45**	P	**Pg**	**09 44 04.9**	**-0.1**
KZN				S	**Sg**	**09 44 08.8**	**+0.7**
8μm,0.2s							
KZN	**Kozani**	**0.20**	**45**	P	**Pg**	**09 44 05.0**	**0.0**
KZN				S	**Sg**	**09 44 08.8**	**+0.7**
KZN				AML	AML	09 44 09.0	
comp=N,10986μm,0.3s							
KZN				AML	AML	09 44 09.2	
comp=E,14894μm,0.1s							
KPRO	**Kipourio**	**0.27**	**219**	P	**Pg**	**09 44 05.5**	**-0.8**
KPRO				S	**Sg**	**09 44 10.4**	**+0.3**
comp=E,4μm,0.5s							
KPRO	**Kipourio**	**0.27**	**219**	P	**Pg**	**09 44 05.5**	**-0.8**
KPRO				S	**Sg**	**09 44 10.5**	**+0.4**
KPRO				AML	AML	09 44 11.4	
comp=N,9226μm,0.7s							
KPRO				AML	AML	09 44 17.2	
comp=E,8715μm,0.4s							
PENT	**Pentalofos**	**0.35**	**275**	P	**Pg**	**09 44 06.7**	**-0.9**
PENT				S	**Sb**	**09 44 13.9**	**-0.3**
comp=E,4μm,0.7s							
PENT	**Pentalofos**	**0.35**	**275**	P	**Pg**	**09 44 06.7**	**-0.9**
PENT				S	**Sg**	**09 44 12.3**	**-0.1**
PENT				AML	AML	09 44 17.6	
comp=E,5306μm,0.4s							
PENT				AML	AML	09 44 17.9	
comp=N,8625μm,0.4s							
KTI	**Kastanea**	**0.46**	**61**	P	**Pg**	**09 44 09.6**	**-0.2**
MEV	**Metsovon**	**0.47**	**216**	P	**Pg**	**09 44 09.6**	**-0.3**
MEV	**Metsovon**	**0.47**	**216**	P	**Pg**	**09 44 09.6**	**-0.3**
NEST	**Nestorio**	**0.48**	**301**	P	**Pg**	**09 44 09.3**	**-0.8**
NEST				S	**Sg**	**09 44 16.6**	**0.0**
comp=N,2μm,0.5s							
NEST	**Nestorio**	**0.48**	**301**	P	**Pg**	**09 44 09.3**	**-0.8**
NEST				S	**Sg**	**09 44 16.6**	**0.0**
NEST				AML	AML	09 44 21.3	
comp=E,5188μm,0.5s							
NEST				AML	AML	09 44 23.7	
comp=N,6503μm,0.4s							
FNA	**Florina**	**0.64**	**345**	*e*Pg	**Pg**	**09 44 12.2**	**-0.8**
FNA				*e*Sg	**Sg**	**09 44 21.5**	**0.0**
FNA	**Florina**	**0.64**	**345**	P	**Pg**	**09 44 12.2**	**-0.8**
FNA				S	**Sb**	**09 44 22.6**	**+0.1**
comp=N,4μm,0.4s							
FNA	**Florina**	**0.64**	**345**	*i* Pg	**Pg**	**09 44 12.2**	**-0.8**
FNA				*i* Sg	**Sb**	**09 44 23.3**	**+0.8**
FNA	**Florina**	**0.64**	**345**	*i* PG	**Pg**	**09 44 12.2**	**-0.8**
FNA				*i* SG	**Sg**	**09 44 21.5**	**0.0**
FNA	**Florina**	**0.64**	**345**	P	**Pg**	**09 44 12.3**	**-0.7**
FNA				S	**Sg**	**09 44 21.1**	**-0.4**
FNA				AML	AML	09 44 23.1	
comp=E,7083μm,0.5s							
FNA				AML	AML	09 44 23.5	
comp=N,9286μm,0.3s							
THL	**Klokotos Trika**	**0.68**	**151**	P	**Pg**	**09 44 12.4**	**-1.5**
THL				S	**Sb**	**09 44 23.8**	**+0.1**
comp=N,1μm,0.4s							
THL	**Klokotos Trika**	**0.68**	**151**	P	**Pg**	**09 44 12.4**	**-1.5**
THL				S	**Sg**	**09 44 23.2**	**+0.3**
THL				AML	AML	09 44 25.1	
comp=N,2289μm,0.3s							
THL				AML	AML	09 44 25.2	
comp=E,2157μm,0.2s							
LIT	**Litokhoron**	**0.69**	**95**	P	**Pg**	**09 44 13.1**	**-1.0**
LIT				S	**Sb**	**09 44 25.1**	**+1.0**
comp=E,1μm,0.3s							
LIT	**Litokhoron**	**0.69**	**95**	*i* Pg	**Pg**	**09 44 13.0**	**-1.0**
LIT				*i* Sg	**Sg**	**09 44 24.3**	**+1.1**
LIT	**Litokhoron**	**0.69**	**95**	P	**Pg**	**09 44 13.1**	**-1.0**
LIT				S	**Sg**	**09 44 24.3**	**+1.1**
LIT				AML	AML	09 44 25.4	
comp=E,2055μm,0.4s							
LIT				AML	AML	09 44 26.6	
comp=N,2556μm,0.2s							
JAN	**Janina**	**0.76**	**228**	P	**Pb**	**09 44 15.6**	**-0.1**
JAN				S	**Sb**	**09 44 26.0**	**0.0**
comp=N,578nm,0.6s							
JAN	**Janina**	**0.76**	**228**	P	**Pg**	**09 44 13.4**	**-1.9**
OHR	**Ohrid**	**1.12**	**328**	*i* PG	**Pb**	**09 44 21.3**	**-0.5**
THE	**Thessaloniki**	**1.15**	**66**	P	**Pb**	**09 44 22.5**	**+0.2**
THE	**Thessaloniki**	**1.15**	**66**	P	**Pb**	**09 44 22.6**	**+0.3**
IGT	**Igoumenitsa**	**1.16**	**237**	*e*Pg	**Pn**	**09 44 25.3**	**+2.8**
IGT				*e*Sg	**Sn**	**09 44 41.2**	**+3.0**
IGT	**Igoumenitsa**	**1.16**	**237**	*i* PN	**Pn**	**09 44 24.4**	**+1.9**
IGT				*i* SN	**Sn**	**09 44 41.1**	**+3.0**
IGT	**Igoumenitsa**	**1.16**	**237**	P	**Pb**	**09 44 21.8**	**-0.6**
TPE	**Tepelena**	**1.22**	**277**	*i* PN	**Pg**	**09 44 24.3**	**+0.3**
TPE				*i* SN	**Sn**	**09 44 41.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.23**	**160**	P	**Pn**	**09 44 22.8**	**-0.6**
MAKR				S	**Sb**	**09 44 39.4**	**0.0**
MAKR				AML	AML	09 44 48.1	
comp=E,2595μm,0.4s							
MAKR				AML	AML	09 44 48.3	
comp=N,1980μm,0.4s							
HORT	**Hortiatis**	**1.23**	**69**	P	**Pn**	**09 44 23.7**	**+0.1**
HORT				S	**Sg**	**09 44 40.8**	**+0.5**
comp=N,110nm,0.5s							
HORT	**Hortiatis**	**1.23**	**69**	P	**Pn**	**09 44 23.8**	**+0.2**
SRN	**Sarande**	**1.25**	**257**	*i* PN	**Pg**	**09 44 24.3**	**-0.3**
SRN				*i* SN	**Sn**	**09 44 42.5**	**+2.0**
EVR	**Evrytania**	**1.26**	**172**	P	**Pn**	**09 44 23.0**	**-1.0**
EVR				S	**Sn**	**09 44 41.9**	**+1.0**
comp=N,518nm,0.7s							
EVR	**Evrytania**	**1.26**	**172**	P	**Pn**	**09 44 23.0**	**-1.0**
AGG	**Agios Georgios**	**1.28**	**153**	P	**Pn**	**09 44 23.6**	**-0.6**
AGG				S	**Sb**	**09 44 41.2**	**+0.3**
KASA	**Kassiopi**	**1.34**	**252**	P	**Pn**	**09 44 23.2**	**-1.7**
VAY	**Valandovo**	**1.37**	**33**	*i* Pg	**Pn**	**09 44 26.1**	**+0.6**
KNT	**Kendrikon**	**1.41**	**45**	P	**Pn**	**09 44 25.7**	**-0.3**
KNT	**Kendrikon**	**1.41**	**45**	*i* Pg	**Pn**	**09 44 25.9**	**0.0**
KNT	**Kendrikon**	**1.41**	**45**	P	**Pn**	**09 44 25.5**	**-0.5**
PLG	**Polygyros**	**1.44**	**81**	P	**Pn**	**09 44 26.9**	**+0.5**
PLG	**Polygyros**	**1.44**	**81**	P	**Pn**	**09 44 26.8**	**+0.4**
KEK	**Kerkira**	**1.45**	**252**	AML	AML	09 44 54.3	
comp=N,542μm,0.9s							
KEK				AML	AML	09 45 01.2	
comp=E,663μm,0.7s							
XOR	**Xorichti**	**1.47**	**122**	P	**Pn**	**09 44 26.3**	**-0.5**
SOH	**Sokhos**	**1.50**	**63**	P	**Pn**	**09 44 27.6**	**+0.4**
SOH				S	**Sn**	**09 44 46.8**	**+0.1**
comp=E,255nm,0.6s							
SOH	**Sokhos**	**1.50**	**63**	*i* Pg	**Pb**	**09 44 28.8**	**+0.5**
SOH	**Sokhos**	**1.50**	**63**	P	**Pn**	**09 44 27.8**	**+0.6**
NEO	**Neokhori**	**1.52**	**124**	P	**Pn**	**09 44 27.1**	**-0.5**
PVO	**Paravola**	**1.55**	**182**	P	**Pn**	**09 44 28.6**	**+0.7**
PDO	**Prodromos**	**1.60**	**191**	P	**Pn**	**09 44 28.8**	**+0.3**
PAIG	**Paliouri**	**1.62**	**98**	P	**Pn**	**09 44 28.4**	**-0.5**
AXAR	**Agios Charalam**	**1.62**	**149**	P	**Pn**	**09 44 29.1**	**+0.2**
VLO	**Vlora**	**1.63**	**281**	*i* PN	**Pg**	**09 44 31.4**	**-0.4**
VLO				*i* SN	**Sg**	**09 44 55.3**	**+2.3**
PHP	**Peshkopia**	**1.75**	**331**	*i* PN	**Pn**	**09 44 31.9**	**+1.2**
PHP				*i* SN	**Sg**	**09 44 57.9**	**+1.0**
EFP	**Efpalio**	**1.75**	**172**	P	**Pn**	**09 44 30.5**	**-0.2**
SKIA	**Skiathos**	**1.76**	**124**	P	**Pn**	**09 44 30.3**	**-0.4**
TIR	**Tirane**	**1.76**	**313**	*e*Pn	**Pb**	**09 44 33.4**	**+0.6**
TIR	**Tirane**	**1.76**	**313**	*i* PN	**Pg**	**09 44 34.5**	**+0.1**
TIR				*i* SN	**Sg**	**09 44 59.6**	**+2.3**
SRS	**Serrai**	**1.80**	**57**	*e*Pn	**Pn**	**09 44 32.8**	**+1.5**
SRS	**Serrai**	**1.80**	**57**	P	**Pn**	**09 44 31.1**	**-0.2**
SRS	**Serrai**	**1.80**	**57**	P	**Pn**	**09 44 31.4**	**0.0**
LKR	**Lokris**	**1.87**	**144**	P	**Pn**	**09 44 31.8**	**-0.5**
DSF	**Desfina**	**1.90**	**157**	P	**Pn**	**09 44 31.9**	**-0.9**
AOS	**Alonnisos**	**2.03**	**119**	P	**Pn**	**09 44 33.5**	**-0.9**
MRKA	**Markates**	**2.13**	**133**	P	**Pn**	**09 44 35.7**	**-0.1**
PROD	**Prodromos**	**2.16**	**151**	P	**Pn**	**09 44 35.5**	**-0.8**
PUK	**Puka**	**2.27**	**326**	*i* PN	**Pb**	**09 44 41.2**	**-0.3**
PUK				*i* SN	**Sg**	**09 45 12.5**	**-1.1**
VIL2	**Platees**	**2.35**	**146**	P	**Pn**	**09 44 39.5**	**+0.6**
LTK	**Loutraki**	**2.39**	**153**	P	**Pn**	**09 44 38.8**	**-0.8**
BOSS	**Bosilegrad**	**2.42**	**16**	*e*Pn	**Pn**	**09 44 40.8**	**+0.9**
BCI	**Bajram Curri**	**2.48**	**333**	*i* PN	**Pb**	**09 44 45.2**	**+0.2**
BCI				*i* SN	**Sg**	**09 45 18.3**	**-1.9**
BARS	**Barje**	**2.65**	**4**	*e*Pn	**Pn**	**09 44 43.7**	**+0.6**
VTS	**Vitosha**	**2.75**	**26**	*e*Pn	**Pn**	**09 44 44.1**	**-0.4**
PDG	**Podgorica**	**2.87**	**323**	*e*Pn	**Pb**	**09 44 49.3**	**-2.3**
SELS	**Selova**	**3.07**	**354**	*e*Pn	**Pn**	**09 44 49.1**	**+0.2**
SJES	**Sjenica**	**3.32**	**339**	*e*Pn	**Pn**	**09 44 53.2**	**+0.8**
BOVS	**Bovan**	**3.47**	**1**	*e*Pn	**Pn**	**09 44 54.3**	**0.0**
ZAGS	**Zajecar**	**3.67**	**7**	*e*Pn	**Pn**	**09 44 57.4**	**+0.3**
GRUS	**Gruza**	**3.78**	**350**	*e*Pn	**Pn**	**09 44 57.8**	**-0.7**
STON	**Ston**	**3.98**	**314**	Sn	**Sn**	**09 45 48.0**	**+0.3**
BBLS	**Lazići**	**4.04**	**337**	*e*Pn	**Pn**	**09 45 02.5**	**+0.3**
DIVS	**Divibare**	**4.11**	**344**	*e*Pn	**Pn**	**09 45 04.4**	**+1.3**
TRUS	**Trudelj**	**4.15**	**348**	*e*Pn	**Pn**	**09 45 04.2**	**+0.6**
HVAR	**Hvar**	**4.89**	**310**	*e*Pn	**Pn**	**09 45 11.7**	**-2.0**
HVAR				Sn	**Sn**	**09 46 09.2**	**-0.9**
ZIRJ	**Zirje**	**5.64**	**310**	*e*Pn	**Pn**	**09 45 24.1**	**0.0**
ZIRJ				Sn	**Sn**	**09 46 26.3**	**-2.4**
MORI	**Morici**	**5.73**	**312**	*e*Pn	**Pn**	**09 45 26.6**	**+1.2**
DUGI	**Dugi Otok**	**6.18**	**310**	*i* Pn	**Pn**	**09 45 31.3**	**-0.3**
DUGI				Sn	**Sn**	**09 46 38.9**	**-3.2**

ATH 04 09:48:34.8, 40°.15N×21°.57E, h17km±8km, ML1.4/2, Error ellipse: s-maj=8.4km s-min=1.7km az=135.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.23**	**44**	P	Pb	09 48 40.3	-0.2
KZN				S	Sg	09 48 43.6	-0.1
KZN				AML	AML	09 48 44.0	
comp=E,210μm,0.2s							
KZN				AML	AML	09 48 44.7	
comp=N,184μm,0.2s							
KPRO	**Kipourio**	**0.25**	**219**	P	Pg	09 48 39.7	-0.7
PENT	**Pentalofos**	**0.33**	**279**	P	Pb	09 48 42.1	-0.2
PENT				S	Sg	09 48 46.7	0.0
NEST	**Nestorio**	**0.48**	**304**	P	Pg	09 48 44.4	-0.1
FNA	**Florina**	**0.65**	**347**	P	Pg	09 48 47.2	-0.5
FNA				S	Sg	09 48 56.1	-0.3
FNA				AML	AML	09 48 58.1	
comp=E,104μm,0.4s							
FNA				AML	AML	09 48 58.5	
comp=N,143μm,0.3s							

THE 04 09:48:55.4, 38°.23N×22°.14E, h2km±23km, ML1.7/9, Error ellipse: s-maj=23.1km s-min=0.4km az=302.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.13**	**276**	P	Pg	09 48 57.7	-0.2
LAKA				S	Sg	09 48 59.8	+0.3
358nm,0.2s							
TRIZ	**Trizonia**	**0.15**	**340**	P	Pg	09 48 58.1	-0.2
TRIZ				S	Sg	09 49 00.6	+0.4
672nm,0.3s							
KALE	**Kalithea**	**0.16**	**0**	P	Pg	09 48 58.6	0.0
KALE			

AGPR					Pb	10 21 09.9	+1.8
AOPR	**Arecibo Observ**	**1.00 151**	⇑	*e*P	Pb	10 21 12.0	-0.2
AOPR	**Arecibo Observ**	**1.00 151**		*e*S	Sb	10 21 25.2	+0.1
AOPR	**Arecibo Observ**	**1.00 151**			Pn	10 21 17.1	+4.5
AOPR					Sg	10 21 25.7	+0.3
MPR	**Mayaguez**	**1.01 173**		*i* P	Pb	10 21 12.0	-0.4
MPR				*e*S	Sb	10 21 25.1	-0.4
MPR				IAML		10 21 28.2	
	comp=Z,26nm,0.1s						
LSP	**Las Mesas**	**1.05 171**	⇓	*e*P	Pb	10 21 12.8	-0.3
LSP	**Las Mesas**	**1.05 171**		*e*S	Sg	10 21 27.4	+0.2
LSP	**Las Mesas**	**1.05 171**			Pb	10 21 12.8	-0.3
LSP					Sg	10 21 27.4	+0.2
CRPR	**Cabo Rojo, PR**	**1.22 173**	⇑	*e*P	Pn	10 21 15.0	-0.6
CRPR	**Cabo Rojo, PR**	**1.22 173**		*e*S	Sb	10 21 31.2	-0.3
CRPR	**Cabo Rojo, PR**	**1.22 173**			Pn	10 21 15.0	-0.6
MLPR	**Magueyes Islan**	**1.26 170**	⇑	*e*P	Pn	10 21 15.7	-0.6
MLPR	**Magueyes Islan**	**1.26 170**		*e*S	Sb	10 21 32.9	+0.2
MLPR	**Magueyes Islan**	**1.26 170**			Pn	10 21 15.7	-0.6
MLPR	**Magueyes Islan**	**1.26 170**			Pg	10 21 17.2	-0.3
PCDR	**Punta Cana, DR**	**1.27 237**		*i* P	Pg	10 21 17.1	-0.4
PCDR				*e*S	Sg	10 21 35.0	+0.9
PCDR				IAML		10 21 41.7	
	comp=Z,49nm,0.5s						
CELP	**Cerrillos**	**1.31 150**	⇑	*e*P	Pn	10 21 16.9	-0.1
CELP				*e*S	Sn	10 21 33.8	-0.5
CELP	**Cerrillos**	**1.31 150**			Pn	10 21 16.9	-0.1
CELP					Sn	10 21 33.8	-0.5
OBIP	**Obispado Ponce**	**1.33 152**	⇑	*e*P	Pn	10 21 17.2	0.0
OBIP	**Obispado Ponce**	**1.33 152**		*e*S	Sb	10 21 34.8	+0.1
OBIP	**Obispado Ponce**	**1.33 152**			Sb	10 21 34.8	+0.1
OBIP	**Obispado Ponce**	**1.33 152**			Pn	10 21 17.2	0.0
OBIP	**Obispado Ponce**	**1.33 152**			Pg	10 21 18.7	0.0
OBIP				Sn	Sn	10 21 34.3	-0.3
CBYP	**Canovanas**	**1.64 125**	⇑	*e*P	Pn	10 21 21.6	+0.1
CBYP	**Canovanas**	**1.64 125**		*e*S	Sn	10 21 42.2	-0.1
CBYP	**Canovanas**	**1.64 125**		*e*	Pn	10 21 21.6	+0.1
CBYP				*e*	Sn	10 21 42.2	-0.1
CBYP	**Canovanas**	**1.64 125**			Pg	10 21 23.8	-0.8
MTP	**Monte Pirata**	**1.97 124**	⇑	*e*P	Pn	10 21 26.0	0.0
MTP	**Monte Pirata**	**1.97 124**			Pn	10 21 26.0	0.0

*TAP **04** 10:32:35.9, 23.°95N×121.°47E, h24km, ML3.6, B*
*JMA **04** 10:32:35.4, 23.°89N×121.°52E, h21km±2km, M3.0*
*ISCJB **04** 10:32:36.2±0.2, 23.°932N±0.°010×121.°52E±0.°01, h24km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=29.3*

ISC 04 10:32:35.7±0.9, 23.°94N±0.°01×121.°48E±0.°01, h17km±7km, n114, σ0.66/200, 10C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.12**	**105**	⇓ *i*P	Pb	10 32 40.0	+0.5
ENLB	baz=109			*e*S	Sb	10 32 44.6	+2.5
HWA	**Hwalien**	**0.12**	**70**	⇓ P	Pb	10 32 41.2	+1.6
HWA	baz=79			S	Sb	10 32 45.0	+2.8
ESL	**Shilin**	**0.13**	**200**	⇓ *i*P	Pb	10 32 40.8	+1.0
ESL	baz=190			S	Sb	10 32 44.0	+1.6
TWD	**Chiawan**	**0.18**	**36**	⇓ *i*P	Pb	10 32 41.3	+0.7
TWD	baz=44			S	Sb	10 32 45.0	+1.1
NACB	**Ninganchiao**	**0.26**	**24**	⇓ P	Pb	10 32 42.1	+0.1
NACB	baz=27			S	Sb	10 32 46.2	-0.1
EGFH	**Guangfu**	**0.27**	**190**	*e*P	Pb	10 32 42.3	+0.1
EGFH	baz=182			*e*S	Sb	10 32 47.0	+0.5
ETLH	**Xiulin Townshi**	**0.27**	**0**	P	Pb	10 32 42.5	+0.3
ETLH	baz=8.0			S	Sb	10 32 46.7	+0.1
WHF	**Hehuan Shan**	**0.29**	**317**	⇑ *i*P	Pb	10 32 42.8	+0.1
WHF	baz=312			S	Sb	10 32 47.5	+0.1
CHGB	**Renai**	**0.31**	**294**	⇑ P	Pb	10 32 43.3	+0.3
CHGB	baz=297			S	Sb	10 32 48.1	+0.3
VWDT	**VWDT**	**0.36**	**240**	⇑ P	Pb	10 32 44.3	+0.6
VWDT	baz=233			S	Sb	10 32 49.5	+0.4
TDCB	**Techi**	**0.43**	**317**	⇑ P	Pb	10 32 45.3	+0.3
TDCB	baz=314			S	Sg	10 32 50.9	+0.3
HGSD	**Ruisui**	**0.44**	**187**	*e*P	Pb	10 32 45.4	+0.2
HGSD	baz=191			S	Sb	10 32 52.9	+1.4
EHY	**Hungye**	**0.45**	**199**	⇓ *e*P	Pg	10 32 44.4	-0.4
EHY	baz=193			S	Sb	10 32 52.1	+0.4
NNSB	**Datong**	**0.50**	**350**	⇑ P	Pb	10 32 46.2	0.0
NNSB	baz=357			S	Sg	10 32 52.8	+0.2
SSLB	**Suanglung**	**0.50**	**253**	⇑ P	Pb	10 32 46.1	-0.1
SSLB	baz=256			S	Sg	10 32 52.3	-0.3
NNS	**Nan Shan**	**0.51**	**349**	⇑ P	Pb	10 32 46.5	+0.1
NNS	baz=357			S	Sg	10 32 53.3	+0.3
DPDB	**Guoxing**	**0.52**	**281**	P	Pb	10 32 46.6	+0.2
DPDB	baz=276			S	Sb	10 32 53.7	0.0
SMLT	**Sun Moon Lake**	**0.53**	**265**	⇑ *i*P	Pb	10 32 46.9	+0.1
SMLT	baz=262			*i* S	Sb	10 32 54.1	-0.1
ENA	**Nanau**	**0.55**	**26**	*e*P	Pg	10 32 46.6	0.0
ENA	baz=34			*e*S	Sb	10 32 54.4	-0.1
NANB	**Nanao**	**0.55**	**27**	*e*P	Pg	10 32 46.3	-0.4
NANB	baz=34			*e*S	Sg	10 32 53.6	-0.5
YULB	**Yu-li**	**0.56**	**197**	*e*P	Pg	10 32 45.9	-1.1
YULB	baz=186			*e*S	Sb	10 32 55.4	+0.3
TYC	**Yuchr**	**0.57**	**267**	⇓ *i*P	Pg	10 32 47.3	+0.2
TYC	baz=265			S	Sg	10 32 54.5	-0.2
WHP	**Taichung City**	**0.60**	**305**	*e*P	Pb	10 32 48.3	+0.5
WHP	baz=302			*e*S	Sb	10 32 56.1	+0.1
TWF1	**Yuli**	**0.60**	**196**	*e*P	Pb	10 32 47.8	-0.1
TWF1	baz=194			*e*S	Sb	10 32 56.3	+0.2
WHYT	**Xinyi Township**	**0.62**	**248**	*e*P	Pb	10 32 48.6	+0.4
WHYT	baz=248			S	Sb	10 32 57.2	+0.5
NDT	**Datong Townshi**	**0.67**	**3**	*e*P	Pb	10 32 49.2	+0.2
NDT	baz=1.0			*e*S	Sg	10 32 57.2	-0.5
WJS	**Zhushan**	**0.70**	**261**	P	Pn	10 32 50.4	-0.5
WJS	baz=259			S	Sn	10 33 00.2	-1.1
ENTT	**Nioudou**	**0.71**	**6**	*e*P	Pb	10 32 49.4	-0.2
ENTT	baz=15			*e*S	Sg	10 32 59.1	+0.1
WNT	**Mingjian**	**0.73**	**266**	P	Pn	10 32 50.9	-0.4
WNT	baz=264			S	Sn	10 33 01.5	-0.6
YHNB	**Yeheng**	**0.74**	**353**	P	Pb	10 32 50.3	+0.1
YHNB	baz=344			S	Sb	10 32 60.0	-0.2
NSK	**Sanguang**	**0.75**	**351**	⇑ P	Pb	10 32 50.4	0.0
NSK	baz=353			*e*S	Sb	10 32 59.9	-0.5
ALS	**Alishan**	**0.75**	**236**	⇑ *i*P	Pb	10 32 50.8	+0.3
ALS	baz=224			*i* S	Sb	10 33 01.0	+0.4
TWC	**Suao**	**0.75**	**27**	*e*P	Pb	10 32 50.4	0.0
TWC	baz=29			*e*S	Sg	10 33 00.7	+0.3
TCU	**Taichung**	**0.77**	**286**	*e*P	Pn	10 32 51.7	-0.1
TCU	baz=284			*e*S	Sn	10 33 02.9	-0.1
TWQ1	**Liyutan**	**0.77**	**303**	P	Pn	10 32 51.7	-0.2
TWQ1	baz=310			S	Sg	10 33 01.4	+0.5
TWE	**Neicheng**	**0.80**	**12**	*e*P	Pb	10 32 50.7	-0.6
TWE	baz=24			S	Sb	10 33 01.6	-0.2
CHN5	**Tsauling**	**0.81**	**246**	⇓ P	Pn	10 32 52.0	-0.5
CHN5	baz=243			S	Sn	10 33 03.3	-0.8
NSY	**Sanyi**	**0.81**	**306**	P	Pn	10 32 52.5	0.0
NSY	baz=313			S	Sn	10 33 03.9	-0.3
NSTT	**Nanjuang**	**0.82**	**328**	*e*P	Pg	10 32 51.9	+0.1
NSTT	baz=323			S	Sb	10 33 01.9	-0.4
SLBB	**Yuanshan**	**0.83**	**10**	*e*P	Pb	10 32 50.2	-1.6
CHKT	**Chengkung**	**0.84**	**187**	*e*P	Pb	10 32 51.1	-0.8
CHKT	baz=186			*e*S	Sg	10 33 03.2	+0.1
NWLT	**Wulai**	**0.84**	**1**	*e*P	Pb	10 32 51.9	0.0
NWLT	baz=2.0			*e*S	Sb	10 33 02.0	-1.0
EOS1	**EOS1**	**0.85**	**44**	*e*P	Pg	10 32 52.5	+0.2
ELDTW	**Lidau**	**0.85**	**210**	*e*P	Pb	10 32 52.0	-0.3
ELDTW	baz=208			S	Sb	10 33 03.2	-0.3
WCHH	**Zhanghua**	**0.85**	**280**	*e*P	Pg	10 32 52.7	+0.3
WCHH	baz=277			*e*S	Sn	10 33 05.3	+0.1
NMLH	**Miaoli**	**0.87**	**314**	*e*P	Pn	10 32 53.6	+0.3
NMLH	baz=313			*e*S	Sn	10 33 05.1	-0.5
WDJ	**Dajia District**	**0.87**	**298**	*e*P	Pn	10 32 53.4	+0.1
WDJ	baz=297			*e*S	Sn	10 33 06.2	+0.6
PTSB	**Yuanli**	**0.87**	**306**	P	Pn	10 32 53.4	+0.1
PTSB	baz=305			*e*S	Sn	10 33 05.5	-0.2
WGK	**Gukeng**	**0.88**	**254**	*e*P	Pg	10 32 53.0	+0.3
WGK	baz=251			*e*S	Sg	10 33 04.8	+0.5
WDLH	**Douliu**	**0.90**	**254**	*e*P	Pg	10 32 53.4	+0.2
WDLH	baz=252			*e*S	Sn	10 33 06.7	+0.5
WLTB	**Daxi**	**0.94**	**347**	*e*P	Pn	10 32 54.5	+0.3
WLTB	baz=353			*e*S	Sn	10 33 07.2	0.0
SBCB	**Hsinchu**	**0.97**	**332**	*e*P	Pb	10 32 54.2	+0.2
SBCB	baz=315			*e*S	Sn	10 33 08.0	0.0
NTC	**Toucheng**	**0.97**	**19**	*e*P	Pg	10 32 55.4	+0.8
HSN	**Hsinchu**	**0.98**	**332**	*e*P	Pg	10 32 55.2	+0.4
HSN	baz=319			*e*S	Sn	10 33 09.7	+1.4
CHN4	**Tsaushan**	**1.00**	**235**	P	Pg	10 32 55.6	+0.4
CHN4	baz=232			S	Sn	10 33 09.0	+0.2
TPUB	**Ta-pu**	**1.00**	**231**	P	Pg	10 32 55.4	+0.2
TPUB	baz=220			S	Sn	10 33 09.1	+0.2
STYT	**Tauyuan**	**1.01**	**221**	*e*P	Pn	10 32 55.1	-0.2
STYT	baz=212			*e*S	Sg	10 33 08.8	0.0
RLNB	**Erlin**	**1.03**	**268**	P	Pb	10 32 55.2	+0.2
RLNB	baz=265			*e*S	Sn	10 33 09.4	0.0
TATO	**Taipei**	**1.04**	**0**	P	Pb	10 32 55.3	0.0
TATO	baz=13			*e*S	Sb	10 33 08.7	+0.1
TWA	**Mucha**	**1.04**	**5**	*e*P	Pb	10 32 55.6	+0.1
TWA	baz=7.0			*e*S	Sb	10 33 09.4	+0.5
WTP	**Ta-pu**	**1.05**	**229**	⇓ P	Pg	10 32 56.4	+0.3
WTP	baz=220			*e*S	Sn	10 33 11.2	+1.1
CHY	**Chiayi**	**1.06**	**246**	*e*P	Pg	10 32 56.5	+0.2
NCUH	**Zhongli**	**1.06**	**345**	*e*P	Pg	10 32 56.8	+0.4
NCUH	baz=346			*e*S	Sg	10 33 12.0	+1.7
NCU	**National Centr**	**1.06**	**346**	P	Pg	10 32 56.6	+0.3
NCU	baz=347			S	Sg	10 33 11.5	+1.1
TIPB	**Shuangxi**	**1.08**	**17**	*e*P	Pb	10 32 55.2	-0.9
TIPB	baz=18			*e*S	Sb	10 33 09.8	-0.1
WTCT	**Ta-ch'eng**	**1.10**	**267**	*e*P	Pb	10 32 56.1	-0.2
WTCT	baz=264			S	Sg	10 33 12.0	+0.6
SNST	**Tainan City**	**1.15**	**232**	*e*P	Pg	10 32 57.7	-0.2
SNST	baz=229			*e*S	Sg	10 33 13.8	+0.9
CHN1	**Nanshi**	**1.15**	**230**	P	Pg	10 32 58.1	+0.1
CHN1	baz=227			*e*S	Sg	10 33 14.4	+1.4
TWS1	**Kuangyinshan**	**1.16**	**357**	*e*P	Pg	10 32 58.1	-0.2
TWS1	baz=10.0			*e*S	Sg	10 33 14.3	+0.9
NWF	**Wu-fen Shan**	**1.16**	**14**	*e*P	Pb	10 32 58.0	+0.5
WFSB	**Wu-fen Shan**	**1.16**	**14**	*e*P	Pg	10 32 58.5	+0.2
TWB1	**Santiao Chiao**	**1.17**	**23**	*e*P	Pb	10 32 57.9	+0.4
TWB1	baz=26			*e*S	Sg	10 33 13.4	-0.1
TWG	**Pinlang**	**1.17**	**199**	*e*P	Pb	10 32 57.5	-0.1
TWGBT	**Beinan**	**1.17**	**198**	*e*P	Pn	10 32 57.0	-0.4
TWGBT	baz=186			*e*S	Sn	10 33 12.8	-0.3
SGST	**Jiashian**	**1.18**	**224**	*e*P	Pb	10 32 57.7	0.0
SGST	baz=212			*e*S	Sg	10 33 14.0	-0.1
WSF	**Szhu**	**1.19**	**256**	*e*P	Pn	10 32 57.6	-0.1
WSF	baz=252			*e*S	Sg	10 33 14.4	+0.1
YM01	**YM01**	**1.21**	**4**	*e*P	Pb	10 32 58.3	0.0
YM01	baz=5.0			*e*S	Sb	10 33 13.6	-0.1
SLGT	**Liugui**	**1.21**	**219**	*e*P	Pg	10 32 58.9	-0.2
SLGT	baz=218			*e*S	Sg	10 33 15.6	+0.7
YM04	**YM04**	**1.22**	**2**	*e*P	Pn	10 32 58.1	+0.1
YM04	baz=16			*e*S	Sn	10 33 14.3	+0.2
YM10	**YM10**	**1.22**	**3**	*e*P	Pn	10 32 57.9	-0.2
YM10	baz=5.0			*e*S	Sn	10 33 14.4	+0.1
NTST	**Danshui**	**1.23**	**359**	*e*P	Pb	10 32 58.6	+0.1
YM05	**YM05**	**1.23**	**4**	*e*P	Pn	10 32 57.6	-0.6
YM05	baz=5.0			*e*S	Sn	10 33 14.8	+0.3
YM11	**YM11**	**1.23**	**4**	*e*P	Pn	10 32 57.4	-0.9
YM11	baz=5.0			*e*S	Sn	10 33 15.0	+0.4
ANP	**Anpu**	**1.25**	**2**	*e*P	Pn	10 32 58.6	+0.1
ANP	baz=14			*e*S	Sn	10 33 15.6	+0.5
YM08	**YM08**	**1.25**	**5**	*e*P	Pn	10 32 57.5	-1.0
CHN8	**Yiju**	**1.30**	**244**	*e*P	Pg	10 33 00.6	-0.3
CHN8	baz=240			*e*S	Sg	10 33 17.8	-0.1
CHN3	**Shinhua**	**1.33**	**230**	*e*P	Pb	10 33 00.2	-0.2
CHN3	baz=241			*e*S	Sg	10 33 21.1	+2.3
ECL	**Taimali**	**1.42**	**200**	*e*P	Pb	10 33 01.5	-0.2
SSD	**Sandimen**	**1.42**	**214**	*e*P	Pb	10 33 01.7	-0.1
SSD	baz=212			*e*S	Sg	10 33 21.1	-0.4
JYNG	**Yonagunijimaku**	**1.43**	**69**	P	Pn	10 32 59.0	-2.0
JYNG				*e*S	Sn	10 33 18.3	-1.2
TWM1	**Shoushan**	**1.47**	**221**	*e*P	Pg	10 33 04.1	0.0
MASBT	**Mashibuluo**	**1.53**	**211**	*e*P	Pb	10 33 03.0	-0.7
EAST	**Anshuo**	**1.65**	**201**	*e*P	Pb	10 33 05.3	-0.4
SCZT	**Fangliau**	**1.75**	**207**	*e*P	Pn	10 33 06.0	+0.8
SCZT	baz=206			*e*S	Sg	10 33 30.5	-1.5
PHUB	**P'eng-hu**	**1.80**	**257**	*e*P	Pn	10 33 05.7	-0.3
PNG	**Penghu**	**1.80**	**259**	*e*P	Pn	10 33 05.6	-0.5
VCHM	**Qimei**	**2.02**	**249**	*e*P	Pn	10 33 08.5	-0.5
IRIF	**Iriomote-Funau**	**2.09**	**79**	P	Pn	10 33 09.9	-0.2
IRIF				*e*S	Sn	10 33 35.1	-0.7
VWUC	**VWUC**	**2.13**	**300**	*e*P	Pn	10 33 09.5	-1.1
HATJ	**Hateruma jima**	**2.13**	**86**	P	Pn	10 33 10.3	-0.3
HATJ				*e*S	Sn	10 33 36.0	-0.7
PTTC	**Pingtan**	**2.20**	**315**	*e*P	Pn	10 33 11.9	+0.3
JKRS	**Kuro-shima**	**2.33**	**82**	P	Pn	10 33 14.0	+0.6
JKRS				*e*S	Sn	10 33 42.0	+0.4
PTMZ	**Houxiangcun**	**2.42**	**298**	*e*P	Pn	10 33 13.6	-0.9
JIJ	**Ishigaki jima**	**2.47**	**80**	P	Pn	10 33 14.9	-0.4
JIJ				S	Sn	10 33 43.5	-1.6
MATB	**Ma-tsu**	**2.61**	**328**	*e*P	Pn	10 33 16.5	-0.7
JISG	**Ishigakijimahi**	**2.66**	**75**	P	Pn	10 33 18.0	+0.1
JISG				*e*S	Sn	10 33 48.2	-1.7
KNMB	**Chin-men Tao**	**2.87**	**281**	*e*P	Pn	10 33 20.0	-0.8
LYJJ	**Jianjiangzhen**	**3.03**	**329**	*e*P	Pn	10 33 21.4	-1.7
MHZQ	**Yeshan**	**3.10**	**315**	*e*P	Pn	10 33 23.7	-0.2
XPSS	**Dashiqiu**	**3.20**	**339**	*e*P	Pn	10 33 24.5	-0.8
AXDP	**Jialang**	**3.34**	**287**	*e*P	Pn	10 33 26.8	-0.4
ZPLA	**Ao Xicun**	**3.41**	**271**	*e*P	Pn	10 33 27.9	-0.3
ZZJH	**Jiuhuzhen**	**3.56**	**279**	*e*P	Pn	10 33 29.8	-0.4
JMJ	**Miyako jima 2**	**3.59**	**75**	*e*P	Pn	10 33 30.1	-0.5

IGQ 04 10:36:31.2±1.5, 5.°S±16.°×8.°1W±1.°5, h4km, mb4.1, Mjma4.3, ML4.7, MLv4.4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZUMB	**Zumba**	**2.13**	**80**	P	Pn	10 37 05.6	-2.1
ZUMB				S	Sn	10 37 27.8	-6.8
MORR	**Playas El Morr**	**2.73**	**20**	P	Pn	10 37 12.6	-3.2
SALI	**Salinas**	**3.03**	**5**	P	Pn	10 37 17.7	-2.3
BOSC	**San Juan Bosco**	**3.44**	**53**	P	Pn	10 37 23.0	-2.6
BOSC				S	Sn	10 38 03.3	-3.6
BMAS	**Trigal station**	**4.62**	**37**	P	Pn	10 37 39.4	-2.8
BMAS				S	Sn	10 38 33.9	-2.5
PAT1	**Patacocha**	**4.64**	**37**	P	Pn	10 37 39.6	-2.9
BPAT	**Tungurahua Vol**	**4.65**	**37**	P	Pn	10 37 39.9	-2.7
BULB	**Ulba Tungurahu**	**4.71**	**37**	P	Pn	10 37 41.4	-2.1
BRUN	**Tungurahua Vol**	**4.72**	**37**	P	Pn	10 37 41.0	-2.6
PISA	**Pisayambo**	**5.03**	**35**	P	Pn	10 37 47.1	-0.8
BNAS	**Cotopaxi Volca**	**5.30**	**31**	P	Pn	10 37 49.8	-1.9
BTAM	**Cotopaxi Volca**	**5.34**	**32**	P	Pn	10 37 50.0	-2.2
BVC2	**Cotopaxi Volca**	**5.35**	**32**	P	Pn	10 37 50.0	-2.4
NINA	**Atacazo Ninahu**	**5.48**	**29**	P	Pn	10 37 50.9	-3.1
OTAV	**Otavalo**	**6.11**	**27**	P	Pn	10 37 59.7	-3.0

*ISCJB **04** 10:48:47.2±0.8, 73.°44N±0.°03×8.°3E±0.°3, h11km, Error ellipse: s-maj=10.8km s-min=4.7km az=174.3*
*BER **04** 10:48:50.4±3.4, 73.°54N×7.°97E, h4km±28km, ML2.0, Confirmed Earthquake*
*NAO **04** 10:48:51.9±3.5, 73.°63N×9.°17E, ML2.9*

ISC 04 10:48:46.8±1.4, 73.°48N±0.°05×7.°9E±0.°1, h11km, n21, σ2.73/34, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.24**	**66**	*e*P	Pn	10 49 39.4	+1.9
BJO1				*e*S	Sn	10 50 15.2	-0.9
BJO1				IAML		10 50 17.9	
	comp=Z,12nm,0.8s						
HSPB	**Hornsund (broa**	**4.04**	**25**	*e*P	Pn	10 49 50.5	+2.0
HSPB				*e*S	Sn	10 50 33.6	-2.1
HSPB				IAML		10 50 34.7	
	comp=Z,4.7nm,0.7s						
BRBB	**Barentsburg B**	**4.89**	**16**	Pn	Pn	10 50 03.4	+3.2
BRBB				Sn	Sn	10 50 58.4	+1.7
BRBB	**Barentsburg B**	**4.89**	**16**	Pn	Pn	10 50 03.4	+3.2
BRBB				Sn	Sn	10 50 58.4	+1.7
SPA0	**Spitsbergen Ar**	**5.16**	**20**	Pn	Pn	10 50 06.5	+2.6
	baz=193,slow=12						
SPA0				Sn	Sn	10 50 58.0	-5.2
SPA0	**Spitsbergen Ar**	**5.16**	**20**	Pn	Pn	10 50 06.5	+2.6
	baz=193,slow=12						
SPA0				Sn	Sn	10 50 58.0	-5.2
TRO	**Tromso**	**5.21**	**132**	*e*P	Pn	10 50 06.5	+2.0
TRO				*e*S	Sn	10 51 01.8	-2.6
TRO				IAML		10 51 10.3	
	comp=Z,3.7nm,0.6s						

HOPEN	**Hopen**	**5.37**	**48**	*e*P	**Pn**	**10 50 07.8**	**+1.1**
HOPEN				IAML		10 51 04.2	
	comp=Z,12nm,0.5s						
KBS	**Kingsbay**	**5.56**	**8**	Pn	**Pn**	**10 50 11.9**	**+2.5**
KBS	**Kingsbay**	**5.56**	**8**	*e*P	**Pn**	**10 50 10.8**	**+1.4**
KBS				*e*S	**Sn**	**10 51 08.3**	**-4.8**
KBS				IAML		10 51 26.8	
	comp=Z,3.1nm,0.6s						
HAMF	**Hammerfest**	**5.64**	**113**	*e*P	**Pn**	**10 50 12.8**	**+2.4**
LOF	**Lofoten**	**5.68**	**158**	*e*P	**Pn**	**10 50 13.8**	**+2.8**
LOF				*e*S	**Sn**	**10 51 16.5**	**+0.4**
LOF				IAML		10 51 18.1	
	comp=Z,3.7nm,0.2s						
STEI	**Steigen**	**6.08**	**153**	*e*P	**Pn**	**10 50 17.9**	**+1.5**
STEI				IAML		10 51 35.2	
	comp=Z,1.8nm,0.8s						
KIF	**Kilpisjarvi**	**6.11**	**131**	*e*P	**Pn**	**10 50 19.2**	**+2.3**
KIF				*e*S	**Sn**	**10 51 24.2**	**-2.5**
KTK1	**Kautokeino**	**6.66**	**125**	*e*P	**Pn**	**10 50 26.6**	**+2.2**
KTK1				*e*S	**Sn**	**10 51 37.1**	**-3.0**
ARA0	**ARCESS Array S**	**6.83**	**117**	Pn	**Pn**	**10 50 28.6**	**+1.8**
	baz=312,slow=11						
ARA0				Sn	**Sn**	**10 51 45.5**	**+1.0**
	baz=310,slow=22						
ARA0	**ARCESS Array S**	**6.83**	**117**	Pn	**Pn**	**10 50 28.6**	**+1.8**
	baz=312,slow=11						
ARA0				Sn	**Sn**	**10 51 45.5**	**+1.0**
	baz=310,slow=22						
KEV	**Kevo**	**7.08**	**112**	*e*P	**Pn**	**10 50 31.7**	**+1.6**
KONS	**Konsvik**	**7.23**	**163**	*e*P	**Pn**	**10 50 34.2**	**+2.0**
KONS				IAML		10 52 16.7	
	comp=Z,3.8nm,0.8s						
MOR8	**Moi Rana**	**7.67**	**160**	*e*P	**Pn**	**10 50 38.9**	**+0.6**
MOR8				*e*S	**Sn**	**10 52 00.3**	**-4.9**
MOR8				IAML		10 52 09.5	
	comp=Z,2.2nm,0.8s						
SCO	**Scoresbysund**	**9.64**	**267**	*i* P	Pn	10 51 03.5	-1.8

PGC 04 11:29:25.6±12.0, 50.70N×139.04W, h10km, ML3.8/4, MLSn3.8/4, Mw4.5/4, 570km Wsw of Sandspit, Bc West Of Vancouver Island, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	**Dawson Inlet,**	**4.77**	**56**	Pn	Pn	11 30 36.8	-0.7
DIB				Sn	Sn	11 31 28.3	-4.5
BNB	**Barry Inlet**	**4.91**	**65**	Pn	Pn	11 30 38.9	-0.7
NDB	**Naden**	**4.96**	**47**	Pn	Pn	11 30 40.1	-0.1
HG3B	**Hotspring**	**5.09**	**65**	Pn	Pn	11 30 41.8	-0.1
HG3B				Sn	Sn	11 31 37.1	-3.6
RUBB	**Prince Rupert**	**6.48**	**52**	Pn	Pn	11 31 02.0	+1.1
RUBB				Sn	Sn	11 32 13.5	-1.3
BBB	**Bella Bella**	**6.99**	**73**	Sn	Sn	11 32 25.7	-1.8
MAYB	**Maynard**	**7.57**	**88**	Pn	Pn	11 31 16.9	+0.8
WOSB	**Woss**	**7.98**	**89**	Pn	Pn	11 31 21.0	-0.7
BESE	**Bessie Mountai**	**8.26**	**15**	Pn	Pn	11 31 26.3	+0.9
PNL	**Peninsula**	**8.99**	**359**	Pn	Pn	11 31 36.0	+0.5
DLBC	**Dease Lake**	**9.35**	**30**	Pn	Pn	11 31 41.5	+1.1
PCA	**Pinnacle**	**9.45**	**356**	Pn	Pn	11 31 42.1	+0.5
SAMH	**Samovar Hills**	**9.51**	**355**	Pn	Pn	11 31 43.4	+0.8
UBRB	**Upper Baezaeko**	**9.53**	**71**	Pn	Pn	11 31 43.0	+0.2
MESA	**MESA**	**9.64**	**351**	Pn	Pn	11 31 44.4	-0.1
YUK7	**Dusty Glacier**	**9.87**	**3**	Pn	Pn	11 31 50.4	+2.7
GRNC	**Granite Creek**	**10.17**	**352**	Pn	Pn	11 31 51.5	-0.2
HYT	**Haines Junctio**	**10.19**	**4**	Pn	Pn	11 31 54.3	+2.4
WHY	**Whitehorse**	**10.26**	**12**	Pn	Pn	11 31 55.9	+3.1
YUK6	**Outpost Mounta**	**10.28**	**2**	Pn	Pn	11 31 55.0	+1.8
KIAG	**Kiagna River**	**10.42**	**351**	Pn	Pn	11 31 54.9	-0.2
YUK5	**Granite Creek**	**10.48**	**3**	Pn	Pn	11 31 58.7	+2.8
BALM	**Baldy**	**10.53**	**351**	Pn	Pn	11 31 56.4	-0.1
YUK4	**Talbot Arm**	**10.68**	**1**	Pn	Pn	11 32 03.0	+4.4
PTPK	**Patty Peak**	**10.69**	**351**	Pn	Pn	11 31 59.4	+0.6
YUK3	**Moose Creek**	**11.13**	**357**	Pn	Pn	11 32 07.3	+2.4
YUK2	**White River**	**11.16**	**356**	Pn	Pn	11 32 07.3	+2.1
YUK1	**Sand Pete Hill**	**11.51**	**356**	Pn	Pn	11 32 12.8	+2.7
BVCY	**Beaver Creek**	**11.79**	**356**	Pn	Pn	11 32 15.9	+2.2
PAX	**Paxson**	**12.79**	**347**	Pn	Pn	11 32 27.9	+0.6
DAWY	**Dawson**	**13.41**	**359**	Pn	Pn	11 32 38.4	+2.7

*SOME **04** 11:30:54.4, 39.45N×73.27E, h0km*
*NNC **04** 11:31:00.6±1.8, 39.56N×73.49E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.9km s-min=7.7km az=172.0*
*KRNET **04** 11:31:00.5±0.1, 39.53N×73.36E, mb3.1*
*ISCJB **04** 11:31:02.1±1.1, 39.46N±0.06×73.38E±0.06, h10km, Error ellipse: s-maj=9.7km s-min=5.9km az=160.8*

ISC 04 11:31:03.9±1.6, 39.62N±0.08×73.44E±0.04, h10km, n36, σ1°71/59, 22C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.74**	**349**	⇑*e*P	**Pn**	**11 31 34.2**	**-0.1**
ARSB	baz=51			⇑*i*S	**Sg**	**11 31 59.4**	**-0.4**
BTK	**Batken**	**2.06**	**283**	⇑*i*P	**Pn**	**11 31 37.7**	**-1.0**
BTK	baz=86			⇑*i*S	**Sb**	**11 32 05.6**	**-1.6**
ARLS	**Aral**	**2.34**	**16**	⇑*i*P	**Pb**	**11 31 44.0**	**-2.3**
ARLS	baz=17			⇑*i*S	**Sb**	**11 32 14.9**	**-0.4**
ARK	**Arkit**	**2.45**	**333**	⇓*e*P	**Pn**	**11 31 44.4**	**+0.4**
ARK	baz=35			⇓*e*S	**Sb**	**11 32 16.1**	**-2.2**
AML	**Almayashu**	**2.52**	**4**	⇑*i*P	**Pn**	**11 31 45.9**	**+0.6**
AML	baz=5.0			⇑*i*S	**Sb**	**11 32 19.9**	**-0.7**
NRN	**Naryn**	**2.67**	**46**	⇓*e*P	**Pn**	**11 31 47.9**	**+0.7**
NRN	baz=46			⇓*i*S	**Sb**	**11 32 22.4**	**-2.4**
UCH	**Uchtor**	**2.73**	**17**	⇑*e*P	**Pn**	**11 31 49.1**	**+0.9**
UCH	baz=18			⇑*i*S	**Sb**	**11 32 24.9**	**-1.9**
KZA	**Kyzart**	**2.81**	**29**	⇓*i*P	**Pn**	**11 31 50.6**	**+1.2**
KZA	baz=29			⇓*i*S	**Sb**	**11 32 27.1**	**-2.1**
EKS2	**Erkin-Say**	**3.05**	**5**	⇓*e*P	**Pn**	**11 31 53.2**	**+0.9**
EKS2	baz=6.0			⇓*e*S	**Sn**	**11 32 31.9**	**+2.9**
AAK	**Ala-Archa**	**3.12**	**15**	⇑Pn	**Pn**	**11 31 52.6**	**-0.7**
AAK	7.0nm,0.6s			⇓Lg	Lg	11 32 41.3	
AAK	**Ala-Archa**	**3.12**	**15**	⇑Pn	**Pn**	**11 31 52.6**	**-0.7**
AAK	7.0nm,0.6s			⇓Lg	Lg	11 32 41.3	
AAK	**Ala-Archa**	**3.12**	**15**	⇓*e*P	**Pn**	**11 31 54.5**	**+1.2**
AAK	baz=15			⇓*i*S	**Sn**	**11 32 34.0**	**+3.3**
MRKS	**Merke**	**3.13**	**357**	Pg	**Pb**	**11 31 56.3**	**-3.4**
MRKS	9.5nm,0.4s			Lg	Lg	11 32 41.0	
MRKS	**Merke**	**3.13**	**357**	*e*P	**Pb**	**11 31 56.3**	**-3.4**
MRKS	9.5nm,0.4s			*e*S	**Sb**	**11 32 41.0**	**+3.1**
BOOM	**Boomskoye usch**	**3.44**	**33**	⇑*e*P	**Pn**	**11 31 59.5**	**+1.8**
BOOM	baz=33			⇑*i*S	**Sn**	**11 32 41.7**	**+3.1**
IUG	**Iuzhnay**	**3.61**	**315**	Pg	**Pb**	**11 32 05.8**	**-2.1**
IUG	5.3nm,0.7s			Lg	Lg	11 32 57.4	
TKM2	**Tokmak 2**	**3.68**	**26**	⇑Pg	**Pb**	**11 32 08.5**	**-0.7**
TKM2	4.3nm,0.6s			⇑Lg	Lg	11 32 59.4	
TKM2	**Tokmak 2**	**3.68**	**26**	⇑Pn	**Pb**	**11 32 08.5**	**-0.7**
TKM2	4.3nm,0.6s			⇑Lg	Lg	11 32 59.4	
SGDS	**Sogindy**	**3.93**	**13**	Pg	**Pb**	**11 32 10.8**	**-2.6**
	1.9nm,0.1s						
SGDS				Lg	Lg	11 33 05.8	
	9.9nm,1.2s						
DGS	**Degeres**	**4.02**	**25**	Pg	**Pb**	**11 32 14.2**	**-0.7**
	5.6nm,0.6s						
DGS				Lg	Lg	11 33 11.9	
	20nm,0.9s						
DGS	**Degeres**	**4.02**	**25**	*e*P	**Pb**	**11 32 14.2**	**-0.7**
	5.6nm,0.6s						
DGS				*e*S	**Sg**	**11 33 11.9**	**-1.2**
	20nm,0.9s						
KK31	**Karatay Array**	**4.12**	**329**	⇓Pn	**Pn**	**11 32 07.8**	**+0.8**
	0.6nm,0.4s,baz=154,slow=14,SNR=7.1						
KK31				⇑Pg	**Pb**	**11 32 18.1**	**+1.6**
	6.0nm,0.7s,baz=148,slow=14,SNR=15						
KK31				⇑Sn	**Sn**	**11 32 57.3**	**+2.2**
	3.5nm,0.3s,baz=162,slow=24,SNR=6.1						
KK31				⇓Lg	Lg	11 33 13.5	
	4.5nm,0.4s						
KK31	**Karatay Array**	**4.12**	**329**	⇓Pn	**Pn**	**11 32 07.8**	**+0.8**
	0.6nm,0.4s,baz=154,slow=14,SNR=7.1						
KK31				⇑Pg	**Pb**	**11 32 18.1**	**+1.6**
	6.0nm,0.7s,baz=148,slow=14,SNR=15						
KK31				⇑Sn	**Sn**	**11 32 57.3**	**+2.2**
	3.5nm,0.3s,baz=162,slow=24,SNR=6.1						
KK31				⇓Lg	Lg	11 33 13.5	
	4.5nm,0.4s						
TNSS	**Tian-Shan**	**4.32**	**37**	Pg	**Pb**	**11 32 19.8**	**-0.4**
	3.7nm,0.6s						
TNSS				Lg	Lg	11 33 21.1	
	16nm,0.7s						
TNSS	**Tian-Shan**	**4.32**	**37**	*e*P	**Pb**	**11 32 19.8**	**-0.4**
	3.7nm,0.6s						
TNSS				*e*S	**Sg**	**11 33 21.1**	**-1.5**
	16nm,0.7s						
MDOK	**Medeo**	**4.46**	**36**	Pg	**Pb**	**11 32 21.8**	**-0.7**
	3.4nm,0.6s						
MDOK				Lg	Lg	11 33 24.5	
	13nm,0.5s						
MDOK	**Medeo**	**4.46**	**36**	*e*P	**Pb**	**11 32 21.8**	**-0.7**
	3.4nm,0.6s						
MDOK				*e*S	**Sg**	**11 33 24.5**	**-2.7**
	13nm,0.5s						
KOTS	**Kotyrbulak**	**4.55**	**36**	Pg	**Pb**	**11 32 24.0**	**+0.1**
	15nm,0.3s						
KOTS				Lg	Lg	11 33 28.4	
	58nm,0.8s						
KOTS	**Kotyrbulak**	**4.55**	**36**	*e*P	**Pb**	**11 32 24.0**	**+0.1**
	15nm,0.3s						
KOTS				*e*S	**Sg**	**11 33 28.4**	**-1.5**
	58nm,0.8s						
KTBS	**Karatobe**	**4.76**	**30**	Pg	**Pb**	**11 32 27.0**	**-0.4**
	3.4nm,0.5s						
KTBS				Lg	Lg	11 33 33.8	
	18nm,0.6s						
KTBS	**Karatobe**	**4.76**	**30**	*e*P	**Pb**	**11 32 27.0**	**-0.4**
	3.4nm,0.5s						
KTBS				*e*S	**Sg**	**11 33 33.8**	**-2.8**
	18nm,0.6s						
KUU	**Kurty**	**4.79**	**26**	Pg	**Pb**	**11 32 28.1**	**+0.2**
	2.1nm,0.4s						
KUU				Lg	Lg	11 33 35.6	
	18nm,1.2s						
KUU	**Kurty**	**4.79**	**26**	*e*P	**Pb**	**11 32 28.1**	**+0.2**
	2.1nm,0.4s						
KUU				*e*S	**Sg**	**11 33 35.6**	**-2.1**
	18nm,1.2s						
CHKK	**Chushkaly**	**5.00**	**31**	Pg	**Pb**	**11 32 32.0**	**+0.5**
	0.8nm,0.1s						
CHKK				Lg	Lg	11 33 42.1	
	5.6nm,0.3s						
CHKK	**Chushkaly**	**5.00**	**31**	*e*P	**Pb**	**11 32 32.0**	**+0.5**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**11 33 42.1**	**-2.2**
	5.6nm,0.3s						
AB31	**Akbulak array**	**13.61**	**319**	⇓Pn	**Pn**	**11 34 17.9**	**+1.0**
	0.8nm,0.8s,baz=130,slow=13,SNR=4.5						

DJA 04 11:32:51.0±0.8, 9.3S±3.3×11.0E±.°, h28km±8km, M4.0/13, mb4.2/1, MLv3.8/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.06**	**15**	P	Pn	11 33 09.8	-0.2
UGM				S	Sn	11 33 23.3	-0.6
YOGI	**Yogyakarta**	**1.12**	**3**	P	Pn	11 33 09.1	-1.7
YOGI				S	Sn	11 33 25.0	-0.3
PCJI	**Pacitan**	**1.19**	**51**	P	Pn	11 33 10.8	-0.9
WOJI	**Wonogiri, Jawa**	**1.29**	**32**	P	Pn	11 33 13.0	-0.1
WOJI				S	Sn	11 33 29.0	-0.5
PWJI	**Pagerwojo**	**1.80**	**60**	P	Pn	11 33 19.7	-0.4
PWJI				S	Sn	11 33 41.1	-0.9
SMRI	**Semarang**	**1.89**	**6**	P	Pn	11 33 22.2	+0.8
NGJI	**Ngawi**	**1.98**	**38**	P	Pb	11 33 26.0	-0.3
KPJI	**Karang Pucung**	**2.06**	**321**	P	Pn	11 33 25.4	+1.7
CMJI	**Cimerak**	**2.11**	**303**	P	Pn	11 33 24.4	-0.1
CMJI				S	Sn	11 33 49.9	+0.1
CISI	**Cisompet, Garu**	**2.77**	**300**	P	Pn	11 33 33.8	+0.2
CISI				S	Sn	11 34 07.0	+0.9
GMJI	**Gumukmas**	**3.24**	**78**	P	Pn	11 33 40.3	+0.3
GMJI				S	Sn	11 34 17.4	-0.2
JAGI	**Jajag, Banyuwa**	**3.90**	**83**	P	Pn	11 33 48.6	-0.5
JAGI				S	Sn	11 34 33.7	-0.2
SRBI	**Singaraja**	**4.99**	**81**	P	Pn	11 34 02.9	-1.2
CGJI	**Cibinong**	**5.06**	**297**	P	Pn	11 34 03.7	-1.4
CGJI				S	Sn	11 34 59.7	-3.0

*ISCJB **04** 11:55:50.1±0.5, 37.14N±0.07×135.38E±0.07, h400km, mb3.1/4, Error ellipse: s-maj=9.5km s-min=7.4km az=6.1*
*JMA **04** 11:55:50.6±0.4, 37.18N×135.15E, h384km±4km, M3.2*
*IDC **04** 11:55:51.1±0.8, 37.26N×135.39E, h379km±12km, mb2.8/4, mb1 3.0/8, mb1mx2.7/70, mbtmp3.6/8, Error ellipse: s-maj=23.2km s-min=14.9km az=59.0*

ISC 04 11:55:50.8±0.8, 37.21N±0.08×135.40E±0.08, h400km, n20, σ2°20/25, mb3.0/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.60**	**189**	P	**Pn**	**11 56 42.5**	**-2.1**
JKSM	**Kasumi**	**1.73**	**200**	P	**Pn**	**11 56 42.9**	**-2.3**
JWT	**Wachi**	**1.92**	**180**	P	**Pn**	**11 56 44.7**	**-1.7**
JWT				*e*S	**S**	**11 57 26.2**	**-5.0**
JYTA	**Yamagatataniai**	**1.94**	**146**	P	**Pn**	**11 56 45.5**	**-0.9**
MAT	**Matsushiro**	**2.34**	**106**	P	**Pn**	**11 56 49.7**	**+0.7**
MJAR	**Matsushiro Arr**	**2.35**	**106**	P	**Pn**	**11 56 49.3**	**+0.3**
	0.2nm,0.3s,baz=275,slow=9.4,SNR=20						
MJAR				S	**S**	**11 57 33.9**	**-2.2**
	0.0nm,0.3s,baz=270,slow=20,SNR=1.7						
JRY	**Ryogami san**	**3.06**	**112**	P	**Pn**	**11 56 56.2**	**+1.7**
JFT	**Otama**	**3.94**	**84**	P	**Pn**	**11 57 03.7**	**+1.4**
JMM	**Marumori**	**4.33**	**80**	P	**Pn**	**11 57 07.1**	**+1.1**
JFK	**Kawauchi**	**4.37**	**86**	P	**Pn**	**11 57 06.7**	**+0.3**
JFK				*e*S	**S**	**11 58 05.2**	**-2.6**
JRG	**Rokugo**	**4.66**	**60**	P	**Pn**	**11 57 10.4**	**+1.2**
JMK	**Ichinoseki**	**4.91**	**67**	P	**Pn**	**11 57 12.7**	**+1.0**
BSO1	**Boso 1**	**5.19**	**118**	P	**Pn**	**11 57 14.6**	**+0.4**
BSO1				*e*S	**S**	**11 58 19.4**	**-2.7**
KSRS	**Korea Array**	**5.97**	**275**	P	**Pn**	**11 57 21.4**	**-1.6**
	0.7nm,0.3s,baz=93,slow=12,SNR=20						
USRK	**Ussuriysk Ar.**	**7.45**	**341**	P	**P**	**11 57 39.3**	**-0.5**
	baz=158,slow=9.6,SNR=3.2						
ASAJ	**Asahikawa**	**8.80**	**36**	P	**Pn**	**11 57 55.9**	**+1.2**
	1.8nm,0.3s,baz=233,slow=10,SNR=25						
ASAJ				S	**S**	**11 59 32.1**	**-4.5**
	0.4nm,0.3s,baz=133,slow=19,SNR=8.3						
SONM	**Songino Array**	**23.74**	**306**	P	**P**	**12 00 30.3**	**+1.2**
	0.4nm,0.6s,baz=97,slow=7.5,SNR=2.1						
MKAR	**Makanchi Array**	**39.94**	**301**	P	**P**	**12 02 50.1**	**+2.0**
	0.4nm,0.6s,baz=90,slow=9.8,SNR=4.7						
WRA	**Warramunga Arr**	**56.85**	**181**	P	**P**	**12 04 57.7**	**+2.2**
	1.2nm,0.5s,baz=356,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**60.57**	**182**	P	**P**	**12 05 23.1**	**+2.3**
	0.2nm,0.3s,baz=352,slow=5.8,SNR=2.1						

*IDC **04** 12:01:32.1±1.7, 3.19S×139.74E, h0km, mb3.9/2, mb1 4.4/3, mb1mx3.6/38, mbtmp4.1/3, ML3.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/35, Error ellipse: s-maj=58.4km s-min=13.4km az=136.0*
*ISCJB **04** 12:01:33.2±0.9, 3.68S±0.05×140.7E±0.1, h10km, mb3.9/1, MS2.8/2, Error ellipse: s-maj=15.4km s-min=6.3km az=6.7*
*DJA **04** 12:01:35.7±0.5, 4.3S±3.3×14.1E±.°, h21km±5km, M4.2/4, mb4.3/4, mB5.2/1, MLv4.2/4, Mw(mB)4.6/1*

ISC 04 12:01:34.5±1.0, 3.60S±0.06×140.6E±0.1, h10km, n12, σ0°79/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.08**	**3**	Pn	**Pg**	**12 01 55.6**	**+0.3**
	17nm,0.3s,baz=206,slow=13,SNR=69						
JAY				Pg	**Pn**	**12 01 56.6**	**+0.8**
	26nm,0.3s,baz=196,slow=10,SNR=19						
JAY				Lg	Lg	12 02 09.0	
	108nm,0.3s,baz=261,slow=19,SNR=38						
JAY	**Jayapura**	**1.08**	**3**	P	**Pg**	**12 01 55.9**	**+0.6**
JAY				S	**Sg**	**12 02 09.3**	**-0.1**
GENI	**Genyem**	**1.11**	**335**	P	**Pb**	**12 01 55.6**	**-0.2**
GENI				S	**Sg**	**12 02 10.3**	**0.0**
SMPI	**Sarmi**	**2.51**	**310**	P	**Pn**	**12 02 15.8**	**+0.4**
WRA	**Warramunga Arr**	**17.37**	**200**	P	**Pn**	**12 05 37.4**	**+0.2**
	0.5nm,0.3s,baz=21,slow=12,SNR=16						
SOEI	**Soe**	**17.37**	**249**	P	**Pn**	**12 05 38.1**	**+0.7**
MRSI	**Marisa**	**19.13**	**282**	P	**P**	**12 05 56.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**20.58**	**224**	LR	LR	12 15 25.1	
	comp=Z,49nm,18.4s,baz=225,slow=41						
TTSI	**Tana Toraja**	**20.80**	**271**	P	**P**	**12 06 16.5**	**+0.3**
ASAR	**Alice Springs**	**20.98**	**197**	P	**P**	**12 06 18.6**	**+0.5**
	5.9nm,0.8s,baz=27,slow=8.9,SNR=35						
ASAR				S	**S**	**12 10 12.0**	**0.0**
	0.9nm,0.8s,baz=8.6,slow=29,SNR=4.0						
JNU	**Nakatsue**	**37.68**	**347**	LR	LR	12 23 04.7	
	comp=Z,10nm,19.9s,baz=91,slow=35						
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**12 14 12.8**	**-1.3**
	0.5nm,0.7s,baz=255,slow=4.6,SNR=7.6						

IDC 04 12:02:12.1±1.8, 3.56S×141.04E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.6/38, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=57.9km s-min=14.1km az=80.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.09**	**342**	Pg	Pn	12 02 35.2	+0.4
	baz=79,slow=15,SNR=1.0						
JAY				Lg	Lg	12 02 46.6	
	111nm,0.3s,baz=145,slow=6.4,SNR=5.8						
WRA	**Warramunga Arr**	**17.55**	**201**	P	Pn	12 06 18.6	+0.3
	0.5nm,0.3s,baz=25,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.15**	**198**	P	P	12 06 58.6	-0.4
	5.3nm,0.8s,baz=26,slow=9.2,SNR=4.3						
ILAR	**Eielson Array**	**85.64**	**24**	P	P	12 14 52.2	-0.3
	0.3nm,0.6s,baz=270,slow=4.4,SNR=4.4						

*IDC **04** 12:08:41.2±1.7, 3.58S×141.03E, h0km, mb3.6/2, mb1 4.2/3, mb1mx3.5/35, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=55.7km s-min=14.0km az=81.0*
*ISCJB **04** 12:08:44.9±0.9, 3.61S±0.05×140.7E±0.1, h33km, mb3.8/1, Error ellipse: s-maj=16.5km s-min=7.5km az=6.3*
*DJA **04** 12:08:44.6±3.3, 4.3S±6.3×14.1E±1.2, h19km±41km, M3.9/4, MLv3.9/4*

ISC 04 12:08:46.3±1.2, 3.57S±0.08×140.6E±0.1, h35km, n8, σ1°13/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.06**	**6**	Pn	**Pn**	**12 09 03.6**	**-1.1**
	12nm,0.3s,baz=207,slow=13,SNR=40						
JAY				Lg	Lg	12 09 17.7	
	63nm,0.3s,baz=72,slow=20,SNR=28						
JAY				LR	LR	12 09 48.7	
	comp=Z,113nm,20.0s,baz=190,slow=61						
JAY	**Jayapura**	**1.06**	**6**	P	**Pn**	**12 09 03.7**	**-1.0**
JAY				S	**Sn**	**12 09 17.6**	**-0.6**
GENI	**Genyem**	**1.06**	**336**	P	**Pn**	**12 09 04.2**	**-0.5**
GENI				S	**Sn**	**12 09 18.7**	**+0.4**
WAMI	**Wamena**	**1.90**	**261**	P	**Pn**	**12 09 14.2**	**-2.0**
SMPI	**Sarmi**	**2.45**	**310**	P	**Pn**	**12 09 24.3**	**+0.5**
WRA	**Warramunga Arr**	**17.38**	**200**	P	**Pn**	**12 12 47.0**	**+0.9**
	0.4nm,0.3s,baz=22,slow=12,SNR=16						
ASAR	**Alice Springs**	**21.00**	**197**	P	**P**	**12 13 27.8**	**+1.0**
	2.0nm,0.8s,baz=31,slow=9.0,SNR=7.6						
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**12 21 22.1**	**+0.1**
	0.4nm,0.6s,baz=236,slow=5.1,SNR=6.2						

*ISCJB **04** 12:09:15.9±1.2, 14.88N±0.09×92.94W±0.08, h82km±13km, Error ellipse: s-maj=18.0km s-min=5.9km az=40.1*
*MEX **04** 12:09:16.5±0.3, 14.83N×92.89W, h88km±4km, MD3.7*
*GCG **04** 12:09:17.7±0.7, 15.41N×92.57W, h85km±33km, MD3.7*

ISC 04 12:09:17.3±1.8, 14.94N±0.09×92.89W±0.08, h77km±15km, n9, σ0°82/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.61**	**93**	*e*P	**Pn**	**12 09 30.4**	**-1.3**
THIG				*e*S	**Sn**	**12 09 42.6**	**+0.2**
PCIG		**0.82**	**337**	*e*P	**Pn**	**12 09 34.1**	**+0.1**
PCIG				*e*S	**Sn**	**12 09 47.5**	**+1.0**
STG3	**Santiaguito 3,**	**1.30**	**100**	*e*P	**Pn**	**12 09 39.7**	**-0.4**
ERG	**Entre ros, C**	**1.37**	**111**	*e*P	**Pn**	**12 09 41.7**	**+0.9**
CCIG	**Comitan**	**1.52**	**29**	*i* P	**Pn**	**12 09 42.5**	**-0.4**
CCIG				*e*S	**Sn**	**12 10 03.0**	**+0.8**
TGIG		**1.84**	**353**	*e*P	**Pn**	**12 09 45.5**	**-1.5**
TGIG				*i* S	**Sn**	**12 10 10.6**	**+1.1**
FUG	**Fuego 3**	**2.04**	**104**	*e*P	**Pn**	**12 09 49.8**	**0.0**
FUG				*e*S	**Sn**	**12 10 14.5**	**-0.1**
IXG	**Ixpaco**	**2.49**	**108**	*e*P	**Pn**	**12 09 55.7**	**-0.1**
IXG				*e*S	**Sn**	**12 10 25.4**	**0.0**
CMIG	**Matias Romero**	**2.87**	**318**	*e*P	**Pn**	**12 10 00.4**	**-0.4**
CMIG				*i* S	**Sn**	**12 10 34.5**	**+0.1**

*THR **04** 12:12:06.4, 34.31N×54.64E, h14km, ML3.3*
*ISCJB **04** 12:12:07.6±0.5, 34.29N±0.04×54.49E±0.05, h10km, Error ellipse: s-maj=6.7km s-min=5.5km az=32.0*
*TEH **04** 12:12:07.5, 34.30N×54.45E, h17km, MD3.7*

ISC 04 12:12:07.9±1.1, 34.30N±0.04×54.50E±0.04, h10km, n32, σ0°95/28, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**1.26**	**338**	*e*Pg	**Pb**	**12 12 31.3**	**

comp=Z,0.0nm,0.8s
GHVR GHOM 2.65 275 *e*AML AML 12 13 34.3
comp=Z,116nm,0.4s
GHVR GHOM 2.65 275 *e*AML AML 12 13 34.3
comp=Z,119nm,0.4s
IQOM Qom 2.88 282 *e*Pn **Pn 12 12 53.5 -0.6**
IQOM IAMB IAmb 12 13 39.2
comp=Z,0.0nm,0.2s
IRAM Ramesheh 3.05 216 *e*Pn **Pn 12 12 57.4 +1.0**
CHTH Charan 3.20 301 *e*Pn **Pn 12 12 59.7 +1.3**
CHTH Charan 3.20 301 *e*Pn **Pn 12 12 59.7 +1.3**
SBZV Sabzevar 3.29 50 *e*Pn **Pn 12 13 00.4 +0.7**
QALM Alamut, Qazvin 3.80 305 *e*Pn **Pn 12 13 07.1 +0.4**
QALM IAMB IAmb 12 14 33.7
comp=Z,0.0nm,1.0s
JHBN Jahan bin 3.81 238 *e*Pn **Pn 12 13 08.9 +1.9**
ITEG Tejag 3.81 110 *e*Pn **Pn 12 13 08.2 +1.3**
ISFR Sfrayin 3.96 45 *e*Pn **Pn 12 13 09.6 +0.6**
ISFR IAMB IAmb 12 14 37.5
comp=Z,512nm,0.7s
QABG Abgarm-Qazvin 4.27 291 *e*Pn **Pn 12 13 14.2 +1.0**
BSRN Basiran 4.53 120 *e*Pn **Pn 12 13 15.5 -1.1**
BSRN Basiran 4.53 120 *e*Pn **Pn 12 13 15.5 -1.1**

IDC 04 12:20:55.8±16.0, **17°.15S**×**172°.55W, h0**km, **mb4.2**/4, **mb1 4.4**/4, **mb1mx3.7**/43, **mbtmp4.2**/4, **Error ellipse: s-maj=314.4km s-min=153.9km az=80.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.08**	**259**	P	P	12 28 24.9	0.0
	1.3nm,0.6s,baz=84,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**43.90**	**242**	P	P	12 29 05.0	+0.6
	0.7nm,0.3s,baz=78,slow=9.3,SNR=4.5						
WRA	**Warramunga Arr**	**50.26**	**258**	P	P	12 29 53.9	-0.4
	1.8nm,0.4s,baz=98,slow=7.1,SNR=58						
ASAR	**Alice Springs**	**50.37**	**253**	P	P	12 29 54.5	-0.6
	2.5nm,0.5s,baz=87,slow=8.0,SNR=99						
FITZ	**Fitzroy Crossi**	**58.66**	**259**	P	P	12 30 55.6	+0.1
	baz=95,slow=5.5						

IDC ***04*** *12:42:10.3*±*2.0, 5°.23S*×*151°.63E, h100*km±*14*km*, mb3.1/3, mb1 3.3/4, mb1mx3.0/37, mbtmp3.5/4, Error ellipse: s-maj=92.1km s-min=16.1km az=127.0*
ISC 04 12:42:09.5±2.5, **5°.3S**±0°.3×**151°.8E**±0°.5, **h100**km, **n6,** σ**0**s**81/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.04**	**10**	P	**Pn**	**12 42 30.4**	**0.0**
	13nm,0.3s,baz=64,slow=0.3,SNR=37						
KRVT				S	**Sn**	**12 42 46.4**	**+0.3**
	60nm,0.3s,baz=100,slow=22,SNR=37						
PMG	**Port Moresby**	**6.16**	**229**	P	**Pn**	**12 43 39.0**	**+1.0**
	0.5nm,0.3s,baz=62,slow=20,SNR=1.8						
PMG				S	**Sn**	**12 44 45.9**	**-1.2**
	1.2nm,0.3s,baz=49,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**22.38**	**228**	P	**P**	**12 46 59.1**	**-0.7**
	0.3nm,0.3s,baz=51,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**25.11**	**222**	P	**P**	**12 47 25.4**	**+0.1**
	0.1nm,0.5s,baz=53,slow=8.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**28.57**	**241**	P	**P**	**12 47 56.6**	**+0.3**
	2.2nm,0.9s,baz=85,slow=12,SNR=2.1						
TORD	**Torodi Ar. Bea**	**149.56**	**287**	PKPbc	**PKPbc**	**13 01 47.9**	**-0.5**
	0.3nm,0.6s,baz=62,slow=2.1,SNR=3.1						

IDC 04 12:45:53.2±1.7, **28°.81N**×**140°.25E, h0**km, **mb3.6**/3, **mb1 3.6**/4, **mb1mx3.3**/45, **mbtmp3.5**/4, **ML2.8**/1, **MS3.2**/2, **Ms1 3.2**/2, **ms1mx2.4**/46, **Error ellipse: s-maj=55.5km s-min=26.8km az=57.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.41**	**134**	Pn	Pn	12 46 34.1	+0.2
	2.4nm,0.3s,baz=254,slow=17,SNR=4.6						
JCJ				Sn	Sn	12 47 05.0	+0.8
	11nm,0.3s,baz=275,slow=22,SNR=5.7						
KSRS	**Korea Array**	**13.45**	**313**	LR	LR	12 54 26.6	
	comp=Z,21nm,18.9s,baz=0.0,slow=38						
WRA	**Warramunga Arr**	**48.80**	**187**	P	P	12 54 40.0	-0.2
	0.2nm,0.4s,baz=6.1,slow=7.5,SNR=8.0						
ASAR	**Alice Springs**	**52.53**	**187**	P	P	12 55 08.2	-0.2
	0.3nm,0.9s,baz=5.1,slow=6.3,SNR=6.0						
FINES	**FINESS Array B**	**75.66**	**333**	P	P	12 57 40.1	+0.1
	1.6nm,0.8s,baz=67,slow=11,SNR=1.4						
AKASG	**Malin Array Be**	**80.23**	**323**	LR	LR	13 57 22.3	
	comp=Z,55nm,19.8s,baz=255,slow=38						

IDC ***04*** *12:56:16.3*±*0.4, 14°.18N*×*93°.17E, h0*km*, mb4.5/32, mb1 4.6/34, mb1mx4.5/51, mbtmp4.5/34, ML3.9/3, MS3.7/13, Ms1 3.8/13, ms1mx3.4/53, Error ellipse: s-maj=13.6km s-min=10.9km az=58.0*
BJI ***04*** *12:56:18.9*±*0.0, 14°.03N*×*93°.12E, h32*km*, mb4.6/48, mbB4.8/36, Ms4.2/24, Ms7 4.0/19*
MOS ***04*** *12:56:19.9*±*0.9, 14°.20N*×*93°.16E, h37*km*, mb5.0/43, Error ellipse: s-maj=8.4km s-min=5.0km az=112.9*
ISCJB ***04*** *12:56:19.8*±*1.0, 14°.25N*±*0°.02*×*93°.12E*±*0°.03, h33*km±*7*km*, mb4.7/96, MS3.9/17, Error ellipse: s-maj=4.5km s-min=3.6km az=142.9*
NDI ***04*** *12:56:22.9*±*3.2, 14°.27N*×*92°.91E, h20*km±*21*km*, mb4.5, ML4.6, mb4.8(NEIC)*
NEIC ***04*** *12:56:22.7*±*1.5, 14°.29N*±*0°.05*×*93°.19E*±*0°.07, h42*km±*4*km*, mb4.8/85*
DJA ***04*** *12:56:25.3*±*0.5, 14°N*±*3°*×*9°.3E*±*°, h66*km±*5*km*, M4.9/18, mB5.5/4, mb4.8/18, MLv4.9/3, Mw(mB)5.0/4*
ISC 04 12:56:21.4±0.5, **14°.23N**±0°.03×**93°.11E**±0°.04, **h31**km±3km, **h31**km:**pP-P, n367,** σ1**9/46/381, mb4.8**/118, **MS3.9**/18, **22C-9D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.06**	**190**	*e*P	**Pb**	**12 56 41.5**	**+0.2**
DGPR				*e*S	**Sb**	**12 56 57.2**	**+2.3**
DGPR				IAML		12 56 59.7	
	comp=E,10μm,0.4s						
DGPR				IAML		12 57 04.6	
	comp=N,8μm,0.3s						
PBA	**Port Blair**	**2.59**	**188**	*e*P	Pn	12 57 03.3	+2.2
PBA				*e*S	Sn	12 57 33.9	+2.4
PBA				IAML		12 57 35.8	
	comp=N,1μm,0.6s						
PBA				IAML		12 58 00.2	
	comp=E,32μm,1.3s						
PBA	**Port Blair**	**2.59**	**188**		Pn	12 57 02.4	+1.3
PBA				Sn	Sn	12 57 32.6	+1.1
KHLT	**Khaolaem Dam**	**5.33**	**83**	P	**Pn**	**12 57 37.0**	**-1.9**
	comp=E,189nm,0.7s,comp=E,2μmcomp=E,0.6nm						
SRDT	**SRDT**	**5.83**	**88**	P	**Pn**	**12 57 48.5**	**+2.9**
	comp=E,39nm,0.7s,comp=E,10μmcomp=E,0.2nm						
SIMRM	**Sittwe**	**5.87**	**358**	Pn	**Pn**	**12 57 47.3**	**+1.1**
UMPA	**Umpang Tak**	**5.88**	**70**	P	**Pn**	**12 57 46.5**	**0.0**
	comp=E,337μm,0.6s,comp=E,1μm						
MHMT	**Maesarieng**	**6.07**	**49**	P	**Pn**	**12 57 50.0**	**+1.1**
	comp=E,153nm,0.9s,comp=E,2μmcomp=E,1.0nm						
UTHA	**Uthaitani**	**6.26**	**77**	P	**Pn**	**12 57 52.7**	**+1.1**
	comp=E,137μm,0.6s,comp=E,568nm						
PHET	**Kaeng Krachan**	**6.47**	**101**	P	**Pn**	**12 57 56.4**	**+1.9**
	comp=E,144μm,0.7s,comp=E,1μm						
CM31	**Chiang Mai Arr**	**7.00**	**52**		**Pn**	**12 58 02.2**	**+0.5**
CM31				Sn	**Sn**	**12 59 18.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**7.00**	**52**	Pn	**Pn**	**12 58 01.7**	**0.0**
	comp=E,0.7nm,0.3s,baz=243,slow=15,SNR=19						
CMAR				Sn	**Sn**	**12 59 16.8**	**-3.5**
	comp=E,5.0nm,0.3s,baz=242,slow=26,SNR=8.9						
CMAR				LR	LR	13 01 27.9	
	comp=E,504nm,19.1s,baz=192,slow=45						
CHTO	**Chiang Mai**	**7.21**	**50**	P	**Pn**	**12 58 04.3**	**-0.4**
CHTO						12 59 21.1	
CHTO	**Chiang Mai**	**7.21**	**50**		**Pn**	**12 58 04.3**	**-0.4**
CHTO				Sn	**Sn**	**12 59 21.1**	**-4.5**
CMMT	**Chiang Mai**	**7.21**	**50**	P	**Pn**	**12 58 05.9**	**+1.2**
	comp=E,14nm,0.7s,comp=E,0.2nm						
LAMP	**Lampang**	**7.57**	**55**	P	Pn	12 58 15.8	+6.2
	comp=E,89μm,0.6s,comp=E,395nm						
SURT	**Suratani**	**7.65**	**133**	P	Pn	12 58 15.8	+5.1
	comp=E,24nm,0.6s,comp=E,0.1nm						
PATY	**Pattaya**	**7.65**	**99**	P	**Pn**	**12 58 14.0**	**+3.3**
	comp=E,111μm,0.6s,comp=E,1μm						
PBKT	**Sadao Pong**	**7.92**	**72**	P	**Pn**	**12 58 15.6**	**+1.1**
	comp=E,21nm,0.6s,comp=E,575nmcomp=E,0.1nm						
PBKT	**Sadao Pong**	**7.92**	**72**		**Pn**	**12 58 14.7**	**+0.2**
PKDT	**Phuket**	**8.12**	**140**	P	Pn	12 58 22.3	+5.1
	comp=E,25nm,0.6s,comp=E,4μmcomp=E,0.2nm						
SAIH	**SAIHA**	**8.21**	**359**	*e*P	**Pn**	**12 58 18.5**	**0.0**
SAIH				*e*S	**Sn**	**12 59 46.4**	**-4.0**
SAIH				IAML		12 59 50.3	
	comp=N,183nm,0.7s						
PAYA	**Payao**	**8.24**	**51**	P	**Pn**	**12 58 20.8**	**+2.0**
	comp=N,131μm,0.7s,comp=N,429nm						
BRDH	**Bariadhala**	**8.51**	**351**	Pn	**Pn**	**12 58 22.2**	**-0.3**
	comp=N,0.3nm,0.3s,baz=253,slow=20,SNR=2.7						
BRDH				Sn	**Sn**	**12 59 53.4**	**-4.2**
	comp=N,0.2nm,0.3s,baz=142,slow=20,SNR=7.0						
CHAI	**Chaiyaphum**	**8.73**	**78**	P	Pn	12 58 30.6	+5.1
	comp=N,39μm,0.7s,comp=N,427μmcomp=N,130nm						
LHMI	**Lhok Sumawe**	**9.71**	**157**	P	**Pn**	**12 58 35.2**	**-3.8**
VIS	**Vishakhapatnam**	**10.03**	**292**	*i* P	**Pn**	**12 58 42.9**	**-0.4**
VIS				*ex*	x	12 58 46.0	
	comp=Z,376nm,0.9s						
VIS				*i* S	Sn	13 00 23.0	-12
VIS				*ex*	x	13 00 24.9	
	comp=E,228nm,0.5s						
VIS				*ex*	x	13 00 24.9	
	comp=E,228nm,0.5s						
VIS				*ex*	x	13 00 26.7	
	comp=N,730nm,0.7s						
VIS				*ex*	x	13 00 26.7	
	comp=N,730nm,0.7s						
NONG	**Nongkai**	**10.36**	**67**	P	Pn	12 58 59.1	+11
KULM	**Kulim**	**11.58**	**139**		**Pn**	**12 59 06.5**	**+1.9**
BOK	**Bokaro**	**11.71**	**325**	*e*P	**Pn**	**12 59 04.9**	**-1.4**
BOK				IAmb	IAmb	12 59 10.2	
	comp=Z,29nm,0.8s						
BOK				*e*S	Sn	13 01 05.2	-11
IPM	**Ipoh**	**12.44**	**140**	Pn	**Pn**	**12 59 17.2**	**+0.8**
PSI	**Prapat**	**12.73**	**153**	P	**Pn**	**12 59 22.9**	**+2.5**
PSI	**Prapat**	**12.73**	**153**	Pn	**Pn**	**12 59 25.2**	**+4.8**
	comp=Z,0.6nm,0.3s,baz=318,slow=11,SNR=16						
RPSI	**Rantau Prapat**	**12.82**	**153**		**Pn**	**12 59 22.9**	**+1.3**
ODAN	**Odare**	**13.65**	**338**	*e*P	**Pn**	**12 59 29.0**	**-4.1**
TAPN	**Taplejung**	**13.99**	**340**	*e*P	**Pn**	**12 59 33.5**	**-4.3**
PALK	**Pallekele**	**14.01**	**242**	P	**Pn**	**12 59 36.5**	**-1.4**
PALK	**Pallekele**	**14.01**	**242**	Pn	**Pn**	**12 59 36.8**	**-1.1**
	comp=Z,2.9nm,0.3s,baz=117,slow=6.8,SNR=14						
PALK				Sn	Sn	13 01 59.1	-13
	comp=Z,4.4nm,0.3s,baz=299,slow=19,SNR=9.8						
PALK				LR	LR	13 04 30.7	
	comp=Z,287nm,20.3s,baz=117,slow=35						
PALK	**Pallekele**	**14.01**	**242**	Pn	**Pn**	**12 59 36.5**	**-1.4**
RAMN	**Ramite**	**14.04**	**335**	*e*P	**Pn**	**12 59 35.0**	**-3.4**
KMI	**Kunming**	**14.12**	**38**	P	**Pn**	**12 59 41.7**	**+2.2**
KMI				pP	P	12 59 49.0	+2.3
KMI				S	**Sn**	**13 02 18.3**	**+3.1**
KMI				SS	**S**	**13 02 35.2**	**-0.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,88nm,4.1s						
KMI				LR	LR		
	comp=Z,470nm,16.8s						
KMI				LR	LR		
	comp=Z,290nm,21.5s						
KMI				LR	LR		
	comp=Z,430nm,17.8s						
HYB	**Hyderabad**	**14.36**	**285**	*i* P	**Pn**	**12 59 40.0**	**-2.7**
HYB				*e*S	Sn	13 02 09.0	-12
JIRN	**Jiri**	**14.84**	**335**	*e*P	**Pn**	**12 59 46.0**	**-3.3**
	comp=Z,61nm,0.3s						
NGP	**Nagpur**	**15.06**	**299**	*e*P	**Pn**	**12 59 52.9**	**+0.9**
PKI	**Pulchoki**	**15.09**	**333**	*e*P	**Pn**	**12 59 48.4**	**-4.3**
PKIN	**Phulchoki**	**15.10**	**333**	*e*P	**Pn**	**12 59 48.4**	**-4.4**
GUN	**Gumba**	**15.18**	**335**	*e*P	**Pn**	**12 59 50.2**	**-3.8**
DMN	**Daman**	**15.26**	**332**	*e*P	**Pn**	**12 59 50.7**	**-4.2**
JBP	**Jabalpur**	**15.28**	**307**	*e*P	**Pn**	**12 59 56.5**	**+1.7**
JBP				AMB	AMB	13 00 00.3	
	comp=Z,16nm,0.7s						
KKN	**Kakani**	**15.34**	**333**	*e*P	**Pn**	**12 59 52.0**	**-3.8**
	comp=Z,40nm,0.7s						
KKN				*e*S	Sn	13 02 32.5	-12
LSA	**Lhasa**	**15.50**	**354**	P	**Pn**	**12 59 59.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,16nm,0.7s						
LSA	**Lhasa**	**15.50**	**354**		**Pn**	**12 59 59.5**	**+1.3**
GKN	**Gorkha**	**15.81**	**331**	*e*P	**Pn**	**12 59 58.0**	**-3.9**
KOLN	**Koldanda**	**16.12**	**328**	*e*P	**Pn**	**13 00 02.6**	**-3.4**
	comp=Z,146nm,0.5s						
MYKOM	**Kota Tinggi**	**16.29**	**138**	P	**Pn**	**13 00 09.6**	**+1.6**
DANN	**Dangsing**	**16.52**	**330**	*e*P	**Pn**	**13 00 07.5**	**-3.6**
PDSI	**Padang**	**16.71**	**154**	P	**Pn**	**13 00 10.8**	**-2.6**
	comp=Z,24nm,0.9s						
QIZ	**Qiongzhong**	**16.72**	**71**	P	**Pn**	**13 00 12.6**	**-0.8**
QIZ				S	**Sn**	**13 03 20.7**	**+2.4**
QIZ				LR	LR		
	comp=Z,500nm,10.7s						
BHPL	**Bhopal**	**17.34**	**303**	*e*P	**P**	**13 00 22.0**	**-0.3**
BHPL				IAmb	IAmb	13 00 34.5	
GYA	**Guiyang**	**17.57**	**44**	*i* P	P	13 00 35.3	+10
GYA				pP	sP	13 00 43.8	+6.9
GYA				PP	PnPn	13 00 50.4	+16
GYA				S	**Sn**	**13 03 35.2**	**-3.8**
GYA				SS	**SnSn**	**13 03 57.7**	**+5.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,110nm,4.5s						
GYA				LR	LR		
	comp=N,250nm,10.6s						
GYA				LR	LR		
	comp=E,290nm,11.0s						
GYA				LR	LR		
	comp=Z,260nm,11.8s						
CD2	**Chengdu**	**19.27**	**29**	P	**Pn**	**13 00 45.2**	**+0.5**
CD2				S	**S**	**13 04 20.1**	**+0.1**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				LR	LR		
	comp=Z,430nm,5.8s						
CD2				LR	LR		
	comp=Z,330nm,6.3s						
CD2				LR	LR		
	comp=Z,390nm,7.2s						
MNAI	**Manna**	**20.89**	**151**	P	**P**	**13 01 02.5**	**+1.2**
ENH	**Enshi**	**21.96**	**41**	P	**P**	**13 01 11.1**	**-1.5**
ENH				IAmb	IAmb	13 01 26.9	
	comp=Z,32nm,0.9s						
LZH	**Lanzhou**	**23.79**	**22**	*e*P	**P**	**13 01 33.2**	**+1.6**
LZH				pP	pP	13 01 42.1	+1.8
LZH				S	**S**	**13 05 52.8**	**+7.4**
LZH				sS	sS	13 06 02.0	+2.0
LZH				pmax	pmax		
	comp=Z,31nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=Z,400nm,13.6s						
LZH				LR	LR		
	comp=Z,440nm,13.0s						
LZH				LR	LR		
	comp=Z,670nm,14.3s						
XAN	**Xi'an**	**24.37**	**33**	P	**P**	**13 01 36.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,4.1s						
XAN	**Xi'an**	**24.37**	**33**	P	**P**	**13 01 36.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,17nm,1.0s						
XAN	**Xi'an**	**24.37**	**33**	P	**P**	**13 01 36.3**	**-0.5**
LEM	**Lembang**	**25.39**	**145**	LR	LR	13 13 03.0	
	comp=Z,180nm,19.2s,baz=278,slow=40						
WHN	**Wuhan**	**25.40**	**47**	P	P	13 01 59.3	+13
GTA	**Gaotai**	**25.77**	**12**	⇓P	**P**	**13 01 50.2**	**+0.7**
GTA				pP	pP	13 01 58.4	+0.2
GTA				sP	sP	13 02 02.3	+0.4
GTA				PcP	**PcP**	**13 05 20.3**	**+1.4**
GTA				sS	sS	13 06 32.6	+1.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,41nm,5.2s						
GTA				LR	LR		
	comp=Z,110nm,14.8s						
GTA				LR	LR		
	comp=Z,130nm,15.1s						
NIL	**Nilore**	**26.43**	**320**	P	**P**	**13 01 55.3**	**-0.1**
NIL				pmax	pmax		
	comp=Z,23nm,0.9s						
NIL	**Nilore**	**26.43**	**320**	P	**P**	**13 01 55.3**	**-0.1**
NIL				IAmb	IAmb	13 02 09.9	
	comp=Z,23nm,0.9s						
KSH	**Kashi**	**29.35**	**332**	P	**P**	**13 02 21.4**	**-0.2**
KSH				pP	pP	13 02 30.3	-0.1
KSH				PP	**PnPn**	**13 03 16.5**	**+0.6**
KSH				S	**S**	**13 07 08.8**	**-4.5**
KSH				sS	pS	13 07 23.8	+1.2
KSH				SS	**SnSn**	**13 08 39.6**	**-1.4**
KSH				pmax	pmax		
	comp=Z,32nm,0.9s						
KSH				pmax	pmax		
	comp=Z,220nm,4.7s						
KSH				LR	LR		
	comp=Z,280nm,15.9s						
KSH				LR	LR		
	comp=Z,210nm,10.0s						
NJ2	**Nanjing**	**29.45**	**49**	*e*P	**P**	**13 02 23.2**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KBL	**Kabul**	**29.68**	**317**	P	**P**	**13 02 24.3**	**-0.4**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBL	**Kabul**	**29.68**	**317**	P	**P**	**13 02 24.3**	**-0.4**
H08S3	**Diego Garcia H**	**29.84**	**225**	T	T	13 33 42.7	
	baz=42,slow=76,SNR=19						
WMQ	**Urumqi**	**29.85**	**352**	*e*P	**P**	**13 02 26.9**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,3.7s						
WMQ				LR	LR		
	comp=Z,360nm,29.3s						
WMQ				LR	LR		
	comp=Z,2μm,28.9s						
H08S2	**Diego Garcia H**	**29.85**	**225**	T	T	13 33 41.9	
	baz=42,slow=76,SNR=16						
H08S1	**Diego Garcia H**	**29.86**	**225**	T	T	13 33 40.6	
	baz=42,slow=76,SNR=14						
TARG	**Taragay, Kyrgy**	**30.45**	**337**	IAmb	IAmb	13 02 45.9	
	comp=Z,21nm,1.4s						
TIA	**Tai'an**	**30.68**	**40**	P	P	13 02 42.7	+9.5
TIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NRN	**Naryn**	**30.91**	**334**	P	**P**	**13 02 35.6**	**-0.1**
NRN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NRN	**Naryn**	**30.91**	**334**	P	**P**	**13 02 35.6**	**-0.1**
HHC	**Hu-ho-hao-te**	**31.02**	**28**	*e*P	**P**	**13 02 37.9**	**+1.6**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
KDJ	**Kajisay**	**31.03**	**337**	P	**P**	**13 02 37.1**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,11nm,1.3s						
KDJ	**Kajisay**	**31.03**	**337**	P	**P**	**13 02 37.1**	**+0.6**
ARSB	**Arslanbob**	**32.17**	**331**	P	**P**	**13 02 47.2**	**+0.6**
ARSB				IAmb	IAmb	13 02 48.7	
	comp=Z,16nm,0.7s						
BTK	**Batken**	**32.30**	**327**	P	**P**	**13 02 48.2**	**+0.5**
BTK				pmax	pmax		
	comp=Z,18nm,0.9s						
BTK	**Batken**	**32.30**	**327**	P	**P**	**13 02 48.1**	**+0.5**
BTK				IAmb	IAmb	13 02 51.2	
	comp=Z,18nm,0.9s						
AAK	**Ala-Archa**	**32.54**	**334**	*ce*P	**P**	**13 02 51.2**	**+1.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK	**Ala-Archa**	**32.54**	**334**	P	**P**	**13 02 50.9**	**+1.2**
	comp=Z,4.4nm,0.9s,baz=152,slow=6.0,SNR=10						
AAK	**Ala-Archa**	**32.54**	**334**	P	**P**	**13 02 50.2**	**+0.4**
MK31	**Makanchi Array**	**33.70**	**347**	P	**P**	**13 03 00.0**	**+0.3**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK31	**Makanchi Array**	**33.70**	**347**	P	**P**	**13 03 00.0**	**+0.3**
MKAR	**Makanchi Array**	**33.70**	**347**	P	**P**	**13 02 59.8**	**+0.1**
MKAR						13 05 39.3	
MKAR	**Makanchi Array**	**33.70**	**347**	P	**P**	**13 03 00.3**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=160,slow=9.0,SNR=54						
MKAR				PcP	**PcP**	**13 05 38.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=155,slow=3.4,SNR=4.3						
MKAR				LR	LR	13 20 56.1	
	comp=Z,130nm,19.9s,baz=156,slow=44						
MKAR	**Makanchi Array**	**33.70**	**347**	P	**P**	**13 02 59.8**	**+0.1**
MKAR					**PcP**	**13 05 39.3**	**+0.3**
MAKZ	**Makanchi**	**33.79**	**346**	P	**P**	**13 03 00.9**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAKZ	**Makanchi**	**33.79**	**346**	P	**P**	**13 03 00.9**	**+0.5**
KK31	**Karatay Array**	**34.71**	**330**	P	**P**	**13 03 09.1**	**+0.6**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KK31	**Karatay Array**	**34.71**	**330**	P	**P**	**13 03 09.1**	**+0.6**
KK31				IAmb	IAmb	13 03 19.8	
	comp=Z,7.3nm,0.8s						
KKAR	**Karatay Array**	**34.71**	**330**	P	**P**	**13 03 09.1**	**+0.6**
KKAR	**Karatay Array**	**34.71**	**330**	P	**P**	**13 03 09.1**	**+0.6**
KKAR	**Karatay Array**	**34.71**	**330**	IAmb	IAmb	13 03 19.8	
	comp=Z,7.3nm,0.8s						
WBSI	**Waikabubak, Su**	**35.24**	**131**	P	P	13 03 30.4	+17
SONM	**Songino Array**	**35.27**	**16**	P	**P**	**13 03 13.5**	**+0.1**
SONM						13 05 44.2	
SONM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SONM	**Songino Array**	**35.27**	**16**	P	**P**	**13 03 13.9**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=201,slow=9.9,SNR=25						
SONM				PcP	**PcP**	**13 05 44.3**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=211,slow=3.8,SNR=6.2						
SONM				LR	LR	13 20 45.8	
	comp=Z,80nm,18.6s,baz=221,slow=42						
SONM	**Songino Array**	**35.27**	**16**	P	**P**	**13 03 13.5**	**+0.1**
SONM					**PcP**	**13 05 44.2**	**+0.6**
ULN	**Ulaanbaatar**	**35.48**	**16**	P	**P**	**13 03 15.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,13nm,1.5s						
ULN	**Ulaanbaatar**	**35.48**	**16**	P	**P**	**13 03 15.3**	**+0.1**
ULN				IAmb	IAmb	13 03 16.6	
	comp=Z,13nm,1.4s						
DGZ	**Jazzator, Alta**	**35.67**	**354**	*i* P	**P**	**13 03 18.3**	**+1.5**
ZAK	**Zakamensk**	**36.99**	**11**	*e*P	P	13 03 33.7	+5.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
KURBB	**Kurchatov Arra**	**38.18**	**345**	P	**P**	**13 03 38.0**	**+

comp=Z,60nm,19.1s,baz=116,slow=41
ZALV Zalesovo Beam 40.16 352 P **P 13 03 54.5 +0.1**
CN2 Changchun 40.38 37 *e*P **P 13 03 56.6 +0.2**
CN2 *e*pP pP 13 04 06.4 +1.0
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,20.0s
FAKI Fak Fak 42.37 111 P **P 13 04 12.0 -1.2**
BVAR Borovoye Array 42.69 340 P **P 13 04 15.0 -0.3**
comp=Z,4.8nm,1.0s,baz=140,slow=7.7,SNR=18
BVAR PcP **PcP 13 06 06.4 -0.2**
comp=Z,1.2nm,0.7s,baz=159,slow=4.5,SNR=3.6
BRVK Borovoye 42.76 340 *i* P **P 13 04 15.5 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 42.76 340 P **P 13 04 15.9 +0.1**
ABKAR Akbulak array 44.24 329 P **P 13 04 28.5 +0.7**
ABKAR Akbulak array 44.24 329 P **P 13 04 28.4 +0.7**
ABKAR IAmb IAmb 13 04 29.7
comp=Z,20nm,0.9s
USA0B Ussuriysk Arra 44.54 40 *i* P **P 13 04 28.7 -1.6**
USRK Ussuriysk Ar. 44.54 40 P **P 13 04 29.8 -0.4**
USRK Ussuriysk Ar. 44.54 40 P **P 13 04 29.6 -0.7**
comp=Z,1.1nm,0.6s,baz=258,slow=7.1,SNR=4.2
USRK Ussuriysk Ar. 44.54 40 P **P 13 04 29.8 -0.4**
FITZ Fitzroy Crossi 45.40 134 P **P 13 04 35.7 -1.7**
baz=45,SNR=7.3
FITZ Fitzroy Crossi 45.40 134 P **P 13 04 35.9 -1.5**
FITZ IAmb IAmb 13 04 36.3
comp=Z,6.8nm,0.5s
RAYN Ar Rayn 45.81 289 P **P 13 04 41.2 +0.5**
RAYN pmax pmax
comp=Z,7.0nm,1.2s
RAYN Ar Rayn 45.81 289 P **P 13 04 41.2 +0.5**
MJAR Matsushiro Arr 45.88 53 P **P 13 04 41.3 +0.2**
comp=Z,1.8nm,0.7s,baz=270,slow=8.6,SNR=5.2
MJAR PcP **PcP 13 06 18.1 +0.2**
comp=Z,3.7nm,0.7s,baz=223,slow=3.6,SNR=12
KNRA Kununurra 46.10 129 P **P 13 04 41.6 -1.3**
baz=46,SNR=3.9
KNRA Kununurra 46.10 129 P **P 13 04 41.3 -1.6**
BOD Bodaibo 46.27 15 *e*P **P 13 04 44.0 +0.3**
BOD pmax pmax
comp=Z,11nm,1.3s
KLR Kul'dur 47.08 34 P **P 13 04 51.3 +1.1**
comp=Z,0.4nm,0.3s,baz=272,slow=9.8,SNR=3.8
AKT Akhty 47.70 314 *e*P **P 13 04 54.4 -1.0**
AKT pmax pmax
comp=Z,28nm,1.1s
MORW Morawa 48.41 153 P **P 13 04 60.0 -0.8**
baz=48,SNR=5.8
MORW Morawa 48.41 153 P **P 13 04 59.9 -0.8**
SVE Sverdlovsk 49.17 337⇑*e*P **P 13 05 07.0 +0.8**
SVE pmax pmax
comp=Z,42nm,0.9s
GNI Garni 49.41 311 *c e*P **P 13 05 09.4 +0.8**
GNI pmax pmax
comp=Z,107nm,1.3s
GNI Garni 49.41 311 P **P 13 05 10.6 +2.1**
comp=Z,15nm,0.6s,baz=40,slow=4.8,SNR=9.6
GNI Garni 49.41 311 P **P 13 05 09.6 +1.0**
ARU Arti 49.70 336 *c i* P **P 13 05 10.3 0.0**
ARU 13 06 27.0
ARU 13 07 00.2
ARU S **S 13 12 18.8 +1.9**
ARU SS **SS 13 15 49.8 +0.4**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU Arti 49.70 336 P **P 13 05 10.2 0.0**
ARU IAmb IAmb 13 05 11.4
comp=Z,15nm,0.8s
AKH Akhalkalaki 50.69 312 ⇓P **P 13 05 20.6 +2.3**
AKH Akhalkalaki 50.69 312 IAmb IAmb 13 05 21.3
comp=Z,18nm,0.9s
ZEI Tsey 50.83 314 *e*P **P 13 05 19.7 +0.4**
ZEI pmax pmax
comp=Z,13nm,1.0s
MUN Mundaring 51.00 155 P **P 13 05 19.7 -0.7**
baz=51,SNR=7.7
ERM Erimo 51.17 47 *i* P **P 13 05 20.9 -0.7**
ERM pmax pmax
comp=Z,70nm,1.2s
KLBR Kellerberrin 51.33 153 P **P 13 05 21.9 -1.0**
baz=51,SNR=5.6
KBZ Khabaz 51.82 315 *i* P **P 13 05 26.6 +0.1**
KBZ Khabaz 51.82 315 P **P 13 05 27.1 +0.7**
comp=Z,4.3nm,0.8s,baz=124,slow=7.5,SNR=8.5
WRKA Warakurna 51.97 138 P **P 13 05 26.4 -1.4**
baz=52,SNR=21
KIV Kislovodsk 52.04 315 P **P 13 05 29.1 +0.9**
KIV pmax pmax
comp=Z,24nm,0.8s
KIV Kislovodsk 52.04 315 ⇑P **P 13 05 29.8 +1.6**
KIV mb 13 05 30.4
KIV Kislovodsk 52.04 315 P **P 13 05 29.1 +0.9**
BATM Batumi 52.04 312 ⇓P **P 13 05 30.0 +1.8**
NWAO Narrogin (SRO) 52.26 154 P **P 13 05 28.9 -0.9**
baz=52,SNR=4.4
NWAO Narrogin (SRO) 52.26 154 P **P 13 05 28.7 -1.1**
NWAO pmax pmax
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 52.26 154 LR LR 13 27 32.1
comp=Z,68nm,20.8s,baz=269,slow=36
NWAO Narrogin (SRO) 52.26 154 P **P 13 05 28.7 -1.1**
NWAO IAmb IAmb 13 05 38.3
comp=Z,19nm,0.9s
YSS Yuzh-Sakhalins 52.54 41 P **P 13 05 31.8 0.0**
YSS pmax pmax
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 52.54 41 P **P 13 05 31.9 0.0**
YSS IAmb IAmb 13 05 32.9
comp=Z,12nm,0.8s
WRA Warramunga Arr 52.89 129 P **P 13 05 33.0 -1.8**
WRA 13 06 43.1
WRA Warramunga Arr 52.89 129 P **P 13 05 33.3 -1.5**
comp=Z,3.5nm,0.7s,baz=316,slow=8.6,SNR=72
WRA PcP **PcP 13 06 43.1 -0.6**
comp=Z,7.3nm,0.7s,baz=319,slow=3.1,SNR=30
WRA Warramunga Arr 52.89 129 P **P 13 05 33.0 -1.8**
WRA PcP **PcP 13 06 43.1 -0.6**
WRAB Tennant Creek 52.90 129 *c e*P **P 13 05 32.8 -2.0**
WRAB pmax pmax
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 52.90 129 P **P 13 05 33.7 -1.1**
WRAB IAmb IAmb 13 05 35.9
comp=Z,5.9nm,0.7s
WB2 Warramunga Arr 52.90 129 P **P 13 05 33.4 -1.4**
WB2 PcP **PcP 13 06 43.2 -0.5**
YAK Yakutsk 54.36 20 P **P 13 05 44.0 -0.9**
YAK pmax pmax
comp=Z,13nm,0.8s
YAK Yakutsk 54.36 20 P **P 13 05 43.9 -0.9**
comp=Z,4.8nm,0.6s,baz=163,slow=2.2,SNR=5.8
YAK Yakutsk 54.36 20 P **P 13 05 44.0 -0.9**
YAK IAmb IAmb 13 05 45.0
comp=Z,13nm,0.8s
GAZ Gaziantep 54.46 306 P **P 13 05 46.7 +0.5**
AS31 Alice Springs 54.86 133 P **P 13 05 47.9 -1.2**
AS31 PcP **PcP 13 06 51.1 0.0**
ASAR Alice Springs 54.86 133 P **P 13 05 48.1 -1.0**
ASAR Alice Springs 54.86 133 P **P 13 05 47.8 -1.3**
comp=Z,4.2nm,0.7s,baz=307,slow=7.1,SNR=98
ASAR PcP **PcP 13 06 51.0 -0.2**
comp=Z,3.5nm,0.7s,baz=313,slow=3.8,SNR=13
ASAR ScP **ScP 13 10 47.0 -0.6**
comp=Z,0.7nm,0.9s,baz=316,slow=5.2,SNR=4.4
ASAR S **S 13 13 24.1 -4.5**
comp=Z,0.8nm,0.9s,baz=305,slow=15,SNR=6.2
ASAR Alice Springs 54.86 133 P **P 13 05 48.1 -1.0**
KIRV Kirov 54.88 334 LR LR 13 31 37.4
comp=Z,93nm,20.1s,baz=231,slow=39
NRIK Noril'sk 55.18 358 P **P 13 05 50.5 -0.2**
comp=Z,6.3nm,0.6s,baz=161,slow=5.3,SNR=14
VRH Novokhopyorsk 55.21 323 *e*P **P 13 05 50.4 -0.8**
VRH pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 56.71 323 *e*P **P 13 06 01.1 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
COEN Coen 56.92 117 P **P 13 06 03.2 -0.8**
COEN IAmb IAmb 13 06 06.4
comp=Z,12nm,1.1s

LPSR Galich'ya Gora 57.34 324 *e*P **P 13 06 05.8 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 57.63 308 P **P 13 06 08.6 -0.3**
BR131 pmax pmax
comp=Z,12nm,0.8s
BR131 Keskin Array S 57.63 308 P **P 13 06 08.6 -0.3**
BR131 IAmb IAmb 13 06 09.5
comp=Z,12nm,0.8s
BRTR Keskin Array B 57.63 308 P **P 13 06 08.5 -0.4**
comp=Z,12nm,0.8s,baz=121,slow=7.7,SNR=54
BZK Bozkurt 57.72 311 ⇑P **P 13 06 10.3 +1.1**
BZK mb 13 06 10.9
PRGR Permogore 58.16 336 *e*P **P 13 06 09.6 -2.3**
PRGR *e**PP **pP 13 06 18.7 -2.4**
PRGR pmax pmax
comp=Z,26nm,0.7s
SIM Simferopol' 58.22 314 *c i* P **P 13 06 13.6 +0.9**
SIM *e* 13 08 19.0
SIM *e*SS SS 13 18 05.0 +0.6
SIM pmax pmax
comp=Z,25nm,0.6s
SIM pmax pmax
comp=N,80nm,17.6s
ANTO Ankara 58.30 308 P **P 13 06 13.4 -0.1**
ANTO pmax pmax
comp=Z,15nm,0.6s
ANTO Ankara 58.30 308 P **P 13 06 13.4 -0.1**
OBN Obninsk 59.53 326⇑*e*P **P 13 06 21.9 +0.3**
OBN *PP **pP 13 06 31.0 +0.1**
OBN *SP **sP 13 06 35.0 +0.6**
OBN 13 07 09.0
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,93nm,18.0s
KLMR Klimovskoe 60.34 333 *e*P **P 13 06 25.9 -1.2**
KLMR pmax pmax
comp=Z,36nm,1.4s
KLMR Klimovskoe 60.34 333 *e*P **P 13 06 25.9 -1.2**
KLMR AMP 13 06 27.2
comp=Z,36nm,1.4s
TIRR Tirgusor 62.14 313 ⇓P **P 13 06 39.9 +0.4**
CTAO Charters Tower 62.40 122 P **P 13 06 41.0 -0.7**
CTAO 13 07 21.2
CTAO pmax pmax
comp=Z,7.0nm,1.0s
CTAO Charters Tower 62.40 122 P **P 13 06 41.0 -0.7**
CTAO IAmb IAmb 13 06 44.5
comp=Z,6.6nm,0.9s
CTAO PcP **PcP 13 07 21.2 +0.2**
TLB Topalu 62.42 313 ⇑P **P 13 06 41.5 +0.1**
CFR Carcaliu 62.43 314 ⇑P **P 13 06 41.4 -0.1**
HARR Harsova 62.51 313 ⇑P **P 13 06 42.7 +0.6**
HARR mb 13 06 45.0
AKASG Malin Array Be 62.62 320 P **P 13 06 41.9 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 62.62 320 P **P 13 06 41.7 -0.9**
comp=Z,1.4nm,0.6s,baz=91,slow=5.7,SNR=5.2
AKASG Malin Array Be 62.62 320 P **P 13 06 41.9 -0.7**
AKBB Malin Array Si 62.62 320 P **P 13 06 42.0 -0.6**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 62.62 320 P **P 13 06 42.0 -0.6**
AKBB IAmb IAmb 13 06 42.2
comp=Z,5.4nm,0.8s
VRI Vrincioaia 63.50 314 ⇑P **P 13 06 49.9 +1.3**
PETK Petropavlovsk- 63.52 37 P **P 13 06 47.8 -0.8**
PETK Petropavlovsk- 63.52 37 P **P 13 06 48.0 -0.7**
comp=Z,1.2nm,0.6s,baz=230,slow=2.8,SNR=7.8
PETK LR LR 13 38 36.1
comp=Z,84nm,19.0s,baz=242,slow=40
PETK Petropavlovsk- 63.52 37 P **P 13 06 47.8 -0.8**
PLOR Plostina 63.55 314 ⇓P **P 13 06 50.4 +1.4**
TESR Tescani 63.63 315 ⇓P **P 13 06 50.1 +0.6**
MLR Muntele Rosu 64.00 314 P **P 13 06 52.3 +0.2**
MLR pmax pmax
comp=Z,25nm,1.1s
MLR Muntele Rosu 64.00 314 P **P 13 06 52.3 +0.2**
BIZ Bicaz 64.06 315 ⇑P **P 13 06 53.0 +0.8**
QLP Quilpie 64.13 129 P **P 13 06 53.3 +0.3**
baz=64,SNR=4.3
DOPR Dopca 64.44 314 ⇑P **P 13 06 55.3 +0.4**
BURAR Bucovina Array 64.74 316 ⇓P **P 13 06 57.7 +0.9**
BURAR mb 13 06 58.0
BURAR Bucovina Array 64.74 316 P **P 13 06 57.1 +0.2**
BUR08 Bucovina Ar. S 64.75 316 IAmb IAmb 13 06 58.4
comp=Z,6.9nm,0.9s
STKA Stephens Creek 65.26 135 P **P 13 06 59.7 -0.6**
baz=65,SNR=7.8
STKA Stephens Creek 65.26 135 P **P 13 06 59.5 -0.8**
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA Stephens Creek 65.26 135 P **P 13 06 59.5 -0.8**
comp=Z,3.2nm,0.6s,baz=314,slow=7.3,SNR=12
STKA Stephens Creek 65.26 135 P **P 13 06 59.5 -0.8**
VSU Vasula 65.66 328 *i* P **P 13 07 03.3 +0.8**
VSU pmax pmax
comp=Z,45nm,1.0s
VTS Vitosha 65.73 311 IAmb IAmb 13 07 04.0
comp=Z,7.6nm,0.7s
GZR Gura Zlata 66.22 314 ⇑P **P 13 07 06.4 -0.1**
TRPA Tarpa 66.58 316 ⇑P **P 13 07 09.4 +0.8**
TRPA mb 13 07 13.0
FIA1 FINESS Array S 66.67 331 P **P 13 07 08.3 -0.6**
FIA1 IAmb IAmb 13 07 09.5
comp=Z,15nm,0.8s
FINES FINESS Array B 66.67 331 P **P 13 07 08.6 -0.3**
FINES FINESS Array B 66.67 331 P **P 13 07 08.7 -0.2**
comp=Z,8.5nm,0.5s,baz=95,slow=6.1,SNR=46
STHS Stebnicka Huta 67.54 318 *e*P **P 13 07 14.6 -0.1**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 67.54 318 *e*P **P 13 07 14.6 -0.1**
RMQ Roma 67.54 127 P **P 13 07 15.9 +0.9**
baz=67,SNR=5.1
CMSA Cobar Meteorol 67.92 133 P **P 13 07 17.3 +0.1**
baz=68,SNR=9.2
KECS Kecovo 67.97 317 *e*P **P 13 07 17.8 +0.4**
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 67.97 317 *e*P **P 13 07 17.8 +0.4**
OJC Ojcow 68.53 319 *e*P **P 13 07 21.0 +0.1**
OJC Ojcow 68.53 319 *e*P **P 13 07 21.0 +0.1**
OJC *e*P **P 13 07 21.0 +0.1**
OJC Ojcow 68.53 319 IAmb IAmb 13 07 21.9
comp=Z,11nm,0.9s
ARCES ARCESS Array B 68.98 340 P **P 13 07 23.5 +0.1**
ARCES ARCESS Array B 68.98 340 P **P 13 07 23.6 +0.2**
comp=Z,5.4nm,0.5s,baz=93,slow=6.7,SNR=46
ARCES LR LR 13 41 06.2
comp=Z,83nm,19.7s,baz=22,slow=39
ARE0 ARCESS Array S 68.98 340 *e*P **P 13 07 23.9 +0.5**
VYHS Vyhne 69.07 317 *e*P **P 13 07 24.8 +0.5**
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 69.07 317 *e*P **P 13 07 24.8 +0.5**
KTK1 Kautokeino 69.63 339 *e*P **P 13 07 27.6 +0.2**
HAMF Hammerfest 69.88 341 *e*P **P 13 07 29.1 +0.3**
MORC Moravsky Berou 69.96 318 ⇓P **P 13 07 30.6 +0.8**
MORC mb 13 07 31.4
MORC Moravsky Berou 69.96 318 IAmb IAmb 13 07 31.3
comp=Z,15nm,1.0s
MODS Modra-Piesok 70.11 317 *e*P **P 13 07 29.8 -0.9**
MODS pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 70.11 317 *e*P **P 13 07 29.8 -0.9**
LSZ Lusaka 70.57 248 P **P 13 07 35.0 +0.8**
LSZ pmax pmax
comp=Z,15nm,0.8s
LSZ Lusaka 70.57 248 P **P 13 07 35.0 +0.8**
LSZ IAmb IAmb 13 07 36.5
comp=Z,15nm,0.8s
BILL Bilibino 70.61 22 P **P 13 07 32.9 -0.4**
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL Bilibino 70.61 22 P **P 13 07 32.9 -0.4**
BILL IAmb IAmb 13 07 33.6
comp=Z,6.0nm,0.8s
DPC Dobruska-Polom 70.76 319 *e*P **P 13 07 36.0 +1.3**
DPC *e* 13 07 45.2
DPC Dobruska-Polom 70.76 319 *e*P **P 13 07 36.0 +1.3**
DPC *e*pP **pP 13 07 45.2 +1.0**

KSP Ksiaz 70.78 319 *e*P **P 13 07 35.5 +0.7**
KSP Ksiaz 70.78 319 *e*P **P 13 07 35.5 +0.7**
KSP *e*P **P 13 07 35.5 +0.7**
CHVC Chvalec 70.93 319 *e*P **P 13 07 34.3 -1.4**
TOO Toolangi 71.22 138 P **P 13 07 37.8 +0.3**
TOO pmax pmax
comp=Z,18nm,1.3s
TOO Toolangi 71.22 138 P **P 13 07 37.9 +0.3**
TOO IAmb IAmb 13 07 39.5
comp=Z,18nm,1.3s
TRO Tromso 71.25 339 *e*P **P 13 07 37.1 -0.1**
SOKA Soboth 71.63 315 *i* P **P 13 07 40.2 +0.1**
comp=Z,8.2nm,1.3s
ARMA Armidale 71.68 129 P **P 13 07 40.7 +0.1**
PRU Pruhonice 71.90 318 *e*P **P 13 07 42.2 +0.7**
PRU Pruhonice 71.90 318 *e*P **P 13 07 42.2 +0.7**
OBKA Obir 71.97 315 *i* P **P 13 07 42.1 -0.1**
comp=Z,8.0nm,0.9s
MOA Molln 72.13 316 *i* P **P 13 07 42.9 -0.1**
comp=Z,8.5nm,0.9s
BRG Berggiesshubel 72.27 319 *e*P **P 13 07 44.4 +0.7**
comp=Z,13nm,1.0s
BRG *e* 13 07 53.9
comp=Z,9.5nm,0.9s
BRG Berggiesshubel 72.27 319 *e*P **P 13 07 44.4 +0.7**
BRG *e* 13 07 53.9
BRG pmax pmax
comp=Z,16nm,1.0s
BRG pmax pmax
comp=Z,13nm,0.9s
CAN Canberra 72.30 135 P **P 13 07 44.0 -0.1**
CAN pmax pmax
comp=Z,39nm,1.5s
CAN Canberra 72.30 135 P **P 13 07 44.0 -0.1**
STEI Steigen 72.35 337 *e*P **P 13 07 44.0 +0.2**
GEC2 GERESS Array S 72.47 317 P **P 13 07 45.3 +0.1**
GEC2 IAmb IAmb 13 07 46.3
comp=Z,9.7nm,0.8s
GERES GERESS Array B 72.47 317 P **P 13 07 45.3 +0.1**
comp=Z,6.9nm,0.7s,baz=86,slow=5.5,SNR=40
MOR8 Moi Rana 72.50 335 *e*P **P 13 07 44.1 -0.7**
KHC Kasperske Hory 72.55 317 P **P 13 07 45.5 0.0**
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 72.55 317 *e*P **P 13 07 45.5 0.0**
KHC *e*pP **pP 13 07 55.9 +0.9**
KHC Kasperske Hory 72.55 317 P **P 13 07 45.5 0.0**
KBA Koelnbreinsper 72.78 315 *i* P **P 13 07 46.7 -0.4**
comp=Z,8.0nm,1.1s
CLL Collm 72.86 320 *e*P **P 13 07 47.0 -0.2**
CLL *i* 13 07 57.0
CLL Collm 72.86 320 *e*P **P 13 07 47.0 -0.2**
CLL *i* (pP) **pP 13 07 57.0 +0.3**
LOF Lofoten 73.00 337 *e*P **P 13 07 46.8 -0.9**
KONS Konsvik 73.06 336 *e*P **P 13 07 47.8 -0.3**
NSS Namsos 73.45 334 *e*P **P 13 07 50.2 -0.2**
NC405 NORSAR Array S 73.50 330 P **P 13 07 50.5 -0.3**
NC602 NORSAR Array S 73.58 330 *e*P **P 13 07 50.7 -0.6**
NB2 NORSAR Subarra 73.74 330 P **P 13 07 51.3 -1.0**
comp=Z,3.7nm,0.6s,baz=89,slow=5.9
NB2 NORSAR Subarra 73.74 330 P **P 13 07 51.3 -1.0**
baz=89,slow=5.9
NOA NORSAR Array B 73.74 330 P **P 13 07 51.6 -0.7**
comp=Z,5.1nm,0.6s,baz=90,slow=5.8,SNR=20
NOA LR LR 13 45 11.4
comp=Z,39nm,18.3s,baz=115,slow=40
WTTA Wattenberg 73.93 315 *i* P **P 13 07 53.0 -0.8**
comp=Z,6.6nm,0.5s
WATA Walderalm 73.97 316 *i* P **P 13 07 52.9 -1.1**
comp=Z,5.1nm,0.6s
OSL Oslo 73.99 329 *e*P **P 13 07 53.7 +0.1**
SQTA Sankt Quirin 74.23 315 *i* P **P 13 07 54.6 -0.9**
comp=Z,6.1nm,0.5s
MOTA Moosalm 74.29 316 *i* P **P 13 07 55.4 -0.5**
comp=Z,11nm,1.1s
RETA Reutte 74.51 316 *i* P **P 13 07 56.6 -0.5**
comp=Z,7.1nm,0.5s
KONO Kongsberg 74.57 328 *e*P **P 13 07 56.5 -0.5**
DAVA Damuels 75.12 316 *i* P **P 13 07 59.7 -1.0**
comp=Z,6.0nm,0.5s
SKAR Skarslia 75.17 330 *e*P **P 13 08 00.2 -0.4**
BLS5 Blasjo 76.18 328 *e*P **P 13 08 06.8 +0.4**
LBTB Lobatse 76.48 240 P **P 13 08 09.8 +1.0**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 76.48 240 P **P 13 08 09.8 +1.0**
LBTB IAmb IAmb 13 08 10.8
comp=Z,9.6nm,0.8s
KEST Kesra 76.84 304 P **P 13 08 10.7 +0.1**
comp=Z,5.8nm,0.9s,baz=153,slow=4.5,SNR=4.8
KEST Kesra 76.84 304 IAmb IAmb 13 08 11.6
comp=Z,8.6nm,1.0s
BOSA Boshof 78.17 236 P **P 13 08 18.9 +0.7**
BOSA pmax pmax
comp=Z,15nm,0.7s
BOSA Boshof 78.17 236 P **P 13 08 19.0 +0.8**
comp=Z,13nm,0.7s,baz=73,slow=4.9,SNR=34
BOSA Boshof 78.17 236 P **P 13 08 18.9 +0.7**
CASY Casey 81.32 173 P **P 13 08 34.1 -0.1**
CASY IAmb IAmb 13 08 34.6
comp=Z,5.1nm,0.8s
SUR Sutherland 83.15 234 P **P 13 08 45.9 +1.0**
SUR IAmb IAmb 13 09 09.3
comp=Z,16nm,1.4s
MAW Mawson 84.53 191 P **P 13 08 52.1 +1.3**
baz=84,SNR=5.5
MAW Mawson 84.53 191 P **P 13 08 51.5 +0.7**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 84.53 191 P **P 13 08 51.7 +0.8**
comp=Z,2.4nm,0.6s,baz=15,slow=5.4,SNR=10
MAW Mawson 84.53 191 P **P 13 08 51.5 +0.7**
IMAR Indian Mountai 86.16 22 P **P 13 08 59.2 -0.1**
TOLK Toolik Lake Re 86.31 19 IAmb IAmb 13 09 01.5
comp=Z,12nm,0.9s
ESDC Sonseca Array 86.38 310 P **P 13 09 01.0 0.0**
comp=Z,2.0nm,0.7s,baz=48,slow=4.6,SNR=9.8
ESDC Sonseca Array 86.38 310 P **P 13 09 00.7 -0.2**
SUMG Summit 87.76 347 *i* P **P 13 09 07.0 -0.4**
SUMG *i* 13 09 17.0
SUMG Summit 87.76 347 *i* P **P 13 09 07.0 -0.4**
SUMG *i* 13 09 17.0
TOA0 Torodi Ar. Sit 88.18 283 P **P 13 09 09.6 -0.4**
TORD Torodi Ar. Bea 88.18 283 P **P 13 09 08.4 -1.6**
comp=Z,9.5nm,0.8s,baz=55,slow=4.6,SNR=48
TORD PP **PP 13 12 39.9 +2.6**
comp=Z,0.3nm,0.7s,baz=47,slow=9.3,SNR=4.3
TORD Torodi Ar. Bea 88.18 283 P **P 13 09 08.7 -1.3**
ILAR Eielson Array 89.26 22 P **P 13 09 12.9 -1.2**
comp=Z,3.0nm,0.8s,baz=302,slow=4.7,SNR=26
KULLO Kullorsuaq 89.43 352 *i* P **P 13 09 15.1 +0.4**
KULLO pmax pmax
comp=Z,31nm,0.7s
KULLO Kullorsuaq 89.43 352 *i* P **P 13 09 15.1 +0.4**
comp=Z,31nm,0.7s
DOT Dot Lake 90.91 22 IAmb IAmb 13 09 38.7
comp=Z,6.2nm,1.1s
SYO Syowa Base 91.16 197⇑*e*P **P 13 09 22.0 -0.6**
SYO Syowa Base 91.16 197⇑*e*PcP **PcP 13 09 25.6 +2.0**
SYO Syowa Base 91.16 197⇑*e*sP sP 13 09 44.8 +8.7
INK Inuvik 91.19 16 P **P 13 09 23.0 0.0**
comp=Z,6.5nm,1.0s,baz=328,slow=3.1,SNR=12
INK Inuvik 91.19 16 IAmb IAmb 13 09 23.8
comp=Z,5.5nm,0.9s
MENT Mentasta 91.45 23 IAmb IAmb 13 09 33.1
comp=Z,6.8nm,1.0s
BCAR Beaver Creek A 92.09 22 P **P 13 09 28.3 +0.9**
PDAR Pinedale Array 119.58 19 PKP **PKPdf 13 15 08.1 -0.6**
comp=Z,1.5nm,0.8s,baz=104,slow=1.1,SNR=12
NVAR Mina Array Bea 119.91 28 PKP **PKiKP 13 15 09.9 +0.4**
comp=Z,1.6nm,0.6s,baz=298,slow=2.0,SNR=19
NVAR Mina Array Bea 119.91 28 **PKiKP 13 15 10.1 +0.6**
R11A Troy Canyon, C 121.19 26 **PKiKP 13 15 12.4 +0.5**
ANMO Albuquerque 127.68 20 PKIKP **PKiKP 13 15 24.9 -0.1**
ANMO Albuquerque 127.68 20 **PKiKP 13 15 24.9 -0.1**
TXAR Lajitas Array 133.75 20 PKIKP **PKPdf 13 15 36.5 +0.6**
TXAR Lajitas Array 133.75 20 PKP **PKPdf 13 15 36.3 +0.4**
comp=Z,1.1nm,0.6s,baz=156,slow=0.9,SNR=14
TXAR Lajitas Array 133.75 20 **PKPdf 13 15 36.5 +0.6**
JCT Junction City 133.84 16 PKIKP **PKPdf 13 15 36.3 +0.3**
JCT Junction City 133.84 16 **PKPdf 13 15 36.3 +0.3**
EMPR Esperanza - Ma 141.80 328 PKPpre 13 15 43.1
CPUP Villa Florida 149.86 242 PKP2 **PKPbc 13 16 08.7 -0.4**
CPUP Villa Florida 149.86 242 PKPbc **PKPbc 13 16 08.4 -0.7**
comp=Z,3.5nm,0.8s,baz=142,slow=4.0,SNR=4.5

CPUP	**Villa Florida**	**149.86 242**		**PKPbc**	**13 16 08.7**	**-0.4**
CPUP			PKPab	**PKPab**	**13 16 14.7**	**+0.1**
PLCA	**Paso Flores**	**149.99 205**	PKP2	**PKiKP**	**13 16 09.7**	**-0.3**
PLCA	**Paso Flores**	**149.99 205**	PKPbc	**PKPbc**	**13 16 09.4**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=201,slow=4.1,SNR=8.0					
PLCA	**Paso Flores**	**149.99 205**		**PKiKP**	**13 16 09.7**	**-0.3**
GO06	**Curarrehue**	**151.34 205**		**PKPbc**	**13 16 12.3**	**-0.1**
SAML	**Samuel**	**156.20 280**	PKP2	**PKPab**	**13 16 42.0**	**+0.3**
SAML	**Samuel**	**156.20 280**		**PKPab**	**13 16 42.0**	**+0.3**
LPAZ	**La Paz**	**161.79 261**	PKPab	**PKPab**	**13 17 06.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=100,slow=2.4,SNR=6.5					

*IDC **04** 13:06:42.1±1.6, 0°.76S×124°.38E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/45, mbtmp3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=182.2km s-min=25.1km az=63.0*
*ISCJB **04** 13:06:45.8±1.1, 0°.37S±0°.09×125°.27E±0°.09, h52km, mb3.3/3, Error ellipse: s-maj=16.2km s-min=8.2km az=135.3*
*DJA **04** 13:06:45.2±0.5, 0°.5S±3°×12°.5E±°, h84km±7km, M4.1/12, mb4.2/5, mB4.6/4, MLv4.1/12, Mw(mB)3.8/4*
ISC 04 13:06:47.2±1.3, 0°.20S±0°.10×125°.3E±0°.1, h52km, n14, σ2s37/14, mb2.9/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.56**	**300**	P	**Pn**	**13 07 10.8**	**-1.7**
KMSI				S	**Sn**	**13 07 32.5**	**+0.9**
SANI	**Sanana**	**1.95**	**160**	P	**Pn**	**13 07 15.1**	**-2.8**
SANI				S	**Sn**	**13 07 44.8**	**+3.5**
LUWI	**Luwuk**	**2.69**	**252**	P	**Pn**	**13 07 25.2**	**-2.9**
MRSI	**Marisa**	**3.46**	**281**	P	**Pn**	**13 07 34.9**	**-3.7**
APSI	**Ampana**	**3.75**	**259**	P	**Pn**	**13 07 42.1**	**-0.5**
MPSI	**Mapaga**	**5.46**	**276**	P	**Pn**	**13 08 07.0**	**+0.9**
PCI	**Palu**	**5.54**	**263**	P	Pn	13 08 26.3	+19
TTSI	**Tana Toraja**	**6.19**	**243**	P	**Pn**	**13 08 14.0**	**-2.1**
BNSI	**Bone**	**6.68**	**231**	P	**Pn**	**13 08 21.5**	**-1.3**
SPSI	**Sidrap Palu**	**6.70**	**236**	P	**Pn**	**13 08 22.6**	**-0.5**
	22nm,0.5s,339nm						
JAY	**Jayapura**	**15.54**	**99**	LR	LR	13 19 30.3	
	comp=Z,32nm,19.1s,baz=308,slow=47						
WRA	**Warramunga Arr**	**21.51**	**156**	P	**P**	**13 11 30.0**	**-2.0**
	0.2nm,0.4s,baz=331,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**24.77**	**161**	P	**P**	**13 12 05.3**	**+1.0**
	0.2nm,0.5s,baz=343,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	**60.03**	**327**	P	**P**	**13 16 50.4**	**+1.6**
	0.8nm,0.5s,baz=119,slow=8.2,SNR=11						

*SJA **04** 13:07:36.0±0.6, 31°.71S×70°.79W, h22km±3km, ML3.1, MW3.3*
*GUC **04** 13:07:37.6±0.7, 31°.75S×70°.66W, h60km±21km, ML3.4*
ISC 04 13:07:39.7±2.6, 31°.75S±0°.04×70°.83W±0°.07, h66km±58km, n14, σ0s96/22, 4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.23**	**187**	||*i*P	**Pn**	**13 08 00.6**	**-0.6**
ROCH				*e*S	**Sn**	**13 08 18.8**	**+1.7**
ROCH				IAML		13 08 21.6	
	comp=N,833nm,0.1s						
ROC1	**El Roble**	**1.23**	**187**	*i*P	**Pn**	**13 08 00.6**	**-0.7**
RTLS	**Leoncito**	**1.31**	**92**	*i*P	**Pn**	**13 08 01.0**	**-1.3**
RTLS				IAML		13 08 21.2	
	comp=Z,125nm,0.3s						
PEL	**Peldehue**	**1.39**	**175**	||*i*P	**Pn**	**13 08 02.2**	**-1.0**
PEL				*e*S	**Sn**	**13 08 20.9**	**+0.1**
PEL				IAML		13 08 23.6	
	comp=N,569nm,0.4s						
VA01	**Torpederas**	**1.44**	**208**	*e*P	**Pn**	**13 08 03.5**	**-0.2**
VA01				*e*S	**Sn**	**13 08 21.8**	**-0.1**
VA01				IAML		13 08 27.1	
	comp=E,642nm,0.2s						
GO04	**Tololo Observa**	**1.57**	**1**	||*i*P	**Pn**	**13 08 05.6**	**-0.2**
GO04				*e*S	**Sn**	**13 08 26.2**	**+0.8**
FCH	**Farellones**	**1.64**	**164**	||*i*P	**Pn**	**13 08 06.2**	**-0.5**
FCH				*e*S	**Sn**	**13 08 27.0**	**0.0**
FCH				IAML		13 08 28.3	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**1.73**	**179**	*e*P	**Pn**	**13 08 07.2**	**-0.6**
RCDM				*e*S	**Sn**	**13 08 29.2**	**+0.3**
RCDM				IAML		13 08 30.9	
	comp=E,786nm,0.1s						
ASAL	**Salagasta**	**1.89**	**117**	*i*P	**Pn**	**13 08 09.0**	**-0.9**
ASAL				IAML		13 08 38.2	
	comp=Z,135nm,0.5s						
ACCO	**Cerro Coronel**	**1.91**	**53**	*i*P	**Pn**	**13 08 09.8**	**-0.6**
ACCO				IAML		13 08 37.7	
	comp=Z,286nm,0.3s						
ARCO	**CERRO ARCO**	**1.94**	**125**	*i*P	**Pn**	**13 08 10.1**	**-0.5**
ARCO				*i*S	**Sn**	**13 08 35.8**	**+1.6**
ARCO				IAML		13 08 36.3	
	comp=Z,244nm,0.8s						
RTCV	**Cerro Valdivia**	**1.96**	**94**	*i*S	**Sn**	**13 08 34.6**	**+0.3**
RTCV				IAML		13 08 34.8	
	comp=Z,232nm,0.3s						
AAGR	**Agrelo**	**2.15**	**129**	*i*P	**Pn**	**13 08 13.1**	**-0.4**
AAGR				*i*S	**Sn**	**13 08 41.1**	**+1.9**
AAGR				IAML		13 08 41.5	
	comp=Z,213nm,0.2s						
ACDV	**Cuesta del Vie**	**2.16**	**43**	*i*P	**Pn**	**13 08 12.8**	**-0.8**
ACDV				IAML		13 08 43.4	
	comp=Z,86nm,0.7s						

*ATH **04** 13:09:54.3, 34°.55N×23°.74E, h12km±5km, ML3.7/4, Error ellipse: s-maj=5.4km s-min=2.0km az=24.0*
*IDC **04** 13:09:54.9±1.2, 34°.47N×24°.05E, h0km, mb3.8/9, mb1 3.8/13, mb1mx3.7/46, mbtmp3.7/13, ML3.8/2, MS3.0/1, Ms1 2.9/1, ms1mx2.3/54, Error ellipse: s-maj=24.4km s-min=18.8km az=169.0*
*THE **04** 13:09:55.4, 34°.59N×23°.81E, h4km±4km, ML3.8/6, Error ellipse: s-maj=4.7km s-min=1.6km az=17.0*
*ISCJB **04** 13:09:55.4±1.0, 34°.55N±0°.05×23°.81E±0°.03, h15km±6km, mb3.7/9, Error ellipse: s-maj=8.2km s-min=4.5km az=9.2*
*NEIC **04** 13:09:58.6±2.2, 34°.5N±0°.1×23°.94E±0°.08, h30km±9km, mb4.2/6*
*ISK **04** 13:09:59.9, 34°.94N×24°.06E, h5km, ML3.5/9*
ISC 04 13:09:58.3±1.1, 34°.69N±0°.05×23°.91E±0°.04, h20km±4km, n83, σ1s97/102, mb4.0/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.20**	**45**	P	**Pg**	**13 10 02.5**	**-1.0**
GVD				S	**Sg**	**13 10 08.0**	**+1.0**
	31μm,0.3s						
GVD	**Gavdhos**	**0.20**	**45**	P	**Pg**	**13 10 02.5**	**-1.0**
GVD				S	**Sg**	**13 10 07.7**	**+0.7**
GVD				AML	AML	13 10 08.5	
	comp=N,56366μm,0.4s						
GVD				AML	AML	13 10 10.5	
	comp=E,68013μm,0.2s						
GVD	**Gavdhos**	**0.20**	**45**	PG	**Pg**	**13 10 02.6**	**-1.0**
GVDS	**Gavdos**	**0.21**	**44**	P	**Pg**	**13 10 02.2**	**-1.4**
GVDS				S	**Sg**	**13 10 07.5**	**+0.4**
KNDR	**Palaiochora Ch**	**0.57**	**341**	P	**Pg**	**13 10 07.9**	**-1.9**
KNDR				S	**Sb**	**13 10 19.2**	**+1.9**
	comp=E,1μm,0.5s						
KERA	**Keramoti**	**0.73**	**337**	P	**Pg**	**13 10 10.2**	**-2.6**
KERA				S	**Sb**	**13 10 21.7**	**-0.3**
KERA				AML	AML	13 10 28.0	
	comp=N,3684μm,0.3s						
KERA				AML	AML	13 10 36.6	
	comp=E,3775μm,0.6s						
VAM	**Vamos**	**0.75**	**18**	P	**Pb**	**13 10 11.5**	**-1.2**
VAM				S	**Sn**	**13 10 24.8**	**+0.2**
	comp=E,11μm,0.4s						
VAM	**Vamos**	**0.75**	**18**	P	**Pb**	**13 10 11.6**	**-1.1**
VAM				S	**Sn**	**13 10 24.4**	**-0.2**
IMMV	**Iera Moni Meta**	**0.77**	**4**	P	**Pg**	**13 10 11.6**	**-1.8**
IMMV				S	**Sn**	**13 10 25.1**	**0.0**
	comp=E,7μm,0.3s						
IMMV	**Iera Moni Meta**	**0.77**	**4**	P	**Pg**	**13 10 11.5**	**-1.8**
IMMV				S	**Sn**	**13 10 25.0**	**0.0**
IMMV				AML	AML	13 10 25.1	
	comp=E,17472μm,0.3s						
IMMV				AML	AML	13 10 25.9	
	comp=N,8721μm,0.3s						
IMMV	**Iera Moni Meta**	**0.77**	**4**	PG	**Pg**	**13 10 11.2**	**-2.2**
TMBK	**Timbaki Herakl**	**0.80**	**61**	P	**Pb**	**13 10 13.3**	**-0.2**
TMBK				S	**Sn**	**13 10 25.7**	**0.0**
	comp=N,2μm,0.6s						
SIVA	**Sivas**	**0.80**	**66**	P	**Pb**	**13 10 13.2**	**-0.4**
SIVA				S	**Sn**	**13 10 26.2**	**+0.3**
	comp=N,6μm,0.5s						
SIVA	**Sivas**	**0.80**	**66**	P	**Pb**	**13 10 13.3**	**-0.4**
SIVA				S	**Sn**	**13 10 27.1**	**+1.2**
SIVA				AML	AML	13 10 34.1	
	comp=N,8068μm,0.4s						
SIVA				AML	AML	13 10 35.6	
	comp=E,11767μm,0.4s						
PRNS	**Prines Rethymn**	**0.82**	**36**	P	**Pg**	**13 10 12.3**	**-2.2**
CHAN	**Chania**	**0.83**	**7**	P	**Pb**	**13 10 12.9**	**-1.2**
RODP	**Rodopos**	**0.87**	**352**	P	**Pg**	**13 10 12.9**	**-2.5**
ANKY	**Antikythira Is**	**1.27**	**337**	P	**Pb**	**13 10 20.7**	**-0.9**
LAST	**Lasithi**	**1.37**	**70**	P	**Pn**	**13 10 22.7**	**+0.3**
LAST	**Lasithi**	**1.37**	**70**	P	**Pn**	**13 10 23.0**	**+0.6**
NPS	**Neapolis**	**1.50**	**67**	P	**Pg**	**13 10 25.6**	**-1.8**
ZKR	**Zakros**	**1.94**	**77**	P	**Pb**	**13 10 32.2**	**-0.7**
ZKR	**Zakros**	**1.94**	**77**	PN	**Pb**	**13 10 33.1**	**+0.1**
ZKR				SN	**Sb**	**13 10 57.2**	**+0.5**
SANT	**Santorini**	**2.09**	**37**	PN	**Pb**	**13 10 33.8**	**-1.9**
SANT	**Santorini**	**2.09**	**37**		**Pn**	**13 10 30.1**	**-2.3**
APE	**Apeiranthos**	**2.71**	**29**	PN	**Pn**	**13 10 42.4**	**+1.6**
APE				SN	**Sn**	**13 11 13.5**	**+0.5**
KARP	**Karpathos**	**2.79**	**71**	PN	**Pb**	**13 10 45.0**	**-2.6**
KARP	**Karpathos**	**2.79**	**71**	Pn	**Pn**	**13 10 40.5**	**-1.5**
ITM	**Ithomi**	**2.96**	**328**	Pn	**Pn**	**13 10 47.1**	**+2.9**
DAT	**Datca**	**3.61**	**55**	PN	**Pn**	**13 10 55.8**	**+2.6**
BODT	**Bodrum**	**3.63**	**48**	PN	**Pn**	**13 10 55.8**	**+2.4**
AYDN	**Tasoluk**	**4.36**	**46**	*i*P	**Pn**	**13 11 06.1**	**+2.6**
AYDN				*i*S	**Sn**	**13 11 57.2**	**+3.3**
AYDN				IAML_P			
	comp=Z,248nm,0.3s						
TURN	**Turunc**	**4.39**	**59**	*i*P	**Pn**	**13 11 02.0**	**-1.8**
TURN				*i*S	**Sn**	**13 11 50.1**	**-4.2**
TURN				IAML_P			
	comp=Z,919nm,0.3s						
TURN	**Turunc**	**4.39**	**59**	PN	**Pn**	**13 11 00.9**	**-2.9**
DALY	**Dalyan (Mula)**	**4.40**	**60**	*i*P	**Pn**	**13 11 05.6**	**+1.7**
DALY				*i*S	**Sn**	**13 11 59.8**	**+5.3**
DALY				IAML_P			
	comp=Z,690nm,0.2s						
AGG	**Agios Georgios**	**4.50**	**344**		**Pn**	**13 11 08.0**	**+2.5**
FETY	**Fethiye**	**4.63**	**64**	*i*P	**Pn**	**13 11 09.6**	**+2.3**
FETY				*i*S	**Sn**	**13 12 01.4**	**+0.9**
FETY				IAML_P			
	comp=Z,727nm,0.4s						
AKAS	**Kas**	**4.89**	**70**	*i*P	**Pn**	**13 11 13.3**	**+2.4**
AKAS				*i*S	**Sn**	**13 12 08.9**	**+1.9**
AKAS				IAML_P			
	comp=Z,487nm,0.3s						
TAVA	**DENIZLI_Tavas**	**4.90**	**54**	*i*P	**Pn**	**13 11 14.0**	**+3.1**
TAVA				IAML_P			
	comp=Z,244nm,0.3s						
GOLH	**Golhisar**	**5.24**	**59**	*i*P	**Pn**	**13 11 18.7**	**+3.1**
GOLH				*i*S	**Sn**	**13 12 11.7**	**-3.7**
GOLH				IAML_P			
	comp=Z,769nm,0.3s						
ELL	**Elmali**	**5.29**	**65**	Pn	**Pn**	**13 11 17.9**	**+1.5**
AKUM	**Antalya-Kumluc**	**5.49**	**71**	*i*P	**Pn**	**13 11 19.9**	**+0.9**
AKUM				IAML_P			
	comp=Z,1μm,0.2s						
LIT	**Litokhoron**	**5.51**	**349**	Pn	**Pn**	**13 11 20.6**	**+1.3**
KORT	**Korkueli**	**5.71**	**64**	*i*P	**Pn**	**13 11 24.3**	**+2.2**
KORT				*i*S	**Sn**	**13 12 20.1**	**-7.0**
KORT				IAML_P			
	comp=Z,174nm,0.3s						
KHAL	**Karahalli**	**5.80**	**49**	*i*P	**Pn**	**13 11 26.8**	**+3.5**
KHAL				*i*S	Sn	13 12 19.8	-10
KHAL				IAML_P			
	comp=Z,191nm,0.3s						
FNA	**Florina**	**6.40**	**342**	Pn	**Pn**	**13 11 33.6**	**+2.1**
KEPZ	**Antalya-Kepez**	**6.62**	**68**	*i*P	**Pn**	**13 11 38.0**	**+3.4**
KEPZ				*i*S	Sn	13 12 32.8	-17
KEPZ				IAML_P			
	comp=Z,313nm,0.3s						
SCTE	**Santa Cesarea**	**6.90**	**323**	Pn	**Pn**	**13 11 39.9**	**+1.6**
GAZI	**Gazipasa**	**7.03**	**75**	*i*P	**Pn**	**13 11 40.6**	**+0.5**
GAZI				IAML_P			
	comp=Z,366nm,0.3s						
TIP	**Timpagrande**	**7.27**	**310**	Pn	**Pn**	**13 11 43.5**	**0.0**
TIR	**Tirane**	**7.37**	**336**	Pn	**Pn**	**13 11 47.9**	**+3.1**
CSS	**Mathiatis**	**7.75**	**85**	Pn	**Pn**	**13 11 48.8**	**-1.2**
BRTR	**Keskin Array B**	**9.24**	**54**	Pn	**Pn**	**13 12 12.7**	**+2.1**
	baz=248,slow=14,SNR=4.4						
BRTR	**Keskin Array B**	**9.24**	**54**		**Pn**	**13 12 12.2**	**+1.6**
EIL	**Elat**	**10.61**	**115**	Pn	**Pn**	**13 12 26.7**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=355,slow=15,SNR=4.8						
VYHS	**Vyhne**	**14.30**	**346**	*e*SN	**Sn**	**13 15 54.6**	**-2.9**
GERES	**GERESS Array B**	**16.04**	**335**	Pn	**P**	**13 13 47.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=158,slow=13,SNR=6.4						
GERES	**GERESS Array B**	**16.04**	**335**	P	**P**	**13 13 46.2**	**+0.2**
KHC	**Kasperske Hory**	**16.32**	**335**	*e*P	**P**	**13 13 49.0**	**-0.1**
KHC	**Kasperske Hory**	**16.32**	**335**	Pn	**Pn**	**13 13 47.9**	**+1.5**
AKASG	**Malin Array Be**	**16.46**	**12**	Pn	**P**	**13 13 50.4**	**-0.2**
	baz=204,slow=10,SNR=1.2						
AKASG	**Malin Array Be**	**16.46**	**12**	Pn	**Pn**	**13 13 48.6**	**+0.7**
KBZ	**Khabaz**	**17.23**	**53**	P	**P**	**13 14 00.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=3.9						
KBZ				LR	LR	13 22 23.0	
	comp=Z,51nm,20.1s,baz=250,slow=43						
CLL	**Collm**	**18.39**	**338**	*e*pP	pP	13 14 18.0	+1.0
ESDC	**Sonseca Array**	**22.71**	**291**	P	**P**	**13 15 01.3**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=89,slow=11,SNR=2.9						
HFS	**Hagfors**	**26.31**	**348**	P	**P**	**13 15 33.1**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=161,slow=9.2,SNR=9.6						
NOA	**NORSAR Array B**	**27.60**	**347**	P	**P**	**13 15 47.6**	**+3.5**
	comp=Z,0.3nm,0.4s,baz=161,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**29.41**	**229**	P	**P**	**13 15 59.2**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=46,slow=8.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**29.41**	**229**	P	P	13 15 58.5	-2.0
ABKAR	**Akbulak array**	**30.16**	**50**	P	**P**	**13 16 06.7**	**-0.2**
ARU	**Arti**	**32.04**	**37**	P	**P**	**13 16 23.7**	**+0.4**
ARCES	**ARCESS Array B**	**34.91**	**1**	P	**P**	**13 16 47.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=172,slow=9.7,SNR=3.7						
ARCES	**ARCESS Array B**	**34.91**	**1**	P	**P**	**13 16 47.4**	**-0.8**
KKAR	**Karatay Array**	**36.83**	**63**	P	**P**	**13 17 05.2**	**+0.2**
BVAR	**Borovoye Array**	**37.41**	**46**	P	**P**	**13 17 10.4**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=246,slow=8.4,SNR=3.5						
MAKZ	**Makanchi**	**44.67**	**56**	P	**P**	**13 18 10.1**	**+0.5**
MAKZ				IAmb	IAmb	13 18 54.6	
	comp=Z,2.2nm,0.8s						
MK31	**Makanchi Array**	**44.88**	**56**	P	**P**	**13 18 10.9**	**-0.4**
MK31				IAmb	IAmb	13 18 56.5	
	comp=Z,3.2nm,0.7s						
MKAR	**Makanchi Array**	**44.88**	**56**	P	**P**	**13 18 11.6**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=271,slow=7.5,SNR=21						
MKAR	**Makanchi Array**	**44.88**	**56**	P	**P**	**13 18 10.9**	**-0.5**
ZAA0	**Zalesovo Array**	**46.06**	**46**	P	**P**	**13 18 19.9**	**-0.7**
ZAA0				IAmb	IAmb	13 19 18.7	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**46.06**	**46**	P	**P**	**13 18 19.8**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=268,slow=8.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**46.06**	**46**	P	**P**	**13 18 19.5**	**-1.1**
SONM	**Songino Array**	**60.57**	**50**	P	**P**	**13 20 07.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=282,slow=7.2,SNR=2.3						

*ISCJB **04** 13:10:40.7±0.7, 35°.94N±0°.05×22°.02E±0°.04, h68km±4km, mb3.9/9, Error ellipse: s-maj=9.8km s-min=4.5km az=26.0*
*ATH **04** 13:10:41.0, 35°.97N×22°.05E, h39km±2km, ML3.9/12, Error ellipse: s-maj=2.4km s-min=1.1km az=33.0*
*THE **04** 13:10:42.5, 36°.04N×22°.18E, h10km±1km, ML3.7/10, Error ellipse: s-maj=2.1km s-min=0.8km az=209.0*
*NEIC **04** 13:10:43.7±2.3, 36°.16N±0°.08×22°.22E±0°.09, h51km±11km, mb4.4/4*
*IDC **04** 13:10:51.8±4.3, 36°.44N×22°.41E, h109km±36km, mb3.7/10, mb1 3.7/13, mb1mx3.5/43, mbtmp4.0/13, MS3.2/1, Ms1 3.2/1, ms1mx2.4/53, Error ellipse: s-maj=41.3km s-min=17.0km az=14.0*
ISC 04 13:10:42.9±1.2, 36°.06N±0°.08×22°.08E±0°.05, h57km±10km, n102, σ2s28/120, mb4.0/11, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHR	**Kythira**	**0.78**	**75**	P	**Pn**	**13 10 55.9**	**-2.1**
KTHR				S	**Sn**	**13 11 05.1**	**-3.9**
	8μm,0.5s						
KTHA	**Kythira Island**	**0.82**	**76**	P	**Pn**	**13 10 57.6**	**-1.0**
KTHA				S	**Sn**	**13 11 10.3**	**+0.3**
KTHA				AML	AML	13 11 12.4	
	comp=E,19163μm,0.7s						
KTHA				AML	AML	13 11 14.5	
	comp=N,16005μm,0.8s						
PYL	**PYLOS**	**0.87**	**342**	P	**Pn**	**13 10 59.3**	**+0.1**
PYL				S	**Sn**	**13 11 13.2**	**+2.0**
	comp=N,5μm,0.5s						
PYL	**PYLOS**	**0.87**	**342**	P	**Pn**	**13 10 59.1**	**-0.1**
PYL				S	**Sn**	**13 11 13.1**	**+1.9**
PYL				AML	AML	13 11 18.3	
	comp=E,9403μm,0.4s						
PYL				AML	AML	13 11 18.6	
	comp=N,10094μm,0.7s						
VLI	**Velíai**	**0.95**	**47**	P	**Pn**	**13 11 00.4**	**+0.1**
VLI				S	**Sn**	**13 11 13.1**	**+0.1**
	comp=N,6μm,0.8s						
VLI	**Velíai**	**0.95**	**47**	P	**Pn**	**13 11 00.6**	**+0.4**
VLI				S	**Sn**	**13 11 15.3**	**+2.3**
VLI				AML	AML	13 11 22.1	
	comp=E,15955μm,0.9s						
VLI				AML	AML	13 11 22.2	
	comp=N,9114μm,0.8s						
MNVA	**Monemvasia**	**0.99**	**51**	P	**Pn**	**13 11 01.4**	**+0.6**
MNVA				S	**Sn**	**13 11 16.0**	**+2.1**
MNVA				AML	AML	13 11 18.4	
	comp=N,4714μm,0.6s						
MNVA				AML	AML	13 11 23.4	
	comp=E,7814μm,0.6s						
ANKY	**Antikythira Is**	**1.01**	**101**	P	**Pn**	**13 11 00.7**	**-0.3**
ANKY				S	**Sn**	**13 11 13.1**	**-1.3**
	comp=E,6μm,0.5s						
ANKY	**Antikythira Is**	**1.01**	**101**	P	**Pn**	**13 11 00.9**	**-0.1**
ANKY				S	**Sn**	**13 11 14.0**	**-0.4**
ANKY				AML	AML	13 11 19.3	
	comp=N,10685μm,0.6s						
ANKY				AML	AML	13 11 19.5	
	comp=E,11622μm,0.6s						
ITM	**Ithomi**	**1.12**	**354**	P	**Pn**	**13 11 02.8**	**+0.3**
ITM				S	**Sn**	**13 11 20.6**	**+3.6**
	comp=E,3μm,0.3s						
ITM	**Ithomi**	**1.12**	**354**	P	**Pn**	**13 11 02.8**	**+0.3**
ITM				S	**Sn**	**13 11 18.7**	**+1.7**
ITM				AML	AML	13 11 28.0	
	comp=E,5704μm,0.4s						
ITM				AML	AML	13 11 30.8	
	comp=N,4776μm,0.3s						
ITM	**Ithomi**	**1.12**	**354**	Pn	**Pn**	**13 11 02.7**	**+0.3**
VLX	**Vlachokerasia**	**1.33**	**11**	P	**Pn**	**13 11 06.8**	**+1.5**
VLX				S	**Sn**	**13 11 25.5**	**+3.5**
	comp=N,4μm,0.6s						
VLX	**Vlachokerasia**	**1.33**	**11**	P	**Pn**	**13 11 06.4**	**+1.0**
VLX				AML	AML	13 11 34.5	
	comp=E,7386μm,0.6s						
VLX				AML	AML	13 11 34.6	
	comp=N,7097μm,0.6s						
KERA	**Keramoti**	**1.39**	**119**	P	**Pn**	**13 11 05.5**	**-0.6**
AMT	**Artemida-Makis**	**1.50**	**349**	P	**Pn**	**13 11 08.8**	**+1.3**
AMT				S	**Sn**	**13 11 30.3**	**+4.3**
	comp=N,4μm,0.4s						
AMT	**Artemida-Makis**	**1.50**	**349**	P	**Pn**	**13 11 08.6**	**+1.1**
AMT				AML	AML	13 11 42.3	
	comp=N,7200μm,0.4s						
AMT				AML	AML	13 11 43.0	
	comp=E,6672μm,0.5s						
KRND	**KRANIDI**	**1.57**	**33**	P	**Pn**	**13 11 08.9**	**+0.3**
KRND	**KRANIDI**	**1.57**	**33**	P	**Pn**	**13 11 08.8**	**+0.3**
KRND				AML	AML	13 11 43.3	
	comp=E,3322μm,0.5s						
KRND				AML	AML	13 11 43.9	
	comp=N,4679μm,0.9s						
YDRA	**Hydra**	**1.70**	**41**	P	**Pn**	**13 11 09.9**	**-0.3**
YDRA				AML	AML	13 11 44.1	
	comp=N,6726μm,0.8s						
YDRA				AML	AML	13 11 45.6	
	comp=E,9015μm,0.7s						
DID	**Didima**	**1.71**	**33**	P	**Pn**	**13 11 11.0**	**+0.5**
DID				S	**Sn**	**13 11 32.9**	**+1.5**
	comp=E,2μm,0.7s						
DID	**Didima**	**1.71**	**33**	P	**Pn**	**13 11 10.8**	**+0.3**
DID				AML	AML	13 11 43.4	
	comp=E,3005μm,0.7s						
DID				AML	AML	13 11 45.4	
	comp=N,3137μm,0.8s						
DRO	**Drossia**	**1.91**	**351**	P	**Pn**	**13 11 14.1**	**+1.0**
DRO				AML	AML	13 12 01.6	
	comp=N,5293μm,0.6s						
DRO				AML	AML	13 12 02.3	
	comp=E,3527μm,0.6s						
KLV	**Kalavryta, Ach**	**1.98**	**2**	P	**Pn**	**13 11 15.8**	**+1.7**
RLS	**Riolos of Patr**	**2.05**	**346**	P	**Pn**	**13 11 16.8**	**+1.8**
RLS				S	**Sn**	**13 11 43.9**	**+4.5**
	comp=E,635nm,0.7s						
RLS	**Riolos of Patr**	**2.05**	**346**	P	**Pn**	**13 11 16.3**	**+1.3**
LTK	**Loutraki**	**2.08**	**20**	P	**Pn**	**13 11 16.5**	**+1.0**
VLMS	**Volimes, Zakyn**	**2.13**	**328**	P	**Pn**	**13 11 16.6**	**+0.4**
KFL	**Anninata**	**2.29**	**334**	P	**Pn**	**13 11 19.6**	**+1.3**
KFL				S	**Sn**	**13 11 48.6**	**+3.3**
	comp=E,850nm,0.3s						
KFL	**Anninata**	**2.29**	**334**	P	**Pn**	**13 11 19.2**	**+1.0**
SERG	**Sergoula**	**2.34**	**360**	P	**Pn**	**13 11 21.9**	**+2.8**
EFP	**Efpalio**	**2.36**	**357**	P	**Pn**	**13 11 20.5**	**+1.2**
DSF	**Desfina**	**2.37**	**9**	P	**Pn**	**13 11 19.8**	**+0.3**
VLS	**Valsamata**	**2.42**	**331**	P	**Pn**	**13

GERES	**GERESS Array B**	**14.18 337**	S		**Sn**	**13 16 33.4**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=159,slow=22,SNR=5.4						
BNI	**Bardonecchia**	**14.73 312**	Pn		**Pn**	**13 14 10.1**	**+2.0**
AKASG	**Malin Array Be**	**15.51 17**	P		**P**	**13 14 20.8**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=215,slow=11,SNR=2.2						
KBZ	**Khabaz**	**17.69 58**	P		**P**	**13 14 46.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=290,slow=5.4,SNR=4.8						
ESDC	**Sonseca Array**	**20.84 288**	P		Pn	13 15 26.1	+3.1
	comp=Z,0.7nm,0.5s,baz=94,slow=12,SNR=3.0						
HFS	**Hagfors**	**24.69 350**	P		**P**	**13 15 58.5**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=168,slow=11,SNR=8.4						
FINES	**FINESS Array B**	**25.53 4**	P		**P**	**13 16 06.1**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=177,slow=9.3,SNR=6.0						
NAO01	**NORSAR Array S**	**25.81 347**	P		**P**	**13 16 08.9**	**+0.4**
NAO01			IAmb		IAmb	13 16 32.4	
	comp=Z,98nm,1.4s						
EKA	**Eskdalemuir Ar**	**25.87 326**	P		**P**	**13 16 12.2**	**+3.1**
	comp=Z,1.2nm,0.4s,baz=128,slow=9.6,SNR=4.4						
NOA	**NORSAR Array B**	**25.94 348**	P		**P**	**13 16 11.9**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=160,slow=10.0,SNR=4.3						
GEYT	**Alibeck**	**28.74 75**	P		**P**	**13 16 36.8**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=251,slow=8.7,SNR=2.7						
GEYT	**Alibeck**	**28.74 75**	IAmb		IAmb	13 16 45.8	
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**30.47 52**	P		**P**	**13 16 48.8**	**-1.4**
ABKAR			IAmb		IAmb	13 17 54.3	
	comp=Z,4.6nm,1.4s						
ARCES	**ARCESS Array B**	**33.58 2**	P		**P**	**13 17 17.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=195,slow=10,SNR=14						
KKAR	**Karatay Array**	**37.55 64**	P		**P**	**13 17 51.3**	**-0.3**
MK31	**Makanchi Array**	**45.38 57**	P		**P**	**13 18 55.1**	**-0.5**
MKAR	**Makanchi Array**	**45.38 57**	P		**P**	**13 18 55.2**	**-0.4**
	comp=Z,3.3nm,0.4s,baz=270,slow=8.0,SNR=23						
MKAR	**Makanchi Array**	**45.38 57**	P		**P**	**13 18 55.0**	**-0.7**
ZALV	**Zalesovo Beam**	**46.20 47**	P		**P**	**13 19 00.8**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=269,slow=7.9,SNR=4.6						
KSRS	**Korea Array**	**79.70 51**	P		**P**	**13 22 45.1**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=315,slow=3.8,SNR=5.6						

*ISCJB **04** 13:29:00.2±0.6, 8°.9N±0°.1×40°.38W±0°.08, h10km, mb4.1/14, MS3.8/19, Error ellipse: s-maj=17.2km s-min=10.4km az=167.6*
*IDC **04** 13:29:00.7±0.9, 8°.98N×40°.40W, h0km, mb4.0/12, mb1 4.2/12, mb1mx3.9/49, mbtmp4.0/12, MS3.8/20, Ms1 3.8/20, ms1mx3.6/33, Error ellipse: s-maj=28.5km s-min=19.5km az=161.0*
*NEIC **04** 13:29:02.0±1.5, 8°.9N±0°.2×40°.3W±0°.1, h14km±5km, mb4.7/23*
*GCMT **04** 13:29:07.0±0.4, 9°.10N±0°.04×40°.53W±0°.02, h13km±1km, MW4.7/71, Moment Tensor Solution. s18,c18; s71,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.58±.12; Mθθ=0.12±.07; Mφφ=1.46±.08; Mrθ=0.26±.29; Mrφ=0.14±.04; Mθφ=0.24±.20; Best double couple: M0=1.56600×10^16 NP1:φs=194.00000°, δ51.00000°, λ=-80.00000°. NP2: φs=358.00000°, δ40.00000°, λ=-102.00000°. Principal axes: T 1.4980, Plg5.0000°, Azm277.0000°; N 0.1350, Plg8.0000°, Azm7.0000°; P -1.6350, Plg81.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 13:29:01.7±0.7, 9°.0N±0°.2×40°.4W±0°.1, h10km, n61, σ1°80/42, mb4.5/23, MS3.8/19, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.75**	**253**	LR		LR	13 36 02.2	
	comp=Z,583nm,21.6s,baz=10,slow=33							
TOSP	**Speyside**	**19.97**	**278**	Pn		**Pn**	**13 33 37.1**	**+1.1**
MCLT	**Moule a Chique**	**20.69**	**285**			**P**	**13 33 39.4**	**-2.8**
H05S1	**Guadeloupe/Mar**	**20.74**	**287**	T		T	13 54 58.3	
	SNR=41							
PTGA	**Pitinga**	**21.75**	**245**	P		**P**	**13 33 53.1**	**-0.5**
	4.0nm,0.8s,baz=66,slow=14,SNR=5.4							
PTGA				LR		LR	13 41 32.3	
	comp=Z,315nm,20.3s,baz=62,slow=35							
PTGA	**Pitinga**	**21.75**	**245**	P		**P**	**13 33 53.2**	**-0.5**
SKI	**Saint Kitts**	**23.28**	**293**	P		**P**	**13 34 09.4**	**-0.5**
BDFB	**Brasília**	**25.58**	**197**	LR		LR	13 44 11.0	
	comp=Z,80nm,19.9s,baz=114,slow=36							
CUPR	**Culebra, Puert**	**25.88**	**294**	P		**P**	**13 34 33.2**	**-0.8**
CUPR				IAmb		IAmb	13 34 41.1	
	comp=Z,22nm,1.1s							
SJG	**San Juan**	**26.61**	**293**	LR		LR	13 43 17.9	
	comp=Z,339nm,20.9s,baz=90,slow=32							
H10N3	**ASCENSION HYDR**	**30.72**	**122**	T		T	14 08 00.3	
	baz=302,slow=75,SNR=6.3							
H10N2	**ASCENSION HYDR**	**30.73**	**122**	T		T	14 07 57.2	
	baz=302,slow=75,SNR=8.9							
H10N1	**ASCENSION HYDR**	**30.74**	**122**	T		T	14 08 00.6	
	baz=302,slow=75,SNR=8.2							
ROSC	**El Rosal**	**33.92**	**265**	P		**P**	**13 35 46.9**	**+1.0**
	comp=Z,5.2nm,0.3s,baz=108,slow=20,SNR=3.6							
ROSC				LR		LR	13 49 40.0	
	comp=Z,433nm,19.7s,baz=69,slow=36							
ROSC	**El Rosal**	**33.92**	**265**	P		**P**	**13 35 46.0**	**+0.2**
ROSC				IAmb		IAmb	13 35 57.4	
	comp=Z,30nm,1.9s							
TIC	**Toumodi**	**35.11**	**91**	*e*P		P	13 36 04.0	+8.3
LIC	**Lamto**	**35.15**	**92**	*e*P		P	13 36 04.5	+8.5
	comp=Z,36nm,1.0s							
KIC	**Kosan Boka**	**35.42**	**92**	*e*P		P	13 36 05.9	+7.6
	comp=Z,29nm,1.2s							
LPAZ	**La Paz**	**37.19**	**228**	P		**P**	**13 36 15.2**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=39,slow=12,SNR=3.6							
LPAZ				LR		LR	13 53 10.9	
	comp=Z,86nm,18.3s,baz=49,slow=39							
LPAZ	**La Paz**	**37.19**	**228**	P		**P**	**13 36 13.6**	**-0.5**
CPUP	**Villa Florida**	**38.75**	**205**	LR		LR	13 52 39.0	
	comp=Z,154nm,18.0s,baz=30,slow=37							
TOA0	**Torodi Ar. Sit**	**41.48**	**80**	P		**P**	**13 36 49.1**	**-0.3**
TOA0				IAmb		IAmb	13 36 59.5	
	comp=Z,7.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**41.48**	**80**	P		**P**	**13 36 49.4**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=269,slow=7.9,SNR=18							
TORD				LR		LR	13 52 05.5	
	comp=Z,292nm,19.8s,baz=295,slow=33							
TORD	**Torodi Ar. Bea**	**41.48**	**80**	P		**P**	**13 36 48.4**	**-0.9**
PESTR	**Estremoz**	**41.84**	**39**	P		**P**	**13 36 52.1**	**+0.1**
PESTR				IAmb		IAmb	13 37 16.4	
	comp=Z,19nm,1.5s							
SADO	**Sadowa**	**48.90**	**324**	LR		LR	13 54 43.9	
	comp=Z,76nm,21.1s,baz=171,slow=32							
SCHQ	**Schefferville**	**50.36**	**340**	LR		LR	13 55 20.8	
	comp=Z,138nm,20.4s,baz=8.5,slow=31							
KEST	**Kesra**	**52.45**	**52**	LR		LR	13 59 29.9	
	comp=Z,77nm,20.2s,baz=318,slow=35							
PLCA	**Paso Flores**	**56.73**	**207**	P		**P**	**13 38 46.3**	**+0.4**
	comp=Z,3.2nm,1.1s,baz=45,slow=10.0,SNR=3.2							
PLCA				LR		LR	14 03 14.4	
	comp=Z,71nm,18.1s,baz=58,slow=36							
PLCA	**Paso Flores**	**56.73**	**207**	P		**P**	**13 38 45.5**	**-0.3**
PLCA				IAmb		IAmb	13 39 00.2	
	comp=Z,14nm,1.6s							
GERES	**GERESS Array B**	**60.07**	**38**	LR		LR	14 02 17.6	
	comp=Z,29nm,18.9s,baz=274,slow=33							
ULM	**Lac du Bonnet**	**61.44**	**323**	LR		LR	14 01 16.8	
	comp=Z,106nm,21.8s,baz=100,slow=32							
TXAR	**Lajitas Array**	**62.40**	**298**	P		**P**	**13 39 25.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=108,slow=6.8,SNR=4.8							
TXAR				LR		LR	14 09 50.9	
	comp=Z,26nm,18.4s,baz=0.0,slow=39							
TXAR	**Lajitas Array**	**62.40**	**298**	P		**P**	**13 39 25.0**	**-0.4**
NOA	**NORSAR Array B**	**64.29**	**25**	LR		LR	14 03 10.5	
	comp=Z,29nm,19.9s,baz=300,slow=32							
SDCO	**Great Sand Dun**	**64.92**	**307**	P		**P**	**13 39 42.3**	**+0.3**
ISCO	**Idaho Springs**	**65.32**	**310**	P		**P**	**13 39 44.8**	**+0.2**
ISCO				IAmb		IAmb	13 39 46.9	
	comp=Z,8.1nm,1.4s							
S22A	**4UR Ranch, Cre**	**65.96**	**307**	P		**P**	**13 39 49.3**	**+0.4**
S22A				IAmb		IAmb	13 39 51.1	
	comp=Z,5.8nm,1.3s							
PDAR	**Pinedale Array**	**68.69**	**312**	P		**P**	**13 40 06.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=94,slow=8.3,SNR=4.1							
PDAR				LR		LR	14 06 24.2	
	comp=Z,141nm,20.9s,baz=112,slow=33							
PDAR	**Pinedale Array**	**68.69**	**312**	P		**P**	**13 40 05.5**	**-0.5**
TPAW	**Teton Pass**	**69.79**	**313**	P		**P**	**13 40 13.0**	**+0.1**
TPAW				IAmb		IAmb	13 42 40.9	
	comp=Z,14nm,1.9s							
BGU	**Big Grassy Mou**	**71.08**	**310**	P		**P**	**13 40 20.6**	**0.0**
DLMT	**Dillon**	**71.18**	**315**	P		**P**	**13 40 21.8**	**+0.6**
DLMT				IAmb		IAmb	13 40 23.5	
	comp=Z,15nm,1.3s							
BRTR	**Keskin Array B**	**72.05**	**51**	P		**P**	**13 40 27.6**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=251,slow=4.4,SNR=5.1							
BRTR	**Keskin Array B**	**72.05**	**51**	P		**P**	**13 40 25.6**	**-0.9**
ELK	**Elko**	**72.73**	**310**	P		**P**	**13 40 31.5**	**+0.8**
	comp=Z,2.1nm,1.1s,baz=135,slow=8.6,SNR=4.1							
ELK	**Elko**	**72.73**	**310**	P		**P**	**13 40 30.1**	**-0.5**
BOSA	**Boshof**	**73.47**	**123**	LR		LR	14 06 52.6	
	comp=Z,69nm,19.0s,baz=7.0,slow=31							
NEW	**Newport**	**74.54**	**318**	P		**P**	**13 40 40.3**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=91,slow=4.2							
NEW	**Newport**	**74.54**	**318**	P		**P**	**13 40 40.7**	**-0.2**
NVAR	**Mina Array Bea**	**75.03**	**307**	P		**P**	**13 40 45.4**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=107,slow=8.9,SNR=3.6							
NVAR				LR		LR	14 12 44.6	
	comp=Z,36nm,19.2s,baz=56,slow=35							
NVAR	**Mina Array Bea**	**75.03**	**307**	P		**P**	**13 40 42.7**	**-1.5**
KMBO	**Kilima Mbogo**	**77.97**	**93**	LR		LR	14 11 30.6	
	comp=Z,72nm,21.2s,baz=107,slow=33							
INK	**Inuvik**	**82.90**	**338**	P		**P**	**13 41 27.0**	**+0.6**
INK				IAmb		IAmb	13 41 41.6	
	comp=Z,14nm,1.3s							
DAWY	**Dawson**	**85.93**	**334**	P		**P**	**13 41 42.5**	**+0.6**
BMAR	**Burnt Mountain**	**87.18**	**338**	P		**P**	**13 41 48.7**	**+0.7**
BCAR	**Beaver Creek A**	**87.20**	**333**	P		**P**	**13 41 48.8**	**+0.6**
TOLK	**Toolik Lake Re**	**88.56**	**340**	P		**P**	**13 41 55.2**	**+0.6**
ILAR	**Eielson Array**	**88.88**	**336**	P		**P**	**13 41 56.9**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=64,slow=5.2,SNR=6.6							
ILAR	**Eielson Array**	**88.88**	**336**	P		**P**	**13 41 56.1**	**+0.1**
ABKAR	**Akbulak array**	**89.96**	**40**	P		**P**	**13 42 01.1**	**-0.4**
ABKAR				IAmb		IAmb	13 42 12.8	
	comp=Z,7.9nm,1.4s							

*IDC **04** 13:34:52.5±1.0, 3°.61S×140°.65E, h0km, mb4.0/5, mb1 4.4/7, mb1mx3.9/29, mbtmp4.2/7, ML4.1/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/43, Error ellipse: s-maj=37.6km s-min=10.3km az=99.0*
*ISCJB **04** 13:34:53.0±0.4, 3°.65S±0°.03×140°.53E±0°.06, h10km, mb4.3/8, MS3.7/4, Error ellipse: s-maj=8.8km s-min=4.6km az=8.7*
*DJA **04** 13:34:55.0±1.8, 4°.S±4°.×14°.1E±°, h16km±16km, M4.5/10, mB5.7/2, mb4.5/10, MLv4.6/5, Mw(mB)5.2/2*
*NEIC **04** 13:34:57.3±2.7, 3°.49S±0°.05×140°.17E±0°.09, h32km±5km, mb4.4/13*
ISC 04 13:34:54.7±0.5, 3°.59S±0°.05×140°.55E±0°.09, h10km, n51, σ1°69/45, mb4.4/11, MS3.5/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.06**	**339**	P		**Pg**	**13 35 14.7**	**-0.4**
JAY	**Jayapura**	**1.08**	**8**	Pn		**Pb**	**13 35 14.4**	**-1.0**
	24nm,0.3s,baz=212,slow=10,SNR=210							
JAY				Pg		**Pn**	**13 35 15.3**	**-0.6**
	24nm,0.3s,baz=202,slow=9.1,SNR=33							
JAY				Lg		Lg	13 35 28.0	
	75nm,0.3s,baz=239,slow=19,SNR=37							
JAY	**Jayapura**	**1.08**	**8**	P		**Pb**	**13 35 14.5**	**-1.0**
JAY				S		**Sb**	**13 35 27.7**	**-2.0**
SMPI	**Sarmi**	**2.43**	**311**	P		**Pn**	**13 35 34.9**	**+0.5**
SRPI	**Serui, Papua**	**4.63**	**292**	P		**Pn**	**13 36 05.8**	**+1.1**
MANU	**Manus Island**	**6.98**	**77**			Pn	13 36 43.6	+6.6
PMG	**Port Moresby**	**8.75**	**132**			Pn	13 37 07.7	+6.4
SIJI	**Sorong**	**9.66**	**286**	Pn		**Pn**	**13 37 15.4**	**+1.5**
	1.6nm,0.3s,baz=42,slow=7.4,SNR=8.7							
SIJI				LR		LR	13 41 43.9	
	comp=Z,121nm,21.1s,baz=68,slow=42							
COEN	**Coen**	**10.62**	**166**	Pn		**Pn**	**13 37 30.0**	**+2.9**
KRVT	**Keravat (AS076**	**11.47**	**94**	LR		LR	13 41 47.2	
	comp=Z,134nm,20.3s,baz=259,slow=36							
MTN	**Manton Dam**	**13.09**	**225**	Pn		**Pn**	**13 37 59.3**	**-1.5**
KNRA	**Kununurra**	**16.70**	**223**	Pn		**Pn**	**13 38 46.5**	**-2.4**
KNRA				IAmb		IAmb	13 39 19.3	
	comp=Z,33nm,1.0s							
SOEI	**Soe**	**17.29**	**248**	P		**Pn**	**13 38 57.7**	**+1.2**
SOEI	**Soe**	**17.29**	**248**	P		**Pn**	**13 38 54.4**	**-2.1**
SOEI				IAmb		IAmb	13 39 00.0	
	comp=Z,37nm,0.7s							
WRAB	**Tennant Creek**	**17.33**	**200**	P		**Pn**	**13 38 56.2**	**-0.7**
WRAB				IAmb		IAmb	13 38 59.8	
	comp=Z,17nm,0.8s							
WB2	**Warramunga Arr**	**17.34**	**200**	P		**Pn**	**13 38 55.5**	**-1.5**
WRA	**Warramunga Arr**	**17.35**	**200**	P		**Pn**	**13 38 55.8**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=22,slow=12,SNR=41							
WRA				S		Sn	13 41 59.6	-11
	comp=Z,0.3nm,0.3s,baz=18,slow=22,SNR=7.3							
WRA				Lg		Lg	13 44 07.4	
	comp=Z,0.1nm,0.3s,baz=28,slow=28,SNR=5.4							
WRA				LR		LR	13 45 52.5	
	comp=Z,171nm,19.4s,baz=260,slow=38							
WRA	**Warramunga Arr**	**17.35**	**200**	P		**Pn**	**13 38 55.6**	**-1.5**
GUMO	**Guam**	**17.60**	**14**	LR		LR	13 44 16.5	
	comp=Z,63nm,20.4s,baz=111,slow=32							
DAV	**Davao City (W)**	**18.31**	**305**	LR		LR	13 46 36.8	
	comp=Z,33nm,20.3s,baz=128,slow=38							
MRSI	**Marisa**	**19.03**	**282**	P		**P**	**13 39 16.2**	**-0.9**
	comp=Z,13nm,0.7s,comp=Z,505nm							
APSI	**Ampana**	**19.07**	**278**	P		**P**	**13 39 19.5**	**+2.0**
	comp=Z,36nm,1.1s							
BNSI	**Bone**	**20.41**	**267**	P		**P**	**13 39 34.1**	**+2.0**
	comp=Z,36nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.52**	**224**	P		**P**	**13 39 33.7**	**+0.4**
	comp=Z,3.5nm,1.0s,baz=54,slow=9.8,SNR=9.7							
FITZ				S		S	13 43 13.0	-10
	comp=Z,7.2nm,0.7s,baz=292,slow=19,SNR=7.8							
FITZ				LR		LR	13 48 09.4	
	comp=Z,108nm,19.6s,baz=54,slow=39							
FITZ	**Fitzroy Crossi**	**20.52**	**224**	P		**P**	**13 39 31.0**	**-2.3**
FITZ				IAmb		IAmb	13 39 59.5	
	comp=Z,6.3nm,0.8s							
TTSI	**Tana Toraja**	**20.70**	**271**	P		**P**	**13 39 35.0**	**-0.3**
AS31	**Alice Springs**	**20.96**	**197**	P		**P**	**13 39 36.9**	**-1.2**
ASAR	**Alice Springs**	**20.97**	**197**	P		**P**	**13 39 37.9**	**-0.3**
	comp=Z,15nm,0.8s,baz=26,slow=8.9,SNR=65							
ASAR				S		**S**	**13 43 29.3**	**-2.6**
	comp=Z,3.5nm,1.0s,baz=18,slow=25,SNR=5.0							
ASAR				Lg		Lg	13 45 57.9	
	comp=Z,2.4nm,1.0s,baz=8.5,slow=32,SNR=3.5							
ASAR				LR		LR	13 48 07.4	
	comp=Z,119nm,20.5s,baz=30,slow=38							
ASAR	**Alice Springs**	**20.97**	**197**	P		**P**	**13 39 37.1**	**-1.0**
WSI	**Waingapu**	**20.99**	**252**	P		**P**	**13 39 40.8**	**+2.3**
MPSI	**Mapaga**	**21.00**	**280**	P		**P**	**13 39 38.6**	**0.0**
	comp=Z,5.0nm,0.7s							
EIDS	**Eidsvold**	**23.91**	**156**	P		**P**	**13 40 10.4**	**+1.6**
EIDS				IAmb		IAmb	13 40 50.8	
	comp=Z,47nm,1.8s							
KKM	**Kota Kinabalu**	**26.12**	**291**	P		**P**	**13 40 27.0**	**-2.3**
STKA	**Stephens Creek**	**28.16**	**178**	LR		LR	13 53 20.7	
	comp=Z,183nm,19.5s,baz=17,slow=39							
MORW	**Morawa**	**34.40**	**220**	P		**P**	**13 41 41.1**	**-1.2**
NJ2	**Nanjing**	**41.01**	**331**	*e*P		**P**	**13 42 39.9**	**+1.8**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
RPSI	**Rantau Prapat**	**42.07**	**278**	P		**P**	**13 42 43.6**	**-3.5**
WHN	**Wuhan**	**42.17**	**325**	P		P	13 42 54.2	+6.5
TUWZ	**Tuamarina**	**48.12**	**146**	P		**P**	**13 43 34.8**	**0.0**
USRK	**Ussuriysk Ar.**	**48.19**	**352**	P		**P**	**13 43 36.0**	**+0.7**
CN2	**Changchun**	**49.09**	**346**	*e*P		P	13 43 49.3	+7.0
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**51.55**	**332**	*e*P		**P**	**13 44 03.7**	**+2.6**
HHC				pmax		pmax		
	comp=Z,5.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA	**Gaotai**	**56.87**	**323**	*e*P		**P**	**13 44 43.0**	**+3.1**
GTA				pP		sP	13 44 58.4	+14
GTA				sP		pP	13 45 04.9	+22
GTA				pmax		pmax		
	comp=Z,2.0nm,1.4s							
WMQ	**Urumqi**	**66.84**	**321**	*e*P		**P**	**13 45 47.8**	**+0.9**
WMQ				pmax		pmax		
	comp=Z,15nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,22nm,5.1s							
WMQ				LR		LR		
	comp=N,580nm,28.9s							
WMQ				LR		LR		
	comp=E,1μm,29.1s							
WMQ				LR		LR		
	comp=Z,240nm,26.5s							
MKAR	**Makanchi Array**	**71.61**	**322**	P		**P**	**13 46 14.8**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=100,slow=8.1,SNR=2.6							
KSH	**Kashi**	**73.02**	**313**	*e*P		**P**	**13 46 27.2**	**+2.1**
MAW	**Mawson**	**82.01**	**202**	P		**P**	**13 47 14.5**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=132,slow=5.6,SNR=4.5							
MAW	**Mawson**	**82.01**	**202**	IAmb		IAmb	13 47 15.2	
	comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**85.87**	**24**	P		**P**	**13 47 32.6**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=259,slow=4.4,SNR=18							
QSPA	**South Pole Qui**	**86.36**	**180**	P		**P**	**13 47 36.2**	**-0.8**
QSPA				IAmb		IAmb	13 47 37.4	
	comp=Z,4.8nm,0.9s							
LPAZ	**La Paz**	**145.44**	**126**	PKPbc		**PKPab**	**13 54 35.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=246,slow=6.4,SNR=3.7							

*NIED **04** 13:47:00, 36°.70N×141°.30E, h5km, Mw4.6 Best double couple: M0=9.79000×10^15 NP1:φs=12.00000°, δ33.00000°, λ=-100.00000°. NP2:φs=204.00000°, δ58.00000°, λ=-83.00000°.*
*IDC **04** 13:47:16.9±0.5, 36°.75N×141°.09E, h0km, mb4.5/28, mb1 4.6/30, mb1mx4.5/47, mbtmp4.5/30, ML3.9/2, MS3.8/26, Ms1 3.8/26, ms1mx3.6/51, Error ellipse: s-maj=15.0km s-min=10.4km az=98.0*
*BJI **04** 13:47:16.2±0.0, 36°.60N×141°.58E, h33km, mb4.7/49, mB5.0/35, Ms4.5/34, Ms7 4.2/29*
*JMA **04** 13:47:18.0±0.1, 36°.69N×141°.26E, h34km±1km, M4.8*
JMA Felt III J1.
*MOS **04** 13:47:19.8±1.0, 36°.73N×141°.11E, h33km, mb4.9/51, Error ellipse: s-maj=7.2km s-min=5.3km az=104.4*
*ISCJB **04** 13:47:19.5±0.5, 36°.70N±0°.02×141°.14E±0°.03, h29km±3km, mb4.7/88, MS4.0/28, Error ellipse: s-maj=4.0km s-min=3.3km az=37.7*
*NEIC **04** 13:47:20.5±1.5, 36°.72N±0°.06×141°.13E±0°.05, h25km±4km, mb4.8/136*
ISC 04 13:47:19.0±0.6, 36°.73N±0°.03×141°.32E±0°.03, h19km±3km, n361, σ1°74/380, mb4.8/132, MS4.0/29, 7C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**311**	P		**Pg**	**13 47 28.8**	**-1.4**
ONAJ				*e*S		**Sg**	**13 47 37.1**	**-0.6**
JHO	**Hitachi**	**0.62**	**259**	↑P		**Pg**	**13 47 29.0**	**-2.3**
JHO				*e*S		**Sg**	**13 47 37.3**	**-2.2**
JFFD	**Fukushimafurud**	**0.71**	**301**	↓P		**Pg**	**13 47 30.8**	**-2.1**
JFFD				*e*S		**Sg**	**13 47 40.3**	**-2.0**
JHYU	**Hitachinakayam**	**0.71**	**237**	↓P		**Pg**	**13 47 30.6**	**-2.4**
JHYU				*e*S		**Sg**	**13 47 40.3**	**-2.1**
JFK	**Kawauchi**	**0.73**	**331**	↓P		**Pg**	**13 47 31.9**	**-1.4**
JFK				*e*S		**Sg**	**13 47 41.7**	**-1.3**
JYT	**Yasato**	**1.04**	**241**	↓P		**Pb**	**13 47 35.3**	**-3.1**
JYT				S		**Sb**	**13 47 48.4**	**-3.2**
JFT	**Otama**	**1.11**	**315**	↓P		**Pn**	**13 47 38.1**	**-1.5**
JFT				*e*S		**Sb**	**13 47 52.6**	**-1.1**
JSB	**Shiboa**	**1.15**	**282**	↓P		**Pn**	**13 47 38.8**	**-1.3**
JSB				*e*S		**Sb**	**13 47 53.9**	**-0.9**
JMM	**Marumori**	**1.21**	**340**	↓P		**Pn**	**13 47 39.3**	**-1.6**
JMM				*e*S		**Sb**	**13 47 55.2**	**-1.3**
JFY	**Yanaizu**	**1.46**	**298**	↓P		**Pn**	**13 47 43.4**	**-1.0**
JFY				*e*S		**Sn**	**13 48 02.1**	**-0.9**
JAG	**Ashikaga**	**1.53**	**259**	↓P		**Pn**	**13 47 42.9**	**-2.5**
MJAR	**Matsushiro Arr**	**2.51**	**267**	Pn		**Pn**	**13 47 57.9**	**-1.0**
	5.7nm,0.3s,baz=118,slow=9.3,SNR=198							
MJAR				Sn		**Sn**	**13 48 31.1**	**+2.1**
	17nm,0.3s,baz=83,slow=29,SNR=10							
MJAR				LR		LR	13 48 48.7	
	comp=Z,782nm,20.8s,baz=85,slow=40							
MJAR	**Matsushiro Arr**	**2.51**	**267**			**Pn**	**13 47 57.7**	**-1.1**
MAJO	**Matsushiro**	**2.51**	**267**	*i* P		**Pn**	**13 47 58.2**	**-0.6**
MAJO	**Matsushiro**	**2.51**	**267**			**Pn**	**13 47 58.2**	**-0.6**
MAT	**Matsushiro**	**2.51**	**267**	P		**Pn**	**13 47 58.3**	**-0.6**
MAT				*e*S		**Sn**	**13 48 29.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.51**	**267**			**Pn**	**13 47 58.2**	**-0.7**
INU	**Inuyama**	**3.75**	**250**			**Pn**	**13 48 16.5**	**+0.7**
JHJ2	**Mitsune**	**3.82

KUR smax smax
comp=N,54nm,0.8s
KUR MLR MLR
comp=Z,700nm,10.0s
KUR MLR MLR
comp=N,500nm,12.0s
KUR MLR MLR
comp=E,900nm,12.0s
YSS Yuzh-Sakhalins 10.27 6 *e*P **Pn 13 49 46.7 +1.4**
YSS Yuzh-Sakhalins 10.27 6 **Pn 13 49 45.4 +0.2**
USA0B Ussuriysk Arra 10.30 319 P **Pn 13 49 47.8 +2.1**
USA0B Ussuriysk Arra 10.30 319 **Pn 13 49 47.8 +2.1**
USRK Ussuriysk Ar. 10.30 319 P **Pn 13 49 47.7 +2.0**
USRK Ussuriysk Ar. 10.30 319 Pn **Pn 13 49 50.1 +4.4**
baz=135,slow=12,SNR=13
USRK LR LR 13 53 22.8
comp=E,786nm,19.6s,baz=126,slow=36
USRK Ussuriysk Ar. 10.30 319 **Pn 13 49 47.7 +2.0**
KSRS Korea Array 10.73 278 Pn **Pn 13 49 54.9 +3.3**
comp=E,0.4nm,0.3s,baz=92,slow=14,SNR=8.2
KSRS LR LR 13 53 59.4
comp=E,550nm,18.3s,baz=93,slow=38
MDJ Mudanjiang 11.88 315 **Pn 13 50 08.1 +0.8**
CN2 Changchun 14.01 305 *e*P **Pn 13 50 38.2 +1.7**
CN2 *e*S **Sn 13 53 12.9 +1.4**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,200nm,3.0s
CN2 LR LR
comp=E,500nm,13.0s
CN2 LR LR
comp=E,800nm,13.0s
CN2 LR LR
comp=E,800nm,16.0s
TYV Tymovskoe 14.16 3 *e*P **P 13 50 44.5 -1.3**
TYV pmax pmax
comp=Z,27nm,1.3s
KLR Kul'dur 14.30 334 *i* P **Pn 13 50 42.2 +1.8**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 14.30 334 Pn **Pn 13 50 42.5 +2.1**
comp=Z,0.2nm,0.3s,baz=149,slow=14,SNR=4.1
KLR LR LR 13 55 50.1
comp=Z,570nm,19.8s,baz=160,slow=36
DL2 Dalian 15.71 284 P **Pn 13 51 01.8 +2.5**
DL2 S **Sn 13 53 54.5 +1.6**
DL2 pmax pmax
comp=Z,20nm,1.0s
DL2 pmax pmax
comp=Z,180nm,4.2s
DL2 LR LR
comp=Z,260nm,11.3s
DL2 LR LR
comp=Z,670nm,15.6s
DL2 LR LR
comp=Z,770nm,14.6s
SKR Severo-Kuril's 17.53 33 *e*P **P 13 51 29.9 +6.7**
SKR *e*S **Sn 13 54 28.7 -8.0**
SKR pmax pmax
comp=Z,25nm,1.2s
SKR MLR MLR
comp=Z,200nm,15.0s
SKR MLR MLR
comp=Z,300nm,15.0s
NJ2 Nanjing 19.11 262 *e*P **P 13 51 40.1 -0.6**
NJ2 pmax pmax
comp=Z,14nm,0.7s
NJ2 LR LR
comp=Z,650nm,13.3s
NJ2 LR LR
comp=Z,700nm,12.8s
NJ2 LR LR
comp=Z,950nm,14.7s
TIA Tai'an 19.46 276 P **P 13 51 46.2 +1.6**
TIA pmax pmax
comp=Z,8.0nm,0.9s
ZEA Zeya 19.62 335 *e*P **P 13 51 46.0 -0.1**
ZEA pmax pmax
comp=Z,31nm,0.8s
ZEA MLR MLR
comp=Z,600nm,12.0s
ZEA MLR MLR
comp=E,500nm,13.0s
ZEA MLR MLR
comp=N,300nm,12.0s
BJT Baijiatuan 19.97 287 P **P 13 51 49.6 -0.5**
BJT pmax pmax
comp=Z,8.0nm,0.5s
BJT Baijiatuan 19.97 287 P **P 13 51 49.6 -0.5**
PEA0B Petropavlovsk- 19.98 30 P **Pn 13 51 51.8 -0.1**
PEA0B pmax pmax
comp=Z,53nm,1.5s
PEA0B Petropavlovsk- 19.98 30 P **Pn 13 51 51.8 -0.1**
PEA0B IAmb IAmb 13 52 43.9
comp=Z,53nm,1.5s
PETK Petropavlovsk- 19.98 30 P **Pn 13 51 51.6 -0.3**
PETK Petropavlovsk- 19.98 30 P **Pn 13 51 52.5 +0.5**
comp=Z,5.8nm,0.9s,baz=202,slow=11,SNR=6.7
PETK Petropavlovsk- 19.98 30 P **Pn 13 51 51.6 -0.3**
PET Petropavlovsk 20.31 31 *e*P Pn 13 51 55.7 0.0
PET *e*S **S 13 55 38.2 -2.3**
PET pmax pmax
comp=Z,28nm,1.1s
PET MLR MLR
comp=Z,200nm,12.0s
PET MLR MLR
comp=Z,200nm,16.0s
PET Petropavlovsk 20.31 31 P Pn 13 51 55.1 -0.6
SARN Sarigan 20.34 168 Pn 13 51 55.6 -0.8
TPUB Ta-pu 22.30 239 P **P 13 52 13.4 -2.0**
WHN Wuhan 23.25 262 P **P 13 52 28.0 +2.8**
HHC Hu-ho-hao-te 23.50 289 *e*P **P 13 52 25.1 -2.7**
HHC pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 26.35 348 *e*P **P 13 52 53.0 -0.5**
YAK *e**PP **sP 13 53 00.9 -0.4**
YAK *e*PPP PPP 13 53 43.5
YAK *e*S **S 13 57 24.3 -1.1**
YAK *e**SS sS 13 57 44.8 +11
YAK pmax pmax
comp=Z,34nm,1.2s
YAK pmax pmax
comp=N,22nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=Z,27nm,1.4s
YAK pmax pmax
comp=N,28nm,1.6s
YAK pmax pmax
comp=E,24nm,1.5s
YAK smax smax
comp=N,116nm,2.4s
YAK smax smax
comp=E,47nm,3.0s
YAK MLR MLR
comp=Z,154nm,20.0s
YAK MLR MLR
comp=E,176nm,19.0s
YAK Yakutsk 26.35 348 P **P 13 52 53.5 -0.1**
comp=E,18nm,0.7s,baz=187,slow=5.0,SNR=16
YAK Yakutsk 26.35 348 P **P 13 52 52.4 -1.1**
YAK IAmb IAmb 13 52 55.5
comp=Z,28nm,0.8s
XAN Xi'an 26.48 274 P **P 13 52 54.7 -0.5**
XAN pP sP 13 53 08.8 +5.9
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN Xi'an 26.48 274 P **P 13 52 53.3 -1.9**
XAN pmax pmax
comp=Z,30nm,1.9s
XAN Xi'an 26.48 274 P **P 13 52 53.3 -1.9**
SEY Seymchan 27.10 11 *i* P **P 13 53 02.7 +2.4**
SEY Seymchan 27.10 11 P **P 13 53 02.4 +2.1**
comp=Z,2.3nm,0.5s,baz=187,slow=10,SNR=6.6
ENH Enshi 27.23 266 P **P 13 53 00.6 -1.3**
ENH IAmb IAmb 13 53 07.8
comp=Z,17nm,0.8s
ULN Ulaanbaatar 27.46 305 *i* P **P 13 53 04.8 +0.8**
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 27.46 305 P **P 13 53 03.5 -0.5**
HKPS Hong Kong Po S 27.58 246 P **P 13 53 03.0 -2.1**
BOD Bodaibo 27.74 328 *e*P **P 13 53 05.2 -1.0**
BOD pmax pmax
comp=Z,15nm,1.6s
SONM Songino Array 27.89 304 P **P 13 53 06.5 -1.3**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 27.89 304 P **P 13 53 06.3 -1.5**
comp=Z,2.2nm,0.7s,baz=105,slow=9.6,SNR=13
SONM LR LR 14 04 30.7
comp=Z,269nm,18.9s,baz=101,slow=37
SONM Songino Array 27.89 304 P **P 13 53 06.5 -1.3**
H11N2 WAKE ISLAND Hy 28.06 120 T T 14 22 33.4
baz=313,slow=75,SNR=2961
H11N1 WAKE ISLAND Hy 28.07 120 T T 14 22 34.1
baz=313,slow=75,SNR=3194
H11N3 WAKE ISLAND Hy 28.08 120 T T 14 22 34.9
baz=313,slow=75,SNR=3398
H11S1 WAKE ISLAND Hy 28.76 122 T T 14 23 26.0
baz=315,slow=76,SNR=879
H11S3 WAKE ISLAND Hy 28.76 122 T T 14 23 27.9
baz=315,slow=76,SNR=1076
H11S2 WAKE ISLAND Hy 28.78 122 T T 14 23 26.5
baz=315,slow=76,SNR=940
LZH Lanzhou 30.05 280 *e*P **P 13 53 27.3 +0.2**
LZH pP sP 13 53 36.7 +1.9
LZH sP pP 13 53 41.7 +9.0
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.3s
LZH LR LR
comp=Z,580nm,11.9s
LZH LR LR
comp=Z,660nm,13.6s
LZH LR LR
comp=Z,750nm,13.8s
TLY Talaya 30.47 311 *e*P **P 13 53 33.1 +2.6**
TLY *e*S **S 13 58 36.2 +5.5**
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,960nm,17.0s
TLY Talaya 30.47 311 LR LR 14 06 14.1
comp=Z,264nm,18.3s,baz=104,slow=38
GYA Guiyang 31.10 261 P **P 13 53 35.3 -1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 31.60 271 *e*P **P 13 53 39.0 -1.7**
CD2 S **S 13 58 45.0 -3.8**
CD2 LR LR
comp=Z,650nm,14.1s
CD2 LR LR
comp=Z,450nm,10.6s
GTA Gaotai 32.58 288 P P 13 53 56.5 +7.2
GTA pP sP 13 54 05.5 +8.4
GTA sP pP 13 54 10.0 +15
GTA S **S 13 59 11.4 +7.3**
GTA sS sS 13 59 28.0 +16
GTA pmax pmax
comp=Z,4.0nm,1.6s
GTA pmax pmax
comp=Z,28nm,5.9s
GTA LR LR
comp=N,150nm,12.7s
GTA LR LR
comp=E,140nm,12.4s
GTA LR LR
comp=Z,150nm,14.8s
BILL Bilibino 34.34 16 P **P 13 54 04.7 +0.6**
BILL pmax pmax
comp=Z,25nm,1.7s
BILL Bilibino 34.34 16 P **P 13 54 04.7 +0.6**
BILL IAmb IAmb 13 54 05.8
comp=Z,25nm,1.7s
KMI Kunming 34.84 262 P **P 13 54 08.4 -0.9**
KMI pP pP 13 54 15.2 +0.3
KMI sP sP 13 54 17.8 +0.8
KMI pmax pmax
comp=Z,16nm,1.5s
KMI pmax pmax
comp=Z,92nm,4.4s
KMI LR LR
comp=Z,380nm,20.1s
KMI LR LR
comp=Z,260nm,23.0s
SIJI Sorong 38.56 196 P **P 13 54 40.9 +0.2**
comp=Z,6.8nm,0.5s,baz=7.0,slow=19,SNR=5.3
JAY Jayapura 39.05 181 LR LR 14 10 46.6
comp=Z,77nm,19.2s,baz=352,slow=36
FAKI Fak Fak 40.34 194 P **P 13 54 55.9 +0.3**
DGZ Jazzator, Alta 40.51 306 *d i* P **P 13 54 57.3 +0.5**
CHAI Chaiyaphum 40.53 250 P **P 13 55 00.9 +3.7**
comp=Z,22μm,0.9s
PBKT Sadao Pong 40.90 252 P **P 13 55 04.6 +4.5**
comp=Z,5.5nm,1.0s
PBKT Sadao Pong 40.90 252 P **P 13 54 59.4 -0.7**
WMQ Urumqi 40.91 297 *e*P **P 13 55 02.2 +2.1**
WMQ pP pP 13 55 06.4 +0.5
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,51nm,3.6s
WMQ LR LR
comp=Z,210nm,12.3s
WMQ LR LR
comp=Z,110nm,8.1s
WMQ LR LR
comp=Z,290nm,28.9s
CMMT Chiang Mai 41.14 256 P **P 13 55 06.1 +3.9**
comp=Z,2.8nm,1.0s
CHTO Chiang Mai 41.15 256 P **P 13 55 01.0 -1.2**
CHTO Chiang Mai 41.15 256 P **P 13 55 01.1 -1.2**
CMAR Chiang Mai Arr 41.35 256 P **P 13 55 03.3 -0.6**
comp=Z,1.1nm,0.7s,baz=45,slow=7.5,SNR=10
CMAR LR LR 14 14 17.5
comp=Z,134nm,18.6s,baz=11,slow=39
CMAR Chiang Mai Arr 41.35 256 P **P 13 55 04.6 +0.7**
KRVT Keravat (AS076 42.03 164 LR LR 14 11 12.6
comp=Z,31nm,20.2s,baz=343,slow=34
ZAA0 Zalesovo Array 42.06 313 P **P 13 55 08.2 -1.1**
ZAA0 IAmb IAmb 13 55 16.4
comp=Z,21nm,1.4s
ZALV Zalesovo Beam 42.06 313 P **P 13 55 08.5 -0.8**
comp=Z,2.7nm,0.5s,baz=87,slow=6.5,SNR=18
ZALV PcP **PcP 13 57 04.5 +0.6**
comp=Z,1.6nm,0.5s,baz=103,slow=3.1,SNR=3.1
ZALV LR LR 14 13 12.0
comp=Z,154nm,18.1s,baz=96,slow=37
ZALV Zalesovo Beam 42.06 313 P **P 13 55 08.2 -1.1**
NRIK Noril'sk 43.51 335 P **P 13 55 20.5 -0.3**
comp=Z,1.6nm,0.3s,baz=96,slow=4.8,SNR=5.7
NRIK LR LR 14 14 15.3
comp=Z,175nm,18.2s,baz=100,slow=37
MK31 Makanchi Array 44.22 302 P **P 13 55 26.0 -0.9**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 44.22 302 P **P 13 55 26.0 -0.9**
MKAR Makanchi Array 44.22 302 P **P 13 55 25.5 -1.4**
MKAR Makanchi Array 44.22 302 P **P 13 55 26.2 -0.6**
comp=Z,2.7nm,0.7s,baz=83,slow=9.2,SNR=30
MKAR Makanchi Array 44.22 302 P **P 13 55 25.5 -1.4**
MAKZ Makanchi 44.43 302 P **P 13 55 27.6 -1.0**
MAKZ pmax pmax
comp=Z,12nm,1.4s
MAKZ Makanchi 44.43 302 P **P 13 55 27.6 -1.0**
KSM Kuching 45.29 226 P **P 13 55 33.3 -2.4**
KSM IAmb IAmb 13 55 41.6
comp=Z,10nm,0.7s
SAUI Saumlaki 45.46 194 P **P 13 55 36.8 -0.2**
TAPN Taplejung 45.89 274 *e*P **P 13 55 40.4 -0.3**
comp=Z,5.8nm,0.4s
KURK Kurchatov 46.06 308 *d i* P **P 13 55 40.4 -1.0**
KURK pmax pmax
comp=Z,35nm,1.7s
KURK Kurchatov 46.06 308 P **P 13 55 40.7 -0.7**
KAPI Kappang 46.17 211 P **P 13 55 41.4 -1.2**
KAPI pmax pmax
comp=Z,56nm,1.5s
KAPI Kappang 46.17 211 P **P 13 55 43.3 +0.8**
comp=Z,22nm,1.1s,baz=5.7,slow=7.5,SNR=4.2
KAPI Kappang 46.17 211 P **P 13 55 41.4 -1.2**
ODAN Odare 46.36 274 *e*P **P 13 55 43.6 -0.8**
comp=Z,14nm,0.7s
IMAR Indian Mountai 46.95 30 P **P 13 55 49.5 +1.3**
RAMN Ramite 46.95 274 *e*P **P 13 55 48.3 -0.7**
comp=Z,31nm,0.6s
JIRN Jiri 46.97 275 *e*P **P 13 55 49.0 -0.3**
comp=Z,38nm,0.8s
GUN Gumba 47.11 276 *e*P **P 13 55 49.9 -0.5**
comp=Z,19nm,0.7s
KDAK Kodiak Island 47.37 42 P **P 13 55 53.2 +1.6**
KDAK pmax pmax
comp=Z,116nm,1.7s
KDAK Kodiak Island 47.37 42 P **P 13 55 53.2 +1.6**
PPLA Purkeypile 47.46 35 P **P 13 55 53.8 +1.5**
PKI Pulchoki 47.63 276 *e*P **P 13 55 53.3 -1.1**
comp=Z,24nm,1.1s
PKIN Phulchoki 47.64 276 *e*P **P 13 55 53.4 -1.0**
comp=Z,11nm,0.8s
KKN Kakani 47.64 276 *e*P **P 13 55 53.7 -0.7**
comp=Z,30nm,1.0s
PRZ Przheval'sk 47.84 297 P **P 13 55 55.5 -0.2**
PRZ pmax pmax
comp=Z,23nm,1.2s
PRZ Przheval'sk 47.84 297 P **P 13 55 55.5 -0.2**
DMN Daman 47.86 276 *e*P **P 13 55 55.6 -0.5**
BPAW Bear Paw Mtn. 48.02 33 P **P 13 55 57.3 +0.8**
KTH Kantishna Hill 48.04 34 P **P 13 55 57.9 +1.1**
GKN Gorkha 48.06 277 *e*P **P 13 55 57.2 -0.4**
TRF Thorofare Moun 48.32 34 P **P 13 56 00.5 +1.4**
TARG Taragay, Kyrgy 48.47 296 P **P 13 55 58.5 -2.3**
DANN Dangsing 48.62 278 *e*P **P 13 56 01.6 -0.4**
comp=Z,110nm,0.9s
TOLK Toolik Lake Re 48.77 27 P **P 13 56 04.8 +2.4**
TOLK IAmb IAmb 13 56 06.4
comp=Z,9.5nm,1.1s
KDJ Kajisay 48.80 297 P **P 13 56 02.3 -0.8**
KDJ pmax pmax
comp=Z,10.0nm,1.3s
KDJ Kajisay 48.80 297 P **P 13 56 02.4 -0.8**
KDJ IAmb IAmb 13 56 11.3
comp=Z,9.6nm,1.3s
PMR Palmer 48.91 36 P **P 13 56 04.0 +0.6**
PMR pmax pmax
comp=Z,48nm,1.7s
PMR Palmer 48.91 36 P **P 13 56 04.0 +0.6**
MCK McKinley 48.92 34 P **P 13 56 05.0 +1.5**
MCK pmax pmax
comp=Z,33nm,1.5s
MCK McKinley 48.92 34 P **P 13 56 05.0 +1.5**
SOEI Soe 48.94 203 P **P 13 56 05.0 +0.8**
RND Reindeer 48.97 34 P **P 13 56 05.5 +1.5**
RND pmax pmax
comp=Z,20nm,1.4s
RND Reindeer 48.97 34 P **P 13 56 05.5 +1.5**
RND IAmb IAmb 13 57 16.1
comp=Z,20nm,1.4s
KOLN Koldanda 48.99 277 *e*P **P 13 56 03.8 -1.0**
comp=Z,58nm,1.4s
HNR Honiara 49.14 155 LR LR 14 15 41.6
comp=Z,49nm,18.7s,baz=326,slow=35
MDM Murphy Dome 49.21 32 P **P 13 56 06.7 +1.0**
MDM IAmb IAmb 13 56 09.2
comp=Z,15nm,1.1s
BATI Baumata 49.56 203 P **P 13 56 11.0 +2.2**
comp=Z,16nm,0.5s,baz=341,slow=1.1,SNR=4.7
BOOM Boomskoye usch 49.59 298 P **P 13 56 08.2 -0.9**
BOOM pmax pmax
comp=Z,13nm,1.3s
BOOM Boomskoye usch 49.59 298 P **P 13 56 08.2 -0.9**
BOOM IAmb IAmb 13 56 19.5
comp=Z,13nm,1.3s
SCM Sheep Creek Mo 49.75 36 P **P 13 56 11.2 +1.2**
SCM pmax pmax
comp=Z,118nm,1.8s
SCM Sheep Creek Mo 49.75 36 P **P 13 56 11.2 +1.2**
HDA Harding Lake 49.77 33 P **P 13 56 11.6 +1.6**
HDA IAmb IAmb 13 56 26.5
comp=Z,9.4nm,1.1s
IL31 49.79 32 P **P 13 56 11.3 +1.3**
IL31 IAmb IAmb 13 56 12.6
comp=Z,11nm,1.2s
ILAR Eielson Array 49.79 32 P **P 13 56 11.1 +1.0**
ILAR Eielson Array 49.79 32 P **P 13 56 11.6 +1.5**
comp=Z,3.6nm,0.9s,baz=270,slow=6.1,SNR=28
ILAR Eielson Array 49.79 32 P **P 13 56 11.1 +1.0**
MTN Manton Dam 50.24 193 P **P 13 56 13.8 -0.2**
PRP Porcupine Dome 50.33 31 P **P 13 56 15.3 +0.9**
PRP IAmb IAmb 13 56 31.1
comp=Z,11nm,1.3s
COEN Coen 50.45 178 P **P 13 56 16.5 +0.9**
COEN IAmb IAmb 13 56 53.4
comp=Z,18nm,1.2s
KSH Kashi 50.46 294 P **P 13 56 20.4 +4.7**
KSH sP sP 13 56 33.5 +10
KSH PcP **PcP 13 57 37.1 +3.3**
KSH S **S 14 03 31.2 +2.6**
KSH sS sS 14 03 47.6 +10
KSH ScS **ScS 14 06 05.7 -0.3**
KSH pmax pmax
comp=Z,10.0nm,0.6s
KSH pmax pmax
comp=Z,230nm,5.4s
KSH LR LR
comp=Z,1μm,19.5s
KSH LR LR
comp=Z,340nm,9.1s
KSH LR LR
comp=Z,860nm,15.0s
AAK Ala-Archa 50.57 299 *ce*P **P 13 56 16.7 +0.2**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 50.57 299 P **P 13 56 16.5 0.0**
BMAR Burnt Mountain 50.63 29 P **P 13 56 17.3 +0.8**
BRVK Borovoye 50.78 313 P **P 13 56 16.9 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 50.78 313 P **P 13 56 16.9 -0.9**
DOT Dot Lake 51.10 34 P **P 13 56 21.9 +1.8**
DOT IAmb IAmb 13 56 53.1
comp=Z,43nm,2.0s
HMT Hamilton 51.40 38 P **P 13 56 21.6 -0.8**
PSI Prapat 51.58 239 P **P 13 56 24.2 -0.1**
PSI pmax pmax
comp=Z,29nm,1.8s
RPSI Rantau Prapat 51.65 239 P **P 13 56 24.2 -0.5**
RPSI IAmb IAmb 13 56 27.2
comp=Z,29nm,1.8s
BCAR Beaver Creek A 52.18 34 P **P 13 56 30.1 +1.9**
EGAK Eagle 52.23 32 P **P 13 56 29.0 +0.6**
EGAK IAmb IAmb 13 57 24.3
comp=Z,13nm,1.4s
KK31 Karatay Array 53.21 300 P **P 13 56 35.3 -0.7**
KK31 pmax pmax
comp=Z,22nm,1.4s
KK31 Karatay Array 53.21 300 P **P 13 56 35.4 -0.7**
KK31 IAmb IAmb 13 56 44.6
comp=Z,22nm,1.4s
KKAR Karatay Array 53.21 300 P **P 13 56 35.0 -1.1**
KKAR Karatay Array 53.21 300 P **P 13 56 35.4 -0.6**
KKAR IAmb IAmb 13 56 44.6
comp=Z,22nm,1.4s
KKAR Karatay Array 53.21 300 P **P 13 56 35.0 -1.1**
KNRA Kununurra 53.46 195 P **P 13 56 38.4 +0.4**
GSI Gunungsitoli 53.58 239 P **P 13 56 38.2 -0.8**
LEM Lembang 53.61 223 P **P 13 56 40.2 +0.8**
comp=Z,22nm,0.7s,baz=183,slow=4.8,SNR=5.6
EPYK Eagle Plains 53.82 30 P **P 13 56 42.5 +2.3**
BTK Batken 54.02 297 P **P 13 56 42.3 +0.2**
BTK pmax pmax
comp=Z,17nm,1.4s
BTK Batken 54.02 297 P **P 13 56 42.3 +0.2**
BTK IAmb IAmb 13 56 47.5
comp=Z,17nm,1.4s
NIL Nilore 54.64 288 P **P 13 56 46.2 -0.4**
NIL pmax pmax
comp=Z,32nm,1.7s
NIL Nilore 54.64 288 P **P 13 56 46.2 -0.4**
INK Inuvik 54.69 27 P **P 13 56 47.9 +1.5**
INK pmax pmax
comp=Z,10.0nm,1.4s
INK Inuvik 54.69 27 P **P 13 56 47.9 +1.5**
INK IAmb IAmb 13 56 57.0
comp=Z,10nm,1.4s
SVE Sverdlovsk 55.32 319 ⇓ *eP* **P 13 56 51.5 +0.3**
SVE pmax pmax
comp=Z,21nm,1.5s
FITZ Fitzroy Crossi 56.51 198 P **P 13 57 00.7 +0.7**
comp=Z,2.7nm,0.6s,baz=7.9,slow=5.3,SNR=7.8
FITZ Fitzroy Crossi 56.51 198 P **P 13 57 00.7 +0.7**
FITZ IAmb IAmb 13 57 10.8
comp=Z,16nm,1.4s
ARU Arti 56.54 319 *d i* P **P 13 56 59.4 -0.5**

ARU						13 59 01.8
ARU				S	S	14 04 50.8 +0.5
ARU				SS	SS	14 08 32.4 -4.7
ARU				pmax	pmax	
	comp=Z,36nm,1.9s					
ARU	**Arti**	**56.54 319**		P	P	13 56 58.8 -1.1
ARU				IAmb	IAmb	13 57 05.3
	comp=Z,11nm,0.7s					
CTAO	**Charters Tower**	**56.70 174**		P	P	13 57 01.5 +0.1
CTAO				pmax	pmax	
	comp=Z,13nm,1.4s					
CTAO	**Charters Tower**	**56.70 174**		P	P	13 57 01.5 +0.1
CTAO				IAmb	IAmb	13 57 40.1
	comp=Z,13nm,1.4s					
WRAB	**Tennant Creek**	**56.74 188**	*ce*	P	P	13 57 00.0 -1.7
WRAB				pmax	pmax	
	comp=Z,18nm,1.7s					
WRAB	**Tennant Creek**	**56.74 188**		P	P	13 57 01.0 -0.6
WRAB				IAmb	IAmb	13 57 03.2
	comp=Z,12nm,1.1s					
WB2	**Warramunga Arr**	**56.75 188**		P	P	13 57 01.3 -0.4
WRA	**Warramunga Arr**	**56.75 188**		P	P	13 57 01.2 -0.5
	comp=Z,5.1nm,0.5s,baz=5.8,slow=7.4,SNR=58					
WRA	**Warramunga Arr**	**56.75 188**		P	P	13 57 01.3 -0.5
WC3	**Warramunga Arr**	**56.77 188**		P	P	13 57 01.5 -0.3
KBL	**Kabul**	**57.45 291**		P	P	13 57 05.2 -1.8
KBL				pmax	pmax	
	comp=Z,10.0nm,1.0s					
KBL	**Kabul**	**57.45 291**		P	P	13 57 05.2 -1.8
KBL				IAmb	IAmb	13 57 08.1
	comp=Z,10nm,0.9s					
ABKAR	**Akbulak array**	**58.08 310**		P	P	13 57 09.5 -1.4
AKTO	**Aktyubinsk**	**58.82 312**		LR	LR	14 23 48.7
	comp=Z,132nm,19.2s,baz=69,slow=37					
AS31	**Alice Springs**	**60.48 188**		P	P	13 57 27.4 -0.3
ASAR	**Alice Springs**	**60.48 188**		P	P	13 57 27.3 -0.4
ASAR	**Alice Springs**	**60.48 188**		P	P	13 57 27.5 -0.2
	comp=Z,2.4nm,0.7s,baz=8.3,slow=5.4,SNR=29					
ASAR	**Alice Springs**	**60.48 188**		P	P	13 57 27.2 -0.4
PRGR	**Permogore**	**60.98 327**	*eP*	P	P	13 57 30.0 -0.6
PRGR				pmax	pmax	
	comp=Z,11nm,0.9s					
GEYT	**Alibeck**	**63.91 299**		P	P	13 57 50.8 0.0
	comp=Z,7.5nm,1.1s,baz=21,slow=6.3,SNR=9.2					
GEYT				LR	LR	14 27 19.1
	comp=Z,104nm,18.7s,baz=10.0,slow=38					
GEYT	**Alibeck**	**63.91 299**		P	P	13 57 50.0 -0.7
GYA0B	**ALIBECK ARRAY**	**63.91 299**		P	P	13 57 50.2 -0.6
GYA0B				IAmb	IAmb	13 57 52.0
	comp=Z,16nm,1.4s					
KLMR	**Klimovskoe**	**63.97 328**	*eP*	P	P	13 57 47.6 -3.1
KLMR				pmax	pmax	
	comp=Z,22nm,1.5s					
KLMR	**Klimovskoe**	**63.97 328**	*eP*	P	P	13 57 47.7 -3.0
KLMR				AMP		13 57 51.7
	comp=Z,22nm,1.5s					
ARCES	**ARCESS Array B**	**64.25 339**		P	P	13 57 52.6 +0.2
	comp=Z,3.1nm,0.8s,baz=62,slow=9.2,SNR=7.9					
ARCES				LR	LR	14 28 41.5
	comp=Z,57nm,20.6s,baz=320,slow=39					
VRH	**Novokhopyorsk**	**67.75 318**	*eP*	P	P	13 58 14.3 -0.9
VRH				pmax	pmax	
	comp=Z,10.0nm,0.9s					
STKA	**Stephens Creek**	**68.25 180**		P	P	13 58 18.6 +0.3
	comp=Z,3.5nm,0.8s,baz=359,slow=6.7,SNR=8.9					
OBN	**Obninsk**	**68.29 323**	‖ *eP*		P	13 58 18.7 +0.2
OBN				*SP	sP	13 58 32.0 +5.4
OBN						13 58 43.0
OBN				*e*		14 08 17.8
OBN				pmax	pmax	
	comp=Z,11nm,0.4s					
OBN				MLR	MLR	
	comp=Z,82nm,15.0s					
FINES	**FINESS Array B**	**69.05 332**		P	P	13 58 23.0 -0.1
FINES	**FINESS Array B**	**69.05 332**		P	P	13 58 23.0 -0.1
	comp=Z,7.9nm,0.9s,baz=70,slow=6.7,SNR=8.5					
FINES				LR	LR	14 30 43.9
	comp=Z,131nm,18.3s,baz=42,slow=38					
VSR	**Storozhevoye**	**69.11 319**	*eP*	P	P	13 58 23.0 -0.7
VSR				pmax	pmax	
	comp=Z,10.0nm,1.2s					
PINE	**Pine Mountain**	**70.59 50**		P	P	13 58 34.7 +1.5
KBZ	**Khabaz**	**71.04 311**		P	P	13 58 35.9 +0.3
	comp=Z,5.7nm,0.9s,baz=34,slow=2.0,SNR=12					
KBZ				LR	LR	14 30 28.8
	comp=Z,98nm,20.0s,baz=53,slow=37					
KVAR	**Kislovodsk Arr**	**71.04 311**		LR	LR	14 32 08.3
	comp=Z,110nm,18.5s,baz=295,slow=38					
KIV	**Kislovodsk**	**71.05 311**		P	P	13 58 35.5 -0.4
KIV				pmax	pmax	
	comp=Z,25nm,1.2s					
KIV	**Kislovodsk**	**71.05 311**		P	P	13 58 35.5 -0.4
BMO	**Blue Mountains**	**72.19 47**		P	P	13 58 44.3 +1.6
BMO				pmax	pmax	
	comp=Z,7.0nm,1.1s					
BMO	**Blue Mountains**	**72.19 47**		P	P	13 58 44.3 +1.6
ORV	**Oroville**	**72.54 54**		P	P	13 58 46.3 +1.6
ORV				pmax	pmax	
	comp=Z,6.0nm,1.1s					
ORV	**Oroville**	**72.54 54**		P	P	13 58 46.4 +1.6
BEKR	**Beckworth**	**73.10 53**		P	P	13 58 50.2 +1.9
BEKR				IAmb	IAmb	13 58 51.5
	comp=Z,9.9nm,1.1s					
ANN	**Anapa**	**73.69 314**	*eP*	P	P	13 58 47.8 -3.6
ANN				pmax	pmax	
	comp=Z,84nm,1.2s					
PAHR	**Pah Rah Range**	**73.81 52**		P	P	13 58 54.4 +1.9
PAHR				IAmb	IAmb	13 58 55.8
	comp=Z,14nm,1.3s					
MFID	**Camas Ranch**	**73.88 48**		P	P	13 58 55.0 +2.2
CMB	**Columbia Colle**	**74.10 54**		P	P	13 58 56.2 +2.1
CMB				pmax	pmax	
	comp=Z,7.0nm,1.1s					
CMB	**Columbia Colle**	**74.10 54**		P	P	13 58 56.2 +2.1
HRY	**Holter Researc**	**74.22 43**		P	P	13 58 55.7 +1.0
YERR	**Yerington**	**74.31 53**		P	P	13 58 57.3 +1.8
YERR				IAmb	IAmb	13 58 59.0
	comp=Z,10nm,1.0s					
NB2	**NORSAR Subarra**	**74.43 337**		P	P	13 58 55.3 -0.3
	comp=Z,8.5nm,1.1s,baz=40,slow=6.2					
NOA	**NORSAR Array B**	**74.43 337**		P	P	13 58 55.9 +0.3
	comp=Z,1.4nm,0.6s,baz=40,slow=5.8,SNR=6.4					
NOA				LR	LR	14 34 14.6
	comp=Z,91nm,19.2s,baz=50,slow=38					
AKASG	**Malin Array Be**	**74.49 322**		P	P	13 58 55.8 -0.2
	comp=Z,5.0nm,0.4s,baz=46,slow=5.9,SNR=13					
AKASG				LR	LR	14 33 51.2
	comp=Z,104nm,20.5s,baz=355,slow=38					
EGMT	**Eagleton**	**74.55 41**		P	P	13 58 56.7 +0.2
EGMT				IAmb	IAmb	13 58 59.5
	comp=Z,13nm,1.1s					
DLMT	**Dillon**	**74.61 45**		P	P	13 58 58.7 +1.7
DLMT				IAmb	IAmb	13 59 00.8
	comp=Z,9.4nm,0.9s					
BMN	**Battle Mountai**	**74.76 51**		P	P	13 58 59.5 +1.5
BMN				pmax	pmax	
	comp=Z,7.0nm,1.1s					
BMN	**Battle Mountai**	**74.76 51**		P	P	13 58 59.5 +1.5
KVN	**Kaiserville**	**75.00 52**		P	P	13 59 00.1 +0.6
KVN				pmax	pmax	
	comp=Z,10.0nm,1.1s					
KVN	**Kaiserville**	**75.00 52**		P	P	13 59 00.1 +0.6
KVN				IAmb	IAmb	13 59 03.0
	comp=Z,9.9nm,1.1s					
BOZ	**Bozeman (W)**	**75.01 44**		P	P	13 59 00.6 +1.3
BOZ				pmax	pmax	
	comp=Z,5.0nm,0.9s					
BOZ	**Bozeman (W)**	**75.01 44**		P	P	13 59 00.6 +1.3
NVAR	**Mina Array Bea**	**75.23 53**		P	P	13 59 03.1 +2.2
	comp=Z,4.2nm,0.9s,baz=281,slow=6.2,SNR=20					
NVAR	**Mina Array Bea**	**75.23 53**		P	P	13 59 02.0 +1.1
YHL	**Hebgen Lake**	**75.71 44**		P	P	13 59 05.2 +1.6
ELK	**Elko**	**75.80 50**		P	P	13 59 05.0 +0.9
ELK				pmax	pmax	
	comp=Z,7.0nm,1.5s					
ELK	**Elko**	**75.80 50**		P	P	13 59 05.0 +0.9
YHH	**Holmes Hill**	**75.94 44**		P	P	13 59 06.6 +1.7
IMW	**Indian Meadow**	**76.44 45**		P	P	13 59 09.9 +2.2
FXWY	**Fox Creek**	**76.55 45**		P	P	13 59 10.4 +2.1
HVU	**Hansel Valley**	**76.67 48**		P	P	13 59 10.8 +1.9
HVU				pmax	pmax	
	comp=Z,4.0nm,1.0s					
HVU	**Hansel Valley**	**76.67 48**		P	P	13 59 10.8 +1.9
TPAW	**Teton Pass**	**76.68 45**		P	P	13 59 11.3 +2.2
ISA	**Isabella, Lake**	**76.72 55**		P	P	13 59 10.2 +1.0
ISA				pmax	pmax	
	comp=Z,10.0nm,1.4s					
ISA	**Isabella, Lake**	**76.72 55**		P	P	13 59 10.2 +1.0
ISA				IAmb	IAmb	13 59 11.4
	comp=Z,9.8nm,1.4s					
REDW	**Red Top Meadow**	**76.82 45**		P	P	13 59 11.3 +1.5
REDW				IAmb	IAmb	13 59 13.4
	comp=Z,10.0nm,1.2s					
R11A	**Troy Canyon, C**	**77.01 52**		P	P	13 59 12.3 +1.4
LAO	**LASA Array**	**77.25 41**		P	P	13 59 13.8 +1.8
LAO				IAmb	IAmb	13 59 56.3
	comp=Z,13nm,0.8s					
TPNV	**Topopah Spring**	**77.41 53**		P	P	13 59 14.6 +1.4
TPNV				pmax	pmax	
	comp=Z,7.0nm,1.1s					
TPNV	**Topopah Spring**	**77.41 53**		P	P	13 59 14.6 +1.4
TPNV				IAmb	IAmb	13 59 20.9
	comp=Z,7.5nm,1.1s					
LVV	**L'vov**	**77.58 324**	*eP*		P	13 59 13.7 +0.1
DUG	**Dugway, Tooele**	**77.61 49**		P	P	13 59 15.7 +1.5
DUG				pmax	pmax	
	comp=Z,6.0nm,1.0s					
DUG	**Dugway, Tooele**	**77.61 49**		P	P	13 59 15.7 +1.5
PD31	**Pinedale Array**	**77.93 45**		P	P	13 59 17.2 +1.1
PDAR	**Pinedale Array**	**77.93 45**		P	P	13 59 17.4 +1.3
	comp=Z,1.5nm,0.7s,baz=288,slow=2.9,SNR=14					
PDAR	**Pinedale Array**	**77.93 45**		P	P	13 59 17.1 +1.1
PSUT	**Pine Spring**	**77.98 51**		P	P	13 59 16.5 +0.1
SHPR	**Sheep Range**	**78.38 53**		P	P	13 59 20.1 +1.5
BURAR	**Bucovina Array**	**78.50 322**		P	P	13 59 18.2 -0.7
CCUT	**Cedar City**	**78.89 51**		P	P	13 59 22.5 +1.1
BRTR	**Keskin Array B**	**79.00 312**		P	P	13 59 21.5 -0.4
BRTR	**Keskin Array B**	**79.00 312**		P	P	13 59 22.2 +0.3
	comp=Z,2.1nm,0.8s,baz=98,slow=3.7,SNR=11					
BRTR				LR	LR	14 36 22.3
	comp=Z,46nm,20.5s,baz=358,slow=37					
BRTR	**Keskin Array B**	**79.00 312**		P	P	13 59 21.5 -0.4
UZH	**Uzhgorod**	**79.22 324**	⇑ *iP*		P	13 59 18.5 -4.2
OJC	**Ojcow**	**79.25 326**	*eP*		P	13 59 24.3 +1.4
OJC	**Ojcow**	**79.25 326**	*eP*		P	13 59 24.2 +1.4
OJC			*eP*		P	13 59 24.2 +1.4
PFO	**Pinyon Flats O**	**79.27 56**	*i P*		P	13 59 26.8 +3.3
P17A	**Butcher Ranch,**	**79.31 49**		P	P	13 59 25.4 +1.7
MTPU	**Mount Pierson**	**79.32 50**		P	P	13 59 23.8 -0.2
KNB	**Kanab**	**79.56 52**		P	P	13 59 26.0 +1.0
KNB				pmax	pmax	
	comp=Z,12nm,1.2s					
KNB	**Kanab**	**79.56 52**		P	P	13 59 26.0 +1.0
NIE	**Niedzica**	**79.59 325**	*eP*		P	13 59 26.8 +2.0
NIE	**Niedzica**	**79.59 325**	*eP*		P	13 59 26.8 +2.0
NIE			*eP*		P	13 59 26.8 +2.0
SRU	**San Rafael Swe**	**79.67 49**		P	P	13 59 26.7 +1.1
SRU				pmax	pmax	
	comp=Z,7.0nm,0.8s					
SRU	**San Rafael Swe**	**79.67 49**		P	P	13 59 26.7 +1.1
U15A	**North Rim**	**80.25 52**		P	P	13 59 30.0 +1.1
O20A	**White River Ci**	**80.37 47**		P	P	13 59 30.2 +0.8
GLA	**Glamis**	**80.69 56**		P	P	13 59 32.6 +1.5
GLA				pmax	pmax	
	comp=Z,8.0nm,1.1s					
GLA	**Glamis**	**80.69 56**		P	P	13 59 32.6 +1.5
GLA				IAmb	IAmb	13 59 34.4
	comp=Z,7.9nm,1.1s					
RAYN	**Ar Rayn**	**80.70 292**		P	P	13 59 31.0 -0.3
RAYN				pmax	pmax	
	comp=Z,11nm,1.0s					
RAYN	**Ar Rayn**	**80.70 292**		P	P	13 59 31.0 -0.3
RAYN				IAmb	IAmb	13 59 32.5
	comp=Z,11nm,1.0s					
VYHS	**Vyhne**	**80.93 325**	*eP*		P	13 59 32.9 +0.9
VYHS	**Vyhne**	**80.93 325**	*eP*		P	13 59 32.9 +0.9
PV21	**Cone Mtn., Par**	**80.95 48**		P	P	13 59 33.5 +0.9
PV21				IAmb	IAmb	13 59 36.0
	comp=Z,7.8nm,0.9s					
PV14	**Lion Creek, Pa**	**81.04 49**		P	P	13 59 35.0 +1.9
PV14				IAmb	IAmb	13 59 36.4
	comp=Z,17nm,1.0s					
PV22	**Blue Mesa, Par**	**81.08 48**		P	P	13 59 35.3 +2.1
PV22				IAmb	IAmb	13 59 37.1
	comp=Z,8.1nm,0.9s					
PV20	**West Nyswonger**	**81.09 49**		P	P	13 59 35.3 +2.0
PV20				IAmb	IAmb	13 59 36.7
	comp=Z,16nm,1.1s					
PV04	**Paradox Valley**	**81.10 48**		P	P	13 59 35.5 +2.2
PV04				IAmb	IAmb	13 59 36.9
	comp=Z,17nm,1.2s					
PV19	**Morning Glory**	**81.10 49**		P	P	13 59 35.0 +1.6
PV19				IAmb	IAmb	13 59 36.8
	comp=Z,15nm,0.9s					
PV17	**East Wray Mesa**	**81.14 49**		P	P	13 59 35.3 +1.7
PV16	**Nyswonger Mesa**	**81.14 49**		P	P	13 59 35.2 +1.6
PV16				IAmb	IAmb	13 59 37.0
	comp=Z,12nm,1.0s					
PV11	**David Mesa, Pa**	**81.18 49**		P	P	13 59 35.7 +1.9
PV11				IAmb	IAmb	13 59 37.2
	comp=Z,14nm,1.1s					
PV05	**Paradox Valley**	**81.18 49**		P	P	13 59 36.0 +2.2
PV18	**Skein Mesa, Pa**	**81.19 49**		P	P	13 59 35.3 +1.4
PV18				IAmb	IAmb	13 59 37.3
	comp=Z,17nm,1.1s					
N23A	**Red Feather La**	**81.20 45**		P	P	13 59 35.5 +1.6
N23A				IAmb	IAmb	13 59 37.9
	comp=Z,5.5nm,0.8s					
PV12	**Saucer Basin,**	**81.21 48**		P	P	13 59 35.9 +1.9
PV12				IAmb	IAmb	13 59 44.6
	comp=Z,25nm,1.6s					
PV03	**Paradox Valley**	**81.22 49**		P	P	13 59 36.1 +2.1
PV03				IAmb	IAmb	13 59 37.4
	comp=Z,14nm,1.2s					
PV07	**Paradox Valley**	**81.22 48**		P	P	13 59 36.1 +2.0
PV07				IAmb	IAmb	13 59 37.3
	comp=Z,8.2nm,1.2s					
BRG	**Berggiesshubel**	**81.27 329**	*eP*		P	13 59 34.3 +0.6
	comp=Z,8.4nm,1.2s					
BRG	**Berggiesshubel**	**81.27 329**	*eP*		P	13 59 34.3 +0.6
BRG				pmax	pmax	
	comp=Z,8.0nm,1.2s					
PV13	**Radium Mtn., P**	**81.30 49**		P	P	13 59 36.7 +2.2
PV13				IAmb	IAmb	13 59 38.4
	comp=Z,15nm,1.0s					
PV02	**Paradox Valley**	**81.32 49**		P	P	13 59 36.9 +2.3
PV02				IAmb	IAmb	13 59 38.0
	comp=Z,14nm,1.2s					
CLL	**Collm**	**81.32 330**	⇓ *iP*		P	13 59 33.8 -0.2
CLL			*i*			13 59 39.6
CLL				pmax	pmax	
	comp=Z,22nm,1.5s					
CLL	**Collm**	**81.32 330**	⇓ *iP*		P	13 59 33.8 -0.2
	comp=Z,22nm,1.5s					
CLL			*i*	PcP	pP	13 59 39.6 -0.5
CLL				LmV		15 13 00.0
	comp=Z,200nm,18.9s					
Y14A	**Wickenburg**	**81.34 54**		P	P	13 59 36.2 +1.7
WUAZ	**Wupatki**	**81.40 52**		P	P	13 59 37.1 +2.1
WUAZ				IAmb	IAmb	13 59 39.0
	comp=Z,8.0nm,0.9s					
PV01	**Paradox Valley**	**81.47 48**		P	P	13 59 37.2 +1.8
PV01				IAmb	IAmb	13 59 38.7
	comp=Z,11nm,1.1s					
MMAI	**Mount Meron Ar**	**82.08 305**		LR	LR	14 39 30.3
	comp=Z,94nm,20.7s,baz=320,slow=38					
S22A	**4UR Ranch, Cre**	**82.76 48**		P	P	13 59 44.0 +1.8
GERES	**GERESS Array B**	**82.93 328**		P	P	13 59 42.9 +0.2
	comp=Z,1.2nm,0.4s,baz=36,slow=6.1,SNR=9.6					
GERES				LR	LR	14 40 10.1
	comp=Z,99nm,18.1s,baz=53,slow=38					
SDCO	**Great Sand Dun**	**83.55 47**		P	P	13 59 48.4 +2.1
SDCO				IAmb	IAmb	13 59 49.8
	comp=Z,7.3nm,1.2s					
PPT	**Papeete**	**84.57 116**		LR	LR	14 30 55.4
	comp=Z,57nm,21.5s,baz=348,slow=31					
T25A	**Trinidad**	**84.60 47**		P	P	13 59 53.5 +2.0
T25A				IAmb	IAmb	13 59 55.2
	comp=Z,8.2nm,0.8s					
ANMO	**Albuquerque**	**84.84 50**		P	P	13 59 54.9 +2.1
ANMO				pmax	pmax	
	comp=Z,6.0nm,1.1s					
ANMO	**Albuquerque**	**84.84 50**		P	P	13 59 54.9 +2.1
ANMO				IAmb	IAmb	13 59 56.8
	comp=Z,6.2nm,1.1s					
LIT	**Litokhoron**	**85.13 318**		P	P	13 59 53.5 -0.4
LIT				pmax	pmax	
	comp=Z,19nm,1.1s					
LIT	**Litokhoron**	**85.13 318**		P	P	13 59 53.5 -0.4
BFO	**Black Forest**	**85.53 331**	*i P*		P	13 59 56.8 +1.0
TX31	**Lajitas Ar. Si**	**90.36 52**		P	P	14 00 20.3 +0.9
TX31				IAmb	IAmb	14 01 38.6
	comp=Z,19nm,1.9s					
TX32	**Lajitas Array**	**90.36 52**		P	P	14 00 20.3 +0.9
TX32				IAmb	IAmb	14 00 29.0
	comp=Z,16nm,1.8s					
TXAR	**Lajitas Array**	**90.36 52**		P	P	14 00 19.9 +0.5
TXAR	**Lajitas Array**	**90.36 52**		P	P	14 00 21.8 +2.4
	comp=Z,2.1nm,0.8s,baz=291,slow=3.2,SNR=19					
TXAR	**Lajitas Array**	**90.36 52**		P	P	14 00 19.9 +0.5
U40A	**Yellville**	**91.61 41**		P	P	14 00 25.1 +0.1
QSPA	**South Pole Qui**	**126.48 180**		PKP	PKPdf	14 06 20.4 +0.6
	comp=Z,1.2nm,0.7s,baz=269,slow=0.4,SNR=13					
LPAZ	**La Paz**	**146.91 60**		PKP2	PKPbc	14 07 01.6 +0.2
LPAZ	**La Paz**	**146.91 60**		PKPbc	PKPbc	14 07 02.3 +0.9
	comp=Z,4.3nm,0.5s,baz=341,slow=2.4,SNR=22					
LPAZ	**La Paz**	**146.91 60**			PKPbc	14 07 01.6 +0.2
PB11	**IPOC Station P**	**148.09 66**			PKPbc	14 07 03.4 -0.6

ROM ***04*** *14:10:31.9±0.1, 44°.389N±0°.008×7°.322E±0°.006, h11km, ML1.9/7, Error ellipse: s-maj=0.9km s-min=0.5km az=183.0*

ISCJB ***04*** *14:10:32.2±0.3, 44°.40N±0°.01×7°.35E±0°.03, h19km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=154.7*

STR ***04*** *14:10:32.6±0.7, 44°.N±3°×°±°, h0km, MLv1.8/7*

GEN ***04*** *14:10:32.3, 44°.41N×7°.32E, h11km±2km, Ml1.6*

LDG ***04*** *14:10:32.3±0.0, 44°.41N×7°.33E, h10km, Md2.4/2, Ml2.5/9, Error ellipse: s-maj=0.7km s-min=0.5km az=57.0*

ISC 04 14:10:31.4±0.8, 44°.41N±0°.02×7°.35E±0°.02, h16km±6km, n39, σ0°.47/79, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.12**	**321**	P	**Pb**	**14 10 35.6**	**+0.2**
DOI				S	**Sg**	**14 10 37.6**	**+0.1**
STV	**Sant Ambrogio di V**	**0.17**	**186**	P	**Pb**	**14 10 36.1**	**-0.2**
STV				S	**Sg**	**14 10 38.3**	**-0.3**
STV	**Sant Ambrogio di V**	**0.17**	**186**	P	**Pb**	**14 10 36.1**	**-0.2**
STV				S	**Sg**	**14 10 38.2**	**-0.3**
STV				AML	AML		
	comp=E,626μm,0.1s						
STV				AML	AML		
	comp=N,348μm,0.2s						
ENR	**Entracque**	**0.19**	**165**	P	**Pb**	**14 10 36.5**	**-0.2**
ENR				S	**Sg**	**14 10 39.1**	**-0.1**
ENR	**Entracque**	**0.19**	**165**	P	**Pb**	**14 10 36.5**	**-0.2**
ENR				S	**Sg**	**14 10 39.1**	**-0.1**
ENR				AML	AML		
	comp=E,1110μm,0.1s						
ENR				AML	AML		
	comp=N,824μm,0.1s						
ISO	**Isola**	**0.32**	**223**	Pg	**Pb**	**14 10 38.5**	**-0.3**
ISO				Sg	**Sg**	**14 10 42.3**	**-0.3**
GBOS	**Grotte di Boss**	**0.39**	**116**	P	**Pb**	**14 10 40.3**	**+0.3**
GBOS				S	**Sb**	**14 10 45.7**	**-0.2**
GBOS	**Grotte di Boss**	**0.39**	**116**	P	**Pb**	**14 10 40.3**	**+0.3**
GBOS				S	**Sb**	**14 10 45.6**	**-0.2**
GBOS				AML	AML		
	comp=E,273μm,0.1s						
GBOS				AML	AML		
	comp=N,143μm,1.1s						
SURF	**Saint Ours**	**0.39**	**280**	Pg	**Pb**	**14 10 39.9**	**-0.2**
SURF				Sg	**Sb**	**14 10 45.4**	**-0.6**
BHB	**Bricherasio**	**0.43**	**352**	P	**Pg**	**14 10 40.2**	**+0.1**
BHB				S	**Sg**	**14 10 45.8**	**-0.3**
BHB	**Bricherasio**	**0.43**	**352**	P	**Pg**	**14 10 40.2**	**+0.1**
BHB				S	**Sb**	**14 10 47.1**	**0.0**
BHB				AML	AML		
	comp=E,106μm,0.1s						
BHB				AML	AML		
	comp=N,76μm,1.2s						
BHB				AML	AML		
	comp=E,106μm,0.1s						
BHB				AML	AML		
	comp=N,76μm,1.2s						
TURF	**col de Turini**	**0.44**	**176**	Pg	**Pb**	**14 10 40.9**	**0.0**
TURF				Sg	**Sg**	**14 10 46.8**	**+0.4**
SAOF	**Saorge**	**0.45**	**161**	Pg	**Pb**	**14 10 41.0**	**+0.1**
SAOF				Sg	**Sg**	**14 10 47.0**	**+0.4**
SAOF	**Saorge**	**0.45**	**161**	P	**Pb**	**14 10 41.0**	**0.0**
SAOF				S	**Sg**	**14 10 46.8**	**+0.2**
SAOF				AML	AML		
	comp=E,176μm,1.2s						
SAOF				AML	AML		
	comp=N,160μm,0.6s						
MBDF	**Montbardon**	**0.52**	**307**	*e*Pg	**Pb**	**14 10 42.3**	**0.0**
MBDF				*e*Sg	**Sb**	**14 10 49.2**	**-0.5**
	comp=N,27nm,0.2s						
SBF	**Sospel**	**0.55**	**174**	*e*Pg	**Pb**	**14 10 42.9**	**+0.1**
SBF				*e*Sg	**Sg**	**14 10 50.1**	**+0.3**
	comp=N,35nm,0.2s						
ESCA	**l'Escarene**	**0.58**	**178**	Pg	**Pb**	**14 10 43.4**	**+0.1**
ESCA				Sg	**Sb**	**14 10 51.2**	**-0.1**
RORO	**Rocca Rossa**	**0.60**	**120**	P	**Pb**	**14 10 43.8**	**+0.3**
RORO				S	**Sb**	**14 10 51.8**	**+0.2**
RORO	**Rocca Rossa**	**0.60**	**120**	P	**Pb**	**14 10 43.8**	**+0.3**
RORO				S	**Sb**	**14 10 52.0**	**+0.3**
RORO				AML	AML		
	comp=E,156μm,0.1s						
RORO				AML	AML		
	comp=N,148μm,0.1s						
NEGI	**Seborga**	**0.62**	**156**	P	**Pb**	**14 10 44.3**	**+0.3**
NEGI				S	**Sb**	**14 10 52.5**	**0.0**
NEGI	**Seborga**	**0.62**	**156**	P	**Pb**	**14 10 44.3**	**+0.3**
NEGI				S	**Sb**	**14 10 52.3**	**-0.2**
NEGI				AML	AML		
	comp=E,261μm,0.2s						
NEGI				AML	AML		
	comp=E,260μm,0.2s						
NEGI				AML	AML		
	comp=N,255μm,1.6s						
RRL	**Rocca Remolon**	**0.65**	**322**	P	**Pb**	**14 10 44.5**	**0.0**
RRL				S	**Sb**	**14 10 53.1**	**-0.2**
RRL	**Rocca Remolon**	**0.65**	**322**	P	**Pb**	**14 10 44.6**	**0.0**
RRL				S	**Sb**	**14 10 53.0**	**-0.4**
QLNO	**Quiliano**	**0.72**	**97**	P	**Pb**	**14 10 46.2**	**+0.5**
QLNO				S	**Sb**	**14 10 56.2**	**+0.9**
CALF	**Calern**	**0.73**	**205**	Pg	**Pb**	**14 10 46.1**	**+0.3**
CALF				Sg	**Sb**	**14 10 55.6**	**-0.1**
RSP	**Reno Superiore**	**0.74**	**355**	P	**Pg**	**14 10 45.1**	**-0.8**
RSP				S	**Sg**

*IDC **04** 14:21:46.6±4.0, 37°.13N×71°.87E, h130km±27km, mb3.4/5, mb1 3.5/12, mb1mx3.2/59, mbtmp3.9/12, Error ellipse: s-maj=43.9km s-min=18.4km az=147.0*
*NEIC **04** 14:21:50.2±2.0, 37°.32N±0°.09×71°.9E±0°.1, h164km±12km, mb4.0/4*
*NNC **04** 14:21:54.7±3.3, 37°.64N×71°.92E, h173km±32km, mb3.0, mpv3.7, Error ellipse: s-maj=29.7km s-min=16.8km az=5.0*
ISC 04 14:21:48.0±0.6, 37°.24N±0°.05×71°.93E±0°.06, h150km, n69, σ2°.07/73, mb3.7/5, 9C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	3.57	222		Pn	14 22 46.1	+3.3
NIL	Nilore	3.74	163		Pn	14 22 48.5	+3.6
ARSB	Arslanbob	4.16	11		Pn	14 22 52.2	+1.8
AML	Almayashu	5.07	15	P	Pn	14 23 04.9	+2.2
	SNR=72						
JMU	Jammu	5.12	151	ex	Sn	14 24 00.0	-1.6
NRN	Naryn	5.24	36		Pn	14 23 05.6	+0.7
UCH	Uchtor	5.37	21	P	Pn	14 23 08.9	+2.3
	SNR=62						
KZA	Kyzart	5.47	27	P	Pn	14 23 10.0	+2.0
	SNR=14						
EKS2	Erkin-Say	5.60	14	P	Pn	14 23 11.8	+2.4
	SNR=30						
AAK	Ala-Archa	5.74	19	⇑P	Pn	14 23 13.8	+2.5
	5.3nm,0.3s						
AAK				⇓S	Sn	14 24 16.1	-0.4
	46nm,0.8s						
AAK	Ala-Archa	5.74	19	P	Pn	14 23 12.8	+1.4
	4.6nm,0.3s,baz=192,slow=8.2,SNR=44						
AAK				S	Sn	14 24 16.1	-0.4
	7.1nm,0.3s,baz=323,slow=19,SNR=18						
AAK	Ala-Archa	5.74	19	P	Pn	14 23 14.0	+2.6
	SNR=22						
AAK	Ala-Archa	5.74	19		Pn	14 23 13.7	+2.3
KBK	Karagaybulak	5.89	22	P	Pn	14 23 16.4	+3.1
	SNR=11						
KK31	Karatay Array	5.96	350	P	Pn	14 23 16.1	+2.0
	4.4nm,0.3s,baz=161,slow=11,SNR=111						
KK31				⇑S	Sn	14 24 19.2	-2.3
	58nm,0.3s,baz=168,slow=21,SNR=38						
KK31	Karatay Array	5.96	350		Pn	14 23 16.1	+2.0
KKAR	Karatay Array	5.96	350		Pn	14 23 15.6	+1.5
KKAR	Karatay Array	5.96	350		Pn	14 23 16.1	+2.0
DHRM	DHARAMSHALA	6.14	143	⇑P	Pn	14 23 18.4	+1.7
DHRM				eS	Sn	14 24 24.5	-1.6
DHRM				IAML		14 24 28.0	
	comp=E,218nm,0.4s						
CHMS	Chumysh	6.15	20	P	Pn	14 23 19.1	+2.5
	SNR=7.4						
TKM2	Tokmak 2	6.33	25	⇑P	Pn	14 23 21.3	+2.0
	comp=E,1.1nm,0.3s						
TKM2				⇑S	Sn	14 24 30.2	-0.5
	comp=E,8.8nm,0.8s						
TKM2	Tokmak 2	6.33	25	P	Pn	14 23 22.1	+2.8
	SNR=6.4						
KDJ	Kajisay	6.34	38		Pn	14 23 21.3	+1.9
TARG	Taragay, Kyrgy	6.38	44		Pn	14 23 21.4	+1.3
SMLA	Simla	7.48	143	eP	Pn	14 23 35.5	+1.1
SMLA				eS	Sn	14 24 53.6	-4.3
SMLA				IAML		14 24 58.8	
	comp=E,244nm,0.5s						
SMLA				IAML		14 24 59.7	
	comp=N,160nm,0.4s						
HRA	Herat	8.37	253	Pn	Pn	14 23 48.7	+2.2
PDGK	Podgornoye	8.39	41	⇓P	Pn	14 23 48.0	+1.4
	comp=N,3.0nm,0.6s						
JOSI	Joshimath	9.19	134	eP	Pn	14 23 58.0	+0.5
JOSI				eS	Sn	14 25 35.7	-3.9
JOSI				IAML		14 25 39.0	
	comp=E,107nm,0.5s						
KUDL	Kundal	9.84	156	eP	Pn	14 23 58.2	-7.7
KUDL				eS	Sn	14 25 40.3	-15
GEYT	Alibeck	10.99	278	P	Pn	14 24 20.8	-0.3
	comp=E,1.1nm,0.3s,baz=106,slow=9.9,SNR=12						
GEYT				S	Sn	14 26 19.5	-3.0
	comp=E,1.3nm,0.3s,baz=116,slow=19,SNR=5.5						
MAKZ	Makanchi	12.12	35	Pn	Pn	14 24 36.5	+0.8
MK31	Makanchi Array	12.26	36	⇑P	Pn	14 24 38.4	+0.9
	comp=E,0.2nm,0.3s,baz=215,slow=14,SNR=4.4						
MK31	Makanchi Array	12.26	36	Pn	Pn	14 24 38.8	+1.3
MKAR	Makanchi Array	12.26	36	P	Pn	14 24 38.3	+0.8
	comp=E,0.1nm,0.3s,baz=226,slow=10.0,SNR=4.3						
DANN	Dangsing	13.31	128	eP	Pn	14 24 49.9	-1.6
	comp=E,38nm,0.4s						
KOLN	Koldanda	13.63	130	eP	Pn	14 24 54.6	-0.8
	comp=E,17nm,0.4s						
GKN	Gorkha	14.11	127	eP	Pn	14 25 00.1	-1.3
	comp=E,36nm,0.2s						
KURBB	Kurchatov Arra	14.19	17	⇑P	P	14 25 06.2	+1.2
	comp=E,3.2nm,0.5s						
KURBB	Kurchatov Arra	14.19	17	P	Pn	14 25 03.5	+1.4
	comp=E,0.2nm,0.3s,baz=207,slow=10,SNR=10						
KURK	Kurchatov	14.30	17	P	P	14 25 06.9	+0.7
KKN	Kakani	14.66	126	eP	Pn	14 25 07.2	-1.3
	comp=E,22nm,0.5s						
DMN	Daman	14.68	127	eP	Pn	14 25 07.5	-1.2
	comp=E,15nm,0.4s						
AB31	Akbulak array	14.83	328	⇓P	Pn	14 25 11.1	+1.0
	comp=E,1.5nm,0.3s,baz=141,slow=12,SNR=166						
AB31	Akbulak array	14.83	328	⇑S	Sn	14 27 44.1	-11
	comp=E,3.9nm,0.5s,baz=155,slow=22,SNR=9.8						
ABKAR	Akbulak array	14.83	328		Pn	14 25 09.7	-0.4
ABKAR	Akbulak array	14.83	328	Pn	Pn	14 25 09.9	-0.2
PKIN	Phulchoki	14.89	126	eP	Pn	14 25 10.0	-1.3
	comp=E,15nm,0.3s						
PKI	Pulchoki	14.90	126	eP	Pn	14 25 10.1	-1.4
	comp=E,28nm,0.4s						
GUN	Gumba	14.97	124	eP	Pn	14 25 11.3	-1.1
	comp=E,17nm,0.4s						
JIRN	Jiri	15.35	124	eP	Pn	14 25 16.2	-0.9
	comp=E,55nm,0.3s						
BVAR	Borovoye Array	15.83	357	P	Pn	14 25 22.2	-0.2
	comp=E,1.1nm,0.3s,baz=166,slow=14,SNR=18						
BRVK	Borovoye	15.87	356	⇓P	Pn	14 25 22.1	-0.6
	comp=E,3.4nm,0.7s						
BRVK	Borovoye	15.87	356	Pn	Pn	14 25 22.2	-0.6
BRVK				IAmb	IAmb	14 25 24.7	
	comp=Z,3.7nm,0.7s						
RAMN	Ramite	16.09	125	eP	Pn	14 25 25.5	-0.6
	comp=Z,20nm,0.4s						
AKTO	Aktyubinsk	16.54	327	⇑P	P	14 25 32.3	+1.3
	comp=Z,4.2nm,0.7s						
AKTO	Aktyubinsk	16.54	327	P	P	14 25 32.5	+1.4
	comp=Z,0.8nm,0.3s,baz=123,slow=9.0,SNR=14						
AKTO	Aktyubinsk	16.54	327	⇓Sn	S	14 28 25.6	-9.1
	comp=Z,7.5nm,0.8s						
TAPN	Taplejung	16.57	122	eP	P	14 25 31.8	0.0
	comp=Z,9.2nm,0.3s						
ODAN	Odare	16.67	124	eP	P	14 25 33.4	+0.5
	comp=Z,25nm,0.6s						
ZAA0	Zalesovo Array	18.94	24	⇓P	P	14 25 58.5	+1.3
	comp=Z,1.4nm,0.9s						
ZAA0	Zalesovo Array	18.94	24	P	P	14 25 58.3	+1.1
ZAA0				IAmb	IAmb	14 25 59.2	
	comp=Z,6.7nm,0.8s						
ZALV	Zalesovo Beam	18.94	24	P	P	14 25 58.7	+1.5
	comp=Z,2.7nm,0.3s,baz=210,slow=9.7,SNR=34						
ZALV	Zalesovo Beam	18.94	24	P	P	14 25 58.3	+1.1
ARU	Arti	21.20	339	P	P	14 26 22.2	+0.8
	comp=Z,0.6nm,0.3s,baz=24,slow=19,SNR=3.6						
ARU	Arti	21.20	339	IAmb	IAmb	14 26 23.9	
	comp=Z,5.4nm,1.0s						
FINES	FINESS Array B	37.30	325	P	P	14 28 46.6	+1.5
	comp=Z,8.2nm,1.2s,baz=131,slow=9.4,SNR=3.2						
ARCES	ARCESS Array B	40.76	337	P	P	14 29 15.4	+1.6
	comp=Z,2.1nm,0.8s,baz=120,slow=9.7,SNR=14						
NOA	NORSAR Array B	44.25	323	P	P	14 29 42.8	+0.6
	comp=Z,0.2nm,0.4s,baz=101,slow=6.9,SNR=2.2						
TORD	Torodi Ar. Bea	66.48	269	P	P	14 32 21.3	-0.4
	comp=Z,0.2nm,0.4s,baz=48,slow=8.3,SNR=3.6						

*NIED **04** 14:21:00, 36°.70N×141°.30E, h5km, Mw3.9 Best double couple: M0:6.88000×10^14 NP1:φs:19.00000°, δ:34.00000°, λ:-91.00000°. NP2:φs:200.00000°, δ:56.00000°, λ:-89.00000°.*
*ISCJB **04** 14:21:49.7±1.0, 36°.70N±0°.03×141°.40E±0°.05, h4km±5km, mb3.9/9, MS3.5/1, Error ellipse: s-maj=7.1km s-min=4.5km az=22.8*
*NEIC **04** 14:21:51.7±1.8, 36°.64N±0°.07×141°.35E±0°.09, h6km±5km, mb4.7/7*
*IDC **04** 14:21:51.3±0.9, 36°.55N×141°.46E, h0km, mb3.9/9, mb1 3.9/13, mb1mx3.7/56, mbtmp3.8/13, ML3.3/3, MS3.0/4, Ms1 3.0/4, ms1mx2.6/54, Error ellipse: s-maj=20.5km s-min=18.4km az=52.0*
*JMA **04** 14:21:52.4±0.1, 36°.72N×141°.26E, h33km±1km, M3.8*
JMA Felt II J1.
ISC 04 14:21:51.9±2.0, 36°.70N±0°.04×141°.27E±0°.07, h3km±11km, n52, σ1°.28/51, mb4.0/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.55	317	P	Pg	14 22 03.1	+0.7
ONAJ				S	Sb	14 22 10.9	-1.5
JHO	Hitachi	0.57	261	P	Pg	14 22 03.5	+0.7
JHO				S	Sb	14 22 11.8	-1.1
JHYU	Hitachinakayam	0.66	237	P	Pg	14 22 05.2	+0.8
JHYU				S	Sb	14 22 14.9	-0.5
JFFD	Fukushimafurud	0.69	305	P	Pg	14 22 05.1	+0.1
JFFD				S	Sg	14 22 14.5	+0.6
JFK	Kawauchi	0.73	335	P	Pg	14 22 05.9	0.0
JFK				S	Sg	14 22 15.8	+0.3
JYT	Yasato	0.99	242	P	Pb	14 22 10.0	-1.5
JFT	Otama	1.10	318	P	Pb	14 22 12.3	-1.3
JMM	Marumori	1.22	342	P	Pn	14 22 13.5	-2.3
JMM				eS	Sb	14 22 29.0	-2.7
JFY	Yanaizu	1.43	300	P	Pn	14 22 18.0	-0.7
JAG	Ashikaga	1.49	260	P	Pn	14 22 17.5	-1.9
MJAR	Matsushiro Arr	2.46	267	Pn	Pn	14 22 32.5	-0.4
	1.7nm,0.3s,baz=69,slow=10,SNR=51						
MJAR				Sn	Sb	14 23 05.8	-1.7
	2.6nm,0.3s,baz=66,slow=31,SNR=6.5						
MJAR				LR	LR	14 23 32.2	
	comp=Z,162nm,18.6s,baz=105,slow=39						
MAJO	Matsushiro	2.47	267		Pn	14 22 32.9	0.0
MAT	Matsushiro	2.47	267	P	Pn	14 22 32.9	0.0
MAT				S	Sb	14 23 05.6	-2.0
MJB9	Matsu-Tunnel	2.47	267		Pn	14 22 32.8	-0.2
INU	Inuyama	3.70	250		Pn	14 22 50.3	+0.5
JHJ2	Mitsune	3.77	199	Pn	Pn	14 22 49.6	-1.2
ERM	Erimo	5.50	15	Pn	Pn	14 23 14.3	-0.3
ASAJ	Asahikawa	7.47	7	Pn	Pn	14 23 41.6	-0.1
	0.7nm,0.3s,baz=218,slow=14,SNR=9.7						
ASAJ				Sn	Sn	14 25 07.7	+0.8
	0.3nm,0.3s,baz=315,slow=20,SNR=2.6						
JKA	Kamikawa-asahi	7.47	7		Pn	14 23 41.6	0.0
JKA					Sn	14 25 07.7	+0.8
JNU	Nakatsue	9.25	250	Pn	Pn	14 24 06.5	+0.4
USRK	Ussuriysk Ar.	10.29	320	Pn	Pn	14 24 22.8	+2.4
	baz=142,slow=12,SNR=2.6						
USRK	Ussuriysk Ar.	10.29	320		Pn	14 24 22.2	+1.9
KSRS	Korea Array	10.69	278	Pn	Pn	14 24 30.1	+4.3
	0.2nm,0.3s,baz=95,slow=14,SNR=3.9						
KSRS				LR	LR	14 28 33.9	
	comp=Z,42nm,20.7s,baz=48,slow=37						
KS19	Wonju Array Si	10.73	278	Pn	Pn	14 24 27.2	+0.8
MDJ	Mudanjiang	11.87	315	Pn	Pn	14 24 43.8	+1.9
KLR	Kul'dur	14.31	334	LR	LR	14 30 24.5	
	comp=Z,62nm,18.0s,baz=46,slow=35						
SONM	Songino Array	27.87	305	P	P	14 27 44.7	+1.9
	1.2nm,0.6s,baz=105,slow=9.8,SNR=9.4						
SONM	Songino Array	27.87	305	P	P	14 27 42.9	+0.1
H11N2	WAKE ISLAND Hy	28.08	120	T	T	14 57 07.5	
	baz=313,slow=75,SNR=447						
H11N1	WAKE ISLAND Hy	28.09	120	T	T	14 57 06.8	
	baz=313,slow=75,SNR=654						
H11N3	WAKE ISLAND Hy	28.10	120	T	T	14 57 05.1	
	baz=313,slow=75,SNR=437						
H11S1	WAKE ISLAND Hy	28.78	122	T	T	14 57 58.4	
	baz=315,slow=76,SNR=46						
H11S3	WAKE ISLAND Hy	28.78	122	T	T	14 57 59.9	
	baz=315,slow=76,SNR=50						
H11S2	WAKE ISLAND Hy	28.80	122	T	T	14 58 01.0	
	baz=315,slow=76,SNR=29						
CM31	Chiang Mai Arr	41.30	256	P	P	14 29 37.7	-1.0
ZALV	Zalesovo Beam	42.05	313	P	P	14 29 46.7	+2.2
	2.0nm,0.6s,baz=92,slow=7.4,SNR=7.2						
ZALV	Zalesovo Beam	42.05	313	P	P	14 29 43.2	-1.2
MK31	Makanchi Array	44.20	302	P	P	14 30 03.0	+1.1
MKAR	Makanchi Array	44.20	302	P	P	14 30 03.8	+1.8
	1.4nm,0.6s,baz=89,slow=9.6,SNR=12						
MKAR	Makanchi Array	44.20	302	P	P	14 30 03.0	+1.0
KURK	Kurchatov	46.04	308	P	P	14 30 15.9	-0.6
KURK				IAmb	IAmb	14 30 20.4	
	comp=Z,4.7nm,0.7s						
KURBB	Kurchatov Arra	46.11	308	P	P	14 30 19.4	+2.3
	comp=Z,2.0nm,0.7s,baz=85,slow=8.2,SNR=8.2						
MLY	Manley	48.19	32	P	P	14 30 32.8	-0.4
MLY				IAmb	IAmb	14 30 34.5	
	comp=Z,7.6nm,1.0s						
ILAR	Eielson Array	49.84	32	P	P	14 30 45.7	0.0
	comp=Z,0.6nm,0.8s,baz=264,slow=5.3,SNR=4.6						
ILAR	Eielson Array	49.84	32	P	P	14 30 45.6	-0.2
ARU	Arti	56.53	319	P	P	14 31 36.4	+1.3
	comp=Z,0.6nm,0.4s,baz=177,slow=22,SNR=3.7						
ARU	Arti	56.53	319	IAmb	IAmb	14 32 49.1	
	comp=Z,19nm,1.8s						
WRA	Warramunga Arr	56.72	188	P	P	14 31 35.7	-1.1
	comp=Z,1.2nm,0.6s,baz=5.7,slow=7.4,SNR=16						
WRA	Warramunga Arr	56.72	188	IAmb	IAmb	14 31 41.4	
	comp=Z,0.3nm,1.4s						
ASAR	Alice Springs	60.44	188	P	P	14 32 01.8	-1.0
	comp=Z,0.6nm,0.9s,baz=353,slow=5.0,SNR=5.5						
NVAR	Mina Array Bea	75.28	53	P	P	14 33 36.5	+0.1
	comp=Z,0.8nm,0.9s,baz=272,slow=7.2,SNR=4.0						
RAO	Raoul Island	75.98	144	LR	LR	15 01 34.1	
	comp=Z,27nm,21.5s,baz=128,slow=31						

*ISCJB **04** 14:23:57.5±0.4, 37°.32N±0°.03×72°.10E±0°.06, h150km, mb4.0/3, Error ellipse: s-maj=6.8km s-min=4.2km az=161.0*
*NEIC **04** 14:23:59.0±2.3, 37°.44N±0°.06×71°.9E±0°.1, h125km±6km, mb4.2/7*
*NNC **04** 14:24:01.5±7.9, 37°.89N×71°.61E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=61.9km s-min=48.0km az=173.0*
*IDC **04** 14:24:02.7±8.4, 37°.62N×72°.00E, h146km±57km, mb3.8/3, mb1 3.5/9, mb1mx3.1/62, mbtmp4.0/9, Error ellipse: s-maj=73.2km s-min=45.6km az=178.0*
ISC 04 14:23:57.9±0.7, 37°.34N±0°.06×71°.90E±0°.06, h150km, n51, σ2°.12/56, mb4.3/6, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	2.85	343	Pn	Pn	14 24 44.0	+0.7
BTK				Sn	Sn	14 25 13.8	-4.8
KBL	Kabul	3.63	221	Pn	Pn	14 24 54.6	+1.1
NIL	Nilore	3.84	163	Pn	Pn	14 24 57.7	+1.6
ARSB	Arslanbob	4.07	12	Pn	Pn	14 24 58.9	-0.2
AAK	Ala-Archa	5.66	20	⇑P	Pn	14 25 21.2	+1.1
	14nm,0.5s						
AAK				⇑S	Sn	14 26 23.7	-0.6
	33nm,0.7s						
AAK	Ala-Archa	5.66	20	P	Pn	14 25 21.3	+1.2
	5.6nm,0.3s,baz=178,slow=1.3,SNR=5.6						
AAK				S	Sn	14 26 22.8	-1.6
	4.2nm,0.3s,baz=347,slow=15,SNR=7.5						
AAK	Ala-Archa	5.66	20		Pn	14 25 21.0	+0.9
FRU1	Bishkek	5.86	20	Pn	Pn	14 25 24.0	+1.4
KK31	Karatay Array	5.86	350	P	Pn	14 25 23.1	+0.4
	20nm,0.4s,baz=177,slow=13,SNR=6.3						
KK31				⇑S	Sn	14 26 24.7	-4.3
	12nm,0.3s,baz=175,slow=21,SNR=11						
KK31	Karatay Array	5.86	350	Pn	Pn	14 25 22.9	+0.3
KKAR	Karatay Array	5.86	350	Pn	Pn	14 25 22.9	+0.2
BOOM	Boomskoye usch	6.01	30	Pn	Pn	14 25 23.4	-1.4
TKM2	Tokmak 2	6.26	26	⇓P	Pn	14 25 29.2	+1.1
	21nm,1.0s						
TKM2				⇑S	Sn	14 26 36.8	-1.9
	9.9nm,0.8s						
KDJ	Kajisay	6.28	39	Pn	Pn	14 25 27.4	-1.1
GEYT	Alibeck	10.95	277	S	Sn	14 28 24.2	-7.2
	1.7nm,0.3s,baz=294,slow=27,SNR=6.2						
MAKZ	Makanchi	12.06	35	Pn	Pn	14 26 44.3	+0.4
MK31	Makanchi Array	12.19	36	Pn	Pn	14 26 47.0	+0.4
MKAR	Makanchi Array	12.19	36	P	Pn	14 26 47.4	+0.9
	0.0nm,0.3s,baz=216,slow=12,SNR=4.9						
MKAR	Makanchi Array	12.19	36	Pn	Pn	14 26 47.0	+0.4
DANN	Dangsing	13.39	129	eP	Pn	14 27 00.6	-1.8
	6.3nm,0.2s						
DANN	Dangsing	13.39	129	eS	Pn	14 27 00.6	-1.8
KOLN	Koldanda	13.71	131	eP	Pn	14 27 04.6	-1.8
	6.8nm,0.4s						
KURBB	Kurchatov Arra	14.11	18	P	Pn	14 27 10.9	0.0
	0.1nm,0.3s,baz=208,slow=12,SNR=2.9						
GKN	Gorkha	14.19	127	eP	Pn	14 27 10.6	-1.7
	15nm,0.4s						
KURK	Kurchatov	14.21	18	P	P	14 27 16.6	+1.5
AB31	Akbulak array	14.73	328	⇓P	Pn	14 27 18.4	-0.4
	1.7nm,0.6s,baz=133,slow=14,SNR=9.3						
ABKAR	Akbulak array	14.73	328	Pn	Pn	14 27 17.3	-1.5
ABKAR				P	P	14 27 22.9	+2.0
KKN	Kakani	14.75	126	eP	Pn	14 27 17.0	-2.4
DMN	Daman	14.76	127	eP	Pn	14 27 18.2	-1.4
PKIN	Phulchoki	14.97	127	eP	Pn	14 27 20.2	-2.0
PKI	Pulchoki	14.98	127	eP	Pn	14 27 20.3	-2.1
JIRN	Jiri	15.43	125	eP	Pn	14 27 26.0	-1.9
	17nm,0.3s						
BVAR	Borovoye Array	15.72	357	P	P	14 27 31.7	-0.2
	0.3nm,0.3s,baz=184,slow=12,SNR=5.9						
BRVK	Borovoye	15.76	356	Pn	P	14 27 32.4	+0.1
BRVK				IAmb	IAmb	14 27 35.8	
	comp=Z,5.3nm,0.8s						
RAMN	Ramite	16.17	126	eP	Pn	14 27 35.3	-1.7
	comp=Z,8.6nm,0.6s						
AKTO	Aktyubinsk	16.44	327	⇑Pn	P	14 27 42.3	+2.4
	comp=Z,9.5nm,0.9s						
AKTO	Aktyubinsk	16.44	327	P	P	14 27 42.8	+3.0
	comp=Z,0.9nm,0.3s,baz=122,slow=11,SNR=14						
TAPN	Taplejung	16.64	122	eP	P	14 27 41.0	-1.6
	comp=Z,3.7nm,0.3s						
ODAN	Odare	16.75	124	eP	P	14 27 42.5	-1.2
	comp=Z,8.7nm,0.5s						
ZAA0	Zalesovo Array	18.86	24	P	Pn	14 28 08.5	0.0
ZALV	Zalesovo Beam	18.86	24	P	Pn	14 28 08.9	+0.5
	comp=Z,0.3nm,0.3s,baz=217,slow=11,SNR=5.2						
ZALV	Zalesovo Beam	18.86	24	P	Pn	14 28 08.2	-0.3
ARU	Arti	21.09	339	P	P	14 28 32.7	+2.5
	comp=Z,0.9nm,0.4s,baz=173,slow=9.4,SNR=4.5						
ARU	Arti	21.09	339	P	P	14 28 31.9	+1.7
ARU				IAmb	IAmb	14 28 33.5	
	comp=Z,3.8nm,0.6s						
ILGA	Ilgaz	29.67	289	P	P	14 29 51.8	+2.2
ILGA				IAmb	IAmb	14 30 27.7	
	comp=Z,9.0nm,1.2s						
BRTR	Keskin Array B	29.88	287	P	P	14 29 52.9	+1.5
PBA	Port Blair	31.68	138	P	P	14 30 13.5	+6.3
FIA1	FINESS Array S	37.20	325	P	P	14 30 57.8	+3.6
FIA1				IAmb	IAmb	14 31 08.1	
	comp=Z,65nm,1.6s						
FINES	FINESS Array B	37.20	325	P	P	14 30 57.6	+3.4
	comp=Z,5.8nm,1.1s,baz=127,slow=8.3,SNR=4.8						
VTS	Vitosha	37.25	294	P	P	14 30 58.0	+2.9
VTS				IAmb	IAmb	14 31 20.2	
	comp=Z,4.2nm,0.9s						
ARCES	ARCESS Array B	40.65	337	P	P	14 31 26.1	+3.3
	comp=Z,16nm,1.4s,baz=108,slow=7.8,SNR=8.1						

*IDC **04** 14:30:54.8±1.5, 36°.33N×141°.05E, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.5/56, mbtmp3.7/8, ML3.0/3, MS2.0/2, Ms1 2.0/2, ms1mx2.0/48, Error ellipse: s-maj=43.3km s-min=18.5km az=69.0*
*ISCJB **04** 14:31:01.2±0.7, 36°.35N±0°.05×140°.80E±0°.08, h61km±4km, mb3.6/4, Error ellipse: s-maj=10.9km s-min=8.2km az=26.7*
*JMA **04** 14:31:02.7±0.1, 36°.34N×140°.73E, h54km±1km, M3.3*
JMA Felt I J1.
ISC 04 14:31:01.6±0.9, 36°.35N±0°.06×140°.82E±0°.07, h56km±7km, n22, σ1°.65/25, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.19	267	P	Pn	14 31 11.1	+0.5
JHYU				S	Sn	14 31 17.0	-0.1
JHO	Hitachi	0.33	322	P	Pn	14 31 12.2	+0.5
JHO				S	Sn	14 31 19.1	+0.2
JIHU	Itakohorinouch	0.45	212	P	Pn	14 31 13.8	+1.0
JIHU				S	Sn	14 31 21.1	+0.3
JYT	Yasato	0.52	257	P	Pn	14 31 13.6	+0.1
JYT				S	Sn	14 31 20.8	-1.4
JFK	Kawauchi	1.02	2	P	Pn	14 31 20.3	+0.5
JFK				S	Sn	14 31 33.6	+0.4
JAG	Ashikaga	1.11	274	P	Pn	14 31 21.2	+0.2
JAG				S	Sn	14 31 34.3	-1.0
MJAR	Matsushiro Arr	2.12	276	Pn	Pn	14 31 35.5	+0.8
	1.3nm,0.3s,baz=100,slow=18,SNR=73						
MJAR				Sn	Sn	14 32 00.6	+0.8
	2.7nm,0.3s,baz=71,slow=25,SNR=8.6						
MJAR				LR	LR	14 32 03.6	
	comp=Z,10nm,19.9s,baz=25,slow=30						
MAT	Matsushiro	2.12	276	P	Pn	14 31 35.4	+0.7
MAT				S	Sn	14 31 55.7	-4.1
ASAJ	Asahikawa	7.88	9	Pn	Pn	14 32 52.2	-1.2
	0.7nm,0.3s,baz=252,slow=8.6,SNR=8.2						
ASAJ				Sn	Sn	14 34 17.5	-3.6
	0.2nm,0.3s,baz=252,slow=20,SNR=2.6						
ASAJ				LR	LR	14 35 51.0	
	comp=Z,42nm,20.4s,baz=328,slow=38						
JCJ	Chichijima	9.30	172	Pn	Pn	14 33 09.5	-3.5
	4.7nm,0.3s,baz=307,slow=20,SNR=3.7						
JCJ				Sn	Sn	14 34 47.8	-8.3
	3.3nm,0.3s,baz=108,slow=20,SNR=4.4						
US

Error ellipse: s-maj=12.4km s-min=9.5km az=158.0
*KRNET **04** 14:36:24.2±0.1,39°.90N×75°.73E,mb3.9*
ISC 04 14:36:23.8±1.4,**39°.93N**±0°.04×**75°.48E**±0°.03,**h1**km±13km,
n55,σ1§**85**/75,**36C-12D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.56**	**137**	Pg	**Pg**	**14 36 33.8**	**-0.8**
KSH				Sg	**Sb**	**14 36 43.7**	**-1.4**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,1μm,0.5s						
NRN	**Naryn**	**1.56**	**15**	⇑*iP*	**Pb**	**14 36 53.0**	**-0.6**
	baz=7.0						
NRN				⇑*iS*	**Sg**	**14 37 14.1**	**+0.3**
	baz=7.0						
ARLS	**Aral**	**2.12**	**336**	⇓*iP*	**Pg**	**14 37 04.3**	**-0.2**
	baz=32						
ARLS				⇓*iS*	**Sg**	**14 37 34.5**	**+2.5**
	baz=32						
KZA	**Kyzart**	**2.15**	**355**	⇑*iP*	**Pb**	**14 37 02.9**	**-1.0**
	baz=51						
KZA				⇑*iS*	**Sg**	**14 37 33.1**	**0.0**
	baz=51						
KZA	**Kyzart**	**2.15**	**355**	P	**Pb**	**14 37 02.9**	**-1.0**
	SNR=84						
ARSB	**Arslanbob**	**2.36**	**307**	⇑*iP*	**Pg**	**14 37 08.5**	**-0.5**
	baz=5.0						
ARSB				⇑*iS*	**Sg**	**14 37 42.1**	**+2.5**
	baz=5.0						
ULHL	**Ulahol**	**2.39**	**14**	⇑*iP*	**Pb**	**14 37 06.0**	**-1.7**
	baz=9.0						
ULHL				⇑*iS*	**Sb**	**14 37 37.6**	**-0.1**
	baz=9.0						
ULHL	**Ulahol**	**2.39**	**14**	P	**Pb**	**14 37 07.8**	**+0.1**
	SNR=33						
UCH	**Uchtor**	**2.41**	**343**	⇑*iP*	**Pb**	**14 37 06.9**	**-1.4**
	baz=39						
UCH				⇑*iS*	**Sb**	**14 37 39.2**	**+0.5**
	baz=39						
UCH	**Uchtor**	**2.41**	**343**	P	**Pb**	**14 37 06.7**	**-1.6**
	SNR=294						
TARG	**Taragay, Kyrgy**	**2.52**	**44**	⇓*iP*	**Pn**	**14 37 07.1**	**+0.8**
	baz=40						
TARG				⇓*iS*	**Sb**	**14 37 39.6**	**-2.2**
	baz=40						
KDJ	**Kajisay**	**2.55**	**30**	⇑*iP*	**Pn**	**14 37 07.0**	**+0.5**
	baz=26						
KDJ				⇑*iS*	**Sb**	**14 37 39.4**	**-3.0**
	baz=26						
AML	**Almayashu**	**2.58**	**329**	⇑*iP*	**Pb**	**14 37 08.9**	**-2.2**
	baz=26						
AML				⇑*iS*	**Sb**	**14 37 43.6**	**+0.1**
	baz=26						
AML	**Almayashu**	**2.58**	**329**	P	**Pb**	**14 37 09.0**	**-2.2**
	SNR=13						
KBK	**Karagaybulak**	**2.75**	**352**	⇑*iP*	**Pb**	**14 37 11.6**	**-2.4**
	baz=48						
KBK				⇑*iS*	**Sb**	**14 37 47.0**	**-1.3**
	baz=48						
KBK	**Karagaybulak**	**2.75**	**352**	P	**Pb**	**14 37 11.8**	**-2.2**
	SNR=79						
AAK	**Ala-Archa**	**2.81**	**345**	⇑Pn	**Pb**	**14 37 12.2**	**-2.6**
	60nm,0.7s						
AAK				Lg	Lg	14 37 51.2	
	146nm,0.8s						
AAK	**Ala-Archa**	**2.81**	**345**	⇓*iP*	**Pb**	**14 37 12.4**	**-2.4**
	baz=42						
AAK				⇓*iS*	**Sb**	**14 37 48.3**	**-1.5**
	baz=42						
AAK	**Ala-Archa**	**2.81**	**345**	P	**Pb**	**14 37 12.8**	**-2.0**
	SNR=82						
FRU1	**Bishkek**	**2.95**	**348**	⇑*iP*	**Pb**	**14 37 14.9**	**-2.3**
	baz=44						
FRU1				⇑*iS*	**Sb**	**14 37 53.0**	**-0.8**
	baz=44						
TKM2	**Tokmak 2**	**2.99**	**2**	⇑Pn	**Pb**	**14 37 15.0**	**-3.1**
	20nm,0.4s						
TKM2				⇑Lg	Lg	14 38 00.6	
	222nm,0.8s						
TKM2	**Tokmak 2**	**2.99**	**2**	⇑*iP*	**Pn**	**14 37 14.6**	**+2.0**
	baz=58						
TKM2				⇑*iS*	**Sb**	**14 37 52.4**	**-2.7**
	baz=58						
TKM2	**Tokmak 2**	**2.99**	**2**	P	**Pb**	**14 37 15.1**	**-2.9**
	SNR=20						
EKS2	**Erkin-Say**	**3.02**	**335**	⇑*iP*	**Pb**	**14 37 15.3**	**-3.1**
	baz=33						
EKS2				⇑*iS*	**Sb**	**14 37 53.6**	**-2.2**
	baz=33						
EKS2	**Erkin-Say**	**3.02**	**335**	P	**Pb**	**14 37 15.4**	**-3.1**
	SNR=19						
CHMS	**Chumysh**	**3.12**	**350**	⇑*iP*	**Pn**	**14 37 16.2**	**+2.1**
	baz=47						
CHMS				⇑*iS*	**Sb**	**14 37 55.3**	**-3.3**
	baz=47						
CHMS	**Chumysh**	**3.12**	**350**	P	**Pb**	**14 37 16.8**	**-3.2**
	SNR=33						
KST	**Kastek**	**3.13**	**7**	Pg	**Pb**	**14 37 17.4**	**-3.0**
	45nm,0.5s						
KST				Lg	Lg	14 38 01.2	
	226nm,0.6s						
IZV	**Izvestkoviy**	**3.22**	**15**	Pg	**Pb**	**14 37 21.5**	**-0.4**
	54nm,0.6s						
IZV				Lg	Lg	14 38 08.2	
	110nm,0.5s						
MTBS	**Maitube**	**3.28**	**12**	Pg	**Pb**	**14 37 20.8**	**-2.1**
	18nm,0.3s						
MTBS				Lg	Lg	14 38 06.8	
	76nm,0.4s						
MRKS	**Merke**	**3.29**	**330**	Pg	**Pn**	**14 37 18.9**	**+2.4**
	18nm,0.5s						
MRKS				Lg	Lg	14 38 04.0	
	25nm,0.5s						
ANVS	**Anan'yevo**	**3.29**	**29**	⇓*iP*	**Pn**	**14 37 18.3**	**+1.6**
	baz=26						
ANVS				⇓*iS*	**Sn**	**14 37 57.9**	**+1.3**
	baz=26						
DGS	**Degeres**	**3.32**	**4**	Pg	**Pb**	**14 37 20.0**	**-3.6**
	32nm,0.5s						
DGS				Lg	Lg	14 38 05.8	
	99nm,0.5s						
USP	**Ospenovka**	**3.42**	**348**	P	**Pn**	**14 37 20.4**	**+2.2**
	SNR=28						
MDOK	**Medeo**	**3.44**	**20**	⇓Pn	**Pn**	**14 37 19.8**	**+1.1**
	15nm,0.6s						
MDOK				⇑Lg	Lg	14 38 12.4	
	132nm,0.8s						
MDOK	**Medeo**	**3.44**	**20**	Pg	**Pb**	**14 37 25.1**	**-0.6**
	16nm,0.4s						
MDOK				Lg	Lg	14 38 14.2	
	98nm,0.8s						
KNDC	**Almaty**	**3.47**	**18**	⇑Pn	**Pn**	**14 37 19.8**	**+0.8**
	26nm,0.5s						
KNDC				⇑Lg	Lg	14 38 15.1	
	291nm,0.8s						
KOTS	**Kotyrbulak**	**3.52**	**20**	Pg	**Pb**	**14 37 26.6**	**-0.5**
	45nm,0.4s						
KOTS				Lg	Lg	14 38 16.9	
	443nm,0.6s						
SGDS	**Sogindy**	**3.58**	**350**	Pg	**Pb**	**14 37 27.2**	**-0.7**
	21nm,0.5s						
SGDS				Lg	Lg	14 38 18.1	
	84nm,0.4s						
BTK	**Batken**	**3.58**	**274**	⇑*iP*	**Pb**	**14 37 26.2**	**-1.8**
	baz=74						
BTK				⇑*iS*	**Sb**	**14 38 11.1**	**-0.9**
	baz=74						
SATY	**Saty**	**3.82**	**34**	Pg	**Pb**	**14 37 31.5**	**-0.6**
	28nm,0.5s						
SATY				Lg	Lg	14 38 25.4	
	55nm,1.0s						
KTBS	**Karatobe**	**3.89**	**13**	Pg	**Pb**	**14 37 33.3**	**+0.1**
	17nm,0.5s						
KTBS				Lg	Lg	14 38 28.3	
	154nm,0.6s						
ZHN	**Zhinishke**	**3.92**	**33**	Pg	**Pb**	**14 37 33.1**	**-0.7**
	5.7nm,0.3s						
ZHN				Lg	Lg	14 38 28.2	
	53nm,0.5s						
KUU	**Kurty**	**4.01**	**9**	Pg	**Pb**	**14 37 35.5**	**+0.2**
	15nm,0.6s						
KUU				Lg	Lg	14 38 32.2	
	136nm,0.8s						
CHKK	**Chushkaly**	**4.08**	**16**	Pg	**Pb**	**14 37 36.7**	**+0.2**
	15nm,0.6s						
CHKK				Lg	Lg	14 38 34.5	
	97nm,0.7s						
KURS	**Kuram**	**4.09**	**29**	Pg	**Pb**	**14 37 36.5**	**-0.1**
	17nm,0.6s						
KURS				Lg	Lg	14 38 33.9	
	20nm,1.1s						
UZB	**Uzynbulak**	**4.17**	**38**	Pg	**Pb**	**14 37 37.5**	**-0.6**
	5.6nm,0.5s						
UZB				Lg	Lg	14 38 35.6	
	21nm,0.7s						
SHLS	**Shalkode**	**4.40**	**42**	Pg	**Pg**	**14 37 47.4**	**-0.7**
	11nm,0.4s						
SHLS				Lg	Lg	14 38 52.0	
	46nm,0.6s						
PDGK	**Podgornoye**	**4.54**	**40**	Pg	**Pb**	**14 37 43.4**	**-1.0**
	3.2nm,0.5s						
PDGK				Lg	Lg	14 38 45.9	
	19nm,0.8s						
PDGK	**Podgornoye**	**4.54**	**40**	⇓Pn	**Pn**	**14 37 34.5**	**+0.8**
	4.9nm,0.6s						
PDGK				⇑Pg	**Pb**	**14 37 47.4**	**+3.0**
	10nm,0.7s						
PDGK				⇓Lg	Lg	14 38 47.2	
	74nm,1.1s						
ARXS	**Arharly**	**4.62**	**21**	Pg	**Pb**	**14 37 46.5**	**+0.8**
	7.4nm,0.9s						
ARXS				Lg	Lg	14 38 51.3	
	46nm,0.8s						
KK31	**Karatay Array**	**4.89**	**312**	⇑Pn	**Pn**	**14 37 38.0**	**-0.5**
	0.8nm,0.6s,baz=124,slow=13,SNR=12						
KK31				⇑Pg	**Pb**	**14 37 53.0**	**+2.6**
	7.8nm,0.9s,baz=130,slow=16,SNR=7.0						
KK31				⇓Lg	Lg	14 38 59.1	
	3.0nm,0.5s,baz=110,slow=28,SNR=4.9						
KAPS	**Kapalarasan**	**6.07**	**27**	Pg	**Pb**	**14 38 13.3**	**+2.9**
	3.2nm,0.6s						
KAPS				Lg	Lg	14 39 37.1	
	7.7nm,0.6s						
MK31	**Makanchi Array**	**8.46**	**34**	⇑Pn	**Pn**	**14 38 27.7**	**+0.1**
	0.8nm,0.6s,baz=209,slow=13,SNR=7.8						
WMQ	**Urumqi**	**9.91**	**63**	*eP*	**Pn**	**14 38 46.9**	**-0.4**

*ISCJB **04** 14:39:30.7±0.2,8°.80N±0°.03×40°.46W±0°.04,h10km, mb4.4/20,MS4.2/28,Error ellipse: s-maj=6.1km s-min=4.9km az=178.1*
*IDC **04** 14:39:31.9±0.6,9°.06N×40°.50W,h0km,mb4.3/17, mb1 4.4/18,mb1mx4.2/38,mbtmp4.3/18,ML4.2/1,MS4.1/29, Ms1 4.1/29,ms1mx4.1/36,Error ellipse: s-maj=20.6km s-min=12.6km az=137.0*
*NEIC **04** 14:39:34.0±1.2,9°.0N±0°.1×40°.49W±0°.10,h16km±4km, mb5.0/94*
*BJI **04** 14:39:33.0±0.0,9°.00N×40°.50W,h20km,mB5.5/1,Ms5.1/1, Ms7 4.9/1*
*GCMT **04** 14:39:37.0±0.2,9°.10N±0°.02×40°.45W±0°.01,h12km, MW5.0/98,Moment Tensor Solution. s48,c54; s98,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.04±.09; $M_{\theta\theta}$-0.12±.10; $M_{\phi\phi}$4.15±.08; $M_{r\theta}$0.66±.33; $M_{\theta\phi}$-0.01±.08; $M_{\phi r}$-1.26±.24; Best double couple: $M_0$4.33600×10^{16} NP1:ϕ_s351.00000°,δ54.00000°,λ-100.00000°. NP2: ϕ_s189.00000°,δ37.00000°,λ-76.00000°. Principal axes: T 4.3420, Plg9.0000°, Azm89.0000°; N -0.0180, Plg8.0000°, Azm357.0000°; P -4.3300, Plg78.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 14:39:32.8±0.4,**8°.90N**±0°.07×**40°.45W**±0°.07,**h10**km,**n258**, σ1§**25**/222,**mb5.0**/58,**MS4.2**/28,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.68**	**253**	Pn	**Pn**	**14 42 34.3**	**+0.9**
	1.5nm,0.3s,baz=62,slow=11,SNR=9.2						
MDP				LR	LR	14 46 44.0	
	comp=Z,2μm,20.7s,baz=130,slow=34						
NBPB	**Pedra_Branca-C**	**14.37**	**177**	*eP*	Pn	14 42 51.0	-5.6
NBPB	**Pedra_Branca-C**	**14.37**	**177**	*eP*	Pn	14 42 51.0	-5.6
RCBR	**Riachuelo**	**15.31**	**163**	P	**P**	**14 43 15.2**	**+1.1**
RCBR				IAmb	IAmb	14 43 26.0	
	comp=Z,124nm,1.4s						
RCBR	**Riachuelo**	**15.31**	**163**	*eP*	Pn	14 43 03.8	-5.5
RCBR	**Riachuelo**	**15.31**	**163**	*eP*	Pn	14 43 03.8	-5.5
H05S1	**Guadeloupe/Mar**	**20.70**	**287**	T	T	15 05 46.0	
	SNR=60						
H05N1	**Guadeloupe/Mar**	**21.41**	**292**	T	T	15 06 06.4	
	SNR=6.0						
PTGA	**Pitinga**	**21.67**	**245**	P	**P**	**14 44 24.4**	**+0.5**
	comp=Z,8.7nm,1.0s,baz=74,slow=13,SNR=9.8						
PTGA	**Pitinga**	**21.67**	**245**	P	**P**	**14 44 24.4**	**+0.5**
PTGA				IAmb	IAmb	14 44 37.1	
	comp=Z,120nm,1.8s						
PTGA	**Pitinga**	**21.67**	**245**	*eP*	**P**	**14 44 24.7**	**+0.7**
PTGA	**Pitinga**	**21.67**	**245**	*eP*	**P**	**14 44 24.7**	**+0.7**
CLDB	**Colider**	**24.88**	**218**	*eP*	**P**	**14 44 55.2**	**-0.9**
CLDB	**Colider**	**24.88**	**218**	*eP*	**P**	**14 44 55.2**	**-0.9**
BDFB	**Brasilia**	**25.51**	**197**	P	**P**	**14 45 03.8**	**+2.0**
	comp=Z,4.9nm,0.6s,baz=18,slow=8.2,SNR=6.1						
BDFB				LR	LR	14 54 42.0	
	comp=Z,455nm,20.9s,baz=7.8,slow=36						
BDFB	**Brasilia**	**25.51**	**197**	P	**P**	**14 45 03.5**	**+1.7**
CUPR	**Culebra, Puert**	**25.86**	**294**	P	**P**	**14 45 04.8**	**0.0**
CUPR				IAmb	IAmb	14 45 08.1	
	comp=Z,41nm,1.4s						
MTP	**Monte Pirata**	**26.04**	**293**	P	**P**	**14 45 06.7**	**+0.2**
ARAG	**Araguaiana, MT**	**26.91**	**205**	*eP*	**P**	**14 45 13.2**	**-1.2**
ARAG	**Araguaiana, MT**	**26.91**	**205**	*eP*	**P**	**14 45 13.2**	**-1.2**
BSFB	**Barra de Sao F**	**27.56**	**181**	*eP*	**P**	**14 45 17.8**	**-2.3**
BSFB	**Barra de Sao F**	**27.56**	**181**	*eP*	**P**	**14 45 17.8**	**-2.3**
PMNB	**Patos De Minas**	**27.90**	**192**	*eP*	**P**	**14 45 20.2**	**-3.1**
PMNB	**Patos De Minas**	**27.90**	**192**	*eP*	**P**	**14 45 20.2**	**-3.1**
SAML	**Samuel**	**28.76**	**233**	P	**P**	**14 45 30.5**	**-0.4**
SAML	**Samuel**	**28.76**	**233**	*eP*	**P**	**14 45 32.2**	**+1.3**
SAML	**Samuel**	**28.76**	**233**	*eP*	**P**	**14 45 32.2**	**+1.3**
SALV	**Santo Antonio**	**28.90**	**212**	*eP*	**P**	**14 45 33.0**	**+0.9**
SALV	**Santo Antonio**	**28.90**	**212**	*eP*	**P**	**14 45 33.0**	**+0.9**
ALF01	**Guarapari-ES**	**29.33**	**181**	*eP*	P	14 45 32.9	-3.1
ALF01	**Guarapari-ES**	**29.33**	**181**	*eP*	P	14 45 32.9	-3.1
SDV	**Santo Domingo**	**29.82**	**272**	*eP*	**P**	**14 45 45.2**	**+4.5**
SDV	**Santo Domingo**	**29.82**	**272**	*eP*	**P**	**14 45 45.2**	**+4.5**
PP1B	**Ponte de Pedra**	**29.94**	**208**	*eP*	**P**	**14 45 39.8**	**-1.7**
PP1B	**Ponte de Pedra**	**29.94**	**208**	*eP*	**P**	**14 45 39.8**	**-1.7**
BSCB	**Bom Sucesso**	**30.01**	**188**	*eP*	**P**	**14 45 40.2**	**-1.9**
BSCB	**Bom Sucesso**	**30.01**	**188**	*eP*	**P**	**14 45 40.2**	**-1.9**
C2SB	**Chapadao do Su**	**30.09**	**204**	*eP*	**P**	**14 45 40.6**	**-2.1**
C2SB	**Chapadao do Su**	**30.09**	**204**	*eP*	**P**	**14 45 40.6**	**-2.1**
CAM01	**Campos-RJ**	**30.56**	**182**	*eP*	**P**	**14 45 45.5**	**-1.3**
CAM01	**Campos-RJ**	**30.56**	**182**	*eP*	**P**	**14 45 45.5**	**-1.3**
H10N3	**ASCENSION HYDR**	**30.74**	**122**	T	T	15 18 22.3	
	baz=302,slow=75,SNR=21						
H10N2	**ASCENSION HYDR**	**30.75**	**122**	T	T	15 18 26.1	
	baz=302,slow=75,SNR=28						
H10N1	**ASCENSION HYDR**	**30.76**	**122**	T	T	15 18 23.8	
	baz=302,slow=75,SNR=32						
BB19B	**Bebedouro**	**30.82**	**195**	*eP*	**P**	**14 45 47.3**	**-1.9**
BB19B	**Bebedouro**	**30.82**	**195**	*eP*	**P**	**14 45 47.3**	**-1.9**
DUB01	**Friburgo-RJ**	**30.85**	**183**	*eP*	P	14 45 46.0	-3.4
DUB01	**Friburgo-RJ**	**30.85**	**183**	*eP*	P	14 45 46.0	-3.4
VAS01	**Vassouras-RJ**	**31.12**	**185**	*eP*	**P**	**14 45 49.8**	**-2.1**
VAS01	**Vassouras-RJ**	**31.12**	**185**	*eP*	**P**	**14 45 49.8**	**-2.1**
H10S3	**ASCENSION HYDR**	**31.21**	**124**	T	T	15 18 58.2	
	baz=299,slow=74,SNR=10.0						
H10S2	**ASCENSION HYDR**	**31.23**	**124**	T	T	15 18 59.5	
	baz=281,slow=74,SNR=13						
SDDR	**Presa de Saban**	**31.51**	**292**	P	**P**	**14 45 56.2**	**+0.8**
SDDR				IAmb	IAmb	14 46 04.8	
	comp=Z,36nm,1.4s						
MAN01	**Angra dos Reis**	**31.76**	**186**	*eP*	**P**	**14 45 54.7**	**-2.7**
MAN01	**Angra dos Reis**	**31.76**	**186**	*eP*	**P**	**14 45 54.7**	**-2.7**
SIV	**San Ignacio**	**32.07**	**220**	P	**P**	**14 46 02.8**	**+2.6**
	comp=Z,2.1nm,0.8s,baz=62,slow=9.8,SNR=9.7						
VAO	**Valinhos**	**32.34**	**191**	*eP*	**P**	**14 46 01.2**	**-1.3**
VAO	**Valinhos**	**32.34**	**191**	*eP*	**P**	**14 46 01.2**	**-1.3**
AQDB	**Aquidauana**	**32.82**	**207**	*eP*	**P**	**14 46 04.9**	**-1.9**
AQDB	**Aquidauana**	**32.82**	**207**	*eP*	**P**	**14 46 04.9**	**-1.9**
FRTB	**Fartura**	**33.26**	**195**	*eP*	P	14 46 06.2	-4.4
FRTB	**Fartura**	**33.26**	**195**	*eP*	P	14 46 06.2	-4.4
TRCB	**Terra Rica**	**33.68**	**201**	*eP*	**P**	**14 46 12.0**	**-2.3**
TRCB	**Terra Rica**	**33.68**	**201**	*eP*	**P**	**14 46 12.0**	**-2.3**
ROSC	**El Rosal**	**33.86**	**265**	P	**P**	**14 46 17.8**	**+1.4**
	comp=Z,12nm,0.8s,baz=112,slow=5.8,SNR=8.8						
ROSC				LR	LR	15 00 21.1	
	comp=Z,1μm,18.9s,baz=84,slow=37						
ROSC	**El Rosal**	**33.86**	**265**	P	**P**	**14 46 16.3**	**-0.1**
TIC	**Toumodi**	**35.16**	**91**	*eP*	P	14 46 34.7	+7.4
LIC	**Lamto**	**35.20**	**92**	*eP*	P	14 46 34.2	+6.6
	comp=Z,80nm,1.7s						
KIC	**Kosan Boka**	**35.47**	**92**	*eP*	**P**	**14 46 30.6**	**+0.7**
	comp=Z,94nm,1.9s						
LPAZ	**La Paz**	**37.11**	**228**	P	**P**	**14 46 45.9**	**+1.4**
	comp=Z,4.2nm,0.8s,baz=31,slow=7.9,SNR=18						
LPAZ				LR	LR	15 03 31.9	
	comp=Z,268nm,18.5s,baz=41,slow=39						
LPAZ	**La Paz**	**37.11**	**228**	P	**P**	**14 46 44.4**	**-0.2**
CPUP	**Villa Florida**	**38.67**	**205**	LR	LR	15 03 01.4	
	comp=Z,521nm,18.6s,baz=26,slow=36						
OTAV	**Otavalo**	**38.81**	**259**	*eP*	**P**	**14 47 00.8**	**+2.0**
OTAV	**Otavalo**	**38.81**	**259**	*eP*	**P**	**14 47 00.8**	**+2.0**
TOA0	**Torodi Ar. Sit**	**41.54**	**80**	P	**P**	**14 47 21.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**41.54**	**80**	P	**P**	**14 47 21.4**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=276,slow=7.7,SNR=22						
TORD				LR	LR	15 03 04.2	
	comp=Z,935nm,18.5s,baz=300,slow=34						
TORD	**Torodi Ar. Bea**	**41.54**	**80**	P	**P**	**14 47 21.0**	**0.0**
060A	**Indiantown**	**41.80**	**301**	P	**P**	**14 47 21.6**	**-1.3**
LVC	**Limon Verde**	**41.93**	**221**	*eP*	**P**	**14 47 23.8**	**-0.6**
LVC	**Limon Verde**	**41.93**	**221**	*eP*	**P**	**14 47 23.8**	**-0.6**
PLTB	**Pedras Altas**	**42.35**	**197**	*eP*	**P**	**14 47 26.7**	**-0.5**
PLTB	**Pedras Altas**	**42.35**	**197**	*eP*	**P**	**14 47 26.7**	**-0.5**
ACON	**Acoyapa**	**44.06**	**278**	P	**P**	**14 47 40.7**	**-0.7**
GO02	**Mina Guanaco**	**44.19**	**219**	P	**P**	**14 47 43.2**	**+0.6**
GO02				IAmb	IAmb	14 47 51.0	
	comp=Z,26nm,1.2s						
ESDC	**Sonseca Array**	**44.69**	**41**	LR	LR	15 02 35.2	
	comp=Z,280nm,21.0s,baz=230,slow=31						
TAM	**Tamanrasset**	**46.13**	**67**	P	**P**	**14 47 59.8**	**+1.8**
TAM				IAmb	IAmb	14 48 09.1	
	comp=Z,28nm,1.5s						
U54A	**Nelsons Funny**	**46.50**	**313**	P	**P**	**14 47 59.5**	**-1.1**
U54A				IAmb	IAmb	14 49 04.1	
	comp=Z,26nm,1.2s						
BG3	**Lake Jocassee**	**46.68**	**310**	P	**P**	**14 48 00.7**	**-1.3**
BG3				IAmb	IAmb	14 48 11.8	
	comp=Z,22nm,1.4s						
J55A	**Hilton**	**47.27**	**323**	P	**P**	**14 48 06.0**	**-0.4**
X48A	**Hartselle**	**49.64**	**308**	P	**P**	**14 48 24.6**	**-0.2**
SCHQ	**Schefferville**	**50.40**	**341**	LR	LR	15 06 14.2	
	comp=Z,312nm,22.0s,baz=162,slow=32						
WVT	**Waverly**	**50.81**	**310**	P	**P**	**14 48 34.7**	**+1.0**
	baz=110						
WVT	**Waverly**	**50.81**	**310**	P	**P**	**14 48 33.9**	**+0.2**
WVT				IAmb	IAmb	14 48 35.2	
	comp=Z,36nm,1.6s						
KEST	**Kesra**	**52.53**	**52**	LR	LR	15 11 26.5	
	comp=Z,313nm,18.9s,baz=209,slow=36						
W41B	**Gary Mavity, V**	**53.93**	**307**	P	**P**	**14 48 56.8**	**-0.1**
	baz=106						
W41B	**Gary Mavity, V**	**53.93**	**307**	P	**P**	**14 48 57.0**	**+0.2**
W41B				IAmb	IAmb	14 48 58.1	
	comp=Z,22nm,1.2s						
FCAR	**Ozark Folk Cen**	**54.04**	**308**	P	**P**	**14 48 55.1**	**-2.5**
WLAR	**White Oak Lake**	**54.23**	**305**	P	**P**	**14 48 59.9**	**+0.8**
MGMO	**Mountain Grove**	**54.52**	**310**	P	**P**	**14 49 00.5**	**-0.7**
MGMO				IAmb	IAmb	14 49 02.2	
	comp=Z,20nm,1.3s						
N41A	**Harden Midland**	**54.65**	**314**	P	**P**	**14 49 01.6**	**-0.4**
U40A	**Yellville**	**54.74**	**308**	P	**P**	**14 49 02.4**	**-0.4**
	baz=106						
U40A	**Yellville**	**54.74**	**308**	P	**P**	**14 49 02.2**	**-0.6**
U40A				IAmb	IAmb	14 49 10.4	
	comp=Z,18nm,1.4s						
MIAR	**Mount Ida**	**54.82**	**306**	P	**P**	**14 49 03.1**	**-0.3**
	baz=105						
MIAR	**Mount Ida**	**54.82**	**306**	P	**P**	**14 49 03.3**	**-0.1**
MIAR				IAmb	IAmb	14 49 04.7	
	comp=Z,20nm,1.4s						
JFWS	**Jewell Farm**	**55.05**	**317**	P	**P**	**14 49 05.1**	**+0.1**
W39A	**Magazine**	**55.15**	**307**	P	**P**	**14 49 06.4**	**+0.7**
	baz=105						
W39A	**Magazine**	**55.15**	**307**	P	**P**	**14 49 06.0**	**+0.3**
W39A				IAmb	IAmb	14 49 06.8	
	comp=Z,12nm,1.1s						
GO06	**Curarrehue**	**56.16**	**209**	P	**P**	**14 49 13.7**	**+0.7**
PLCA	**Paso Flores**	**56.65**	**207**	P	**P**	**14 49 16.6**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=62,slow=5.7,SNR=11						
PLCA				LR	LR	15 15 38.1	
	comp=Z,172nm,18.5s,baz=56,slow=38						
PLCA	**Paso Flores**	**56.65**	**207**	IAmb	IAmb	14 49 25.2	
	comp=Z,16nm,1.1s						
PLCA	**Paso Flores**	**56.65**	**207**	*eP*	**P**	**14 49 15.4**	**-1.1**
PLCA	**Paso Flores**	**56.65**	**207**	*eP*	**P**	**14 49 15.4**	**-1.1**
TUL1	**Leonard**	**56.91**	**307**	P	**P**	**14 49 18.3**	**-0.1**
	baz=104						
VAE	**Valguarnera**	**56.94**	**51**	LR	LR	15 13 01.6	
	comp=Z,224nm,18.6s,baz=326,slow=35						
DAVOX	**Davos/Dischmat**	**56.96**	**39**	LR	LR	15 09 41.2	
	comp=Z,246nm,21.1s,baz=247,slow=32						
WMOK	**Wichita Mounta**	**59.04**	**305**	P	**P**	**14 49 32.2**	**-1.2**
	baz=101						
WMOK	**Wichita Mounta**	**59.04**	**305**	P	**P**	**14 49 31.3**	**-2.1**
ECSD	**EROS Data Cent**	**59.69**	**316**	P	**P**	**14 49 36.8**	**-0.9**
	baz=108						
GERES	**GERESS Array B**	**60.15**	**38**	P	**P**	**14 49 41.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=283,slow=9

121A	Cookes Peak, D	66.18	302	P	P	14 50 19.9 -1.4
SMCO	Snowmass	66.26	309	P	P	14 50 21.6 -0.3
SMCO				IAmb	IAmb	14 50 24.0
	comp=Z,14nm,1.3s					
FFC	Flin Flon	66.52	326	P	P	14 50 21.6 -1.2
LAO	LASA Array	67.01	317	P	P	14 50 27.1 +0.9
	baz=102					
LAO	LASA Array	67.01	317	P	P	14 50 25.4 -0.8
BURAR	Bucovina Array	67.13	42	P	P	14 50 26.8 -0.1
MLR	Muntele Rosu	67.20	44	P	P	14 50 27.5 0.0
MVCO	Mesa Verde	67.21	307	P	P	14 50 29.2 +1.4
	baz=96					
MVCO	Mesa Verde	67.21	307	P	P	14 50 27.0 -0.9
MVCO				IAmb	IAmb	14 50 47.0
	comp=Z,8.9nm,1.1s					
O20A	White River Ci	67.36	310	P	P	14 50 29.6 +0.9
	baz=98					
O20A	White River Ci	67.36	310	P	P	14 50 28.1 -0.6
PV01	Paradox Valley	67.36	308	P	P	14 50 27.9 -0.9
PV01				IAmb	IAmb	14 50 31.1
	comp=Z,13nm,1.3s					
W18A	Petrified Fore	68.01	304	P	P	14 50 34.3 +1.4
	baz=94					
BW06	Boulder Array	68.69	312	P	P	14 50 36.9 -0.2
	baz=98					
BW06	Boulder Array	68.69	312	P	P	14 50 36.6 -0.5
BW06				IAmb	IAmb	14 50 38.0
	comp=Z,12nm,1.5s					
PD31	Pinedale Array	68.69	312	P	P	14 50 36.1 -1.0
PDAR	Pinedale Array	68.69	312	P	P	14 50 36.6 -0.5
	comp=Z,2.3nm,1.2s,baz=104,slow=6.3,SNR=8.5					
PDAR				LR	LR	15 16 44.4
	comp=Z,405nm,21.8s,baz=128,slow=33					
PDAR	Pinedale Array	68.69	312	P	P	14 50 36.0 -1.1
TUC	Tucson	68.70	301	P	P	14 50 38.0 +0.8
	baz=93					
RLMT	Red Lodge	68.82	315	P	P	14 50 38.5 +0.7
	baz=99					
RLMT	Red Lodge	68.82	315	P	P	14 50 37.5 -0.3
RLMT				IAmb	IAmb	14 50 45.9
	comp=Z,15nm,1.4s					
SRU	San Rafael Swe	68.99	308	P	P	14 50 38.5 -0.4
ELL	Elmali	69.00	54	P	P	14 50 39.0 0.0
X16A	Lo Mia Camp, P	69.36	303	P	P	14 50 41.2 -0.1
X16A				IAmb	IAmb	14 50 44.0
	comp=Z,20nm,1.9s					
WUAZ	Wupatki	69.37	305	P	P	14 50 42.9 +1.6
	baz=94					
WUAZ	Wupatki	69.37	305	P	P	14 50 42.0 +0.6
WUAZ				IAmb	IAmb	14 50 50.8
	comp=Z,11nm,0.9s					
EGMT	Eagleton	69.62	318	P	P	14 50 43.0 +0.5
	baz=100					
EGMT	Eagleton	69.62	318	P	P	14 50 42.5 -0.1
MOOW	Moose Ponds	69.68	313	P	P	14 50 42.9 -0.3
MOOW				IAmb	IAmb	14 50 50.8
	comp=Z,21nm,1.9s					
FLWY	Flagg Ranch	69.69	314	P	P	14 50 43.4 +0.1
REDW	Red Top Meadow	69.71	313	P	P	14 50 43.2 -0.2
REDW				IAmb	IAmb	14 50 44.0
	comp=Z,15nm,1.4s					
TPAW	Teton Pass	69.79	313	P	P	14 50 44.0 0.0
TPAW				IAmb	IAmb	14 50 51.7
	comp=Z,24nm,1.6s					
IMW	Indian Meadow	69.83	313	P	P	14 50 44.4 +0.1
IMW				IAmb	IAmb	14 50 46.9
	comp=Z,11nm,1.1s					
JLU	Jordanelle	69.85	310	P	P	14 50 44.6 +0.3
FXWY	Fox Creek	69.86	313	P	P	14 50 44.5 +0.1
FXWY				IAmb	IAmb	14 50 52.1
	comp=Z,18nm,1.6s					
YHH	Holmes Hill	69.89	314	P	P	14 50 44.1 -0.4
YHB	Horse Butte	70.12	314	P	P	14 50 46.1 +0.2
YHL	Hebgen Lake	70.13	314	P	P	14 50 47.2 +1.2
U15A	North Rim	70.17	305	P	P	14 50 46.4 0.0
U15A				IAmb	IAmb	14 50 49.2
	comp=Z,28nm,1.7s					
MTPU	Mount Pierson	70.19	307	P	P	14 50 47.1 +0.4
AKASG	Malin Array Be	70.31	39	P	P	14 50 45.8 -0.8
	comp=Z,1.8nm,0.7s,baz=262,slow=5.9,SNR=4.1					
AKASG				LR	LR	15 19 11.2
	comp=Z,122nm,20.6s,baz=290,slow=34					
AKASG	Malin Array Be	70.31	39	IAmb	IAmb	14 50 54.4
	comp=Z,4.1nm,1.1s					
BOZ	Bozeman (W)	70.54	315	P	P	14 50 49.0 +0.7
	baz=97					
BOZ	Bozeman (W)	70.54	315	P	P	14 50 48.6 +0.2
HRY	Holter Researc	70.82	316	P	P	14 50 50.0 0.0
DUG	Dugway, Tooele	70.85	309	P	P	14 50 51.3 +1.0
	baz=94					
DUG	Dugway, Tooele	70.85	309	P	P	14 50 50.2 -0.1
DUG				IAmb	IAmb	14 51 12.2
	comp=Z,22nm,1.6s					
HVU	Hansel Valley	70.95	311	P	P	14 50 50.4 -0.5
BGU	Big Grassy Mou	71.07	310	P	P	14 50 51.5 -0.2
CCUT	Cedar City	71.09	307	P	P	14 50 51.5 -0.5
FINES	FINESS Array B	71.10	28	P	P	14 50 51.9 +0.7
	comp=Z,2.0nm,0.8s,baz=237,slow=4.8,SNR=3.5					
FINES				LR	LR	15 21 19.3
	comp=Z,74nm,18.1s,baz=240,slow=35					
LRM	Limekiln Ridge	71.13	315	P	P	14 50 51.9 -0.2
MCMT	McKenzie Canyo	71.30	314	P	P	14 50 53.2 +0.1
PSUT	Pine Spring	71.54	308	P	P	14 50 54.4 -0.2
BR131	Keskin Array S	72.14	51	P	P	14 50 57.8 -0.3
BRTR	Keskin Array B	72.14	51	P	P	14 50 59.4 +1.3
	comp=Z,2.2nm,0.9s,baz=232,slow=5.5,SNR=9.3					
BRTR	Keskin Array B	72.14	51	P	P	14 50 58.2 +0.1
IRM	Iron Mountain	72.41	303	P	P	14 51 01.2 +1.5
	baz=91					
WALA	Waterton Lakes	72.50	319	P	P	14 50 59.6 -0.4
ELK	Elko	72.73	310	P	P	14 51 01.0 -0.8
GMRC	Granite Mounta	72.85	304	P	P	14 51 03.4 +0.9
	baz=91					
R11A	Troy Canyon, C	72.89	307	P	P	14 51 03.8 +1.1
	baz=92					
R11A	Troy Canyon, C	72.89	307	P	P	14 51 02.6 -0.1
EIL	Elat	72.99	62	LR	LR	15 24 23.8
	comp=Z,346nm,19.4s,baz=277,slow=37					
MFID	Camas Ranch	73.32	313	P	P	14 51 05.0 -0.1
ARCES	ARCESS Array B	73.41	20	P	P	14 51 04.5 -0.4
	comp=Z,2.6nm,0.8s,baz=253,slow=5.4,SNR=3.9					
ARCES				LR	LR	15 17 36.0
	comp=Z,56nm,22.0s,baz=266,slow=31					
BOSA	Boshof	73.49	123	LR	LR	15 17 13.1
	comp=Z,195nm,21.1s,baz=297,slow=31					
MPMC	Manual Prospec	74.36	305	P	P	14 51 12.1 +0.7
	baz=90					
NEW	Newport	74.54	318	P	P	14 51 12.3 +0.3
	baz=94					
NEW	Newport	74.54	318	P	P	14 51 11.5 -0.5
NEW				IAmb	IAmb	14 51 12.9
	comp=Z,13nm,1.1s					
KVN	Kaiserville	74.87	308	P	P	14 51 13.6 -0.8
NVAR	Mina Array Bea	75.03	307	LR	LR	15 21 16.6
	comp=Z,129nm,21.6s,baz=94,slow=34					
NVAR	Mina Array Bea	75.03	307	P	P	14 51 14.0 -1.3
OBN	Obninsk	75.33	35	LR	LR	15 21 11.1
	comp=Z,26nm,21.4s,baz=271,slow=33					
E08A	Dider Farm, El	75.76	316	P	P	14 51 18.1 -1.0
E08A				IAmb	IAmb	14 51 26.7
	comp=Z,24nm,1.5s					
MOD	Modoc Plateau	76.57	311	P	P	14 51 22.6 -1.3
MOD				IAmb	IAmb	14 51 32.8
	comp=Z,15nm,1.1s					
KLMR	Klimovskoe	77.39	30	e	P	14 51 26.3 -1.6
KLMR				AMP		14 51 37.0
	comp=Z,42nm,1.5s					
ORV	Oroville	77.51	309	P	P	14 51 27.6 -1.5
M04C	Macdoel	77.72	311	P	P	14 51 30.7 +0.3
	baz=89					
KMBO	Kilima Mbogo	78.03	93	LR	LR	15 21 50.6
	comp=Z,232nm,22.0s,baz=274,slow=32					
A36M	Sachs Harbour	79.98	342	P	P	14 51 43.2 +1.3
	baz=92					
GNI	Garni	80.66	51	LR	LR	15 29 11.7
	comp=Z,53nm,20.2s,baz=271,slow=37					
VNA1	Neumayer--Stat	82.31	170	P	P	14 51 55.6 +1.4
VNA3	Neumayer Olymp	82.58	170	P	P	14 51 57.5 +1.8
VNA2	Neumayer--Watz	82.70	170	P	P	14 51 59.5 +3.2
	baz=317,slow=4.1					
INK	Inuvik	82.94	338	P	P	14 51 57.5 -0.2
SNAA	Sanae	84.15	169	P	P	14 52 05.2 +1.4
SNAA	Sanae	84.15	169	P	P	14 52 04.5 +0.6
SNAA				IAmb	IAmb	14 52 07.5
	comp=Z,12nm,0.9s					
DAWY	Dawson	85.96	334	P	P	14 52 13.8 +0.6
BMAR	Burnt Mountain	87.21	338	P	P	14 52 20.0 +0.8
BCAR	Beaver Creek A	87.23	333	P	P	14 52 19.9 +0.4
ARU	Arti	87.60	33	P	P	14 52 21.9 +0.6
PRP	Porcupine Dome	88.13	336	P	P	14 52 24.4 +0.6
PRP				IAmb	IAmb	14 52 39.8
	comp=Z,13nm,1.3s					
TOLK	Toolik Lake Re	88.60	340	P	P	14 52 27.3 +1.4
	baz=69					
TOLK	Toolik Lake Re	88.60	340	P	P	14 52 26.9 +1.1
IL31		88.91	336	P	P	14 52 27.3 0.0
IL31				IAmb	IAmb	14 52 42.2
	comp=Z,13nm,1.3s					
ILAR	Eielson Array	88.91	336	P	P	14 52 27.0 -0.4
	comp=Z,2.1nm,0.9s,baz=66,slow=4.5,SNR=15					
ILAR				LR	LR	15 31 07.4
	comp=Z,57nm,18.8s,baz=140,slow=35					
ILAR	Eielson Array	88.91	336	P	P	14 52 27.3 0.0
ABKAR	Abkulak array	90.04	40	P	P	14 52 32.7 -0.2
ABKAR	Abkulak array	90.04	40	P	P	14 52 32.9 0.0
ABKAR				IAmb	IAmb	14 52 37.1
	comp=Z,19nm,1.4s					
IMAR	Indian Mountai	91.13	338	P	P	14 52 37.4 -0.3
GEYT	Alibeck	91.28	51	LR	LR	15 38 04.0
	comp=Z,18nm,18.3s,baz=25,slow=38					
LZH	Lanzhou	124.04	35	ePKP	PKPdf	14 58 28.6 -3.7
LZH				sPKP		14 58 44.1
HHC	Hu-ho-hao-te	124.18	25	ePKP	PKPdf	14 58 29.9 -2.5
CD2	Chengdu	127.61	39	PKP	PKPdf	14 58 37.0 -2.1
CMAR	Chiang Mai Arr	131.58	56	PKP	PKPdf	14 58 47.2 +0.3
	comp=Z,0.2nm,0.5s,baz=291,slow=2.5,SNR=3.6					
NJ2	Nanjing	134.73	25	ePKP	PKPdf	14 58 51.7 -0.8
ASAR	Alice Springs	164.35	160	PKPab	PKPab	15 00 32.4 +0.8
	comp=Z,0.5nm,0.8s,baz=191,slow=4.0,SNR=5.4					
WRA	Warramunga Arr	167.92	156		PKPdf	14 59 39.4 -1.1

ISCJB ***04*** *14:48:26.0±0.7, 6°.86N±0°.03×73°.14W±0°.04, h153km±5km, mb3.1/1, Error ellipse: s-maj=6.7km s-min=5.2km az=4.9*
RSNC ***04*** *14:48:27.6±1.2, 6°.84N×73°.14W, h146km±5km, ML3.4, Mw3.5*
IDC ***04*** *14:48:30.8±6.6, 4°.72N×76°.69W, h107km±71km, mb2.9/1, mb1 3.5/2, mb1mx3.1/21, mbtmp3.5/2, ML2.7/1, Error ellipse: s-maj=88.6km s-min=33.5km az=46.0*

ISC 04 14:48:26.7±1.0, 6°.86N±0°.04×73°.12W±0°.05, h151km±7km, n25, σ1§20/43, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	193	eP	Pn	14 48 47.4	-0.2
BARC				eS	Sn	14 49 02.6	-0.9
BARC				i		14 49 04.2	
	comp=Z,802nm,1.0s						
PAMC	Pamplona, Colo	0.63	41	eP	Pn	14 48 50.0	+0.6
PAMC				eS	Sn	14 49 07.2	+0.5
PAMC				i		14 49 08.7	
	comp=Z,345nm,0.2s						
BRRC	Barranca, Sant	0.64	292	eP	Pn	14 48 49.2	+0.3
BRRC				eS	Sn	14 49 06.3	+0.5
BRRC				i		14 49 12.1	
	comp=Z,332nm,0.2s						
RUSC	La Rusia	0.97	178	eP	Pn	14 48 51.4	-0.4
RUSC				eS	Sn	14 49 09.9	-1.1
RUSC				i		14 49 12.6	
	comp=Z,286nm,0.9s						
PTBC	PUERTO BERRIO,	1.37	256	eP	Pn	14 48 54.0	-1.0
PTBC				eS	Sn	14 49 15.5	-1.0
PTBC				i		14 49 17.9	
	comp=Z,490nm,0.1s						
OCAC	Ocana	1.38	352	eP	Pn	14 48 55.6	+0.3
OCAC				eS	Sn	14 49 17.4	+0.2
OCAC				i		14 49 21.4	
	comp=Z,225nm,0.2s						
TAMC	Tame, Arauca	1.39	108	eP	Pn	14 48 55.6	+0.4
TAMC				eS	Sn	14 49 16.8	-0.2
TAMC				i		14 49 17.9	
	comp=Z,97nm,0.3s						
SPBC	San Pablo de B	1.53	218	eP	Pn	14 48 56.4	-0.4
SPBC				eS	Sn	14 49 18.5	-1.3
SPBC				i		14 49 26.5	
	comp=Z,311nm,0.5s						
ZARC	Zaragoza, Cauc	1.83	290	eP	Pn	14 48 59.8	-0.2
ZARC				eS	Sn	14 49 25.4	-0.2
ZARC				i		14 49 31.0	
	comp=Z,489nm,0.2s						
SMLC	San Martn de	2.14	334	eP	Pn	14 49 03.5	-0.1
SMLC				eS	Sn	14 49 31.5	-0.5
SMLC				i		14 49 34.7	
	comp=Z,148nm,0.1s						
NORC	Norcasia	2.17	233	eP	Pn	14 49 03.4	-0.5
NORC				eS	Sn	14 49 31.7	-0.9
NORC				i		14 49 36.7	
	comp=Z,252nm,0.5s						
ROSC	El Rosal	2.34	211	eP	Pn	14 49 07.3	+1.0
ROSC				eS	Sn	14 49 37.7	+0.9
ROSC				i		14 49 43.9	
	comp=Z,166nm,0.7s						
ROSC	El Rosal	2.34	211	P	Pn	14 49 07.8	+1.5
	comp=Z,35nm,0.3s,baz=276,slow=22,SNR=140						
ROSC				S	Sn	14 49 38.7	+1.9
	comp=Z,16nm,0.3s,baz=102,slow=18,SNR=6.2						
HELC	Santa Helena	2.49	255	eP	Pn	14 49 08.5	+0.5
HELC				i		14 49 46.2	
	comp=Z,133nm,0.3s						
GUY2C	Guyana, Caldas	2.76	234	eP	Pn	14 49 11.7	+0.1
VILC	Villavicencio,	2.79	192	eP	Pn	14 49 11.1	-0.6
VILC				eS	Sn	14 49 45.0	-1.4
VILC				i		14 49 50.8	
	comp=Z,183nm,0.4s						
PTGC	Puerto Gaitan,	2.82	160	eP	Pn	14 49 10.5	-1.4
PTGC				eS	Sn	14 49 43.6	-3.3
PTGC				i		14 49 46.2	
	comp=Z,84nm,0.4s						
CBOC	Ciudad Bolivar	3.04	251	eP	Pn	14 49 15.2	+0.3
CBOC				eS	Sn	14 49 51.1	-0.9
CBOC				i		14 50 01.2	
	comp=Z,48nm,0.4s						
DBBC	Dabeiba	3.07	273	eP	Pn	14 49 15.0	-0.1
DBBC				i		14 49 53.4	
	comp=Z,162nm,0.7s						
ANIL	Santa Ana	3.27	224	eP	Pn	14 49 18.9	+1.0
ORTC	Ortega, Tolima	3.62	216	eP	Pn	14 49 21.5	-0.7
ORTC				eS	Sn	14 50 05.2	+0.1
ORTC				i		14 50 10.5	
	comp=Z,77nm,0.5s						
SJCC	San Jacinto, C	3.64	326	eP	Pn	14 49 20.8	-1.5
SJCC				eS	Sn	14 50 02.4	-3.1
SJCC				i		14 50 06.5	
	comp=Z,54nm,0.4s						
TXAR	Lajitas Array	36.43	312	P	P	14 55 16.7	-0.5
	comp=Z,0.3nm,0.6s,baz=121,slow=8.3,SNR=3.2						
ASAR	Alice Springs	149.14	234	PKPbc	PKPdf	15 07 55.3	+1.4
	comp=Z,0.5nm,1.0s,baz=123,slow=3.7,SNR=3.1						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPdf	15 07 58.6	+2.7
	comp=Z,0.1nm,0.5s,baz=111,slow=2.5,SNR=7.6						

ISCJB ***04*** *15:05:02.2±1.2, 4°.9S±0°.1×143°.8E±0°.1, h98km, mb3.4/2, Error ellipse: s-maj=25.0km s-min=9.7km az=136.6*
IDC ***04*** *15:05:03.5±2.2, 4°.91S×143°.78E, h96km±26km, mb3.1/3, mb1 3.3/6, mb1mx3.1/29, mbtmp3.6/6, Error ellipse: s-maj=31.9km s-min=17.5km az=55.0*

ISC 04 15:05:04.2±1.3, 5°.0S±0°.2×143°.8E±0°.2, h98km, n6, σ2§10/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.94	308	P	Pn	15 06 00.8	-1.8
	2.3nm,0.3s,baz=146,slow=9.5,SNR=24						
JAY				S	Sn	15 06 51.9	+4.0
	1.3nm,0.3s,baz=288,slow=20,SNR=2.7						
PMG	Port Moresby	5.53	143	P	Pn	15 06 25.1	+1.0
	1.8nm,0.3s,baz=350,slow=6.9,SNR=7.8						
PMG				S	Sn	15 07 27.0	+0.6
	0.8nm,0.3s,baz=228,slow=15,SNR=3.0						
WRA	Warramunga Arr	17.53	211	P	P	15 09 01.9	-0.3
	0.2nm,0.3s,baz=32,slow=12,SNR=18						
ASAR	Alice Springs	20.93	206	P	P	15 09 39.2	0.0
	3.1nm,0.8s,baz=34,slow=8.2,SNR=18						
FITZ	Fitzroy Crossi	22.06	232	P	P	15 09 50.6	-0.7
	0.9nm,0.4s,baz=67,slow=13,SNR=8.2						
MKAR	Makanchi Array	74.69	321	P	P	15 16 32.3	-1.0
	0.2nm,0.3s,baz=106,slow=5.1,SNR=6.6						

IDC ***04*** *15:40:25.5±0.5, 3°.55S×140°.37E, h0km, mb4.3/15, mb1 4.4/18, mb1mx4.4/31, mbtmp4.4/18, ML4.2/2, MS3.8/24, Ms1 3.7/24, ms1mx3.7/36, Error ellipse: s-maj=16.7km s-min=9.2km az=99.0*
BJI ***04*** *15:40:28.4±0.0, 3°.78S×140°.81E, h48km, mb4.6/30, mB5.0/19, Ms4.4/8, Ms7 4.0/8*
ISCJB ***04*** *15:40:29.1±0.2, 3°.65S±0°.03×140°.44E±0°.03, h39km, mb4.3/18, MS3.9/26, Error ellipse: s-maj=4.6km s-min=3.6km az=152.4*
DJA ***04*** *15:40:30.3±0.4, 3°.S±2°×14°.1E±°, h29km±3km, M4.6/31, mB5.1/15, mb4.8/31, MLv5.0/7, Mw(mB)4.4/15*
NEIC ***04*** *15:40:31.1±1.5, 3°.59S±0°.06×140°.35E±0°.06, h44km±5km, mb4.9/51*

ISC 04 15:40:30.9±0.3, 3°.62S±0°.04×140°.47E±0°.05, h39km, n141, σ1§62/135, mb4.8/38, MS3.8/26, 2C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.06	343	P	Pn	15 40 47.6	-1.7
GENI				S	Sn	15 41 02.4	-0.4
JAY	Jayapura	1.12	12	Pg	Pn	15 40 47.1	-3.0
	79nm,0.3s,baz=206,slow=13,SNR=504						
JAY				Lg	Lg	15 41 00.9	
	baz=256,slow=12						
JAY				LR	LR	15 41 06.2	
	comp=Z,2μm,21.6s,baz=231,slow=38						
JAY	Jayapura	1.12	12	P	Pn	15 40 47.3	-2.8
JAY				S	Sn	15 41 02.3	-2.0
SMPI	Sarmi	2.39	313	P	Pn	15 41 08.2	+0.7
SRPI	Serui, Papua	4.57	292	P	Pn	15 41 39.6	+2.1
BAKI	Biak	4.98	299	P	Pn	15 41 43.8	+0.6
	143nm,1.1s,0.7nm						
RKPI	Ransiki, Papua	6.63	288	P	Pn	15 42 07.0	+1.2
	78nm,0.7s,2μm0.5nm						
MANU	Manus Island	7.06	77		Pn	15 42 14.7	+2.9
FAKI	Fak Fak	8.24	275	P	Pn	15 42 30.2	+2.3
FAKI	Fak Fak	8.24	275		Pn	15 42 27.4	-0.5
PMG	Port Moresby	8.79	131	Pn	Pn	15 42 37.4	+2.0
	2.1nm,0.3s,baz=42,slow=3.5,SNR=8.7						
PMG				Sn	Sn	15 44 18.4	+5.2
	1.4nm,0.3s,baz=180,slow=20,SNR=4.7						
PMG				LR	LR	15 47 31.3	
	comp=Z,1μm,18.5s,baz=293,slow=48						
PMG	Port Moresby	8.79	131		Pn	15 42 37.6	+2.2
SIJI	Sorong	9.59	286	Pn	Pn	15 42 48.4	+1.9
	2.8nm,0.3s,baz=83,slow=7.8,SNR=4.1						
SIJI				Sn	Sn	15 44 40.0	+6.8
	0.7nm,0.3s,baz=107,slow=19,SNR=2.6						
SIJI				LR	LR	15 47 05.5	
	comp=Z,753nm,21.4s,baz=56,slow=42						
SWI	Sorong	9.60	286	P	Pn	15 42 49.7	+3.1
	43nm,0.7s,747nm						
COEN	Coen	10.61	166	Pn	Pn	15 43 01.3	+0.8
KRVT	Keravat (AS076	11.55	94	LR	LR	15 47 19.7	
	comp=Z,651nm,20.0s,baz=267,slow=36						
MTN	Manton Dam	13.01	225		Pn	15 43 30.9	-2.3
TNTI	Ternate	13.80	288	P	Pn	15 43 43.6	-0.5
TNTI	Ternate	13.80	288		Pn	15 43 42.0	-2.1
SANI	Sanana	14.55	276	P	Pn	15 43 56.0	+1.8
	14nm,0.8s						
KNRA	Kununurra	16.62	223	Pn	Pn	15 44 19.6	-1.5
KNRA				IAmb	IAmb	15 44 43.1	
	comp=Z,54nm,0.8s						
KMSI	Cibinong	17.00	284	P	P	15 44 28.3	+0.9
	comp=Z,116nm,0.8s,comp=Z,2μm						
SOEI	Soe	17.20	248	P	P	15 44 32.1	+2.3
	comp=Z,260nm,0.8s,comp=Z,2μm						
SOEI	Soe	17.20	248		Pn	15 44 27.4	-1.2
WRAB	Tennant Creek	17.28	200	P	Pn	15 44 28.1	-1.3
WRAB				IAmb	IAmb	15 44 34.0	
	comp=Z,56nm,0.7s						
WB2	Warramunga Arr	17.29	200		Pn	15 44 28.1	-1.3
WRA	Warramunga Arr	17.29	200	P	Pn	15 44 28.3	-1.2
	comp=Z,1.1nm,0.3s,baz=21,slow=12,SNR=55						
WRA				S	Sn	15 47 34.1	-6.9
	comp=Z,1.5nm,0.3s,baz=10.0,slow=23,SNR=6.6						
WRA				LR	LR	15 51 26.5	
	comp=Z,792nm,19.5s,baz=20,slow=38						
WRA	Warramunga Arr	17.29	200	Pn	Pn	15 44 26.7	-2.8
CTA	Charters Tower	17.31	161	P	P	15 44 31.6	+0.7
	comp=Z,0.3nm,0.3s,baz=346,slow=11,SNR=7.2						
CTAO	Charters Tower	17.31	161		P	15 44 30.9	+0.1
BATI	Baumata	17.92	248	P	Pn	15 44 36.1	-1.1
	comp=Z,14nm,0.3s,baz=114,slow=3.5,SNR=11						
BATI				S	Sn	15 47 57.7	+1.5
	baz=16,slow=15,SNR=2.5						
BATI	Baumata	17.92	248	P	P	15 44 39.8	+2.3
	comp=Z,58nm,0.6s,comp=Z,568nm						
MRSI	Marisa	18.96	282	P	Pn	15 44 50.3	+0.4
	comp=Z,37nm,0.8s,comp=Z,390nm						
APSI	Ampana	19.00	278	P	Pn	15 44 51.7	+1.3
HNR	Honiara	20.18	108	P	P	15 45 02.5	+0.2
	comp=Z,24nm,0.7s,baz=170,slow=6.1,SNR=3.3						
HNR				LR	LR	15 52 10.1	
	comp=Z,176nm,21.2s,baz=272,slow=35						
HNR	Honiara	20.18	108	P	P	15 45 03.1	+0.8
HNR				IAmb	IAmb	15 45 48.6	
	comp=Z,57nm,0.9s						
BNSI	Bone	20.33	267	P	P	15 45 04.8	+0.8
BKSI	Bulukumba	20.36	264	P	Pn	15 45 06.3	-0.2
	comp=Z,27nm,0.8s,comp=Z,213nm						
FITZ	Fitzroy Crossi	20.45	224	P	P	15 45 04.9	-0.3
	comp=Z,8.7nm,0.5s,baz=44,slow=9.4,SNR=31						
FITZ				LR	LR	15 53 51.2	
	comp=Z,461nm,19.9s,baz=42,slow=39						
FITZ	Fitzroy Crossi	20.45	224	P	P	15 45 04.2	-1.0
FITZ				IAmb	IAmb	15 45 14.8	
	comp=Z,18nm,0.6s						
TTSI	Tana Toraja	20.62	271	P	Pn	15 45 09.0	-0.6
SPSI	Sidrap Palu	20.66	268	P	P	15 45 07.4	-0.1
KAPI	Kappang	20.71	265	P	Pn	15 45 09.8	-0.8
	comp=Z,16nm,0.8s,baz=126,slow=7.5,SNR=8.3						
KAPI	Kappang	20.71	265	P	P	15 45 06.0	-2.0
AS31	Alice Springs	20.92	197	P	P	15 45 09.7	-0.6
ASAR	Alice Springs	20.92	197	P	P	15 45 10.1	-0.2
	comp=Z,31nm,0.7s,baz=26,slow=7.4,SNR=75						
ASAR				S	S	15 49 03.9	+2.5
	comp=Z,8.1nm,0.9s,baz=13,slow=29,SNR=5.8						
ASAR				LR	LR	15 53 40.6	
	com

comp=Z,40nm,1.8s
NJ2 Nanjing 40.99 332 *e*P **P 15 48 11.0 +0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
RPSI Rantau Prapat 42.00 278 P **P 15 48 17.5 -1.3**
RPSI IAmb IAmb 15 48 28.8
comp=Z,52nm,1.2s
WHN Wuhan 42.15 326 P **P 15 48 22.4 +2.7**
KSRS Korea Array 42.50 345 LR LR 16 03 27.0
comp=Z,100nm,21.0s,baz=162,slow=33
KS19 Wonju Array Si 42.56 345 P **P 15 48 23.2 +0.3**
KS19 IAmb IAmb 15 48 44.8
comp=Z,81nm,1.8s
GSI Gunungsitoli 43.15 276 P **P 15 48 26.6 -1.6**
GSI IAmb IAmb 15 49 15.2
comp=Z,21nm,1.0s
OUZ Omahuta 43.92 140 P **P 15 48 34.8 +0.8**
OUZ IAmb IAmb 15 48 37.5
comp=Z,24nm,0.9s
MLSI Meulaboh, Aceh 44.72 280 P **P 15 48 38.8 -2.0**
CMAR Chiang Mai Arr 46.41 300 P **P 15 48 53.0 -1.1**
comp=Z,0.7nm,0.6s,baz=116,slow=6.0,SNR=6.7
CMAR PcP **PcP 15 50 27.9 -0.7**
comp=Z,0.9nm,0.9s,baz=110,slow=2.8,SNR=4.4
CMAR LR LR 16 08 46.7
comp=Z,54nm,19.2s,baz=186,slow=37
CMAR Chiang Mai Arr 46.41 300 P **P 15 48 52.2 -1.8**
KMI Kunming 46.45 310 P **P 15 48 55.5 +1.0**
KMI pP pP 15 49 07.3 +1.5
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI pmax pmax
comp=Z,76nm,4.9s
KMI LR LR
comp=Z,150nm,15.0s
KMI LR LR
comp=Z,200nm,15.2s
KMI LR LR
comp=Z,220nm,25.2s
CHTO Chiang Mai 46.56 300 P **P 15 48 53.5 -1.7**
CHTO IAmb IAmb 15 49 05.1
comp=Z,15nm,1.8s
ASAJ Asahikawa 47.56 2 LR LR 16 09 41.2
comp=Z,66nm,18.6s,baz=181,slow=37
URZ Urewera 48.00 141 P **P 15 49 06.8 +0.7**
TUWZ Tuamarina 48.14 146 P **P 15 49 07.4 +0.3**
BKZ Black Stump Fm 48.17 142 P **P 15 49 08.1 +0.6**
BKZ IAmb IAmb 15 49 09.3
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 48.21 352 P **P 15 49 07.4 -0.2**
comp=Z,1.3nm,0.7s,baz=183,slow=8.0,SNR=6.1
USRK LR LR 16 06 09.7
comp=Z,107nm,21.1s,baz=164,slow=32
USRK Ussuriysk Ar. 48.21 352 P **P 15 49 07.7 +0.2**
RPZ Rata Peaks 48.23 150 P **P 15 49 08.4 +0.5**
BSWZ Blackbirch Sta 48.29 146 P **P 15 49 08.6 +0.3**
LBZ Lake Benmore 48.30 152 P **P 15 49 08.8 +0.4**
OXZ Oxford 48.44 149 P **P 15 49 10.0 +0.5**
WHZ Wether Hill Ro 48.45 154 P **P 15 49 10.9 +1.4**
KHZ Kahutara 48.59 147 P **P 15 49 10.6 0.0**
BFZ Birch Farm 48.97 144 P **P 15 49 14.2 +0.7**
CD2 Chengdu 49.03 317 *e*P **P 15 49 13.0 -1.3**
CN2 Changchun 49.10 346 *e*P **P 15 49 14.6 +0.1**
HHC Hu-ho-hao-te 51.54 332 *e*P **P 15 49 34.2 +1.1**
HHC pmax pmax
comp=Z,5.0nm,1.0s
LZH Lanzhou 52.27 322 *e*P **P 15 49 40.4 +1.7**
LZH pP sP 15 49 52.5 -2.2
LZH sP pP 15 49 57.8 +7.6
LZH pmax pmax
comp=Z,14nm,1.0s
GTA Gaotai 56.84 323 P **P 15 50 12.6 +0.8**
GTA pP pP 15 50 22.7 -0.7
GTA sP sP 15 50 26.7 -1.3
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,23nm,4.2s
GTA LR LR
comp=Z,95nm,15.1s
GTA LR LR
comp=Z,80nm,16.2s
GTA LR LR
comp=Z,110nm,15.5s
PETK Petropavlovsk- 58.35 12 P **P 15 50 22.9 +0.9**
comp=Z,3.1nm,0.9s,baz=163,slow=5.0,SNR=4.6
PETK LR LR 16 12 26.6
comp=Z,93nm,21.8s,baz=241,slow=33
PETK Petropavlovsk- 58.35 12 P **P 15 50 22.3 +0.3**
ULN Ulaanbaatar 59.03 334 P **P 15 50 25.3 -1.7**
ULN IAmb IAmb 15 50 28.9
comp=Z,10nm,1.4s
SONM Songino Array 59.29 334 P **P 15 50 29.4 +0.6**
comp=Z,0.4nm,0.3s,baz=134,slow=6.4,SNR=6.2
SONM LR LR 16 17 12.5
comp=Z,68nm,18.9s,baz=156,slow=37
SONM Songino Array 59.29 334 P **P 15 50 27.1 -1.7**
YAK Yakutsk 65.99 354 P **P 15 51 12.6 -0.4**
YAK IAmb IAmb 15 51 14.4
comp=Z,23nm,1.0s
WMQ Urumqi 66.81 321 *e*P **P 15 51 19.6 +0.8**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,91nm,5.3s
PPT Papeete 69.81 107 LR LR 16 20 11.4
comp=Z,32nm,18.7s,baz=298,slow=34
PPT2 Papeete2 69.81 107 *e*LR LR 16 13 04.8
comp=Z,188nm,26.2s
TBI Tubuai 70.28 113 *e*LR LR 16 13 17.9
comp=Z,121nm,34.5s
MKAR Makanchi Array 71.58 322 P **P 15 51 48.0 -0.2**
comp=Z,0.6nm,0.4s,baz=92,slow=8.7,SNR=14
MKAR LR LR 16 25 26.0
comp=Z,23nm,18.7s,baz=74,slow=38
MKAR Makanchi Array 71.58 322 P **P 15 51 47.5 -0.7**
MAKZ Makanchi 71.78 322 P **P 15 51 48.8 -0.6**
KSH Kashi 72.98 313 *e*P **P 15 51 59.3 +2.4**
KSH S **S 16 01 21.2 -0.1**
KSH LR LR
comp=Z,75nm,9.8s
ZALV Zalesovo Beam 73.60 329 P **P 15 51 59.0 -1.0**
comp=Z,0.6nm,0.5s,baz=142,slow=5.1,SNR=3.8
ZALV LR LR 16 24 10.9
comp=Z,43nm,20.5s,baz=131,slow=36
KURK Kurchatov 75.47 325 P **P 15 52 10.4 -0.5**
TAOE Nuku Hiva Isla 78.97 98 *e*LR LR 16 17 17.5
comp=Z,4μm,29.6s
NRIK Norilʼsk 81.08 343 P **P 15 52 41.9 +0.3**
comp=Z,7.2nm,0.7s,baz=130,slow=5.2,SNR=13
NRIK LR LR 16 29 19.7
comp=Z,68nm,18.9s,baz=146,slow=36
BRVK Borovoye 81.13 325 P **P 15 52 41.0 -1.1**
MAW Mawson 81.95 202 P **P 15 52 46.9 +0.7**
comp=Z,8.2nm,0.9s,baz=74,slow=5.0,SNR=19
MAW LR LR 16 25 36.5
comp=Z,51nm,20.6s,baz=56,slow=33
MAW Mawson 81.95 202 P **P 15 52 46.0 -0.2**
IMAR Indian Mountai 83.66 22 P **P 15 52 55.2 +0.1**
DHY Denali Highway 85.21 26 P **P 15 53 03.2 0.0**
DHY IAmb IAmb 15 53 04.2
comp=Z,9.7nm,0.9s
CCB Clear Creek Bu 85.52 24 P **P 15 53 03.4 -1.1**
CCB IAmb IAmb 15 53 04.6
comp=Z,5.5nm,0.8s
IL31 85.93 24 P **P 15 53 05.3 -1.2**
IL31 IAmb IAmb 15 55 31.6
comp=Z,19nm,1.6s
ILAR Eielson Array 85.93 24 P **P 15 53 05.5 -1.1**
comp=Z,2.3nm,0.6s,baz=264,slow=4.6,SNR=31
ILAR Eielson Array 85.93 24 P **P 15 53 04.6 -2.0**
TOLK Toolik Lake Re 86.16 20 P **P 15 53 08.4 +0.7**
TOLK IAmb IAmb 15 53 09.8
comp=Z,12nm,0.9s
GEYT Alibeck 86.18 308 P **P 15 53 08.9 +0.5**
comp=Z,3.5nm,0.9s,baz=165,slow=12,SNR=6.8
GEYT LR LR 16 34 45.5
comp=Z,18nm,19.8s,baz=5.0,slow=38
GEYT Alibeck 86.18 308 P **P 15 53 08.4 -0.1**
QSPA South Pole Qui 86.33 180 P **P 15 53 08.6 -0.2**
ABKAR Akbulak array 86.55 320 P **P 15 53 08.4 -1.6**
DOT Dot Lake 86.81 26 P **P 15 53 10.3 -0.7**
DOT IAmb IAmb 15 53 12.1
comp=Z,14nm,1.2s
FYU Fort Yukon 87.10 23 P **P 15 53 12.8 +0.6**

BMAR Burnt Mountain 87.58 22 P **P 15 53 14.5 -0.1**
BCAR Beaver Creek A 87.67 26 P **P 15 53 14.2 -1.0**
ARU Arti 88.52 327 P **P 15 53 17.4 -1.8**
ARU IAmb IAmb 15 53 18.9
comp=Z,9.8nm,1.0s
DAWY Dawson 88.92 26 P **P 15 53 21.1 0.0**
SYO Syowa Base 90.54 201⇑ *e*P **P 15 53 27.6 -0.9**
SYO Syowa Base 90.54 201⇑ *e*pP pP 15 53 41.4 +0.7
GNI Garni 96.70 310 LR LR 16 44 18.8
comp=Z,13nm,18.2s,baz=47,slow=40
KBZ Khabaz 97.96 313 LR LR 16 41 28.8
comp=Z,16nm,21.7s,baz=42,slow=37
ARCES ARCESS Array B 101.94 341 P **Pdif 15 54 19.1 -1.1**
comp=Z,3.3nm,0.8s,baz=64,slow=5.5,SNR=5.0
LPAZ La Paz 145.49 126 PKPbc **PKPab 16 00 07.8 +0.9**
comp=Z,4.4nm,0.9s,baz=301,slow=1.6,SNR=16
CPUP Villa Florida 145.60 151 PKPbc **PKPab 16 00 06.4 +0.1**
comp=Z,3.8nm,0.9s,baz=261,slow=4.5,SNR=4.9
SDV Santo Domingo 148.65 79 **PKPbc 16 00 13.9 -1.3**

ISCJB ***04*** *15:41:33.0±0.1, 36°.57N±0°.02×27°.55E±0°.01, h119km±1km, mb4.2/23, Error ellipse: s-maj=2.6km s-min=1.9km az=15.8*
MOS ***04*** *15:41:32.6±0.9, 36°.44N×27°.47E, h126km, mb4.3/9, Error ellipse: s-maj=7.5km s-min=6.5km az=105.8*
IDC ***04*** *15:41:33.4±1.4, 36°.50N×27°.50E, h118km±13km, mb3.9/11, mb1 3.9/20, mb1mx3.7/49, mbtmp4.2/20, MS2.8/2, Ms1 2.8/2, ms1mx2.2/45, Error ellipse: s-maj=13.5km s-min=10.7km az=15.0*
HLW ***04*** *15:41:33.5, 36°.54N×27°.62E, h33km±36km, Ml4.4*
ATH ***04*** *15:41:33.3, 36°.64N×27°.50E, h118km±2km, ML3.9/21, Error ellipse: s-maj=2.7km s-min=1.1km az=125.0*
ISK ***04*** *15:41:34.3, 36°.68N×27°.48E, h110km, ML3.8/30*
NEIC ***04*** *15:41:34.3±1.5, 36°.56N±0°.05×27°.54E±0°.06, h124km±7km, mb4.2/26*
DDA ***04*** *15:41:35.4, 36°.71N×27°.57E, h102km, MW3.7*
THE ***04*** *15:41:36.1, 36°.65N×27°.47E, h116km±2km, ML3.9/9, Error ellipse: s-maj=2.3km s-min=0.9km az=47.0*
GII ***04*** *15:41:37.7±0.5, 36°.32N×27°.84E, h60km, mb4.2/5, MD4.1/5*

ISC 04 15:41:34.0±0.5, **36°.56N**±0°.03×**27°.58E**±0°.03, **h118**km±4km, **n330**, σ1⇟**57**/402, **mb4.2**/26, **9C-4D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.17**	**1**	⇑*i*P	**Pn**	**15 41 50.0**	**-0.4**
DAT				*i* S	**Sn**	**15 42 01.4**	**-1.5**
DAT				IAML		15 42 02.0	
	comp=E,2μm,0.5s						
DAT				IAML		15 42 02.0	
	comp=N,3μm,0.6s						
DAT	**Datca**	**0.17**	**1**	PG	**Pn**	**15 41 50.1**	**-0.4**
DAT				SG	**Sn**	**15 42 01.2**	**-1.7**
DATC	**Datca-Mugla**	**0.21**	**19**	PG	**Pn**	**15 41 49.8**	**-0.6**
DATC				SG	**Sn**	**15 42 01.4**	**-1.4**
NISR	**Nisiros**	**0.36**	**279**	P	**Pn**	**15 41 50.5**	**-0.5**
NISR				S	**Sn**	**15 42 02.3**	**-1.5**
	comp=N,3μm,1.1s						
NISR	**Nisiros**	**0.36**	**279**	P	**Pn**	**15 41 50.6**	**-0.3**
NISR				S	**Sn**	**15 42 03.6**	**-0.1**
NISR				AML	AML	15 42 09.7	
	comp=N,4009μm,0.8s						
NISR				AML	AML	15 42 10.9	
	comp=E,7082μm,1.0s						
BDRM	**Kayabasi**	**0.52**	**348**	⇑*i*P	**Pn**	**15 41 51.1**	**-0.8**
BDRM				*i* S	**Sn**	**15 42 03.0**	**-2.4**
BDRM				IAML		15 42 03.0	
	comp=E,4.4nm,0.6s						
BDRM				IAML		15 42 04.0	
	comp=N,8.2nm,0.6s						
KOSK	**Kos Island**	**0.52**	**292**	P	**Pn**	**15 41 51.0**	**-0.8**
KOSK				S	**Sn**	**15 42 03.6**	**-1.6**
	comp=N,2μm,0.6s						
MRSB	**Marmaris-Mugla**	**0.52**	**72**	PG	**Pn**	**15 41 51.8**	**-0.1**
BODT	**Bodrum**	**0.55**	**337**	P	**Pn**	**15 41 51.1**	**-1.0**
BODT				S	**Sn**	**15 42 03.3**	**-2.4**
BODT	**Bodrum**	**0.55**	**337**	PG	**Pn**	**15 41 51.1**	**-1.0**
BODT				SG	**Sn**	**15 42 03.1**	**-2.6**
ARG	**Arkhangelos**	**0.56**	**127**	P	**Pn**	**15 41 53.2**	**+1.1**
ARG				S	**Sn**	**15 42 06.2**	**+0.4**
	comp=N,6μm,0.5s						
ARG	**Arkhangelos**	**0.56**	**127**	P	**Pn**	**15 41 53.2**	**+1.1**
ARG				S	**Sn**	**15 42 06.6**	**+0.8**
ARG				AML	AML	15 42 07.4	
	comp=N,7372μm,0.2s						
ARG				AML	AML	15 42 09.0	
	comp=E,13200μm,0.4s						
ARG	**Arkhangelos**	**0.56**	**127**	PG	**Pn**	**15 41 53.2**	**+1.1**
ARG				SG	**Sn**	**15 42 06.9**	**+1.1**
YKAV	**Yalikavak-Bodr**	**0.61**	**337**	PG	**Pn**	**15 41 51.1**	**-1.4**
MLSB	**Milas**	**0.75**	**12**	PG	**Pn**	**15 41 53.0**	**-0.6**
MLSB				SG	**Sn**	**15 42 06.3**	**-2.2**
YER	**Yerkesik**	**0.81**	**44**	P	**Pn**	**15 41 54.2**	**+0.1**
YER				S	**Sn**	**15 42 07.0**	**-2.4**
YER	**Yerkesik**	**0.81**	**44**	PG	**Pn**	**15 41 54.2**	**+0.1**
YER				SG	**Sn**	**15 42 08.3**	**-1.1**
DIDI	**Didim-Aydin**	**0.86**	**342**	PG	**Pn**	**15 41 53.6**	**-0.9**
TURN	**Turunc**	**0.88**	**69**	⇑*i*P	**Pn**	**15 41 52.3**	**-2.4**
TURN				*i* S	**Sn**	**15 42 05.1**	**-5.3**
TURN				IAML		15 42 06.0	
	comp=N,5μm,0.5s						
TURN	**Turunc**	**0.88**	**69**	PG	**Pn**	**15 41 52.3**	**-2.4**
DALY	**Dalyan (Mula)**	**0.91**	**73**	⇑*i*P	**Pn**	**15 41 56.0**	**+1.2**
DALY				IAML		15 42 11.0	
	comp=E,2μm,0.4s						
DALY				*i* S	**Sn**	**15 42 11.5**	**+0.8**
DALY				IAML		15 42 12.0	
	comp=N,3μm,0.6s						
DALY	**Dalyan (Mula)**	**0.91**	**73**	PG	**Pn**	**15 41 55.9**	**+1.0**
DALY				SG	**Sn**	**15 42 11.2**	**+0.5**
KARP	**Karpathos**	**1.06**	**199**	P	**Pn**	**15 41 57.3**	**+0.8**
KARP				S	**Sn**	**15 42 13.2**	**-0.4**
	comp=N,13μm,0.3s						
KARP	**Karpathos**	**1.06**	**199**	P	**Pn**	**15 41 57.4**	**+0.9**
KARP				S	**Sn**	**15 42 14.3**	**+0.7**
KARP				AML	AML	15 42 14.8	
	comp=E,29160μm,0.2s						
KARP				AML	AML	15 42 16.6	
	comp=N,22228μm,0.3s						
KARP	**Karpathos**	**1.06**	**199**	PN	**Pn**	**15 41 57.6**	**+1.0**
KARP	**Karpathos**	**1.06**	**199**		**Pn**	**15 41 57.4**	**+0.8**
AYDN	**Tasoluk**	**1.13**	**12**	⇑*i*P	**Pn**	**15 41 57.7**	**+0.4**
AYDN				*i* S	**Sn**	**15 42 12.4**	**-2.4**
AYDN				IAML		15 42 13.0	
	comp=N,1μm,0.8s						
AYDN				IAML		15 42 13.0	
	comp=E,651nm,0.6s						
GCAM	**G?zelcaml?**	**1.17**	**347**	⇓*i*P	**Pn**	**15 41 57.6**	**0.0**
GCAM				IAML		15 42 13.0	
	comp=E,929nm,0.9s						
GCAM				IAML		15 42 13.0	
	comp=N,622nm,0.4s						
GCAM				*i* S	**Sn**	**15 42 13.6**	**-1.9**
GCAM	**G?zelcaml?**	**1.17**	**347**	PG	**Pn**	**15 41 56.6**	**-1.0**
FETY	**Fethiye**	**1.22**	**86**	P	**Pn**	**15 41 58.8**	**+0.7**
FETY				S	**Sn**	**15 42 16.7**	**+0.3**
FETY	**Fethiye**	**1.22**	**86**	⇑*i*P	**Pn**	**15 41 59.8**	**+1.7**
FETY				*i* S	**Sn**	**15 42 16.8**	**+0.3**
FETY				IAML		15 42 17.0	
	comp=E,1μm,0.4s						
FETY				IAML		15 42 17.0	
	comp=N,1μm,0.3s						
FETY	**Fethiye**	**1.22**	**86**	PN	**Pn**	**15 41 59.3**	**+1.2**
SMG	**Samos**	**1.29**	**333**	P	**Pn**	**15 41 57.6**	**-1.4**
SMG				S	**Sn**	**15 42 14.5**	**-3.4**
	comp=N,2μm,0.6s						
SMG	**Samos**	**1.29**	**333**	P	**Pn**	**15 41 57.5**	**-1.4**
SMG				S	**Sn**	**15 42 14.9**	**-3.0**
SMG				AML	AML	15 42 15.3	
	comp=E,3852μm,0.5s						
SMG				AML	AML	15 42 15.4	
	comp=N,2737μm,0.6s						
AMGA	**Amorgos Island**	**1.38**	**282**	P	**Pn**	**15 41 59.2**	**-0.7**
AMGA	**Amorgos Island**	**1.38**	**282**	P	**Pn**	**15 41 59.2**	**-0.7**
AMGA				AML	AML	15 42 18.3	
	comp=E,1886μm,0.8s						
AMGA				AML	AML	15 42 18.4	
	comp=N,2114μm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.40**	**49**	⇑*i*P	**Pn**	**15 42 00.1**	**-0.2**
TAVA				*i* S	**Sn**	**15 42 18.8**	**-1.5**
TAVA				IAML		15 42 20.0	
	comp=E,570nm,0.6s						
TAVA				IAML		15 42 20.0	
	comp=N,582nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**1.41**	**10**	PN	**Pn**	**15 41 59.4**	**-1.0**
ANAF	**Anafi Island**	**1.47**	**263**	P	**Pn**	**15 42 00.8**	**-0.1**
ANAF				S	**Sn**	**15 42 18.8**	**-2.6**
ANAF	**Anafi Island**	**1.47**	**263**	P	**Pn**	**15 42 00.9**	**0.0**
GMLD	**Gumuldur**	**1.60**	**341**	PN	**Pn**	**15 42 01.4**	**-1.1**
DENT	**Denizli**	**1.67**	**44**	PN	**Pn**	**15 42 03.2**	**-0.1**
AKAS	**Kas**	**1.67**	**101**	⇑*i*P	**Pn**	**15 42 04.2**	**+0.8**
AKAS				*i* S	**Sn**	**15 42 26.7**	**+0.8**
AKAS				IAML		15 42 30.0	
	comp=E,1μm,0.5s						
AKAS				IAML		15 42 31.0	
	comp=N,2μm,0.5s						
AKAS	**Kas**	**1.67**	**101**	PN	**Pn**	**15 42 05.2**	**+1.8**
KSL	**Kastellorizon**	**1.67**	**104**	P	**Pn**	**15 42 04.2**	**+0.9**
KSL				S	**Sn**	**15 42 26.8**	**+1.2**
	comp=N,2μm,0.5s						
KSL	**Kastellorizon**	**1.67**	**104**	P	**Pn**	**15 42 04.3**	**+0.9**
KSL				AML	AML	15 42 29.1	
	comp=N,4524μm,0.6s						
KSL				AML	AML	15 42 31.4	
	comp=E,4994μm,0.4s						
THR8	**Santorini-Mono**	**1.70**	**266**	P	**Pn**	**15 42 03.3**	**-0.3**
SANT	**Santorini**	**1.72**	**264**	P	**Pn**	**15 42 03.6**	**-0.3**
SANT	**Santorini**	**1.72**	**264**	P	**Pn**	**15 42 03.5**	**-0.4**
SANT	**Santorini**	**1.72**	**264**	PN	**Pn**	**15 42 03.7**	**-0.2**
SANT	**Santorini**	**1.72**	**264**		**Pn**	**15 42 03.5**	**-0.4**
APE	**Apeiranthos**	**1.72**	**288**	P	**Pn**	**15 42 03.4**	**-0.5**
APE	**Apeiranthos**	**1.72**	**288**	*d*iP	**Pn**	**15 42 03.3**	**-0.7**
APE	**Apeiranthos**	**1.72**	**288**	P	**Pn**	**15 42 03.4**	**-0.5**
APE				AML	AML	15 42 26.3	
	comp=N,1164μm,0.8s						
APE				AML	AML	15 42 28.4	
	comp=E,725μm,0.7s						
APE	**Apeiranthos**	**1.72**	**288**	PN	**Pn**	**15 42 03.2**	**-0.7**
GOLH	**Golhisar**	**1.73**	**66**	⇑*i*P	**Pn**	**15 42 05.3**	**+1.2**
GOLH				*i* S	**Sn**	**15 42 28.1**	**+1.0**
GOLH				IAML		15 42 30.0	
	comp=N,1μm,0.7s						
CMBO	**Columbo, Santo**	**1.75**	**268**	P	**Pn**	**15 42 04.0**	**-0.3**
CMBO				S	**Sn**	**15 42 24.8**	**-2.5**
	comp=N,2μm,0.8s						
CMBO	**Columbo, Santo**	**1.75**	**268**	P	**Pn**	**15 42 03.9**	**-0.3**
STIA	**Sitia Lasithi**	**1.81**	**222**	P	**Pn**	**15 42 05.9**	**+0.9**
STIA				S	**Sn**	**15 42 28.6**	**-0.1**
ZKR	**Zakros**	**1.81**	**218**	P	**Pn**	**15 42 06.0**	**+0.9**
ZKR				S	**Sn**	**15 42 29.4**	**+0.6**
	comp=N,3μm,0.3s						
ZKR	**Zakros**	**1.81**	**218**	P	**Pn**	**15 42 06.0**	**+0.9**
ZKR				AML	AML	15 42 30.1	
	comp=E,7558μm,0.3s						
ZKR				AML	AML	15 42 30.9	
	comp=N,2652μm,0.4s						
ZKR	**Zakros**	**1.81**	**218**	PN	**Pn**	**15 42 06.2**	**+1.1**
ZEY	**zmir**	**1.88**	**333**	⇓*i*P	**Pn**	**15 42 05.6**	**-0.3**
ZEY				IAML		15 42 27.0	
	comp=E,293nm,0.8s						
ZEY				*i* S	**Sn**	**15 42 27.9**	**-2.3**
ELL	**Elmali**	**1.89**	**84**	P	**Pn**	**15 42 07.4**	**+1.3**
ELL	**Elmali**	**1.89**	**84**	PN	**Pn**	**15 42 07.7**	**+1.6**
ELL	**Elmali**	**1.89**	**84**		**Pn**	**15 42 07.4**	**+1.3**
URLA	**Izmir**	**1.96**	**337**	⇓*i*P	**Pn**	**15 42 06.6**	**-0.2**
URLA				*i* S	**Sn**	**15 42 28.9**	**-3.1**
URLA				IAML		15 42 31.0	
	comp=N,111nm,0.9s						
URLA				IAML		15 42 36.0	
	comp=E,94nm,0.9s						
URLA	**Izmir**	**1.96**	**337**	PN	**Pn**	**15 42 05.7**	**-1.2**
NPS	**Neapolis**	**2.05**	**232**	P	**Pn**	**15 42 08.0**	**0.0**
NPS				S	**Sn**	**15 42 32.6**	**-1.4**
	comp=E,3μm,0.5s						
NPS	**Neapolis**	**2.05**	**232**	P	**Pn**	**15 42 08.0**	**0.0**
NPS				AML	AML	15 42 33.0	
	comp=E,6731μm,0.4s						
NPS				AML	AML	15 42 37.0	
	comp=N,5262μm,0.7s						
MANT	**Manisa**	**2.08**	**22**	*i* P	**Pn**	**15 42 08.7**	**+0.1**
MANT				*i* S	**Sn**	**15 42 31.8**	**-3.3**
MANT				IAML		15 42 33.0	
	comp=N,161nm,0.8s						
MANT				IAML		15 42 34.0	
	comp=E,194nm,0.7s						
MANT	**Manisa**	**2.08**	**22**		**Pn**	**15 42 07.9**	**-0.7**
KULA	**Kula-Manisa**	**2.13**	**24**	PN	**Pn**	**15 42 08.6**	**-0.5**
CHOS	**Chios island**	**2.19**	**327**	P	**Pn**	**15 42 08.6**	**-1.2**
CHOS				AML	AML	15 42 35.3	
	comp=E,602μm,0.9s						
CHOS				AML	AML	15 42 36.9	
	comp=N,616μm,1.3s						
CHOS	**Chios island**	**2.19**	**327**	PN	**Pn**	**15 42 08.6**	**-1.2**
LAST	**Lasithi**	**2.20**	**231**	P	**Pn**	**15 42 09.9**	**0.0**
AKUM	**Antalya-Kumluc**	**2.24**	**95**	*i* P	**Pn**	**15 42 11.2**	**+0.8**
AKUM				*i* S	**Sn**	**15 42 37.3**	**-1.0**
AKUM				IAML		15 42 42.0	
	comp=N,798nm,0.3s						
AKUM				IAML		15 42 45.0	
	comp=E,753nm,0.5s						
KORT	**Korkueli**	**2.27**	**78**	*i* P	**Pn**	**15 42 13.8**	**+2.9**
KORT				*i* S	**Sn**	**15 42 40.4**	**+1.3**
KORT				IAML		15 42 43.0	
	comp=E,1μm,0.7s						
KORT				IAML		15 42 47.0	
	comp=N,601nm,0.8s						
KORT	**Korkueli**	**2.27**	**78**	PN	**Pn**	**15 42 12.5**	**+1.6**
BRDR	**BURDUR-Merkez**	**2.29**	**59**	*i* P	**Pn**	**15 42 12.9**	**+1.9**
BRDR				*i* S	**Sn**	**15 42 38.5**	**-1.1**
BRDR				IAML		15 42 41.0	
	comp=N,463nm,0.8s						
BRDR				IAML		15 42 42.0	
	comp=E,216nm,0.5s						
AKHS	**Akhisar**	**2.33**	**5**	*i* P	**Pn**	**15 42 10.2**	**-1.2**
KHAL	**Karahalli**	**2.37**	**40**	*i* P	**Pn**	**15 42 12.9**	**+0.8**
KHAL				*i* S	**Sn**	**15 42 38.8**	**-2.5**
KHAL				IAML		15 42 41.0	
	comp=E,197nm,0.7s						
KHAL				IAML		15 42 41.0	
	comp=N,246nm,0.8s						
KEMT	**Kemer-ANTALYA**	**2.40**	**88**	PN	**Pn**	**15 42 14.4**	**+2.0**
ZEDA	**zmir-Bergama**	**2.44**	**351**	*i* P	**Pn**	**15 42 12.9**	**+0.1**
ANTB	**Antalya**	**2.50**	**81**	PN	**Pn**	**15 42 15.7**	**+2.1**
MHLA	**Plaka, Milos I**	**2.54**	**275**	P	**Pn**	**15 42 13.7**	**-0.5**
SERI	**Serifos**	**2.55**	**285**	P	**Pn**	**15 42 13.8**	**-0.6**
MHLO	**Agia Marina, M**	**2.56**	**274**	P	**Pn**	**15 42 14.7**	**+0.2**
BCK	**Bucak**	**2.58**	**69**	PN	**Pn**	**15 42 16.2**	**+1.5**
KZIL	**AFYON_Kizioren**	**2.66**	**50**	*i* P	**Pn**	**15 42 16.0**	**+0.2**
KZIL				*i* S	**Sn**	**15 42 44.7**	**-3.3**
KZIL				IAML		15 42 48.0	
	comp=E,148nm,0.7s						
KZIL				IAML		15 42 49.0	
	comp=N,141nm,0.6s						
ISP	**Isparta**	**2.67**	**61**	P	**Pn**	**15 42 16.5**	**+0.5**
ISP	**Isparta**	**2.67**	**61**	Pn	**Pn**	**15 42 16.4**	**+0.5**
ISP	**Isparta**	**2.67**	**61**	P	**Pn**	**15 42 16.2**	**+0.2**
ISP	**Isparta**	**2.67**	**61**	PN	**Pn**	**15 42 16.7**	**+0.7**
ISP	**Isparta**	**2.67**	**61**		**Pn**	**15 42 16.5**	**+0.5**
SIVA	**Sivas**	**2.72**	**236**	P	**Pn**	**15 42 16.5**	**0.0**
SIVA				AML	AML	15 42 53.4	
	comp=E,4455μm,0.4s						
SIVA				AML	AML	15 42 55.0	
	comp=N,4252μm,0.7s						
SIMA	**Simav-Kutahya**	**2.76**	**23**	PN	**Pn**	**15 42 16.9**	**-0.2**
PRK	**Paraskevi**	**2.88**	**339**	P	**Pn**	**15 42 18.6**	**+0.1**
PRK				AML	AML	15 42 52.0	
	comp=N,484μm,1.2s						
PRK				AML	AML	15 42 52.0	
	comp=E,506μm,0.9s						
KARY	**Karystos**	**2.90**	**301**	P	**Pn**	**15 42 18.4**	**-0.5**
KARY				AML	AML	15 42 51.3	
	comp=E,382μm,0.7s						
KARY				AML	AML	15 42 51.5	
	comp=N,341μm,0.9s						
BAGO	**Egridir - ISPA**	**2.94**	**60**	*i* P	**Pn**	**15 42 20.1**	**+0.7**
BAGO				*i* S	**Sn**	**15 42 50.7**	**-3.8**
BAGO				IAML		15 42 58.0	
	comp=N,48nm,0.8s						
BAGO				IAML		15 43 00.0	
	comp=E,31nm,0.7s						
GDZ	**Gediz**	**2.94**	**30**	*i* P

GDZ IAML 15 42 58.0
comp=E,20nm,0.8s
SIGR SIGRI 2.98 333 P **Pn** **15 42 18.3 -1.6**
IMMV Iera Moni Meta 3.11 250 P **Pn** **15 42 21.7 0.0**
IMMV AML AML 15 43 04.8
comp=E,4260µm,0.8s
IMMV AML AML 15 43 05.6
comp=N,3183µm,0.5s
DURS Dursunbey 3.12 13 *i* P **Pn** **15 42 20.9 -1.0**
KEPZ Antalya-Kepez 3.25 83 *i* P **Pn** **15 42 25.4 +1.8**
KEPZ *i* S **Sn** **15 43 03.9 +2.0**
KEPZ IAML 15 43 10.0
comp=N,542nm,0.9s
KEPZ IAML 15 43 11.0
comp=E,400nm,0.6s
GVD Gavdhos 3.32 240 P **Pn** **15 42 24.8 +0.5**
GVD AML AML 15 43 05.1
comp=E,3387µm,0.4s
GVD AML AML 15 43 05.3
comp=N,5217µm,0.4s
ATHU Athens Univers 3.33 296 P **Pn** **15 42 24.4 -0.2**
KERA Keramoti 3.47 251 P **Pn** **15 42 26.8 +0.4**
KERA AML AML 15 43 08.8
comp=N,4436µm,0.3s
KERA AML AML 15 43 08.8
comp=E,3731µm,0.3s
ANKY Antikythira Is 3.52 260 P **Pn** **15 42 26.7 -0.5**
ANKY AML AML 15 43 08.4
comp=E,1030µm,1.0s
ANKY AML AML 15 43 12.4
comp=N,1561µm,0.4s
DID Didima 3.60 287 P **Pn** **15 42 27.8 -0.3**
DOGA KONYA_Doganhis 3.61 63 *i* P **Pn** **15 42 29.6 +1.1**
DOGA *i* S **Sn** **15 43 07.1 -3.4**
DOGA IAML 15 43 13.0
comp=N,119nm,0.8s
DOGA IAML 15 43 14.0
comp=E,98nm,1.2s
KTHA Kythira Island 3.65 267 P **Pn** **15 42 29.2 +0.3**
KTHA AML AML 15 43 09.7
comp=E,1202µm,0.5s
KTHA AML AML 15 43 12.1
comp=N,713µm,0.2s
VLI Veliai 3.73 274 P **Pn** **15 42 29.6 -0.4**
VLI AML AML 15 43 13.3
comp=N,687µm,0.3s
VLI AML AML 15 43 14.6
comp=E,433µm,0.2s
VIL2 Platees 3.81 297 P **Pn** **15 42 29.6 -1.3**
MRKA Markates 3.82 305 P **Pn** **15 42 30.9 -0.2**
GAZI Gazipasa 3.84 93 *i* P **Pn** **15 42 31.1 -0.2**
GAZI *i* S **Sn** **15 43 13.6 -2.1**
LTK Loutraki 3.96 293 P **Pn** **15 42 33.0 +0.1**
KMER Konya-Meram 4.01 71 *i* P **Pn** **15 42 36.0 +2.2**
KONT Konya--Tatoy 4.06 69 *i* P **Pn** **15 42 35.7 +1.4**
KDHN Kadinhani 4.11 60 *i* P **Pn** **15 42 35.9 +0.9**
ERMK Ermenek 4.30 87 *i* P **Pn** **15 42 40.6 +3.0**
ERMK *i* S **Sn** **15 43 24.9 -2.1**
ERMK IAML 15 43 31.0
comp=N,370nm,0.6s
ERMK IAML 15 43 39.0
comp=E,284nm,0.6s
LEF Lefka 4.55 107 *i* P **Pn** **15 42 40.3 -0.6**
LEF *i* S **Sn** **15 43 28.4 -4.3**
ITM Ithomi 4.57 279 P **Pn** **15 42 41.6 +0.4**
ITM AML AML 15 43 36.9
comp=E,431µm,0.3s
ITM AML AML 15 43 37.9
comp=N,265µm,0.2s
ITM Ithomi 4.57 279 Pn **Pn** **15 42 41.8 +0.7**
KLV Kalavryta, Ach 4.57 291 P **Pn** **15 42 41.4 +0.2**
KLV AML AML 15 43 53.0
comp=N,94µm,0.5s
KLV AML AML 15 43 55.0
comp=E,110µm,0.4s
PYL PYLOS 4.70 276 P **Pn** **15 42 42.1 -0.7**
TRIZ Trizonia 4.74 294 P **Pn** **15 42 44.2 +0.9**
LAKA Lakka 4.76 292 P **Pn** **15 42 44.1 +0.4**
GULN MERSIN_Gulnar 4.83 93 *i* P **Pn** **15 42 45.2 +0.6**
GULN *i* S **Sn** **15 43 38.7 -0.8**
DRO Drossia 4.88 288 P **Pn** **15 42 45.8 +0.5**
CSS Mathiatis 4.94 107 Pn **Pn** **15 42 46.5 +0.3**
CSS Mathiatis 4.94 107 **Pn** **15 42 46.1 0.0**
MATC Matruh 5.21 183 AMP 15 43 00.0
baz=184
BR231 Keskin MP Arra 5.25 50 Pn **Pn** **15 42 51.9 +1.6**
ANTO Ankara 5.27 50 P **Pn** **15 42 52.3 +1.7**
ANTO Ankara 5.27 50 **Pn** **15 42 52.3 +1.7**
KIZK Mersin 5.29 89 *i* P **Pn** **15 42 52.0 +1.2**
KIZK *i* S **Sn** **15 43 47.5 -3.1**
LIT Litokhoron 5.34 313 P **Pn** **15 42 51.1 -0.3**
LIT Litokhoron 5.34 313 **Pn** **15 42 51.1 -0.3**
SLUM Salum 5.42 202 P **Pn** **15 42 52.8 +0.2**
baz=203
SLUM S **Sn** **15 43 49.4 -4.4**
baz=203
EREN Erenkoy 5.44 99 *i* P **Pn** **15 42 52.6 -0.2**
EREN *i* S **Sn** **15 43 51.4 -2.8**
PDO Prodromos 5.47 294 P **Pn** **15 42 54.1 +0.9**
KFL Anninata 5.63 288 P **Pn** **15 42 56.4 +1.1**
KIRS Kırehir-Merke 5.64 61 *i* P **Pn** **15 42 56.6 +1.1**
BR131 Keskin Array S 5.73 55 P **Pn** **15 42 58.0 +1.2**
BR131 Keskin Array S 5.73 55 **Pn** **15 42 58.0 +1.2**
BRTR Keskin Array B 5.73 55 P **Pn** **15 42 58.6 +1.8**
comp=E,8.3nm,0.3s,baz=222,slow=13,SNR=437
BRTR S **Sn** **15 44 02.5 +1.0**
comp=E,0.6nm,0.3s,baz=229,slow=26,SNR=7.0
BRTR Keskin Array B 5.73 55 **Pn** **15 42 57.7 +0.9**
GULE Gulek 5.81 81 *i* P **Pn** **15 42 59.6 +1.6**
GULE *i* S **Sn** **15 44 00.1 -3.5**
GULE IAML 15 44 25.0
comp=N,64nm,0.7s
GULE IAML 15 44 29.0
comp=E,70nm,0.8s
FSK Fiskardo 5.89 291 P **Pn** **15 42 58.5 -0.3**
DELI KIRIKKALE 6.06 54 *i* P **Pn** **15 43 02.4 +1.1**
CDAG Cicekdag 6.17 58 *i* P **Pn** **15 43 04.4 +1.6**
ILGA Ilgaz 6.57 45 Pn **Pn** **15 43 09.3 +1.1**
VTS Vitosha 6.92 332 P **Pn** **15 43 12.3 -0.6**
VTS Vitosha 6.92 332 **Pn** **15 43 12.3 -0.6**
HNTI Hanita 7.14 117 Pn **Pn** **15 43 15.5 -0.4**
HNTI Sn **Sn** **15 44 32.2 -3.4**
HWQ Hawqa 7.20 106 *eP* **Pn** **15 43 16.0 -0.8**
OFRI `Ofer 7.26 121 Pn **Pn** **15 43 18.1 +0.6**
OFRI Sn **Sn** **15 44 35.2 -3.3**
HMYD Mayadein 7.26 157 P **Pn** **15 43 17.7 +0.2**
baz=157
BLGI Bet Lehem HaGe 7.34 119 Pn **Pn** **15 43 18.2 -0.4**
BLGI Sn **Sn** **15 44 37.9 -2.5**
MMA0B Mount Meron ar 7.34 116 Pn **Pn** **15 43 18.3 -0.4**
MMAI Mount Meron Ar 7.34 116 P **Pn** **15 43 18.2 -0.5**
comp=E,25nm,0.3s,baz=307,slow=12,SNR=76
MMAI S **Sn** **15 44 36.2 -4.3**
comp=E,24nm,0.3s,baz=308,slow=12,SNR=3.8
HNAT Natroun 7.36 159 P **Pn** **15 43 18.4 -0.4**
baz=159
RCY Rachaya 7.43 112 *eP* **Pn** **15 43 19.0 -0.9**
GEM Giv'at Ha'Em 7.44 114 Pn **Pn** **15 43 19.8 0.0**
GEM Sn **Sn** **15 44 39.7 -2.9**
KSDI Kefar Szold 7.44 114 Pn **Pn** **15 43 19.8 -0.1**
KSDI Sn **Sn** **15 44 39.9 -2.9**
KSDI Kefar Szold 7.44 114 P **Pn** **15 43 19.8 -0.1**
comp=E,90nm,0.5s,comp=E,0.5nm
KSDI Kefar Szold 7.44 114 P **Sn** **15 44 39.8 -3.0**
NATI Neve Ativ 7.47 114 Pn **Pn** **15 43 19.8 -0.4**
SWA2 7.51 194 P **Pn** **15 43 20.6 -0.2**
baz=195
KOT Kottamia 7.51 150 P **Pn** **15 43 21.5 +0.6**
baz=150
KOT S **Sn** **15 44 39.3 -5.2**
baz=150
SLTI Sal'it 7.52 123 Pn **Pn** **15 43 20.9 -0.1**
SLTI Sn **Sn** **15 44 41.7 -3.0**
RSH 7.57 136 P **Pn** **15 43 21.7 0.0**
baz=135
HHAG Hagoal 7.60 149 P **Pn** **15 43 22.5 +0.5**
baz=149
HHAG S **Sn** **15 44 41.3 -5.3**
baz=149
MMLI Mount Malkishu 7.67 120 Pn **Pn** **15 43 23.0 0.0**
MMLI Sn **Sn** **15 44 46.2 -2.1**
MMLI Mount Malkishu 7.67 120 P **Pn** **15 43 22.4 -0.6**
comp=E,20nm,0.9s,comp=E,0.3nm
MMLI Mount Malkishu 7.67 120 P **Sn** **15 44 47.7 -0.6**

TIR Tirane 7.68 311 P **Pn** **15 43 23.0 0.0**
TIR Tirane 7.68 311 Pn **Pn** **15 43 23.0 0.0**
SHMJ Saham 7.75 117 P **Pn** **15 43 24.3 +0.2**
comp=E,204nm,0.5s,comp=E,1.4nm
HMDT Nahal Hemdat 7.85 121 Pn **Pn** **15 43 26.4 +1.0**
HMDT Sn **Sn** **15 44 50.0 -2.6**
AMAZ Amatzia 7.89 127 Pn **Pn** **15 43 26.1 +0.1**
AMAZ Sn **Sn** **15 44 51.0 -2.6**
SCTE Santa Cesarea 7.97 299 Pn **Pn** **15 43 26.4 -0.6**
KZIT Kziot 8.00 133 Pn **Pn** **15 43 27.8 +0.3**
KZIT Sn **Sn** **15 44 52.5 -3.9**
KZIT Kziot 8.00 133 P **Pn** **15 43 27.8 +0.3**
comp=E,97nm,0.8s,comp=E,1.0nm
SUZ Suez 8.02 145 P **Pn** **15 43 28.1 +0.4**
baz=145
YTIR Yattir 8.13 127 Pn **Pn** **15 43 29.1 -0.2**
YTIR Sn **Sn** **15 44 56.5 -3.0**
DSI Dead Sea 8.16 125 Pn **Pn** **15 43 29.7 0.0**
MZDA Masada 8.32 127 Pn **Pn** **15 43 32.0 +0.3**
MZDA Sn **Sn** **15 45 02.1 -1.9**
ZAF Zafarana 8.37 149 P **Pn** **15 43 32.9 +0.4**
baz=148
HSUJ Al Zarqa 8.40 119 P Sn 15 44 55.7 -10
ZNM Zenema 8.43 147 P **Pn** **15 43 33.9 +0.6**
baz=146
RMNI Mount Ramon 8.44 133 Pn **Pn** **15 43 33.2 -0.3**
LISJ El Lisan 8.44 127 P **Pn** **15 43 34.1 +0.7**
comp=E,33nm,0.5s,comp=E,0.3nm
LISJ El Lisan 8.44 127 P **Sn** **15 45 03.8 -3.2**
comp=E,61nm,0.7s,comp=E,0.3nmcomp=E,0.6nm
WALJ Wala 8.46 124 P **Pn** **15 43 33.8 +0.2**
WALJ Wala 8.46 124 P **Sn** **15 45 01.1 -6.2**
NBNS Bani Suef 8.51 157 P **Pn** **15 43 34.8 +0.3**
baz=157
PDG Podgorica 8.70 315 Pn **Pn** **15 43 36.8 -0.1**
ZFRI Zfri 8.72 131 Pn **Pn** **15 43 37.6 +0.4**
PRNI Paran 8.76 133 Pn **Pn** **15 43 37.1 -0.7**
KRMI Paran Flat 8.77 135 Pn **Pn** **15 43 37.8 -0.2**
ASF Jabal al Asfar 8.86 117 P **Pn** **15 43 38.5 -0.7**
comp=E,2.1nm,0.3s,baz=265,slow=4.2,SNR=14
ASF S **Sn** **15 45 17.9 +0.6**
comp=E,1.8nm,0.3s,baz=46,slow=23,SNR=9.0
ASF Jabal al Asfar 8.86 117 P **Pn** **15 43 39.4 +0.2**
comp=E,5.7nm,0.5s,comp=E,0.1nm
ASF Jabal al Asfar 8.86 117 P Sn 15 44 59.1 -18
JDRJ Daraweish 8.90 128 P **Pn** **15 43 41.4 +1.6**
comp=E,35nm,0.7s
JDRJ Daraweish 8.90 128 P **Sn** **15 45 12.1 -6.3**
TIP Timpagrande 8.95 290 Pn **Pn** **15 43 37.6 -2.6**
MLR Muntele Rosu 9.01 353 P **Pn** **15 43 41.5 +0.4**
comp=E,0.2nm,0.3s,baz=128,slow=5.9,SNR=3.5
MLR Muntele Rosu 9.01 353 Pn **Pn** **15 43 41.4 +0.3**
HRFI Mount Harif 9.01 134 Pn **Pn** **15 43 41.5 +0.3**
HRFI Sn **Sn** **15 45 17.7 -3.3**
HRFI Mount Harif 9.01 134 P **Pn** **15 43 40.5 -0.7**
comp=E,48nm,0.6s
MBRI Mt Berech 9.12 136 Pn **Pn** **15 43 42.5 -0.3**
HRDS Abu Rudays 9.19 147 P **Pn** **15 43 43.3 -0.3**
baz=146
EIL Elat 9.24 136 Pn **Pn** **15 43 44.1 -0.1**
EIL Sn **Sn** **15 45 22.9 -3.5**
EIL Elat 9.24 136 P **Pn** **15 43 44.1 -0.1**
comp=E,2.0nm,0.3s,baz=309,slow=2.9,SNR=15
EIL S **Sn** **15 45 23.8 -2.6**
comp=E,8.9nm,0.3s,baz=306,slow=16,SNR=16
EIL Elat 9.24 136 P **Pn** **15 43 44.9 +0.7**
comp=E,14nm,0.8s
EIL Elat 9.24 136 P **Sn** **15 45 23.1 -3.3**
AQBJ Aqaba 9.25 135 P **Pn** **15 43 45.3 +0.9**
AQBJ Aqaba 9.25 135 P **Sn** **15 45 23.1 -3.6**
comp=E,216nm,0.7s,comp=E,0.9nmcomp=E,1.6nm
TAMRE El Minia 9.29 161 P **Pn** **15 43 45.3 +0.3**
baz=161
GRB Gharib 9.36 150 P **Pn** **15 43 46.4 +0.5**
baz=150
HFRF Wahat Farafira 9.40 176 P **Pn** **15 43 46.8 +0.4**
baz=176
HKAT Jabal Katrina 9.67 144 P **Pn** **15 43 50.4 +0.2**
baz=144
ANN Anapa 11.12 39 *eP* **Pn** **15 44 12.0 +2.6**
ANN *e*S **Sn** **15 46 19.4 +7.7**
ANN pmax pmax
comp=Z,69nm,1.2s
KOLS Kolonicke sedl 12.96 344 *eP* **P** **15 44 39.7 +0.1**
KOLS Kolonicke sedl 12.96 344 *e*PN **P** **15 44 39.7 +0.1**
VYHS Vyhne 13.54 334 *eP* **P** **15 44 46.4 +0.3**
VYHS Vyhne 13.54 334 *e*PN **P** **15 44 46.4 +0.3**
KIV Kislovodsk 13.69 53 *eP* **P** **15 44 49.2 +1.3**
KIV pmax pmax
comp=Z,75nm,1.0s
KIV Kislovodsk 13.69 53 P **P** **15 44 49.6 +1.7**
KBZ Khabaz 13.72 54 *i* P **P** **15 44 50.0 +1.9**
SOKA Soboth 13.78 321 *i* Pn **Pn** **15 44 43.8 -0.4**
comp=Z,3.9nm,0.9s
OBKA Obir 13.91 320 *i* P **P** **15 44 50.4 +0.1**
comp=Z,3.8nm,0.6s
ARSA Arzberg 13.93 324 *i* P **P** **15 44 50.7 +0.3**
comp=Z,4.2nm,0.7s
GNI Garni 13.94 70 *i* P **Pn** **15 44 48.5 +2.0**
GNI Garni 13.94 70 LR LR 15 50 49.2
comp=Z,31nm,21.1s,baz=252,slow=40
ZEI Tsey 14.02 59 *eP* **P** **15 44 52.8 +1.1**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
MODS Modra-Piesok 14.03 331 *eP* **P** **15 44 49.7 -1.8**
MODS Modra-Piesok 14.03 331 *e*PN **P** **15 44 49.7 -1.8**
NCK Nalchik 14.08 56 *i* P **P** **15 44 53.8 +1.6**
MYKA Terra Mystica 14.47 318 *i* P **P** **15 44 56.4 -0.1**
comp=Z,9.8nm,0.8s
KEST Kesra 14.76 272 P **Pn** **15 44 56.4 -0.5**
comp=Z,0.2nm,0.3s,baz=305,slow=6.0,SNR=3.5
KEST Kesra 14.76 272 P **P** **15 45 00.1 +0.3**
KBA Koelnbreinsper 14.91 319 *i* Pn **Pn** **15 44 59.8 +1.0**
comp=Z,8.0nm,0.5s
MOA Molln 14.96 323 *i* Pn **Pn** **15 45 00.3 +1.1**
comp=Z,9.0nm,1.3s
VRAC Vranov 15.05 331 P **Pn** **15 45 01.2 +0.9**
comp=Z,1.8nm,0.3s,baz=128,slow=8.4,SNR=8.1
MORC Moravsky Berou 15.08 334 P **P** **15 45 04.1 +0.9**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 15.08 334 P **P** **15 45 04.1 +0.9**
ABTA Abfaltersbach 15.15 317 *i* P **P** **15 45 04.1 0.0**
comp=Z,6.2nm,0.6s
GEC2 GERESS Array S 15.93 325 **Pn** **15 45 11.4 0.0**
GERES GERESS Array B 15.93 325 P **Pn** **15 45 11.2 -0.1**
comp=Z,0.7nm,0.3s,baz=139,slow=12,SNR=9.9
GERES GERESS Array B 15.93 325 Pn **Pn** **15 45 10.6 -0.8**
WTTA Wattenberg 15.94 317 *i* P **P** **15 45 12.6 -0.3**
comp=Z,11nm,1.0s
WATA Walderalm 16.02 317 *i* Pn **P** **15 45 13.2 -0.5**
comp=Z,22nm,1.2s
SQTA Sankt Quirin 16.15 316 *i* Pn **Pn** **15 45 14.3 +0.1**
comp=Z,4.9nm,0.6s
KHC Kasperske Hory 16.19 325 P **Pn** **15 45 14.5 0.0**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 16.19 325 *eP* **Pn** **15 45 14.0 -0.6**
KHC Kasperske Hory 16.19 325 **Pn** **15 45 14.6 0.0**
MOTA Moosalm 16.28 317 *i* Pn **Pn** **15 45 15.6 -0.3**
comp=Z,16nm,1.3s
RETA Reutte 16.55 316 *i* Pn **Pn** **15 45 18.9 -0.2**
comp=Z,8.1nm,0.7s
DAVOX Davos/Dischmat 16.67 313 P **P** **15 45 20.9 -0.1**
comp=Z,0.6nm,0.3s,baz=156,slow=20,SNR=4.4
DAVOX LR LR 15 53 01.7
comp=Z,43nm,19.7s,baz=86,slow=41
BNI Bardonecchia 17.91 305 P **P** **15 45 35.0 +0.4**
BNI pmax pmax
comp=Z,30nm,1.7s
BNI Bardonecchia 17.91 305 P **P** **15 45 35.0 +0.4**
BNI IAmb IAmb 15 46 26.6
comp=Z,30nm,1.7s
SENIN Lac Senin/Sane 18.04 309 P **P** **15 45 35.3 -0.7**
SENIN IAmb IAmb 15 45 44.7
comp=Z,12nm,0.6s
CLL Collm 18.05 329 *eP* **P** **15 45 35.0 -0.8**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 18.05 329 *eP* **P** **15 45 35.0 -0.8**
comp=Z,10.0nm,0.8s
CLL Collm 18.05 329 P **P** **15 45 34.8 -1.0**
CLL IAmb IAmb 15 45 36.3
comp=Z,8.0nm,0.7s
BFO Black Forest 18.38 316 P **P** **15 45 40.1 +0.5**

BFO pmax pmax
comp=Z,47nm,2.0s
BFO Black Forest 18.38 316 P **P** **15 45 40.1 +0.5**
ECH Echery 18.99 314 P **P** **15 45 46.1 -0.1**
ECH pmax pmax
comp=Z,22nm,1.5s
ECH Echery 18.99 314 P **P** **15 45 46.1 -0.1**
ECH IAmb IAmb 15 46 18.1
comp=Z,22nm,1.5s
GEYT Alibeck 24.30 78 P **P** **15 46 41.1 +0.7**
comp=Z,3.1nm,0.7s,baz=262,slow=10,SNR=7.1
GEYT Alibeck 24.30 78 P **P** **15 46 41.0 +0.6**
GYA0B ALIBECK ARRAY 24.30 78 P **P** **15 46 41.2 +0.7**
GYA0B IAmb IAmb 15 46 44.0
comp=Z,5.1nm,0.8s
ESDC Sonseca Array 24.94 287 P **P** **15 46 44.9 -1.4**
comp=Z,1.3nm,0.4s,baz=79,slow=9.6,SNR=12
ESDC Sonseca Array 24.94 287 P **P** **15 46 45.5 -0.8**
HFS Hagfors 25.23 344 P **P** **15 46 47.8 -0.7**
comp=Z,5.6nm,1.0s,baz=153,slow=10,SNR=6.0
PAB San Pablo 25.25 287 P **P** **15 46 48.5 -0.6**
PAB pmax pmax
comp=Z,39nm,1.8s
PAB San Pablo 25.25 287 P **P** **15 46 48.5 -0.6**
AKTO Aktyubinsk 25.86 48 P **P** **15 46 54.1 -0.3**
comp=Z,3.8nm,0.6s,baz=252,slow=12,SNR=13
NOA NORSAR Array B 26.61 342 P **P** **15 47 01.3 +0.3**
comp=Z,0.6nm,0.8s,baz=159,slow=11,SNR=2.6
ABKAR Akbulak array 26.67 51 P **P** **15 47 01.4 -0.3**
ABKAR Akbulak array 26.67 51 P **P** **15 47 01.7 0.0**
ABKAR IAmb IAmb 15 47 24.0
comp=Z,1.9nm,0.7s
TOA0 Torodi Ar. Sit 32.89 232 P **P** **15 47 57.1 +0.2**
TORD Torodi Ar. Bea 32.89 232 P **P** **15 47 55.7 -1.2**
comp=Z,6.0nm,0.4s,baz=31,slow=9.2,SNR=56
TORD Torodi Ar. Bea 32.89 232 P **P** **15 47 55.3 -1.6**
ARCES ARCESS Array B 33.05 359 P **P** **15 47 55.8 -2.0**
comp=Z,1.1nm,0.8s,baz=182,slow=8.7,SNR=4.0
KKAR Karatay Array 33.33 65 P **P** **15 48 00.5 -0.1**
KKAR Karatay Array 33.33 65 P **P** **15 48 00.5 -0.1**
BRVK Borovoye 33.91 47 P **P** **15 48 05.8 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.5s
BRVK Borovoye 33.91 47 P **P** **15 48 05.8 +0.4**
BRVK IAmb IAmb 15 48 12.3
comp=Z,4.4nm,1.4s
ARSB Arslanbob 35.33 68 P **P** **15 48 18.8 +0.9**
ARSB IAmb IAmb 15 48 19.9
comp=Z,3.8nm,0.9s
AAK Ala-Archa 36.29 66 P **P** **15 48 27.3 +1.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 36.29 66 P **P** **15 48 27.3 +1.1**
AAK IAmb IAmb 15 48 28.2
comp=Z,2.5nm,0.7s
NIL Nilore 37.22 81 P **P** **15 48 35.4 +1.4**
NIL pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 37.22 81 P **P** **15 48 35.4 +1.4**
NRN Naryn 37.56 67 P **P** **15 48 37.1 0.0**
NRN pmax pmax
comp=Z,2.0nm,0.7s
NRN Naryn 37.56 67 P **P** **15 48 37.1 0.0**
NRN IAmb IAmb 15 48 39.4
comp=Z,2.3nm,0.7s
KURK Kurchatov 38.78 52 P **P** **15 48 46.2 -0.6**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 38.78 52 P **P** **15 48 46.2 -0.6**
MAKZ Makanchi 41.15 58 P **P** **15 49 06.7 +0.2**
MAKZ pmax pmax
comp=Z,1.0nm,0.9s
MAKZ Makanchi 41.15 58 P **P** **15 49 06.7 +0.2**
MK31 Makanchi Array 41.37 58 P **P** **15 49 08.6 +0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 41.37 58 P **P** **15 49 08.6 +0.3**
MK31 IAmb IAmb 15 49 09.5
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 41.37 58 P **P** **15 49 08.8 +0.5**
comp=Z,4.4nm,0.7s,baz=279,slow=6.9,SNR=44
MKAR ScP **ScP** **15 54 42.5 -0.7**
comp=Z,0.5nm,0.6s,baz=268,slow=3.9,SNR=4.1
MKAR Makanchi Array 41.37 58 P **P** **15 49 08.4 +0.1**
ZAA0 Zalesovo Array 42.62 47 P **P** **15 49 18.0 -0.3**
ZAA0 IAmb IAmb 15 49 18.8
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 42.62 47 P **P** **15 49 18.1 -0.2**
comp=Z,2.7nm,0.4s,baz=270,slow=9.5,SNR=13
ZALV Zalesovo Beam 42.62 47 P **P** **15 49 17.6 -0.6**
WMQ Urumqi 45.61 61 *eP* **P** **15 49 44.3 +1.9**
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,96nm,4.5s
WMQ LR LR
comp=N,370nm,28.9s
WMQ LR LR
comp=E,1µm,29.2s
WMQ LR LR
comp=Z,160nm,29.1s
DANN Dangsing 47.54 83 *eP* **P** **15 49 59.2 +1.3**
KOLN Koldanda 47.66 84 *eP* **P** **15 49 59.6 +0.9**
comp=Z,12nm,0.5s
GKN Gorkha 48.39 83 *eP* **P** **15 50 05.0 +0.7**
comp=Z,22nm,0.6s
DMN Daman 48.93 83 *eP* **P** **15 50 09.5 +0.9**
comp=Z,22nm,0.6s
KKN Kakani 48.99 83 *eP* **P** **15 50 09.5 +0.5**
comp=Z,9.9nm,0.5s
PKIN Phulchoki 49.18 83 *eP* **P** **15 50 11.0 +0.6**
comp=Z,2.8nm,0.5s
PKI Pulchoki 49.19 83 *eP* **P** **15 50 10.9 +0.3**
comp=Z,14nm,0.9s
GUN Gumba 49.42 82 *eP* **P** **15 50 13.2 +0.8**
comp=Z,10nm,0.7s
JIRN Jiri 49.77 83 *eP* **P** **15 50 15.7 +0.6**
comp=Z,15nm,0.6s
RAMN Ramite 50.41 83 *eP* **P** **15 50 19.8 0.0**
comp=Z,13nm,0.6s
ODAN Odare 51.09 83 *eP* **P** **15 50 24.3 -0.5**
comp=Z,8.1nm,0.8s
TAPN Taplejung 51.12 82 *eP* **P** **15 50 25.7 +0.5**
comp=Z,6.2nm,0.6s
TLY Talaya 54.21 48 *i* P P 15 50 56.5 +9.3
TLY pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 57.08 52 P **P** **15 51 08.6 +0.7**
comp=Z,2.1nm,0.4s,baz=289,slow=8.2,SNR=12
SONM Songino Array 57.08 52 P **P** **15 51 08.0 +0.1**
ULN Ulaanbaatar 57.49 52 P **P** **15 51 10.9 +0.1**
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 57.49 52 P **P** **15 51 10.9 +0.1**
ULN IAmb IAmb 15 51 12.3
comp=Z,3.4nm,0.8s
HHC Hu-ho-hao-te 63.23 58 *eP* **P** **15 51 49.3 -0.6**
HHC pmax pmax
comp=Z,5.0nm,0.9s
HHC pmax pmax
comp=Z,7.0nm,4.3s
CMAR Chiang Mai Arr 64.48 85 P **P** **15 51 58.1 -0.2**
comp=Z,1.5nm,0.7s,baz=298,slow=8.2,SNR=12

NIED ***04*** *16:00:00,43.°80N×147.°30E,h41km,Mw3.9 Best double couple: M0 9.05000×10^14 NP1:φ0 105.00000°,δ45.00000°, λ136.00000°. NP2:φ0 230.00000°,δ61.00000°,λ55.00000°.*
MOS ***04*** *16:00:46.8±1.2,43.°96N×147.°46E,h67km,mb4.1/5,Error ellipse: s-maj=8.0km s-min=6.7km az=71.2*
ISCJB ***04*** *16:00:47.1±0.5,43.°93N±0.°04×147.°46E±0.°05,h67km±4km, mb3.9/25,Error ellipse: s-maj=7.7km s-min=4.1km az=135.4*
IDC ***04*** *16:00:47.9±2.6,44.°05N×147.°37E,h56km±23km,mb3.6/19, mb1 3.7/23,mb1mx3.7/47,mbtmp3.8/23,ML2.7/4,MS3.6/7, Ms1 3.7/7,ms1mx3.0/52,Error ellipse: s-maj=16.2km s-min=14.3km az=104.0*
SKHL ***04*** *16:00:48.6±0.6,43.°92N×147.°40E,h77km±6km,mb5.2/6*
NEIC ***04*** *16:00:48.0±2.2,44.°02N±0.°08×147.°38E±0.°02,h58km±7km, mb4.9/15*
JMA ***04*** *16:00:48.7±0.2,43.°82N×147.°33E,h24km,M4.0*
JMA Felt I J1.
ISC 04 16:00:47.4±1.0,**43.°93N**±0.°05×**147.°49E**±0.°06,**h53**km±9km,

n122,σ19.36/136,mb3.9/31,MS3.8/8,5C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.18**	**276**	*c i*PN	**Pn**	**16 01 08.0**	**+0.5**
YUK				*i* S	**Sn**	**16 01 21.8**	**-0.7**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,402nm,0.1s						
YUK				pmax	pmax		
	comp=E,259nm,0.1s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
YUK				smax	smax		
	comp=N,5μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.18**	**276**	*i* P	**Pn**	**16 01 08.0**	**+0.5**
YUK				AMB	AMB	16 01 11.0	
	comp=N,2μm,0.4s						
YUK				*i* S	**Sn**	**16 01 22.2**	**-0.3**
YUK				A	A	16 01 25.0	
	comp=N,5μm,0.4s						
YUK				A	A	16 01 25.0	
	comp=N,7μm,0.4s						
LAGR	**Lagunnoye**	**1.23**	**276**	*d i*PN	**Pn**	**16 01 08.7**	**+0.4**
LAGR				*i* S	**Sn**	**16 01 23.1**	**-0.8**
LAGR				pmax	pmax		
	comp=Z,1μm,0.1s						
LAGR				pmax	pmax		
LAGR				smax	smax		
	comp=E,8μm,0.3s						
LAGR				smax	smax		
	comp=N,4μm,0.1s						
LAGR	**Lagunnoye**	**1.23**	**276**	*i* P	**Pn**	**16 01 08.0**	**-0.3**
LAGR				AMB	AMB	16 01 12.0	
	comp=N,1μm,0.3s						
LAGR				*i* S	**Sn**	**16 01 23.0**	**-0.8**
LAGR				A	A	16 01 27.0	
	comp=N,4μm,0.3s						
LAGR				A	A	16 01 27.0	
	comp=N,8μm,0.3s						
GRPR	**Tuman**	**1.24**	**274**	*c i*PN	**Pn**	**16 01 08.9**	**+0.6**
GRPR				*i* S	**Sn**	**16 01 23.1**	**-1.0**
GRPR				pmax	pmax		
	comp=N,615nm,0.1s						
GRPR				pmax	pmax		
	comp=E,173nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,700nm,0.1s						
GRPR				smax	smax		
	comp=E,3μm,0.1s						
GRPR				smax	smax		
	comp=N,7μm,0.2s						
GRPR	**Tuman**	**1.24**	**274**	*i* P	**Pn**	**16 01 08.0**	**-0.3**
GRPR				AMB	AMB	16 01 13.0	
	comp=N,700nm,0.2s						
GRPR				*i* S	**Sn**	**16 01 23.0**	**-1.0**
GRPR				A	A	16 01 27.0	
	comp=N,7μm,0.2s						
GRPR				A	A	16 01 27.0	
	comp=N,3μm,0.2s						
KUR	**Kuril'sk**	**1.33**	**12**	*c i*PN	**Pn**	**16 01 10.2**	**+0.6**
KUR				*i* S	**Sn**	**16 01 26.0**	**-0.2**
KUR				pmax	pmax		
	comp=Z,356nm,0.3s						
KUR				pmax	pmax		
	comp=N,247nm,0.2s						
KUR				pmax	pmax		
	comp=E,280nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
KUR	**Kuril'sk**	**1.33**	**12**	*i* P	**Pn**	**16 01 10.0**	**+0.4**
KUR				AMB	AMB	16 01 13.0	
	comp=E,247nm,0.2s						
KUR				AMB	AMB	16 01 13.0	
	comp=E,280nm,0.2s						
KUR				AMB	AMB	16 01 13.0	
	comp=E,356nm,0.2s						
KUR				*i* S	**Sn**	**16 01 26.0**	**-0.2**
KUR				A	A	16 01 28.0	
	comp=E,3μm,0.2s						
KUR				A	A	16 01 28.0	
	comp=E,1μm,0.2s						
NEM2	**Nemuro 2**	**1.39**	**247**	P	**Pn**	**16 01 10.9**	**+0.6**
NEM2				*e*S	**Sn**	**16 01 26.8**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.39**	**247**	⇑ *i*PN	**Pn**	**16 01 11.0**	**+0.6**
NMR				*i* S	**Sn**	**16 01 26.8**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.39**	**247**	*i* P	**Pn**	**16 01 11.0**	**+0.6**
NMR				*i* S	**Sn**	**16 01 26.0**	**-1.7**
GLVR	**Golovnino**	**1.44**	**263**	*c i*PN	**Pn**	**16 01 12.1**	**+1.1**
GLVR				*i* S	**Sn**	**16 01 29.2**	**+0.5**
GLVR				pmax	pmax		
	comp=N,168nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,766nm,0.1s						
GLVR				smax	smax		
	comp=N,7μm,0.3s						
GLVR				smax	smax		
	comp=E,7μm,0.2s						
GLVR	**Golovnino**	**1.44**	**263**	*i* P	**Pn**	**16 01 12.0**	**+1.1**
GLVR				AMB	AMB	16 01 13.0	
	comp=E,766nm,0.3s						
GLVR				*i* S	**Sn**	**16 01 29.0**	**+0.3**
GLVR				A	A	16 01 32.0	
	comp=E,7μm,0.3s						
GLVR				A	A	16 01 32.0	
	comp=E,7μm,0.3s						
JRA	**Rausu**	**1.71**	**271**	P	**Pn**	**16 01 16.0**	**+1.3**
JRA				*e*S	**Sn**	**16 01 36.6**	**+1.2**
JNSB	**Nemuroshibetsu**	**1.80**	**266**	P	**Pn**	**16 01 17.5**	**+1.5**
JNSB				*e*S	**Sn**	**16 01 38.5**	**+0.8**
JKHN	**Kushirohamanak**	**1.89**	**244**	P	**Pn**	**16 01 18.2**	**+1.0**
JKHN				*e*S	**Sn**	**16 01 39.8**	**-0.1**
JNK	**Nakash**	**2.03**	**261**	P	**Pn**	**16 01 20.5**	**+1.3**
JNK				*e*S	**Sn**	**16 01 43.6**	**+0.2**
JAK	**Akkeshi**	**2.23**	**246**	P	**Pn**	**16 01 22.7**	**+0.8**
JAK				*e*S	**Sn**	**16 01 47.4**	**-0.9**
JTKR	**Abashiri--Toko**	**2.58**	**272**	P	**Pn**	**16 01 28.5**	**+1.8**
JAR	**Ashorobuto**	**2.77**	**258**	P	**Pn**	**16 01 31.1**	**+1.8**
JAR				*e*S	**Sn**	**16 02 03.4**	**+1.9**
JOB	**Onbets**	**2.85**	**250**	P	**Pn**	**16 01 32.0**	**+1.7**
JOB				*e*S	**Sn**	**16 02 03.7**	**+0.3**
JMP	**Maruseppu**	**2.98**	**273**	P	**Pn**	**16 01 34.2**	**+2.1**
JCH	**Churui**	**3.29**	**248**	P	**Pn**	**16 01 37.6**	**+1.3**
JCH				*e*S	**Sn**	**16 02 13.7**	**-0.4**
JKK2	**Kamakawa 2**	**3.42**	**271**	P	**Pn**	**16 01 41.5**	**+3.3**
JKA	**Kamikawa-asahi**	**3.53**	**275**		**Pn**	**16 01 42.1**	**+2.4**
JKA					Sn	16 02 31.3	+11
ASAJ	**Asahikawa**	**3.53**	**275**	P	**Pn**	**16 01 42.5**	**+2.8**
ASAJ	**Asahikawa**	**3.53**	**275**	P	**Pn**	**16 01 42.1**	**+2.4**
	comp=E,12nm,0.3s,baz=87,slow=13,SNR=32						
ASAJ				S	Sn	16 02 31.3	+11
	comp=E,4.8nm,0.3s,baz=37,slow=20,SNR=4.8						
JFR	**Furan**	**3.64**	**260**	P	**Pn**	**16 01 44.3**	**+3.2**
JFR				*e*S	**Sn**	**16 02 25.5**	**+2.7**
JSE	**Soyaes**	**3.66**	**288**	P	**Pn**	**16 01 43.2**	**+1.8**
ERM	**Erimo**	**3.71**	**240**	*e*PN	**Pn**	**16 01 45.4**	**+3.4**
ERM	**Erimo**	**3.71**	**240**		**Pn**	**16 01 45.5**	**+3.4**
JEM	**Erimo**	**3.71**	**240**	*e*S	**Sn**	**16 02 26.2**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.84**	**246**	P	**Pn**	**16 01 45.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.50**	**314**	*e*PN	**Pn**	**16 01 55.1**	**+2.2**
YSS				*e*S	**Sn**	**16 02 46.5**	**+2.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.50**	**314**	*e*P	**Pn**	**16 01 55.1**	**+2.2**
YSS				AMB	AMB	16 01 56.0	
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.50**	**314**		**Pn**	**16 01 54.1**	**+1.2**
TYV	**Tymovskoe**	**7.67**	**336**	*e*PN	**Pn**	**16 02 39.2**	**+2.9**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TYV	**Tymovskoe**	**7.67**	**336**	*e*P	**Pn**	**16 02 39.0**	**+2.7**
TYV				AMB	AMB	16 02 42.0	
	comp=Z,10.0nm,0.9s						
TYV				*e*S	**Sn**	**16 04 01.0**	**-0.7**
TYV				A	A	16 04 01.0	
	comp=Z,11nm,0.9s						
SKR	**Severo-Kuril's**	**8.94**	**38**	*e*PN	**Pn**	**16 02 54.6**	**+0.9**
SKR				pmax	pmax		
	comp=Z,24nm,0.7s						
SKR	**Severo-Kuril's**	**8.94**	**38**	*e*P	**Pn**	**16 02 56.6**	**+2.9**
SKR				AMB	AMB	16 03 01.6	
	comp=Z,23nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**10.21**	**227**	*e*PN	**Pn**	**16 03 12.1**	**+0.9**
MJB9	**Matsu-Tunnel**	**10.23**	**227**	Pn	**Pn**	**16 03 10.7**	**-0.8**
MAJO	**Matsushiro**	**10.23**	**227**	*i* PN	**Pn**	**16 03 12.0**	**+0.6**
MAJO	**Matsushiro**	**10.23**	**227**	Pn	**Pn**	**16 03 10.8**	**-0.6**
MJAR	**Matsushiro Arr**	**10.23**	**227**	P	**Pn**	**16 03 11.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=9.6						
MJAR	**Matsushiro Arr**	**10.23**	**227**		**Pn**	**16 03 10.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**11.16**	**277**	P	**Pn**	**16 03 24.2**	**+0.2**
	baz=91,slow=12,SNR=2.7						
PEA0B	**Petropavlovsk-**	**11.40**	**33**	PN	**Pn**	**16 03 28.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**11.40**	**33**	Pn	**Pn**	**16 03 28.2**	**+0.9**
PETK	**Petropavlovsk-**	**11.40**	**33**	P	**Pn**	**16 03 27.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=222,slow=13,SNR=17						
PET	**Petropavlovsk**	**11.72**	**35**	PN	**Pn**	**16 03 31.0**	**-0.7**
PET	**Petropavlovsk**	**11.72**	**35**	Pn	**Pn**	**16 03 31.0**	**-0.7**
INU	**Inuyama**	**11.76**	**227**	Pn	**Pn**	**16 03 32.5**	**+0.1**
KLR	**Kul'dur**	**12.05**	**302**	*i* PN	**Pn**	**16 03 35.3**	**-0.9**
KLR	**Kul'dur**	**12.05**	**302**	P	**Pn**	**16 03 34.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=98,slow=15,SNR=1.7						
YAK	**Yakutsk**	**20.93**	**336**	P	**P**	**16 05 24.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK	**Yakutsk**	**20.93**	**336**	P	**P**	**16 05 24.8**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=172,slow=2.2,SNR=2.6						
YAK	**Yakutsk**	**20.93**	**336**	*e*P	**P**	**16 05 26.2**	**+1.0**
YAK	**Yakutsk**	**20.93**	**336**	P	**P**	**16 05 24.3**	**-0.9**
YOJ	**Yonaguni jima**	**27.88**	**234**	P	**P**	**16 06 31.4**	**-0.6**
YOJ				pmax	pmax		
	comp=Z,353nm,1.5s						
YOJ	**Yonaguni jima**	**27.88**	**234**	P	**P**	**16 06 31.4**	**-0.6**
ULN	**Ulaanbaatar**	**28.18**	**292**	*i* P	**P**	**16 06 35.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ULN	**Ulaanbaatar**	**28.18**	**292**	*e*P	**P**	**16 06 35.3**	**+0.5**
SONM	**Songino Array**	**28.63**	**292**	P	**P**	**16 06 37.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=82,slow=9.8,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.08**	**140**	T	T	16 37 26.0	
	baz=331,slow=76,SNR=424						
H11N1	**WAKE ISLAND Hy**	**29.09**	**140**	T	T	16 37 24.3	
	baz=331,slow=76,SNR=579						
H11N3	**WAKE ISLAND Hy**	**29.10**	**140**	T	T	16 37 25.0	
	baz=331,slow=76,SNR=484						
H11S1	**WAKE ISLAND Hy**	**30.05**	**141**	T	T	16 38 37.2	
	baz=332,slow=76,SNR=661						
H11S3	**WAKE ISLAND Hy**	**30.06**	**141**	T	T	16 38 39.4	
	baz=332,slow=76,SNR=671						
H11S2	**WAKE ISLAND Hy**	**30.07**	**141**	T	T	16 38 39.5	
	baz=332,slow=76,SNR=822						
IMAR	**Indian Mountai**	**38.36**	**34**	P	**P**	**16 08 03.5**	**+0.7**
KDAK	**Kodiak Island**	**38.95**	**48**	P	**P**	**16 08 07.8**	**0.0**
KDAK				pmax	pmax		
	comp=Z,147nm,1.7s						
KDAK	**Kodiak Island**	**38.95**	**48**	P	**P**	**16 08 07.8**	**0.0**
TRF	**Thorofare Moun**	**39.74**	**38**	P	**P**	**16 08 15.4**	**+0.9**
TRF				IAmb	IAmb	16 08 39.7	
	comp=Z,34nm,1.6s						
TOLK	**Toolik Lake Re**	**40.21**	**30**	P	**P**	**16 08 18.2**	**0.0**
TOLK				IAmb	IAmb	16 08 39.5	
	comp=Z,31nm,2.0s						
DGZ	**Jazzator, Alta**	**40.54**	**300**	*i* P	**P**	**16 08 21.8**	**+0.5**
DHY	**Denali Highway**	**41.08**	**39**	P	**P**	**16 08 26.2**	**+0.7**
DHY				IAmb	IAmb	16 08 38.2	
	comp=Z,40nm,1.9s						
ZALV	**Zalesovo Beam**	**41.09**	**307**	P	**P**	**16 08 25.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=66,slow=7.1,SNR=2.5						
ILAR	**Eielson Array**	**41.20**	**36**	*e*P	**P**	**16 08 28.0**	**+1.6**
ILAR	**Eielson Array**	**41.20**	**36**	P	**P**	**16 08 26.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=274,slow=8.6,SNR=9.6						
PRP	**Porcupine Dome**	**41.74**	**35**	P	**P**	**16 08 31.4**	**+0.5**
PRP				IAmb	IAmb	16 09 06.0	
	comp=Z,11nm,1.6s						
FYU	**Fort Yukon**	**41.82**	**34**	P	**P**	**16 08 32.9**	**+1.6**
FYU				IAmb	IAmb	16 09 14.3	
	comp=Z,53nm,2.0s						
MK31	**Makanchi Array**	**44.72**	**298**	P	**P**	**16 08 53.2**	**-1.9**
MK31				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK31	**Makanchi Array**	**44.72**	**298**	P	**P**	**16 08 53.2**	**-1.9**
MKAR	**Makanchi Array**	**44.72**	**298**	P	**P**	**16 08 54.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=81,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**44.72**	**298**	P	**P**	**16 08 51.5**	**-3.5**
KURK	**Kurchatov**	**45.63**	**304**	*i* P	**P**	**16 09 02.3**	**+0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
KURK	**Kurchatov**	**45.63**	**304**	*e*P	**P**	**16 09 02.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**47.81**	**254**	*e*P	**P**	**16 09 22.6**	**+3.0**
CMAR	**Chiang Mai Arr**	**47.81**	**254**	P	**P**	**16 09 19.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=40,slow=7.9,SNR=4.9						
KKAR	**Karatay Array**	**53.84**	**298**	P	**P**	**16 10 02.5**	**-2.2**
KKAR	**Karatay Array**	**53.84**	**298**	P	**P**	**16 10 02.5**	**-2.2**
HNR	**Honiara**	**54.30**	**165**	P	**P**	**16 10 08.7**	**+0.6**
	comp=Z,9.2nm,0.4s,baz=343,slow=19,SNR=4.1						
HNR	**Honiara**	**54.30**	**165**	IAmb	IAmb	16 10 27.0	
	comp=Z,29nm,1.0s						
ABKAR	**Akbulak array**	**57.14**	**309**	P	**P**	**16 10 27.4**	**-0.8**
KIRV	**Kirov**	**57.60**	**322**	LR	LR	16 36 44.0	
	comp=Z,66nm,18.2s,baz=117,slow=38						
ARCES	**ARCESS Array B**	**59.16**	**340**	P	**P**	**16 10 41.3**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=79,slow=9.3,SNR=4.0						
GEYT	**Alibeck**	**64.56**	**299**	P	**P**	**16 11 18.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=52,slow=7.5,SNR=3.1						
WRA	**Warramunga Arr**	**64.69**	**194**	*e*P	**P**	**16 11 20.1**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**64.69**	**194**	P	**P**	**16 11 19.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=14,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**64.69**	**194**	IAmb	IAmb	16 11 21.7	
	comp=Z,0.2nm,1.1s						
FINES	**FINESS Array B**	**64.83**	**333**	*e*P	**P**	**16 11 19.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.83**	**333**	P	**P**	**16 11 18.4**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=49,slow=5.8,SNR=16						
FINES				LR	LR	16 42 58.6	
	comp=Z,48nm,20.8s,baz=52,slow=39						
NVAR	**Mina Array Bea**	**67.28**	**58**	P	**P**	**16 11 36.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=308,slow=6.5,SNR=4.3						
NVAR				LR	LR	16 37 57.0	
	comp=Z,54nm,21.0s,baz=249,slow=33						
ASAR	**Alice Springs**	**68.41**	**193**	P	**P**	**16 11 45.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=14,slow=6.8,SNR=16						
NB2	**NORSAR Subarra**	**69.52**	**339**	P	**P**	**16 11 49.1**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.52**	**339**	P	**P**	**16 11 49.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=31,slow=6.6,SNR=5.9						
NOA				LR	LR	16 45 54.4	
	comp=Z,22nm,19.4s,baz=290,slow=39						
PDAR	**Pinedale Array**	**69.61**	**50**	P	**P**	**16 11 52.3**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=336,slow=2.0,SNR=3.2						
KVAR	**Kislovodsk Arr**	**69.82**	**312**	LR	LR	16 44 57.9	
	comp=Z,57nm,18.1s,baz=260,slow=38						
KIV	**Kislovodsk**	**69.82**	**312**	*e*P	**P**	**16 11 53.2**	**+1.0**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
KIV				MLR	MLR		
	comp=Z,77nm,17.0s						
KBZ	**Khabaz**	**69.86**	**312**	*e*P	**P**	**16 11 52.8**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**69.86**	**312**	P	**P**	**16 11 53.2**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=51,slow=6.0,SNR=6.3						
KBZ	**Khabaz**	**69.86**	**312**	*e*P	**P**	**16 11 52.8**	**+0.5**
AKASG	**Malin Array Be**	**71.58**	**324**	P	**P**	**16 12 01.5**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=35,slow=5.6,SNR=2.2						
AKASG				LR	LR	16 48 08.3	
	comp=Z,39nm,18.1s,baz=285,slow=40						
BUR08	**Bucovina Ar. S**	**75.62**	**324**	P	**P**	**16 12 26.1**	**-0.4**
BUR08				IAmb	IAmb	16 12 46.7	
	comp=Z,21nm,1.9s						
CLL	**Collm**	**77.27**	**333**	*e*P	**P**	**16 12 35.0**	**-0.6**
CLL	**Collm**	**77.27**	**333**	*e*P	**P**	**16 12 35.0**	**-0.6**
BRTR	**Keskin Array B**	**77.60**	**314**	P	**P**	**16 12 37.5**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=70,slow=4.7,SNR=3.4						
GERES	**GERESS Array B**	**79.12**	**331**	*e*P	**P**	**16 12 46.8**	**+0.7**
GERES	**GERESS Array B**	**79.12**	**331**	P	**P**	**16 12 45.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=40,slow=5.2,SNR=4.9						
GERES				LR	LR	16 52 31.4	
	comp=Z,41nm,18.7s,baz=58,slow=39						
TXAR	**Lajitas Array**	**82.35**	**56**	P	**P**	**16 13 04.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=296,slow=4.0,SNR=8.7						
MAW	**Mawson**	**127.78**	**209**	PKP	**PKiKP**	**16 19 46.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=351,slow=6.1,SNR=4.8						

*ISCJB **04** 16:04:28.6±0.3,24°.80N±0°.02×122°.19E±0°.02,h3km±3km,*

Error ellipse: s-maj=2.8km s-min=2.3km az=15.4
*JMA **04** 16:04:29.7±0.1,24°.74N×122°.13E,h49km,M2.4*
*TAP **04** 16:04:29.2,24°.80N×122°.07E,h4km,ML3.0,C*

ISC 04 16:04:29.2±1.0,24°.81N±0°.02×122°.17E±0°.02,h11km±7km,

n65,σ0.64/117,3C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.26**	**189**	P	**Pg**	**16 04 35.3**	**+0.8**
	baz=168						
EOS1				S	**Sg**	**16 04 40.1**	**+2.0**
	baz=168						
TWB1	**Santiao Chiao**	**0.26**	**320**	⇑ *i*P	**Pg**	**16 04 33.9**	**-0.7**
	baz=341						
TWB1				*i* S	**Sg**	**16 04 37.1**	**-1.1**
	baz=341						
NTC	**Toucheng**	**0.32**	**278**	*e*P	**Pg**	**16 04 35.2**	**-0.3**
	baz=283						
NTC				*e*S	**Sg**	**16 04 38.7**	**-1.0**
	baz=283						
TIPB	**Shuangxi**	**0.35**	**297**	⇑ *i*P	**Pg**	**16 04 35.9**	**-0.4**
	baz=307						
TIPB				*i* S	**Sg**	**16 04 40.8**	**-0.3**
	baz=307						
TWC	**Suao**	**0.36**	**236**	⇑ *i*P	**Pg**	**16 04 35.7**	**-0.6**
	baz=225						
TWC				S	**Sg**	**16 04 39.9**	**-1.1**
	baz=225						
ILA	**Ilan**	**0.39**	**264**	*e*P	**Pg**	**16 04 36.4**	**-0.5**
	baz=262						
ILA				*e*S	**Sg**	**16 04 41.1**	**-1.0**
	baz=262						
NWF	**Wu-fen Shan**	**0.44**	**306**	*e*P	**Pg**	**16 04 38.4**	**+0.5**
	baz=315						
NWF				S	**Sg**	**16 04 44.1**	**+0.3**
	baz=315						
WFSB	**Wu-fen Shan**	**0.44**	**306**	*e*P	**Pg**	**16 04 37.8**	**-0.1**
	baz=315						
WFSB				*e*S	**Sg**	**16 04 44.0**	**+0.3**
	baz=315						
TWE	**Neicheng**	**0.47**	**259**	⇓ *i*P	**Pg**	**16 04 37.8**	**-0.6**
	baz=257						
TWE				*i* S	**Sg**	**16 04 44.3**	**-0.3**
	baz=257						
SLBB	**Yuanshan**	**0.49**	**264**	P	**Pg**	**16 04 38.0**	**-0.8**
	baz=263						
SLBB				*e*S	**Sg**	**16 04 45.1**	**-0.3**
	baz=263						
NANB	**Nanao**	**0.54**	**226**	P	**Pg**	**16 04 39.1**	**-0.6**
	baz=218						
NANB				*i* S	**Sg**	**16 04 46.2**	**-0.6**
	baz=218						
ENA	**Nanau**	**0.55**	**226**	P	**Pg**	**16 04 39.6**	**-0.2**
	baz=218						
ENA				S	**Sg**	**16 04 46.3**	**-0.7**
	baz=218						
TWA	**Mucha**	**0.56**	**288**	P	**Pg**	**16 04 40.8**	**+0.7**
	baz=292						
TWA				S	**Sg**	**16 04 47.5**	**-0.1**
	baz=292						
ENTT	**Nioudou**	**0.58**	**253**	P	**Pg**	**16 04 40.0**	**-0.5**
	baz=250						
ENTT				S	**Sg**	**16 04 47.4**	**-0.6**
	baz=250						
NWLT	**Wulai**	**0.61**	**267**	P	**Pg**	**16 04 40.9**	**-0.1**
	baz=267						
NWLT				S	**Sg**	**16 04 48.5**	**-0.7**
	baz=267						
NDT	**Datong Townshi**	**0.64**	**251**	P	**Pg**	**16 04 41.1**	**-0.5**
	baz=248						
NDT				S	**Sg**	**16 04 49.8**	**-0.1**
	baz=248						
YM01	**YM01**	**0.64**	**302**	*i* P	**Pg**	**16 04 41.7**	**0.0**
	baz=307						
YM01				S	**Sb**	**16 04 51.9**	**+0.4**
	baz=307						
TATO	**Taipei**	**0.64**	**285**	P	**Pg**	**16 04 42.6**	**+1.0**
	baz=288						
TATO				*e*S	**Sg**	**16 04 50.1**	**-0.1**
	baz=288						
YM11	**YM11**	**0.65**	**303**	*i* P	**Pg**	**16 04 42.0**	**+0.2**
	baz=308						
YM11				S	**Sb**	**16 04 52.3**	**+0.5**
	baz=308						
YM08	**YM08**	**0.65**	**306**	P	**Pg**	**16 04 41.7**	**-0.2**
	baz=311						
YM08				*e*S	**Sg**	**16 04 50.7**	**+0.3**
	baz=311						
YM10	**YM10**	**0.66**	**302**	P	**Pg**	**16 04 42.0**	**+0.1**
	baz=307						
YM10				S	**Sg**	**16 04 51.9**	**+1.3**
	baz=307						
YM05	**YM05**	**0.66**	**303**	P	**Pg**	**16 04 42.0**	**+0.1**
	baz=308						
YM05				*e*S	**Sg**	**16 04 51.0**	**+0.4**
	baz=308						
YM04	**YM04**	**0.67**	**301**	P	**Pg**	**16 04 42.3**	**+0.1**
	baz=305						
YM04				*e*S	**Sg**	**16 04 51.6**	**+0.5**
	baz=305						
TWY	**Chenhua**	**0.70**	**312**	P	**Pg**	**16 04 42.6**	**-0.1**
	baz=318						
TWY				S	**Sg**	**16 04 52.3**	**+0.4**
	baz=318						
ANP	**Anpu**	**0.70**	**303**	P	**Pg**	**16 04 43.4**	**+0.6**
	baz=307						
ANP				*e*S	**Sg**	**16 04 52.3**	**+0.2**
	baz=307						
YHNB	**Yeheng**	**0.74**	**259**	P	**Pg**	**16 04 43.0**	**-0.5**
	baz=258						
YHNB				*e*S	**Sg**	**16 04 52.1**	**-1.0**
	baz=258						
TWS1	**Kuangyinshan**	**0.74**	**293**	P	**Pg**	**16 04 44.3**	**+0.7**
	baz=297						
TWS1				*e*S	**Sg**	**16 04 53.5**	**+0.2**
	baz=297						
NTST	**Danshui**	**0.75**	**298**	P	**Pg**	**16 04 44.2**	**+0.6**
	ba

	baz=260					
CHGB	Renai	1.18 231	P	Pg	16 04 51.6	-0.3
	baz=228					
CHGB			S	Sb	16 05 07.2	+0.2
	baz=228					
ESL	Shilin	1.20 214	P	Pg	16 04 51.4	-0.8
	baz=210					
ESL			S	Sb	16 05 07.9	+0.4
	baz=210					
WHP	Taichung City	1.24 245	eP	Pg	16 04 52.5	-0.5
	baz=243					
WHP			eS	Sg	16 05 08.3	-0.8
	baz=243					
NMLH	Miaoli	1.29 258	eS	Sg	16 05 10.2	-0.4
	baz=257					
NSY	Sanyi	1.34 253	eS	Sb	16 05 11.9	+0.3
	baz=252					
TWQ1	Liyutan	1.35 251	eP	Pn	16 04 54.3	+0.2
	baz=249					
TWQ1			eS	Sb	16 05 12.2	+0.2
	baz=249					
DPDB	Guoxing	1.37 236	eP	Pn	16 04 53.9	-0.5
	baz=233					
DPDB			eS	Sb	16 05 12.5	-0.1
	baz=233					
VWDT	VWDT	1.41 222	eP	Pn	16 04 55.8	+0.9
	baz=219					
VWDT			eS	Sb	16 05 13.4	-0.2
	baz=219					
HGSD	Ruisui	1.48 208	eP	Pn	16 04 56.6	+0.8
	baz=204					
SMLT	Sun Moon Lake	1.48 232	eP	Pn	16 04 57.3	+1.3
	baz=229					
IRIF	Iriomote-Funau	1.49 108	P	Pn	16 04 55.3	-0.7
IRIF			eS	Sn	16 05 13.7	-1.8
TYC	Yuchr	1.50 233	eP	Pn	16 04 55.7	-0.3
	baz=230					
TYC			S	Sn	16 05 16.3	+0.7
	baz=230					
SSLB	Suanglung	1.51 228	eP	Pn	16 04 56.9	+0.7
	baz=225					
SSLB			eS	Sn	16 05 15.5	-0.4
	baz=225					
EHY	Hungye	1.51 211	P	Pn	16 04 56.6	+0.3
	baz=207					
EHY			eS	Sg	16 05 17.6	-0.2
	baz=207					
YULB	Yu-li	1.62 210	P	Pn	16 04 58.3	+0.6
	baz=206					
YULB			S	Sb	16 05 20.5	+0.8
	baz=206					
WHYT	Xinyi Township	1.64 228	eP	Pb	16 04 59.9	+0.5
	baz=225					
TWF1	Yuli	1.66 209	P	Pn	16 04 58.3	+0.1
	baz=205					
TWF1			S	Sb	16 05 21.3	+0.6
	baz=205					
HATJ	Hateruma jima	1.67 116	eS	Sn	16 05 18.4	-1.3
JKRS	Kuro-shima	1.77 108	P	Pn	16 04 58.8	-0.9
JIJ	Ishigaki jima	1.85 103	P	Pn	16 04 59.6	-1.3
ELDTW	Lidau	1.93 214	eP	Pn	16 05 02.9	+0.8
	baz=210					
JISG	Ishigakijimahi	1.96 96	P	Pn	16 05 01.5	-0.9

*IDC **04** 16:16:57.8±2.4, 3°.52S×140°.38E, h22km±16km, mb4.0/14, mb1 4.2/17, mb1mx3.9/36, mbtmp4.2/17, ML3.1/3, MS3.4/14, Ms1 3.4/14, ms1mx3.2/29, Error ellipse: s-maj=18.8km s-min=11.4km az=98.0*

*DJA **04** 16:16:58.1±1.3, 4°S±3°×14°1E±°, h23km±10km, M4.5/28, mB4.9/11, mb4.7/28, MLv4.9/7, Mw(mB)4.2/11, Mwp7.2/1*

*BJI **04** 16:16:58.7±0.0, 3°.76S×140°.51E, h34km, mb4.6/25, mB5.0/14, Ms4.7/5, Ms7 4.5/4*

*ISCJB **04** 16:16:59.4±0.3, 3°.67S±0°.03×140°.46E±0°.03, h39km, mb4.3/17, MS3.5/14, Error ellipse: s-maj=5.1km s-min=3.9km az=157.9*

*NEIC **04** 16:17:00.8±2.0, 3°.52S±0°.06×140°.33E±0°.07, h43km±6km, mb4.6/22*

ISC 04 16:17:00.8±0.4, 3°.66S±0°.04×140°.42E±0°.05, h39km, n92, σ1°.83/84, mb4.5/22, MS3.3/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.09 347		P	Pn	16 17 17.7	-1.9
GENI				S	Sn	16 17 33.5	0.0
JAY	Jayapura	1.18	14	Pg	Pn	16 17 17.6	-3.3
	48nm,0.3s,baz=193,slow=9.2,SNR=160						
JAY				Lg	Lg	16 17 31.4	
	146nm,0.3s,baz=195,slow=20,SNR=21						
JAY				LR	LR	16 17 45.2	
	comp=Z,1μm,18.1s,baz=202,slow=45						
JAY	Jayapura	1.18	14	P	Pn	16 17 17.4	-3.4
JAY				S	Sn	16 17 32.4	-3.2
SMPI	Sarmi	2.38 314		P	Pn	16 17 39.3	+2.0
SRPI	Serui, Papua	4.54 293		P	Pn	16 18 08.3	+1.3
BAKI	Biak	4.96 300		P	Pn	16 18 24.1	+11
RKPI	Ransiki, Papua	6.59 289		P	Pn	16 18 37.9	+2.7
	52nm,0.7s,852nm0.2nm						
MANU	Manus Island	7.12	77		Pn	16 18 45.5	+2.9
FAKI	Fak Fak	8.19 275		P	Pn	16 19 00.0	+2.8
	28nm,0.8s						
FAKI	Fak Fak	8.19 275			Pn	16 18 58.2	+1.0
PMG	Port Moresby	8.80 131		Pn	Pn	16 19 06.6	+1.1
	1.0nm,0.3s,baz=306,slow=19,SNR=5.0						
PMG				Sn	Sn	16 20 46.3	+2.9
	0.8nm,0.3s,baz=333,slow=16,SNR=2.4						
PMG	Port Moresby	8.80 131		Pn	Pn	16 19 09.0	+3.5
SIJI	Sorong	9.55 287		Pn	Pn	16 19 14.5	-1.5
	0.5nm,0.3s,baz=105,slow=20,SNR=2.3						
SIJI				LR	LR	16 23 34.9	
	comp=Z,283nm,21.4s,baz=54,slow=42						
SWI	Sorong	9.56 287		P	Pn	16 19 18.7	+2.7
	36nm,0.7s,401nm						
COEN	Coen	10.59 165		Pn	Pn	16 19 32.1	+2.1
KRVT	Keravat (AS076	11.60	94	LR	LR	16 23 49.4	
	comp=Z,303nm,18.5s,baz=257,slow=35						
MTN	Manton Dam	12.94 225			Pn	16 20 02.8	+0.5
NLAI	Namlea	13.30 271		P	Pn	16 20 07.6	+0.4
TNTI	Ternate	13.77 288		P	Pn	16 20 16.3	+2.7
	15nm,1.2s						
TNTI	Ternate	13.77 288			Pn	16 20 15.0	+1.4
SANI	Sanana	14.50 276		P	Pn	16 20 25.7	+2.2
	13nm,0.8s						
KNRA	Kununurra	16.56 223		Pn	Pn	16 20 49.5	-0.8
KNRA				IAmb	IAmb	16 21 12.1	
	comp=Z,30nm,0.6s						
KMSI	Cibinong	16.96 284		P	P	16 20 57.8	+0.9
	comp=Z,67nm,0.9s						
SOEI	Soe	17.14 249		P	P	16 21 01.3	+2.3
	comp=Z,204nm,0.8s,comp=Z,1μm						
SOEI	Soe	17.14 249			Pn	16 20 58.3	+0.6
WRAB	Tennant Creek	17.22 200		P	P	16 20 59.3	-0.5
WRAB				IAmb	IAmb	16 21 03.9	
	comp=Z,44nm,0.7s						
WB2	Warramunga Arr	17.23 200		P	Pn	16 20 58.7	+0.1
WRA	Warramunga Arr	17.23 200		P	Pn	16 20 58.1	-0.6
	comp=Z,3.0nm,0.3s,baz=23,slow=12,SNR=58						
WRA				S	Sn	16 24 04.8	-4.8
	comp=Z,0.9nm,0.3s,baz=22,slow=23,SNR=7.3						
WRA				LR	LR	16 27 58.4	
	comp=Z,232nm,20.6s,baz=200,slow=38						
WRA	Warramunga Arr	17.23 200			Pn	16 20 58.5	-0.3
CTA	Charters Tower	17.29 161		P	Pn	16 20 58.1	-1.3
	comp=Z,0.2nm,0.3s,baz=350,slow=6.1,SNR=2.8						
BATI	Baumata	17.85 248		P	Pn	16 21 06.3	-0.1
	comp=Z,11nm,0.3s,baz=86,slow=3.1,SNR=12						
BATI	Baumata	17.85 248		P	P	16 21 09.1	+2.3
	comp=Z,55nm,0.9s						
BBSI	Bau Bau	17.88 264		P	P	16 21 09.0	+1.9
	comp=Z,9.4nm,1.1s						
MRSI	Marisa	18.92 282		P	Pn	16 21 19.6	+0.2
	comp=Z,32nm,0.8s,comp=Z,472nm						
APSI	Ampana	18.95 278		P	Pn	16 21 21.6	+1.8
	comp=Z,69nm,1.1s,comp=Z,530nm						
HNR	Honiara	20.22 107		P	P	16 21 29.9	-2.8
	comp=Z,7.5nm,0.3s,baz=288,slow=19,SNR=2.4						
BNSI	Bone	20.27 267		P	Pn	16 21 36.1	+0.6
	comp=Z,77nm,0.9s,comp=Z,535nm						
BKSI	Bulukumba	20.30 265		P	Pn	16 21 36.4	+0.6
	comp=Z,22nm,0.9s,comp=Z,384nm						
FITZ	Fitzroy Crossi	20.38 224		P	P	16 21 33.6	-0.7
	comp=Z,8.8nm,0.9s,baz=92,slow=7.8,SNR=14						
FITZ				S	S	16 25 15.9	-4.8
	comp=Z,16nm,0.8s,baz=98,slow=16,SNR=8.6						
FITZ				LR	LR	16 30 06.4	
	comp=Z,130nm,20.7s,baz=53,slow=39						
FITZ	Fitzroy Crossi	20.38 224		P	P	16 21 34.7	+0.3
FITZ				IAmb	IAmb	16 21 45.1	
	comp=Z,10nm,0.7s						
TTSI	Tana Toraja	20.57 271		P	Pn	16 21 39.3	+0.3
	comp=Z,48nm,0.9s,comp=Z,390nm						
SPSI	Sidrap Palu	20.61 268		P	Pn	16 21 39.7	+0.4
	comp=Z,11nm,0.8s,comp=Z,199nm						
KAPI	Kappang	20.65 266		P	P	16 21 37.7	+0.3
	comp=Z,11nm,0.7s,baz=100,slow=8.6,SNR=6.6						
KAPI				LR	LR	16 31 42.9	
	comp=Z,63nm,18.5s,baz=106,slow=43						
KAPI	Kappang	20.65 266		P	P	16 21 37.1	-0.3
KAPI				IAmb	IAmb	16 21 41.7	
	comp=Z,21nm,1.0s						
AS31	Alice Springs	20.86 197		P	P	16 21 39.5	-0.1
AS31				IAmb	IAmb	16 21 43.9	
	comp=Z,9.5nm,0.8s						
ASAR	Alice Springs	20.86 197		P	P	16 21 39.0	-0.6
	comp=Z,27nm,0.8s,baz=27,slow=9.6,SNR=61						
ASAR				S	S	16 25 29.3	-1.0
	comp=Z,3.7nm,0.7s,baz=14,slow=27,SNR=6.1						
ASAR				LR	LR	16 30 34.6	
	comp=Z,133nm,21.6s,baz=28,slow=39						
ASAR	Alice Springs	20.86 197		P	P	16 21 39.3	-0.3
MPSI	Mapaga	20.89 281		P	Pn	16 21 42.4	-0.2
	comp=Z,11nm,0.8s						
SMKI	Samarinda	23.41 277		P	P	16 22 08.8	+2.2
EIDS	Eidsvold	23.89 156		P	P	16 22 12.3	+1.2
EIDS				IAmb	IAmb	16 22 14.7	
	comp=Z,18nm,1.1s						
STKA	Stephens Creek	28.09 178		P	P	16 22 49.0	+0.1
	comp=Z,1.6nm,0.8s,baz=8.7,slow=13,SNR=2.6						
STKA				LR	LR	16 35 16.6	
	comp=Z,222nm,20.9s,baz=10,slow=39						
MORW	Morawa	34.27 220		P	P	16 23 43.0	-0.4
MORW				IAmb	IAmb	16 23 45.1	
	comp=Z,14nm,0.9s						
MJAR	Matsushiro Arr	40.05 357		LR	LR	16 39 28.7	
	comp=Z,32nm,19.4s,baz=165,slow=34						
NJ2	Nanjing	41.01 332		eP	P	16 24 41.1	+0.8
NJ2				pmax	pmax		
	comp=Z,19nm,0.6s						
RPSI	Rantau Prapat	41.95 278		P	P	16 24 47.8	-0.5
RPSI				IAmb	IAmb	16 24 59.1	
	comp=Z,27nm,0.9s						
WHN	Wuhan	42.16 326		P	P	16 24 50.8	+1.1
KSRS	Korea Array	42.52 345		LR	LR	16 39 11.0	
	comp=Z,33nm,22.0s,baz=142,slow=32						
GSI	Gunungsitoli	43.10 276		P	P	16 24 56.7	-1.0
GSI				IAmb	IAmb	16 26 23.4	
	comp=Z,22nm,1.0s						
OUZ	Omahuta	43.92 140		P	P	16 25 05.4	+1.4
COCO	West Island	43.93 256		P	P	16 25 02.5	-1.8
CMAR	Chiang Mai Arr	46.39 300		P	P	16 25 21.8	-2.0
	comp=Z,0.7nm,0.9s,baz=125,slow=5.9,SNR=5.8						
CMAR				LR	LR	16 43 53.4	
	comp=Z,12nm,21.2s,baz=320,slow=35						
CMAR	Chiang Mai Arr	46.39 300		P	P	16 25 22.9	-0.9
KMI	Kunming	46.43 310		P	P	16 25 25.6	+1.3
KMI				pP	pP	16 25 37.3	+1.6
KMI				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KMI				LR	LR		
	comp=Z,320nm,11.2s						
TUWZ	Tuamarina	48.13 146		P	P	16 25 37.8	+0.7
BKZ	Black Stump Fm	48.17 142		P	P	16 25 38.8	+1.4
USRK	Ussuriysk Ar.	48.24 352		P	P	16 25 36.0	-1.8
	comp=Z,1.3nm,0.8s,baz=137,slow=7.3,SNR=2.0						
KHZ	Kahutara	48.58 147		P	P	16 25 41.2	+0.7
CN2	Changchun	49.13 346		eP	P	16 25 46.2	+1.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	Hu-ho-hao-te	51.56 332		eP	P	16 26 04.9	+1.7
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LZH	Lanzhou	52.27 322		eP	P	16 26 10.6	+1.9
LZH				pP	sP	16 26 23.4	-1.4
LZH				sP	pP	16 26 29.8	+10
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	Gaotai	56.85 323		eP	P	16 26 44.1	+2.3
GTA				pmax	pmax		
	comp=Z,36nm,6.0s						
GTA				LR	LR		
	comp=Z,80nm,17.2s						
GTA				LR	LR		
	comp=Z,100nm,17.2s						
PETK	Petropavlovsk-	58.41	12	P	P	16 26 51.2	-1.2
	comp=Z,2.2nm,0.9s,baz=194,slow=7.2,SNR=4.2						
PETK				LR	LR	16 48 43.6	
	comp=Z,32nm,21.6s,baz=241,slow=33						
SONM	Songino Array	59.31 334		LR	LR	16 56 01.0	
	comp=Z,1.1nm,18.1s,baz=135,slow=40						
PALK	Pallekele	60.57 280		LR	LR	16 55 27.1	
	comp=Z,29nm,18.0s,baz=117,slow=38						
TLY	Talaya	63.38 335		LR	LR	16 57 54.8	
	comp=Z,16nm,18.8s,baz=185,slow=39						
WMQ	Urumqi	66.81 321		eP	P	16 27 50.9	+2.2
WMQ				pmax	pmax		
	comp=Z,14nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,45nm,4.1s						
WMQ				LR	LR		
	comp=Z,540nm,28.8s						
WMQ				LR	LR		
	comp=Z,2μm,28.9s						
MKAR	Makanchi Array	71.58 322		P	P	16 28 17.2	-0.9
	comp=Z,0.3nm,0.4s,baz=98,slow=8.1,SNR=5.1						
KURK	Kurchatov	75.47 325		P	P	16 28 38.4	-2.5
KURK	Kurchatov	75.47 325		IAmb	IAmb	16 28 43.0	
	comp=Z,2.1nm,0.9s						
KURBB	Kurchatov Arra	75.48 325		P	P	16 28 38.4	-2.6
	comp=Z,1.3nm,1.0s,baz=116,slow=5.5,SNR=7.9						
BVAR	Borovoye Array	81.06 325		P	P	16 29 10.2	-1.6
	comp=Z,3.0nm,0.9s,baz=122,slow=5.4,SNR=16						
NRIK	Noril'sk	81.11 343		P	P	16 29 11.1	-0.6
	comp=Z,3.1nm,0.5s,baz=153,slow=5.9,SNR=4.3						
BRVK	Borovoye	81.14 325		P	P	16 29 12.3	+0.2
BRVK				IAmb	IAmb	16 29 13.8	
	comp=Z,4.2nm,0.9s						
MAW	Mawson	81.89 202		P	P	16 29 15.9	0.0
	comp=Z,5.9nm,1.0s,baz=74,slow=7.5,SNR=10						
MAW	Mawson	81.89 202		P	P	16 29 16.5	+0.6
ILAR	Eielson Array	85.99	24	P	P	16 29 35.5	-1.3
	comp=Z,1.5nm,0.6s,baz=263,slow=4.6,SNR=27						
GEYT	Alibeck	86.16 308		P	P	16 29 36.4	-2.0
	comp=Z,1.3nm,0.7s,baz=218,slow=8.6,SNR=3.9						
GEYT	Alibeck	86.16 308		IAmb	IAmb	16 29 40.3	
	comp=Z,1.3nm,0.8s						
QSPA	South Pole Qui	86.29 180		P	P	16 29 39.1	+0.6
BMAR	Burnt Mountain	87.64	22	P	P	16 29 45.9	+1.0
LPAZ	La Paz	145.51 126		PKPbc	PKPab	16 36 37.8	+0.8
	comp=Z,0.9nm,0.6s,baz=325,slow=1.2,SNR=5.8						
LPAZ	La Paz	145.51 126			PKPdf	16 36 34.9	-1.7

*SOME **04** 16:27:32.6, 43°.15N×81°.82E, h10km*

*KRNET **04** 16:27:33.7±0.1, 38°.98N×80°.69E, mb2.7*

*NNC **04** 16:27:34.6±0.8, 43°.17N×81°.68E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=6.7km s-min=2.8km az=146.0*

ISC 04 16:27:33.5±2.0, 43°.07N±0°.06×81°.62E±0°.07, h13km±11km, n29, σ2°.09/51, 14C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.58 280		P	Pb	16 28 04.1	+1.4
	1.8nm,0.2s						
PDGK				S	Sg	16 28 26.5	+2.0
	18nm,0.4s						
PDGK	Podgornoye	1.58 280		⇓P	Pb	16 28 03.8	+1.1
	1.7nm,0.4s						
PDGK				⇓S	Sg	16 28 26.2	+1.8
	27nm,0.6s						
SHLS	Shalkode	1.59 274		P	Pn	16 27 59.2	-2.2
	42nm,0.2s						
SHLS				S	Sn	16 28 18.0	-3.9
	43nm,0.2s						
SHLS	Shalkode	1.59 274		eP	Pn	16 27 59.2	-2.2
	3.4nm,0.1s						
SHLS				eS	Sn	16 28 18.0	-3.9
	20nm,0.3s						
DJR	Jarkent	1.83 314		P	Pb	16 28 07.3	+0.3
	4.3nm,0.2s						
DJR				S	Sg	16 28 31.8	-0.6
	8.5nm,0.3s						
DJR	Jarkent	1.83 314		eP	Pb	16 28 06.8	-0.1
	2.8nm,0.3s						
DJR				eS	Sg	16 28 31.2	-1.2
	8.5nm,0.3s						
UZB	Uzynbulak	1.91 273		Pg	Pb	16 28 09.5	+1.2
	7.6nm,0.4s						
UZB				Lg	Lg	16 28 35.6	
	14nm,0.3s						
UZB	Uzynbulak	1.91 273		eP	Pb	16 28 09.5	+1.2
	7.6nm,0.4s						
UZB				eS	Sg	16 28 35.6	+0.7
	14nm,0.3s						
KPKS	Kokpek	2.18 281		eP	Pg	16 28 15.2	-0.2
	10nm,0.1s						
KPKS				eS	Sg	16 28 45.3	+1.6
	70nm,0.6s						
ZHN	Zhinishke	2.34 273		Pg	Pb	16 28 18.0	+2.5
	2.1nm,0.2s						
ZHN				Lg	Lg	16 28 49.9	
	14nm,0.2s						
ZHN	Zhinishke	2.34 273		eP	Pb	16 28 18.0	+2.5
	2.1nm,0.2s						
ZHN				eS	Sg	16 28 49.9	+1.3
	14nm,0.2s						
SATY	Saty	2.36 271		Pg	Pb	16 28 17.5	+1.6
	4.2nm,0.2s						
SATY				Lg	Lg	16 28 49.3	
	35nm,0.3s						
SATY	Saty	2.36 271		eP	Pb	16 28 17.5	+1.6
	4.2nm,0.2s						
SATY				eS	Sg	16 28 49.3	0.0
	35nm,0.3s						
KURS	Kuram	2.56 281		Pg	Pb	16 28 21.6	+2.3
	1.6nm,0.3s						
KURS				Lg	Lg	16 28 56.4	
	12nm,0.7s						
KURS	Kuram	2.56 281		eP	Pb	16 28 21.6	+2.3
	1.6nm,0.3s						
KURS				eS	Sg	16 28 56.4	+0.8
	12nm,0.7s						
KAPS	Kapalarasan	2.75 324		Pg	Pb	16 28 22.7	+0.2
	1.4nm,0.2s						
KAPS				Lg	Lg	16 28 58.1	
	3.2nm,0.2s						
KAPS	Kapalarasan	2.75 324		eP	Pb	16 28 22.3	-0.2
	1.4nm,0.2s						
KAPS				eS	Sb	16 28 57.5	+1.3
	3.2nm,0.2s						
ARXS	Arharly	2.98 294		Pg	Pb	16 28 28.9	+2.3
	1.7nm,0.6s						
ARXS				Lg	Lg	16 29 08.5	
	8.6nm,0.3s						
ARXS	Arharly	2.98 294		eP	Pb	16 28 28.9	+2.3
	0.9nm,0.5s						
ARXS				eS	Sg	16 29 08.5	-0.8
	8.6nm,0.3s						
TARG	Taragay, Kyrgy	3.13 246		⇑iP	Pb	16 28 29.1	-0.2
	baz=22						
TARG				⇑iS	Sb	16 29 09.2	+1.7
	baz=22						
KDJ	Kajisay	3.41 256		⇑iP	Pb	16 28 37.0	+3.0
	baz=21						
KDJ				⇑iS	Sg	16 29 23.9	+0.8
	baz=21						
TNSS	Tian-Shan	3.43 271		Pg	Pb	16 28 37.9	+3.6
	1.5nm,0.1s						
TNSS				Lg	Lg	16 29 24.2	
	6.0nm,0.4s						
TNSS	Tian-Shan	3.43 271		eP	Pb	16 28 37.9	+3.6
	1.5nm,0.1s						
TNSS				eS	Sg	16 29 24.2	+0.5
	6.0nm,0.4s						
MAKZ	Makanchi	3.75	4	⇓Pn	Pn	16 28 33.2	+2.2
	1.3nm,0.7s						
MAKZ				⇓Pg	Pg	16 28 41.5	-3.7
	1.8nm,0.8s						
MAKZ				⇑Sn	Sn	16 29 16.7	+1.7
	0.5nm,0.3s						
MAKZ				⇓Lg	Lg	16 29 32.1	
	2.5nm,0.7s						
MK31	Makanchi Array	3.75	7	⇑Pn	Pn	16 28 32.8	+1.7
	0.1nm,0.3s,baz=249,slow=50,SNR=7.5						
MK31				⇓Pg	Pb	16 28 39.7	+0.1
	0.7nm,0.6s,baz=184,slow=17,SNR=7.8						
MK31				⇑Sn	Sn	16 29 17.3	+2.1
	0.1nm,0.2s,baz=183,slow=25,SNR=4.0						
MK31				⇑Lg	Lg	16 29 28.2	
	1.3nm,0.5s,baz=188,slow=25,SNR=6.5						
ULHL	Ulahol	4.05 260		⇑iP	Pb	16 28 45.4	+0.5
	baz=15						
ULHL				⇑iS	Sb	16 29 37.4	+3.5
	baz=15						
TKM2	Tokmak 2	4.42 270		⇓Lg	Lg	16 29 58.6	
	4.9nm,0.8s						
TKM2	Tokmak 2	4.42 270		⇑iP	Pg	16 28 56.5	-1.7
	baz=17						
TKM2				⇑iS	Sg	16 29 56.5	+1.0
	baz=17						
NRN	Naryn	4.48 250		⇑iP	Pn	16 28 40.6	-0.9
	baz=6.0						
NRN				⇑iS	Sn	16 29 29.4	-4.3
	baz=6.0						

NNC 04 16:32:01.1±2.9, 37°.01N×70°.88E, h0km, mb3.9, mpv3.6, 1C-2D, Error ellipse: s-maj=27.5km s-min=22.4km az=73.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.55	22	P	Pn	16 33 26.0	+0.7
	SNR=30						
UCH	Uchtor	5.92	27	P	Pn	16 33 29.7	-0.7
	SNR=11						
EKS2	Erkin-Say	6.07	21	P	Pn	16 33 32.8	+0.7
	SNR=22						
KK31	Karatay Array	6.09 357		⇓P	Pn	16 33 32.9	+0.6
	0.4nm,0.2s,baz=199,slow=16,SNR=17						
KK31				S	Sn	16 34 43.6	+0.9
	1.1nm,0.3s,baz=180,slow=17,SNR=13						
AAK	Ala-Archa	6.27	25	P	Pn	16 33 35.0	0.0
	1.6nm,0.3s						
AAK				⇓S	Sn	16 34 48.8	+1.4
	1.1nm,0.6s						
AAK	Ala-Archa	6.27	25	P	Pn	16 33 35.4	+0.4
	SNR=6.0						
TKM2	Tokmak 2	6.92	30	⇑P	Pn	16 33 43.3	-0.7
	6.3nm,0.6s						
TKM2	Tokmak 2	6.92	30	P	Pn	16 33 43.6	-0.4
	SNR=11						

*ISCJB **04** 16:32:27.9±0.7, 8°.20S±0°.07×119°.92E±0°.06, h200km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=7.1km az=26.4*

*DJA **04** 16:32:30.3±0.6, 8°S±5°×120°0E±°, h170km±7km, M3.4/7, MLv3.4/7*

*IDC **04** 16:32:30.0±2.0, 7°.90S×120°.41E, h202km±16km, mb2.9/3, mb1 3.1/6, mb1mx2.9/38, mbtmp3.5/6, Error ellipse: s-maj=61.2km s-min=15.5km az=48.0*

ISC 04 16:32:28.8±1.0, 8°23S±0°.07×119°.99E±0°.06, h200km, n13, σ1°56/18, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.52 203		P	Pn	16 33 01.5	-1.3
WBSI				S	Sn	16 33 27.1	-2.2
BASI	Baing, Sumba	2.06 164		P	Pn	16 33 07.8	-0.2
MMRI	Maumere	2.26 100		P	Pn	16 33 10.0	-0.1
PLAI	Plampang	2.27 255		P	Pn	16 33 10.3	+0.1
PLAI				S	Sn	16 33 40.2	-2.1
BKSI	Bulukumba	2.89	3	P	Pn	16 33 16.4	-0.8
TWSI	Taliwang, Sumb	3.12 260		P	Pn	16 33 20.5	+0.7
BATI	Baumata	4.12 119		P	Pn	16 33 33.0	+0.7
	7.1nm,0.3s,baz=321,slow=14,SNR=16						
BATI				S	Sn	16 34 18.7	-3.3
	5.9nm,0.3s,baz=330,slow=16,SNR=3.3			

0.3nm,0.3s,baz=322,slow=11,SNR=19
STKA Stephens Creek 30.94 142 P **P 16 38 29.4 +2.2**
1.8nm,1.1s,baz=313,slow=14,SNR=3.4
MKAR Makanchi Array 64.23 332 P **P 16 42 42.0 -0.5**
0.3nm,0.6s,baz=130,slow=6.7,SNR=3.7

JMA 04 16:35:02.7±0.2, 37°.11N×144°.28E, h49km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.53**	**299**	P	Pn	16 35 42.6	+1.3
JIKH				S	Sn	16 36 12.6	+1.7
JIO	**Ouri**	**2.68**	**301**	P	Pn	16 35 44.8	+1.5
JIO				S	Sn	16 36 16.3	+1.7
JFK	**Kawauchi**	**2.73**	**276**	eS	Sn	16 36 17.0	+1.1
JMST	**Minamisoumatoc**	**2.77**	**284**	P	Pn	16 35 45.5	+0.9
JMST				eS	Sn	16 36 17.9	+1.1
ONAJ	**Iwakimizuishiy**	**2.78**	**271**	P	Pn	16 35 45.9	+1.1
ONAJ				eS	Sn	16 36 18.4	+1.2
JKMT	**Kesennumamotoy**	**2.79**	**308**	P	Pn	16 35 45.8	+0.9
JKMT				S	Sn	16 36 18.3	+1.0
JMK	**Ichinoseki**	**3.04**	**308**	P	Pn	16 35 49.7	+1.5
JFT	**Otama**	**3.17**	**279**	P	Pn	16 35 52.1	+2.0
JFT				S	Sn	16 36 29.6	+2.9
JOM	**Ohasama**	**3.33**	**316**	P	Pn	16 35 53.9	+1.6
JOM				S	Sn	16 36 32.0	+1.4
JRY	**Ryogami san**	**4.46**	**257**	P	Pn	16 36 08.4	+0.5
JOT	**Ohata**	**4.95**	**331**	P	Pn	16 36 16.9	+2.5
JCH	**Churi**	**5.54**	**353**	P	Pn	16 36 21.7	-0.9
JCH				eS	Sn	16 37 22.6	-2.3
NEM2	**Nemuro 2**	**6.35**	**10**	P	Pn	16 36 30.6	-3.0
NEM2				eS	Sn	16 37 38.1	-6.6
JTKR	**Abashiri--Toko**	**6.86**	**358**	P	Pn	16 36 39.5	-1.1
JTKR				eS	Sn	16 37 53.9	-3.4

*ISCJB **04** 16:44:11.2±0.7, 22°.7N±0°.2×95°.9E±0°.2, h10km, mb3.4/3, MS2.8/1, Error ellipse: s-maj=35.7km s-min=6.6km az=40.7*
*IDC **04** 16:44:11.9±1.3, 22°.84N×96°.02E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/46, mbtmp3.5/4, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/38, Error ellipse: s-maj=37.1km s-min=16.4km az=58.0*
ISC 04 16:44:12.8±0.9, 22°.7N±0°.1×96°.0E±0°.1, h10km, n19, σ1§42/19, mb3.5/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMMT	**Chiang Mai**	**4.77**	**143**	P	Pn	**16 45 25.5**	**+0.7**
14nm,0.9s,212nm							
MHMT	**Maesarieng**	**4.86**	**157**	P	Pb	**16 45 36.5**	**-1.6**
MHMT	**Maesarieng**	**4.86**	**157**	P	Sg	**16 46 52.1**	**+3.2**
469nm,0.8s,4μm							
PAYA	**Payao**	**4.94**	**131**	P	Pn	**16 45 28.3**	**+1.2**
96μm,0.7s,899μm							
PAYA	**Payao**	**4.94**	**131**	P	Sg	**16 46 53.0**	**+1.6**
174μm,0.8s							
CMAR	**Chiang Mai Arr**	**5.06**	**146**	Pn	Pn	**16 45 29.3**	**+0.5**
0.8nm,0.3s,baz=322,slow=13,SNR=35							
CMAR				Pg	Pg	**16 45 46.9**	**-2.8**
4.1nm,0.3s,baz=322,slow=17,SNR=56							
CMAR				Lg	Lg	16 46 52.9	
6.9nm,0.3s,baz=327,slow=29,SNR=9.4							
LAMP	**Lampang**	**5.39**	**140**	P	Sg	**16 47 05.8**	**-0.2**
TAPN	**Taplejung**	**8.79**	**304**	eP	Pn	**16 46 20.8**	**+0.5**
ODAN	**Odare**	**8.82**	**300**	eP	Pn	**16 46 21.4**	**+0.8**
RAMN	**Ramite**	**9.49**	**298**	eP	Pn	**16 46 29.9**	**0.0**
JIRN	**Jiri**	**10.13**	**301**	eP	Pn	**16 46 38.2**	**-0.5**
GUN	**Gumba**	**10.49**	**302**	eP	Pn	**16 46 43.8**	**+0.2**
PKIN	**Phulchoki**	**10.73**	**299**	eP	Pn	**16 46 46.4**	**-0.4**
KKN	**Kakani**	**10.91**	**300**	eP	Pn	**16 46 48.9**	**-0.4**
GKN	**Gorkha**	**11.52**	**300**	eP	Pn	**16 46 57.5**	**0.0**
MKAR	**Makanchi Array**	**26.46**	**339**	P	P	**16 49 48.9**	**-1.1**
0.6nm,0.5s,baz=146,slow=11,SNR=10							
AAK	**Ala-Archa**	**26.73**	**323**	P	P	**16 49 52.9**	**+0.2**
0.8nm,0.5s,baz=139,slow=9.3,SNR=4.6							
MJAR	**Matsushiro Arr**	**38.94**	**60**	LR	LR	17 10 23.0	
comp=Z,13nm,18.5s,baz=70,slow=40							
ASAR	**Alice Springs**	**59.03**	**139**	P	P	**16 54 15.2**	**+2.0**
0.3nm,1.0s,baz=317,slow=7.1,SNR=5.1							

*IDC **04** 17:37:03.6±1.9, 57°.10N×150°.22W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.5/51, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=34.1km s-min=21.8km az=152.0*
*ISCJB **04** 17:37:04.7±0.6, 57°.32N±0°.05×149°.81W±0°.05, h33km, mb3.6/4, Error ellipse: s-maj=6.7km s-min=4.0km az=176.2*
*NEIC **04** 17:37:05.0±1.3, 57°.23N±0°.09×149°.87W±0°.08, h28km±12km*
*AEIC **04** 17:37:05±1.2, 57°.20N±0°.09×149°.9W±0°.1, h46km±10km, ML3.3*
ISC 04 17:37:07.7±1.1, 57°.30N±0°.08×149°.87W±0°.05, h35km, n85, σ1§47/90, mb3.6/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.54**	**289**	Pn	**Pn**	**17 37 29.9**	**-2.7**
5.8nm,0.3s,baz=113,slow=5.2,SNR=125							
KDAK				Sn	**Sn**	**17 37 48.5**	**-2.8**
18nm,0.3s,baz=90,slow=20,SNR=32							
KDAK	**Kodiak Island**	**1.54**	**289**		**Pn**	**17 37 30.1**	**-2.5**
OHAK	**Old Harbor**	**1.86**	**269**	Pn	**Pn**	**17 37 33.5**	**-3.4**
CNPM	**China Poot**	**2.34**	**343**	Pn	**Pn**	**17 37 42.5**	**-1.1**
SII	**Sitkinak Islan**	**2.48**	**254**	Pn	**Pn**	**17 37 43.8**	**-1.8**
BRSE	**Bradley Lake S**	**2.49**	**350**		**Pn**	**17 37 44.4**	**-1.3**
BRLK	**Bradley Lake**	**2.52**	**348**		**Pn**	**17 37 44.7**	**-1.5**
HOM	**Homer**	**2.54**	**339**	Pn	**Pn**	**17 37 45.7**	**-0.6**
SEW	**Seward**	**2.82**	**4**		**Pn**	**17 37 48.3**	**-1.9**
CAHL	**Cahill**	**3.01**	**287**		**Pn**	**17 37 52.2**	**-0.7**
SLKM	**Skilak Lake**	**3.22**	**357**		**Pn**	**17 37 54.2**	**-1.6**
SLKM					**Sn**	**17 38 31.1**	**-1.7**
RSO	**Redoubt South**	**3.50**	**336**		**Pn**	**17 37 58.0**	**-1.8**
RDWB	**Redoubt West**	**3.55**	**336**		**Pn**	**17 37 58.5**	**-1.8**
RDWB					**Sn**	**17 38 39.7**	**-1.3**
HIN	**Hinchinbrook I**	**3.56**	**28**		**Pn**	**17 37 59.0**	**-1.5**
DFR	**Drift River**	**3.61**	**337**		**Pn**	**17 37 59.8**	**-1.3**
DFR					**Sn**	**17 38 41.7**	**-0.7**
PWL	**Port Wells**	**3.65**	**12**		**Pn**	**17 38 00.2**	**-1.5**
RC01	**Rabbit Creek A**	**3.80**	**1**		**Pn**	**17 38 02.2**	**-1.4**
GLI	**Glacier Island**	**3.86**	**21**		**Pn**	**17 38 02.6**	**-1.9**
FID	**Port Fidalgo**	**3.88**	**25**		**Pn**	**17 38 02.7**	**-2.1**
EYAK	**Cordova Ski Ar**	**3.89**	**32**		**Pn**	**17 38 03.5**	**-1.5**
EYAK	**Cordova Ski Ar**	**3.89**	**32**		**Sn**	**17 38 47.2**	**-2.1**
RAGM	**Ragged Mountai**	**4.10**	**39**		**Pn**	**17 38 06.4**	**-1.5**
JPK	**Jack Peak**	**4.12**	**23**		**Pn**	**17 38 07.1**	**-1.0**
SPCG	**Spurr Capps Gl**	**4.15**	**346**		**Pn**	**17 38 07.2**	**-1.3**
CGLM	**Capps Glacier**	**4.16**	**346**		**Pn**	**17 38 07.6**	**-1.1**
KNK	**Knik Glacier**	**4.19**	**9**		**Pn**	**17 38 07.5**	**-1.5**
SUA	**Susitna One**	**4.20**	**354**	Pn	**Pn**	**17 38 07.9**	**-1.4**
HMT	**Hamilton**	**4.21**	**41**		**Pn**	**17 38 07.6**	**-1.8**
SUCK	**Suckling Hills**	**4.22**	**46**	Pn	**Pn**	**17 38 07.8**	**-1.6**
PMR	**Palmer**	**4.32**	**5**		**Pn**	**17 38 09.2**	**-1.5**
SPNN	**North Nagishla**	**4.33**	**342**		**Pn**	**17 38 10.0**	**-1.0**
GHO	**Glory Hole Cre**	**4.51**	**6**		**Pn**	**17 38 13.1**	**-0.4**
GRIN	**Grindle Hills**	**4.53**	**46**		**Pn**	**17 38 12.8**	**-1.0**
SML	**Sawmill**	**4.58**	**9**		**Pn**	**17 38 13.9**	**-0.6**
KHIT	**Khitrov Hills**	**4.66**	**45**		**Pn**	**17 38 14.0**	**-1.6**
SCM	**Sheep Creek Mo**	**4.72**	**15**		**Pn**	**17 38 15.8**	**-0.7**
KULT	**Kultieth River**	**4.75**	**49**		**Pn**	**17 38 15.2**	**-1.5**
SKT	**Skwentna**	**4.77**	**351**	Pn	**Pn**	**17 38 16.9**	**0.0**
WAX	**Waxell Ridge**	**4.82**	**46**		**Pn**	**17 38 16.2**	**-1.5**
CRQM	**Cirque**	**4.91**	**42**	Pn	**Pn**	**17 38 17.9**	**-1.2**
TGL	**Tana Glacier**	**5.02**	**43**		**Pn**	**17 38 18.9**	**-1.6**
VRDI	**Verde Repeater**	**5.13**	**37**		**Pn**	**17 38 20.6**	**-1.5**
GLB	**Gilahina Butte**	**5.18**	**34**		**Pn**	**17 38 21.4**	**-1.2**
YAH	**Yahtse**	**5.22**	**51**		**Pn**	**17 38 21.6**	**-1.7**
KIAG	**Kiagna River**	**5.30**	**44**		**Pn**	**17 38 23.1**	**-1.4**
BALM	**Baldy**	**5.38**	**43**		**Pn**	**17 38 23.9**	**-1.6**
MCARA	**McCarthy VSAT**	**5.39**	**38**		**Pn**	**17 38 24.2**	**-1.3**
GRNC	**Granite Creek**	**5.42**	**47**		**Pn**	**17 38 24.9**	**-1.3**
PTPK	**Patty Peak**	**5.44**	**41**		**Pn**	**17 38 25.3**	**-1.1**
WAT1	**Susitna Watana**	**5.58**	**6**		**Pn**	**17 38 27.6**	**-0.6**
BARN	**Barnard Glacie**	**5.66**	**45**	Pn	**Pn**	**17 38 28.1**	**-1.2**
WAT2	**Susitna Watana**	**5.71**	**6**		**Pn**	**17 38 29.4**	**-0.7**
DHY	**Denali Highway**	**5.92**	**11**		**Pn**	**17 38 32.1**	**-0.8**
BCPM	**Bancas Point**	**5.97**	**59**	Pn	**Pn**	**17 38 32.6**	**-0.8**
PNL	**Peninsula**	**5.98**	**62**		**Pn**	**17 38 32.1**	**-1.6**
PAX	**Paxson**	**6.09**	**19**		**Pn**	**17 38 35.1**	**-0.1**
RND	**Reindeer**	**6.14**	**4**		**Pn**	**17 38 35.6**	**-0.3**
TRF	**Thorofare Moun**	**6.17**	**358**		**Pn**	**17 38 35.5**	**-0.9**
KTH	**Kantishna Hill**	**6.29**	**356**	Pn	**Pn**	**17 38 38.5**	**+0.6**
MENT	**Mentasta**	**6.43**	**26**		**Pn**	**17 38 39.6**	**-0.2**
MCK	**McKinley**	**6.47**	**4**	Pn	**Pn**	**17 38 40.7**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.84**	**356**		**Pn**	**17 38 43.6**	**-1.8**
BWN	**Browne**	**6.89**	**1**	Pn	**Pn**	**17 38 49.0**	**+2.8**
RIDG	**Independent Ri**	**6.92**	**19**	Pn	**Pn**	**17 38 47.8**	**+1.3**
YUK6	**Outpost Mounta**	**6.95**	**54**		**Pn**	**17 38 46.5**	**-0.7**
DOT	**Dot Lake**	**6.98**	**22**		**Pn**	**17 38 46.9**	**-0.4**
BCAR	**Beaver Creek A**	**7.04**	**31**		**Pn**	**17 38 47.1**	**-1.1**
HDA	**Harding Lake**	**7.27**	**10**		**Pn**	**17 38 51.1**	**-0.2**
CCB	**Clear Creek Bu**	**7.44**	**7**		**Pn**	**17 38 53.5**	**0.0**
IL31		**7.63**	**10**		**Pn**	**17 38 54.6**	**-1.5**
ILAR	**Eielson Array**	**7.63**	**10**	Pn	**Pn**	**17 38 54.9**	**-1.4**
0.8nm,0.3s,baz=192,slow=13,SNR=29							
ILAR				Sn	**Sn**	**17 40 18.6**	**-2.7**
0.4nm,0.3s,baz=186,slow=12,SNR=4.5							
ILAR	**Eielson Array**	**7.63**	**10**		**Pn**	**17 38 54.5**	**-1.7**
COLA	**College**	**7.66**	**6**		**Pn**	**17 38 55.4**	**-1.2**
MDM	**Murphy Dome**	**7.72**	**5**		**Pn**	**17 38 57.2**	**-0.3**
WHY	**Whitehorse**	**8.44**	**60**	Pn	**Pn**	**17 39 06.2**	**-1.2**
PRP	**Porcupine Dome**	**8.50**	**12**	Pn	**Pn**	**17 39 09.2**	**+1.0**
DAWY	**Dawson**	**8.50**	**33**	Pn	**Pn**	**17 39 07.8**	**-0.3**
IMAR	**Indian Mountai**	**8.90**	**350**	Pn	**Pn**	**17 39 13.6**	**0.0**
FYU	**Fort Yukon**	**9.55**	**11**	Pn	**Pn**	**17 39 22.8**	**+0.4**
BMAR	**Burnt Mountain**	**10.45**	**11**	Pn	**Pn**	**17 39 36.6**	**+1.7**
YKA	**Yellowknife Ar**	**18.26**	**59**	P	**Pn**	**17 41 19.4**	**+1.5**
0.2nm,0.3s,baz=259,slow=11,SNR=3.6							
PETK	**Petropavlovsk-**	**29.59**	**285**	P	**P**	**17 43 08.6**	**-0.4**
0.6nm,0.5s,baz=70,slow=14,SNR=3.9							
SONM	**Songino Array**	**57.73**	**309**	P	**P**	**17 46 54.9**	**+0.1**
0.9nm,0.8s,baz=40,slow=7.5,SNR=6.2							
MKAR	**Makanchi Array**	**67.57**	**324**	P	**P**	**17 48 03.2**	**+3.0**
0.2nm,0.4s,baz=44,slow=7.0,SNR=2.5							
CMAR	**Chiang Mai Arr**	**85.52**	**297**	P	**P**	**17 49 42.8**	**+0.8**
0.4nm,0.9s,baz=51,slow=4.7,SNR=4.0							

IDC 04 17:40:59.5±1.2, 56°.22S×150°.94W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/31, mbtmp3.9/3, MS3.3/2, Ms1 3.3/2, ms1mx3.0/20, Error ellipse: s-maj=178.5km s-min=30.4km az=179.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.09**	**281**	LR	LR	17 55 39.2	
comp=Z,38nm,19.6s,baz=204,slow=32							
PLCA	**Paso Flores**	**52.41**	**109**	LR	LR	18 07 40.8	
comp=Z,44nm,18.3s,baz=220,slow=31							
ASAR	**Alice Springs**	**62.47**	**268**	P	P	17 51 24.4	-0.1
1.3nm,0.8s,baz=139,slow=6.7,SNR=13							
H01W1	**Cape Leeuwin H**	**64.34**	**245**	T	T	19 01 40.9	
baz=142,slow=76,SNR=4.6							
H01W2	**Cape Leeuwin H**	**64.34**	**245**	T	T	19 01 44.7	
baz=142,slow=76,SNR=5.8							
H01W3	**Cape Leeuwin H**	**64.36**	**245**	T	T	19 01 42.2	
baz=142,slow=76,SNR=4.3							
WRA	**Warramunga Arr**	**65.19**	**271**	P	P	17 51 42.4	-0.1
0.7nm,0.9s,baz=152,slow=7.1,SNR=2.8							
LPAZ	**La Paz**	**72.64**	**93**	P	P	17 52 29.6	0.0
0.6nm,0.3s,baz=180,slow=2.0,SNR=4.0							
ILAR	**Eielson Array**	**120.70**	**2**	PKP	PKPdf	17 59 51.4	-0.3
1.0nm,0.8s,baz=205,slow=3.6,SNR=7.8							
MKAR	**Makanchi Array**	**146.35**	**277**	PKPbc	PKPbc	18 00 40.7	-0.6
1.9nm,0.8s,baz=116,slow=4.5,SNR=18							
ZALV	**Zalesovo Beam**	**148.74**	**290**	PKPbc	PKPbc	18 00 47.0	-0.5
0.9nm,0.6s,baz=118,slow=4.6,SNR=4.1							

*ISCJB **04** 17:44:33.2±0.6, 53°.39N±0°.07×163°.57W±0°.05, h29km, mb4.0/15, MS3.3/6, Error ellipse: s-maj=10.3km s-min=4.6km az=2.3*
*NEIC **04** 17:44:35.3±0.9, 53°.54N±0°.06×163°.67W±0°.05, h27km±6km*
*AEIC **04** 17:44:35.4±0.9, 53°.51N±0°.06×163°.64W±0°.06, h26km±5km, ML3.5*
*IDC **04** 17:44:36.3±5.6, 53°.75N×163°.73W, h31km±41km, mb3.7/16, mb1 3.8/19, mb1mx3.7/57, mbtmp3.9/19, ML3.8/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/50, Error ellipse: s-maj=25.9km s-min=14.1km az=0.0*
ISC 04 17:44:35.3±0.7, 53°.58N±0°.09×163°.68W±0°.04, h29km, n57, σ1§39/54, mb4.0/15, MS3.3/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.04**	**330**		**Pb**	**17 44 55.4**	**+0.7**
WESP	**Westdahl Peak**	**1.10**	**327**		**Pb**	**17 44 56.3**	**+0.6**
SSBA	**Shishaldin**	**1.22**	**348**		**Pn**	**17 44 58.0**	**+1.5**
FALS	**False Pass**	**1.29**	**7**		**Pn**	**17 44 58.0**	**+0.8**
AKSA	**Akutan Strait**	**1.32**	**296**		**Pn**	**17 44 58.2**	**+0.6**
AKSA	**Akutan Strait**	**1.32**	**296**		**Pn**	**17 44 58.2**	**+0.6**
AKSA					**Sb**	**17 45 16.2**	**+0.4**
AKUT	**Akutan**	**1.36**	**295**		**Pn**	**17 44 58.5**	**+0.3**
AKUT					**Pb**	**17 44 58.7**	**-1.2**
AKBBA	**Akutan Broad B**	**1.43**	**292**		**Pn**	**17 44 59.8**	**+0.6**
AKBBA					**Sb**	**17 45 20.1**	**+1.1**
AKLV	**Akutan Long Va**	**1.47**	**294**		**Pn**	**17 45 00.3**	**+0.6**
AKMO	**Akutan Morgan**	**1.47**	**291**		**Pn**	**17 45 00.6**	**+0.8**
AKMO					**Sb**	**17 45 20.8**	**+0.6**
AKGG	**Akutan Green G**	**1.50**	**295**		**Pn**	**17 45 01.1**	**+0.9**
AKRB	**Akutan Reef Bi**	**1.52**	**292**		**Pn**	**17 45 01.1**	**+0.7**
UNV	**Unalaska Valle**	**1.70**	**280**		**Pn**	**17 45 02.6**	**-0.3**
MSW	**Makushin Switc**	**1.87**	**282**		**Pn**	**17 45 05.7**	**+0.4**
MCIR	**Makushin Cirqu**	**1.94**	**282**		**Pn**	**17 45 07.3**	**+1.0**
SDPT	**Sand Point**	**2.58**	**45**		**Pn**	**17 45 16.3**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**2.61**	**267**		**Pn**	**17 45 17.5**	**+2.0**
VNHG	**Veniaminof 1**	**3.71**	**43**		**Pn**	**17 45 33.1**	**+2.4**
CHGN	**Chignik**	**4.08**	**46**		**Pn**	**17 45 36.6**	**+1.0**
KELA	**Mount Kelaz**	**6.60**	**39**		**Pn**	**17 46 14.8**	**+4.6**
KDAK	**Kodiak Island**	**7.55**	**52**	Pn	**Pn**	**17 46 21.0**	**-2.2**
0.9nm,0.3s,baz=202,slow=4.8,SNR=16							
KDAK				Sn	**Sn**	**17 47 42.2**	**-5.6**
0.4nm,0.3s,baz=340,slow=24,SNR=7.2							
KDAK	**Kodiak Island**	**7.55**	**52**		**Pn**	**17 46 23.2**	**0.0**
ILAR	**Eielson Array**	**14.08**	**31**	Pn	**Pn**	**17 47 50.4**	**-2.0**
baz=216,slow=14,SNR=2.8							
DLBC	**Dease Lake**	**19.30**	**62**	P	**Pn**	**17 48 58.7**	**-0.1**
0.2nm,0.3s,baz=319,slow=20,SNR=1.8							
INK	**Inuvik**	**20.46**	**32**	P	**P**	**17 49 09.9**	**-0.1**
1.0nm,0.8s,baz=214,slow=11,SNR=2.8							
PETK	**Petropavlovsk-**	**22.88**	**285**	P	**P**	**17 49 36.1**	**0.0**
2.2nm,0.6s,baz=79,slow=13,SNR=6.9							
PETK				LR	LR	17 58 20.8	
comp=Z,54nm,19.5s,baz=61,slow=36							
PETK	**Petropavlovsk-**	**22.88**	**285**	P	**P**	**17 49 35.7**	**-0.4**
NVAR	**Mina Array Bea**	**34.32**	**98**	P	**P**	**17 51 20.4**	**+1.1**
0.2nm,0.2s,baz=308,slow=7.4,SNR=3.7							
NVAR	**Mina Array Bea**	**34.32**	**98**	P	**P**	**17 51 18.9**	**-0.4**
ELK	**Elko**	**34.67**	**92**	P	**P**	**17 51 23.5**	**+1.3**
1.2nm,0.7s,baz=290,slow=15,SNR=5.8							
JKA	**Kamikawa-asahi**	**35.80**	**277**	P	**P**	**17 51 31.6**	**-0.1**
ASAJ	**Asahikawa**	**35.80**	**277**	P	**P**	**17 51 31.6**	**-0.1**
8.6nm,1.1s,baz=45,slow=10.0,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**40.65**	**225**	T	T	18 35 57.6	
baz=26,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**40.66**	**225**	T	T	18 35 58.1	
baz=26,slow=76,SNR=38							
H11N1	**WAKE ISLAND Hy**	**40.67**	**225**	T	T	18 35 51.0	
baz=26,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**41.83**	**225**	T	T	18 37 27.0	
baz=25,slow=76,SNR=71							
H11S2	**WAKE ISLAND Hy**	**41.84**	**225**	T	T	18 37 39.5	
baz=25,slow=76,SNR=48							
H11S3	**WAKE ISLAND Hy**	**41.84**	**225**	T	T	18 37 25.0	
baz=25,slow=76,SNR=58							
MJAR	**Matsushiro Arr**	**43.15**	**271**	LR	LR	18 10 39.9	
comp=Z,23nm,20.8s,baz=40,slow=36							
KSRS	**Korea Array**	**48.63**	**280**	P	**P**	**17 53 16.7**	**+0.5**
1.1nm,0.7s,baz=48,slow=7.5,SNR=5.4							
TXAR	**Lajitas Array**	**49.35**	**95**	P	**P**	**17 53 22.3**	**+0.4**
0.8nm,0.7s,baz=305,slow=6.0,SNR=6.4							
TXAR	**Lajitas Array**	**49.35**	**95**	P	**P**	**17 53 21.7**	**-0.2**
JNU	**Nakatsue**	**49.87**	**273**	LR	LR	18 12 21.0	
comp=Z,22nm,20.4s,baz=66,slow=33							
ULN	**Ulaanbaatar**	**53.23**	**303**	P	**P**	**17 53 51.2**	**+0.4**
SONM	**Songino Array**	**53.58**	**303**	P	**P**	**17 53 53.6**	**+0.2**
2.4nm,0.9s,baz=42,slow=7.4,SNR=12							
SONM				LR	LR	18 17 35.3	
comp=Z,28nm,18.0s,baz=44,slow=37							
SONM	**Songino Array**	**53.58**	**303**	P	**P**	**17 53 53.7**	**+0.4**
ARCES	**ARCESS Array B**	**57.01**	**356**	P	**P**	**17 54 16.9**	**-0.7**
1.5nm,0.8s,baz=20,slow=12,SNR=2.4							
ZALV	**Zalesovo Beam**	**58.78**	**320**	P	**P**	**17 54 28.2**	**-2.0**
0.5nm,0.4s,baz=38,slow=7.5,SNR=3.5							
ZALV				LR	LR	18 22 36.7	
comp=Z,28nm,19.5s,baz=16,slow=39							
FINES	**FINESS Array B**	**65.06**	**355**	P	**P**	**17 55 12.4**	**+0.2**
4.0nm,1.0s,baz=352,slow=7.7,SNR=3.5							
MKAR	**Makanchi Array**	**65.39**	**316**	P	**P**	**17 55 14.7**	**0.0**
0.7nm,0.8s,baz=46,slow=6.9,SNR=6.9							
MKAR				LR	LR	18 24 53.0	
comp=Z,35nm,18.9s,baz=13,slow=37							
MKAR	**Makanchi Array**	**65.39**	**316**	P	**P**	**17 55 14.9**	**+0.2**
NOA	**NORSAR Array B**	**65.66**	**3**	P	**P**	**17 55 15.2**	**-1.0**
0.8nm,0.8s,baz=294,slow=12,SNR=2.6							
AKASG	**Malin Array Be**	**75.53**	**352**	P	**P**	**17 56 15.9**	**-0.5**
1.1nm,0.4s,baz=6.8,slow=5.3,SNR=2.2							
CMAR	**Chiang Mai Arr**	**79.63**	**287**	P	**P**	**17 56 40.7**	**+0.8**
0.8nm,0.9s,baz=20,slow=6.4,SNR=6.4							
CMAR	**Chiang Mai Arr**	**79.63**	**287**	P	**P**	**17 56 40.1**	**+0.3**
BRTR	**Keskin Array B**	**85.87**	**347**	P	**P**	**17 57 13.5**	**+1.4**
1.1nm,0.8s,baz=39,slow=6.3,SNR=3.5							
BRTR	**Keskin Array B**	**85.87**	**347**	P	**P**	**17 57 12.7**	**+0.5**

*ISK **04** 17:54:00.2, 37°.69N×43°.56E, h24km, ML2.4/5*
*DDA **04** 17:54:01.0, 37°.64N×43°.36E, h7km±2km, ML2.9*
*ISN **04** 17:54:05.6±0.5, 37°.33N×43°.48E, h0km±2km, ML2.6*
ISC 04 17:54:00.5±1.2, 37°.68N±0°.03×43°.42E±0°.03, h14km±11km, n22, σ0§92/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.26**	**118**	*i* P	**Pb**	**17 54 07.6**	**+0.5**
HAKT				*i* S	**Sb**	**17 54 13.3**	**+1.7**
CUKT	**Cukurca**	**0.46**	**160**	*i* P	**Pb**	**17 54 10.1**	**-0.3**
CUKT				*i* S	**Sb**	**17 54 16.4**	**-0.8**
CUKT	**Cukurca**	**0.46**	**160**	PG	**Pb**	**17 54 09.9**	**-0.5**
CUKT				SG	**Sb**	**17 54 17.1**	**0.0**
BASK	**Baskale_VAN**	**0.60**	**51**	*i* P	**Pn**	**17 54 14.3**	**-0.5**
BASK				IAML_P			
comp=Z,2μm,0.1s							
GEVA	**Gevas**	**0.69**	**336**	*i* P	**Pn**	**17 54 15.5**	**-0.6**
GEVA				*i* S	**Sb**	**17 54 24.4**	**+0.4**
GEVA				IAML_P			
comp=Z,1μm,0.1s							
YOVA	**Hakkari_Yksek**	**0.70**	**97**	*i* P	**Pn**	**17 54 15.7**	**-0.5**
YOVA				*i* S	**Sn**	**17 54 26.4**	**-0.5**
YOVA				IAML_P			
comp=Z,2μm,0.2s							
AKDM	**Akdamar-Van**	**0.73**	**332**	PG	**Pn**	**17 54 16.1**	**-0.5**
AKDM				SG	**Sn**	**17 54 27.7**	**0.0**
SIRN	**Sırnak**	**0.82**	**257**	*i* P	**Pg**	**17 54 16.3**	**-0.1**
SIRN				*i* S	**Sg**	**17 54 25.4**	**-1.8**
TVAN	**Van**	**0.85**	**360**	*i* P	**Pn**	**17 54 19.1**	**+0.9**
VANB	**Van**	**0.91**	**359**	PG	**Pb**	**17 54 16.7**	**-1.5**
SRTM	**Siirt_Merkez**	**1.22**	**285**	*i* P	**Pg**	**17 54 24.1**	**0.0**
SRTM				*i* S	**Sg**	**17 54 41.1**	**+1.0**
SRTM				IAML_P			
comp=Z,1μm,0.2s							
BLIS	**Bitlis-Merkez**	**1.26**	**306**	*i* P	**

FIA0 FINESS Array S 6.02 157 Pn **Pn 18 05 35.4 +2.6**
baz=346,slow=16
FIA0 Sn **Sn 18 06 42.5 +0.2**
baz=345,slow=22
FIA0 FINESS Array S 6.02 157 Pn **Pn 18 05 35.4 +2.6**
baz=346,slow=16
FIA0 Sn **Sn 18 06 42.5 +0.2**
baz=345,slow=22
FINES FINESS Array B 6.02 157 Pn **Pn 18 05 34.6 +1.8**
comp=Z,0.2nm,0.3s,baz=347,slow=14,SNR=13
FINES Sn **Sn 18 06 43.0 +0.7**
comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=3.9
FINES Lg Lg 18 07 12.2
comp=Z,0.4nm,0.3s,baz=339,slow=28,SNR=4.1
NB2 NORSAR Subarra 7.41 220 Pn **Pn 18 05 53.0 +1.0**
baz=28,slow=14
NB2 NORSAR Subarra 7.41 220 Pn **Pn 18 05 53.0 +1.0**
baz=28,slow=14
NOA NORSAR Array B 7.41 220 Pn **Pn 18 05 52.2 +0.2**
comp=Z,0.0nm,0.3s,baz=27,slow=11,SNR=4.5
NRA0 NORESS Array S 7.59 218 Pn **Pn 18 05 54.6 +0.2**
baz=33,slow=12
NRA0 Sn **Sn 18 07 19.6 -1.4**
baz=23,slow=28
NRA0 Lg Lg 18 08 01.0
baz=28,slow=28
NRA0 NORESS Array S 7.59 218 Pn **Pn 18 05 54.6 +0.2**
baz=33,slow=12
NRA0 Sn **Sn 18 07 19.6 -1.4**
baz=23,slow=28
HFS Hagfors 7.67 209 Pn **Pn 18 05 55.0 -0.5**
baz=25,slow=12
HFS Hagfors 7.67 209 Pn **Pn 18 05 55.0 -0.5**
comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=8.4
HFS Hagfors 7.67 209 Pn **Pn 18 05 55.0 -0.5**
baz=25,slow=12

*IDC **04** 18:06:51.4±1.2, 36°.84N×143°.75E, h0km, mb3.6/3, mb1 4.0/7, mb1mx3.5/53, mbtmp3.9/7, ML2.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/44, Error ellipse: s-maj=36.0km s-min=23.1km az=89.0*
*ISCJB **04** 18:06:55.8±0.8, 37°.03N±0°.04×143°.47E±0°.06, h33km, mb3.8/3, Error ellipse: s-maj=6.7km s-min=5.3km az=178.6*
*JMA **04** 18:06:58.0±0.2, 37°.07N×143°.35E, h59km, M4.0*
ISC 04 18:06:54.7±0.9, 36°.95N±0°.05×143°.66E±0°.08, h35km, n23, σ2°.26/38, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.21**	**308**	P	**Pn**	**18 07 29.3**	**+0.5**
JIKH				S	**Sn**	**18 07 52.3**	**-2.5**
JFK	**Kawauchi**	**2.27**	**281**	P	**Pn**	**18 07 30.0**	**+0.4**
JFK				S	**Sn**	**18 07 53.9**	**-2.4**
ONAJ	**Iwakimizuishiy**	**2.30**	**275**	P	**Pn**	**18 07 30.9**	**+0.8**
JMST	**Minamisoumatoc**	**2.34**	**290**	P	**Pn**	**18 07 31.0**	**+0.4**
JMST				S	**Sn**	**18 07 55.8**	**-2.3**
JIO	**Ouri**	**2.37**	**310**	P	**Pn**	**18 07 31.7**	**+0.7**
JIO				S	**Sn**	**18 07 56.4**	**-2.4**
JMM	**Marumori**	**2.46**	**293**	P	**Pn**	**18 07 32.9**	**+0.7**
JMM				S	**Sn**	**18 07 58.6**	**-2.5**
JFT	**Otama**	**2.71**	**283**	P	**Pn**	**18 07 37.2**	**+1.4**
JFT				S	**Sn**	**18 08 06.0**	**-1.4**
JMK	**Ichinoseki**	**2.78**	**317**	P	**Pn**	**18 07 37.3**	**+0.7**
JMK				S	**Sn**	**18 08 07.0**	**-1.9**
JOM	**Ohasama**	**3.13**	**324**	P	**Pn**	**18 07 42.6**	**+1.1**
JOM				S	**Sn**	**18 08 15.9**	**-1.8**
BSO1	**Boso 1**	**3.17**	**224**	P	**Pn**	**18 07 43.5**	**+2.0**
BSO1				S	**Sn**	**18 08 19.8**	**+2.0**
JYK	**Kaneyama**	**3.27**	**308**	P	**Pn**	**18 07 44.6**	**+1.3**
JYK				eS	**Sn**	**18 08 19.8**	**-1.2**
JAG	**Ashikaga**	**3.42**	**262**	P	**Pn**	**18 07 46.8**	**+1.3**
JAG				S	**Sn**	**18 08 22.1**	**-2.8**
JANG	**Nango**	**3.81**	**334**	P	**Pn**	**18 07 51.4**	**+0.6**
JANG				S	**Sn**	**18 08 31.1**	**-3.2**
JRY	**Ryogami san**	**3.95**	**258**	P	**Pn**	**18 07 53.8**	**+1.0**
JRY				S	**Sn**	**18 08 34.8**	**-3.1**
JOD2	**Odawara 2**	**4.07**	**247**	P	**Pn**	**18 07 56.7**	**+2.3**
MJAR	**Matsushiro Arr**	**4.40**	**266**	Pn	**Pn**	**18 08 01.0**	**+2.1**
	0.2nm,0.3s,baz=90,slow=13,SNR=7.1						
MJAR				Sn	**Sn**	**18 08 48.9**	**-0.1**
	0.2nm,0.3s,baz=187,slow=18,SNR=3.4						
ASAJ	**Asahikawa**	**7.20**	**354**	Pn	**Pn**	**18 08 38.8**	**+1.4**
	9.6nm,0.3s,baz=202,slow=13,SNR=89						
ASAJ				Sn	**Sn**	**18 09 56.1**	**-1.7**
	0.2nm,0.3s,baz=165,slow=20,SNR=2.0						
JCJ	**Chichijima**	**9.91**	**188**	Pn	**Pn**	**18 09 13.4**	**-1.2**
	8.8nm,0.3s,baz=280,slow=22,SNR=16						
JCJ				Sn	**Sn**	**18 10 56.6**	**-8.0**
	4.5nm,0.3s,baz=294,slow=19,SNR=4.2						
USRK	**Ussuriysk Ar.**	**11.45**	**313**	Pn	**Pn**	**18 09 37.4**	**+1.9**
	baz=121,slow=14,SNR=4.9						
KLR	**Kul'dur**	**15.02**	**329**	LR	LR	18 16 52.6	
	comp=Z,27nm,21.1s,baz=74,slow=40						
WRA	**Warramunga Arr**	**57.27**	**190**	P	**P**	**18 16 39.9**	**+1.1**
	0.7nm,0.5s,baz=7.7,slow=7.0,SNR=7.4						
ASAR	**Alice Springs**	**60.99**	**190**	P	**P**	**18 17 05.9**	**+1.3**
	0.4nm,0.6s,baz=3.6,slow=7.3,SNR=9.7						
TXAR	**Lajitas Array**	**88.73**	**54**	P	**P**	**18 19 47.7**	**+2.8**
	0.2nm,0.7s,baz=299,slow=1.9,SNR=3.2						

*NIED **04** 18:21:00, 37°.10N×144°.40E, h5km, Mw3.6 Best double couple: M0=2.70000×10^14 NP1:φs=175.00000°, δ=20.00000°, λ=-147.00000°. NP2:φs=54.00000°, δ=79.00000°, λ=-73.00000°.*
*IDC **04** 18:21:07.4±1.6, 36°.89N×144°.86E, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.5/46, mbtmp3.8/7, ML3.5/4, MS2.9/2, Ms1 2.9/2, ms1mx2.2/42, Error ellipse: s-maj=34.3km s-min=25.5km az=122.0*
*ISCJB **04** 18:21:10.6±0.8, 37°.11N±0°.05×144°.55E±0°.05, h26km, mb3.5/3, MS3.2/1, Error ellipse: s-maj=7.8km s-min=5.6km az=155.1*
*JMA **04** 18:21:13.8±0.2, 37°.11N×144°.41E, h56km, M4.5*
ISC 04 18:21:11.4±1.2, 37°.09N±0°.07×144°.62E±0°.08, h26km, n32, σ2°.37/40, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.78**	**297**	P	**Pn**	**18 21 55.0**	**+0.8**
JIKH				S	**Sn**	**18 22 25.8**	**-1.2**
JIO	**Ouri**	**2.93**	**299**	P	**Pn**	**18 21 57.1**	**+0.9**
JIO				eS	**Sn**	**18 22 29.7**	**-0.8**
JFK	**Kawauchi**	**3.00**	**276**	P	**Pn**	**18 21 57.7**	**+0.4**
JFK				eS	**Sn**	**18 22 30.8**	**-1.7**
JKMT	**Kesennumamotoy**	**3.02**	**306**	P	**Pn**	**18 21 58.2**	**+0.7**
JKMT				S	**Sn**	**18 22 31.3**	**-1.6**
JMST	**Minamisoumatoc**	**3.04**	**283**	P	**Pn**	**18 21 58.1**	**+0.4**
JMST				eS	**Sn**	**18 22 31.7**	**-1.6**
ONAJ	**Iwakimizuishiy**	**3.06**	**271**	P	**Pn**	**18 21 58.4**	**+0.3**
ONAJ				S	**Sn**	**18 22 31.5**	**-2.3**
JMK	**Ichinoseki**	**3.27**	**306**	P	**Pn**	**18 22 01.9**	**+1.1**
JMK				eS	**Sn**	**18 22 38.0**	**-0.9**
JFT	**Otama**	**3.44**	**278**	P	**Pn**	**18 22 04.8**	**+1.5**
JFT				eS	**Sn**	**18 22 43.0**	**-0.3**
JRY	**Ryogami san**	**4.73**	**259**	P	**Pn**	**18 22 21.2**	**+0.2**
JRY				eS	**Sn**	**18 23 11.8**	**-3.2**
JOD2	**Odawara 2**	**4.84**	**249**	P	**Pn**	**18 22 23.6**	**+1.1**
JOD2				eS	**Sn**	**18 23 14.3**	**-3.3**
JOT	**Ohata**	**5.10**	**328**	P	**Pn**	**18 22 28.3**	**+2.2**
MJAR	**Matsushiro Arr**	**5.18**	**266**	Pn	**Pn**	**18 22 28.8**	**+1.6**
	0.6nm,0.3s,baz=88,slow=14,SNR=31						
MJAR				Sn	**Sn**	**18 23 25.7**	**-0.3**
	0.2nm,0.3s,baz=82,slow=18,SNR=4.6						
MAT	**Matsushiro**	**5.18**	**266**	P	**Pn**	**18 22 28.8**	**+1.6**
MAT				S	**Sn**	**18 23 26.3**	**+0.2**
JCH	**Churui**	**5.60**	**350**	P	**Pn**	**18 22 32.9**	**0.0**
JCH				S	**Sn**	**18 23 33.6**	**-2.8**
JHJ	**Hachijo jima 2**	**5.61**	**226**	Pn	**Pn**	**18 22 32.1**	**-0.9**
	6.0nm,0.3s,baz=71,slow=15,SNR=2.2						
JHJ				Sn	**Sn**	**18 23 30.5**	**-6.1**
	20nm,0.3s,baz=39,slow=14,SNR=3.9						
NEM2	**Nemuro 2**	**6.32**	**7**	P	**Pn**	**18 22 41.2**	**-1.6**
NEM2				eS	**Sn**	**18 23 47.4**	**-6.8**
JTKR	**Abashiri--Toko**	**6.89**	**356**	P	**Pn**	**18 22 50.7**	**+0.1**
JTKR				eS	**Sn**	**18 24 02.9**	**-5.3**
JHR	**Hokuryu**	**7.00**	**342**	P	**Pn**	**18 22 54.2**	**+2.1**
ASAJ	**Asahikawa**	**7.18**	**348**	Pn	**Pn**	**18 22 55.7**	**+1.0**
	1.5nm,0.3s,baz=212,slow=12,SNR=24						
ASAJ				Sn	**Sn**	**18 24 12.8**	**-2.5**
	0.7nm,0.3s,baz=197,slow=24,SNR=4.4						
JCJ	**Chichijima**	**10.18**	**192**	Sn	Sn	18 25 14.2	-15
	2.4nm,0.3s,baz=103,slow=23,SNR=3.0						
KSRS	**Korea Array**	**13.31**	**277**	Pn	**Pn**	**18 24 22.3**	**+3.7**
	0.1nm,0.3s,baz=85,slow=15,SNR=3.4						
KLR	**Kul'dur**	**15.31**	**326**	LR	LR	18 30 08.2	
	comp=Z,24nm,19.1s,baz=74,slow=35						
H11N2	**WAKE ISLAND Hy 26.03**	**126**		T	T	18 53 28.2	
	baz=317,slow=74,SNR=125						
H11N1	**WAKE ISLAND Hy 26.04**	**126**		T	T	18 53 32.1	
	baz=317,slow=74,SNR=70						
H11N3	**WAKE ISLAND Hy 26.05**	**126**		T	T	18 53 28.8	
	baz=317,slow=74,SNR=110						
H11S1	**WAKE ISLAND Hy 26.80**	**128**		T	T	18 54 32.2	
	baz=318,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy 26.80**	**128**		T	T	18 54 32.4	
	baz=318,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy 26.81**	**128**		T	T	18 54 32.3	
	baz=318,slow=76,SNR=39						
NRIK	**Noril'sk**	**44.30**	**335**	LR	LR	18 49 00.1	
	comp=Z,24nm,18.2s,baz=6.0,slow=38						
MKAR	**Makanchi Array**	**46.26**	**303**	P	**P**	**18 29 36.0**	**+1.6**
	0.5nm,0.7s,baz=79,slow=7.7,SNR=5.8						
ILAR	**Eielson Array**	**48.07**	**32**	P	**P**	**18 29 49.3**	**+1.1**
	0.5nm,0.8s,baz=250,slow=6.4,SNR=4.4						
WRA	**Warramunga Arr**	**57.55**	**191**	P	**P**	**18 30 57.3**	**-1.4**
	0.5nm,1.1s,baz=12,slow=7.1,SNR=2.5						

IDC 04 18:28:24.6±2.6, 8°.27S×103°.81E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=72.4km s-min=27.1km az=42.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**4.04**	**70**	Pn	Pn	18 29 28.0	+0.1
	3.9nm,0.3s,baz=291,slow=10,SNR=6.0						
LEM				Sn	Sn	18 30 07.5	-8.6
	2.6nm,0.3s,baz=258,slow=20,SNR=3.4						
CMAR	**Chiang Mai Arr**	**26.98**	**350**	P	P	18 34 08.3	0.0
	0.6nm,0.8s,baz=183,slow=9.0,SNR=7.9						
WRA	**Warramunga Arr**	**31.74**	**115**	P	P	18 34 50.7	-0.1
	0.3nm,0.6s,baz=292,slow=9.8,SNR=5.3						
MKAR	**Makanchi Array**	**58.07**	**343**	P	P	18 38 19.6	-0.1
	0.3nm,0.8s,baz=174,slow=8.0,SNR=3.1						

*ISCJB **04** 18:35:32.9±0.5, 41°.79N±0°.01×87°.84W±0°.02, h4km±3km, Error ellipse: s-maj=2.5km s-min=2.2km az=169.8*
*ANF **04** 18:35:33.9±0.2, 41°.81N×87°.85W, h4km±1km, ML4.0/65, Error ellipse: s-maj=1.4km s-min=1.1km az=95.0*
*NEIC **04** 18:35:33.7±1.4, 41°.79N±0°.03×87°.84W±0°.04, h0km±7km*
*NEIC **04** 18:35:33.7±1.0, 41°.80N±0°.03×87°.83W±0°.03, h1km±2km, mb_Lg3.2/101*
ISC 04 18:35:33.3±1.1, 41°.81N±0°.02×87°.83W±0°.02, h4km±9km, n160, σ1°.57/163, Illinois

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L44A	**Lake County Fo**	**0.37**	**350**	P	**Pg**	**18 35 40.9**	**+0.5**
	baz=170,SNR=6.1						
L44A				S	**Sg**	**18 35 46.9**	**+1.7**
	baz=170						
L44A	**Lake County Fo**	**0.37**	**350**	Pg	**Pb**	**18 35 41.8**	**-0.7**
M44A	**Midewin, Midew**	**0.46**	**201**	P	**Pg**	**18 35 42.3**	**+0.2**
	baz=21						
M44A				S	**Sg**	**18 35 48.3**	**+0.4**
	baz=21						
M44A	**Midewin, Midew**	**0.46**	**201**		**Pg**	**18 35 42.2**	**+0.2**
M44A				Sg	**Sg**	**18 35 48.2**	**+0.4**
K43A	**Burlington**	**0.97**	**337**	P	**Pb**	**18 35 52.6**	**0.0**
	baz=157,SNR=22						
K43A				S	**Sg**	**18 36 05.0**	**+0.7**
	baz=157						
K43A	**Burlington**	**0.97**	**337**		**Pb**	**18 35 52.5**	**-0.1**
L46A	**Eue Claire**	**1.16**	**80**	P	**Pb**	**18 35 55.8**	**-0.1**
	baz=260,SNR=7.8						
L46A				S	**Sn**	**18 36 12.1**	**-0.5**
	baz=260						
L46A	**Eue Claire**	**1.16**	**80**		**Pb**	**18 35 55.1**	**-0.8**
SFIN	**Lafayette**	**1.54**	**159**	P	**Pb**	**18 36 02.2**	**0.0**
	baz=339,SNR=23						
SFIN				S	**Sg**	**18 36 22.1**	**-0.4**
	baz=339						
SFIN	**Lafayette**	**1.54**	**159**		**Pb**	**18 36 02.3**	**0.0**
HDIL	**Hopedale**	**1.68**	**222**	P	**Pb**	**18 36 03.6**	**-1.1**
	baz=41						
HDIL				S	**Sg**	**18 36 26.4**	**-0.7**
	baz=41						
HDIL	**Hopedale**	**1.68**	**222**		**Pb**	**18 36 03.8**	**-0.9**
M47A	**Cromwell**	**1.71**	**105**	P	**Pb**	**18 36 04.6**	**-0.8**
	baz=286						
M47A				S	**Sg**	**18 36 28.4**	**+0.1**
	baz=286						
O44A	**Mansfield**	**1.73**	**197**	P	**Pb**	**18 36 04.8**	**-0.8**
	baz=16,SNR=28						
O44A				S	**Sg**	**18 36 27.8**	**-1.0**
	baz=16						
O44A	**Mansfield**	**1.73**	**197**		**Pb**	**18 36 04.6**	**-1.0**
K46A	**Dorr**	**1.75**	**59**	Pb	**Pb**	**18 36 06.2**	**+0.3**
	baz=240						
K46A				Sb	**Sg**	**18 36 30.4**	**+0.9**
	baz=240						
N47A	**Urbana**	**1.86**	**119**	Pb	**Pb**	**18 36 08.0**	**+0.2**
	baz=301,SNR=5.8						
N47A				Sb	**Sg**	**18 36 33.9**	**+1.0**
	baz=301						
N47A	**Urbana**	**1.86**	**119**		**Pb**	**18 36 07.5**	**-0.3**
J45A	**Montague**	**1.94**	**33**	Pb	**Pb**	**18 36 09.8**	**+0.6**
	baz=213						
J45A				S	**Sb**	**18 36 34.2**	**+0.5**
	baz=213						
J45A	**Montague**	**1.94**	**33**	Pn	**Pn**	**18 36 07.7**	**+0.7**
JFWS	**Jewell Farm**	**2.10**	**302**	P	**Pn**	**18 36 10.0**	**+0.7**
	baz=121						
JFWS				S	**Sb**	**18 36 37.5**	**-1.1**
	baz=121						
JFWS	**Jewell Farm**	**2.10**	**302**		**Pn**	**18 36 10.2**	**+0.9**
JFWS				Sn	**Sn**	**18 36 36.4**	**+0.4**
J46A	**Howard City**	**2.22**	**46**	Sb	**Sg**	**18 36 44.8**	**+0.1**
	baz=227						
I42A	**Draeger Farm,**	**2.23**	**339**	S	**Sn**	**18 36 39.6**	**+0.7**
	baz=159						
I42A	**Draeger Farm,**	**2.23**	**339**		**Pn**	**18 36 12.1**	**+1.1**
I42A				Sn	**Sn**	**18 36 39.5**	**+0.5**
P46A	**Rosedale**	**2.24**	**168**	P	**Pn**	**18 36 12.2**	**+1.0**
	baz=348						
K47A	**Vermontville**	**2.27**	**67**	S	**Sb**	**18 36 41.6**	**-1.6**
	baz=248						
N48A	**Decatur**	**2.31**	**113**	P	**Pn**	**18 36 13.1**	**+1.0**
	baz=295						
N48A				S	**Sb**	**18 36 43.8**	**-0.7**
	baz=295						
M48A	**Edgerton**	**2.35**	**97**	P	**Pn**	**18 36 13.9**	**+1.2**
	baz=279						
M48A				Sb	**Sg**	**18 36 47.9**	**-0.9**
	baz=279						
M48A	**Edgerton**	**2.35**	**97**		**Pn**	**18 36 13.5**	**+0.8**
I45A	**Fountain**	**2.51**	**27**	S	**Sb**	**18 36 48.0**	**-2.2**
	baz=208						
P43A	**Skaggs, Pawnee**	**2.52**	**211**	P	**Pn**	**18 36 15.9**	**+0.8**
	baz=30,SNR=13						
P43A				S	**Sb**	**18 36 47.5**	**-3.1**
	baz=30						
P43A	**Skaggs, Pawnee**	**2.52**	**211**		**Pn**	**18 36 15.1**	**0.0**
P43A				IAmb_Lg		18 36 57.2	
	comp=Z,76nm,0.9s						
L48A	**N Adams**	**2.54**	**86**	Pb	**Pb**	**18 36 20.7**	**+1.3**
	baz=268						
L48A				S	**Sb**	**18 36 49.3**	**-1.7**
	baz=268						
N41A	**Harden Midland**	**2.54**	**245**	P	**Pn**	**18 36 16.4**	**+1.2**
	baz=63						
N41A				Sb	**Sb**	**18 36 52.1**	**+1.1**
	baz=63						
N41A	**Harden Midland**	**2.54**	**245**		**Pn**	**18 36 15.7**	**+0.5**
L40A	**Anamosa**	**2.55**	**277**	Pb	**Pb**	**18 36 19.2**	**-0.3**
	baz=95						
L40A				Sb	**Sb**	**18 36 52.7**	**+1.5**
	baz=95						
L40A	**Anamosa**	**2.55**	**277**		**Pn**	**18 36 15.8**	**+0.4**
J47A	**Sunmer**	**2.64**	**56**	S	**Sb**	**18 36 51.4**	**-2.5**
	baz=238						
J47A	**Sunmer**	**2.64**	**56**		**Pn**	**18 36 17.2**	**+0.5**
H43A	**Windswept, Lux**	**2.66**	**1**	S	**Sn**	**18 36 50.7**	**+1.2**
	baz=181						
H43A	**Windswept, Lux**	**2.66**	**1**	Pn	**Pn**	**18 36 17.9**	**+1.0**
H43A				IAmb_Lg		18 37 05.4	
	comp=Z,106nm,0.8s						
I41A	**Arkdale**	**2.70**	**327**		**Pn**	**18 36 18.1**	**+0.6**
I46A	**Reed City**	**2.75**	**39**	Sb	**Sg**	**18 37 00.3**	**-1.4**
	baz=220						
BLO	**Bloomington**	**2.82**	**159**		**Pn**	**18 36 19.8**	**+0.6**
N49A	**Columbus Grove**	**2.88**	**107**	P	**Pn**	**18 36 21.4**	**+1.4**
	baz=289						
N49A				S	**Sn**	**18 36 56.7**	**+1.5**
	baz=289						
N49A	**Columbus Grove**	**2.88**	**107**		**Pn**	**18 36 21.6**	**+1.6**
N49A				IAmb_Lg		18 37 04.0	
	comp=Z,58nm,0.8s						
P48A	**Milroy**	**2.98**	**141**	S	**Sn**	**18 36 59.1**	**+1.7**
	baz=323						
P48A	**Milroy**	**2.98**	**141**		**Pn**	**18 36 22.5**	**+1.2**
L49A	**Milan**	**3.04**	**83**	Sb	**Sg**	**18 37 09.8**	**-1.2**
	baz=266						
OLIL	**Olney**	**3.08**	**184**		**Pn**	**18 36 23.9**	**+1.2**
O49A	**Covington**	**3.10**	**120**	S	**Sn**	**18 37 02.6**	**+2.0**
	baz=303						
O49A	**Covington**	**3.10**	**120**		**Pn**	**18 36 24.6**	**+1.6**
O49A				IAmb_Lg		18 37 17.6	
	comp=Z,76nm,0.7s						
AAM	**Ann Arbor**	**3.14**	**80**	S	**Sn**	**18 37 04.0**	**+2.5**
	baz=262						
AAM	**Ann Arbor**	**3.14**	**80**		**Pg**	**18 36 33.4**	**0.0**
AAM					**Sg**	**18 37 14.2**	**0.0**
P49A	**Miami Univ. Ec**	**3.28**	**133**	S	**Sn**	**18 37 06.7**	**+1.6**
	baz=315						
I47A	**Gladwin**	**3.29**	**47**	Sb	**Sg**	**18 37 16.8**	**-2.0**
	baz=229						
I47A	**Gladwin**	**3.29**	**47**		**Pn**	**18 36 26.5**	**+1.0**
I47A				IAmb_Lg		18 37 26.6	
	comp=Z,72nm,1.1s						
Q48A	**North Vernon**	**3.29**	**150**	S	**Sn**	**18 37 07.6**	**+2.3**
	baz=332						
J48A	**Bridge Port**	**3.33**	**62**	S	**Sn**	**18 37 08.5**	**+2.2**
	baz=245						
Q49A	**Aurora**	**3.59**	**140**	P	**Pn**	**18 36 31.8**	**+2.1**
	baz=322						
Q49A				S	**Sn**	**18 37 13.8**	**+1.3**
	baz=322						
G45A	**Suttons Bay**	**3.59**	**25**	Sb	**Sg**	**18 37 26.4**	**-2.2**
	baz=207						
G45A	**Suttons Bay**	**3.59**	**25**	Pn	**Pn**	**18 36 31.8**	**+2.0**
O50A	**Cable**	**3.59**	**116**	S	**Sn**	**18 37 14.0**	**+1.4**
	baz=299						
M50A	**Fremont**	**3.61**	**95**	Pg	**Pb**	**18 36 39.3**	**+1.6**
N50A	**Nevada**	**3.67**	**105**	S	**Sn**	**18 37 16.9**	**+2.2**
	baz=288						
WCI	**Wyandotte Cave**	**3.77**	**161**		**Pn**	**18 36 32.4**	**+0.2**
P50A	**Jamestown**	**3.77**	**124**	P	**Pn**	**18 36 33.7**	**+1.5**
	baz=307						
P50A				S	**Sn**	**18 37 18.1**	**+1.0**
	baz=307						
GLMI	**Grayling**	**3.81**	**37**	IAmb_Lg		18 37 46.3	
	comp=Z,80nm,0.9s						
G40A	**Rib Lake**	**3.86**	**334**	IAmb_Lg		18 37 36.1	
	comp=Z,53nm,0.9s						
F42A	**Maple Grove Fa**	**3.95**	**357**	S	**Sn**	**18 37 23.2**	**+1.7**
	baz=177						
F42A	**Maple Grove Fa**	**3.95**	**357**		**Sn**	**18 37 21.6**	**+0.2**
K50A	**Casco**	**3.98**	**74**	S	**Sn**	**18 37 23.4**	**+1.3**
	baz=258						
K50A	**Casco**	**3.98**	**74**	IAmb_Lg		18 37 46.7	
	comp=Z,61nm,0.9s						
ACSO	**Alum Creek Sta**	**3.99**	**112**	S	**Sn**	**18 37 24.1**	**+1.6**
	baz=295						
ACSO	**Alum Creek Sta**	**3.99**	**112**	Pg	**Pb**	**18 36 46.9**	**+2.7**
ACSO					**Sn**	**18 37 20.9**	**-1.6**
ACSO				IAmb_Lg		18 37 40.3	
	comp=Z,80nm,0.9s						
SCIA	**State Center**	**4.03**	**273**		**Pb**	**18 36 46.0**	**+1.2**
Q50A	**Georgetown**	**4.18**	**134**	S	**Sn**	**18 37 27.7**	**+0.7**
	baz=316						
N51A	**Ashland**	**4.20**	**100**	S	**Sn**	**18 37 30.1**	**+2.5**
	baz=284						
N51A	**Ashland**	**4.20**	**100**	Pn	**Pn**	**18 36 38.6**	**+0.5**
S44A	**Carbondale**	**4.26**	**195**	Sb	**Sb**	**18 37 44.7**	**+4.1**
	baz=14						
M51A	**Elyria**	**4.26**	**95**	S	**Sn**	**18 37 31.3**	**+2.2**
	baz=278						
O51A	**Pataskala**	**4.29**	**111**	S	**Sn**	**18 37 31.4**	**+1.6**
	baz=294						
P51A	**Williamsport**	**4.31**	**121**	S	**Sn**	**18 37 31.2**	**+0.9**
	baz=304						
P51A	**Williamsport**	**4.31**	**121**		**Sn**	**18 37 30.6**	**+0.2**
P51A				IAmb_Lg		18 37 51.4	
	comp=Z,71nm,1.1s						
COWI	**Conover**	**4.39**	**348**	Pn	**Pn**	**18 36 40.2**	**-0.6**
COWI					**Sn**	**18 37 31.5**	**-0.8**
COWI				IAmb_Lg		18 37 54.0	
	comp=Z,40nm,0.8s						
Q51A	**Peebles**	**4.41**	**128**	S	**Sn**	**18 37 34.3**	**+1.4**
	baz=311						
Q51A	**Peebles**	**4.41**	**128**	Pn	**Pn**	**18 36 42.8**	**+1.8**
Q51A					**Sn**	**18 37 33.2**	**+0.4**
Q51A				IAmb_Lg		18 37 53.3	
	comp=Z,67nm,0.8s						
G47A	**Hillman**	**4.43**	**39**	S	**Sn**	**18 37 34.4**	**+1.1**
	baz=222						
R50A	**Paris**	**4.43**	**142**	S	**Sn**	**18 37 34.5**	**+1.1**
	baz=324						
R50A	**Paris**	**4.43**	**142**	Pn	**Pn**	**18 36 42.5**	**+1.1**
R50A					**Sn**	**18 37 34.1**	**+0.7**
S49A	**Springfield**	**4.47**	**153**	S	**Sn**	**18 37 36.1**	**+1.7**
	baz=335						
CCM	**Cathedral Cave**	**4.58**	**216**		**Pn**	**18 36 43.6**	**+0.3**
E43A	**Lone Tree Farm**	**4.60**	**7**	S	**Sn**	**18 37 36.8**	**-0.7**
	baz=188						
E43A	**Lone Tree Farm**	**4.60**	**7**	Pn	**Pn**	**18 36 44.7**	**+1.1**
E43A				IAmb_Lg		18 37 59.4	
	comp=Z,42nm,0.8s						
R51A	**Hillsboro**	**4.79**	**136**	S	**Sn**	**18 37 42.9**	**+0.8**
	baz=318						
O52A	**Adamsville**	**4.84**	**109**	Sb	**Sb**	**18 38 02.4**	**+5.2**
	baz=292						
O52A	**Adamsville**	**4.84**	**109**	Pn	**Pn**	**18 36 46.7**	**-0.3**
P52A	**Corning**	**4.84**	**115**	S

MGMO	Mountain Grove	5.78	218		Pn	18 36 59.0	-0.9
ERPA	Erie	5.85	84	IAmb_Lg		18 38 42.1	
	comp=Z,52nm,0.8s						
T52A	Hallie	6.01	140	IAmb_Lg		18 38 50.5	
	comp=Z,44nm,0.8s						
Q54A	Coxs Mills	6.04	116	IAmb_Lg		18 38 56.1	
	comp=Z,28nm,0.7s						
V48A	Smith Brothers	6.12	172	IAmb_Lg		18 38 50.6	
	comp=Z,28nm,1.1s						
M54A	Oil Creek Stat	6.12	90	Pn	Pn	18 37 03.7	-0.9
M54A				IAmb_Lg		18 38 48.4	
	comp=Z,25nm,0.7s						
TZTN	Tazewell	6.22	146	IAmb_Lg		18 38 56.5	
	comp=Z,34nm,0.8s						
LCAR	Lake Charles	6.29	205	IAmb_Lg		18 38 56.3	
	comp=Z,26nm,1.1s						
S54A	Dingess, Beckl	6.42	127	IAmb_Lg		18 38 59.5	
	comp=Z,26nm,0.9s						
MCWV	Mont Chateau	6.43	107		Pn	18 37 09.5	+0.7
MCWV				IAmb_Lg		18 38 59.8	
	comp=Z,38nm,1.2s						
V51A	Loudon	6.58	155	Pn	Pn	18 37 11.7	+0.8
V51A					Sn	18 38 25.0	-1.4
V51A				IAmb_Lg		18 39 06.3	
	comp=Z,25nm,1.1s						
U40A	Yellville	6.71	217	Pn	Pn	18 37 12.6	0.0
N55A	Marion Center	6.74	96	IAmb_Lg		18 39 13.3	
	comp=Z,22nm,0.8s						
ECSD	EROS Data Cent	6.75	289	Pn	Pn	18 37 12.1	-1.0
ECSD					Sn	18 38 26.6	-3.8
M55A	Ridgway	6.80	90	Pn	Pn	18 37 13.9	0.0
FCAR	Ozark Folk Cen	6.80	211	Pn	Pn	18 37 12.7	-1.1
PLAL	Pickwick Lake	6.82	182	Pn	Pn	18 37 13.6	-0.5
CPCT	Cooper Cave	6.86	157	Pn	Pn	18 37 14.9	+0.2
CPCT				IAmb_Lg		18 39 17.9	
	comp=Z,22nm,0.9s						
W50A	Signal Mountai	6.89	163		Sg	18 39 09.8	-4.7
W50A				IAmb_Lg		18 39 15.8	
	comp=Z,32nm,0.8s						
U54A	Nelsons Funny	7.05	137		Sn	18 38 36.6	-1.3
U54A				IAmb_Lg		18 39 22.0	
	comp=Z,31nm,0.7s						
MEDO	Medina	7.06	76		Pn	18 37 18.4	+1.0
MEDO				IAmb_Lg		18 39 24.3	
	comp=Z,33nm,0.9s						
KSU1	Kansas State U	7.22	251	IAmb_Lg		18 39 40.5	
	comp=Z,28nm,0.7s						
M56A	Emporium	7.23	89		Pn	18 37 20.0	+0.3
V53A	Saluda	7.28	146	IAmb_Lg		18 39 33.3	
	comp=Z,20nm,0.7s						
HHAR	Hobbs	7.29	223	IAmb_Lg		18 39 26.7	
	comp=Z,27nm,0.9s						
WHAR	Wooly Hollow	7.39	210	IAmb_Lg		18 39 37.6	
	comp=Z,33nm,1.1s						
MMNY	Mt. Morris Dam	7.42	80		Sg	18 39 26.7	-4.5
W41B	Gary Mavity, V	7.48	209	Pn	Pn	18 37 22.7	-0.5
W41B				IAmb_Lg		18 39 42.6	
	comp=Z,20nm,0.9s						
SSPA	Standing Stone	7.58	96	IAmb_Lg		18 39 42.1	
	comp=Z,21nm,1.1s						
X51A	Calhoun	7.60	161	IAmb_Lg		18 39 44.0	
	comp=Z,26nm,0.7s						
L56A	Greenwood	7.66	84		Sg	18 39 31.7	-7.4
BG3	Lake Jocassee	7.82	149	IAmb_Lg		18 39 46.0	
	comp=Z,18nm,1.2s						
UALR	University of	7.87	208	IAmb_Lg		18 39 55.9	
	comp=Z,19nm,0.9s						
Y49A	Blount Mountai	8.02	172	Pn	Pn	18 37 30.2	-0.4
W39A	Magazine	8.09	217	Pn	Pn	18 37 31.6	0.0
T57A	Hurt	8.19	123	Sn	Sn	18 39 02.6	-3.4
V56A	Mocksville	8.28	134	IAmb_Lg		18 39 57.7	
	comp=Z,20nm,1.1s						
Z50A	Ashland	8.68	169		Pn	18 37 42.0	+2.4
GOGA	Godfrey	9.07	156	IAmb_Lg		18 40 25.8	
	comp=Z,12nm,0.7s						
VBMS	Vicksburg	9.81	194	IAmb_Lg		18 40 43.6	
	comp=Z,17nm,0.8s						
R11A	Troy Canyon, C	21.48	270		Sn	18 44 30.1	+0.4

*ISCJB **04** 18:37:15.3±0.5, 4°.65S±0°.05×144°.09E±0°.06, h110km, mb3.8/8, Error ellipse: s-maj=9.7km s-min=5.5km az=137.6*
*NEIC **04** 18:37:15.9±1.3, 4°.67S±0°.09×144°.09E±0°.06, h92km±8km, mb4.4/10*
*DJA **04** 18:37:16.8±0.4, 5°.5S±4°.4×14°.4E±°, h99km±5km, M4.7/13, mB5.1/6, mb4.7/13, MLv4.7/6, Mw(mB)4.5/6*
*IDC **04** 18:37:16.0±1.7, 4°.61S×144°.09E, h97km±14km, mb3.8/9, mb1 3.9/13, mb1mx3.7/35, mbtmp4.2/13, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=20.0km s-min=10.4km az=54.0*

ISC 04 18:37:17.2±0.7, 4°.61S±0°.08×144°.09E±0°.09, h110km, n41, σ1=21°/42, mb3.9/11, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.97	302	P	Pn	18 38 14.9	-1.2
	12nm,0.3s,baz=182,slow=4.7,SNR=44						
JAY				S	Sn	18 39 01.3	-0.6
	6.1nm,0.3s,baz=274,slow=19,SNR=3.0						
JAY	Jayapura	3.97	302	P	Pn	18 38 14.1	-2.0
JAY				S	Sn	18 39 02.1	+0.3
MANU	Manus Island	4.15	52		Pn	18 38 17.5	-1.1
GENI	Genyem	4.39	297	P	Pn	18 38 21.5	-0.4
GENI				S	Sn	18 39 23.0	+11
PMG	Port Moresby	5.66	148	P	Pn	18 38 37.8	-1.1
	5.6nm,0.3s,baz=7.5,slow=5.0,SNR=24						
PMG				S	Sn	18 39 42.0	-0.6
	7.4nm,0.3s,baz=130,slow=23,SNR=6.3						
PMG	Port Moresby	5.66	148		Pn	18 38 37.1	-1.8
SMPI	Sarmi	5.96	296	P	Pn	18 38 42.4	-0.7
	34nm,0.7s,714nm0.2nm						
BAKI	Biak	8.66	293	P	Pn	18 39 19.4	-0.3
RKPI	Ransiki, Papua	10.36	287	P	Pn	18 39 41.1	-1.7
SIJI	Sorong	13.33	286	P	Pn	18 40 22.4	+0.2
	4.6nm,0.3s,baz=18,slow=23,SNR=26						
SWI	Sorong	13.34	286	P	Pn	18 40 22.8	+0.5
	22nm,0.6s						
CTA	Charters Tower	15.53	172	P	P	18 40 56.1	+4.0
	0.5nm,0.3s,baz=4.2,slow=14,SNR=7.4						
WB2	Warramunga Arr	17.95	211	P	P	18 41 17.7	-1.2
WRA	Warramunga Arr	17.95	211	P	P	18 41 17.7	-1.2
	1.0nm,0.3s,baz=30,slow=11,SNR=33						
WRA	Warramunga Arr	17.95	211	P	P	18 41 16.1	-2.9
KNRA	Kununurra	18.64	233	P	P	18 41 26.1	-0.4
SOEI	Soe	20.31	254	P	P	18 41 45.3	+0.5
	123nm,1.1s,1μm						
SOEI	Soe	20.31	254	P	P	18 41 44.9	+0.2
BATI	Baumata	20.99	253	P	P	18 41 52.5	+0.4
	20nm,0.5s,baz=348,slow=1.0,SNR=10						
BATI	Baumata	20.99	253	P	P	18 41 52.6	+0.6
AS31	Alice Springs	21.34	206	P	P	18 41 54.5	-1.1
AS31				IAmb	IAmb	18 42 00.9	
	comp=Z,5.1nm,0.6s						
ASAR	Alice Springs	21.34	206	P	P	18 41 54.9	-0.8
	comp=Z,1.9nm,0.6s,baz=30,slow=12,SNR=31						
FITZ	Fitzroy Crossi	22.47	232	P	P	18 42 07.2	-0.3
	comp=Z,15nm,0.4s,baz=46,slow=12,SNR=107						
FITZ				LR	LR	18 51 27.9	
	comp=Z,30nm,21.7s,baz=94,slow=38						
FITZ	Fitzroy Crossi	22.47	232	P	P	18 42 06.3	-1.2
FITZ				IAmb	IAmb	18 42 09.6	
	comp=Z,56nm,1.4s						
STKA	Stephens Creek	27.22	185	P	P	18 42 51.0	+0.1
	comp=Z,0.8nm,0.5s,baz=353,slow=10,SNR=4.0						
STKA	Stephens Creek	27.22	185	P	P	18 42 50.8	-0.1
STKA				IAmb	IAmb	18 43 47.8	
	comp=Z,7.4nm,1.9s						
PSA00	Pilbara Seismi	28.93	232	P	P	18 43 05.8	-0.4
PSA00				IAmb	IAmb	18 43 07.6	
	comp=Z,11nm,0.7s						
NWAO	Narrogin (SRO)	37.70	218	P	P	18 44 21.9	-0.3
	comp=Z,5.9nm,0.6s,baz=57,slow=5.8,SNR=4.7						
URZ	Urewera	44.99	143	LR	LR	19 02 08.9	
	comp=Z,21nm,20.1s,baz=3.0,slow=33						
WHN	Wuhan	45.06	323	P	P	18 45 22.9	+0.6
MKAR	Makanchi Array	74.59	321	P	P	18 48 45.3	+0.9
	comp=Z,0.2nm,0.3s,baz=96,slow=8.5,SNR=5.5						
MKAR	Makanchi Array	74.59	321	P	P	18 48 44.8	+0.5
ZALV	Zalesovo Beam	76.31	328	P	P	18 48 53.4	-0.5
	comp=Z,0.5nm,0.5s,baz=118,slow=6.3,SNR=2.9						
MAW	Mawson	82.41	202	P	P	18 49 27.3	+0.6
	comp=Z,1.1nm,0.6s,baz=114,slow=4.5,SNR=8.4						
MAW	Mawson	82.41	202	P	P	18 49 27.1	+0.4
QSPA	South Pole Qui	85.34	180	P	P	18 49 42.4	+0.5
QSPA				IAmb	IAmb	18 49 42.9	
	comp=Z,5.0nm,0.8s						
ILAR	Eielson Array	85.37	24	P	P	18 49 40.7	-1.2
	comp=Z,0.4nm,0.6s,baz=255,slow=5.0,SNR=5.9						
TORD	Torodi Ar. Bea	141.93	285	PKhKP	PKPpre	18 56 31.6	
	comp=Z,0.2nm,0.5s,baz=63,slow=3.7,SNR=3.5						
SIV	San Ignacio	147.77	130	PKPbc	PKiKP	18 56 51.5	-0.7
	comp=Z,2.8nm,0.5s,baz=264,slow=6.0,SNR=13						
DBIC	Dimbokro	149.03	275	PKPbc	PKPbc	18 56 54.3	+0.7
	comp=Z,2.0nm,0.5s,baz=335,slow=2.3,SNR=6.3						
DBIC	Dimbokro	149.03	275		PKPdf	18 56 51.6	+2.2

*ISCJB **04** 18:52:04.9±0.4, 21°.62N±0°.04×143°.07E±0°.09, h311km, mb3.6/11, Error ellipse: s-maj=11.6km s-min=5.4km az=0.1*
*NEIC **04** 18:52:05.4±0.9, 21°.58N±0°.09×143°.1E±0°.2, h301km±8km, mb4.5/20*
*IDC **04** 18:52:05.1±1.8, 21°.60N×143°.14E, h299km±16km, mb3.3/12, mb1 3.5/14, mb1mx3.3/50, mbtmp4.0/14, Error ellipse: s-maj=18.4km s-min=11.9km az=92.0*
*JMA **04** 18:52:07.2±0.3, 21°.96N×143°.78E, h329km, M4.1*

ISC 04 18:52:06.5±0.6, 21°.66N±0°.07×143°.1E±0°.1, h311km, n56, σ1=09°/61, mb4.1/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	5.02	350	P	Pn	18 53 25.1	+0.5
JHH2				eS	S	18 54 26.1	-1.4
CBIJ	Chichi jima	5.48	351	P	Pn	18 53 29.8	-0.1
CBIJ				eS	S	18 54 34.9	-2.2
JCJ	Chichijima	5.48	351	P	Pn	18 53 29.7	-0.2
	18nm,0.3s,baz=298,slow=22,SNR=12						
JCJ				S	S	18 54 36.5	-0.6
	24nm,0.3s,baz=248,slow=22,SNR=10						
BSO3	Boso 3	13.29	351	P	P	18 55 04.2	+0.4
BSO4	Boso 4	13.50	350	P	Pn	18 55 07.3	+0.7
JOD2	Odawara 2	14.01	346	P	P	18 55 13.0	+1.0
JTO	Tosashimizu	14.44	323	P	Pn	18 55 20.3	+2.4
JHU	Hanno	14.53	347	P	P	18 55 17.9	+0.2
JRY	Ryogami san	14.77	346	P	P	18 55 21.0	+0.6
JAG	Ashikaga	15.05	348	S	S	18 58 02.6	-4.4
JHO	Hitachi	15.06	352	P	P	18 55 24.7	+1.2
MJAR	Matsushiro Arr	15.43	345	P	P	18 55 27.9	+0.3
	0.2nm,0.3s,baz=213,slow=7.3,SNR=11						
MJAR	Matsushiro Arr	15.43	345	P	P	18 55 28.1	+0.5
MAJO	Matsushiro	15.44	345	P	P	18 55 27.9	+0.2
MAJO				IAmb	IAmb	18 56 12.5	
	comp=Z,86nm,2.0s						
MJB9	Matsu-Tunnel	15.44	345	P	P	18 55 27.5	-0.2
MJB9				IAmb	IAmb	18 56 12.5	
	comp=Z,88nm,2.0s						
KSRS	Korea Array	20.52	323	P	P	18 56 22.1	+0.3
	comp=Z,0.7nm,0.5s,baz=148,slow=8.9,SNR=5.7						
CMAR	Chiang Mai Arr	41.53	274	P	P	18 59 25.1	+0.6
	comp=Z,0.6nm,0.5s,baz=84,slow=5.8,SNR=6.7						
WB0	Warramunga Arr	42.05	192	P	P	18 59 27.6	-1.0
WB2	Warramunga Arr	42.23	192	P	P	18 59 28.9	-1.1
WB2				IAmb	IAmb	19 01 01.9	
	comp=Z,22nm,1.9s						
WRA	Warramunga Arr	42.24	192	P	P	18 59 28.6	-1.4
	comp=Z,1.5nm,0.6s,baz=14,slow=8.4,SNR=23						
WRA	Warramunga Arr	42.24	192	P	P	18 59 28.4	-1.7
FITZ	Fitzroy Crossi	43.07	205	P	P	18 59 35.8	-0.9
FITZ				IAmb	IAmb	19 01 05.9	
	comp=Z,33nm,1.9s						
ADK	Adak	43.24	36	P	P	18 59 38.3	+0.7
KULM	Kulim	44.22	255	P	P	18 59 46.4	+0.5
KULM				IAmb	IAmb	19 00 34.5	
	comp=Z,20nm,1.4s						
ASAR	Alice Springs	45.95	192	P	P	18 59 57.8	-1.5
	comp=Z,0.5nm,0.5s,baz=16,slow=11,SNR=12						
GSI	Gunungsitoli	48.74	252	P	P	19 00 19.9	-0.9
GSI				IAmb	IAmb	19 00 55.4	
	comp=Z,51nm,1.7s						
ZALV	Zalesovo Beam	54.21	322	P	P	19 01 00.3	-0.2
	comp=Z,0.7nm,0.6s,baz=125,slow=7.2,SNR=3.6						
ZALV				PcP	PcP	19 01 59.8	-0.7
	comp=Z,1.1nm,0.4s,baz=125,slow=5.0,SNR=5.0						
MKAR	Makanchi Array	54.69	313	P	P	19 01 04.1	0.0
	comp=Z,0.5nm,0.6s,baz=86,slow=9.1,SNR=6.3						
MKAR				PcP	PcP	19 02 02.3	-0.3
	comp=Z,0.5nm,0.4s,baz=82,slow=3.8,SNR=6.0						
MAKZ	Makanchi	54.90	313	P	P	19 01 05.8	+0.2
KURK	Kurchatov	57.47	317	P	P	19 01 23.6	+0.2
BOOM	Boomskoye usch	59.09	307	P	P	19 01 33.0	-2.1
IMAR	Indian Mountai	59.53	25	P	P	19 01 38.5	+1.1
BPAW	Bear Paw Mtn.	60.22	28	P	P	19 01 43.4	+1.3
BPAW				IAmb	IAmb	19 03 20.5	
	comp=Z,48nm,2.0s						
TRF	Thorofare Moun	60.39	28	P	P	19 01 43.9	+0.5
TRF				IAmb	IAmb	19 03 09.3	
	comp=Z,28nm,1.5s						
TOLK	Toolik Lake Re	61.77	23	P	P	19 01 54.1	+1.7
TOLK				IAmb	IAmb	19 02 40.9	
	comp=Z,28nm,1.9s						
ILAR	Eielson Array	62.09	27	P	P	19 01 54.0	-0.6
	comp=Z,1.0nm,0.6s,baz=256,slow=5.6,SNR=11						
ILAR	Eielson Array	62.09	27	P	P	19 01 54.1	-0.5
KKAR	Karatay Array	63.04	308	P	P	19 02 01.5	+0.3
BMAR	Burnt Mountain	63.39	24	P	P	19 02 04.8	+1.7
ABKAR	Akbulak array	69.54	316	P	P	19 02 41.8	-0.2
ABKAR	Akbulak array	69.54	316	P	P	19 02 41.9	-0.2
ABKAR				IAmb	IAmb	19 02 42.6	
	comp=Z,2.4nm,0.7s						
YKA	Yellowknife Ar	76.50	28	P	P	19 03 22.4	+0.1
	comp=Z,1.3nm,0.6s,baz=294,slow=5.9,SNR=3.3						
KEV	Kevo	78.38	341	P	P	19 03 33.0	+0.5
ARCES	ARCESS Array B	78.94	341	P	P	19 03 36.0	+0.4
	comp=Z,2.3nm,0.6s,baz=74,slow=8.7,SNR=23						
ARCES	ARCESS Array B	78.94	341	P	P	19 03 36.1	+0.5
ARE0	ARCESS Array S	78.94	341	P	P	19 03 36.0	+0.4
ARE0				IAmb	IAmb	19 05 15.1	
	comp=Z,6.5nm,2.0s						
KBZ	Khabaz	82.36	314	P	P	19 03 54.5	+0.5
	comp=Z,1.6nm,0.7s,baz=120,slow=4.9,SNR=4.6						
FIA1	FINESS Array S	83.19	334	P	P	19 03 57.0	-0.9
FINES	FINESS Array B	83.19	334	P	P	19 03 57.0	-0.9
	comp=Z,2.0nm,0.4s,baz=55,slow=4.3,SNR=21						
FINES	FINESS Array B	83.19	334	P	P	19 03 56.9	-1.1
NVAR	Mina Array Bea	83.20	51	P	P	19 03 59.9	+1.1
	comp=Z,1.6nm,0.7s,baz=282,slow=5.4,SNR=6.4						
NVAR	Mina Array Bea	83.20	51	P	P	19 03 59.0	+0.3
HRY	Holter Researc	84.24	42	P	P	19 04 03.2	-0.6
BOZ	Bozeman (W)	84.85	43	P	P	19 04 06.4	-0.4
PLCA	Paso Flores	145.77	131	PKPbc	PKPbc	19 11 09.4	0.0
	comp=Z,2.3nm,0.5s,baz=287,slow=3.6,SNR=7.0						
LPAZ	La Paz	149.99	85	PKPbc	PKiKP	19 11 22.4	-0.2
	comp=Z,1.7nm,0.5s,baz=0.0,slow=2.5,SNR=7.7						

IDC 04 19:14:16.0±3.2, 5°.44S×149°.06E, h147km±38km, mb3.1/4, mb1 3.2/5, mb1mx3.0/29, mbtmp3.6/5, Error ellipse: s-maj=95.2km s-min=24.2km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.37	205	P	Pn	19 15 19.2	-1.8
	1.6nm,0.3s,baz=26,slow=14,SNR=4.8						
PMG				S	Sn	19 16 13.3	+1.6
	2.9nm,0.3s,baz=336,slow=19,SNR=4.5						
WRA	Warramunga Arr	20.32	224	P	P	19 18 41.0	+0.3
	0.5nm,0.3s,baz=49,slow=10,SNR=12						
ASAR	Alice Springs	23.27	217	P	P	19 19 10.0	-0.6
	0.2nm,0.3s,baz=48,slow=9.1,SNR=4.0						
FITZ	Fitzroy Crossi	26.11	239	P	P	19 19 36.4	0.0
	1.2nm,0.5s,baz=58,slow=9.4,SNR=14						
PETK	Petropavlovsk-	58.78	6	P	P	19 23 58.8	+0.3
	0.5nm,0.5s,baz=138,slow=6.2,SNR=5.3						

*ISCJB **04** 19:17:33.2±0.6, 42°.1S±0°.1×84°.7E±0°.2, h10km, mb4.1/5, MS4.1/21, Error ellipse: s-maj=21.0km s-min=14.5km az=26.3*
*IDC **04** 19:17:34.2±1.2, 42°.13S×84°.79E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/34, mbtmp4.0/5, MS4.0/19, Ms1 4.0/19, ms1mx4.0/20, Error ellipse: s-maj=43.5km s-min=23.8km az=121.0*
*NEIC **04** 19:17:35.3±1.0, 42°.05S±0°.08×84°.8E±0°.2, h10km±1km, mb4.6/6*
*GCMT **04** 19:17:37.3±0.2, 41°.98S±0°.01×84°.64E±0°.02, h19km±1km, MW5.0/94, Moment Tensor Solution. s49,c64; s94,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.80±.12; Mθθ4.86±.12; Mφφ-4.07±.12; Mrθ-0.14±.23; Mφφ0.25±.11; Mφ0.96±.24; Best double couple: M0=4.60500×10^16 NP1:φs132.00000°, δ80.00000°, λ-12.00000°. NP2: φs224.00000°, δ78.00000°, λ-170.00000°. Principal axes: T 4.8700, Plg1.0000°, Azm179.0000°; N -0.5370, Plg75.0000°, Azm273.0000°; P -4.3400, Plg15.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 19:17:35.1±0.6, 42°.1S±0°.1×84°.7E±0°.2, h10km, n44, σ0=74°/20, mb4.4/9, MS4.1/21, 1C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	24.06	82	T	T	19 48 15.7	
	baz=243,slow=74,SNR=80						
H01W3	Cape Leeuwin H	24.07	82	T	T	19 48 16.4	
	baz=243,slow=74,SNR=74						
H01W1	Cape Leeuwin H	24.07	82	T	T	19 48 17.0	
	baz=243,slow=74,SNR=86						
NWAO	Narrogin (SRO)	27.25	81	LR	LR	19 31 49.6	
	comp=Z,351nm,21.5s,baz=128,slow=32						
MAW	Mawson	28.12	198	LR	LR	19 32 16.0	
	comp=Z,283nm,21.3s,baz=50,slow=31						
SYO	Syowa Base	35.65	206	⇑eX	P	19 24 31.0	-1.7
H08S2	Diego Garcia H	36.00	339	T	T	20 02 21.0	
	baz=164,slow=76,SNR=186						
H08S1	Diego Garcia H	36.01	339	T	T	20 02 21.4	
	baz=164,slow=76,SNR=144						
H08S3	Diego Garcia H	36.02	339	T	T	20 02 21.4	
	baz=164,slow=76,SNR=202						
ASAR	Alice Springs	44.57	82	P	P	19 25 47.2	-0.2
	2.0nm,1.0s,baz=221,slow=6.8,SNR=12						
ASAR				LR	LR	19 42 16.1	
	comp=Z,595nm,20.6s,baz=239,slow=33						
ASAR	Alice Springs	44.57	82	P	P	19 25 46.3	-1.1
STKA	Stephens Creek	45.82	96	LR	LR	19 41 25.3	
	comp=Z,272nm,21.6s,baz=216,slow=31						
WRA	Warramunga Arr	47.17	78	P	P	19 26 07.8	-0.2
	3.1nm,0.8s,baz=232,slow=7.5,SNR=15						
WRA				LR	LR	19 43 40.9	
	comp=Z,241nm,20.9s,baz=240,slow=33						
QSPA	South Pole Qui	48.02	180	P	P	19 26 14.9	+0.8
	2.1nm,0.6s,baz=270,slow=10,SNR=6.9						
QSPA	South Pole Qui	48.02	180	P	P	19 26 15.3	+1.2
BOSA	Boshof	49.39	266	LR	LR	19 42 40.8	
	comp=Z,409nm,21.0s,baz=138,slow=30						
SNAA	Sanae	49.90	204	P	P	19 26 28.8	+0.5
	1.3nm,0.8s,baz=172,slow=10,SNR=5.1						
LSZ	Lusaka	55.17	281	P	P	19 27 08.6	+0.5
LSZ				IAmb	IAmb	19 27 16.9	
	comp=Z,5.7nm,1.0s						
KMBO	Kilima Mbogo	58.94	301	LR	LR	19 47 24.3	
	comp=Z,69nm,21.6s,baz=85,slow=30						
PBKT	Sadao Pong	60.31	18	P	P	19 27 44.0	+0.1
PBKT				IAmb	IAmb	19 27 47.4	
	comp=Z,6.1nm,0.9s						
CMAR	Chiang Mai Arr	61.71	15	P	P	19 27 53.9	+0.5
	comp=Z,1.0nm,0.8s,baz=212,slow=7.6,SNR=7.3						
CMAR				LR	LR	19 50 38.8	
	comp=Z,73nm,21.3s,baz=184,slow=32						
CMAR	Chiang Mai Arr	61.71	15	P	P	19 27 53.0	-0.4
DZM	Mont Dzumac	69.59	102	eS	S	19 38 05.8	+13
	comp=Z,158nm,27.4s						
DZM				eLQ	LQ	19 47 12.4	
	comp=Z,4μm,34.0s						
DZM				eLR	LR	19 50 09.3	
	comp=Z,209nm,23.8s						
LSA	Lhasa	71.72	6	P	P	19 28 57.7	0.0
GEYT	Alibeck	83.29	339	LR	LR	20 01 34.4	
	comp=Z,68nm,21.6s,baz=205,slow=32						
KK31	Karatay Array	85.81	350	P	P	19 30 13.9	-0.3
KK31				IAmb	IAmb	19 30 21.3	
	comp=Z,5.5nm,1.4s						
KKAR	Karatay Array	85.81	350	P	P	19 30 13.9	-0.4
KKAR	Karatay Array	85.81	350	P	P	19 30 13.9	-0.4
KKAR				IAmb	IAmb	19 30 21.3	
	comp=Z,5.5nm,1.4s						
MKAR	Makanchi Array	88.57	358	LR	LR	20 07 45.3	
	comp=Z,146nm,20.4s,baz=186,slow=34						
SONM	Songino Array	92.29	40	LR	LR	20 09 39.6	
	comp=Z,48nm,21.3s,baz=192,slow=34						
MJAR	Matsushiro Arr	92.29	40	LR	LR	20 09 11.4	
	comp=Z,19nm,20.4s,baz=35,slow=34						
KBZ	Khabaz	93.35	331	LR	LR	20 08 40.0	
	comp=Z,56nm,21.9s,baz=167,slow=33						
TORD	Torodi Ar. Bea	93.60	284	LR	LR	20 10 23.7	
	comp=Z,109nm,19.3s,baz=345,slow=34						
BRTR	Keskin Array B	93.72	323	LR	LR	20 09 13.8	
	comp=Z,47nm,19.3s,baz=182,slow=33						
DBIC	Dimbokro	94.09	275	LR	LR	20 07 00.1	
	comp=Z,135nm,21.6s,baz=130,slow=32						
PLCA	Paso Flores	94.52	199	LR	LR	20 13 30.4	
	comp=Z,121nm,19.6s,baz=183,slow=36						
ZALV	Zalesovo Beam	95.71	0	LR	LR	20 13 39.9	
	comp=Z,67nm,18.2s,baz=178,slow=35						
USRK	Ussuriysk Ar.	95.82	32	LR	LR	20 11 52.5	
	comp=Z,52nm,20.3s,baz=171,slow=34						
PPT2	Papeete2	102.33	128	eLR	LR	20 05 17.4	
	comp=Z,129nm,29.8s						
INK	Inuvik	146.90	25	PKPbc	PKPbc	19 37 16.9	+0.5
	comp=Z,1.2nm,0

KAPS	**Kapalarasan**	**3.97**	**341**	*e*P		**Pb**	**20 15 10.8**	**+2.7**
	0.5nm,0.1s							
KAPS				*e*S		**Sb**	**20 15 55.8**	**+0.1**
	2.3nm,0.4s							
BOOM	**Boomskoye usch**	**4.01**	**285**	⇑*i*P		**Pb**	**20 15 08.9**	**-0.2**
	baz=88							
BOOM				⇑*i*S		**Sb**	**20 15 52.0**	**-5.2**
	baz=88							
MK31	**Makanchi Array**	**5.31**	**8**	Pn		**Pb**	**20 15 29.9**	**-1.1**
	0.2nm,0.5s,baz=220,slow=9.6,SNR=8.0							
MK31				⇓Sn		**Sb**	**20 16 30.6**	**-3.7**
	0.4nm,0.5s							
MK31				⇓Lg		Lg	20 16 54.9	
	1.3nm,0.8s,baz=195,slow=13,SNR=5.1							

*ISCJB **04** 20:18:56.6±1.0, 6°.5S±0°.1×155°.3E±0°.1, h56km, mb3.8/7, Error ellipse: s-maj=17.4km s-min=12.3km az=142.7*
*IDC **04** 20:19:00.9±5.3, 6°.51S×155°.17E, h75km±39km, mb3.5/7, mb1 3.7/9, mb1mx3.5/26, mbtmp3.9/9, ML3.0/2, MS2.4/2, Ms1 2.4/2, ms1mx2.2/16, Error ellipse: s-maj=43.4km s-min=18.4km az=94.0*

ISC 04 20:18:58.2±1.1, 6°.5S±0°.1×155°.4E±0°.1, h56km, n14, σ0º93/13, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.98**	**304**	P	**Pn**	**20 19 57.6**	**+0.8**
	3.1nm,0.3s,baz=38,slow=20,SNR=1.9						
KRVT				S	**Sn**	**20 20 41.5**	**-0.8**
	11nm,0.3s,baz=197,slow=5.7,SNR=3.8						
KRVT				LR	LR	20 21 50.6	
	comp=Z,57nm,18.4s,baz=105,slow=44						
HNR	**Honiara**	**5.38**	**123**	LR	LR	20 21 49.0	
	comp=Z,26nm,21.2s,baz=177,slow=30						
PMG	**Port Moresby**	**8.60**	**250**	P	**Pn**	**20 21 00.8**	**+0.8**
	5.6nm,0.3s,baz=59,slow=9.2,SNR=10						
WRA	**Warramunga Arr**	**24.36**	**235**	P	**P**	**20 24 11.3**	**+0.1**
	1.0nm,0.4s,baz=57,slow=9.8,SNR=8.8						
WRA				PcP	**PcP**	**20 27 50.3**	**+0.6**
	0.1nm,0.3s,baz=60,slow=2.9,SNR=6.0						
ASAR	**Alice Springs**	**26.73**	**228**	P	**P**	**20 24 32.8**	**0.0**
	0.4nm,0.5s,baz=57,slow=9.2,SNR=7.8						
ASAR				PcP	**PcP**	**20 27 56.1**	**+1.0**
	0.2nm,0.8s,baz=46,slow=4.0,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**27.28**	**24**	T	T	20 52 51.0	
	baz=205,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**27.28**	**24**	T	T	20 52 51.1	
	baz=205,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.29**	**24**	T	T	20 52 52.4	
	1.6nm,0.8s,baz=159,slow=4.3,SNR=3.1						
PETK	**Petropavlovsk-**	**59.45**	**2**	P	**P**	**20 28 56.2**	**+1.1**
	baz=205,slow=74,SNR=6.6						
CMAR	**Chiang Mai Arr**	**60.91**	**295**	P	**P**	**20 29 05.8**	**+0.1**
	1.4nm,0.8s,baz=110,slow=5.0,SNR=11						
SONM	**Songino Array**	**69.15**	**327**	P	**P**	**20 29 58.0**	**-0.8**
	0.3nm,0.4s,baz=117,slow=5.2,SNR=2.7						
MKAR	**Makanchi Array**	**83.30**	**319**	P	**P**	**20 31 18.9**	**-0.1**
	0.5nm,0.7s,baz=99,slow=6.3,SNR=5.2						
MAW	**Mawson**	**84.95**	**203**	P	**P**	**20 31 26.3**	**-0.7**
	1.0nm,0.6s,baz=31,slow=5.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.24**	**286**	PKPbc	**PKPbc**	**20 38 49.3**	**-1.7**
	0.6nm,1.0s,baz=69,slow=2.8,SNR=3.7						

*ATH **04** 20:28:05.3, 40°.17N×21°.60E, h22km, ML3.2/34, Error ellipse: s-maj=1.0km s-min=0.7km az=341.0*
*PDG **04** 20:28:06.4±0.4, 40°.13N×21°.63E, h20km, ML3.4/9, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*ISCJB **04** 20:28:06.6±0.3, 40°.15N±0°.01×21°.59E±0°.02, h17km±3km, mb3.6/5, Error ellipse: s-maj=2.4km s-min=1.9km az=137.9*
*SKO **04** 20:28:06.7, 40°.16N×21°.62E, h12km, M3.4, ML3.7*
*THE **04** 20:28:06.4, 40°.15N×21°.57E, h8km, ML3.1/15, Error ellipse: s-maj=0.8km s-min=0.4km az=256.0*
*IDC **04** 20:28:07.8±6.4, 39°.94N×21°.31E, h55km±42km, mb3.4/6, mb1 3.5/8, mb1mx3.2/37, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=75.5km s-min=26.9km az=29.0*

ISC 04 20:28:05.9±0.8, 40°.16N±0°.02×21°.57E±0°.01, h15km±5km, n168, σ1º34/213, mb3.7/5, 18C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.21**	**46**	P	**Pg**	**20 28 11.0**	**+0.2**
KZN				S	**Sg**	**20 28 14.5**	**+0.3**
	14μm,0.2s						
KZN	**Kozani**	**0.21**	**46**	P	**Pg**	**20 28 11.0**	**+0.2**
KZN				S	**Sg**	**20 28 14.3**	**+0.1**
KZN				AML	AML	20 28 15.8	
	comp=N,28052μm,0.2s						
KZN				AML	AML	20 28 17.0	
	comp=E,34464μm,0.4s						
KPRO	**Kipourio**	**0.26**	**218**	P	**Pg**	**20 28 11.5**	**-0.1**
KPRO				S	**Sg**	**20 28 15.4**	**-0.1**
	comp=E,8μm,0.5s						
KPRO	**Kipourio**	**0.26**	**218**	P	**Pg**	**20 28 11.6**	**-0.1**
KPRO				S	**Sb**	**20 28 16.6**	**0.0**
KPRO				AML	AML	20 28 17.3	
	comp=N,17346μm,0.6s						
KPRO				AML	AML	20 28 23.0	
	comp=E,18269μm,0.4s						
PENT	**Pentalofos**	**0.33**	**276**	P	**Pg**	**20 28 12.8**	**-0.1**
PENT				S	**Sg**	**20 28 17.8**	**+0.1**
	comp=E,6μm,0.5s						
PENT	**Pentalofos**	**0.33**	**276**	P	**Pg**	**20 28 12.7**	**-0.1**
PENT				S	**Sg**	**20 28 17.7**	**+0.1**
PENT				AML	AML	20 28 23.8	
	comp=E,9023μm,0.4s						
PENT				AML	AML	20 28 23.9	
	comp=N,16192μm,0.5s						
MEV	**Metsovon**	**0.46**	**215**	P	**Pg**	**20 28 15.1**	**0.0**
NEST	**Nestorio**	**0.47**	**303**	P	**Pg**	**20 28 15.4**	**0.0**
NEST				S	**Sb**	**20 28 23.2**	**+0.3**
	comp=N,5μm,0.4s						
NEST	**Nestorio**	**0.47**	**303**	P	**Pg**	**20 28 15.4**	**0.0**
NEST				S	**Sg**	**20 28 22.2**	**+0.4**
NEST				AML	AML	20 28 27.3	
	comp=E,8925μm,0.4s						
NEST				AML	AML	20 28 29.7	
	comp=N,10965μm,0.4s						
KTI	**Kastanea**	**0.48**	**61**	P	**Pg**	**20 28 15.6**	**+0.1**
FNA	**Florina**	**0.64**	**347**	P	**Pg**	**20 28 18.2**	**-0.3**
FNA				S	**Sg**	**20 28 27.3**	**+0.2**
	comp=N,9μm,0.4s						
FNA	**Florina**	**0.64**	**347**	*i* Pg	**Pg**	**20 28 18.1**	**-0.5**
FNA				*i* Sg	**Sb**	**20 28 28.0**	**+0.4**
FNA	**Florina**	**0.64**	**347**	P	**Pg**	**20 28 18.1**	**-0.5**
FNA				S	**Sg**	**20 28 26.3**	**-0.7**
FNA				AML	AML	20 28 29.1	
	comp=E,13803μm,0.4s						
FNA				AML	AML	20 28 29.7	
	comp=N,22482μm,0.4s						
THL	**Klokotos Trika**	**0.69**	**150**	P	**Pg**	**20 28 18.4**	**-1.0**
THL				S	**Sb**	**20 28 28.9**	**+0.1**
	comp=N,2μm,0.5s						
THL	**Klokotos Trika**	**0.69**	**150**	P	**Pg**	**20 28 18.3**	**-1.0**
THL				S	**Sg**	**20 28 28.2**	**-0.2**
THL				AML	AML	20 28 31.1	
	comp=N,5815μm,0.5s						
THL				AML	AML	20 28 33.0	
	comp=E,4763μm,0.4s						
LIT	**Litokhoron**	**0.71**	**94**	P	**Pg**	**20 28 19.1**	**-0.6**
LIT				S	**Sb**	**20 28 30.3**	**+0.8**
	comp=E,4μm,0.2s						
LIT	**Litokhoron**	**0.71**	**94**	⇑*i* Pg	**Pg**	**20 28 19.1**	**-0.6**
LIT	**Litokhoron**	**0.71**	**94**	P	**Pg**	**20 28 19.1**	**-0.6**
LIT				S	**Sg**	**20 28 28.9**	**-0.2**
LIT				AML	AML	20 28 31.1	
	comp=N,9735μm,0.3s						
LIT				AML	AML	20 28 35.1	
	comp=E,8673μm,0.4s						
JAN	**Janina**	**0.75**	**228**	P	**Pg**	**20 28 20.1**	**-0.4**
JAN				S	**Sg**	**20 28 30.8**	**+0.4**
JAN				AML	AML	20 28 35.6	
	comp=N,2361μm,0.7s						
JAN				AML	AML	20 28 40.0	
	comp=E,2122μm,0.6s						
LRSO	**Larissa Observ**	**0.80**	**127**	P	**Pb**	**20 28 21.2**	**-0.2**
LRSO				S	**Sn**	**20 28 33.6**	**-0.6**
	comp=E,5μm,0.4s						
LRSO	**Larissa Observ**	**0.80**	**127**	P	**Pb**	**20 28 21.3**	**-0.2**
LRSO				AML	AML	20 28 37.4	
	comp=E,11959μm,0.4s						
LRSO				AML	AML	20 28 40.7	
	comp=N,9439μm,0.5s						
OHR	**Ohrid**	**1.12**	**329**	*i* Pg	**Pb**	**20 28 27.0**	**0.0**
OHR				*i* Sg	**Sg**	**20 28 43.9**	**+1.8**
OHR				*e*Lg	Lg	20 28 45.6	
	comp=E,1μm,0.4s						
OHR				*e*Lg	Lg	20 28 46.0	
	comp=N,1μm,0.6s						
IGT	**Igoumenitsa**	**1.14**	**237**	P	**Pn**	**20 28 27.2**	**-0.2**
IGT				AML	AML	20 28 49.8	
	comp=E,2343μm,0.5s						
IGT				AML	AML	20 28 51.2	
	comp=N,2000μm,0.9s						
THE	**Thessaloniki**	**1.16**	**66**	P	**Pg**	**20 28 28.5**	**+0.1**
THE				S	**Sg**	**20 28 45.4**	**+1.8**
	comp=N,255nm,0.6s						
THE	**Thessaloniki**	**1.16**	**66**	P	**Pn**	**20 28 27.2**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.22**	**159**	P	**Pn**	**20 28 28.5**	**0.0**
MAKR	**Makrakomi, Fth**	**1.22**	**159**	P	**Pn**	**20 28 28.4**	**0.0**
MAKR				AML	AML	20 28 50.1	
	comp=N,5428μm,0.3s						
MAKR				AML	AML	20 28 54.0	
	comp=E,6295μm,0.4s						
SRN	**Sarande**	**1.24**	**257**	P	**Pg**	**20 28 30.3**	**+0.5**
SRN				S	**Sg**	**20 28 46.7**	**+0.8**
	comp=E,945nm,0.7s						
HORT	**Hortiatis**	**1.25**	**69**	P	**Pg**	**20 28 29.7**	**-0.3**
HORT				S	**Sg**	**20 28 46.6**	**+0.4**
	comp=E,248nm,0.5s						
HORT	**Hortiatis**	**1.25**	**69**	P	**Pb**	**20 28 29.4**	**+0.2**
EVR	**Evrytania**	**1.25**	**172**	P	**Pn**	**20 28 28.9**	**-0.1**
EVR	**Evrytania**	**1.25**	**172**	P	**Pn**	**20 28 28.7**	**-0.3**
EVR				S	**Sg**	**20 28 47.5**	**+1.0**
EVR				AML	AML	20 28 53.9	
	comp=E,1821μm,0.7s						
EVR				AML	AML	20 28 56.3	
	comp=N,2519μm,0.6s						
AGG	**Agios Georgios**	**1.28**	**152**	P	**Pb**	**20 28 29.7**	**0.0**
AGG	**Agios Georgios**	**1.28**	**152**	P	**Pn**	**20 28 29.2**	**0.0**
AGG				S	**Sg**	**20 28 47.4**	**+0.1**
KASA	**Kassiopi**	**1.32**	**252**	P	**Pg**	**20 28 31.4**	**0.0**
VAY	**Valandovo**	**1.39**	**33**	*i* Pg	**Pb**	**20 28 32.0**	**+0.5**
KNT	**Kendrikon**	**1.42**	**45**	P	**Pb**	**20 28 31.8**	**-0.3**
KNT				S	**Sg**	**20 28 52.0**	**+0.2**
	comp=N,222nm,0.8s						
KNT	**Kendrikon**	**1.42**	**45**	*i* Pg	**Pn**	**20 28 31.6**	**+0.4**
KNT	**Kendrikon**	**1.42**	**45**	P	**Pn**	**20 28 31.4**	**+0.2**
KEK	**Kerkira**	**1.43**	**252**	P	**Pg**	**20 28 33.5**	**0.0**
KEK				AML	AML	20 29 00.7	
	comp=N,1177μm,0.6s						
KEK				AML	AML	20 29 06.8	
	comp=E,1253μm,0.7s						
PLG	**Polygyros**	**1.45**	**81**	P	**Pn**	**20 28 31.9**	**+0.3**
PLG				S	**Sb**	**20 28 51.6**	**+0.7**
	comp=E,260nm,0.6s						
PLG	**Polygyros**	**1.45**	**81**	P	**Pn**	**20 28 31.9**	**+0.3**
XOR	**Xorichti**	**1.48**	**122**	P	**Pn**	**20 28 32.3**	**+0.3**
XOR	**Xorichti**	**1.48**	**122**	P	**Pn**	**20 28 32.3**	**+0.3**
XOR				AML	AML	20 29 00.3	
	comp=N,2045μm,0.7s						
XOR				AML	AML	20 29 05.5	
	comp=E,1116μm,0.6s						
TSLK	**Tsoukalades, L**	**1.51**	**208**	P	**Pb**	**20 28 34.4**	**+0.7**
TSLK				AML	AML	20 28 59.9	
	comp=N,1881μm,0.7s						
TSLK				AML	AML	20 29 08.5	
	comp=E,1296μm,0.6s						
SOH	**Sokhos**	**1.51**	**63**	P	**Pb**	**20 28 33.5**	**-0.2**
SOH				S	**Sb**	**20 28 53.2**	**+0.5**
	comp=E,508nm,0.6s						
SOH	**Sokhos**	**1.51**	**63**	*i* Pg	**Pb**	**20 28 33.5**	**-0.2**
SOH	**Sokhos**	**1.51**	**63**	P	**Pn**	**20 28 33.1**	**+0.7**
SOH				AML	AML	20 29 00.1	
	comp=N,908μm,0.7s						
SOH				AML	AML	20 29 02.6	
	comp=E,1181μm,0.5s						
NEO	**Neokhori**	**1.53**	**123**	P	**Pn**	**20 28 33.2**	**+0.5**
NEO	**Neokhori**	**1.53**	**123**	P	**Pn**	**20 28 33.0**	**+0.3**
NEO				AML	AML	20 29 04.6	
	comp=E,2171μm,0.9s						
NEO				AML	AML	20 29 04.9	
	comp=N,3749μm,0.9s						
PVO	**Paravola**	**1.54**	**181**	P	**Pb**	**20 28 34.0**	**-0.2**
PVO				AML	AML	20 29 06.0	
	comp=N,1172μm,0.6s						
PVO				AML	AML	20 29 08.0	
	comp=E,949μm,0.7s						
PDO	**Prodromos**	**1.59**	**191**	P	**Pb**	**20 28 35.4**	**+0.4**
PDO				AML	AML	20 29 03.9	
	comp=E,1323μm,0.7s						
PDO				AML	AML	20 29 06.3	
	comp=N,1564μm,0.5s						
STIP	**Stip**	**1.60**	**17**	*i* Pn	**Pg**	**20 28 36.2**	**-0.5**
AXAR	**Agios Charalam**	**1.63**	**148**	P	**Pn**	**20 28 34.8**	**+0.7**
AXAR				AML	AML	20 29 16.8	
	comp=N,2172μm,0.6s						
AXAR				AML	AML	20 29 18.3	
	comp=E,1783μm,0.9s						
PAIG	**Paliouri**	**1.64**	**97**	P	**Pn**	**20 28 34.1**	**0.0**
PAIG				S	**Sb**	**20 28 57.3**	**+1.1**
	comp=E,305nm,0.6s						
PAIG	**Paliouri**	**1.64**	**97**	P	**Pn**	**20 28 34.0**	**0.0**
PAIG				AML	AML	20 29 03.6	
	comp=N,728μm,0.8s						
PAIG				AML	AML	20 29 04.6	
	comp=E,438μm,0.5s						
EVGI	**Lefkada island**	**1.69**	**205**	P	**Pb**	**20 28 36.4**	**-0.3**
EFP	**Efpalio**	**1.75**	**171**	P	**Pb**	**20 28 37.3**	**-0.4**
EFP				AML	AML	20 29 09.1	
	comp=E,1779μm,0.9s						
EFP				AML	AML	20 29 10.1	
	comp=N,1556μm,0.4s						
TIR	**Tirane**	**1.76**	**313**	⇑P	**Pb**	**20 28 38.8**	**+0.9**
TIR				AML	AML	20 29 11.6	
SKIA	**Skiathos**	**1.77**	**124**	P	**Pn**	**20 28 36.3**	**+0.3**
SKIA	**Skiathos**	**1.77**	**124**	P	**Pn**	**20 28 36.2**	**+0.3**
SKIA				AML	AML	20 29 11.5	
	comp=N,1116μm,0.6s						
SKIA				AML	AML	20 29 19.7	
	comp=E,745μm,0.7s						
SERG	**Sergoula**	**1.78**	**168**	P	**Pn**	**20 28 37.1**	**+0.8**
SERG				AML	AML	20 29 09.7	
	comp=N,1303μm,0.4s						
SERG				AML	AML	20 29 10.8	
	comp=E,1377μm,0.4s						
SRS	**Serrai**	**1.81**	**57**	P	**Pn**	**20 28 37.4**	**+0.8**
SRS	**Serrai**	**1.81**	**57**	*i* Pn	**Pn**	**20 28 37.1**	**+0.5**
SRS	**Serrai**	**1.81**	**57**	P	**Pn**	**20 28 37.1**	**+0.5**
SKO	**Skopje**	**1.81**	**357**	*e*Pn	**Pg**	**20 28 40.1**	**-0.6**
KALE	**Kalithea**	**1.82**	**166**	P	**Pn**	**20 28 37.4**	**+0.7**
KALE				AML	AML	20 29 07.1	
	comp=E,1290μm,0.5s						
KALE				AML	AML	20 29 13.2	
	comp=N,1078μm,0.6s						
TRIZ	**Trizonia**	**1.83**	**168**	P	**Pn**	**20 28 37.4**	**+0.6**
OUR	**Ouranopolis**	**1.85**	**84**	P	**Pn**	**20 28 38.3**	**+1.2**
OUR	**Ouranopolis**	**1.85**	**84**	P	**Pn**	**20 28 37.8**	**+0.7**
FSK	**Fiskardo**	**1.87**	**205**	P	**Pb**	**20 28 39.2**	**-0.5**
LKR	**Lokris**	**1.87**	**143**	P	**Pn**	**20 28 37.6**	**+0.3**
LKR	**Lokris**	**1.87**	**143**	P	**Pn**	**20 28 37.9**	**+0.6**
DSF	**Desfina**	**1.90**	**157**	P	**Pn**	**20 28 38.3**	**+0.5**
DSF	**Desfina**	**1.90**	**157**	P	**Pn**	**20 28 38.2**	**+0.5**
LAKA	**Lakka**	**1.94**	**170**	P	**Pb**	**20 28 40.2**	**-0.9**
LAKA				AML	AML	20 29 16.1	
	comp=N,353μm,0.6s						
LAKA				AML	AML	20 29 25.7	
	comp=E,330μm,0.8s						
AOS	**Alonnisos**	**2.04**	**118**	P	**Pn**	**20 28 39.6**	**-0.1**
KKB	**Krupnik**	**2.05**	**33**	*i* Pn	**Pn**	**20 28 41.0**	**+1.0**
KKB	**Krupnik**	**2.05**	**33**	*e*P	**Pn**	**20 28 40.9**	**+1.0**
RLS	**Riolos of Patr**	**2.10**	**182**	P	**Pn**	**20 28 42.2**	**+1.7**
NVR	**Nevrokopi**	**2.11**	**55**	P	**Pn**	**20 28 41.8**	**+1.1**
NVR	**Nevrokopi**	**2.11**	**55**	P	**Pn**	**20 28 41.2**	**+0.5**
NVR				AML	AML	20 29 23.1	
	comp=N,197μm,0.6s						
NVR				AML	AML	20 29 26.1	
	comp=E,190μm,0.9s						
VLS	**Valsamata**	**2.12**	**201**	P	**Pb**	**20 28 42.9**	**-1.2**
KLV	**Kalavryta, Ach**	**2.16**	**168**	P	**Pn**	**20 28 42.1**	**+0.7**
KLV				AML	AML	20 29 18.6	
	comp=E,418μm,0.7s						
KLV				AML	AML	20 29 28.2	
	comp=N,287μm,0.6s						
PROD	**Prodromos**	**2.16**	**151**	P	**Pn**	**20 28 41.6**	**+0.2**
PROD				AML	AML	20 29 15.3	
PROD				AML	AML	20 29 18.7	
	comp=E,573μm,0.7s						
MMB	**Musomiste**	**2.17**	**48**	*i* Pn	**Pn**	**20 28 42.6**	**+1.0**
MMB	**Musomiste**	**2.17**	**48**	*e*P	**Pn**	**20 28 42.5**	**+1.0**
DRO	**Drossia**	**2.21**	**177**	P	**Pb**	**20 28 44.1**	**-1.4**
DRO				AML	AML	20 29 22.9	
	comp=E,823μm,0.7s						
DRO				AML	AML	20 29 26.4	
	comp=N,617μm,1.1s						
VIL2	**Platees**	**2.35**	**145**	P	**Pn**	**20 28 45.2**	**+1.2**
VIL2				AML	AML	20 29 23.8	
	comp=N,400μm,0.7s						
VIL2				AML	AML	20 29 27.8	
	comp=E,673μm,0.6s						
KAVA	**Kavala**	**2.39**	**69**	P	**Pn**	**20 28 44.4**	**-0.1**
LTK	**Loutraki**	**2.39**	**153**	P	**Pn**	**20 28 45.0**	**+0.4**
LOUT	**Loutraki**	**2.43**	**153**	P	**Pn**	**20 28 45.5**	**+0.5**
ULC	**Ulcinj**	**2.52**	**316**	⇑*i*Pn	**Pn**	**20 28 48.1**	**+1.8**
ULC				*e*Sn	**Sb**	**20 29 20.3**	**-1.3**
EREA	**Eretria**	**2.52**	**133**	P	**Pn**	**20 28 47.3**	**+1.0**
EREA				AML	AML	20 29 35.5	
	comp=E,281μm,0.6s						
EREA				AML	AML	20 29 38.1	
	comp=N,262μm,0.8s						
AMT	**Artemida-Makis**	**2.63**	**178**	P	**Pn**	**20 28 49.3**	**+1.5**
DRME	**Dracevica, Mon**	**2.71**	**319**	⇓*i*Pn	**Pn**	**20 28 51.4**	**+2.5**
DRME				*e*Sn	**Sb**	**20 29 25.2**	**-1.9**
PVY	**Plav**	**2.72**	**334**	⇑*i*Pn	**Pn**	**20 28 50.8**	**+1.7**
PVY				*e*Sn	**Sb**	**20 29 25.0**	**-2.5**
VTS	**Vitosha**	**2.76**	**26**	*i* Pn	**Pn**	**20 28 50.7**	**+1.0**
VTS	**Vitosha**	**2.76**	**26**	*e*P	**Pn**	**20 28 50.6**	**+0.9**
VTS	**Vitosha**	**2.76**	**26**	⇓P	**Pn**	**20 28 51.1**	**+1.4**
VTS				⇑S	**Sn**	**20 29 23.5**	**+0.7**
VTS				AML	AML	20 29 42.6	
PTL	**Penteli**	**2.76**	**139**	P	**Pn**	**20 28 50.1**	**+0.4**
PTL				AML	AML	20 29 29.6	
	comp=E,248μm,0.5s						
PTL				AML	AML	20 29 29.9	
	comp=N,228μm,0.8s						
LIA	**Limnos Island**	**2.79**	**94**	P	**Pn**	**20 28 50.9**	**+0.9**
ATHU	**Athens Univers**	**2.79**	**141**	P	**Pn**	**20 28 50.9**	**+1.0**
RZN	**Rozhen**	**2.83**	**56**	*e*P	**Pb**	**20 28 55.0**	**-1.2**
PDG	**Podgorica**	**2.86**	**323**	⇑P	**Pb**	**20 28 54.1**	**-2.6**
PDG				AML	AML	20 29 52.2	
TTG	**Podgorica**	**2.86**	**323**	⇑*i*Pn	**Pn**	**20 28 53.2**	**+2.2**
TTG				*e*Sn	**Sn**	**20 29 28.4**	**+3.3**
BUM	**Brajici-Budva**	**2.94**	**318**	⇓*i*Pn	**Pn**	**20 28 54.0**	**+1.8**
BUM				*e*Sn	**Sn**	**20 29 30.5**	**+3.3**
DID	**Didima**	**2.95**	**153**	P	**Pn**	**20 28 52.6**	**+0.3**
DID				AML	AML	20 29 36.5	
	comp=E,235μm,0.7s						
DID				AML	AML	20 29 37.1	
	comp=N,266μm,0.5s						
IVA	**Berane**	**2.99**	**336**	⇓*i*Pn	**Pn**	**20 28 54.8**	**+2.0**
IVA				*e*Sn	**Sn**	**20 29 31.8**	**+3.4**
ITM	**Ithomi**	**2.99**	**175**	P	**Pn**	**20 28 54.6**	**+1.9**
KRND	**KRANIDI**	**3.04**	**156**	P	**Pn**	**20 28 53.8**	**+0.4**
KARY	**Karystos**	**3.08**	**133**	P	**Pn**	**20 28 54.4**	**+0.5**
KOME	**Kolasin**	**3.10**	**331**	⇓*i*Pn	**Pn**	**20 28 56.9**	**+2.5**
KOME				*e*Sn	**Sn**	**20 29 34.2**	**+3.0**
CEME	**Cevo**	**3.11**	**321**	⇑*i*Pn	**Pn**	**20 28 56.7**	**+2.2**
CEME				*e*Sn	**Sn**	**20 29 34.7**	**+3.3**
RDO	**Rodhopi**	**3.17**	**71**	P	**Pn**	**20 28 55.7**	**+0.4**
HCY	**Herceg Novi**	**3.25**	**316**	⇓*i*Pn	**Pn**	**20 28 58.5**	**+2.1**
HCY				*e*Sn	**Sn**	**20 29 37.8**	**+2.9**
PYL	**PYLOS**	**3.26**	**178**	P	**Pn**	**20 28 58.8**	**+2.3**
NKME	**Niksic**	**3.26**	**324**	⇓*i*Pn	**Pn**	**20 28 58.8**	**+2.2**
NKME				*e*Sn	**Sn**	**20 29 38.4**	**+3.2**
ALN	**Alexandroupoli**	**3.49**	**76**	P	**Pn**	**20 28 59.8**	**+0.2**
BRY	**Bratogost**	**3.56**	**321**	⇓*i*Pn	**Pn**	**20 29 03.0**	**+2.3**
BRY				*e*Sn	**Sn**	**20 29 45.5**	**+2.9**
PLE	**Pljevlja**	**3.56**	**333**	⇓*i*Pn	**Pn**	**20 29 02.7**	**+1.9**
PLE				*e*Sn	**Sn**	**20 29 45.2**	**+2.6**
DBRK	**Dubrovnik**	**3.59**	**315**	Sn	**Sn**	**20 29 44.5**	**+1.3**
VLI	**Veliai**	**3.60**	**162**	P	**Pn**	**20 29 01.5**	**+0.3**
EZN	**Ezine**	**3.67**	**94**	⇑P	**Pn**	**20 29 04.8**	**+2.8**
MATE	**Matera**	**3.75**	**279**	⇓P	**Pn**	**20 29 06.3**	**+3.1**
MATE				⇑S	**Sn**	**20 29 48.8**	**+1.8**
SERI	**Serifos**	**3.76**	**142**	P	**Pn**	**20 29 04.1**	**+0.7**
TIP	**Timpagrande**	**3.84**	**257**	⇑P	**Pn**	**20 29 06.6**	**+2.1**
TIP				⇑S	**Sn**	**20 29 51.7**	**+2.3**
CHOS	**Chios island**	**3.90**	**116**	P	**Pn**	**20 29 06.1**	**+0.7**
PLVB	**Pleven**	**3.95**	**34**	⇑P	**Pb**	**20 29 12.7**	**-2.4**
STON	**Ston**	**3.97**	**314**	Sn	**Sn**	**20 29 50.9**	**-1.6**
ELND	**Elena**	**4.25**	**48**	⇓P	**Pn**	**20 29 11.7**	**+1.6**
ELND				AML	AML	20 30 38.8	
APE	**Apeiranthos**	**4.38**	**134**	P	**Pn**	**20 29 12.9**	**+1.1**
MDVR	**Moldovita**	**4.62**	**1**	⇓P	**Pn**	**20 29 17.1**	**+1.9**
MDVR				AML	AML	20 31 06.3	
HVAR	**Hvar**	**4.88**	**310**	Sn	**Sn**	**20 30 13.6**	**-1.3**
GZR	**Gura Zlata**	**5.30**	**9**	⇑P	**Pn**	**20 29 26.3**	**+1.6**
GZR				AML	AML	20 30 34.1	
BZS	**Buzias**	**5.45**	**0**	⇓P	**Pn**	**20 29 28.5**	**+1.9**
ZIRJ	**Zirje**	**5.63**	**310**	Sn	**Sn**	**20 30 32.6**	**-0.9**
ARR	**Arges**	**5.67**	**22**	⇓P	**Pn**	**20 29 31.0**	**+1.4**
MORI	**Morici**	**5.72**	**312**	*e*Pn	**Pn**	**20 29 30.8**	**+0.5**

T0721	**Laino Castello**	**0.10 46**	P	Pn	20 29 12.8	+0.2
T0721			S	Sn	20 29 19.1	+0.6
CUC	**Castrocucco**	**0.14 337**	P	Pn	20 29 12.7	-0.1
CUC			S	Sn	20 29 19.2	+0.4
CUC			AML	AML		
	comp=E,80μm,1.6s					
CUC			AML	AML		
	comp=N,64μm,1.3s					
CUC			AML	AML		
	comp=N,64μm,1.3s					
CUC			AML	AML		
	comp=E,80μm,1.5s					
T0702	**Acquaformosa (**	**0.21 134**	P	Pn	20 29 13.2	0.0
T0702			S	Sn	20 29 19.7	+0.2
SIRI	**Monte Sirino -**	**0.31 358**	P	Pn	20 29 14.0	+0.1
CET2	**Cetraro**	**0.34 171**	P	Pn	20 29 14.5	+0.4
CET2			S	Sn	20 29 21.8	+0.6
CET2			AML	AML		
	comp=E,816μm,0.4s					
CET2			AML	AML		
	comp=E,816μm,0.4s					
CET2			AML	AML		
	comp=N,562μm,0.2s					
SALB	**San Lorenzo Be**	**0.35 88**	P	Pn	20 29 14.4	0.0
SALB			AML	AML		
	comp=N,134μm,0.6s					
SALB			AML	AML		
	comp=E,169μm,0.7s					
SALB			AML	AML		
	comp=N,134μm,0.6s					
SALB			AML	AML		
	comp=E,175μm,0.7s					
SALB			AML	AML		
	comp=E,176μm,0.7s					
SALB			AML	AML		
	comp=N,142μm,0.6s					
MGR	**Morigerati**	**0.37 317**	P	Pn	20 29 14.6	+0.2
MGR			S	Sn	20 29 22.2	+0.6
MGR			AML	AML		
	comp=E,118μm,0.2s					
MGR			AML	AML		
	comp=E,118μm,0.2s					
MGR			AML	AML		
	comp=N,88μm,0.7s					
MGR			AML	AML		
	comp=N,88μm,0.7s					
CAR1	**CAROLEI**	**0.66 158**	P	Pn	20 29 17.7	-0.1
CAR1			S	Sn	20 29 27.7	+0.2
CAR1			AML	AML		
	comp=E,84μm,1.3s					
CAR1			AML	AML		
	comp=N,116μm,0.7s					
CELI	**Celico**	**0.67 134**	P	Pn	20 29 18.8	+0.9
CELI			AML	AML		
	comp=N,120μm,1.3s					
CELI			AML	AML		
	comp=E,122μm,1.6s					
JOPP	**Joppolo**	**1.26 180**	P	Pn	20 29 26.3	+0.7
JOPP			AML	AML		
	comp=E,44μm,1.6s					
JOPP			AML	AML		
	comp=N,49μm,1.4s					
FAGN	**Fagnano**	**2.96 325**	AML	AML		
	comp=N,109μm,0.4s					
FAGN			AML	AML		
	comp=E,111μm,0.5s					

NNC 04 20:31:48.2±4.2, 37°.95N×71°.90E, h0km, mb3.8, mpv3.3, 1C-3D, Error ellipse: s-maj=35.4km s-min=30.3km az=35.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.08**	**22**	⇑P	Pn	20 33 06.2	+0.3
AAK	2.6nm,0.4s			⇓S	Sn	20 34 06.2	+0.8
	1.3nm,0.5s						
KK31	**Karatay Array**	**5.26**	**349**	⇓P	Pn	20 33 07.8	-0.3
KK31	2.2nm,0.4s,baz=0.8,slow=3.6,SNR=3.7			S	Sn	20 34 10.7	+1.4
	0.8nm,0.3s,baz=179,slow=24,SNR=7.8						
TKM2	**Tokmak 2**	**5.71**	**28**	⇓P	Pn	20 33 14.4	-0.1
	1.4nm,0.6s						

*ISCJB **04** 20:59:04.0±1.0, 10°.07N±0°.03×124°.20E±0°.05, h14km±6km, mb3.9/10, MS3.0/2, Error ellipse: s-maj=7.9km s-min=5.4km az=4.3*
*MAN **04** 20:59:03.8, 10°.08N×124°.20E, h4km, MS3.8*
MAN Intensity III - Lapu-Lapu City.
*NEIC **04** 20:59:04.6±1.1, 9°.97N±0°.06×124°.1E±0°.2, h10km±2km, mb4.6/8*
*IDC **04** 20:59:19.9±1.5, 9°.87N×124°.24E, h158km±16km, mb3.5/10, mb1 3.7/12, mb1mx3.4/39, mbtmp4.1/12, MS3.0/3, Ms1 3.1/3, ms1mx2.8/21, Error ellipse: s-maj=30.9km s-min=11.3km az=76.0*

ISC 04 20:59:04.0±1.3, 10°.05N±0°.03×124°.19E±0°.05, h8km±8km, n35, σ1§37/41, mb4.1/14, 4C-6D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.35**	**320**	⇓*i*P	Pg	20 59 10.4	-0.5
LLP				*i* S	Sg	20 59 15.7	+0.2
SNPH	**Sibulan**	**1.17**	**233**	⇓*i*P	Pg	20 59 26.9	+0.3
SNPH				*i* S	Sn	20 59 43.5	+0.5
PLP	**Palo**	**1.35**	**35**	⇑*e*P	Pn	20 59 29.1	-0.1
PLP				*e*S	Sn	20 59 47.0	-0.3
CGP	**Cagayan de Oro**	**1.66**	**163**	⇑*i*P	Pn	20 59 33.0	-0.4
CGP				*i* S	Sb	20 59 56.8	+0.9
DCPH	**Dipolog City**	**1.68**	**210**	⇓*e*P	Pb	20 59 34.9	-0.2
RCP	**Roxas**	**2.07**	**317**	⇑*e*P	Pn	20 59 38.8	-0.2
RCP				*e*S	Sb	21 00 07.0	-0.7
JAP	**San Jose, Anti**	**2.31**	**288**	⇑*e*P	Pb	20 59 44.6	-1.4
CTBH	**Cotabato--PC H**	**2.81**	**179**	⇓*i*P	Pn	20 59 50.2	+1.0
KCP	**Kidapawan**	**3.15**	**164**	⇓*e*P	Pn	20 59 56.5	+2.5
DAV	**Davao City (W)**	**3.26**	**155**	P	Pg	21 00 08.0	+1.4
	baz=115,slow=19,SNR=2.9						
DAV				S	Sg	21 00 47.3	-1.6
	255nm,0.3s,baz=186,slow=1.3,SNR=5.3						
DAV				LR	LR	21 01 48.8	
	comp=Z,170nm,18.2s,baz=300,slow=48						
LQP	**Lukban**	**4.80**	**328**	⇓*e*P	Pn	21 00 21.3	+4.5
BATI	**Baumata**	**20.13**	**182**	P	P	21 03 39.2	+0.6
	2.2nm,0.3s,baz=74,slow=1.6,SNR=7.2						
IPM	**Ipoh**	**23.63**	**258**	P	P	21 04 14.9	-1.0
IPM				IAmb	IAmb	21 04 17.1	
	comp=Z,18nm,1.1s						
KULM	**Kulim**	**23.80**	**260**	P	P	21 04 17.4	-0.1
KULM				IAmb	IAmb	21 04 37.0	
	comp=Z,28nm,1.4s						
CISI	**Cisompet, Garu**	**23.91**	**224**	P	P	21 04 17.4	-1.2
CMAR	**Chiang Mai Arr**	**25.83**	**292**	P	P	21 04 38.1	+2.0
	comp=Z,0.8nm,0.8s,baz=114,slow=7.8,SNR=5.6						
CMAR				LR	LR	21 15 34.3	
	comp=Z,63nm,18.2s,baz=182,slow=38						
KSRS	**Korea Array**	**27.49**	**6**	P	P	21 04 52.1	+1.3
	comp=Z,1.1nm,0.6s,baz=185,slow=10,SNR=3.2						
KSRS				LR	LR	21 15 29.2	
	comp=Z,26nm,21.4s,baz=216,slow=35						
FITZ	**Fitzroy Crossi**	**28.00**	**177**	P	P	21 04 53.9	-1.7
	comp=Z,2.9nm,0.9s,baz=22,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**31.43**	**161**	P	P	21 05 23.9	-2.1
	comp=Z,0.9nm,0.9s,baz=343,slow=9.5,SNR=3.5						
SHL	**Shillong**	**34.29**	**301**	P	P	21 05 51.3	+0.1
USA0B	**Ussuriysk Arra**	**34.69**	**10**	P	P	21 05 55.4	+1.2
USRK	**Ussuriysk Ar.**	**34.69**	**10**	P	P	21 05 55.9	+1.7
	comp=Z,3.5nm,1.0s,baz=174,slow=9.0,SNR=5.0						
USRK	**Ussuriysk Ar.**	**34.69**	**10**	P	P	21 05 55.5	+1.3
ASAR	**Alice Springs**	**34.83**	**164**	P	P	21 05 54.7	-0.9
	comp=Z,2.3nm,0.9s,baz=338,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**34.83**	**164**	P	P	21 05 54.4	-1.3
HIA	**Hailar**	**39.27**	**355**	P	P	21 06 34.4	+1.3
HIA				IAmb	IAmb	21 06 42.0	
	comp=Z,6.6nm,0.6s						
SONM	**Songino Array**	**40.55**	**342**	P	P	21 06 45.5	+1.7
	comp=Z,0.6nm,0.8s,baz=162,slow=8.1,SNR=2.9						
STKA	**Stephens Creek**	**44.89**	**159**	P	P	21 07 18.6	-0.5
	comp=Z,1.1nm,0.6s,baz=310,slow=22,SNR=3.3						
MK31	**Makanchi Array**	**50.98**	**324**	P	P	21 08 06.9	+0.6
MKAR	**Makanchi Array**	**50.98**	**324**	P	P	21 08 06.6	+0.3
	comp=Z,1.9nm,0.8s,baz=123,slow=8.4,SNR=16						
MKAR	**Makanchi Array**	**50.98**	**324**	P	P	21 08 06.2	-0.1
KURK	**Kurchatov**	**55.10**	**326**	P	P	21 08 35.9	-0.7
KURK				IAmb	IAmb	21 08 39.1	
	comp=Z,7.6nm,1.0s						
KKAR	**Karatay Array**	**56.96**	**315**	P	P	21 08 49.5	-0.5
ABKAR	**Akbulak array**	**65.71**	**320**	P	P	21 09 48.4	-0.8
FINES	**FINESS Array B**	**85.11**	**331**	P	P	21 11 39.0	-1.4
	comp=Z,4.8nm,1.2s,baz=150,slow=4.2,SNR=4.6						

*ISCJB **04** 21:33:43.3±0.9, 7°.00S±0°.07×129°.37E±0°.09, h100km, mb3.2/1, Error ellipse: s-maj=12.6km s-min=9.8km az=8.9*
*IDC **04** 21:33:44.9±2.3, 6°.97S×129°.57E, h88km±29km, mb3.0/1, mb1 3.5/6, mb1mx3.2/38, mbtmp3.7/6, Error ellipse: s-maj=39.4km s-min=22.7km az=96.0*

ISC 04 21:33:43.9±0.9, 6°.96S±0°.07×129°.6E±0°.1, h100km, n6, σ4§08/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.28**	**15**	P	Pn	21 35 14.9	+0.9
	0.2nm,0.3s,baz=197,slow=19,SNR=3.9						
SIJI				S	Sn	21 36 18.6	-5.8
	0.3nm,0.3s,baz=288,slow=20,SNR=1.8						
BATI	**Baumata**	**6.69**	**241**	P	Pn	21 35 21.8	+2.1
	9.3nm,0.3s,baz=107,slow=4.9,SNR=4.8						
BATI				S	Sn	21 36 30.0	-4.5
	3.3nm,0.3s,baz=232,slow=17,SNR=3.4						
FITZ	**Fitzroy Crossi**	**11.72**	**199**	P	Pn	21 36 27.3	-0.7
	0.2nm,0.3s,baz=14,slow=12,SNR=10						
FITZ				S	Sn	21 38 25.2	-12
	0.7nm,0.3s,baz=96,slow=16,SNR=8.0						
WRA	**Warramunga Arr**	**13.70**	**161**	P	Pn	21 36 54.9	+0.8
	0.7nm,0.3s,baz=339,slow=13,SNR=13						
WRA				S	Sn	21 39 16.6	-8.3
	0.6nm,0.3s,baz=331,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**17.12**	**166**	P	P	21 37 39.9	+2.7
	0.2nm,0.3s,baz=336,slow=11,SNR=11						
ASAR				S	Sn	21 40 42.3	-5.2
	0.2nm,0.3s,baz=356,slow=28,SNR=5.0						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	21 44 34.6	+2.3
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.7						

IDC 04 21:47:43.1±4.2, 6°.08S×149°.35E, h0km, mb2.9/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.3/3, ML1.8/1, Error ellipse: s-maj=166.6km s-min=41.9km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**213**	Pn	Pn	21 48 46.7	+1.7
	4.3nm,0.3s,baz=27,slow=6.8,SNR=6.6						
PMG				Sn	Sn	21 49 29.7	-2.5
	5.0nm,0.3s,baz=65,slow=18,SNR=9.2						
WRA	**Warramunga Arr**	**20.07**	**225**	P	P	21 52 17.4	-0.8
	0.3nm,0.3s,baz=50,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**22.95**	**219**	P	P	21 52 48.5	-0.7
	0.2nm,0.5s,baz=59,slow=8.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**147.37**	**285**	PKPbc	PKPbc	22 07 29.5	-0.4
	0.4nm,0.8s,baz=93,slow=2.8,SNR=3.7						

*ISCJB **04** 21:52:21.7±0.3, 28°.44S±0°.02×67°.66W±0°.03, h134km±3km, mb3.9/7, Error ellipse: s-maj=5.0km s-min=3.7km az=5.6*
*NEIC **04** 21:52:21.2±4.0, 28°.46S±0°.06×67°.57W±0°.09, h111km±2km*
*SJA **04** 21:52:22.3±0.8, 28°.50S×67°.59W, h133km±3km, ML4.1, MW4.2*
*IDC **04** 21:52:23.0±2.6, 28°.41S×67°.36W, h117km±20km, mb3.8/7, mb1 3.8/12, mb1mx3.7/28, mbtmp4.1/12, Error ellipse: s-maj=25.8km s-min=19.2km az=39.0*

ISC 04 21:52:22.2±0.6, 28°.47S±0°.04×67°.66W±0°.04, h130km±6km, n67, σ1§86/86, mb4.1/8, 4C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.55**	**241**	⇑*i*P	Pn	21 52 43.4	+1.7
VCA				*e*S	Sn	21 52 57.4	+0.8
VCA				IAML		21 53 01.1	
	comp=E,16μm,0.3s						
VCA	**Vinchina**	**0.55**	**241**	*i* P	Pn	21 52 43.4	+1.7
VCA				*e*S	Sn	21 52 58.0	+1.5
VCA				IAML		21 53 00.8	
	comp=Z,8μm,0.4s						
ACLC	**CERRO LA CRUZ**	**1.13**	**147**	*i* P	Pn	21 52 47.2	+0.7
ACLC				*e*S	Sn	21 53 05.8	+0.7
AGUA	**GUANDACOL**	**1.25**	**216**	*i* P	Pn	21 52 49.1	+1.4
AGUA				*e*S	Sn	21 53 08.8	+1.7
CYA	**Choya**	**1.63**	**89**	⇑*i*P	Pn	21 52 52.9	+1.1
CYA				*i* S	Sn	21 53 13.7	-0.7
CYA				IAML		21 53 15.0	
	comp=E,3μm,0.7s						
CYA	**Choya**	**1.63**	**89**	*i* P	Pn	21 52 52.5	+0.8
CYA				*e*S	Sn	21 53 14.0	-0.4
APLL	**PUNTA DE LOS L**	**2.15**	**153**	*i* P	Pn	21 52 58.8	+0.7
GO03	**Copiap**	**2.44**	**290**		Pn	21 53 03.4	+1.7
GO03				Sn	Sn	21 53 32.9	+0.9
AMOG	**MOGNA**	**2.57**	**196**	*i* P	Pn	21 53 04.6	+1.3
AHML	**Horco Molle**	**2.66**	**51**	⇑*i*P	Pn	21 53 05.3	+0.8
AHML				*i* S	Sn	21 53 36.2	-0.7
AHML				IAML		21 53 38.0	
	comp=N,220nm,0.6s						
AHML	**Horco Molle**	**2.66**	**51**	*i* P	Pn	21 53 05.2	+0.8
RTLL	**Cerro Villicun**	**2.94**	**194**	*i* P	Pn	21 53 09.3	+1.3
ZON	**Zonda**	**3.19**	**196**	*i* P	Pn	21 53 12.6	+1.3
ZON				IAML		21 53 52.5	
	comp=Z,214nm,0.6s						
GO04	**Tololo Observa**	**3.23**	**238**		Pn	21 53 13.1	+1.1
GO04				Sn	Sn	21 53 47.8	-2.6
GO04	**Tololo Observa**	**3.23**	**238**	*i* P	Pn	21 53 13.0	+1.1
LSCH	**La Serena**	**3.45**	**245**	*e*P	Pn	21 53 14.9	+0.3
LSCH				*i* S	Sn	21 53 54.5	-0.8
RTCV	**Cerro Valdivia**	**3.47**	**193**	*i* P	Pn	21 53 15.9	+1.0
RTLS	**Leoncito**	**3.61**	**203**	*i* P	Pn	21 53 18.5	+1.5
RTLS				IAML		21 54 03.0	
	comp=Z,174nm,0.5s						
GO02	**Mina Guanaco**	**3.72**	**332**		Pn	21 53 20.4	+1.8
GO02				Sn	Sn	21 54 02.8	+0.6
CO02	**Combarbal**	**3.98**	**226**	⇑*i*P	Pn	21 53 22.0	+0.2
CO02				*i* S	Sn	21 54 08.1	+0.1
ASAL	**Salagasta**	**4.23**	**194**	*i* P	Pn	21 53 26.2	+1.1
MRA	**San Martin**	**4.28**	**157**	*i* P	Pn	21 53 26.0	+0.3
ARCO	**CERRO ARCO**	**4.49**	**194**	*i* P	Pn	21 53 29.7	+1.1
PB14	**IPOC Station P**	**4.55**	**327**	*e*P	Pn	21 53 30.4	+0.8
PB14				*i* S	Sn	21 54 20.6	-1.3
AAGR	**Agrelo**	**4.71**	**192**	*i* P	Pn	21 53 32.4	+0.9
AZAP	**Zapla**	**4.82**	**29**	*i* P	Pn	21 53 34.8	+1.6
PEL	**Peldehue**	**5.34**	**208**	Pn	Pn	21 53 40.9	+1.1
ROC1	**El Roble**	**5.34**	**212**		Pn	21 53 38.9	-1.1
ROC1				Sn	Sn	21 54 33.1	-7.6
FCH	**Farellones**	**5.34**	**204**	*e*P	Pn	21 53 41.3	+1.1
PB10	**IPOC Station P**	**5.58**	**331**		Pn	21 53 43.4	+0.3
PB10				Sn	Sn	21 54 41.6	-4.7
HJA	**Humahuaca**	**5.62**	**22**	*i* P	Pn	21 53 46.6	+2.7
LVC	**Limon Verde**	**5.95**	**349**	P	Pn	21 53 49.2	+0.9
	comp=Z,13nm,0.3s,baz=185,slow=8.4,SNR=66						
LVC				S	Sn	21 54 53.3	-2.1
	comp=Z,9.9nm,0.3s,baz=252,slow=20,SNR=6.2						
LVC	**Limon Verde**	**5.95**	**349**		Pn	21 53 49.5	+1.2
PB04	**IPOC Station P**	**6.51**	**339**		Pn	21 53 55.0	-0.8
PB04				Sn	Sn	21 55 03.3	-5.6
COIS	**El Sosneado**	**6.82**	**194**	*i* P	Pn	21 53 58.9	-0.8
GO05	**Huala**	**7.47**	**208**	Pn	Pn	21 54 06.0	-2.4
PB01	**IPOC Station P**	**7.58**	**347**		Pn	21 54 09.2	-0.9
PB01				Sn	Sn	21 55 31.1	-3.5
PB11	**IPOC Station P**	**8.86**	**348**	Pn	Pn	21 54 25.7	-1.7
PB11				Sn	Sn	21 56 01.7	-4.0
GO01	**Chusmiza**	**8.88**	**351**		Pn	21 54 27.0	-0.9
CPUP	**Villa Florida**	**9.42**	**79**	P	Pn	21 54 32.3	-2.4
	comp=Z,0.6nm,0.3s,baz=252,slow=11,SNR=6.6						
CPUP	**Villa Florida**	**9.42**	**79**		Pn	21 54 33.5	-1.2
MNMC	**Minye Minye**	**9.46**	**349**		Pn	21 54 33.5	-2.1
TRQA	**Tornquist**	**10.67**	**155**		Pn	21 54 50.8	-0.7
GO06	**Curarrehue**	**11.53**	**195**	Pn	Pn	21 55 01.7	-1.2
LPAZ	**La Paz**	**12.13**	**358**	P	Pn	21 55 11.4	0.0
	comp=Z,0.4nm,0.3s,baz=171,slow=10,SNR=6.4						
LPAZ	**La Paz**	**12.13**	**358**		Pn	21 55 13.6	+2.1
PLCA	**Paso Flores**	**12.46**	**190**	P	Pn	21 55 18.4	+3.4
	comp=Z,0.1nm,0.3s,baz=45,slow=14,SNR=2.8						
SIV	**San Ignacio**	**13.83**	**27**	P	Pn	21 55 33.3	+0.5
	comp=Z,0.3nm,0.3s,baz=231,slow=11,SNR=4.4						
BDFB	**Brasilia**	**22.19**	**59**	P	P	21 57 06.1	-2.0
	comp=Z,2.5nm,0.5s,baz=186,slow=9.9,SNR=4.5						
BDFB	**Brasilia**	**22.19**	**59**	IAmb	IAmb	21 57 06.9	
	comp=Z,8.4nm,1.1s						
PTGA	**Pitinga**	**28.55**	**16**	P	P	21 58 07.6	+1.8
	comp=Z,1.5nm,0.3s,baz=162,slow=20,SNR=5.7						
PTGA	**Pitinga**	**28.55**	**16**	IAmb	IAmb	21 58 09.1	
	comp=Z,3.5nm,1.1s						
TXAR	**Lajitas Array**	**67.00**	**326**	P	P	22 03 03.7	+2.5
	comp=Z,0.3nm,0.7s,baz=142,slow=7.8,SNR=2.8						
TXAR	**Lajitas Array**	**67.00**	**326**	P	P	22 03 01.2	0.0
DBIC	**Dimbokro**	**69.82**	**70**	P	P	22 03 19.5	+0.6
	comp=Z,3.8nm,0.5s,baz=192,slow=3.9,SNR=12						
LENM	**Lemitar**	**72.56**	**327**	P	P	22 03 36.9	+1.7
O20A	**White River Ci**	**77.99**	**329**	P	P	22 04 04.9	-1.3
TOA0	**Torodi Ar. Sit**	**78.74**	**68**	P	P	22 04 12.3	+1.7
TOA0				IAmb	IAmb	22 04 13.2	
	comp=Z,6.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.74**	**68**	P	P	22 04 11.3	+0.7
	comp=Z,4.4nm,0.7s,baz=233,slow=4.5,SNR=43						
TORD	**Torodi Ar. Bea**	**78.74**	**68**	P	P	22 04 10.7	0.0
BOSA	**Boshof**	**79.24**	**117**	P	P	22 04 14.5	+1.0
	comp=Z,1.5nm,0.8s,baz=207,slow=8.1,SNR=3.3						
PDAR	**Pinedale Array**	**80.70**	**330**	P	P	22 04 23.1	+2.2
	comp=Z,0.7nm,0.5s,baz=131,slow=8.1,SNR=7.4						
KURBB	**Kurchatov Arra**	**146.25**	**40**	PKPbc	PKPab	22 11 49.3	+1.2
	comp=Z,0.5nm,0.4s,baz=307,slow=3.9,SNR=6.1						
KURBB				pPKPbc	pPKPab	22 12 23.0	+0.5
	comp=Z,0.8nm,0.7s,baz=302,slow=4.1,SNR=3.2						
AAK	**Ala-Archa**	**146.41**	**55**	PKPbc	PKPab	22 11 49.3	+0.1
	comp=Z,1.4nm,0.6s,baz=244,slow=2.6,SNR=5.6						
AAK	**Ala-Archa**	**146.41**	**55**		PKPbc	22 11 48.1	0.0
ZALV	**Zalesovo Beam**	**147.57**	**31**	PKPbc	PKiKP	22 11 52.4	-0.3
	comp=Z,0.9nm,0.3s,baz=269,slow=4.5,SNR=5.3						
ZALV				pPKPbc	pPKPbc	22 12 26.2	+0.5
	comp=Z,0.2nm,0.3s,baz=300,slow=4.6,SNR=2.6						
MKAR	**Makanchi Array**	**150.24**	**44**	PKPbc	PKiKP	22 11 59.8	+1.3
	comp=Z,0.6nm,0.7s,baz=325,slow=1.9,SNR=5.8						
MKAR				pPKPbc	pPKPbc	22 12 34.2	+1.4
	comp=Z,0.9nm,0.7s,baz=316,slow=3.3,SNR=3.2						

*ISCJB **04** 21:59:33.1±0.7, 55°.8S±0°.2×30°.1W±0°.3, h10km, mb4.1/6, MS3.4/6, Error ellipse: s-maj=30.3km s-min=11.7km az=43.8*
*IDC **04** 21:59:33.8±0.9, 55°.71S×29°.84W, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/21, mbtmp4.0/7, ML3.3/1, MS3.4/6, Ms1 3.4/6, ms1mx3.2/15, Error ellipse: s-maj=46.3km s-min=20.0km az=46.0*
*NEIC **04** 21:59:34.7±1.6, 55°.7S±0°.2×30°.2W±0°.2, h10km±1km, mb4.4/10*

ISC 04 21:59:34.7±0.7, 55°.8S±0°.2×30°.4W±0°.1, h10km, n29, σ1§32/24, mb4.3/8, MS3.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.85**	**291**	Pn	Pn	22 00 34.5	+0.7
HOPE				Sn	Sn	22 01 17.0	-2.1
SNAA	**Sanae**	**19.71**	**154**	P	Pn	22 04 05.2	-0.2
	0.1nm,0.3s,baz=303,slow=11,SNR=6.4						
SNAA	**Sanae**	**19.71**	**154**	P	P	22 04 04.0	+0.1
SNAA				IAmb	IAmb	22 04 13.6	
	comp=Z,7.2nm,1.0s						
USHA	**Ushuaia**	**21.52**	**257**	LR	LR	22 11 33.6	
	comp=Z,117nm,18.2s,baz=86,slow=33						
PLCA	**Paso Flores**	**30.21**	**283**	LR	LR	22 17 25.0	
	comp=Z,81nm,19.9s,baz=176,slow=35						
CPUP	**Villa Florida**	**35.35**	**315**	P	P	22 06 31.9	+1.8
	comp=Z,3.3nm,0.8s,baz=153,slow=6.9,SNR=4.4						
CPUP				LR	LR	22 21 17.5	
	comp=Z,42nm,18.7s,baz=192,slow=37						
CPUP	**Villa Florida**	**35.35**	**315**	P	P	22 06 29.9	-0.2
CPUP				IAmb	IAmb	22 06 32.5	
	comp=Z,5.7nm,1.0s						
MAW	**Mawson**	**41.39**	**145**	P	P	22 07 20.4	-0.1
	comp=Z,1.8nm,0.9s,baz=245,slow=14,SNR=3.7						
MAW				LR	LR	22 22 17.8	
	comp=Z,34nm,19.1s,baz=240,slow=33						
MAW	**Mawson**	**41.39**	**145**	IAmb	IAmb	22 07 27.4	
	comp=Z,0.7nm,1.1s						
LVC	**Limon Verde**	**43.66**	**303**	P	P	22 07 42.4	+2.5
	comp=Z,4.5nm,0.8s,baz=137,slow=8.1,SNR=3.8						
LVC	**Limon Verde**	**43.66**	**303**	P	P	22 07 40.9	+1.0
LVC				IAmb	IAmb	22 07 49.1	
	comp=Z,9.9nm,1.4s						
SIV	**San Ignacio**	**46.15**	**317**	P	P	22 08 00.8	+1.5
	comp=Z,0.8nm,0.5s,baz=169,slow=9.6,SNR=5.2						
GO01	**Chusmiza**	**46.33**	**305**	P	P	22 08 02.4	+1.2
MNMC	**Minye Minye**	**46.98**	**305**	P	P	22 08 07.7	+1.6
BOSA	**Boshof**	**47.65**	**79**	LR	LR	22 25 34.3	
	comp=Z,46nm,18.1s,baz=184,slow=33						
LPAZ	**La Paz**	**48.81**	**309**	P	P	22 08 22.6	+1.9
	comp=Z,4.1nm,0.7s,baz=157,slow=5.9,SNR=19						
LPAZ	**La Paz**	**48.81**	**309**	P	P	22 08 21.0	+0.3
H10N1	**ASCENSION HYDR**	**49.46**	**21**	T	T	23 01 50.3	
	baz=191						
H10N3	**ASCENSION HYDR**	**49.46**	**21**	T	T	23 01 46.6	
	baz=191,slow=74						
H10N2	**ASCENSION HYDR**	**49.48**	**21**	T	T	23 01 58.9	
	baz=191,slow=74						
SAML	**Samuel**	**53.40**	**318**	P	P	22 08 53.0	-1.5
SAML				IAmb	IAmb	22 09 02.2	
	comp=Z,5.2nm,1.1s						
ROSC	**El Rosal**	**70.39**	**313**	LR	LR	22 45 22.7	
	comp=Z,44nm,18.6s,baz=79,slow=39						
SDV	**Santo Domingo**	**72.61**	**318**	P	P	22 11 01.5	-0.8
SDV				IAmb	IAmb	22 11 09.9	
	comp=Z,4.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.76**	**33**	P	P	22 11 08.9	0.0
	comp=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAF	**Taforalt**	**1.10**	**215**	P	**Pg**	**22 03 53.8**	**-1.2**
TAF				S	**Sn**	**22 04 12.4**	**+0.7**
MELI	**Melilla**	**1.14**	**248**	P	**Pb**	**22 03 55.7**	**-0.4**
	37nm,0.2s,SNR=7.9						
MELI				S	**Sn**	**22 04 11.8**	**-0.7**
	55nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**1.16**	**249**	P	**Pb**	**22 03 54.8**	**-1.6**
	79nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**22 04 10.7**	**-0.9**
	333nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.22**	**246**	P	**Pg**	**22 03 58.0**	**+0.9**
GOG				S	**Sn**	**22 04 14.4**	**-0.1**
ENIJ	**Nijar**	**1.33**	**340**	⇑P	**Pg**	**22 03 59.5**	**+0.1**
	3.0nm,0.2s,SNR=18						
ENIJ				S	**Sg**	**22 04 17.8**	**+1.1**
	72nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.55**	**320**	P	**Pg**	**22 04 03.3**	**-0.3**
	4.8nm,0.2s,SNR=28						
EBER				S	**Sg**	**22 04 24.7**	**+1.0**
	37nm,0.2s,SNR=7.5						
JBK	**JBK**	**1.58**	**209**	P	**Pg**	**22 04 04.6**	**+0.4**
JBK				S	**Sg**	**22 04 24.9**	**+0.3**
PALE	**Palemas**	**1.94**	**256**	P	**Pb**	**22 04 09.2**	**-0.6**
PALE				S	**Sn**	**22 04 32.1**	**-0.3**
ELGU	**Los Guajares,**	**1.97**	**306**	P	**Pn**	**22 04 08.3**	**+0.2**
	1.3nm,0.1s,SNR=7.9						
ELGU				S	**Sb**	**22 04 33.6**	**-1.6**
	21nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.08**	**316**	P	**Pb**	**22 04 11.8**	**-0.3**
	4.6nm,0.2s,SNR=24						
EQUE				S	**Sg**	**22 04 39.5**	**-1.1**
	11nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.14**	**8**	P	**Pn**	**22 04 09.2**	**-1.2**
	1.6nm,0.2s,SNR=13						
EMUR				S	**Sn**	**22 04 34.5**	**-2.8**
	36nm,0.5s,SNR=8.8						
AKLM	**AKL**	**2.19**	**237**	P	**Pb**	**22 04 13.1**	**-0.9**
AKLM				S	**Sb**	**22 04 39.3**	**-2.1**
EQES	**Quesada**	**2.38**	**331**	P	**Pb**	**22 04 16.9**	**-0.3**
	4.0nm,0.1s,SNR=7.9						
EQES				S	**Sb**	**22 04 47.8**	**+0.9**
	17nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.43**	**306**	P	**Pb**	**22 04 17.1**	**-1.0**
	0.8nm,0.1s,SNR=7.9						
EGOR				S	**Sb**	**22 04 48.0**	**-0.4**
	9.8nm,0.3s,SNR=4.0						
SESP	**Santiago Espad**	**2.50**	**343**	P	**Pb**	**22 04 20.3**	**+0.9**
SESP				S	**Sg**	**22 04 55.7**	**+1.3**
SESP	**Santiago Espad**	**2.50**	**343**	P	**Pb**	**22 04 18.4**	**-1.1**
	10.0nm,0.2s,SNR=7.9						
SESP				S	**Sb**	**22 04 48.3**	**-2.3**
	0.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.67**	**289**	P	**Pn**	**22 04 17.1**	**-0.5**
	1.4nm,0.1s,SNR=25						
EMIJ				S	**Sn**	**22 04 50.2**	**-0.2**
	4.9nm,0.2s,SNR=7.9						
TDRA	**Tendrara**	**2.69**	**187**	P	**Pb**	**22 04 22.9**	**+0.2**
TDRA				S	**Sb**	**22 04 56.3**	**+0.2**
ETOB	**Tobarra**	**2.92**	**1**	P	**Pn**	**22 04 22.0**	**+1.0**
	3.4nm,0.3s,SNR=22						
ETOB				S	**Sn**	**22 04 57.3**	**+0.7**
	13nm,0.2s,SNR=5.5						
EADA	**Adamuz**	**3.39**	**317**	P	**Pb**	**22 04 30.7**	**-3.8**
	0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**22 05 10.3**	**+2.1**
	6.8nm,0.3s,SNR=7.9						
SICH	**Sidi Chahed**	**3.43**	**243**	P	**Pn**	**22 04 30.8**	**+2.8**
SICH				S	**Sn**	**22 05 07.5**	**-1.5**
FIGM	**Figuig**	**3.59**	**175**	P	**Pn**	**22 04 34.1**	**+3.7**
FIGM				S	**Sb**	**22 05 17.9**	**-4.0**
HORN	**Hornachuelos**	**3.60**	**307**	P	**Pb**	**22 04 35.4**	**-2.6**
HORN				S	**Sn**	**22 05 16.0**	**+2.8**
MDT	**Midelt**	**3.80**	**221**	P	**Pn**	**22 04 34.1**	**+0.8**
MDT				S	**Sn**	**22 05 16.6**	**-1.7**
ECAB	**El Cabril**	**3.83**	**309**	P	**Pn**	**22 04 35.5**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**22 05 20.6**	**+1.5**
	1.1nm,0.2s,SNR=7.9						
MD31	**MD31**	**3.84**	**223**	P	**Pn**	**22 04 35.4**	**+1.6**
MD31				S	**Sn**	**22 05 17.9**	**-1.5**
CZD	**Col de Zad**	**3.89**	**227**	P	**Pn**	**22 04 35.4**	**+0.8**
CZD				S	**Sn**	**22 05 21.9**	**+1.1**
ESDC	**Sonseca Array**	**4.36**	**336**	P	**Pn**	**22 04 42.6**	**+1.8**
	0.2nm,0.2s,baz=149,slow=13,SNR=4.6						
ESDC				S	**Sn**	**22 05 30.8**	**-1.2**
	1.5nm,0.2s,baz=153,slow=22,SNR=7.9						
PAB	**San Pablo**	**4.38**	**331**	P	**Pn**	**22 04 43.7**	**+2.5**
	0.4nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**22 05 33.7**	**+1.0**
	2.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.53**	**298**	P	**Pn**	**22 04 44.2**	**+1.1**
	0.5nm,0.1s,SNR=9.1						
EMIN				S	**Sn**	**22 05 37.0**	**+0.8**
	0.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.04**	**293**	P	**Pn**	**22 04 52.1**	**+2.0**
	0.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**5.10**	**356**	P	**Pn**	**22 04 52.6**	**+1.6**
	3.3nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.17**	**291**	*e*Pn	**Pn**	**22 04 53.6**	**+1.6**
PVAQ				*e*Sn	**Sn**	**22 05 53.7**	**+1.6**
PVAQ				A	A	22 06 01.1	
	2.0nm,0.5s						
PVAQ	**Vaqueiros**	**5.17**	**291**	P	**Pn**	**22 04 53.6**	**+1.6**
PVAQ				S	**Sn**	**22 05 53.7**	**+1.6**
	2.0nm,0.5s						
EBAD	**Badajoz**	**5.25**	**307**	P	**Pn**	**22 04 54.5**	**+1.5**
	0.3nm,0.1s,SNR=5.4						
EBAD				S	**Sn**	**22 05 54.1**	**+0.2**
	4.1nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**5.29**	**289**	*e*Pn	**Pn**	**22 04 54.7**	**+1.0**
PBDV				A	A	22 06 05.3	
	3.5nm,0.8s						
PBDV	**Barranco-do-Ve**	**5.29**	**289**	P	**Pn**	**22 04 54.7**	**+1.0**
PCVE	**Castro Verde**	**5.49**	**292**	*e*Pn	**Pn**	**22 04 58.0**	**+1.7**
PCVE	**Castro Verde**	**5.49**	**292**	P	**Pn**	**22 04 58.0**	**+1.7**
MESJ	**Messejana**	**5.69**	**294**	*e*Pn	**Pn**	**22 05 00.8**	**+1.7**
MESJ				A	A	22 06 09.9	
	2.6nm,1.0s						
MESJ	**Messejana**	**5.69**	**294**	P	**Pn**	**22 05 00.8**	**+1.7**

*TIR **04** 22:09:09.4,38.°95N×23.°78E,h10km,Md3.9/6*
*IDC **04** 22:09:15.7±1.1,38.°82N×23.°05E,h0km,mb3.8/10, mb1 3.9/14,mb1mx3.7/52,mbtmp3.8/14,ML3.7/3,MS2.9/7, Ms1 2.9/7,ms1mx2.6/42,Error ellipse: s-maj=21.8km s-min=15.8km az=152.0*
*ISK **04** 22:09:17.4,38.°96N×23.°11E,h10km,ML3.7/9*
*ATH **04** 22:09:17.1,38.°91N×23.°10E,h23km,ML3.9/40,Error ellipse: s-maj=0.7km s-min=0.5km az=189.0*
*THE **04** 22:09:17.8,38.°91N×23.°09E,h13km,ML4.0/18,Error ellipse: s-maj=0.7km s-min=0.4km az=73.0*
*NEIC **04** 22:09:18.2±2.4,38.°94N±0.°04×23.°04E±0.°04,h14km±6km*
*ISCJB **04** 22:09:18.1±0.2,38.°94N±0.°01×23.°10E±0.°01,h21km±2km, mb3.8/9,MS3.1/3,Error ellipse: s-maj=1.9km s-min=1.8km az=11.1*
ISC 04 22:09:17.7±0.8,38.°90N±0.°01×23.°10E±0.°01,h16km±6km, n276,σ1°39/338,mb3.9/10,MS3.0/3,26C-28D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.27**	**198**	P	**Pg**	**22 09 23.6**	**0.0**
LKR				S	**Sg**	**22 09 27.8**	**+0.4**
	38μm,0.2s						
LKR	**Lokris**	**0.27**	**198**	P	**Pg**	**22 09 23.5**	**0.0**
LKR				S	**Sb**	**22 09 27.9**	**-0.5**
LKR				AML	AML	22 09 28.6	
	comp=E,80604μm,0.2s						
LKR				AML	AML	22 09 29.1	
	comp=N,71267μm,0.2s						
AXAR	**Agios Charalam**	**0.37**	**249**	P	**Pg**	**22 09 25.3**	**-0.1**
AXAR				S	**Sb**	**22 09 31.5**	**0.0**
AXAR				AML	AML	22 09 34.2	
AXAR				AML	AML	22 09 35.1	
SKIA	**Skiathos**	**0.39**	**47**	P	**Pg**	**22 09 25.8**	**+0.1**
SKIA				S	**Sb**	**22 09 31.9**	**-0.1**
	comp=N,15μm,0.4s						
SKIA	**Skiathos**	**0.39**	**47**	P	**Pg**	**22 09 25.8**	**+0.1**
SKIA				S	**Sb**	**22 09 31.6**	**-0.4**
NEO	**Neokhori**	**0.41**	**13**	P	**Pg**	**22 09 26.2**	**0.0**
NEO				S	**Sg**	**22 09 31.7**	**-0.2**
	comp=N,94μm,0.4s						
NEO	**Neokhori**	**0.41**	**13**	P	**Pg**	**22 09 26.1**	**-0.1**
NEO				S	**Sg**	**22 09 31.8**	**0.0**
NEO				AML	AML	22 09 32.0	
NEO				AML	AML	22 09 32.3	
MRKA	**Markates**	**0.43**	**117**	P	**Pg**	**22 09 26.4**	**0.0**
MRKA				S	**Sg**	**22 09 32.7**	**+0.5**
	comp=N,25μm,0.4s						
MRKA	**Markates**	**0.43**	**117**	P	**Pg**	**22 09 26.4**	**0.0**
MRKA				S	**Sg**	**22 09 32.4**	**+0.2**
MRKA				AML	AML	22 09 33.8	
	comp=N,55676μm,0.4s						
MRKA				AML	AML	22 09 34.5	
	comp=E,45021μm,0.3s						
XOR	**Xorichti**	**0.47**	**9**	P	**Pg**	**22 09 27.1**	**0.0**
XOR				S	**Sg**	**22 09 33.4**	**-0.1**
	comp=E,47μm,0.2s						
XOR	**Xorichti**	**0.47**	**9**	P	**Pg**	**22 09 27.1**	**0.0**
XOR				S	**Sg**	**22 09 33.2**	**-0.2**
XOR				AML	AML	22 09 34.1	
	comp=E,72153μm,0.2s						
XOR				AML	AML	22 09 34.1	
AGG	**Agios Georgios**	**0.61**	**281**	P	**Pg**	**22 09 29.3**	**-0.6**
AGG				S	**Sb**	**22 09 38.9**	**+0.4**
	comp=E,15μm,0.6s						
AGG	**Agios Georgios**	**0.61**	**281**	P	**Pg**	**22 09 29.3**	**-0.6**
AGG				S	**Sb**	**22 09 38.5**	**-0.1**
AGG				AML	AML	22 09 39.8	
	comp=N,35211μm,0.7s						
AGG				AML	AML	22 09 42.5	
	comp=E,23853μm,0.7s						
AGG	**Agios Georgios**	**0.61**	**281**	PG	**Pg**	**22 09 29.3**	**-0.6**
AGG				SG	**Sb**	**22 09 38.6**	**+0.1**
AGG	**Agios Georgios**	**0.61**	**281**		**Pg**	**22 09 29.1**	**-0.7**
AGG					**Sg**	**22 09 36.3**	**-1.7**
DLFA	**Delphi**	**0.64**	**228**	P	**Pg**	**22 09 29.4**	**-0.9**
DLFA				AML	AML	22 09 40.4	
	comp=E,23311μm,0.3s						
DLFA				AML	AML	22 09 41.8	
	comp=N,28164μm,0.5s						
ALNA	**Alonissos**	**0.64**	**68**	P	**Pg**	**22 09 30.1**	**-0.3**
ALNA				S	**Sb**	**22 09 39.4**	**0.0**
ALNA				AML	AML	22 09 42.0	
	comp=E,22783μm,0.5s						
ALNA				AML	AML	22 09 42.9	
	comp=N,19620μm,0.5s						
AOS	**Alonnisos**	**0.66**	**66**	P	**Pg**	**22 09 30.1**	**-0.6**
AOS				S	**Sg**	**22 09 39.4**	**-0.1**
	comp=N,8μm,0.4s						
AOS	**Alonnisos**	**0.66**	**66**	P	**Pg**	**22 09 30.0**	**-0.8**
AOS				S	**Sg**	**22 09 38.9**	**-0.6**
AOS				AML	AML	22 09 40.1	
	comp=E,15763μm,0.5s						
AOS				AML	AML	22 09 42.3	
	comp=N,15223μm,0.4s						
AOS	**Alonnisos**	**0.66**	**66**	PG	**Pg**	**22 09 30.1**	**-0.6**
AOS				SG	**Sg**	**22 09 39.2**	**-0.3**
PROD	**Prodromos**	**0.66**	**194**	P	**Pg**	**22 09 30.2**	**-0.6**
PROD	**Prodromos**	**0.66**	**194**	P	**Pg**	**22 09 30.1**	**-0.6**
DSF	**Desfina**	**0.67**	**223**	P	**Pg**	**22 09 30.1**	**-0.7**
DSF				S	**Sb**	**22 09 41.0**	**+0.9**
	comp=N,16μm,0.2s						
DSF	**Desfina**	**0.67**	**223**	P	**Pg**	**22 09 30.2**	**-0.6**
DSF				S	**Sb**	**22 09 40.4**	**+0.3**
DSF				AML	AML	22 09 42.2	
	comp=E,29408μm,0.2s						
DSF				AML	AML	22 09 44.1	
	comp=N,31903μm,0.2s						
VIL2	**Platees**	**0.70**	**169**	P	**Pb**	**22 09 32.0**	**+0.4**
VIL2				S	**Sb**	**22 09 42.1**	**+1.0**
VIL2				AML	AML	22 09 45.3	
	comp=N,31787μm,0.3s						
VIL2				AML	AML	22 09 46.4	
	comp=E,48831μm,0.4s						
VILL	**Villia**	**0.76**	**167**	P	**Pg**	**22 09 32.0**	**-0.5**
VILL				S	**Sb**	**22 09 43.4**	**+0.7**
	comp=E,2μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.77**	**279**	P	**Pg**	**22 09 32.1**	**-0.6**
MAKR				S	**Sb**	**22 09 43.2**	**+0.3**
	comp=E,33μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.77**	**279**	P	**Pg**	**22 09 32.1**	**-0.6**
MAKR				S	**Sb**	**22 09 43.3**	**+0.3**
MAKR				AML	AML	22 09 44.6	
MAKR				AML	AML	22 09 47.8	
	comp=E,31803μm,0.6s						
EREA	**Eretria**	**0.81**	**126**	P	**Pb**	**22 09 33.3**	**-0.2**
EREA				S	**Sn**	**22 09 45.5**	**-0.7**
	comp=E,16μm,0.4s						
EREA	**Eretria**	**0.81**	**126**	P	**Pb**	**22 09 33.3**	**-0.2**
EREA				S	**Sg**	**22 09 45.2**	**+1.0**
EREA				AML	AML	22 09 46.2	
	comp=E,38307μm,0.4s						
EREA				AML	AML	22 09 48.4	
	comp=N,24205μm,0.4s						
LTK	**Loutraki**	**0.89**	**187**	P	**Pb**	**22 09 34.3**	**-0.4**
LTK	**Loutraki**	**0.89**	**187**	P	**Pb**	**22 09 34.3**	**-0.4**
LTK				S	**Sg**	**22 09 47.0**	**+0.4**
LTK				AML	AML	22 09 50.4	
	comp=E,30798μm,0.4s						
LTK				AML	AML	22 09 51.8	
	comp=N,21412μm,0.6s						
KALE	**Kalithea**	**0.91**	**236**	P	**Pb**	**22 09 34.5**	**-0.7**
KALE				S	**Sn**	**22 09 48.2**	**-0.6**
	comp=N,8μm,0.5s						
KALE	**Kalithea**	**0.91**	**236**	P	**Pb**	**22 09 34.4**	**-0.8**
KALE				S	**Sg**	**22 09 47.7**	**+0.2**
KALE				AML	AML	22 09 50.5	
	comp=N,17500μm,0.6s						
KALE				AML	AML	22 09 52.3	
	comp=E,14957μm,0.4s						
LOUT	**Loutraki**	**0.92**	**186**	P	**Pb**	**22 09 34.9**	**-0.5**
LOUT				S	**Sn**	**22 09 49.4**	**+0.5**
LOUT	**Loutraki**	**0.92**	**186**	P	**Pb**	**22 09 34.8**	**-0.5**
LOUT				S	**Sn**	**22 09 48.4**	**-0.6**
LOUT				AML	AML	22 09 50.5	
	comp=N,3578μm,0.5s						
LOUT				AML	AML	22 09 54.0	
	comp=E,3208μm,0.6s						
LRSO	**Larissa Observ**	**0.94**	**324**	P	**Pb**	**22 09 35.5**	**-0.2**
LRSO				S	**Sn**	**22 09 49.4**	**-0.1**
	comp=E,7μm,0.6s						
LRSO	**Larissa Observ**	**0.94**	**324**	P	**Pb**	**22 09 35.5**	**-0.2**
SERG	**Sergoula**	**0.95**	**239**	P	**Pb**	**22 09 35.2**	**-0.8**
SERG				S	**Sn**	**22 09 49.3**	**-0.5**
	comp=E,11μm,0.5s						
SERG	**Sergoula**	**0.95**	**239**	P	**Pb**	**22 09 35.1**	**-0.8**
SERG				S	**Sg**	**22 09 48.6**	**-0.2**
SERG				AML	AML	22 09 49.4	
	comp=E,19838μm,0.4s						
SERG				AML	AML	22 09 49.7	
	comp=N,25601μm,0.5s						
TRIZ	**Trizonia**	**0.97**	**237**	P	**Pb**	**22 09 35.3**	**-0.9**
TRIZ				S	**Sg**	**22 09 49.4**	**+0.2**
	comp=N,9μm,0.5s						
TRIZ	**Trizonia**	**0.97**	**237**	P	**Pb**	**22 09 35.2**	**-0.9**
TRIZ				S	**Sn**	**22 09 49.9**	**-0.2**
EVR	**Evrytania**	**1.01**	**271**	P	**Pb**	**22 09 36.1**	**-0.8**
EVR				S	**Sg**	**22 09 50.7**	**+0.2**
	comp=N,3μm,0.8s						
EVR	**Evrytania**	**1.01**	**271**	P	**Pb**	**22 09 36.3**	**-0.6**
EVR				AML	AML	22 09 57.9	
	comp=N,4418μm,0.6s						
EVR				AML	AML	22 09 58.1	
	comp=E,6381μm,0.6s						
PTL	**Penteli**	**1.04**	**145**	P	**Pb**	**22 09 37.4**	**0.0**
PTL				S	**Sn**	**22 09 52.1**	**+0.1**
	comp=E,8μm,0.6s						
PTL	**Penteli**	**1.04**	**145**	P	**Pb**	**22 09 37.2**	**-0.3**
PTL				S	**Sn**	**22 09 52.1**	**+0.1**
PTL				AML	AML	22 09 53.4	
	comp=N,15191μm,0.7s						
PTL				AML	AML	22 09 55.9	
	comp=E,16916μm,0.4s						
ATH	**Athens Observa**	**1.05**	**152**	P	**Pg**	**22 09 38.2**	**+0.2**
ATH	**Athens Observa**	**1.05**	**152**	P	**Pn**	**22 09 37.7**	**-0.1**
ATH				S	**Sg**	**22 09 51.7**	**-0.1**
ATH				AML	AML	22 09 54.1	
	comp=N,22045μm,0.4s						
ATH				AML	AML	22 09 54.7	
	comp=E,25910μm,0.3s						
EFP	**Efpalio**	**1.05**	**243**	P	**Pb**	**22 09 36.8**	**-0.7**
EFP	**Efpalio**	**1.05**	**243**	P	**Pb**	**22 09 37.3**	**-0.3**
EFP				AML	AML	22 09 55.3	
	comp=N,12273μm,1.0s						
EFP				AML	AML	22 09 56.1	
	comp=E,14191μm,0.8s						
THL	**Klokotos Trika**	**1.07**	**308**	P	**Pb**	**22 09 36.9**	**-1.0**
THL	**Klokotos Trika**	**1.07**	**308**	P	**Pb**	**22 09 37.0**	**-1.0**
THL				S	**Sn**	**22 09 52.9**	**+0.2**
ATHU	**Athens Univers**	**1.08**	**150**	P	**Pb**	**22 09 37.9**	**-0.1**
ATHU	**Athens Univers**	**1.08**	**150**	P	**Pb**	**22 09 37.9**	**-0.1**
ATHU				S	**Sb**	**22 09 52.3**	**+0.4**
ATHU				AML	AML	22 09 54.3	
	comp=E,7201μm,0.4s						
ATHU				AML	AML	22 09 54.9	
	comp=N,7467μm,0.4s						
LAKA	**Lakka**	**1.10**	**233**	P	**Pb**	**22 09 37.6**	**-0.9**
LAKA				AML	AML	22 09 60.0	
	comp=N,3597μm,0.6s						
LAKA				AML	AML	22 10 00.6	
	comp=E,4634μm,0.7s						
PAIG	**Paliouri**	**1.12**	**23**	P	**Pb**	**22 09 38.5**	**-0.2**
PAIG	**Paliouri**	**1.12**	**23**	P	**Pb**	**22 09 38.5**	**-0.2**
PAIG				AML	AML	22 09 55.4	
	comp=E,9593μm,0.6s						
PAIG				AML	AML	22 09 56.4	
	comp=N,4625μm,0.4s						
SKY	**Skiros Island**	**1.13**	**91**	P	**Pg**	**22 09 39.3**	**-0.3**
SKY				S	**Sn**	**22 09 53.8**	**-0.3**
	comp=N,8μm,0.4s						
SKY	**Skiros Island**	**1.13**	**91**	P	**Pg**	**22 09 39.4**	**-0.2**
SKY				S	**Sn**	**22 09 53.9**	**-0.2**
SKY				AML	AML	22 09 56.5	
	comp=N,12896μm,0.3s						
SKY				AML	AML	22 09 57.1	
	comp=E,15648μm,0.3s						
KLV	**Kalavryta, Ach**	**1.14**	**221**	P	**Pb**	**22 09 38.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.14**	**221**	P	**Pb**	**22 09 38.5**	**-0.6**
PVO	**Paravola**	**1.27**	**257**	P	**Pb**	**22 09 41.2**	**0.0**
PVO				AML	AML	22 10 05.7	
	comp=N,5281μm,0.5s						
PVO				AML	AML	22 10 10.1	
	comp=E,3495μm,0.9s						
LIT	**Litokhoron**	**1.29**	**339**	P	**Pn**	**22 09 41.0**	**-0.1**
LIT	**Litokhoron**	**1.29**	**339**	P	**Pn**	**22 09 41.3**	**+0.2**
LIT				S	**Sn**	**22 09 58.6**	**+0.6**
LIT				AML	AML	22 10 01.9	
	comp=E,8557μm,0.3s						
LIT				AML	AML	22 10 02.0	
	comp=N,11356μm,0.8s						
LIT	**Litokhoron**	**1.29**	**339**		**Pn**	**22 09 41.2**	**+0.2**
EPID	**Epidavros**	**1.29**	**179**	P	**Pb**	**22 09 41.7**	**+0.1**
EPID				S	**Sg**	**22 10 00.2**	**+0.9**
KARY	**Karystos**	**1.36**	**129**	P	**Pb**	**22 09 43.0**	**+0.1**
KARY				S	**Sg**	**22 10 01.1**	**-0.6**
KARY				AML	AML	22 10 05.6	
	comp=E,4890μm,0.5s						
KARY				AML	AML	22 10 06.5	
	comp=N,3325μm,0.3s						
DID	**Didima**	**1.40**	**176**	P	**Pn**	**22 09 43.0**	**+0.4**
DID				S	**Sg**	**22 10 02.4**	**-0.5**
DID				AML	AML	22 10 04.9	
	comp=E,13830μm,0.6s						
DID				AML	AML	22 10 04.9	
	comp=N,12817μm,0.6s						
DRO	**Drossia**	**1.45**	**229**	P	**Pb**	**22 09 44.2**	**-0.2**
DRO				AML	AML	22 10 11.1	
	comp=E,7801μm,0.7s						
DRO				AML	AML	22 10 16.5	
	comp=N,6582μm,0.5s						
PLG	**Polygyros**	**1.49**	**10**	P	**Pn**	**22 09 43.9**	**0.0**
PLG	**Polygyros**	**1.49**	**10**	P	**Pn**	**22 09 43.9**	**0.0**
PLG				AML	AML	22 10 05.9	
	comp=N,3276μm,0.3s						
PLG				AML	AML	22 10 07.6	
	comp=E,3474μm,0.8s						
KRND	**KRANIDI**	**1.52**	**179**	P	**Pb**	**22 09 45.0**	**-0.5**
KRND				AML	AML	22 10 14.7	
	comp=N,6337μm,0.7s						
KRND				AML	AML	22 10 18.6	
	comp=E,6565μm,0.7s						
PDO	**Prodromos**	**1.53**	**259**	P	**Pb**	**22 09 45.8**	**+0.1**
PDO				AML	AML	22 10 12.7	
	comp=E,3970μm,0.4s						
PDO				AML	AML	22 10 13.2	
	comp=N,6455μm,0.4s						
RLS	**Riolos of Patr**	**1.54**	**237**	P	**Pb**	**22 09 46.2**	**+0.4**
YDRA	**Hydra**	**1.58**	**169**	P	**Pb**	**22 09 46.0**	**-0.5**
YDRA				S	**Sb**	**22 10 07.2**	**+1.0**
YDRA				AML	AML	22 10 18.2	
	comp=N,5900μm,0.5s						
YDRA				AML	AML	22 10 20.0	
	comp=E,7814μm,1.0s						
OUR	**Ouranopolis**	**1.58**	**25**	P	**Pn**	**22 09 45.4**	**+0.3**
OUR	**Ouranopolis**	**1.58**	**25**	P	**Pn**	**22 09 45.3**	**+0.3**
OUR	**Ouranopolis**	**1.58**	**25**	PN	**Pn**	**22 09 45.4**	**+0.3**
EFSA	**Agios Efstrati**	**1.60**	**66**	P	**Pb**	**22 09 46.8**	**-0.1**
EFSA				AML	AML	22 10 14.6	
	comp=N,4184μm,0.5s						
EFSA				AML	AML	22 10 17.1	
	comp=E,3752μm,0.7s						
VLX	**Vlachokerasia**	**1.63**	**201**	P	**Pb**	**22 09 47.2**	**-0.4**
VLX				AML	AML	22 10 14.8	
	comp=N,3194μm,0.5s						
VLX				AML	AML	22 10 24.0	
	comp=E,4038μm,0.9s						
HORT	**Hortiatis**	**1.69**	**360**	P	**Pn**	**22 09 46.8**	**+0.1**
HORT	**Hortiatis**	**1.69**	**360**	P	**Pn**	**22 09 46.8**	**+0.1**
HORT	**Hortiatis**	**1.69**	**360**	PN	**Pn**	**22 09 46.9**	**+0.2**
MEV	**Metsovon**	**1.70**	**302**	P	**Pb**	**22 09 47.8**	**-1.0**
KPRO	**Kipourio**	**1.71**	**308**	P	**Pb**	**22 09 47.8**	**-1.0**
THE	**Thessaloniki**	**1.73**	**357**	P	**Pn**	**22 09 47.1**	**0.0**
KZN	**Kozani**	**1.74**	**324**	P	**Pb**	**22 09 48.4**	**-0.9**
KZN				AML	AML	22 10 17.7	
	comp=N,3119μm,0.7s						
KZN				AML	AML	22 10 24.4	
	comp=E,3231μm,0.6s						
AMT	**Artemida-Makis**	**1.75**	**219**	P	**Pb**	**22 09 49.0**	**-0.5**
AMT				AML	AML	22 10 20.1	
	comp=N,4582μm,0.7s						
AMT				AML	AML	22 10 23.6	
	comp=E,3408μm,0.8s						
LIA	**Limnos Island**	**1.89**	**58**	P	**Pn**	**22 09 49.6**	**+0.2**
JAN	**Janina**	**1.90**	**294**	P	**Pb**	**22 09 51.3**	**-0.8**
SOH	**Sokhos**	**1.93**	**6**	P	**Pn**	**22 09 50.7**	**+0.8**
SOH				AML	AML	22 10 16.5	
	comp=E,3261μm,0.6s						
SOH				AML	AML	22 10 32.4	
	comp=N,2183μm,0.5s						
ITM	**Ithomi**	**1.96

APE				AML	AML	22 10 47.5
APE	**Apeiranthos**	**2.65**	**133**	PN	**Pn**	**22 10 01.9 +2.0**
EZN	**Ezine**	**2.66**	**69**	⇓P	**Pn**	**22 10 02.3 +2.3**
EZN				⇓S	**Sb**	**22 10 35.6 -1.8**
EZN				AML	AML	22 10 47.7
EZN	**Ezine**	**2.66**	**69**	PN	**Pn**	**22 10 01.6 +1.6**
KEK	**Kerkira**	**2.69**	**289**	P	**Pn**	**22 10 01.3 +1.0**
MMB	**Musomiste**	**2.73**	**10**	*e*P	**Pn**	**22 10 01.0 +0.1**
TPE	**Tepelena**	**2.76**	**301**	*i* PN	**Pb**	**22 10 05.8 -0.9**
TPE				*i* SN	**Sg**	**22 10 48.6 +2.1**
URLA	**Izmir**	**2.79**	**100**	PN	**Pn**	**22 10 03.7 +1.9**
OHR	**Ohrid**	**2.83**	**322**	*i* Pn	**Pn**	**22 10 04.5 +2.1**
STIP	**Stip**	**2.87**	**346**	*i* Pn	**Pn**	**22 10 04.0 +1.1**
RDO	**Rodhopi**	**2.92**	**39**	PN	**Pn**	**22 10 04.5 +1.0**
KKB	**Krupnik**	**2.96**	**360**	*e*P	**Pn**	**22 10 04.9 +0.8**
DKL	**Dikili**	**2.97**	**86**	PN	**Pn**	**22 10 06.4 +2.2**
GELI	**Tayfur-Gelibol**	**3.00**	**59**	PN	**Pn**	**22 10 05.4 +0.8**
ALN	**Alexandroupoli**	**3.02**	**48**	P	**Pn**	**22 10 04.6 -0.2**
ALN	**Alexandroupoli**	**3.02**	**48**	PN	**Pn**	**22 10 06.0 +1.2**
ALN	**Alexandroupoli**	**3.02**	**48**		**Pn**	**22 10 04.5 -0.2**
AMGA	**Amorgos Island**	**3.03**	**132**	P	**Pn**	**22 10 06.2 +1.2**
ANKY	**Antikythira Is**	**3.04**	**177**	P	**Pn**	**22 10 06.2 +1.1**
RZN	**Rozhen**	**3.04**	**23**	*e*P	**Pn**	**22 10 06.1 +0.7**
SANT	**Santorini**	**3.15**	**143**	⇓S	**Sb**	**22 10 49.8 -1.6**
SANT				AML	AML	22 11 04.7
SMG	**Samos**	**3.17**	**111**	P	**Pn**	**22 10 07.4 +0.4**
KDZ	**Kurdzhali**	**3.27**	**32**	*e*P	**Pn**	**22 10 07.6 -0.7**
KDZ	**Kurdzhali**	**3.27**	**32**	PN	**Pn**	**22 10 08.1 -0.2**
PLD	**Plovdiv**	**3.42**	**20**	*e*P	**Pn**	**22 10 11.6 +1.2**
PLD	**Plovdiv**	**3.42**	**20**	PN	**Pn**	**22 10 11.9 +1.5**
PHP	**Peshkopia**	**3.44**	**325**	*i* PN	**Pn**	**22 10 12.5 +1.7**
PHP				*i* SN	**Sb**	**22 11 02.0 +2.0**
TIR	**Tirane**	**3.48**	**316**	*i* PN	**Pb**	**22 10 16.5 -2.5**
TIR				*i* SN	**Sb**	**22 11 03.5 +2.5**
TIR	**Tirane**	**3.48**	**316**	⇑P	**Pn**	**22 10 13.3 +2.1**
TIR	**Tirane**	**3.48**	**316**	AML	AML	22 11 22.9
TIR	**Tirane**	**3.48**	**316**		**Pn**	**22 10 08.7 -2.5**
IMMV	**Iera Moni Meta**	**3.51**	**168**	P	**Pn**	**22 10 12.6 +0.9**
VTS	**Vitosha**	**3.71**	**2**	*e*P	**Pn**	**22 10 15.7 +1.1**
VTS	**Vitosha**	**3.71**	**2**	⇓P	**Pn**	**22 10 16.1 +1.5**
VTS				⇓S	**Sn**	**22 10 59.2 +1.2**
VTS				AML	AML	22 11 28.6
VTS	**Vitosha**	**3.71**	**2**		**Pn**	**22 10 15.5 +0.9**
VTS				Sn	**Sn**	**22 10 52.6 -5.4**
SCTE	**Santa Cesarea**	**3.77**	**289**	Pn	**Pn**	**22 10 15.3 +0.1**
BALB	**Balikesir**	**3.78**	**77**		**Pn**	**22 10 15.2 -0.2**
PUK	**Puka**	**3.98**	**323**	*i* PN	**Pn**	**22 10 20.9 +2.7**
BCI	**Bajram Curri**	**4.16**	**327**	*i* PN	**Pn**	**22 10 22.6 +2.0**
BCI				*i* SN	**Sb**	**22 11 20.7 +0.1**
DRME	**Dracevica, Mon**	**4.43**	**319**	*e*Pn	**Pn**	**22 10 26.2 +1.9**
ELND	**Elena**	**4.54**	**27**	⇓P	**Pn**	**22 10 26.2 +0.5**
ELND				⇓S	**Sn**	**22 11 20.3 +2.2**
ELND				AML	AML	22 11 57.1
PDG	**Podgorica**	**4.58**	**322**	*e*Pn	**Pn**	**22 10 28.5 +2.2**
PDG	**Podgorica**	**4.58**	**322**	⇑P	**Pn**	**22 10 28.3 +2.0**
PDG				⇑S	**Sn**	**22 11 20.4 +1.3**
PDG	**Podgorica**	**4.58**	**322**		**Pn**	**22 10 29.0 +2.7**
PLVB	**Pleven**	**4.62**	**14**	⇑P	**Pn**	**22 10 28.9 +1.9**
PLVB				AML	AML	22 11 54.8
KARP	**Karpathos**	**4.66**	**135**		**Pn**	**22 10 29.2 +1.7**
CGL1	**Ceglie Messapi**	**4.67**	**294**	*e*Pn	**Pn**	**22 10 30.0 +2.4**
BLKB	**Belogradchik**	**4.73**	**356**	⇓P	**Pn**	**22 10 29.9 +1.5**
BLKB				AML	AML	22 12 01.9
TAR1	**Taranto**	**4.77**	**292**	*e*Pn	**Pn**	**22 10 30.9 +2.0**
FASA	**Fasano**	**4.82**	**295**	⇑*i*Pn	**Pn**	**22 10 31.8 +2.2**
SZH	**Strazhica**	**4.86**	**25**	*e*P	**Pn**	**22 10 31.4 +1.3**
MASS	**Massafra**	**4.91**	**292**	⇓*i*Pn	**Pn**	**22 10 32.5 +1.7**
TIP	**Timpagrande**	**4.95**	**275**	⇓P	**Pn**	**22 10 33.2 +1.7**
TIP				⇓S	**Sn**	**22 11 28.1 -0.3**
TIP				AML	AML	22 11 32.8
TIP	**Timpagrande**	**4.95**	**275**		**Pn**	**22 10 33.3 +1.8**
YLV	**Yalova**	**5.11**	**69**	⇓P	**Pn**	**22 10 36.0 +2.3**
YLV				AML	AML	22 12 09.2
MATE	**Matera**	**5.23**	**291**	⇓P	**Pn**	**22 10 37.2 +2.0**
MATE				⇑S	**Sn**	**22 11 37.5 +2.3**
MATE				AML	AML	22 12 11.4
TREB	**Trebinje**	**5.25**	**318**	*e*Pn	**Pn**	**22 10 36.6 +1.1**
BAI	**Bari**	**5.26**	**297**	⇑*i*Pn	**Pn**	**22 10 37.7 +2.0**
SG1	**Sgolgore (BA)**	**5.31**	**293**	⇑*i*Pn	**Pn**	**22 10 38.4 +2.0**
PRD	**Provadia**	**5.38**	**36**	*e*P	**Pn**	**22 10 37.4 +0.1**
RUDO	**Rudo**	**5.49**	**330**	*e*Pn	**Pn**	**22 10 39.2 +0.4**
BBLS	**Lazići**	**5.68**	**332**	*e*Pn	**Pn**	**22 10 43.0 +1.4**
CEL	**Celeste**	**5.69**	**266**	Pn	**Pn**	**22 10 43.0 +1.4**
DIVS	**Divibare**	**5.69**	**337**	*e*Pn	**Pn**	**22 10 42.5 +0.8**
STON	**Ston**	**5.70**	**316**	*e*Pn	**Pn**	**22 10 42.5 +0.8**
HUMR	**Humele**	**5.79**	**13**	⇑P	**Pn**	**22 10 45.5 +2.5**
ACER	**Acerenza**	**5.82**	**291**		**Pn**	**22 10 45.0 +1.5**
MDVR	**Moldovita**	**5.96**	**350**	⇓P	**Pn**	**22 10 46.2 +0.8**
HAPS	**Han Pijesak,BI**	**6.04**	**330**	*e*Pn	**Pn**	**22 10 47.5 +1.0**
TEKS	**Tekeris**	**6.24**	**336**	*e*Pn	**Pn**	**22 10 50.9 +1.7**
ICOR	**Ion Corvin**	**6.29**	**33**	⇑P	**Pn**	**22 10 50.7 +0.9**
ICOR				⇑S	**Sn**	**22 12 02.8 +1.5**
SGRT	**San Giovanni R**	**6.30**	**299**		**Pn**	**22 10 50.8 +0.7**
SGRT				Sn	**Sn**	**22 11 58.5 -3.3**
GZR	**Gura Zlata**	**6.49**	**358**	⇓P	**Pn**	**22 10 53.8 +1.1**
GZR				⇓S	**Sn**	**22 12 08.8 +2.4**
ARR	**Arges**	**6.56**	**9**	⇑P	**Pn**	**22 10 54.3 +0.7**
ARR				⇓S	**Sn**	**22 12 09.3 +1.3**
LOT	**Lotru**	**6.56**	**4**	⇓P	**Pn**	**22 10 54.8 +1.2**
VOIR		**6.69**	**12**	⇓P	**Pn**	**22 10 57.0 +1.7**
FRGS	**Fruska Gora**	**6.71**	**340**	*e*Pn	**Pn**	**22 10 57.1 +1.5**
ISR	**Istrita**	**6.72**	**21**	⇑P	**Pn**	**22 10 58.1 +2.4**
TLB	**Topalu**	**6.77**	**31**	⇓P	**Pn**	**22 10 58.4 +2.0**
BZS	**Buzias**	**6.80**	**351**	⇑P	**Pn**	**22 10 57.0 +0.2**
BZS				⇑S	**Sn**	**22 12 08.2 -5.6**
HARR	**Harsova**	**6.81**	**30**	⇓P	**Pn**	**22 10 58.3 +1.4**
TIRR	**Tirgusor**	**6.83**	**34**	⇓P	**Pn**	**22 10 57.8 +0.7**
TIRR	**Tirgusor**	**6.83**	**34**	⇓P	**Pn**	**22 10 57.8 +0.7**
TIRR	**Tirgusor**	**6.83**	**34**	Pn	**Pn**	**22 10 57.7 +0.5**
MLR	**Muntele Rosu**	**6.91**	**17**	Pn	**Pn**	**22 11 01.3 +2.8**
	comp=E,1.1nm,0.3s,baz=162,slow=9.1,SNR=12					
MLR				Sn	**Sn**	**22 12 17.5 +0.7**
	baz=273,slow=17,SNR=1.4					
MLR				LR	LR	22 13 52.7
	comp=E,110nm,18.9s,baz=126,slow=40					
MLR	**Muntele Rosu**	**6.91**	**17**	⇑P	**Pn**	**22 11 00.8 +2.3**
MLR	**Muntele Rosu**	**6.91**	**17**		**Pn**	**22 11 00.4 +1.9**
VAE	**Valguarnera**	**6.99**	**261**	Pn	**Pn**	**22 11 00.3 +0.8**
	baz=50,slow=7.9,SNR=2.0					
VAE				Sn	**Sn**	**22 12 16.1 -2.7**
	comp=E,1.4nm,0.3s,baz=342,slow=19,SNR=2.6					
MGRS	**Mrkonjic Grad**	**7.12**	**323**	*e*Pn	**Pn**	**22 11 02.0 +0.8**
BISRR	**Bisoca**	**7.16**	**21**	⇓P	**Pn**	**22 11 03.2 +1.4**
DOPR	**Dopca**	**7.26**	**13**	⇑P	**Pn**	**22 11 04.9 +1.8**
CFR	**Carcaliu**	**7.30**	**29**	⇓P	**Pn**	**22 11 04.2 +0.6**
BLY	**Banja Luka**	**7.32**	**325**	*e*Pn	**Pn**	**22 11 04.3 +0.3**
BLY	**Banja Luka**	**7.32**	**325**	⇑P	**Pn**	**22 11 04.6 +0.6**
BLY	**Banja Luka**	**7.32**	**325**		**Pn**	**22 11 03.0 -1.0**
PLOR	**Plostina**	**7.42**	**20**	⇑P	**Pn**	**22 11 08.3 +2.9**
ODBI	**Odobesti**	**7.45**	**22**	⇑P	**Pn**	**22 11 08.1 +2.4**
OZUR		**7.46**	**15**	⇑P	**Pn**	**22 11 07.7 +1.9**
VRI	**Vrincioaia**	**7.46**	**20**	⇓P	**Pn**	**22 11 08.6 +2.8**
VRI				⇑S	**Sn**	**22 12 34.5 +4.5**
INTR	**Introdacqua**	**7.67**	**297**	Sn	**Sn**	**22 12 35.1 -0.3**
DRGR		**7.89**	**358**	⇑P	**Pn**	**22 11 13.1 +1.3**
CLTB	**Caltabellotta**	**7.89**	**263**	Pn	**Pn**	**22 11 14.3 +2.4**
MORH	**Mrgy, Hungar**	**8.01**	**337**	*e*Pn	**Pn**	**22 11 14.5 +1.1**
TESR	**Tescani**	**8.04**	**18**	⇓P	**Pn**	**22 11 16.2 +2.4**
AQU	**L'Aquila**	**8.14**	**298**	*e*Pn	Pn	22 11 21.4 +6.1
AQU	**L'Aquila**	**8.14**	**298**	Pn	**Pn**	**22 11 17.9 +2.6**
BRTR	**Keskin Array B**	**8.21**	**81**	Pn	**Pn**	**22 11 17.1 +0.8**
	comp=E,0.2nm,0.3s,baz=263,slow=12,SNR=7.9					
BRTR				Sn	**Sn**	**22 12 45.4 -3.5**
	comp=E,0.1nm,0.3s,baz=265,slow=26,SNR=2.3					
BIZ	**Bicaz**	**8.33**	**14**	⇑P	**Pn**	**22 11 19.9 +2.2**
BURAR	**Bucovina Array**	**8.84**	**9**	⇑P	**Pn**	**22 11 26.9 +2.0**
BURAR	**Bucovina Array**	**8.84**	**9**		**Pn**	**22 11 28.6 +3.7**
CRES	**Cresnjev**	**8.93**	**323**	*e*Pn	**Pn**	**22 11 25.3 -0.8**
CEY	**Cerknica**	**9.37**	**320**	*e*Pn	**Pn**	**22 11 31.0 -1.1**
SOKA	**Soboth**	**9.77**	**325**	*i* Pn	**Pn**	**22 11 37.6 0.0**
	comp=E,2.5nm,0.6s					
OBKA	**Obir**	**9.86**	**323**	*i* Pn	**Pn**	**22 11 38.2 -0.7**
	comp=E,1.8nm,0.5s					
ARSA	**Arzberg**	**10.01**	**329**	*i* Pn	**Pn**	**22 11 42.7 +1.8**
	comp=E,1.5nm,0.5s					
KOLS	**Kolonicke sedl**	**10.04**	**357**	*e*PN	Pn	22 11 47.6 +6.3
KOLS				*e*SN	Sn	22 13 13.0 -21
VYHS	**Vyhne**	**10.07**	**344**	*e*PN	**Pn**	**22 11 44.9 +3.2**
VYHS				*e*PG		22 12 32.3
VYHS				*e*SN	Sn	22 13 16.4 -18
MODS	**Modra-Piesok**	**10.36**	**338**	*e*PN	**Pn**	**22 11 47.7 +2.1**
MYKA	**Terra Mystica**	**10.38**	**321**	*i* Pn	**Pn**	**22 11 46.1 0.0**
	comp=E,3.1nm,1.2s					
CONA	**Conrad Observa**	**10.44**	**332**	*i* Pn	**Pn**	**22 11 44.6 -2.2**
	comp=E,0.9nm,0.4s					
TEOL	**Teolo**	**10.66**	**311**	Pn	**Pn**	**22 11 49.2 -0.5**
TEOL				Sn	**Sn**	**22 13 42.4 -6.2**
KBA	**Koelnbreinsper**	**10.85**	**322**	*i* Pn	**Pn**	**22 11 52.1 -0.4**
	comp=E,2.0nm,0.6s					
MOA	**Molln**	**11.01**	**327**	*i* Pn	**Pn**	**22 11 53.0 -1.5**
	comp=E,5.8nm,1.4s					
ABTA	**Abfaltersbach**	**11.03**	**319**	*i* Pn	**Pn**	**22 11 55.0 0.0**
	comp=E,1.9nm,0.5s					
CTI	**Castel Tesino**	**11.06**	**314**	Pn	**Pn**	**22 11 52.9 -2.4**
MMAI	**Mount Meron Ar**	**11.57**	**117**	LR	LR	22 17 50.9
	comp=E,20nm,18.3s,baz=5.0,slow=45					
WTTA	**Wattenberg**	**11.82**	**319**	*i* Pn	**Pn**	**22 12 05.8 -0.1**
	comp=E,1.1nm,0.4s					
WATA	**Walderalm**	**11.90**	**319**	*i* Pn	**Pn**	**22 12 06.8 -0.1**
	comp=E,0.3nm,0.3s					
SQTA	**Sankt Quirin**	**12.02**	**318**	*i* Pn	**Pn**	**22 12 04.8 -3.6**
	comp=E,2.9nm,0.4s					
MOTA	**Moosalm**	**12.15**	**318**	*i* Pn	**Pn**	**22 12 08.2 -2.1**
	comp=E,0.5nm,0.2s					
KHC	**Kasperske Hory**	**12.30**	**329**	*e*P	P	22 12 19.5 -4.9
RETA	**Reutte**	**12.42**	**318**	*i* Pn	**Pn**	**22 12 10.7 -3.3**
	comp=E,6.6nm,1.9s					
DAVOX	**Davos/Dischmat**	**12.48**	**313**	Pn	**Pn**	**22 12 15.1 +0.2**
	comp=E,0.3nm,0.3s,baz=144,slow=18,SNR=3.5					
EIL	**Elat**	**13.43**	**130**	LR	LR	22 17 56.1
	comp=E,12nm,21.0s,baz=274,slow=39					
KBZ	**Khabaz**	**15.63**	**66**	LR	LR	22 20 19.5
	comp=E,35nm,20.8s,baz=212,slow=42					
ESDC	**Sonseca Array**	**20.94**	**281**	P	**P**	**22 14 00.3 +0.4**
	comp=E,1.7nm,0.6s,baz=77,slow=11,SNR=11					
ESDC	**Sonseca Array**	**20.94**	**281**	IAmb	IAmb	22 14 02.3
	comp=Z,1.4nm,1.1s					
HFS	**Hagfors**	**22.07**	**347**	P	**P**	**22 14 12.8 +1.1**
	comp=Z,3.4nm,0.6s,baz=167,slow=13,SNR=6.7					
HFS				LR	LR	22 23 29.0
	comp=Z,56nm,20.4s,baz=348,slow=38					
FINES	**FINESS Array B**	**22.64**	**4**	P	**P**	**22 14 17.5 -0.3**
	comp=Z,5.2nm,1.1s,baz=201,slow=10,SNR=3.9					
FINES				LR	LR	22 23 19.6
	comp=Z,55nm,19.4s,baz=209,slow=37					
NB2	**NORSAR Subarra**	**23.37**	**345**	P	**P**	**22 14 24.6 -0.8**
	comp=Z,18nm,1.4s,baz=156,slow=11					
NOA	**NORSAR Array B**	**23.37**	**345**	P	**P**	**22 14 24.8 -0.6**
	comp=Z,0.6nm,0.8s,baz=157,slow=14,SNR=4.1					
EKA	**Eskdalemuir Ar**	**24.06**	**322**	P	**P**	**22 14 32.0 0.0**
	comp=Z,2.0nm,0.5s,baz=121,slow=9.8,SNR=9.5					
ARCES	**ARCESS Array B**	**30.72**	**2**	P	**P**	**22 15 33.4 +1.8**
	comp=Z,2.0nm,0.9s,baz=185,slow=9.9,SNR=3.5					
TORD	**Torodi Ar. Bea**	**31.90**	**222**	P	**P**	**22 15 42.0 -0.5**
	comp=Z,1.1nm,0.7s,baz=35,slow=8.8,SNR=15					
TORD	**Torodi Ar. Bea**	**31.90**	**222**	IAmb	IAmb	22 15 48.1
	comp=Z,0.8nm,0.9s					
KURBB	**Kurchatov Arra**	**40.17**	**54**	P	**P**	**22 16 54.1 +1.2**
	comp=Z,0.7nm,0.9s,baz=281,slow=8.2,SNR=3.8					
KURK	**Kurchatov**	**40.22**	**54**	P	**P**	**22 16 54.1 +0.8**
KURK	**Kurchatov**	**40.22**	**54**	IAmb	IAmb	22 17 09.6
	comp=Z,3.4nm,1.4s					
MKAR	**Makanchi Array**	**43.19**	**60**	P	**P**	**22 17 19.3 +1.5**
	comp=Z,0.8nm,0.6s,baz=277,slow=7.4,SNR=11					
MKAR	**Makanchi Array**	**43.19**	**60**	P	**P**	**22 17 19.0 +1.1**
ZALV	**Zalesovo Beam**	**43.70**	**49**	P	**P**	**22 17 22.5 +0.8**
	comp=Z,1.1nm,0.5s,baz=276,slow=9.3,SNR=5.6					
KLR	**Kul'dur**	**72.02**	**41**	LR	LR	22 58 15.5
	comp=Z,21nm,19.5s,baz=3.0,slow=41					

*ISCJB **04** 22:15:05.5±0.8, 10°.60N±0°.05×76°.37W±0°.03, h97km±14km, Error ellipse: s-maj=8.7km s-min=4.1km az=177.4*
*RSNC **04** 22:15:07.9±0.7, 10°.65N×76°.31W, h89km±13km, ML2.8, Mw3.1*
*UPA **04** 22:15:08.3±1.2, 10°.50N×76°.34W, h36km±143km, MW3.3*
ISC 04 22:15:06.7±1.5, 10°.64N±0°.07×76°.37W±0°.03, h73km±27km, n20, σ1°26/36, 2C, North of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJCC	**San Jacinto, C**	**1.39**	**122**	⇑*i*P	**Pn**	**22 15 30.8**	**+0.4**
SJCC				*e*S	**Sn**	**22 15 49.3**	**+1.1**
SJCC				*i*		22 15 53.2	
	comp=Z,141nm,0.4s						
SJCC	**San Jacinto, C**	**1.39**	**122**	⇑*i*P	**Pn**	**22 15 30.7**	**+0.4**
SJCC				*e*S	**Sn**	**22 15 45.4**	**-2.7**
ARGC	**Ariguani, Magd**	**2.23**	**110**	*e*P	**Pn**	**22 15 42.7**	**+1.1**
ARGC				*e*S	**Sn**	**22 16 09.1**	**+0.9**
ARGC				*i*		22 16 18.8	
	comp=Z,35nm,0.7s						
ARGC	**Ariguani, Magd**	**2.23**	**110**	*e*P	**Pn**	**22 15 42.7**	**+1.1**
ARGC				*e*S	**Sn**	**22 16 09.1**	**+0.9**
UPD2	**Meteti**	**2.63**	**218**	*e*S	**Sn**	**22 16 17.5**	**-0.4**
SMLC	**San Martn de**	**2.91**	**129**	*e*P	**Pn**	**22 15 51.6**	**+0.8**
SMLC				*e*S	**Sn**	**22 16 24.4**	**-0.3**
SMLC				*i*		22 16 35.0	
	comp=Z,44nm,0.2s						
CODC	**Agustn Codazz**	**2.96**	**103**	*e*P	**Pn**	**22 15 51.4**	**-0.1**
CODC				*e*S	**Sn**	**22 16 25.7**	**-0.4**
CODC				*i*		22 16 39.8	
	comp=Z,13nm,0.6s						
CHPO	**Chepo, Panama**	**3.07**	**242**	*e*P	**Pn**	**22 15 53.3**	**+0.3**
CHPO				*e*S	**Sn**	**22 16 28.0**	**-0.6**
ZARC	**Zaragoza, Cauc**	**3.46**	**154**	*e*P	**Pn**	**22 15 56.2**	**-2.1**
ZARC				*e*S	**Sn**	**22 16 37.1**	**-1.2**
ZARC				*i*		22 16 38.9	
	comp=Z,26nm,0.3s						
UPA	**Univ. de Panam**	**3.52**	**242**	*e*P	**Pn**	**22 15 58.7**	**-0.4**
UPA				*e*S	**Sn**	**22 16 39.9**	**+0.3**
BCIP	**Isla Barro Col**	**3.71**	**247**	*e*S	**Sn**	**22 16 43.9**	**-0.4**
ZANG	**Zanguenga, Cho**	**3.83**	**244**	*e*S	**Sn**	**22 16 48.2**	**+1.1**
OCAC	**Ocana**	**3.84**	**128**	*e*P	**Pn**	**22 16 04.3**	**+0.7**
OCAC				*e*S	**Sn**	**22 16 47.0**	**-0.7**
OCAC				*i*		22 16 57.6	
	comp=Z,24nm,0.4s						
BRRC	**Barranca, Sant**	**4.38**	**143**	*e*P	**Pn**	**22 16 11.7**	**+0.8**
BRRC				*e*S	**Sn**	**22 17 00.5**	**-0.2**
BRRC				*i*		22 17 32.4	
	comp=Z,9.2nm,1.1s						
URIC	**Uribia, Colomb**	**4.43**	**76**	*e*P	**Pn**	**22 16 10.7**	**-0.8**
URIC				*e*S	**Sn**	**22 17 00.8**	**-1.0**
URIC				*i*		22 17 16.5	
	comp=Z,4.8nm,1.5s						
PTBC	**PUERTO BERRIO,**	**4.49**	**155**	*e*P	**Pn**	**22 16 13.4**	**+1.0**
PTBC				*e*S	**Sn**	**22 17 01.6**	**-1.7**
PTBC				*i*		22 17 05.4	
	comp=Z,10nm,0.2s						
HELC	**Santa Helena**	**4.50**	**169**	*e*P	**Pn**	**22 16 16.4**	**+3.7**
HELC				*e*S	**Sn**	**22 17 01.8**	**-2.2**
HELC				*i*		22 17 05.9	
	comp=Z,8.2nm,0.2s						
HELC	**Santa Helena**	**4.50**	**169**	*e*P	**Pn**	**22 16 12.2**	**-0.5**
HELC				*e*S	**Sn**	**22 17 03.0**	**-1.0**
PAMC	**Pamplona, Colo**	**4.89**	**132**	*e*P	**Pn**	**22 16 19.6**	**+1.4**
PAMC				*e*S	**Sn**	**22 17 13.5**	**-0.2**
PAMC				*i*		22 17 18.7	
	comp=Z,10nm,0.4s						
PAMC				*i*		22 17 34.7	
	comp=Z,10nm,0.7s						
BARC	**Barichara**	**5.11**	**142**	*e*S	**Sn**	**22 17 19.2**	**+0.3**
BARC				*i*		22 17 22.1	
	comp=Z,30nm,0.4s						

*IDC **04** 22:20:20.4±1.4, 15°.37N×123°.08E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/37, mbtmp3.8/6, ML4.5/1, MS2.4/1, Ms1 2.6/1, ms1mx2.2/34, Error ellipse: s-maj=40.4km s-min=20.6km az=56.0*
*ISCJB **04** 22:20:23.9±0.9, 15°.39N±0°.04×123°.07E±0°.08, h33km, mb3.7/5, MS2.3/1, Error ellipse: s-maj=11.8km s-min=6.3km az=8.6*
*MAN **04** 22:20:25.2, 15°.40N×122°.66E, h25km, MS3.1*
ISC 04 22:20:25.6±1.2, 15°.38N±0°.05×123°.0E±0°.1, h35km, n13, σ0°81/14, mb3.5/5, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.57**	**201**	⇓*i*P	**Pn**	**22 20 51.4**	**+0.5**
GQP				*i* S	**Sn**	**22 21 10.6**	**+0.6**
LQP	**Lukban**	**1.90**	**229**	⇑*e*P	**Pn**	**22 20 54.9**	**-0.9**
LQP				*i* S	**Sn**	**22 21 18.1**	**-0.5**
TGY	**Tagaytay City**	**2.38**	**238**	Pn	**Pn**	**22 21 01.9**	**-0.2**
	114nm,0.3s,baz=119,slow=4.3,SNR=5.3						
TGY				Sn	**Sn**	**22 21 30.4**	**+0.2**
	200nm,0.3s,baz=229,slow=19,SNR=9.6						
TGY	**Tagaytay City**	**2.38**	**238**	⇓*i*P	**Sn**	**22 21 31.8**	**+1.7**
CVP	**Callao Caves**	**2.58**	**334**	⇓*i*P	**Pn**	**22 21 04.3**	**-0.5**
CVP				*i* S	**Sn**	**22 21 36.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**23.23**	**281**	P	**P**	**22 25 29.2**	**-0.6**
	2.0nm,0.6s,baz=94,slow=7.8,SNR=15						
CMAR				LR	LR	22 34 44.9	
	comp=Z,9.3nm,19.1s,baz=155,slow=37						
WRA	**Warramunga Arr**	**36.82**	**162**	P	**P**	**22 27 29.7**	**-0.8**
	0.4nm,0.6s,baz=342,slow=9.2,SNR=4.4						
ASAR	**Alice Springs**	**40.24**	**164**	P	**P**	**22 27 59.4**	**+0.2**
	0.3nm,0.4s,baz=337,slow=7.4,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**41.82**	**79**	T	T	23 13 13.6	
	baz=272,slow=74						
H11S1	**WAKE ISLAND Hy**	**41.83**	**79**	T	T	23 13 15.7	
	baz=272						
H11S2	**WAKE ISLAND Hy**	**41.84**	**79**	T	T	23 13 18.5	
	baz=272,slow=74						
MKAR	**Makanchi Array**	**46.07**	**322**	P	**P**	**22 28 46.5**	**+0.4**
	0.4nm,0.6s,baz=112,slow=8.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**50.09**	**324**	P	**P**	**22 29 17.4**	**+0.3**
	1.5nm,0.2s,baz=126,slow=8.6,SNR=6.1						

*IDC **04** 22:24:26.5±1.3, 41°.21S×173°.70E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/22, mbtmp3.5/2, Error ellipse: s-maj=82.6km s-min=36.2km az=30.0*
*ISCJB **04** 22:24:39.4±0.2, 41°.56S±0°.03×173°.13E±0°.04, h111km±4km, mb3.6/2, Error ellipse: s-maj=5.9km s-min=2.6km az=40.7*
*NEIC **04** 22:24:39.4±2.9, 41°.45S±0°.05×173°.00E±0°.05, h105km±4km*
*WEL **04** 22:24:41.0, 41°.S±4°.×17°.3E±°, h92km±6km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=121.3*
ISC 04 22:24:39.6±0.8, 41°.52S±0°.03×173°.05E±0°.03, h107km±5km, n144, σ1°43/167, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.26**	**204**	P	**Pn**	**22 24 55.5**	**+0.5**
THZ				S	**Sn**	**22 25 05.6**	**-0.9**
THZ	**Tophouse**	**0.26**	**204**		**Pn**	**22 24 55.6**	**+0.5**
THZ				Sn	**Sn**	**22 25 05.6**	**-0.9**
NNZ	**Nelson**	**0.39**	**40**	P	**Pn**	**22 24 55.5**	**0.0**
NNZ				S	**Sn**	**22 25 05.4**	**-2.0**
NNZ	**Nelson**	**0.39**	**40**		**Pn**	**22 24 55.6**	**+0.1**
NNZ				Sn	**Sn**	**22 25 05.6**	**-1.8**
BSWZ	**Blackbirch Sta**	**0.65**	**108**	P	**Pn**	**22 24 58.5**	**+1.2**
BSWZ				S	**Sn**	**22 25 11.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.65**	**108**		**Pn**	**22 24 58.4**	**+1.1**
BSWZ				Sn	**Sn**	**22 25 08.7**	**-1.9**
TUWZ	**Tuamarina**	**0.68**	**83**	P	**Pn**	**22 24 58.4**	**+0.9**
T

MTHZ	Maungataniwha	3.94	49	P	Pn	22 25 37.2	-1.0
JCZ	Jackson Bay	4.04	229	P	Pn	22 25 40.3	+0.7
MUGZ	Murupara	4.17	44	P	Pn	22 25 40.5	-0.7
RTZ	Ruatahuna	4.19	47	P	Pn	22 25 44.9	+3.5
TOZ	Tahuroa Road	4.23	27	P	Pn	22 25 43.3	+1.2
SNGZ	Shannon Statio	4.28	52	P	Pn	22 25 41.8	-0.9
MHGZ	Mahia Peninsul	4.40	59	P	Pn	22 25 42.9	-1.4
WKZ	Wanaka	4.43	220	P	Pn	22 25 43.5	-1.1
WKZ	Wanaka	4.43	220		Pn	22 25 46.8	+2.1
WKZ				Sn	Sn	22 26 33.0	-2.2
URZ	Urewera	4.51	45	Pn	Pn	22 25 43.8	-2.0
URZ					Sn	22 26 33.9	-3.4
EAZ	Earnscleugh	4.60	215	P	Pn	22 25 48.0	+1.0
AWAZ	Awhitu Peninsu	4.62	16	P	Pn	22 25 48.7	+1.4
MWZ	Matawai	4.69	49	P	Pn	22 25 46.9	-1.3
MKAZ	Moumakai	4.71	21	P	Pn	22 25 49.6	+1.2
WTAZ	Waiatarua	4.73	15	P	Pn	22 25 50.4	+1.6
MSZ	Milford Sound	4.90	228	P	Pn	22 25 51.9	+1.0
WIAZ	Waiheke Island	4.99	20	P	Pn	22 25 53.7	+1.4
RUGZ	Raukumara Rang	5.03	47	P	Pn	22 25 52.4	-0.6
TWGZ	Tauwhareparae	5.05	50	P	Pn	22 25 52.2	-1.0
TUZ	Tuapeka	5.08	208	P	Pn	22 25 53.8	+0.5
KUZ	Kuaotunu	5.20	24	P	Pn	22 25 56.1	+1.0
HAZ	Te Kaha	5.24	46	P	Pn	22 25 54.5	-1.1
MLZ	Mavora Lakes	5.26	221	P	Pn	22 25 58.1	+2.2
MLZ	Mavora Lakes	5.26	221	Pn	Pn	22 25 58.9	+3.1
MLZ					Sn	22 26 54.9	-0.3
WCZ	Waipu Caves	5.67	11	P	Pn	22 26 04.1	+2.7
MXZ	Matakaoa Point	5.67	47	Pn	Pn	22 25 59.5	-2.0
WHZ	Wether Hill Ro	5.72	219	Pn	Pn	22 26 01.9	-0.3
SYZ	Scrubby Hill	5.75	208	P	Pn	22 26 03.5	+1.0
DCZ	Deep Cove	5.82	225	Pn	Pn	22 26 04.1	+0.6
OUZ	Omahuta	6.31	4	P	Pn	22 26 12.2	+2.2
OUZ	Omahuta	6.31	4	Pn	Pn	22 26 08.6	-1.5
APZ	The Paps	6.43	213	P	Pn	22 26 11.4	-0.4
CTZ	Chatham Island	7.94	110	P	Pn	22 26 32.5	+0.4
ASAR	Alice Springs	37.10	286	P	P	22 31 42.2	+2.5
	0.3nm,0.4s,baz=122,slow=7.2,SNR=8.0						
WRA	Warramunga Arr	39.18	291	P	P	22 31 59.0	+1.8
	0.7nm,0.6s,baz=128,slow=7.8,SNR=6.8						
WRA	Warramunga Arr	39.18	291	P	P	22 31 56.3	-0.9
DBIC	Dimbokro	145.25	184	PKPbc	PKiKP	22 44 07.2	-1.8
	0.9nm,0.5s,baz=139,slow=3.7,SNR=3.6						
ARCES	ARCESS Array B	147.25	340	PKPbc	PKPab	22 44 10.6	-0.7
	5.6nm,1.0s,baz=25,slow=2.4,SNR=3.8						
BRTR	Keskin Array B	149.33	280	PKPbc	PKiKP	22 44 16.9	0.0
	0.3nm,0.5s,baz=119,slow=1.8,SNR=2.6						
BRTR	Keskin Array B	149.33	280		PKiKP	22 44 17.3	+0.4
TORD	Torodi Ar. Bea	150.74	197	PKPbc	PKiKP	22 44 21.7	+1.4
	0.4nm,0.5s,baz=158,slow=2.7,SNR=16						
TORD	Torodi Ar. Bea	150.74	197		PKiKP	22 44 21.2	+1.0
FINES	FINESS Array B	151.84	326	PKPbc	PKiKP	22 44 21.4	+0.3
	2.7nm,0.8s,baz=90,slow=0.6,SNR=5.5						

*ANF **04** 22:29:42.0±0.1, 34.°20N×117.°01W, h14km, ML3.0/28, ML3.0/28, Error ellipse: s-maj=0.8km s-min=0.7km az=36.0*
*NEIC **04** 22:29:42.8±2.0, 34.°17N±0.°01×117.°02W±0.°03, h8km±5km*
*SCEDC **04** 22:29:43.5, 34.°21N×117.°01W, h7km*
*PAS **04** 22:29:43.3±2.7, 34.°21N±0.°02×117.°01W±0.°03, h7km±5km, ML3.0*

ISC 04 22:29:42.9±0.9, 34.°20N±0.°02×117.°02W±0.°02, h12km±6km, n52, σ1°911/83, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	Big Bear Solar	0.10	49	P	Pg	22 29 45.5	-0.5
	baz=234,SNR=388						
BBRC				S	Sg	22 29 47.4	-0.9
	baz=234						
BFSC	Mount Baldy Ra	0.54	275	P	Pg	22 29 53.3	-0.1
	baz=93,SNR=67						
BFSC				S	Sg	22 30 00.4	-0.2
	baz=93						
MURC	Murrieta	0.61	194	P	Pg	22 29 54.8	-0.1
	baz=14,SNR=17						
MURC				S	Sg	22 30 03.2	+0.3
	baz=14						
RRX	Edison Barstow	0.68	1	P	Pg	22 29 55.7	-0.4
	baz=181						
RRX				S	Sg	22 30 05.1	0.0
	baz=181						
PFO	Pinyon Flats O	0.74	141	P	Pg	22 29 57.1	-0.2
	baz=322,SNR=40						
PFO				S	Sg	22 30 07.2	+0.1
	baz=322						
PFO	Pinyon Flats O	0.74	141		Pg	22 29 57.2	-0.2
PFO					Sg	22 30 06.6	-0.5
HEC	Hector,Ludlow	0.85	41	P	Pg	22 29 58.8	-0.5
	baz=222,SNR=115						
HEC				S	Sg	22 30 10.1	-0.3
	baz=222						
MWC	Mount Wilson	0.86	272		Pg	22 29 59.2	-0.4
BELC	Belle Mtn. Jos	0.87	103	P	Pg	22 29 59.6	-0.1
	baz=284,SNR=86						
BELC				S	Sg	22 30 11.0	0.0
	baz=284						
PASC	Pasadena Art C	0.97	269		Pg	22 30 01.0	-0.6
PASC					Sg	22 30 13.8	-0.5
EDW2	Edwards Air Fo	1.06	311	P	Pg	22 30 02.6	-0.7
	baz=130,SNR=38						
EDW2				S	Sg	22 30 16.3	-0.8
	baz=130						
DECC	Green Verdugo	1.09	273	P	Pg	22 30 03.3	-0.7
	baz=92,SNR=7.4						
DECC				S	Sg	22 30 17.9	-0.3
	baz=92						
GSC	Goldstone, Bar	1.12	9	P	Pg	22 30 03.4	-1.1
	baz=189,SNR=29						
GSC				S	Sg	22 30 18.4	-0.6
	baz=189						
GSC	Goldstone, Bar	1.12	9	Pg	Pg	22 30 03.8	-0.7
GSC					Sg	22 30 18.2	-0.8
FMP	Fort Macarthur	1.17	246	S	Sg	22 30 19.7	-0.9
	baz=65						
GMRC	Granite Mounta	1.26	62	P	Pn	22 30 05.9	-0.6
	baz=243,SNR=97						
109C	Camp Elliot, M	1.30	183	P	Pn	22 30 06.4	-0.6
	baz=3.3,SNR=5.9						
109C				S	Sb	22 30 23.4	-0.7
	baz=3.3						
109C	Camp Elliot, M	1.30	183		Pn	22 30 06.3	-0.6
109C					Sb	22 30 23.1	-1.0
MONP2	Monument Peak	1.39	159	Pg	Pn	22 30 08.7	+0.4
	baz=340,SNR=30						
MONP2				Sb	Sb	22 30 27.3	+0.5
	baz=340						
LRMC	Laurel Mtn Rad	1.39	337	Pg	Pn	22 30 08.8	+0.4
	baz=156,SNR=20						
BC3	Big Chuckawall	1.41	112	P	Pn	22 30 08.2	-0.3
	baz=294,SNR=16						
BC3				Sb	Sb	22 30 27.2	+0.1
	baz=294						
CIS	Catalina Islan	1.41	236	Pg	Pn	22 30 09.2	+0.8
	baz=55						
CIS				Sb	Sb	22 30 27.4	+0.3
	baz=55						
TUQ	Turquoise Moun	1.53	36	Pg	Pn	22 30 11.3	+1.1
	baz=216						
BAR	Barrett	1.54	169		Pn	22 30 10.3	+0.1
BAR					Sn	22 30 30.0	-0.2
IRM	Iron Mountain	1.55	91	P	Pn	22 30 09.6	-0.8
	baz=272,SNR=69						
IRM				S	Sn	22 30 29.8	-0.7
	baz=272						
SWSC	Sam W. Stewart	1.61	141	P	Pn	22 30 10.4	-0.7
	baz=322,SNR=9.0						
SWSC				S	Sn	22 30 31.4	-0.4
	baz=322						
BLG	Laguna Peak, P	1.70	268	Pb	Pn	22 30 13.0	+0.5
	baz=86						
IKP	In-Ko-Pah, Jac	1.72	154	P	Pn	22 30 12.9	+0.1
	baz=334,SNR=10						
IKP				Sb	Sb	22 30 37.0	+1.0
	baz=334						
ARVC	Arvin	1.76	302	Sb	Sb	22 30 37.6	+0.4
	baz=121						
ISA	Isabella, Lake	1.89	321	Pg	Pb	22 30 18.0	+0.6
	baz=140,SNR=19						
ISA				Sb	Sb	22 30 41.2	+0.1
	baz=140						
ISA	Isabella, Lake	1.89	321		Pn	22 30 16.4	+1.2
MPMC	Manual Prospec	1.90	348	Pg	Pb	22 30 18.5	+0.9
	baz=168,SNR=16						
MPMC				Sb	Sb	22 30 42.6	+1.2
	baz=168						
NEE2	Needles Airpor	2.06	73	P	Pn	22 30 16.5	-0.8
	baz=255						
Y12C	Blythe	2.12	101	P	Pn	22 30 17.5	-0.6
	baz=283,SNR=23						
Y12C				S	Sn	22 30 43.4	-1.0
	baz=283						
Y12C	Blythe	2.12	101		Pn	22 30 17.6	-0.6
DAC	Darwin (Calif)	2.13	347		Pn	22 30 20.2	+1.7
GLA	Glamis	2.15	121	S	Sn	22 30 45.0	-0.4
	baz=303						
GLA	Glamis	2.15	121		Pn	22 30 18.8	+0.1
GLA				Pg	Pg	22 30 23.7	-0.5
GLA					Sn	22 30 42.8	-2.5
W13A	Hualapai Mount	2.73	70		Pn	22 30 26.7	-0.1
SHPR	Sheep Range	2.76	33		Pn	22 30 27.9	+0.7
TPNV	Topopah Spring	2.82	13		Pn	22 30 29.0	+1.1
TPNV				Pg	Pb	22 30 35.3	+2.0
113A	Mohawk Valley,	3.06	117	Pn	Pn	22 30 30.7	-0.4
Y14A	Wickenburg	3.34	93		Pn	22 30 35.0	0.0
Y14A				Sn	Sn	22 31 09.9	-4.8
OMMB	Old Mammoth Mi	3.77	335	Pn	Pn	22 30 40.0	-1.2
MDPB	Devils Postpil	3.82	335	Pn	Pn	22 30 39.9	-1.9
LCMT	Little Creek M	4.16	46	Pn	Pn	22 30 47.4	+0.9
R11A	Troy Canyon, C	4.30	15	Pn	Pn	22 30 49.9	+1.5
R11A				Pg	Pg	22 31 02.7	-2.6
KNB	Kanab	4.43	49		Pn	22 30 50.6	+0.6
U15A	North Rim	4.46	59		Pn	22 30 51.8	+1.2
U15A				Pg	Pb	22 31 05.2	+3.9
CCUT	Cedar City	4.47	40	Pn	Pn	22 30 52.8	+2.0
X16A	Lo Mia Camp, P	4.62	86	Pn	Pn	22 30 53.4	+0.6
WAKR	Walker	4.72	336	Pn	Pn	22 30 54.8	+0.6

*ISCJB **04** 22:42:48.2±1.2, 30.°44S±0.°05×71.°61W±0.°09, h5km±8km, Error ellipse: s-maj=13.9km s-min=5.8km az=24.1*
*GUC **04** 22:42:49.9±0.5, 30.°35S×71.°07W, h45km±3km, ML3.9*
*SJA **04** 22:42:50.3±0.6, 30.°45S×71.°71W, h40km, ML3.8, MW3.4*

ISC 04 22:42:48.9±1.9, 30.°44S±0.°04×71.°63W±0.°09, h3km±11km, n14, σ0°995/23, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.63	32	*e*P	Pg	22 43 01.0	+0.2
LSCH				*i* S	Sg	22 43 09.1	+0.1
GO04	Tololo Observa	0.77	70	*e*P	Pg	22 43 02.9	-0.6
GO04				*e*S	Sg	22 43 12.7	-0.8
CO02	Combarbal	0.93	145	⇓*i*P	Pg	22 43 06.9	+0.1
CO02				*i* S	Sg	22 43 19.8	+0.9
CO02				IAML		22 43 21.0	
	comp=E,9μm,0.3s						
ROCH	El Roble	2.58	168	*e*P	Pn	22 43 30.9	-0.8
ROCH				*e*S	Sn	22 44 03.7	-0.1
ROCH				IAML		22 44 11.9	
	comp=N,534nm,0.6s						
ROC1	El Roble	2.58	168	*e*P	Pn	22 43 30.9	-1.0
ROC1				*e*S	Sb	22 44 09.3	+1.1
PEL	Peldehue	2.81	164	*e*P	Pn	22 43 34.5	-0.4
PEL				*e*S	Sn	22 44 08.4	-0.9
PEL				IAML		22 44 22.7	
	comp=E,343nm,0.7s						
PEL	Peldehue	2.81	164	*i* P	Pn	22 43 35.2	+0.4
AGUA	GUANDACOL	2.88	72	*i* P	Pn	22 43 37.2	+1.3
AGUA				*e*S	Sb	22 44 17.1	+0.3
CLCH	Cerro Calan	3.09	163	*e*P	Pn	22 43 39.9	+1.3
CLCH				*e*S	Sn	22 44 14.8	-1.4
VCA	Vinchina	3.43	61	*i* P	Pn	22 43 44.4	+1.0
VCA				*e*S	Sn	22 44 25.6	+0.9
VCA				IAML		22 44 37.2	
	comp=Z,273nm,0.3s						
ACLC	CERRO LA CRUZ	4.18	77	*i* P	Pn	22 43 53.1	-0.7
ACLC				*e*S	Sn	22 44 43.7	+0.4
ACLC				IAML		22 44 52.5	
	comp=Z,178nm,0.3s						
CYA	Choya	5.46	70	*i* P	Pn	22 44 09.4	-1.8
CYA				IAML		22 45 50.2	
	comp=Z,17nm,1.1s						
AHML	Horco Molle	6.62	58	*i* P	Pn	22 44 26.7	-0.5
SLA	San Lorenzo	7.87	45	*i* P	Pn	22 44 33.2	-11

*HEL **04** 23:09:28.7, 67.°11N×20.°65E, h0km, ML1.3, Explosion*

UPP 04 23:09:29.2±0.1, 67.°18N×20.°64E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	204	P	Pg	23 09 30.7	+0.3
DUNU				S	Sg	23 09 31.5	+0.3
DUNU	Dundret	0.07	204	*i* P	Pg	23 09 30.7	+0.3
DUNU				*i* S	Sg	23 09 31.5	+0.3
MASU	Masugnsbyn	0.60	62	P	Pg	23 09 40.5	-0.1
MASU				S	Sg	23 09 49.1	+0.8
MASU	Masugnsbyn	0.60	62	*i* P	Pg	23 09 40.5	-0.1
MASU				*i* S	Sg	23 09 49.1	+0.8
RATU	Laukkuluspa	0.76	329	P	Pg	23 09 43.4	-0.4
RATU	Laukkuluspa	0.76	329	*i* P	Pg	23 09 43.4	-0.4
ERTU	Ertsjaerv	0.88	135	P	Pg	23 09 45.1	-0.9
ERTU	Ertsjaerv	0.88	135	*i* P	Pg	23 09 45.1	-0.9
LANU	Lannavaara	1.01	30	*e*P	Pg	23 09 48.2	-0.5
HEF	Hetta	1.69	42	*e*P	Pn	23 09 59.8	-0.1
	baz=222						
HEF				MSG		23 10 20.5	
	comp=Z,1.8nm,0.2s						
HEF				*e*SG	Sn	23 10 22.2	+0.1
HEF	Hetta	1.69	42	*e*P	Pn	23 09 59.6	-0.3
KIF	Kilpisjarvi	1.83	2	*e*PG	Pb	23 10 03.7	+0.2
	baz=187						
KIF				MSG		23 10 26.5	
	comp=Z,1.8nm,0.2s						
KIF				*e*SG	Sg	23 10 28.5	+0.5
KIF	Kilpisjarvi	1.83	2	*e*P	Pb	23 10 03.4	-0.1
SGF	Sodankyl	2.30	81	*e*PB	Pb	23 10 10.2	-1.2
SGF				*e*SG	Sb	23 10 40.4	0.0

*HEL **04** 23:10:20.5±0.0, 67.°17N×20.°68E, h0km, ML1.5, ML1.6(UPP), Explosion*

UPP 04 23:10:19.9±0.1, 67.°19N×20.°68E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.08	214	P	Pg	23 10 21.7	+0.3
DUNU	Dundret	0.08	214	*i* P	Pg	23 10 21.7	+0.3
MASU	Masugnsbyn	0.58	61	P	Pg	23 10 31.1	+0.1
MASU				S	Sg	23 10 38.5	+0.1
MASU	Masugnsbyn	0.58	61	*i* P	Pg	23 10 31.1	+0.1
MASU				*i* S	Sg	23 10 38.5	+0.1
RATU	Laukkuluspa	0.77	327	P	Pg	23 10 34.2	-0.4
RATU				S	Sg	23 10 44.6	+0.2
RATU	Laukkuluspa	0.77	327	*i* P	Pg	23 10 34.2	-0.4
RATU				*i* S	Sg	23 10 44.6	+0.2
ERTU	Ertsjaerv	0.87	136	P	Pg	23 10 35.8	-0.8
ERTU	Ertsjaerv	0.87	136	*i* P	Pg	23 10 35.8	-0.8
PAJU	Pajala	0.96	99	P	Pg	23 10 37.7	-0.6
PAJU	Pajala	0.96	99	*e*P	Pg	23 10 37.7	-0.6
HARU	Harads	1.03	173	P	Pg	23 10 38.7	-1.0
HARU	Harads	1.03	173	*e*P	Pg	23 10 38.7	-1.0
HEF	Hetta	1.67	41	*e*P	Pn	23 10 50.4	0.0
	baz=228						
HEF				MSG		23 11 10.9	
	comp=Z,2.0nm,0.2s						
HEF				*e*S	Sn	23 11 11.7	-0.7
KIF	Kilpisjarvi	1.83	1	*e*PG	Pb	23 10 54.1	0.0
KIF				MSG		23 11 17.1	
	comp=Z,4.9nm,0.2s						
KIF				*e*SG	Sg	23 11 18.2	-0.3
SGF	Sodankyl	2.28	81	*e*PB	Pb	23 11 00.5	-1.3
	baz=265						
SGF				*e*SB	Sb	23 11 29.8	-0.8
KEV	Kevo	3.48	39	*e*S	Sn	23 11 56.6	-0.3

*IDC **04** 23:20:14.5±1.5, 34.°92N×26.°38E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.6/4, Error ellipse: s-maj=59.2km s-min=25.7km az=137.0*
*ISCJB **04** 23:20:16.1±1.6, 34.°69N±0.°07×26.°69E±0.°05, h9km±9km, mb3.7/4, Error ellipse: s-maj=11.4km s-min=7.1km az=177.1*
*THE **04** 23:20:17.9, 34.°78N×26.°61E, h0km±2km, ML2.7/4, Error ellipse: s-maj=5.1km s-min=1.4km az=163.0*
*ATH **04** 23:20:18.3, 34.°85N×26.°63E, h20km±2km, ML2.8/3, Error ellipse: s-maj=6.5km s-min=1.8km az=339.0*

ISC 04 23:20:16.8±1.7, 34.°75N±0.°08×26.°64E±0.°04, h10km±10km, n25, σ1°930/33, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.50	316	P	Pb	23 20 27.4	-0.3
ZKR				S	Sb	23 20 35.5	+0.5
	1μm,0.5s						
ZKR	Zakros	0.50	316	P	Pb	23 20 27.2	-0.4
ZKR				S	Sb	23 20 34.1	-0.9
ZKR				AML	AML	23 20 40.7	
	comp=N,1401μm,0.3s						
ZKR				AML	AML	23 20 46.6	
	comp=E,3680μm,0.6s						
STIA	Sitia Lasithi	0.64	315	P	Pb	23 20 30.0	+0.1
STIA				S	Sb	23 20 40.0	+1.1
FRMA	Ierapetra Chan	0.79	290	P	Pg	23 20 30.6	-1.4
FRMA				S	Sg	23 20 42.1	-0.2
	comp=E,338nm,0.4s						
KARP	Karpathos	0.90	28	P	Pg	23 20 34.4	+0.3
KARP				S	Sn	23 20 49.5	+1.0
	comp=E,1μm,0.6s						
KARP	Karpathos	0.90	28	P	Pg	23 20 34.3	+0.3
KARP				S	Sg	23 20 45.2	-0.6
KARP				AML	AML	23 20 56.9	
	comp=N,2133μm,0.6s						
KARP				AML	AML	23 20 58.0	
	comp=E,2209μm,0.6s						
NPS	Neapolis	0.99	301	P	Pb	23 20 36.3	+0.4
NPS				S	Sn	23 20 51.1	+0.5
	comp=E,410nm,0.7s						
NPS	Neapolis	0.99	301	P	Pb	23 20 36.2	+0.4
NPS				S	Sb	23 20 49.9	+1.0
NPS				AML	AML	23 21 01.4	
	comp=E,976μm,0.6s						
NPS				AML	AML	23 21 06.6	
	comp=N,613μm,1.1s						
LAST	Lasithi	1.04	293	P	Pg	23 20 36.6	-0.1
LAST	Lasithi	1.04	293	P	Pg	23 20 36.6	-0.1
SIVA	Sivas	1.53	280	P	Pn	23 20 45.3	+1.2
SIVA	Sivas	1.53	280	P	Pg	23 20 46.9	+0.8
ARG	Arkhangelos	1.90	39	P	Pn	23 20 51.3	+2.2
ARG	Arkhangelos	1.90	39	P	Pn	23 20 51.1	+2.0
THR3	Thira Island,	1.94	329	P	Pn	23 20 50.8	+1.1
GVD	Gavdhos	2.10	273	P	Pn	23 20 53.9	+1.9
GVD	Gavdhos	2.10	273	P	Pn	23 20 53.7	+1.8
VAM	Vamos	2.11	289	P	Pn	23 20 54.7	+2.7
AMGA	Amorgos Island	2.16	344	P	Pn	23 20 54.0	+1.2
IMMV	Iera Moni Meta	2.29	289	P	Pn	23 20 57.2	+2.7
APE	Apeiranthos	2.48	339	P	Pn	23 20 58.1	+0.9
TORD	Torodi Ar. Bea	31.18	233	P	P	23 26 34.9	-1.2
	comp=N,1.9nm,1.2s,baz=32,slow=8.7,SNR=6.7						
ARCES	ARCESS Array B	34.84	359	P	P	23 27 05.4	-2.1
	comp=N,2.0nm,1.0s,baz=186,slow=8.2,SNR=3.3						
MKAR	Makanchi Array	42.98	56	P	P	23 28 16.1	0.0
	comp=N,0.4nm,0.6s,baz=280,slow=7.4,SNR=3.2						
ZALV	Zalesovo Beam	44.41	46	P	P	23 28 26.7	-0.6
	comp=N,0.6nm,0.5s,baz=278,slow=9.9,SNR=2.9						

*TIR **04** 23:29:11.6, 42.°08N×19.°18E, h7km, Md2.7/4*
*ISCJB **04** 23:29:12.5±0.4, 42.°00N±0.°02×19.°22E±0.°02, h7km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=34.5*
*RHSSO **04** 23:29:12.8±0.7, 41.°98N×19.°32E, h3km±2km, ML2.8/1*
*BEO **04** 23:29:13.8±0.4, 42.°00N×19.°25E, h6km±2km, ML2.4/8*
*PDG **04** 23:29:13.4±0.3, 42.°03N×19.°28E, h6km, MD2.8/5, ML2.7/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

ISC 04 23:29:13.3±0.8, 42.°01N±0.°02×19.°25E±0.°02, h8km±6km, n63, σ0°986/109, 19C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.04	184	⇑*i*Pg	Pg	23 29 14.6	-0.3
ULC				*e*Sg	Sg	23 29 16.2	+0.1
DRME	Dracevica, Mon	0.18	345	*e*Pg	Pg	23 29 16.9	-0.2
DRME				*e*Sg	Sg	23 29 20.6	+1.0
DRME	Dracevica, Mon	0.18	345	⇓*i*Pg	Pg	23 29 16.9	-0.2
DRME				*e*Sg	Sg	23 29 20.0	+0.4
BUM	Brajici-Budva	0.39	318	⇓*i*Pg	Pg	23 29 20.8	-0.2
BUM				*e*Sg	Sg	23 29 27.3	+1.1
PDG	Podgorica	0.42	1	*e*Pg	Pg	23 29 20.8	-0.7
PDG				*e*Sg	Sb	23 29 28.2	-1.3
PDG	Podgorica	0.42	1	⇓*i*Pg	Pg	23 29 20.5	-1.0
PDG				*e*Sg	Sb	23 29 28.0	-1.5
PDG	Podgorica	0.42	1	⇓P	Pg	23 29 21.0	-0.5
PDG				⇓S	Sb	23 29 28.4	-1.1
PDG				AML	AML	23 29 29.1	
TTG	Podgorica	0.42	1	⇑*i*Pg	Pg	23 29 20.9	-0.5
TTG				*e*Sg	Sg	23 29 27.5	+0.5
PUK	Puka	0.48	86	*i* PG	Pg	23 29 21.9	-0.7
PUK				*i* SG	Sb	23 29 30.4	-0.9
CEME	Cevo	0.59	336	⇑*i*Pg	Pg	23 29 23.7	-1.0
CEME				*e*Sg	Sg	23 29 33.1	+0.6
BCI	Bajram Curri	0.71	59	*i* PG	Pg	23 29 26.0	-0.9
BCI				*i* SG	Sb	23 29 37.2	-0.5
HCY	Herceg Novi	0.71	308	*e*Pg	Pg	23 29 26.3	-0.7
HCY				*e*Sg	Sb	23 29 37.9	0.0
HCY	Herceg Novi	0.71	308	⇑*i*Pg	Pg	23 29 26.9	-0.1
HCY				*e*Sg	Sb	23 29 37.9	0.0
PVY	Plav	0.79	42	⇓*i*Pg	Pg	23 29 27.3	-1.1
PVY				*e*Sg	Sb	23 29 39.0	-1.2
NKME	Niksic	0.79	344	⇓*i*Pg	Pg	23 29 27.8	-0.7
NKME				*e*Sg	Sb	23 29 40.0	-0.2
TIR	Tirane	0.81	145	*e*Pg	Pg	23 29 28.2	-0.6
TIR				*e*Sg	Sb	23 29 40.3	-0.2
TIR	Tirane	0.81	145	*i* PG	Pb	23 29 29.5	0.0
TIR				*i* SG	Sn	23 29 43.5	+0.4
TIR	Tirane	0.81	145	⇑S	Sb	23 29 40.4	-0.2
NKY	Niksic	0.83	347	⇓*i*Pg	Pg	23 29 28.4	-0.8
NKY				*e*Sg	Sb	23 29 41.8	+0.5
KOME	Kolasin	0.86	13	⇓*i*Pg	Pg	23 29 28.9	-1.0
KOME				*e*Sg	Sb	23 29 42.0	-0.4
PHP	Peshkopia	0.95	110	*i* PG	Pg	23 29 30.8	-0.7
PHP				*i

TRUS	**Trudelj**	**2.37**	**21**	*e*Pn	**Pn**	**23 29 52.7**	**+0.2**
HVAR	**Hvar**	**2.38**	**300**	*e*Pn	**Pn**	**23 29 49.4**	**-3.1**
HVAR				Sn	**Sn**	**23 30 20.9**	**-0.9**
BOSS	**Bosilegrad**	**2.45**	**77**	*e*Pn	**Pn**	**23 29 54.0**	**+0.5**
ZAGS	**Zajecar**	**2.84**	**50**	*e*Pn	**Pn**	**23 29 58.9**	**0.0**
MGRS	**Mrkonjic Grad**	**2.88**	**327**	*e*Sn	**Sn**	**23 30 35.7**	**+1.3**
BLKB	**Belogradchik**	**2.99**	**56**	⇑S	**Sn**	**23 30 39.0**	**+1.9**
VTS	**Vitosha**	**3.02**	**77**	⇑P	**Pn**	**23 30 02.9**	**+1.3**
VTS				⇓S	**Sn**	**23 30 40.1**	**+2.1**
BLY	**Banja Luka**	**3.12**	**332**	*e*Pn	**Pn**	**23 30 04.1**	**+1.3**
BLY				*e*Sn	**Sn**	**23 30 41.8**	**+1.5**
BLY	**Banja Luka**	**3.12**	**332**	⇑P	**Pn**	**23 30 03.2**	**+0.4**
BLY				⇑S	**Sn**	**23 30 42.2**	**+1.8**
FRGS	**Fruska Gora**	**3.17**	**7**	⇑*i*Pn	**Pn**	**23 30 03.5**	**0.0**
FRGS				*e*Sn	**Sn**	**23 30 42.0**	**+0.4**
MORI	**Morici**	**3.19**	**307**	*e*Pn	**Pn**	**23 30 04.6**	**+0.8**
MORI				Sn	**Sn**	**23 30 42.6**	**+0.6**
BZS	**Buzias**	**3.99**	**25**	⇑P	**Pn**	**23 30 15.3**	**+0.5**
BZS				⇑S	**Sn**	**23 31 02.9**	**+1.2**
MORH	**Mrgy, Hungar**	**4.23**	**354**	*e*Pn	**Pn**	**23 30 18.1**	**+0.1**
MORH				*e*Sn	**Sn**	**23 31 07.4**	**-0.1**
GZR	**Gura Zlata**	**4.24**	**36**	⇑S	**Sn**	**23 31 09.7**	**+1.7**
GZR				AML	AML	23 31 17.8	
CRES	**Cresnjev**	**4.70**	**326**	*e*Pn	**Pn**	**23 30 24.4**	**0.0**
CEY	**Cerknica**	**5.10**	**319**	*e*Pn	**Pn**	**23 30 29.7**	**-0.4**
DRGR		**5.39**	**26**	⇑P	**Pn**	**23 30 34.5**	**+0.5**
DRGR				⇑S	**Sn**	**23 31 35.7**	**-0.5**
VYHS	**Vyhne**	**6.49**	**358**	*e*PN	**Pn**	**23 30 49.4**	**+0.3**

ISCJB ***04*** *23:30:01.1±1.2, 46°.2N±0°.2×53°.2E±0°.1, h10km, mb3.6/1, Error ellipse: s-maj=24.8km s-min=8.7km az=150.0*
IDC ***04*** *23:30:02.1±2.0, 46°.24N×53°.17E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=50.1km s-min=18.1km az=158.0*
ISC 04 23:30:02.6±1.3, 46°.3N±0°.2×53°.18E±0°.10, h10km, n5, σ2§83/10, 2C-5D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**5.28**	**36**	⇓Pn	**Pn**	**23 31 24.1**	**+2.7**
	3.6nm,1.2s						
AKTO				⇑Pg	**Pg**	**23 31 40.0**	**-3.6**
	2.0nm,0.8s						
AKTO				⇓Sn	**Sn**	**23 32 23.5**	**+1.2**
	0.9nm,0.3s						
AKTO				⇓Lg	Lg	23 32 45.9	
	3.9nm,1.0s						
AB31	**Akbulak array**	**5.46**	**54**	Pn	**Pn**	**23 31 26.3**	**+2.4**
	0.2nm,0.2s,baz=36,slow=10,SNR=42						
AB31				⇓Pg	**Pg**	**23 31 42.9**	**-4.2**
	1.0nm,0.5s						
AB31				⇓Sn	**Sn**	**23 32 28.4**	**+1.7**
	0.7nm,0.3s,baz=240,slow=29,SNR=4.4						
AB31				⇑Lg	Lg	23 32 51.8	
	1.0nm,0.4s						
KBZ	**Khabaz**	**7.71**	**255**	Pn	**Pn**	**23 31 55.8**	**+0.9**
	0.4nm,0.3s,baz=76,slow=12,SNR=15						
KBZ				Sn	**Sn**	**23 33 19.7**	**-2.6**
	0.5nm,0.3s,baz=295,slow=19,SNR=4.5						
MKAR	**Makanchi Array**	**19.99**	**78**	P	**P**	**23 34 35.4**	**+0.3**
	0.2nm,0.6s,baz=273,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**21.82**	**324**	P	**P**	**23 34 55.7**	**+1.1**
	2.3nm,0.8s,baz=132,slow=9.7,SNR=7.0						

SOME ***04*** *23:45:57.7, 41°.90N×78°.58E, h10km*
KRNET ***04*** *23:45:57.7±0.1, 41°.87N×78°.58E, h13km, mb2.5*
NNC ***04*** *23:45:58.3±0.8, 41°.91N×78°.62E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=5.3km s-min=2.6km az=162.0*
ISC 04 23:45:58.6±1.3, 41°.91N±0°.04×78°.52E±0°.03, h13km±10km, n48, σ1§22/83, 9C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.56**	**252**	⇓*i*P	**Pg**	**23 46 09.2**	**-0.6**
	baz=56						
TARG				⇓*i*S	**Sg**	**23 46 17.5**	**+0.2**
	baz=56						
PRZ	**Przheval'sk**	**0.58**	**351**	⇑*e*P	**Pg**	**23 46 09.6**	**-0.5**
	baz=49						
PRZ				⇑*i*S	**Sg**	**23 46 18.1**	**+0.3**
	baz=49						
KDJ	**Kajisay**	**1.02**	**283**	⇑*i*P	**Pg**	**23 46 18.0**	**-0.4**
	baz=84						
KDJ				⇑*i*S	**Sb**	**23 46 32.7**	**+1.0**
	baz=84						
ANVS	**Anan'yevo**	**1.08**	**324**	⇑*i*P	**Pn**	**23 46 19.4**	**-0.2**
	baz=24						
ANVS				⇑*i*S	**Sn**	**23 46 35.0**	**+0.5**
	baz=24						
SATY	**Saty**	**1.15**	**356**	P	**Pn**	**23 46 20.5**	**-0.1**
	3.2nm,0.1s						
SATY				S	**Sn**	**23 46 37.0**	**+0.8**
	32nm,0.1s						
SATY	**Saty**	**1.15**	**356**	*e*P	**Pg**	**23 46 20.1**	**-0.7**
	1.4nm,0.2s						
SATY				*e*S	**Sg**	**23 46 35.6**	**-0.3**
	32nm,0.1s						
UZB	**Uzynbulak**	**1.29**	**17**	P	**Pn**	**23 46 21.7**	**-0.8**
	1.6nm,0.2s						
UZB				S	**Sb**	**23 46 38.8**	**-0.7**
	9.3nm,0.2s						
UZB	**Uzynbulak**	**1.29**	**17**	*e*P	**Pn**	**23 46 21.7**	**-0.8**
	1.6nm,0.2s						
UZB				*e*S	**Sb**	**23 46 38.6**	**-0.9**
	9.3nm,0.2s						
SHLS	**Shalkode**	**1.43**	**29**	P	**Pg**	**23 46 27.5**	**+1.4**
	4.0nm,0.2s						
SHLS				S	**Sg**	**23 46 49.2**	**+4.5**
	8.2nm,0.2s						
SHLS	**Shalkode**	**1.43**	**29**	*e*P	**Pg**	**23 46 27.5**	**+1.4**
	4.0nm,0.2s						
SHLS				*e*S	**Sg**	**23 46 49.2**	**+4.5**
	8.2nm,0.2s						
KPKS	**Kokpek**	**1.56**	**4**	*e*P	**Pb**	**23 46 27.2**	**-0.3**
	4.3nm,0.1s						
KPKS				*e*S	**Sg**	**23 46 48.4**	**-0.5**
	19nm,0.3s						
PDGK	**Podgornoye**	**1.59**	**27**	P	**Pb**	**23 46 26.8**	**-1.1**
	3.9nm,0.2s						
PDGK				S	**Sg**	**23 46 47.8**	**-2.1**
	5.3nm,0.3s						
PDGK	**Podgornoye**	**1.59**	**27**	⇑P	**Pb**	**23 46 26.9**	**-1.1**
	2.3nm,0.3s						
PDGK				⇓S	**Sb**	**23 46 47.3**	**-0.7**
	8.0nm,0.5s						
KURS	**Kuram**	**1.60**	**351**	P	**Pg**	**23 46 28.4**	**-1.0**
	3.5nm,0.5s						
KURS				S	**Sg**	**23 46 50.4**	**+0.3**
	6.9nm,0.4s						
KURS	**Kuram**	**1.60**	**351**	*e*P	**Pg**	**23 46 28.4**	**-1.0**
	3.5nm,0.5s						
KURS				*e*S	**Sg**	**23 46 50.4**	**+0.3**
	6.9nm,0.4s						
TNSS	**Tian-Shan**	**1.62**	**315**	P	**Pg**	**23 46 29.2**	**-0.6**
TNSS				S	**Sg**	**23 46 51.9**	**+1.1**
TNSS	**Tian-Shan**	**1.62**	**315**	*e*P	**Pg**	**23 46 29.2**	**-0.6**
	5.6nm,0.2s						
TNSS				*e*S	**Sg**	**23 46 51.9**	**+1.1**
	12nm,0.2s						
MDOK	**Medeo**	**1.66**	**320**	P	**Pb**	**23 46 29.6**	**+0.5**
MDOK				S	**Sg**	**23 46 52.0**	**0.0**
MDOK	**Medeo**	**1.66**	**320**	Pg	**Pg**	**23 46 29.8**	**-0.7**
	6.4nm,0.2s						
MDOK				Lg	Lg	23 46 52.8	
	6.8nm,0.4s						
MDOK	**Medeo**	**1.66**	**320**	*e*P	**Pg**	**23 46 29.8**	**-0.7**
	6.4nm,0.2s						
MDOK				*e*S	**Sg**	**23 46 52.8**	**+0.7**
	6.8nm,0.4s						
KOTS	**Kotyrbulak**	**1.68**	**322**	P	**Pg**	**23 46 30.3**	**-0.7**
	20nm,0.2s						
KOTS				S	**Sg**	**23 46 53.6**	**+0.8**
	9.9nm,0.3s						
KOTS	**Kotyrbulak**	**1.68**	**322**	*e*P	**Pg**	**23 46 30.3**	**-0.7**
	20nm,0.2s						
KOTS				*e*S	**Sg**	**23 46 53.6**	**+0.8**
	9.9nm,0.3s						
ULHL	**Ulahol**	**1.73**	**282**	⇓*e*P	**Pb**	**23 46 30.7**	**+0.3**
	baz=83						
ULHL				⇓*i*S	**Sg**	**23 46 54.6**	**+0.3**
	baz=83						
IZV	**Izvestkoviy**	**1.80**	**309**	Pg	**Pg**	**23 46 32.7**	**-0.5**
	9.0nm,0.2s						
IZV				Lg	Lg	23 46 58.1	
	39nm,0.3s						
NRN	**Naryn**	**1.94**	**257**	⇓*i*P	**Pb**	**23 46 34.5**	**+0.4**
	baz=58						
NRN				⇓*i*S	**Sg**	**23 47 01.0**	**-0.2**
	baz=58						
MTBS	**Maitube**	**1.97**	**309**	Pg	**Pg**	**23 46 35.5**	**-0.9**
	6.2nm,0.1s						
MTBS				Lg	Lg	23 47 02.8	
	21nm,0.3s						
MTBS	**Maitube**	**1.97**	**309**	*e*P	**Pg**	**23 46 35.5**	**-0.9**
	6.2nm,0.1s						
MTBS				*e*S	**Sg**	**23 47 02.8**	**+0.9**
	21nm,0.3s						
BOOM	**Boomskoye usch**	**2.00**	**288**	⇓*i*P	**Pb**	**23 46 35.5**	**+0.5**
	baz=88						
BOOM				⇓*i*S	**Sg**	**23 47 02.9**	**-0.1**
	baz=88						
KST	**Kastek**	**2.20**	**302**	Pg	**Pb**	**23 46 39.3**	**+0.9**
	4.7nm,0.3s						
KST				Lg	Lg	23 47 09.7	
	13nm,0.5s						
KST	**Kastek**	**2.20**	**302**	*e*P	**Pb**	**23 46 39.3**	**+0.9**
	4.7nm,0.3s						
KST				*e*S	**Sg**	**23 47 09.7**	**+0.2**
	13nm,0.5s						
KTBS	**Karatobe**	**2.25**	**324**	Pg	**Pb**	**23 46 40.3**	**+1.1**
	4.2nm,0.3s						
KTBS				Lg	Lg	23 47 11.0	
	20nm,0.3s						
KTBS	**Karatobe**	**2.25**	**324**	*e*P	**Pb**	**23 46 40.3**	**+1.1**
	4.2nm,0.3s						
KTBS				*e*S	**Sg**	**23 47 11.0**	**0.0**
	20nm,0.3s						
ARXS	**Arharly**	**2.36**	**348**	Pg	**Pb**	**23 46 41.7**	**+0.7**
	2.3nm,0.4s						
ARXS				Lg	Lg	23 47 13.1	
	28nm,0.4s						
ARXS	**Arharly**	**2.36**	**348**	*e*P	**Pb**	**23 46 41.7**	**+0.7**
	2.3nm,0.4s						
ARXS				*e*S	**Sg**	**23 47 13.1**	**-1.3**
	28nm,0.4s						
TKM2	**Tokmak 2**	**2.39**	**296**	⇓Pg	**Pb**	**23 46 42.2**	**+0.6**
	1.9nm,0.3s						
TKM2				⇓Lg	Lg	23 47 15.3	
	5.4nm,0.5s						
TKM2	**Tokmak 2**	**2.39**	**296**	⇓*i*P	**Pb**	**23 46 40.8**	**-0.8**
	baz=96						
TKM2				⇓*i*S	**Sb**	**23 47 11.8**	**+0.8**
	baz=96						
DGS	**Degeres**	**2.43**	**304**	Pg	**Pb**	**23 46 43.2**	**+1.0**
	3.9nm,0.3s						
DGS				Lg	Lg	23 47 16.3	
	9.0nm,0.3s						
DGS	**Degeres**	**2.43**	**304**	*e*P	**Pb**	**23 46 43.2**	**+1.0**
	3.9nm,0.3s						
DGS				*e*S	**Sg**	**23 47 16.1**	**-0.6**
	9.0nm,0.3s						
KZA	**Kyzart**	**2.44**	**275**	⇓*i*P	**Pb**	**23 46 41.3**	**-1.3**
	baz=76						
KZA				⇓*i*S	**Sb**	**23 47 13.0**	**+0.2**
	baz=76						
KUU	**Kurty**	**2.55**	**322**	Pg	**Pb**	**23 46 45.0**	**+0.7**
	3.2nm,0.3s						
KUU				Lg	Lg	23 47 18.9	
	7.4nm,0.4s						
KUU	**Kurty**	**2.55**	**322**	*e*P	**Pb**	**23 46 45.0**	**+0.7**
	3.2nm,0.3s						
KUU				*e*S	**Sg**	**23 47 18.9**	**-1.6**
	7.4nm,0.4s						
DJR	**Jarkent**	**2.59**	**21**	Pg	**Pb**	**23 46 44.7**	**-0.4**
	3.4nm,0.1s						
DJR				Lg	Lg	23 47 18.9	
	16nm,0.3s						
DJR	**Jarkent**	**2.59**	**21**	*e*P	**Pb**	**23 46 44.7**	**-0.4**
	3.4nm,0.1s						
DJR				⇓*i*S	**Sg**	**23 47 18.9**	**-3.1**
	16nm,0.3s						
AAK	**Ala-Archa**	**3.07**	**285**	⇑Pg	**Pb**	**23 46 53.4**	**+0.1**
	2.5nm,1.0s						
AAK				⇑Lg	Lg	23 47 36.8	
	6.8nm,0.7s						
TDK	**Taldyqorghan**	**3.09**	**359**	Pg	**Pb**	**23 46 53.9**	**+0.4**
	13nm,0.3s						
TDK				Lg	Lg	23 47 34.4	
	18nm,0.5s						
TDK	**Taldyqorghan**	**3.09**	**359**	*e*P	**Pb**	**23 46 53.9**	**+0.4**
	13nm,0.3s						
TDK				*e*S	**Sg**	**23 47 34.4**	**-3.6**
	18nm,0.5s						
KAPS	**Kapalarasan**	**3.43**	**10**	Pg	**Pb**	**23 46 59.3**	**+0.1**
	0.4nm,0.1s						
KAPS				Lg	Lg	23 47 43.9	
	1.7nm,0.2s						
KAPS	**Kapalarasan**	**3.43**	**10**	*e*P	**Pb**	**23 46 59.3**	**+0.1**
	0.4nm,0.1s						
KAPS				*e*S	**Sb**	**23 47 43.9**	**+3.0**
	1.7nm,0.2s						

IDC ***05*** *00:20:41.3±1.6, 43°.31N×13°.08E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/42, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=40.5km s-min=17.1km az=95.0*
ROM ***05*** *00:20:42.9±0.0, 43°.384N±0°.002×12°.529E±0°.003, h8km, ML3.3/46, Error ellipse: s-maj=0.2km s-min=0.1km az=235.0*
ISCJB ***05*** *00:20:43.4±0.2, 43°.37N±0°.01×12°.51E±0°.02, h12km±1km, mb3.2/2, Error ellipse: s-maj=2.2km s-min=1.8km az=35.8*
LDG ***05*** *00:20:43.9±0.2, 43°.39N×12°.54E, h4km, Md2.9/2, Ml2.9/21, Error ellipse: s-maj=3.2km s-min=2.8km az=103.0*
PRU ***05*** *00:20:45.0±0.0, 43°.50N×12°.59E, h0km*
ISC 05 00:20:43.0±0.7, 43°.37N±0°.01×12°.50E±0°.01, h11km±4km, n109, σ2§02/174, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**88**	P	**Pg**	**00 20 44.6**	**-0.7**
ATFO				S	**Sg**	**00 20 45.6**	**-1.4**
ATFO				AML	AML		
ATFO				AML	AML		
MURB	**Monte Urbino**	**0.10**	**169**	P	**Pg**	**00 20 46.2**	**+0.4**
MURB				S	**Sg**	**00 20 48.3**	**+0.5**
MURB				AML	AML		
	comp=E,82850μm,0.8s						
MURB				AML	AML		
	comp=E,86650μm,0.3s						
MURB				AML	AML		
	comp=E,82850μm,0.8s						
MURB				AML	AML		
	comp=N,99450μm,0.3s						
MURB				AML	AML		
	comp=E,82900μm,0.8s						
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
	comp=E,82900μm,0.8s						
MURB				AML	AML		
	comp=E,86650μm,0.3s						
MURB				AML	AML		
	comp=N,99500μm,0.3s						
ATPI	**Pietralunga -**	**0.11**	**321**	P	**Pg**	**00 20 46.0**	**+0.1**
ATPI				S	**Sg**	**00 20 48.3**	**+0.3**
ATPI				AML	AML		
	comp=E,46200μm,0.3s						
ATPI				AML	AML		
	comp=N,55100μm,0.4s						
ATPI				AML	AML		
	comp=N,55100μm,0.4s						
ATPI				AML	AML		
	comp=E,46200μm,0.3s						
ATMI	**Monte Miggiano**	**0.17**	**260**	P	**Pg**	**00 20 47.5**	**+0.7**
ATMI				AML	AML		
	comp=E,14500μm,0.7s						
ATMI				AML	AML		
	comp=N,13450μm,0.4s						
PIEI	**Pieia**	**0.17**	**9**	P	**Pg**	**00 20 46.8**	**-0.1**
PIEI				S	**Sg**	**00 20 49.7**	**+0.1**
PIEI				AML	AML		
	comp=E,81150μm,0.2s						
PIEI				AML	AML		
	comp=N,57900μm,0.2s						
PIEI				AML	AML		
	comp=N,57900μm,0.2s						
PIEI				AML	AML		
	comp=E,81150μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.20**	**213**	P	**Pg**	**00 20 48.0**	**+0.7**
ATTE				S	**Sg**	**00 20 52.4**	**+2.1**
ATTE				AML	AML		
	comp=E,9755μm,0.3s						
ATTE				AML	AML		
	comp=N,7325μm,0.3s						
FOSV	**Fossato di Vico**	**0.20**	**110**	P	**Pg**	**00 20 47.4**	**0.0**
FOSV				S	**Sg**	**00 20 50.9**	**+0.5**
FOSV				AML	AML		
	comp=N,14650μm,0.4s						
FOSV				AML	AML		
	comp=E,7550μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.21**	**150**	P	**Pg**	**00 20 48.1**	**+0.7**
ATCC				S	**Sg**	**00 20 52.0**	**+1.6**
ATCC				AML	AML		
	comp=E,27350μm,0.3s						
ATCC				AML	AML		
	comp=N,26600μm,0.3s						
ATCC				AML	AML		
	comp=E,27400μm,0.3s						
ATCC				AML	AML		
	comp=N,26650μm,0.3s						
ATCC				AML	AML		
	comp=N,26650μm,0.3s						
ATCC				AML	AML		
	comp=E,27400μm,0.3s						
CDCA	**Citt' di Caste**	**0.21**	**296**	P	**Pg**	**00 20 48.1**	**+0.5**
SSFR	**Montelago di S**	**0.22**	**71**	P	**Pg**	**00 20 47.5**	**-0.2**
SSFR				S	**Sg**	**00 20 51.0**	**+0.2**
SSFR				AML	AML		
SSFR				AML	AML		
	comp=N,54800μm,0.2s						
SSFR				AML	AML		
	comp=N,52000μm,0.7s						
SSFR				AML	AML		
	comp=N,52050μm,0.7s						
SSFR				AML	AML		
	comp=N,52050μm,0.7s						
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
	comp=N,54800μm,0.2s						
FRON	**Frontone**	**0.23**	**47**	P	**Pg**	**00 20 47.5**	**-0.2**
FRON				S	**Sg**	**00 20 51.0**	**0.0**
FRON				AML	AML		
	comp=E,17850μm,0.5s						
FRON				AML	AML		
	comp=E,17850μm,0.5s						
FRON				AML	AML		
	comp=N,21750μm,0.7s						
BADI	**Badiali**	**0.23**	**308**	P	**Pg**	**00 20 48.7**	**+0.7**
BADI				S	**Sg**	**00 20 52.9**	**+1.6**
NARO	**Abbazia di Nar**	**0.25**	**14**	P	**Pg**	**00 20 48.1**	**-0.2**
NARO				S	**Sg**	**00 20 52.1**	**+0.3**
NARO				AML	AML		
	comp=E,8685μm,0.4s						
NARO				AML	AML		
	comp=N,7495μm,0.6s						
MPAG	**Monte Paganucc**	**0.33**	**36**	P	**Pg**	**00 20 49.5**	**-0.1**
MPAG				S	**Sb**	**00 20 54.5**	**-1.7**
MPAG				AML	AML		
	comp=E,7310μm,1.4s						
MPAG				AML	AML		
	comp=N,6875μm,0.5s						
MPAG				AML	AML		
	comp=N,6880μm,0.5s						
MPAG				AML	AML		
	comp=N,6940μm,0.5s						
MPAG				AML	AML		
	comp=E,7350μm,1.4s						
MPAG				AML	AML		
	comp=E,7315μm,1.4s						
PE3	**Peglio**	**0.33**	**360**	P	**Pb**	**00 20 50.0**	**-1.0**
PE3				S	**Sb**	**00 20 55.6**	**-0.8**
PE3				AML	AML		
	comp=E,12550μm,0.4s						
PE3				AML	AML		
	comp=N,16300μm,0.3s						
PE3				AML	AML		
	comp=E,12500μm,0.4s						
PE3				AML	AML		
	comp=N,16350μm,0.3s						
PE3				AML	AML		
	comp=N,16350μm,0.3s						
SSP9	**Sansepolcro**	**0.34**	**308**	P	**Pg**	**00 20 50.4**	**+0.6**
SSP9				S	**Sb**	**00 20 56.3**	**-0.2**
SSP9				AML	AML		
	comp=E,3490μm,1.6s						
SSP9				AML	AML		
	comp=N,3780μm,1.3s						
SSP9				AML	AML		
	comp=N,3785μm,1.3s						
SSP9				AML	AML		
	comp=E,3450μm,1.6s						
PARC	**Parchiule**	**0.34**	**326**	P	**Pg**	**00 20 50.2**	**+0.4**
PARC				S	**Sb**	**00 20 56.3**	**-0.4**
PARC				AML	AML		
	comp=E,4300μm,0.5s						
PARC				AML	AML		
	comp=N,7480μm,0.8s						
SNTG	**Esanatoglia**	**0.34**	**109**	P	**Pb**	**00 20 50.3**	**-0.9**
SNTG				S	**Sb**	**00 20 55.9**	**-0.7**
SNTG				AML	AML		
	comp=E,1710μm,0.2s						
SNTG				AML	AML		
	comp=E,14450μm,0.2s						
SNTG				AML	AML		
	comp=N,15800μm,0.3s						
SNTG				AML	AML		
	comp=N,2010μm,0.3s						
ASSB	**Assisi San Ben**	**0.34**	**160**	P	**Pg**	**00 20 50.3**	**+0.4**
ASSB				S	**Sb**	**00 20 56.4**	**-0.3**
ASSB				AML	AML		
	comp=E,5895μm,0.7s						
ASSB				AML	AML		
	comp=N,7160μm,0.9s						
ARVD	**Arcevia**	**0.35**	**67**	P	**Pg**	**00 20 49.9**	**-0.1**
ARVD				S	**Sb**	**00 20 55.3**	**-1.5**
ARVD				AML	AML		
	comp=E,8275μm,0.7s						
ARVD				AML	AML		
	comp=N,4275μm,0.5s						
FSSB	**Fossombrone**	**0.39**	**32**	P	**Pg**	**00 20 50.6**	**-0.1**
FSSB				S	**Sb**	**00 20 56.6**	**-1.3**
FSSB				AML	AML		
	comp=E,13900μm,1.5s						
FSSB				AML	AML		
	comp=N,12900μm,0.3s						
MTL1	**Matelica**	**0.39**	**106**	P	**Pg**	**00 20 50.9**	**+0.2**
MTL1				S	**Sb**	**00 20 57.3**	**-0.6**
MTL1				AML	AML		
	comp=E,16500μm,0.4s						
MTL1				AML	AML		
	comp=N,14900μm,0.4s						
MTL1				AML	AML		
	comp=E,16500μm,0.4s						
MTL1				AML	AML		
	comp=N,14900μm,0.4s						
CAFI	**Castiglion Fio**	**0.39**	**265**	P	**Pg**	**00 20 51.5**	**+0.8**
CAFI				S	**Sb**	**00 20 58.0**	**0.0**
CAFI				AML	AML		
	comp=E,1680μm,0.6s						
CAFI				AML	AML		
	comp=N,2775μm,0.5s						
CAFI				AML	AML		
	comp=E,1810μm,0.6s						
CAFI				AML	AML		
	comp=N,2920μm,0.5s						
CAFI				AML	AML		
	comp=N,2780μm,0.5s						
CAFI				AML	AML		
	comp=E,1675μm,0.6s						
GAG1	**Gagliole**	**0.43**	**107**	P	**Pg**	**00 20 51.8**	**+0.2**
GAG1				AML	AML		
	comp=N,25350μm,0.4s						
GAG1				AML	AML		
	comp=E,14250μm,0.4s						
GAG1				AML	AML		
	comp=N,25350μm,0.4s						
GAG1				AML	AML		
	comp=N,25350μm,0.4s						
CRM1	**Catelraimondo**	**0.44**	**111**	P	**Pb**	**00 20 52.1**	**-0.6**
CRM1				S	**Sb**	**00 20 59.0**	**-0.4**
CRM1				AML	AML		
	comp=E,10170μm,0.3s						
CRM1				AML	AML		

comp=E,10165μm,0.3s
CRM1 AML AML
comp=N,13200μm,1.0s
EL6 Elcito 0.44 94 P **Pg 00 20 51.6 -0.1**
EL6 S **Sb 00 20 58.7 -0.9**
EL6 AML AML
comp=E,7805μm,0.4s
EL6 AML AML
comp=N,11560μm,1.6s
CPGN Carpegna, Ital 0.46 344 AML AML
comp=N,3146μm,0.4s
CPGN AML AML
comp=N,3250μm,0.4s
CPGN AML AML
comp=E,3140μm,0.3s
CPGN AML AML
comp=N,3135μm,0.4s
CPGN AML AML
comp=E,3230μm,0.3s
CPGN AML AML
comp=E,3145μm,0.3s
CPGN AML AML
comp=N,3255μm,0.4s
CESI CESI - Serrava 0.47 140 P **Pg 00 20 52.5 +0.3**
CESI S **Sb 00 21 00.2 -0.1**
CESI AML AML
comp=E,1945μm,0.3s
CESI AML AML
comp=N,2020μm,0.3s
CRE Caprese Michel 0.47 303 P **Pg 00 20 52.7 +0.3**
CRE S **Sb 00 21 00.4 -0.1**
CRE AML AML
comp=E,2255μm,0.3s
CRE AML AML
comp=N,3550μm,0.3s
CING Cingoli 0.51 89 P **Pg 00 20 52.8 -0.1**
CING S **Sb 00 21 00.8 -0.6**
CING AML AML
comp=N,5575μm,0.3s
CING AML AML
comp=E,2695μm,0.2s
FDMO Fiordimonte 0.54 127 P **Pg 00 20 53.5 -0.1**
FDMO S **Sb 00 21 02.1 -0.2**
FDMO AML AML
comp=E,2090μm,0.3s
FDMO AML AML
comp=N,2695μm,0.7s
MOMA Monte Martano 0.56 175 P **Pg 00 20 54.3 +0.3**
MOMA AML AML
comp=E,2780μm,0.3s
MOMA AML AML
comp=N,2920μm,0.3s
MOMA AML AML
comp=E,2975μm,0.3s
MOMA AML AML
comp=E,2780μm,0.3s
MOMA AML AML
comp=N,3190μm,0.3s
MOMA AML AML
comp=N,2925μm,0.3s
MOMA AML AML
comp=E,2980μm,0.3s
FEMA Monte Fema 0.57 135 P **Pg 00 20 54.4 +0.2**
CSP1 Cessapalombo 0.58 118 P **Pg 00 20 54.3 -0.1**
CSP1 AML AML
comp=E,3085μm,0.5s
CSP1 AML AML
comp=N,4145μm,0.5s
PESA Pesaro 0.63 23 P **Pb 00 20 55.3 -0.7**
PESA AML AML
comp=E,7830μm,1.1s
PESA AML AML
comp=N,6755μm,0.9s
SENI Senigallia 0.63 57 P **Pb 00 20 56.3 +0.2**
SENI AML AML
comp=N,11500μm,0.3s
SENI AML AML
comp=E,2135μm,0.8s
SENI AML AML
comp=N,1670μm,1.1s
SENI AML AML
comp=E,12800μm,0.3s
SENI AML AML
comp=N,1684μm,1.1s
SENI AML AML
comp=E,2145μm,0.8s
SENI AML AML
comp=N,11550μm,0.3s
SACS San Casciano d 0.67 220 P **Pg 00 20 56.6 +0.6**
SACS AML AML
comp=E,1820μm,0.8s
SACS AML AML
comp=N,2900μm,0.5s
SACS AML AML
comp=E,2005μm,0.8s
SACS AML AML
comp=N,2840μm,0.5s
ASQU Asqua 0.67 310 P **Pg 00 20 56.2 +0.2**
ASQU AML AML
comp=E,1265μm,0.7s
ASQU AML AML
comp=N,1725μm,0.8s
NRCA Norcia 0.70 139 P **Pg 00 20 56.4 -0.1**
NRCA S **Sb 00 21 06.6 -0.3**
NRCA AML AML
comp=E,2360μm,0.4s
NRCA AML AML
comp=E,2495μm,0.4s
NRCA AML AML
comp=N,2960μm,0.2s
NRCA AML AML
comp=N,2825μm,0.2s
SFI Santa Sofia 0.72 319 P **Pg 00 20 57.0 0.0**
SFI AML AML
comp=N,895μm,1.3s
SFI AML AML
comp=N,956μm,0.5s
SFI AML AML
comp=E,1160μm,0.7s
SFI AML AML
comp=E,1042μm,1.6s
CESX Cesi 0.76 175 P **Pg 00 20 57.9 +0.2**
CESX AML AML
comp=N,2065μm,0.7s
CESX AML AML
comp=E,1990μm,0.7s
BLLA Bellaria 0.78 358 P **Pn 00 21 00.0 +0.1**
LNSS Leonessa 0.86 152 P **Pg 00 20 59.4 -0.2**
LNSS AML AML
comp=E,1540μm,0.4s
LNSS AML AML
comp=N,2120μm,0.6s
LATE Laterza 0.91 214 P **Pb 00 21 01.1 +0.3**
LMD Lutirano 0.92 321 P **Pg 00 21 00.5 -0.2**
LMD AML AML
comp=E,762μm,0.5s
LMD AML AML
comp=N,797μm,0.4s
OFFI Offida 0.97 116 P **Pn 00 21 02.5 -0.1**
OFFI AML AML
comp=N,4945μm,0.5s
OFFI AML AML
comp=E,3140μm,1.3s
FROS Frosini 0.99 261 P **Pg 00 21 02.4 +0.3**
FROS AML AML
comp=N,744μm,1.5s
FROS AML AML
comp=E,850μm,1.0s
SEI Scarperia 1.08 310 P **Pn 00 21 04.3 +0.2**
SEI AML AML
comp=N,1695μm,0.6s
SEI AML AML
comp=E,1205μm,0.5s
GUMA Gualdo di Mace 1.09 106 P Pg 00 20 56.3 -7.7
GUMA S Sg 00 21 05.6 -13
GUMA AML AML
comp=E,6690μm,0.5s
GUMA AML AML
comp=E,6190μm,0.4s
GUMA AML AML
comp=N,5025μm,0.3s
GUMA AML AML
comp=N,6075μm,0.4s
TERO Teramo 1.10 132 P **Pg 00 21 03.2 -0.9**
TERO AML AML
comp=E,346μm,0.5s
TERO AML AML
comp=N,406μm,0.4s
T0104 Madonna delle 1.18 148 P **Pg 00 21 05.2 -0.5**
T0104 AML AML
comp=E,1135μm,0.7s
T0104 AML AML
comp=N,1145μm,0.6s
T0104 AML AML
comp=E,1090μm,0.7s
T0104 AML AML
comp=N,1120μm,0.5s
TRIF Trifonti 1.19 258 P **Pb 00 21 05.8 +0.1**
TRIF AML AML
comp=E,376μm,0.5s
TRIF AML AML
comp=N,300μm,1.1s
CASP Castiglione de 1.33 245 AML AML
comp=N,141μm,1.5s
CASP AML AML
comp=E,137μm,0.9s
BRJN Brijuni 1.79 30 *e*Pn **Pb 00 21 15.0 -0.8**
BRJN Sn **Sb 00 21 38.3 +0.2**
DUGI Dugi Otok 1.96 70 *e*Pn **Pn 00 21 17.2 +0.9**
NVLJ Novalja 2.09 54 *i* Pn **Pn 00 21 18.6 +0.6**
NVLJ Sn **Sb 00 21 45.6 -1.3**
ZIRJ Zirje 2.31 82 *e*Pn **Pn 00 21 20.7 -0.2**
ZIRJ Sn **Sb 00 21 51.3 -1.8**
MORI Morici 2.38 77 *i* Pn **Pn 00 21 22.9 +0.9**
MORI Sn **Sb 00 21 53.7 -1.7**
RIY Rijeka 2.42 35 *i* Pn **Pb 00 21 24.7 -1.9**
RIY Sn **Sb 00 21 54.6 -1.8**
TRI Trieste 2.51 21 AML AML
comp=N,136μm,0.5s
TRI AML AML
comp=E,158μm,0.5s
UDBI Udbina 2.63 63 *e*Pn **Pn 00 21 27.3 +1.8**
PGF Pioggiola 2.69 254 *e*Pn **Pn 00 21 27.1 +0.7**
PGF *e*Sn **Sn 00 21 57.9 -1.2**
comp=E,7.3nm,0.5s
HVAR Hvar 2.89 92 *e*Pn **Pn 00 21 30.0 +1.0**
HVAR Sn **Sn 00 22 05.4 +1.6**
MYKA Terra Mystica 3.36 14 *i* Pn **Pn 00 21 38.0 +2.4**
comp=E,1.1nm,0.2s
MYKA *i* Sn **Sn 00 22 16.2 +0.7**
comp=E,16nm,0.4s
ABTA Abfaltersbach 3.38 0 *i* Pn **Pn 00 21 38.1 +2.3**
comp=E,8.2nm,0.5s,SNR=13
ABTA *i* Sn **Sn 00 22 19.8 +3.8**
comp=E,22nm,0.6s
OBKA Obir 3.46 24 *e*Pn **Pn 00 21 37.8 +0.8**
comp=E,2.4nm,0.2s,SNR=7.7
OBKA Sg **Sg 00 22 35.0 +0.7**
comp=E,72nm,0.6s
SBF Sospel 3.71 279 *e*Pn **Pn 00 21 40.8 +0.5**
SBF *e*Sn **Sn 00 22 22.1 -2.0**
comp=E,5.4nm,0.3s
KBA Koelnbreinsper 3.76 9 *e*Pn **Pn 00 21 42.9 +1.8**
comp=E,6.9nm,0.3s,SNR=14
KBA *e*Sn **Sn 00 22 27.0 +1.5**
comp=E,15nm,0.7s
SOKA Soboth 3.77 28 *e*Pn **Pn 00 21 43.1 +1.9**
comp=E,0.8nm,0.2s
SOKA Pg **Pg 00 21 54.4 -0.9**
comp=E,3.2nm,0.3s
SOKA Sg **Sg 00 22 44.4 +0.3**
comp=E,8.2nm,0.5s
STON Ston 3.84 96 *i* Pn **Pn 00 21 44.2 +2.2**
STON Sn **Sn 00 22 27.4 +0.3**
DAVOX Davos/Dischmat 3.89 332 Pn **Pn 00 21 46.8 +3.9**
comp=E,2.6nm,0.3s,baz=154,slow=21,SNR=28
DAVOX Sn **Sn 00 22 31.7 +3.1**
comp=E,1.3nm,0.3s,baz=110,slow=19,SNR=3.2
DAVOX Lg Lg 00 22 50.7
comp=E,0.5nm,0.3s,baz=337,slow=18,SNR=1.6
WTTA Wattenberg 3.95 351 *e*Pn **Pn 00 21 47.6 +3.9**
comp=E,4.2nm,0.3s,SNR=9.2
WTTA *e*Sn **Sn 00 22 29.6 -0.5**
comp=E,16nm,0.5s
KALN Kalnik 3.95 44 *i* Pn **Pn 00 21 44.6 +1.0**
SQTA Sankt Quirin 3.96 347 *e*Pn **Pb 00 21 48.6 -4.3**
comp=E,5.5nm,0.2s,SNR=6.6
SQTA *e*Sn **Sn 00 22 34.5 +4.2**
comp=E,12nm,0.3s
WATA Walderalm 4.02 351 *e*Pn **Pn 00 21 48.4 +3.7**
comp=E,6.2nm,0.2s,SNR=15
WATA *e*Sn **Sn 00 22 33.5 +1.6**
comp=E,6.2nm,0.3s
MOTA Moosalm 4.10 347 *i* Pn Pn 00 21 50.3 +4.5
comp=E,2.6nm,0.3s,SNR=8.5
MOTA *e*Sn **Sn 00 22 34.7 +0.9**
comp=E,8.9nm,0.6s
FRF La Foret Royal 4.26 275 *e*Pn **Pn 00 21 48.8 +0.9**
FRF La Foret Royal 4.26 275 *e*P Pn 00 21 52.6 +4.7
FRF *e*Sn **Sn 00 22 34.8 -2.8**
comp=E,7.7nm,0.6s
RETA Reutte 4.30 344 *i* Pn **Pn 00 21 52.0 +3.6**
comp=E,2.8nm,0.2s,SNR=9.1
RETA *e*Sn **Sn 00 22 40.9 +2.3**
comp=E,5.8nm,0.4s
DAVA Damuels 4.33 336 *e*Pn Pn 00 21 53.5 +4.5
comp=E,18nm,0.5s
DAVA Sn **Sn 00 22 44.1 +4.5**
comp=E,7.8nm,0.4s
MBDF Montbardon 4.35 290 *e*Pn **Pn 00 21 49.3 +0.1**
MBDF Montbardon 4.35 290 *e*Pg **Pg 00 22 03.8 -2.5**
MBDF *e*Sn **Sn 00 22 36.6 -3.3**
MBDF *e*Sg **Sg 00 23 00.9 -1.7**
comp=E,8.2nm,0.7s
LMR La Mourre 4.37 272 *e*Pn **Pn 00 21 49.9 +0.6**
LMR *e*Sn **Sn 00 22 37.5 -2.7**
comp=E,1.5nm,0.3s
ARSA Arzberg 4.43 28 *e*Pn **Pn 00 21 51.7 +1.5**
comp=E,1.6nm,0.2s
ARSA *e*Sn **Sn 00 22 42.6 +0.7**
comp=E,3.1nm,0.3s
MOA Molln 4.65 15 *i* Pn **Pn 00 21 54.9 +1.6**
comp=E,2.9nm,0.3s,SNR=9.0
MOA *e*Sn **Sn 00 22 49.9 +2.7**
comp=E,5.7nm,0.3s
LPL La Plagne 4.66 300 *e*P **Pn 00 21 57.8 +4.3**
LPL *e*Sn **Sn 00 22 44.7 -2.9**
comp=E,2.9nm,0.4s
ORIF Oris-en-Rattie 5.01 290 *e*P **Pn 00 22 02.4 +4.2**
ORIF *e*Sn **Sn 00 22 53.1 -3.1**
comp=E,6.8nm,0.6s
SMRF Simiane la Rot 5.06 279 *e*P **Pn 00 22 00.8 +1.9**
CONA Conrad Observa 5.14 26 *i* Pn **Pn 00 22 00.6 +0.7**
comp=E,0.7nm,0.2s
CONA *e*Sn **Sn 00 23 00.6 +1.3**
comp=E,3.8nm,0.4s
GERES GERESS Array B 5.54 8 Pn **Pn 00 22 05.8 +0.2**
comp=E,0.7nm,0.3s,baz=177,slow=14,SNR=14
GERES Sn **Sn 00 23 09.0 -0.3**
comp=E,1.6nm,0.3s,baz=188,slow=20,SNR=7.5
CABF La Chapelle 5.59 308 *e*P **Pn 00 22 09.4 +3.3**
CABF *e*Sn **Sn 00 23 06.0 -4.3**
comp=E,1.9nm,0.4s
KHC Kasperske Hory 5.82 7 *e*PN **Pn 00 22 10.8 +1.6**
KHC *e*SN **Sn 00 23 14.8 -1.1**
HINF Hinteralfeld 5.96 320 *e*P **Pn 00 22 13.6 +2.4**
HINF *e*Sn **Sn 00 23 15.3 -4.1**
comp=E,3.5nm,0.3s
CDF Champ du Feu 6.22 326 *e*P **Pn 00 22 16.6 +1.7**
CDF *e*Sn **Sn 00 23 21.2 -4.9**
comp=E,4.6nm,0.4s
LASF Ste Croix 6.30 279 *e*Pn **Pn 00 22 17.0 +1.1**
LASF *e*Sn **Sn 00 23 23.6 -4.3**
comp=E,1.1nm,0.3s
HAU Haudompre 6.33 319 *e*Pn **Pn 00 22 18.0 +1.7**
HAU *e*Sn **Sn 00 23 24.4 -4.2**
comp=E,10nm,0.4s
GOPC GO Pecny, Ondr 6.74 13 *e*PN **Pn 00 22 22.9 +1.0**
GOPC *e*SN **Sn 00 23 35.2 -3.4**
PRU Pruhonice 6.77 11 *e*SN **Sn 00 23 37.1 -2.3**
NKC Novy Kostel 6.87 360 *e*SN **Sn 00 23 39.0 -2.9**
SMF Signal de Mont 6.96 301 *e*Pn **Pn 00 22 25.3 +0.4**
SMF *e*Sn **Sn 00 23 40.9 -3.1**
comp=E,3.4nm,0.5s
PAGF Fort de Pagny 7.01 320 *e*P **Pn 00 22 29.5 +3.9**
PAGF *e*Sn **Sn 00 23 39.9 -5.5**
comp=E,1.6nm,0.4s
SFTF Sexfontaines 7.11 315 *e*P **Pn 00 22 30.7 +3.7**
baz=135
SFTF *e*Sn **Sn 00 23 42.3 -5.5**
comp=E,3.1nm,0.4s
LOR Lormes 7.23 306 *e*P **Pn 00 22 31.2 +2.5**
baz=126
LOR *e*Sn **Sn 00 23 45.4 -5.4**
comp=E,2.6nm,0.4s,baz=124
AVF Avril sur Loir 7.32 301 *e*Pn **Pn 00 22 29.2 -0.7**
AVF *e*Sn **Sn 00 23 48.1 -4.9**
comp=E,1.2nm,0.5s
SSF Saint Saulge 7.35 303 *e*P **Pn 00 22 34.1 +3.9**
SSF *e*Sn **Sn 00 23 49.2 -4.3**
comp=E,0.8nm,0.3s
BRG Berggiesshubel 7.58 7 SG **Sn 00 23 59.0 -0.2**
comp=E,3.1nm,0.6s
CLL Collm 7.96 2 *e*Sg Sb 00 24 45.0 +10
TORD Torodi Ar. Bea 31.52 200 P **P 00 27 05.9 +0.8**
comp=E,0.3nm,0.6s,baz=24,slow=7.8,SNR=2.3
MKAR Makanchi Array 47.92 60 P **P 00 29 18.2 -3.0**
comp=E,0.2nm,0.8s,baz=280,slow=8.6,SNR=1.3

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*GCG **05** 00:45:12.7±0.6, 15°.38N×91°.73W, h35km±999km, MD3.4*
*MEX **05** 00:45:12.4±0.5, 14°.50N×91°.93W, h83km±12km, MD3.2*
*ISCJB **05** 00:45:15.6±1.1, 15°.2N±0°.1×91°.76W±0°.06, h35km, Error ellipse: s-maj=17.4km s-min=5.7km az=21.3*
ISC 05 00:45:16.3±1.5, 15°.1N±0°.1×91°.79W±0°.06, h35km, n5, σ1§57/9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.44**	**151**	*e*P	**Pn**	**00 45 26.4**	**+0.1**
THIG		**0.49**	**247**	*i* P	**Pn**	**00 45 24.9**	**-1.9**
THIG				*i* S	**Sn**	**00 45 35.6**	**+1.5**
FUG	**Fuego 3**	**1.12**	**125**	*e*P	**Pn**	**00 45 34.6**	**-1.1**
FUG				*e*S	**Sn**	**00 45 51.0**	**+1.0**
PCIG		**1.50**	**294**	*i* P	**Pn**	**00 45 40.3**	**-0.4**
PCIG				*e*S	**Sn**	**00 46 00.5**	**+1.4**
IXG	**Ixpaco**	**1.60**	**125**	*e*P	**Pn**	**00 45 40.7**	**-1.6**
IXG				*e*S	**Sn**	**00 46 03.2**	**+1.4**

IDC 05 00:45:36.6±2.7, 46°.07N×152°.79E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/28, mbtmp3.7/4, ML2.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/38, Error ellipse: s-maj=71.3km s-min=38.4km az=179.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.73**	**23**	Pn	Pn	00 47 29.8	-0.5
	0.2nm,0.3s,baz=200,slow=17,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.73**	**151**	T	T	01 23 15.2	
	baz=340						
H11N1	**WAKE ISLAND Hy**	**28.74**	**151**	T	T	01 23 13.3	
	baz=340						
H11N3	**WAKE ISLAND Hy**	**28.74**	**151**	T	T	01 23 17.2	
	baz=340						
H11S1	**WAKE ISLAND Hy**	**29.80**	**153**	T	T	01 24 35.4	
	baz=340,slow=76,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**29.81**	**153**	T	T	01 24 34.3	
	baz=340,slow=76,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**29.82**	**153**	T	T	01 24 35.0	
	baz=340,slow=76,SNR=2.9						
DAV	**Davao City (W)**	**45.39**	**220**	LR	LR	01 11 51.7	
	comp=Z,15nm,19.9s,baz=155,slow=35						
MKAR	**Makanchi Array**	**47.06**	**298**	P	P	00 54 09.2	-0.6
	0.4nm,0.8s,baz=57,slow=7.8,SNR=3.1						
FINES	**FINESS Array B**	**64.56**	**335**	P	P	00 56 15.4	+0.4
	6.5nm,1.2s,baz=44,slow=8.2,SNR=4.5						
TXAR	**Lajitas Array**	**78.02**	**60**	P	P	00 57 37.2	0.0
	0.3nm,0.6s,baz=318,slow=5.2,SNR=6.4						

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*ISCJB **05** 01:00:06.5±0.7, 21°.25S±0°.03×69°.02W±0°.09, h129km±8km, Error ellipse: s-maj=14.4km s-min=4.9km az=2.5*
*SJA **05** 01:00:06.0±0.4, 21°.24S×68°.99W, h128km±3km, ML2.9, MW3.0*
*GUC **05** 01:00:07.0±0.8, 21°.26S×68°.86W, h108km±7km, ML3.3*
ISC 05 01:00:07.2±1.5, 21°.24S±0°.03×69°.00W±0°.08, h121km±10km, n20, σ0§79/35, 7C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.49**	**294**	⇓*i*P	**Pn**	**01 00 25.3**	**-0.1**
PB01				*i* S	**Sn**	**01 00 38.8**	**-0.3**
PB01				IAML		01 00 39.8	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**0.59**	**202**	*e*P	**Pn**	**01 00 25.2**	**-1.0**
PB09				*e*S	**Sn**	**01 00 38.4**	**-2.1**
PB09				IAML		01 00 42.5	
	comp=E,606nm,0.5s						
PB09	**IPOC Station P**	**0.59**	**202**	*i* P	**Pn**	**01 00 26.2**	**0.0**
PB09				*e*S	**Sn**	**01 00 41.3**	**+0.8**
PB02	**IPOC Station P**	**0.84**	**265**	⇓*e*P	**Pn**	**01 00 28.5**	**+0.5**
PB02				*i* S	**Sn**	**01 00 44.4**	**+0.8**
PB02				IAML		01 00 46.2	
	comp=E,853nm,0.5s						
PB07	**IPOC Station P**	**0.95**	**240**	⇓*i*P	**Pn**	**01 00 29.5**	**+0.4**
PB07				*i* S	**Sn**	**01 00 46.4**	**+0.7**
PB07				IAML		01 00 47.4	
	comp=N,888nm,0.2s						
PB03	**IPOC Station P**	**1.06**	**221**	⇓*e*P	**Pn**	**01 00 30.5**	**+0.3**
PB03				*e*S	**Sn**	**01 00 47.9**	**+0.4**
PB03				IAML		01 00 48.9	
	comp=E,833nm,0.3s						
PB08	**IPOC Station P**	**1.11**	**353**	⇑*i*P	**Pn**	**01 00 30.9**	**0.0**
PB08				*e*S	**Sn**	**01 00 48.8**	**0.0**
PB08				IAML		01 00 50.2	
	comp=E,698nm,0.3s						
PB04	**IPOC Station P**	**1.52**	**224**	⇑*e*P	**Pn**	**01 00 35.6**	**+0.4**
PB04				*i* S	**Sn**	**01 00 56.5**	**+0.1**
PB04				IAML		01 01 01.2	
	comp=E,387nm,0.2s						
PB04	**IPOC Station P**	**1.52**	**224**	*i* P	**Pn**	**01 00 35.6**	**+0.4**
PB04				*e*S	**Sn**	**01 00 57.0**	**+0.6**
PB04				IAML		01 01 01.0	
	comp=Z,247nm,0.2s						
PB06	**IPOC Station P**	**1.55**	**200**	⇑*i*P	**Pn**	**01 00 35.8**	**+0.3**
PB06				*e*S	**Sn**	**01 00 57.2**	**+0.2**
PB06				IAML		01 00 58.0	
	comp=E,537nm,0.4s						
PB11	**IPOC Station P**	**1.60**	**337**	⇑*i*P	**Pn**	**01 00 35.9**	**-0.2**
PB11				*i* S	**Sn**	**01 00 57.9**	**-0.1**
PB11				IAML		01 00 59.5	
	comp=E,765nm,0.2s						
PSGC	**Pisagua**	**1.95**	**327**	⇑*i*P	**Pn**	**01 00 39.6**	**-0.6**
PSGC				*i* S	**Sn**	**01 01 04.8**	**-0.7**
PSGC				IAML		01 01 07.7	
	comp=N,158nm,0.3s						
PB15	**IPOC Station P**	**2.00**	**192**	⇑*e*P	**Pn**	**01 00 41.2**	**+0.1**
PB15				*i* S	**Sn**	**01 01 07.6**	**+0.8**
PB15	**IPOC Station P**	**2.00**	**192**	*i* P	**Pn**	**01 00 41.1**	**+0.1**
PB15				*e*S	**Sn**	**01 01 07.3**	**+0.4**
MNMC	**Minye Minye**	**2.17**	**345**	⇑*i*P	**Pn**	**01 00 43.2**	**-0.1**
MNMC				*i* S	**Sn**	**01 01 12.0**	**+1.2**
MNMC				IAML		01 01 13.0	
	comp=N,326nm,0.1s						
PB10	**IPOC Station P**	**2.68**	**212**	*i* P	**Pn**	**01 00 49.4**	**0.0**
PB14	**IPOC Station P**	**3.60**	**201**	*i* P	**Pn**	**01 01 00.8**	**-1.1**
HJA	**Humahuaca**	**3.86**	**121**	*i* P	**Pn**	**01 01 06.0**	**+0.7**
HJA				IAML		01 01 07.0	
	comp=Z,7.9nm,0.5s						
LPAZ	**La Paz**	**5.00**	**10**	*i* P	**Pn**	**01 01 20.7**	**-0.1**
GO03	**Copiap**	**6.42**	**190**	*i* P	**Pn**	**01 01 37.0**	**-2.4**

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*NEIC **05** 01:06:00.8±1.9, 20°.59N±0°.08×145°.1E±0°.2, h108km±8km, mb4.0/4*
*ISCJB **05** 01:06:01.4±0.6, 20°.49N±0°.07×145°.1E±0°.2, h129km, mb3.6/13, Error ellipse: s-maj=21.3km s-min=9.0km az=167.1*
*IDC **05** 01:06:05.3±3.6, 20°.66N×145°.02E, h138km±32km, mb3.4/13, mb1 3.6/14, mb1mx3.4/46, mbtmp3.9/14, Error ellipse: s-maj=23.1km s-min=15.4km az=100.0*
ISC 05 01:06:03.0±0.7, 20°.56N±0°.08×145°.0E±0°.2, h129km, n26, σ1§71/27, mb3.6/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.90**	**169**	Pn	**Pn**	**01 06 58.3**	**-3.2**
ANA2	**Anatahan**	**4.25**	**171**	Pn	**Pn**	**01 07 03.6**	**-2.4**
JCJ	**Chichijima**	**7.01**	**339**	P	**Pn**	**01 07 44.0**	**+0.9**
	6.0nm,0.3s,baz=264,slow=23,SNR=3.2						
JCJ				S	**Sn**	**01 08 56.8**	**-4.6**
	4.5nm,0.3s,baz=279,slow=23,SNR=1.3						
KSRS	**Korea Array**	**22.46**	**322**	P	**P**	**01 10 52.8**	**+1.4**
	1.2nm,0.5s,baz=147,slow=9.3,SNR=8.5						
KSAR	**Wonju Array Be**	**22.48**	**322**	P	**P**	**01 10 48.8**	**-2.7**

KLR	**Kul'dur**	**30.52 343**	P	**P**	**01 12 04.6 +0.8**
	1.9nm,0.4s,baz=153,slow=6.8,SNR=5.7				
SONM	**Songino Array**	**41.31 320**	P	**P**	**01 13 36.1 +0.1**
	0.3nm,0.4s,baz=119,slow=4.8,SNR=2.7				
SONM	**Songino Array**	**41.31 320**	P	**P**	**01 13 35.8 -0.2**
WRA	**Warramunga Arr**	**41.59 195**	P	**P**	**01 13 40.9 +2.5**
	0.3nm,0.4s,baz=9.2,slow=8.6,SNR=3.5				
WRA	**Warramunga Arr**	**41.59 195**	P	**P**	**01 13 39.1 +0.8**
FITZ	**Fitzroy Crossi**	**42.87 208**	P	**P**	**01 13 49.8 +1.1**
	1.6nm,0.6s,baz=40,slow=9.3,SNR=5.8				
FITZ	**Fitzroy Crossi**	**42.87 208**	P	**P**	**01 13 49.5 +0.9**
FITZ			IAmb	IAmb	01 13 51.3
	comp=Z,2.3nm,0.8s				
ZALV	**Zalesovo Beam**	**56.17 322**	P	**P**	**01 15 29.9 +0.8**
	comp=Z,0.8nm,0.5s,baz=119,slow=8.9,SNR=3.3				
ZALV	**Zalesovo Beam**	**56.17 322**	P	**P**	**01 15 29.8 +0.7**
MKAR	**Makanchi Array**	**56.73 313**	P	**P**	**01 15 34.4 +1.1**
	comp=Z,0.4nm,0.5s,baz=89,slow=7.7,SNR=5.1				
MKAR	**Makanchi Array**	**56.73 313**	P	**P**	**01 15 33.7 +0.4**
ILAR	**Eielson Array**	**62.27 27**	P	**P**	**01 16 11.3 +0.4**
	comp=Z,0.1nm,0.3s,baz=260,slow=5.3,SNR=3.6				
PALK	**Pallekele**	**63.48 268**	P	**P**	**01 16 21.6 +1.7**
	comp=Z,3.4nm,0.7s,baz=270,slow=1.0,SNR=2.1				
PALK	**Pallekele**	**63.48 268**	P	**P**	**01 16 19.0 -0.8**
ARCES	**ARCESS Array B**	**80.54 342**	P	**P**	**01 18 01.5 +1.0**
	comp=Z,2.3nm,0.8s,baz=55,slow=6.8,SNR=2.7				
NVAR	**Mina Array Bea**	**82.49 52**	P	**P**	**01 18 13.3 +1.6**
	comp=Z,0.5nm,0.7s,baz=250,slow=4.6,SNR=3.5				
NVAR	**Mina Array Bea**	**82.49 52**	P	**P**	**01 18 10.5 -1.2**
FINES	**FINESS Array B**	**84.94 335**	P	**P**	**01 18 22.9 -0.4**
	comp=Z,2.5nm,0.9s,baz=64,slow=4.4,SNR=6.3				
FINES	**FINESS Array B**	**84.94 335**	P	**P**	**01 18 23.0 -0.4**
PDAR	**Pinedale Array**	**86.97 45**	P	**P**	**01 18 35.2 +1.1**
	comp=Z,0.2nm,0.6s,baz=260,slow=3.3,SNR=2.4				
PDAR	**Pinedale Array**	**86.97 45**	P	**P**	**01 18 34.0 -0.1**

*ISCJB **05** 01:06:45.5±0.5,2°.60N±0°.05×129°.20E±0°.08,h200km, mb3.7/9,Error ellipse: s-maj=11.3km s-min=7.1km az=160.4*
*NEIC **05** 01:06:48.6±1.7,2°.4N±0°.1×129°.1E±0°.1,h218km±10km, mb4.2/10*
*IDC **05** 01:06:49.1±2.1,2°.44N×129°.18E,h217km±19km,mb3.4/10, mb1 3.6/10,mb1mx3.3/38,mbtmp4.0/10,Error ellipse: s-maj=32.3km s-min=10.4km az=73.0*
*DJA **05** 01:06:53.9±0.8,2°.N±8°×12°.8E±°,h226km±7km,M3.8/6, mb4.0/1,MLv3.8/6*

ISC 05 01:06:47.2±0.6,2°.49N±0°.06×129°.16E±0°.08,h200km,n30, σ1º51/35,mb4.0/12,1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.48 226**		P	**Pn**	**01 07 33.5**	**+2.6**
TNTI	**Ternate**	**2.48 226**			**Pn**	**01 07 32.1**	**+1.2**
TNTI				S	**Sn**	**01 08 06.5**	**+1.6**
KCP	**Kidapawan**	**6.05 318**		‖eP	**Pn**	**01 08 17.8**	**+2.6**
FAKI	**Fak Fak**	**6.20 150**		Pn	**Pn**	**01 08 19.3**	**+2.2**
FAKI				S	**Sn**	**01 09 29.7**	**+1.4**
KAPI	**Kappang**	**12.00 232**		Pn	**Pn**	**01 09 33.1**	**+0.9**
MTN	**Manton Dam**	**15.36 173**			**Pn**	**01 10 13.9**	**0.0**
MTN				IAmb	IAmb	01 10 22.4	
	comp=Z,18nm,1.1s						
KNRA	**Kununurra**	**18.06 181**		P	**P**	**01 10 43.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.75 189**		P	**P**	**01 11 11.3**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=5.6,slow=8.2,SNR=9.5						
FITZ	**Fitzroy Crossi**	**20.75 189**		P	**P**	**01 11 10.7**	**-2.1**
SMRI	**Semarang**	**20.95 243**		P	**P**	**01 11 13.8**	**-1.1**
WB0	**Warramunga Arr**	**22.71 167**		P	**P**	**01 11 32.5**	**+0.4**
WB0				IAmb	IAmb	01 11 34.3	
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**22.87 167**		P	**P**	**01 11 34.2**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=351,slow=8.7,SNR=7.2						
WRA				ScP	**ScP**	**01 18 33.9**	**-3.1**
	comp=Z,0.6nm,0.8s,baz=5.0,slow=2.4,SNR=3.7						
WRA	**Warramunga Arr**	**22.87 167**		P	**P**	**01 11 32.5**	**-1.1**
WB2	**Warramunga Arr**	**22.87 167**		P	**P**	**01 11 33.5**	**0.0**
WB2				IAmb	IAmb	01 11 35.5	
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**26.41 170**		P	**P**	**01 12 06.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=358,slow=8.4,SNR=16						
ASAR				PcP	**PcP**	**01 15 25.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=343,slow=2.4,SNR=4.3						
ASAR				ScP	**ScP**	**01 18 43.4**	**-3.5**
	comp=Z,0.6nm,0.6s,baz=334,slow=2.2,SNR=5.7						
ASAR	**Alice Springs**	**26.41 170**		P	**P**	**01 12 05.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**33.59 300**		P	**P**	**01 13 09.4**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=123,slow=7.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**33.59 300**		P	**P**	**01 13 06.4**	**-2.4**
MJAR	**Matsushiro Arr**	**34.90 13**		P	**P**	**01 13 18.5**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=197,slow=9.1,SNR=4.5						
STKA	**Stephens Creek**	**36.16 162**		P	**P**	**01 13 31.2**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=330,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**36.16 162**		P	**P**	**01 13 29.5**	**-1.2**
SONM	**Songino Array**	**49.26 340**		P	**P**	**01 15 17.1**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=151,slow=8.3,SNR=5.0						
SONM	**Songino Array**	**49.26 340**		P	**P**	**01 15 16.2**	**+0.4**
MKAR	**Makanchi Array**	**59.96 325**		P	**P**	**01 16 33.9**	**+1.4**
	comp=Z,2.8nm,0.4s,baz=114,slow=8.2,SNR=48						
MKAR	**Makanchi Array**	**59.96 325**		P	**P**	**01 16 32.7**	**+0.2**
MAKZ	**Makanchi**	**60.15 324**		P	**P**	**01 16 33.5**	**-0.3**
MAKZ				IAmb	IAmb	01 16 35.8	
	comp=Z,2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**62.79 332**		P	**P**	**01 16 51.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=128,slow=9.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**62.79 332**		P	**P**	**01 16 49.9**	**-1.4**
GEYT	**Alibeck**	**73.56 309**		P	**P**	**01 17 58.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=107,slow=1.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**125.61 288**		PKP	**PKPdf**	**01 25 25.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=3.9						

*ISCJB **05** 01:20:00.1±1.9,34°.55N±0°.08×73°.3E±0°.2,h21km,Error ellipse: s-maj=31.3km s-min=5.8km az=160.2*
*NNC **05** 01:20:05.6±10.0,34°.89N×73°.26E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=96.3km s-min=77.0km az=107.0*

ISC 05 01:20:01.6±2.3,34°.5N±0°.1×73°.1E±0°.2,h21km,n13, σ1º13/15,4C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**6.77 148**		*e*P	Pn	01 21 50.0	+10
AAK	**Ala-Archa**	**8.21**	**7**	Pn	**Pn**	**01 22 00.3**	**+0.7**
	2.6nm,1.1s						
AAK				Sn	**Sn**	**01 23 31.8**	**+0.1**
	1.4nm,0.7s						
TKM2	**Tokmak 2**	**8.64**	**12**	⇑Pn	**Pn**	**01 22 06.3**	**+0.7**
	2.8nm,1.1s						
TKM2				⇑Sn	**Sn**	**01 23 42.8**	**+0.3**
	1.2nm,0.6s						
KK31	**Karatay Array**	**8.83 348**		⇑Pn	**Pn**	**01 22 09.0**	**+1.0**
	0.9nm,0.3s,baz=153,slow=11,SNR=41						
KK31				⇑Sn	**Sn**	**01 23 44.6**	**-2.2**
	0.4nm,0.4s,baz=162,slow=23,SNR=4.3						
DANN	**Dangsing**	**10.97 121**		*e*P	**Pn**	**01 22 38.0**	**+0.4**
	5.0nm,0.2s						
KOLN	**Koldanda**	**11.22 124**		*e*P	**Pn**	**01 22 41.6**	**+0.7**
	2.5nm,0.2s						
GKN	**Gorkha**	**11.80 120**		*e*P	**Pn**	**01 22 49.6**	**+0.8**
	4.6nm,0.2s						
DMN	**Daman**	**12.37 120**		*e*P	**Pn**	**01 22 57.2**	**+0.5**
PKIN	**Phulchoki**	**12.60 120**		*e*P	**Pn**	**01 22 59.6**	**-0.2**
	1.6nm,0.2s						
PKI	**Pulchoki**	**12.61 120**		*e*P	**Pn**	**01 22 59.5**	**-0.5**
	2.0nm,0.2s						
JIRN	**Jiri**	**13.12 118**		*e*P	**Pn**	**01 23 06.1**	**-1.0**
	5.2nm,0.3s						
RAMN	**Ramite**	**13.83 119**		*e*P	**Pn**	**01 23 14.8**	**-1.8**
	13nm,0.7s						
TAPN	**Taplejung**	**14.42 116**		*e*P	**Pn**	**01 23 23.3**	**-1.4**
	3.5nm,0.3s						

*ISCJB **05** 01:32:10.6±0.3,36°.47N±0°.03×28°.62E±0°.02,h72km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=17.4*
*DDA **05** 01:32:11.7,36°.55N×28°.58E,h48km,ML3.2*
*ATH **05** 01:32:11.2,36°.55N×28°.56E,h62km±6km,ML2.8/3,Error ellipse: s-maj=6.1km s-min=1.8km az=164.0*
*ISK **05** 01:32:12.4,36°.55N×28°.57E,h49km,ML3.2/17*
*THE **05** 01:32:13.3,36°.54N×28°.59E,h55km±2km,ML2.8/3,Error ellipse: s-maj=2.6km s-min=0.6km az=82.0*
*HLW **05** 01:32:14.7,36°.15N×28°.68E,h31km±27km,Md4.4,Ml4.0*
*GII **05** 01:32:15.7±0.0,36°.18N×28°.89E,h30km*

ISC 05 01:32:11.9±1.1,36°.48N±0°.03×28°.62E±0°.03,h50km±8km, n85,σ1º71/123,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.34**	**5**	*i*P	**Pn**	**01 32 22.6**	**+1.2**
DALY				*i*S	**Sn**	**01 32 28.1**	**-0.1**
DALY	**Dalyan (Mula)**	**0.34**	**5**	PG	**Pn**	**01 32 21.6**	**+0.2**
DALY				SG	**Sn**	**01 32 28.1**	**-0.1**
TURN	**Turunc**	**0.39 358**		*i*P	**Pn**	**01 32 23.1**	**+1.1**
TURN				*i*S	**Sn**	**01 32 28.9**	**-0.2**
TURN	**Turunc**	**0.39 358**		PG	**Pn**	**01 32 22.3**	**+0.3**
TURN				SG	**Sn**	**01 32 29.5**	**+0.4**
FETY	**Fethiye**	**0.40**	**67**	P	**Pn**	**01 32 22.9**	**+0.8**
FETY				S	**Sn**	**01 32 31.0**	**+1.5**
FETY	**Fethiye**	**0.40**	**67**	*i*P	**Pn**	**01 32 23.9**	**+1.7**
FETY				*i*S	**Sn**	**01 32 30.8**	**+1.3**
FETY	**Fethiye**	**0.40**	**67**	PG	**Pn**	**01 32 22.9**	**+0.8**
FETY				SG	**Sn**	**01 32 30.9**	**+1.5**
MRSB	**Marmaris-Mugla**	**0.41 305**		PG	**Pn**	**01 32 22.4**	**+0.1**
MRSB				SG	**Sn**	**01 32 29.5**	**-0.1**
ARG	**Arkhangelos**	**0.48 237**		P	**Pn**	**01 32 24.2**	**+1.2**
ARG				S	**Sn**	**01 32 33.1**	**+2.3**
	908nm,0.2s						
ARG	**Arkhangelos**	**0.48 237**		P	**Pn**	**01 32 24.1**	**+1.2**
ARG				S	**Sn**	**01 32 32.4**	**+1.6**
ARG				AML	AML	01 32 33.3	
	comp=E,1988μm,0.2s						
ARG				AML	AML	01 32 33.8	
	comp=N,1612μm,0.2s						
ARG	**Arkhangelos**	**0.48 237**		PG	**Pn**	**01 32 24.2**	**+1.2**
YER	**Yerkesik**	**0.71 338**		P	**Pn**	**01 32 26.4**	**+0.6**
YER				S	**Sn**	**01 32 36.2**	**+0.3**
YER	**Yerkesik**	**0.71 338**		PG	**Pn**	**01 32 26.1**	**+0.3**
DATC	**Datca-Mugla**	**0.82 290**		PG	**Pn**	**01 32 27.5**	**+0.3**
DATC				SG	**Sn**	**01 32 38.6**	**+0.2**
AKAS	**Kas**	**0.83 107**		*i*P	**Pn**	**01 32 29.1**	**+1.5**
AKAS				*i*S	**Sn**	**01 32 42.1**	**+3.2**
AKAS				IAML_P			
	comp=Z,8μm,0.2s						
AKAS	**Kas**	**0.83 107**		PG	**Pn**	**01 32 29.0**	**+1.5**
KSL	**Kastellorizon**	**0.84 113**		P	**Pn**	**01 32 29.0**	**+1.4**
KSL				S	**Sn**	**01 32 41.9**	**+2.9**
	comp=Z,488nm,0.4s						
KSL	**Kastellorizon**	**0.84 113**		P	**Pn**	**01 32 29.0**	**+1.4**
KSL				S	**Sn**	**01 32 41.4**	**+2.4**
KSL				AML	AML	01 32 42.5	
	comp=E,1222μm,0.4s						
KSL				AML	AML	01 32 43.0	
	comp=N,703μm,0.3s						
DAT	**Datca**	**0.88 287**		*i*P	**Pn**	**01 32 29.1**	**+1.0**
DAT				*i*S	**Sn**	**01 32 40.0**	**0.0**
DAT				IAML_P			
	comp=Z,3μm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.01**	**13**	*i*P	**Pn**	**01 32 30.7**	**+0.8**
TAVA				*i*S	**Sn**	**01 32 41.9**	**-1.2**
TAVA				IAML_P			
	comp=Z,3μm,0.2s						
MLSB	**Milas**	**1.06 320**		PG	**Pn**	**01 32 30.5**	**0.0**
GOLH	**Golhisar**	**1.07**	**45**	*i*P	**Pn**	**01 32 32.5**	**+1.9**
GOLH				*i*S	**Sn**	**01 32 46.9**	**+2.4**
GOLH				IAML_P			
	comp=Z,3μm,0.2s						
ELL	**Elmali**	**1.07**	**75**	PN	**Pn**	**01 32 32.3**	**+1.6**
BDRM	**Kayabasi**	**1.11 302**		*i*P	**Pn**	**01 32 32.1**	**+0.9**
BDRM				*i*S	**Sn**	**01 32 42.6**	**-2.8**
BODT	**Bodrum**	**1.20 299**		P	**Pn**	**01 32 32.5**	**+0.1**
BODT				S	**Sn**	**01 32 47.1**	**-0.5**
BODT	**Bodrum**	**1.20 299**		PN	**Pn**	**01 32 32.7**	**+0.3**
NISR	**Nisiros**	**1.21 277**		P	**Pn**	**01 32 31.7**	**-0.7**
NISR				S	**Sn**	**01 32 47.4**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.25 301**		PN	**Pn**	**01 32 32.9**	**-0.2**
AYDN	**Tasoluk**	**1.32 334**		*i*P	**Pn**	**01 32 34.9**	**+0.9**
AYDN				*i*S	**Sn**	**01 32 47.7**	**-2.9**
AKUM	**Antalya-Kumluc**	**1.40**	**96**	*i*P	**Pn**	**01 32 37.3**	**+2.3**
AKUM				*i*S	**Sn**	**01 32 53.4**	**+1.0**
KORT	**Korkueli**	**1.48**	**69**	*i*P	**Pn**	**01 32 39.3**	**+2.9**
KORT				IAML_P			
	comp=Z,965nm,0.3s						
KORT	**Korkueli**	**1.48**	**69**	PN	**Pn**	**01 32 38.2**	**+1.9**
KARP	**Karpathos**	**1.51 232**		P	**Pn**	**01 32 37.6**	**+1.1**
KARP	**Karpathos**	**1.51 232**		P	**Pn**	**01 32 37.7**	**+1.2**
KARP				S	**Sn**	**01 32 55.4**	**+0.3**
KARP				AML	AML	01 32 57.3	
	comp=N,517μm,0.2s						
KARP				AML	AML	01 32 57.4	
	comp=E,517μm,0.2s						
KARP	**Karpathos**	**1.51 232**		PN	**Pn**	**01 32 37.9**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.57 339**		PN	**Pn**	**01 32 36.9**	**-0.7**
GCAM	**G?zelcaml?**	**1.65 318**		*i*P	**Pn**	**01 32 39.0**	**+0.5**
GCAM	**G?zelcaml?**	**1.65 318**		PN	**Pn**	**01 32 38.9**	**+0.5**
BRDR	**BURDUR-Merkez**	**1.67**	**43**	*i*P	**Pn**	**01 32 40.7**	**+1.8**
SMG	**Samos**	**1.88 311**		P	**Pn**	**01 32 41.6**	**0.0**
SMG				S	**Sn**	**01 33 03.0**	**-1.2**
SMG	**Samos**	**1.88 311**		P	**Pn**	**01 32 41.7**	**+0.1**
MANT	**Manisa**	**2.01 359**		*i*P	**Pn**	**01 32 42.7**	**-0.9**
MANT				IAML_P			
	comp=Z,374nm,0.1s						
KHAL	**Karahalli**	**2.01**	**20**	*i*P	**Pn**	**01 32 43.3**	**-0.2**
KZIL	**AFYON_Kizioren**	**2.15**	**34**	*i*P	**Pn**	**01 32 46.0**	**+0.6**
AMGA	**Amorgos Island**	**2.22 280**		P	**Pn**	**01 32 46.1**	**-0.2**
USAK	**Uak-Merkez**	**2.25**	**8**	*i*P	**Pn**	**01 32 46.3**	**-0.4**
USAK				IAML_P			
	comp=Z,355nm,0.1s						
ANAF	**Anafi Island**	**2.30 268**		P	**Pn**	**01 32 47.5**	**+0.1**
ZKR	**Zakros**	**2.38 236**		P	**Pn**	**01 32 49.7**	**+1.2**
ZKR	**Zakros**	**2.38 236**		PN	**Pn**	**01 32 50.5**	**+2.0**
STIA	**Sitia Lasithi**	**2.42 239**		P	**Pn**	**01 32 50.3**	**+1.3**
KEPZ	**Antalya-Kepez**	**2.44**	**79**	*i*P	**Pn**	**01 32 53.0**	**+3.7**
KEPZ				IAML_P			
	comp=Z,710nm,0.2s						
URLA	**Izmir**	**2.47 320**		*i*P	**Pn**	**01 32 50.2**	**+0.4**
URLA				IAML_P			
	comp=Z,717nm,0.2s						
URLA	**Izmir**	**2.47 320**		PN	**Pn**	**01 32 50.0**	**+0.2**
AKHS	**Akhisar**	**2.48 345**		*i*P	**Pn**	**01 32 49.4**	**-0.4**
AKHS				IAML_P			
	comp=Z,1μm,0.2s						
NPS	**Neapolis**	**2.73 244**		P	**Pn**	**01 32 53.7**	**+0.5**
NPS	**Neapolis**	**2.73 244**		P	**Pn**	**01 32 53.8**	**+0.5**
CHOS	**Chios island**	**2.79 314**		P	**Pn**	**01 32 53.8**	**-0.4**
CHOS				S	**Sn**	**01 33 24.0**	**-2.6**
CHOS	**Chios island**	**2.79 314**		PN	**Pn**	**01 32 54.9**	**+0.7**
LAST	**Lasithi**	**2.87 244**		P	**Pn**	**01 32 55.9**	**+0.6**
LAST				S	**Sn**	**01 33 29.2**	**+0.5**
LAST	**Lasithi**	**2.87 244**		P	**Pn**	**01 32 55.6**	**+0.3**
DOGA	**KONYA_Doganhis**	**2.92**	**55**	*i*P	**Pn**	**01 32 58.2**	**+2.2**
DOGA				IAML_P			
	comp=Z,255nm,0.2s						
GAZI	**Gazipasa**	**2.99**	**94**	*i*P	**Pn**	**01 32 57.2**	**+0.3**
DURS	**Dursunbey**	**3.12 358**		*i*P	**Pn**	**01 32 58.2**	**-0.4**
DURS				IAML_P			
	comp=Z,401nm,0.1s						
ERMK	**Ermenek**	**3.46**	**86**	*i*P	**Pn**	**01 33 07.3**	**+3.9**
CSS	**Mathiatis**	**4.12 110**		Pn	**Pn**	**01 33 12.0**	**-0.4**
SLUM	**Salum**	**5.72 211**		AMP		01 34 00.0	
	baz=213						
HNTI	**Hanita**	**6.37 120**		Pn	**Pn**	**01 33 43.5**	**+0.3**
HNTI				Sn	**Sn**	**01 34 51.6**	**-3.0**
OFRI	**`Ofer**	**6.51 124**		Pn	**Pn**	**01 33 45.0**	**-0.2**
MMA0B	**Mount Meron ar**	**6.57 120**		Pn	**Pn**	**01 33 45.7**	**-0.3**
GEM	**Giv'at Ha'Em**	**6.65 117**		Pn	**Pn**	**01 33 46.8**	**-0.2**
GEM				Sn	**Sn**	**01 34 57.8**	**-3.6**
KSDI	**Kefar Szold**	**6.65 118**		Pn	**Pn**	**01 33 47.1**	**0.0**
NATI	**Neve Ativ**	**6.67 117**		Pn	**Pn**	**01 33 47.4**	**+0.1**
SLTI	**Sal'it**	**6.79 127**		Pn	**Pn**	**01 33 48.2**	**-0.7**
SLTI				Sn	**Sn**	**01 35 01.1**	**-3.8**
MMLI	**Mount Malkishu**	**6.91 124**		Pn	**Pn**	**01 33 50.2**	**-0.5**
MMLI				Sn	**Sn**	**01 35 05.0**	**-3.0**
HMDT	**Nahal Hemdat**	**7.10 124**		Pn	**Pn**	**01 33 53.4**	**+0.2**
HMDT				Sn	**Sn**	**01 35 09.2**	**-3.3**
AMAZ	**Amatzia**	**7.19 132**		Pn	**Pn**	**01 33 53.6**	**-0.8**
AMAZ				Sn	**Sn**	**01 35 11.6**	**-3.1**
KZIT	**Kziot**	**7.35 137**		Pn	**Pn**	**01 33 56.3**	**-0.4**
KZIT				Sn	**Sn**	**01 35 14.0**	**-4.8**
YTIR	**Yattir**	**7.43 132**		Pn	**Pn**	**01 33 57.5**	**-0.3**
YTIR				Sn	**Sn**	**01 35 17.3**	**-3.4**
DSI	**Dead Sea**	**7.45 129**		Pn	**Pn**	**01 33 58.3**	**+0.3**
MZDA	**Masada**	**7.62 131**		Pn	**Pn**	**01 33 59.9**	**-0.3**
ZFRI	**Zfri**	**8.05 135**		Pn	**Pn**	**01 34 05.8**	**-0.5**
ZFRI				Sn	**Sn**	**01 35 31.5**	**-4.5**
PRNI	**Paran**	**8.11 137**		Pn	**Pn**	**01 34 06.3**	**-0.8**
PRNI				Sn	**Sn**	**01 35 33.0**	**-4.5**
HRFI	**Mount Harif**	**8.38 138**		Pn	**Pn**	**01 34 10.6**	**-0.1**
HRFI				Sn	**Sn**	**01 35 39.4**	**-4.5**
MBRI	**Mt Berech**	**8.50 140**		Pn	**Pn**	**01 34 12.8**	**+0.3**
EIL	**Elat**	**8.62 140**		Pn	**Pn**	**01 34 13.8**	**-0.3**
EIL				Sn	**Sn**	**01 35 46.7**	**-3.2**

*IDC **05** 01:47:09.2±1.3,5°.99S×146°.77E,h16km±6km,mb4.8/24, mb1 4.9/29,mb1mx4.9/41,mbtmp5.0/29,ML4.9/4,MS4.4/27, Ms1 4.4/27,ms1mx4.3/38,Error ellipse: s-maj=14.3km s-min=8.2km az=94.0*
*MOS **05** 01:47:09.3±1.0,5°.98S×146°.66E,h33km,mb5.2/26,Error ellipse: s-maj=10.3km s-min=6.1km az=97.8*
*BJI **05** 01:47:10.0±0.0,6°.10S×146°.70E,h40km,mb5.0/52, mB5.1/34,Ms4.7/30,Ms7 4.4/30*
*ISCJB **05** 01:47:11.4±0.7,6°.05S±0°.02×146°.66E±0°.03,h47km±6km, mb5.2/82,MS4.4/30,Error ellipse: s-maj=4.4km s-min=4.0km az=174.0*
*NEIC **05** 01:47:13.1±1.8,6°.04S±0°.06×146°.61E±0°.08,h59km±4km, mb5.1/123*
*DJA **05** 01:47:14.6±0.5,6°.S±3°×14°.7E±°,h60km±4km,M5.1/62, mb5.3/62,mB5.5/31,MLv5.8/3,Mw(mB)5.0/31*
*GCMT **05** 01:47:16.1±0.2,6°.09S±0°.01×146°.62E±0°.01,h30km±1km, MW5.2/83,Moment Tensor Solution. s69,c99; s83,c138; Duration: 1ºº Moment tensor: Scale 10^16Nm; M_{rr}1.54±.18; $M_{\theta\theta}$-5.23±.13; $M_{\phi\phi}$3.70±.15; $M_{r\theta}$5.74±.34; $M_{\theta\phi}$-0.45±.12; $M_{\phi r}$-4.84±.37; Best double couple: $M_0$8.84800×10^16 NP1:φs127.00000°,δ84.00000°, λ120.00000°. NP2:φs227.00000°,δ31.00000°,λ11.00000°. Principal axes: T 8.8260, Plg43.0000°, Azm66.0000°; N 0.0550, Plg30.0000°, Azm304.0000°; P -8.8700, Plg32.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 01:47:10.9±0.8,6°.03S±0°.03×146°.59E±0°.04,h32km±3km, n448,σ1º93/409,mb5.2/126,MS4.5/31,4C-3D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.40 170**		P	**Pn**	**01 48 03.6**	**+1.9**
PMG						01 48 40.5	
PMG	**Port Moresby**	**3.40 170**		Pn	**Pn**	**01 48 03.8**	**+2.1**
	148nm,0.3s,baz=354,slow=6.8,SNR=125						
PMG				Pg	**Pb**	**01 48 12.6**	**+2.2**
	372nm,0.3s,baz=337,slow=6.1,SNR=38						
PMG				Sn	**Sn**	**01 48 43.4**	**+2.4**
	278nm,0.3s,baz=23,slow=9.9,SNR=3.0						
PMG				Lg	Lg	01 48 57.8	
	314nm,0.3s,baz=4.3,slow=18,SNR=9.4						
PMG				LR	LR	01 49 53.9	
	comp=Z,14μm,20.2s,baz=338,slow=48						
PMG	**Port Moresby**	**3.40 170**			**Pn**	**01 48 03.6**	**+1.9**
PMG				Sn	**Sn**	**01 48 40.5**	**-0.4**
MANU	**Manus Island**	**4.04**	**11**	Pn	**Pn**	**01 48 11.5**	**+0.9**
KRVT	**Keravat (AS076**	**5.68**	**73**	Pn	**Pn**	**01 48 34.0**	**+0.9**
	70nm,0.3s,baz=170,slow=0.8,SNR=37						
KRVT				Lg	Lg	01 50 01.1	
	26nm,0.3s,baz=206,slow=16,SNR=3.6						
KRVT				LR	LR	01 50 39.5	
	comp=Z,6μm,18.9s,baz=239,slow=38						
JAY	**Jayapura**	**6.83 301**		Pn	Pn	01 48 55.7	+6.7
	2.0nm,0.3s,baz=103,slow=6.1,SNR=8.5						
JAY				Lg	Lg	01 50 38.4	
	3.2nm,0.3s,baz=55,slow=13,SNR=3.9						
JAY				LR	LR	01 51 48.9	
	comp=Z,2μm,20.1s,baz=102,slow=40						
JAY	**Jayapura**	**6.83 301**		P	Pn	01 48 55.6	+6.6
	1μm,1.2s,11μm4.1nm						
COEN	**Coen**	**8.56 203**		P	**Pn**	**01 49 15.6**	**+2.9**
	baz=8.5,SNR=35						
COEN	**Coen**	**8.56 203**			**Pn**	**01 49 14.8**	**+2.0**
COEN				Sn	**Sn**	**01 50 48.1**	**-0.2**
SMPI	**Sarmi**	**8.83 297**		P	Pn	01 49 22.1	+5.7
	129nm,1.2s,2μm						
BAKI	**Biak**	**11.51 294**		P	Pn	01 50 04.1	+11
MTSU	**Mount Surprise**	**12.23 190**		P	**Pn**	**01 50 05.9**

TNTI IAmb IAmb 01 52 00.4
comp=Z,101nm,1.1s
RMQ Roma 20.44 174 P Pn 01 51 48.2 +0.2
baz=20,SNR=55
QLP Quilpie 20.56 186 P Pn 01 51 48.6 -0.7
baz=20,SNR=44
SANI Sanana 20.92 280 P Pn 01 51 54.9 +1.1
AS31 Alice Springs 21.36 214 P **P** **01 51 56.2 +0.5**
AS31 S **S** **01 55 49.0 -2.5**
ASAR Alice Springs 21.36 214 P **P** **01 51 56.2 +0.4**
ASAR S **S** **01 55 49.8 -1.7**
ASAR Alice Springs 21.36 214 P **P** **01 51 58.2 +2.4**
comp=Z,16nm,0.5s,baz=47,slow=8.5,SNR=108
ASAR S Sn 01 55 56.1 -3.8
comp=Z,8.4nm,0.9s,baz=31,slow=22,SNR=5.3
ASAR ScP **ScP** **01 59 36.6 +2.5**
comp=Z,5.3nm,0.8s,baz=53,slow=3.7,SNR=7.2
ASAR LR LR 02 01 24.9
comp=Z,3μm,19.3s,baz=42,slow=40
ASAR ScS **ScS** **02 03 18.4 +0.1**
comp=Z,0.7nm,0.9s,baz=46,slow=4.0,SNR=3.8
ASAR Alice Springs 21.36 214 P **P** **01 51 56.2 +0.4**
ASAR S **S** **01 55 49.8 -1.7**
ASAR **ScP** **01 59 28.0 -6.1**
SOEI Soe 22.41 259 P **P** **01 52 11.9 +4.6**
comp=Z,95nm,0.8s,comp=Z,2μm
SOEI Soe 22.41 259 P **P** **01 52 06.9 -0.4**
SOEI IAmb IAmb 01 52 24.5
comp=Z,72nm,1.0s
BATI Baumata 23.07 258 P **P** **01 52 15.6 +1.6**
comp=Z,56nm,0.6s,baz=241,slow=0.4,SNR=7.4
BATI LR LR 02 03 59.3
comp=Z,2μm,18.1s,baz=106,slow=44
BATI Baumata 23.07 258 P **P** **01 52 16.1 +2.1**
comp=Z,66nm,0.7s,comp=Z,775nm
FITZ Fitzroy Crossi 23.70 238 P **P** **01 52 20.0 -0.1**
baz=24,SNR=230
FITZ Fitzroy Crossi 23.70 238 P **P** **01 52 21.0 +0.8**
comp=Z,110nm,0.6s,baz=52,slow=9.9,SNR=105
FITZ LR LR 02 02 40.1
comp=Z,2μm,18.1s,baz=58,slow=39
FITZ Fitzroy Crossi 23.70 238 P **P** **01 52 18.9 -1.2**
KDI Kendari 23.97 274 P P 01 52 30.3 +7.6
LUWI Luwuk 24.28 281 P **P** **01 52 25.6 0.0**
LUWI Luwuk 24.28 281 P **P** **01 52 25.2 -0.4**
MMRI Maumere 24.29 262 P **P** **01 52 26.7 +1.0**
MMRI Maumere 24.29 262 P **P** **01 52 25.9 +0.2**
ARMA Armidale 24.71 170 P **P** **01 52 30.6 +1.1**
baz=25,SNR=15
ARMA Armidale 24.71 170 IAmb IAmb 01 52 32.9
comp=Z,59nm,0.9s
DZM Mont Dzumac 24.95 132 *e*P **P** **01 52 31.8 +0.1**
comp=Z,72nm,0.8s
DZM *e*S **S** **01 56 53.0 -0.5**
comp=Z,412nm,25.8s
DZM *e*LR LR 01 58 39.9
comp=Z,1μm,23.1s
DZM Mont Dzumac 24.95 132 P **P** **01 52 31.1 -0.6**
comp=Z,26nm,0.6s,baz=309,slow=7.5,SNR=32
DZM ScP **ScP** **01 59 46.4 +2.8**
comp=Z,16nm,1.0s,baz=47,slow=7.0,SNR=6.9
DZM LR LR 02 01 02.8
comp=Z,517nm,20.9s,baz=6.5,slow=34
DZM Mont Dzumac 24.95 132 P **P** **01 52 30.9 -0.8**
DZM **ScP** **01 59 39.8 -3.9**
CMSA Cobar Meteorol 25.39 182 P **P** **01 52 36.2 +0.8**
baz=25,SNR=30
APSI Ampana 25.40 281 P **P** **01 52 39.4 +3.6**
MRSI Marisa 25.44 284 P **P** **01 52 37.6 +1.4**
WRKA Warakurna 25.77 221 P **P** **01 52 39.5 +0.4**
baz=26,SNR=57
STKA Stephens Creek 26.13 190 P **P** **01 52 43.0 +0.8**
baz=26,SNR=35
STKA Stephens Creek 26.13 190 P **P** **01 52 42.6 +0.4**
comp=Z,20nm,0.7s,baz=353,slow=9.6,SNR=32
STKA ScP **ScP** **01 59 49.0 +2.3**
comp=Z,10nm,0.9s,baz=44,slow=1.5,SNR=6.5
STKA LR LR 02 04 01.7
comp=Z,3μm,18.3s,baz=2.7,slow=39
STKA Stephens Creek 26.13 190 P **P** **01 52 41.7 -0.5**
WSI Waingapu 26.29 260 P P 01 52 58.4 +15
BKSI Bulukumba 26.35 270 P **P** **01 52 45.0 +0.7**
BNSI Bone 26.42 272 P **P** **01 52 47.5 +2.5**
KAPI Kappang 26.73 271 P **P** **01 52 50.4 +2.6**
comp=Z,13nm,0.6s,baz=111,slow=5.9,SNR=5.9
KAPI ScP **ScP** **01 59 51.5 +2.6**
comp=Z,5.6nm,0.5s,baz=104,slow=3.5,SNR=5.1
KAPI LR LR 02 06 29.8
comp=Z,524nm,19.1s,baz=299,slow=43
KAPI Kappang 26.73 271 P **P** **01 52 49.1 +1.3**
SPSI Sidrap Palu 26.80 273 P **P** **01 52 50.2 +1.8**
TTSI Tana Toraja 26.85 275 P **P** **01 52 51.6 +2.7**
WBSI Waikabubak, Su 27.18 261 P **P** **01 52 55.8 +3.9**
comp=Z,146nm,1.0s,comp=Z,1μm
MGCD Mangrove Creek 27.36 172 P **P** **01 52 55.7 +2.4**
baz=27,SNR=5.0
MPSI Mapaga 27.39 282 P **P** **01 52 55.9 +2.2**
comp=Z,23nm,1.4s,comp=Z,654nm
YNG Young 28.17 177 P **P** **01 53 01.9 +1.3**
baz=28,SNR=13
HTT Hallett 28.18 194 P **P** **01 53 01.6 +1.0**
baz=28,SNR=23
BBOO Buckleboo 28.39 199 P **P** **01 53 03.6 +1.1**
baz=28,SNR=15
PLAI Plampang 28.70 263 P **P** **01 53 05.3 -0.2**
CAN Canberra 29.23 176 P **P** **01 53 09.4 -0.6**
CAN pmax pmax
comp=Z,15nm,0.9s
CAN Canberra 29.23 176 P **P** **01 53 09.4 -0.6**
TWSI Taliwang, Sumb 29.58 263 P **P** **01 53 12.0 -1.3**
PSA00 Pilbara Seismi 30.13 237 P **P** **01 53 18.0 -0.1**
PSA00 IAmb IAmb 01 53 20.5
comp=Z,35nm,0.6s
PSA00 Pilbara Seismi 30.13 237 P **P** **01 53 18.2 +0.1**
PSA00 IAmb IAmb 01 53 19.8
comp=Z,16nm,0.6s
FORT Forrest 30.15 213 P **P** **01 53 18.2 +0.1**
FORT IAmb IAmb 01 53 28.1
comp=Z,28nm,0.7s
ARPS Mount Arapiles 30.90 187 P **P** **01 53 25.9 +1.3**
baz=31,SNR=7.8
MILA Mila 30.96 176 P **P** **01 53 26.2 +0.9**
baz=31,SNR=4.6
TOO Toolangi 31.41 182 P **P** **01 53 30.7 +1.5**
baz=31,SNR=6.5
TOO Toolangi 31.41 182 P **P** **01 53 28.8 -0.4**
TOO pmax pmax
comp=Z,33nm,1.1s
TOO Toolangi 31.41 182 P **P** **01 53 28.8 -0.4**
TOO IAmb IAmb 01 53 39.3
comp=Z,33nm,1.1s
H11S3 WAKE ISLAND Hy 31.42 39 T T 02 26 18.4
baz=220,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 31.42 39 T T 02 26 17.0
baz=220,slow=76,SNR=16
H11S1 WAKE ISLAND Hy 31.43 39 T T 02 26 15.2
baz=220,slow=76,SNR=6.7
JAGI Jajag, Banyuwa 32.26 264 P **P** **01 53 35.8 -1.2**
JAGI Jajag, Banyuwa 32.26 264 P **P** **01 53 36.1 -0.9**
JAGI IAmb IAmb 01 53 46.2
comp=Z,26nm,0.6s
H11N1 WAKE ISLAND Hy 32.46 38 T T 02 27 29.6
baz=218,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 32.48 38 T T 02 27 31.4
baz=218,slow=76,SNR=23
H11N2 WAKE ISLAND Hy 32.48 38 T T 02 27 30.9
baz=218,slow=76,SNR=37
MSVF Nonsavu 32.84 113 *i*P **P** **01 53 42.6 +0.5**
MSVF pmax pmax
comp=Z,50nm,1.3s
MEEK Meekatharra 33.62 229 P **P** **01 53 50.4 +1.6**
baz=34,SNR=50
KMBL Kambalda 34.22 219 P **P** **01 53 55.6 +1.8**
baz=34,SNR=13
PWJI Pagerwojo 34.58 265 P P 01 54 04.5 +7.4
PBKI Pangkalan Bun 34.97 274 P P 01 54 09.8 +9.3
PCJI Pacitan 35.20 264 P **P** **01 54 03.0 +0.5**
GIRL Giralia 35.30 239 P **P** **01 54 06.2 +2.9**
baz=35,SNR=4.9
SBUM Sibu 35.34 283 P **P** **01 54 03.2 -0.5**
WOJI Wonogiri, Jawa 35.44 265 P **P** **01 54 04.5 -0.1**
STKI Sintang 35.57 279 P **P** **01 54 08.5 +2.8**
MORW Morawa 36.84 228 P **P** **01 54 18.0 +1.6**
baz=37,SNR=24
MORW Morawa 36.84 228 P **P** **01 54 16.0 -0.4**
MORW IAmb IAmb 01 54 20.8
comp=Z,21nm,1.0s
KSM Kuching 36.99 280 P **P** **01 54 18.2 +0.4**
KSM IAmb IAmb 01 54 26.0
comp=Z,29nm,1.0s
KLBR Kellerberrin 37.07 223 P **P** **01 54 19.3 +1.0**
baz=37,SNR=59
KPJI Karang Pucung 37.42 266 P **P** **01 54 24.2 +2.7**
CMJI Cimerak 37.90 265 P P 01 54 34.7 +9.2
NWAO Narrogin (SRO) 38.23 222 P **P** **01 54 29.7 +1.6**
baz=38,SNR=9.5
NWAO Narrogin (SRO) 38.23 222 LR LR 02 11 28.6
comp=Z,1μm,18.3s,baz=54,slow=38
YULB Yu-li 38.29 321 P **P** **01 54 29.5 +0.8**
YULB IAmb IAmb 01 54 48.5
comp=Z,23nm,0.8s
MUN Mundaring 38.36 224 P **P** **01 54 30.9 +1.8**
baz=38,SNR=4.3
CISI Cisompet, Garu 38.52 265 P **P** **01 54 33.7 +2.8**
comp=Z,153nm,0.8s,comp=Z,6μm
CISI Cisompet, Garu 38.52 265 P **P** **01 54 30.2 -0.7**
NACB Ninganchiao 38.67 322 P **P** **01 54 31.0 -0.9**
TPI Tanjungpandan 38.95 273 P **P** **01 54 37.8 +3.4**
comp=Z,84nm,0.9s
RKGY Rocky Gully 39.45 220 P **P** **01 54 40.5 +2.2**
baz=39,SNR=6.8
SKJI Sukabumi 39.78 266 P P 01 54 50.3 +9.0
CGJI Cibinong 40.64 267 P **P** **01 54 49.7 +1.2**
comp=Z,114nm,0.8s,comp=Z,1μm
KNTN Kanton 41.68 87 P **P** **01 54 57.0 -0.1**
KLSI 41.69 270 P P 01 55 11.3 +14
JNU Nakatsue 41.70 340 P **P** **01 54 57.5 +0.5**
comp=Z,30nm,0.9s,baz=135,slow=6.1,SNR=11
JNU Nakatsue 41.70 340 IAmb IAmb 01 54 59.3
comp=Z,36nm,1.0s
KASI Kota Agung 41.88 268 P **P** **01 55 00.2 +1.6**
comp=Z,73nm,1.0s
DSRI Dabo 42.29 276 P P 01 55 09.9 +7.9
THZ Tophouse 42.59 151 IAmb IAmb 01 55 08.3
comp=Z,60nm,1.0s
BKZ Black Stump Fm 42.62 145 IAmb IAmb 01 55 14.9
comp=Z,29nm,0.9s
LHSI Lahat 42.95 271 P **P** **01 55 11.4 +4.0**
comp=Z,52nm,1.1s
MJAR Matsushiro Arr 43.08 350 P **P** **01 55 07.9 -0.1**
MJAR 01 56 56.5
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 43.08 350 P **P** **01 55 08.0 0.0**
comp=Z,4.1nm,0.7s,baz=178,slow=8.6,SNR=5.4
MJAR PcP **PcP** **01 56 57.9 +0.2**
comp=Z,1.6nm,0.4s,baz=156,slow=4.5,SNR=2.7
MJAR LR LR 02 12 51.9
comp=Z,217nm,18.2s,baz=155,slow=36
MJAR Matsushiro Arr 43.08 350 P **P** **01 55 07.9 -0.1**
MJAR **PcP** **01 56 56.5 -1.2**
MAT Matsushiro 43.08 350 P **P** **01 55 08.6 +0.6**
MAT S **S** **02 01 31.8 -0.2**
SNZO South Karori 43.16 149 P **P** **01 55 08.2 -0.4**
SNZO IAmb IAmb 01 55 24.4
comp=Z,39nm,0.9s
RPZ Rata Peaks 43.26 154 LR LR 02 11 28.3
comp=Z,409nm,21.6s,baz=334,slow=34
RPZ Rata Peaks 43.26 154 P **P** **01 55 08.2 -1.2**
MYKOM Kota Tinggi 43.38 279 P **P** **01 55 11.1 +0.3**
MYKOM IAmb IAmb 01 55 19.2
comp=Z,30nm,0.7s
OXZ Oxford 43.39 153 IAmb IAmb 01 55 15.2
comp=Z,47nm,1.2s
KHZ Kahutara 43.39 151 IAmb IAmb 01 55 13.6
comp=Z,51nm,1.2s
BFZ Birch Farm 43.52 147 P **P** **01 55 10.5 -1.1**
NIUE Niue 44.24 111 P **P** **01 55 18.8 +1.1**
baz=44,SNR=3.2
NIUE Niue 44.24 111 P **P** **01 55 17.8 +0.1**
NJ2 Nanjing 46.19 327 *e*P **P** **01 55 34.9 +2.0**
NJ2 pmax pmax
comp=Z,35nm,0.5s
PDSI Padang 46.30 274 P **P** **01 55 37.4 +3.2**
comp=Z,11nm,0.7s
KSRS Korea Array 46.64 339 P **P** **01 55 37.4 +1.1**
comp=Z,21nm,1.0s,baz=157,slow=9.2,SNR=41
KSRS LR LR 02 13 24.9
comp=Z,582nm,20.5s,baz=154,slow=34
KSAR Wonju Array Be 46.64 339 P **P** **01 55 36.7 +0.3**
KSAR Wonju Array Be 46.64 339 P **P** **01 55 36.7 +0.3**
IPM Ipoh 46.68 282 P **P** **01 55 36.8 -0.4**
KS19 Wonju Array Si 46.70 339 IAmb IAmb 01 55 39.1
comp=Z,33nm,1.1s
SKLT Songkhla 47.70 285 P **P** **01 55 49.3 +4.2**
comp=Z,20nm,0.9s
WHN Wuhan 47.71 322 ⇓P **P** **01 55 47.1 +2.3**
WHN S **S** **02 02 35.5 -3.5**
WHN pmax pmax
comp=Z,140nm,1.4s
WHN LR LR
comp=Z,640nm,13.4s
RPSI Rantau Prapat 48.38 279 P **P** **01 55 50.8 +0.5**
RPSI IAmb IAmb 01 56 02.7
comp=Z,28nm,0.9s
PSI Prapat 48.40 279 P **P** **01 55 50.8 +0.2**
PSI pmax pmax
comp=Z,28nm,0.9s
TRTT Trang 48.77 286 P **P** **01 55 56.0 +2.7**
comp=Z,38nm,1.3s
NONG Nongkai 49.10 300 P **P** **01 55 58.1 +2.4**
comp=Z,0.9nm,0.8s
CHAI Chaiyaphum 49.24 297 P **P** **01 55 58.7 +1.8**
comp=Z,50μm,0.9s
GSI Gunungsitoli 49.48 277 P **P** **01 55 59.0 +0.2**
GSI Gunungsitoli 49.48 277 P **P** **01 55 58.7 -0.1**
SURT Suratani 49.91 287 P **P** **01 56 04.2 +2.2**
comp=Z,42nm,1.1s,comp=Z,745nm
JKA Kamikawa-asahi 50.05 356 P **P** **01 56 03.1 +0.6**
ASAJ Asahikawa 50.05 356 P **P** **01 56 03.1 +0.6**
comp=Z,5.4nm,0.4s,baz=217,slow=20,SNR=3.1
PKDT Phuket 50.08 285 P **P** **01 56 05.5 +2.2**
comp=Z,88nm,1.0s,comp=Z,10μm
TPTI 50.20 279 P **P** **01 56 08.1 +3.9**
comp=Z,46nm,1.0s
TIA Tai'an 50.29 329 P **P** **01 56 05.2 +0.6**
TIA pmax pmax
comp=Z,16nm,0.8s
PHET Kaeng Krachan 50.31 292 P **P** **01 56 08.0 +3.0**
comp=Z,91μm,0.9s
MLSI Meulaboh, Aceh 51.15 280 P **P** **01 56 12.7 +1.3**
comp=Z,227nm,0.7s,comp=Z,3μm
UTHA Uthaitani 51.38 295 P **P** **01 56 15.5 +2.4**
comp=Z,35μm,1.0s,comp=Z,405μm
USA0B Ussuriysk Arra 51.71 347 *i*P **P** **01 56 15.0 0.0**
USRK Ussuriysk Ar. 51.71 347 P **P** **01 56 14.8 -0.2**
USRK Ussuriysk Ar. 51.71 347 P **P** **01 56 15.6 +0.6**
comp=Z,3.4nm,0.5s,baz=160,slow=7.9,SNR=8.8
USRK LR LR 02 17 00.5
comp=Z,229nm,18.7s,baz=147,slow=35
USRK Ussuriysk Ar. 51.71 347 P **P** **01 56 14.8 -0.2**
KHLT Khaolaem Dam 51.89 294 P **P** **01 56 16.8 -0.1**
comp=Z,55nm,1.2s,comp=Z,613nm
UMPA Umpang Tak 52.14 296 P **P** **01 56 21.5 +2.7**
comp=Z,103μm,1.0s
LAMP Lampang 52.33 299 P P 01 56 28.4 +8.3
PAYA Payao 52.46 300 P **P** **01 56 23.6 +2.5**
comp=Z,43μm,0.8s,comp=Z,674μm
KMI Kunming 52.70 308 P **P** **01 56 26.1 +3.1**
KMI pmax pmax
comp=Z,25nm,0.9s
KMI LR LR
comp=Z,96nm,4.8s
KMI LR LR
comp=Z,120nm,4.1s
KMI LR LR
comp=Z,270nm,22.4s
CMAR Chiang Mai Arr 52.91 298 P **P** **01 56 26.9 +2.5**
comp=Z,16nm,0.9s,baz=119,slow=5.8,SNR=50
CMAR ScP **ScP** **02 01 30.1 +1.5**
comp=Z,0.9nm,0.3s,baz=143,slow=2.1,SNR=5.2
CMAR LR LR 02 17 08.8
comp=Z,132nm,21.8s,baz=149,slow=34
CMAR PKP2bc 02 27 07.0
comp=Z,1.1nm,0.4s,baz=293,slow=3.0,SNR=5.5
CMAR Chiang Mai Arr 52.91 298 P **P** **01 56 25.3 +0.9**
CMAR **ScP** **02 01 24.9 -3.7**
CMMT Chiang Mai 53.04 299 P **P** **01 56 27.9 +2.5**
comp=Z,12nm,1.2s
CHTO Chiang Mai 53.05 299 P **P** **01 56 24.8 -0.6**
CHTO pmax pmax
comp=Z,20nm,1.1s
CHTO Chiang Mai 53.05 299 P **P** **01 56 24.8 -0.6**
CHTO IAmb IAmb 01 56 29.2
comp=Z,20nm,1.1s
CN2 Changchun 53.16 341 *e*P **P** **01 56 30.3 +4.5**
CN2 *e*pP sP 01 56 42.9 +2.4
CN2 *e*S **S** **02 03 56.3 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,340nm,20.0s
CN2 LR LR
comp=Z,210nm,20.0s
CN2 LR LR
comp=Z,380nm,20.0s
XAN Xi'an 53.45 321 P **P** **01 56 28.8 +0.6**
XAN sP sP 01 56 46.4 +3.6
XAN S **S** **02 03 51.4 -7.4**
XAN pmax pmax
comp=Z,31nm,1.4s
XAN pmax pmax
comp=Z,160nm,4.0s
XAN LR LR
comp=Z,280nm,20.2s
XAN LR LR
comp=Z,300nm,20.2s
XAN LR LR
comp=Z,240nm,18.6s
MHMT Maesarieng 53.69 298 P P 01 56 38.7 +8.6
BJT Baijiatuau 53.72 331 P **P** **01 56 29.0 -1.0**
BJT pmax pmax
comp=Z,12nm,0.7s
BJT Baijiatuau 53.72 331 P **P** **01 56 29.0 -1.0**
BJT IAmb IAmb 01 56 34.5
comp=Z,12nm,0.7s
BJI Beijing 53.73 331 *e*P **P** **01 56 29.7 -0.4**
BJI S **S** **02 04 02.0 -0.3**
BJI pmax pmax
comp=Z,21nm,1.4s
BJI LR LR
comp=Z,190nm,17.1s
BJI LR LR
comp=Z,340nm,22.7s
BJI LR LR
comp=Z,510nm,26.5s
CD2 Chengdu 55.01 314 *e*P **P** **01 56 41.0 +1.4**
CD2 pmax pmax
comp=Z,200nm,5.1s
KLR Kul'dur 56.54 348 P **P** **01 56 51.3 +1.1**
comp=Z,3.7nm,1.0s,baz=166,slow=4.2,SNR=3.9
HHC Hu-ho-hao-te 56.65 329 *e*P **P** **01 56 53.4 +2.1**
HHC pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 57.97 320 *e*P **P** **01 57 02.4 +1.6**
LZH pP pP 01 57 13.0 +1.7
LZH sP sP 01 57 19.0 +3.6
LZH PP **PP** **01 59 09.8 +0.3**
LZH pmax pmax
comp=Z,38nm,1.4s
LZH pmax pmax
comp=Z,130nm,5.0s
LZH LR LR
comp=Z,160nm,14.6s
LZH LR LR
comp=Z,230nm,15.2s
LZH LR LR
comp=Z,230nm,15.7s
PEA0B Petropavlovsk- 59.67 8 P **P** **01 57 11.3 -0.7**
PEA0B pmax pmax
comp=Z,30nm,1.0s
PEA0B Petropavlovsk- 59.67 8 P **P** **01 57 11.3 -0.7**
PETK Petropavlovsk- 59.67 8 P **P** **01 57 13.3 +1.3**
comp=Z,21nm,1.0s,baz=171,slow=4.8,SNR=17
PETK LR LR 02 18 38.6
comp=Z,814nm,21.9s,baz=235,slow=32
PETK Petropavlovsk- 59.67 8 P **P** **01 57 10.8 -1.2**
PET Petropavlovsk 59.72 8 *e*P P 01 57 20.8 +8.5
PET *e*S **S** **02 05 28.1 +7.2**
PET pmax pmax
comp=Z,100nm,11.5s
HIA Hailar 59.84 340 P **P** **01 57 13.1 -0.2**
HIA pmax pmax
comp=Z,48nm,1.2s
HIA Hailar 59.84 340 P **P** **01 57 13.1 -0.2**
GTA Gaotai 62.51 320 ⇑P **P** **01 57 33.0 +1.3**
GTA pP sP 01 57 44.2 -2.3
GTA sP pP 01 57 50.8 +8.4
GTA S **S** **02 05 59.6 +2.3**
GTA sS sS 02 06 20.4 +5.9
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,45nm,5.5s
GTA LR LR
comp=Z,100nm,17.2s
GTA LR LR
comp=Z,140nm,19.2s
GTA LR LR
comp=Z,200nm,19.6s
PPT Papeete 63.28 107 LR LR 02 19 51.8
comp=Z,86nm,20.5s,baz=222,slow=31
PPT2 Papeete2 63.28 107 *e*P **P** **01 57 38.6 +1.4**
comp=Z,50nm,1.5s
PPT2 *e*S **S** **02 06 09.7 +2.1**
comp=Z,2μm,35.0s
PPT2 Papeete2 63.28 107 *e*LR LR 02 16 31.4
comp=Z,361nm,23.8s
TIAR Tiarei 63.49 107 *e*P **P** **01 57 40.0 +1.4**
comp=Z,22nm,1.2s
TVO Taravao 63.59 107 *e*P **P** **01 57 40.8 +1.5**
comp=Z,24nm,1.4s
TBI Tubuai 63.73 113 *e*S **S** **02 06 14.2 +1.3**
comp=Z,336nm,32.0s
TBI Tubuai 63.73 113 *e*LR LR 02 16 43.5
comp=Z,206nm,26.5s
ULN Ulaanbaatar 63.94 332 P **P** **01 57 41.1 0.0**
ULN pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 63.94 332 P **P** **01 57 41.1 0.0**
ULN IAmb IAmb 01 57 43.3
comp=Z,14nm,0.9s
SONM Songino Array 64.24 331 P **P** **01 57 43.9 +0.9**
comp=Z,7.3nm,0.9s,baz=150,slow=6.6,SNR=17
SONM PKP2bc 02 26 40.5
comp=Z,2.5nm,1.0s,baz=328,slow=5.1,SNR=7.9
SONM Songino Array 64.24 331 P **P** **01 57 42.7 -0.3**
PMOR Pomariorio Ree 64.84 104 *e*P **P** **01 57 48.9 +1.5**
VAH Vaihoa 65.10 104 *e*P **P** **01 57 50.2 +1.1**
comp=Z,61nm,1.2s
CASY Casey 65.12 195 P **P** **01 57 46.2 -2.0**
CASY IAmb IAmb 01 57 50.1
comp=Z,30nm,1.1s
TAPN Taplejung 65.83 303 *e*P **P** **01 57 54.5 +0.5**
comp=Z,22nm,0.8s
ODAN Odare 65.92 303 *e*P **P** **01 57 55.4 +0.9**
comp=Z,18nm,0.7s
JIRN Jiri 67.20 303 *e*P **P** **01 58 03.7 +0.9**
comp=Z,25nm,0.6s
ZAK Zakamensk 67.47 332 *e*P **P** **01 58 04.3 +0.5**
ZAK pmax pmax
comp=Z,16nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,0.7s
PKI Pulchoki 67.82 303 *e*P **P** **01 58 07.4 +0.7**
comp=Z,22nm,1.0s
PKIN Phulchoki 67.83 303 *e*P **P** **01 58 07.1 +0.4**
comp=Z,5.9nm,0.5s
KKN Kakani 68.00 303 *e*P **P** **01 58 08.5 +0.8**
comp=Z,28nm,0.8s
DMN Daman 68.09 303 *e*P **P** **01 58 09.3 +1.0**
comp=Z,31nm,0.9s
TLY Talaya 68.19 333 *e*P **P** **01 58 08.9 +0.8**
TLY pmax pmax
comp=Z,20nm,1.1s
TLY MLR MLR
comp=Z,133nm,14.0s
TLY Talaya 68.19 333 P **P** **01 58 09.2 +1.1**
comp=Z,3.7nm,0.7s,baz=211,slow=3.2,SNR=4.8
TLY Talaya 68.19 333 P **P** **01 58 06.7 -1.4**
GKN Gorkha 68.61 303 *e*P **P** **01 58 12.2 +0.8**
comp=Z,16nm,0.6s
BOD Bodaibo 68.89 342 *e*P **P** **01 58 11.9 -0.4**
BOD pmax pmax
comp=Z,25nm,1.8s
SEY Seymchan 68.91 3 *i*P **P** **01 58 11.9 -0.5**
SEY Seymchan 68.91 3 P **P** **01 58 13.3 +1.0**
comp=Z,10nm,0.8s,baz=178,slow=4.9,SNR=8.4

YAK	Yakutsk	69.11	352	eP	P	01 58 13.0	-0.6
YAK				e*PP	pP	01 58 22.9	-1.7
YAK				e		01 58 35.1	
YAK				e		02 00 44.6	
YAK				eS	S	02 07 13.3	-3.4
YAK				e		02 08 10.1	
YAK				eSSS	SSS	02 14 45.0	
YAK				pmax	pmax		
	comp=Z,18nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,123nm,4.0s						
YAK				pmax	pmax		
	comp=N,63nm,3.7s						
YAK				pmax	pmax		
	comp=E,80nm,3.5s						
YAK				smax	smax		
	comp=N,168nm,3.5s						
YAK				smax	smax		
	comp=E,84nm,3.0s						
YAK	Yakutsk	69.11	352	P	P	01 58 14.1	+0.5
	comp=E,10nm,0.4s,baz=204,slow=1.6,SNR=3.3						
YAK	Yakutsk	69.11	352	P	P	01 58 13.9	+0.3
YAK				IAmb	IAmb	01 58 22.4	
	comp=Z,24nm,0.6s						
KOLN	Koldanda	69.40	303	eP	P	01 58 17.0	+0.6
	comp=Z,31nm,0.8s						
MOY	Mondy	69.41	332	eP	P	01 58 16.9	+1.0
MOY				pmax	pmax		
	comp=Z,34nm,1.8s						
DANN	Dangsing	69.45	303	eP	P	01 58 17.2	+0.3
	comp=Z,27nm,0.7s						
HYB	Hyderabad	71.09	291	i P	P	01 58 30.5	+3.8
WMQ	Urumqi	72.55	319	eP	P	01 58 36.6	+1.5
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,65nm,4.3s						
WMQ				LR	LR		
	comp=Z,480nm,28.9s						
WMQ				LR	LR		
	comp=Z,1μm,29.0s						
WMQ				LR	LR		
	comp=Z,120nm,29.3s						
SBA	Scott Base	72.55	176	P	P	01 58 34.1	-0.3
SBA				pmax	pmax		
	comp=Z,15nm,1.1s						
SBA	Scott Base	72.55	176	P	P	01 58 34.1	-0.3
TAOE	Nuku Hiva Isla	72.60	97	eLR	LR	02 20 55.0	
	comp=Z,284nm,24.9s						
BILL	Bilibino	75.20	8⇑	eP	P	01 58 50.1	+0.2
BILL				e		01 59 06.4	
BILL				e		02 01 35.5	
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
BILL	Bilibino	75.20	8	P	P	01 58 48.6	-1.4
BILL				IAmb	IAmb	01 58 59.3	
	comp=Z,28nm,1.1s						
POO	Poona	75.70	291	eP	P	01 59 02.5	+8.6
MKAR	Makanchi Array	77.26	321	PP	PP	02 01 58.1	+1.4
	comp=Z,1.6nm,0.9s,baz=102,slow=6.4,SNR=2.8						
ZAA0	Zalesovo Array	78.82	328	P	P	01 59 09.5	-1.1
ZALV	Zalesovo Beam	78.82	328	P	P	01 59 09.8	-0.8
	comp=Z,4.1nm,0.6s,baz=121,slow=5.0,SNR=8.3						
ZALV				LR	LR	02 34 14.6	
	comp=Z,169nm,20.2s,baz=113,slow=36						
ZALV	Zalesovo Beam	78.82	328	P	P	01 59 08.7	-1.9
NIL	Nilore	79.61	306	P	P	01 59 14.2	-1.3
NIL				pmax	pmax		
	comp=Z,31nm,1.1s						
NIL	Nilore	79.61	306	P	P	01 59 14.2	-1.3
NIL				IAmb	IAmb	01 59 17.0	
	comp=Z,31nm,1.1s						
NRN	Naryn	79.65	314	P	P	01 59 14.6	-1.2
NRN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NRN	Naryn	79.65	314	P	P	01 59 14.6	-1.2
KZA	Kyzart	80.38	314	P	P	01 59 21.2	+1.3
	SNR=13						
SVW2	Sparrevohn	80.45	25	IAmb	IAmb	01 59 22.5	
	comp=Z,30nm,1.1s						
UCH	Uchtor	80.94	314	P	P	01 59 23.8	+0.9
	SNR=9.2						
AAK	Ala-Archa	81.08	315	i P	P	01 59 23.2	-0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	Ala-Archa	81.08	315	P	P	01 59 22.2	-1.1
USP	Ospenovka	81.25	315	P	P	01 59 24.3	+0.2
	SNR=6.3						
AML	Almayashu	81.50	314	P	P	01 59 27.0	+1.1
	SNR=9.4						
EKS2	Erkin-Say	81.59	315	P	P	01 59 27.0	+1.0
	SNR=5.7						
ARSB	Arslanbob	81.80	313	P	P	01 59 25.8	-1.3
RDOG	Red Dog Mine	81.89	17	IAmb	IAmb	01 59 28.7	
	comp=Z,33nm,1.1s						
MAW	Mawson	82.06	203	P	P	01 59 28.8	+1.1
	baz=82,SNR=14						
MAW	Mawson	82.06	203	P	P	01 59 28.6	+0.9
	comp=Z,15nm,1.0s,baz=78,slow=6.8,SNR=16						
MAW				LR	LR	02 34 49.4	
	comp=Z,181nm,20.6s,baz=58,slow=35						
MAW	Mawson	82.06	203	P	P	01 59 27.0	-0.7
KBL	Kabul	83.22	306	P	P	01 59 33.2	-1.5
KBL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBL	Kabul	83.22	306	P	P	01 59 33.2	-1.5
GHO	Glory Hole Cre	83.58	26	IAmb	IAmb	01 59 51.7	
	comp=Z,18nm,1.0s						
IMAR	Indian Mountai	83.67	21	P	P	01 59 36.1	0.0
QSPA	South Pole Qui	83.93	180	P	P	01 59 37.6	-0.1
QSPA				IAmb	IAmb	01 59 38.7	
	comp=Z,24nm,0.7s						
KKAR	Karatay Array	84.02	314	P	P	01 59 38.2	-0.2
KKAR	Karatay Array	84.02	314	P	P	01 59 38.2	-0.2
KKAR	Karatay Array	84.02	314	IAmb	IAmb	01 59 45.0	
	comp=Z,5.1nm,1.1s						
RND	Reindeer	84.32	24	IAmb	IAmb	01 59 43.1	
	comp=Z,22nm,0.8s						
DHY	Denali Highway	84.78	25	IAmb	IAmb	01 59 49.9	
	comp=Z,20nm,0.8s						
WRH	Wood River Hil	85.08	23	IAmb	IAmb	01 59 45.8	
	comp=Z,31nm,1.2s						
NRIK	Noril'sk	85.18	342	P	P	01 59 43.6	-0.1
	comp=Z,13nm,0.9s,baz=121,slow=4.2,SNR=9.5						
NRIK				LR	LR	02 37 56.8	
	comp=Z,167nm,19.9s,baz=116,slow=36						
CCB	Clear Creek Bu	85.26	23	IAmb	IAmb	01 59 43.9	
	comp=Z,22nm,1.0s						
TCOL	CIGO, UAF Yank	85.33	23	P	P	01 59 43.7	-0.8
	baz=245						
COLA	College	85.34	23	P	P	01 59 42.8	-1.7
COLA				pmax	pmax		
	comp=Z,23nm,0.9s						
COLA	College	85.34	23	P	P	01 59 42.9	-1.7
COLA				IAmb	IAmb	01 59 47.5	
	comp=Z,23nm,0.8s						
HDA	Harding Lake	85.50	24	P	P	01 59 44.4	-1.0
	baz=246						
HDA	Harding Lake	85.50	24	IAmb	IAmb	01 59 48.2	
	comp=Z,11nm,1.0s						
POKR	Poker Plat Res	85.60	23	P	P	01 59 45.5	-0.4
	baz=246						
IL31		85.67	23	IAmb	IAmb	01 59 45.6	
	comp=Z,19nm,0.8s						
ILAR	Eielson Array	85.67	23	P	P	01 59 44.8	-1.5
	comp=Z,14nm,0.8s,baz=254,slow=5.0,SNR=113						
ILAR				LR	LR	02 34 38.5	
	comp=Z,278nm,19.6s,baz=262,slow=33						
GLB	Gilahina Butte	85.70	27	IAmb	IAmb	01 59 47.4	
	comp=Z,14nm,1.0s						
BALM	Baldy	86.22	27	IAmb	IAmb	01 59 53.0	
	comp=Z,23nm,1.0s						
MENT	Mentasta	86.27	25	IAmb	IAmb	01 59 57.2	
	comp=Z,16nm,1.2s						
TOLK	Toolik Lake Re	86.36	19	P	P	01 59 50.1	+0.5
	baz=244						
DOT	Dot Lake	86.38	25	IAmb	IAmb	01 59 50.7	
	comp=Z,26nm,1.0s						
BRVK	Borovoye	86.63	324	i P	P	01 59 51.6	+0.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BCAR	Beaver Creek A	87.15	26	P	P	01 59 53.0	-0.5
BMAR	Burnt Mountain	87.58	21	P	P	01 59 55.3	-0.2
EGAK	Eagle	87.96	24	IAmb	IAmb	01 59 58.5	
	comp=Z,20nm,1.0s						
DAWY	Dawson	88.47	25	IAmb	IAmb	02 00 08.8	
	comp=Z,17nm,1.0s						
EPYK	Eagle Plains	90.19	23	P	P	02 00 07.7	-0.2
	baz=256						
SYO	Syowa Base	90.42	200⇑	i P	P	02 00 07.8	-1.1
SYO	Syowa Base	90.42	200⇓	eX	P	02 00 20.0	+11
INK	Inuvik	91.83	21	P	P	02 00 14.4	-1.0
	comp=Z,8.0nm,1.1s,baz=245,slow=8.1,SNR=7.7						
INK	Inuvik	91.83	21	IAmb	IAmb	02 00 16.4	
	comp=Z,12nm,1.1s						
ABKAR	Akbulak array	92.34	319	P	P	02 00 16.5	-1.7
ABKAR	Akbulak array	92.34	319	IAmb	IAmb	02 00 19.1	
	comp=Z,3.5nm,1.1s						
GEYT	Alibeck	92.46	308	P	P	02 00 17.3	-1.8
ARU	Arti	93.89	326c	i P	P	02 00 34.8	+10
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
O02D	Mt. Diablo Mer	94.32	50	P	P	02 00 29.2	+1.6
	baz=266						
M02C	Callahan	94.36	49	P	P	02 00 29.0	+1.2
	baz=266						
HUMO	Hull Mountain	94.37	48	IAmb	IAmb	02 00 30.9	
	comp=Z,9.2nm,1.1s						
N02D	Trinity Center	94.44	49	P	P	02 00 29.7	+1.5
	baz=266						
YBH	Yreka Blue Hor	94.49	49	IAmb	IAmb	02 00 32.2	
	comp=Z,10nm,1.1s						
WDC	Whiskeytown Da	94.54	50	P	P	02 00 27.7	-0.8
WDC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WDC	Whiskeytown Da	94.54	50	P	P	02 00 27.7	-0.8
WDC				IAmb	IAmb	02 00 31.5	
	comp=Z,6.2nm,1.1s						
O03E	Paynes Creek	95.08	50	P	P	02 00 31.5	+0.4
	baz=266						
M04C	Macdoel	95.15	49	P	P	02 00 32.3	+0.8
	baz=267						
B05A	Bryant	95.33	42	P	P	02 00 33.5	+1.5
	baz=267						
J05D	Fort Rock, OR	95.68	47	P	P	02 00 35.1	+1.2
	baz=267						
BEKR	Beckworth	96.17	51	IAmb	IAmb	02 00 37.3	
	comp=Z,5.1nm,1.2s						
HAWA	Hanford	97.00	44	IAmb	IAmb	02 00 43.7	
	comp=Z,9.6nm,1.1s						
E08A	Dider Farm, El	97.33	44	IAmb	IAmb	02 00 44.7	
	comp=Z,8.7nm,1.0s						
G08A	Pilot Rock	97.38	45	IAmb	IAmb	02 00 43.4	
	comp=Z,5.8nm,1.2s						
NVAR	Mina Array Bea	97.71	52	P	P	02 00 43.2	-0.1
	comp=Z,2.1nm,0.9s,baz=251,slow=5.5,SNR=10						
NVAR				LR	LR	02 41 30.0	
	comp=Z,212nm,18.2s,baz=270,slow=33						
NVAR	Mina Array Bea	97.71	52	P	P	02 00 42.1	-1.2
C09A	Chrisman Ranch	97.88	43	IAmb	IAmb	02 00 46.2	
	comp=Z,5.8nm,0.9s						
LRMC	Laurel Mtn Rad	98.13	55	P	Pdif	02 00 46.3	+1.1
	baz=268						
DAC	Darwin (Calif)	98.22	54	IAmb	IAmb	02 00 49.7	
	comp=Z,5.7nm,1.1s						
BMO	Blue Mountains	98.55	46	IAmb	IAmb	02 00 47.9	
	comp=Z,4.4nm,1.1s						
F10A	Beach Ranch, E	98.60	45	IAmb	IAmb	02 00 48.0	
	comp=Z,8.9nm,1.1s						
NEW	Newport	98.65	42	P	Pdif	02 00 48.1	+1.0
	baz=271						
NEW	Newport	98.65	42	IAmb	IAmb	02 00 50.4	
	comp=Z,7.5nm,0.9s						
SNAA	Sanae	99.89	189	Pdiff	Pdif	02 00 52.1	-0.1
ELK	Elko	100.10	50	i P	Pdif	02 00 52.1	-1.9
ELK	Elko	100.10	50		Pdif	02 00 52.1	-1.9
VNA2	Neumayer--Watz	101.26	188	Pdiff	Pdif	02 00 59.6	+1.4
VNA3	Neumayer Olymp	101.28	188	Pdiff	Pdif	02 00 59.8	+1.5
214A	Organ Pipe Nat	102.15	59	P	Pdif	02 01 04.3	+1.3
	baz=270						
PDAR	Pinedale Array	104.24	48	Pdiff	Pdif	02 01 11.4	-0.9
	comp=Z,0.9nm,0.9s,baz=266,slow=4.5,SNR=6.1						
PDAR				PKiKP	PKiKP	02 05 28.9	-0.2
	comp=Z,0.4nm,0.7s,baz=300,slow=2.0,SNR=2.5						
ARCES	ARCESS Array B	106.16	342	Pdiff	Pdif	02 01 17.9	-2.1
	comp=Z,2.9nm,0.8s,baz=77,slow=5.6,SNR=3.6						
ARCES				PKiKP	PKiKP	02 05 32.0	+0.5
	comp=Z,2.7nm,1.0s,baz=90,slow=2.2,SNR=3.0						
ARCES				PP	PP	02 05 40.5	-3.2
	comp=Z,3.1nm,0.9s,baz=76,slow=2.0,SNR=5.0						
ARCES				PKKPbc	PKKPbc	02 16 52.5	-3.5
	comp=Z,2.1nm,0.8s,baz=253,slow=2.7,SNR=6.6						
ARCES	ARCESS Array B	106.16	342		PKiKP	02 05 32.0	+0.5
TXAR	Lajitas Array	110.14	61	PKiKP	PKiKP	02 05 40.3	+0.1
	comp=Z,0.3nm,0.8s,baz=241,slow=1.9,SNR=3.5						
TXAR				PP	PP	02 06 13.9	-0.3
	comp=Z,0.4nm,0.8s,baz=251,slow=3.8,SNR=4.0						
TXAR				PKKPbc	PKKPbc	02 16 42.0	-0.3
	comp=Z,0.1nm,0.6s,baz=112,slow=5.9,SNR=3.7						
AKASG	Malin Array Be	111.80	323	PP	PP	02 06 26.0	+0.8
	comp=Z,1.0nm,0.6s,baz=65,slow=5.1,SNR=4.3						
BOSA	Boshof	113.89	235	PKP	PKiKP	02 05 48.6	+1.1
	comp=Z,1.2nm,0.5s,baz=141,slow=1.7,SNR=4.2						
LSZ	Lusaka	115.42	250	PKIKP	PKPdf	02 05 48.5	-2.2
LSZ	Lusaka	115.42	250		PKPdf	02 05 48.5	-2.2
VYHS	Vyhne	118.88	323	eP	Pdif	02 02 16.0	-1.0
VYHS	Vyhne	118.88	323	ePDIFF	Pdif	02 02 16.0	-1.0
GERES	GERESS Array B	121.70	325	PKP	PKiKP	02 06 02.2	+0.2
	comp=Z,0.7nm,0.6s,baz=53,slow=0.5,SNR=4.5						
GERES	GERESS Array B	121.70	325		PKPdf	02 05 58.7	-3.1
PLCA	Paso Flores	122.32	147	PKIKP	PKPdf	02 06 02.9	-0.4
PLCA	Paso Flores	122.32	147	PKP	PKiKP	02 06 03.6	+0.2
	comp=Z,2.1nm,0.4s,baz=274,slow=3.4,SNR=18						
PLCA	Paso Flores	122.32	147		PKPdf	02 06 02.9	-0.4
TSUM	Tsumeb	123.88	242		PKPdf	02 06 04.3	-2.6
SCHQ	Schefferville	124.43	23	PKP	PKiKP	02 06 07.4	+0.3
	comp=Z,4.2nm,0.5s,baz=271,slow=4.4,SNR=2.9						
SCHQ	Schefferville	124.43	23		PKPdf	02 06 06.3	-0.5
ROC1	El Roble	127.28	140		PKiKP	02 06 13.8	+0.1
NNA	Nana	133.25	113	PKIKP	PKPdf	02 06 23.6	-1.1
NNA	Nana	133.25	113	PKP	PKiKP	02 06 25.7	-0.3
	comp=Z,8.6nm,0.6s,baz=221,slow=9.3,SNR=4.0						
NNA				SKPbc	SKPbc	02 09 51.8	+1.1
	comp=Z,14nm,0.9s,baz=300,slow=5.2,SNR=6.4						
NNA	Nana	133.25	113		PKPdf	02 06 23.6	-1.1
ATAH	Atahualpa	133.25	106	PKP	PKPdf	02 06 24.8	-0.4
	comp=Z,10nm,0.9s,baz=174,slow=5.1,SNR=5.5						
ATAH				SKPab	SKPab	02 09 54.8	+1.6
	comp=Z,33nm,0.9s,baz=249,slow=2.1,SNR=15						
LVC	Limon Verde	135.09	131	PKIKP	PKPdf	02 06 25.0	-3.5
LVC	Limon Verde	135.09	131	SKPbc	SKPbc	02 09 57.9	+0.9
	comp=Z,6.2nm,0.8s,baz=250,slow=5.0,SNR=5.3						
LVC	Limon Verde	135.09	131		PKPdf	02 06 24.9	-3.5
GCUF	Volcan Galeras	135.91	94	eP	PKiKP	02 06 32.1	+0.1
GCUF	Volcan Galeras	135.91	94	eP	PKiKP	02 06 32.1	+0.1
YOTC	Yotoco, Valle	137.19	91	eP	PKPdf	02 06 21.5	-11
YOTC	Yotoco, Valle	137.19	91	eP	PKPdf	02 06 21.5	-11
FLOC	Florencia	137.63	94	eP	PKPdf	02 06 32.1	-0.8
FLOC	Florencia	137.63	94	eP	PKPdf	02 06 32.1	-0.8
BETC	Betania	137.97	93	eP	PKPdf	02 06 27.8	-5.8
BETC	Betania	137.97	93	eP	PKPdf	02 06 27.8	-5.8
ANIL	Santa Ana	138.16	90	eP	PKPdf	02 06 33.8	-0.4
ANIL	Santa Ana	138.16	90	eP	PKPdf	02 06 33.8	-0.4
RREF	El Recreo	138.25	89	eP	PKPdf	02 06 32.1	-2.7
RREF	El Recreo	138.25	89	eP	PKPdf	02 06 32.1	-2.7
GUY2C	Guyana, Caldas	138.25	89	eP	PKPdf	02 06 34.7	+0.1
GUY2C	Guyana, Caldas	138.25	89	eP	PKPdf	02 06 34.7	+0.1
ORTC	Ortega, Tolima	138.28	91	eP	PKPdf	02 06 25.2	-8.9
ORTC	Ortega, Tolima	138.28	91	eP	PKPdf	02 06 25.2	-8.9
PTLC	Puerto Leguiza	138.28	97	eP	PKPdf	02 06 28.7	-5.5
PTLC	Puerto Leguiza	138.28	97	eP	PKPdf	02 06 28.7	-5.5
SJCC	San Jacinto, C	138.48	82	eP	PKPdf	02 06 30.4	-4.1
SJCC	San Jacinto, C	138.48	82	eP	PKPdf	02 06 30.4	-4.1
NORC	Norcasia	138.76	88	eP	PKPdf	02 06 26.1	-9.0
NORC	Norcasia	138.76	88	eP	PKPdf	02 06 26.1	-9.0
ZARC	Zaragoza, Cauc	138.82	86	eP	PKPdf	02 06 26.9	-8.2
ZARC	Zaragoza, Cauc	138.82	86	eP	PKPdf	02 06 26.9	-8.2
LPAZ	La Paz	139.11	123	PKIKP	PKPdf	02 06 34.5	-1.8
LPAZ	La Paz	139.11	123	PKhKP	PKPpre	02 06 28.6	
	comp=Z,3.5nm,0.7s,baz=285,slow=0.7,SNR=10						
LPAZ				PKP	PKiKP	02 06 37.5	-1.0
	comp=Z,12nm,0.8s,baz=301,slow=5.7,SNR=21						
LPAZ				SKPbc	SKPbc	02 10 10.6	+1.3
	comp=Z,14nm,1.1s,baz=250,slow=1.1,SNR=14						
LPAZ	La Paz	139.11	123		PKPdf	02 06 34.5	-1.8
ROSC	El Rosal	139.26	90	eP	PKPpre	02 06 29.5	
ROSC	El Rosal	139.26	90	eP	PKPpre	02 06 29.5	
ROSC	El Rosal	139.26	90	PKhKP	PKPpre	02 06 31.5	
	comp=Z,13nm,0.6s,baz=205,slow=7.7,SNR=11						
ROSC				PKP	PKPdf	02 06 36.4	0.0
	comp=Z,7.7nm,0.4s,baz=289,slow=18,SNR=7.0						
ROSC				SKPbc	SKPbc	02 10 10.4	+0.9
	comp=Z,6.1nm,0.6s,baz=89,slow=18,SNR=6.2						
ROSC	El Rosal	139.26	90		PKPdf	02 06 32.0	-4.4
MACC	Macarena, Meta	139.49	94	eP	PKPdf	02 06 36.2	-0.2
MACC	Macarena, Meta	139.49	94	eP	PKPdf	02 06 36.2	-0.2
SPBC	San Pablo de B	139.55	88	eP	PKPpre	02 06 27.8	
SPBC	San Pablo de B	139.55	88	eP	PKPpre	02 06 27.8	
CPUP	Villa Florida	140.34	145	PKhKP	PKPpre	02 06 28.4	
	comp=Z,1.2nm,0.9s,baz=245,slow=1.3,SNR=2.6						
CPUP				PKP	PKPdf	02 06 38.2	+0.7
	comp=Z,9.0nm,1.0s,baz=271,slow=3.3,SNR=4.4						
CPUP				SKPbc	SKPbc	02 10 13.0	+1.4
	comp=Z,8.3nm,1.0s,baz=210,slow=6.6,SNR=5.5						
CPUP	Villa Florida	140.34	145		PKPdf	02 06 36.1	-1.5
OCAC	Ocana	140.35	84	eP	PKiKP	02 06 39.9	-0.7
OCAC	Ocana	140.35	84	eP	PKiKP	02 06 39.9	-0.7
RUSC	La Rusia	140.55	88	eP	PKPdf	02 06 29.5	-9.3
RUSC	La Rusia	140.55	88	eP	PKPdf	02 06 29.5	-9.3
GUVC	San Jose del G	140.75	93	eP	PKPdf	02 06 25.2	-13
GUVC	San Jose del G	140.75	93	eP	PKPdf	02 06 25.2	-13
CAPV	Capacho	141.35	85	eP	PKPdf	02 06 34.5	-5.4
CAPV	Capacho	141.35	85	eP	PKPdf	02 06 34.5	-5.4
URIC	Uribia, Colomb	141.49	79	eP	PKPdf	02 06 34.7	-5.2
URIC	Uribia, Colomb	141.49	79	eP	PKPdf	02 06 34.7	-5.2
SOCV	Socops	142.79	84	eP	PKPdf	02 06 38.1	-4.1
SOCV	Socops	142.79	84	eP	PKPdf	02 06 38.1	-4.1
SDV	Santo Domingo	142.99	83	PKP	PKPdf	02 06 43.2	+0.4
	comp=Z,22nm,0.4s,baz=3.4,slow=6.6,SNR=2.3						
SDV				SKPbc	SKiKP	02 10 19.8	-0.4
	comp=Z,12nm,0.3s,baz=0.8,slow=3.7,SNR=3.4						
ELOV	Elorza	144.15	86	eP	PKPab	02 06 41.9	-0.4
ELOV	Elorza	144.15	86	eP	PKPab	02 06 41.9	-0.4
TOA0	Torodi Ar. Sit	144.70	284		PKPab	02 06 43.9	-0.5
TORD	Torodi Ar. Bea	144.70	284	PKP	PKPbc	02 06 45.1	+0.6
	comp=Z,21nm,0.7s,baz=51,slow=3.8,SNR=93						
TORD				SKP		02 10 21.8	
	comp=Z,2.5nm,0.8s,baz=100,slow=1.9,SNR=4.0						
TORD	Torodi Ar. Bea	144.70	284		PKPab	02 06 43.5	-0.8
SIV	San Ignacio	144.95	129	SKPbc	SKiKP	02 10 25.3	+1.4
	comp=Z,6.1nm,0.9s,baz=126,slow=2.3,SNR=7.7						
SJG	San Juan	145.88	66	PKIKP	PKPdf	02 06 45.7	-1.7
SJG	San Juan	145.88	66		PKPdf	02 06 45.7	-1.7
HUMP	Col San Antoni	146.15	66		PKPdf	02 06 45.9	-2.0
MTP	Monte Pirata	146.43	66		PKPdf	02 06 45.3	-3.1
SAML	Samuel	146.80	116	eP	PKPdf	02 06 49.3	+0.2
SAML	Samuel	146.80	116	eP	PKPdf	02 06 49.3	+0.2
SAML	Samuel	146.80	116		PKPdf	02 06 45.9	-3.3
KIC	Kosan Boka	151.50	272	ePKP1	PKiKP	02 07 03.8	+0.4
	comp=Z,100nm,0.9s						
DBIC	Dimbokro	151.62	273	PKIKP	PKPdf	02 06 54.8	-2.1
DBIC						02 07 03.9	
DBIC	Dimbokro	151.62	273	PKPbc	PKiKP	02 07 04.3	+0.7
	comp=Z,34nm,0.6s,baz=72,slow=2.5,SNR=80						
DBIC	Dimbokro	151.62	273	PKPdf	PKPdf	02 06 54.8	-2.1
DBIC					PKiKP	02 07 03.9	+0.3
TIC	Toumodi	151.78	273	ePKP1	PKiKP	02 07 04.5	+0.6
LIC	Lamto	151.78	272	ePKP1	PKiKP	02 07 04.3	+0.4
	comp=Z,146nm,0.8s						
BDFB	Brasilia	154.06	146	PKIKP	PKPdf	02 06 59.5	-1.0
BDFB						02 07 09.4	
BDFB	Brasilia	154.06	146	PKP	PKPdf	02 07 00.2	-0.3
	comp=Z,7.3nm,0.8s,baz=34,slow=3.8,SNR=8.4						
BDFB				PKPbc	PKiKP	02 07 09.4	+0.7
	comp=Z,7.8nm,0.4s,baz=200,slow=1.6,SNR=28						
BDFB	Brasilia	154.06	146		PKPdf	02 06 59.5	-1.0
BDFB					PKiKP	02 07 09.4	+0.7

IDC ***05*** *01:50:13.0±0.8, 30°.03N×141°.99E, h0km, mb4.3/15, mb1 4.4/20, mb1mx4.2/51, mbtmp4.2/20, ML3.6/6, MS3.5/5, Ms1 3.5/5, ms1mx3.1/43, Error ellipse: s-maj=29.0km s-min=16.2km az=70.0*

ISCJB ***05*** *01:50:15.8±0.6, 30°.04N±0°.03×142°.01E±0°.07, h42km±5km, mb4.4/22, MS4.0/5, Error ellipse: s-maj=10.1km s-min=4.1km az=167.0*

JMA ***05*** *01:50:17.2±0.2, 30°.01N×141°.93E, h49km, M4.4*

NEIC ***05*** *01:50:17.5±1.6, 30°.00N±0°.07×142°.0E±0°.1, h46km±7km, mb4.8/33*

BJI ***05*** *01:50:24.5±0.0, 30°.50N×141°.83E, h90km, mb4.6/31, mB4.8/20, Ms4.1/16, Ms7 3.9/16*

ISC 05 01:50:18.2±0.9, **29°.99N**±0°.05×**141°.90E**±0°.08, **h47**km±9km, **n95**,σ1°**73**/109, **mb4.6**/45, **MS4.0**/6, **1C, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.89	175	S	Sn	01 51 35.5	+0.2
JCJ	Chichijima	2.89	175	Pn	Pn	01 51 01.6	-0.2
	16

BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI LR LR
comp=Z,170nm,17.0s
BJI LR LR
comp=Z,240nm,19.0s
BJI LR LR
comp=Z,250nm,20.8s
H11S3 WAKE ISLAND Hy 25.28 111 T T 02 21 57.9
baz=304
H11S1 WAKE ISLAND Hy 25.28 111 T T 02 21 58.9
baz=304
H11S2 WAKE ISLAND Hy 25.29 111 T T 02 21 57.2
baz=304
HIA Hailar 25.57 325 P **P** **01 55 42.8 +0.1**
HIA IAmb IAmb 01 55 46.2
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 26.87 302 *e*P **P** **01 55 55.3 +0.7**
HHC pmax pmax
comp=Z,7.0nm,1.1s
ENH Enshi 27.98 279 P **P** **01 56 03.9 -0.8**
ENH IAmb IAmb 01 56 11.2
comp=Z,14nm,1.0s
XAN Xi'an 28.18 287 P **P** **01 56 06.6 +0.2**
XAN IAmb IAmb 01 56 07.6
comp=Z,4.3nm,0.7s
ULN Ulaanbaatar 32.10 314 P **P** **01 56 41.1 +0.1**
ULN IAmb IAmb 01 56 43.6
comp=Z,4.6nm,0.7s
LZH Lanzhou 32.33 291 *e*P **P** **01 56 44.2 +1.0**
LZH pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 32.51 313 P **P** **01 56 46.0 +1.5**
comp=Z,3.2nm,0.8s,baz=112,slow=7.4,SNR=11
SONM Songino Array 32.51 313 P **P** **01 56 44.9 +0.4**
SONM IAmb IAmb 01 56 47.0
comp=Z,3.0nm,1.0s
CD2 Chengdu 32.79 281 *e*P **P** **01 56 50.0 +2.9**
CD2 S **S** **02 01 57.3 -3.7**
CD2 LR LR
comp=Z,290nm,13.2s
CD2 LR LR
comp=Z,350nm,12.7s
KMI Kunming 34.94 272 P **P** **01 57 10.8 +4.8**
KMI pmax pmax
comp=Z,13nm,0.6s
KMI LR LR
comp=Z,170nm,10.4s
KMI LR LR
comp=Z,140nm,15.6s
KMI LR LR
comp=Z,290nm,26.4s
TLY Talaya 35.58 319 P **P** **01 57 10.6 -0.4**
TLY IAmb IAmb 01 57 14.4
comp=Z,3.1nm,0.9s
GTA Gaotai 35.58 297 *e*P **P** **01 57 12.0 +0.7**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,77nm,4.4s
GTA LR LR
comp=Z,96nm,14.8s
GTA LR LR
comp=Z,140nm,14.8s
GTA LR LR
comp=Z,200nm,16.8s
PBKT Sadao Pong 39.69 260 P **P** **01 57 45.8 -0.2**
PBKT IAmb IAmb 01 57 47.8
comp=Z,7.2nm,0.5s
WMQ Urumqi 44.73 303 *e*P **P** **01 58 29.8 +2.9**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,62nm,4.7s
WMQ LR LR
comp=Z,540nm,29.1s
WMQ LR LR
comp=Z,620nm,29.2s
WMQ LR LR
comp=Z,110nm,29.1s
WMQ Urumqi 44.73 303 P **P** **01 58 26.1 -0.9**
WMQ IAmb IAmb 01 58 26.4
comp=Z,16nm,0.3s
ZAA0 Zalesovo Array 47.17 317 P **P** **01 58 46.6 +0.8**
ZAA0 IAmb IAmb 01 58 48.7
comp=Z,3.6nm,1.1s
ZALV Zalesovo Beam 47.17 317 P **P** **01 58 47.4 +1.5**
comp=Z,4.7nm,1.1s,baz=72,slow=4.8,SNR=5.2
ZALV PcP **PcP** **02 00 18.5 +1.6**
comp=Z,2.9nm,0.5s,baz=109,slow=4.2,SNR=2.7
ZALV Zalesovo Beam 47.17 317 P **P** **01 58 45.0 -0.9**
ZALV PcP **PcP** **02 00 17.3 +0.4**
MK31 Makanchi Array 48.48 308 P **P** **01 58 56.8 +0.6**
MK31 IAmb IAmb 01 59 03.4
comp=Z,5.6nm,0.9s
MKAR Makanchi Array 48.48 308 P **P** **01 58 57.6 +1.4**
comp=Z,3.3nm,0.9s,baz=91,slow=9.7,SNR=16
MKAR Makanchi Array 48.48 308 P **P** **01 58 56.7 +0.5**
MAKZ Makanchi 48.69 308 P **P** **01 58 58.2 +0.4**
MAKZ IAmb IAmb 01 59 04.5
comp=Z,9.1nm,0.8s
WB2 Warramunga Arr 50.17 189 P **P** **01 59 08.7 -0.5**
WB2 IAmb IAmb 01 59 10.6
comp=Z,23nm,1.1s
WRA Warramunga Arr 50.17 189 P **P** **01 59 09.9 +0.6**
comp=Z,5.1nm,0.6s,baz=5.9,slow=7.6,SNR=8.5
WRA PcP **PcP** **02 00 30.7 +2.6**
comp=Z,0.5nm,0.4s,baz=360,slow=4.0,SNR=2.5
WRA Warramunga Arr 50.17 189 P **P** **01 59 09.5 +0.2**
WRA IAmb IAmb 01 59 11.3
comp=Z,0.3nm,0.7s
WRA **PcP** **02 00 28.0 -0.1**
KURK Kurchatov 50.81 313⇑ *i*P **P** **01 59 14.8 +1.0**
KURK pmax pmax
comp=Z,13nm,1.2s
KURK Kurchatov 50.81 313 P **P** **01 59 13.2 -0.7**
KURK IAmb IAmb 01 59 16.1
comp=Z,12nm,1.1s
KTH Kantishna Hill 53.47 31 P **P** **01 59 32.9 -0.5**
KTH IAmb IAmb 01 59 38.8
comp=Z,14nm,0.9s
TRF Thorofare Moun 53.74 31 P **P** **01 59 34.8 -0.7**
TRF IAmb IAmb 01 59 44.0
comp=Z,11nm,0.7s
ASAR Alice Springs 53.90 189 PcP **PcP** **02 00 43.6 +1.6**
comp=Z,1.2nm,0.8s,baz=17,slow=3.4,SNR=2.1
ASAR Alice Springs 53.90 189 P **P** **01 59 35.7 -1.3**
ASAR **PcP** **02 00 41.7 -0.3**
KSH Kashi 53.92 299 P **P** **01 59 40.6 +3.4**
KSH pP pwP 02 00 05.0 +10
KSH PP **PP** **02 01 44.6 +6.0**
KSH S **S** **02 07 02.1 -7.3**
KSH pmax pmax
comp=Z,13nm,1.0s
KSH pmax pmax
comp=Z,270nm,5.7s
KSH LR LR
comp=Z,220nm,9.9s
KSH LR LR
comp=Z,130nm,11.2s
KSH LR LR
comp=Z,140nm,11.7s
BWN Browne 54.16 30 P **P** **01 59 38.0 -0.4**
BWN IAmb IAmb 01 59 43.2
comp=Z,43nm,1.0s
GHO Glory Hole Cre 54.26 33 P **P** **01 59 36.7 -2.6**
GHO IAmb IAmb 01 59 43.7
comp=Z,12nm,0.7s
MCK McKinley 54.36 31 P **P** **01 59 39.3 -0.7**
MCK IAmb IAmb 01 59 40.1
comp=Z,37nm,1.0s
FYU Fort Yukon 56.08 27 P **P** **01 59 50.8 -1.4**
FYU IAmb IAmb 01 59 55.0
comp=Z,34nm,1.2s
ARU Arti 62.00 321 P **P** **02 00 31.9 -1.5**
ARU IAmb IAmb 02 00 35.9
comp=Z,8.4nm,0.8s
ABKAR Akbulak array 62.92 313 P **P** **02 00 39.0 -0.6**
ABKAR IAmb IAmb 02 00 41.8
comp=Z,3.8nm,0.7s
GEYT Alibeck 67.75 302 P **P** **02 01 12.7 +1.5**
comp=Z,5.5nm,0.9s,baz=204,slow=3.3,SNR=9.3
GEYT Alibeck 67.75 302 P **P** **02 01 11.8 +0.7**
GEYT IAmb IAmb 02 01 14.9
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 70.74 341 P **P** **02 01 30.5 +1.5**
comp=Z,2.3nm,0.8s,baz=56,slow=6.6,SNR=3.7
FINES FINESS Array B 75.25 333 P **P** **02 01 57.6 +1.8**
comp=Z,1.8nm,0.5s,baz=68,slow=5.3,SNR=16
FINES FINESS Array B 75.25 333 P **P** **02 01 55.5 -0.3**
KBZ Khabaz 75.87 312 P **P** **02 02 01.9 +2.2**
comp=Z,9.3nm,0.9s,baz=95,slow=3.4,SNR=19
KIV Kislovodsk 75.90 313 P **P** **02 01 59.2 -0.8**
KIV IAmb IAmb 02 02 04.4
comp=Z,7.7nm,0.9s
GNI Garni 76.32 308 P **P** **02 02 02.6 0.0**
GNI IAmb IAmb 02 02 11.6
comp=Z,4.5nm,0.8s
AKASG Malin Array Be 80.15 323 P **P** **02 02 24.5 +1.2**
comp=Z,0.5nm,0.4s,baz=48,slow=6.5,SNR=7.1
AKASG Malin Array Be 80.15 323 P **P** **02 02 23.3 0.0**
AKASG IAmb IAmb 02 02 31.8
comp=Z,1.7nm,1.1s
NB2 NORSAR Subarra 80.84 338 P **P** **02 02 28.4 +1.5**
comp=Z,1.1nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 80.84 338 P **P** **02 02 28.4 +1.5**
comp=Z,2.6nm,0.8s,baz=41,slow=5.2,SNR=6.4
PDAR Pinedale Array 82.34 45 P **P** **02 02 36.4 +0.9**
comp=Z,0.4nm,0.6s,baz=294,slow=0.9,SNR=3.1
PDAR Pinedale Array 82.34 45 P **P** **02 02 33.2 -2.2**
RAYN Ar Rayn 83.76 293 P **P** **02 02 41.6 -1.3**
RAYN IAmb IAmb 02 02 46.6
comp=Z,26nm,0.8s
BR131 Keskin Array S 83.86 313 P **P** **02 02 42.6 -0.6**
BR131 IAmb IAmb 02 02 46.4
comp=Z,5.6nm,0.8s
BRTR Keskin Array B 83.86 313 P **P** **02 02 45.3 +2.0**
comp=Z,6.3nm,0.8s,baz=86,slow=3.2,SNR=2.8
BRTR Keskin Array B 83.86 313 P **P** **02 02 41.5 -1.7**
BUR08 Bucovina Ar. S 84.10 323 P **P** **02 02 43.9 -0.3**
BUR08 IAmb IAmb 02 02 51.9
comp=Z,4.4nm,1.1s
BURAR Bucovina Array 84.11 323 P **P** **02 02 44.9 +0.6**
PV14 Lion Creek, Pa 85.15 48 P **P** **02 02 49.3 -0.6**
PV14 IAmb IAmb 02 02 57.3
comp=Z,4.5nm,0.8s
GERES GERESS Array B 88.92 329 P **P** **02 03 08.9 +1.1**
comp=Z,0.2nm,0.4s,baz=41,slow=3.1,SNR=2.5
TXAR Lajitas Array 94.07 53 P **P** **02 03 34.1 +2.0**
comp=Z,1.7nm,0.8s,baz=286,slow=2.2,SNR=14
TXAR Lajitas Array 94.07 53 P **P** **02 03 31.1 -1.0**

IDC ***05*** *02:00:23.9±2.6, 5°.93S×146°.76E, h19km±16km, mb4.3/14, mb1 4.4/16, mb1mx4.3/28, mbtmp4.4/16, ML4.3/1, MS4.0/11, Ms1 4.0/11, ms1mx3.6/34, Error ellipse: s-maj=16.2km s-min=10.7km az=99.0*
ISCJB ***05*** *02:00:29.1±0.3, 6°.11S±0°.04×146°.75E±0°.05, h78km, mb4.9/21, Error ellipse: s-maj=7.2km s-min=5.2km az=154.1*
NEIC ***05*** *02:00:29.4±1.6, 6°.04S±0°.07×146°.72E±0°.08, h68km±5km, mb4.6/18*
DJA ***05*** *02:00:29.0±0.5, 6°.S±4°×.14°.7E±°, h67km±7km, M5.0/17, mB5.3/6, mb4.8/17, MLv5.2/4, Mw(mB)4.8/6*
BJI ***05*** *02:00:29.0±0.0, 6°.20S×146°.60E, h72km, mb4.6/5, mB4.7/2, Ms4.7/1, Ms7 4.6/1*
ISC 05 02:00:31.2±0.4, 6°.12S±0°.05×146°.77E±0°.06, h78km, n95, σ1°81/94, mb4.4/25, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.29**	**173**	Pn	**Pn**	**02 01 18.6**	**-1.8**
	56nm,0.3s,baz=34,slow=10.0,SNR=23						
PMG				Pg		02 01 28.4	
	97nm,0.3s,baz=328,slow=9.5,SNR=49						
PMG				Sn	**Sn**	**02 01 59.5**	**+1.2**
	44nm,0.3s,baz=43,slow=12,SNR=3.7						
PMG				Lg	Lg	02 02 09.4	
	89nm,0.3s,baz=334,slow=21,SNR=4.9						
PMG				LR	LR	02 02 57.6	
	comp=Z,3μm,18.8s,baz=326,slow=44						
PMG	**Port Moresby**	**3.29**	**173**		**Pn**	**02 01 19.0**	**-1.4**
PMG					**Sn**	**02 01 57.8**	**-0.6**
KRVT	**Keravat (AS076**	**5.54**	**71**	Pn	**Pn**	**02 01 50.5**	**-0.6**
	30nm,0.3s,baz=80,slow=0.6,SNR=19						
KRVT				Lg	Lg	02 03 21.3	
	baz=346,slow=20,SNR=1.0						
KRVT				LR	LR	02 03 44.7	
	comp=Z,1μm,19.4s,baz=241,slow=37						
JAY	**Jayapura**	**7.03**	**300**	Pn	**Pn**	**02 02 11.1**	**-0.4**
	1.6nm,0.3s,baz=108,slow=10,SNR=7.0						
JAY				Lg	Lg	02 03 46.3	
	1.0nm,0.3s,baz=15,slow=16,SNR=1.9						
JAY	**Jayapura**	**7.03**	**300**	P	**Pn**	**02 02 12.3**	**+0.8**
GENI	**Genyem**	**7.45**	**298**	P	**Pn**	**02 02 16.8**	**-0.5**
COEN	**Coen**	**8.55**	**204**		**Pn**	**02 02 30.2**	**-2.0**
SMPI	**Sarmi**	**9.02**	**297**	P	**Pn**	**02 02 40.0**	**+1.3**
RKPI	**Ransiki, Papua**	**13.37**	**290**	P	**Pn**	**02 03 35.8**	**-2.0**
HNR	**Honiara**	**13.47**	**105**	LR	LR	02 08 20.4	
	comp=Z,228nm,18.1s,baz=299,slow=35						
CTA	**Charters Tower**	**13.89**	**182**	Pn	**Pn**	**02 03 44.8**	**+0.2**
	1.8nm,0.3s,baz=0.4,slow=14,SNR=8.8						
CTAO	**Charters Tower**	**13.89**	**182**		**Pn**	**02 03 44.9**	**+0.3**
SIJI	**Sorong**	**16.32**	**288**	Pn	**Pn**	**02 04 13.8**	**-1.9**
	1.1nm,0.3s,baz=71,slow=14,SNR=10						
SIJI				ScP	**ScP**	**02 12 42.0**	**+9.0**
	0.6nm,0.3s,baz=86,slow=16,SNR=2.9						
SWI	**Sorong**	**16.33**	**288**	P	**Pn**	**02 04 14.5**	**-1.3**
MTN	**Manton Dam**	**16.80**	**245**	P	**Pn**	**02 04 20.0**	**-1.6**
MTN				IAmb	IAmb	02 04 22.5	
	comp=Z,32nm,0.6s						
BNDI	**Bandanaira**	**16.86**	**275**	P	**P**	**02 04 25.1**	**+1.8**
WB2	**Warramunga Arr**	**18.28**	**220**	P	**P**	**02 04 37.0**	**-1.9**
WRA	**Warramunga Arr**	**18.29**	**220**	P	**P**	**02 04 37.7**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=44,slow=12,SNR=31						
WRA				S	**Sn**	**02 08 05.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=41,slow=18,SNR=2.9						
WRA				LR	LR	02 12 40.4	
	comp=Z,640nm,19.2s,baz=40,slow=40						
WRA				ScP	**ScP**	**02 12 43.6**	**+6.7**
	comp=Z,0.1nm,0.3s,baz=37,slow=2.2,SNR=3.7						
WRA	**Warramunga Arr**	**18.29**	**220**	P	**P**	**02 04 38.1**	**-0.9**
AAI	**Ambon**	**18.66**	**277**	P	**Pn**	**02 04 44.4**	**+0.1**
EIDS	**Eidsvold**	**19.58**	**168**	P	**P**	**02 04 52.6**	**-0.4**
EIDS				IAmb	IAmb	02 04 57.1	
	comp=Z,15nm,0.8s						
GUMO	**Guam**	**19.68**	**355**	LR	LR	02 11 44.4	
	comp=Z,182nm,20.4s,baz=148,slow=35						
NLAI	**Namlea**	**19.81**	**277**	P	**P**	**02 04 55.8**	**+0.2**
KNRA	**Kununurra**	**20.05**	**240**	P	**P**	**02 04 57.0**	**-1.2**
KNRA				IAmb	IAmb	02 05 06.3	
	comp=Z,30nm,0.9s						
SANI	**Sanana**	**21.11**	**280**	P	**P**	**02 05 11.4**	**+1.7**
AS31	**Alice Springs**	**21.38**	**214**	P	**P**	**02 05 12.6**	**0.0**
ASAR	**Alice Springs**	**21.39**	**214**	P	**P**	**02 05 12.1**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=55,slow=8.8,SNR=30						
ASAR				S	**S**	**02 09 06.9**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=33,slow=22,SNR=2.9						
ASAR				ScP	**ScP**	**02 12 50.9**	**+6.8**
	comp=Z,0.9nm,0.8s,baz=35,slow=3.4,SNR=3.7						
ASAR				LR	LR	02 14 39.4	
	comp=Z,507nm,21.5s,baz=28,slow=40						
ASAR	**Alice Springs**	**21.39**	**214**	P	**P**	**02 05 11.3**	**-1.3**
ASAR					**S**	**02 09 05.8**	**-0.1**
ASAR				ScP	**ScP**	**02 12 43.5**	**-0.6**
SOEI	**Soe**	**22.57**	**259**	P	**P**	**02 05 25.4**	**0.0**
SOEI	**Soe**	**22.57**	**259**	P	**P**	**02 05 23.8**	**-1.7**
BATI	**Baumata**	**23.22**	**258**	LR	LR	02 16 53.9	
	comp=Z,434nm,18.2s,baz=93,slow=43						
FITZ	**Fitzroy Crossi**	**23.80**	**238**	P	**P**	**02 05 35.8**	**-1.3**
	comp=Z,53nm,0.7s,baz=62,slow=8.4,SNR=83						
FITZ				LR	LR	02 16 13.7	
	comp=Z,350nm,18.4s,baz=52,slow=40						
FITZ	**Fitzroy Crossi**	**23.80**	**238**	P	**P**	**02 05 35.0**	**-2.1**
ARMA	**Armidale**	**24.60**	**170**	P	**P**	**02 05 44.5**	**+0.2**
ARMA				IAmb	IAmb	02 05 48.3	
	comp=Z,20nm,1.1s						
DZM	**Mont Dzumac**	**24.76**	**132**	P	**P**	**02 05 46.3**	**+0.5**
	comp=Z,5.4nm,0.6s,baz=206,slow=10,SNR=9.5						
DZM	**Mont Dzumac**	**24.76**	**132**	P	**P**	**02 05 45.9**	**+0.1**
DZM				IAmb	IAmb	02 05 53.6	
	comp=Z,7.6nm,0.7s						
STKA	**Stephens Creek**	**26.07**	**190**	P	**P**	**02 05 57.2**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=350,slow=9.1,SNR=18						
STKA				LR	LR	02 17 15.8	
	comp=Z,507nm,19.0s,baz=359,slow=38						
STKA	**Stephens Creek**	**26.07**	**190**	P	**P**	**02 05 57.3**	**-0.3**
H11S3	**WAKE ISLAND Hy 31.38**	**38**		T	T	02 39 31.2	
	baz=220,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 31.39**	**38**		T	T	02 39 30.5	
	baz=220,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy 31.39**	**38**		T	T	02 39 32.7	
	baz=220,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hy 32.43**	**37**		T	T	02 40 47.9	
	baz=219,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy 32.44**	**37**		T	T	02 40 46.2	
	baz=219,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy 32.45**	**37**		T	T	02 40 46.5	
	baz=219,slow=76,SNR=29						
NWAO	**Narrogin (SRO)**	**38.28**	**222**	P	**P**	**02 07 44.3**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=82,slow=12,SNR=4.5						
RAO	**Raoul Island**	**40.49**	**129**	P	**P**	**02 08 03.0**	**+0.5**
	comp=Z,96nm,0.3s,baz=287,slow=19,SNR=2.8						
RPZ	**Rata Peaks**	**43.10**	**154**	P	**P**	**02 08 23.3**	**-0.4**
	comp=Z,10nm,0.7s,baz=292,slow=5.4,SNR=4.1						
RPZ	**Rata Peaks**	**43.10**	**154**	P	**P**	**02 08 23.4**	**-0.3**
KSRS	**Korea Array**	**46.78**	**339**	P	**P**	**02 08 50.8**	**-2.1**
	comp=Z,3.0nm,0.8s,baz=158,slow=8.4,SNR=9.9						
KSAR	**Wonju Array Be**	**46.79**	**339**	P	**P**	**02 08 51.9**	**-1.1**
RPSI	**Rantau Prapat**	**48.57**	**279**	P	**P**	**02 09 07.0**	**-0.2**
RPSI				IAmb	IAmb	02 09 09.0	
	comp=Z,11nm,1.0s						
CHAI	**Chaiyaphum**	**49.44**	**297**	P	**P**	**02 09 15.7**	**+2.0**
	comp=Z,20μm,1.0s						
UTHA	**Uthaitani**	**51.58**	**295**	P	**P**	**02 09 32.1**	**+2.2**
	comp=Z,19μm,1.1s						
USRK	**Ussuriysk Ar.**	**51.84**	**347**	P	**P**	**02 09 29.9**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=157,slow=8.0,SNR=5.7						
USRK	**Ussuriysk Ar.**	**51.84**	**347**	P	**P**	**02 09 28.9**	**-2.4**
PAYA	**Payao**	**52.66**	**300**	P	**P**	**02 09 40.8**	**+2.9**
	comp=Z,19μm,0.7s						
CMAR	**Chiang Mai Arr**	**53.10**	**298**	P	**P**	**02 09 40.5**	**-0.7**
	comp=Z,6.6nm,0.9s,baz=124,slow=5.8,SNR=17						
CMAR	**Chiang Mai Arr**	**53.10**	**298**	P	**P**	**02 09 40.0**	**-1.2**
CMMT	**Chiang Mai**	**53.24**	**299**	P	**P**	**02 09 45.4**	**+3.2**
	comp=Z,1.8nm,0.4s						
XAN	**Xi'an**	**53.63**	**321**	P	**P**	**02 09 45.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PETK	**Petropavlovsk-**	**59.73**	**8**	P	**P**	**02 10 28.3**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=166,slow=7.3,SNR=4.5						
PETK				LR	LR	02 33 07.3	
	comp=Z,157nm,20.4s,baz=239,slow=33						
PETK	**Petropavlovsk-**	**59.73**	**8**	P	**P**	**02 10 27.3**	**-0.3**
PPT	**Papeete**	**63.08**	**107**	LR	LR	02 33 37.3	
	comp=Z,55nm,22.0s,baz=335,slow=32						
SONM	**Songino Array**	**64.40**	**331**	P	**P**	**02 10 58.5**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=141,slow=7.6,SNR=7.0						
SONM	**Songino Array**	**64.40**	**331**	P	**P**	**02 10 58.5**	**-0.7**
MKAR	**Makanchi Array**	**77.44**	**321**	P	**P**	**02 12 17.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=104,slow=6.7,SNR=7.8						
MKAR	**Makanchi Array**	**77.44**	**321**	P	**P**	**02 12 17.0**	**-1.1**
ZALV	**Zalesovo Beam**	**78.99**	**328**	P	**P**	**02 12 24.6**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=104,slow=6.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**78.99**	**328**	P	**P**	**02 12 24.4**	**-2.0**
MAW	**Mawson**	**82.04**	**203**	P	**P**	**02 12 43.4**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=80,slow=7.2,SNR=8.8						
MAW	**Mawson**	**82.04**	**203**	P	**P**	**02 12 43.0**	**+0.5**
QSPA	**South Pole Qui**	**83.84**	**180**	P	**P**	**02 12 52.2**	**+0.1**
MCK	**McKinley**	**84.44**	**24**	P	**P**	**02 12 54.8**	**-0.2**
MCK				IAmb	IAmb	02 12 55.3	
	comp=Z,12nm,1.2s						
IL31		**85.69**	**23**	P	**P**	**02 12 59.0**	**-2.1**
IL31				IAmb	IAmb	02 13 08.2	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**85.69**	**23**	P	**P**	**02 12 60.0**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=253,slow=4.7,SNR=15						
ILAR	**Eielson Array**	**85.69**	**23**	P	**P**	**02 13 00.1**	**-1.0**
PLCA	**Paso Flores**	**122.15**	**147**	PKP	**PKiKP**	**02 19 17.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=212,slow=5.3,SNR=2.0						
PLCA	**Paso Flores**	**122.15**	**147**		**PKPdf**	**02 19 17.3**	**-0.2**
LPAZ	**La Paz**	**138.91**	**123**	PKhKP	PKPpre	02 19 46.5	
	comp=Z,0.4nm,0.5s,baz=207,slow=2.3,SNR=2.5						
CPUP	**Villa Florida**	**140.16**	**145**	PKP	**PKPdf**	**02 19 51.4**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=153,slow=4.5,SNR=2.8						
CPUP	**Villa Florida**	**140.16**	**145**		**PKPdf**	**02 19 51.0**	**-0.7**
MDT	**Midelt**	**142.38**	**319**	PKP	**PKPdf**	**02 19 55.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=352,slow=7.1,SNR=2.3						
SIV	**San Ignacio**	**144.75**	**129**	PKP	**PKPdf**	**02 19 59.7**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=244,slow=3.0,SNR=17						
TOA0	**Torodi Ar. Sit**	**144.89**	**284**		**PKPab**	**02 19 59.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**144.89**	**284**	PKP	**PKPab**	**02 19 59.2**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=181,slow=8.9,SNR=35						
HUMP	**Col San Antoni**	**146.02**	**66**	PKPab	**PKPbc**	**02 20 03.1**	**+0.1**
SAML	**Samuel**	**146.60**	**116**		**PKPbc**	**02 20 05.3**	**+0.4**
KIC	**Kosan Boka**	**151.68**	**272**	*e*PKIKP	**PKiKP**	**02 20 19.0**	**+0.8**
	comp=Z,19nm,0.7s						
DBIC	**Dimbokro**	**151.79**	**273**	PKPbc	**PKiKP**	**02 20 19.1**	**+0.7**
	comp=Z,8.2nm,0.6s,baz=86,slow=2.3,SNR=23						
DBIC	**Dimbokro**	**151.79**	**273**	PKPdf	**PKPdf**	**02 20 10.4**	**-1.2**
DBIC					**PKPbc**	**02 20 17.6**	**-0.5**
TIC	**Toumodi**	**151.96**	**273**	*e*PKIKP	**PKiKP**	**02 20 19.5**	**+0.7**
LIC	**Lamto**	**151.96**	**272**	*e*PKIKP	**PKiKP**	**02 20 19.5**	**+0.7**
	comp=Z,29nm,0.6s						
PTGA	**Pitinga**	**152.46**	**103**	PKPbc	**PKiKP**	**02 20 20.3**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=223,slow=1.4,SNR=7.4						
BDFB	**Brasilia**	**153.89**	**146**	PKPbc	**PKiKP**	**02 20 23.6**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=190,slow=5.8,SNR=3.9						
BDFB	**Brasilia**	**153.89**	**146**		**PKPbc**	**02 20 21.7**	**-1.0**

VIE 05 02:01:23.2±0.4, 46°.38N×15°.09E, h0km, ml0.4/2, Error ellipse: s-maj=3.2km s-min=1.6km az=15.0 21 km NW of Çelje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.30**	**352**	*e*Pg	Pg	02 01 29.0	+0.1
	0.8nm,0.3s						
SOKA				*e*Sg	Sg	02 01 33.4	+0.6
	0.5nm,0.2s						
OBKA	**Obir**	**0.40**	**289**	*e*Pg	Pg	02 01 31.3	+0.5
	0.3nm,0.2s						
OBKA				Sg	Sg	02 01 36.5	+0.5
	1.8nm,0.3s						

ISCJB ***05*** *02:09:24.4±1.3, 13°.2N±0°.1×89°.85W±0°.06, h58km, Error ellipse: s-maj=16.5km s-min=5.5km az=20.5*
SNET ***05*** *02:09:25.4±0.8, 13°.29N×89°.81W, h36km±4km, ML3.3*
GCG ***05*** *02:09:26.4±0.3, 13°.34N×89°.94W, h42km±122km, MD3.8*
ISC 05 02:09:24.9±1.9, 13°.3N±0°.1×89°.83W±0°.06, h58km, n14, σ0°52/18, 3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.61**	**20**	*e*P	**Pn**	**02 09 37.7**	**-0.5**
SBLS				*e*S	**Sn**	**02 09 47.9**	**0.0**
SNJE	**San Jose**	**0.64**	**20⇑**	*e*P	**Pn**	**02 09 38.1**	**-0.5**
RTR	**El Retiro**	**0.66**	**16⇑**	*e*P	**Pn**	**02 09 38.4**	**-0.3**
LFU	**La Fuente**	**0.85**	**55**	*e*P	**Pn**	**02 09 41.1**	**0.0**
PAVA	**Las Pavas**	**0.98**	**63**	*e*P	**Pn**	**02 09 43.0**	**+0.2**
PAVA				IAML		02 10 00.3	
	comp=Z,622nm,0.3s						
COEG	**Centro de Oper**	**0.99**	**69**	*e*P	**Pn**	**02 09 42.9**	**0.0**
COEG				IAML		02 10 01.6	
	comp=Z,740nm,0.3s						
IXG	**Ixpaco**	**1.08**	**327**	*e*P	**Pn**	**02 09 43.9**	**-0.3**
MTO3	**Montecristo**	**1.22**	**22⇑**	*e*P	**Pn**	**02 09 46.3**	**+0.3**
COEB	**Comit de Eme**	**1.29**	**79**	*e*P	**Pn**	**02 09 46.7**	**-0.2**
COEB				*e*S	**Sn**	**02 10 03.4**	**+0.1**
COEB				IAML		02 10 06.1	
	comp=Z,608nm,0.3s						
NBG	**Las Nubes**	**1.41**	**339**	*e*P	**Pn**	**02 09 50.3**	**+1.6**
FUG	**Fuego 3**	**1.53**	**320**	*e*P	**Pn**	**02 09 50.2**	**0.0**
FUG				*e*S	**Sn**	**02 10 08.7**	**-0.5**
LCND	**La Caada**	**1.89**	**88**	*e*P	**Pn**	**02 09 55.2**	**+0.3**
LCND				IAML		02 10 25.2	
	com

TEH **05** *02:19:28.5, 37°.83N×47°.18E, h5km, ML4.1*
MOS **05** *02:19:29.4±1.4, 37°.67N×47°.32E, h33km, mb4.4/9, Error ellipse: s-maj=7.7km s-min=4.5km az=100.8*
THR **05** *02:19:29.6, 37°.88N×47°.26E, h14km, ML4.1*
NNC **05** *02:19:37.2±16.0, 38°.39N×47°.91E, h0km, mb4.4, Error ellipse: s-maj=148.4km s-min=72.1km az=53.0*
ISC 05 02:19:28.4±1.0, 37°.80N±0°.02×47°.23E±0°.02, h6km±6km, n284, σ2§22/314, mb4.1/30, MS3.4/6, 4C-4D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IBST	**Bostanabad**	**0.28**	**249**	*e*Pg			**Pg**	**02 19 33.3**	**-0.7**
IBST				*e*Sg			**Sg**	**02 19 37.2**	**-0.6**
IBST	**Bostanabad**	**0.28**	**249**	Pg			**Pg**	**02 19 33.3**	**-0.7**
ISRB	**Sarab**	**0.35**	**86**	*e*Pg			**Pg**	**02 19 35.9**	**+0.7**
ISRB				*e*Sg			**Sb**	**02 19 42.1**	**-0.9**
ISRB	**Sarab**	**0.35**	**86**	Pg			**Pg**	**02 19 35.9**	**+0.7**
ISRB				Sg			**Sb**	**02 19 42.1**	**-0.9**
IHSH	**Hashtrud**	**0.50**	**3**	*e*Pg			**Pb**	**02 19 39.2**	**-0.7**
IHSH				*e*Sg			**Sb**	**02 19 46.7**	**-0.9**
IHSH	**Hashtrud**	**0.50**	**3**	Pg			**Pb**	**02 19 39.2**	**-0.7**
ITBZ	**Tabriz**	**0.96**	**297**	*e*Pg			**Pg**	**02 19 46.4**	**-0.3**
ITBZ	**Tabriz**	**0.96**	**297**	Pg			**Pg**	**02 19 46.4**	**-0.3**
IAZR	**Azarshahr**	**1.00**	**263**	*e*Pg			**Pg**	**02 19 47.1**	**-0.5**
IAZR	**Azarshahr**	**1.00**	**263**	Pg			**Pg**	**02 19 47.0**	**-0.5**
GRMI	**Germi**	**1.13**	**27**	*e*Pg			**Pg**	**02 19 49.1**	**-1.0**
GRMI	**Germi**	**1.13**	**27**	*e*Sg			**Sg**	**02 20 04.1**	**-0.8**
GRMI	**Germi**	**1.13**	**27**	*e*Pg			**Pg**	**02 19 49.1**	**-1.0**
LRK	**Lerik**	**1.21**	**46**	*e*Pg			**Pg**	**02 19 51.1**	**-0.5**
LRK	**Lerik**	**1.21**	**46**	P			**Pg**	**02 19 51.2**	**-0.5**
	SNR=512								
LRK				S			**Sn**	**02 20 09.2**	**+0.3**
ISHB	**Shabestar**	**1.36**	**291**	*e*Pg			**Pn**	**02 19 53.5**	**-0.5**
ISHB				IAMB			IAmb	02 19 56.5	
	comp=Z,42μm,0.3s								
ISHB	**Shabestar**	**1.36**	**291**				**Pn**	**02 19 53.6**	**-0.5**
YRD	**Yardimli**	**1.37**	**35**	P			**Pn**	**02 19 54.2**	**0.0**
	SNR=466								
YRD				S			**Sn**	**02 20 13.3**	**+0.5**
ASTR	**Astara**	**1.45**	**58**	*e*Pg			**Pb**	**02 19 55.5**	**-0.2**
ASTR	**Astara**	**1.45**	**58**	P			**Pb**	**02 19 55.5**	**-0.2**
	SNR=286								
ASTR				S			**Sg**	**02 20 16.5**	**+1.7**
ORD	**Ordubad**	**1.48**	**320**	P			**Pn**	**02 19 55.5**	**-0.1**
	SNR=568								
ORD				S			**Sg**	**02 20 18.3**	**+2.2**
LKRN	**Lenkeran, Azer**	**1.52**	**53**	*e*Pn			**Pg**	**02 19 57.4**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.52**	**53**	P			**Pg**	**02 19 57.5**	**-0.1**
LKRN				S			**Sg**	**02 20 18.7**	**+1.4**
MAHB	**Mahabad**	**1.59**	**230**	*e*Pn			**Pn**	**02 19 57.6**	**+0.3**
MAHB				IAMB			IAmb	02 20 28.9	
	comp=Z,0.0nm,0.4s								
MAHB	**Mahabad**	**1.59**	**230**	Pn			**Pn**	**02 19 57.5**	**+0.3**
ZNJK	**Zanjan**	**1.62**	**134**	*e*AML			AML	02 20 23.1	
	comp=E,2μm,0.3s								
ZNJK	**Zanjan**	**1.62**	**134**	*e*AML			AML	02 20 22.9	
	comp=N,2μm,0.3s								
QRD	**Qoradiz**	**1.66**	**2**	P			**Pb**	**02 19 59.0**	**-0.3**
	SNR=84								
QRD				S			**Sg**	**02 20 23.7**	**+2.0**
GLBA	**Clilabad**	**1.70**	**32**	*e*Pn			**Pb**	**02 20 00.1**	**0.0**
GLBA	**Clilabad**	**1.70**	**32**	P			**Pb**	**02 20 00.1**	**0.0**
	SNR=422								
GLBA				S			**Sg**	**02 20 25.6**	**+2.5**
NAX	**Nakhchivan**	**1.93**	**316**	*e*Pn			**Pb**	**02 20 03.6**	**-0.4**
NAX	**Nakhchivan**	**1.93**	**316**	P			**Pb**	**02 20 03.6**	**-0.4**
	SNR=826								
NAX				S			**Sg**	**02 20 30.7**	**+0.3**
BLQ	**Beylaqan**	**1.93**	**8**	P			**Pb**	**02 20 03.4**	**-0.6**
	SNR=358								
BLQ				S			**Sg**	**02 20 31.2**	**+0.7**
SBZ	**Shahbuz**	**2.06**	**321**	*e*Pn			**Pb**	**02 20 05.0**	**-1.3**
SBZ	**Shahbuz**	**2.06**	**321**	P			**Pb**	**02 20 05.0**	**-1.3**
	SNR=351								
SBZ				S			**Sg**	**02 20 34.8**	**+0.1**
SAAT	**Saatly**	**2.26**	**24**	*e*Pn			**Pb**	**02 20 08.0**	**-1.5**
SAAT	**Saatly**	**2.26**	**24**	P			**Pb**	**02 20 08.0**	**-1.5**
	SNR=6.0								
SAAT				S			**Sg**	**02 20 39.7**	**-1.2**
AGDM	**Agdam**	**2.31**	**358**	P			**Pn**	**02 20 08.4**	**+1.5**
	SNR=751								
AGDM				S			**Sg**	**02 20 40.7**	**-1.7**
BRDA	**Brd**	**2.46**	**359**	*e*Pn			**Pn**	**02 20 10.0**	**+1.1**
BRDA	**Brd**	**2.46**	**359**	P			**Pn**	**02 20 10.1**	**+1.1**
	SNR=25								
BRDA				S			**Sb**	**02 20 43.9**	**+0.4**
ZRD	**Zardab**	**2.50**	**8**	*e*Pn			**Pn**	**02 20 11.0**	**+1.5**
ZRD	**Zardab**	**2.50**	**8**	P			**Pn**	**02 20 11.0**	**+1.5**
	SNR=37								
ZRD				S			**Sb**	**02 20 44.5**	**-0.2**
MAKU	**Maku**	**2.53**	**309**	*e*Pn			**Pb**	**02 20 12.1**	**-2.1**
MAKU	**Maku**	**2.53**	**309**	*e*Sg			**Sg**	**02 20 48.1**	**-1.4**
MAKU	**Maku**	**2.53**	**309**	*e*Pn			**Pb**	**02 20 12.1**	**-2.1**
ALIB	**Äli-Bayra**	**2.56**	**32**	*e*Pn			**Pn**	**02 20 11.5**	**+1.1**
ALIB	**Äli-Bayra**	**2.56**	**32**	P			**Pn**	**02 20 11.5**	**+1.1**
	SNR=32								
ALIB				S			**Sb**	**02 20 46.6**	**+0.2**
HYR	**Heyderabad**	**2.67**	**317**	*e*Pn			**Pn**	**02 20 13.7**	**+1.8**
HYR	**Heyderabad**	**2.67**	**317**	P			**Pn**	**02 20 13.7**	**+1.8**
	SNR=144								
HYR				S			**Sb**	**02 20 50.1**	**+0.6**
IGZV	**Ghazvin**	**2.78**	**120**	*e*Pn			**Pn**	**02 20 15.6**	**+2.0**
HAKT	**HAKKARI**	**2.80**	**266**	*e*Pn			**Pb**	**02 20 18.8**	**-0.2**
QABG	**Abgarm-Qazvin**	**2.82**	**137**	*e*Pn			**Pb**	**02 20 16.9**	**-2.3**
QABG				IAMB			IAmb	02 21 03.1	
	comp=Z,0.0nm,0.8s								
ILIN	**Lien**	**2.89**	**184**	*e*Pn			**Pb**	**02 20 18.4**	**-2.0**
ILIN				IAMB			IAmb	02 21 10.3	
	comp=Z,7μm,0.7s								
CLDR	**Caldiran**	**2.92**	**298**	*e*Pn			**Pn**	**02 20 18.0**	**+2.4**
CLDR	**Caldiran**	**2.92**	**298**	*e*P			**Pb**	**02 20 22.5**	**+1.5**
GANJ	**Ganja**	**2.93**	**346**	*e*Pn			**Pn**	**02 20 16.8**	**+1.4**
GANJ	**Ganja**	**2.93**	**346**	P			**Pn**	**02 20 16.9**	**+1.4**
	SNR=111								
GANJ				S			**Sb**	**02 20 54.4**	**-2.6**
CUKT	**Cukurca**	**2.93**	**260**	*e*P			**Pb**	**02 20 19.1**	**-2.0**
MNGR	**Mingechevir, A**	**2.97**	**358**	*e*Pn			**Pn**	**02 20 17.7**	**+1.7**
MNGR	**Mingechevir, A**	**2.97**	**358**	P			**Pn**	**02 20 17.7**	**+1.7**
	SNR=23								
MNGR				S			**Sb**	**02 20 56.3**	**-1.9**
GBS	**Qobustan**	**3.04**	**25**	*e*Pn			**Pn**	**02 20 18.5**	**+1.5**
GBS	**Qobustan**	**3.04**	**25**	P			**Pn**	**02 20 18.6**	**+1.5**
	SNR=25								
GBS				S			**Sb**	**02 20 57.3**	**-2.9**
GNI	**Garni**	**3.04**	**321**	*i* P			**Pb**	**02 20 20.0**	**-2.9**
GNI	**Garni**	**3.04**	**321**	*e*Pn			**Pb**	**02 20 20.1**	**-2.9**
GNI	**Garni**	**3.04**	**321**	Pn			**Pb**	**02 20 21.7**	**-1.3**
	comp=Z,7.4nm,0.3s,baz=171,slow=2.2,SNR=81								
GNI				Pg			**Pg**	**02 20 24.3**	**-2.3**
	comp=Z,17nm,0.3s,baz=140,slow=8.3,SNR=82								
GNI				Lg			Lg	02 21 04.5	
	comp=Z,24nm,0.3s,baz=276,slow=15,SNR=3.1								
GNI	**Garni**	**3.04**	**321**				**Pn**	**02 20 15.9**	**-1.2**
QALM	**Alamut, Qazvin**	**3.06**	**116**	*e*Pn			**Pb**	**02 20 20.4**	**-2.9**
IML	**Ismayilli**	**3.08**	**14**	*e*Pn			**Pn**	**02 20 18.9**	**+1.4**
IML	**Ismayilli**	**3.08**	**14**	P			**Pn**	**02 20 19.0**	**+1.4**
	SNR=12								
IML				S			**Sb**	**02 20 59.1**	**-2.2**
VANB	**Van**	**3.13**	**286**	*e*Pn			**Pb**	**02 20 22.3**	**-2.1**
VANB	**Van**	**3.13**	**286**	*e*P			**Pb**	**02 20 22.6**	**-1.8**
GDB	**GEDABAY**	**3.13**	**339**	*e*Pn			**Pn**	**02 20 20.0**	**+1.6**
GDB	**GEDABAY**	**3.13**	**339**	P			**Pn**	**02 20 20.1**	**+1.6**
	SNR=86								
GDB				S			**Sb**	**02 21 01.3**	**-1.7**
PQL	**Pirkuli**	**3.17**	**19**	*e*Pn			**Pn**	**02 20 20.5**	**+1.7**
PQL	**Pirkuli**	**3.17**	**19**	P			**Pn**	**02 20 20.5**	**+1.7**
	SNR=23								
PQL				S			**Sb**	**02 21 02.1**	**-1.8**
IDHR	**Dehrash**	**3.17**	**193**	*e*Pn			**Pn**	**02 20 21.9**	**+2.9**
QBL	**Gabala**	**3.17**	**8**	*e*Pn			**Pn**	**02 20 20.6**	**+1.7**
QBL	**Gabala**	**3.17**	**8**	P			**Pn**	**02 20 20.6**	**+1.7**
	SNR=7.4								
QBL				S			**Sb**	**02 21 02.9**	**-1.3**
TASB	**TASBURUN-IGDIR**	**3.19**	**314**	*e*P			**Pb**	**02 20 26.1**	**+0.6**
IRAZ	**Razeghan**	**3.23**	**137**	*e*Pn			**Pn**	**02 20 22.6**	**+2.8**
IRAZ				IAMB			IAmb	02 21 24.3	
	comp=Z,14μm,0.8s								
ATGJ	**Altiaghaj**	**3.33**	**23**	*e*Pn			**Pn**	**02 20 22.3**	**+1.3**
ATGJ	**Altiaghaj**	**3.33**	**23**	P			**Pn**	**02 20 22.4**	**+1.3**
	SNR=12								
ATGJ				S			**Sb**	**02 21 05.3**	**-3.3**
HAGD	**Aghdareh**	**3.35**	**152**	*e*Pn			**Pn**	**02 20 24.5**	**+3.0**
HAGD				IAMB			IAmb	02 20 32.2	
	comp=Z,0.0nm,0.6s								
HAGD	**Aghdareh**	**3.35**	**152**	Pn			**Pn**	**02 20 23.6**	**+2.1**
IBZA	**Bozab**	**3.37**	**171**	*e*Pn			**Pb**	**02 20 25.5**	**-3.1**
AKDM	**Akdamar-Van**	**3.39**	**280**	*e*Pn			**Pb**	**02 20 26.5**	**-2.5**
AKDM	**Akdamar-Van**	**3.39**	**280**	*e*P			**Pg**	**02 20 32.6**	**-0.8**
SEKA	**Sheki**	**3.40**	**360**	*e*Pn			**Pn**	**02 20 23.5**	**+1.5**
SEKA	**Sheki**	**3.40**	**360**	P			**Pn**	**02 20 23.6**	**+1.5**
	SNR=54								
SEKA				S			**Sn**	**02 21 06.4**	**+3.7**
KER	**Kermanshah**	**3.41**	**181**	*e*Pn			**Pn**	**02 20 25.1**	**+2.9**
XNQ	**Khinaliq**	**3.44**	**12**	*e*Pn			**Pn**	**02 20 24.3**	**+1.7**
XNQ	**Khinaliq**	**3.44**	**12**	P			**Pn**	**02 20 24.4**	**+1.7**
	SNR=23								
XNQ				S			**Sb**	**02 21 08.1**	**-3.8**
IMHD	**Mahdasht**	**3.48**	**126**	*e*Pn			**Pn**	**02 20 25.7**	**+2.6**
IMHD				IAMB			IAmb	02 21 21.2	
	comp=Z,9μm,0.4s								
IGHG	**Ghaleghazi**	**3.51**	**189**	*e*Pn			**Pn**	**02 20 27.3**	**+3.7**
SIZA	**Siyzn**	**3.52**	**21**	*e*Pn			**Pn**	**02 20 24.9**	**+1.3**
SIZA	**Siyzn**	**3.52**	**21**	P			**Pn**	**02 20 24.9**	**+1.3**
	SNR=6.3								
SIZA				S			**Sn**	**02 21 09.6**	**+4.0**
KCHF	**Cheshme Sefid,**	**3.52**	**183**	*e*Pn			**Pn**	**02 20 27.3**	**+3.5**
KCHF				IAMB			IAmb	02 21 38.2	
	comp=Z,0.0nm,1.0s								
QZX	**Qazax, Azerbai**	**3.56**	**337**	*e*Pn			**Pn**	**02 20 25.6**	**+1.6**
QZX	**Qazax, Azerbai**	**3.56**	**337**	P			**Pn**	**02 20 25.7**	**+1.6**
	SNR=56								
QZX				S			**Sb**	**02 21 11.4**	**-3.7**
IKOM	**Komasi**	**3.63**	**176**	*e*Pn			**Pn**	**02 20 28.5**	**+3.3**
CHTH	**Charan**	**3.65**	**120**	*e*Pn			**Pn**	**02 20 28.4**	**+2.7**
CHTH	**Charan**	**3.65**	**120**	*e*Pn			**Pn**	**02 20 28.4**	**+2.7**
QUB	**Quba**	**3.68**	**13**	*e*Pn			**Pn**	**02 20 27.7**	**+1.9**
QUBA	**Quba, Azerbaij**	**3.68**	**15**	P			**Pn**	**02 20 27.7**	**+1.9**
	SNR=10								
QUBA				S			**Sn**	**02 21 13.5**	**+3.9**
AKT	**Akhty**	**3.69**	**6**	*e*P			**Pn**	**02 20 28.6**	**+2.5**
AKT				*e*S			**Sn**	**02 21 11.9**	**+1.9**
AKT				pmax			pmax		
	comp=Z,60nm,0.4s								
AKT				smax			smax		
	comp=N,180nm,0.6s								
AKT				smax			smax		
	comp=N,166nm,0.6s								
AKT				smax			smax		
	comp=E,58nm,0.8s								
HSAM	**Samen**	**3.75**	**162**	*e*Pn			**Pn**	**02 20 30.2**	**+3.2**
HSAM				IAMB			IAmb	02 21 37.0	
	comp=Z,0.0nm,1.0s								
QSAR	**Qusar**	**3.79**	**12**	*e*Pn			**Pn**	**02 20 28.7**	**+1.4**
QSAR	**Qusar**	**3.79**	**12**	P			**Pn**	**02 20 28.8**	**+1.4**
	SNR=11								
QSAR				S			**Sb**	**02 21 17.3**	**-4.6**
ZKTA	**Zakatala**	**3.86**	**353**	P			**Pn**	**02 20 30.2**	**+1.9**
	SNR=36								
ZKTA				S			**Sb**	**02 21 18.8**	**-5.0**
ZKT	**Zaqatala**	**3.87**	**354**	*e*Pn			**Pn**	**02 20 30.1**	**+1.7**
MLAZ	**Malazgirt-MUS**	**3.91**	**291**	*e*Pn			**Pn**	**02 20 33.2**	**+4.1**
MLAZ	**Malazgirt-MUS**	**3.91**	**291**	*e*P			**Pb**	**02 20 38.9**	**+1.2**
TEH	**Tehran**	**3.92**	**120**	*e*Pn			**Pn**	**02 20 32.1**	**+2.9**
ASAO	**Ashtian**	**3.96**	**144**	*e*Pn			**Pn**	**02 20 32.6**	**+2.8**
ASAO	**Ashtian**	**3.96**	**144**	*e*Pn			**Pn**	**02 20 32.6**	**+2.8**
IHSB	**Hasanabad**	**4.02**	**125**	*e*Pn			**Pn**	**02 20 34.0**	**+3.4**
BDRS	**Dareh Seyedi**	**4.07**	**160**	*e*Pn			**Pn**	**02 20 34.6**	**+3.2**
BDRS				IAMB			IAmb	02 21 43.3	
	comp=Z,0.0nm,0.8s								
IDOB	**Doab**	**4.08**	**169**	*e*Pn			**Pn**	**02 20 34.7**	**+3.2**
GURO	**Guroymak-BITLI**	**4.16**	**282**	*e*Pn			**Sg**	**02 21 45.1**	**+3.1**
GURO	**Guroymak-BITLI**	**4.16**	**282**	*e*P			**Pb**	**02 20 37.4**	**-4.7**
KARS	**Kars**	**4.28**	**312**	*e*P			**Pg**	**02 20 50.5**	**+0.1**
IQOM	**Qom**	**4.28**	**132**	*e*Pn			**Pn**	**02 20 36.3**	**+2.0**
IKFM	**Kafar-mosalman**	**4.30**	**173**	*e*Pn			**Pn**	**02 20 37.7**	**+3.4**
BMDN	**Meydan**	**4.32**	**162**	*e*Pn			**Pn**	**02 20 37.9**	**+3.1**
BMDN				IAMB			IAmb	02 20 56.4	
	comp=Z,0.0nm,0.7s								
IPRN	**Peran**	**4.38**	**109**	*e*Pn			**Pn**	**02 20 38.0**	**+2.5**
IKMR	**Kamar-syah**	**4.38**	**167**	*e*Pn			**Pn**	**02 20 39.7**	**+4.4**
DAMV	**Damavand**	**4.38**	**118**	*e*AML			AML	02 21 53.4	
	comp=E,219nm,0.7s								
IDMV	**Damavand**	**4.45**	**118**	*e*Pn			**Pn**	**02 20 39.7**	**+3.0**
IVRN	**Varamin**	**4.58**	**126**	*e*Pn			**Pn**	**02 20 41.0**	**+2.7**
GNBR	**Gunib**	**4.59**	**358**	*i* P			**Pn**	**02 20 41.8**	**+3.5**
AKH	**Akhalkalaki**	**4.62**	**322**	P			**Pn**	**02 20 36.6**	**-2.2**
AKH	**Akhalkalaki**	**4.62**	**322**				**Pn**	**02 20 36.6**	**-2.2**
GHVR	**GHOM**	**4.67**	**134**	*e*Pn			**Pn**	**02 20 42.2**	**+2.7**
GHVR	**GHOM**	**4.67**	**134**	*e*Pn			**Pn**	**02 20 42.2**	**+2.7**
SENK	**Senkaya-Erzuru**	**4.69**	**308**	*e*Pn			**Pn**	02 20 44.9	+5.1
SENK	**Senkaya-Erzuru**	**4.69**	**308**	*e*P			**Pb**	**02 20 53.5**	**+2.5**
VRTB	**Varto-Mus**	**4.73**	**288**	*e*Pn			Pb	02 20 46.7	-5.0
VRTB	**Varto-Mus**	**4.73**	**288**	*e*P			**Pb**	**02 20 49.9**	**-1.8**
KOPR	**Koprukoy-ERZUR**	**4.73**	**299**	*e*P			**Pg**	**02 20 57.6**	**-1.3**
IFIR	**Firoozkooh**	**4.94**	**114**	IAMB			IAmb	02 22 14.1	
	comp=Z,0.0nm,0.4s								
MAK	**Makhachkala**	**5.16**	**2**	*e*P			**Pn**	**02 20 47.2**	**+1.2**
MAK				*e*S			**Sn**	**02 21 45.2**	**-0.6**
MAK				pmax			pmax		
	comp=Z,114nm,1.4s								
MAK				MLR			MLR		
	comp=Z,705nm,11.0s								
ISHM	**Shahmirzad**	**5.26**	**110**	*e*Pn			**Pn**	**02 20 52.5**	**+4.8**
BNGB	**Bingl**	**5.28**	**285**	*e*P			**Pg**	**02 21 11.1**	**+1.6**
MAZI	**Mazidag**	**5.39**	**268**	*e*P			**Pg**	**02 21 08.1**	**-3.6**
IGLO	**Ghaloghah**	**5.43**	**102**	*e*Pn			**Pn**	**02 20 52.5**	**+2.4**
GROC	**Groznyy**	**5.50**	**349**	*e*P			**Pn**	**02 20 50.6**	**-0.2**
GROC				*e*				02 21 53.7	
GROC				pmax			pmax		
	comp=Z,46nm,1.0s								
GROC				pmax			pmax		
	comp=Z,72nm,1.0s								
GROC				smax			smax		
	comp=N,204nm,1.2s								
GROC				smax			smax		
	comp=E,103nm,1.2s								
GROC				smax			smax		
	comp=N,94nm,3.0s								
GROC				smax			smax		
	comp=E,373nm,1.6s								
GROC				smax			smax		
	comp=E,114nm,1.5s								
ZEI	**Tsey**	**5.59**	**334**	*e*P			**Pn**	**02 20 56.9**	**+4.7**
ZEI				pmax			pmax		
	comp=Z,20nm,0.6s								
DYBB	**Diyarbakir**	**5.61**	**274**	*e*P			**Pg**	**02 21 14.8**	**-1.0**
IKLH	**Kolahrood**	**5.71**	**140**	*e*Pn			**Pn**	**02 20 58.1**	**+4.2**
IANJ	**Anjilo**	**5.86**	**111**	*e*Pn			**Pn**	**02 20 59.9**	**+3.9**
IPIR	**Pirpir**	**5.92**	**149**	*e*Pn			**Pn**	**02 21 00.2**	**+3.3**
CHOM	**Cayeli-Rize**	**5.99**	**305**	*e*P			**Pg**	**02 21 25.9**	**+2.8**
JHBN	**Jahan bin**	**6.23**	**152**	*e*Pn			**Pn**	**02 21 04.4**	**+3.2**
ROKH	**ROKH**	**6.28**	**149**	*e*Pn			**Pn**	**02 21 06.0**	**+4.3**
SVRC	**Sivrice-ELAZID**	**6.28**	**278**	P			**Pg**	**02 21 27.5**	**-1.1**
NCK	**Nalchik**	**6.32**	**335**	*i* P			**Pn**	**02 21 06.3**	**+4.2**
ZNGN	**Zangian**	**6.41**	**151**	*e*Pn			**Pn**	**02 21 06.4**	**+2.9**
IZEF	**Zefreh**	**6.43**	**138**	*e*Pn			**Pn**	**02 21 07.8**	**+4.0**
IMND	**Minoodasht**	**6.52**	**92**	*e*Pn			**Pn**	**02 21 05.9**	**+1.1**
URFA	**Urfa**	**6.68**	**269**	*e*P			**Pg**	**02 21 33.9**	**-2.4**
KBZ	**Khabaz**	**6.77**	**332**	*i* P			**Pn**	**02 21 11.2**	**+3.0**
KBZ	**Khabaz**	**6.77**	**332**	Pn			Pn	02 21 13.6	+5.4
	comp=Z,0.1nm,0.3s,baz=148,slow=9.5,SNR=3.1								
KBZ				Lg			Lg	02 23 06.2	
	comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=2.3								
KBZ				LR			LR	02 23 58.8	
	comp=Z,459nm,20.0s,baz=132,slow=40								
MALT	**Malatya**	**6.96**	**277**	*e*P			**Pg**	**02 21 39.2**	**-2.5**
PYA1	**Pyatigorsk**	**6.99**	**335**	*i* P			**Pn**	**02 21 15.7**	**+4.4**
ANAR	**Anarak**	**7.02**	**129**	*e*Pn			**Pn**	**02 21 15.1**	**+3.3**
KVAR	**Kislovodsk Arr**	**7.04**	**332**	Pn			**Pn**	**02 21 14.8**	**+2.7**
	baz=200,slow=19,SNR=2.8								
KVAR				Lg			Lg	02 23 20.9	
	baz=256,slow=18,SNR=1.6								
KIV	**Kislovodsk**	**7.04**	**332**	*e*P			**Pn**	**02 21 16.0**	**+3.9**
KIV				pmax			pmax		
	comp=Z,24nm,1.0s								
KIV				MLR			MLR		
	comp=Z,207nm,8.0s								
KIV	**Kislovodsk**	**7.04**	**332**	Pn			**Pn**	**02 21 11.7**	**-0.4**
IRAM	**Ramesheh**	**7.33**	**143**	*e*Pn			**Pn**	**02 21 19.1**	**+3.0**
GAZ	**Gaziantep**	**7.99**	**269**	Pn			**Pn**	**02 21 25.2**	**+0.2**
SOC	**Sochi**	**8.12**	**318**	*e*P			**Pn**	**02 21 31.0**	**+4.3**
SOC				*e*				02 23 02.7	
SOC				MLR			MLR		
	comp=Z,444nm,11.0s								
TNSJ	**Nastanj**	**8.52**	**114**	*e*Pn			Pn	02 21 38.8	+6.4
ISFR	**Sfrayin**	**8.60**	**92**	*e*Pn			**Pn**	**02 21 36.0**	**+2.3**
GEYT	**Alibeck**	**8.62**	**86**	Pn			**Pn**	**02 21 33.8**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=176,slow=31,SNR=27								
GEYT				Sn			**Sn**	**02 23 11.4**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=281,slow=18,SNR=3.6								
GEYT	**Alibeck**	**8.62**	**86**				**Pn**	**02 21 33.8**	**+0.2**
GEYT							**Sn**	**02 23 09.1**	**-2.0**
GYA0B	**ALIBECK ARRAY**	**8.62**	**86**	⇑P			**Pn**	**02 21 33.6**	**0.0**
GYA0B				⇓S			**Sn**	**02 23 11.2**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**8.62**	**86**				**Pn**	**02 21 33.8**	**+0.2**
IKRD	**Kardeh**	**9.05**	**93**	*e*Pn			Pn	02 21 53.2	+13
TPRV	**Parvadeh(Tabas**	**9.07**	**119**	*e*Pn			**Pn**	**02 21 42.6**	**+2.7**
IEMG	**Emamgholi**	**9.08**	**89**	*e*Pn			**Pn**	**02 21 41.1**	**+1.0**
IAKL	**Akhelmad**	**9.28**	**94**	*e*Pn			**Pn**	**02 21 45.1**	**+2.2**
IPAY	**Payeh**	**9.50**	**95**	*e*Pn			**Pn**	**02 21 48.6**	**+2.7**
IMOG	**Moghan**	**9.84**	**96**	*e*Pn			**Pn**	**02 21 53.5**	**+2.9**
ASF	**Jabal al Asfar**	**10.16**	**240**	Pn			**Pn**	**02 21 53.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=66,slow=10.0,SNR=2.1								
ASF				Pg				02 22 37.2	
	comp=Z,0.1nm,0.3s,baz=31,slow=5.9,SNR=2.4								
ASF				Sn			**Sn**	**02 23 55.7**	**+6.5**
	comp=Z,0.2nm,0.3s,baz=335,slow=20,SNR=1.1								
ASF				Lg			Lg	02 24 46.0	
	comp=Z,0.1nm,0.3s,baz=70,slow=18,SNR=1.8								
IMYA	**Miami**	**10.39**	**94**	*e*Pn			**Pn**	**02 22 01.4**	**+3.3**
MMAI	**Mount Meron Ar**	**10.76**	**247**	Pn			**Pn**	**02 22 07.2**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=2.0								
BR131	**Keskin Array S**	**10.78**	**284**	P			**Pn**	**02 22 01.9**	**-1.5**
BR131	**Keskin Array S**	**10.78**	**284**	Pn			**Pn**	**02 22 01.9**	**-1.5**
BRTR	**Keskin Array B**	**10.78**	**284**	P			**Pn**	**02 22 02.3**	**-1.1**
BRTR	**Keskin Array B**	**10.78**	**284**	Pn			Pn	02 22 08.3	+4.9
	comp=Z,0.1nm,0.3s,baz=98,slow=8.9,SNR=13								
BRTR				Lg	

comp=Z,13nm,1.1s
OJC Ojcow 23.16 311 P **P 02 24 33.7 -1.7**
VYHS Vyhne 23.18 307 *e*P **P 02 24 38.7 +3.1**
KLMR Klimovskoe 23.58 351 *e*P **P 02 24 39.4 -0.1**
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 23.58 351 *e*P **P 02 24 39.4 -0.1**
KLMR AMP 02 24 49.1
comp=Z,28nm,1.3s
PRGR Permogore 23.88 358 *e*P **P 02 24 45.4 +3.1**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
JAVC Velka Javorina 24.02 307 *e*P **P 02 24 47.6 +3.6**
VRAC Vranov 24.83 307 P **P 02 24 51.8 +0.5**
comp=Z,1.6nm,0.5s,baz=160,slow=10,SNR=3.7
VRAC Vranov 24.83 307 *e*P **P 02 24 53.7 +2.4**
KRUC Moravsky 24.89 307 *e*P **P 02 24 54.0 +2.2**
CONA Conrad Observa 24.96 304 *e*pP **P 02 24 54.6 +2.1**
comp=Z,6.5nm,1.3s
ARSA Arzberg 25.05 302 *e*pP **P 02 24 55.9 +2.6**
comp=Z,11nm,1.1s
SOKA Soboth 25.29 301 *e*pP **P 02 24 58.1 +2.6**
comp=Z,15nm,1.6s
DPC Dobruska-Polom 25.30 310 *e*P **P 02 24 57.3 +1.8**
DPC Dobruska-Polom 25.30 310 *e*P **P 02 24 57.3 +1.8**
KURBB Kurchatov Arra 25.63 50 P **P 02 25 00.1 +1.7**
comp=Z,1.7nm,0.9s,baz=259,slow=10,SNR=11
KURK Kurchatov 25.71 50 P **P 02 24 57.7 -1.5**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 25.71 50 P **P 02 24 57.6 -1.5**
KURK IAmb IAmb 02 25 03.9
comp=Z,3.1nm,0.8s
GERES GERESS Array B 26.56 305 P **P 02 25 07.9 +0.8**
comp=Z,1.4nm,0.7s,baz=113,slow=10,SNR=8.2
GERES LR LR 02 37 18.5
comp=Z,39nm,18.0s,baz=122,slow=40
KHC Kasperske Hory 26.70 306 *e*P **P 02 25 09.1 +0.9**
KHC Kasperske Hory 26.70 306 *e*P **P 02 25 09.1 +0.9**
FINES FINESS Array B 27.09 338 P **P 02 25 13.1 +1.5**
comp=Z,4.4nm,0.9s,baz=144,slow=12,SNR=3.6
MKAR Makanchi Array 27.26 60 P **P 02 25 12.3 -0.9**
MKAR Makanchi Array 27.26 60 P **P 02 25 14.8 +1.5**
comp=Z,2.2nm,0.9s,baz=255,slow=7.5,SNR=9.4
MKAR Makanchi Array 27.26 60 P **P 02 25 12.3 -0.9**
WATA Walderalm 27.72 302 *e*pP **P 02 25 19.2 +1.7**
comp=Z,5.6nm,1.2s
MOTA Moosalm 28.04 301 *e*pP **P 02 25 21.4 +1.0**
comp=Z,8.2nm,1.4s
DAVOX Davos/Dischmat 28.82 300 P **P 02 25 27.6 +0.2**
comp=Z,2.7nm,0.9s,baz=90,slow=12,SNR=2.8
DAVOX LR LR 02 39 26.0
comp=Z,66nm,18.9s,baz=88,slow=42
DAVA Damuels 28.86 301 *e*pP **P 02 25 29.1 +1.4**
comp=Z,11nm,1.6s
KEST Kesra 30.28 278 LR LR 02 40 40.0
comp=Z,85nm,18.8s,baz=245,slow=42
ZALV Zalesovo Beam 30.31 46 P **P 02 25 39.0 -1.2**
ZALV Zalesovo Beam 30.31 46 P **P 02 25 40.5 +0.3**
comp=Z,0.9nm,0.3s,baz=258,slow=7.1,SNR=4.9
ZALV Zalesovo Beam 30.31 46 P **P 02 25 39.0 -1.2**
DGZ Jazzator, Alta 31.02 54 *i* P **P 02 25 47.4 +0.6**
NOA NORSAR Array B 32.32 328 P **P 02 26 00.0 +2.0**
NOA NORSAR Array B 32.32 328 P **P 02 25 60.0 +2.0**
comp=Z,0.3nm,0.6s,baz=121,slow=8.5,SNR=3.2
EKA Eskdalemuir Ar 37.86 314 P **P 02 26 46.0 +0.3**
EKA Eskdalemuir Ar 37.86 314 P **P 02 26 46.0 +0.3**
comp=Z,1.9nm,0.9s,baz=98,slow=9.4,SNR=3.0
TORD Torodi Ar. Bea 47.27 251 P **P 02 28 02.4 -0.3**
comp=Z,1.3nm,1.2s,baz=48,slow=8.3,SNR=2.6
CMAR Chiang Mai Arr 48.86 98 P **P 02 28 14.2 -0.8**
comp=Z,0.9nm,0.3s,baz=299,slow=7.7,SNR=2.6
XAN Xi'an 49.31 75 P **P 02 28 20.1 +1.8**
XAN pP sP 02 28 27.5 +5.6
XAN pmax pmax
comp=Z,7.0nm,1.0s
USRK Ussuriysk Ar. 61.57 55 LR LR 03 00 34.0
comp=Z,62nm,19.5s,baz=252,slow=40
KSRS Korea Array 61.87 63 P **P 02 29 48.0 -0.4**
comp=Z,0.4nm,0.4s,baz=292,slow=7.6,SNR=3.2
PETK Petropavlovsk- 71.34 37 LR LR 03 06 43.4
comp=Z,52nm,18.8s,baz=239,slow=40

ISCJB ***05*** *02:35:47.2±0.3, 31°.22N±0°.03×140°.40E±0°.08, h150km, mb3.7/15, Error ellipse: s-maj=10.4km s-min=3.6km az=161.1*
NEIC ***05*** *02:35:48.3±1.1, 31°.19N±0°.05×140°.3E±0°.2, h146km±7km, mb4.1/7*
IDC ***05*** *02:35:48.4±1.0, 31°.14N×140°.26E, h145km±9km, mb3.6/15, mb1 3.7/21, mb1mx3.6/55, mbtmp4.1/21, Error ellipse: s-maj=18.0km s-min=8.7km az=77.0*
JMA ***05*** *02:35:51.4±0.3, 31°.55N×140°.42E, h165km±2km, M3.8*
ISC 05 02:35:48.7±0.6, 31°.27N±0°.05×140°.43E±0°.09, h150km, n61, σ1§43/72, mb3.8/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.31**	**335**	*e*S	**Sn**	**02 36 39.0**	**+1.3**
JHCJ	**Hachijojimakas**	**1.87**	**343**	S	**Sn**	**02 36 47.2**	**-1.1**
JHJ2	**Mitsune**	**1.91**	**344**	*e*S	**Sn**	**02 36 49.0**	**+0.1**
JHJ2	**Mitsune**	**1.91**	**344**	Pn	**Pn**	**02 36 22.6**	**-0.2**
JHJ2					**Sn**	**02 36 49.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.92**	**344**	P	**Pn**	**02 36 23.6**	**+0.7**
	32nm,0.3s,baz=94,slow=18,SNR=4.3						
JHJ				S	**Sn**	**02 36 48.0**	**-1.3**
	97nm,0.3s,baz=350,slow=21,SNR=9.7						
JMKN	**Mikurajimanish**	**2.71**	**345**	P	**Pn**	**02 36 32.9**	**+0.5**
JMKN				S	**Sn**	**02 37 03.8**	**-2.3**
BSO1	**Boso 1**	**3.40**	**8**	P	**Pn**	**02 36 41.6**	**+0.9**
BSO1				*e*S	**Sn**	**02 37 19.1**	**-2.0**
TK02	**Tokai 2**	**3.49**	**320**	P	**Pn**	**02 36 43.5**	**+1.4**
JOD2	**Odawara 2**	**4.13**	**345**	P	**Pn**	**02 36 51.3**	**+0.6**
JOD2				*e*S	**Sn**	**02 37 36.9**	**-2.1**
JIE	**Ise**	**4.42**	**316**	P	**Pn**	**02 36 55.1**	**+0.7**
CBIJ	**Chichi jima**	**4.44**	**159**	P	**Pn**	**02 36 53.3**	**-1.4**
CBIJ				*e*S	**Sn**	**02 37 43.1**	**-3.0**
JCJ	**Chichijima**	**4.44**	**159**	P	**Pn**	**02 36 53.5**	**-1.2**
	47nm,0.3s,baz=286,slow=23,SNR=44						
JCJ				S	**Sn**	**02 37 43.8**	**-2.3**
	78nm,0.3s,baz=280,slow=20,SNR=8.8						
JTNC	**Tanabenakahech**	**4.80**	**303**	P	**Pn**	**02 36 59.7**	**+0.3**
JRY	**Ryogami san**	**4.90**	**345**	P	**Pn**	**02 37 01.4**	**+0.6**
JRY				*e*S	**Sn**	**02 37 55.2**	**-1.8**
INU	**Inuyama**	**4.97**	**326**		**Pn**	**02 37 01.6**	**-0.1**
MJAR	**Matsushiro Arr**	**5.57**	**341**	P	**Pn**	**02 37 09.9**	**+0.3**
	0.6nm,0.3s,baz=158,slow=11,SNR=11						
MJAR				S	**Sn**	**02 38 10.9**	**-2.0**
	0.2nm,0.3s,baz=150,slow=13,SNR=5.0						
MJAR	**Matsushiro Arr**	**5.57**	**341**		**Pn**	**02 37 10.0**	**+0.3**
MJAR					**Sn**	**02 38 12.7**	**-0.3**
MAJO	**Matsushiro**	**5.57**	**341**	Pn	**Pn**	**02 37 09.7**	**0.0**
MAT	**Matsushiro**	**5.57**	**341**	P	**Pn**	**02 37 10.1**	**+0.4**
MAT				*e*S	**Sn**	**02 38 10.6**	**-2.4**
MJB9	**Matsu-Tunnel**	**5.58**	**341**	Pn	**Pn**	**02 37 10.2**	**+0.5**
JMK	**Ichinoseki**	**7.69**	**5**	P	**Pn**	**02 37 36.3**	**-1.6**
JMK				*e*S	**Sn**	**02 38 58.0**	**-5.6**
KSRS	**Korea Array**	**12.03**	**304**	P	**Pn**	**02 38 35.6**	**+0.3**
	0.2nm,0.3s,baz=117,slow=14,SNR=5.4						
USA0B	**Ussuriysk Arra**	**14.52**	**335**		**Pn**	**02 39 07.0**	**0.0**
USRK	**Ussuriysk Ar.**	**14.52**	**335**	P	**Pn**	**02 39 07.4**	**+0.4**
	baz=152,slow=12,SNR=11						
KLR	**Kul'dur**	**19.10**	**342**	P	**P**	**02 39 59.9**	**+0.1**
	1.0nm,0.3s,baz=148,slow=10,SNR=12						
H11S3	**WAKE ISLAND Hy**	**26.92**	**112**	T	T	03 10 19.5	
	baz=304,slow=75,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**26.93**	**112**	T	T	03 10 18.2	
	baz=304,slow=75,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**26.94**	**112**	T	T	03 10 19.6	
	baz=304,slow=75,SNR=5.6						
SONM	**Songino Array**	**30.71**	**312**	P	**P**	**02 41 49.5**	**0.0**
	0.4nm,0.5s,baz=120,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**46.70**	**307**	P	**P**	**02 44 02.2**	**-0.2**
	0.3nm,0.5s,baz=84,slow=10,SNR=5.0						
MKAR				ScP	**ScP**	**02 49 12.0**	**-1.0**
	0.3nm,0.7s,baz=85,slow=3.0,SNR=2.7						
MKAR	**Makanchi Array**	**46.70**	**307**	P	**P**	**02 44 01.8**	**-0.6**
NRIK	**Noril'sk**	**48.21**	**338**	P	**P**	**02 44 14.4**	**+0.7**
	3.3nm,0.5s,baz=206,slow=23,SNR=4.2						
FITZ	**Fitzroy Crossi**	**51.10**	**198**	P	**P**	**02 44 35.4**	**-0.7**
	2.0nm,0.8s,baz=32,slow=7.0,SNR=8.2						
FITZ	**Fitzroy Crossi**	**51.10**	**198**	P	**P**	**02 44 35.2**	**-0.9**
FITZ				IAmb	IAmb	02 44 47.5	
	comp=Z,3.2nm,1.1s						
WRA	**Warramunga Arr**	**51.26**	**187**	P	**P**	**02 44 36.1**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=1.3,slow=7.7,SNR=11						
WRA				ScP	**ScP**	**02 49 32.7**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=11,slow=5.8,SNR=3.2						
WRA	**Warramunga Arr**	**51.26**	**187**	P	**P**	**02 44 35.7**	**-1.5**
KDAK	**Kodiak Island**	**52.01**	**39**	P	**P**	**02 44 44.5**	**+2.1**
	comp=Z,7.3nm,0.7s,baz=209,slow=10,SNR=3.5						
KDAK	**Kodiak Island**	**52.01**	**39**	P	**P**	**02 44 43.2**	**+0.8**
IMAR	**Indian Mountai**	**52.06**	**28**	P	**P**	**02 44 45.0**	**+2.3**
RND	**Reindeer**	**53.94**	**32**	P	**P**	**02 44 58.3**	**+1.7**
HDA	**Harding Lake**	**54.80**	**30**	P	**P**	**02 45 02.9**	**+0.2**
HDA				IAmb	IAmb	02 45 11.2	
	comp=Z,5.7nm,1.2s						
ILAR	**Eielson Array**	**54.83**	**30**	P	**P**	**02 45 04.2**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=271,slow=5.9,SNR=7.4						
ILAR	**Eielson Array**	**54.83**	**30**	P	**P**	**02 45 04.0**	**+1.0**
ASAR	**Alice Springs**	**54.98**	**187**	P	**P**	**02 45 03.4**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=7.4,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**54.98**	**187**	P	**P**	**02 45 02.7**	**-1.8**
PRP	**Porcupine Dome**	**55.41**	**29**	P	**P**	**02 45 09.1**	**+1.8**
PRP				IAmb	IAmb	02 45 22.1	
	comp=Z,1.9nm,1.2s						
BMAR	**Burnt Mountain**	**55.80**	**27**	P	**P**	**02 45 13.0**	**+3.2**
INK	**Inuvik**	**59.90**	**25**	P	**P**	**02 45 40.2**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=296,slow=6.2,SNR=5.2						
INK	**Inuvik**	**59.90**	**25**	P	**P**	**02 45 39.2**	**+0.9**
INK				IAmb	IAmb	02 45 57.1	
	comp=Z,2.7nm,1.1s						
ABKAR	**Akbulak array**	**61.12**	**312**	P	**P**	**02 45 47.0**	**+0.1**
ARCES	**ARCESS Array B**	**69.10**	**340**	P	**P**	**02 46 39.1**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=64,slow=8.4,SNR=6.7						
ARCES	**ARCESS Array B**	**69.10**	**340**	P	**P**	**02 46 36.9**	**-1.2**
FINES	**FINESS Array B**	**73.54**	**333**	P	**P**	**02 47 05.1**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=66,slow=6.8,SNR=14						
FINES	**FINESS Array B**	**73.54**	**333**	P	**P**	**02 47 05.5**	**+0.7**
AKASG	**Malin Array Be**	**78.36**	**323**	P	**P**	**02 47 32.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=51,slow=6.4,SNR=4.8						
NB2	**NORSAR Subarra**	**79.18**	**337**	P	**P**	**02 47 37.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**79.18**	**337**	P	**P**	**02 47 37.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=44,slow=5.9,SNR=4.3						
PDAR	**Pinedale Array**	**82.31**	**44**	P	**P**	**02 47 54.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=293,slow=4.6,SNR=2.8						
PDAR	**Pinedale Array**	**82.31**	**44**	P	**P**	**02 47 53.7**	**-0.3**
TXAR	**Lajitas Array**	**94.29**	**52**	P	**P**	**02 48 53.1**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=313,slow=4.1,SNR=5.5						
TXAR	**Lajitas Array**	**94.29**	**52**	P	**P**	**02 48 52.0**	**+0.6**

IDC ***05*** *02:58:15.8±0.9, 35°.10N×76°.69E, h0km, mb3.9/9, mb1 3.9/13, mb1mx3.7/48, mbtmp3.8/13, ML2.9/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/54, Error ellipse: s-maj=24.5km s-min=16.9km az=48.0*
BJI ***05*** *02:58:24.1±0.0, 35°.51N×77°.19E, h6km, mb4.2/3, mB4.2/4, ML4.3/5, Ms3.7/5, Ms7 3.5/2*
NNC ***05*** *02:58:29.3±5.9, 35°.97N×77°.31E, h3km±25km, mb4.3, mpv4.0, Error ellipse: s-maj=42.7km s-min=33.1km az=168.0*
ISC 05 02:58:21.6±0.9, 35°.40N±0°.07×77°.37E±0°.10, h10km, n34, σ2§49/37, mb4.0/9, MS2.9/4, 9C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.25**	**345**	Pn	**Pn**	**02 59 28.1**	**+1.5**
KSH				Sn	**Sn**	**03 00 19.3**	**+2.9**
KSH				smax	smax		
	comp=N,730nm,0.7s						
AAK	**Ala-Archa**	**7.56**	**344**	Pn	**Pn**	**03 00 14.0**	**+1.9**
	8.0nm,1.3s						
AAK				⇑Pg	**Pb**	**03 00 35.6**	**+2.6**
	15nm,0.9s						
AAK				⇑Lg	Lg	03 02 13.6	
	49nm,1.1s						
AAK	**Ala-Archa**	**7.56**	**344**	Pn	**Pn**	**03 00 13.6**	**+1.5**
	0.2nm,0.3s,baz=170,slow=17,SNR=3.4						
AAK				Pg	**Pb**	**03 00 32.4**	**-0.5**
	1.0nm,0.3s,baz=130,slow=7.9,SNR=8.6						
AAK				Sn	**Sn**	**03 01 38.6**	**+0.7**
	0.4nm,0.3s,baz=358,slow=20,SNR=1.5						
AAK				Lg	Lg	03 02 12.2	
	1.1nm,0.3s,baz=337,slow=18,SNR=5.7						
AAK				LR	LR	03 03 17.0	
	comp=Z,83nm,20.9s,baz=150,slow=39						
TKM2	**Tokmak 2**	**7.63**	**350**	⇑Pn	**Pn**	**03 00 17.1**	**+4.0**
	5.0nm,0.9s						
TKM2				⇓Pg	**Pb**	**03 00 36.8**	**+2.6**
	10nm,0.8s						
TKM2				⇓Lg	Lg	03 02 13.1	
	38nm,0.9s						
PDGK	**Podgornoye**	**8.08**	**11**	⇑Pn	**Pn**	**03 00 20.5**	**+1.3**
	8.2nm,0.7s						
PDGK				⇑Lg	Lg	03 02 30.8	
	65nm,0.9s						
DANN	**Dangsing**	**8.88**	**141**	*e*P	**Pn**	**03 00 30.3**	**0.0**
	14nm,0.4s						
KOLN	**Koldanda**	**9.28**	**143**	*e*P	**Pn**	**03 00 36.3**	**+0.7**
	15nm,0.7s						
KK31	**Karatay Array**	**9.35**	**327**	⇑Pn	**Pn**	**03 00 36.2**	**-0.2**
	5.6nm,1.0s,baz=136,slow=11,SNR=11						
KK31				⇑Sn	**Sn**	**03 02 19.8**	**-1.7**
	3.0nm,0.5s,baz=148,slow=23,SNR=4.0						
GKN	**Gorkha**	**9.63**	**138**	*e*P	**Pn**	**03 00 40.5**	**+0.1**
KKN	**Kakani**	**10.15**	**136**	*e*P	**Pn**	**03 00 47.2**	**-0.4**
	18nm,0.7s						
DMN	**Daman**	**10.19**	**138**	*e*P	**Pn**	**03 00 47.5**	**-0.7**
	14nm,0.5s						
PKIN	**Phulchoki**	**10.38**	**137**	*e*P	**Pn**	**03 00 49.7**	**-1.1**
	10nm,0.6s						
GUN	**Gumba**	**10.40**	**134**	*e*P	**Pn**	**03 00 50.2**	**-1.0**
	12nm,0.4s						
JIRN	**Jiri**	**10.77**	**133**	*e*P	**Pn**	**03 00 54.3**	**-2.0**
	22nm,0.5s						
WMQ	**Urumqi**	**11.57**	**40**	*e*P	**Pn**	**03 01 11.1**	**+4.2**
WMQ				pmax	pmax		
	comp=Z,13nm,3.7s						
WMQ				LR	LR		
	comp=N,570nm,28.9s						
WMQ				LR	LR		
	comp=E,1μm,29.0s						
MAKZ	**Makanchi**	**11.91**	**16**	⇑Pn	**Pn**	**03 01 11.7**	**+0.2**
	2.7nm,0.6s						
MAKZ				⇓Sn	**Sn**	**03 03 19.9**	**-4.4**
	4.9nm,1.1s						
TAPN	**Taplejung**	**11.93**	**129**	*e*P	**Pn**	**03 01 10.0**	**-2.1**
MK31	**Makanchi Array**	**11.97**	**17**	⇑Pn	**Pn**	**03 01 12.6**	**+0.3**
	4.4nm,0.9s,baz=201,slow=13,SNR=13						
MK31				⇓Sn	**Sn**	**03 03 20.7**	**-5.0**
	13nm,1.1s,baz=198,slow=24,SNR=16						
MKAR	**Makanchi Array**	**11.97**	**17**	Pn	**Pn**	**03 01 12.3**	**+0.1**
	0.2nm,0.3s,baz=200,slow=14,SNR=11						
MKAR				Sn	**Sn**	**03 03 22.2**	**-3.5**
	0.3nm,0.3s,baz=199,slow=22,SNR=5.8						
KURBB	**Kurchatov Arra**	**15.24**	**3**	Pn	**Pn**	**03 01 55.4**	**-1.3**
	0.0nm,0.3s,baz=196,slow=11,SNR=3.2						
KURBB				Lg	Lg	03 06 24.9	
	0.0nm,0.3s,baz=188,slow=31,SNR=6.4						
GTA	**Gaotai**	**18.26**	**71**	*e*P	**P**	**03 02 41.0**	**+5.6**
GTA				pP	sP	03 02 45.6	+3.7
GTA				sP	pP	03 02 48.3	+8.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,92nm,4.7s						
GTA				LR	LR		
	comp=N,75nm,13.1s						
GTA				LR	LR		
	comp=E,95nm,10.6s						
GTA				LR	LR		
	comp=Z,85nm,9.6s						
BVAR	**Borovoye Array**	**18.30**	**346**	P	**Pn**	**03 02 33.5**	**-2.0**
	0.1nm,0.3s,baz=150,slow=12,SNR=10						
BVAR				Lg	Lg	03 07 59.1	
	0.2nm,0.3s,baz=170,slow=40,SNR=3.0						
ZALV	**Zalesovo Beam**	**19.27**	**13**	P	**P**	**03 02 48.2**	**+2.0**
	0.3nm,0.3s,baz=210,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**20.56**	**323**	P	**P**	**03 02 55.9**	**-4.5**
	2.3nm,0.7s,baz=123,slow=8.2,SNR=11						
AKTO				LR	LR	03 10 08.2	
	comp=Z,18nm,22.0s,baz=91,slow=35						
ARU	**Arti**	**24.61**	**335**	P	**P**	**03 03 40.3**	**-1.5**
	2.3nm,0.2s,baz=45,slow=13,SNR=2.8						
SONM	**Songino Array**	**24.84**	**51**	P	**P**	**03 03 45.4**	**+1.1**
	2.5nm,0.7s,baz=250,slow=9.8,SNR=14						
SONM				LR	LR	03 15 04.6	
	comp=Z,71nm,18.9s,baz=21,slow=40						
CMAR	**Chiang Mai Arr**	**25.50**	**126**	P	**P**	**03 03 48.8**	**-1.4**
	1.2nm,0.3s,baz=310,slow=13,SNR=5.0						
CMAR				LR	LR	03 16 04.0	
	comp=Z,23nm,20.0s,baz=170,slow=41						
BRTR	**Keskin Array B**	**34.68**	**290**	P	P	03 05 04.1	-7.5
	0.6nm,0.6s,baz=104,slow=10,SNR=4.8						
FINES	**FINESS Array B**	**41.30**	**325**	P	P	03 06 00.7	-6.2
	2.2nm,0.8s,baz=116,slow=9.4,SNR=4.3						
ARCES	**ARCESS Array B**	**44.17**	**337**	P	P	03 06 26.2	-3.9
	2.5nm,0.9s,baz=109,slow=8.2,SNR=7.3						
NB2	**NORSAR Subarra**	**48.35**	**323**	P	**P**	**03 07 01.0**	**-2.2**
	comp=Z,4.7nm,1.4s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**48.35**	**323**	P	P	03 06 58.0	-5.2
	comp=Z,0.7nm,0.8s,baz=91,slow=7.6,SNR=2.9						
NOA				LR	LR	03 28 32.1	
	comp=Z,27nm,18.9s,baz=250,slow=38						
TORD	**Torodi Ar. Bea**	**70.90**	**273**	P	P	03 09 32.3	-7.0
	comp=Z,1.3nm,0.9s,baz=31,slow=6.2,SNR=6.4						
ASAR	**Alice Springs**	**79.46**	**129**	P	P	03 10 25.4	-3.0
	comp=Z,0.3nm,0.7s,baz=321,slow=7.2,SNR=3.2						

IDC 05 02:59:23.8±1.8, 9°.06N×125°.59E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/43, mbtmp3.9/5, 1D, Error ellipse: s-maj=208.0km s-min=30.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**2.17**	**344**	⇓*e*P	Pn	03 00 01.9	+0.7
PLP				*e*S	Sn	03 00 22.6	-6.3
WRA	**Warramunga Arr**	**30.08**	**163**	P	P	03 05 35.2	+0.1
	0.4nm,0.8s,baz=342,slow=9.7,SNR=2.3						
MKAR	**Makanchi Array**	**52.58**	**324**	P	P	03 08 40.2	+0.8
	0.3nm,0.3s,baz=116,slow=8.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**56.69**	**326**	P	P	03 09 08.4	-0.6
	0.6nm,0.4s,baz=119,slow=5.7,SNR=3.2						
ARCES	**ARCESS Array B**	**85.08**	**340**	P	P	03 12 00.7	-0.5
	3.4nm,0.9s,baz=92,slow=4.5,SNR=1.9						
FINES	**FINESS Array B**	**86.63**	**332**	P	P	03 12 09.1	+0.1
	1.4nm,0.8s,baz=72,slow=4.5,SNR=1.4						

ISCJB ***05*** *03:19:05.4±0.5, 32°.66S±0°.04×178°.87W±0°.09, h10km, mb4.6/11, MS3.5/7, Error ellipse: s-maj=11.9km s-min=5.5km az=18.4*
IDC ***05*** *03:19:07.0±0.7, 32°.52S×178°.48W, h0km, mb4.5/10, mb1 4.6/14, mb1mx4.3/42, mbtmp4.5/14, ML4.3/4, MS3.7/6, Ms1 3.7/6, ms1mx3.2/36, Error ellipse: s-maj=20.1km s-min=17.6km az=8.0*
NEIC ***05*** *03:19:08.2±1.5, 32°.59S±0°.06×178°.78W±0°.10, h23km±4km, mb4.4/17*
ISC 05 03:19:07.2±0.5, 32°.65S±0°.05×178°.61W±0°.09, h10km, n70, σ1§76/73, mb4.5/16, MS3.3/7, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.44**	**10**	Pn	**Pn**	**03 19 58.8**	**-1.9**
	106nm,0.3s,baz=50,slow=20,SNR=5.9						
RAO				Sn	**Sn**	**03 20 38.0**	**-3.5**
	196nm,0.3s,baz=104,slow=23,SNR=3.8						
RAO	**Raoul Island**	**3.44**	**10**		**Pn**	**03 19 59.6**	**-1.1**
RAO					**Sn**	**03 20 39.7**	**-1.8**
MXZ	**Matakaoa Point**	**5.52**	**206**	Pn	**Pn**	**03 20 28.9**	**-0.4**
MXZ				Sn	**Sn**	**03 21 30.3**	**-2.6**
URZ	**Urewera**	**6.60**	**211**	Pn	**Pn**	**03 20 46.4**	**+2.2**
	8.8nm,0.3s,baz=316,slow=1.7,SNR=17						
URZ				Sn	**Sn**	**03 21 60.0**	**+0.5**
	18nm,0.3s,baz=90,slow=21,SNR=20						
URZ	**Urewera**	**6.60**	**211**		**Pn**	**03 20 44.3**	**+0.1**
URZ					**Sn**	**03 21 56.1**	**-3.4**
BKZ	**Black Stump Fm**	**7.62**	**210**		**Pn**	**03 20 57.2**	**-1.1**
BKZ				Sn	**Sn**	**03 22 22.8**	**-2.0**
HIZ	**Hauiti**	**7.91**	**220**	Pn	**Pn**	**03 21 00.8**	**-1.4**
SNZO	**South Karori**	**10.16**	**210**	Pn	**Pn**	**03 21 32.2**	**-0.8**
BHW	**Baring Head**	**10.18**	**209**	Pn	**Pn**	**03 21 31.4**	**-1.8**
THZ	**Tophouse**	**11.33**	**214**	Pn	**Pn**	**03 21 48.9**	**-0.2**
LTZ	**Lake Taylor**	**12.42**	**213**	Pn	**Pn**	**03 22 04.2**	**+0.2**
RPZ	**Rata Peaks**	**13.71**	**213**	Pn	**Pn**	**03 22 23.1**	**+1.6**
	1.9nm,0.3s,baz=78,slow=14,SNR=3.3						
RPZ				Sn	Sn	03 24 43.1	-11
	1.8nm,0.3s,baz=156,slow=22,SNR=6.3						
RPZ	**Rata Peaks**	**13.71**	**213**		**Pn**	**03 22 20.3**	**-1.2**
MLZ	**Mavora Lakes**	**16.33**	**215**	Pn	**Pn**	**03 22 54.8**	**-1.7**
WHZ	**Wether Hill Ro**	**16.80**	**214**	Pn	**Pn**	**03 23 01.3**	**-1.1**
DZM	**Mont Dzumac**	**16.93**	**305**	*e*P	**P**	**03 23 10.0**	**+3.8**
	19nm,0.9s						
DZM				*e*LR	LR	03 27 09.6	
	comp=Z,488nm,22.4s						
DZM	**Mont Dzumac**	**16.93**	**305**	Pn	**Pn**	**03 23 04.5**	**+0.2**
	0.1nm,0.3s,baz=144,slow=19,SNR=2.5						
DZM				LR	LR	03 28 42.4	
	comp=Z,603nm,18.6s,baz=164,slow=34						
DZM	**Mont Dzumac**	**16.93**	**305**	P	**Pn**	**03 23 03.6**	**-0.7**
DZM				IAmb	IAmb	03 23 16.0	
	comp=Z,9.8nm,0.9s	

NVAR Mina Array Bea 90.23 43 P **P 03 32 08.8 +0.7**
comp=Z,1.2nm,1.2s,baz=207,slow=9.3,SNR=4.2
NVAR Mina Array Bea 90.23 43 P **P 03 32 05.9 -2.2**
CPUP Villa Florida 98.99 129 LR LR 04 11 25.3
comp=Z,30nm,19.6s,baz=223,slow=32
MKAR Makanchi Array 118.80 309 PKP **PKPdf 03 37 55.2 -0.2**
comp=Z,0.5nm,0.6s,baz=110,slow=2.0,SNR=4.3
MKAR Makanchi Array 118.80 309 PKPdf 03 37 52.9 -2.5
ARCES ARCESS Array B 140.66 347 PKhKP PKPpre 03 38 31.6
comp=Z,2.0nm,0.8s,baz=46,slow=2.9,SNR=5.3
KBZ Khabaz 145.87 301 PKPbc **PKPdf 03 38 46.9 +1.0**
comp=Z,2.3nm,1.0s,baz=315,slow=2.9,SNR=3.5
FINES FINESS Array B 147.05 338 PKPbc **PKPbc 03 38 49.7 +0.3**
comp=Z,9.4nm,0.8s,baz=73,slow=4.1,SNR=17
FINES FINESS Array B 147.05 338 PKPdf 03 38 46.8 -0.6
NB2 NORSAR Subarra150.88 350 PKP **PKPbc 03 38 59.3 0.0**
comp=Z,0.9nm,0.6s,baz=14,slow=2.5
NB2 NORSAR Subarra150.88 350 PKP **PKPbc 03 38 59.2 0.0**
comp=Z,13nm,1.4s,baz=17,slow=4.1
NOA NORSAR Array B 150.88 350 PKPbc **PKPbc 03 38 59.5 +0.2**
comp=Z,2.1nm,0.8s,baz=14,slow=4.1,SNR=6.5
AKASG Malin Array Be 152.72 320 PKPbc **PKiKP 03 39 04.9 +0.9**
comp=Z,0.4nm,0.4s,baz=53,slow=2.0,SNR=6.5
AKASG Malin Array Be 152.72 320 PKPbc 03 39 04.2 +0.5
BRTR Keskin Array B 153.13 294 PKPbc **PKPbc 03 39 05.7 +0.4**
comp=Z,2.1nm,0.5s,baz=141,slow=3.8,SNR=18
BRTR Keskin Array B 153.13 294 PKPbc 03 39 03.7 -1.6
TORD Torodi Ar. Bea 160.59 181 PKPab **PKPab 03 39 50.8 +1.6**
comp=Z,0.1nm,0.4s,baz=211,slow=2.5,SNR=3.6
TORD Torodi Ar. Bea 160.59 181 PKPdf **PKPdf 03 39 07.0 -0.9**
TORD **PKPab 03 39 47.9 -1.2**

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*GCG **05** 03:27:48.2±0.3, 14°.04N×89°.85W, h123km±7km, MD3.8*
*SNET **05** 03:27:53.7±0.8, 13°.50N×90°.51W, h20km±6km, MD3.2*
ISC 05 03:27:53.2±3.6,**13°.3N**±0°.2×**90°.54W**±0°.09,**h35**km,**n8,**
σ1§**24**/**11**,**1C-1D**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.83**	**7**	*eP*	**Pn**	**03 28 07.8**	**-0.9**
IXG	**Ixpaco**	**0.83**	**7**	⇑*eP*	**Pn**	**03 28 06.8**	**-1.8**
SBLS	**San Blas**	**1.02**	**61**	*eP*	**Pn**	**03 28 11.0**	**-0.3**
SBLS				*eS*	**Sn**	**03 28 24.3**	**-0.3**
RTR	**El Retiro**	**1.03**	**57**	*eP*	**Pn**	**03 28 11.4**	**0.0**
RTR				*eS*	**Sn**	**03 28 24.9**	**+0.2**
SNJE	**San Jose**	**1.05**	**60**	*eP*	**Pn**	**03 28 11.5**	**-0.1**
FUG	**Fuego 3**	**1.14**	**345**	*eP*	**Pn**	**03 28 11.7**	**-1.2**
FUG				*eS*	**Sn**	**03 28 29.9**	**+2.5**
MTO3	**Montecristo**	**1.56**	**47**	⇓*iP*	**Pn**	**03 28 18.8**	**+0.2**
STG3	**Santiaguito 3,**	**1.69**	**324**	*eP*	**Pn**	**03 28 20.3**	**-0.2**

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*NEIC **05** 03:35:37.4±1.4, 12°.10N±0°.06×86°.72W±0°.06, h123km±5km, mb4.2/29*
*GCG **05** 03:35:37.7±3.0, 11°.76N×86°.72W, h50km, MD4.6*
*ISCJB **05** 03:35:37.4±0.2, 12°.16N±0°.03×86°.71W±0°.03, h123km±2km, mb3.8/13, Error ellipse: s-maj=6.9km s-min=2.8km az=38.3*
*IDC **05** 03:35:38.4±1.0, 12°.00N×86°.74W, h123km±9km, mb3.5/12, mb1 3.8/16, mb1mx3.6/52, mbtmp4.0/16, MS2.6/1, Ms1 2.6/1, ms1mx2.3/36, Error ellipse: s-maj=20.9km s-min=8.3km az=48.0*
*UCR **05** 03:35:40.4±1.1, 12°.10N×86°.63W, h80km±21km, MW4.3*
*SNET **05** 03:35:40.5±1.0, 12°.19N×86°.87W, h99km±18km, ML4.2*
*UPA **05** 03:35:40.0±1.5, 12°.13N×86°.50W, h10km±190km, MW4.1*
ISC 05 03:35:37.3±0.7,**12°.11N**±0°.05×**86°.73W**±0°.05,**h118**km±7km,
n114,σ1§**47**/129,**mb4.2**/23,**5C-15D**,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.39**	**5**	⇑*eP*	**Pn**	**03 35 53.3**	**-1.2**
CRIN	**San Cristobal**	**0.66**	**332**	⇑*eP*	**Pn**	**03 35 56.5**	**+0.3**
ESTN	**Estel**	**1.04**	**20**	⇑*eP*	**Pn**	**03 36 00.1**	**+0.4**
ESTN	**Estel**	**1.04**	**20**	Pn	**Pn**	**03 36 00.2**	**+0.5**
ESTN				Sn	**Sn**	**03 36 17.2**	**+0.6**
MATN	**Matagalpa**	**1.13**	**44**	⇓*eP*	**Pn**	**03 36 00.8**	**+0.2**
RCON	**San Juan de Ri**	**1.47**	**22**	⇓*eP*	**Pn**	**03 36 05.2**	**+0.8**
ACON	**Acoyapa**	**1.53**	**95**	⇓*eP*	**Pn**	**03 36 05.4**	**+0.5**
ACON	**Acoyapa**	**1.53**	**95**		**Pn**	**03 36 05.4**	**+0.5**
ACON				Sn	**Sn**	**03 36 25.3**	**-0.7**
CNCH	**Conchagua**	**1.58**	**317**	⇓*iP*	**Pn**	**03 36 06.1**	**+0.5**
CNCH				*eS*	**Sn**	**03 36 26.7**	**-0.4**
CNCH				IAML		03 36 34.2	
comp=Z,7μm,0.4s
LCND	**La Caada**	**1.64**	**317**	⇓*iP*	**Pn**	**03 36 06.7**	**+0.5**
LCND				IAML		03 36 32.9	
comp=Z,2μm,0.4s
GB1A	**Borinquen Arri**	**1.84**	**134**	*eP*	**Pn**	**03 36 09.7**	**+1.0**
BUEV	**Buena Vista**	**1.84**	**135**	*eP*	**Pn**	**03 36 09.5**	**+0.7**
JUCU	**Jucuarın**	**1.86**	**308**	⇓*eP*	**Pn**	**03 36 09.5**	**+0.5**
JUCU				*eS*	**Sn**	**03 36 32.8**	**-0.4**
JUCU				IAML		03 36 36.4	
comp=Z,4μm,0.3s
TGUH	**Tegucigalpa,Un**	**2.00**	**345**	⇓*iP*	**Pn**	**03 36 11.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.00**	**345**		**Pn**	**03 36 11.9**	**+1.1**
TGUH				Sn	**Sn**	**03 36 36.5**	**0.0**
LCY	**Lacayo**	**2.00**	**311**	*eP*	**Pn**	**03 36 11.7**	**+1.0**
FAGO	**Alcalda de S**	**2.06**	**320**	⇓*iP*	**Pn**	**03 36 12.2**	**+0.7**
FAGO				*eS*	**Sn**	**03 36 37.3**	**-0.3**
CUI	**Cuipilapa**	**2.11**	**133**	⇓*eP*	**Pn**	**03 36 13.2**	**+1.1**
ALJI	**Alcalda de J**	**2.16**	**304**	*eP*	**Pn**	**03 36 13.8**	**+1.1**
ALJI				IAML		03 36 15.1	
comp=Z,2μm,0.6s
COEB	**Comit de Eme**	**2.23**	**308**	*eP*	**Pn**	**03 36 14.6**	**+1.0**
COEB				IAML		03 36 48.0	
comp=Z,1μm,0.4s
ESPN	**Las Esperanzas**	**2.38**	**88**	⇓*eP*	**Pn**	**03 36 16.6**	**+1.1**
ESPN	**Las Esperanzas**	**2.38**	**88**		**Pn**	**03 36 16.2**	**+0.8**
ESPN				Sn	**Sn**	**03 36 44.0**	**-0.8**
JTS	**Las Juntas de**	**2.52**	**136**	P	**Pn**	**03 36 18.3**	**+1.0**
comp=Z,99nm,0.3s,baz=9.9,slow=6.4,SNR=85
JTS				S	**Sn**	**03 36 48.1**	**+0.1**
comp=Z,45nm,0.3s,baz=148,slow=23,SNR=9.5
JTS				LR	LR	03 37 11.3	
comp=Z,104nm,18.6s,baz=329,slow=38
JTS	**Las Juntas de**	**2.52**	**136**	⇓*eP*	**Pn**	**03 36 17.6**	**+0.4**
JTS	**Las Juntas de**	**2.52**	**136**		**Pn**	**03 36 18.0**	**+0.7**
JTS					**Sn**	**03 36 47.4**	**-0.6**
JTS	**Las Juntas de**	**2.52**	**136**	*eP*	**Pn**	**03 36 18.8**	**+1.5**
JTS				*eS*	**Sn**	**03 36 47.0**	**-1.0**
CEDE	**Laguna Cedeo**	**2.57**	**129**	⇓*eP*	**Pn**	**03 36 19.2**	**+1.3**
ARE1	**Arenal 1**	**2.57**	**130**	⇓*eP*	**Pn**	**03 36 19.2**	**+1.2**
COEG	**Centro de Oper**	**2.57**	**306**	⇓*eP*	**Pn**	**03 36 19.1**	**+1.1**
COEG				IAML		03 36 55.5	
comp=Z,725nm,0.5s
VICT	**Victoria**	**2.61**	**315**	*eP*	**Pn**	**03 36 19.5**	**+1.0**
PAVA	**Las Pavas**	**2.67**	**307**	*eP*	**Pn**	**03 36 20.4**	**+1.1**
PAVA				*eS*	**Sn**	**03 36 52.5**	**+0.8**
PAVA				IAML		03 37 01.9	
comp=Z,448nm,0.4s
LFU	**La Fuente**	**2.83**	**305**	*eP*	**Pn**	**03 36 23.6**	**+2.2**
SNET	**Serv Nac Est T**	**2.89**	**303**	*eP*	**Pn**	**03 36 23.3**	**+1.1**
SNET				IAML		03 37 01.6	
comp=Z,657nm,0.4s
SNET	**Serv Nac Est T**	**2.89**	**303**		**Pn**	**03 36 23.4**	**+1.3**
SNET				Sn	**Sn**	**03 36 56.5**	**-0.3**
SRA1	**San Ramn**	**2.99**	**132**	*eP*	**Pn**	**03 36 25.0**	**+1.4**
SBLS	**San Blas**	**3.30**	**302**	⇑*eP*	**Pn**	**03 36 29.6**	**+1.9**
HDC	**Heredia**	**3.32**	**129**		**Pn**	**03 36 26.5**	**-1.4**
RTR	**El Retiro**	**3.34**	**302**	*eP*	**Pn**	**03 36 30.2**	**+2.0**
MTO3	**Montecristo**	**3.42**	**312**	⇓*iP*	**Pn**	**03 36 30.8**	**+1.5**
CVTR	**Volcan Turrial**	**3.59**	**125**	⇓*eP*	**Pn**	**03 36 32.7**	**+1.0**
IXG	**Ixpaco**	**4.15**	**300**	*eP*	**Pn**	**03 36 41.2**	**+2.3**
EDLM	**Las Mercedes**	**4.18**	**132**	*eP*	**Pn**	**03 36 42.3**	**+3.0**
EDBA	**Buenos Aires**	**4.49**	**130**	*eP*	**Pn**	**03 36 45.7**	**+2.3**
EDPN	**Palmar Norte**	**4.49**	**134**	*eP*	**Pn**	**03 36 46.4**	**+3.0**
FUG	**Fuego 3**	**4.62**	**301**	*eP*	**Pn**	**03 36 48.5**	**+3.2**
APG	**El Apazote**	**4.63**	**309**	P	**Pn**	**03 36 47.7**	**+2.3**
comp=Z,14nm,0.3s,baz=119,slow=7.3,SNR=182
APG				S	Sn	03 37 51.5	+13
comp=Z,3.2nm,0.3s,baz=77,slow=18,SNR=2.6
PTJ1	**Puerto Jimnez**	**4.90**	**136**	*eP*	**Pn**	**03 36 52.1**	**+3.2**
BRU2	**Volcan**	**5.17**	**129**	*eP*	**Pn**	**03 36 55.2**	**+2.6**
BRU2	**Volcan**	**5.17**	**129**	*eP*	**Pn**	**03 36 54.1**	**+1.4**
BRU2				*eS*	**Sn**	**03 37 48.0**	**-3.3**
BCO2	**Palmira**	**5.34**	**129**	*eS*	**Pn**	**03 36 57.1**	**+2.1**
BCO2				*eP*	**Pn**	**03 36 57.2**	**+2.3**
STG3	**Santiaguito 3,**	**5.37**	**299**	*eP*	**Pn**	**03 36 58.3**	**+3.0**
PTAR3	**Potrerillos Ar**	**5.38**	**129**	*eP*	**Pn**	**03 36 58.5**	**+3.1**
CHGR2	**Aguacate**	**5.51**	**125**	*eP*	**Pn**	**03 36 59.5**	**+2.4**
DVD	**David**	**5.58**	**131**	*eP*	**Pn**	**03 37 00.5**	**+2.4**
DVD				*eS*	**Sn**	**03 38 02.1**	**+1.2**
CCIG	**Comitan**	**6.68**	**309**		**Pn**	**03 37 14.2**	**+1.2**
BCIP	**Isla Barro Col**	**7.38**	**113**		**Pn**	**03 37 22.3**	**-0.1**
UPA	**Univ. de Panam**	**7.73**	**113**	*eP*	**Pn**	**03 37 28.9**	**+1.7**
TEIG	**Tepich**	**8.20**	**350**	P	**Pn**	**03 37 37.4**	**+4.0**
comp=Z,0.8nm,0.3s,baz=139,slow=19,SNR=5.1
TEIG	**Tepich**	**8.20**	**350**		**Pn**	**03 37 35.5**	**+2.0**
CMIG	**Matias Romero**	**9.31**	**303**	P	**Pn**	**03 37 49.1**	**+0.6**
comp=Z,5.6nm,0.3s,baz=158,slow=9.6,SNR=232
CMIG				S	**Sn**	**03 39 30.1**	**-1.3**
comp=Z,0.2nm,0.3s,baz=323,slow=20,SNR=2.5
CBCY	**The Bluff, Cay**	**10.12**	**41**	Pn	**Pn**	**03 37 59.0**	**-0.5**
TLIG	**Tlapa**	**12.65**	**297**		**Pn**	**03 38 33.0**	**-0.2**
MOIG	**Morelia**	**15.80**	**300**	Pn	**Pn**	**03 39 11.5**	**-1.9**
352A	**Blakely**	**19.34**	**5**	P	**P**	**03 39 51.5**	**-1.9**
EMPR	**Esperanza - Ma**	**20.48**	**70**	P	Pn	03 40 08.3	-0.9
152A	**Waverly Hall**	**20.54**	**5**	IAmb	IAmb	03 40 11.1	
comp=Z,10nm,0.7s
SJG	**San Juan**	**20.74**	**71**	P	Pn	03 40 11.1	-1.1
comp=Z,6.5nm,0.5s,baz=304,slow=23,SNR=3.8
SJG	**San Juan**	**20.74**	**71**	P	**P**	**03 40 06.8**	**-1.9**
SJG				IAmb	IAmb	03 40 15.9	
comp=Z,8.3nm,0.6s
Z50A	**Ashland**	**21.05**	**2**	P	**P**	**03 40 11.7**	**-0.2**
GOGA	**Godfrey**	**21.41**	**8**	P	**P**	**03 40 16.9**	**+1.2**
GOGA				IAmb	IAmb	03 40 19.1	
comp=Z,11nm,0.8s
Y49A	**Blount Mountai**	**21.65**	**1**	P	**P**	**03 40 18.7**	**+0.5**
Y49A				IAmb	IAmb	03 40 20.4	
comp=Z,9.2nm,0.8s
PCRV	**Puerto La Cruz**	**21.77**	**93**	P	**P**	**03 40 21.6**	**+1.9**
comp=Z,10nm,0.8s,baz=227,slow=3.3,SNR=4.2
Y52A	**Lilburn**	**21.79**	**6**	P	**P**	**03 40 19.5**	**-0.2**
FPAL	**Fort Paine**	**22.35**	**2**	P	**P**	**03 40 25.3**	**-0.3**
JSC	**Jenkinsville**	**22.62**	**12**	P	**P**	**03 40 28.4**	**+0.1**
JSC				IAmb	IAmb	03 40 32.1	
comp=Z,14nm,1.2s
SWET	**Sewanee**	**23.01**	**2**	P	**P**	**03 40 31.9**	**-0.2**
W50A	**Signal Mountai**	**23.02**	**3**	P	**P**	**03 40 32.2**	**+0.1**
BG3	**Lake Jocassee**	**23.04**	**8**	P	**P**	**03 40 33.0**	**+0.7**
BG3				IAmb	IAmb	03 40 34.7	
comp=Z,8.6nm,0.8s
BIRD	**Birdtown, Kers**	**23.14**	**13**	P	**P**	**03 40 34.1**	**+0.9**
MIAR	**Mount Ida**	**23.18**	**346**	P	**P**	**03 40 33.7**	**+0.1**
TXAR	**Lajitas Array**	**23.28**	**320**	P	**P**	**03 40 35.8**	**+1.1**
comp=Z,2.3nm,0.6s,baz=141,slow=9.6,SNR=36
TXAR				PcP	**PcP**	**03 44 19.4**	**+0.7**
comp=Z,0.3nm,0.8s,baz=129,slow=2.9,SNR=3.3
TXAR	**Lajitas Array**	**23.28**	**320**	P	**P**	**03 40 34.3**	**-0.4**
TXAR					**PcP**	**03 44 18.0**	**-0.7**
TX31	**Lajitas Ar. Si**	**23.28**	**320**	P	**P**	**03 40 34.5**	**-0.2**
TX32	**Lajitas Array**	**23.28**	**320**	P	**P**	**03 40 35.4**	**+0.7**
CPCT	**Cooper Cave**	**23.32**	**5**	P	**P**	**03 40 35.1**	**+0.2**
CPCT				IAmb	IAmb	03 40 37.9	
comp=Z,11nm,0.8s
TKL	**Tuckaleechee C**	**23.59**	**6**	P	**P**	**03 40 39.9**	**+2.5**
comp=Z,11nm,0.9s,baz=164,slow=6.9,SNR=6.8
V51A	**Loudon**	**23.68**	**5**	P	**P**	**03 40 38.4**	**+0.2**
V51A				IAmb	IAmb	03 40 52.5	
comp=Z,8.0nm,0.9s
W57A	**Gilead**	**23.74**	**14**	P	**P**	**03 40 38.2**	**-0.4**
W57A				IAmb	IAmb	03 40 39.8	
comp=Z,9.3nm,0.9s
CLTN	**Cedars of Leba**	**23.88**	**1**	IAmb	IAmb	03 40 42.4	
comp=Z,5.5nm,0.8s
V56A	**Mocksville**	**24.26**	**12**	P	**P**	**03 40 44.4**	**+1.1**
V56A				IAmb	IAmb	03 40 46.9	
comp=Z,6.9nm,0.8s
V58A	**Windy Hill, Pi**	**24.56**	**15**	P	**P**	**03 40 46.2**	**+0.1**
LPIG	**La Paz**	**25.33**	**301**	P	**P**	**03 40 54.2**	**+0.9**
comp=Z,10.0nm,0.3s,baz=107,slow=11,SNR=1.4
ANMO	**Albuquerque**	**28.93**	**325**	P	**P**	**03 41 26.8**	**+1.2**
comp=Z,0.5nm,0.6s,baz=114,slow=12,SNR=2.7
ANMO	**Albuquerque**	**28.93**	**325**	P	**P**	**03 41 25.6**	**+0.1**
PDAR	**Pinedale Array**	**36.40**	**331**	P	**P**	**03 42 31.6**	**+1.0**
comp=Z,0.2nm,0.6s,baz=131,slow=11,SNR=3.1
PDAR	**Pinedale Array**	**36.40**	**331**	P	**P**	**03 42 30.8**	**+0.2**
REDW	**Red Top Meadow**	**37.47**	**331**	P	**P**	**03 42 39.2**	**-0.3**
REDW				IAmb	IAmb	03 42 41.0	
comp=Z,2.7nm,0.9s
SIV	**San Ignacio**	**37.74**	**137**	P	**P**	**03 42 41.4**	**-0.6**
comp=Z,1.5nm,0.5s,baz=313,slow=8.0,SNR=16
SIV				PcP	**PcP**	**03 44 56.4**	**-0.2**
comp=Z,0.4nm,0.5s,baz=288,slow=7.9,SNR=4.7
NVAR	**Mina Array Bea**	**38.41**	**319**	P	**P**	**03 42 49.8**	**+2.1**
comp=Z,0.5nm,0.8s,baz=116,slow=7.2,SNR=3.0
NVAR				PcP	**PcP**	**03 45 00.4**	**+1.7**
comp=Z,0.5nm,0.7s,baz=130,slow=4.1,SNR=4.0
NVAR	**Mina Array Bea**	**38.41**	**319**	P	**P**	**03 42 44.7**	**-2.9**
ULM	**Lac du Bonnet**	**38.76**	**351**	P	**P**	**03 42 48.7**	**-1.3**
comp=Z,2.0nm,0.6s,baz=157,slow=7.7,SNR=3.4
ULM	**Lac du Bonnet**	**38.76**	**351**	IAmb	IAmb	03 43 01.8	
comp=Z,5.6nm,1.1s
CPUP	**Villa Florida**	**47.73**	**143**	P	**P**	**03 44 02.2**	**-0.2**
comp=Z,1.5nm,0.9s,baz=196,slow=9.8,SNR=2.3
PLCA	**Paso Flores**	**54.67**	**165**	P	**P**	**03 44 54.7**	**+0.6**
comp=Z,2.9nm,0.7s,baz=16,slow=8.2,SNR=8.4
PLCA	**Paso Flores**	**54.67**	**165**	P	**P**	**03 44 53.8**	**-0.3**
PLCA				IAmb	IAmb	03 44 56.6	
comp=Z,3.0nm,0.8s
ILAR	**Eielson Array**	**66.61**	**336**	P	**P**	**03 46 14.9**	**+0.2**
comp=Z,0.2nm,0.5s,baz=149,slow=5.2,SNR=3.4
ESDC	**Sonseca Array**	**76.85**	**52**	P	**P**	**03 47 16.1**	**-0.4**
comp=Z,1.0nm,0.7s,baz=293,slow=6.0,SNR=3.9
ESDC	**Sonseca Array**	**76.85**	**52**	IAmb	IAmb	03 47 18.6	
comp=Z,1.1nm,1.1s
ASAR	**Alice Springs**	**139.79**	**248**	PKhKP	PKPpre	03 54 45.9	
comp=Z,0.8nm,0.7s,baz=103,slow=3.6,SNR=7.3
ASAR				PKP	**PKPdf**	**03 54 53.2**	**+1.0**
comp=Z,3.1nm,0.8s,baz=103,slow=1.7,SNR=23
ASAR	**Alice Springs**	**139.79**	**248**		**PKPdf**	**03 54 48.3**	**-3.9**
WRA	**Warramunga Arr**	**139.85**	**253**	PKP	**PKPdf**	**03 54 53.5**	**+1.2**
comp=Z,5.3nm,0.6s,baz=90,slow=2.1,SNR=37
WRA	**Warramunga Arr**	**139.85**	**253**		**PKPdf**	**03 54 49.6**	**-2.7**
CMAR	**Chiang Mai Arr**	**149.11**	**349**	PKPbc	**PKPbc**	**03 55 12.8**	**+0.2**
comp=Z,0.9nm,0.3s,baz=346,slow=2.5,SNR=3.1
CMAR	**Chiang Mai Arr**	**149.11**	**349**	PKPdf	**PKPdf**	**03 55 07.3**	**-1.1**
CMAR					**PKPbc**	**03 55 12.3**	**-0.4**

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*IDC **05** 03:37:14.8±1.1, 37°.00N×144°.75E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/55, mbtmp3.6/9, ML2.9/3, MS2.9/5, Ms1 2.9/5, ms1mx2.5/45, Error ellipse: s-maj=27.4km s-min=23.0km az=28.0*
*ISCJB **05** 03:37:16.1±0.7, 37°.30N±0°.04×144°.54E±0°.05, h33km, mb3.6/6, MS3.2/2, Error ellipse: s-maj=6.7km s-min=5.4km az=135.8*
*JMA **05** 03:37:18.3±0.3, 37°.25N×144°.38E, h49km, M3.9*
ISC 05 03:37:19.2±1.0,**37°.25N**±0°.06×**144°.52E**±0°.08,**h35**km,**n35,**
σ2§**75**/**37**,**mb3.5**/**6**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.78**	**297**	*eS*	**Sn**	**03 38 32.2**	**-1.4**
JKMT	**Kesennumamotoy**	**2.87**	**304**	*eS*	**Sn**	**03 38 33.4**	**-2.3**
OFUJ	**Ofunato**	**2.90**	**310**	P	**Pn**	**03 38 02.0**	**-0.9**
OFUJ				*eS*	**Sn**	**03 38 35.1**	**-1.3**
JFK	**Kawauchi**	**2.91**	**273**	P	**Pn**	**03 38 02.2**	**-0.9**
JFK				*eS*	**Sn**	**03 38 34.7**	**-2.1**
JMST	**Minamisoumatoc**	**2.93**	**280**	P	**Pn**	**03 38 01.8**	**-1.5**
JMST				*eS*	**Sn**	**03 38 34.8**	**-2.4**
JMK	**Ichinoseki**	**3.11**	**304**	*eS*	**Sn**	**03 38 40.0**	**-1.7**
JFT	**Otama**	**3.34**	**276**	P	**Pn**	**03 38 09.0**	**0.0**
JFT				*eS*	**Sn**	**03 38 46.6**	**-0.9**
JRY	**Ryogami san**	**4.68**	**256**	P	**Pn**	**03 38 25.9**	**-1.6**
JRY				S	**Sn**	**03 39 16.7**	**-3.9**
JOD2	**Odawara 2**	**4.82**	**247**	P	**Pn**	**03 38 28.0**	**-1.3**
JOD2				S	**Sn**	**03 39 19.2**	**-4.7**
MJAR	**Matsushiro Arr**	**5.11**	**264**	Pn	**Pn**	**03 38 32.8**	**-0.5**
0.5nm,0.3s,baz=85,slow=14,SNR=19
MJAR				Sn	**Sn**	**03 39 33.2**	**+2.1**
0.2nm,0.3s,baz=149,slow=18,SNR=4.5
MAT	**Matsushiro**	**5.11**	**264**	P	**Pn**	**03 38 33.1**	**-0.2**
MAT				*eS*	**Sn**	**03 39 28.5**	**-2.6**
JKB	**Kayabe**	**5.36**	**331**	P	**Pn**	**03 38 36.7**	**+0.1**
JCH	**Churui**	**5.43**	**351**	P	**Pn**	**03 38 36.2**	**-1.5**
JCH				*eS*	**Sn**	**03 39 35.7**	**-3.2**
JHJ	**Hachijo jima 2**	**5.66**	**225**	Pn	**Pn**	**03 38 36.6**	**-4.3**
10.0nm,0.3s,baz=88,slow=22,SNR=2.8
JHJ				Sn	**Sn**	**03 39 37.8**	**-6.8**
14nm,0.3s,baz=299,slow=24,SNR=3.0
NEM2	**Nemuro 2**	**6.18**	**8**	P	**Pn**	**03 38 44.6**	**-3.3**
NEM2				*eS*	**Sn**	**03 39 50.3**	**-7.0**
JTKR	**Abashiri--Toko**	**6.73**	**356**	P	**Pn**	**03 38 53.9**	**-1.6**
JTKR				*eS*	**Sn**	**03 40 06.8**	**-4.0**
ASAJ	**Asahikawa**	**7.01**	**349**	Pn	**Pn**	**03 38 58.7**	**-0.7**
1.3nm,0.3s,baz=132,slow=31,SNR=7.8
ASAJ				Sn	**Sn**	**03 40 17.7**	**-0.1**
0.4nm,0.3s,baz=309,slow=34,SNR=2.8
ASAJ				LR	LR	03 41 30.8	
comp=Z,38nm,19.9s,baz=127,slow=35
JCJ	**Chichijima**	**10.32**	**192**	Pn	Pn	03 39 34.6	-10
1.7nm,0.3s,baz=289,slow=22,SNR=2.7
JCJ				Sn	Sn	03 41 25.8	-13
2.7nm,0.3s,baz=280,slow=22,SNR=2.8
USRK	**Ussuriysk Ar.**	**11.76**	**310**	Pn	**Pn**	**03 40 06.2**	**+1.7**
baz=107,slow=13,SNR=3.3
JNU	**Nakatsue**	**11.90**	**254**	LR	LR	03 45 00.3	
comp=Z,32nm,19.8s,baz=170,slow=39
KSRS	**Korea Array**	**13.21**	**276**	Pn	**Pn**	**03 40 26.8**	**+2.6**
0.3nm,0.3s,baz=84,slow=16,SNR=3.0
KSRS				LR	LR	03 44 26.5	
comp=Z,63nm,20.7s,baz=170,slow=32
H11N2	**WAKE ISLAND Hy**	**26.19**	**126**	T	T	04 09 42.6	
baz=317,slow=74,SNR=42
H11N1	**WAKE ISLAND Hy**	**26.20**	**126**	T	T	04 09 45.7	
baz=317,slow=74,SNR=16
H11N3	**WAKE ISLAND Hy**	**26.21**	**126**	T	T	04 09 42.6	
baz=317,slow=74,SNR=28
H11S1	**WAKE ISLAND Hy**	**26.96**	**128**	T	T	04 10 40.3	
baz=318,slow=76,SNR=12
H11S3	**WAKE ISLAND Hy**	**26.96**	**128**	T	T	04 10 39.9	
baz=318,slow=76,SNR=14
H11S2	**WAKE ISLAND Hy**	**26.98**	**128**	T	T	04 10 38.5	
baz=318,slow=76,SNR=15
SONM	**Songino Array**	**29.74**	**303**	P	P	03 43 26.6	+4.3
0.4nm,0.7s,baz=70,slow=9.5,SNR=2.9
CMAR	**Chiang Mai Arr**	**43.96**	**258**	P	**P**	**03 45 26.1**	**+2.9**
0.9nm,0.3s,baz=59,slow=4.3,SNR=3.2
MKAR	**Makanchi Array**	**46.10**	**302**	P	**P**	**03 45 41.3**	**+1.4**
0.5nm,0.7s,baz=86,slow=8.6,SNR=3.7
WRA	**Warramunga Arr**	**57.69**	**191**	P	**P**	**03 47 05.2**	**-1.1**
0.4nm,0.5s,baz=9.1,slow=7.0,SNR=5.7
ASAR	**Alice Springs**	**61.41**	**191**	P	**P**	**03 47 31.1**	**-0.8**
0.2nm,0.5s,baz=7.6,slow=8.0,SNR=5.1
KIRV	**Kirov**	**61.56**	**324**	LR	LR	04 18 15.6	
comp=Z,37nm,18.2s,baz=148,slow=40
YKA	**Yellowknife Ar**	**62.36**	**31**	LR	LR	04 19 16.0	
comp=Z,7.3nm,18.3s,baz=106,slow=40
NVAR	**Mina Array Bea**	**72.86**	**55**	P	**P**	**03 48 45.9**	**+1.1**
0.3nm,0.6s,baz=272,slow=9.8,SNR=3.3

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*NIED **05** 03:40:00,34°.80N×136°.20E,h380km,Mw4.4 Best double couple: Mo5.11000×1015 NP1:φ=272.00000°, δ27.00000°,λ-42.00000°. NP2:φ=40.00000°,δ72.00000°, λ-111.00000°.*
*NEIC **05** 03:40:53.9±1.3,34°.69N±0°.08×136°.2E±0°.1,h349km±4km, mb4.2/30*
*ISCJB **05** 03:40:54.1±0.2,34°.81N±0°.04×136°.20E±0°.04, h357km±1km, mb4.0/30, Error ellipse: s-maj=6.3km s-min=4.8km az=140.7*
*IDC **05** 03:40:55.2±0.5,34°.76N×136°.16E,h351km±5km, mb3.6/25, mb1 3.8/32, mb1mx3.6/58, mbtmp4.4/32, Error ellipse: s-maj=8.9km s-min=7.2km az=81.0*
*JMA **05** 03:40:55.4±0.1,34°.84N×136°.16E,h350km±1km, M4.0*
ISC 05 03:40:54.6±0.5,**34°.80N**±0°.04×**136°.19E**±0°.04,**h350**km±4km,
n150,σ1§**31**/178,**mb4.1**/46,**9C-17D**,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.21**	**115**	⇓*iP*	**Pn**	**03 41 39.5**	**+1.1**
TSUJ				S	**S**	**03 42 14.7**	**+1.2**
JIE	**Ise**	**0.59**	**133**	⇓*iP*	**Pn**	**03 41 40.1**	**+1.0**
JIE				S	**S**	**03 42 15.4**	**+0.7**
JWY	**Kouya**	**0.76**	**221**	⇓*iP*	**Pn**	**03 41 40.7**	**+1.0**
JWY				S

SONM	Songino Array	25.71 310	P	P	03 45 53.6	-0.5
SONM				PcP	03 49 12.1	-1.6
GTA	Gaotai	29.24 290	*e*P	P	03 46 25.7	+0.2
GTA			pP	pP	03 46 29.9	-61
GTA			sP	pP	03 46 32.8	-58
GTA			pmax	pmax		
comp=Z,4.0nm,0.9s						
SEY	Seymchan	29.92 15	P	P	03 46 32.2	+1.3
comp=Z,2.7nm,0.7s,baz=342,slow=23,SNR=3.0						
NONG	Nongkai	33.76 240	P	P	03 47 06.6	+1.9
comp=Z,0.4nm,0.9s,comp=Z,126nm						
CHAI	Chaiyaphum	35.94 247	P	P	03 47 24.3	+1.1
comp=Z,21μm,1.2s						
CMAR	Chiang Mai Arr	36.81 253	P	P	03 47 30.6	+0.1
comp=Z,1.0nm,0.3s,baz=50,slow=5.6,SNR=4.9						
CMAR			ScP	ScP	03 52 58.6	+1.7
comp=Z,1.2nm,0.4s,baz=47,slow=4.0,SNR=3.3						
CMAR	Chiang Mai Arr	36.81 253	P	P	03 47 28.1	-2.4
BILL	Bilibino	37.42 18	P	P	03 47 36.3	+1.4
FAKI	Fak Fak	37.70 186	P	P	03 47 35.3	-2.6
ZALV	Zalesovo Beam	40.37 315	P	P	03 47 59.3	0.0
comp=Z,1.7nm,0.4s,baz=111,slow=10,SNR=4.6						
ZALV			PcP	PcP	03 49 54.7	0.0
comp=Z,2.2nm,0.4s,baz=108,slow=2.8,SNR=8.1						
ZALV			ScP	ScP	03 53 10.0	+0.1
comp=Z,1.4nm,0.6s,baz=120,slow=5.8,SNR=4.6						
ZALV	Zalesovo Beam	40.37 315	P	P	03 47 58.8	-0.5
MK31	Makanchi Array	41.76 304	P	P	03 48 10.4	-0.3
MK31			IAmb	IAmb	03 48 12.5	
comp=Z,9.4nm,1.0s						
MKAR	Makanchi Array	41.76 304	P	P	03 48 11.6	+0.9
comp=Z,6.5nm,0.6s,baz=90,slow=10.0,SNR=43						
MKAR			PcP	sP	03 49 59.8	+0.2
comp=Z,1.7nm,0.8s,baz=80,slow=4.4,SNR=4.9						
MKAR			ScP	ScP	03 53 14.8	-0.8
comp=Z,0.6nm,0.7s,baz=84,slow=5.4,SNR=4.2						
MKAR	Makanchi Array	41.76 304	P	P	03 48 10.3	-0.4
MKAR				ScP	03 53 15.1	-0.5
TAPN	Taplejung	41.85 274	*e*P	P	03 48 12.2	+0.2
comp=Z,6.8nm,0.4s						
MAKZ	Makanchi	41.98 304	P	P	03 48 12.6	+0.2
MAKZ			IAmb	IAmb	03 48 13.9	
comp=Z,7.4nm,0.8s						
ODAN	Odare	42.31 273	*e*P	P	03 48 15.5	-0.1
comp=Z,7.4nm,0.4s						
RAMN	Ramite	42.92 274	*e*P	P	03 48 20.5	0.0
comp=Z,17nm,0.6s						
JIRN	Jiri	42.98 275	*e*P	P	03 48 21.6	+0.5
comp=Z,16nm,0.5s						
GUN	Gumba	43.14 275	*e*P	P	03 48 22.6	+0.2
comp=Z,11nm,0.4s						
NRIK	Noril'sk	43.60 337	P	P	03 48 25.9	+1.0
comp=Z,3.4nm,0.5s,baz=88,slow=9.2,SNR=4.8						
PKI	Pulchoki	43.66 275	*e*P	P	03 48 26.1	-0.3
comp=Z,4.6nm,0.5s						
PKIN	Phulchoki	43.66 275	*e*P	P	03 48 26.1	-0.3
comp=Z,8.1nm,0.4s						
KKN	Kakani	43.68 275	*e*P	P	03 48 26.4	0.0
comp=Z,24nm,0.9s						
DMN	Daman	43.89 275	*e*P	P	03 48 28.1	-0.1
KURK	Kurchatov	44.02 309	P	P	03 48 28.6	+0.1
KURK			IAmb	IAmb	03 48 29.7	
comp=Z,9.8nm,1.0s						
KURBB	Kurchatov Arra	44.08 309	P	P	03 48 29.1	+0.2
comp=Z,3.0nm,0.6s						
KURBB			PcP	PcP	03 50 07.2	0.0
comp=Z,0.5nm,0.6s,baz=90,slow=3.5,SNR=4.3						
GKN	Gorkha	44.13 276	*e*P	P	03 48 30.0	+0.1
DANN	Dangsing	44.71 277	*e*P	P	03 48 35.1	+0.5
KOLN	Koldanda	45.06 276	*e*P	P	03 48 37.5	+0.2
TARG	Taragay, Kyrgy	45.60 297	IAmb	IAmb	03 48 43.7	
comp=Z,8.5nm,0.8s						
PSI	Prapat	47.02 236	P	P	03 48 52.6	+0.3
comp=Z,2.1nm,0.3s,baz=108,slow=10,SNR=3.0						
RPSI	Rantau Prapat	47.10 236	P	P	03 48 52.6	-0.2
KSH	Kashi	47.45 294	*e*P	P	03 49 00.6	+5.2
KSH			S	S	03 55 29.4	+6.7
KSH			LR	LR		
comp=N,110nm,9.6s						
KSH			LR	LR		
comp=E,110nm,13.5s						
MTN	Manton Dam	47.62 187	IAmb	IAmb	03 48 56.9	
comp=Z,19nm,0.6s						
AAK	Ala-Archa	47.83 299	P	P	03 48 58.9	+0.7
comp=Z,1.8nm,0.7s,baz=131,slow=3.5,SNR=8.9						
AAK	Ala-Archa	47.83 299	P	P	03 48 58.6	+0.4
BRVK	Borovoye	49.03 313	P	P	03 49 07.2	+0.2
KK31	Karatay Array	50.58 300	P	P	03 49 18.8	+0.1
KK31			IAmb	IAmb	03 49 19.7	
comp=Z,7.0nm,0.6s						
KKAR	Karatay Array	50.58 300	P	P	03 49 18.8	+0.1
KKAR	Karatay Array	50.58 300	P	P	03 49 19.1	+0.4
KKAR			IAmb	IAmb	03 49 19.7	
comp=Z,7.0nm,0.6s						
ILAR	Eielson Array	53.62 31	P	P	03 49 41.5	+1.0
comp=Z,0.9nm,0.6s,baz=262,slow=6.0,SNR=15						
ILAR	Eielson Array	53.62 31	P	P	03 49 40.6	+0.1
BMAR	Burnt Mountain	54.31 28	P	P	03 49 45.8	+0.4
WB2	Warramunga Arr	54.47 182	P	P	03 49 46.6	-0.5
WRA	Warramunga Arr	54.47 182	P	P	03 49 46.8	-0.3
comp=Z,4.0nm,0.4s,baz=358,slow=7.7,SNR=35						
WRA			PcP	PcP	03 50 46.6	+1.0
comp=Z,0.7nm,0.7s,baz=0.1,slow=4.1,SNR=2.5						
WRA			S	S	03 56 58.0	-0.2
comp=Z,0.5nm,0.5s,baz=356,slow=13,SNR=5.3						
WRA	Warramunga Arr	54.47 182	P	P	03 49 45.8	-1.3
WRA				PcP	03 50 43.9	-1.7
BCAR	Beaver Creek A	56.10 33	P	P	03 49 59.2	+1.0
ABKAR	Akbulak array	56.13 310	P	P	03 49 59.0	+0.5
ABKAR	Akbulak array	56.13 310	P	P	03 49 58.8	+0.3
ABKAR			IAmb	IAmb	03 49 59.3	
comp=Z,10nm,0.6s						
AS31	Alice Springs	58.18 182	P	P	03 50 11.1	-2.0
ASAR	Alice Springs	58.18 182	P	P	03 50 13.2	+0.1
comp=Z,2.6nm,0.7s,baz=15,slow=12,SNR=32						
ASAR			S	S	03 57 46.1	-0.6
comp=Z,0.5nm,0.9s,baz=4.1,slow=27,SNR=3.0						
ASAR	Alice Springs	58.18 182	P	P	03 50 12.3	-0.8
INK	Inuvik	58.27 26	P	P	03 50 14.7	+1.6
comp=Z,2.2nm,0.4s,baz=289,slow=7.3,SNR=13						
INK	Inuvik	58.27 26	P	P	03 50 13.8	+0.7
GEYT	Alibeck	61.17 298	P	P	03 50 34.0	+0.8
comp=Z,3.3nm,0.7s,baz=2.9,slow=3.0,SNR=5.3						
GEYT	Alibeck	61.17 298	P	P	03 50 32.7	-0.5
ARCES	ARCESS Array B	64.56 339	P	P	03 50 55.3	+0.6
comp=Z,2.2nm,0.5s,baz=56,slow=8.2,SNR=16						
ARCES	ARCESS Array B	64.56 339	P	P	03 50 55.1	+0.3
RES	Resolute Bay	65.78 13	P	P	03 51 03.2	+0.9
comp=Z,2.2nm,0.4s,baz=307,slow=3.3,SNR=13						
RES	Resolute Bay	65.78 13	P	P	03 51 02.7	+0.3
STKA	Stephens Creek	66.52 175	P	P	03 51 07.3	-0.3
comp=Z,1.0nm,0.4s,baz=310,slow=12,SNR=3.1						
FINES	FINESS Array B	68.76 331	P	P	03 51 21.4	+0.2
comp=Z,3.6nm,0.5s,baz=66,slow=6.8,SNR=38						
KBZ	Khabaz	69.08 309	P	P	03 51 24.6	+1.2
comp=Z,9.6nm,0.9s,baz=104,slow=1.9,SNR=21						
AKH	Akhalkalaki	69.81 307	⇓P	P	03 51 29.4	+1.3
AKASG	Malin Array Be	73.40 321	P	P	03 51 49.0	+0.1
comp=Z,6.5nm,0.7s,baz=51,slow=6.2,SNR=24						
AKASG	Malin Array Be	73.40 321	P	P	03 51 48.9	0.0
AKBB	Malin Array Si	73.40 321	P	P	03 51 48.0	-1.0
NB2	NORSAR Subarra	74.53 336	P	P	03 51 55.4	+0.1
comp=Z,1.0nm,0.5s,baz=45,slow=5.6						
NOA	NORSAR Array B	74.53 336	P	P	03 51 55.6	+0.2
comp=Z,1.1nm,0.7s,baz=54,slow=7.1,SNR=12						
BR131	Keskin Array S	77.07 309	IAmb	IAmb	03 52 12.4	
comp=Z,3.2nm,0.9s						
BRTR	Keskin Array B	77.07 309	P	P	03 52 11.2	+1.0
comp=Z,3.3nm,0.9s,baz=96,slow=3.7,SNR=17						
BRTR	Keskin Array B	77.07 309	P	P	03 52 09.5	-0.6
BIZ	Bicaz	77.28 319	⇑P	P	03 52 11.6	+0.6
BUR08	Bucovina Ar. S	77.34 320	IAmb	IAmb	03 52 13.6	
comp=Z,4.1nm,0.9s						
BURAR	Bucovina Array	77.35 320	⇓P	P	03 52 12.4	+1.0
BURAR	Bucovina Array	77.35 320	P	P	03 52 11.7	+0.3
RAYN	Ar Rayn	77.50 290	P	P	03 52 12.3	-0.4
RAYN			IAmb	IAmb	03 52 13.9	
comp=Z,6.3nm,0.9s						
VRI	Vrincioaia	77.59 318	⇑P	P	03 52 12.0	-0.7
BISRR	Bisoca	77.80 317	⇑P	P	03 52 15.5	+1.6
ICOR	Ion Corvin	78.05 316	⇑P	P	03 52 11.0	-4.2
KOLS	Kolonicke sedl	78.05 322	*e*P	P	03 52 15.8	+0.7
DOPR	Dopca	78.27 318	⇑P	P	03 52 17.3	+0.9
TRPA	Tarpa	78.43 321	⇑P	P	03 52 15.8	-1.3
VOIR		78.79 318	⇓P	P	03 52 18.8	-0.5
ARR	Arges	79.06 318	⇑P	P	03 52 22.1	+1.3
ELND	Elena	79.88 316	⇑P	P	03 52 24.5	-0.5
VYHS	Vyhne	80.06 323	*e*P	P	03 52 27.2	+1.3
CLL	Collm	80.82 328	*e*P	P	03 52 30.0	+0.1
comp=Z,7.0nm,0.9s						
CONA	Conrad Observa	81.90 324	*e*PcP	P	03 52 36.9	+1.3
comp=Z,6.3nm,0.9s						
KHC	Kasperske Hory	82.12 326	*e*P	P	03 52 36.5	-0.2
PDAR	Pinedale Array	82.22 43	P	P	03 52 39.1	+1.5
comp=Z,0.3nm,0.7s,baz=304,slow=2.1,SNR=3.4						
GERES	GERESS Array B	82.27 326	P	P	03 52 37.9	+0.4
comp=Z,1.8nm,0.6s,baz=42,slow=6.0,SNR=14						
GERES	GERESS Array B	82.27 326	P	P	03 52 37.1	-0.5
ARSA	Arzberg	82.53 324	*e*PcP	P	03 52 39.6	+0.8
comp=Z,2.2nm,0.6s						
MOA	Molln	82.72 325	*i* PcP	P	03 52 41.2	+1.4
comp=Z,4.5nm,1.0s						
SOKA	Soboth	83.18 324	*i* PcP	P	03 52 42.8	+0.6
comp=Z,6.2nm,0.6s						
MSTX	Muleshoe	92.10 45	P	P	03 53 21.1	-4.0
TXAR	Lajitas Array	94.82 49	P	P	03 53 39.0	+1.5
comp=Z,0.2nm,0.6s,baz=300,slow=1.8,SNR=2.3						
TXAR	Lajitas Array	94.82 49	P	P	03 53 37.3	-0.3
TORD	Torodi Ar. Bea	115.69 310	PKP	PKPdf	03 58 55.9	-0.3
comp=Z,0.4nm,0.6s,baz=17,slow=4.0,SNR=6.0						
TORD	Torodi Ar. Bea	115.69 310		PKPdf	03 58 54.4	-1.8
DBIC	Dimbokro	124.76 311	PKP	PKiKP	03 59 13.9	-0.1
comp=Z,2.0nm,0.7s,baz=34,slow=5.6,SNR=3.1						

*NNC **05** 03:49:00.4±2.8, 41°.02N×78°.23E, h0km, mb3.1, mpv2.7,*
Error ellipse: s-maj=20.6km s-min=11.6km az=162.0
*KRNET **05** 03:49:02.3±0.1, 41°.49N×78°.73E, h13km, mb2.3*

ISC 05 03:49:07.8±2.0, 41°.61N±0°.09×78°.32E±0°.06, h6km±13km, n17, σ1°69/26, 16C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.41	288	⇓*i*P	Pb	03 49 16.3	-1.3
baz=89							
TARG				⇓*i*S	Sb	03 49 26.1	+1.9
baz=89							
PRZ	Przheval'sk	0.88	4	⇑*i*P	Pg	03 49 21.1	-3.6
baz=47							
PRZ				⇑*i*S	Sg	03 49 34.8	-1.3
baz=47							
KDJ	Kajisay	1.00	302	⇑*i*P	Pg	03 49 26.6	-0.4
baz=99							
KDJ				⇑*i*S	Sn	03 49 44.5	+1.5
baz=99							
ANVS	Anan'yevo	1.27	338	⇑*i*P	Pn	03 49 29.9	-2.4
baz=29							
ANVS				⇑*i*S	Sg	03 49 50.5	+1.8
baz=29							
SATY	Saty	1.45	2	Pg	Pg	03 49 39.1	+3.5
3.6nm,0.3s							
SATY				Lg	Lg	03 50 06.9	
6.6nm,0.1s							
UZB	Uzynbulak	1.62	18	Pg	Pg	03 49 40.7	+1.8
1.4nm,0.5s							
UZB				Lg	Lg	03 50 09.3	
2.6nm,0.2s							
ULHL	Ulahol	1.68	293	⇑*i*P	Pb	03 49 38.1	-1.1
baz=93							
ULHL				⇑*i*S	Sg	03 50 03.6	+1.9
baz=93							
NRN	Naryn	1.75	265	⇓*i*P	Pb	03 49 38.9	-1.6
baz=69							
NRN				⇓*i*S	Sg	03 50 05.8	+1.7
baz=69							
PDGK	Podgornoye	1.93	26	Pg	Pg	03 49 46.3	+1.6
1.8nm,0.4s							
PDGK				Lg	Lg	03 50 18.9	
1.6nm,0.4s							
PDGK	Podgornoye	1.93	26	⇓Pg	Pg	03 49 45.2	+0.5
2.5nm,0.5s							
PDGK				⇑Lg	Lg	03 50 17.9	
2.2nm,0.5s							
BOOM	Boomskoye usch	1.98	297	⇑*i*P	Pn	03 49 42.1	+0.1
baz=97							
BOOM				⇑*i*S	Sg	03 50 11.8	+0.4
baz=97							
KZA	Kyzart	2.34	283	⇑*i*P	Pn	03 49 47.0	-0.2
baz=84							
KZA				⇑*i*S	Sb	03 50 19.3	-0.7
baz=84							
TKM2	Tokmak 2	2.41	304	⇑Pg	Pn	03 49 47.9	-0.1
1.9nm,0.9s							
TKM2				⇓Lg	Lg	03 50 27.9	
1.9nm,0.4s							
TKM2	Tokmak 2	2.41	304	⇑*i*P	Pn	03 49 48.5	+0.5
baz=3.0							
TKM2				⇑*i*S	Sb	03 50 21.6	-0.1
baz=3.0							
DGS	Degeres	2.50	312	Pg	Pg	03 49 54.6	-1.0
1.8nm,0.4s							
DGS				Lg	Lg	03 50 32.9	
4.1nm,0.6s							
ARXS	Arharly	2.63	352	Pg	Pg	03 49 59.2	+1.0
0.5nm,0.2s							
ARXS				Lg	Lg	03 50 40.6	
3.2nm,0.5s							
DJR	Jarkent	2.93	21	Pg	Pg	03 50 04.3	+0.4
0.8nm,0.2s							
DJR				Lg	Lg	03 50 49.6	
2.2nm,0.3s							

PGC 05 03:51:04.2±0.0, 59°.03N×136°.03W, h1km, ML2.6/2, 46km west of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	Bessie Mountai	0.76	126	P	Pg	03 51 17.8	-0.9
BESE				S	Sg	03 51 28.1	-0.4
BESE	Bessie Mountai	0.76	126		Pg	03 51 17.8	-0.9
BESE					Sg	03 51 28.1	-0.4
DHAK	Deception Hill	1.13	274		Pg	03 51 24.7	-1.2
DHAK					Sg	03 51 39.1	-1.4
JIS	Juneau Island	1.14	131	Pg	Pg	03 51 25.1	-1.0
JIS					Sg	03 51 39.6	-1.2
WHY	Whitehorse	1.74	19	Pn	Pn	03 51 34.8	-0.8
WHY				Sg	Sn	03 51 58.5	+0.1
WHY	Whitehorse	1.74	19	Pn	Pn	03 51 34.8	-0.8
WHY					Sn	03 51 58.5	+0.1
PNL	Peninsula	1.84	292	Pn	Pn	03 51 36.2	-0.7
PNL	Peninsula	1.84	292	Pn	Pn	03 51 36.2	-0.7
YUK7	Dusty Glacier	1.85	326	Pn	Pn	03 51 37.7	+0.5
YUK7				Sg	Sb	03 52 02.1	-0.5
YUK7	Dusty Glacier	1.85	326	Pn	Pn	03 51 37.7	+0.5
YUK7				Sg	Sb	03 52 02.1	-0.5
HYT	Haines Junctio	1.95	338	Sg	Sn	03 52 03.4	-0.4
HYT	Haines Junctio	1.95	338		Sn	03 52 03.4	-0.4
DLBC	Dease Lake	3.18	98	Pn	Pn	03 51 54.3	-1.1
DLBC				Sg	Sb	03 52 42.7	+1.9
DLBC	Dease Lake	3.18	98	Pn	Pn	03 51 54.3	-1.1
DLBC				Sg	Sb	03 52 42.7	+1.9

*ISCJB **05** 04:01:33.1±0.3, 35°.63N±0°.02×97°.38W±0°.02, h11km±2km,*
Error ellipse: s-maj=4.0km s-min=3.1km az=168.9
*ANF **05** 04:01:36.2±1.4, 35°.60N×97°.36W, h15km±10km, ML4.9/14,*
Error ellipse: s-maj=3.8km s-min=2.6km az=167.0

ISC 05 04:01:34.2±0.8, 35°.61N±0°.03×97°.38W±0°.03, h6km±5km, n83, σ0°76/96, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.04	7		Pg	04 01 35.4	-0.1
ADOK				Sg	Sg	04 01 36.8	+0.3
OK009	Oakdale Elemen	0.05	232	Pg	Pg	04 01 35.7	+0.1
OK009				Sg	Sg	04 01 36.3	-0.2
OK005	Luther M Schoo	0.16	74		Pg	04 01 37.3	-0.1
FNO	Franklin	0.35	183	Pg	Pg	04 01 41.1	0.0
FNO				Sg	Sg	04 01 46.4	+0.7
X34A	Smith Ranch, M	1.07	200	Pg	Pn	04 01 55.1	-0.7
X34A				Sg	Sb	04 02 08.4	-1.1
TUL1	Leonard	1.32	76	P	Pn	04 01 58.7	-0.6
baz=256							
TUL1				S	Sg	04 02 17.2	+0.4
baz=256							
TUL1	Leonard	1.32	76		Pb	04 01 59.1	-0.4
WMOK	Wichita Mounta	1.44	233	P	Pn	04 02 00.6	-0.4
baz=54							
WMOK				S	Sb	04 02 19.7	-0.4
baz=54							
WMOK	Wichita Mounta	1.44	233		Pn	04 02 00.5	-0.4
U32A	Winter Ranch,	1.52	301		Pb	04 02 02.7	-0.2
U32A				Sn	Sb	04 02 22.7	+0.2
HHAR	Hobbs	2.87	75		Pn	04 02 20.3	-0.2
HHAR				Sn	Sn	04 02 54.8	-0.7
W39A	Magazine	2.96	97	P	Pn	04 02 22.7	+0.8
baz=279							
W39A				S	Sn	04 02 59.2	+1.4
baz=279							
W39A	Magazine	2.96	97		Pn	04 02 22.1	+0.3
MIAR	Mount Ida	3.29	108	P	Pn	04 02 27.6	+1.3
baz=290							
MIAR				S	Sn	04 03 07.5	+1.7
baz=290							
MIAR	Mount Ida	3.29	108		Pn	04 02 26.8	+0.4
MIAR				Sn	Sn	04 03 04.9	-1.0
ABTX	Abilene, Hawle	3.52	213	P	Pn	04 02 30.7	+1.1
baz=32							
ABTX	Abilene, Hawle	3.52	213		Pn	04 02 29.7	+0.2
KSU1	Kansas State U	3.54	10	P	Pn	04 02 30.9	+1.2
baz=190							
AMTX	Amarillo	3.60	260	P	Pn	04 02 32.4	+1.7
baz=78							
AMTX	Amarillo	3.60	260		Pn	04 02 30.9	+0.2
WHTX	Lake Whitney,	3.61	181	P	Pn	04 02 31.5	+0.7
baz=1.4							
WHTX	Lake Whitney,	3.61	181		Pn	04 02 30.9	+0.1
CBKS	Cedar Bluff	3.71	330	P	Pn	04 02 33.3	+1.2
baz=149							
CBKS				Sb	Sg	04 03 32.9	-0.5
baz=149							
CBKS	Cedar Bluff	3.71	330		Pn	04 02 32.1	0.0
U40A	Yellville	3.74	77	P	Pn	04 02 33.1	+0.5
baz=259							
U40A	Yellville	3.74	77		Pn	04 02 32.7	+0.2
X40A	Basin Creek Fa	3.89	105	P	Pn	04 02 35.9	+1.3
baz=288							
X40A	Basin Creek Fa	3.89	105		Pn	04 02 34.4	-0.2
WLAR	White Oak Lake	4.00	117		Pn	04 02 34.6	-1.6
WHAR	Wooly Hollow	4.17	93		Pn	04 02 38.4	+0.1
WHAR				Sn	Sn	04 03 26.6	-0.8
UALR	University of	4.21	100		Pn	04 02 39.4	+0.4
W41B	Gary Mavity, V	4.21	94	P	Pn	04 02 39.9	+0.9
baz=277							
W41B	Gary Mavity, V	4.21	94		Pn	04 02 39.4	+0.4
FCAR	Ozark Folk Cen	4.28	85		Pn	04 02 40.0	+0.1
MGMO	Mountain Grove	4.40	68		Pn	04 02 41.7	+0.1
NATX	Nacogdoches	4.46	149		Pn	04 02 42.4	0.0
MSTX	Muleshoe	4.73	251	P	Pn	04 02 47.3	+1.0
baz=68							
MSTX	Muleshoe	4.73	251		Pn	04 02 45.6	-0.6
435B	Jarrell	4.82	182	P	Pn	04 02 48.5	+1.2
baz=2.3							
435B	Jarrell	4.82	182		Pn	04 02 47.6	+0.2
CCAR	Cane Creek	4.91	108		Pn	04 02 48.3	-0.3
LCAR	Lake Charles	5.08	83		Pn	04 02 50.4	-0.4
KSCO	Kaye Shedlock'	5.39	311		Pn	04 02 56.0	+0.7
X43A	Marvell	5.44	100	P	Pn	04 02 57.2	+1.4
baz=283							
X43A	Marvell	5.44	100		Pn	04 02 56.0	+0.2
CCM	Cathedral Cave	5.49	62	P	Pn	04 02 57.3	+0.7
baz=245							
CCM	Cathedral Cave	5.49	62		Pn	04 02 55.8	-0.7
JCT	Junction City	5.51	202		Pn	04 02 57.0	+0.2
PBMO	Poplar Bluff	5.74	76		Pn	04 02 59.0	-0.9
LPAR	Lepanto	5.77	88	Pn	Pn	04 03 00.3	0.0
BGNE	Belgrade	5.82	354	Pn	Pn	04 03 01.6	+0.5
T25A	Trinidad	5.88	287	P	Pn	04 03 03.1	+1.0
baz=103							
T25A	Trinidad	5.88	287	Pn	Pn	04 03 00.1	-2.0
SLM	Saint Louis	6.46	60	Pn	Pn	04 03 10.4	+0.6
OGNE	Ogallala	6.46	327		Pn	04 03 10.0	0.0
OXF	Oxford	6.63	97	P	Pn	04 03 12.5	+0.3
baz=282							
OXF	Oxford	6.63	97		Pn	04 03 11.8	-0.3
VBMS	Vicksburg	6.63	119	Pn	Pn	04 03 12.7	+0.4
S44A	Carbondale	6.85	70	P	Pn	04 03 15.5	+0.2
baz=254							
SDCO	Great Sand Dun	6.87	290	P	Pn	04 03 17.6	+1.9
baz=106							
SDCO	Great Sand Dun	6.87	290		Pn	04 03 15.9	+0.1
SIUC	Southern Illin	6.89	70		Pn	04 03 15.5	-0.2
Q24A	Divide	7.04	301	Pn	Pn	04 03 18.5	+0.3
SCIA	State Center	7.08	26		Pn	04 03 18.4	0.0
833A	Chaparral WMA,	7.46	194	Pn	Pn	04 03 23.5	-0.2
PLAL	Pickwick Lake	7.63	92		Pn	04 03 25.1	-0.9
MNTX	Cornudas Mount	7.73	242	P	Pn	04 03 28.4	+1.0
baz=58							
MNTX	Cornudas Mount	7.73	242		Pn	04 03 27.5	+0.1
BNM	Barren Site	7.74	262		Pn	04 03 27.4	-0.3
ISCO	Idaho Springs	7.75	305	P	Pn	04 03 28.9	+1.0
baz=120							
ISCO	Idaho Springs	7.75	305		Pn	04 03 28.2	+0.3
S22A	4UR Ranch, Cre	7.89	288	Pn	Pn	04 03 30.9	+1.1
LENM	Lemitar	8.02	262	Pn	Pn	04 03 31.7	+0.2
L40A	Anamosa	8.03	35	P	Pn	04 03 31.7	+0.2
baz=218							
HDIL	Hopedale	8.06	50		Pn	04 03 30.8	-1.1
ECSD	EROS Data Cent	8.13	4		Pn	04 03 32.0	-0.9
TX31	Lajitas Ar. Si	8.21	222		Pn	04 03 33.9	-0.2
TX32	Lajitas Array	8.21	222		Pn	04 03 33.9	-0.2
N23A	Red Feather La	8.56	311		Pn	04 03 39.2	+0.3
BLO	Bloomington	9.34	64		Pn	04 03 49.4	0.0
RSSD	Black Hills	9.92	331		Pn	04 03 58.2	+0.7
K22A	Casper	9.99	317		Pn	04 03 58.6	+0.1
SPMN	Marine on St.	10.21	19		Pn	04 03 59.9	-1.4

*TEH **05** 04:03:39.2, 34°.85N×45°.06E

comp=Z,0.0nm,0.5s
IKOM Komasi 2.17 107 Pn **Pb 04 04 18.1 +0.1**
MSL Mosul 2.19 315 *e*Pn **Pn 04 04 17.5 +2.6**
MSL AML AML 04 04 20.1
comp=Z,1μm,0.2s
MSL *e*Sn **Sb 04 04 46.0 +0.7**
IBZA Bozab 2.38 98 *e*Pn **Pb 04 04 20.7 -0.9**
CUKT Cukurca 2.65 335 *e*P **Pn 04 04 23.4 +2.0**
IKFM Kafar-mosalman 2.70 119 *e*Pn **Pn 04 04 24.5 +2.7**
IKFM IAMB IAmb 04 05 23.9
comp=Z,0.0nm,0.5s
IKFM Kafar-mosalman 2.70 119 Pn **Pn 04 04 24.6 +2.7**
HSRG Sareghieh 2.71 81 *e*Pn **Pb 04 04 25.5 -1.8**
IDOB Doab 2.83 111 *e*Pn **Pn 04 04 26.3 +2.4**
IDOB Doab 2.83 111 Pn **Pn 04 04 26.3 +2.4**
IAZR Azarshahr 2.93 15 *e*Pn **Pn 04 04 28.1 +2.7**
IAZR IAMB IAmb 04 05 19.2
comp=Z,40μm,1.1s
IAZR Azarshahr 2.93 15 Pn **Pn 04 04 28.0 +2.7**
HSAM Samen 3.03 101 *e*Pn **Pn 04 04 29.1 +2.3**
HSAM Samen 3.03 101 Pn **Pn 04 04 28.9 +2.1**
IKMR Kamar-syah 3.09 115 *e*Pn **Pn 04 04 29.9 +2.6**
IKMR Kamar-syah 3.09 115 Pn **Pn 04 04 29.7 +2.4**
IBST Bostanabad 3.22 28 *e*Pn **Pn 04 04 31.6 +2.2**
BDRS Dareh Seyedi 3.32 105 *e*Pn **Pn 04 04 33.2 +2.4**
BDRS IAMB IAmb 04 05 36.8
comp=Z,0.0nm,0.6s
BMDN Meydan 3.37 109 *e*Pn **Pn 04 04 34.9 +3.6**
BMDN IAMB IAmb 04 05 40.1
comp=Z,0.0nm,1.0s
HAGD Aghdareh 3.40 89 *e*Pn **Pn 04 04 34.8 +3.1**
HAGD IAMB IAmb 04 05 30.0
comp=Z,0.0nm,0.7s
ISHB Shabestar 3.46 8 *e*Pn **Pn 04 04 34.1 +1.5**
ISHB IAMB IAmb 04 05 38.5
comp=Z,5μm,1.0s
ISHB Shabestar 3.46 8 Pn **Pn 04 04 34.3 +1.7**
ISRB Sarab 3.66 35 *e*Pn **Pn 04 04 38.1 +2.7**
ISRB IAMB IAmb 04 05 47.1
comp=Z,5μm,1.2s
ISRB Sarab 3.66 35 Pn **Pn 04 04 37.8 +2.4**
IHRS Heris 3.83 25 *e*Pn **Pn 04 04 41.3 +3.6**
QABG Abgarm-Qazvin 3.83 76 *e*Pn **Pn 04 04 40.6 +2.8**
AKDM Akdamar-Van 3.84 335 *e*P **Pb 04 04 43.3 -3.1**
IHSH Hashtrud 3.90 27 *e*Pn Pn 04 04 30.0 -8.7
IHSH IAMB IAmb 04 04 37.8
comp=Z,7μm,0.6s
NSR Nassriya 3.95 166 *e*Pn **Pn 04 04 43.0 +3.9**
NSR *e*Sn **Sn 04 05 29.5 +4.2**
VANB Van 3.96 341 *e*P **Pg 04 04 52.4 -2.1**
ORD Ordubad 4.14 11 *e*Pn **Pb 04 04 48.8 -2.8**
ORD Ordubad 4.14 11 P **Pb 04 04 48.9 -2.8**
SNR=28
ORD S **Sb 04 05 41.1 -0.6**
RTB Rutbah 4.31 246 *e*Pn **Pn 04 04 48.0 +3.8**
RTB AML AML 04 04 59.8
comp=Z,223nm,0.6s
RTB *e*Sn **Sn 04 05 39.0 +4.6**
NAX Nakhchivan 4.33 5 *e*Pn **Pb 04 04 52.8 -2.0**
NAX Nakhchivan 4.33 5 P **Pb 04 04 52.9 -2.0**
SNR=44
NAX S **Sb 04 05 46.2 -0.9**
CLDR Caldiran 4.37 349 *e*P **Pg 04 05 00.7 -1.8**
GURO Guroymak-BITLI 4.40 328 *e*P **Pg 04 05 02.9 -0.1**
SVAN Silvan-Diyarba 4.50 318 *e*P **Pg 04 05 06.2 +1.2**
IGZV Ghazvin 4.51 69 IAMB IAmb 04 06 30.6
comp=Z,2μm,0.6s
MAZI Mazidag 4.52 306 *e*P **Pg 04 05 04.4 -0.9**
SBZ Shahbuz 4.56 5 *e*Pn **Pb 04 04 56.4 -2.3**
SBZ Shahbuz 4.56 5 P **Pb 04 04 56.4 -2.3**
SNR=10
SBZ S **Sb 04 05 51.7 -1.9**
LRK Lerik 4.63 34 P **Pn 04 04 51.9 +3.2**
SNR=19
LRK S **Sn 04 05 44.2 +1.7**
MLAZ Malazgirt-MUS 4.71 336 *e*P Pg 04 05 14.5 +5.5
ASTR Astara 4.79 38 P **Pn 04 04 54.2 +3.6**
SNR=12
ASTR S **Sn 04 05 46.9 +0.9**
YRD Yardimli 4.81 32 P Pn 04 04 56.1 +4.9
SNR=25
YRD S **Sn 04 05 49.4 +2.5**
QALM Alamut, Qazvin 4.85 69 *e*Pn **Pn 04 04 54.1 +2.3**
LKRN Lenkeran, Azer 4.90 37 P **Pn 04 04 56.2 +4.1**
SNR=11
LKRN S **Sn 04 05 51.0 +2.3**
IQOM Qom 4.98 88 *e*Pn **Pn 04 04 56.4 +2.8**
DYBB Diyarbakir 5.00 310 P Pg 04 05 19.8 +5.3
GLBA Clilabad 5.15 31 P Pn 04 05 00.9 +5.3
SNR=10
GLBA S **Sn 04 05 56.6 +1.6**
VRTB Varto-Mus 5.16 328 *e*P Pg 04 05 22.6 +5.1
TASB TASBURUN-IGDIR 5.16 353 *e*P **Pg 04 05 16.7 -0.8**
GNI Garni 5.29 358 *i* P **Pg 04 05 21.9 +1.9**
SNR=8.4
GNI Garni 5.29 358 Pn **Pn 04 05 01.2 +3.5**
comp=Z,0.6nm,0.3s,baz=228,slow=14,SNR=1.9
GNI Lg Lg 04 06 33.2
comp=Z,0.8nm,0.3s,baz=308,slow=18,SNR=2.8
GNI LR LR 04 07 40.5
comp=Z,201nm,18.5s,baz=161,slow=45
GNI Garni 5.29 358 *e*P **Pg 04 05 16.9 -3.2**
GNI Garni 5.29 358 **Pn 04 04 57.3 -0.4**
GNI Sn **Sn 04 05 57.4 -1.4**
IPIR Pirpir 5.35 112 *e*Pn **Pn 04 05 00.1 +1.4**
IPIR IAMB IAmb 04 06 08.3
comp=Z,4μm,0.5s
JHBN Jahan bin 5.39 117 *e*Pn **Pn 04 05 00.4 +1.1**
BNGB Bingl 5.40 321 *e*P Pg 04 05 26.7 +4.7
IVRN Varamin 5.52 87 *e*Pn **Pn 04 05 02.5 +1.7**
ZNGN Zangian 5.59 118 *e*Pn **Pn 04 05 03.3 +1.3**
ROKH ROKH 5.61 115 *e*Pn **Pn 04 05 03.6 +1.4**
URFA Urfa 5.64 299 *e*P **Pg 04 05 24.4 -2.2**
IKLH Kolahrood 5.66 104 *e*Pn **Pn 04 05 06.3 +3.4**
GANJ Ganja 5.88 10 S **Sn 04 06 20.1 +7.1**
IBRJ Brojen 5.99 118 *e*Pn **Pn 04 05 09.1 +1.6**
QZX Qazax, Azerbai 6.20 3 S Sn 04 06 30.7 +10
MALT Malatya 6.33 305 *e*P Pg 04 05 44.8 +5.0
IFIR Firoozkooh 6.38 81 *e*Pn **Pn 04 05 16.1 +3.3**
IZEF Zefreh 6.39 106 *e*Pn **Pn 04 05 14.2 +1.3**
ILAS Lasjerd 6.53 83 *e*Pn **Pn 04 05 17.0 +2.1**
KLNJ Kolanjah 6.73 123 *e*Pn **Pn 04 05 19.6 +1.9**
GAZ Gaziantep 6.73 292 Pn **Pn 04 05 18.4 +0.9**
GAZ Sn **Sn 04 06 35.0 +0.9**
BAYT Aydıntepe-Bayb 6.75 326 *e*P Pg 04 05 55.2 +7.3
ISHM Shahmirzad 6.83 80 *e*Pn **Pn 04 05 21.9 +2.9**
IRAM Ramesheh 6.87 114 *e*Pn **Pn 04 05 20.9 +1.4**
ASF Jabal al Asfar 7.29 251 Pn **Pn 04 05 26.5 +1.4**
comp=Z,0.9nm,0.3s,baz=0.3,slow=2.9,SNR=7.2
ASF Sn **Sn 04 06 46.6 -1.2**
comp=Z,1.1nm,0.3s,baz=44,slow=7.7,SNR=3.8
ASF Lg Lg 04 07 27.4
comp=Z,1.7nm,0.3s,baz=265,slow=22,SNR=3.3
IANJ Anjilo 7.32 83 *e*Pn **Pn 04 05 28.3 +2.7**
ANAR Anarak 7.42 100 *e*Pn **Pn 04 05 28.3 +1.3**
MMAI Mount Meron Ar 8.19 260 Pn **Pn 04 05 40.1 +2.6**
comp=Z,0.7nm,0.3s,baz=74,slow=15,SNR=3.5
MMAI Lg Lg 04 07 55.7
comp=Z,4.3nm,0.3s,baz=74,slow=25,SNR=5.2
MMAI LR LR 04 09 06.4
comp=Z,108nm,20.0s,baz=80,slow=40
ISRV Sarvestan 8.77 126 *e*Pn **Pn 04 05 46.2 +0.6**
KBZ Khabaz 9.02 350 Pn **Pn 04 05 52.4 +3.7**
comp=Z,0.1nm,0.3s,baz=222,slow=5.0,SNR=2.0
KBZ LR LR 04 09 20.9
comp=Z,108nm,18.6s,baz=177,slow=38
KVAR Kislovodsk Arr 9.27 350 LR LR 04 09 36.3
comp=Z,408nm,19.8s,baz=70,slow=38
TPRV Parvadeh(Tabas 9.87 97 *e*Pn **Pn 04 06 02.7 +2.2**
EIL Elat 9.96 242 Pn **Pn 04 06 03.3 +1.6**
comp=Z,0.4nm,0.3s,baz=67,slow=17,SNR=4.1
EIL Lg Lg 04 08 55.4
comp=Z,0.9nm,0.3s,baz=350,slow=10,SNR=2.3
BRTR Keskin Array B 10.28 302 Pn **Pn 04 06 09.9 +3.7**
comp=Z,0.0nm,0.3s,baz=129,slow=13,SNR=2.7
BRTR LR LR 04 10 34.8
comp=Z,59nm,21.7s,baz=187,slow=40
BRTR Keskin Array B 10.28 302 **Pn 04 06 06.3 +0.1**
GEYT Alibeck 11.00 70 Pn **Pn 04 06 17.8 +1.9**
comp=Z,0.6nm,0.3s,baz=270,slow=13,SNR=3.1
GEYT LR LR 04 10 37.0
comp=Z,104nm,18.1s,baz=190,slow=38
GEYT Alibeck 11.00 70 **Pn 04 06 15.9 -0.1**
RAYN Ar Rayn 11.30 178 **Pn 04 06 19.8 -0.2**

RAYN Sn **Sn 04 08 24.5 -1.8**
SHME Shamm 12.99 129 *i* P **Pn 04 06 41.3 -1.9**
SNR=7.4
BANOM Banah 13.19 129 *i* P **Pn 04 06 45.0 -0.9**
SNR=16
BANOM *i* P P 04 06 45.0 -11
SNR=8.3
BANOM Banah 13.19 129 P **Pn 04 06 44.2 -1.6**
SNR=8.3
BANOM S **Sn 04 09 06.0 -6.4**
NAZ Nazwa, Dubai 13.48 134 *i* P **Pn 04 06 48.6 -1.2**
SNR=10
NAZ Nazwa, Dubai 13.48 134 P **Pn 04 06 49.2 -0.6**
SNR=11
MSFE Esma-Masafi 13.50 131 *i* P **Pn 04 06 48.3 -1.8**
SNR=12
MSFE S Sn 04 09 10.0 -10
ASUD Al Ashush, Dub 13.56 136 P **Pn 04 06 49.5 -1.4**
ASUD Al Ashush, Dub 13.56 136 S **Sn 04 09 13.3 -8.3**
MDH Madha 13.63 131 *i* P **Pn 04 06 50.6 -1.3**
SNR=13
MDH Madha 13.63 131 P **Pn 04 06 50.9 -1.0**
SNR=13
MDH S **Sn 04 09 15.7 -7.6**
UOSS Minazif 13.83 133 *i* P **Pn 04 06 53.4 -1.2**
SNR=8.7
UOSS Minazif 13.83 133 P **Pn 04 06 53.3 -1.3**
SNR=8.7
UOSS Minazif 13.83 133 **Pn 04 06 52.5 -2.2**
HATD Hatta, Dubai 13.88 133 *i* P **Pn 04 06 53.7 -1.6**
SNR=8.3
HATD Hatta, Dubai 13.88 133 P **Pn 04 06 54.2 -1.1**
SNR=8.3
HATD S Sn 04 09 20.4 -9.0
ASHO Ashiyiah 13.94 134 *i* P **Pn 04 06 55.0 -1.3**
SNR=11
ASHO Ashiyiah 13.94 134 P **Pn 04 06 54.9 -1.3**
SNR=11
ASHO S **Sn 04 09 23.3 -7.7**
ALNE Al Ain 14.24 136 P **Pn 04 06 58.8 -1.4**
BSY Bisya 16.09 135 P **Pn 04 07 22.4 -2.5**
SNR=6.3
SMDO Samad 16.36 132 P **Pn 04 07 26.1 -2.2**
SMDO S **Sn 04 10 21.2 -8.7**
WSAR Wadi Sarin 16.58 131 Pn **Pn 04 07 27.6 -3.5**
comp=Z,1.5nm,0.3s,baz=348,slow=13,SNR=9.7
WBK Wadi Bani Khal 17.26 131 P **Pn 04 07 38.1 -1.6**
WBK S **Sn 04 10 44.4 -7.2**
JLN Jalan Bani Buh 17.87 131 P **Pn 04 07 45.3 -1.9**
MHTO MHTO 17.91 137 P **Pn 04 07 45.1 -2.7**
SNR=7.6
MHTO S Sn 04 10 56.8 -11
MLR Muntele Rosu 17.99 312 P **P 04 07 50.3 +1.1**
comp=Z,0.1nm,0.3s,baz=276,slow=8.3,SNR=3.0
MLR Muntele Rosu 17.99 312 P **Pn 04 07 49.6 +0.9**
ABKAR Abkulak array 18.12 33 P **Pn 04 07 49.6 -0.5**
ABKAR Abkulak array 18.12 33 P **Pn 04 07 49.6 -0.5**
AKTO Aktyubinsk 18.23 27 P **P 04 07 53.2 +1.5**
comp=Z,0.1nm,0.3s,baz=230,slow=12,SNR=4.1
VOIR 18.52 311 ⇑P **Pn 04 07 58.3 +3.2**
DQM DQM 18.54 140 P **P 04 07 54.4 -0.8**
DQM S **Sn 04 11 12.4 -10**
DOPR Dopca 18.57 313 ⇑P **Pn 04 07 57.0 +1.3**
WHFO Wadi Hawf 18.58 153 P **P 04 07 52.6 -3.2**
SNR=16
WHFO S Sn 04 11 12.9 -11
BIZ Bicaz 18.66 316 ⇑P **P 04 07 53.9 -2.5**
ARR Arges 18.75 310 ⇓P **Pn 04 07 59.5 +1.6**
ABTO Aybut 18.93 155 P **P 04 07 57.2 -2.5**
SNR=11
ABTO S Sn 04 11 19.6 -13
RBK Rabkut 19.13 152 P **P 04 07 59.9 -1.9**
RBK S Sn 04 11 24.4 -12
DMTO DMTO 19.23 150 P **P 04 08 00.9 -1.9**
SNR=30
SHAO Shalim 19.24 148 *i* P **P 04 08 00.8 -2.2**
SNR=8.3
SHAO Shalim 19.24 148 P **P 04 08 02.1 -0.9**
SNR=8.6
LOT Lotru 19.33 310 ⇑P **Pn 04 08 05.5 +0.6**
BURAR Bucovina Array 19.53 317 ⇓P **P 04 08 04.2 -1.9**
BURAR Bucovina Array 19.53 317 P **P 04 08 06.9 +0.8**
BUR08 Bucovina Ar. S 19.56 317 P **P 04 08 07.2 +0.8**
BUR08 IAmb IAmb 04 08 10.7
comp=Z,4.3nm,1.1s
AKASG Malin Array Be 19.56 329 P **P 04 08 07.2 +1.0**
comp=Z,0.7nm,0.3s,baz=137,slow=12,SNR=1.8
AKASG Malin Array Be 19.56 329 P **P 04 08 05.6 -0.6**
GZR Gura Zlata 19.94 309 ⇑P **P 04 08 11.7 +1.2**
DRGR 20.59 312 ⇑P **P 04 08 18.7 +1.2**
OBN Obninsk 21.09 346 LR LR 04 17 43.0
comp=Z,26nm,20.1s,baz=238,slow=40
BTK Batken 21.10 68 P **P 04 08 22.8 -0.4**
BTK IAmb IAmb 04 08 39.7
comp=Z,6.2nm,0.9s
TRPA Tarpa 21.34 315 ⇑P **P 04 08 26.7 +1.3**
KOLS Kolonicke sedl 21.90 317 *e*P **P 04 08 34.1 +2.5**
KOLS Kolonicke sedl 21.90 317 *e*SN **S 04 12 27.8 -5.5**
ARU Arti 23.48 19 P **P 04 08 49.1 +1.0**
comp=Z,3.4nm,0.2s,baz=189,slow=7.6,SNR=4.0
ARU Arti 23.48 19 P **P 04 08 46.9 -1.1**
ARU IAmb IAmb 04 09 03.5
comp=Z,7.0nm,0.9s
VYHS Vyhne 23.69 313 *e*P **P 04 08 53.3 +3.1**
KSH Kashi 25.03 70 *e*P **P 04 09 03.1 +0.3**
KSH S **S 04 13 23.0 -3.9**
KSH LR LR
comp=N,170nm,12.8s
KSH LR LR
comp=E,190nm,12.6s
NRN Naryn 25.15 66 P **P 04 09 02.9 -1.3**
NRN IAmb IAmb 04 09 07.7
comp=Z,5.9nm,1.1s
ARSA Arzberg 25.29 308 *e*P **P 04 09 06.9 +1.9**
comp=Z,3.1nm,0.5s
CONA Conrad Observa 25.30 310 P **P 04 09 06.9 +1.8**
comp=Z,10nm,1.4s
VRAC Vranov 25.38 313 P **P 04 09 06.6 +0.9**
comp=Z,2.3nm,0.7s,baz=109,slow=9.9,SNR=3.7
BVAR Borovoye Array 25.55 37 P **P 04 09 08.7 +1.5**
comp=Z,1.7nm,0.6s,baz=224,slow=6.2,SNR=7.2
MOA Molln 26.29 309 *i* P **P 04 09 15.6 +1.6**
comp=Z,7.3nm,1.2s
GERES GERESS Array B 26.97 311 P **P 04 09 21.8 +1.6**
comp=Z,0.3nm,0.4s,baz=98,slow=4.1,SNR=4.0
GERES GERESS Array B 26.97 311 P **P 04 09 20.1 -0.2**
ABTA Abfaltersbach 27.13 306 *e*P **P 04 09 22.8 +1.1**
comp=Z,8.2nm,1.4s
KURBB Kurchatov Arra 28.92 47 P **P 04 09 39.0 +1.5**
comp=Z,0.5nm,0.4s,baz=257,slow=8.6,SNR=4.4
DAVA Damuels 29.00 306 *e*P **P 04 09 38.8 +0.4**
comp=Z,9.9nm,1.2s
FINES FINESS Array B 29.23 341 P **P 04 09 40.0 -0.1**
comp=Z,2.5nm,0.8s,baz=142,slow=9.3,SNR=6.1
FINES LR LR 04 21 04.9
comp=Z,56nm,19.2s,baz=352,slow=36
FINES FINESS Array B 29.23 341 P **P 04 09 40.2 +0.1**
MK31 Makanchi Array 30.35 55 P **P 04 09 50.3 +0.1**
MK31 IAmb IAmb 04 09 52.5
comp=Z,2.7nm,1.0s
MKAR Makanchi Array 30.35 55 P **P 04 09 51.8 +1.6**
comp=Z,3.1nm,0.9s,baz=254,slow=6.9,SNR=17
MKAR LR LR 04 25 11.3
comp=Z,34nm,18.5s,baz=278,slow=42
MKAR Makanchi Array 30.35 55 P **P 04 09 50.5 +0.2**
HFS Hagfors 32.42 331 P **P 04 10 08.7 +0.4**
comp=Z,7.9nm,0.4s,baz=127,slow=9.5,SNR=78
DANN Dangsing 33.48 90 *e*P **P 04 10 19.3 +1.0**
comp=Z,22nm,0.7s
KOLN Koldanda 33.56 91 *e*P **P 04 10 19.1 +0.2**
ZALV Zalesovo Beam 33.66 43 P **P 04 10 20.1 +0.9**
comp=Z,0.7nm,0.3s,baz=260,slow=7.2,SNR=3.1
ZALV Zalesovo Beam 33.66 43 P **P 04 10 18.4 -0.8**
NB2 NORSAR Subarra 33.95 331 P **P 04 10 21.1 -0.5**
comp=Z,0.8nm,0.6s,baz=124,slow=9.3
NOA NORSAR Array B 33.95 331 P **P 04 10 21.1 -0.5**
comp=Z,1.3nm,0.6s,baz=125,slow=8.6,SNR=6.4
GKN Gorkha 34.33 90 *e*P **P 04 10 25.9 +0.4**
comp=Z,26nm,0.7s
DMN Daman 34.86 91 *e*P **P 04 10 30.8 +0.6**
comp=Z,34nm,1.2s
PKIN Phulchoki 35.11 91 *e*P **P 04 10 32.8 +0.4**
comp=Z,13nm,0.8s
PKI Pulchoki 35.12 91 *e*P **P 04 10 32.9 +0.4**
comp=Z,13nm,0.8s

GUN Gumba 35.38 90 *e*P **P 04 10 35.5 +0.7**
comp=Z,45nm,1.0s
JIRN Jiri 35.73 90 *e*P **P 04 10 38.5 +0.7**
comp=Z,24nm,0.6s
RAMN Ramite 36.34 91 *e*P **P 04 10 43.0 +0.1**
comp=Z,18nm,0.6s
ARCES ARCESS Array B 36.37 349 P **P 04 10 42.3 -0.1**
comp=Z,2.0nm,0.9s,baz=169,slow=6.9,SNR=8.1
ARCES ARCESS Array B 36.37 349 P **P 04 10 42.0 -0.4**
TAM Tamanrasset 36.41 261 P **P 04 10 44.2 +0.9**
TAM IAmb IAmb 04 10 46.6
comp=Z,3.2nm,1.0s
TAPN Taplejung 37.10 90 *e*P **P 04 10 49.6 +0.2**
comp=Z,20nm,1.1s
GTA Gaotai 43.37 67 *e*P P 04 11 33.6 -7.5
GTA pP pP 04 11 36.7 -8.2
GTA sP sP 04 11 39.7 -6.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA smax smax
comp=N,9.0nm,1.0s
GTA smax smax
comp=E,5.0nm,1.2s
TORD Torodi Ar. Bea 44.65 252 P **P 04 11 51.5 +0.1**
comp=E,1.1nm,0.8s,baz=39,slow=12,SNR=5.5
TORD LR LR 04 35 10.9
comp=E,36nm,18.4s,baz=315,slow=42
SONM Songino Array 46.70 54 P **P 04 12 08.6 +1.0**
comp=E,0.4nm,0.4s,baz=265,slow=8.8,SNR=3.2
CMAR Chiang Mai Arr 50.31 94 P **P 04 12 37.9 +2.5**
comp=E,1.1nm,0.3s,baz=309,slow=8.8,SNR=4.2
DBIC Dimbokro 53.69 250 P **P 04 13 00.9 +0.3**
comp=E,2.1nm,0.8s,baz=39,slow=7.2,SNR=4.8
DBIC LR LR 04 38 15.3
comp=E,43nm,18.8s,baz=308,slow=39
DBIC Dimbokro 53.69 250 P **P 04 13 01.1 +0.4**
USRK Ussuriysk Ar. 64.76 53 P **P 04 14 18.1 +1.2**
comp=E,1.4nm,0.6s,baz=289,slow=9.0,SNR=2.9
USRK Ussuriysk Ar. 64.76 53 P **P 04 14 16.6 -0.4**
KSRS Korea Array 64.83 61 P **P 04 14 18.2 +0.7**
comp=E,0.8nm,0.3s,baz=265,slow=7.2,SNR=3.9
BOSA Boshof 65.83 199 P **P 04 14 24.7 +0.6**
comp=E,2.3nm,0.7s,baz=16,slow=5.2,SNR=5.7
BOSA Boshof 65.83 199 P **P 04 14 24.5 +0.5**
ILAR Eielson Array 80.27 5 P **P 04 15 48.9 -0.1**
comp=E,1.3nm,0.9s,baz=328,slow=4.4,SNR=13
ILAR Eielson Array 80.27 5 P **P 04 15 49.3 +0.3**

NIED ***05*** *04:18:00,30°.40N×141°.00E,h113km,Mw5.0 Best double couple: M0=3.03000×10^16 NP1:φ=51.00000°, δ=21.00000°, λ=73.00000°. NP2:φ=249.00000°, δ=70.00000°, λ=96.00000°.*

BJI ***05*** *04:18:23.3±0.0,30°.28N×140°.88E,h135km,mb4.9/73, mB4.9/48*

MOS ***05*** *04:18:25.2±1.0,30°.26N×140°.28E,h113km,mb5.1/46, Error ellipse: s-maj=8.8km s-min=3.9km az=112.3*

JMA ***05*** *04:18:25.9±0.1,30°.42N×140°.98E,h153km±4km,M5.1*

ISCJB ***05*** *04:18:26.2±0.3,30°.22N±0°.02×140°.31E±0°.03, h121km±2km,mb5.1/105,Error ellipse: s-maj=3.7km s-min=2.9km az=156.5*

NEIC ***05*** *04:18:26.4±1.7,30°.27N±0°.05×140°.41E±0°.09, h116km±4km,mb4.9/211*

IDC ***05*** *04:18:27.0±0.5,30°.28N×140°.35E,h115km±4km,mb4.6/36, mb1 4.7/40,mb1mx4.6/50,mbtmp5.0/40,MS3.6/24, Ms1 3.6/24,ms1mx3.5/35,Error ellipse: s-maj=10.5km s-min=5.4km az=81.0*

GCMT ***05*** *04:18:30.4±0.2,30°.36N±0°.02×140°.54E±0°.02, h132km±2km,MW5.0/96,Moment Tensor Solution. s48,c57; s96,c148; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.18±.14; Mθθ-1.90±.15; Mφφ0.72±.15; Mrθ-2.46±.10; Mφφ-2.30±.13; Mφr-2.46±.10; Best double couple: M0=4.26100×10^16 NP1:φ=216.00000°, δ=78.00000°, λ=65.00000°. NP2:φ=102.00000°, δ=28.00000°, λ=153.00000°. Principal axes: T 3.4450, Plg51.0000°, Azm98.0000°; N 1.6330, Plg24.0000°, Azm222.0000°; P -5.0770, Plg29.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 04:18:27.9±0.3,30°.31N±0°.03×140°.50E±0°.04,h129km±2km, h130km±pP-P,n640,σ=1.52/658,mb4.9/191,32C-56D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.23**	**344**	P	**Pn**	**04 19 05.0**	**+0.3**
JAOM				S	**Sn**	**04 19 34.9**	**+1.9**
JHCJ	**Hachijojimakas**	**2.81**	**348**	P	**Pn**	**04 19 11.5**	**-0.6**
JHCJ				S	**Sn**	**04 19 44.3**	**-1.8**
JHJ2	**Mitsune**	**2.85**	**348**	P	**Pn**	**04 19 12.1**	**-0.4**
JHJ2				*e*S	**Sn**	**04 19 46.6**	**-0.3**
JHJ2	**Mitsune**	**2.85**	**348**		**Pn**	**04 19 13.1**	**+0.6**
JHJ2				Sn	**Sn**	**04 19 46.0**	**-0.9**
JHJ	**Hachijo jima 2**	**2.86**	**348**	P	**Pn**	**04 19 11.2**	**-1.4**
	408nm,0.3s,baz=94,slow=22,SNR=44						
JHJ				S	**Sn**	**04 19 45.4**	**-1.8**
	501nm,0.3s,baz=347,slow=22,SNR=10						
CBIJ	**Chichi jima**	**3.53**	**155**	⇓P	**Pn**	**04 19 20.0**	**-1.5**
CBIJ				*e*S	**Sn**	**04 20 00.0**	**-2.9**
JCJ	**Chichijima**	**3.53**	**155**	P	**Pn**	**04 19 20.1**	**-1.4**
	443nm,0.3s,baz=4.0,slow=21,SNR=395						
JCJ				S	**Sn**	**04 20 00.6**	**-2.3**
	1μm,0.3s,baz=299,slow=20,SNR=13						
JMKN	**Mikurajimanish**	**3.65**	**348**	P	**Pn**	**04 19 22.6**	**-0.4**
JMKN				S	**Sn**	**04 20 06.6**	**+1.0**
JHH2	**Haha-jima-NKT2**	**3.95**	**158**	⇓P	**Pn**	**04 19 25.8**	**-1.2**
JHH2				*e*S	**Sn**	**04 20 11.0**	**-1.9**
BSO1	**Boso 1**	**4.35**	**5**	P	**Pn**	**04 19 29.8**	**-1.9**
BSO1				*e*S	**Sn**	**04 20 17.0**	**-4.3**
BSO3	**Boso 3**	**4.47**	**0**	P	**Pn**	**04 19 32.5**	**-1.1**
JIM2	**Oshima 3**	**4.48**	**349**	P	**Pn**	**04 19 33.6**	**-0.4**
TTO1	**TONANKAI O.B.S**	**4.56**	**317**	⇓P	**Pn**	**04 19 36.3**	**+1.5**
JIZS	**Izushimoda**	**4.60**	**343**	P	**Pn**	**04 19 35.8**	**+0.2**
JSG	**Sagara**	**4.77**	**336**	P	**Pn**	**04 19 39.6**	**+1.8**
JOD2	**Odawara 2**	**5.08**	**347**	P	**Pn**	**04 19 41.3**	**-0.7**
JOD2				*e*S	**Sn**	**04 20 39.5**	**-0.2**
HMMJ	**Hamamatsu 2**	**5.10**	**333**	⇓P	**Pn**	**04 19 43.3**	**+1.1**
SHZ3	**Shizuoka 3**	**5.12**	**338**	P	**Pn**	**04 19 43.4**	**+0.9**
JAA	**Atsumi**	**5.16**	**328**	P	**Pn**	**04 19 44.2**	**+1.2**
JMMH	**Miemihama**	**5.16**	**314**	⇓P	**Pn**	**04 19 44.2**	**+1.1**
JIE	**Ise**	**5.18**	**323**	⇓P	**Pn**	**04 19 44.6**	**+1.3**
JYZW	**Yoshizawa**	**5.22**	**334**	P	**Pn**	**04 19 44.9**	**+1.1**
JSSY	**Shinshiroyabe**	**5.24**	**332**	P	**Pn**	**04 19 45.5**	**+1.4**
JKN2	**Miekihoku**	**5.30**	**319**	P	**Pn**	**04 19 46.1**	**+1.1**
JTNC	**Tanabenakahech**	**5.42**	**311**	P	**Pn**	**04 19 47.8**	**+1.2**
JNY	**Yasuok**	**5.50**	**337**	⇓P	**Pn**	**04 19 48.7**	**+1.0**
TSUJ	**Tsu 2**	**5.58**	**323**	⇓P	**Pn**	**04 19 50.5**	**+1.9**
JAO	**Obara**	**5.64**	**332**	⇓P	**Pn**	**04 19 51.1**	**+1.5**
INU	**Inuyama**	**5.81**	**331**		**Pn**	**04 19 50.5**	**-1.3**
JRY	**Ryogami san**	**5.84**	**347**	P	**Pn**	**04 19 50.9**	**-1.4**
JRY				*e*S	**Sn**	**04 20 55.6**	**-2.5**
JGF	**Kuroka**	**5.90**	**334**	P	**Pn**	**04 19 54.1**	**+1.1**
JYTA	**Yamagatataniai**	**6.14**	**330**	⇓P	**Pn**	**04 19 58.0**	**+1.8**
JFM	**Mihama**	**6.44**	**325**	⇓P	**Pn**	**04 20 02.3**	**+2.1**
JGN	**Niukaw**	**6.47**	**337**	P	**Pn**	**04 20 01.8**	**+1.1**
MJAR	**Matsushiro Arr**	**6.50**	**343**	P	**Pn**	**04 20 01.1**	**0.0**
MJAR						04 21 12.2	
MJAR	**Matsushiro Arr**	**6.50**	**343**	P	**Pn**	**04 20 00.6**	**-0.5**
	2.1nm,0.3s,baz=172,slow=11,SNR=66						
MJAR				S	**Sn**	**04 21 13.7**	**-0.2**
	0.9nm,0.3s,baz=157,slow=19,SNR=3.4						
MJAR	**Matsushiro Arr**	**6.50**	**343**		**Pn**	**04 20 01.1**	**0.0**
MJAR					**Sn**	**04 21 12.2**	**-1.8**
MAJO	**Matsushiro**	**6.50**	**343**	*d* iP	**Pn**	**04 20 00.9**	**-0.2**
MAJO	**Matsushiro**	**6.50**	**343**		**Pn**	**04 20 01.6**	**+0.5**
MAT	**Matsushiro**	**6.50**	**343**	P	**Pn**	**04 20 01.7**	**+0.6**
MAT				S	**Sn**	**04 21 11.9**	**-2.1**
MJB9	**Matsu-Tunnel**	**6.50**	**343**		**Pn**	**04 20 01.5**	**+0.4**
JTO	**Tosashimizu**	**7.04**	**293**	P	**Pn**	**04 20 09.6**	**+1.2**
JTO				*e*S	**Sn**	**04 21 29.3**	**+2.3**
JJH	**Hakui**	**7.29**	**336**	P	**Pn**	**04 20 12.6**	**+1.0**
JHS	**Saijyo**	**7.78**	**309**	P	**Pn**	**04 20 20.5**	**+2.1**
JIO	**Ouri**	**8.15**	**5**	P	**Pn**	**04 20 20.4**	**-2.9**
JOI	**OKI**	**8.50**	**316**	P	**Pn**	**04 20 29.7**	**+1.7**
JMK	**Ichinoseki**	**8.64**	**4**	P	**Pn**	**04 20 27.1**	**-2.7**
JMK				*e*S	Sn	04 21 56.4	-9.1
JNU	**Nakatsue**	**8.66**	**291**	P	**Pn**	**04 20 33.5**	**+3.2**
	2.2nm,0.3s,baz=95,slow=8.2,SNR=34						
JNU				S	**Sn**	**04 22 10.3**	**+4.1**

0.1nm,0.3s,baz=291,slow=22,SNR=1.3
JNU LR LR 04 22 42.3
comp=Z,274nm,21.5s,baz=117,slow=30
JNU Nakatsue 8.66 291 Pn 04 20 28.8 -1.4
JNU **Sn 04 22 05.1 -1.1**
JTU Tsushima 10.28 297 P **Pn 04 20 54.5 +2.6**
JOT Ohata 11.05 2 P **Pn 04 20 59.8 -2.4**
JKB Kayabe 11.56 2 P **Pn 04 21 05.4 -3.5**
ERM Erimo 11.87 10 *i* P **Pn 04 21 10.3 -2.7**
ERM Erimo 11.87 10 Pn **Pn 04 21 10.3 -2.7**
TJN Taejon 12.53 302 *i* P **Pn 04 21 20.9 -0.8**
KSRS Korea Array 12.64 308 P **Pn 04 21 25.2 +2.2**
0.6nm,0.3s,baz=119,slow=13,SNR=39
KSRS LR LR 04 26 19.8
comp=Z,135nm,19.3s,baz=121,slow=38
KSRS PcP **PcP 04 26 52.0 +2.2**
0.2nm,0.3s,baz=18,slow=0.8,SNR=4.9
KSRS ScP **ScP 04 30 12.8 +1.8**
0.2nm,0.3s,baz=172,slow=1.7,SNR=13
KSAR Wonju Array Be 12.66 308 P **Pn 04 21 21.8 -1.5**
KSAR Wonju Array Be 12.66 308 **Pn 04 21 21.8 -1.5**
KS19 Wonju Array Si 12.70 308 **Pn 04 21 23.0 -0.9**
JKA Kamikawa-asahi 13.88 6 Sn 04 24 01.6 -10
ASAJ Asahikawa 13.88 6 P **Pn 04 21 36.6 -2.3**
4.6nm,0.3s,baz=223,slow=13,SNR=14
ASAJ S Sn 04 24 01.6 -10
1.6nm,0.3s,baz=44,slow=34,SNR=3.3
ASAJ LR LR 04 27 37.4
comp=Z,131nm,18.9s,baz=41,slow=40
MSHR Mys Shultsa 14.35 331 *d i* P **Pn 04 21 43.7 -1.3**
TEY Ternei 15.01 349⇓ *eP* **Pn 04 21 50.7 -2.6**
TEY pmax pmax
comp=E,10.0nm,1.3s
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.6s
TEY pmax pmax
comp=Z,140nm,0.9s
TEY pmax pmax
comp=N,130nm,0.9s
TEY pmax pmax
comp=E,50nm,0.9s
USA0B Ussuriysk Arra 15.41 336 *d i* P **Pn 04 21 56.0 -2.3**
USA0B Ussuriysk Arra 15.41 336 **Pn 04 21 56.7 -1.6**
USA0B IAmb IAmb 04 22 01.0
comp=Z,119nm,1.1s
USRK Ussuriysk Ar. 15.41 336 P **Pn 04 21 56.4 -1.9**
baz=150,slow=12,SNR=102
USRK LR LR 04 28 19.4
comp=Z,84nm,19.1s,baz=144,slow=38
KUR Kuril'sk 15.98 19 P **P 04 22 09.3 +3.1**
KUR S **Sn 04 24 55.1 -7.6**
MDJ Mudanjiang 16.67 332 P **Pn 04 22 12.7 -1.1**
MDJ pmax pmax
comp=Z,32nm,1.0s
MDJ pmax pmax
comp=Z,300nm,6.6s
MDJ Mudanjiang 16.67 332 P **Pn 04 22 12.4 -1.3**
MDJ IAmb IAmb 04 22 15.4
comp=Z,94nm,1.1s
YSS Yuzh-Sakhalins 16.71 5⇓ *eP* **P 04 22 14.5 +0.3**
YSS *eS* **Sn 04 25 13.5 -6.6**
YSS pmax pmax
comp=Z,500nm,1.7s
YSS pmax pmax
comp=N,140nm,1.0s
YSS pmax pmax
comp=Z,140nm,1.0s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 16.71 5 P **Pn 04 22 13.8 -0.3**
GUMO Guam 17.13 165 P **P 04 22 19.2 +0.1**
GUMO pmax pmax
comp=Z,519nm,1.0s
GUMO Guam 17.13 165 P **Pn 04 22 22.1 +2.6**
comp=Z,76nm,0.3s,baz=148,slow=6.4,SNR=14
GUMO Guam 17.13 165 P **P 04 22 19.1 +0.1**
DL2 Dalian 17.72 304 P **Pn 04 22 26.6 +0.2**
DL2 *eS* **Sn 04 25 47.0 +2.5**
DL2 pmax pmax
comp=Z,120nm,0.7s
DL2 pmax pmax
comp=Z,310nm,3.8s
SNY Shenyang 17.83 315⇑ P **P 04 22 26.3 -0.3**
SNY pmax pmax
comp=Z,24nm,1.1s
SNY pmax pmax
comp=Z,270nm,4.0s
SNY LR LR
comp=Z,360nm,15.7s
SNY LR LR
comp=Z,210nm,11.4s
SNY LR LR
comp=Z,1μm,18.0s
CN2 Changchun 18.00 323⇑ P **Pn 04 22 30.6 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YULB Yu-li 18.46 253 P **P 04 22 32.7 -1.0**
SSLB Suanglung 18.57 254 P **P 04 22 33.7 -1.3**
SSLB IAmb IAmb 04 22 45.3
comp=Z,54nm,1.2s
NJ2 Nanjing 18.60 281 *eP* **P 04 22 35.8 +0.6**
NJ2 S **S 04 26 02.1 +1.6**
NJ2 pmax pmax
comp=Z,60nm,1.1s
NJ2 pmax pmax
comp=Z,260nm,3.5s
NJ2 LR LR
comp=Z,400nm,15.2s
NJ2 LR LR
comp=Z,410nm,9.5s
NJ2 LR LR
comp=Z,440nm,10.0s
UGL Uglegorsk 18.78 3 *eP* **Pn 04 22 38.3 -0.6**
UGL *eS* **S 04 26 05.9 +2.2**
UGL pmax pmax
comp=Z,900nm,4.3s
UGL pmax pmax
comp=Z,160nm,0.9s
UGL smax smax
comp=N,2μm,5.8s
UGL smax smax
comp=E,800nm,4.1s
KLR Kul'dur 20.03 343 *d i* P **P 04 22 48.9 -1.6**
KLR pmax pmax
comp=Z,98nm,0.9s
KLR Kul'dur 20.03 343 P **P 04 22 50.8 +0.3**
comp=Z,74nm,0.4s,baz=148,slow=11,SNR=98
KLR LR LR 04 29 50.2
comp=Z,129nm,21.4s,baz=153,slow=34
KLR ScP **ScP 04 30 25.3 +0.1**
comp=Z,2.5nm,0.8s,baz=101,slow=3.3,SNR=5.4
TIA Tai'an 20.39 293 P **P 04 22 55.1 +0.6**
TIA pmax pmax
comp=Z,22nm,1.1s
TYV Tymovskoe 20.59 4 *eP* Pn 04 22 58.7 -1.4
TYV pmax pmax
comp=Z,100nm,2.2s
TYV pmax pmax
comp=Z,41nm,0.9s
GRNR Gornyy 20.66 353 *eP* **P 04 22 58.8 +1.5**
GRNR pmax pmax
comp=N,88nm,1.0s
GRNR pmax pmax
comp=Z,110nm,1.0s
BJT Baijiatuau 22.06 303 P **P 04 23 10.9 -1.4**
BJT pmax pmax
comp=Z,38nm,1.3s
BJT Baijiatuau 22.06 303 P **P 04 23 10.9 -1.4**
BJI Beijing 22.07 303 *i* P **P 04 23 11.2 -1.1**
BJI pP **pwP 04 23 39.8 +2.0**
BJI S **S 04 27 03.2 -3.6**
BJI pmax pmax
comp=Z,17nm,1.0s
WHN Wuhan 22.54 277⇑ P **P 04 23 17.1 0.0**
WHN S **S 04 27 11.8 -2.9**
WHN pmax pmax
comp=Z,66nm,1.0s
WHN LR LR
comp=Z,570nm,12.9s
NKL Nikolayevsk 22.82 0 *eP* **P 04 23 20.3 +0.8**
NKL *eS* **S 04 27 20.8 +2.1**
NKL pmax pmax
comp=N,6.0nm,1.0s
NKL pmax pmax
comp=Z,224nm,1.1s
NKL pmax pmax
comp=E,25nm,1.6s
NKL smax smax
comp=E,79nm,2.4s
NKL smax smax
comp=N,8.0nm,0.8s
TIY Taiyuan 24.35 295 *eP* **P 04 23 34.2 +0.4**
TIY S **S 04 27 41.0 -2.8**
TIY SS **SnSn 04 28 44.9 +2.2**
TIY pmax pmax
comp=N,27nm,0.5s
TIY pmax pmax
comp=N,120nm,5.6s
TIY LR LR
comp=N,170nm,5.1s
TIY LR LR
comp=N,180nm,4.3s
HIA Hailar 24.61 326 P **P 04 23 35.2 -0.8**
HIA pmax pmax
comp=Z,52nm,0.9s
HIA Hailar 24.61 326 P **P 04 23 35.2 -0.8**
HIA IAmb IAmb 04 23 36.9
comp=Z,52nm,0.9s
ZEA Zeya 25.31 341 *eP* **P 04 23 43.3 +1.1**
ZEA pmax pmax
comp=N,600nm,2.0s
ZEA pmax pmax
comp=Z,800nm,2.0s
ZEA pmax pmax
comp=E,200nm,0.4s
ZEA pmax pmax
comp=N,450nm,1.0s
ZEA pmax pmax
comp=Z,510nm,1.0s
ZEA MLR MLR
comp=E,800nm,12.0s
ZEA MLR MLR
comp=Z,500nm,12.0s
HHC Hu-ho-hao-te 25.67 302 *eP* **P 04 23 45.1 -0.7**
HHC pmax pmax
comp=Z,8.0nm,1.1s
PETK Petropavlovsk- 26.01 24 LR LR 04 32 51.7
comp=Z,56nm,21.2s,baz=240,slow=33
H11N2 WAKE ISLAND Hy 26.08 108 T T 04 51 26.9
baz=300,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 26.08 108 T T 04 51 29.4
baz=300,slow=75,SNR=7.0
H11N3 WAKE ISLAND Hy 26.09 108 T T 04 51 27.1
baz=300,slow=75,SNR=4.2
H11S3 WAKE ISLAND Hy 26.52 110 T T 04 51 60.0
baz=304,slow=76
H11S1 WAKE ISLAND Hy 26.53 110 T T 04 51 56.4
baz=304,slow=76
H11S2 WAKE ISLAND Hy 26.54 110 T T 04 52 01.1
baz=304,slow=76
ENH Enshi 26.74 278 P **P 04 23 53.6 -1.9**
BTO Baotou 26.75 301 *eP* **P 04 23 55.9 +0.4**
XAN Xi'an 26.93 286 P **P 04 23 57.0 -0.1**
XAN S **S 04 28 20.3 -4.4**
XAN pmax pmax
comp=Z,36nm,1.0s
XAN Xi'an 26.93 286 IAmb IAmb 04 23 58.2
comp=Z,36nm,1.0s
DAV Davao City (W) 27.04 214 LR LR 04 35 08.6
comp=Z,96nm,19.8s,baz=22,slow=37
GYA Guiyang 29.95 271 P **P 04 24 21.7 -2.4**
GYA pP pP 04 24 51.8 +0.4
GYA sP sP 04 25 08.2 +2.2
GYA S **S 04 29 07.4 -5.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
MA2 Magadan 30.08 10 *i* P **P 04 24 25.4 +0.7**
MA2 pmax pmax
comp=Z,57nm,1.0s
MA2 Magadan 30.08 10 P **P 04 24 25.3 +0.7**
comp=Z,46nm,0.8s,baz=190,slow=4.2,SNR=7.9
MA2 Magadan 30.08 10 P **P 04 24 25.1 +0.4**
ULN Ulaanbaatar 31.00 314 P **P 04 24 32.6 -0.7**
SNR=9.6
ULN Ulaanbaatar 31.00 314 *d i* P **P 04 24 32.5 -0.7**
ULN pmax pmax
comp=Z,17nm,0.8s
ULN Ulaanbaatar 31.00 314 P **P 04 24 32.8 -0.4**
ULN IAmb IAmb 04 24 36.0
comp=Z,19nm,0.8s
LZH Lanzhou 31.08 290 *eP* **P 04 24 33.4 -0.6**
LZH pP pP 04 24 58.8 -2.7
LZH sP sP 04 25 13.7 -2.5
LZH PP **PnPn 04 25 43.1 +2.1**
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.8s
LZH LR LR
comp=Z,240nm,14.7s
LZH LR LR
comp=Z,240nm,14.8s
LZH LR LR
comp=Z,260nm,15.1s
SONM Songino Array 31.40 314 P **P 04 24 36.0 -0.7**
SONM Songino Array 31.40 314 P **P 04 24 36.0 -0.7**
comp=Z,5.5nm,0.7s,baz=120,slow=8.7,SNR=26
SONM ScP **ScP 04 30 58.2 0.0**
comp=Z,3.4nm,0.9s,baz=137,slow=4.0,SNR=10
SONM LR LR 04 37 12.5
comp=Z,177nm,20.6s,baz=92,slow=36
SONM Songino Array 31.40 314 P **P 04 24 35.5 -1.2**
SONM **ScP 04 30 58.6 +0.3**
CD2 Chengdu 31.54 281 *eP* **P 04 24 37.0 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SIJI Sorong 32.23 198 P **P 04 24 45.2 +1.2**
comp=Z,17nm,0.8s,baz=9.0,slow=9.4,SNR=9.5
SIJI ScP **ScP 04 31 01.9 +0.5**
comp=Z,3.3nm,0.5s,baz=11,slow=4.2,SNR=5.0
YAK Yakutsk 32.51 351 *eP* **P 04 24 45.6 -0.3**
YAK *e* 04 25 54.5
YAK *e* 04 27 30.2
YAK *eS* **S 04 29 47.4 -3.8**
YAK *eSS* SS 04 31 50.6 -26
YAK *e* 04 35 02.1
YAK pmax pmax
comp=Z,73nm,1.0s
YAK pmax pmax
comp=N,49nm,1.3s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=Z,83nm,2.5s
YAK pmax pmax
comp=E,42nm,2.2s
YAK pmax pmax
comp=N,72nm,2.1s
YAK smax smax
comp=E,110nm,2.8s
YAK smax smax
comp=N,90nm,2.7s
YAK Yakutsk 32.51 351 P **P 04 24 46.5 +0.5**
comp=N,11nm,0.3s,baz=30,slow=1.6,SNR=13
YAK Yakutsk 32.51 351 P **P 04 24 45.9 0.0**
JAY Jayapura 32.65 180 LR LR 04 35 49.9
comp=N,60nm,21.0s,baz=238,slow=32
BOD Bodaibo 33.03 334 *eP* **P 04 24 50.3 -0.3**
BOD pmax pmax
comp=Z,60nm,1.2s
SEY Seymchan 33.52 10 *i* P **P 04 24 56.2 +1.4**
SEY Seymchan 33.52 10 P **P 04 24 56.0 +1.2**
comp=Z,14nm,0.8s,baz=200,slow=8.9,SNR=12
KMI Kunming 33.72 271 P **P 04 24 57.0 -0.2**
KMI pmax pmax
comp=Z,4.0nm,0.5s
SLVN Son La 34.01 264 IAmb IAmb 04 25 01.2
comp=Z,16nm,1.0s
ZAK Zakamensk 34.24 317 *eP* **P 04 25 00.7 -0.6**
ZAK pmax pmax
comp=Z,14nm,1.1s
GTA Gaotai 34.35 296⇑ P **P 04 25 01.9 -0.6**
GTA pP pwP 04 25 33.2 +0.6
GTA sP sP 04 25 49.7 +5.0
GTA PcP **PcP 04 27 36.8 +1.3**
GTA S **S 04 30 16.4 -4.3**
GTA ScP **ScP 04 31 08.7 +0.1**
GTA ScS **ScS 04 35 10.3 -1.3**
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,64nm,4.9s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,130nm,17.2s
GTA LR LR
comp=Z,130nm,17.9s
TLY Talaya 34.53 319 P **P 04 25 04.3 +0.5**
SNR=5.2
TLY Talaya 34.53 319 *eP* **P 04 25 04.4 +0.7**
TLY *eS* **S 04 30 30.3 +7.4**
TLY pmax pmax
comp=Z,51nm,1.1s
TLY MLR MLR
comp=Z,261nm,14.0s
TLY Talaya 34.53 319 P **P 04 25 04.1 +0.3**
comp=Z,6.1nm,0.4s,baz=100,slow=6.1,SNR=7.8
TLY LR LR 04 39 58.3
comp=Z,141nm,18.3s,baz=122,slow=38
TLY Talaya 34.53 319 P **P 04 25 02.9 -0.8**
TLY IAmb IAmb 04 25 05.0
comp=Z,16nm,0.9s
NONG Nongkai 36.03 259 P **P 04 25 17.9 +1.0**
comp=Z,0.8nm,1.2s
MOY Mondy 36.05 318 *eP* **P 04 25 16.8 -0.1**
MOY pmax pmax
comp=Z,21nm,1.6s
KRVT Keravat (AS076 36.15 160 P **P 04 25 18.0 +0.2**
comp=Z,48nm,0.6s,baz=220,slow=20,SNR=1.7
CHAI Chaiyaphum 38.02 257 P **P 04 25 34.0 +0.3**
comp=Z,131μm,0.8s
PAYA Payao 38.27 263 P **P 04 25 39.5 +3.7**
comp=Z,19μm,0.9s
SBUM Sibu 38.54 229 P **P 04 25 36.9 -1.2**
PBKT Sadao Pong 38.56 258 P **P 04 25 38.9 +0.7**
comp=Z,16nm,0.7s
PBKT Sadao Pong 38.56 258 P **P 04 25 38.6 +0.4**
CMMT Chiang Mai 39.29 263 P **P 04 25 44.3 0.0**
comp=Z,11nm,0.8s
CHTO Chiang Mai 39.29 263 P **P 04 25 42.8 -1.5**
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 39.29 263 P **P 04 25 42.8 -1.5**
CHTO IAmb IAmb 04 25 45.3
comp=Z,12nm,0.8s
CM31 Chiang Mai Arr 39.44 262 P **P 04 25 44.8 -0.8**
CM31 IAmb IAmb 04 25 47.9
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 39.44 262 P **P 04 25 45.3 -0.3**
comp=Z,3.5nm,0.5s,baz=58,slow=6.4,SNR=16
CMAR PcP **PcP 04 27 52.7 +1.6**
comp=Z,1.3nm,0.3s,baz=39,slow=2.0,SNR=5.1
CMAR ScP **ScP 04 31 30.1 +2.4**
comp=Z,2.7nm,0.8s,baz=37,slow=3.2,SNR=14
CMAR LR LR 04 43 21.9
comp=Z,84nm,18.2s,baz=138,slow=38
CMAR Chiang Mai Arr 39.44 262 P **P 04 25 44.9 -0.7**
CMAR **PcP 04 27 50.0 -1.1**
CMAR **ScP 04 31 27.5 -0.3**
UTHA Uthaitani 40.33 258 P **P 04 25 54.1 +1.2**
comp=Z,30μm,0.9s,comp=Z,247μm
KAPI Kappang 40.36 213 *ceP* **P 04 25 54.7 +1.6**
KAPI pmax pmax
comp=Z,21nm,1.3s
KAPI Kappang 40.36 213 P **P 04 25 53.4 +0.3**
comp=Z,16nm,0.9s,baz=48,slow=6.1,SNR=6.9
KAPI Kappang 40.36 213 P **P 04 25 52.4 -0.7**
KAPI IAmb IAmb 04 25 56.4
comp=Z,16nm,0.9s
KSM Kuching 40.53 231 P **P 04 25 53.0 -1.6**
BILL Bilibino 40.69 15 *d i* P **P 04 25 56.2 +1.0**
BILL *e** PP **pwP 04 26 26.4 -0.3**
BILL *e* 04 27 34.8
BILL pmax pmax
comp=Z,20nm,1.1s
BILL Bilibino 40.69 15 P **P 04 25 56.4 +1.1**
BILL IAmb IAmb 04 25 57.6
comp=Z,30nm,1.2s
SOEI Soe 42.79 204 P **P 04 26 11.2 -1.9**
SOEI IAmb IAmb 04 26 28.9
comp=Z,35nm,0.9s
BATI Baumata 43.42 205 P **P 04 26 18.7 +0.8**
comp=Z,44nm,0.3s,baz=349,slow=2.8,SNR=2.9
WMQ Urumqi 43.54 303 *eP* **P 04 26 19.8 +1.0**
WMQ pP pwP 04 26 52.3 +2.6
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,130nm,6.7s
WMQ LR LR
comp=Z,600nm,28.9s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ LR LR
comp=Z,140nm,29.2s
MTN Manton Dam 43.84 193 P **P 04 26 19.7 -1.6**
DGZ Jazzator, Alta 44.00 312 *i* P **P 04 26 22.2 -0.3**
TAPN Taplejung 46.00 280 *eP* **P 04 26 37.7 -1.1**
comp=Z,21nm,0.4s
ZAA0 Zalesovo Array 46.11 317 P **P 04 26 37.8 -1.1**
ZAA0 IAmb IAmb 04 26 39.0
comp=Z,15nm,0.9s
ZAA0 PcP **PcP 04 28 12.6 -0.3**
ZALV Zalesovo Beam 46.11 317 P **P 04 26 37.8 -1.0**
comp=Z,4.4nm,0.3s,baz=93,slow=6.2,SNR=28
ZALV PcP **PcP 04 28 13.2 +0.4**
comp=Z,10nm,0.7s,baz=104,slow=3.4,SNR=9.8
ZALV ScP **ScP 04 31 54.0 0.0**
comp=Z,4.2nm,0.8s,baz=108,slow=3.3,SNR=6.8
ZALV LR LR 04 46 41.9
comp=Z,133nm,18.6s,baz=101,slow=37
ZALV Zalesovo Beam 46.11 317 P **P 04 26 37.7 -1.1**
ZALV **ScP 04 31 53.4 -0.6**
RAMN Ramite 47.06 280 *eP* **P 04 26 46.1 -0.9**
comp=Z,25nm,0.3s
JIRN Jiri 47.20 281 *eP* **P 04 26 48.0 -0.2**
comp=Z,92nm,0.4s
MK31 Makanchi Array 47.32 307 *i* P **P 04 26 47.5 -1.0**
MK31 pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 47.32 307 IAmb IAmb 04 26 49.2
comp=Z,16nm,0.9s
MKAR Makanchi Array 47.32 307 P **P 04 26 47.5 -1.0**
comp=Z,15nm,0.8s,baz=92,slow=9.2,SNR=86
MKAR PcP **PcP 04 28 18.0 +0.6**
comp=Z,4.4nm,0.3s,baz=81,slow=6.0,SNR=16
MKAR ScP **ScP 04 31 59.0 -0.3**
comp=Z,2.5nm,0.7s,baz=82,slow=5.6,SNR=8.8
MKAR S **S 04 33 28.6 -3.6**
comp=Z,0.8nm,0.8s,baz=87,slow=22,SNR=5.3
MKAR ScS **ScS 04 36 26.2 -2.9**
comp=Z,1.1nm,0.9s,baz=86,slow=8.6,SNR=4.5
MKAR LR LR 04 47 41.5
comp=Z,97nm,18.5s,baz=89,slow=37
MKAR Makanchi Array 47.32 307 **ScP 04 31 59.0 -0.3**
GUN Gumba 47.40 281 *eP* **P 04 26 48.9 -0.8**
comp=Z,59nm,0.4s
MAKZ Makanchi 47.53 307 P **P 04 26 49.4 -0.7**
MAKZ pmax pmax
comp=Z,22nm,1.2s
MAKZ Makanchi 47.53 307 P **P 04 26 48.2 -1.9**
MAKZ IAmb IAmb 04 26 50.5
comp=Z,25nm,1.2s
PKI Pulchoki 47.89 281 *eP* **P 04 26 52.1 -1.4**
comp=Z,12nm,0.4s
PSI Prapat 47.89 243 P **P 04 26 52.8 -0.6**
comp=Z,5.2nm,0.7s,baz=9.8,slow=7.7,SNR=3.4
PKIN Phulchoki 47.90 281 *eP* **P 04 26 52.3 -1.2**
comp=Z,11nm,0.4s
KKN Kakani 47.94 281 *eP* **P 04 26 52.3 -1.4**
comp=Z,20nm,0.4s
RPSI Rantau Prapat 47.96 243 P **P 04 26 52.8 -1.0**
DMN Daman 48.14 281 *eP* **P 04 26 54.3 -1.0**
comp=Z,19nm,0.4s
GKN Gorkha 48.42 282 *eP* **P 04 26 56.8 -0.6**
comp=Z,28nm,0.4s
LEM Lembang 48.56 226 P **P 04 26 58.1 -0.4**
comp=Z,26nm,0.6s,baz=332,slow=23,SNR=6.6
DANN Dangsing 49.06 283 *eP* **P 04 27 02.0 -0.4**
comp=Z,32nm,0.4s
NRIK Noril'sk 49.12 338 P **P 04 27 02.6 +0.7**
comp=Z,35nm,0.7s,baz=110,slow=8.6,SNR=36
NRIK S **S 04 33 54.8 -2.1**
comp=Z,1.5nm,0.4s,baz=184,slow=24,SNR=8.6

NRIK LR LR 04 47 40.1
comp=Z,148nm,21.2s,baz=120,slow=36
KOLN Koldanda 49.37 282 *eP* **P 04 27 04.0 -0.6**
comp=Z,14nm,0.4s
PDGK Podgornoye 49.52 303 P **P 04 27 04.2 -1.3**
PDGK pmax pmax
comp=Z,33nm,0.7s
KURK Kurchatov 49.70 313 P **P 04 27 05.4 -1.1**
SNR=10
KURK Kurchatov 49.70 313*d i*P **P 04 27 05.2 -1.4**
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 49.70 313 P **P 04 27 05.6 -1.0**
KURK IAmb IAmb 04 27 07.1
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 49.76 313 S **S 04 34 00.8 -5.4**
comp=Z,0.9nm,0.8s,baz=288,slow=31,SNR=5.7
GSI Gunungsitoli 49.88 243 P **P 04 27 07.2 -1.2**
FITZ Fitzroy Crossi 50.21 199 P **P 04 27 11.1 +0.3**
comp=Z,26nm,1.0s,baz=28,slow=7.4,SNR=21
FITZ Fitzroy Crossi 50.21 199 P **P 04 27 09.6 -1.1**
FITZ IAmb IAmb 04 27 12.8
comp=Z,30nm,1.1s
WRAB Tennant Creek 50.31 188*c i*P **P 04 27 10.1 -1.3**
WRAB pmax pmax
comp=Z,32nm,0.9s
WRAB Tennant Creek 50.31 188 P **P 04 27 11.0 -0.4**
WB2 Warramunga Arr 50.32 188 P **P 04 27 11.0 -0.5**
WB2 **ScP 04 32 12.7 +0.5**
WRA Warramunga Arr 50.32 188 P **P 04 27 11.0 -0.5**
comp=Z,21nm,0.3s,baz=5.9,slow=7.7,SNR=285
WRA pP **pP 04 27 39.7 -1.1**
comp=Z,5.3nm,0.7s,baz=5.1,slow=7.7,SNR=1.9
WRA ScP **ScP 04 32 12.6 +0.3**
comp=Z,7.5nm,0.8s,baz=2.1,slow=4.5,SNR=20
WRA S **S 04 34 09.7 -4.8**
comp=Z,1.0nm,1.0s,baz=5.4,slow=12,SNR=4.5
WRA LR LR 04 46 23.8
comp=Z,61nm,21.0s,baz=170,slow=33
WRA Warramunga Arr 50.32 188 P **P 04 27 10.2 -1.3**
WRA **ScP 04 32 12.1 -0.1**
CTA Charters Tower 50.42 173 P **P 04 27 12.9 +0.7**
comp=Z,4.1nm,0.4s,baz=2.5,slow=9.6,SNR=5.1
TARG Taragay, Kyrgy 50.95 301 IAmb IAmb 04 27 17.6
comp=Z,16nm,1.1s
NRN Naryn 52.34 301 IAmb IAmb 04 27 27.4
comp=Z,11nm,1.1s
TKM2 Tokmak 2 52.40 303 *i* P **P 04 27 26.3 -0.8**
TKM2 pmax pmax
comp=Z,14nm,1.1s
TKM2 Tokmak 2 52.40 303 P **P 04 27 27.2 +0.1**
SNR=12
KSH Kashi 52.70 299 P **P 04 27 32.4 +3.1**
KSH sP sP 04 28 15.1 +2.0
KSH PP **PP 04 29 33.8 +4.2**
KSH S **S 04 34 48.9 +1.6**
KSH SS **SS 04 38 28.7 +1.5**
KSH pmax pmax
comp=Z,34nm,0.7s
KSH pmax pmax
comp=Z,230nm,4.6s
KSH LR LR
comp=Z,330nm,12.6s
KSH LR LR
comp=Z,140nm,8.3s
KSH LR LR
comp=Z,120nm,10.9s
KDAK Kodiak Island 52.72 38 *i* P **P 04 27 30.1 +1.1**
KDAK Kodiak Island 52.72 38 P **P 04 27 29.9 +0.9**
comp=Z,14nm,0.8s,baz=262,slow=1.6,SNR=13
KDAK pP **pP 04 27 59.1 +0.8**
comp=Z,36nm,0.9s,baz=300,slow=3.7,SNR=5.2
KDAK Kodiak Island 52.72 38 P **P 04 27 29.8 +0.9**
IMAR Indian Mountai 52.87 28 P **P 04 27 31.1 +1.1**
KBK Karagaybulak 52.91 303 P **P 04 27 30.8 -0.1**
SNR=9.5
USP Ospenovka 53.14 303 P **P 04 27 32.1 -0.2**
SNR=6.0
AAK Ala-Archa 53.24 303 *i* P **P 04 27 32.9 -0.4**
SNR=6.4
AAK Ala-Archa 53.24 303 P **P 04 27 32.4 -0.9**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 53.24 303 ScP **ScP 04 32 24.8 -0.2**
comp=Z,0.7nm,0.3s,baz=90,slow=3.2,SNR=3.7
AAK Ala-Archa 53.24 303 P **P 04 27 32.2 -1.1**
SNR=5.2
AAK Ala-Archa 53.24 303 P **P 04 27 32.4 -0.9**
AAK IAmb IAmb 04 27 33.6
comp=Z,7.0nm,0.8s
AAK **ScP 04 32 24.7 -0.4**
UCH Uchtor 53.30 302 P **P 04 27 33.8 -0.3**
SNR=8.7
AML Almayashu 53.91 302 P **P 04 27 38.6 +0.1**
SNR=17
AS31 Alice Springs 54.04 187 P **P 04 27 37.9 -1.1**
AS31 IAmb IAmb 04 27 40.2
comp=Z,9.6nm,0.4s
ASAR Alice Springs 54.04 187 P **P 04 27 38.8 -0.3**
ASAR Alice Springs 54.04 187 P **P 04 27 38.5 -0.5**
comp=Z,12nm,0.4s,baz=0.6,slow=4.1,SNR=134
ASAR pP **pP 04 28 09.3 +0.5**
comp=Z,2.3nm,0.7s,baz=7.8,slow=7.5,SNR=2.0
ASAR sP **sP 04 28 19.1 -3.6**
comp=Z,3.8nm,0.8s,baz=9.2,slow=7.3,SNR=2.4
ASAR ScP **ScP 04 32 28.9 +0.6**
comp=Z,1.6nm,0.7s,baz=6.0,slow=4.6,SNR=7.8
ASAR S **S 04 35 02.2 -3.2**
comp=Z,0.8nm,0.8s,baz=22,slow=19,SNR=4.9
ASAR LR LR 04 51 54.2
comp=Z,55nm,18.1s,baz=156,slow=37
ASAR Alice Springs 54.04 187 P **P 04 27 38.8 -0.3**
ASAR **ScP 04 32 28.5 +0.1**
RND Reindeer 54.73 31 IAmb IAmb 04 27 45.8
comp=Z,29nm,1.3s
BRVK Borovoye 54.76 316 P **P 04 27 43.4 -0.4**
SNR=16
BRVK Borovoye 54.76 316 P **P 04 27 43.8 -0.1**
BRVK pmax pmax
comp=Z,30nm,0.9s
BRVK Borovoye 54.76 316 P **P 04 27 43.8 -0.1**
TOLK Toolik Lake Re 54.83 25 P **P 04 27 46.0 +1.8**
baz=264,SNR=6.0
TOLK Toolik Lake Re 54.83 25 IAmb IAmb 04 27 47.5
comp=Z,8.3nm,0.8s
WRH Wood River Hil 55.10 30 IAmb IAmb 04 27 49.2
comp=Z,6.7nm,0.8s
TCOL CIGO, UAF Yank 55.22 30 P **P 04 27 48.7 +1.7**
baz=268
COLA College 55.22 30 P **P 04 27 47.7 +0.7**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 55.22 30 P **P 04 27 47.7 +0.7**
COLA IAmb IAmb 04 27 50.3
comp=Z,12nm,0.8s
PSA00 Pilbara Seismi 55.28 204 P **P 04 27 47.5 -0.4**
POKR Poker Plat Res 55.41 29 P **P 04 27 49.8 +1.4**
baz=268,SNR=6.9
HDA Harding Lake 55.60 30 P **P 04 27 50.5 +0.7**
baz=269,SNR=7.0
HDA Harding Lake 55.60 30 IAmb IAmb 04 27 51.2
comp=Z,12nm,0.7s
IL31 55.63 30 IAmb IAmb 04 27 51.5
comp=Z,8.4nm,0.8s
ILAR Eielson Array 55.63 30 P **P 04 27 50.7 +0.7**
ILAR Eielson Array 55.63 30 P **P 04 27 50.6 +0.6**
comp=Z,6.4nm,0.8s,baz=273,slow=6.0,SNR=61
ILAR pP **pP 04 28 18.6 -1.1**
comp=Z,3.4nm,0.8s,baz=267,slow=5.9,SNR=4.7
ILAR Eielson Array 55.63 30 P **P 04 27 50.7 +0.7**
KK31 Karatay Array 56.03 304 *i* P **P 04 27 52.5 -0.7**
KK31 pmax pmax
comp=Z,10.0nm,0.5s
KKAR Karatay Array 56.03 304 P **P 04 27 52.8 -0.5**
KKAR 04 28 49.7
KKAR Karatay Array 56.03 304 P **P 04 27 52.8 -0.5**
KKAR PcP **PcP 04 28 49.7 -0.3**
KKAR Karatay Array 56.03 304 IAmb IAmb 04 27 53.6
comp=Z,24nm,0.6s
NIL Nilore 56.22 292 P **P 04 27 54.0 -0.7**
NIL pmax pmax
comp=Z,12nm,0.7s
NIL Nilore 56.22 292 P **P 04 27 54.0 -0.7**
NIL IAmb IAmb 04 27 56.4
comp=Z,12nm,0.7s
BTK Batken 56.47 300 IAmb IAmb 04 27 56.7
comp=Z,10nm,1.0s
DOT Dot Lake 56.88 31 IAmb IAmb 04 28 03.1
comp=Z,8.9nm,0.8s
MENT Mentasta 57.06 32 IAmb IAmb 04 28 03.0
comp=Z,12nm,0.8s
DZM Mont Dzumac 57.75 151 *eP* **P 04 28 07.6 +2.1**
comp=Z,96nm,1.3s
DZM *ep*P **pP 04 28 35.3 +0.3**
comp=Z,63nm,1.1s
DZM Mont Dzumac 57.75 151 *e*LR LR 04 45 05.0
comp=Z,231nm,37.1s
DZM Mont Dzumac 57.75 151 P **P 04 28 05.2 -0.3**
EGAK Eagle 58.09 30 IAmb IAmb 04 28 13.5
comp=Z,16nm,1.5s
KBL Kabul 59.30 294 P **P 04 28 15.6 -0.9**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 59.30 294 P **P 04 28 15.6 -0.9**
KBL IAmb IAmb 04 28 16.4
comp=Z,9.1nm,0.8s
EPYK Eagle Plains 59.77 28 P **P 04 28 20.7 +1.8**
baz=277,SNR=11
SVE Sverdlovsk 59.79 321*c i*P **P 04 28 19.7 +0.6**
SVE pmax pmax
comp=Z,117nm,1.1s
MSVF Nonsavu 59.91 138 *i* P **P 04 28 21.3 +0.8**
MSVF pmax pmax
comp=Z,18nm,1.1s
INK Inuvik 60.74 25 P **P 04 28 26.6 +1.2**
comp=Z,4.5nm,0.4s,baz=283,slow=5.6,SNR=49
INK Inuvik 60.74 25 IAmb IAmb 04 28 26.9
comp=Z,5.2nm,0.5s
ARU Arti 60.99 321*d i*P **P 04 28 27.3 0.0**
ARU *PP **pP 04 28 56.1 -1.6**
ARU 04 29 09.1
ARU 04 30 39.9
ARU S **S 04 36 35.4 0.0**
ARU SS **SS 04 40 31.7 -4.8**
ARU pmax pmax
comp=Z,126nm,0.8s
ARU Arti 60.99 321 P **P 04 28 27.3 0.0**
AB31 Akbulak array 61.81 313 *i* P **P 04 28 32.7 -0.3**
AB31 pmax pmax
comp=Z,14nm,0.4s
ABKAR Akbulak array 61.81 313 P **P 04 28 32.5 -0.5**
ABKAR Akbulak array 61.81 313 IAmb IAmb 04 28 33.5
comp=Z,32nm,0.4s
STKA Stephens Creek 61.86 179 P **P 04 28 33.5 +0.2**
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 61.86 179 P **P 04 28 33.3 0.0**
comp=Z,7.5nm,0.8s,baz=343,slow=7.8,SNR=11
STKA PKKP **PKKPdf 04 49 21.8 -4.4**
comp=Z,1.2nm,0.8s,baz=164,slow=6.3,SNR=3.0
STKA Stephens Creek 61.86 179 P **P 04 28 33.5 +0.2**
FORT Forrest 61.90 192 P **P 04 28 34.0 +0.4**
AKTO Aktyubinsk 62.71 314 P **P 04 28 38.5 -0.5**
AKTO pmax pmax
comp=Z,15nm,0.7s
BBOO Buckleboo 62.92 184 P **P 04 28 40.5 +0.1**
BBOO IAmb IAmb 04 28 42.1
comp=Z,22nm,0.9s
HRA Herat 64.67 296 IAmb IAmb 04 28 53.0
comp=Z,10.0nm,0.7s
PRGR Permogore 66.03 329 *eP* **P 04 28 56.1 -4.2**
PRGR pmax pmax
comp=Z,81nm,0.9s
GEYT Alibeck 66.54 301 P **P 04 29 04.0 -0.1**
comp=Z,14nm,0.9s,baz=46,slow=5.1,SNR=20
GEYT LR LR 04 58 36.2
comp=Z,29nm,21.1s,baz=55,slow=36
GEYT Alibeck 66.54 301 P **P 04 29 03.8 -0.3**
GYA0B ALIBECK ARRAY 66.54 301 IAmb IAmb 04 29 09.4
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 66.64 201 P **P 04 29 03.3 -1.2**
NWAO pmax pmax
comp=Z,29nm,0.9s
NWAO Narrogin (SRO) 66.64 201 P **P 04 29 03.3 -1.2**
SPA0 Spitsbergen Ar 66.96 349 *eP* **P 04 29 06.8 +0.8**
KBS Kingsbay 67.14 351 *eP* **P 04 29 06.3 -0.8**
HSPB Hornsund (broa 67.85 348 *eP* **P 04 29 12.0 +0.4**
TMCR Tamitsa 68.31 333 *eP* **P 04 29 14.3 -0.3**
TMCR pmax pmax
comp=Z,59nm,1.0s
KLMR Klimovskoe 69.07 329 *eP* **P 04 29 17.8 -1.6**
KLMR pmax pmax
comp=Z,90nm,1.2s
KLMR Klimovskoe 69.07 329 *eP* **P 04 29 17.9 -1.5**
KLMR AMP 04 29 20.9
comp=Z,90nm,1.2s
HAMF Hammerfest 69.92 342 *eP* **P 04 29 25.0 +0.6**
ARCES ARCESS Array B 70.02 340 P **P 04 29 26.3 +1.1**
comp=Z,10nm,0.8s,baz=80,slow=7.2,SNR=40
ARCES PP **PP 04 32 02.8 +1.6**
comp=Z,5.2nm,0.9s,baz=74,slow=9.6,SNR=3.2
ARCES LR LR 05 03 14.3
comp=Z,92nm,21.0s,baz=46,slow=38
ARE0 ARCESS Array S 70.02 340 *eP* **P 04 29 26.4 +1.2**
YKA Yellowknife Ar 70.03 29 P **P 04 29 27.1 +1.9**
comp=Z,1.5nm,0.7s,baz=188,slow=27,SNR=3.4
YKA Yellowknife Ar 70.03 29 P **P 04 29 26.8 +1.6**
KTK1 Kautokeino 70.99 340 *eP* **P 04 29 32.2 +1.2**
TRO Tromso 71.83 342 *eP* **P 04 29 36.7 +0.7**
VRH Novokhopyorsk 72.10 319 *eP* **P 04 29 37.6 -0.4**
VRH pmax pmax
comp=Z,130nm,0.6s
DAG Danmarks Havn 72.39 355 *i* P **P 04 29 40.3 +1.1**
DAG *i* 04 30 10.6
DAG pmax pmax
comp=Z,22nm,1.0s
DAG Danmarks Havn 72.39 355 *i* P **P 04 29 40.3 +1.1**
comp=Z,22nm,1.0s
DAG *i* 04 30 10.6
AKT Akhty 72.54 308 *eP* **P 04 29 40.9 -0.1**
AKT *e* 04 29 57.9
AKT *e**PP **pP 04 30 12.6 +0.3**
AKT pmax pmax
comp=Z,37nm,0.5s
B05A Bryant 72.59 44 P **P 04 29 42.6 +1.7**
baz=296
D04E Lakebay 72.66 45 P **P 04 29 43.3 +1.9**
baz=296
BANOM Banah 72.72 290 P **P 04 29 42.4 +0.3**
BANOM Banah 72.72 290 P **P 04 29 43.2 +1.1**
SHME Shamm 72.79 290 *i* P **P 04 29 42.7 +0.1**
SNR=8.0
LPSR Galich'ya Gora 73.01 321 *eP* **P 04 29 43.5 +0.2**
LPSR pmax pmax
comp=Z,100nm,1.0s
E04D Cinebar 73.06 46 P **P 04 29 45.8 +2.0**
baz=296
OBN Obninsk 73.06 324*d i*P **P 04 29 43.9 +0.4**
OBN *e**PP **pP 04 30 16.2 +1.2**
OBN *e* 04 32 26.1
OBN pmax pmax
comp=Z,92nm,1.0s
OBN Obninsk 73.06 324 P **P 04 29 44.3 +0.8**
MSFE Esma-Masafi 73.08 290 P **P 04 29 44.2 -0.1**
GROC Groznyy 73.10 310 *eP* **P 04 29 43.9 -0.2**
GROC *e* 04 30 00.9
GROC *e* 04 32 29.9
GROC *eS **S 04 38 59.1 -2.0**
GROC pmax pmax
comp=Z,34nm,1.1s
UOSS Minazif 73.22 289 P **P 04 29 43.8 -1.3**
UOSS Minazif 73.22 289 P **P 04 29 44.1 -1.0**
UOSS IAmb IAmb 04 29 45.8
comp=Z,19nm,1.2s
HATD Hatta, Dubai 73.33 289 P **P 04 29 45.7 -0.1**
ASHO Ashiyiah 73.45 289 P **P 04 29 46.4 -0.2**
MHTO MHTO 73.51 285 P **P 04 29 46.5 -0.3**
VSR Storozhevoye 73.53 320*d i*P **P 04 29 46.4 0.0**
VSR pmax pmax
comp=Z,176nm,0.9s
I03D Drain, OR 73.83 49 P **P 04 29 50.9 +2.6**
baz=297
H04D Lebanon 73.85 48 P **P 04 29 51.3 +2.8**
baz=297
STEI Steigen 73.96 341 *eP* **P 04 29 48.6 0.0**
K02D Willamette Mer 74.07 50 P **P 04 29 51.9 +2.0**
baz=297
LOF Lofoten 74.28 342 *eP* **P 04 29 51.2 +0.7**
L02E Cave Junction 74.35 50 P **P 04 29 52.7 +1.3**
baz=297,SNR=8.6
NCK Nalchik 74.41 311 *i* P **P 04 29 51.7 0.0**
NCK pmax pmax
comp=Z,13nm,1.0s
FIA1 FINESS Array S 74.42 333 P **P 04 29 52.1 +0.8**
FIA1 IAmb IAmb 04 29 52.9
comp=Z,39nm,1.1s
FINES FINESS Array B 74.42 333 P **P 04 29 52.0 +0.6**
FINES FINESS Array B 74.42 333 P **P 04 29 51.8 +0.5**
comp=Z,13nm,0.4s,baz=62,slow=5.6,SNR=232
FINES PP **PP 04 32 38.2 -0.5**
comp=Z,3.3nm,0.8s,baz=93,slow=9.5,SNR=4.1
FINES LR LR 05 03 44.8
comp=Z,46nm,21.7s,baz=38,slow=36
FINES FINESS Array B 74.42 333 P **P 04 29 52.0 +0.6**
ZEI Tsey 74.53 311 *eP* **P 04 29 50.8 -1.9**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
KBZ Khabaz 74.75 312*d i*P **P 04 29 54.1 +0.5**
KBZ Khabaz 74.75 312 P **P 04 29 54.4 +0.8**
comp=Z,19nm,0.8s,baz=90,slow=3.3,SNR=49
KBZ LR LR 05 06 06.2
comp=Z,51nm,19.3s,baz=36,slow=38
KIV Kislovodsk 74.78 312 P **P 04 29 54.4 +0.4**
KIV Kislovodsk 74.78 312 P **P 04 29 54.7 +0.7**
SNR=15
KIV Kislovodsk 74.78 312 *eP* **P 04 29 51.9 -2.1**
KIV pmax pmax
comp=Z,125nm,1.1s
KIV MLR MLR
comp=Z,93nm,18.0s
KIV Kislovodsk 74.78 312 P **P 04 29 54.1 +0.1**
I05D Terrebonne, OR 74.83 47 P **P 04 29 56.1 +1.9**
baz=298
J04D Umpqua Nationa 74.84 49 P **P 04 29 56.9 +2.4**
baz=298,SNR=5.2
C09A Chrisman Ranch 75.08 43 IAmb IAmb 04 29 58.5
comp=Z,20nm,1.4s
GNI Garni 75.16 308 P **P 04 29 57.1 +0.8**
GNI Garni 75.16 308 P **P 04 29 57.1 +0.8**
SNR=7.7
GNI Garni 75.16 308*d i*P **P 04 29 57.2 +0.9**
GNI pmax pmax
comp=Z,47nm,0.9s
GNI Garni 75.16 308 P **P 04 29 56.2 -0.2**
GNI IAmb IAmb 04 29 58.5
comp=Z,20nm,0.9s
L04D Klamath Falls 75.18 50 P **P 04 29 58.5 +2.2**
baz=298
M02C Callahan 75.20 51 P **P 04 29 59.2 +2.8**
baz=298,SNR=6.0
PINE Pine Mountain 75.34 48 IAmb IAmb 04 30 01.3
comp=Z,38nm,1.1s
K04D Chiloquin, OR 75.36 49 P **P 04 29 59.9 +2.5**
baz=298
J05D Fort Rock, OR 75.39 48 P **P 04 30 00.2 +2.7**
baz=298,SNR=10.0
MOR8 Moi Rana 75.40 340 *eP* **P 04 29 56.5 -0.5**
AKH Akhalkalaki 75.43 310 IAmb IAmb 04 30 00.0
comp=Z,31nm,1.4s
N02D Trinity Center 75.49 51 P **P 04 30 00.7 +2.6**
baz=298,SNR=8.0
NEW Newport 75.53 42 P **P 04 30 00.1 +2.0**
baz=299,SNR=6.0
M04C Macdoel 75.69 50 P **P 04 30 01.6 +2.3**
baz=298,SNR=9.8
WDC Whiskeytown Da 75.78 51 IAmb IAmb 04 30 03.1
comp=Z,15nm,1.1s
O02D Mt. Diablo Mer 75.80 52 P **P 04 30 02.5 +2.7**
baz=298,SNR=5.2
VSU Vasula 75.87 330 *i* P **P 04 29 59.9 +0.1**
VSU pmax pmax
comp=Z,128nm,1.1s
VSU Vasula 75.87 330 *eP* **P 04 30 00.1 +0.4**
O03E Paynes Creek 76.41 51 P **P 04 30 04.9 +1.6**
baz=298,SNR=9.7
BKZ Black Stump Fm 76.82 152 P **P 04 30 05.8 +0.4**
BKZ IAmb IAmb 04 30 08.4
comp=Z,28nm,1.1s
SOC Sochi 76.85 313 *eP* **P 04 30 03.2 -2.4**
SOC *e* 04 33 01.9
SOC *e*PPP PPP 04 34 48.8
SOC *e*S **S 04 39 40.4 -2.3**
SOC *e*SS **sS 04 40 39.3 +1.6**
SOC *e*SS **SS 04 44 49.5 +8.6**
SOC *e*SSS SSS 04 48 00.0
SOC pmax pmax
comp=Z,17nm,0.5s
ORV Oroville 76.97 52 IAmb IAmb 04 30 09.1
comp=Z,21nm,1.1s
NSS Namsos 77.30 340 *eP* **P 04 30 07.7 0.0**
SUMG Summit 77.39 360 *i* P **P 04 30 10.0 +1.4**
SUMG pmax pmax
comp=Z,45nm,0.9s
SUMG Summit 77.39 360 *i* P **P 04 30 10.0 +1.4**
comp=Z,45nm,0.9s
SUMG Summit 77.39 360 IAmb IAmb 04 30 11.2
comp=Z,20nm,0.9s
JTMT Jette 77.44 42 IAmb IAmb 04 30 12.1
comp=Z,35nm,1.4s
BEKR Beckworth 77.59 51 IAmb IAmb 04 30 13.0
comp=Z,25nm,1.1s
ANN Anapa 77.67 315 *eP* P 04 30 04.9 -5.2
ANN *e**PP pP 04 30 32.5 -10
ANN *e*S S 04 39 41.9 -10
ANN *e*SS pS 04 40 37.9 +7.4
ANN pmax pmax
comp=Z,258nm,1.4s
IZAR Zarasai 77.68 328 *eP* **P 04 30 10.9 +0.9**
ISAL Salakas 77.84 328 *eP* **P 04 30 12.0 +1.2**
IIGN Ignalina 77.93 328 *eP* **P 04 30 12.4 +1.1**
NACGM Naroch 77.93 327 *e* **P 04 30 12.0 +0.6**
SNZO South Karori 77.97 154 P **P 04 30 11.7 +0.1**
BHW Baring Head 78.11 154 P **P 04 30 12.7 +0.4**
MSO Missoula 78.12 43 P **P 04 30 14.9 +2.1**
baz=302
PAHR Pah Rah Range 78.32 51 IAmb IAmb 04 30 17.1
comp=Z,16nm,1.1s
CMB Columbia Colle 78.46 53 IAmb IAmb 04 30 17.9
comp=Z,17nm,1.0s
PNTR Pine Nut 78.48 51 IAmb IAmb 04 30 18.4
comp=Z,14nm,0.9s
SCO Scoresbysund 78.70 354 *i* P **P 04 30 17.3 +2.0**
SCO pmax pmax
comp=Z,24nm,1.2s
SCO Scoresbysund 78.70 354 *i* P **P 04 30 17.3 +2.0**
comp=Z,24nm,1.2s
TBLU Trondheim 78.75 339 *eP* **P 04 30 15.3 -0.4**
MFID Camas Ranch 78.76 46 IAmb IAmb 04 30 19.6
comp=Z,19nm,1.2s
YERR Yerington 78.78 51 IAmb IAmb 04 30 19.9
comp=Z,26nm,1.3s
PABE Paberze 78.86 329 *eP* **P 04 30 17.4 +1.0**
AKASG Malin Array Be 79.16 323 P **P 04 30 18.4 +0.2**
comp=Z,11nm,0.3s,baz=49,slow=5.7,SNR=81
AKASG LR LR 05 06 36.9
comp=Z,99nm,20.7s,baz=5.0,slow=36
AKASG Malin Array Be 79.16 323 P **P 04 30 18.2 0.0**
PBUR Paburg 79.43 330 *eP* **P 04 30 19.6 0.0**
RYN Ryan 79.44 51 IAmb IAmb 04 30 23.5
comp=Z,15nm,1.1s
KVN Kaiserville 79.51 51 IAmb IAmb 04 30 23.8
comp=Z,16nm,1.1s
SIM Simferopol' 79.61 316 *eP* **P 04 30 21.4 +0.6**
SIM pmax pmax
comp=Z,28nm,0.8s
NVAR Mina Array Bea 79.69 52 P **P 04 30 23.8 +2.2**
comp=Z,6.2nm,0.6s,baz=287,slow=6.0,SNR=46
DLMT Dillon 79.69 43 IAmb IAmb 04 30 24.4
comp=Z,17nm,1.3s
MLAC Mammoth, Mammo 79.73 52 P **P 04 30 23.9 +2.0**
baz=300
FFC Flin Flon 79.79 32 *i* P **P 04 30 23.6 +2.0**
FFC Flin Flon 79.79 32 P **P 04 30 22.1 +0.6**
FFC IAmb IAmb 04 30 23.9
comp=Z,12nm,0.9s
EGMT Eagleton 79.86 40 P **P 04 30 24.0 +1.9**
baz=304
EGMT Eagleton 79.86 40 IAmb IAmb 04 30 24.9
comp=Z,12nm,1.0s
NC405 NORSAR Array S 79.86 337 IAmb IAmb 04 30 28.2
comp=Z,40nm,1.1s
DOMB Dombas 80.02 339 *eP* **P 04 30 23.3 +0.6**
NB2 NORSAR Subarra 80.08 338 P **P 04 30 23.1 0.0**
comp=Z,36nm,1.1s,baz=43,slow=5.3
NB2 NORSAR Subarra 80.08 338 P **P 04 30 23.1 0.0**
baz=43,slow=5.3
NOA NORSAR Array B 80.08 338 P **P 04 30 23.3 +0.2**

comp=Z,9,6nm,0.8s,baz=44,slow=5.3,SNR=27
NOA PP **PP** **04 33 26.9 +0.7**
comp=Z,1.9nm,1.0s,baz=46,slow=7.0,SNR=3.3
NOA LR LR 05 08 36.0
comp=Z,53nm,19.7s,baz=25,slow=38
SMMC Simmler 80.08 55 P **P** **04 30 26.1 +2.5**
baz=300
BOZ Bozeman (W) 80.14 43 P **P** **04 30 25.5 +1.7**
baz=304,SNR=7.7
SUW Suwalki 80.14 328 *e*P **P** **04 30 23.9 +0.5**
SUW Suwalki 80.14 328 *e*P **P** **04 30 23.9 +0.5**
SUW *e*P **P** **04 30 23.9 +0.5**
NC602 NORSAR Array S 80.20 337 *e*P **P** **04 30 24.1 +0.5**
PKM Mcpherson Peak 80.42 55 P **P** **04 30 27.4 +1.8**
baz=300
VES Vestal, Richgr 80.46 54 P **P** **04 30 27.1 +1.6**
baz=301
CWC Cottonwood Cre 80.86 53 P **P** **04 30 29.7 +1.9**
baz=301
ISA Isabella, Lake 80.98 54 P **P** **04 30 29.7 +1.3**
baz=301
ARVC Arvin 81.00 55 P **P** **04 30 30.0 +1.5**
baz=301
SCZ2 Santa Cruz Isl 81.00 56 P **P** **04 30 30.5 +2.0**
baz=301
GRAC Grapevine Rang 81.06 52 P **P** **04 30 30.9 +2.1**
baz=301,SNR=9.1
BZK Bozkurt 81.29 314 ⇓P **P** **04 30 29.6 -0.2**
SKAR Skarslia 81.30 338 *e*P **P** **04 30 30.0 +0.4**
H17A Grant Village 81.43 43 P **P** **04 30 34.6 +3.8**
baz=304,SNR=7.3
MPMC Manual Prospec 81.46 53 P **P** **04 30 32.7 +1.6**
baz=301,SNR=10
KIS Kishinev 81.52 320⇓ *i*P **P** **04 30 31.0 +0.1**
comp=Z,110nm,1.0s
KIS Kishinev 81.52 320*d* *i*P **P** **04 30 31.0 +0.1**
KIS *e* 04 40 39.0
KIS pmax pmax
comp=Z,110nm,1.0s
R11A Troy Canyon, C 81.56 50 P **P** **04 30 33.5 +1.9**
baz=302,SNR=9.5
MILM Milestii Mici 81.57 320 ⇓P **P** **04 30 31.0 -0.2**
HYA Hoyanger 81.58 339 *e*P **P** **04 30 30.2 -0.7**
LRMC Laurel Mtn Rad 81.62 54 P **P** **04 30 33.6 +1.7**
baz=301
FURC Furnace Creek, 81.68 53 P **P** **04 30 33.9 +1.9**
baz=302,SNR=8.2
EDW2 Edwards Air Fo 81.72 54 P **P** **04 30 34.3 +2.0**
baz=301,SNR=7.8
RLMT Red Lodge 81.78 42 P **P** **04 30 34.9 +2.3**
baz=305,SNR=6.4
TPNV Topopah Spring 81.85 52 P **P** **04 30 34.9 +1.8**
baz=302,SNR=25
TPNV Topopah Spring 81.85 52 IAmb IAmb 04 30 35.9
comp=Z,35nm,1.1s
ILGA Ilgaz 81.97 313 IAmb IAmb 04 30 36.1
comp=Z,36nm,1.0s
CIS Catalina Islan 82.18 56 P **P** **04 30 36.3 +1.6**
baz=301
PMOR Pomariorio Ree 82.27 112 *e*T T 06 01 10.8
comp=Z,5.4nm,0.2s
BFSC Mount Baldy Ra 82.28 55 P **P** **04 30 37.2 +1.8**
baz=302
GSC Goldstone, Bar 82.33 54 P **P** **04 30 37.4 +1.9**
baz=302,SNR=5.2
DUG Dugway, Tooele 82.38 48 P **P** **04 30 37.8 +2.0**
baz=304,SNR=11
DUG Dugway, Tooele 82.38 48 IAmb IAmb 04 30 38.9
comp=Z,27nm,1.4s
PPT2 Papeete2 82.40 115 *e*LR LR 04 55 40.3
comp=Z,166nm,38.5s
RAYN Ar Rayn 82.52 293 *i*P **P** **04 30 36.8 +0.1**
SNR=28
RAYN Ar Rayn 82.52 293 P **P** **04 30 36.2 -0.5**
RAYN pmax pmax
comp=Z,17nm,0.7s
RAYN Ar Rayn 82.52 293 P **P** **04 30 36.2 -0.5**
RAYN IAmb IAmb 04 30 37.7
comp=Z,17nm,0.7s
TLCR 82.58 318 ⇓P **P** **04 30 36.7 +0.2**
TLCR 82.58 318 ⇓P **P** **04 30 36.7 +0.2**
LAO LASA Array 82.59 40 P **P** **04 30 38.1 +1.5**
baz=307
DGMT Dagmar 82.60 37 P **P** **04 30 38.2 +1.6**
baz=308
BEL Belsk 82.65 327 *e*P **P** **04 30 37.7 +1.0**
BEL Belsk 82.65 327 *e*P **P** **04 30 37.7 +1.0**
BEL *e*P **P** **04 30 37.7 +1.0**
BR131 Keskin Array S 82.75 312 P **P** **04 30 38.1 +0.4**
SNR=43
BRTR Keskin Array B 82.75 312 P **P** **04 30 38.1 +0.4**
comp=Z,36nm,0.9s,baz=103,slow=3.5,SNR=170
BRTR LR LR 05 10 32.9
comp=Z,20nm,21.8s,baz=0.0,slow=38
BLS5 Blasjo 82.86 338 *e*P **P** **04 30 37.8 +0.1**
HEC Hector,Ludlow 82.91 54 P **P** **04 30 40.4 +1.9**
baz=302
MURC Murrieta 82.95 55 P **P** **04 30 40.2 +1.6**
baz=302
BW06 Boulder Array 82.96 44 P **P** **04 30 40.1 +1.3**
baz=305
PDAR Pinedale Array 82.96 44 P **P** **04 30 40.3 +1.5**
comp=Z,1.2nm,0.5s,baz=74,slow=0.4,SNR=18
CFR Carcaliu 82.97 319 ⇑P **P** **04 30 39.2 +0.7**
CFR Carcaliu 82.97 319 ⇑P **P** **04 30 39.2 +0.7**
TESR Tescani 83.01 320 ⇓P **P** **04 30 39.4 +0.7**
TOPG Topolog 83.01 318 ⇓P **P** **04 30 39.8 +1.0**
BIZ Bicaz 83.05 321 ⇓P **P** **04 30 39.7 +0.8**
BUR08 Bucovina Ar. S 83.10 322 IAmb IAmb 04 30 40.6
comp=Z,13nm,0.8s
BURAR Bucovina Array 83.11 322 ⇑P **P** **04 30 40.0 +0.7**
BURAR Bucovina Array 83.11 322 ⇑P **P** **04 30 40.0 +0.7**
BURAR Bucovina Array 83.11 322 P **P** **04 30 39.3 0.0**
KWP Kalwaria Pacla 83.14 325 *e*P **P** **04 30 40.1 +0.7**
KWP Kalwaria Pacla 83.14 325 *e*P **P** **04 30 40.1 +0.7**
KWP *e*P **P** **04 30 40.1 +0.7**
PETR Petresti 83.16 320 ⇓P **P** **04 30 41.6 +2.1**
ANTO Ankara 83.21 312 P **P** **04 30 40.9 +0.9**
SNR=9.0
ANTO Ankara 83.21 312 ⇑P **P** **04 30 40.8 +0.9**
ANTO Ankara 83.21 312 ⇑P **P** **04 30 40.8 +0.9**
ANTO Ankara 83.21 312 P **P** **04 30 39.6 -0.4**
ODBI Odobesti 83.23 320 ⇓P **P** **04 30 42.0 +2.1**
TIRR Tirgusor 83.24 318 ⇓P **P** **04 30 40.5 +0.6**
TIRR Tirgusor 83.24 318 ⇓P **P** **04 30 40.5 +0.6**
VRI Vrincioaia 83.36 320 ⇓P **P** **04 30 41.7 +1.2**
VRI Vrincioaia 83.36 320 ⇓P **P** **04 30 41.7 +1.2**
TLB Topalu 83.38 318 ⇓P **P** **04 30 41.6 +1.0**
TLB Topalu 83.38 318 ⇓P **P** **04 30 41.6 +1.0**
HARR Harsova 83.38 318 ⇓P **P** **04 30 41.6 +1.0**
HARR Harsova 83.38 318 ⇓P **P** **04 30 41.6 +1.0**
GMRC Granite Mounta 83.40 54 P **P** **04 30 43.1 +1.9**
baz=302,SNR=5.5
PLOR Plostina 83.41 320 ⇑P **P** **04 30 41.7 +0.9**
PLOR Plostina 83.41 320 ⇑P **P** **04 30 41.7 +0.9**
SNART Snartemo 83.46 337 *e*P **P** **04 30 41.2 +0.5**
PFO Pinyon Flats O 83.46 55 P **P** **04 30 43.1 +1.7**
baz=302,SNR=6.6
PFO Pinyon Flats O 83.46 55 *i*P **P** **04 30 43.8 +2.4**
PFO Pinyon Flats O 83.46 55 P **P** **04 30 41.8 +0.4**
PFO IAmb IAmb 04 30 44.3
comp=Z,14nm,1.1s
GRER 83.51 319 ⇓P **P** **04 30 40.8 -0.5**
MANR Mangalia 83.52 317 ⇓P **P** **04 30 42.9 +1.6**
BISRR Bisoca 83.56 320 ⇑P **P** **04 30 42.9 +1.3**
BELC Belle Mtn. Jos 83.58 54 P **P** **04 30 43.5 +1.4**
baz=302
OZUR 83.74 321 ⇓P **P** **04 30 43.9 +1.4**
ICOR Ion Corvin 83.80 318 ⇑P **P** **04 30 44.2 +1.4**
KOLS Kolonicke sedl 83.81 324 *e*P **P** **04 30 43.3 +0.5**
KOLS pmax pmax
comp=Z,15nm,1.5s
KOLS Kolonicke sedl 83.81 324 *e*P **P** **04 30 43.3 +0.5**
MONP2 Monument Peak 83.87 56 P **P** **04 30 45.2 +1.6**
baz=302
ISR Istrita 83.91 319 ⇓P **P** **04 30 43.7 +0.3**
ISR Istrita 83.91 319 ⇓P **P** **04 30 43.7 +0.3**
UZH Uzhgorod 83.99 324 *e*P **P** **04 30 43.7 0.0**
UZH *e* 04 31 29.7
MLR Muntele Rosu 84.02 320 ⇑P **P** **04 30 44.8 +0.7**
MLR Muntele Rosu 84.02 320 ⇑P **P** **04 30 44.8 +0.7**
MLR Muntele Rosu 84.02 320 IAmb IAmb 04 30 45.8
comp=Z,23nm,1.2s
DOPR Dopca 84.03 321 ⇑P **P** **04 30 45.3 +1.3**
IRM Iron Mountain 84.09 54 P **P** **04 30 46.3 +1.8**
baz=303
BC3 Big Chuckawall 84.15 54 P **P** **04 30 46.7 +1.8**
baz=303,SNR=7.6
OJC Ojcow 84.19 326 *e*P **P** **04 30 45.1 +0.5**
OJC Ojcow 84.19 326 *e*P **P** **04 30 45.1 +0.5**
OJC *e*P **P** **04 30 45.1 +0.5**
OJC Ojcow 84.19 326 IAmb IAmb 04 30 46.4
comp=Z,14nm,0.8s
TRPA Tarpa 84.19 324 ⇑P **P** **04 30 45.9 +1.2**
IKP In-Ko-Pah, Jac 84.22 56 P **P** **04 30 47.3 +2.1**
baz=302
SWSC Sam W. Stewart 84.28 55 P **P** **04 30 47.1 +1.6**
baz=303
NIE Niedzica 84.48 325 *e*P **P** **04 30 47.1 +0.9**
NIE Niedzica 84.48 325 *e*P **P** **04 30 47.1 +0.9**
NIE *e*P **P** **04 30 47.1 +0.9**
VOIR 84.55 320 ⇓P **P** **04 30 47.0 +0.3**
VOIR 84.55 320 ⇓P **P** **04 30 47.0 +0.3**
Y12C Blythe 84.75 54 P **P** **04 30 49.7 +1.9**
baz=303
Y12C Blythe 84.75 54 IAmb IAmb 04 30 50.8
comp=Z,15nm,1.1s
ARR Arges 84.82 320 ⇑P **P** **04 30 49.5 +1.5**
K22A Casper 84.84 43 P **P** **04 30 49.4 +1.1**
baz=307
YLV Yalova 84.96 314 ⇑P **P** **04 30 46.5 -2.3**
YLV Yalova 84.96 314 ⇑P **P** **04 30 46.5 -2.3**
DRGR 84.96 322 ⇑P **P** **04 30 49.7 +1.0**
DRGR 84.96 322 ⇑P **P** **04 30 49.7 +1.0**
LANS Liptovska Anna 85.06 326 *e*P **P** **04 30 50.5 +1.4**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 85.06 326 *e*P **P** **04 30 50.5 +1.4**
OKC Ostrava-Krasne 85.23 327 *e*P **P** **04 30 50.5 +0.6**
OKC Ostrava-Krasne 85.23 327 *e*P **P** **04 30 50.5 +0.6**
LOT Lotru 85.25 321 ⇓P **P** **04 30 50.7 +0.5**
O20A White River Ci 85.29 46 P **P** **04 30 52.1 +1.4**
baz=306
O20A White River Ci 85.29 46 IAmb IAmb 04 30 53.2
comp=Z,14nm,1.2s
RSSD Black Hills 85.37 41 P **P** **04 30 53.0 +2.0**
baz=309
KSP Ksiaz 85.40 328 *e*P **P** **04 30 51.4 +0.7**
KSP Ksiaz 85.40 328 *e*P **P** **04 30 51.4 +0.7**
KSP *e*P **P** **04 30 51.4 +0.7**
MORC Moravsky Berou 85.56 327 ⇑P **P** **04 30 52.1 +0.5**
MORC Moravsky Berou 85.56 327 ⇑P **P** **04 30 52.0 +0.5**
MORC Moravsky Berou 85.56 327 *e*P **P** **04 30 52.1 +0.5**
CSS Mathiatis 85.59 308 IAmb IAmb 04 30 54.8
comp=Z,26nm,1.0s
ELND Elena 85.63 318 ⇓P **P** **04 30 52.2 +0.2**
PSZ Piszkesteto 85.67 325 IAmb IAmb 04 30 53.9
comp=Z,14nm,1.2s
CHVC Chvalec 85.69 328 *e*P **P** **04 30 51.8 -0.4**
Y14A Wickenburg 85.70 53 IAmb IAmb 04 30 55.4
comp=Z,17nm,1.2s
DPC Dobruska-Polom 85.73 328 *e*P **P** **04 30 52.9 +0.5**
DPC Dobruska-Polom 85.73 328 *e*P **P** **04 30 52.9 +0.5**
DPC *e*PCP **PcP** **04 30 56.9 +1.8**
UPC Upice 85.76 328 *e*P **P** **04 30 53.3 +0.8**
UPC Upice 85.76 328 *e*P **P** **04 30 53.3 +0.8**
TBI Tubuai 85.79 120 *e*LR LR 04 57 44.8
comp=Z,94nm,34.5s
TBI Tubuai 85.79 120 *e*T T 06 05 35.1
comp=Z,10nm,0.4s
PV23 Carpenter Ridg 85.79 48 IAmb IAmb 04 30 56.2
comp=Z,28nm,1.2s
VYHS Vyhne 85.81 325 *e*P **P** **04 30 53.5 +0.7**
VYHS pmax pmax
comp=Z,11nm,0.9s
VYHS Vyhne 85.81 325 *e*P **P** **04 30 53.5 +0.7**
PV22 Blue Mesa, Par 85.89 47 IAmb IAmb 04 30 56.5
comp=Z,12nm,1.3s
PV04 Paradox Valley 85.89 48 IAmb IAmb 04 30 57.3
comp=Z,21nm,1.2s
PV17 East Wray Mesa 85.93 48 IAmb IAmb 04 30 56.7
comp=Z,32nm,1.3s
WUAZ Wupatki 85.93 51 P **P** **04 30 55.9 +2.0**
baz=305
WUAZ Wupatki 85.93 51 IAmb IAmb 04 30 56.9
comp=Z,17nm,1.2s
PV16 Nyswonger Mesa 85.94 48 IAmb IAmb 04 30 56.8
comp=Z,35nm,1.4s
PV05 Paradox Valley 85.95 48 IAmb IAmb 04 30 57.0
comp=Z,27nm,1.3s
PV18 Skein Mesa, Pa 85.98 48 IAmb IAmb 04 30 56.8
comp=Z,24nm,1.3s
PV12 Saucer Basin, 86.00 48 IAmb IAmb 04 30 57.9
comp=Z,15nm,1.2s
PV03 Paradox Valley 86.01 48 IAmb IAmb 04 30 57.0
comp=Z,18nm,1.2s
PV13 Radium Mtn., P 86.09 48 IAmb IAmb 04 30 58.0
comp=Z,18nm,1.2s
JAVC Velka Javorina 86.13 326 *e*P **P** **04 30 55.9 +1.5**
N23A Red Feather La 86.24 44 P **P** **04 30 56.9 +1.5**
baz=308
N23A Red Feather La 86.24 44 IAmb IAmb 04 31 09.0
comp=Z,13nm,1.2s
PV01 Paradox Valley 86.26 48 IAmb IAmb 04 30 58.3
comp=Z,17nm,1.4s
VRAC Vranov 86.33 327 ⇓P **P** **04 30 56.0 +0.7**
VRAC Vranov 86.33 327 ⇓P **P** **04 30 56.0 +0.7**
VRAC Vranov 86.33 327 *e*P **P** **04 30 55.8 +0.5**
PVCC Panska Ves 86.40 329 *e*P **P** **04 30 55.8 +0.2**
PVCC Panska Ves 86.40 329 *e*P **P** **04 30 55.8 +0.2**
PVCC *e*x x 04 30 58.9
BRG Berggiesshubel 86.43 329 *e*P **P** **04 30 55.6 -0.2**
comp=Z,8.3nm,0.8s
BRG Berggiesshubel 86.43 329 *e*P **P** **04 30 55.6 -0.2**
BRG pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 86.53 330 *i*P **P** **04 30 56.2 0.0**
CLL *e**PP **pwP** **04 31 31.0 +0.1**
CLL *e*S **S** **04 41 19.0 -2.8**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 86.53 330 *i*P **P** **04 30 56.2 0.0**
comp=Z,14nm,1.0s
CLL *e*PP **PP** **04 34 18.0 -0.9**
comp=Z,10.0nm,1.0s
CLL *e*S **S** **04 41 19.0 -2.8**
CLL *e*SP ScS 04 42 17.0 +47
CLL *e*SS SS 04 47 18.0 +14
CLL *e*SSS SSS 04 50 54.0
CLL Collm 86.53 330 IAmb IAmb 04 30 58.6
comp=Z,13nm,1.0s
KRUC Moravsky 86.60 327 *e*P **P** **04 30 56.9 +0.3**
MODS Modra-Piesok 86.65 326 *e*P **P** **04 30 57.1 +0.2**
MODS Modra-Piesok 86.65 326 *e*P **P** **04 30 57.1 +0.2**
GOPC GO Pecny, Ondr 86.74 328 *e*P **P** **04 30 57.6 +0.3**
GOPC GO Pecny, Ondr 86.74 328 *e*P **P** **04 30 57.6 +0.3**
MDVR Moldovita 86.79 321 ⇓P **P** **04 30 56.9 -0.8**
PRU Pruhonice 86.80 328 *e*P **P** **04 30 58.0 +0.4**
PRU Pruhonice 86.80 328 *e*P **P** **04 30 58.0 +0.4**
MVCO Mesa Verde 86.85 48 P **P** **04 31 00.0 +1.6**
baz=306
TREC Trest 86.86 328 *e*P **P** **04 30 58.1 +0.2**
TREC Trest 86.86 328 *e*P **P** **04 30 58.1 +0.2**
214A Organ Pipe Nat 86.94 55 P **P** **04 31 00.6 +2.0**
baz=304
EZN Ezine 87.27 315 ⇑P **P** **04 30 59.9 -0.1**
EZN Ezine 87.27 315 ⇑P **P** **04 30 59.9 -0.1**
VTS Vitosha 87.34 319 ⇑P **P** **04 31 01.0 +0.5**
VTS Vitosha 87.34 319 ⇑P **P** **04 31 01.0 +0.5**
VTS Vitosha 87.34 319 IAmb IAmb 04 31 02.0
comp=Z,7.4nm,0.9s
S22A 4UR Ranch, Cre 87.60 47 P **P** **04 31 03.7 +1.6**
baz=307
CONA Conrad Observa 87.64 326 *e*PcP **P** **04 31 02.8 +1.0**
comp=Z,3.9nm,0.7s
KHC Kasperske Hory 87.85 328 *e*P **P** **04 31 02.7 0.0**
KHC Kasperske Hory 87.85 328 *e*P **P** **04 31 02.7 0.0**
GERES GERESS Array B 88.00 328 P **P** **04 31 03.0 -0.5**
GERES GERESS Array B 88.00 328 P **P** **04 31 03.0 -0.5**
comp=Z,3.3nm,0.7s,baz=36,slow=5.0,SNR=25
GERES LR LR 05 13 49.4
comp=Z,62nm,19.3s,baz=30,slow=38
TUC Tucson 88.16 53 P **P** **04 31 06.4 +1.9**
baz=305
SDCO Great Sand Dun 88.43 46 P **P** **04 31 07.6 +1.6**
baz=308
MOA Molln 88.46 327 *e*PcP **P** **04 31 06.2 +0.6**
comp=Z,5.9nm,1.1s
SOKA Soboth 88.93 326 *i*PcP **P** **04 31 08.1 +0.3**
comp=Z,12nm,1.1s
OBKA Obir 89.28 326 *e*PcP **P** **04 31 09.5 0.0**
comp=Z,6.9nm,0.9s
KBA Koelnbreinsper 89.45 327 *e*PcP **P** **04 31 09.3 -1.1**
comp=Z,7.7nm,0.9s
T25A Trinidad 89.49 46 P **P** **04 31 12.1 +1.2**
baz=309
ANMO Albuquerque 89.52 49 P **P** **04 31 12.8 +1.7**
baz=308
MYKA Terra Mystica 89.63 327 *e*PcP **P** **04 31 10.8 -0.4**
comp=Z,6.7nm,0.6s
ABTA Abfaltersbach 90.08 327 *e*PcP **P** **04 31 12.5 -0.7**
comp=Z,18nm,1.0s
WATA Walderalm 90.08 328 *e*PcP **P** **04 31 13.4 0.0**
comp=Z,8.8nm,0.9s
WTTA Wattenberg 90.10 328 *e*PcP **P** **04 31 13.6 +0.1**
comp=Z,5.9nm,0.7s
MOTA Moosalm 90.29 328 *e*PcP **P** **04 31 14.4 +0.1**
comp=Z,9.8nm,1.1s
SQTA Sankt Quirin 90.33 328 *e*PcP **P** **04 31 14.6 +0.1**
comp=Z,8.7nm,1.1s
RETA Reutte 90.34 329 *e*PcP **P** **04 31 14.8 +0.4**
comp=Z,12nm,1.1s
BFO Black Forest 90.77 330 *i*P **P** **04 31 17.0 +0.7**
BFO Black Forest 90.77 330 P **P** **04 31 16.1 -0.2**
BFO IAmb IAmb 04 31 17.4
comp=Z,16nm,1.0s
DAVA Damuels 90.88 329 *e*PcP **P** **04 31 17.1 0.0**
comp=Z,16nm,0.9s
ECH Echery 91.35 331 IAmb IAmb 04 31 20.0
comp=Z,8.5nm,0.9s
MNTX Cornudas Mount 92.21 51 P **P** **04 31 24.7 +1.4**
baz=308
MNTX Cornudas Mount 92.21 51 IAmb IAmb 04 31 26.3
comp=Z,10nm,1.3s
SCIA State Center 92.74 37 pP 04 31 52.4 -5.5
D47A Chapleau 93.53 28 P **P** **04 31 30.3 +1.2**
baz=324
TX31 Lajitas Ar. Si 94.83 52 IAmb IAmb 04 31 38.7
comp=Z,6.8nm,0.9s
TX32 Lajitas Array 94.83 52 IAmb IAmb 04 31 38.7
comp=Z,6.9nm,0.9s
TXAR Lajitas Array 94.83 52 P **P** **04 31 37.1 +1.6**
comp=Z,2.5nm,0.5s,baz=311,slow=3.3,SNR=45
TXAR pP **pP** **04 32 06.1 -1.7**
comp=Z,2.7nm,1.0s,baz=299,slow=2.7,SNR=3.5
TXAR Lajitas Array 94.83 52 P **P** **04 31 35.6 0.0**
U40A Yellville 96.91 41 P **P** **04 31 45.9 +1.2**
baz=316
E56A St. Veronique 97.03 24 P **P** **04 31 45.9 +0.9**
baz=330
ESDC Sonseca Array 102.93 333 PP **PP** **04 36 25.4 -0.8**
comp=Z,3.6nm,1.1s,baz=63,slow=7.4,SNR=6.6
QSPA South Pole Qui 120.07 180 **PKiKP** **04 37 02.9 +0.3**
TORD Torodi Ar. Bea 121.36 311 PKP **PKiKP** **04 37 06.8 +0.2**
comp=Z,0.9nm,0.6s,baz=65,slow=1.7,SNR=6.6
TORD PP **PP** **04 38 38.3 -0.1**
comp=Z,2.3nm,1.0s,baz=18,slow=6.4,SNR=5.2
TORD PKKPab **PKKPab** **04 47 11.2 +0.7**
comp=Z,0.3nm,0.4s,baz=207,slow=4.0,SNR=5.9
BOSA Boshof 124.30 254 PKP **PKiKP** **04 37 12.6 +0.4**
comp=Z,1.5nm,0.6s,baz=118,slow=4.5,SNR=4.6
DBIC Dimbokro 130.44 312 PKP **PKPdf** **04 37 24.0 +0.1**
comp=Z,2.0nm,0.7s,baz=186,slow=0.6,SNR=4.4
DBIC SKPbc **SKPbc** **04 40 35.3 -0.2**
comp=Z,6.6nm,0.7s,baz=25,slow=5.7,SNR=10.0
DBIC SKP **SKPdf** **04 40 49.6 +2.4**
comp=Z,6.0nm,1.0s,baz=90,slow=3.3,SNR=3.0
DBIC Dimbokro 130.44 312 **PKPdf** **04 37 22.4 -1.5**
VNA2 Neumayer--Watz 135.65 194 PKPdf **PKiKP** **04 37 32.8 -0.8**
baz=311,slow=1.9
VNA2 Neumayer--Watz 135.65 194 P Pdif 04 34 59.9 +24
baz=335,slow=12
VNA3 Neumayer Olymp 135.88 193 PKPdf **PKiKP** **04 37 33.6 -0.4**
VNA3 Neumayer Olymp 135.88 193 P Pdif 04 34 58.5 +21
VNA1 Neumayer--Stat 136.05 194 PKPdf **PKiKP** **04 37 33.9 -0.4**
VNA1 Neumayer--Stat 136.05 194 P Pdif 04 34 55.7 +18
SAML Samuel 149.32 51 PKIKP **PKPdf** **04 37 56.6 -1.1**
SAML Samuel 149.32 51 PKPdf **PKPdf** **04 37 56.6 -1.1**
SAML **PKPbc** **04 38 01.2 -1.0**
LPAZ La Paz 150.33 68 PKPbc **PKiKP** **04 38 07.2 +1.2**
comp=Z,5.4nm,0.9s,baz=332,slow=1.5,SNR=18
MNMC Minye Minye 150.57 75 **PKPbc** **04 38 03.9 -1.5**
PB11 IPOC Station P 150.81 76 **PKPbc** **04 38 04.5 -1.3**
PLCA Paso Flores 152.80 121 PKIKP **PKPdf** **04 38 02.0 -0.4**
PLCA Paso Flores 152.80 121 PKPbc **PKiKP** **04 38 11.8 +1.9**
comp=Z,5.4nm,0.8s,baz=271,slow=3.3,SNR=14
PLCA Paso Flores 152.80 121 PKPdf **PKPdf** **04 38 02.0 -0.4**
CPUP Villa Florida 163.81 80 PKPab **PKPab** **04 39 10.9 +1.8**
comp=Z,2.9nm,0.9s,baz=256,slow=4.2,SNR=4.3

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*IDC **05** 04:37:05.2±1.8, 12°.58N×125°.83E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/30, mbtmp3.7/5, Error ellipse: s-maj=85.4km s-min=22.2km az=62.0*
*ISCJB **05** 04:37:07.7±1.1, 12°.58N±0°.09×125°.9E±0°.1, h32km, mb3.5/5, Error ellipse: s-maj=19.3km s-min=11.7km az=13.7*
ISC 05 04:37:09.7±1.4, 12°.5N±0°.1×125°.9E±0°.2, h32km, n7, σ0°89/8, mb3.7/5, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	1.61	214⇑	*e*P	**Pn**	04 37 35.6	-0.3
PLP				*e*S	**Sn**	04 37 55.1	-0.5
RCP	**Roxas**	3.22	253⇑	*e*P	**Pn**	04 37 59.1	+1.0
CMAR	**Chiang Mai Arr**	26.62	286	P	**P**	04 42 44.8	-0.7
	1.1nm,0.5s,baz=101,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	33.30	165	P	**P**	04 43 45.2	+0.5
	0.2nm,0.5s,baz=346,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	36.80	168	P	**P**	04 44 15.8	+0.9
	0.3nm,0.6s,baz=349,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	50.04	322	P	**P**	04 46 01.4	+0.1
	0.3nm,0.3s,baz=107,slow=8.1,SNR=8.2						
KURBB	**Kurchatov Arra**	54.04	325	P	**P**	04 46 30.0	-0.9
	0.7nm,0.6s,baz=124,slow=7.0,SNR=6.7						

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*ISCJB **05** 04:58:28.3±0.5, 23°.92N±0°.03×122°.65E±0°.02, h23km±4km, Error ellipse: s-maj=4.8km s-min=2.5km az=171.9*
*TAP **05** 04:58:28.6, 23°.95N×122°.63E, h27km±1km, ML2.8, D*
*JMA **05** 04:58:29.0±0.2, 24°.03N×122°.61E, h29km±5km, M2.2*
ISC 05 04:58:28.6±1.2, 23°.96N±0°.04×122°.63E±0°.02, h23km±13km, n53, σ0°76/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	0.57	30	P	**Pb**	04 58 39.4	-0.5
JYNG				*e*S	**Sb**	04 58 46.8	-0.8
YOJ	**Yonaguni jima**	0.61	35	*e*P	**Pb**	04 58 40.1	-0.5
	baz=40						
YOJ				*e*S	**Sb**	04 58 48.6	-0.2
	baz=40						
YOJ	**Yonaguni jima**	0.61	35	P	**Pb**	04 58 40.1	-0.5
YOJ				*e*S	**Sb**	04 58 47.6	-1.1
EOS1	**EOS1**	0.74	322	P	**Pn**	04 58 43.2	-0.4
	baz=328						
EOS1				*e*S	**Sn**	04 58 54.3	+0.1
	baz=328						
NANB	**Nanao**	0.93	300	P	**Pb**	04 58 45.9	-0.1
	baz=300						
NANB				S	**Sn**	04 58 59.2	+0.4
	baz=300						
ENA	**Nanau**	0.94	300	P	**Pb**	04 58 46.2	0.0
	baz=300						
ENA				S	**Sn**	04 58 59.3	+0.4
	baz=300						
ENLB	**Shoufeng**	0.94	267	*e*P	**Pn**	04 58 45.5	-0.9
	baz=254						
TWD	**Chiawan**	0.95	277	P	**Pn**	04 58 45.7	-0.8
	baz=278						
TWD				S	**Sb**	04 58 58.2	-0.4
	baz=278						
TWC	**Suao**	0.96	312	P	**Pn**	04 58 46.2	-0.4
	baz=313						
TWC				*e*S	**Sn**	04 58 58.8	-0.8
	baz=313						
NACB	**Ninganchiao**	0.97	283	P	**Pn**	04 58 46.2	-0.6
	baz=268						
NACB				S	**Sb**	04 58 58.8	-0.3
	baz=268						
IRIF	**Iriomote-Funau**	1.07	69	P	**Pn**	04 58 48.2	+0.1
IRIF				S	**Sb**	04 59 02.4	+0.4
HATJ	**Hateruma jima**	1.08	85	P	**Pn**	04 58 48.4	+0.2
HATJ				S	**Sb**	04 59 03.0	+0.8
ETLH	**Xiulin Townshi**	1.08	283	*e*P	**Pn**	04 58 48.2	-0.1

	baz=271						
ETLH				*e*S	**Sb**	**04 59 02.2**	**-0.1**
	baz=271						
ESL	**Shilin**	**1.11 263**		P	**Pn**	**04 58 47.0**	**-1.6**
	baz=263						
EGFH	**Guangfu**	**1.14 256**		*e*P	**Pn**	**04 58 48.4**	**-0.6**
	baz=256						
NTC	**Toucheng**	**1.15 321**		*e*P	**Pb**	**04 58 50.0**	**+0.2**
	baz=321						
NTC				*e*S	**Sb**	**04 59 06.5**	**+2.1**
	baz=321						
TWE	**Neicheng**	**1.16 311**		*e*P	**Pb**	**04 58 50.2**	**+0.2**
	baz=311						
TWE				*e*S	**Sb**	**04 59 06.2**	**+1.6**
	baz=311						
ENTT	**Nioudou**	**1.18 305**		*e*P	**Pb**	**04 58 50.3**	**-0.1**
	baz=305						
ENTT				*e*S	**Sb**	**04 59 06.6**	**+1.3**
	baz=305						
TWB1	**Santiao Chiao**	**1.20 331**		*e*P	**Pn**	**04 58 49.4**	**-0.5**
	baz=331						
HGSD	**Ruisui**	**1.20 247**		*e*P	**Pb**	**04 58 51.1**	**+0.5**
	baz=248						
HGSD				*e*S	**Sn**	**04 59 05.1**	**-0.4**
	baz=248						
SLBB	**Yuanshan**	**1.20 311**		*e*P	**Pn**	**04 58 49.7**	**-0.3**
	baz=311						
SLBB				*e*S	**Sb**	**04 59 07.6**	**+1.8**
	baz=311						
NDT	**Datong Townshi**	**1.20 302**		*e*P	**Pb**	**04 58 50.8**	**+0.1**
	baz=288						
NDT				S	**Sb**	**04 59 07.1**	**+1.2**
	baz=288						
NNSB	**Datong**	**1.23 293**		*e*P	**Pn**	**04 58 50.6**	**+0.1**
	baz=293						
NNS	**Nan Shan**	**1.24 293**		*e*P	**Pn**	**04 58 50.5**	**-0.1**
	baz=280						
NNS				*e*S	**Sb**	**04 59 07.4**	**+0.3**
	baz=280						
TIPB	**Shuangxi**	**1.25 324**		P	**Pn**	**04 58 50.5**	**-0.1**
	baz=339						
TIPB				S	**Sb**	**04 59 07.9**	**+0.8**
	baz=339						
WHF	**Hehuan Shan**	**1.26 279**		P	**Pn**	**04 58 50.9**	**-0.3**
	baz=279						
WHF				S	**Sb**	**04 59 07.4**	**-0.6**
	baz=279						
EHY	**Hungye**	**1.28 250**		*e*P	**Pn**	**04 58 50.8**	**-0.2**
	baz=250						
EHY				*e*S	**Sn**	**04 59 06.3**	**-1.2**
	baz=250						
JKRS	**Kuro-shima**	**1.29 77**		P	**Pb**	**04 58 52.8**	**+0.7**
JKRS				*e*S	**Sb**	**04 59 08.6**	**+0.3**
NWLT	**Wulai**	**1.31 309**		*e*P	**Pb**	**04 58 52.2**	**-0.3**
	baz=294						
NWLT				*e*S	**Sb**	**04 59 10.1**	**+1.2**
	baz=294						
CHGB	**Renai**	**1.34 275**		P	**Pn**	**04 58 52.0**	**0.0**
	baz=275						
CHGB				*e*S	**Sn**	**04 59 08.7**	**-0.4**
	baz=275						
YHNB	**Yeheng**	**1.34 302**		P	**Pb**	**04 58 52.3**	**-0.8**
	baz=302						
YHNB				*e*S	**Sb**	**04 59 10.5**	**+0.6**
	baz=302						
YULB	**Yu-li**	**1.35 245**		P	**Pn**	**04 58 51.6**	**-0.4**
	baz=246						
YULB				*e*S	**Sn**	**04 59 08.9**	**-0.2**
	baz=246						
NSK	**Sanguang**	**1.36 302**		P	**Pn**	**04 58 52.4**	**+0.2**
	baz=302						
NSK				S	**Sb**	**04 59 10.7**	**+0.3**
	baz=302						
TWF1	**Yuli**	**1.36 244**		*e*P	**Pn**	**04 58 52.2**	**+0.1**
	baz=244						
TWF1				*e*S	**Sn**	**04 59 07.6**	**-2.0**
	baz=244						
TDCB	**Techi**	**1.38 283**		P	**Pn**	**04 58 52.7**	**+0.3**
	baz=283						
VWDT	**VWDT**	**1.38 262**		*e*P	**Pn**	**04 58 52.7**	**+0.3**
	baz=262						
VWDT				*e*S	**Sn**	**04 59 09.0**	**-0.8**
	baz=262						
JIJ	**Ishigaki jima**	**1.44 73**		P	**Pn**	**04 58 53.3**	**+0.1**
JIJ				S	**Sn**	**04 59 10.8**	**-0.5**
YM05	**YM05**	**1.54 321**		*e*P	**Pb**	**04 58 55.4**	**-1.1**
	baz=321						
SSLB	**Suanglung**	**1.54 264**		*e*P	**Pn**	**04 58 54.5**	**-0.2**
	baz=264						
WHP	**Taichung City**	**1.57 282**		*e*P	**Pb**	**04 58 56.8**	**-0.3**
	baz=272						
SMLT	**Sun Moon Lake**	**1.59 268**		*e*P	**Pn**	**04 58 55.8**	**+0.5**
	baz=257						
YUS	**Yu-Shan**	**1.61 253**		*e*P	**Pn**	**04 58 55.6**	**-0.4**
	baz=253						
TYC	**Yuchr**	**1.62 268**		*e*P	**Pb**	**04 58 58.1**	**+0.3**
	baz=268						
NSTT	**Nanjuang**	**1.63 295**		*e*P	**Pn**	**04 58 56.1**	**+0.3**
	baz=294						
WHYT	**Xinyi Township**	**1.65 261**		*e*P	**Pn**	**04 58 56.7**	**+0.6**
	baz=261						
JISG	**Ishigakijimahi**	**1.66 68**		P	**Pn**	**04 58 56.1**	**0.0**
JISG				S	**Sn**	**04 59 16.0**	**-0.7**
CHN5	**Tsauling**	**1.82 259**		*e*P	**Pb**	**04 59 01.5**	**+0.2**
	baz=249						
TPUB	**Ta-pu**	**1.95 251**		*e*S	**Sn**	**04 59 25.6**	**+1.6**
	baz=240						
CHN4	**Tsaushan**	**1.96 252**		*e*P	**Pb**	**04 59 02.6**	**-1.1**
	baz=242						
WTP	**Ta-pu**	**1.98 249**		*e*P	**Pb**	**04 59 02.7**	**-1.3**
	baz=239						
JTJ	**Tarama**	**2.01 70**		*e*S	**Sn**	**04 59 25.8**	**+0.4**
CHN1	**Nanshi**	**2.08 249**		*e*P	**Pn**	**04 59 02.5**	**+0.5**
	baz=249						
MASBT	**Mashibuluo**	**2.27 234**		*e*P	**Pn**	**04 59 06.5**	**+1.8**
	baz=227						

WEL 05 05:03:16.1, 43°S±3°×17°5E±°, h60km±14km, M3.8/26, ML4.0/20, MLv3.8/26, Error ellipse: s-maj=0.0km s-min=0.0km az=90.5, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**1.15**	**303**	P	Pn	05 03 36.4	+0.3
KHZ				S	Sn	05 03 50.4	-0.6
GVZ	**Greta Valley S**	**1.33**	**273**	P	Pn	05 03 38.5	0.0
GVZ				S	Sn	05 03 54.7	-0.6
CMWZ	**Cape Campbell**	**1.38**	**340**	P	Pn	05 03 41.7	+2.5
OKCZ	**Okains Bay**	**1.46**	**242**	P	Pn	05 03 39.5	-0.8
OKCZ				S	Sn	05 03 55.8	-2.7
PLWZ	**Palliser**	**1.51**	**12**	P	Pn	05 03 42.0	+1.0
PLWZ				S	Sn	05 04 00.9	+1.1
BSWZ	**Blackbirch Sta**	**1.51**	**332**	P	Pn	05 03 42.4	+1.3
AMCZ	**Amberley**	**1.61**	**265**	P	Pn	05 03 42.6	+0.4
AKCZ	**Akaroa Harbour**	**1.63**	**239**	P	Pn	05 03 41.6	-0.9
AKCZ				S	Sn	05 03 59.8	-2.7
BHW	**Baring Head**	**1.64**	**1**	P	Pn	05 03 43.9	+1.2
BHW				S	Sn	05 04 02.7	-0.1
MSWZ	**Moikau Station**	**1.66**	**11**	P	Pn	05 03 44.0	+0.9
MSWZ				S	Sn	05 04 03.7	+0.4
CRLZ	**Canterbury Las**	**1.70**	**251**	P	Pn	05 03 42.7	-0.8
CRLZ				S	Sn	05 04 01.9	-2.3
MQZ	**McQueen's Vall**	**1.72**	**247**	P	Pn	05 03 42.7	-1.1
MQZ				S	Sn	05 04 01.6	-3.2
PAWZ	**Paruwai Farm**	**1.72**	**15**	P	Pn	05 03 44.8	+0.9
PAWZ				S	Sn	05 04 05.1	+0.3
TUWZ	**Tuamarina**	**1.75**	**337**	P	Pn	05 03 45.3	+1.1
TRWZ	**Traveller**	**1.77**	**21**	P	Pn	05 03 45.5	+1.0
TCW	**Tory Channel**	**1.89**	**347**	P	Pn	05 03 47.2	+1.2
LTZ	**Lake Taylor**	**1.91**	**277**	P	Pn	05 03 46.8	+0.4
THZ	**Tophouse**	**1.93**	**311**	P	Pn	05 03 48.1	+1.5
CAW	**Cannon Point**	**1.95**	**5**	P	Pn	05 03 48.3	+1.4
MTW	**Mount Morrison**	**1.95**	**15**	P	Pn	05 03 47.8	+0.8
OXZ	**Oxford**	**2.07**	**261**	P	Pn	05 03 48.0	-0.5
TMWZ	**Te Maipa**	**2.09**	**22**	P	Pn	05 03 49.6	+0.7
NNZ	**Nelson**	**2.13**	**329**	P	Pn	05 03 50.0	+0.7
KIW	**Kapiti Island**	**2.19**	**1**	P	Pn	05 03 51.7	+1.5
HOWZ	**Holdsworth Sta**	**2.21**	**13**	P	Pn	05 03 51.5	+1.0
OGWZ	**Otaki Gorge**	**2.25**	**6**	P	Pn	05 03 52.4	+1.4
DUWZ	**D'Urville Isla**	**2.35**	**343**	P	Pn	05 03 53.9	+1.5
CPWZ	**Castlepoint**	**2.37**	**26**	P	Pn	05 03 53.6	+1.0
TIWZ	**Tintock**	**2.40**	**19**	P	Pn	05 03 53.9	+0.8
MRZ	**Mangatainoka R**	**2.45**	**13**	P	Pn	05 03 54.9	+1.1
INZ	**Inchbonnie**	**2.52**	**276**	P	Pn	05 03 55.9	+1.2
BFZ	**Birch Farm**	**2.59**	**24**	P	Pn	05 03 56.1	+0.4
DSZ	**Denniston Nort**	**2.60**	**299**	P	Pn	05 03 57.8	+2.0
PRWZ	**Pori Road**	**2.63**	**19**	P	Pn	05 03 57.4	+1.2
POWZ	**Post Office Ro**	**2.75**	**15**	P	Pn	05 03 59.4	+1.6
QRZ	**Quartz Range**	**2.81**	**321**	P	Pn	05 04 00.5	+1.8
RPZ	**Rata Peaks**	**2.84**	**255**	P	Pn	05 03 59.5	+0.4
ANWZ	**Angora Road**	**2.86**	**26**	P	Pn	05 03 60.0	+0.6
DVHZ	**Dannevirke**	**2.92**	**20**	P	Pn	05 04 00.9	+0.6
WVZ	**Waitaha Valley**	**3.01**	**268**	P	Pn	05 04 02.6	+1.4
TSZ	**Takapari Road**	**3.11**	**16**	P	Pn	05 04 04.0	+1.3
WPHZ	**Waipukurau**	**3.22**	**22**	P	Pn	05 04 05.1	+0.9
WAZ	**Wanganui**	**3.29**	**2**	P	Pn	05 04 08.7	+3.5
PNHZ	**Pukenui**	**3.30**	**19**	P	Pn	05 04 06.4	+1.1
KRHZ	**Kereru**	**3.59**	**19**	P	Pn	05 04 10.1	+0.7
KAHZ	**Kahuranaki**	**3.60**	**26**	P	Pn	05 04 10.0	+0.6
LREZ	**Lake Rotokare**	**3.60**	**355**	P	Pn	05 04 13.8	+4.3
ODZ	**Otahua Downs**	**3.62**	**235**	P	Pn	05 04 09.3	-0.4
LBZ	**Lake Benmore**	**3.63**	**247**	P	Pn	05 04 10.2	+0.3
BHHZ	**Black Hill Sta**	**3.67**	**15**	P	Pn	05 04 12.1	+1.6
FOZ	**Fox Glacier**	**3.70**	**261**	P	Pn	05 04 12.6	+1.9
MOVZ	**Moawhango**	**3.71**	**11**	P	Pn	05 04 13.0	+2.1
PREZ	**Palmer Road**	**3.74**	**352**	P	Pn	05 04 15.3	+3.9
PKVZ	**Pokaka**	**3.78**	**6**	P	Pn	05 04 14.9	+3.0
TRVZ	**Turoa**	**3.79**	**8**	P	Pn	05 04 14.6	+2.4
KHEZ	**Kahui Hut**	**3.80**	**350**	P	Pn	05 04 15.6	+3.3
WHVZ	**Whangaehu Hut**	**3.81**	**9**	P	Pn	05 04 15.0	+2.5
KWHZ	**Kaweka Forest**	**3.81**	**19**	P	Pn	05 04 13.6	+1.2
TUVZ	**Tukino**	**3.83**	**10**	P	Pn	05 04 15.6	+2.8
FWVZ	**Far West T-bar**	**3.83**	**8**	P	Pn	05 04 15.2	+2.4
NBEZ	**Newall Road No**	**3.85**	**349**	P	Pn	05 04 16.0	+3.1
MCHZ	**McNeill Hill**	**3.87**	**22**	P	Pn	05 04 15.0	+1.9
DREZ	**Durham Road**	**3.89**	**353**	P	Pn	05 04 16.8	+3.4
PKE	**Pukeiti**	**3.91**	**350**	P	Pn	05 04 16.9	+3.2
NGZ	**Ngauruhoe**	**3.91**	**9**	P	Pn	05 04 16.5	+2.6
VRZ	**Vera Road**	**3.92**	**359**	P	Pn	05 04 16.9	+3.1
WTVZ	**West Tongariro**	**3.97**	**8**	P	Pn	05 04 17.4	+2.8
KRVZ	**Karewarewa**	**4.00**	**9**	P	Pn	05 04 18.0	+2.9
TWVZ	**Taurewa**	**4.00**	**7**	P	Pn	05 04 17.5	+2.4
BKZ	**Black Stump Fm**	**4.08**	**18**	P	Pn	05 04 17.0	+1.0
ARHZ	**Aropaoanui**	**4.12**	**24**	P	Pn	05 04 17.7	+1.1
KATZ	**Kakaramea**	**4.12**	**9**	P	Pn	05 04 19.5	+2.8
RITZ	**Rihia Road**	**4.14**	**11**	P	Pn	05 04 19.3	+2.4
HHSZ	**Highcliff Hill**	**4.15**	**226**	P	Pn	05 04 17.0	0.0
NMHZ	**Naumai**	**4.22**	**21**	P	Pn	05 04 19.3	+1.3
MRHZ	**Matea Rd**	**4.38**	**16**	P	Pn	05 04 21.1	+0.9
MTHZ	**Maungataniwha**	**4.46**	**21**	P	Pn	05 04 21.9	+0.6
RAHZ	**Arahi**	**4.47**	**23**	P	Pn	05 04 22.4	+1.1
JCZ	**Jackson Bay**	**4.52**	**255**	P	Pn	05 04 22.9	+0.8
HIZ	**Hauiti**	**4.53**	**0**	P	Pn	05 04 25.0	+2.8
EAZ	**Earnscleugh**	**4.54**	**239**	P	Pn	05 04 22.5	+0.2
KNZ	**Kokohu**	**4.56**	**29**	P	Pn	05 04 22.3	-0.2
WKZ	**Wanaka**	**4.56**	**245**	P	Pn	05 04 22.9	+0.3
SNGZ	**Shannon Statio**	**4.67**	**25**	P	Pn	05 04 24.7	+0.6
RTZ	**Ruatahuna**	**4.72**	**21**	P	Pn	05 04 25.2	+0.4
TUZ	**Tuapeka**	**4.72**	**230**	P	Pn	05 04 24.8	+0.1
PRGZ	**Paritu Road**	**4.72**	**30**	P	Pn	05 04 24.7	-0.2
MUGZ	**Murupara**	**4.80**	**18**	P	Pn	05 04 26.8	+0.9
RIGZ	**Rimuhau**	**4.87**	**28**	P	Pn	05 04 26.9	0.0
RAGZ	**Rawiri**	**4.95**	**24**	P	Pn	05 04 26.8	-1.2
URZ	**Urewera**	**5.09**	**21**	P	Pn	05 04 29.6	-0.2
MWZ	**Matawai**	**5.13**	**24**	P	Pn	05 04 30.4	-0.2
MSZ	**Milford Sound**	**5.25**	**250**	P	Pn	05 04 32.5	+0.4
TOZ	**Tahuroa Road**	**5.34**	**6**	P	Pn	05 04 35.2	+2.0
SYZ	**Scrubby Hill**	**5.35**	**227**	P	Pn	05 04 33.6	+0.3
MLZ	**Mavora Lakes**	**5.36**	**242**	P	Pn	05 04 33.6	+0.1
RUGZ	**Raukumara Rang**	**5.52**	**24**	P	Pn	05 04 35.7	-0.2
WHZ	**Wether Hill Ro**	**5.69**	**238**	P	Pn	05 04 37.5	-0.5
HAZ	**Te Kaha**	**5.75**	**24**	P	Pn	05 04 39.3	+0.5
WMGZ	**Waiomatatini S**	**5.89**	**29**	P	Pn	05 04 39.9	-0.9
MKAZ	**Moumakai**	**5.94**	**2**	P	Pn	05 04 43.7	+2.1
AWAZ	**Awhitu Peninsu**	**5.98**	**358**	P	Pn	05 04 44.9	+2.9
DCZ	**Deep Cove**	**6.02**	**244**	P	Pn	05 04 43.0	+0.4
MXZ	**Matakaoa Point**	**6.09**	**27**	P	Pn	05 04 42.9	-0.6
CTZ	**Chatham Island**	**6.26**	**99**	P	Pn	05 04 45.8	0.0

*IDC **05** 05:07:57.8±3.0, 22°.88S×179°.49W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/29, mbtmp4.0/3, Error ellipse: s-maj=290.3km s-min=34.0km az=163.0*
*ISCJB **05** 05:08:51.0±1.2, 23°.5S±0°.3×179°.8E±0°.2, h526km, mb3.5/3, Error ellipse: s-maj=42.5km s-min=26.2km az=3.2*
ISC 05 05:08:51.7±1.3, 23°.6S±0°.4×179°.8E±0°.2, h526km, n6, σ0§29/6, mb3.6/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.92**	**260**	P	**P**	**05 15 56.6**	**+0.3**
	1.5nm,0.8s,baz=92,slow=7.8,SNR=8.6						
WRA	**Warramunga Arr**	**42.26**	**266**	P	**P**	**05 15 58.7**	**-0.3**
	0.8nm,0.3s,baz=103,slow=8.5,SNR=16						
SNAA	**Sanae**	**85.01**	**179**	P	**P**	**05 20 31.0**	**-0.2**
VNA3	**Neumayer Olymp**	**85.23**	**177**	P	**P**	**05 20 32.1**	**-0.1**
VNA2	**Neumayer--Watz**	**85.64**	**178**	P	**P**	**05 20 34.3**	**+0.1**
	baz=189,slow=3.6						
TXAR	**Lajitas Array**	**90.40**	**58**	P	**P**	**05 20 57.3**	**0.0**
	0.4nm,0.7s,baz=201,slow=6.2,SNR=5.0						

*GCG **05** 05:12:41.1±0.3, 13°.08N×92°.73W, h50km, MD4.0*
*IDC **05** 05:12:45.9±1.5, 13°.52N×92°.42W, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.7/47, mbtmp3.7/9, ML3.4/4, MS2.7/3, Ms1 2.7/3, ms1mx2.5/44, Error ellipse: s-maj=33.0km s-min=19.5km az=27.0*
*MEX **05** 05:12:47.2±0.8, 13°.72N×92°.39W, h136km±40km, MD3.7*
*ISCJB **05** 05:12:48.3±0.9, 13°.54N±0°.07×92°.45W±0°.06, h32km, mb3.8/5, MS3.2/1, Error ellipse: s-maj=11.5km s-min=7.3km az=31.6*
ISC 05 05:12:50.1±1.1, 13°.64N±0°.08×92°.34W±0°.06, h32km, n17, σ1§71/20, mb3.8/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.27**	**3**	*i* P	**Pn**	**05 13 11.7**	**+0.1**
THIG				*i* S	**Sb**	**05 13 29.7**	**+0.3**
STG3	**Santiaguito 3,**	**1.31**	**35**	*e*P	**Pb**	**05 13 12.8**	**-1.4**
FUG	**Fuego 3**	**1.67**	**61**	*e*P	**Pn**	**05 13 17.0**	**-0.2**
IXG	**Ixpaco**	**1.92**	**74**	*e*P	**Pn**	**05 13 19.7**	**-1.1**
PCIG		**2.23**	**338**	*e*P	**Pn**	**05 13 22.4**	**-2.4**
PCIG				*i* S	**Sn**	**05 13 48.0**	**-3.2**
APG	**El Apazote**	**2.27**	**53**	Pn	**Pn**	**05 13 26.6**	**+0.9**
	5.4nm,0.3s,baz=229,slow=12,SNR=40						
APG				LR	LR	05 13 54.3	
	comp=Z,43nm,21.8s,baz=148,slow=28						
APG				Sn	**Sb**	**05 13 58.0**	**-0.5**
	4.8nm,0.3s,baz=312,slow=13,SNR=5.8						
CMIG	**Matias Romero**	**4.22**	**325**	Pn	**Pn**	**05 13 50.7**	**-1.6**
	0.8nm,0.3s,baz=147,slow=12,SNR=23						
CMIG				Sn	**Sn**	**05 14 42.6**	**+2.1**
	1.4nm,0.3s,baz=108,slow=11,SNR=3.7						
CMIG				LR	LR	05 15 17.2	
	comp=Z,86nm,20.6s,baz=144,slow=35						
TEIG	**Tepich**	**7.62**	**30**	Pn	**Pn**	**05 14 40.3**	**+1.3**
	3.0nm,0.3s,baz=138,slow=9.8,SNR=21						
JTS	**Las Juntas de**	**7.96**	**114**	Pn	Pn	05 14 47.8	+4.1
	0.3nm,0.3s,baz=304,slow=3.6,SNR=2.3						
JTS				Sn	**Sn**	**05 16 10.1**	**-2.6**
	0.5nm,0.3s,baz=125,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**18.82**	**328**	P	**Pn**	**05 17 08.8**	**+0.7**
	0.0nm,0.3s,baz=155,slow=11,SNR=5.3						
TKL	**Tuckaleechee C**	**23.25**	**18**	LR	LR	05 27 49.6	
	comp=Z,84nm,19.4s,baz=198,slow=39						
ANMO	**Albuquerque**	**24.76**	**331**	P	**P**	**05 18 12.1**	**+2.9**
	1.0nm,0.7s,baz=139,slow=11,SNR=6.2						
PDAR	**Pinedale Array**	**32.62**	**336**	P	**P**	**05 19 20.2**	**+1.0**
	0.5nm,0.8s,baz=126,slow=10,SNR=3.6						
NVAR	**Mina Array Bea**	**33.75**	**322**	P	**P**	**05 19 30.0**	**+0.9**
	1.0nm,0.8s,baz=127,slow=9.1,SNR=6.5						
PTGA	**Pitinga**	**35.11**	**111**	P	**P**	**05 19 41.8**	**+0.8**
	3.8nm,0.7s,baz=306,slow=10,SNR=9.1						
ILAR	**Eielson Array**	**63.04**	**337**	P	**P**	**05 23 14.5**	**+0.6**
	0.9nm,1.0s,baz=162,slow=4.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**146.22**	**340**	PKPbc	**PKPab**	**05 32 27.8**	**-1.1**
	0.6nm,0.3s,baz=319,slow=2.5,SNR=4.0						

*ISCJB **05** 05:14:30.5±0.4, 39°.37N±0°.02×25°.87E±0°.03, h6km±4km, Error ellipse: s-maj=4.3km s-min=3.8km az=160.8*
*DDA **05** 05:14:30.1, 39°.40N×25°.93E, h7km±8km, ML2.6*
*ISK **05** 05:14:30.5, 39°.37N×25°.89E, h5km, ML2.5/15*
*ATH **05** 05:14:30.5, 39°.30N×25°.84E, h16km±6km, ML2.3/2, Error ellipse: s-maj=7.3km s-min=1.2km az=192.0*
*THE **05** 05:14:31.1, 39°.36N×25°.82E, h4km±4km, ML2.5/3, Error ellipse: s-maj=4.0km s-min=0.6km az=143.0*
ISC 05 05:14:30.7±0.9, 39°.37N±0°.02×25°.88E±0°.03, h10km±7km, n27, σ0§54/41, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.16**	**188**	P	**Pg**	**05 14 33.9**	**-0.3**
SIGR				S	**Sg**	**05 14 36.5**	**-0.1**
	2μm,0.4s						
SIGR	**SIGRI**	**0.16**	**188**	P	**Pg**	**05 14 33.7**	**-0.5**
SIGR				S	**Sg**	**05 14 36.5**	**-0.1**
SIGR				AML	AML	05 14 37.9	
	comp=E,5437μm,0.4s						
SIGR				AML	AML	05 14 38.7	
	comp=N,1994μm,0.4s						
SIGR	**SIGRI**	**0.16**	**188**	PG	**Pg**	**05 14 34.2**	**0.0**
SIGR				SG	**Sg**	**05 14 37.0**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.21**	**66**	PG	**Pg**	**05 14 35.1**	**0.0**
GPNR				SG	**Sg**	**05 14 38.7**	**+0.6**
PRK	**Paraskevi**	**0.33**	**112**	P	**Pb**	**05 14 38.4**	**-0.2**
PRK				S	**Sb**	**05 14 43.3**	**-0.6**
	comp=N,815nm,0.3s						
PRK	**Paraskevi**	**0.33**	**112**	P	**Pg**	**05 14 37.6**	**+0.4**
PRK				S	**Sg**	**05 14 42.2**	**+0.6**
PRK				AML	AML	05 14 43.5	
	comp=N,1445μm,0.3s						
PRK				AML	AML	05 14 43.7	
	comp=E,1786μm,0.4s						
BOZC	**Bozcaada**	**0.49**	**15**	*i* P	**Pg**	**05 14 38.8**	**-1.5**
BOZC				*i* S	**Sg**	**05 14 47.1**	**+0.3**
BOZC				IAML_P			
	comp=Z,800nm,0.1s						
BOZC	**Bozcaada**	**0.49**	**15**	PG	**Pg**	**05 14 40.5**	**+0.2**
BOZC				SG	**Sb**	**05 14 47.8**	**-0.9**
EZN	**Ezine**	**0.57**	**37**	PG	**Pg**	**05 14 41.7**	**-0.1**
EZN				SG	**Sb**	**05 14 50.3**	**-0.6**
AYVA	**Ayvalik**	**0.63**	**95**	*i* P	**Pb**	**05 14 43.6**	**-0.1**
AYVA				*i* S	**Sg**	**05 14 50.0**	**-1.1**
AYVA				IAML_P			
	comp=Z,553nm,0.1s						
EFSA	**Agios Efstrati**	**0.71**	**284**	P	**Pg**	**05 14 44.3**	**-0.2**
EFSA				S	**Sg**	**05 14 53.4**	**-0.4**
LIA	**Limnos Island**	**0.76**	**314**	P	**Pg**	**05 14 45.1**	**-0.2**
LIA				S	**Sg**	**05 14 55.3**	**+0.1**
LIA	**Limnos Island**	**0.76**	**314**	P	**Pg**	**05 14 45.3**	**0.0**
LIA				S	**Sb**	**05 14 57.0**	**+0.7**
DKL	**Dikili**	**0.85**	**110**	PG	**Pb**	**05 14 47.4**	**-0.1**
CHOS	**Chios island**	**0.99**	**172**	P	**Pg**	**05 14 49.5**	**-0.3**
CHOS				S	**Sb**	**05 15 03.9**	**+0.8**
	comp=Z,315nm,0.5s						
CHOS	**Chios island**	**0.99**	**172**	PG	**Pb**	**05 14 49.9**	**-0.1**
ZEDA	**zmir-Bergama**	**1.01**	**113**	*i* P	**Pn**	**05 14 50.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.12**	**24**	PN	**Pn**	**05 14 52.5**	**0.0**
URLA	**Izmir**	**1.15**	**151**	*i* P	**Pg**	**05 14 52.5**	**-0.3**
URLA	**Izmir**	**1.15**	**151**	PN	**Pg**	**05 14 52.4**	**-0.4**
LPK	**Lapseki**	**1.21**	**34**	PN	**Pn**	**05 14 54.0**	**+0.3**
ERIK	**Erikli-Kesan**	**1.39**	**20**	PN	**Pb**	**05 14 56.9**	**+0.2**
KRBG	**Karabiga-Canak**	**1.49**	**46**	PN	**Pn**	**05 14 58.1**	**+0.5**
ALN	**Alexandroupoli**	**1.53**	**5**	PN	**Pb**	**05 14 58.9**	**-0.3**
BALB	**Balikesir**	**1.57**	**79**	PN	**Pn**	**05 14 59.2**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.65**	**37**	PN	**Pn**	**05 15 00.6**	**+0.8**
MRMT	**Marmara Adasi**	**1.80**	**46**	PN	**Pn**	**05 15 02.9**	**+1.0**

*IDC **05** 05:18:11.4±1.9, 15°.75S×175°.69W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/30, mbtmp3.7/5, MS3.1/4, Ms1 3.1/4, ms1mx2.9/35, Error ellipse: s-maj=115.6km s-min=24.8km az=152.0*
*ISCJB **05** 05:18:15.1±1.7, 15°.8S±0°.7×175°.8W±0°.4, h33km, mb3.8/5, MS3.2/5, Error ellipse: s-maj=111.4km s-min=21.4km az=151.7*
ISC 05 05:18:16.9±2.0, 15°.6S±0°.7×175°.8W±0°.4, h35km, n16, σ0§80/6, mb3.9/5, MS3.2/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.17**	**112**	LR	LR	05 27 21.9	
	comp=Z,73nm,19.5s,baz=275,slow=34						
HNR	**Honiara**	**24.46**	**282**	LR	LR	05 31 52.0	
	comp=Z,79nm,18.3s,baz=135,slow=33						
PAE	**Paea**	**25.19**	**98**	*e*T	T	05

RUGZ Raukumara Rang 6.16 212 P Pn 05 32 55.4 -0.4
RUGZ S Sn 05 34 06.3 +1.2
TWGZ Tauwhareparae 6.21 209 P Pn 05 32 56.2 -0.3
TWGZ S Sn 05 34 07.4 +1.2
CNGZ Carnagh Statio 6.38 206 P Pn 05 32 57.6 -1.3
CNGZ S Sn 05 34 11.4 +0.9
TKGZ Te Karaka 6.48 208 P Pn 05 33 00.7 +0.5
TKGZ S Sn 05 34 12.7 -0.3
OPRZ Ohinepanea 6.61 219 P Pn 05 33 03.1 +1.2
URZ Urewera 6.65 213 Pn **Pn 05 33 00.8 -1.8**
17nm,0.3s,baz=310,slow=0.4,SNR=77
URZ Sn **Sn 05 34 16.5 -0.6**
21nm,0.3s,baz=187,slow=20,SNR=8.4
URZ Urewera 6.65 213 P Pn 05 33 00.6 -1.9
URZ S Sn 05 34 16.9 -0.3
URZ Urewera 6.65 213 Pn 05 33 00.5 -2.1
URZ Sn Sn 05 34 16.7 -0.5
RAGZ Rawiri 6.71 211 P Pn 05 33 03.7 +0.3
RIGZ Rimuhau 6.75 208 P **Pn 05 33 02.3 -1.5**
RIGZ S Sn 05 34 21.1 +1.6
OUZ Omahuta 7.21 248 P **Pn 05 33 14.4 +4.2**
OUZ Omahuta 7.21 248 Pn 05 33 13.9 +3.8
BKZ Black Stump Fm 7.67 212 Pn 05 33 13.7 -2.9
HIZ Hauiti 8.02 223 Pn **Pn 05 33 21.5 +0.2**
BFZ Birch Farm 9.04 208 Pn **Pn 05 33 30.9 -4.4**
BFZ **Sn 05 35 11.2 -4.7**
MSWZ Moikau Station 10.06 209 Pn Pn 05 33 43.4 -5.9
MSWZ **Sn 05 35 34.4 -6.6**
PLWZ Palliser 10.19 209 Pn Pn 05 33 45.6 -5.5
PLWZ **Sn 05 35 36.6 -7.5**
SNZO South Karori 10.21 211 Pn **Pn 05 33 46.8 -4.5**
BHW Baring Head 10.22 211 Pn Pn 05 33 46.3 -5.1
BHW Sn **Sn 05 35 36.5 -8.2**
TUWZ Tuamarina 10.65 214 Pn **Pn 05 33 53.6 -3.7**
NNZ Nelson 10.76 216 Pn **Pn 05 33 55.8 -3.0**
CMWZ Cape Campbell 10.78 212 Pn **Pn 05 33 56.0 -3.1**
BSWZ Blackbirch Sta 10.90 213 Pn **Pn 05 33 57.1 -3.7**
QRZ Quartz Range 10.91 220 Pn **Pn 05 33 57.1 -3.8**
THZ Tophouse 11.40 216 Pn **Pn 05 34 04.9 -2.8**
KHZ Kahutara 11.62 212 Pn **Pn 05 34 05.8 -4.7**
LTZ Lake Taylor 12.48 214 Pn **Pn 05 34 19.2 -3.3**
OXZ Oxford 13.01 213 Pn **Pn 05 34 25.1 -4.5**
MQZ McQueen's Vall 13.04 211 Pn Pn 05 34 24.8 -5.2
RPZ Rata Peaks 13.77 214 Pn **Pn 05 34 41.9 +1.9**
2.2nm,0.3s,baz=350,slow=6.1,SNR=2.6
RPZ Sn Sn 05 36 58.2 -13
1.8nm,0.3s,baz=255,slow=20,SNR=3.7
FOZ Fox Glacier 14.25 218 Pn **Pn 05 34 44.0 -2.5**
LBZ Lake Benmore 14.69 215 Pn Pn 05 34 47.5 -4.9
ODZ Otahua Downs 14.98 212 Pn Pn 05 34 49.7 -6.6
ODZ IAmb IAmb 05 35 04.5
comp=Z,17nm,0.9s
WKZ Wanaka 15.58 216 Pn **Pn 05 35 01.3 -2.9**
WKZ IAmb IAmb 05 35 06.8
comp=Z,22nm,1.1s
MLZ Mavora Lakes 16.41 216 Pn **Pn 05 35 11.4 -3.4**
WHZ Wether Hill Ro 16.87 215 Pn 05 35 17.2 -3.4
DZM Mont Dzumac 17.26 304 *e*P **P 05 35 29.9 +2.9**
comp=Z,100nm,1.1s
DZM *e*LR LR 05 39 49.5
comp=Z,1μm,22.4s
DZM Mont Dzumac 17.26 304 LR LR 05 41 00.6
comp=Z,2μm,18.3s,baz=194,slow=34
DZM Mont Dzumac 17.26 304 P **P 05 35 30.1 +3.1**
DZM IAmb IAmb 05 35 33.7
comp=Z,46nm,1.0s
RAR Rarotonga 20.05 60 P **P 05 35 57.3 -0.2**
comp=Z,0.8nm,0.3s,baz=59,slow=4.0,SNR=5.5
RAR LR LR 05 41 39.7
comp=Z,254nm,19.9s,baz=246,slow=31
TBI Tubuai 27.00 77 *e*LQ LQ 05 42 09.4
comp=Z,309nm,24.8s
TBI *e*LR LR 05 43 17.9
comp=Z,356nm,26.0s,baz=238
TBI Tubuai 27.00 77 *e*T T 06 03 36.6
comp=Z,10nm,0.4s
EIDS Eidsvold 27.75 277 P **P 05 37 14.2 +1.4**
EIDS IAmb IAmb 05 37 15.7
comp=Z,21nm,1.1s
PAE Paea 29.85 67 *e*T T 06 07 20.9
comp=Z,1.3nm,0.2s
PPT2 Papeete2 29.90 67 *e*LQ LQ 05 43 25.0
comp=Z,250nm,23.2s
PPT2 *e*LR LR 05 44 40.8
comp=Z,353nm,26.8s,baz=232
PPT2 Papeete2 29.90 67 *e*T T 06 07 25.2
comp=Z,2.1nm,0.4s
PPT Papeete 29.91 67 LR LR 05 49 19.7
comp=Z,163nm,18.9s,baz=232,slow=36
HNR Honiara 30.75 314 LR LR 05 48 55.6
comp=Z,319nm,18.1s,baz=156,slow=34
STKA Stephens Creek 33.81 260 P **P 05 38 07.5 +1.2**
comp=Z,3.6nm,0.8s,baz=80,slow=8.9,SNR=6.0
STKA LR LR 05 51 19.1
comp=Z,687nm,18.3s,baz=82,slow=35
STKA Stephens Creek 33.81 260 P **P 05 38 07.0 +0.7**
CTA Charters Tower 34.05 283 P **P 05 38 10.3 +1.9**
comp=Z,18nm,0.6s,baz=125,slow=10,SNR=20
CTAO Charters Tower 34.05 283 P **P 05 38 10.3 +1.9**
BBOO Buckleboo 38.19 257 P **P 05 38 42.9 -0.7**
BBOO IAmb IAmb 05 38 44.3
comp=Z,13nm,1.0s
KRVT Keravat (AS076 39.68 309 P **P 05 38 56.7 +0.4**
comp=Z,114nm,0.6s,baz=250,slow=14,SNR=4.8
COEN Coen 39.79 289 P **P 05 38 56.9 -0.3**
COEN IAmb IAmb 05 39 01.2
comp=Z,11nm,0.9s
TAOE Nuku Hiva Isla 42.47 65 *e*LR LR 05 50 32.7
comp=Z,181nm,26.8s
AS31 Alice Springs 42.84 270 P **P 05 39 22.4 +0.2**
AS31 IAmb IAmb 05 39 23.2
comp=Z,4.6nm,0.9s
ASAR Alice Springs 42.84 270 P **P 05 39 22.6 +0.3**
comp=Z,11nm,0.8s,baz=112,slow=7.6,SNR=92
ASAR S **S 05 45 42.9 -1.6**
comp=Z,0.7nm,0.8s,baz=112,slow=16,SNR=5.4
ASAR LR LR 05 57 00.6
comp=Z,222nm,18.6s,baz=125,slow=36
ASAR Alice Springs 42.84 270 P **P 05 39 21.4 -0.9**
WB2 Warramunga Arr 44.03 275 IAmb IAmb 05 39 46.6
comp=Z,3.9nm,0.6s
WRAB Tennant Creek 44.03 275 P **P 05 39 31.8 0.0**
WRA Warramunga Arr 44.04 275 P **P 05 39 32.1 +0.2**
comp=Z,11nm,0.7s,baz=116,slow=7.6,SNR=44
WRA S **S 05 46 00.5 -1.6**
comp=Z,0.9nm,1.0s,baz=128,slow=14,SNR=3.2
WRA LR LR 05 57 02.8
comp=Z,207nm,18.0s,baz=120,slow=35
WRA Warramunga Arr 44.04 275 P **P 05 39 32.1 +0.2**
MTN Manton Dam 50.20 281 P **P 05 40 19.8 -0.1**
KNRA Kununurra 50.73 276 P **P 05 40 23.8 -0.1**
SIJI Sorong 57.05 293 P **P 05 41 10.2 0.0**
comp=Z,2.2nm,0.4s,baz=68,slow=5.5,SNR=6.1
QSPA South Pole Qui 57.34 180 P **P 05 41 16.2 +4.5**
comp=Z,5.0nm,1.1s,baz=24,slow=5.8,SNR=9.7
MAW Mawson 70.02 201 P **P 05 42 38.6 +3.6**
comp=Z,2.4nm,0.8s,baz=124,slow=3.6,SNR=4.4
MAW LR LR 06 11 51.9
comp=Z,240nm,20.2s,baz=70,slow=35
JCJ Chichijima 70.45 323 LR LR 06 15 39.2
comp=Z,38nm,18.2s,baz=91,slow=38
SYO Syowa Base 74.76 193⇑ *i*pP **P 05 43 03.4 +0.1**
SYO Syowa Base 74.76 193⇑ *i*PcP **P 05 43 07.0 +3.7**
SNAA Sanae 75.79 178 P **P** 05 43 19.9 +11
VNA3 Neumayer Olymp 75.95 176 P **P** 05 43 22.2 +12
VNA2 Neumayer--Watz 76.38 177 P **P** 05 43 24.8 +12
baz=173,slow=5.0
VNA1 Neumayer--Stat 76.61 177 P **P** 05 43 26.1 +12
MJAR Matsushiro Arr 80.08 326 LR LR 06 15 17.8
comp=Z,42nm,20.9s,baz=140,slow=33
PLCA Paso Flores 81.04 133 P **P 05 43 41.5 +2.6**
comp=Z,4.0nm,1.1s,baz=218,slow=6.8,SNR=5.0
PLCA LR LR 06 14 24.5
comp=Z,85nm,18.8s,baz=234,slow=32
JNU Nakatsue 81.20 319 LR LR 06 15 00.6
comp=Z,36nm,19.1s,baz=82,slow=32
KSRS Korea Array 86.03 320 P **P 05 44 04.9 +0.8**
comp=Z,0.6nm,0.3s,baz=126,slow=6.2,SNR=2.8
KSRS LR LR 06 20 06.2
comp=Z,36nm,20.2s,baz=135,slow=34
NJ2 Nanjing 87.64 311 *e*P **P 05 44 09.5 -2.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PETK Petropavlovsk- 88.06 346 P **P 05 44 14.7 +1.1**
comp=Z,5.2nm,1.0s,baz=126,slow=7.5,SNR=4.4
PETK LR LR 06 20 37.8
comp=Z,77nm,18.6s,baz=245,slow=34
USRK Ussuriysk Ar. 89.03 327 P **P 05 44 19.4 +1.0**
comp=Z,1.5nm,0.7s,baz=105,slow=4.5,SNR=4.2
NVAR Mina Array Bea 90.12 43 P **P 05 44 25.9 +1.9**
comp=Z,0.3nm,0.5s,baz=90,slow=13,SNR=3.6
NVAR LR LR 06 20 05.6
comp=Z,105nm,18.3s,baz=248,slow=32
TXAR Lajitas Array 93.84 58 P **P 05 44 44.6 +3.4**
comp=Z,0.4nm,1.1s,baz=218,slow=5.7,SNR=2.6
TXAR LR LR 06 22 18.7
comp=Z,111nm,18.0s,baz=0.0,slow=33
CMAR Chiang Mai Arr 93.99 289 LR LR 06 31 26.1
comp=Z,22nm,18.1s,baz=295,slow=38
KMI Kunming 94.71 297 P **P 05 44 42.2 -3.3**
KMI pmax pmax
comp=Z,5.0nm,0.5s
LPAZ La Paz 97.35 115 LR LR 06 20 30.6
comp=Z,31nm,21.1s,baz=268,slow=30
HHC Hu-ho-hao-te 97.74 314 *e*P **P 05 44 55.3 -3.4**
HHC pmax pmax
comp=Z,6.0nm,1.1s
HHC pmax pmax
comp=Z,9.0nm,5.7s
PDAR Pinedale Array 97.99 44 LR LR 06 22 10.2
comp=Z,100nm,19.1s,baz=252,slow=31
CPUP Villa Florida 98.66 129 LR LR 06 21 21.2
comp=Z,47nm,20.4s,baz=218,slow=30
WMQ Urumqi 114.52 307 *e*PKP PKPdf 05 49 55.8 -7.7
WMQ LR LR
comp=Z,860nm,29.3s
MKAR Makanchi Array 119.13 309 PKP **PKiKP 05 50 12.7 +0.4**
comp=Z,0.9nm,0.6s,baz=211,slow=2.1,SNR=6.2
ZALV Zalesovo Beam 119.66 318 PKP **PKiKP 05 50 13.2 +0.2**
comp=Z,0.6nm,0.3s,baz=66,slow=2.1,SNR=3.7
KSH Kashi 121.25 299 *e*PKP **PKPdf 05 50 10.3 -6.4**
KURBB Kurchatov Arra 122.56 313 PKP **PKiKP 05 50 19.4 +0.6**
comp=Z,2.3nm,0.6s,baz=114,slow=1.8,SNR=16
AAK Ala-Archa 123.24 303 PKP **PKiKP 05 50 22.1 +1.4**
comp=Z,2.2nm,0.7s,baz=141,slow=6.5,SNR=3.4
BVAR Borovoye Array 127.94 314 PKP **PKiKP 05 50 30.5 +1.0**
comp=Z,2.6nm,0.7s,baz=122,slow=1.9,SNR=10
ARU Arti 134.77 319 PKP **PKiKP 05 50 43.1 -0.1**
comp=Z,0.7nm,0.3s,baz=180,slow=1.0,SNR=3.8
AKTO Aktyubinsk 135.52 311 PKP **PKiKP 05 50 44.6 -0.3**
comp=Z,2.0nm,0.8s,baz=201,slow=2.6,SNR=4.6
ARCES ARCESS Array B 140.86 347 PKhKP PKPpre 05 50 47.8
comp=Z,1.6nm,0.7s,baz=58,slow=2.4,SNR=4.5
KLMR Klimovskoe 142.74 330 *e*PKPdf **PKPdf 05 50 50.3 -5.8**
KLMR AMP 05 51 03.3
comp=Z,15nm,1.2s
KBZ Khabaz 146.22 301 PKPbc **PKPab 05 51 04.5 0.0**
comp=Z,5.8nm,0.9s,baz=172,slow=3.4,SNR=7.9
FINES FINESS Array B 147.29 339 PKPbc **PKPbc 05 51 07.0 +0.6**
comp=Z,12nm,0.5s,baz=46,slow=4.0,SNR=33
ASF Jabal al Asfar 150.44 278 PKPbc **PKiKP 05 51 17.0 +0.8**
comp=Z,1.9nm,0.5s,baz=25,slow=4.5,SNR=6.0
NB2 NORSAR Subarra151.06 350 PKP **PKiKP 05 51 16.6 +0.1**
comp=Z,1.1nm,0.6s,baz=15,slow=2.6
NOA NORSAR Array B 151.06 350 PKPbc **PKiKP 05 51 16.8 +0.3**
comp=Z,3.3nm,1.0s,baz=18,slow=4.6,SNR=7.0
EIL Elat 151.52 273 PKPbc **PKiKP 05 51 19.6 +1.2**
comp=Z,15nm,0.9s,baz=341,slow=2.1,SNR=10
HFS Hagfors 151.52 347 PKPbc **PKiKP 05 51 17.8 +0.4**
comp=Z,4.0nm,0.6s,baz=114,slow=3.7,SNR=10.0
MMAI Mount Meron Ar 151.82 280 PKPbc **PKiKP 05 51 20.2 +1.2**
comp=Z,3.9nm,0.4s,baz=108,slow=2.7,SNR=8.3
AKASG Malin Array Be 153.02 320 PKPbc **PKiKP 05 51 22.2 +1.4**
comp=Z,1.0nm,0.3s,baz=50,slow=2.6,SNR=9.4
BRTR Keskin Array B 153.47 294 PKPbc **PKiKP 05 51 22.9 +0.6**
comp=Z,3.3nm,0.7s,baz=126,slow=2.1,SNR=20
KOLS Kolonicke sedl 157.73 322 *e*PKP **PKPab 05 51 53.0 +0.7**
VYHS Vyhne 159.72 326 *e*PKP **PKPab 05 52 01.2 +0.2**
TORD Torodi Ar. Bea 160.46 180 PKP **PKPdf 05 51 24.7 +0.7**
comp=Z,2.0nm,1.2s,baz=122,slow=1.9,SNR=3.9
TORD PKPab **PKPab 05 52 08.0 +3.1**
comp=Z,1.1nm,0.9s,baz=179,slow=5.3,SNR=3.1
GERES GERESS Array B 161.62 334 PKPab **PKPab 05 52 09.2 -0.1**
comp=Z,0.6nm,0.7s,baz=35,slow=5.4,SNR=4.0

ISCJB ***05*** *05:35:49.7±0.6, 33°.65N±0°.03×140°.83E±0°.06, h64km±5km, mb4.0/4, Error ellipse: s-maj=8.5km s-min=4.6km az=4.2*
JMA ***05*** *05:35:50.2±0.2, 33°.70N×140°.81E, h61km±4km, M3.8*
NEIC ***05*** *05:35:50.1±1.1, 33°.56N±0°.04×140°.97E±0°.09, h55km±9km, mb4.1/5*
IDC ***05*** *05:35:51.9±2.5, 33°.58N×140°.73E, h63km±18km, mb3.6/4, mb1 3.9/6, mb1mx3.4/59, mbtmp4.0/6, Error ellipse: s-maj=34.3km s-min=10.5km az=79.0*
ISC 05 05:35:51.0±1.1, 33°.64N±0°.04×140°.86E±0°.07, h54km±11km, n40, σ1°57/48, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.02**	**5**	P	**Pn**	**05 36 07.8**	**-0.8**
BSO1				S	**Sn**	**05 36 21.8**	**+0.2**
JHJ2	**Mitsune**	**1.02**	**239**	P	**Pn**	**05 36 08.8**	**-0.3**
JHJ2				S	**Sn**	**05 36 21.9**	**-0.6**
JHJ2	**Mitsune**	**1.02**	**239**		**Pn**	**05 36 08.9**	**-0.3**
JHJ2				Sn	**Sn**	**05 36 22.5**	**0.0**
JHJ	**Hachijo jima 2**	**1.04**	**240**	P	**Pn**	**05 36 09.0**	**-0.4**
	715nm,0.3s,baz=246,slow=20,SNR=62						
JHJ				S	**Sn**	**05 36 22.1**	**-0.9**
	882nm,0.3s,baz=38,slow=22,SNR=34						
JHCJ	**Hachijojimakas**	**1.05**	**238**	P	**Pn**	**05 36 09.1**	**-0.5**
JHCJ				S	**Sn**	**05 36 22.5**	**-0.8**
JMKN	**Mikurajimanish**	**1.09**	**284**	P	**Pn**	**05 36 09.2**	**-0.8**
JMKN				*e*S	**Sn**	**05 36 23.1**	**-1.0**
BSO2	**Boso 2**	**1.11**	**355**	S	**Sn**	**05 36 25.3**	**+1.0**
BSO3	**Boso 3**	**1.20**	**346**	P	**Pn**	**05 36 10.4**	**-0.8**
BSO4	**Boso 4**	**1.42**	**342**	P	**Pn**	**05 36 13.7**	**-0.7**
JAOM	**Aogashimamukai**	**1.49**	**219**	P	**Pn**	**05 36 15.2**	**-0.3**
JAOM				S	**Sn**	**05 36 33.7**	**-0.2**
JTHY	**Toshimahigashi**	**1.58**	**304**	P	**Pn**	**05 36 16.0**	**-0.6**
JTHY				S	**Sn**	**05 36 34.7**	**-1.2**
JIM2	**Oshima 3**	**1.60**	**313**	P	**Pn**	**05 36 15.8**	**-1.2**
JIM2				S	**Sn**	**05 36 34.1**	**-2.5**
JIZS	**Izushimoda**	**1.97**	**304**	P	**Pn**	**05 36 21.5**	**-0.4**
JIZS				S	**Sn**	**05 36 44.0**	**-1.4**
KTJ3	**Kamata3**	**1.97**	**312**	P	**Pn**	**05 36 20.8**	**-1.1**
KTJ3				S	**Sn**	**05 36 42.8**	**-2.7**
JOD2	**Odawara 2**	**2.19**	**318**	P	**Pn**	**05 36 24.0**	**-1.0**
JOD2				S	**Sn**	**05 36 48.3**	**-2.6**
INU	**Inuyama**	**3.60**	**299**		**Pn**	**05 36 45.3**	**+1.0**
MJAR	**Matsushiro Arr**	**3.62**	**324**	P	**Pn**	**05 36 45.2**	**+0.6**
	1.6nm,0.3s,baz=151,slow=13,SNR=34						
MJAR				S	**Sn**	**05 37 26.4**	**+0.2**
	0.5nm,0.3s,baz=157,slow=13,SNR=4.9						
MJAR	**Matsushiro Arr**	**3.62**	**324**		**Pn**	**05 36 45.3**	**+0.7**
MAJO	**Matsushiro**	**3.62**	**324**		**Pn**	**05 36 45.6**	**+1.0**
MAT	**Matsushiro**	**3.62**	**324**	P	**Pn**	**05 36 45.7**	**+1.0**
MAT				S	**Sn**	**05 37 24.5**	**-1.7**
MJB9	**Matsu-Tunnel**	**3.63**	**324**		**Pn**	**05 36 44.9**	**+0.2**
JCJ	**Chichijima**	**6.62**	**170**	P	**Pn**	**05 37 24.8**	**-1.0**
	3.3nm,0.3s,baz=351,slow=16,SNR=13						
JCJ				S	**Sn**	**05 38 33.4**	**-6.4**
	4.4nm,0.3s,baz=354,slow=18,SNR=3.0						
KSRS	**Korea Array**	**11.21**	**294**	P	**Pn**	**05 38 32.6**	**+4.2**
	0.3nm,0.3s,baz=110,slow=15,SNR=4.3						
H11N2	**WAKE ISLAND Hy 26.98**	**114**		T	T	06 10 16.5	
	baz=306,slow=75,SNR=6.4						
H11N1	**WAKE ISLAND Hy 26.98**	**114**		T	T	06 10 23.6	
	baz=306,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 27.00**	**114**		T	T	06 10 23.6	
	baz=306,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy 27.57**	**117**		T	T	06 11 11.4	
	baz=307,slow=74						
H11S1	**WAKE ISLAND Hy 27.57**	**117**		T	T	06 11 10.8	
	baz=307,slow=74						
H11S2	**WAKE ISLAND Hy 27.58**	**117**		T	T	06 11 15.5	
	baz=307						
SONM	**Songino Array**	**29.44**	**309**	P	**Pn**	**05 41 51.7**	**+2.1**
MKAR	**Makanchi Array**	**45.61**	**305**	P	**Pn**	**05 44 05.3**	**-0.6**
	1.1nm,0.8s,baz=88,slow=10.0,SNR=7.6						
KURK	**Kurchatov**	**47.73**	**311**	P	**P**	**05 44 22.1**	**-0.1**
KURK	**Kurchatov**	**47.73**	**311**	IAmb	IAmb	05 44 22.6	
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**47.79**	**310**	P	**P**	**05 44 22.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=85,slow=7.8,SNR=7.3						
WB2	**Warramunga Arr**	**53.64**	**188**	P	**P**	**05 45 06.6**	**-0.5**
WRA	**Warramunga Arr**	**53.64**	**188**	P	**P**	**05 45 06.5**	**-0.5**
	comp=Z,2.9nm,0.4s,baz=5.2,slow=7.6,SNR=25						
WRA	**Warramunga Arr**	**53.64**	**188**	P	**P**	**05 45 06.0**	**-1.1**
ASAR	**Alice Springs**	**57.37**	**188**	P	**P**	**05 45 33.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=3.9,slow=7.5,SNR=6.5						
INK	**Inuvik**	**57.62**	**26**	P	**P**	**05 45 34.5**	**-0.5**
ABKAR	**Akbulak array**	**59.81**	**312**	P	**P**	**05 45 50.4**	**-0.2**

MOS ***05*** *06:06:35.9±0.6, 42°.92N×144°.97E, h67km, mb4.3/3, Error ellipse: s-maj=16.4km s-min=8.4km az=70.2*
ISCJB ***05*** *06:06:36.1±0.4, 42°.98N±0°.04×144°.89E±0°.04, h65km±3km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=4.0km az=146.6*
JMA ***05*** *06:06:37.2±0.1, 43°.02N×144°.85E, h61km±1km, M3.9*
JMA Felt II J1.
SKHL ***05*** *06:06:37.2±0.8, 42°.95N×144°.91E, h63km±4km, mb5.0/5*
IDC ***05*** *06:06:38.9±2.9, 42°.95N×144°.72E, h81km±24km, mb3.4/5, mb1 3.6/7, mb1mx3.3/38, mbtmp3.7/7, Error ellipse: s-maj=32.1km s-min=21.8km az=90.0*
ISC 05 06:06:37.0±0.8, 43°.01N±0°.05×144°.85E±0°.03, h61km±6km, n45, σ1°24/61, mb3.6/5, 7C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.12**	**261**	⇑P	**Pn**	**06 06 46.4**	**+0.3**
JAK				*e*S	**Sn**	**06 06 53.2**	**+0.5**
JKHN	**Kushirohamanak**	**0.24**	**73**	⇑P	**Pn**	**06 06 47.2**	**+0.5**
JKHN				*e*S	**Sn**	**06 06 54.3**	**+0.6**
JNK	**Nakash**	**0.58**	**350**	⇓P	**Pn**	**06 06 49.6**	**-0.3**
JNK				*e*S	**Sn**	**06 06 58.6**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.73**	**61**	⇑*i*PN	**Pn**	**06 06 51.5**	**-0.2**
NMR				*e*S	**Sn**	**06 07 01.6**	**-0.8**
NMR	**Nemuro--Hokkai**	**0.73**	**61**	*i* P	**Pn**	**06 06 51.0**	**-0.7**
NMR				*e*S	**Sn**	**06 07 01.0**	**-1.4**
NEM2	**Nemuro 2**	**0.74**	**61**	⇑P	**Pn**	**06 06 51.4**	**-0.3**
NEM2				*e*S	**Sn**	**06 07 01.6**	**-1.0**
JOB	**Onbets**	**0.75**	**262**	⇓P	**Pn**	**06 06 52.2**	**+0.3**
JOB				*e*S	**Sn**	**06 07 03.1**	**+0.3**
JAR	**Ashorobuto**	**0.84**	**290**	⇓P	**Pn**	**06 06 53.3**	**+0.3**
JAR				*e*S	**Sn**	**06 07 05.1**	**+0.3**
GLVR	**Golovnino**	**0.87**	**34**	*e*PN	**Pn**	**06 06 53.8**	**+0.4**
GLVR				*e*S	**Sn**	**06 07 06.0**	**+0.5**
GLVR				pmax	pmax		
	comp=Z,1μm,0.1s						
GLVR				smax	smax		
	comp=E,6μm,0.2s						
GLVR				smax	smax		
	comp=N,5μm,0.3s						
GLVR	**Golovnino**	**0.87**	**34**	*e*P	**Pn**	**06 06 53.0**	**-0.4**
GLVR				AMB	AMB	06 06 54.0	
	comp=N,700nm,0.2s						
GLVR				*e*S	**Sn**	**06 07 06.0**	**+0.5**
GLVR				A	A	06 07 07.0	
	comp=N,5μm,0.3s						
GLVR				A	A	06 07 07.0	
	comp=N,6μm,0.3s						
JRA	**Rausu**	**0.94**	**12**	⇑P	**Pn**	**06 06 54.7**	**+0.4**
JRA				*e*S	**Sn**	**06 07 07.4**	**+0.3**
JCH	**Churui**	**1.17**	**250**	⇓P	**Pn**	**06 06 57.1**	**-0.1**
JCH				*e*S	**Sn**	**06 07 11.6**	**-0.7**
JTKR	**Abashiri--Toko**	**1.18**	**325**	⇓P	**Pn**	**06 06 58.0**	**+0.6**
JTKR				*e*S	**Sn**	**06 07 13.7**	**+1.2**
GRPR	**Tuman**	**1.19**	**34**	*e*PN	**Pn**	**06 06 57.7**	**+0.2**
GRPR				*e*S	**Sn**	**06 07 12.5**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,1μm,0.2s						
GRPR				pmax	pmax		
	comp=N,309nm,0.4s						
GRPR				pmax	pmax		
	comp=E,300nm,0.4s						
GRPR				smax	smax		
	comp=E,4μm,0.4s						
GRPR				smax	smax		
	comp=N,3μm,0.3s						
GRPR	**Tuman**	**1.19**	**34**	*e*P	**Pn**	**06 06 57.0**	**-0.5**
GRPR				AMB	AMB	06 06 58.0	
	comp=N,500nm,0.2s						
GRPR				*e*S	**Sn**	**06 07 12.0**	**-0.8**
GRPR				A	A	06 07 13.0	
	comp=N,3μm,0.4s						
GRPR				A	A	06 07 13.0	
	comp=N,4μm,0.4s						
LAGR	**Lagunnoye**	**1.24**	**33**	*e*PN	**Pn**	**06 06 58.8**	**+0.6**
LAGR				*e*S	**Sn**	**06 07 14.4**	**+0.3**
LAGR				pmax	pmax		
	comp=Z,1μm,0.2s						
LAGR				pmax	pmax		
	comp=N,156nm,0.1s						
LAGR				pmax	pmax		
	comp=E,137nm,0.1s						
LAGR				smax	smax		
	comp=N,5μm,0.5s						
LAGR				smax	smax		
	comp=E,2μm,0.5s						
LAGR	**Lagunnoye**	**1.24**	**33**	*e*P	**Pn**	**06 06 58.0**	**-0.2**
LAGR				AMB	AMB	06 06 59.0	
	comp=E,500nm,0.2s						
LAGR				*e*S	**Sn**	**06 07 14.0**	**-0.1**
LAGR				A	A	06 07 18.0	
	comp=E,5μm,0.5s						
LAGR				A	A	06 07 18.0	
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.26**	**35**	*c i*PN	**Pn**	**06 06 58.9**	**+0.5**
YUK				*i* S	**Sn**	**06 07 14.8**	**+0.4**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=E,201nm,0.3s						
YUK				pmax	pmax		
	comp=N,128nm,0.1s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.26**	**35**	*i* P	**Pn**	**06 06 58.9**	**+0.5**
YUK				AMB	AMB	06 06 59.3	
	comp=E,580nm,0.3s						
YUK				*i* S	**Sn**	**06 07 14.8**	**+0.4**
YUK				A	A	06 07 15.6	
	comp=E,3μm,0.3s						
YUK				A	A	06 07 15.6	
	comp=E,3μm,0.3s						
JMP	**Maruseppu**	**1.47**	**313**	⇓P	**Pn**	**06 07 01.9**	**+0.6**
ERM	**Erimo**	**1.60**	**232**	*de*PN	**Pn**	**06 07 05.9**	**+2.9**
ASAJ	**Asahikawa**	**1.97**	**305**	P	**Pn**	**06 07 09.5**	**+1.4**
	comp=E,28nm,0.3s,baz=145,slow=8.6,SNR=71						
ASAJ				S	**Sn**	**06 07 26.7**	**-5.1**
	comp=E,32nm,0.3s,baz=137,slow=17,SNR=10						
KUR	**Kuril'sk**	**3.10**	**43**	*e*PN	**Pn**	**06 07 25.6**	**+2.1**
KUR				*e*S	**Sn**	**06 08 01.4**	**+2.1**
KUR				pmax	pmax		
	comp=Z,85nm,0.4s						
KUR				pmax	pmax		
	comp=N,36nm,0.2s						
KUR				pmax	pmax		
	comp=E,62nm,0.1s						
KUR				smax	smax		
	comp=E,192nm,0.3s						
KUR				smax	smax		
	comp=N,171nm,0.2s						
KUR	**Kuril'sk**	**3.10**	**43**	*e*P	**Pn**	**06 07 24.5**	**+1.0**
KUR				AMB	AMB	06 07 29.0	
	comp=N,85nm,0.4s						
KUR				*e*S	**Sn**	**06 07 58.7**	**-0.6**
KUR				A	A	06 08 12.0	
	comp=N,254nm,0.3s						
KUR				A	A	06 08 12.0	
	comp=N,192nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.21**	**340**	*e*PN	**Pn**	**06 07 40.3**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.21**	**340**	*e*P	**Pn**	**06 07 40.3**	**+1.7**
MJA0	**Matsu Arr-Jizo**	**8.22**	**220**	*e*PN	**Pn**	**

baz=327,slow=75,SNR=214
H11S1 WAKE ISLAND Hy 30.63 136 T T 06 44 55.0
baz=328,slow=76,SNR=628
H11S3 WAKE ISLAND Hy 30.64 136 T T 06 44 55.3
baz=328,slow=76,SNR=432
H11S2 WAKE ISLAND Hy 30.65 136 T T 06 44 56.3
baz=328,slow=76,SNR=453
ILAR Eielson Array 43.07 36 P **P** **06 14 31.1 +0.7**
comp=Z,0.2nm,0.6s,baz=277,slow=9.8,SNR=5.2
MKAR Makanchi Array 43.44 298 *e*P **P** **06 14 33.4 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 43.44 298 P **P** **06 14 33.3 -0.5**
comp=Z,1.3nm,0.7s,baz=80,slow=7.5,SNR=7.2
FINES FINESS Array B 64.76 332 *e*P **P** **06 17 10.2 +1.6**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 64.76 332 P **P** **06 17 08.0 -0.5**
comp=Z,3.2nm,0.9s,baz=47,slow=8.4,SNR=4.2
ASAR Alice Springs 67.11 191 P **P** **06 17 23.4 -0.7**
comp=Z,0.4nm,0.8s,baz=17,slow=6.8,SNR=3.2

NEIC ***05*** *06:34:29.8±1.5, 40.°38N±0.°04×3.°80W±0.°05, h10km±2km*
SFS ***05*** *06:34:31.0, 40.°30N×3.°80W, ML3.5, ALCORCON (MADRID)*
MDD ***05*** *06:34:31.7±0.3, 40.°35N×3.°81W, h0km±3km, mbLg3.4/42, Error ellipse: s-maj=2.1km s-min=1.8km az=2.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
IGIL ***05*** *06:34:32.0, 40.°35N×3.°81W, h0km, ML2.6*
INMG ***05*** *06:34:32.3±1.6, 40.°30N×3.°80W, h7km±3km, MD3.2, ML3.3, Error ellipse: s-maj=2.1km s-min=2.0km az=83.0*
LDG ***05*** *06:34:32.3±0.1, 40.°32N×3.°81W, h2km, Ml3.4/21, Error ellipse: s-maj=1.6km s-min=1.1km az=135.0*
ISC 05 06:34:30.7±1.0, 40.°37N±0.°02×3.°77W±0.°02, h11km±8km, n165, σ2§01/312, 3C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUD	**Guadarrama**	**0.40**	**314**	⇑Pg	**Pg**	**06 34 39.0**	**+0.3**
	126nm,0.3s,SNR=18						
GUD				Lg	Lg	06 34 44.6	
	741nm,0.1s,SNR=20						
UCM	**Universidad Co**	**0.41**	**98**	*i* P	**Pg**	**06 34 39.4**	**+0.6**
UCM				*i* S	**Sg**	**06 34 45.1**	**+0.9**
ESBB	**Sonseca Array**	**0.71**	**192**		**Pg**	**06 34 43.6**	**-0.8**
ESBB				Sg	**Sg**	**06 34 52.7**	**-1.0**
ESDC	**Sonseca Array**	**0.71**	**192**	Pg	**Pg**	**06 34 43.7**	**-0.7**
	125nm,0.2s,baz=9.6,slow=18,SNR=743						
ESDC				Lg	Lg	06 34 53.4	
	14nm,0.3s,baz=9.9,slow=30,SNR=4.1						
ESDC	**Sonseca Array**	**0.71**	**192**		**Pg**	**06 34 43.0**	**-1.4**
ESDC				Sg	**Sg**	**06 34 51.8**	**-1.9**
PAB	**San Pablo**	**0.93**	**209**	⇑Pg	**Pg**	**06 34 47.9**	**-0.8**
	SNR=18						
PAB				Lg	Lg	06 34 59.9	
	1μm,0.3s,SNR=7.9						
PAB	**San Pablo**	**0.93**	**209**		**Pg**	**06 34 47.8**	**-0.8**
PAB				Sg	**Sg**	**06 34 59.8**	**-1.1**
ETOR	**Torete**	**1.38**	**70**	⇓Pn	**Pn**	**06 34 56.8**	**+0.8**
	33nm,0.2s,SNR=18						
ETOR				Lg	Lg	06 35 16.0	
	2μm,0.5s,SNR=19						
EPLA	**Plasencia**	**1.79**	**261**	Pn	**Pn**	**06 35 02.3**	**+0.7**
	0.6nm,0.1s,SNR=54						
EPLA				Pg	**Pb**	**06 35 04.3**	**+0.7**
	10.0nm,0.1s,SNR=6.4						
EPLA				Lg	Lg	06 35 26.9	
	190nm,0.2s						
EADA	**Adamuz**	**2.28**	**196**	Pn	**Pn**	**06 35 08.5**	**+0.2**
	0.3nm,0.1s,SNR=66						
EADA				Pg	**Pb**	**06 35 12.0**	**+0.1**
	12nm,0.2s,SNR=16						
EADA				Lg	Lg	06 35 41.5	
	232nm,0.3s,SNR=7.9						
ECHE	**Chera**	**2.29**	**109**	Pn	**Pb**	**06 35 11.2**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
ECHE				Pg	**Pg**	**06 35 14.1**	**-0.5**
	25nm,0.5s,SNR=7.9						
ECHE				Lg	Lg	06 35 44.9	
	63nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**2.43**	**134**	Pn	**Pn**	**06 35 11.8**	**+1.4**
	4.0nm,0.3s,SNR=21						
ETOB				Pg	**Pg**	**06 35 18.1**	**+0.8**
	9.0nm,0.2s,SNR=14						
ETOB				Lg	Lg	06 35 47.5	
	249nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**2.44**	**157**	P	**Pb**	**06 35 15.7**	**+1.1**
SESP				S	**Sg**	**06 35 48.5**	**-0.6**
SESP	**Santiago Espad**	**2.44**	**157**	Pn	**Pn**	**06 35 13.3**	**+2.7**
	0.6nm,0.0s,SNR=4.0						
SESP				Lg	Lg	06 35 47.5	
	220nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.52**	**89**	Pn	**Pn**	**06 35 13.5**	**+1.7**
	2.5nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**06 35 42.6**	**+0.1**
	4.4nm,0.1s,SNR=7.9						
EMOS				Lg	Lg	06 35 51.9	
	52nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**2.60**	**289**	*e*Pn	**Pn**	**06 35 13.9**	**+1.2**
MVO				*e*Sn	**Sn**	**06 35 45.4**	**+1.1**
MVO				*e*Sg	**Sg**	**06 35 52.4**	**-1.8**
MVO				A	A	06 35 59.5	
	83nm,0.5s						
MVO	**Moncorvo**	**2.60**	**289**	Pn	**Pn**	**06 35 14.0**	**+1.2**
	4.4nm,0.1s,SNR=18						
MVO				Sn	**Sn**	**06 35 45.4**	**+1.1**
	1.8nm,0.2s,SNR=5.8						
MVO				Lg	Lg	06 35 52.8	
	46nm,0.1s,SNR=5.0						
EQES	**Quesada**	**2.62**	**168**	Pn	**Pn**	**06 35 13.8**	**+0.8**
	0.3nm,0.2s,SNR=60						
EQES				Pg	**Pb**	**06 35 19.6**	**+1.9**
	14nm,0.2s,SNR=7.9						
EQES				Lg	Lg	06 35 53.4	
	66nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.62**	**210**	Pn	**Pn**	**06 35 13.0**	**0.0**
	0.2nm,0.0s,SNR=35						
ECAB				Pg	**Pb**	**06 35 19.3**	**+1.6**
	34nm,0.2s,SNR=6.7						
ECAB				Lg	Lg	06 35 50.4	
	68nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**2.66**	**304**	*e*Pn	**Pn**	**06 35 14.7**	**+1.1**
PBRG	**Braganca**	**2.66**	**304**	*e*Pg	**Pg**	**06 35 24.2**	**+2.4**
PBRG				*e*Sn	**Sn**	**06 35 46.5**	**+0.6**
PBRG				*e*Sg	**Sg**	**06 35 54.5**	**-1.8**
PBRG				A	A	06 35 56.3	
	66nm,0.2s						
PBRG	**Braganca**	**2.66**	**304**	Pn	**Pn**	**06 35 14.7**	**+1.1**
PBRG				Pg	**Pg**	**06 35 24.2**	**+2.4**
PBRG				Sn	**Sn**	**06 35 46.5**	**+0.6**
PBRG				Lg	Lg	06 35 54.5	
	33nm,0.2s						
ECAL	**Calabor**	**2.73**	**306**	Pn	**Pn**	**06 35 15.8**	**+1.2**
	3.5nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**06 35 48.8**	**+1.1**
	39nm,0.2s,SNR=7.1						
ECAL				Lg	Lg	06 35 57.4	
	117nm,0.3s,SNR=7.9						
HORN	**Hornachuelos**	**2.77**	**205**	P	**Pb**	**06 35 20.9**	**+0.7**
HORN				S	**Sg**	**06 35 59.6**	**-0.1**
ESAC	**San Caprasio**	**2.84**	**60**	Sn	**Sn**	**06 35 51.6**	**+1.4**
	138nm,0.4s,SNR=6.8						
ESAC				Lg	Lg	06 36 01.8	
	570nm,0.4s,SNR=11						
ELAN	**Lanestosa**	**2.87**	**5**	Pn	**Pn**	**06 35 17.5**	**+1.0**
	0.4nm,0.1s,SNR=9.6						
ELAN				Pg	**Pg**	**06 35 25.0**	**-0.8**
	5.1nm,0.2s,SNR=7.9						
ELAN				Lg	Lg	06 36 03.2	
	30nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**2.88**	**272**	*e*Pn	**Pn**	**06 35 17.4**	**+0.8**
MTE	**Manteigas**	**2.88**	**272**	*e*Pg	**Pg**	**06 35 27.4**	**+1.5**
MTE				*e*Sn	**Sn**	**06 35 50.6**	**-0.7**
MTE				*e*Sg	**Sb**	**06 36 00.0**	**+2.6**
MTE				A	A	06 36 06.6	
	126nm,0.5s						
MTE	**Manteigas**	**2.88**	**272**	Pn	**Pn**	**06 35 17.4**	**+0.8**
MTE				Pg	**Pg**	**06 35 27.4**	**+1.5**
MTE				Sn	**Sn**	**06 35 50.6**	**-0.7**
MTE				Lg	Lg	06 36 00.0	
	63nm,0.5s						
MTE	**Manteigas**	**2.88**	**272**	Pn	**Pn**	**06 35 16.0**	**-0.6**
MTE					**Pg**	**06 35 27.5**	**+1.5**
MTE					**Sn**	**06 35 48.6**	**-2.7**
PCBR	**Castelo Branco**	**2.89**	**261**	*e*Pn	**Pn**	**06 35 16.6**	**0.0**
PCBR	**Castelo Branco**	**2.89**	**261**	*e*Pg	**Pb**	**06 35 24.1**	**+1.9**
PCBR				*e*Sg	**Sb**	**06 35 58.6**	**+1.0**
PCBR				A	A	06 36 07.4	
	69nm,0.3s						
PCBR	**Castelo Branco**	**2.89**	**261**	Pn	**Pn**	**06 35 16.6**	**0.0**
PCBR				Pg	**Pb**	**06 35 24.1**	**+1.9**
PCBR				Lg	Lg	06 35 58.6	
	34nm,0.3s						
EARA	**Aranguren**	**2.91**	**34**	Pn	**Pn**	**06 35 19.5**	**+2.5**
	2.3nm,0.1s,SNR=7.9						
EARA				Sn	**Sn**	**06 35 53.9**	**+1.9**
	19nm,0.2s,SNR=7.9						
EARA				Lg	Lg	06 36 04.9	
	65nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**2.94**	**253**	*e*Pn	**Pn**	**06 35 17.2**	**-0.1**
PMRV	**Marv??o**	**2.94**	**253**	*e*Pg	**Pg**	**06 35 25.7**	**-1.3**
PMRV				*e*Sn	**Sn**	**06 35 51.3**	**-1.3**
PMRV				*e*Sg	**Sb**	**06 36 00.8**	**+1.8**
PMRV				A	A	06 36 05.6	
	115nm,0.3s						
PMRV	**Marv??o**	**2.94**	**253**	Pn	**Pn**	**06 35 17.2**	**-0.1**
PMRV				Pg	**Pg**	**06 35 25.7**	**-1.3**
PMRV				Sn	**Sn**	**06 35 51.3**	**-1.3**
PMRV				Lg	Lg	06 36 00.8	
	115nm,0.3s						
GORA	**Gorafe**	**2.94**	**169**	Pg	**Pg**	**06 35 26.1**	**-0.9**
	54nm,0.3s,SNR=7.9						
GORA				Lg	Lg	06 36 02.9	
	101nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**2.98**	**238**	Pn	**Pn**	**06 35 18.3**	**+0.5**
	0.7nm,0.1s,SNR=11						
EBAD				Lg	Lg	06 36 01.2	
	204nm,0.4s,SNR=18						
IZUN	**Zunzarren**	**3.04**	**34**	Pn	**Pn**	**06 35 20.7**	**+2.0**
	0.9nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.12**	**340**	Pn	**Pn**	**06 35 21.5**	**+1.6**
	0.8nm,0.2s,SNR=9.1						
EARI				Pg	**Pg**	**06 35 29.9**	**-0.6**
	19nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**06 35 57.4**	**+0.2**
	22nm,0.3s,SNR=7.4						
EARI				Lg	Lg	06 36 10.6	
	50nm,0.3s,SNR=6.8						
EORO	**Oroz-Betelu**	**3.13**	**35**	Pn	**Pn**	**06 35 23.0**	**+3.0**
	0.7nm,0.1s,SNR=12						
EORO				Sn	**Sn**	**06 35 58.8**	**+1.5**
	37nm,0.3s,SNR=7.4						
EORO				Lg	Lg	06 36 14.1	
	100nm,0.4s,SNR=5.0						
PVRL	**Vila Real**	**3.13**	**288**	*e*Pn	**Pn**	**06 35 20.6**	**+0.6**
PVRL				*e*Sn	**Sn**	**06 35 57.2**	**-0.1**
PVRL				*e*Sg	**Sg**	**06 36 08.5**	**-2.6**
PVRL				A	A	06 36 12.7	
	55nm,0.1s						
PVRL	**Vila Real**	**3.13**	**288**	Pn	**Pn**	**06 35 20.6**	**+0.6**
PVRL				Sn	**Sn**	**06 35 57.2**	**-0.1**
PVRL				Lg	Lg	06 36 08.5	
	28nm,0.1s						
PVIS	**Viseu**	**3.16**	**278**	⇑*e*Pn	**Pn**	**06 35 20.7**	**+0.3**
PVIS				*e*Sn	**Sn**	**06 35 58.1**	**0.0**
PVIS				*e*Sg	**Sg**	**06 36 09.5**	**-2.7**
PVIS				A	A	06 36 20.7	
	42nm,0.8s						
PVIS	**Viseu**	**3.16**	**278**	Pn	**Pn**	**06 35 20.7**	**+0.3**
PVIS				Sn	**Sn**	**06 35 58.1**	**0.0**
PVIS				Lg	Lg	06 36 09.5	
	21nm,0.8s						
EQUE	**Quentar**	**3.17**	**175**	Pn	**Pn**	**06 35 23.0**	**+2.4**
	0.9nm,0.1s,SNR=7.9						
EQUE				Pg	**Pg**	**06 35 30.4**	**-1.0**
	6.3nm,0.4s,SNR=24						
EQUE				Lg	Lg	06 36 10.4	
	30nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**3.18**	**78**	Pn	**Pn**	**06 35 22.3**	**+1.6**
	3.5nm,0.2s,SNR=7.9						
ERTA				Sn	**Sb**	**06 36 03.0**	**-2.9**
	3.8nm,0.1s,SNR=5.0						
ERTA				Lg	Lg	06 36 11.9	
	28nm,0.3s,SNR=7.7						
EMUR	**La Murta**	**3.20**	**141**	Pn	**Pn**	**06 35 23.2**	**+2.2**
	0.2nm,0.2s,SNR=18						
EMUR				Pg	**Pg**	**06 35 31.8**	**-0.2**
	34nm,0.5s,SNR=7.9						
EMUR				Lg	Lg	06 36 12.7	
	262nm,0.6s,SNR=9.3						
POLO	**Lamas de Olo**	**3.21**	**290**	*e*Pn	**Pn**	**06 35 22.0**	**+0.8**
POLO				*e*Sn	**Sn**	**06 35 58.8**	**-0.6**
POLO				*e*Sg	**Sb**	**06 36 10.8**	**+3.9**
POLO				A	A	06 36 15.7	
	22nm,0.4s						
POLO	**Lamas de Olo**	**3.21**	**290**	Pn	**Pn**	**06 35 22.0**	**+0.8**
POLO				Sn	**Sn**	**06 35 58.8**	**-0.6**
POLO				Lg	Lg	06 36 10.8	
	22nm,0.4s						
EBEN2	**Beniarda presa**	**3.25**	**120**	Lg	Lg	06 36 13.3	
	71nm,0.6s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.26**	**185**	Pg	**Pg**	**06 35 32.7**	**-0.6**
	3.4nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	06 36 14.4	
	32nm,0.4s,SNR=7.9						
PESTR	**Estremoz**	**3.31**	**244**	*e*Pn	**Pn**	**06 35 23.3**	**+0.9**
PESTR	**Estremoz**	**3.31**	**244**	*e*Pg	**Pb**	**06 35 31.6**	**+2.2**
PESTR				*e*Sn	**Sn**	**06 35 59.8**	**-1.9**
PESTR				*e*Sg	**Sb**	**06 36 11.8**	**+2.2**
PESTR				A	A	06 36 19.4	
	79nm,0.5s						
PESTR	**Estremoz**	**3.31**	**244**	P	**Pb**	**06 35 31.4**	**+2.0**
PESTR				S	**Sg**	**06 36 14.0**	**-2.9**
PESTR	**Estremoz**	**3.31**	**244**	Pn	**Pn**	**06 35 22.7**	**+0.3**
PESTR				Sn	**Sn**	**06 36 00.7**	**-1.0**
SJPF	**Ste Jean**	**3.34**	**34**	*e*Pn	**Pn**	**06 35 24.9**	**+2.0**
SJPF				*e*Sn	**Sn**	**06 36 03.3**	**+0.8**
	49nm,0.3s						
SJPF	**Ste Jean**	**3.34**	**34**	Pn	**Pn**	**06 35 24.9**	**+2.0**
SJPF				Sn	**Sn**	**06 36 03.3**	**+0.8**
	24nm,0.3s						
EMIN	**Mina Concepcio**	**3.44**	**222**	Pn	**Pn**	**06 35 24.1**	**-0.1**
	0.6nm,0.1s,SNR=12						
EMIN				Pg	**Pb**	**06 35 33.7**	**+2.1**
	0.5nm,0.2s,SNR=17						
EMIN				Sn	**Sn**	**06 36 00.7**	**-4.3**
	6.7nm,0.2s,SNR=6.6						
EMIN				Lg	Lg	06 36 15.7	
	52nm,0.3s,SNR=5.0						
PCAB	**Cabril**	**3.49**	**294**	*e*Pn	**Pn**	**06 35 25.9**	**+1.0**
PCAB				*e*Sn	**Sn**	**06 36 05.5**	**-0.6**
PCAB				*e*Sg	**Sg**	**06 36 20.2**	**-2.4**
PCAB				A	A	06 36 32.3	
	37nm,0.4s						
PCAB	**Cabril**	**3.49**	**294**	Pn	**Pn**	**06 35 25.9**	**+1.0**
PCAB				Sn	**Sn**	**06 36 05.5**	**-0.6**
PCAB				Lg	Lg	06 36 20.2	
	19nm,0.4s						
ETSF	**Etsaut**	**3.49**	**43**	*e*Pn	**Pn**	**06 35 25.8**	**+0.8**
ETSF				*e*Sn	**Sn**	**06 36 07.0**	**+0.6**
	16nm,0.2s						
ETSF	**Etsaut**	**3.49**	**43**	Pn	**Pn**	**06 35 25.8**	**+0.8**
ETSF				Sn	**Sn**	**06 36 07.0**	**+0.6**
	7.9nm,0.2s						
ELGU	**Los Guajares,**	**3.50**	**178**	Pg	**Pg**	**06 35 36.7**	**-1.0**
	0.6nm,0.0s,SNR=7.9						
ELGU				Lg	Lg	06 36 22.3	
	48nm,0.4s,SNR=7.9						
CART	**Cartagena**	**3.52**	**141**	*e*P	**Pb**	**06 35 32.8**	**-0.1**
CART				*e*S	**Sb**	**06 36 17.5**	**+1.9**
EBER	**Berja**	**3.53**	**168**	Pg	**Pg**	**06 35 36.8**	**-1.6**
	18nm,0.4s,SNR=14						
EBER				Lg	Lg	06 36 26.0	
	55nm,0.4s,SNR=7.9						
COI	**Coimbra**	**3.55**	**269**	*e*Sg	**Sg**	**06 36 23.0**	**-1.8**
COI				A	A	06 36 33.2	
	104nm,0.5s						
COI	**Coimbra**	**3.55**	**269**	Lg	Lg	06 36 23.0	
	52nm,0.5s						
ATE	**Arette**	**3.56**	**39**	Pn	**Pn**	**06 35 27.4**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
ATE				Sn	**Sn**	**06 36 09.8**	**+1.9**
	12nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**3.57**	**296**	Pn	**Pn**	**06 35 27.0**	**+0.9**
	1.7nm,0.1s,SNR=10						
ELOB				Sn	**Sn**	**06 36 06.8**	**-1.5**
	3.2nm,0.1s,SNR=4.5						
ELOB				Lg	Lg	06 36 24.3	
	43nm,0.2s,SNR=5.0						
ENIJ	**Nijar**	**3.60**	**160**	Pg	**Pg**	**06 35 37.9**	**-1.9**
	28nm,0.5s,SNR=7.9						
ENIJ				Lg	Lg	06 36 26.5	
	28nm,0.3s,SNR=7.9						
PCAS	**Casmilo, Conde**	**3.63**	**267**	*e*Pn	**Pn**	**06 35 27.7**	**+0.8**
PCAS				*e*Sn	**Sn**	**06 36 08.8**	**-0.9**
PCAS				*e*Sg	**Sg**	**06 36 24.6**	**-2.7**
PCAS				A	A	06 36 30.9	
	76nm,0.9s						
PCAS	**Casmilo, Conde**	**3.63**	**267**	Pn	**Pn**	**06 35 27.7**	**+0.8**
PCAS				Sn	**Sn**	**06 36 08.8**	**-0.9**
PCAS				Lg	Lg	06 36 24.6	
	76nm,0.9s						
EMAL	**Malaga-Limoner**	**3.64**	**188**	*e*P	**Pb**	**06 35 37.9**	**+2.9**
EMAL				*e*S	**Sb**	**06 36 23.5**	**+4.5**
PTOM	**Tomar**	**3.64**	**260**	*e*Pn	**Pn**	**06 35 27.1**	**+0.1**
PTOM				*e*Sn	**Sn**	**06 36 09.2**	**-0.7**
PTOM				*e*Sg	**Sb**	**06 36 23.5**	**+4.3**
PTOM				A	A	06 36 28.8	
	74nm,0.3s						
PTOM	**Tomar**	**3.64**	**260**	Pn	**Pn**	**06 35 27.1**	**+0.1**
PTOM				Sn	**Sn**	**06 36 09.2**	**-0.7**
PTOM				Lg	Lg	06 36 23.5	
	37nm,0.3s						
PMTG	**Montargil**	**3.67**	**251**	*e*Pn	**Pn**	**06 35 28.4**	**+1.0**
PMTG	**Montargil**	**3.67**	**251**	*e*Pg	**Pb**	**06 35 38.7**	**+3.1**
PMTG				*e*Sn	**Sn**	**06 36 10.4**	**-0.2**
PMTG				*e*Sg	**Sb**	**06 36 22.3**	**+2.3**
PMTG				A	A	06 36 33.4	
	85nm,0.5s						
PMTG	**Montargil**	**3.67**	**251**	Pn	**Pn**	**06 35 28.4**	**+1.0**
PMTG				Pg	**Pb**	**06 35 38.7**	**+3.1**
PMTG				Sn	**Sn**	**06 36 10.4**	**-0.2**
PMTG				Lg	Lg	06 36 22.3	
	85nm,0.5s						
LIJA	**Lijar**	**3.69**	**201**	*e*P	**Pg**	**06 35 40.0**	**-1.3**
LIJA				*e*S	**Sb**	**06 36 25.2**	**+4.7**
LIJA	**Lijar**	**3.69**	**201**	Pg	**Pg**	**06 35 40.0**	**-1.3**
LIJA				Lg	Lg	06 36 25.2	
ECHI	**Chisagues Biel**	**3.76**	**51**	Pn	**Pn**	**06 35 30.5**	**+1.8**
	0.0nm,0.1s,SNR=7.9						
ECHI				Sn	**Sn**	**06 36 13.2**	**+0.1**
	33nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.86**	**206**	Pn	**Pn**	**06 35 31.9**	**+2.0**
	1.2nm,0.2s,SNR=7.0						
ESPR				Sn	**Sn**	**06 36 15.1**	**-0.1**
	7.6nm,0.2s,SNR=5.0						
ESPR				Lg	Lg	06 36 35.0	
	39nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**3.88**	**192**	Pn	**Pn**	**06 35 31.5**	**+1.3**
	2.5nm,0.3s,SNR=6.0						
EMIJ				Lg	Lg	06 36 34.7	
	32nm,0.5s,SNR=7.9						
EPON	**Pontenova**	**3.89**	**321**	Pn	**Pn**	**06 35 31.1**	**+0.7**
	0.2nm,0.1s,SNR=7.7						
EPON				Sn	**Sn**	**06 36 16.4**	**+0.4**
	16nm,0.3s,SNR=8.5						
EPON				Lg	Lg	06 36 33.0	
	57nm,0.3s,SNR=4.5						
ALMR	**Almeirim**	**3.90**	**253**	*e*Pn	**Pn**	**06 35 32.5**	**+2.0**
ALMR				*e*Sg	**Sb**	**06 36 28.6**	**+2.1**
ALMR				A	A	06 36 40.5	
	132nm,0.5s						
ALMR	**Almeirim**	**3.90**	**253**	Pn	**Pn**	**06 35 32.5**	**+2.0**
ALMR				Lg	Lg	06 36 28.6	
	66nm,0.5s						
PBEJ	**Beja**	**3.95**	**235**	*e*Sn	**Sn**	**06 36 16.0**	**-1.5**
PBEJ				*e*Sg	**Sb**	**06 36 32.0**	**+4.0**
PBEJ				A	A	06 36 40.6	
	56nm,0.6s						
PBEJ	**Beja**	**3.95**	**235**	Sn	**Sn**	**06 36 16.0**	**-1.5**
PBEJ				Lg	Lg	06 36 32.0	
	28nm,0.6s						
EGRO	**El Granado**	**4.05**	**227**	Pn	**Pn**	**06 35 32.4**	**-0.1**
	0.3nm,0.0s,SNR=11						
EGRO				Sn	**Sn**	**06 36 17.7**	**-2.1**
	14nm,0.2s,SNR=4.5						
EGRO				Lg	Lg	06 36 37.8	
	104nm,0.5s,SNR=12						
EAGO	**Agolada(Pontev**	**4.05**	**308**	Pn	**Pn**	**06 35 33.2**	**+0.6**
	0.8nm,0.1s,SNR=7.9						
EAGO				Sn	**Sn**	**06 36 19.6**	**-0.5**
	22nm,0.3s,SNR=7.9						
EAGO				Lg	Lg	06 36 37.5	
	28nm,0.2s,SNR=7.9						
EPF	**Esparros**	**4.07**	**48**	*e*Pn	**Pn**	**06 35 34.4**	**+1.5**
EPF				*e*Sn	**Sn**	**06 36 20.8**	**+0.2**
	34nm,0.3s						
EPF	**Esparros**	**4.07**	**48**	Pn	**Pn**	**06 35 34.4**	**+1.5**
EPF				Sn	**Sn**	**06 36 20.8**	**+0.2**
	17nm,0.3s						
EZAM	**Zamans**	**4.12**	**297**	Sn	**Sn**	**06 36 20.8**	**-0.8**
	1.3nm,0.2s,SNR=7.9						
EZAM				Lg	Lg	06 36 40.6	
	14nm,0.2s,SNR=7.9						
CSOR	**Sort**	**4.20**	**60**	Pn	**Pn**	**06 35 35.7**	**+0.9**
	1.7nm,0.3s						
CSOR				Sn	**Sn**	**06 36 23.9**	**0.0**
	22nm,0.4s,SNR=9.3						
CSOR				Lg	Lg	06 36 46.7	
	34nm,0.7s,SNR=4.0						
PVAQ	**Vaqueiros**	**4.27**	**227**	*e*Pn	**Pn**	**06 35 35.8**	**+0.2**
PVAQ				*e*Sn	**Sn**	**06 36 23.7**	**-1.7**
PVAQ				*e*Sg	**Sb**	**06 36 43.2**	**+5.9**
PVAQ				A	A	06 36 55.9	
	50nm,0.5s						
PVAQ	**Vaqueiros**	**4.27**	**227**	P	**Pb**	**06 35 43.2**	**-2.6**
PVAQ				S	**Sb**	**06 36 37.6**	**+0.3**
PVAQ	**Vaqueiros**	**4.27**	**227**	Pn	**Pn**	**06 35 35.8**	**+0.2**
PVAQ				Sn	**Sn**	**06 36 23.7**	**-1.7**
PVAQ				Lg	Lg	06 36 43.2	
	50nm,0.5s						
PVAQ	**Vaqueiros**	**4.27**	**227**	Pn	**Pn**	**06 35 36.7**	**+1.1**
PVAQ					**Sn**	**06 36 24.7**	**-0.7**
MESJ	**Messejana**	**4.28**	**235**	*e*P	**Pn**	**06 35 35.8**	**0.0**
MESJ				*e*S	**Sn**	**06 36 22.8**	**-2.8**
MESJ				AML	AML	06 36 24.1	
	comp=N,12nm,0.3s						
MESJ	**Messejana**	**4.28**	**235**	*e*Pn	**Pn**	**06 35 36.

PBDV				Lg	Lg	06 36 47.9	
	comp=N,42nm,0.6s						
EMAZ	**Mazaricos**	**4.67**	**305**	Pn	**Pn**	**06 35 42.0**	**+0.8**
	comp=N,3.5nm,0.2s,SNR=7.9						
EMAZ				Sn	**Sn**	**06 36 34.1**	**-1.3**
	comp=N,11nm,0.2s,SNR=7.9						
EMAZ				Lg	Lg	06 36 58.4	
	comp=N,23nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.78**	**235**	*e*Sn	**Sn**	**06 36 36.1**	**-1.8**
PTEO				*e*Sg	**Sg**	**06 36 59.7**	**-4.4**
PTEO				A	A	06 37 10.4	
	comp=N,67nm,0.7s						
PTEO	**Sao Teotonio**	**4.78**	**235**	Sn	**Sn**	**06 36 36.1**	**-1.8**
PTEO				Lg	Lg	06 36 59.7	
	comp=N,33nm,0.7s						
CLLI	**Llivia**	**4.81**	**62**	Pn	**Pn**	**06 35 44.9**	**+1.7**
	comp=N,0.0nm,0.1s,SNR=6.9						
CLLI				Sn	**Sn**	**06 36 38.6**	**-0.3**
	comp=N,9.7nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**4.88**	**233**	*e*Pn	**Pn**	**06 35 44.8**	**+0.7**
MORF				*e*Sn	**Sn**	**06 36 36.7**	**-3.9**
MORF				*e*Sg	**Sg**	**06 37 07.0**	**-0.5**
MORF				A	A	06 37 11.1	
	comp=N,25nm,0.6s						
MORF	**Marmelete**	**4.88**	**233**	Pn	**Pn**	**06 35 44.8**	**+0.7**
MORF				Sn	**Sn**	**06 36 36.7**	**-3.9**
MORF				Lg	Lg	06 37 07.0	
	comp=N,25nm,0.6s						
CFON	**Fontmartina**	**4.90**	**71**	Pn	**Pn**	**06 35 45.3**	**+1.0**
	comp=N,4.8nm,0.2s,SNR=15						
PFVI	**Vila Bisbo**	**5.10**	**232**	*e*Sn	**Sn**	**06 36 44.4**	**-1.5**
PFVI				*e*Sg	**Sg**	**06 37 11.8**	**-2.7**
PFVI				A	A	06 37 23.8	
	comp=N,40nm,0.7s						
PFVI	**Vila Bisbo**	**5.10**	**232**	P	**Pb**	**06 35 57.0**	**-3.0**
PFVI				S	**Sb**	**06 37 00.5**	**-0.8**
PFVI	**Vila Bisbo**	**5.10**	**232**	Sn	**Sn**	**06 36 43.2**	**-2.8**
	comp=N,8.9nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	06 37 12.0	
	comp=N,53nm,0.6s,SNR=7.9						
MTLF	**Montolieu**	**5.37**	**54**	*e*Pn	**Pn**	**06 35 52.5**	**+1.8**
MTLF				*e*Sn	**Sn**	**06 36 51.3**	**-1.2**
	comp=N,13nm,0.5s						
MTLF	**Montolieu**	**5.37**	**54**	Pn	**Pn**	**06 35 52.5**	**+1.8**
MTLF				Sn	**Sn**	**06 36 51.3**	**-1.2**
	comp=N,6.4nm,0.5s						
EJON	**La Jonquera**	**5.42**	**65**	Lg	Lg	06 37 22.7	
	comp=N,0.6nm,0.0s,SNR=7.9						
SJAF	**Saint Jean de**	**5.43**	**65**	Pn	**Pn**	**06 35 52.1**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
SJAF				Sn	**Sn**	**06 36 53.6**	**-0.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**5.65**	**35**	*e*Pn	**Pn**	**06 35 55.9**	**+1.3**
LFF				*e*Sn	**Sn**	**06 36 57.9**	**-1.5**
	comp=N,12nm,0.3s						
LFF	**La Frestale**	**5.65**	**35**	Pn	**Pn**	**06 35 55.9**	**+1.3**
LFF				Sn	**Sn**	**06 36 57.9**	**-1.5**
	comp=N,6.1nm,0.3s						
JBK	**JBK**	**6.10**	**171**	P	Pn	06 36 06.8	+5.9
JBK				S	**Sn**	**06 37 15.5**	**+4.8**
CAF	**Calviac**	**6.27**	**41**	*e*Pn	**Pn**	**06 36 04.3**	**+1.2**
CAF				*e*Sn	**Sn**	**06 37 12.6**	**-2.0**
	comp=N,5.1nm,0.3s						
CAF	**Calviac**	**6.27**	**41**	Pn	**Pn**	**06 36 04.3**	**+1.2**
CAF				Sn	**Sn**	**06 37 12.6**	**-2.0**
	comp=N,2.6nm,0.3s						
RJF	**Les Rejaudoux**	**6.28**	**36**	*e*Pn	**Pn**	**06 36 04.2**	**+1.0**
RJF				*e*Sn	**Sn**	**06 37 12.5**	**-2.5**
	comp=N,7.2nm,0.2s						
RJF	**Les Rejaudoux**	**6.28**	**36**	Pn	**Pn**	**06 36 04.2**	**+1.0**
RJF				Sn	**Sn**	**06 37 12.5**	**-2.5**
	comp=N,3.6nm,0.2s						
MFF	**Saint Martin d**	**6.77**	**22**	*e*Pn	**Pn**	**06 36 11.5**	**+1.6**
MFF				*e*Sn	**Sn**	**06 37 24.2**	**-2.7**
	comp=N,2.3nm,0.3s						
MFF	**Saint Martin d**	**6.77**	**22**	Pn	**Pn**	**06 36 11.5**	**+1.6**
MFF				Sn	**Sn**	**06 37 24.2**	**-2.7**
	comp=N,1.2nm,0.3s						
LASF	**Ste Croix**	**6.77**	**54**	*e*Pn	**Pn**	**06 36 10.4**	**+0.5**
LASF				*e*Sn	**Sn**	**06 37 24.1**	**-2.9**
	comp=N,3.1nm,0.4s						
LASF	**Ste Croix**	**6.77**	**54**	Pn	**Pn**	**06 36 10.4**	**+0.5**
LASF				Sn	**Sn**	**06 37 24.1**	**-2.9**
	comp=N,1.6nm,0.4s						
TCF	**Toulx Ste Croi**	**7.35**	**34**	*e*Pn	**Pn**	**06 36 19.2**	**+1.3**
TCF				*e*Sn	**Sn**	**06 37 38.1**	**-3.2**
	comp=N,7.0nm,0.5s						
TCF	**Toulx Ste Croi**	**7.35**	**34**	Pn	**Pn**	**06 36 19.2**	**+1.3**
TCF				Sn	**Sn**	**06 37 38.1**	**-3.2**
	comp=N,3.5nm,0.5s						
MD31	**MD31**	**7.53**	**186**	P	Pn	06 36 26.4	+6.0
MD31				S	**Sn**	**06 37 50.3**	**+4.4**
QUIF	**Quistinic**	**7.56**	**3**	*e*Pn	**Pn**	**06 36 21.2**	**+0.4**
QUIF				*e*Sn	**Sn**	**06 37 43.7**	**-2.7**
	comp=N,13nm,0.4s						
QUIF	**Quistinic**	**7.56**	**3**	Pn	**Pn**	**06 36 21.2**	**+0.4**
QUIF				Sn	**Sn**	**06 37 43.7**	**-2.7**
	comp=N,6.6nm,0.4s						
MDT	**Midelt**	**7.57**	**185**	P	Pn	06 36 28.4	+7.4
MDT				S	**Sn**	**06 37 52.2**	**+5.4**
BGF	**Bois d'Agland**	**7.84**	**36**	*e*Pn	**Pn**	**06 36 25.2**	**+0.6**
BGF				*e*Sn	**Sn**	**06 37 49.1**	**-4.2**
	comp=N,5.4nm,0.3s						
BGF	**Bois d'Agland**	**7.84**	**36**	Pn	**Pn**	**06 36 25.2**	**+0.6**
BGF				Sn	**Sn**	**06 37 49.1**	**-4.2**
	comp=N,2.7nm,0.3s						
SGMF	**Saint Gilles**	**7.93**	**6**	*e*Pn	**Pn**	**06 36 27.6**	**+1.7**
SGMF				*e*Sn	**Sn**	**06 37 51.8**	**-3.8**
	comp=N,5.3nm,0.5s						
SGMF	**Saint Gilles**	**7.93**	**6**	Pn	**Pn**	**06 36 27.6**	**+1.7**
SGMF				Sn	**Sn**	**06 37 51.8**	**-3.8**
	comp=N,2.7nm,0.5s						
ROSF	**Rostrenen**	**7.97**	**2**	*e*Pn	**Pn**	**06 36 27.1**	**+0.6**
ROSF				*e*Sn	**Sn**	**06 37 53.4**	**-3.2**
	comp=N,3.1nm,0.2s						
ROSF	**Rostrenen**	**7.97**	**2**	Pn	**Pn**	**06 36 27.1**	**+0.6**
ROSF				Sn	**Sn**	**06 37 53.4**	**-3.2**
	comp=N,1.6nm,0.2s						
AVF	**Avril sur Loir**	**8.24**	**36**	*e*Pn	**Pn**	**06 36 31.0**	**+0.9**
AVF				*e*Sn	**Sn**	**06 37 59.8**	**-3.4**
	comp=N,1.4nm,0.3s						
AVF	**Avril sur Loir**	**8.24**	**36**	Pn	**Pn**	**06 36 31.0**	**+0.9**
AVF				Sn	**Sn**	**06 37 59.8**	**-3.4**
	comp=N,0.7nm,0.3s						
GRR	**Gorron**	**8.29**	**14**	*e*Pn	**Pn**	**06 36 31.2**	**+0.5**
GRR				*e*Sn	**Sn**	**06 38 00.1**	**-4.1**
	comp=N,2.2nm,0.2s						
GRR	**Gorron**	**8.29**	**14**	Pn	**Pn**	**06 36 31.2**	**+0.5**
GRR				Sn	**Sn**	**06 38 00.1**	**-4.1**
	comp=N,1.1nm,0.2s						
HYF	**Humbligny**	**8.31**	**32**	*e*Pn	**Pn**	**06 36 33.1**	**+2.0**
HYF				*e*Sn	**Sn**	**06 38 02.5**	**-2.3**
HYF	**Humbligny**	**8.31**	**32**	Pn	**Pn**	**06 36 33.1**	**+2.0**
HYF				Sn	**Sn**	**06 38 02.5**	**-2.3**
SMF	**Signal de Mont**	**8.36**	**39**	*e*Pn	**Pn**	**06 36 33.1**	**+1.3**
SMF				*e*Sn	**Sn**	**06 38 01.8**	**-4.4**
SMF	**Signal de Mont**	**8.36**	**39**	Pn	**Pn**	**06 36 33.1**	**+1.3**
SMF				Sn	**Sn**	**06 38 01.8**	**-4.4**
SSF	**Saint Saulge**	**8.52**	**36**	*e*Pn	**Pn**	**06 36 34.2**	**+0.3**
SSF				*e*Sn	**Sn**	**06 38 06.2**	**-3.7**
	comp=N,2.9nm,0.4s						
SSF	**Saint Saulge**	**8.52**	**36**	Pn	**Pn**	**06 36 34.2**	**+0.3**
SSF				Sn	**Sn**	**06 38 06.2**	**-3.7**
	comp=N,1.4nm,0.4s						
LDF	**La Druitiere**	**8.63**	**16**	*e*Pn	**Pn**	**06 36 36.7**	**+1.3**
LDF				*e*Sn	**Sn**	**06 38 09.2**	**-3.4**
	comp=N,1.1nm,0.3s						
LOR	**Lormes**	**8.83**	**36**	*e*Pn	**Pn**	**06 36 38.6**	**+0.4**
LOR				*e*Sn	**Sn**	**06 38 13.9**	**-3.8**
	comp=N,1.0nm,0.3s						
LOR	**Lormes**	**8.83**	**36**	Pn	**Pn**	**06 36 38.6**	**+0.4**
LOR				Sn	**Sn**	**06 38 13.9**	**-3.8**
	comp=N,0.0nm,0.3s						

IDC 05 06:45:33.3±1.8, 6.14S×153.74E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/34, mbtmp3.7/5, Error ellipse: s-maj=55.3km s-min=34.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**232**	P	P	06 50 43.6	+0.4
	0.4nm,0.7s,baz=55,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**25.84**	**226**	P	P	06 51 06.7	-0.1
	1.2nm,0.9s,baz=63,slow=8.8,SNR=11						
FITZ	**Fitzroy Crossi**	**29.88**	**244**	P	P	06 51 42.5	-0.4
	3.3nm,1.1s,baz=53,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**81.94**	**319**	P	P	06 57 55.4	+0.3
	0.4nm,0.7s,baz=101,slow=6.0,SNR=4.5						
QSPA	**South Pole Qui**	**83.83**	**180**	P	P	06 58 04.7	+0.1
	1.1nm,0.7s,baz=31,slow=0.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**151.59**	**286**	PKPbc	PKPbc	07 05 30.4	-0.4
	0.6nm,0.7s,baz=86,slow=2.3,SNR=4.1						

*ISCJB **05** 06:51:05.0±0.2, 6.82N±0.02×73.06W±0.02, h157km±1km, mb4.0/15, Error ellipse: s-maj=3.8km s-min=2.7km az=27.4*

*NEIC **05** 06:51:06.8±1.3, 6.78N±0.07×73.02W±0.07, h164km±6km, mb4.3/77*

*IDC **05** 06:51:06.8±0.9, 6.76N×73.02W, h164km±8km, mb3.7/13, mb1 4.0/19, mb1mx3.7/37, mbtmp4.3/19, Error ellipse: s-maj=12.4km s-min=9.4km az=75.0*

*RSNC **05** 06:51:07.0±1.6, 6.84N×73.12W, h145km±5km, ML4.2, Mw4.2*

ISC 05 06:51:06.2±0.5, 6.85N±0.03×73.07W±0.03, h156km±5km, n154, σ1§50/181, mb4.3/46, 14C-11D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**204**	⇑*i*P	**Pn**	**06 51 27.0**	**-0.7**
BARC				*e*S	**Sn**	**06 51 41.5**	**-2.5**
BARC				*i*		06 51 51.5	
	comp=Z,4μm,1.1s						
PAMC	**Pamplona, Colo**	**0.61**	**37**	⇑*i*P	**Pn**	**06 51 29.6**	**+0.3**
PAMC				*e*S	**Sn**	**06 51 46.5**	**-0.5**
PAMC				*i*		06 51 48.3	
	comp=Z,7μm,0.5s						
BRRC	**Barranca, Sant**	**0.69**	**292**	⇑*i*P	**Pn**	**06 51 28.7**	**-0.5**
BRRC				*e*S	**Sn**	**06 51 45.1**	**-1.7**
BRRC				*i*		06 51 48.7	
	comp=Z,4μm,0.3s						
RUSC	**La Rusia**	**0.95**	**181**	⇓*i*P	**Pn**	**06 51 30.9**	**-0.8**
RUSC				*e*S	**Sn**	**06 51 49.3**	**-1.8**
RUSC				*i*		06 51 52.9	
	comp=Z,1μm,0.4s						
CAPV	**Capacho**	**1.26**	**36**	⇑*i*P	**Pn**	**06 51 34.8**	**+0.8**
CAPV				*e*S	**Sn**	**06 51 54.2**	**-1.2**
TAMC	**Tame, Arauca**	**1.33**	**108**	⇓*i*P	**Pn**	**06 51 35.4**	**+0.9**
TAMC				*e*S	**Sn**	**06 51 56.4**	**+0.1**
TAMC				*i*		06 52 06.6	
	comp=Z,691nm,0.5s						
OCAC	**Ocana**	**1.41**	**350**	⇑*i*P	**Pn**	**06 51 34.9**	**-0.6**
OCAC				*e*S	**Sn**	**06 51 56.3**	**-1.6**
OCAC				*i*		06 52 01.0	
	comp=Z,3μm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.41**	**258**	⇓*i*P	**Pn**	**06 51 33.5**	**-1.8**
PTBC				*e*S	**Sn**	**06 51 54.4**	**-3.3**
PTBC				*i*		06 52 02.2	
	comp=Z,2μm,0.3s						
SPBC	**San Pablo de B**	**1.55**	**220**	⇓*i*P	**Pn**	**06 51 36.0**	**-0.9**
SPBC				*e*S	**Sn**	**06 51 57.8**	**-2.6**
SPBC				*i*		06 52 04.3	
	comp=Z,1μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P	**Pn**	**06 51 39.3**	**-1.1**
ZARC				*e*S	**Sn**	**06 52 04.5**	**-2.2**
ZARC				*i*		06 52 10.7	
	comp=Z,2μm,0.3s						
CTAU	**Tausa, Cundina**	**1.90**	**211**	*e*P	**Pn**	**06 51 44.0**	**+3.0**
CTAU				*e*S	**Sn**	**06 52 09.1**	**+1.3**
CTAB	**Cerro Tablazo,**	**2.15**	**212**	*e*S	**Sn**	**06 52 12.2**	**-0.6**
SMLC	**San Martn de**	**2.18**	**333**	*e*P	**Pn**	**06 51 42.5**	**-1.3**
SMLC				*e*S	**Sn**	**06 52 11.3**	**-1.5**
SMLC				*i*		06 52 14.8	
	comp=Z,1μm,0.1s						
NORC	**Norcasia**	**2.20**	**235**	⇓*i*P	**Pn**	**06 51 42.8**	**-1.2**
NORC				*e*S	**Sn**	**06 52 10.3**	**-3.0**
NORC				*i*		06 52 17.6	
	comp=Z,833nm,0.2s						
CROSA	**EL ROSAL, CUND**	**2.35**	**212**	*e*P	**Pn**	**06 51 46.5**	**+0.4**
CROSA				*e*S	**Sn**	**06 52 15.9**	**-1.0**
CROSA				*i*		06 52 21.9	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.35**	**212**	⇓*i*P	**Pn**	**06 51 47.1**	**+0.9**
ROSC				*e*S	**Sn**	**06 52 13.8**	**-3.3**
ROSC				*i*		06 52 22.7	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**06 51 47.1**	**+0.9**
	comp=Z,193nm,0.3s,baz=220,slow=15,SNR=322						
ROSC				S	**Sn**	**06 52 17.9**	**+0.8**
	comp=Z,639nm,0.3s,baz=107,slow=17,SNR=16						
ROSC	**El Rosal**	**2.35**	**212**		**Pn**	**06 51 47.2**	**+0.9**
ROSC				Sn	**Sn**	**06 52 14.6**	**-2.5**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	*i* P	**Pn**	**06 51 49.7**	**+1.4**
HELC	**Santa Helena**	**2.53**	**255**	*e*P	**Pn**	**06 51 47.2**	**-1.1**
HELC				*e*S	**Sn**	**06 52 18.8**	**-2.0**
HELC				*i*		06 52 26.6	
	comp=Z,1μm,0.4s						
SOCV	**Socops**	**2.62**	**57**	⇑*i*P	**Pn**	**06 51 49.2**	**+0.2**
VILC	**Villavicencio,**	**2.79**	**193**	*e*P	**Pn**	**06 51 50.7**	**-0.6**
VILC				*e*S	**Sn**	**06 52 24.5**	**-1.7**
VILC				*i*		06 52 35.6	
	comp=Z,2μm,0.5s						
PTGC	**Puerto Gaitan,**	**2.79**	**161**	⇓*i*P	**Pn**	**06 51 50.3**	**-0.9**
PTGC				*e*S	**Sn**	**06 52 23.9**	**-2.2**
PTGC				*i*		06 52 26.2	
	comp=Z,696nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.80**	**235**	*e*P	**Pn**	**06 51 51.8**	**+0.1**
GUY2C				*e*S	**Sn**	**06 52 26.2**	**-0.6**
GUY2C				*i*		06 52 32.0	
	comp=Z,851nm,0.9s						
RREF	**El Recreo**	**2.98**	**230**	*e*P	**Pn**	**06 51 53.9**	**-0.3**
RREF				*e*S	**Sn**	**06 52 30.5**	**-0.7**
RREF				*i*		06 52 39.0	
	comp=Z,818nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.09**	**252**	*e*P	**Pn**	**06 51 55.0**	**0.0**
CBOC				*e*S	**Sn**	**06 52 28.6**	**-4.2**
CBOC				*i*		06 52 42.3	
	comp=Z,390nm,0.4s						
CODC	**Agustn Codazz**	**3.09**	**353**	⇑*i*P	**Pn**	**06 51 54.0**	**-1.0**
CODC				*e*S	**Sn**	**06 52 31.4**	**-1.3**
CODC				*i*		06 52 41.1	
	comp=Z,251nm,0.7s						
SDV	**Santo Domingo**	**3.15**	**50**	*e*P	**Pn**	**06 51 56.3**	**+0.5**
SDV				*e*S	**Sn**	**06 52 33.1**	**-1.1**
SDV				*i*		06 52 37.2	
	comp=Z,270nm,0.9s						
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**06 51 56.7**	**+0.8**
	comp=Z,46nm,0.3s,baz=231,slow=12,SNR=24						
SDV				S	**Sn**	**06 52 33.2**	**-1.1**
	comp=Z,52nm,0.3s,baz=70,slow=20,SNR=22						
SDV	**Santo Domingo**	**3.15**	**50**		**Pn**	**06 51 56.6**	**+0.7**
SDV				Sn	**Sn**	**06 52 33.0**	**-1.3**
TOLC	**Tolima**	**3.17**	**225**	*e*P	**Pn**	**06 51 56.6**	**+0.3**
TOLC				*e*S	**Sn**	**06 52 34.7**	**-0.4**
TOLC				*i*		06 52 40.4	
	comp=Z,461nm,0.7s						
ANIL	**Santa Ana**	**3.30**	**225**	*e*P	**Pn**	**06 51 58.4**	**+0.5**
ANIL				*e*S	**Sn**	**06 52 36.7**	**-1.2**
ANIL				*i*		06 52 44.9	
	comp=Z,2μm,0.4s						
ELOV	**Elorza**	**3.56**	**87**	⇓*i*P	**Pn**	**06 52 01.2**	**+0.3**
ORTC	**Ortega, Tolima**	**3.64**	**217**	*e*P	**Pn**	**06 52 01.4**	**-0.5**
ORTC				*e*S	**Sn**	**06 52 43.5**	**-1.8**
ORTC				*i*		06 52 49.4	
	comp=Z,786nm,0.5s						
SJCC	**San Jacinto, C**	**3.68**	**326**	⇑*i*P	**Pn**	**06 52 00.7**	**-1.8**
SJCC				*e*S	**Sn**	**06 52 42.1**	**-4.3**
SJCC				*i*		06 52 45.7	
	comp=Z,786nm,0.5s						
PLMC	**San Jos del P**	**3.74**	**239**	*e*P	**Pn**	**06 52 03.1**	**-0.1**
PLMC				*i*		06 52 52.3	
	comp=Z,248nm,0.3s						
GUVC	**San Jose del G**	**4.30**	**174**	*e*P	**Pn**	**06 52 09.2**	**-1.3**
GUVC				*e*S	**Sn**	**06 52 58.1**	**-2.6**
GUVC				*i*		06 53 04.2	
	comp=Z,408nm,0.3s						
DABV	**Dabajuro**	**4.71**	**31**	⇑*i*P	**Pn**	**06 52 15.6**	**-0.3**
PTAC	**Punta Ardita,**	**4.72**	**274**	*e*P	**Pn**	**06 52 14.5**	**-1.4**
PTAC				*i*		06 53 15.8	
	comp=Z,438nm,0.2s						
MACC	**Macarena, Meta**	**4.74**	**189**	⇑*i*P	**Pn**	**06 52 14.2**	**-2.1**
MACC				*e*S	**Sn**	**06 53 04.2**	**-6.8**
MACC				*i*		06 53 10.0	
	comp=Z,318nm,0.9s						
BETC	**Betania**	**4.77**	**210**	*e*P	**Pn**	**06 52 15.3**	**-1.5**
BETC				*e*S	Sn	06 53 02.1	-10
BETC				*i*		06 53 12.7	
	comp=Z,39nm,0.5s						
PCON	**Cinco Dias**	**5.58**	**217**	*e*P	**Pn**	**06 52 28.2**	**+0.2**
PCON				*i*		06 53 57.0	
	comp=Z,75nm,0.5s						
FLOC	**Florencia**	**5.83**	**206**	⇑*i*P	**Pn**	**06 52 29.6**	**-1.1**
FLOC				*e*S	Sn	06 53 26.4	-11
FLOC				*i*		06 54 04.5	
	comp=Z,122nm,0.8s						
SOTA	**Rioblanco**	**5.86**	**217**	*e*P	**Pn**	**06 52 32.3**	**+0.7**
SOTA				*i*		06 53 48.0	
	comp=Z,90nm,0.6s						
BBAC	**Balboa, Cauca**	**6.35**	**221**	*e*P	**Pn**	**06 52 38.7**	**+0.8**
BBAC				*e*S	**Sn**	**06 53 46.0**	**-3.7**
BBAC				*i*		06 53 51.3	
	comp=Z,55nm,0.6s						
CRUC	**La Cruz**	**6.52**	**217**	*e*P	**Pn**	**06 52 40.9**	**+0.6**
CRUC				*i*		06 54 05.5	
	comp=Z,29nm,0.5s						
GCUF	**Volcan Galeras**	**7.03**	**218**	*e*P	**Pn**	**06 52 47.5**	**+0.4**
GCUF				*i*		06 54 10.0	
	comp=Z,21nm,0.8s						
BCIP	**Isla Barro Col**	**7.09**	**289**		**Pn**	**06 52 44.4**	**-3.1**
OTAV	**Otavalo**	**8.48**	**219**		**Pn**	**06 53 05.9**	**-0.6**
PCRV	**Puerto La Cruz**	**8.97**	**68**	P	**Pn**	**06 53 13.7**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=256,slow=2.5,SNR=8.6						
PCRV				S	**Sn**	**06 54 49.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=342,slow=20,SNR=2.6						
PLCV	**Puerto La Cruz**	**9.01**	**68**		**Pn**	**06 53 13.7**	**+0.6**
PLCV					**Sn**	**06 54 49.9**	**-3.3**
PCJ	**Portland Cotta**	**11.54**	**340**	*i* P	**Pn**	**06 53 48.3**	**+1.9**
HOJ	**Hope**	**11.66**	**342**	⇓*i*P	**Pn**	**06 53 51.1**	**+3.2**
CMJ	**Castle Mountai**	**11.67**	**344**	⇑*i*P	**Pn**	**06 53 51.0**	**+2.9**
STH	**Stony Hill**	**11.74**	**342**	⇓*i*P	**Pn**	**06 53 50.9**	**+1.9**
MCJ	**Malvern**	**11.90**	**338**	⇑*i*P	**Pn**	**06 53 53.1**	**+2.0**
MCJ				*i* S	Sn	06 55 54.7	-8.2
BNJ	**Bonny Gate**	**12.02**	**342**	⇓*i*P	**Pn**	**06 53 54.6**	**+2.0**
MTDJ	**Mount Denham**	**12.12**	**339**		**Pn**	**06 53 56.0**	**+2.0**
BBJ	**Bamboo Saint A**	**12.17**	**341**	⇑*i*P	**Pn**	**06 53 57.9**	**+3.2**
JTS	**Las Juntas de**	**12.24**	**287**	P	**Pn**	**06 53 58.4**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=146,slow=3.6,SNR=3.0						
DR12	**Loma Pena Alta**	**12.40**	**16**	Pn	**Pn**	**06 53 58.4**	**+0.8**
GRGR	**Grenville**	**12.42**	**64**	Pn	**Pn**	**06 53 58.1**	**+0.2**
PDPR	**Patillas Dam,**	**13.06**	**31**	Pn	**Pn**	**06 54 05.1**	**-0.8**
GTBY	**Guantanamo Bay**	**13.15**	**352**	Pn	**Pn**	**06 54 09.8**	**+2.6**
MTP	**Monte Pirata**	**13.37**	**33**	Pn	**Pn**	**06 54 08.9**	**-1.0**
FDF	**Fort de France**	**14.08**	**55**		**P**	**06 54 20.4**	**-1.5**
CBCY	**The Bluff, Cay**	**14.37**	**334**		**P**	**06 54 25.0**	**-0.1**
FSCY	**Frank Sound, G**	**14.69**	**328**		**P**	**06 54 28.9**	**+0.3**
ATAH	**Atahualpa**	**14.87**	**201**	P	**P**	**06 54 33.1**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=22,slow=15,SNR=5.3						
PTGA	**Pitinga**	**15.09**	**119**	P	**P**	**06 54 34.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=301,slow=14,SNR=25						
SAML	**Samuel**	**18.53**	**148**	P	**P**	**06 55 10.1**	**-0.8**
SAML				IAmb	IAmb	06 55 11.4	
	comp=Z,13nm,0.6s						
NNA	**Nana**	**19.08**	**191**	P	**P**	**06 55 16.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=15,slow=12,SNR=2.9						
TEIG	**Tepich**	**19.86**	**314**	P	**P**	**06 55 26.4**	**+1.1**
	comp=Z,3.0nm,0.3s,baz=95,slow=0.4,SNR=18						
TEIG	**Tepich**	**19.86**	**314**	IAmb	IAmb	06 55 30.6	
	comp=Z,25nm,0.9s						
CCIG	**Comitan**	**20.88**	**298**	P	**P**	**06 55 37.7**	**+1.2**
CCIG				IAmb	IAmb	06 55 40.1	
	comp=Z,4.6nm,0.6s						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**06 56 01.6**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=349,slow=12,SNR=15						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**06 56 02.0**	**-0.8**
SIV	**San Ignacio**	**25.61**	**152**	P	**P**	**06 56 19.8**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=350,slow=11,SNR=12						
PB11	**IPOC Station P**	**26.65**	**173**	P	**P**	**06 56 29.5**	**-1.3**
PB11				IAmb	IAmb	06 56 42.4	
	comp=Z,7.7nm,1.0s						
Z50A	**Ashland**	**28.86**	**337**	P	**P**	**06 56 51.2**	**+1.1**
Z50A				IAmb	IAmb	06 56 52.6	
	comp=Z,8.1nm,0.7s						
X48A	**Hartselle**	**30.35**	**337**	P	**P**	**06 57 05.0**	**+1.7**
X48A				IAmb	IAmb	06 57 05.5	
	comp=Z,9.1nm,0.8s						
HKT	**Hockley**	**31.41**	**320**	P	**P**	**06 57 13.3**	**+0.8**
HKT				IAmb	IAmb	06 57 18.1	
	comp=Z,5

comp=Z,1.2nm,0.5s,baz=124,slow=9.2,SNR=20
PDAR PcP **PcP** **07 00 55.1 -0.6**
comp=Z,0.3nm,0.5s,baz=132,slow=4.0,SNR=3.3
SCHQ Schefferville 48.11 5 P **P** **06 59 30.4 +0.3**
comp=Z,8.4nm,1.0s,baz=182,slow=7.5,SNR=3.9
LAO LASA Array 48.84 330 P **P** **06 59 35.7 -0.2**
LAO IAmb IAmb 06 59 36.9
comp=Z,7.7nm,1.1s
REDW Red Top Meadow 49.20 324 IAmb IAmb 06 59 40.3
comp=Z,6.1nm,0.6s
SNOW Snow King Moun 49.21 324 IAmb IAmb 06 59 41.5
comp=Z,3.5nm,0.6s
TPAW Teton Pass 49.34 324 IAmb IAmb 06 59 41.7
comp=Z,4.4nm,0.7s
HVU Hansel Valley 49.46 321 P **P** **06 59 41.2 +0.4**
IMW Indian Meadow 49.57 324 IAmb IAmb 06 59 42.9
comp=Z,3.7nm,0.7s
BOZ Bozeman (W) 50.99 326 P **P** **06 59 52.8 +0.5**
BOZ IAmb IAmb 06 59 53.6
comp=Z,2.9nm,0.7s
NVAR Mina Array Bea 51.50 315 P **P** **06 59 56.8 +0.5**
comp=Z,1.3nm,0.7s,baz=120,slow=7.4,SNR=12
NVAR PcP **PcP** **07 01 08.9 +0.5**
comp=Z,0.4nm,0.4s,baz=135,slow=4.7,SNR=5.1
EGMT Eagleton 51.52 329 P **P** **06 59 56.1 +0.1**
HRY Holter Researc 51.78 327 P **P** **06 59 58.8 +0.8**
MFID Camas Ranch 52.24 321 IAmb IAmb 07 00 04.0
comp=Z,4.8nm,0.8s
YERR Yerington 52.40 315 IAmb IAmb 07 00 04.5
comp=Z,3.7nm,0.8s
MOD Modoc Plateau 54.40 318 P **P** **07 00 17.0 -0.4**
F10A Beach Ranch, E 54.43 323 IAmb IAmb 07 00 17.9
comp=Z,3.8nm,0.6s
G08A Pilot Rock 55.13 322 IAmb IAmb 07 00 23.7
comp=Z,6.1nm,0.7s
YKA Yellowknife Ar 63.26 340 P **P** **07 01 17.9 0.0**
comp=Z,6.1nm,0.5s,baz=132,slow=6.5,SNR=18
SUMG Summit 68.95 11 *i* P **P** **07 01 54.5 0.0**
comp=Z,41nm,0.6s
SUMG Summit 68.95 11 P **P** **07 01 54.9 +0.4**
TORD Torodi Ar. Bea 73.68 78 P **P** **07 02 23.8 +0.3**
comp=Z,0.4nm,0.7s,baz=262,slow=5.4,SNR=3.5
TORD Torodi Ar. Bea 73.68 78 IAmb IAmb 07 02 25.9
comp=Z,0.5nm,1.0s
DAG Danmarks Havn 75.62 11 *i* P **P** **07 02 32.7 -0.8**
comp=Z,1.4nm,0.5s
ILAR Eielson Array 76.96 335 P **P** **07 02 41.2 -0.1**
comp=Z,0.6nm,0.6s,baz=109,slow=4.5,SNR=9.5
ARCES ARCESS Array B 86.63 20 P **P** **07 03 31.4 -0.3**
comp=Z,0.7nm,0.6s,baz=296,slow=3.9,SNR=5.8
VNA3 Neumayer Olymp 88.18 163 P **P** **07 03 37.6 -1.5**
VNA2 Neumayer--Watz 88.70 163 P **P** **07 03 40.2 -1.3**
baz=315,slow=6.9
MKAR Makanchi Array 122.28 20 PKP **PKPdf** **07 09 42.0 -1.0**
comp=Z,0.3nm,0.4s,baz=332,slow=2.1,SNR=6.6
KSH Kashi 125.70 29 *e*PKP **PKPdf** **07 09 48.5 -1.4**
ASAR Alice Springs 149.17 234 PKPbc **PKPbc** **07 10 36.0 -1.2**
comp=Z,1.1nm,0.5s,baz=118,slow=3.8,SNR=18
WRA Warramunga Arr 150.40 241 PKPbc **PKPbc** **07 10 39.2 -1.0**
comp=Z,1.5nm,0.4s,baz=110,slow=2.4,SNR=17
WRA Warramunga Arr 150.40 241 **PKPbc** **07 10 39.4 -0.8**
CMAR Chiang Mai Arr 153.65 17 PKPbc **PKPbc** **07 10 47.4 -0.2**
comp=Z,0.8nm,0.3s,baz=318,slow=4.0,SNR=2.9

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*DDA **05** 06:51:10.8, 36°.84N×34°.21E, 7^{km}±1^{km}, ML2.5*
*ISCJB **05** 06:51:11.6±0.7, 36°.83N±0°.04×34°.26E±0°.06, h10^{km}±13^{km}, Error ellipse: s-maj=9.1km s-min=4.8km az=34.8*
*ISK **05** 06:51:11.2, 36°.67N×34°.46E, h13^{km}, ML1.7/5*
ISC 05 06:51:11.8±1.0, 36°.82N±0°.04×34°.27E±0°.06, h10^{km}±13^{km}, n9, σ0°.82/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.21**	**78**	PG	**Pg**	**06 51 15.9**	**-0.3**
MERS				SG	**Sg**	**06 51 19.5**	**+0.3**
KIZK	**Mersin**	**0.36**	**196**	*i* P	**Pg**	**06 51 18.5**	**-0.3**
KIZK				*i* S	**Sb**	**06 51 24.5**	**-1.3**
KIZK				IAML_P			
comp=Z,2μm,0.2s							
KIZK	**Mersin**	**0.36**	**196**	PG	**Pg**	**06 51 18.1**	**-0.7**
KIZK				SG	**Sg**	**06 51 23.1**	**-0.5**
KEBE	**Keben-Mersin**	**0.58**	**230**	PG	**Pg**	**06 51 24.0**	**+0.9**
KERG	**Konya-Eregli**	**0.60**	**349**	*i* P	**Pg**	**06 51 22.3**	**-1.2**
KERG				*i* S	**Sg**	**06 51 31.3**	**-0.1**
KERG				IAML_P			
comp=Z,231nm,0.1s							
GULE	**Gulek**	**0.61**	**41**	*i* P	**Pg**	**06 51 23.8**	**0.0**
GULE				*i* S	**Sg**	**06 51 33.0**	**+1.1**
GULE				IAML_P			
comp=Z,607nm,0.1s							
IKL	**Isikli**	**0.75**	**219**	PG	**Pg**	**06 51 26.3**	**+0.1**
TEVE	**Tevekalti-Mers**	**0.77**	**240**	PG	**Pb**	**06 51 27.9**	**+0.6**
BERE	**Bereket-Mersin**	**0.96**	**241**	PG	**Pn**	**06 51 31.7**	**+0.2**

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*ISCJB **05** 06:52:58.7±1.1, 37°.12N±0°.05×31°.03E±0°.05, h114^{km}±10^{km}, Error ellipse: s-maj=7.8km s-min=6.6km az=149.4*
*ISK **05** 06:53:00.2, 37°.14N×31°.08E, h77^{km}, ML2.1/9*
*DDA **05** 06:53:02.1, 37°.15N×30°.67E, h7^{km}±7^{km}, ML2.9*
ISC 05 06:53:00.7±1.8, 37°.12N±0°.05×31°.02E±0°.05, h96^{km}±12^{km}, n22, σ1°.29/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.37**	**233**	PG	**Pn**	**06 53 13.5**	**-1.6**
ANTB				SG	**Sn**	**06 53 23.2**	**-2.7**
BCK	**Bucak**	**0.48**	**314**	PG	**Pn**	**06 53 14.3**	**-1.7**
KEPZ	**Antalya-Kepez**	**0.52**	**115**	*i* P	**Pn**	**06 53 16.9**	**+0.7**
KEPZ				*i* S	**Sn**	**06 53 29.1**	**+1.3**
KEPZ				IAML_P			
comp=Z,4μm,0.1s							
KORT	**Korkueli**	**0.55**	**257**	*i* P	**Pn**	**06 53 17.3**	**+0.7**
KORT				*i* S	**Sn**	**06 53 31.8**	**+3.3**
KORT	**Korkueli**	**0.55**	**257**	PG	**Pn**	**06 53 15.2**	**-1.4**
ISP	**Isparta**	**0.80**	**330**	PG	**Pn**	**06 53 17.6**	**-1.3**
BAGO	**Egridir - ISPA**	**0.89**	**348**	*i* P	**Pn**	**06 53 20.3**	**+0.6**
BAGO				*i* S	**Sn**	**06 53 35.5**	**+1.5**
BAGO				IAML_P			
comp=Z,2μm,0.2s							
BRDR	**BURDUR-Merkez**	**0.96**	**307**	*i* P	Pn	06 53 10.9	-10
BRDR				*i* S	**Sn**	**06 53 35.8**	**+0.5**
AKUM	**Antalya-Kumluc**	**0.97**	**215**	*i* P	**Pn**	**06 53 20.6**	**+0.1**
AKUM				*i* S	**Sn**	**06 53 37.2**	**+1.9**
AKUM				IAML_P			
comp=Z,2μm,0.1s							
ELL	**Elmali**	**0.97**	**248**	PG	**Pn**	**06 53 20.1**	**-0.5**
ELL				SG	**Sn**	**06 53 34.5**	**-1.0**
GOLH	**Golhisar**	**1.17**	**276**	*i* P	**Pn**	**06 53 23.3**	**+0.4**
GOLH				*i* S	**Sn**	**06 53 41.1**	**+1.5**
GOLH				IAML_P			
comp=Z,481nm,0.1s							
KZIL	**AFYON_Kizioren**	**1.33**	**329**	*i* P	**Pn**	**06 53 24.8**	**+0.1**
KZIL				*i* S	**Sn**	**06 53 43.8**	**+0.8**
KZIL				IAML_P			
comp=Z,2μm,0.2s							
KONT	**Konya--Tatoy**	**1.34**	**52**	PN	**Pn**	**06 53 23.9**	**-0.9**
GAZI	**Gazipasa**	**1.37**	**130**	PN	**Pn**	**06 53 24.3**	**-0.8**
AKAS	**Kas**	**1.45**	**232**	*i* P	**Pn**	**06 53 25.8**	**-0.3**
AKAS				*i* S	**Sn**	**06 53 45.8**	**+0.3**
AKAS				IAML_P			
comp=Z,2μm,0.3s							
AKAS	**Kas**	**1.45**	**232**	PN	**Pn**	**06 53 25.7**	**-0.5**
LADK	**Ladik-KONYA**	**1.51**	**44**	PN	**Pn**	**06 53 26.1**	**-0.9**
FETY	**Fethiye**	**1.63**	**253**	*i* P	**Pn**	**06 53 27.7**	**-0.6**
FETY				*i* S	**Sn**	**06 53 48.9**	**-0.5**
FETY	**Fethiye**	**1.63**	**253**	PN	**Pn**	**06 53 28.9**	**+0.6**
TAVA	**DENIZLI_Tavas**	**1.72**	**282**	*i* P	**Pn**	**06 53 29.1**	**-0.4**
TAVA				*i* S	**Sn**	**06 53 50.2**	**-1.2**
KIZT	**Kizilcal**	**1.88**	**21**	PN	**Pn**	**06 53 31.0**	**-0.6**
TURN	**Turunc**	**1.95**	**263**	PN	Pn	06 53 37.6	+5.2

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*IDC **05** 07:10:01.5±5.8, 36°.28N×70°.58E, h185^{km}±55^{km}, mb3.1/3, mb1 3.4/5, mb1mx3.0/46, mbtmp3.8/5, Error ellipse: s-maj=46.8km s-min=25.7km az=25.0*
*ISCJB **05** 07:10:03.4±0.7, 36°.54N±0°.04×70°.4E±0°.1, h204^{km}, mb3.3/3, Error ellipse: s-maj=11.5km s-min=5.9km az=168.1*
*NNC **05** 07:10:03.8±10.0, 36°.93N×70°.16E, h0^{km}, mb4.5, mpv4.1, Error ellipse: s-maj=83.2km s-min=70.5km az=171.0*
ISC 05 07:10:04.3±0.9, 36°.56N±0°.08×70°.5E±0°.1, h204^{km}, n24, σ1°.25/28, mb3.2/3, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.11**	**23**	P	**Pn**	**07 11 33.9**	**+0.6**
SNR=97							
UCH	**Uchtor**	**6.48**	**28**	P	**Pn**	**07 11 38.9**	**+0.8**
SNR=32							
KK31	**Karatay Array**	**6.54**	**0**	⇓P	**Pn**	**07 11 38.5**	**0.0**
1.9nm,0.3s,baz=185,slow=12,SNR=62							
KK31				⇓S	**S**	**07 12 50.0**	**-3.1**
1.6nm,0.3s,baz=188,slow=27,SNR=4.5							
EKS2	**Erkin-Say**	**6.62**	**22**	P	**Pn**	**07 11 40.4**	**+0.8**
SNR=16							
KZA	**Kyzart**	**6.65**	**33**	P	**Pn**	**07 11 40.8**	**+0.5**
SNR=8.5							
AAK	**Ala-Archa**	**6.83**	**26**	P	**Pn**	**07 11 43.0**	**+0.6**
4.6nm,0.3s							
AAK				S	**S**	**07 12 59.4**	**-0.7**
5.2nm,0.5s							
AAK	**Ala-Archa**	**6.83**	**26**	P	**Pn**	**07 11 43.3**	**+1.0**
4.9nm,0.3s,baz=168,slow=5.3,SNR=39							
AAK				S	**S**	**07 13 00.5**	**+0.4**
1.2nm,0.3s,baz=329,slow=22,SNR=9.2							
AAK	**Ala-Archa**	**6.83**	**26**	P	**Pn**	**07 11 43.4**	**+1.0**
SNR=13							
KBK	**Karagaybulak**	**7.01**	**28**	P	**Pn**	**07 11 46.0**	**+1.3**
SNR=5.1							
CHMS	**Chumysh**	**7.24**	**26**	P	**Pn**	**07 11 48.8**	**+1.3**
SNR=6.2							
USP	**Ospenovka**	**7.39**	**24**	P	**Pn**	**07 11 49.9**	**+0.4**
SNR=8.2							
TKM2	**Tokmak 2**	**7.49**	**30**	⇑P	**Pn**	**07 11 49.6**	**-1.4**
18nm,0.5s							
TKM2				⇑S	**S**	**07 13 14.2**	**-1.7**
2.3nm,0.3s							
TKM2	**Tokmak 2**	**7.49**	**30**	P	**Pn**	**07 11 52.3**	**+1.3**
SNR=10.0							
DANN	**Dangsing**	**13.89**	**122**	*e*P	**Pn**	**07 13 13.2**	**+0.1**
4.3nm,0.3s							
KOLN	**Koldanda**	**14.16**	**124**	*e*P	**Pn**	**07 13 14.2**	**-2.1**
2.4nm,0.3s							
GKN	**Gorkha**	**14.71**	**121**	*e*P	**Pn**	**07 13 24.2**	**+1.2**
8.9nm,0.2s							
PKIN	**Phulchoki**	**15.50**	**121**	*e*P	**P**	**07 13 33.6**	**+0.8**
4.2nm,0.3s							
PKI	**Pulchoki**	**15.52**	**121**	*e*P	**P**	**07 13 33.7**	**+0.7**
5.3nm,0.4s							
GUN	**Gumba**	**15.63**	**119**	*e*P	**P**	**07 13 34.9**	**+0.6**
3.8nm,0.3s							
JIRN	**Jiri**	**16.00**	**119**	*e*P	**P**	**07 13 39.0**	**+0.6**
17nm,0.4s							
AKTO	**Aktyubinsk**	**16.51**	**331**	P	**Pn**	**07 13 45.4**	**+1.0**
0.3nm,0.3s,baz=137,slow=12,SNR=5.2							
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**07 17 27.9**	**+1.7**
2.9nm,0.9s,baz=106,slow=6.7,SNR=5.6							
TORD	**Torodi Ar. Bea**	**65.27**	**268**	P	**P**	**07 20 24.1**	**-0.5**
0.2nm,0.4s,baz=65,slow=5.7,SNR=2.5							
WRA	**Warramunga Arr**	**82.40**	**122**	P	**P**	**07 22 01.9**	**-1.9**
0.3nm,0.7s,baz=322,slow=4.7,SNR=2.7							

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*IDC **05** 07:13:07.6±0.9, 6°.12S×153°.90E, h0^{km}, mb4.1/9, mb1 4.2/12, mb1mx4.1/34, mbtmp4.1/12, ML1.8/1, MS3.0/4, Ms1 3.1/4, ms1mx2.8/27, Error ellipse: s-maj=25.1km s-min=19.2km az=90.0*
*ISCJB **05** 07:13:12.8±0.8, 6°.06S±0°.07×153°.78E±0°.08, h48^{km}, mb4.0/10, MS3.0/2, Error ellipse: s-maj=11.7km s-min=9.5km az=167.3*
ISC 05 07:13:14.4±0.8, 6°.06S±0°.08×153°.8E±0°.1, h48^{km}, n17, σ1°.29/17, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.48**	**315**	Pn	**Pn**	**07 13 52.0**	**-0.3**
23nm,0.3s,baz=207,slow=2.3,SNR=10							
KRVT				Sn	**Sn**	**07 14 18.8**	**-2.5**
22nm,0.3s,baz=330,slow=23,SNR=6.1							
KRVT				LR	LR	07 14 53.9	
comp=Z,235nm,20.4s,baz=81,slow=41							
PMG	**Port Moresby**	**7.37**	**243**	Pn	**Pn**	**07 14 57.4**	**-2.1**
0.8nm,0.3s,baz=56,slow=7.3,SNR=2.4							
PMG				Sn	**Sn**	**07 16 24.0**	**+2.2**
1.4nm,0.3s,baz=15,slow=19,SNR=4.5							
JAY	**Jayapura**	**13.52**	**285**	LR	LR	07 21 01.1	
comp=Z,106nm,19.4s,baz=302,slow=35							
DZM	**Mont Dzumac**	**20.07**	**144**	P	**P**	**07 17 43.0**	**-1.0**
0.1nm,0.3s,baz=317,slow=13,SNR=3.5							
WRA	**Warramunga Arr**	**23.40**	**232**	P	**P**	**07 18 19.1**	**-0.2**
2.6nm,0.9s,baz=60,slow=8.9,SNR=7.4							
ASAR	**Alice Springs**	**25.93**	**225**	P	**P**	**07 18 42.2**	**-0.2**
4.2nm,0.9s,baz=59,slow=9.0,SNR=29							
STKA	**Stephens Creek**	**28.10**	**202**	P	P	07 19 06.4	+4.6
1.6nm,0.7s,baz=23,slow=13,SNR=3.0							
FITZ	**Fitzroy Crossi**	**29.96**	**244**	P	**P**	**07 19 17.8**	**-0.7**
5.1nm,0.9s,baz=107,slow=10,SNR=7.3							
MJAR	**Matsushiro Arr**	**44.82**	**342**	LR	LR	07 39 34.4	
comp=Z,12nm,18.4s,baz=205,slow=35							
KSRS	**Korea Array**	**49.56**	**333**	P	**P**	**07 22 01.0**	**+0.3**
1.1nm,0.7s,baz=154,slow=8.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**59.30**	**296**	P	**P**	**07 23 13.7**	**+1.8**
0.8nm,0.4s,baz=114,slow=4.5,SNR=5.6							
CMAR				LR	LR	07 49 45.6	
comp=Z,13nm,18.5s,baz=230,slow=37							
SONM	**Songino Array**	**67.91**	**328**	P	**P**	**07 24 08.9**	**+0.6**
1.1nm,0.8s,baz=130,slow=4.5,SNR=4.4							
MKAR	**Makanchi Array**	**81.92**	**319**	P	**P**	**07 25 30.2**	**+1.1**
2.9nm,0.9s,baz=111,slow=5.3,SNR=12							
ZALV	**Zalesovo Beam**	**82.74**	**326**	P	**P**	**07 25 33.4**	**+0.2**
0.9nm,0.5s,baz=108,slow=5.3,SNR=5.4							
MAW	**Mawson**	**84.79**	**203**	P	**P**	**07 25 43.6**	**+0.2**
2.9nm,0.9s,baz=90,slow=7.1,SNR=3.8							
BDFB	**Brasilia**	**149.48**	**135**	PKPbc	**PKPbc**	**07 32 58.7**	**-0.9**
2.2nm,0.5s,baz=192,slow=4.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**151.62**	**286**	PKP	**PKPdf**	**07 32 58.3**	**0.0**
1.1nm,1.0s,baz=58,slow=1.2,SNR=3.7							
TORD				PKPbc	**PKPbc**	**07 33 04.7**	**+0.1**
3.6nm,0.8s,baz=58,slow=3.2,SNR=19							

IDC 05 07:35:04.6±1.8, 2°.12S×126°.23E, h0^{km}, mb3.4/2, mb1 3.8/3, mb1mx3.5/37, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=163.2km s-min=24.8km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**156**	P	P	07 39 32.9	+0.4
0.3nm,0.3s,baz=335,slow=12,SNR=16							
ASAR	**Alice Springs**	**22.67**	**161**	P	P	07 40 07.8	-0.1
0.7nm,0.5s,baz=344,slow=12,SNR=19							
MKAR	**Makanchi Array**	**62.11**	**327**	P	P	07 45 27.4	-0.1
0.5nm,0.9s,baz=120,slow=5.7,SNR=3.2							

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*KRNET **05** 07:44:52.9±0.1, 40°.18N×80°.12E, mb2.7*
*SOME **05** 07:44:54.3, 42°.33N×80°.70E, h5^{km}*
ISC 05 07:44:55.3±2.8, 42°.34N±0°.08×80°.6E±0°.1, h10^{km}, n7, σ1°.59/14, 4C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.43**	**305**	*e*P	**Pn**	**07 45 21.4**	**-0.1**
1.0nm,0.1s							
UZB				*e*S	**Sb**	**07 45 40.9**	**+0.4**
1.1nm,0.1s							
SATY	**Saty**	**1.79**	**295**	*e*P	**Pb**	**07 45 27.9**	**-0.3**
1.7nm,0.1s							
SATY				*e*S	**Sb**	**07 45 52.2**	**+1.5**
4.1nm,0.2s							
KPKS	**Kokpek**	**1.82**	**309**	*e*P	**Pb**	**07 45 28.2**	**-0.5**
3.1nm,0.1s							
KPKS				*e*S	**Sb**	**07 45 52.5**	**+0.9**
4.8nm,0.0s							
DJR	**Jarkent**	**2.09**	**343**	*e*P	**Pb**	**07 45 32.8**	**-0.4**
0.5nm,0.1s							
DJR				*e*S	**Sg**	**07 46 00.5**	**-1.9**
5.5nm,0.2s							
TARG	**Taragay, Kyrgy**	**2.19**	**255**	⇑*i*P	**Pn**	**07 45 32.3**	**+0.2**
baz=12							
TARG				⇑*i*S	**Sn**	**07 46 00.8**	**+1.4**
baz=12							
KDJ	**Kajisay**	**2.56**	**267**	⇑*i*P	**Pb**	**07 45 39.4**	**-2.1**
baz=12							
KDJ				⇑*i*S	**Sb**	**07 46 13.5**	**+0.4**
baz=12							
ULHL	**Ulahol**	**3.25**	**270**	⇓*i*P	**Pn**	**07 45 49.3**	**+2.8**
baz=6.0							
ULHL				⇓*i*S	**Sb**	**07 46 30.4**	**-2.5**
baz=6.0							

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*ANF **05** 08:32:44.3±0.5, 35°.88N×97°.50W, ML4.0/8, Error ellipse: s-maj=5.7km s-min=4.5km az=20.0*
*ISCJB **05** 08:32:47.2±0.4, 35°.60N±0°.04×97°.43W±0°.03, h11^{km}±2^{km}, Error ellipse: s-maj=6.3km s-min=3.6km az=175.5*
*NEIC **05** 08:32:48.3±0.8, 35°.59N±0°.06×97°.42W±0°.04, h5^{km}±1^{km}, mb_Lg3.2/57*
ISC 05 08:32:48.0±0.9, 35°.55N±0°.05×97°.38W±0°.04, h7^{km}±6^{km}, n66, σ1°.04/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.05**	**307**		**Pg**	**08 32 49.1**	**-0.4**
OK009				Sg	**Sg**	**08 32 50.3**	**-0.3**
ADOK	**Arcadia Dam**	**0.10**	**3**	Pg	**Pg**	**08 32 49.6**	**-0.7**
ADOK				Sg	**Sg**	**08 32 51.6**	**-0.3**
OK005	**Luther M Schoo**	**0.18**	**56**	Pg	**Pg**	**08 32 52.0**	**+0.3**
OK005				Sg	**Sg**	**08 32 55.1**	**+1.0**
TUL1	**Leonard**	**1.34**	**74**	P	**Pg**	**08 33 10.9**	**-2.8**
baz=256							
TUL1				S	**Sn**	**08 33 30.5**	**-0.7**
baz=256							
TUL1	**Leonard**	**1.34**	**74**		**Pn**	**08 33 12.9**	**-0.3**
TUL1				Sn	**Sn**	**08 33 32.1**	**+0.9**
WMOK	**Wichita Mounta**	**1.41**	**235**	P	**Pn**	**08 33 12.6**	**-1.6**
baz=52							
WMOK	**Wichita Mounta**	**1.41**	**235**	Pn	**Pn**	**08 33 14.0**	**-0.1**
U32A	**Winter Ranch,**	**1.56**	**303**		**Pn**	**08 33 16.0**	**-0.1**
HHAR	**Hobbs**	**2.88**	**74**		**Pn**	**08 33 35.0**	**+0.6**
W39A	**Magazine**	**2.96**	**96**	P	**Pn**	**08 33 34.9**	**-0.5**
baz=278							
W39A				S	**Sn**	**08 34 11.4**	**+0.2**
baz=278							
W39A	**Magazine**	**2.96**	**96**		**Pn**	**08 33 36.4**	**+1.0**
W39A				IAmb_Lg		08 34 28.4	
comp=Z,67nm,0.7s							
MIAR	**Mount Ida**	**3.28**	**107**	P	**Pn**	**08 33 40.7**	**+0.9**
baz=289							
MIAR				S	**Sn**	**08 34 21.1**	**+2.1**
baz=289							
MIAR	**Mount Ida**	**3.28**	**107**		**Pn**	**08 33 40.8**	**+1.0**
ABTX	**Abilene, Hawle**	**3.47**	**213**		**Pn**	**08 33 43.3**	**+0.8**
WHTX	**Lake Whitney,**	**3.55**	**181**	S	**Sb**	**08 34 31.6**	**-2.9**
baz=0.2							
WHTX	**Lake Whitney,**	**3.55**	**181**		**Pn**	**08 33 44.5**	**+1.0**
AMTX	**Amarillo**	**3.59**	**261**	Pn	**Pn**	**08 33 43.9**	**-0.3**
AMTX				IAmb_Lg		08 34 45.1	
comp=Z,42nm,0.7s							
KSU1	**Kansas State U**	**3.59**	**10**	Pb	**Pn**	**08 33 44.2**	**+0.1**
baz=191							
KSU1				Sb	**Sn**	**08 34 25.4**	**-1.5**
baz=191							
KSU1	**Kansas State U**	**3.59**	**10**	IAmb_Lg		08 34 48.5	
comp=Z,44nm,0.8s							
U40A	**Yellville**	**3.76**	**76**		**Pn**	**08 33 47.0**	**+0.6**
CBKS	**Cedar Bluff**	**3.76**	**331**	Pb	**Pn**	**08 33 46.7**	**+0.2**
baz=150							
CBKS	**Cedar Bluff**	**3.76**	**331**		**Pn**	**08 33 46.1**	**-0.4**
X40A	**Basin Creek Fa**	**3.88**	**105**		**Pn**	**08 33 49.2**	**+1.2**
X40A				IAmb_Lg		08 34 58.1	
comp=Z,67nm,0.8s							
WLAR	**White Oak Lake**	**3.98**	**117**	Pn	**Pn**	**08 33 50.6**	**+1.1**
WLAR				IAmb_Lg		08 34 55.4	
comp=Z,38nm,0.7s							
WHAR	**Wooly Hollow**	**4.16**	**92**		**Pn**	**08 33 52.6**	**+0.6**
WHAR				IAmb_Lg		08 35 09.8	
comp=Z,40nm,0.9s							
UALR	**University of**	**4.20**	**99**	IAmb_Lg		08 35 04.3	
comp=Z,44nm,0.7s							
W41B	**Gary Mavity, V**	**4.21**	**94**	P	**Pn**	**08 33 52.0**	**-0.6**
baz=277							
W41B				S	**Sn**	**08 34 42.6**	**+0.6**
baz=277							
W41B	**Gary Mavity, V**	**4.21**	**94**		**Pn**	**08 33 53.4**	**+0.8**
W41B				IAmb_Lg		08 35 04.5	
comp=Z,42nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.29**	**84**		**Pn**	**08 33 54.5**	**+0.8**
FCAR				IAmb_Lg		08 35 03.3	
comp=Z,44nm,0.9s							
NATX	**Nacogdoches**	**4.41**	**148**	Pn	**Pn**	**08 33 57.5**	**+2.1**
MGMO	**Mountain Grove**	**4.42**	**67**		**Pn**	**08 33 56.4**	**+0.8**
MGMO				IAmb_Lg		08 35 15.1	
comp=Z,34nm,0.9s							
MSTX	**Muleshoe**	**4.71**	**252**	Pn	**Pn**	**08 34 00.7**	**+1.0**
435B	**Jarrell**	**4.76**	**182**	IAmb_Lg		08 35 29.8	
comp=Z,49nm,0.7s							
CCAR	**Cane Creek**	**4.89**	**108**	IAmb_Lg		08 35 34.0	
comp=Z,34nm,0.8s							
LCAR	**Lake Charles**	**5.08**	**82**		**Pn**	**08 34 05.3**	**+0.7**
KSCO	**Kaye Shedlock'**	**5.43**	**311**		**Pn**	**08 34 09.7**	**+0.3**
CCM	**Cathedral Cave**	**5.52**	**61**	IAmb_Lg		08 35 49.0	
comp=Z,20nm,0.8s							
PBMO	**Poplar Bluff**	**5.75**	**76**	IAmb_Lg		08 35 52.8	
comp=Z,48nm,0.7s							
LPAR	**Lepanto**	**5.77**	**87**	IAmb_Lg		08 35 54.6	
comp=Z,50nm,0.8s							
T25A	**Trinidad**	**5.89**	**288**	IAmb_Lg		08 35 57.7	
comp=Z,38nm,0.8s							
PVMO	**Portageville**	**6.28**	**80**	IAmb_Lg		08 36 26.2	
comp=Z,46nm,0.7s							
CLNB	**Carlsbad**	**6.32**	**241**		**Pn**	**08 34 22.4**	**+0.6**
SLM	**Saint Louis**	**6.48**	**60**	IAmb_Lg		08 36 15.7	
comp=Z,27nm,0.9s							
OGNE	**Ogallala**	**6.51**	**327**		**Pn**	**08 34 24.7**	**+0.3**
HALT	**Halls**	**6.55**	**85**	IAmb_Lg		08 36 31.9	
comp=Z,40nm,0.8s							
OXF	**Oxford**	**6.62**	**97**	Pn	**Pn**	**08 34 26.2**	**+0.5**
SDCO	**Great Sand Dun**	**6.89

	baz=348						
ETLH				*e*S	Sn	08 40 25.0	-0.5
	baz=348						
EGFH	**Guangfu**	**0.30 205**		*e*P	Pn	08 40 19.2	-0.6
	baz=212						
WHF	**Hehuan Shan**	**0.34 306**		P	Pn	08 40 20.7	0.0
	baz=302						
WHF				S	Sn	08 40 27.3	0.0
	baz=302						
CHGB	**Renai**	**0.38 288**		P	Pn	08 40 21.1	+0.1
	baz=287						
CHGB				S	Sn	08 40 27.8	+0.2
	baz=287						
VWDT	**VWDT**	**0.43 244**		P	Pn	08 40 21.5	+0.2
	baz=240						
VWDT				S	Sn	08 40 28.4	0.0
	baz=240						
TDCB	**Techi**	**0.48 309**		*e*P	Pn	08 40 22.4	+0.3
	baz=309						
NNSB	**Datong**	**0.51 341**		*e*P	Pn	08 40 22.7	+0.3
	baz=344						
NNSB				*e*S	Sn	08 40 30.7	+0.3
	baz=344						
SSLB	**Suanglung**	**0.58 254**		*e*P	Pn	08 40 23.8	+0.5
	baz=256						
SSLB				*e*S	Sn	08 40 31.3	-0.5
	baz=256						
YULB	**Yu-li**	**0.60 204**		*e*P	Pn	08 40 23.4	-0.2
	baz=204						
TYC	**Yuchr**	**0.65 266**		*e*P	Pn	08 40 23.1	-1.0
	baz=266						
NDT	**Datong Townshi**	**0.66 356**		*e*P	Pn	08 40 23.9	-0.3
ENTT	**Nioudou**	**0.69 0**		*e*P	Pn	08 40 25.2	+0.5
	baz=9.0						

JMA 05 08:40:22.2±0.1, 24°.73N×123°.16E, h29km±4km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.30**	**207**	P	Pb	08 40 29.3	-0.3
YOJ				*e*S	Sb	08 40 34.7	+0.2
JYNG	**Yonagunijimaku**	**0.34**	**215**	P	Pb	08 40 30.0	-0.1
JYNG				*e*S	Sb	08 40 35.2	-0.3
IRIF	**Iriomote-Funau**	**0.65**	**127**	P	Pb	08 40 34.7	-0.4
HATJ	**Hateruma jima**	**0.89**	**139**	P	Pn	08 40 38.6	-0.2
JKRS	**Kuro-shima**	**0.92**	**122**	P	Pn	08 40 38.8	-0.3
JIJ	**Ishigaki jima**	**0.97**	**112**	S	Sn	08 40 51.7	-0.9
JISG	**Ishigakijimahi**	**1.06**	**98**	P	Pn	08 40 41.2	+0.2
JISG				*e*S	Sn	08 40 54.6	-0.2
JTJ	**Tarama**	**1.41**	**93**	*e*S	Sn	08 41 03.0	-0.4

*IDC **05** 08:41:46.2±1.7, 3°.70S×140°.82E, h0km, mb3.8/3, mb1 4.3/4, mb1mx3.7/30, mbtmp4.0/4, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/33, Error ellipse: s-maj=59.2km s-min=12.5km az=94.0*
*DJA **05** 08:41:47.3±0.7, 4°.S±3°.×14°.1E±°, h10km, M4.2/4, mb4.3/2, MLv4.1/4*
*ISCJB **05** 08:41:48.1±0.6, 3°.68S±0°.04×140°.70E±0°.06, h33km, mb3.8/1, Error ellipse: s-maj=9.2km s-min=5.8km az=161.3*
*NEIC **05** 08:41:50.0±1.6, 3°.55S±0°.07×140°.8E±0°.1, h60km±18km, mb4.1/12*
ISC 05 08:41:49.5±0.8, 3°.59S±0°.07×140°.77E±0°.08, h35km, n27, σ1§36/28, mb4.0/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.07**	**357**	Pg	**Pn**	**08 42 08.9**	**+0.7**
	16nm,0.3s,baz=201,slow=12,SNR=66						
JAY				Lg	Lg	08 42 25.1	
	90nm,0.3s,baz=47,slow=19,SNR=16						
JAY				LR	LR	08 42 36.1	
	comp=Z,222nm,21.4s,baz=178,slow=42						
JAY	**Jayapura**	**1.07**	**357**	P	**Pn**	**08 42 08.7**	**+0.6**
GENI	**Genyem**	**1.16**	**329**	P	**Pn**	**08 42 09.1**	**-0.2**
GENI				S	**Sn**	**08 42 23.7**	**-0.2**
SMPI	**Sarmi**	**2.60**	**308**	P	**Pn**	**08 42 28.4**	**-0.7**
FAKI	**Fak Fak**	**8.53**	**274**	Pn	**Pn**	**08 43 51.0**	**+0.3**
FAKI				Sn	**Sn**	**08 45 26.8**	**+0.9**
SAUI	**Saumlaki**	**10.38**	**245**	Pn	**Pn**	**08 44 16.9**	**+0.9**
SAUI				Sn	**Sn**	**08 46 15.1**	**+3.9**
COEN	**Coen**	**10.57**	**167**	Pn	**Pn**	**08 44 20.3**	**+1.7**
MTN	**Manton Dam**	**13.24**	**225**		**Pn**	**08 44 53.9**	**-1.2**
KNRA	**Kununurra**	**16.85**	**224**		**Pn**	**08 45 42.9**	**+0.1**
KNRA				IAmb	IAmb	08 45 46.1	
	comp=Z,9.6nm,0.8s						
CTAO	**Charters Tower**	**17.25**	**162**	Pn	**Pn**	**08 45 46.1**	**-1.7**
WRAB	**Tennant Creek**	**17.41**	**201**	P	**Pn**	**08 45 49.4**	**-0.4**
WRAB				IAmb	IAmb	08 45 56.6	
	comp=Z,13nm,0.5s						
WB2	**Warramunga Arr**	**17.41**	**201**	P	**Pn**	**08 45 49.4**	**-0.5**
WB2				IAmb	IAmb	08 45 54.6	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**17.42**	**201**	P	**Pn**	**08 45 50.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=24,slow=12,SNR=35						
WRA	**Warramunga Arr**	**17.42**	**201**	P	**Pn**	**08 45 49.5**	**-0.5**
SOEI	**Soe**	**17.49**	**249**	P	**Pn**	**08 45 51.0**	**0.0**
KDI	**Kendari**	**18.11**	**268**	P	Pn	08 45 43.1	-15
MMRI	**Maumere**	**19.09**	**254**	P	**P**	**08 46 06.8**	**-2.6**
HNR	**Honiara**	**19.91**	**108**	LR	LR	08 54 34.1	
	comp=Z,57nm,18.1s,baz=237,slow=39						
FITZ	**Fitzroy Crossi**	**20.67**	**225**	P	**P**	**08 46 26.8**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=42,slow=12,SNR=6.8						
FITZ	**Fitzroy Crossi**	**20.67**	**225**	P	**P**	**08 46 25.8**	**-0.8**
AS31	**Alice Springs**	**21.03**	**198**	P	**P**	**08 46 29.6**	**-0.9**
AS31				IAmb	IAmb	08 46 34.8	
	comp=Z,2.8nm,0.7s						
ASAR	**Alice Springs**	**21.03**	**198**	P	**P**	**08 46 31.7**	**+1.2**
	comp=Z,8.9nm,0.8s,baz=26,slow=8.6,SNR=71						
ASAR	**Alice Springs**	**21.03**	**198**	P	**P**	**08 46 30.5**	**+0.1**
EIDS	**Eidsvold**	**23.81**	**156**	P	**P**	**08 46 57.6**	**-1.7**
EIDS				IAmb	IAmb	08 47 02.6	
	comp=Z,12nm,1.1s						
KKM	**Kota Kinabalu**	**26.32**	**291**	P	**P**	**08 47 21.2**	**-1.3**
FORT	**Forrest**	**29.58**	**203**	P	**P**	**08 47 50.4**	**-0.9**
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**08 54 27.2**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=250,slow=4.3,SNR=4.8						

*UCR **05** 08:43:42.7±1.2, 8°.69N×83°.26W, h21km±7km, MW2.6*
*ISCJB **05** 08:43:43.0±0.7, 8°.70N±0°.04×83°.25W±0°.04, h15km±12km, Error ellipse: s-maj=8.0km s-min=4.3km az=44.1*
*UPA **05** 08:43:43.0±1.0, 8°.68N×83°.17W, h8km±8km, MW3.0*
ISC 05 08:43:42.6±1.0, 8°.69N±0°.03×83°.23W±0°.03, h16km±10km, n13, σ0§63/24, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.17**	**206**	*e*P	**Pg**	**08 43 47.0**	**+0.1**
PTJ1				*e*S	**Sb**	**08 43 51.4**	**+0.8**
PTJ1	**Puerto Jimnez**	**0.17**	**206**	⇓*i*P	**Pg**	**08 43 47.1**	**+0.1**
PTJ1				*e*S	**Sb**	**08 43 51.2**	**+0.6**
EDSV	**San Vito**	**0.28**	**63**	⇑*e*P	**Pb**	**08 43 49.8**	**+0.5**
EDPN	**Palmar Norte**	**0.35**	**319**	*e*P	**Pg**	**08 43 49.4**	**-0.6**
EDPN				*e*S	**Sg**	**08 43 54.5**	**-0.5**
EDBA	**Buenos Aires**	**0.47**	**354**	*e*P	**Pg**	**08 43 52.5**	**+0.3**
EDBA				*e*S	**Sb**	**08 43 59.9**	**+0.6**
BRU2	**Volcan**	**0.54**	**79**	*e*P	**Pg**	**08 43 53.6**	**+0.2**
BRU2				*e*S	**Sb**	**08 44 02.3**	**+1.0**
BRU2	**Volcan**	**0.54**	**79**	*e*P	**Pg**	**08 43 53.5**	**+0.1**
BRU2				*e*S	**Sb**	**08 44 02.0**	**+0.8**
DRK0	**Durika**	**0.57**	**358**	*e*P	**Pg**	**08 43 53.7**	**-0.3**
DRK0				*e*S	**Sg**	**08 44 01.9**	**+0.3**
EDLM	**Las Mercedes**	**0.69**	**328**	*e*P	**Pg**	**08 43 55.5**	**-0.6**
EDLM				*e*S	**Sg**	**08 44 05.2**	**-0.1**
BCO2	**Palmira**	**0.69**	**88**	*e*P	**Pg**	**08 43 55.9**	**-0.3**
BCO2				*e*S	**Sb**	**08 44 06.0**	**+0.3**
DVD	**David**	**0.81**	**108**	*e*P	**Pg**	**08 43 57.3**	**-1.0**
DVD				*e*S	**Sb**	**08 44 10.0**	**+1.1**
CHGR2	**Aguacate**	**1.09**	**77**	*e*P	**Pb**	**08 44 02.6**	**-0.5**
CHGR2				*e*S	**Sb**	**08 44 17.0**	**-0.3**
GMAL	**Guarumal, Vera**	**2.18**	**115**	*e*S	**Sb**	**08 44 47.6**	**-0.8**

*IDC **05** 08:48:46.9±2.3, 5°.48S×101°.58E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/43, mbtmp3.8/7, ML4.4/1, Error ellipse: s-maj=92.3km s-min=19.7km az=52.0*
*ISCJB **05** 08:48:48.5±0.9, 5°.15S±0°.08×102°.22E±0°.09, h10km, mb3.9/6, Error ellipse: s-maj=13.4km s-min=10.3km az=27.5*
*DJA **05** 08:48:53.3±0.8, 5°.S±5°.×10°.3E±°, h10km, M3.7/6, MLv3.7/6*
ISC 05 08:48:50.7±1.1, 5°.09S±0°.08×102°.4E±0°.1, h10km, n17, σ1§12/14, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.94**	**40**	P	**Pn**	**08 49 10.3**	**+0.3**
MNAI				S	**Sb**	**08 49 22.1**	**+0.4**
LWLI	**Liwa**	**1.70**	**88**	P	**Pn**	**08 49 19.7**	**-0.9**
LHSI	**Lahat**	**1.71**	**43**	P	**Pb**	**08 49 22.0**	**-0.3**
MASI	**Maura Aman, Be**	**1.94**	**357**	P	**Pg**	**08 49 27.5**	**-0.5**
KASI	**Kota Agung**	**2.18**	**101**	P	**Pn**	**08 49 25.6**	**-1.4**
KLSI		**2.40**	**81**	P	**Pn**	**08 49 29.8**	**-0.3**
LEM	**Lembang**	**5.51**	**108**	Pn	Pn	08 50 19.6	+6.5
	8.1nm,0.3s,baz=319,slow=19,SNR=3.5						
H08S2	**Diego Garcia H**	**29.78**	**264**	T	T	09 25 54.1	
	baz=87,slow=75,SNR=8.9						
H08S3	**Diego Garcia H**	**29.79**	**264**	T	T	09 26 01.8	
	baz=87,slow=75,SNR=9.2						
H08S1	**Diego Carcia H**	**29.80**	**264**	T	T	09 25 58.8	
	baz=87,slow=75,SNR=7.9						
WRA	**Warramunga Arr**	**34.44**	**118**	P	**P**	**08 55 40.3**	**+1.5**
	0.3nm,0.4s,baz=304,slow=9.0,SNR=2.5						
ASAR	**Alice Springs**	**35.56**	**124**	P	**P**	**08 55 51.0**	**+2.5**
	0.4nm,0.4s,baz=294,slow=7.7,SNR=4.6						
STKA	**Stephens Creek**	**45.36**	**131**	P	**P**	**08 57 09.1**	**-0.4**
	1.8nm,0.9s,baz=283,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**52.82**	**3**	P	**P**	**08 58 06.9**	**+0.5**
	0.8nm,0.6s,baz=179,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**54.63**	**343**	P	**P**	**08 58 18.7**	**-0.9**
	0.9nm,0.6s,baz=156,slow=8.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**60.64**	**348**	P	**P**	**08 59 01.3**	**-0.4**
	0.8nm,0.4s,baz=123,slow=5.5,SNR=4.5						
TXAR	**Lajitas Array**	**145.55**	**43**	PKPbc	**PKPdf**	**09 08 29.4**	**-0.7**
	0.3nm,0.7s,baz=305,slow=2.0,SNR=6.1						

IDC 05 08:49:42.0±5.3, 6°.45S×148°.75E, h86km±53km, mb3.3/3, mb1 3.6/5, mb1mx3.3/31, mbtmp3.7/5, ML3.0/2, Error ellipse: s-maj=90.9km s-min=32.4km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**208**	P	Pn	08 50 31.9	-0.1
	13nm,0.3s,baz=19,slow=13,SNR=20						
PMG				S	Sn	08 51 11.4	+0.8
	8.5nm,0.3s,baz=102,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**19.39**	**225**	P	P	08 54 01.1	-0.2
	0.2nm,0.3s,baz=51,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.29**	**218**	P	P	08 54 32.1	-0.3
	1.1nm,0.6s,baz=50,slow=9.5,SNR=6.5						
FITZ	**Fitzroy Crossi**	**25.34**	**241**	P	P	08 55 01.4	+0.3
	1.3nm,0.6s,baz=65,slow=11,SNR=6.1						
ILAR	**Eielson Array**	**85.21**	**23**	P	P	09 02 08.7	0.0
	0.3nm,0.6s,baz=262,slow=4.1,SNR=5.4						

ATH 05 09:04:30.1, 40°.38N×21°.83E, h0km±8km, ML0.0, Error ellipse: s-maj=8.9km s-min=2.0km az=207.0, Suspected Mining explosion., Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.09**	**213**	P	Pg	09 04 31.8	0.0
FNA	**Florina**	**0.53**	**319**	P	Pg	09 04 40.4	0.0
PENT	**Pentalofos**	**0.56**	**251**	P	Pg	09 04 41.0	+0.1
LIT	**Litokhoron**	**0.57**	**119**	P	Pg	09 04 41.8	+0.7
NEST	**Nestorio**	**0.60**	**273**	P	Pg	09 04 42.2	+0.6
MEV	**Metsovon**	**0.76**	**218**	P	Pb	09 04 45.4	-0.8
THL	**Klokotos Trika**	**0.83**	**170**	P	Pg	09 04 45.6	-0.4

SKO 05 09:05:18.6, 41°.71N×22°.23E, h0km, M1.0, ML1.5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.04**	**244**	*i* Pg	Pg	09 05 21.6	+2.2
VAY	**Valandovo**	**0.47**	**147**	*i* Pg	Pg	09 05 27.0	-0.5
VAY				*i* Sg	Sg	09 05 33.0	-0.5
VAY				*e*Lg	Lg	09 05 33.4	
	comp=E,14nm,0.4s						
VAY				*e*Lg	Lg	09 05 33.9	
	comp=N,32nm,0.6s						
KNT	**Kendrikon**	**0.74**	**137**	*i* Pg	Pg	09 05 32.2	-0.7
KNT				*i* Sg	Sg	09 05 42.6	+0.1

ISC 05 09:08:57.5±2.1, 50°.1N±0°.1×19°.14E±0°.05, h0km, n6, σ0§54/14, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**1.01**	**168**	*e*PG	**Pg**	**09 09 16.9**	**+0.1**
LANS				*e*SG	**Sg**	**09 09 30.9**	**+1.0**
LANS				*e*LG	Lg	09 09 34.7	
NIE	**Niedzica**	**1.04**	**133**	*e*Pg	**Pg**	**09 09 17.4**	**0.0**
NIE				*e*Pg	**Pg**	**09 09 17.4**	**0.0**
NIE				*e*Sg	**Sb**	**09 09 33.0**	**+0.4**
NIE				*e*Sg	**Sb**	**09 09 33.0**	**+0.4**
MORC	**Moravsky Berou**	**1.09**	**251**	*e*PG	**Pg**	**09 09 18.6**	**+0.1**
MORC				*e*SG	**Sg**	**09 09 32.3**	**-0.3**
JAVC	**Velka Javorina**	**1.60**	**217**	*e*PN	**Pb**	**09 09 27.7**	**-0.2**
JAVC				*e*SG	**Sn**	**09 09 48.8**	**+0.4**
VYHS	**Vyhne**	**1.66**	**187**	*e*PN	**Pn**	**09 09 27.0**	**-0.8**
VYHS				*e*SN	**Sn**	**09 09 49.0**	**-0.8**
VRAC	**Vranov**	**1.85**	**244**	*e*PN	**Pn**	**09 09 30.7**	**+0.2**
VRAC				*e*SG	**Sn**	**09 09 55.1**	**+0.5**

*AZER **05** 09:28:13.3±0.1, 38°.48N×46°.70E, h11km, ml3.1/25, Error ellipse: s-maj=1.7km s-min=0.7km az=19.0*
*THR **05** 09:28:15.9, 38°.44N×46°.67E, h14km, ML2.9*
*NSSP **05** 09:28:15.9, 38°.45N×46°.65E, h10km, Ms3.1*
ISC 05 09:28:15.3±1.4, 38°.45N±0°.05×46°.67E±0°.02, h2km±10km, n34, σ0§97/52, 3C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORD	**Ordubad**	**0.71**	**312**	P	**Pb**	**09 28 29.9**	**-0.6**
	SNR=42						
ORD				S	**Sb**	**09 28 40.0**	**-0.8**
GRMI	**Germi**	**1.02**	**69**	*e*Pg	**Pg**	**09 28 35.0**	**+0.1**
GRMI				*e*AML	AML	09 28 51.0	
	comp=N,232nm,0.2s						
GRMI	**Germi**	**1.02**	**69**	*e*Sg	**Sb**	**09 28 49.4**	**-0.3**
QRD	**Qoradiz**	**1.13**	**27**	P	**Pn**	**09 28 38.4**	**+0.3**
	SNR=4.7						
QRD				S	**Sn**	**09 28 53.8**	**-0.4**
NAX	**Nakhchivan**	**1.17**	**308**	P	**Pn**	**09 28 38.5**	**-0.3**
	SNR=7.0						
NAX				S	**Sn**	**09 28 55.3**	**0.0**
SBZ	**Shahbuz**	**1.28**	**318**	P	**Pn**	**09 28 40.4**	**0.0**
	SNR=7.6						
SBZ				S	**Sn**	**09 28 59.0**	**+0.8**
YRD	**Yardimli**	**1.31**	**69**	P	**Pg**	**09 28 40.1**	**-0.4**
	SNR=7.7						
YRD				S	**Sn**	**09 28 58.9**	**-0.2**
LRK	**Lerik**	**1.32**	**81**	P	**Pn**	**09 28 40.6**	**-0.4**
	SNR=6.9						
LRK				S	**Sn**	**09 28 59.9**	**+0.6**
BLQ	**Beylaqan**	**1.44**	**28**	P	**Pn**	**09 28 42.0**	**-0.5**
	SNR=11						
BLQ				S	**Sg**	**09 29 03.7**	**+2.0**
GLBA	**Clilabad**	**1.56**	**59**	P	**Pn**	**09 28 43.5**	**-0.5**
	SNR=9.9						
GLBA				S	**Sg**	**09 29 06.6**	**+1.3**
ASTR	**Astara**	**1.67**	**86**	P	**Pn**	**09 28 45.2**	**-0.3**
	SNR=12						
ASTR				S	**Sg**	**09 29 09.0**	**+0.1**
LKRN	**Lenkeran, Azer**	**1.67**	**81**	P	**Pn**	**09 28 45.2**	**-0.4**
	SNR=5.3						
LKRN				S	**Sg**	**09 29 09.0**	**-0.1**
AGDM	**Agdam**	**1.69**	**11**	P	**Pn**	**09 28 45.1**	**-0.7**
	SNR=9.1						
AGDM				S	**Sg**	**09 29 09.4**	**-0.1**
MAKU	**Maku**	**1.79**	**301**	*e*Pn	**Pb**	**09 28 48.7**	**-0.3**
MAKU	**Maku**	**1.79**	**301**	*e*AML	AML	09 29 14.2	
	comp=N,147nm,0.5s						
MAKU	**Maku**	**1.79**	**301**	*e*AML	AML	09 29 14.3	
	comp=E,100nm,0.4s						
MAKU				*e*Sg	**Sg**	**09 29 12.9**	**0.0**
BRDA	**Brd**	**1.85**	**12**	P	**Pn**	**09 28 47.8**	**-0.3**
	SNR=3.4						
BRDA				S	**Sb**	**09 29 13.5**	**0.0**
VADZ	**Vardenis**	**1.86**	**338**	*i* P	**Pg**	**09 28 51.4**	**+0.5**
HYR	**Heyderabad**	**1.90**	**312**	P	**Pn**	**09 28 48.9**	**+0.1**
	SNR=7.8						
HYR				S	**Sg**	**09 29 16.2**	**-0.1**
SAAT	**Saatly**	**1.96**	**44**	S	**Sb**	**09 29 16.4**	**-0.1**
ZRD	**Zardab**	**1.98**	**23**	P	**Pn**	**09 28 49.6**	**-0.3**
	SNR=3.0						
ZRD				S	**Sb**	**09 29 17.1**	**-0.2**
GANJ	**Ganja**	**2.21**	**353**	P	**Pn**	**09 28 52.9**	**-0.2**
	SNR=13						
GANJ				S	**Sb**	**09 29 22.5**	**-1.2**
KDMR	**Kurdemir**	**2.25**	**31**	S	**Sb**	**09 29 23.2**	**-1.7**
GNI	**Garni**	**2.26**	**319**	⇑*i*S	**Pg**	**09 28 59.2**	**+0.5**
MNGR	**Mingechevir, A**	**2.34**	**8**	S	**Sb**	**09 29 25.4**	**-2.1**
ALIB	**Äli-Bayra**	**2.35**	**50**	S	**Sb**	**09 29 26.1**	**-1.8**
GDB	**GEDABAY**	**2.37**	**343**	P	**Pn**	**09 28 55.1**	**-0.4**
	SNR=8.5						
GDB				S	**Sb**	**09 29 27.1**	**-1.6**
ZNJK	**Zanjan**	**2.39**	**137**	*e*Pn	**Pn**	**09 28 56.7**	**+0.9**
KAPZ	**Kaputan**	**2.41**	**321**	⇑*i*P	**Pg**	**09 29 01.0**	**-0.5**
KAPZ				⇑*i*S	**Sg**	**09 29 34.3**	**+1.5**
GBS	**Qobustan**	**2.72**	**40**	S	**Sn**	**09 29 35.3**	**+1.6**
PQL	**Pirkuli**	**2.76**	**32**	P	**Pn**	**09 29 00.1**	**-0.7**
	SNR=3.6						
PQL				S	**Sn**	**09 29 36.8**	**+1.9**
SEKA	**Sheki**	**2.78**	**8**	P	**Pn**	**09 29 01.0**	**0.0**
	SNR=5.4						
QZX	**Qazax, Azerbai**	**2.79**	**339**	S	**Sn**	**09 29 37.4**	**+2.2**
XNQ	**Khinaliq**	**2.94**	**22**	P	**Pn**	**09 29 03.1**	**-0.2**
	SNR=6.6						
XNQ				S	**Sn**	**09 29 41.5**	**+2.2**

*ISCJB **05** 09:35:13.0±0.4, 23°.76N±0°.02×122°.04E±0°.02, h23km±3km, Error ellipse: s-maj=3.7km s-min=2.4km az=136.5*
*JMA **05** 09:35:13.0±0.1, 23°.77N×122°.02E, h20km±3km, M2.7*
*TAP **05** 09:35:14.4, 23°.79N×121°.97E, h31km, ML3.0, C*
ISC 05 09:35:11.8±1.0, 23°.74N±0°.03×122°.07E±0°.02, h30km±11km, n54, σ0§73/98, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.46**	**290**	*e*P	**Pn**	**09 35 21.8**	**-0.6**
	baz=292						
ENLB				*e*S	**Sn**	**09 35 28.5**	**-1.1**
	baz=292						
HWA	**Hwalien**	**0.49**	**299**	*e*P	**Pn**	**09 35 23.0**	**+0.2**
	baz=292						
TWD	**Chiawan**	**0.55**	**308**	P	**Pn**	**09 35 23.6**	**-0.1**
	baz=311						
TWD				*e*S	**Sb**	**09 35 30.3**	**-0.4**
	baz=311						
ESL	**Shilin**	**0.59**	**277**	P	**Pn**	**09 35 24.1**	**-0.1**
	baz=266						
ESL				*e*S	**Sb**	**09 35 31.3**	**-0.5**
	baz=266						
EGFH	**Guangfu**	**0.59**	**263**	*e*P	**Pn**	**09 35 24.9**	**+0.6**
	baz=248						
EGFH				*e*S	**Sn**	**09 35 32.4**	**-0.6**
	baz=248						
NACB	**Ninganchiao**	**0.61**	**315**	⇓*e*P	**Pn**	**09 35 24.4**	**-0.2**
	baz=312						
NACB				*e*S	**Sb**	**09 35 31.8**	**-0.6**
	baz=312						
HGSD	**Ruisui**	**0.64**	**247**	*e*P	**Pn**	**09 35 25.5**	**+0.6**
	baz=239						
HGSD				*e*S	**Sn**	**09 35 34.2**	**0.0**
	baz=239						
ETLH	**Xiulin Townshi**	**0.71**	**311**	P	**Pn**	**09 35 26.0**	**0.0**
	baz=313						
ETLH				*e*S	**Sb**	**09 35 34.6**	**-0.7**
	baz=313						
EHY	**Hungye**	**0.73**	**251**	P	**Pn**	**09 35 26.8**	**+0.6**
	baz=258						
EHY				*e*S	**Sn**	**09 35 36.3**	**0.0**
	baz=258						
NANB	**Nanao**	**0.74**	**337**	*e*P	**Pn**	**09 35 27.0**	**+0.7**
	baz=332						
NANB				*e*S	**Sn**	**09 35 36.6**	**0.0**
	baz=332						
ENA	**Nanau**	**0.74**	**336**	*e*P	**Pn**	**09 35 27.0**	**+0.7**
	baz=332						
ENA				*e*S	**Sn**	**09 35 36.6**	**-0.1**
	baz=332						
YULB	**Yu-li**	**0.79**	**244**	*e*P	**Pn**	**09 35 28.0**	**+1.0**
	baz=252						
YULB				*e*S	**Sn**	**09 35 37.8**	**-0.1**
	baz=252						
EOS1	**EOS1**	**0.80**	**4**	*e*P	**Pb**	**09 35 28.8**	**+1.5**
	baz=20						
EOS1				*e*S	**Sn**	**09 35 39.2**	**+1.2**
	baz=20						
TWF1	**Yuli**	**0.81**	**241**	P	**Pn**	**09 35 28.5**	**+1.2**
	baz=225						
TWF1				*e*S	**Sn**	**09 35 38.7**	**+0.4**
	baz=225						
WHF	**Hehuan Shan**	**0.84**	**299**	P	**Pn**	**09 35 28.1**	**0.0**
	baz=291						
WHF				*e*S	**Sb**	**09 35 38.0**	**-1.3**
	baz=291						
VWDT	**VWDT**	**0.85**	**271**	*e*P	**Pb**	**09 35 28.8**	**+0.7**
	baz=267						
VWDT				*e*S	**Sn**	**09 35 38.9**	**-0.4**
	baz=267						
CHGB	**Renai**	**0.88**	**291**	*e*P	**Pb**	**09 35 28.9**	**+0.1**
	baz=290						
CHGB				*e*S	**Sb**	**09 35 39.4**	**-0.8**
	baz=290						
TWC	**Suao**	**0.89**	**347**	*e*P	**Pb**	**09 35 29.4**	**+0.7**
	baz=353						
TWC				*e*S	**Sn**	**09 35 40.7**	**+0.6**
	baz=353						
CHKT	**Chengkung**	**0.91**	**225**	*e*S	**Sb**	**09 35 40.0**	**-0.9**
	baz=208						
NNSB	**Datong**	**0.93**	**317**	*e*P	**Pb**	**09 35 29.6**	**+0.2**
	baz=320						
NNSB				*e*S	**Sb**	**09 35 40.7**	**-0.8**
	baz=320						
NNS	**Nan Shan**	**0.94**	**318**	*e*P	**Pb**	**09 35 29.8**	**+0.1**
	baz=311						
NNS				*e*S	**Sb**	**09 35 41.2

YHNB *e*S **Sn** **09 35 45.7 -0.4**
baz=328
TYC Yuchr 1.12 278 *e*P **Pb** **09 35 32.8 +0.1**
baz=284
TYC *e*S **Sn** **09 35 45.7 -0.3**
baz=284
NWLT Wulai 1.15 333 *e*S **Sb** **09 35 47.4 -0.5**
baz=323
WHP Taichung City 1.16 298 *e*P **Pb** **09 35 33.8 +0.4**
baz=297
TIPB Shuangxi 1.24 350 *e*P **Pb** **09 35 35.5 +0.7**
baz=354
TIPB *e*S **Sb** **09 35 49.7 -0.7**
baz=354
WNT Mingjian 1.28 276 *e*P **Pb** **09 35 36.2 +1.0**
baz=274
WNT *e*S **Sb** **09 35 52.1 +0.8**
baz=274
CHN5 Tsauling 1.29 264 *e*P **Pb** **09 35 35.4 -0.1**
baz=261
CHN5 *e*S **Sb** **09 35 50.6 -1.1**
baz=261
TWGBT Beinan 1.30 225 *e*P **Pb** **09 35 35.8 +0.2**
baz=230
TWGBT *e*S **Sn** **09 35 50.4 +0.1**
baz=230
TWG Pinlang 1.30 225 *e*P **Pb** **09 35 35.7 0.0**
baz=220
LIOB Emei 1.32 313 *e*P **Pb** **09 35 36.9 +0.9**
baz=314
LIOB *e*S **Sb** **09 35 52.0 -0.5**
baz=314
NSTT Nanjuang 1.32 312 *e*P **Pb** **09 35 36.6 +0.6**
baz=313
NSTT *e*S **Sb** **09 35 51.6 -0.9**
baz=313
TWQ1 Liyutan 1.33 297 *e*P **Pb** **09 35 37.0 +0.8**
baz=297
TWQ1 *e*S **Sb** **09 35 52.9 0.0**
baz=297
TPUB Ta-pu 1.40 252 *e*P **Pb** **09 35 36.7 -0.6**
baz=257
TPUB *e*S **Sb** **09 35 54.4 -0.4**
baz=257
CHN4 Tsaushan 1.41 254 *e*P **Pb** **09 35 38.5 +1.0**
baz=251
CHN4 *e*S **Sb** **09 35 55.3 +0.1**
baz=251
CHN1 Nanshi 1.52 249 *e*P **Pb** **09 35 39.6 +0.2**
baz=245
CHN1 *e*S **Sb** **09 35 59.3 +0.9**
baz=245
TWK Hsinying 1.53 252 *e*P **Pb** **09 35 40.2 +0.6**
baz=248
TWK *e*S **Sb** **09 35 58.4 -0.2**
baz=248
HATJ Hateruma jima 1.62 79 *e*S **Sb** **09 36 01.5 +0.4**
IRIF Iriomote-Funau 1.63 68 P **Pb** **09 35 41.1 -0.1**
IRIF *e*S **Sb** **09 36 01.5 +0.2**
JKRS Kuro-shima 1.84 74 *e*S **Sb** **09 36 07.6 +0.2**
JIJ Ishigaki jima 1.99 72 P **Pb** **09 35 46.3 -1.1**
JIJ *e*S **Sn** **09 36 08.9 +1.4**
JISG Ishigakijimahi 2.21 67 P **Pb** **09 35 49.2 -1.9**
JISG S **Sn** **09 36 14.6 +1.7**
JTJ Tarama 2.56 69 S **Sb** **09 36 25.5 -2.7**

*ISCJB **05** 09:36:52.1±0.8, 32°.76S±0°.04×178°.3W±0°.1, h10km, mb4.5/6, MS3.6/15, Error ellipse: s-maj=15.5km s-min=5.8km az=11.4*
*IDC **05** 09:36:52.9±0.8, 32°.55S×178°.17W, h0km, mb4.5/6, mb1 4.5/10, mb1mx4.2/40, mbtmp4.5/10, ML4.0/4, MS3.7/14, Ms1 3.7/14, ms1mx3.5/35, Error ellipse: s-maj=21.6km s-min=19.6km az=117.0*
*NEIC **05** 09:36:53.8±3.0, 32°.60S±0°.06×178°.35W±0°.09, h10km±1km, mb4.8/20*
ISC 05 09:36:53.4±0.6, 32°.71S±0°.06×178°.24W±0°.09, h10km, n87, σ2=49/88, mb4.8/14, MS3.6/15, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.46**	**5**	Pn	**Pn**	**09 37 44.7**	**-2.6**
	81nm,0.3s,baz=62,slow=23,SNR=4.1						
RAO				Sn	**Sn**	**09 38 26.5**	**-1.8**
	244nm,0.3s,baz=83,slow=23,SNR=7.4						
RAO	**Raoul Island**	**3.46**	**5**		**Pn**	**09 37 44.7**	**-2.6**
RAO					**Sn**	**09 38 24.6**	**-3.7**
MXZ	**Matakaoa Point**	**5.61**	**209**	Pn	**Pn**	**09 38 18.2**	**+1.4**
URZ	**Urewera**	**6.71**	**213**	Pn	**Pn**	**09 38 33.4**	**+1.4**
	7.6nm,0.3s,baz=32,slow=3.6,SNR=31						
URZ				Sn	**Sn**	**09 39 48.7**	**+0.2**
	10nm,0.3s,baz=150,slow=15,SNR=8.2						
URZ	**Urewera**	**6.71**	**213**		**Pn**	**09 38 32.9**	**+0.9**
URZ					**Sn**	**09 39 48.9**	**+0.4**
BKZ	**Black Stump Fm**	**7.73**	**212**		**Pn**	**09 38 46.7**	**+0.7**
BKZ				Sn	**Sn**	**09 40 13.6**	**-0.1**
HIZ	**Hauiti**	**8.07**	**222**	Pn	**Pn**	**09 38 51.6**	**+1.0**
HIZ				Sn	**Sn**	**09 40 26.1**	**+4.2**
BFZ	**Birch Farm**	**9.11**	**208**	Pn	**Pn**	**09 39 04.8**	**0.0**
BFZ				Sn	**Sn**	**09 40 43.3**	**-4.0**
MSWZ	**Moikau Station**	**10.13**	**209**	Pn	**Pn**	**09 39 18.6**	**-0.3**
MSWZ				Sn	**Sn**	**09 41 05.1**	**-7.4**
PLWZ	**Palliser**	**10.25**	**209**	Pn	**Pn**	**09 39 19.5**	**-1.1**
PLWZ				Sn	**Sn**	**09 41 08.3**	**-7.3**
SNZO	**South Karori**	**10.27**	**211**	Pn	**Pn**	**09 39 19.9**	**-0.9**
SNZO					**Sn**	**09 41 10.1**	**-5.8**
BHW	**Baring Head**	**10.28**	**210**	Pn	**Pn**	**09 39 20.8**	**0.0**
BHW				Sn	**Sn**	**09 41 10.1**	**-6.0**
TUWZ	**Tuamarina**	**10.71**	**213**	Pn	**Pn**	**09 39 28.1**	**+1.3**
TUWZ				Sn	**Sn**	**09 41 19.6**	**-7.1**
NNZ	**Nelson**	**10.81**	**216**	Pn	**Pn**	**09 39 29.2**	**+1.0**
NNZ				Sn	**Sn**	**09 41 26.3**	**-3.0**
QRZ	**Quartz Range**	**10.97**	**220**	Pn	**Pn**	**09 39 34.2**	**+3.9**
QRZ				Sn	**Sn**	**09 41 29.5**	**-3.7**
THZ	**Tophouse**	**11.46**	**215**	Pn	**Pn**	**09 39 36.3**	**-0.9**
THZ					**Sn**	**09 41 41.2**	**-4.0**
KHZ	**Kahutara**	**11.68**	**212**	Pn	**Pn**	**09 39 38.8**	**-1.2**
KHZ					**Sn**	**09 41 43.4**	**-6.9**
LTZ	**Lake Taylor**	**12.54**	**214**	Pn	**Pn**	**09 39 52.6**	**+0.7**
OXZ	**Oxford**	**13.07**	**213**	Pn	**Pn**	**09 39 57.6**	**-1.5**
MQZ	**McQueen's Vall**	**13.10**	**210**	Pn	**Pn**	**09 40 02.0**	**+2.6**
RPZ	**Rata Peaks**	**13.83**	**214**	Pn	**Pn**	**09 40 07.3**	**-2.2**
	1.9nm,0.3s,baz=60,slow=4.1,SNR=9.3						
RPZ				Sn	Sn	09 42 31.4	-12
	0.7nm,0.3s,baz=252,slow=20,SNR=4.4						
RPZ	**Rata Peaks**	**13.83**	**214**		**Pn**	**09 40 08.5**	**-1.0**
FOZ	**Fox Glacier**	**14.31**	**218**	Pn	**Pn**	**09 40 16.4**	**+0.4**
ODZ	**Otahua Downs**	**15.04**	**212**	Pn	**Pn**	**09 40 27.0**	**+1.1**
MLZ	**Mavora Lakes**	**16.47**	**216**	Pn	**Pn**	**09 40 46.1**	**+1.7**
MLZ				IAmb	IAmb	09 40 48.5	
	comp=Z,144nm,1.9s						
DZM	**Mont Dzumac**	**17.22**	**304**	*e*P	**P**	**09 41 01.2**	**+5.4**
	comp=Z,50nm,1.1s						
DZM	**Mont Dzumac**	**17.22**	**304**	P	**P**	**09 40 55.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=144,slow=5.9,SNR=3.0						
DZM				LR	LR	09 46 30.7	
	comp=Z,851nm,18.6s,baz=187,slow=34						
DZM	**Mont Dzumac**	**17.22**	**304**		**Pn**	**09 40 50.7**	**-3.5**
AFI	**Afiamalu**	**19.62**	**19**	P	**Pn**	**09 41 23.1**	**-0.4**
RAR	**Rarotonga**	**20.02**	**60**	P	**P**	**09 41 26.0**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=137,slow=3.3,SNR=3.7						
RAR				LR	LR	09 47 17.3	
	comp=Z,95nm,21.8s,baz=250,slow=31						
RAR	**Rarotonga**	**20.02**	**60**	P	**P**	**09 41 26.5**	**+0.2**
RAR				IAmb	IAmb	09 41 34.4	
	comp=Z,102nm,1.9s						
TBI	**Tubuai**	**26.99**	**77**	*e*LQ	LQ	09 47 36.5	
	comp=Z,175nm,26.0s						
TBI				*e*LR	LR	09 48 46.1	
	comp=Z,149nm,30.0s						
PPT2	**Papeete2**	**29.87**	**67**	*e*LR	LR	09 50 02.9	
	comp=Z,144nm,28.0s						
PPT	**Papeete**	**29.88**	**67**	LR	LR	09 54 56.8	
	comp=Z,86nm,18.1s,baz=226,slow=36						
HNR	**Honiara**	**30.70**	**314**	LR	LR	09 54 24.9	
	comp=Z,135nm,18.7s,baz=202,slow=34						
STKA	**Stephens Creek**	**33.83**	**260**	P	**P**	**09 43 38.0**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=105,slow=12,SNR=3.0						
STKA				LR	LR	09 56 51.1	
	comp=Z,266nm,18.1s,baz=145,slow=35						
STKA	**Stephens Creek**	**33.83**	**260**	P	**P**	**09 43 35.8**	**-0.1**
CTA	**Charters Tower**	**34.04**	**283**	P	**P**	**09 43 40.0**	**+2.2**
	comp=Z,6.0nm,0.4s,baz=116,slow=11,SNR=13						
CTAO	**Charters Tower**	**34.04**	**283**	P	**P**	**09 43 39.4**	**+1.5**
BBOO	**Buckleboo**	**38.20**	**257**	P	**P**	**09 44 13.4**	**0.0**
BBOO				IAmb	IAmb	09 45 36.6	
	comp=Z,39nm,1.8s						
KRVT	**Keravat (AS076**	**39.63**	**309**	P	**P**	**09 44 25.7**	**+0.2**
	comp=Z,23nm,0.5s,baz=114,slow=20,SNR=2.7						
COEN	**Coen**	**39.76**	**289**	P	**P**	**09 44 25.5**	**-1.1**
COEN				IAmb	IAmb	09 45 06.6	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**42.83**	**270**	P	**P**	**09 44 51.7**	**-0.1**
ASAR	**Alice Springs**	**42.84**	**270**	P	**P**	**09 44 53.0**	**+1.1**
	comp=Z,5.2nm,0.6s,baz=108,slow=7.9,SNR=78						
ASAR				LR	LR	10 01 07.7	
	comp=Z,80nm,18.6s,baz=150,slow=34						
ASAR	**Alice Springs**	**42.84**	**270**	P	**P**	**09 44 51.2**	**-0.7**
WB2	**Warramunga Arr**	**44.02**	**275**	P	**P**	**09 45 02.5**	**+1.1**
WRAB	**Tennant Creek**	**44.03**	**275**	P	**P**	**09 45 01.7**	**+0.3**
WRAB				IAmb	IAmb	09 45 20.8	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**09 45 02.0**	**+0.5**
	comp=Z,5.0nm,0.4s,baz=113,slow=8.0,SNR=140						
WRA				LR	LR	10 00 55.4	
	comp=Z,98nm,21.7s,baz=175,slow=33						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**09 45 02.3**	**+0.8**
WB0	**Warramunga Arr**	**44.06**	**275**	P	**P**	**09 45 00.4**	**-1.3**
WB0				IAmb	IAmb	09 45 20.7	
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**45.30**	**257**	P	**P**	**09 45 09.2**	**-2.3**
JAY	**Jayapura**	**48.81**	**299**	LR	LR	10 03 25.6	
	comp=Z,79nm,20.4s,baz=191,slow=33						
KNRA	**Kununurra**	**50.72**	**276**	P	**P**	**09 45 52.3**	**-1.2**
KNRA				IAmb	IAmb	09 46 13.8	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.19**	**272**	P	**P**	**09 46 05.2**	**+0.6**
FITZ				IAmb	IAmb	09 46 06.4	
	comp=Z,11nm,1.1s						
CASY	**Casey**	**53.02**	**209**	P	**P**	**09 46 11.7**	**+1.7**
CASY				IAmb	IAmb	09 46 25.5	
	comp=Z,11nm,1.0s						
SIJI	**Sorong**	**57.02**	**293**	LR	LR	10 12 08.3	
	comp=Z,72nm,18.4s,baz=56,slow=37						
QSPA	**South Pole Qui**	**57.41**	**180**	P	**P**	**09 46 44.5**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=318,slow=0.7,SNR=9.1						
QSPA	**South Pole Qui**	**57.41**	**180**	P	**P**	**09 46 44.3**	**+2.4**
QSPA				IAmb	IAmb	09 47 21.3	
	comp=Z,19nm,1.2s						
MAW	**Mawson**	**70.08**	**201**	LR	LR	10 18 25.7	
	comp=Z,83nm,18.9s,baz=69,slow=36						
SYO	**Syowa Base**	**74.83**	**193⇓**	*e*pP	pP	09 48 37.4	+2.5
SNAA	**Sanae**	**75.86**	**178**	P	P	09 48 51.2	+12
SNAA	**Sanae**	**75.86**	**178**	P	**P**	**09 48 41.5**	**+1.9**
SNAA				IAmb	IAmb	09 49 14.0	
	comp=Z,14nm,1.4s						
VNA3	**Neumayer Olymp**	**76.02**	**176**	P	P	09 48 52.8	+12
VNA2	**Neumayer--Watz**	**76.45**	**177**	P	P	09 48 55.5	+13
	baz=176,slow=4.6						
VNA1	**Neumayer--Stat**	**76.69**	**177**	P	P	09 48 57.0	+13
PLCA	**Paso Flores**	**81.09**	**133**	LR	LR	10 17 34.2	
	comp=Z,44nm,19.7s,baz=225,slow=30						
KSRS	**Korea Array**	**85.97**	**320**	LR	LR	10 25 15.5	
	comp=Z,23nm,19.0s,baz=157,slow=34						
CMAR	**Chiang Mai Arr**	**93.97**	**289**	LR	LR	10 36 16.9	
	comp=Z,13nm,18.5s,baz=285,slow=38						
LPAZ	**La Paz**	**97.38**	**115**	LR	LR	10 29 22.6	
	comp=Z,21nm,18.7s,baz=264,slow=32						
MKAR	**Makanchi Array**	**119.08**	**309**	PKP	**PKiKP**	**09 55 43.2**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=3.6						
MKAR	**Makanchi Array**	**119.08**	**309**		**PKPdf**	**09 55 41.4**	**-0.8**
KSH	**Kashi**	**121.22**	**299**	*e*PKP	**PKiKP**	**09 55 48.6**	**+1.8**
KURK	**Kurchatov**	**122.48**	**313**		**PKPdf**	**09 55 47.2**	**-1.3**
KURBB	**Kurchatov Arra**	**122.51**	**313**	PKP	**PKiKP**	**09 55 49.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=117,slow=1.9,SNR=5.2						
BVAR	**Borovoye Array**	**127.89**	**315**	PKP	**PKiKP**	**09 55 59.6**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=161,slow=3.8,SNR=4.9						
ARCES	**ARCESS Array B**	**140.79**	**347**	PKhKP	PKPpre	09 56 16.5	
	comp=Z,4.6nm,1.0s,baz=56,slow=3.4,SNR=3.9						
KBZ	**Khabaz**	**146.18**	**301**	PKPbc	**PKPab**	**09 56 34.1**	**-0.2**
	comp=Z,3.1nm,1.1s,baz=306,slow=3.6,SNR=3.7						
FINES	**FINESS Array B**	**147.23**	**339**	PKPbc	**PKPbc**	**09 56 36.8**	**+0.6**
	comp=Z,7.3nm,0.5s,baz=44,slow=4.1,SNR=44						
FINES	**FINESS Array B**	**147.23**	**339**	PKPbc	**PKPab**	**09 56 37.2**	**-0.7**
NB2	**NORSAR Subarra**	**150.99**	**351**	PKP	**PKiKP**	**09 56 46.7**	**+0.3**
	comp=Z,23nm,1.7s,baz=18,slow=4.3						
NOA	**NORSAR Array B**	**150.99**	**351**	PKPbc	**PKPbc**	**09 56 46.2**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=14,slow=4.1,SNR=6.2						
AKASG	**Malin Array Be**	**152.97**	**320**	PKPbc	**PKiKP**	**09 56 50.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=58,slow=2.4,SNR=6.4						
AKASG	**Malin Array Be**	**152.97**	**320**		**PKiKP**	**09 56 51.0**	**+0.3**
BRTR	**Keskin Array B**	**153.44**	**294**	PKPbc	**PKiKP**	**09 56 53.2**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=145,slow=4.0,SNR=11						
BRTR				PKPab	**pPKPab**	**09 57 05.5**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=142,slow=3.6,SNR=8.5						
BRTR	**Keskin Array B**	**153.44**	**294**		**PKPbc**	**09 56 52.3**	**+0.2**
BRTR					**PKPab**	**09 57 05.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**160.53**	**180**	PKPab	**PKPab**	**09 57 36.9**	**+1.8**
	comp=Z,1.2nm,1.0s,baz=197,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**160.53**	**180**	PKPab	**PKPab**	**09 57 34.0**	**-1.1**

*ISCJB **05** 09:43:35.1±1.2, 12°.92N±0°.09×89°.16W±0°.04, h35km, Error ellipse: s-maj=13.5km s-min=5.1km az=11.8*
*SNET **05** 09:43:35.1±0.9, 12°.95N×89°.17W, h35km±660km, ML3.4*
*GCG **05** 09:43:35.3±0.3, 13°.69N×88°.70W, h60km±108km, MD3.9*
ISC 05 09:43:36.2±1.9, 13°.0N±0°.1×89°.14W±0°.05, h35km, n24, σ0=54/28, 8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.65**	**58**	*e*P	**Pn**	**09 43 48.8**	**-0.2**
COEG	**Centro de Oper**	**0.69**	**21⇓**	*e*P	**Pn**	**09 43 48.9**	**-0.7**
COEG				IAML		09 44 04.1	
	comp=Z,703nm,0.3s						
SNET	**Serv Nac Est T**	**0.71**	**352⇓**	*e*P	**Pn**	**09 43 49.4**	**-0.5**
SNET				IAML		09 43 49.9	
	comp=Z,2μm,0.3s						
SNET				*e*S	**Sn**	**09 43 59.7**	**0.0**
UESV	**Universidad de**	**0.74**	**27**	*e*P	**Pn**	**09 43 49.6**	**-0.6**
UEES	**Universidad Ev**	**0.74**	**352⇓**	*e*P	**Pn**	**09 43 49.8**	**-0.5**
UEES				IAML		09 44 07.2	
	comp=Z,2μm,0.2s						
PAVA	**Las Pavas**	**0.76**	**15⇓**	*e*P	**Pn**	**09 43 50.2**	**-0.4**
PAVA				IAML		09 44 04.5	
	comp=Z,797nm,0.3s						
LFU	**La Fuente**	**0.77**	**2⇓**	*e*P	**Pn**	**09 43 50.4**	**-0.3**
COEB	**Comit de Eme**	**0.78**	**49⇓**	*e*P	**Pn**	**09 43 50.5**	**-0.4**
COEB				*e*S	**Sn**	**09 44 02.2**	**+0.7**
COEB				IAML		09 44 04.6	
	comp=Z,1μm,0.3s						
JUCU	**Jucuarın**	**0.91**	**72**	*e*P	**Pn**	**09 43 51.8**	**-0.8**
JUCU				*e*S	**Sn**	**09 44 05.0**	**+0.5**
JUCU				IAML		09 44 08.6	
	comp=Z,785nm,0.3s						
LCY	**Lacayo**	**0.93**	**61**	*e*P	**Pn**	**09 43 52.7**	**-0.2**
SBLS	**San Blas**	**0.98**	**331**	*e*P	**Pn**	**09 43 53.0**	**-0.7**
SNJE	**San Jose**	**1.00**	**333**	*e*P	**Pn**	**09 43 53.2**	**-0.7**
RTR	**El Retiro**	**1.04**	**332**	*e*P	**Pn**	**09 43 54.0**	**-0.5**
UNIC	**Universidad Ca**	**1.08**	**338**	*e*P	**Pn**	**09 43 54.5**	**-0.4**
VICT	**Victoria**	**1.09**	**26**	*e*P	**Pn**	**09 43 55.2**	**0.0**
LLGN	**La Laguna**	**1.19**	**9**	*e*P	**Pn**	**09 43 56.4**	**-0.1**
FAGO	**Alcalda de S**	**1.23**	**54**	*e*P	**Pn**	**09 43 56.8**	**-0.2**
LCND	**La Caada**	**1.26**	**75⇓**	*e*P	**Pn**	**09 43 57.0**	**-0.3**
LCND				IAML		09 44 16.3	
	comp=Z,1μm,0.3s						
CNCH	**Conchagua**	**1.30**	**77**	*e*P	**Pn**	**09 43 57.6**	**-0.4**
MTO3	**Montecristo**	**1.43**	**351⇓**	*i*P	**Pn**	**09 43 59.7**	**-0.3**
IXG	**Ixpaco**	**1.74**	**313**	*e*P	**Pn**	**09 44 04.1**	**0.0**
IXG	**Ixpaco**	**1.74**	**313**	*e*P	**Pn**	**09 44 03.0**	**-1.2**
FUG	**Fuego 3**	**2.21**	**312**	*e*P	**Pn**	**09 44 10.4**	**-0.3**
FUG				*e*S	**Sn**	**09 44 37.7**	**+0.9**
STG3	**Santiaguito 3,**	**2.93**	**306**	*e*P	**Pn**	**09 44 20.8**	**+0.4**

*NIED **05** 09:45:00, 37°.20N×144°.30E, h8km, Mw3.8 Best double couple: M0=6.20000×10^14 NP1:φ=46.00000°, δ=23.00000°, λ=101.00000°. NP2:φ=238.00000°, δ=67.00000°, λ=85.00000°.*
*IDC **05** 09:45:11.1±0.7, 36°.96N×144°.57E, h0km, mb3.9/9, mb1 4.2/13, mb1mx3.9/57, mbtmp4.0/13, ML3.9/3, MS2.9/6, Ms1 2.9/6, ms1mx2.5/46, Error ellipse: s-maj=22.0km s-min=17.0km az=119.0*
*ISCJB **05** 09:45:13.4±0.8, 37°.19N±0°.03×144°.49E±0°.05, h33km±7km, mb3.9/9, MS3.2/3, Error ellipse: s-maj=7.0km s-min=5.2km az=24.8*
*NEIC **05** 09:45:14.6±2.1, 37°.15N±0°.08×144°.7E±0°.1, h35km±2km, mb4.7/8*
*JMA **05** 09:45:15.8±0.2, 37°.23N×144°.32E, h42km, M4.1*
ISC 05 09:45:14.7±4.0, 37°.22N±0°.04×144°.58E±0°.06, h28km±29km, n70, σ2=01/80, mb4.2/14, MS3.0/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.69**	**295**	P	**Pn**	**09 45 55.6**	**-0.5**
JIKH				*e*S	**Sn**	**09 46 24.8**	**-3.0**
JIO	**Ouri**	**2.84**	**297**	P	**Pn**	**09 45 57.6**	**-0.5**
JIO				S	**Sn**	**09 46 28.8**	**-2.5**
JKMT	**Kesennumamotoy**	**2.92**	**304**	P	**Pn**	**09 45 58.7**	**-0.5**
JKMT				S	**Sn**	**09 46 30.6**	**-2.8**
OFUJ	**Ofunato**	**2.95**	**310**	P	**Pn**	**09 45 59.1**	**-0.6**
JFK	**Kawauchi**	**2.96**	**274**	P	**Pn**	**09 45 58.8**	**-1.0**
JFK				S	**Sn**	**09 46 30.5**	**-3.8**
JMST	**Minamisoumatoc**	**2.98**	**281**	P	**Pn**	**09 45 58.9**	**-1.1**
JMST				S	**Sn**	**09 46 31.3**	**-3.5**
JMK	**Ichinoseki**	**3.16**	**304**	P	**Pn**	**09 46 02.2**	**-0.4**
JOU	**Okura**	**3.30**	**291**	P	**Pn**	**09 46 04.6**	**+0.1**
JFT	**Otama**	**3.39**	**276**	P	**Pn**	**09 46 05.8**	**+0.1**
JFT				S	**Sn**	**09 46 42.7**	**-2.3**
JOM	**Ohasama**	**3.42**	**312**	P	**Pn**	**09 46 06.3**	**+0.1**
JOM				S	**Sn**	**09 46 44.0**	**-1.8**
JYK	**Kaneyama**	**3.73**	**298**	P	**Pn**	**09 46 10.8**	**+0.3**
JRG	**Rokugo**	**3.79**	**306**	P	**Pn**	**09 46 11.4**	**+0.2**
JRG				*e*S	**Sn**	**09 46 54.3**	**-0.5**
BSO1	**Boso 1**	**3.88**	**230**	P	**Pn**	**09 46 10.0**	**-2.0**
BSO1				*e*S	**Sn**	**09 46 53.1**	**-3.3**
JAH	**Hinai**	**4.28**	**315**	P	**Pn**	**09 46 19.0**	**+1.1**
JAH				*e*S	**Sn**	**09 47 05.9**	**-0.9**
JTM	**Tenmabayashi**	**4.49**	**324**	P	**Pn**	**09 46 21.3**	**+0.5**
JTM				*e*S	**Sn**	**09 47 08.7**	**-3.4**
JRY	**Ryogami san**	**4.72**	**257**	P	**Pn**	**09 46 22.8**	**-1.2**
JRY				*e*S	Sn	09 47 12.4	-5.4
JOD2	**Odawara 2**	**4.85**	**248**	P	**Pn**	**09 46 24.7**	**-1.1**
ERM	**Erimo**	**4.91**	**348**	Pn	**Pn**	**09 46 26.8**	**+0.2**
ERM				Sn	**Sn**	**09 47 22.7**	**+0.2**
MJAR	**Matsushiro Arr**	**5.15**	**264**	Pn	**Pn**	**09 46 29.9**	**0.0**
	0.6nm,0.3s,baz=88,slow=14,SNR=28						
MJAR				Sn	**Sn**	**09 47 26.8**	**-1.6**
	0.4nm,0.3s,baz=85,slow=27,SNR=5.1						
MJAR				LR	LR	09 49 01.0	
	comp=Z,48nm,18.2s,baz=100,slow=45						
MJAR	**Matsushiro Arr**	**5.15**	**264**		**Pn**	**09 46 33.8**	**+3.8**
MJAR				Sn	**Sn**	**09 47 30.0**	**+1.6**
MAJO	**Matsushiro**	**5.15**	**264**		**Pn**	**09 46 30.6**	**+0.6**
MAJO				Sn	**Sn**	**09 47 31.2**	**+2.8**
MAT	**Matsushiro**	**5.15**	**264**	P	**Pn**	**09 46 30.8**	**+0.9**
MAT				S	**Sn**	**09 47 26.9**	**-1.5**
MJB9	**Matsu-Tunnel**	**5.15**	**264**		**Pn**	**09 46 30.6**	**+0.7**
JKB	**Kayabe**	**5.41**	**331**	P	**Pn**	**09 46 33.7**	**+0.3**
JKB				*e*S	**Sn**	**09 47 30.8**	**-3.8**
JCH	**Churui**	**5.47**	**351**	P	**Pn**	**09 46 33.4**	**-0.8**
JCH				*e*S	**Sn**	**09 47 32.3**	**-3.9**
JHJ2	**Mitsune**	**5.66**	**225**	P	**Pn**	**09 46 34.6**	**-2.3**
JHJ2	**Mitsune**	**5.66**	**225**	Pn	**Pn**	**09 46 35.0**	**-1.8**
JHJ2				Sn	**Sn**	**09 47 34.9**	**-6.0**
JHJ	**Hachijo jima 2**	**5.67**	**225**	Pn	Pn	09 46 34.3	-2.8
	21nm,0.3s,baz=328,slow=23,SNR=12						
JHJ				Sn	Sn	09 47 34.7	-6.5
	40nm,0.3s,baz=79,slow=16,SNR=5.0						
NEM2	**Nemuro 2**	**6.20**	**8**	P	Pn	09 46 41.7	-2.6
NEM2				*e*S	Sn	09 47 47.3	-6.9
INU	**Inuyama**	**6.38**	**255**	Pn	**Pn**	**09 46 47.6**	**+0.8**
INU				Sn	**Sn**	**09 47 59.0**	**+0.2**
JTKR	**Abashiri--Toko**	**6.76**	**356**	P	**Pn**	**09 46 51.2**	**-0.8**
JTKR				*e*S	**Sn**	**09 48 03.0**	**-5.0**
JKA	**Kamikawa-asahi**	**7.05**	**348**		**Pn**	**09 46 55.8**	**-0.2**
JKA					**Sn**	**09 48 11.7**	**-3.5**
ASAJ	**Asahikawa**	**7.05**	**348**	Pn	**Pn**	**09 46 55.8**	**-0.2**
	2.3nm,0.3s,baz=183,slow=8.9,SNR=21						
ASAJ				Sn	**Sn**	**09 48 11.7**	**-3.5**
	0.2nm,0.3s,baz=143,slow=20,SNR=2.4						
JCJ	**Chichijima**	**10.30**	**192**	Pn	Pn	09 47 34.6	-6.0
	3.3nm,0.3s,baz=287,slow=19,SNR=4.9						
JCJ				Sn	Sn	09 49 19.9	-15
	3.9nm,0.3s,baz=282,slow=20,SNR=4.7						
USA0B	**Ussuriysk Arra**	**11.82**	**310**	Pn	**Pn**	**09 48 02.6**	**+1.3**
USRK	**Ussuriysk Ar.**	**11.82**	**310**	Pn	**Pn**	**09 48 03.1**	**+1.9**
	baz=127,slow=13,SNR=4.8						
USRK	**Ussuriysk Ar.**	**11.82**	**310**		**Pn**	**09 48 02.8**	**+1.5**
KSRS	**Korea Array**	**13.26**	**276**	LR	LR	09 53 14.9	
	comp=Z,25nm,21.0s,baz=94,slow=36						
KLR	**Kul'dur**	**15.19**	**326**	LR	LR	09 54 56.7	
	comp=Z,28nm,18.1s,baz=146,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.13

4.1nm,0.8s
TKM2 Tokmak 2 7.09 32 ⇑P Pn 10 00 24.5 -0.2
1.0nm,0.3s
TKM2 ⇓S Sn 10 01 44.0 -2.1
2.6nm,0.8s

ISCJB ***05*** *10:06:35.8±0.2, 18°.10S±0°.02×69°.00W±0°.03, h165km±2km, mb4.3/10, Error ellipse: s-maj=4.4km s-min=3.5km az=171.6*
NEIC ***05*** *10:06:36.8±2.6, 18°.04S±0°.05×69°.01W±0°.08, h154km±5km, mb4.7/114*
SCB ***05*** *10:06:36.8±1.7, 18°.00S×69°.16W, h180km±36km, ML4.3/5, Error ellipse: s-maj=6.8km s-min=2.4km az=1.0*
VAO ***05*** *10:06:37.7±0.4, 18°.09S×68°.86W, h154km±3km, mb4.8*
IDC ***05*** *10:06:37.6±1.1, 17°.95S×68°.82W, h160km±8km, mb4.0/9, mb1 4.2/14, mb1mx4.0/32, mbtmp4.6/14, MS3.1/1, Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=16.1km s-min=12.0km az=66.0*
GUC ***05*** *10:06:37.2±0.7, 18°.11S×69°.25W, h153km±4km, ML4.3*
ISC 05 10:06:36.0±0.5, 18°.05S±0°.03×69°.04W±0°.04, h152km±4km, n256, σ1§44/291, mb4.7/54, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.53**	**237**	⇓P			**Pn**	**10 06 59.8**	**+1.4**
PB16				*i* S			**Sn**	**10 07 16.7**	**+1.3**
MNMC	**Minye Minye**	**1.20**	**206**	⇓P			**Pn**	**10 07 04.4**	**+1.5**
MNMC				*e*S			**Sn**	**10 07 24.5**	**+0.7**
MNMC				IAML				10 07 28.6	
comp=E,4μm,0.3s									
MNMC	**Minye Minye**	**1.20**	**206**	P			**Pn**	**10 07 04.5**	**+1.5**
MNMC	**Minye Minye**	**1.20**	**206**	Pn			**Pn**	**10 07 04.3**	**+1.3**
MNMC				Sn			**Sn**	**10 07 25.4**	**+1.7**
BBOJ	**La Paz, Jacaqu**	**1.34**	**37**	P			**Pn**	**10 07 06.7**	**+2.0**
PB12	**IPOC Station P**	**1.34**	**245**	⇑P			**Pn**	**10 07 04.2**	**+0.1**
PB12				*i* S			**Sn**	**10 07 24.8**	**-1.0**
PB12				IAML				10 07 27.4	
comp=N,7μm,0.3s									
BBOD	**La Paz, Gloria**	**1.47**	**17**	P			**Pn**	**10 07 07.6**	**+1.6**
BBOE	**La Paz, Chanca**	**1.59**	**40**	P			**Pn**	**10 07 09.4**	**+2.1**
GO01	**Chusmiza**	**1.62**	**185**	*e*P			**Pn**	**10 07 09.4**	**+2.0**
GO01				*i* S			**Sn**	**10 07 33.9**	**+2.3**
GO01	**Chusmiza**	**1.62**	**185**				**Pn**	**10 07 09.4**	**+2.0**
GO01				Sn			**Sn**	**10 07 33.5**	**+1.9**
PB11	**IPOC Station P**	**1.80**	**199**	⇓*i*P			**Pn**	**10 07 10.1**	**+1.0**
PB11				*i* S			**Sn**	**10 07 35.1**	**+0.5**
PB11				IAML				10 07 37.2	
comp=N,2μm,0.5s									
PB11	**IPOC Station P**	**1.80**	**199**	P			**Pn**	**10 07 10.2**	**+1.1**
PB11	**IPOC Station P**	**1.80**	**199**				**Pn**	**10 07 10.1**	**+1.0**
PB11				Sn			**Sn**	**10 07 35.4**	**+0.7**
PSGC	**Pisagua**	**1.85**	**213**	*e*P			**Pn**	**10 07 09.9**	**+0.3**
PSGC				*i* S			**Sn**	**10 07 34.5**	**-1.0**
PSGC	**Pisagua**	**1.85**	**213**	P			**Pn**	**10 07 09.9**	**+0.3**
PSGC				S			**Sn**	**10 07 35.0**	**-0.5**
PSGC				AML			AML	10 07 36.1	
comp=N,778nm,0.1s									
BS09	**Huarina**	**1.90**	**13**	P			**Pn**	**10 07 12.5**	**+1.9**
LPAZ	**La Paz**	**1.96**	**27**	P			**Pn**	**10 07 12.8**	**+1.5**
LPAZ				S			**Sn**	**10 07 38.1**	**-0.4**
LPAZ				AML			AML	10 07 40.5	
comp=N,830nm,0.7s									
LPAZ	**La Paz**	**1.96**	**27**	P			**Pn**	**10 07 12.8**	**+1.5**
comp=N,231nm,0.3s,baz=191,slow=3.4,SNR=4818									
LPAZ				S			**Sn**	**10 07 38.0**	**-0.4**
comp=N,86nm,0.3s,baz=296,slow=24,SNR=14									
LPAZ				LR			LR	10 08 07.3	
comp=N,196nm,20.2s,baz=216,slow=50									
LPAZ	**La Paz**	**1.96**	**27**				**Pn**	**10 07 12.8**	**+1.5**
LPAZ				Sn			**Sn**	**10 07 39.0**	**+0.5**
LPAZ	**La Paz**	**1.96**	**27**	*e*P			**Pn**	**10 07 12.9**	**+1.5**
LPAZ				*e*S			**Sn**	**10 07 39.1**	**+0.6**
LPAZ	**La Paz**	**1.96**	**27**	*e*P			**Pn**	**10 07 12.9**	**+1.5**
LPAZ				*e*S			**Sn**	**10 07 39.1**	**+0.6**
PB08	**IPOC Station P**	**2.08**	**183**	*e*P			**Pn**	**10 07 14.5**	**+1.9**
PB08				*i* S			**Sn**	**10 07 42.5**	**+1.6**
PB08	**IPOC Station P**	**2.08**	**183**	P			**Pn**	**10 07 14.5**	**+1.9**
PB08				S			**Sn**	**10 07 42.4**	**+1.6**
PB08				AML			AML	10 07 44.1	
comp=N,704nm,0.4s									
BBOB	**La Paz, Bander**	**2.09**	**25**	P			**Pn**	**10 07 14.1**	**+1.3**
BS05	**Cuyupaya**	**2.25**	**63**	P			**Pn**	**10 07 16.5**	**+1.8**
PB01	**IPOC Station P**	**3.01**	**188**	*e*P			**Pn**	**10 07 24.5**	**+0.9**
PB01				*i* S			**Sn**	**10 08 00.1**	**-0.5**
PB01				IAML				10 08 01.9	
comp=N,1μm,0.6s									
PB01	**IPOC Station P**	**3.01**	**188**	P			**Pn**	**10 07 24.5**	**+0.9**
PB01				S			**Sn**	**10 07 58.9**	**-1.6**
PB01				AML			AML	10 08 00.5	
comp=N,916nm,0.2s									
PB01	**IPOC Station P**	**3.01**	**188**				**Pn**	**10 07 24.6**	**+0.9**
PB01				Sn			**Sn**	**10 07 59.8**	**-0.7**
PB02	**IPOC Station P**	**3.35**	**194**	P			**Pn**	**10 07 29.0**	**+1.0**
PB09	**IPOC Station P**	**3.73**	**183**	*e*P			**Pn**	**10 07 34.2**	**+1.2**
PB09				*i* S			**Sn**	**10 08 16.3**	**-1.0**
PB07	**IPOC Station P**	**3.74**	**192**	*e*P			**Pn**	**10 07 33.6**	**+0.5**
PB07				*i* S			**Sn**	**10 08 15.6**	**-2.0**
PB04	**IPOC Station P**	**4.39**	**194**	P			**Pn**	**10 07 41.5**	**0.0**
PB04	**IPOC Station P**	**4.39**	**194**				**Pn**	**10 07 41.7**	**+0.2**
PB04				Sn			**Sn**	**10 08 28.8**	**-3.8**
LVC	**Limon Verde**	**4.54**	**178**	P			**Pn**	**10 07 44.9**	**+1.2**
comp=N,20nm,0.3s,baz=34,slow=11,SNR=215									
LVC				S			**Sn**	**10 08 35.7**	**-0.6**
comp=N,57nm,0.3s,baz=278,slow=23,SNR=20									
LVC	**Limon Verde**	**4.54**	**178**				**Pn**	**10 07 45.5**	**+1.8**
LVC				Sn			**Sn**	**10 08 35.0**	**-1.4**
LVC	**Limon Verde**	**4.54**	**178**	*e*P			**Pn**	**10 07 45.2**	**+1.5**
LVC				*e*S			**Sn**	**10 08 35.8**	**-0.6**
LVC	**Limon Verde**	**4.54**	**178**	*e*P			**Pn**	**10 07 45.2**	**+1.5**
LVC				*e*S			**Sn**	**10 08 35.8**	**-0.6**
PB06	**IPOC Station P**	**4.66**	**186**	P			**Pn**	**10 07 45.4**	**+0.3**
PB06				S			**Sn**	**10 08 35.2**	**-3.8**
PB06				AML			AML	10 08 39.7	
comp=N,519nm,0.6s									
BS08	**Valle Grande**	**4.71**	**96**	P			**Pn**	**10 07 46.5**	**+0.7**
BS06	**Camiri**	**5.59**	**112**	P			**Pn**	**10 07 58.3**	**+1.0**
PB10	**IPOC Station P**	**5.62**	**194**	P			**Pn**	**10 07 56.6**	**-1.0**
PB10	**IPOC Station P**	**5.62**	**194**				**Pn**	**10 07 56.7**	**-0.9**
PB10				Sn			**Sn**	**10 08 57.5**	**-4.0**
GO02	**Mina Guanaco**	**7.10**	**184**				**Pn**	**10 08 16.6**	**-1.0**
GO02				Sn			**Sn**	**10 09 35.8**	**-1.6**
SIV	**San Ignacio**	**7.89**	**76**	P			**Pn**	**10 08 26.0**	**-2.0**
comp=N,6.9nm,0.3s,baz=266,slow=8.9,SNR=56									
SIV				S			**Sn**	**10 09 50.5**	**-5.6**
comp=N,2.3nm,0.3s,baz=352,slow=18,SNR=10									
GO03	**Copiap**	**9.56**	**186**				**Pn**	**10 08 48.3**	**-1.9**
GO03				Sn			**Sn**	**10 10 31.3**	**-5.0**
NNA	**Nana**	**9.65**	**308**	P			**Pn**	**10 08 49.8**	**-1.6**
NNA	**Nana**	**9.65**	**308**	P			**Pn**	**10 08 49.6**	**-1.8**
comp=N,37nm,0.3s,baz=137,slow=12,SNR=62									
NNA				S			**Sn**	**10 10 30.4**	**-8.0**
comp=N,9.6nm,0.3s,baz=222,slow=16,SNR=4.7									
NNA	**Nana**	**9.65**	**308**				**Pn**	**10 08 49.8**	**-1.6**
NNA				Sn			**Sn**	**10 10 37.5**	**-0.9**
SAML	**Samuel**	**10.69**	**33**				**Pn**	**10 09 02.9**	**-2.2**
SAML				Sn			**Sn**	**10 10 58.6**	**-4.8**
GO04	**Tololo Observa**	**12.18**	**187**				**Pn**	**10 09 22.7**	**-2.0**
AQDB	**Aquidauana**	**12.83**	**103**	*e*P			**Pn**	**10 09 31.8**	**-1.1**
AQDB	**Aquidauana**	**12.83**	**103**	*e*P			**Pn**	**10 09 31.8**	**-1.1**
CPUP	**Villa Florida**	**13.62**	**129**	P			**Pn**	**10 09 41.5**	**-1.5**
comp=N,0.9nm,0.3s,baz=316,slow=12,SNR=18									
CPUP				LR			LR	10 15 43.7	
comp=N,85nm,19.7s,baz=214,slow=40									
CPUP	**Villa Florida**	**13.62**	**129**				**Pn**	**10 09 42.9**	**-0.1**
ATAH	**Atahualpa**	**14.17**	**319**	P			**Pn**	**10 09 51.2**	**+0.8**
comp=N,1.0nm,0.3s,baz=150,slow=7.3,SNR=8.4									
CLDB	**Colider**	**14.67**	**63**	*e*P			**Pn**	**10 09 55.3**	**-1.0**
CLDB	**Colider**	**14.67**	**63**	*e*P			**Pn**	**10 09 55.3**	**-1.0**
ROC1	**El Roble**	**14.97**	**186**	Pn			**Pn**	**10 09 59.0**	**-1.2**
C2SB	**Chapadao do Su**	**15.40**	**95**	*e*P			**P**	**10 10 06.0**	**-0.5**
C2SB	**Chapadao do Su**	**15.40**	**95**	*e*P			**P**	**10 10 06.0**	**-0.5**
TRCB	**Terra Rica**	**16.09**	**110**	*e*P			**P**	**10 10 14.2**	**0.0**
TRCB	**Terra Rica**	**16.09**	**110**	*e*P			**P**	**10 10 14.2**	**0.0**
GO05	**Huala**	**17.09**	**188**	P			**Pn**	**10 10 25.5**	**-0.2**
GO05				IAmb			IAmb	10 11 03.7	
comp=Z,48nm,1.6s									
PTGB	**Pitanga**	**17.14**	**116**	*e*P			**Pn**	**10 10 26.6**	**0.0**
PTGB	**Pitanga**	**17.14**	**116**	*e*P			**Pn**	**10 10 26.6**	**0.0**
ITAB	**Concordia**	**18.07**	**123**	*e*P			**P**	**10 10 36.0**	**+0.1**
ITAB	**Concordia**	**18.07**	**123**	*e*P			**P**	**10 10 36.0**	**+0.1**
FRTB	**Fartura**	**18.96**	**109**	*e*P			**P**	**10 10 45.6**	**-0.1**
FRTB	**Fartura**	**18.96**	**109**	*e*P			**P**	**10 10 45.6**	**-0.1**
PTGA	**Pitinga**	**19.38**	**28**	P			**P**	**10 10 49.0**	**-1.3**
comp=Z,7.3nm,0.3s,baz=212,slow=16,SNR=72									
PTGA	**Pitinga**	**19.38**	**28**	P			**P**	**10 10 49.4**	**-0.9**
PTGA				IAmb			IAmb	10 10 49.8	
comp=Z,22nm,0.3s									
PTGA	**Pitinga**	**19.38**	**28**	*e*P			**P**	**10 10 49.3**	**-0.9**
PTGA	**Pitinga**	**19.38**	**28**	*e*P			**P**	**10 10 49.3**	**-0.9**
PLTB	**Pedras Altas**	**19.53**	**137**	*e*P			**P**	**10 10 51.6**	**-0.1**
PLTB	**Pedras Altas**	**19.53**	**137**	*e*P			**P**	**10 10 51.6**	**-0.1**
BB19B	**Bebedouro**	**19.56**	**102**	*e*P			**P**	**10 10 52.0**	**-0.2**
BB19B	**Bebedouro**	**19.56**	**102**	*e*P			**P**	**10 10 52.0**	**-0.2**
CNLB	**Canela**	**20.05**	**127**	*e*P			**P**	**10 10 57.8**	**+0.4**
CNLB	**Canela**	**20.05**	**127**	*e*P			**P**	**10 10 57.8**	**+0.4**
BDFB	**Brasilia**	**20.27**	**86**	P			**P**	**10 10 59.2**	**-0.7**
comp=Z,19nm,0.5s,baz=259,slow=11,SNR=19									
BDFB	**Brasilia**	**20.27**	**86**	P			**P**	**10 10 59.7**	**-0.2**
BDFB				IAmb			IAmb	10 11 03.3	
comp=Z,20nm,0.6s									
OTAV	**Otavalo**	**20.39**	**332**	P			**P**	**10 11 02.6**	**+1.0**
OTAV	**Otavalo**	**20.39**	**332**	*e*P			Pn	10 11 04.5	-0.9
OTAV	**Otavalo**	**20.39**	**332**	*e*P			Pn	10 11 04.5	-0.9
RCLB	**Rio Claro- Sao**	**20.64**	**106**	*e*P			**P**	**10 11 03.5**	**-0.3**
RCLB	**Rio Claro- Sao**	**20.64**	**106**	*e*P			**P**	**10 11 03.5**	**-0.3**
OGAUY	**Aigu**	**20.66**	**145**	*e*P			**P**	**10 11 03.8**	**0.0**
OGAUY	**Aigu**	**20.66**	**145**	*e*P			**P**	**10 11 03.8**	**0.0**
JUQB	**Juquia**	**20.78**	**110**	*e*P			**P**	**10 11 04.2**	**-1.0**
JUQB	**Juquia**	**20.78**	**110**	*e*P			**P**	**10 11 04.2**	**-1.0**
TRQA	**Tornquist**	**20.87**	**164**	P			**P**	**10 11 06.7**	**+0.6**
TRQA	**Tornquist**	**20.87**	**164**	*e*P			**P**	**10 11 06.7**	**+0.6**
TRQA	**Tornquist**	**20.87**	**164**	*e*P			**P**	**10 11 06.7**	**+0.6**
SPB	**Sao Paulo**	**20.93**	**109**	P			**P**	**10 11 06.4**	**-0.4**
SPB				IAmb			IAmb	10 11 08.2	
comp=Z,38nm,0.9s									
SPB	**Sao Paulo**	**20.93**	**109**	*e*P			**P**	**10 11 06.2**	**-0.6**
SPB	**Sao Paulo**	**20.93**	**109**	*e*P			**P**	**10 11 06.2**	**-0.6**
VAO	**Valinhos**	**21.25**	**107**	*e*P			**P**	**10 11 08.9**	**-1.4**
VAO	**Valinhos**	**21.25**	**107**	*e*P			**P**	**10 11 08.9**	**-1.4**
PMNB	**Patos De Minas**	**21.47**	**95**	*e*P			**P**	**10 11 12.1**	**-0.7**
PMNB	**Patos De Minas**	**21.47**	**95**	*e*P			**P**	**10 11 12.1**	**-0.7**
GO06	**Curarrehue**	**21.56**	**185**	P			**P**	**10 11 12.7**	**-0.8**
PLCA	**Paso Flores**	**22.64**	**183**	P			**P**	**10 11 27.4**	**+3.1**
comp=Z,2.4nm,0.8s,baz=18,slow=7.9,SNR=6.7									
PLCA	**Paso Flores**	**22.64**	**183**	P			**P**	**10 11 26.0**	**+1.7**
PLCA				IAmb			IAmb	10 11 33.4	
comp=Z,36nm,1.9s									
PLCA	**Paso Flores**	**22.64**	**183**	*e*P			**P**	**10 11 26.3**	**+2.0**
PLCA	**Paso Flores**	**22.64**	**183**	*e*P			**P**	**10 11 26.3**	**+2.0**
BSCB	**Bom Sucesso**	**23.05**	**101**	*e*P			**P**	**10 11 28.2**	**-0.1**
BSCB	**Bom Sucesso**	**23.05**	**101**	*e*P			**P**	**10 11 28.2**	**-0.1**
DUB01	**Friburgo-RJ**	**25.35**	**104**	*e*P			**P**	**10 11 49.3**	**+0.1**
DUB01	**Friburgo-RJ**	**25.35**	**104**	*e*P			**P**	**10 11 49.3**	**+0.1**
BSFB	**Barra de Sao F**	**26.75**	**96**	*e*P			**P**	**10 12 01.5**	**-0.1**
BSFB	**Barra de Sao F**	**26.75**	**96**	*e*P			**P**	**10 12 01.5**	**-0.1**
NBLA	**Lagarto - SE**	**31.02**	**81**	*e*P			**P**	**10 12 39.1**	**-0.4**
NBLA	**Lagarto - SE**	**31.02**	**81**	*e*P			**P**	**10 12 39.1**	**-0.4**
NBAN	**Anadia - AL**	**32.84**	**80**	*e*P			**P**	**10 12 55.0**	**-0.5**
NBAN	**Anadia - AL**	**32.84**	**80**	*e*P			**P**	**10 12 55.0**	**-0.5**
CRPR	**Cabo Rojo, PR**	**35.88**	**3**	P			**P**	**10 13 20.4**	**-1.0**
CRPR				IAmb			IAmb	10 14 10.5	
comp=Z,37nm,1.5s									
DR12	**Loma Pena Alta**	**36.61**	**359**	P			**P**	**10 13 26.2**	**-1.5**
CCIG	**Comitan**	**41.00**	**325**	P			**P**	**10 14 06.5**	**+2.0**
CCIG				IAmb			IAmb	10 14 38.7	
comp=Z,26nm,1.5s									
TEIG	**Tepich**	**42.46**	**333**	P			**P**	**10 14 16.1**	**+0.1**
453A	**Whigham**	**50.79**	**343**	P			**P**	**10 15 21.8**	**+1.0**
ZAIG	**Zacatecas**	**52.15**	**320**	P			**P**	**10 15 32.8**	**+1.4**
Z50A	**Ashland**	**53.50**	**342**	P			**P**	**10 15 40.4**	**-0.4**
Z50A				IAmb			IAmb	10 17 35.0	
comp=Z,41nm,1.6s									
LRAL	**Lakeview Retre**	**53.62**	**341**	P			**P**	**10 15 40.8**	**-0.8**
Y49A	**Blount Mountai**	**54.21**	**342**	P			**P**	**10 15 45.3**	**-0.6**
Y49A				IAmb			IAmb	10 15 46.9	
comp=Z,40nm,1.6s									
SWET	**Sewanee**	**55.35**	**343**	P			**P**	**10 15 53.5**	**-0.6**
SWET				IAmb			IAmb	10 16 17.8	
comp=Z,30nm,1.5s									
CCAR	**Cane Creek**	**56.04**	**337**	P			**P**	**10 15 59.6**	**+0.6**
V48A	**Smith Brothers**	**56.09**	**343**	P			**P**	**10 15 58.6**	**-0.7**
V48A				IAmb			IAmb	10 17 00.9	
comp=Z,31nm,1.7s									
WLAR	**White Oak Lake**	**56.34**	**336**	P			**P**	**10 16 02.6**	**+1.5**
WLAR				IAmb			IAmb	10 16 02.7	
comp=Z,16nm,0.7s									
JCT	**Junction City**	**56.61**	**328**	P			**P**	**10 16 03.5**	**+0.3**
JCT				IAmb			IAmb	10 16 04.8	
comp=Z,4.6nm,0.7s									
WHTX	**Lake Whitney,**	**56.72**	**331**	P			**P**	**10 16 03.5**	**-0.4**
WVT	**Waverly**	**56.74**	**342**	P			**P**	**10 16 03.2**	**-0.7**
WVT				IAmb			IAmb	10 16 53.3	
comp=Z,25nm,1.6s									
T49A	**Edmonton**	**57.02**	**344**	P			**P**	**10 16 05.7**	**-0.2**
MIAR	**Mount Ida**	**57.28**	**336**	P			**P**	**10 16 08.0**	**+0.3**
MIAR				IAmb			IAmb	10 18 04.0	
comp=Z,33nm,1.8s									
T47A	**Sharon Grove**	**57.33**	**343**	P			**P**	**10 16 07.7**	**-0.4**
W41B	**Gary Mavity, V**	**57.33**	**337**	P			**P**	**10 16 08.2**	**+0.1**
LCAR	**Lake Charles**	**57.75**	**339**	P			**P**	**10 16 10.0**	**-1.0**
LCAR				IAmb			IAmb	10 16 11.3	
comp=Z,15nm,1.1s									
TX31	**Lajitas Ar. Si**	**57.76**	**324**	P			**P**	**10 16 10.9**	**-0.4**
TX31				IAmb			IAmb	10 17 25.1	
comp=Z,8.8nm,1.6s									
TX32	**Lajitas Array**	**57.76**	**324**	P			**P**	**10 16 10.8**	**-0.6**
TX32				IAmb			IAmb	10 17 25.0	
comp=Z,10nm,1.8s									
TXAR	**Lajitas Array**	**57.76**	**324**	P			**P**	**10 16 11.5**	**+0.2**
comp=Z,0.7nm,0.5s,baz=151,slow=7.5,SNR=19									
TXAR				pP			**pP**	**10 16 50.5**	**+2.3**
comp=Z,0.8nm,0.7s,baz=147,slow=7.5,SNR=4.4									
TXAR	**Lajitas Array**	**57.76**	**324**	P			**P**	**10 16 11.3**	**0.0**
PARMO	**Parma**	**57.83**	**340**	P			**P**	**10 16 11.9**	**+0.4**
FCAR	**Ozark Folk Cen**	**57.93**	**338**	P			**P**	**10 16 11.4**	**-0.9**
FCAR				IAmb			IAmb	10 16 12.1	
comp=Z,6.8nm,0.8s									
PBMO	**Poplar Bluff**	**58.15**	**340**	P			**P**	**10 16 13.4**	**-0.3**
ABTX	**Abilene, Hawle**	**58.28**	**330**	P			**P**	**10 16 14.8**	**0.0**
ABTX				IAmb			IAmb	10 16 16.4	
comp=Z,12nm,0.9s									
U40A	**Yellville**	**58.61**	**338**	P			**P**	**10 16 16.8**	**-0.2**
U40A				IAmb			IAmb	10 16 17.7	
comp=Z,11nm,0.8s									
SIUC	**Southern Illin**	**58.63**	**341**	P			**P**	**10 16 17.0**	**0.0**
SIUC				IAmb			IAmb	10 16 17.6	
comp=Z,14nm,0.7s									
HHAR	**Hobbs**	**58.95**	**337**	P			**P**	**10 16 19.0**	**-0.4**
HHAR				IAmb			IAmb	10 16 20.1	
comp=Z,9.5nm,0.9s									
MGMO	**Mountain Grove**	**59.11**	**338**	P			**P**	**10 16 20.3**	**-0.2**
MGMO				IAmb			IAmb	10 16 21.1	
comp=Z,11nm,0.8s									
CCM	**Cathedral Cave**	**59.58**	**340**	P			**P**	**10 16 23.3**	**-0.3**
GDL2	**Guadalupe Moun**	**60.34**	**326**	P			**P**	**10 16 30.2**	**+1.1**
P43A	**Skaggs, Pawnee**	**60.49**	**342**	P			**P**	**10 16 28.6**	**-1.1**
P43A				IAmb			IAmb	10 16 29.6	
comp=Z,16nm,1.0s									
MNTX	**Cornudas Mount**	**60.51**	**325**	P			**P**	**10 16 30.0**	**-0.2**
MSTX	**Muleshoe**	**60.90**	**328**	P			**P**	**10 16 33.2**	**+0.3**
MSTX				IAmb			IAmb	10 16 34.0	
comp=Z,7.4nm,0.8s									
N41A	**Harden Midland**	**61.87**	**341**	P			**P**	**10 16 38.5**	**-0.6**
N41A				IAmb			IAmb	10 16 39.0	
comp=Z,16nm,0.8s									
319A	**Douglas**	**62.51**	**321**	P			**P**	**10 16 45.0**	**+1.3**
319A				IAmb			IAmb	10 16 46.1	
comp=Z,9.7nm,1.1s									
DELO	**Deloro Mine**	**62.75**	**353**	P			**P**	**10 16 44.9**	**+0.1**
G65A	**Princeton**	**62.96**	**1**	P			**P**	**10 16 46.4**	**+0.3**
G62A	**West of Eustis**	**62.98**	**359**	P			**P**	**10 16 47.0**	**+0.7**
PKME	**Peaks-Kenny Pk**	**63.01**	**360**	P			**P**	**10 16 46.7**	**+0.2**
LENM	**Lemitar**	**63.25**	**325**	P			**P**	**10 16 48.8**	**+0.2**
ANMO	**Albuquerque**	**63.57**	**326**	P			**P**	**10 16 51.7**	**+1.0**
ANMO				IAmb			IAmb	10 18 33.0	
comp=Z,10.0nm,1.9s									
SCIA	**State Center**	**63.71**	**340**	P			**P**	**10 16 51.3**	**+0.1**
JFWS	**Jewell Farm**	**63.72**	**343**	P			**P**	**10 16 50.7**	**-0.6**
I42A	**Draeger Farm,**	**64.27**	**344**	P			**P**	**10 16 54.1**	**-0.7**
BGNE	**Belgrade**	**65.02**	**336**	P			**P**	**10 17 00.4**	**+0.6**
SDCO	**Great Sand Dun**	**65.24**	**329**	P			**P**	**10 17 03.0**	**+1.4**
SDCO				IAmb			IAmb	10 17 03.9	
comp=Z,4.7nm,0.9s									
D53A	**Lac Vacive, Po**	**65.29**	**353**	P			**P**	**10 17 01.2**	**-0.1**
SNAA	**Sanae**	**65.57**	**161**	P			**P**	**10 17 04.8**	**+1.8**
VLDQ	**Val d'Or**	**66.29**	**354**	P			**P**	**10 17 08.0**	**+0.3**
MVCO	**Mesa Verde**	**66.36**	**326**	P			**P**	**10 17 10.4**	**+1.7**
MVCO				IAmb			IAmb	10 17 20.4	
comp=Z,26nm,1.9s									
COWI	**Conover**	**66.39**	**345**	P			**P**	**10 17 09.3**	**+0.9**
ECSD	**EROS Data Cent**	**66.47**	**339**	P			**P**	**10 17 09.6**	**+0.5**
ECSD				IAmb			IAmb	10 17 11.3	
comp=Z,29nm,1.8s									
SPMN	**Marine on St.**	**66.58**	**342**	P			**P**	**10 17 09.8**	**+0.1**
SPMN				IAmb			IAmb	10 17 10.2	
comp=Z,12nm,0.7s									
WUAZ	**Wupatki**	**66.69**	**323**	P			**P**	**10 17 12.2**	**+1.4**
WUAZ				IAmb			IAmb	10 17 14.2	
comp=Z,6.0nm,1.1s									
ISCO	**Idaho Springs**	**66.90**	**330**	P			**P**	**10 17 11.5**	**-0.7**
SMCO	**Snowmass**	**67.08**	**329**	P			**P**	**10 17 13.1**	**-0.4**
SMCO				IAmb			IAmb	10 17 15.9	
comp=Z,4.2nm,0.7s									
PV01	**Paradox Valley**	**67.09**	**327**	P			**P**	**10 17 13.4**	**+0.1**
PV13	**Radium Mtn., P**	**67.24**	**327**	P			**P**	**10 17 14.8**	**+0.5**
PV13				IAmb			IAmb	10 19 26.9	
comp=Z,21nm,1.8s									
PV11	**David Mesa, Pa**	**67.37**	**327**	P			**P**	**10 17 17.6**	**+2.5**
PV11				IAmb			IAmb	10 18 58.8	
comp=Z,30nm,2.0s									
LIC	**Lamto**	**67.59**	**75**	*e*P			**P**	**10 17 16.7**	**0.0**
comp=Z,46nm,1.6s									
TIC	**Toumodi**	**67.75**	**75**	*e*P			**P**	**10 17 18.0**	**+0.2**
W13A	**Hualapai Mount**	**67.86**	**321**	P			**P**	**10 17 20.0**	**+1.8**
U15A	**North Rim**	**67.86**	**323**	P			**P**	**10 17 19.7**	**+1.4**
KIC	**Kosan Boka**	**67.90**	**75**	*e*P			**P**	**10 17 18.4**	**-0.3**
comp=Z,53nm,1.2s									
DBIC	**Dimbokro**	**67.91**	**75**	P			**P**	**10 17 18.4**	**-0.4**
comp=Z,10nm,0.8s,baz=235,slow=6.5,SNR=8.9									
DBIC	**Dimbokro**	**67.91**	**75**	P			**P**	**10 17 18.8**	**0.0**
DBIC				IAmb			IAmb	10 18 49.5	
comp=Z,17nm,0.8s									
PHWY	**Pilot Hill**	**68.02**	**331**	P			**P**	**10 17 19.0**

ISC 05 10:29:04.0±0.8, 56°.7S±0°.2×150°.9W±0°.1, h10km, n41, σ0°97/26, mb4.2/11, MS3.6/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.65**	**199**	P	**P**	**10 34 34.9**	**+1.6**
SBA				IAmb	IAmb	10 34 49.0	
	comp=Z,8.8nm,1.5s						
TBI	**Tubuai**	**33.32**	**2**	*e*LR	LR	10 44 28.4	
	comp=Z,97nm,27.5s						
TBI	**Tubuai**	**33.32**	**2**	*e*T	T	11 10 35.6	
	comp=Z,33nm,0.4s						
QSPA	**South Pole Qui**	**33.46**	**180**	P	**P**	**10 35 41.6**	**-1.3**
	comp=Z,5.1nm,1.0s,baz=65,slow=4.0,SNR=10						
QSPA	**South Pole Qui**	**33.46**	**180**	P	**P**	**10 35 42.2**	**-0.6**
MEH	**Mehetia**	**38.80**	**4**	*e*T	T	11 17 27.4	
	comp=Z,7.0nm,0.2s						
TVO	**Taravao**	**38.86**	**3**	*e*T	T	11 17 30.9	
	comp=Z,0.9nm,0.3s						
PAE	**Paea**	**38.97**	**2**	*e*T	T	11 17 39.3	
	comp=Z,1.1nm,0.3s						
PPT2	**Papeete2**	**39.04**	**2**	*e*LR	LR	10 47 04.8	
	comp=Z,107nm,28.0s						
PPT2	**Papeete2**	**39.04**	**2**	*e*T	T	11 17 45.3	
	comp=Z,1.6nm,0.3s						
PPT	**Papeete**	**39.06**	**2**	LR	LR	10 48 09.5	
	comp=Z,73nm,18.8s,baz=192,slow=29						
VAH	**Vaihoa**	**41.45**	**5**	*e*T	T	11 20 45.2	
	comp=Z,56nm,0.3s						
CASY	**Casey**	**43.16**	**216**	P	**P**	**10 37 04.6**	**+0.5**
CASY				IAmb	IAmb	10 37 05.7	
	comp=Z,4.8nm,0.9s						
STKA	**Stephens Creek**	**51.83**	**269**	P	**P**	**10 38 13.7**	**+1.8**
	comp=Z,3.0nm,0.8s,baz=126,slow=6.6,SNR=8.4						
STKA				LR	LR	10 55 01.6	
	comp=Z,70nm,20.6s,baz=203,slow=30						
STKA	**Stephens Creek**	**51.83**	**269**	P	**P**	**10 38 12.2**	**+0.3**
PLCA	**Paso Flores**	**52.25**	**109**	P	**P**	**10 38 14.8**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=254,slow=12,SNR=4.3						
PLCA	**Paso Flores**	**52.25**	**109**	P	**P**	**10 38 15.8**	**+0.7**
PLCA				IAmb	IAmb	10 38 28.9	
	comp=Z,5.5nm,1.4s						
MAW	**Mawson**	**53.52**	**195**	P	**P**	**10 38 23.2**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=152,slow=3.2,SNR=6.1						
MAW				LR	LR	10 57 49.3	
	comp=Z,64nm,19.5s,baz=244,slow=32						
MAW	**Mawson**	**53.52**	**195**	P	**P**	**10 38 23.3**	**-0.6**
FORT	**Forrest**	**60.08**	**259**	P	**P**	**10 39 11.2**	**+0.1**
AS31	**Alice Springs**	**62.46**	**268**	P	**P**	**10 39 25.3**	**-2.1**
AS31				IAmb	IAmb	10 39 27.7	
	comp=Z,2.2nm,1.3s						
ASAR	**Alice Springs**	**62.46**	**268**	P	**P**	**10 39 26.9**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=139,slow=6.7,SNR=37						
ASAR				LR	LR	11 03 42.0	
	comp=Z,69nm,18.6s,baz=156,slow=33						
ASAR	**Alice Springs**	**62.46**	**268**	P	**P**	**10 39 27.2**	**-0.1**
H01W1	**Cape Leeuwin H**	**64.16**	**246**	T	T	11 49 42.2	
	baz=142,slow=76						
H01W2	**Cape Leeuwin H**	**64.16**	**245**	T	T	11 49 40.7	
	baz=142,slow=76						
H01W3	**Cape Leeuwin H**	**64.17**	**246**	T	T	11 49 41.6	
	baz=142,slow=76						
WRA	**Warramunga Arr**	**65.20**	**271**	P	**P**	**10 39 45.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=150,slow=5.9,SNR=6.0						
WRA	**Warramunga Arr**	**65.20**	**271**	P	**P**	**10 39 46.3**	**+0.9**
CPUP	**Villa Florida**	**70.31**	**108**	P	**P**	**10 40 18.0**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=193,slow=11,SNR=4.6						
CPUP	**Villa Florida**	**70.31**	**108**	P	**P**	**10 40 18.1**	**+0.5**
CPUP				IAmb	IAmb	10 40 22.0	
	comp=Z,0.6nm,0.8s						
LPAZ	**La Paz**	**72.60**	**93**	P	**P**	**10 40 33.6**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=133,slow=1.0,SNR=5.3						
LPAZ	**La Paz**	**72.60**	**93**	P	**P**	**10 40 30.8**	**-1.4**
LPAZ				IAmb	IAmb	10 40 35.7	
	comp=Z,2.7nm,0.9s						
H10N3	**ASCENSION HYDR**	**106.44**	**135**	T	T	12 43 01.4	
	baz=203,slow=75						
H10N1	**ASCENSION HYDR**	**106.44**	**135**	T	T	12 43 03.6	
	baz=203,slow=75						
H10N2	**ASCENSION HYDR**	**106.46**	**135**	T	T	12 42 53.2	
	baz=203,slow=75						
ILAR	**Eielson Array**	**121.17**	**2**	PKP	**PKPdf**	**10 47 54.9**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=228,slow=2.0,SNR=7.9						
ILAR	**Eielson Array**	**121.17**	**2**		**PKiKP**	**10 47 55.5**	**0.0**
MKAR	**Makanchi Array**	**146.41**	**276**	PKPbc	**PKPbc**	**10 48 43.4**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=121,slow=4.7,SNR=29						
MKAR	**Makanchi Array**	**146.41**	**276**		**PKPbc**	**10 48 43.6**	**-0.6**
ZALV	**Zalesovo Beam**	**148.91**	**289**	PKPbc	**PKPbc**	**10 48 49.8**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=111,slow=3.9,SNR=7.3						
ZALV	**Zalesovo Beam**	**148.91**	**289**		**PKPbc**	**10 48 50.0**	**-0.6**

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*NEIC **05** 10:32:00.6±2.1, 20°.7S±0°.1×178°.6W±0°.1, h525km±8km, mb4.3/19*
*ISCJB **05** 10:32:01.4±0.4, 20°.72S±0°.06×178°.63W±0°.06, h550km, mb3.5/7, Error ellipse: s-maj=8.8km s-min=6.8km az=139.2*
*IDC **05** 10:32:10.9±8.4, 20°.67S×178°.77W, h655km±94km, mb3.0/7, mb1 3.2/7, mb1mx2.9/32, mbtmp4.0/7, Error ellipse: s-maj=66.0km s-min=28.8km az=128.0*

ISC 05 10:32:01.7±0.6, 20°.69S±0°.08×178°.46W±0°.08, h550km, n35, σ1°10/38, mb4.1/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.19**	**80**	P	**P**	**10 34 00.1**	**-1.3**
NIUE				S	**S**	**10 35 41.0**	**+1.6**
RAO	**Raoul Island**	**8.54**	**177**	P	**P**	**10 34 03.9**	**-0.8**
RAO				S	**S**	**10 35 46.2**	**+0.6**
AFI	**Afiamalu**	**9.28**	**44**	P	**P**	**10 34 10.2**	**-2.3**
AFI				S	**S**	**10 36 01.2**	**+1.4**
DZM	**Mont Dzumac**	**14.13**	**262**	P	P	10 34 56.2	-6.1
BKZ	**Black Stump Fm**	**18.92**	**192**	P	**P**	**10 35 47.3**	**-0.5**
BKZ				IAmb	IAmb	10 36 03.0	
	comp=Z,24nm,1.5s						
BFZ	**Birch Farm**	**20.43**	**192**	P	**P**	**10 36 01.9**	**+0.4**
MSWZ	**Moikau Station**	**21.34**	**193**	P	**P**	**10 36 10.9**	**+1.2**
NNZ	**Nelson**	**21.61**	**197**	P	**P**	**10 36 12.3**	**+0.3**
THZ	**Tophouse**	**22.25**	**197**	P	**P**	**10 36 18.1**	**+0.3**
THZ				IAmb	IAmb	10 36 36.0	
	comp=Z,13nm,1.0s						
LTZ	**Lake Taylor**	**23.37**	**197**	P	**P**	**10 36 26.7**	**-1.1**
WHZ	**Wether Hill Ro**	**27.51**	**201**	P	**P**	**10 37 03.7**	**-0.6**
CTAO	**Charters Tower**	**33.04**	**265**	P	**P**	**10 37 53.4**	**+1.2**
CTAO				IAmb	IAmb	10 38 04.4	
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**42.08**	**244**	P	**P**	**10 39 05.7**	**-0.1**
BBOO				IAmb	IAmb	10 39 21.4	
	comp=Z,15nm,1.4s						
JAY	**Jayapura**	**43.70**	**289**	P	**P**	**10 39 19.5**	**+0.8**
	comp=Z,3.4nm,0.4s,baz=125,slow=18,SNR=3.5						
WR0	**Warramunga Arr**	**43.96**	**262**	P	**P**	**10 39 20.1**	**-0.5**
WR0				IAmb	IAmb	10 39 23.4	
	comp=Z,6.5nm,1.3s						
AS31	**Alice Springs**	**44.06**	**257**	P	**P**	**10 39 21.1**	**-0.3**
ASAR	**Alice Springs**	**44.06**	**257**	P	**P**	**10 39 21.9**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=96,slow=7.6,SNR=46						
ASAR				PcP	**PcP**	**10 40 53.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=102,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**44.06**	**257**	P	**P**	**10 39 21.2**	**-0.2**
WB0	**Warramunga Arr**	**44.13**	**263**	P	**P**	**10 39 22.0**	**0.0**
WB0				IAmb	IAmb	10 39 22.5	
	comp=Z,10.0nm,1.5s						
WB2	**Warramunga Arr**	**44.14**	**262**	P	**P**	**10 39 21.8**	**-0.3**
WRAB	**Tennant Creek**	**44.14**	**262**	P	**P**	**10 39 20.4**	**-1.7**
WRAB				IAmb	IAmb	10 39 33.5	
	comp=Z,7.0nm,1.4s						
WRA	**Warramunga Arr**	**44.15**	**262**	P	**P**	**10 39 21.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=98,slow=7.6,SNR=36						
WRA	**Warramunga Arr**	**44.15**	**262**	P	**P**	**10 39 21.3**	**-0.8**
MTN	**Manton Dam**	**48.73**	**271**	P	**P**	**10 39 57.0**	**+0.1**
MTN				IAmb	IAmb	10 40 04.5	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**50.22**	**267**	P	**P**	**10 40 08.4**	**+0.6**
KNRA				IAmb	IAmb	10 40 23.5	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.58**	**263**	P	**P**	**10 40 24.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=100,slow=6.1,SNR=3.4						
FITZ	**Fitzroy Crossi**	**52.58**	**263**	P	**P**	**10 40 23.9**	**-0.8**
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**10 42 15.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**76.34**	**345**	P	**P**	**10 42 55.8**	**+1.6**
PEA0B				IAmb	IAmb	10 43 03.3	
	comp=Z,29nm,1.3s						
PETK	**Petropavlovsk-**	**76.34**	**345**	P	**P**	**10 42 54.3**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=145,slow=5.3,SNR=3.0						
PETK	**Petropavlovsk-**	**76.34**	**345**	P	**P**	**10 42 55.0**	**+0.8**
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**10 43 55.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=217,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**89.39**	**43**	P	**P**	**10 44 01.6**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=222,slow=6.1,SNR=2.3						
PDAR	**Pinedale Array**	**89.39**	**43**	P	**P**	**10 44 01.3**	**+1.0**
AKASG	**Malin Array Be**	**142.97**	**331**	PKP	**PKPdf**	**10 50 29.4**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=42,slow=3.7,SNR=4.1						

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*GCG **05** 10:37:20.2±0.3, 13°.03N×89°.60W, h18km, MD3.8*
*SNET **05** 10:37:25.0±0.6, 13°.21N×89°.81W, h28km±4km, MD3.2, MLJ3.0*

ISC 05 10:37:21.2±3.1, 13°.0N±0°.2×89°.90W±0°.09, h32km, n10, σ1°80/12, 4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.92**	**17**	*i*P	**Pn**	**10 37 38.3**	**+0.3**
SBLS				*e*S	**Sn**	**10 37 48.4**	**-1.9**
SNJE	**San Jose**	**0.95**	**18**	*e*P	**Pn**	**10 37 38.7**	**+0.2**
RTR	**El Retiro**	**0.97**	**15**	*i*P	**Pn**	**10 37 39.1**	**+0.4**
SNET	**Serv Nac Est T**	**0.97**	**42**	*e*P	**Pn**	**10 37 39.0**	**+0.3**
SNET				IAML		10 37 52.6	
	comp=Z,554nm,0.2s						
LFU	**La Fuente**	**1.10**	**44**	*e*P	**Pn**	**10 37 41.3**	**+0.9**
IXG	**Ixpaco**	**1.32**	**337**	*e*P	**Pb**	**10 37 45.1**	**-0.4**
MTO3	**Montecristo**	**1.53**	**20**	*e*P	**Pn**	**10 37 47.2**	**+0.8**
LCY	**Lacayo**	**1.63**	**73**	*e*P	**Pb**	**10 37 50.2**	**-0.6**
FUG	**Fuego 3**	**1.74**	**328**	*e*P	**Pb**	**10 37 51.5**	**-1.1**
FUG				*e*S	**Sn**	**10 38 14.6**	**+4.1**
STG3	**Santiaguito 3,**	**2.38**	**317**	*e*P	**Pb**	**10 38 01.1**	**-2.4**

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*ISK **05** 11:21:22.9, 38°.40N×38°.24E, h16km, ML1.5/4*
*ISCJB **05** 11:21:23.8±0.7, 38°.29N±0°.05×38°.19E±0°.04, h7km±11km, Error ellipse: s-maj=8.4km s-min=5.2km az=15.3*
*DDA **05** 11:21:23.8, 38°.31N×38°.18E, h7km±7km, ML2.7*

ISC 05 11:21:23.4±1.0, 38°.36N±0°.06×38°.22E±0°.04, h14km±8km, n9, σ0°47/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.17**	**107**	PG	**Pg**	**11 21 27.7**	**0.0**
MALT				SG	**Sg**	**11 21 30.9**	**+0.3**
AKCD	**Akcadag**	**0.24**	**253**	*i*P	**Pg**	**11 21 27.9**	**-0.8**
HEKM	**Malatya_Hekimh**	**0.55**	**339**	*i*P	**Pb**	**11 21 35.1**	**+0.1**
HEKM				*i*S	**Sn**	**11 21 45.8**	**-0.3**
HEKM				IAML_P			
	comp=Z,1μm,0.1s						
DARE	**Darende-Malaty**	**0.61**	**290**	PG	**Pg**	**11 21 35.5**	**+0.1**
DARE				SG	**Sb**	**11 21 44.7**	**+0.3**
ELZG	**Elazig**	**0.62**	**77**	*i*P	**Pb**	**11 21 36.4**	**+0.3**
ELZG				*i*S	**Sn**	**11 21 47.1**	**-0.7**
ELZG				IAML_P			
	comp=Z,1μm,0.1s						
SVRC	**Sivrice-ELAZID**	**0.86**	**89**	PG	**Pg**	**11 21 39.6**	**-0.5**
KEMA	**Kemaliye**	**0.93**	**13**	*i*P	**Pn**	**11 21 42.3**	**+0.1**
URFA	**Urfa**	**1.04**	**152**	PG	**Pn**	**11 21 43.6**	**0.0**
GZT	**Gaziantep**	**1.13**	**207**	*i*P	**Pn**	**11 21 45.5**	**+0.5**

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*IDC **05** 11:27:47.5±1.0, 57°.81S×25°.50W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/28, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=47.3km s-min=26.9km az=105.0*
*ISCJB **05** 11:27:53.4±0.7, 57°.9S±0°.1×25°.1W±0°.3, h40km, mb3.8/2, Error ellipse: s-maj=22.2km s-min=9.4km az=147.0*
*NEIC **05** 11:27:53.7±1.5, 58°.1S±0°.2×24°.8W±0°.2, h35km±2km, mb4.4/8*

ISC 05 11:27:54.2±0.7, 58°.0S±0°.1×25°.0W±0°.1, h40km, n22, σ1°34/23, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.43**	**295**	Pn	**Pn**	**11 29 40.8**	**+0.9**
VNA1	**Neumayer--Stat**	**14.53**	**158**	P	**Pn**	**11 31 18.7**	**+2.0**
VNA3	**Neumayer Olymp**	**14.74**	**160**	P	**Pn**	**11 31 22.2**	**+2.6**
VNA2	**Neumayer--Watz**	**14.92**	**157**	P	**P**	**11 31 25.6**	**-1.5**
	baz=337,slow=12						
SNAA	**Sanae**	**16.46**	**155**	P	**P**	**11 31 45.1**	**+1.0**
SNAA	**Sanae**	**16.46**	**155**	Pn	**P**	**11 31 44.4**	**+0.2**
	0.3nm,0.3s,baz=13,slow=10,SNR=7.6						
SNAA	**Sanae**	**16.46**	**155**		**Pn**	**11 31 42.0**	**+0.2**
SNAA				IAmb	IAmb	11 31 53.2	
	comp=Z,9.2nm,1.6s						
PMSA	**Palmer Station**	**19.62**	**234**	P	**P**	**11 32 16.5**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=36,slow=2.7,SNR=4.4						
PMSA	**Palmer Station**	**19.62**	**234**	P	**P**	**11 32 17.2**	**-1.7**
PMSA				IAmb	IAmb	11 32 26.5	
	comp=Z,76nm,1.6s						
QSPA	**South Pole Qui**	**32.25**	**180**	P	**P**	**11 34 18.9**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=40,slow=16,SNR=10						
QSPA	**South Pole Qui**	**32.25**	**180**	P	**P**	**11 34 17.9**	**-0.6**
QSPA				IAmb	IAmb	11 34 36.0	
	comp=Z,4.8nm,1.4s						
SBA	**Scott Base**	**44.21**	**184**	P	**P**	**11 35 58.5**	**-0.1**
PB10	**IPOC Station P**	**47.32**	**297**	P	**P**	**11 36 25.3**	**+1.5**
PB10				IAmb	IAmb	11 36 39.9	
	comp=Z,18nm,1.1s						
PB04	**IPOC Station P**	**48.14**	**298**	P	**P**	**11 36 31.8**	**+1.5**
TOA0	**Torodi Ar. Sit**	**74.20**	**27**	P	**P**	**11 39 26.9**	**+0.4**
TOA0				IAmb	IAmb	11 39 41.0	
	comp=Z,3.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**74.20**	**27**	P	**P**	**11 39 26.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=202,slow=5.5,SNR=7.5						
TORD	**Torodi Ar. Bea**	**74.20**	**27**	P	**P**	**11 39 27.2**	**+0.6**
SONM	**Songino Array**	**149.61**	**88**	PKPbc	**PKPbc**	**11 47 37.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=234,slow=2.1,SNR=2.9						
SONM	**Songino Array**	**149.61**	**88**		**PKiKP**	**11 47 38.3**	**-1.1**
SONM				PKPab	**PKPab**	**11 47 43.1**	**-0.6**
DOT	**Dot Lake**	**150.81**	**307**		**PKPbc**	**11 47 39.9**	**-0.8**
ILAR	**Eielson Array**	**152.30**	**308**	PKPbc	**PKPbc**	**11 47 42.4**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=129,slow=2.8,SNR=17						
ILAR	**Eielson Array**	**152.30**	**308**		**PKPbc**	**11 47 42.6**	**-1.4**

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*ISCJB **05** 11:28:34.4±0.3, 67°.46N±0°.03×142°.50E±0°.08, h10km, mb3.8/9, Error ellipse: s-maj=4.5km s-min=3.6km az=163.2*
*NERS **05** 11:28:34.8±0.0, 67°.68N×142°.18E, h26km*
*IDC **05** 11:28:35.5±0.8, 67°.68N×142°.54E, h0km, mb3.9/9, mb1 4.0/15, mb1mx3.7/56, mbtmp3.8/15, ML3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/41, Error ellipse: s-maj=17.3km s-min=14.3km az=161.0*
*YARS **05** 11:28:36.3, 67°.57N×142°.71E, h5km*
*NEIC **05** 11:28:37.0±1.6, 67°.60N±0°.06×142°.5E±0°.1, h10km±1km, mb4.6/9*

ISC 05 11:28:36.1±0.4, 67°.56N±0°.02×142°.77E±0°.03, h10km, n54, σ2°32/90, mb4.1/14, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.11**	**171**	*i*Pg	**Pb**	**11 28 57.0**	**-0.3**
	0.3nm,0.3s						
MOMR				*e*Sg	**Sg**	**11 29 11.6**	**-0.2**
	0.7nm,0.2s						
MOMR				*e*Sg	**Sg**	**11 29 11.6**	**-0.2**
	1.6nm,0.3s						
YBGR	**Belaya Gora**	**1.62**	**51**	*e*Pn	**Pn**	**11 29 05.1**	**+0.5**
YBGR				*i*Pg	**Pb**	**11 29 05.5**	**-0.5**
YBGR				*e*Sg	**Sb**	**11 29 26.8**	**+0.4**
DEPR	**Deputatskiy**	**2.12**	**331**	*e*Pn	**Pn**	**11 29 12.2**	**+0.7**
DEPR				*e*Pg	**Pb**	**11 29 14.6**	**0.0**
DEPR				*e*Sn	**Sn**	**11 29 39.4**	**+1.4**
DEPR				*e*Sg	**Sb**	**11 29 42.2**	**+1.2**
	0.6nm,0.5s						
DEPR				*e*Sg	**Sb**	**11 29 42.2**	**+1.2**
	1.2nm,0.6s						
UNR	**Ust'-Nera**	**3.01**	**176**	*e*Pn	**Pn**	**11 29 25.3**	**+1.6**
UNR				*e*Pg	**Pb**	**11 29 31.3**	**+1.6**
	0.0nm,0.6s						
UNR				*e*Sn	**Sn**	**11 30 01.7**	**+1.9**
UNR				*e*Sg	**Sg**	**11 30 10.4**	**-2.2**
	0.1nm,0.6s						
UNR				*e*Sg	**Sg**	**11 30 10.4**	**-2.2**
	0.1nm,0.7s						
BTGS	**Batagay**	**3.11**	**275**	*e*Pn	**Pn**	**11 29 26.9**	**+1.7**
BTGS				*e*Pg	**Pb**	**11 29 32.5**	**+1.1**
	0.0nm,0.2s						
BTGS				*e*Sn	**Sn**	**11 30 03.5**	**+1.2**
BTGS				*e*Sg	**Sb**	**11 30 13.1**	**+3.7**
	0.4nm,0.4s						
BTGS				*e*Sg	**Sb**	**11 30 13.1**	**+3.7**
	1.0nm,0.9s						
ATKR	**Artyk**	**3.53**	**163**	*e*Pn	**Pn**	**11 29 32.5**	**+1.5**
ATKR				*e*Pg	**Pb**	**11 29 40.0**	**+1.4**
	0.2nm,0.9s						
ATKR				*e*Sn	**Sn**	**11 30 15.5**	**+2.8**
ATKR				*e*Sg	**Sg**	**11 30 27.0**	**-2.3**
	0.9nm,0.4s						
ATKR				*e*Sg	**Sg**	**11 30 27.0**	**-2.3**
	0.9nm,1.0s						
SUUS	**Susuman**	**5.31**	**152**	*e*P	**Pn**	**11 29 55.1**	**-0.3**
SUUS				*e*Pg	**Pb**	**11 30 11.9**	**+3.0**
SUUS				Pgmax		11 30 17.6	
	10.0nm,0.3s						
SUUS				*e*Sg	**Sg**	**11 31 24.2**	**-2.2**
SUUS				Sgmax		11 31 33.4	
	280nm,0.8s						
SEY	**Seymchan**	**6.15**	**134**	*e*	Pb	11 30 18.0	-5.1
SEY				*e*Sg	**Sg**	**11 31 51.7**	**-1.5**
SEY				Sgmax		11 31 55.9	
	50nm,0.6s						
SEY	**Seymchan**	**6.15**	**134**	Pn	**Pn**	**11 30 10.5**	**+3.7**
	0.3nm,0.3s,baz=320,slow=18,SNR=2.9						
SEY				Lg	Lg	11 31 50.8	
	2.6nm,0.3s,baz=49,slow=18,SNR=6.3						
OCHR	**Omchak**	**6.31**	**157**	*e*Pg	**Pb**	**11 30 30.2**	**+4.3**
OCHR				Pgmax		11 30 34.2	
	10.0nm,0.3s						
OCHR				*e*Sg	**Sg**	**11 31 53.9**	**-4.4**
OCHR				Sgmax		11 32 06.4	
	60nm,0.5s						
TIXI	**Tiksi**	**6.35**	**317**	*e*Pn	**Pn**	**11 30 11.1**	**+1.6**
TIXI				*e*Pg	**Pb**	**11 30 30.2**	**+3.7**
	0.0nm,0.2s						
TIXI				*e*Sn	**Sn**	**11 31 22.3**	**+0.3**
TIXI				*e*Sg	**Sg**	**11 31 53.6**	**-5.9**
	0.1nm,1.1s						
TIXI	**Tiksi**	**6.35**	**317**	Pn	**Pn**	**11 30 09.6**	**0.0**
	8.8nm,0.3s,baz=360,slow=24,SNR=18						
TIXI				Sn	**Sn**	**11 31 18.9**	**-3.0**
	3.7nm,0.3s,baz=66,slow=20,SNR=2.6						
TIXI				Lg	Lg	11 31 49.5	
	5.1nm,0.3s,baz=0.9,slow=23,SNR=7.4						
TIXI	**Tiksi**	**6.35**	**317**		**Pn**	**11 30 10.6**	**+1.1**
TIXI					**Sn**	**11 31 19.6**	**-2.4**
SNGR	**Sinegor'e**	**6.40**	**146**	*e*Sg	**Sg**	**11 31 58.2**	**-3.1**
SNGR				Sgmax		11 32 08.1	
	50nm,0.5s						
TLAR	**Talaya**	**7.68**	**143**	*e*	**Pg**	**11 30 59.1**	**-3.8**
TLAR				*e*Sg	**Sg**	**11 32 38.2**	**-4.0**
TLAR				Sgmax		11 32 55.5	
	30nm,0.5s						
YAK	**Yakutsk**	**7.86**	**231**	*e*Pn	**Pn**	**11 30 32.7**	**+2.5**
YAK				*e*Pg	Pb	11 30 58.0	+5.9
YAK				*e*Sg	**Sg**	**11 32 42.3**	**-5.6**
YAK	**Yakutsk**	**7.86**	**231**	Pn	**Pn**	**11 30 31.1**	**+0.9**
	0.1nm,0.3s,baz=110,slow=3.3,SNR=2.6						
YAK				Sn	**Sn**	**11 31 56.6**	**-2.4**
	0.2nm,0.3s,baz=105,slow=24,SNR=8.1						
YAK				Lg	Lg	11 32 46.8	
	0.1nm,0.3s,baz=197,slow=18,SNR=7.3						
YAK	**Yakutsk**	**7.86**	**231**		**Pn**	**11 30 30.3**	**+0.1**
YAK					**Sn**	**11 31 55.5**	**-3.5**
TBGR	**Tabaga**	**8.03**	**230**	*e*Pn	**Pn**	**11 30 34.1**	**+1.4**
TBGR				*e*Pg	Pb	11 31 00.5	+5.3
	0.0nm,0.5s						
TBGR				*e*Sn	**Sn**	**11 32 04.1**	**+0.7**
TBGR				*e*Sg	**Sg**	**11 32 47.6**	**-6.0**
	0.3nm,0.9s						
TBGR				*e*Sg	**Sg**	**11 32 47.6**	**-6.0**
	0.1nm,0.8s						
BLSR	**Buluus**	**8.58**	**230**	*e*Pn	**Pn**	**11 30 41.8**	**+1.7**
BLSR				*e*Pg	Pg	11 31 10.4	-10
	0.3nm,0.3s						
BLSR				*e*Sg	Sg	11 33 03.5	-7.5
	2.3nm,1.2s						
BLSR				*e*Sg	Sg	11 33 03.5	-7.5
	2.5nm,0.6s						
MA2	**Magadan**	**8.76**	**152**	*e*Sg	**Sg**	**11 33 09.9**	**-7.0**
MA2				Sgmax		11 33 22.9	
	20nm,0.6s						
MA2	**Magadan**	**8.76**	**152**	Lg	Lg	11 33 17.4	
	1.2nm,0.3s,baz=55,slow=16,SNR=3.4						
MA2				LR	LR	11 34 36.0	
	comp=Z,43nm,18.3s,baz=248,slow=40						
PETK	**Petropavlovsk-**	**16.19**	**146**	Pn	**P**	**11 32 27.0**	**+0.4**
	baz=335,slow=6.4,SNR=2.6						
KLR	**Kul'dur**	**19.21**	**202**	P	**P**	**11 33 01.1**	**+1.3**
	0.1nm,0.3s,baz=53,slow=5.1,SNR=1.6						
NRIK	**Noril'sk**	**19.78**	**301**	P	**P**	**11 33 05.2**	**-0.8**
	0.3nm,0.3s,baz=81,slow=12,SNR=3.5						
IMAR	**Indian Mountai**	**24.13**	**64**	P	**P**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.64	191	*i* P	Pb	11 42 29.6	0.0
KOPR	Koprukoy-ERZUR	0.70	194	PG	Pb	11 42 29.9	-0.7
KOPR				SG	Sb	11 42 40.7	+0.4
DBOC	Borcka	0.74	336	*i* P	Pb	11 42 31.6	+0.5
DBOC				IAML_P			
	comp=Z,1μm,0.1s						
EATA	Eleskirt	0.87	158	*i* P	Pb	11 42 33.5	-0.1
KRIK	Erzurum-spir	0.93	249	*i* P	Pb	11 42 34.2	-0.4
KRIK				*i* S	Sb	11 42 48.0	+1.0
KRIK				IAML_P			
	comp=Z,731nm,0.2s						
BATM	Batumi	0.97	343	PG	Pb	11 42 34.9	-0.2
BATM				SG	Sn	11 42 49.5	-0.1

ISCJB ***05*** *11:42:29.5±0.2, 4°.21N±0°.02×126°.54E±0°.03, h45km, mb4.6/40, MS3.5/10, Error ellipse: s-maj=4.4km s-min=2.7km az=162.0*
IDC ***05*** *11:42:33.5±1.5, 4°.06N×126°.09E, h65km±12km, mb4.2/26, mb1 4.2/29, mb1mx4.1/50, mbtmp4.5/29, MS3.3/8, Ms1 3.3/8, ms1mx3.0/24, Error ellipse: s-maj=20.3km s-min=8.6km az=74.0*
MAN ***05*** *11:42:33.9, 4°.10N×126°.42E, h48km, MS3.7*
NEIC ***05*** *11:42:34.2±1.8, 4°.16N±0°.05×126°.48E±0°.07, h78km±3km, mb4.6/73*
DJA ***05*** *11:42:34.1±0.5, 4°N±4°×12°6E±°, h40km±4km, M4.9/30, mB5.3/20, mb5.0/30, MLv5.3/14, Mw(mB)4.7/20*
ISC 05 11:42:31.4±0.3, 4°.18N±0°.03×126°.48E±0°.05, h45km, n189, σ2°08/192, mb4.6/66, MS3.5/10, 2C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.07	243	P	Pn	11 42 51.1	+1.1
DAV	Davao City (W)	3.01	343	P	Pn	11 43 19.0	+2.3
	116nm,0.3s,baz=111,slow=1.6,SNR=4.0						
DAV				S	Sn	11 43 52.2	+0.7
	112nm,0.3s,baz=32,slow=18,SNR=5.7						
DAV	Davao City (W)	3.01	343	P	Pn	11 43 22.3	+5.7
DAV	Davao City (W)	3.01	343		Pn	11 43 18.4	+1.7
DAV					Sn	11 43 52.8	+1.3
KCP	Kidapawan	3.13	334	‖*i* P	Pn	11 43 23.8	+5.4
KCP				*i* S	Sn	11 44 21.1	+26
TNTI	Ternate	3.50	165	P	Pn	11 43 25.5	+2.2
TNTI	Ternate	3.50	165		Pn	11 43 24.6	+1.3
TNTI				Sn	Sn	11 44 05.9	+2.5
CTBH	Cotabato--PC H	3.75	324	‖*e*P	Pn	11 43 30.8	+3.9
KMSI	Cibinong	4.36	215	P	Pn	11 43 38.4	+3.2
CGP	Cagayan de Oro	4.61	337	‖*e*P	Pn	11 43 44.9	+6.3
ZCP	Zamboanga City	5.17	302	‖*i* P	Pn	11 43 48.0	+1.7
ZCP				*i* S	Sn	11 44 45.6	+0.9
MRSI	Marisa	5.84	231	P	Pn	11 43 57.0	+1.5
	632nm,0.4s,14μm3.5nm						
SANI	Sanana	6.21	185	P	Pn	11 44 04.8	+4.3
	196nm,0.5s,5μm1.1nm						
LUWI	Luwuk	6.37	216	P	Pn	11 44 08.5	+5.7
	2μm,0.9s,15μm5.9nm						
LUWI	Luwuk	6.37	216		Pn	11 44 05.9	+3.1
LUWI				Sn	Sn	11 45 15.6	+1.2
SWI	Sorong	6.92	136	P	Pn	11 44 14.0	+3.7
	206nm,0.5s,3μm0.9nm						
SIJI	Sorong	6.93	136	P	Pn	11 44 13.8	+3.4
	5.6nm,0.3s,baz=354,slow=13,SNR=48						
SIJI				S	Sn	11 45 29.0	+0.9
	4.0nm,0.3s,baz=19,slow=20,SNR=9.4						
APSI	Ampana	6.99	224	P	Pn	11 44 16.8	+5.5
	289nm,1.0s,5μm1.4nm						
PLP	Palo	7.10	348	‖*e*P	Pn	11 44 17.8	+4.9
NLAI	Namlea	7.39	175	P	Pn	11 44 21.2	+4.4
	83nm,0.6s,5μm1.1nm						
MPSI	Mapaga	7.60	240	P	Pn	11 44 23.9	+4.2
	33nm,0.6s,1μm0.2nm						
MSAI	Masohi	7.86	162	P	Pn	11 44 35.2	+12
JAP	San Jose, Anti	7.92	326	⇑*e*P	Pn	11 44 18.6	-5.5
FAKI	Fak Fak	9.11	141	P	Pn	11 44 46.0	+5.7
	74nm,0.6s,1μm						
FAKI	Fak Fak	9.11	141		Pn	11 44 43.8	+3.4
FAKI				Sn	Sn	11 46 22.2	+0.6
TTSI	Tana Toraja	9.79	223	P	Pn	11 44 53.0	+3.4
	130nm,0.9s,1μm						
KKM	Kota Kinabalu	10.39	281		Pn	11 45 02.1	+4.0
KKM				Sn	Sn	11 46 57.1	+3.8
SPSI	Sidrap Palu	10.51	220	P	Pn	11 45 02.1	+2.6
	33nm,0.9s,366nm						
BNSI	Bone	10.64	217	P	Pn	11 45 07.4	+6.1
	40nm,0.7s,687nm						
KAPI	Kappang	11.34	216	P	Pn	11 45 09.7	-1.2
	0.9nm,0.3s,baz=26,slow=8.0,SNR=1.8						
KAPI	Kappang	11.34	216		Pn	11 45 13.4	+2.5
BKSI	Bulukumba	11.37	214	P	Pn	11 45 17.2	+5.8
	14nm,1.0s						
MMRI	Maumere	13.41	198	P	P	11 45 59.4	+12
MMRI	Maumere	13.41	198	Pn	Pn	11 45 41.4	+2.2
EDFI	Ende, Flores	13.70	200	P	P	11 45 49.3	-1.6
	56nm,0.7s,521nm						
SOEI	Soe	14.02	189	P	P	11 45 58.6	+4.2
SOEI	Soe	14.02	189	Pn	Pn	11 45 49.2	+1.6
SBUM	Sibu	14.34	264	Pn	Pn	11 45 54.3	+2.4
BATI	Baumata	14.56	191	P	Pn	11 45 57.6	+2.8
	3.7nm,0.3s,baz=11,slow=1.8,SNR=3.9						
BATI	Baumata	14.56	191	P	P	11 46 01.8	+1.4
	70nm,0.5s,899nm						
GENI	Genyem	15.24	116	P	P	11 46 14.7	+6.7
WBSI	Waikabubak, Su	15.44	207	P	P	11 46 10.3	+0.1
	90nm,0.8s,1μm						
PLAI	Plampang	15.56	214	P	P	11 46 13.3	+1.8
	78nm,0.9s,1μm						
JAY	Jayapura	15.69	115	P	P	11 46 14.9	+1.9
	1.4nm,0.3s,baz=258,slow=4.4,SNR=7.3						
TWSI	Taliwang, Sumb	16.01	217	P	P	11 46 17.1	+0.7
	79nm,0.7s,1μm						
PBKI	Pangkalan Bun	16.30	245	P	P	11 46 28.1	+8.4
KSM	Kuching	16.37	261		P	11 46 19.8	-0.8
MTN	Manton Dam	17.53	165	Pn	Pn	11 46 31.4	-1.3
MTN				IAmb	IAmb	11 46 44.9	
	comp=Z,25nm,0.5s						
JAGI	Jajag, Banyuwa	17.58	224		P	11 46 34.3	+0.5
JAGI				IAmb	IAmb	11 46 41.6	
	comp=Z,39nm,0.7s						
GMJI	Gumukmas	17.95	226	P	P	11 46 46.3	+8.4
PWJI	Pagerwojo	19.00	230	P	Pn	11 46 56.6	+6.0
	comp=Z,27nm,0.7s						
TWG	Pinlang	19.26	345	P	P	11 46 52.4	+0.1
DLV	T Lat	19.40	294	P	Pn	11 46 55.1	-0.4
DLV				IAmb	IAmb	11 46 59.8	
	comp=Z,78nm,1.5s						
YULB	Yu-li	19.75	346	P	P	11 46 56.9	-0.8
TPUB	Ta-pu	19.84	344	P	P	11 46 58.6	0.0
TPUB				IAmb	IAmb	11 47 14.3	
	comp=Z,44nm,1.1s						
KNRA	Kununurra	19.86	174	P	P	11 46 58.6	-0.2
KNRA				IAmb	IAmb	11 47 17.3	
	comp=Z,35nm,0.8s						
UGM	Wanagama	19.94	233	P	P	11 47 00.5	+0.6
SSLB	Suanglung	20.21	345	P	P	11 47 02.2	-0.5
SSLB				IAmb	IAmb	11 47 15.5	
	comp=Z,38nm,1.3s						
KPJI	Karang Pucung	20.91	237	P	P	11 47 11.1	+0.8
	comp=Z,44nm,0.8s						
YHNB	Yeheng	20.96	347	P	P	11 47 11.1	+0.3
YHNB				IAmb	IAmb	11 47 18.4	
	comp=Z,46nm,1.2s						
CISI	Cisompet, Garu	21.97	238	P	P	11 47 20.4	-1.4
FITZ	Fitzroy Crossi	22.15	182	P	P	11 47 22.9	-0.7
	comp=Z,16nm,0.5s,baz=354,slow=7.0,SNR=62						
FITZ				S	S	11 51 15.6	-9.5
	comp=Z,1.2nm,0.6s,baz=319,slow=11,SNR=1.8						
FITZ	Fitzroy Crossi	22.15	182	P	P	11 47 22.1	-1.5
FITZ				IAmb	IAmb	11 47 28.1	
	comp=Z,19nm,0.7s						
JOW	Kunigami	22.59	4	P	P	11 47 31.5	+3.2
	comp=Z,3.3nm,0.7s,baz=181,slow=14,SNR=7.1						
MYKOM	Kota Tinggi	22.72	265	P	P	11 47 29.9	+0.1
MYKOM				IAmb	IAmb	11 47 36.9	
	comp=Z,16nm,0.9s						
COEN	Coen	24.47	138	P	P	11 47 47.3	+0.8
COEN				IAmb	IAmb	11 47 50.8	
	comp=Z,23nm,1.2s						
WRAB	Tennant Creek	25.18	162	P	P	11 47 52.9	+0.1
WRAB				IAmb	IAmb	11 48 03.7	
	comp=Z,20nm,0.9s						
WRA	Warramunga Arr	25.18	162	P	P	11 47 52.6	-0.3
	comp=Z,6.7nm,0.4s,baz=336,slow=11,SNR=90						
WRA				S	S	11 52 16.2	+1.0
	comp=Z,2.7nm,0.8s,baz=346,slow=18,SNR=5.8						
WRA				ScP	ScP	11 54 58.1	-3.6
	comp=Z,1.0nm,0.9s,baz=334,slow=3.0,SNR=3.3						
WRA	Warramunga Arr	25.18	162	P	P	11 47 51.7	-1.2
WRA					ScP	11 54 57.9	-3.9
WB2	Warramunga Arr	25.19	162	P	P	11 47 53.0	+0.1
IPM	Ipoh	25.38	272	P	P	11 47 55.9	+1.1
KULM	Kulim	25.77	273	P	P	11 47 58.6	+0.3
KULM				IAmb	IAmb	11 48 17.0	
	comp=Z,16nm,1.0s						
PSAD1	Pilbara Seismi	26.29	194	P	P	11 48 02.0	-0.9
PSAD1				IAmb	IAmb	11 48 03.1	
	comp=Z,14nm,0.8s						
PSAC1	Pilbara Seismi	26.37	194	P	P	11 48 03.2	-0.5
PSAC2	Pilbara Seismi	26.38	194	P	P	11 48 03.2	-0.6
PSAC2				IAmb	IAmb	11 48 06.5	
	comp=Z,30nm,1.1s						
PSAB2	Pilbara Seismi	26.38	194	P	P	11 48 03.6	-0.2
PSAB2				IAmb	IAmb	11 48 07.7	
	comp=Z,16nm,0.8s						
PSAA2	Pilbara Seismi	26.39	194	P	P	11 48 03.3	-0.5
PSAA2				IAmb	IAmb	11 48 07.8	
	comp=Z,17nm,0.7s						
PSA00	Pilbara Seismi	26.40	194	P	P	11 48 03.4	-0.5
PSA00				IAmb	IAmb	11 48 07.9	
	comp=Z,17nm,0.8s						
PSAB1	Pilbara Seismi	26.41	194	P	P	11 48 03.7	-0.2
PSAB1				IAmb	IAmb	11 48 14.2	
	comp=Z,16nm,0.8s						
PSAA3	Pilbara Seismi	26.41	194	P	P	11 48 03.8	-0.2
PSAA3				IAmb	IAmb	11 48 08.0	
	comp=Z,17nm,0.8s						
PSAA1	Pilbara Seismi	26.41	194	P	P	11 48 04.0	+0.1
PSAD2	Pilbara Seismi	26.42	194	P	P	11 48 03.8	-0.2
PSAB3	Pilbara Seismi	26.42	194	P	P	11 48 03.9	-0.2
PSAB3				IAmb	IAmb	11 48 14.7	
	comp=Z,29nm,1.1s						
PSAC3	Pilbara Seismi	26.45	194	P	P	11 48 03.9	-0.4
PSAC3				IAmb	IAmb	11 48 14.9	
	comp=Z,29nm,1.1s						
PSAD3	Pilbara Seismi	26.49	194	P	P	11 48 04.0	-0.7
CHAI	Chaiyaphum	26.74	298	P	P	11 48 07.6	+0.5
	comp=Z,32μm,0.7s						
PBKT	Sadao Pong	27.90	298	P	P	11 48 18.1	+0.7
	comp=Z,6.2nm,0.8s,comp=Z,410nm						
PBKT	Sadao Pong	27.90	298	P	P	11 48 15.1	-2.4
AS31	Alice Springs	28.61	166	P	P	11 48 24.6	+1.0
ASAR	Alice Springs	28.61	166	P	P	11 48 23.6	-0.1
	comp=Z,3.4nm,0.6s,baz=339,slow=7.2,SNR=26						
ASAR				S	S	11 53 05.2	-4.0
	comp=Z,0.4nm,0.7s,baz=345,slow=17,SNR=3.3						
ASAR	Alice Springs	28.61	166	P	P	11 48 22.4	-1.3
NJ2	Nanjing	28.64	346	*e*P	P	11 48 26.6	+2.8
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GSI	Gunungsitoli	29.01	265	P	P	11 48 25.4	-2.0
GSI				IAmb	IAmb	11 48 29.4	
	comp=Z,13nm,0.9s						
JNU	Nakatsue	29.09	8	P	P	11 48 29.7	+1.8
	comp=Z,8.0nm,0.8s,baz=315,slow=1.4,SNR=5.2						
JNU	Nakatsue	29.09	8	P	P	11 48 27.4	-0.5
PAYA	Payao	30.03	302	P	P	11 48 41.5	+5.1
	comp=Z,14μm,0.8s						
CMAR	Chiang Mai Arr	30.43	300	P	P	11 48 38.3	-1.6
	comp=Z,1.9nm,0.7s,baz=120,slow=7.7,SNR=11						
CMAR				ScP	ScP	11 55 14.9	-3.0
	comp=Z,1.0nm,0.7s,baz=180,slow=0.9,SNR=5.6						
CMAR				LR	LR	12 02 55.0	
	comp=Z,28nm,18.0s,baz=100,slow=40						
CMMT	Chiang Mai	30.58	301	P	P	11 48 45.3	+4.1
	comp=Z,5.1nm,1.2s						
CHTO	Chiang Mai	30.58	301	P	P	11 48 40.8	-0.4
CHTO				IAmb	IAmb	11 48 46.5	
	comp=Z,8.8nm,0.9s						
KMI	Kunming	30.89	315	P	P	11 48 47.3	+3.2
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
KMI	Kunming	30.89	315	P	P	11 48 44.0	-0.1
CTAO	Charters Tower	30.97	142	P	P	11 48 47.3	+2.7
CTAO				IAmb	IAmb	11 48 55.8	
	comp=Z,21nm,1.3s						
MHMT	Maesarieng	31.20	299	P	P	11 48 48.5	+1.8
	comp=Z,23nm,0.7s,comp=Z,1μm						
KSAR	Wonju Array Be	33.13	2	P	P	11 49 05.3	+1.9
KSRS	Korea Array	33.15	2	P	P	11 49 05.5	+2.0
	comp=Z,2.9nm,0.5s,baz=184,slow=9.9,SNR=12						
KS19	Wonju Array Si	33.19	2	P	P	11 49 01.5	-2.4
XAN	Xi'an	33.91	333	P	P	11 49 09.4	-0.9
XAN				sP	sP	11 49 45.3	+19
XAN				PP	PnPn	11 50 25.6	+1.4
XAN				PcP	PcP	11 51 47.9	-0.2
XAN				S	S	11 54 24.6	-7.3
XAN				SS	SnSn	11 56 41.7	+0.8
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,100nm,4.7s						
XAN	Xi'an	33.91	333	P	P	11 49 09.7	-0.6
XAN				IAmb	IAmb	11 49 25.0	
	comp=Z,6.1nm,0.7s						
MJAR	Matsushiro Arr	33.97	17	P	P	11 49 11.5	+0.8
	comp=Z,0.8nm,0.6s,baz=184,slow=8.5,SNR=3.0						
MJAR				LR	LR	12 01 45.3	
	comp=Z,38nm,21.7s,baz=215,slow=34						
MJAR	Matsushiro Arr	33.97	17	P	P	11 49 10.3	-0.4
MORW	Morawa	34.54	196	P	P	11 49 15.3	-0.4
FORT	Forrest	34.79	178	P	P	11 49 17.8	-0.1
BJI	Beijing	36.90	347	*e*P	P	11 49 36.4	+0.6
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EIDS	Eidsvold	37.85	142	P	P	11 49 43.5	-0.6
EIDS				IAmb	IAmb	11 49 53.3	
	comp=Z,14nm,1.1s						
BBOO	Buckleboo	37.89	167	P	P	11 49 44.2	-0.1
NWAO	Narrogin (SRO)	37.93	193	P	P	11 49 44.4	-0.2
LZH	Lanzhou	37.99	330	*e*P	P	11 49 48.6	+3.2
LZH				pP	sP	11 50 05.6	+4.1
LZH				sP	pwP	11 50 13.4	+13
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
STKA	Stephens Creek	38.63	159	P	P	11 49 51.1	+0.5
	comp=Z,3.0nm,0.4s,baz=339,slow=8.6,SNR=11						
STKA	Stephens Creek	38.63	159	P	P	11 49 51.4	+0.8
HHC	Hu-ho-hao-te	38.90	342	*e*P	P	11 49 55.2	+2.4
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,7.0nm,4.3s						
CN2	Changchun	39.47	359	*e*P	P	11 49 59.3	+1.9
USRK	Ussuriysk Ar.	40.15	6	P	P	11 50 05.1	+2.0
	comp=Z,9.5nm,0.8s,baz=192,slow=7.7,SNR=18						
USRK	Ussuriysk Ar.	40.15	6	P	P	11 50 04.9	+1.8
USA0B	Ussuriysk Arra	40.15	6	P	P	11 50 04.2	+1.1
USA0B				IAmb	IAmb	11 50 08.1	
	comp=Z,9.4nm,0.8s						
ARMA	Armidale	41.98	147	P	P	11 50 18.9	+0.5
GTA	Gaotai	42.59	329	*e*P	P	11 50 32.2	+8.9
GTA				pP	sP	11 50 46.8	+7.2
GTA				sP	pwP	11 50 54.0	+15
GTA				S	S	11 56 56.0	+13
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,32nm,5.6s						
GTA				LR	LR		
	comp=N,110nm,15.8s						
GTA				LR	LR		
	comp=E,85nm,12.4s						
GTA				LR	LR		
	comp=Z,100nm,15.1s						
TAPN	Taplejung	43.55	306	*e*P	P	11 50 30.9	-0.6
ODAN	Odare	43.61	305	*e*P	P	11 50 31.0	-0.9
	comp=Z,21nm,0.7s						
CAN	Canberra	44.62	154	P	P	11 50 38.1	-1.5
JIRN	Jiri	44.91	306	*e*P	P	11 50 41.6	-0.8
	comp=Z,18nm,0.5s						
GUN	Gumba	45.26	306	*e*P	P	11 50 44.3	-0.9
	comp=Z,22nm,0.5s						
HIA	Hailar	45.29	354	P	P	11 50 45.7	+1.0
PKIN	Phulchoki	45.52	305	*e*P	P	11 50 46.6	-0.6
	comp=Z,4.0nm,0.4s						
ULN	Ulaanbaatar	46.62	342	P	P	11 50 55.1	-0.3
ULN				IAmb	IAmb	11 50 59.5	
	comp=Z,4.2nm,0.7s						
SONM	Songino Array	46.80	341	P	P	11 50 57.4	+0.7
	comp=Z,1.9nm,0.5s,baz=157,slow=9.0,SNR=11						
SONM				PcP	PcP	11 52 29.6	+0.3
	comp=Z,0.9nm,0.7s,baz=156,slow=7.6,SNR=2.2						
SONM	Songino Array	46.80	341	P	P	11 50 57.4	+0.7
KOLN	Koldanda	47.07	305	*e*P	P	11 50 58.4	-0.8
	comp=Z,18nm,0.4s						
DANN	Dangsing	47.15	305	*e*P	P	11 50 58.9	-1.1
	comp=Z,20nm,0.4s						
WMQ	Urumqi	52.22	325	*e*P	P	11 51 40.7	+2.7
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,63nm,4.3s						
WMQ				LR	LR		
	comp=N,420nm,29.1s						
WMQ				LR	LR		
	comp=E,2μm,29.1s						
WMQ				LR	LR		
	comp=Z,130nm,28.8s						
PEA0B	Petropavlovsk-	55.11	22	P	P	11 51 59.3	+0.3
PETK	Petropavlovsk-	55.11	22	P	P	11 52 01.1	+2.2
	comp=Z,3.9nm,0.7s,baz=181,slow=3.2,SNR=16						
PETK				LR	LR	12 17 28.3	
	comp=Z,7.3nm,19.7s,baz=188,slow=38						
PETK	Petropavlovsk-	55.11	22	P	P	11 51 59.4	+0.4
MK31	Makanchi Array	57.05	325	P	P	11 52 12.6	-0.4
MKAR	Makanchi Array	57.05	325	P	P	11 52 12.2	-0.8
	comp=Z,1.5nm,0.4s,baz=120,slow=8.5,SNR=17						
MKAR				ScP	ScP	11 57 00.1	-3.7
	comp=Z,0.6nm,0.6s,baz=118,slow=4.5,SNR=4.4						
MKAR				LR	LR	12 18 41.6	
	comp=Z,34nm,18.1s,baz=82,slow=38						
MKAR	Makanchi Array	57.05	325	P	P	11 52 12.5	-0.5
MAKZ	Makanchi	57.23	325	P	P	11 52 14.0	-0.3
MAKZ				IAmb	IAmb	11 52 32.4	
	comp=Z,5.0nm,1.2s						
TARG	Taragay, Kyrgy	57.25	318	P	P	11 52 15.0	0.0
KSH	Kashi	57.55	315	*e*P	P	11 52 19.7	+2.9
KSH				S	S	12 00 10.2	-1.4
KSH				pmax	pmax		
	comp=Z,310nm,4.9s						
KDJ	Kajisay	57.85	318	P	P	11 52 17.5	-1.4
KDJ				IAmb	IAmb	11 52 21.3	
	comp=Z,2.5nm,0.6s						
ZALV	Zalesovo Beam	60.08	333	P	P	11 52 32.0	-1.8
	comp=Z,1.0nm,0.4s,baz=108,slow=7.3,SNR=3.8						
ZALV				LR	LR	12 21 48.1	
	comp=Z,21nm,18.2s,baz=48,slow=39						
ZALV	Zalesovo Beam	60.08	333	P	P	11 52 33.0	-0.9
KBL	Kabul	61.05	307	P	P	11 52 40.3	-0.9
KBL				IAmb	IAmb	11 52 41.5	
	comp=Z,5.3nm,0.7s						
KURBB	Kurchatov Arra	61.23	327	P	P	11 52 41.0	-0.8
	comp=Z,2.9nm,0.4s,baz=129,slow=6.0,SNR=27						
KURK	Kurchatov	61.23	327	P	P	11 52 41.0	-0.8
KURK				IAmb	IAmb	11 52 44.5	
	comp=Z,9.8nm,1.2s						
KK31	Karatay Array	62.74	317	P	P	11 52 50.6	-1.5
KKAR	Karatay Array	62.74	317	P	P	11 52 49.6	-2.5
KKAR	Karatay Array	62.74	317	P	P	11 52 50.8	-1.3
KKAR				IAmb	IAmb	11 52 53.1	
	comp=Z,3.4nm,1.2s						
BKZ	Black Stump Fm	63.08	138	P	P	11 52 52.5	-2.0
BKZ				IAmb	IAmb	11 52 55.2	
	comp=Z,7.8nm,1.2s						
BVAR	Borovoye Array	66.81	327	P	P	11 53 18.0	-0.4
	comp=Z,1.4nm,0.5s,baz=34,slow=12,SNR=7.6						
BRVK	Borovoye	66.88	327	P	P	11 53 18.0	-0.8
BRVK				IAmb	IAmb	11 53 36.2	
	comp=Z,3.7nm,0.7s						
TIXI	Tiksi	67.40	1	LR	LR	12 23 30.4	
	comp=Z,35nm,19.4s,baz=30,slow=36						
TIXI	Tiksi	67.40	1	P	P	11 53 22.9	+1.2
TIXI				IAmb	IAmb	11 53 29.1	
	comp=Z,4.4nm,0.5s						
NRIK	Noril'sk	69.94	346	P	P	11 53 38.5	+0.8
	comp=Z,6.2nm,0.6s,baz=127,slow=5.5,SNR=11						
NRIK				LR	LR	12 25 25.2	
	comp=Z,30nm,20.9s,baz=154,slow=37						
CASY	Casey	71.23	187	P	P	11 53 45.2	-0.3
ABKAR	Akbulak array	71.65	321	P	P	11 53 47.0	-1.4
ABKAR	Akbulak array	71.65	321	P	P	11 53 47.2	-1.2
ABKAR				IAmb	IAmb	11 53 49.1	
	comp=Z,2.7nm,0.7s						
AKTO	Aktyubinsk	73.16	322	P	P	11 53 56.5	-1.0
	comp=Z,2.9nm,0.7s,baz=106,slow=5.7,SNR=9.1						
ARU	Arti	74.43	328	P	P	11 54 03.3	-1.4
	comp=Z,1.3nm,0.4s,baz=90,slow=13,SNR=6.1						
ARU	Arti	74.43	328	P	P	11 54 02.6	-2.0
ARU				IAmb	IAmb	11 54 05.8	
	comp=Z,3.8nm,0.6s						
BRLK	Bradley Lake	82.70	30	P	P	11 54 48.4	-1.8
SUA	Susitna One	82.89	29	P	P	11 54 50.3	-1.0
MAW	Mawson	84.08	200	P	P	11 54 50.1	-6.9
	comp=Z,0.7nm,0.6s,baz=334,slow=9.6,SNR=3.8						
MAW	Mawson	84.08	200	P	P	11 54 53.7	-3.4
ILAR	Eielson Array	84.81	25	P	P	11 55 00.5	-0.4
	comp=Z,0.4nm,0.5s,baz=250,slow=5.3,SNR=1.2						
SBA	Scott Base	84.81	172	P	P	11 54 59.7	-0.9
BRTR	Keskin Array B	89.55	310	P	P	11 55 22.7	-1.9
	comp=Z,1.0nm,0.5s,baz=103,slow=6.4,SNR=6.2						
ARCES	ARCESS Array B	89.94	340	P	P	11 55 24.8	-0.8
	comp=Z,2.4nm,0.6s,baz=83,slow=6.3,SNR=13						
ARCES	ARCESS Array B	89.94	340	P	P	11 55 25.1	-0.5
SPITS	Spitsbergen Ar	90.00	349	P	P	11 55 24.8	-0.9
	comp=Z,9.8nm,0.9s,baz=96,slow=10,SNR=2.5						
FINES	FINESS Array B	91.32	332	P	P	11 55 30.9	-1.2
	comp=Z,2.2nm,0.7s,baz=58,slow=4.8,SNR

ARCO				*e*S	**Sn**	**11 50 37.1**	**+1.4**
ARCO				IAML		11 50 44.1	
	comp=Z,18nm,0.3s						
ASAL	**Salagasta**	**2.20**	**105**	*i* P	**Pn**	**11 50 10.3**	**+0.9**
ASAL				*e*S	**Sn**	**11 50 36.7**	**+1.0**
ZON	**Zonda**	**2.33**	**78**	*i* P	**Pn**	**11 50 11.5**	**+0.3**
ZON				IAML		11 50 42.9	
	comp=Z,14nm,0.3s						
AAGR	**Agrelo**	**2.37**	**117**	*i* P	**Pn**	**11 50 13.4**	**+1.6**
RTCV	**Cerro Valdivia**	**2.40**	**86**	⇓*i* P	**Pn**	**11 50 12.3**	**+0.2**
AMOG	**MOGNA**	**2.68**	**66**	*i* P	**Pn**	**11 50 16.1**	**+0.1**
COIS	**El Sosneado**	**3.39**	**155**	*i* P	**Pn**	**11 50 28.9**	**+3.2**
APLL	**PUNTA DE LOS L**	**4.45**	**70**	*i* P	**Pn**	**11 50 39.9**	**-0.4**
APLL				IAML		11 51 33.8	
	comp=Z,3.2nm,0.3s						
ACLC	**CERRO LA CRUZ**	**4.60**	**57**	*i* P	**Pn**	**11 50 42.1**	**-0.4**
MRA	**San Martin**	**4.79**	**96**	*i* P	**Pn**	**11 50 42.9**	**-2.1**
MRA				IAML		11 50 43.0	
	comp=Z,4.4nm,0.2s						

NIED ***05*** *12:14:00,36°.70N×141°.30E,h5km,Mw3.5 Best double couple: M₀1.94000×10¹⁴ NP1:φs6.00000°,δ37.00000°, λ-91.00000°. NP2:φs188.00000°,δ53.00000°, λ-89.00000°.*
ISCJB ***05*** *12:14:57.6±1.2,36°.68N±0°.04×141°.37E±0°.07,h19km±7km, mb3.5/6,Error ellipse: s-maj=9.6km s-min=5.7km az=20.7*
IDC ***05*** *12:14:57.3±1.0,36°.56N×141°.19E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.6/40,mbtmp3.5/7,ML2.5/1,MS2.4/2, Ms1 2.4/2,ms1mx2.1/40,Error ellipse: s-maj=24.3km s-min=21.3km az=45.0*
JMA ***05*** *12:14:58.8±0.1,36°.70N×141°.28E,h32km±1km,M3.5*
ISC 05 12:14:57.6±1.7,36°.71N±0°.04×141°.35E±0°.06,h9km±9km, n28,σ1§18/32,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.60**	**312**	P	**Pg**	**12 15 09.9**	**+0.7**
ONAJ				*e*S	**Sg**	**12 15 18.0**	**+1.0**
JHO	**Hitachi**	**0.64**	**262**	P	**Pg**	**12 15 10.0**	**+0.1**
JHO				S	**Sg**	**12 15 18.8**	**+0.5**
JHYU	**Hitachinakayam**	**0.72**	**240**	P	**Pg**	**12 15 11.7**	**+0.3**
JHYU				S	**Sg**	**12 15 21.5**	**+0.7**
JFFD	**Fukushimafurud**	**0.74**	**301**	P	**Pg**	**12 15 11.9**	**0.0**
JFFD				S	**Sg**	**12 15 21.5**	**-0.1**
JFK	**Kawauchi**	**0.76**	**330**	P	**Pg**	**12 15 12.9**	**+0.6**
JFK				S	**Sg**	**12 15 23.0**	**+0.7**
JYT	**Yasato**	**1.05**	**243**	P	**Pb**	**12 15 16.5**	**-1.4**
JYT				S	**Sb**	**12 15 29.4**	**-2.3**
JFT	**Otama**	**1.15**	**315**	P	**Pn**	**12 15 19.1**	**-0.8**
JFT				*e*S	**Sb**	**12 15 33.5**	**-1.1**
JSB	**Shiboa**	**1.18**	**283**	P	**Pn**	**12 15 19.8**	**-0.5**
JSB				S	**Sb**	**12 15 35.5**	**0.0**
JMM	**Marumori**	**1.24**	**339**	P	**Pn**	**12 15 20.3**	**-0.8**
JMM				S	**Sb**	**12 15 36.0**	**-1.3**
JFY	**Yanaizu**	**1.49**	**298**	P	**Pn**	**12 15 24.3**	**-0.3**
JAG	**Ashikaga**	**1.56**	**260**	P	**Pn**	**12 15 24.1**	**-1.3**
MJAR	**Matsushiro Arr**	**2.54**	**267**	Pn	**Pn**	**12 15 39.0**	**+0.1**
	1.2nm,0.3s,baz=87,slow=14,SNR=42						
MJAR				Sn	**Sn**	**12 16 09.7**	**-0.2**
	1.4nm,0.3s,baz=75,slow=19,SNR=6.2						
MJAR				LR	LR	12 16 49.3	
	comp=Z,69nm,20.3s,baz=130,slow=47						
MAT	**Matsushiro**	**2.54**	**267**	P	**Pn**	**12 15 39.5**	**+0.6**
MAT				S	**Sn**	**12 16 09.5**	**-0.5**
ASAJ	**Asahikawa**	**7.46**	**7**	Pn	**Pn**	**12 16 43.1**	**-3.5**
	0.1nm,0.3s,baz=280,slow=6.1,SNR=2.1						
KSRS	**Korea Array**	**10.76**	**278**	LR	LR	12 21 29.4	
	comp=Z,22nm,18.6s,baz=80,slow=37						
SONM	**Songino Array**	**27.93**	**304**	P	**P**	**12 20 49.0**	**+0.8**
	0.5nm,0.7s,baz=114,slow=9.6,SNR=2.5						
H11N2	**WAKE ISLAND Hy 28.02**	**120**		T	T	12 50 13.3	
	baz=313,slow=75,SNR=204						
H11N1	**WAKE ISLAND Hy 28.03**	**120**		T	T	12 50 13.5	
	baz=313,slow=75,SNR=249						
H11N3	**WAKE ISLAND Hy 28.04**	**120**		T	T	12 50 14.2	
	baz=313,slow=75,SNR=208						
H11S1	**WAKE ISLAND Hy 28.72**	**122**		T	T	12 51 06.3	
	baz=315,slow=76,SNR=101						
H11S3	**WAKE ISLAND Hy 28.72**	**122**		T	T	12 51 06.3	
	baz=315,slow=76,SNR=163						
H11S2	**WAKE ISLAND Hy 28.74**	**122**		T	T	12 51 06.3	
	baz=315,slow=76,SNR=132						
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**12 22 50.0**	**+0.3**
	0.5nm,0.3s,baz=121,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**12 23 07.4**	**+0.1**
	0.4nm,0.6s,baz=91,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**49.80**	**32**	P	**P**	**12 23 53.1**	**+2.9**
	0.3nm,0.9s,baz=284,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**12 24 41.2**	**-0.5**
	0.5nm,0.5s,baz=5.4,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**60.46**	**188**	P	**P**	**12 25 07.8**	**+0.2**
	0.4nm,0.8s,baz=10,slow=7.6,SNR=4.8						
LPAZ	**La Paz**	**146.90**	**60**	PKPbc	**PKPab**	**12 34 43.4**	**+0.5**
	0.6nm,0.6s,baz=243,slow=11,SNR=2.8						

IDC ***05*** *12:26:19.0±27.0,19°.89S×177°.85W,h520km±252km, mb3.1/4,mb1 3.4/4,mb1mx2.9/22,mbtmp4.0/4,Error ellipse: s-maj=287.4km s-min=50.4km az=132.0*
ISCJB ***05*** *12:26:20.1±0.6,20°.3S±0°.1×177°.84W±0°.08,h550km, mb3.6/4,Error ellipse: s-maj=20.4km s-min=7.4km az=158.5*
NEIC ***05*** *12:26:21.5±2.3,20°.3S±0°.3×177°.6W±0°.2,h575km±21km, mb4.3/8*
ISC 05 12:26:20.5±0.8,20°.4S±0°.1×177°.7W±0°.1,h550km,n15, σ1§19/18,mb4.2/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.46**	**81**	P	**P**	**12 28 13.7**	**+0.6**
NIUE				S	**S**	**12 29 45.6**	**+0.4**
AFI	**Afiamalu**	**8.59**	**42**	P	**P**	**12 28 26.4**	**+2.0**
AFI				S	**S**	**12 30 04.2**	**-1.7**
CTA	**Charters Tower**	**33.75**	**264**	P	**P**	**12 32 16.6**	**-0.5**
	2.0nm,0.5s,baz=96,slow=9.8,SNR=3.7						
AS31	**Alice Springs**	**44.79**	**257**	P	**P**	**12 33 46.2**	**+0.3**
ASAR	**Alice Springs**	**44.79**	**257**	P	**P**	**12 33 46.3**	**+0.4**
	3.0nm,0.9s,baz=96,slow=8.0,SNR=39						
ASAR				PcP	**PcP**	**12 35 16.9**	**+0.8**
	0.1nm,0.5s,baz=115,slow=3.9,SNR=4.2						
ASAR	**Alice Springs**	**44.79**	**257**	P	**P**	**12 33 46.2**	**+0.2**
WB2	**Warramunga Arr**	**44.85**	**262**	P	**P**	**12 33 46.2**	**-0.2**
WB2				IAmb	IAmb	12 34 48.9	
	comp=Z,15nm,1.6s						
WRAB	**Tennant Creek**	**44.86**	**262**	P	**P**	**12 33 46.5**	**+0.1**
WRAB				IAmb	IAmb	12 33 53.5	
	comp=Z,17nm,1.7s						
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**12 33 46.6**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=97,slow=7.6,SNR=53						
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**12 33 45.9**	**-0.6**
KNRA	**Kununurra**	**50.92**	**266**	P	**P**	**12 34 32.4**	**+0.7**
KNRA				IAmb	IAmb	12 34 56.8	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.29**	**262**	P	**P**	**12 34 50.2**	**+1.5**
FITZ				IAmb	IAmb	12 36 39.7	
	comp=Z,25nm,1.8s						
QSPA	**South Pole Qui**	**69.69**	**180**	P	**P**	**12 36 36.7**	**+1.7**
QSPA				IAmb	IAmb	12 39 04.8	
	comp=Z,21nm,1.9s						
PMSA	**Palmer Station**	**81.30**	**157**	P	**P**	**12 37 36.9**	**-2.4**
ILAR	**Eielson Array**	**88.14**	**13**	P	**P**	**12 38 11.5**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=212,slow=5.4,SNR=4.1						

JMA 05 12:33:27.3±0.1,24°.37N×124°.20E,h16km±2km,M0.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.05**	**263**	P	Pg	12 33 30.2	-0.1
JIJ				S	Sg	12 33 32.4	+0.2
JKRS	**Kuro-shima**	**0.22**	**233**	P	Pg	12 33 32.3	0.0
JKRS				S	Sb	12 33 36.4	-0.3
JISG	**Ishigakijimahi**	**0.24**	**25**	P	Pg	12 33 32.6	-0.1
JISG				S	Sb	12 33 36.8	-0.5
HATJ	**Hateruma jima**	**0.48**	**229**	*e*S	Sg	12 33 42.9	-0.4
JTJ	**Tarama**	**0.53**	**59**	P	Pg	12 33 37.7	-0.2
JTJ				*e*S	Sb	12 33 45.5	-0.2

TAP 05 12:34:05.1,24°.88N×122°.10E,h11km,ML2.7,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.17**	**321**	*i* P	Pg	12 34 09.1	+0.3
	baz=325						
TWB1				*i* S	Sg	12 34 11.9	+0.5
	baz=325						
NTC	**Toucheng**	**0.25**	**265**	P	Pb	12 34 11.0	-0.6
	baz=273						
NTC				*e*S	Sg	12 34 15.1	+1.5
	baz=273						
TIPB	**Shuangxi**	**0.27**	**290**	*i* P	Pb	12 34 11.4	-0.6
	baz=291						
TIPB				*e*S	Sb	12 34 15.8	-0.8
	baz=291						
EOS1	**EOS1**	**0.33**	**176**	*i* P	Pg	12 34 12.0	+0.4
	baz=181						
EOS1				S	Sg	12 34 17.1	+1.1
	baz=181						
NWF	**Wu-fen Shan**	**0.35**	**303**	*e*P	Pb	12 34 13.3	-0.1
	baz=296						
WFSB	**Wu-fen Shan**	**0.35**	**303**	*e*P	Pb	12 34 12.9	-0.4
	baz=304						
TWC	**Suao**	**0.35**	**221**	P	Pg	12 34 12.4	+0.3
	baz=208						
TWC				S	Sg	12 34 17.4	+0.6
	baz=208						
TWE	**Neicheng**	**0.43**	**249**	P	Pg	12 34 13.8	+0.3
	baz=245						
TWE				S	Sb	12 34 20.5	-0.6
	baz=245						
SLBB	**Yuanshan**	**0.44**	**254**	*e*P	Pb	12 34 14.6	-0.3
	baz=252						
SLBB				*e*S	Sb	12 34 21.1	-0.5
	baz=252						
ENTT	**Nioudou**	**0.54**	**244**	*e*P	Pb	12 34 16.2	-0.4
	baz=240						
ENTT				*e*S	Sb	12 34 24.5	0.0
	baz=240						
NANB	**Nanao**	**0.55**	**216**	*i* P	Pg	12 34 16.1	+0.2
	baz=205						
NANB				S	Sg	12 34 22.9	-0.2
	baz=205						
YM01	**YM01**	**0.55**	**299**	*e*P	Pb	12 34 16.9	+0.1
	baz=299						
NWLT	**Wulai**	**0.56**	**260**	*e*P	Pb	12 34 16.8	-0.1
	baz=258						
ENA	**Nanau**	**0.56**	**216**	P	Pg	12 34 16.2	+0.3
	baz=205						
ENA				S	Sg	12 34 23.1	-0.2
	baz=205						
YM08	**YM08**	**0.56**	**304**	P	Pb	12 34 17.1	+0.2
	baz=304						
YM11	**YM11**	**0.56**	**301**	*e*P	Pb	12 34 17.1	+0.1
	baz=302						
YM10	**YM10**	**0.56**	**299**	P	Pb	12 34 17.3	+0.3
	baz=299						
YM05	**YM05**	**0.56**	**300**	*e*P	Pb	12 34 17.5	+0.4
	baz=300						
TATO	**Taipei**	**0.57**	**280**	*e*P	Pb	12 34 17.7	+0.7
	baz=271						
YM04	**YM04**	**0.58**	**298**	*e*P	Pb	12 34 17.6	+0.3
	baz=298						
NDT	**Datong Townshi**	**0.60**	**243**	*e*P	Pb	12 34 17.6	0.0
	baz=241						
NDT				*e*S	Sb	12 34 25.8	-0.4
	baz=241						
TWY	**Chenhua**	**0.60**	**311**	*e*P	Pb	12 34 17.6	0.0
	baz=312						
ANP	**Anpu**	**0.61**	**300**	*e*P	Pn	12 34 19.1	-0.7
	baz=300						
NTST	**Danshui**	**0.66**	**296**	*e*P	Pn	12 34 19.8	-0.6
	baz=296						
TWS1	**Kuangyinshan**	**0.66**	**290**	*e*P	Pn	12 34 19.8	-0.6
	baz=290						
YHNB	**Yeheng**	**0.69**	**253**	P	Pb	12 34 18.9	-0.3
	baz=251						
YHNB				*e*S	Sg	12 34 28.1	+0.4
	baz=251						
NSK	**Sanguang**	**0.71**	**254**	P	Pb	12 34 19.3	-0.2
	baz=251						
NSK				*e*S	Sg	12 34 27.8	-0.2
	baz=251						
PCYT	**Pengchaiyu**	**0.75**	**358**	*e*P	Pb	12 34 20.0	-0.2
	baz=2.0						
PCYT				*e*S	Sn	12 34 32.8	-0.2
	baz=2.0						
NNSB	**Datong**	**0.79**	**236**	*e*P	Pg	12 34 20.3	-0.1
	baz=239						
NNSB				*e*S	Sb	12 34 31.8	0.0
	baz=239						
NNS	**Nan Shan**	**0.80**	**237**	*e*P	Pb	12 34 20.9	-0.1
	baz=234						
NACB	**Ninganchiao**	**0.84**	**214**	P	Pg	12 34 21.3	0.0
	baz=200						
NACB				*e*S	Sb	12 34 32.8	-0.2
	baz=200						
ETLH	**Xiulin Townshi**	**0.88**	**220**	P	Pg	12 34 22.1	+0.1
	baz=225						
ETLH				*e*S	Sb	12 34 34.6	+0.5
	baz=225						
TWD	**Chiawan**	**0.92**	**210**	*e*P	Pg	12 34 21.8	-1.0
	baz=198						
TWD				*e*S	Sg	12 34 34.4	-0.4
	baz=198						
LIOB	**Emei**	**1.01**	**257**	*e*P	Pn	12 34 25.8	+0.5
	baz=247						
NSTT	**Nanjuang**	**1.03**	**256**	*e*P	Pn	12 34 26.1	+0.6
	baz=246						
WHF	**Hehuan Shan**	**1.06**	**226**	*e*P	Pb	12 34 25.7	+0.1
	baz=221						
WHF				*e*S	Sb	12 34 40.3	+0.7
	baz=221						
TDCB	**Techi**	**1.06**	**234**	*e*P	Pb	12 34 25.8	+0.2
	baz=222						
TDCB				S	Sb	12 34 40.2	+0.7
	baz=222						
CHGB	**Renai**	**1.18**	**226**	*e*P	Pg	12 34 28.3	+0.6
	baz=220						
CHGB				*e*S	Sn	12 34 43.6	-0.1
	baz=220						
ESL	**Shilin**	**1.22**	**210**	*e*P	Pn	12 34 28.1	-0.1
	baz=203						
ESL				*e*S	Sg	12 34 44.4	-0.1
	baz=203						
VWDT	**VWDT**	**1.42**	**218**	*e*P	Pg	12 34 32.9	+0.5
	baz=219						
VWDT				*e*S	Sg	12 34 50.3	-0.6
	baz=219						
SSLB	**Suanglung**	**1.51**	**224**	*e*P	Pn	12 34 32.6	+0.5
	baz=216						
SSLB				*e*S	Sb	12 34 52.6	+0.3
	baz=216						
HGSD	**Ruisui**	**1.51**	**204**	*e*P	Pg	12 34 34.3	+0.2
	baz=181						
HGSD				*e*S	Sg	12 34 55.8	+2.0
	baz=181						
WHYT	**Xinyi Township**	**1.64**	**224**	*e*P	Pg	12 34 36.3	-0.2
	baz=218						
YULB	**Yu-li**	**1.65**	**207**	*e*P	Pn	12 34 34.7	+0.7
	baz=192						
YULB				*e*S	Sb	12 34 56.8	+0.4
	baz=192						

NSSC ***05*** *12:40:37.4±0.6,33°.95N×35°.71E,h6km±12km,ML2.4*
ISCJB ***05*** *12:40:38.8±1.7,33°.89N±0°.05×35°.72E±0°.10,h22km±13km, Error ellipse: s-maj=13.4km s-min=8.6km az=175.6*
GRAL ***05*** *12:40:40.1±0.3,33°.87N×35°.84E,h1km±25km,MD3.0*
ISC 05 12:40:39.0±1.1,33°.88N±0°.05×35°.77E±0°.05,h17km±8km, n7,σ0§37/13,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.10**	**287**	*e*P	**Pg**	**12 40 42.9**	**+0.2**
BHL				*e*S	**Sg**	**12 40 45.0**	**-0.2**
DQRL	**Deir Qamar**	**0.24**	**224**	*e*P	**Pb**	**12 40 45.1**	**+0.2**
DQRL				*e*S	**Sb**	**12 40 48.9**	**0.0**
RCY	**Rachaya**	**0.38**	**172**	*e*P	**Pg**	**12 40 46.9**	**-0.1**
RCY				*e*S	**Sg**	**12 40 51.9**	**-0.5**
HWQ	**Hawqa**	**0.43**	**20**	*e*P	**Pg**	**12 40 47.5**	**-0.3**
BRBR	**Barbar**	**0.49**	**162**	*e*P	**Pg**	**12 40 48.7**	**-0.2**
BRBR				*e*S	**Sb**	**12 40 56.5**	**+0.4**
BRBR				AML	AML	12 41 00.3	
	comp=E,186nm,0.6s						
BRBR				AML	AML	12 41 00.8	
	comp=N,284nm,0.4s						
QASN	**Qassioun**	**0.54**	**129**	*e*P	**Pg**	**12 40 49.9**	**0.0**
QASN				*e*S	**Sb**	**12 40 58.1**	**+0.5**
QASN				AML	AML	12 41 02.5	
	comp=E,1μm,0.4s						
QASN				AML	AML	12 41 08.9	
	comp=N,397nm,0.5s						
TOTH	**TOTAH**	**0.75**	**133**	*e*P	**Pb**	**12 40 54.0**	**+0.4**
TOTH				*e*S	**Sn**	**12 41 05.4**	**-0.5**
TOTH				AML	AML	12 41 12.8	
	comp=E,57nm,0.5s						
TOTH				AML	AML	12 41 14.1	
	comp=N,84nm,0.5s						

NIED ***05*** *12:48:00,41°.00N×143°.20E,h23km,Mw4.2 Best double couple: M₀2.39000×10¹⁵ NP1:φs268.00000°,δ24.00000°, λ156.00000°. NP2:φs20.00000°,δ81.00000°,λ68.00000°.*
IDC ***05*** *12:48:36.2±0.8,40°.94N×143°.25E,h0km,mb4.0/11, mb1 4.1/17,mb1mx4.0/40,mbtmp3.9/17,ML3.0/6,MS3.5/19, Ms1 3.5/19,ms1mx3.3/43,Error ellipse: s-maj=19.1km s-min=16.3km az=98.0*
BJI ***05*** *12:48:36.6±0.0,41°.14N×143°.77E,h46km,mb4.6/25, mB4.8/19,Ms4.2/5,Ms7 4.0/5*
ISCJB ***05*** *12:48:39.4±0.4,40°.95N±0°.02×143°.31E±0°.04,h38km±3km, mb4.2/31,MS3.7/13,Error ellipse: s-maj=5.5km s-min=2.6km az=32.8*
MOS ***05*** *12:48:39.4±1.1,40°.94N×143°.24E,h40km,mb4.5/9,Error ellipse: s-maj=8.2km s-min=5.6km az=86.3*
JMA ***05*** *12:48:40.1±0.1,40°.96N×143°.20E,h32km,M4.2*
NEIC ***05*** *12:48:41.9±1.6,41°.02N±0°.05×143°.14E±0°.04,h40km±7km, mb4.7/30*
ISC 05 12:48:39.8±1.0,40°.99N±0°.04×143°.29E±0°.05,h26km±6km, n160,σ1§47/174,mb4.4/39,MS3.7/15,13C-12D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.03**	**355**	*c i*P	**Pb**	**12 48 58.9**	**0.0**
ERM	**Erimo**	**1.03**	**355**		**Pb**	**12 48 59.0**	**0.0**
ERM				Sn	**Sb**	**12 49 12.9**	**+0.8**
JEM	**Erimo**	**1.03**	**355**	⇑P	**Pb**	**12 48 58.9**	**-0.1**
JEM				*e*S	**Sb**	**12 49 12.4**	**+0.3**
JTHR	**Tokachihiroo**	**1.30**	**0**	⇑P	**Pn**	**12 49 02.9**	**+0.6**
JTHR				*e*S	**Sb**	**12 49 20.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.35**	**343**	⇑P	**Pn**	**12 49 03.6**	**+0.6**
JNBK				*e*S	**Sn**	**12 49 20.7**	**+0.6**
JKEN	**Kujiedanarisaw**	**1.43**	**237**	P	**Pn**	**12 49 03.1**	**-1.0**
JKEN				*e*S	**Sn**	**12 49 20.0**	**-2.1**
JARK	**Aomorirokkasho**	**1.45**	**271**	P	**Pn**	**12 49 03.6**	**-0.8**
JARK				*e*S	**Sn**	**12 49 22.1**	**-0.5**
JANG	**Nango**	**1.48**	**246**	⇓P	**Pn**	**12 49 04.2**	**-0.6**
JANG				*e*S	**Sn**	**12 49 21.5**	**-1.8**
JCH	**Churui**	**1.63**	**2**	P	**Pn**	**12 49 07.2**	**+0.4**
JCH				*e*S	**Sn**	**12 49 27.6**	**+0.7**
JTM	**Tenmabayashi**	**1.69**	**264**	⇑P	**Pn**	**12 49 07.9**	**+0.2**
JOT	**Ohata**	**1.73**	**284**	P	**Pn**	**12 49 08.2**	**-0.1**
JKB	**Kayabe**	**1.92**	**299**	P	**Pn**	**12 49 10.9**	**+0.1**
JIAM	**Iburiatsuma**	**1.93**	**328**	P	**Pb**	**12 49 12.8**	**-1.4**
JOM	**Ohasama**	**2.15**	**226**	⇑P	**Pn**	**12 49 14.7**	**+0.7**
JFR	**Furan**	**2.23**	**347**	P	**Pn**	**12 49 17.1**	**+1.9**
JAK	**Akkeshi**	**2.27**	**27**	⇓P	**Pn**	**12 49 15.9**	**+0.3**
JAK				*e*S	**Sn**	**12 49 42.3**	**-0.3**
JEW	**Eniwo**	**2.30**	**324**	P	**Pn**	**12 49 17.5**	**+1.4**
JAR	**Ashorobuto**	**2.33**	**9**	⇑P	**Pn**	**12 49 16.9**	**+0.4**
JAR				*e*S	**Sn**	**12 49 44.2**	**-0.2**
JOMM	**Oshimamatsumae**	**2.53**	**283**	P	**Pn**	**12 49 19.9**	**+0.7**
JMK	**Ichinoseki**	**2.58**	**219**	⇑P	**Pn**	**12 49 20.8**	**+0.9**
NMR	**Nemuro--Hokkai**	**2.99**	**37**	*e*P	**Pn**	**12 49 25.4**	**-0.1**
NMR				*e*S	**Sn**	**12 49 58.3**	**-2.3**
JKA	**Kamikawa-asahi**	**3.17**	**351**		**Pn**	**12 49 29.3**	**+1.4**
JKA					**Sn**	**12 50 04.9**	**0.0**
ASAJ	**Asahikawa**	**3.17**	**351**	Pn	**Pn**	**12 49 29.3**	**+1.4**
	4.2nm,0.3s,baz=206,slow=15,SNR=46						
ASAJ				Sn	**Sn**	**12 50 04.9**	**0.0**
	5.3nm,0.3s,baz=98,slow=15,SNR=6.7						
GLVR	**Golovnino**	**3.21**	**30**	*e*P	**Pn**	**12 49 29.8**	**+1.3**
GLVR				*e*S	**Sn**	**12 50 04.4**	**-1.5**
GLVR				pmax	pmax		
	comp=N,97nm,0.3s						
GLVR				pmax	pmax		
	comp=E,95nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,276nm,0.3s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,822nm,0.2s						
GRPR	**Tuman**	**3.52**	**31**	*d i*P	**Pn**	**12 49 33.6**	**+0.8**
GRPR				*i* S	**Sn**	**12 50 11.3**	**-2.3**
GRPR				pmax	pmax		
	comp=Z,292nm,0.3s						
GRPR				pmax	pmax		
	comp=N,107nm,0.4s						
GRPR				pmax	pmax		
	comp=E,109nm,0.2s						
GRPR				smax	smax		
	comp=N,695nm,0.4s						
GRPR				smax	smax		
	comp=E,287nm,0.2s						
LAGR	**Lagunnoye**	**3.58**	**30**	*e*P	**Pn**	**12 49 34.5**	**+0.9**
LAGR				*e*S	**Sn**	**12 50 13.1**	**-1.9**
LAGR				pmax	pmax		
	comp=Z,573nm,0.3s						
LAGR				pmax	pmax		
	comp=N,97nm,0.1s						
LAGR				smax	smax		
	comp=N,727nm,0.4s						
LAGR				smax	smax		
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.59**	**31**	*e*P	**Pn**	**12 49 34.7**	**+0.9**
YUK				*e*S	**Sn**	**12 50 13.7**	**-1.6**
YUK				pmax	pmax		
	comp=Z,384nm,0.3s						
YUK				pmax	pmax		
	comp=N,25nm,0.1s						
YUK				pmax	pmax		
	comp=E,42nm,0.1s						
YUK				smax	smax		
	comp=N,804nm,0.3s						
YUK				smax	smax		
	comp=E,545nm,0.3s						
YUK				MLR	MLR		
	comp=Z,302nm,16.0s						
KUR	**Kuril'sk**	**5.41**	**37**	*e*P	**Pn**	**12 50 00.8**	**+2.1**
KUR				*e*S	**Sn**	**12 50 58.8**	**-1.3**
KUR				pmax	pmax		
	comp=Z,96nm,0.5s						
KUR				pmax	pmax		
	comp=N,44nm,0.3s						
KUR				pmax	pmax		
	comp=E,43nm,0.3s						
KUR				smax	smax		
	comp=E,134nm,0.6s						
KUR				smax	smax		
	comp=N,190nm,0.5s						
KUR				MLR	MLR		
	comp=Z,471nm,16.0s						
MJB9	**Matsu-Tunnel**	**5.95**	**223**		**Pn**	**12 50 07.4**	**+1.1**
MJB9				Sn	**Sn**	**12 51 12.2**	**-1.5**
MAJO	**Matsushiro**	**5.95**	**223**	*c i*P	**Pn**	**12 50 07.7**	**+1.4**
MAJO	**

JHJ	**Hachijo jima 2**	**8.34 201**	Pn	**Pn**	**12 50 34.5**	**-4.5**	
	comp=Z,2.7nm,0.3s,baz=74,slow=20,SNR=2.1						
JHJ			Sn	Sn	12 52 02.6	-10	
	baz=90,slow=20,SNR=4.2						
JHJ			LR	LR	12 54 06.0		
	comp=Z,117nm,20.2s,baz=96,slow=40						
VLA	**Vladivostok**	**8.75 288**	⇓*e*P	**Pn**	**12 50 44.5**	**0.0**	
USA0B	**Ussuriysk Arra**	**8.93 295**	⇓*e*P	**Pn**	**12 50 49.3**	**+2.2**	
USA0B	**Ussuriysk Arra**	**8.93 295**	Pn	**Pn**	**12 50 44.0**	**-3.0**	
USRK	**Ussuriysk Ar.**	**8.93 295**	P	**Pn**	**12 50 46.2**	**-0.8**	
USRK	**Ussuriysk Ar.**	**8.93 295**	Pn	**Pn**	**12 50 48.2**	**+1.1**	
	baz=105,slow=12,SNR=15						
USRK			LR	LR	12 54 20.3		
	comp=Z,305nm,18.5s,baz=94,slow=38						
USRK	**Ussuriysk Ar.**	**8.93 295**		**Pn**	**12 50 46.2**	**-0.8**	
TYV	**Tymovskoe**	**9.89 358**	*e*P	Pn	12 50 50.2	-10	
TYV			pmax	pmax			
	comp=Z,8.0nm,1.4s						
TYV			MLR	MLR			
	comp=E,4μm,17.0s						
TYV			MLR	MLR			
	comp=Z,900nm,18.0s						
MDJ	**Mudanjiang**	**10.70 294**	Pn	**Pn**	**12 51 11.6**	**+0.4**	
KLR	**Kul'dur**	**11.58 319**	⇓*e*P	**Pn**	**12 51 25.1**	**+1.8**	
KLR			pmax	pmax			
	comp=Z,7.0nm,1.1s						
KLR	**Kul'dur**	**11.58 319**	Pn	**Pn**	**12 51 23.9**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=5.1						
KLR			LR	LR	12 56 12.0		
	comp=Z,157nm,18.5s,baz=147,slow=39						
KSRS	**Korea Array**	**12.43 258**	Pn	**Pn**	**12 51 35.9**	**+1.0**	
	comp=Z,0.1nm,0.3s,baz=64,slow=15,SNR=3.2						
KSRS			LR	LR	12 56 11.6		
	comp=Z,196nm,18.5s,baz=67,slow=37						
JNU	**Nakatsue**	**12.63 236**	LR	LR	12 56 49.0		
	comp=Z,89nm,19.1s,baz=94,slow=39						
CN2	**Changchun**	**13.48 288**	*e*P	**Pn**	**12 51 51.7**	**+2.4**	
PEA0B	**Petropavlovsk-**	**15.56 34**	⇓*e*P	**Pn**	**12 52 18.3**	**+1.0**	
PEA0B	**Petropavlovsk-**	**15.56 34**	Pn	**Pn**	**12 52 18.6**	**+1.3**	
PEA0B			IAmb	IAmb	12 53 15.2		
	comp=Z,61nm,1.5s						
PETK	**Petropavlovsk-**	**15.56 34**	Pn	**Pn**	**12 52 15.8**	**-1.6**	
	comp=Z,0.1nm,0.3s,baz=207,slow=8.3,SNR=6.1						
PETK			LR	LR	12 58 45.8		
	comp=Z,63nm,18.9s,baz=242,slow=39						
HIA	**Hailar**	**18.50 304**	⇓*e*P	**P**	**12 52 52.7**	**-1.3**	
HIA			pmax	pmax			
	comp=Z,68nm,1.1s						
HIA	**Hailar**	**18.50 304**	P	**P**	**12 52 52.0**	**-1.9**	
MA2	**Magadan**	**19.19 12**	LR	LR	13 02 00.8		
	comp=Z,66nm,18.8s,baz=285,slow=42						
BJI	**Beijing**	**20.61 276**	*e*P	**P**	**12 53 16.9**	**0.0**	
BJI			LR	LR			
	comp=Z,78nm,4.9s						
BJI			LR	LR			
	comp=Z,94nm,15.2s						
NJ2	**Nanjing**	**21.51 253**	*e*P	**P**	**12 53 26.6**	**-0.1**	
NJ2			pmax	pmax			
	comp=Z,18nm,0.5s						
YAK	**Yakutsk**	**22.62 343**	*e*P	**P**	**12 53 34.8**	**-3.5**	
YAK			*e**PP	**pP**	**12 53 43.1**	**-1.7**	
YAK			*e*S	**S**	**12 57 42.8**	**-1.5**	
YAK			*e**SS	Sn	12 57 59.9	+1.2	
YAK			*e*SS	**SnSn**	**12 58 17.2**	**+2.7**	
YAK			*e*		13 04 45.9		
YAK			pmax	pmax			
	comp=Z,14nm,0.9s						
YAK			pmax	pmax			
	comp=E,3.0nm,1.1s						
YAK			pmax	pmax			
	comp=N,6.0nm,1.0s						
YAK			pmax	pmax			
	comp=Z,48nm,2.4s						
YAK			pmax	pmax			
	comp=N,44nm,2.3s						
YAK			smax	smax			
	comp=N,81nm,2.2s						
YAK			smax	smax			
	comp=E,55nm,3.0s						
YAK			MLR	MLR			
	comp=Z,84nm,20.0s						
YAK	**Yakutsk**	**22.62 343**	P	**P**	**12 53 34.6**	**-3.7**	
	comp=Z,3.2nm,0.3s,baz=184,slow=5.2,SNR=7.1						
YAK	**Yakutsk**	**22.62 343**	P	**P**	**12 53 34.9**	**-3.4**	
YAK			IAmb	IAmb	12 53 36.5		
	comp=Z,14nm,0.8s						
SEY	**Seymchan**	**22.64 11**	⇓*e*P	**P**	**12 53 37.0**	**-1.5**	
SEY	**Seymchan**	**22.64 11**	P	**P**	**12 53 35.8**	**-2.7**	
	comp=Z,4.3nm,0.8s,baz=192,slow=8.5,SNR=8.7						
HHC	**Hu-ho-hao-te**	**23.91 280**	*e*P	**P**	**12 53 51.9**	**+0.3**	
HHC			pmax	pmax			
	comp=Z,6.0nm,0.9s						
BOD	**Bodaibo**	**25.14 322**	*e*P	**P**	**12 54 01.5**	**-0.9**	
BOD			pmax	pmax			
	comp=Z,7.0nm,1.4s						
WHN	**Wuhan**	**25.58 255**	⇓P	**P**	**12 54 06.1**	**-0.6**	
ULN	**Ulaanbaatar**	**26.59 297**	⇓*e*P	**P**	**12 54 17.6**	**+1.7**	
ULN			pmax	pmax			
	comp=Z,6.0nm,1.7s						
ULN	**Ulaanbaatar**	**26.59 297**	P	**P**	**12 54 15.9**	**-0.1**	
SONM	**Songino Array**	**27.03 297**	P	**P**	**12 54 19.7**	**-0.2**	
	comp=Z,1.8nm,0.7s,baz=82,slow=8.5,SNR=8.7						
SONM			LR	LR	13 05 56.8		
	comp=Z,126nm,18.4s,baz=65,slow=38						
SONM	**Songino Array**	**27.03 297**	P	**P**	**12 54 19.7**	**-0.2**	
TLY	**Talaya**	**29.05 305**	*e*P	**P**	**12 54 38.5**	**+0.8**	
TLY			pmax	pmax			
	comp=Z,13nm,0.7s						
TLY			MLR	MLR			
	comp=Z,344nm,14.0s						
TLY	**Talaya**	**29.05 305**	LR	LR	13 07 10.7		
	comp=Z,87nm,18.5s,baz=88,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.23 129**	T	T	13 25 27.5		
	baz=322,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**29.24 129**	T	T	13 25 26.4		
	baz=322,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**29.24 129**	T	T	13 25 24.7		
	baz=322,slow=75,SNR=34						
WAKE	**Wake Island**	**29.44 130**	P	**P**	**12 54 42.0**	**+0.7**	
H11S1	**WAKE ISLAND Hy**	**30.08 131**	T	T	13 26 35.1		
	baz=320						
H11S3	**WAKE ISLAND Hy**	**30.08 131**	T	T	13 26 35.0		
	baz=320,slow=74,SNR=35						
H11S2	**WAKE ISLAND Hy**	**30.09 131**	T	T	13 26 35.6		
	baz=320,slow=74,SNR=42						
LZH	**Lanzhou**	**31.05 274**	*e*P	**P**	**12 54 56.9**	**+1.1**	
LZH			pP	sP	12 55 07.3	+1.4	
LZH			sP	pwP	12 55 12.7	+7.6	
LZH			pmax	pmax			
	comp=Z,14nm,1.0s						
KMI	**Kunming**	**37.12 258**	P	**P**	**12 55 48.4**	**-0.2**	
KMI			pmax	pmax			
	comp=Z,9.0nm,0.8s						
DGZ	**Jazzator, Alta**	**39.39 302**	⇑*e*P	**P**	**12 56 08.1**	**+0.8**	
NRIK	**Noril'sk**	**40.35 333**	LR	LR	13 14 27.7		
	comp=Z,132nm,18.2s,baz=124,slow=38						
ZAA0	**Zalesovo Array**	**40.44 309**	P	**P**	**12 56 15.7**	**-0.1**	
ZAA0			IAmb	IAmb	12 56 32.8		
	comp=Z,10nm,1.2s						
ZALV	**Zalesovo Beam**	**40.44 309**	⇑*e*P	**P**	**12 56 15.1**	**-0.7**	
ZALV	**Zalesovo Beam**	**40.44 309**	P	**P**	**12 56 15.6**	**-0.2**	
	comp=Z,1.8nm,0.5s,baz=80,slow=8.6,SNR=7.4						
ZALV			PcP	**PcP**	**12 58 18.4**	**+0.1**	
	comp=Z,1.1nm,0.6s,baz=58,slow=3.6,SNR=3.1						
WMQ	**Urumqi**	**40.49 293**	*e*P	**P**	**12 56 15.8**	**-0.7**	
WMQ			pP	sP	12 56 27.0	+0.5	
WMQ			pmax	pmax			
	comp=Z,11nm,1.1s						
WMQ			pmax	pmax			
	comp=Z,60nm,4.1s						
WMQ			LR	LR			
	comp=Z,670nm,29.1s						
WMQ			LR	LR			
	comp=Z,1μm,29.1s						
WMQ			LR	LR			
	comp=Z,160nm,28.9s						
IMAR	**Indian Mountai**	**42.52 33**	P	**P**	**12 56 34.1**	**+1.4**	
MK31	**Makanchi Array**	**43.37 299**	P	**P**	**12 56 39.4**	**-0.5**	
MK31			pmax	pmax			
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**43.37 299**	P	**P**	**12 56 39.4**	**-0.5**	
MKAR	**Makanchi Array**	**43.37 299**	P	**P**	**12 56 39.4**	**-0.5**	
	comp=Z,2.0nm,0.7s,baz=85,slow=9.7,SNR=20						
MKAR			LR	LR	13 15 52.6		
	comp=Z,78nm,18.6s,baz=71,slow=38						
MKAR	**Makanchi Array**	**43.37 299**	P	**P**	**12 56 39.4**	**-0.5**	
MAKZ	**Makanchi**	**43.57 299**	P	**P**	**12 56 41.1**	**-0.4**	
MAKZ			pmax	pmax			
	comp=Z,6.0nm,1.1s						
MAKZ	**Makanchi**	**43.57 299**	P	**P**	**12 56 41.1**	**-0.4**	
CM31	**Chiang Mai Arr**	**43.99 253**	P	**P**	**12 56 43.9**	**-1.2**	
CMAR	**Chiang Mai Arr**	**43.99 253**	P	**P**	**12 56 44.6**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=50,slow=6.4,SNR=5.5						
CMAR			LR	LR	13 14 51.8		
	comp=Z,42nm,18.8s,baz=180,slow=36						
TOLK	**Toolik Lake Re**	**44.30 29**	P	**P**	**12 56 48.6**	**+1.6**	
TOLK			IAmb	IAmb	12 57 05.7		
	comp=Z,27nm,1.8s						
NEA	**Nenana**	**44.46 35**	P	**P**	**12 56 47.9**	**-0.4**	
NEA			IAmb	IAmb	12 57 21.6		
	comp=Z,31nm,1.8s						
KURK	**Kurchatov**	**44.74 305**	⇓*i*P	**P**	**12 56 49.5**	**-1.2**	
KURK			pmax	pmax			
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**44.74 305**	P	**P**	**12 56 50.4**	**-0.3**	
KURK			IAmb	IAmb	12 57 07.7		
	comp=Z,5.0nm,0.8s						
IL31		**45.39 34**	P	**P**	**12 56 55.5**	**-0.2**	
IL31			IAmb	IAmb	12 57 15.4		
	comp=Z,28nm,1.9s						
ILAR	**Eielson Array**	**45.39 34**	P	**P**	**12 56 55.9**	**+0.1**	
ILAR	**Eielson Array**	**45.39 34**	P	**P**	**12 56 57.0**	**+1.2**	
	comp=Z,0.3nm,0.6s,baz=258,slow=6.2,SNR=5.9						
ILAR	**Eielson Array**	**45.39 34**	P	**P**	**12 56 55.9**	**+0.1**	
SCM	**Sheep Creek Mo**	**45.44 39**	P	**P**	**12 56 55.7**	**-0.6**	
SCM			pmax	pmax			
	comp=Z,62nm,1.5s						
SCM	**Sheep Creek Mo**	**45.44 39**	P	**P**	**12 56 55.7**	**-0.6**	
PRP	**Porcupine Dome**	**45.92 33**	P	**P**	**12 57 00.3**	**+0.2**	
PRP			IAmb	IAmb	12 57 04.4		
	comp=Z,13nm,1.6s						
FYU	**Fort Yukon**	**45.97 32**	P	**P**	**12 57 00.8**	**+0.5**	
BMAR	**Burnt Mountain**	**46.18 31**	P	**P**	**12 57 02.4**	**+0.4**	
DOT	**Dot Lake**	**46.73 36**	P	**P**	**12 57 07.3**	**+1.0**	
DOT			IAmb	IAmb	12 57 31.2		
	comp=Z,27nm,1.8s						
ODAN	**Odare**	**47.72 271**	*e*P	**P**	**12 57 17.7**	**+3.0**	
BCAR	**Beaver Creek A**	**47.83 36**	P	**P**	**12 57 15.3**	**+0.4**	
EGAK	**Eagle**	**47.83 34**	P	**P**	**12 57 14.3**	**-0.6**	
JIRN	**Jiri**	**48.20 273**	*e*P	**P**	**12 57 21.7**	**+3.0**	
	comp=Z,5.6nm,0.2s						
RAMN	**Ramite**	**48.27 272**	*e*P	**P**	**12 57 22.2**	**+3.2**	
	comp=Z,4.2nm,0.2s						
GUN	**Gumba**	**48.31 273**	*e*P	**P**	**12 57 21.6**	**+2.2**	
	comp=Z,15nm,0.4s						
KDJ	**Kajisay**	**48.34 294**	P	**P**	**12 57 17.4**	**-1.9**	
KDJ			pmax	pmax			
	comp=Z,3.0nm,0.9s						
KDJ	**Kajisay**	**48.34 294**	P	**P**	**12 57 17.4**	**-1.9**	
KKN	**Kakani**	**48.82 273**	*e*P	**P**	**12 57 25.7**	**+2.5**	
PKI	**Pulchoki**	**48.84 273**	*e*P	**P**	**12 57 25.8**	**+2.3**	
PKIN	**Phulchoki**	**48.85 273**	*e*P	**P**	**12 57 26.6**	**+3.1**	
	comp=Z,2.3nm,0.3s						
DMN	**Daman**	**49.05 273**	*e*P	**P**	**12 57 28.1**	**+3.1**	
	comp=Z,3.9nm,0.3s						
BRVK	**Borovoye**	**49.12 310**	⇑*e*P	**P**	**12 57 23.9**	**-1.0**	
BRVK			pmax	pmax			
	comp=Z,2.0nm,0.9s						
GKN	**Gorkha**	**49.20 274**	*e*P	**P**	**12 57 27.8**	**+1.7**	
	comp=Z,5.4nm,0.2s						
DANN	**Dangsing**	**49.68 275**	*e*P	**P**	**12 57 30.3**	**+0.4**	
	comp=Z,30nm,0.7s						
KSH	**Kashi**	**50.21 292**	P	**P**	**12 57 33.1**	**-0.5**	
KSH			pP	sP	12 57 45.7	+1.9	
KSH			PP	**PP**	**12 59 30.1**	**+1.3**	
KSH			S	**S**	**13 04 37.7**	**-6.5**	
KSH			LR	LR			
	comp=Z,160nm,17.5s						
KSH			LR	LR			
	comp=Z,130nm,9.9s						
KSH			LR	LR			
	comp=Z,130nm,10.2s						
HYT	**Haines Junctio**	**50.28 39**	P	**P**	**12 57 33.5**	**-0.4**	
IPM	**Ipoh**	**52.46 238**	P	**P**	**12 57 50.6**	**0.0**	
IPM			IAmb	IAmb	12 58 44.1		
	comp=Z,17nm,1.4s						
KKAR	**Karatay Array**	**52.48 298**	P	**P**	**12 57 49.8**	**-0.6**	
KKAR			pmax	pmax			
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**52.48 298**	P	**P**	**12 57 49.8**	**-0.6**	
SVE	**Sverdlovsk**	**53.20 317**	*e*P	**P**	**12 57 56.5**	**+1.1**	
SOEI	**Soe**	**53.45 204**	P	**P**	**12 57 56.4**	**-1.5**	
ARU	**Arti**	**54.41 317**	*c*i P	**P**	**12 58 04.4**	**0.0**	
ARU					12 59 02.2		
ARU					13 00 02.3		
ARU			S	**S**	**13 05 40.8**	**-0.1**	
ARU			SS	**SKiKP**	**13 09 14.1**	**+1.8**	
ARU			pmax	pmax			
	comp=Z,7.0nm,0.9s						
ARU	**Arti**	**54.41 317**	P	**P**	**12 58 04.3**	**0.0**	
ARU			IAmb	IAmb	12 58 05.4		
	comp=Z,5.9nm,0.9s						
ABKAR	**Akbulak array**	**56.56 309**	P	**P**	**12 58 19.8**	**-0.1**	
ABKAR	**Akbulak array**	**56.56 309**	P	**P**	**12 58 19.3**	**-0.6**	
KNRA	**Kununurra**	**57.96 197**	P	**P**	**12 58 31.0**	**+1.0**	
ARCES	**ARCESS Array B**	**60.82 339**	LR	LR	13 30 02.6		
	comp=Z,43nm,19.5s,baz=284,slow=41						
WRAB	**Tennant Creek**	**61.17 190**	P	**P**	**12 58 50.9**	**-1.2**	
WRAB			pmax	pmax			
	comp=Z,15nm,1.7s						
WRAB	**Tennant Creek**	**61.17 190**	P	**P**	**12 58 50.9**	**-1.2**	
WRAB			IAmb	IAmb	12 58 54.4		
	comp=Z,15nm,1.6s						
WB2	**Warramunga Arr**	**61.18 190**	P	**P**	**12 58 52.0**	**-0.2**	
WB2			IAmb	IAmb	13 00 23.1		
	comp=Z,6.1nm,1.3s						
WRA	**Warramunga Arr**	**61.19 190**	P	**P**	**12 58 51.6**	**-0.6**	
	comp=Z,1.0nm,0.5s,baz=6.7,slow=6.8,SNR=16						
WRA	**Warramunga Arr**	**61.19 190**	P	**P**	**12 58 52.4**	**+0.2**	
GEYT	**Alibeck**	**63.23 298**	LR	LR	13 28 48.5		
	comp=Z,60nm,18.8s,baz=195,slow=38						
ASAR	**Alice Springs**	**64.91 189**	P	**P**	**12 59 17.4**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=5.4,slow=5.4,SNR=12						
ASAR	**Alice Springs**	**64.91 189**	P	**P**	**12 59 17.6**	**+0.7**	
FINES	**FINESS Array B**	**66.00 332**	P	**P**	**12 59 23.4**	**-0.2**	
	comp=Z,4.2nm,0.8s,baz=57,slow=7.0,SNR=6.7						
FINES			LR	LR	13 30 56.8		
	comp=Z,103nm,18.8s,baz=32,slow=38						
FINES	**FINESS Array B**	**66.00 332**	P	**P**	**12 59 23.6**	**0.0**	
DZM	**Mont Dzumac**	**66.33 157**	LR	LR	13 30 05.6		
	comp=Z,22nm,18.9s,baz=206,slow=38						
KIV	**Kislovodsk**	**69.43 311**	*e*P	**P**	**12 59 47.2**	**+1.6**	
KIV			pmax	pmax			
	comp=Z,43nm,1.0s						
KIV	**Kislovodsk**	**69.43 311**	P	**P**	**12 59 46.4**	**+0.8**	
KIV			IAmb	IAmb	12 59 48.3		
	comp=Z,16nm,1.0s						
KBZ	**Khabaz**	**69.44 310**	P	**P**	**12 59 46.7**	**+1.2**	
	comp=Z,5.4nm,0.9s,baz=26,slow=4.8,SNR=11						
NOA	**NORSAR Array B**	**71.10 338**	LR	LR	13 34 49.8		
	comp=Z,45nm,19.7s,baz=55,slow=39						
PDAR	**Pinedale Array**	**73.88 47**	P	**P**	**13 00 14.2**	**+1.6**	
	comp=Z,0.3nm,0.6s,baz=264,slow=4.2,SNR=4.4						
PDAR	**Pinedale Array**	**73.88 47**	P	**P**	**13 00 13.8**	**+1.2**	
BURAR	**Bucovina Array**	**76.11 322**	P	**P**	**13 00 25.3**	**+0.1**	
RAO	**Raoul Island**	**78.58 146**	LR	LR	13 31 10.1		
	comp=Z,61nm,18.7s,baz=84,slow=32						
TXAR	**Lajitas Array**	**86.58 54**	P	**P**	**13 01 21.8**	**+0.7**	
	comp=Z,0.2nm,0.7s,baz=5.7,slow=1.3,SNR=3.5						

*ISCJB **05** 12:48:59.9±1.3, 37°.19N±0°.06×33°.21E±0°.07, h5km±11km,*
Error ellipse: s-maj=11.9km s-min=6.1km az=44.2
*DDA **05** 12:48:59.2, 37°.26N×33°.17E, h7km±3km, ML2.8*
*ISK **05** 12:48:59.8, 37°.19N×33°.24E, h10km, ML2.0/6*

ISC 05 12:48:58.3±2.2, 37°.30N±0°.08×33°.26E±0°.05, h2km±18km, n12, σ1§44/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KERG	**Konya-Eregli**	**0.70**	**80**	*i* P		**Pn**	**12 49 15.6**	**+0.3**
KERG				*i* S		**Sn**	**12 49 25.9**	**-0.9**
ERMK	**Ermenek**	**0.71**	**203**	*i* P		**Pb**	**12 49 13.0**	**-0.5**
ERMK				IAML_P				
	comp=Z,1μm,0.1s							
KMER	**Konya-Meram**	**0.85**	**304**	*i* P		**Pn**	**12 49 21.3**	**+3.8**
TEVE	**Tevekalti-Mers**	**0.87**	**170**	PG		**Pg**	**12 49 15.5**	**+0.5**
TEVE				SG		**Sg**	**12 49 26.1**	**-0.2**
KEBE	**Keben-Mersin**	**0.92**	**157**	PG		**Pg**	**12 49 16.5**	**+0.5**
KEBE				SG		**Sg**	**12 49 28.4**	**+0.5**
BERE	**Bereket-Mersin**	**0.95**	**182**	PG		**Pg**	**12 49 16.6**	**+0.1**
BERE				SG		**Sg**	**12 49 28.5**	**-0.3**
KIZK	**Mersin**	**1.08**	**139**	PG		**Pg**	**12 49 19.3**	**+0.3**
IKL	**Isikli**	**1.11**	**162**	PG		**Pg**	**12 49 19.5**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.16**	**186**	PG		**Pg**	**12 49 19.9**	**-0.6**
GULE	**Gulek**	**1.21**	**90**	*i* P		**Pn**	**12 49 22.9**	**+0.5**
GULE				*i* S		**Sn**	**12 49 40.3**	**+0.9**
GAZI	**Gazipasa**	**1.30**	**216**	PN		**Pn**	**12 49 23.4**	**-0.1**
KDHN	**Kadinhani**	**1.52**	**324**	*i* P		**Pn**	**12 49 23.7**	**-2.9**

ISK 05 12:49:12.6, 38°.12N×32°.52E, h4km, ML1.5/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LADK	**Ladik-KONYA**	**0.15**	**304**	PG		Pg	12 49 16.6	+1.1
LADK				SG		Sg	12 49 18.9	+1.4
KONT	**Konya--Tatoy**	**0.21**	**216**	*i* P		Pg	12 49 17.5	+0.7
KONT	**Konya--Tatoy**	**0.21**	**216**	PG		Pg	12 49 17.4	+0.6
KONT				SG		Sg	12 49 21.1	+1.5
KIZT	**Kizilcal**	**0.91**	**327**	PG		Pb	12 49 30.7	-0.3
KIZT				SG		Sb	12 49 43.9	+0.3

*SOME **05** 12:56:12.5, 39°.52N×73°.17E, h10km*
*NNC **05** 12:56:13.3±4.5, 39°.39N×74°.31E, h0km, mb3.3, mpv2.9,*
Error ellipse: s-maj=33.7km s-min=18.0km az=160.0
*ISCJB **05** 12:56:18.5±1.1, 39°.37N±0°.06×73°.96E±0°.05, h10km, Error ellipse: s-maj=8.5km s-min=6.0km az=166.7*
*KRNET **05** 12:56:18.2±0.1, 39°.56N×73°.82E, mb3.2*

ISC 05 12:56:16.4±1.2, 39°.58N±0°.05×73°.96E±0°.03, h10km, n23, σ1§44/38, 26C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.56**	**92**	Pg		**Pb**	**12 56 45.5**	**0.0**
KSH				Sg		**Sg**	**12 57 05.9**	**-0.7**
KSH				smax		smax		
	comp=N,60nm,0.4s							
KSH				smax		smax		
	comp=E,66nm,0.8s							
ARSB	**Arslanbob**	**1.90**	**337**	⇑*i*P		**Pg**	**12 56 53.4**	**+0.5**
	baz=40							
ARSB				⇑*i*S		**Sg**	**12 57 18.9**	**+1.4**
	baz=40							
ARLS	**Aral**	**2.30**	**7**	⇑*e*P		**Pg**	**12 57 00.0**	**-0.5**
	baz=9.0							
ARLS				⇑*i*S		**Sg**	**12 57 29.7**	**-0.6**
	baz=9.0							
NRN	**Naryn**	**2.42**	**39**	⇑*e*P		**Pg**	**12 57 02.0**	**-0.9**
	baz=41							
NRN				⇑*i*S		**Sg**	**12 57 33.4**	**-0.9**
	baz=41							
BTK	**Batken**	**2.47**	**282**	⇑*e*P		**Pb**	**12 57 01.5**	**+0.6**
	baz=83							
BTK				⇑*i*S		**Sb**	**12 57 32.2**	**+0.8**
	baz=83							
AML	**Almayashu**	**2.56**	**356**	⇑*i*P		**Pb**	**12 57 03.9**	**+1.2**
	baz=58							
AML				⇑*i*S		**Sg**	**12 57 37.4**	**-1.3**
	baz=58							
UCH	**Uchtor**	**2.68**	**9**	⇑*i*P		**Pg**	**12 57 06.4**	**-1.5**
	baz=11							
UCH				⇑*i*S		**Sg**	**12 57 41.6**	**-1.0**
	baz=11							
KZA	**Kyzart**	**2.68**	**21**	⇑*i*P		**Pg**	**12 57 06.8**	**-1.1**
	baz=23							
KZA				⇑*i*S		**Sg**	**12 57 42.4**	**-0.3**
	baz=23							
ARK	**Arkit**	**2.69**	**326**	⇑*i*P		**Pb**	**12 57 04.6**	**-0.1**
	baz=28							
ARK				⇑*i*S		**Sb**	**12 57 37.2**	**-0.6**
	baz=28							
AAK	**Ala-Archa**	**3.08**	**7**	⇑Pg		**Pb**	**12 57 12.7**	**+1.2**
	comp=E,2.7nm,0.6s							
AAK				⇓Lg		Lg	12 57 55.3	
	comp=E,7.5nm,0.8s							
AAK	**Ala-Archa**	**3.08**	**7**	⇑*i*P		**Pb**	**12 57 11.8**	**+0.3**
	baz=9.0							
AAK				⇑*i*S		**Sb**	**12 57 51.0**	**+1.7**
	baz=9.0							
EKS2	**Erkin-Say**	**3.08**	**358**	⇑*e*P		**Pb**	**12 57 11.2**	**-0.3**
	baz=59							
EKS2				⇑*i*S		**Sb**	**12 57 49.9**	**+0.7**
	baz=59							
KBK	**Karagaybulak**	**3.17**	**13**	⇑*i*P		**Pb**	**12 57 13.1**	**+0.2**
	baz=15							
KBK				⇑*i*S		**Sb**	**12 57 53.4**	**+1.8**
	baz=15							
MRKS	**Merke**	**3.21**	**350**	Pg		**Pn**	**12 57 09.9**	**+2.8**
	comp=E,4.5nm,0.5s							
MRKS				Lg		Lg	12 57 58.2	
	comp=E,6.0nm,0.5s							
MRKS	**Merke**	**3.21**	**350**	*e*P		**Pb**	**12 57 12.2**	**-1.5**
	comp=E,4.5nm,0.5s							
MRKS				*e*S		**Sb**	**12 57 54.4**	**+1.5**
	comp=E,6.0nm,0.5s							
TKM2	**Tokmak 2**	**3.56**	**20**	⇓Pg		**Pb**	**12 57 20.4**	**+0.7**
	comp=E,2.4nm,0.7s							
TKM2				⇓Lg		Lg	12 58 06.2	
	comp=E,2.3nm,0.6s							
KST	**Kastek**	**3.78**	**23**	Pg		**Pb**	**12 57 23.1**	**-0.2**
	comp=E,3.5nm,0.8s							
KST				Lg		Lg	12 58 20.5	
	comp=E,4.0nm,0.8s							
KST	**Kastek**	**3.78**	**23**	*e*P		**Pb**	**12 57 25.7**	**+2.4**
	comp=E,134nm,0.4s							
KST				*e*S		**Sg**	**12 58 17.5**	**-0.2**
	comp=E,4.2nm,0.7s							
DGS

STKA Stephens Creek 34.89 248 P P 13 05 50.6 -0.3
BBOO Buckleboo 39.62 247 P P 13 06 29.8 0.0
BBOO IAmb IAmb 13 06 37.3
comp=Z,16nm,1.4s
AS31 Alice Springs 42.19 260 P P 13 06 50.1 -0.4
ASAR Alice Springs 42.19 260 P P 13 06 49.8 -0.7
comp=Z,1.3nm,0.5s,baz=102,slow=7.1,SNR=30
ASAR ScP **ScP** 13 11 34.0 -2.1
comp=Z,0.2nm,0.5s,baz=108,slow=5.0,SNR=3.9
ASAR Alice Springs 42.19 260 P P 13 06 49.7 -0.8
WB2 Warramunga Arr 42.54 266 P P 13 06 52.3 -1.0
WB2 IAmb IAmb 13 06 52.4
comp=Z,3.4nm,0.5s
WRAB Tennant Creek 42.55 266 P P 13 06 52.2 -1.1
WRAB IAmb IAmb 13 06 52.3
comp=Z,4.3nm,1.0s
WRA Warramunga Arr 42.55 266 P P 13 06 52.2 -1.1
comp=Z,1.4nm,0.3s,baz=102,slow=8.4,SNR=136
WRA Warramunga Arr 42.55 266 P P 13 06 52.2 -1.1
MTN Manton Dam 47.59 274 P P 13 07 30.4 -1.7
KNRA Kununurra 48.83 270 P P 13 07 40.5 -0.9
KNRA IAmb IAmb 13 07 49.3
comp=Z,21nm,1.4s
FITZ Fitzroy Crossi 50.98 265 P P 13 07 56.4 -0.7
FITZ IAmb IAmb 13 07 58.3
comp=Z,6.4nm,1.4s
QSPA South Pole Qui 66.29 180 P P 13 09 42.4 +2.5

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*ISK **05** 13:13:43.5, 41.′11N×43.′27E, h5km, ML2.5/1*
*ISCJB **05** 13:13:44.0±1.0, 41.′04N±0.′06×43.′35E±0.′09, h6km±10km, Error ellipse: s-maj=13.2km s-min=6.8km az=34.1*
*DDA **05** 13:13:45.1, 40.′80N×43.′17E, h7km±3km, ML2.8*
ISC 05 13:13:41.9±2.3, 41.′00N±0.′08×43.′51E±0.′10, h14km±19km, n8, σ0°51/13, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.32**	**167**	*i* P	**Pn**	**13 13 52.5**	**+0.2**
EAK				IAML_P			
comp=Z,5μm,0.2s							
AKH	**Akhalkalaki**	**0.41**	**358**	PG	**Pb**	**13 13 51.4**	**+0.2**
AKH				SG	**Sb**	**13 13 57.2**	**-0.2**
ARTV	**Artvin**	**1.21**	**279**	*i* P	**Pn**	**13 14 04.6**	**-0.1**
ARTV				IAML_P			
comp=Z,2μm,0.1s							
DAGI	**Agillar**	**1.21**	**274**	*i* P	**Pn**	**13 14 04.7**	**+0.1**
DAGI				*i* S	**Sn**	**13 14 20.7**	**-0.1**
DAGI				IAML_P			
comp=Z,899nm,0.2s							
DDEM	**Demirkent**	**1.34**	**266**	*i* P	**Pn**	**13 14 06.6**	**+0.3**
DBAD	**Bademkaya**	**1.37**	**271**	*i* P	**Pn**	**13 14 07.7**	**+0.9**
DBAD				*i* S	**Sn**	**13 14 24.0**	**-0.9**
DBAD				IAML_P			
comp=Z,678nm,0.2s							
BATM	**Batumi**	**1.50**	**294**	PN	**Pn**	**13 14 09.0**	**+0.6**
BATM				SN	**Sn**	**13 14 27.6**	**-0.2**
ONI	**Oni**	**1.59**	**358**	PN	**Pg**	**13 14 12.3**	**-0.2**
ONI				SN	**Sg**	**13 14 33.2**	**0.0**

IDC 05 13:30:39.8±13.0, 27.′62N×141.′12E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/26, mbtmp3.8/3, Error ellipse: s-maj=382.2km s-min=124.3km az=8.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**33.68**	**316**	P	P	13 37 22.5	-0.1
0.3nm,0.5s,baz=99,slow=8.9,SNR=2.4							
MKAR	**Makanchi Array**	**49.41**	**309**	P	P	13 39 31.2	-0.1
0.2nm,0.4s,baz=96,slow=8.9,SNR=6.4							
FINES	**FINESS Array B**	**77.06**	**333**	P	P	13 42 34.5	+0.1
3.3nm,0.9s,baz=79,slow=4.1,SNR=4.1							

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*IDC **05** 13:31:57.5±2.4, 5.′31S×131.′76E, h0km, mb4.0/2, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=200.2km s-min=24.4km az=69.0*
*ISCJB **05** 13:32:05.8±0.8, 5.′69S±0.′06×131.′6E±0.′1, h100km, mb3.7/2, Error ellipse: s-maj=16.0km s-min=9.0km az=171.3*
*NEIC **05** 13:32:06.2±3.0, 5.′75S±0.′08×131.′6E±0.′2, h71km±12km, mb4.1/2*
ISC 05 13:32:06.5±0.9, 5.′78S±0.′07×131.′8E±0.′1, h100km, n16, σ3°02/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.24**	**192**	Pn	**Pn**	**13 32 41.2**	**-1.0**
FAKI	**Fak Fak**	**2.88**	**10**	Pn	**Pn**	**13 32 48.5**	**-2.3**
MTN	**Manton Dam**	**7.05**	**185**		Pn	13 33 51.9	+4.8
KNRA	**Kununurra**	**10.27**	**196**	Pn	**Pn**	**13 34 33.4**	**+2.5**
FITZ	**Fitzroy Crossi**	**13.63**	**206**	Pn	**Pn**	**13 35 16.3**	**+0.7**
COEN	**Coen**	**13.86**	**127**	Pn	**P**	**13 35 24.3**	**+0.6**
WRAB	**Tennant Creek**	**14.29**	**170**	Pn	**P**	**13 35 26.9**	**-1.5**
WRA	**Warramunga Arr**	**14.30**	**170**	Pn	**Pn**	**13 35 25.9**	**+1.4**
0.3nm,0.3s,baz=350,slow=12,SNR=18							
WRA				Sn	**Sn**	**13 38 00.1**	**-1.9**
1.0nm,0.3s,baz=349,slow=24,SNR=14							
WRA	**Warramunga Arr**	**14.30**	**170**		**Pn**	**13 35 25.8**	**+1.4**
WRA					**Sn**	**13 37 57.6**	**-4.4**
WB2	**Warramunga Arr**	**14.30**	**170**	Pn	**Pn**	**13 35 26.4**	**+2.0**
JAGI	**Jajag, Banyuwa**	**17.68**	**260**	P	**Pn**	**13 36 05.3**	**-1.3**
JAGI				IAmb	IAmb	13 37 02.5	
comp=Z,36nm,1.1s							
AS31	**Alice Springs**	**17.90**	**174**	P	**Pn**	**13 36 09.5**	**+0.3**
AS31				IAmb	IAmb	13 36 23.3	
comp=Z,1.6nm,0.3s							
ASAR	**Alice Springs**	**17.90**	**174**	P	**Pn**	**13 36 14.6**	**+5.4**
comp=Z,0.4nm,0.3s,baz=354,slow=13,SNR=19							
ASAR				S	**S**	**13 39 24.4**	**-4.5**
comp=Z,0.2nm,0.3s,baz=359,slow=28,SNR=5.4							
ASAR	**Alice Springs**	**17.90**	**174**	P	**Pn**	**13 36 09.2**	**0.0**
STKA	**Stephens Creek**	**27.54**	**162**	P	**P**	**13 37 50.1**	**+6.1**
comp=Z,0.5nm,0.2s,baz=336,slow=20,SNR=2.2							
MKAR	**Makanchi Array**	**68.19**	**326**	P	**P**	**13 42 57.3**	**+1.1**
comp=Z,0.5nm,0.3s,baz=112,slow=7.9,SNR=11							

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*ISCJB **05** 13:53:04.6±0.8, 1.′7N±0.′1×91.′02E±0.′07, h10km, mb3.7/5, MS3.4/6, Error ellipse: s-maj=17.9km s-min=8.6km az=15.2*
*IDC **05** 13:53:05.7±1.5, 1.′69N×90.′90E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/31, mbtmp3.7/8, ML4.0/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/42, Error ellipse: s-maj=41.0km s-min=24.1km az=37.0*
*NEIC **05** 13:53:08.1±1.7, 1.′9N±0.′1×91.′00E±0.′10, h17km±5km, mb4.5/5*
ISC 05 13:53:06.6±1.0, 1.′7N±0.′1×90.′99E±0.′09, h10km, n34, σ1°18/22, mb3.9/7, MS3.4/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**6.59**	**94**		**Pn**	**13 54 44.0**	**+0.3**
LHMI	**Lhok Sumawe**	**6.88**	**60**	Pn	**Pn**	**13 54 47.5**	**-0.1**
RPSI	**Rantau Prapat**	**7.98**	**83**		**Pn**	**13 55 02.5**	**-0.3**
RPSI	**Rantau Prapat**	**7.98**	**83**		**Pn**	**13 55 03.2**	**+0.4**
RPSI					Sn	13 56 23.4	-10
PSI	**Prapat**	**7.99**	**82**	Pn	**Pn**	**13 55 03.2**	**+0.1**
1.6nm,0.3s,baz=293,slow=6.1,SNR=5.1							
PSI				Sn	Sn	13 56 23.4	-10
0.8nm,0.3s,baz=227,slow=19,SNR=2.2							
PSI				LR	LR	13 58 18.7	
comp=Z,241nm,19.0s,baz=208,slow=39							
IPM	**Ipoh**	**10.38**	**75**		**Pn**	**13 55 35.9**	**+0.2**
PALK	**Pallekele**	**11.64**	**299**	Pn	**Pn**	**13 55 52.2**	**-0.8**
1.2nm,0.3s,baz=115,slow=12,SNR=5.7							
PALK				Sn	Sn	13 57 48.8	-14
1.5nm,0.3s,baz=116,slow=14,SNR=5.9							
PALK	**Pallekele**	**11.64**	**299**	Pn	**Pn**	**13 55 52.8**	**-0.1**
PBKT	**Sadao Pong**	**17.71**	**33**	P	**Pn**	**13 57 12.2**	**-1.3**
PBKT				IAmb	IAmb	13 57 46.5	
comp=Z,9.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**18.36**	**25**	P	**P**	**13 57 22.9**	**+1.4**
baz=220,slow=15,SNR=5.2							
CMAR	**Chiang Mai Arr**	**18.36**	**25**	P	**Pn**	**13 57 18.3**	**-3.2**
H08S2	**Diego Garcia H**	**20.68**	**243**	T	T	14 18 59.5	
baz=63,slow=75,SNR=18							
H08S3	**Diego Garcia H**	**20.68**	**243**	T	T	14 18 58.4	
baz=63,slow=75,SNR=15							
H08S1	**Diego Carcia H**	**20.69**	**243**	T	T	14 19 01.2	
baz=63,slow=75,SNR=19							
UOSS	**Minazif**	**40.73**	**307**	P	**P**	**14 00 47.5**	**-0.4**
UOSS				IAmb	IAmb	14 01 07.4	
comp=Z,29nm,1.6s							
H01W3	**Cape Leeuwin H**	**42.40**	**151**	T	T	14 46 14.9	
baz=326,slow=74,SNR=4.3							
H01W2	**Cape Leeuwin H**	**42.41**	**151**	T	T	14 46 16.6	
baz=326,slow=74,SNR=3.0							
H01W1	**Cape Leeuwin H**	**42.41**	**151**	T	T	14 46 17.2	
baz=326,slow=74,SNR=3.3							
MKAR	**Makanchi Array**	**45.52**	**352**	P	**P**	**14 01 26.7**	**+0.4**
comp=Z,0.2nm,0.4s,baz=180,slow=6.8,SNR=4.7							
MKAR	**Makanchi Array**	**45.52**	**352**	P	**P**	**14 01 27.1**	**+0.7**
WRA	**Warramunga Arr**	**47.65**	**119**	P	**P**	**14 01 44.6**	**+1.0**
comp=Z,0.7nm,1.0s,baz=292,slow=8.5,SNR=3.6							
WRAB	**Tennant Creek**	**47.66**	**119**	P	**P**	**14 01 41.5**	**-2.1**
WRAB				IAmb	IAmb	14 02 19.9	
comp=Z,7.5nm,1.2s							
SONM	**Songino Array**	**47.82**	**14**	P	**P**	**14 01 45.5**	**+1.0**
comp=Z,1.1nm,0.6s,baz=200,slow=10,SNR=5.3							
KSRS	**Korea Array**	**49.15**	**39**	LR	LR	14 26 55.1	
comp=Z,8.8nm,18.7s,baz=30,slow=41							
ZALV	**Zalesovo Beam**	**52.29**	**355**	P	**P**	**14 02 19.4**	**+1.3**
comp=Z,0.6nm,0.4s,baz=177,slow=5.8,SNR=3.0							
ABKAR	**Akbulak array**	**54.28**	**335**	P	**P**	**14 02 33.7**	**+0.7**
STKA	**Stephens Creek**	**58.40**	**129**	LR	LR	14 27 15.2	
comp=Z,90nm,18.4s,baz=204,slow=35							
MATP	**Matopo**	**65.01**	**247**	LR	LR	14 26 54.7	
comp=Z,22nm,21.4s,baz=61,slow=31							
NRIK	**Noril'sk**	**67.53**	**359**	LR	LR	14 35 57.2	
comp=Z,17nm,21.5s,baz=347,slow=38							
LBTB	**Lobatse**	**68.60**	**242**	LR	LR	14 29 23.9	
comp=Z,37nm,18.8s,baz=92,slow=32							
TSUM	**Tsumeb**	**74.94**	**250**	LR	LR	14 32 44.2	
comp=Z,23nm,18.6s,baz=230,slow=32							
GERES	**GERESS Array B**	**80.34**	**319**	P	**P**	**14 05 18.3**	**0.0**
comp=Z,0.2nm,0.3s,baz=116,slow=8.9,SNR=3.5							
TXAR	**Lajitas Array**	**146.07**	**23**	PKPbc	**PKPab**	**14 12 49.3**	**+1.0**
comp=Z,0.2nm,0.6s,baz=351,slow=1.2,SNR=2.7							
TXAR	**Lajitas Array**	**146.07**	**23**		**PKPdf**	**14 12 46.0**	**-1.0**

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*ISCJB **05** 14:00:01.8±0.6, 31.′22S±0.′03×68.′99W±0.′04, h117km±6km, Error ellipse: s-maj=6.2km s-min=5.2km az=28.8*
*SJA **05** 14:00:01.7±0.5, 31.′24S×69.′01W, h113km±1km, ML2.9, MW3.2*
*GUC **05** 14:00:02.2±0.5, 31.′23S×68.′96W, h118km±3km, ML3.2*
ISC 05 14:00:02.5±1.4, 31.′22S±0.′04×69.′00W±0.′04, h113km±9km, n25, σ0°47/37, 3C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.42**	**140**	*i* P	**Pn**	**14 00 19.0**	**-0.3**
ZON				*e* S	**Sn**	**14 00 31.8**	**-0.1**
ZON				IAML		14 00 33.3	
comp=Z,303nm,0.2s							
RTLL	**Cerro Villicun**	**0.46**	**104**	*e* P	**Pn**	**14 00 19.2**	**-0.3**
RTLL				*i* S	**Sn**	**14 00 32.0**	**-0.2**
RTLL				IAML		14 00 32.8	
comp=N,597nm,0.3s							
RTLL	**Cerro Villicun**	**0.46**	**104**	*i* P	**Pn**	**14 00 19.2**	**-0.3**
RTLL				*e* S	**Sn**	**14 00 32.1**	**-0.1**
RTLL				IAML		14 00 35.3	
comp=Z,359nm,0.3s							
AMOG	**MOGNA**	**0.52**	**57**	*i* P	**Pn**	**14 00 20.1**	**+0.3**
AMOG				*e* S	**Sn**	**14 00 33.2**	**+0.3**
RTLS	**Leoncito**	**0.63**	**204**	*i* P	**Pn**	**14 00 20.9**	**-0.1**
RTLS				IAML		14 00 37.7	
comp=Z,135nm,0.2s							
RTCV	**Cerro Valdivia**	**0.75**	**149**	*i* P	**Pn**	**14 00 21.6**	**0.0**
RTCV				*e* S	**Sn**	**14 00 35.9**	**-0.1**
ASAL	**Salagasta**	**1.37**	**174**	*i* P	**Pn**	**14 00 28.2**	**+0.1**
ASAL				*e* S	**Sn**	**14 00 47.4**	**-0.1**
ARCO	**CERRO ARCO**	**1.61**	**178**	*i* P	**Pn**	**14 00 31.2**	**+0.2**
ARCO				IAML		14 00 56.7	
comp=Z,52nm,0.3s							
CO02	**Combarbal**	**1.72**	**270⇑**	*i* P	**Pn**	**14 00 32.4**	**+0.2**
CO02				*e* S	**Sn**	**14 00 55.4**	**+0.5**
CO02				IAML		14 00 57.3	
comp=E,539nm,0.2s							
AGUA	**GUANDACOL**	**1.78**	**14**	*i* P	**Pn**	**14 00 34.5**	**+1.5**
AAGR	**Agrelo**	**1.86**	**176**	*i* P	**Pn**	**14 00 34.2**	**+0.1**
ACAN	**Cantantal**	**1.86**	**125**	*i* P	**Pn**	**14 00 34.3**	**+0.3**
GO04	**Tololo Observa**	**1.87**	**303⇑**	*i* P	**Pn**	**14 00 34.5**	**+0.2**
GO04				*i* S	**Sn**	**14 00 58.8**	**+0.3**
GO04				IAML		14 01 02.6	
comp=N,236nm,0.4s							
APLL	**PUNTA DE LOS L**	**2.28**	**69**	*i* P	**Pn**	**14 00 39.6**	**+0.4**
APLL				IAML		14 01 08.9	
comp=Z,111nm,0.9s							
FCH	**Farellones**	**2.37**	**207⇑**	*i* P	**Pn**	**14 00 41.2**	**+0.5**
FCH				*e*	**Sn**	**14 01 10.0**	**+0.1**
FCH				*e* S	**Sn**	**14 01 10.0**	**+0.1**
FCH				IAML		14 01 17.6	
comp=E,60nm,0.2s							
PEL	**Peldehue**	**2.39**	**216**	*e* S	**Sn**	**14 01 09.7**	**-0.2**
ROCH	**El Roble**	**2.44**	**224**	*i* P	**Pn**	**14 00 41.6**	**+0.1**
ROCH				*e* S	**Sn**	**14 01 11.2**	**-0.2**
ROCH				IAML		14 01 13.1	
comp=E,76nm,0.4s							
ROC1	**El Roble**	**2.45**	**224**	*i* P	**Pn**	**14 00 41.6**	**0.0**
ACLC	**CERRO LA CRUZ**	**2.52**	**45**	*i* P	**Pn**	**14 00 43.0**	**+0.6**
RCDM	**Rinconada Maip**	**2.73**	**214**	*e* P	**Pn**	**14 00 45.2**	**+0.1**
RCDM				IAML		14 01 20.8	
comp=E,128nm,0.2s							
MRA	**San Martin**	**3.04**	**114**	*i* P	**Pn**	**14 00 49.2**	**+0.1**
MRA				IAML		14 01 24.3	
comp=Z,52nm,0.5s							
GO03	**Copiap**	**3.77**	**343**	*e* P	**Pn**	**14 00 58.7**	**-0.3**
GO03				*e* S	**Sn**	**14 01 41.1**	**-1.5**
GO03				IAML		14 01 43.7	
comp=N,28nm,0.3s							
GO03	**Copiap**	**3.77**	**343**	*i* P	**Pn**	**14 00 59.5**	**+0.5**
CYA	**Choya**	**3.92**	**46**	*i* P	**Pn**	**14 01 00.6**	**-0.3**
CYA				IAML		14 01 00.7	
comp=Z,9.3nm,0.3s							
TRQA	**Tornquist**	**8.94**	**142**	*i* P	**Pn**	**14 02 08.1**	**-0.5**

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*IDC **05** 14:16:39.9±2.2, 43.′62N×127.′48W, h0km, mb3.3/3, mb1 3.7/8, mb1mx3.6/39, mbtmp3.3/8, ML3.2/5, MS3.2/4, Ms1 3.2/4, ms1mx2.7/19, Error ellipse: s-maj=35.7km s-min=16.4km az=57.0*
*ISCJB **05** 14:16:41.4±1.0, 43.′78N±0.′04×127.′5W±0.′1, h10km, mb3.1/2, MS2.9/2, Error ellipse: s-maj=13.9km s-min=5.3km az=169.8*
*NEIC **05** 14:16:41.6±1.8, 43.′70N±0.′08×127.′6W±0.′2, h10km±2km, ML3.2/29*
ISC 05 14:16:43.8±1.3, 43.′76N±0.′09×127.′3W±0.′1, h10km, n49, σ2°34/40, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.33**	**111**	Pn	**Pn**	**14 17 20.1**	**-2.2**
KEBM				IAML		14 18 02.7	
comp=N,88nm,1.9s							
KEBM				IAML		14 18 05.9	
comp=E,99nm,2.5s							
KBO	**Bosley Butte**	**2.73**	**123**	Pn	**Pn**	**14 17 27.7**	**0.0**
KBO				IAML		14 17 59.6	
comp=N,62nm,3.7s							
KBO				IAML		14 19 08.8	
comp=E,56nm,3.4s							
COR	**Corvallis**	**2.99**	**73**	Pn	**Pn**	**14 17 31.8**	**+0.6**
COR				IAML		14 18 00.4	
comp=E,74nm,2.7s							
COR				IAML		14 18 45.5	
comp=E,70nm,3.1s							
HUMO	**Hull Mountain**	**3.37**	**108**	Pn	Pn	14 17 32.3	-4.3
H04A	**Detroit Lake**	**3.79**	**74**		**Pn**	**14 17 44.2**	**+2.0**
H04A				IAML		14 18 13.2	
comp=N,26nm,1.3s							
H04A				IAML		14 18 37.1	
comp=E,25nm,2.6s							
JCC	**Jacoby Creek,**	**3.81**	**139**	Pn	**Pn**	**14 17 42.5**	**0.0**
JCC				IAML		14 18 13.2	
comp=E,32nm,2.0s							
JCC				IAML		14 19 09.2	
comp=N,26nm,2.0s							
E03A	**Lebam**	**3.84**	**42**	Pn	**Pn**	**14 17 42.7**	**-0.1**
KHMM	**Horse Mountain**	**3.91**	**136**	Pn	**Pn**	**14 17 43.9**	**-0.2**
YBH	**Yreka Blue Hor**	**3.94**	**119**	Pn	**Pn**	**14 17 43.6**	**-0.7**
comp=N,0.3nm,0.3s,baz=302,slow=15,SNR=6.9							
YBH				Sn	**Sn**	**14 18 24.6**	**-6.0**
comp=N,0.1nm,0.3s,baz=330,slow=16,SNR=2.1							
YBH	**Yreka Blue Hor**	**3.94**	**119**		**Pn**	**14 17 44.2**	**-0.1**
F04A	**Amboy**	**4.09**	**56**		**Pn**	**14 17 47.7**	**+1.4**
NLWA	**Neilton Lookou**	**4.36**	**32**	Pn	**Pn**	**14 17 49.4**	**-0.7**
NLWA				IAML		14 18 54.0	
comp=N,25nm,3.5s							
KMRM	**Mail Ridge**	**4.43**	**142**	Pn	**Pn**	**14 17 51.0**	**-0.1**
KMRM				IAML		14 20 19.6	
comp=E,29nm,4.5s							
KMRM				IAML		14 20 33.1	
comp=N,36nm,4.8s							
LON	**Longmire**	**4.89**	**50**		**Pn**	**14 17 58.8**	**+1.4**
LON				IAML		14 19 11.3	
comp=E,15nm,4.7s							
LON				IAML		14 19 30.6	
comp=N,14nm,2.6s							
D05A	**Enumclaw**	**5.07**	**46**		**Pn**	**14 18 01.4**	**+1.6**
PGC	**Sidney**	**5.57**	**27**	Pn	**Pn**	**14 18 06.5**	**-0.2**
F07A	**Phinny Hill Vi**	**5.66**	**65**		**Pn**	**14 18 06.7**	**-1.1**
ORV	**Oroville**	**6.04**	**132**		**Pn**	**14 18 15.3**	**+2.2**
HAWA	**Hanford**	**6.09**	**62**	Pn	**Pn**	**14 18 18.0**	**+4.1**
B06A	**Marblemount**	**6.24**	**38**	Pn	**Pn**	**14 18 16.7**	**+0.8**
AFDM	**Forest Hills D**	**6.76**	**133**	Pn	**Pn**	**14 18 26.4**	**+3.3**
PNTR	**Pine Nut**	**7.43**	**126**		**Pn**	**14 18 36.6**	**+4.2**
YERR	**Yerington**	**7.71**	**125**		**Pn**	**14 18 38.9**	**+2.7**
CMB	**Columbia Colle**	**7.75**	**135**		**Pn**	**14 18 39.8**	**+3.2**
WAKR	**Walker**	**7.92**	**129**	Pn	**Pn**	**14 18 41.0**	**+1.8**
NEW	**Newport**	**8.39**	**54**	Pn	**Pn**	**14 18 47.4**	**+2.0**
comp=N,0.3nm,0.3s,baz=234,slow=19,SNR=2.8							
NEW	**Newport**	**8.39**	**54**		**Pn**	**14 18 47.0**	**+1.6**
BBB	**Bella Bella**	**8.45**	**357**	LR	LR	14 21 18.2	
comp=N,186nm,18.9s,baz=178,slow=32							
NVAR	**Mina Array Bea**	**8.62**	**125**	Pn	**Pn**	**14 18 48.6**	**-0.2**
comp=N,0.1nm,0.3s,baz=294,slow=12,SNR=5.1							
NVAR	**Mina Array Bea**	**8.62**	**125**	Pn	**Pn**	**14 18 51.4**	**+2.5**
MDPB	**Devils Postpil**	**8.73**	**132**		**Pn**	**14 18 52.2**	**+1.8**
DAC	**Darwin (Calif)**	**10.54**	**132**	Pn	**Pn**	**14 19 19.0**	**+4.0**
ISA	**Isabella, Lake**	**10.55**	**137**		**Pn**	**14 19 18.3**	**+3.1**
WALA	**Waterton Lakes**	**10.65**	**55**	Pn	**Pn**	**14 19 19.6**	**+3.2**
PDAR	**Pinedale Array**	**12.97**	**88**	Pn	**Pn**	**14 19 50.8**	**+2.5**
comp=N,0.1nm,0.3s,baz=281,slow=13,SNR=3.0							
PFO	**Pinyon Flats O**	**13.19**	**137**	LR	LR	14 24 43.9	
comp=N,96nm,18.8s,baz=308,slow=37							
DLBC	**Dease Lake**	**14.80**	**354**	Pn	**Pn**	**14 20 12.8**	**-0.2**
comp=N,0.0nm,0.3s,baz=170,slow=14,SNR=2.3							
YKA	**Yellowknife Ar**	**20.18**	**17**	P	**P**	**14 21 18.4**	**+0.2**
comp=N,2.7nm,0.7s,baz=202,slow=10.0,SNR=3.1							
KDAK	**Kodiak Island**	**21.11**	**321**	LR	LR	14 26 59.7	
comp=N,102nm,21.1s,baz=347,slow=29							
TXAR	**Lajitas Array**	**23.71**	**120**	P	**P**	**14 21 54.5**	**-1.5**
comp=N,0.7nm,0.9s,baz=311,slow=9.5,SNR=4.8							
TXAR	**Lajitas Array**	**23.71**	**120**	P	**P**	**14 21 54.2**	**-1.7**
ILAR	**Eielson Array**	**23.76**	**339**	P	**P**	**14 21 53.4**	**-2.7**
comp=N,0.6nm,0.8s,baz=157,slow=8.4,SNR=4.7							
ILAR				LR	LR	14 30 20.9	
comp=N,23nm,20.7s,baz=130,slow=34							
ILAR	**Eielson Array**	**23.76**	**339**	P	**P**	**14 21 53.9**	**-2.2**
H11N3	**WAKE ISLAND Hy**	**59.27**	**268**	T	T	15 30 12.3	
baz=49,slow=75,SNR=26							
H11N2	**WAKE ISLAND Hy**	**59.27**	**268**	T	T	15 30 12.7	
baz=49,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**59.29**	**268**	T	T	15 30 13.9	
baz=49,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**60.20**	**268**	T	T	15 31 21.4	
baz=50,slow=75,SNR=148							
H11S2	**WAKE ISLAND Hy**	**60.20**	**268**	T	T	15 31 21.4	
baz=50,slow=75,SNR=154							
H11S3	**WAKE ISLAND Hy**	**60.21**	**268**	T	T	15 31 20.8	
baz=50,slow=75,SNR=102							

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*IDC **05** 14:33:42.7±20.0, 19.′53S×176.′80W, h410km±115km, mb3.3/4, mb1 3.4/6, mb1mx3.1/29, mbtmp4.2/6, Error ellipse: s-maj=248.5km s-min=32.3km az=49.0*
*ISCJB **05** 14:33:50.5±0.6, 19.′9S±0.′1×177.′62W±0.′09, h450km, mb3.7/4, Error ellipse: s-maj=17.6km s-min=10.8km az=158.9*
*NEIC **05** 14:33:52.4±0.9, 19.′9S±0.′2×177.′5W±0.′2, h471km±29km, mb4.7/14*
ISC 05 14:33:51.7±0.9, 19.′9S±0.′2×177.′6W±0.′1, h450km, n22, σ0°70/21, mb4.3/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.30**	**85**	P	**P**	**14 35 40.5**	**+0.9**
AFI	**Afiamalu**	**8.14**	**44**	P	**P**	**14 35 48.4**	**-0.5**
DZM	**Mont Dzumac**	**15.05**	**259**	P	**P**	**14 37 04.5**	**+0.9**
0.3nm,0.3s,baz=112,slow=19,SNR=4.3							
DZM	**Mont Dzumac**	**15.05**	**259**	IAmb	IAmb	14 38 02.4	
comp=Z,53nm,1.8s							
URZ	**Urewera**	**18.89**	**193**	P	**P**	**14 37 40.8**	**-2.0**
comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=4.3							
QRZ	**Quartz Range**	**22.52**	**200**	P	**P**	**14 38 16.3**	**+0.5**
RPZ	**Rata Peaks**	**25.60**	**199**	P	**P**	**14 38 43.0**	**-0.3**
EIDS	**Eidsvold**	**29.37**	**253**	P	**P**	**14 39 16.5**	**-0.2**
EIDS				IAmb	IAmb	14 39 44.8	
comp=Z,19nm,1.2s							
CTA	**Charters Tower**	**33.91**	**263**	P	**P**	**14 39 56.4**	**+0.4**
comp=Z,2.2nm,0.3s,baz=90,slow=9.9,SNR=13							
CTAO	**Charters Tower**	**33.91**	**263**	P	**P**	**14 39 56.3**	**+0.4**
CTAO				IAmb	IAmb	14 40 08.2	
comp=Z,49nm,1.6s							
COEN	**Coen**	**37.91**	**273**	P	**P**	**14 40 30.1**	**+0.8**
COEN				IAmb	IAmb	14 40 57.4	
comp=Z,56nm,1.8s		

FORT IAmb IAmb 14 52 11.5
comp=Z,80nm,1.6s
GUMO Guam 50.11 309 P P 14 51 40.1 -1.2
KNRA Kununurra 51.39 266 P P 14 51 50.8 0.0
KNRA IAmb IAmb 14 52 59.6
comp=Z,48nm,1.6s
FITZ Fitzroy Crossi 53.77 262 P P 14 52 08.1 +0.1
FITZ IAmb IAmb 14 53 04.3
comp=Z,30nm,1.9s
PSA00 Pilbara Seismi 58.44 257 P P 14 52 39.4 -0.9
PSA00 IAmb IAmb 14 53 33.9
comp=Z,89nm,1.9s
SYO Syowa Base 87.24 192 ‖ *eP* **P 14 55 24.8 -1.0**
IMW Indian Meadow 87.90 41 P P 14 55 28.7 -0.9
IMW IAmb IAmb 14 55 33.2
comp=Z,4.2nm,0.6s
FLWY Flagg Ranch 88.15 41 P P 14 55 28.8 -1.9
FLWY IAmb IAmb 14 55 31.0
comp=Z,46nm,1.6s
N23A Red Feather La 89.70 46 P P 14 55 38.1 0.0
N23A IAmb IAmb 14 55 40.6
comp=Z,15nm,0.9s
BRTR Keskin Array B 147.10 313 PKPbc **PKPbc 15 02 22.4 +1.8**
comp=Z,0.3nm,0.5s,baz=71,slow=4.4,SNR=2.7
BRTR Keskin Array B 147.10 313 PKPdf 15 02 19.7 +2.0

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*ISCJB **05** 14:51:03.4±1.5, 46°48S±0°06×165°89E±0°05, h21km±13km, mb3.6/2, Error ellipse: s-maj=9.8km s-min=4.8km az=166.5*
*WEL **05** 14:51:03.6±1.6, 47°S±7°×16°6E±°, h5km, M4.2/11, ML4.3/7, MLv4.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=83.6*
*NEIC **05** 14:51:05.1±1.6, 46°3S±0°1×165°9E±0°1, h16km±7km, mb4.6/11, ML4.3(WEL)*
*IDC **05** 14:51:09.1±1.7, 45°15S×165°72E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.7/34, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=48.7km s-min=21.4km az=172.0*
ISC 05 14:51:03.0±2.3, 46°48S±0°06×165°99E±0°05, h5km±14km, n73, σ1§68/78, mb4.5/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.30**	**39**	P	**Pn**	**14 51 26.7**	**-1.0**
DCZ				S	**Sg**	**14 51 45.4**	**+0.6**
DCZ	**Deep Cove**	**1.30**	**39**		**Pn**	**14 51 26.7**	**-1.0**
APZ	**The Paps**	**1.42**	**105**	P	**Pn**	**14 51 29.0**	**-0.5**
WHZ	**Wether Hill Ro**	**1.48**	**67**	P	**Pn**	**14 51 30.5**	**+0.2**
WHZ				S	**Sg**	**14 51 51.3**	**+0.7**
WHZ	**Wether Hill Ro**	**1.48**	**67**		**Pn**	**14 51 30.8**	**+0.5**
MLZ	**Mavora Lakes**	**1.86**	**54**	P	**Pn**	**14 51 37.2**	**+1.7**
MLZ				S	**Sg**	**14 52 03.1**	**+0.4**
MLZ	**Mavora Lakes**	**1.86**	**54**		**Pb**	**14 51 37.3**	**-0.1**
SYZ	**Scrubby Hill**	**2.18**	**93**	P	**Pn**	**14 51 40.9**	**+1.1**
SYZ				S	**Sn**	**14 52 06.3**	**-0.8**
MSZ	**Milford Sound**	**2.26**	**38**	P	**Pn**	**14 51 41.4**	**+0.5**
MSZ				S	**Sn**	**14 52 10.7**	**+1.5**
TUZ	**Tuapeka**	**2.58**	**80**	P	**Pn**	**14 51 46.4**	**+1.0**
TUZ				S	**Sn**	**14 52 17.3**	**+0.1**
EAZ	**Earnscleugh**	**2.63**	**63**	P	**Pn**	**14 51 47.7**	**+1.6**
EAZ				S	**Sb**	**14 52 21.8**	**-1.4**
WKZ	**Wanaka**	**2.69**	**53**	P	**Pn**	**14 51 49.6**	**+2.7**
WKZ				S	**Sb**	**14 52 24.8**	**-0.1**
WKZ	**Wanaka**	**2.69**	**53**		**Pn**	**14 51 49.6**	**+2.7**
JCZ	**Jackson Bay**	**3.11**	**40**	P	**Pn**	**14 51 56.3**	**+3.5**
HHSZ	**Highcliff Hill**	**3.26**	**81**	P	**Pn**	**14 51 55.9**	**+1.2**
ODZ	**Otahua Downs**	**3.56**	**68**	P	**Pn**	**14 51 58.0**	**-0.9**
ODZ	**Otahua Downs**	**3.56**	**68**		**Pn**	**14 51 57.9**	**-0.9**
LBZ	**Lake Benmore**	**3.62**	**56**	P	**Pn**	**14 52 01.1**	**+1.4**
LBZ				S	**Sn**	**14 52 43.8**	**+1.0**
LBZ	**Lake Benmore**	**3.62**	**56**		**Pn**	**14 52 00.5**	**+0.8**
FOZ	**Fox Glacier**	**4.01**	**44**	P	**Pn**	**14 52 07.7**	**+2.7**
FOZ				S	**Sn**	**14 52 55.5**	**+3.3**
FOZ	**Fox Glacier**	**4.01**	**44**		**Pn**	**14 52 07.8**	**+2.8**
RPZ	**Rata Peaks**	**4.53**	**54**	Pn	**Pn**	**14 52 12.9**	**+0.8**
5.0nm,0.3s,baz=241,slow=7.9,SNR=26							
RPZ				Sn	**Sn**	**14 53 03.7**	**-1.5**
7.4nm,0.3s,baz=242,slow=12,SNR=5.4							
RPZ	**Rata Peaks**	**4.53**	**54**	P	**Pn**	**14 52 12.9**	**+0.8**
RPZ				S	**Sn**	**14 53 06.3**	**+1.2**
RPZ	**Rata Peaks**	**4.53**	**54**	Pn	**Pn**	**14 52 12.7**	**+0.6**
WVZ	**Waitaha Valley**	**4.80**	**46**	P	**Pn**	**14 52 18.9**	**+3.1**
WVZ				S	**Sn**	**14 53 13.1**	**+1.4**
OXZ	**Oxford**	**5.33**	**56**	P	**Pn**	**14 52 23.9**	**+0.8**
OXZ	**Oxford**	**5.33**	**56**	Pn	**Pn**	**14 52 23.9**	**+0.8**
INZ	**Inchbonnie**	**5.41**	**48**	P	**Pn**	**14 52 26.0**	**+1.8**
INZ				S	**Sn**	**14 53 26.7**	**-0.1**
MQZ	**McQueen's Vall**	**5.47**	**62**	P	**Pn**	**14 52 26.2**	**+1.1**
MQZ	**McQueen's Vall**	**5.47**	**62**	Pn	**Pn**	**14 52 25.8**	**+0.7**
CRLZ	**Canterbury Las**	**5.53**	**61**	Pn	**Pn**	**14 52 25.5**	**-0.4**
LTZ	**Lake Taylor**	**5.81**	**53**	P	**Pn**	**14 52 30.5**	**+0.7**
LTZ				S	**Sn**	**14 53 35.6**	**-1.2**
LTZ	**Lake Taylor**	**5.81**	**53**		**Pn**	**14 52 30.3**	**+0.5**
DSZ	**Denniston Nort**	**6.32**	**44**	P	**Pn**	**14 52 39.4**	**+2.6**
KHZ	**Kahutara**	**6.76**	**56**	Pn	**Pn**	**14 52 43.6**	**+0.9**
THZ	**Tophouse**	**6.86**	**49**	P	**Pn**	**14 52 45.6**	**+1.4**
THZ	**Tophouse**	**6.86**	**49**	Pn	**Pn**	**14 52 45.1**	**+0.9**
QRZ	**Quartz Range**	**7.38**	**42**	P	**Pn**	**14 52 53.1**	**+1.8**
QRZ	**Quartz Range**	**7.38**	**42**	Pn	**Pn**	**14 52 52.4**	**+1.2**
BSWZ	**Blackbirch Sta**	**7.41**	**53**	P	**Pn**	**14 52 54.0**	**+2.3**
BSWZ	**Blackbirch Sta**	**7.41**	**53**	Pn	**Pn**	**14 52 53.6**	**+1.9**
NNZ	**Nelson**	**7.50**	**48**	P	**Pn**	**14 52 55.9**	**+3.1**
NNZ	**Nelson**	**7.50**	**48**	Pn	**Pn**	**14 52 54.3**	**+1.4**
TUWZ	**Tuamarina**	**7.64**	**51**	Pn	**Pn**	**14 52 54.8**	**-0.1**
DUWZ	**D'Urville Isla**	**8.08**	**48**	P	**Pn**	**14 53 04.8**	**+3.9**
MRZ	**Mangatainoka R**	**9.07**	**54**	P	**Pn**	**14 53 14.9**	**+0.5**
HIZ	**Hauiti**	**10.30**	**43**	Pn	**Pn**	**14 53 32.0**	**+0.6**
URZ	**Urewera**	**11.62**	**49**	Pn	**Pn**	**14 53 47.4**	**-2.0**
0.3nm,0.3s,baz=315,slow=2.9,SNR=2.2							
URZ				Sn	Sn	14 55 48.7	-11
0.2nm,0.3s,baz=297,slow=4.5,SNR=2.3							
URZ	**Urewera**	**11.62**	**49**		**Pn**	**14 53 47.5**	**-1.9**
LHI	**Lord Howe Isla**	**15.87**	**338**	Pn	**Pn**	**14 54 44.5**	**-2.4**
LHI				IAmb	IAmb	14 55 10.8	
comp=Z,347nm,1.7s							
CAN	**Canberra**	**16.97**	**305**		**Pn**	**14 55 01.3**	**+0.2**
CAN				IAmb	IAmb	14 55 43.8	
comp=Z,37nm,1.5s							
TOO	**Toolangi**	**17.60**	**293**		**Pn**	**14 55 09.2**	**+0.3**
RAO	**Raoul Island**	**21.31**	**42**	P	**P**	**14 55 46.9**	**-3.6**
EIDS	**Eidsvold**	**24.20**	**325**	P	**P**	**14 56 18.0**	**-2.4**
EIDS				IAmb	IAmb	14 56 29.7	
comp=Z,29nm,1.4s							
AS31	**Alice Springs**	**34.38**	**300**	P	**P**	**14 57 50.8**	**-0.1**
ASAR	**Alice Springs**	**34.38**	**300**	P	**P**	**14 57 50.8**	**-0.1**
comp=Z,0.5nm,0.5s,baz=132,slow=7.9,SNR=32							
ASAR	**Alice Springs**	**34.38**	**300**	P	**P**	**14 57 50.4**	**-0.5**
WC3	**Warramunga Arr**	**36.98**	**305**	P	**P**	**14 58 12.6**	**-0.7**
WC3				IAmb	IAmb	14 58 29.0	
comp=Z,19nm,1.7s							
WB2	**Warramunga Arr**	**37.01**	**305**	P	**P**	**14 58 12.7**	**-0.8**
WB2				IAmb	IAmb	14 59 24.1	
comp=Z,16nm,1.6s							
WRA	**Warramunga Arr**	**37.02**	**305**	P	**P**	**14 58 12.6**	**-0.9**
comp=Z,0.7nm,0.7s,baz=139,slow=7.7,SNR=11							
WRA	**Warramunga Arr**	**37.02**	**305**	IAmb	IAmb	14 58 14.4	
comp=Z,0.6nm,2.0s							
H01W1	**Cape Leeuwin H**	**40.30**	**268**	T	T	15 41 20.4	
baz=123,slow=75,SNR=106							
H01W2	**Cape Leeuwin H**	**40.31**	**268**	T	T	15 41 21.6	
baz=123,slow=75,SNR=96							
H01W3	**Cape Leeuwin H**	**40.32**	**268**	T	T	15 41 22.1	
baz=123,slow=75,SNR=102							
QSPA	**South Pole Qui**	**43.64**	**180**	P	**P**	**14 59 10.2**	**+2.0**
QSPA				IAmb	IAmb	14 59 14.8	
comp=Z,10nm,1.6s							
GIRL	**Giralia**	**47.79**	**282**	P	**P**	**14 59 40.4**	**-0.8**
H08S2	**Diego Garcia H**	**86.92**	**262**	T	T	16 39 27.1	
baz=136,slow=76,SNR=17							
H08S1	**Diego Garcia H**	**86.93**	**262**	T	T	16 39 27.6	
baz=136,slow=76,SNR=6.1							
H08S3	**Diego Garcia H**	**86.94**	**262**	T	T	16 39 27.1	
baz=136,slow=76,SNR=14							
H08N1	**Diego Garcia H**	**88.87**	**262**	T	T	16 41 53.2	
baz=227,slow=75,SNR=34							
H08N3	**Diego Garcia H**	**88.88**	**262**	T	T	16 41 50.0	
baz=227,slow=75,SNR=49							
H08N2	**Diego Garcia H**	**88.89**	**262**	T	T	16 41 51.4	
baz=227,slow=75,SNR=36							
TORD	**Torodi Ar. Bea**	**144.23**	**207**	PKPbc	**PKiKP**	**15 10 47.9**	**+4.1**
comp=Z,0.3nm,0.6s,baz=160,slow=4.6,SNR=2.5							

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*ISCJB **05** 14:56:43.8±0.4, 9°66S±0°04×120°62E±0°03, h50km, mb3.7/2, MS4.1/1, Error ellipse: s-maj=6.6km s-min=4.3km az=18.8*
*NEIC **05** 14:56:45.7±1.6, 9°65S±0°07×120°43E±0°09, h69km±11km, mb4.0/7*
*IDC **05** 14:56:45.4±3.0, 9°65S×120°43E, h61km±31km, mb3.5/2, mb1 3.7/7, mb1mx3.4/39, mbtmp3.8/7, ML3.7/5, MS4.2/1, Ms1 4.2/1, ms1mx2.5/29, Error ellipse: s-maj=35.7km s-min=10.7km az=53.0*
*DJA **05** 14:56:46.2±0.4, 10°S±4°×12°1E±°, h34km±7km, M3.7/12, MLv3.7/12*
ISC 05 14:56:45.0±0.7, 9°59S±0°06×120°56E±0°04, h50km, n30, σ1§61/34, mb4.1/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.27**	**253**	P	**Pn**	**14 56 55.1**	**+1.2**
WBSI	**Waikabubak, Su**	**1.16**	**267**	P	**Pn**	**14 57 06.2**	**+1.3**
WBSI				S	**Sn**	**14 57 21.0**	**+1.3**
EDFI	**Ende, Flores**	**1.39**	**53**	P	**Pn**	**14 57 08.7**	**+0.6**
MMRI	**Maumere**	**1.91**	**60**	P	**Pn**	**14 57 16.6**	**+1.5**
MMRI				S	**Sn**	**14 57 38.6**	**+0.7**
MMRI	**Maumere**	**1.91**	**60**		**Pn**	**14 57 16.0**	**+0.9**
PLAI	**Plampang**	**2.85**	**285**	P	**Pn**	**14 57 29.7**	**+1.6**
PLAI				S	**Sn**	**14 58 03.3**	**+2.1**
BATI	**Baumata**	**3.12**	**102**	P	**Pn**	**14 57 34.5**	**+2.9**
10nm,0.3s,baz=271,slow=8.3,SNR=17							
BATI				S	**Sn**	**14 58 11.3**	**+3.6**
12nm,0.3s,baz=270,slow=20,SNR=7.8							
BATI	**Baumata**	**3.12**	**102**	P	**Pn**	**14 57 32.8**	**+1.1**
BATI				S	**Sn**	**14 58 09.4**	**+1.7**
SOEI	**Soe**	**3.66**	**93**	P	**Pn**	**14 57 40.1**	**+0.9**
SOEI	**Soe**	**3.66**	**93**	Pn	**Pn**	**14 57 42.5**	**+3.3**
TWSI	**Taliwang, Sumb**	**3.73**	**283**	P	**Pn**	**14 57 42.9**	**+2.8**
BKSI	**Bulukumba**	**4.26**	**354**	P	**Pn**	**14 57 48.2**	**+0.8**
KAPI	**Kappang**	**4.62**	**350**	P	**Pn**	**14 57 54.5**	**+2.2**
6.3nm,0.3s,baz=174,slow=3.6,SNR=56							
KAPI				S	**Sn**	**14 58 46.4**	**+1.7**
1.8nm,0.3s,baz=261,slow=23,SNR=7.7							
JAGI	**Jajag, Banyuwa**	**6.43**	**279**	Pn	**Pn**	**14 58 16.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**9.79**	**150**	P	**Pn**	**14 59 01.9**	**-1.2**
0.2nm,0.3s,baz=332,slow=13,SNR=13							
FITZ				S	Sn	15 00 43.3	-8.4
0.5nm,0.3s,baz=258,slow=16,SNR=11							
KNRA	**Kununurra**	**10.03**	**128**	Pn	**Pn**	**14 59 06.2**	**-0.2**
MTN	**Manton Dam**	**10.86**	**108**	Pn	**Pn**	**14 59 16.9**	**-1.0**
WRA	**Warramunga Arr**	**16.82**	**129**	P	**Pn**	**15 00 36.0**	**-1.1**
0.3nm,0.3s,baz=302,slow=13,SNR=17							
WRA				S	Sn	15 03 28.6	-15
0.1nm,0.3s,baz=293,slow=23,SNR=5.2							
WB2	**Warramunga Arr**	**16.83**	**129**	P	**Pn**	**15 00 36.1**	**-1.2**
WB2				IAmb	IAmb	15 00 39.1	
comp=Z,3.9nm,1.9s							
AS31	**Alice Springs**	**18.93**	**139**	P	**P**	**15 01 02.0**	**0.0**
ASAR	**Alice Springs**	**18.93**	**139**	P	**P**	**15 01 03.0**	**+1.1**
comp=Z,0.2nm,0.3s,baz=324,slow=12,SNR=20							
ASAR				S	Sn	15 04 22.5	-12
comp=Z,0.0nm,0.3s,baz=307,slow=22,SNR=2.9							
ASAR	**Alice Springs**	**18.93**	**139**	P	**P**	**15 01 01.9**	**0.0**
COEN	**Coen**	**22.55**	**103**	P	**P**	**15 01 40.6**	**-0.5**
COEN				IAmb	IAmb	15 02 29.0	
comp=Z,19nm,1.2s							
STKA	**Stephens Creek**	**29.53**	**142**	P	**P**	**15 02 45.1**	**+0.3**
comp=Z,2.0nm,0.7s,baz=320,slow=10,SNR=5.9							
STKA	**Stephens Creek**	**29.53**	**142**	IAmb	IAmb	15 03 35.0	
comp=Z,4.9nm,1.9s							
HNR	**Honiara**	**38.83**	**93**	LR	LR	15 21 47.5	
comp=Z,270nm,18.1s,baz=278,slow=39							
KSAR	**Wonju Array Be**	**47.28**	**8**	P	**P**	**15 05 13.1**	**-0.4**
KS19	**Wonju Array Si**	**47.34**	**8**	P	**P**	**15 05 13.6**	**-0.3**
ULN	**Ulaanbaatar**	**58.45**	**349**	P	**P**	**15 06 34.6**	**-1.2**
ULN				IAmb	IAmb	15 06 36.7	
comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**65.69**	**332**	P	**P**	**15 07 22.9**	**-1.4**
comp=Z,0.2nm,0.5s,baz=145,slow=7.9,SNR=3.0							

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*IDC **05** 15:10:58.5±0.5, 6°41S×146°12E, h0km, mb4.6/18, mb1 4.6/23, mb1mx4.5/32, mbtmp4.5/23, ML3.9/4, MS3.9/23, Ms1 3.9/23, ms1mx3.8/31, Error ellipse: s-maj=17.3km s-min=11.9km az=79.0*
*ISCJB **05** 15:11:02.4±0.2, 6°48S±0°03×146°08E±0°04, h35km, mb4.7/25, MS3.9/22, Error ellipse: s-maj=5.9km s-min=4.2km az=168.3*
*NEIC **05** 15:11:04.6±2.1, 6°53S±0°06×145°96E±0°02, h44km±5km, mb4.9/46*
*DJA **05** 15:11:04.8±0.3, 7°S±3°×14°6E±°, h10km, M4.9/33, mB5.5/6, mb4.8/33, MLv5.0/5, Mw(mB)4.9/6*
ISC 05 15:11:04.4±0.3, 6°49S±0°05×146°09E±0°06, h35km, n168, σ2§30/162, mb4.9/43, MS3.9/22, 2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**160**	Pn	**Pn**	**15 11 50.3**	**-0.3**
17nm,0.3s,baz=36,slow=3.1,SNR=35							
PMG				Sn	**Sn**	**15 12 25.1**	**-1.1**
36nm,0.3s,baz=334,slow=14,SNR=6.2							
PMG				Lg	Lg	15 12 42.8	
34nm,0.3s,baz=306,slow=21,SNR=5.6							
PMG				LR	LR	15 13 21.2	
comp=Z,4μm,18.6s,baz=113,slow=45							
PMG	**Port Moresby**	**3.08**	**160**		**Pn**	**15 11 50.1**	**-0.5**
MANU	**Manus Island**	**4.60**	**16**		**Pn**	**15 12 13.6**	**+2.1**
KRVT	**Keravat (AS076**	**6.30**	**70**	Pn	**Pn**	**15 12 35.1**	**+0.2**
1.5nm,0.3s,baz=343,slow=19,SNR=2.1							
KRVT				LR	LR	15 14 53.7	
comp=Z,1μm,20.9s,baz=258,slow=38							
JAY	**Jayapura**	**6.67**	**306**	Pn	**Pn**	**15 12 39.5**	**-0.4**
0.8nm,0.3s,baz=182,slow=8.3,SNR=6.6							
JAY				LR	LR	15 15 24.2	
comp=Z,1μm,20.5s,baz=93,slow=40							
JAY	**Jayapura**	**6.67**	**306**	P	Pn	15 12 47.0	+7.1
GENI	**Genyem**	**7.06**	**303**	P	**Pn**	**15 12 47.7**	**+2.4**
COEN	**Coen**	**7.95**	**201**		**Pn**	**15 12 56.6**	**-1.0**
SMPI	**Sarmi**	**8.61**	**301**	P	Pn	15 13 27.5	+21
CTA	**Charters Tower**	**13.51**	**179**	Pn	**Pn**	**15 14 14.1**	**+0.3**
0.5nm,0.3s,baz=3.3,slow=7.8,SNR=4.8							
CTAO	**Charters Tower**	**13.51**	**179**	Pn	**Pn**	**15 14 15.3**	**+1.6**
HNR	**Honiara**	**14.03**	**103**	P	**P**	**15 14 29.0**	**+0.8**
HNR	**Honiara**	**14.03**	**103**	P	**P**	**15 14 30.0**	**+1.8**
FAKI	**Fak Fak**	**14.24**	**284**	Pn	**Pn**	**15 14 22.7**	**-1.0**
SIJI	**Sorong**	**15.81**	**290**	Pn	**Pn**	**15 14 43.6**	**-0.9**
0.4nm,0.3s,baz=80,slow=9.2,SNR=5.1							
SIJI				LR	LR	15 22 08.4	
comp=Z,867nm,21.3s,baz=92,slow=42							
SWI	**Sorong**	**15.81**	**290**	P	**P**	**15 14 48.2**	**+0.1**
MTN	**Manton Dam**	**16.03**	**246**	Pn	**Pn**	**15 14 44.6**	**-2.8**
BNDI	**Bandanaira**	**16.23**	**276**	P	**P**	**15 14 56.0**	**+3.4**
MSAI	**Masohi**	**17.38**	**280**	P	**P**	**15 15 10.0**	**+4.6**
WRAB	**Tennant Creek**	**17.56**	**219**		**Pn**	**15 15 05.2**	**-1.4**
WB2	**Warramunga Arr**	**17.57**	**219**		**Pn**	**15 15 05.2**	**-1.5**
WRA	**Warramunga Arr**	**17.58**	**219**	P	**Pn**	**15 15 05.0**	**-1.7**
0.9nm,0.3s,baz=41,slow=12,SNR=32							
WRA				LR	LR	15 22 13.9	
comp=Z,205nm,19.1s,baz=345,slow=38							
WRA				ScP	**ScP**	**15 23 27.1**	**+8.9**
baz=31,slow=2.5,SNR=2.1							
WRA	**Warramunga Arr**	**17.58**	**219**		**Pn**	**15 15 05.2**	**-1.6**
PATS	**Pohnpei**	**18.00**	**43**	P	**Pn**	**15 15 13.3**	**+1.3**
AAI	**Ambon**	**18.04**	**278**	P	**P**	**15 15 16.3**	**+3.6**
NLAI	**Namlea**	**19.19**	**279**	P	**Pn**	**15 15 31.5**	**+5.0**
KNRA	**Kununurra**	**19.28**	**240**	P	**P**	**15 15 25.0**	**-1.3**
KNRA				IAmb	IAmb	15 15 35.3	
comp=Z,82nm,1.0s							
EIDS	**Eidsvold**	**19.37**	**166**	P	**Pn**	**15 15 28.8**	**+0.3**
EIDS				IAmb	IAmb	15 15 52.9	
comp=Z,85nm,1.6s							
LBMI	**Labuha**	**19.43**	**287**	P	**Pn**	**15 15 32.1**	**+2.7**
GUMO	**Guam**	**19.99**	**357**	LR	LR	15 23 10.6	
comp=Z,166nm,18.1s,baz=133,slow=37							
SANI	**Sanana**	**20.52**	**282**	P	Pn	15 15 43.9	+1.7
AS31	**Alice Springs**	**20.70**	**213**	P	**P**	**15 15 42.1**	**+0.2**
ASAR	**Alice Springs**	**20.71**	**213**	P	**P**	**15 15 41.5**	**-0.3**
comp=Z,9.1nm,0.8s,baz=39,slow=11,SNR=23							
ASAR				ScP	**ScP**	**15 23 30.7**	**+5.5**
comp=Z,0.6nm,1.0s,baz=26,slow=2.3,SNR=2.5							
ASAR				LR	LR	15 24 14.7	
comp=Z,438nm,18.4s,baz=42,slow=38							
ASAR	**Alice Springs**	**20.71**	**213**	P	**P**	**15 15 41.3**	**-0.5**
SOEI	**Soe**	**21.84**	**260**	P	**P**	**15 15 58.2**	**+4.0**

BATI Baumata 22.49 259 P P 15 15 59.7 -1.4
comp=Z,7.0nm,0.3s,baz=61,slow=19,SNR=2.4
BATI LR LR 15 26 59.7
comp=Z,581nm,19.1s,baz=118,slow=43
BATI Baumata 22.49 259 P P 15 16 05.7 +4.6
FITZ Fitzroy Crossi 23.04 238 P P 15 16 04.7 -2.1
comp=Z,7.7nm,0.5s,baz=66,slow=7.7,SNR=12
FITZ LR LR 15 25 48.3
comp=Z,614nm,18.0s,baz=62,slow=38
FITZ Fitzroy Crossi 23.04 238 P P 15 16 05.1 -1.6
KDI Kendari 23.51 275 P P 15 16 13.6 +2.2
MMRI Maumere 23.74 263 P P 15 16 18.7 +5.0
LUWI Luwuk 23.88 282 P P 15 16 20.1 +5.1
DAV Davao City (W) 24.50 303 LR LR 15 26 46.5
comp=Z,147nm,18.8s,baz=91,slow=39
KCP Kidapawan 24.88 302 ‖ *iP* **P 15 16 26.5 +2.4**
APSI Ampana 25.00 282 P P 15 16 31.0 +5.7
DZM Mont Dzumac 25.02 130 *eP* **P 15 16 27.0 +1.5**
comp=Z,73nm,1.2s
DZM *eS* **S 15 20 43.4 -4.1**
comp=Z,140nm,25.9s
DZM *eLQ* LQ 15 21 41.8
comp=Z,1μm,30.9s
DZM *eLR* LR 15 22 41.6
comp=Z,640nm,24.6s
DZM Mont Dzumac 25.02 130 P P 15 16 25.2 -0.2
comp=Z,18nm,0.8s,baz=236,slow=15,SNR=5.6
DZM LR LR 15 25 04.3
comp=Z,349nm,20.5s,baz=312,slow=34
DZM Mont Dzumac 25.02 130 P P 15 16 27.8 +2.4
DZM IAmb IAmb 15 16 30.6
comp=Z,29nm,1.0s
MRSI Marisa 25.07 285 P P 15 16 30.8 +4.9
STKA Stephens Creek 25.60 189 P P 15 16 30.4 -0.1
comp=Z,16nm,0.8s,baz=348,slow=8.1,SNR=15
STKA LR LR 15 27 18.3
comp=Z,454nm,19.0s,baz=3.2,slow=38
STKA Stephens Creek 25.60 189 P P 15 16 30.8 +0.3
WSI Waingapu 25.73 261 P P 15 16 35.4 +3.6
BKSI Bulukumba 25.85 271 P P 15 16 37.2 +4.2
BNSI Bone 25.95 273 P P 15 16 37.0 +3.2
KAPI Kappang 26.24 272 P P 15 16 37.0 +0.4
comp=Z,19nm,0.7s,baz=137,slow=9.7,SNR=9.0
KAPI LR LR 15 28 12.2
comp=Z,131nm,20.3s,baz=116,slow=39
KAPI Kappang 26.24 272 P P 15 16 36.3 -0.2
KAPI IAmb IAmb 15 16 38.9
comp=Z,21nm,0.8s
SPSI Sidrap Palu 26.33 274 P P 15 16 41.6 +4.3
WBSI Waikabubak, Su 26.61 261 P P 15 16 44.9 +5.0
FORT Forrest 29.49 213 P P 15 17 04.8 -0.5
FORT IAmb IAmb 15 17 09.1
comp=Z,26nm,0.8s
TOO Toolangi 30.94 181 P P 15 17 20.2 +2.1
TPUB Ta-pu 38.68 321 P P 15 18 23.9 -1.1
YHNB Yeheng 39.23 323 P P 15 18 29.7 -0.1
PMBI Palembang 41.32 273 P P 15 18 52.6 +5.5
comp=Z,505nm,0.7s,comp=Z,11μm
JNU Nakatsue 41.97 341 P P 15 18 51.3 -0.8
JNU IAmb IAmb 15 20 14.4
comp=Z,26nm,1.3s
URZ Urewera 42.30 143 P P 15 18 54.7 0.0
comp=Z,14nm,0.7s,baz=293,slow=5.4,SNR=6.9
RPZ Rata Peaks 43.07 153 P P 15 19 02.2 +1.2
MSWZ Moikau Station 43.39 148 P P 15 19 05.7 +2.1
MJAR Matsushiro Arr 43.44 351 P P 15 19 01.5 -2.5
comp=Z,4.4nm,0.6s,baz=167,slow=6.9,SNR=12
MJAR LR LR 15 36 20.4
comp=Z,53nm,19.5s,baz=195,slow=35
MJAR Matsushiro Arr 43.44 351 P P 15 19 02.9 -1.2
MAJO Matsushiro 43.44 351 P P 15 19 02.1 -2.0
MAT Matsushiro 43.44 351 P P 15 19 01.3 -2.8
MAT S **S 15 25 27.0 -3.2**
MJB9 Matsu-Tunnel 43.45 351 P P 15 19 02.1 -2.0
PLWZ Palliser 43.50 148 P P 15 19 06.4 +1.8
BKNI Bangkinang 45.46 277 P P 15 19 18.9 -1.7
NJ2 Nanjing 46.30 327 *eP* **P 15 19 26.9 +0.1**
NJ2 pmax pmax
comp=Z,14nm,0.5s
KSRS Korea Array 46.90 340 P P 15 19 29.3 -2.1
comp=Z,7.7nm,0.9s,baz=158,slow=8.8,SNR=13
KSRS LR LR 15 37 59.2
comp=Z,162nm,19.6s,baz=158,slow=35
KSAR Wonju Array Be 46.90 340 P P 15 19 29.8 -1.6
WHN Wuhan 47.76 322 ‖ P P 15 19 47.0 +8.7
PBKT Sadao Pong 50.17 298 P P 15 19 52.8 -4.2
PBKT IAmb IAmb 15 20 04.6
comp=Z,14nm,0.8s
USA0B Ussuriysk Arra 52.04 347 P P 15 20 08.9 -1.6
USA0B IAmb IAmb 15 20 14.3
comp=Z,8.8nm,0.7s
USRK Ussuriysk Ar. 52.04 347 P P 15 20 09.6 -1.0
comp=Z,7.3nm,0.5s,baz=173,slow=7.0,SNR=35
USRK Ussuriysk Ar. 52.04 347 P P 15 20 09.0 -1.5
KMI Kunming 52.59 308 P P 15 20 15.8 +0.5
KMI pmax pmax
comp=Z,9.0nm,0.6s
CMAR Chiang Mai Arr 52.69 299 P P 15 20 16.1 +0.3
comp=Z,2.5nm,0.5s,baz=124,slow=5.3,SNR=2.8
CMAR LR LR 15 43 41.5
comp=Z,29nm,20.5s,baz=179,slow=37
MDJ Mudanjiang 53.00 345 P P 15 20 16.9 -0.8
YSS Yuzh-Sakhalins 53.30 357 P P 15 20 19.2 -0.6
YSS IAmb IAmb 15 20 24.3
comp=Z,15nm,1.1s
CN2 Changchun 53.43 341 *eP* **P 15 20 22.5 +1.6**
**XAN Xi'an 53.49 321 P P 15 20 21.

WMQ			pmax	pmax		
	comp=Z,50nm,5.1s					
WMQ			LR	LR		
	comp=N,550nm,29.1s					
WMQ			LR	LR		
	comp=E,630nm,29.0s					
WMQ			LR	LR		
	comp=Z,140nm,28.9s					
MK31	**Makanchi Array**	**77.30 321**	P	**P**	**15 22 54.5**	**-0.9**
MKAR	**Makanchi Array**	**77.30 321**	P	**P**	**15 22 54.8**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=97,slow=9.2,SNR=19					
MKAR	**Makanchi Array**	**77.30 321**	P	**P**	**15 22 54.5**	**-0.9**
MAKZ	**Makanchi**	**77.50 321**	P	**P**	**15 22 56.5**	**0.0**
MAKZ			IAmb	IAmb	15 23 06.0	
	comp=Z,9.6nm,1.1s					
ZALV	**Zalesovo Beam**	**78.95 328**	P	**P**	**15 23 02.2**	**-2.2**
	comp=Z,1.0nm,0.5s,baz=124,slow=6.2,SNR=4.8					
ZALV			LR	LR	15 59 25.6	
	comp=Z,37nm,18.2s,baz=26,slow=37					
ZALV	**Zalesovo Beam**	**78.95 328**	P	**P**	**15 23 02.5**	**-1.9**
KDJ	**Kajisay**	**79.00 315**	P	**P**	**15 23 04.3**	**-0.8**
KDJ			IAmb	IAmb	15 23 10.7	
	comp=Z,16nm,0.9s					
KSH	**Kashi**	**79.03 312**	P	**P**	**15 23 06.7**	**+1.4**
KSH			PP	**PP**	**15 26 07.6**	**+2.8**
KSH			S	**S**	**15 32 58.4**	**-3.8**
KSH	**Kashi**	**79.03 312**	sS	sS	15 33 26.6	+5.2
KSH	**Kashi**	**79.03 312**	SS	SS	15 38 08.9	+0.3
KSH			pmax	pmax		
	comp=Z,260nm,5.7s					
KSH			LR	LR		
	comp=N,370nm,13.9s					
KSH			LR	LR		
	comp=E,140nm,10.1s					
KSH			LR	LR		
	comp=Z,160nm,15.5s					
NIL	**Nilore**	**79.48 306**	P	**P**	**15 23 06.7**	**-1.1**
KZA	**Kyzart**	**80.34 314**	P	**P**	**15 23 13.5**	**+0.8**
	SNR=16					
KBK	**Karagaybulak**	**80.73 315**	P	**P**	**15 23 18.6**	**+4.1**
	SNR=7.2					
UCH	**Uchtor**	**80.91 314**	P	**P**	**15 23 16.7**	**+0.9**
	SNR=12					
AAK	**Ala-Archa**	**81.04 315**	P	**P**	**15 23 19.5**	**+3.3**
	SNR=5.5					
USP	**Ospenovka**	**81.23 315**	P	**P**	**15 23 21.0**	**+4.0**
	SNR=5.6					
MAW	**Mawson**	**81.45 203**	P	**P**	**15 23 16.9**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=96,slow=6.8,SNR=7.5					
MAW			LR	LR	15 57 56.1	
	comp=Z,107nm,20.7s,baz=60,slow=35					
AML	**Almayashu**	**81.46 314**	P	**P**	**15 23 22.3**	**+3.6**
	SNR=16					
EKS2	**Erkin-Say**	**81.56 315**	P	**P**	**15 23 23.4**	**+4.6**
	SNR=9.7					
ARSB	**Arslanbob**	**81.75 313**	P	**P**	**15 23 18.6**	**-1.3**
QSPA	**South Pole Qui**	**83.48 180**	P	**P**	**15 23 28.9**	**+0.5**
QSPA			IAmb	IAmb	15 23 39.2	
	comp=Z,16nm,1.6s					
KKAR	**Karatay Array**	**83.99 314**	P	**P**	**15 23 30.5**	**-0.8**
DHY	**Denali Highway**	**85.41 25**	P	**P**	**15 23 38.4**	**+0.2**
DHY			IAmb	IAmb	15 23 42.5	
	comp=Z,9.6nm,0.8s					
NRIK	**Noril'sk**	**85.47 342**	P	**P**	**15 23 37.2**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=136,slow=14,SNR=4.3					
NRIK			LR	LR	16 01 06.8	
	comp=Z,52nm,19.7s,baz=137,slow=35					
WRH	**Wood River Hil**	**85.69 23**	P	**P**	**15 23 37.9**	**-1.5**
WRH			IAmb	IAmb	15 23 44.6	
	comp=Z,9.5nm,1.0s					
CCB	**Clear Creek Bu**	**85.88 23**	P	**P**	**15 23 38.2**	**-2.1**
CCB			IAmb	IAmb	15 23 43.5	
	comp=Z,7.1nm,0.8s					
COLA	**College**	**85.95 23**	P	**P**	**15 23 39.7**	**-0.9**
COLA			IAmb	IAmb	15 23 44.0	
	comp=Z,12nm,0.9s					
IL31		**86.29 23**	P	**P**	**15 23 40.0**	**-2.3**
IL31			IAmb	IAmb	15 23 46.7	
	comp=Z,9.5nm,0.8s					
ILAR	**Eielson Array**	**86.29 23**	P	**P**	**15 23 40.4**	**-2.0**
	comp=Z,5.3nm,0.7s,baz=252,slow=4.9,SNR=44					
MENT	**Mentasta**	**86.90 26**	P	**P**	**15 23 44.3**	**-1.1**
DOT	**Dot Lake**	**87.01 25**	P	**P**	**15 23 45.2**	**-0.7**
DOT			IAmb	IAmb	15 23 52.2	
	comp=Z,9.0nm,1.0s					
BCAR	**Beaver Creek A**	**87.77 26**	P	**P**	**15 23 50.0**	**+0.3**
EGAK	**Eagle**	**88.58 24**	P	**P**	**15 23 53.3**	**0.0**
EGAK			IAmb	IAmb	15 23 57.5	
	comp=Z,7.2nm,0.8s					
DAWY	**Dawson**	**89.10 25**	P	**P**	**15 23 55.7**	**-0.2**
DAWY			IAmb	IAmb	15 24 00.4	
	comp=Z,7.3nm,0.9s					
EPYK	**Eagle Plains**	**90.80 23**	P	**P**	**15 24 03.7**	**-0.1**
ABKAR	**Akbulak array**	**92.36 319**	P	**P**	**15 24 09.2**	**-2.1**
ABKAR			IAmb	IAmb	15 24 14.8	
	comp=Z,4.0nm,0.9s					
NVAR	**Mina Array Bea**	**98.38 52**	LR	LR	16 03 06.8	
	comp=Z,40nm,19.8s,baz=240,slow=32					
U40A	**Yellville**	**118.69 52**		**PKPdf**	**15 29 48.1**	**-1.3**
VYHS	**Vyhne**	**118.95 323**	*e*PKP	**PKiKP**	**15 29 54.2**	**+4.7**
MODS	**Modra-Piesok**	**119.93 323**	*e*PKP	**PKiKP**	**15 29 54.5**	**+3.1**
FNA	**Florina**	**120.19 314**		**PKPdf**	**15 29 50.0**	**-2.1**
GERES	**GERESS Array B**	**121.79 325**	PKP	**PKPdf**	**15 29 54.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=101,slow=2.7,SNR=4.7					
PLCA	**Paso Flores**	**122.20 148**	PKP	**PKPdf**	**15 29 55.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=179,slow=8.5,SNR=2.2					
R53A	**Hurricane**	**126.29 47**		**PKPdf**	**15 30 04.0**	**+0.1**
ODNJ	**Ogdensburg**	**130.02 40**		**PKPdf**	**15 30 10.9**	**0.0**
LPAZ	**La Paz**	**139.27 124**	PKP	**PKPdf**	**15 30 27.9**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=248,slow=5.4,SNR=2.8					
CPUP	**Villa Florida**	**140.24 146**	PKP	**PKPdf**	**15 30 30.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=225,slow=20,SNR=1.8					
TOA0	**Torodi Ar. Sit**	**144.33 283**		PKPbc	15 30 36.2	-0.1
TORD	**Torodi Ar. Bea**	**144.33 283**	PKP	**PKPab**	**15 30 35.4**	**-0.6**
	comp=Z,7.6nm,0.9s,baz=31,slow=4.4,SNR=9.4					
SIV	**San Ignacio**	**145.04 130**	PKPbc	**PKPbc**	**15 30 38.3**	**-0.2**
	comp=Z,7.9nm,0.7s,baz=248,slow=4.0,SNR=16					
CRPR	**Cabo Rojo, PR**	**145.67 68**		**PKPdf**	**15 30 38.4**	**-1.7**
MLPR	**Magueyes Islan**	**145.74 68**		**PKPdf**	**15 30 39.3**	**-0.9**
OBIP	**Obispado Ponce**	**146.12 67**	PKPdf	**PKPdf**	**15 30 41.0**	**+0.1**
SJG	**San Juan**	**146.52 67**	PKPbc	**PKPdf**	**15 30 42.4**	**+0.8**
PDPR	**Patillas Dam,**	**146.66 67**	PKPbc	**PKPdf**	**15 30 43.0**	**+1.2**
CBYP	**Canovanas**	**146.74 66**		**PKPdf**	**15 30 42.8**	**+0.7**
HUMP	**Col San Antoni**	**146.78 67**	PKPbc	**PKPdf**	**15 30 43.0**	**+1.0**
MTP	**Monte Pirata**	**147.07 67**	PKPbc	**PKPbc**	**15 30 44.1**	**-0.5**
STVI	**Saint Thomas**	**147.54 66**		**PKPbc**	**15 30 45.3**	**-0.6**
KIC	**Kosan Boka**	**151.01 271**	*e*PKP1	**PKPab**	**15 30 59.2**	**-3.2**
	comp=Z,22nm,1.0s					
DBIC	**Dimbokro**	**151.14 272**	PKP	**PKPdf**	**15 30 49.2**	**0.0**
	comp=Z,2.5nm,1.0s,baz=161,slow=8.3,SNR=1.8					
DBIC			PKPbc	**PKPbc**	**15 30 55.0**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=95,slow=14,SNR=4.5					
LIC	**Lamto**	**151.29 271**	*e*PKP1	**PKiKP**	**15 30 59.4**	**+3.5**
	comp=Z,38nm,0.9s					
TIC	**Toumodi**	**151.30 272**	*e*PKP1	**PKiKP**	**15 30 58.5**	**+2.5**
PTGA	**Pitinga**	**153.02 104**	PKPbc	**PKPbc**	**15 30 58.6**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=329,slow=19,SNR=2.8					
PTGA	**Pitinga**	**153.02 104**		**PKPbc**	**15 30 58.7**	**-0.7**

*ISCJB **05** 15:42:11.7±0.5, 6°.74S±0°.05×128°.49E±0°.05, h250km,*
Error ellipse: s-maj=7.3km s-min=6.8km az=19.1
*NEIC **05** 15:42:13.2±0.9, 6°.70S±0°.06×128°.47E±0°.09, h264km±11km,*
mb4.8/7
*IDC **05** 15:42:13.2±1.6, 6°.70S×128°.36E, h257km±20km, mb3.5/3,*
mb1 3.6/8, mb1mx3.2/36, mbtmp4.2/8, Error ellipse:
s-maj=20.1km s-min=16.0km az=90.0

ISC 05 15:42:12.3±0.7, 6°.73S±0°.06×128°.49E±0°.07, h250km, n25,
σ1§90/30, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.15**	**234**		**Pn**	**15 43 31.9**	**+1.9**
FAKI	**Fak Fak**	**5.32**	**45**	Pn	**Pn**	**15 43 33.5**	**+1.4**
BATI	**Baumata**	**5.89**	**234**	P	**Pn**	**15 43 40.7**	**+1.5**
	34nm,0.3s,baz=82,slow=2.9,SNR=39						
BATI				S	**S**	**15 44 46.8**	**-1.8**
	15nm,0.3s,baz=355,slow=22,SNR=9.3						
SIJI	**Sorong**	**6.45**	**26**	P	**Pn**	**15 43 46.5**	**+0.4**
	1.2nm,0.3s,baz=215,slow=23,SNR=14						
SIJI				S	**S**	**15 44 56.2**	**-5.0**
	1.4nm,0.3s,baz=265,slow=23,SNR=13						
MMRI	**Maumere**	**6.48**	**253**	Pn	**Pn**	**15 43 47.5**	**+1.1**
MTN	**Manton Dam**	**6.61**	**157**		**Pn**	**15 43 50.0**	**+2.0**
KNRA	**Kununurra**	**8.90**	**178**		**Pn**	**15 44 18.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.64**	**194**	P	**Pn**	**15 44 51.6**	**+0.2**
	1.0nm,0.3s,baz=26,slow=13,SNR=33						
FITZ	**Fitzroy Crossi**	**11.64**	**194**		**Pn**	**15 44 51.4**	**0.0**
FITZ				P	**P**	**15 44 54.9**	**0.0**
WRA	**Warramunga Arr**	**14.31**	**157**	P	**Pn**	**15 45 24.9**	**+0.7**
	0.5nm,0.3s,baz=340,slow=11,SNR=40						
WRA				S	**S**	**15 47 58.9**	**-3.9**
	0.0nm,0.3s,baz=336,slow=18,SNR=4.5						
WRA	**Warramunga Arr**	**14.31**	**157**		**Pn**	**15 45 24.2**	**-0.1**
WB2	**Warramunga Arr**	**14.32**	**157**		**Pn**	**15 45 24.9**	**+0.6**
JAGI	**Jajag, Banyuwa**	**14.32**	**262**		**P**	**15 45 24.4**	**-0.3**
COEN	**Coen**	**16.13**	**118**	Pn	**P**	**15 45 46.5**	**+1.9**
COEN				IAmb	IAmb	15 45 47.3	
	comp=Z,37nm,1.4s						
PSA00	**Pilbara Seismi**	**16.96**	**209**	P	**P**	**15 45 54.2**	**+0.6**
PSA00	**Pilbara Seismi**	**16.96**	**209**	P	**P**	**15 45 53.8**	**+0.1**
PSA00				IAmb	IAmb	15 46 03.5	
	comp=Z,61nm,1.5s						
AS31	**Alice Springs**	**17.63**	**163**	P	**P**	**15 46 02.4**	**+1.4**
ASAR	**Alice Springs**	**17.63**	**163**	P	**P**	**15 46 02.6**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=343,slow=12,SNR=230						
ASAR				S	**S**	**15 49 06.2**	**-4.8**
	comp=Z,0.0nm,0.3s,baz=347,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**17.63**	**163**	P	**P**	**15 46 02.2**	**+1.2**
CTA	**Charters Tower**	**21.76**	**129**	P	**P**	**15 46 45.0**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=302,slow=19,SNR=2.3						
FORT	**Forrest**	**23.93**	**181**	P	**P**	**15 47 03.7**	**-0.1**
BBOO	**Buckleboo**	**26.89**	**166**	P	**P**	**15 47 30.3**	**-0.1**
BBOO				IAmb	IAmb	15 48 04.6	
	comp=Z,70nm,2.0s						
EIDS	**Eidsvold**	**28.46**	**133**	P	**P**	**15 47 43.5**	**-1.0**
EIDS				IAmb	IAmb	15 48 04.3	
	comp=Z,65nm,1.8s						
PETK	**Petropavlovsk-**	**64.55**	**19**	P	**P**	**15 52 24.2**	**+1.6**
	comp=Z,10nm,1.1s,baz=229,slow=6.7,SNR=3.6						
MKAR	**Makanchi Array**	**67.19**	**327**	P	**P**	**15 52 38.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=122,slow=8.0,SNR=8.8						

*SJA **05** 16:03:59.5±0.7, 30°.29S×72°.00W, h10km, ML3.4, MW3.5*
*GUC **05** 16:04:05.1±0.6, 30°.47S×71°.47W, h15km±4km, ML3.6*

ISC 05 16:04:02.7±2.4, 30°.44S±0°.03×71°.60W±0°.07, h7km±16km,
n24, σ2§26/35, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.61**	**30**	↓*i*P	**Pb**	**16 04 17.2**	**+1.5**
LSCH				*i* S	**Sb**	**16 04 26.0**	**+1.4**
GO04	**Tololo Observa**	**0.74**	**69**	↑*i*P	**Pb**	**16 04 18.9**	**+0.8**
GO04				*i* S	**Sn**	**16 04 29.2**	**-2.3**
GO04				IAML		16 04 31.5	
	comp=N,8μm,0.3s						
GO04	**Tololo Observa**	**0.74**	**69**	*i* P	**Pn**	**16 04 19.3**	**-0.6**
GO04				*e*S	**Sn**	**16 04 29.3**	**-2.2**
GO04				IAML		16 04 29.9	
CO02	**Combarbal**	**0.92**	**146**	↓*i*P	**Pb**	**16 04 21.8**	**+0.7**
CO02				*i* S	**Sn**	**16 04 34.5**	**-1.2**
CO02				IAML		16 04 35.7	
	comp=N,4μm,0.3s						
RTLS	**Leoncito**	**2.40**	**125**	*i* P	**Pb**	**16 04 46.9**	**+0.5**
RTLS				*e*S	**Sg**	**16 05 22.6**	**+2.9**
RTLS				IAML		16 05 26.1	
	comp=Z,78nm,0.7s						
ROCH	**El Roble**	**2.57**	**169**	*i* P	**Pb**	**16 04 48.5**	**-0.8**
ROCH				*i* S	**Sb**	**16 05 22.5**	**+1.2**
ROCH				IAML		16 05 30.7	
	comp=N,222nm,0.4s						
ROC1	**El Roble**	**2.58**	**169**	*i* P	**Pn**	**16 04 47.4**	**+2.3**
ROC1				*e*S	**Sb**	**16 05 22.9**	**+1.5**
AMOG	**MOGNA**	**2.72**	**101**	*i* P	**Pb**	**16 04 50.9**	**-0.9**
AMOG				*e*S	**Sg**	**16 05 29.7**	**-0.5**
ZON	**Zonda**	**2.74**	**114**	*i* P	**Pb**	**16 04 51.1**	**-1.0**
ZON				*e*S	**Sg**	**16 05 29.9**	**-0.8**
ZON				IAML		16 05 34.1	
	comp=Z,40nm,0.4s						
PEL	**Peldehue**	**2.81**	**164**	*i* P	**Pn**	**16 04 50.8**	**+2.7**
RTLL	**Cerro Villicun**	**2.83**	**109**	*i* P	**Pb**	**16 04 51.2**	**-2.4**
RTLL				IAML		16 05 38.0	
	comp=Z,74nm,0.4s						
AGUA	**GUANDACOL**	**2.86**	**71**	*i* P	**Pb**	**16 04 53.6**	**-0.5**
AGUA				*e*S	**Sg**	**16 05 31.1**	**-3.5**
RTCV	**Cerro Valdivia**	**2.98**	**119**	*i* P	**Pb**	**16 04 54.7**	**-1.5**
GO03	**Copiap**	**3.08**	**23**	*e*P	**Pn**	**16 04 53.9**	**+2.1**
GO03				*e*S	**Sb**	**16 05 33.2**	**-2.4**
GO03	**Copiap**	**3.08**	**23**	*i* P	**Pn**	**16 04 51.9**	**+0.1**
ASAL	**Salagasta**	**3.19**	**133**	*i* P	**Pb**	**16 04 57.6**	**-2.1**
ARCO	**CERRO ARCO**	**3.30**	**137**	*i* P	**Pb**	**16 04 59.2**	**-2.5**
ARCO				IAML		16 05 52.3	
	comp=Z,66nm,0.3s						
VCA	**Vinchina**	**3.41**	**61**	*i* P	**Pn**	**16 04 59.5**	**+3.1**
VCA				IAML		16 05 05.7	
	comp=Z,143nm,0.4s						
AAGR	**Agrelo**	**3.54**	**139**	*i* P	**Pb**	**16 05 02.5**	**-3.2**
ACLC	**CERRO LA CRUZ**	**4.16**	**77**	*i* P	**Pn**	**16 05 10.5**	**+3.7**
ACAN	**Cantantal**	**4.20**	**117**	*i* P	**Pn**	**16 05 11.5**	**+4.3**
GO05	**Huala**	**4.56**	**183**	*i* P	**Pn**	**16 05 10.7**	**-1.5**
MRA	**San Martin**	**5.40**	**113**	*i* P	**Pn**	**16 05 25.0**	**+1.2**
MRA				IAML		16 06 35.6	
	comp=Z,23nm,0.5s						
CYA	**Choya**	**5.44**	**70**	*i* P	**Pn**	**16 05 28.1**	**+3.9**
CYA				IAML		16 05 30.1	
	comp=Z,13nm,0.5s						

WEL 05 16:09:04.1, 41°S±5°×17°3E±°, h104km±6km, M3.5/12,
MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km
az=124.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.31**	**74**	P	Pn	16 09 19.5	+0.4
NNZ				S	Sn	16 09 30.7	+0.2
THZ	**Tophouse**	**0.46**	**188**	P	Pn	16 09 20.7	+0.5
THZ				S	Sn	16 09 32.4	+0.2
QRZ	**Quartz Range**	**0.59**	**324**	P	Pn	16 09 21.4	+0.4
QRZ				S	Sn	16 09 33.0	-0.6
TUWZ	**Tuamarina**	**0.73**	**100**	P	Pn	16 09 22.9	+0.7
TUWZ				S	Sn	16 09 35.4	-0.2
BSWZ	**Blackbirch Sta**	**0.78**	**122**	P	Pn	16 09 23.2	+0.6
BSWZ				S	Sn	16 09 37.5	+0.9
DUWZ	**D'Urville Isla**	**0.87**	**55**	P	Pn	16 09 24.4	+0.9
DUWZ				S	Sn	16 09 38.4	+0.3
TCW	**Tory Channel**	**0.98**	**85**	P	Pn	16 09 25.3	+0.8
TCW				S	Sn	16 09 40.0	0.0
DSZ	**Denniston Nort**	**0.99**	**243**	P	Pn	16 09 25.1	+0.3
CMWZ	**Cape Campbell**	**1.02**	**116**	S	Sn	16 09 41.3	+0.4
KHZ	**Kahutara**	**1.19**	**160**	P	Pn	16 09 27.4	+0.5
KHZ				S	Sn	16 09 43.2	-0.8
BHW	**Baring Head**	**1.42**	**95**	P	Pn	16 09 29.2	-0.4
KIW	**Kapiti Island**	**1.52**	**74**	P	Pn	16 09 31.0	+0.2
LTZ	**Lake Taylor**	**1.57**	**200**	P	Pn	16 09 31.9	+0.5
CAW	**Cannon Point**	**1.58**	**84**	P	Pn	16 09 31.2	-0.3
GVZ	**Greta Valley S**	**1.66**	**179**	P	Pn	16 09 32.9	+0.3
MSWZ	**Moikau Station**	**1.71**	**95**	P	Pn	16 09 32.4	-0.8
OGWZ	**Otaki Gorge**	**1.72**	**74**	P	Pn	16 09 33.1	-0.1
PLWZ	**Palliser**	**1.73**	**100**	P	Pn	16 09 32.6	-0.8
INZ	**Inchbonnie**	**1.83**	**218**	P	Pn	16 09 34.9	+0.3
PAWZ	**Paruwai Farm**	**1.84**	**92**	P	Pn	16 09 33.8	-1.0
AMCZ	**Amberley**	**1.89**	**187**	P	Pn	16 09 35.4	0.0
MTW	**Mount Morrison**	**1.90**	**86**	P	Pn	16 09 34.6	-0.9
HOWZ	**Holdsworth Sta**	**1.95**	**79**	P	Pn	16 09 35.5	-0.8
NMEZ	**Namu Road**	**2.01**	**20**	P	Pn	16 09 38.5	+1.6
TRWZ	**Traveller**	**2.04**	**94**	P	Pn	16 09 36.4	-0.9
MRZ	**Mangatainoka R**	**2.06**	**73**	P	Pn	16 09 36.8	-0.8
OHWZ	**Ohakea**	**2.08**	**59**	P	Pn	16 09 38.5	+0.6
LREZ	**Lake Rotokare**	**2.13**	**31**	P	Pn	16 09 40.4	+1.8
NBEZ	**Newall Road No**	**2.14**	**19**	P	Pn	16 09 40.1	+1.4
OXZ	**Oxford**	**2.14**	**199**	P	Pn	16 09 38.0	-0.6
PREZ	**Palmer Road**	**2.15**	**25**	P	Pn	16 09 40.4	+1.5
KHEZ	**Kahui Hut**	**2.15**	**22**	P	Pn	16 09 40.2	+1.3
WAZ	**Wanganui**	**2.17**	**45**	P	Pn	16 09 40.3	+1.3
TMWZ	**Te Maipa**	**2.20**	**86**	P	Pn	16 09 38.4	-1.0
PKE	**Pukeiti**	**2.24**	**20**	P	Pn	16 09 41.2	+1.2
TIWZ	**Tintock**	**2.25**	**77**	P	Pn	16 09 39.1	-1.1
CRLZ	**Canterbury Las**	**2.29**	**187**	P	Pn	16 09 39.7	-0.7
POWZ	**Post Office Ro**	**2.30**	**68**	P	Pn	16 09 39.7	-1.0
DREZ	**Durham Road**	**2.31**	**24**	P	Pn	16 09 41.9	+1.1
PRWZ	**Pori Road**	**2.38**	**73**	P	Pn	16 09 40.8	-0.9
MQZ	**McQueen's Vall**	**2.41**	**186**	P	Pn	16 09 40.9	-1.3
OKCZ	**Okains Bay**	**2.42**	**179**	P	Pn	16 09 41.9	-0.4
WVZ	**Waitaha Valley**	**2.44**	**223**	P	Pn	16 09 42.4	0.0
CPWZ	**Castlepoint**	**2.46**	**82**	P	Pn	16 09 42.2	-0.5
BFZ	**Birch Farm**	**2.54**	**77**	P	Pn	16 09 42.5	-1.4
VRZ	**Vera Road**	**2.56**	**33**	P	Pn	16 09 45.5	+1.3
AKCZ	**Akaroa Harbour**	**2.57**	**181**	P	Pn	16 09 43.5	-0.7
TSZ	**Takapari Road**	**2.58**	**62**	P	Pn	16 09 43.3	-1.1
MTVZ	**Mangateitei**	**2.70**	**46**	P	Pn	16 09 47.1	+1.1
PKVZ	**Pokaka**	**2.70**	**43**	P	Pn	16 09 46.4	+0.3
ANWZ	**Angora Road**	**2.78**	**73**	P	Pn	16 09 45.8	-1.1
TRVZ	**Turoa**	**2.80**	**45**	P	Pn	16 09 47.8	+0.3
RPZ	**Rata Peaks**	**2.80**	**210**	P	Pn	16 09 46.2	-1.1
PNHZ	**Pukenui**	**2.81**	**61**	P	Pn	16 09 46.1	-1.4
WHVZ	**Whangaehu Hut**	**2.83**	**45**	P	Pn	16 09 48.2	+0.2
FWVZ	**Far West T-bar**	**2.83**	**45**	P	Pn	16 09 48.2	+0.3
MOVZ	**Moawhango**	**2.84**	**49**	P	Pn	16 09 47.4	-0.5
TUVZ	**Tukino**	**2.88**	**46**	P	Pn	16 09 48.8	+0.3
TWVZ	**Taurewa**	**2.92**	**41**	P	Pn	16 09 50.7	+1.8
NGZ	**Ngauruhoe**	**2.92**	**44**	P	Pn	16 09 51.3	+2.3
PRHZ	**Porangahau**	**2.96**	**71**	P	Pn	16 09 48.1	-1.3
WTVZ	**West Tongariro**	**2.96**	**43**	P	Pn	16 09 49.8	+0.3
BHHZ	**Black Hill Sta**	**2.97**	**53**	P	Pn	16 09 48.9	-0.7
KRHZ	**Kereru**	**3.07**	**58**	P	Pn	16 09 49.6	-1.3
KATZ	**Kakaramea**	**3.12**	**43**	P	Pn	16 09 53.8	+2.2
HIZ	**Hauiti**	**3.13**	**28**	P	Pn	16 09 52.1	+0.4
PXZ	**Pawanui**	**3.21**	**68**	P	Pn	16 09 51.3	-1.4
KWHZ	**Kaweka Forest**	**3.23**	**56**	P	Pn	16 09 51.7	-1.3
FOZ	**Fox Glacier**	**3.24**	**225**	P	Pn	16 09 52.4	-0.6
KAHZ	**Kahuranaki**	**3.33**	**64**	P	Pn	16 09 52.6	-1.7
WATZ	**Wairara**	**3.34**	**40**	P	Pn	16 09 56.4	+1.8
BKZ	**Black Stump Fm**	**3.43**	**53**	P	Pn	16 09 54.3	-1.4
KUTZ	**Kaahu Road**	**3.56**	**39**	P	Pn	16 09 59.7	+2.3
TLZ	**Tolley Road**	**3.56**	**34**	P	Pn	16 09 57.7	+0.2
MRHZ	**Matea Rd**	**3.61**	**48**	P	Pn	16 09 56.4	-1.7
NMHZ	**Naumai**	**3.66**	**54**	P	Pn	16 09 57.4	-1.4
ARHZ	**Aropaoanui**	**3.68**	**58**	P	Pn	16 09 57.2	-1.9
WPRZ	**Whakapapatarin**	**3.70**	**42**	P	Pn	16 10 02.7	+3.4
LBZ	**Lake Benmore**	**3.71**	**213**	P	Pn	16 09 57.4	-1.9
PRRZ	**Plateau Road**	**3.83**	**44**	P	Pn	16 10 04.5	+3.4
MTHZ	**Maungataniwha**	**3.84**	**52**	P	Pn	16 09 59.2	-2.0
WHHZ	**Waihua**	**3.94**	**57**	P	Pn	16 10 00.6	-1.9
RAHZ	**Arahi**	**3.94**	**54**	P	Pn	16 10 00.5	-2.1
RRRZ	**Republican Roa**	**4.02**	**44**	P	Pn	16 10 07.3	+3.7
MUGZ	**Murupara**	**4.05**	**47**	P	Pn	16 10 02.0	-2.1
TOZ	**Tahuroa Road**	**4.06**	**29**	P	Pn	16 10 04.3	+0.1
RTZ	**Ruatahuna**	**4.08**	**50**	P	Pn	16 10 03.5	-0.9
ODZ	**Otahua Downs**	**4.11**	**204**	P	Pn	16 10 03.6	-1.2
JCZ	**Jackson Bay**	**4.15**	**227**	P	Pn	16 10 04.8	-0.6
SNGZ	**Shannon Statio**	**4.18**	**54**	P	Pn	16 10 03.5	-2.4
KNZ	**Kokohu**	**4.25**	**59**	P	Pn	16 10 03.8	-2.9
MHGZ	**Mahia Peninsul**	**4.33**	**62**	P	Pn	16 10 05.5	-2.3
TGRZ	**Tauranga**	**4.38**	**36**	P	Pn	16 10 09.1	+0.7
RAGZ	**Rawiri**	**4.41**	**52**	P	Pn	16 10 08.9	-0.1
AWAZ	**Awhitu Peninsu**	**4.42**	**17**	P	Pn	16 10 10.2	+1.1
KBAZ	**Karaka Road Bo**	**4.45**	**20**	P	Pn	16 10 11.1	+1.6
RIGZ	**Rimuhau**	**4.49**	**56**	P	Pn	16 10 07.2	-2.8
MKAZ	**Moumakai**	**4.52**	**23**	P	Pn	16 10 11.1	+0.8
WTAZ	**Waiatarua**	**4.54**	**16**	P	Pn	16 10 12.2	+1.7
WKZ	**Wanaka**	**4.57**	**218**	P	P

ATHAL AML AML 16 17 50.4
comp=Z,6.7nm,0.7s
ATHAL AML AML 16 17 50.4
comp=Z,6.7nm,0.7s
AKIN Akıncılar- Kıb 1.59 95 PN **Pn 16 17 04.1 -0.8**
TEKE Tekeli-Mersin 1.62 52 PN **Pn 16 17 03.7 -1.5**
MNVG Manavgat-Antal 1.63 357 PN **Pn 16 17 04.6 -0.8**
KEMT Kemer-ANTALYA 1.64 331 PN **Pn 16 17 05.0 -0.5**
MVOU Mavrovouni 1.73 94 P **Pn 16 17 07.6 +0.8**
MVOU AML AML 16 17 45.1
comp=Z,1.9nm,1.0s
KEPZ Antalya-Kepez 1.73 2 *i* P **Pn 16 17 06.7 -0.1**
BERE Bereket-Mersin 1.81 49 PN **Pn 16 17 07.1 -0.9**
YORU Yoruktepe-Mers 1.82 57 PN **Pn 16 17 07.0 -1.0**
ERMK Ermenek 1.85 37 *i* P **Pn 16 17 09.4 +0.8**
ERMK IAML_P
comp=Z,2μm,0.2s
KSL Kastellorizon 1.87 302 P **Pn 16 17 12.0 +3.4**
ANTB Antalya 1.87 338 PN **Pn 16 17 07.9 -0.8**
OREN Orenkoy-Mersin 1.88 56 PN **Pn 16 17 08.1 -0.7**
AKAS Kas 1.90 305 *i* P **Pn 16 17 10.4 +1.2**
AKAS Kas 1.90 305 PN **Pn 16 17 08.1 -1.1**
AKK1 Akkuyu-Mersin 1.91 59 PN **Pn 16 17 07.9 -1.2**
AKK2 Akkuyu-Mersin 1.91 59 PN **Pn 16 17 08.0 -1.2**
AKKU Akkuyu-Mersin 1.92 58 PN **Pn 16 17 07.9 -1.5**
GULN MERSIN_Gulnar 1.93 58 *i* P **Pn 16 17 09.2 -0.2**
GULN IAML_P
comp=Z,2μm,0.3s
TEPE Tepekoy-Mersin 1.96 57 PN **Pn 16 17 08.9 -1.1**
YESI Yesilovacik-Me 2.00 58 PN **Pn 16 17 09.5 -1.0**
TEVE Tevekalti-Mers 2.01 50 PN **Pn 16 17 09.8 -0.8**
TISA Tisan-Mersin 2.01 60 PN **Pn 16 17 09.6 -1.0**
KARG Kargicak-Mersi 2.05 59 PN **Pn 16 17 10.2 -1.0**
IKL Isikli 2.05 58 PN **Pn 16 17 10.1 -1.1**
ELL Elmali 2.06 321 PN **Pn 16 17 10.8 -0.6**
ELL Elmali 2.06 321 P **Pn 16 17 13.5 +2.1**
ELL Elmali 2.06 321 P **Pn 16 17 15.7 +4.3**
ELL S Sn 16 17 47.4 +12
PARAL Paralimni 2.06 94 P **Pn 16 17 15.3 +4.0**
PARAL S Sn 16 17 49.7 +14
PARAL AML AML 16 17 58.8
comp=Z,2.7nm,0.9s
PARAL AML AML 16 17 58.8
comp=Z,2.7nm,0.9s
KORT Korkueli 2.07 333 *i* P Pn 16 17 17.6 +6.1
KORT IAML_P
comp=Z,2μm,0.4s
KORT Korkueli 2.07 333 PN **Pn 16 17 10.8 -0.7**
EREN Erenkoy 2.19 80 *i* P **Pn 16 17 15.2 +2.2**
EREN Erenkoy 2.19 80 PN **Pn 16 17 12.1 -0.9**
KEBE Keben-Mersin 2.19 54 PN **Pn 16 17 12.3 -0.8**
SILI Silifke-Mersin 2.29 58 PN **Pn 16 17 13.9 -0.5**
SLFK Silifke-Mersin 2.31 57 PN **Pn 16 17 14.1 -0.7**
BCK Bucak 2.41 342 PN **Pn 16 17 15.9 -0.3**
FETY Fethiye 2.47 307 *i* P **Pn 16 17 17.9 +1.0**
FETY IAML_P
comp=Z,2μm,0.2s
FETY Fethiye 2.47 307 PN **Pn 16 17 16.8 -0.1**
KIZK Mersin 2.50 58 *i* P **Pn 16 17 18.1 +0.8**
KIZK Mersin 2.50 58 PN **Pn 16 17 16.6 -0.7**
GOLH Golhisar 2.61 323 *i* P **Pn 16 17 21.7 +2.8**
GOLH IAML_P
comp=Z,879nm,0.2s
KMER Konya-Meram 2.68 14 *i* P Pn 16 17 24.7 +4.7
KMER IAML_P
comp=Z,901nm,0.5s
ISP Isparta 2.77 343 PN **Pn 16 17 19.7 -1.5**
ISP Isparta 2.77 343 Pn **Pn 16 17 24.2 +3.0**
BRDR BURDUR-Merkez 2.79 335 *i* P **Pn 16 17 25.6 +4.2**
BRDR IAML_P
comp=Z,399nm,0.2s
KONT Konya--Tatoy 2.85 13 *i* P **Pn 16 17 24.7 +2.4**
KONT IAML_P
comp=Z,722nm,0.2s
KONT Konya--Tatoy 2.85 13 PN **Pn 16 17 21.4 -0.8**
DALY Dalyan (Mula) 2.86 306 *i* P **Pn 16 17 23.2 +1.0**
DALY Dalyan (Mula) 2.86 306 PN **Pn 16 17 22.3 +0.1**
BAGO Egridir - ISPA 2.88 348 *i* P **Pn 16 17 26.8 +4.1**
BAGO IAML_P
comp=Z,521nm,0.2s
TURN Turunc 2.92 307 *i* P **Pn 16 17 27.9 +4.8**
TURN Turunc 2.92 307 PN **Pn 16 17 26.1 +3.0**
DOGA KONYA_Doganhis 2.94 2 *i* P **Pn 16 17 26.1 +2.6**
DOGA IAML_P
comp=Z,2μm,0.3s
MERS Mersin 2.96 54 PN **Pn 16 17 23.5 -0.2**
ARG Arkhangelos 2.96 292 PN **Pn 16 17 23.8 +0.1**
KERG Konya-Eregli 3.07 42 *i* P **Pn 16 17 27.7 +2.4**
LADK Ladik-KONYA 3.10 12 PN **Pn 16 17 25.6 -0.1**
TAVA DENIZLI_Tavas 3.12 318 *i* P **Pn 16 17 27.5 +1.5**
TAVA IAML_P
comp=Z,482nm,0.2s
DED Mersin 3.20 55 *i* P **Pn 16 17 27.9 +0.9**
KZIL AFYON_Kizioren 3.28 341 *i* P **Pn 16 17 31.0 +2.8**
KZIL IAML_P
comp=Z,620nm,0.3s
YER Yerkesik 3.28 308 PN **Pn 16 17 28.0 -0.1**
GULE Gulek 3.37 50 *i* P **Pn 16 17 32.5 +3.1**
KRTS Karatas 3.42 65 PN **Pn 16 17 29.7 -0.3**
SHUT Suhut-Afyon 3.47 347 PN **Pn 16 17 30.8 0.0**
KARA Karaisali 3.53 53 PN **Pn 16 17 31.5 0.0**
DAT Datca 3.57 297 *i* P **Pn 16 17 33.7 +1.7**
DAT IAML_P
comp=Z,316nm,0.2s
DAT Datca 3.57 297 PN **Pn 16 17 32.4 +0.3**
CHBY Cihanbeyli 3.58 17 PN **Pn 16 17 32.3 0.0**
KARP Karpathos 3.59 277 PN **Pn 16 17 32.4 0.0**
KARP Karpathos 3.59 277 **Pn 16 17 32.8 +0.5**
KHAL Karahalli 3.59 333 *i* P **Pn 16 17 33.5 +1.1**
KHAL IAML_P
comp=Z,331nm,0.1s
HNTI Hanita 3.67 123 Pn **Pn 16 17 34.0 +0.6**
HNTI Sn **Sn 16 18 15.1 -0.2**
MLSB Milas 3.71 306 PN **Pn 16 17 34.1 +0.2**
YURE YUREGIR 3.71 62 PN **Pn 16 17 33.6 -0.4**
KIZT Kizilcal 3.72 4 PN **Pn 16 17 33.8 -0.4**
HWQ Hawqa 3.74 102 *eP* **Pn 16 17 35.7 +1.2**
OFRI `Ofer 3.83 130 Pn **Pn 16 17 35.8 +0.1**
AYDN Tasoluk 3.86 311 *i* P **Pn 16 17 37.4 +1.4**
MMA0B Mount Meron ar 3.86 123 Pn **Pn 16 17 36.5 +0.4**
MMAI Mount Meron Ar 3.86 123 Pn **Pn 16 17 36.1 0.0**
comp=Z,11nm,0.3s,baz=308,slow=11,SNR=49
MMAI Sn **Sn 16 18 19.9 -0.4**
comp=Z,15nm,0.3s,baz=311,slow=29,SNR=8.3
CEYT Ceyhan 3.88 60 PN **Pn 16 17 35.5 -0.8**
BLGI Bet Lehem HaGe 3.89 128 Pn **Pn 16 17 37.1 +0.7**
BLGI Sn **Sn 16 18 20.4 -0.5**
AKO Adana 3.90 53 *i* P **Pn 16 17 39.1 +2.5**
BODT Bodrum 3.91 300 PN **Pn 16 17 36.9 +0.2**
RCY Rachaya 3.93 114 *eP* **Pn 16 17 37.2 +0.1**
GEM Giv'at Ha'Em 3.94 118 Pn **Pn 16 17 38.2 +1.1**
GEM Sn **Sn 16 18 21.6 -0.5**
KSDI Kefar Szold 3.95 119 Pn **Pn 16 17 37.9 +0.7**
KSDI Sn **Sn 16 18 21.5 -0.7**
NATI Neve Ativ 3.97 117 Pn **Pn 16 17 38.2 +0.7**
NATI Sn **Sn 16 18 22.4 -0.3**
USAK Uak-Merkez 4.07 331 *i* P **Pn 16 17 39.6 +0.6**
SLTI Sal'it 4.13 134 Pn **Pn 16 17 39.7 0.0**
SLTI Sn **Sn 16 18 25.2 -1.6**
YAYX Yaylak 4.18 25 PN **Pn 16 17 40.3 -0.3**
MMLI Mount Malkishu 4.23 129 Pn **Pn 16 17 41.6 +0.5**
MMLI Sn **Sn 16 18 29.0 -0.3**
MMLI Mount Malkishu 4.23 129 PN **Pn 16 17 40.7 -0.4**
GDZ Gediz 4.25 338 *i* P **Pn 16 17 43.1 +1.7**
SHMJ Saham 4.28 123 P **Pn 16 17 42.8 +1.0**
ZKR Zakros 4.36 271 PN **Pn 16 17 42.8 0.0**
KIRS Kırehir-Merke 4.39 25 *i* P **Pn 16 17 46.3 +2.9**
HMDT Nahal Hemdat 4.42 130 Pn **Pn 16 17 44.3 +0.6**
HMDT Sn **Sn 16 18 34.2 +0.4**
AFSR Afar-Bala (An 4.45 16 PN **Pn 16 17 43.5 -0.6**
AMAZ Amatzia 4.60 141 Pn **Pn 16 17 46.8 +0.6**
DSI Dead Sea 4.82 137 Pn **Pn 16 17 50.1 +0.9**
YTIR Yattir 4.84 141 Pn **Pn 16 17 50.2 +0.7**
YTIR Sn **Sn 16 18 43.0 -1.3**
BR131 Keskin Array S 4.85 20 **Pn 16 17 52.2 +2.5**
BRTR Keskin Array B 4.85 20 Pn **Pn 16 17 52.0 +2.3**
comp=Z,0.6nm,0.3s,baz=200,slow=12,SNR=14
BRTR Keskin Array B 4.85 20 **Pn 16 17 52.8 +3.1**
KZIT Kziot 4.88 150 Pn **Pn 16 17 50.6 +0.6**
KZIT Sn **Sn 16 18 44.4 -0.9**
KZIT Kziot 4.88 150 P **Pn 16 17 50.8 +0.8**
comp=Z,44nm,0.9s,comp=Z,0.2nm
KMRS Kahramanmaras 4.92 60 PN **Pn 16 17 50.2 -0.4**
MZDA Masada 5.01 139 Pn **Pn 16 17 52.3 +0.6**
MZDA Sn **Sn 16 18 47.9 -0.4**
GAZ Gaziantep 5.01 65 PN **Pn 16 17 51.2 -0.7**
GAZ Gaziantep 5.01 65 Pn **Pn 16 17 51.1 -0.8**
WALJ Wala 5.07 134 P **Pn 16 17 54.0 +1.4**
comp=Z,36nm,0.5s,comp=Z,0.2nm
SANT Santorini 5.08 285 PN **Pn 16 17 52.3 -0.5**
SANT Santorini 5.08 285 **Pn 16 17 52.2 -0.6**
LISJ El Lisan 5.13 139 P **Pn 16 17 55.2 +1.9**
comp=Z,10nm,0.6s,comp=Z,0.1nm
KOT Kottamia 5.23 177 AMP 16 18 00.0
ASF Jabal al Asfar 5.38 122 Pn **Pn 16 17 58.8 +1.8**
comp=Z,0.9nm,0.3s,baz=213,slow=13,SNR=10
ASF Sn **Sn 16 19 03.6 +6.0**
comp=Z,1.0nm,0.3s,baz=24,slow=20,SNR=3.2
ASF Jabal al Asfar 5.38 122 P **Pn 16 17 58.9 +2.0**
comp=Z,7.8nm,0.7s,comp=Z,0.1nm
PRNI Paran 5.62 148 Pn **Pn 16 18 00.6 +0.4**
PRNI Sn **Sn 16 19 02.5 -1.0**
KRMI Paran Flat 5.71 151 Pn **Pn 16 18 02.6 +1.2**
HRFI Mount Harif 5.91 149 Pn **Pn 16 18 04.7 +0.5**
HRFI Sn **Sn 16 19 10.0 -0.6**
MBRI Mt Berech 6.07 151 Pn **Pn 16 18 06.7 +0.3**
AQBJ Aqaba 6.18 150 P **Pn 16 18 09.5 +1.6**
EIL Elat 6.20 151 Pn **Pn 16 18 07.9 -0.2**
EIL Sn **Sn 16 19 16.3 -1.3**
EIL Elat 6.20 151 Pn **Pn 16 18 08.3 +0.2**
comp=Z,1.0nm,0.3s,baz=342,slow=13,SNR=19
EIL Sn **Sn 16 19 17.1 -0.6**
comp=Z,2.0nm,0.3s,baz=333,slow=22,SNR=4.1
FNA Florina 9.78 308 Pn **Pn 16 18 57.8 +0.6**
MLR Muntele Rosu 11.16 339 Sn **Sn 16 21 13.1 -6.3**
comp=Z,0.3nm,0.3s,baz=108,slow=17,SNR=3.8
KOLS Kolonicke sedl 15.36 336 *e*PN Pn 16 20 05.1 -7.7
AKASG Malin Array Be 15.62 355 Pn **P 16 20 18.2 -1.3**
comp=Z,0.6nm,0.3s,baz=173,slow=9,SNR=2.8
LANS Liptovska Anna 16.56 331 *e*PN Pn 16 20 20.9 -7.2
GERES GERESS Array B 18.97 322 P **P 16 20 56.3 -0.4**
comp=Z,0.2nm,0.3s,baz=126,slow=9.9,SNR=7.2
FINES FINESS Array B 26.53 354 P **P 16 22 11.2 -1.1**
comp=Z,6.0nm,1.1s,baz=180,slow=9.2,SNR=4.2
ARCES ARCESS Array B 34.59 356 P **P 16 23 24.3 +1.0**
comp=Z,2.1nm,0.8s,baz=179,slow=7.2,SNR=4.4
KURBB Kurchatov Arra 37.07 51 P **P 16 23 45.6 +0.9**
comp=Z,0.1nm,0.3s,baz=268,slow=8.4,SNR=2.3
KURK Kurchatov 37.14 50 P **P 16 23 45.6 +0.3**
KURK Kurchatov 37.14 50 IAmb IAmb 16 24 50.7
comp=Z,4.4nm,1.5s
MKAR Makanchi Array 39.40 57 P **P 16 24 05.3 +0.8**
comp=Z,0.3nm,0.7s,baz=283,slow=7.2,SNR=3.1

ISCJB ***05*** *16:25:34.4±0.4, 38°.94N±0°.04×67°.20E±0°.04, h10km, mb3.8/7, MS2.5/1, Error ellipse: s-maj=6.0km s-min=4.8km az=176.3*
IDC ***05*** *16:25:35.6±0.8, 38°.88N×67°.25E, h0km, mb3.8/6, mb1 3.8/15, mb1mx3.6/49, mbtmp3.7/15, ML3.0/9, MS2.7/1, Ms1 2.7/1, ms1mx2.1/36, Error ellipse: s-maj=14.8km s-min=11.0km az=151.0*
NNC ***05*** *16:25:40.8±3.3, 39°.46N×67°.09E, h8km±11km, mb4.2, mpv3.9, Error ellipse: s-maj=28.5km s-min=12.6km az=7.0*
ISC 05 16:25:36.3±0.6**, 38°.96N**±0°.06×**67°.25E**±0°.05**, h10**km**, n48,** σ2**38/51, mb3.9/7, 7C-6D, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.82**	**33**	P	**Pb**	**16 26 45.7**	**+1.8**
KK31	**Karatay Array**	**4.82**	**30**	⇑Pn	**Pn**	**16 26 48.9**	**0.0**
	2.5nm,0.4s,baz=205,slow=15,SNR=26						
KK31				⇑Pg	**Pb**	**16 27 04.6**	**+3.8**
	5.7nm,0.4s,baz=213,slow=16,SNR=10						
KK31				⇓Lg	Lg	16 28 03.1	
	18nm,0.5s,baz=214,slow=30,SNR=7.1						
AML	**Almayashu**	**5.84**	**55**	P	**Pn**	**16 27 05.0**	**+1.6**
	SNR=17						
MRKS	**Merke**	**5.90**	**48**	Pg	**Pb**	**16 27 21.5**	**+2.2**
	14nm,0.5s						
MRKS				Lg	Lg	16 28 37.6	
	32nm,0.5s						
EKS2	**Erkin-Say**	**6.18**	**51**	P	**Pn**	**16 27 09.6**	**+1.9**
	SNR=6.7						
UCH	**Uchtor**	**6.42**	**57**	P	**Pn**	**16 27 13.1**	**+1.8**
	SNR=9.5						
AAK	**Ala-Archa**	**6.61**	**54**	Pn	**Pn**	**16 27 15.6**	**+1.9**
	5.6nm,0.5s						
AAK				Sn	**Sn**	**16 28 32.3**	**+3.1**
	22nm,0.9s						
AAK	**Ala-Archa**	**6.61**	**54**	Pn	**Pn**	**16 27 15.6**	**+1.9**
	1.4nm,0.3s,baz=208,slow=7.1,SNR=22						
AAK				Sn	**Sn**	**16 28 31.4**	**+2.3**
	1.1nm,0.3s,baz=338,slow=19,SNR=3.4						
AAK	**Ala-Archa**	**6.61**	**54**	P	**Pn**	**16 27 15.6**	**+1.9**
	SNR=13						
KZA	**Kyzart**	**6.84**	**60**	P	**Pn**	**16 27 19.5**	**+2.4**
	SNR=32						
KBK	**Karagaybulak**	**6.91**	**55**	P	**Pn**	**16 27 20.3**	**+2.6**
	SNR=12						
SGDS	**Sogindy**	**7.15**	**49**	Pg	**Pb**	**16 27 39.9**	**-0.6**
	8.7nm,0.5s						
SGDS				Lg	Lg	16 29 06.1	
	13nm,0.8s						
GEYT	**Alibeck**	**7.24**	**265**	Pn	**Pn**	**16 27 22.3**	**+0.1**
	0.7nm,0.3s,baz=90,slow=14,SNR=4.3						
GEYT				Sn	**Sn**	**16 28 45.1**	**+0.6**
	3.7nm,0.3s,baz=147,slow=22,SNR=5.5						
TKM2	**Tokmak 2**	**7.45**	**55**	⇑Pn	**Pn**	**16 27 26.4**	**+1.1**
	2.6nm,0.4s						
TKM2				⇓Pg	**Pg**	**16 27 54.9**	**-4.1**
	8.4nm,0.8s						
TKM2				⇓Sn	**Sn**	**16 28 52.2**	**+2.2**
	13nm,0.8s						
TKM2				⇑Lg	Lg	16 29 29.8	
	22nm,0.8s						
TKM2	**Tokmak 2**	**7.45**	**55**	P	**Pn**	**16 27 26.8**	**+1.5**
	SNR=7.2						
DGS	**Degeres**	**7.72**	**54**	Pg	**Pb**	**16 27 55.2**	**+4.8**
	9.0nm,0.7s						
DGS				Lg	Lg	16 29 33.6	
	21nm,0.7s						
KST	**Kastek**	**7.75**	**55**	Pg	Pb	16 27 57.8	+7.0
	1.6nm,0.3s						
KST				Lg	Lg	16 29 37.5	
	4.6nm,0.5s						
CHKK	**Chushkaly**	**8.80**	**53**	Pg	Pg	16 28 08.8	-16
	2.6nm,0.8s						
CHKK				Lg	Lg	16 29 56.8	
	3.3nm,0.6s						
SATY	**Saty**	**9.37**	**61**	Pg	Pn	16 28 31.1	+40
	6.2nm,0.8s						
SATY				Lg	Lg	16 30 35.7	
	6.8nm,0.6s						
DHRM	**DHARAMSHALA**	**9.95**	**130**	*e*P	**Pn**	**16 28 02.7**	**+3.1**
DHRM				*e*S	**Sn**	**16 29 47.0**	**-4.5**
DHRM				IAML		16 29 54.5	
	comp=N,14nm,0.8s						
DHRM				IAML		16 29 55.0	
	comp=E,31nm,0.6s						
PDGK	**Podgornoye**	**10.21**	**61**	⇓Pn	**Pn**	**16 28 04.7**	**+1.7**
	comp=E,2.3nm,0.8s						
PDGK				⇓Lg	Lg	16 30 59.8	
	comp=E,11nm,1.2s						
SMLA	**Simla**	**11.27**	**131**	*e*P	**Pn**	**16 28 18.2**	**+0.8**
SMLA				*e*S	**Sn**	**16 30 18.9**	**-4.5**
SMLA				IAML		16 30 26.0	
	comp=N,12nm,0.6s						
SMLA				IAML		16 30 28.0	
	comp=E,11nm,0.5s						
AB31	**Akbulak array**	**11.54**	**335**	⇑Pn	**Pn**	**16 28 19.7**	**-1.4**
	comp=E,0.8nm,0.3s						
AB31				⇑Sn	Sn	16 30 21.5	-8.6
	comp=E,1.8nm,0.6s,baz=156,slow=24,SNR=3.4						
AKTO	**Aktyubinsk**	**13.20**	**333**	⇑Pn	**Pn**	**16 28 44.5**	**+0.8**
	comp=E,1.4nm,0.6s						
AKTO				⇓Sn	Sn	16 31 01.6	-9.0
	comp=E,2.3nm,0.6s						
AKTO	**Aktyubinsk**	**13.20**	**333**	Pn	**Pn**	**16 28 44.5**	**+0.8**
	comp=E,0.2nm,0.3s,baz=133,slow=16,SNR=3.9						
AKTO				Sn	**Sn**	**16 31 03.2**	**-7.4**
	comp=E,0.2nm,0.3s,baz=355,slow=19,SNR=3.0						
AKTO				Lg	Lg	16 32 41.8	
	comp=E,0.3nm,0.3s,baz=231,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**13.51**	**50**	Pn	**Pn**	**16 28 46.5**	**-1.5**
	comp=E,0.1nm,0.3s,baz=242,slow=17,SNR=3.4						
KURBB	**Kurchatov Arra**	**14.12**	**31**	Pn	**Pn**	**16 28 53.2**	**-3.1**
	comp=E,0.0nm,0.3s,baz=221,slow=13,SNR=2.3						
KURBB				Lg	Lg	16 33 05.3	
	comp=E,0.0nm,0.3s,baz=218,slow=27,SNR=5.2						
BVAR	**Borovoye Array**	**14.23**	**8**	Pn	**Pn**	**16 28 55.6**	**-2.2**
	comp=E,0.4nm,0.3s,baz=183,slow=10,SNR=7.3						
BVAR				Sn	Sn	16 31 26.1	-10
	comp=E,0.4nm,0.3s,baz=162,slow=20,SNR=4.4						
DANN	**Dangsing**	**17.32**	**123**	*e*P	**Pn**	**16 29 37.1**	**-1.4**
	comp=E,29nm,0.8s						
GKN	**Gorkha**	**18.13**	**122**	*e*P	**Pn**	**16 29 46.9**	**-1.5**
	comp=E,21nm,0.4s						
ARU	**Arti**	**18.40**	**345**	P	**P**	**16 29 50.9**	**-0.5**
	comp=E,0.0nm,0.3s,baz=158,slow=19,SNR=2.4						
KKN	**Kakani**	**18.70**	**121**	*e*P	**P**	**16 29 53.2**	**-1.8**
	comp=E,11nm,0.5s						
DMN	**Daman**	**18.70**	**122**	*e*P	**Pn**	**16 29 54.1**	**-1.4**
	comp=E,9.7nm,0.5s						
KBZ	**Khabaz**	**18.87**	**292**	P	**Pn**	**16 29 56.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=162,slow=3.2,SNR=2.5						
PKIN	**Phulchoki**	**18.91**	**121**	*e*P	**P**	**16 29 56.1**	**-1.4**
	comp=E,4.5nm,0.4s						
PKI	**Pulchoki**	**18.93**	**121**	*e*P	**Pn**	**16 29 56.8**	**-1.5**
ZALV	**Zalesovo Beam**	**19.18**	**33**	P	**P**	**16 29 60.0**	**0.0**
	comp=E,0.8nm,0.3s,baz=226,slow=11,SNR=11						
JIRN	**Jiri**	**19.39**	**120**	*e*P	**Pn**	**16 30 02.8**	**-1.1**
	comp=E,39nm,0.5s						
TAPN	**Taplejung**	**20.63**	**118**	*e*P	Pn	16 30 17.2	-1.3
	comp=E,12nm,0.6s						
ODAN	**Odare**	**20.72**	**120**	*e*P	Pn	16 30 18.4	-1.1
	comp=E,12nm,0.6s						
GTA	**Gaotai**	**25.18**	**79**	*e*P	**P**	**16 31 03.6**	**+1.6**
GTA				pP	sP	16 31 09.0	+2.0
GTA				sP	pP	16 31 11.6	+6.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MMAI	**Mount Meron Ar**	**26.36**	**267**	LR	LR	16 43 27.8	
	comp=Z,14nm,18.4s,baz=250,slow=41						
CMAR	**Chiang Mai Arr**	**34.24**	**118**	P	**P**	**16 32 23.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=297,slow=8.0,SNR=6.5						
HFS	**Hagfors**	**39.29**	**321**	P	**P**	**16 33 06.2**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=113,slow=12,SNR=6.5						
TORD	**Torodi Ar. Bea**	**62.88**	**265**	P	**P**	**16 36 04.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=53,slow=4.8,SNR=2.5						
ILAR	**Eielson Array**	**73.19**	**15**	P	**P**	**16 37 07.2**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=326,slow=5.4,SNR=6.1						
WRA	**Warramunga Arr**	**85.80**	**120**	P	**P**	**16 38 16.5**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=323,slow=4.8,SNR=15						
ASAR	**Alice Springs**	**88.09**	**123**	P	**P**	**16 38 27.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=315,slow=4.3,SNR=7.5						

JMA ***05*** *16:28:39.5, 23°.61N×121°.52E, h0km, M3.1*
TAP ***05*** *16:28:40.9, 23°.64N×121°.38E, h18km, ML3.5, C*
ISCJB ***05*** *16:28:41.2±0.2, 23°.612N±0°.010×121°.46E±0°.01, h18km±2km, Error ellipse: s-maj=2.3km s-min=1.4km az=29.9*
ISC 05 16:28:40.9±0.8**, 23°.63N**±0°.01×**121°.43E**±0°.02**, h18**km±3km**, n120,** σ0**67/212, 9C-18D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.04**	**4**	⇓*iP*	**Pg**	**16 28 44.3**	**+0.2**
	baz=59						
EGFH				S	**Sg**	**16 28 46.4**	**+0.2**
	baz=59						
HGSD	**Ruisui**	**0.14**	**180**	⇓P	**Pg**	**16 28 45.9**	**+1.0**
	baz=162						
HGSD				S	**Sg**	**16 28 49.2**	**+1.5**
	baz=162						
EHY	**Hungye**	**0.16**	**217**	⇑*iP*	**Pg**	**16 28 45.2**	**0.0**
	baz=197						
EHY				S	**Sg**	**16 28 47.9**	**-0.2**
	baz=197						
ESL	**Shilin**	**0.18**	**2**	⇑*iP*	**Pb**	**16 28 45.7**	**+0.1**
	baz=27						
ESL				S	**Sg**	**16 28 48.4**	**-0.3**
	baz=27						
YULB	**Yu-li**	**0.27**	**206**	⇓P	**Pg**	**16 28 46.7**	**-0.1**
	baz=190						
YULB				S	**Sg**	**16 28 50.7**	**-0.2**
	baz=190						
VWDT	**VWDT**	**0.29**	**295**	⇑P	**Pg**	**16 28 47.2**	**0.0**
	baz=298						
VWDT				S	**Sg**	**16 28 50.6**	**-0.9**
	baz=298						
TWF1	**Yuli**	**0.30**	**203**	⇓*iP*	**Pg**	**16 28 47.4**	**-0.1**
	baz=196						
TWF1				S	**Sg**	**16 28 51.9**	**0.0**
	baz=196						
ENLB	**Shoufeng**	**0.32**	**31**	*eP*	**Pg**	**16 28 47.5**	**-0.2**
	baz=35						
ENLB				*eS*	**Sb**	**16 28 53.1**	**+0.2**
	baz=35						
HWA	**Hwalien**	**0.38**	**26**	*eP*	**Pb**	**16 28 49.5**	**+0.4**
	baz=27						
HWA				S	**Sb**	**16 28 55.7**	**+0.9**
	baz=27						
YUS	**Yu-Shan**	**0.46**	**252**	⇑*iP*	**Pg**	**16 28 50.4**	**0.0**
	baz=246						
YUS				S	**Sg**	**16 28 55.9**	**-0.8**
	baz=246						
SSLB	**Suanglung**	**0.46**	**290**	⇓P	**Pg**	**16 28 49.6**	**-0.6**
	baz=299						
SSLB				S	**Sg**	**16 28 55.0**	**-1.5**
	baz=299						
TWD	**Chiawan**	**0.47**	**19**	*eP*	**Pg**	**16 28 50.3**	**-0.1**
	baz=27						
TWD				*eS*	**Sg**	**16 28 56.9**	**0.0**
	baz=27						
CHGB	**Renai**	**0.48**	**332**	⇓P	**Pg**	**16 28 50.7**	**-0.1**
	baz=347						
CHGB				S	**Sg**	**16 28 56.6**	**-0.8**
	baz=347						
WHYT	**Xinyi Township**	**0.53**	**277**	*eP*	**Pg**	**16 28 51.4**	**-0.1**
	baz=273						
WHYT				S	**Sg**	**16 28 57.8**	**-0.8**
	baz=273						
CHKT	**Chengkung**	**0.53**	**186**	*eP*	**Pb**	**16 28 51.9**	**+0.2**
	baz=167						
CHKT				*eS*	**Sn**	**16 29 00.8**	**-1.3**
	baz=167						
WHF	**Hehuan Shan**	**0.53**	**344**	⇓*iP*	**Pg**	**16 28 51.4**	**-0.3**
	baz=351						
WHF				*eS*	**Sg**	**16 28 58.2**	**-0.9**
	baz=351						
NACB	**Ninganchiao**	**0.56**	**16**	⇑P	**Pg**	**16 28 51.3**	**-0.8**
	baz=22						
NACB				S	**Sg**	**16 28 59.0**	**-0.7**
	baz=22						
ETLH	**Xiulin Townshi**	**0.58**	**5**	*eP*	**Pg**	**16 28 51.9**	**-0.5**
	baz=21						
ETLH				*eS*	**Sg**	**16 28 59.9**	**-0.3**
	baz=21						
ELDTW	**Lidau**	**0.58**	**221**	⇓P	**Pg**	**16 28 51.7**	**-0.7**
	baz=209						
ELDTW				S	**Sg**	**16 28 59.5**	**-0.7**
	baz=209						
DPDB	**Guoxing**	**0.61**	**311**	⇓P	**Pg**	**16 28 52.7**	**-0.2**
	baz=320						
DPDB				S	**Sg**	**16 29 00.1**	**-1.1**
	baz=320						
TWT	**Tachien**	**0.66**	**340**	⇓*iP*	**Pg**	**16 28 54.0**	**0.0**
	baz=336						
TWT				S	**Sg**	**16 29 02.0**	**-0.8**
	baz=336						
TDCB	**Techi**	**0.67**	**339**	⇓

	baz=334						
WGK	**Gukeng**	**0.79 274**	⇓P		**Pn**	**16 28 56.9**	**-0.3**
	baz=273						
WGK			S		**Sn**	**16 29 08.0**	**-0.6**
	baz=273						
NNSB	**Datong**	**0.80 357**	⇑P		**Pb**	**16 28 55.9**	**-0.4**
	baz=8.0						
NNSB			*e*S		**Sb**	**16 29 06.7**	**-0.1**
	baz=8.0						
TPUB	**Ta-pu**	**0.80 246**	P		**Pg**	**16 28 56.6**	**0.0**
	baz=242						
TPUB			S		**Sg**	**16 29 07.2**	**0.0**
	baz=242						
NNS	**Nan Shan**	**0.81 357**	⇑P		**Pb**	**16 28 56.1**	**-0.4**
	baz=8.0						
NNS			S		**Sb**	**16 29 06.9**	**-0.3**
	baz=8.0						
WDLH	**Douliu**	**0.81 274**	*e*P		**Pn**	**16 28 57.4**	**-0.1**
	baz=273						
WDLH			*e*S		**Sn**	**16 29 08.6**	**-0.6**
	baz=273						
WTP	**Ta-pu**	**0.84 243**	⇑P		**Pg**	**16 28 57.4**	**+0.2**
	baz=238						
WTP			S		**Sg**	**16 29 08.6**	**+0.3**
	baz=238						
ENA	**Nanau**	**0.84 20**	⇓P		**Pb**	**16 28 56.0**	**-1.1**
	baz=25						
ENA			*e*S		**Sb**	**16 29 08.2**	**+0.1**
	baz=25						
NANB	**Nanao**	**0.85 20**	*e*P		**Pb**	**16 28 55.9**	**-1.2**
	baz=25						
NANB			*e*S		**Sb**	**16 29 08.3**	**+0.1**
	baz=25						
TCU	**Taichung**	**0.86 307**	*e*P		**Pn**	**16 28 58.4**	**+0.3**
	baz=310						
TCU			*e*S		**Sn**	**16 29 10.4**	**+0.2**
	baz=310						
TWG	**Pinlang**	**0.87 202**	*e*P		**Pb**	**16 28 57.2**	**-0.2**
	baz=183						
TWG			*e*S		**Sg**	**16 29 09.2**	**-0.1**
	baz=183						
TWGBT	**Beinan**	**0.87 201**	*e*P		**Pb**	**16 28 56.0**	**-1.4**
	baz=183						
TWGBT			*e*S		**Sg**	**16 29 09.0**	**-0.3**
	baz=183						
TTN	**Taitung**	**0.91 196**	*e*P		**Pn**	**16 28 58.8**	**0.0**
	baz=179						
WCHH	**Zhanghua**	**0.91 300**	*e*P		**Pn**	**16 28 59.1**	**+0.3**
	baz=302						
WCHH			*e*S		**Sn**	**16 29 11.9**	**+0.4**
	baz=302						
CHY	**Chiayi**	**0.93 262**	*e*P		**Pn**	**16 28 59.2**	**+0.2**
	baz=259						
CHY			*e*S		**Sn**	**16 29 12.3**	**+0.4**
	baz=259						
TWQ1	**Liyutan**	**0.93 320**	P		**Pn**	**16 28 59.4**	**+0.3**
	baz=331						
TWQ1			*e*S		**Sn**	**16 29 12.4**	**+0.4**
	baz=331						
CHN1	**Nanshi**	**0.94 242**	P		**Pn**	**16 28 59.4**	**+0.2**
	baz=237						
CHN1			S		**Sn**	**16 29 12.3**	**+0.2**
	baz=237						
SNST	**Tainan City**	**0.94 245**	*e*P		**Pn**	**16 28 59.4**	**+0.1**
	baz=240						
SNST			*e*S		**Sn**	**16 29 12.3**	**0.0**
	baz=240						
SGST	**Jiashian**	**0.95 235**	P		**Pb**	**16 28 58.6**	**-0.2**
	baz=230						
SGST			S		**Sn**	**16 29 12.2**	**-0.3**
	baz=230						
SLGT	**Liugui**	**0.96 229**	*e*P		**Pn**	**16 28 59.3**	**-0.2**
	baz=215						
SLGT			*e*S		**Sg**	**16 29 11.9**	**-0.1**
	baz=215						
NDT	**Datong Townshi**	**0.97 5**	*e*P		**Pb**	**16 28 59.3**	**+0.1**
	baz=17						
NDT			*e*S		**Sg**	**16 29 12.3**	**-0.2**
	baz=17						
NSY	**Sanyi**	**0.99 322**	*e*P		**Pg**	**16 29 00.8**	**+0.7**
	baz=334						
NSY			*e*S		**Sn**	**16 29 14.2**	**+0.7**
	baz=334						
RLNB	**Erlin**	**1.01 285**	*e*P		**Pn**	**16 29 00.1**	**0.0**
	baz=286						
RLNB			*e*S		**Sn**	**16 29 13.9**	**0.0**
	baz=286						
WDJ	**Dajia District**	**1.01 315**	⇓*e*P		**Pg**	**16 29 01.2**	**+0.7**
	baz=319						
WDJ			*e*S		**Sn**	**16 29 15.9**	**+1.8**
	baz=319						
ENTT	**Nioudou**	**1.01 7**	*e*P		**Pb**	**16 28 58.9**	**-1.0**
	baz=21						
ENTT			*e*S		**Sg**	**16 29 13.5**	**-0.4**
	baz=21						
YHNB	**Yeheng**	**1.03 358**	*e*P		**Pb**	**16 29 00.0**	**-0.4**
	baz=352						
YHNB			S		**Sb**	**16 29 13.6**	**-0.1**
	baz=352						
NSK	**Sanguang**	**1.04 357**	*e*P		**Pb**	**16 29 00.5**	**0.0**
	baz=2.0						
NSK			S		**Sb**	**16 29 13.8**	**0.0**
	baz=2.0						
WLGB	**Puzi**	**1.04 262**	*e*P		**Pg**	**16 29 01.2**	**+0.1**
	baz=259						
WLGB			*e*S		**Sg**	**16 29 16.2**	**+1.4**
	baz=259						
PTSB	**Yuanli**	**1.05 321**	*e*P		**Pg**	**16 29 01.8**	**+0.6**
	baz=338						
PTSB			*e*S		**Sg**	**16 29 16.6**	**+1.6**
	baz=338						
TWC	**Suao**	**1.05 22**	*e*P		**Pb**	**16 28 59.5**	**-1.0**
	baz=19						
TWC			*e*S		**Sn**	**16 29 14.5**	**-0.4**
	baz=19						
NSTT	**Nanjuang**	**1.07 339**	⇓P		**Pg**	**16 29 01.5**	**-0.1**
	baz=344						
NSTT			*e*S		**Sb**	**16 29 15.0**	**+0.4**
	baz=344						
NMLH	**Miaoli**	**1.07 327**	⇓*e*P		**Pg**	**16 29 02.3**	**+0.7**
	baz=332						
NMLH			*e*S		**Sg**	**16 29 17.3**	**+1.6**
	baz=332						
WTCT	**Ta-ch'eng**	**1.07 283**	*e*P		**Pn**	**16 29 01.1**	**0.0**
	baz=269						
WTCT			*e*S		**Sg**	**16 29 16.3**	**+0.5**
	baz=269						
LIOB	**Emei**	**1.08 340**	⇓P		**Pg**	**16 29 01.8**	**+0.1**
	baz=344						
LIOB			*e*S		**Sn**	**16 29 15.5**	**-0.1**
	baz=344						
WSF	**Szhu**	**1.10 271**	*e*P		**Pg**	**16 29 01.9**	**-0.3**
	baz=268						
WSF			*e*S		**Sn**	**16 29 16.3**	**+0.1**
	baz=268						
TWE	**Neicheng**	**1.11 11**	*e*P		**Pn**	**16 29 00.6**	**-1.0**
	baz=30						
TWE			*e*S		**Sn**	**16 29 16.3**	**-0.1**
	baz=30						
ECL	**Taimali**	**1.12 203**	*e*P		**Pn**	**16 29 01.4**	**-0.3**
	baz=189						
ECL			*e*S		**Sb**	**16 29 15.4**	**-0.4**
	baz=189						
EOS1	**EOS1**	**1.12 35**	*e*P		**Pg**	**16 29 02.2**	**-0.3**
	baz=40						
EOS1			*e*S		**Sg**	**16 29 19.9**	**+2.7**
	baz=40						
CHN3	**Shinhua**	**1.12 241**	*e*P		**Pb**	**16 29 02.0**	**+0.3**
	baz=245						
CHN3			*e*S		**Sg**	**16 29 20.2**	**+3.0**
	baz=245						
SLBB	**Yuanshan**	**1.14 10**	*e*P		**Pb**	**16 29 02.1**	**0.0**
	baz=29						
NWLT	**Wulai**	**1.14 4**	*e*P		**Pb**	**16 29 02.5**	**+0.4**
	baz=20						
NWLT			*e*S		**Sb**	**16 29 16.7**	**0.0**
	baz=20						
CHN8	**Yiju**	**1.15 256**	*e*P		**Pg**	**16 29 02.7**	**-0.4**
	baz=250						
CHN8			*e*S		**Sg**	**16 29 18.3**	**+0.1**
	baz=250						
ILA	**Ilan**	**1.17 15**	*e*P		**Pb**	**16 29 02.8**	**+0.2**
	baz=19						
ILA			*e*S		**Sg**	**16 29 18.9**	**+0.1**
	baz=19						
SCLT	**Jiali**	**1.22 248**	*e*P		**Pn**	**16 29 03.1**	**+0.1**
	baz=242						
SCLT			*e*S		**Sg**	**16 29 20.9**	**+0.5**
	baz=242						
TWM1	**Shoushan**	**1.22 229**	*e*P		**Pg**	**16 29 05.3**	**+0.7**
	baz=212						
SBCB	**Hsinchu**	**1.22 341**	*e*P		**Pg**	**16 29 04.3**	**-0.3**
	baz=346						
SBCB			*e*S		**Sg**	**16 29 21.7**	**+1.1**
	baz=346						
WLTB	**Daxi**	**1.23 353**	*e*P		**Pg**	**16 29 04.7**	**+0.1**
	baz=357						
WLTB			*e*S		**Sg**	**16 29 21.0**	**+0.3**
	baz=357						
MASBT	**Mashibuluo**	**1.25 216**	*e*P		**Pb**	**16 29 04.0**	**0.0**
	baz=208						
MASBT			*e*S		**Sn**	**16 29 20.1**	**+0.3**
	baz=208						
NTC	**Toucheng**	**1.27 17**	*e*P		**Pb**	**16 29 04.4**	**0.0**
	baz=22						
NTC			*e*S		**Sg**	**16 29 21.8**	**-0.4**
	baz=22						
NCUH	**Zhongli**	**1.35 351**	*e*P		**Pb**	**16 29 05.8**	**+0.2**
	baz=355						
NCUH			*e*S		**Sg**	**16 29 25.7**	**+1.2**
	baz=355						
EAST	**Anshuo**	**1.35 203**	*e*P		**Pb**	**16 29 06.0**	**+0.3**
	baz=183						
TWA	**Mucha**	**1.35 6**	*e*P		**Pg**	**16 29 06.4**	**-0.6**
	baz=25						
TWA			*e*S		**Sg**	**16 29 24.4**	**-0.3**
	baz=25						
TAW	**Tawu**	**1.36 201**	*e*P		**Pn**	**16 29 04.7**	**-0.3**
	baz=182						
TIPB	**Shuangxi**	**1.38 15**	*e*P		**Pn**	**16 29 05.0**	**-0.4**
	baz=20						
TIPB			*e*S		**Sb**	**16 29 23.6**	**-0.1**
	baz=20						
SCZT	**Fangliau**	**1.46 211**	P		**Pg**	**16 29 08.2**	**-0.8**
	baz=214						
SCZT			*e*S		**Sb**	**16 29 26.7**	**+1.0**
	baz=214						
TWS1	**Kuangyinshan**	**1.46 360**	*e*P		**Pb**	**16 29 07.2**	**-0.4**
	baz=17						
TWS1			*e*S		**Sg**	**16 29 28.5**	**+0.3**
	baz=17						
TWB1	**Santiao Chiao**	**1.47 20**	*e*P		**Pb**	**16 29 07.3**	**-0.3**
	baz=25						
TWB1			*e*S		**Sb**	**16 29 27.0**	**+1.1**
	baz=25						
NWF	**Wu-fen Shan**	**1.47 13**	*e*P		**Pb**	**16 29 07.3**	**-0.5**
	baz=33						
WFSB	**Wu-fen Shan**	**1.47 13**	*e*P		**Pb**	**16 29 07.7**	**0.0**
	baz=29						
WFSB			*e*S		**Sg**	**16 29 27.5**	**-0.9**
	baz=29						
YM01	**YM01**	**1.52 5**	*e*P		**Pn**	**16 29 07.8**	**+0.6**
	baz=34						
YM04	**YM04**	**1.52 4**	*e*P		**Pb**	**16 29 08.4**	**-0.1**
	baz=26						
YM04			*e*S		**Sb**	**16 29 28.4**	**+0.9**
	baz=26						
YM10	**YM10**	**1.52 5**	*e*P		**Pb**	**16 29 08.2**	**-0.4**
	baz=28						
YM10			*e*S		**Sg**	**16 29 29.0**	**-1.1**
	baz=28						
NTST	**Danshui**	**1.53 1**	*e*P		**Pb**	**16 29 09.3**	**+0.6**
	baz=26						
NTST			*e*S		**Sg**	**16 29 30.1**	**-0.1**
	baz=26						
YM05	**YM05**	**1.53 5**	*e*P		**Pb**	**16 29 09.3**	**+0.4**
	baz=34						
YM11	**YM11**	**1.53 5**	*e*P		**Pb**	**16 29 09.0**	**+0.1**
	baz=34						
ANP	**Anpu**	**1.55 3**	*e*P		**Pb**	**16 29 08.6**	**-0.5**
	baz=32						
YM08	**YM08**	**1.56 6**	*e*P		**Pb**	**16 29 08.8**	**-0.4**
	baz=10.0						
YM08			*e*S		**Sg**	**16 29 30.3**	**-0.9**
	baz=10.0						
LAY	**Lan-yu**	**1.59 176**	*e*P		**Pn**	**16 29 06.5**	**-1.7**
	baz=159						
JYNG	**Yonagunijimaku**	**1.61 59**	P		**Pn**	**16 29 08.8**	**+0.3**
JYNG			*e*S		**Sb**	**16 29 29.9**	**-0.3**
TWY	**Chenhua**	**1.65 6**	*e*P		**Pn**	**16 29 09.7**	**+0.8**
	baz=34						
WDGT	**Dungji**	**1.66 258**	*e*P		**Pn**	**16 29 09.0**	**-0.1**
	baz=252						
YOJ	**Yonaguni jima**	**1.67 60**	P		**Pn**	**16 29 09.7**	**+0.4**
PHUB	**P'eng-hu**	**1.70 266**	*e*P		**Pn**	**16 29 09.8**	**+0.1**
	baz=242						
PHUB			*e*S		**Sn**	**16 29 31.0**	**-0.1**
	baz=242						
PNG	**Penghu**	**1.72 268**	*e*P		**Pn**	**16 29 10.3**	**+0.4**
	baz=263						
PNG			*e*S		**Sn**	**16 29 31.8**	**+0.4**
	baz=263						
TWKBT	**Hengchun**	**1.77 199**	*e*P		**Pn**	**16 29 11.4**	**+0.7**
	baz=183						
VCHM	**Qimei**	**1.88 257**	*e*P		**Pn**	**16 29 12.9**	**+0.7**
	baz=250						
VCHM			*e*S		**Sb**	**16 29 36.6**	**-1.3**
	baz=250						
PCYT	**Pengchaiyu**	**2.08 16**	*e*P		**Pn**	**16 29 15.2**	**+0.4**
	baz=28						
HATJ	**Hateruma jima**	**2.22 79**	P		**Pn**	**16 29 17.3**	**+0.5**
HATJ			*e*S		**Sn**	**16 29 44.8**	**+1.0**
IRIF	**Iriomote-Funau**	**2.22 71**	P		**Pn**	**16 29 17.9**	**+1.0**
VWUC	**VWUC**	**2.25 307**	*e*P		**Pn**	**16 29 17.3**	**0.0**
	baz=310						
PTTC	**Pingtan**	**2.39 321**	*e*P		**Pn**	**16 29 19.6**	**+0.3**
	baz=325						
JKRS	**Kuro-shima**	**2.44 75**	P		**Pn**	**16 29 21.1**	**+1.2**
JKRS			*e*S		**Sn**	**16 29 50.5**	**+1.2**
PTMZ	**Houxiangcun**	**2.53 304**	*e*P		**Pn**	**16 29 21.3**	**+0.2**
	baz=306						
JIJ	**Ishigaki jima**	**2.59 73**	P		**Pn**	**16 29 22.1**	**+0.2**
JIJ			*e*S		**Sn**	**16 29 53.3**	**+0.3**
JISG	**Ishigakijimahi**	**2.80 70**	P		**Pn**	**16 29 24.9**	**0.0**
JISG			*e*S		**Sn**	**16 29 56.9**	**-1.3**
KNM	**Kinmen**	**2.84 287**	*e*P		**Pn**	**16 29 27.5**	**+2.1**
	baz=286						
MATB	**Ma-tsu**	**2.85 332**	*e*P		**Pn**	**16 29 25.3**	**-0.2**
	baz=336						
KNMB	**Chin-men Tao**	**2.90 287**	*e*P		**Pn**	**16 29 26.0**	**-0.1**
	baz=287						
JTJ	**Tarama**	**3.16 71**	P		**Pn**	**16 29 30.2**	**+0.5**
LYJJ	**Jianjiangzhen**	**3.27 333**	*e*P		**Pn**	**16 29 31.0**	**-0.4**
	baz=337						
MHZQ	**Yeshan**	**3.28 319**	*e*P		**Pn**	**16 29 32.1**	**+0.7**
	baz=323						
ZPLA	**Ao Xicun**	**3.38 276**	*e*P		**Pn**	**16 29 32.8**	**+0.1**
	baz=273						
AXDP	**Jialang**	**3.40 293**	*e*P		**Pn**	**16 29 33.2**	**+0.2**
	baz=293						
XPSS	**Dashiqiu**	**3.47 341**	*e*P		**Pn**	**16 29 34.3**	**+0.3**
	baz=347						
XPSS			*e*S		**Sn**	**16 30 14.4**	**-0.3**
	baz=347						

*NNC **05** 16:32:40.6±1.1, 44°.80N×82°.57E, h0km, mb4.2, mpv3.9,*
Error ellipse: s-maj=11.8km s-min=4.0km az=123.0
*BJI **05** 16:32:40.5±0.0, 44°.85N×82°.59E, h5km, ML3.1/8*
*SOME **05** 16:32:43.0, 44°.98N×82°.37E, h20km*
ISC 05 16:32:40.5±1.2, 44°.88N±0°.05×82°.55E±0°.06, h10km, n43,
σ2s60/63, 14C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.92**	**355**	⇑Pn	**Pb**	**16 33 15.8**	**+0.2**
	35nm,0.3s,baz=161,slow=16,SNR=1232						
MK31				⇓Sn	**Sb**	**16 33 42.1**	**+2.4**
	82nm,0.3s,baz=170,slow=24,SNR=18						
MAKZ	**Makanchi**	**1.97**	**348**	⇓Pn	**Pn**	**16 33 16.2**	**+2.3**
	14nm,0.3s						
MAKZ				⇑Lg	Lg	16 33 43.9	
	77nm,0.5s						
DJR	**Jarkent**	**2.05**	**255**	P	**Pb**	**16 33 18.4**	**+0.6**
	60nm,0.2s						
DJR				S	**Sb**	**16 33 43.9**	**+0.5**
	134nm,0.4s						
DJR	**Jarkent**	**2.05**	**255**	*e*P	**Pb**	**16 33 18.5**	**+0.7**
	61nm,0.2s						
DJR				*e*S	**Sb**	**16 33 44.0**	**+0.6**
	80nm,0.2s						
KAPS	**Kapalarasan**	**2.30**	**281**	Pg	**Pb**	**16 33 23.6**	**+1.5**
	49nm,0.3s						
KAPS				Lg	Lg	16 33 52.6	
	163nm,0.4s						
KAPS	**Kapalarasan**	**2.30**	**281**	*e*P	**Pb**	**16 33 20.9**	**-1.2**
	49nm,0.3s						
KAPS				*e*S	**Sn**	**16 33 48.0**	**+1.1**
	163nm,0.4s						
PDGK	**Podgornoye**	**2.70**	**236**	Pg	**Pb**	**16 33 29.6**	**+0.7**
PDGK				Lg	Lg	16 34 03.3	
PDGK	**Podgornoye**	**2.70**	**236**	⇑Pn	**Pn**	**16 33 24.9**	**+0.9**
	0.8nm,0.3s						
PDGK				⇑Pg	**Pb**	**16 33 28.7**	**-0.2**
	14nm,0.6s						
PDGK				⇑Lg	Lg	16 34 05.4	
	194nm,0.6s						
SHLS	**Shalkode**	**2.82**	**233**	Pg	**Pn**	**16 33 27.8**	**+2.2**
	13nm,0.3s						
SHLS				Lg	Lg	16 34 00.3	
	344nm,0.4s						
SHLS	**Shalkode**	**2.82**	**233**	*e*P	**Pn**	**16 33 27.8**	**+2.2**
	13nm,0.3s						
SHLS				*e*S	**Sn**	**16 34 00.3**	**+0.6**
	344nm,0.4s						
ZSN	**Zaisan**	**3.03**	**31**	Pg	**Pb**	**16 33 35.6**	**+1.1**
	22nm,0.2s						
ZSN				Lg	Lg	16 34 12.9	
	69nm,0.5s						
ZSN	**Zaisan**	**3.03**	**31**	*e*P	**Pb**	**16 33 34.6**	**+0.1**
	16nm,0.2s						
ZSN				*e*S	**Sb**	**16 34 11.4**	**-0.2**
	49nm,0.3s						
UZB	**Uzynbulak**	**3.08**	**237**	Pg	**Pb**	**16 33 36.3**	**+0.8**
	16nm,0.4s						
UZB				Lg	Lg	16 34 14.4	
	96nm,0.5s						
UZB	**Uzynbulak**	**3.08**	**237**	*e*P	**Pb**	**16 33 36.3**	**+0.8**
	7.2nm,0.1s						
UZB				*e*S	**Sb**	**16 34 14.3**	**+1.2**
	112nm,0.2s						
KPKS	**Kokpek**	**3.12**	**244**	*e*P	**Pb**	**16 33 36.8**	**+0.7**
	64nm,0.2s						
KPKS				*e*S	**Sb**	**16 34 15.7**	**+1.4**
	487nm,0.6s						
ZHN	**Zhinishke**	**3.43**	**241**	Pg	**Pb**	**16 33 42.6**	**+1.3**
	17nm,0.1s						
ZHN				Lg	Lg	16 34 26.0	
	150nm,0.2s						
ZHN	**Zhinishke**	**3.43**	**241**	*e*P	**Pb**	**16 33 42.6**	**+1.3**
	26nm,0.0s						
ZHN				*e*S	**Sb**	**16 34 25.8**	**+2.7**
	90nm,0.2s						
ARXS	**Arharly**	**3.44**	**260**	Pg	**Pb**	**16 33 43.7**	**+2.1**
	17nm,0.3s						
ARXS				Lg	Lg	16 34 27.5	
	139nm,0.5s						
ARXS	**Arharly**	**3.44**	**260**	*e*P	**Pb**	**16 33 43.7**	**+2.1**
	18nm,0.3s						
ARXS				*e*S	**Sg**	**16 34 27.5**	**-3.6**
	139nm,0.5s						
KURS	**Kuram**	**3.45**	**248**	Pg	**Pb**	**16 33 43.6**	**+2.0**
	15nm,0.5s						
KURS				Lg	Lg	16 34 27.1	
	43nm,0.6s						
KURS	**Kuram**	**3.45**	**248**	*e*P	**Pb**	**16 33 43.6**	**+2.0**
	15nm,0.5s						
KURS				*e*S	**Sg**	**16 34 27.1**	**-4.0**
	43nm,0.6s						
SATY	**Saty**	**3.50**	**240**	Pg	**Pb**	**16 33 43.5**	**+0.8**
	56nm,0.5s						
SATY				Lg	Lg	16 34 27.9	
	206nm,0.4s						
SATY	**Saty**	**3.50**	**240**	*e*P	**Pb**	**16 33 44.1**	**+1.4**
	52nm,0.2s						
SATY				*e*S	**Sb**	**16 34 27.7**	**+2.4**
	109nm,0.2s						
CHKK	**Chushkaly**	**4.12**	**258**	*e*P	**Pb**	**16 33 56.0**	**+2.9**
	5.2nm,0.1s						
CHKK				*e*S	**Sg**	**16 34 47.9**	**-4.8**
	78nm,0.5s						
KOTS	**Kotyrbulak**	**4.25**	**249**	Pg	**Pb**	**16 33 57.8**	**+2.4**
KOTS				Lg	Lg	16 34 52.0	
KOTS	**Kotyrbulak**	**4.25**	**249**	*e*P	**Pb**	**16 33 57.8**	**+2.4**
	33nm,0.3s						
KOTS				*e*S	**Sg**	**16 34 51.9**	**-5.1**
	70nm,0.5s						
MDOK	**Medeo**	**4.33**	**249**	⇓Pg	**Pg**	**16 34 00.6**	**-2.8**
	23nm,0.6s						
MDOK				⇑Lg	Lg	16 34 58.4	
	73nm,0.8s						
MDOK	**Medeo**	**4.33**	**249**	*e*P	**Pb**	**16 33 58.6**	**+1.9**
	15nm,0.6s						
MDOK				*e*S	**Sb**	**16 34 52.5**	**+3.5**
	30nm,0.7s						
KNDC	**Almaty**	**4.36**	**250**	⇑Pg	**Pg**	**16 34 03.9**	**-0.1**
KNDC				⇑Lg	Lg	16 35 01.1	
KTBS	**Karatobe**	**4.37**	**257**	Pg	**Pb**	**16 33 59.9**	**+2.5**
KTBS				Lg	Lg	16 34 55.5	
KTBS	**Karatobe**	**4.37**	**257**	*e*P	**Pb**	**16 33 59.9**	**+2.5**
	4.6nm,0.3s						
KTBS				*e*S	**Sg**	**16 34 55.5**	**-5.3**
	143nm,0.7s						
KUU	**Kurty**	**4.56**	**260**	*e*P	**Pb**	**16 34 03.2**	**+2.6**
	2.7nm,0.3s						
KUU				*e*S	**Sb**	**16 35 00.3**	**+4.7**
	54nm,0.5s						
IZV	**Izvestkoviy**	**4.67**	**249**	Pg	**Pb**	**16 34 04.5**	**+2.0**
	16nm,0.5s						
IZV				Lg	Lg	16 35 03.7	
	37nm,0.5s						
IZV	**Izvestkoviy**	**4.67**	**249**	*e*P	**Pb**	**16 34 04.5**	**+2.0**
	16nm,0.5s						
IZV				*e*S	**Sb**	**16 35 02.6**	**+3.8**
	31nm,0.8s						
MTBS	**Maitube**	**4.75**	**251**	*e*P	**Pb**	**16 34 06.4**	**+2.5**
	5.3nm,0.2s						
MTBS				*e*S	**Sb**	**16 35 05.8**	**+4.7**
	74nm,0.5s						
DGS	**Degeres**	**5.15**	**254**	Pg	**Pb**	**16 34 14.5**	**+3.8**
	10nm,0.4s						
DGS				Lg	Lg	16 35 20.2	
	78nm,0.6s						
DGS	**Degeres**	**5.15**	**254**	*e*P	**Pb**	**16 34 14.5**	**+3.8**
	10nm,0.4s						
DGS				*e*S	**Sg**	**16 35 20.2**	**-5.7**
	78nm,0.6s						
TKM2	**Tokmak 2**	**5.39**	**251**	⇓Pg	**Pg**	**16 34 22.5**	**-1.3**
	18nm,0.9s						
TKM2				⇓Lg	Lg	16 35 34.4	
	27nm,0.9s						
SEM	**Semipalatinsk**	**5.75**	**345**	Pg	**Pg**	**16 34 30.3**	**-0.2**
SEM				Lg	Lg	16 35 46.4	
	19nm,0.4s						
AAK	**Ala-Archa**	**6.25**	**252**	⇑Pg	**Pg**	**16 34 35.7**	**-4.4**
	6.0nm,0.8s						
AAK				⇑Lg	Lg	16 36 01.6	
	26nm,0.8s						
KURBB	**Kurchatov Arra**	**6.35**	**336**	⇓Pg	**Pg**	**16 34 42.0**	**-0.1**
	2.2nm,0.6s						
KURBB				⇑Lg	Lg	16 36 04.8	
	26nm,0.6s						
KURK	**Kurchatov**	**6.41**	**337**	⇑Pg	Pb	16 34 37.7	+5.7
	2.4nm,0.9s						
KURK				⇑Lg	Lg	16 36 05.4	
	7.0nm,0.5s						
KK31	**Karatay Array**	**8.86**	**263**	⇓Pg	**Pg**	**16 35 26.6**	**-3.5**
	0.4nm,0.4s,baz=73,slow=19,SNR=6.2						
KK31				⇑Lg	Lg	16 37 22.9	
	2.9nm,0.5s,baz=64,slow=26,SNR=5.1						

*ISCJB **05** 16:50:51.5±0.4, 24°.89N±0°.02×122°.21E±0°.02,*
h116km±2km, Error ellipse: s-maj=3.7km s-min=2.4km
az=165.0
*JMA **05** 16:50:51.1±0.1, 24°.86N×122°.18E, h121km±2km, M2.7*
*TAP **05** 16:50:51.2, 24°.90N×122°.24E, h120km, ML3.5, C*
ISC 05 16:50:52.0±1.3, 24°.88N±0°.04×122°.20E±0°.02, h115km±6km,
n108, σ0s71/197, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.23**	**303**	*e*P	**Pn**	**16 51 08.1**	**-0.1**
	baz=295						
TWB1				*e*S	**Sn**	**16 51 18.1**	**-2.1**
	baz=295						
EOS1	**EOS1**	**0.34**	**192**	*e*P	**Pn**	**16 51 08.9**	**+0.4**
	baz=208						
EOS1				*e*S	**Sn**	**16 51 21.9**	**+0.9**

	baz=267						
TIPB	**Shuangxi**	**0.35**	**285**	⇑ *i* P	**Pn**	**16 51 08.7**	**0.0**
	baz=281						
TIPB				*i* S	**Sn**	**16 51 20.9**	**-0.3**
	baz=281						
TWC	**Suao**	**0.42**	**230**	P	**Pn**	**16 51 08.8**	**-0.2**
	baz=235						
TWC				*e*S	**Sn**	**16 51 20.9**	**-0.8**
	baz=235						
NWF	**Wu-fen Shan**	**0.43**	**296**	P	**Pn**	**16 51 09.2**	**+0.1**
	baz=284						
NWF				S	**Sn**	**16 51 21.9**	**-0.1**
	baz=284						
WFSB	**Wu-fen Shan**	**0.43**	**296**	*e*P	**Pn**	**16 51 09.1**	**+0.1**
	baz=284						
WFSB				*e*S	**Sn**	**16 51 21.7**	**-0.1**
	baz=284						
SLBB	**Yuanshan**	**0.53**	**256**	*e*P	**Pn**	**16 51 09.8**	**+0.1**
	baz=261						
NANB	**Nanao**	**0.61**	**222**	*e*P	**Pn**	**16 51 10.6**	**+0.4**
	baz=219						
NANB				*e*S	**Sn**	**16 51 24.0**	**0.0**
	baz=219						
ENA	**Nanau**	**0.62**	**223**	*e*P	**Pn**	**16 51 10.7**	**+0.5**
	baz=219						
ENA				*e*S	**Sn**	**16 51 24.5**	**+0.5**
	baz=219						
ENTT	**Nioudou**	**0.63**	**247**	*e*P	**Pn**	**16 51 10.6**	**+0.3**
	baz=247						
ENTT				*e*S	**Sn**	**16 51 25.6**	**+1.5**
	baz=247						
YM01	**YM01**	**0.63**	**295**	*e*P	**Pn**	**16 51 10.2**	**-0.2**
	baz=292						
YM01				*e*S	**Sn**	**16 51 23.3**	**-1.0**
	baz=292						
YM08	**YM08**	**0.63**	**299**	*e*P	**Pn**	**16 51 10.4**	**0.0**
	baz=296						
YM08				*e*S	**Sn**	**16 51 23.3**	**-1.0**
	baz=296						
YM11	**YM11**	**0.64**	**296**	P	**Pn**	**16 51 10.1**	**-0.4**
	baz=294						
YM05	**YM05**	**0.64**	**296**	*e*P	**Pn**	**16 51 10.4**	**-0.1**
	baz=293						
YM05				*e*S	**Sn**	**16 51 23.3**	**-1.2**
	baz=293						
YM10	**YM10**	**0.64**	**295**	*e*P	**Pn**	**16 51 10.4**	**-0.1**
	baz=292						
YM10				*e*S	**Sn**	**16 51 23.8**	**-0.7**
	baz=292						
NWLT	**Wulai**	**0.65**	**261**	*e*P	**Pn**	**16 51 10.2**	**-0.3**
	baz=264						
NWLT				*e*S	**Sn**	**16 51 24.9**	**+0.5**
	baz=264						
TATO	**Taipei**	**0.66**	**278**	*e*P	**Pn**	**16 51 10.3**	**-0.2**
	baz=276						
TATO				*e*S	**Sn**	**16 51 23.2**	**-1.2**
	baz=276						
YM04	**YM04**	**0.66**	**294**	*e*P	**Pn**	**16 51 10.4**	**-0.2**
	baz=292						
YM04				*e*S	**Sn**	**16 51 23.7**	**-1.0**
	baz=292						
TWY	**Chenhua**	**0.67**	**306**	*e*P	**Pn**	**16 51 10.8**	**+0.2**
	baz=297						
TWY				*e*S	**Sn**	**16 51 25.0**	**+0.3**
	baz=297						
NDT	**Datong Townshi**	**0.69**	**246**	*e*P	**Pn**	**16 51 11.3**	**+0.6**
	baz=255						
NDT				*e*S	**Sn**	**16 51 25.8**	**+0.8**
	baz=255						
ANP	**Anpu**	**0.69**	**296**	*e*P	**Pn**	**16 51 09.9**	**-1.0**
	baz=287						
NTST	**Danshui**	**0.74**	**292**	*e*P	**Pn**	**16 51 11.2**	**0.0**
	baz=294						
NTST				*e*S	**Sn**	**16 51 25.0**	**-0.7**
	baz=294						
TWS1	**Kuangyinshan**	**0.74**	**287**	*e*P	**Pn**	**16 51 11.1**	**-0.1**
	baz=289						
TWS1				*e*S	**Sn**	**16 51 25.9**	**+0.1**
	baz=289						
YHNB	**Yeheng**	**0.78**	**254**	*e*P	**Pn**	**16 51 11.8**	**+0.1**
	baz=254						
YHNB				*e*S	**Sn**	**16 51 26.3**	**-0.2**
	baz=254						
NSK	**Sanguang**	**0.80**	**255**	*e*P	**Pn**	**16 51 11.8**	**+0.1**
	baz=254						
NSK				*e*S	**Sn**	**16 51 26.5**	**-0.2**
	baz=254						
JYNG	**Yonagunijimaku**	**0.80**	**122**	P	**Pn**	**16 51 11.7**	**0.0**
JYNG				S	**Sn**	**16 51 26.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.85**	**120**	*e*P	**Pn**	**16 51 12.1**	**0.0**
	baz=130						
YOJ				*e*S	**Sn**	**16 51 27.2**	**-0.1**
	baz=130						
YOJ	**Yonaguni jima**	**0.85**	**120**	P	**Pn**	**16 51 12.1**	**0.0**
YOJ				S	**Sn**	**16 51 27.7**	**+0.4**
WLTB	**Daxi**	**0.86**	**268**	*e*P	**Pn**	**16 51 12.7**	**+0.4**
	baz=267						
WLTB				*e*S	**Sn**	**16 51 28.3**	**+0.7**
	baz=267						
NNSB	**Datong**	**0.87**	**239**	*e*P	**Pn**	**16 51 13.0**	**+0.5**
	baz=246						
NNSB				*e*S	**Sn**	**16 51 28.2**	**+0.2**
	baz=246						
NNS	**Nan Shan**	**0.87**	**240**	*e*P	**Pn**	**16 51 13.1**	**+0.5**
	baz=246						
NNS				*e*S	**Sn**	**16 51 27.9**	**-0.2**
	baz=246						
NACB	**Ninganchiao**	**0.90**	**218**	P	**Pn**	**16 51 12.4**	**-0.2**
	baz=216						
NACB				*e*S	**Sn**	**16 51 28.1**	**-0.1**
	baz=216						
NCU	**National Centr**	**0.93**	**276**	*e*P	**Pn**	**16 51 13.0**	**+0.1**
	baz=265						
NCU				*e*S	**Sn**	**16 51 29.5**	**+0.8**
	baz=265						
NCUH	**Zhongli**	**0.93**	**275**	*e*P	**Pn**	**16 51 13.2**	**+0.3**
	baz=265						
NCUH				*e*S	**Sn**	**16 51 30.0**	**+1.3**
	baz=265						
ETLH	**Xiulin Townshi**	**0.94**	**224**	*e*P	**Pn**	**16 51 13.3**	**+0.1**
	baz=233						
ETLH				*e*S	**Sn**	**16 51 30.0**	**+0.9**
	baz=233						
TWD	**Chiawan**	**0.97**	**215**	*e*P	**Pn**	**16 51 13.3**	**-0.1**
	baz=214						
TWD				*e*S	**Sn**	**16 51 29.1**	**-0.3**
	baz=214						
HWA	**Hwalien**	**1.05**	**211**	*e*P	**Pn**	**16 51 14.7**	**+0.5**
	baz=206						
HWA				*e*S	**Sn**	**16 51 32.1**	**+1.2**
	baz=206						
LIOB	**Emei**	**1.10**	**258**	*e*P	**Pn**	**16 51 14.9**	**+0.2**
	baz=250						
LIOB				*e*S	**Sn**	**16 51 32.0**	**+0.1**
	baz=250						
SBCB	**Hsinchu**	**1.11**	**266**	*e*P	**Pn**	**16 51 14.5**	**-0.3**
	baz=265						
SBCB				*e*S	**Sn**	**16 51 31.5**	**-0.5**
	baz=265						
ENLB	**Shoufeng**	**1.12**	**209**	*e*P	**Pn**	**16 51 14.3**	**-0.5**
	baz=206						
ENLB				*e*S	**Sn**	**16 51 32.1**	**0.0**
	baz=206						
NSTT	**Nanjuang**	**1.12**	**257**	*e*P	**Pn**	**16 51 14.9**	**+0.1**
	baz=250						
NSTT				*e*S	**Sn**	**16 51 31.8**	**-0.4**
	baz=250						
WHF	**Hehuan Shan**	**1.13**	**230**	*e*P	**Pn**	**16 51 15.8**	**+0.3**
	baz=229						
WHF				*e*S	**Sn**	**16 51 33.5**	**+0.5**
	baz=229						
TDCB	**Techi**	**1.14**	**237**	*e*P	**Pn**	**16 51 16.1**	**+0.9**
	baz=231						
TDCB				*e*S	**Sn**	**16 51 33.6**	**+0.8**
	baz=231						
CHGB	**Renai**	**1.25**	**229**	*e*P	**Pn**	**16 51 17.3**	**+0.8**
	baz=229						
CHGB				*e*S	**Sn**	**16 51 35.4**	**+0.5**
	baz=229						
ESL	**Shilin**	**1.27**	**214**	*e*P	**Pn**	**16 51 15.8**	**-0.7**
	baz=220						
WHP	**Taichung City**	**1.29**	**243**	*e*P	**Pn**	**16 51 17.6**	**+0.7**
	baz=249						
WHP				*e*S	**Sn**	**16 51 35.6**	**0.0**
	baz=249						
OWD	**Renai**	**1.31**	**226**	*e*P	**Pn**	**16 51 18.3**	**+1.1**
	baz=222						
OWD				*e*S	**Sn**	**16 51 36.6**	**+0.4**
	baz=222						
NMLH	**Miaoli**	**1.33**	**255**	*e*P	**Pn**	**16 51 17.0**	**-0.2**
	baz=254						
NMLH				*e*S	**Sn**	**16 51 36.1**	**-0.2**
	baz=254						
NSY	**Sanyi**	**1.39**	**251**	*e*P	**Pn**	**16 51 18.4**	**+0.6**
	baz=250						
NSY				*e*S	**Sn**	**16 51 37.6**	**0.0**
	baz=250						
EGFH	**Guangfu**	**1.40**	**211**	*e*P	**Pn**	**16 51 17.5**	**-0.5**
	baz=212						
EGFH				*e*S	**Sn**	**16 51 37.2**	**-0.5**
	baz=212						
TWQ1	**Liyutan**	**1.41**	**248**	*e*P	**Pn**	**16 51 18.3**	**+0.3**
	baz=247						
TWQ1				*e*S	**Sn**	**16 51 37.7**	**-0.1**
	baz=247						
PTSB	**Yuanli**	**1.43**	**253**	*e*P	**Pn**	**16 51 18.4**	**+0.1**
	baz=252						
PTSB				*e*S	**Sn**	**16 51 37.7**	**-0.6**
	baz=252						
DPDB	**Guoxing**	**1.44**	**234**	*e*P	**Pn**	**16 51 19.3**	**+0.8**
	baz=241						
DPDB				*e*S	**Sn**	**16 51 39.2**	**+0.6**
	baz=241						
VWDT	**VWDT**	**1.48**	**221**	*e*P	**Pn**	**16 51 19.5**	**+0.6**
	baz=217						
VWDT				*e*S	**Sn**	**16 51 40.0**	**+0.6**
	baz=217						
IRIF	**Iriomote-Funau**	**1.49**	**111**	P	**Pn**	**16 51 18.8**	**-0.2**
IRIF				*e*S	**Sn**	**16 51 39.8**	**+0.2**
WDJ	**Dajia District**	**1.52**	**250**	*e*P	**Pn**	**16 51 19.7**	**+0.3**
	baz=249						
WDJ				*e*S	**Sn**	**16 51 40.2**	**+0.1**
	baz=249						
HGSD	**Ruisui**	**1.56**	**207**	*e*P	**Pn**	**16 51 19.9**	**+0.1**
	baz=216						
HGSD				*e*S	**Sn**	**16 51 41.0**	**+0.1**
	baz=216						
TYC	**Yuchr**	**1.57**	**232**	*e*P	**Pn**	**16 51 20.6**	**+0.7**
	baz=239						
TYC				*e*S	**Sn**	**16 51 42.5**	**+1.4**
	baz=239						
TCU	**Taichung**	**1.57**	**243**	*e*P	**Pn**	**16 51 20.4**	**+0.5**
	baz=248						
TCU				*e*S	**Sn**	**16 51 40.9**	**-0.4**
	baz=248						
SSLB	**Suanglung**	**1.58**	**227**	*e*P	**Pn**	**16 51 21.0**	**+0.9**
	baz=229						
SSLB				*e*S	**Sn**	**16 51 42.7**	**+1.3**
	baz=229						
EHY	**Hungye**	**1.59**	**211**	*e*P	**Pn**	**16 51 19.1**	**-1.2**
	baz=212						
HATJ	**Hateruma jima**	**1.68**	**119**	P	**Pn**	**16 51 21.2**	**0.0**
HATJ				S	**Sn**	**16 51 43.6**	**+0.1**
WCHH	**Zhanghua**	**1.70**	**242**	*e*P	**Pn**	**16 51 21.7**	**+0.2**
	baz=249						
WCHH				*e*S	**Sn**	**16 51 44.0**	**0.0**
	baz=249						
YULB	**Yu-li**	**1.70**	**209**	*e*P	**Pn**	**16 51 20.6**	**-1.0**
	baz=215						
YULB				*e*S	**Sn**	**16 51 41.9**	**-2.1**
	baz=215						
WHYT	**Xinyi Township**	**1.71**	**226**	*e*P	**Pn**	**16 51 22.7**	**+1.0**
	baz=233						
WHYT				*e*S	**Sn**	**16 51 45.2**	**+0.9**
	baz=233						
WNT	**Mingjian**	**1.71**	**234**	*e*P	**Pn**	**16 51 22.4**	**+0.8**
	baz=242						
WNT				*e*S	**Sn**	**16 51 45.2**	**+1.0**
	baz=242						
WJS	**Zhushan**	**1.71**	**232**	*e*P	**Pn**	**16 51 22.4**	**+0.7**
	baz=231						
WJS				*e*S	**Sn**	**16 51 46.0**	**+1.8**
	baz=231						
TWF1	**Yuli**	**1.73**	**209**	*e*P	**Pn**	**16 51 21.1**	**-0.9**
	baz=214						
TWF1				*e*S	**Sn**	**16 51 42.9**	**-1.9**
	baz=214						
JKRS	**Kuro-shima**	**1.77**	**111**	P	**Pn**	**16 51 22.5**	**+0.2**
JKRS				*e*S	**Sn**	**16 51 45.4**	**0.0**
YUS	**Yu-Shan**	**1.80**	**220**	*e*P	**Pn**	**16 51 24.4**	**+1.2**
	baz=213						
YUS				*e*S	**Sn**	**16 51 47.2**	**+0.3**
	baz=213						
JIJ	**Ishigaki jima**	**1.84**	**106**	P	**Pn**	**16 51 22.7**	**-0.5**
JIJ				S	**Sn**	**16 51 46.3**	**-0.8**
CHN5	**Tsauling**	**1.89**	**228**	*e*P	**Pn**	**16 51 24.5**	**+0.5**
	baz=226						
CHN5				*e*S	**Sn**	**16 51 48.4**	**0.0**
	baz=226						
WGK	**Gukeng**	**1.91**	**232**	*e*P	**Pn**	**16 51 24.8**	**+0.6**
	baz=230						
WGK				*e*S	**Sn**	**16 51 49.3**	**+0.6**
	baz=230						
WDLH	**Douliu**	**1.93**	**232**	*e*P	**Pn**	**16 51 25.1**	**+0.8**
	baz=231						
WDLH				*e*S	**Sn**	**16 51 49.9**	**+0.9**
	baz=231						
CHKT	**Chengkung**	**1.93**	**204**	*e*P	**Pn**	**16 51 23.9**	**-0.5**
	baz=200						
CHKT				*e*S	**Sn**	**16 51 47.8**	**-1.4**
	baz=200						
JISG	**Ishigakijimahi**	**1.94**	**98**	P	**Pn**	**16 51 24.5**	**+0.1**
JISG				S	**Sn**	**16 51 48.8**	**-0.4**
RLNB	**Erlin**	**1.95**	**240**	*e*P	**Pn**	**16 51 24.9**	**+0.3**
	baz=246						
RLNB				*e*S	**Sn**	**16 51 49.4**	**-0.1**
	baz=246						
ELDTW	**Lidau**	**2.00**	**213**	*e*P	**Pn**	**16 51 25.2**	**-0.2**
	baz=210						
CHN2	**Minshiung**	**2.07**	**230**	*e*S	**Sn**	**16 51 53.9**	**+1.7**
	baz=228						
CHN4	**Tsaushan**	**2.12**	**224**	*e*P	**Pn**	**16 51 27.3**	**+0.6**
	baz=223						
CHN4				*e*S	**Sn**	**16 51 54.6**	**+1.2**
	baz=223						
CHY	**Chiayi**	**2.13**	**230**	*e*P	**Pn**	**16 51 27.2**	**+0.3**
	baz=230						
CHY				*e*S	**Sn**	**16 51 54.4**	**+0.8**
	baz=230						
TPUB	**Ta-pu**	**2.13**	**223**	*e*P	**Pn**	**16 51 27.2**	**+0.2**
	baz=221						
TPUB				*e*S	**Sn**	**16 51 53.8**	**+0.1**
	baz=221						
STYT	**Tauyuan**	**2.16**	**218**	*e*P	**Pn**	**16 51 28.2**	**+0.8**
	baz=217						
WTP	**Ta-pu**	**2.18**	**222**	*e*P	**Pn**	**16 51 28.1**	**+0.5**
	baz=229						
WLGB	**Puzi**	**2.23**	**232**	*e*P	**Pn**	**16 51 27.4**	**-0.8**
	baz=230						
WLGB				*e*S	**Sn**	**16 51 56.6**	**+0.8**
	baz=230						
SNST	**Tainan City**	**2.27**	**224**	*e*P	**Pn**	**16 51 28.8**	**+0.1**
	baz=222						
SNST				*e*S	**Sn**	**16 51 57.0**	**+0.1**
	baz=222						
CHN1	**Nanshi**	**2.28**	**223**	*e*P	**Pn**	**16 51 29.1**	**+0.3**
	baz=221						
CHN1				*e*S	**Sn**	**16 51 57.1**	**+0.1**
	baz=221						
JTJ	**Tarama**	**2.29**	**96**	P	**Pn**	**16 51 29.2**	**+0.4**
JTJ				S	**Sn**	**16 51 57.7**	**+0.6**
TWGBT	**Beinan**	**2.30**	**207**	*e*P	**Pn**	**16 51 27.9**	**-1.1**
	baz=204						
TWG	**Pinlang**	**2.30**	**207**	*e*P	**Pn**	**16 51 28.1**	**-0.9**
	baz=204						
SGST	**Jiashian**	**2.33**	**220**	*e*P	**Pn**	**16 51 29.3**	**-0.1**
	baz=227						
SGST				*e*S	**Sn**	**16 51 58.2**	**+0.2**
	baz=227						
CHN8	**Yiju**	**2.38**	**230**	*e*S	**Sn**	**16 51 59.8**	**+0.6**
	baz=228						
MATB	**Ma-tsu**	**2.40**	**302**	*e*P	**Pn**	**16 51 30.6**	**+0.4**
	baz=300						
VWUC	**VWUC**	**2.50**	**273**	*e*P	**Pn**	**16 51 31.8**	**+0.2**
	baz=273						
VWUC				*e*S	**Sn**	**16 52 01.9**	**-0.2**
	baz=273						
ECL	**Taimali**	**2.55**	**207**	*e*P	**Pn**	**16 51 31.5**	**-0.7**
	baz=206						
SSD	**Sandimen**	**2.57**	**214**	*e*P	**Pn**	**16 51 33.7**	**+1.2**
	baz=219						
MASBT	**Mashibuluo**	**2.68**	**213**	*e*P	**Pn**	**16 51 34.7**	**+0.7**
	baz=221						
MASBT				*e*S	**Sn**	**16 52 06.5**	**+0.2**
	baz=221						
JIRB	**Irabujima**	**2.70**	**91**	P	**Pn**	**16 51 34.4**	**+0.2**
JIRB				*e*S	**Sn**	**16 52 06.8**	**+0.2**
PNG	**Penghu**	**2.75**	**242**	*e*P	**Pn**	**16 51 34.1**	**-0.8**
	baz=232						
PNG				*e*S	**Sn**	**16 52 05.8**	**-2.0**
	baz=232						
LYJJ	**Jianjiangzhen**	**2.76**	**308**	*e*P	**Pn**	**16 51 35.2**	**+0.2**
	baz=306						
PHUB	**P'eng-hu**	**2.76**	**241**	*e*P	**Pn**	**16 51 34.2**	**-0.8**
	baz=239						
PHUB				*e*S	**Sn**	**16 52 05.8**	**-2.3**
	baz=239						
JIKM	**Ikemajima**	**2.77**	**89**	P	**Pn**	**16 51 35.2**	**+0.2**
JIKM				*e*S	**Sn**	**16 52 08.8**	**+0.6**
EAST	**Anshuo**	**2.78**	**207**	*e*P	**Pn**	**16 51 34.9**	**-0.4**
	baz=205						
PTMZ	**Houxiangcun**	**2.80**	**274**	*e*P	**Pn**	**16 51 35.7**	**+0.2**
	baz=274						
PTMZ				*e*S	**Sn**	**16 52 08.8**	**-0.2**
	baz=274						
JMJ2	**Miyako jima3**	**2.84**	**92**	P	**Pn**	**16 51 36.7**	**+0.6**
LAY	**Lan-yu**	**2.89**	**192**	*e*P	**Pn**	**16 51 36.0**	**-0.8**
	baz=199						
LAY				*e*S	**Sn**	**16 52 09.8**	**-1.5**
	baz=199						
JOGS	**Gusukube**	**2.91**	**92**	P	**Pn**	**16 51 38.3**	**+1.3**

*ISCJB **05** 16:50:58.7±0.6, 19°.14N±0°.06×147°.3E±0°.1, h35km, mb3.5/5, Error ellipse: s-maj=15.3km s-min=8.9km az=175.3*
*IDC **05** 16:50:58.3±3.2, 19°.14N×146°.59E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, Error ellipse: s-maj=134.4km s-min=23.6km az=83.0*
*NEIC **05** 16:51:03.0±2.7, 19°.14N±0°.07×147°.3E±0°.2, h59km±8km, mb4.5/13*

ISC 05 16:51:00.7±0.8, 19°.1N±0°.1×147°.3E±0°.2, h35km, n21, σ1§02/21, mb4.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAKE	**Wake Island**	**18.33**	**86**	P	**P**	**16 55 11.4**	**-0.7**
INU	**Inuyama**	**18.56**	**333**		**Pn**	**16 55 15.8**	**+0.9**
INU				IAmb	IAmb	16 55 37.0	
	comp=Z,46nm,1.7s						
MJAR	**Matsushiro Arr**	**19.12**	**337**	P	**P**	**16 55 20.9**	**+0.2**
MAJO	**Matsushiro**	**19.12**	**337**	P	**P**	**16 55 20.8**	**+0.1**
MAJO				IAmb	IAmb	16 56 18.3	
	comp=Z,12nm,1.4s						
MJB9	**Matsu-Tunnel**	**19.12**	**337**	P	**P**	**16 55 20.7**	**-0.1**
MJB9				IAmb	IAmb	16 56 18.3	
	comp=Z,12nm,1.4s						
KSAR	**Wonju Array Be**	**24.92**	**321**	P	**P**	**16 56 19.1**	**-1.4**
KS19	**Wonju Array Si**	**24.97**	**321**	P	**P**	**16 56 19.1**	**-1.9**
KS19				IAmb	IAmb	16 56 43.0	
	comp=Z,54nm,1.9s						
SAUI	**Saumlaki**	**31.16**	**212**	P	**P**	**16 57 16.1**	**-0.4**
LUWI	**Luwuk**	**31.28**	**233**	P	**P**	**16 57 16.9**	**-0.7**
LUWI				IAmb	IAmb	16 57 17.9	
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**40.80**	**199**	P	**P**	**16 58 40.5**	**+1.6**
WRA	**Warramunga Arr**	**40.81**	**199**	P	**P**	**16 58 40.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=20,slow=9.9,SNR=18						
WRA	**Warramunga Arr**	**40.81**	**199**	P	**P**	**16 58 39.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**42.62**	**211**	P	**P**	**16 58 52.8**	**-1.1**
FITZ				IAmb	IAmb	17 00 06.2	
	comp=Z,35nm,2.0s						
AS31	**Alice Springs**	**44.45**	**198**	P	**P**	**16 59 09.2**	**+0.6**
ASAR	**Alice Springs**	**44.45**	**198**	P	**P**	**16 59 09.9**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=10,slow=6.4,SNR=7.4						
ASAR	**Alice Springs**	**44.45**	**198**	P	**P**	**16 59 09.0**	**+0.5**
MKAR	**Makanchi Array**	**59.26**	**314**	P	**P**	**17 00 58.4**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=87,slow=10.0,SNR=2.7						
MKAR	**Makanchi Array**	**59.26**	**314**	P	**P**	**17 00 58.2**	**-0.6**
RND	**Reindeer**	**61.47**	**27**	P	**P**	**17 01 13.2**	**-0.5**
RND				IAmb	IAmb	17 01 33.7	
	comp=Z,27nm,1.4s						
BVAR	**Borovoye Array**	**67.11**	**320**	P	**P**	**17 01 51.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=99,slow=8.9,SNR=3.9						
FINES	**FINESS Array B**	**87.14**	**336**	P	**P**	**17 03 44.1**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=38,slow=7.0,SNR=2.3						

JMA 05 17:00:27.4±0.2, 37°.49N×144°.53E, h48km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.56**	**290**	P	Pn	17 01 07.6	+1.2
JIKH				S	Sn	17 01 37.8	+1.5
JIO	**Ouri**	**2.69**	**292**	P	Pn	17 01 09.6	+1.4
JIO				*e*S	Sn	17 01 41.1	+1.6
JKMT	**Kesennumamotoy**	**2.75**	**300**	P	Pn	17 01 10.1	+1.2
JKMT				*e*S	Sn	17 01 42.4	+1.5
OFUJ	**Ofunato**	**2.75**	**306**	P	Pn	17 01 10.3	+1.2
OFUJ				*e*S	Sn	17 01 42.4	+1.3
JMK	**Ichinoseki**	**2.99**	**300**	P	Pn	17 01 13.8	+1.6
JMK				*e*S	Sn	17 01 48.7	+1.9
JOM	**Ohasama**	**3.22**	**309**	P	Pn	17 01 17.0	+1.5
JOM				*e*S	Sn	17 01 54.8	+2.2
JFT	**Otama**	**3.33**	**272**	P	Pn	17 01 19.4	+2.4
JFT				*e*S	Sn	17 01 57.8	+2.4
JRY	**Ryogami san**	**4.75**	**254**	P	Pn	17 01 37.4	+0.9
JRY				*e*S	Sn	17 02 29.9	-0.4
JCH	**Churui**	**5.20**	**350**	P	Pn	17 01 41.5	-1.0
JCH				*e*S	Sn	17 02 37.8	-3.3
NEM2	**Nemuro 2**	**5.94**	**9**	P	Pn	17 01 49.0	-3.7
NEM2				*e*S	Sn	17 02 53.5	-5.9
JTKR	**Abashiri--Toko**	**6.49**	**356**	P	Pn	17 01 58.9	-1.4
JTKR				S	Sn	17 03 08.4	-4.5

*ISCJB **05** 17:11:49.8±0.4, 51°.47N±0°.02×16°.09E±0°.03, h0km, mb3.3/1, Error ellipse: s-maj=2.8km s-min=2.3km az=15.3*
*VIE **05** 17:11:53.8±1.0, 51°.35N×16°.10E, h0km, mb2.7/7, ml3.3/7, Error ellipse: s-maj=10.2km s-min=7.2km az=54.0 70 km WNW of Wroclaw Suspected Mining induced.*
*IDC **05** 17:11:53.4±0.8, 51°.45N×16°.06E, h0km, mb3.5/1, mb1 3.5/6, mb1mx3.3/36, mbtmp3.4/6, ML3.0/5, Error ellipse: s-maj=15.3km s-min=7.5km az=125.0*
*BGR **05** 17:11:53.9±0.5, 51°.44N×16°.17E, h1km, ML3.5/10, Error ellipse: s-maj=7.8km s-min=3.3km az=25.0*
*LDG **05** 17:11:53.1±0.3, 51°.40N×16°.20E, h1km, Ml3.6/12, Error ellipse: s-maj=7.9km s-min=3.5km az=10.0, Suspected Mining induced.*

ISC 05 17:11:49.7±0.6, 51°.51N±0°.03×16°.12E±0°.02, h0km, n77, σ2§06/152, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg	**Pb**	**17 12 04.9**	**+0.4**
KSP				*e*Sg	**Sg**	**17 12 12.7**	**+1.2**
KSP	**Ksiaz**	**0.68**	**171**	*i* Pg	**Pb**	**17 12 04.8**	**+0.4**
KSP				*i* Pg	**Pb**	**17 12 04.8**	**+0.4**
KSP				*e*Sg	**Sg**	**17 12 12.7**	**+1.2**
KSP				*e*Sg	**Sg**	**17 12 12.7**	**+1.2**
CHVC	**Chvalec**	**0.93**	**183**	*e*PG	**Pb**	**17 12 09.4**	**+0.7**
CHVC				*e*SG	**Sg**	**17 12 18.7**	**-0.7**
	comp=Z,195nm,0.5s						
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pn**	**17 12 11.0**	**-0.1**
UPC				*e*SG	**Sg**	**17 12 22.2**	**+0.1**
	comp=Z,418nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg	**Pn**	**17 12 13.7**	**+0.3**
DPC				*e*Sg	**Sn**	**17 12 30.4**	**+0.3**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pn**	**17 12 13.5**	**+0.1**
DPC				*e*SG	**Sg**	**17 12 26.5**	**-0.8**
	comp=

GOPC eSG **Sg** **17 12 47.8 0.0**
comp=Z,174nm,0.7s
PRU Pruhonice 1.82 214 ePG **Pg** **17 12 24.7 0.0**
PRU eSG **Sg** **17 12 49.2 +0.9**
comp=Z,242nm,0.4s
RAC Raciborz 1.94 137 ePg **Pg** **17 12 28.4 +1.4**
RAC ePg **Pg** **17 12 28.4 +1.4**
RAC eSg **Sg** **17 12 53.7 +1.6**
RAC eSg **Sg** **17 12 53.7 +1.6**
MORC Moravsky Berou 1.96 152 ePn **Pb** **17 12 25.7 -0.7**
MORC Moravsky Berou 1.96 152 ⇓P **Pb** **17 12 25.6 -0.7**
MORC ⇓S **Sn** **17 12 50.1 +0.6**
MORC Moravsky Berou 1.96 152 ePN **Pn** **17 12 25.5 +1.3**
MORC eSG **Sn** **17 12 48.8 -0.7**
CLL Collm 1.96 265 ePn **Pb** **17 12 26.0 -0.3**
CLL ePg **Pg** **17 12 30.0 +2.7**
CLL *i* Sg **Sg** **17 12 57.2 +4.4**
comp=Z,143nm,0.4s
CLL Collm 1.96 265 ePn **Pg** **17 12 27.2 -0.1**
CLL eSg **Sg** **17 12 56.5 +3.8**
OKC Ostrava-Krasne 2.12 142 ePn **Pb** **17 12 29.0 +0.1**
OKC eSg **Sg** **17 12 57.4 -0.3**
OKC Ostrava-Krasne 2.12 142 ePN **Pb** **17 12 28.6 -0.3**
OKC ePG **Pg** **17 12 31.1 +0.9**
OKC eSG **Sg** **17 12 57.8 +0.2**
comp=Z,137nm,0.8s
VRAC Vranov 2.23 172 ⇑P **Pb** **17 12 30.2 -0.7**
VRAC ⇓S **Sg** **17 13 00.7 -0.5**
VRAC Vranov 2.23 172 ePN **Pb** **17 12 30.3 -0.5**
VRAC eSG **Sb** **17 12 59.7 +0.8**
TREC Trest 2.26 191 ePN **Pb** **17 12 30.9 -0.4**
TREC ePG **Pg** **17 12 33.0 +0.1**
TREC eSG **Sg** **17 13 01.9 -0.3**
comp=Z,131nm,0.6s
PBCC Pribram 2.27 217 ePG **Pg** **17 12 34.4 +1.1**
PBCC eSG **Sg** **17 13 02.8 0.0**
comp=Z,29nm,0.4s
KRUC Moravsky 2.46 176 ePN **Pn** **17 12 33.2 +2.1**
KRUC ePG **Pg** **17 12 36.8 0.0**
KRUC eSG **Sg** **17 13 08.7 0.0**
TANN Tannenbergstha 2.56 246 ePn **Pb** **17 12 35.7 -0.8**
TANN eSg **Sg** **17 13 13.7 +1.8**
NKC Novy Kostel 2.66 243 ePN **Pb** **17 12 37.0 -1.1**
NKC ePG **Pg** **17 12 41.1 +0.5**
NKC eSG **Sg** **17 13 17.2 +2.2**
comp=Z,192nm,0.4s
OJC Ojcow 2.67 118 ePn **Pn** **17 12 35.7 +1.8**
OJC Ojcow 2.67 118 ePn **Pn** **17 12 35.5 +1.6**
OJC ePn **Pn** **17 12 35.5 +1.6**
OJC ePg **Pg** **17 12 42.8 +2.0**
OJC ePg **Pg** **17 12 42.8 +2.0**
OJC eSn **Sn** **17 13 05.6 -1.3**
OJC eSn **Sn** **17 13 05.6 -1.3**
OJC eSg **Sg** **17 13 17.6 +2.3**
OJC eSg **Sg** **17 13 17.6 +2.3**
JAVC Velka Javorina 2.84 159 ePN **Pb** **17 12 39.4 -1.9**
KHC Kasperske Hory 2.89 215 ePN **Pn** **17 12 39.5 +2.5**
KHC ePG **Pg** **17 12 44.6 -0.4**
KHC eSN **Sn** **17 13 13.8 +1.4**
KHC eSG **Sg** **17 13 22.0 -0.4**
comp=Z,83nm,0.6s
MANZ Manzenberg 2.97 241 ePn **Pb** **17 12 41.5 -2.0**
MOX Moxa 2.97 255 ePn **Pb** **17 12 41.2 -2.3**
ROTZ Rotzenmuhle 3.04 236 ePn **Pn** **17 12 42.1 +3.0**
GEC2 GERESS Array S 3.09 211 ePn **Pb** **17 12 43.1 -2.5**
GERES GERESS Array B 3.09 211 Pn **Pn** **17 12 42.7 +2.9**
comp=Z,1.0nm,0.3s,baz=31,slow=13,SNR=28
GERES Pg **Pg** **17 12 48.7 -0.2**
comp=Z,8.4nm,0.3s,baz=34,slow=17,SNR=51
GERES Lg Lg 17 13 27.3
comp=Z,19nm,0.3s,baz=25,slow=26,SNR=14
SMOL Smolenice 3.12 164 ePG **Pg** **17 12 51.2 +1.8**
SMOL eSG **Sg** **17 13 30.6 +0.8**
SMOL eLG Lg 17 13 42.1
WET Wettzell 3.15 222 ePn **Pn** **17 12 43.2 +2.6**
LANS Liptovska Anna 3.19 136 ePN **Pn** **17 12 43.4 +2.2**
LANS ePG **Pg** **17 12 54.9 +4.0**
LANS eSG **Sg** **17 13 32.0 -0.2**
LANS eLG Lg 17 13 38.0
MODS Modra-Piesok 3.23 166 ePG **Pg** **17 12 52.2 +0.6**
MODS eSG **Sg** **17 13 36.8 +3.4**
MODS eLG Lg 17 13 44.6
ZST Bratislava 3.38 169 eSG **Sg** **17 13 37.3 -0.9**
NIE Niedzica 3.39 127 eP **Pg** **17 12 57.5 +2.8**
NIE eP **Pg** **17 12 57.5 +2.8**
NIE eS **Sg** **17 13 41.6 +2.9**
NIE eS **Sg** **17 13 41.6 +2.9**
VYHS Vyhne 3.49 149 ePN **Pn** **17 12 47.4 +2.1**
VYHS ePG **Pg** **17 12 59.4 +2.8**
VYHS eSG **Sg** **17 13 43.4 +1.5**
CONA Conrad Observa 3.59 183 ePn **Pn** **17 12 49.4 +2.7**
comp=Z,2.7nm,0.5s
CONA Sg **Sg** **17 13 45.4 +0.4**
comp=Z,33nm,0.3s
GRF Grafenberg Arr 3.61 242 ePn **Pn** **17 12 50.1 +3.2**
BSD Bornholm Skovb 3.68 349 *i* P **Pn** **17 12 50.2 +2.4**
BSD *i* S **Sn** **17 13 30.7 -1.2**
MOA Molln 3.86 199 ePn **Pn** **17 12 53.0 +2.7**
comp=Z,1.7nm,0.3s,SNR=7.5
MOA Sg **Sg** **17 13 55.0 +1.4**
comp=Z,41nm,0.6s
KECS Kecovo 4.14 135 ePG **Pg** **17 13 13.6 +4.6**
KECS eSG **Sg** **17 14 07.7 +5.1**
ARSA Arzberg 4.28 185 ePn **Pn** **17 13 00.5 +4.3**
comp=Z,2.0nm,0.5s
ARSA Sg **Sg** **17 14 08.7 +1.5**
comp=Z,50nm,1.1s
KWP Kalwaria Pacla 4.60 112 ePg **Pg** **17 13 16.6 -1.3**
KWP ePg **Pg** **17 13 16.6 -1.3**
KOLS Kolonicke sedl 4.72 121 ePN **Pn** **17 13 03.8 +1.7**
KOLS ePG Pg 17 13 25.5 +5.4
KOLS eSG **Sg** **17 14 21.5 +0.3**
KBA Koelnbreinsper 4.79 203 ePn **Pn** **17 13 06.5 +3.1**
comp=Z,2.2nm,0.4s
WTTA Wattenberg 5.16 216 Pn **Pn** **17 13 12.5 +4.1**
comp=Z,2.7nm,0.4s
CDF Champ du Feu 6.49 245 ePn **Pn** **17 13 28.2 +1.6**
CDF Champ du Feu 6.49 245 ePg **Pg** **17 13 53.8 -0.3**
CDF eSn **Sn** **17 14 38.0 -3.4**
CDF eSg **Sg** **17 15 17.9 -0.3**
comp=Z,56nm,0.9s
HINF Hinteralfeld 7.06 242 ePg **Pg** **17 14 05.8 +0.9**
HINF eSg **Sg** **17 15 35.4 -0.9**
comp=Z,15nm,0.6s
HAU Haudompre 7.24 245 eSg **Sg** **17 15 40.9 -1.1**
comp=Z,15nm,0.6s
GIVF Givet 7.30 263 ePn **Pn** **17 13 37.6 +0.1**
GIVF Givet 7.30 263 ePg **Pg** **17 14 08.8 -0.6**
GIVF eSn **Sn** **17 14 58.3 -2.7**
GIVF eSg **Sg** **17 15 44.5 +0.6**
comp=Z,3.6nm,0.3s
PAGF Fort de Pagny 7.32 250 ePg **Pg** **17 14 07.9 -2.0**
PAGF eSg **Sg** **17 15 44.0 -0.6**
comp=Z,89nm,1.2s
MEZF Maizieres J'vi 7.74 251 ePn **Pn** **17 13 44.3 +0.7**
MEZF Maizieres J'vi 7.74 251 ePg **Pg** **17 14 16.0 -1.9**
MEZF eSn **Sn** **17 15 08.3 -3.6**
MEZF eSg **Sg** **17 15 56.6 -1.6**
comp=Z,9.5nm,0.5s
SFTF Sexfontaines 7.89 250 ePg **Pg** **17 14 18.9 -1.9**
SFTF eSg **Sg** **17 16 01.3 -1.6**
comp=Z,2.2nm,0.3s,baz=69
CABF La Chapelle 8.21 237 ePn **Pn** **17 13 49.8 -0.3**
CABF La Chapelle 8.21 237 ePg **Pg** **17 14 25.2 -1.7**
CABF eSn **Sn** **17 15 19.1 -4.5**
CABF eSg **Sg** **17 16 11.4 -1.8**
comp=Z,16nm,0.7s
AKASG Malin Array Be 8.29 90 Pn **Pn** **17 13 52.1 +1.0**
comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=3.7
AKASG Sn **Sn** **17 15 20.9 -4.5**
comp=Z,0.9nm,0.3s,baz=276,slow=23,SNR=3.2
AKASG Lg Lg 17 16 20.7
comp=Z,0.8nm,0.3s,baz=274,slow=29,SNR=3.1
LOR Lormes 9.05 247 ePg Pn 17 14 39.3 +38
baz=68
LOR eSg Sn 17 16 37.6 +53
comp=Z,1.9nm,0.4s,baz=67
SSF Saint Saulge 9.37 247 ePn **Pn** **17 14 05.2 -0.7**
SSF Saint Saulge 9.37 247 ePg Pn 17 14 46.5 +41
SSF eSn **Sn** **17 15 45.8 -6.1**
SSF eSg 17 16 46.7
SMF Signal de Mont 9.41 244 ePg Pn 17 14 47.8 +41
SMF eSg Sn 17 16 48.8 +56

comp=Z,4.0nm,0.5s
NOA NORSAR Array B 9.93 346 Pn **Pn** **17 14 15.1 +1.5**
comp=Z,0.0nm,0.3s,baz=164,slow=11,SNR=2.8
FLN La Foliniere 11.01 262 eSn **Sn** **17 16 25.8 -6.2**
comp=Z,2.0nm,0.3s
FINES FINESS Array B 11.36 25 Pn **Pn** **17 14 32.7 -0.3**
comp=Z,0.2nm,0.3s,baz=214,slow=11,SNR=7.7
FINES Sn **Sn** **17 16 36.6 -3.9**
comp=Z,0.3nm,0.3s,baz=208,slow=20,SNR=4.2
EKA Eskdalemuir Ar 12.11 296 Pn **Pn** **17 14 43.2 -0.2**
baz=109,slow=12,SNR=4.0
ARCES ARCESS Array B 18.62 10 Pn **P** **17 16 08.1 -0.3**
comp=Z,0.3nm,0.3s,baz=195,slow=12,SNR=7.3
TORD Torodi Ar. Bea 40.00 202 P **P** **17 19 28.6 +2.5**
comp=Z,0.7nm,0.8s,baz=9.7,slow=10,SNR=3.2

SOME ***05*** *17:19:35.4, 41.°48N×78.°73E, h5km*
NNC ***05*** *17:19:36.5±0.9, 41.°53N×78.°72E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=6.2km s-min=3.6km az=163.0*
KRNET ***05*** *17:19:37.1±0.1, 41.°63N×78.°72E, h3km, mb2.2*
ISC 05 17:19:36.4±1.9, 41.°52N±0.°07×78.°62E±0.°05, h12km±10km, n26, σ1°30/45, 13C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.64**	**289**	⇑*i*P		**Pn**	**17 19 50.3**	**-1.5**
TARG	baz=79			⇑*i*S		**Sb**	**17 20 00.6**	**+1.7**
KDJ	**Kajisay**	**1.23**	**300**	⇑*i*P		**Pg**	**17 20 00.6**	**+0.5**
KDJ	baz=94			⇑*i*S		**Sn**	**17 20 18.1**	**+1.7**
ANVS	**Anan'yevo**	**1.44**	**331**	⇓*i*P		**Pg**	**17 20 04.1**	**0.0**
ANVS	baz=26			⇓*i*S		**Sn**	**17 20 22.5**	**+0.9**
SATY	**Saty**	**1.54**	**354**	P		**Pb**	**17 20 04.0**	**-1.0**
SATY	1.3nm,0.1s 8.8nm,0.1s			S		**Sn**	**17 20 24.9**	**+0.9**
SATY	**Saty**	**1.54**	**354**	*e*P		**Pb**	**17 20 04.0**	**-1.0**
SATY	1.4nm,0.1s 3.6nm,0.1s			*e*S		**Sn**	**17 20 24.8**	**+0.9**
UZB	**Uzynbulak**	**1.65**	**10**	P		**Pb**	**17 20 06.2**	**-0.6**
UZB	1.0nm,0.3s 1.8nm,0.2s			S		**Sb**	**17 20 28.8**	**+1.1**
UZB	**Uzynbulak**	**1.65**	**10**	*e*P		**Pb**	**17 20 06.3**	**-0.6**
UZB	1.2nm,0.2s 1.5nm,0.2s			*e*S		**Sb**	**17 20 28.8**	**+1.1**
SHLS	**Shalkode**	**1.75**	**21**	P		**Pg**	**17 20 09.9**	**0.0**
SHLS	2.8nm,0.3s 9.8nm,0.3s			S		**Sg**	**17 20 34.9**	**+2.2**
SHLS	**Shalkode**	**1.75**	**21**	*e*P		**Pg**	**17 20 09.9**	**0.0**
SHLS	0.3nm,0.1s 8.3nm,0.5s			*e*S		**Sg**	**17 20 34.9**	**+2.2**
PDGK	**Podgornoye**	**1.92**	**19**	Pg		**Pb**	**17 20 10.7**	**-0.7**
PDGK	0.7nm,0.2s 3.9nm,0.4s			Lg		Lg	17 20 36.0	
PDGK	**Podgornoye**	**1.92**	**19**	⇑Pn		**Pb**	**17 20 09.5**	**-1.8**
PDGK	1.1nm,0.6s 4.6nm,0.5s			⇑Sn		**Sb**	**17 20 35.9**	**+0.6**
KPKS	**Kokpek**	**1.94**	**1**	*e*P		**Pg**	**17 20 12.1**	**-1.5**
KPKS	3.2nm,0.1s 7.2nm,0.2s			*e*S		**Sg**	**17 20 38.4**	**-0.5**
TNSS	**Tian-Shan**	**1.96**	**321**	Pg		**Pg**	**17 20 13.6**	**-0.3**
TNSS	1.4nm,0.2s 3.5nm,0.3s			Lg		Lg	17 20 41.3	
TNSS	**Tian-Shan**	**1.96**	**321**	*e*P		**Pg**	**17 20 13.6**	**-0.3**
TNSS	1.0nm,0.1s 3.0nm,0.2s			*e*S		**Sg**	**17 20 41.2**	**+2.0**
NRN	**Naryn**	**1.97**	**268**	⇑*i*P		**Pg**	**17 20 15.0**	**+0.9**
NRN	baz=65			⇑*i*S		**Sg**	**17 20 43.0**	**+3.3**
KOTS	**Kotyrbulak**	**2.04**	**327**	Pg		**Pg**	**17 20 14.2**	**-1.4**
KOTS	3.8nm,0.3s 7.8nm,0.4s			Lg		Lg	17 20 42.1	
KOTS	**Kotyrbulak**	**2.04**	**327**	*e*P		**Pg**	**17 20 14.2**	**-1.4**
KOTS	4.7nm,0.2s 4.7nm,0.3s			*e*S		**Sg**	**17 20 42.1**	**+0.1**
IZV	**Izvestkoviy**	**2.12**	**316**	Pg		**Pg**	**17 20 16.5**	**-0.6**
IZV	0.9nm,0.2s 4.8nm,0.2s			Lg		Lg	17 20 46.4	
IZV	**Izvestkoviy**	**2.12**	**316**	*e*P		**Pg**	**17 20 16.4**	**-0.6**
IZV	0.6nm,0.1s 2.3nm,0.1s			*e*S		**Sg**	**17 20 45.8**	**+1.3**
BOOM	**Boomskoye usch**	**2.22**	**297**	⇑*i*P		**Pg**	**17 20 17.8**	**-1.1**
BOOM	baz=94			⇑*i*S		**Sg**	**17 20 47.1**	**-0.5**
KST	**Kastek**	**2.49**	**309**	Pg		**Pg**	**17 20 23.3**	**-0.7**
KST	1.1nm,0.2s 7.2nm,0.5s			Lg		Lg	17 20 58.2	
KST	**Kastek**	**2.49**	**309**	*e*P		**Pg**	**17 20 23.3**	**-0.7**
KST	1.2nm,0.1s 7.9nm,0.4s			*e*S		**Sg**	**17 20 57.5**	**+1.2**
TKM2	**Tokmak 2**	**2.64**	**303**	⇑Pg		**Pg**	**17 20 25.9**	**-1.1**
TKM2	1.1nm,0.8s 1.9nm,0.5s			⇓Lg		Lg	17 21 02.5	
ARXS	**Arharly**	**2.75**	**348**	Pg		**Pb**	**17 20 26.3**	**+0.8**
ARXS	0.9nm,0.4s 3.2nm,0.6s			Lg		Lg	17 21 03.0	
ARXS	**Arharly**	**2.75**	**348**	*e*P		**Pb**	**17 20 26.3**	**+0.8**
ARXS	0.6nm,0.2s 2.8nm,0.5s			*e*S		**Sg**	**17 21 03.0**	**-1.7**
ARLS	**Aral**	**3.23**	**277**	⇑*i*P		**Pb**	**17 20 31.7**	**-2.1**
ARLS	baz=76 baz=76			⇑*i*S		**Sb**	**17 21 12.4**	**-0.9**

SJA ***05*** *17:25:20.8±0.9, 35.°29S×73.°10W, h21km±4km, ML3.9, MW4.1*
IDC ***05*** *17:25:20.9±0.7, 35.°37S×72.°90W, h0km, mb4.3/10, mb1 4.4/14, mb1mx4.3/25, mbtmp4.3/14, ML4.3/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/26, Error ellipse: s-maj=27.8km s-min=15.3km az=90.0*
ISCJB ***05*** *17:25:24.0±1.0, 35.°36S±0.°03×72.°89W±0.°07, h29km±7km, mb4.2/10, MS3.7/5, Error ellipse: s-maj=9.8km s-min=4.7km az=10.2*
GUC ***05*** *17:25:24.5±0.9, 35.°37S×72.°94W, h34km±8km, ML4.3*
NEIC ***05*** *17:25:26.0±1.7, 35.°33S±0.°06×72.°8W±0.°1, h32km±4km, mb4.6/26, ML4.3(GUC)*
ISC 05 17:25:24.1±0.5, 35.°33S±0.°05×72.°87W±0.°07, h21km±4km, n102, σ1°30/99, mb4.5/18, MS3.6/5, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.80**	**175**	⇑*i*P		**Pb**	**17 25 38.5**	**-0.8**
COCH				*i* S		**Sb**	**17 25 48.3**	**-1.4**
COCH	**Cobquecura**	**0.80**	**175**	*i* P		**Pb**	**17 25 38.5**	**-0.8**
COCH				*e*S		**Sb**	**17 25 49.9**	**+0.2**
GO05	**Huala**	**0.84**	**68**	⇓*i*P		**Pn**	**17 25 40.3**	**-0.3**
GO05				*i* S		**Sn**	**17 25 51.9**	**-0.4**
GO05				IAML			17 25 54.6	
	comp=N,13μm,0.5s							
GO05	**Huala**	**0.84**	**68**			**Pn**	**17 25 40.3**	**-0.3**
GO05	**Huala**	**0.84**	**68**	*i* P		**Pb**	**17 25 40.1**	**+0.2**
GO05				*e*S		**Sn**	**17 25 54.2**	**+1.8**
CCHI	**Chillan**	**1.42**	**153**	⇑*i*P		**Pn**	**17 25 48.6**	**-0.1**
CCHI				*i* S		**Sn**	**17 26 06.0**	**-0.8**
CCHI				IAML			17 26 09.8	
	comp=E,9μm,0.5s							
CCHI	**Chillan**	**1.42**	**153**	*i* P		**Pn**	**17 25 48.8**	**+0.1**
CCHI				*e*S		**Sb**	**17 26 10.4**	**+2.8**
COIS	**El Sosneado**	**2.69**	**86**	*i* P		**Pb**	**17 26 08.9**	**-2.7**
PUMA	**Malargue**	**2.80**	**94**	*i* P		**Pn**	**17 26 10.1**	**+2.4**
ROC1	**El Roble**	**2.81**	**34**			**Pn**	**17 26 08.2**	**+0.2**
ROC1	**El Roble**	**2.81**	**34**	*i* P		**Pn**	**17 26 08.9**	**+0.9**
PEL	**Peldehue**	**2.84**	**40**			**Pn**	**17 26 09.2**	**+1.0**
GO06	**Curarrehue**	**4.39**	**166**	⇓*i*P		**Pn**	**17 26 29.8**	**+0.2**
GO06				IAML			17 27 44.9	
	comp=N,64nm,0.5s							
GO06	**Curarrehue**	**4.39**	**166**			**Pn**	**17 26 29.6**	**0.0**
RTLS	**Leoncito**	**4.62**	**41**	⇓*i*P		**Pn**	**17 26 35.3**	**+2.4**
RTLS				IAML			17 28 06.1	
	comp=Z,61nm,1.5s							
RTCV	**Cerro Valdivia**	**5.00**	**47**	⇑*i*P		**Pn**	**17 26 39.9**	**+1.9**
RTCV				IAML			17 28 20.3	
	comp=Z,120nm,1.2s							
ZON	**Zonda**	**5.15**	**44**	*i* P		**Pn**	**17 26 42.1**	**+2.1**
ZON				IAML			17 28 42.6	
	comp=Z,53nm,1.4s							
GO04	**Tololo Observa**	**5.43**	**19**			**Pn**	**17 26 43.8**	**-0.2**
GO04	**Tololo Observa**	**5.43**	**19**	*i* P		**Pn**	**17 26 44.4**	**+0.3**
ACAN	**Cantantal**	**5.63**	**59**	*i* P		**Pn**	**17 26 48.5**	**+1.9**
ACAN				IAML			17 28 31.7	
	comp=Z,36nm,0.9s							
PLCA	**Paso Flores**	**5.70**	**162**	Pn		**Pn**	**17 26 48.3**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=356,slow=11,SNR=51							
PLCA				Lg	Lg		17 28 14.4	
	comp=Z,1.3nm,0.3s,baz=283,slow=19,SNR=2.1							
PLCA				LR	LR		17 29 16.7	
	comp=Z,241nm,19.7s,baz=40,slow=42							
PLCA	**Paso Flores**	**5.70**	**162**			**Pn**	**17 26 47.9**	**+0.4**
AMOG	**MOGNA**	**5.72**	**41**	*i* P		**Pn**	**17 26 49.1**	**+1.3**
AMOG				IAML			17 28 46.6	
	comp=Z,52nm,0.6s							
VCA	**Vinchina**	**7.67**	**32**	*i* P		**Pn**	**17 27 15.6**	**+0.8**
GO03	**Copiap**	**8.04**	**17**	Pn		**Pn**	**17 27 18.9**	**-0.7**
CYA	**Choya**	**9.12**	**43**	*i* P		**Pn**	**17 27 31.7**	**-2.9**
TRQA	**Tornquist**	**9.16**	**110**			**Pn**	**17 27 35.8**	**+0.8**
GO02	**Mina Guanaco**	**10.52**	**17**			**Pn**	**17 27 49.8**	**-4.2**
LVC	**Limon Verde**	**13.14**	**16**	Pn		**Pn**	**17 28 31.5**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=168,slow=9.3,SNR=3.0							
LVC				LR	LR		17 33 10.5	
	comp=Z,175nm,19.2s,baz=196,slow=36							
LVC	**Limon Verde**	**13.14**	**16**	Pn		Pn	17 28 24.6	-5.2
PB01	**IPOC Station P**	**14.54**	**13**			**Pn**	**17 28 50.1**	**+1.3**
PB11	**IPOC Station P**	**15.77**	**11**			**Pn**	**17 29 05.1**	**0.0**
PB11				IAmb	IAmb		17 29 21.8	
	comp=Z,33nm,0.8s							
GO01	**Chusmiza**	**15.94**	**13**			**Pn**	**17 29 08.2**	**+0.6**
CPUP	**Villa Florida**	**16.07**	**60**	Pn		**P**	**17 29 11.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=2.7							
CPUP				Lg	Lg		17 33 52.6	
	comp=Z,0.2nm,0.3s,baz=135,slow=13,SNR=2.4							
CPUP				LR	LR		17 35 55.9	
	comp=Z,237nm,21.3s,baz=230,slow=39							
CPUP	**Villa Florida**	**16.07**	**60**	Pn		**Pn**	**17 29 08.9**	**+0.2**
MNMC	**Minye Minye**	**16.40**	**11**			**Pn**	**17 29 13.8**	**+0.6**
MNMC				IAmb	IAmb		17 29 29.3	
	comp=Z,50nm,0.7s							
LPAZ	**La Paz**	**19.43**	**14**	P		**Pn**	**17 29 52.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=188,slow=6.3,SNR=16							
LPAZ	**La Paz**	**19.43**	**14**	P		**Pn**	**17 29 52.0**	**+1.0**
USHA	**Ushuaia**	**19.74**	**172**	P		**Pn**	**17 29 53.4**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=148,slow=19,SNR=2.5							
SIV	**San Ignacio**	**21.96**	**32**	P		**P**	**17 30 16.6**	**0.0**
	comp=Z,14nm,0.9s,baz=227,slow=9.4,SNR=41							
SIV				LR	LR		17 40 32.9	
	comp=Z,241nm,19.5s,baz=270,slow=41							
NNA	**Nana**	**23.52**	**350**	LR	LR		17 38 24.7	
	comp=Z,69nm,18.2s,baz=180,slow=33							
ATAH	**Atahualpa**	**28.52**	**348**	LR	LR		17 40 50.2	
	comp=Z,40nm,18.3s,baz=233,slow=32							
BDFB	**Brasilia**	**29.65**	**55**	P		**P**	**17 31 27.7**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=325,slow=6.4,SNR=3.5							
BDFB				LR	LR		17 44 36.8	
	comp=Z,149nm,19.7s,baz=249,slow=39							
BDFB	**Brasilia**	**29.65**	**55**	P		**P**	**17 31 27.2**	**-1.2**
BDFB				IAmb	IAmb		17 31 27.9	
	comp=Z,8.3nm,1.2s							
PTGA	**Pitinga**	**36.46**	**22**	P		**P**	**17 32 27.7**	**0.0**
PTGA				IAmb	IAmb		17 32 38.1	
	comp=Z,7.8nm,0.6s							
VNA3	**Neumayer Olymp**	**48.39**	**157**	P		**P**	**17 34 04.6**	**+0.5**
VNA1	**Neumayer--Stat**	**48.73**	**156**	P		**P**	**17 34 07.0**	**+0.4**
VNA2	**Neumayer--Watz**	**49.06**	**157**	P		**P**	**17 34 09.8**	**+0.6**
	baz=288,slow=8.5							
SNAA	**Sanae**	**50.62**	**157**	P		**P**	**17 34 21.4**	**+0.3**
SNAA	**Sanae**	**50.62**	**157**	P		**P**	**17 34 21.5**	**+0.3**
QSPA	**South Pole Qui**	**54.91**	**180**	P		**P**	**17 34 53.1**	**+0.2**
	comp=Z,7.3nm,1.1s,baz=133,slow=2.9,SNR=14							
QSPA	**South Pole Qui**	**54.91**	**180**	P		**P**	**17 34 53.3**	**+0.3**
QSPA				IAmb	IAmb		17 34 55.0	
	comp=Z,7.5nm,1.0s							
MOIG	**Morelia**	**60.95**	**329**	P		**P**	**17 35 37.9**	**+2.0**
SBA	**Scott Base**	**61.64**	**192**	P		**P**	**17 35 41.2**	**+1.5**
SYO	**Syowa Base**	**64.88**	**158**	⇓*e*P		**P**	**17 36 00.0**	**-1.2**
SYO	**Syowa Base**	**64.88**	**158**	⇓*es*P		sP	17 36 11.4	+0.8
658A	**Bunnell**	**64.89**	**352**	P		**P**	**17 36 03.8**	**+2.2**
257A	**Skidaway Islan**	**67.39**	**352**	P		**P**	**17 36 18.9**	**+1.3**
TXAR	**Lajitas Array**	**70.57**	**332**	P		**P**	**17 36 38.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=156,slow=8.7,SNR=9.6							
MAW	**Mawson**	**72.10**	**164**	P		**P**	**17 36 46.5**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=231,slow=6.4,SNR=17							
MAW	**Mawson**	**72.10**	**164**	P		**P**	**17 36 46.2**	**-0.1**
DBIC	**Dimbokro**	**76.25**	**71**	P		**P**	**17 37 11.7**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=214,slow=5.0,SNR=4.1							
DBIC	**Dimbokro**	**76.25**	**71**	P		**P**	**17 37 11.5**	**+0.1**
BOSA	**Boshof**	**80.06**	**118**	P		**P**	**17 37 32.4**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=268,slow=4.8,SNR=5.1							
BOSA	**Boshof**	**80.06**	**118**	P		**P**	**17 37 32.1**	**-0.4**
BOSA				IAmb	IAmb		17 37 41.2	
	comp=Z,12nm,1.3s							
U15A	**North Rim**	**80.27**	**329**	P		**P**	**17 37 34.8**	**+1.3**
U15A				IAmb	IAmb		17 37 35.8	
	comp=Z,2.6nm,0.8s							
PV13	**Radium Mtn., P**	**80.35**	**332**	P		**P**	**17 37 34.5**	**+0.7**
PV13				IAmb	IAmb		17 37 35.8	
	comp=Z,3.4nm,0.8s							
SMCO	**Snowmass**	**80.56**	**334**	P		**P**	**17 37 35.8**	**+0.7**
SMCO				IAmb	IAmb		17 37 37.3	
	comp=Z,6.0nm,1.2s							
MTPU	**Mount Pierson**	**81.59**	**330**	P		**P**	**17 37 41.8**	**+1.2**
ECSD	**EROS Data Cent**	**81.61**	**343**	P		**P**	**17 37 40.1**	**0.0**
ECSD				IAmb	IAmb		17 37 41.2	
	comp=Z,9.5nm,0.8s							
N23A	**Red Feather La**	**81.72**	**335**	P		**P**	**17 37 40.1**	**-1.0**
N23A				IAmb	IAmb		17 37 41.7	
	comp=Z,7.1nm,0.9s							
NVAR	**Mina Array Bea**	**84.59**	**326**	P		**P**	**17 37 56.9**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=144,slow=6.3,SNR=6.7							
PDAR	**Pinedale Array**	**84.64**	**334**	P		**P**	**17 37 56.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=163,slow=5.4,SNR=5.6							
PDAR	**Pinedale Array**	**84.64**	**334**	P		**P**	**17 37 56.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**85.31**	**70**	P		**P**	**17 38 00.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=286,slow=5.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**85.31**	**70**	P		**P**	**17 38 00.1**	**+0.3**
YHH	**Holmes Hill**	**86.86**	**334**	P		**P**	**17 38 08.3**	**+1.2**
ORV	**Oroville**	**86.98**	**324**	P		**P**	**17 38 08.9**	**+1.5**
ORV				IAmb	IAmb		17 38 10.2	
	comp=Z,4.2nm,1.1s							
MOD	**Modoc Plateau**	**88.29

baz=122,slow=76,SNR=10.0
ABKAR Akbulak array 143.04 53 PKPpre 17 44 51.6
ABKAR PKPdf **PKiKP 17 44 58.4 -0.6**
RPSI Rantau Prapat 146.65 165 PKPdf 17 45 03.0 -0.1
BRVK Borovoye 148.65 44 PKPbc 17 45 09.3 +0.3
YAK Yakutsk 149.74 339 PKPbc 17 45 10.7 -0.7
KKAR Karatay Array 150.77 63 PKPbc 17 45 13.8 -0.8
BTK Batken 151.02 70 PKPbc 17 45 14.8 -0.5
KSH Kashi 154.97 71 PKPbc **PKPdf 17 45 11.4 -4.0**
KSH PP **PP 17 49 12.8 -3.5**
KSH AMB AMB
comp=Z,220nm,6.7s
KSH LR LR
comp=Z,87nm,11.3s
KSH LR LR
comp=Z,130nm,15.8s
ZALV Zalesovo Beam 155.72 33 PKPbc PKPdf 17 45 25.1 +9.4
comp=Z,1.7nm,0.5s,baz=342,slow=3.4,SNR=8.0
ZALV PKPab **PKPab 17 45 42.5 +0.3**
comp=Z,1.3nm,0.6s,baz=287,slow=5.5,SNR=4.5
WMQ Urumqi 162.81 55 *e*PKP **PKPdf 17 45 24.8 +0.4**
WMQ LR LR
comp=Z,470nm,29.0s
WMQ LR LR
comp=Z,210nm,28.9s
NJ2 Nanjing 169.70 255 *e*PKP **PKPdf 17 45 31.4 +1.3**
HHC Hu-ho-hao-te 173.47 329 *e*PKP **PKPdf 17 45 30.5 -1.3**

*IDC **05** 17:40:07.2±0.4, 57°.69S×25°.24W, h0km, mb4.6/13, mb1 4.6/15, mb1mx4.5/23, mbtmp4.6/15, ML4.5/2, MS3.7/11, Ms1 3.7/11, ms1mx3.6/24, Error ellipse: s-maj=17.4km s-min=14.6km az=39.0*
*ISCJB **05** 17:40:12.5±1.5, 57°.74S±0°.04×25°.32W±0°.10, h48km±13km, mb4.6/15, MS3.8/10, Error ellipse: s-maj=9.8km s-min=5.8km az=148.2*
*NEIC **05** 17:40:15.8±1.5, 57°.76S±0°.09×25°.3W±0°.2, h64km±3km, mb4.9/43*
*BJI **05** 17:40:17.0±0.0, 57°.70S×25°.30W, h60km, mB5.5/4, Ms4.9/2, Ms7 4.7/1*
ISC 05 17:40:14.1±1.6, 57°.78S±0°.07×25°.27W±0°.08, h49km±14km, n229, σ0°90/236, mb4.9/30, MS3.9/10, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.19**	**294**		**Pn**	**17 41 58.4**	**+1.9**
VNA1	**Neumayer--Stat**	**14.79**	**158**	P	**Pn**	**17 43 39.9**	**0.0**
VNA3	**Neumayer Olymp**	**15.01**	**160**	P	**Pn**	**17 43 42.3**	**-0.4**
VNA3				S	Sn	17 46 11.3	-16
VNA2	**Neumayer--Watz**	**15.19**	**157**	P	**Pn**	**17 43 44.5**	**-0.5**
	baz=322,slow=12						
VNA2				S	Sn	17 46 23.4	-8.4
	baz=322,slow=23						
SNAA	**Sanae**	**16.73**	**155**	P	**Pn**	**17 44 05.1**	**+0.5**
SNAA				S	**Sn**	**17 47 01.4**	**-7.8**
SNAA	**Sanae**	**16.73**	**155**	Pn	**Pn**	**17 44 05.2**	**+0.6**
	3.4nm,0.3s,baz=312,slow=13,SNR=99						
SNAA				Sn	Sn	17 47 00.7	-8.5
	0.3nm,0.3s,baz=323,slow=18,SNR=5.8						
SNAA				LR	LR	17 49 21.8	
	comp=Z,115nm,19.0s,baz=7.0,slow=33						
SNAA	**Sanae**	**16.73**	**155**		**Pn**	**17 44 05.2**	**+0.5**
PMSA	**Palmer Station**	**19.63**	**233**	P	**P**	**17 44 38.9**	**+0.9**
	0.7nm,0.3s,baz=48,slow=8.2,SNR=7.5						
PMSA				LR	LR	17 51 21.9	
	comp=Z,432nm,19.3s,baz=115,slow=34						
PMSA	**Palmer Station**	**19.63**	**233**	P	**P**	**17 44 39.5**	**+1.5**
EFI	**East Falkland**	**19.75**	**274**	P	**Pn**	**17 44 41.5**	**+0.1**
EFI				IAmb	IAmb	17 44 45.5	
	comp=Z,47nm,0.7s						
USHA	**Ushuaia**	**23.82**	**258**	P	**P**	**17 45 22.0**	**-0.2**
	comp=Z,18nm,0.8s,baz=101,slow=11,SNR=6.9						
USHA				LR	LR	17 52 15.3	
	comp=Z,470nm,21.2s,baz=91,slow=30						
GO09	**Cerro Castillo**	**27.60**	**263**	P	**P**	**17 45 55.5**	**-0.8**
GO09				IAmb	IAmb	17 45 58.3	
	comp=Z,89nm,1.6s						
SYO	**Syowa Base**	**29.58**	**139**	*e*X	P	17 46 18.9	+5.2
TRQA	**Tornquist**	**30.97**	**294**	P	**P**	**17 46 24.7**	**-1.7**
TRQA					**PcP**	**17 49 21.3**	**-0.2**
PLTB	**Pedras Altas**	**32.43**	**311**	*e*P	**P**	**17 46 38.4**	**-0.9**
PLTB	**Pedras Altas**	**32.43**	**311**	*e*P	**P**	**17 46 38.4**	**-0.9**
QSPA	**South Pole Qui**	**32.47**	**180**	P	**P**	**17 46 40.7**	**+1.3**
	comp=Z,12nm,0.6s,baz=214,slow=3.1,SNR=101						
QSPA	**South Pole Qui**	**32.47**	**180**	P	**P**	**17 46 40.5**	**+1.1**
QSPA				IAmb	IAmb	17 46 41.7	
	comp=Z,14nm,0.7s						
PLCA	**Paso Flores**	**33.35**	**281**	P	**P**	**17 46 46.4**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=169,slow=9.2,SNR=6.9						
PLCA				LR	LR	18 00 27.8	
	comp=Z,76nm,21.3s,baz=148,slow=37						
PLCA	**Paso Flores**	**33.35**	**281**	P	**P**	**17 46 46.5**	**-0.7**
PLCA	**Paso Flores**	**33.35**	**281**	*e*P	**P**	**17 46 46.5**	**-0.7**
PLCA	**Paso Flores**	**33.35**	**281**	*e*P	**P**	**17 46 46.5**	**-0.7**
JUQB	**Juquia**	**37.32**	**325**	*e*P	**P**	**17 47 22.3**	**+0.9**
JUQB	**Juquia**	**37.32**	**325**	*e*P	**P**	**17 47 22.3**	**+0.9**
SPB	**Sao Paulo**	**37.70**	**326**	*e*P	**P**	**17 47 25.8**	**+1.2**
SPB	**Sao Paulo**	**37.70**	**326**	*e*P	**P**	**17 47 25.8**	**+1.2**
DUB01	**Friburgo-RJ**	**37.76**	**334**	*e*P	**P**	**17 47 26.3**	**+1.1**
DUB01	**Friburgo-RJ**	**37.76**	**334**	*e*P	**P**	**17 47 26.3**	**+1.1**
VAO	**Valinhos**	**38.12**	**327**	*e*P	**P**	**17 47 29.6**	**+1.4**
VAO	**Valinhos**	**38.12**	**327**	*e*P	**P**	**17 47 29.6**	**+1.4**
MAW	**Mawson**	**38.13**	**142**	P	**P**	**17 47 28.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=225,slow=9.3,SNR=8.6						
MAW				PcP	**PcP**	**17 49 42.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=244,slow=7.1,SNR=5.3						
MAW				LR	LR	18 01 04.2	
	comp=Z,91nm,20.1s,baz=240,slow=33						
MAW	**Mawson**	**38.13**	**142**	P	**P**	**17 47 28.3**	**+0.5**
MAW					**PcP**	**17 49 41.9**	**+0.4**
PTGB	**Pitanga**	**38.18**	**318**	*e*P	**P**	**17 47 28.9**	**+0.1**
PTGB	**Pitanga**	**38.18**	**318**	*e*P	**P**	**17 47 28.9**	**+0.1**
FRTB	**Fartura**	**38.60**	**323**	*e*P	**P**	**17 47 32.9**	**+0.7**
FRTB	**Fartura**	**38.60**	**323**	*e*P	**P**	**17 47 32.9**	**+0.7**
CPUP	**Villa Florida**	**38.74**	**310**	P	**P**	**17 47 32.5**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=152,slow=7.1,SNR=14						
CPUP				PcP	**PcP**	**17 49 44.2**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=111,slow=4.2,SNR=3.8						
CPUP				LR	LR	18 01 45.4	
	comp=Z,45nm,19.2s,baz=196,slow=34						
CPUP	**Villa Florida**	**38.74**	**310**	P	**P**	**17 47 32.3**	**-1.0**
CPUP				IAmb	IAmb	17 47 54.1	
	comp=Z,34nm,2.0s						
CPUP					**PcP**	**17 49 44.0**	**-0.1**
CPUP	**Villa Florida**	**38.74**	**310**	*e*P	**P**	**17 47 32.7**	**-0.6**
CPUP	**Villa Florida**	**38.74**	**310**	*e*P	**P**	**17 47 32.7**	**-0.6**
BSCB	**Bom Sucesso**	**39.41**	**331**	*e*P	**P**	**17 47 39.7**	**+0.7**
BSCB	**Bom Sucesso**	**39.41**	**331**	*e*P	**P**	**17 47 39.7**	**+0.7**
ROC1	**El Roble**	**39.49**	**289**	P	**P**	**17 47 38.8**	**-1.1**
TRCB	**Terra Rica**	**40.15**	**319**	*e*P	**P**	**17 47 45.4**	**+0.2**
TRCB	**Terra Rica**	**40.15**	**319**	*e*P	**P**	**17 47 45.4**	**+0.2**
BB19B	**Bebedouro**	**40.41**	**325**	*e*P	**P**	**17 47 48.1**	**+0.8**
BB19B	**Bebedouro**	**40.41**	**325**	*e*P	**P**	**17 47 48.1**	**+0.8**
BSFB	**Barra de Sao F**	**40.56**	**337**	*e*P	**P**	**17 47 48.7**	**+0.1**
BSFB	**Barra de Sao F**	**40.56**	**337**	*e*P	**P**	**17 47 48.7**	**+0.1**
SJMB	**Sao Joao De Ma**	**40.76**	**337**	*e*P	**P**	**17 47 51.2**	**+1.0**
SJMB	**Sao Joao De Ma**	**40.76**	**337**	*e*P	**P**	**17 47 51.2**	**+1.0**
PCMB	**Pacaembu**	**40.78**	**321**	*e*P	**P**	**17 47 50.6**	**+0.3**
PCMB	**Pacaembu**	**40.78**	**321**	*e*P	**P**	**17 47 50.6**	**+0.3**
GO04	**Tololo Observa**	**41.64**	**292**	P	**P**	**17 47 57.9**	**+0.3**
GO04				IAmb	IAmb	17 48 21.6	
	comp=Z,23nm,1.4s						
PMNB	**Patos De Minas**	**42.20**	**329**	*e*P	**P**	**17 48 02.3**	**+0.3**
PMNB	**Patos De Minas**	**42.20**	**329**	*e*P	**P**	**17 48 02.3**	**+0.3**
ITRB	**Iturama**	**42.26**	**324**	*e*P	**P**	**17 48 02.6**	**+0.2**
ITRB	**Iturama**	**42.26**	**324**	*e*P	**P**	**17 48 02.6**	**+0.2**
AQDB	**Aquidauana**	**43.38**	**316**	*e*P	**P**	**17 48 10.8**	**-0.7**
AQDB	**Aquidauana**	**43.38**	**316**	*e*P	**P**	**17 48 10.8**	**-0.7**
SHEL	**Horse Pasture**	**44.24**	**27**	P	**P**	**17 48 19.5**	**+1.1**
SBA	**Scott Base**	**44.42**	**184**	P	**P**	**17 48 20.7**	**+1.5**
GO02	**Mina Guanaco**	**45.22**	**297**	P	**P**	**17 48 24.6**	**-2.0**
GO02				PcP	**PcP**	**17 50 05.6**	**-0.3**
BDFB	**Brasilia**	**45.39**	**328**	P	**P**	**17 48 27.7**	**0.0**
	comp=Z,6.6nm,0.7s,baz=164,slow=8.5,SNR=6.7						
BDFB				LR	LR	18 07 01.9	
	comp=Z,104nm,19.2s,baz=196,slow=36						
BDFB	**Brasilia**	**45.39**	**328**	P	**P**	**17 48 28.8**	**+1.1**
BDFB				IAmb	IAmb	17 48 29.1	
	comp=Z,13nm,1.0s						
BOSA	**Boshof**	**45.44**	**72**	P	**P**	**17 48 27.9**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=209,slow=6.8,SNR=6.2						
BOSA				LR	LR	18 03 25.5	
	comp=Z,144nm,20.5s,baz=206,slow=31						
BOSA	**Boshof**	**45.44**	**72**	P	**P**	**17 48 28.3**	**+0.2**
PP1B	**Ponte de Pedra**	**45.73**	**319**	*e*P	**P**	**17 48 30.0**	**-0.3**
PP1B	**Ponte de Pedra**	**45.73**	**319**	*e*P	**P**	**17 48 30.0**	**-0.3**
ARAG	**Araguaiana, MT**	**46.47**	**324**	*e*P	**P**	**17 48 36.8**	**+0.7**
ARAG	**Araguaiana, MT**	**46.47**	**324**	*e*P	**P**	**17 48 36.8**	**+0.7**
LVC	**Limon Verde**	**47.07**	**299**	P	**P**	**17 48 40.2**	**-1.0**
LVC				IAmb	IAmb	17 48 42.7	
	comp=Z,5.5nm,0.6s						
LVC	**Limon Verde**	**47.07**	**299**	*e*P	**P**	**17 48 40.4**	**-0.8**
LVC	**Limon Verde**	**47.07**	**299**	*e*P	**P**	**17 48 40.4**	**-0.8**
PB10	**IPOC Station P**	**47.08**	**297**	P	**P**	**17 48 40.2**	**-0.6**
PB10				IAmb	IAmb	17 48 53.4	
	comp=Z,19nm,0.9s						
NBLA	**Lagarto - SE**	**47.66**	**343**	*e*P	**P**	**17 48 45.5**	**+0.2**
NBLA	**Lagarto - SE**	**47.66**	**343**	*e*P	**P**	**17 48 45.5**	**+0.2**
PB04	**IPOC Station P**	**47.89**	**298**	P	**P**	**17 48 47.5**	**+0.2**
PB04				IAmb	IAmb	17 48 51.3	
	comp=Z,27nm,1.3s						
NBPN	**Ponto Novo - B**	**48.21**	**340**	*e*P	**P**	**17 48 49.6**	**0.0**
NBPN	**Ponto Novo - B**	**48.21**	**340**	*e*P	**P**	**17 48 49.6**	**0.0**
LBTB	**Lobatse**	**48.56**	**70**	P	**P**	**17 48 52.5**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=212,slow=8.7,SNR=5.3						
LBTB	**Lobatse**	**48.56**	**70**	P	**P**	**17 48 52.9**	**+0.5**
LBTB				IAmb	IAmb	17 48 59.9	
	comp=Z,12nm,1.4s						
PB01	**IPOC Station P**	**48.69**	**300**	P	**P**	**17 48 52.5**	**-0.9**
PB01				IAmb	IAmb	17 48 53.6	
	comp=Z,6.5nm,0.6s						
NBTA	**Tacaratu-PE**	**49.54**	**343**	*e*P	**P**	**17 48 59.7**	**-0.1**
NBTA	**Tacaratu-PE**	**49.54**	**343**	*e*P	**P**	**17 48 59.7**	**-0.1**
NBRF	**Rio Formoso -**	**49.57**	**347**	*e*P	**P**	**17 49 00.5**	**+0.4**
NBRF	**Rio Formoso -**	**49.57**	**347**	*e*P	**P**	**17 49 00.5**	**+0.4**
GO01	**Chusmiza**	**49.75**	**301**	P	**P**	**17 49 00.9**	**-1.0**
GO01				IAmb	IAmb	17 49 02.5	
	comp=Z,9.3nm,0.6s						
PB11	**IPOC Station P**	**49.88**	**301**	P	**P**	**17 49 01.6**	**-1.0**
PB11				IAmb	IAmb	17 49 02.8	
	comp=Z,5.1nm,0.6s						
MNMC	**Minye Minye**	**50.40**	**301**	P	**P**	**17 49 05.3**	**-1.3**
MNMC				IAmb	IAmb	17 49 07.4	
	comp=Z,14nm,0.7s						
MNMC					**PcP**	**17 50 24.2**	**-0.3**
CASY	**Casey**	**51.92**	**159**	P	**P**	**17 49 18.1**	**+1.0**
LPAZ	**La Paz**	**52.23**	**304**	P	**P**	**17 49 20.2**	**-0.5**
	comp=Z,5.6nm,0.4s,baz=144,slow=5.8,SNR=23						
LPAZ	**La Paz**	**52.23**	**304**	P	**P**	**17 49 19.7**	**-1.1**
LPAZ				IAmb	IAmb	17 49 22.8	
	comp=Z,5.9nm,0.5s						
LPAZ				PcP	**PcP**	**17 50 32.1**	**+0.4**
LPAZ	**La Paz**	**52.23**	**304**	*e*P	**P**	**17 49 20.2**	**-0.5**
LPAZ	**La Paz**	**52.23**	**304**	*e*P	**P**	**17 49 20.2**	**-0.5**
CLDB	**Colider**	**52.30**	**321**	*e*P	**P**	**17 49 19.3**	**-1.2**
CLDB				*e*pP	pP	17 49 23.8	-9.0
CLDB	**Colider**	**52.30**	**321**	*e*P	**P**	**17 49 19.3**	**-1.2**
CLDB				*e*pP	pP	17 49 23.8	-9.0
NBPB	**Pedra_Branca-C**	**53.29**	**342**	*e*P	**P**	**17 49 28.2**	**+0.4**
NBPB	**Pedra_Branca-C**	**53.29**	**342**	*e*P	**P**	**17 49 28.2**	**+0.4**
NBPS	**Pedro II - PI**	**54.74**	**340**	*e*P	**P**	**17 49 38.3**	**-0.2**
NBPS	**Pedro II - PI**	**54.74**	**340**	*e*P	**P**	**17 49 38.3**	**-0.2**
SAML	**Samuel**	**56.76**	**313**	P	**P**	**17 49 51.9**	**-1.1**
SAML	**Samuel**	**56.76**	**313**	*e*P	**P**	**17 49 52.4**	**-0.5**
SAML	**Samuel**	**56.76**	**313**	*e*P	**P**	**17 49 52.4**	**-0.5**
LSZ	**Lusaka**	**58.07**	**66**	P	**P**	**17 50 02.1**	**-0.2**
LSZ				IAmb	IAmb	17 50 16.8	
	comp=Z,8.0nm,1.1s						
PTGA	**Pitinga**	**63.18**	**320**	P	**P**	**17 50 36.0**	**-0.9**
PTGA				IAmb	IAmb	17 50 37.0	
	comp=Z,15nm,0.6s						
PTGA	**Pitinga**	**63.18**	**320**	*e*P	**P**	**17 50 36.2**	**-0.7**
PTGA	**Pitinga**	**63.18**	**320**	*e*P	**P**	**17 50 36.2**	**-0.7**
LIC	**Lamto**	**65.87**	**22**	*e*P	**P**	**17 50 54.7**	**+0.3**
	comp=Z,50nm,1.4s						
KIC	**Kosan Boka**	**66.06**	**22**	*e*P	**P**	**17 50 55.8**	**+0.2**
	comp=Z,12nm,0.7s						
TIC	**Toumodi**	**66.28**	**22**	*e*P	**P**	**17 50 57.0**	**-0.1**
DBIC	**Dimbokro**	**66.34**	**22**	P	**P**	**17 50 57.6**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=168,slow=5.6,SNR=5.5						
DBIC				LR	LR	18 12 28.5	
	comp=Z,70nm,21.7s,baz=148,slow=29						
DBIC	**Dimbokro**	**66.34**	**22**	P	**P**	**17 50 57.4**	**0.0**
DBIC				IAmb	IAmb	17 50 59.5	
	comp=Z,14nm,1.1s						
OTAV	**Otavalo**	**71.48**	**302**	*e*P	**P**	**17 51 28.6**	**-1.4**
OTAV	**Otavalo**	**71.48**	**302**	*e*P	**P**	**17 51 28.6**	**-1.4**
TOA0	**Torodi Ar. Sit**	**74.08**	**27**	P	**P**	**17 51 45.1**	**+0.4**
TOA0				IAmb	IAmb	17 51 46.3	
	comp=Z,17nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.08**	**27**	P	**P**	**17 51 43.8**	**-0.9**
	comp=Z,14nm,0.6s,baz=228,slow=21,SNR=60						
TORD	**Torodi Ar. Bea**	**74.08**	**27**	P	**P**	**17 51 43.8**	**-0.9**
GRGR	**Grenville**	**75.79**	**323**	P	**P**	**17 51 54.5**	**-0.1**
SDV	**Santo Domingo**	**75.97**	**314**	P	**P**	**17 51 55.4**	**-0.5**
SDV				IAmb	IAmb	17 51 56.5	
	comp=Z,12nm,0.7s						
SDV	**Santo Domingo**	**75.97**	**314**	*e*P	**P**	**17 51 53.6**	**-2.3**
SDV	**Santo Domingo**	**75.97**	**314**	*e*P	**P**	**17 51 53.6**	**-2.3**
MLZ	**Mavora Lakes**	**76.62**	**190**	P	**P**	**17 52 00.1**	**+1.0**
MLZ				IAmb	IAmb	17 52 15.0	
	comp=Z,56nm,1.7s						
LBZ	**Lake Benmore**	**77.39**	**191**	P	**P**	**17 52 05.4**	**+2.0**
THZ	**Tophouse**	**79.66**	**194**	P	**P**	**17 52 15.9**	**-0.1**
BHW	**Baring Head**	**79.75**	**195**	P	**P**	**17 52 15.2**	**-1.1**
TUWZ	**Tuamarina**	**79.85**	**195**	P	**P**	**17 52 16.8**	**-0.2**
BFZ	**Birch Farm**	**80.26**	**196**	P	**P**	**17 52 20.3**	**+1.1**
BKZ	**Black Stump Fm**	**81.70**	**197**	P	**P**	**17 52 28.4**	**+1.4**
MTP	**Monte Pirata**	**82.64**	**322**	P	**P**	**17 52 31.9**	**+0.1**
MTP				IAmb	IAmb	17 52 32.3	
	comp=Z,13nm,1.1s						
CUPR	**Culebra, Puert**	**82.75**	**322**	P	**P**	**17 52 32.5**	**+0.1**
MLPR	**Magueyes Islan**	**83.03**	**320**	P	**P**	**17 52 31.9**	**-2.0**
CRPR	**Cabo Rojo, PR**	**83.08**	**320**	P	**P**	**17 52 32.6**	**-1.6**
CAN	**Canberra**	**87.13**	**175**	P	**P**	**17 52 55.5**	**+1.0**
BBOO	**Buckleboo**	**88.40**	**164**	P	**P**	**17 53 00.5**	**0.0**
FORT	**Forrest**	**88.97**	**157**	P	**P**	**17 53 04.2**	**+0.9**
STKA	**Stephens Creek**	**90.01**	**169**	P	**P**	**17 53 08.0**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=179,slow=2.7,SNR=4.3						
STKA	**Stephens Creek**	**90.01**	**169**	P	**P**	**17 53 08.2**	**+0.1**
RAO	**Raoul Island**	**90.31**	**204**	LR	LR	18 28 45.7	
	comp=Z,76nm,21.2s,baz=4.5,slow=32						
RAR	**Rarotonga**	**92.67**	**222**	LR	LR	18 24 55.4	
	comp=Z,45nm,20.1s,baz=286,slow=29						
ASAR	**Alice Springs**	**97.01**	**161**	P	**P**	**17 53 40.0**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=179,slow=4.0,SNR=42						
ASAR	**Alice Springs**	**97.01**	**161**	P	**P**	**17 53 39.9**	**-0.6**
WRA	**Warramunga Arr**	**100.73**	**161**		**Pdif**	**17 53 56.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=196,slow=4.3,SNR=5.2						
WRA	**Warramunga Arr**	**100.73**	**161**		**Pdif**	**17 53 56.6**	**-0.5**
MSU	**Marysvale**	**120.06**	**295**		**PKiKP**	**17 58 59.5**	**+0.7**
PSUT	**Pine Spring**	**120.89**	**294**		**PKPdf**	**17 59 00.5**	**+0.2**
PDAR	**Pinedale Array**	**122.14**	**300**	PKP	**PKPdf**	**17 59 01.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=135,slow=5.5,SNR=7.4						
PDAR	**Pinedale Array**	**122.14**	**300**		**PKPdf**	**17 59 01.7**	**-0.9**
ULM	**Lac du Bonnet**	**122.22**	**314**	PKP	**PKPdf**	**17 59 01.2**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=250,slow=4.7,SNR=2.9						
ULM	**Lac du Bonnet**	**122.22**	**314**		**PKPdf**	**17 59 01.4**	**-0.8**
NVAR	**Mina Array Bea**	**123.02**	**291**	PKP	**PKiKP**	**17 59 05.3**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=158,slow=2.7,SNR=5.0						
NVAR	**Mina Array Bea**	**123.02**	**291**		**PKPdf**	**17 59 04.9**	**+0.4**
ELK	**Elko**	**123.28**	**295**		**PKiKP**	**17 59 05.4**	**+0.3**
MOOW	**Moose Ponds**	**123.45**	**300**		**PKPdf**	**17 59 05.3**	**+0.2**
CM31	**Chiang Mai Arr**	**123.48**	**110**		**PKPdf**	**17 59 05.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**123.48**	**110**	PKP	**PKPdf**	**17 59 05.8**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=226,slow=3.9,SNR=22						
CMAR	**Chiang Mai Arr**	**123.48**	**110**		**PKPdf**	**17 59 05.4**	**-0.2**
FXWY	**Fox Creek**	**123.49**	**300**		**PKPdf**	**17 59 05.5**	**+0.4**
AFDM	**Forest Hills D**	**124.76**	**289**		**PKiKP**	**17 59 08.2**	**+0.4**
BEKR	**Beckworth**	**125.15**	**290**		**PKPdf**	**17 59 08.9**	**+0.5**
FINES	**FINESS Array B**	**125.43**	**27**	PKP	**PKPdf**	**17 59 07.7**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=128,slow=3.1,SNR=9.3						
FINES	**FINESS Array B**	**125.43**	**27**		**PKPdf**	**17 59 07.5**	**-0.4**
BMO	**Blue Mountains**	**127.38**	**297**		**PKPdf**	**17 59 12.3**	**-0.1**
ABKAR	**Akbulak array**	**127.49**	**55**		**PKPdf**	**17 59 12.1**	**-0.2**
ABKAR	**Akbulak array**	**127.49**	**55**		**PKPdf**	**17 59 11.8**	**-0.5**
KK31	**Karatay Array**	**127.91**	**67**		**PKPdf**	**17 59 13.1**	**-0.3**
KKAR	**Karatay Array**	**127.91**	**67**		**PKPdf**	**17 59 12.7**	**-0.7**
KKAR	**Karatay Array**	**127.91**	**67**		**PKPdf**	**17 59 13.3**	**0.0**
KSH	**Kashi**	**128.02**	**74**	*e*PKP	**PKiKP**	**17 59 15.5**	**+1.1**
KSH				PKS	**PKSdf**	**18 02 51.3**	**+0.9**
G08A	**Pilot Rock**	**128.49**	**296**		**PKiKP**	**17 59 15.5**	**+0.3**
AAK	**Ala-Archa**	**129.56**	**71**		**PKPdf**	**17 59 16.9**	**+0.2**
ARCES	**ARCESS Array B**	**132.17**	**22**	PKP	**PKPdf**	**17 59 20.4**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=210,slow=2.1,SNR=12						
ARCES	**ARCESS Array B**	**132.17**	**22**		**PKPdf**	**17 59 19.8**	**-0.8**
CD2	**Chengdu**	**136.19**	**105**	PKP	**PKPdf**	**17 59 30.0**	**+0.6**
MKAR	**Makanchi Array**	**136.44**	**72**	PKP	**PKPdf**	**17 59 30.0**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=224,slow=2.8,SNR=5.2						
MKAR	**Makanchi Array**	**136.44**	**72**	PKPpre	PKPpre	17 59 22.1	
MKAR					**PKiKP**	**17 59 30.6**	**-0.4**
WMQ	**Urumqi**	**137.22**	**79**	*e*PKP	**PKiKP**	**17 59 32.9**	**+0.1**
WMQ				LR	LR		
	comp=Z,330nm,29.2s						
WMQ				LR	LR		
	comp=Z,210nm,28.8s						
YKA	**Yellowknife Ar**	**138.16**	**316**	PKP	**PKPdf**	**17 59 32.4**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=130,slow=1.9,SNR=8.8						
YKA	**Yellowknife Ar**	**138.16**	**316**		**PKPdf**	**17 59 31.3**	**-0.6**
LZH	**Lanzhou**	**140.26**	**101**	*e*PKP	**PKiKP**	**17 59 39.1**	**-0.3**
XAN	**Xi'an**	**141.31**	**108**	PKP	**PKiKP**	**17 59 41.3**	**-0.2**
ZALV	**Zalesovo Beam**	**142.17**	**65**	PKhKP	PKPpre	17 59 33.0	
	comp=Z,0.6nm,0.4s,baz=223,slow=3.7,SNR=3.9						
NJ2	**Nanjing**	**144.55**	**121**	*e*PKP	**PKPdf**	**17 59 45.0**	**+0.6**
SKAG	**Skagway**	**145.06**	**303**		**PKPab**	**17 59 44.4**	**+0.4**
WHY	**Whitehorse**	**145.43**	**305**		**PKPdf**	**17 59 45.3**	**+0.2**
HYT	**Haines Junctio**	**146.66**	**304**		**PKPbc**	**17 59 49.4**	**+0.4**
INK	**Inuvik**	**147.81**	**318**	PKPbc	**PKPbc**	**17 59 51.8**	**+0.1**
	baz=64,slow=2.6						
INK	**Inuvik**	**147.81**	**318**		**PKPbc**	**17 59 51.2**	**-0.6**
HHC	**Hu-ho-hao-te**	**147.84**	**103**	*e*PKPbc	**PKPdf**	**17 59 51.5**	**+1.6**
EPYK	**Eagle Plains**	**148.40**	**314**		**PKPbc**	**17 59 53.2**	**-0.3**
CTGM	**Chitina Glacie**	**148.42**	**303**		**PKPbc**	**17 59 54.2**	**+0.4**
DAWY	**Dawson**	**148.72**	**309**		**PKPbc**	**17 59 54.0**	**-0.3**
BCAR	**Beaver Creek A**	**149.39**	**307**		**PKPbc**	**17 59 55.9**	**-0.1**
VRDI	**Verde Repeater**	**149.47**	**303**		**PKPbc**	**17 59 57.0**	**+0.5**
HMT	**Hamilton**	**149.50**	**301**		**PKPbc**	**17 59 56.6**	**+0.3**
BJI	**Beijing**	**149.62**	**109**	PKPbc	**PKPbc**	**17 59 57.5**	**+0.3**
EGAK	**Eagle**	**149.67**	**310**		**PKPbc**	**17 59 56.3**	**-0.3**
NRIK	**Noril'sk**	**149.68**	**40**	PKPbc	**PKPbc**	**17 59 56.2**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=259,slow=2.1,SNR=3.9						
GLB	**Gilahina Butte**	**149.71**	**303**		**PKPbc**	**17 59 57.1**	**+0.2**
SONM	**Songino Array**	**149.76**	**88**	PKPbc	**PKPbc**	**17 59 57.7**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=214,slow=2.8,SNR=21						
SONM	**Songino Array**	**149.76**	**88**		**PKPbc**	**17 59 57.4**	**-

comp=E,4μm,0.8s
IMMV Iera Moni Meta 1.17 316 P Pb 17 43 05.0 -1.1
IMMV S Sb 17 43 20.3 -0.9
IMMV AML AML 17 43 26.8
comp=N,7098μm,1.0s
IMMV AML AML 17 43 29.9
comp=E,8067μm,0.9s
IMMV Iera Moni Meta 1.17 316 PG Pb 17 43 05.2 -0.9
THR9 Santorini-Faro 1.77 10 P Pb 17 43 15.5 -0.7
THR6 Thira Island, 1.77 11 P Pn 17 43 15.3 +1.0
SANT Santorini 1.80 13 PN Pn 17 43 14.8 +0.1
SANT Santorini 1.80 13 Pn 17 43 15.4 +0.6
THT1 Athinios (Pele 1.81 12 P Pn 17 43 15.6 +0.8
THR3 Thira Island, 1.82 11 P Pn 17 43 15.7 +0.7
THR5 Thira Island, 1.82 10 P Pb 17 43 16.4 -0.8
THR8 Santorini-Mono 1.83 13 P Pb 17 43 16.7 -0.6
ANKY Antikythira Is 1.85 313 P Pb 17 43 17.0 -0.7
ANKY S Sb 17 43 39.8 -1.1
ANKY AML AML 17 43 48.9
comp=E,2953μm,0.8s
ANKY AML AML 17 43 49.8
comp=N,1557μm,0.7s
ANAF Anafi Island 1.85 20 P Pb 17 43 16.7 -1.0
CMBO Columbo, Santo 1.88 11 P Pb 17 43 17.3 -0.9
KARP Karpathos 2.02 62 P Pb 17 43 21.2 +0.6
KARP S Sg 17 43 47.7 -1.1
KARP AML AML 17 44 01.2
comp=E,2416μm,0.6s
KARP AML AML 17 44 01.6
comp=N,3788μm,0.6s
KARP Karpathos 2.02 62 PN Pb 17 43 20.4 -0.1
KARP Karpathos 2.02 62 Pb 17 43 21.6 +1.1
KTHA Kythira Island 2.26 317 P Pb 17 43 22.9 -1.8
KTHA AML AML 17 44 09.2
comp=N,822μm,0.8s
KTHA AML AML 17 44 09.3
comp=E,1333μm,0.6s
KTHA Kythira Island 2.26 317 PN Pn 17 43 21.2 +0.1
AMGA Amorgos Island 2.33 18 P Pn 17 43 22.9 +0.8
APE Apeiranthos 2.49 10 *de*P **Pn 17 43 25.2 +0.9**
APE Apeiranthos 2.49 10 PN Pn 17 43 24.6 +0.3
VLI Veliai 2.67 322 P Pn 17 43 27.9 +1.2
DAT Datca 2.99 44 *i* P **Pn 17 43 34.1 +2.9**
DAT Datca 2.99 44 PN Pn 17 43 32.7 +1.5
ARG Arkhangelos 3.03 57 P Pb 17 43 35.0 -2.7
ARG Arkhangelos 3.03 57 PN Pn 17 43 33.8 +2.2
BODT Bodrum 3.09 37 PN Pn 17 43 33.9 +1.4
MLSB Milas 3.51 40 PN Pn 17 43 39.7 +1.4
ITM Ithomi 3.56 317 PN Pn 17 43 39.7 +0.7
ITM Ithomi 3.56 317 Pn Pn 17 43 39.9 +0.9
GCAM G?zelcaml? 3.58 30 *i* P **Pn 17 43 37.1 -2.1**
GCAM G?zelcaml? 3.58 30 PN Pn 17 43 40.9 +1.7
YER Yerkesik 3.68 46 PN Pn 17 43 42.6 +2.0
DALY Dalyan (Mula) 3.71 53 *i* P **Pn 17 43 44.0 +3.0**
DALY Dalyan (Mula) 3.71 53 PN Pn 17 43 43.4 +2.4
TURN Turunc 3.71 52 *i* P **Pn 17 43 40.0 -1.0**
TURN Turunc 3.71 52 PN Pn 17 43 39.0 -2.0
AYDN Tasoluk 3.84 37 *i* P **Pn 17 43 47.2 +4.3**
CHOS Chios island 3.86 13 PN Pn 17 43 43.9 +0.7
FETY Fethiye 3.91 58 *i* P **Pn 17 43 45.4 +1.7**
FETY Fethiye 3.91 58 PN Pn 17 43 45.8 +2.1
URLA Izmir 3.96 19 *i* P **Pb 17 43 49.6 -4.0**
URLA Izmir 3.96 19 PN Pb 17 43 45.7 +1.2
AYDB Zeytinkoy-Aydi 4.07 34 PN Pn 17 43 47.9 +1.8
AKAS Kas 4.11 66 *i* P **Pn 17 43 48.3 +1.7**
AKAS Kas 4.11 66 PN Pn 17 43 49.5 +2.8
TAVA DENIZLI_Tavas 4.28 47 *i* P **Pn 17 43 52.7 +3.8**
ELL Elmali 4.54 61 P Pn 17 43 55.0 +2.4
ELL Elmali 4.54 61 PN Pn 17 43 55.4 +2.8
ELL Elmali 4.54 61 Pn 17 43 55.0 +2.4
AKUM Antalya-Kumluc 4.70 67 *i* P **Pn 17 43 56.9 +2.2**
MANT Manisa 4.82 36 Pn 17 43 58.0 +1.5
AGG Agios Georgios 4.88 335 P Pn 17 43 59.7 +2.6
AGG Agios Georgios 4.88 335 PN Pn 17 43 58.1 +0.9
AGG Agios Georgios 4.88 335 Pn 17 43 59.7 +2.6
KULA Kula-Manisa 4.89 36 PN Pn 17 43 59.6 +2.3
KORT Korkueli 4.97 60 *i* P **Pn 17 44 01.1 +2.5**
KORT Korkueli 4.97 60 PN Pn 17 44 01.9 +3.4
ANTB Antalya 5.15 62 PN Pn 17 44 04.6 +3.8
KHAL Karahalli 5.22 43 *i* P **Pn 17 44 04.1 +2.2**
USAK Uak-Merkez 5.22 37 *i* P **Pn 17 44 05.1 +3.3**
STEP BALIKESIR_Sava 5.24 24 *eP* **Pn 17 44 05.3 +3.3**
EZN Ezine 5.31 11 PN Pn 17 44 04.2 +1.2
ISP Isparta 5.51 53 P Pn 17 44 07.6 +1.8
ISP Isparta 5.51 53 Pn Pn 17 44 07.6 +1.8
BALB Balikesir 5.53 24 Pn Pn 17 44 07.7 +1.7
LIT Litokhoron 5.82 341 P Pn 17 44 11.4 +1.4
LIT Litokhoron 5.82 341 Pn 17 44 11.4 +1.4
KEPZ Antalya-Kepez 5.85 65 *i* P **Pn 17 44 13.6 +3.1**
GAZI Gazipasa 6.21 73 *i* P **Pn 17 44 17.4 +2.0**
ALN Alexandroupoli 6.33 7 P Pn 17 44 19.3 +2.4
ALN Alexandroupoli 6.33 7 Pn Pn 17 44 19.4 +2.4
DOGA KONYA_Doganhis 6.43 55 *i* P **Pn 17 44 22.3 +3.8**
LEF Lefka 6.53 83 *i* P **Pn 17 44 19.0 -0.7**
ERMK Ermenek 6.77 70 *i* P **Pn 17 44 27.8 +4.5**
FNA Florina 6.79 336 P Pn 17 44 26.7 +3.4
FNA Florina 6.79 336 Pn Pn 17 44 26.7 +3.4
CSS Mathiatis 6.88 85 Pn Pn 17 44 26.4 +1.7
CSS Mathiatis 6.88 85 Pn 17 44 24.6 -0.1
CSS Sn 17 45 40.0 -3.0
GULN MERSIN_Gulnar 7.17 75 *i* P **Pn 17 44 29.8 +1.3**
EREN Erenkoy 7.59 80 *i* P Pn 17 44 40.7 +6.3
HHAG Hagoal 7.61 126 AMP 17 46 00.0
baz=127
TIP Timpagrande 8.00 307 Pn Pn 17 44 40.4 +0.3
VTS Vitosha 8.11 351 P Pn 17 44 44.1 +2.6
VTS Vitosha 8.11 351 Pn 17 44 44.1 +2.6
BR231 Keskin MP Arra 8.12 48 Pn Pn 17 44 42.8 +1.1
ANTO Ankara 8.14 48 P Pn 17 44 42.8 +0.8
ANTO Ankara 8.14 48 Pn 17 44 42.8 +0.8
GULE Gulek 8.38 69 *i* P **Pn 17 44 49.5 +4.2**
OFRI `Ofer 8.58 101 Pn Pn 17 44 50.8 +2.8
BR131 Keskin Array S 8.59 51 P Pn 17 44 49.7 +1.5
BR131 Keskin Array S 8.59 51 Pn 17 44 49.7 +1.5
BRTR Keskin Array B 8.59 51 P Pn 17 44 49.7 +1.5
BRTR Keskin Array B 8.59 51 Pn Pn 17 44 50.7 +2.5
comp=E,0.3nm,0.3s,baz=221,slow=15,SNR=15
BRTR LR LR 17 48 46.4
comp=E,138nm,18.3s,baz=180,slow=42
BRTR Keskin Array B 8.59 51 Pn 17 44 49.7 +1.5
SLTI Sal'it 8.74 103 Pn Pn 17 44 51.3 +1.2
SLTI Sn Sn 17 46 23.6 -5.0
KZIT Kziot 8.75 112 Pn Pn 17 44 51.4 +1.1
KZIT Kziot 8.75 112 P Pn 17 44 53.6 +3.3
comp=E,35nm,0.6s
KZIT Kziot 8.75 112 P Sn 17 46 25.6 -3.4
MMA0B Mount Meron ar 8.82 97 Pn Pn 17 44 53.5 +2.2
MMAI Mount Meron Ar 8.82 97 Pn Pn 17 44 50.8 -0.6
comp=E,2.6nm,0.3s,baz=281,slow=11,SNR=5.7
MMAI Sn Sn 17 46 26.7 -4.1
comp=E,8.3nm,0.3s,baz=267,slow=24,SNR=8.1
AMAZ Amatzia 8.89 107 Pn Pn 17 44 53.4 +1.2
AMAZ Amatzia 8.89 107 P Sn 17 46 28.1 -4.2
MMLI Mount Malkishu 8.99 101 Pn Pn 17 44 54.8 +1.2
GEM Giv'at Ha'Em 8.99 96 Pn Pn 17 44 55.5 +1.9
GEM Sn Sn 17 46 31.6 -3.3
KSDI Kefar Szold 8.99 96 Pn Pn 17 44 55.4 +1.8
KSDI Sn Sn 17 46 30.9 -3.9
PDG Podgorica 8.99 332 Pn Pn 17 44 51.9 -1.6
NATI Neve Ativ 9.04 96 Pn Pn 17 44 55.8 +1.6
YTIR Yattir 9.12 108 Pn Pn 17 44 56.8 +1.5
YTIR Sn Sn 17 46 33.0 -4.9
HMDT Nahal Hemdat 9.13 102 Pn Pn 17 44 56.7 +1.3
HMDT Sn Sn 17 46 34.2 -3.9
SHMJ Saham 9.19 99 P Pn 17 44 57.8 +1.5
comp=E,37nm,0.5s
SHMJ Saham 9.19 99 P Sn 17 46 38.1 -1.5
DSI Dead Sea 9.24 106 Pn Pn 17 44 58.6 +1.6
DSI Sn Sn 17 46 37.0 -4.0
MZDA Masada 9.33 108 Pn Pn 17 44 58.7 +0.6
MZDA Sn Sn 17 46 39.2 -3.8
KRMI Paran Flat 9.39 116 Pn Pn 17 44 59.9 +0.9
KRMI Sn Sn 17 46 39.9 -4.6
ACER Acerenza 9.44 313 Pn Pn 17 44 58.0 -1.7
LISJ El Lisan 9.45 108 P Sn 17 46 41.3 -4.7
PRNI Paran 9.48 114 Pn Pn 17 45 01.0 +0.8
PRNI Sn Sn 17 46 40.4 -6.4
ZFRI Zfri 9.51 112 Pn Pn 17 45 01.8 +1.1
ZFRI Sn Sn 17 46 42.3 -5.2
WALJ Wala 9.59 106 P Pn 17 45 03.2 +1.5
comp=E,44nm,0.6s
WALJ Wala 9.59 106 P Sn 17 46 46.6 -2.8
HRFI Mount Harif 9.66 115 Pn Pn 17 45 04.0 +1.3
HRFI Sn Sn 17 46 45.6 -5.6
MBRI Mt Berech 9.69 117 Pn Pn 17 45 04.0 +0.7
MBRI Sn Sn 17 46 47.5 -4.7
EIL Elat 9.79 118 Pn Pn 17 45 04.5 0.0
EIL Sn Sn 17 46 49.6 -4.8
EIL Elat 9.79 118 Pn Pn 17 45 04.1 -0.4
comp=E,1.8nm,0.3s,baz=13,slow=5.2,SNR=16
EIL Sn Sn 17 46 48.4 -5.9
comp=E,2.1nm,0.3s,baz=34,slow=7.3,SNR=4.9
EIL LR LR 17 49 01.5
comp=E,16nm,21.5s,baz=295,slow=39
AQBJ Aqaba 9.83 117 P Pn 17 45 06.1 +1.1
AQBJ Aqaba 9.83 117 P Sn 17 46 47.6 -7.8
CORL Corleone 9.98 293 Pn Pn 17 45 08.0 +0.9
SGRT San Giovanni R 10.17 317 Pn Pn 17 45 10.3 +0.6
ASF Jabal al Asfar 10.26 100 Pn Pn 17 45 11.4 +0.3
comp=E,0.2nm,0.3s,baz=235,slow=16,SNR=2.7
ASF Sn Sn 17 47 01.6 -4.5
comp=E,0.8nm,0.3s,baz=326,slow=10,SNR=3.5
MLR Muntele Rosu 10.89 4 P Pn 17 45 21.1 +1.5
MLR Muntele Rosu 10.89 4 Pn Pn 17 45 21.3 +1.7
comp=E,0.1nm,0.3s,baz=343,slow=19,SNR=1.9
MLR LR LR 17 49 51.8
comp=E,76nm,19.2s,baz=124,slow=39
MLR Muntele Rosu 10.89 4 Pn Pn 17 45 21.1 +1.5
INTR Introdacqua 11.40 314 Pn Pn 17 45 28.1 +1.6
AQU L'Aquila 11.90 314 P Pn 17 45 35.0 +1.6
AQU L'Aquila 11.90 314 Pn Pn 17 45 35.0 +1.6
NRCA Norcia 12.36 315 Pn Pn 17 45 41.2 +1.5
BURAR Bucovina Array 12.99 1 Pn Pn 17 45 50.2 +1.9
ANN Anapa 13.96 40 *eP* **Pn 17 46 01.4 -0.1**
ANN *eS* **Sn 17 48 37.2 +0.9**
ANN pmax pmax
comp=Z,34nm,1.1s
SOC Sochi 14.52 48 *eP* **P 17 46 14.0 -1.7**
SOC *e* 17 48 58.6
SOC MLR MLR
comp=Z,42nm,10.0s
CTI Castel Tesino 15.26 322 P P 17 46 22.3 -1.8
CTI pmax pmax
comp=Z,18nm,1.3s
CTI Castel Tesino 15.26 322 P 17 46 22.4 -1.8
CTI IAmb IAmb 17 46 41.1
comp=Z,18nm,1.3s
KARS Kars 15.54 62 P P 17 46 27.5 +0.2
KARS pmax pmax
comp=Z,58nm,1.1s
KARS Kars 15.54 62 P 17 46 27.5 +0.2
AKH Akhalkalaki 16.08 60 P P 17 46 32.0 -1.3
AKH pmax pmax
comp=Z,5.0nm,0.9s
AKH Akhalkalaki 16.08 60 Pn P 17 46 32.0 -1.3
MORC Moravsky Berou 16.11 342 P P 17 46 33.4 0.0
MORC pmax pmax
comp=Z,4.0nm,1.1s
MORC Moravsky Berou 16.11 342 P 17 46 33.4 0.0
AKASG Malin Array Be 16.37 10 Pn Pn 17 46 34.2 +0.8
comp=Z,2.8nm,0.3s,baz=202,slow=11,SNR=8.8
AKASG Malin Array Be 16.37 10 P P 17 46 35.4 -0.9
AKBB Malin Array Si 16.37 10 P P 17 46 35.4 -0.9
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 16.37 10 P P 17 46 35.4 -0.9
AKBB IAmb IAmb 17 46 43.8
comp=Z,9.8nm,0.8s
GEC2 GERESS Array S 16.49 333 P P 17 46 37.1 -0.6
GEC2 IAmb IAmb 17 46 51.2
comp=Z,14nm,1.3s
GERES GERESS Array B 16.49 333 P P 17 46 36.7 -1.0
GERES GERESS Array B 16.49 333 Pn P 17 46 36.9 -0.8
comp=Z,0.3nm,0.3s,baz=144,slow=12,SNR=19
GERES LR LR 17 54 24.7
comp=Z,71nm,18.3s,baz=130,slow=43
GERES GERESS Array B 16.49 333 P P 17 46 36.7 -1.0
KIV Kislovodsk 16.56 50 P P 17 46 39.2 +0.7
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 16.56 50 P 17 46 39.2 +0.7
KIV IAmb IAmb 17 46 58.9
comp=Z,15nm,1.1s
KVAR Kislovodsk Arr 16.56 50 Pn P 17 46 40.9 +2.3
baz=287,slow=17,SNR=4.0
KBZ Khabaz 16.59 51 *de*P **P 17 46 41.4 +2.7**
KBZ Khabaz 16.59 51 Pn P 17 46 41.9 +3.2
comp=Z,0.3nm,0.3s,baz=262,slow=7.2,SNR=17
KBZ LR LR 17 53 44.5
comp=Z,28nm,20.4s,baz=268,slow=40
GNI Garni 16.64 65 *eP* **P 17 46 40.4 +0.8**
GNI Garni 16.64 65 P 17 46 40.4 +0.8
DAVOX Davos/Dischmat 16.66 321 Pn P 17 46 45.2 +5.5
comp=Z,0.2nm,0.3s,baz=134,slow=16,SNR=2.5
KHC Kasperske Hory 16.77 333 *eP* **P 17 46 40.9 +0.1**
KHC Kasperske Hory 16.77 333 P 17 46 40.9 +0.1
ZEI Tsey 16.85 55 *eP* **P 17 46 43.5 +1.6**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
NCK Nalchik 16.94 53 *eP* **P 17 46 46.7 +4.1**
NCK pmax pmax
comp=Z,7.0nm,0.5s
RAYN Ar Rayn 21.03 116 P P 17 47 29.6 +1.9
RAYN pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 21.03 116 P P 17 47 29.6 +1.9
RAYN IAmb IAmb 17 47 34.5
comp=Z,4.4nm,0.9s
ESDC Sonseca Array 23.56 291 P P 17 47 53.9 -0.3
comp=Z,0.4nm,0.4s,baz=90,slow=11,SNR=5.0
ESDC Sonseca Array 23.56 291 P 17 47 53.6 -0.7
HFS Hagfors 26.57 347 P P 17 48 20.8 -0.8
comp=Z,2.9nm,0.8s,baz=128,slow=13,SNR=3.0
FINES FINESS Array B 26.86 1 P P 17 48 22.9 -1.1
comp=Z,4.6nm,0.8s,baz=157,slow=10,SNR=4.6
NC602 NORSAR Array S 27.54 346 P P 17 48 29.2 -1.1
NC602 IAmb IAmb 17 48 32.3
comp=Z,14nm,1.3s
NAO01 NORSAR Array S 27.78 345 P P 17 48 32.8 +0.5
NC405 NORSAR Array S 27.85 346 P P 17 48 34.9 +1.8
NOA NORSAR Array B 27.89 346 P P 17 48 34.5 +1.1
comp=Z,0.3nm,0.5s,baz=144,slow=8.9,SNR=2.5
NOA LR LR 18 01 36.4
comp=Z,17nm,18.9s,baz=270,slow=41
NBO00 NORSAR Array S 27.97 345 P P 17 48 32.9 -1.2
EKA Eskdalemuir Ar 28.40 325 P P 17 48 39.9 +2.0
comp=Z,0.7nm,0.6s,baz=113,slow=11,SNR=4.2
AKTO Aktyubinsk 28.73 46 P P 17 48 40.6 -0.4
comp=Z,1.5nm,0.7s,baz=252,slow=14,SNR=5.3
ABKAR Akbulak array 29.54 50 P P 17 48 47.9 -0.3
TOA0 Torodi Ar. Sit 30.02 230 P P 17 48 53.2 +0.4
TOA0 IAmb IAmb 17 48 54.1
comp=Z,3.2nm,0.8s
TORD Torodi Ar. Bea 30.02 230 P P 17 48 52.3 -0.5
comp=Z,3.2nm,0.6s,baz=36,slow=8.5,SNR=20
TORD Torodi Ar. Bea 30.02 230 P P 17 48 52.2 -0.5
ARU Arti 31.58 36 *c iP* **P 17 49 08.7 +2.6**
ARU 17 50 08.1
ARU S S 17 54 18.9 +4.4
ARU SS ScP 17 55 59.5 +18
ARU pmax pmax
comp=Z,7.0nm,1.8s
ARCES ARCESS Array B 34.97 0 P P 17 49 33.9 -1.6
comp=Z,1.3nm,0.7s,baz=174,slow=8.9,SNR=6.6
ARCES LR LR 18 06 09.8
comp=Z,47nm,19.2s,baz=256,slow=40
ARCES ARCESS Array B 34.97 0 P P 17 49 34.4 -1.1
KK31 Karatay Array 36.09 63 P P 17 49 45.7 +0.2
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 36.09 63 P P 17 49 45.7 +0.2
KK31 IAmb IAmb 17 50 03.7
comp=Z,1.8nm,0.8s
KKAR Karatay Array 36.09 63 P P 17 49 45.0 -0.5
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 36.09 63 P P 17 49 46.0 +0.5
KKAR Karatay Array 36.09 63 P P 17 49 45.0 -0.5
KKAR IAmb IAmb 17 50 03.8
comp=Z,1.8nm,0.8s
KSH Kashi 40.55 68 P P 17 50 21.1 -2.1
KSH PP PP 17 51 58.4 +1.9
KSH S S 17 56 26.7 -5.6
KSH sS pS 17 56 35.1 -0.8
KSH SS SS 17 59 19.4 -12
KSH pmax pmax
comp=Z,250nm,5.6s
KURK Kurchatov 41.64 50 *eP* **P 17 50 33.0 +1.1**
KURK pmax pmax
comp=Z,5.0nm,2.5s
KURK Kurchatov 41.64 50 P P 17 50 32.1 +0.2
KURK IAmb IAmb 17 50 49.3
comp=Z,2.3nm,0.7s
MAKZ Makanchi 43.99 56 P P 17 50 50.7 -0.3
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 43.99 56 P P 17 50 50.7 -0.3
MAKZ IAmb IAmb 17 51 12.2
comp=Z,3.5nm,1.1s
MK31 Makanchi Array 44.20 56 P P 17 50 53.2 +0.4
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 44.20 56 P P 17 50 53.1 +0.4
MK31 IAmb IAmb 17 50 53.7
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 44.20 56 P P 17 50 53.1 +0.3
comp=Z,2.7nm,0.5s,baz=271,slow=6.9,SNR=34
MKAR Makanchi Array 44.20 56 P P 17 50 53.0 +0.2
ZALV Zalesovo Beam 45.49 46 P P 17 51 04.1 +1.2
ZALV Zalesovo Beam 45.49 46 P P 17 51 03.7 +0.8
comp=Z,1.2nm,0.5s,baz=269,slow=8.7,SNR=5.7
ZALV LR LR 18 14 01.7
comp=Z,26nm,18.5s,baz=24,slow=41
ZALV Zalesovo Beam 45.49 46 P P 17 51 04.1 +1.2
WMQ Urumqi 48.41 59 *eP* **P 17 51 27.6 +1.7**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,80nm,4.7s
WMQ LR LR
comp=N,500nm,29.1s
WMQ LR LR
comp=E,1μm,28.9s
WMQ LR LR
comp=Z,84nm,29.1s
BOSA Boshof 62.89 180 P P 17 53 11.1 +1.2
comp=Z,1.6nm,0.8s,baz=343,slow=8.9,SNR=3.1
BOSA Boshof 62.89 180 P P 17 53 11.7 +1.7
HHC Hu-ho-hao-te 66.07 56 *eP* **P 17 53 29.8 -1.0**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,9.0nm,5.3s
KMI Kunming 66.60 75 P P 17 53 35.1 +0.5
KMI pmax pmax
comp=Z,6.0nm,0.5s
CMAR Chiang Mai Arr 66.79 83 P P 17 53 36.0 +0.4
comp=Z,0.4nm,0.8s,baz=296,slow=9.0,SNR=4.8
KSRS Korea Array 78.73 52 P P 17 54 46.0 -0.3
KSRS Korea Array 78.73 52 P P 17 54 46.0 -0.3
comp=Z,0.4nm,0.6s,baz=316,slow=5.5,SNR=2.6
ILAR Eielson Array 80.73 356 P P 17 54 58.4 +1.7
comp=Z,0.7nm,1.0s,baz=356,slow=3.7,SNR=3.4
WRA Warramunga Arr 116.68 97 PKP PKPdf 18 01 27.8 -0.7
comp=Z,0.2nm,0.6s,baz=300,slow=2.0,SNR=4.5
ASAR Alice Springs 118.10 101 PKIKP PKPdf 18 01 30.4 -0.7
ASAR Alice Springs 118.10 101 PKP PKPdf 18 01 30.6 -0.5
comp=Z,0.2nm,0.5s,baz=322,slow=1.7,SNR=3.4
ASAR Alice Springs 118.10 101 PKPdf 18 01 30.4 -0.7

TAP 05 17:46:20.4, 23°.62N×121°.36E, h9km±1km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EGFH	**Guangfu** baz=47	**0.08**	**48**	P	Pg	17 46 22.6	0.0
EGFH				S	Sg	17 46 24.2	-0.1
EHY	**Hungye** baz=195	**0.12**	**199**	P	Pg	17 46 23.1	+0.1
EHY				S	Sg	17 46 25.1	+0.1
HGSD	**Ruisui** baz=155	**0.14**	**155**	P	Pg	17 46 23.6	+0.2
HGSD				*e*S	Sg	17 46 26.0	+0.5
ESL	**Shilin** baz=20	**0.21**	**18**	P	Pg	17 46 24.9	+0.2
ESL				S	Sg	17 46 27.6	0.0
YULB	**Yu-li** baz=195	**0.23**	**195**	P	Pg	17 46 25.1	0.0
YULB				S	Sg	17 46 28.1	-0.1
VWDT	**VWDT** baz=304	**0.24**	**304**	*e*P	Pg	17 46 26.6	+1.2
VWDT				*e*S	Sg	17 46 30.3	+1.6
TWF1	**Yuli** baz=191	**0.27**	**193**	*e*P	Pg	17 46 25.9	+0.1
TWF1				*e*S	Sg	17 46 29.3	-0.1
YUS	**Yu-Shan** baz=250	**0.40**	**252**	*e*S	Sb	17 46 35.2	-1.0
SSLB	**Suanglung** baz=294	**0.41**	**295**	*e*P	Pb	17 46 29.5	-0.3
ELDTW	**Lidau** baz=216	**0.53**	**217**	*e*P	Pg	17 46 31.3	+0.6
ELDTW				*e*S	Sg	17 46 37.8	+0.2
DPDB	**Guoxing** baz=316	**0.58**	**316**	*e*P	Pg	17 46 31.6	0.0
TPUB	**Ta-pu** baz=245	**0.74**	**245**	*e*S	Sg	17 46 45.0	+0.6

TAP 05 17:46:21.6, 24°.23N×121°.47E, h4km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi** baz=139	**0.02**	**140**	P	Pg	17 46 22.4	-0.2
ETLH				S	Sg	17 46 23.1	-0.2
NACB	**Ninganchiao** baz=113	**0.13**	**113**	P	Pg	17 46 24.4	+0.2
NACB				S	Sg	17 46 26.3	+0.4
TWD	**Chiawan** baz=138	**0.19**	**140**	P	Pg	17 46 25.6	+0.3
TWD				S	Sg	17 46 28.1	+0.3
WHF	**Hehuan Shan** baz=245	**0.20**	**246**	P	Pg	17 46 25.4	-0.2
WHF				S	Sg	17 46 28.0	-0.3
NNSB	**Datong** baz=339	**0.22**	**340**	P	Pg	17 46 26.0	+0.1
NNSB				S	Sg	17 46 28.9	+0.2
NNS	**Nan Shan** baz=340	**0.23**	**339**	*e*P	Pg	17 46 26.2	0.0
NNS				S	Sg	17 46 29.4	+0.2
TWT	**Tachien** baz=274	**0.27**	**276**	*e*P	Pg	17 46 26.9	+0.1
TWT				S	Sg	17 46 30.9	+0.6
TDCB	**Techi** baz=275	**0.28**	**276**	P	Pg	17 46 27.3	+0.2
TDCB				S	Sg	17 46 31.0	+0.1
CHGB	**Renai** baz=238	**0.31**	**238**	P	Pg	17 46 27.7	-0.1
CHGB				S	Sg	17 46 31.6	-0.3
ENA	**Nanau** baz=52	**0.32**	**51**	*e*P	Pg	17 46 27.7	-0.2
ENA				*e*S	Sg	17 46 31.9	-0.3
NANB	**Nanao** baz=52	**0.33**	**52**	P	Pg	17 46 27.6	-0.4
NANB				S	Sg	17 46 32.4	0.0
NDT	**Datong Townshi** baz=6.0	**0.38**	**7**	P	Pg	17 46 29.0	+0.1
NDT				S	Sg	17 46 33.7	-0.3
ENTT	**Nioudou** baz=13	**0.42**	**13**	P	Pg	17 46 30.0	+0.2
ENTT				S	Sg	17 46 35.8	+0.4

	baz=13						
YHNB	**Yeheng**	**0.45**	**350**	*e*P	Pg	17 46 30.0	-0.4
	baz=349						
YHNB				*e*S	Sg	17 46 37.1	+0.8
	baz=349						
NSK	**Sanguang**	**0.46**	**348**	*e*P	Pg	17 46 30.8	+0.3
	baz=348						
NSK				*e*S	Sg	17 46 36.5	0.0
	baz=348						
TWC	**Suao**	**0.52**	**42**	*e*P	Pg	17 46 31.6	-0.1
	baz=43						
TWE	**Neicheng**	**0.53**	**20**	*e*P	Pg	17 46 31.8	0.0
	baz=22						
TWE				*e*S	Sg	17 46 38.8	+0.2
	baz=22						
DPDB	**Guoxing**	**0.53**	**249**	*e*P	Pg	17 46 32.4	+0.6
	baz=248						
DPDB				*e*S	Sg	17 46 39.0	+0.4
	baz=248						
DPDB	**Guoxing**	**0.53**	**249**	*e*S	Sg	17 46 39.1	+0.4
	baz=316						
SLBB	**Yuanshan**	**0.55**	**16**	*e*P	Pg	17 46 32.3	+0.1
	baz=16						
SLBB				*e*S	Sg	17 46 39.8	+0.4
	baz=16						
NWLT	**Wulai**	**0.55**	**4**	P	Pg	17 46 32.4	+0.1
	baz=3.0						
NWLT				S	Sg	17 46 40.1	+0.7
	baz=3.0						
SMLT	**Sun Moon Lake**	**0.62**	**237**	*e*P	Pg	17 46 33.8	+0.2
	baz=236						
SSLB	**Suanglung**	**0.64**	**227**	P	Pg	17 46 33.5	-0.5
	baz=226						
SSLB				*e*S	Sg	17 46 43.4	+1.1
	baz=226						
SSLB	**Suanglung**	**0.64**	**227**	*e*S	Pg	17 46 33.5	-0.4
	baz=294						
TYC	**Yuchr**	**0.64**	**240**	*e*P	Pg	17 46 33.5	-0.4
	baz=239						
EOS1	**EOS1**	**0.69**	**62**	*e*P	Pg	17 46 34.8	0.0
	baz=61						
EOS1				*e*S	Sg	17 46 44.7	+1.0
	baz=61						

ISCJB ***05*** *18:08:50.3±0.7, 35°.3N±0°.1×136°.9E±0°.1, h319km±5km, Error ellipse: s-maj=21.3km s-min=10.9km az=142.5*
IDC ***05*** *18:08:51.1±0.8, 35°.33N×136°.95E, h314km±11km, mb3.2/3, mb1 3.3/4, mb1mx2.8/36, mbtmp3.8/4, Error ellipse: s-maj=32.4km s-min=20.0km az=88.0*
JMA ***05*** *18:08:51.4±0.2, 35°.39N×136°.88E, h312km±2km, M2.9*
ISC 05 18:08:51.1±1.0,**35°.4N**±0°.1×**136°.92E**±0°.09,**h313**km±7km, **n17**,σ0**s**48/22,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.28**	**329**	P	**Pn**	**18 09 31.1**	**+0.5**
JYTA				S	**S**	**18 10 01.8**	**-0.4**
JEG	**Eigenji**	**0.48**	**244**	P	**Pn**	**18 09 31.7**	**+0.6**
JIE	**Ise**	**0.97**	**190**	P	**Pn**	**18 09 33.4**	**+0.6**
JIE				S	**S**	**18 10 05.7**	**-0.3**
JWT	**Wachi**	**1.24**	**267**	P	**Pn**	**18 09 34.1**	**+0.1**
JWT				S	**S**	**18 10 07.2**	**-1.0**
JYN	**Shimob**	**1.34**	**83**	P	**Pn**	**18 09 35.0**	**+0.4**
JWY	**Kouya**	**1.57**	**224**	P	**Pn**	**18 09 36.5**	**+0.4**
MAT	**Matsushiro**	**1.59**	**41**	P	**Pn**	**18 09 36.2**	**+0.2**
MAT				S	**S**	**18 10 11.4**	**-0.4**
MAT	**Matsushiro**	**1.59**	**41**	P	**Pn**	**18 09 36.4**	**+0.4**
MJAR	**Matsushiro Arr**	**1.59**	**41**	P	**Pn**	**18 09 36.3**	**+0.3**
	1.4nm,0.3s,baz=228,slow=8.6,SNR=61						
MJAR				S	**S**	**18 10 12.5**	**+0.6**
	baz=348,slow=39,SNR=2.6						
JTNC	**Tanabenakahech**	**1.87**	**216**	P	**Pn**	**18 09 38.3**	**+0.2**
JAG	**Ashikaga**	**2.32**	**62**	P	**Pn**	**18 09 41.0**	**-0.5**
JAI	**Aioi**	**2.56**	**233**	P	**Pn**	**18 09 43.7**	**+0.1**
JHS	**Saijyo**	**3.13**	**265**	P	**Pn**	**18 09 49.1**	**+0.1**
JNU	**Nakatsue**	**5.47**	**248**	P	**Pn**	**18 10 15.1**	**+0.5**
	0.4nm,0.3s,baz=45,slow=4.3,SNR=4.7						
WRA	**Warramunga Arr**	**55.04**	**183**	P	**P**	**18 17 50.8**	**-0.3**
	0.4nm,0.3s,baz=360,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**58.76**	**183**	P	**P**	**18 18 16.8**	**-0.2**
	0.4nm,0.7s,baz=1.2,slow=6.3,SNR=5.5						
FINES	**FINESS Array B**	**68.57**	**331**	P	**P**	**18 19 20.3**	**+0.2**
	5.0nm,0.9s,baz=53,slow=7.1,SNR=3.1						

BJI ***05*** *18:16:56.9±0.0, 14°.81S×174°.22W, h272km, mb4.8/40, mB4.9/27*
ISCJB ***05*** *18:16:58.7±0.6, 15°.33S±0°.03×175°.00W±0°.02, h278km±6km, mb5.0/93, Error ellipse: s-maj=5.4km s-min=3.1km az=154.6*
MOS ***05*** *18:16:59.1±0.9, 15°.18S×175°.00W, h277km, mb5.0/11, Error ellipse: s-maj=7.6km s-min=6.9km az=141.1*
IDC ***05*** *18:17:00.1±1.8, 15°.23S×174°.97W, h276km±16km, mb4.5/28, mb1 4.6/30, mb1mx4.4/39, mbtmp5.1/30, Error ellipse: s-maj=11.1km s-min=8.6km az=142.0*
NEIC ***05*** *18:17:01.0±1.7, 15°.22S±0°.08×174°.94W±0°.08, h287km±4km, mb5.0/247*
GCMT ***05*** *18:17:06.0±0.6, 15°.09S±0°.05×175°.02W±0°.06, h306km±3km, MW5.2/48, Moment Tensor Solution. s48,c57; Duration: 18.0 Moment tensor: Scale 10^16^Nm; M_{rr}=5.15±.31; $M_{\theta\theta}$=5.72±.55; $M_{\phi\phi}$=-0.57±.47; $M_{r\theta}$=2.02±.51; $M_{r\phi}$=0.53±.49; $M_{\theta\phi}$=-4.91±.44; Best double couple: M_0=7.44000×10^16^ NP1:ϕ_s=53.00000°, δ=66.00000°, λ=-120.00000°. NP2:ϕ_s=288.00000°, δ=38.00000°, λ=-42.00000°. Principal axes: T 6.4560, Plg=16.0000°, Azm=164.0000°; N 1.9660, Plg=27.0000°, Azm=66.0000°; P -8.4230, Plg=58.0000°, Azm=281.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 05 18:17:00.5±0.4,**15°.25S**±0°.05×**174°.91W**±0°.04, **h286**km±4km,**h287**km:**pP-P**,**n864**,σ0**s**99/861,**mb4.9**/196, **39C-68D**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.31**	**67**	P	**Pn**	**18 17 58.4**	**-0.3**
AFI	**Afiamalu**	**3.31**	**67**		**Pn**	**18 17 58.4**	**-0.3**
NIUE	**Niue**	**6.10**	**129**		**Pn**	**18 18 30.8**	**+0.2**
NIUE				S	**S**	**18 19 41.8**	**-1.4**
MSVF	**Nonsavu**	**7.19**	**249**	P	**Pn**	**18 18 46.4**	**+2.3**
MSVF	**Nonsavu**	**7.19**	**249**		**Pn**	**18 18 46.4**	**+2.3**
FUNA	**Funafuti**	**8.82**	**319**		**Pn**	**18 19 05.1**	**+0.8**
KNTN	**Kanton**	**12.79**	**15**		**Pn**	**18 19 53.0**	**0.0**
RAR	**Rarotonga**	**15.55**	**115**	P	**Pn**	**18 20 25.8**	**-0.1**
RAR				pmax	pmax		
	comp=Z,71nm,1.1s						
RAR	**Rarotonga**	**15.55**	**115**	P	**Pn**	**18 20 25.6**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=251,slow=6.4,SNR=12						
RAR	**Rarotonga**	**15.55**	**115**	P	**Pn**	**18 20 25.9**	**-0.1**
RAR				IAmb	IAmb	18 20 28.2	
	comp=Z,71nm,1.1s						
DZM	**Mont Dzumac**	**18.92**	**246**	*e*P	**P**	**18 20 59.9**	**-1.1**
	comp=Z,183nm,1.5s						
DZM				*e*S	**S**	**18 24 18.0**	**-2.6**
	comp=Z,206nm,25.1s						
DZM	**Mont Dzumac**	**18.92**	**246**	P	**P**	**18 20 59.9**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=65,slow=19,SNR=31						
DZM	**Mont Dzumac**	**18.92**	**246**	P	**P**	**18 20 59.3**	**-1.7**
DZM				IAmb	IAmb	18 21 02.6	
	comp=Z,48nm,0.8s						
TARA	**Tarawa**	**20.42**	**323**	P	**P**	**18 21 16.4**	**-0.4**
OUZ	**Omahuta**	**22.41**	**205**	P	**P**	**18 21 36.1**	**+0.8**
OUZ				IAmb	IAmb	18 21 45.0	
	comp=Z,62nm,1.3s						
MXZ	**Matakaoa Point**	**23.03**	**194**	P	**P**	**18 21 40.3**	**-0.6**
URZ	**Urewera**	**23.98**	**196**	P	**P**	**18 21 48.7**	**-0.9**
	comp=Z,5.6nm,0.4s,baz=357,slow=17,SNR=4.2						
URZ	**Urewera**	**23.98**	**196**	P	**P**	**18 21 49.3**	**-0.2**
PAE	**Paea**	**24.41**	**99**	*e*P	**P**	**18 21 53.4**	**-0.2**
	comp=Z,4.0nm,0.8s						
PPT	**Papeete**	**24.41**	**99**	P	**P**	**18 21 54.6**	**+0.9**
	comp=Z,18nm,0.6s,baz=78,slow=16,SNR=5.1						
PPT	**Papeete**	**24.41**	**99**	P	**P**	**18 21 54.2**	**+0.5**
PPT2	**Papeete2**	**24.41**	**99**	*e*P	**P**	**18 21 53.6**	**-0.1**
	comp=Z,33nm,1.2s						
PPT2	**Papeete2**	**24.41**	**99**	*e*LR	LR	18 21 35.4	
	comp=Z,126nm,23.8s						
PPTF	**Pamatai, Papee**	**24.42**	**99**	P	**P**	**18 21 54.0**	**+0.2**
PPTF				IAmb	IAmb	18 21 59.3	
	comp=Z,158nm,1.9s						
TIAR	**Tiarei**	**24.62**	**99**	*e*P	**P**	**18 21 55.7**	**0.0**
	comp=Z,6.1nm,0.8s						
TVO	**Taravao**	**24.72**	**99**	*e*P	**P**	**18 21 56.5**	**-0.1**
	comp=Z,14nm,1.0s						
BKZ	**Black Stump Fm**	**25.00**	**196**	P	**P**	**18 21 58.6**	**-0.2**
BKZ				IAmb	IAmb	18 22 07.7	
	comp=Z,75nm,2.0s						
HNR	**Honiara**	**25.22**	**280**	P	**P**	**18 22 01.9**	**+0.9**
	comp=Z,129nm,0.8s,baz=303,slow=2.0,SNR=14						
HNR	**Honiara**	**25.22**	**280**	P	**P**	**18 22 03.0**	**+2.0**
HNR	**Honiara**	**25.22**	**280**	P	**P**	**18 22 00.9**	**-0.1**
MEH	**Mehetia**	**25.85**	**100**	*e*P	**P**	**18 22 06.6**	**-0.1**
	comp=Z,7.5nm,0.8s						
PMOR	**Pomariorio Ree**	**26.08**	**93**	*e*P	**P**	**18 22 07.9**	**-0.7**
	comp=Z,44nm,0.9s						
VAH	**Vaihoa**	**26.32**	**94**	*e*P	**P**	**18 22 10.4**	**-0.4**
	comp=Z,49nm,1.1s						
BFZ	**Birch Farm**	**26.49**	**195**	P	**P**	**18 22 11.9**	**-0.1**
BFZ				IAmb	IAmb	18 22 17.5	
	comp=Z,45nm,1.2s						
MSWZ	**Moikau Station**	**27.43**	**196**	P	**P**	**18 22 20.4**	**-0.1**
QRZ	**Quartz Range**	**27.73**	**201**	P	**P**	**18 22 22.5**	**-0.5**
NNZ	**Nelson**	**27.80**	**199**	P	**P**	**18 22 23.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**28.10**	**198**	P	**P**	**18 22 26.4**	**+0.1**
THZ	**Tophouse**	**28.44**	**199**	P	**P**	**18 22 28.9**	**-0.5**
THZ				IAmb	IAmb	18 22 33.0	
	comp=Z,83nm,1.7s						
KHZ	**Kahutara**	**28.84**	**198**	P	**P**	**18 22 31.7**	**-1.1**
KHZ				IAmb	IAmb	18 22 51.8	
	comp=Z,80nm,1.5s						
LTZ	**Lake Taylor**	**29.57**	**199**	P	**P**	**18 22 37.3**	**-2.0**
LTZ				IAmb	IAmb	18 23 00.6	
	comp=Z,59nm,1.5s						
OXZ	**Oxford**	**30.13**	**199**	P	**P**	**18 22 42.7**	**-1.4**
OXZ				IAmb	IAmb	18 22 50.4	
	comp=Z,75nm,1.5s						
RPZ	**Rata Peaks**	**30.80**	**200**	P	**P**	**18 22 52.4**	**+2.3**
	comp=Z,8.0nm,0.8s,baz=10.0,slow=6.5,SNR=5.4						
RPZ	**Rata Peaks**	**30.80**	**200**	P	**P**	**18 22 49.8**	**-0.2**
RPZ				IAmb	IAmb	18 22 50.9	
	comp=Z,56nm,1.7s						
FOZ	**Fox Glacier**	**31.06**	**202**	P	**P**	**18 22 52.4**	**0.0**
LBZ	**Lake Benmore**	**31.68**	**201**	P	**P**	**18 22 55.2**	**-2.5**
LBZ				IAmb	IAmb	18 23 11.0	
	comp=Z,63nm,1.7s						
WKZ	**Wanaka**	**32.47**	**202**	P	**P**	**18 23 03.2**	**-1.4**
MLZ	**Mavora Lakes**	**33.26**	**202**	P	**P**	**18 23 09.0**	**-2.4**
EIDS	**Eidsvold**	**33.36**	**247**	P	**P**	**18 23 10.8**	**-1.7**
DCZ	**Deep Cove**	**33.70**	**203**	P	**P**	**18 23 14.3**	**-0.8**
WHZ	**Wether Hill Ro**	**33.77**	**202**	P	**P**	**18 23 14.7**	**-1.1**
WHZ				IAmb	IAmb	18 23 17.8	
	comp=Z,45nm,0.8s						
ARMA	**Armidale**	**34.18**	**238**	P	**P**	**18 23 17.3**	**-2.3**
ARMA				IAmb	IAmb	18 23 22.1	
	comp=Z,79nm,1.7s						
PATS	**Pohnpei**	**34.43**	**308**	P	**P**	**18 23 21.5**	**-0.3**
CTA	**Charters Tower**	**37.26**	**257**	P	**P**	**18 23 45.5**	**-0.2**
	comp=Z,24nm,0.9s,baz=85,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**37.26**	**257**	P	**P**	**18 23 45.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,41nm,1.1s						
CTAO	**Charters Tower**	**37.26**	**257**	P	**P**	**18 23 45.4**	**-0.2**
CTAO				IAmb	IAmb	18 23 46.5	
	comp=Z,41nm,1.1s						
PMG	**Port Moresby**	**37.47**	**274**	*c i*P	**P**	**18 23 48.5**	**+1.0**
PMG				pmax	pmax		
	comp=Z,237nm,1.1s						
PMG	**Port Moresby**	**37.47**	**274**	P	**P**	**18 23 47.5**	**0.0**
PMG				IAmb	IAmb	18 23 56.0	
	comp=Z,51nm,0.7s						
CAN	**Canberra**	**37.98**	**232**	P	**P**	**18 23 51.1**	**-0.4**
CAN				pmax	pmax		
	comp=Z,29nm,1.4s						
CAN	**Canberra**	**37.98**	**232**	P	**P**	**18 23 51.1**	**-0.4**
WAKE	**Wake Island**	**38.82**	**332**	P	**P**	**18 23 58.7**	**+0.2**
KHU	**Kahuku**	**39.19**	**30**	P	**P**	**18 24 02.3**	**+0.4**
KHU				pmax	pmax		
	comp=Z,100nm,1.1s						
KHU	**Kahuku**	**39.19**	**30**	P	**P**	**18 24 02.3**	**+0.4**
KHU				IAmb	IAmb	18 24 03.5	
	comp=Z,100nm,1.1s						
MANU	**Manus Island**	**39.44**	**286**	P	**P**	**18 24 04.3**	**+0.4**
HLK	**Haleakala**	**40.20**	**28**	P	**P**	**18 24 11.4**	**+1.2**
HLK				IAmb	IAmb	18 24 36.0	
	comp=Z,109nm,1.0s						
COEN	**Coen**	**40.54**	**266**	P	**P**	**18 24 13.5**	**+0.7**
COEN				IAmb	IAmb	18 24 14.8	
	comp=Z,173nm,1.9s						
TOO	**Toolangi**	**41.44**	**230**	P	**P**	**18 24 19.6**	**-0.3**
TOO				pmax	pmax		
	comp=Z,21nm,1.2s						
TOO	**Toolangi**	**41.44**	**230**	P	**P**	**18 24 19.6**	**-0.3**
STKA	**Stephens Creek**	**42.85**	**239**	P	**P**	**18 24 31.1**	**-0.2**
	comp=Z,16nm,0.9s,baz=69,slow=8.3,SNR=24						
STKA				PcP	**PP**	**18 26 17.7**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=16,slow=7.8,SNR=3.3						
STKA	**Stephens Creek**	**42.85**	**239**	P	**P**	**18 24 30.8**	**-0.4**
STKA					**PP**	**18 26 17.1**	**-0.2**
JAY	**Jayapura**	**45.53**	**282**	P	**P**	**18 24 53.2**	**+0.6**
	comp=Z,29nm,0.5s,baz=74,slow=2.8						
JAY	**Jayapura**	**45.53**	**282**	P	**P**	**18 24 52.2**	**-0.4**
GENI	**Genyem**	**46.01**	**281**	P	**P**	**18 24 56.9**	**+0.6**
BBOO	**Buckleboo**	**47.63**	**239**	P	**P**	**18 25 07.9**	**-0.7**
BBOO				IAmb	IAmb	18 25 09.6	
	comp=Z,151nm,1.7s						
WB2	**Warramunga Arr**	**48.45**	**257**	P	**P**	**18 25 13.8**	**-1.2**
WB2				PcP	**PcP**	**18 26 36.4**	**-0.2**
WRAB	**Tennant Creek**	**48.45**	**257**	*d i*P	**P**	**18 25 13.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,36nm,1.0s						
WRAB	**Tennant Creek**	**48.45**	**257**	P	**P**	**18 25 14.5**	**-0.5**
WRAB				PcP	**PcP**	**18 26 36.5**	**0.0**
WRA	**Warramunga Arr**	**48.46**	**257**	P	**P**	**18 25 14.6**	**-0.5**
WRA						18 26 36.6	
WRA				S	**S**	**18 31 58.2**	**+4.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**48.46**	**257**	P	**P**	**18 25 14.5**	**-0.5**
	comp=Z,25nm,0.9s,baz=89,slow=7.0,SNR=109						
WRA				PcP	**PcP**	**18 26 37.0**	**+0.5**
	comp=Z,6.5nm,0.7s,baz=85,slow=4.1,SNR=7.3						
WRA				S	**S**	**18 31 58.2**	**+4.2**
	comp=Z,0.6nm,0.8s,baz=93,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**48.46**	**257**	P	**P**	**18 25 14.6**	**-0.5**
WRA				PcP	**PcP**	**18 26 36.6**	**0.0**
AS31	**Alice Springs**	**48.77**	**252**	P	**P**	**18 25 17.1**	**-0.3**
AS31				IAmb	IAmb	18 25 19.7	
	comp=Z,38nm,0.7s						
AS31				PcP	**PcP**	**18 26 35.2**	**-2.4**
ASAR	**Alice Springs**	**48.77**	**252**	P	**P**	**18 25 17.3**	**-0.2**
	comp=Z,134nm,0.7s,baz=86,slow=8.1,SNR=1089						
ASAR				PcP	**PcP**	**18 26 38.0**	**+0.3**
	comp=Z,6.9nm,0.7s,baz=88,slow=6.6,SNR=6.2						
ASAR				ScP	**ScP**	**18 30 08.5**	**+3.5**
	comp=Z,1.4nm,0.8s,baz=90,slow=3.2,SNR=4.5						
ASAR				S	**S**	**18 31 58.6**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=94,slow=14,SNR=7.2						
ASAR	**Alice Springs**	**48.77**	**252**	P	**P**	**18 25 16.7**	**-0.8**
ASAR				PcP	**PcP**	**18 26 37.5**	**-0.2**
GUMO	**Guam**	**49.03**	**304**	P	**P**	**18 25 18.7**	**-0.7**
GUMO				pmax	pmax		
	comp=Z,863nm,1.9s						
GUMO	**Guam**	**49.03**	**304**	P	**P**	**18 25 18.7**	**-0.7**
RKPI	**Ransiki, Papua**	**52.03**	**280**	P	**P**	**18 25 41.1**	**-0.7**
MTN	**Manton Dam**	**52.29**	**265**	P	**P**	**18 25 43.3**	**-0.4**
MTN				IAmb	IAmb	18 25 44.2	
	comp=Z,59nm,0.8s						
FAKI	**Fak Fak**	**53.45**	**278**	P	**P**	**18 25 51.7**	**-0.5**
KNRA	**Kununurra**	**54.15**	**262**	P	**P**	**18 25 56.6**	**-0.5**
KNRA				IAmb	IAmb	18 25 57.7	
	comp=Z,47nm,1.1s						
FORT	**Forrest**	**54.19**	**243**	P	**P**	**18 25 56.2**	**-1.0**
FORT				IAmb	IAmb	18 25 57.2	
	comp=Z,39nm,0.8s						
FORT					**pP**	**18 26 58.2**	**0.0**
SWI	**Sorong**	**55.01**	**280**	P	**P**	**18 26 03.3**	**0.0**
FITZ	**Fitzroy Crossi**	**56.81**	**258**	P	**P**	**18 26 15.8**	**-0.2**
AAI	**Ambon**	**57.13**	**276**	P	**P**	**18 26 18.4**	**+0.2**
LBMI	**Labuha**	**58.65**	**279**	P	**P**	**18 26 29.4**	**+0.6**
SOEI	**Soe**	**59.48**	**268**	P	**P**	**18 26 35.6**	**+1.0**
SANI	**Sanana**	**59.69**	**277**	P	**P**	**18 26 34.8**	**-1.1**
BATI	**Baumata**	**59.97**	**267**	P	**P**	**18 26 38.6**	**+0.8**
MMRI	**Maumere**	**61.67**	**268**	P	**P**	**18 26 48.5**	**-0.7**
PSA00	**Pilbara Seismi**	**61.85**	**253**	P	**P**	**18 26 49.7**	**-0.6**
PSA00	**Pilbara Seismi**	**61.85**	**253**	P	**P**	**18 26 49.1**	**-1.1**
PSA00				IAmb	IAmb	18 26 50.0	
	comp=Z,55nm,0.8s						
EDFI	**Ende, Flores**	**62.18**	**268**	P	**P**	**18 26 52.0**	**-0.7**
KMSI	**Cibinong**	**62.37**	**279**	P	**P**	**18 26 53.5**	**-0.3**
LUWI	**Luwuk**	**63.06**	**277**	P	**P**	**18 26 58.8**	**+0.5**
SBA	**Scott Base**	**63.29**	**184**	P	**P**	**18 27 01.5**	**+2.8**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SBA	**Scott Base**	**63.29**	**184**	P	**P**	**18 27 01.5**	**+2.8**
KCP	**Kidapawan**	**63.42**	**286**	*‖ i*P	**P**	**18 27 01.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**63.42**	**241**	P	**P**	**18 26 59.8**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,81nm,1.8s						
NWAO	**Narrogin (SRO)**	**63.42**	**241**	P	**P**	**18 26 59.8**	**-0.7**
NWAO				IAmb	IAmb	18 27 02.0	
	comp=Z,81nm,1.8s						
APSI	**Ampana**	**64.17**	**276**	P	**P**	**18 27 05.9**	**+0.3**
WBSI	**Waikabubak, Su**	**64.20**	**267**	P	**P**	**18 27 05.2**	**-0.6**
MRSI	**Marisa**	**64.29**	**278**	P	**P**	**18 27 06.1**	**-0.3**
BKSI	**Bulukumba**	**64.48**	**271**	P	**P**	**18 27 07.4**	**-0.2**
MORW	**Morawa**	**64.63**	**245**	P	**P**	**18 27 07.6**	**-0.7**
MORW				IAmb	IAmb	18 27 08.4	
	comp=Z,23nm,0.9s						
BNSI	**Bone**	**64.73**	**272**	P	**P**	**18 27 09.6**	**+0.4**
KAPI	**Kappang**	**64.92**	**272**	P	**P**	**18 27 10.6**	**+0.2**
KAPI				pmax	pmax		
	comp=Z,26nm,0.6s						
KAPI	**Kappang**	**64.92**	**272**	P	**P**	**18 27 10.6**	**+0.2**
KAPI				IAmb	IAmb	18 27 11.2	
	comp=Z,26nm,0.6s						
SPSI	**Sidrap Palu**	**65.17**	**273**	P	**P**	**18 27 11.2**	**-0.8**
TTSI	**Tana Toraja**	**65.35**	**274**	P	**P**	**18 27 13.4**	**+0.2**
PLAI	**Plampang**	**65.94**	**267**	P	**P**	**18 27 16.0**	**-0.9**
MPSI	**Mapaga**	**66.21**	**277**	P	**P**	**18 27 19.5**	**+0.9**
TWSI	**Taliwang, Sumb**	**66.82**	**267**	P	**P**	**18 27 21.9**	**-0.5**
GIRL	**Giralia**	**66.89**	**252**	P	**P**	**18 27 23.9**	**+1.1**
MJAR	**Matsushiro Arr**	**67.89**	**321**	P	**P**	**18 27 28.4**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MJAR	**Matsushiro Arr**	**67.89**	**321**	P	**P**	**18 27 28.2**	**-0.5**
	comp=Z,4.5nm,0.5s,baz=142,slow=5.8,SNR=18						
MJAR	**Matsushiro Arr**	**67.89**	**321**	P	**P**	**18 27 28.4**	**-0.3**
MAJO	**Matsushiro**	**67.89**	**321**	*d i*P	**P**	**18 27 28.3**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,17nm,1.4s						
MAJO	**Matsushiro**	**67.89**	**321**	P	**P**	**18 27 28.6**	**-0.1**
MAT	**Matsushiro**	**67.89**	**321**	P	**P**	**18 27 28.0**	**-0.7**
MJB9	**Matsu-Tunnel**	**67.90**	**321**	P	**P**	**18 27 29.0**	**+0.3**
NIKH	**Nikolski High**	**68.14**	**4**	P	**P**	**18 27 29.8**	**0.0**
IGBI	**Denpasar**	**68.47**	**266**	P	**P**	**18 27 31.5**	**-1.2**
SRBI	**Singaraja**	**68.57**	**267**	P	**P**	**18 27 32.6**	**-0.8**
KBKI	**Kotabaru**	**68.81**	**272**	P	**P**	**18 27 35.6**	**+0.8**
UNV	**Unalaska Valle**	**69.19**	**5**	P	**P**	**18 27 35.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**69.51**	**267**	P	**P**	**18 27 38.6**	**-0.5**
AKUT	**Akutan**	**69.54**	**6**	P	**P**	**18 27 37.8**	**-0.6**
GMJI	**Gumukmas**	**70.23**	**267**	P	**P**	**18 27 42.4**	**-1.1**
JNU	**Nakatsue**	**70.64**	**314**	P	**P**	**18 27 45.5**	**0.0**
	comp=Z,34nm,0.7s,baz=83,slow=0.9,SNR=35						
JNU	**Nakatsue**	**70.64**	**314**	P	**P**	**18 27 45.5**	**0.0**
ASAJ	**Asahikawa**	**70.65**	**329**	P	**P**	**18 27 46.5**	**+1.2**
	comp=Z,26nm,0.8s,baz=217,slow=5.6,SNR=20						
SDPT	**Sand Point**	**71.38**	**9**	P	**P**	**18 27 48.8**	**-0.6**
KKM	**Kota Kinabalu**	**71.42**	**282**	P	**P**	**18 27 51.1**	**+0.4**
KKM				IAmb	IAmb	18 27 51.7	
	comp=Z,25nm,0.7s						
PET	**Petropavlovsk**	**71.71**	**344**	P	**P**	**18 27 51.6**	**+0.2**
PET				pmax	pmax		
	comp=Z,62nm,1.3s						
PET	**Petropavlovsk**	**71.71**	**344**	P	**P**	**18 27 51.6**	**+0.2**
SCZ2	**Santa Cruz Isl**	**71.86**	**46**	P	**P**	**18 27 54.4**	**+1.6**
	baz=236						
PWJI	**Pagerwojo**	**71.87**	**266**	P	**P**	**18 27 51.8**	**-1.5**
PEA0B	**Petropavlovsk-**	**72.05**	**343**	*d i*P	**P**	**18 27 53.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**72.05**	**343**	P	**P**	**18 27 53.5**	**0.0**
PETK	**Petropavlovsk-**	**72.05**	**343**	P	**P**	**18 27 53.9**	**+0.4**
PETK	**Petropavlovsk-**	**72.05**	**343**	P	**P**	**18 27 53.8**	**+0.3**
	comp=Z,52nm,0.7s,baz=105,slow=9.1,SNR=95						
PETK	**Petropavlovsk-**	**72.05**	**343**	P	**P**	**18 27 53.9**	**+0.4**
SAO	**San Andreas Ge**	**72.20**	**43**	P	**P**	**18 27 55.1**	**+0.3**
SAO				pmax	pmax		
	comp=Z,14nm,1.0s						
SAO	**San Andreas Ge**	**72.20**	**43**	P	**P**	**18 27 55.1**	**+0.3**
SMMC	**Simmler**	**72.34**	**45**	P	**P**	**18 27 57.2**	**+1.6**
	baz=236						
NGJI	**Ngawi**	**72.35**	**267**	P	**P**	**18 27 53.7**

WAKR IAmb IAmb 18 28 10.8
comp=Z,19nm,0.8s
GSC Goldstone, Bar 74.53 46 P P 18 28 09.6 +1.2
baz=238
GSC Goldstone, Bar 74.53 46 P P 18 28 09.8 +1.4
GSC pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 74.53 46 P P 18 28 09.8 +1.4
J01E Myrtle Point 74.54 36 P P 18 28 09.9 +1.7
baz=231
HEC Hector,Ludlow 74.61 47 P P 18 28 10.0 +1.1
baz=239,SNR=7.1
BC3 Big Chuckawall 74.63 48 P P 18 28 10.5 +1.4
baz=240
BEKR Beckworth 74.69 41 P P 18 28 10.2 +0.8
BEKR IAmb IAmb 18 28 11.5
comp=Z,22nm,1.0s
PNTR Pine Nut 74.73 42 P P 18 28 10.3 +0.6
PNTR IAmb IAmb 18 28 12.0
comp=Z,35nm,0.9s
HUMO Hull Mountain 74.76 37 P P 18 28 11.4 +1.9
QSPA South Pole Qui 74.79 180 P P 18 28 10.6 +1.1
comp=Z,3.3nm,0.6s,baz=15,slow=2.1
QSPA South Pole Qui 74.79 180 P P 18 28 10.5 +1.0
QSPA **pwP 18 29 16.5 -1.1**
KPJI Karang Pucung 74.80 266 P P 18 28 09.7 -0.6
VCNR Virginia City 74.81 41 P P 18 28 11.3 +1.2
VCNR IAmb IAmb 18 28 12.4
comp=Z,18nm,0.9s
YERR Yerington 74.90 42 P P 18 28 11.6 +1.0
YERR IAmb IAmb 18 28 12.7
comp=Z,34nm,1.1s
L04D Klamath Falls 74.90 38 P P 18 28 11.8 +1.3
baz=233,SNR=7.1
M04C Macdoel 74.92 38 P P 18 28 11.9 +1.4
baz=233,SNR=8.4
KSRS Korea Array 75.04 316 P P 18 28 12.3 +1.2
comp=Z,9.8nm,0.9s,baz=128,slow=6.6,SNR=28
GRAC Grapevine Rang 75.04 44 P P 18 28 12.8 +1.5
baz=237,SNR=11
KSAR Wonju Array Be 75.06 316 P P 18 28 12.0 +0.8
KSAR Wonju Array Be 75.06 316 P P 18 28 12.0 +0.8
GMRC Granite Mounta 75.06 47 P P 18 28 12.6 +1.1
baz=239,SNR=5.9
KDAK Kodiak Island 75.07 12 *i* P **P 18 28 11.2 +0.4**
KS19 Wonju Array Si 75.10 316 P P 18 28 12.6 +1.1
KS19 IAmb IAmb 18 28 13.5
comp=Z,22nm,1.1s
FURC Furnace Creek, 75.10 45 P P 18 28 12.9 +1.4
baz=238
IRM Iron Mountain 75.11 48 P P 18 28 13.2 +1.5
baz=240,SNR=8.3
RYN Ryan 75.16 42 P P 18 28 13.0 +1.0
NVAR Mina Array Bea 75.20 43 P P 18 28 13.6 +1.3
comp=Z,18nm,0.8s,baz=228,slow=9.4,SNR=56
NVAR Mina Array Bea 75.20 43 P P 18 28 13.1 +0.8
SHOC Shoshone, Teco 75.21 46 P P 18 28 13.3 +1.1
baz=238
I03D Drain, OR 75.21 36 P P 18 28 13.7 +1.7
baz=231
TUQ Turquoise Moun 75.21 46 P P 18 28 13.5 +1.1
baz=239
PAHR Pah Rah Range 75.22 41 P P 18 28 13.3 +1.0
PAHR IAmb IAmb 18 28 14.6
comp=Z,19nm,1.0s
NV11 Mina Array Sit 75.30 43 P P 18 28 14.0 +1.2
NV11 IAmb IAmb 18 28 15.1
comp=Z,34nm,1.1s
Y12C Blythe 75.35 48 P P 18 28 14.6 +1.6
baz=240
Y12C Blythe 75.35 48 P P 18 28 14.5 +1.5
Y12C IAmb IAmb 18 28 15.6
comp=Z,20nm,0.9s
113A Mohawk Valley, 75.42 50 P P 18 28 14.7 +1.3
TYV Tymovskoe 75.56 334 *e*P **P 18 28 14.1 +0.3**
TYV *e*S **S 18 37 26.7 -3.6**
TYV pmax pmax
comp=Z,43nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.3s
TYV smax smax
comp=N,14nm,1.3s
TYV smax smax
comp=N,600nm,8.2s
J04D Umpqua Nationa 75.64 37 P P 18 28 16.2 +1.6
baz=232
KVN Kaiserville 75.67 42 P P 18 28 15.9 +0.9
KVN pmax pmax
comp=Z,20nm,1.0s
KVN Kaiserville 75.67 42 P P 18 28 15.9 +0.9
KVN IAmb IAmb 18 28 17.1
comp=Z,20nm,1.0s
KSM Kuching 75.72 276 P P 18 28 16.2 +0.6
214A Organ Pipe Nat 75.74 51 P P 18 28 16.3 +1.0
baz=242
TPNV Topopah Spring 75.77 45 P P 18 28 16.7 +1.1
baz=238,SNR=8.3
TPNV Topopah Spring 75.77 45 P P 18 28 16.6 +1.1
TPNV pmax pmax
comp=Z,13nm,0.8s
TPNV Topopah Spring 75.77 45 P P 18 28 16.6 +1.0
CISI Cisompet, Garu 75.82 266 P P 18 28 15.7 -0.5
PDMCI Parker Dam,Lak 75.90 48 P P 18 28 17.6 +1.6
baz=240,SNR=5.0
MSHR Mys Shultsa 75.91 322⇑ *e*P **P 18 28 17.5 +1.6**
MOD Modoc Plateau 75.91 39 P P 18 28 17.1 +0.9
MOD IAmb IAmb 18 28 18.3
comp=Z,26nm,1.0s
H04D Lebanon 76.06 36 P P 18 28 18.0 +1.2
baz=232
J05D Fort Rock, OR 76.17 37 P P 18 28 19.0 +1.4
baz=233,SNR=14
LEM Lembang 76.19 267 P P 18 28 18.1 -0.3
G03D McMinnville, O 76.20 35 P P 18 28 18.7 +1.2
baz=231
SHPR Sheep Range 76.29 46 P P 18 28 19.6 +1.1
USA0B Ussuriysk Arra 76.39 324⇑ *i*P **P 18 28 19.7 +1.1**
USRK Ussuriysk Ar. 76.39 324 P P 18 28 19.5 +0.9
comp=Z,4.1nm,0.6s,baz=132,slow=4.7,SNR=10
H04A Detroit Lake 76.47 36 P P 18 28 19.9 +0.7
H04A IAmb IAmb 18 28 20.9
comp=Z,37nm,1.2s
W13A Hualapai Mount 76.48 48 P P 18 28 20.4 +0.8
Y14A Wickenburg 76.55 49 P P 18 28 21.1 +1.3
Y14A IAmb IAmb 18 28 22.2
comp=Z,22nm,0.8s
PINE Pine Mountain 76.65 37 P P 18 28 21.4 +1.1
PINE IAmb IAmb 18 28 22.9
comp=Z,33nm,0.9s
I05D Terrebonne, OR 76.75 36 P P 18 28 21.8 +1.2
baz=233
E03A Lebam 76.88 34 P P 18 28 22.0 +0.8
E03A IAmb IAmb 18 28 24.5
comp=Z,46nm,1.1s
R11A Troy Canyon, C 76.95 44 P P 18 28 23.1 +0.8
baz=238,SNR=15
R11A Troy Canyon, C 76.95 44 P P 18 28 23.0 +0.8
BMN Battle Mountai 77.00 41 P P 18 28 23.2 +0.9
BMN pmax pmax
comp=Z,20nm,0.9s
BMN Battle Mountai 77.00 41 P P 18 28 23.2 +0.9
BMN IAmb IAmb 18 28 24.4
comp=Z,20nm,0.9s
E04D Cinebar 77.42 34 P P 18 28 25.7 +1.4
baz=232
TUC Tucson 77.43 51 P P 18 28 26.3 +1.5
TUC pmax pmax
comp=Z,14nm,0.9s
TUC Tucson 77.43 51 P P 18 28 26.3 +1.5
RSO Redoubt South 77.53 11 P P 18 28 24.7 -0.2
F05D White Salmon 77.61 35 P P 18 28 26.8 +1.4
baz=232
D03D Eldon 77.75 33 P P 18 28 27.4 +1.3
baz=231,SNR=5.5
LCMT Little Creek M 77.88 46 P P 18 28 28.2 +1.0
X16A Lo Mia Camp, P 77.91 49 P P 18 28 28.8 +1.2
X16A IAmb IAmb 18 28 30.4
comp=Z,30nm,0.8s
CCUT Cedar City 78.06 46 P P 18 28 29.2 +0.9
D05A Enumclaw 78.12 34 P P 18 28 29.9 +1.7
319A Douglas 78.15 53 P P 18 28 30.4 +1.6
319A IAmb IAmb 18 28 31.6
comp=Z,25nm,0.9s
KNB Kanab 78.17 46 P P 18 28 30.3 +1.4
KNB pmax pmax
comp=Z,9.0nm,0.7s
KNB Kanab 78.17 46 P P 18 28 30.2 +1.4
PSUT Pine Spring 78.22 45 P P 18 28 29.9 +0.7
U15A North Rim 78.26 47 P P 18 28 31.0 +1.5
U15A IAmb IAmb 18 28 32.3
comp=Z,22nm,0.9s
PGC Sidney 78.28 32 P P 18 28 29.6 +0.7
PGC IAmb IAmb 18 28 30.8
comp=Z,36nm,0.8s
GRNR Gornyy 78.30 331 *e*P **P 18 28 29.4 +0.4**
GRNR pmax pmax
comp=Z,12nm,0.9s
ELK Elko 78.44 42 P P 18 28 30.8 +0.5
ELK pmax pmax
comp=Z,17nm,1.1s
ELK Elko 78.44 42 P P 18 28 30.8 +0.5
F07A Phinny Hill Vi 78.48 36 P P 18 28 31.0 +0.9
F07A IAmb IAmb 18 28 32.0
comp=Z,20nm,1.1s
WUAZ Wupatki 78.48 48 P P 18 28 32.2 +1.6
baz=242
WUAZ Wupatki 78.48 48 P P 18 28 31.8 +1.3
WUAZ IAmb IAmb 18 28 33.3
comp=Z,22nm,1.1s
G08A Pilot Rock 78.67 37 P P 18 28 32.2 +0.9
G08A IAmb IAmb 18 28 33.4
comp=Z,25nm,1.0s
A04D Lummi Island 78.70 32 P P 18 28 32.1 +0.9
baz=231
B05A Bryant 78.73 33 P P 18 28 32.4 +1.0
baz=232,SNR=7.6
PKCU Pink Cliffs 78.73 46 P P 18 28 33.5 +1.4
LTY Liberty 78.88 34 P P 18 28 32.9 +0.5
E07A Sunnyside 78.91 35 P P 18 28 33.0 +0.6
E07A IAmb IAmb 18 28 34.6
comp=Z,26nm,0.9s
NJ2 Nanjing 78.92 308 *e*P **P 18 28 33.0 +0.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
HAWA Hanford 78.99 35 P P 18 28 33.7 +0.8
HAWA IAmb IAmb 18 28 34.9
comp=Z,25nm,1.0s
X18A Snowflake 79.06 50 P P 18 28 35.2 +1.4
X18A IAmb IAmb 18 28 36.4
comp=Z,15nm,0.8s
GLI Glacier Island 79.07 13 P P 18 28 33.0 0.0
MTPU Mount Pierson 79.11 46 P P 18 28 35.8 +1.6
C06D Leavenworth 79.16 34 P P 18 28 34.5 +0.7
baz=233
B06A Marblemount 79.21 33 P P 18 28 33.9 -0.1
B06A IAmb IAmb 18 28 35.4
comp=Z,38nm,1.4s
KNK Knik Glacier 79.25 13 P P 18 28 33.9 -0.1
KNK IAmb IAmb 18 28 35.1
comp=Z,30nm,1.0s
E08A Dider Farm, El 79.31 36 P P 18 28 35.4 +0.7
E08A IAmb IAmb 18 28 36.7
comp=Z,30nm,1.1s
MSU Marysvale 79.35 45 P P 18 28 36.8 +1.5
MSU Marysvale 79.35 45 P P 18 28 36.8 +1.5
BMO Blue Mountains 79.39 38 P P 18 28 35.4 +0.2
BMO pmax pmax
comp=Z,13nm,1.0s
BMO Blue Mountains 79.39 38 P P 18 28 35.4 +0.2
GHO Glory Hole Cre 79.48 12 P P 18 28 35.2 0.0
MFID Camas Ranch 79.49 39 P P 18 28 36.4 +0.6
MFID IAmb IAmb 18 28 37.7
comp=Z,20nm,1.1s
KASI Kota Agung 79.51 267 P P 18 28 36.2 -0.2
MA2 Magadan 79.59 343 P P 18 28 35.6 -0.2
MA2 pmax pmax
comp=Z,358nm,2.0s
MA2 Magadan 79.59 343 P P 18 28 35.4 -0.3
comp=Z,30nm,0.9s,baz=116,slow=8.8,SNR=6.0
MA2 Magadan 79.59 343 P P 18 28 35.6 -0.2
KLR Kul'dur 79.61 328⇓ *e*P **P 18 28 36.3 +0.2**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 79.61 328 P P 18 28 36.5 +0.4
comp=Z,2.8nm,0.7s,baz=108,slow=2.5,SNR=10
DUG Dugway, Tooele 79.75 43 P P 18 28 37.9 +0.6
baz=240
DUG Dugway, Tooele 79.75 43 P P 18 28 37.9 +0.6
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway, Tooele 79.75 43 P P 18 28 37.9 +0.6
121A Cookes Peak, D 79.80 52 P P 18 28 39.7 +1.9
baz=245,SNR=8.3
121A Cookes Peak, D 79.80 52 P P 18 28 39.1 +1.3
121A IAmb IAmb 18 28 40.8
comp=Z,16nm,0.8s
SCM Sheep Creek Mo 79.87 13 P P 18 28 37.5 +0.1
SCM pmax pmax
comp=Z,51nm,1.1s
SCM Sheep Creek Mo 79.87 13 P P 18 28 37.5 +0.1
CRQM Cirque 79.91 15 P P 18 28 38.1 +0.4
BGU Big Grassy Mou 79.97 43 P P 18 28 38.7 +0.2
TGL Tana Glacier 79.98 15 P P 18 28 38.5 +0.5
TGL IAmb IAmb 18 28 39.0
comp=Z,25nm,0.8s
CN2 Changchun 80.04 321 *e*P **P 18 28 38.8 +0.2**
CN2 *e*pP pP 18 29 44.8 -0.3
CN2 pmax pmax
comp=Z,20nm,0.8s
LWLI Liwa 80.06 267 P P 18 28 39.0 -0.5
F10A Beach Ranch, E 80.06 37 P P 18 28 39.0 +0.3
F10A IAmb IAmb 18 28 40.2
comp=Z,19nm,0.8s
Q16A Castle Valley 80.23 45 P P 18 28 41.2 +1.2
VRDI Verde Repeater 80.23 15 P P 18 28 39.9 +0.5
VRDI IAmb IAmb 18 28 40.8
comp=Z,42nm,1.2s
B08A Colville Reser 80.26 34 P P 18 28 40.1 +0.4
B08A IAmb IAmb 18 28 40.9
comp=Z,18nm,0.9s
PLID Pearl Lake 80.29 38 P P 18 28 40.5 +0.4
GLB Gilahina Butte 80.33 15 P P 18 28 39.9 +0.2
BALM Baldy 80.35 15 P P 18 28 40.2 +0.2
BALM IAmb IAmb 18 28 40.8
comp=Z,21nm,0.7s
TMUT Trail Mountain 80.39 45 P P 18 28 42.4 +1.5
C09A Chrisman Ranch 80.51 35 P P 18 28 41.5 +0.5
C09A IAmb IAmb 18 28 42.6
comp=Z,16nm,0.9s
CTGM Chitina Glacie 80.55 16 P P 18 28 41.6 +0.5
CTGM IAmb IAmb 18 28 42.5
comp=Z,33nm,0.9s
HVU Hansel Valley 80.56 42 P P 18 28 42.4 +0.8
HVU pmax pmax
comp=Z,14nm,0.8s
HVU Hansel Valley 80.56 42 P P 18 28 42.4 +0.8
CTU Camp Tracy 80.70 43 P P 18 28 43.2 +0.8
TRF Thorofare Moun 80.74 11 P P 18 28 41.9 -0.1
TRF IAmb IAmb 18 28 44.5
comp=Z,30nm,0.9s
SRU San Rafael Swe 80.77 45 P P 18 28 43.7 +0.9
SRU pmax pmax
comp=Z,14nm,0.9s
SRU San Rafael Swe 80.77 45 P P 18 28 43.7 +0.9
P17A Butcher Ranch, 80.79 45 P P 18 28 44.4 +1.5
JLU Jordanelle 80.85 44 P P 18 28 44.1 +0.8
DHY Denali Highway 80.97 12 P P 18 28 43.2 -0.1
DHY IAmb IAmb 18 28 44.3
comp=Z,24nm,1.3s
RND Reindeer 80.97 12 P P 18 28 43.6 +0.5
RND pmax pmax
comp=Z,47nm,1.0s
RND Reindeer 80.97 12 P P 18 28 43.6 +0.5
LENM Lemitar 81.11 51 P P 18 28 46.2 +1.5
TCUT Toone Canyon 81.13 43 P P 18 28 45.8 +1.1
MCK McKinley 81.25 11 P P 18 28 44.5 -0.1
MCK pmax pmax
comp=Z,54nm,0.9s
MCK McKinley 81.25 11 P P 18 28 44.5 -0.1
PV05 Paradox Valley 81.28 47 P P 18 28 46.9 +1.4
PV05 IAmb IAmb 18 28 48.2
comp=Z,48nm,1.5s
MNTX Cornudas Mount 81.31 54 P P 18 28 47.1 +1.5
baz=246,SNR=5.7
MNTX Cornudas Mount 81.31 54 P P 18 28 46.9 +1.3
MNTX IAmb IAmb 18 28 48.1
comp=Z,32nm,1.6s
MVCO Mesa Verde 81.31 48 P P 18 28 47.0 +1.3
baz=243
BNM Barren Site 81.36 51 P P 18 28 47.5 +1.4
NEW Newport 81.41 35 P P 18 28 45.9 +0.2
baz=236
NEW Newport 81.41 35 P P 18 28 46.0 +0.2
NEW pmax pmax
comp=Z,14nm,1.3s
NEW Newport 81.41 35 P P 18 28 46.0 +0.2
LPM Los Pinos Moun 81.43 51 P P 18 28 47.8 +1.4
PV09 Paradox Valley 81.45 46 P P 18 28 47.1 +0.6
PV19 Morning Glory 81.47 47 P P 18 28 47.4 +0.8
PV19 IAmb IAmb 18 28 48.6
comp=Z,29nm,1.2s
PV18 Skein Mesa, Pa 81.49 47 P P 18 28 47.4 +0.8
PV20 West Nyswonger 81.49 47 P P 18 28 47.5 +0.9
PV20 IAmb IAmb 18 28 48.7
comp=Z,22nm,1.0s
HYT Haines Junctio 81.50 18 P P 18 28 46.6 +0.6
HYT IAmb IAmb 18 28 48.0
comp=Z,38nm,1.3s
PV23 Carpenter Ridg 81.51 46 P P 18 28 47.4 +0.6
PV23 IAmb IAmb 18 28 49.0
comp=Z,27nm,0.8s
PV13 Radium Mtn., P 81.51 47 P P 18 28 47.3 +0.5
PV13 IAmb IAmb 18 28 48.9
comp=Z,20nm,1.2s
PV16 Nyswonger Mesa 81.51 47 P P 18 28 47.7 +1.0
PV16 IAmb IAmb 18 28 49.0
comp=Z,20nm,1.2s
PV03 Paradox Valley 81.53 47 P P 18 28 47.6 +0.7
PV11 David Mesa, Pa 81.54 47 P P 18 28 47.0 +0.2
PV11 IAmb IAmb 18 28 49.7
comp=Z,38nm,1.4s
BWN Browne 81.56 11 P P 18 28 45.9 -0.2
PV04 Paradox Valley 81.56 47 P P 18 28 47.5 +0.6
PV04 IAmb IAmb 18 28 49.2
comp=Z,21nm,0.8s
PV21 Cone Mtn., Par 81.58 46 P P 18 28 48.5 +1.3
PV21 IAmb IAmb 18 28 49.5
comp=Z,18nm,0.8s
PV02 Paradox Valley 81.59 47 P P 18 28 48.1 +0.9
PV12 Saucer Basin, 81.60 47 P P 18 28 48.1 +1.0
PV12 IAmb IAmb 18 28 49.4
comp=Z,19nm,0.8s
MENT Mentasta 81.65 14 P P 18 28 47.3 +0.7
MENT IAmb IAmb 18 28 48.3
comp=Z,36nm,1.1s
PV01 Paradox Valley 81.68 47 P P 18 28 47.6 0.0
PV01 IAmb IAmb 18 28 49.6
comp=Z,18nm,0.8s
PV22 Blue Mesa, Par 81.70 46 P P 18 28 48.2 +0.4
TX32 Lajitas Array 81.74 57 P P 18 28 48.7 +0.7
TXAR Lajitas Array 81.74 57 P P 18 28 49.8 +1.8
comp=Z,3.2nm,0.8s,baz=224,slow=5.2,SNR=27
TXAR Lajitas Array 81.74 57 P P 18 28 48.9 +1.0
PV07 Paradox Valley 81.76 47 P P 18 28 49.0 +1.0
ANMO Albuquerque 81.83 51 *d i*P **P 18 28 49.7 +1.3**
ANMO pmax pmax
comp=Z,28nm,1.2s
ANMO Albuquerque 81.83 51 P P 18 28 49.1 +0.7
ANMO IAmb IAmb 18 28 50.9
comp=Z,27nm,1.1s
SEY Seymchan 82.00 346 P P 18 28 48.5 +0.1
comp=Z,54nm,0.9s,baz=146,slow=5.6,SNR=46
MCMT McKenzie Canyo 82.06 39 P P 18 28 50.2 +0.8
WRH Wood River Hil 82.08 11 P P 18 28 48.2 -0.6
RIDG Independent Ri 82.09 13 P P 18 28 49.3 +0.4
RIDG IAmb IAmb 18 28 50.2
comp=Z,45nm,1.2s
RDMU Red Mountain 82.10 44 P P 18 28 50.5 +0.7
AHID Auburn Hatcher 82.13 42 P P 18 28 50.4 +0.5
AHID IAmb IAmb 18 28 51.8
comp=Z,43nm,1.4s
DOT Dot Lake 82.19 13 P P 18 28 49.1 -0.3
DOT IAmb IAmb 18 28 50.7
comp=Z,29nm,0.9s
BCAR Beaver Creek A 82.22 15 P P 18 28 49.2 -0.4
HDA Harding Lake 82.25 12 P P 18 28 49.8 +0.1
baz=207
HDA Harding Lake 82.25 12 P P 18 28 49.0 -0.6
CCB Clear Creek Bu 82.30 11 P P 18 28 49.0 -0.9
MSO Missoula 82.44 37 P P 18 28 51.3 +0.1
baz=238,SNR=6.5
MSO Missoula 82.44 37 P P 18 28 51.1 -0.1
MSO IAmb IAmb 18 28 52.5
comp=Z,28nm,1.4s
DLMT Dillon 82.48 39 P P 18 28 52.4 +0.9
DLMT IAmb IAmb 18 28 53.6
comp=Z,19nm,0.8s
TCOL CIGO, UAF Yank 82.49 11 P P 18 28 50.9 +0.1
baz=206
COLA College 82.49 11 P P 18 28 50.7 -0.2
COLA *PP **pP 18 29 56.7 -0.2**
COLA pmax pmax
comp=Z,79nm,1.1s
COLA College 82.49 11 P P 18 28 50.7 -0.2
COLA pP **pP 18 29 56.7 -0.2**
MDM Murphy Dome 82.50 11 P P 18 28 50.6 -0.4
MDM pP **pP 18 29 57.2 +0.2**
IMAR Indian Mountai 82.53 9 P P 18 28 51.4 +0.3
IMAR pP **pP 18 29 57.3 +0.4**
TPAW Teton Pass 82.58 41 P P 18 28 52.7 +0.4
REDW Red Top Meadow 82.58 41 P P 18 28 52.7 +0.5
REDW IAmb IAmb 18 28 54.3
comp=Z,45nm,1.2s
IL31 82.58 12 P P 18 28 50.8 -0.6
ILAR Eielson Array 82.58 12 P P 18 28 51.1 -0.3
comp=Z,20nm,1.0s,baz=221,slow=5.2,SNR=104
ILAR Eielson Array 82.58 12 P P 18 28 50.6 -0.8
ILAR **pP 18 29 56.8 -0.6**
FXWY Fox Creek 82.60 41 P P 18 28 53.0 +0.8
FXWY IAmb IAmb 18 28 55.2
comp=Z,12nm,0.8s
SNOW Snow King Moun 82.69 41 P P 18 28 54.0 +1.3
S22A 4UR Ranch, Cre 82.74 48 P P 18 28 54.7 +1.4
baz=244,SNR=18
S22A 4UR Ranch, Cre 82.74 48 P P 18 28 54.4 +1.1
IMW Indian Meadow 82.78 41 P P 18 28 54.2 +1.0
POKR Poker Plat Res 82.79 11 P P 18 28 52.4 0.0
baz=207
LRM Limekiln Ridge 82.80 39 P P 18 28 53.8 +0.6
O20A White River Ci 82.80 45 P P 18 28 54.3 +1.0
baz=243,SNR=9.1
O20A White River Ci 82.80 45 P P 18 28 53.8 +0.5
O20A IAmb IAmb 18 28 55.3
comp=Z,19nm,0.8s
MOOW Moose Ponds 82.83 41 P P 18 28 53.7 +0.2
QLMT Earthquake Lak 82.93 40 P P 18 28 55.3 +1.4
FLWY Flagg Ranch 83.02 41 P P 18 28 55.5 +1.1
FLWY IAmb IAmb 18 28 56.9
comp=Z,33nm,0.9s
YHB Horse Butte 83.04 40 P P 18 28 56.0 +1.5
YHL Hebgen Lake 83.09 40 P P 18 28 56.4 +1.5
BW06 Boulder Array 83.13 42 P P 18 28 55.3 +0.3
baz=242,SNR=21
BW06 Boulder Array 83.13 42 P P 18 28 55.2 +0.2
BW06 IAmb IAmb 18 28 56.4
comp=Z,23nm,0.7s
PD31 Pinedale Array 83.13 42 P P 18 28 54.8 -0.2
PD31 IAmb IAmb 18 28 56.4
comp=Z,20nm,0.7s
PDAR Pinedale Array 83.13 42 P P 18 28 55.7 +0.7
comp=Z,20nm,0.7s,baz=211,slow=3.2,SNR=182
PDAR Pinedale Array 83.13 42 P P 18 28 54.8 -0.2
BOZ Bozeman (W) 83.19 39 P P 18 28 56.2 +1.1
baz=240
H17A Grant Village 83.25 41 P P 18 28 57.8 +2.2
baz=241,SNR=5.7
H17A Grant Village 83.25 41 P P 18 28 57.5 +1.8
H17A IAmb IAmb 18 28 58.9
comp=Z,15nm,0.8s
SMCO Snowmass 83.26 46 P P 18 28 56.7 +0.7
SMCO IAmb IAmb 18 28 58.0
comp=Z,20nm,0.9s
YHH Holmes Hill 83.27 40 P P 18 28 57.0 +1.3
YNR Norris Junctio 83.34 40 P P 18 28 57.1 +1.0
PRP Porcupine Dome 83.52 12 P P 18 28 56.2 -0.1
PRP pP **pP 18 30 02.6 +0.5**
RDOG Red Dog Mine 83.53 5 P P 18 28 57.1 +1.0
RDOG IAmb IAmb 18 28 58.1
comp=Z,25nm,0.8s
HRY Holter Researc 83.62 38 P P 18 28 57.8 +0.6
DAWY Dawson 83.64 15 P P 18 28 57.2 +0.3
SDCO Great Sand Dun 83.70 48 P P 18 28 58.9 +0.8
baz=245
EGAK Eagle 83.81 14 P P 18 28 57.8 +0.1

EGAK IAmb IAmb 18 28 59.3
comp=Z,30nm,0.9s
BILL Bilibino 84.17 353 *d* iP **P** **18 28 59.2 -0.1**
BILL *e**PP **pwP** **18 30 09.4 -2.1**
BILL *i* 18 32 18.9
BILL *e*S **S** **18 38 56.7 -2.6**
BILL pmax pmax
comp=Z,38nm,0.9s
BILL Bilibino 84.17 353 P **P** **18 28 59.3 -0.1**
BILL IAmb IAmb 18 29 00.8
comp=Z,28nm,0.8s
RWWY Rawlins 84.19 44 P **P** **18 29 00.1 -0.4**
RWWY IAmb IAmb 18 29 01.6
comp=Z,16nm,0.8s
MSTX Muleshoe 84.22 53 P **P** **18 29 01.4 +0.8**
baz=247
MSTX Muleshoe 84.22 53 P **P** **18 29 01.0 +0.5**
MSTX IAmb IAmb 18 29 02.2
comp=Z,16nm,1.0s
COLD Coldfoot 84.22 9 P **P** **18 29 00.5 +0.8**
COLD IAmb IAmb 18 29 02.3
comp=Z,20nm,1.2s
BJT Baijiatuau 84.31 314 P **P** **18 29 01.0 +0.3**
BJT pmax pmax
comp=Z,23nm,1.0s
BJT Baijiatuau 84.31 314 P **P** **18 29 01.0 +0.3**
BJT IAmb IAmb 18 29 02.8
comp=Z,23nm,1.0s
BJI Beijing 84.31 314⇑ *i*P **P** **18 29 02.0 +1.3**
BJI pmax pmax
comp=Z,25nm,1.0s
RLMT Red Lodge 84.42 40 P **P** **18 29 02.5 +1.1**
baz=242,SNR=8.1
RLMT Red Lodge 84.42 40 P **P** **18 29 02.2 +0.8**
RLMT IAmb IAmb 18 29 03.7
comp=Z,20nm,1.1s
Q24A Divide 84.45 47 P **P** **18 29 02.6 +0.7**
baz=246
ISCO Idaho Springs 84.48 46 P **P** **18 29 02.7 +0.8**
baz=245
ISCO Idaho Springs 84.48 46 P **P** **18 29 02.0 +0.1**
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO Idaho Springs 84.48 46 P **P** **18 29 02.0 +0.1**
N23A Red Feather La 84.71 45 P **P** **18 29 03.9 +0.9**
baz=245,SNR=5.7
N23A Red Feather La 84.71 45 P **P** **18 29 03.4 +0.4**
K22A Casper 85.07 44 P **P** **18 29 05.8 +1.1**
baz=244
K22A Casper 85.07 44 P **P** **18 29 05.2 +0.6**
PHWY Pilot Hill 85.22 45 P **P** **18 29 05.1 -0.4**
PHWY IAmb IAmb 18 29 06.4
comp=Z,25nm,1.0s
JCT Junction City 85.28 57 P **P** **18 29 06.3 +0.5**
baz=249
JCT Junction City 85.28 57 P **P** **18 29 06.2 +0.4**
JCT pmax pmax
comp=Z,10.0nm,0.9s
JCT Junction City 85.28 57 P **P** **18 29 06.2 +0.4**
BMAR Burnt Mountain 85.38 11 P **P** **18 29 06.0 +0.5**
BMAR pP **pP** **18 30 12.0 +0.3**
AMTX Amarillo 85.40 52 P **P** **18 29 06.6 +0.3**
baz=248
IPM Ipoh 85.46 276 P **P** **18 29 07.4 +0.4**
EGMT Eagleton 85.50 38 P **P** **18 29 07.1 +0.6**
baz=242
EGMT Eagleton 85.50 38 P **P** **18 29 06.9 +0.4**
ENH Enshi 85.61 303 P **P** **18 29 07.7 +0.3**
ENH IAmb IAmb 18 29 09.4
comp=Z,28nm,0.8s
ENH pP **pwP** **18 30 15.9 -1.1**
TOLK Toolik Lake Re 85.62 9 P **P** **18 29 07.1 +0.5**
baz=204
TOLK Toolik Lake Re 85.62 9 P **P** **18 29 06.8 +0.3**
ABTX Abilene, Hawle 86.16 55 P **P** **18 29 09.9 -0.1**
ABTX IAmb IAmb 18 29 12.5
comp=Z,16nm,1.1s
EPYK Eagle Plains 86.18 14 P **P** **18 29 10.0 +0.7**
baz=217
EPYK Eagle Plains 86.18 14 P **P** **18 29 09.2 -0.2**
EPYK IAmb IAmb 18 29 10.6
comp=Z,42nm,1.4s
SKLT Songkhla 86.57 278 P **P** **18 29 15.9 +3.5**
SKLT Songkhla 86.57 278 P **P** **18 29 15.9 +3.5**
RPSI Rantau Prapat 87.00 274 P **P** **18 29 14.1 -0.4**
RPSI IAmb IAmb 18 29 15.8
comp=Z,31nm,1.3s
LAO LASA Array 87.02 40 P **P** **18 29 15.2 +1.3**
baz=244
PSI Prapat 87.03 274 P **P** **18 29 14.1 -0.7**
PSI pmax pmax
comp=Z,31nm,1.3s
NONG Nongkai 87.24 289 P **P** **18 29 17.1 +1.6**
RSSD Black Hills 87.34 43 P **P** **18 29 15.8 +0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 87.34 43 P **P** **18 29 15.8 +0.1**
XAN Xi'an 87.36 306 P **P** **18 29 16.1 +0.3**
XAN sP sP 18 30 53.0 +0.1
XAN PP **PP** **18 32 47.7 +2.7**
XAN SKS **SKSac** **18 39 12.7 -3.2**
XAN S **S** **18 39 29.6 -2.2**
XAN pmax pmax
comp=Z,37nm,1.2s
XAN pmax pmax
comp=Z,170nm,5.4s
XAN Xi'an 87.36 306 P **P** **18 29 16.3 +0.5**
XAN pmax pmax
comp=Z,36nm,1.0s
XAN Xi'an 87.36 306 P **P** **18 29 16.3 +0.5**
MAW Mawson 87.47 199 P **P** **18 29 16.0 +0.4**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 87.47 199 P **P** **18 29 16.4 +0.8**
comp=Z,11nm,0.7s,baz=133,slow=5.3,SNR=47
MAW Mawson 87.47 199 P **P** **18 29 16.0 +0.4**
SLVN Son La 87.52 293 P **P** **18 29 16.9 +0.1**
WMOK Wichita Mounta 87.57 53 P **P** **18 29 17.5 +0.7**
baz=250
TRTT Trang 87.63 279 P **P** **18 29 19.7 +2.3**
TRTT Trang 87.63 279 P **P** **18 29 19.7 +2.3**
comp=Z,61nm,1.1s,comp=Z,724nm
CHAI Chaiyaphum 87.69 287 P **P** **18 29 18.8 +1.2**
HHC Hu-ho-hao-te 87.86 313 *e*P **P** **18 29 20.2 +2.1**
HHC pmax pmax
comp=Z,11nm,1.3s
YAK Yakutsk 88.40 337 *e*P **P** **18 29 18.3 -1.6**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK Yakutsk 88.40 337 P **P** **18 29 18.9 -1.0**
comp=N,13nm,0.7s,baz=54,slow=1.6,SNR=14
YAK Yakutsk 88.40 337 P **P** **18 29 18.9 -1.0**
INK Inuvik 88.47 14 P **P** **18 29 19.6 -0.5**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 88.47 14 P **P** **18 29 19.6 -0.5**
SURT Suratani 88.79 280 P **P** **18 29 25.2 +2.4**
comp=Z,50nm,1.3s
PBKT Sadao Pong 88.81 287 P **P** **18 29 25.0 +2.1**
PBKT Sadao Pong 88.81 287 P **P** **18 29 24.5 +1.6**
PBKT IAmb IAmb 18 29 26.7
comp=Z,10nm,0.8s
BTO Baotou 88.86 313 *e*P **P** **18 29 24.5 +1.7**
DGMT Dagmar 89.02 39 P **P** **18 29 24.4 +1.2**
baz=246
DGMT Dagmar 89.02 39 P **P** **18 29 24.0 +0.7**
PHET Kaeng Krachan 89.06 284 P **P** **18 29 26.8 +2.7**
comp=Z,55μm,1.0s
KMI Kunming 89.65 296 P **P** **18 29 28.8 +1.8**
KMI pP pP 18 30 33.1 -1.6
KMI sP sP 18 31 01.4 -2.9
KMI pmax pmax
comp=Z,25nm,1.5s
KMI Kunming 89.65 296 P **P** **18 29 28.5 +1.6**
KMI pmax pmax
comp=Z,63nm,1.5s
KMI Kunming 89.65 296 P **P** **18 29 28.5 +1.6**
UTHA Uthaitani 89.94 286 P **P** **18 29 30.2 +2.0**
comp=Z,64μm,0.9s,comp=Z,472μm
CD2 Chengdu 90.49 302 *e*P **P** **18 29 31.0 +0.5**
KHLT Khaolaem Dam 90.54 285 P **P** **18 29 29.9 -1.1**
comp=Z,29nm,0.9s
YKA Yellowknife Ar 90.54 24 P **P** **18 29 30.0 +0.1**
YKA Yellowknife Ar 90.54 24 P **P** **18 29 30.0 +0.1**
comp=Z,1.9nm,0.6s,baz=235,slow=4.6,SNR=4.1
LAMP Lampang 90.57 289 P **P** **18 29 33.3 +2.2**
comp=Z,81μm,0.9s,comp=Z,652μm
PAYA Payao 90.58 290 P **P** **18 29 32.7 +1.5**
comp=Z,65μm,0.8s,comp=Z,674μm
UMPA Umpang Tak 90.66 287 P **P** **18 29 33.5 +1.9**
comp=Z,64μm,0.9s,comp=Z,517μm
KSU1 Kansas State U 90.68 50 P **P** **18 29 32.1 +0.9**
baz=251
CM31 Chiang Mai Arr 91.19 289 P **P** **18 29 35.5 +1.6**
CMAR Chiang Mai Arr 91.19 289 P **P** **18 29 35.5 +1.6**
comp=Z,16nm,0.8s,baz=94,slow=2.8,SNR=109
CMAR Chiang Mai Arr 91.19 289 P **P** **18 29 34.9 +0.9**
CMMT Chiang Mai 91.28 289 P **P** **18 29 35.6 +1.2**
comp=Z,19nm,0.9s,comp=Z,246nm
CHTO Chiang Mai 91.28 289 P **P** **18 29 35.0 +0.6**
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO Chiang Mai 91.28 289 P **P** **18 29 35.0 +0.6**
W39A Magazine 91.61 54 P **P** **18 29 36.1 +0.6**
baz=252
C36M Paulatuk 91.61 16 P **P** **18 29 35.6 +0.9**
baz=228
LZH Lanzhou 91.97 307 *e*P **P** **18 29 38.6 +1.2**
LZH pP pwP 18 30 46.6 -1.1
LZH sP sP 18 31 16.1 +1.3
LZH pmax pmax
comp=Z,29nm,1.1s
MHMT Maesarieng 92.04 288 P **P** **18 29 41.6 +3.7**
comp=Z,18nm,0.8s
ECSD EROS Data Cent 92.18 45 P **P** **18 29 38.4 +0.4**
baz=251
SYO Syowa Base 92.45 192⇓ *e*P **P** **18 29 37.0 -1.8**
SYO Syowa Base 92.45 192⇑ *e*pP pP 18 30 47.8 +1.3
U40A Yellville 92.67 53 P **P** **18 29 41.1 +0.7**
baz=253
U40A Yellville 92.67 53 P **P** **18 29 40.2 -0.2**
U40A IAmb IAmb 18 29 41.5
comp=Z,12nm,1.1s
W41B Gary Mavity, V 92.80 54 P **P** **18 29 41.8 +0.8**
baz=253
MGMO Mountain Grove 93.35 53 P **P** **18 29 43.7 +0.2**
ULN Ulaanbaatar 93.36 319 *de*P **P** **18 29 43.5 0.0**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 93.36 319 P **P** **18 29 43.0 -0.5**
SONM Songino Array 93.76 319 P **P** **18 29 45.6 +0.3**
comp=Z,1.6nm,0.6s,baz=150,slow=3.3,SNR=5.1
SONM Songino Array 93.76 319 P **P** **18 29 45.3 0.0**
EFI East Falkland 93.84 146⇑ *e*P **P** **18 29 46.6 +1.1**
EFI pmax pmax
comp=Z,193nm,2.9s
TIXI Tiksi 94.47 345⇓ *e*P **P** **18 29 48.1 +0.3**
TIXI pmax pmax
comp=Z,16nm,0.8s
L40A Anamosa 95.47 48 P **P** **18 29 53.2 +0.1**
baz=254
L40A Anamosa 95.47 48 P **P** **18 29 52.9 -0.2**
GTA Gaotai 95.95 309⇓ P **P** **18 29 55.9 +0.4**
GTA pmax pmax
comp=Z,7.0nm,1.1s
G39A Holcombe 96.36 45 P **P** **18 29 57.0 -0.1**
baz=255
JFWS Jewell Farm 96.39 47 P **P** **18 29 57.3 0.0**
baz=255
E38A The Farm, Brul 96.45 44 P **P** **18 29 58.8 +1.4**
baz=255
I42A Draeger Farm, 97.58 47 P **P** **18 30 02.4 -0.2**
baz=256
H56A Elgin 106.65 47 P **PKiKP** **18 34 51.8 -0.1**
baz=265
NRIK Noril'sk 106.81 338 PKiKP **PKiKP** **18 34 51.8 +0.4**
comp=Z,1.7nm,0.3s,baz=343,slow=19,SNR=2.0
ZALV Zalesovo Beam 108.21 322 PKiKP **PKiKP** **18 34 53.8 -0.7**
comp=Z,1.2nm,0.5s,baz=217,slow=1.8,SNR=7.1
ZALV Zalesovo Beam 108.21 322 **PKiKP** **18 34 52.5 -2.0**
MKAR Makanchi Array 109.68 315 Pdiff **Pdif** **18 30 56.9 +0.5**
comp=Z,0.6nm,0.7s,baz=91,slow=4.5,SNR=2.4
MKAR PKiKP **PKiKP** **18 34 56.9 -0.7**
comp=Z,3.2nm,0.7s,baz=146,slow=0.7,SNR=20
KURK Kurchatov 112.07 319 *c i*PKIKP **PKiKP** **18 35 01.1 -0.7**
KURK Kurchatov 112.07 319 **PKiKP** **18 35 00.8 -1.0**
KURBB Kurchatov Arra 112.13 319 PKiKP **PKiKP** **18 35 00.5 -1.5**
comp=Z,3.7nm,0.7s,baz=92,slow=1.9,SNR=23
KSH Kashi 114.22 307 *e*PKP PKPdf 18 35 05.5 -1.0
KSH PKS **PKSdf** **18 38 40.8 -2.5**
AAK Ala-Archa 115.27 310 PKP **PKPdf** **18 35 07.9 -0.6**
comp=Z,0.6nm,0.4s,baz=200,slow=18,SNR=3.6
BVAR Borovoye Array 116.87 322 PKP **PKPdf** **18 35 10.6 -0.4**
comp=Z,9.1nm,0.7s,baz=95,slow=1.1,SNR=57
BRVK Borovoye 116.92 322 *d i*PKIKP **PKPdf** **18 35 10.6 -0.5**
BRVK Borovoye 116.92 322 **PKPdf** **18 35 10.2 -0.9**
KK31 Karatay Array 118.17 311 PKIKP **PKPdf** **18 35 12.9 -1.0**
KK31 Karatay Array 118.17 311 **PKPdf** **18 35 12.9 -1.0**
KKAR Karatay Array 118.17 311 PKIKP **PKPdf** **18 35 13.2 -0.7**
KKAR Karatay Array 118.17 311 **PKPdf** **18 35 12.6 -1.2**
KKAR Karatay Array 118.17 311 **PKPdf** **18 35 13.2 -0.7**
KBL Kabul 119.83 301 PKIKP **PKPdf** **18 35 17.4 -0.1**
KBL Kabul 119.83 301 **PKPdf** **18 35 17.4 -0.1**
SVE Sverdlovsk 121.23 328 *e*PKIKP **PKiKP** **18 35 19.5 +0.1**
SVE pmax pmax
comp=Z,11nm,0.9s
ARU Arti 122.45 328 *i* PKIKP **PKPdf** **18 35 21.4 -0.2**
ARU 18 37 02.2
ARU 18 42 06.5
ARU Arti 122.45 328 PKP **PKPdf** **18 35 21.6 0.0**
comp=Z,5.9nm,0.5s,baz=21,slow=0.4,SNR=32
ARU Arti 122.45 328 **PKPdf** **18 35 20.7 -0.9**
LVZ Lovozero 124.03 347⇓ *i*PKIKP **PKiKP** **18 35 25.7 +1.0**
ABKAR Akbulak array 124.16 320 **PKPdf** **18 35 24.4 -0.7**
ABKAR Akbulak array 124.16 320 **PKPdf** **18 35 24.7 -0.5**
ARCES ARCESS Array B 124.25 351 PKP **PKPdf** **18 35 24.7 -0.1**
comp=Z,15nm,0.6s,baz=19,slow=1.3,SNR=54
ARCES ARCESS Array B 124.25 351 **PKPdf** **18 35 24.3 -0.4**
AKTO Aktyubinsk 124.96 321 PKP **PKPdf** **18 35 26.7 +0.1**
comp=Z,5.2nm,0.8s,baz=100,slow=3.6,SNR=17
PRGR Permogore 125.45 338 *e*PKIKP **PKPdf** **18 35 24.4 -2.8**
PRGR pmax pmax
comp=Z,15nm,0.8s
KIRV Kirov 125.75 333 PKP **PKiKP** **18 35 28.3 0.0**
comp=Z,15nm,0.7s,baz=33,slow=4.4,SNR=4.9
KLMR Klimovskoe 128.15 339 *e*PKIKP **PKPdf** **18 35 31.4 -1.0**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 128.15 339 *e*PKPdf **PKPdf** **18 35 31.4 -1.0**
KLMR AMP 18 35 33.6
comp=Z,23nm,1.3s
GEYT Alibeck 128.25 306 PKhKP PKPpre 18 35 20.1
comp=Z,1.4nm,0.4s,baz=2.8,slow=5.9,SNR=4.9
GEYT PKP **PKPdf** **18 35 32.9 -0.5**
comp=Z,1.0nm,0.3s,baz=158,slow=1.6,SNR=5.3
GEYT Alibeck 128.25 306 PKPpre 18 35 19.0
GEYT PKPdf **PKPdf** **18 35 32.3 -1.0**
FINES FINESS Array B 131.47 347 PKhKP PKPpre 18 35 27.9
comp=Z,1.5nm,0.6s,baz=202,slow=3.0,SNR=5.8
FINES PKP **PKPdf** **18 35 39.1 +0.5**
comp=Z,4.3nm,0.5s,baz=19,slow=3.4,SNR=23
FINES FINESS Array B 131.47 347 PKPpre 18 35 26.6
FINES **PKPdf** **18 35 39.0 +0.4**
BOSA Boshof 132.23 204 PKIKP **PKiKP** **18 35 42.4 -0.1**
BOSA Boshof 132.23 204 PKP **PKiKP** **18 35 42.2 -0.3**
comp=Z,4.0nm,0.9s,baz=162,slow=6.2,SNR=4.8
BOSA Boshof 132.23 204 **PKiKP** **18 35 42.4 -0.1**
OBN Obninsk 133.38 336⇑ *e*PKIKP **PKPdf** **18 35 42.6 +0.2**
OBN *e* 18 36 47.5
OBN *i* 18 38 18.1
OBN pmax pmax
comp=Z,8.0nm,0.5s
NB2 NORSAR Subarra 134.06 356 PKP PKPpre 18 35 32.8
comp=Z,4.6nm,1.0s,baz=17,slow=2.6
NOA NORSAR Array B 134.06 356 PKhKP PKPpre 18 35 32.8
comp=Z,1.1nm,0.7s,baz=36,slow=2.1,SNR=5.0
NOA PKP **PKPdf** **18 35 44.0 +0.4**
comp=Z,2.6nm,1.0s,baz=56,slow=1.6,SNR=5.0
ZEI Tsey 136.93 317 *i* PKIKP **PKiKP** **18 35 51.4 -0.3**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 137.13 319 PKP **PKiKP** **18 35 51.4 -0.3**
comp=Z,1.8nm,0.8s,baz=165,slow=1.3,SNR=5.1
KIV Kislovodsk 137.15 320 *e*PKIKP **PKiKP** **18 35 51.4 -0.5**
KIV pmax pmax
comp=Z,14nm,1.1s
GNI Garni 137.52 314⇓ *i*PKIKP **PKiKP** **18 35 52.1 -0.8**
GNI Garni 137.52 314 PKP **PKPdf** **18 35 51.2 +0.3**
comp=Z,2.0nm,0.3s,baz=342,slow=11,SNR=3.7
GNI Garni 137.52 314 **PKPdf** **18 35 50.8 -0.1**
AKASG Malin Array Be 139.63 336 PKhKP PKPpre 18 35 46.0
comp=Z,0.6nm,0.3s,baz=37,slow=3.6,SNR=4.0
AKASG PKP **PKPdf** **18 35 54.2 0.0**
comp=Z,4.9nm,0.9s,baz=32,slow=2.7,SNR=5.9
AKASG Malin Array Be 139.63 336 PKPpre 18 35 45.0
AKASG PKPdf **PKPdf** **18 35 53.5 -0.7**
AKBB Malin Array Si 139.63 336 PKHKP PKPpre 18 35 46.7
AKBB Malin Array Si 139.63 336 PKPpre 18 35 46.7
RAYN Ar Rayn 141.10 289 **PKPdf** **18 35 52.6 -5.2**
LVV L'vov 142.23 340 *e*PKIKP **PKiKP** **18 36 02.6 +0.6**
KIS Kishinev 142.69 333 *e*PKP PKiKP 18 36 16.0 +13
KIS Kishinev 142.69 333 *e*PKIKP PKiKP 18 36 16.0 +13
KWP Kalwaria Pacla 142.82 341 *e*PKP **PKPdf** **18 35 56.7 -3.3**
KWP *e*PKP **PKPdf** **18 35 56.7 -3.3**
KWP Kalwaria Pacla 142.82 341 **PKPdf** **18 35 56.2 -3.7**
ATD Arta Tunnel 143.12 269 PKP **PKPdf** **18 36 01.0 -0.5**
comp=Z,6.9nm,0.7s,baz=200,slow=4.9,SNR=4.0
KSP Ksiaz 143.36 348 *e*PKIKP PKPbc 18 35 59.0 +0.1
KSP Ksiaz 143.36 348 *e*PKP PKPbc 18 35 59.0 +0.1
KSP *e*PKP PKPbc 18 35 59.0 +0.1
CLL Collm 143.47 352⇓ *i*PKIKP PKPab 18 35 58.5 +0.4
CLL pmax pmax
comp=Z,17nm,0.6s
CLL Collm 143.47 352⇓ *i*PKPdf PKPab 18 35 58.5 +0.4
comp=Z,17nm,0.6s
CLL *i* PKiKP **PKPdf** **18 36 02.2 +1.2**
CLL *e* 18 36 05.0
CLL Collm 143.47 352 PKPab 18 35 58.3 +0.3
BZK Bozkurt 143.54 323⇓ P PKPbc 18 36 00.2 +0.6
KOLS Kolonicke sedl 143.57 341 *e*PKIKP **PKPdf** **18 36 00.5 -0.8**
KOLS Kolonicke sedl 143.57 341 *e*PKP **PKPdf** **18 36 00.5 -0.8**
TSUM Tsumeb 143.62 200 PKPbc 18 36 01.1 +0.4
CHVC Chvalec 143.65 348 *e*PKP PKPab 18 35 59.0 +0.2
CHVC *ex* x 18 36 02.2
BUR08 Bucovina Ar. S 143.65 337 PKPab 18 35 59.5 +0.4
BURAR Bucovina Array 143.67 337⇑ PKIKP PKPbc 18 36 00.0 0.0
BURAR Bucovina Array 143.67 337⇑ P PKPbc 18 35 60.0 0.0
BURAR Bucovina Array 143.67 337 PKPab 18 35 59.1 0.0
NIE Niedzica 143.73 343 *e*PKIKP PKPbc 18 36 00.2 +0.2
NIE Niedzica 143.73 343 *e*PKP PKPbc 18 36 00.2 +0.2
NIE *e*PKP PKPbc 18 36 00.2 +0.2
UPC Upice 143.74 348 *e*PKIKP PKPbc 18 36 00.2 +0.3
UPC Upice 143.74 348⇓ *e*PKP PKPbc 18 36 00.2 +0.3
BRG Berggiesshubel 143.75 351 *e*PKP PKPbc 18 36 00.1 +0.1
comp=Z,8.9nm,0.9s
BRG *e* 18 36 38.0
comp=Z,8.4nm,1.2s
BRG Berggiesshubel 143.75 351 *e*PKIKP PKPbc 18 36 00.1 +0.1
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.2s
DPC Dobruska-Polom 143.82 348 *e*PKIKP PKPab 18 35 59.8 +0.2
DPC Dobruska-Polom 143.82 348 *e*PKP PKPab 18 35 59.8 +0.2
UZH Uzhgorod 143.83 341 *e*PKIKP PKPbc 18 35 59.9 -0.3
UZH *e* 18 37 13.7
BIZ Bicaz 143.88 335⇑ P PKPbc 18 36 00.6 +0.1
OKC Ostrava-Krasne 143.90 346 *e*PKIKP PKPab 18 35 59.8 0.0
OKC Ostrava-Krasne 143.90 346⇓ *e*PKP PKPab 18 35 59.8 0.0
PVCC Panska Ves 143.98 350 *e*PKIKP PKPbc 18 36 01.2 +0.6
PVCC Panska Ves 143.98 350⇓ *e*PKP PKPbc 18 36 01.2 +0.6
KRLC Kraliky 143.99 347 *e*PKIKP PKPbc 18 36 00.7 0.0
KRLC Kraliky 143.99 347 *e*PKP PKPbc 18 36 00.7 0.0
KRLC *ex* x 18 36 04.1
TESR Tescani 144.00 334⇓ P PKPbc 18 36 00.9 +0.1
TLCR 144.07 331⇑ PKIKP **PKPdf** **18 36 01.7 -0.5**
TLCR 144.07 331⇑ P **PKPdf** **18 36 01.7 -0.5**
MORC Moravsky Berou 144.10 346⇓ PKIKP PKPbc 18 36 01.4 +0.3
MORC Moravsky Berou 144.10 346⇓ P PKPbc 18 36 01.4 +0.3
MORC Moravsky Berou 144.10 346⇓ *i*PKP PKPbc 18 36 01.2 +0.1
MORC Moravsky Berou 144.10 346 **PKPab** **18 36 00.5 -0.1**
GAZ Gaziantep 144.12 314 PKPbc 18 36 02.0 +0.4
TRPA Tarpa 144.19 340⇓ P PKPbc 18 36 01.5 +0.2
LANS Liptovska Anna 144.20 344 *e*PKIKP **PKPdf** **18 36 02.5 +0.1**
LANS Liptovska Anna 144.20 344 *e*PKP **PKPdf** **18 36 02.5 +0.1**
BMR Baia Mare 144.25 339⇑ PKIKP PKPbc 18 36 02.0 +0.5
BMR Baia Mare 144.25 339⇑ P **PKPdf** **18 36 02.0 -0.5**
ILGA Ilgaz 144.27 322 **PKPdf** **18 36 02.8 -0.2**
KMBO Kilima Mbogo 144.28 246 PKP **PKPdf** **18 36 04.1 +0.2**
comp=Z,21nm,0.9s,baz=74,slow=5.0,SNR=50
KMBO Kilima Mbogo 144.28 246 **PKPdf** **18 36 03.5 -0.4**
PETR Petresti 144.37 333⇑ P **PKPdf** **18 36 03.3 +0.5**
CFR Carcaliu 144.39 332⇓ PKIKP PKPbc 18 36 02.1 +0.1
CFR Carcaliu 144.39 332⇓ P PKPbc 18 36 02.1 +0.2
ODBI Odobesti 144.42 333⇑ P **PKPdf** **18 36 03.3 +0.5**
ARCR ARCALIA 144.44 337⇓ P **PKPdf** **18 36 02.9 0.0**
PRA Prague 144.45 350 *e*PKIKP **PKPdf** **18 36 02.5 -0.3**
PRA Prague 144.45 350⇓ *e*PKP **PKPdf** **18 36 02.5 -0.3**
VRI Vrincioaia 144.48 334⇑ PKIKP PKPbc 18 36 02.6 +0.3
VRI Vrincioaia 144.48 334⇑ P PKPbc 18 36 02.6 +0.3
TOPG Topolog 144.50 331⇑ P **PKPdf** **18 36 03.1 +0.1**
PRU Pruhonice 144.51 349 *e*PKIKP **PKPab** **18 36 01.8 -0.3**
PRU Pruhonice 144.51 349⇓ *e*PKP **PKPab** **18 36 01.8 -0.3**
PRU *ex* x 18 36 06.7
KECS Kecovo 144.52 342 *e*PKIKP **PKPdf** **18 36 02.9 -0.1**
KECS Kecovo 144.52 342 *e*PKP **PKPdf** **18 36 02.9 -0.1**
PLOR Plostina 144.52 334⇑ PKIKP **PKPdf** **18 36 02.8 -0.3**
PLOR Plostina 144.52 334⇑ P PKPbc 18 36 02.8 +0.3
GOPC GO Pecny, Ondr 144.54 349 *e*PKIKP **PKPab** **18 36 02.3 0.0**
GOPC GO Pecny, Ondr 144.54 349 *e*PKP **PKPab** **18 36 02.3 0.0**
NKC Novy Kostel 144.60 352 *e*PKIKP PKPbc 18 36 02.6 +0.1
NKC Novy Kostel 144.60 352⇓ *e*PKP PKPbc 18 36 02.6 +0.1
OZUR 144.69 335⇓ P **PKPdf** **18 36 03.7 +0.3**
MEM Membach 144.72 359 PKPbc PKPbc 18 36 02.7 -0.1
MEM PKPdf **PKPdf** **18 36 03.3 +0.1**
MEM x x 18 36 04.4
MEM PKiKP **PKiKP** **18 36 06.8 -0.3**
BISRR Bisoca 144.74 333⇓ P **PKPdf** **18 36 03.7 +0.1**
VRAC Vranov 144.75 347⇓ PKIKP **PKPdf** **18 36 03.5 +0.1**
VRAC Vranov 144.75 347⇓ P **PKPdf** **18 36 03.5 +0.1**
VRAC Vranov 144.75 347⇓ *i*PKP **PKPdf** **18 36 03.4 +0.1**
BSTI Sart Tilman 144.75 359 PKPdf **PKPdf** **18 36 03.3 0.0**
TIRR Tirgusor 144.80 331⇑ PKIKP **PKPdf** **18 36 03.9 +0.4**
TIRR Tirgusor 144.80 331⇑ P **PKPdf** **18 36 03.9 +0.4**
SNF Senefte 144.82 1 PKPdf **PKPdf** **18 36 03.4 0.0**
HARR Harsova 144.85 331⇑ PKIKP **PKPdf** **18 36 04.2 +0.6**
HARR Harsova 144.85 331⇑ P **PKPdf** **18 36 04.2 +0.6**
TLB Topalu 144.88 331⇓ PKIKP **PKPab** **18 36 04.2 +0.5**
TLB Topalu 144.88 331⇓ P **PKPab** **18 36 04.2 +0.5**
PBCC Pribram 144.90 350⇓ *e*PKP PKPbc 18 36 03.5 +0.1
BCLA Clavier 144.92 360 PKPdf PKPbc 18 36 03.0 -0.4
BCLA PKiKP **PKiKP** **18 36 06.9 -0.6**
JAVC Velka Javorina 144.93 346⇓ *i*PKP **PKPab** **18 36 05.1 +1.3**
DOPR Dopca 144.96 335⇓ P **PKPab** **18 36 04.9 +0.8**
VYHS Vyhne 144.97 344 *e*PKIKP **PKPab** **18 36 04.4 +0.4**
VYHS Vyhne 144.97 344 *e*PKP **PKPab** **18 36 04.4 +0.4**
BHOU Houvegnez 144.98 359 PKPdf **PKPab** **18 36 04.2 +0.3**
TREC Trest 145.00 348 *e*PKIKP **PKPdf** **18 36 03.9 +0.1**
TREC Trest 145.00 348⇓ *e*PKP **PKPdf** **18 36 03.9 +0.1**
TREC *ex* x 18 36 07.7
MFTR Murfatlar 145.01 330⇑ P **PKPab** **18 36 04.8 +0.6**
KRUC Moravsky 145.03 347⇓ *i*PKP **PKPab** **18 36 04.1 0.0**
CJR Cluj-Napoca 145.03 338⇑ PKIKP **PKPab** **18 36 04.6 +0.3**
CJR Cluj-Napoca 145.03 338⇑ P **PKPab** **18 36 04.6 +0.3**
BMRD Maredsous 145.04 0 PKPdf **PKPab** **18 36 04.0 -0.1**
MLR Muntele Rosu 145.11 334⇓ PKP2 **PKPbc** **18 36 04.5 +0.1**
MLR Muntele Rosu 145.11 334 PKPbc **PKPdf** **18 36 04.3 0.0**
comp=Z,73nm,0.9s,baz=181,slow=3.2,SNR=72
MLR Muntele Rosu 145.11 334⇓ P **PKPbc** **18 36 04.5 +0.1**
MLR Muntele Rosu 145.11 334 **PKPdf** **18 36 04.0 -0.2**
BR131 Keskin Array S 145.11 320 PKP2 **PKPdf** **18 36 04.3 -0.2**
BR131 Keskin Array S 145.11 320 **PKPdf** **18 36 04.3 -0.2**
BRTR Keskin Array B 145.11 320 PKPbc **PKPab** **18 36 04.8 -0.2**
comp=Z,18nm,0.8s,baz=71,slow=2.7,SNR=110
BRTR Keskin Array B 145.11 320 PKPdf **PKPbc** **18 36 04.5 -0.1**
ISR Istrita 145.15 333⇑ PKP2 **PKPab** **18 36 05.0 +0.2**
ISR Istrita 145.15 333⇑ P **PKPab** **18 36 05.0 +0.2**
AMRR Amara 145.19 332⇑ PKP2 **PKPab** **18 36 05.7 +0.8**
AMRR Amara 145.19 332⇑ P **PKPab** **18 36 05.7 +0.8**
PSZ Piszkesteto 145.20 342 PKIKP **PKPdf** **18 36 04.0 -0.2**
PSZ Piszkesteto 145.20 342 **PKPdf** **18 36 04.0 -0.2**
DOU Dourbes 145.24 1 PKPdf **PKPab** **18 36 04.8 -0.1**
DOU PKiKP **PKiKP** **18 36 07.3 -0.9**
DRGR 145.28 339⇓ PKP2 **PKPbc** **18 36 05.0 +0.2**
DRGR 145.28 339⇓ P **PKPbc** **18 36 05.0 +0.2**
GRA1 Grafenberg Arr 145.29 353 **PKPab** **18 36 04.9 -0.2**
GRF Grafenberg Arr 145.29 353 PKP2 **PKPab** **18 36 04.9 -0.2**

SMOL	Smolenice	145.31 346	*e*PKP2	PKPab	18 36 06.1	+0.9
SMOL	Smolenice	145.31 346	*e*PKP	PKPab	18 36 06.1	+0.9
SECR		145.42 333	⇓P	PKPab	18 36 05.7	-0.1
MODS	Modra-Piesok	145.47 346	*e*PKP2	PKPbc	18 36 05.3	0.0
MODS	Modra-Piesok	145.47 346	*e*PKP	PKPbc	18 36 05.3	0.0
KHC	Kasperske Hory	145.50 350	PKP2	PKPbc	18 36 05.1	-0.2
KHC	Kasperske Hory	145.50 350	*e*PKP	PKPbc	18 36 05.4	0.0
KHC			*e*pPKP	pPKPdf	18 37 17.0	+0.8
KHC	Kasperske Hory	145.50 350		PKPbc	18 36 05.1	-0.2
VOIR		145.53 335	⇑PKP2	PKPab	18 36 06.3	0.0
VOIR		145.53 335	⇑P	PKPab	18 36 06.3	0.0
ANTO	Ankara	145.55 321	⇓PKP2	PKPab	18 36 06.7	+0.1
ANTO	Ankara	145.55 321	⇓P	PKPab	18 36 06.7	+0.1
ANTO	Ankara	145.55 321		PKPdf	18 36 05.4	+0.3
BR231	Keskin MP Arra	145.57 321		PKPbc	18 36 06.0	0.0
WLF	Walferdange	145.66 359	PKP2	PKPab	18 36 06.4	-0.2
WLF	Walferdange	145.66 359	PKPdf	PKPab	18 36 06.7	+0.2
WLF	Walferdange	145.66 359		PKPab	18 36 06.4	-0.2
ARR	Arges	145.75 335	⇓P	PKPbc	18 36 06.5	+0.3
GEC2	GERESS Array S	145.76 350		PKPdf	18 36 05.4	+0.2
GERES	GERESS Array B	145.76 350	PKPbc	PKPbc	18 36 06.4	+0.2
	comp=Z,14nm,0.7s,baz=24,slow=3.9,SNR=109					
GERES	GERESS Array B	145.76 350		PKPdf	18 36 04.9	-0.3
LOT	Lotru	146.03 336	⇑P	PKPbc	18 36 07.1	0.0
CONA	Conrad Observa	146.22 347	*e*PKPab	PKPbc	18 36 08.2	+0.6
	comp=Z,49nm,0.7s,SNR=19					
STU	Stuttgart	146.40 355	PKIKP	PKPdf	18 36 06.9	+0.7
STU	Stuttgart	146.40 355		PKPdf	18 36 06.9	+0.7
GZR	Gura Zlata	146.45 337	⇓PKIKP	PKPbc	18 36 08.2	-0.1
GZR	Gura Zlata	146.45 337	⇓P	PKPbc	18 36 08.2	-0.1
ASF	Jabal al Asfar	146.53 306	PKPbc	PKPbc	18 36 09.7	+0.8
	comp=Z,9.6nm,0.8s,baz=37,slow=2.5,SNR=17					
MOA	Molln	146.62 349	*e*PKPab	PKPbc	18 36 09.1	+0.4
	comp=Z,16nm,0.6s,SNR=11					
BZS	Buzias	146.68 339	⇓PKIKP	PKPdf	18 36 07.2	+0.5
BZS	Buzias	146.68 339	⇓P	PKPdf	18 36 07.2	+0.5
BFO	Black Forest	146.90 356	PKP2	PKPbc	18 36 09.5	+0.1
BFO	Black Forest	146.90 356		PKPbc	18 36 09.5	+0.1
ARSA	Arzberg	146.93 347	*e*PKPbc	PKPbc	18 36 09.3	-0.2
	comp=Z,13nm,0.7s,SNR=6.5					
VLAD	Vladila	146.96 334	⇓P	PKPbc	18 36 10.3	+0.6
HERR	Herculane	147.02 337	⇓P	PKPbc	18 36 09.5	-0.3
ECH	Echery	147.08 357	PKP2	PKPbc	18 36 10.0	+0.1
ECH	Echery	147.08 357		PKPbc	18 36 10.0	+0.1
MORH	Mrgy, Hungar	147.10 343	*e*P	PKPdf	18 36 07.4	0.0
ELND	Elena	147.16 331	⇓P	PKPbc	18 36 09.8	-0.5
CLF	Chambon-Foret	147.23 4		PKPbc	18 36 10.5	+0.3
MMAI	Mount Meron Ar	147.34 308	PKPbc	PKPbc	18 36 11.9	+0.7
	comp=Z,33nm,0.6s,baz=70,slow=7.4,SNR=63					
PLVB	Pleven	147.36 333	⇑P	PKPbc	18 36 11.6	+0.8
MDVR	Moldovita	147.37 338	⇑P	PKiKP	18 36 12.3	-0.5
RETA	Reutte	147.51 353	*e*PKPbc	PKPbc	18 36 11.4	+0.2
	comp=Z,35nm,1.0s,SNR=6.8					
KBA	Koelnbreinsper	147.53 349	*e*PKPbc	PKPbc	18 36 10.9	-0.5
	comp=Z,20nm,0.5s,SNR=7.3					
WATA	Walderalm	147.56 352	*e*PKPbc	PKPbc	18 36 11.3	-0.1
	comp=Z,16nm,0.6s,SNR=6.7					
SOKA	Soboth	147.58 347	*e*PKPbc	PKPdf	18 36 08.9	+0.6
	comp=Z,29nm,1.1s					
MOTA	Moosalm	147.61 352	*e*PKPdf	PKPdf	18 36 08.7	+0.2
	comp=Z,45nm,1.1s,SNR=7.9					
WTTA	Wattenberg	147.62 352	*i* PKiKP	PKPbc	18 36 11.8	+0.2
	comp=Z,52nm,0.6s,SNR=15					
FRGS	Fruska Gora	147.70 340	*e*P	PKPbc	18 36 11.6	0.0
SQTA	Sankt Quirin	147.72 352	*e*PKPdf	PKPdf	18 36 09.1	+0.5
	comp=Z,13nm,0.6s,SNR=6.8					
KALN	Kalnik	147.77 345	*i* P	PKPbc	18 36 11.6	-0.2
DAVA	Damuels	147.81 354	*i* PKiKP	PKPbc	18 36 12.4	+0.3
	comp=Z,39nm,0.7s,SNR=9.4					
OBKA	Obir	147.84 348	*e*PKPbc	PKPbc	18 36 11.2	-0.9
	comp=Z,18nm,1.1s					
MYKA	Terra Mystica	147.91 349	*e*PKPdf	PKPdf	18 36 09.4	+0.5
	comp=Z,16nm,0.6s,SNR=6.4					
CSS	Mathiatis	147.94 313		PKPbc	18 36 12.0	-0.6
FETA	Feichten	147.97 353	*e*PKPdf	PKPdf	18 36 09.4	+0.3
	comp=Z,15nm,0.7s,SNR=5.5					
ABTA	Abfaltersbach	147.99 350	*e*PKPdf	PKPdf	18 36 08.8	-0.2
	comp=Z,26nm,0.7s,SNR=12					
PTJ	Puntijarka	148.10 346	*i* P	PKPbc	18 36 12.9	+0.2
LEF	Lefka	148.17 314	⇓P	PKPbc	18 36 12.6	-0.5
MOSL	Moslavina	148.18 344	*i* P	PKPbc	18 36 12.9	0.0
GCIS	Gornji Cirnik	148.22 346	*i* PKPbc	PKPbc	18 36 13.0	+0.1
LJU	Ljubljana	148.29 347	*e*P	PKPbc	18 36 13.0	-0.1
CRES	Cresnjev	148.29 346	*e*P	PKPbc	18 36 13.0	-0.2
CRNS	Crni Vrh	148.31 348	*i* PKPbc	PKPbc	18 36 12.9	-0.4
STAL	STALIGIAL	148.43 350		PKPbc	18 36 12.9	-0.7
BALB	Balikesir	148.56 325		PKPbc	18 36 13.6	-0.4
DIVS	Divibare	148.57 339	⇓*i*P	PKPbc	18 36 14.1	+0.1
VTS	Vitosha	148.58 334	⇓P	PKPdf	18 36 10.6	+0.5
VTS	Vitosha	148.58 334	PKPdf	PKPdf	18 36 09.4	-0.8
VTS				PKPbc	18 36 13.9	-0.3
CEY	Cerknica	148.60 347	⇓*i*P	PKPbc	18 36 13.7	-0.3
TUE	Stuetta	148.67 354		PKPdf	18 36 10.2	0.0
TUE			PKPbc	PKPbc	18 36 14.9	+0.5
CTI	Castel Tesino	148.80 351	PKIKP	PKPdf	18 36 09.7	-0.7
CTI	Castel Tesino	148.80 351	PKPdf	PKPdf	18 36 09.7	-0.7
CTI				PKPbc	18 36 14.0	-0.6
BLY	Banja Luka	148.86 343	⇓*i*P	PKPbc	18 36 14.9	+0.3
BLY	Banja Luka	148.86 343	⇑P	PKiKP	18 36 15.3	-0.5
BLY	Banja Luka	148.86 343	PKPdf	PKPdf	18 36 10.5	+0.2
BLY				PKPbc	18 36 14.8	+0.3
SENIN	Lac Senin/Sane	148.92 357	PKPdf	PKPdf	18 36 11.3	+0.7
SENIN				PKiKP	18 36 15.7	-0.5
HAPS	Han Pijesak,Bl	148.93 340	*e*P	PKPbc	18 36 14.3	-0.7
MANT	Manisa	148.96 323		PKPbc	18 36 15.5	+0.1
BBLS	Lazići	148.98 340	⇓*i*P	PKPbc	18 36 14.8	-0.2
EIL	Elat	149.01 303	PKPbc	PKPbc	18 36 16.0	+0.5
	comp=Z,15nm,0.8s,baz=344,slow=2.2,SNR=18					
MGRS	Mrkonjic Grad	149.19 343	*e*P	PKPab	18 36 20.2	-0.6
RUDO	Rudo	149.21 340	*e*P	PKPbc	18 36 15.0	-0.5
ELL	Elmali	149.25 319	PKP2	PKPbc	18 36 15.8	-0.2
ELL	Elmali	149.25 319		PKPbc	18 36 15.8	-0.2
EZN	Ezine	149.27 327	⇓PKP2	PKPbc	18 36 15.9	+0.1
EZN	Ezine	149.27 327	⇓P	PKPbc	18 36 15.8	+0.1
SALO	Salr	149.38 353		PKPbc	18 36 13.7	-2.2
UDBI	Udbina	149.44 345	*i* P	PKPbc	18 36 16.1	0.0
TEOL	Teolo	149.47 351		PKPbc	18 36 16.2	+0.1
BRJN	Brijuni	149.54 348	*i* P	PKPbc	18 36 14.8	-1.4
NVLJ	Novalja	149.62 346	*i* P	PKPbc	18 36 16.2	-0.2
STIP	Stip	149.78 334	*i* P	PKPbc	18 36 16.7	-0.3
SKO	Skopje	149.89 335	*i* P	PKiKP	18 36 17.6	-0.4
VAY	Valandovo	149.93 333	*i* P	PKPbc	18 36 17.2	-0.1
SSB	Saint Sauveur	150.06 1	PKIKP	PKPdf	18 36 11.8	-0.5
SSB	Saint Sauveur	150.06 1		PKPdf	18 36 11.8	-0.5
SSB			PKPbc	PKiKP	18 36 18.5	+0.1
MORI	Morici	150.07 345	*i* P	PKPbc	18 36 17.3	-0.3
DUGI	Dugi Otok	150.12 345	*i* P	PKPbc	18 36 17.4	-0.2
BRY	Bratogost	150.12 340	*e*P	PKPbc	18 36 17.6	-0.3
MBAR	Mbarara	150.15 240	PKIKP	PKPdf	18 36 12.0	-1.5
MBAR	Mbarara	150.15 240	PKPdf	PKPdf	18 36 12.0	-1.5
MBAR				PKiKP	18 36 19.8	+0.2
BNI	Bardonecchia	150.26 358	PKIKP	PKPdf	18 36 12.8	0.0
BNI	Bardonecchia	150.26 358	PKPdf	PKPdf	18 36 12.8	0.0
BNI				PKPbc	18 36 18.4	+0.2
ZIRJ	Zirje	150.29 344	*i* P	PKPbc	18 36 17.4	-0.7
PDG	Podgorica	150.29 339	*e*P	PKPbc	18 36 17.2	-0.9
TREB	Trebinje	150.35 340	*e*P	PKPbc	18 36 17.5	-0.8
STON	Ston	150.42 341	*i* P	PKPbc	18 36 17.9	-0.5
HVAR	Hvar	150.51 343	*i* P	PKPbc	18 36 18.3	-0.3
DRME	Dracevica, Mon	150.53 338	*e*P	PKPbc	18 36 17.4	-1.3
ZCCA	Zocca	150.56 351		PKiKP	18 36 19.8	+0.4
FNA	Florina	150.88 334	PKIKP	PKPbc	18 36 19.3	-0.4
FNA	Florina	150.88 334		PKPbc	18 36 19.3	-0.4
LIT	Litokhoron	150.95 332	PKIKP	PKPbc	18 36 18.9	-0.9
LIT	Litokhoron	150.95 332		PKPbc	18 36 18.9	-0.9
PCAB	Cabril	151.29 21	*e*PKPbc	PKiKP	18 36 21.2	+0.2
OSSC	Osservatorio P	151.33 351		PKPbc	18 36 19.5	-1.1
MURB	Monte Urbino	151.36 349		PKPbc	18 36 20.2	-0.5
PBRG	Braganca	151.63 19	*e*PKPbc	PKPbc	18 36 21.4	+0.1
NRCA	Norcia	151.66 348		PKPbc	18 36 21.0	-0.4
POLO	Lamas de Olo	151.67 21	*e*PKPbc	PKiKP	18 36 22.1	+0.3
PVRL	Vila Real	151.79 21	*e*PKPbc	PKiKP	18 36 22.3	+0.3
AQU	L'Aquila	152.06 347	PKIKP	PKPbc	18 36 21.9	-0.4
AQU	L'Aquila	152.06 347	*e*P	PKPbc	18 36 21.9	-0.4
AQU	L'Aquila	152.06 347		PKPbc	18 36 21.9	-0.4
MVO	Moncorvo	152.12 20	*e*PKPbc	PKiKP	18 36 23.1	+0.4
PVIS	Viseu	152.22 21	*e*PKPbc	PKiKP	18 36 23.0	+0.1
INTR	Introdacqua	152.27 346		PKPbc	18 36 22.4	-0.4
MTE	Manteigas	152.62 21	*e*PKPbc	PKPbc	18 36 23.6	0.0
PTOM	Tomar	152.99 23	*e*PKPbc	PKiKP	18 36 24.9	+0.4
ALMR	Almeirim	153.33 24	*e*PKPbc	PKiKP	18 36 26.0	+0.8
PMRV	Marv??o	153.54 22	*e*PKPbc	PKiKP	18 36 26.1	+0.4
PMTG	Montargil	153.54 24	*e*PKPbc	PKiKP	18 36 26.5	+0.9
EVO	Evora	154.09 24	*e*PKPbc	PKPbc	18 36 26.4	-0.4
ESDC	Sonseca Array	154.41 16	PKP	PKPdf	18 36 19.1	+0.2
	comp=Z,0.7nm,0.6s,baz=1.3,slow=2.6,SNR=5.8					
ESDC			PKPbc	PKiKP	18 36 27.7	+0.2
	comp=Z,0.5nm,0.4s,baz=330,slow=2.3,SNR=9.7					
ESDC			PKPab	PKPab	18 36 43.5	+0.7
	comp=Z,6.7nm,0.9s,baz=333,slow=3.7,SNR=14					
MESJ	Messejana	154.60 25	*e*PKPbc	PKiKP	18 36 28.6	+0.8
KEST	Kesra	159.25 350	PKPab	PKPab	18 37 03.8	-0.1
	comp=Z,10nm,1.0s,baz=18,slow=6.4,SNR=3.5					
KEST	Kesra	159.25 350		PKPab	18 37 04.1	+0.2
TOA0	Torodi Ar. Sit	176.10 122		PKPdf	18 36 36.6	-0.7
TORD	Torodi Ar. Bea	176.10 122	PKP	PKPdf	18 36 36.4	-1.0
	comp=Z,3.3nm,1.0s,baz=332,slow=0.9,SNR=11					
TORD	Torodi Ar. Bea	176.10 122		PKPdf	18 36 35.8	-1.6

IDC 05 18:22:21.3±2.8, 25°.11S×179°.06W, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.9/38, mbtmp4.4/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=224.1km s-min=31.4km az=167.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.35 272		P	P	18 28 54.3	+1.7
	10nm,0.3s,baz=94,slow=11,SNR=54						
ASAR	Alice Springs	42.69 262		P	P	18 30 20.0	-0.2
	1.4nm,0.8s,baz=100,slow=8.6,SNR=6.7						
WRA	Warramunga Arr	43.19 267		P	P	18 30 22.7	-1.6
	2.8nm,0.5s,baz=104,slow=8.1,SNR=30						
JAY	Jayapura	44.78 294		LR	LR	18 48 18.3	
	comp=Z,50nm,18.8s,baz=314,slow=35						
TXAR	Lajitas Array	90.35 58		P	P	18 35 24.8	+0.1
	0.7nm,0.8s,baz=220,slow=6.7,SNR=6.5						

*ISCJB **05** 18:24:15.0±0.3, 34°.03N±0°.02×58°.67E±0°.03, h10km, mb3.4/4, MS3.0/3, Error ellipse: s-maj=3.8km s-min=3.0km az=146.3*
*THR **05** 18:24:14.9, 34°.16N×58°.62E, h14km, ML4.0*
*TEH **05** 18:24:14.5, 33°.97N×58°.65E, h9km, ML4.1*
*IDC **05** 18:24:16.0±3.2, 34°.17N×58°.49E, h0km, mb3.4/6, mb1 3.6/10, mb1mx3.4/57, mbtmp3.6/10, ML3.4/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/37, Error ellipse: s-maj=48.2km s-min=21.3km az=171.0*
*NNC **05** 18:24:18.5±2.4, 34°.60N×58°.71E, h0km, mb4.0, Error ellipse: s-maj=20.7km s-min=13.8km az=19.0*
ISC 05 18:24:14.7±0.6, 34°.04N±0°.03×58°.67E±0°.03, h10km, n72, σ2=46/76, mb3.4/4, MS3.0/3, 5C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITEG	Tejag	1.14 177		*e*Pg	Pn	18 24 36.7	-0.2
ITEG				*e*Sg	Sn	18 24 52.8	0.0
ITEG				IAMB	IAmb	18 24 58.3	
	comp=Z,33μm,0.5s						
IMON	Monand	1.19 135		*e*Pg	Pn	18 24 38.1	+0.5
IMON				IAMB	IAmb	18 24 40.9	
	comp=Z,55μm,0.2s						
IMON				*e*Sg	Sn	18 24 56.4	+2.4
TABS	Tabas	1.35 254		*e*Pg	Pg	18 24 39.7	-0.8
TABS	Tabas	1.35 254		*e*Pg	Pg	18 24 39.7	-0.8
TABS	Tabas	1.35 254		*e*AML	AML	18 25 01.2	
	comp=N,2μm,0.5s						
SHRT	Shahrakht	1.41 106		*e*Pg	Pg	18 24 42.1	+0.4
SHRT	Shahrakht	1.41 106		*e*AML	AML	18 25 07.1	
	comp=E,2μm,0.4s						
SHRT	Shahrakht	1.41 106		*e*AML	AML	18 25 07.2	
	comp=N,3μm,0.4s						
SHRT	Shahrakht	1.41 106		*e*Pg	Pg	18 24 42.1	+0.4
IKOO	Kooshah	1.64 170		*e*Pg	Pg	18 24 45.6	-0.5
IKOO				IAMB	IAmb	18 25 14.8	
	comp=Z,15μm,0.5s						
IDAH	Dahanechah	1.64 142		*e*Pg	Pg	18 24 46.0	-0.2
IDAH				*e*Sg	Sg	18 25 10.5	+2.9
TNSJ	Nastanj	1.71 268		*e*Pn	Pb	18 24 45.8	-0.5
TNSJ				IAMB	IAmb	18 25 15.3	
	comp=Z,0.0nm,0.6s						
TPRV	Parvadeh(Tabas	1.94 239		*e*Pn	Pb	18 24 48.8	-1.4
BSRN	Basiran	2.11 169		*e*Pn	Pg	18 24 53.5	-1.6
BSRN	Basiran	2.11 169		*e*Pn	Pg	18 24 53.5	-1.6
IMOG	Moghan	2.13 15		*e*Pn	Pb	18 24 53.8	+0.1
JRKH	Jarkhoshk	2.32 36		*e*Pn	Pb	18 24 56.3	-0.4
IPAY	Payeh	2.42 6		*e*Pn	Pb	18 24 57.9	-0.5
IPAY				IAMB	IAmb	18 24 59.1	
	comp=Z,6μm,0.2s						
IAKL	Akhelmad	2.56 2		*e*Pn	Pn	18 24 59.4	+2.9
IMYA	Miami	2.58 27		*e*Pn	Pb	18 24 59.9	-1.2
IKRD	Kardeh	2.73 357		*e*Pn	Pb	18 25 03.6	-0.2
IKRD				IAMB	IAmb	18 25 49.1	
	comp=Z,3μm,0.5s						
ISFR	Sfrayin	3.06 350		IAMB	IAmb	18 25 59.4	
	comp=Z,5μm,0.6s						
ISFR				*e*Pn	Pn	18 25 06.5	+3.2
IEMG	Emamgholi	3.37 360		*e*Pn	Pn	18 25 10.3	+2.7
YZKH	Yazd	3.79 245		*e*Pn	Pn	18 25 15.5	+2.2
YZKH	Yazd	3.79 245		*e*Pn	Pn	18 25 15.5	+2.2
GEYT	Alibeck	3.91 354		Pn	Pn	18 25 17.3	+2.5
	comp=Z,2.6nm,0.3s,baz=173,slow=14,SNR=18						
GEYT				Sn	Sn	18 26 00.8	0.0
	comp=Z,3.0nm,0.3s,baz=358,slow=13,SNR=5.7						
GEYT				LR	LR	18 27 09.3	
	comp=Z,62nm,21.0s,baz=175,slow=46						
KHGB	Koh Gabri	4.10 208		*e*Pn	Pn	18 25 19.4	+1.8
IANJ	Anjilo	4.16 291		*e*Pn	Pn	18 25 20.4	+1.9
IMND	Minoodasht	4.16 321		*e*Pn	Pn	18 25 21.2	+2.9
ANAR	Anarak	4.21 260		*e*Pn	Pn	18 25 20.9	+1.9
CHMN	Cheshme madani	4.28 193		*e*Pn	Pn	18 25 21.1	+0.9
TVBK	TV Kerman	4.36 202		*e*Pn	Pn	18 25 23.6	+2.3
IGLO	Ghaloghah	4.66 303		*e*Pn	Pn	18 25 29.0	+3.7
NGRK	Negar Kerman	4.68 201		*e*Pn	Pn	18 25 28.1	+2.3
ISHM	Shahmirzad	4.75 293		*e*Pn	Pn	18 25 29.3	+2.6
ISHM				IAMB	IAmb	18 26 57.4	
	comp=Z,2μm,0.4s						
ILAS	Lasjerd	4.89 287		*e*Pn	Pn	18 25 30.6	+2.1
IFIR	Firoozkooh	5.12 290		*e*Pn	Pn	18 25 33.4	+1.7
IZEF	Zefreh	5.42 260		*e*Pn	Pn	18 25 37.5	+1.7
IPRN	Peran	5.63 295		*e*Pn	Pn	18 25 41.7	+3.1
IDMV	Damavand	5.67 288		*e*Pn	Pn	18 25 41.5	+2.2
IRAM	Ramesheh	5.73 249		*e*Pn	Pn	18 25 41.6	+1.5
IVRN	Varamin	5.81 281		*e*Pn	Pn	18 25 42.8	+1.8
IKLH	Kolahrood	5.95 265		*e*Pn	Pn	18 25 45.7	+2.6
GHVR	GHOM	6.12 276		*e*Pn	Pn	18 25 47.1	+1.8
GHVR	GHOM	6.12 276		*e*Pn	Pn	18 25 47.1	+1.8
IQOM	Qom	6.33 279		*e*Pn	Pn	18 25 49.3	+1.0
IPIR	Pirpir	6.64 260		*e*Pn	Pn	18 25 56.3	+3.6
IMHD	Mahdasht	6.78 286		*e*Pn	Pn	18 25 57.2	+2.9
JHBN	Jahan bin	6.95 257		*e*Pn	Pn	18 25 59.4	+2.5
QALM	Alamut, Qazvin	6.98 292		*e*Pn	Pn	18 26 00.7	+3.4
IGZV	Ghazvin	7.30 291		*e*Pn	Pn	18 26 04.2	+2.6
IRAZ	Razeghan	7.32 283		*e*Pn	Pn	18 26 03.5	+1.6
QABG	Abgarm-Qazvin	7.65 285		*e*Pn	Pn	18 26 08.1	+1.7
HAGD	Aghdareh	7.91 278		*e*Pn	Pn	18 26 12.7	+2.7
BDRS	Dareh Seyedi	8.13 272		*e*Pn	Pn	18 26 16.4	+3.4
KK31	Karatay Array	12.94 42		⇑Pn	Pn	18 27 17.6	-1.0
	comp=Z,0.9nm,0.5s,baz=232,slow=17,SNR=12						
KK31				⇑Sn	Sn	18 29 37.9	-4.8
	comp=Z,1.9nm,0.8s,baz=20,slow=78,SNR=6.3						
AAK	Ala-Archa	15.08 51		Pn	Pn	18 27 48.7	+0.8
	comp=Z,4.7nm,0.9s						
AAK				Sn	Sn	18 30 33.3	-1.8
	comp=Z,3.9nm,1.4s						
AAK	Ala-Archa	15.08 51		Pn	Pn	18 27 48.5	+0.6
	comp=Z,0.4nm,0.3s,baz=210,slow=7.7,SNR=10.0						
AAK				Sn	Sn	18 30 32.2	-2.9
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=2.6						
AAK				LR	LR	18 34 11.4	
	comp=Z,79nm,20.1s,baz=240,slow=39						
AB31	Akbulak array	15.23 3		⇑Pn	Pn	18 27 47.5	-2.2
	comp=Z,2.8nm,0.9s,baz=188,slow=14,SNR=14						
AB31				⇓Sn	Sn	18 30 33.1	-5.3
	comp=Z,0.9nm,0.8s,baz=190,slow=27,SNR=4.4						
KBZ	Khabaz	15.61 313		Pn	Pn	18 27 56.1	+1.4
	comp=Z,0.1nm,0.3s,baz=27,slow=2.3,SNR=2.5						
TKM2	Tokmak 2	15.93 51		⇑Pn	Pn	18 27 58.2	-0.9
	comp=Z,4.4nm,1.4s						
TKM2				⇓Sn	Sn	18 30 54.6	-1.1
	comp=Z,1.8nm,0.6s						
AKTO	Aktyubinsk	16.39 359		⇓Pn	Pn	18 28 02.7	-2.1
	comp=Z,4.3nm,1.2s						
AKTO				⇑Sn	Sn	18 30 58.7	-7.9
	comp=Z,2.4nm,0.9s						
AKTO	Aktyubinsk	16.39 359		Pn	Pn	18 28 04.0	-0.7
	comp=Z,0.2nm,0.3s,baz=171,slow=12,SNR=3.6						
AKTO				Sn	Sn	18 30 60.0	-6.6
	comp=Z,0.0nm,0.3s,baz=51,slow=14,SNR=3.3						
BVAR	Borovoye Array	20.74 20		P	Pn	18 28 58.1	+0.4
	comp=Z,2.0nm,0.7s,baz=194,slow=11,SNR=13						
BRTR	Keskin Array B	20.78 293		P	P	18 28 55.5	-0.5
	comp=Z,0.3nm,0.4s,baz=108,slow=14,SNR=3.8						
MKAR	Makanchi Array	21.94 47		P	P	18 29 11.3	+3.0
	comp=Z,0.9nm,0.7s,baz=238,slow=11,SNR=5.4						
KURBB	Kurchatov Arra	22.03 35		P	P	18 29 12.0	+2.8
	comp=Z,2.1nm,0.8s,baz=232,slow=11,SNR=13						
ARU	Arti	22.39 360		P	P	18 29 14.6	+1.6
	comp=Z,1.2nm,0.7s,baz=178,slow=16,SNR=5.2						
ZALV	Zalesovo Beam	27.12 35		LR	LR	18 42 09.8	
	comp=Z,41nm,18.2s,baz=23,slow=40						
AKASG	Malin Array Be	27.14 317		P	P	18 30 00.1	+2.2
	comp=Z,0.2nm,0.3s,baz=123,slow=8.8,SNR=2.7						
FINES	FINESS Array B	34.43 333		LR	LR	18 47 11.2	
	comp=Z,29nm,18.8s,baz=232,slow=40						
NRIK	Noril'sk	38.83 16		LR	LR	18 50 50.2	
	comp=Z,24nm,18.4s,baz=132,slow=41						

*NEIC **05** 18:33:54.5±2.8, 62°.21N±0°.02×145°.67W±0°.03, h21km±8km*
AEIC 05 18:33:55±3.0, 62°.20N±0°.02×145°.71W±0°.05, h18km±6km, ML3.3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS11	TAPS Pump St11	0.16 138			Pb	18 33 59.2	-0.1
PS11					Sg	18 34 03.7	+1.4
PS12	TAPS Pump St12	0.78 160			Pb	18 34 08.7	-1.2
PS12					Sb	18 34 18.4	-1.7
PAX	Paxson	0.78 8			Pb	18 34 07.4	-2.7
PAX				Sg	Sb	18 34 17.4	-3.0
SCM	Sheep Creek Mo	0.85 245			Pb	18 34 09.4	-1.8
SCM				Sg	Sb	18 34 21.3	-1.0
VMT	TAPS Tl Valdez	1.17 196			Pn	18 34 14.0	-2.4
DHY	Denali Highway	1.17 319			Pn	18 34 14.1	-2.6
DHY				Sg	Sb	18 34 28.9	-2.7
GLB	Gilahina Butte	1.18 129			Pn	18 34 13.9	-2.8
GLB					Sb	18 34 29.9	-1.9
MENT	Mentasta	1.18 50			Pn	18 34 14.2	-2.4
MENT					Sb	18 34 29.6	-2.3
JPK	Jack Peak	1.23 201			Pn	18 34 14.8	-2.5
PS10	TAPS Pump St10	1.23 359			Pn	18 34 15.6	-1.8
PS10					Sb	18 34 31.5	-1.7
SML	Sawmill	1.30 253			Pn	18 34 16.0	-2.3
SML				Sn	Sn	18 34 33.1	-2.2
VRDI	Verde Repeater	1.45 131			Pn	18 34 18.3	-2.2
VRDI				Sn	Sn	18 34 37.1	-2.0
WAT1	Susitna Watana	1.46 297			Pn	18 34 19.1	-1.

KMMI	**Kalianget**	**2.79 310**	P	**Pn**	**18 42 33.6**	**-0.6**
WBSI	**Waikabubak, Su**	**3.32 104**	P	**Pn**	**18 42 42.4**	**+1.0**
WBSI			S	**Sn**	**18 43 22.3**	**+2.2**
PWJI	**Pagerwojo**	**4.35 281**	P	**Pn**	**18 42 56.6**	**+1.4**
KAPI	**Kappang**	**5.24 44**	P	**Pn**	**18 43 08.1**	**+0.8**
	3.0nm,0.3s,baz=205,slow=7.7,SNR=14					
KAPI			S	**Sn**	**18 44 09.3**	**+2.8**
	0.7nm,0.3s,baz=254,slow=19,SNR=2.0					
BATI	**Baumata**	**7.56 101**	P	**Pn**	**18 43 38.8**	**0.0**
	1.3nm,0.3s,baz=153,slow=2.3,SNR=2.6					
FITZ	**Fitzroy Crossi**	**13.04 136**	P	**Pn**	**18 44 55.4**	**+2.7**
	0.0nm,0.3s,baz=330,slow=15,SNR=2.7					
FITZ			S	**Sn**	**18 47 10.9**	**-5.4**
	0.1nm,0.3s,baz=196,slow=19,SNR=3.7					
WRA	**Warramunga Arr**	**20.78 124**	P	**P**	**18 46 25.1**	**+0.6**
	0.4nm,0.8s,baz=300,slow=11,SNR=6.6					
ASAR	**Alice Springs**	**22.51 133**	P	**P**	**18 46 43.1**	**+0.3**
	0.5nm,0.5s,baz=305,slow=9.4,SNR=7.0					
MKAR	**Makanchi Array**	**63.06 335**	P	**P**	**18 52 04.6**	**-3.4**
	0.1nm,0.3s,baz=155,slow=7.1,SNR=4.0					

TAP 05 19:29:41.4, 23°.68N×121°.40E, h17km±1km, ML1.2, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.03**	**106**	P	Pg	19 29 45.5	+1.0
	baz=105						
EGFH				S	Sg	19 29 47.1	+0.6
	baz=105						
ESL	**Shilin**	**0.14**	**14**	P	Pb	19 29 46.3	+0.7
	baz=17						
ESL				S	Sb	19 29 48.7	+0.3
	baz=17						
EHY	**Hungye**	**0.18**	**202**	P	Pb	19 29 47.0	+0.6
	baz=199						
EHY				S	Sb	19 29 50.0	+0.4
	baz=199						
HGSD	**Ruisui**	**0.19**	**172**	*e*P	Pb	19 29 48.0	+1.7
	baz=172						
VWDT	**VWDT**	**0.25**	**288**	P	Pb	19 29 48.3	+0.9
	baz=288						
VWDT				S	Sb	19 29 52.4	+1.0
	baz=288						
YULB	**Yu-li**	**0.30**	**198**	P	Pb	19 29 48.6	+0.3
	baz=197						
YULB				S	Sb	19 29 53.1	+0.2
	baz=197						
TWF1	**Yuli**	**0.34**	**196**	P	Pb	19 29 49.2	+0.2
	baz=194						
TWF1				S	Sb	19 29 54.7	+0.7
	baz=194						
SSLB	**Suanglung**	**0.42**	**285**	*e*S	Sb	19 29 56.3	-0.2
	baz=285						
CHGB	**Renai**	**0.43**	**332**	P	Pb	19 29 51.1	+0.4
	baz=331						
CHGB				S	Sb	19 29 57.0	0.0
	baz=331						
WHF	**Hehuan Shan**	**0.48**	**346**	*e*S	Sb	19 29 58.8	+0.2
	baz=346						
ELDTW	**Lidau**	**0.60**	**216**	*e*S	Sb	19 30 02.3	+0.6
	baz=214						

*IDC **05** 19:29:41.2±1.4, 23°.69S×111°.76W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/26, mbtmp3.6/4, MS3.6/5, Ms1 3.6/5, ms1mx3.2/23, Error ellipse: s-maj=46.7km s-min=35.5km az=39.0*

ISC 05 19:29:42.3±1.6, 23°.8S±0°.3×111°.8W±0°.3, h10km, n19, σ0s88/9, mb3.8/4, MS3.5/5, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**38.36**	**126**	LR	LR	19 48 35.4	
	comp=Z,57nm,21.0s,baz=305,slow=30						
LPAZ	**La Paz**	**41.54**	**88**	P	**P**	**19 37 31.2**	**+0.1**
	0.8nm,0.5s,baz=256,slow=6.9,SNR=2.4						
LPAZ				LR	LR	19 50 30.5	
	comp=Z,75nm,21.7s,baz=266,slow=30						
RAR	**Rarotonga**	**44.26**	**263**	LR	LR	19 50 44.9	
	comp=Z,143nm,22.0s,baz=138,slow=28						
CPUP	**Villa Florida**	**49.09**	**105**	LR	LR	19 54 58.3	
	comp=Z,47nm,19.9s,baz=222,slow=31						
TXAR	**Lajitas Array**	**53.35**	**9**	**P**	**P**	**19 39 02.1**	**+0.1**
	0.1nm,0.3s,baz=210,slow=8.2,SNR=3.0						
ANMO	**Albuquerque**	**58.59**	**5**	LR	LR	20 00 28.4	
	comp=Z,50nm,18.8s,baz=238,slow=32						
NVAR	**Mina Array Bea**	**62.16**	**354**	P	**P**	**19 40 05.2**	**+1.3**
	1.1nm,0.7s,baz=179,slow=9.0,SNR=7.1						
PDAR	**Pinedale Array**	**66.22**	**2**	P	**P**	**19 40 29.1**	**-1.4**
	0.6nm,0.8s,baz=165,slow=7.3,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**89.89**	**290**	T	T	21 22 14.4	
	baz=115,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hy**	**89.90**	**290**	T	T	21 22 12.6	
	baz=115,slow=75,SNR=39						
H11S3	**WAKE ISLAND Hy**	**89.91**	**290**	T	T	21 22 12.4	
	baz=115,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**90.23**	**291**	T	T	21 22 39.9	
	baz=116,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**90.25**	**291**	T	T	21 22 42.7	
	baz=116,slow=75,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**90.25**	**291**	T	T	21 22 41.5	
	baz=116,slow=75,SNR=25						
BRTR	**Keskin Array B**	**146.80**	**53**	PKPbc	**PKPbc**	**19 49 25.3**	**+0.2**
	1.3nm,1.0s,baz=263,slow=1.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**147.37**	**342**	PKPbc	**PKPbc**	**19 49 25.2**	**-0.8**
	0.5nm,0.4s,baz=41,slow=2.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**150.90**	**265**	PKPbc	**PKiKP**	**19 49 36.6**	**-0.1**
	0.4nm,0.4s,baz=86,slow=2.8,SNR=5.5						
KBZ	**Khabaz**	**151.20**	**40**	PKPbc	**PKiKP**	**19 49 36.9**	**+0.5**
	2.6nm,0.9s,baz=40,slow=0.6,SNR=5.0						
MKAR	**Makanchi Array**	**154.38**	**337**	PKPbc	**PKPbc**	**19 49 42.7**	**-0.2**
	0.9nm,0.9s,baz=39,slow=2.8,SNR=4.3						

TAP 05 19:29:55.0, 24°.45N×121°.94E, h12km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.18**	**262**	P	Pb	19 29 59.9	-0.5
	baz=262						
NANB				*i* S	Sg	19 30 03.2	+1.4
	baz=262						
TWC	**Suao**	**0.18**	**331**	P	Pb	19 29 59.9	-0.4
	baz=333						
TWC				S	Sg	19 30 02.8	+1.0
	baz=333						
ENA	**Nanau**	**0.19**	**263**	P	Pb	19 29 59.8	-0.7
	baz=261						
ENA				*i* S	Sg	19 30 03.3	+1.3
	baz=261						
EOS1	**EOS1**	**0.19**	**60**	P	Pg	19 29 59.7	+0.4
	baz=59						
EOS1				S	Sg	19 30 03.5	+1.3
	baz=59						
TWE	**Neicheng**	**0.37**	**317**	P	Pb	19 30 03.6	0.0
	baz=318						
TWE				*e*S	Sb	19 30 09.2	-0.1
	baz=318						
ENTT	**Nioudou**	**0.39**	**299**	P	Pb	19 30 04.1	+0.1
	baz=298						
ENTT				*e*S	Sb	19 30 10.0	-0.1
	baz=298						
SLBB	**Yuanshan**	**0.41**	**317**	*e*P	Pg	19 30 03.7	+0.4
	baz=316						
SLBB				*e*S	Sb	19 30 10.4	-0.3
	baz=316						
NTC	**Toucheng**	**0.41**	**345**	*e*P	Pb	19 30 04.4	+0.1
	baz=345						
NTC				*e*S	Sb	19 30 11.2	+0.6
	baz=345						
NDT	**Datong Townshi**	**0.42**	**291**	P	Pb	19 30 04.5	0.0
	baz=290						
NDT				S	Sb	19 30 10.5	-0.3
	baz=290						
NACB	**Ninganchiao**	**0.42**	**229**	P	Pb	19 30 04.1	-0.4
	baz=229						
NACB				*e*S	Sb	19 30 10.5	-0.3
	baz=229						
ETLH	**Xiulin Townshi**	**0.49**	**240**	P	Pb	19 30 05.7	0.0
	baz=239						
ETLH				*e*S	Sb	19 30 12.4	-0.4
	baz=239						
NWLT	**Wulai**	**0.52**	**309**	*e*P	Pb	19 30 06.4	+0.3
	baz=308						
NWLT				*e*S	Sb	19 30 13.9	+0.3
	baz=308						
NNS	**Nan Shan**	**0.52**	**269**	*e*S	Pb	19 30 06.1	-0.2
	baz=359						
NNS	**Nan Shan**	**0.52**	**269**	P	Pb	19 30 06.0	-0.2
	baz=268						
NNS				S	Sb	19 30 13.3	-0.5
	baz=268						
TIPB	**Shuangxi**	**0.53**	**348**	*e*P	Pb	19 30 06.7	+0.3
	baz=348						
TIPB				S	Sb	19 30 13.8	-0.2
	baz=348						
YHNB	**Yeheng**	**0.56**	**293**	P	Pb	19 30 07.2	+0.2
	baz=292						
YHNB				S	Sb	19 30 14.7	-0.3
	baz=292						
NSK	**Sanguang**	**0.58**	**293**	P	Pb	19 30 07.2	0.0
	baz=292						
NSK				*e*S	Sb	19 30 15.2	-0.2
	baz=292						
WHF	**Hehuan Shan**	**0.69**	**244**	P	Pb	19 30 09.4	0.0
	baz=243						
WHF				S	Sb	19 30 18.9	-0.1
	baz=243						
TDCB	**Techi**	**0.74**	**255**	*e*P	Pn	19 30 10.9	-0.6
	baz=254						
TDCB				S	Sb	19 30 20.7	+0.5
	baz=254						
YM01	**YM01**	**0.77**	**334**	*e*P	Pn	19 30 11.3	-0.6
	baz=333						
YM01				*i* S	Sb	19 30 21.5	+0.6
	baz=333						
YM10	**YM10**	**0.78**	**334**	*e*S	Sn	19 30 22.6	-1.1
	baz=333						
YM04	**YM04**	**0.79**	**332**	*e*S	Sn	19 30 24.4	+0.4
	baz=332						
CHGB	**Renai**	**0.80**	**241**	P	Pb	19 30 11.2	+0.1
	baz=240						
CHGB				*e*S	Sb	19 30 22.3	+0.2
	baz=240						

TAP 05 19:33:02.9, 23°.43N×120°.58E, h8km, ML1.4, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN4	**Tsaushan**	**0.08**	**172**	*i* P	Pg	19 33 05.6	+0.6
	baz=171						
CHN4				*e*S	Sg	19 33 08.1	+1.5
	baz=171						
CHN2	**Minshiung**	**0.14**	**315**	P	Pg	19 33 06.7	+0.8
	baz=314						
CHN2				*e*S	Sg	19 33 09.4	+1.5
	baz=314						
TPUB	**Ta-pu**	**0.14**	**161**	||*i* P	Pg	19 33 06.6	+0.7
	baz=161						
TPUB				*e*S	Sg	19 33 09.5	+1.5
	baz=161						
CHY	**Chiayi**	**0.16**	**294**	*i* P	Pg	19 33 06.8	+0.6
	baz=294						
CHY				*e*S	Sg	19 33 09.9	+1.5
	baz=294						
CHN5	**Tsauling**	**0.18**	**29**	*e*P	Pg	19 33 07.4	+0.7
	baz=28						
CHN5				*e*S	Sg	19 33 10.8	+1.4
	baz=28						
TWK	**Hsinying**	**0.19**	**207**	P	Pg	19 33 07.6	+0.9
	baz=203						
TWK				*e*S	Sg	19 33 11.1	+1.8
	baz=203						
WTP	**Ta-pu**	**0.19**	**171**	P	Pg	19 33 07.7	+0.9
	baz=168						
WTP				*e*S	Sg	19 33 11.4	+2.0
	baz=168						
SNST	**Tainan City**	**0.23**	**200**	P	Pg	19 33 08.3	+0.9
	baz=199						
SNST				*e*S	Sg	19 33 12.5	+2.0
	baz=199						
CHN1	**Nanshi**	**0.25**	**191**	P	Pb	19 33 08.9	-0.8
	baz=191						
CHN1				*e*S	Sb	19 33 13.4	-0.9
	baz=191						
WDLH	**Douliu**	**0.26**	**351**	P	Pb	19 33 09.1	-0.7
	baz=351						
WDLH				*e*S	Sb	19 33 13.6	-0.8
	baz=351						
WLGB	**Puzi**	**0.26**	**280**	*i* P	Pb	19 33 09.1	-0.7
	baz=279						
WLGB				*e*S	Sb	19 33 13.7	-0.8
	baz=279						
STYT	**Tauyuan**	**0.32**	**149**	*e*P	Pb	19 33 10.4	-0.4
	baz=148						
STYT				S	Sb	19 33 15.5	-0.6
	baz=148						
YUS	**Yu-Shan**	**0.34**	**81**	P	Pb	19 33 11.1	-0.5
	baz=81						
YUS				*e*S	Sb	19 33 17.0	-0.4
	baz=81						
SGST	**Jiashian**	**0.35**	**180**	*e*P	Pb	19 33 10.9	-0.5
	baz=178						
SGST				*e*S	Sb	19 33 16.6	-0.4
	baz=178						
WHYT	**Xinyi Township**	**0.36**	**44**	P	Pb	19 33 10.9	-0.7
	baz=43						
WHYT				*e*S	Sb	19 33 16.7	-0.7
	baz=43						
ELDTW	**Lidau**	**0.47**	**121**	P	Pb	19 33 13.0	-0.5
	baz=121						
SSLB	**Suanglung**	**0.49**	**44**	*e*P	Pb	19 33 13.4	-0.4
	baz=44						
SSLB				*e*S	Sb	19 33 21.1	-0.1
	baz=44						
TYC	**Yuchr**	**0.53**	**28**	*e*P	Pb	19 33 15.3	+0.9
	baz=29						
TYC				*e*S	Sb	19 33 23.1	+0.8
	baz=29						
VWDT	**VWDT**	**0.60**	**58**	*e*P	Pb	19 33 16.2	+0.5
	baz=58						
YULB	**Yu-li**	**0.66**	**93**	*e*P	Pb	19 33 16.4	-0.3
	baz=93						
YULB				*e*S	Sb	19 33 25.5	-0.5
	baz=93						
TWF1	**Yuli**	**0.66**	**97**	*e*S	Sb	19 33 26.3	+0.2
	baz=97						
CHGB	**Renai**	**0.83**	**41**	*e*P	Pb	19 33 19.8	+0.2
	baz=41						
TDCB	**Techi**	**0.97**	**33**	*e*P	Pn	19 33 22.8	-0.2
	baz=32						

TAP 05 19:33:15.3, 24°.37N×121°.95E, h14km±1km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.19**	**286**	P	Pb	19 33 20.7	0.0
	baz=286						
NANB				*e*S	Sb	19 33 24.1	-0.1
	baz=286						
ENA	**Nanau**	**0.20**	**286**	P	Pb	19 33 20.7	-0.1
	baz=285						
ENA				*e*S	Sb	19 33 24.3	-0.2
	baz=285						
EOS1	**EOS1**	**0.24**	**42**	P	Pb	19 33 21.1	-0.3
	baz=42						
EOS1				*e*S	Sb	19 33 25.3	-0.1
	baz=42						
TWC	**Suao**	**0.25**	**338**	P	Pb	19 33 21.6	-0.1
	baz=339						
TWC				*e*S	Sg	19 33 25.0	+0.5
	baz=339						
NACB	**Ninganchiao**	**0.38**	**239**	P	Pg	19 33 23.4	+0.3
	baz=238						
NACB				*e*S	Sb	19 33 29.6	0.0
	baz=238						
TWE	**Neicheng**	**0.43**	**323**	*e*P	Pb	19 33 25.0	+0.2
	baz=324						
TWE				*e*S	Sb	19 33 31.9	+0.7
	baz=324						
ENTT	**Nioudou**	**0.44**	**307**	P	Pb	19 33 25.1	+0.2
	baz=307						
ENTT				*e*S	Sb	19 33 31.3	-0.1
	baz=307						
ETLH	**Xiulin Townshi**	**0.46**	**249**	*i* P	Pb	19 33 25.1	-0.2
	baz=248						
ETLH				*e*S	Sb	19 33 32.6	+0.6
	baz=248						
NDT	**Datong Townshi**	**0.46**	**300**	P	Pb	19 33 25.8	+0.5
	baz=299						
NDT				*e*S	Sb	19 33 32.1	+0.1
	baz=299						
SLBB	**Yuanshan**	**0.48**	**323**	*e*P	Pb	19 33 25.2	-0.3
	baz=322						
NNS	**Nan Shan**	**0.53**	**277**	P	Pb	19 33 26.8	+0.3
	baz=276						
NNS				*e*S	Sb	19 33 34.3	+0.1
	baz=276						
NWLT	**Wulai**	**0.57**	**314**	*e*P	Pb	19 33 27.7	+0.5
	baz=314						
NWLT				*e*S	Sb	19 33 35.1	-0.1
	baz=314						
YHNB	**Yeheng**	**0.60**	**299**	*e*P	Pb	19 33 28.1	+0.4
	baz=299						
YHNB				*e*S	Sb	19 33 36.2	+0.1
	baz=299						
NSK	**Sanguang**	**0.62**	**299**	*e*P	Pb	19 33 28.7	+0.7
	baz=299						
NSK				*e*S	Sb	19 33 36.7	+0.1
	baz=299						
WHF	**Hehuan Shan**	**0.67**	**250**	*e*P	Pb	19 33 28.9	-0.1
	baz=249						
TWT	**Tachien**	**0.72**	**261**	*e*S	Sb	19 33 40.4	+0.8
	baz=260						
CHGB	**Renai**	**0.78**	**247**	*e*P	Pb	19 33 30.9	+0.1
	baz=246						
CHGB				*e*S	Sb	19 33 42.0	+0.7
	baz=246						
CHGB	**Renai**	**0.78**	**247**	*e*S	Pb	19 33 30.9	+0.2
	baz=41						

IDC 05 19:38:34.6±3.8, 28°.33S×178°.29W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=84.9km s-min=18.8km az=49.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**161**	Pn	Pn	19 38 55.5	-0.1
	125nm,0.3s,baz=89,slow=12,SNR=12						
RAO				Sn	Sn	19 39 11.9	+1.7
	236nm,0.3s,baz=41,slow=21,SNR=7.3						
STKA	**Stephens Creek**	**34.75**	**254**	P	P	19 45 25.7	-1.0
	2.2nm,1.1s,baz=119,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**43.00**	**265**	P	P	19 46 36.1	+0.1
	0.2nm,0.3s,baz=104,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**43.80**	**270**	P	P	19 46 43.2	+0.7
	0.3nm,0.5s,baz=111,slow=7.9,SNR=10						
FINES	**FINESS Array B**	**143.12**	**341**	PKP	PKPbc	19 58 08.1	+1.3
	6.8nm,1.1s,baz=61,slow=6.5,SNR=4.0						

TAP 05 19:45:20.6, 23°.62N×121°.38E, h10km±1km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.07**	**43**	P	Pg	19 45 22.8	-0.1
	baz=42						
EGFH				*e*S	Sg	19 45 24.4	-0.1
	baz=42						
EHY	**Hungye**	**0.12**	**204**	P	Pg	19 45 23.5	-0.1
	baz=200						
EHY				*e*S	Sg	19 45 25.6	-0.2
	baz=200						
HGSD	**Ruisui**	**0.13**	**161**	P	Pg	19 45 24.0	+0.3
	baz=161						
HGSD				*e*S	Sg	19 45 26.2	+0.3
	baz=161						
ESL	**Shilin**	**0.20**	**15**	*e*P	Pg	19 45 24.9	0.0
	baz=17						
ESL				*e*S	Sg	19 45 27.9	0.0
	baz=17						
YULB	**Yu-li**	**0.24**	**198**	P	Pg	19 45 25.4	-0.1
	baz=198						
YULB				*e*S	Sg	19 45 29.1	+0.2
	baz=198						
VWDT	**VWDT**	**0.25**	**302**	*e*P	Pb	19 45 26.6	-0.7
	baz=301						
VWDT				*e*S	Sg	19 45 30.3	+1.0
	baz=301						
TWF1	**Yuli**	**0.28**	**195**	*e*P	Pg	19 45 26.0	-0.2
	baz=193						
TWF1				*e*S	Sg	19 45 30.2	+0.2
	baz=193						
SSLB	**Suanglung**	**0.42**	**293**	*e*P	Pg	19 45 28.9	-0.1
	baz=293						
SSLB				*e*S	Sg	19 45 34.5	-0.1
	baz=293						
CHGB	**Renai**	**0.48**	**337**	*e*S	Sg	19 45 36.6	+0.2
	baz=337						

JMA 05 19:46:18.9±0.2, 24°.69N×123°.15E, h35km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.26**	**209**	P	Pn	19 46 26.1	-0.3
YOJ				*e*S	Sn	19 46 31.3	-0.1
JYNG	**Yonagunijimaku**	**0.30**	**218**	P	Pn	19 46 26.7	-0.2
JYNG				S	Sn	19 46 31.7	-0.6
IRIF	**Iriomote-Funau**	**0.64**	**124**	P	Pn	19 46 31.3	-0.1
JKRS	**Kuro-shima**	**0.90**	**120**	P	Pn	19 46 35.6	+0.5
JKRS				*e*S	Sn	19 46 47.4	+0.5
JIJ	**Ishigaki jima**	**0.96**	**110**	S	Sn	19 46 49.0	+0.7
JISG	**Ishigakijimahi**	**1.06**	**95**	P	Pn	19 46 36.7	-0.6
JISG				S	Sn	19 46 51.1	+0.3

*ISCJB **05** 20:03:11.2±0.3, 43°.74N±0°.02×105°.25W±0°.04, h10km, mb4.2/3, MS3.9/1, Error ellipse: s-maj=3.8km s-min=3.5km az=163.7*

*NEIC **05** 20:03:11.8±2.2, 43°.76N±0°.05×105°.29W±0°.03, h0km±2km, ML3.4/80*

*IDC **05** 20:03:12.8±0.9, 44°.09N×105°.80W, h0km, mb4.2/3, mb1 4.1/7, mb1mx3.7/43, mbtmp3.9/7, ML3.5/4, MS3.3/2, Ms1 3.2/2, ms1mx2.5/50, Error ellipse: s-maj=27.1km s-min=7.9km az=145.0*

ISC 05 20:03:12.3±0.7, 43°.74N±0°.06×105°.24W±0°.07, h10km, n97, σ1s23/94, mb4.2/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**66**		**Pg**	**20 03 30.5**	**-0.1**
K22A	**Casper**	**1.44**	**221**		**Pn**	**20 03 37.6**	**-1.0**
K22A				IAML		20 04 01.5	
	comp=N,521nm,0.4s						
K22A				IAML		20 04 02.9	
	comp=E,356nm,0.4s						
PHWY	**Pilot Hill**	**2.45**	**184**		**Pn**	**20 03 53.9**	**+1.3**
PHWY				IAML		20 04 30.2	
	comp=E,127nm,0.4s						
PHWY				IAML		20 04 31.5	
	comp=E,136nm,0.4s						
RWWY	**Rawlins**	**2.51**	**216**		**Pn**	**20 03 54.1**	**+0.6**
RWWY				IAML		20 04 31.2	
	comp=E,242nm,0.8s						
RWWY				IAML		20 04 31.5	
	comp=E,202nm,0.5s						
N23A	**Red Feather La**	**2.90**	**191**		**Pn**	**20 03 59.8**	**+1.1**
N23A				IAML		20 04 47.1	
	comp=N,171nm,0.5s						
N23A				IAML		20 04 47.7	
	comp=E,128nm,0.8s						
LAO	**LASA Array**	**3.02**	**347**		**Pn**	**20 04 01.3**	**+1.0**
RLMT	**Red Lodge**	**3.19**	**297**		**Pn**	**20 04 02.9**	**+0.1**
RLMT				IAML		20 04 57.9	
	comp=E,61nm,0.7s						
RLMT				IAML		20 05 00.6	
	comp=E,98nm,0.6s						
BW06	**Boulder Array**	**3.30**	**254**		**Pn**	**20 04 04.9**	**+0.6**
BW06				IAML		20 04 52.8	
	comp=N,72nm,0.5s						
PD31	**Pinedale Array**	**3.30**	**254**		**Pn**	**20 04 04.5**	**+0.2**
PDAR	**Pinedale Array**	**3.30**	**254**	Pn	**Pn**	**20 04 04.9**	**+0.6**
	comp=N,5.5nm,0.3s,baz=62,slow=17,SNR=75						
PDAR				Lg	Lg	20 04 49.4	
	comp=N,16nm,0.3s,baz=76,slow=29,SNR=9.1						
YMP	**Mirror Lake Pl**	**3.67**	**287**		**Pn**	**20 04 10.2**	**+0.9**
OGNE	**Ogallala**	**3.67**	**139**		**Pn**	**20 04 11.8**	**+2.6**
GCMT	**Greycliff**	**3.76**	**305**		**Pn**	**20 04 11.8**	**+1.3**
LKWY	**Lake**	**3.80**	**284**		**Pn**	**20 04 11.0**	**-0.1**
LKWY				IAML		20 04 38.7	
	comp=N,84nm,0.6s						
LKWY				IAML		20 05 25.9	

comp=N,37nm,1.9s
LOHW Long Hollow 3.89 270 Pn 20 04 13.1 +0.7
H17A Grant Village 3.90 281 Pn 20 04 14.2 +1.7
H17A IAML 20 05 18.4
comp=N,36nm,0.5s
YUF Upper Falls 3.91 286 Pn 20 04 15.2 +2.6
ISCO Idaho Springs 3.95 184 Pn 20 04 14.9 +1.6
FLWY Flagg Ranch 3.96 277 Pn 20 04 14.1 +0.8
FLWY IAML 20 05 30.7
comp=N,62nm,2.2s
FLWY IAML 20 05 52.2
comp=N,51nm,1.2s
MOOW Moose Ponds 3.99 272 Pn 20 04 15.0 +1.3
SNOW Snow King Moun 4.01 268 Pn 20 04 13.7 -0.4
SNOW IAML 20 05 34.1
comp=N,51nm,1.9s
SNOW IAML 20 05 35.9
comp=N,45nm,0.7s
YNR Norris Junctio 4.03 286 Pn 20 04 14.5 +0.3
YNM Yellowstone No 4.04 286 Pn **Pn 20 04 16.4 +1.9**
YPP Pitchstone Pla 4.05 279 Pn 20 04 14.6 0.0
REDW Red Top Meadow 4.09 267 Pn 20 04 16.2 +1.0
REDW IAML 20 05 36.3
comp=N,53nm,0.7s
REDW IAML 20 05 41.0
comp=N,49nm,0.6s
IMW Indian Meadow 4.12 274 Pn 20 04 16.4 +0.8
IMW IAML 20 05 44.8
comp=N,37nm,0.7s
TPAW Teton Pass 4.15 268 Pn 20 04 16.2 +0.2
TPAW IAML 20 05 41.9
comp=N,36nm,0.8s
YHH Holmes Hill 4.16 286 Pn 20 04 16.4 +0.2
FXWY Fox Creek 4.20 271 Pn 20 04 17.6 +1.0
YMR Madison River 4.22 285 Pn 20 04 18.4 +1.6
O20A White River Ci 4.24 213 Pn 20 04 18.2 +1.0
O20A IAML 20 05 32.8
comp=E,53nm,0.7s
O20A IAML 20 05 53.8
comp=N,54nm,2.4s
AHID Auburn Hatcher 4.39 259 Pn 20 04 18.5 -0.7
AHID IAML 20 05 43.3
comp=E,40nm,0.8s
YHB Horse Butte 4.39 285 Pn **Pn 20 04 18.9 -0.4**
YHL Hebgen Lake 4.41 287 Pn 20 04 18.8 -0.7
RDMU Red Mountain 4.52 227 Pn 20 04 21.9 +1.0
QLMT Earthquake Lak 4.57 286 Pn 20 04 20.8 -0.9
SUSD Miller 4.58 79 Pn 20 04 21.9 +0.2
SMCO Snowmass 4.74 196 Pn 20 04 27.0 +2.7
SMCO IAML 20 05 51.5
comp=E,30nm,1.2s
SMCO IAML 20 05 58.1
comp=E,26nm,0.6s
Q24A Divide 4.78 179 Pn 20 04 25.1 +0.5
Q24A IAML 20 05 45.4
comp=E,33nm,0.5s
DGMT Dagmar 4.78 8 Pn 20 04 25.0 +0.5
BOZ Bozeman (W) 4.92 294 Pn 20 04 25.8 -0.7
BOZ IAML 20 05 47.4
comp=E,20nm,0.8s
BOZ IAML 20 05 56.8
comp=E,28nm,0.9s
KSCO Kaye Shedlock' 5.12 157 Pn 20 04 30.2 +1.0
TCUT Toone Canyon 5.26 242 Pn 20 04 31.2 -0.1
EGMT Eagleton 5.31 325 Pn 20 04 31.5 -0.3
DLMT Dillon 5.50 290 Pn 20 04 33.6 -0.7
HRY Holter Researc 5.52 305 Pn 20 04 34.1 -0.5
LRM Limekiln Ridge 5.54 295 Pn 20 04 36.1 +1.1
MCMT McKenzie Canyo 5.57 284 Pn 20 04 36.1 +0.7
JLU Jordanelle 5.58 238 Pn 20 04 34.9 -0.7
MDND Maddock 5.69 42 Pn 20 04 38.2 +1.3
CTU Camp Tracy 5.71 240 Pn **Pn 20 04 37.1 -0.2**
PV22 Blue Mesa, Par 5.85 208 Pn 20 04 41.2 +1.9
SPUT South Promonto 5.85 248 Pn 20 04 40.0 +0.7
HVU Hansel Valley 5.88 253 Pn 20 04 38.8 -0.9
PV07 Paradox Valley 5.89 207 Pn 20 04 41.2 +1.3
PV21 Cone Mtn., Par 5.89 210 Pn 20 04 41.4 +1.5
PV23 Carpenter Ridg 6.00 210 Pn 20 04 41.9 +0.5
PV09 Paradox Valley 6.01 211 Pn 20 04 42.8 +1.3
PV20 West Nyswonger 6.09 209 Pn 20 04 41.9 -0.7
PV11 David Mesa, Pa 6.09 208 Pn 20 04 42.0 -0.6
PV16 Nyswonger Mesa 6.10 208 Pn 20 04 43.0 +0.3
SRU San Rafael Swe 6.10 222 Pn 20 04 37.6 -5.0
S22A 4UR Ranch, Cre 6.11 192 Pn 20 04 42.0 -0.9
PV19 Morning Glory 6.12 209 Pn 20 04 39.5 -3.5
PV03 Paradox Valley 6.12 208 Pn 20 04 40.4 -2.7
PV02 Paradox Valley 6.13 207 Pn 20 04 42.2 -0.9
PV17 East Wray Mesa 6.14 208 Pn 20 04 42.0 -1.2
PV18 Skein Mesa, Pa 6.15 208 Pn 20 04 41.7 -1.7
PV13 Radium Mtn., P 6.20 207 Pn 20 04 44.6 +0.4
ECSD EROS Data Cent 6.25 87 Pn 20 04 45.9 +1.3
TMUT Trail Mountain 6.31 227 Pn 20 04 45.0 -0.6
BGU Big Grassy Mou 6.42 247 Pn 20 04 46.8 -0.3
CBKS Cedar Bluff 6.44 138 Pn 20 04 49.0 +1.8
Q16A Castle Valley 6.57 225 Pn 20 04 49.9 +0.8
T25A Trinidad 6.63 174 Pn 20 04 51.1 +1.1
DUG Dugway, Tooele 6.66 240 Pn 20 04 50.5 +0.1
MVCO Mesa Verde 6.98 202 Pn 20 04 55.0 +0.1
MSU Marysvale 7.39 227 Pn 20 04 59.8 -0.7
JTMT Jette 7.48 305 Pn 20 05 02.7 +1.1
MTPU Mount Pierson 7.75 225 Pn 20 05 05.3 -0.2
PLID Pearl Lake 7.82 284 Pn **Pn 20 05 09.5 +3.2**
AGMN Agassiz Nation 7.96 52 Pn 20 04 05.0 +1.0
PSUT Pine Spring 8.32 234 Pn 20 05 14.7 +1.5
I10CA LAC DU BONNET 9.02 41 *i* 21 00 10.0
baz=220,slow=316,SNR=1.0
ULM Lac du Bonnet 9.12 41 Pn **Pn 20 05 24.4 +0.4**
comp=E,1.9nm,0.3s,baz=228,slow=12,SNR=12
ULM Lg Lg 20 07 56.0
comp=E,0.7nm,0.3s,baz=325,slow=12,SNR=1.8
ULM LR LR 20 08 54.8
comp=E,66nm,18.9s,baz=265,slow=37
ULM Lac du Bonnet 9.12 41 Pn 20 05 23.4 -0.6
WUAZ Wupatki 9.48 212 Pn 20 05 31.3 +2.3
NVAR Mina Array Bea 11.19 246 Pn **Pn 20 05 52.7 +0.2**
comp=E,0.2nm,0.3s,baz=47,slow=11,SNR=5.7
FFC Flin Flon 11.20 10 Pn 20 05 50.9 -1.3
TXAR Lajitas Array 14.44 174 Pn **P 20 06 45.5 +1.8**
comp=E,0.1nm,0.3s,baz=354,slow=10,SNR=3.5
X43A Marvell 14.44 125 P P 20 06 40.6 -3.0
ARCES ARCESS Array B 61.41 18 P **P 20 13 28.2 +0.1**
comp=E,4.0nm,0.8s,baz=340,slow=6.6,SNR=4.3
ARCES ARCESS Array B 61.41 18 P P 20 13 28.5 +0.4
ASAJ Asahikawa 73.68 316 LR LR 20 47 40.5
comp=E,55nm,19.2s,baz=349,slow=36
ZALV Zalesovo Beam 82.30 354 P P 20 15 33.8 0.0
comp=E,1.0nm,0.6s,baz=3.6,slow=5.1,SNR=4.7
MKAR Makanchi Array 89.60 355 P P 20 16 10.1 0.0
comp=E,0.6nm,0.6s,baz=12,slow=6.3,SNR=4.7
MKAR Makanchi Array 89.60 355 P P 20 16 10.2 +0.1

IDC 05 20:22:53.0±1.7, 13°.11N×143°.85E, h142km±42km, mb2.9/4, mb1 3.2/4, mb1mx3.0/42, mbtmp3.4/4, Error ellipse: s-maj=81.4km s-min=22.4km az=78.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.10**	**64**	P	Pn	20 23 18.1	+0.2
	23nm,0.3s,baz=226,slow=4.2,SNR=14						
GUMO				S	Sn	20 23 37.0	+0.2
	162nm,0.3s,baz=212,slow=23,SNR=44						
WRA	**Warramunga Arr**	**34.15**	**196**	P	P	20 29 24.3	-0.5
	0.6nm,0.9s,baz=22,slow=9.2,SNR=3.1						
ASAR	**Alice Springs**	**37.83**	**195**	P			
	0.3nm,0.9s,baz=16,slow=14,SNR=4.6						
CMAR	**Chiang Mai Arr**	**43.45**	**283**	P	P	20 30 41.8	-0.6
	0.2nm,0.4s,baz=78,slow=6.8,SNR=5.1						
MKAR	**Makanchi Array**	**61.15**	**316**	P	P	20 32 52.7	+0.1
	0.2nm,0.5s,baz=93,slow=6.9,SNR=3.9						

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*BJI **05** 20:47:02.2±0.0, 1°.37N×89°.59E, h15km, mb5.1/71, mB5.1/56, Ms5.0/75, Ms7 4.7/66*
*MOS **05** 20:47:04.9±0.9, 1°.83N×89°.69E, h9km, mb5.3/35, MS4.5/5, Error ellipse: s-maj=6.0km s-min=4.1km az=113.1*
*IDC **05** 20:47:05.3±0.4, 1°.84N×89°.61E, h0km, mb4.6/32, mb1 4.7/36, mb1mx4.6/49, mbtmp4.6/36, ML4.6/4, MS4.3/27, Ms1 4.3/27, ms1mx4.2/41, Error ellipse: s-maj=12.8km s-min=9.9km az=37.0*
*NEIC **05** 20:47:06.5±1.7, 1°.83N±0°.07×89°.66E±0°.06, h10km±3km, mb5.3/162, Mwb5.1, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr0.23; Mθθ-2.99; Mφφ2.75; Mrθ2.70; Mrφ-3.37; Mθr-0.95; Fault plane solution: M0=5.28000×1016 NP1:φ200.40000°, δ57.02000°, λ1.66000°. NP2:φ109.50000°, δ88.61000°, λ147.01000°. Principal axes: T 5.1917, Plg24.0000°, Azm60.0000°; N 0.1697, Plg57.0000°, Azm287.0000°; P -5.3613, Plg22.0000°, Azm160.0000°;*
*ISCJB **05** 20:47:07.2±0.9, 1°.84N±0°.02×89°.69E±0°.02, h23km±6km, mb5.0/139, MS4.5/48 Error ellipse: s-maj=4.0km s-min=2.7km az=41.0*
*GCMT **05** 20:47:08.5±0.2, 1°.78N±0°.01×89°.63E±0°.01, h22km±1km, MW5.2/107, Moment Tensor Solution. s74,c104; s107,c181; Duration: 1s0 Moment tensor: Scale 1016 Nm; Mrr0.37±.16; Mθθ-3.27±.14; Mφφ2.90±.14; Mrθ2.00±.25; Mφφ-6.75±.14; Mθr-2.92±.29; Best double couple: M0=8.17000×1016 NP1:φ100.00000°, δ75.00000°, λ163.00000°. NP2:φ195.00000°, δ73.00000°, λ16.00000°. Principal axes: T 8.7330, Plg23.0000°, Azm57.0000°; N -1.1280, Plg67.0000°, Azm239.0000°; P -7.6080, Plg1.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 20:47:08.8±0.5, 1°.85N±0°.04×89°.63E±0°.04, h24km±3km, h24km:pP-P, n649, σ1°38/646, mb5.2/224, MS4.5/48, 37C-28D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**6.68**	**40**	*e*P	**Pn**	**20 48 44.8**	**-0.7**
CMBY				*e*S	**Sn**	**20 49 57.3**	**-3.7**
CMBY				IAML		20 50 08.2	
	comp=E,2μm,0.7s						
CMBY				IAML		20 50 14.3	
	comp=N,2μm,0.3s						
SNSI	**Sinabang, Aceh**	**6.71**	**85**	P	**Pn**	**20 48 45.6**	**-0.4**
MLSI	**Meulaboh, Aceh**	**7.18**	**70**	P	**Pn**	**20 48 52.2**	**-0.2**
TPTI		**7.67**	**79**	P	**Pn**	**20 48 59.8**	**+0.7**
GSI	**Gunungsitoli**	**7.96**	**94**	P	**Pn**	**20 49 03.6**	**+0.5**
LHMI	**Lhok Sumawe**	**8.04**	**65**	P	**Pn**	**20 49 04.8**	**+0.6**
PBSI	**Pulau Batu**	**8.85**	**102**	P	**Pn**	**20 49 15.9**	**+0.5**
RPSI	**Rantau Prapat**	**9.32**	**85**		**Pn**	**20 49 20.0**	**-1.9**
RPSI	**Rantau Prapat**	**9.32**	**85**		**Pn**	**20 49 21.6**	**-0.2**
RPSI					**Sn**	**20 51 03.9**	**-2.2**
PSI	**Prapat**	**9.33**	**84**	Pn	**Pn**	**20 49 21.6**	**-0.5**
	comp=N,5.0nm,0.3s,baz=275,slow=5.3,SNR=23						
PSI				Sn	**Sn**	**20 51 03.9**	**-2.6**
	comp=N,9.8nm,0.3s,baz=140,slow=22,SNR=4.0						
PSI				LR	LR	20 53 15.0	
	comp=N,2μm,18.2s,baz=248,slow=40						
SISI	**Saibi**	**9.97**	**108**	P	**Pn**	**20 49 28.3**	**-2.4**
PBA	**Port Blair**	**10.22**	**17**	Pn	Pn	20 49 34.2	+0.1
PBA					Sn	20 51 27.6	-0.4
PALK	**Pallekele**	**10.40**	**301**	*i* P	**Pn**	**20 49 34.7**	**-2.0**
	SNR=26						
PALK	**Pallekele**	**10.40**	**301**	*c i*P	**Pn**	**20 49 34.7**	**-2.0**
PALK	**Pallekele**	**10.40**	**301**	Pn	**Pn**	**20 49 34.8**	**-1.9**
	comp=N,11nm,0.3s,baz=116,slow=10,SNR=44						
PALK				Sn	Sn	20 51 22.5	-10
	comp=N,68nm,0.3s,baz=296,slow=3.7,SNR=9.8						
PALK				LR	LR	20 53 05.5	
	comp=N,2μm,18.1s,baz=117,slow=35						
PALK	**Pallekele**	**10.40**	**301**		**Pn**	**20 49 34.6**	**-2.0**
PKDT	**Phuket**	**10.54**	**55**	P	**Pn**	**20 49 38.5**	**-0.1**
	comp=N,349nm,0.9s,comp=N,5μm						
PDSI	**Padang**	**11.17**	**104**	P	**Pn**	**20 49 45.7**	**-1.5**
PPSI	**Pulau Pagai**	**11.34**	**114**	P	**Pn**	**20 49 48.6**	**-0.9**
BKNI	**Bangkinang**	**11.51**	**97**	P	**Pn**	**20 49 51.8**	**0.0**
SURT	**Suratani**	**11.53**	**52**	P	**Pn**	**20 49 52.0**	**-0.1**
	comp=N,461nm,1.1s,comp=N,5μm						
TRTT	**Trang**	**11.65**	**59**	P	**Pn**	**20 49 53.1**	**-0.7**
	comp=N,124nm,1.5s,comp=N,2μm						
IPM	**Ipoh**	**11.67**	**77**		**Pn**	**20 49 52.9**	**-1.1**
DGPR	**DIGLIPUR**	**11.72**	**16**	*e*P	**Pn**	**20 49 55.6**	**+0.9**
SDSI	**Sungai Dareh**	**12.12**	**103**	P	**Pn**	**20 49 59.8**	**-0.3**
SKLT	**Songkhla**	**12.16**	**64**	P	**Pn**	**20 50 02.8**	**+2.1**
	comp=N,83nm,1.0s,comp=N,1μm						
KRJI	**Kerinci**	**12.46**	**108**	P	**Pn**	**20 50 03.7**	**-1.2**
RGRI	**Rengat**	**12.89**	**100**	P	**Pn**	**20 50 13.1**	**+2.4**
MYKOM	**Kota Tinggi**	**14.21**	**90**	Pn	**Pn**	**20 50 29.4**	**+0.7**
MDRS	**Chennai**	**14.51**	**321**	*e*P	**Pn**	**20 50 34.1**	**+1.3**
MNAI	**Manna**	**14.67**	**115**	P	**Pn**	**20 50 35.0**	**-0.1**
PHET	**Kaeng Krachan**	**14.79**	**42**	P	**Pn**	**20 50 36.9**	**+0.2**
	comp=N,181μm,1.2s						
TPRI	**Tanjung Pinang**	**14.92**	**93**	P	**Pn**	**20 50 37.9**	**-0.5**
LHSI	**Lahat**	**14.98**	**112**	P	**Pn**	**20 50 39.0**	**-0.3**
DSRI	**Dabo**	**15.12**	**99**	P	**Pn**	**20 50 41.5**	**+0.4**
SRDT	**SRDT**	**15.56**	**37**	P	**Pn**	**20 50 47.8**	**+0.9**
	comp=N,46nm,1.5s,comp=N,7μm						
KHLT	**Khaolaem Dam**	**15.61**	**34**	P	**Pn**	**20 50 43.7**	**-3.8**
	comp=N,55nm,1.8s,comp=N,1μm						
PATY	**Pattaya**	**15.65**	**45**	P	**Pn**	**20 50 49.4**	**+1.5**
	comp=N,147μm,1.3s						
LWLI	**Liwa**	**15.95**	**115**	P	**Pn**	**20 50 53.4**	**+1.5**
KLSI		**16.43**	**113**	P	**P**	**20 51 00.0**	**-0.5**
KASI	**Kota Agung**	**16.55**	**116**	P	**Pn**	**20 51 00.7**	**+1.1**
KLI	**Kotabumi**	**16.61**	**114**	P	**Pn**	**20 51 00.4**	**+0.1**
UTHA	**Uthaitani**	**16.71**	**35**	P	**Pn**	**20 51 01.3**	**-0.2**
	comp=N,118μm,1.2s						
UMPA	**Umpang Tak**	**16.92**	**32**	P	**Pn**	**20 51 01.9**	**-2.3**
	comp=N,116μm,1.0s,comp=N,922μm						
VIS	**Vishakhapatnam**	**16.95**	**339**	*i* P	**Pn**	**20 51 04.7**	**+0.2**
BLSI	**Bandar Lampung**	**17.16**	**115**	P	**P**	**20 51 08.8**	**0.0**
MNCI	**Minicoy**	**17.69**	**292**	P	**P**	**20 51 16.5**	**+1.9**
MNCI				IAmb	IAmb	20 51 48.9	
	comp=Z,406nm,1.6s						
CGJI	**Cibinong**	**18.10**	**118**	P	**P**	**20 51 19.3**	**+0.2**
MHMT	**Maesarieng**	**18.16**	**26**	P	**P**	**20 51 20.2**	**+0.5**
	comp=Z,207nm,0.9s,comp=Z,2μm						
PBKT	**Sadao Pong**	**18.40**	**37**	P	**Pn**	**20 51 22.6**	**+0.1**
	comp=Z,111nm,1.1s,comp=Z,2μm						
PBKT	**Sadao Pong**	**18.40**	**37**		**Pn**	**20 51 23.1**	**+0.6**
PBKT				IAmb	IAmb	20 51 26.5	
	comp=Z,169nm,1.0s						
SIMRM	**Sittwe**	**18.45**	**10**	P	**P**	**20 51 21.6**	**-1.3**
SIMRM				IAmb	IAmb	20 51 59.7	
	comp=Z,51nm,1.1s						
CHAI	**Chaiyaphum**	**18.53**	**40**	P	**Pn**	**20 51 24.5**	**+0.4**
	comp=Z,179μm,1.0s						
TPI	**Tanjungpandan**	**18.59**	**104**	P	**Pn**	**20 51 25.9**	**+1.1**
CM31	**Chiang Mai Arr**	**18.86**	**28**	P	**Pn**	**20 51 28.6**	**+0.5**
	SNR=33						
CM31	**Chiang Mai Arr**	**18.86**	**28**	P	**P**	**20 51 27.4**	**-0.1**
CM31				IAmb	IAmb	20 51 37.1	
	comp=Z,89nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.86**	**28**	P	**P**	**20 51 27.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=220,slow=12,SNR=131						
HYB	**Hyderabad**	**18.92**	**326**	*i* P	**P**	**20 51 28.0**	**-0.1**
	comp=Z,180nm,1.0s						
HYB				*e*S	Sn	20 54 42.0	-18
HYB	**Hyderabad**	**18.92**	**326**	⇓*i* P	**Pn**	**20 51 30.1**	**+1.2**
CHTO	**Chiang Mai**	**19.17**	**28**	P	**Pn**	**20 51 31.9**	**0.0**
	SNR=33						
CHTO	**Chiang Mai**	**19.17**	**28**	P	**P**	**20 51 30.4**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,110nm,1.1s						
CHTO	**Chiang Mai**	**19.17**	**28**	P	**P**	**20 51 30.4**	**-0.5**
CHTO				IAmb	IAmb	20 51 39.8	
	comp=Z,110nm,1.1s						
CMMT	**Chiang Mai**	**19.17**	**28**	P	**Pn**	**20 51 31.9**	**0.0**
	comp=Z,54nm,1.2s,comp=Z,937nm						
LAMP	**Lampang**	**19.26**	**30**	P	**Pn**	**20 51 34.1**	**+1.3**
	comp=Z,112μm,1.0s						
DGAR	**Diego Garcia**	**19.45**	**242**	P	**P**	**20 51 34.1**	**+0.1**
DGAR				pmax	pmax		
	comp=Z,220nm,1.1s						
DGAR	**Diego Garcia**	**19.45**	**242**	P	**P**	**20 51 34.1**	**+0.1**
DGAR				IAmb	IAmb	20 52 07.4	
	comp=Z,220nm,1.1s						
H08S2	**Diego Garcia H**	**19.52**	**241**	T	T	21 11 45.6	
	baz=61,slow=75,SNR=367						
H08S3	**Diego Garcia H**	**19.52**	**241**	T	T	21 11 31.9	
	baz=61,slow=75,SNR=411						
H08S1	**Diego Garcia H**	**19.54**	**241**	T	T	21 11 47.1	
	baz=61,slow=75,SNR=558						
LEM	**Lembang**	**19.91**	**116**	P	**Pn**	**20 51 40.5**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=292,slow=19,SNR=4.1						
LEM				LR	LR	20 58 48.5	
	comp=Z,1μm,18.1s,baz=300,slow=35						
LEM	**Lembang**	**19.91**	**116**	P	**Pn**	**20 51 40.6**	**-0.3**
PAYA	**Payao**	**20.08**	**29**	P	Pn	20 51 42.7	0.0
	comp=Z,136μm,1.6s						
XMIS	**Christmas Isla**	**20.11**	**128**	P	**P**	**20 51 41.0**	**-0.1**
XMIS				IAmb	IAmb	20 51 53.2	
	comp=Z,103nm,1.0s						
JCJI	**Jatiwangi**	**20.37**	**114**	P	**P**	**20 51 44.9**	**+1.0**
CISI	**Cisompet, Garu**	**20.41**	**117**	P	**P**	**20 51 43.5**	**-0.9**
GOA	**Goa**	**20.66**	**312**	*e*P	**P**	**20 51 48.3**	**+1.2**
KSM	**Kuching**	**20.67**	**91**	P	**P**	**20 51 47.0**	**-0.3**
KSM				IAmb	IAmb	20 52 21.5	
	comp=Z,47nm,1.0s						
NONG	**Nongkai**	**20.87**	**39**	P	**P**	**20 51 50.0**	**+0.7**
	comp=Z,9.8nm,1.1s,comp=Z,252nm						
CMJI	**Cimerak**	**21.07**	**117**	P	**P**	**20 51 54.2**	**+2.7**
DLV	**T Lat**	**21.21**	**61**	P	**P**	**20 51 53.7**	**+0.4**
DLV				IAmb	IAmb	20 51 55.7	
	comp=Z,332nm,1.0s						
KPJI	**Karang Pucung**	**21.31**	**116**	P	**P**	**20 51 55.3**	**+1.2**
NGP	**Nagpur**	**21.78**	**332**	*e*P	**P**	**20 52 00.5**	**+1.3**
STKI	**Sintang**	**21.91**	**94**	P	**P**	**20 52 01.7**	**+1.1**
BOK	**Bokaro**	**22.12**	**351**	*e*P	**P**	**20 52 04.7**	**+2.0**
BOK				IAmb	IAmb	20 52 17.8	
	comp=Z,359nm,1.6s						
BOK				*e*S	**S**	**20 56 11.2**	**+5.8**
SMRI	**Semarang**	**22.57**	**113**	P	**P**	**20 52 07.5**	**-0.2**
SBUM	**Sibu**	**22.58**	**88**	P	**P**	**20 52 07.4**	**-0.4**
SBUM				IAmb	IAmb	20 52 29.2	
	comp=Z,21nm,1.0s						
POO	**Poona**	**22.68**	**318**	*i* x	Sn	20 56 26.5	-4.1
YOGI	**Yogyakarta**	**22.74**	**115**	P	**P**	**20 52 10.4**	**+0.9**
UGM	**Wanagama**	**22.98**	**115**	P	**P**	**20 52 13.4**	**+1.4**
BOM	**Bombay**	**23.63**	**317**	AMP		20 52 28.9	
	comp=Z,228nm,1.9s						
SHL	**Shillong**	**23.68**	**5**	P	**P**	**20 52 18.7**	**-0.3**
	SNR=22						
SHL	**Shillong**	**23.68**	**5**	P	**P**	**20 52 18.2**	**-0.8**
SHL				pmax	pmax		
	comp=Z,81nm,1.0s						
SHL	**Shillong**	**23.68**	**5**	*e*P	**P**	**20 52 17.8**	**-1.2**
SHL	**Shillong**	**23.68**	**5**	P	**P**	**20 52 18.2**	**-0.8**
SHL				IAmb	IAmb	20 52 40.7	
	comp=Z,81nm,1.0s						
PCJI	**Pacitan**	**23.69**	**115**	P	**P**	**20 52 20.3**	**+1.3**
SLVN	**Son La**	**23.84**	**35**	P	**P**	**20 52 20.4**	**-0.1**
SLVN				IAmb	IAmb	20 52 23.3	
	comp=Z,236nm,1.2s						
PWJI	**Pagerwojo**	**24.19**	**114**	P	**P**	**20 52 25.0**	**+1.3**
BHPL	**Bhopal**	**24.34**	**332**	*e*P	**P**	**20 52 27.1**	**+2.0**
BHPL				IAmb	IAmb	20 52 38.5	
	comp=Z,88nm,1.4s						
GRJI	**Gresik**	**24.41**	**111**	P	**P**	**20 52 23.6**	**-2.1**
ODAN	**Odare**	**24.96**	**355**	*e*P	**P**	**20 52 32.6**	**+1.7**
	comp=Z,393nm,1.0s						
RAMN	**Ramite**	**25.13**	**354**	*e*P	**P**	**20 52 34.9**	**+2.5**
	comp=Z,343nm,1.0s						
JORH	**JORHAT**	**25.15**	**10**	*e*P	**P**	**20 52 33.4**	**+1.1**
GTK	**Tadong**	**25.35**	**358**	⇑*i* P	**P**	**20 52 35.8**	**+1.6**
GTK				IAmb	IAmb	20 52 47.6	
	comp=Z,190nm,1.2s						
TAPN	**Taplejung**	**25.42**	**356**	*e*P	**P**	**20 52 37.0**	**+1.9**
	comp=Z,117nm,1.0s						
GMJI	**Gumukmas**	**25.79**	**113**	P	**P**	**20 52 38.0**	**-0.2**
KMMI	**Kalianget**	**25.84**	**110**	P	**P**	**20 52 38.4**	**-0.4**
JIRN	**Jiri**	**25.88**	**353**	*e*P	**P**	**20 52 41.4**	**+2.1**
	comp=Z,1μm,1.2s						
PKI	**Pulchoki**	**25.89**	**351**	*e*P	**P**	**20 52 41.3**	**+1.9**
	comp=Z,334nm,1.4s						
PKIN	**Phulchoki**	**25.90**	**351**	*e*P	**P**	**20 52 41.0**	**+1.6**
DMN	**Daman**	**25.98**	**351**	*e*P	**P**	**20 52 42.3**	**+2.2**
	comp=Z,165nm,1.0s						
LKP	**Lekhapani**	**26.03**	**13**	⇑*i* P	**P**	**20 52 40.0**	**-0.3**
LKP				IAmb	IAmb	20 52 43.1	
	comp=Z,157nm,1.2s						
KKN	**Kakani**	**26.13**	**351**	*e*P	**P**	**20 52 43.4**	**+2.0**
	comp=Z,219nm,1.0s						
QIZ	**Qiongzhong**	**26.14**	**48**	P	**P**	**20 52 40.4**	**-1.0**
QIZ				sP	**pwP**	**20 52 53.6**	**+2.1**
QIZ				PP	**PnPn**	**20 53 20.0**	**-0.3**
QIZ				S	**S**	**20 57 08.8**	**-3.1**
QIZ				LR	LR		
	comp=Z,2μm,16.3s						
QIZ				LR	LR		
	comp=Z,990nm,15.1s						
QIZ				LR	LR		
	comp=Z,1μm,13.5s						
QIZ	**Qiongzhong**	**26.14**	**48**	P	**P**	**20 52 42.0**	**+0.6**
QIZ				IAmb	IAmb	20 52 45.8	
	comp=Z,85nm,1.0s						
KMI	**Kunming**	**26.37**	**28**	P	**P**	**20 52 45.6**	**+1.9**
KMI				pP	pP	20 52 49.6	-0.4
KMI				sP	sP	20 52 52.5	-0.1
KMI				S	**S**	**20 57 17.7**	**+1.9**
KMI				sS	sS	20 57 26.5	+0.2
KMI				pmax	pmax		
	comp=Z,66nm,1.3s						
KMI				pmax	pmax		
	comp=Z,210nm,3.1s						
KMI				LR	LR		
	comp=Z,1μm,17.2s						
KMI				LR	LR		
	comp=Z,760nm,18.4s						
KMI				LR	LR		
	comp=Z,1μm,17.2s						
KMI	**Kunming**	**26.37**	**28**	P	**P**	**20 52 44.8**	**+1.1**
KMI				pmax	pmax		
	comp=Z,79nm,1.1s						
KMI	**Kunming**	**26.37**	**28**	P	**P**	**20 52 44.8**	**+1.1**
KMI				IAmb	IAmb	20 52 46.9	
	comp=Z,79nm,1.1s						
KOLN	**Koldanda**	**26.41**	**348**	*e*P	**P**	**20 52 46.3**	**+2.3**
GKN	**Gorkha**	**26.44**	**350**	*e*P	**P**	**20 52 46.2**	**+2.0**
	comp=Z,248nm,1.2s						
JAGI	**Jajag, Banyuwa**	**26.51**	**113**	P	**P**	**20 52 44.3**	**-0.5**
KKM	**Kota Kinabalu**	**26.84**	**80**	P	**P**	**20 52 47.8**	**-0.1**
KKM				IAmb	IAmb	20 53 17.2	
	comp=Z,45nm,1.0s						
DANN	**Dangsing**	**26.94**	**349**	*e*P	**P**	**20 52 50.6**	**+1.7**
	comp=Z,97nm,1.0s						
SRBI	**Singaraja**	**27.35**	**111**	P	P	20 53 03.4	+11
LSA	**Lhasa**	**27.74**	**3**	P	**P**	**20 52 58.0**	**+1.8**
LSA	**Lhasa**	**27.74**	**3**	P	**P**	**20 52 57.3**	**+1.2**
LSA				pmax	pmax		
	comp=Z,87nm,1.2s						
LSA	**Lhasa**	**27.74**	**3**	P	**P**	**20 52 57.4**	**+1.2**
LSA				IAmb	IAmb	20 53 08.7	
	comp=Z,88nm,1.2s						
**GYA

CD2 pP pP 20 53 37.7 -0.8
CD2 S **S** **20 58 44.3 +2.8**
CD2 sS sS 20 58 53.8 +1.7
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,230nm,5.7s
CD2 LR LR
comp=Z,1μm,16.2s
CD2 LR LR
comp=Z,2μm,16.2s
CD2 LR LR
comp=Z,1μm,16.2s
APSI Ampana 32.13 95 P **P** **20 53 35.3 +0.5**
MRSI Marisa 32.33 92 P **P** **20 53 36.8 +0.3**
WSI Waingapu 32.62 111 P **P** **20 53 39.7 +0.7**
BASI Baing, Sumba 33.06 112 P **P** **20 53 43.8 +0.9**
TGY Tagaytay City 33.25 67 P **P** **20 53 46.5 +1.9**
comp=Z,149nm,0.3s,baz=310,slow=7.7,SNR=6.2
LUWI Luwuk 33.26 95 P **P** **20 53 44.8 +0.1**
KDI Kendari 33.47 100 P **P** **20 53 44.9 -1.6**
EDFI Ende, Flores 33.64 109 P **P** **20 53 48.8 +0.7**
BBSI Bau Bau 33.70 103 P **P** **20 53 48.8 +0.3**
ENH Enshi 33.97 32 P **P** **20 53 49.9 -0.7**
ENH IAmb IAmb 20 53 51.9
comp=Z,132nm,1.1s
MMRI Maumere 34.13 108 P **P** **20 53 53.0 +0.8**
GIRL Giralia 34.18 137 P **P** **20 53 54.0 +1.5**
KMSI Cibinong 34.36 92 P **P** **20 53 54.7 +0.4**
MSEY Mahe Island 34.73 259 P **P** **20 53 58.2 +0.6**
MSEY pmax pmax
comp=Z,32nm,1.1s
MSEY Mahe Island 34.73 259 P **P** **20 53 58.1 +0.6**
MSEY IAmb IAmb 20 54 11.7
comp=Z,32nm,1.1s
NIL Nilore 35.16 336 P **P** **20 54 01.5 +0.6**
NIL pmax pmax
comp=Z,74nm,0.8s
NIL Nilore 35.16 336 P **P** **20 54 01.5 +0.6**
NIL IAmb IAmb 20 54 12.8
comp=Z,74nm,0.8s
KCP Kidapawan 35.71 81 ||*i*P **P** **20 54 06.6 +0.6**
SGSI Sangihe 35.90 86 P **P** **20 54 07.5 0.0**
BATI Baumata 35.93 110 P **P** **20 54 06.3 -1.5**
comp=Z,25nm,0.7s,baz=262,slow=1.1,SNR=6.9
BATI Baumata 35.93 110 P **P** **20 54 07.8 0.0**
QZH Quanzhou 36.17 48 *e*P **P** **20 54 10.1 +0.5**
QZH *e*S **S** **20 59 48.3 0.0**
QZH LR LR
comp=Z,1μm,14.2s
QZH LR LR
comp=Z,1μm,16.1s
QZH LR LR
comp=Z,750nm,14.2s
DAV Davao City (W) 36.20 81 LR LR 21 11 32.2
comp=Z,258nm,18.1s,baz=242,slow=40
MHTO MHTO 36.26 304 P **P** **20 54 10.8 +0.3**
MHTO P **P** **20 54 10.8 +0.3**
SOEI Soe 36.37 109 P **P** **20 54 11.4 -0.3**
LZH Lanzhou 36.52 20 *e*P **P** **20 54 13.3 +0.5**
LZH sP sP 20 54 21.1 -0.6
LZH SS SS 21 02 25.0 -9.0
LZH pmax pmax
comp=Z,64nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,2μm,14.1s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,2μm,15.2s
SANI Sanana 36.56 96 P **P** **20 54 11.8 -1.3**
XAN Xi'an 36.75 27 P **P** **20 54 13.6 -1.0**
XAN PP **PnPn** **20 55 37.4 -1.2**
XAN PcP **PcP** **20 56 35.8 -1.0**
XAN S **S** **20 59 54.3 -2.9**
XAN ScS **ScS** **21 04 26.8 -2.4**
XAN pmax pmax
comp=Z,60nm,1.3s
XAN LR LR
comp=Z,590nm,17.8s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,1μm,15.9s
XAN Xi'an 36.75 27 P **P** **20 54 13.4 -1.2**
XAN pmax pmax
comp=Z,84nm,1.2s
XAN Xi'an 36.75 27 P **P** **20 54 13.4 -1.2**
XAN IAmb IAmb 20 54 15.1
comp=Z,84nm,1.2s
TPUB Ta-pu 36.84 52 P **P** **20 54 14.7 -0.8**
TPUB IAmb IAmb 20 54 48.9
comp=Z,183nm,1.6s
WHN Wuhan 36.92 37 ⇑P **P** **20 54 16.9 +0.9**
WHN S **S** **20 59 54.5 -5.2**
WHN pmax pmax
comp=Z,160nm,1.1s
WHN LR LR
comp=Z,3μm,17.9s
WHN LR LR
comp=Z,1μm,14.1s
WHN LR LR
comp=Z,3μm,17.8s
TWG Pinlang 36.95 53 P **P** **20 54 17.6 +1.2**
TWG IAmb IAmb 20 54 19.8
comp=Z,322nm,1.2s
SSLB Suanglung 37.35 52 P **P** **20 54 20.9 +1.1**
SSLB IAmb IAmb 20 54 22.9
comp=Z,73nm,1.2s
YULB Yu-li 37.42 53 P **P** **20 54 21.8 +1.4**
YULB IAmb IAmb 20 54 24.2
comp=Z,52nm,1.0s
PSA00 Pilbara Seismi 37.61 130 P **P** **20 54 21.4 -0.6**
PSA00 IAmb IAmb 20 54 23.2
comp=Z,38nm,1.0s
PSA00 Pilbara Seismi 37.61 130 P **P** **20 54 21.1 -0.9**
PSA00 IAmb IAmb 20 54 23.3
comp=Z,13nm,0.9s
TNTI Ternate 37.74 91 P **P** **20 54 23.3 +0.1**
KBL Kabul 37.77 332 P **P** **20 54 22.9 -0.5**
KBL pmax pmax
comp=Z,23nm,1.1s
KBL Kabul 37.77 332 P **P** **20 54 22.9 -0.5**
KBL IAmb IAmb 20 54 39.4
comp=Z,23nm,1.1s
NLAI Namlea 37.79 98 P **P** **20 54 24.1 +0.5**
LBMI Labuha 37.95 93 P **P** **20 54 26.8 +1.9**
NACB Ninganchiao 38.05 52 P **P** **20 54 24.6 -1.0**
NACB IAmb IAmb 20 54 45.9
comp=Z,210nm,2.0s
GTA Gaotai 38.52 13 ⇑P **P** **20 54 30.8 +1.2**
GTA pP pP 20 54 33.9 -2.1
GTA PP **PnPn** **20 56 03.2 +3.2**
GTA S **S** **21 00 25.8 +1.7**
GTA SS **SnSn** **21 03 06.3 -5.7**
GTA pmax pmax
comp=Z,81nm,1.2s
GTA pmax pmax
comp=Z,290nm,5.2s
GTA LR LR
comp=Z,430nm,18.2s
GTA LR LR
comp=Z,490nm,16.8s
GTA LR LR
comp=Z,500nm,18.6s
WHFO Wadi Hawf 38.65 297 P **P** **20 54 31.6 +0.7**
KSH Kashi 39.51 343 P **P** **20 54 37.1 -0.7**
KSH pP pP 20 54 41.4 -2.8
KSH PcP **PcP** **20 56 46.5 +1.2**
KSH S **S** **21 00 36.4 -2.5**
KSH SS **SS** **21 03 22.0 -12**
KSH pmax pmax
comp=Z,50nm,0.9s
KSH pmax pmax
comp=Z,660nm,3.8s
KSH LR LR
comp=Z,620nm,14.0s
KSH LR LR
comp=Z,1μm,15.3s
KSH LR LR
comp=Z,680nm,17.8s
MSAI Masohi 39.62 97 P **P** **20 54 38.3 -0.7**
MEEK Meekatharra 39.80 137 P **P** **20 54 41.1 +0.8**
baz=40,SNR=20
MORW Morawa 39.81 143 P **P** **20 54 41.9 +1.6**
baz=40,SNR=6.1
MORW Morawa 39.81 143 P **P** **20 54 41.4 +1.1**
MORW IAmb IAmb 20 54 42.4
comp=Z,27nm,0.9s
RER Riviere de l'E 40.27 234 P **P** **20 54 44.9 +0.5**
RER IAmb IAmb 20 54 56.1
comp=Z,39nm,0.9s
FITZ Fitzroy Crossi 40.61 121 P **P** **20 54 47.0 -0.2**
baz=41,SNR=9.4
FITZ Fitzroy Crossi 40.61 121 P **P** **20 54 47.0 -0.2**
comp=Z,7.4nm,0.8s,baz=300,slow=4.9,SNR=15
FITZ Fitzroy Crossi 40.61 121 P **P** **20 54 46.6 -0.6**
FITZ IAmb IAmb 20 55 12.9
comp=Z,15nm,1.1s
BNDI Bandanaira 40.74 99 P **P** **20 54 48.9 +0.7**
NJ2 Nanjing 40.74 39 *e*P **P** **20 54 48.8 +0.8**
NJ2 pP **pwP** **20 54 58.7 +0.5**
NJ2 pmax pmax
comp=Z,32nm,0.9s
NJ2 pmax pmax
comp=Z,390nm,4.6s
NJ2 LR LR
comp=Z,1μm,13.7s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,1μm,16.1s
TARG Taragay, Kyrgy 41.11 347 P **P** **20 54 50.5 -0.9**
TARG IAmb IAmb 20 55 03.4
comp=Z,40nm,0.9s
HRA Herat 41.24 325 P **P** **20 54 53.7 +1.3**
HRA IAmb IAmb 20 55 08.7
comp=Z,27nm,1.0s
NRN Naryn 41.28 344 P **P** **20 54 53.4 +0.7**
NRN Naryn 41.28 344 P **P** **20 54 53.4 +0.7**
TIY Taiyuan 41.39 28 *e*P **P** **20 54 54.1 +0.7**
TIY S **S** **21 01 05.8 -1.2**
TIY pmax pmax
comp=Z,32nm,0.9s
TIY pmax pmax
comp=Z,210nm,7.1s
TIY LR LR
comp=Z,520nm,13.0s
TIY LR LR
comp=Z,1μm,19.7s
TIY LR LR
comp=Z,1μm,17.8s
KDJ Kajisay 41.63 346 P **P** **20 54 55.7 +0.3**
KDJ pmax pmax
comp=Z,35nm,1.1s
KDJ Kajisay 41.63 346 P **P** **20 54 55.7 +0.3**
KDJ IAmb IAmb 20 55 11.6
comp=Z,35nm,1.1s
SSE Sheshan 41.66 42 P **P** **20 54 56.5 +0.9**
SSE IAmb IAmb 20 54 59.2
comp=Z,35nm,0.8s
PRZ Przheval'sk 41.69 347 P **P** **20 54 57.3 +1.4**
PRZ pmax pmax
comp=Z,79nm,0.9s
PRZ Przheval'sk 41.69 347 P **P** **20 54 57.3 +1.4**
PRZ IAmb IAmb 20 55 09.0
comp=Z,79nm,0.9s
BTK Batken 41.70 338 P **P** **20 54 57.1 +1.2**
BTK pmax pmax
comp=Z,19nm,0.9s
BTK Batken 41.70 338 P **P** **20 54 57.1 +1.2**
BTK IAmb IAmb 20 55 09.1
comp=Z,19nm,0.8s
WMQ Urumqi 41.83 358 *e*P **P** **20 54 58.1 +1.2**
WMQ pP pP 20 55 04.0 +0.7
WMQ sP pwP 20 55 07.6 +0.4
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,400nm,25.5s
WMQ LR LR
comp=Z,340nm,29.3s
WMQ LR LR
comp=Z,730nm,25.7s
WMQ Urumqi 41.83 358 P **P** **20 54 57.8 +0.9**
WMQ pmax pmax
comp=Z,52nm,1.3s
WMQ Urumqi 41.83 358 P **P** **20 54 57.8 +0.9**
WMQ IAmb IAmb 20 55 12.9
comp=Z,52nm,1.3s
MUN Mundaring 42.03 145 P **P** **20 54 59.3 +0.7**
baz=42,SNR=7.3
ARSB Arslanbob 42.07 341 P **P** **20 54 59.5 +0.5**
ARSB IAmb IAmb 20 55 15.9
comp=Z,52nm,1.0s
BOOM Boomskoye usch 42.28 345 P **P** **20 55 01.5 +0.8**
BOOM Boomskoye usch 42.28 345 P **P** **20 55 01.5 +0.8**
KNRA Kununurra 42.42 116 P **P** **20 55 01.6 -0.3**
KNRA IAmb IAmb 20 55 13.7
comp=Z,36nm,1.2s
UCH Uchtor 42.43 343 P **P** **20 55 04.0 +1.7**
SNR=11
AML Almayashu 42.58 342 P **P** **20 55 05.3 +1.9**
SNR=9.4
TIA Tai'an 42.62 33 P **P** **20 55 03.8 +0.4**
TIA pmax pmax
comp=Z,22nm,1.2s
KLBR Kellerberrin 42.65 144 P **P** **20 55 03.7 +0.1**
baz=43,SNR=51
KBK Karagaybulak 42.70 344 P **P** **20 55 06.4 +2.2**
SNR=7.6
BTO Baotou 42.77 23 *e*P **P** **20 55 04.8 +0.2**
TKM2 Tokmak 2 42.78 345 P **P** **20 55 06.2 +1.4**
SNR=10
AAK Ala-Archa 42.81 344 *i*P **P** **20 55 07.3 +2.3**
SNR=14
AAK Ala-Archa 42.81 344 P **P** **20 55 07.6 +2.6**
SNR=14
AAK P **P** **20 55 07.6 +2.6**
SNR=14
AAK Ala-Archa 42.81 344 *de*P **P** **20 55 07.3 +2.3**
AAK pmax pmax
comp=Z,16nm,1.7s
AAK Ala-Archa 42.81 344 P **P** **20 55 07.4 +2.4**
SNR=6.2
AAK Ala-Archa 42.81 344 P **P** **20 55 05.2 +0.2**
AAK IAmb IAmb 20 55 26.0
comp=Z,29nm,1.2s
FRU1 Bishkek 42.94 344 P **P** **20 55 06.6 +0.7**
FRU1 pmax pmax
comp=Z,33nm,1.3s
FRU1 Bishkek 42.94 344 P **P** **20 55 06.6 +0.7**
FRU1 IAmb IAmb 20 55 33.1
comp=Z,33nm,1.3s
EKS2 Erkin-Say 43.04 343 P **P** **20 55 08.9 +2.1**
SNR=7.5
H01W3 Cape Leeuwin H 43.16 150 T T 21 40 36.5
baz=325,slow=74,SNR=134
H01W2 Cape Leeuwin H 43.17 150 T T 21 40 42.0
baz=325,slow=74,SNR=94
H01W1 Cape Leeuwin H 43.18 150 T T 21 40 38.2
baz=325,slow=74,SNR=110
NWAO Narrogin (SRO) 43.32 145 P **P** **20 55 09.1 0.0**
baz=44,SNR=7.7
NWAO Narrogin (SRO) 43.32 145 P **P** **20 55 09.0 0.0**
comp=Z,23nm,0.7s,baz=306,slow=8.0,SNR=11
NWAO Narrogin (SRO) 43.32 145 P **P** **20 55 08.6 -0.4**
NWAO IAmb IAmb 20 55 20.2
comp=Z,30nm,0.8s
TAS Tashkent 43.38 338 P **P** **20 55 10.2 +0.7**
TAS pmax pmax
comp=Z,42nm,0.9s
TAS Tashkent 43.38 338 P **P** **20 55 10.2 +0.7**
TAS IAmb IAmb 20 55 21.9
comp=Z,42nm,0.9s
USP Ospenovka 43.39 344 P **P** **20 55 11.0 +1.5**
SNR=7.3
HHC Hu-ho-hao-te 43.60 24 *e*P **P** **20 55 13.4 +2.1**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,38nm,4.9s
MTN Manton Dam 43.70 111 P **P** **20 55 10.6 -1.8**
baz=44,SNR=3.6
MTN Manton Dam 43.70 111 P **P** **20 55 11.7 -0.6**
MTN IAmb IAmb 20 55 24.3
comp=Z,18nm,1.1s
KK31 Karatay Array 44.48 340 P **P** **20 55 18.9 +0.6**
KK31 pmax pmax
comp=Z,43nm,1.3s
KK31 Karatay Array 44.48 340 P **P** **20 55 18.9 +0.6**
KK31 IAmb IAmb 20 55 34.7
comp=Z,43nm,1.2s
KKAR Karatay Array 44.48 340 P **P** **20 55 18.6 +0.3**
KKAR 20 55 18.9
KKAR pmax pmax
comp=Z,43nm,1.3s
KKAR Karatay Array 44.48 340 P **P** **20 55 18.6 +0.3**
KKAR Karatay Array 44.48 340 P **P** **20 55 18.9 +0.6**
KKAR IAmb IAmb 20 55 34.7
comp=Z,43nm,1.2s
KDU Kakadu 44.91 110 P **P** **20 55 21.6 -0.4**
baz=45,SNR=7.8
BJT Baijiatuau 44.99 29 P **P** **20 55 23.0 +0.6**
BJT pmax pmax
comp=Z,47nm,1.1s
BJT Baijiatuau 44.99 29 P **P** **20 55 23.0 +0.6**
BJT IAmb IAmb 20 55 25.1
comp=Z,47nm,1.1s
BJI Beijing 45.01 29 ⇑*i*P **P** **20 55 23.6 +1.1**
BJI PP **PP** **20 57 08.4 +0.4**
BJI S **S** **21 02 03.3 +3.5**
BJI pmax pmax
comp=Z,40nm,1.4s
BJI LR LR
comp=Z,750nm,16.7s
BJI LR LR
comp=Z,410nm,18.1s
KMBL Kambalda 45.05 140 P **P** **20 55 23.1 +0.1**
baz=45,SNR=6.2
MK31 Makanchi Array 45.22 353 P **P** **20 55 23.8 -0.3**
MK31 pmax pmax
comp=Z,17nm,1.0s
MK31 Makanchi Array 45.22 353 P **P** **20 55 23.8 -0.3**
MK31 IAmb IAmb 20 55 34.9
comp=Z,17nm,0.9s
MKAR Makanchi Array 45.22 353 P **P** **20 55 24.6 +0.5**
comp=Z,4.5nm,0.7s,baz=173,slow=9.5,SNR=30
MKAR Makanchi Array 45.22 353 P **P** **20 55 23.5 -0.7**
MAKZ Makanchi 45.28 353 P **P** **20 55 24.2 -0.4**
MAKZ pmax pmax
comp=Z,24nm,1.1s
MAKZ Makanchi 45.28 353 P **P** **20 55 24.2 -0.4**
MAKZ IAmb IAmb 20 55 37.6
comp=Z,24nm,1.1s
WRKA Warakurna 46.02 128 P **P** **20 55 31.3 +0.5**
baz=46,SNR=11
GEYT Alibeck 46.10 325 P **P** **20 55 30.6 -0.6**
comp=Z,4.0nm,0.5s,baz=152,slow=7.8,SNR=13
GEYT LR LR 21 17 20.7
comp=Z,445nm,18.1s,baz=160,slow=39
GEYT Alibeck 46.10 325 P **P** **20 55 30.5 -0.8**
GEYT IAmb IAmb 20 55 45.0
comp=Z,9.3nm,0.8s
GYA0B ALIBECK ARRAY 46.10 325 P **P** **20 55 31.2 -0.1**
GYA0B IAmb IAmb 20 55 45.0
comp=Z,20nm,0.8s
OPO Ambohidratompo 46.41 242 P **P** **20 55 34.8 +0.7**
comp=Z,2.6nm,0.7s,baz=31,slow=2.9,SNR=4.3
ABPO Ambohimpanom 46.54 242 P **P** **20 55 35.5 +0.4**
ABPO pmax pmax
comp=Z,54nm,1.0s
ABPO Ambohimpanom 46.54 242 P **P** **20 55 35.5 +0.4**
ABPO IAmb IAmb 20 55 47.5
comp=Z,54nm,1.0s
DL2 Dalian 47.05 34 P P 20 55 47.3 +8.7
DL2 PP **PP** **20 57 34.5 +5.0**
DL2 S S 21 02 42.4 +13
DL2 pmax pmax
comp=Z,42nm,1.0s
DL2 pmax pmax
comp=Z,360nm,5.7s
DL2 LR LR
comp=N,460nm,19.0s
DL2 LR LR
comp=E,880nm,15.6s
DL2 LR LR
comp=Z,590nm,17.2s
ATD Arta Tunnel 47.38 284 P **P** **20 55 42.0 +0.4**
ATD IAmb IAmb 20 55 54.0
comp=Z,18nm,0.9s
DGZ Jazzator, Alta 47.71 358 ||*e*P **P** **20 55 44.1 +0.3**
RAYN Ar Rayn 47.84 300 *i*P **P** **20 55 45.1 0.0**
SNR=9.3
RAYN Ar Rayn 47.84 300 P **P** **20 55 44.6 -0.5**
RAYN pmax pmax
comp=Z,23nm,0.9s
RAYN Ar Rayn 47.84 300 P **P** **20 55 44.6 -0.5**
RAYN IAmb IAmb 20 55 56.0
comp=Z,23nm,0.9s
SONM Songino Array 48.05 15 P **P** **20 55 47.3 +0.8**
comp=Z,35nm,0.9s,baz=198,slow=8.7,SNR=139
SONM LR LR 21 18 06.9
comp=Z,1μm,20.6s,baz=192,slow=39
SONM Songino Array 48.05 15 P **P** **20 55 46.2 -0.2**
SONM IAmb IAmb 20 55 48.7
comp=Z,46nm,1.0s
ULN Ulaanbaatar 48.26 16 P **P** **20 55 48.8 +0.8**
SNR=16
ULN P **P** **20 55 48.8 +0.8**
SNR=16
ULN Ulaanbaatar 48.26 16 *c i*P **P** **20 55 48.3 +0.3**
ULN pmax pmax
comp=Z,212nm,1.7s
ULN Ulaanbaatar 48.26 16 P **P** **20 55 47.8 -0.2**
ULN IAmb IAmb 20 55 49.9
comp=Z,38nm,1.2s
FORT Forrest 48.88 135 P **P** **20 55 53.5 +0.5**
FORT IAmb IAmb 20 56 04.2
comp=Z,59nm,0.9s
WRA Warramunga Arr 48.90 119 P **P** **20 55 53.0 -0.2**
comp=Z,14nm,0.7s,baz=296,slow=8.6,SNR=176
WRA Warramunga Arr 48.90 119 P **P** **20 55 52.6 -0.6**
WRA IAmb IAmb 20 56 08.1
comp=Z,2.4nm,1.1s
WRAB Tennant Creek 48.90 119 *de*P **P** **20 55 53.5 +0.2**
WRAB pmax pmax
comp=Z,22nm,0.8s
WRAB Tennant Creek 48.90 119 P **P** **20 55 52.8 -0.5**
WRAB IAmb IAmb 20 56 05.9
comp=Z,50nm,1.1s
WB2 Warramunga Arr 48.91 119 P **P** **20 55 52.8 -0.5**
WB2 IAmb IAmb 20 56 08.1
comp=Z,36nm,1.1s
TJN Taejon 48.94 41 *c i*P **P** **20 55 52.6 -0.7**
KURK Kurchatov 49.58 351 P **P** **20 55 58.7 +0.8**
SNR=30
KURK P **P** **20 55 58.7 +0.8**
SNR=30
KURK Kurchatov 49.58 351 *c i*P **P** **20 55 58.2 +0.3**
KURK pmax pmax
comp=Z,54nm,1.7s
KURK Kurchatov 49.58 351 P **P** **20 55 57.8 -0.1**
KURK IAmb IAmb 20 56 09.5
comp=Z,53nm,0.9s
JNU Nakatsue 49.60 47 P **P** **20 55 58.9 +0.4**
comp=Z,9.4nm,0.9s,baz=350,slow=3.2,SNR=5.4
JNU Nakatsue 49.60 47 P **P** **20 55 58.2 -0.3**
JNU IAmb IAmb 20 56 00.4
comp=Z,58nm,1.5s
ZAK Zakamensk 49.73 11 *e*P **P** **20 55 59.1 -0.1**
ZAK pmax pmax
comp=Z,12nm,1.3s
KSAR Wonju Array Be 49.90 40 P **P** **20 55 59.9 -0.7**
KSAR Wonju Array Be 49.90 40 P **P** **20 55 59.9 -0.7**
KS19 Wonju Array Si 49.92 40 P **P** **20 56 01.1 +0.3**
KS19 IAmb IAmb 20 56 11.9
comp=Z,20nm,1.1s
KSRS Korea Array 49.93 40 P **P** **20 56 01.0 +0.2**
comp=Z,15nm,1.1s,baz=231,slow=9.3,SNR=25
KSRS LR LR 21 17 59.3
comp=Z,381nm,20.8s,baz=232,slow=37
ASAR Alice Springs 49.95 123 P **P** **20 56 01.4 0.0**
comp=Z,9.2nm,0.5s,baz=298,slow=8.0,SNR=162
ASAR LR LR 21 16 17.0
comp=Z,177nm,20.6s,baz=300,slow=35
ASAR Alice Springs 49.95 123 P **P** **20 56 01.0 -0.3**
AS31 Alice Springs 49.96 123 P **P** **20 56 01.0 -0.3**
AS31 IAmb IAmb 20 56 12.0
comp=Z,4.2nm,0.7s
MOY Mondy 50.55 9 *e*P P 20 56 15.8 +10
MOY pmax pmax
comp=Z,32nm,1.7s

TLY	**Talaya**	51.04	11	P		**P**	**20 56 11.1 +2.1**
	SNR=5.6						
TLY				P		**P**	**20 56 11.1 +2.1**
	SNR=5.6						
TLY	**Talaya**	51.04	11	*e*P		**P**	**20 56 10.7 +1.7**
TLY				*e*S		**S**	**21 03 23.6 -1.3**
TLY				*e*SS		**SS**	**21 07 05.5 +5.2**
TLY				pmax	pmax		
	comp=Z,59nm,1.5s						
TLY				MLR	MLR		
	comp=Z,1μm,19.0s						
TLY	**Talaya**	51.04	11	P		**P**	**20 56 08.4 -0.5**
TLY				IAmb	IAmb		20 56 11.7
	comp=Z,39nm,1.6s						
IRK	**Irkutsk**	51.69	11	*e*P		**P**	**20 56 14.8 +0.9**
IRK				pmax	pmax		
	comp=Z,56nm,1.9s						
ZAA0	**Zalesovo Array**	52.08	356	P		**P**	**20 56 15.8 -0.9**
ZAA0				IAmb	IAmb		20 56 27.3
	comp=Z,40nm,1.0s						
ZALV	**Zalesovo Beam**	52.08	356	P		**P**	**20 56 16.4 -0.3**
	comp=Z,6.0nm,0.7s,baz=185,slow=7.4,SNR=42						
ZALV				LR	LR		21 19 23.2
	comp=Z,447nm,21.7s,baz=169,slow=37						
ZALV	**Zalesovo Beam**	52.08	356	P		**P**	**20 56 16.1 -0.6**
KMBO	**Kilima Mbogo**	52.45	267	P		**P**	**20 56 21.0 +0.5**
KMBO	**Kilima Mbogo**	52.45	267	P		**P**	**20 56 20.9 +0.5**
	comp=Z,0.9nm,0.4s,baz=67,slow=11,SNR=3.8						
KMBO				LR	LR		21 16 17.4
	comp=Z,270nm,18.1s,baz=96,slow=33						
KMBO	**Kilima Mbogo**	52.45	267	P		**P**	**20 56 19.4 -1.1**
KMBO				IAmb	IAmb		20 56 38.1
	comp=Z,22nm,1.5s						
BRVK	**Borovoye**	53.51	346	*ce*P		**P**	**20 56 26.8 -0.5**
BRVK				pmax	pmax		
	comp=Z,11nm,1.3s						
BRVK	**Borovoye**	53.51	346	P		**P**	**20 56 26.3 -0.9**
BRVK				IAmb	IAmb		20 56 42.7
	comp=Z,18nm,1.0s						
ABKAR	**Akbulak array**	53.62	336	P		**P**	**20 56 28.7 +0.5**
ABKAR	**Akbulak array**	53.62	336	P		**P**	**20 56 28.7 +0.5**
ABKAR				IAmb	IAmb		20 56 40.1
	comp=Z,46nm,1.1s						
HIA	**Hailar**	53.80	24	P		**P**	**20 56 30.1 +0.5**
HIA				pmax	pmax		
	comp=Z,53nm,1.4s						
HIA	**Hailar**	53.80	24	P		**P**	**20 56 30.1 +0.5**
HIA				IAmb	IAmb		20 56 31.4
	comp=Z,53nm,1.4s						
LODK	**Lodwar**	54.23	273	P		**P**	**20 56 34.8 +1.4**
	SNR=6.3						
AKT	**Akhty**	54.54	322	*e*P		**P**	**20 56 35.8 +0.6**
AKT				*e*			20 57 39.4
AKT				pmax	pmax		
	comp=Z,66nm,1.0s						
INU	**Inuyama**	55.13	47	P		**P**	**20 56 39.2 -0.2**
INU				IAmb	IAmb		20 56 50.5
	comp=Z,34nm,0.9s						
MDJ	**Mudanjiang**	55.28	34	P		**P**	**20 56 42.2 +1.9**
MDJ				pmax	pmax		
	comp=Z,34nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,290nm,5.3s						
MDJ	**Mudanjiang**	55.28	34	P		**P**	**20 56 41.1 +0.7**
MDJ				IAmb	IAmb		20 56 43.5
	comp=Z,91nm,1.6s						
MAK	**Makhachkala**	55.53	323	*e*P		P	20 56 36.7 -5.5
MAK				*e*S		**S**	**21 04 19.9 -6.3**
MAK				pmax	pmax		
	comp=Z,48nm,1.1s						
VLA	**Vladivostok**	55.70	37	⇓*e*P		**P**	**20 56 44.3 +0.9**
VLA				pmax	pmax		
	comp=Z,41nm,1.1s						
GNI	**Garni**	55.71	319	P		**P**	**20 56 45.8 +2.0**
GNI	**Garni**	55.71	319	P		**P**	**20 56 46.0 +2.2**
	SNR=7.9						
GNI				P		**P**	**20 56 46.0 +2.2**
	SNR=7.9						
GNI	**Garni**	55.71	319	⇓*e*P		**P**	**20 56 45.6 +1.8**
GNI				pmax	pmax		
	comp=Z,65nm,1.7s						
GNI	**Garni**	55.71	319	P		**P**	**20 56 45.0 +1.2**
GNI				IAmb	IAmb		20 57 00.8
	comp=Z,52nm,1.4s						
BBOO	**Buckleboo**	55.74	132	P		**P**	**20 56 43.6 -0.3**
	baz=56,SNR=6.6						
USA0B	**Ussuriysk Arra**	56.39	36	⇓*e*P		**P**	**20 56 48.9 +0.6**
USA0B	**Ussuriysk Arra**	56.39	36	P		**P**	**20 56 48.5 +0.2**
USA0B				IAmb	IAmb		20 56 49.7
	comp=Z,22nm,1.2s						
USRK	**Ussuriysk Ar.**	56.39	36	P		**P**	**20 56 48.3 0.0**
	comp=Z,6.8nm,1.0s,baz=228,slow=4.9,SNR=12						
USRK				LR	LR		21 22 34.1
	comp=Z,207nm,18.6s,baz=223,slow=38						
USRK	**Ussuriysk Ar.**	56.39	36	P		**P**	**20 56 48.0 -0.3**
MJB9	**Matsu-Tunnel**	56.53	46	P		**P**	**20 56 48.6 -0.8**
MJB9				IAmb	IAmb		20 57 04.6
	comp=Z,18nm,1.1s						
MAJO	**Matsushiro**	56.53	46	⇓*e*P		**P**	**20 56 49.5 0.0**
MAJO				pmax	pmax		
	comp=Z,23nm,1.3s						
MAJO	**Matsushiro**	56.53	46	P		**P**	**20 56 47.8 -1.7**
MAJO				IAmb	IAmb		20 57 04.7
	comp=Z,16nm,1.1s						
MAT	**Matsushiro**	56.53	46	P		**P**	**20 56 49.0 -0.5**
MAT				S		S	21 04 25.4 -14
MJAR	**Matsushiro Arr**	56.53	46	P		**P**	**20 56 50.0 +0.5**
MJAR	**Matsushiro Arr**	56.53	46	P		**P**	**20 56 50.0 +0.5**
	comp=Z,15nm,1.0s,baz=239,slow=8.7,SNR=20						
MJAR				LR	LR		21 23 32.1
	comp=Z,305nm,18.7s,baz=260,slow=39						
MJAR	**Matsushiro Arr**	56.53	46	P		**P**	**20 56 48.9 -0.6**
MJAR				IAmb	IAmb		20 56 50.8
	comp=Z,14nm,1.1s						
TBLG	**Delisi**	56.55	321	P		**P**	**20 56 49.3 -0.2**
TBLG				pmax	pmax		
	comp=Z,56nm,1.1s						
TBLG	**Delisi**	56.55	321	P		**P**	**20 56 49.3 -0.2**
TBLG				IAmb	IAmb		20 57 12.0
	comp=Z,56nm,1.1s						
GROC	**Groznyy**	56.70	323	*e*P		**P**	**20 56 48.3 -2.2**
GROC				*e*			20 57 46.1
GROC				*e*			20 58 55.4
GROC				pmax	pmax		
	comp=Z,39nm,1.0s						
KARS	**Kars**	57.05	319	P		**P**	**20 56 53.8 +0.6**
KARS	**Kars**	57.05	319	P		**P**	**20 56 53.8 +0.6**
AKH	**Akhalkalaki**	57.18	320	P		**P**	**20 56 54.8 +0.6**
AKH				pmax	pmax		
	comp=Z,24nm,1.2s						
AKH	**Akhalkalaki**	57.18	320	P		**P**	**20 56 54.8 +0.6**
AKH				IAmb	IAmb		20 57 16.9
	comp=Z,24nm,1.2s						
MTSU	**Mount Surprise**	57.35	113	P		**P**	**20 56 54.7 -0.9**
	baz=57,SNR=4.9						
ZEI	**Tsey**	57.64	321	*e*P		P	20 57 06.1 +8.7
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s						
MANU	**Manus Island**	57.85	94	P		**P**	**20 56 57.8 -1.4**
MANU				IAmb	IAmb		20 57 14.2
	comp=Z,119nm,1.8s						
HTT	**Hallett**	58.16	132	P		**P**	**20 57 01.6 +0.5**
	baz=58,SNR=4.7						
NCK	**Nalchik**	58.20	322	⇓*e*P		**P**	**20 57 02.5 +1.3**
NCK				pmax	pmax		
	comp=Z,14nm,1.1s						
KBZ	**Khabaz**	58.76	322	P		**P**	**20 57 05.8 +0.9**
	comp=Z,7.2nm,1.0s,baz=133,slow=5.4,SNR=8.4						
MBAR	**Mbarara**	58.94	268	P		**P**	**20 57 08.2 +1.2**
MBAR				pmax	pmax		
	comp=Z,14nm,1.2s						
MBAR	**Mbarara**	58.94	268	P		**P**	**20 57 08.2 +1.2**
MBAR				IAmb	IAmb		20 57 24.6
	comp=Z,14nm,1.2s						
KIV	**Kislovodsk**	59.01	322	*i* P		**P**	**20 57 08.1 +1.3**
	SNR=8.0						
KIV	**Kislovodsk**	59.01	322	P		**P**	**20 57 07.9 +1.0**
	SNR=15						
KIV				P		**P**	**20 57 07.9 +1.0**
	SNR=15						
KIV	**Kislovodsk**	59.01	322	*e*P		**P**	**20 57 07.5 +0.7**
KIV				pmax	pmax		
	comp=Z,117nm,1.1s						
KIV	**Kislovodsk**	59.01	322	P		**P**	**20 57 07.1 +0.3**
KIV				IAmb	IAmb		20 57 18.8
	comp=Z,52nm,1.2s						
BOD	**Bodaibo**	59.05	15	*e*P		**P**	**20 57 06.6 -0.1**
BOD				pmax	pmax		
	comp=Z,34nm,1.6s						
KLR	**Kul'dur**	59.32	31	*c i*P		**P**	**20 57 08.9 +0.1**
KLR				pmax	pmax		
	comp=Z,33nm,1.3s						
KLR	**Kul'dur**	59.32	31	P		**P**	**20 57 09.2 +0.4**
	comp=Z,11nm,1.0s,baz=282,slow=7.7,SNR=17						
SVE	**Sverdlovsk**	59.51	342	*e*P		**P**	**20 57 10.3 +0.4**
SVE				pmax	pmax		
	comp=Z,63nm,0.9s						
STKA	**Stephens Creek**	59.53	129	P		**P**	**20 57 11.2 +0.6**
	baz=60,SNR=11						
STKA	**Stephens Creek**	59.53	129	P		**P**	**20 57 10.8 +0.2**
	comp=Z,5.6nm,0.6s,baz=312,slow=4.7,SNR=20						
STKA				LR	LR		21 21 05.7
	comp=Z,300nm,21.2s,baz=290,slow=34						
STKA	**Stephens Creek**	59.53	129	P		**P**	**20 57 10.2 -0.4**
STKA				IAmb	IAmb		20 57 29.8
	comp=Z,4.4nm,1.1s						
GAZ	**Gaziantep**	59.59	313	P		**P**	**20 57 11.5 +0.5**
GAZ				IAmb	IAmb		20 57 27.6
	comp=Z,34nm,1.2s						
CTA	**Charters Tower**	59.61	115	P		**P**	**20 57 11.5 +0.2**
	comp=Z,10nm,0.9s,baz=278,slow=8.8,SNR=7.9						
CTAO	**Charters Tower**	59.61	115	P		**P**	**20 57 10.8 -0.5**
CTAO				pmax	pmax		
	comp=Z,57nm,1.4s						
CTAO	**Charters Tower**	59.61	115	P		**P**	**20 57 10.8 -0.5**
CTAO				IAmb	IAmb		20 57 28.1
	comp=Z,57nm,1.4s						
ARU	**Arti**	59.85	341	*d i*P		**P**	**20 57 12.7 +0.4**
ARU							20 58 01.1
ARU							20 59 26.3
ARU				S		**S**	**21 05 25.5 +3.1**
ARU				SS		**SS**	**21 09 20.7 +1.7**
ARU				pmax	pmax		
	comp=Z,31nm,1.9s						
ARU				MLR	MLR		
	comp=Z,266nm,18.0s						
ARU	**Arti**	59.85	341	P		**P**	**20 57 11.6 -0.7**
ARU				IAmb	IAmb		20 57 25.6
	comp=Z,43nm,1.1s						
CSS	**Mathiatis**	61.72	309	P		**P**	**20 57 26.0 +0.5**
CSS				IAmb	IAmb		20 57 41.2
	comp=Z,59nm,1.5s						
ARPS	**Mount Arapiles**	61.79	134	P		**P**	**20 57 26.8 +1.0**
	baz=62,SNR=5.2						
CMSA	**Cobar Meteorol**	62.62	127	P		**P**	**20 57 31.9 +0.3**
	baz=63,SNR=12						
GRNR	**Gornyy**	62.66	31	*e*P		P	20 57 41.4 +10
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
ASAJ	**Asahikawa**	62.88	40	P		**P**	**20 57 33.1 +0.1**
	comp=Z,2.9nm,0.5s,baz=125,slow=32,SNR=3.0						
JKA	**Kamikawa-asahi**	62.88	40	P		**P**	**20 57 33.1 +0.1**
LSZ	**Lusaka**	63.08	252	P		**P**	**20 57 34.1 -0.9**
LSZ				pmax	pmax		
	comp=Z,36nm,1.7s						
LSZ	**Lusaka**	63.08	252	P		**P**	**20 57 34.1 -0.9**
LSZ				IAmb	IAmb		20 57 49.4
	comp=Z,36nm,1.6s						
BR131	**Keskin Array S**	63.16	314	P		**P**	**20 57 34.6 -0.6**
BR131				pmax	pmax		
	comp=Z,12nm,0.8s						
BR131	**Keskin Array S**	63.16	314	P		**P**	**20 57 34.6 -0.6**
BR131				IAmb	IAmb		20 57 45.8
	comp=Z,12nm,0.8s						
BRTR	**Keskin Array B**	63.16	314	P		**P**	**20 57 35.0 -0.2**
	comp=Z,3.0nm,0.8s,baz=138,slow=6.3,SNR=16						
BRTR				LR	LR		21 27 21.1
	comp=Z,343nm,18.4s,baz=102,slow=38						
BRTR	**Keskin Array B**	63.16	314	P		**P**	**20 57 34.4 -0.7**
VRH	**Novokhopyorsk**	63.49	329	*e*P		**P**	**20 57 36.8 -0.1**
VRH				pmax	pmax		
	comp=Z,30nm,1.5s						
RMQ	**Roma**	63.55	121	P		**P**	**20 57 37.4 -0.5**
	baz=64,SNR=6.4						
ILGA	**Ilgaz**	63.60	316	P		**P**	**20 57 39.1 +0.9**
ILGA				IAmb	IAmb		20 57 49.5
	comp=Z,27nm,1.0s						
ANTO	**Ankara**	63.82	314	P		**P**	**20 57 39.4 0.0**
ANTO				pmax	pmax		
	comp=Z,17nm,0.9s						
ANTO	**Ankara**	63.82	314	P		**P**	**20 57 39.4 0.0**
ANTO				IAmb	IAmb		20 57 50.4
	comp=Z,17nm,0.8s						
BR231	**Keskin MP Arra**	63.82	314	P		**P**	**20 57 40.0 +0.5**
BR231				IAmb	IAmb		20 57 54.7
	comp=Z,13nm,0.7s						
YSS	**Yuzh-Sakhalins**	64.27	37	*e*P		**P**	**20 57 43.4 +1.3**
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
YSS	**Yuzh-Sakhalins**	64.27	37	P		**P**	**20 57 42.6 +0.4**
YSS				IAmb	IAmb		20 57 56.1
	comp=Z,102nm,1.8s						
VORD	**Divnogorie**	64.65	327	*e*P		**P**	**20 57 44.2 -0.3**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TOO	**Toolangi**	64.77	133	P		**P**	**20 57 47.3 +1.6**
	baz=65,SNR=4.4						
TOO	**Toolangi**	64.77	133	P		**P**	**20 57 46.0 +0.3**
TOO				pmax	pmax		
	comp=Z,29nm,1.1s						
TOO	**Toolangi**	64.77	133	P		**P**	**20 57 46.0 +0.3**
TOO				IAmb	IAmb		20 57 58.0
	comp=Z,28nm,1.1s						
VSR	**Storozhevoye**	64.85	328	⇓*e*P		**P**	**20 57 46.6 +0.8**
SIM	**Simferopol'**	64.89	320	*e*P		**P**	**20 57 48.9 +2.7**
SIM				pmax	pmax		
	comp=Z,11nm,0.9s						
ELL	**Elmali**	64.92	310	P		**P**	**20 57 47.0 +0.2**
ELL				pmax	pmax		
	comp=Z,111nm,1.0s						
ELL	**Elmali**	64.92	310	P		**P**	**20 57 47.0 +0.2**
ELL				IAmb	IAmb		20 57 58.2
	comp=Z,111nm,1.0s						
EIDS	**Eidsvold**	65.26	119	P		**P**	**20 57 49.3 +0.2**
	baz=65,SNR=4.0						
EIDS	**Eidsvold**	65.26	119	P		**P**	**20 57 49.7 +0.6**
EIDS				IAmb	IAmb		20 58 02.6
	comp=Z,24nm,0.8s						
LPSR	**Galich'ya Gora**	65.70	329	*e*P		**P**	**20 57 51.1 -0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MANT	**Manisa**	66.47	311	P		**P**	**20 57 56.9 0.0**
MANT				IAmb	IAmb		20 58 12.8
	comp=Z,167nm,1.5s						
CAN	**Canberra**	66.55	130	P		**P**	**20 57 57.6 +0.4**
CAN				pmax	pmax		
	comp=Z,14nm,1.0s						
CAN	**Canberra**	66.55	130	P		**P**	**20 57 57.6 +0.4**
CAN				IAmb	IAmb		20 58 10.6
	comp=Z,14nm,1.0s						
KARP	**Karpathos**	66.72	308	P		**P**	**20 57 58.9 +0.6**
KARP				IAmb	IAmb		20 58 10.5
	comp=Z,117nm,1.0s						
ARMA	**Armidale**	67.09	124	P		**P**	**20 58 00.9 0.0**
ARMA				IAmb	IAmb		20 58 13.4
	comp=Z,32nm,1.2s						
YAK	**Yakutsk**	67.11	19	*e*P		**P**	**20 57 58.4 -1.8**
YAK				*e*			20 58 21.8
YAK				*e*			21 00 33.2
YAK				*e*S		**S**	**21 06 51.2 -1.5**
YAK				*e*			21 07 51.5
YAK				*e*SS		**SS**	**21 11 12.3 +0.3**
YAK				pmax	pmax		
	comp=Z,44nm,1.2s						
YAK				pmax	pmax		
	comp=N,19nm,1.3s						
YAK				pmax	pmax		
	comp=E,19nm,1.3s						
YAK				pmax	pmax		
	comp=Z,167nm,3.7s						
YAK				pmax	pmax		
	comp=E,119nm,3.8s						
YAK				pmax	pmax		
	comp=N,106nm,3.4s						
YAK				smax	smax		
	comp=N,143nm,3.3s						
YAK				smax	smax		
	comp=E,38nm,2.5s						
YAK				MLR	MLR		
	comp=Z,409nm,21.0s						
YAK				MLR	MLR		
	comp=N,231nm,21.0s						
YAK				MLR	MLR		
	comp=E,281nm,24.0s						
YAK	**Yakutsk**	67.11	19	P		**P**	**20 57 58.7 -1.4**
YAK				IAmb	IAmb		20 58 17.7
	comp=Z,47nm,1.0s						
BALB	**Balikesir**	67.32	313	P		**P**	**20 58 00.3 -1.6**
BALB				IAmb	IAmb		20 58 15.7
	comp=Z,92nm,1.1s						
NRIK	**Noril'sk**	67.39	359	P		**P**	**20 58 01.4 -0.4**
	comp=Z,8.2nm,0.8s,baz=178,slow=5.1,SNR=7.8						
NRIK				LR	LR		21 28 52.0
	comp=Z,443nm,21.5s,baz=178,slow=37						
LBTB	**Lobatse**	67.44	242	P		**P**	**20 58 02.8 -0.4**
LBTB				pmax	pmax		
	comp=Z,15nm,0.8s						
LBTB	**Lobatse**	67.44	242	P		**P**	**20 58 02.8 -0.4**
LBTB				IAmb	IAmb		20 58 13.9
	comp=Z,15nm,0.8s						
PRGR	**Permogore**	68.19	339	⇓*i*P		**P**	**20 58 07.1 +0.1**
PRGR				pmax	pmax		
	comp=Z,83nm,0.8s						
OBN	**Obninsk**	68.20	330	⇓*e*P		**P**	**20 58 08.7 +1.5**
OBN				*e*			20 58 30.5
OBN				*e*			21 00 33.7
OBN				*e*S		SKiKP	21 07 40.0 -21
OBN				pmax	pmax		
	comp=Z,31nm,2.5s						
OBN				MLR	MLR		
	comp=Z,234nm,20.0s						
OBN	**Obninsk**	68.20	330	P		**P**	**20 58 07.5 +0.3**
OBN				IAmb	IAmb		20 58 22.8
	comp=Z,46nm,1.3s						
SANT	**Santorini**	68.26	309	P		**P**	**20 58 08.8 +0.7**
SANT				IAmb	IAmb		20 58 19.2
	comp=Z,84nm,1.0s						
TIRR	**Tirgusor**	68.47	318	P		**P**	**20 58 09.1 0.0**
TIRR				pmax	pmax		
	comp=Z,80nm,1.0s						
TIRR	**Tirgusor**	68.47	318	P		**P**	**20 58 09.1 0.0**
TIRR				IAmb	IAmb		20 58 21.6
	comp=Z,80nm,1.0s						
BOSA	**Boshof**	68.61	238	P		**P**	**20 58 10.2 -0.3**
	comp=Z,2.3nm,0.5s,baz=91,slow=5.7,SNR=9.6						
BOSA				LR	LR		21 25 32.6
	comp=Z,182nm,19.2s,baz=80,slow=34						
BOSA	**Boshof**	68.61	238	P		**P**	**20 58 09.9 -0.5**
BOSA				IAmb	IAmb		20 58 22.8
	comp=Z,18nm,1.0s						
PATS	**Pohnpei**	68.62	83	P		**P**	**20 58 10.9 +0.3**
PATS				IAmb	IAmb		20 58 40.5
	comp=Z,318nm,1.6s						
MILM	**Milestii Mici**	69.06	320	⇓P		**P**	**20 58 13.3 +0.6**
KIS	**Kishinev**	69.09	320	*e*P		**P**	**20 58 13.0 +0.1**
KIS	**Kishinev**	69.09	320	*e*P		**P**	**20 58 13.0 +0.1**
KIS				*e*			21 02 20.0
KIS				*e*			21 07 20.0
KIS				*e*PS		**PnS**	**21 07 37.0 -6.6**
ELND	**Elena**	69.73	315	⇓P		**P**	**20 58 17.6 +0.5**
SORM	**Soroca**	69.79	321	⇓P		**P**	**20 58 18.0 +0.8**
SORM	**Soroca**	69.79	321	⇓P		**P**	**20 58 18.0 +0.8**
BISRR	**Bisoca**	69.97	318	⇓P		**P**	**20 58 20.4 +1.9**
KLMR	**Klimovskoe**	70.02	336	*e*P		**P**	**20 58 16.8 -1.6**
KLMR				pmax	pmax		
	comp=Z,63nm,1.2s						
KLMR	**Klimovskoe**	70.02	336	*e*P		**P**	**20 58 16.9 -1.5**
KLMR				AMP			20 58 34.1
	comp=Z,63nm,1.2s						
VRI	**Vrincioaia**	70.06	319	⇑P		**P**	**20 58 21.1 +2.1**
VRI	**Vrincioaia**	70.06	319	⇑P		**P**	**20 58 21.1 +2.1**
PLOR	**Plostina**	70.11	319	⇓P		**P**	**20 58 21.2 +1.9**
PLOR	**Plostina**	70.11	319	⇓P		**P**	**20 58 21.2 +1.9**
AKASG	**Malin Array Be**	70.21	324	P		**P**	**20 58 19.4 -0.4**
	comp=Z,0.3nm,0.2s,baz=97,slow=4.6,SNR=7.4						
AKASG				LR	LR		21 33 38.7
	comp=Z,132nm,18.3s,baz=320,slow=40						
AKASG	**Malin Array Be**	70.21	324	P		**P**	**20 58 18.7 -1.1**
AKASG				IAmb	IAmb		20 58 30.2
	comp=Z,4.9nm,0.8s						
AKBB	**Malin Array Si**	70.21	324	P		**P**	**20 58 19.1 -0.6**
AKBB				pmax	pmax		
	comp=Z,16nm,0.9s						
AKBB	**Malin Array Si**	70.21	324	P		**P**	**20 58 19.1 -0.6**
AKBB				IAmb	IAmb		20 58 30.2
	comp=Z,16nm,0.8s						
SECR		70.24	318	⇑P		**P**	**20 58 21.9 +1.8**
SECR				mb			20 58 37.7
TESR	**Tescani**	70.32	319	⇑P		**P**	**20 58 22.1 +1.5**
MLR	**Muntele Rosu**	70.46	318	⇑P		**P**	**20 58 23.5 +1.9**
MLR	**Muntele Rosu**	70.46	318	⇑P		**P**	**20 58 23.5 +1.9**
MLR	**Muntele Rosu**	70.46	318	P		**P**	**20 58 22.5 +0.9**
MLR				IAmb	IAmb		20 58 33.6
	comp=Z,102nm,1.0s						
PLVB	**Pleven**	70.75	316	⇓P		**P**	**20 58 24.3 +1.1**
PRAR	**RASCA**	70.87	320	⇑P		**P**	**20 58 24.7 +0.8**
PRAR				mb			20 58 35.4
HNR	**Honiara**	70.92	101	P		**P**	**20 58 24.5 -0.3**
HNR				pmax	pmax		
	comp=Z,90nm,0.8s						
HNR	**Honiara**	70.92	101	P		**P**	**20 58 24.5 -0.3**
HNR				IAmb	IAmb		20 58 41.5
	comp=Z,90nm,0.8s						
DOPR	**Dopca**	70.98	318	⇑P		**P**	**20 58 25.6 +1.0**
VOIR		71.05	318	⇑P		**P**	**20 58 25.8 +0.7**
VOIR		71.05	318	⇑P		**P**	**20 58 25.8 +0.7**
ARR	**Arges**	71.31	318	⇑P		**P**	**20 58 27.1 +0.4**
LIT	**Litokhoron**	71.44	312	P		**P**	**20 58 27.6 +0.1**
LIT				pmax	pmax		
	comp=Z,48nm,1.6s						
LIT	**Litokhoron**	71.44	312	P		**P**	**20 58 27.6 +0.1**
LIT				IAmb	IAmb		20 58 44.7
	comp=Z,48nm,1.6s						
VTS	**Vitosha**	71.52	315	⇑P		**P**	**20 58 29.0 +0.9**
VTS	**Vitosha**	71.52	315	⇑P		**P**	**20 58 29.0 +0.9**
VTS				mb			20 58 43.2
VTS	**Vitosha**	71.52	315	P		**P**	**20 58 27.9 -0.2**
VTS				IAmb	IAmb		20 58 39.0
	comp=Z,20nm,1.0s						
BURAR	**Bucovina Array**	71.60	320	⇑P		**P**	**20 58 30.3 +1.9**
BURAR				mb			20 58 49.4
BURAR	**Bucovina Array**	71.60	320	P		**P**	**20 58 28.8 +0.4**
BUR08	**Bucovina Ar. S**	71.62	320	P		**P**	**20 58 29.6 +1.1**
BUR08				IAmb	IAmb		20 58 45.8
	comp=Z,31nm,1.0s						
MAW	**Mawson**	71.80	190	P		**P**	**20 58 29.7 +0.7**
	comp=Z,3.1nm,1.0s,baz=27,slow=7.8,SNR=7.1						
MAW				LR	LR		21 23 39.0
	comp=Z,258nm,20.2s,baz=50,slow=31						
MAW	**Mawson**	71.80	190	P		**P**	**20 58 28.9 -0.1**
MAW				IAmb	IAmb		20 58 40

KOLS Kolonicke sedl 73.87 321 *e*P **P 20 58 43.5 +1.7**
TIXI Tiksi 74.00 12 *de*P **P 20 58 40.9 -1.1**
TIXI pmax pmax
comp=Z,19nm,0.8s
TIXI Tiksi 74.00 12 P **P 20 58 40.0 -2.1**
TIXI IAmb IAmb 20 58 51.7
comp=Z,48nm,0.6s
VSU Vasula 74.54 331⇓ *e*P **P 20 58 44.8 -0.6**
VSU pmax pmax
comp=Z,59nm,1.3s
VSU Vasula 74.54 331 *e*P P 20 58 54.2 +8.8
WIN Windhoek 74.63 246 P **P 20 58 46.7 -0.2**
WIN pmax pmax
comp=Z,8.0nm,1.0s
WIN Windhoek 74.63 246 P **P 20 58 46.7 -0.2**
WIN IAmb IAmb 20 58 57.9
comp=Z,8.4nm,1.0s
SUW Suwalki 74.84 326 P **P 20 58 47.0 -0.3**
SUW pmax pmax
comp=Z,59nm,0.9s
SUW Suwalki 74.84 326 P **P 20 58 47.0 -0.3**
SUW IAmb IAmb 20 58 57.9
comp=Z,59nm,0.9s
PABE Paberze 74.89 328 *e*P **P 20 58 47.6 +0.1**
KECS Kecovo 74.89 320 *e*P **P 20 58 49.0 +1.3**
KECS pmax pmax
comp=Z,14nm,0.9s
KECS Kecovo 74.89 320 *e*P **P 20 58 49.0 +1.3**
PSZ Piszkesteto 75.13 319 P **P 20 58 48.4 -0.8**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
PSZ Piszkesteto 75.13 319 **P 20 58 48.4 -0.8**
PSZ IAmb IAmb 20 59 16.9
comp=Z,9.3nm,1.1s
NIE Niedzica 75.25 321 *e*P P 20 59 01.3 +12
NIE Niedzica 75.25 321 *e*P P 20 59 01.3 +12
NIE *e*P P 20 59 01.3 +12
PETK Petropavlovsk- 75.48 35 LR LR 21 37 01.2
comp=Z,164nm,18.2s,baz=236,slow=40
BEL Belsk 75.58 323 *e*P P 20 59 02.2 +11
BEL Belsk 75.58 323 *e*P P 20 59 02.2 +11
BEL *e*P P 20 59 02.2 +11
LANS Liptovska Anna 75.71 320 *e*P **P 20 58 53.6 +1.1**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 75.71 320 *e*P **P 20 58 53.6 +1.1**
LVZ Lovozero 75.72 341⇓ *e*P **P 20 58 52.4 +0.3**
LVZ pmax pmax
comp=Z,11nm,1.0s
LVZ Lovozero 75.72 341 P **P 20 58 52.3 +0.1**
LVZ IAmb IAmb 20 59 07.2
comp=Z,126nm,1.7s
OJC Ojcow 75.77 322 P **P 20 58 52.5 -0.2**
OJC pmax pmax
comp=Z,21nm,0.9s
OJC Ojcow 75.77 322 *e*P P 20 59 03.1 +10
OJC *e*P P 20 59 03.1 +10
OJC Ojcow 75.77 322 P **P 20 58 52.5 -0.2**
OJC IAmb IAmb 20 59 04.3
comp=Z,21nm,0.9s
APA Apatity 75.95 341⇑ *i*P P 20 59 06.8 +13
APA pmax pmax
comp=Z,21nm,1.1s
VYHS Vyhne 75.96 320 *e*P **P 20 58 55.8 +1.9**
VYHS pmax pmax
comp=Z,21nm,1.4s
VYHS Vyhne 75.96 320 *e*P **P 20 58 55.8 +1.9**
FINES FINESS Array B 76.00 334 P **P 20 58 54.2 +0.5**
FINES FINESS Array B 76.00 334 P **P 20 58 54.1 +0.3**
comp=Z,4.9nm,0.8s,baz=107,slow=2.0,SNR=7.5
FINES LR LR 21 36 44.7
comp=Z,146nm,18.1s,baz=110,slow=39
SRO Srobarova 76.15 319 *e*P **P 20 58 57.3 +2.4**
SRO Srobarova 76.15 319 *e*P **P 20 58 57.3 +2.4**
PBUR Paburg 76.15 328 *e*P **P 20 58 55.6 +0.9**
BLY Banja Luka 76.28 316 P **P 20 58 55.9 +0.2**
BLY IAmb IAmb 20 59 06.8
comp=Z,27nm,1.1s
ACER Acerenza 76.47 311 P **P 20 58 57.4 +0.5**
ACER IAmb IAmb 20 59 13.3
comp=Z,80nm,1.1s
OKC Ostrava-Krasne 76.71 321 *e*P P 20 59 05.7 +7.7
OKC *e* 20 59 09.0
OKC Ostrava-Krasne 76.71 321 *e*P P 20 59 05.7 +7.7
OKC *e*PCP **PcP 20 59 09.0 -0.4**
JAVC Velka Javorina 76.79 320 *e*P **P 20 59 00.7 +2.0**
SMOL Smolenice 76.88 319 *e*P **P 20 59 00.8 +1.7**
SMOL Smolenice 76.88 319 *e*P **P 20 59 00.8 +1.7**
MODS Modra-Piesok 76.94 319 *e*P P 20 59 05.0 +5.5
MODS pmax pmax
comp=Z,33nm,1.1s
MODS Modra-Piesok 76.94 319 *e*P P 20 59 05.0 +5.5
MORC Moravsky Berou 77.08 321 P **P 20 59 01.5 +1.3**
MORC pmax pmax
comp=Z,15nm,1.2s
MORC Moravsky Berou 77.08 321 *e*P **P 20 59 02.4 +2.2**
MORC *e* 20 59 10.3
MORC Moravsky Berou 77.08 321 P **P 20 59 01.5 +1.3**
MORC IAmb IAmb 20 59 15.9
comp=Z,15nm,1.2s
VRAC Vranov 77.58 320⇑P **P 20 59 04.4 +1.4**
VRAC 20 59 14.6
VRAC Vranov 77.58 320⇑P **P 20 59 04.4 +1.4**
VRAC mb 20 59 14.6
VRAC Vranov 77.58 320 *e*P **P 20 59 03.7 +0.7**
VRAC *e* 20 59 13.0
KRUC Moravsky 77.66 320 *e*P **P 20 59 04.2 +0.8**
KRUC *e* 20 59 13.4
CONA Conrad Observa 77.78 319 *e*PcP P 20 59 14.0 +10
comp=Z,13nm,1.6s
ARSA Arzberg 77.88 318 *e*PcP P 20 59 11.3 +6.5
comp=Z,10.0nm,1.1s
ARSA *e*PcP **PcP 20 59 14.4 -0.2**
comp=Z,18nm,1.0s
DPC Dobruska-Polom 77.97 321 *e*P **P 20 59 06.7 +1.5**
DPC *e* 20 59 12.9
DPC *e* 20 59 16.1
DPC Dobruska-Polom 77.97 321 *e*P **P 20 59 06.7 +1.5**
DPC *ex* x 20 59 12.9
DPC *e*PCP **pwP 20 59 16.1 +0.2**
GKP Gorka Klasztor 78.04 324 *e*P P 20 59 15.6 +10
GKP Gorka Klasztor 78.04 324 *e*P P 20 59 15.6 +10
GKP *e*P P 20 59 15.6 +10
KSP Ksiaz 78.08 322 *e*P P 20 59 16.9 +11
KSP Ksiaz 78.08 322 *e*P P 20 59 16.9 +11
KSP *e*P P 20 59 16.9 +11
SOKA Soboth 78.11 317 *e*P **P 20 59 05.9 -0.2**
comp=Z,4.5nm,1.3s
SOKA PcP **PcP 20 59 16.0 +0.4**
comp=Z,9.9nm,0.9s,SNR=5.0
CHVC Chvalec 78.18 321 *e*P **P 20 59 05.5 -0.8**
CHVC *ex* x 20 59 16.9
UPC Upice 78.19 321 *e*P P 20 59 17.2 +11
UPC Upice 78.19 321 *e*PCP P 20 59 17.2 +11
TREC Trest 78.29 320 *e*P **P 20 59 07.9 +0.9**
TREC *e* 20 59 13.5
TREC *e* 20 59 17.2
TREC Trest 78.29 320 *e*P **P 20 59 07.9 +0.9**
TREC *ex* x 20 59 13.5
TREC *e*PCP **pwP 20 59 17.2 -0.5**
SYO Syowa Base 78.38 196⇑ *e*P **P 20 59 07.0 +0.1**
SYO Syowa Base 78.38 196⇓ *e*PcP **PcP 20 59 15.4 -0.7**
DZM Mont Dzumac 78.49 113 *e*LR LR 21 23 37.6
comp=Z,293nm,29.7s
AQU L'Aquila 78.59 313 P **P 20 59 11.5 +2.7**
AQU pmax pmax
comp=Z,45nm,1.0s
AQU L'Aquila 78.59 313 P **P 20 59 11.5 +2.7**
AQU IAmb IAmb 20 59 26.9
comp=Z,45nm,1.0s
MOA Molln 78.83 318 *e*PcP P 20 59 19.0 +9.1
comp=Z,15nm,2.1s
GOPC GO Pecny, Ondr 78.85 321 *e*P P 20 59 19.1 +9.1
GOPC GO Pecny, Ondr 78.85 321 *e*PCP P 20 59 19.1 +9.1
PRU Pruhonice 79.02 321 *e*P P 20 59 18.0 +7.1
PRU *e* 20 59 21.6
PRU Pruhonice 79.02 321 *e*PCP P 20 59 18.0 +7.1
PRU *e*PCP PCP 20 59 21.6
MYKA Terra Mystica 79.05 317 *e*P **P 20 59 12.1 +0.8**
comp=Z,15nm,1.4s
MYKA *e*PcP **pwP 20 59 21.6 -0.5**
comp=Z,20nm,1.3s
PVCC Panska Ves 79.10 321 *e*P P 20 59 22.5 +11
PVCC Panska Ves 79.10 321 *e*PCP P 20 59 22.5 +11
PBCC Pribram 79.31 320 *e*P P 20 59 23.0 +10
KBA Koelnbreinsper 79.32 317 *e*PcP P 20 59 22.5 +10
comp=Z,16nm,1.1s
GEC2 GERESS Array S 79.36 319 P **P 20 59 13.2 +0.3**
GEC2 IAmb IAmb 20 59 24.7
comp=Z,46nm,0.9s
GERES GERESS Array B 79.36 319 P **P 20 59 14.0 +1.1**
comp=Z,2.7nm,0.6s,baz=107,slow=5.5,SNR=26
GERES LR LR 21 40 19.7
comp=Z,102nm,18.2s,baz=92,slow=40
GERES GERESS Array B 79.36 319 P **P 20 59 13.0 0.0**
ARCES ARCESS Array B 79.43 341 P **P 20 59 13.4 +0.6**
comp=Z,3.8nm,0.9s,baz=114,slow=4.4,SNR=5.6
ARCES LR LR 21 36 02.7
comp=Z,174nm,20.5s,baz=114,slow=37
ARE0 ARCESS Array S 79.43 341 P **P 20 59 12.6 -0.2**
ARE0 IAmb IAmb 20 59 25.9
comp=Z,8.0nm,1.8s
KHC Kasperske Hory 79.49 320 *e*P **P 20 59 14.4 +0.8**
KHC *e* 20 59 20.2
KHC *e* 20 59 23.8
KHC Kasperske Hory 79.49 320 *e*P **P 20 59 14.4 +0.8**
KHC *e*PCP **pP 20 59 20.2 -0.2**
KHC *ex* x 20 59 23.8
KHC Kasperske Hory 79.49 320 P **P 20 59 13.4 -0.2**
KHC IAmb IAmb 20 59 25.4
comp=Z,8.3nm,0.9s
BRG Berggiesshubel 79.55 321 *e*P **P 20 59 15.6 +1.8**
comp=Z,36nm,1.9s
BRG *i* 20 59 24.6
comp=Z,21nm,1.0s
BRG Berggiesshubel 79.55 321 *e*P **P 20 59 15.6 +1.8**
BRG *i* 20 59 24.6
comp=Z,36nm,1.9s
BRG pmax pmax
comp=Z,21nm,1.0s
LATE Laterza 79.79 313 P **P 20 59 15.2 -0.2**
LATE IAmb IAmb 20 59 27.4
comp=Z,70nm,1.2s
ABTA Abfaltersbach 79.83 317 *e*PcP P 20 59 25.1 +10
comp=Z,6.9nm,0.9s
CLL Collm 80.21 322 *e*P **P 20 59 18.0 +0.6**
CLL pmax pmax
comp=Z,13nm,1.2s
CLL Collm 80.21 322 *e*P **P 20 59 18.0 +0.6**
comp=Z,13nm,1.2s
CLL *i* 20 59 27.8
comp=Z,32nm,1.0s
CLL *e*PP **PP 21 02 18.0 -1.9**
CLL Collm 80.21 322 P **P 20 59 17.8 +0.5**
CLL IAmb IAmb 20 59 29.1
comp=Z,29nm,1.0s
CTI Castel Tesino 80.33 316 P **P 20 59 19.2 +0.9**
CTI pmax pmax
comp=Z,27nm,1.0s
CTI Castel Tesino 80.33 316 P **P 20 59 19.2 +0.9**
CTI IAmb IAmb 20 59 33.7
comp=Z,27nm,1.0s
NKC Novy Kostel 80.39 321 *e*P P 20 59 23.5 +5.1
NKC *e* 20 59 25.6
NKC *e* 20 59 28.9
NKC Novy Kostel 80.39 321 *e*P P 20 59 23.5 +5.1
NKC *e*PCP **PcP 20 59 25.6 +0.2**
WTTA Wattenberg 80.50 318 *e*pP **P 20 59 21.8 +2.5**
comp=Z,8.0nm,1.3s
WTTA *e*PcP **pwP 20 59 28.9 -1.1**
comp=Z,31nm,1.1s
WATA Walderalm 80.55 318 *e*PcP P 20 59 29.0 +10
comp=Z,13nm,0.9s
ZCCA Zocca 80.60 315 P **P 20 59 19.7 0.0**
ZCCA IAmb IAmb 20 59 36.4
comp=Z,83nm,1.2s
SQTA Sankt Quirin 80.78 317 *e*P **P 20 59 21.1 +0.4**
comp=Z,2.3nm,0.6s
SQTA *e*PcP **pwP 20 59 30.2 -1.3**
comp=Z,14nm,0.9s
MOTA Moosalm 80.87 318 *e*PcP P 20 59 30.8 +10
comp=Z,26nm,1.0s
KEST Kesra 81.03 306 P **P 20 59 22.3 +0.1**
comp=Z,7.3nm,0.8s,baz=315,slow=2.9,SNR=3.0
KEST LR LR 21 37 16.2
comp=Z,100nm,20.0s,baz=242,slow=37
KEST Kesra 81.03 306 P **P 20 59 20.9 -1.3**
KEST IAmb IAmb 20 59 39.3
comp=Z,51nm,1.1s
FETA Feichten 81.08 317 *e*PcP P 20 59 33.1 +11
comp=Z,15nm,1.1s
RETA Reutte 81.12 318 *e*PcP P 20 59 32.5 +10
comp=Z,16nm,1.0s
MSSA Maissana 81.64 314 P **P 20 59 23.4 -1.8**
MSSA IAmb IAmb 20 59 49.2
comp=Z,98nm,1.6s
DAVA Damuels 81.69 317 *e*P **P 20 59 26.3 +0.7**
comp=Z,11nm,1.0s
DAVA *e*PcP **pwP 20 59 36.1 -0.3**
comp=Z,32nm,0.8s
TUE Stuetta 81.97 317 P **P 20 59 26.8 -0.3**
TUE IAmb IAmb 20 59 46.7
comp=Z,66nm,1.6s
STU Stuttgart 82.31 319 P **P 20 59 28.6 0.0**
STU pmax pmax
comp=Z,39nm,1.2s
STU Stuttgart 82.31 319 P **P 20 59 28.6 0.0**
STU IAmb IAmb 20 59 40.2
comp=Z,39nm,1.2s
NC405 NORSAR Array S 82.55 331 P **P 20 59 30.1 +0.5**
NC405 IAmb IAmb 20 59 46.0
comp=Z,179nm,1.8s
NC602 NORSAR Array S 82.57 331 P **P 20 59 29.6 0.0**
NC602 IAmb IAmb 21 00 00.8
comp=Z,265nm,1.9s
DCZ Deep Cove 82.58 136 P **P 20 59 29.9 -0.1**
DCZ IAmb IAmb 20 59 42.8
comp=Z,62nm,1.5s
NB2 NORSAR Subarra 82.78 331 P P 20 59 39.8 +9.0
comp=Z,29nm,1.7s,baz=97,slow=6.2
NB2 NORSAR Subarra 82.78 331 P P 20 59 39.8 +9.0
baz=97,slow=6.2
NOA NORSAR Array B 82.78 331 P **P 20 59 31.4 +0.6**
comp=Z,1.1nm,0.9s,baz=98,slow=5.7,SNR=2.8
NOA LR LR 21 38 36.9
comp=Z,176nm,20.7s,baz=105,slow=37
BFO Black Forest 82.83 318 P **P 20 59 32.4 +1.0**
BFO pmax pmax
comp=Z,26nm,0.9s
BFO Black Forest 82.83 318 P **P 20 59 32.4 +1.0**
BFO IAmb IAmb 20 59 42.9
comp=Z,26nm,0.9s
SENIN Lac Senin/Sane 83.37 316 P **P 20 59 35.2 +0.8**
SENIN IAmb IAmb 20 59 46.2
comp=Z,41nm,0.9s
KONO Kongsberg 83.37 330 P **P 20 59 35.2 +1.3**
KONO pmax pmax
comp=Z,78nm,1.8s
KONO Kongsberg 83.37 330 P **P 20 59 35.1 +1.3**
KONO IAmb IAmb 20 59 47.3
comp=Z,78nm,1.8s
ECH Echery 83.61 318 P **P 20 59 35.7 +0.4**
ECH pmax pmax
comp=Z,35nm,1.1s
ECH Echery 83.61 318 P **P 20 59 35.7 +0.4**
ECH IAmb IAmb 20 59 46.9
comp=Z,35nm,1.1s
BNI Bardonecchia 83.71 315 P **P 20 59 36.3 +0.2**
BNI pmax pmax
comp=Z,26nm,1.0s
BNI Bardonecchia 83.71 315 P **P 20 59 36.3 +0.2**
BNI IAmb IAmb 20 59 50.6
comp=Z,26nm,1.0s
WKZ Wanaka 83.77 135 P **P 20 59 37.8 +1.6**
WKZ IAmb IAmb 21 00 07.4
comp=Z,227nm,1.9s
TAM Tamanrasset 83.86 293 P **P 20 59 38.4 +1.1**
TAM Tamanrasset 83.86 293 P **P 20 59 38.4 +1.1**
TAM IAmb IAmb 20 59 49.9
comp=Z,17nm,1.0s
SSB Saint Sauveur 85.23 315 P **P 20 59 43.4 -0.3**
SSB pmax pmax
comp=Z,20nm,1.0s
SSB Saint Sauveur 85.23 315 P **P 20 59 43.4 -0.3**
SSB IAmb IAmb 20 59 54.9
comp=Z,20nm,1.0s
QRZ Quartz Range 85.82 131 P **P 20 59 44.2 -2.4**
QRZ IAmb IAmb 21 00 04.9
comp=Z,137nm,1.5s
TOA0 Torodi Ar. Sit 87.58 283 P **P 20 59 55.7 -0.1**
TOA0 IAmb IAmb 21 00 11.8
comp=Z,19nm,1.4s
TORD Torodi Ar. Bea 87.58 283 P **P 20 59 55.1 -0.6**
comp=Z,0.4nm,0.5s,baz=48,slow=5.0,SNR=11
TORD LR LR 21 36 28.4
comp=Z,227nm,19.6s,baz=15,slow=34
TORD Torodi Ar. Bea 87.58 283 P **P 20 59 55.8 0.0**
TORD IAmb IAmb 21 00 11.7
comp=Z,8.4nm,1.2s
SBA Scott Base 89.09 168 P **P 21 00 02.4 +0.8**
SBA pmax pmax
comp=Z,17nm,1.7s
SBA Scott Base 89.09 168 P **P 21 00 02.4 +0.8**
SBA IAmb IAmb 21 00 35.1
comp=Z,17nm,1.6s
ESDC Sonseca Array 91.60 310 P **P 21 00 14.9 +0.7**
comp=Z,0.1nm,0.3s,baz=68,slow=4.0,SNR=3.8
ESDC Sonseca Array 91.60 310 P **P 21 00 13.0 -1.2**
ESDC IAmb IAmb 21 00 26.2
comp=Z,8.4nm,1.2s
QSPA South Pole Qui 91.79 180 P **P 21 00 15.3 +0.7**
QSPA IAmb IAmb 21 00 26.8
comp=Z,11nm,1.1s
SNAA Sanae 92.52 198 *de*P **P 21 00 17.4 -0.4**
SNAA Sanae 92.52 198 P **P 21 00 17.6 -0.2**
SNAA IAmb IAmb 21 00 30.4
comp=Z,7.2nm,1.0s
RAO Raoul Island 93.03 119 LR LR 21 40 22.0
comp=Z,119nm,19.2s,baz=16,slow=34
DBIC Dimbokro 94.24 277 LR LR 21 39 20.9
comp=Z,112nm,21.8s,baz=67,slow=33
PPT2 Papeete2 119.85 109 *e*LR LR 21 42 06.6
comp=Z,101nm,25.8s
TAOE Nuku Hiva Isla 129.99 100 *e*LR LR 21 47 22.5
comp=Z,125nm,24.2s
PDAR Pinedale Array 132.33 19 PKP **PKPdf 21 06 22.1 +0.4**
comp=Z,0.3nm,0.3s,baz=90,slow=3.0,SNR=3.7
NVAR Mina Array Bea 132.35 30 PKP **PKiKP 21 06 23.3 +0.4**
comp=Z,0.2nm,0.4s,baz=268,slow=3.3,SNR=2.4
NVAR Mina Array Bea 132.35 30 **PKPdf 21 06 22.3 +0.5**
ABTX Abilene, Hawle 144.61 14 **PKPab 21 06 42.5 -0.2**
WHTX Lake Whitney, 145.68 11 **PKPdf 21 06 45.4 -0.6**
TX31 Lajitas Ar. Si 146.48 21 PKPdf **PKPdf 21 06 44.3 -3.3**
TX31 **PKPbc 21 06 48.9 0.0**
TXAR Lajitas Array 146.48 21 PKPbc **PKPbc 21 06 48.6 -0.3**
comp=Z,5.4nm,1.1s,baz=123,slow=18,SNR=4.8
TXAR Lajitas Array 146.48 21 **PKPdf 21 06 47.4 -0.1**
JCT Junction City 146.62 15 PKIKP **PKPdf 21 06 46.3 -1.4**
JCT Junction City 146.62 15 **PKPdf 21 06 46.3 -1.4**
HPIG 147.81 26 **PKPbc 21 06 52.4 -0.5**
MTP Monte Pirata 148.54 310 **PKPbc 21 06 54.1 -0.5**
HUMP Col San Antoni 148.74 311 **PKPbc 21 06 53.7 -1.5**
OBIP Obispado Ponce 149.37 311 PKPdf **PKPdf 21 06 49.8 -2.6**
OBIP **PKPbc 21 06 55.8 -1.0**
OBIP PKPab **sPKPbc 21 07 06.2 0.0**
PTGA Pitinga 149.59 272 **PKPbc 21 06 56.9 -0.6**
MLPR Magueyes Islan 149.74 312 PKPdf **PKPdf 21 06 52.0 -1.0**
SAML Samuel 152.05 254 PKIKP **PKPdf 21 06 56.0 -0.7**
SAML 21 07 02.9
SAML Samuel 152.05 254 **PKPdf 21 06 56.0 -0.7**
SAML PKPbc **pPKPdf 21 07 02.9 -0.9**
LPAZ La Paz 153.82 235 PKIKP **PKPdf 21 06 57.6 -2.4**
LPAZ 21 07 05.6
LPAZ 21 07 16.9
LPAZ La Paz 153.82 235 PKPbc **PKiKP 21 07 09.4 +1.4**
comp=Z,2.4nm,1.0s,baz=356,slow=1.4,SNR=6.6
LPAZ La Paz 153.82 235 **PKPdf 21 06 57.6 -2.4**
LPAZ PKPbc **pPKPdf 21 07 05.6 -1.5**
LPAZ PKPab **sPKPbc 21 07 16.9 -0.5**

TAP 05 20:53:17.5, 23°90N×121°66E, h44km, ML2.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENLB	**Shoufeng** baz=280	**0.05**	**280**	*e*P		Pn		20 53 24.4	-0.1
ENLB				*e*S		Sn		20 53 31.1	+1.7
HWA	**Hwalien** baz=328	**0.09**	**330**	*e*P		Pn		20 53 25.0	+0.4
HWA				*e*S		Sn		20 53 30.5	+0.9
TWD	**Chiawan** baz=334	**0.19**	**343**	*i* P		Pn		20 53 25.4	+0.2
TWD				S		Sn		20 53 31.2	+0.6
ESL	**Shilin** baz=257	**0.22**	**249**	*i* P		Pn		20 53 25.3	-0.1
ESL				S		Sn		20 53 30.5	-0.4
NACB	**Ninganchiao** baz=335	**0.28**	**348**	P		Pn		20 53 25.8	-0.2
NACB				*e*S		Sn		20 53 31.5	-0.4
EGFH	**Guangfu** baz=233	**0.31**	**223**	*i* P		Pn		20 53 25.9	-0.3
EGFH				*e*S		Sn		20 53 32.9	+0.6
ETLH	**Xiulin Townshi** baz=324	**0.35**	**333**	P		Pn		20 53 26.5	-0.3
ETLH				*e*S		Sn		20 53 33.2	0.0
WHF	**Hehuan Shan** baz=305	**0.44**	**305**	*i* P		Pn		20 53 27.9	-0.2
WHF				S		Sn		20 53 35.5	-0.1
HGSD	**Ruisui** baz=221	**0.45**	**208**	P		Pn		20 53 27.7	-0.2
HGSD				*e*S		Sn		20 53 36.4	+1.2
CHGB	**Renai** baz=294	**0.47**	**291**	*i* P		Pn		20 53 28.5	+0.2
CHGB				*e*S		Sn		20 53 35.8	-0.2
VWDT	**VWDT** baz=251	**0.49**	**254**	P		Pn		20 53 28.6	+0.2
VWDT				*e*S		Sn		20 53 35.9	-0.1
ENA	**Nanau** baz=16	**0.54**	**8**	P		Pn		20 53 29.2	+0.2
ENA				S		Sn		20 53 38.7	+1.7
NANB	**Nanao** baz=16	**0.54**	**9**	*i* P		Pn		20 53 28.0	-0.9
NANB				S		Sn		20 53 37.6	+0.6
TWT	**Tachien** baz=308	**0.57**	**309**	P		Pn		20 53 30.1	+0.7
TWT				S		Sn		20 53 38.2	+0.2
TDCB	**Techi** baz=308	**0.58**	**308**	*i* P		Pn		20 53 30.0	+0.4
TDCB				S		Sn		20 53 38.2	0.0
NNSB	**Datong** baz=331	**0.59**	**335**	P		Pn		20 53 29.6	-0.1
NNSB				*e*S		Sn		20 53 38.2	-0.2
YULB	**Yu-li** baz=223	**0.60**	**213**	P		Pn		20 53 29.6	-0.2
NNS	**Nan Shan** baz=334	**0.60**	**335**	P		Pn		20 53 29.9	0.0
NNS				S		Sn		20 53 38.8	+0.1
TWF1	**Yuli** baz=220	**0.63**	**212**	*e*P		Pn		20 53 29.5	-0.7
SSLB	**Suanglung** baz=264	**0.65**	**261**	P		Pn		20 53 29.9	-0.6
SSLB				S		Sn		20 53 39.6	-0.2
DPDB	**Guoxing** baz=280	**0.68**	**282**	P		Pn		20 53 31.6	+0.7
DPDB				S		Sn		20 53 41.4	+0.9
NDT	**Datong Townshi** baz=340	**0.72**	**349**	*i* P		Pn		20 53 31.2	-0.1
NDT				S		Sn		20 53 41.0	-0.3
TWC	**Suao** baz=19	**0.73**	**14**	*e*P		Pn		20 53 32.3	+0.8
TWC				*e*S		Sn		20 53 42.9	+1.3
TYC	**Yuchr** baz=274	**0.73**	**271**	P		Pn		20 53 31.1	-0.4

TYC				S	Sn	20 53 42.4 +0.8
	baz=274					
ENTT	**Nioudou**	**0.75 354**	*i* P		Pn	20 53 31.9 +0.2
	baz=352					
ENTT				*e*S	Sn	20 53 42.4 +0.4
	baz=352					
WHP	**Taichung City**	**0.75 301**	P		Pn	20 53 33.1 +1.2
	baz=302					
WHP				S	Sn	20 53 43.2 +0.9
	baz=302					
WHYT	**Xinyi Township**	**0.76 255**	P		Pn	20 53 33.2 +1.3
	baz=254					
WHYT				S	Sn	20 53 44.0 +1.7
	baz=254					
YUS	**Yu-Shan**	**0.76 238**	P		Pn	20 53 32.9 +0.6
	baz=234					
YUS				S	Sn	20 53 43.5 +0.5
	baz=234					
EOS1	**EOS1**	**0.78 33**	P		Pn	20 53 33.6 +1.5
	baz=46					
EOS1				*e*S	Sn	20 53 44.2 +1.5
	baz=46					
YHNB	**Yeheng**	**0.81 342**	P		Pn	20 53 32.9 +0.2
	baz=339					
YHNB				*e*S	Sn	20 53 43.5 -0.2
	baz=339					
TWE	**Neicheng**	**0.82 1**	P		Pn	20 53 33.6 +0.9
	baz=351					
TWE				S	Sn	20 53 44.6 +0.9
	baz=351					
NSK	**Sanguang**	**0.82 341**	P		Pn	20 53 32.6 -0.2
	baz=339					
NSK				S	Sn	20 53 43.7 -0.2
	baz=339					
CHKT	**Chengkung**	**0.84 199**	*e*S		Sn	20 53 45.8 +1.7
	baz=191					
WJS	**Zhushan**	**0.85 265**	*e*S		Sn	20 53 46.6 +2.0
	baz=266					
NWLT	**Wulai**	**0.89 351**	P		Pn	20 53 34.0 +0.3
	baz=343					
NWLT				S	Sn	20 53 45.4 -0.1
	baz=343					
WNT	**Mingjian**	**0.89 269**	*e*S		Sn	20 53 48.0 +2.6
	baz=270					
ELDTW	**Lidau**	**0.92 220**	P		Pn	20 53 34.4 +0.3
	baz=217					
ELDTW				S	Sn	20 53 46.8 +0.6
	baz=217					
TWQ1	**Liyutan**	**0.93 299**	*e*S		Sn	20 53 48.0 +1.7
	baz=299					
CHN5	**Tsauling**	**0.94 252**	P		Pn	20 53 36.3 +1.9
	baz=253					
CHN5				S	Sn	20 53 49.1 +2.3
	baz=253					
NSTT	**Nanjuang**	**0.95 321**	P		Pn	20 53 35.5 +1.1
	baz=306					
NSTT				*e*S	Sn	20 53 48.0 +1.2
	baz=306					
LIOB	**Emei**	**0.95 322**	P		Pn	20 53 36.3 +1.8
	baz=307					
LIOB				S	Sn	20 53 48.6 +1.8
	baz=307					
WDLH	**Douliu**	**1.04 259**	*e*S		Sn	20 53 52.3 +3.1
	baz=260					
TIPB	**Shuangxi**	**1.08 8**	*e*P		Pn	20 53 37.1 +0.8
	baz=356					
TIPB				*e*S	Sn	20 53 51.1 +1.0
	baz=356					
STYT	**Tauyuan**	**1.10 229**	*e*P		Pn	20 53 37.5 +0.9
	baz=231					
STYT				*e*S	Sn	20 53 52.1 +1.5
	baz=231					
TPUB	**Ta-pu**	**1.11 238**	P		Pn	20 53 37.9 +1.2
	baz=238					
TPUB				S	Sn	20 53 53.6 +2.7
	baz=238					
CHN4	**Tsaushan**	**1.12 241**	P		Pn	20 53 38.1 +1.4
	baz=234					
CHN4				S	Sn	20 53 54.1 +3.2
	baz=234					
WTP	**Ta-pu**	**1.16 236**	P		Pn	20 53 38.7 +1.4
	baz=238					
WTP				S	Sn	20 53 55.0 +3.1
	baz=238					
RLNB	**Erlin**	**1.19 270**	*e*S		Sn	20 53 55.6 +3.0
	baz=282					
TWGBT	**Beinan**	**1.20 206**	*e*S		Sn	20 53 53.1 +0.2
	baz=199					
TWG	**Pinlang**	**1.20 207**	*e*P		Pn	20 53 37.2 -0.7
	baz=199					
TWG				*e*S	Sn	20 53 52.3 -0.6
	baz=199					
YM01	**YM01**	**1.25 356**	*e*S		Sn	20 53 54.6 +0.4
	baz=352					
CHN1	**Nanshi**	**1.25 236**	S		Sn	20 53 57.4 +3.1
	baz=239					
YM10	**YM10**	**1.26 356**	*e*S		Sn	20 53 55.2 +0.7
	baz=351					
SGST	**Jiashian**	**1.28 231**	*e*P		Pn	20 53 40.6 +1.7
	baz=233					
SGST				S	Sn	20 53 58.1 +3.3
	baz=233					
WSF	**Szhu**	**1.34 259**	S		Sn	20 53 59.6 +3.2
	baz=261					
MASBT	**Mashibuluo**	**1.59 217**	*e*P		Pn	20 53 45.1 +2.0
	baz=220					
MASBT				*e*S	Sn	20 54 06.1 +3.6
	baz=220					
PHUB	**P'eng-hu**	**1.95 259**	*e*S		Sn	20 54 12.3 +0.9
	baz=274					

JMA 05 20:53:40.1±0.4, 24°.95N×123°.24E, h13km, M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**203**	*e*S	Sg	20 53 57.0	-0.5
IRIF	**Iriomote-Funau**	**0.76**	**144**	P	Pg	20 53 54.2	-0.6
IRIF				*e*S	Sb	20 54 05.3	-0.1
JKRS	**Kuro-shima**	**1.00**	**135**	P	Pg	20 53 59.4	+0.1
JIJ	**Ishigaki jima**	**1.01**	**125**	P	Pb	20 53 59.0	-0.4
JIJ				S	Sg	20 54 13.3	+0.6
JISG	**Ishigakijimahi**	**1.04**	**110**	P	Pb	20 53 58.5	-1.4
JISG				*e*S	Sb	20 54 12.7	-0.8

*IDC **05** 21:25:40.9±1.2, 7°.46N×92°.09E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/48, mbtmp3.6/8, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=35.5km s-min=19.2km az=49.0*

*ISCJB **05** 21:25:42.1±0.8, 7°.4N±0°.1×92°.08E±0°.10, h24km, mb3.4/5, Error ellipse: s-maj=17.2km s-min=12.4km az=33.8*

ISC 05 21:25:44.4±0.9, 7°.5N±0°.1×92°.1E±0°.1, h24km, n11, σ0.96/8, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.22**	**124**	Pn	**Pn**	**21 27 42.3**	**-0.2**
	0.5nm,0.3s,baz=312,slow=15,SNR=4.0						
PALK	**Pallekele**	**11.30**	**270**	Pn	**Pn**	**21 28 24.9**	**+0.3**
	1.0nm,0.3s,baz=114,slow=11,SNR=16						
PALK				Sn	Sn	21 30 18.2	-12
	2.8nm,0.3s,baz=116,slow=15,SNR=12						
PALK				LR	LR	21 32 07.9	
	comp=Z,78nm,19.7s,baz=118,slow=34						
CMAR	**Chiang Mai Arr**	**12.81**	**31**	Pn	**Pn**	**21 28 45.6**	**+0.4**
	0.1nm,0.3s,baz=230,slow=15,SNR=8.9						
H08S3	**Diego Garcia H**	**24.63**	**233**	T	T	21 57 07.8	
	baz=53,slow=74						
H08S2	**Diego Garcia H**	**24.63**	**233**	T	T	21 57 10.4	
	baz=53						
H08S1	**Diego Carcia H**	**24.65**	**233**	T	T	21 57 12.1	
	baz=53,slow=74						
MKAR	**Makanchi Array**	**40.09**	**350**	P	**P**	**21 33 16.3**	**-1.8**
	0.3nm,0.6s,baz=171,slow=10,SNR=3.0						
SONM	**Songino Array**	**42.05**	**14**	P	**P**	**21 33 35.3**	**+1.0**
	0.4nm,0.7s,baz=194,slow=8.3,SNR=3.4						
GEYT	**Alibeck**	**43.18**	**320**	P	**P**	**21 33 43.8**	**+0.2**
	0.4nm,0.4s,baz=189,slow=8.2,SNR=2.8						
WRA	**Warramunga Arr**	**49.69**	**124**	P	**P**	**21 34 34.7**	**-0.2**
	0.5nm,0.7s,baz=305,slow=6.7,SNR=13						
ASAR	**Alice Springs**	**51.23**	**128**	P	**P**	**21 34 46.7**	**+0.2**
	0.5nm,0.9s,baz=304,slow=8.9,SNR=4.6						

*JMA **05** 22:06:51.3±0.1, 23°.66N×122°.85E, h51km, M1.9*

*TAP **05** 22:06:53.1, 23°.75N×122°.80E, h40km±2km, ML2.5, D*

ISC 05 22:06:51.7±1.6, 23°.69N±0°.05×122°.86E±0°.03, h33km±5km, n48, σ0.91/71, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.76**	**6**	P	**Pb**	**22 07 06.4**	**-0.2**
JYNG				S	**Sb**	**22 07 16.4**	**-0.4**
YOJ	**Yonaguni jima**	**0.78**	**10**	P	**Pb**	**22 07 06.8**	**-0.1**
YOJ				*e*S	**Sb**	**22 07 17.8**	**+0.5**
HATJ	**Hateruma jima**	**0.94**	**67**	P	**Pn**	**22 07 08.6**	**0.0**
HATJ				*e*S	**Sb**	**22 07 21.1**	**-0.6**
IRIF	**Iriomote-Funau**	**1.02**	**51**	P	**Pn**	**22 07 10.2**	**+0.5**
EOS1	**EOS1**	**1.09**	**322**	*e*P	**Pn**	**22 07 11.4**	**+0.8**
	baz=321						
EOS1				*e*S	**Sn**	**22 07 25.2**	**+0.7**
	baz=321						
JKRS	**Kuro-shima**	**1.19**	**62**	P	**Pn**	**22 07 12.2**	**+0.2**
JKRS				*e*S	**Sn**	**22 07 27.2**	**+0.3**
TWD	**Chiawan**	**1.22**	**289**	P	**Pn**	**22 07 12.0**	**-0.4**
	baz=276						
NANB	**Nanao**	**1.25**	**306**	P	**Pn**	**22 07 13.4**	**+0.4**
	baz=304						
NANB				S	**Sn**	**22 07 28.2**	**-0.4**
	baz=304						
NACB	**Ninganchiao**	**1.25**	**293**	P	**Pn**	**22 07 12.7**	**-0.3**
	baz=290						
NACB				S	**Sn**	**22 07 27.5**	**-1.2**
	baz=290						
ENA	**Nanau**	**1.26**	**306**	*e*P	**Pn**	**22 07 12.4**	**-0.6**
	baz=305						
EGFH	**Guangfu**	**1.31**	**269**	*e*P	**Pn**	**22 07 14.3**	**+0.5**
	baz=266						
ESL	**Shilin**	**1.31**	**276**	*e*P	**Pn**	**22 07 13.1**	**-0.7**
	baz=263						
ESL				S	**Sn**	**22 07 28.6**	**-1.6**
	baz=263						
HGSD	**Ruisui**	**1.33**	**262**	⇓P	**Pn**	**22 07 13.9**	**-0.1**
	baz=258						
HGSD				S	**Sn**	**22 07 29.0**	**-1.6**
	baz=258						
JIJ	**Ishigaki jima**	**1.35**	**60**	P	**Pn**	**22 07 14.2**	**-0.1**
JIJ				S	**Sn**	**22 07 30.8**	**-0.3**
ETLH	**Xiulin Townshi**	**1.36**	**293**	P	**Pn**	**22 07 14.5**	**0.0**
	baz=290						
ETLH				*e*S	**Sn**	**22 07 30.1**	**-1.3**
	baz=290						
EHY	**Hungye**	**1.42**	**263**	P	**Pn**	**22 07 15.6**	**+0.3**
	baz=259						
EHY				*e*S	**Sn**	**22 07 32.3**	**-0.5**
	baz=259						
YULB	**Yu-li**	**1.46**	**259**	P	**Pn**	**22 07 16.1**	**+0.3**
	baz=255						
YULB				*e*S	**Sn**	**22 07 33.0**	**-0.9**
	baz=255						
TWF1	**Yuli**	**1.47**	**257**	⇓P	**Pn**	**22 07 16.1**	**+0.2**
	baz=254						
TWF1				*e*S	**Sn**	**22 07 33.0**	**-1.1**
	baz=254						
TWE	**Neicheng**	**1.50**	**314**	*e*P	**Pn**	**22 07 17.1**	**+0.8**
	baz=313						
ENTT	**Nioudou**	**1.52**	**309**	*e*P	**Pn**	**22 07 17.4**	**+0.9**
	baz=295						
WHF	**Hehuan Shan**	**1.53**	**288**	P	**Pn**	**22 07 17.3**	**+0.2**
	baz=276						
NDT	**Datong Townshi**	**1.53**	**307**	*e*P	**Pn**	**22 07 16.9**	**+0.1**
	baz=305						
NNSB	**Datong**	**1.54**	**299**	P	**Pn**	**22 07 17.7**	**+0.8**
	baz=288						
NNSB				*e*S	**Sn**	**22 07 35.1**	**-0.7**
	baz=288						
SLBB	**Yuanshan**	**1.54**	**314**	*e*P	**Pn**	**22 07 17.1**	**+0.1**
	baz=312						
NNS	**Nan Shan**	**1.55**	**299**	*e*P	**Pn**	**22 07 17.1**	**0.0**
	baz=297						
VWDT	**VWDT**	**1.58**	**273**	*e*P	**Pn**	**22 07 17.7**	**+0.4**
	baz=262						
VWDT				*e*S	**Sn**	**22 07 35.9**	**-0.7**
	baz=262						
CHGB	**Renai**	**1.59**	**284**	*e*P	**Pn**	**22 07 18.0**	**+0.3**
	baz=273						
CHGB				*e*S	**Sn**	**22 07 36.5**	**-0.7**
	baz=273						
TIPB	**Shuangxi**	**1.59**	**324**	*e*P	**Pn**	**22 07 18.4**	**+0.8**
	baz=323						
JISG	**Ishigakijimahi**	**1.60**	**56**	P	**Pn**	**22 07 17.8**	**+0.1**
JISG				*e*S	**Sn**	**22 07 37.3**	**+0.1**
NWLT	**Wulai**	**1.65**	**311**	*e*P	**Pn**	**22 07 19.4**	**+1.0**
	baz=298						
NWLT				*e*S	**Sn**	**22 07 38.3**	**-0.1**
	baz=298						
TDCB	**Techi**	**1.66**	**290**	*e*P	**Pn**	**22 07 19.3**	**+0.7**
	baz=280						
YHNB	**Yeheng**	**1.67**	**306**	*e*P	**Pn**	**22 07 19.5**	**+0.8**
	baz=303						
YHNB				*e*S	**Sn**	**22 07 38.6**	**-0.5**
	baz=303						
NSK	**Sanguang**	**1.69**	**306**	P	**Pn**	**22 07 19.9**	**+1.0**
	baz=303						
NSK				S	**Sn**	**22 07 39.3**	**-0.2**
	baz=303						
SSLB	**Suanglung**	**1.75**	**274**	*e*P	**Pn**	**22 07 20.4**	**+0.6**
	baz=271						
ELDTW	**Lidau**	**1.76**	**254**	*e*P	**Pn**	**22 07 20.2**	**+0.2**
	baz=251						
ELDTW				*e*S	**Sn**	**22 07 40.1**	**-1.3**
	baz=251						
SMLT	**Sun Moon Lake**	**1.81**	**277**	*e*P	**Pn**	**22 07 21.6**	**+1.0**
	baz=266						
WHYT	**Xinyi Township**	**1.84**	**271**	*e*P	**Pn**	**22 07 21.8**	**+0.7**
	baz=268						
TYC	**Yuchr**	**1.85**	**277**	*e*P	**Pn**	**22 07 23.0**	**+1.9**
	baz=266						
LIOB	**Emei**	**1.94**	**300**	*e*P	**Pn**	**22 07 24.2**	**+1.8**
	baz=298						
NSTT	**Nanjuang**	**1.94**	**299**	*e*P	**Pn**	**22 07 23.9**	**+1.5**
	baz=297						
CHN5	**Tsauling**	**2.00**	**268**	*e*P	**Pn**	**22 07 24.6**	**+1.3**
	baz=265						
TPUB	**Ta-pu**	**2.08**	**260**	*e*P	**Pn**	**22 07 26.2**	**+1.9**
	baz=257						
TPUB				*e*S	**Sn**	**22 07 50.6**	**+1.4**
	baz=257						
CHN4	**Tsaushan**	**2.11**	**261**	*e*P	**Pn**	**22 07 26.7**	**+2.0**
	baz=250						
WTP	**Ta-pu**	**2.11**	**258**	*e*P	**Pn**	**22 07 26.4**	**+1.7**
	baz=256						
CHN1	**Nanshi**	**2.20**	**257**	*e*P	**Pn**	**22 07 27.8**	**+1.9**
	baz=255						
EAST	**Anshuo**	**2.26**	**235**	*e*P	**Pn**	**22 07 28.1**	**+1.3**
	baz=242						
VWUC	**VWUC**	**3.37**	**293**	*e*P	**Pn**	**22 07 42.2**	**+0.2**
	baz=291						
PTMZ	**Houxiangcun**	**3.67**	**292**	*e*P	**Pn**	**22 07 47.0**	**+0.9**
	baz=291						

*JMA **05** 22:09:43.6, 23°.90N×121°.65E, h0km, M2.6*

*ISCJB **05** 22:09:44.9±0.3, 23°.91N±0°.01×121°.63E±0°.02, h11km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=32.5*

*TAP **05** 22:09:44.7, 23°.91N×121°.60E, h10km, ML3.0, C*

ISC 05 22:09:44.9±0.8, 23°.91N±0°.02×121°.62E±0°.02, h15km±4km, n93, σ0.70/140, 3C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.02**	**260**	⇑*i*P	**Pg**	**22 09 46.5**	**-1.0**
	baz=177						
ENLB				*i* S	**Sg**	**22 09 49.2**	**-0.1**
	baz=177						
HWA	**Hwalien**	**0.07**	**347**	⇑*e*P	**Pg**	**22 09 47.9**	**0.0**
	baz=13						
HWA				*e*S	**Sg**	**22 09 50.5**	**+0.7**
	baz=13						
TWD	**Chiawan**	**0.17**	**352**	⇓*i*P	**Pg**	**22 09 48.9**	**-0.2**
	baz=2.0						
TWD				*i* S	**Sg**	**22 09 51.8**	**-0.2**
	baz=2.0						
ESL	**Shilin**	**0.20**	**242**	⇑*i*P	**Pg**	**22 09 49.0**	**-0.5**
	baz=243						
ESL				*i* S	**Sg**	**22 09 51.8**	**-0.7**
	baz=243						
NACB	**Ninganchiao**	**0.27**	**355**	⇓P	**Pg**	**22 09 50.3**	**-0.4**
	baz=359						
NACB				S	**Sg**	**22 09 54.1**	**-0.5**
	baz=359						
EGFH	**Guangfu**	**0.30**	**217**	⇓*e*P	**Pb**	**22 09 51.2**	**-0.8**
	baz=222						
EGFH				*e*S	**Sg**	**22 09 55.5**	**+0.1**
	baz=222						
ETLH	**Xiulin Townshi**	**0.33**	**337**	⇓P	**Pg**	**22 09 51.3**	**-0.4**
	baz=340						
ETLH				*e*S	**Sg**	**22 09 55.7**	**-0.6**
	baz=340						
WHF	**Hehuan Shan**	**0.40**	**306**	⇓*i*P	**Pg**	**22 09 52.8**	**-0.4**
	baz=308						
WHF				S	**Sg**	**22 09 58.3**	**-0.6**
	baz=308						
CHGB	**Renai**	**0.44**	**291**	⇓P	**Pg**	**22 09 53.5**	**-0.3**
	baz=291						
CHGB				S	**Sg**	**22 09 59.5**	**-0.3**
	baz=291						
HGSD	**Ruisui**	**0.45**	**204**	*e*P	**Pb**	**22 09 54.6**	**0.0**
	baz=205						
VWDT	**VWDT**	**0.47**	**251**	⇓P	**Pb**	**22 09 54.2**	**-0.6**
	baz=257						
VWDT				*e*S	**Sg**	**22 10 00.1**	**-0.3**
	baz=257						
EHY	**Hungye**	**0.48**	**215**	*e*P	**Pg**	**22 09 54.2**	**-0.4**
	baz=217						
EHY				S	**Sb**	**22 10 01.3**	**-0.8**
	baz=217						
ENA	**Nanau**	**0.53**	**12**	*e*P	**Pb**	**22 09 55.3**	**-0.7**
	baz=18						
ENA				*e*S	**Sg**	**22 10 02.5**	**0.0**
	baz=18						
NANB	**Nanao**	**0.53**	**13**	P	**Pb**	**22 09 55.2**	**-0.8**
	baz=18						
NANB				S	**Sg**	**22 10 02.3**	**-0.3**
	baz=18						
TWT	**Tachien**	**0.53**	**310**	P	**Pb**	**22 09 55.6**	**-0.5**
	baz=302						
TWT				S	**Sg**	**22 10 02.5**	**-0.3**
	baz=302						
TDCB	**Techi**	**0.55**	**309**	⇓P	**Pb**	**22 09 55.7**	**-0.6**
	baz=302						
TDCB				S	**Sg**	**22 10 02.6**	**-0.5**
	baz=302						
NNSB	**Datong**	**0.56**	**337**	⇓P	**Pb**	**22 09 55.9**	**-0.7**
	baz=339						
NNSB				S	**Sg**	**22 10 03.0**	**-0.7**
	baz=339						
NNS	**Nan Shan**	**0.58**	**337**	⇓*i*P	**Pb**	**22 09 56.2**	**-0.7**
	baz=339						
NNS				S	**Sg**	**22 10 03.8**	**-0.3**
	baz=339						
YULB	**Yu-li**	**0.59**	**210**	*e*P	**Pg**	**22 09 55.9**	**-0.7**
	baz=217						
YULB				*e*S	**Sb**	**22 10 05.2**	**-0.1**
	baz=217						
SSLB	**Suanglung**	**0.62**	**259**	⇓P	**Pg**	**22 09 56.9**	**-0.3**
	baz=269						
SSLB				*e*S	**Sg**	**22 10 04.2**	**-1.2**
	baz=269						
TWF1	**Yuli**	**0.63**	**208**	*e*P	**Pg**	**22 09 56.9**	**-0.4**
	baz=219						
DPDB	**Guoxing**	**0.65**	**281**	*e*P	**Pb**	**22 09 57.6**	**-0.5**
	baz=282						
DPDB				*e*S	**Sg**	**22 10 05.9**	**-0.4**
	baz=282						
SMLT	**Sun Moon Lake**	**0.66**	**268**	P	**Pb**	**22 09 57.8**	**-0.5**
	baz=277						
SMLT				S	**Sg**	**22 10 06.5**	**-0.2**
	baz=277						
NDT	**Datong Townshi**	**0.70**	**352**	*e*P	**Pb**	**22 09 58.6**	**-0.2**
	baz=355						
NDT				*e*S	**Sg**	**22 10 07.4**	**-0.4**
	baz=355						
TYC	**Yuchr**	**0.70**	**270**	P	**Pg**	**22 09 58.1**	**-0.5**
	baz=279						
TYC				S	**Sg**	**22 10 06.7**	**-1.2**
	baz=279						
TWC	**Suao**	**0.73**	**16**	*e*P	**Pb**	**22 09 59.3**	**0.0**
	baz=13						
TWC				*e*S	**Sb**	**22 10 09.2**	**0.0**
	baz=13						
ENTT	**Nioudou**	**0.73**	**356**	⇓*i*P	**Pb**	**22 09 59.1**	**-0.4**
	baz=359						
ENTT				S	**Sb**	**22 10 09.1**	**-0.2**
	baz=359						
WHYT	**Xinyi Township**	**0.73**	**254**	*e*P	**Pb**	**22 09 59.3**	**-0.2**
	baz=260						
WHYT				*e*S	**Sb**	**22 10 09.4**	**0.0**
	baz=260						
YUS	**Yu-Shan**	**0.74**	**236**	*e*P	**Pb**	**22 09 59.3**	**-0.6**
	baz=235						
YUS				*e*S	**Sg**	**22 10 08.9**	**-0.5**
	baz=235						
EOS1	**EOS1**	**0.79**	**36**	*e*P	**Pn**	**22 10 01.5**	**0.0**
	baz=40						
YHNB	**Yeheng**	**0.79**	**344**	⇓P	**Pb**	**22 10 00.3**	**-0.2**
	baz=346						
YHNB				S	**Sg**	**22 10 09.4**	**-1.5**
	baz=346						
NSK	**Sanguang**	**0.80**	**343**	P	**Pb**	**22 10 00.4**	**-0.2**
	baz=345						
NSK				S	**Sg**	**22 10 10.4**	**-0.8**
	baz=345						
TWE	**Neicheng**	**0.81**	**3**	P	**Pb**	**22 10 00.5**	**-0.2**
	baz=7.0						
TWE				S	**Sb**	**22 10 11.7**	**+0.2**
	baz=7.0						
WJS	**Zhushan**	**0.82**	**264**	*e*P	**Pb**	**22 10 01.2**	**+0.3**
	baz=258						
CHKT	**Chengkung**	**0.84**	**196**	*e*P	**Pb**	**22 10 01.0**	**-0.2**
	baz=192						
SLBB	**Yuanshan**	**0.84**	**1**	*e*P	**Pg**	**22 10 00.2**	**-1.2**
	baz=4.0						
SLBB				*e*S	**Sg**	**22 10 12.1**	**-0.3**
	baz=4.0						
ALS	**Alishan**	**0.85**	**242**	*e*P	**Pb**	**22 10 01.4**	**-0.2**
	baz=243						
ALS				*e*S	**Sg**	**22 10 11.7**	**-0.9**
	baz=243						
WNT	**Mingjian**	**0.86**	**268**	*e*P	**Pb**	**22 10 01.9**	**+0.3**
	baz=268						
NWLT	**Wulai**	**0.87**	**353**	*e*P	**Pb**	**22 10 01.6**	**-0.3**
	baz=343						
TWQ1	**Liyutan**	**0.89**	**300**	*e*P	**Pn**	**22 10 02.9**	**-0.1**
	baz=300						
TWQ1				S	**Sb**	**22 10 14.4**	**+0.6**
	baz=300						
TCU	**Taichung**	**0.90**	**286**	*e*P	**Pn**	**22 10 03.1**	**+0.1**
	baz=286						
ELDTW	**Lidau**	**0.91**	**218**	*e*P	**Pg**	**22 10 01.2**	**-1.3**
	baz=214						
NSTT	**Nanjuang**	**0.92**	**322**	*e*P	**Pb**	**22 10 02.8**	**+0.2**
	baz=323						
NSTT				*e*S	**Sg**	**22 10 13.6**	**-1.2**
	baz=323						
CHN5	**Tsauling**	**0.92**	**251**	P	**Pb**	**22 10 03.0**	**+0.3**
	baz=241						
CHN5				S	**Sb**	**22 10 16.1**	**+1.4**
	baz=241						
LIOB	**Emei**	**0.92**	**323**	*e*P	**Pb**	**22 10 03.1**	**+0.4**
	baz=324						
LIOB				*e*S	**Sb**	**22 10 15.1**	**+0.4**
	baz=324						
NSY	**Sanyi**	**0.94**	**303**	*e*P	**Pn**	**22 10 03.9**	**+0.3**
	baz=303						
NTC	**Toucheng**	**0.96**	**11**	*e*P	**Pg**	**22 10 02.8**	**-0.8**
	baz=5.0						
NMLH	**Miaoli**	**0.98**	**310**	*e*P	**Pb**	**22 10 03.9**	**+0.2**
	baz=310						
WCHH	**Zhanghua**	**0.99**	**280**	*e*P	**Pn**	**22 10 04.6**	**+0.3**
	baz=281						
PTSB	**Yuanli**	**0.99**	**303**	*e*P	**Pb**	**22 10 04.4**	**+0.5**
	baz=303						
WGK	**Gukeng**	**1.00**	**257**	*e*P	**Pg**	**22 10 03.2**	**-0.9**
	baz=257						
WDJ	**Dajia District**	**1.00**	**296**	*e*P	**Pn**	**22 10 04.5**	**+0.1**
	baz=297						
WLTB	**Daxi**	**1.00**	**340**	*e*P	**Pg**	**22 10 03.5**	**-0.8**
	baz=341						
WDLH	**Douliu**	**1.02**	**258**	*e*P	**Pn**	**22 10 04.7**	**0.0**
	baz=258						
TWA	**Mucha**	**1.07**	**358**	*e*P	**Pn**	**22 10 06.2**	**+0.8**
	baz=1.0						
TATO	**Taipei**	**1.07**	**353**	*e*P	**Pb**	**22 10 05.4**	**+0.2**
	baz=356						
TATO				*e*S	**Sb**	**22 10 19.4**	**+0.4**
	baz=356						
TIPB	**Shuangxi**	**1.08**	**10**	P	**Pb**	**22 10 05.5**	**+0.1**
	baz=3.0						
TIPB				*e*S	**Sb**	**22 10 19.4**	**+0.1**
	baz=3.0						

STYT	Tauyuan	1.09 227	eP	Pb	22 10 05.8	+0.3
	baz=210					
TPUB	Ta-pu	1.09 237	eP	Pb	22 10 05.9	+0.3
	baz=238					
TPUB			eS	Sn	22 10 21.1	+0.5
	baz=238					
CHN4	Tsaushan	1.09 240	⇓eP	Pn	22 10 06.0	+0.3
	baz=234					
CHN4			eS	Sb	22 10 21.0	+1.3
	baz=234					
WTP	Ta-pu	1.14 235	eP	Pb	22 10 06.5	+0.2
	baz=234					
NWF	Wu-fen Shan	1.17 7	eP	Pn	22 10 07.5	+0.6
	baz=11					
WFSB	Wu-fen Shan	1.17 7	eP	Pn	22 10 07.6	+0.8
	baz=11					
CHY	Chiayi	1.17 250	eP	Pg	22 10 06.0	-1.5
	baz=250					
TWGBT	Beinan	1.19 205	eP	Pg	22 10 06.0	-2.0
	baz=200					
TWG	Pinlang	1.19 205	eP	Pg	22 10 06.9	-1.0
	baz=200					
TWS1	Kuangyinshan	1.20 351	eP	Pn	22 10 08.4	+1.1
	baz=3.0					
TWK	Hsinying	1.22 239	eP	Pn	22 10 08.1	+0.5
	baz=233					
TWK			eS	Sn	22 10 26.1	+2.2
	baz=233					
CHN1	Nanshi	1.23 235	eP	Pn	22 10 08.2	+0.5
	baz=236					
CHN1			eS	Sn	22 10 26.2	+2.0
	baz=236					
YM01	YM01	1.23 358	eP	Pn	22 10 08.5	+0.8
	baz=1.0					
SNST	Tainan City	1.24 237	eP	Pn	22 10 08.2	+0.5
	baz=236					
YM10	YM10	1.24 357	eP	Pn	22 10 08.4	+0.5
YM11	YM11	1.25 358	eP	Pn	22 10 09.2	+1.2
	baz=1.0					
SGST	Jiashian	1.26 229	eP	Pg	22 10 07.8	-1.4
	baz=210					
YM08	YM08	1.28 359	eP	Pg	22 10 08.6	-1.0
	baz=12					
ANP	Anpu	1.28 356	eP	Pg	22 10 08.5	-1.1
	baz=358					
WSF	Szhu	1.31 258	eP	Pn	22 10 09.1	+0.4
	baz=260					
JYNG	Yonagunijimaku	1.32 66	P	Pn	22 10 09.0	+0.1
JYNG			eS	Sn	22 10 27.0	+0.7
SSD	Sandimen	1.47 218	eP	Pg	22 10 13.5	+0.2
	baz=216					
EAST	Anshuo	1.68 205	eP	Pn	22 10 14.3	+0.5
	baz=183					
WDGT	Dungji	1.91 251	eP	Pn	22 10 17.1	+0.1
	baz=254					
PHUB	P'eng-hu	1.92 259	eP	Pn	22 10 17.2	+0.1
	baz=262					
PNG	Penghu	1.92 260	eP	Pn	22 10 17.3	+0.1
	baz=264					
IRIF	Iriomote-Funau	1.97 77	P	Pn	22 10 18.2	+0.4
IRIF			S	Sn	22 10 43.7	+1.4
HATJ	Hateruma jima	2.00 85	S	Sn	22 10 44.2	+1.1
VCHM	Qimei	2.13 251	eP	Pn	22 10 20.0	0.0
	baz=255					
JKRS	Kuro-shima	2.21 81	P	Pn	22 10 21.7	+0.6
JKRS			S	Sn	22 10 50.1	+2.0
VWUC	VWUC	2.25 299	eP	Pn	22 10 21.3	-0.4
	baz=301					
PTTC	Pingtan	2.31 314	eP	Pn	22 10 22.5	-0.1
	baz=313					
JIJ	Ishigaki jima	2.35 78	P	Pn	22 10 23.0	0.0
JIJ			eS	Sn	22 10 51.8	+0.2
PTMZ	Houxiangcun	2.54 297	eP	Pn	22 10 25.3	-0.4
	baz=300					
JISG	Ishigakijimahi	2.55 74	P	Pn	22 10 25.7	0.0
JISG			eS	Sn	22 10 56.0	-0.5
AXDP	Jialang	3.47 287	eP	Pn	22 10 38.6	+0.1
	baz=293					

*IDC **05** 22:32:44.5±1.5, 6°.46S×154°.63E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/23, mbtmp3.8/7, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=43.8km s-min=23.1km az=128.0*
*NEIC **05** 22:32:47.5±1.7, 6°.9S±0°.2×154°.85E±0°.09, h35km±1km, mb4.1/4*
*ISCJB **05** 22:32:50.1±1.0, 6°.40S±0°.08×154°.39E±0°.09, h48km, mb3.5/5, Error ellipse: s-maj=12.8km s-min=10.9km az=8.6*

ISC 05 22:32:51.3±1.1, 6°.37S±0°.10×154°.5E±0°.1, h48km, n16, σ1§71/17, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.16	310	Pn	Pn	22 33 37.4	-1.2
	13nm,0.3s,baz=54,slow=4.0,SNR=4.9						
KRVT				Sn	Sn	22 34 14.9	-0.2
	47nm,0.3s,baz=335,slow=21,SNR=8.8						
KRVT				LR	LR	22 35 00.9	
	comp=Z,97nm,18.1s,baz=69,slow=41						
HNR	Honiara	6.24	120	Pn	Pn	22 34 07.9	-13
PMG	Port Moresby	7.83	247	Pn	Pn	22 34 40.8	-1.9
	2.0nm,0.3s,baz=130,slow=7.9,SNR=2.0						
PMG				Sn	Sn	22 36 12.4	+2.5
	1.8nm,0.3s,baz=162,slow=20,SNR=2.5						
PMG	Port Moresby	7.83	247		Sn	22 36 11.7	+1.7
WB2	Warramunga Arr	23.73	233	P	P	22 37 57.5	-1.8
WB2				IAmb	IAmb	22 38 03.9	
	comp=Z,5.8nm,1.2s						
WRA	Warramunga Arr	23.74	233	P	P	22 37 59.5	+0.2
	comp=Z,1.4nm,0.8s,baz=56,slow=9.2,SNR=7.2						
WRA	Warramunga Arr	23.74	233	P	P	22 37 57.3	-2.1
ASAR	Alice Springs	26.19	227	P	P	22 38 22.9	+1.2
	comp=Z,0.5nm,0.3s,baz=55,slow=9.4,SNR=6.1						
FITZ	Fitzroy Crossi	30.42	245	P	P	22 38 57.6	-1.7
FITZ				IAmb	IAmb	22 39 11.3	
	comp=Z,6.8nm,1.4s						
SONM	Songino Array	68.52	327	P	P	22 43 51.1	+2.1
	comp=Z,0.3nm,0.4s,baz=150,slow=4.0,SNR=5.7						
SONM	Songino Array	68.52	327	P	P	22 43 50.4	+1.5
MKAR	Makanchi Array	82.58	319	P	P	22 45 10.9	+1.6
	comp=Z,0.6nm,0.8s,baz=93,slow=8.6,SNR=5.4						
ILAR	Eielson Array	82.99	22	P	P	22 45 11.4	+0.4
	comp=Z,0.4nm,0.7s,baz=237,slow=5.5,SNR=7.2						
TORD	Torodi Ar. Bea	152.33	286	PKPbc	PKPbc	22 52 42.0	-1.1
	comp=Z,0.1nm,0.4s,baz=114,slow=4.0,SNR=3.9						
TORD	Torodi Ar. Bea	152.33	286		PKPbc	22 52 42.0	-1.1
TORD	Torodi Ar. Bea	152.33	286	PKPab	PKPab	22 52 51.4	-1.8

*KRNET **05** 23:02:21.2±0.1, 41°.69N×79°.42E, h17km, mb2.5*
*SOME **05** 23:02:21.6, 41°.75N×79°.43E, h15km*
*NNC **05** 23:02:22.4±1.4, 41°.79N×79°.40E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=9.1km s-min=5.8km az=144.0*

ISC 05 23:02:21.4±3.2, 41°.72N±0°.08×79°.53E±0°.08, h7km±24km, n29, σ1§18/52, 20C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.13	313	⇑iP	Pn	23 02 41.9	-2.1
	baz=17						
PRZ				⇑iS	Sb	23 02 56.6	-2.0
	baz=17						
TARG	Taragay, Kyrgy	1.29	271	⇑iP	Pn	23 02 43.8	-2.5
	baz=72						
TARG				⇑iS	Sn	23 03 00.5	-3.6
	baz=72						
SHLS	Shalkode	1.44	358	P	Pb	23 02 48.7	+0.1
	2.1nm,0.2s						
SHLS				S	Sb	23 03 08.2	+0.9
	12nm,0.3s						
SHLS	Shalkode	1.44	358	eP	Pb	23 02 48.7	+0.1
	0.5nm,0.1s						
SHLS				eS	Sb	23 03 07.9	+0.7
	12nm,0.2s						
UZB	Uzynbulak	1.48	346	P	Pn	23 02 48.1	-0.5
	2.5nm,0.2s						
UZB				S	Sn	23 03 07.2	-1.1
	3.0nm,0.2s						
UZB	Uzynbulak	1.48	346	eP	Pn	23 02 48.1	-0.5
	1.7nm,0.2s						
UZB				eS	Sn	23 03 06.9	-1.4
	2.5nm,0.2s						
SATY	Saty	1.58	329	P	Pn	23 02 49.7	-0.3
	4.6nm,0.1s						
SATY				S	Sn	23 03 10.0	-0.7
	12nm,0.1s						
SATY	Saty	1.58	329	eP	Pn	23 02 49.9	-0.1
	2.2nm,0.1s						
SATY				eS	Sn	23 03 10.0	-0.7
	12nm,0.1s						
PDGK	Podgornoye	1.61	359	⇓P	Pn	23 02 50.2	-0.2
	1.7nm,0.4s						
PDGK				⇑S	Sb	23 03 12.1	-0.1
	4.0nm,0.6s						
ANVS	Anan'yevo	1.74	308	⇑iP	Pn	23 02 52.6	+0.3
	baz=11						
ANVS				⇑iS	Sn	23 03 15.5	+0.5
	baz=11						
KDJ	Kajisay	1.80	284	⇑iP	Pn	23 02 53.1	0.0
	baz=85						
KDJ				⇑iS	Sn	23 03 16.1	-0.2
	baz=85						
KPKS	Kokpek	1.85	341	eP	Pn	23 02 54.8	+1.1
	20nm,0.2s						
KPKS				eS	Sn	23 03 18.4	+0.8
	34nm,0.5s						
MDOK	Medeo	2.33	309	⇑Pg	Pn	23 03 02.1	+1.6
	0.7nm,0.3s						
MDOK				Lg	Lg	23 03 32.4	
	13nm,0.8s						
MDOK	Medeo	2.33	309	eP	Pb	23 03 03.2	-0.8
	2.0nm,0.2s						
MDOK				eS	Sb	23 03 32.4	-0.6
	10nm,0.6s						
KOTS	Kotyrbulak	2.34	311	Pg	Pb	23 03 03.2	-0.9
	5.1nm,0.3s						
KOTS				Lg	Lg	23 03 33.0	
	12nm,0.3s						
KOTS	Kotyrbulak	2.34	311	eP	Pb	23 03 03.0	-1.1
	4.8nm,0.3s						
KOTS				eS	Sn	23 03 32.3	+2.6
	11nm,0.3s						
ULHL	Ulahol	2.50	283	⇑iP	Pn	23 03 03.8	+1.0
	baz=84						
ULHL				⇑iS	Sn	23 03 34.3	+0.5
	baz=84						
IZV	Izvestkoviy	2.53	302	Pg	Pb	23 03 06.3	-0.9
	1.1nm,0.2s						
IZV				Lg	Lg	23 03 38.8	
	9.0nm,0.5s						
IZV	Izvestkoviy	2.53	302	eP	Pb	23 03 06.4	-0.9
	1.0nm,0.2s						
IZV				eS	Sb	23 03 38.1	-0.6
	6.5nm,0.3s						
DJR	Jarkent	2.62	4	Pg	Pb	23 03 08.9	+0.2
	1.3nm,0.3s						
DJR				Lg	Lg	23 03 42.6	
	9.2nm,0.4s						
DJR	Jarkent	2.62	4	eP	Pb	23 03 08.4	-0.3
	1.3nm,0.2s						
DJR				eS	Sb	23 03 41.5	+0.3
	6.0nm,0.3s						
NRN	Naryn	2.66	265	⇑iP	Pn	23 03 06.0	+0.9
	baz=65						
NRN				⇑iS	Sn	23 03 38.7	+0.9
	baz=65						
BOOM	Boomskoye usch	2.78	287	⇑iP	Pn	23 03 06.8	+0.2
	baz=88						
BOOM				⇑iS	Sn	23 03 41.4	+0.9
	baz=88						
ARXS	Arharly	2.79	334	Pg	Pb	23 03 11.1	-0.6
	1.5nm,0.3s						
ARXS				Lg	Lg	23 03 46.4	
	8.2nm,0.5s						
ARXS	Arharly	2.79	334	eP	Pb	23 03 11.3	-0.4
	1.6nm,0.4s						
ARXS				eS	Sb	23 03 46.3	+0.3
	9.1nm,0.5s						
KST	Kastek	2.95	298	eP	Pb	23 03 14.8	+0.3
	1.5nm,0.2s						
KST				eS	Sb	23 03 52.3	+1.4
	2.1nm,0.4s						
TKM2	Tokmak 2	3.15	294	⇑Pg	Pb	23 03 20.7	+2.8
	1.2nm,0.8s						
TKM2				⇑Lg	Lg	23 03 57.0	
	0.7nm,0.5s						
TKM2	Tokmak 2	3.15	294	⇑iP	Pn	23 03 12.9	+1.2
	baz=95						
TKM2				⇑iS	Sn	23 03 50.2	+0.5
	baz=95						
KUU	Kurty	3.20	314	eP	Pb	23 03 18.3	-0.3
	0.3nm,0.1s						
KUU				eS	Sb	23 03 58.3	+0.5
	3.7nm,0.5s						
LEM	Lembang	3.83	90	P	Pb	00 09 40.1	0.0
	5.0nm,0.3s,baz=174,slow=20,SNR=2.2						
LEM				S	Sb	00 10 25.9	-0.2
	5.9nm,0.3s,baz=359,slow=23,SNR=2.0						
FITZ	Fitzroy Crossi	24.07	120	P	P	00 13 48.3	+1.5
	1.1nm,0.8s,baz=267,slow=17,SNR=2.6						
H08S2	Diego Garcia H	31.02	267	T	T	00 48 28.5	
	baz=89						
H08S3	Diego Garcia H	31.03	267	T	T	00 48 33.4	
	baz=89						
H08S1	Diego Garcia H	31.04	267	T	T	00 48 27.4	
	baz=89						
WRA	Warramunga Arr	32.39	117	P	P	00 15 01.4	+0.2
	0.3nm,0.5s,baz=291,slow=10,SNR=5.6						
ASAR	Alice Springs	33.42	123	P	P	00 15 11.1	+0.8
	0.3nm,0.6s,baz=305,slow=8.8,SNR=4.5						
STKA	Stephens Creek	43.15	130	P	P	00 16 31.0	-1.0
	1.4nm,0.7s,baz=315,slow=11,SNR=1.6						
MKAR	Makanchi Array	56.73	342	P	P	00 18 15.7	+0.8
	0.2nm,0.5s,baz=148,slow=7.8,SNR=4.7						
TXAR	Lajitas Array	145.84	46	PKPbc	PKPdf	00 28 08.4	-2.2
	0.1nm,0.4s,baz=323,slow=2.3,SNR=4.2						

*ISCJB **06** 00:10:11.8±0.9, 34°.27N±0°.03×26°.93E±0°.04, h19km±10km, Error ellipse: s-maj=5.8km s-min=5.4km az=148.6*
*HLW **06** 00:10:14.9, 34°.26N×26°.97E, h26km±9km, Ml3.3*
*THE **06** 00:10:14.8, 34°.45N×26°.83E, h3km±1km, ML2.6/5, Error ellipse: s-maj=2.2km s-min=1.0km az=162.0*
*ATH **06** 00:10:22.2, 35°.32N×26°.49E, h44km±10km, ML2.2/1, Error ellipse: s-maj=26.3km s-min=1.6km az=154.0*

ISC 06 00:10:11.2±1.5, 34°.29N±0°.05×26°.93E±0°.04, h11km±12km, n25, σ1§82/32, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	1.02	325	P	Pg	00 10 31.3	+0.5
ZKR				S	Sg	00 10 43.4	-0.6
	365nm,0.6s						
ZKR	Zakros	1.02	325	P	Pg	00 10 31.3	+0.5
ZKR				S	Sg	00 10 37.6	-6.5
ZKR				AML	AML	00 10 51.1	
	comp=N,534μm,0.7s						
ZKR				AML	AML	00 10 55.1	
	comp=E,840μm,0.9s						
STIA	Sitia Lasithi	1.15	323	P	Pg	00 10 33.4	+0.1
STIA				S	Sg	00 10 47.4	-0.8
FRMA	Ierapetra Chan	1.23	307	P	Pg	00 10 33.3	-1.5
FRMA				S	Sg	00 10 47.7	-3.1
	comp=E,208nm,0.6s						
KARP	Karpathos	1.27	8	P	Pg	00 10 35.5	-0.2
KARP				S	Sg	00 10 52.2	0.0
	comp=E,312nm,0.9s						
KARP	Karpathos	1.27	8	P	Pg	00 10 35.3	-0.4
KARP				S	Sg	00 10 44.5	-7.7
NPS	Neapolis	1.46	312	P	Pn	00 10 37.8	+0.2
NPS				S	Sg	00 10 56.8	-1.4
	comp=E,238nm,0.8s						
NPS	Neapolis	1.46	312	P	Pn	00 10 37.4	-0.2
NPS				S	Sg	00 10 48.3	-10
SIVA	Sivas	1.90	293	P	Pn	00 10 44.7	+1.1
SIVA				S	Sn	00 11 07.5	0.0
	comp=E,280nm,0.7s						
ARG	Arkhangelos	2.16	27	P	Pn	00 10 48.6	+1.4
ARG				S	Sn	00 11 14.5	+0.5
VAM	Vamos	2.51	297	P	Pn	00 10 52.7	+0.6
IMMV	Iera Moni Meta	2.69	297	P	Pn	00 10 55.5	+0.9
DALY	Dalyan (Mula)	2.89	29	*i* P	Pn	00 10 58.9	+1.7
DALY				IAML_P			
	comp=Z,184nm,0.2s						
TURN	Turunc	2.92	27	*i* P	Pn	00 10 55.5	-2.1
TURN				IAML_P			
	comp=Z,204nm,0.1s						
AKAS	Kas	2.92	48	*i* P	Pn	00 10 57.3	-0.6
AKAS				IAML_P			
	comp=Z,181nm,0.2s						
SLUM	Salum	3.14	208	P	Pn	00 11 02.1	+1.5
	baz=209						
SLUM				S	Sn	00 11 36.9	-1.3
	baz=209						
AKUM	Antalya-Kumluc	3.45	53	*i* P	Pn	00 11 04.8	-0.2
AKUM				IAML_P			
	comp=Z,39nm,0.3s						
KEPZ	Antalya-Kepez	4.62	54	*i* P	Pn	00 11 22.1	+1.1
KEPZ				*i* S	Sn	00 12 11.7	-2.9
GAZI	Gazipasa	4.81	65	*i* P	Pn	00 11 24.7	+1.0
GAZI				*i* S	Sn	00 12 14.5	-5.0
SWA2		5.18	194	P	Pn	00 11 30.7	+2.0
	baz=195						
SWA2				S	Sn	00 12 26.0	-2.6
	baz=195						
HNAT	Natroun	5.60	145	P	Pn	00 11 35.8	+1.4
	baz=145						
HNAT				S	Sn	00 12 35.3	-3.5
	baz=145						
SUZ	Suez	6.69	130	P	Pn	00 11 51.7	+2.3
	baz=129						
NBNS	Bani Suef	6.76	145	P	Pn	00 11 52.8	+2.3
	baz=145						
HFRF	Wahat Farafira	7.21	170	P	Pn	00 11 58.7	+2.1
	baz=170						
HHRG	Al Ghardaqah	9.06	139	P	Pn	00 12 26.2	+4.2
	baz=139						

*NIED **06** 00:38:00, 39°.20N×142°.40E, h35km, Mw3.5 Best double couple: M0 1.82000×10^14 NP1:φs=320.00000°, δ29.00000°, λ-141.00000°. NP2:φs=195.00000°, δ72.00000°, λ-67.00000°.*

JMA 06 00:38:57.5±0.1, 39°.19N×142°.38E, h30km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.56	259	P	Pb	00 39 08.8	-0.2
OFUJ				S	Sb	00 39 16.5	-0.3
MIYJ	Miyakonagasawa	0.58	312	P	Pb	00 39 08.9	-0.4
MIYJ				S	Sb	00 39 16.8	-0.5
JKMT	Kesennumamotoy	0.80	242	P	Pn	00 39 12.2	-0.5
JKMT				S	Sb	00 39 22.5	-0.9
JTH	Tanohata	0.85	332	eS	Sn	00 39 25.0	+0.2
JOM	Ohasama	0.89	289	P	Pn	00 39 14.0	0.0
JOM				S	Sn	00 39 25.8	-0.1
JMK	Ichinoseki	0.93	256	P	Pn	00 39 14.5	-0.1
JMK				S	Sn	00 39 26.8	-0.1
JIO	Ouri	1.09	228	P	Pn	00 39 16.1	-0.6
JIO				eS	Sn	00 39 29.2	-1.6
JKZ	Kuzumaki	1.14	315	P	Pn	00 39 17.9	+0.5
JKZ				S	Sb	00 39 32.5	-0.5
JANG	Nango	1.36	331	P	Pn	00 39 21.0	+0.6
JANG				S	Sn	00 39 37.8	+0.4
JRG	Rokugo	1.37	279	P	Pb	00 39 21.7	-0.8
JRG				S	Sb	00 39 39.7	+0.1

JMA 05 23:08:15.3±0.6, 45°.77N×146°.87E, h291km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.54	199	P	Pn	23 09 06.1	+0.1
NEM2				eS	S	23 09 45.9	-0.4
JTKR	Abashiri--Toko	2.77	231	P	Pn	23 09 08.7	+0.5
JAK	Akkeshi	3.18	210	P	Pn	23 09 12.3	0.0
JAK				eS	S	23 09 56.3	-1.5
JAR	Ashorobuto	3.32	223	P	Pn	23 09 14.4	+0.7
JFR	Furan	4.02	231	P	Pn	23 09 21.9	+0.6
JCH	Churui	4.04	220	P	Pn	23 09 20.9	-0.6
JCH				eS	S	23 10 10.8	-3.7
JNBK	Urakawa-nobuka	4.58	222	P	Pn	23 09 26.4	-1.2
JKB	Kayabe	5.73	229	P	Pn	23 09 39.5	-1.7
JKB				eS	S	23 10 43.6	-6.6
JOT	Ohata	6.09	226	P	Pn	23 09 43.5	-2.0
JOT				eS	S	23 10 50.1	-8.0
JANG	Nango	6.67	218	P	Pn	23 09 50.6	-1.9
JANG				eS	S	23 11 03.8	-7.1
JOM	Ohasama	7.52	215	P	Pn	23 10 02.5	-0.4
JOM				eS	S	23 11 24.2	-5.7
JMK	Ichinoseki	7.99	214	eS	S	23 11 36.9	-3.7

IDC 05 23:31:48.8±2.3, 56°.52S×26°.88W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/20, mbtmp4.1/3, Error ellipse: s-maj=90.0km s-min=35.4km az=9.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	45.69	300	P	P	23 40 12.1	+0.4
	1.9nm,0.3s,baz=131,slow=6.8,SNR=5.3						
LPAZ	La Paz	50.79	305	P	P	23 40 50.5	-0.9
	1.6nm,0.6s,baz=142,slow=4.6,SNR=6.5						
TORD	Torodi Ar. Bea	73.38	29	P	P	23 43 22.5	+0.1
	0.6nm,0.6s,baz=201,slow=5.9,SNR=6.2						
SONM	Songino Array	150.58	87	PKPbc	PKPbc	23 51 41.3	-0.4
	0.8nm,0.6s,baz=246,slow=3.0,SNR=6.7						

*ISK **06** 00:00:22.9, 36°.14N×33°.20E, h5km±1km, ML1.0/5*

DDA 06 00:00:00.4, 36°.05N×31°.37E, h7km±7km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.79	76	*i* P	Pg	00 00 15.0	-0.5
GAZI				IAML_P			
	comp=Z,227nm,0.2s						
KEPZ	Antalya-Kepez	0.87	13	*i* P	Pb	00 00 18.2	+0.4
AKUM	Antalya-Kumluc	0.87	288	*i* P	Pb	00 00 17.6	-0.2
AKUM				IAML_P			
	comp=Z,154nm,0.2s						
ERMK	Ermenek	1.38	64	*i* P	Pg	00 00 27.5	+0.6
TEKE	Tekeli-Mersin	1.42	86	PG	Pn	00 00 25.0	-1.6
BERE	Bereket-Mersin	1.53	78	PG	Pn	00 00 27.8	-0.5
TEVE	Tevekalti-Mers	1.72	77	PG	Pn	00 00 30.4	-0.5
GULN	MERSIN_Gulnar	1.77	85	*i* P	Pn	00 00 30.0	-1.4
AKKU	Akkuyu-Mersin	1.77	86	PG	Pn	00 00 28.9	-2.6
IKL	Isikli	1.89	84	PG	Pn	00 00 31.4	-1.6
KEBE	Keben-Mersin	1.94	78	PG	Pn	00 00 33.3	-0.5

*IDC **06** 00:08:44.5±7.5, 6°.90S×103°.84E, h127km±57km, mb3.1/5, mb1 3.3/6, mb1mx3.1/31, mbtmp3.5/6, Error ellipse: s-maj=79.4km s-min=23.2km az=54.0*

ISC 06 00:08:33.1±1.3, 6°.9S±0°.2×103°.8E±0°.1, h24km, n10, σ1§38/8, mb3.4/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	3.83	90	P	Pb	00 09 40.1	0.0

BJI 06 00:46:36.8±0.0, 44°.66N×124°.09E, h10km, ML3.6/15, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	Changchun	1.30	131	eP	Pg	00 46 59.5	-1.5
CN2				eS	Sg	00 47 16.5	-1.5
CN2				smax	smax		
	comp=N,1μm,0.5s						
CN2				smax	smax		
	comp=E,1μm,0.5s						
SNY	Shenyang	2.86	188	⇓Pn	Pn	00 47 21.1	-1.3
SNY				Pg	Pg	00 47 32.0	+0.5
SNY				Sn	Sn	00 47 55.2	-1.6
SNY				Sg	Sb	00 48 05.4	+2.6
SNY				smax	smax		
	comp=N,270nm,0.3s						
SNY				smax	smax		
	comp=E,230nm,0.6s						
MDJ	Mudanjiang	3.93	89	Pg	Pb	00 47 48.3	+2.2
WMQ	Urumqi	25.95	281	eP	P	00 52 10.6	+1.2
WMQ				pP	sP	00 52 15.8	+2.1

*NIED **06** 01:13:00, 26°.50N×129°.20E, h11km, Mw4.9 Best double couple: M0 2.35000×10^16 NP1:φs=63.00000°, δ22.00000°, λ-87.00000°. NP2:φs=240.00000°, δ68.00000°, λ-91.00000°.*
*BJI **06** 01:13:22.3±0.0, 26°.42N×129°.25E, h6km, mb5.0/81,*

mB4.9/55, Ms4.8/80, Ms7 4.8/76
IDC **06** *01:13:26.8±0.4, 26°.68N×128°.97E, h0km, mb5.0/52, mb1 5.0/57, mb1mx5.0/69, mbtmp5.0/57, ML4.3/5, MS4.3/33, Ms1 4.3/33, ms1mx4.2/40, Error ellipse: s-maj=9.8km s-min=9.1km az=91.0*
ISCJB **06** *01:13:27.7±0.5, 26°.57N±0°.02×129°.05E±0°.02, h19km±3km, mb5.2/132, MS4.7/57, Error ellipse: s-maj=3.0km s-min=2.7km az=160.2*
JMA **06** *01:13:29.6±0.2, 26°.62N×129°.07E, h40km±3km, M4.9*
JMA *Felt I J1.*
MOS **06** *01:13:30.0±1.3, 26°.70N×128°.92E, h33km, mb5.5/68, MS5.1/15, Error ellipse: s-maj=6.8km s-min=3.9km az=110.5*
NEIC **06** *01:13:30.2±1.4, 26°.62N±0°.03×128°.95E±0°.06, h32km±4km, mb5.4/186*
GCMT **06** *01:13:32.2±0.3, 26°.54N±0°.02×128°.92E±0°.04, h12km, MW5.0/79, Moment Tensor Solution. s15,c19; s79,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.56±.08; $M_{\theta\theta}$1.48±.07; $M_{\phi\phi}$0.08±.09; $M_{r\theta}$1.66±.24; $M_{\theta\phi}$1.00±.06; $M_{r\phi}$2.40±.32; Best double couple: $M_0$3.43900×10^{16} NP1:ϕ_s219.00000°, δ76.00000°, λ-106.00000°. NP2: ϕ_s87.00000°, δ21.00000°, λ-43.00000°. Principal axes: T 3.4650, Plg29.0000°, Azm321.0000°; N -0.0490, Plg15.0000°, Azm223.0000°; P -3.4130, Plg57.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 01:13:28.0±0.5, 26°.57N±0°.03×129°.04E±0°.03, h12km±3km, h12km:pP-P, n672, σ1°.57/660, mb5.3/207, MS4.7/57, 50C-37D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.69**	**311**	⇑P			**Pb**	**01 13 42.6**	**+0.6**
JYRO				*e*S			**Sb**	**01 13 52.9**	**+1.4**
JOW	**Kunigami**	**0.73**	**291**	⇑P			**Pn**	**01 13 43.7**	**-0.4**
JOW				S			**Sb**	**01 13 53.5**	**+0.9**
JOW	**Kunigami**	**0.73**	**291**	Pn			**Pn**	**01 13 43.8**	**-0.4**
	785nm,0.3s,baz=122,slow=14,SNR=7450								
JOW				Sn			**Sb**	**01 13 53.5**	**+0.9**
	1μm,0.3s,baz=73,slow=19,SNR=33								
JOW	**Kunigami**	**0.73**	**291**				**Pg**	**01 13 41.7**	**-0.5**
JOW							**Sg**	**01 13 51.6**	**-0.2**
JOKE	**Okinoerabujima**	**0.89**	**332**	⇑P			**Pb**	**01 13 45.6**	**+0.2**
JOKE				*e*S			**Sg**	**01 13 56.2**	**-0.6**
JNTH	**Nagotoyohara**	**0.91**	**267**	P			**Pn**	**01 13 46.4**	**-0.2**
JNTH				*e*S			**Sb**	**01 13 58.4**	**+0.6**
JIH	**Iheya**	**1.06**	**296**	⇑P			**Pn**	**01 13 48.7**	**0.0**
JIH				*e*S			**Sg**	**01 14 02.0**	**-0.3**
JJT3	**Tamagusuku3**	**1.20**	**249**	P			**Pg**	**01 13 51.2**	**0.0**
JJT3				*e*S			**Sn**	**01 14 06.8**	**-0.1**
JTK	**Tokunoshima**	**1.21**	**356**	⇑P			**Pn**	**01 13 49.8**	**-1.0**
JTK				*e*S			**Sb**	**01 14 04.6**	**-1.9**
JAGN	**Aguni-jima**	**1.61**	**271**	⇑P			**Pb**	**01 13 57.0**	**-0.6**
JAGN				S			**Sn**	**01 14 17.0**	**+0.1**
JAMN	**Amaminishikomi**	**1.67**	**4**	⇑P			**Pn**	**01 13 56.5**	**-0.5**
JAM	**Amami Oshima**	**1.90**	**15**	P			**Pn**	**01 13 59.5**	**-0.7**
JAM				*e*S			**Sn**	**01 14 22.2**	**-1.9**
JZK	**Kikaishima**	**1.92**	**25**	P			**Pn**	**01 14 00.5**	**-0.1**
JZK				*e*S			**Sn**	**01 14 23.7**	**-1.0**
JKE	**Kume jima 2**	**2.03**	**264**	P			**Pn**	**01 14 02.0**	**-0.1**
JKE				*e*S			**Sn**	**01 14 26.9**	**-0.5**
JMZ	**Minamidaito 2**	**2.10**	**110**	P			**Pn**	**01 14 02.2**	**-0.8**
JMZ				S			**Sn**	**01 14 25.4**	**-3.7**
JKDJ	**Kitadaitoujima**	**2.12**	**107**	P			**Pn**	**01 14 02.7**	**-0.6**
JKDJ				S			**Sn**	**01 14 27.1**	**-2.5**
JNU	**Nakatsue**	**6.72**	**13**	Pn			**Pn**	**01 15 07.3**	**+0.8**
	30nm,0.3s,baz=201,slow=1.4,SNR=170								
JNU				Sn			**Sn**	**01 16 20.6**	**-2.5**
	baz=218,slow=19,SNR=1.6								
JNU				LR			LR	01 18 15.0	
	comp=Z,2μm,19.2s,baz=172,slow=44								
JNU	**Nakatsue**	**6.72**	**13**				**Pn**	**01 15 06.0**	**-0.5**
JNU							**Sn**	**01 16 19.6**	**-3.4**
NACB	**Ninganchiao**	**7.14**	**252**				**Pn**	**01 15 10.7**	**-1.6**
YHNB	**Yeheng**	**7.17**	**256**				**Pn**	**01 15 12.2**	**-0.6**
YULB	**Yu-li**	**7.70**	**247**				**Pn**	**01 15 16.9**	**-3.2**
SSLB	**Suanglung**	**7.83**	**251**				**Pn**	**01 15 19.3**	**-2.6**
TWG	**Pinlang**	**8.15**	**244**				**Pn**	**01 15 22.6**	**-3.6**
SSE	**Sheshan**	**8.23**	**305**	P			**Pn**	**01 15 28.6**	**+1.4**
SSE				S			**Sn**	**01 17 01.0**	**+0.9**
SSE				LR			LR		
	comp=N,1μm,13.2s								
SSE				LR			LR		
	comp=E,2μm,13.6s								
SSE				LR			LR		
	comp=Z,3μm,13.9s								
TPUB	**Ta-pu**	**8.30**	**249**				**Pn**	**01 15 26.8**	**-1.4**
QZH	**Quanzhou**	**9.55**	**263**	⇑P			**Pn**	**01 15 46.0**	**+0.6**
QZH				*e*S			**Sn**	**01 17 34.1**	**+1.3**
QZH				LR			LR		
	comp=N,2μm,13.3s								
QZH				LR			LR		
	comp=E,1μm,15.2s								
QZH				LR			LR		
	comp=Z,2μm,14.7s								
TJN	**Taejon**	**9.88**	**352**	*c iP*			**Pn**	**01 15 51.5**	**+1.7**
NJ2	**Nanjing**	**10.43**	**304**	⇓*i*P			**Pn**	**01 15 59.0**	**+1.6**
NJ2				pP				01 16 02.0	
NJ2				S			Sn	01 18 05.8	+12
NJ2				pmax			pmax		
	comp=Z,78nm,0.7s								
NJ2				pmax			pmax		
	comp=Z,220nm,3.5s								
NJ2				LR			LR		
	comp=N,3μm,13.7s								
NJ2				LR			LR		
	comp=E,5μm,12.8s								
NJ2				LR			LR		
	comp=Z,6μm,12.3s								
KSAR	**Wonju Array Be**	**10.88**	**355**	P			**Pn**	**01 16 02.8**	**-0.8**
KSAR	**Wonju Array Be**	**10.88**	**355**				**Pn**	**01 16 02.8**	**-0.8**
KSRS	**Korea Array**	**10.89**	**355**	Pn			**Pn**	**01 16 04.4**	**+0.7**
	0.8nm,0.3s,baz=177,slow=14,SNR=38								
KSRS				LR			LR	01 20 40.2	
	comp=Z,2μm,19.1s,baz=166,slow=40								
KS19	**Wonju Array Si**	**10.94**	**355**				**Pn**	**01 16 04.0**	**-0.4**
INU	**Inuyama**	**11.10**	**36**				**Pn**	**01 16 06.8**	**+0.2**
JHJ	**Hachijo jima 2**	**11.38**	**52**	Pn			**Pn**	**01 16 12.2**	**+1.8**
	27nm,0.3s,baz=105,slow=14,SNR=7.5								
JHJ				LR			LR	01 20 43.8	
	comp=Z,543nm,18.4s,baz=246,slow=38								
JCJ	**Chichijima**	**11.75**	**85**	LR			LR	01 20 07.0	
	comp=Z,484nm,18.8s,baz=236,slow=34								
MAJO	**Matsushiro**	**12.64**	**36**	‖*eP*			**Pn**	**01 16 27.8**	**+0.2**
MAT	**Matsushiro**	**12.64**	**36**	P			**Pn**	**01 16 27.8**	**+0.2**
MAT				S			**Sn**	**01 18 47.2**	**-1.1**
MJAR	**Matsushiro Arr**	**12.64**	**36**	P			**Pn**	**01 16 26.6**	**-1.0**
MJAR	**Matsushiro Arr**	**12.64**	**36**	Pn			**Pn**	**01 16 29.0**	**+1.3**
	0.3nm,0.3s,baz=232,slow=13,SNR=12								
MJAR	**Matsushiro Arr**	**12.64**	**36**				**Pn**	**01 16 26.6**	**-1.0**
WHN	**Wuhan**	**13.50**	**290**	P			**Pn**	**01 16 38.8**	**-0.6**
WHN				S			**Sn**	**01 19 15.3**	**+5.9**
WHN				LR			LR		
	comp=N,2μm,12.0s								
WHN				LR			LR		
	comp=E,5μm,11.2s								
WHN				LR			LR		
	comp=Z,6μm,13.3s								
DL2	**Dalian**	**13.78**	**335**	P			**Pn**	**01 16 43.2**	**0.0**
DL2				*e*S			**Sn**	**01 19 17.9**	**+1.8**
DL2				pmax			pmax		
	comp=Z,100nm,1.4s								
DL2				pmax			pmax		
	comp=Z,440nm,5.4s								
DL2				LR			LR		
	comp=N,2μm,14.8s								
DL2				LR			LR		
	comp=E,2μm,15.3s								
DL2				LR			LR		
	comp=Z,3μm,14.7s								
TIA	**Tai'an**	**13.98**	**316**	P			**Pn**	**01 16 46.7**	**+0.7**
TIA				S			**Sn**	**01 19 28.7**	**+7.6**
TIA				pmax			pmax		
	comp=Z,7.0nm,0.9s								
TIA				pmax			pmax		
	comp=Z,260nm,7.3s								
TIA				LR			LR		
	comp=N,1μm,11.0s								
TIA				LR			LR		
	comp=E,2μm,11.6s								
TIA				LR			LR		
	comp=Z,3μm,10.3s								
SNY	**Shenyang**	**15.87**	**345**	⇑P			**P**	**01 17 13.0**	**-1.9**
SNY				pmax			pmax		
	comp=Z,15nm,0.7s								
SNY				pmax			pmax		
	comp=Z,520nm,10.4s								
SNY				LR			LR		
	comp=N,2μm,14.7s								
SNY				LR			LR		
	comp=E,1μm,16.5s								
SNY				LR			LR		
	comp=Z,4μm,15.5s								
BJT	**Baijiatuau**	**17.16**	**325**	P			**Pn**	**01 17 24.9**	**-2.8**
BJT				pmax			pmax		
	comp=Z,145nm,0.6s								
BJT	**Baijiatuau**	**17.16**	**325**				**Pn**	**01 17 24.9**	**-2.8**
BJT				IAmb			IAmb	01 17 31.9	
	comp=Z,145nm,0.6s								
BJI	**Beijing**	**17.18**	**325**	⇑*i*P			**P**	**01 17 29.8**	**+0.4**
BJI				sP			**pwP**	**01 17 35.0**	**-0.9**
BJI				S			**Sn**	**01 20 41.3**	**+2.6**
BJI				pmax			pmax		
	comp=Z,190nm,0.7s								
BJI				pmax			pmax		
	comp=Z,500nm,3.0s								
BJI				LR			LR		
	comp=Z,2μm,14.7s								
BJI				LR			LR		
	comp=Z,1μm,16.7s								
CN2	**Changchun**	**17.43**	**351**	*e*P			**P**	**01 17 31.9**	**-0.3**
CN2				*es*P			pwP	01 17 38.9	-0.1
CN2				*e*S			**Sn**	**01 20 43.8**	**-1.1**
CN2				pmax			pmax		
	comp=Z,20nm,1.2s								
CN2				pmax			pmax		
	comp=Z,200nm,4.0s								
CN2				LR			LR		
	comp=Z,3μm,13.0s								
CN2				LR			LR		
	comp=Z,880nm,13.0s								
CN2				LR			LR		
	comp=Z,3μm,14.0s								
ENH	**Enshi**	**17.59**	**287**	P			**Pn**	**01 17 32.4**	**-0.7**
USA0B	**Ussuriysk Arra**	**17.75**	**7**	P			**Pn**	**01 17 33.7**	**-1.2**
USA0B				pmax			pmax		
	comp=Z,22nm,0.7s								
USA0B	**Ussuriysk Arra**	**17.75**	**7**	P			**Pn**	**01 17 33.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**17.75**	**7**	P			**Pn**	**01 17 33.2**	**-1.7**
USRK	**Ussuriysk Ar.**	**17.75**	**7**	P			**P**	**01 17 35.4**	**-0.3**
	baz=198,slow=12,SNR=42								
USRK				LR			LR	01 24 44.3	
	comp=Z,868nm,18.4s,baz=179,slow=38								
USRK	**Ussuriysk Ar.**	**17.75**	**7**				**Pn**	**01 17 33.2**	**-1.7**
TIY	**Taiyuan**	**17.89**	**312**	*e*P			**P**	**01 17 39.2**	**+1.8**
TIY				S			**Sn**	**01 20 56.4**	**+0.2**
TIY				pmax			pmax		
	comp=Z,85nm,0.6s								
TIY				pmax			pmax		
	comp=Z,330nm,6.1s								
TIY				LR			LR		
	comp=Z,2μm,13.9s								
TIY				LR			LR		
	comp=Z,2μm,13.8s								
TIY				LR			LR		
	comp=Z,3μm,15.8s								
MDJ	**Mudanjiang**	**18.01**	**1**	P			**P**	**01 17 38.7**	**+0.1**
MDJ				pmax			pmax		
	comp=Z,16nm,0.8s								
MDJ				pmax			pmax		
	comp=Z,220nm,6.5s								
XAN	**Xi'an**	**18.88**	**298**	P			**Pn**	**01 17 49.2**	**+0.3**
XAN				S			**Sn**	**01 21 16.4**	**-3.7**
XAN				pmax			pmax		
	comp=Z,180nm,0.7s								
XAN				LR			LR		
	comp=Z,1μm,15.2s								
XAN				LR			LR		
	comp=Z,2μm,15.2s								
XAN				LR			LR		
	comp=Z,3μm,13.7s								
XAN	**Xi'an**	**18.88**	**298**	P			**P**	**01 17 47.1**	**-1.2**
XAN				pmax			pmax		
	comp=Z,724nm,1.8s								
XAN	**Xi'an**	**18.88**	**298**	P			**P**	**01 17 47.1**	**-1.2**
QIZ	**Qiongzhong**	**19.21**	**251**	P			**P**	**01 17 50.2**	**-1.8**
QIZ				LR			LR		
	comp=Z,1μm,18.1s								
QIZ				LR			LR		
	comp=Z,690nm,20.6s								
QIZ				LR			LR		
	comp=Z,680nm,13.2s								
ERM	**Erimo**	**19.28**	**33**	*ceP*			**Pn**	**01 17 53.1**	**-0.5**
ERM				pmax			pmax		
	comp=Z,82nm,1.3s								
ERM	**Erimo**	**19.28**	**33**	P			**P**	**01 17 52.0**	**-0.6**
TEY	**Ternei**	**19.40**	**16**	*e*P			**P**	**01 17 54.1**	**+0.3**
GUMO	**Guam**	**19.67**	**128**	LR			LR	01 24 08.4	
	comp=Z,537nm,20.9s,baz=284,slow=32								
DAV	**Davao City (W)**	**19.68**	**190**	LR			LR	01 25 06.1	
	comp=Z,440nm,19.5s,baz=348,slow=35								
GYA	**Guiyang**	**20.02**	**275**	⇑*i*P			Pn	01 18 02.5	-0.2
GYA				sP			pwP	01 18 09.8	+2.3
GYA				PP			sP	01 18 22.4	+18
GYA				S			Sn	01 21 47.1	-0.8
GYA				SS			**SnSn**	**01 22 11.6**	**+9.3**
GYA				ScP			**ScP**	**01 25 53.0**	**-0.1**
GYA				ScS			**ScS**	**01 29 26.9**	**-9.0**
GYA				pmax			pmax		
	comp=Z,20nm,0.9s								
GYA				pmax			pmax		
	comp=Z,100nm,5.4s								
GYA				LR			LR		
	comp=Z,2μm,15.6s								
GYA				LR			LR		
	comp=Z,2μm,14.8s								
GYA				LR			LR		
	comp=Z,3μm,15.3s								
HHC	**Hu-ho-hao-te**	**20.29**	**319**	*e*P			Pn	01 18 05.0	-0.8
HHC				pmax			pmax		
	comp=Z,12nm,1.1s								
ASAJ	**Asahikawa**	**20.66**	**29**	P			**P**	**01 18 07.3**	**-0.2**
	comp=Z,82nm,0.7s,baz=222,slow=13,SNR=28								
BTO	**Baotou**	**21.07**	**316**	*e*P			**P**	**01 18 12.9**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**22.11**	**34**	*e*P			**P**	**01 18 22.8**	**-0.4**
YUK				*e*S			**S**	**01 22 28.2**	**+1.6**
YUK				MLR			MLR		
	comp=Z,466nm,19.0s								
CD2	**Chengdu**	**22.56**	**287**	P			**P**	**01 18 26.5**	**-1.8**
CD2				PP			**PnPn**	**01 18 55.5**	**+3.8**
CD2				PcP			**PcP**	**01 22 20.3**	**-1.4**
CD2				S			**S**	**01 22 27.8**	**-7.7**
CD2				sS			sS	01 22 39.1	-0.9
CD2				SS			**SnSn**	**01 23 09.8**	**+5.2**
CD2				pmax			pmax		
	comp=Z,120nm,0.9s								
CD2				LR			LR		
	comp=Z,2μm,17.8s								
CD2				LR			LR		
	comp=Z,2μm,15.0s								
CD2				LR			LR		
	comp=Z,3μm,15.7s								
KLR	**Kul'dur**	**22.72**	**5**	*c iP*			**P**	**01 18 27.4**	**-2.2**
KLR				pmax			pmax		
	comp=Z,43nm,1.5s								
KLR	**Kul'dur**	**22.72**	**5**	P			**P**	**01 18 26.5**	**-3.1**
	comp=Z,8.8nm,0.5s,baz=200,slow=6.2,SNR=21								
KLR				LR			LR	01 27 32.8	
	comp=Z,422nm,20.3s,baz=178,slow=37								
YSS	**Yuzh-Sakhalins**	**23.05**	**25**	*e*P			**P**	**01 18 33.8**	**+0.7**
YSS				*e**SP			**pwP**	**01 18 39.0**	**-0.9**
YSS				*e*				01 19 02.3	
YSS				*e*S			**S**	**01 22 43.6**	**-0.1**
YSS				*e*SS			**SnSn**	**01 23 21.7**	**+5.4**
YSS				MLR			MLR		
	comp=Z,600nm,19.0s								
YSS	**Yuzh-Sakhalins**	**23.05**	**25**	P			**P**	**01 18 33.1**	**-0.1**
LZH	**Lanzhou**	**23.46**	**300**	⇑P			**P**	**01 18 36.0**	**-1.6**
LZH				pP			sP	01 18 40.3	-1.1
LZH				S			**S**	**01 22 44.5**	**-6.6**
LZH				pmax			pmax		
	comp=Z,82nm,1.3s								
LZH				pmax			pmax		
	comp=Z,350nm,5.0s								
LZH				LR			LR		
	comp=Z,2μm,13.0s								
LZH				LR			LR		
	comp=Z,1μm,14.1s								
LZH				LR			LR		
	comp=Z,2μm,15.2s								
SLVN	**Son La**	**23.54**	**263**	P			**P**	**01 18 38.2**	**-0.1**
KMI	**Kunming**	**23.70**	**272**	P			**P**	**01 18 40.8**	**+0.7**
KMI				pP			sP	01 18 42.7	-1.1
KMI				sP			pP	01 18 44.1	+1.3
KMI				S			**S**	**01 22 48.9**	**-6.3**
KMI				pmax			pmax		
	comp=Z,90nm,1.3s								
KMI				pmax			pmax		
	comp=Z,220nm,3.1s								
KMI				LR			LR		
	comp=Z,590nm,15.2s								
KMI				LR			LR		
	comp=Z,2μm,13.4s								
KMI				LR			LR		
	comp=Z,2μm,14.1s								
KMI	**Kunming**	**23.70**	**272**	P			**P**	**01 18 39.1**	**-1.0**
KMI				pmax			pmax		
	comp=Z,246nm,1.5s								
KMI	**Kunming**	**23.70**	**272**	P			**P**	**01 18 39.1**	**-1.0**
KMI				IAmb			IAmb	01 18 42.9	
	comp=Z,246nm,1.5s								
HIA	**Hailar**	**23.77**	**345**	‖*eP*			**P**	**01 18 41.0**	**+0.6**
HIA				pmax			pmax		
	comp=Z,97nm,0.9s								
HIA	**Hailar**	**23.77**	**345**	P			**P**	**01 18 39.8**	**-0.6**
KKM	**Kota Kinabalu**	**23.80**	**213**	P			**P**	**01 18 40.6**	**-0.4**
KKM				IAmb			IAmb	01 18 54.6	
	comp=Z,185nm,1.6s								
GRNR	**Gornyy**	**24.81**	**11**	*e*P			**P**	**01 18 51.6**	**+1.7**
GRNR				pmax			pmax		
	comp=Z,84nm,1.0s								
NONG	**Nongkai**	**25.37**	**256**	P			**P**	**01 18 57.7**	**+2.5**
	comp=Z,0.7nm,0.9s								
TNTI	**Ternate**	**25.70**	**184**	P			**P**	**01 18 59.1**	**+0.9**
TYV	**Tymovskoe**	**26.39**	**20**	*e*P			**P**	**01 19 07.8**	**+3.6**
TYV				pmax			pmax		
	comp=Z,112nm,1.3s								
MRSI	**Marisa**	**26.83**	**196**	P			**P**	**01 19 09.0**	**+0.6**
ZEA	**Zeya**	**27.17**	**358**	*e*P			**P**	**01 19 10.1**	**-1.0**
ZEA				pmax			pmax		
	comp=Z,23nm,0.8s								
CHAI	**Chaiyaphum**	**27.30**	**253**	P			**P**	**01 19 14.3**	**+1.6**
	comp=Z,45μm,0.8s								
ULN	**Ulaanbaatar**	**27.36**	**327**	P			**P**	**01 19 14.8**	**+1.7**
	SNR=18								
ULN	**Ulaanbaatar**	**27.36**	**327**	*c iP*			**P**	**01 19 14.0**	**+0.9**
ULN				pmax			pmax		
	comp=Z,47nm,1.0s								
ULN	**Ulaanbaatar**	**27.36**	**327**	P			**P**	**01 19 11.6**	**-1.6**
SWI	**Sorong**	**27.36**	**175**	P			**P**	**01 19 13.2**	**0.0**
SIJI	**Sorong**	**27.37**	**175**	P			**P**	**01 19 13.4**	**+0.2**
	comp=Z,8.3nm,0.4s,baz=34,slow=5.0,SNR=5.9								
SIJI				LR			LR	01 29 04.6	
	comp=Z,510nm,20.1s,baz=48,slow=34								
GTA	**Gaotai**	**27.52**	**305**	⇑P			**P**	**01 19 13.1**	**-1.6**
GTA				pP			pwP	01 19 24.8	+3.6
GTA				S			**S**	**01 23 51.3**	**-4.3**
GTA				sS			sS	01 24 00.3	+0.1
GTA				pmax			pmax		
	comp=Z,90nm,1.0s								
GTA				pmax			pmax		
	comp=Z,180nm,6.7s								
GTA				LR			LR		
	comp=Z,1μm,13.3s								
GTA				LR			LR		
	comp=Z,2μm,14.6s								
GTA				LR			LR		
	comp=Z,3μm,15.2s								
MPSI	**Mapaga**	**27.53**	**200**	P			**P**	**01 19 15.6**	**+0.9**
SONM	**Songino Array**	**27.66**	**326**	P			**P**	**01 19 13.7**	**-2.2**
	comp=Z,9.9nm,0.5s,baz=141,slow=9.4,SNR=47								
SONM				LR			LR	01 32 13.9	
	comp=Z,1μm,18.0s,baz=135,slow=41								
SONM	**Songino Array**	**27.66**	**326**	P			**P**	**01 19 13.9**	**-2.0**
PBKT	**Sadao Pong**	**27.88**	**255**	P			**P**	**01 19 19.9**	**+2.0**
	comp=Z,11nm,0.6s								
LAMP	**Lampang**	**28.27**	**260**	P			**P**	**01 19 25.1**	**+3.8**
	comp=Z,38μm,0.7s,comp=Z,495μm								
SANI	**Sanana**	**28.61**	**186**	P			**P**	**01 19 25.2**	**+0.9**
	comp=Z,42nm,0.8s								
CMMT	**Chiang Mai**	**28.76**	**261**	P			**P**	**01 19 28.1**	**+2.3**
	comp=Z,6.2nm,1.2s								
CHTO	**Chiang Mai**	**28.77**	**261**	P			**P**	**01 19 27.0**	**+1.2**
	SNR=7.7								
CHTO	**Chiang Mai**	**28.77**	**261**	P			**P**	**01 19 24.9**	**-0.9**
CHTO				pmax			pmax		
	comp=Z,60nm,1.9s								
CHTO	**Chiang Mai**	**28.77**	**261**	P			**P**	**01 19 24.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**28.90**	**260**	P			**P**	**01 19 25.1**	**-1.9**
CMAR	**Chiang Mai Arr**	**28.90**	**260**	P			**P**	**01 19 27.9**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=60,slow=8.7,SNR=8.4								
CMAR				PcP			**PcP**	**01 22 37.5**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=96,slow=0.9,SNR=6.8								
CMAR				LR			LR	01 32 34.1	
	comp=Z,466nm,18.2s,baz=80,slow=40								
CMAR	**Chiang Mai Arr**	**28.90**	**260**	P			**P**	**01 19 25.1**	**-1.9**
FAKI	**Fak Fak**	**29.48**	**173**	P			**P**	**01 19 30.7**	**-1.4**
FAKI	**Fak Fak**	**29.48**	**173**	P			**P**	**01 19 32.3**	**+0.2**
FAKI				IAmb			IAmb	01 19 33.7	
	comp=Z,75nm,0.7s								
UTHA	**Uthaitani**	**29.64**	**254**	P			P	01 19 49.1	+16
NLAI	**Namlea**	**29.70**	**184**	P			**P**	**01 19 34.2**	**+0.2**
MSAI	**Masohi**	**29.75**	**180**	P			**P**	**01 19 34.4**	**0.0**
KHLT	**Khaolaem Dam**	**30.72**	**254**	P			P	01 19 54.4	+11
PHET	**Kaeng Krachan**	**30.74**	**249**	P			P	01 19 58.4	+15
JAY	**Jayapura**	**31.04**	**157**	LR			LR	01 29 25.6	
	comp=Z,360nm,21.6s,baz=336,slow=31								
TLY	**Talaya**	**31.58**	**329**	LR			LR	01 34 19.9	
	comp=Z,1μm,18.9s,baz=122,slow=40								
KBKI	**Kotabaru**	**32.20**	**205**	P			**P**	**01 19 56.5**	**+0.4**
BBSI	**Bau Bau**	**32.48**	**192**	P			**P**	**01 19 57.8**	**-0.8**
SHL	**Shillong**	**33.31**	**277**	P			**P**	**01 20 06.4**	**+0.3**
	SNR=26								
SHL	**Shillong**	**33.31**	**277**	P			**P**	**01 20 04.7**	**-1.4**
SHL				pmax			pmax		
	comp=Z,83nm,1.0s								
SHL	**Shillong**	**33.31**	**277**	P			**P**	**01 20 04.7**	**-1.4**
LSA	**Lhasa**	**33.46**	**284**	P			**P**	**01 20 05.8**	**-1.9**
LSA				pmax			pmax		
	comp=Z,16nm,0.7s								
LSA	**Lhasa**	**33.46**	**284**	P			**P**	**01 20 05.8**	**-1.9**
SURT	**Suratani**	**33.57**	**244**	P

PLAI Plampang 36.85 199 P **P 01 20 35.7 -0.6**
BATI Baumata 36.93 189 P **P 01 20 34.5 -2.5**
TWSI Taliwang, Sumb 37.03 200 P **P 01 20 37.3 -0.6**
ODAN Odare 37.08 280 *e*P **P 01 20 38.2 -0.4**
comp=Z,150nm,0.5s
PSI Prapat 37.31 236 P **P 01 20 41.6 +1.2**
comp=Z,4.7nm,0.5s,baz=338,slow=8.3,SNR=3.8
RPSI Rantau Prapat 37.38 236 P **P 01 20 41.6 +0.7**
WMQ Urumqi 37.47 308 *e*P **P 01 20 40.8 -0.7**
WMQ pP pwP 01 20 46.2 -1.9
WMQ sP sP 01 20 50.5 +5.1
WMQ S **S 01 26 30.0 +0.1**
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,71nm,3.8s
WMQ LR LR
comp=Z,520nm,22.5s
WMQ LR LR
comp=Z,720nm,16.7s
WMQ LR LR
comp=Z,820nm,22.1s
WMQ Urumqi 37.47 308 P **P 01 20 40.0 -1.5**
WMQ pmax pmax
comp=Z,84nm,1.3s
WMQ Urumqi 37.47 308 P **P 01 20 40.0 -1.5**
WMQ IAmb IAmb 01 20 42.5
comp=Z,84nm,1.3s
RAMN Ramite 37.76 280 *e*P **P 01 20 43.8 -0.6**
comp=Z,33nm,0.5s
NGJI Ngawi 37.80 209 P **P 01 20 48.3 +3.9**
KRVT Keravat (AS076 37.91 141 P **P 01 20 46.6 +1.2**
comp=Z,57nm,0.8s,baz=173,slow=8.7,SNR=5.2
JIRN Jiri 38.01 282 *e*P **P 01 20 46.3 -0.3**
comp=Z,27nm,0.4s
UGM Wanagama 38.70 210 P P 01 21 06.2 +14
PKI Pulchoki 38.71 282 *e*P **P 01 20 51.7 -0.8**
comp=Z,45nm,0.5s
PKIN Phulchoki 38.72 282 *e*P **P 01 20 51.7 -0.8**
comp=Z,37nm,0.4s
KKN Kakani 38.79 282 *e*P **P 01 20 52.4 -0.6**
KPJI Karang Pucung 38.94 213 P **P 01 20 54.6 +0.6**
DMN Daman 38.97 282 *e*P **P 01 20 54.2 -0.4**
LEM Lembang 39.16 215 P **P 01 20 58.3 +2.2**
comp=Z,50nm,1.0s,baz=117,slow=8.9,SNR=6.3
MTN Manton Dam 39.23 177 P **P 01 20 56.3 -0.2**
MTN IAmb IAmb 01 20 57.0
comp=Z,63nm,0.8s
GKN Gorkha 39.32 283 *e*P **P 01 20 57.2 -0.2**
DGZ Jazzator, Alta 39.36 317‖*e*P **P 01 20 56.5 -0.9**
SEY Seymchan 39.48 17*de*P **P 01 21 00.2 +2.2**
SEY Seymchan 39.48 17 P **P 01 20 59.0 +1.0**
comp=Z,61nm,0.9s,baz=210,slow=6.8,SNR=77
SEY LR LR 01 38 47.4
comp=Z,500nm,19.1s,baz=244,slow=39
PMG Port Moresby 39.86 151*de*P **P 01 21 02.2 +0.5**
PMG pmax pmax
comp=Z,92nm,0.7s
PMG Port Moresby 39.86 151 P **P 01 21 02.6 +0.9**
comp=Z,20nm,0.6s,baz=360,slow=6.9,SNR=4.9
PMG Port Moresby 39.86 151 P **P 01 21 01.7 0.0**
DANN Dangsing 40.04 283 *e*P **P 01 21 03.5 0.0**
KOLN Koldanda 40.27 282 *e*P **P 01 21 04.9 -0.4**
comp=Z,160nm,1.1s
MK31 Makanchi Array 41.85 311 *i*P **P 01 21 16.1 -1.8**
MK31 pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 41.85 311 P **P 01 21 16.5 -1.4**
MKAR Makanchi Array 41.85 311 P **P 01 21 16.5 -1.3**
comp=Z,8.0nm,0.6s,baz=92,slow=10.0,SNR=101
MKAR PcP **PcP 01 23 13.9 +0.2**
comp=Z,2.4nm,0.8s,baz=95,slow=4.4,SNR=2.8
MKAR LR LR 01 41 12.4
comp=Z,470nm,18.1s,baz=94,slow=40
MKAR Makanchi Array 41.85 311 **PcP 01 23 11.6 -2.1**
KNRA Kununurra 42.00 180 P **P 01 21 18.8 -0.4**
MAKZ Makanchi 42.06 311 P **P 01 21 18.0 -1.6**
MAKZ pmax pmax
comp=Z,31nm,1.2s
MAKZ Makanchi 42.06 311 P **P 01 21 18.5 -1.1**
ZAA0 Zalesovo Array 42.41 322 P **P 01 21 20.6 -1.8**
ZALV Zalesovo Beam 42.41 322 *i*P **P 01 21 20.0 -2.3**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 42.41 322 P **P 01 21 20.4 -1.9**
comp=Z,12nm,0.6s,baz=109,slow=7.6,SNR=56
ZALV PcP **PcP 01 23 15.0 -0.3**
comp=Z,5.0nm,0.9s,baz=130,slow=2.3,SNR=5.1
ZALV LR LR 01 40 56.5
comp=Z,858nm,20.2s,baz=125,slow=39
PDGK Podgornoye 43.26 306 P **P 01 21 27.6 -1.9**
PDGK pmax pmax
comp=Z,83nm,1.2s
TARG Taragay, Kyrgy 44.37 303 IAmb IAmb 01 21 41.0
comp=Z,59nm,1.0s
FITZ Fitzroy Crossi 44.53 185 IAmb IAmb 01 21 41.6
comp=Z,38nm,0.8s
KDJ Kajisay 44.86 304 IAmb IAmb 01 21 44.3
comp=Z,58nm,0.9s
KURK Kurchatov 45.07 316*c i*P **P 01 21 42.5 -1.2**
KURK pmax pmax
comp=Z,37nm,0.8s
KURK Kurchatov 45.07 316 P **P 01 21 42.6 -1.2**
KURK IAmb IAmb 01 21 43.5
comp=Z,38nm,0.8s
KURK **PcP 01 23 23.1 -1.2**
KURBB Kurchatov Arra 45.10 316 P **P 01 21 42.8 -1.2**
comp=Z,25nm,0.6s,baz=102,slow=8.9,SNR=157
KURBB PcP **PcP 01 23 24.7 +0.2**
comp=Z,2.4nm,0.8s,baz=100,slow=3.3,SNR=3.2
TIXI Tiksi 45.11 360 P **P 01 21 42.7 -1.1**
comp=Z,20nm,0.7s,baz=192,slow=4.8,SNR=23
TIXI Tiksi 45.11 360 P **P 01 21 42.9 -0.9**
TIXI IAmb IAmb 01 21 45.0
comp=Z,35nm,0.9s
ULHL Ulahol 45.56 304 P **P 01 21 49.2 +1.1**
SNR=14
KSH Kashi 45.71 300 P **P 01 21 52.8 +3.6**
KSH pP pwP 01 21 57.0 +1.2
KSH PcP **PcP 01 23 30.8 +3.8**
KSH S **S 01 28 37.4 +5.1**
KSH sS sS 01 28 45.7 +8.6
KSH SS **SS 01 31 54.8 -1.5**
KSH pmax pmax
comp=Z,82nm,1.2s
KSH pmax pmax
comp=Z,250nm,4.4s
KSH LR LR
comp=Z,1μm,13.4s
KSH LR LR
comp=Z,1μm,13.4s
KSH LR LR
comp=Z,1μm,14.1s
NRN Naryn 45.71 303 P **P 01 21 48.3 -1.1**
NRN pmax pmax
comp=Z,268nm,1.8s
NRN Naryn 45.71 303 P **P 01 21 48.3 -1.1**
TKM2 Tokmak 2 46.07 305 *i*P **P 01 21 51.8 -0.3**
TKM2 pmax pmax
comp=Z,49nm,0.7s
TKM2 Tokmak 2 46.07 305 P **P 01 21 52.1 0.0**
SNR=75
KZA Kyzart 46.29 304 P **P 01 21 55.3 +1.2**
SNR=42
WRAB Tennant Creek 46.52 173*d i*P **P 01 21 56.2 +0.8**
WRAB pmax pmax
comp=Z,62nm,0.8s
WRAB Tennant Creek 46.52 173 P **P 01 21 55.7 +0.3**
WRA Warramunga Arr 46.52 173 P **P 01 21 56.0 +0.5**
comp=Z,44nm,0.7s,baz=354,slow=8.4,SNR=197
WRA LR LR 01 40 40.8
comp=Z,171nm,20.7s,baz=355,slow=35
WB2 Warramunga Arr 46.53 173 P **P 01 21 55.1 -0.4**
KBK Karagaybulak 46.54 305 P **P 01 21 56.5 +0.7**
SNR=22
CHMS Chumysh 46.69 305 P **P 01 21 57.1 +0.3**
SNR=26
FRU1 Bishkek 46.78 305 P **P 01 21 56.4 -1.1**
FRU1 pmax pmax
comp=Z,36nm,0.7s
FRU1 Bishkek 46.78 305 P **P 01 21 56.4 -1.1**
FRU1 IAmb IAmb 01 21 58.6
comp=Z,36nm,0.7s
UCH Uchtor 46.84 304 P **P 01 21 59.8 +1.4**
SNR=74
AAK Ala-Archa 46.87 305 *i*P **P 01 21 58.0 -0.2**
SNR=24
AAK Ala-Archa 46.87 305 P **P 01 21 58.0 -0.2**
SNR=8.0
AAK Ala-Archa 46.87 305*c i*P **P 01 21 58.1 -0.2**
AAK pmax pmax
comp=Z,13nm,0.6s
AAK Ala-Archa 46.87 305 P **P 01 21 57.9 -0.4**
comp=Z,10nm,0.4s,baz=117,slow=6.7,SNR=35
AAK Ala-Archa 46.87 305 P **P 01 21 58.8 +0.5**
SNR=19
AAK Ala-Archa 46.87 305 P **P 01 21 57.0 -1.3**
AAK IAmb IAmb 01 21 59.3
comp=Z,16nm,0.6s
USP Ospenovka 46.89 305 P **P 01 21 58.5 +0.2**
SNR=21
BILL Bilibino 47.12 18‖*i*P **P 01 22 00.3 +0.7**
BILL *i* 01 22 10.2
BILL *e* 01 23 31.7
BILL *e* 01 23 51.0
BILL *e*S **S 01 28 53.5 +2.1**
BILL pmax pmax
comp=Z,36nm,1.4s
BILL MLR MLR
comp=Z,363nm,16.0s
BILL Bilibino 47.12 18 P **P 01 21 59.7 +0.1**
BILL IAmb IAmb 01 22 12.1
comp=Z,26nm,1.0s
EKS2 Erkin-Say 47.40 305 P **P 01 22 02.9 +0.5**
SNR=6.0
HYB Hyderabad 47.44 270 *i*P **P 01 22 03.0 +0.1**
HYB *e* 01 22 14.0
AML Almayashu 47.45 304 P **P 01 22 04.1 +1.0**
SNR=24
ARSB Arslanbob 47.98 303 IAmb IAmb 01 22 08.3
comp=Z,29nm,0.8s
NIL Nilore 48.28 292 P **P 01 22 08.2 -1.1**
NIL pmax pmax
comp=Z,49nm,0.7s
NIL Nilore 48.28 292 P **P 01 22 08.2 -1.1**
PSA00 Pilbara Seismi 48.68 191 IAmb IAmb 01 22 13.6
comp=Z,43nm,0.8s
NRIK Noril'sk 49.15 342 P **P 01 22 14.6 -0.7**
comp=Z,13nm,0.6s,baz=120,slow=7.8,SNR=25
NRIK LR LR 01 45 15.0
comp=Z,904nm,18.4s,baz=128,slow=39
BTK Batken 49.67 301 P **P 01 22 19.1 -0.8**
BTK pmax pmax
comp=Z,31nm,1.2s
BTK Batken 49.67 301 P **P 01 22 19.1 -0.8**
BTK IAmb IAmb 01 22 20.8
comp=Z,31nm,1.1s
PALK Pallekele 49.72 256 P **P 01 22 21.6 +1.2**
comp=Z,4.4nm,0.6s,baz=135,slow=2.9,SNR=3.1
KK31 Karatay Array 49.80 305 *i*P **P 01 22 20.6 -0.2**
KK31 pmax pmax
comp=Z,52nm,1.4s
KK31 Karatay Array 49.80 305 P **P 01 22 19.9 -0.9**
KK31 IAmb IAmb 01 22 22.6
comp=Z,46nm,1.2s
KKAR Karatay Array 49.80 305 P **P 01 22 19.5 -1.3**
KKAR pmax pmax
comp=Z,46nm,1.2s
KKAR Karatay Array 49.80 305 P **P 01 22 19.5 -1.3**
KKAR IAmb IAmb 01 22 22.6
comp=Z,46nm,1.2s
AS31 Alice Springs 50.17 174 P **P 01 22 23.5 -0.1**
ASAR Alice Springs 50.17 174 P **P 01 22 24.7 +1.1**
comp=Z,43nm,0.8s,baz=4.6,slow=8.9,SNR=281
ASAR LR LR 01 44 36.9
comp=Z,84nm,18.9s,baz=1.0,slow=37
ASAR Alice Springs 50.17 174 P **P 01 22 24.2 +0.6**
BVAR Borovoye Array 50.50 318 P **P 01 22 24.9 -1.0**
comp=Z,27nm,0.7s,baz=85,slow=9.7,SNR=149
BRVK Borovoye 50.57 318 P **P 01 22 25.8 -0.6**
SNR=21
BRVK Borovoye 50.57 318*c i*P **P 01 22 25.6 -0.8**
BRVK pmax pmax
comp=Z,55nm,0.8s
BRVK Borovoye 50.57 318 P **P 01 22 25.7 -0.6**
POO Poona 51.27 273 *e*P P 01 22 39.5 +7.3
KBL Kabul 51.62 294 P **P 01 22 33.3 -1.6**
KBL pmax pmax
comp=Z,112nm,1.0s
KBL Kabul 51.62 294 P **P 01 22 33.3 -1.6**
EIDS Eidsvold 55.85 156 P **P 01 23 05.8 +0.3**
SVE Sverdlovsk 56.43 322 *e*P **P 01 23 08.8 -0.5**
SVE pmax pmax
comp=Z,55nm,1.4s
SVE MLR MLR
comp=Z,2μm,14.0s
MORW Morawa 56.71 194 P **P 01 23 11.5 -0.1**
MORW IAmb IAmb 01 23 54.5
comp=Z,68nm,1.8s
AB31 Akbulak array 56.94 313 *i*P **P 01 23 12.4 -0.7**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 56.94 313 P **P 01 23 12.6 -0.5**
ABKAR Akbulak array 56.94 313 IAmb IAmb 01 23 13.9
comp=Z,20nm,0.7s
HRA Herat 57.18 295 P **P 01 23 12.8 -2.5**
HRA IAmb IAmb 01 23 17.7
comp=Z,33nm,0.8s
ARU Arti 57.57 322*d i*P **P 01 23 16.1 -1.3**
ARU 01 24 08.5
ARU 01 25 21.0
ARU S **S 01 31 15.9 +1.0**
ARU pmax pmax
comp=Z,46nm,1.1s
ARU MLR MLR
comp=Z,2μm,16.0s
ARU Arti 57.57 322 P **P 01 23 16.3 -1.1**
comp=Z,2.8nm,0.3s,baz=111,slow=4.1,SNR=29
ARU Arti 57.57 322 P **P 01 23 16.8 -0.6**
ARU IAmb IAmb 01 23 17.4
comp=Z,38nm,1.0s
AKTO Aktyubinsk 58.11 315 P **P 01 23 21.1 -0.2**
comp=Z,8.0nm,0.7s,baz=89,slow=10,SNR=20
STKA Stephens Creek 59.35 168 P **P 01 23 30.8 +0.8**
comp=Z,13nm,0.7s,baz=344,slow=6.9,SNR=42
STKA LR LR 01 48 20.1
comp=Z,106nm,21.6s,baz=19,slow=35
BBOO Buckleboo 59.43 173 IAmb IAmb 01 23 31.7
comp=Z,33nm,0.9s
GEYT Alibeck 59.74 300 P **P 01 23 33.2 +0.2**
comp=Z,10nm,0.8s,baz=50,slow=2.3,SNR=24
GEYT LR LR 01 53 09.2
comp=Z,579nm,19.2s,baz=80,slow=40
GEYT Alibeck 59.74 300 P **P 01 23 32.3 -0.6**
GYA0B ALIBECK ARRAY 59.74 300 P **P 01 23 31.2 -1.8**
GYA0B IAmb IAmb 01 23 37.9
comp=Z,24nm,1.0s
DZM Mont Dzumac 60.42 140 *e*P **P 01 23 38.3 +0.6**
comp=Z,61nm,1.1s
ARMA Armidale 60.65 158 P **P 01 23 38.4 -0.7**
ARMA IAmb IAmb 01 23 41.0
comp=Z,22nm,0.8s
RSO Redoubt South 61.50 34 P **P 01 23 44.5 -0.2**
PPLA Purkeypile 61.62 31 P **P 01 23 44.9 -0.5**
PPLA IAmb IAmb 01 23 54.5
comp=Z,26nm,0.9s
KDAK Kodiak Island 61.81 37 P **P 01 23 46.1 -0.5**
KDAK pmax pmax
comp=Z,192nm,1.7s
KDAK Kodiak Island 61.81 37 P **P 01 23 46.8 +0.3**
comp=Z,21nm,1.0s,baz=277,slow=8.1,SNR=4.3
KDAK Kodiak Island 61.81 37 P **P 01 23 46.1 -0.5**
MLY Manley 62.13 28 IAmb IAmb 01 24 03.3
comp=Z,68nm,1.6s
KIRV Kirov 62.38 324 P **P 01 23 49.6 -0.8**
comp=Z,17nm,0.6s,baz=96,slow=1.9,SNR=9.0
TOLK Toolik Lake Re 62.41 24 P **P 01 23 52.1 +1.5**
baz=273
TOLK Toolik Lake Re 62.41 24 IAmb IAmb 01 23 56.9
comp=Z,27nm,0.9s
TRF Thorofare Moun 62.44 30 P **P 01 23 50.9 0.0**
JLN Jalan Bani Buh 62.88 282 P **P 01 23 54.8 +0.4**
MCK McKinley 63.02 30 IAmb IAmb 01 24 10.7
comp=Z,32nm,0.9s
WBK Wadi Bani Khal 63.11 283 P **P 01 23 56.6 +0.7**
WSAR Wadi Sarin 63.20 284 P **P 01 23 57.2 +0.7**
WSAR Wadi Sarin 63.20 284 P **P 01 23 57.0 +0.5**
comp=Z,21nm,0.7s,baz=139,slow=5.9,SNR=18
GHO Glory Hole Cre 63.23 32 IAmb IAmb 01 24 10.2
comp=Z,22nm,0.9s
WRH Wood River Hil 63.31 29 pP 01 24 03.4 +4.0
COLA College 63.37 28‖*e*P **P 01 23 58.4 +1.5**
COLA pmax pmax
comp=Z,39nm,3.0s
KNK Knik Glacier 63.49 32 IAmb IAmb 01 24 10.9
comp=Z,31nm,1.0s
POKR Poker Plat Res 63.52 28 P **P 01 23 59.2 +1.3**
baz=276
SMDO Samad 63.77 284 P **P 01 24 00.4 0.0**
ILAR Eielson Array 63.79 28 P **P 01 23 59.1 -0.5**
comp=Z,1.6nm,0.7s,baz=254,slow=4.6,SNR=12
HDA Harding Lake 63.81 29 P **P 01 24 00.1 +0.3**
baz=277
HDA Harding Lake 63.81 29 IAmb IAmb 01 24 15.2
comp=Z,25nm,0.9s
PRGR Permogore 63.89 328 *e*P **P 01 23 58.2 -2.2**
PRGR *e* 01 24 35.8
PRGR pmax pmax
comp=Z,21nm,0.6s
JMDO Jabal Madar 63.95 283 P **P 01 24 01.1 -0.3**
SCM Sheep Creek Mo 63.97 32 IAmb IAmb 01 24 14.3
comp=Z,61nm,1.3s
HOQ Hoqaain 64.24 285 P **P 01 24 04.0 +0.7**
BANOM Banah 64.36 287 P **P 01 24 05.4 +1.3**
BANOM Banah 64.36 287 P **P 01 24 04.8 +0.7**
CAN Canberra 64.39 162 P **P 01 24 03.9 0.0**
CAN pmax pmax
comp=Z,25nm,1.0s
CAN Canberra 64.39 162 P **P 01 24 03.9 0.0**
CAN IAmb IAmb 01 24 07.1
comp=Z,25nm,1.0s
SHME Shamm 64.45 288 P **P 01 24 07.4 +2.7**
MHTO MHTO 64.54 282 P **P 01 24 05.3 0.0**
FID Port Fidalgo 64.54 33 IAmb IAmb 01 24 17.7
comp=Z,36nm,1.0s
MSFE Esma-Masafi 64.65 287 P **P 01 24 07.9 +1.8**
UOSS Minazif 64.75 286 P **P 01 24 07.4 +0.8**
MSVF Nonsavu 64.84 127*ce*P **P 01 24 10.1 +2.8**
MSVF pmax pmax
comp=Z,42nm,1.3s
MSVF Nonsavu 64.84 127 P **P 01 24 06.7 -0.6**
MSVF IAmb IAmb 01 24 10.9
comp=Z,31nm,1.2s
HATD Hatta, Dubai 64.85 286 P **P 01 24 08.8 +1.5**
ASHO Ashiyiah 64.96 286 *i*P **P 01 24 08.4 +0.4**
SNR=6.0
DQM DQM 65.28 281 P **P 01 24 09.9 -0.3**
ALNE Al Ain 65.43 286 *i*P **P 01 24 11.6 +0.5**
SNR=9.0
MENT Mentasta 65.46 30 IAmb IAmb 01 24 30.4
comp=Z,16nm,0.8s
ASUD Al Ashush, Dub 65.60 286 P **P 01 24 13.2 +1.0**
TOO Toolangi 65.65 166 P **P 01 24 12.7 +0.6**
TOO pmax pmax
comp=Z,38nm,1.1s
TOO Toolangi 65.65 166 P **P 01 24 12.7 +0.6**
TOO IAmb IAmb 01 24 15.1
comp=Z,38nm,1.1s
GLB Gilahina Butte 65.69 32 IAmb IAmb 01 24 25.8
comp=Z,25nm,1.0s
VRDI Verde Repeater 65.91 32 IAmb IAmb 01 24 27.6
comp=Z,56nm,1.4s
TGL Tana Glacier 66.30 32 IAmb IAmb 01 24 29.9
comp=Z,28nm,0.9s
AKT Akhty 66.71 306 *e*P **P 01 24 19.2 0.0**
AKT *e* 01 24 46.4
AKT *e* 01 26 49.1
AKT pmax pmax
comp=Z,30nm,1.0s
TMCR Tamitsa 66.85 332 *e*P **P 01 24 18.7 -0.8**
TMCR pmax pmax
comp=Z,99nm,1.0s
KLMR Klimovskoe 66.94 328 *e*P **P 01 24 16.9 -3.2**
KLMR pmax pmax
comp=Z,63nm,1.3s
KLMR Klimovskoe 66.94 328 *e*P **P 01 24 17.0 -3.2**
KLMR AMP 01 24 22.2
comp=Z,63nm,1.3s
CTGM Chitina Glacie 66.97 32 IAmb IAmb 01 24 34.2
comp=Z,42nm,1.1s
GROC Groznyy 67.63 308 *e*P **P 01 24 23.9 -0.9**
GROC *e* 01 24 49.3
GROC pmax pmax
comp=Z,26nm,0.8s
EPYK Eagle Plains 67.64 26 P **P 01 24 25.8 +1.3**
baz=285
EPYK Eagle Plains 67.64 26 IAmb IAmb 01 24 31.8
comp=Z,34nm,0.9s
APA Apatity 67.84 336⇑*i*P **P 01 24 24.3 -1.4**
APA pmax pmax
comp=Z,21nm,0.8s
APA MLR MLR
comp=Z,600nm,23.0s
VRH Novokhopyorsk 68.14 317 *e*P **P 01 24 26.0 -1.9**
VRH pmax pmax
comp=Z,30nm,0.7s
INK Inuvik 68.29 23 P **P 01 24 29.2 +0.7**
comp=Z,18nm,0.9s,baz=293,slow=6.7,SNR=26
SPITS Spitsbergen Ar 68.64 348 P **P 01 24 30.3 -0.3**
comp=Z,28nm,0.9s,baz=91,slow=10.0,SNR=29
GOF Gofitskoye 69.01 311⇑*e*P **P 01 24 33.4 0.0**
GOF pmax pmax
comp=Z,26nm,0.6s
ZEI Tsey 69.08 308 *e*P **P 01 24 33.0 -1.2**
ZEI pmax pmax
comp=Z,30nm,0.7s
NCK Nalchik 69.08 309‖*e*P **P 01 24 34.1 +0.1**
NCK pmax pmax
comp=Z,12nm,0.5s
RBK Rabkut 69.11 280 P **P 01 24 34.9 +0.3**
SNR=6.0
GNI Garni 69.27 305 *i*P **P 01 24 36.0 +0.6**
SNR=11
GNI Garni 69.27 305*c i*P **P 01 24 35.9 +0.6**
GNI pmax pmax
comp=Z,67nm,1.2s
GNI Garni 69.27 305 P **P 01 24 36.2 +0.9**
comp=Z,13nm,1.0s,baz=143,slow=3.2,SNR=10
GNI Garni 69.27 305 P **P 01 24 34.2 -1.2**
GNI IAmb IAmb 01 24 43.2
comp=Z,36nm,1.1s
WHFO Wadi Hawf 69.33 280 P **P 01 24 35.3 -0.6**
SNR=7.5
LPSR Galich'ya Gora 69.42 319 *e*P **P 01 24 34.6 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
KBZ Khabaz 69.50 309*c i*P **P 01 24 36.4 -0.1**
KBZ Khabaz 69.50 309 P **P 01 24 36.8 +0.3**
comp=Z,36nm,0.9s,baz=101,slow=4.2,SNR=70
KBZ LR LR 01 58 02.9
comp=Z,337nm,18.9s,baz=66,slow=39
KIV Kislovodsk 69.58 310 *i*P **P 01 24 37.8 +0.7**
SNR=9.1
KIV Kislovodsk 69.58 310 P **P 01 24 37.6 +0.5**
SNR=10
KIV Kislovodsk 69.58 310 *e*P **P 01 24 37.5 +0.4**
KIV pmax pmax
comp=Z,120nm,1.0s
KIV MLR MLR
comp=Z,740nm,17.0s
KIV Kislovodsk 69.58 310 ‖P **P 01 24 37.9 +0.7**
KIV Kislovodsk 69.58 310 P **P 01 24 36.0 -1.2**
KIV IAmb IAmb 01 24 38.5
comp=Z,28nm,0.8s
VSR Storozhevoye 69.68 318 *e*P **P 01 24 35.7 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
AKH Akhalkalaki 69.78 307 IAmb IAmb 01 24 41.8
comp=Z,26nm,0.9s
ARCES ARCESS Array B 69.95 339 P **P 01 24 38.2 -0.7**
ARCES ARCESS Array B 69.95 339 P **P 01 24 38.3 -0.5**
comp=Z,17nm,1.0s,baz=69,slow=5.7,SNR=19
ARCES LR LR 02 02 16.3
comp=Z,153nm,18.4s,baz=22,slow=42
ARCES ARCESS Array B 69.95 339 P **P 01 24 38.2 -0.7**
OBN Obninsk 70.00 322‖*e*P **P 01 24 39.0 -0.3**
OBN *i* 01 25 01.1
OBN *e* 01 27 14.8
OBN pmax pmax
comp=Z,53nm,2.1s
OBN MLR MLR
comp=Z,1μm,17.0s
KTK1 Kautokeino 70.90 338 *e*P **P 01 24 44.5 -0.2**
C36M Paulatuk 71.11 21 P **P 01 24 46.9 +1.0**
baz=295
PUL Pulkovo 71.63 328‖*e*P **P 01 24 49.7 +0.5**
PUL pmax pmax
comp=Z,55nm,0.8s

SOC Sochi 71.74 310 *e*P **P 01 24 48.9 -1.2**
SOC *e* 01 27 26.2
SOC *e*S **S 01 34 10.4 +0.4**
SOC *e*SS **SS 01 38 42.9 -2.4**
SOC pmax pmax
comp=Z,33nm,0.6s
SOC MLR MLR
comp=Z,352nm,16.0s
TRO Tromso 72.00 340 *e*P **P 01 24 51.8 +0.5**
ANN Anapa 72.86 312 *e*P **P 01 24 54.2 -2.6**
ANN *e*PPP PPP 01 29 17.0
ANN pmax pmax
comp=Z,103nm,1.5s
FIA1 FINESS Array S 72.92 331 IAmb IAmb 01 24 57.6
comp=Z,42nm,0.8s
FINES FINESS Array B 72.92 331 P **P 01 24 56.3 -0.6**
FINES FINESS Array B 72.92 331 P **P 01 24 56.6 -0.2**
comp=Z,33nm,0.8s,baz=70,slow=5.9,SNR=96
FINES LR LR 02 00 59.3
comp=Z,980nm,18.8s,baz=60,slow=39
FINES FINESS Array B 72.92 331 P **P 01 24 56.3 -0.6**
DLBC Dease Lake 73.20 33 P **P 01 25 00.1 +1.5**
comp=Z,5.4nm,1.0s,baz=319,slow=6.9,SNR=5.0
VSU Vasula 73.84 328 *c*e**P 01 25 02.5 +0.1**
VSU pmax pmax
comp=Z,132nm,1.0s
VSU Vasula 73.84 328 *e*P **P 01 25 02.4 +0.1**
STEI Steigen 74.01 339 *e*P **P 01 25 02.9 -0.2**
RAYN Ar Rayn 74.39 289 *i*P **P 01 25 07.0 +0.8**
SNR=58
RAYN Ar Rayn 74.39 289 P **P 01 25 04.7 -1.6**
RAYN pmax pmax
comp=Z,74nm,1.3s
RAYN Ar Rayn 74.39 289 P **P 01 25 04.7 -1.6**
RAYN IAmb IAmb 01 25 08.8
comp=Z,74nm,1.2s
SIM Simferopol' 75.00 313 *d*e**P 01 25 09.6 +0.2**
SIM pmax pmax
comp=Z,32nm,0.9s
DAG Danmarks Havn 75.01 353 *i*P **P 01 25 08.3 -0.5**
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 75.01 353 *i*P **P 01 25 08.3 -0.5**
comp=Z,11nm,0.9s
RES Resolute Bay 75.07 11 P **P 01 25 13.1 +3.9**
comp=Z,74nm,0.6s,baz=319,slow=5.4,SNR=144
MOR8 Moi Rana 75.22 338 *e*P **P 01 25 08.2 -2.0**
IZAR Zarasai 75.23 325 *e*P **P 01 25 12.0 +1.5**
NACGM Naroch 75.32 324 *e* **P 01 25 11.0 0.0**
ISAL Salakas 75.37 325 *e*P **P 01 25 11.2 0.0**
AKASG Malin Array Be 75.74 320 P **P 01 25 12.8 -0.7**
AKASG pmax pmax
comp=Z,13nm,1.1s
AKASG Malin Array Be 75.74 320 P **P 01 25 13.0 -0.5**
comp=Z,16nm,0.8s,baz=54,slow=6.1,SNR=27
AKASG LR LR 02 01 32.5
comp=Z,1μm,18.8s,baz=55,slow=38
AKASG Malin Array Be 75.74 320 P **P 01 25 12.8 -0.7**
AKBB Malin Array Si 75.74 320 *c*i**P 01 25 12.8 -0.7**
AKBB Malin Array Si 75.74 320 IAmb IAmb 01 25 13.9
comp=Z,18nm,0.7s
GAZ Gaziantep 75.82 305 IAmb IAmb 01 25 17.4
comp=Z,36nm,0.9s
CTAK Corum_Osmancik 76.22 309 *i*P **P 01 25 17.4 +0.7**
CTAK IAML_P
comp=Z,313nm,0.4s
COAL Corum-Alaca 76.23 308 *i*P **P 01 25 16.1 -0.5**
COAL IAML_P
comp=Z,125nm,0.8s
KAGI orum-Kargı 76.24 309 *i*P **P 01 25 17.9 +1.3**
KAGI IAML_P
comp=Z,543nm,0.6s
PABE Paberze 76.50 326 *e*P **P 01 25 17.8 +0.1**
ILGA Ilgaz 76.80 309 *i*P **P 01 25 21.0 +1.0**
ILGA IAML_P
comp=Z,74nm,0.1s
CDAG Cicekdag 76.92 308 *i*P **P 01 25 21.2 +0.7**
CDAG IAML_P
comp=Z,8.6nm,0.3s
DELI KIRIKKALE 77.08 308 *i*P **P 01 25 22.4 +0.9**
DELI IAML_P
comp=Z,1μm,0.7s
ELDT Eldivan 77.23 309 *i*P **P 01 25 22.4 +0.1**
ELDT IAML_P
comp=Z,84nm,0.1s
SORM Soroca 77.34 318 ⇓P **P 01 25 22.6 0.0**
BR131 Keskin Array S 77.39 308 P **P 01 25 23.4 +0.1**
SNR=23
BR131 Keskin Array S 77.39 308 IAmb IAmb 01 25 25.7
comp=Z,41nm,0.8s
BRTR Keskin Array B 77.39 308 P **P 01 25 23.4 +0.1**
comp=Z,33nm,0.8s,baz=106,slow=4.2,SNR=105
BRTR LR LR 02 05 07.6
comp=Z,124nm,19.3s,baz=0.0,slow=40
KIRS Kırehir-Merke 77.44 307 *i*P **P 01 25 23.7 +0.3**
KIRS IAML_P
comp=Z,496nm,0.7s
KIS Kishinev 77.55 316 *e*P **P 01 25 23.0 -0.8**
comp=Z,110nm,1.0s
KIS LRM MLR 02 04 00.0
comp=Z,300nm,16.0s
KIS Kishinev 77.55 316 *e*P **P 01 25 23.0 -0.8**
KIS *e* 01 35 16.0
KIS pmax pmax
comp=Z,110nm,1.0s
KIS MLR MLR
comp=Z,300nm,16.0s
KIS MLR MLR
comp=N,200nm,17.0s
MILM Milestii Mici 77.58 316 ⇑P **P 01 25 23.9 -0.1**
SUW Suwalki 77.60 324 *e*P **P 01 25 23.8 -0.1**
SUW Suwalki 77.60 324 *e*P **P 01 25 23.8 -0.1**
SUW *e*P **P 01 25 23.8 -0.1**
BBAL Bala 77.83 308 *i*P **P 01 25 26.5 +0.7**
BBAL IAML_P
comp=Z,546nm,0.7s
CMDR Camlidere-ANKA 77.89 309 *i*P **P 01 25 26.0 0.0**
CMDR IAML_P
comp=Z,348nm,0.5s
YKA Yellowknife Ar 77.91 25 P **P 01 25 26.1 +0.7**
comp=Z,2.1nm,0.6s,baz=303,slow=6.1,SNR=4.9
ANTO Ankara 77.93 309 P **P 01 25 26.4 +0.2**
SNR=7.0
ANTO Ankara 77.93 309 P **P 01 25 24.9 -1.3**
ANTO pmax pmax
comp=Z,32nm,0.9s
ANTO Ankara 77.93 309 P **P 01 25 24.9 -1.3**
ANTO IAmb IAmb 01 25 28.8
comp=Z,32nm,0.9s
BR231 Keskin MP Arra 77.95 309 P **P 01 25 24.7 -1.7**
BR231 IAmb IAmb 01 25 29.0
comp=Z,30nm,0.9s
ASF Jabal al Asfar 78.03 300 P **P 01 25 27.7 +0.8**
comp=Z,15nm,0.9s,baz=45,slow=0.9,SNR=22
BCAM Yenicaga 78.04 310 *i*P **P 01 25 27.0 +0.2**
BCAM IAML_P
comp=Z,286nm,0.6s
KKUL Konya-Kulu 78.13 308 *i*P **P 01 25 28.9 +1.5**
KKUL IAML_P
comp=Z,5.3nm,0.3s
TLCR 78.33 315 ⇓P **P 01 25 28.5 +0.3**
TLCR mb 01 25 30.3
KIBS BOLU 78.35 309 *i*P **P 01 25 28.3 -0.3**
KIBS IAML_P
comp=Z,18nm,0.4s
YIGI Dzce 78.40 310 *i*P **P 01 25 29.9 +1.2**
YIGI IAML_P
comp=Z,443nm,0.6s
TOPG Topolog 78.75 315 ⇑P **P 01 25 31.4 +0.9**
CFR Carcaliu 78.77 315 ⇓P **P 01 25 30.8 +0.2**
MMAI Mount Meron Ar 78.84 301 P **P 01 25 32.1 +0.8**
comp=Z,6.3nm,0.7s,baz=56,slow=8.1,SNR=13
AUMIH MIHALICIK 78.84 309 *i*P **P 01 25 31.5 +0.2**
SAHE Sakarya_HENDEK 78.86 310 *i*P **P 01 25 31.9 +0.7**
SAHE IAML_P
comp=Z,77nm,0.5s
BTAS Taskesti 78.88 310 *i*P **P 01 25 32.1 +0.7**
BTAS IAML_P
comp=Z,877nm,0.6s
KDHN Kadinhani 78.97 308 *i*P **P 01 25 32.7 +0.7**
KDHN IAML_P
comp=Z,419nm,0.8s
PRAR RASCA 78.97 318 ⇑P **P 01 25 31.4 -0.3**
PRAR mb 01 25 33.6
AUSIV SIVRIHISAR 78.99 309 *i*P **P 01 25 32.8 +0.7**

KULLO Kullorsuaq 79.01 2 *i*P **P 01 25 34.2 +2.8**
KULLO pmax pmax
comp=Z,46nm,0.8s
KULLO Kullorsuaq 79.01 2 *i*P **P 01 25 34.2 +2.8**
comp=Z,46nm,0.8s
TLB Topalu 79.09 314 ⇑P **P 01 25 32.8 +0.4**
TESR Tescani 79.10 317 ⇑P **P 01 25 32.5 +0.1**
HARR Harsova 79.12 315 ⇑P **P 01 25 33.4 +0.9**
HARR mb 01 25 35.1
LVV L'vov 79.12 320 *e*P **P 01 25 33.1 +0.7**
NC303 NORSAR Array S 79.15 334 IAmb IAmb 01 25 34.0
comp=Z,56nm,1.1s
KAND Kocaeli-Kandir 79.21 311 *i*P **P 01 25 33.3 +0.3**
KAND IAML_P
comp=Z,87nm,0.6s
BIZ Bicaz 79.24 317 ⇑P **P 01 25 34.3 +1.1**
NB2 NORSAR Subarra 79.32 334 P **P 01 25 32.9 -0.5**
comp=Z,26nm,1.0s,baz=47,slow=5.1
NB2 NORSAR Subarra 79.32 334 P **P 01 25 32.9 -0.5**
baz=47,slow=5.1
NOA NORSAR Array B 79.32 334 P **P 01 25 32.8 -0.6**
comp=Z,7.5nm,0.6s,baz=50,slow=5.5,SNR=35
NOA LR LR 02 04 22.3
comp=Z,382nm,18.6s,baz=60,slow=39
VRI Vrincioaia 79.34 316 ⇑P **P 01 25 35.4 +1.6**
NC204 NORSAR Array S 79.36 334 IAmb IAmb 01 25 35.1
comp=Z,58nm,1.0s
SRCK Saricakaya, Es 79.36 309 *i*P **P 01 25 34.5 +0.5**
SRCK IAML_P
comp=Z,480nm,0.6s
GEYV SAKARYA_Geyve 79.40 310 *i*P **P 01 25 33.1 -1.1**
GEYV IAML_P
comp=Z,55nm,0.3s
PLOR Plostina 79.40 316 ⇓P **P 01 25 34.8 +0.6**
BUR08 Bucovina Ar. S 79.46 318 IAmb IAmb 01 25 37.1
comp=Z,21nm,0.8s
BURAR Bucovina Array 79.46 318 ⇓P **P 01 25 35.1 +0.6**
BURAR mb 01 25 36.9
NBO00 NORSAR Array S 79.50 334 IAmb IAmb 01 25 35.7
comp=Z,51nm,1.1s
BISRR Bisoca 79.50 316 ⇓P **P 01 25 36.4 +1.7**
DOMB Dombas 79.54 335 *e*P **P 01 25 34.6 +0.1**
BORA Eskisehir 79.55 309 *i*P **P 01 25 35.9 +0.8**
BORA IAML_P
comp=Z,760nm,0.4s
NAO01 NORSAR Array S 79.57 334 *e*P **P 01 25 34.4 -0.3**
CSS Mathiatis 79.59 304 IAmb IAmb 01 25 38.3
comp=Z,36nm,0.9s
MOL Molde 79.76 336 *e*P **P 01 25 36.0 +0.3**
RPZ Rata Peaks 79.86 150 P **P 01 25 35.5 -0.8**
BEL Belsk 79.92 323 *e*P **P 01 25 37.4 +0.6**
BEL Belsk 79.92 323 *e*P **P 01 25 37.4 +0.6**
BEL *e*P **P 01 25 37.4 +0.6**
KWP Kalwaria Pacla 79.96 321 *e*P **P 01 25 37.7 +0.7**
KWP Kalwaria Pacla 79.96 321 *e*P **P 01 25 37.7 +0.7**
KWP *e*P **P 01 25 37.7 +0.7**
MLR Muntele Rosu 80.00 316 P **P 01 25 37.7 +0.2**
comp=Z,11nm,0.5s,baz=337,slow=11,SNR=25
MLR Muntele Rosu 80.00 316 ⇑P **P 01 25 38.7 +1.2**
MLR Muntele Rosu 80.00 316 IAmb IAmb 01 25 40.9
comp=Z,53nm,1.3s
DOPR Dopca 80.13 317 ⇑P **P 01 25 38.9 +0.9**
SECR 80.14 315 ⇑P **P 01 25 39.5 +1.4**
SECR mb 01 25 41.8
OSL Oslo 80.18 333 *e*P **P 01 25 37.0 -1.0**
SULR 80.19 315 ⇓P **P 01 25 39.5 +1.2**
AKN Aaknes 80.21 336 *e*P **P 01 25 37.9 -0.2**
ARCR ARCALIA 80.23 318 ⇑P **P 01 25 38.5 -0.1**
BMR Baia Mare 80.46 319 ⇓P **P 01 25 40.1 +0.3**
RAZG Razgrad 80.54 314 ⇑P **P 01 25 41.3 +1.0**
KOLS Kolonicke sedl 80.55 320 *e*P **P 01 25 41.3 +1.0**
KOLS pmax pmax
comp=Z,16nm,1.4s
KOLS Kolonicke sedl 80.55 320 *e*P **P 01 25 41.3 +1.0**
EIL Elat 80.58 298 P **P 01 25 42.6 +1.8**
comp=Z,4.6nm,0.8s,baz=262,slow=2.3,SNR=5.8
VOIR 80.59 316 ⇑P **P 01 25 40.3 -0.3**
SKAR Skarslia 80.67 335 *e*P **P 01 25 40.9 +0.2**
UZH Uzhgorod 80.69 320 ⇑*i*P **P 01 25 42.0 +1.0**
UZH *i* 01 25 51.2
UZH *e* 01 25 57.3
SUMG Summit 80.74 356 *i*P **P 01 25 42.2 +0.9**
SUMG pmax pmax
comp=Z,170nm,0.6s
SUMG Summit 80.74 356 *i*P **P 01 25 42.2 +0.9**
comp=Z,169nm,0.6s
TRPA Tarpa 80.79 319 ⇓P **P 01 25 42.3 +0.8**
TRPA mb 01 25 44.1
ARR Arges 80.88 316 ⇑P **P 01 25 42.9 +0.7**
GKP Gorka Klasztor 81.03 326 *e*P **P 01 25 43.1 +0.4**
GKP Gorka Klasztor 81.03 326 *e*P **P 01 25 43.1 +0.4**
GKP *e*P **P 01 25 43.1 +0.4**
SCO Scoresbysund 81.03 351 *i*P **P 01 25 43.4 +1.0**
SCO pmax pmax
comp=Z,140nm,1.4s
SCO Scoresbysund 81.03 351 *i*P **P 01 25 43.4 +1.0**
comp=Z,140nm,1.4s
HUMR Humele 81.06 315 ⇓P **P 01 25 42.9 -0.1**
COPA Copaceanca 81.10 315 ⇑P **P 01 25 43.3 0.0**
BSD Bornholm Skovb 81.15 328 *e*P **P 01 25 43.3 +0.1**
BSD Bornholm Skovb 81.15 328 *i*P **P 01 25 43.3 +0.1**
OJC Ojcow 81.29 322 *e*P **P 01 25 44.7 +0.5**
OJC Ojcow 81.29 322 *e*P **P 01 25 44.7 +0.5**
OJC *e*P **P 01 25 44.7 +0.5**
DRGR 81.35 318 ⇑P **P 01 25 44.9 +0.2**
NIE Niedzica 81.42 321 *e*P **P 01 25 45.9 +1.0**
NIE Niedzica 81.42 321 *e*P **P 01 25 45.9 +1.0**
NIE *e*P **P 01 25 45.9 +1.0**
ATD Arta Tunnel 81.56 279 P **P 01 25 44.2 -2.1**
VLAD Vladila 81.68 315 ⇓P **P 01 25 46.8 +0.5**
KECS Kecovo 81.80 320 *e*P **P 01 25 47.9 +1.0**
KECS pmax pmax
comp=Z,11nm,1.2s
KECS Kecovo 81.80 320 *e*P **P 01 25 47.9 +1.0**
ODD1 Odda 81.81 335 *e*P **P 01 25 46.9 +0.1**
PLVB Pleven 81.83 314 ⇓P **P 01 25 47.8 +0.7**
D03D Eldon 81.89 41 P **P 01 25 49.6 +2.2**
baz=301
ASK Askoy 81.97 335 *e*P **P 01 25 46.9 -0.7**
GZR Gura Zlata 82.01 317 ⇓P **P 01 25 48.6 +0.4**
LANS Liptovska Anna 82.03 321 *e*P **P 01 25 49.8 +1.7**
LANS pmax pmax
comp=Z,11nm,1.3s
LANS Liptovska Anna 82.03 321 *e*P **P 01 25 49.8 +1.7**
B05A Bryant 82.09 40 P **P 01 25 49.7 +1.2**
baz=301
BLS5 Blasjo 82.19 334 *e*P **P 01 25 48.9 +0.1**
SIRR Siria 82.25 318 ⇓P **P 01 25 50.0 +0.7**
OKC Ostrava-Krasne 82.40 322 *e*P **P 01 25 50.4 +0.4**
OKC MLR MLR
comp=Z,1μm,21.8s
OKC Ostrava-Krasne 82.40 322 *e*P **P 01 25 50.4 +0.4**
OKC AMS AMS 02 05 30.0
comp=Z,1μm,21.8s
PUNG Punghina 82.47 316 ⇓P **P 01 25 51.5 +1.1**
HERR Herculane 82.48 317 ⇑P **P 01 25 50.7 +0.1**
VYHS Vyhne 82.73 321 *e*P **P 01 25 53.0 +1.2**
VYHS pmax pmax
comp=Z,25nm,1.2s
VYHS Vyhne 82.73 321 *e*P **P 01 25 53.0 +1.2**
MORC Moravsky Berou 82.76 323 ⇓P **P 01 25 52.6 +0.7**
MORC mb 01 25 56.0
MORC Moravsky Berou 82.76 323 *e*P **P 01 25 52.3 +0.4**
KSP Ksiaz 82.84 324 *e*P **P 01 25 53.2 +0.9**
KSP Ksiaz 82.84 324 *e*P **P 01 25 53.2 +0.9**
KSP *e*P **P 01 25 53.2 +0.9**
MUD Monsted U'grnd 82.96 331 *i*P **P 01 25 55.8 +3.1**
MUD pmax pmax
comp=Z,30nm,0.8s
MUD Monsted U'grnd 82.96 331 *i*P **P 01 25 55.8 +3.1**
comp=Z,30nm,0.8s
OSTC Ostas 83.04 324 *e*P **P 01 25 55.8 +2.4**
OSTC AMS AMS 02 06 20.0
comp=Z,1μm,17.8s
VTS Vitosha 83.10 314 ⇓P **P 01 25 55.1 +1.1**
VTS mb 01 25 57.5
DPC Dobruska-Polom 83.10 323 *e*P **P 01 25 54.6 +0.9**
DPC MLR MLR
comp=Z,1μm,15.4s
DPC Dobruska-Polom 83.10 323 *e*P **P 01 25 54.6 +0.9**
DPC AMS AMS 02 06 20.0
comp=Z,1μm,15.4s
CHVC Chvalec 83.11 324 *e*P **P 01 25 54.0 +0.3**

CHVC *e*P **P 01 25 54.2 +0.5**
CHVC AMS AMS 02 06 30.0
comp=Z,1μm,15.9s
UPC Upice 83.18 324 *e*P **P 01 25 55.0 +0.9**
UPC MLR MLR
comp=Z,1μm,18.3s
UPC Upice 83.18 324 *e*P **P 01 25 55.0 +0.9**
UPC AMS AMS 02 06 30.0
comp=Z,1μm,18.3s
JAVC Velka Javorina 83.19 322 *e*P **P 01 25 55.8 +1.6**
RUE Ruedersdorf 83.20 326 *e*P **P 01 25 55.0 +0.9**
SRO Srobarova 83.39 321 *e*P **P 01 25 56.2 +1.0**
SRO pmax pmax
comp=Z,13nm,0.8s
SRO Srobarova 83.39 321 *e*P **P 01 25 56.2 +1.0**
SMOL Smolenice 83.51 322 *e*P **P 01 25 57.2 +1.4**
SMOL pmax pmax
comp=Z,26nm,1.0s
SMOL Smolenice 83.51 322 *e*P **P 01 25 57.2 +1.4**
VRAC Vranov 83.53 322 ⇑P **P 01 25 57.2 +1.3**
VRAC mb 01 25 59.8
VRAC Vranov 83.53 322 *e*P **P 01 25 56.7 +0.8**
B08A Colville Reser 83.61 39 IAmb IAmb 01 26 09.6
comp=Z,28nm,1.0s
MODS Modra-Piesok 83.67 321 *e*P **P 01 25 58.8 +2.2**
MODS pmax pmax
comp=Z,40nm,1.3s
MODS Modra-Piesok 83.67 321 *e*P **P 01 25 58.8 +2.2**
I03D Drain, OR 83.70 44 P **P 01 25 59.1 +2.3**
baz=301
KRUC Moravsky 83.78 322 *e*P **P 01 25 57.7 +0.5**
PVCC Panska Ves 83.93 324 *e*P **P 01 25 58.9 +1.0**
PVCC MLR MLR
comp=Z,1μm,17.5s
PVCC Panska Ves 83.93 324 *e*P **P 01 25 58.9 +1.0**
PVCC *e*PCP **PcP 01 26 01.6 -0.3**
PVCC AMS AMS 02 06 50.0
comp=Z,1μm,17.5s
FRGS Fruska Gora 83.93 318 *e*P **P 01 25 58.2 +0.2**
MORH Mrgy, Hungar 84.06 319 *e*P **P 01 25 58.4 -0.2**
TREC Trest 84.14 323 *e*P **P 01 25 59.8 +0.8**
TREC MLR MLR
comp=Z,1μm,17.3s
TREC Trest 84.14 323 *e*P **P 01 25 59.8 +0.8**
TREC AMS AMS 02 06 50.0
comp=Z,1μm,17.3s
GOPC GO Pecny, Ondr 84.16 324 *e*P **P 01 25 59.3 +0.2**
GOPC MLR MLR
comp=Z,1μm,16.3s
GOPC GO Pecny, Ondr 84.16 324 *e*P **P 01 25 59.3 +0.2**
GOPC *e*PCP **sP 01 26 02.5 -0.6**
GOPC AMS AMS 02 07 00.0
comp=Z,1μm,16.3s
VAY Valandovo 84.18 313 *i*P **P 01 25 59.5 +0.2**
STIP Stip 84.24 314 *i*P **P 01 25 58.9 -0.7**
PRU Pruhonice 84.25 324 *e*P **P 01 26 00.2 +0.7**
PRU MLR MLR
comp=Z,1μm,15.8s
PRU Pruhonice 84.25 324 *e*P **P 01 26 00.2 +0.7**
PRU *e*PCP **PcP 01 26 03.1 -0.2**
PRU AMS AMS 02 07 10.0
comp=Z,1μm,15.8s
PRA Prague 84.26 324 AMS AMS 02 07 10.0
comp=Z,1μm,16.3s
CLL Collm 84.28 325 ⇑*i*P **P 01 26 00.1 +0.4**
CLL *i* 01 26 07.2
CLL pmax pmax
comp=Z,29nm,1.0s
CLL Collm 84.28 325 ⇑*i*P **P 01 26 00.1 +0.4**
comp=Z,29nm,1.0s
CLL *i* PcP **sP 01 26 03.0 -0.6**
CLL *i* pP **pwP 01 26 07.2 +0.3**
CLL *i* (sP) **PcP 01 26 10.1 +6.7**
CLL *e*PP **PP 01 29 13.0 -0.7**
CLL Collm 84.28 325 IAmb IAmb 01 26 01.0
comp=Z,28nm,1.0s
DIVS Divibare 84.38 317 *e*P **P 01 26 00.0 -0.4**
ILULI Ilulissat 84.50 0 *i*P **P 01 26 04.2 +3.8**
ILULI pmax pmax
comp=Z,64nm,0.7s
ILULI Ilulissat 84.50 0 *i*P **P 01 26 04.2 +3.8**
comp=Z,64nm,0.7s
C09A Chrisman Ranch 84.51 39 IAmb IAmb 01 26 14.9
comp=Z,48nm,1.6s
HAWA Hanford 84.57 40 IAmb IAmb 01 26 14.9
comp=Z,22nm,0.9s
I05D Terrebonne, OR 84.60 43 P **P 01 26 03.3 +1.8**
baz=302
CONA Conrad Observa 84.71 322 *e*PcP **P 01 26 03.0 +1.0**
comp=Z,44nm,1.6s,SNR=11
PBCC Pribram 84.71 324 *e*P **P 01 26 02.4 +0.5**
E08A Dider Farm, El 84.79 40 IAmb IAmb 01 26 15.9
comp=Z,23nm,0.9s
BBLS Lazići 84.86 317 *e*P **P 01 26 05.1 +2.3**
NEW Newport 84.88 38 P **P 01 26 04.0 +1.1**
baz=305
NEW Newport 84.88 38 P **P 01 26 04.0 +1.1**
NEW Newport 84.88 38 P **P 01 26 04.0 +1.1**
comp=Z,7.0nm,0.9s,baz=284,slow=6.3,SNR=14
NEW Newport 84.88 38 IAmb IAmb 01 26 16.1
comp=Z,18nm,0.8s
RUDO Rudo 85.01 317 *e*P **P 01 26 02.1 -1.4**
HAPS Han Pijesak,Bl 85.02 317 *e*P **P 01 26 03.5 -0.2**
L04D Klamath Falls 85.12 45 P **P 01 26 05.8 +1.5**
baz=302
PINE Pine Mountain 85.14 43 P **P 01 26 02.9 -1.5**
NKC Novy Kostel 85.20 325 *e*P **P 01 26 05.7 +1.3**
NKC Novy Kostel 85.20 325 *e*P **P 01 26 05.7 +1.3**
J05D Fort Rock, OR 85.23 44 P **P 01 26 06.5 +1.6**
baz=302
KHC Kasperske Hory 85.26 323 *e*P **P 01 26 05.5 +0.8**
KHC MLR MLR
comp=Z,1μm,15.7s
KHC Kasperske Hory 85.26 323 *e*P **P 01 26 05.5 +0.8**
KHC *e*x x 01 26 09.4
KHC AMS AMS 02 07 40.0
comp=Z,1μm,15.7s
ARSA Arzberg 85.28 321 *e*PcP **P 01 26 05.8 +1.0**
comp=Z,14nm,1.4s
GEC2 GERESS Array S 85.36 323 IAmb IAmb 01 26 07.4
comp=Z,25nm,1.5s
GERES GERESS Array B 85.36 323 P **P 01 26 06.0 +0.7**
GERES GERESS Array B 85.36 323 P **P 01 26 06.0 +0.7**
comp=Z,3.8nm,0.6s,baz=53,slow=5.2,SNR=16
GERES LR LR 02 07 40.3
comp=Z,583nm,18.1s,baz=50,slow=38
N02D Trinity Center 85.52 46 P **P 01 26 08.0 +1.8**
baz=302
MOA Molln 85.63 322 *e*PcP **P 01 26 07.8 +1.2**
comp=Z,7.6nm,0.8s
M04C Macdoel 85.64 45 P **P 01 26 08.8 +1.9**
baz=302
PDG Podgorica 85.72 316 *e*P **P 01 26 07.5 +0.5**
PDG Podgorica 85.72 316 ⇓P **P 01 26 09.3 +2.3**
BLY Banja Luka 85.72 318 *e*P **P 01 26 06.9 -0.1**
BLY Banja Luka 85.72 318 ⇓P **P 01 26 09.4 +2.4**
SOKA Soboth 85.88 321 *e*PcP **P 01 26 08.4 +0.5**
comp=Z,16nm,1.3s
DRME Dracevica, Mon 85.89 316 *e*P **P 01 26 09.6 +1.7**
BRY Bratogost 85.91 316 *e*P **P 01 26 08.5 +0.3**
MGRS Mrkonjic Grad 85.96 318 *e*P **P 01 26 07.9 -0.4**
CRES Cresnjev 86.12 320 *e*P **P 01 26 07.8 -1.2**
TREB Trebinje 86.12 316 *e*P **P 01 26 08.6 -0.5**
F10A Beach Ranch, E 86.13 40 IAmb IAmb 01 26 36.6
comp=Z,54nm,1.9s
OBKA Obir 86.25 321 *e*PcP **P 01 26 10.2 +0.4**
comp=Z,17nm,1.0s
O03E Paynes Creek 86.46 46 P **P 01 26 11.7 +0.8**
baz=302
LJU Ljubljana 86.53 321 *e*P **P 01 26 11.2 +0.2**
MOD Modoc Plateau 86.55 44 IAmb IAmb 01 26 25.6
comp=Z,34nm,1.0s
KBA Koelnbreinsper 86.59 322 *e*PcP **P 01 26 11.9 +0.3**
comp=Z,14nm,0.9s
MYKA Terra Mystica 86.69 321 *i*PcP **P 01 26 12.3 +0.4**
SFJD Kangerlussuaq 86.72 360 *i*P **P 01 26 15.4 +3.9**
SFJD Kangerlussuaq 86.72 360 *i*P **P 01 26 15.4 +3.9**
JTMT Jette 86.73 37 IAmb IAmb 01 26 25.7
comp=Z,14nm,0.9s
CEY Cerknica 86.77 320 *e*P **P 01 26 10.7 -1.5**
ABTA Abfaltersbach 87.25 322 *e*PcP **P 01 26 16.7 +2.1**
comp=Z,16nm,0.8s,SNR=6.2
WTTA Wattenberg 87.42 323 *e*PcP **P 01 26 18.4 +2.8**
comp=Z,29nm,1.0s,SNR=5.9
STAL STALIGIAL 87.43 322 IAmb IAmb 01 26 18.5

comp=Z,26nm,0.9s
MSO Missoula 87.47 38 P P 01 26 17.1 +1.3
baz=307
MSO Missoula 87.47 38 IAmb IAmb 01 26 29.2
comp=Z,14nm,1.0s
MOTA Moosalm 87.65 323 *e*PcP **P 01 26 17.5 +0.8**
comp=Z,14nm,0.7s,SNR=5.3
SQTA Sankt Quirin 87.67 323 *e*PcP **P 01 26 17.3 +0.6**
comp=Z,12nm,0.6s
RETA Reutte 87.75 323 *e*pP **P 01 26 20.4 +3.4**
comp=Z,10nm,1.1s
FFC Flin Flon 87.96 27 P **P 01 26 16.9 -0.9**
FFC pmax pmax
comp=Z,41nm,1.0s
FFC Flin Flon 87.96 27 P **P 01 26 16.9 -0.9**
FETA Feichten 88.05 323 *e*PcP **P 01 26 19.2 +0.6**
comp=Z,16nm,1.0s
CTI Castel Tesino 88.14 322 IAmb IAmb 01 26 21.9
comp=Z,16nm,1.1s
PAHR Pah Rah Range 88.34 46 P **P 01 26 18.5 -1.5**
PAHR IAmb IAmb 01 26 34.0
comp=Z,22nm,1.4s
DAVA Damuels 88.34 324 *e*pP **P 01 26 23.1 +3.2**
comp=Z,18nm,0.5s
MFID Camas Ranch 88.42 41 IAmb IAmb 01 26 34.1
comp=Z,23nm,1.3s
BFO Black Forest 88.50 325 P **P 01 26 18.5 -2.0**
BFO pmax pmax
comp=Z,17nm,1.1s
BFO Black Forest 88.50 325 P **P 01 26 18.5 -2.0**
BFO IAmb IAmb 01 26 25.5
comp=Z,17nm,1.1s
EGMT Eagleton 88.95 35 P **P 01 26 23.9 +1.2**
baz=310
TUE Stuetta 89.14 323 IAmb IAmb 01 26 32.3
comp=Z,16nm,0.8s
AQU L'Aquila 89.34 318 *e*P **P 01 26 25.8 +1.2**
BOZ Bozeman (W) 89.50 38 P **P 01 26 26.6 +1.3**
baz=309
KVN Kaiserville 89.53 46 P **P 01 26 24.8 -0.9**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 89.53 46 P **P 01 26 24.8 -0.9**
NVAR Mina Array Bea 89.75 46 P **P 01 26 27.9 +1.1**
comp=Z,1.2nm,0.8s,baz=282,slow=5.6,SNR=8.0
PPT Papeete 90.32 109 LR LR 01 59 11.9
comp=Z,73nm,22.0s,baz=3.5,slow=30
PPT2 Papeete2 90.33 109 *e*S **S 01 37 20.9 -3.3**
comp=Z,2μm,32.8s
PPT2 Papeete2 90.33 109 *e*LR LR 01 55 09.7
comp=Z,144nm,22.5s
ELK Elko 90.35 43 P **P 01 26 30.1 +0.5**
comp=Z,1.6nm,0.8s,baz=330,slow=6.6,SNR=7.3
H17A Grant Village 90.83 38 P **P 01 26 35.3 +3.5**
baz=310
FLWY Flagg Ranch 90.96 39 IAmb IAmb 01 26 47.1
comp=Z,21nm,0.9s
RLMT Red Lodge 91.08 37 IAmb IAmb 01 26 47.3
comp=Z,21nm,1.1s
TPAW Teton Pass 91.19 39 IAmb IAmb 01 26 48.1
comp=Z,11nm,0.9s
DGMT Dagmar 91.41 32 P **P 01 26 35.4 +1.3**
baz=314
R11A Troy Canyon, C 91.54 45 P **P 01 26 36.5 +1.4**
baz=306
LAO L&SA Array 91.64 34 P **P 01 26 36.7 +1.4**
baz=313
TPNV Topopah Spring 91.93 47 P **P 01 26 38.2 +1.3**
baz=306
TPNV Topopah Spring 91.93 47 IAmb IAmb 01 26 50.5
comp=Z,9.5nm,0.9s
KMBO Kilima Mbogo 92.10 270 P **P 01 26 39.6 +1.4**
comp=Z,0.8nm,0.6s,baz=53,slow=7.8,SNR=4.2
KMBO LR LR 02 13 32.3
comp=Z,40nm,18.0s,baz=102,slow=39
DUG Dugway, Tooele 92.15 43 P **P 01 26 40.0 +2.1**
baz=306
DUG Dugway, Tooele 92.15 43 IAmb IAmb 01 26 52.4
comp=Z,16nm,1.1s
BW06 Boulder Array 92.44 39 IAmb IAmb 01 26 52.2
comp=Z,14nm,1.2s
PD31 Pinedale Array 92.44 39 IAmb IAmb 01 26 52.2
comp=Z,12nm,1.2s
PDAR Pinedale Array 92.44 39 P **P 01 26 39.8 +0.5**
comp=Z,3.3nm,1.1s,baz=279,slow=2.9,SNR=11
GSC Goldstone, Bar 92.51 48 P **P 01 26 40.2 +0.7**
baz=305
GSC Goldstone, Bar 92.51 48 IAmb IAmb 01 26 53.1
comp=Z,14nm,1.1s
PSUT Pine Spring 92.52 44 pP 01 26 48.6 +5.9
SHPR Sheep Range 92.90 47 IAmb IAmb 01 26 55.9
comp=Z,11nm,1.0s
TBI Tubuai 93.08 114 *e*LR LR 01 56 31.4
comp=Z,184nm,32.8s
GMRC Granite Mounta 93.58 48 P **P 01 26 45.7 +1.2**
baz=306
CASY Casey 93.63 187 P **P 01 26 43.8 +0.2**
PFO Pinyon Flats O 93.72 50 P **P 01 26 46.3 +1.1**
baz=306
PFO Pinyon Flats O 93.72 50 P **P 01 26 46.5 +1.3**
comp=Z,6.4nm,0.9s,baz=315,slow=4.2,SNR=7.3
TPFO Pinon Flats 93.72 50 P **P 01 26 46.5 +1.3**
baz=306
ULM Lac du Bonnet 93.78 27⇓*e*P **P 01 26 44.7 -0.2**
ULM Lac du Bonnet 93.78 27 LR LR 02 13 08.3
comp=Z,104nm,18.3s,baz=348,slow=38
BELC Belle Mtn. Jos 93.80 49 P **P 01 26 46.4 +0.8**
baz=306
MONP2 Monument Peak 94.16 50 P **P 01 26 48.5 +1.2**
baz=306
BC3 Big Chuckawall 94.37 49 P **P 01 26 49.8 +1.7**
baz=306
RSSD Black Hills 94.52 35 P **P 01 26 49.6 +0.8**
baz=314
TAOE Nuku Hiva Isla 94.62 98 *e*LR LR 01 57 26.6
comp=Z,102nm,23.5s
ANMO Albuquerque 99.38 43⇓*e*P **Pdif 01 27 13.7 +2.8**
ANMO pmax pmax
comp=Z,11nm,3.7s
ESDC Sonseca Array 100.86 325 P **Pdif 01 27 19.7 +2.5**
comp=Z,0.3nm,0.4s,baz=29,slow=3.4,SNR=4.5
SYO Syowa Base 114.33 203⇓*e*PKPdf PKPdf 01 32 05.4 -1.3
SYO Syowa Base 114.33 203⇓*e*pPKPdf PKiKP 01 32 16.6 +10
TORD Torodi Ar. Bea 115.38 301 PKP **PKiKP 01 32 09.7 -0.8**
comp=Z,0.7nm,0.7s,baz=25,slow=0.7,SNR=5.4
SNAA Sanae 127.68 197 PKPdf **PKPdf 01 32 31.7 -0.7**
SNAA Sanae 127.68 197 PKIKP **PKPdf 01 32 32.2 -0.3**
SNAA Sanae 127.68 197 **PKPdf 01 32 32.2 -0.3**
VNA2 Neumayer--Watz 129.31 197 PKPdf **PKiKP 01 32 35.9 -0.4**
baz=73,slow=1.1
VNA3 Neumayer Olymp 129.69 196 PKPdf **PKPdf 01 32 35.4 -0.9**
VNA1 Neumayer--Stat 129.71 197 PKPdf **PKiKP 01 32 37.2 +0.2**
SDV Santo Domingo 139.91 31 **PKPdf 01 32 54.8 -2.5**
NNA Nana 151.67 64 PKIKP **PKPdf 01 33 14.8 -2.1**
NNA Nana 151.67 64 **PKPdf 01 33 14.8 -2.1**
PLCA Paso Flores 158.50 136 PKP2 **PKPab 01 33 59.8 -0.6**
PLCA Paso Flores 158.50 136 PKPab **PKPab 01 34 02.1 +1.7**
comp=Z,3.2nm,0.8s,baz=258,slow=4.6,SNR=4.8
PLCA Paso Flores 158.50 136 **PKPab 01 33 59.8 -0.6**
GO06 Curarrehue 158.53 132 **PKPab 01 33 59.5 -1.1**
GO04 Tololo Observa 162.18 106 **PKPab 01 34 14.9 -2.2**
BDFB Brasilia 168.78 345 PKPab **PKPab 01 34 48.7 +2.8**
comp=Z,9.0nm,0.8s,baz=357,slow=5.3,SNR=9.4

IDC 06 01:56:58.6±1.6, 56°.63S×150°.85W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/28, mbtmp3.8/3, Error ellipse: s-maj=56.1km s-min=41.5km az=56.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.52**	**180**	P	P	02 03 39.4	-0.1
	3.2nm,1.1s,baz=90,slow=5.5,SNR=3.8						
ASAR	**Alice Springs**	**62.50**	**268**	P	P	02 07 23.4	-0.5
	0.6nm,0.6s,baz=140,slow=6.4,SNR=5.6						
H01W1	**Cape Leeuwin H**	**64.21**	**245**	T	T	03 17 37.6	
	baz=141						
H01W2	**Cape Leeuwin H**	**64.22**	**245**	T	T	03 17 39.9	
	baz=141						
H01W3	**Cape Leeuwin H**	**64.23**	**245**	T	T	03 17 44.5	
	baz=141						
WRA	**Warramunga Arr**	**65.24**	**271**	P	P	02 07 41.8	-0.1
	0.4nm,0.8s,baz=150,slow=5.6,SNR=2.8						
ILAR	**Eielson Array**	**121.11**	**2**	PKP	PKPdf	02 15 50.7	-0.8
	0.4nm,0.8s,baz=197,slow=2.5,SNR=3.1						
MKAR	**Makanchi Array**	**146.44**	**276**	PKPbc	PKPbc	02 16 41.0	+0.4
	1.7nm,0.8s,baz=123,slow=4.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**148.92**	**289**	PKPbc	PKPbc	02 16 46.5	-0.5
	0.3nm,0.3s,baz=108,slow=3.2,SNR=3.9						

*ISK **06** 01:58:55.8, 39°.13N×28°.14E, h8km, ML2.4/8*
*ISCJB **06** 01:58:56.7±0.5, 39°.15N±0°.03×28°.18E±0°.04, h10km±6km, Error ellipse: s-maj=7.0km s-min=4.1km az=136.3*
*DDA **06** 01:58:56.5, 39°.17N×28°.18E, h7km±2km, ML2.6*
ISC 06 01:58:56.8±1.0, 39°.17N±0°.03×28°.19E±0°.04, h17km±11km, n17, σ0s57/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.41**	**226**	*i* P	**Pg**	**01 59 05.6**	**+0.3**
AKHS				IAML_P			
	comp=Z,3μm,0.2s						
STEP	**BALIKESIR_Sava**	**0.42**	**300**	*i* P	**Pg**	**01 59 05.1**	**-0.4**
STEP				*i* S	**Sg**	**01 59 11.6**	**+0.3**
STEP				IAML_P			
	comp=Z,1μm,0.1s						
DURS	**Dursunbey**	**0.49**	**27**	*i* P	**Pb**	**01 59 07.2**	**+0.2**
DURS				IAML_P			
	comp=Z,2μm,0.1s						
BALB	**Balikesir**	**0.53**	**333**	PG	**Pg**	**01 59 07.4**	**0.0**
BALB				SG	**Sg**	**01 59 15.2**	**+0.6**
SIMA	**Simav-Kutahya**	**0.62**	**97**	PG	**Pb**	**01 59 09.2**	**-0.1**
SIMA				SG	**Sb**	**01 59 17.9**	**+0.1**
BALY	**Balya**	**0.72**	**322**	*i* P	**Pb**	**01 59 11.7**	**+0.7**
BALY				IAML_P			
	comp=Z,866nm,0.1s						
MANT	**Manisa**	**0.73**	**157**	*i* P	**Pb**	**01 59 11.8**	**+0.6**
MANT				*i* S	**Sg**	**01 59 20.4**	**-0.7**
KULA	**Kula-Manisa**	**0.75**	**151**	PG	**Pg**	**01 59 11.3**	**-0.2**
KULA				SG	**Sg**	**01 59 20.6**	**-0.8**
USAK	**Uak-Merkez**	**0.79**	**125**	*i* P	**Pb**	**01 59 12.9**	**+0.8**
GEDZ	**Gediz**	**0.96**	**97**	PG	**Pn**	**01 59 15.8**	**+0.2**
GDZ	**Gediz**	**1.01**	**94**	*i* P	**Pg**	**01 59 16.1**	**-0.3**
GDZ				IAML_P			
	comp=Z,603nm,0.1s						
TVSB	**Tavsanli**	**1.02**	**74**	PG	**Pn**	**01 59 17.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.10**	**7**	PN	**Pb**	**01 59 17.8**	**+0.3**
AYVA	**Ayvalik**	**1.18**	**277**	*i* P	Pg	01 59 28.5	+9.0
MDNY	**Mudanya-Bursa**	**1.31**	**24**	PN	**Pg**	**01 59 21.8**	**-0.4**
IGD	**Bursa**	**1.34**	**35**	*i* P	**Pb**	**01 59 21.8**	**+0.2**
IGD				IAML_P			
	comp=Z,418nm,0.2s						
BOZC	**Bozcaada**	**1.79**	**293**	PN	**Pn**	**01 59 25.7**	**-1.2**

*ISCJB **06** 01:59:16.6±0.6, 39°.37N±0°.02×25°.86E±0°.05, h6km±5km, Error ellipse: s-maj=7.1km s-min=3.9km az=166.3*
*THE **06** 01:59:16.6, 39°.37N×25°.86E, h2km±1km, ML2.3/6, Error ellipse: s-maj=1.9km s-min=0.5km az=225.0*
*ATH **06** 01:59:16.3, 39°.34N×25°.81E, h13km±5km, ML2.5/2, Error ellipse: s-maj=5.3km s-min=1.2km az=186.0*
ISC 06 01:59:16.6±1.0, 39°.37N±0°.03×25°.83E±0°.04, h7km±9km, n15, σ0s47/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.16**	**174**	P	**Pg**	**01 59 19.5**	**-0.3**
SIGR				S	**Sg**	**01 59 22.2**	**+0.2**
	3μm,0.3s						
SIGR	**SIGRI**	**0.16**	**174**	P	**Pg**	**01 59 19.5**	**-0.3**
SIGR				S	**Sg**	**01 59 22.3**	**+0.3**
SIGR				AML	AML	01 59 22.6	
	comp=N,6428μm,0.3s						
SIGR				AML	AML	01 59 22.6	
	comp=E,7115μm,0.2s						
PRK	**Paraskevi**	**0.36**	**110**	P	**Pg**	**01 59 23.9**	**+0.2**
PRK				S	**Sg**	**01 59 28.9**	**+0.5**
	comp=E,1μm,0.3s						
PRK	**Paraskevi**	**0.36**	**110**	P	**Pg**	**01 59 23.8**	**+0.2**
PRK				S	**Sg**	**01 59 29.1**	**+0.6**
PRK				AML	AML	01 59 29.1	
	comp=N,1478μm,0.3s						
PRK				AML	AML	01 59 29.3	
	comp=E,2660μm,0.3s						
EZN	**Ezine**	**0.59**	**40**	P	**Pg**	**01 59 27.3**	**-0.8**
EZN				S	**Sg**	**01 59 35.9**	**+0.1**
LIA	**Limnos Island**	**0.73**	**317**	P	**Pg**	**01 59 31.1**	**+0.4**
LIA				S	**Sb**	**01 59 42.3**	**+0.4**
LIA	**Limnos Island**	**0.73**	**317**	P	**Pg**	**01 59 30.6**	**0.0**
CHOS	**Chios island**	**1.00**	**170**	P	**Pg**	**01 59 35.1**	**-0.7**
CHOS				S	**Sb**	**01 59 49.7**	**+0.1**
	comp=E,365nm,0.3s						
CHOS	**Chios island**	**1.00**	**170**	P	**Pg**	**01 59 34.7**	**-1.0**
SMTH	**Samothraki Isl**	**1.12**	**348**	P	**Pg**	**01 59 37.7**	**-0.5**
SMTH				S	**Sb**	**01 59 53.9**	**+0.6**
	comp=E,90nm,0.4s						
SMTH	**Samothraki Isl**	**1.12**	**348**	P	**Pg**	**01 59 37.9**	**-0.3**
ALN	**Alexandroupoli**	**1.54**	**6**	P	**Pn**	**01 59 44.0**	**-0.5**
ALN				S	**Sb**	**02 00 05.1**	**0.0**
	comp=E,58nm,0.5s						
ALN	**Alexandroupoli**	**1.54**	**6**	P	**Pb**	**01 59 45.3**	**-0.1**
RDO	**Rodhopi**	**1.79**	**353**	P	**Pn**	**01 59 47.7**	**-0.3**
SMG	**Samos**	**1.83**	**154**	P	**Pn**	**01 59 49.1**	**+0.5**
SMG				S	**Sn**	**02 00 12.2**	**+0.1**

*KRNET **06** 02:00:33.3±0.1, 41°.78N×80°.67E, mb2.8*
*NNC **06** 02:00:34.0±1.3, 41°.88N×80°.64E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.1km s-min=7.3km az=160.0*
*SOME **06** 02:00:34.4, 41°.95N×80°.65E, h10km*
ISC 06 02:00:36.4±2.0, 41°.94N±0°.08×80°.68E±0°.07, h10km, n38, σ1s33/64, 14C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.64**	**328**	P	**Pn**	**02 01 04.8**	**-0.7**
	9.2nm,0.3s						
PDGK				S	**Sb**	**02 01 27.8**	**0.0**
	43nm,0.3s						
PDGK	**Podgornoye**	**1.64**	**328**	⇓P	**Pn**	**02 01 04.7**	**-0.9**
	8.1nm,0.5s						
PDGK				⇑S	**Sb**	**02 01 27.5**	**-0.3**
	6.9nm,0.4s						
UZB	**Uzynbulak**	**1.72**	**315**	P	**Pn**	**02 01 06.1**	**-0.5**
	20nm,0.2s						
UZB				S	**Sb**	**02 01 29.9**	**-0.1**
	72nm,0.2s						
UZB	**Uzynbulak**	**1.72**	**315**	*e*P	**Pn**	**02 01 06.1**	**-0.5**
	20nm,0.2s						
UZB				*e*S	**Sb**	**02 01 29.3**	**-0.7**
	72nm,0.2s						
PRZ	**Przheval'sk**	**1.78**	**289**	⇑*i*P	**Pb**	**02 01 07.5**	**-1.7**
	baz=93						
PRZ				⇑*i*S	**Sb**	**02 01 31.3**	**-0.3**
	baz=93						
SATY	**Saty**	**2.02**	**305**	Pg	**Pb**	**02 01 11.2**	**-2.1**
	21nm,0.2s						
SATY				Lg	Lg	02 01 38.2	
	53nm,0.2s						
SATY	**Saty**	**2.02**	**305**	*e*P	**Pb**	**02 01 11.2**	**-2.1**
	21nm,0.2s						
SATY				*e*S	**Sb**	**02 01 38.0**	**-0.6**
	53nm,0.2s						
ZHN	**Zhinishke**	**2.06**	**307**	*e*P	**Pb**	**02 01 13.2**	**-0.9**
	15nm,0.2s						
ZHN				*e*S	**Sg**	**02 01 41.0**	**-1.8**
	58nm,0.3s						
KPKS	**Kokpek**	**2.12**	**317**	*e*P	**Pb**	**02 01 13.7**	**-1.3**
	29nm,0.2s						
KPKS				*e*S	**Sb**	**02 01 41.9**	**+0.4**
	90nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.15**	**265**	⇓*i*P	**Pn**	**02 01 12.0**	**-0.8**
	baz=70						
TARG				⇓*i*S	**Sb**	**02 01 41.0**	**-1.7**
	baz=70						
ANVS	**Anan'yevo**	**2.38**	**292**	⇑*i*P	**Pn**	**02 01 16.3**	**+0.5**
	baz=95						
ANVS				⇑*i*S	**Sb**	**02 01 47.8**	**-1.3**
	baz=95						
KURS	**Kuram**	**2.41**	**311**	Pg	**Pb**	**02 01 18.8**	**-1.2**
	6.9nm,0.3s						
KURS				Lg	Lg	02 01 50.8	
	12nm,0.5s						
KURS	**Kuram**	**2.41**	**311**	*e*P	**Pb**	**02 01 18.8**	**-1.2**
	6.9nm,0.3s						
KURS				*e*S	**Sb**	**02 01 50.8**	**+1.0**
	12nm,0.5s						
DJR	**Jarkent**	**2.48**	**345**	Pg	**Pb**	**02 01 19.7**	**-1.5**
	3.7nm,0.2s						
DJR				Lg	Lg	02 01 52.7	
	34nm,0.3s						
DJR	**Jarkent**	**2.48**	**345**	*e*P	**Pb**	**02 01 19.7**	**-1.5**
	3.7nm,0.2s						
DJR				*e*S	**Sb**	**02 01 52.6**	**+0.8**
	34nm,0.3s						
KDJ	**Kajisay**	**2.61**	**275**	⇑*i*P	**Pn**	**02 01 18.5**	**-0.4**
	baz=79						
KDJ				⇑*i*S	**Sn**	**02 01 52.0**	**+1.3**
	baz=79						
KOTS	**Kotyrbulak**	**2.93**	**297**	Pg	**Pb**	**02 01 27.9**	**-1.0**
	8.6nm,0.2s						
KOTS				Lg	Lg	02 02 07.0	
	26nm,0.4s						
KOTS	**Kotyrbulak**	**2.93**	**297**	*e*P	**Pb**	**02 01 27.9**	**-1.0**
	7.8nm,0.4s						
KOTS				*e*S	**Sb**	**02 02 06.7**	**+1.7**
	24nm,0.4s						
MDOK	**Medeo**	**2.95**	**296**	⇓Pn	Pn	02 01 18.1	-5.4
	2.9nm,0.4s						
MDOK				Lg	Lg	02 02 06.3	
	4.4nm,0.4s						
MDOK	**Medeo**	**2.95**	**296**	Pg	**Pb**	**02 01 27.8**	**-1.4**
MDOK				Lg	Lg	02 02 06.2	
MDOK	**Medeo**	**2.95**	**296**	*e*P	**Pb**	**02 01 27.8**	**-1.4**
MDOK				*e*S	**Sb**	**02 02 06.2**	**+0.9**
ARXS	**Arharly**	**3.09**	**318**	Pg	**Pb**	**02 01 30.4**	**-1.1**
	2.9nm,0.3s						
ARXS				Lg	Lg	02 02 10.9	
	33nm,0.4s						
ARXS	**Arharly**	**3.09**	**318**	*e*P	**Pb**	**02 01 30.4**	**-1.1**
	2.9nm,0.3s						
ARXS				*e*S	**Sb**	**02 02 10.9**	**+1.6**
	33nm,0.4s						
IZV	**Izvestkoviy**	**3.20**	**291**	Pg	**Pb**	**02 01 32.7**	**-0.8**
	5.1nm,0.4s						
IZV				Lg	Lg	02 02 14.4	
	14nm,0.5s						
IZV	**Izvestkoviy**	**3.20**	**291**	*e*P	**Pb**	**02 01 32.7**	**-0.8**
	5.1nm,0.4s						
IZV				*e*S	**Sb**	**02 02 14.4**	**+1.9**
	14nm,0.5s						
ULHL	**Ulahol**	**3.31**	**277**	⇓*e*P	**Pn**	**02 01 28.3**	**-0.3**
	baz=79						
ULHL				⇓*i*S	**Sn**	**02 02 08.4**	**+0.3**
	baz=79						
CHKK	**Chushkaly**	**3.32**	**307**	*e*P	**Pb**	**02 01 33.7**	**-1.7**
	1.1nm,0.1s						
CHKK				*e*S	**Sb**	**02 02 16.0**	**+0.2**
	19nm,0.3s						
MTBS	**Maitube**	**3.36**	**292**	*e*P	**Pb**	**02 01 35.7**	**-0.4**
	3.3nm,0.1s						
MTBS				*e*S	**Sb**	**02 02 19.5**	**+2.5**
	11nm,0.3s						
KTBS	**Karatobe**	**3.43**	**302**	Pg	**Pb**	**02 01 36.8**	**-0.5**
	3.2nm,0.3s						
KTBS				Lg	Lg	02 02 21.9	
	38nm,0.4s						
KTBS	**Karatobe**	**3.43**	**302**	*e*P	**Pb**	**02 01 36.9**	**-0.5**
	3.2nm,0.3s						
KTBS				*e*S	**Sb**	**02 02 21.9**	**+2.7**
	38nm,0.4s						
BOOM	**Boomskoye usch**	**3.56**	**281**	⇑*i*P	**Pn**	**02 01 32.3**	**+0.4**
	baz=83						
BOOM				⇑*i*S	**Sn**	**02 02 15.4**	**+1.3**
	baz=83						
KST	**Kastek**	**3.66**	**289**	Pg	**Pb**	**02 01 40.6**	**-0.7**
	3.6nm,0.4s						
KST				Lg	Lg	02 02 28.1	
	11nm,0.5s						
KST	**Kastek**	**3.66**	**289**	*e*P	**Pb**	**02 01 40.5**	**-0.7**
	3.6nm,0.4s						
KST				*e*S	**Sb**	**02 02 28.1**	**+2.4**
	11nm,0.5s						
DGS	**Degeres**	**3.85**	**291**	Pg	**Pb**	**02 01 44.7**	**+0.2**
	2.3nm,0.3s						
DGS				Lg	Lg	02 02 34.9	
	13nm,0.6s						
DGS	**Degeres**	**3.85**	**291**	*e*P	**Pb**	**02 01 44.7**	**+0.2**
	2.3nm,0.3s						
DGS				*e*S	**Sb**	**02 02 34.9**	**+3.7**
	13nm,0.6s						
TKM2	**Tokmak 2**	**3.89**	**286**	⇑Pn	**Pn**	**02 01 36.0**	**-0.4**
	0.7nm,0.3s						
TKM2				⇑Pg	**Pb**	**02 01 46.4**	**+1.2**
	0.6nm,0.3s						
TKM2				⇑Lg	Lg	02 02 36.0	
	3.8nm,0.3s						
MAKZ	**Makanchi**	**4.96**	**10**	⇑Pn	**Pn**	**02 01 51.1**	**+0.2**
	1.5nm,0.3s						
MAKZ				⇓Sn	**Sn**	**02 02 50.4**	**+2.0**
	0.5nm,0.3s						
MAKZ				⇓Lg	Lg	02 03 07.7	
	0.9nm,0.5s						
MK31	**Makanchi Array**	**4.99**	**13**	Pn	**Pn**	**02 01 51.2**	**-0.2**
	0.4nm,0.2s,baz=192,slow=14,SNR=38						
MK31				⇓Sn	**Sn**	**02 02 51.7**	**+2.5**
	1.9nm,0.5s,baz=192,slow=24,SNR=5.1						
MK31				⇑Lg	Lg	02 03 10.5	
	1.8nm,0.5s						

*MOS **06** 02:22:27.2±0.3, 55°.51N×114°.28E, h8km, mb3.8/1, Error ellipse: s-maj=12.6km s-min=9.0km az=78.8*
*BYKL **06** 02:22:29.6±0.2, 55°.65N×114°.18E, h22km±3km*
*IDC **06** 02:22:32.2±1.3, 55°.59N×113°.41E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/69, mbtmp3.4/6, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=32.0km s-min=23.4km az=142.0*
ISC 06 02:22:27.5±1.1, 55°.60N±0°.03×114°.26E±0°.02, h4km±9km, n57, σ2s30/90, mb3.5/5, 3C-6D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.38**	**253**	⇓*i*Pg	**Pg**	**02 22 36.4**	**+1.6**
UKT				*e*Sg	**Sg**	**02 22 41.4**	**+1.7**
UKT				Pmax			
	229nm,0.2s						
UKT				Smax			
	5μm,0.3s						
UKT	**Uakit**	**0.38**	**253**	⇓*i*PG	**Pg**	**02 22 36.4**	**+1.6**
UKT				*e*		02 22 41.5	
UKT				pmax	pmax		
	comp=Z,162nm,0.1s						
UKT				smax	smax		
	comp=N,4μm,0.2s						
SVKR	**Severomuysk**	**0.65**	**323**	⇑*i*Pg	**Pg**	**02 22 41.2**	**+1.1**
SVKR				*e*Sg	**Sb**	**02 22 50.2**	**-0.8**
SVKR				Pmax			
	comp=N,3μm,0.2s						
SVKR				Smax			
	comp=N,6μm,0.4s						
SVKR	**Severomuysk**	**0.65**	**323**	⇑*i*PG	**Pg**	**02 22 41.2**	**+1.1**
SVKR				*e*		02 22 49.9	
SVKR				pmax	pmax		
	comp=Z,3μm,1.2s						
SVKR				smax	smax		
	comp=E,3μm,0.4s						
NLYR	**Nelyaty**	**1.21**	**42**	*e*Pg	**Pb**	**02 22 51.3**	**+0.3**
NLYR				*e*Pb	**Pn**	**02 22 52.3**	**+1.1**
NLYR				*e*Sg	**Sb**	**02 23 08.0**	**+1.1**
NLYR				*e*		02 23 21.8	
NLYR				max			
	comp=E,133nm,0.3s						
NLYR				Smax			
	comp=E,1μm,1.1s						
NLYR	**Nelyaty**	**1.21**	**42**	*e*PG	**Pb**	**02 22 51.4**	**+0.4**
NLYR				*e*		02 23 04.3	
NLYR				pmax	pmax		
	comp=Z,172nm,0.8s						
NLYR				smax	smax		
	comp=N,1μm,1.1s						
YOA	**Uoyan**	**1.53**	**292**	⇓*i*Pg	**Pn**	**02 22 56.0**	**+0.4**
YOA				*e*		02 22 58.1	
YOA				*e*Sg	**Sg**	**02 23 16.8**	**+0.3**
YOA				*e*		02 23 21.6	
YOA				Pmax			
	comp=N,2μm,0.2s						
YOA				Smax			
	comp=N,7μm,0.4s						
YOA	**Uoyan**	**1.53**	**292**	⇓*i*PG	**Pn**	**02 22 56.0**	**+0.4**
YOA				*i*		02 23 16.7	
YOA				pmax	pmax		
	comp=Z,2μm,0.2s						
YOA				smax	smax		

comp=N,7μm,0.4s
KMO Kumora 1.75 281 *e*Pn **Pn 02 22 58.7 0.0**
KMO ⇓*i*Pg **Pb 02 22 59.7 -0.5**
KMO *e*Sg **Sb 02 23 22.6 0.0**
KMO Pmax
comp=N,435nm,0.4s
KMO Smax
comp=N,3μm,0.9s
KMO Kumora 1.75 281 ⇑*i*PN **Pn 02 22 59.4 +0.7**
KMO *e* 02 23 21.5
KMO pmax pmax
comp=Z,435nm,0.4s
KMO smax smax
comp=E,3μm,0.9s
YLYR Ulyunkhan 1.92 249 ⇓*i*Pn **Pn 02 23 01.5 +0.6**
YLYR *e*Pg **Pb 02 23 03.4 +0.4**
YLYR *e*Sn **Sn 02 23 25.2 -0.2**
YLYR *e*Sg **Sb 02 23 29.1 +1.9**
YLYR Pmax
comp=E,245nm,0.7s
YLYR Smax
comp=E,1μm,0.4s
YLYR Ulyunkhan 1.92 249 *e*PN **Pn 02 23 01.5 +0.6**
YLYR *e* 02 23 03.1
YLYR *e* 02 23 28.9
YLYR pmax pmax
comp=Z,57nm,0.1s
YLYR smax smax
comp=E,1μm,0.4s
BOD Bodaibo 2.23 357 *e*Pn **Pn 02 23 05.2 0.0**
BOD *e*Pg **Pb 02 23 07.7 -0.7**
BOD *e* 02 23 14.4
BOD *e*Sn **Sn 02 23 31.3 -1.9**
BOD *e*Sg **Sb 02 23 36.5 +0.2**
BOD max
comp=E,294nm,0.8s
BOD Smax
comp=E,2μm,1.0s
BOD Bodaibo 2.23 357 *e*PN **Pn 02 23 07.3 +2.1**
BOD *e* 02 23 35.7
BOD pmax pmax
comp=Z,292nm,0.8s
BOD smax smax
comp=E,2μm,1.0s
CRS Chara 2.59 58 *e*Pn **Pn 02 23 11.4 +1.2**
CRS *e*Pg **Pb 02 23 16.4 +1.9**
CRS *e* 02 23 22.8
CRS *e*Sg **Sg 02 23 51.3 +0.6**
CRS *e* 02 23 59.1
CRS max
comp=E,310nm,0.9s
CRS Smax
comp=E,518nm,0.9s
CRS Chara 2.59 58 *e*PN **Pn 02 23 11.1 +0.9**
CRS *e*S **Sb 02 23 49.0 +2.3**
CRS smax smax
comp=E,519nm,0.6s
NIZ Nizh Angarsk 2.68 276 *e*Pn **Pn 02 23 11.6 +0.2**
NIZ *e*Pg **Pb 02 23 15.9 -0.1**
NIZ *e* 02 23 37.8
NIZ *e* 02 23 44.7
NIZ *e*Sg **Sb 02 23 50.6 +1.5**
NIZ Pmax
comp=E,71nm,0.6s
NIZ Smax
comp=E,383nm,0.5s
NIZ Nizh Angarsk 2.68 276 *e*PN **Pn 02 23 11.6 +0.2**
NIZ *e* 02 23 15.9
NIZ *e* 02 23 50.1
NIZ pmax pmax
comp=Z,74nm,0.8s
NIZ smax smax
comp=N,381nm,0.6s
SYVR Suvo 3.15 234 *e*Pn **Pn 02 23 18.6 +0.8**
SYVR *e*Pg **Pb 02 23 25.1 +1.1**
SYVR *e*Sn **Sn 02 23 51.7 -4.1**
SYVR *e*Sg **Sb 02 24 07.1 +4.4**
SYVR Pmax
comp=N,114nm,0.6s
SYVR Smax
comp=N,312nm,0.7s
SYVR Suvo 3.15 234 *e*PN **Pn 02 23 18.4 +0.6**
SYVR *e* 02 23 25.7
SYVR *e* 02 24 06.9
SYVR pmax pmax
comp=Z,116nm,0.6s
SYVR smax smax
comp=E,348nm,1.0s
KHNR Khani 3.46 65 *e*Pn **Pn 02 23 23.9 +1.8**
KHNR *e*Pg **Pb 02 23 32.4 +3.1**
KHNR *e*Sg **Sg 02 24 18.3 -0.1**
TUP Tupik 3.48 107 *e*Pn **Pn 02 23 22.7 +0.2**
TUP *e*Pg **Pb 02 23 32.3 +2.6**
TUP *e* 02 23 41.1
TUP *e*Sn **Sn 02 24 03.9 -0.2**
TUP *e*Sg **Sg 02 24 20.5 +1.2**
TUP Pmax
comp=E,102nm,0.7s
TUP Smax
comp=E,839nm,0.9s
TUP Tupik 3.48 107 *e*PN **Pn 02 23 23.5 +1.0**
TUP *e* 02 23 32.1
TUP *e* 02 24 19.5
TUP pmax pmax
comp=Z,92nm,0.7s
TUP smax smax
comp=N,792nm,0.9s
CIT Chita 3.61 187 *e*Pn **Pn 02 23 22.8 -1.4**
CIT *e* 02 23 32.4
CIT *e*S **Sn 02 24 07.8 +0.6**
CIT *e* 02 24 20.2
CIT pmax pmax
comp=Z,144nm,0.8s
CIT smax smax
comp=E,749nm,1.1s
VTMR Vitim 3.96 347 *e*Pg **Pb 02 23 38.2 +0.4**
VTMR *e*Sg **Sb 02 24 29.2 +3.2**
MXMB Maximikha 3.98 236 *e*Sg **Sg 02 24 32.8 -2.4**
YKLR Yuktali 4.26 73 *e*Pn **Pn 02 23 34.3 +1.2**
YKLR *e* 02 23 39.7
YKLR Pg **Pb 02 23 46.8 +3.9**
YKLR *e*Sg **Sg 02 24 43.5 -0.8**
OGRR Ongureny 4.34 246 *e*Pn **Pn 02 23 35.5 +1.3**
OGRR *e* 02 23 42.2
OGRR *e* 02 23 52.7
OGRR *e*Sn **Sn 02 24 22.4 -2.8**
OGRR *e*Sg **Sg 02 24 43.3 -3.5**
OGRR max
comp=E,77nm,1.1s
OGRR Smax
comp=E,150nm,0.8s
OGRR Ongureny 4.34 246 *e*PN **Pn 02 23 35.5 +1.3**
OGRR *e* 02 23 46.9
OGRR *e* 02 24 42.9
OGRR pmax pmax
comp=Z,77nm,1.2s
OGRR smax smax
comp=N,150nm,0.9s
KELR Kotokel 4.61 234 *e*Sg **Sg 02 24 52.1 -3.4**
TRTB Turuntaevo 5.17 232 *e*Pg **Pb 02 24 01.5 +3.1**
TRTB *e*Sg **Sg 02 25 10.3 -3.1**
UUDB Ulan-Yde 5.41 229 *e* Pb 02 23 57.8 -4.8
UUDB *e*Pg Pg 02 24 06.8 -4.3
UUDB *e* 02 24 52.8
UUDB *e* 02 25 15.6
UUDB *e*Sg **Sg 02 25 17.3 -3.9**
UUDB Pmax
comp=N,35nm,0.5s
UUDB Smax
comp=N,202nm,1.0s
TRG Tyrgan 5.45 242 *e*Pn **Pn 02 23 49.9 +0.5**
TRG *e*Pg **Pb 02 24 07.3 +4.2**
TRG *e* 02 24 50.9
TRG *e* 02 25 09.3
TRG *e*Sg **Sg 02 25 17.4 -4.9**
TRG Pmax
comp=N,12nm,1.6s
TRG Smax
comp=N,87nm,0.9s
FFNB Fofonovo 5.69 234 Pg **Pb 02 24 10.8 +3.6**
FFNB *e* 02 24 20.2
FFNB *e*Sg **Sg 02 25 26.9 -3.1**
KAB Kabansk 5.74 235 *e*Sg **Sb 02 25 25.3 +8.2**
KAB Smax
comp=N,522nm,1.3s
HRMR Khuramsha 5.89 231 *e*Pn **Pn 02 23 56.7 +1.2**
HRMR *e*Sn **Sn 02 24 59.8 -3.6**
HRMR *e*Sg **Sg 02 25 32.4 -4.1**
HRMR Smax
comp=N,394nm,0.7s
KPC Khapcheranga 6.01 192 *e*Pn **Pn 02 23 57.1 -0.2**
KPC *e* 02 24 03.8
KPC *e*Pg Pb 02 24 17.9 +5.1
KPC *e* 02 25 20.5
KPC *e*Sg **Sg 02 25 38.1 -2.4**
KPC Pmax
comp=N,11nm,0.6s
KPC Smax
comp=N,164nm,0.8s
KPC Khapcheranga 6.01 192 *e*PN **Pn 02 23 57.4 +0.1**
KPC *e* 02 24 17.8
KPC *e*S **Sn 02 25 05.3 -1.2**
KPC *e* 02 25 36.0
KPC pmax pmax
comp=Z,12nm,0.6s
KPC smax smax
comp=E,162nm,1.0s
CLNS Chul'man 6.06 74 *e* **Sb 02 25 24.2 -2.3**
CLNS *e*Sg **Sg 02 25 38.0 -4.1**
BGT Bolshoye Golou 6.33 239 *e* Pn 02 23 48.2 -13
BGT *e* 02 23 58.8
BGT *e* 02 24 07.5
BGT *e* 02 25 35.4
BGT *e*Sg **Sg 02 25 45.1 -5.7**
LSTR Listvyanka 6.72 240 *e* Pn 02 24 14.4 +7.5
LSTR *e* 02 24 31.8
LSTR *e*Sg **Sg 02 25 59.0 -4.3**
LSTR max
comp=E,15nm,0.5s
LSTR Smax
comp=E,68nm,1.4s
IVK Ivanovka 6.97 241 *e* **Pb 02 24 27.6 -1.5**
IVK *e*Sg Sg 02 26 03.5 -7.7
IVK *e* 02 26 09.4
IVK max
comp=E,1.0nm,0.1s
IVK max
comp=E,49nm,1.7s
TLY Talaya 7.43 243 *e* Pg 02 25 05.8 +16
TLY *e*Sg Sg 02 26 18.2 -7.6
TLY Smax
comp=E,33nm,0.9s
ARS Arshan 7.92 247 *e*Sg Sg 02 26 33.0 -8.6
ARS Smax
comp=E,127nm,0.7s
ZAK Zakamensk 8.43 236 Sg Sg 02 26 50.4 -7.5
ZAK *e* 02 26 53.9
ZAK max
comp=E,37nm,1.5s
MOY Mondy 8.81 249 *e* Pn 02 24 42.0 +6.4
MOY *e* 02 24 58.2
MOY *e* 02 26 22.0
MOY *e*Sg Sg 02 27 01.6 -8.4
MOY max
comp=E,8.0nm,0.7s
MOY Smax
comp=E,68nm,1.3s
ORL Orlik 9.03 256 *e*Pn **Pn 02 24 39.6 +0.9**
ORL *e* 02 24 45.9
ORL *e* 02 24 53.8
ORL *e* 02 26 35.5
ORL *e*Sg Sn 02 27 08.9 +48
ORL max
comp=E,7.0nm,1.1s
ORL Smax
comp=E,42nm,1.4s
ORL Orlik 9.03 256 *e*P **Pn 02 24 37.6 -1.1**
ORL pmax pmax
comp=Z,5.0nm,0.5s
SONM Songino Array 9.17 215 Pn **Pn 02 24 41.9 +1.2**
comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=3.7
SONM Pg 02 25 10.8
comp=Z,0.3nm,0.3s,baz=25,slow=15,SNR=3.4
SONM Lg Lg 02 27 16.5
comp=Z,1.9nm,0.3s,baz=30,slow=27,SNR=8.0
TDJR Todzha 11.15 261 *e* 02 27 54.2
TDJR *e*Sg 02 28 13.8
KSRS Korea Array 20.37 147 LR LR 02 35 49.9
comp=Z,29nm,19.7s,baz=10.0,slow=39
MKAR Makanchi Array 21.71 259 P **P 02 27 19.2 -0.2**
comp=Z,0.7nm,0.8s,baz=66,slow=11,SNR=2.8
KURK Kurchatov 21.75 272 P **P 02 27 21.2 +1.5**
KURBB Kurchatov Arra 21.85 272 P **P 02 27 21.2 +0.5**
comp=Z,1.2nm,0.6s,baz=67,slow=11,SNR=4.3
BVAR Borovoye Array 25.40 283 P **P 02 27 56.1 +0.4**
comp=Z,0.6nm,0.5s,baz=74,slow=11,SNR=3.3
ILAR Eielson Array 45.06 37 P 02 30 51.7 +7.8
comp=Z,0.5nm,0.8s,baz=300,slow=9.9,SNR=4.1
WRA Warramunga Arr 77.15 161 P P 02 34 28.3 +6.2
comp=Z,0.5nm,0.8s,baz=353,slow=6.5,SNR=5.3

IDC 06 02:48:36.4±6.1, 56°.48S×151°.16W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/15, mbtmp3.5/2, Error ellipse: s-maj=669.9km s-min=84.4km az=170.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**62.33**	**269**	P	P	02 59 00.5	0.0
	0.4nm,0.6s,baz=138,slow=6.4,SNR=5.5						
H01W1	**Cape Leeuwin H**	**64.11**	**246**	T	T	04 09 17.8	
	baz=142						
H01W2	**Cape Leeuwin H**	**64.12**	**246**	T	T	04 09 15.6	
	baz=142						
H01W3	**Cape Leeuwin H**	**64.13**	**246**	T	T	04 09 12.9	
	baz=142						
WRA	**Warramunga Arr**	**65.06**	**271**	P	P	02 59 18.4	-0.1
	0.4nm,0.9s,baz=148,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**146.25**	**276**	PKPbc	PKPdf	03 08 16.9	+0.2
	0.9nm,0.7s,baz=113,slow=3.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**148.71**	**289**	PKPbc	PKPbc	03 08 23.8	-0.5
	0.5nm,0.5s,baz=121,slow=5.6,SNR=1.9						

IDC 06 03:04:52.4±2.6, 6°.60S×129°.85E, h130km±37km, mb3.5/1, mb1 3.1/5, mb1mx3.0/33, mbtmp3.5/5, Error ellipse: s-maj=69.0km s-min=16.6km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.86**	**14**	P	Pn	03 06 18.8	+1.7
	0.8nm,0.3s,baz=230,slow=22,SNR=9.1						
SIJI				S	Sn	03 07 22.7	-0.6
	1.8nm,0.3s,baz=107,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**12.15**	**199**	P	Pn	03 07 40.4	-0.8
	0.1nm,0.3s,baz=35,slow=13,SNR=11						
FITZ				S	Sn	03 09 47.5	-7.6
	0.3nm,0.3s,baz=187,slow=16,SNR=5.1						
WRA	**Warramunga Arr**	**13.96**	**162**	P	Pn	03 08 04.1	-0.6
	0.1nm,0.3s,baz=346,slow=13,SNR=9.4						
WRA				S	Sn	03 10 28.4	-11
	0.4nm,0.3s,baz=336,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.41**	**167**	P	Pn	03 08 47.5	+0.2
	0.1nm,0.3s,baz=344,slow=9.6,SNR=6.2						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	03 15 36.3	0.0
	0.5nm,0.4s,baz=130,slow=7.0,SNR=7.0						

IDC 06 03:20:02.0±7.8, 54°.72S×152°.12W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.5/2, Error ellipse: s-maj=685.9km s-min=85.1km az=167.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**61.84**	**268**	P	P	03 30 23.0	+0.1
	0.3nm,0.4s,baz=138,slow=6.8,SNR=6.7						
H01W1	**Cape Leeuwin H**	**64.35**	**245**	T	T	04 40 38.1	
	baz=141						
H01W2	**Cape Leeuwin H**	**64.36**	**245**	T	T	04 40 43.2	
	baz=141						
H01W3	**Cape Leeuwin H**	**64.37**	**245**	T	T	04 40 35.6	
	baz=141						
WRA	**Warramunga Arr**	**64.48**	**271**	P	P	03 30 40.2	-0.2
	0.5nm,1.0s,baz=138,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**145.47**	**280**	PKPbc	PKPdf	03 39 40.0	-1.0
	0.9nm,0.7s,baz=116,slow=4.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**147.57**	**293**	PKPbc	PKPbc	03 39 46.4	-0.6
	0.5nm,0.3s,baz=130,slow=2.3,SNR=2.4						

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*NNC **06** 03:58:07.8±3.8, 36°.65N×71°.20E, h108km±68km, mb3.2, mpv3.9, Error ellipse: s-maj=40.3km s-min=27.4km az=132.0*

ISC 06 03:58:06.9±3.4, 36°.6N±0°.2×71°.2E±0°.2, h100km, n10, σ0s77/13, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.87**	**19**	P	**Pn**	**03 59 31.9**	**+0.3**
	SNR=19						
UCH	**Uchtor**	**6.20**	**24**	P	**Pn**	**03 59 36.5**	**+0.3**
	SNR=5.7						
EKS2	**Erkin-Say**	**6.39**	**18**	P	**Pn**	**03 59 39.2**	**+0.7**
	SNR=15						
KK31	**Karatay Array**	**6.52**	**356**	⇓P	**Pn**	**03 59 40.4**	**+0.3**
	4.8nm,0.2s,baz=177,slow=13,SNR=143						
KK31				⇑S	**Sn**	**04 00 52.8**	**-0.2**
	1.4nm,0.3s,baz=186,slow=26,SNR=5.7						
AAK	**Ala-Archa**	**6.56**	**22**	⇓P	**Pn**	**03 59 41.2**	**+0.3**
	4.1nm,0.5s						
AAK				S	**Sn**	**04 00 55.4**	**+1.2**
	2.0nm,0.6s						
AAK	**Ala-Archa**	**6.56**	**22**	P	**Pn**	**03 59 41.5**	**+0.6**
	SNR=6.5						
USP	**Ospenovka**	**7.14**	**20**	P	**Pn**	**03 59 48.6**	**0.0**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.18**	**27**	⇓P	**Pn**	**03 59 49.1**	**-0.3**
	2.3nm,0.6s						
TKM2				S	**Sn**	**04 01 08.1**	**-1.3**
	1.7nm,0.7s						
AB31	**Akbulak array**	**15.06**	**331**	P	**Pn**	**04 01 33.1**	**-1.0**
	0.3nm,0.3s,baz=166,slow=11,SNR=15						
AKTO	**Aktyubinsk**	**16.76**	**330**	⇓P	**P**	**04 01 56.5**	**+0.6**
	1.8nm,0.8s						

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*IDC **06** 04:00:47.5±3.2, 56°.07S×27°.96W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, MS3.3/6, Ms1 3.3/6, ms1mx3.2/19, Error ellipse: s-maj=104.3km s-min=42.2km az=1.0*

*ISCJB **06** 04:00:52.2±0.9, 55°.1S±0°.2×27°.9W±0°.5, h10km, mb3.9/3, MS3.3/6, Error ellipse: s-maj=41.7km s-min=13.1km az=152.4*

ISC 06 04:00:54.0±1.0, 55°.1S±0°.2×28°.0W±0°.3, h10km, n11, σ0s84/7, mb4.1/3, MS3.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.02**	**161**	P	**P**	**04 05 05.1**	**+0.3**
VNA2	**Neumayer--Watz**	**18.23**	**158**	P	**P**	**04 05 07.6**	**+0.6**
	baz=316,slow=12						
SNAA	**Sanae**	**19.78**	**157**	P	**P**	**04 05 23.0**	**-1.1**
CPUP	**Villa Florida**	**35.85**	**311**	P	**P**	**04 07 54.3**	**+0.5**
	2.1nm,0.8s,baz=129,slow=14,SNR=4.4						
CPUP				LR	LR	04 21 16.4	
	comp=Z,47nm,20.3s,baz=206,slow=34						
MAW	**Mawson**	**41.17**	**144**	LR	LR	04 24 59.1	
	comp=Z,29nm,18.1s,baz=238,slow=36						
BOSA	**Boshof**	**46.20**	**77**	LR	LR	04 24 11.7	
	comp=Z,68nm,21.9s,baz=177,slow=30						
LPAZ	**La Paz**	**49.46**	**305**	P	**P**	**04 09 44.2**	**-0.8**
	1.6nm,0.6s,baz=180,slow=9.1,SNR=6.2						
LPAZ				LR	LR	04 29 59.5	
	comp=Z,19nm,21.0s,baz=144,slow=35						
NNA	**Nana**	**57.40**	**299**	LR	LR	04 33 53.8	
	comp=Z,44nm,20.2s,baz=172,slow=34						
PTGA	**Pitinga**	**60.15**	**322**	LR	LR	04 39 14.9	
	comp=Z,29nm,19.4s,baz=155,slow=38						
TORD	**Torodi Ar. Bea**	**72.47**	**30**	P	**P**	**04 12 20.5**	**-0.1**
	0.3nm,0.8s,baz=204,slow=5.5,SNR=2.4						
ILAR	**Eielson Array**	**149.15**	**313**	PKPbc	**PKPdf**	**04 20 37.4**	**+0.6**
	1.7nm,0.9s,baz=116,slow=2.1,SNR=14						

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*ISCJB **06** 04:00:59.0±0.4, 50°.32N±0°.02×18°.85E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=2.4km az=23.2*

*VIE **06** 04:01:01.7±1.9, 50°.31N×18°.75E, h0km, mb2.3/2, ml2.7/5, Error ellipse: s-maj=14.9km s-min=12.1km az=85.0 18 km WNW of Katowice Suspected Mining induced.*

*PRU **06** 04:01:01.0±0.0, 50°.31N×18°.84E, h0km*

*IDC **06** 04:01:01.8±2.2, 50°.09N×18°.97E, h0km, mb1 3.5/5, mb1mx3.2/38, mbtmp3.4/5, ML2.6/5, Error ellipse: s-maj=35.8km s-min=8.3km az=128.0*

ISC 06 04:00:59.5±0.7, 50°.30N±0°.03×18°.93E±0°.02, h0km, n36, σ1s24/72, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.52**	**245**	*e*Pg	**Pb**	**04 01 11.8**	**+0.3**
RAC				*e*Pg	**Pb**	**04 01 11.8**	**+0.3**
RAC				*e*Sg	**Sb**	**04 01 19.3**	**-0.2**
RAC				*e*Sg	**Sb**	**04 01 19.3**	**-0.2**
OJC	**Ojcow**	**0.57**	**98**	*e*Pg	**Pb**	**04 01 12.4**	**+0.1**
OJC				*e*Pg	**Pb**	**04 01 12.4**	**+0.1**
OJC				*e*Sg	**Sb**	**04 01 21.3**	**+0.4**
OJC				*e*Sg	**Sb**	**04 01 21.3**	**+0.4**
OKC	**Ostrava-Krasne**	**0.68**	**228**	*e*PG	**Pb**	**04 01 13.8**	**-0.5**
OKC				*e*SG	**Sg**	**04 01 21.9**	**+0.5**
	comp=Z,83nm,0.5s						
MORC	**Moravsky Berou**	**1.03**	**240**	*e*PG	**Pb**	**04 01 20.0**	**-0.3**
MORC				*e*SG	**Sg**	**04 01 33.3**	**+0.6**
LANS	**Liptovska Anna**	**1.21**	**163**	*e*PG	**Pn**	**04 01 23.9**	**+0.3**
LANS				*e*SG	**Sn**	**04 01 40.5**	**-0.2**
LANS				*e*LG	Lg	04 01 41.2	
NIE	**Niedzica**	**1.25**	**134**	*e*Pg	**Pn**	**04 01 24.4**	**+0.1**
NIE				*e*Pg	**Pn**	**04 01 24.4**	**+0.1**
NIE				*e*Sg	**Sn**	**04 01 42.6**	**+0.7**
NIE				*e*Sg	**Sn**	**04 01 42.6**	**+0.7**
KRLC	**Kraliky**	**1.40**	**261**	*e*PG	**Pg**	**04 01 26.2**	**0.0**
KRLC				*e*SG	**Sg**	**04 01 44.1**	**-0.2**
	comp=Z,17nm,0.3s						
JAVC	**Velka Javorina**	**1.66**	**210**	*e*PN	**Pb**	**04 01 30.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.67**	**273**	*e*PG	**Pb**	**04 01 30.9**	**-0.2**
DPC				*e*SG	**Sg**	**04 01 53.3**	**+0.2**
	comp=Z,56nm,0.5s						
KSP	**Ksiaz**	**1.76**	**289**	*e*Pb	**Pb**	**04 01 32.3**	**-0.4**
KSP				*e*Pb	**Pb**	**04 01 32.3**	**-0.4**
KSP				*i* Pg	**Pg**	**04 01 34.7**	**+1.4**
KSP				*i* Pg	**Pg**	**04 01 34.7**	**+1.4**
KSP				*e*Sg	**Sg**	**04 01 57.8**	**+1.7**
KSP				*e*Sg	**Sg**	**04 01 57.8**	**+1.7**
VRAC	**Vranov**	**1.81**	**238**	Pn	**Pb**	**04 01 32.9**	**-0.5**
	2.7nm,0.3s,baz=58,slow=14,SNR=15						
VRAC				Lg	Lg	04 01 56.3	
	10nm,0.3s,baz=138,slow=21,SNR=16						
VRAC	**Vranov**	**1.81**	**238**	*e*PN	**Pb**	**04 01 32.9**	**-0.5**
VRAC				*e*SG	**Sb**	**04 01 56.1**	**-0.6**
VYHS	**Vyhne**	**1.81**	**182**	*e*PN	**Pn**	**04 01 32.2**	**+0.3**
VYHS				*e*SN	**Sn**	**04 01 55.1**	**-0.5**
CHVC	**Chvalec**	**1.86**	**280**	*e*PG	**Pb**	**04 01 33.8**	**-0.5**
UPC	**Upice**	**1.88**	**277**	*e*PG	**Pg**	**04 01 35.7**	**+0.3**
UPC				*e*SG	**Sg**	**04 01 59.7**	**0.0**
	comp=Z,26nm,0.4s						
SMOL	**Smolenice**	**2.04**	**209**	*e*PN	**Pn**	**04 01 35.9**	**+0.8**
SMOL				*e*SN	**Sn**	**04 02 00.9**	**-0.3**
SMOL				*e*LG	Lg	04 02 08.2	
KRUC	**Moravsky**	**2.06**	**234**	*e*PN	**Pn**	**04 01 35.0**	**-0.3**
KRUC				*e*SG	**Sb**	**04 02 03.6**	**-0.3**
KECS	**Kecovo**	**2.09**	**150**	*e*PN	**Pn**	**04 01 35.9**	**+0.2**
KECS				*e*SN	**Sn**	**04 02 02.8**	**+0.5**
KECS				*e*LG	Lg	04 02 12.1	
MODS	**Modra-Piesok**	**2.21**	**210**	*e*PN	**Pn**	**04 01 37.9**	**+0.5**
SRO	**Srobarova**	**2.52**	**189**	*e*SG	**Sg**	**04 02 21.0**	**+0.5**
KOLS	**Kolonicke sedl**	**2.57**	**121**	*e*PN	**Pn**	**04 01 43.7**	**+1.3**
KOLS				*e*		04 01 50.9	
KOLS	**Kolonicke sedl**	**2.57**	**121**	*e*SN	**Sn**	**04 02 14.5**	**+0.1**
GOPC	**GO Pecny, Ondr**	**2.69**	**263**	*e*PG	**Pb**	**04 01 48.3**	**-0.2**
PRU	**Pruhonice**	**2.84**	**265**	*e*PN	**Pn**	**04 01 46.8**	**+0.8**
PRU				*e*PG	**Pb**	**04 01 51.5**	**+0.5**
PRU				*e*SG	**Sb**	**04 02 28.0**	**+1.8**
	comp=Z,8.1nm,0.4s						
CONA	**Conrad Observa**	**3.11**	**221**	Pg	**Pg**	**04 01 58.3**	**-0.8**
	1.5nm,0.3s						
CONA				*e*Sn	**Sn**	**04 02 27.4**	**-0.4**
	4.6nm,0.3s						
BRG	**Berggiesshubel**	**3.23**	**282**	PG	**Pg**	**04 02 02.9**	**+1.6**
BRG				SG	**Sg**	**04 02 43.1**	**0.0**
	16nm,0.5s						

KHC	**Kasperske Hory**	**3.66 253**	*e*PN	**Pn**	**04 01 57.9**	**+0.5**
KHC			*e*PG	**Pb**	**04 02 05.8**	**+0.7**
KHC			*e*SG	**Sg**	**04 02 54.9**	**-2.2**
	comp=Z,19nm,0.5s					
GERES	**GERESS Array B**	**3.70 249**	Pn	**Pn**	**04 01 59.4**	**+1.5**
	0.4nm,0.3s,baz=65,slow=14,SNR=2.3					
GERES			Pg	**Pb**	**04 02 07.5**	**+1.7**
	0.7nm,0.3s,baz=67,slow=17,SNR=5.7					
GERES			Lg	Lg	04 02 54.1	
	4.9nm,0.3s,baz=60,slow=30,SNR=7.6					
ARSA	**Arzberg**	**3.79 218**	*e*Pn	**Pn**	**04 02 02.7**	**+3.5**
	0.6nm,0.2s					
CLL	**Collm**	**3.89 287**	*e*Pg	**Pg**	**04 02 16.0**	**+2.0**
CLL			*e*Sg	**Sg**	**04 03 04.0**	**-0.4**
	comp=Z,14nm,0.5s					
MOA	**Molln**	**3.92 233**	*e*Pn	**Pn**	**04 02 01.0**	**0.0**
	comp=Z,0.2nm,0.1s					
MOA			Sg	**Sg**	**04 03 02.9**	**-2.6**
	comp=Z,11nm,0.5s					
BSD	**Bornholm Skovb**	**5.40 335**	*i* P	**Pn**	**04 02 22.4**	**+1.2**
BSD			*i* S	**Sn**	**04 03 20.0**	**-4.0**
HFS	**Hagfors**	**10.29 345**	Pn	**Pn**	**04 03 29.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=156,slow=19,SNR=2.7					
NOA	**NORSAR Array B**	**11.60 341**	Pn	**Pn**	**04 03 44.9**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=159,slow=12,SNR=2.8					
FINES	**FINESS Array B**	**11.86 17**	Pn	**Pn**	**04 03 48.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=11					
FINES			Sn	**Sn**	**04 05 57.4**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=198,slow=22,SNR=3.9					
ARCES	**ARCESS Array B**	**19.55 7**	Pn	**P**	**04 05 28.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=196,slow=8.4,SNR=4.8					

MOS ***06*** *04:16:15.0±1.0, 26°.38N×93°.61E, h33km, mb5.5/60, MS4.7/10, Error ellipse: s-maj=6.2km s-min=3.7km az=119.3*

ISCJB ***06*** *04:16:16.8±0.3, 26°.43N±0°.02×93°.59E±0°.02, h48km±2km, mb5.3/152, MS4.6/44, Error ellipse: s-maj=2.6km s-min=2.3km az=2.1*

NEIC ***06*** *04:16:16.1±1.9, 26°.41N±0°.05×93°.65E±0°.05, h34km±2km, mb5.4/176*

IDC ***06*** *04:16:17.6±1.8, 26°.44N×93°.61E, h38km±14km, mb4.9/30, mb1 5.0/32, mb1mx4.9/37, mbtmp5.1/32, ML4.7/2, MS4.5/25, Ms1 4.5/25, ms1mx4.3/34, Error ellipse: s-maj=11.6km s-min=9.5km az=59.0*

BJI ***06*** *04:16:17.2±0.0, 26°.50N×93°.60E, h40km, mb5.2/77, mB5.2/57, Ms5.1/85, Ms7 4.9/79*

NDI ***06*** *04:16:18.0±3.8, 26°.47N×93°.60E, h34km±8km, mb5.3, ML5.2, mb5.4(NEIC)*

GCMT ***06*** *04:16:19.1±0.2, 26°.39N±0°.01×93°.74E±0°.01, h36km±1km, MW5.3/119, Moment Tensor Solution. s71,c88; s119,c200; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.39±.02; $M_{\theta\theta}$-0.92±.02; $M_{\phi\phi}$0.52±.02; $M_{r\theta}$-0.15±.03; $M_{r\phi}$0.45±.02; $M_{\theta\phi}$0.44±.03; Best double couple: $M_0$1.01600×10^{17} NP1:ϕ_s324.00000°, δ73.00000°, λ145.00000°. NP2:ϕ_s66.00000°, δ56.00000°, λ20.00000°. Principal axes: T 0.9370, Plg37.0000°, Azm280.0000°; N 0.1580, Plg51.0000°, Azm122.0000°; P -1.0950, Plg11.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 04:16:17.2±0.2, 26°.42N±0°.02×93°.58E±0°.02, h39km±2km, h39km:pP-P, n863, σ1§57/918, mb5.4/221, MS4.6/44, 46C-41D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JORH	**JORHAT**	**0.68**	**61**	*e*P	**Pn**	**04 16 30.9**	**+0.6**
JORH				*e*S	**Sn**	**04 16 40.6**	**+0.8**
JORH				IAML		04 16 42.5	
	comp=N,237μm,0.3s						
ITAN	**ITANAGAR**	**0.74**	**10**	*e*P	**Pn**	**04 16 32.1**	**+1.0**
ITAN				*e*S	**Sn**	**04 16 42.6**	**+1.5**
ITAN				IAML		04 16 44.1	
	comp=N,105μm,0.2s						
ITAN				IAML		04 16 44.5	
	comp=E,91μm,0.3s						
KOHI	**KOHIMA**	**0.84**	**146**	*e*P	**Pn**	**04 16 34.4**	**+1.7**
KOHI				IAML		04 16 47.8	
	comp=N,145μm,0.2s						
MOKO	**MOKOCHONG**	**0.84**	**96**	*e*P	**Pn**	**04 16 33.7**	**+1.0**
MOKO				*e*S	**Sn**	**04 16 45.4**	**+1.4**
MOKO				IAML		04 16 47.6	
	comp=N,102μm,0.4s						
ZIRO	**ZIRO**	**1.13**	**12**	*e*P	**Pn**	**04 16 37.5**	**+0.8**
ZIRO				*e*S	**Sn**	**04 16 52.0**	**+0.9**
ZIRO				IAML		04 16 54.9	
	comp=N,65μm,0.3s						
IMP	**Imphal**	**1.61**	**168**	*e*P	**Pn**	**04 16 45.7**	**+2.5**
IMP				IAML		04 17 01.2	
	comp=N,392μm,1.2s						
GUWA	**GUWAHATI**	**1.71**	**263**	*e*P	**Pn**	**04 16 46.2**	**+1.8**
GUWA				*e*S	**Sn**	**04 17 05.8**	**+0.7**
GUWA				IAML		04 17 07.2	
	comp=N,26μm,0.3s						
GUWA				IAML		04 17 08.2	
	comp=E,21μm,0.3s						
SHL	**Shillong**	**1.75**	**241**	P	**Pn**	**04 16 44.9**	**-0.2**
SHL						04 17 07.4	
SHL	**Shillong**	**1.75**	**241**	*e*P	**Pn**	**04 16 47.0**	**+1.8**
SHL				*e*S	**Sn**	**04 17 07.4**	**+1.1**
SHL				IAML		04 17 08.4	
	comp=N,35μm,0.3s						
SHL				IAML		04 17 22.3	
	comp=E,19μm,0.4s						
SHL	**Shillong**	**1.75**	**241**		**Pn**	**04 16 44.9**	**-0.2**
SHL				Sn	**Sn**	**04 17 07.4**	**+1.1**
SILR	**SILCHAR**	**1.77**	**204**	*e*P	**Pn**	**04 16 48.6**	**+3.3**
SILR				*e*x	**Sn**	**04 17 05.0**	**-1.6**
SILR				IAML		04 17 06.6	
	comp=N,58μm,0.5s						
LKP	**Lekhapani**	**2.22**	**65**	*e*P	**Pn**	**04 16 52.8**	**+1.3**
LKP				*e*S	**Sn**	**04 17 17.5**	**-0.1**
LKP				IAML		04 17 20.1	
	comp=N,30μm,0.1s						
AZL	**Aizawl**	**2.79**	**197**	*e*P	**Pn**	**04 17 01.2**	**+1.9**
AZL				*e*S	**Sn**	**04 17 33.6**	**+1.8**
AZL				*e*S		04 17 34.2	
AZL				IAML		04 17 36.0	
	comp=N,15μm,0.4s						
AGT	**Agartala**	**3.29**	**220**	*e*P	**Pn**	**04 17 08.5**	**+2.4**
AGT				*e*S	**Sn**	**04 17 46.5**	**+2.4**
AGT				IAML		04 17 49.6	
	comp=N,20μm,0.5s						
BELO	**BELONIA**	**3.70**	**212**	*e*P	**Pn**	**04 17 13.9**	**+2.1**
BELO				*e*S	**Sn**	**04 17 55.6**	**+1.4**
BELO				IAML		04 17 58.9	
LSA	**Lhasa**	**3.91**	**327**	P	**Pn**	**04 17 18.8**	**+3.6**
LSA				LR	LR		
	comp=N,6μm,5.0s						
LSA				LR	LR		
	comp=N,16μm,6.1s						
LSA				LR	LR		
	comp=N,19μm,7.1s						
LSA	**Lhasa**	**3.91**	**327**	*i* P	**Pn**	**04 17 18.5**	**+3.4**
	SNR=21						
LSA	**Lhasa**	**3.91**	**327**	P	**Pn**	**04 17 15.8**	**+0.6**
LSA	**Lhasa**	**3.91**	**327**		**Pn**	**04 17 15.8**	**+0.6**
SAIH	**SAIHA**	**3.95**	**188**	*e*P	**Pn**	**04 17 16.7**	**+1.4**
BRDH	**Bariadhala**	**4.12**	**206**	Pn	**Pn**	**04 17 20.0**	**+2.4**
	comp=N,15nm,0.3s,baz=308,slow=20,SNR=538						
BRDH				Sn	**Sn**	**04 18 05.6**	**+1.1**
	comp=N,37nm,0.3s,baz=356,slow=24,SNR=44						
GTK	**Tadong**	**4.54**	**283**	*e*x	**Pn**	**04 17 24.9**	**+1.4**
GTK				*e*x	**Sn**	**04 18 18.0**	**+3.0**
GTK				IAML		04 18 20.1	
	comp=N,4μm,0.7s						
TAPN	**Taplejung**	**5.33**	**281**	*e*Pn	**Pn**	**04 17 35.5**	**+1.1**
ODAN	**Odare**	**5.56**	**276**	*e*Pn	**Pn**	**04 17 38.8**	**+1.2**
ODAN				*e*Sn	**Sn**	**04 18 41.0**	**+0.7**
	comp=N,2μm,0.3s						
RAMN	**Ramite**	**6.27**	**276**	*e*Pn	**Pn**	**04 17 48.5**	**+1.2**
SIMRM	**Sittwe**	**6.29**	**186**		**Pn**	**04 17 46.0**	**-1.3**
SIMRM				Sn	**Sn**	**04 19 00.5**	**+2.5**
JIRN	**Jiri**	**6.71**	**282**	*e*Pn	**Pn**	**04 17 54.3**	**+0.8**
GUN	**Gumba**	**7.02**	**284**	*e*Pn	**Pn**	**04 17 58.5**	**+0.8**
PKI	**Pulchoki**	**7.38**	**281**	*e*Pn	**Pn**	**04 18 02.9**	**+0.2**
PKIN	**Phulchoki**	**7.39**	**281**	*e*Pn	**Pn**	**04 18 03.0**	**+0.2**
BOK	**Bokaro**	**7.45**	**251**	*e*P	**Pn**	**04 18 03.6**	**+0.3**
BOK				IAmb	IAmb	04 18 06.5	
	comp=Z,309nm,0.7s						
BOK				*e*S	**Sn**	**04 19 22.2**	**-4.4**
KKN	**Kakani**	**7.52**	**282**	*e*Pn	**Pn**	**04 18 04.7**	**+0.2**
KKN				*e*Sn	**Sn**	**04 19 26.9**	**-1.8**
	comp=Z,808nm,0.2s						
DMN	**Daman**	**7.65**	**281**	*e*Pn	**Pn**	**04 18 06.4**	**+0.1**
GKN	**Gorkha**	**8.12**	**283**	*e*Pn	**Pn**	**04 18 12.8**	**+0.2**
GKN				*e*Sn	**Sn**	**04 19 40.6**	**-2.6**
	comp=Z,511nm,0.3s						
KMI	**Kunming**	**8.36**	**97**	P	**Pn**	**04 18 19.1**	**+3.1**
KMI				pP		04 18 25.1	
KMI				sP		04 18 33.2	
KMI				S	**Sn**	**04 19 50.8**	**+1.6**
KMI				pmax	pmax		
	comp=Z,88nm,1.0s						
KMI				pmax	pmax		
	comp=Z,160nm,3.1s						
KMI				LR	LR		
	comp=Z,3μm,11.7s						
KMI				LR	LR		
	comp=Z,5μm,12.6s						
KMI				LR	LR		
	comp=Z,6μm,19.5s						
KMI	**Kunming**	**8.36**	**97**	P	**Pn**	**04 18 14.8**	**-1.2**
KMI	**Kunming**	**8.36**	**97**		**Pn**	**04 18 14.8**	**-1.2**
VLK	**Valmikinagar**	**8.72**	**278**	*e*P	**Pn**	**04 18 23.0**	**+2.3**
DANN	**Dangsing**	**8.94**	**285**	*e*Pn	**Pn**	**04 18 22.9**	**-1.1**
KOLN	**Koldanda**	**9.00**	**281**	*e*Pn	**Pn**	**04 18 24.1**	**-0.6**
CHTO	**Chiang Mai**	**9.04**	**146**	P	**Pn**	**04 18 29.4**	**+4.2**
	SNR=13						
CHTO	**Chiang Mai**	**9.04**	**146**	P	**Pn**	**04 18 23.3**	**-1.9**
CHTO	**Chiang Mai**	**9.04**	**146**		**Pn**	**04 18 23.3**	**-1.9**
CMMT	**Chiang Mai**	**9.04**	**146**	P	**Pn**	**04 18 27.7**	**+2.5**
	comp=Z,25nm,1.1s,comp=Z,496nm						
PAYA	**Payao**	**9.10**	**139**	P	**Pn**	**04 18 29.8**	**+3.7**
	comp=Z,185μm,0.7s						
MHMT	**Maesarieng**	**9.13**	**153**	P	**Pn**	**04 18 29.8**	**+3.3**
	comp=Z,184nm,0.7s,comp=Z,2μm						
CM31	**Chiang Mai Arr**	**9.34**	**147**	P	**Pn**	**04 18 33.7**	**+4.4**
	SNR=10						
CM31	**Chiang Mai Arr**	**9.34**	**147**		**Pn**	**04 18 28.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**9.34**	**147**	Pn	**Pn**	**04 18 30.4**	**+1.1**
	comp=Z,5.2nm,0.3s,baz=339,slow=12,SNR=36						
CMAR				LR	LR	04 22 32.6	
	comp=Z,2μm,21.9s,baz=338,slow=40						
CMAR				ScP	**ScP**	**04 28 16.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=290,slow=2.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**9.34**	**147**		**Pn**	**04 18 27.7**	**-1.6**
LAMP	**Lampang**	**9.64**	**143**	P	**Pn**	**04 18 36.4**	**+3.0**
	comp=Z,201μm,0.6s						
CD2	**Chengdu**	**9.99**	**61**	P	**Pn**	**04 18 38.4**	**+0.2**
CD2				PP	**PnPn**	**04 18 49.5**	**+3.5**
CD2				S	**Sn**	**04 20 26.6**	**-2.5**
CD2				sS		04 20 39.4	
CD2				SS	**SnSn**	**04 20 44.6**	**+3.6**
CD2				pmax	pmax		
	comp=Z,130nm,0.7s						
CD2				pmax	pmax		
	comp=Z,470nm,5.7s						
CD2				LR	LR		
	comp=Z,14μm,5.7s						
CD2				LR	LR		
	comp=Z,7μm,4.3s						
CD2				LR	LR		
	comp=Z,10μm,17.1s						
SLVN	**Son La**	**10.71**	**116**		**Pn**	**04 18 47.4**	**-0.8**
UMPA	**Umpang Tak**	**11.29**	**153**	P	**Pn**	**04 19 00.7**	**+4.7**
	comp=Z,138μm,0.6s						
GYA	**Guiyang**	**11.72**	**87**	⇑*i* P	**Pn**	**04 19 01.7**	**-0.3**
GYA				sP		04 19 15.9	
GYA				S	**Sn**	**04 21 10.2**	**-1.5**
GYA				SS	**SnSn**	**04 21 23.5**	**-0.1**
GYA				pmax	pmax		
	comp=Z,30nm,0.9s						
GYA				pmax	pmax		
	comp=Z,100nm,4.5s						
GYA				LR	LR		
	comp=Z,2μm,10.2s						
GYA				LR	LR		
	comp=Z,2μm,13.9s						
GYA				LR	LR		
	comp=Z,3μm,17.6s						
PBKT	**Sadao Pong**	**11.97**	**144**	P	**Pn**	**04 19 08.3**	**+3.1**
	comp=Z,17nm,0.8s,comp=Z,2μm						
PBKT	**Sadao Pong**	**11.97**	**144**		**Pn**	**04 19 02.9**	**-2.3**
UTHA	**Uthaitani**	**12.11**	**152**	P	**Pn**	**04 19 09.4**	**+2.2**
	comp=Z,225μm,1.1s						
NONG	**Nongkai**	**12.14**	**131**	P	**P**	**04 19 23.4**	**+3.8**
KHLT	**Khaolaem Dam**	**12.47**	**157**	P	**Pn**	**04 19 11.6**	**-0.6**
	comp=Z,155nm,1.2s,comp=Z,4μm						
JBP	**Jabalpur**	**12.77**	**258**	*e*P	**Pn**	**04 19 17.1**	**+0.9**
JBP				*e*x	**Sn**	**04 21 30.5**	**-6.5**
JBP				AML	AML	04 22 28.8	
	comp=Z,659nm,0.6s						
VIS	**Vishakhapatnam**	**12.85**	**230**	*i* P	**Pn**	**04 19 18.2**	**+1.0**
LZH	**Lanzhou**	**13.03**	**40**	⇓P	**Pn**	**04 19 18.7**	**-1.1**
LZH				sP	P	04 19 31.3	+1.8
LZH				*e*S	**Sn**	**04 21 42.4**	**-1.1**
LZH				SS	**SnSn**	**04 22 00.5**	**+4.5**
LZH				pmax	pmax		
	comp=Z,320nm,1.0s						
LZH				pmax	pmax		
	comp=Z,620nm,4.1s						
LZH				LR	LR		
	comp=Z,5μm,11.4s						
LZH				LR	LR		
	comp=Z,8μm,10.3s						
LZH				LR	LR		
	comp=Z,9μm,13.0s						
CHAI	**Chaiyaphum**	**13.07**	**142**	P	**Pn**	**04 19 23.1**	**+2.8**
	comp=Z,63μm,0.9s						
SRDT	**SRDT**	**13.08**	**156**	P	**Pn**	**04 19 21.4**	**+1.0**
	comp=Z,79nm,0.7s,comp=Z,5μm						
JHNI	**Jhansi**	**13.57**	**269**	*e*x	Pn	04 19 21.0	-6.1
JHNI				*e*x	Sn	04 21 43.0	-14
GTA	**Gaotai**	**13.97**	**20**	⇓P	**Pn**	**04 19 29.8**	**-2.8**
GTA				pP	P	04 19 40.0	+0.1
GTA				sP		04 19 44.1	
GTA				S	**Sn**	**04 22 03.7**	**-2.7**
GTA				SS	**SnSn**	**04 22 20.6**	**+1.4**
GTA				ScP	**ScP**	**04 28 23.8**	**+1.1**
GTA				ScS	**ScS**	**04 31 59.6**	**-0.4**
GTA				pmax	pmax		
	comp=Z,91nm,1.5s						
GTA				pmax	pmax		
	comp=Z,510nm,8.3s						
GTA				LR	LR		
	comp=Z,4μm,16.5s						
GTA				LR	LR		
	comp=Z,2μm,15.9s						
GTA				LR	LR		
	comp=Z,6μm,17.1s						
NGP	**Nagpur**	**14.29**	**252**	*e*x	P	04 19 33.2	-10
ENH	**Enshi**	**14.52**	**71**		**Pn**	**04 19 38.1**	**-2.0**
PHET	**Kaeng Krachan**	**14.59**	**156**	P	**Pn**	**04 19 43.4**	**+2.4**
	comp=Z,269μm,0.8s						
NDI	**New Delhi**	**14.69**	**283**	*e*x	Pn	04 19 37.0	-5.3
PBA	**Port Blair**	**14.71**	**183**		Pn	04 19 41.1	-1.4
PBA					Sn	04 22 22.2	-2.1
BHPL	**Bhopal**	**15.01**	**261**	*e*x	**Pn**	**04 19 42.7**	**-3.9**
PATY	**Pattaya**	**15.07**	**152**	P	**P**	**04 19 50.3**	**-1.8**
	comp=Z,175μm,1.0s						
SMLA	**Simla**	**15.14**	**292**	*e*x	**Pn**	**04 19 43.2**	**-5.0**
XAN	**Xi'an**	**15.27**	**57**	P	**Pn**	**04 19 47.2**	**-2.8**
XAN				pP	P	04 19 54.8	+0.5
XAN				pmax	pmax		
	comp=Z,110nm,0.7s						
XAN				pmax	pmax		
	comp=Z,480nm,4.8s						
XAN				LR	LR		
	comp=Z,42μm,14.0s						
XAN	**Xi'an**	**15.27**	**57**	P	**Pn**	**04 19 46.8**	**-3.2**
XAN				pmax	pmax		
	comp=Z,90nm,0.9s						
XAN	**Xi'an**	**15.27**	**57**		**Pn**	**04 19 46.8**	**-3.2**
HYB	**Hyderabad**	**16.56**	**240**	*i* P	**Pn**	**04 20 05.0**	**-1.6**
	comp=Z,420nm,1.0s						
HYB				*e*S	Sn	04 22 52.0	-17
HYB	**Hyderabad**	**16.56**	**240**	*e*x	**Pn**	**04 20 05.2**	**-1.4**
HYB				IAmb	IAmb	04 20 12.9	
	comp=Z,249nm,1.0s						
QIZ	**Qiongzhong**	**16.70**	**113**	P	P	04 20 20.8	+11
QIZ				S	**S**	**04 23 27.0**	**+4.4**
QIZ				LR	LR		
	comp=N,2μm,14.7s						
QIZ				LR	LR		
	comp=E,1μm,17.2s						
QIZ				LR	LR		
	comp=Z,1μm,12.3s						
AJM	**Ajmer**	**16.96**	**274**	*e*P	**Pn**	**04 20 08.0**	**-3.6**
AJM				*e*x	x	04 23 03.0	
WMQ	**Urumqi**	**18.01**	**346**	P	**P**	**04 20 26.5**	**+1.9**
WMQ				pP	sP	04 20 37.7	-2.3
WMQ				sP	pP	04 20 40.7	+6.3
WMQ				S	**Sn**	**04 23 42.6**	**-1.7**
WMQ				SS	**SnSn**	**04 24 05.1**	**+6.7**
WMQ				pmax	pmax		
	comp=Z,160nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,280nm,3.8s						
WMQ				LR	LR		
	comp=Z,1μm,18.1s						
WMQ				LR	LR		
	comp=Z,3μm,15.3s						
WMQ				LR	LR		
	comp=Z,2μm,19.9s						
WMQ	**Urumqi**	**18.01**	**346**	P	**Pn**	**04 20 23.6**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,230nm,0.9s						
WMQ	**Urumqi**	**18.01**	**346**	P	**Pn**	**04 20 23.6**	**-0.8**
WMQ				IAmb	IAmb	04 20 41.4	
	comp=Z,230nm,0.9s						
SURT	**Suratani**	**18.05**	**163**	P	**P**	**04 20 26.9**	**+1.7**
	comp=Z,88nm,1.4s,comp=Z,1μm						
WHN	**Wuhan**	**18.71**	**72**	⇓P	**P**	**04 20 29.6**	**-2.7**
WHN				S	**Sn**	**04 23 56.2**	**-5.1**
WHN				pmax	pmax		
	comp=Z,95nm,1.0s						
WHN				LR	LR		
	comp=Z,3μm,5.6s						
WHN				LR	LR		
	comp=Z,11μm,18.4s						
WHN				LR	LR		
	comp=Z,10μm,15.1s						
PKDT	**Phuket**	**18.97**	**165**	P	Pn	04 20 44.2	+8.0
CHCP	**Chirah Chowk**	**19.00**	**297**	P	**P**	**04 20 33.6**	**-1.9**
NIL	**Nilore**	**19.00**	**297**	P	**P**	**04 20 33.4**	**-2.2**
NIL				pmax	pmax		
	comp=Z,482nm,1.0s						
NIL	**Nilore**	**19.00**	**297**	P	**P**	**04 20 33.4**	**-2.2**
NIL				IAmb	IAmb	04 20 53.0	
	comp=Z,482nm,0.9s						
SARP	**Sargodha**	**19.06**	**292**	P	**P**	**04 20 34.1**	**-2.0**
TRTT	**Trang**	**19.37**	**161**	P	**Pn**	**04 20 41.4**	**+0.4**
	comp=Z,75nm,0.6s,comp=Z,1μm						
TIY	**Taiyuan**	**19.51**	**50**	*e*P	**P**	**04 20 41.8**	**+0.7**
TIY				pP	**pP**	**04 20 53.4**	**+2.4**
TIY				sP	**sP**	**04 20 58.8**	**+2.8**
TIY				S	**S**	**04 24 15.2**	**-4.3**
TIY				sS	**sS**	**04 24 30.0**	**-5.3**
TIY				SS	**SnSn**	**04 24 39.1**	**+4.0**
TIY				pmax	pmax		
	comp=Z,80nm,1.0s						
TIY				pmax	pmax		
	comp=Z,850nm,4.3s						
TIY				LR	LR		
	comp=Z,1μm,6.8s						
TIY				LR	LR		
	comp=Z,1μm,7.5s						
TIY				LR	LR		
	comp=Z,3μm,18.0s						
BTO	**Baotou**	**19.65**	**40**	*e*P	**P**	**04 20 41.9**	**-0.8**
KSH	**Kashi**	**19.68**	**316**	P	**Pn**	**04 20 44.7**	**+0.1**
KSH				PP	**PnPn**	**04 21 04.7**	**+5.8**
KSH				S	**S**	**04 24 17.7**	**-5.2**
KSH				sS	sS	04 24 31.9	-7.1
KSH				SS	**SnSn**	**04 24 45.6**	**+6.3**
KSH				pmax	pmax		
	comp=Z,350nm,0.8s						
KSH				pmax	pmax		
	comp=Z,3μm,5.3s						
KSH				LR	LR		
	comp=Z,2μm,15.5s						
KSH				LR	LR		
	comp=Z,2μm,14.4s						
KSH				LR	LR		
	comp=Z,930nm,19.3s						
THW	**Thamme Wali**	**20.01**	**294**	P	**P**	**04 20 47.0**	**+0.4**
TARG	**Taragay, Kyrgy**	**20.05**	**324**	IAmb	IAmb	04 21 06.1	
	comp=Z,238nm,1.0s						
DLV	**T Lat**	**20.11**	**133**	P	**P**	**04 20 44.5**	**-3.3**
CEP	**Cherat**	**20.13**	**297**	P	**P**	**04 20 47.3**	**-0.7**
CEP				S	S	04 24 18.0	-14
KAD	**Karad**	**20.14**	**247**	*e*x	**P**	**04 20 50.0**	**+1.9**
KAD				*e*x	S	04 24 18.0	-14
SKLT	**Songkhla**	**20.28**	**159**	P	Pn	04 20 51.3	-0.4
	comp=Z,52nm,1.2s,comp=Z,744nm						
PRZ	**Przheval'sk**	**20.29**	**326**	IAmb	IAmb	04 21 07.4	
	comp=Z,287nm,1.1s						
PDGK	**Podgornoye**	**20.40**	**329**	P	Pn	04 20 52.1	-1.1
PDGK				pmax	pmax		
	comp=Z,129nm,1.4s						
KDJ	**Kajisay**	**20.66**	**323**	IAmb	IAmb	04 21 00.8	
	comp=Z,98nm,0.7s						
ULHL	**Ulahol**	**21.25**	**322**	P	**P**	**04 21 02.8**	**+2.6**
	SNR=16						
LHMI	**Lhok Sumawe**	**21.31**	**171**	P	**P**	**04 21 06.5**	**+5.8**
LHMI	**Lhok Sumawe**	**21.31**	**171**	P	**P**	**04 20 59.2**	**-1.5**
BOOM	**Boomskoye usch**	**21.58**	**322**	IAmb	IAmb	04 21 06.6	
	comp=Z,130nm,0.7s						
KZA	**Kyzart**	**21.69**	**321**	P	**P**	**04 21 07.4**	**+2.3**
	SNR=25						
BHUJ	**Bhuj**	**21.93**	**267**	⇑*i* P	**P**	**04 21 09.2**	**+1.8**
TKM2	**Tokmak 2**	**22.06**	**323**	*i* P	**P**	**04 21 08.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,336nm,1.3s						
TKM2	**Tokmak 2**	**22.06**	**323**	P	**P**	**04 21 10.4**	**+1.6**
	SNR=127						
KULM	**Kulim**	**22.07**	**161**	P	**P**	**04 21 07.9**	**-0.9**
KULM				IAmb	IAmb	04 21 24.7	
	comp=Z,195nm,1.7s						
MLSI	**Meulaboh, Aceh**	**22.19**	**173**	P	**P**	**04 21 10.7**	**+0.6**
	comp=Z,327nm,1.1s,comp=Z,4μm						
UCH	**Uchtor**	**22.21**	**320**	P	**P**	**04 21 12.1**	**+1.4**
	SNR=51						
MK31	**Makanchi Array**	**22.22**	**339**	P	**P**	**04 21 10.5**	**+0.2**
MK31				pmax	pmax		
	comp=Z,129nm,0.8s						
MK31	**Makanchi Array**	**22.22**	**339**	IAmb	IAmb	04 21 25.4	
	comp=Z,155nm,0.9s						
MKAR	**Makanchi Array**	**22.22**	**339**	P	**P**	**04 21 10.8**	**+0.6**
	comp=Z,89nm,0.7s,baz=144,slow=13,SNR=428						
MKAR				ScP	**ScP**	**04 28 39.9**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=164,slow=3.8,SNR=3.7						
MKAR	**Makanchi Array**	**22.22**	**339**	P	**P**	**04 21 09.4**	**-0.9**
MKAR					**ScP**	**04 28 39.5**	**-0.5**
KBK	**Karagaybulak**	**22.24**	**321**	P	**P**	**04 21 12.5**	**+1.8**
	SNR=39						
TIA	**Tai'an**	**22.31**	**58**	P	**P**	**04 21 11.3**	**0.0**
TIA				S	**S**	**04 25 13.0**	**-1.3**
TIA				pmax	pmax		
	comp=Z,150nm,1.5s						
TIA				LR	LR		
	comp=Z,1μm,13.9s

CHMS	Chumysh	22.57	322	P	P	04 21 14.4	+0.3
	SNR=23						
QZH	Quanzhou	22.58	88	eP	P	04 21 13.5	-0.8
QZH				S	S	04 25 15.6	-3.7
QZH				LR	LR		
	comp=Z,1μm,11.4s						
QZH				LR	LR		
	comp=Z,2μm,14.7s						
QZH				LR	LR		
	comp=Z,2μm,17.5s						
ARSB	Arslanbob	22.58	316	P	P	04 21 13.8	-0.5
KBL	Kabul	22.61	297	P	P	04 21 14.8	0.0
KBL				pmax	pmax		
	comp=Z,824nm,1.0s						
KBL	Kabul	22.61	297	P	P	04 21 14.8	0.0
AML	Almayashu	22.63	319	P	P	04 21 16.5	+1.4
	SNR=44						
PALK	Pallekele	22.64	215	P	P	04 21 17.5	+2.5
PALK	Pallekele	22.64	215	deP	P	04 21 17.4	+2.3
PALK	Pallekele	22.64	215	P	P	04 21 16.5	+1.5
	comp=Z,13nm,0.6s,baz=116,slow=2.5,SNR=9.1						
PALK				S	S	04 25 17.6	-2.9
	comp=Z,72nm,0.8s,baz=296,slow=23,SNR=16						
PALK	Pallekele	22.64	215	P	P	04 21 14.7	-0.4
PALK				IAmb	IAmb	04 21 36.0	
	comp=Z,324nm,1.4s						
PALK					S	04 25 17.2	-3.3
NJ2	Nanjing	22.73	70	eP	P	04 21 15.4	-0.4
NJ2				pP	pP	04 21 25.5	-0.3
NJ2				sP	sP	04 21 33.3	+2.5
NJ2				S	S	04 25 13.5	-8.3
NJ2				sS	Sn	04 25 35.1	-2.9
NJ2				pmax	pmax		
	comp=Z,49nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
NJ2				LR	LR		
	comp=Z,5μm,18.0s						
NJ2				LR	LR		
	comp=Z,3μm,14.7s						
NJ2				LR	LR		
	comp=Z,3μm,17.1s						
USP	Ospenovka	22.89	322	P	P	04 21 18.2	+0.8
	SNR=55						
EKS2	Erkin-Say	22.91	320	P	P	04 21 19.8	+2.1
	SNR=94						
BJI	Beijing	23.19	48⇓	iP	P	04 21 20.9	+0.4
BJI				pP	pP	04 21 31.4	+0.8
BJI				sP	sP	04 21 34.1	-1.4
BJI				S	S	04 25 30.9	+1.4
BJI				pmax	pmax		
	comp=Z,30nm,0.8s						
BJI				pmax	pmax		
	comp=Z,410nm,4.2s						
BJI				LR	LR		
	comp=Z,3μm,9.8s						
BJI				LR	LR		
	comp=Z,2μm,6.5s						
BJI				LR	LR		
	comp=Z,870nm,27.5s						
TPTI		23.28	171	P	P	04 21 20.0	-1.5
SONM	Songino Array	23.63	22	P	P	04 21 24.6	-0.2
SONM				pmax	pmax		
	comp=Z,53nm,1.2s						
SONM	Songino Array	23.63	22	P	P	04 21 24.2	-0.6
	comp=Z,28nm,0.9s,baz=201,slow=10.0,SNR=75						
SONM				ScP	ScP	04 28 44.7	+0.8
	comp=Z,0.7nm,0.6s,baz=216,slow=2.7,SNR=3.6						
SONM	Songino Array	23.63	22	P	P	04 21 24.6	-0.2
SONM					ScP	04 28 43.5	-0.4
DGZ	Jazzator, Alta	23.73	350	d iP	P	04 21 27.1	+1.4
TRD	Trivandrum	23.80	225	eP	P	04 21 29.2	+2.8
TRD				i sP	sP	04 21 41.8	0.0
ULN	Ulaanbaatar	23.88	23	d iP	P	04 21 27.1	-0.1
ULN				pmax	pmax		
	comp=Z,74nm,1.0s						
ULN	Ulaanbaatar	23.88	23	P	P	04 21 26.8	-0.4
PSI	Prapat	24.04	167	P	P	04 21 29.6	+0.9
	comp=Z,16nm,0.5s,baz=342,slow=12,SNR=18						
RPSI	Rantau Prapat	24.14	167	P	P	04 21 27.3	-2.3
RPSI				IAmb	IAmb	04 21 48.0	
	comp=Z,106nm,1.2s						
RPSI					PcP	04 25 09.1	-1.0
SSE	Sheshan	24.62	73	P	P	04 21 32.8	-1.1
SSE				S	S	04 25 48.2	-4.4
SSE				pmax	pmax		
	comp=Z,25nm,0.7s						
SSE				pmax	pmax		
	comp=Z,66nm,4.0s						
SSE				LR	LR		
	comp=Z,2μm,19.4s						
SSE				LR	LR		
	comp=Z,670nm,19.8s						
TAS	Tashkent	24.95	313	P	P	04 21 37.2	+0.3
TAS				pmax	pmax		
	comp=Z,394nm,1.0s						
TAS	Tashkent	24.95	313	P	P	04 21 37.2	+0.3
ZAK	Zakamensk	25.06	15	eP	P	04 21 38.4	+0.5
ZAK				pmax	pmax		
	comp=Z,50nm,1.3s						
KK31	Karatay Array	25.10	317	i P	P	04 21 39.3	+1.1
KK31				pmax	pmax		
	comp=Z,77nm,0.9s						
KK31	Karatay Array	25.10	317	IAmb	IAmb	04 21 42.9	
	comp=Z,77nm,0.8s						
KKAR	Karatay Array	25.10	317	IAmb	IAmb	04 21 42.9	
	comp=Z,77nm,0.8s						
GSI	Gunungsitoli	25.26	171	P	P	04 21 41.6	+1.8
GSI	Gunungsitoli	25.26	171	P	P	04 21 39.8	0.0
GSI				IAmb	IAmb	04 21 56.2	
	comp=Z,98nm,0.6s						
YULB	Yu-li	25.30	91	P	P	04 21 38.2	-1.9
NACB	Ninganchiao	25.41	89	P	P	04 21 39.9	-1.2
MOY	Mondy	25.84	11	eP	P	04 21 46.6	+1.7
MOY				pmax	pmax		
	comp=Z,154nm,2.8s						
TLY	Talaya	26.36	14	eP	P	04 21 51.4	+1.9
TLY				e		04 22 07.3	
TLY				eS	S	04 26 22.3	+2.4
TLY				pmax	pmax		
	comp=Z,38nm,1.1s						
TLY				MLR	MLR		
	comp=Z,9μm,19.0s						
DL2	Dalian	26.58	55	P	P	04 21 52.2	+0.6
DL2				pP	pP	04 22 01.9	-0.5
DL2				sP	sP	04 22 08.4	+1.3
DL2				S	S	04 26 21.8	-1.8
DL2				sS	sS	04 26 40.9	-0.7
DL2				pmax	pmax		
	comp=Z,28nm,0.5s						
DL2				pmax	pmax		
	comp=Z,380nm,8.8s						
DL2				LR	LR		
	comp=Z,940nm,14.7s						
DL2				LR	LR		
	comp=Z,860nm,15.2s						
DL2				LR	LR		
	comp=Z,940nm,13.9s						
KURBB	Kurchatov Arra	26.78	338	P	P	04 21 53.9	+0.6
	comp=Z,30nm,0.9s,baz=153,slow=9.2,SNR=110						
KURK	Kurchatov	26.83	339	P	P	04 21 54.7	+1.0
	SNR=28						
KURK	Kurchatov	26.83	339	c iP	P	04 21 54.3	+0.6
KURK				pmax	pmax		
	comp=Z,34nm,0.7s						
KURK	Kurchatov	26.83	339	P	P	04 21 53.8	+0.1
IRK	Irkutsk	27.03	15	eP	P	04 21 56.7	+1.2
IRK				pmax	pmax		
	comp=Z,173nm,1.7s						
PDSI	Padang	27.97	165	P	P	04 22 03.0	-1.2
SISI	Saibi	28.09	168	P	P	04 22 08.7	+3.4
ZAA0	Zalesovo Array	28.26	349	P	P	04 22 06.7	+0.3
ZAA0				IAmb	IAmb	04 22 23.2	
	comp=Z,90nm,1.2s						
ZALV	Zalesovo Beam	28.26	349⇑	eP	P	04 22 07.8	+1.4
ZALV	Zalesovo Beam	28.26	349	P	P	04 22 07.1	+0.6
	comp=Z,6.7nm,0.4s,baz=167,slow=7.2,SNR=23						
SNY	Shenyang	29.02	50	⇑P	P	04 22 10.9	-2.5
SNY				pmax	pmax		
	comp=Z,65nm,0.7s						
SNY				pmax	pmax		
	comp=Z,310nm,3.5s						
SNY				LR	LR		
	comp=Z,1μm,12.2s						
SNY				LR	LR		
	comp=Z,1μm,10.7s						
KSM	Kuching	29.56	144	P	P	04 22 15.9	-2.5
KKM	Kota Kinabalu	29.61	129	P	P	04 22 15.4	-3.5
SBUM	Sibu	29.80	140	P	P	04 22 18.3	-2.2
TJN	Taejon	30.36	63	deP	P	04 22 24.1	-1.2
HIA	Hailar	30.50	35	P	P	04 22 25.4	-1.1
HIA				pmax	pmax		
	comp=Z,15nm,0.7s						
HIA	Hailar	30.50	35	P	P	04 22 25.4	-1.1
KS19	Wonju Array Si	30.96	61	P	P	04 22 28.4	-2.2
JOW	Kunigami	30.96	81	P	P	04 22 29.1	-1.7
KSAR	Wonju Array Be	30.96	61	P	P	04 22 29.8	-0.8
KSAR	Wonju Array Be	30.96	61	P	P	04 22 29.8	-0.8
KSRS	Korea Array	31.00	61	P	P	04 22 29.8	-1.1
	comp=Z,5.9nm,0.6s,baz=257,slow=9.2,SNR=20						
KSRS				LR	LR	04 36 29.5	
	comp=Z,1μm,20.6s,baz=260,slow=39						
CN2	Changchun	31.06	48	eP	P	04 22 32.0	+0.6
CN2				esP	sP	04 22 49.3	+2.3
CN2				eS	S	04 27 32.4	-1.5
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
CN2				LR	LR		
	comp=Z,660nm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
STKI	Sintang	31.36	144	P	P	04 22 36.1	+1.8
JLN	Jalan Bani Buh	31.38	270	P	P	04 22 35.7	+1.2
	SNR=53						
JLN				P	P	04 22 35.7	+1.2
	SNR=53						
WBK	Wadi Bani Khal	31.66	271	P	P	04 22 38.4	+1.4
	SNR=13						
WBK				P	P	04 22 38.4	+1.4
	SNR=13						
BRVK	Borovoye	31.80	333	P	P	04 22 39.1	+1.3
	SNR=8.9						
BRVK				P	P	04 22 39.1	+1.3
	SNR=8.9						
BRVK	Borovoye	31.80	333	c iP	P	04 22 38.2	+0.5
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s						
BRVK	Borovoye	31.80	333	P	P	04 22 37.6	-0.1
WSAR	Wadi Sarin	31.82	272	P	P	04 22 39.3	+0.9
	SNR=6.3						
GEYT	Alibeck	31.96	300	P	P	04 22 41.1	+1.6
	comp=Z,34nm,1.1s,baz=120,slow=7.5,SNR=33						
GEYT				LR	LR	04 37 45.1	
	comp=Z,1μm,19.1s,baz=110,slow=40						
GYA0B	ALIBECK ARRAY	31.96	300	P	P	04 22 40.0	+0.5
TPI	Tanjungpandan	32.03	153	P	P	04 22 56.0	+16
SMDO	Samad	32.38	272	P	P	04 22 44.5	+1.1
	SNR=16						
SMDO				P	P	04 22 44.5	+1.1
	SNR=16						
JMDO	Jabal Madar	32.50	271	P	P	04 22 45.3	+1.0
	SNR=8.3						
JMDO				P	P	04 22 45.3	+1.0
	SNR=8.3						
KLSI		32.75	159	P	P	04 22 46.2	-0.3
JNU	Nakatsue	32.93	69	LR	LR	04 37 15.3	
	comp=Z,2μm,20.8s,baz=268,slow=38						
BSY	Bisya	33.22	272	P	P	04 22 51.9	+1.2
	SNR=20						
BSY				P	P	04 22 51.9	+1.2
	SNR=20						
MSFE	Esma-Masafi	33.61	277	P	P	04 22 55.5	+1.5
UOSS	Minazif	33.64	276	P	P	04 22 54.5	+0.3
UOSS	Minazif	33.64	276	P	P	04 22 53.9	-0.4
UOSS				IAmb	IAmb	04 23 15.7	
	comp=Z,52nm,1.3s						
DQM	DQM	33.68	267	P	P	04 22 55.7	+1.0
	SNR=8.0						
DQM				P	P	04 22 55.7	+1.0
	SNR=8.0						
ARQ	Araqi	33.69	273	P	P	04 22 55.9	+1.2
	SNR=8.2						
ARQ				P	P	04 22 55.9	+1.2
	SNR=8.2						
HATD	Hatta, Dubai	33.73	276	i P	P	04 22 56.5	+1.4
	SNR=7.8						
HATD	Hatta, Dubai	33.73	276	P	P	04 22 57.1	+2.1
HATD				P	P	04 22 57.1	+2.1
ASHO	Ashiyiah	33.82	275	i P	P	04 22 57.3	+1.4
	SNR=11						
ASHO	Ashiyiah	33.82	275	P	P	04 22 57.3	+1.4
	SNR=9.3						
ASHO				P	P	04 22 57.3	+1.4
	SNR=9.3						
ASUD	Al Ashush, Dub	34.48	276	i P	P	04 23 02.9	+1.4
	SNR=8.8						
BOD	Bodaibo	34.56	19	eP	P	04 23 02.1	+0.3
BOD				pmax	pmax		
	comp=Z,43nm,1.5s						
AB31	Akbulak array	34.57	320	eP	P	04 23 03.3	+1.3
AB31				pmax	pmax		
	comp=Z,28nm,0.4s						
ABKAR	Akbulak array	34.57	320	P	P	04 23 02.0	+0.1
ABKAR	Akbulak array	34.57	320	P	P	04 23 02.5	+0.5
MSHR	Mys Shultsa	34.59	53⇑	eP	P	04 23 03.7	+1.5
USA0B	Ussuriysk Arra	35.62	50	P	P	04 23 09.1	-2.0
USA0B				pmax	pmax		
	comp=Z,114nm,1.9s						
USA0B	Ussuriysk Arra	35.62	50	P	P	04 23 09.1	-2.0
USA0B				IAmb	IAmb	04 23 27.6	
	comp=Z,114nm,1.9s						
USRK	Ussuriysk Ar.	35.62	50	P	P	04 23 11.6	+0.4
	comp=Z,4.6nm,0.7s,baz=268,slow=5.7,SNR=10						
USRK				LR	LR	04 39 27.9	
	comp=Z,448nm,19.4s,baz=236,slow=39						
USRK	Ussuriysk Ar.	35.62	50	P	P	04 23 09.8	-1.3
KCP	Kidapawan	35.65	117⇓	eP	P	04 23 13.4	+1.7
SHAO	Shalim	36.01	265	P	P	04 23 15.7	+0.9
MPSI	Mapaga	36.25	131	P	P	04 23 18.1	+1.3
KPJI	Karang Pucung	36.71	154	P	P	04 23 23.0	+2.4
ZEA	Zeya	36.93	33	eP	P	04 23 24.6	+2.4
ZEA				pmax	pmax		
	comp=N,50nm,1.2s						
ZEA				pmax	pmax		
	comp=E,29nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,53nm,1.2s						
ZEA				MLR	MLR		
	comp=E,1μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,14.0s						
ZEA				MLR	MLR		
	comp=N,2μm,15.0s						
SMRI	Semarang	37.07	151	P	P	04 23 28.9	+5.1
KLR	Kul'dur	37.22	42⇑	iP	P	04 23 25.6	+0.9
KLR				pmax	pmax		
	comp=Z,32nm,1.4s						
KLR	Kul'dur	37.22	42	LR	LR	04 40 26.8	
	comp=Z,2μm,18.0s,baz=245,slow=39						
RBK	Rabkut	37.46	264	P	P	04 23 27.8	+0.7
	SNR=12						
RBK				P	P	04 23 27.8	+0.7
	SNR=12						
MRSI	Marisa	37.55	129	P	P	04 23 31.8	+3.9
	comp=Z,41nm,0.6s						
WHFO	Wadi Hawf	37.70	265	P	P	04 23 29.4	+0.2
	SNR=17						
WHFO				P	P	04 23 29.4	+0.2
	SNR=17						
APSI	Ampana	38.35	131	P	P	04 23 40.1	+5.5
	comp=Z,44nm,1.1s,comp=Z,510nm						
SVE	Sverdlovsk	38.43	331	eP	P	04 23 36.0	+1.2
SVE				pmax	pmax		
	comp=Z,97nm,1.4s						
SVE				MLR	MLR		
	comp=Z,892nm,21.0s						
TTSI	Tana Toraja	38.75	135	P	P	04 23 39.1	+1.2
KMSI	Cibinong	38.94	126	P	P	04 24 00.2	+21
TEY	Ternei	39.02	50⇑	eP	P	04 23 35.6	-4.3
TEY				e		04 23 50.5	
TEY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MJB9	Matsu-Tunnel	39.07	64	IAmb	IAmb	04 23 42.4	
	comp=Z,36nm,0.7s						
MAJO	Matsushiro	39.08	64	d iP	P	04 23 40.5	0.0
MAJO				pmax	pmax		
	comp=Z,35nm,0.7s						
MAJO	Matsushiro	39.08	64	P	P	04 23 40.0	-0.6
MAJO				IAmb	IAmb	04 23 42.4	
	comp=Z,36nm,0.7s						
MAT	Matsushiro	39.08	64	P	P	04 23 40.2	-0.3
MAT				S	S	04 29 40.0	+2.6
MJAR	Matsushiro Arr	39.08	64	P	P	04 23 40.9	+0.3
	comp=Z,22nm,0.7s,baz=274,slow=9.2,SNR=41						
MJAR				LR	LR	04 40 59.7	
	comp=Z,925nm,20.8s,baz=260,slow=38						
ARU	Arti	39.11	330	c iP	P	04 23 41.2	+0.7
ARU						04 25 09.5	
ARU						04 25 48.5	
ARU				S	S	04 29 40.0	+2.7
ARU				SS	SS	04 32 30.9	+0.2
ARU				pmax	pmax		
	comp=Z,79nm,1.6s						
ARU				MLR	MLR		
	comp=Z,1μm,17.0s						
ARU	Arti	39.11	330	P	P	04 23 40.0	-0.5
SPSI	Sidrap Palu	39.43	136	P	P	04 23 44.5	+0.9
BNSI	Bone	39.98	136	P	P	04 24 00.2	+12
JHJ	Hachijo jima 2	40.40	69	LR	LR	04 40 59.0	
	comp=Z,676nm,20.6s,baz=273,slow=37						
AKT	Akhty	40.42	304	eP	P	04 23 53.6	+1.8
AKT				e		04 25 32.6	
AKT				e		04 25 55.3	
AKT				pmax	pmax		
	comp=Z,83nm,0.9s						
GROC	Groznyy	42.06	306	eP	P	04 24 03.1	-2.0
GROC				e		04 25 39.2	
GROC				e		04 25 54.6	
GROC				eS	S	04 30 21.4	-0.2
GROC				pmax	pmax		
	comp=Z,297nm,1.3s						
SANI	Sanana	42.19	127	P	P	04 24 17.5	+11
GNI	Garni	42.56	301	i P	P	04 24 11.6	+2.2
	SNR=24						
GNI	Garni	42.56	301	c iP	P	04 24 11.6	+2.2
GNI				pmax	pmax		
	comp=Z,398nm,1.3s						
GNI	Garni	42.56	301	P	P	04 24 10.9	+1.5
GNI				IAmb	IAmb	04 24 13.3	
	comp=Z,141nm,1.2s						
TBLG	Delisi	42.68	304	P	P	04 24 11.4	+1.2
TBLG				pmax	pmax		
	comp=Z,30nm,0.9s						
TBLG	Delisi	42.68	304	P	P	04 24 11.4	+1.2
YAK	Yakutsk	42.96	24	eP	P	04 24 12.4	+0.4
YAK				e*PP	pP	04 24 22.8	-0.4
YAK				e		04 25 51.6	
YAK				e		04 26 03.4	
YAK				ePPP	PPP	04 26 25.6	
YAK				eS	S	04 30 33.6	-0.7
YAK				eSS	SS	04 33 44.2	-2.6
YAK				e		04 34 10.8	
YAK				eSSS	SSS	04 34 24.4	
YAK				pmax	pmax		
	comp=Z,31nm,0.9s						
YAK				pmax	pmax		
	comp=N,26nm,1.3s						
YAK				pmax	pmax		
	comp=E,30nm,1.2s						
YAK				pmax	pmax		
	comp=Z,61nm,2.2s						
YAK				pmax	pmax		
	comp=N,45nm,2.5s						
YAK				pmax	pmax		
	comp=E,54nm,2.2s						
YAK				smax	smax		
	comp=N,258nm,3.1s						
YAK				smax	smax		
	comp=E,148nm,2.8s						
YAK	Yakutsk	42.96	24	P	P	04 24 13.3	+1.3
YAK				IAmb	IAmb	04 24 14.7	
	comp=Z,58nm,0.7s						
NRIK	Noril'sk	43.10	357	P	P	04 24 13.8	+0.7
	comp=Z,3.8nm,0.3s,baz=149,slow=6.0,SNR=11						
ERM	Erimo	43.25	56⇑	eP	P	04 24 15.1	+0.4
ERM				pmax	pmax		
	comp=Z,23nm,0.6s						
CUKT	Cukurca	43.37	297	eP	P	04 24 17.2	+1.2
ZEI	Tsey	43.39	305	eP	P	04 24 14.0	-2.1
ZEI				pmax	pmax		
	comp=Z,63nm,0.9s						
RAYN	Ar Rayn	43.48	277	i P	P	04 24 17.7	+0.8
	SNR=8.3						
RAYN	Ar Rayn	43.48	277	P	P	04 24 16.4	-0.6
RAYN				pmax	pmax		
	comp=Z,143nm,1.1s						
RAYN	Ar Rayn	43.48	277	P	P	04 24 16.4	-0.6
RAYN				IAmb	IAmb	04 24 19.2	
	comp=Z,143nm,1.1s						
AKH	Akhalkalaki	43.58	303	⇓P	P	04 24 20.5	+2.8
AKH	Akhalkalaki	43.58	303	IAmb	IAmb	04 24 21.7	
	comp=Z,112nm,1.0s						
YSS	Yuzh-Sakhalins	43.62	49	eP	P	04 24 18.6	+1.0
YSS				e		04 24 30.1	
YSS				e*SP	sP	04 24 33.3	-0.1
YSS				eS	S	04 30 47.1	+2.8
YSS				e		04 34 18.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s						
YSS	Yuzh-Sakhalins	43.62	49	P	P	04 24 17.9	+0.3
YSS				IAmb	IAmb	04 24 31.4	
	comp=Z,49nm,0.9s						
NCK	Nalchik	43.69	306⇓	eP	P	04 24 19.6	+1.3
NCK				pmax	pmax		
	comp=Z,85nm,1.0s						
NLAI	Namlea	43.81	127	P	P	04 24 21.6	+2.1
KBZ	Khabaz	44.22	306	P	P	04 24 23.1	+0.6
	comp=Z,8.9nm,1.0s,baz=76,slow=9.5,SNR=12						
KBZ				LR	LR	04 45 19.9	
	comp=Z,655nm,21.5s,baz=88,slow=39						
GOF	Gofitskoye	44.27	308⇑	i iP	P	04 24 24.0	+1.1
GOF				pmax	pmax		
	comp=Z,180nm,1.1s						
KIV	Kislovodsk	44.39	307	i P	P	04 24 24.9	+1.0
	SNR=10						
KIV	Kislovodsk	44.39	307	P	P	04 24 25.0	+1.0
	SNR=19						
KIV				P	P	04 24 25.0	+1.0
	SNR=19						
KIV	Kislovodsk	44.39	307	eP	P	04 24 24.9	+1.0
KIV				pmax	pmax		
	comp=Z,192nm,1.1s						
KIV				MLR	MLR		
	comp=Z,1μm,16.0s						
KIV	Kislovodsk	44.39	307	P	P	04 24 25.2	+1.2
KIV				IAmb	IAmb	04 24 27.4	
	comp=Z,106nm,1.3s						
SWI	Sorong	45.33	121	P	P	04 24 42.4	+11
CHOM	Cayeli-Rize	45.63	303	eP	P	04 24 36.1	+2.3
MAZI	Mazidag	45.88	298	eP	P	04 24 37.3	+1.3
VRH	Novokhopyorsk	46.18	317	eP	P	04 24 37.9	0.0
VRH				eS	S	04 31 17.4	-4.0
VRH				pmax	pmax		
	comp=Z,130nm,1.0s						
VRH				smax	smax		
	comp=N,350nm,1.3s						
SOC	Sochi	46.51	306	c iP	P	04 24 40.6	0.0
SOC				e		04 26 32.6	
SOC				ePPP	PPP	04 27 12.4	
SOC				eS	S	04 31 25.8	-0.5
SOC				eSS	SS	04 34 44.1	-8.2
SOC				eSSS	SSS	04 35 52.6	
SOC				pmax	pmax		
	comp=Z,100nm,1.4s						
SOC				MLR	MLR		
	comp=Z,486nm,17.0s						
SOEI	Soe	46.71	136	P	P	04 24 42.4	-0.2
URFA	Urfa	47.18	298	eP	P	04 24 47.3	+1.2
FAKI	Fak Fak	47.40	122	P	P	04 24 48.2	+0.3
FAKI	Fak Fak	47.40	122	P	P	04 24 45.7	-2.2
FAKI				IAmb	IAmb	04 24 58.7	
	comp=Z,42nm,0.7s						
PRGR	Permogore	47.50	331	⇓iP	P	04 24 48.8	+0.7
PRGR				e*PP	pP	04 24 55.7	-3.6
PRGR				e*SP	sP	04 25 02.8	-1.2
PRGR				pmax	pmax		
	comp=Z,52nm,0.7s						
VORD	Divnogorie	47.64	316	eP	P	04 24 49.0	-0.3
VORD				eS	S	04 31 39.3	-2.9

VORD pmax pmax
comp=Z,60nm,1.2s
VORD smax smax
comp=N,760nm,3.0s
VSR Storozhevoye 47.76 316 *e*P **P 04 24 49.7 -0.6**
VSR *e*S **S 04 31 39.3 -4.6**
VSR pmax pmax
comp=Z,50nm,1.0s
VSR smax smax
comp=N,270nm,1.5s
LPSR Galich'ya Gora 48.16 318 *e*P **P 04 24 53.5 +0.2**
LPSR *e*S **S 04 31 44.5 -5.0**
LPSR pmax pmax
comp=Z,100nm,0.7s
LPSR smax smax
comp=N,400nm,1.5s
DARE Darende-Malaty 48.18 299 *e*P **P 04 24 55.9 +2.1**
ANN Anapa 48.21 308 *e*P **P 04 24 53.8 0.0**
ANN *e*S **S 04 31 51.3 +0.8**
ANN pmax pmax
comp=Z,79nm,1.2s
ANN MLR MLR
comp=Z,949nm,18.0s
GAZ Gaziantep 48.48 297 P **P 04 24 56.7 +0.5**
GAZ IAmb IAmb 04 24 58.7
comp=Z,63nm,1.2s
SVSK Karacayir 48.50 301 *e*P **P 04 24 58.4 +2.3**
TOKT Tokat 48.83 302 *e*P **P 04 24 59.9 +1.1**
KVT Kavak 49.19 303 *e*P **P 04 25 03.2 +1.7**
TIXI Tiksi 49.34 14⇑*e*P **P 04 25 02.8 +0.7**
TIXI pmax pmax
comp=Z,30nm,1.5s
TIXI Tiksi 49.34 14 P **P 04 25 02.1 0.0**
TIXI IAmb IAmb 04 25 13.9
comp=Z,51nm,1.3s
GUMO Guam 49.56 95 LR LR 04 45 00.6
comp=Z,296nm,21.6s,baz=236,slow=35
CEYT Ceyhan 49.66 297 *e*P **P 04 25 06.7 +1.7**
DIKM Dikmen 49.77 303 ⇑P **P 04 25 08.0 +2.2**
DIKM mb 04 25 08.4
DIKM Dikmen 49.77 303 *e*P **P 04 25 07.2 +1.4**
ATD Arta Tunnel 49.90 263 P **P 04 25 09.2 +1.9**
SNR=14
ATD Arta Tunnel 49.90 263 P **P 04 25 07.2 -0.1**
KLMR Klimovskoe 49.95 329 *e*P **P 04 25 06.4 -0.5**
KLMR pmax pmax
comp=Z,122nm,1.2s
KLMR Klimovskoe 49.95 329 *e*P **P 04 25 06.4 -0.5**
KLMR AMP 04 25 24.1
comp=Z,122nm,1.2s
KLMR LR LR 04 46 43.6
OBN Obninsk 50.01 321 *e*P **P 04 25 07.4 0.0**
OBN *i* 04 25 16.5
OBN *i* 04 26 27.4
OBN *i* 04 27 04.3
OBN *e*S **S 04 32 13.2 -2.1**
OBN pmax pmax
comp=Z,183nm,1.7s
OBN MLR MLR
comp=Z,765nm,20.0s
OBN Obninsk 50.01 321 P **P 04 25 07.0 -0.4**
SHMJ Saham 50.16 292 P **P 04 25 10.6 +1.6**
SHMJ Saham 50.16 292 P **P 04 25 11.3 +2.3**
KARA Karaisali 50.18 298 *e*P **P 04 25 10.6 +1.5**
WALJ Wala 50.30 290 P **P 04 25 10.6 +0.6**
WALJ Wala 50.30 290 P **P 04 25 10.9 +0.9**
MMLI Mount Malkishu 50.49 291 P P 04 25 02.9 -8.6
MMLI Mount Malkishu 50.49 291 P **P 04 25 11.5 0.0**
JDRJ Daraweish 50.57 289 P **P 04 25 10.8 -1.5**
JDRJ Daraweish 50.57 289 P **P 04 25 12.5 +0.2**
SIM Simferopol' 50.57 308*de*P **P 04 25 13.1 +1.2**
SIM pmax pmax
comp=Z,22nm,1.3s
LISJ El Lisan 50.63 290 P **P 04 25 09.0 -3.5**
LISJ El Lisan 50.63 290 P **P 04 25 13.2 +0.7**
MERS Mersin 50.65 297 *e*P **P 04 25 13.9 +1.2**
BZK Bozkurt 50.70 304 ⇓P **P 04 25 14.8 +2.0**
BZK mb 04 25 17.2
BZK Bozkurt 50.70 304 *e*P **P 04 25 14.1 +1.3**
ILGA Ilgaz 50.95 303 P **P 04 25 15.3 +0.3**
YAYX Yaylak 51.02 300 *e*P **P 04 25 16.8 +1.3**
BR131 Keskin Array S 51.09 301 P **P 04 25 16.5 +0.5**
SNR=20
BR131 Keskin Array S 51.09 301 IAmb IAmb 04 25 18.2
comp=Z,88nm,1.5s
BRTR Keskin Array B 51.09 301 P **P 04 25 16.3 +0.2**
comp=Z,17nm,0.6s,baz=119,slow=7.4,SNR=92
BRTR LR LR 04 50 59.1
comp=Z,176nm,19.6s,baz=80,slow=41
SERE Sereflikochisa 51.21 300 *e*P **P 04 25 17.5 +0.6**
HRFI Mount Harif 51.23 288 P **P 04 25 16.9 -0.2**
HRFI Mount Harif 51.23 288 P **P 04 25 17.1 0.0**
KEBE Keben-Mersin 51.34 297 *e*P **P 04 25 18.8 +0.9**
EIL Elat 51.38 288 P **P 04 25 16.4 -1.8**
EIL Elat 51.38 288 P **P 04 25 16.9 -1.3**
AFSR Afar-Bala (An 51.55 301 *e*P **P 04 25 20.6 +1.2**
TEVE Tevekalti-Mers 51.56 297 *e*P **P 04 25 20.7 +1.2**
KZIT Kziot 51.61 290 P **P 04 25 18.1 -1.8**
TMCR Tamitsa 51.68 333 *e*P **P 04 25 20.5 +0.7**
TMCR pmax pmax
comp=Z,104nm,1.1s
ANTO Ankara 51.73 301 P **P 04 25 21.5 +0.8**
SNR=17
ANTO P **P 04 25 21.5 +0.8**
SNR=17
ANTO Ankara 51.73 301 P **P 04 25 20.5 -0.3**
ANTO pmax pmax
comp=Z,166nm,1.5s
ANTO Ankara 51.73 301 ⇑P **P 04 25 21.8 +1.0**
ANTO mb 04 25 24.1
ANTO Ankara 51.73 301 P **P 04 25 20.5 -0.3**
BERE Bereket-Mersin 51.74 297 *e*P **P 04 25 21.8 +0.8**
CSS Mathiatis 51.84 295 P **P 04 25 20.9 -0.7**
CSS IAmb IAmb 04 25 24.3
comp=Z,49nm,1.5s
TEKE Tekeli-Mersin 51.86 296 *e*P **P 04 25 22.0 +0.4**
SMPI Sarmi 51.90 116 P P 04 25 34.7 +13
LADK Ladik-KONYA 52.22 299 *e*P **P 04 25 25.0 +0.6**
KONT Konya--Tatoy 52.24 299 *e*P **P 04 25 25.6 +1.0**
KIZT Kizilcal 52.52 300 *e*P **P 04 25 27.4 +0.7**
SEY Seymchan 52.70 29⇓*e*P **P 04 25 28.6 +1.1**
SVRH Sivrihisar-ESK 52.74 301 *e*P **P 04 25 29.1 +0.8**
SRCK Saricakaya, Es 53.37 302 *e*P **P 04 25 33.8 +1.0**
SHUT Suhut-Afyon 53.59 300 *e*P **P 04 25 35.5 +0.9**
JAY Jayapura 53.82 115 LR LR 04 48 00.4
comp=Z,97nm,20.3s,baz=314,slow=35
PETK Petropavlovsk- 53.91 42 P **P 04 25 37.6 +1.0**
comp=Z,7.8nm,0.8s,baz=270,slow=2.9,SNR=2.5
PETK LR LR 04 51 24.6
comp=Z,991nm,19.6s,baz=254,slow=39
PETK Petropavlovsk- 53.91 42 P **P 04 25 35.7 -0.9**
KORT Korkueli 53.95 298 *e*P **P 04 25 37.3 0.0**
AKASG Malin Array Be 53.96 315 P **P 04 25 36.4 -0.5**
comp=Z,16nm,0.7s,baz=78,slow=6.5,SNR=34
AKBB Malin Array Si 53.96 315 IAmb IAmb 04 25 37.9
comp=Z,33nm,0.8s
HRT Hereke 54.03 303 *e*P **P 04 25 38.3 +0.6**
KNRA Kununurra 54.04 137 IAmb IAmb 04 25 49.6
comp=Z,39nm,0.7s
PSA00 Pilbara Seismi 54.07 149 P **P 04 25 37.4 -0.6**
FITZ Fitzroy Crossi 54.11 141 P **P 04 25 37.2 -1.1**
PUL Pulkovo 54.14 326⇑*e*P **P 04 25 40.1 +2.1**
PUL pmax pmax
comp=Z,80nm,0.8s
LVZ Lovozero 54.22 336*ce*P **P 04 25 40.4 +1.8**
LVZ Lovozero 54.22 336 P **P 04 25 38.1 -0.5**
KIS Kishinev 54.25 310 *e*P **P 04 25 39.0 -0.1**
comp=Z,110nm,1.5s
KIS LRM MLR 04 52 24.0
comp=Z,500nm,18.0s
KIS Kishinev 54.25 310 *e*P **P 04 25 39.0 -0.1**
KIS *e* 04 33 20.0
KIS pmax pmax
comp=Z,110nm,1.5s
KIS MLR MLR
comp=Z,500nm,18.0s
MILM Milestii Mici 54.25 310 ⇓P **P 04 25 40.2 +1.1**
YLV Yalova 54.27 302 ⇓P **P 04 25 39.8 +0.2**
YLV mb 04 25 43.4
YLV Yalova 54.27 302 *e*P **P 04 25 39.7 +0.2**
TLCR 54.32 308 ⇓P **P 04 25 41.6 +1.9**
TLCR mb 04 25 41.9
TVSB Tavsanli 54.33 301 *e*P **P 04 25 39.9 -0.1**

ELL Elmali 54.34 298 *e*P **P 04 25 40.7 +0.6**
KLYT Kilyos 54.45 303 *e*P **P 04 25 41.7 +1.0**
SORM Soroca 54.53 312 ⇑P **P 04 25 42.0 +0.9**
APA Apatity 54.56 336⇑*i*P **P 04 25 39.1 -2.0**
APA pmax pmax
comp=Z,11nm,0.6s
AKAS Kas 54.65 297 *e*P **P 04 25 40.8 -1.6**
FURI Furi 54.73 262 P **P 04 25 45.5 +2.1**
CFR Carcaliu 54.80 308 ⇑P **P 04 25 43.3 +0.2**
CTKS Kestanelik-??a 54.86 303 *e*P **P 04 25 42.5 -1.1**
TLB Topalu 54.91 307 ⇑P **P 04 25 45.1 +1.2**
HARR Harsova 54.98 307 ⇓P **P 04 25 46.2 +1.8**
HARR mb 04 25 46.5
FETY Fethiye 55.01 298 *e*P **P 04 25 44.2 -0.6**
KCTX Karacabey (Bur 55.08 302 *e*P **P 04 25 46.1 +0.8**
TURN Turunc 55.35 298 *e*P **P 04 25 50.4 +3.2**
BALB Balikesir 55.52 301 *e*P **P 04 25 49.1 +0.7**
YER Yerkesik 55.56 298 *e*P **P 04 25 49.1 +0.2**
NACGM Naroch 55.58 320 *e* **P 04 25 49.0 +0.4**
NACGM *e*LR LR 04 46 26.0
VRI Vrincioaia 55.75 309 ⇑P **P 04 25 51.2 +1.2**
TESR Tescani 55.76 310 ⇑P **P 04 25 51.3 +1.3**
BISRR Bisoca 55.78 309 ⇑P **P 04 25 52.8 +2.5**
PLOR Plostina 55.80 309 ⇑P **P 04 25 52.0 +1.6**
VSU Vasula 55.82 324*c i*P **P 04 25 50.2 0.0**
VSU pmax pmax
comp=Z,172nm,0.8s
VSU Vasula 55.82 324 *e*P **P 04 25 50.7 +0.5**
VSU IAmb IAmb 04 25 52.1
comp=Z,138nm,0.7s
IIGN Ignalina 55.92 320 *e*P **P 04 25 52.1 +1.1**
IIGN IAmb IAmb 04 25 53.3
comp=Z,42nm,0.7s
IZAR Zarasai 55.92 321 *e*P **P 04 25 51.1 +0.2**
IZAR IAmb IAmb 04 25 52.1
comp=Z,34nm,0.6s
ISR Istrita 55.93 308 ⇓P **P 04 25 53.5 +2.2**
MLSB Milas 55.94 299 *e*P **P 04 25 51.8 +0.3**
ISAL Salakas 55.98 321 *e*P **P 04 25 52.1 +0.7**
RAZG Razgrad 56.09 306 ⇑P **P 04 25 53.6 +1.1**
BIZ Bicaz 56.10 310 ⇓P **P 04 25 53.5 +1.0**
EDRB Edirne 56.11 304 *e*P **P 04 25 53.0 +0.4**
DAT Datca 56.19 298 *e*P **P 04 25 53.2 -0.2**
GCAM G?zelcaml? 56.30 299 *e*P **P 04 25 54.2 +0.2**
MLR Muntele Rosu 56.32 309 ⇓P **P 04 25 55.9 +1.7**
FIA1 FINESS Array S 56.43 328 IAmb IAmb 04 25 56.3
comp=Z,43nm,0.7s
FINES FINESS Array B 56.43 328 P **P 04 25 55.1 +0.5**
comp=Z,34nm,0.6s,baz=96,slow=7.7,SNR=129
FINES LR LR 04 52 10.8
comp=Z,888nm,19.2s,baz=94,slow=38
BURAR Bucovina Array 56.66 311 ⇓P **P 04 25 58.4 +1.8**
BURAR mb 04 25 58.5
BURAR Bucovina Array 56.66 311 P **P 04 25 55.5 -1.1**
DOPR Dopca 56.67 309 ⇓P **P 04 25 57.8 +1.2**
VOIR 56.95 309 ⇓P **P 04 25 58.8 +0.1**
MTUR Matau 56.97 308 ⇓P **P 04 26 00.3 +1.5**
MTUR mb 04 26 07.5
COPA Copaceanca 56.97 307 ⇑P **P 04 26 00.2 +1.6**
PABE Paberze 57.20 321 *e*P **P 04 26 00.8 +0.7**
PABE IAmb IAmb 04 26 02.0
comp=Z,147nm,0.7s
ARR Arges 57.25 309 ⇓P **P 04 26 01.7 +0.9**
ARCR ARCALIA 57.29 311 ⇓P **P 04 26 02.9 +2.0**
LVV L'vov 57.31 314 *e*P **P 04 26 00.4 -0.6**
PLVB Pleven 57.48 306 ⇑P **P 04 26 02.9 +0.6**
SUW Suwalki 57.67 319 *e*P **P 04 26 03.3 -0.1**
SUW Suwalki 57.67 319 *e*P **P 04 26 03.3 -0.1**
SUW *e*P **P 04 26 03.3 -0.1**
BMR Baia Mare 57.82 311 ⇓P **P 04 26 06.0 +1.3**
CJR Cluj-Napoca 57.84 310 ⇓P **P 04 26 07.0 +2.2**
LOT Lotru 57.85 309 ⇓P **P 04 26 05.9 +0.9**
ARCES ARCESS Array B 57.86 337 P **P 04 26 05.8 +1.2**
comp=Z,8.0nm,0.6s,baz=100,slow=7.6,SNR=46
ARCES PcP **PcP 04 26 57.1 +0.5**
comp=Z,4.5nm,0.4s,baz=109,slow=4.2,SNR=8.8
ARCES LR LR 04 54 14.8
comp=Z,514nm,18.9s,baz=106,slow=39
ARCES ARCESS Array B 57.86 337 P **P 04 26 05.2 +0.6**
ARCES **PcP 04 26 57.1 +0.5**
ARE0 ARCESS Array S 57.86 337 *e*P **P 04 26 06.4 +1.8**
KWP Kalwaria Pacla 58.18 314 *e*P **P 04 26 07.7 +0.5**
KWP Kalwaria Pacla 58.18 314 *e*P **P 04 26 07.7 +0.5**
KWP *e*P **P 04 26 07.7 +0.5**
PBUR Paburg 58.35 321 *e*P **P 04 26 09.3 +1.1**
TRPA Tarpa 58.42 312 ⇑P **P 04 26 09.5 +0.7**
TRPA mb 04 26 10.7
DRGR 58.44 310 ⇓P **P 04 26 10.2 +1.1**
KOLS Kolonicke sedl 58.52 313 *e*P **P 04 26 10.3 +0.8**
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 58.52 313 *e*P **P 04 26 10.3 +0.8**
UZH Uzhgorod 58.54 313 *e*P **P 04 26 09.6 0.0**
UZH *e* 04 26 18.0
GZR Gura Zlata 58.55 309 ⇑P **P 04 26 10.3 +0.5**
KTK1 Kautokeino 58.57 337 *e*P **P 04 26 10.7 +1.1**
VTS Vitosha 58.59 305 ⇑P **P 04 26 10.8 +0.5**
VTS mb 04 26 12.4
VTS Vitosha 58.59 305 IAmb IAmb 04 26 12.4
comp=Z,25nm,0.9s
HAMF Hammerfest 58.67 338 *e*P **P 04 26 11.7 +1.5**
HERR Herculane 58.87 308 ⇑P **P 04 26 13.8 +1.8**
SIRR Siria 59.22 310 ⇑P **P 04 26 16.0 +1.6**
BEL Belsk 59.23 316 *e*P **P 04 26 14.9 +0.6**
BEL Belsk 59.23 316 *e*P **P 04 26 14.9 +0.6**
BEL *e*P **P 04 26 14.9 +0.6**
BILL Bilibino 59.31 25⇑*e*P **P 04 26 16.3 +1.6**
BILL *i* 04 26 26.2
BILL *e* 04 27 04.0
BILL *e* 04 28 28.7
BILL *e*S **S 04 34 22.0 +2.0**
BILL pmax pmax
comp=Z,6.0nm,0.6s
BILL MLR MLR
comp=Z,701nm,16.0s
BILL Bilibino 59.31 25 P **P 04 26 15.2 +0.5**
BILL IAmb IAmb 04 26 28.3
comp=Z,59nm,1.1s
BZS Buzias 59.33 309 ⇓P **P 04 26 16.0 +0.9**
MDVR Moldovita 59.38 308 ⇑P **P 04 26 17.4 +1.8**
KLNR Kaliningrad 59.39 320*de*P **P 04 26 16.2 +0.8**
KLNR pmax pmax
comp=Z,96nm,0.6s
KECS Kecovo 59.75 313 *e*P **P 04 26 19.1 +1.1**
KECS pmax pmax
comp=Z,9.0nm,0.9s
KECS Kecovo 59.75 313 *e*P **P 04 26 19.1 +1.1**
NIE Niedzica 59.76 314 *e*P **P 04 26 19.2 +1.0**
NIE Niedzica 59.76 314 *e*P **P 04 26 19.2 +1.0**
NIE *e*P **P 04 26 19.2 +1.0**
OJC Ojcow 60.00 315 *e*P **P 04 26 19.8 +0.1**
OJC Ojcow 60.00 315 *e*P **P 04 26 19.8 +0.1**
OJC *e*P **P 04 26 19.8 +0.1**
OJC Ojcow 60.00 315 IAmb IAmb 04 26 22.4
comp=Z,32nm,1.0s
LODK Lodwar 60.15 258 P **P 04 26 22.8 +1.4**
SNR=26
TRO Tromso 60.16 337 *e*P **P 04 26 21.4 +1.0**
PSZ Piszkesteto 60.21 312 ⇑P **P 04 26 22.5 +1.2**
PSZ mb 04 26 23.1
PSZ Piszkesteto 60.21 312 IAmb IAmb 04 26 23.0
comp=Z,29nm,1.0s
LANS Liptovska Anna 60.34 313 *e*P **P 04 26 24.1 +2.0**
LANS pmax pmax
comp=Z,12nm,1.4s
LANS Liptovska Anna 60.34 313 *e*P **P 04 26 24.1 +2.0**
FRGS Fruska Gora 60.66 309 *e*P **P 04 26 24.3 0.0**
DIVS Divibare 60.70 308 *e*P **P 04 26 25.0 +0.3**
WRA Warramunga Arr 60.72 135 P **P 04 26 25.3 +0.3**
comp=Z,20nm,0.6s,baz=324,slow=7.3,SNR=87
WRA LR LR 04 54 56.6
comp=Z,109nm,22.0s,baz=290,slow=38
WRAB Tennant Creek 60.72 135*ce*P **P 04 26 25.5 +0.5**
WRAB pmax pmax
comp=Z,34nm,0.7s
WRAB Tennant Creek 60.72 135 P **P 04 26 23.9 -1.1**
WRAB IAmb IAmb 04 26 36.9
comp=Z,43nm,0.8s
WB2 Warramunga Arr 60.73 135 P **P 04 26 24.9 -0.2**
KMBO Kilima Mbogo 60.76 252 *i* P **P 04 26 26.9 +1.2**
SNR=28
KMBO Kilima Mbogo 60.76 252 P **P 04 26 26.8 +1.1**

SNR=18
KMBO P **P 04 26 26.8 +1.1**
SNR=18
KMBO Kilima Mbogo 60.76 252 P **P 04 26 26.6 +0.9**
comp=Z,30nm,1.0s,baz=43,slow=10,SNR=43
KMBO LR LR 04 53 17.0
comp=Z,238nm,19.0s,baz=84,slow=36
KMBO Kilima Mbogo 60.76 252 P **P 04 26 25.2 -0.5**
KMBO IAmb IAmb 04 26 28.4
comp=Z,46nm,1.1s
VYHS Vyhne 60.83 313 *e*P **P 04 26 26.0 +0.5**
VYHS pmax pmax
comp=Z,24nm,1.1s
VYHS Vyhne 60.83 313 *e*P **P 04 26 26.0 +0.5**
OKC Ostrava-Krasne 61.10 314 *e*P **P 04 26 27.7 +0.5**
OKC *e* 04 26 46.8
OKC Ostrava-Krasne 61.10 314 *e*P **P 04 26 27.7 +0.5**
OKC *ex* x 04 26 46.8
BBLS Lazići 61.16 307 *e*P **P 04 26 26.6 -1.2**
RUDO Rudo 61.22 307 *e*P **P 04 26 28.1 -0.1**
GKP Gorka Klasztor 61.25 318 *e*P **P 04 26 29.0 +0.9**
GKP Gorka Klasztor 61.25 318 *e*P **P 04 26 29.0 +0.9**
GKP *e*P **P 04 26 29.0 +0.9**
SRO Srobarova 61.28 312 *e*P **P 04 26 29.5 +1.1**
SRO pmax pmax
comp=Z,50nm,0.9s
SRO Srobarova 61.28 312 *e*P **P 04 26 29.5 +1.1**
MORH Mrgy, Hungar 61.30 310 *e*P **P 04 26 28.6 0.0**
STEI Steigen 61.43 335 *e*P **P 04 26 29.9 +0.8**
HAPS Han Pijesak,Bl 61.44 308 *e*P **P 04 26 29.7 -0.1**
MORC Moravsky Berou 61.50 314 ⇓P **P 04 26 31.2 +1.2**
MORC mb 04 26 32.0
MORC Moravsky Berou 61.50 314 *e*P **P 04 26 30.3 +0.3**
MORC Moravsky Berou 61.50 314 IAmb IAmb 04 26 31.9
comp=Z,33nm,0.9s
PDG Podgorica 61.52 306 *e*P **P 04 26 30.2 0.0**
PDG Podgorica 61.52 306 ⇑P **P 04 26 30.8 +0.7**
PDG mb 04 26 31.2
JAVC Velka Javorina 61.55 313 *e*P **P 04 26 31.7 +1.4**
DRME Dracevica, Mon 61.62 306 *e*P **P 04 26 30.2 -0.7**
UPM Unac-Piva 61.63 307 *e*P **P 04 26 31.4 +0.2**
SMOL Smolenice 61.76 313 *e*P **P 04 26 32.5 +0.8**
SMOL pmax pmax
comp=Z,10.0nm,1.0s
SMOL Smolenice 61.76 313 *e*P **P 04 26 32.5 +0.8**
MOR8 Moi Rana 61.77 333 *e*P **P 04 26 31.3 -0.2**
MODS Modra-Piesok 61.88 313 *e*P **P 04 26 32.4 -0.1**
MODS pmax pmax
comp=Z,35nm,1.2s
MODS Modra-Piesok 61.88 313 *e*P **P 04 26 32.4 -0.1**
KRLC Kraliky 61.94 315 *e*P **P 04 26 34.3 +1.3**
KRLC Kraliky 61.94 315 *e*P **P 04 26 34.3 +1.3**
BRY Bratogost 61.95 306 *e*P **P 04 26 33.2 -0.1**
LOF Lofoten 62.07 335 *e*P **P 04 26 33.5 +0.1**
HCY Herceg Novi 62.07 306 *e*P **P 04 26 33.4 -0.5**
TREB Trebinje 62.12 306 *e*P **P 04 26 32.4 -1.9**
KSP Ksiaz 62.14 316 *e*P **P 04 26 34.9 +0.7**
KSP Ksiaz 62.14 316 *e*P **P 04 26 34.9 +0.7**
KSP *e*P **P 04 26 34.9 +0.7**
VRAC Vranov 62.18 314 ⇑P **P 04 26 35.7 +1.2**
VRAC mb 04 26 36.9
VRAC Vranov 62.18 314 *e*P **P 04 26 35.4 +0.9**
DPC Dobruska-Polom 62.19 315 *e*P **P 04 26 35.7 +1.0**
DPC *e* 04 26 52.3
DPC Dobruska-Polom 62.19 315 *e*P **P 04 26 35.7 +1.0**
DPC *ex* x 04 26 52.3
DBRK Dubrovnik 62.28 306 *i* P **P 04 26 34.7 -0.6**
KONS Konsvik 62.29 333 *e*P **P 04 26 35.1 +0.2**
CHVC Chvalec 62.33 315 *e*P **P 04 26 36.9 +1.4**
KRUC Moravsky 62.35 314 *e*P **P 04 26 36.1 +0.5**
UPC Upice 62.37 315 *e*P **P 04 26 37.0 +1.2**
UPC Upice 62.37 315 *e*P **P 04 26 37.0 +1.2**
BSD Bornholm Skovb 62.39 321⇑*i*P **P 04 26 35.4 -0.4**
BSD pmax pmax
comp=Z,15nm,0.7s
BSD Bornholm Skovb 62.39 321⇑*i*P **P 04 26 35.4 -0.4**
comp=Z,15nm,0.7s
STON Ston 62.56 307 *i* P **P 04 26 36.6 -0.5**
STON Ston 62.56 307 *e*P **P 04 26 33.9 -3.2**
BLY Banja Luka 62.56 309 *e*P **P 04 26 36.7 -0.5**
BLY Banja Luka 62.56 309 ⇓P **P 04 26 37.8 +0.6**
BLY mb 04 26 39.1
BLY Banja Luka 62.56 309 IAmb IAmb 04 26 39.0
comp=Z,44nm,1.2s
MGRS Mrkonjic Grad 62.70 308 *e*P **P 04 26 39.1 +1.0**
MOSL Moslavina 62.70 310 *i* P **P 04 26 37.9 -0.2**
KALN Kalnik 62.81 310 *i* P **P 04 26 39.1 +0.3**
CONA Conrad Observa 62.89 312 *e*P **P 04 26 39.9 +0.6**
comp=Z,40nm,0.9s,SNR=23
KOGS Kog 62.89 311 *i* P **P 04 26 39.6 +0.3**
TREC Trest 62.90 314 *e*P **P 04 26 41.0 +1.7**
TREC Trest 62.90 314 *e*P **P 04 26 41.0 +1.7**
NSS Namsos 62.90 331 *e*P **P 04 26 39.5 +0.5**
PMG Port Moresby 63.03 117*de*P **P 04 26 42.4 +1.8**
PMG pmax pmax
comp=Z,151nm,0.9s
PMG Port Moresby 63.03 117 P **P 04 26 39.9 -0.7**
PMG IAmb IAmb 04 26 43.4
comp=Z,34nm,0.8s
PTJ Puntijarka 63.19 310 *i* P **P 04 26 41.5 +0.1**
ARSA Arzberg 63.23 312 *e*P **P 04 26 41.2 -0.4**
comp=Z,20nm,0.8s,SNR=8.8
AS31 Alice Springs 63.24 138 P **P 04 26 40.3 -1.5**
ASAR Alice Springs 63.24 138 P **P 04 26 42.6 +0.7**
comp=Z,11nm,0.5s,baz=322,slow=6.7,SNR=211
ASAR PKP2bc 04 55 44.0
comp=Z,1.1nm,0.9s,baz=124,slow=3.2,SNR=6.7
GOPC GO Pecny, Ondr 63.24 315 *e*P **P 04 26 42.7 +1.1**
GOPC GO Pecny, Ondr 63.24 315 *e*P **P 04 26 42.7 +1.1**
PVCC Panska Ves 63.27 315 *e*P **P 04 26 43.5 +1.7**
PVCC Panska Ves 63.27 315 *e*P **P 04 26 43.5 +1.7**
NC405 NORSAR Array S 63.36 327 P **P 04 26 41.4 -0.8**
PRU Pruhonice 63.38 315 *e*P **P 04 26 43.4 +0.9**
PRU Pruhonice 63.38 315 *e*P **P 04 26 43.4 +0.9**
HVAR Hvar 63.40 307 *i* P **P 04 26 42.4 -0.4**
RUE Ruedersdorf 63.44 318 *e*P **P 04 26 43.8 +1.0**
PRA Prague 63.44 315 *e*P **P 04 26 44.4 +1.6**
PRA Prague 63.44 315 *e*P **P 04 26 44.4 +1.6**
CRES Cresnjev 63.55 310 *e*P **P 04 26 43.8 +0.1**
UDBI Udbina 63.60 309 *i* P **P 04 26 44.1 -0.1**
BRG Berggiesshubel 63.61 316 *i* P **P 04 26 44.6 +0.6**
comp=Z,37nm,1.0s
BRG *e* 04 29 04.1
comp=Z,17nm,1.4s
comp=N,453nm,21.5s
comp=E,967nm,21.8s
comp=Z,105nm,25.0s
BRG Berggiesshubel 63.61 316 *i* P **P 04 26 44.6 +0.6**
BRG *e* 04 29 04.1
BRG pmax pmax
comp=Z,37nm,1.0s
BRG pmax pmax
comp=Z,17nm,1.4s
BRG MLR MLR
comp=N,453nm,21.5s
BRG MLR MLR
comp=E,967nm,21.8s
BRG MLR MLR
comp=Z,105nm,25.0s
NB2 NORSAR Subarra 63.61 327 P **P 04 26 43.8 -0.1**
comp=Z,31nm,0.7s,baz=83,slow=6.5
NB2 NORSAR Subarra 63.61 327 P **P 04 26 43.8 -0.1**
baz=83,slow=6.5
NOA NORSAR Array B 63.61 327 P **P 04 26 43.7 -0.1**
comp=Z,19nm,0.6s,baz=83,slow=6.5,SNR=113
NOA LR LR 04 56 22.4
comp=Z,623nm,18.3s,baz=75,slow=38
SOKA Soboth 63.67 311 *e*P **P 04 26 44.9 +0.3**
comp=Z,40nm,1.1s,SNR=10
ABPO Ambohimpanom 63.75 230 P **P 04 26 45.4 -0.1**
ABPO pmax pmax
comp=Z,20nm,0.8s
ABPO Ambohimpanom 63.75 230 P **P 04 26 45.4 -0.1**
ABPO IAmb IAmb 04 26 47.6
comp=Z,20nm,0.8s
MORI Morici 63.78 308 *i* P **P 04 26 44.5 -0.7**
TBLU Trondheim 63.78 330 *e*P **P 04 26 45.1 +0.3**
PBCC Pribram 63.78 315 *e*P **P 04 26 46.3 +1.1**
NAO01 NORSAR Array S 63.79 327 *e*P **P 04 26 45.1 +0.1**
ZIRJ Zirje 63.87 308 *i* P **P 04 26 45.4 -0.4**
STRU Stroemstad 63.89 325 *e*P **P 04 26 45.8 +0.2**
MOA Molln 63.96 313 *e*P **P 04 26 46.6 +0.2**
comp=Z,23nm,0.7s,SNR=17

OSL **Oslo** 63.99 326 *eP* **P** **04 26 46.9 +0.6**
OBKA **Obir** 64.03 311 *eP* **P** **04 26 47.2 +0.2**
comp=Z,22nm,0.9s
CLL **Collm** 64.11 317 ‖ *iP* **P** **04 26 47.8 +0.5**
CLL pmax pmax
comp=Z,37nm,1.1s
CLL **Collm** 64.11 317 ‖ *iP* **P** **04 26 47.8 +0.5**
comp=Z,37nm,1.1s
CLL *i* pP **pP** **04 26 57.5 -1.5**
CLL *e*PP **PP** **04 29 08.0 -0.3**
CLL epPP 04 29 19.0
CLL *e*SSS SSS 04 42 30.0
CLL **Collm** 64.11 317 IAmb IAmb 04 26 48.8
comp=Z,34nm,1.1s
GEC2 **GERESS Array S** 64.13 314 IAmb IAmb 04 26 49.5
comp=Z,48nm,0.8s
GERES **GERESS Array B** 64.13 314 P **P** **04 26 47.9 +0.3**
comp=Z,28nm,0.7s,baz=74,slow=6.1,SNR=43
LJU **Ljubljana** 64.14 311 *i* P **P** **04 26 48.1 +0.5**
LJU **Ljubljana** 64.14 311 *eP* **P** **04 26 47.8 +0.2**
KHC **Kasperske Hory** 64.16 314 *eP* **P** **04 26 48.4 +0.7**
KHC e 04 27 18.5
KHC **Kasperske Hory** 64.16 314 *eP* **P** **04 26 48.4 +0.7**
KHC *ex* x 04 27 18.5
DUGI **Dugi Otok** 64.21 308 *i* P **P** **04 26 47.5 -0.6**
NVLJ **Novalja** 64.22 309 *i* P **P** **04 26 46.7 -1.4**
CEY **Cerknica** 64.28 310 *i* P **P** **04 26 49.4 +0.9**
CEY **Cerknica** 64.28 310 *eP* **P** **04 26 48.8 +0.3**
RIY **Rijeka** 64.33 310 *eP* **P** **04 26 48.0 -0.8**
DOMB **Dombas** 64.49 329 *eP* **P** **04 26 50.1 +0.5**
KONO **Kongsberg** 64.60 326 P **P** **04 26 50.1 -0.2**
KONO pmax pmax
comp=Z,28nm,0.8s
KONO **Kongsberg** 64.60 326 *eP* **P** **04 26 50.6 +0.3**
KONO **Kongsberg** 64.60 326 P **P** **04 26 50.1 -0.2**
KONO IAmb IAmb 04 26 51.8
comp=Z,28nm,0.8s
MYKA **Terra Mystica** 64.62 311 *eP* **P** **04 26 50.9 +0.1**
comp=Z,14nm,1.1s
KBA **Koelnbreinsper** 64.72 312 *eP* **P** **04 26 51.4 -0.2**
comp=Z,13nm,0.5s
BRJN **Brijuni** 64.92 309 *i* P **P** **04 26 52.2 -0.4**
SKAR **Skarslia** 65.07 327 *eP* **P** **04 26 54.5 +1.1**
MOL **Molde** 65.11 329 *eP* **P** **04 26 54.6 +1.1**
ABTA **Abfaltersbach** 65.35 312 *eP* **P** **04 26 55.4 -0.1**
comp=Z,24nm,0.7s,SNR=7.0
MUD **Monsted U'grnd** 65.38 323 *i* P **P** **04 26 56.2 +0.8**
MUD **Monsted U'grnd** 65.38 323 *i* P **P** **04 26 56.2 +0.8**
HOMB **Homborsund** 65.40 325 *eP* **P** **04 26 56.3 +0.8**
AKN **Aaknes** 65.43 329 *eP* **P** **04 26 57.4 +1.7**
INTR **Introdacqua** 65.49 306 IAmb IAmb 04 27 05.3
comp=Z,70nm,1.1s
GRA1 **Grafenberg Arr** 65.55 315 IAmb IAmb 04 26 59.1
comp=Z,64nm,1.2s
AQU **L'Aquila** 65.77 307 *eP* **P** **04 26 58.3 0.0**
WTTA **Wattenberg** 65.82 312 *eP* **P** **04 26 58.3 -0.4**
comp=Z,35nm,0.6s,SNR=16
WATA **Walderalm** 65.84 312 *eP* **P** **04 26 58.4 -0.4**
comp=Z,21nm,0.7s,SNR=13
NRCA **Norcia** 65.86 307 IAmb IAmb 04 27 01.2
comp=Z,41nm,0.8s
ODD1 **Odda** 66.03 327 *eP* **P** **04 27 00.5 +0.9**
SNART **Snartemo** 66.05 325 *eP* **P** **04 27 00.8 +1.1**
CTI **Castel Tesino** 66.10 311 IAmb IAmb 04 27 01.2
comp=Z,26nm,0.7s
SQTA **Sankt Quirin** 66.11 312 *eP* **P** **04 26 59.9 -0.6**
comp=Z,39nm,0.5s,SNR=15
MBAR **Mbarara** 66.13 257 P **P** **04 27 01.7 +0.5**
MBAR pmax pmax
comp=Z,42nm,1.2s
MBAR **Mbarara** 66.13 257 P **P** **04 27 01.6 +0.5**
MBAR IAmb IAmb 04 27 18.1
comp=Z,42nm,1.1s
MOTA **Moosalm** 66.16 313 *eP* **P** **04 27 00.2 -0.6**
comp=Z,58nm,0.9s,SNR=15
BLS5 **Blasjo** 66.22 326 *eP* **P** **04 27 01.8 +0.9**
TEOL **Teolo** 66.25 310 IAmb IAmb 04 27 02.4
comp=Z,55nm,0.8s
RETA **Reutte** 66.35 313 *eP* **P** **04 27 01.6 -0.3**
comp=Z,32nm,0.5s,SNR=13
FETA **Feichten** 66.48 312 *eP* **P** **04 27 02.4 -0.5**
comp=Z,21nm,0.6s,SNR=14
BER **Bergen** 66.57 327 *eP* **P** **04 27 04.6 +1.7**
KMY **Karmoy** 66.87 326 *eP* **P** **04 27 05.4 +0.5**
DAVA **Damuels** 66.98 313 *eP* **P** **04 27 05.9 -0.2**
comp=Z,17nm,0.5s,SNR=14
TUE **Stuetta** 67.54 312 IAmb IAmb 04 27 21.2
comp=Z,23nm,0.8s
BFO **Black Forest** 67.72 314 *ceP* **P** **04 27 11.5 +0.9**
BFO pmax pmax
comp=Z,5.0nm,1.7s
BFO **Black Forest** 67.72 314 P **P** **04 27 10.4 -0.2**
BFO IAmb IAmb 04 27 12.0
comp=Z,28nm,1.1s
MEM **Membach** 68.58 317 P **P** **04 27 16.4 +0.5**
WLF **Walferdange** 68.75 316 P **P** **04 27 18.2 +1.3**
comp=Z,112nm,1.6s
WLF x x 04 27 18.8
SENIN **Lac Senin/Sane** 68.93 312 IAmb IAmb 04 27 21.0
comp=Z,34nm,1.1s
BCLA **Clavier** 69.06 317 P **P** **04 27 19.7 +0.8**
DAG **Danmarks Havn** 69.36 347 *i* P **P** **04 27 21.0 +0.7**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG **Danmarks Havn** 69.36 347 *i* P **P** **04 27 21.0 +0.7**
comp=Z,6.4nm,0.8s
BMRD **Maredsous** 69.42 317 P **P** **04 27 22.0 +0.9**
DOU **Dourbes** 69.59 317 P **P** **04 27 23.1 +0.9**
BNI **Bardonecchia** 69.73 311 IAmb IAmb 04 27 23.7
comp=Z,62nm,1.5s
LRW **Lerwick** 69.77 328 *eP* **P** **04 27 23.3 +0.3**
KEST **Kesra** 70.70 301 P **P** **04 27 29.8 +0.4**
comp=Z,99nm,1.0s,baz=23,slow=1.4,SNR=29
KEST LR LR 05 05 08.4
comp=Z,245nm,18.6s,baz=343,slow=41
MCD **Coleburn Disti** 71.62 326 *eP* **P** **04 27 35.9 +1.5**
ESY **Stoneypath** 71.87 324 *eP* **P** **04 27 36.4 +0.5**
CMAH **Djebel Manchou** 71.87 302 P **P** **04 27 36.8 +0.4**
EDMD **Edmundbyers** 71.89 323 *eP* **P** **04 27 36.2 +0.1**
EDMD IAmb IAmb 04 27 37.9
comp=Z,49nm,0.7s
HPK **Haverah Park** 72.01 322 *eP* **P** **04 27 37.9 +1.1**
EBL **Broad Law** 72.14 324 *eP* **P** **04 27 38.0 +0.4**
CWF **Charnwood Fore** 72.25 320 *eP* **P** **04 27 38.3 0.0**
LBWR **Ladybower, Pea** 72.26 321 *eP* **P** **04 27 38.7 +0.4**
LBWR IAmb IAmb 04 27 41.0
comp=Z,63nm,1.0s
RSC **Scourie** 72.30 327 *eP* **P** **04 27 39.8 +1.4**
ESK **Eskdalemuir** 72.39 323 *eP* **P** **04 27 39.6 +0.5**
ESK IAmb IAmb 04 27 40.6
comp=Z,44nm,0.9s
ESK **Eskdalemuir** 72.39 323 *i* P **P** **04 27 41.1 +2.1**
ESK **Eskdalemuir** 72.39 323 P **P** **04 27 38.9 -0.2**
ESK IAmb IAmb 04 27 40.8
comp=Z,43nm,0.8s
CKFL **Kef-Lekhel** 72.48 302 P **P** **04 27 40.2 +0.1**
KESW **Keswick, Cumbr** 72.60 323 *eP* **P** **04 27 41.4 +1.1**
KESW IAmb IAmb 04 27 42.4
comp=Z,268nm,1.6s
KAC **Achnashellach** 72.68 326 *eP* **P** **04 27 41.5 +0.8**
CASM **Ain Smara** 72.70 302 P **P** **04 27 41.7 +0.4**
WOL **Wolverton** 72.70 319 *eP* **P** **04 27 41.3 +0.3**
WOL IAmb IAmb 04 27 42.6
comp=Z,95nm,0.7s
CTEI **Djebel Teioual** 72.83 302 P **P** **04 27 42.1 -0.1**
PGBU **Glenifferbraes** 72.89 324 *eP* **P** **04 27 42.7 +0.7**
PGBU IAmb IAmb 04 27 43.8
comp=Z,152nm,1.5s
DFRA **Djebel Bou Aff** 73.07 303 P **P** **04 27 43.5 -0.1**
LAWE **Loch Awe, Argy** 73.20 325 *eP* **P** **04 27 45.0 +1.2**
LAWE IAmb IAmb 04 27 45.6
comp=Z,38nm,0.9s
HLM1 **Long Mynd** 73.23 321 *eP* **P** **04 27 44.5 +0.5**
FOEL **Foel Wylfa** 73.27 321 *eP* **P** **04 27 45.0 +0.7**
SCO **Scoresbysund** 73.33 342 *i* P **P** **04 27 46.0 +1.7**
SCO pmax pmax
comp=Z,15nm,1.1s
SCO **Scoresbysund** 73.33 342 *i* P **P** **04 27 46.0 +1.7**
comp=Z,15nm,1.1s
OLDB **Oldbury-Upon-S** 73.35 320 *eP* **P** **04 27 45.0 +0.2**
OLDB IAmb IAmb 04 27 46.1
comp=Z,73nm,0.6s
MONM **Monmouth** 73.43 320 *eP* **P** **04 27 46.6 +1.3**
MONM IAmb IAmb 04 27 46.9
comp=Z,34nm,0.8s
MCH1 **Michaelchurch** 73.48 320 *eP* **P** **04 27 45.7 +0.1**
MCH1 IAmb IAmb 04 27 47.0
comp=Z,56nm,1.1s
IOMK **Kirk Michael** 73.51 323 *eP* **P** **04 27 47.0 +1.3**
IOMK IAmb IAmb 04 27 47.6
comp=Z,141nm,0.9s
SET **Setif** 73.55 303 P **P** **04 27 50.0 +3.6**
WLF1 **Llynfaes** 73.79 322 *eP* **P** **04 27 48.6 +1.3**
WLF1 IAmb IAmb 04 27 49.6
comp=Z,82nm,0.8s
STKA **Stephens Creek** 73.87 139 P **P** **04 27 48.3 +0.3**
comp=Z,8.3nm,0.6s,baz=312,slow=5.8,SNR=25
STKA LR LR 05 03 06.7
comp=Z,214nm,21.9s,baz=314,slow=38
RSBS **Rosebush, Pemb** 74.50 321 *eP* **P** **04 27 52.5 +1.0**
RSBS IAmb IAmb 04 27 53.0
comp=Z,27nm,0.7s
TOLK **Toolik Lake Re** 74.73 20 P **P** **04 27 54.2 +1.6**
baz=304
TOLK **Toolik Lake Re** 74.73 20 IAmb IAmb 04 28 11.3
comp=Z,42nm,1.1s
EIDS **Eidsvold** 75.68 128 IAmb IAmb 04 28 11.7
comp=Z,61nm,1.3s
LSZ **Lusaka** 75.85 245 P **P** **04 27 59.1 -0.8**
LSZ pmax pmax
comp=Z,52nm,1.2s
LSZ **Lusaka** 75.85 245 P **P** **04 27 59.1 -0.8**
LSZ IAmb IAmb 04 28 02.0
comp=Z,52nm,1.1s
SUMG **Summit** 76.05 347 *i* P **P** **04 28 00.7 +0.1**
SUMG **Summit** 76.05 347 *i* P **P** **04 28 00.7 +0.1**
SUMG **Summit** 76.05 347 IAmb IAmb 04 28 02.6
comp=Z,61nm,1.4s
SVW2 **Sparrevohn** 76.60 28 P **P** **04 28 03.5 +0.1**
BPAW **Bear Paw Mtn.** 76.80 24 IAmb IAmb 04 28 17.5
comp=Z,63nm,1.6s
PPLA **Purkeypile** 77.01 25 IAmb IAmb 04 28 23.7
comp=Z,78nm,1.5s
MDM **Murphy Dome** 77.28 23 IAmb IAmb 04 28 26.3
comp=Z,75nm,1.4s
TCOL **CIGO, UAF Yank** 77.46 23 P **P** **04 28 09.9 +1.8**
baz=306
POKR **Poker Plat Res** 77.46 22 P **P** **04 28 09.6 +1.4**
baz=306
COLA **College** 77.46 23 ‖ *iP* **P** **04 28 09.8 +1.7**
COLA pmax pmax
comp=Z,15nm,0.8s
KULLO **Kullorsuaq** 77.47 352 *i* P **P** **04 28 07.6 -0.4**
KULLO pmax pmax
comp=Z,32nm,0.7s
KULLO **Kullorsuaq** 77.47 352 *i* P **P** **04 28 07.6 -0.4**
comp=Z,32nm,0.7s
MCK **McKinley** 77.75 24 IAmb IAmb 04 28 38.4
comp=Z,67nm,1.7s
PRP **Porcupine Dome** 77.86 21 IAmb IAmb 04 28 24.0
comp=Z,27nm,1.0s
ILAR **Eielson Array** 77.86 22 P **P** **04 28 10.4 0.0**
comp=Z,5.5nm,0.6s,baz=300,slow=4.3,SNR=80
ILAR PP **PP** **04 31 07.5 +1.7**
comp=Z,6.3nm,1.1s,baz=303,slow=8.4,SNR=5.9
SESP **Santiago Espad** 78.67 307 P **P** **04 28 16.9 +1.4**
ESBB **Sonseca Array** 79.02 309 IAmb IAmb 04 28 19.0
comp=Z,56nm,1.3s
ESDC **Sonseca Array** 79.02 309 P **P** **04 28 17.5 +0.1**
comp=Z,15nm,0.9s,baz=51,slow=5.9,SNR=45
ESDC PP **PP** **04 31 18.0 +1.7**
comp=Z,3.8nm,1.0s,baz=60,slow=8.4,SNR=6.4
ESDC **Sonseca Array** 79.02 309 P **P** **04 28 17.1 -0.3**
SML **Sawmill** 79.11 25 IAmb IAmb 04 28 30.3
comp=Z,63nm,1.1s
RIDG **Independent Ri** 79.20 23 IAmb IAmb 04 28 43.5
comp=Z,54nm,1.0s
ARMA **Armidale** 79.22 132 P **P** **04 28 15.9 -2.5**
ARMA IAmb IAmb 04 28 32.5
comp=Z,90nm,1.6s
PAB **San Pablo** 79.34 309 P **P** **04 28 19.2 +0.1**
PAB pmax pmax
comp=Z,50nm,1.5s
PAB **San Pablo** 79.34 309 P **P** **04 28 19.2 +0.1**
PAB IAmb IAmb 04 28 20.8
comp=Z,50nm,1.4s
INK **Inuvik** 79.41 16 IAmb IAmb 04 28 36.9
comp=Z,33nm,1.1s
DOT **Dot Lake** 79.53 23 P **P** **04 28 18.1 -1.5**
KDAK **Kodiak Island** 79.66 30 *i* P **P** **04 28 20.7 +0.3**
EGAK **Eagle** 79.75 21 P **P** **04 28 20.7 0.0**
EPYK **Eagle Plains** 79.98 18 P **P** **04 28 23.7 +1.7**
baz=316
EPYK **Eagle Plains** 79.98 18 P **P** **04 28 22.5 +0.5**
PBRG **Braganca** 80.00 312 *eP* **P** **04 28 23.3 +0.7**
comp=Z,38nm,1.8s
FIGM **Figuig** 80.21 301 P **P** **04 28 25.0 +0.9**
JBK **JBK** 80.27 303 P **P** **04 28 26.0 +1.6**
TDRA **Tendrara** 80.42 302 P **P** **04 28 27.0 +1.8**
MVO **Moncorvo** 80.47 311 *eP* **P** **04 28 26.0 +0.8**
comp=Z,63nm,1.0s
C36M **Paulatuk** 80.69 13 P **P** **04 28 27.5 +1.8**
baz=326
HORN **Hornachuelos** 80.72 308 P **P** **04 28 27.3 +0.8**
DAWY **Dawson** 80.80 21 P **P** **04 28 26.8 +0.3**
PVRL **Vila Real** 80.89 312 *eP* **P** **04 28 28.7 +1.3**
POLO **Lamas de Olo** 80.89 312 *eP* **P** **04 28 28.4 +0.9**
comp=Z,20nm,1.6s
PCAB **Cabril** 80.90 312 *eP* **P** **04 28 29.0 +1.6**
GLB **Gilahina Butte** 81.03 24 IAmb IAmb 04 28 41.8
comp=Z,51nm,1.6s
MTE **Manteigas** 81.17 311 *eP* **P** **04 28 30.4 +1.5**
comp=Z,62nm,1.0s
MTE **Manteigas** 81.17 311 IAmb IAmb 04 28 31.1
comp=Z,45nm,0.9s
PVIS **Viseu** 81.26 311 *eP* **P** **04 28 30.2 +0.8**
comp=Z,74nm,1.6s
MCARA **McCarthy VSAT** 81.36 24 IAmb IAmb 04 28 43.9
comp=Z,53nm,1.2s
PCBR **Castelo Branco** 81.38 310 *eP* **P** **04 28 30.9 +0.9**
comp=Z,48nm,1.2s
PMRV **Marv??o** 81.51 310 *eP* **P** **04 28 31.2 +0.5**
comp=Z,49nm,1.5s
CRQM **Cirque** 81.73 25 IAmb IAmb 04 28 51.1
comp=Z,60nm,1.4s
TGL **Tana Glacier** 81.84 24 IAmb IAmb 04 28 46.1
comp=Z,47nm,1.0s
COI **Coimbra** 81.85 311 *eP* **P** **04 28 32.9 +0.5**
comp=Z,54nm,1.1s
PCAS **Casmilo, Conde** 81.98 311 *eP* **P** **04 28 34.4 +1.3**
comp=Z,55nm,2.0s
BARN **Barnard Glacie** 82.07 24 IAmb IAmb 04 28 47.5
comp=Z,24nm,0.8s
PTOM **Tomar** 82.12 310 *eP* **P** **04 28 35.1 +1.2**
comp=Z,84nm,1.4s
PMTG **Montargil** 82.25 310 *eP* **P** **04 28 36.1 +1.6**
comp=Z,46nm,1.9s
CTGM **Chitina Glacie** 82.25 24 IAmb IAmb 04 28 48.3
comp=Z,40nm,1.0s
EVO **Evora** 82.35 309 *eP* **P** **04 28 35.9 +0.8**
comp=Z,49nm,1.5s
ALMR **Almeirim** 82.45 310 *eP* **P** **04 28 37.0 +1.4**
PBEJ **Beja** 82.48 309 *eP* **P** **04 28 36.7 +0.9**
comp=Z,48nm,1.2s
PVAQ **Vaqueiros** 82.66 308 *eP* **P** **04 28 37.2 +0.4**
comp=Z,72nm,1.1s
PVAQ **Vaqueiros** 82.66 308 IAmb IAmb 04 28 38.6
comp=Z,50nm,0.7s
CZD **Col de Zad** 82.70 303 P **P** **04 28 39.0 +1.6**
PCVE **Castro Verde** 82.78 308 *eP* **P** **04 28 38.2 +0.8**
ARF **Arif** 82.78 301 P **P** **04 28 40.0 +2.3**
MESJ **Messejana** 82.81 309 *eP* **P** **04 28 38.1 +0.6**
MESJ AMb AMB 04 28 39.6
comp=Z,59nm,1.3s
MESJ **Messejana** 82.81 309 *eP* **P** **04 28 38.1 +0.6**
comp=Z,59nm,1.2s
MESJ **Messejana** 82.81 309 *eP* **P** **04 28 38.1 +0.6**
PBDV **Barranco-do-Ve** 82.89 308 *eP* **P** **04 28 39.1 +1.1**
comp=Z,92nm,1.3s
PNCL **Nicolau / Gran** 82.90 309 *eP* **P** **04 28 38.9 +0.9**
comp=Z,54nm,1.3s
SFJD **Kangerlussuaq** 83.05 347 *i* P **P** **04 28 39.0 +0.9**
SFJD **Kangerlussuaq** 83.05 347 *i* P **P** **04 28 39.0 +0.9**
LBTB **Lobatse** 83.17 238 P **P** **04 28 39.9 +0.3**
LBTB pmax pmax
comp=Z,52nm,0.9s
LBTB **Lobatse** 83.17 238 P **P** **04 28 39.9 +0.3**
LBTB IAmb IAmb 04 28 41.8
comp=Z,52nm,0.8s
PTEO **Sao Teotonio** 83.30 309 *eP* **P** **04 28 41.0 +0.9**
comp=Z,96nm,2.0s
MORF **Marmelete** 83.36 308 *eP* **P** **04 28 40.9 +0.4**
MORF AMb AMB 04 28 43.2
comp=Z,43nm,1.5s
MORF **Marmelete** 83.36 308 *eP* **P** **04 28 41.5 +1.0**
comp=Z,47nm,1.7s
MORF **Marmelete** 83.36 308 *eP* **P** **04 28 40.9 +0.4**
PFVI **Vila Bisbo** 83.57 308 *eP* **P** **04 28 42.8 +1.3**
BOSA **Boshof** 85.39 235 P **P** **04 28 51.3 +0.5**
comp=Z,32nm,0.6s,baz=48,slow=2.7,SNR=89
BOSA LR LR 05 03 53.8
comp=Z,254nm,21.7s,baz=38,slow=33
BOSA **Boshof** 85.39 235 P **P** **04 28 50.6 -0.2**
DZM **Mont Dzumac** 85.42 117 *eP* **P** **04 28 53.0 +1.9**
comp=Z,42nm,1.4s
SKAG **Skagway** 85.44 23 IAmb IAmb 04 29 05.0
comp=Z,40nm,1.0s
TOA0 **Torodi Ar. Sit** 85.91 283 P **P** **04 28 54.5 +0.9**
SNR=22
TOA0 P **P** **04 28 54.5 +0.9**
SNR=22
TORD **Torodi Ar. Bea** 85.91 283 P **P** **04 28 54.4 +0.7**
comp=Z,138nm,1.0s,baz=53,slow=4.5,SNR=538
TORD PP **PP** **04 32 13.8 +0.2**
comp=Z,5.0nm,0.8s,baz=52,slow=9.3,SNR=4.7
TORD PKKPbc **PKKPbc** **04 46 54.7 +1.6**
comp=Z,0.5nm,0.8s,baz=292,slow=1.8,SNR=3.7
TORD LR LR 05 11 33.0
comp=Z,233nm,18.8s,baz=25,slow=39
TSUM **Tsumeb** 86.54 247 P **P** **04 28 56.2 -0.5**
TSUM IAmb IAmb 04 28 58.3
comp=Z,35nm,1.5s
PMAR **Madeira** 91.52 308 *eP* **P** **04 29 22.6 +2.4**
CASY **Casey** 93.31 173 P **P** **04 29 27.3 +0.2**
CASY IAmb IAmb 04 29 29.2
comp=Z,12nm,1.1s
DBIC **Dimbokro** 94.57 280 P **P** **04 29 34.5 +0.2**
comp=Z,16nm,0.7s,baz=36,slow=4.8,SNR=23
DBIC LR LR 05 14 59.0
comp=Z,208nm,18.5s,baz=41,slow=37
DBIC **Dimbokro** 94.57 280 IAmb IAmb 04 29 59.9
comp=Z,16nm,0.8s
KIC **Kosan Boka** 94.61 279 *e*PKP2 **P** **04 29 35.2 +0.7**
comp=Z,28nm,0.9s
TIC **Toumodi** 94.72 280 *e*PKP2 **P** **04 29 35.6 +0.5**
LIC **Lamto** 94.92 279 *e*PKP2 **P** **04 29 36.5 +0.6**
comp=Z,59nm,1.5s
MAW **Mawson** 96.50 191 LR LR 05 09 27.7
comp=Z,119nm,20.1s,baz=49,slow=33
SCHQ **Schefferville** 97.35 349 LR LR 05 20 18.4
comp=Z,156nm,18.8s,baz=0.5,slow=40
PDAR **Pinedale Array** 107.93 18 PKiKP **PKiKP** **04 34 42.4 +1.4**
comp=Z,1.1nm,0.7s,baz=64,slow=2.0,SNR=11
PDAR **Pinedale Array** 107.93 18 PKiKP **PKiKP** **04 34 41.2 +0.3**
NVAR **Mina Array Bea** 108.91 26 PKiKP **PKiKP** **04 34 44.2 +1.3**
comp=Z,0.5nm,0.5s,baz=273,slow=2.5,SNR=4.1
CCM **Cathedral Cave** 115.71 4 P **PKPdf** **04 34 55.6 +0.1**
baz=355
ANMO **Albuquerque** 116.09 18 PKIKP **PKiKP** **04 34 54.8 -1.8**
ANMO **Albuquerque** 116.09 18 **PKiKP** **04 34 54.8 -1.8**
S50A **Richmond** 116.22 358 P **PKPdf** **04 34 56.6 +0.1**
baz=1.9
QSPA **South Pole Qui** 116.22 180 **PKPdf** **04 34 55.4 -0.1**
SNAA **Sanae** 116.84 201 PKPdf **PKiKP** **04 34 57.1 +0.5**
SNAA **Sanae** 116.84 201 PKIKP **PKiKP** **04 34 57.2 +0.5**
SNAA **Sanae** 116.84 201 **PKiKP** **04 34 57.2 +0.5**
T50A **Nancy** 116.88 359 P **PKiKP** **04 34 58.3 +0.4**
baz=1.5
T47A **Sharon Grove** 116.93 1 P **PKiKP** **04 34 58.3 +0.4**
baz=359
U40A **Yellville** 117.27 6 P **PKiKP** **04 34 58.8 +0.2**
baz=353
TUL1 **Leonard** 117.38 9 P **PKiKP** **04 34 59.5 +0.7**
baz=350
U49A **Red Boiling Sp** 117.41 359 P **PKiKP** **04 34 59.6 +0.7**
baz=0.6
U50A **Jamestown** 117.49 359 P **PKiKP** **04 34 59.3 +0.2**
baz=1.5
WVT **Waverly** 117.78 1 P **PKiKP** **04 35 00.4 +0.8**
baz=358
121A **Cookes Peak, D** 117.94 20 P **PKiKP** **04 35 01.4 +1.1**
baz=338
MSTX **Muleshoe** 117.97 15 P **PKiKP** **04 35 01.8 +1.6**
baz=343
V54A **Nebo** 118.00 356 P **PKiKP** **04 35 01.1 +1.0**
baz=4.4
V51A **Loudon** 118.08 358 P **PKiKP** **04 35 00.7 +0.5**
baz=2.0
V48A **Smith Brothers** 118.18 0 P **PKiKP** **04 35 00.9 +0.5**
baz=360
V50A **Pikevile** 118.23 359 P **PKiKP** **04 35 00.9 +0.4**
baz=1.2
VNA2 **Neumayer--Watz** 118.30 202 PKPdf **PKiKP** **04 35 00.3 +0.9**
baz=75,slow=1.4
W41B **Gary Mavity, V** 118.50 5 P **PKiKP** **04 35 01.3 +0.3**
baz=354
VNA1 **Neumayer--Stat** 118.59 202 PKPdf **PKiKP** **04 35 01.1 +1.1**
W53A **Cullowhee** 118.67 357 P **PKiKP** **04 35 02.3 +0.7**
baz=3.2
W52A **Murphy** 118.78 358 P **PKiKP** **04 35 01.8 +0.2**
baz=2.5
MIAR **Mount Ida** 118.99 7 P **PKiKP** **04 35 02.6 +0.6**
baz=353
VNA3 **Neumayer Olymp** 119.03 201 PKPdf **PKiKP** **04 35 01.4 +0.5**
X54A **Belton** 119.25 356 P **PKiKP** **04 35 03.7 +1.2**
baz=4.0
X52A **Dahlonega** 119.27 358 P **PKiKP** **04 35 03.1 +0.5**
baz=2.5
MNTX **Cornudas Mount** 119.44 19 P **PKiKP** **04 35 04.0 +1.0**
baz=340
X48A **Hartselle** 119.46 1 P **PKPdf** **04 35 02.5 -0.4**
baz=359
ABTX **Abilene, Hawle** 119.95 13 P **PKiKP** **04 35 05.4 +1.4**
baz=346
Y51A **Rockmart** 120.00 359 P **PKiKP** **04 35 04.1 +0.1**
baz=1.3
LRAL **Lakeview Retre** 120.88 1 P **PKiKP** **04 35 05.9 +0.2**
baz=359
252A **Lumpkin** 121.89 358 P **PKiKP** **04 35 08.4 +0.6**
baz=1.7
JCT **Junction City** 121.99 14 P **PKiKP** **04 35 08.7 +0.7**
baz=346
TXAR **Lajitas Array** 122.15 18 PKP **PKiKP** **04 35 09.4 +0.9**
comp=Z,3.9nm,0.8s,baz=276,slow=0.4,SNR=37
TXAR PP **PP** **04 36 47.2 +5.2**
comp=Z,0.9nm,0.9s,baz=3.4,slow=4.5,SNR=2.4
TXAR PKKPab **PKKPbc** **04 45 05.7 +0.9**
comp=Z,0.2nm,0.5s,baz=170,slow=6.0,SNR=4.7
TXAR **Lajitas Array** 122.15 18 PP 04 36 41.6 -0.4
OBIP **Obispado Ponce** 131.80 334 **PKPdf** **04 35 26.1 -0.8**
BDFB **Brasilia** 142.71 279 PKIKP **PKPdf** **04 35 44.7 -2.4**
BDFB **Brasilia** 142.71 279 PKP **PKPdf** **04 35 45.0 -2.0**
comp=Z,4.3nm,0.9s,baz=51,slow=6.5,SNR=3.0
BDFB **Brasilia** 142.71 279 **PKPdf** **04 35 44.7 -2.4**
PTGA **Pitinga** 143.94 311 PKP PKPbc 04 35 46.9 -0.2
comp=Z,7.6nm,0.5s,baz=18,slow=4.6,SNR=18
VAO **Valinhos** 144.09 267 *eP* **PKPdf** **04 35 50.6 +1.3**
VAO **Valinhos** 144.09 267 *eP* **PKPdf** **04 35 50.6 +1.3**
RCLB **Rio Claro- Sao** 144.46 268 *eP* **PKPdf** **04 35 49.3 -0.6**
RCLB **Rio Claro- Sao** 144.46 268 *eP* **PKPdf** **04 35 49.3 -0.6**
BARC **Barichara** 144.76 337 *eP* **PKPab** **04 35 48.6 -1.2**
BARC **Barichara** 144.76 337 *eP* **PKPab** **04 35 48.6 -1.2**
BB19B **Bebedouro** 145.00 271 *eP* **PKPbc** **04 35 48.6 -1.7**
BB19B **Bebedouro** 145.00 271 *eP* **PKPbc** **04 35 48.6 -1.7**
HELC **Santa Helena** 145.91 340 *eP* **PKPab** **04 35 54.3 +0.1**
HELC **Santa Helena** 145.91 340 *eP* **PKPab** **04 35 54.3 +0.1**
NORC **Norcasia** 146.30 339 *eP* **PKPbc** **04 35 54.5 0.0**
NORC **Norcasia** 146.30 339 *eP* **PKPbc** **04 35 54.5 0.0**
CBOC **Ciudad Bolivar** 146.36 341 *eP* **PKPab** **04 35 55.4 -0.2**
CBOC **Ciudad Bolivar** 146.36 341 *eP* **PKPab** **04 35 55.4 -0.2**
GUY2C **Guyana, Caldas** 146.77 340 *eP* **PKPbc** **04 35 56.4 0.0**
GUY2C **Guyana, Caldas** 146.77 340 *eP* **PKPbc** **04 35 56.4 0.0**
ROSC **El Rosal** 146.79 338 PKPbc **PKPbc** **04 35 57.0 +0.6**
comp=Z,43nm,0.5s,baz=2.4,slow=2.8,SNR=29
CLDB **Colider** 147.24 292 *eP* **PKPdf** **04 35 55.1 +0.3**
CLDB **Colider** 147.24 292 *eP* **PKPdf** **04 35 55.1 +0.3**
ORTC **Ortega, Tolima** 147.97 339 *eP* **PKPdf** **04 35 56.8 +0.6**
ORTC **Ortega, Tolima** 147.97 339 *eP* **PKPdf** **04 35 56.8 +0.6**
GUVC **San Jose del G** 148.27 333 *eP* **PKPbc** **04 35 60.0 0.0**
GUVC **San Jose del G** 148.27 333 *eP* **PKPbc** **04 35 60.0 0.0**
USHA **Ushuaia** 148.69 200 PKPbc **PKiKP** **04 36 01.2 0.0**
comp=Z,12nm,0.8s,baz=142,slow=2.9,SNR=13
PCON **Cinco Dias** 149.83 340 *eP* **PKPbc** **04 36 02.4 -2.2**
PCON **Cinco Dias** 149.83 340 *eP* **PKPbc** **04 36 02.4 -2.2**
FLOC **Florencia** 150.29 338 *eP* **PKPbc** **04 36 04.8 -0.3**
FLOC **Florencia** 150.29 338 *eP* **PKPbc** **04 36 04.8 -0.3**

BBAC	**Balboa, Cauca**	**150.37 341**	*eP*		**PKPbc**	**04 36 05.2**	**-0.2**
BBAC	**Balboa, Cauca**	**150.37 341**	*eP*		**PKPbc**	**04 36 05.2**	**-0.2**
SAML	**Samuel**	**151.95 304**		PKIKP	**PKPdf**	**04 36 01.7**	**-0.6**
SAML	**Samuel**	**151.95 304**			**PKPdf**	**04 36 01.7**	**-0.6**
OTAV	**Otavalo**	**152.41 343**		PKIKP	**PKPdf**	**04 36 03.0**	**-0.7**
OTAV	**Otavalo**	**152.41 343**			**PKPdf**	**04 36 03.0**	**-0.7**
OTAV	**Otavalo**	**152.41 343**	*eP*		**PKPdf**	**04 36 05.8**	**+2.2**
OTAV	**Otavalo**	**152.41 343**	*eP*		**PKPdf**	**04 36 05.8**	**+2.2**
CPUP	**Villa Florida**	**153.96 264**		PKP	**PKPdf**	**04 36 05.0**	**+0.2**
	comp=Z,6.7nm,1.0s,baz=68,slow=3.1,SNR=6.8						
CPUP				PKPbc	**PKPbc**	**04 36 12.3**	**-0.6**
	comp=Z,10.0nm,0.7s,baz=75,slow=3.0,SNR=16						
CPUP	**Villa Florida**	**153.96 264**			**PKPdf**	**04 36 03.9**	**-0.9**
CPUP					**pPKPbc**	**04 36 24.5**	**-1.1**
SIV	**San Ignacio**	**154.24 289**		PKP	**PKPdf**	**04 36 05.8**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=100,slow=2.0,SNR=7.1						
SIV				PKPbc	**PKPbc**	**04 36 13.5**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=91,slow=3.9,SNR=16						
SIV				PKPab	**PKPab**	**04 36 28.1**	**+0.3**
	comp=Z,12nm,0.8s,baz=92,slow=6.4,SNR=11						
TRQA	**Tornquist**	**156.37 235**		PKIKP	**PKPdf**	**04 36 07.9**	**0.0**
TRQA	**Tornquist**	**156.37 235**			**PKPdf**	**04 36 07.9**	**0.0**
TRQA					**PKPab**	**04 36 35.3**	**-1.0**
ATAH	**Atahualpa**	**159.36 337**		PKP	**PKPdf**	**04 36 14.5**	**+1.8**
	comp=Z,6.8nm,0.9s,baz=18,slow=9.6,SNR=4.8						
ATAH				PKPab	**PKPab**	**04 36 51.8**	**+1.6**
	comp=Z,14nm,0.8s,baz=14,slow=3.5,SNR=8.2						
LPAZ	**La Paz**	**160.23 297**		PKP	**PKPdf**	**04 36 13.9**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=31,slow=4.1,SNR=7.8						
LPAZ				PKPab	**PKPab**	**04 36 53.7**	**-0.6**
	comp=Z,8.7nm,0.9s,baz=41,slow=5.1,SNR=11						
PLCA	**Paso Flores**	**160.59 219**		PKIKP	**PKPdf**	**04 36 10.4**	**-2.5**
PLCA						04 36 53.8	
PLCA	**Paso Flores**	**160.59 219**		PKPab	**PKPab**	**04 36 54.5**	**0.0**
	comp=Z,5.7nm,0.8s,baz=168,slow=5.0,SNR=10						
PLCA	**Paso Flores**	**160.59 219**			**PKPdf**	**04 36 10.4**	**-2.5**
PLCA					**PKPab**	**04 36 53.8**	**-0.7**
NNA	**Nana**	**163.05 326**		PKIKP	**PKPdf**	**04 36 12.4**	**-3.8**
NNA						04 37 04.1	
NNA	**Nana**	**163.05 326**		PKPab	**PKPab**	**04 37 06.7**	**+0.9**
	comp=Z,6.1nm,0.4s,baz=325,slow=3.0,SNR=4.0						
NNA	**Nana**	**163.05 326**		PKPdf	**PKPdf**	**04 36 12.4**	**-3.8**
NNA					**PKPab**	**04 37 04.1**	**-1.7**
LVC	**Limon Verde**	**163.62 280**		PKIKP	**PKPdf**	**04 36 13.9**	**-3.0**
LVC						04 37 07.2	
LVC	**Limon Verde**	**163.62 280**		PKPdf	**PKPdf**	**04 36 13.9**	**-3.0**
LVC					**PKPab**	**04 37 07.2**	**-1.6**

*ISCJB **06** 04:19:16.9±0.3, 26°.40N±0°.04×93°.63E±0°.05, h27km, mb4.3/7, Error ellipse: s-maj=6.8km s-min=5.6km az=19.9*
*IDC **06** 04:19:17.0±1.2, 26°.54N×93°.59E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.0/36, mbtmp4.4/7, Error ellipse: s-maj=32.3km s-min=20.3km az=70.0*
*NEIC **06** 04:19:20.6±1.8, 26°.37N±0°.02×93°.53E±0°.07, h47km±7km, mb4.8/23*

ISC 06 04:19:19.0±0.5, 26°.42N±0°.06×93°.54E±0°.06, h27km, n40, σ1°.23/42, mb4.7/16, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.71**	**241**	Pn	**Pn**	**04 19 48.5**	**+1.2**
SHL					**Sn**	**04 20 09.4**	**+1.0**
LSA	**Lhasa**	**3.89**	**328**	Pn	**Pn**	**04 20 19.0**	**+1.6**
BRDH	**Bariadhala**	**4.11**	**205**	Pn	**Pn**	**04 20 23.0**	**+3.0**
	baz=107,slow=19,SNR=2.4						
BRDH				Sn	**Sn**	**04 21 08.0**	**+0.8**
	1.3nm,0.3s,baz=100,slow=24,SNR=6.1						
SIMRM	**Sittwe**	**6.29**	**186**	Pn	**Pn**	**04 20 50.1**	**+0.1**
KMI	**Kunming**	**8.40**	**97**	Pn	**Pn**	**04 21 20.5**	**+1.3**
ENH	**Enshi**	**14.56**	**71**	P	**P**	**04 22 50.1**	**+0.6**
WMQ	**Urumqi**	**18.00**	**346**	P	**Pn**	**04 23 26.4**	**-0.9**
WMQ				IAmb	IAmb	04 23 30.8	
	comp=Z,63nm,0.7s						
NIL	**Nilore**	**18.97**	**297**	P	**P**	**04 23 37.9**	**-0.4**
NIL				IAmb	IAmb	04 23 55.3	
	comp=Z,76nm,0.8s						
MK31	**Makanchi Array**	**22.20**	**339**	P	**P**	**04 24 11.9**	**-1.3**
MKAR	**Makanchi Array**	**22.20**	**339**	P	**P**	**04 24 13.6**	**+0.4**
	comp=Z,18nm,0.5s,baz=146,slow=13,SNR=7.9						
MAKZ	**Makanchi**	**22.32**	**339**	P	**P**	**04 24 14.8**	**+0.3**
MAKZ				IAmb	IAmb	04 24 18.4	
	comp=Z,26nm,0.8s						
KBL	**Kabul**	**22.57**	**297**	P	**P**	**04 24 16.7**	**-0.8**
BTK	**Batken**	**23.28**	**311**	P	**P**	**04 24 24.1**	**-0.6**
SONM	**Songino Array**	**23.64**	**22**	P	**P**	**04 24 29.7**	**+1.6**
	comp=Z,3.6nm,0.8s,baz=207,slow=11,SNR=3.4						
SONM	**Songino Array**	**23.64**	**22**	P	**P**	**04 24 28.1**	**-0.1**
ULN	**Ulaanbaatar**	**23.89**	**23**	P	**P**	**04 24 31.0**	**+0.4**
KURBB	**Kurchatov Arra**	**26.75**	**339**	P	**P**	**04 24 57.5**	**+1.2**
	comp=Z,7.7nm,0.6s,baz=152,slow=10,SNR=5.0						
KURK	**Kurchatov**	**26.81**	**339**	P	**P**	**04 24 57.2**	**+0.4**
ZALV	**Zalesovo Beam**	**28.25**	**349**	P	**P**	**04 25 10.7**	**+1.1**
	comp=Z,4.7nm,0.6s,baz=173,slow=8.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**28.25**	**349**	P	**P**	**04 25 09.7**	**0.0**
KSM	**Kuching**	**29.59**	**144**	P	**P**	**04 25 21.4**	**-0.5**
KSM				IAmb	IAmb	04 25 26.0	
	comp=Z,14nm,0.9s						
KSRS	**Korea Array**	**31.03**	**61**	P	**P**	**04 25 34.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=259,slow=7.9,SNR=2.9						
JNU	**Nakatsue**	**32.97**	**69**	P	**P**	**04 25 50.1**	**-1.5**
JNU				IAmb	IAmb	04 25 54.2	
	comp=Z,13nm,1.0s						
UOSS	**Minazif**	**33.60**	**276**	P	**P**	**04 25 57.4**	**+0.1**
UOSS				IAmb	IAmb	04 26 04.0	
	comp=Z,9.1nm,0.9s						
USA0B	**Ussuriysk Arra**	**35.65**	**50**	P	**P**	**04 26 14.1**	**-0.6**
SMRI	**Semarang**	**37.09**	**151**	P	**P**	**04 26 26.7**	**-0.6**
YAK	**Yakutsk**	**42.97**	**24**	P	**P**	**04 27 15.1**	**-0.4**
TIXI	**Tiksi**	**49.34**	**14**	P	**P**	**04 28 05.8**	**+0.3**
TIXI				IAmb	IAmb	04 28 05.9	
	comp=Z,7.5nm,0.7s						
BRTR	**Keskin Array B**	**51.05**	**301**	P	**P**	**04 28 17.1**	**-2.1**
ARCES	**ARCESS Array B**	**57.84**	**337**	P	**P**	**04 29 09.4**	**+1.6**
	comp=Z,3.8nm,1.0s,baz=113,slow=7.7,SNR=2.6						
ARCES	**ARCESS Array B**	**57.84**	**337**	P	**P**	**04 29 07.0**	**-0.9**
AGG	**Agios Georgios**	**59.83**	**301**	P	**P**	**04 29 20.6**	**-1.6**
AGG				IAmb	IAmb	04 29 25.3	
	comp=Z,6.6nm,1.2s						
WB0	**Warramunga Arr**	**60.66**	**135**	P	**P**	**04 29 26.1**	**-1.9**
WB0				IAmb	IAmb	04 29 38.6	
	comp=Z,4.6nm,0.5s						
WRA	**Warramunga Arr**	**60.76**	**135**	P	**P**	**04 29 31.2**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=318,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**60.76**	**135**	P	**P**	**04 29 27.4**	**-1.3**
SPA0	**Spitsbergen Ar**	**61.70**	**347**	P	**P**	**04 29 35.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**63.18**	**158**	P	**P**	**04 29 42.8**	**-1.9**
NWAO				IAmb	IAmb	04 29 59.1	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**63.27**	**138**	P	**P**	**04 29 43.6**	**-1.9**
NC204	**NORSAR Array S**	**63.77**	**328**	P	**P**	**04 29 48.5**	**+0.1**
NC204				IAmb	IAmb	04 30 03.8	
	comp=Z,6.5nm,0.8s						
TOA0	**Torodi Ar. Sit**	**85.87**	**283**	P	**P**	**04 31 57.4**	**+0.5**

*VAO **06** 04:29:37.2±1.2, 24°.39S×68°.07W, h318km, mb4.0*
*ISCJB **06** 04:29:39.9±0.2, 24°.04S±0°.02×66°.95W±0°.03, h211km±3km, mb4.0/4, Error ellipse: s-maj=4.6km s-min=3.6km az=157.0*
*NEIC **06** 04:29:40.3±1.9, 24°.10S±0°.07×66°.9W±0°.1, h213km±7km, mb4.2/12, Md3.7(SJA)*
*SJA **06** 04:29:40.5±0.7, 24°.06S×66°.87W, h206km±7km, ML3.7, MW3.5*
*IDC **06** 04:29:41.3±1.5, 23°.95S×66°.81W, h189km±14km, mb3.8/4, mb1 3.8/9, mb1mx3.5/27, mbtmp4.2/9, MS4.6/1, Ms1 4.5/1, ms1mx2.9/17, Error ellipse: s-maj=25.7km s-min=19.2km az=20.0*
*GUC **06** 04:29:42.9±0.6, 24°.01S×67°.53W, h240km±12km, ML4.5*

ISC 06 04:29:40.6±0.6, 24°.03S±0°.04×66°.93W±0°.04, h202km±7km, n94, σ1°.59/117, mb4.2/7, 7C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.47**	**118**	*eP*	**Pn**	**04 30 15.3**	**+1.0**
SLA				IAML		04 30 16.9	
	comp=Z,382nm,0.6s						
SLA				*eS*	**Sn**	**04 30 40.3**	**-0.3**
HJA	**Humahuaca**	**1.62**	**60**	*i P*	**Pn**	**04 30 16.8**	**+0.9**
HJA				IAML		04 30 17.2	
	comp=Z,225nm,0.4s						
AZAP	**Zapla**	**1.71**	**97**	*i P*	**Pn**	**04 30 17.2**	**+0.5**
AZAP				IAML		04 30 17.5	
	comp=Z,672nm,0.4s						
AZAP				*eS*	**Sn**	**04 30 43.7**	**-0.9**
YJA	**Yavi**	**2.26**	**35**	*i P*	**Pn**	**04 30 23.6**	**+1.2**
YJA				*eS*	**Sn**	**04 30 55.6**	**+0.6**
LVC	**Limon Verde**	**2.31**	**307**	P	**Pn**	**04 30 24.3**	**+1.4**
	comp=Z,23nm,0.3s,baz=130,slow=5.5,SNR=254						
LVC				S	**Sn**	**04 30 55.6**	**-0.1**
	comp=Z,36nm,0.3s,baz=253,slow=19,SNR=39						
LVC				LR	LR	04 31 14.7	
	comp=Z,89nm,19.6s,baz=32,slow=40						
LVC	**Limon Verde**	**2.31**	**307**		**Pn**	**04 30 23.6**	**+0.8**
LVC					**Sn**	**04 30 56.4**	**+0.7**
LVC	**Limon Verde**	**2.31**	**307**	*eP*	**Pn**	**04 30 24.6**	**+1.7**
LVC	**Limon Verde**	**2.31**	**307**	*eP*	**Pn**	**04 30 24.6**	**+1.7**
PB15	**IPOC Station P**	**2.47**	**289**	⇑*iP*	**Pn**	**04 30 26.2**	**+1.7**
PB15				*i S*	**Sn**	**04 30 58.8**	**+0.1**
GO02	**Mina Guanaco**	**2.67**	**244**	⇑*iP*	**Pn**	**04 30 28.1**	**+1.3**
GO02				*i S*	**Sn**	**04 31 03.5**	**+0.6**
GO02				IAML		04 31 04.5	
	comp=N,2μm,0.2s						
GO02	**Mina Guanaco**	**2.67**	**244**		**Pn**	**04 30 28.1**	**+1.3**
GO02					**Sn**	**04 31 02.9**	**0.0**
PB06	**IPOC Station P**	**2.76**	**298**	⇑*iP*	**Pn**	**04 30 29.4**	**+1.6**
PB06				*i S*	**Sn**	**04 31 04.1**	**-0.4**
PB06				IAML		04 31 07.0	
	comp=E,1μm,0.1s						
PB06	**IPOC Station P**	**2.76**	**298**	*i P*	**Pn**	**04 30 29.4**	**+1.7**
AHML	**Horco Molle**	**3.10**	**153**	*i P*	**Pn**	**04 30 32.0**	**+0.5**
PB14	**IPOC Station P**	**3.23**	**259**	⇑*eP*	**Pn**	**04 30 34.2**	**+0.9**
PB14				*i S*	**Sn**	**04 31 13.0**	**-1.5**
PB14				IAML		04 31 15.3	
	comp=E,567nm,0.4s						
PB14	**IPOC Station P**	**3.23**	**259**	*i P*	**Pn**	**04 30 34.4**	**+1.1**
PB03	**IPOC Station P**	**3.26**	**307**	⇑*iP*	**Pn**	**04 30 34.8**	**+1.2**
PB03				IAML		04 31 17.2	
	comp=N,725nm,0.5s						
PB10	**IPOC Station P**	**3.36**	**278**	⇑*iP*	**Pn**	**04 30 36.0**	**+1.4**
PB10				*i S*	**Sn**	**04 31 15.3**	**-1.6**
PB10				IAML		04 31 21.0	
	comp=N,300nm,0.4s						
PB10	**IPOC Station P**	**3.36**	**278**		**Pn**	**04 30 36.1**	**+1.5**
PB10					**Sn**	**04 31 16.4**	**-0.5**
PB10	**IPOC Station P**	**3.36**	**278**	⇑*iP*	**Pn**	**04 30 36.0**	**+1.4**
PB04	**IPOC Station P**	**3.41**	**299**	⇑*iP*	**Pn**	**04 30 36.5**	**+1.1**
PB04				*i S*	**Sn**	**04 31 16.8**	**-1.5**
PB04	**IPOC Station P**	**3.41**	**299**		**Pn**	**04 30 36.4**	**+1.0**
PB04					**Sn**	**04 31 17.4**	**-0.9**
PB04	**IPOC Station P**	**3.41**	**299**	*i P*	**Pn**	**04 30 36.5**	**+1.1**
PB07	**IPOC Station P**	**3.56**	**309**	*i P*	**Pn**	**04 30 38.3**	**+1.0**
PB07				*i S*	**Sn**	**04 31 19.5**	**-2.2**
PB01	**IPOC Station P**	**3.80**	**321**	*i P*	**Pn**	**04 30 41.2**	**+1.1**
PB01				*i S*	**Sn**	**04 31 24.9**	**-1.8**
PB01	**IPOC Station P**	**3.80**	**321**	Pn	**Pn**	**04 30 41.1**	**+1.0**
PB01					**Sn**	**04 31 25.6**	**-1.2**
PB02	**IPOC Station P**	**3.84**	**314**	*i P*	**Pn**	**04 30 41.3**	**+0.6**
PB02				*i S*	**Sn**	**04 31 25.4**	**-2.4**
PB08	**IPOC Station P**	**4.38**	**332**	*i P*	**Pn**	**04 30 49.5**	**+1.8**
PB08				*i S*	**Sn**	**04 31 40.2**	**-0.2**
GO03	**Copiap**	**4.63**	**219**		**Pn**	**04 30 50.4**	**-0.1**
GO03					**Sn**	**04 31 40.9**	**-4.5**
GO01	**Chusmiza**	**4.82**	**334**		**Pn**	**04 30 54.8**	**+1.5**
GO01					**Sn**	**04 31 48.1**	**-2.4**
PB11	**IPOC Station P**	**4.95**	**329**		**Pn**	**04 30 55.1**	**+0.5**
PB11					**Sn**	**04 31 51.0**	**-1.9**
ACLC	**CERRO LA CRUZ**	**5.37**	**180**	*i P*	**Pn**	**04 31 00.6**	**+0.6**
MNMC	**Minye Minye**	**5.47**	**333**		**Pn**	**04 31 02.5**	**+1.2**
MNMC					**Sn**	**04 32 04.0**	**-1.1**
GO04	**Tololo Observa**	**7.02**	**209**		**Pn**	**04 31 20.0**	**-1.4**
GO04					**Sn**	**04 32 39.5**	**-1.8**
RTLL	**Cerro Villicun**	**7.40**	**190**	*i P*	**Pn**	**04 31 25.8**	**-0.2**
LPAZ	**La Paz**	**7.78**	**351**	P	**Pn**	**04 31 32.5**	**+0.8**
	comp=N,0.7nm,0.3s,baz=112,slow=3.0,SNR=26						
LPAZ				S	**Sn**	**04 32 59.0**	**-1.0**
	comp=N,0.0nm,0.3s,baz=241,slow=19,SNR=2.3						
LPAZ	**La Paz**	**7.78**	**351**		**Pn**	**04 31 32.6**	**+1.0**
LPAZ					**Sn**	**04 32 59.2**	**-0.8**
LPAZ	**La Paz**	**7.78**	**351**	*i P*	**Pn**	**04 31 33.1**	**+1.4**
LPAZ	**La Paz**	**7.78**	**351**	*eP*	**Pn**	**04 31 32.7**	**+1.0**
LPAZ	**La Paz**	**7.78**	**351**	*eP*	**Pn**	**04 31 32.7**	**+1.0**
RTCV	**Cerro Valdivia**	**7.93**	**190**	*i P*	**Pn**	**04 31 32.8**	**-0.1**
RTLS	**Leoncito**	**8.02**	**195**	*eP*	**Pn**	**04 31 34.9**	**+0.6**
ASAL	**Salagasta**	**8.69**	**191**	*i P*	**Pn**	**04 31 42.7**	**-0.1**
ARCO	**CERRO ARCO**	**8.95**	**191**	*i P*	**Pn**	**04 31 46.3**	**0.0**
CPUP	**Villa Florida**	**8.99**	**107**	P	**Pn**	**04 31 46.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=295,slow=16,SNR=3.0						
AAGR	**Agrelo**	**9.18**	**190**	*i P*	**Pn**	**04 31 49.5**	**+0.3**
SIV	**San Ignacio**	**9.71**	**36**	P	**Pn**	**04 31 55.1**	**-1.0**
	comp=N,0.9nm,0.3s,baz=235,slow=8.8,SNR=21						
SIV				S	**Sn**	**04 33 36.6**	**-8.2**
	baz=307,slow=20,SNR=3.2						
AQDB	**Aquidauana**	**10.98**	**73**	*eP*	**P**	**04 32 19.9**	**+1.1**
AQDB	**Aquidauana**	**10.98**	**73**	*eP*	**P**	**04 32 19.9**	**+1.1**
TRCB	**Terra Rica**	**13.18**	**88**	*eP*	**P**	**04 32 45.3**	**+2.0**
TRCB	**Terra Rica**	**13.18**	**88**	*eP*	**P**	**04 32 45.3**	**+2.0**
PTGB	**Pitanga**	**13.56**	**96**	*eP*	**P**	**04 32 49.8**	**+2.2**
PTGB	**Pitanga**	**13.56**	**96**	*eP*	**P**	**04 32 49.8**	**+2.2**
C2SB	**Chapadao do Su**	**14.13**	**71**	*eP*	**P**	**04 32 55.3**	**+1.5**
C2SB	**Chapadao do Su**	**14.13**	**71**	*eP*	**P**	**04 32 55.3**	**+1.5**
TRQA	**Tornquist**	**14.61**	**164**		**Pn**	**04 32 56.8**	**-1.1**
SAML	**Samuel**	**15.42**	**14**	P	**Pn**	**04 33 08.0**	**+0.1**
GO06	**Curarrehue**	**15.98**	**193**	P	**P**	**04 33 12.9**	**-1.2**
GO06				IAmb	IAmb	04 33 18.2	
	comp=Z,5.8nm,0.8s						
CLDB	**Colider**	**16.84**	**41**	*eP*	**P**	**04 33 23.5**	**-0.2**
CLDB	**Colider**	**16.84**	**41**	*eP*	**P**	**04 33 23.5**	**-0.2**
BB19B	**Bebedouro**	**17.25**	**84**	*eP*	**Pn**	**04 33 30.1**	**+0.2**
BB19B	**Bebedouro**	**17.25**	**84**	*eP*	**Pn**	**04 33 30.1**	**+0.2**
VAO	**Valinhos**	**18.34**	**91**	*eP*	**P**	**04 33 40.5**	**+0.4**
VAO	**Valinhos**	**18.34**	**91**	*eP*	**P**	**04 33 40.5**	**+0.4**
BDFB	**Brasilia**	**19.64**	**68**	P	**P**	**04 33 55.1**	**+0.9**
	comp=Z,3.0nm,0.3s,baz=238,slow=10,SNR=38						
BDFB	**Brasilia**	**19.64**	**68**	P	**P**	**04 33 53.6**	**-0.6**
PMNB	**Patos De Minas**	**19.85**	**78**	*eP*	**P**	**04 33 56.4**	**-0.1**
PMNB	**Patos De Minas**	**19.85**	**78**	*eP*	**P**	**04 33 56.4**	**-0.1**
PTGA	**Pitinga**	**24.12**	**17**	P	**P**	**04 34 38.8**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=253,slow=14,SNR=10.0						
PTGA	**Pitinga**	**24.12**	**17**	P	**P**	**04 34 37.9**	**-0.2**
PTGA				IAmb	IAmb	04 34 39.4	
	comp=Z,2.4nm,0.5s						
BRRC	**Barranca, Sant**	**31.65**	**347**	*eP*	**P**	**04 35 48.2**	**+3.2**
BRRC	**Barranca, Sant**	**31.65**	**347**	*eP*	**P**	**04 35 48.2**	**+3.2**
PAMC	**Pamplona, Colo**	**31.68**	**349**	*eP*	**P**	**04 35 46.6**	**+0.7**
PAMC	**Pamplona, Colo**	**31.68**	**349**	*eP*	**P**	**04 35 46.6**	**+0.7**
CAPV	**Capacho**	**32.13**	**350**	*eP*	P	04 35 44.9	-4.6
CAPV	**Capacho**	**32.13**	**350**	*eP*	P	04 35 44.9	-4.6
DBBC	**Dabeiba**	**32.16**	**342**	*eP*	**P**	**04 35 52.8**	**+3.2**
DBBC	**Dabeiba**	**32.16**	**342**	*eP*	**P**	**04 35 52.8**	**+3.2**
FDF	**Fort de France**	**38.94**	**9**	P	**P**	**04 36 46.9**	**-0.2**
MLPR	**Magueyes Islan**	**41.74**	**360**	P	**P**	**04 37 09.3**	**-0.8**
MLPR				IAmb	IAmb	04 37 13.2	
	comp=Z,5.1nm,0.7s						
OBIP	**Obispado Ponce**	**41.82**	**0**	P	**P**	**04 37 10.3**	**-0.3**
CCIG	**Comitan**	**47.02**	**326**	P	**P**	**04 37 51.4**	**-0.8**
CCIG				IAmb	IAmb	04 37 55.2	
	comp=Z,8.0nm,0.6s						
AMTX	**Amarillo**	**67.23**	**329**	P	**P**	**04 40 11.6**	**-1.7**
DBIC	**Dimbokro**	**67.75**	**71**	P	**P**	**04 40 17.4**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=225,slow=7.6,SNR=6.2						
DBIC	**Dimbokro**	**67.75**	**71**	P	**P**	**04 40 15.2**	**-1.8**
DBIC				IAmb	IAmb	04 40 18.1	
	comp=Z,10nm,0.8s						
TOA0	**Torodi Ar. Sit**	**76.52**	**69**	P	**P**	**04 41 07.2**	**-1.6**
TOA0				IAmb	IAmb	04 41 10.7	
	comp=Z,3.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**04 41 09.9**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=256,slow=5.5,SNR=40						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**04 41 07.1**	**-1.8**
ULM	**Lac du Bonnet**	**78.28**	**341**	LR	LR	05 19 39.1	
	comp=Z,288nm,18.3s,baz=360,slow=38						
ESDC	**Sonseca Array**	**86.37**	**44**	P	**P**	**04 42 03.2**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=240,slow=4.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**143.39**	**28**	PKP	**PKPdf**	**04 48 51.3**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=289,slow=3.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**143.39**	**28**		PKPbc	04 48 49.8	+1.4
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc	**PKPbc**	**04 48 59.5**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=308,slow=3.4,SNR=11						
MKAR	**Makanchi Array**	**146.51**	**40**	PKPdf	**PKPdf**	**04 48 54.3**	**-1.9**

*IDC **06** 04:32:31.6±0.9, 26°.88N×143°.59E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/39, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=25.3km s-min=18.8km az=63.0*
*ISCJB **06** 04:32:33.3±0.6, 26°.95N±0°.06×143°.65E±0°.08, h33km, mb3.7/7, Error ellipse: s-maj=10.4km s-min=8.2km az=158.2*
*NEIC **06** 04:32:35.3±1.2, 26°.91N±0°.10×143°.57E±0°.08, h34km±5km, mb4.4/9*

ISC 06 04:32:35.8±0.8, 26°.9N±0°.1×143°.52E±0°.09, h35km, n28, σ0°.95/29, mb4.0/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.21**	**279**	Pn	**Pn**	**04 32 56.7**	**+0.5**
	31nm,0.3s,baz=90,slow=20,SNR=14						
JCJ				Sn	**Sn**	**04 33 12.7**	**+1.3**
	240nm,0.3s,baz=90,slow=20,SNR=34						
JHJ2	**Mitsune**	**6.96**	**333**	Pn	**Pn**	**04 34 14.7**	**-0.5**
MJAR	**Matsushiro Arr**	**10.60**	**336**	Pn	**Pn**	**04 35 03.7**	**-1.5**
	0.2nm,0.3s,baz=151,slow=12,SNR=8.5						
MAJO	**Matsushiro**	**10.60**	**336**	Pn	**Pn**	**04 35 03.9**	**-1.4**
JOW	**Kunigami**	**13.61**	**273**	Pn	**Pn**	**04 35 44.8**	**-1.6**
KSRS	**Korea Array**	**16.85**	**312**	Pn	**P**	**04 36 31.1**	**+0.4**
	0.4nm,0.3s,baz=120,slow=13,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**20.00**	**358**	P	**P**	**04 37 05.2**	**-0.1**
YSS				IAmb	IAmb	04 37 14.2	
	comp=Z,20nm,1.1s						
MDJ	**Mudanjiang**	**20.91**	**331**	P	**P**	**04 37 15.1**	**-0.1**
MDJ				IAmb	IAmb	04 37 29.9	
	comp=Z,7.8nm,0.9s						
KLR	**Kul'dur**	**24.07**	**341**	P	**P**	**04 37 48.8**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=151,slow=2.1,SNR=6.5						
SONM	**Songino Array**	**35.67**	**316**	P	**P**	**04 39 32.6**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=120,slow=8.5,SNR=3.1						
SONM	**Songino Array**	**35.67**	**316**	P	**P**	**04 39 30.1**	**-0.6**
SONM				IAmb	IAmb	04 39 46.9	
	comp=Z,0.6nm,0.6s						
WB0	**Warramunga Arr**	**47.25**	**192**	P	**P**	**04 41 05.6**	**0.0**
WB0				IAmb	IAmb	04 41 19.5	
	comp=Z,3.6nm,0.9s						
WRAB	**Tennant Creek**	**47.42**	**192**	P	**P**	**04 41 06.8**	**-0.2**
WRAB				IAmb	IAmb	04 41 08.7	
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**47.43**	**192**	P	**P**	**04 41 06.5**	**-0.6**
WB2				IAmb	IAmb	04 41 09.0	
	comp=Z,3.1nm,1.0s						
WRA	**Warramunga Arr**	**47.43**	**192**	P	**P**	**04 41 07.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=10,slow=8.4,SNR=8.7						
WRA	**Warramunga Arr**	**47.43**	**192**	P	**P**	**04 41 06.0**	**-1.1**
WRA				IAmb	IAmb	04 41 09.2	
	comp=Z,0.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**48.00**	**203**	P	**P**	**04 41 10.7**	**-0.8**
FITZ				IAmb	IAmb	04 41 14.9	
	comp=Z,6.3nm,1.1s						
ASAR	**Alice

	baz=7.0						
TWD				eS	Sb	05 28 43.3	+0.2
	baz=7.0						
YULB	**Yu-li**	**0.39 206**		P	Pg	05 28 37.4	-0.1
	baz=214						
YULB				eS	Sg	05 28 43.5	+0.7
	baz=214						
CHGB	**Renai**	**0.42 318**		P	Pg	05 28 38.6	+0.4
	baz=322						
CHGB				eS	Sg	05 28 44.3	+0.4
	baz=322						
TWF1	**Yuli**	**0.43 204**		eP	Pg	05 28 38.2	0.0
	baz=214						
TWF1				eS	Sb	05 28 45.0	-0.5
	baz=214						
NACB	**Ninganchiao**	**0.44**	**13**	eP	Pb	05 28 39.1	-0.1
	baz=12						
WHF	**Hehuan Shan**	**0.44 333**		P	Pg	05 28 38.7	+0.1
	baz=331						
WHF				eS	Sg	05 28 44.7	0.0
	baz=331						
ETLH	**Xiulin Townshi**	**0.46 360**		P	Pg	05 28 39.2	+0.4
	baz=355						
ETLH				eS	Sg	05 28 45.4	+0.4
	baz=355						
SSLB	**Suanglung**	**0.49 275**		P	Pg	05 28 39.3	0.0
	baz=274						
SSLB				eS	Sg	05 28 45.0	-0.9
	baz=274						
YUS	**Yu-Shan**	**0.55 242**		P	Pg	05 28 41.0	+0.3
	baz=250						
YUS				eS	Sg	05 28 48.2	+0.1
	baz=250						
WHYT	**Xinyi Township**	**0.58 265**		eP	Pg	05 28 41.3	+0.3
	baz=265						
WHYT				eS	Sg	05 28 48.8	0.0
	baz=265						
TYC	**Yuchr**	**0.60 285**		eP	Pb	05 28 42.0	+0.1
	baz=285						
TYC				eS	Sg	05 28 49.7	+0.5
	baz=285						
NNS	**Nan Shan**	**0.70 352**		eP	Pb	05 28 43.6	-0.2
	baz=349						
NNS				eS	Sb	05 28 53.0	-0.3
	baz=349						
ELDTW	**Lidau**	**0.70 218**		eP	Pg	05 28 43.2	-0.1
	baz=210						
ELDTW				S	Sg	05 28 52.2	-0.4
	baz=210						
ENTT	**Nioudou**	**0.89**	**5**	eP	Pn	05 28 47.6	-0.3
	baz=4.0						
CHN4	**Tsaushan**	**0.91 244**		P	Pn	05 28 48.3	+0.2
	baz=245						
CHN4				eS	Sn	05 29 00.5	-0.6
	baz=245						

*ISCJB **06** 05:29:35.4±0.7, 51.°44N±0.°03×16.°13E±0.°04, h0km, Error ellipse: s-maj=4.5km s-min=3.0km az=24.2*
*VIE **06** 05:29:38.4±0.9, 51.°36N×16.°02E, h0km, mb2.1/1, ml2.5/4, Error ellipse: s-maj=10.0km s-min=4.0km az=46.0 75 km WNW of Wroclaw Suspected Mining induced.*
*PRU **06** 05:29:38.3±0.0, 51.°43N×16.°10E, h0km*
ISC 06 05:29:36.4±0.9, 51.°50N±0.°04×16.°11E±0.°03, h0km, n22, σ0.°86/46, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67 170**		ePg	**Pg**	**05 29 49.7**	**+0.5**
KSP				ePg	**Pg**	**05 29 49.7**	**+0.5**
KSP				eSg	**Sg**	**05 29 58.2**	**+0.3**
KSP				eSg	**Sg**	**05 29 58.2**	**+0.3**
CHVC	**Chvalec**	**0.92 182**		ePG	**Pb**	**05 29 54.6**	**-0.5**
CHVC				eSG	**Sg**	**05 30 06.0**	**+0.3**
	comp=Z,22nm,0.3s						
UPC	**Upice**	**1.00 183**		ePG	**Pg**	**05 29 55.8**	**+0.3**
UPC				eSG	**Sg**	**05 30 08.8**	**+0.4**
	comp=Z,54nm,0.3s						
DPC	**Dobruska-Polom**	**1.16 173**		ePG	**Pg**	**05 29 58.6**	**0.0**
DPC				eSG	**Sg**	**05 30 12.9**	**-0.7**
	comp=Z,12nm,0.3s						
PVCC	**Panska Ves**	**1.38 225**		ePG	**Pb**	**05 30 03.3**	**+0.3**
PVCC				eSG	**Sn**	**05 30 21.5**	**-0.2**
	comp=Z,71nm,0.3s						
KRLC	**Kraliky**	**1.49 163**		ePG	**Pg**	**05 30 04.9**	**0.0**
KRLC				eSG	**Sg**	**05 30 23.8**	**-0.4**
	comp=Z,3.1nm,0.1s						
BRG	**Berggiesshubel**	**1.50 246**		PG	**Pb**	**05 30 05.6**	**+0.6**
BRG				SG	**Sn**	**05 30 25.6**	**+0.8**
	28nm,0.4s						
PRU	**Pruhonice**	**1.81 214**		ePG	**Pb**	**05 30 10.5**	**+0.1**
PRU				eSG	**Sg**	**05 30 34.4**	**-0.2**
	comp=Z,13nm,0.4s						
CLL	**Collm**	**1.95 265**		ePg	**Pg**	**05 30 14.0**	**+0.2**
CLL				eSg	**Sg**	**05 30 40.0**	**+0.9**
	comp=Z,16nm,0.5s						
MORC	**Moravsky Berou**	**1.96 152**		ePN	**Pn**	**05 30 10.4**	**-0.4**
MORC				eSG	**Sn**	**05 30 36.6**	**+0.5**
OKC	**Ostrava-Krasne**	**2.11 141**		eSG	**Sb**	**05 30 42.1**	**-0.2**
VRAC	**Vranov**	**2.22 172**		eSG	**Sb**	**05 30 45.6**	**+0.3**
KRUC	**Moravsky**	**2.45 176**		eSG	**Sg**	**05 30 53.9**	**-1.1**
NKC	**Novy Kostel**	**2.64 243**		ePN	**Pn**	**05 30 20.6**	**+0.3**
NKC				ePG	**Pg**	**05 30 27.1**	**+0.1**
NKC				eSG	**Sg**	**05 31 01.6**	**+0.4**
	comp=Z,17nm,0.4s						
OJC	**Ojcow**	**2.67 117**		ePg	**Pg**	**05 30 28.7**	**+1.2**
OJC				ePg	**Pg**	**05 30 28.7**	**+1.2**
OJC				eSg	**Sg**	**05 31 02.9**	**+0.9**
OJC				eSg	**Sg**	**05 31 02.9**	**+0.9**
KHC	**Kasperske Hory**	**2.88 215**		ePN	**Pn**	**05 30 23.7**	**+0.2**
KHC				ePG	**Pb**	**05 30 29.4**	**+0.9**
KHC				eSN	**Sn**	**05 30 57.9**	**-0.8**
KHC				eSG	**Sg**	**05 31 07.4**	**-1.3**
SMOL	**Smolenice**	**3.11 164**		ePN	Pn	05 30 18.7	-8.0
SMOL				ePG	**Pg**	**05 30 35.2**	**-0.8**
MODS	**Modra-Piesok**	**3.22 166**		ePG	**Pg**	**05 30 37.7**	**-0.4**
MODS				eSG	**Sg**	**05 31 19.9**	**+0.1**
VYHS	**Vyhne**	**3.49 149**		ePG	**Pg**	**05 30 41.5**	**-1.7**
CONA	**Conrad Observa**	**3.58 183**		Pg	**Pg**	**05 30 44.1**	**-0.8**
CONA				Sg	**Sg**	**05 31 30.4**	**-1.0**
	comp=Z,4.2nm,0.3s						
BSD	**Bornholm Skovb**	**3.69 349**		*i* P	**Pn**	**05 30 34.6**	**0.0**
BSD				*i* S	**Sn**	**05 31 15.3**	**-3.4**
MOA	**Molln**	**3.85 199**		ePn	**Pn**	**05 30 38.0**	**+1.2**
	comp=Z,0.3nm,0.1s						
MOA				Sg	**Sg**	**05 31 39.9**	**0.0**
	comp=Z,2.7nm,0.3s						

*ISCJB **06** 06:01:16.0±0.4, 15.°02N±0.°08×91.°93W±0.°06, h166km, Error ellipse: s-maj=12.6km s-min=4.7km az=34.8*
*MEX **06** 06:01:17.4±0.8, 14.°99N×91.°87W, h166km±5km, MD3.9*
*GCG **06** 06:01:27.8±0.3, 15.°06N×91.°45W, h64km±22km, MD3.8*
ISC 06 06:01:16.2±0.9, 15.°06N±0.°10×91.°90W±0.°07, h166km, n33, σ1.°14/38, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.38 247**		*i* P	**Pn**	**06 01 39.0**	**+0.1**
THIG				eS	**Sn**	**06 01 55.7**	**-0.6**
STG3	**Santiaguito 3,**	**0.47 137**		eP	**Pn**	**06 01 39.6**	**0.0**
ERG	**Entre ros, C**	**0.69 152**		eP	**Pn**	**06 01 41.5**	**+1.0**
FUG	**Fuego 3**	**1.19 121**		eP	**Pn**	**06 01 44.6**	**+0.3**
CCIG	**Comitan**	**1.24 349**		*i* P	**Pn**	**06 01 45.8**	**+1.1**
CCIG				eS	**Sn**	**06 02 06.6**	**-0.2**
PCIG		**1.42 297**		*i* P	**Pn**	**06 01 47.3**	**+1.0**
PCIG				eS	**Sn**	**06 02 09.4**	**-0.1**
NBG	**Las Nubes**	**1.57 107**		eP	**Pn**	**06 01 49.1**	**+1.0**
TGIG		**2.07 326**		eP	**Pn**	**06 01 54.0**	**+0.8**
TGIG				*i* S	**Sn**	**06 02 22.5**	**+0.5**
HUIG	**Huatulco**	**4.12 280**		eP	**Pn**	**06 02 18.5**	**+0.1**
HUIG				*i* S	**Sn**	**06 03 06.6**	**-0.4**
BUEV	**Buena Vista**	**7.62 123**		eP	**Pn**	**06 03 05.7**	**+1.0**
CUI	**Cuipilapa**	**7.89 123**		eP	**Pn**	**06 03 08.5**	**+0.2**
JTS	**Las Juntas de**	**8.27 124**		eP	**Pn**	**06 03 13.6**	**+0.3**
ARE1	**Arenal 1**	**8.36 122**		eP	**Pn**	**06 03 14.6**	**+0.1**
SJCC	**San Jacinto, C**	**17.11 106**		eP	**P**	**06 05 03.7**	**-1.1**
SJCC	**San Jacinto, C**	**17.11 106**		eP	**P**	**06 05 03.7**	**-1.1**
CBOC	**Ciudad Bolivar**	**18.09 119**		eP	**P**	**06 05 15.8**	**+0.2**
CBOC	**Ciudad Bolivar**	**18.09 119**		eP	**P**	**06 05 15.8**	**+0.2**
SMLC	**San Martn de**	**18.51 108**		eP	**P**	**06 05 18.6**	**-1.5**
SMLC	**San Martn de**	**18.51 108**		eP	**P**	**06 05 18.6**	**-1.5**
GUY2C	**Guyana, Caldas**	**18.97 119**		eP	**P**	**06 05 25.8**	**+0.2**
GUY2C	**Guyana, Caldas**	**18.97 119**		eP	**P**	**06 05 25.8**	**+0.2**
BBAC	**Balboa, Cauca**	**19.41 130**		eP	**Pn**	**06 05 32.3**	**-0.7**
BBAC	**Balboa, Cauca**	**19.41 130**		eP	**Pn**	**06 05 32.3**	**-0.7**
ORTC	**Ortega, Tolima**	**19.79 122**		eP	**P**	**06 05 36.0**	**+2.0**
ORTC	**Ortega, Tolima**	**19.79 122**		eP	**P**	**06 05 36.0**	**+2.0**
SOTA	**Rioblanco**	**19.81 129**		eP	**Pn**	**06 05 37.4**	**-0.7**
SOTA	**Rioblanco**	**19.81 129**		eP	**Pn**	**06 05 37.4**	**-0.7**
PCON	**Cinco Dias**	**19.85 128**		eP	**P**	**06 05 35.8**	**+0.6**
PCON	**Cinco Dias**	**19.85 128**		eP	**P**	**06 05 35.8**	**+0.6**
RUSC	**La Rusia**	**20.61 114**		eP	**P**	**06 05 41.1**	**-2.1**
RUSC	**La Rusia**	**20.61 114**		eP	**P**	**06 05 41.1**	**-2.1**
FLOC	**Florencia**	**20.89 128**		eP	**P**	**06 05 48.2**	**+2.5**
FLOC	**Florencia**	**20.89 128**		eP	**P**	**06 05 48.2**	**+2.5**

*AEIC **06** 06:04:26±2.0, 60.°06N±0.°03×140.°65W±0.°03, h0km±4km*
*NEIC **06** 06:04:27±2.0, 60.°11N±0.°03×140.°60W±0.°03, h10km±1km*
PGC 06 06:04:26.8±0.3, 60.°03N×140.°74W, h5km, ML2.4/10, 108km Wnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.10 348**		P	Pg	06 04 28.6	-0.4
SAMH				S	Sg	06 04 30.5	0.0
SAMH	**Samovar Hills**	**0.10 348**			Pg	06 04 28.5	-0.5
SAMH					Sg	06 04 30.7	+0.2
CHX	**Chaix Hills**	**0.19 279**			Pg	06 04 31.5	+0.9
PCA	**Pinnacle**	**0.25 75**		P	Pg	06 04 31.4	-0.4
PCA				S	Sg	06 04 35.6	+0.6
PCA	**Pinnacle**	**0.25 75**			Sg	06 04 35.6	+0.6
PCA	**Pinnacle**	**0.25 75**		Pg	Pg	06 04 31.2	-0.5
RKAV	**Rock Avalanche**	**0.41 312**		P	Pg	06 04 34.9	+0.1
RKAV				S	Sg	06 04 40.9	+0.8
RKAV	**Rock Avalanche**	**0.41 312**			Pg	06 04 35.0	+0.3
RKAV					Sb	06 04 42.7	-0.5
BCPM	**Bancas Point**	**0.56 98**		Pg	Pg	06 04 37.2	-0.3
BCPM					Sg	06 04 44.8	-0.1
YAH	**Yahtse**	**0.60 304**		Pg	Pb	06 04 39.3	-0.7
YAH					Pg	06 04 39.4	+0.9
YAH				Sg	Sb	06 04 49.2	+0.3
YAH					Pn	06 04 49.8	+7.5
MESA	**MESA**	**0.62 284**		P	Pb	06 04 39.6	-0.7
MESA				S	Sb	06 04 48.3	-1.2
MESA	**MESA**	**0.62 284**			Pb	06 04 39.9	-0.5
MESA	**MESA**	**0.62 284**			Pn	06 04 51.4	+8.8
MESA	**MESA**	**0.62 284**			Sg	06 04 40.1	-6.9
PNL	**Peninsula**	**0.77 118**		P	Pg	06 04 40.5	-1.0
PNL				S	Sg	06 04 51.0	-0.5
PNL	**Peninsula**	**0.77 118**			Pg	06 04 40.6	-1.0
PNL					Sg	06 04 51.7	+0.1
GRNC	**Granite Creek**	**0.86 325**		P	Pg	06 04 42.1	-1.3
GRNC				S	Sg	06 04 54.4	-0.3
GRNC	**Granite Creek**	**0.86 325**			Pg	06 04 42.2	-1.2
CTGM	**Chitina Glacie**	**0.98 343**		P	Pg	06 04 43.8	-1.9
CTGM				S	Sg	06 04 57.1	-1.2
CTGM	**Chitina Glacie**	**0.98 343**			Pg	06 04 43.8	-1.9
CTGM	**Chitina Glacie**	**0.98 343**		Sg	Sg	06 04 57.7	-0.7
KULT	**Kultieth River**	**1.02 283**			Pg	06 04 46.1	-0.2
KULT					Sb	06 05 01.4	+0.8
BARN	**Barnard Glacie**	**1.13 337**			Pg	06 04 46.2	-2.2
BARN	**Barnard Glacie**	**1.13 337**		Sg	Sg	06 05 01.8	-1.2
WAX	**Waxell Ridge**	**1.14 293**			Pg	06 04 47.8	-0.8
WAX	**Waxell Ridge**	**1.14 293**		Sg	Sn	06 05 06.5	+1.1
KIAG	**Kiagna River**	**1.20 319**		P	Pg	06 04 47.8	-2.0
KIAG				S	Sg	06 05 04.3	-1.2
KIAG	**Kiagna River**	**1.20 319**			Pg	06 04 47.8	-2.1
TGL	**Tana Glacier**	**1.27 306**			Pg	06 04 49.5	-1.6
TGL	**Tana Glacier**	**1.27 306**		Sg	Sb	06 05 08.0	+0.1
BGLC	**Bering Glacier**	**1.28 275**			Pn	06 04 51.3	0.0
BALM	**Baldy**	**1.28 322**		P	Pg	06 04 48.9	-2.5
BALM				S	Sg	06 05 06.8	-1.3
BALM	**Baldy**	**1.28 322**			Pg	06 04 48.8	-2.6
BALM	**Baldy**	**1.28 322**		Sg	Sg	06 05 08.1	+0.1
GRIN	**Grindle Hills**	**1.31 282**			Pn	06 04 51.0	-0.8
KHIT	**Khitrov Hills**	**1.32 289**			Pn	06 04 50.8	-1.2
KHIT					Sn	06 05 10.1	+0.1
YUK7	**Dusty Glacier**	**1.39 68**		Pn	Pn	06 04 51.5	-1.6
YUK7				Sg	Sg	06 05 09.7	-1.7
YUK7	**Dusty Glacier**	**1.39 68**			Pn	06 04 50.9	-2.2
CRQM	**Cirque**	**1.40 302**			Pn	06 04 51.7	-1.4
CRQM				Sn	Sb	06 05 11.4	-0.3
PTPK	**Patty Peak**	**1.44 324**		Pn	Pn	06 04 51.6	-2.1
PTPK				Sg	Sb	06 05 11.4	-1.5
PTPK	**Patty Peak**	**1.44 324**			Pn	06 04 51.5	-2.2
YUK6	**Outpost Mounta**	**1.49 51**		Pn	Pn	06 04 53.2	-1.3
YUK6				Sg	Sb	06 05 12.7	-1.7
YUK6	**Outpost Mounta**	**1.49 51**			Pn	06 04 53.1	-1.3
SUCK	**Suckling Hills**	**1.52 273**			Pn	06 04 54.7	0.0
SUCK	**Suckling Hills**	**1.52 273**			Sg	06 05 15.5	-0.3
SUCK	**Suckling Hills**	**1.52 273**			Pb	06 04 55.2	-0.4
SUCK				Sn	Sb	06 05 15.4	+0.2
DHAK	**Deception Hill**	**1.59 125**			Pn	06 04 54.5	-1.3
DHAK					Sn	06 05 16.0	-0.7
DHAK	**Deception Hill**	**1.59 125**			Sn	06 05 16.2	-0.5
NICHA	**Nichawak Mount**	**1.63 279**			Pn	06 04 56.1	0.0
YUK4	**Talbot Arm**	**1.67 37**		Pn	Pb	06 04 58.2	0.0
YUK4	**Talbot Arm**	**1.67 37**			Pb	06 04 57.9	-0.3
YUK3	**Moose Creek**	**1.75 4**		Pn	Pn	06 04 57.5	-0.7
YUK3				Sg	Sn	06 05 21.4	+0.4
YUK3	**Moose Creek**	**1.75 4**			Pn	06 04 57.3	-0.8
MCARA	**McCarthy VSAT**	**1.76 321**			Pn	06 04 57.1	-0.9
MCARA	**McCarthy VSAT**	**1.76 321**		Sn	Sb	06 05 21.9	-0.1
YUK2	**White River**	**1.76 358**		Pn	Pn	06 04 57.4	-0.7
YUK2				Sg	Sb	06 05 21.5	-0.6
YUK2	**White River**	**1.76 358**			Pn	06 04 57.3	-0.8
HMT	**Hamilton**	**1.79 281**			Pn	06 04 57.9	-0.5
HMT	**Hamilton**	**1.79 281**		Sn	Sb	06 05 22.9	+0.2
HYT	**Haines Junctio**	**1.79 62**		Pn	Pn	06 04 57.5	-1.0
HYT				Sg	Sn	06 05 22.3	+0.6
HYT	**Haines Junctio**	**1.79 62**			Pn	06 04 57.5	-1.0
VRDI	**Verde Repeater**	**1.80 313**			Pn	06 04 57.5	-1.2
VRDI	**Verde Repeater**	**1.80 313**		Sn	Sn	06 05 21.8	-0.1
YUK5	**Granite Creek**	**1.80 51**		Pn	Pn	06 04 58.3	-0.3
YUK5				Sg	Sn	06 05 22.4	+0.5
YUK5	**Granite Creek**	**1.80 51**			Pn	06 04 58.0	-0.6
RAGM	**Ragged Mountai**	**2.00 282**		Pn	Pn	06 05 01.0	-0.3
RAGM					Sn	06 05 27.3	+0.6
GOAT	**Goat Mountain**	**2.06 287**			Pn	06 05 01.5	-0.6
GLB	**Gilahina Butte**	**2.07 314**			Pn	06 05 01.4	-0.9
GLB				Sn	Sn	06 05 29.4	+1.0
YUK1	**Sand Pete Hill**	**2.13 3**		Pn	Pn	06 05 03.5	+0.3
YUK1				Sn	Sn	06 05 30.1	0.0
EYAK	**Cordova Ski Ar**	**2.55 284**			Pn	06 05 08.4	-0.4
SKAG	**Skagway**	**2.80 99**		Pn	Pn	06 05 11.4	-0.8
HIN	**Hinchinbrook I**	**2.90 280**		Pn	Pn	06 05 15.3	+1.6
FID	**Port Fidalgo**	**2.94 287**		Pn	Pn	06 05 15.9	+1.8
WHY	**Whitehorse**	**2.98 75**		Pn	Pn	06 05 14.1	-0.7
WHY				Sn	Sn	06 05 50.5	-0.5
WHY	**Whitehorse**	**2.98 75**			Pn	06 05 13.7	-1.1
BC03		**3.09 351**			Pn	06 05 15.3	-0.8
BCAR	**Beaver Creek A**	**3.09 351**		Pn	Pn	06 05 14.6	-1.6
MENT	**Mentasta**	**3.25 335**		Pn	Pn	06 05 17.9	-0.5
GLI	**Glacier Island**	**3.26 288**		Pn	Pn	06 05 18.2	-0.4
BESE	**Bessie Mountai**	**3.35 113**		Pn	Pn	06 05 22.2	+2.3
SCM	**Sheep Creek Mo**	**3.69 302**		Pn	Pn	06 05 24.9	+0.4
PWL	**Port Wells**	**3.85 286**			Pn	06 05 26.3	-0.4
KNK	**Knik Glacier**	**4.04 293**		Pn	Pn	06 05 29.6	+0.4
DAWY	**Dawson**	**4.10 8**		Pn	Pn	06 05 29.6	-0.5
DAWY				Sn	Sn	06 06 16.9	-1.5
DAWY	**Dawson**	**4.10 8**			Pn	06 05 29.4	-0.8
PMR	**Palmer**	**4.40 294**		Pn	Pn	06 05 33.6	-0.6
EGAK	**Eagle**	**4.77 358**			Pn	06 05 38.6	-0.6
CNPM	**China Poot**	**5.33 269**		Pn	Pn	06 05 47.5	+0.5
CNPM				Sn	Sn	06 06 49.2	+0.5
TRF	**Thorofare Moun**	**5.69 311**		Pn	Pn	06 05 52.1	+0.1
SSP	**Shoshone Peak**	**27.95 135**				06 04 47.0	
SSP						06 05 03.9	

NNC 06 06:30:50.6±8.7, 53.°88N×86.°29E, h0km, mb3.5, mpv3.1, 2C-6D, Error ellipse: s-maj=66.5km s-min=55.0km az=4.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.67 239**		⇓Pn	Pn	06 32 16.8	+0.8
KURK	1.1nm,0.4s			⇑Sn	Sn	06 33 18.9	-3.0
	2.3nm,0.7s						
KURK				⇓Lg	Lg	06 33 55.1	
	5.7nm,0.8s						
KURBB	**Kurchatov Arra**	**5.77 239**		⇓Pn	Pn	06 32 17.5	0.0
	5.7nm,0.8s						
KURBB				⇓Sn	Sn	06 33 27.1	+2.8
	3.5nm,0.7s						
KURBB				⇑Lg	Lg	06 33 56.5	
	10nm,0.9s						
MK31	**Makanchi Array**	**7.54 201**		Pn	Pn	06 32 43.1	+1.3
	0.1nm,0.3s,baz=28,slow=14,SNR=10						
MK31				⇓Sn	Sn	06 34 09.6	+1.7
	0.2nm,0.5s						
MK31				⇓Lg	Lg	06 34 54.1	
	4.6nm,0.9s,baz=25,slow=30,SNR=3.6						

*ISCJB **06** 06:37:26.0±1.3, 15.°50S±0.°09×167.°9E±0.°2, h200km, mb3.8/6, Error ellipse: s-maj=30.2km s-min=12.0km az=3.5*
*IDC **06** 06:37:28.5±4.6, 15.°66S×167.°98E, h216km±45km, mb3.6/6, mb1 3.7/7, mb1mx3.4/30, mbtmp4.1/7, Error ellipse: s-maj=44.8km s-min=26.5km az=164.0*
ISC 06 06:37:26.9±1.3, 15.°6S±0.°1×168.°0E±0.°2, h200km, n8, σ0.°88/10, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.65 193**		P	**Pn**	**06 39 02.9**	**+0.2**
	2.2nm,0.3s,baz=17,slow=17,SNR=15						
DZM				S	**Sn**	**06 40 18.7**	**0.0**
	baz=310,slow=18,SNR=2.7						
CTA	**Charters Tower**	**21.18 255**		P	**P**	**06 41 57.8**	**+0.8**
	2.9nm,0.7s,baz=66,slow=9.6,SNR=6.1						
STKA	**Stephens Creek**	**29.01 231**		P	**P**	**06 43 08.6**	**+0.3**
	2.2nm,0.3s,baz=72,slow=9.6,SNR=3.4						
WRA	**Warramunga Arr**	**32.32 257**		P	**P**	**06 43 36.1**	**-1.4**
	1.2nm,0.4s,baz=87,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**33.05 250**		P	**P**	**06 43 43.1**	**-0.7**
	4.1nm,0.5s,baz=78,slow=9.0,SNR=81						
ASAR				PcP	**PcP**	**06 46 22.1**	**-0.6**
	0.4nm,1.0s,baz=79,slow=2.0,SNR=4.7						
SONM	**Songino Array**	**83.58 323**		P	**P**	**06 49 34.1**	**+1.3**
	0.5nm,0.8s,baz=132,slow=6.0,SNR=2.6						
ILAR	**Eielson Array**	**87.09 18**		P	**P**	**06 49 49.0**	**-0.5**
	0.2nm,0.5s,baz=236,slow=6.0,SNR=5.0						
ARCES	**ARCESS Array B**	**121.22 345**		PKP	**PKPdf**	**06 55 55.3**	**-0.1**
	3.4nm,1.0s,baz=29,slow=2.1,SNR=4.1						

*ISCJB **06** 06:45:54.0±0.4, 29.°75N±0.°02×14.°71W±0.°03, h35km, Error ellipse: s-maj=4.2km s-min=3.1km az=39.1*
*MDD **06** 06:46:00.6±0.4, 29.°50N×14.°80W, h0km, mbLg2.9/12, Error ellipse: s-maj=5.3km s-min=1.4km az=3.0, PRXIMO TT-model: canary*
*INMG **06** 06:46:02.6±2.1, 29.°64N×14.°79W, h10km, ML2.8, Error ellipse: s-maj=6.2km s-min=3.3km az=79.0*
*CNRM **06** 06:46:07.4, 31.°05N×14.°18W, h129km*
ISC 06 06:45:56.9±1.0, 29.°66N±0.°04×14.°72W±0.°04, h35km, n28, σ2.°68/47, 3C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFAM	**Famara**	**1.17 117**		P	**Pn**	**06 46 20.4**	**+3.7**
	2.0nm,0.2s,SNR=4.0						
EFAM				S	**Sn**	**06 46 34.3**	**+2.9**
	12nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**1.22 146**		⇑P	**Pn**	**06 46 20.2**	**+2.7**
	87nm,0.1s,SNR=18						
CFUE				S	**Sn**	**06 46 33.5**	**+0.8**
	703nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**1.36 156**		P	**Pn**	**06 46 21.8**	**+2.3**
	2.1nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**06 46 36.0**	**-0.2**
	18nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**1.74 205**		⇑P	**Pn**	**06 46 27.0**	**+2.4**
	12nm,0.2s,SNR=18						
EOSO				S	**Sn**	**06 46 45.5**	**-0.2**
	111nm,0.3s,SNR=6.1						
EBAJ	**Bajamar**	**1.81 232**		P	**Pn**	**06 46 27.5**	**+2.0**
	8.1nm,0.1s,SNR=28						
EBAJ				S	**Sn**	**06 46 46.1**	**-1.1**
	26nm,0.2s						
CRAJ	**Montana Rajada**	**2.15 230**		P	**Pn**	**06 46 32.2**	**+1.6**
	1.8nm,0.2s,SNR=7.9						
CRAJ				S	**Sn**	**06 46 54.4**	**-1.8**
	55nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**2.19 230**		P	**Pn**	**06 46 32.6**	**+1.6**
	2.2nm,0.2s,SNR=7.9						
CCAN				S	**Sn**	**06 46 54.9**	**-2.0**
	1.7nm,0.2s,SNR=4.0						
EGOM	**La Gomera**	**2.65 236**		P	**Pn**	**06 46 38.0**	**+0.9**
	3.2nm,0.1s,SNR=11						
EGOM				S	**Sn**	**06 47 07.7**	**-0.2**
	39nm,0.2s,SNR=4.0						
EHIG	**Higuera**	**2.92 249**		S	**Sn**	**06 47 14.5**	**-0.2**
	12nm,0.1s,SNR=7.9						
TBT	**Taburiente**	**2.96 252**		P	**Pn**	**06 46 43.3**	**+1.9**
	20nm,0.3s,SNR=7

GRSS	**Sisters**	**1.11**	**29**	*e*P	Pn	06 54 20.8	+0.3
GRSS				*e*S	Sn	06 54 38.0	-0.2
TOSP	**Speyside**	**1.60**	**91**	*i* P	Pn	06 54 24.9	-1.0
TOSP				*e*S	Sn	06 54 46.1	-1.7
FCV	**Fort Charlotte**	**2.03**	**26**	*e*P	Pn	06 54 31.1	0.0
FCV				*e*S	Sn	06 54 56.4	-0.8
SVB	**Belmont**	**2.13**	**25**	*e*P	Pn	06 54 31.9	-0.5
SVB				*e*S	Sn	06 54 58.4	-1.0
SVCV	**St. Vincent, C**	**2.17**	**27**	*e*P	Pn	06 54 32.5	-0.5
SVCV				*e*S	Sn	06 54 59.9	-0.5
SFAN	**Fancy Village**	**2.26**	**25**	*e*P	Pn	06 54 34.2	+0.1
SFAN				*e*S	Sn	06 55 01.5	-0.9
ORIV	**Oritupano**	**2.56**	**209**	*e*P	Pn	06 54 37.4	-0.4
ORIV				*e*S	Sn	06 55 07.9	-1.1
MCLT	**Moule a Chique**	**2.65**	**27**	*e*P	Pn	06 54 38.5	-0.5
MCLT				*e*S	Sn	06 55 09.5	-1.8
SLDE	**Delcer**	**2.69**	**24**	*e*P	Pn	06 54 39.5	0.0
SLDE				*e*S	Sn	06 55 09.7	-2.4
SLB	**Belfond**	**2.72**	**24**	*e*P	Pn	06 54 40.6	+0.7
SLB				*e*S	Sn	06 55 11.4	-1.5
SLPA	**Patience**	**2.79**	**26**	*e*P	Pn	06 54 41.5	+0.7
SLPA				*e*S	Sn	06 55 12.7	-1.8
SLBI	**Saint Lucia, B**	**2.92**	**23**	*e*P	Pn	06 54 41.9	-0.6
SLBI				*e*S	Sn	06 55 16.1	-1.3
SLW	**Petit Monier**	**2.93**	**24**	*e*P	Pn	06 54 42.5	-0.2
SLW				*e*S	Sn	06 55 15.7	-2.1
BBGH	**Gun Hill**	**3.12**	**54**	*e*P	Pn	06 54 45.8	+0.6
BBGH				*e*S	Sn	06 55 21.1	-1.2
BBSP	**Saint Philip**	**3.18**	**56**	*e*P	Pn	06 54 46.9	+0.9
BBSP				*e*S	Sn	06 55 22.3	-1.3
MPOM	**Morne Pois Mar**	**3.35**	**22**	*e*P	Pn	06 54 48.0	-0.2
TRMF	**Trois Ilets**	**3.37**	**19**	*e*P	Pn	06 54 48.3	-0.1
LPMF	**Morne Lapointe**	**3.43**	**20**	*e*P	Pn	06 54 49.7	+0.5
MVM	**Montagne Vaucl**	**3.44**	**21**	*e*P	Pn	06 54 49.2	-0.1
FDF	**Fort de France**	**3.53**	**16**	*e*P	Pn	06 54 50.3	-0.2
FDF				*e*S	Sn	06 55 27.6	-4.2
PML	**Morne Lenard**	**3.56**	**16**	*e*P	Pn	06 54 51.1	+0.1
GBMF	**Grand Be**	**3.58**	**16**	*e*P	Pn	06 54 51.4	0.0
PCM	**Pelee Case Pet**	**3.59**	**15**	*e*P	Pn	06 54 51.4	+0.1
CXM	**Morne La Croix**	**3.60**	**16**	*e*P	Pn	06 54 51.6	+0.1
BAMF	**Morne Balai**	**3.61**	**16**	*e*P	Pn	06 54 51.6	0.0
SVN	**Savane Anatole**	**3.62**	**16**	*e*P	Pn	06 54 51.8	0.0
ILAM	**Ilet Lapin Mar**	**3.65**	**20**	*e*P	Pn	06 54 52.5	+0.4
DBCT	**Belle View Cho**	**4.00**	**11**	*e*P	Pn	06 54 57.1	+0.3
MDN	**Morne-Daniel**	**4.04**	**11**	*e*P	Pn	06 54 56.5	-0.8
MDPO	**Dominica; Chan**	**4.28**	**9**	*e*P	Pn	06 55 00.3	-0.1
MDPO	**Dominica; Chan**	**4.28**	**9**	*e*S	Sn	06 55 47.0	-2.7
DWS	**Wesley**	**4.30**	**11**	*e*P	Pn	06 55 01.4	+0.6
MAGL	**Barre de l'ile**	**4.67**	**11**	*e*P	Pn	06 55 06.7	+1.0
MLYT	**Lee's Yard**	**5.36**	**360**	*e*P	Pn	06 55 14.5	-0.5
MLYT	**Lee's Yard**	**5.36**	**360**	*e*S	Sn	06 56 11.8	-3.9
BAUV	**El Baul**	**6.25**	**248**	*e*P	Pn	06 55 26.7	-0.3
BAUV	**El Baul**	**6.25**	**248**	*e*S	Sn	06 56 32.7	-4.5
ANWB	**Willy Bob**	**6.31**	**3**	*e*P	Pn	06 55 28.2	+0.3
ANWB	**Willy Bob**	**6.31**	**3**	*e*S	Sn	06 56 33.9	-4.8

ISCJB ***06*** *06:59:52.2±0.3, 19°.10S×169°.43E±0°.05, h246km, mb4.5/20, Error ellipse: s-maj=6.7km s-min=6.5km az=32.8*
BJI ***06*** *06:59:53.0±0.0, 19°.10S×169°.50E, h253km, mb4.7/11, mB5.0/7*
NEIC ***06*** *06:59:54.2±1.7, 19°.14S±0°.09×169°.46E±0°.10, h257km±7km, mb4.5/65*
IDC ***06*** *06:59:54.6±1.7, 19°.24S×169°.45E, h257km±14km, mb4.2/14, mb1 4.4/16, mb1mx4.2/23, mbtmp4.8/16, Error ellipse: s-maj=15.6km s-min=13.7km az=24.0*
ISC 06 06:59:53.3±0.4, 19°.15S±0°.07×169°.46E±0°.07, h246km, n104, σ1§02/96, mb4.5/47, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.06**	**224**	*e*Pn	**Pn**	**07 00 58.9**	**+1.2**
	145nm,0.3s						
DZM				*e*Sn	**S**	**07 01 50.4**	**+1.6**
	142nm,0.2s						
DZM	**Mont Dzumac**	**4.06**	**224**	P	**Pn**	**07 00 59.1**	**+1.4**
	34nm,0.3s,baz=54,slow=9.6,SNR=192						
DZM				S	**S**	**07 01 50.2**	**+1.3**
	11nm,0.3s,baz=101,slow=19,SNR=3.2						
MSVF	**Nonsavu**	**8.27**	**82**		**Pn**	**07 01 52.3**	**+2.1**
HNR	**Honiara**	**13.35**	**315**	P	**P**	**07 02 56.6**	**+1.4**
	22nm,0.3s,baz=201,slow=3.4,SNR=6.7						
HNR	**Honiara**	**13.35**	**315**	P	**P**	**07 02 56.0**	**+0.8**
HNR	**Honiara**	**13.35**	**315**	P	**P**	**07 02 56.4**	**+1.2**
OUZ	**Omahuta**	**16.43**	**168**	P	**Pn**	**07 03 30.3**	**-0.2**
EIDS	**Eidsvold**	**18.10**	**247**	P	**Pn**	**07 03 49.0**	**-1.3**
EIDS				IAmb	IAmb	07 03 52.6	
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**19.67**	**232**	P	**P**	**07 04 06.0**	**+1.8**
ARMA				IAmb	IAmb	07 04 07.3	
	comp=Z,12nm,0.9s						
URZ	**Urewera**	**20.18**	**162**	P	**P**	**07 04 09.4**	**0.0**
	comp=Z,16nm,1.0s,baz=339,slow=8.6,SNR=3.7						
URZ	**Urewera**	**20.18**	**162**	P	**P**	**07 04 09.9**	**+0.5**
URZ				IAmb	IAmb	07 04 13.1	
	comp=Z,18nm,1.0s						
BKZ	**Black Stump Fm**	**20.86**	**165**	P	**P**	**07 04 16.5**	**-0.2**
BKZ				IAmb	IAmb	07 04 27.8	
	comp=Z,36nm,1.3s						
CTA	**Charters Tower**	**21.88**	**264**	P	**P**	**07 04 27.1**	**+0.4**
	comp=Z,15nm,0.6s,baz=101,slow=11,SNR=18						
KRVT	**Keravat (AS076**	**22.52**	**309**	P	**P**	**07 04 33.1**	**+0.5**
	comp=Z,50nm,0.7s,baz=153,slow=2.3,SNR=3.0						
TUWZ	**Tuamarina**	**22.54**	**171**	P	**P**	**07 04 32.4**	**0.0**
THZ	**Tophouse**	**22.73**	**173**	P	**P**	**07 04 34.0**	**-0.3**
THZ				IAmb	IAmb	07 04 41.0	
	comp=Z,11nm,0.8s						
MSWZ	**Moikau Station**	**22.74**	**169**	P	**P**	**07 04 33.7**	**-0.6**
PLWZ	**Palliser**	**22.89**	**169**	P	**P**	**07 04 34.8**	**-0.9**
KHZ	**Kahutara**	**23.45**	**172**	P	**P**	**07 04 40.9**	**+0.2**
PMG	**Port Moresby**	**23.66**	**291**	P	**P**	**07 04 44.0**	**+1.2**
	comp=Z,65nm,0.7s,baz=105,slow=5.9,SNR=15						
PMG	**Port Moresby**	**23.66**	**291**	P	**P**	**07 04 44.1**	**+1.2**
LTZ	**Lake Taylor**	**23.68**	**175**	P	**P**	**07 04 42.5**	**-0.4**
FOZ	**Fox Glacier**	**24.32**	**179**	P	**P**	**07 04 49.7**	**+1.1**
KNTN	**Kanton**	**24.57**	**51**	P	**P**	**07 04 50.3**	**-0.9**
STKA	**Stephens Creek**	**28.07**	**238**	P	**P**	**07 05 22.7**	**+0.3**
	comp=Z,18nm,0.7s,baz=96,slow=9.2,SNR=3.8						
STKA	**Stephens Creek**	**28.07**	**238**	P	**P**	**07 05 23.1**	**+0.7**
BBOO	**Buckleboo**	**32.82**	**239**	P	**P**	**07 06 04.0**	**0.0**
BBOO				IAmb	IAmb	07 06 04.5	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**32.88**	**263**	P	**P**	**07 06 03.9**	**-0.8**
WR0				IAmb	IAmb	07 06 04.1	
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**33.04**	**263**	P	**P**	**07 06 05.1**	**-0.9**
WRA	**Warramunga Arr**	**33.07**	**263**	P	**P**	**07 06 05.1**	**-1.3**
	comp=Z,11nm,0.6s,baz=98,slow=8.8,SNR=49						
WRA				ScP	**ScP**	**07 12 03.8**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=89,slow=4.2,SNR=6.1						
WRA	**Warramunga Arr**	**33.07**	**263**	P	**P**	**07 06 05.5**	**-0.8**
AS31	**Alice Springs**	**33.35**	**256**	P	**P**	**07 06 08.4**	**-0.3**
ASAR	**Alice Springs**	**33.35**	**256**	P	**P**	**07 06 08.2**	**-0.5**
	comp=Z,72nm,0.6s,baz=83,slow=9.1,SNR=640						
ASAR				PcP	**PcP**	**07 08 43.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=106,slow=3.3,SNR=4.2						
ASAR				S	**S**	**07 11 08.0**	**-3.3**
	comp=Z,1.3nm,0.8s,baz=82,slow=17,SNR=5.9						
ASAR				ScP	**ScP**	**07 12 04.5**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=97,slow=3.4,SNR=6.0						
ASAR	**Alice Springs**	**33.35**	**256**	P	**P**	**07 06 07.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**41.46**	**264**	P	**P**	**07 07 17.0**	**+0.4**
PSAD2	**Pilbara Seismi**	**46.31**	**258**	P	**P**	**07 07 54.8**	**-0.3**
PSAC2	**Pilbara Seismi**	**46.38**	**258**	P	**P**	**07 07 55.5**	**-0.1**
PSAC2				IAmb	IAmb	07 07 56.6	
	comp=Z,19nm,0.8s						
PSAB3	**Pilbara Seismi**	**46.42**	**258**	P	**P**	**07 07 55.8**	**-0.1**
PSAB3				IAmb	IAmb	07 07 56.5	
	comp=Z,21nm,0.8s						
PSAA3	**Pilbara Seismi**	**46.42**	**258**	P	**P**	**07 07 55.5**	**-0.4**
PSAA3				IAmb	IAmb	07 07 56.9	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**46.43**	**258**	P	**P**	**07 07 55.6**	**-0.4**
PSA00				IAmb	IAmb	07 07 56.9	
	comp=Z,13nm,0.7s						
PSAA1	**Pilbara Seismi**	**46.44**	**258**	P	**P**	**07 07 55.9**	**-0.1**
PSAA1				IAmb	IAmb	07 07 57.4	
	comp=Z,18nm,0.8s						
PSAC3	**Pilbara Seismi**	**46.44**	**258**	P	**P**	**07 07 56.1**	**0.0**
PSAC3				IAmb	IAmb	07 07 57.8	
	comp=Z,18nm,0.8s						
PSAB1	**Pilbara Seismi**	**46.45**	**258**	P	**P**	**07 07 55.7**	**-0.5**
PSAB1				IAmb	IAmb	07 07 57.4	
	comp=Z,19nm,0.8s						
PSAD1	**Pilbara Seismi**	**46.45**	**258**	P	**P**	**07 07 56.0**	**-0.2**
PSAC1	**Pilbara Seismi**	**46.47**	**258**	P	**P**	**07 07 56.1**	**-0.1**
PSAD3	**Pilbara Seismi**	**46.48**	**258**	P	**P**	**07 07 56.0**	**-0.4**
PSAD3				IAmb	IAmb	07 07 56.9	
	comp=Z,18nm,0.8s						
SBA	**Scott Base**	**58.76**	**181**	P	**P**	**07 09 26.3**	**+1.2**
SBA				IAmb	IAmb	07 09 26.9	
	comp=Z,9.7nm,0.9s						
NJ2	**Nanjing**	**70.29**	**316**	*e*P	**P**	**07 10 40.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
QSPA	**South Pole Qui**	**70.91**	**180**	P	**P**	**07 10 43.0**	**-0.6**
QSPA				IAmb	IAmb	07 10 44.0	
	comp=Z,10nm,0.9s						
PETK	**Petropavlovsk-**	**72.67**	**353**	P	**P**	**07 10 54.9**	**+0.9**
	comp=Z,5.8nm,0.8s,baz=129,slow=4.4,SNR=4.7						
KMI	**Kunming**	**78.40**	**302**	P	**P**	**07 11 27.5**	**+0.1**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
MAW	**Mawson**	**78.60**	**202**	P	**P**	**07 11 27.9**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=109,slow=9.8,SNR=4.6						
MAW	**Mawson**	**78.60**	**202**	IAmb	IAmb	07 11 28.6	
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.66**	**294**	P	**P**	**07 11 30.6**	**+2.0**
	comp=Z,1.5nm,0.2s,baz=133,slow=5.1,SNR=2.6						
HHC	**Hu-ho-hao-te**	**80.29**	**319**	*e*P	**P**	**07 11 38.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**82.82**	**312**	⇑P	**P**	**07 11 49.6**	**-0.9**
LZH				pP	pP	07 12 52.0	+3.0
LZH				sP	sP	07 13 19.2	+4.5
LZH				PP	**PP**	**07 15 06.5**	**+1.7**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,67nm,5.6s						
WDC	**Whiskeytown Da**	**86.64**	**45**	IAmb	IAmb	07 12 11.5	
	comp=Z,6.4nm,0.9s						
ORV	**Oroville**	**86.86**	**46**	P	**P**	**07 12 10.9**	**+0.6**
ORV				IAmb	IAmb	07 12 12.2	
	comp=Z,6.2nm,0.9s						
CMB	**Columbia Colle**	**86.94**	**48**	IAmb	IAmb	07 12 13.1	
	comp=Z,7.9nm,0.9s						
AFDM	**Forest Hills D**	**86.95**	**47**	IAmb	IAmb	07 12 13.2	
	comp=Z,9.3nm,1.0s						
YBH	**Yreka Blue Hor**	**87.08**	**44**	IAmb	IAmb	07 12 13.8	
	comp=Z,8.4nm,0.8s						
GTA	**Gaotai**	**87.22**	**313**	*e*P	P	07 12 18.6	+6.4
GTA				pP	pP	07 13 19.8	+8.6
GTA				sP	sP	07 13 47.1	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ISA	**Isabella, Lake**	**87.26**	**51**	IAmb	IAmb	07 12 14.4	
	comp=Z,9.2nm,0.9s						
SONM	**Songino Array**	**87.27**	**323**	P	**P**	**07 12 13.2**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=145,slow=6.3,SNR=10						
SONM	**Songino Array**	**87.27**	**323**	IAmb	IAmb	07 12 13.9	
	comp=Z,1.6nm,0.7s						
PNTR	**Pine Nut**	**87.96**	**47**	IAmb	IAmb	07 12 18.0	
	comp=Z,6.2nm,0.9s						
NVAR	**Mina Array Bea**	**88.58**	**48**	P	**P**	**07 12 19.2**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=223,slow=6.5,SNR=20						
MOD	**Modoc Plateau**	**88.75**	**45**	IAmb	IAmb	07 12 21.3	
	comp=Z,6.1nm,0.7s						
KVN	**Kaiserville**	**88.99**	**48**	IAmb	IAmb	07 12 22.4	
	comp=Z,4.1nm,0.9s						
PINE	**Pine Mountain**	**89.21**	**43**	P	**P**	**07 12 22.6**	**+1.1**
SNAA	**Sanae**	**89.26**	**182**	P	**P**	**07 12 19.5**	**-1.8**
SNAA	**Sanae**	**89.26**	**182**	P	**P**	**07 12 19.2**	**-2.0**
SNAA				IAmb	IAmb	07 12 20.7	
	comp=Z,5.3nm,0.7s						
CCB	**Clear Creek Bu**	**89.73**	**17**	P	**P**	**07 12 22.9**	**-0.3**
VNA3	**Neumayer Olymp**	**89.85**	**180**	P	**P**	**07 12 22.0**	**-1.9**
SHPR	**Sheep Range**	**90.05**	**51**	IAmb	IAmb	07 12 28.4	
	comp=Z,6.5nm,1.2s						
IL31		**90.08**	**17**	P	**P**	**07 12 23.1**	**-1.6**
IL31				IAmb	IAmb	07 12 29.5	
	comp=Z,4.0nm,0.8s						
ILAR	**Eielson Array**	**90.08**	**17**	P	**P**	**07 12 22.9**	**-2.0**
	comp=Z,2.2nm,0.7s,baz=236,slow=4.2,SNR=23						
VNA2	**Neumayer-Watz**	**90.14**	**181**	P	**P**	**07 12 24.5**	**-0.7**
	baz=172,slow=3.5						
EGAK	**Eagle**	**91.77**	**19**	P	**P**	**07 12 32.3**	**-0.4**
EGAK				IAmb	IAmb	07 12 33.3	
	comp=Z,4.3nm,0.7s						
U15A	**North Rim**	**92.14**	**52**	IAmb	IAmb	07 12 37.5	
	comp=Z,5.3nm,0.7s						
PDAR	**Pinedale Array**	**96.40**	**47**	P	**P**	**07 12 53.6**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=201,slow=4.8,SNR=3.6						
TXAR	**Lajitas Array**	**96.54**	**61**	P	**P**	**07 12 56.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=221,slow=5.5,SNR=12						
WMQ	**Urumqi**	**97.29**	**314**	*e*P	Pdif	07 12 58.7	+0.2
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
WMQ				LR	LR		
	comp=Z,570nm,28.9s						
WMQ				LR	LR		
	comp=Z,850nm,29.1s						
WMQ				LR	LR		
	comp=Z,190nm,29.0s						
MKAR	**Makanchi Array**	**101.82**	**315**	P	**Pdif**	**07 13 19.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=108,slow=4.7,SNR=3.8						
ARCES	**ARCESS Array B**	**125.03**	**345**	PKP	**PKPdf**	**07 18 22.2**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=49,slow=2.1,SNR=10						
FINES	**FINESS Array B**	**130.58**	**338**	SKPbc	**SKPbc**	**07 21 32.1**	**-2.6**
	comp=Z,2.5nm,0.8s,baz=92,slow=4.2,SNR=5.2						
NOA	**NORSAR Array B**	**135.41**	**345**	PKP	**PKPdf**	**07 18 43.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=31,slow=2.0,SNR=3.3						
BRTR	**Keskin Array B**	**136.92**	**308**	PKP	**PKPdf**	**07 18 46.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=2.9						
CONA	**Conrad Observa**	**144.17**	**329**	*e*PKPdf	PKPbc	07 18 59.2	+0.5
	comp=Z,8.2nm,1.5s						
GERES	**GERESS Array B**	**144.51**	**332**	PKP	**PKPab**	**07 18 58.5**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=46,slow=3.9,SNR=10						
GERES	**GERESS Array B**	**144.51**	**332**		**PKPab**	**07 18 58.9**	**-0.6**
ARSA	**Arzberg**	**144.81**	**329**	*e*PKPdf	**PKPdf**	**07 19 01.3**	**+0.4**
	comp=Z,5.1nm,0.8s						
MOA	**Molln**	**144.98**	**330**	*e*PKPab	PKPbc	07 19 00.9	-0.2
	comp=Z,5.0nm,0.8s						
KBA	**Koelnbreinsper**	**145.97**	**330**	*e*PKPab	**PKPdf**	**07 19 03.5**	**+0.4**
	comp=Z,2.2nm,0.4s						
MYKA	**Terra Mystica**	**146.16**	**330**	*e*PKPbc	**PKPdf**	**07 19 03.5**	**+0.2**
	comp=Z,5.1nm,0.8s						
ABTA	**Abfaltersbach**	**146.60**	**331**	*e*PKPbc	**PKPbc**	**07 19 05.1**	**-0.9**
	comp=Z,2.2nm,0.5s						
WTTA	**Wattenberg**	**146.61**	**332**	*e*PKPab	**PKPbc**	**07 19 05.9**	**-0.2**
	comp=Z,2.7nm,0.5s						
WLF	**Walferdange**	**146.74**	**340**	PKPab	**PKPab**	**07 19 07.1**	**-0.8**
MOTA	**Moosalm**	**146.78**	**333**	*e*PKPab	**PKPbc**	**07 19 06.2**	**-0.3**
	comp=Z,4.9nm,0.7s						
SQTA	**Sankt Quirin**	**146.83**	**333**	*e*PKPab	**PKPbc**	**07 19 06.5**	**-0.2**
	comp=Z,6.6nm,0.5s						
DOU	**Dourbes**	**146.84**	**342**	PKPab	**PKPbc**	**07 19 06.1**	**-0.4**
FETA	**Feichten**	**147.19**	**333**	*e*PKPbc	**PKPbc**	**07 19 07.1**	**-0.6**
	comp=Z,4.9nm,0.7s						
DAVA	**Damuels**	**147.35**	**334**	PKiKP	**PKiKP**	**07 19 09.3**	**-0.9**
	comp=Z,7.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**166.82**	**245**	PKP	**PKPdf**	**07 19 29.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=115,slow=1.4,SNR=3.1						
TORD				PKPab	**PKPab**	**07 20 34.3**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=125,slow=5.6,SNR=3.3						

GCG ***06*** *07:02:34.9±0.3, 13°.21N×92°.02W, h29km, MD3.9*
MEX ***06*** *07:02:34.7±0.3, 13°.02N×91°.84W, h36km±89km, MD3.9*
ISC 06 07:02:33.1±3.9, 13°.0N±0°.2×91°.94W±0°.09, h35km, n7, σ0§81/13, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**1.75**	**12**	*e*P	**Pn**	**07 03 01.3**	**+0.1**
STG3				*i* S	**Sn**	**07 03 21.8**	**-0.6**
FUG	**Fuego 3**	**1.80**	**36**	*e*P	**Pn**	**07 03 02.9**	**+1.0**
FUG				*i* S	**Sn**	**07 03 24.8**	**+1.2**
IXG	**Ixpaco**	**1.88**	**51**	*e*P	**Pn**	**07 03 01.7**	**-1.1**
THIG		**1.94**	**351**	*i* P	**Pn**	**07 03 03.5**	**0.0**
THIG				*i* S	**Sn**	**07 03 25.8**	**-0.8**
PCIG		**2.97**	**336**	*i* P	**Pn**	**07 03 18.6**	**+0.8**
PCIG				*e*S	**Sn**	**07 03 51.4**	**-0.8**
CCIG	**Comitan**	**3.28**	**357**	*i* P	**Pn**	**07 03 22.6**	**+0.4**
CCIG				*i* S	**Sn**	**07 03 59.6**	**-0.5**
TGIG		**3.94**	**343**	*i* P	**Pn**	**07 03 31.2**	**+0.1**
TGIG				*i* S	**Sn**	**07 04 16.1**	**-0.1**

IDC ***06*** *07:40:42.8±1.2, 1°.55N×128°.34E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/52, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=74.4km s-min=19.7km az=62.0*
ISCJB ***06*** *07:40:48.1±1.0, 1°.6N±0°.2×128°.7E±0°.2, h61km, mb3.5/4, Error ellipse: s-maj=42.6km s-min=10.7km az=137.6*
ISC 06 07:40:50.1±1.3, 1°.6N±0°.3×128°.6E±0°.3, h61km, n8, σ0§37/6, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.59**	**132**	Pn	**Pn**	**07 41 43.6**	**+0.3**
	2.5nm,0.3s,baz=323,slow=20,SNR=15						
SIJI				Sn	**Sn**	**07 42 24.2**	**-0.3**
	4.1nm,0.3s,baz=294,slow=23,SNR=7.7						
WRA	**Warramunga Arr**	**22.10**	**166**	P	**P**	**07 45 40.4**	**-0.1**
	2.5nm,0.8s,baz=346,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**25.60**	**169**	P	**P**	**07 46 13.9**	**0.0**
	0.4nm,0.8s,baz=351,slow=9.5,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**41.55**	**62**	T	T	08 33 15.7	
	baz=248						
H11N2	**WAKE ISLAND Hy**	**41.56**	**62**	T	T	08 33 14.2	
	baz=248						
H11N3	**WAKE ISLAND Hy**	**41.56**	**62**	T	T	08 33 13.0	
	baz=248						
MKAR	**Makanchi Array**	**60.40**	**325**	P	**P**	**07 50 53.5**	**+0.3**
	0.2nm,0.4s,baz=127,slow=8.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**64.57**	**327**	P	**P**	**07 51 20.5**	**-0.4**
	0.4nm,0.2s,baz=129,slow=6.1,SNR=2.4						

ISCJB ***06*** *08:18:17.8±0.5, 40°.66N±0°.04×26°.59E±0°.07, h6km±7km, Error ellipse: s-maj=8.4km s-min=5.9km az=167.3*
ISK ***06*** *08:18:17.4, 40°.68N×26°.57E, h8km±1km, ML2.0/8*
DDA ***06*** *08:18:19.4, 40°.68N×26°.90E, h7km±6km, ML2.5*
ISC 06 08:18:17.4±1.0, 40°.67N±0°.04×26°.62E±0°.06, h7km±11km, n12, σ0§58/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIK	**Erikli-Kesan**	**0.08**	**268**	PG	**Pg**	**08 18 19.2**	**-0.2**
ERIK				SG	**Sg**	**08 18 20.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.30**	**203**	PG	**Pg**	**08 18 23.7**	**+0.5**
GELI				SG	**Sg**	**08 18 28.4**	**+1.2**
RKY	**Sarkoy-Tekirda**	**0.42**	**88**	PG	**Pb**	**08 18 26.7**	**-0.6**
ALN	**Alexandroupoli**	**0.49**	**297**	PG	**Pg**	**08 18 26.8**	**-0.1**
KRBG	**Karabiga-Canak**	**0.58**	**118**	PG	**Pb**	**08 18 29.9**	**-0.1**
MRMT	**Marmara Adasi**	**0.74**	**95**	PG	**Pb**	**08 18 32.9**	**+0.2**
EZN	**Ezine**	**0.88**	**195**	PG	**Pg**	**08 18 34.1**	**-0.1**
BOZC	**Bozcaada**	**0.94**	**208**	PG	**Pg**	**08 18 35.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.02**	**127**	PG	**Pn**	**08 18 38.1**	**-0.1**
KIRK	**Kırklareli**	**1.16**	**18**	*i* P	**Pn**	**08 18 40.8**	**+0.6**
KIRK				*i* S	**Sn**	**08 18 56.3**	**0.0**
KIRK				IAML_P			
	comp=Z,395nm,0.2s						
EDRB	**Edirne**	**1.18**	**4**	PN	**Pg**	**08 18 40.2**	**+0.2**
DURS	**Dursunbey**	**1.78**	**126**	*i* P	**Pg**	**08 18 51.8**	**+0.3**
DURS				*i* S	**Sb**	**08 19 11.8**	**-1.1**

ISCJB ***06*** *08:36:06.5±0.5, 59°.00N±0°.04×18°.22E±0°.07, h0km, Error ellipse: s-maj=6.5km s-min=3.4km az=139.8*
UPP ***06*** *08:36:07.2±0.1, 59°.00N×18°.20E, h0km, ML2.4, Explosion*
HEL ***06*** *08:36:08.6, 59°.07N×17°.99E, h0km, ML1.9, Explosion*
IDC ***06*** *08:36:10.9±1.7, 59°.26N×18°.10E, h0km, mb1 3.0/4, mb1mx2.9/49, mbtmp2.9/4, ML2.1/4, Error ellipse

baz=88
BTK Batken 1.48 213 ⇓iP Pn 08 53 29.8 0.0
baz=12
BTK ⇓iS Sg 08 53 49.6 -1.0
baz=12
AML Almayashu 1.60 58 ⇑iP Pb 08 53 33.2 +0.4
baz=59
AML ⇑iS Sb 08 53 54.1 +0.9
baz=59
IUG luzhnay 1.61 302 P Pg 08 53 33.9 0.0
0.8nm,0.1s
IUG S Sg 08 53 54.2 -0.7
63nm,0.3s
IUG luzhnay 1.61 302 eP Pg 08 53 33.9 0.0
0.8nm,0.1s
IUG eS Sg 08 53 54.2 -0.7
63nm,0.3s
MRKS Merke 1.76 35 P Pg 08 53 36.4 -0.4
4.2nm,0.3s
MRKS S Sb 08 53 58.8 +1.2
7.9nm,0.3s
MRKS Merke 1.76 35 eP Pg 08 53 36.4 -0.4
4.2nm,0.3s
MRKS eS Sb 08 53 58.4 +0.8
7.9nm,0.3s
ARLS Aral 1.92 72 ⇑iP Pb 08 53 37.9 -0.3
baz=72
ARLS ⇑iS Sb 08 54 03.2 +0.9
baz=72
EKS2 Erkin-Say 1.96 46 ⇑iP Pb 08 53 39.5 +0.6
baz=46
EKS2 ⇑iS Sb 08 54 05.3 +1.8
baz=46
KK31 Karatay Array 2.06 331 Pn Pb 08 53 40.5 0.0
0.5nm,0.2s,baz=154,slow=15,SNR=7.1
KK31 ⇓Sn Sg 08 54 07.6 -1.7
1.2nm,0.3s,baz=154,slow=35,SNR=5.6
UCH Uchtor 2.18 64 ⇓iP Pb 08 53 43.1 +0.3
baz=64
UCH ⇓iS Sb 08 54 10.3 +0.2
baz=64
AAK Ala-Archa 2.37 55 Pn Pb 08 53 46.3 +0.5
1.7nm,0.4s
AAK ⇑Sn Sg 08 54 18.0 -1.1
4.0nm,0.6s
AAK Ala-Archa 2.37 55 ⇑eP Pb 08 53 45.9 +0.1
baz=55
AAK ⇑iS Sb 08 54 14.7 -0.4
baz=55
KZA Kyzart 2.65 72 ⇑iP Pb 08 53 50.1 -0.6
baz=72
KZA ⇑iS Sb 08 54 22.0 -1.4
baz=72
USP Ospenovka 2.77 44 ⇑iP Pb 08 53 51.5 -1.0
baz=44
USP ⇑iS Sn 08 54 23.7 +2.8
baz=44
TKM2 Tokmak 2 3.21 59 ⇓Pn Pb 08 54 01.2 +1.0
0.2nm,0.2s
TKM2 ⇓Sn Sg 08 54 44.0 -2.0
2.1nm,0.5s
DGS Degeres 3.48 55 Pg Pg 08 54 08.5 -1.2
DGS Lg Lg 08 54 52.9
DGS Degeres 3.48 55 eP Pg 08 54 08.5 -1.2
1.8nm,0.4s
DGS eS Sg 08 54 53.5 -1.3
3.9nm,0.8s
KST Kastek 3.50 59 Pg Pg 08 54 09.1 -1.0
1.6nm,0.4s
KST Lg Lg 08 54 54.7
3.2nm,0.5s
KST Kastek 3.50 59 eP Pg 08 54 09.1 -1.0
0.9nm,0.4s
KST eS Sg 08 54 54.6 -0.8
3.4nm,0.6s
KTBS Karatobe 4.29 54 eP Pg 08 54 24.5 -0.7
1.9nm,0.9s
KTBS eS Sg 08 55 20.6 -0.2
3.6nm,0.9s

IDC 06 08:55:32.4±13.0, 20°.08S×177°.56W, h521km±128km, mb2.9/5, mb1 3.2/5, mb1mx3.0/20, mbtmp3.8/5, Error ellipse: s-maj=103.0km s-min=43.4km az=118.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.34**	**244**	P	P	09 02 08.3	-0.1
	2.0nm,0.9s,baz=100,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**45.01**	**256**	P	P	09 03 01.4	0.0
	1.2nm,0.8s,baz=93,slow=7.7,SNR=19						
ASAR				PcP	PcP	09 04 31.2	-0.3
	1.0nm,1.1s,baz=111,slow=3.2,SNR=4.8						
WRA	**Warramunga Arr**	**45.06**	**262**	P	P	09 03 01.4	-0.4
	0.3nm,0.3s,baz=97,slow=7.6,SNR=14						
MJAR	**Matsushiro Arr**	**70.12**	**323**	P	P	09 05 52.2	0.0
	0.9nm,0.5s,baz=147,slow=4.0,SNR=3.1						
ILAR	**Eielson Array**	**87.82**	**13**	P	P	09 07 25.2	-0.2
	0.2nm,0.4s,baz=216,slow=4.5,SNR=3.5						
BRTR	**Keskin Array B**	**146.86**	**313**	PKPbc	PKPbc	09 14 15.7	-0.7
	0.4nm,0.4s,baz=61,slow=2.0,SNR=2.4						

*KRNET **06** 09:01:10.4±0.1, 41°.32N×71°.84E, h15km, mb2.0*
*SOME **06** 09:01:11.2, 41°.12N×72°.22E, h15km*
*NNC **06** 09:01:12.1±3.6, 41°.27N×71°.97E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=33.1km s-min=18.3km az=159.0*
ISC 06 09:01:10.1±1.3, 41°.28N±0°.05×71°.86E±0°.04, h5km±16km, n15, σ0°82/25, 18C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.52**	**8**	⇑iP	Pg	09 01 19.6	-0.5
	baz=13						
ARK				⇑iS	Sg	09 01 26.0	-0.9
	baz=13						
ARSB	**Arslanbob**	**0.84**	**87**	⇑iP	Pn	09 01 27.8	-1.0
	baz=89						
ARSB				⇑iS	Sb	09 01 38.6	-0.4
	baz=89						
BTK	**Batken**	**1.46**	**213**	⇑iP	Pb	09 01 38.1	+0.3
	baz=12						
BTK				⇑iS	Sg	09 01 57.8	+0.8
	baz=12						
AML	**Almayashu**	**1.61**	**58**	⇑iP	Pg	09 01 40.9	-0.1
	baz=59						
AML				⇑iS	Sg	09 02 01.8	-0.1
	baz=59						
MRKS	**Merke**	**1.78**	**34**	P	Pg	09 01 44.8	+0.7
	2.2nm,0.2s						
MRKS				S	Sg	09 02 08.7	+1.5
	5.4nm,0.2s						
MRKS	**Merke**	**1.78**	**34**	eP	Pg	09 01 44.8	+0.7
	2.2nm,0.2s						
MRKS				eS	Sg	09 02 08.8	+1.5
	5.4nm,0.2s						
ARLS	**Aral**	**1.93**	**72**	⇑iP	Pb	09 01 45.8	-0.1
	baz=73						
ARLS				⇑iS	Sg	09 02 11.7	-0.5
	baz=73						
EKS2	**Erkin-Say**	**1.98**	**45**	⇑iP	Pg	09 01 47.3	-0.8
	baz=46						
EKS2				⇑iS	Sg	09 02 13.4	-0.4
	baz=46						
KK31	**Karatay Array**	**2.08**	**332**	⇑Pg	Pb	09 01 47.9	-0.4
	0.3nm,0.3s,baz=142,slow=14,SNR=5.4						
KK31				⇓Lg	Lg	09 02 15.9	
	0.2nm,0.2s,baz=150,slow=30,SNR=2.8						
UCH	**Uchtor**	**2.19**	**64**	⇑iP	Pb	09 01 51.1	+0.5
	baz=65						
UCH				⇑iS	Sg	09 02 19.7	-1.0
	baz=65						
AAK	**Ala-Archa**	**2.38**	**55**	⇑Pg	Pb	09 01 53.9	+0.3
	0.9nm,0.4s						
AAK				⇑Lg	Lg	09 02 25.7	
	2.3nm,0.7s						
SGDS	**Sogindy**	**2.98**	**42**	Pg	Pb	09 02 04.7	+1.0
SGDS				Lg	Lg	09 02 42.6	
TKM2	**Tokmak 2**	**3.22**	**58**	⇓Pg	Pg	09 02 12.2	+0.3
	0.2nm,0.3s						
TKM2				⇑Lg	Lg	09 02 51.3	
	0.7nm,0.5s						
KST	**Kastek**	**3.52**	**59**	Pg	Pb	09 02 13.2	+0.3
	1.5nm,0.4s						
KST				Lg	Lg	09 02 57.5	
	2.3nm,0.4s						
KST	**Kastek**	**3.52**	**59**	eP	Pb	09 02 13.2	+0.3
	1.3nm,0.3s						
KST				eS	Sb	09 02 57.4	+1.5
	2.6nm,0.5s						

WEL 06 09:10:05.3±1.1, 34°.5S±24°.×18°.0E±2°.5, h319km±30km, M4.7/24, mB5.2/2, MLv4.7/24, Mw(mB)4.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=132.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.63**	**202**	P	Pn	09 11 08.1	-0.5
MXZ				S	S	09 11 58.5	-0.8
WMGZ	**Waiomatatini S**	**3.84**	**199**	P	Pn	09 11 11.0	+0.3
WMGZ				S	S	09 12 05.4	+2.1
HAZ	**Te Kaha**	**3.98**	**206**	P	Pn	09 11 12.4	+0.2
HAZ				S	S	09 12 05.8	-0.2
PKGZ	**Pakihiroa**	**4.00**	**202**	P	Pn	09 11 12.1	-0.4
PKGZ				S	S	09 12 07.6	+1.1
PUZ	**Puketiti**	**4.12**	**199**	P	Pn	09 11 13.5	-0.2
PUZ				S	S	09 12 09.8	+1.1
RUGZ	**Raukumara Rang**	**4.21**	**206**	P	Pn	09 11 14.5	-0.4
RUGZ				S	S	09 12 08.8	-1.8
TWGZ	**Tauwhareparae**	**4.30**	**202**	P	Pn	09 11 15.7	0.0
TWGZ				S	S	09 12 14.6	+2.3
CNGZ	**Carnagh Statio**	**4.52**	**198**	P	Pn	09 11 18.7	+0.6
TKGZ	**Te Karaka**	**4.58**	**202**	P	Pn	09 11 18.5	-0.3
TKGZ				S	S	09 12 19.2	+1.4
OPRZ	**Ohinepanea**	**4.59**	**216**	P	Pn	09 11 18.7	-0.1
MWZ	**Matawai**	**4.59**	**205**	P	Pn	09 11 18.4	-0.5
MWZ				S	S	09 12 18.6	+0.4
MARZ	**Manawahe**	**4.64**	**214**	P	Pn	09 11 19.5	0.0
URZ	**Urewera**	**4.68**	**209**	P	Pn	09 11 20.1	+0.2
URZ				S	S	09 12 19.0	-0.8
EDRZ	**Edgecumbe**	**4.71**	**213**	P	Pn	09 11 21.4	+1.1
RAGZ	**Rawiri**	**4.77**	**205**	P	Pn	09 11 20.8	-0.2
RAGZ				S	S	09 12 22.3	+0.4
RIGZ	**Rimuhau**	**4.85**	**201**	P	Pn	09 11 21.4	-0.4
KARZ	**Kaharoa**	**4.88**	**217**	P	Pn	09 11 24.2	+2.0
TARZ	**Mount Tarawera**	**4.92**	**214**	P	Pn	09 11 25.4	+2.7
MUGZ	**Murupara**	**5.00**	**210**	P	Pn	09 11 22.4	-1.2
PRGZ	**Paritu Road**	**5.02**	**199**	P	Pn	09 11 23.7	0.0
RTZ	**Ruatahuna**	**5.04**	**208**	P	Pn	09 11 22.7	-1.4
SNGZ	**Shannon Statio**	**5.05**	**204**	P	Pn	09 11 23.8	-0.3
HRRZ	**Handcock Road**	**5.15**	**214**	P	Pn	09 11 26.9	+1.6
KNZ	**Kokohu**	**5.17**	**200**	P	Pn	09 11 24.7	-0.7
MHGZ	**Mahia Peninsul**	**5.23**	**198**	P	Pn	09 11 26.4	+0.3
ALRZ	**Allen Road**	**5.26**	**213**	P	Pn	09 11 27.2	+0.7
RAHZ	**Arahi**	**5.26**	**205**	P	Pn	09 11 26.0	-0.6
MTHZ	**Maungataniwha**	**5.30**	**208**	P	Pn	09 11 26.0	-0.9
WPRZ	**Whakapapatarin**	**5.31**	**214**	P	Pn	09 11 29.1	+2.0
WHHZ	**Waihua**	**5.36**	**204**	P	Pn	09 11 27.3	-0.3
KUTZ	**Kaahu Road**	**5.45**	**217**	P	Pn	09 11 30.8	+2.1
MRHZ	**Matea Rd**	**5.45**	**211**	P	Pn	09 11 28.3	-0.5
TLZ	**Tolley Road**	**5.48**	**220**	P	Pn	09 11 30.9	+1.9
NMHZ	**Naumai**	**5.53**	**207**	P	Pn	09 11 29.1	-0.5
ARHZ	**Aropaoanui**	**5.61**	**204**	P	Pn	09 11 29.8	-0.6
BKZ	**Black Stump Fm**	**5.71**	**208**	P	Pn	09 11 30.8	-0.8
RATZ	**Rangitukua**	**5.77**	**215**	P	Pn	09 11 34.1	+1.7
RITZ	**Rihia Road**	**5.82**	**214**	P	Pn	09 11 34.4	+1.4
MCHZ	**McNeill Hill**	**5.87**	**206**	P	Pn	09 11 32.9	-0.7
CKHZ	**Cape Kidnapper**	**5.94**	**202**	P	Pn	09 11 35.7	+1.4
KWHZ	**Kaweka Forest**	**5.96**	**208**	P	Pn	09 11 33.4	-1.2
HIZ	**Hauiti**	**5.98**	**222**	P	Pn	09 11 36.8	+2.0
TWVZ	**Taurewa**	**6.09**	**216**	P	Pn	09 11 37.1	+0.8
NGZ	**Ngauruhoe**	**6.10**	**214**	P	Pn	09 11 37.3	+1.0
KAHZ	**Kahuranaki**	**6.12**	**203**	P	Pn	09 11 35.9	-0.7
TUVZ	**Tukino**	**6.15**	**213**	P	Pn	09 11 37.6	+0.7
BHHZ	**Black Hill Sta**	**6.16**	**210**	P	Pn	09 11 36.4	-0.6
KRHZ	**Kereru**	**6.17**	**207**	P	Pn	09 11 35.6	-1.4
FWVZ	**Far West T-bar**	**6.18**	**214**	P	Pn	09 11 36.6	-0.9
WHVZ	**Whangaehu Hut**	**6.19**	**213**	P	Pn	09 11 38.0	+0.5
MOVZ	**Moawhango**	**6.22**	**212**	P	Pn	09 11 37.3	-0.4
TRVZ	**Turoa**	**6.22**	**214**	P	Pn	09 11 38.4	+0.5
PXZ	**Pawanui**	**6.34**	**202**	P	Pn	09 11 38.0	-1.1
PNHZ	**Pukenui**	**6.47**	**207**	P	Pn	09 11 39.0	-1.6
VRZ	**Vera Road**	**6.47**	**219**	P	Pn	09 11 42.0	+1.4
WPHZ	**Waipukurau**	**6.51**	**205**	P	Pn	09 11 41.5	+0.4
PRHZ	**Porangahau**	**6.63**	**203**	P	Pn	09 11 41.5	-1.0
TSZ	**Takapari Road**	**6.68**	**208**	P	Pn	09 11 43.4	+0.2
DVHZ	**Dannevirke**	**6.82**	**205**	P	Pn	09 11 44.7	-0.1
WAZ	**Wanganui**	**6.85**	**214**	P	Pn	09 11 45.4	+0.3
ANWZ	**Angora Road**	**6.86**	**203**	P	Pn	09 11 46.8	+1.6
LREZ	**Lake Rotokare**	**6.91**	**219**	P	Pn	09 11 47.0	+1.2
PKE	**Pukeiti**	**6.94**	**222**	P	Pn	09 11 48.1	+1.8
KHEZ	**Kahui Hut**	**7.00**	**222**	P	Pn	09 11 48.9	+1.9
POWZ	**Post Office Ro**	**7.04**	**207**	P	Pn	09 11 47.5	+0.1
PRWZ	**Pori Road**	**7.11**	**206**	P	Pn	09 11 49.7	+1.4
BFZ	**Birch Farm**	**7.13**	**204**	P	Pn	09 11 47.9	-0.5
TIWZ	**Tintock**	**7.34**	**205**	P	Pn	09 11 50.7	-0.4
MRZ	**Mangatainoka R**	**7.35**	**207**	P	Pn	09 11 49.2	-1.9
HOWZ	**Holdsworth Sta**	**7.58**	**207**	P	Pn	09 11 52.6	-1.3
OGWZ	**Otaki Gorge**	**7.64**	**209**	P	Pn	09 11 52.8	-1.8

*NIED **06** 09:11:00, 26°.10N×128°.70E, h11km, Mw3.9 Best double couple: M₀8.14000×10¹⁴ NP1:φ₀232.00000°, δ37.00000°, λ105.00000°. NP2:φ₀34.00000°, δ54.00000°, λ79.00000°.*
*IDC **06** 09:11:04.0±1.0, 26°.03N×128°.62E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.7/38, mbtmp3.7/12, ML2.7/2, Error ellipse: s-maj=38.4km s-min=17.1km az=75.0*
*NEIC **06** 09:11:07.6±1.6, 26°.04N±0°.04×128°.5E±0°.1, h35km±2km, mb4.3/6*
*JMA **06** 09:11:07.3±0.3, 26°.09N×128°.66E, h38km±5km, M3.5*
ISC 06 09:11:03.3±1.9, 26°.02N±0°.05×128°.69E±0°.05, h3km±11km, n39, σ1°17/50, mb3.8/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.78**	**310**	P	Pn	09 11 20.6	-0.7
JNTH				eS	Sb	09 11 30.8	+0.2
JJT3	**Tamagusuku3**	**0.83**	**279**	P	Pn	09 11 22.2	+0.3
JOW	**Kunigami**	**0.89**	**335**	P	Pn	09 11 22.6	-0.2
JOW				eS	Sb	09 11 33.1	-0.8
JOW	**Kunigami**	**0.89**	**335**	Pn	Pn	09 11 22.6	-0.2
	16nm,0.3s,baz=139,slow=13,SNR=206						
JOW				Sn	Sb	09 11 33.2	-0.6
	58nm,0.3s,baz=130,slow=12,SNR=30						
JOW	**Kunigami**	**0.89**	**335**		Pn	09 11 22.9	+0.1
JOW					Sb	09 11 33.4	-0.5
JYRO	**Yoronjima**	**1.03**	**348**	P	Pn	09 11 24.4	-0.2
JYRO				eS	Sb	09 11 37.1	-0.6
JIH	**Iheya**	**1.20**	**327**	P	Pn	09 11 27.5	+0.4
JIH				eS	Sg	09 11 42.0	-0.1
JOKE	**Okinoerabujima**	**1.34**	**355**	P	Pb	09 11 29.3	+0.1
JOKE				eS	Sg	09 11 45.5	-1.1
JAGN	**Aguni-jima**	**1.42**	**294**	P	Pg	09 11 30.7	+0.1
JKE	**Kume jima 2**	**1.74**	**281**	P	Pn	09 11 34.5	0.0
JTK	**Tokunoshima**	**1.78**	**7**	P	Pn	09 11 35.2	+0.2
JTK				eS	Sn	09 11 56.2	-1.9
JMZ	**Minamidaito 2**	**2.29**	**94**	P	Pn	09 11 42.3	+0.4
JMZ				S	Sn	09 12 08.8	-1.8
JKDJ	**Kitadaitoujima**	**2.34**	**91**	P	Pn	09 11 43.1	+0.3
JKDJ				eS	Sn	09 12 10.3	-1.8
YULB	**Yu-li**	**7.21**	**250**	Pn	Pn	09 12 47.4	-2.3
JNU	**Nakatsue**	**7.33**	**15**	Pn	Pn	09 12 53.3	+2.0
	0.2nm,0.3s,baz=190,slow=6.1,SNR=5.9						
JNU				Sn	Sn	09 14 14.4	-0.7
	0.2nm,0.3s,baz=169,slow=10,SNR=1.9						
JNU	**Nakatsue**	**7.33**	**15**		Pn	09 12 52.5	+1.1
SSLB	**Suanglung**	**7.37**	**254**	Pn	Pn	09 12 50.8	-1.1
USRK	**Ussuriysk Ar.**	**18.34**	**8**	P	P	09 15 21.1	+2.4
	baz=167,slow=8.3,SNR=2.8						
USRK	**Ussuriysk Ar.**	**18.34**	**8**	P	Pn	09 15 17.1	-1.6
SLVN	**Son La**	**23.16**	**264**	P	P	09 16 11.2	0.0
SLVN				IAmb	IAmb	09 16 29.9	
	comp=Z,7.7nm,1.5s						
SONM	**Songino Array**	**27.96**	**327**	P	P	09 16 57.8	+2.7
	comp=Z,0.9nm,0.6s,baz=144,slow=10,SNR=4.8						
MK31	**Makanchi Array**	**41.99**	**312**	P	P	09 18 55.9	+0.2
MKAR	**Makanchi Array**	**41.99**	**312**	P	P	09 18 56.2	+0.5
	comp=Z,0.6nm,0.7s,baz=97,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**41.99**	**312**	P	P	09 18 55.9	+0.2
ZALV	**Zalesovo Beam**	**42.67**	**323**	P	P	09 19 01.8	+0.7
	comp=Z,0.4nm,0.3s,baz=122,slow=11,SNR=2.2						
KURBB	**Kurchatov Arra**	**45.29**	**317**	P	P	09 19 22.7	+0.4
	comp=Z,0.6nm,0.7s,baz=105,slow=8.6,SNR=3.4						
WRAB	**Tennant Creek**	**46.01**	**173**	P	P	09 19 27.2	-0.9
WRAB				IAmb	IAmb	09 19 39.2	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**46.01**	**173**	P	P	09 19 29.6	+1.4
	comp=Z,0.6nm,0.6s,baz=356,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**46.01**	**173**	P	P	09 19 29.2	+1.0
ASAR	**Alice Springs**	**49.65**	**174**	P	P	09 19 57.5	+1.1
	comp=Z,0.4nm,0.8s,baz=343,slow=5.8,SNR=2.8						
ASAR	**Alice Springs**	**49.65**	**174**	P	P	09 19 57.0	+0.6
ABKAR	**Abkulak array**	**57.09**	**313**	P	P	09 20 49.0	-1.9
ABKAR				IAmb	IAmb	09 21 04.0	
	comp=Z,2.1nm,1.1s						
ABKAR	**Abkulak array**	**57.09**	**313**	P	P	09 20 49.7	-1.3
ILAR	**Eielson Array**	**64.43**	**28**	P	P	09 21 41.3	+0.7
	comp=Z,0.4nm,0.9s,baz=270,slow=5.4,SNR=3.0						
FINES	**FINESS Array B**	**73.25**	**331**	P	P	09 22 36.3	+0.7
	comp=Z,1.6nm,0.8s,baz=64,slow=6.3,SNR=3.3						
BRTR	**Keskin Array B**	**77.49**	**308**	P	P	09 23 01.4	+0.8
	comp=Z,0.8nm,0.8s,baz=90,slow=8.6,SNR=4.4						
BRTR	**Keskin Array B**	**77.49**	**308**	P	P	09 22 58.0	-2.7
LBZ	**Lake Benmore**	**79.68**	**151**	P	P	09 23 11.9	-0.2
NOA	**NORSAR Array B**	**79.69**	**334**	P	P	09 23 12.9	+0.7
	comp=Z,0.2nm,0.5s,baz=35,slow=7.1,SNR=2.8						

*NEIC **06** 09:13:14.5±2.3, 15°.98N±0°.03×98°.37W±0°.03, h15km±6km*
*ISCJB **06** 09:13:15.0±1.3, 16°.01N±0°.06×98°.34W±0°.03, h24km±8km, Error ellipse: s-maj=10.9km s-min=4.9km az=15.6*
*MEX **06** 09:13:16.3±0.5, 16°.02N×98°.36W, h5km, MD4.0*
ISC 06 09:13:15.7±1.7, 16°.05N±0°.06×98°.36W±0°.03, h16km±10km, n23, σ1°26/37, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**33**	eP	Pg	09 13 23.9	-0.1
PNIG				i S	Sb	09 13 30.6	+0.1
PNIG	**Pinotepa**	**0.40**	**33**		Pg	09 13 23.9	-0.1
PNIG					Sb	09 13 30.6	+0.1
TLIG	**Tlapa**	**1.52**	**352**	eP	Pn	09 13 40.6	-1.7
TLIG				i S	Sn	09 14 01.2	-0.7
TLIG	**Tlapa**	**1.52**	**352**		Pn	09 13 42.5	+0.2
TLIG				Sn	Sb	09 14 02.9	+0.2
TLIG	**Tlapa**	**1.52**	**352**		Pn	09 13 40.6	-1.7
TLIG					Sn	09 14 01.2	-0.7
VHO	**Vista Hermosa**	**1.86**	**57**	eP	Pn	09 13 46.0	-1.2
VHO				i S	Sn	09 14 09.1	-1.3
CAIG	**El Cayaco**	**2.08**	**299**	i P	Pn	09 13 49.2	-0.9
CAIG				i S	Sn	09 14 14.6	-1.1
CAIG	**El Cayaco**	**2.08**	**299**		Pn	09 13 49.2	-0.9
CAIG					Sn	09 14 14.6	-1.1
HUIG	**Huatulco**	**2.18**	**97**	i P	Pn	09 13 50.0	-1.3
HUIG				i S	Sn	09 14 16.7	-1.3
HUIG	**Huatulco**	**2.18**	**97**		Pn	09 13 50.0	-1.3
HUIG					Sn	09 14 16.7	-1.3
ZIIG	**Zihuatanejo**	**3.36**	**298**	i P	Pn	09 14 07.7	+0.1
ZIIG				i S	Sn	09 14 46.0	-1.2
ZIIG	**Zihuatanejo**	**3.36**	**298**		Pn	09 14 07.7	+0.1
ZIIG					Sn	09 14 46.0	-1.2
CMIG	**Matias Romero**	**3.48**	**72**	eP	Pn	09 14 08.2	-1.2
CMIG				i S	Sn	09 14 49.9	-0.4
CMIG	**Matias Romero**	**3.48**	**72**		Pn	09 14 08.2	-1.2
CMIG					Sn	09 14 49.9	-0.4
MOIG	**Morelia**	**4.50**	**324**	Pn	Pn	09 14 25.7	+2.1
PCIG		**4.95**	**93**	eP	Pn	09 14 28.9	-0.7
PCIG				i S	Sn	09 15 25.8	-0.7
PCIG		**4.95**	**93**		Pn	09 14 28.9	-0.7
PCIG					Sn	09 15 25.8	-0.7
TGIG		**5.07**	**81**		Pn	09 14 26.1	-5.2
CCIG	**Comitan**	**5.98**	**87**	Pn	Pn	09 14 47.5	+3.7
U40A	**Yellville**	**20.81**	**13**	P	Pn	09 17 58.8	-0.2
U40A				IAmb	IAmb	09 18 01.7	
	comp=Z,4.8nm,0.8s						
PV09	**Paradox Valley**	**24.29**	**339**	P	P	09 18 34.8	+2.0
ROSC	**El Rosal**	**26.09**	**113**	P	P	09 18 49.5	0.0
ROSC				IAmb	IAmb	09 18 56.0	
	comp=Z,5.3nm,1.1s						
LVC	**Limon Verde**	**48.03**	**142**	P	P	09 21 55.8	+0.8
LVC				IAmb	IAmb	09 21 56.0	
	comp=Z,4.1nm,1.1s						

*ISCJB **06** 09:25:55.0±0.4, 22°.43S±0°.03×69°.13W±0°.06, h103km±3km, Error ellipse: s-maj=8.9km s-min=5.7km az=175.5*
*GUC **06** 09:25:55.8±0.6, 22°.43S×69°.07W, h87km±3km, ML4.1*
*NEIC **06** 09:25:55.2±1.6, 22°.47S±0°.05×69°.15W±0°.06, h93km±5km*
*SJA **06** 09:25:55.5±0.6, 22°.40S×69°.08W, h88km±3km, ML3.3, MW3.2*
ISC 06 09:25:55.5±0.7, 22°.43S±0°.03×69°.12W±0°.04, h92km±5km, n43, σ1°15/57, 7C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.26**	**134**	⇓iP	Pn	09 26 09.2	-0.2
LVC				i S	Sn	09 26 19.0	-0.8
LVC	**Limon Verde**	**0.26**	**134**		Pn	09 26 09.3	-0.2
LVC					Sn	09 26 19.2	-0.7
LVC	**Limon Verde**	**0.26**	**134**	eP	Pn	09 26 09.3	-0.2
LVC				IAML		09 26 19.9	
	comp=Z,4μm,0.1s						
LVC				eS	Sn	09 26 20.2	+0.3
PB06	**IPOC Station P**	**0.50**	**237**	⇑iP	Pn	09 26 11.1	+0.3
PB06				i S	Sn	09 26 22.8	+0.8
PB06				IAML		09 26 23.4	
	comp=N,10μm,0.2s						
PB09	**IPOC Station P**	**0.64**	**349**	⇑iP	Pn	09 26 12.5	+0.6
PB09				IAML		09 26 29.8	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**0.64**	**349**	eP	Pn	09 26 12.3	+0.4
PB09				eS	Sn	09 26 24.7	+0.7
PB03	**IPOC Station P**	**0.70**	**303**	⇑iP	Pn	09 26 13.0	+0.6
PB03				i S	Sn	09 26 25.7	+0.7
PB03				IAML		09 26 26.3	
	comp=N,7μm,0.2s						
PB03	**IPOC Station P**	**0.70**	**303**	eP	Pn	09 26 13.0	+0.6
PB03				eS	Sn	09 26 25.7	+0.7
PB15	**IPOC Station P**	**0.84**	**203**	⇓iP	Pn	09 26 14.5	+0.6
PB15				i S	Sn	09 26 28.6	+1.0
PB15	**IPOC Station P**	**0.84**	**203**	eP	Pn	09 26 15.0	+1.1
PB15				eS	Sn	09 26 29.5	+1.9
PB04	**IPOC Station P**	**0.96**	**275**	⇑iP	Pn	09 26 15.8	+0.6
PB04				i S	Sn	09 26 31.2	+1.4
PB04				IAML		09 26 36.2	
	comp=N,5μm,0.3s						
PB04	**IPOC Station P**	**0.96**	**275**		Pn	09 26 15.8	+0.6
PB04

comp=Z,19nm,0.4s
HJA Humahuaca 3.51 103 eP Pn 09 26 48.5 +0.2
PB12 IPOC Station P 3.96 343 eP Pn 09 26 52.7 -1.5
LPAZ La Paz 6.18 9 Pn 09 27 27.2 +2.4
TRQA Tornquist 16.74 160 Pn 09 29 44.2 -0.2
TRQA IAmb IAmb 09 29 50.7
comp=Z,12nm,1.4s
PTGA Pitinga 23.33 24 P P 09 30 54.9 -1.0
SDV Santo Domingo 31.16 357 P P 09 32 05.5 -0.5
TEIG Tepich 46.34 335 P P 09 34 12.5 0.0
KMSC Kings Mountain 58.42 348 S 09 43 35.7 -1.8
WSPT Westport, CT 63.39 356 P P 09 36 15.4 +0.3
ALLY Alegheny Colle 64.57 351 P P 09 36 22.8 0.0
SPMN Marine on St. 70.71 342 P P 09 37 01.7 +0.3
SPMN IAmb IAmb 09 37 02.5
comp=Z,12nm,1.3s
PMOZ Porto Moniz, M 73.99 44 P P 09 37 20.7 -0.6

*IDC **06** 09:31:02.4±1.9, 44°.53N×129°.71W, h0km, mb3.6/6, mb1 3.9/11, mb1mx3.7/44, mbtmp3.7/11, ML3.6/4, MS3.3/12, Ms1 3.3/12, ms1mx3.1/38, Error ellipse: s-maj=36.4km s-min=17.0km az=48.0*
*ISCJB **06** 09:31:03.9±0.5, 44°.49N±0°.03×129°.64W±0°.05, h13km, mb4.3/9, MS3.6/6, Error ellipse: s-maj=4.9km s-min=4.1km az=165.5*
*ANF **06** 09:31:04.9±1.2, 44°.42N×129°.52W, ML4.0/5, Error ellipse: s-maj=13.0km s-min=4.8km az=81.0*
*NEIC **06** 09:31:05.9±2.2, 44°.50N±0°.08×129°.7W±0°.1, h10km±2km, mb4.0/45*
ISC 06 09:31:05.6±0.8, 44°.46N±0°.06×129°.68W±0°.07, h13km, n128, σ1§27/110, mb4.2/11, MS3.4/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.19	110	Pn	Pn	Pn	09 32 06.7	-2.6
KEBM				Sn	Sn	Sn	09 32 59.6	+1.5
J01E	Myrtle Point	4.36	105	P	Pn	Pn	09 32 09.1	-2.4
	baz=291,SNR=14							
J01E				S	Sn	Sn	09 32 59.8	-2.3
	baz=291							
COR	Corvallis	4.56	86			Pn	09 32 13.7	-0.6
KBO	Bosley Butte	4.57	118	Pn		Pn	09 32 16.2	+1.7
G03D	McMinnville, O	4.62	78	P		Pn	09 32 14.3	-0.9
	baz=264,SNR=203							
G03D				S		Sn	09 33 08.4	-0.2
	baz=264							
I03D	Drain, OR	4.62	97	P		Pn	09 32 12.9	-2.3
	baz=283,SNR=67							
I03D				S		Sn	09 33 07.5	-1.2
	baz=283							
K02D	Willamette Mer	4.71	110	P		Pn	09 32 14.2	-2.3
	baz=296,SNR=20							
K02D				S		Sn	09 33 08.5	-2.6
	baz=296							
E03A	Lebam	4.78	62			Pn	09 32 16.7	-0.6
H04D	Lebanon	4.97	87	P		Pn	09 32 19.1	-0.8
	baz=273,SNR=13							
H04D				S		Sn	09 33 18.0	+0.8
	baz=273							
F04D	Rainier, OR	4.98	69	P		Pn	09 32 19.0	-1.0
	baz=254,SNR=5.6							
L02E	Cave Junction	5.00	115	P		Pn	09 32 19.4	-0.9
	baz=301							
NLWA	Neilton Lookou	5.00	52			Pn	09 32 19.7	-0.7
NLWA				Sn		Sn	09 33 17.7	-0.4
HUMO	Hull Mountain	5.23	108			Pn	09 32 23.0	-0.5
HUMO				Sn		Sn	09 33 23.7	+0.1
F04A	Amboy	5.34	71			Pn	09 32 24.6	-0.4
H04A	Detroit Lake	5.36	85			Pn	09 32 24.7	-0.6
E04D	Cinebar	5.42	65	P		Pn	09 32 25.6	-0.5
	baz=251,SNR=81							
E04D				S		Sn	09 33 28.9	+0.6
	baz=251							
D03D	Eldon	5.52	54	P		Pn	09 32 26.9	-0.6
	baz=239,SNR=196							
D03D				S		Sn	09 33 31.3	+0.4
	baz=239							
D04E	Lakebay	5.54	58	P		Pn	09 32 28.1	+0.4
	baz=244,SNR=136							
J04D	Umpqua Nationa	5.61	100	P		Pn	09 32 28.8	-0.1
	baz=286							
J04D				S		Sn	09 33 34.7	+1.5
	baz=286							
KHMM	Horse Mountain	5.66	127	Pn		Pn	09 32 32.1	+2.5
YBH	Yreka Blue Hor	5.78	116	Pn		Pn	09 32 29.4	-1.8
	0.1nm,0.3s,baz=299,slow=13,SNR=6.2							
YBH				Sn		Sn	09 33 38.3	+0.9
	0.1nm,0.3s,baz=231,slow=14,SNR=1.9							
YBH				LR		LR	09 34 22.1	
	comp=Z,89nm,19.7s,baz=305,slow=34							
YBH	Yreka Blue Hor	5.78	116			Pn	09 32 33.5	+2.3
YBH						Sn	09 33 37.6	+0.1
L04D	Klamath Falls	5.83	110	P		Pn	09 32 31.8	0.0
	baz=296,SNR=26							
L04D				S		Sn	09 33 39.6	+1.1
	baz=296							
I05D	Terrebonne, OR	5.98	88	P		Pn	09 32 33.2	-0.7
	baz=275,SNR=13							
LON	Longmire	5.98	65			Pn	09 32 33.6	-0.2
F05D	White Salmon	5.98	73	P		Pn	09 32 34.2	+0.3
	baz=260,SNR=85							
F05D				S		Sn	09 33 44.1	+1.9
	baz=260							
G05D	Wamic, OR	6.00	80	P		Pn	09 32 34.3	+0.3
	baz=266,SNR=17							
PGC	Sidney	6.00	43			Pn	09 32 33.9	-0.1
D05A	Enumclaw	6.03	60			Pn	09 32 35.6	+1.2
J05D	Fort Rock, OR	6.22	98	P		Pn	09 32 36.3	-0.9
	baz=285							
PINE	Pine Mountain	6.33	93			Pn	09 32 38.4	-0.3
A04D	Lummi Island	6.42	46	P		Pn	09 32 39.8	0.0
	baz=231,SNR=9.0							
A04D				S		Sn	09 33 53.1	+0.3
	baz=231							
B05A	Bryant	6.48	51	P		Pn	09 32 41.0	+0.3
	baz=237,SNR=177							
B05A				S		Sn	09 33 55.4	+1.1
	baz=237							
KCPM	Cahto Peak	6.58	134	Pn		Pn	09 32 39.4	-2.8
LTY	Liberty	6.88	63			Pn	09 32 46.4	+0.2
B06A	Marblemount	6.96	51			Pn	09 32 47.9	+0.7
C06D	Leavenworth	7.01	57	P		Pn	09 32 48.4	+0.5
	baz=244,SNR=54							
F07A	Phinny Hill Vi	7.04	75			Pn	09 32 48.6	+0.3
HOPS	Hopland Field	7.36	136	Pn		Pn	09 32 51.7	-1.1
HAWA	Hanford	7.40	71			Pn	09 32 53.8	+0.5
G08A	Pilot Rock	7.66	80			Pn	09 32 56.5	-0.5
E08A	Dider Farm, El	7.74	71			Pn	09 32 58.7	+0.8
BBB	Bella Bella	7.80	7	LR		LR	09 35 29.6	
	comp=Z,107nm,19.3s,baz=173,slow=35							
ORV	Oroville	7.81	126			Pn	09 33 00.2	+1.2
MCCM	Marconi Confer	8.12	139	Pn		Pn	09 33 08.6	+5.4
B08A	Colville Reser	8.14	58			Pn	09 33 03.6	+0.2
BEKR	Beckworth	8.30	120			Pn	09 33 07.2	+1.3
AFDM	Forest Hills D	8.53	127			Pn	09 33 10.2	+1.4
C09A	Chrisman Ranch	8.60	63			Pn	09 33 09.4	-0.3
BMO	Blue Mountains	8.83	83			Pn	09 33 12.6	-0.4
F10A	Beach Ranch, E	8.92	76			Pn	09 33 13.8	-0.5
PAHR	Pah Rah Range	9.01	118			Pn	09 33 17.8	+2.3
VCNR	Virginia City	9.08	121			Pn	09 33 18.3	+1.7
PNTR	Pine Nut	9.24	122			Pn	09 33 20.4	+1.6
NEW	Newport	9.48	62	P		Pn	09 33 20.7	-1.1
	baz=251							
NEW	Newport	9.48	62	Pn		Pn	09 33 20.8	-1.0
	0.9nm,0.3s,baz=239,slow=10,SNR=13							
NEW	Newport	9.48	62			Pn	09 33 21.0	-0.8
CMB	Columbia Colle	9.49	129			Pn	09 33 23.2	+1.2
YERR	Yerington	9.53	121			Pn	09 33 24.2	+1.6
WAKR	Walker	9.71	124	Pn		Pn	09 33 27.2	+1.9
PLID	Pearl Lake	9.75	82			Pn	09 33 25.9	+0.2
MFID	Camas Ranch	10.05	91			Pn	09 33 30.3	+0.6
KVN	Kaiserville	10.20	118	Pn		Pn	09 33 32.7	+0.9
NVAR	Mina Array Bea	10.45	121	Pn		Pn	09 33 36.8	+1.6
	0.1nm,0.3s,baz=291,slow=12,SNR=6.0							
NVAR				LR		LR	09 37 17.8	
	comp=Z,127nm,19.9s,baz=306,slow=36							
NVAR	Mina Array Bea	10.45	121			Pn	09 33 37.0	+1.7
JTMT	Jette	11.18	67			Pn	09 33 45.5	+0.3
ELK	Elko	11.27	104	Pn		Pn	09 33 48.5	+1.9
	0.1nm,0.3s,baz=290,slow=11,SNR=11							
ELK				LR		LR	09 38 05.2	
	comp=Z,95nm,18.9s,baz=290,slow=37							
MSO	Missoula	11.27	72	P		Pn	09 33 45.8	-0.6
	baz=264							
MSO	Missoula	11.27	72			Pn	09 33 46.7	+0.3
WALA	Waterton Lakes	11.75	61			Pn	09 33 52.9	-0.1
MCMT	McKenzie Canyo	12.00	82	Pn		Pn	09 33 59.3	+2.8
R11A	Troy Canyon, C	12.21	115			Pn	09 34 02.1	+2.7
LRM	Limekiln Ridge	12.24	78	Pn		Pn	09 34 00.7	+0.8
ISA	Isabella, Lake	12.27	132	Pn		Pn	09 34 00.8	+0.7
HVU	Hansel Valley	12.64	96	Pn		Pn	09 34 06.5	+1.3
HRY	Holter Researc	12.71	74	Pn		Pn	09 34 05.8	-0.2
BGU	Big Grassy Mou	12.75	100			Pn	09 34 05.8	-0.9
BOZ	Bozeman (W)	12.82	79	Pn		Pn	09 34 08.1	+0.4
QLMT	Earthquake Lak	13.00	82	Pn		Pn	09 34 10.6	+0.3
YHL	Hebgen Lake	13.18	82			Pn	09 34 14.0	+1.4
PSUT	Pine Spring	13.25	111			Pn	09 34 14.8	+1.2
YHH	Holmes Hill	13.42	82			Pn	09 34 16.9	+0.9
TPAW	Teton Pass	13.53	88			Pn	09 34 18.5	+1.1
DLBC	Dease Lake	14.00	359	LR		LR	09 38 39.6	
	comp=Z,117nm,20.5s,baz=160,slow=33							
PDAR	Pinedale Array	14.67	90	Pn		Pn	09 34 35.2	+2.1
	0.1nm,0.3s,baz=269,slow=9.0,SNR=5.3							
PDAR				LR		LR	09 39 28.8	
	comp=Z,147nm,19.3s,baz=276,slow=34							
PFO	Pinyon Flats O	14.91	132	LR		LR	09 39 29.5	
	comp=Z,132nm,18.7s,baz=302,slow=34							
W13A	Hualapai Mount	15.30	122	IAmb		IAmb	09 34 51.3	
	comp=Z,5.8nm,1.0s							
U15A	North Rim	15.46	115	IAmb		IAmb	09 34 55.2	
	comp=Z,8.7nm,0.9s							
O20A	White River Ci	16.43	98	IAmb		IAmb	09 35 13.6	
	comp=Z,11nm,1.0s							
PV21	Cone Mtn., Par	16.57	104	IAmb		IAmb	09 35 03.4	
	comp=Z,23nm,1.3s							
PV23	Carpenter Ridg	16.60	104	IAmb		IAmb	09 35 04.3	
	comp=Z,18nm,1.1s							
WUAZ	Wupatki	16.60	116	IAmb		IAmb	09 35 06.0	
	comp=Z,10nm,1.1s							
PV14	Lion Creek, Pa	16.63	104	IAmb		IAmb	09 35 02.9	
	comp=Z,25nm,1.5s							
PV20	West Nyswonger	16.68	104	IAmb		IAmb	09 35 03.5	
	comp=Z,25nm,1.4s							
PV04	Paradox Valley	16.70	104	IAmb		IAmb	09 35 05.6	
	comp=Z,17nm,1.3s							
PV17	East Wray Mesa	16.71	105	IAmb		IAmb	09 35 06.0	
	comp=Z,8.7nm,1.1s							
PV22	Blue Mesa, Par	16.71	104	IAmb		IAmb	09 35 06.8	
	comp=Z,8.3nm,0.9s							
PV11	David Mesa, Pa	16.77	104	IAmb		IAmb	09 35 04.6	
	comp=Z,24nm,1.3s							
PV03	Paradox Valley	16.80	104	IAmb		IAmb	09 35 04.8	
	comp=Z,16nm,1.4s							
PV12	Saucer Basin,	16.81	104	IAmb		IAmb	09 35 21.3	
	comp=Z,15nm,1.4s							
PV07	Paradox Valley	16.86	104	IAmb		IAmb	09 35 05.5	
	comp=Z,15nm,1.3s							
PV13	Radium Mtn., P	16.87	105	IAmb		IAmb	09 35 13.7	
	comp=Z,9.7nm,1.2s							
PV01	Paradox Valley	17.05	104	IAmb		IAmb	09 35 07.9	
	comp=Z,11nm,1.1s							
MVCO	Mesa Verde	17.56	107	IAmb		IAmb	09 35 21.4	
	comp=Z,17nm,1.3s							
W18A	Petrified Fore	17.91	115	IAmb		IAmb	09 35 24.3	
	comp=Z,14nm,1.2s							
ANMO	Albuquerque	20.18	110	P		P	09 35 40.2	+0.2
	comp=Z,0.5nm,0.3s,baz=301,slow=10,SNR=5.7							
ILAR	Eielson Array	22.51	341	P		P	09 36 02.4	-2.3
	comp=Z,0.8nm,1.0s,baz=150,slow=9.3,SNR=4.2							
ILAR				LR		LR	09 42 52.4	
	comp=Z,98nm,20.3s,baz=167,slow=32							
ULM	Lac du Bonnet	23.48	64	P		P	09 36 14.1	-0.8
	comp=Z,4.5nm,0.6s,baz=268,slow=12,SNR=4.0							
INK	Inuvik	23.99	356	P		P	09 36 17.4	-2.1
	comp=Z,2.2nm,0.9s,baz=160,slow=7.7,SNR=5.2							
INK				LR		LR	09 44 01.6	
	comp=Z,81nm,18.8s,baz=155,slow=33							
INK	Inuvik	23.99	356	IAmb		IAmb	09 36 22.0	
	comp=Z,4.7nm,1.1s							
TX31	Lajitas Ar. Si	25.56	117	IAmb		IAmb	09 36 40.1	
	comp=Z,6.5nm,1.2s							
TX32	Lajitas Array	25.56	117	IAmb		IAmb	09 36 40.1	
	comp=Z,6.5nm,1.2s							
TXAR	Lajitas Array	25.56	117	P		P	09 36 32.8	-1.5
	comp=Z,0.7nm,0.6s,baz=313,slow=8.7,SNR=6.2							
LPIG	La Paz	25.74	136	LR		LR	09 45 06.0	
	comp=Z,66nm,18.3s,baz=313,slow=33							
H11N3	WAKE ISLAND Hy	57.59	266	T		T	10 42 59.7	
	baz=49,slow=75,SNR=768							
H11N2	WAKE ISLAND Hy	57.59	266	T		T	10 42 59.7	
	baz=49,slow=75,SNR=324							
H11N1	WAKE ISLAND Hy	57.60	266	T		T	10 43 00.1	
	baz=49,slow=75,SNR=414							
H11S1	WAKE ISLAND Hy	58.52	265	T		T	10 44 12.9	
	baz=48,slow=75,SNR=146							
H11S2	WAKE ISLAND Hy	58.53	265	T		T	10 44 12.2	
	baz=48,slow=75,SNR=137							
H11S3	WAKE ISLAND Hy	58.54	265	T		T	10 44 14.2	
	baz=48,slow=75,SNR=121							
NRIK	Noril'sk	63.24	346	LR		LR	10 11 56.5	
	comp=Z,41nm,18.3s,baz=342,slow=39							
HHC	Hu-ho-hao-te	78.85	317	eP		P	09 43 08.3	-0.1
HHC				pmax		pmax		
	comp=Z,9.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,13nm,5.2s							
LPAZ	La Paz	82.35	122	P		P	09 43 27.2	-0.8
	comp=Z,1.1nm,0.7s,baz=284,slow=6.8,SNR=3.9							
LPAZ	La Paz	82.35	122	IAmb		IAmb	09 43 34.1	
	comp=Z,1.3nm,0.8s							
MKAR	Makanchi Array	84.85	339	LR		LR	10 24 26.4	
	comp=Z,38nm,18.2s,baz=344,slow=38							
WMQ	Urumqi	86.00	334	eP		P	09 43 48.1	+2.4
WMQ				pP		pwP	09 43 52.8	+0.4
WMQ				sP		sP	09 43 55.1	+4.6
WMQ				pmax		pmax		
	comp=Z,18nm,0.7s							
WMQ				LR		LR		
	comp=N,550nm,29.0s							
WMQ				LR		LR		
	comp=E,650nm,28.8s							
WMQ				LR		LR		
	comp=Z,70nm,29.5s							
LZH	Lanzhou	86.30	319	eP		P	09 43 46.5	-0.9
LZH				pP		PcP	09 43 49.8	-0.2
LZH				sP		pP	09 43 51.3	+0.4
LZH				ePP		PP	09 47 08.2	+0.6
LZH				pmax		pmax		
	comp=Z,16nm,1.3s							
KMI	Kunming	95.81	314	P		P	09 44 32.6	+0.5
KMI				pmax		pmax		
	comp=Z,17nm,0.5s							

*IDC **06** 09:34:39.6±0.8, 13°.98N×93°.08E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.0/41, mbtmp4.0/19, ML4.0/1, MS3.3/6, Ms1 3.4/6, ms1mx3.0/38, Error ellipse: s-maj=22.9km s-min=15.7km az=48.0*
*ISCJB **06** 09:34:42.6±0.3, 14°.07N±0°.04×93°.09E±0°.04, h32km, mb4.1/23, MS3.6/5, Error ellipse: s-maj=6.0km s-min=5.6km az=10.0*
*NEIC **06** 09:34:45.1±2.2, 14°.14N±0°.07×93°.07E±0°.08, h35km±2km, mb4.4/16*
*NDI **06** 09:34:50.4±3.2, 13°.21N×92°.18E, h25km±56km, ML4.0, mb4.4(NEIC)*
ISC 06 09:34:44.9±0.4, 14°.10N±0°.05×93°.07E±0°.06, h32km, n75, σ1§50/77, mb4.2/29, MS3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.93	188	eP	Pb	Pb	09 35 03.7	+1.1
DGPR				eS	Sb	Sb	09 35 17.2	+2.7
DGPR				IAML			09 35 19.6	
	comp=N,2μm,0.3s							
DGPR				IAML			09 35 19.8	
	comp=E,5μm,0.3s							
PBA	Port Blair	2.45	188	eP		Pn	09 35 20.2	-2.5
PBA				eS		Sn	09 35 37.3	-14
PBA	Port Blair	2.45	188			Pn	09 35 24.8	+2.1
CM31	Chiang Mai Arr	7.11	52	Pn		Pn	09 36 26.6	-0.3
CM31				Sn		Sn	09 37 46.2	-0.4
CMAR	Chiang Mai Arr	7.11	52	Pn		Pn	09 36 27.2	+0.3
	comp=E,0.7nm,0.3s,baz=241,slow=15,SNR=14							
CMAR				Sn		Sn	09 37 49.8	+3.2
	comp=E,0.6nm,0.3s,baz=214,slow=22,SNR=4.3							
CMAR				LR		LR	09 39 50.9	
	comp=E,171nm,18.6s,baz=192,slow=43							
CMAR	Chiang Mai Arr	7.11	52	Pn		Pn	09 36 26.2	-0.6
CMAR				Sn		Sn	09 37 44.3	-2.4
CHTO	Chiang Mai	7.33	49			Pn	09 36 29.8	0.0
PBKT	Sadao Pong	8.01	71			Pn	09 36 40.1	+1.0
LHMI	Lhok Sumawe	9.61	156	Pn		Pn	09 37 02.6	+1.5
VIS	Vishakhapatnam	10.04	292	i P		Pn	09 37 06.4	-0.6
VIS				i P		Pn	09 37 06.4	-0.6
VIS				ex		x	09 37 19.1	
	comp=Z,314nm,0.8s							
VIS				ex		x	09 37 19.1	
	comp=Z,314nm,0.8s							
VIS				i S		Sn	09 38 46.5	-12
VIS				i S		Sn	09 38 46.5	-12
VIS				i S			09 38 48.7	
VIS				i S			09 38 48.7	
VIS				ex		x	09 38 55.1	
	comp=E,19nm,0.7s							
VIS				ex		x	09 38 55.1	
	comp=E,19nm,0.7s							
SHL	Shillong	11.46	355	Pn		Pn	09 37 25.3	-1.4
PSI	Prapat	12.63	152	LR		LR	09 42 24.3	
	comp=E,182nm,20.5s,baz=346,slow=37							
RPSI	Rantau Prapat	12.72	152	Pn		Pn	09 37 44.4	+0.6
PALK	Pallekele	13.91	242	LR		LR	09 42 56.2	
	comp=E,96nm,19.4s,baz=118,slow=36							
PALK	Pallekele	13.91	242			Pn	09 38 00.3	+0.2
RAMN	Ramite	14.14	336	eP		Pn	09 38 02.2	-1.2
	comp=E,20nm,0.6s							
KMI	Kunming	14.25	38	P		Pn	09 38 07.5	+2.7
KMI				pmax		pmax		
	comp=Z,16nm,0.5s							
PKI	Pulchoki	15.19	333	eP		Pn	09 38 16.2	-1.3
	comp=Z,8.8nm,0.3s							
PKIN	Phulchoki	15.20	333	eP		Pn	09 38 16.5	-1.1
	comp=Z,15nm,0.5s							
DMN	Daman	15.36	332	eP		Pn	09 38 19.7	0.0
	comp=Z,24nm,0.7s							
KOLN	Koldanda	16.21	329	eP		P	09 38 35.1	+1.6
KOLN				eS		Sn	09 41 17.9	-12
DANN	Dangsing	16.61	330	eP		Pn	09 38 35.3	-0.5
	comp=Z,20nm,0.6s							
LZH	Lanzhou	23.93	22	eP		P	09 39 57.2	+0.8
LZH				pP		pP	09 40 06.7	+1.4
LZH				sP		sP	09 40 10.8	+1.5
LZH				ePP		PnPn	09 40 31.6	+6.1
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,86nm,4.6s							
LZH				LR		LR		
	comp=N,220nm,11.3s							
LZH				LR		LR		
	comp=E,220nm,12.0s							
LZH				LR		LR		
	comp=Z,330nm,13.6s							
KKM	Kota Kinabalu	24.13	107	P		P	09 39 57.8	-0.5
KKM				IAmb		IAmb	09 40 02.0	
	comp=Z,8.1nm,0.8s							
XAN	Xi'an	24.50	33	P		P	09 40 00.7	-0.8
XAN				pP		pP	09 40 05.7	-4.9
XAN				pmax		pmax		
	comp=Z,6.0nm,0.6s							
XAN	Xi'an	24.50	33	P		P	09 39 58.8	-2.7
XAN				IAmb		IAmb	09 40 01.8	
	comp=Z,8.8nm,1.0s							
GTA	Gaotai	25.91	12	eP		P	09 40 16.5	+2.2
GTA				pP		sP	09 40 26.8	-0.5
GTA				sP		pP	09 40 30.5	+7.2
GTA				S		S	09 44 43.2	+0.8
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,76nm,6.5s							
GTA				LR		LR		
	comp=N,110nm,14.9s							
GTA				LR		LR		
	comp=E,150nm,14.9s							
GTA				LR		LR		
	comp=Z,150nm,16.2s							
KNMB	Chin-men Tao	25.98	63	P		P	09 40 14.3	-0.7
BKB	Balikpapan	28.11	121			PcP	09 43 46.8	-1.4
YHNB	Yeheng	28.64	64	P		P	09 40 37.0	-1.9
KSH	Kashi	29.45	332	eP		P	09 40 48.1	+2.1
KSH				pmax		pmax		
	comp=Z,180nm,6.0s							
WMQ	Urumqi	29.98	352	eP		P	09 40 52.7	+2.1
WMQ				sP		sP	09 41 08.0	+4.7
WMQ				pmax		pmax		
	comp=Z,27nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,120nm,3.9s							
WMQ				LR		LR		
	comp=N,180nm,6.3s							
WMQ				LR		LR		
	comp=E,110nm,8.1s							
WMQ				LR		LR		
	comp=Z,290nm,8.1s							
HHC	Hu-ho-hao-te	31.16	28	eP		P	09 41 03.9	+2.8
HHC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,13nm,5.2s							
AAK	Ala-Archa	32.65	334	LR		LR	09 57 24.6	
	comp=Z,73nm,18.8s,baz=110,slow=42							
MK31	Makanchi Array	33.83	347	P		P	09 41 24.9	+0.7
MKAR	Makanchi Array	33.83	347	P		P	09 41 24.9	+0.7
	comp=Z,2.1nm,0.7s,baz=164,slow=9.0,SNR=17							
MKAR	Makanchi Array	33.83	347	P		P	09 41 24.4	+0.1
MAKZ	Makanchi	33.91	346	P		P	09 41 25.2	+0.2
MAKZ				IAmb		IAmb	09 41 26.9	
	comp=Z,4.4nm,1.1s							
KKAR	Karatay Array	34.81	331	P		P	09 41 32.2	-0.7
SONM	Songino Array	35.41	16	P		P	09 41 38.9	+0.8
	comp=Z,2.5nm,0.8s,baz=199,slow=9.3,SNR=12							
KURBB	Kurchatov Arra	38.30	345	P		P	09 42 03.1	+0.7
	comp=Z,4.6nm,0.8s,baz=162,slow=8.0,SNR=9.8							
KURK	Kurchatov	38.36	345	P		P	09 42 02.8	-0.1
KURK				IAmb		IAmb	09 42 04.4	
	comp=Z,5.5nm,0.9s							
TLY	Talaya	38.44	11	P		P	09 42 04.9	+1.2
TLY				IAmb		IAmb	09 42 12.2	
	comp=Z,3.4nm,0.9s							
KSRS	Korea Array	38.72	47	P		P	09 42 05.1	-1.1
	comp=Z,0.7nm,0.6s,baz=278,slow=27,SNR=3.2							
KSRS				LR		LR	10 00 38.3	
	comp=Z,40nm,18.9s,baz=140,slow=40							
GEYT	Alibeck	39.01	314	P		P	09 42 09.5	+0.9
	comp=Z,1.4nm,0.4s,baz=65,slow=6.8,SNR=3.4							
GEYT	Alibeck	39.01	314	P		P	09 42 08.5	-0.2
GY

GERES	**GERESS Array B**	**72.54**	**317**	P		**P**	**09 46 09.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=69,slow=5.4,SNR=3.0							
GERES	**GERESS Array B**	**72.54**	**317**	P		**P**	**09 46 07.8**	**-1.2**
NOA	**NORSAR Array B**	**73.84**	**330**	P		**P**	**09 46 16.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=90,slow=5.8,SNR=3.4							
SUR	**Sutherland**	**83.04**	**234**	P		**P**	**09 47 05.0**	**-2.8**
TORD	**Torodi Ar. Bea**	**88.17**	**283**	P		**P**	**09 47 33.5**	**0.0**
	comp=Z,1.1nm,0.9s,baz=20,slow=4.7,SNR=4.2							
ILAR	**Eielson Array**	**89.40**	**22**	P		**P**	**09 47 37.5**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=296,slow=4.4,SNR=8.7							
ILAR	**Eielson Array**	**89.40**	**22**	P		**P**	**09 47 37.9**	**-0.4**
DBIC	**Dimbokro**	**96.03**	**278**	LR		LR	10 29 40.1	
	comp=Z,19nm,20.6s,baz=360,slow=34							
NVAR	**Mina Array Bea**	**120.05**	**28**	PKP		**PKiKP**	**09 53 33.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=260,slow=3.6,SNR=2.9							
NVAR	**Mina Array Bea**	**120.05**	**28**			**PKPdf**	**09 53 31.5**	**-1.7**

*ISK **06** 09:57:11.2, 40°.60N×29°.80E, h5km, ML1.8/5*
*DDA **06** 09:57:11.3, 40°.62N×29°.76E, h6km±1km, ML2.7*
ISC 06 09:57:11.9±1.0, **40°.62N**±0°.03×**29°.78E**±0°.04, **h9**km±10km, **n14**, σ0°**74**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADVT	**Abdulvahap**	**0.19**	**188**	PG	**Pg**	**09 57 15.3**	**-0.6**
ADVT				SG	**Sg**	**09 57 18.0**	**-0.5**
HRT	**Hereke**	**0.22**	**338**	PG	**Pg**	**09 57 16.3**	**-0.1**
HRT				SG	**Sg**	**09 57 20.1**	**+0.7**
YLV	**Yalova**	**0.31**	**260**	PG	**Pg**	**09 57 18.3**	**+0.2**
YLV				SG	**Sb**	**09 57 23.6**	**-1.2**
GEYV	**SAKARYA_Geyve**	**0.42**	**109**	*i* P	**Pg**	**09 57 20.2**	**+0.1**
GEYV				IAML_P			
	comp=Z,2μm,0.1s						
BUY	**Buyukada**	**0.55**	**295**	*i* P	**Pg**	**09 57 22.2**	**-0.3**
BUY				IAML_P			
	comp=Z,1μm,0.1s						
IGD	**Bursa**	**0.56**	**231**	*i* P	**Pg**	**09 57 22.5**	**-0.4**
ULDT	**Uludag**	**0.68**	**226**	*i* P	**Pg**	**09 57 25.4**	**+0.3**
ARMT	**Armutlu**	**0.70**	**266**	PG	**Pg**	**09 57 25.1**	**-0.3**
ARMT				SG	**Sb**	**09 57 35.4**	**-0.5**
KAVV	**Kandilli-Istan**	**0.70**	**309**	PG	**Pg**	**09 57 25.7**	**+0.3**
SAHE	**Sakarya_HENDEK**	**0.85**	**74**	*i* P	**Pb**	**09 57 28.6**	**-0.2**
SAHE				IAML_P			
	comp=Z,223nm,0.1s						
BORA	**Eskisehir**	**0.90**	**145**	*i* P	**Pg**	**09 57 29.1**	**-0.2**
BORA				IAML_P			
	comp=Z,2μm,0.2s						
DURS	**Dursunbey**	**1.43**	**225**	*i* P	**Pn**	**09 57 38.0**	**0.0**
DURS				*i* S	**Sg**	**09 57 58.3**	**+0.5**
GDZ	**Gediz**	**1.55**	**188**	*i* P	**Pg**	**09 57 41.3**	**-0.3**
GDZ				*i* S	**Sg**	**09 58 03.8**	**+2.2**
USAK	**Uak-Merkez**	**1.99**	**197**	*i* P	**Pb**	**09 57 48.7**	**+0.4**
USAK				IAML_P			
	comp=Z,230nm,0.1s						

*KRNET **06** 10:05:54.7±0.1, 41°.30N×71°.86E, h16km, mb2.4*
*ISCJB **06** 10:05:57.3±0.5, 41°.28N±0°.04×71°.84E±0°.03, h10km, Error ellipse: s-maj=5.6km s-min=3.7km az=172.8*
*SOME **06** 10:05:59.7, 41°.55N×71°.85E, h20km*
*NNC **06** 10:06:01.3±2.4, 41°.63N×71°.78E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=27.5km s-min=6.9km az=177.0*
ISC 06 10:05:55.5±0.9, **41°.33N**±0°.04×**71°.89E**±0°.02, **h10**km, **n35**, σ1°**67**/57, **20C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.47**	**7**	⇑*i* P	**Pg**	**10 06 04.5**	**-0.3**
	baz=11						
ARK				⇑*i* S	**Sg**	**10 06 11.5**	**+0.5**
	baz=11						
ARSB	**Arslanbob**	**0.82**	**90**	⇑*i* P	**Pg**	**10 06 10.4**	**-1.0**
	baz=88						
ARSB				⇑*i* S	**Sg**	**10 06 23.1**	**+0.9**
	baz=88						
BTK	**Batken**	**1.51**	**213**	⇑*i* P	**Pn**	**10 06 22.7**	**0.0**
	baz=13						
BTK				⇑*i* S	**Sb**	**10 06 42.6**	**-0.3**
	baz=13						
AML	**Almayashu**	**1.57**	**59**	⇓*i* P	**Pn**	**10 06 24.5**	**+0.6**
	baz=58						
AML				⇓*i* S	**Sg**	**10 06 46.4**	**+0.3**
	baz=58						
AML	**Almayashu**	**1.57**	**59**	P	**Pg**	**10 06 26.9**	**+1.2**
	SNR=21						
IUG	**Iuzhnay**	**1.61**	**301**	P	**Pg**	**10 06 27.0**	**+0.5**
	1.6nm,0.3s						
IUG				S	**Sg**	**10 06 46.4**	**-0.9**
	190nm,0.3s						
IUG	**Iuzhnay**	**1.61**	**301**	*e* P	**Pg**	**10 06 26.9**	**+0.5**
	1.6nm,0.3s						
IUG				*e* S	**Sg**	**10 06 46.4**	**-0.9**
	190nm,0.3s						
MRKS	**Merke**	**1.73**	**35**	P	**Pg**	**10 06 29.4**	**+0.6**
	9.0nm,0.2s						
MRKS				S	**Sg**	**10 06 51.0**	**-0.2**
	32nm,0.4s						
MRKS	**Merke**	**1.73**	**35**	*e* P	**Pg**	**10 06 29.4**	**+0.6**
	9.0nm,0.2s						
MRKS				*e* S	**Sb**	**10 06 50.4**	**+1.1**
	32nm,0.4s						
ARLS	**Aral**	**1.90**	**73**	⇑*i* P	**Pb**	**10 06 30.7**	**+0.3**
	baz=72						
ARLS				⇑*i* S	**Sg**	**10 06 57.2**	**+0.5**
	baz=72						
EKS2	**Erkin-Say**	**1.94**	**46**	⇑*i* P	**Pb**	**10 06 30.7**	**-0.3**
	baz=46						
EKS2				⇑*i* S	**Sg**	**10 06 57.4**	**-0.4**
	baz=46						
EKS2	**Erkin-Say**	**1.94**	**46**	P	**Pg**	**10 06 32.4**	**-0.3**
	SNR=10						
KK31	**Karatay Array**	**2.05**	**330**	Pn	**Pb**	**10 06 32.7**	**-0.1**
	1.8nm,0.3s,baz=147,slow=16,SNR=23						
KK31				Sn	**Sb**	**10 06 58.6**	**+0.3**
	2.6nm,0.3s,baz=151,slow=29,SNR=6.3						
UCH	**Uchtor**	**2.16**	**65**	⇑*i* P	**Pb**	**10 06 34.0**	**-1.0**
	baz=64						
UCH				⇑*i* S	**Sb**	**10 07 03.3**	**+1.3**
	baz=64						
UCH	**Uchtor**	**2.16**	**65**	P	**Pb**	**10 06 36.4**	**+1.4**
	SNR=9.6						
BRLS	**Borolday**	**2.28**	**319**	Pg	**Pb**	**10 06 37.3**	**+0.4**
	0.3nm,0.1s						
BRLS				Lg	Lg	10 07 04.1	
	7.4nm,0.3s						
BRLS	**Borolday**	**2.28**	**319**	*e* P	**Pb**	**10 06 37.3**	**+0.4**
	0.3nm,0.1s						
BRLS				*e* S	**Sb**	**10 07 04.1**	**-1.1**
	7.4nm,0.3s						
AAK	**Ala-Archa**	**2.34**	**55**	⇓Pn	**Pb**	**10 06 38.3**	**+0.4**
	7.2nm,0.6s						
AAK				⇓Sn	**Sg**	**10 07 10.7**	**-0.1**
	16nm,0.6s						
AAK	**Ala-Archa**	**2.34**	**55**	⇑*i* P	**Pb**	**10 06 36.6**	**-1.3**
	baz=55						
AAK				⇑*i* S	**Sb**	**10 07 07.8**	**+0.8**
	baz=55						
AAK	**Ala-Archa**	**2.34**	**55**	P	**Pb**	**10 06 39.0**	**+1.1**
	SNR=11						
KZA	**Kyzart**	**2.63**	**72**	⇑*i* P	**Pn**	**10 06 40.7**	**+2.3**
	baz=72						
KZA				⇑*i* S	**Sb**	**10 07 14.7**	**-0.7**
	baz=72						
KZA	**Kyzart**	**2.63**	**72**	P	**Pb**	**10 06 44.4**	**+1.5**
	SNR=5.9						
CHMS	**Chumysh**	**2.71**	**51**	P	**Pn**	**10 06 41.6**	**+2.5**
	SNR=8.5						
USP	**Ospenovka**	**2.74**	**44**	P	**Sn**	**10 07 06.8**	**-6.0**
	SNR=5.3						
SGDS	**Sogindy**	**2.94**	**43**	Pg	**Pg**	**10 06 50.8**	**-0.9**
	2.3nm,0.3s						
SGDS				Lg	Lg	10 07 27.5	
	22nm,0.5s						
TKM2	**Tokmak 2**	**3.19**	**59**	⇑Pn	**Pb**	**10 06 54.3**	**+2.0**
	0.8nm,0.3s						
TKM2				⇑Sn	**Sg**	**10 07 36.1**	**-1.7**
	6.0nm,0.5s						
TKM2	**Tokmak 2**	**3.19**	**59**	⇑*e* P	**Pn**	**10 06 48.4**	**+2.5**
	baz=59						
TKM2				⇑*i* S	**Sn**	**10 07 27.6**	**+3.6**
	baz=59						
DGS	**Degeres**	**3.46**	**55**	Pg	**Pg**	**10 07 00.8**	**-1.0**
	2.9nm,0.6s						
DGS				Lg	Lg	10 07 44.8	
	17nm,0.7s						
DGS	**Degeres**	**3.46**	**55**	*e* P	**Pg**	**10 07 00.8**	**-1.0**
	2.9nm,0.6s						
DGS				*e* S	**Sg**	**10 07 44.8**	**-1.8**
	17nm,0.7s						
KST	**Kastek**	**3.48**	**59**	Pg	**Pg**	**10 07 01.3**	**-0.8**
	3.4nm,0.5s						
KST				Lg	Lg	10 07 45.4	
	9.5nm,0.5s						
KST	**Kastek**	**3.48**	**59**	*e* P	**Pg**	**10 07 01.3**	**-0.8**
	3.4nm,0.5s						
KST				*e* S	**Sg**	**10 07 45.4**	**-1.9**
	9.5nm,0.5s						
KUU	**Kurty**	**4.17**	**51**	Pg	**Pg**	**10 07 13.3**	**-2.0**
	2.4nm,0.3s						
KUU				Lg	Lg	10 08 05.8	
	6.0nm,0.4s						
KUU	**Kurty**	**4.17**	**51**	*e* P	**Pg**	**10 07 13.3**	**-2.0**
	2.4nm,0.3s						
KUU				*e* S	**Sg**	**10 08 05.8**	**-3.4**
	6.0nm,0.4s						
KTBS	**Karatobe**	**4.27**	**55**	Pg	**Pg**	**10 07 15.0**	**-2.2**
	2.7nm,0.5s						
KTBS				Lg	Lg	10 08 08.7	
	10.0nm,0.6s						
KTBS	**Karatobe**	**4.27**	**55**	*e* P	**Pg**	**10 07 15.1**	**-2.2**
	2.7nm,0.5s						
KTBS				*e* S	**Sg**	**10 08 08.7**	**-3.8**
	10.0nm,0.6s						

*ISCJB **06** 10:18:20.3±1.3, 53°.36N±0°.05×163°.40W±0°.04, h28km±9km, mb4.3/33, Error ellipse: s-maj=8.3km s-min=3.5km az=174.2*
*IDC **06** 10:18:20.5±1.1, 53°.71N×163°.77W, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.0/69, mbtmp4.1/21, ML3.2/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/37, Error ellipse: s-maj=29.6km s-min=15.5km az=172.0*
*MOS **06** 10:18:21.7±1.2, 53°.51N×163°.70W, h33km, mb4.5/13, Error ellipse: s-maj=28.6km s-min=11.9km az=123.7*
*AEIC **06** 10:18:22.5±2.3, 53°.41N±0°.07×163°.58W±0°.08, h59km±7km, ML3.5, mb3.8/6(NEIC)*
ISC 06 10:18:21.4±2.1, **53°.46N**±0°.07×**163°.53W**±0°.03, **h17**km±12km, **n115**, σ1°**37**/120, **mb4.3**/33, **9C-3D, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.19**	**329**		**Pb**	**10 18 43.8**	**+0.3**
WESP	**Westdahl Peak**	**1.25**	**326**		**Pb**	**10 18 44.9**	**+0.3**
WESP					**Sg**	**10 19 02.6**	**+0.7**
WEBT	**Westdahl Beart**	**1.34**	**328**		**Pb**	**10 18 46.2**	**+0.1**
SSBA	**Shishaldin**	**1.36**	**345**		**Pb**	**10 18 46.3**	**-0.1**
FALS	**False Pass**	**1.40**	**3**		**Pb**	**10 18 47.0**	**0.0**
FALS				Sn	**Sn**	**10 19 04.1**	**0.0**
AKSA	**Akutan Strait**	**1.45**	**299**		**Pn**	**10 18 47.0**	**+0.2**
AKSA					**Sb**	**10 19 06.0**	**-0.1**
AKUT	**Akutan**	**1.49**	**298**		**Pn**	**10 18 47.7**	**+0.3**
AKUT				Sn	**Sn**	**10 19 04.9**	**-1.5**
AKBBA	**Akutan Broad B**	**1.56**	**295**		**Pn**	**10 18 48.6**	**+0.2**
AKBBA					**Sb**	**10 19 10.0**	**+0.7**
AKMO	**Akutan Morgan**	**1.60**	**294**		**Pn**	**10 18 49.2**	**+0.2**
AKMO					**Sb**	**10 19 10.2**	**-0.2**
AKGG	**Akutan Green G**	**1.64**	**298**		**Pn**	**10 18 49.9**	**+0.5**
UNV	**Unalaska Valle**	**1.81**	**283**		**Pn**	**10 18 51.7**	**-0.1**
UNV	**Unalaska Valle**	**1.81**	**283**		**Sn**	**10 19 13.7**	**-0.6**
MTBL	**Makushin Table**	**1.94**	**286**		**Pn**	**10 18 53.2**	**-0.4**
MREP	**Makushin Rep't**	**1.95**	**282**		**Pn**	**10 18 53.9**	**+0.1**
MSW	**Makushin Switc**	**1.99**	**284**		**Pn**	**10 18 54.5**	**+0.2**
MSW					**Sn**	**10 19 19.0**	**+0.2**
MCIR	**Makushin Cirqu**	**2.06**	**285**		**Pn**	**10 18 55.6**	**+0.4**
SDPT	**Sand Point**	**2.60**	**42**		**Pn**	**10 19 04.1**	**+1.6**
SDPT					**Pb**	**10 19 04.5**	**-3.0**
SDPT	**Sand Point**	**2.60**	**42**		**Sn**	**10 19 34.7**	**+1.0**
CNBA	**Chernabura Isl**	**2.69**	**58**	Pn	**Pn**	**10 19 04.9**	**+1.2**
CNBA				Sn	**Sn**	**10 19 37.6**	**+1.8**
VNSG	**Veniaminof 6**	**3.71**	**42**		**Pn**	**10 19 19.6**	**+1.7**
CHGN	**Chignik**	**4.10**	**44**		**Pn**	**10 19 25.0**	**+1.8**
ANNE	**Aniakchak Nort**	**4.67**	**40**		**Pn**	**10 19 32.5**	**+1.5**
CHIR	**Chirikof Islan**	**5.16**	**60**	Pn	**Pn**	**10 19 37.6**	**-0.2**
SII	**Sitkinak Islan**	**6.20**	**56**	Pn	**Pn**	**10 19 51.7**	**-0.4**
OHAK	**Old Harbor**	**6.95**	**53**	Pn	**Pn**	**10 20 02.0**	**-0.3**
KDAK	**Kodiak Island**	**7.55**	**51**	Pn	**Pn**	**10 20 10.4**	**-0.2**
	1.0nm,0.3s,baz=182,slow=4.8,SNR=26						
KDAK				Sn	**Sn**	**10 21 30.5**	**-5.2**
	0.2nm,0.3s,baz=12,slow=19,SNR=3.2						
KDAK				LR	LR	10 23 09.3	
	comp=Z,92nm,19.0s,baz=214,slow=38						
KDAK	**Kodiak Island**	**7.55**	**51**	Pn	**Pn**	**10 20 10.3**	**-0.3**
SEW	**Seward**	**10.18**	**44**	Pn	**Pn**	**10 20 46.7**	**+0.2**
PPLA	**Purkeypile**	**11.17**	**28**	Pn	**Pn**	**10 21 04.4**	**+4.1**
PMR	**Palmer**	**11.21**	**38**	Pn	**Pn**	**10 21 01.6**	**+0.9**
HIN	**Hinchinbrook I**	**11.58**	**46**	Pn	**Pn**	**10 21 05.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**11.98**	**47**	Pn	**Pn**	**10 21 11.0**	**-0.1**
SCM	**Sheep Creek Mo**	**12.03**	**39**	Pn	**Pn**	**10 21 11.8**	**-0.2**
KTH	**Kantishna Hill**	**12.04**	**28**	Pn	**Pn**	**10 21 11.3**	**-0.8**
BPAW	**Bear Paw Mtn.**	**12.46**	**26**	Pn	**Pn**	**10 21 19.9**	**+2.2**
HMT	**Hamilton**	**12.55**	**49**	Pn	**Pn**	**10 21 19.2**	**+0.3**
DHY	**Denali Highway**	**12.80**	**35**	Pn	**Pn**	**10 21 20.9**	**-1.6**
CRQM	**Cirque**	**13.23**	**48**	Pn	**Pn**	**10 21 30.0**	**+1.7**
WAX	**Waxell Ridge**	**13.23**	**50**	Pn	**Pn**	**10 21 28.4**	**+0.1**
GLB	**Gilahina Butte**	**13.24**	**45**	Pn	**Pn**	**10 21 27.7**	**-0.7**
MLY	**Manley**	**13.28**	**24**		**Pn**	**10 21 29.8**	**+0.9**
VRDI	**Verde Repeater**	**13.29**	**46**	Pn	**Pn**	**10 21 30.0**	**+0.7**
PAX	**Paxson**	**13.41**	**38**		**Pn**	**10 21 30.2**	**-0.5**
BALM	**Baldy**	**13.70**	**48**	Pn	**Pn**	**10 21 32.2**	**-2.4**
CCB	**Clear Creek Bu**	**13.77**	**29**	Pn	**Pn**	**10 21 36.6**	**+1.1**
HDA	**Harding Lake**	**13.86**	**31**	Pn	**Pn**	**10 21 34.4**	**-2.3**
COLA	**College**	**13.92**	**29**	⇑*e* P	**Pn**	**10 21 35.4**	**-2.2**
RIDG	**Independent Ri**	**14.11**	**36**	Pn	**Pn**	**10 21 40.2**	**0.0**
ILAR	**Eielson Array**	**14.13**	**30**	Pn	**Pn**	**10 21 38.6**	**-2.0**
	0.1nm,0.3s,baz=216,slow=14,SNR=3.3						
BCAR	**Beaver Creek A**	**14.86**	**41**	Pn	**Pn**	**10 21 48.4**	**-2.1**
EGAK	**Eagle**	**16.02**	**36**		**Pn**	**10 22 05.7**	**+0.1**
DAWY	**Dawson**	**16.29**	**40**	P	**Pn**	**10 22 10.4**	**+1.3**
DAWY				IAmb	IAmb	10 22 18.4	
	comp=Z,4.8nm,0.8s						
TOLK	**Toolik Lake Re**	**16.58**	**18**	P	**P**	**10 22 14.8**	**-0.4**
TOLK				IAmb	IAmb	10 22 17.6	
	comp=Z,11nm,1.2s						
BMAR	**Burnt Mountain**	**16.72**	**26**		**Pn**	**10 22 15.1**	**+0.5**
JIS	**Juneau Island**	**16.97**	**62**		**S**	**10 25 36.6**	**+1.0**
EPYK	**Eagle Plains**	**18.44**	**35**	P	**Pn**	**10 22 36.9**	**+1.1**
EPYK				IAmb	IAmb	10 22 40.9	
	comp=Z,11nm,1.1s						
BILL	**Bilibino**	**20.44**	**327**	*e* P	**P**	**10 22 56.5**	**-1.0**
BILL				pmax	pmax		
	comp=Z,12nm,1.1s						
INK	**Inuvik**	**20.51**	**32**	P	**P**	**10 22 57.8**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=230,slow=13,SNR=6.7						
INK	**Inuvik**	**20.51**	**32**	P	**P**	**10 22 56.5**	**-1.7**
PET	**Petropavlovsk**	**22.47**	**284**	*i* P	**P**	**10 23 17.9**	**-1.5**
PET				pmax	pmax		
	comp=Z,11nm,0.9s						
PEA0B	**Petropavlovsk-**	**23.00**	**285**	⇑*i* P	**P**	**10 23 24.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**23.00**	**285**	P	**P**	**10 23 24.7**	**-0.3**
PETK	**Petropavlovsk-**	**23.00**	**285**	P	**P**	**10 23 23.0**	**-2.0**
	comp=Z,5.9nm,0.8s,baz=85,slow=14,SNR=11						
SEY	**Seymchan**	**24.60**	**310**	*e* P	**P**	**10 23 37.7**	**-2.6**
MA2	**Magadan**	**25.51**	**302**	*e* P	**P**	**10 23 45.7**	**-2.9**
MA2				pmax	pmax		
	comp=Z,15nm,1.2s						
TIXI	**Tiksi**	**33.65**	**328**	⇑*i* P	**P**	**10 25 00.9**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**34.02**	**275**	⇑*i* P	**P**	**10 25 01.6**	**-2.5**
NVAR	**Mina Array Bea**	**34.22**	**97**	P	**P**	**10 25 10.8**	**+4.6**
	comp=Z,0.3nm,0.6s,baz=292,slow=9.4,SNR=3.7						
PFO	**Pinyon Flats O**	**38.60**	**102**	⇑*i* P	**P**	**10 25 43.5**	**0.0**
KLR	**Kul'dur**	**39.41**	**291**	*e* P	**P**	**10 25 48.0**	**-1.9**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**40.64**	**226**	T	T	11 09 38.5	
	baz=26,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.64**	**226**	T	T	11 09 44.0	
	baz=26,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.66**	**226**	T	T	11 09 41.8	
	baz=26,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**41.81**	**225**	T	T	11 11 05.7	
	baz=25,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**41.82**	**225**	T	T	11 11 10.1	
	baz=25,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**41.83**	**225**	T	T	11 11 14.3	
	baz=25,slow=76,SNR=28						
MAJO	**Matsushiro**	**43.24**	**271**	⇑*e* P	**P**	**10 26 19.9**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAT	**Matsushiro**	**43.24**	**271**	P	**P**	**10 26 22.9**	**+1.3**
DAG	**Danmarks Havn**	**48.13**	**10**	*i* P	**P**	**10 27 00.0**	**+0.3**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAG	**Danmarks Havn**	**48.13**	**10**	*i* P	**P**	**10 27 00.0**	**+0.3**
	comp=Z,4.3nm,0.7s						
KSRS	**Korea Array**	**48.75**	**280**	P	**P**	**10 27 06.0**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=50,slow=6.5,SNR=8.9						
KSRS				LR	LR	10 47 39.4	
	comp=Z,13nm,18.1s,baz=4.5,slow=36						
TXAR	**Lajitas Array**	**49.24**	**95**	P	**P**	**10 27 10.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=285,slow=4.8,SNR=4.0						
LPIG	**La Paz**	**49.26**	**105**	LR	LR	10 45 50.6	
	comp=Z,69nm,18.3s,baz=298,slow=33						
TJN	**Taejon**	**49.81**	**279**	⇑*i* P	**P**	**10 27 13.6**	**+0.6**
TLY	**Talaya**	**52.49**	**308**	*i* P	**P**	**10 27 32.2**	**-0.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY	**Talaya**	**52.49**	**308**	P	**P**	**10 27 32.6**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=34,slow=12,SNR=4.5						
ULN	**Ulaanbaatar**	**53.37**	**303**	⇓*i* P	**P**	**10 27 40.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**53.72**	**303**	P	**P**	**10 27 42.6**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=51,slow=6.7,SNR=12						
HHC	**Hu-ho-hao-te**	**55.77**	**294**	*e* P	**P**	**10 27 58.2**	**+1.0**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,1μm,5.4s						
ARCES	**ARCESS Array B**	**57.13**	**356**	P	**P**	**10 28 04.9**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=24,slow=7.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**58.93**	**320**	⇓*i* P	**P**	**10 28 17.7**	**-1.4**
ZALV	**Zalesovo Beam**	**58.93**	**320**	P	**P**	**10 28 19.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=46,slow=6.4,SNR=4.5						
DGZ	**Jazzator, Alta**	**61.12**	**315**	*e* P	**P**	**10 28 33.3**	**-1.2**
PRGR	**Permogore**	**62.94**	**345**	*e* P	**P**	**10 28 43.9**	**-2.3**
PRGR				pmax	pmax		
	comp=Z,11nm,1.0s						
GTA	**Gaotai**	**63.06**	**300**	*e* P	**P**	**10 28 48.0**	**+0.4**
GTA				pP	pP	10 28 52.3	+0.4
GTA				sP	pwP	10 28 55.5	-1.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**63.40**	**295**	*e* P	**P**	**10 28 50.8**	**+0.9**
LZH				pP	pwP	10 28 58.9	-0.4
LZH				sP	sP	10 29 02.3	+6.5
LZH				*e*PP	**PP**	**10 31 11.0**	**+2.0**
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
KURK	**Kurchatov**	**63.82**	**321**	⇑*i* P	**P**	**10 28 53.5**	**+1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURBB	**Kurchatov Arra**	**63.93**	**321**	P	**P**	**10 28 53.3**	**+0.3**
	comp=Z,2.8nm,0.2s,baz=43,slow=6.7,SNR=7.3						
BVAR	**Borovoye Array**	**64.78**	**327**	P	**P**	**10 28 59.4**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=35,slow=6.5,SNR=14						
BRVK	**Borovoye**	**64.79**	**327**	*e* P	**P**	**10 28 58.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**65.17**	**336**	*d i* P	**P**	**10 29 00.8**	**-0.2**
ARU				S	**S**	**10 37 42.0**	**-0.7**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FINES	**FINESS Array B**	**65.19**	**355**	P	**P**	**10 29 00.8**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=3.8,slow=5.7,SNR=5.8						
MK31	**Makanchi Array**	**65.54**	**316**	*e* P	**P**	**10 29 03.1**	**-0.5**
MKAR	**Makanchi Array**	**65.54**	**316**	P	**P**	**10 29 03.4**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=49,slow=5.5,SNR=8.4						
WMQ	**Urumqi**	**65.56**	**311**	*e* P	**P**	**10 29 06.1**	**+2.3**
WMQ				pP	pwP	10 29 14.2	+0.9
WMQ				sP	sP	10 29 18.5	+8.8
WMQ				LR	LR		
	comp=N,480nm,29.3s						
WMQ				LR	LR		
	comp=E,800nm,29.1s						
WMQ				LR	LR		
	comp=Z,49nm,28.8s						
NB2	**NORSAR Subarra**	**65.77**	**3**	P	**P**	**10 29 05.5**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=360,slow=6.9						
NOA	**NORSAR Array B**	**65.77**	**3**	P	**P**	**10 29 05.6**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=358,slow=6.6,SNR=6.3						
AAK	**Ala-Archa**	**72.11**	**319**	⇑*i* P	**P**	**10 29 45.8**	**+1.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						

*TIF **06** 10:50:49.5,40.°59N×41.°93E,h16km±2km*
*ISCJB **06** 10:50:50.1±0.6,40.°58N±0.°03×41.°94E±0.°06,h10km±6km, Error ellipse: s-maj=7.4km s-min=4.8km az=165.8*
ISC 06 10:50:49.2±1.5,**40.°60N**±0.°03×**41.°97E**±0.°05,**h5**km±17km, **n13**,σ0°**38**/19,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.29**	**98**	PG	**Pg**	**10 50 54.8**	**-0.1**
SENK				SG	**Sb**	**10 51 02.0**	**-0.2**
DDEM	**Demirkent**	**0.34**	**330**	*i* P	**Pb**	**10 50 57.6**	**-0.1**
DDEM				*i* S	**Sb**	**10 51 02.7**	**-0.7**
DBAD	**Bademkaya**	**0.47**	**333**	*i* P	**Pb**	**10 50 59.8**	**-0.2**
DBAD				*i* S	**Sb**	**10 51 06.3**	**-0.8**
DAGI	**Agillar**	**0.48**	**355**	*i* P	**Pb**	**10 51 00.0**	**-0.1**
DAGI				*i* S	**Sb**	**10 51 08.0**	**+0.5**
ARTV	**Artvin**	**0.58**	**357**	*i* P	**Pb**	**10 51 02.1**	**+0.1**
ARTV				IAML_P			
	comp=Z,4μm,0.1s						
KOPR	**Koprukoy-ERZUR**	**0.62**	**188**	PG	**Pg**	**10 51 01.1**	**+0.1**
KOPR				SG	**Sb**	**10 51 11.3**	**-0.2**
DBOC	**Borcka**	**0.78**	**343**	*i* P	**Pb**	**10 51 05.6**	**+0.4**
KRIK	**Erzurum-spir**	**0.84**	**252**	*i* P	**Pb**	**10 51 06.5**	**+0.2**
KRIK				IAML_P			
	comp=Z,472nm,0.1s						
BATM	**Batumi**	**1.02**	**348**	P	**Pb**	**10 51 09.3**	**-0.1**
BATM				S	**Sb**	**10 51 23.7**	**+0.6**
BATM	**Batumi**	**1.02**	**348**	*i* P	**Pb**	**10 51 09.2**	**-0.1**
BATM	**Batumi**	**1.02**	**348**	PG	**Pg**	**10 51 08.9**	**+0.1**
CHOM	**Cayeli-Rize**	**1.04**	**299**	PG	**Pb**	**10 51 09.7**	**0.0**
EPOS	**Posof**	**1.07**	**32**	*i* P	**Pn**	**10 51 11.0**	**+0.1**

*ISCJB **06** 11:29:25.8±0.7,34.°60N±0.°02×34.°14E±0.°03,h12km±5km, Error ellipse: s-maj=5.4km s-min=2.5km az=140.6*
*NIC **06** 11:29:26.0±0.0,34.°60N×33.°96E,h9km±2km,Ml3.0/3*
*ISK **06** 11:29:25.9,34.°61N×34.°09E,h16km,ML2.9/11*
*GII **06** 11:29:26.3±0.0,34.°63N×34.°04E,h15km,MD2.4/2*
*NSSC **06** 11:29:31.0±0.3,34.°02N×34.°19E,h5km±8km,ML2.5*
ISC 06 11:29:25.9±1.2,**34.°61N**±0.°03×**34.°12E**±0.°03,**h11**km±10km, **n44**,σ0°**75**/65,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.39**	**351**	P	**Pb**	**11 29 34.9**	**0.0**
PARAL				AML	AML	11 29 41.9	
	9.4nm,0.4s						
PARAL				AML	AML	11 29 41.9	
	9.4nm,0.4s						
PARAL				S	**Sb**	**11 29 42.0**	**+1.1**
PARAL				AML	AML	11 29 42.1	
	6.8nm,0.7s						
PARAL				AML	AML	11 29 42.1	
	6.8nm,0.7s						
MVOU	**Mavrovouni**	**0.57**	**316**	P	**Pg**	**11 29 36.2**	**-0.8**
MVOU				S	**Sb**	**11 29 45.7**	**-0.4**
MVOU				AML	AML	11 29 46.7	
	8.2nm,0.5s						
MVOU				AML	AML	11 29 46.7	
	8.2nm,0.5s						
MVOU				AML	AML	11 29 47.0	
	9.3nm,0.4s						
MVOU				AML	AML	11 29 47.0	
	9.3nm,0.4s						
CSS	**Mathiatis**	**0.74**	**299**	Pg	**Pg**	**11 29 39.4**	**-0.8**
CSS	**Mathiatis**	**0.74**	**299**	PG	**Pb**	**11 29 40.5**	**-0.3**
CSS				SG	**Sb**	**11 29 50.6**	**-0.3**
CSS	**Mathiatis**	**0.74**	**299**	P	**Pg**	**11 29 40.0**	**-0.2**
CSS				S	**Sb**	**11 29 50.9**	**0.0**
ASGA	**Asgata**	**0.74**	**284**	P	**Pg**	**11 29 39.8**	**-0.5**
ASGA				S	**Sg**	**11 29 49.6**	**-0.3**
ASGA				AML	AML	11 29 55.9	
	1.8nm,0.3s						
ASGA				AML	AML	11 29 55.9	
	1.8nm,0.3s						
ASGA				AML	AML	11 29 57.0	
	1.9nm,0.7s						
ASGA				AML	AML	11 29 57.0	
	1.9nm,0.7s						
ATHAL	**Athalassa**	**0.80**	**312**	P	**Pb**	**11 29 41.9**	**+0.2**
EREN	**Erenkoy**	**0.92**	**3**	PG	**Pg**	**11 29 44.3**	**+0.6**
SZAC	**Souni**	**1.03**	**279**	P	**Pb**	**11 29 45.3**	**-0.5**
SZAC				S	**Sn**	**11 29 59.6**	**-1.1**
LEF	**Lefka**	**1.13**	**297**	PN	**Pg**	**11 29 47.9**	**+0.2**
LEF				SN	**Sn**	**11 30 03.8**	**+0.6**
AKDN	**Akdeniz- Kıbrı**	**1.17**	**306**	PN	**Pn**	**11 29 47.2**	**-1.0**
NATA	**Nata**	**1.29**	**278**	P	**Pg**	**11 29 50.8**	**+0.1**
NATA				S	**Sg**	**11 30 08.8**	**+1.5**
ALFC	**Alefka**	**1.36**	**294**	P	**Pn**	**11 29 50.5**	**-0.5**
AKMS	**Akamas**	**1.52**	**286**	P	**Pb**	**11 29 54.0**	**-0.1**
IKL	**Isikli**	**1.67**	**348**	PN	**Pn**	**11 29 55.1**	**+0.1**
IKL				SN	**Sn**	**11 30 16.4**	**0.0**
TEKE	**Tekeli-Mersin**	**1.74**	**332**	PN	**Pn**	**11 29 55.9**	**-0.1**
TEKE				SN	**Sn**	**11 30 18.3**	**+0.1**
HNTI	**Hanita**	**1.76**	**150**	Pn	**Pn**	**11 29 56.6**	**+0.3**
SILI	**Silifke-Mersin**	**1.76**	**355**	PN	**Pn**	**11 29 56.6**	**+0.2**
KEBE	**Keben-Mersin**	**1.86**	**350**	PN	**Pn**	**11 29 57.9**	**+0.1**
KIZK	**Mersin**	**1.87**	**1**	PN	**Pn**	**11 29 57.9**	**+0.1**
BERE	**Bereket-Mersin**	**1.88**	**337**	PN	**Pn**	**11 29 58.2**	**0.0**
GEM	**Giv'at Ha'Em**	**1.90**	**137**	Pn	**Pn**	**11 29 58.6**	**+0.4**
GEM				Sn	**Sn**	**11 30 22.7**	**+0.6**
NATI	**Neve Ativ**	**1.90**	**134**	Pn	**Pn**	**11 29 58.6**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.91**	**343**	PN	**Pn**	**11 29 58.6**	**+0.2**
KSDI	**Kefar Szold**	**1.91**	**137**	Pn	**Pn**	**11 29 58.7**	**+0.3**
KSDI				Sn	**Sn**	**11 30 22.9**	**+0.5**
MMA0B	**Mount Meron ar**	**1.92**	**146**	Pn	**Pn**	**11 29 58.6**	**+0.1**
BRBR	**Barbar**	**1.94**	**128**	*eP*	**Pn**	**11 29 59.8**	**+0.9**
BRBR				*eS*	**Sn**	**11 30 20.6**	**-2.7**
BRBR				AML	AML	11 30 25.2	
	comp=N,64nm,0.5s						
BRBR				AML	AML	11 30 25.5	
	comp=E,38nm,0.2s						
BLGI	**Bet Lehem HaGe**	**2.07**	**154**	Pn	**Pn**	**11 30 01.4**	**+0.8**
BLGI				Sn	**Sn**	**11 30 27.1**	**+0.7**
QASN	**Qassioun**	**2.09**	**120**	*eP*	**Pb**	**11 30 03.2**	**-0.6**
QASN				*eS*	**Sn**	**11 30 25.9**	**-1.1**
QASN				AML	AML	11 30 31.3	
	comp=E,134nm,0.4s						
QASN				AML	AML	11 30 32.0	
	comp=N,102nm,0.3s						
OFRI	**`Ofer**	**2.11**	**160**	Pn	**Pn**	**11 30 01.1**	**-0.1**
GAZI	**Gazipasa**	**2.19**	**318**	PN	**Pn**	**11 30 02.5**	**+0.2**
MERS	**Mersin**	**2.28**	**8**	PN	**Pn**	**11 30 04.0**	**+0.5**
TOTH	**TOTAH**	**2.29**	**122**	*eP*	**Pb**	**11 30 05.8**	**-1.5**
TOTH				*eS*	**Sn**	**11 30 30.0**	**-1.9**
TOTH				AML	AML	11 30 35.0	
	comp=N,61nm,0.8s						
TOTH				AML	AML	11 30 35.2	
	comp=E,100nm,0.5s						
MMLI	**Mount Malkishu**	**2.42**	**153**	Pn	**Pn**	**11 30 06.4**	**+0.9**
MMLI				Sn	**Sn**	**11 30 35.1**	**-0.1**
SLTI	**Sal'it**	**2.48**	**162**	Pn	**Pn**	**11 30 06.3**	**0.0**
HMDT	**Nahal Hemdat**	**2.63**	**153**	Pn	**Pn**	**11 30 08.9**	**+0.6**
HMDT				Sn	**Sn**	**11 30 41.0**	**+0.9**
AMAZ	**Amatzia**	**3.14**	**167**	Pn	**Pn**	**11 30 16.4**	**+1.1**
AMAZ				Sn	**Sn**	**11 30 52.9**	**+0.1**
DSI	**Dead Sea**	**3.21**	**160**	Pn	**Pn**	**11 30 17.2**	**+0.9**
DSI				Sn	**Sn**	**11 30 54.5**	**0.0**
YTIR	**Yattir**	**3.34**	**165**	Pn	**Pn**	**11 30 19.4**	**+1.2**
YTIR				Sn	**Sn**	**11 30 58.0**	**+0.1**
KZIT	**Kziot**	**3.70**	**176**	Pn	**Pn**	**11 30 23.5**	**+0.5**
PRNI	**Paran**	**4.31**	**170**	Pn	**Pn**	**11 30 31.7**	**+0.3**
HRFI	**Mount Harif**	**4.62**	**170**	Pn	**Pn**	**11 30 36.4**	**+0.6**
MBRI	**Mt Berech**	**4.85**	**172**	Pn	**Pn**	**11 30 39.6**	**+0.7**
EIL	**Elat**	**4.97**	**172**	Pn	**Pn**	**11 30 41.4**	**+0.9**

*ISCJB **06** 12:06:40.8±1.5,29.°92N±0.°08×36.°1E±0.°1,h3km,Error ellipse: s-maj=19.2km s-min=6.0km az=32.2*
*HLW **06** 12:06:41.5,29.°91N×36.°23E,h10km±17km,Md2.9*
*JSO **06** 12:06:42.9±1.2,30.°N±9.°×3.°6E±.°,h10km,M3.1/10, Mjma3.0/10,ML3.2/2,MLv3.1/10*
ISC 06 12:06:40.9±1.8,**29.°92N**±0.°07×**36.°2E**±0.°1,**h3**km,**n19**, σ0°**66**/21,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JDRJ	**Daraweish**	**0.91**	**333**	P	**Pg**	**12 06 57.3**	**-1.1**
HRFI	**Mount Harif**	**0.97**	**277**	P	**Pg**	**12 06 59.7**	**+0.1**
AQBJ	**Aqaba**	**0.97**	**259**	P	**Pg**	**12 06 59.7**	**+0.1**
EIL	**Elat**	**1.07**	**257**	P	**Pg**	**12 07 02.1**	**+0.6**
SWQJ	**Swaqa**	**1.32**	**357**	P	**Pb**	**12 07 07.0**	**+0.5**
HBST	**Basata**	**1.42**	**241**	P	**Pn**	**12 07 07.3**	**-0.3**
	baz=243						
HBST				S	**Sg**	**12 07 26.2**	**-0.4**
	baz=243						
HBST	**Basata**	**1.42**	**241**	P	**Pn**	**12 07 07.3**	**-0.3**
	baz=77						
HBST				S	**Sg**	**12 07 26.2**	**-0.4**
	baz=77						
LISJ	**El Lisan**	**1.44**	**337**	P	**Pn**	**12 07 07.0**	**-0.9**
NUB		**1.58**	**236**	P	**Pn**	**12 07 10.4**	**+0.5**
	baz=238						
NUB		**1.58**	**236**	P	**Pn**	**12 07 10.4**	**+0.5**
	baz=109						
WALJ	**Wala**	**1.66**	**350**	P	**Pn**	**12 07 10.5**	**-0.5**
HDHB	**Dhahab**	**1.79**	**229**	P	**Pn**	**12 07 12.0**	**-0.8**
	baz=231						
HDHB	**Dhahab**	**1.79**	**229**	P	**Pn**	**12 07 12.0**	**-0.8**
	baz=138						
KZIT	**Kziot**	**1.81**	**303**	P	**Pn**	**12 07 14.1**	**+1.1**
ASF	**Jabal al Asfar**	**2.34**	**16**	P	**Pn**	**12 07 21.4**	**+1.0**
HKAT	**Jabal Katrina**	**2.34**	**234**	P	**Pn**	**12 07 20.0**	**-0.5**
	baz=236						
HKAT	**Jabal Katrina**	**2.34**	**234**	P	**Pn**	**12 07 20.0**	**-0.5**
	baz=199						
SUZ	**Suez**	**2.88**	**269**	P	**Pn**	**12 07 27.8**	**0.0**
	baz=270						
SUZ	**Suez**	**2.88**	**269**	P	**Pn**	**12 07 27.8**	**0.0**
	baz=301						

*IDC **06** 12:28:34.3±0.8,43.°78N×87.°08E,h0km,mb3.8/9, mb1 4.0/14,mb1mx3.8/66,mbtmp3.9/14,ML3.8/6,MS3.4/4, Ms1 3.4/4,ms1mx2.8/51,Error ellipse: s-maj=20.1km s-min=10.6km az=46.0*
*ISCJB **06** 12:28:35.4±0.3,43.°88N±0.°03×86.°98E±0.°04,h20km, mb3.9/9,MS3.8/2,Error ellipse: s-maj=4.9km s-min=3.9km az=36.3*
*BJI **06** 12:28:37.7±0.0,43.°75N×86.°92E,h14km,mb4.0/3, mB4.1/1,ML4.0/11*
*NEIC **06** 12:28:38.1±2.6,43.°82N±0.°07×87.°01E±0.°07,h28km±3km, mb4.2/8*
*NNC **06** 12:28:40.0±2.6,44.°02N×86.°74E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=24.9km s-min=15.4km az=75.0*
ISC 06 12:28:36.9±0.5,**43.°77N**±0.°05×**87.°00E**±0.°04,**h20**km,**n67**, σ1°**71**/78,**mb3.9**/11,**15C-5D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.51**	**84**	Pg	**Pn**	**12 28 50.5**	**+1.4**
WMQ				Sg	**Sn**	**12 28 59.4**	**+2.2**
WMQ				smax	smax		
	comp=N,2μm,0.4s						
WMQ				smax	smax		
	comp=E,2μm,0.3s						
WMQ	**Urumqi**	**0.51**	**84**		**Pn**	**12 28 50.8**	**+1.7**
MK31	**Makanchi Array**	**4.49**	**314**	Pn	**Pn**	**12 29 45.7**	**+1.9**
	9.6nm,0.4s,baz=133,slow=14,SNR=715						
MK31				⇓Sn	**Sn**	**12 30 36.8**	**+1.4**
	26nm,0.5s,baz=129,slow=22,SNR=4.1						
MK31				⇑Lg	Lg	12 30 57.2	
	53nm,0.3s,baz=132,slow=28,SNR=8.1						
MK31	**Makanchi Array**	**4.49**	**314**		**Pn**	**12 29 46.3**	**+2.5**
MK31				Sn	**Sn**	**12 30 37.6**	**+2.2**
MKAR	**Makanchi Array**	**4.49**	**314**	Pn	**Pn**	**12 29 46.0**	**+2.3**
	16nm,0.3s,baz=134,slow=14,SNR=528						
MKAR				Sn	**Sn**	**12 30 36.7**	**+1.3**
	20nm,0.3s,baz=146,slow=16,SNR=5.7						
MKAR				Lg	Lg	12 30 56.2	
	46nm,0.3s,baz=123,slow=30,SNR=6.0						
MKAR	**Makanchi Array**	**4.49**	**314**		**Pn**	**12 29 45.7**	**+1.9**
MAKZ	**Makanchi**	**4.67**	**312**	⇑Pn	**Pn**	**12 29 48.1**	**+2.0**
	34nm,0.3s						
MAKZ				⇑Sn	**Sn**	**12 30 39.0**	**-0.7**
	79nm,0.7s						
MAKZ				⇓Lg	Lg	12 30 58.8	
	38nm,0.4s						
MAKZ	**Makanchi**	**4.67**	**312**		**Pn**	**12 29 48.4**	**+2.2**
MAKZ				Sn	**Sn**	**12 30 40.0**	**+0.3**
PDGK	**Podgornoye**	**5.47**	**268**	⇑Pn	**Pn**	**12 29 59.5**	**+2.0**
	7.2nm,0.5s						
PDGK				⇓Lg	Lg	12 31 23.0	
	95nm,0.7s						
PRZ	**Przheval'sk**	**6.42**	**261**		**Pn**	**12 30 10.9**	**+0.4**
TARG	**Taragay, Kyrgy**	**7.07**	**256**		**Pn**	**12 30 20.0**	**+0.5**
TARG				Sn	**Sn**	**12 31 39.6**	**+0.2**
MDOK	**Medeo**	**7.27**	**269**	⇑Pn	Pn	12 30 28.8	+6.8
	4.3nm,0.5s						
MDOK				⇑Lg	Lg	12 32 25.3	
	40nm,0.8s						
KDJ	**Kajisay**	**7.39**	**261**		**Pn**	**12 30 25.4**	**+1.7**
KDJ				Sn	**Sn**	**12 31 47.3**	**+0.3**
BOOM	**Boomskoye usch**	**8.19**	**265**		**Pn**	**12 30 36.7**	**+2.0**
TKM2	**Tokmak 2**	**8.36**	**268**	⇓Pn	**Pn**	**12 30 40.7**	**+3.7**
	2.1nm,0.5s						
TKM2				⇓Lg	Lg	12 33 01.2	
	16nm,0.7s						
NRN	**Naryn**	**8.44**	**258**	Pn	**Pn**	**12 30 39.2**	**+0.9**
NRN				Sn	**Sn**	**12 32 13.6**	**+0.5**
KURBB	**Kurchatov Arra**	**8.95**	**323**	⇑Pn	**Pn**	**12 30 44.9**	**0.0**
	43nm,0.6s						
KURBB				⇑Sn	**Sn**	**12 32 25.3**	**+0.2**
	23nm,0.5s						
KURBB				⇑Lg	Lg	12 33 18.0	
	113nm,0.7s						
KURBB	**Kurchatov Arra**	**8.95**	**323**	Pn	**Pn**	**12 30 44.9**	**0.0**
	1.9nm,0.3s,baz=134,slow=14,SNR=47						
KURBB				Sn	**Sn**	**12 32 24.8**	**-0.2**
	0.9nm,0.3s,baz=59,slow=23,SNR=4.8						
KURBB				Lg	Lg	12 33 18.2	
	0.9nm,0.3s,baz=13,slow=13,SNR=6.0						
KURK	**Kurchatov**	**8.98**	**324**	⇑Pn	**Pn**	**12 30 44.8**	**-0.5**
	11nm,0.5s						
KURK				⇑Sn	**Sn**	**12 32 25.1**	**-0.7**
	22nm,0.7s						
KURK				⇑Lg	Lg	12 33 17.3	
	48nm,0.7s						
KURK	**Kurchatov**	**8.98**	**324**		**Pn**	**12 30 45.2**	**-0.1**
AAK	**Ala-Archa**	**9.20**	**267**	Pn	**Pn**	**12 30 49.8**	**+1.2**
	0.3nm,0.3s,baz=63,slow=4.5,SNR=3.2						
AAK				Lg	Lg	12 33 30.9	
	0.5nm,0.3s,baz=192,slow=20,SNR=3.2						
AAK	**Ala-Archa**	**9.20**	**267**		**Pn**	**12 30 48.5**	**-0.1**
ZAA0	**Zalesovo Array**	**10.29**	**353**		**Pn**	**12 31 03.4**	**+0.2**
ZAA0				Sn	**Sn**	**12 32 54.7**	**-3.0**
ZALV	**Zalesovo Beam**	**10.29**	**353**	Pn	**Pn**	**12 31 03.3**	**+0.1**
	2.1nm,0.3s,baz=177,slow=13,SNR=40						
ZALV				Sn	**Sn**	**12 32 54.0**	**-3.8**
	3.6nm,0.3s,baz=168,slow=29,SNR=12						
ZALV				Lg	Lg	12 34 01.5	
	baz=190,slow=24,SNR=2.2						
ZALV				LR	LR	12 35 40.5	
	comp=Z,115nm,19.1s,baz=190,slow=41						
ZALV	**Zalesovo Beam**	**10.29**	**353**		**Pn**	**12 31 03.0**	**-0.2**
ZALV					**Sn**	**12 32 54.9**	**-2.9**
GTA	**Gaotai**	**10.54**	**110**	*eP*	**Pn**	**12 31 08.7**	**+1.8**
GTA				pP		12 31 13.0	
GTA				sP		12 31 15.9	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**12.01**	**273**	⇑Lg	Lg	12 34 49.4	
	2.8nm,0.6s						
KK31	**Karatay Array**	**12.01**	**273**	Pn	**Pn**	**12 31 28.4**	**+1.6**
KKAR	**Karatay Array**	**12.01**	**273**	Pn	**Pn**	**12 31 28.4**	**+1.5**
KKAR	**Karatay Array**	**12.01**	**273**	Pn	**Pn**	**12 31 28.2**	**+1.4**
TLY	**Talaya**	**13.69**	**49**	LR	LR	12 36 34.4	
	comp=Z,36nm,21.4s,baz=304,slow=35						
SONM	**Songino Array**	**14.12**	**67**	Pn	**Pn**	**12 31 54.2**	**-1.6**
	0.1nm,0.3s,baz=264,slow=12,SNR=2.6						
SONM				Lg	Lg	12 36 01.8	
	0.1nm,0.3s,baz=263,slow=24,SNR=3.6						
BVA2	**Borovoye Array**	**14.37**	**316**	⇑Pn	**Pn**	**12 31 56.4**	**-2.6**
	2.6nm,0.5s						
BVA2				⇑Sn	Sn	12 34 25.9	-12
	2.2nm,0.5s						
BVAR	**Borovoye Array**	**14.37**	**316**	Pn	**Pn**	**12 31 58.0**	**-1.0**
	0.9nm,0.3s,baz=120,slow=14,SNR=14						
BRVK	**Borovoye**	**14.44**	**316**		**Pn**	**12 31 59.0**	**-1.0**
CHCP	**Chirah Chowk**	**14.71**	**231**	P	**Pn**	**12 32 04.0**	**+0.2**
NIL	**Nilore**	**14.72**	**231**		**Pn**	**12 32 02.3**	**-1.7**
CEP	**Cherat**	**15.38**	**235**	P	**Pn**	**12 32 10.0**	**-2.7**
CEP				S	**Sn**	**12 34 55.0**	**-7.5**
GUN	**Gumba**	**15.85**	**184**	*eP*	**P**	**12 32 24.0**	**+1.1**
	14nm,0.5s						
KKN	**Kakani**	**16.01**	**186**	*eP*	**P**	**12 32 25.2**	**+0.8**
	21nm,0.5s						
DMN	**Daman**	**16.20**	**186**	*eP*	**P**	**12 32 27.0**	**+0.4**
PKIN	**Phulchoki**	**16.21**	**185**	*eP*	**P**	**12 32 27.6**	**+0.9**
	19nm,0.6s						
PKI	**Pulchoki**	**16.22**	**185**	*eP*	**P**	**12 32 27.8**	**+0.9**
	22nm,0.6s						
KBL	**Kabul**	**16.67**	**242**	Pn	**Pn**	**12 32 29.0**	**-0.5**
KBL				IAmb	IAmb	12 32 33.0	
	comp=Z,7.5nm,0.5s						
SHL	**Shillong**	**18.59**	**166**	P	**Pn**	**12 32 53.7**	**+0.5**
ABKAR	**Akbulak array**	**19.36**	**296**	P	**Pn**	**12 33 01.4**	**-0.7**
ABKAR	**Akbulak array**	**19.36**	**296**	P	**P**	**12 33 01.3**	**+0.3**
ABKAR				IAmb	IAmb	12 33 18.3	
	comp=Z,3.7nm,1.2s						
AKTO	**Aktyubinsk**	**20.74**	**299**	P	**P**	**12 33 16.5**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=42,slow=12,SNR=2.6						
BJT	**Baijiatuau**	**21.98**	**90**	P	**P**	**12 33 27.9**	**-1.5**
BJT				IAmb	IAmb	12 33 36.3	
	comp=Z,6.0nm,0.5s						
ARU	**Arti**	**22.02**	**315**	P	**P**	**12 33 30.9**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=174,slow=2.9,SNR=6.4						
ARU	**Arti**	**22.02**	**315**	P	**P**	**12 33 29.7**	**0.0**
ARU				IAmb	IAmb	12 33 43.6	
	comp=Z,5.6nm,0.5s						
GEYT	**Alibeck**	**22.55**	**265**	P	**P**	**12 33 37.4**	**+1.8**
	comp=Z,1.5nm,0.4s,baz=108,slow=4.8,SNR=4.1						
GEYT	**Alibeck**	**22.55**	**265**	P	**P**	**12 33 37.2**	**+1.6**
HIA	**Hailar**	**23.07**	**65**	P	**P**	**12 33 40.8**	**-0.2**
HIA				IAmb	IAmb	12 33 52.3	
	comp=Z,8.2nm,1.2s						
WHN	**Wuhan**	**25.35**	**112**	P	**P**	**12 34 01.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**27.17**	**155**	P	**P**	**12 34 20.6**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=332,slow=9.5,SNR=6.2						
KIRV	**Kirov**	**27.39**	**316**	LR	LR	12 44 22.7	
	comp=Z,70nm,18.5s,baz=230,slow=35						
ARCES	**ARCESS Array B**	**39.92**	**331**	P	**P**	**12 36 10.4**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=90,slow=8.1,SNR=3.1						
NB2	**NORSAR Subarra**	**46.47**	**319**	P	**P**	**12 37 02.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=74,slow=7.9						
NOA	**NORSAR Array B**	**46.47**	**319**	P	**P**	**12 37 02.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=75,slow=7.8,SNR=5.7						
PMG	**Port Moresby**	**75.89**	**118**	P	**P**	**12 40 20.9**	**-1.2**
WRA	**Warramunga Arr**	**76.82**	**135**	P	**P**	**12 40 27.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=334,slow=5.0,SNR=21						
WRA	**Warramunga Arr**	**76.82**	**135**	P	**P**	**12 40 27.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**77.67**	**276**	P	**P**	**12 40 31.9**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=53,slow=4.4,SNR=5.9						
ASAR	**Alice Springs**	**79.71**	**137**	P	**P**	**12 40 42.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=339,slow=6.7,SNR=4.3						
SUR	**Sutherland**	**96.89**	**231**	P	**P**	**12 42 08.0**	**+1.3**
	comp=Z,12nm,1.1s,baz=174,slow=2.9,SNR=3.0						
DZM	**Mont Dzumac**	**97.73**	**113**	LR	LR	13 26 38.0	
	comp=Z,85nm,18.1s,baz=31,slow=36						

*IDC **06** 12:36:27.4±1.6,2.°26N×128.°19E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/33,mbtmp3.8/6,ML4.4/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/44,Error ellipse: s-maj=67.3km s-min=23.2km az=65.0*
*ISCJB **06** 12:36:29.4±0.4,2.°43N±0.°04×128.°63E±0.°05,h33km, mb3.8/4,MS3.0/2,Error ellipse: s-maj=7.1km s-min=5.3km az=148.6*
*DJA **06** 12:36:29.9±0.4,2.°N±3.°×12.°9E±.°,h10km,M4.3/12,mb4.3/5, MLv4.3/12*
*NEIC **06** 12:36:32.7±1.2,2.°32N±0.°03×128.°44E±0.°09,h56km±9km, mb4.3/13*
ISC 06 12:36:31.2±0.6,**2.°38N**±0.°06×**128.°58E**±0.°07,**h35**km,**n34**, σ1°**28**/36,**mb4.2**/10,**1C**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.00**	**217**	P	**Pn**	**12 37 03.6**	**+1.1**
TNTI				S	**Sn**	**12 37 28.0**	**+1.6**
TNTI	**Ternate**	**2.00**	**217**		**Pn**	**12 37 02.5**	**-0.1**
SGSI	**Sangihe**	**3.31**	**293**	P	**Pn**	**12 37 21.5**	**+1.0**
SWI	**Sorong**	**4.19**	**140**	P	**Pn**	**12 37 33.9**	**+1.2**
SIJI	**Sorong**	**4.20**	**140**	Pn	**Pn**	**12 37 35.0**	**+2.1**
	19nm,0.3s,baz=128,slow=23,SNR=49						
SIJI				Sn	**Sn**	**12 38 21.0**	**+0.3**
	1.5nm,0.3s,baz=180,slow=20,SNR=3.6						
KMSI	**Cibinong**	**4.93**	**249**	P	**Pn**	**12 37 44.2**	**+1.4**
SANI	**Sanana**	**5.11**	**210**	P	**Pn**	**12 37 45.8**	**+0.6**
	7.0nm,0.6s,0.1nm						
KCP	**Kidapawan**	**5.76**	**323**	⇑*eP*	**Pn**	**12 37 58.5**	**+4.1**
KCP				*eS*	Sn	12 38 48.4	-11
FAKI	**Fak Fak**	**6.42**	**145**	P	**Pn**	**12 38 04.0**	**+0.7**
FAKI	**Fak Fak**	**6.42**	**145**	Pn	**Pn**	**12 38 05.1**	**+1.8**
FAKI				Sn	**Sn**	**12 39 15.8**	**+0.4**
MRSI	**Marisa**	**6.90**	**254**	P	**Pn**	**12 38 10.8**	**+1.0**
MTN	**Manton Dam**	**15.34**	**171

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
GCAM				SG		Sg	12 41 48.3	-0.2
AYDN	**Tasoluk**	**0.36**	**58**	*i* P		**Pg**	**12 41 45.7**	**+0.4**
AYDN				*i* S		**Sg**	**12 41 50.4**	**+0.4**
AYDN				IAML_P				
	comp=Z,23μm,0.2s							
BDRM	**Kayabasi**	**0.41**	**186**	*i* P		**Pb**	**12 41 46.9**	**-0.3**
BDRM				*i* S		**Sb**	**12 41 52.9**	**-0.5**
BDRM				IAML_P				
	comp=Z,38nm,0.2s							
BODT	**Bodrum**	**0.44**	**200**	PG		**Pg**	**12 41 46.3**	**-0.3**
BODT				SG		**Sg**	**12 41 52.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.57**	**33**	PG		**Pg**	**12 41 48.9**	**-0.2**
YER	**Yerkesik**	**0.71**	**118**	PG		**Pg**	**12 41 51.9**	**+0.1**
DAT	**Datca**	**0.74**	**175**	*i* P		**Pb**	**12 41 53.8**	**+0.8**
DAT				*i* S		**Sn**	**12 42 06.3**	**+0.5**
DAT				IAML_P				
	comp=Z,319nm,0.1s							
TURN	**Turunc**	**1.07**	**124**	PG		**Pg**	**12 41 56.3**	**-2.2**
TAVA	**DENIZLI_Tavas**	**1.13**	**90**	*i* P		**Pn**	**12 42 00.7**	**+0.9**
TAVA				*i* S		**Sg**	**12 42 13.8**	**-0.6**
TAVA				IAML_P				
	comp=Z,498nm,0.2s							
URLA	**Izmir**	**1.14**	**321**	PN		**Pg**	**12 41 59.2**	**-0.7**
MANT	**Manisa**	**1.32**	**39**	*i* S		**Sg**	**12 42 18.5**	**-2.0**
KULA	**Kula-Manisa**	**1.39**	**41**	PN		**Pb**	**12 42 04.2**	**+0.2**

*ISCJB **06** 12:42:24.4±0.2, 6°.80N±0°.02×73°.10W±0°.02, h158km±1km, mb4.0/12, Error ellipse: s-maj=3.5km s-min=2.6km az=34.4*
*UPA **06** 12:42:25.3±1.9, 6°.80N×73°.13W, h150km, MW4.4*
*IDC **06** 12:42:26.3±0.9, 6°.72N×73°.02W, h172km±9km, mb3.8/13, mb1 4.1/16, mb1mx3.9/32, mbtmp4.4/16, MS3.5/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=13.4km s-min=10.5km az=57.0*
*NEIC **06** 12:42:26.5±1.4, 6°.84N±0°.06×73°.02W±0°.07, h167km±6km, mb4.5/185*
*RSNC **06** 12:42:26.4±1.1, 6°.81N×73°.12W, h150km±4km, ML4.4, Mw4.2*

ISC 06 12:42:25.2±0.5, 6°.84N±0°.03×73°.12W±0°.04, h158km±4km, n602, σ1°63/647, mb4.4/88, 8C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BARC	**Barichara**	**0.25**	**194**	⇑*i* P		**Pn**	**12 42 46.8**	**-0.1**
BARC				*e*S		**Sn**	**12 43 01.8**	**-1.8**
BARC				*i*			12 43 04.5	
	comp=Z,10μm,0.3s							
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*i* P		**Pn**	**12 42 48.8**	**+0.5**
BRRC				*e*S		**Sn**	**12 43 05.7**	**-0.2**
BRRC				*i*			12 43 10.4	
	comp=Z,2μm,0.4s							
BRRC				*i*			12 43 13.9	
	comp=Z,2μm,0.3s							
BRRC	**Barranca, Sant**	**0.64**	**294**	*e*P		**Pn**	**12 42 48.7**	**+0.5**
BRRC				*e*S		**Sn**	**12 43 05.8**	**0.0**
PAMC	**Pamplona, Colo**	**0.65**	**40**	⇑*i* P		**Pn**	**12 42 49.6**	**+0.7**
PAMC				*e*S		**Sn**	**12 43 06.3**	**-0.7**
PAMC				*i*			12 43 08.7	
	comp=Z,3μm,0.4s							
RUSC	**La Rusia**	**0.94**	**178**	⇓*i* P		**Pn**	**12 42 50.6**	**-0.3**
RUSC				*e*S		**Sn**	**12 43 08.9**	**-1.6**
RUSC				*i*			12 43 10.7	
	comp=Z,2μm,0.6s							
RUSC				*i*			12 43 10.7	
	comp=Z,2μm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*e*P		**Pn**	**12 42 53.4**	**-0.6**
PTBC				*e*S		**Sn**	**12 43 14.7**	**-1.4**
PTBC				*i*			12 43 20.5	
	comp=Z,5μm,0.4s							
PTBC				*i*			12 43 20.7	
	comp=Z,4μm,0.4s							
TAMC	**Tame, Arauca**	**1.38**	**107**	⇓*i* P		**Pn**	**12 42 55.0**	**+0.7**
TAMC				*i*			12 43 15.9	
	comp=Z,2μm,0.4s							
TAMC				*e*S		**Sn**	**12 43 16.0**	**-0.6**
TAMC				*i*			12 43 25.9	
	comp=Z,2μm,0.8s							
OCAC	**Ocana**	**1.40**	**352**	⇑*i* P		**Pn**	**12 42 54.9**	**+0.2**
OCAC				*e*S		**Sn**	**12 43 16.7**	**-0.6**
OCAC				*i*			12 43 23.2	
	comp=Z,3μm,0.4s							
OCAC				*i*			12 43 23.4	
	comp=Z,4μm,0.4s							
OCAC	**Ocana**	**1.40**	**352**	*e*P		**Pn**	**12 42 54.9**	**+0.2**
OCAC				*e*S		**Sn**	**12 43 17.7**	**+0.4**
SPBC	**San Pablo de B**	**1.51**	**219**	⇓*i* P		**Pn**	**12 42 55.6**	**0.0**
SPBC				*e*S		**Sn**	**12 43 18.9**	**-0.1**
SPBC				*i*			12 43 25.0	
	comp=Z,7μm,0.3s							
SPBC				*i*			12 43 25.1	
	comp=Z,7μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P		**Pn**	**12 42 59.0**	**-0.1**
ZARC				*e*S		**Sn**	**12 43 25.1**	**0.0**
ZARC				*i*			12 43 31.3	
	comp=Z,4μm,0.5s							
ZARC				*i*			12 43 31.5	
	comp=Z,4μm,0.4s							
NORC	**Norcasia**	**2.15**	**234**	*e*P		**Pn**	**12 43 02.6**	**-0.1**
NORC				*e*S		**Sn**	**12 43 30.4**	**-1.1**
NORC				*i*			12 43 34.7	
	comp=Z,2μm,0.5s							
NORC				*i*			12 43 35.2	
	comp=Z,2μm,0.3s							
SMLC	**San Martn de**	**2.16**	**334**	*e*P		**Pn**	**12 43 03.1**	**+0.3**
SMLC				*e*S		**Sn**	**12 43 32.5**	**+0.7**
SMLC				*i*			12 43 36.7	
	comp=Z,2μm,0.1s							
SMLC				*i*			12 43 36.8	
	comp=Z,2μm,0.5s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**12 43 06.4**	**+1.5**
	comp=Z,686nm,0.3s,baz=86,slow=3.3,SNR=368							
ROSC				S		**Sn**	**12 43 37.8**	**+2.2**
	comp=Z,894nm,0.3s,baz=53,slow=18,SNR=7.7							
HELC	**Santa Helena**	**2.48**	**255**	*e*P		**Pn**	**12 43 06.9**	**+0.1**
HELC				*e*S		**Sn**	**12 43 39.1**	**+0.2**
HELC				*i*			12 43 44.1	
	comp=Z,2μm,0.7s							
HELC				*i*			12 43 47.6	
	comp=Z,1μm,0.4s							
HELC	**Santa Helena**	**2.48**	**255**	*e*P		**Pn**	**12 43 06.9**	**+0.1**
HELC				*e*S		**Sn**	**12 43 36.8**	**-2.1**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*e*P		**Pn**	**12 43 11.2**	**+0.9**
GUY2C				*e*S		**Sn**	**12 43 46.0**	**+1.0**
GUY2C				*i*			12 43 51.3	
	comp=Z,3μm,0.8s							
GUY2C				*i*			12 43 53.8	
	comp=Z,3μm,0.8s							
VILC	**Villavicencio,**	**2.77**	**192**	⇑*e*P		**Pn**	**12 43 09.7**	**-0.5**
VILC				*e*S		**Sn**	**12 43 44.7**	**-0.4**
VILC				*i*			12 43 53.8	
	comp=Z,2μm,0.4s							
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i* P		**Pn**	**12 43 09.6**	**-0.8**
PTGC				*e*S		**Sn**	**12 43 42.5**	**-3.1**
PTGC				*i*			12 43 50.1	
	comp=Z,737nm,0.3s							
PTGC				*i*			12 43 51.2	
	comp=Z,674nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P		**Pn**	**12 43 14.1**	**+0.7**
CBOC				*e*S		**Sn**	**12 43 51.0**	**+0.1**
CBOC				*i*			12 44 02.4	
	comp=Z,820nm,0.5s							
CBOC				*i*			12 44 04.3	
	comp=Z,896nm,0.7s							
DBBC	**Dabeiba**	**3.07**	**273**	⇑*i* P		**Pn**	**12 43 14.3**	**+0.4**
DBBC				*e*S		**Sn**	**12 43 48.2**	**-3.3**
DBBC				*i*			12 43 52.9	
	comp=Z,2μm,0.8s							
CODC	**Agustn Codazz**	**3.09**	**354**	*e*P		**Pn**	**12 43 14.2**	**+0.1**
CODC				*e*S		**Sn**	**12 43 51.4**	**-0.6**
CODC				*i*			12 43 58.9	
	comp=Z,668nm,0.6s							
CODC				*i*			12 44 01.0	
	comp=Z,543nm,0.6s							
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**12 43 16.0**	**+0.4**
	comp=Z,298nm,0.3s,baz=219,slow=5.2,SNR=318							
SDV				S		**Sn**	**12 43 53.1**	**-1.5**
	comp=Z,140nm,0.3s,baz=39,slow=20,SNR=15							
SDV	**Santo Domingo**	**3.20**	**50**			**Pn**	**12 43 16.2**	**+0.6**
SDV				Sn		**Sn**	**12 43 53.6**	**-1.0**
ORTC	**Ortega, Tolima**	**3.60**	**216**	⇓*i* P		**Pn**	**12 43 20.5**	**-0.1**
ORTC				*e*S		**Sn**	**12 44 03.8**	**+0.1**
ORTC				*i*			12 44 07.8	
	comp=Z,962nm,0.5s							
ORTC				*i*			12 44 08.6	
	comp=Z,1μm,0.4s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P		**Pn**	**12 43 20.5**	**-0.8**
SJCC				*e*S		**Sn**	**12 44 00.6**	**-4.4**
SJCC				*i*			12 44 14.9	
	comp=Z,415nm,0.4s							
SJCC				*i*			12 44 15.7	
	comp=Z,656nm,0.6s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P		**Pn**	**12 43 20.5**	**-0.8**
SJCC				*e*S		**Sn**	**12 44 02.5**	**-2.4**
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**	**12 43 22.3**	**+0.6**
PLMC				*e*S		Sn	12 44 30.0	+24
PLMC				*i*			12 44 36.5	
	comp=Z,1μm,0.1s							
PLMC				*i*			12 44 36.5	
	comp=Z,1μm,0.1s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P		**Pn**	**12 43 28.7**	**-0.8**
YOTC				*e*S		**Sn**	**12 44 20.5**	**+0.9**
YOTC				*i*			12 44 30.4	
	comp=Z,97nm,0.5s							
YOTC				*i*			12 44 31.2	
	comp=Z,150nm,1.5s							
GUVC	**San Jose del G**	**4.29**	**173**	*e*P		**Pn**	**12 43 28.3**	**-1.3**
GUVC				*e*S		**Sn**	**12 44 17.2**	**-2.6**
GUVC				*i*			12 44 24.2	
	comp=Z,482nm,0.3s							
PTAC	**Punta Ardita,**	**4.66**	**274**	*e*P		**Pn**	**12 43 34.0**	**-0.3**
PTAC				*e*S		Sn	12 44 41.5	+13
PTAC				*i*			12 44 45.4	
	comp=Z,882nm,0.2s							
PTAC				*i*			12 44 45.6	
	comp=Z,878nm,0.2s							
MACC	**Macarena, Meta**	**4.72**	**189**	⇓*i* P		**Pn**	**12 43 33.3**	**-1.9**
MACC				*e*S		**Sn**	**12 44 24.9**	**-4.8**
MACC				*i*			12 44 28.9	
	comp=Z,364nm,0.8s							
MACC				*i*			12 44 33.6	
	comp=Z,226nm,0.5s							
BETC	**Betania**	**4.73**	**209**	*e*P		**Pn**	**12 43 34.3**	**-1.1**
BETC				*e*S		Sn	12 44 21.1	-9.0
BETC				*i*			12 44 47.3	
	comp=Z,46nm,0.6s							
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P		**Pn**	**12 43 37.0**	**-1.2**
URIC				*e*S		**Sn**	**12 44 29.4**	**-6.0**
URIC				*i*			12 44 36.4	
	comp=Z,178nm,0.7s							
URIC				*i*			12 44 37.5	
	comp=Z,148nm,0.7s							
PCON	**Cinco Dias**	**5.54**	**216**	*e*P		**Pn**	**12 43 46.7**	**+0.2**
PCON				*e*S		**Sn**	**12 44 44.6**	**-5.5**
PCON				*i*			12 44 58.6	
	comp=Z,91nm,0.5s							
PCON				*i*			12 45 03.4	
	comp=Z,136nm,1.0s							
POPC	**Popayan, Colom**	**5.55**	**220**	*e*P		**Pn**	**12 43 46.1**	**-0.2**
POPC				*e*S		**Sn**	**12 44 41.3**	**-8.4**
POPC				*i*			12 44 54.8	
	comp=Z,64nm,0.7s							
POPC				*i*			12 44 55.6	
	comp=Z,61nm,0.4s							
FLOC	**Florencia**	**5.80**	**206**	*e*P		**Pn**	**12 43 48.5**	**-1.0**
FLOC				*e*S		**Sn**	**12 44 49.3**	**-6.1**
FLOC				*i*			12 45 01.0	
	comp=Z,167nm,1.4s							
FLOC				*i*			12 45 04.8	
	comp=Z,98nm,0.5s							
SOTA	**Rioblanco**	**5.82**	**217**	*e*P		**Pn**	**12 43 49.8**	**-0.4**
SOTA				*e*S		**Sn**	**12 44 48.7**	**-7.9**
SOTA				*i*			12 45 04.9	
	comp=Z,135nm,0.8s							
SOTA				*i*			12 45 13.7	
	comp=Z,116nm,0.7s							
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P		**Pn**	**12 43 57.1**	**+0.7**
BBAC				*e*S		**Sn**	**12 45 04.5**	**-3.3**
BBAC				*i*			12 45 14.2	
	comp=Z,74nm,0.4s							
BBAC				*i*			12 45 17.7	
	comp=Z,92nm,0.6s							
CHPO	**Chepo, Panama**	**6.37**	**292**	*e*S		**Sn**	**12 45 04.2**	**-4.7**
UPA	**Univ. de Panam**	**6.70**	**289**	*e*P		**Pn**	**12 43 59.3**	**-2.0**
UPA				*e*S		**Sn**	**12 45 13.1**	**-3.6**
PTLC	**Puerto Leguiza**	**6.83**	**194**	*e*P		**Pn**	**12 44 05.0**	**+1.9**
PTLC				*e*S		Sn	12 45 43.1	+23
PTLC				*i*			12 46 27.9	
	comp=Z,73nm,0.6s							
CHOR3	**La Chorrera**	**6.89**	**288**	*e*S		**Sn**	**12 45 17.0**	**-4.3**
ZANG	**Zanguenga, Cho**	**7.00**	**288**	*e*S		**Sn**	**12 45 22.2**	**-1.8**
BCIP	**Isla Barro Col**	**7.04**	**290**			**Pn**	**12 44 04.0**	**-1.8**
BCIP					Sn	**Sn**	**12 45 26.5**	**+1.6**
BCIP	**Isla Barro Col**	**7.04**	**290**	*e*P		**Pn**	**12 44 03.7**	**-2.2**
AZU	**Azuero**	**7.16**	**278**	*e*P		**Pn**	**12 44 06.1**	**-1.3**
AZU				*e*S		**Sn**	**12 45 24.9**	**-2.8**
OTAV	**Otavalo**	**8.44**	**219**			**Pn**	**12 44 24.9**	**-0.1**
OTAV					Sn	**Sn**	**12 46 00.6**	**+1.3**
PCRV	**Puerto La Cruz**	**9.02**	**68**	P		**Pn**	**12 44 30.2**	**-2.1**
	comp=Z,6.4nm,0.3s,baz=219,slow=6.7,SNR=10							
PLCV	**Puerto La Cruz**	**9.06**	**68**			**Pn**	**12 44 30.2**	**-2.6**
PCJ	**Portland Cotta**	**11.53**	**340**	*i* PA		**P**	**12 45 09.6**	**-2.8**
STH	**Stony Hill**	**11.73**	**342**	*i* PA		**P**	**12 45 13.7**	**-1.0**
BANI	**BANI**	**11.79**	**13**			**Pn**	**12 45 04.1**	**-4.6**
MCJ	**Malvern**	**11.88**	**338**	*i* PA		**P**	**12 45 15.2**	**-1.2**
MTDJ	**Mount Denham**	**12.11**	**340**			**Pn**	**12 45 15.1**	**+2.3**
BBJ	**Bamboo Saint A**	**12.16**	**341**	⇑*i* P		**P**	**12 45 17.5**	**-2.0**
BBJ				⇑*i* S		**Sn**	**12 47 21.2**	**-7.0**
JTS	**Las Juntas de**	**12.19**	**287**	P		**Pn**	**12 45 13.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=348,slow=19,SNR=2.6							
JTS	**Las Juntas de**	**12.19**	**287**			**Pn**	**12 45 16.3**	**+2.5**
SDDR	**Presa de Saban**	**12.20**	**8**			**Pn**	**12 45 14.7**	**+0.7**
GRGR	**Grenville**	**12.47**	**64**	Pn		**Pn**	**12 45 17.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**12.55**	**27**	Pn		**Pn**	**12 45 17.1**	**-1.3**
ICMP	**Isla Caja de M**	**12.73**	**30**	Pn		**Pn**	**12 45 19.5**	**-1.1**
AGPR	**Aguadilla, PR**	**12.96**	**26**	Pn		**Pn**	**12 45 24.9**	**+1.3**
IGPR	**InterUniversit**	**13.00**	**31**	Pn		**Pn**	**12 45 25.7**	**+1.5**
PDPR	**Patillas Dam,**	**13.09**	**31**			**Pn**	**12 45 24.1**	**-1.3**
SJG	**San Juan**	**13.11**	**31**	P		**Pn**	**12 45 24.4**	**-1.1**
	comp=Z,3.6nm,0.3s,baz=209,slow=16,SNR=5.0							
SJG	**San Juan**	**13.11**	**31**			**Pn**	**12 45 24.8**	**-0.7**
GTBY	**Guantanamo Bay**	**13.15**	**352**	P		**P**	**12 45 30.4**	**+0.1**
EMPR	**Esperanza - Ma**	**13.23**	**28**	Pn		**Pn**	**12 45 27.7**	**+0.6**
HUMP	**Col San Antoni**	**13.28**	**32**	Pn		**Pn**	**12 45 27.5**	**-0.3**
GCPR	**Guaynabo City**	**13.30**	**30**	Pn		**Pn**	**12 45 27.9**	**-0.2**
SVB	**Belmont**	**13.32**	**60**	Pn		**Pn**	**12 45 26.8**	**-1.5**
CBYP	**Canovanas**	**13.39**	**31**	Pn		**Pn**	**12 45 29.2**	**0.0**
MTP	**Monte Pirata**	**13.40**	**33**			**Pn**	**12 45 29.5**	**+0.1**
CUPR	**Culebra, Puert**	**13.72**	**33**	Pn		**Pn**	**12 45 33.8**	**+0.5**
STVI	**Saint Thomas**	**13.94**	**34**			**Pn**	**12 45 35.6**	**-0.4**
FDF	**Fort de France**	**14.13**	**55**	Pn		**Pn**	**12 45 37.3**	**-1.3**
CBCY	**The Bluff, Cay**	**14.35**	**334**			**P**	**12 45 45.1**	**+1.5**
PTGA	**Pitinga**	**15.13**	**119**	P		**P**	**12 45 53.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=299,slow=13,SNR=23							
PTGA	**Pitinga**	**15.13**	**119**	P		**P**	**12 45 54.2**	**+1.8**
PTGA				IAmb		IAmb	12 45 54.9	
	comp=Z,13nm,0.8s							
SAML	**Samuel**	**18.55**	**148**	P		**P**	**12 46 29.2**	**-0.9**
PAYG	**Puerto Ayora**	**18.68**	**247**	P		**Pn**	**12 46 34.0**	**+0.3**
062Z	**Marathon**	**19.34**	**338**	P		**Pn**	**12 46 40.1**	**-1.2**
	baz=156							
TEIG	**Tepich**	**19.83**	**314**	P		**Pn**	**12 46 46.2**	**-0.9**
	comp=Z,5.6nm,0.3s,baz=325,slow=0.5,SNR=25							
TEIG	**Tepich**	**19.83**	**314**	P		**P**	**12 46 44.3**	**+0.5**
061Z	**Ochoppi**	**20.33**	**339**	P		**P**	**12 46 50.7**	**+1.6**
	baz=157							
MDP	**Montagnes des**	**20.44**	**94**	P		**P**	**12 46 50.6**	**+0.1**
	comp=Z,8.8nm,0.7s,baz=260,slow=6.5,SNR=4.6							
LPAZ	**La Paz**	**23.50**	**168**	P		**P**	**12 47 20.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=314,slow=6.2,SNR=4.3							
455A	**Stateville**	**25.53**	**340**	P		**P**	**12 47 41.5**	**+2.3**
	baz=157							
553A	**Crawfordville**	**25.54**	**337**	P		**P**	**12 47 41.0**	**+1.7**
	baz=153							
SIV	**San Ignacio**	**25.63**	**152**	P		**P**	**12 47 39.2**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=346,slow=8.9,SNR=7.3							
TIGA	**Tifton**	**26.36**	**340**	P		**P**	**12 47 48.7**	**+2.0**
	baz=156							
GO01	**Chusmiza**	**26.62**	**172**	P		**P**	**12 47 48.6**	**-1.1**
PB11	**IPOC Station P**	**26.65**	**173**	P		**P**	**12 47 49.1**	**-0.5**
PB11				pP		**pP**	**12 48 23.7**	**+0.3**
252A	**Lumpkin**	**27.27**	**338**	P		**P**	**12 47 57.1**	**+2.3**
	baz=154							
154A	**Montrose**	**27.28**	**341**	P		**P**	**12 47 55.8**	**+1.0**
Y59A	**Loris**	**27.54**	**350**	P		**P**	**12 47 58.3**	**+1.2**
	baz=168							
152A	**Waverly Hall**	**27.87**	**339**	P		**P**	**12 48 02.3**	**+2.2**
	baz=155							
152A	**Waverly Hall**	**27.87**	**339**	P		**P**	**12 48 01.9**	**+1.7**
Z53A	**Monticello**	**28.04**	**341**	P		**P**	**12 48 02.4**	**+0.7**
	baz=157							
GOGA	**Godfrey**	**28.13**	**341**	P		**P**	**12 48 04.5**	**+2.1**
	baz=158							
Y55A	**Saluda**	**28.15**	**344**	P		**P**	**12 48 05.1**	**+2.4**
	baz=161							
Z52A	**Williamson**	**28.24**	**340**	P		**P**	**12 48 05.8**	**+2.4**
	baz=156							
Y53A	**Monroe**	**28.57**	**342**	P		**P**	**12 48 08.4**	**+2.0**
	baz=158							
Z51A	**Franklin**	**28.62**	**339**	P		**P**	**12 48 09.2**	**+2.4**
	baz=154							
Y52A	**Lilburn**	**28.73**	**341**	P		**P**	**12 48 10.0**	**+2.2**
	baz=157							
Z50A	**Ashland**	**28.84**	**337**	P		**P**	**12 48 11.0**	**+2.2**
	baz=153,SNR=5.7							
X54A	**Belton**	**28.86**	**344**	P		**P**	**12 48 11.2**	**+2.2**
	baz=161							
W57A	**Gilead**	**28.88**	**348**	P		**P**	**12 48 11.6**	**+2.6**
	baz=166							
LRAL	**Lakeview Retre**	**29.08**	**336**	P		**P**	**12 48 13.4**	**+2.5**
	baz=151							
LRAL	**Lakeview Retre**	**29.08**	**336**	P		**P**	**12 48 12.2**	**+1.4**
LRAL				IAmb		IAmb	12 48 14.0	
	comp=Z,13nm,1.1s							
Y51A	**Rockmart**	**29.11**	**339**	P		**P**	**12 48 13.0**	**+1.8**
	baz=155							
V59A	**Middlesex**	**29.17**	**351**	P		**P**	**12 48 14.1**	**+2.5**
	baz=169							
W54A	**Cherokee Point**	**29.32**	**345**	P		**P**	**12 48 15.4**	**+2.4**
	baz=161							
X52A	**Dahlonega**	**29.36**	**342**	P		**P**	**12 48 15.4**	**+2.1**
	baz=158							
Y49A	**Blount Mountai**	**29.57**	**337**	P		**P**	**12 48 17.3**	**+2.1**
	baz=152,SNR=5.8							
Y49A	**Blount Mountai**	**29.57**	**337**	P		**P**	**12 48 16.2**	**+1.0**
V56A	**Mocksville**	**29.62**	**348**	P		**P**	**12 48 18.1**	**+2.6**
	baz=165							
X51A	**Calhoun**	**29.64**	**340**	P		**P**	**12 48 18.0**	**+2.2**
	baz=156							
V55A	**Taylorsville**	**29.81**	**347**	P		**P**	**12 48 19.8**	**+2.4**
	baz=164							
U58A	**Oxford**	**29.83**	**351**	P		**P**	**12 48 18.8**	**+1.3**
	baz=169							
V54A	**Nebo**	**29.92**	**346**	P		**P**	**12 48 21.0**	**+2.8**
	baz=162							
U57A	**Blanch**	**30.00**	**350**	P		**P**	**12 48 20.2**	**+1.3**
	baz=168							
VBMS	**Vicksburg**	**30.01**	**330**	P		**P**	**12 48 21.5**	**+2.5**
	baz=144							
V53A	**Saluda**	**30.04**	**344**	P		**P**	**12 48 21.9**	**+2.5**
	baz=160							
U56A	**King**	**30.11**	**348**	P		**P**	**12 48 21.9**	**+2.0**
	baz=165							
W51A	**Cleveland**	**30.15**	**341**	P		**P**	**12 48 23.0**	**+2.7**
	baz=156							
T59A	**Double "B" Far**	**30.26**	**353**	P		**P**	**12 48 23.0**	**+1.8**
	baz=171							
X48A	**Hartselle**	**30.34**	**337**	P		**P**	**12 48 23.9**	**+1.9**
	baz=152,SNR=5.6							
X48A	**Hartselle**	**30.34**	**337**	P		**P**	**12 48 22.3**	**+0.3**
CPCT	**Cooper Cave**	**30.34**	**341**	P		**P**	**12 48 22.9**	**+0.9**
T58A	**Grand View Acr**	**30.37**	**351**	P		**P**	**12 48 24.1**	**+1.9**
	baz=169							
W50A	**Signal Mountai**	**30.37**	**340**	P		**P**	**12 48 24.7**	**+2.4**
	baz=155							
V52A	**Sevierville**	**30.42**	**343**	P		**P**	**12 48 24.6**	**+1.9**
	baz=159							
T57A	**Hurt**	**30.54**	**350**	P		**P**	**12 48 25.2**	**+1.5**
	baz=168							
U54A	**Nelsons Funny**	**30.59**	**346**	P		**P**	**12 48 26.5**	**+2.2**
	baz=163							
U54A	**Nelsons Funny**	**30.59**	**346**	P		**P**	**12 48 24.7**	**+0.4**
V51A	**Loudon**	**30.61**	**342**	P		**P**	**12 48 26.5**	**+2.1**
	baz=158							
V51A	**Loudon**	**30.61**	**342**	P		**P**	**12 48 25.0**	**+0.7**
U53A	**Fall Branch**	**30.63**	**345**	P		**P**	**12 48 26.7**	**+2.1**
	baz=161							
T56A	**Rocky Mt**	**30.70**	**349**	P		**P**	**12 48 26.9**	**+1.7**
	baz=166							
V50A	**Pikevile**	**30.73**	**341**	P		**P**	**12 48 27.6**	**+2.2**
	baz=156							
U52A	**Thorn Hill**	**30.87**	**344**	P		**P**	**12 48 28.6**	**+1.9**
	baz=160							
T55A	**Pulaski**	**30.94**	**348**	P		**P**	**12 48 29.2**	**+1.9**
	baz=165							
BLA	**Blacksburg**	**30.95**	**349**	P		**P**	**12 48 28.8**	**+1.4**
	baz=166							
U51A	**La Follette**	**31.04**	**343**	P		**P**	**12 48 30.3**	**+2.1**
	baz=159							
T54A	**Tazewell**	**31.05**	**347**	P		**P**	**12 48 30.7**	**+2.4**
	baz=164							
TZTN	**Tazewell**	**31.06**	**344**	P		**P**	**12 48 30.7**	**+2.3**
	baz=160							
V49A	**McMinnville**	**31.09**	**340**	P		**P

X40A			IAmb	IAmb	12 48 46.9
	comp=Z,10.0nm,0.8s				
Q52A	**Bidwell**	**33.03 347**	P	**P**	**12 48 47.1 +1.6**
	baz=163				
435B	**Jarrell**	**33.06 319**	P	**P**	**12 48 47.0 +1.2**
	baz=131				
435B	**Jarrell**	**33.06 319**	P	**P**	**12 48 46.1 +0.2**
435B			IAmb	IAmb	12 48 47.4
	comp=Z,9.9nm,0.7s				
W41B	**Gary Mavity, V**	**33.24 331**	P	**P**	**12 48 48.7 +1.4**
	baz=144				
W41B	**Gary Mavity, V**	**33.24 331**	P	**P**	**12 48 48.6 +1.3**
W41B			IAmb	IAmb	12 49 04.2
	comp=Z,12nm,1.2s				
HENM	**Henderson Moun**	**33.27 336**	P	**P**	**12 48 47.6 0.0**
P54A	**Burton**	**33.28 350**	P	**P**	**12 48 49.9 +2.2**
	baz=166				
O58A	**Lewisberry**	**33.31 355**	P	**P**	**12 48 50.1 +2.2**
	baz=173				
Q50A	**Georgetown**	**33.34 344**	P	**P**	**12 48 50.6 +2.4**
	baz=160				
PARMO	**Parma**	**33.35 335**	P	**P**	**12 48 49.2 +1.0**
Q51A	**Peebles**	**33.35 345**	P	**P**	**12 48 50.5 +2.3**
	baz=161				
Q51A	**Peebles**	**33.35 345**	P	**P**	**12 48 50.6 +2.4**
Q51A			IAmb	IAmb	12 48 51.2
	comp=Z,12nm,0.8s				
WHAR	**Wooly Hollow**	**33.35 331**	P	**P**	**12 48 49.5 +1.2**
WHAR			IAmb	IAmb	12 48 50.1
	comp=Z,14nm,0.9s				
O60A	**Telford**	**33.40 357**	P	**P**	**12 48 50.5 +1.9**
	baz=176				
MIAR	**Mount Ida**	**33.41 328**	P	**P**	**12 48 49.5 +0.7**
	baz=141				
MIAR	**Mount Ida**	**33.41 328**	P	**P**	**12 48 48.5 -0.4**
MIAR			IAmb	IAmb	12 48 50.2
	comp=Z,5.9nm,0.8s				
BDFB	**Brasilia**	**33.43 132**	P	**P**	**12 48 47.6 -1.7**
	comp=Z,5.3nm,0.6s,baz=274,slow=9.2,SNR=5.9				
BDFB	**Brasilia**	**33.43 132**	P	**P**	**12 48 49.2 -0.1**
BDFB			IAmb	IAmb	12 48 49.4
	comp=Z,6.7nm,0.7s				
WCI	**Wyandotte Cave**	**33.45 341**	P	**P**	**12 48 50.7 +1.6**
	baz=156				
WCI	**Wyandotte Cave**	**33.45 341**	P	**P**	**12 48 51.0 +1.9**
LCAR	**Lake Charles**	**33.45 333**	P	**P**	**12 48 50.3 +1.1**
LCAR			IAmb	IAmb	12 48 51.3
	comp=Z,10nm,0.6s				
O57A	**Amberson**	**33.47 354**	P	**P**	**12 48 51.7 +2.4**
	baz=172				
O56A	**Blue Knob Stat**	**33.64 352**	P	**P**	**12 48 53.4 +2.6**
	baz=170				
P52A	**Corning**	**33.64 347**	P	**P**	**12 48 52.7 +2.0**
	baz=164				
USIN	**University of**	**33.68 339**	P	**P**	**12 48 52.6 +1.5**
P51A	**Williamsport**	**33.71 346**	P	**P**	**12 48 53.5 +2.2**
	baz=162				
BRNJ	**Basking Ridge**	**33.72 358**	P	**P**	**12 48 52.6 +1.2**
PBMO	**Poplar Bluff**	**33.73 335**	P	**P**	**12 48 52.7 +1.1**
Q49A	**Aurora**	**33.74 343**	P	**P**	**12 48 53.7 +2.1**
	baz=159				
FCAR	**Ozark Folk Cen**	**33.76 332**	P	**P**	**12 48 52.3 +0.5**
Q48A	**North Vernon**	**33.91 342**	P	**P**	**12 48 54.8 +1.6**
	baz=157				
SSPA	**Standing Stone**	**33.92 353**	P	**P**	**12 48 55.2 +2.1**
	baz=171				
N60A	**Cedar Hill Far**	**33.93 357**	P	**P**	**12 48 55.1 +1.8**
	baz=176				
N57A	**Milroy**	**34.00 354**	P	**P**	**12 48 55.7 +1.8**
	baz=172				
P50A	**Jamestown**	**34.01 345**	P	**P**	**12 48 55.6 +1.6**
	baz=161				
N59A	**State Game Lan**	**34.01 356**	P	**P**	**12 48 55.9 +1.9**
	baz=175				
N59A	**State Game Lan**	**34.01 356**	P	**P**	**12 48 55.5 +1.5**
N59A			IAmb	IAmb	12 48 57.0
	comp=Z,11nm,0.8s				
W39A	**Magazine**	**34.02 329**	P	**P**	**12 48 55.4 +1.3**
	baz=141,SNR=7.3				
W39A	**Magazine**	**34.02 329**	P	**P**	**12 48 55.4 +1.3**
S44A	**Carbondale**	**34.03 337**	P	**P**	**12 48 55.2 +1.1**
	baz=150,SNR=8.3				
SIUC	**Southern Illin**	**34.04 337**	P	**P**	**12 48 54.9 +0.7**
O52A	**Adamsville**	**34.04 348**	P	**P**	**12 48 56.1 +1.9**
	baz=164				
O53A	**New Philadelph**	**34.05 349**	P	**P**	**12 48 56.0 +1.7**
	baz=166				
N55A	**Marion Center**	**34.20 352**	P	**P**	**12 48 57.5 +1.9**
	baz=170				
O51A	**Pataskala**	**34.24 347**	P	**P**	**12 48 58.0 +2.1**
	baz=163				
N56A	**West Decatur**	**34.24 353**	P	**P**	**12 48 58.0 +2.0**
	baz=171				
M60A	**Port Jervis**	**34.37 358**	P	**P**	**12 48 58.9 +1.9**
	baz=177				
BLO	**Bloomington**	**34.38 341**	P	**P**	**12 48 58.0 +0.9**
ACSO	**Alum Creek Sta**	**34.40 347**	P	**P**	**12 48 59.3 +2.0**
	baz=162				
M63A	**Gales Ferry**	**34.43 1**	P	**P**	**12 48 59.4 +1.9**
	baz=182				
M62A	**Hamden**	**34.46 0**	P	**P**	**12 48 59.9 +2.2**
	baz=180				
O50A	**Cable**	**34.47 346**	P	**P**	**12 48 60.0 +2.0**
	baz=161,SNR=5.0				
U40A	**Yellville**	**34.48 331**	P	**P**	**12 48 59.2 +1.2**
	baz=144,SNR=27				
U40A	**Yellville**	**34.48 331**	P	**P**	**12 48 59.2 +1.2**
M58A	**Price's Panora**	**34.52 356**	P	**P**	**12 49 00.5 +2.1**
	baz=174				
OLIL	**Olney**	**34.52 339**	P	**P**	**12 48 58.5 +0.2**
N53A	**Lisbon**	**34.52 350**	P	**P**	**12 48 59.4 +1.0**
N53A			IAmb	IAmb	12 49 07.7
	comp=Z,8.0nm,0.9s				
N54A	**Moraine State**	**34.53 351**	P	**P**	**12 48 59.5 +1.2**
	baz=168				
M57A	**Sunshine Farm,**	**34.54 355**	P	**P**	**12 49 00.2 +1.7**
	baz=173				
M64A	**Tiverton**	**34.61 3**	P	**P**	**12 49 00.8 +1.8**
	baz=183				
M59A	**Waymart**	**34.62 357**	P	**P**	**12 49 00.9 +1.7**
	baz=176				
N52A	**McGinn's Farm,**	**34.68 349**	P	**P**	**12 49 01.7 +2.0**
	baz=165				
M56A	**Emporium**	**34.79 353**	P	**P**	**12 49 02.6 +1.9**
	baz=171				
M55A	**Ridgway**	**34.85 353**	P	**P**	**12 49 03.1 +1.9**
	baz=170				
MGMO	**Mountain Grove**	**34.85 333**	P	**P**	**12 49 01.7 +0.5**
MGMO			IAmb	IAmb	12 49 03.1
	comp=Z,13nm,0.9s				
N51A	**Ashland**	**34.92 348**	P	**P**	**12 49 03.2 +1.4**
	baz=164				
HHAR	**Hobbs**	**34.95 330**	P	**P**	**12 49 00.6 -1.5**
HHAR			IAmb	IAmb	12 49 03.3
	comp=Z,8.5nm,0.8s				
N50A	**Nevada**	**34.95 347**	P	**P**	**12 49 04.0 +2.0**
	baz=162				
P46A	**Rosedale**	**35.01 341**	P	**P**	**12 49 04.1 +1.6**
	baz=155,SNR=7.6				
M54A	**Oil Creek Stat**	**35.01 351**	P	**P**	**12 49 04.5 +1.9**
	baz=168				
L58A	**Harry Jones Me**	**35.14 356**	P	**P**	**12 49 05.7 +2.0**
	baz=175				
CCM	**Cathedral Cave**	**35.15 335**	P	**P**	**12 49 05.2 +1.4**
	baz=148				
CCM	**Cathedral Cave**	**35.15 335**	P	**P**	**12 49 04.6 +0.8**
L57A	**Andrews Acres**	**35.17 355**	P	**P**	**12 49 05.7 +1.8**
	baz=173				
L61A	**Hillsdale 1, H**	**35.21 359**	P	**P**	**12 49 06.1 +1.9**
	baz=179				
L59A	**Walton**	**35.24 358**	P	**P**	**12 49 06.3 +1.8**
	baz=177				
BINY	**Binghamton**	**35.30 356**	P	**P**	**12 49 07.3 +2.2**
	baz=175				
N49A	**Columbus Grove**	**35.35 345**	P	**P**	**12 49 06.9 +1.5**
	baz=161				
L56A	**Greenwood**	**35.37 354**	P	**P**	**12 49 07.3 +1.7**
	baz=172				
L61B	**Northampton**	**35.47 1**	P	**P**	**12 49 08.5 +2.1**
	baz=181				
N48A	**Decatur**	**35.51 344**	P	**P**	**12 49 08.5 +1.7**
	baz=159				
L55A	**Hinsdale**	**35.51 353**	P	**P**	**12 49 08.6 +1.8**
	baz=171				
M50A	**Fremont**	**35.53 347**	P	**P**	**12 49 08.8 +1.8**
	baz=163				
HRV	**Adam Dziewonsk**	**35.55 2**	P	**P**	**12 49 08.6 +1.6**
	baz=182				
ABTX	**Abilene, Hawle**	**35.59 320**	P	**P**	**12 49 09.0 +1.3**
	baz=130				
ABTX	**Abilene, Hawle**	**35.59 320**	P	**P**	**12 49 08.5 +0.9**
ABTX			IAmb	IAmb	12 49 09.6
	comp=Z,15nm,1.1s				
TUL1	**Leonard**	**35.62 328**	P	**P**	**12 49 08.4 +0.6**
	baz=139				
TUL1	**Leonard**	**35.62 328**	P	**P**	**12 49 08.1 +0.2**
SFIN	**Lafayette**	**35.66 342**	P	**P**	**12 49 09.3 +1.2**
	baz=156,SNR=5.8				
SFIN	**Lafayette**	**35.66 342**	P	**P**	**12 49 08.8 +0.7**
K61A	**Williamstown**	**35.68 360**	P	**P**	**12 49 10.2 +1.9**
	baz=180				
K62A	**Royalston**	**35.69 1**	P	**P**	**12 49 10.5 +2.2**
	baz=181				
N47A	**Urbana**	**35.71 344**	P	**P**	**12 49 10.2 +1.7**
	baz=158				
N47A	**Urbana**	**35.71 344**	P	**P**	**12 49 07.9 -0.6**
K59A	**Cooperstown**	**35.82 358**	P	**P**	**12 49 11.7 +2.2**
	baz=177				
P43A	**Skaggs, Pawnee**	**35.83 338**	P	**P**	**12 49 10.7 +1.1**
	baz=151				
P43A	**Skaggs, Pawnee**	**35.83 338**	P	**P**	**12 49 09.5 -0.1**
K58A	**Earlville**	**35.85 357**	P	**P**	**12 49 10.9 +1.2**
	baz=176				
K57A	**Scipio Center**	**35.87 356**	P	**P**	**12 49 11.7 +1.8**
	baz=174				
K56A	**Middlesex**	**35.90 355**	P	**P**	**12 49 11.4 +1.2**
	baz=173				
J60A	**Lant Hill Farm**	**36.26 360**	P	**P**	**12 49 14.9 +1.8**
	baz=179				
J61A	**Chester**	**36.36 1**	P	**P**	**12 49 15.8 +1.8**
	baz=181				
TX32	**Lajitas Array**	**36.45 312**	P	**P**	**12 49 15.9 +0.8**
TXAR	**Lajitas Array**	**36.45 312**	P	**P**	**12 49 16.4 +1.3**
	comp=Z,3.5nm,0.6s,baz=128,slow=9.4,SNR=23				
TXAR			PcP	**PcP**	**12 51 37.1 +1.3**
	comp=Z,0.7nm,0.6s,baz=124,slow=6.2,SNR=3.6				
TXAR	**Lajitas Array**	**36.45 312**	P	**P**	**12 49 15.9 +0.8**
TX31	**Lajitas Ar. Si**	**36.45 312**	P	**P**	**12 49 15.9 +0.8**
WMOK	**Wichita Mounta**	**36.46 323**	P	**P**	**12 49 15.3 +0.3**
	baz=134,SNR=7.1				
WMOK	**Wichita Mounta**	**36.46 323**	P	**P**	**12 49 15.4 +0.4**
WMOK			IAmb	IAmb	12 49 15.9
	comp=Z,7.0nm,0.7s				
MEDO	**Medina**	**36.48 353**	P	**P**	**12 49 16.7 +1.6**
	baz=171				
J59A	**Piesco**	**36.50 358**	P	**P**	**12 49 17.9 +2.7**
	baz=178				
FFD	**Franklin Falls**	**36.51 2**		**S**	**12 54 43.0 -2.6**
J57A	**Williamstown**	**36.51 356**	P	**P**	**12 49 16.8 +1.5**
	baz=175				
J55A	**Hilton**	**36.51 354**	P	**P**	**12 49 17.0 +1.8**
	baz=172				
HDIL	**Hopedale**	**36.56 339**	P	**P**	**12 49 16.7 +1.0**
I58A	**Old Forge**	**36.74 358**	P	**P**	**12 49 19.0 +1.8**
	baz=177				
HPIG		**36.81 307**	P	**P**	**12 49 19.3 +1.0**
HPIG			IAmb	IAmb	12 49 20.2
	comp=Z,4.9nm,0.4s				
L46A	**Eue Claire**	**36.93 344**	P	**P**	**12 49 19.4 +0.6**
K48A	**Perry**	**37.11 347**	P	**P**	**12 49 21.9 +1.5**
	baz=162				
ACTO	**Acton**	**37.13 352**	P	**P**	**12 49 22.2 +1.7**
	baz=168				
K47A	**Vermontville**	**37.20 345**	P	**P**	**12 49 22.1 +1.0**
	baz=160				
N41A	**Harden Midland**	**37.26 338**	P	**P**	**12 49 22.2 +0.5**
	baz=150				
J49A	**Marlette**	**37.43 348**	P	**P**	**12 49 24.6 +1.6**
	baz=163				
H58A	**Gabriels**	**37.44 359**	P	**P**	**12 49 24.6 +1.4**
	baz=178				
I55A	**Frankford**	**37.44 355**	P	**P**	**12 49 24.6 +1.5**
	baz=172				
I51A	**Listowel**	**37.46 351**	P	**P**	**12 49 24.8 +1.5**
	baz=167				
H57A	**Richville**	**37.53 357**	P	**P**	**12 49 25.2 +1.4**
	baz=176				
H60A	**Morristown**	**37.58 0**	P	**P**	**12 49 25.3 +1.1**
	baz=181				
H59A	**Cadyville**	**37.66 359**	P	**P**	**12 49 26.7 +1.7**
	baz=179				
H56A	**Elgin**	**37.71 356**	P	**P**	**12 49 26.6 +1.3**
	baz=175				
H55A	**Tweed**	**37.73 355**	P	**P**	**12 49 26.9 +1.4**
	baz=173				
U32A	**Winter Ranch,**	**37.73 325**	P	**P**	**12 49 25.6 -0.2**
DELO	**Deloro Mine**	**37.74 355**	P	**P**	**12 49 26.7 +1.2**
	baz=173				
H64A	**Troy**	**37.81 5**	P	**P**	**12 49 27.9 +1.7**
	baz=186				
H53A	**Bobcaygeon**	**37.89 354**	P	**P**	**12 49 28.5 +1.6**
	baz=171				
CLWO	**Collingwood**	**37.98 352**	P	**P**	**12 49 29.1 +1.4**
	baz=168				
G60A	**Masonville**	**38.12 1**	P	**P**	**12 49 30.8 +2.0**
	baz=181				
G57A	**Newington**	**38.15 358**	P	**P**	**12 49 30.5 +1.5**
	baz=177				
PLVO	**Plevna**	**38.21 355**	P	**P**	**12 49 31.1 +1.6**
	baz=174				
G62A	**West of Eustis**	**38.30 3**	P	**P**	**12 49 32.2 +1.8**
	baz=184				
AMTX	**Amarillo**	**38.34 321**	P	**P**	**12 49 32.4 +1.5**
	baz=130				
AMTX	**Amarillo**	**38.34 321**	P	**P**	**12 49 31.8 +0.8**
G55A	**Calabogie**	**38.39 356**	P	**P**	**12 49 32.6 +1.5**
	baz=174				
G53A	**Haliburton**	**38.44 354**	P	**P**	**12 49 32.8 +1.4**
	baz=171				
MSTX	**Muleshoe**	**38.47 319**	P	**P**	**12 49 32.6 +0.5**
	baz=128,SNR=6.0				
MSTX	**Muleshoe**	**38.47 319**	P	**P**	**12 49 32.5 +0.5**
KSU1	**Kansas State U**	**38.47 330**	P	**P**	**12 49 32.1 +0.3**
	baz=140				
G65A	**Princeton**	**38.52 6**	P	**P**	**12 49 33.3 +1.2**
	baz=189				
L40A	**Anamosa**	**38.58 338**	P	**P**	**12 49 33.0 +0.3**
	baz=150				
G54A	**Lake Saint Pet**	**38.65 354**	P	**P**	**12 49 34.6 +1.4**
	baz=172				
H47A	**Mio**	**38.84 347**	P	**P**	**12 49 36.9 +2.1**
	baz=162				
BUKO	**Buck Lake**	**38.84 353**	P	**P**	**12 49 36.3 +1.5**
	baz=170				
PEMO	**Pembroke**	**38.85 355**	P	**P**	**12 49 36.4 +1.5**
	baz=173				
F63A	**Nahmakanta, Br**	**38.87 4**	P	**P**	**12 49 36.7 +1.6**
	baz=186				
MNTX	**Cornudas Mount**	**38.96 314**	P	**P**	**12 49 37.2 +1.1**
	baz=123,SNR=17				
MNTX	**Cornudas Mount**	**38.96 314**	P	**P**	**12 49 37.3 +1.3**
MNTX			IAmb	IAmb	12 49 38.4
	comp=Z,24nm,1.4s				
JFWS	**Jewell Farm**	**38.98 340**	P	**P**	**12 49 36.4 +0.4**
	baz=152,SNR=6.6				
JFWS	**Jewell Farm**	**38.98 340**	P	**P**	**12 49 36.7 +0.7**
F60A	**Warwick**	**38.99 1**	P	**P**	**12 49 37.7 +1.7**
	baz=182				
F62A	**Pittston Farm,**	**39.01 4**	P	**P**	**12 49 38.0 +1.8**
	baz=185				
F64A	**Sherman**	**39.09 5**	P	**P**	**12 49 38.3 +1.4**
	baz=187				
ALGO	**Algonquin Park**	**39.20 355**	P	**P**	**12 49 39.2 +1.4**
	baz=172				
F51A	**Arnstein**	**39.38 353**	P	**P**	**12 49 40.8 +1.5**
	baz=169				
E58A	**La Victoria**	**39.38 360**	P	**P**	**12 49 40.9 +1.6**
	baz=180				
I42A	**Draeger Farm,**	**39.42 342**	P	**P**	**12 49 40.9 +1.2**
	baz=155				
E57A	**Chemin Saint G**	**39.44 359**	P	**P**	**12 49 41.2 +1.4**
	baz=178				
E61A	**Lac Etchemin**	**39.51 3**	P	**P**	**12 49 41.6 +1.3**
	baz=184				
E55A	**Montcerf-Lytto**	**39.55 357**	P	**P**	**12 49 42.5 +1.8**
	baz=175				
G45A	**Suttons Bay**	**39.59 346**	P	**P**	**12 49 42.6 +1.6**
	baz=160				
E52A	**Mattawa**	**39.59 354**	P	**P**	**12 49 42.4 +1.4**
	baz=171				
E56A	**St. Veronique**	**39.59 358**	P	**P**	**12 49 42.4 +1.3**
	baz=177				
E54A	**Lac Daplat, Po**	**39.60 356**	P	**P**	**12 49 42.3 +1.1**
	baz=174				
H43A	**Windswept, Lux**	**39.61 344**	P	**P**	**12 49 42.4 +1.3**
	baz=157				
E63A	**Oxbow**	**39.64 5**	P	**P**	**12 49 43.1 +1.6**
	baz=187				
E64A	**Bridgewater**	**39.70 6**	P	**P**	**12 49 43.4 +1.5**
	baz=188				
E62A	**Clayton Lake**	**39.75 4**	P	**P**	**12 49 44.0 +1.6**
	baz=185				
I41A	**Arkdale**	**39.87 341**	P	**P**	**12 49 44.4 +1.0**
	baz=153				
CBKS	**Cedar Bluff**	**39.88 327**	P	**P**	**12 49 44.2 +0.6**
	baz=136				
E51A	**G1948 Merrick**	**39.93 353**	P	**P**	**12 49 45.3 +1.5**
	baz=170				
D57A	**Chemin Vers le**	**40.04 359**	P	**P**	**12 49 46.1 +1.4**
	baz=179				
D55A	**Sainte-Anne-du**	**40.08 358**	P	**P**	**12 49 46.8 +1.7**
	baz=176				
D56A	**ZEC Mazanza, M**	**40.09 358**	P	**P**	**12 49 46.6 +1.4**
	baz=177				
D58A	**Chemin du LacG**	**40.11 0**	P	**P**	**12 49 46.5 +1.2**
	baz=180				
F45A	**CMU Biological**	**40.16 347**	P	**P**	**12 49 46.9 +1.2**
	baz=161				
D52A	**ZEK Kipawa Sen**	**40.25 354**	P	**P**	**12 49 47.8 +1.4**
	baz=172				
D62A	**Allapoint, All**	**40.25 4**	P	**P**	**12 49 47.8 +1.4**
	baz=186				
E48A	**Lockeyer**	**40.26 350**	P	**P**	**12 49 48.1 +1.6**
	baz=166				
D54A	**Lac Fusel, La**	**40.28 356**	P	**P**	**12 49 48.1 +1.3**
	baz=174				
D63A	**Stockholm**	**40.28 5**	P	**P**	**12 49 48.4 +1.7**
	baz=188				
LATQ	**La Tuque**	**40.40 0**	P	**P**	**12 49 49.2 +1.6**
	baz=180				
E47A	**Iron Bridge**	**40.43 349**	P	**P**	**12 49 49.0 +1.0**
	baz=164				
D51A	**Lot 18 Range I**	**40.46 353**	P	**P**	**12 49 49.8 +1.6**
	baz=170				
E46A	**Sault Ste Mari**	**40.54 348**	P	**P**	**12 49 50.5 +1.6**
	baz=163				
D48A	**Paudash Townsh**	**40.87 351**	P	**P**	**12 49 52.9 +1.4**
	baz=167				
F42A	**Maple Grove Fa**	**40.89 344**	P	**P**	**12 49 52.7 +0.9**
	baz=157				
D47A	**Chapleau**	**40.98 350**	P	**P**	**12 49 53.3 +0.9**
	baz=165				
D46A	**Sault St. Mari**	**40.99 349**	P	**P**	**12 49 53.5 +0.9**
	baz=163				
BGNE	**Belgrade**	**41.00 331**	P	**P**	**12 49 53.6 +0.9**
	baz=140				
G40A	**Rib Lake**	**41.06 342**	P	**P**	**12 49 54.2 +1.1**
	baz=154				
121A	**Cookes Peak, D**	**41.13 313**	P	**P**	**12 49 54.1 0.0**
	baz=121				
G39A	**Holcombe**	**41.38 341**	P	**P**	**12 49 56.4 +0.7**
	baz=152,SNR=7.4				
LENM	**Lemitar**	**41.42 316**	P	**P**	**12 49 56.9 +0.5**
T25A	**Trinidad**	**41.48 321**	P	**P**	**12 49 58.3 +1.4**
	baz=129				
T25A	**Trinidad**	**41.48 321**	P	**P**	**12 49 57.9 +0.9**
T25A			IAmb	IAmb	12 49 59.6
	comp=Z,5.0nm,0.7s				
ANMO	**Albuquerque**	**41.50 317**	P	**P**	**12 49 58.5 +1.3**
	baz=125				
ANMO	**Albuquerque**	**41.50 317**	P	**P**	**12 49 58.2 +1.1**
KSCO	**Kaye Shedlock'**	**41.63 325**	P	**P**	**12 49 59.2 +1.1**
	baz=133				
KSCO	**Kaye Shedlock'**	**41.63 325**	P	**P**	**12 49 58.6 +0.6**
KSCO			IAmb	IAmb	12 49 59.5
	comp=Z,11nm,0.9s				
SPMN	**Marine on St.**	**41.89 339**	P	**P**	**12 50 01.3 +1.4**
	baz=150				
ECSD	**EROS Data Cent**	**42.13 334**	P	**P**	**12 50 01.6 -0.3**
	baz=144,SNR=5.4				
ECSD	**EROS Data Cent**	**42.13 334**	P	**P**	**12 50 01.8 -0.1**
ECSD			IAmb	IAmb	12 50 02.7
	comp=Z,8.2nm,1.0s				
LSQQ	**Lebel-sur-Quev**	**42.20 356**	P	**P**	**12 50 03.7 +1.3**
	baz=174				
SDCO	**Great Sand Dun**	**42.53 321**	P	**P**	**12 50 07.4 +1.8**
	baz=128,SNR=10.0				
SDCO	**Great Sand Dun**	**42.53 321**	P	**P**	**12 50 06.3 +0.7**
SDCO			IAmb	IAmb	12 50 08.4
	comp=Z,6.2nm,0.7s				
MATQ	**Matagami**	**42.94 356**	P	**P**	**12 50 10.0 +1.7**
	baz=173				
Q24A	**Divide**	**43.08 323**	P	**P**	**12 50 11.6 +1.6**
	baz=130				
TUC	**Tucson**	**43.23 311**	P	**P**	**12 50 12.8 +1.8**
	baz=118				
TUC	**Tucson**	**43.23 311**	P	**P**	**12 50 11.8 +0.7**
S22A	**4UR Ranch, Cre**	**43.37 320**	P	**P**	**12 50 14.1 +1.8**
	baz=127,SNR=9.5				
S22A	**4UR Ranch, Cre**	**43.37 320**	P	**P**	**12 50 14.1 +1.8**
S22A			IAmb	IAmb	12 50 15.3
	comp=Z,12nm,1.3s				
SUSD	**Miller**	**43.72 333**	P	**P**	**12 50 14.7 0.0**
	baz=141,SNR=7.2				
SUSD	**Miller**	**43.72 333**	P	**P**	**12 50 15.0 +0.3**
W18A	**Petrified Fore**	**43.85 315**	P	**P**	**12 50 18.1 +2.1**
	baz=121				
W18A	**Petrified Fore**	**43.85 315**	P	**P**	**12 50 17.1 +1.0**
W18A			IAmb	IAmb	12 50 19.1
	comp=Z,8.6nm,0.8s				
EYMN	**Ely**	**43.85 342**	P	**P**	**12 50 15.8 +0.2**
	baz=153,SNR=9.6				
EYMN	**Ely**	**43.85 342**	P	**P**	**12 50 15.6 -0.1**
ISCO	**Idaho Springs**	**43.89 323**	P	**P**	**12 50 18.3 +1.8**
	baz=130,SNR=5.4				
ISCO	**Idaho Springs**	**43.89 323**	P	**P**	**12 50 17.9 +1.5**
ISCO			IAmb	IAmb	12 50 19.2
	comp=Z,7.1nm,0.9s				
MVCO	**Mesa Verde**	**44.14 318**	P	**P**	**12 50 19.7 +1.3**
	baz=124,SNR=6.9				
MVCO	**Mesa Verde**	**44.14 318**	P	**P**	**12 50 19.0 +0.6**
MVCO			IAmb	IAmb	12 50 20.7
	comp=Z,13nm,1.4s				
SMCO	**Snowmass**	**44.32 322**	P	**P**	**12 50 21.8 +1.8**
PV01	**Paradox Valley**	**44.71 319**	P	**P**	**12 50 24.5 +1.6**
PV01			IAmb	IAmb	12 50 25.9
	comp=Z,7.4nm,0.8s				
X16A	**Lo Mia Camp, P**	**44.71 313**	P	**P**	**12 50 24.7 +1.8**
N23A	**Red Feather La**	**44.78 324**	P	**P**	**12 50 24.9 +1.4**
	baz=130,SNR=6.2				
N23A	**Red Feather La**	**44.78 324**	P	**P**	**12 50 25.1 +1.6**
N23A			IAmb	IAmb	12 50 27.4
	comp=Z,14nm,1.1s				
PV02	**Paradox Valley**	**44.86 319**	P	**P**	**12 50 25.4 +1.3**
PV02			IAmb	IAmb	12 50 26.8
	comp=Z,8.9nm,0.7s				
PV13	**Radium Mtn., P**	**44.89 319**	P	**P**	**12 50 25.6 +1.3**
PV13			IAmb	IAmb	12 50 26.9
	comp=Z,13nm,0.7s				
PV07	**Paradox Valley**	**44.94 320**	P	**P**	**12 50 26.1 +1.5**
PV07			IAmb	IAmb	12 50 27.4
	comp=Z,15nm,1.2s				
PV03	**Paradox Valley**	**44.96 319**	P	**P**	**12 50 26.3 +1.5**
PV03			IAmb	IAmb	12 50 27.3
	comp=Z,5.9nm,0.7s				
PV12	**Saucer Basin,**	**44.97 320**	P	**P**	**12 50 26.4 +1.4**
PV12			IAmb	IAmb	12 50 27.6
	comp=Z,8.8nm,0.7s				
PV18	**Skein Mesa, Pa**	**44.99 319**	P	**P**	**12 50 26.6 +1.5**
PV18			IAmb	IAmb	12 50 29.6
	comp=Z,7.0nm,0.7s				
PV11	**David Mesa, Pa**	**45.00 319**	P	**P**	**12 50 26.1 +0.9**
PV11			IAmb	IAmb	12 50 27.7
	comp=Z,6.5nm,0.7s				
PV05	**Paradox Valley**	**45.02 319**	P	**P**	**12 50 26.3 +0.9**
PV05			IAmb	IAmb	12 50 27.4
	comp=Z,9.3nm,0.6s				
PV16	**Nyswonger Mesa**	**45.04 319**	P	**P**	**12 50 27.1 +1.6**
PV17	**East Wray Mesa**	**45.05 319**	P	**P**	**12 50 26.7 +1.2**
PV17			IAmb	IAmb	12 50 29.4
	comp=Z,6.6nm,0.6s				
PV04	**Paradox Valley**	**45.08 320**	P	**P**	**12 50 27.2 +1.5**
PV22	**Blue Mesa, Par**	**45.08 320**	P	**P**	**12 50 27.4 +1.6**
PV22			IAmb	IAmb	12 50 28.2
	comp=Z,5.7nm,0.6s				
PV14	**Lion Creek, Pa**	**45.14 319**	P	**P**	**12 50 26.8 +0.5**
PV23	**Carpenter Ridg**

WUAZ	**Wupatki**	**45.21 315**	P	**P**	**12 50 28.9 +2.1**
WUAZ			IAmb	IAmb	12 50 30.1
	comp=Z,16nm,0.9s				
PV21	**Cone Mtn., Par**	**45.22 320**	P	**P**	**12 50 28.4 +1.4**
PV21			IAmb	IAmb	12 50 29.2
	comp=Z,13nm,1.4s				
AGMN	**Agassiz Nation**	**45.61 339**	P	**P**	**12 50 30.0 +0.5**
	baz=148,SNR=5.8				
AGMN	**Agassiz Nation**	**45.61 339**	P	**P**	**12 50 30.1 +0.5**
AGMN			IAmb	IAmb	12 50 30.7
	comp=Z,12nm,0.6s				
Y14A	**Wickenburg**	**45.63 312**	P	**P**	**12 50 31.7 +1.6**
Y14A			IAmb	IAmb	12 50 32.4
	comp=Z,8.2nm,0.8s				
O20A	**White River Ci**	**45.68 322**	P	**P**	**12 50 32.1 +1.6**
	baz=127				
O20A	**White River Ci**	**45.68 322**	P	**P**	**12 50 31.3 +0.8**
113A	**Mohawk Valley,**	**45.69 310**	P	**P**	**12 50 34.7 +0.2**
RSSD	**Black Hills**	**45.92 329**	P	**P**	**12 50 33.2 +0.8**
	baz=135				
RSSD	**Black Hills**	**45.92 329**	P	**P**	**12 50 32.8 +0.5**
K22A	**Casper**	**46.26 326**	P	**P**	**12 50 36.0 +1.0**
	baz=131				
U15A	**North Rim**	**46.30 315**	P	**P**	**12 50 37.2 +1.6**
U15A			IAmb	IAmb	12 50 38.5
	comp=Z,12nm,1.1s				
SRU	**San Rafael Swe**	**46.52 319**	P	**P**	**12 50 38.2 +1.1**
MDND	**Maddock**	**46.68 336**	P	**P**	**12 50 38.6 +0.7**
	baz=142,SNR=6.0				
MDND	**Maddock**	**46.68 336**	P	**P**	**12 50 38.0 +0.1**
Y12C	**Blythe**	**46.69 311**	P	**P**	**12 50 39.5 +1.3**
	baz=116				
Y12C	**Blythe**	**46.69 311**	P	**P**	**12 50 39.6 +1.5**
RDMU	**Red Mountain**	**46.76 322**	P	**P**	**12 50 39.8 +0.9**
P17A	**Butcher Ranch,**	**46.87 320**	P	**P**	**12 50 40.4 +0.7**
KNB	**Kanab**	**46.97 316**	P	**P**	**12 50 41.8 +1.2**
TMUT	**Trail Mountain**	**47.07 319**	P	**P**	**12 50 42.3 +0.8**
LCMT	**Little Creek M**	**47.26 315**	P	**P**	**12 50 43.8 +1.0**
ULM	**Lac du Bonnet**	**47.27 340**	P	**P**	**12 50 42.4 0.0**
	comp=Z,12nm,0.4s,baz=148,slow=7.2,SNR=32				
ULM			LR	LR	13 10 42.9
	comp=Z,49nm,19.3s,baz=62,slow=36				
ULM	**Lac du Bonnet**	**47.27 340**	P	**P**	**12 50 41.6 -0.8**
MSU	**Marysvale**	**47.29 318**	P	**P**	**12 50 44.5 +1.4**
SWSC	**Sam W. Stewart**	**47.32 309**	P	**P**	**12 50 44.7 +1.6**
	baz=114				
IRM	**Iron Mountain**	**47.33 311**	P	**P**	**12 50 44.8 +1.5**
	baz=115				
BC3	**Big Chuckawall**	**47.35 310**	P	**P**	**12 50 45.1 +1.6**
	baz=115				
CCUT	**Cedar City**	**47.60 316**	P	**P**	**12 50 46.7 +1.1**
MPU	**Maple Canyon**	**47.74 320**	P	**P**	**12 50 47.7 +1.2**
MONP2	**Monument Peak**	**47.78 309**	P	**P**	**12 50 48.0 +1.0**
	baz=113				
BELC	**Belle Mtn. Jos**	**47.90 310**	P	**P**	**12 50 49.1 +1.3**
	baz=114				
JLU	**Jordanelle**	**47.95 321**	P	**P**	**12 50 49.6 +1.4**
GMRC	**Granite Mounta**	**47.98 311**	P	**P**	**12 50 49.2 +0.8**
	baz=115				
PD31	**Pinedale Array**	**48.06 324**	P	**P**	**12 50 49.7 +0.7**
PD31			IAmb	IAmb	12 50 50.6
	comp=Z,10nm,1.3s				
PDAR	**Pinedale Array**	**48.06 324**	P	**P**	**12 50 49.6 +0.7**
	comp=Z,2.5nm,0.5s,baz=124,slow=9.3,SNR=31				
BW06	**Boulder Array**	**48.06 324**	P	**P**	**12 50 49.7 +0.7**
	baz=128,SNR=5.5				
BW06	**Boulder Array**	**48.06 324**	P	**P**	**12 50 49.7 +0.7**
BW06			IAmb	IAmb	12 50 50.6
	comp=Z,12nm,1.3s				
TCUT	**Toone Canyon**	**48.21 321**	P	**P**	**12 50 51.4 +1.2**
SHPR	**Sheep Range**	**48.37 314**	P	**P**	**12 50 52.7 +1.3**
PSUT	**Pine Spring**	**48.43 317**	P	**P**	**12 50 53.6 +1.7**
TUQ	**Turquoise Moun**	**48.45 312**	P	**P**	**12 50 53.4 +1.4**
	baz=116				
DUG	**Dugway, Tooele**	**48.60 319**	P	**P**	**12 50 54.6 +1.5**
	baz=122,SNR=6.1				
DUG	**Dugway, Tooele**	**48.60 319**	P	**P**	**12 50 54.3 +1.2**
BBRC	**Big Bear Solar**	**48.71 310**	P	**P**	**12 50 55.8 +1.7**
	baz=114				
LAO	**LASA Array**	**48.82 330**	P	**P**	**12 50 55.3 +0.8**
	baz=134				
AHID	**Auburn Hatcher**	**48.97 323**	P	**P**	**12 50 56.9 +1.0**
AHID			IAmb	IAmb	12 51 01.7
	comp=Z,6.6nm,0.6s				
GSC	**Goldstone, Bar**	**49.05 312**	P	**P**	**12 50 58.3 +1.8**
	baz=115				
GSC	**Goldstone, Bar**	**49.05 312**	P	**P**	**12 50 57.8 +1.3**
BGU	**Big Grassy Mou**	**49.13 320**	P	**P**	**12 50 57.3 +0.2**
DGMT	**Dagmar**	**49.13 333**	P	**P**	**12 50 58.0 +1.2**
	baz=137,SNR=13				
DGMT	**Dagmar**	**49.13 333**	P	**P**	**12 50 58.2 +1.4**
REDW	**Red Top Meadow**	**49.18 324**	P	**P**	**12 50 58.5 +1.0**
REDW			IAmb	IAmb	12 50 59.4
	comp=Z,11nm,0.7s				
SNOW	**Snow King Moun**	**49.18 324**	P	**P**	**12 50 58.5 +1.0**
SNOW			IAmb	IAmb	12 51 00.3
	comp=Z,9.1nm,0.9s				
TPAW	**Teton Pass**	**49.31 324**	P	**P**	**12 50 59.7 +1.1**
TPAW			IAmb	IAmb	12 51 00.8
	comp=Z,6.9nm,0.7s				
MOOW	**Moose Ponds**	**49.35 324**	P	**P**	**12 50 59.7 +0.9**
TPNV	**Topopah Spring**	**49.35 314**	P	**P**	**12 51 00.6 +1.7**
	baz=117,SNR=5.1				
RLMT	**Red Lodge**	**49.36 327**	P	**P**	**12 50 60.0 +1.1**
FXWY	**Fox Creek**	**49.44 324**	P	**P**	**12 51 00.4 +0.9**
R11A	**Troy Canyon, C**	**49.53 316**	P	**P**	**12 51 01.6 +1.4**
	baz=118,SNR=7.5				
R11A	**Troy Canyon, C**	**49.53 316**	P	**P**	**12 51 01.4 +1.2**
IMW	**Indian Meadow**	**49.55 324**	P	**P**	**12 51 01.4 +1.1**
IMW			IAmb	IAmb	12 51 02.1
	comp=Z,5.5nm,0.6s				
FURC	**Furnace Creek,**	**49.59 313**	P	**P**	**12 51 02.5 +2.1**
	baz=116				
EDW2	**Edwards Air Fo**	**49.77 311**	P	**P**	**12 51 03.2 +1.3**
	baz=113				
LRMC	**Laurel Mtn Rad**	**49.77 311**	P	**P**	**12 51 03.4 +1.4**
	baz=114				
MPMC	**Manual Prospec**	**49.87 312**	P	**P**	**12 51 04.1 +1.3**
	baz=115				
GCMT	**Greycliff**	**50.01 327**	P	**P**	**12 51 05.0 +1.4**
YMR	**Madison River**	**50.03 325**	P	**P**	**12 51 05.2 +1.3**
YHH	**Holmes Hill**	**50.04 325**	P	**P**	**12 51 05.0 +0.9**
YHL	**Hebgen Lake**	**50.26 325**	P	**P**	**12 51 07.9 +2.1**
QLMT	**Earthquake Lak**	**50.39 325**	P	**P**	**12 51 08.3 +1.7**
CWC	**Cottonwood Cre**	**50.46 312**	P	**P**	**12 51 08.7 +1.5**
	baz=114				
ELK	**Elko**	**50.46 319**	P	**P**	**12 51 07.5 +0.3**
VES	**Vestal, Richgr**	**50.96 311**	P	**P**	**12 51 13.0 +2.2**
	baz=113				
PKM	**Mcpherson Peak**	**51.15 310**	P	**P**	**12 51 13.9 +1.5**
	baz=112				
MCMT	**McKenzie Canyo**	**51.20 324**	P	**P**	**12 51 14.5 +1.8**
DLMT	**Dillon**	**51.37 325**	P	**P**	**12 51 14.9 +1.1**
DLMT			IAmb	IAmb	12 51 16.2
	comp=Z,9.1nm,1.2s				
NVAR	**Mina Array Bea**	**51.47 315**	P	**P**	**12 51 16.0 +1.2**
	comp=Z,2.0nm,0.7s,baz=123,slow=7.4,SNR=19				
NVAR			PcP	**PcP**	**12 52 27.8 +0.9**
	comp=Z,0.4nm,0.5s,baz=117,slow=4.4,SNR=3.9				
NVAR	**Mina Array Bea**	**51.47 315**	P	**P**	**12 51 15.5 +0.7**
EGMT	**Eagleton**	**51.49 329**	P	**P**	**12 51 15.8 +1.2**
	baz=131				
KVN	**Kaiserville**	**51.60 315**	P	**P**	**12 51 16.6 +0.9**
OMMB	**Old Mammoth Mi**	**51.62 313**	P	**P**	**12 51 17.3 +1.2**
BMN	**Battle Mountai**	**51.63 317**	P	**P**	**12 51 13.6 -2.2**
MDPB	**Devils Postpil**	**51.68 313**	P	**P**	**12 51 16.4 -0.1**
HRY	**Holter Researc**	**51.75 327**	P	**P**	**12 51 17.8 +1.2**
MFID	**Camas Ranch**	**52.21 321**	P	**P**	**12 51 20.8 +0.7**
MFID			IAmb	IAmb	12 51 22.8
	comp=Z,7.5nm,0.6s				
YERR	**Yerington**	**52.37 315**	P	**P**	**12 51 22.3 +0.9**
YERR			IAmb	IAmb	12 51 23.7
	comp=Z,6.0nm,0.8s				
PNTR	**Pine Nut**	**52.67 315**	P	**P**	**12 51 25.2 +1.6**
PNTR			IAmb	IAmb	12 51 26.0
	comp=Z,6.4nm,0.8s				
PAHR	**Pah Rah Range**	**52.78 316**	P	**P**	**12 51 24.5 +0.2**
VCNR	**Virginia City**	**52.79 315**	P	**P**	**12 51 25.3 +0.8**
VCNR			IAmb	IAmb	12 51 27.1
	comp=Z,7.3nm,1.2s				
MSO	**Missoula**	**52.99 326**	P	**P**	**12 51 26.0 +0.3**
	baz=126				
PLID	**Pearl Lake**	**53.20 323**	P	**P**	**12 51 27.4 -0.1**
PLID			IAmb	IAmb	12 51 28.7
	comp=Z,5.8nm,0.9s				
ORV	**Oroville**	**54.20 315**	P	**P**	**12 51 35.0 +0.4**
MOD	**Modoc Plateau**	**54.37 318**	P	**P**	**12 51 35.2 -0.7**
F10A	**Beach Ranch, E**	**54.41 323**	P	**P**	**12 51 36.4 +0.4**
F10A			IAmb	IAmb	12 51 37.1
	comp=Z,6.0nm,0.6s				
O03E	**Paynes Creek**	**54.71 315**	P	**P**	**12 51 38.3 0.0**
	baz=114				
G08A	**Pilot Rock**	**55.10 322**	P	**P**	**12 51 41.4 +0.3**
G08A			IAmb	IAmb	12 51 42.8
	comp=Z,8.3nm,0.7s				
M04C	**Macdoel**	**55.35 317**	P	**P**	**12 51 43.6 +0.7**
	baz=115				
O02D	**Mt. Diablo Mer**	**55.36 315**	P	**P**	**12 51 42.6 -0.4**
	baz=113				
NEW	**Newport**	**55.58 326**	P	**P**	**12 51 44.8 +0.5**
	baz=123				
J05D	**Fort Rock, OR**	**55.60 319**	P	**P**	**12 51 45.7 +1.0**
	baz=116,SNR=8.0				
PINE	**Pine Mountain**	**55.64 319**	P	**P**	**12 51 45.9 +0.9**
L04D	**Klamath Falls**	**55.85 317**	P	**P**	**12 51 46.8 +0.3**
	baz=115				
M02C	**Callahan**	**55.88 316**	P	**P**	**12 51 46.4 -0.3**
	baz=114				
C09A	**Chrisman Ranch**	**55.98 325**	P	**P**	**12 51 47.7 +0.6**
C09A			IAmb	IAmb	12 51 48.9
	comp=Z,9.4nm,0.8s				
I05D	**Terrebonne, OR**	**56.14 320**	P	**P**	**12 51 49.2 +0.8**
	baz=117				
J04D	**Umpqua Nationa**	**56.16 318**	P	**P**	**12 51 49.7 +1.0**
	baz=116,SNR=5.2				
B08A	**Colville Reser**	**56.88 325**	P	**P**	**12 51 54.2 +0.7**
B08A			IAmb	IAmb	12 51 54.9
	comp=Z,7.4nm,1.1s				
F05D	**White Salmon**	**56.92 321**	P	**P**	**12 51 55.2 +1.3**
	baz=118				
K02D	**Willamette Mer**	**56.96 317**	P	**P**	**12 51 55.0 +0.7**
	baz=114				
LTY	**Liberty**	**57.10 323**	P	**P**	**12 51 55.9 +0.7**
LTY			IAmb	IAmb	12 51 57.1
	comp=Z,5.0nm,0.7s				
D03D	**Eldon**	**58.68 323**	P	**P**	**12 52 06.9 +0.8**
	baz=117				
YKA	**Yellowknife Ar**	**63.24 340**	P	**P**	**12 52 36.8 +0.3**
	comp=Z,7.8nm,0.6s,baz=133,slow=6.5,SNR=39				
SUMG	**Summit**	**68.97 11**	P	**P**	**12 53 14.1 +0.7**
SUMG			IAmb	IAmb	12 53 15.5
	comp=Z,11nm,0.8s				
SCO	**Scoresbysund**	**71.30 16**	P	**P**	**12 53 25.7 -1.3**
A36M	**Sachs Harbour**	**72.42 345**	P	**P**	**12 53 34.4 +0.7**
	baz=125				
INK	**Inuvik**	**73.01 340**	P	**P**	**12 53 38.0 +0.7**
INK			IAmb	IAmb	12 53 53.4
	comp=Z,8.2nm,1.3s				
EPYK	**Eagle Plains**	**73.36 338**	P	**P**	**12 53 40.0 +0.5**
	baz=112				
EPYK	**Eagle Plains**	**73.36 338**	P	**P**	**12 53 40.5 +1.0**
EPYK			IAmb	IAmb	12 53 58.3
	comp=Z,12nm,1.4s				
CTGM	**Chitina Glacie**	**73.56 332**	P	**P**	**12 53 42.6 +1.8**
CTGM			IAmb	IAmb	12 53 57.4
	comp=Z,8.9nm,1.2s				
DAWY	**Dawson**	**73.62 335**	P	**P**	**12 53 41.9 +0.8**
BARN	**Barnard Glacie**	**73.73 332**	P	**P**	**12 53 43.9 +2.0**
BARN			IAmb	IAmb	12 53 48.3
	comp=Z,6.8nm,1.0s				
TORD	**Torodi Ar. Bea**	**73.74 78**	P	**P**	**12 53 41.0 -1.6**
	comp=Z,0.2nm,0.3s,baz=284,slow=5.3,SNR=4.0				
BALM	**Baldy**	**74.05 332**	P	**P**	**12 53 45.5 +1.8**
BALM			IAmb	IAmb	12 54 01.5
	comp=Z,11nm,1.4s				
BCAR	**Beaver Creek A**	**74.34 334**	P	**P**	**12 53 47.2 +1.9**
EGAK	**Eagle**	**74.57 336**	P	**P**	**12 53 47.2 +0.8**
EGAK			IAmb	IAmb	12 53 49.5
	comp=Z,13nm,1.4s				
VRDI	**Verde Repeater**	**74.62 332**	P	**P**	**12 53 48.2 +1.2**
VRDI			IAmb	IAmb	12 54 04.9
	comp=Z,11nm,1.4s				
DOT	**Dot Lake**	**75.49 334**	P	**P**	**12 53 51.9 +0.1**
DOT			IAmb	IAmb	12 53 54.0
	comp=Z,8.7nm,0.7s				
PRP	**Porcupine Dome**	**76.55 336**	P	**P**	**12 53 58.8 +0.9**
PRP			IAmb	IAmb	12 53 59.7
	comp=Z,9.8nm,1.3s				
SCM	**Sheep Creek Mo**	**76.56 332**	P	**P**	**12 53 59.1 +1.1**
BMAR	**Burnt Mountain**	**76.64 338**	P	**P**	**12 53 59.5 +1.2**
HDA	**Harding Lake**	**76.90 335**	P	**P**	**12 54 00.4 +0.8**
	baz=102				
HDA	**Harding Lake**	**76.90 335**	P	**P**	**12 54 00.5 +0.8**
IL31		**76.94 335**	P	**P**	**12 54 00.5 +0.6**
ILAR	**Eielson Array**	**76.94 335**	P	**P**	**12 54 00.1 +0.2**
	comp=Z,1.4nm,0.8s,baz=109,slow=4.4,SNR=12				
ILAR	**Eielson Array**	**76.94 335**	P	**P**	**12 53 59.1 -0.8**
GHO	**Glory Hole Cre**	**77.30 332**	P	**P**	**12 54 03.2 +1.1**
GHO			IAmb	IAmb	12 54 06.0
	comp=Z,13nm,1.1s				
CCB	**Clear Creek Bu**	**77.31 335**	P	**P**	**12 54 02.5 +0.6**
PMR	**Palmer**	**77.37 332**	P	**P**	**12 54 03.2 +0.9**
PMR			IAmb	IAmb	12 54 12.0
	comp=Z,9.0nm,1.2s				
MDM	**Murphy Dome**	**77.55 335**	P	**P**	**12 54 04.5 +1.2**
RC01	**Rabbit Creek A**	**77.58 331**	P	**P**	**12 54 04.6 +1.1**
RC01			IAmb	IAmb	12 54 09.5
	comp=Z,24nm,1.4s				
BRLK	**Bradley Lake**	**77.96 330**	P	**P**	**12 54 06.4 +0.7**
SUA	**Susitna One**	**78.11 331**	P	**P**	**12 54 07.2 +0.5**
TRF	**Thorofare Moun**	**78.18 333**	P	**P**	**12 54 08.2 +1.2**
BPAW	**Bear Paw Mtn.**	**78.58 334**	P	**P**	**12 54 09.0 0.0**
MLY	**Manley**	**78.61 335**	P	**P**	**12 54 09.8 +0.6**
COLD	**Coldfoot**	**78.73 337**	P	**P**	**12 54 11.3 +1.5**
COLD			IAmb	IAmb	12 54 12.3
	comp=Z,8.4nm,1.4s				
TOLK	**Toolik Lake Re**	**78.74 339**	P	**P**	**12 54 10.9 +1.1**
OHAK	**Old Harbor**	**78.96 327**	P	**P**	**12 54 11.4 +0.3**
PPLA	**Purkeypile**	**78.96 333**	P	**P**	**12 54 12.1 +0.8**
PPLA			IAmb	IAmb	12 54 12.3
	comp=Z,6.6nm,0.6s				
IMAR	**Indian Mountai**	**79.97 336**	P	**P**	**12 54 17.2 +0.7**
SVW2	**Sparrevohn**	**80.40 331**	P	**P**	**12 54 19.1 +0.2**
SVW2			IAmb	IAmb	12 54 19.4
	comp=Z,5.0nm,0.7s				
NOA	**NORSAR Array B**	**81.31 29**	P	**P**	**12 54 24.9 +1.1**
	comp=Z,0.6nm,0.6s,baz=269,slow=5.3,SNR=2.5				
ARCES	**ARCESS Array B**	**86.65 20**	P	**P**	**12 54 50.6 -0.1**
	comp=Z,4.7nm,1.1s,baz=264,slow=4.9,SNR=5.9				
ZALV	**Zalesovo Beam**	**116.65 14**	PKP	**PKPdf**	**13 00 50.2 -0.4**
	comp=Z,0.6nm,0.3s,baz=307,slow=2.0,SNR=3.9				
ZALV	**Zalesovo Beam**	**116.65 14**	PKPdf	**PKPdf**	**13 00 50.4 -0.1**
MKAR	**Makanchi Array**	**122.31 20**	PKP	**PKPdf**	**13 01 00.8 -0.8**
	comp=Z,0.1nm,0.4s,baz=311,slow=3.0,SNR=4.9				
MKAR	**Makanchi Array**	**122.31 20**		**PKPdf**	**13 01 01.1 -0.6**
WMQ	**Urumqi**	**126.67 17**	*e*P	**PKiKP**	**13 01 10.7 0.0**
LZH	**Lanzhou**	**137.21 4**	*e*PKP	**PKPdf**	**13 01 30.0 -0.4**
LZH			pPKP	pPKPdf	13 02 09.6 -3.0
LZH			sPKP		13 02 26.7
ASAR	**Alice Springs**	**149.12 234**	PKPbc	**PKPdf**	**13 01 52.4 +1.0**
	comp=Z,0.7nm,0.4s,baz=114,slow=3.6,SNR=19				
ASAR	**Alice Springs**	**149.12 234**		**PKPdf**	**13 01 51.2 -0.2**
WRA	**Warramunga Arr**	**150.34 241**	PKPbc	**PKPbc**	**13 01 57.9 -0.9**
	comp=Z,1.1nm,0.4s,baz=109,slow=2.6,SNR=67				
WRA	**Warramunga Arr**	**150.34 241**		**PKPdf**	**13 01 53.4 0.0**
WRA			PKPbc	**PKPbc**	**13 01 58.5 -0.3**
CMAR	**Chiang Mai Arr**	**153.67 17**	PKPbc	**PKPbc**	**13 02 06.3 -0.1**
	comp=Z,0.7nm,0.4s,baz=324,slow=2.6,SNR=4.7				

IDC 06 12:49:24.1±3.0, 6°.40S×147°.53E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/31, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=65.4km s-min=32.9km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.01 187**		Pn	Pn	12 50 14.7	+1.7
	7.0nm,0.3s,baz=339,slow=6.6,SNR=18						
PMG				Sn	Sn	12 50 52.3	+2.5
	6.7nm,0.3s,baz=215,slow=9.9,SNR=3.3						
WRA	**Warramunga Arr**	**18.59 222**		P	P	12 53 42.1	-0.9
	0.1nm,0.3s,baz=51,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**21.60 216**		P	P	12 54 15.2	-0.6
	0.6nm,0.5s,baz=45,slow=9.4,SNR=6.2						
FITZ	**Fitzroy Crossi**	**24.31 239**		P	P	12 54 42.2	-1.4
	0.6nm,0.5s,baz=78,slow=9.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**145.70 284**		PKPbc	PKPab	13 09 06.5	+0.1
	0.3nm,0.3s,baz=98,slow=3.3,SNR=6.4						

BJI ***06*** *13:06:57.1±0.0, 35°.74N×80°.62E, h7km, mb4.1/2, ML4.4/7, Ms3.8/4, Ms7 3.7/4*

ISCJB ***06*** *13:06:58.6±0.3, 35°.87N±0°.03×80°.78E±0°.05, h15km, mb3.6/8, MS3.2/3, Error ellipse: s-maj=6.8km s-min=3.5km az=154.8*

IDC ***06*** *13:06:59.0±0.8, 35°.91N×80°.84E, h0km, mb3.6/8, mb1 3.8/14, mb1mx3.7/59, mbtmp3.7/14, ML3.6/6, MS3.3/3, Ms1 3.3/3, ms1mx2.8/41, Error ellipse: s-maj=24.1km s-min=13.5km az=56.0*

NEIC ***06*** *13:07:01.9±2.5, 35°.83N±0°.09×80°.83E±0°.07, h28km±5km, mb4.0/7*

NNC ***06*** *13:07:06.3±5.1, 36°.27N×80°.48E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=50.9km s-min=38.2km az=119.0*

ISC 06 13:07:00.7±0.6, 35°.89N±0°.06×80°.75E±0°.06, h15km, n68, σ1§67/67, mb3.6/8, MS3.0/3, 9C-5D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**5.17 227**		*e*S	Pn	13 08 23.8	+6.0
KSH	**Kashi**	**5.24 315**		Pg	Pn	13 08 25.0	+6.5
KSH				Sn	**Sn**	**13 09 19.4**	**+0.7**
KSH				smax	smax		
	comp=N,930nm,0.8s						
KSH				smax	smax		
	comp=E,770nm,0.8s						
SMLA	**Simla**	**5.61 213**		*e*S	Pn	13 08 29.3	+5.8
TARG	**Taragay, Kyrgy**	**6.27 339**		Pn	**Pn**	**13 08 35.9**	**+2.9**
NIL	**Nilore**	**6.56 252**		Pn	**Pn**	**13 08 36.5**	**-0.1**
NRN	**Naryn**	**6.66 328**			**Pn**	**13 08 38.8**	**+0.5**
KDJ	**Kajisay**	**6.82 337**			**Pn**	**13 08 42.4**	**+2.0**
PRZ	**Przheval'sk**	**6.83 345**		Pn	**Pn**	**13 08 41.3**	**+0.8**
PDGK	**Podgornoye**	**7.49 353**		⇑Pn	**Pn**	**13 08 52.1**	**+2.6**
	10nm,0.6s						
PDGK				⇑Sn	**Sn**	**13 10 15.6**	**+1.4**
	46nm,0.5s						
BOOM	**Boomskoye usch**	**7.57 332**			**Pn**	**13 08 52.7**	**+2.0**
MDOK	**Medeo**	**7.80 340**		⇑Pn	Pn	13 08 59.2	+5.4
	3.9nm,0.5s						
MDOK				⇓Pg	Pb	13 09 22.6	+6.9
	12nm,0.6s						
MDOK				Lg	Lg	13 11 00.4	
	34nm,0.6s						
DANN	**Dangsing**	**7.94 160**		*e*P	**Pn**	**13 08 54.9**	**-0.9**
TKM2	**Tokmak 2**	**8.07 332**		⇓Pn	**Pn**	**13 09 00.9**	**+3.4**
	2.2nm,0.4s						
TKM2				⇓Lg	Lg	13 11 07.7	
	31nm,0.7s						
ARSB	**Arslanbob**	**8.14 314**		Pn	**Pn**	**13 08 58.8**	**+0.3**
AAK	**Ala-Archa**	**8.30 326**		⇑Pn	Pn	13 09 08.0	+7.4
	3.4nm,0.6s						
AAK				⇑Pg	Pb	13 09 35.9	+12
	15nm,0.7s						
AAK				⇑Lg	Lg	13 11 19.3	
	104nm,0.9s						
AAK	**Ala-Archa**	**8.30 326**		Pn	**Pn**	**13 09 03.2**	**+2.6**
	0.7nm,0.3s,baz=149,slow=9.2,SNR=10						
AAK				Lg	Lg	13 11 20.3	
	1.9nm,0.3s,baz=325,slow=12,SNR=10						
AAK	**Ala-Archa**	**8.30 326**			**Pn**	**13 09 02.4**	**+1.8**
KOLN	**Koldanda**	**8.45 163**		*e*P	**Pn**	**13 09 01.4**	**-1.4**
GKN	**Gorkha**	**8.53 156**		*e*P	**Pn**	**13 09 03.3**	**-0.5**
KKN	**Kakani**	**8.95 153**		*e*P	**Pn**	**13 09 09.7**	**+0.1**
GUN	**Gumba**	**9.07 150**		*e*P	**Pn**	**13 09 12.5**	**+1.1**
PKIN	**Phulchoki**	**9.18 153**		*e*P	**Pn**	**13 09 13.2**	**+0.3**
PKI	**Pulchoki**	**9.19 153**		*e*P	**Pn**	**13 09 13.2**	**+0.2**
JIRN	**Jiri**	**9.42 149**		*e*P	**Pn**	**13 09 17.2**	**+1.0**
WMQ	**Urumqi**	**9.55 32**		*e*P	**Pn**	**13 09 21.1**	**+3.4**
WMQ				S	**Sn**	**13 11 04.0**	**-0.7**
WMQ				smax	smax		
	comp=N,19nm,0.7s						
WMQ				smax	smax		
	comp=E,26nm,0.9s						
KBL	**Kabul**	**9.67 265**			**Pn**	**13 09 19.8**	**+0.3**
RAMN	**Ramite**	**10.22 149**		*e*P	**Pn**	**13 09 26.1**	**-0.9**
TAPN	**Taplejung**	**10.38 143**		*e*P	**Pn**	**13 09 29.6**	**+0.4**
KK31	**Karatay Array**	**10.69 315**		⇑Pn	**Pn**	**13 09 33.4**	**+0.2**
	0.9nm,0.5s,baz=128,slow=12,SNR=10						
KK31				⇓Sn	**Sn**	**13 11 25.1**	**-7.5**
	1.6nm,0.6s						
KK31	**Karatay Array**	**10.69 315**			**Pn**	**13 09 32.9**	**-0.4**
KKAR	**Karatay Array**	**10.69 315**			**Pn**	**13 09 32.3**	**-0.9**
KKAR	**Karatay Array**	**10.69 315**			**Pn**	**13 09 32.5**	**-0.7**
MAKZ	**Makanchi**	**10.95 4**		⇓Pn	**Pn**	**13 09 37.1**	**+0.3**
	4.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**13 11 35.6**	**-3.3**
	8.7nm,0.6s						
MAKZ	**Makanchi**	**10.95 4**			**Pn**	**13 09 36.1**	**-0.6**
MK31	**Makanchi Array**	**10.96 6**		Pn	**Pn**	**13 09 36.7**	**-0.1**
	2.6nm,0.5s,baz=187,slow=14,SNR=78						
MK31				Sn	**Sn**	**13 11 38.2**	**-0.9**
	5.1nm,0.5s,baz=190,slow=25,SNR=9.4						
MK31	**Makanchi Array**	**10.96 6**			**Pn**	**13 09 36.8**	**-0.1**
MKAR	**Makanchi Array**	**10.96 6**		Pn	**Pn**	**13 09 36.9**	**+0.1**
	1.8nm,0.3s,baz=188,slow=12,SNR=68						
MKAR				Sn	**Sn**	**13 11 37.8**	**-1.4**
	2.6nm,0.3s,baz=195,slow=24,SNR=8.5						
MKAR	**Makanchi Array**	**10.96 6**			**Pn**	**13 09 36.0**	**-0.9**
KURBB	**Kurchatov Arra**	**14.81 354**		Pn	**Pn**	**13 10 27.2**	**-2.2**
	0.1nm,0.

mb4.8/7

ISC 06 13:09:02.8±1.6, 32°3S±0°1×177°9W±0°2, h20km, n16, σ1°37/16, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.19	213	Pn	Pn	13 10 46.7	-0.1
	0.3nm,0.3s,baz=42,slow=12,SNR=2.5						
URZ				Sn	Sn	13 12 09.9	+2.2
	2.1nm,0.3s,baz=80,slow=23,SNR=12						
URZ	Urewera	7.19	213		Pn	13 10 46.4	-0.3
BKZ	Black Stump Fm	8.20	212	Pn	Pn	13 11 00.0	-0.7
KHZ	Kahutara	12.15	212	Pn	Pn	13 11 53.3	-1.3
LTZ	Lake Taylor	13.02	214	Pn	Pn	13 12 05.5	-1.1
LBZ	Lake Benmore	15.22	214	P	P	13 12 39.0	-2.4
LBZ				IAmb	IAmb	13 13 13.9	
	comp=Z,54nm,1.5s						
LHI	Lord Howe Isla	19.58	266	P	P	13 13 29.2	-0.4
LHI				IAmb	IAmb	13 13 56.2	
	comp=Z,71nm,1.1s						
MCQ	Macquarie Isla	27.58	210	P	P	13 14 47.4	-0.9
AS31	Alice Springs	43.13	269	P	P	13 17 02.5	+0.4
ASAR	Alice Springs	43.14	269	P	P	13 17 04.7	+2.5
	comp=Z,0.6nm,0.7s,baz=107,slow=7.5,SNR=8.1						
WRA	Warramunga Arr	44.30	274	P	P	13 17 11.3	-0.2
	comp=Z,1.1nm,0.7s,baz=114,slow=7.8,SNR=10.0						
WRA	Warramunga Arr	44.30	274	P	P	13 17 11.7	+0.2
QSPA	South Pole Qui	57.78	180	P	P	13 18 53.6	+1.2
	comp=Z,1.5nm,1.1s,baz=54,slow=2.5,SNR=5.3						
QSPA	South Pole Qui	57.78	180	P	P	13 18 53.4	+1.0
Y14A	Wickenburg	89.83	49	P	P	13 22 06.3	+6.1
FINES	FINESS Array B	146.99	339	PKPbc	PKPbc	13 28 43.5	+0.3
	comp=Z,2.4nm,1.0s,baz=56,slow=4.8,SNR=5.0						

*ANF **06** 13:26:05.6±0.7, 36°28N×120°79W, h10km±4km, ML3.0/13, Error ellipse: s-maj=7.1km s-min=3.4km az=118.0*
*NEIC **06** 13:26:07.6±1.5, 36°173N±0°008×120°78W±0°02, h17km±1km*

ISC 06 13:26:06.8±0.8, 36°22N±0°02×120°78W±0°02, h12km±5km, n226, σ0°85/235, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPB	Monarch Peak	0.02	258		Sg	13 26 10.7	+0.1
PMPB	Monarch Peak	0.02	258	Pg	Pg	13 26 09.1	+0.1
PPTM	Peach Tree Val	0.12	157		Pg	13 26 10.1	+0.1
PJUM	Juniper Ridge	0.15	87		Pb	13 26 11.3	-0.3
PSMM	Smith Mountain	0.21	135		Pb	13 26 12.0	-0.6
PSAM	San Ardo	0.21	204		Pg	13 26 11.7	+0.3
LRC	Lone Oak Road	0.21	277		Pb	13 26 12.2	-0.4
PHPM	Hope Ranch	0.28	150		Pg	13 26 12.7	+0.2
LRV	Little Rabbit	0.28	317		Pb	13 26 14.1	+0.3
PKD	Bear Valley Ra	0.34	145		Pg	13 26 13.7	+0.1
PKD					Sg	13 26 18.2	+0.1
PCCM	Crazy Canyon	0.34	247		Pb	13 26 14.5	-0.3
PARM	Anticline Ridg	0.35	85		Pb	13 26 15.5	+0.4
PVCM	Vineyard Canyo	0.35	146		Pg	13 26 14.3	+0.3
PSTM	Stockdale Moun	0.36	143		Pg	13 26 14.2	+0.1
BBNM	San Benito	0.38	321		Pb	13 26 15.9	+0.5
PPO	Portuguese Can	0.38	159		Pb	13 26 15.0	-0.5
BPIM	Pinnacles	0.41	311		Pb	13 26 15.8	-0.2
BBGB	Big Mountain B	0.41	330		Pn	13 26 17.0	-1.7
BSGM	Shirttail Gulc	0.43	297		Pb	13 26 15.9	-0.4
BMSM	Mercy Hot Spri	0.44	359		Pn	13 26 17.6	-1.4
PANM	San Antonio Re	0.45	193		Pg	13 26 16.0	+0.3
PHSB	Hesperia Broad	0.45	209		Pb	13 26 16.2	-0.5
PHSB					Sg	13 26 22.4	+0.6
PHFM	Heflinger Ranc	0.46	138		Pb	13 26 16.2	-0.5
CTM	Castle Mountai	0.46	129		Pb	13 26 17.1	+0.2
BAVM	Antelope Valle	0.47	335		Pb	13 26 17.7	+0.6
PWMM	Westland Maint	0.51	65		Pn	13 26 18.9	-0.9
BEMM	Emmet	0.51	330		Pn	13 26 18.5	-1.5
PCMM	Cholame Hills	0.51	144		Pb	13 26 17.3	-0.4
GHC	Gold Hill	0.52	138		Pg	13 26 17.2	+0.2
PSRM	Scobie Ranch	0.54	132		Pb	13 26 17.9	-0.3
BEHM	Elkhorn Ranch	0.55	325		Pn	13 26 19.4	-1.1
BSMM	Soledad Missio	0.55	288		Pb	13 26 18.2	-0.2
PAPM	Alder Peak	0.56	237		Pb	13 26 18.4	-0.3
PKEM	Kettleman Hill	0.57	106		Pn	13 26 19.5	-1.2
PKLM	Kerr Lake	0.57	141		Pb	13 26 18.3	-0.5
PSNM	Stone Corral	0.58	137		Pg	13 26 18.4	+0.2
BJCM	Johnson Can.	0.59	304		Pb	13 26 18.9	-0.1
BJOM	Mount Johnson	0.59	314		Pb	13 26 18.8	-0.3
PMCM	McMillan Canyo	0.59	146		Pb	13 26 18.8	-0.4
BLRM	Lewis Ranch	0.60	318		Pb	13 26 19.4	+0.2
TCHL	Shandon	0.61	150		Pb	13 26 19.2	-0.2
BRMM	Rolling Bench	0.61	357		Pn	13 26 20.9	-0.5
PHCM	Hearst Castle	0.62	210		Pb	13 26 19.2	-0.3
PMRM	Maxey Ranch	0.62	134		Pg	13 26 19.1	+0.2
SCZ	Santa Cruz	0.63	307		Pb	13 26 19.6	-0.2
BHRM	Hodges Ranch	0.64	323		Pn	13 26 21.0	-0.7
BCWM	Chews Ridge	0.64	278		Pb	13 26 19.8	-0.2
HAST	Hastings Reser	0.65	285		Pb	13 26 19.8	-0.3
PAGB	Antelope Grade	0.65	138		Pg	13 26 19.5	0.0
BCGM	Cienega Road	0.67	317		Pg	13 26 17.7	-2.0
THIS	South End of C	0.67	138		Pb	13 26 20.1	-0.3
TRAM	Private Proper	0.68	143		Pb	13 26 20.2	-0.4
BLDC	Black Mountain	0.69	189		Pb	13 26 20.4	-0.4
BLDC	Black Mountain	0.69	189		Pb	13 26 20.4	-0.4
BAPM	Anderson Peak	0.70	267		Pb	13 26 20.7	-0.3
BSLM	Silva Ranch	0.72	321		Pn	13 26 22.4	-0.3
PTRM	Twissleman Ran	0.73	141		Pg	13 26 21.1	+0.1
BVYM	Vineyard	0.73	316		Pb	13 26 21.5	0.0
PCBM	Cambria	0.74	198		Pb	13 26 21.4	-0.1
BSRM	Salinas Radio	0.74	307		Pb	13 26 21.8	+0.1
TSCN	Private Proper	0.76	152		Pb	13 26 21.7	-0.3
SAO	San Andreas Ge	0.76	315		Pb	13 26 22.0	-0.1
SAO	San Andreas Ge	0.76	315	Pg	Pb	13 26 21.9	-0.1
SAO	San Andreas Ge	0.76	315	Sg	Sb	13 26 32.2	-0.2
BPCNC	Pine Canyon	0.77	298		Pb	13 26 22.4	+0.2
ARDC	Alexander Ranc	0.77	192		Pb	13 26 21.9	-0.3
FRP	Fremont Peak	0.78	313		Pb	13 26 22.2	-0.1
BPOM	Post Ranch	0.80	271		Pb	13 26 22.4	-0.2
PTAM	Tassajara Cree	0.83	176		Pg	13 26 22.7	-0.1
PBPM	Bitterwater Pu	0.86	138		Pb	13 26 23.7	+0.1
HJGM	San Juan Grade	0.86	312		Pn	13 26 23.9	-0.9
HBTM	San Juan Bauti	0.88	316		Pn	13 26 25.3	+0.3
PACP	Pacheco Peak	0.89	333		Pn	13 26 25.4	+0.3
SFJWR	San Luis Fatjo	0.89	339		Pn	13 26 25.3	+0.2
EFD	Emergency Oper	0.90	177		Pg	13 26 24.0	-0.2
OCR	O'Connell Ranc	0.91	320		Pn	13 26 25.7	+0.3
HFEM	San Felipe	0.91	327		Pn	13 26 25.5	+0.1
HTUM	Tustin Road	0.92	311		Pn	13 26 24.8	-0.7
LSDC	Los Osos Digit	0.92	183		Pg	13 26 24.9	+0.3
SLD	San Luis Dam	0.92	338		Pn	13 26 25.8	+0.2
HPCM	Pacheco Lake	0.93	335		Pn	13 26 26.0	+0.3
ANZ	Anzar Road	0.93	316		Pn	13 26 25.3	-0.4
HERM	Elkhorn Road	0.95	308		Pn	13 26 25.6	-0.3
VPDC	Valencia Peak	0.98	184		Pg	13 26 25.8	+0.1
CSR	Chase Ranch	0.98	319		Pn	13 26 26.4	0.0
CDC	Canada Road	0.98	325		Pn	13 26 27.3	+0.9
DPD	Davis Peak	0.98	180		Pn	13 26 26.1	-0.4
HMOM	Monterey	0.99	293		Pn	13 26 25.9	-0.6
HCOM	Corn Cob Canyo	1.00	312		Pn	13 26 26.7	0.0
DCD	Diablo Creek	1.01	183		Pb	13 26 25.8	-0.4
YEG	Yeguas Mountai	1.03	139		Pn	13 26 26.9	-0.2
HLPM	Lions Peak	1.07	320		Pn	13 26 27.7	+0.1
HSPM	Sheep	1.07	327		Pn	13 26 28.2	+0.5
JELB	Ellicott, Sant	1.10	310		Pg	13 26 28.2	+0.2
SMMC	Simmler	1.11	145	P	Pb	13 26 27.7	-0.2
	baz=325,SNR=48						
SMMC				S	Sn	13 26 43.9	+0.6
	baz=325						
SMMC	Simmler	1.11	145		Pb	13 26 27.7	-0.2
VOG	Valley Oaks Go	1.13	84	P	Pb	13 26 27.4	-0.9
	baz=264,SNR=5.5						
VOG				S	Sg	13 26 43.4	0.0
	baz=264						
MHDM	Hidden Dam	1.14	38		Pn	13 26 28.4	-0.2
FRI	Friant	1.16	48		Pn	13 26 28.7	-0.1
CADM	Anderson Res.	1.16	324		Pg	13 26 29.7	+0.5
BCH	Branch Mountai	1.18	151		Pn	13 26 28.5	-0.7
CARC	Carrizo Plain	1.19	140		Pb	13 26 29.0	-0.2
JTGM	Trout Gulch Ro	1.20	313		Pg	13 26 29.6	-0.2
MYLM	Yosemite Lake	1.20	14		Pb	13 26 29.3	-0.1
JLAB	Laurel Hill	1.21	321		Pg	13 26 29.7	-0.4
MOBB	Monterey Bay O	1.21	293		Pg	13 26 30.1	0.0
RCTC	Rector, Farmer	1.24	86		Pn	13 26 29.7	-0.3
CCOB	Coe Ranch Numb	1.26	326		Pg	13 26 31.1	+0.1
ARN	Arnold Ranch	1.28	332		Pg	13 26 30.9	-0.5
CRGC	Crocker Grade	1.30	138		Pg	13 26 32.0	+0.3
JUMM	Mount Umunhum	1.30	317		Pb	13 26 31.0	-0.3
MHC	Mount Hamilton	1.32	329		Pb	13 26 31.5	-0.1
PMLM	Mount Lospe	1.33	174		Pn	13 26 30.8	-0.4
CMMM	Mount Mocho	1.36	335		Pb	13 26 32.3	0.0
MRHM	Rocky Hill	1.37	87		Pn	13 26 30.9	-0.8
JJOM	Saint Joseph's	1.38	316		Pb	13 26 32.3	-0.1
VES	Vestal, Richgr	1.43	105	P	Pn	13 26 32.0	-0.5
	baz=285,SNR=12						
VES				S	Sb	13 26 51.3	-0.1
	baz=285						
JBNB	Ben Lomond Mou	1.43	310		Pn	13 26 32.0	-0.6
CMLM	Mount Lewis	1.44	331		Pb	13 26 33.2	-0.3
MMIM	Miami Mountain	1.46	34		Pb	13 26 34.0	0.0
JSGM	Saratoga Golf	1.47	317		Pb	13 26 33.3	-0.8
CALM	Calaveras Res.	1.48	327		Pb	13 26 33.6	-0.6
HELL	Mitchell Peak,	1.49	72		Pn	13 26 32.9	-0.6
JHUM	Huhtala Lane,	1.50	312		Pn	13 26 33.4	0.0
PKM	Mcpherson Peak	1.54	149	P	Pn	13 26 33.9	-0.3
	baz=330,SNR=28						
PKM				S	Sg	13 26 55.9	-0.6
	baz=330						
PKM	Mcpherson Peak	1.54	149		Pn	13 26 34.0	-0.3
JBMM	Black Mountain	1.56	315		Pb	13 26 35.2	-0.4
JPC	Peters Creek,	1.56	313		Pn	13 26 34.2	-0.1
CMJM	Mission San Jo	1.57	326		Pb	13 26 34.9	-0.8
JPSM		1.59	308		Pn	13 26 34.8	0.0
JJRM	Joaquin Road	1.60	315		Pb	13 26 35.4	-0.9
JFP	Foothills Park	1.60	316		Pn	13 26 35.2	+0.2
FIGC	Figueroa Mtn.	1.62	156		Pn	13 26 35.1	-0.1
JSFB	Stanford Teles	1.63	317		Pn	13 26 35.5	+0.2
SPG2	Springville 2	1.63	90		Pn	13 26 35.3	-0.1
JRSC	Jasper Ridge	1.66	316		Pn	13 26 36.0	+0.3
GATR	Gnd/Air Tx Cnt	1.68	172		Pn	13 26 35.9	-0.1
BGH	Bear Gulch	1.68	312		Pn	13 26 36.1	+0.2
CNIC	Niles Canyon	1.68	326		Pb	13 26 37.1	-0.6
BCW	Bitter Crk WRg	1.69	138		Pn	13 26 36.3	0.0
MCUB	Copperopolis B	1.76	4		Pn	13 26 37.4	+0.3
SYP	Santa Ynez Pea	1.81	159		Pn	13 26 37.5	-0.4
WOFM	Oak Flat	1.81	112		Pn	13 26 37.7	-0.2
OXMT	Ox Mountain	1.84	315		Pn	13 26 38.7	+0.6
CMB	Columbia Colle	1.84	10		Pb	13 26 39.1	-1.3
CMB	Columbia Colle	1.84	10	Pn	Pn	13 26 38.9	+0.7
ABL	Mount Abel	1.87	137		Pn	13 26 38.6	-0.2
SAC	San Andreas	1.89	317		Pn	13 26 39.3	+0.4
MNHB	New Hogan Dam	1.92	359		Pn	13 26 39.9	+0.6
ARVC	Arvin	1.93	124	P	Pn	13 26 39.2	-0.2
	baz=305						
ARVC				S	Sb	13 27 04.6	-1.2
	baz=305						
ARVC	Arvin	1.93	124		Pn	13 26 39.4	0.0
MRDM	Red Cones	1.95	45		Pb	13 26 41.5	-0.9
ISA	Isabella, Lake	1.95	106	P	Pn	13 26 39.5	-0.3
	baz=287,SNR=47						
ISA				S	Sn	13 27 04.9	+0.6
	baz=287						
ISA	Isabella, Lake	1.95	106		Pn	13 26 40.1	+0.3
ISA	Isabella, Lake	1.95	106	Pn	Pn	13 26 39.8	0.0
MDPB	Devils Postpil	1.96	44		Pb	13 26 41.5	-1.1
TEJ	El Tejon	1.97	120		Pn	13 26 39.0	-1.0
MMPM	Mammoth Pass	1.97	45		Pb	13 26 42.4	-0.5
MINS	Minaret Summit	1.99	43		Pb	13 26 42.5	-0.6
OMMB	Old Mammoth Mi	1.99	45		Pb	13 26 42.2	-1.0
MDYM	Dry Creek	2.02	44		Pb	13 26 43.0	-0.6
BRIB	Briones	2.02	328		Pn	13 26 40.8	+0.1
BKS	Berkeley--Byer	2.02	325		Pn	13 26 40.7	0.0
CVPM	Vollmer Peak	2.02	326		Pn	13 26 41.2	+0.5
MMLB	Mammoth Lakes	2.04	45		Pb	13 26 43.7	-0.2
MDCM	Deadman Creek	2.04	43		Pb	13 26 43.3	-0.6
MLCM	Laurel Creek C	2.04	47		Pb	13 26 43.5	-0.5
MGPM	Gravel Pit	2.06	46		Pb	13 26 44.0	-0.3
MEMM	East Mammoth H	2.06	45		Pb	13 26 44.0	-0.4
MCMM	Convict Lake	2.06	47		Pb	13 26 43.8	-0.6
MCBM	Casa Benchmark	2.07	46		Pb	13 26 44.6	0.0
MCSM	Casa Diablo Ho	2.08	46		Pb	13 26 44.7	+0.1
MCVM	Convict Lake	2.08	48		Pb	13 26 43.5	-1.1
RCCR	Rock Creek Can	2.08	52		Pb	13 26 43.6	-1.1
MLAC	Mammoth, Mammo	2.10	47	Pg	Pb	13 26 45.4	+0.4
	baz=228,SNR=37						
MLAC				Sg	Sg	13 27 14.8	+0.4
	baz=228						
MLAC	Mammoth, Mammo	2.10	47		Pb	13 26 44.8	-0.2
LMCR	Lookout Mounta	2.10	44		Pb	13 26 44.6	-0.4
MDRNC	Doe Ridge	2.10	47		Pb	13 26 44.5	-0.5
MTUM	Tungsten Hills	2.11	57		Pb	13 26 44.0	-1.0
WORM	Onyx Ranch	2.12	104		Pn	13 26 43.2	+1.0
MLHM	Little Hot Cre	2.14	47		Pb	13 26 44.3	-1.4
CWC	Cottonwood Cre	2.19	83	Pb	Pb	13 26 44.7	-1.8
	baz=264						
CWC	Cottonwood Cre	2.19	83		Pb	13 26 44.6	-1.9
ORC	Owens River	2.21	50		Pb	13 26 46.0	-0.9
TIN	Tinemaha, Big	2.21	67	Pb	Pb	13 26 45.5	-1.3
	baz=248,SNR=12						
TIN	Tinemaha, Big	2.21	67		Pb	13 26 45.6	-1.2
WCHM	Chimney Peak	2.22	98		Pn	13 26 44.9	+1.2
AASM	Arroyo Seco	2.22	353		Pn	13 26 44.3	+0.8
LUL	Lundy Lake	2.23	34		Pb	13 26 46.8	-0.5
MFBM	Five Bridges	2.24	57		Pb	13 26 46.2	-1.0
MCDM	Chidago Canyon	2.29	54		Pb	13 26 47.2	-0.9
POCCA	Poleta Canyon	2.31	60		Pb	13 26 47.1	-1.4
BENR	Benton	2.31	49		Pb	13 26 47.7	-0.9
MRCM	Red Rock Canyo	2.33	51		Pb	13 26 47.5	-1.3
MLNR	Milner Canyon	2.39	54		Pb	13 26 48.6	-1.2
NOLM	Olema	2.43	319		Pn	13 26 47.1	+0.9
CVS	Carmenet Viney	2.51	328		Pn	13 26 48.3	+0.9
WAKR	Walker	2.52	25		Pb	13 26 50.8	-1.3
MCCM	Marconi Confer	2.55	320	Pn	Pn	13 26 48.8	+0.9
DAC	Darwin (Calif)	2.58	88	Pn	Pn	13 26 49.7	+1.2
OAT	Oat Mountain	2.58	136		Pn	13 26 50.4	+1.9
ASMM	Slate Mountain	2.60	2		Pb	13 26 51.1	-2.3
EDW2	Edwards Air Fo	2.63	120	P	Pn	13 26 49.3	+0.1
	baz=301						
MPMC	Manual Prospec	2.67	92	Pb	Pb	13 26 53.0	-1.7
	baz=274,SNR=13						
AFDM	Forest Hills D	2.73	357		Pn	13 26 51.5	+1.1
RUBR	Rubicon Trail	2.87	10	Pn	Pn	13 26 54.7	+2.1
NVAR	Mina Array Bea	2.96	41	Pn	Pn	13 26 55.4	+1.6
MWC	Mount Wilson	2.99	131		Pn	13 26 53.8	-0.3
RYN	Ryan	3.00	36	Pn	Pn	13 26 56.1	+1.8
PNTR	Pine Nut	3.01	18		Pb	13 26 57.2	-3.3
YERR	Yerington	3.02	23		Pb	13 26 57.6	-3.0
GDXM	Geysers	3.04	329		Pn	13 26 56.1	+1.4
NV11	Mina Array Sit	3.04	43		Pn	13 26 57.2	+2.3
SNCC	San Nicolas Is	3.14	160	Pn	Pn	13 26 56.2	+0.2
VCNR	Virginia City	3.20	16	Pn	Pn	13 26 59.3	+2.2
BFSC	Mount Baldy Ra	3.23	127	P	Pn	13 26 57.5	+0.1
	baz=309						
HOPS	Hopland Field	3.31	327	Pn	Pn	13 26 59.6	+1.2
GSC	Goldstone, Bar	3.36	105		Pn	13 26 59.8	+0.6
ORV	Oroville	3.38	351		Pn	13 27 01.1	+1.8
KVN	Kaiserville	3.54	36	Pn	Pn	13 27 04.1	+2.4
PAHR	Pah Rah Range	3.65	17	Pn	Pn	13 27 05.7	+2.4
BEKR	Beckworth	3.66	5	Pn	Pn	13 27 05.0	+1.7
TPNV	Topopah Spring	3.72	77	P	Pn	13 27 05.8	+1.6
	baz=260						
TPNV	Topopah Spring	3.72	77		Pn	13 27 06.2	+2.0
PFO	Pinyon Flats O	4.40	125	Pn	Pn	13 27 14.3	+0.8
SHPR	Sheep Range	4.54	85		Pn	13 27 18.3	+2.7

*ISCJB **06** 13:30:13.9±0.8, 14°81S±0°07×166°21E±0°10, h33km, mb4.1/3, Error ellipse: s-maj=13.5km s-min=10.6km az=171.1*
*NEIC **06** 13:30:13.8±0.9, 14°75S±0°07×166°1E±0°2, h16km±12km, mb4.5/10*
*IDC **06** 13:30:13.6±13.0, 14°89S×165°97E, h0km, mb4.3/3, mb1 4.5/4, mb1mx3.9/32, mbtmp4.4/4, ML4.5/1, Error ellipse: s-maj=232.3km s-min=36.7km az=57.0*

ISC 06 13:30:16.4±1.1, 14°8S±0°1×166°3E±0°1, h35km, n17, σ1°38/18, mb4.4/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.25	179	Pn	Pn	13 32 00.1	0.0
	8.0nm,0.3s,baz=306,slow=14,SNR=65						
DZM				Sn	Sn	13 33 21.6	+0.3
	8.7nm,0.3s,baz=105,slow=23,SNR=8.6						
DZM	Mont Dzumac	7.25	179		Pn	13 31 59.8	-0.3
FUNA	Funafuti	14.12	65	Pn	Pn	13 33 34.4	+0.3
EIDS	Eidsvold	17.70	231	P	P	13 34 25.2	+4.3
EIDS				IAmb	IAmb	13 34 26.0	
	comp=Z,8.1nm,0.6s						
LHI	Lord Howe Isla	17.91	200		Pn	13 34 21.7	-1.2
LHI				IAmb	IAmb	13 34 23.4	
	comp=Z,82nm,1.1s						
CAN	Canberra	25.66	214	P	P	13 35 42.9	-0.2
CAN				IAmb	IAmb	13 35 55.3	
	comp=Z,66nm,1.9s						
STKA	Stephens Creek	28.21	229	P	P	13 36 05.7	-0.4
	comp=Z,2.8nm,0.3s,baz=51,slow=9.1,SNR=22						
STKA	Stephens Creek	28.21	229	P	P	13 36 05.6	-0.4
WB2	Warramunga Arr	30.84	256	P	P	13 36 28.6	-1.0
WRAB	Tennant Creek	30.84	256	P	P	13 36 27.9	-1.7
WRAB				IAmb	IAmb	13 36 35.3	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	30.86	256	P	P	13 36 29.5	-0.2
	comp=Z,1.1nm,0.7s,baz=85,slow=8.6,SNR=7.3						
AS31	Alice Springs	31.73	249	P	P	13 36 36.6	-0.8
AS31				IAmb	IAmb	13 36 37.7	
	comp=Z,2.5nm,1.2s						
ASAR	Alice Springs	31.73	249	P	P	13 36 36.9	-0.5
	comp=Z,2.0nm,0.4s,baz=77,slow=9.3,SNR=82						
ASAR	Alice Springs	31.73	249	P	P	13 36 36.5	-0.9
BBOO	Buckleboo	32.77	231	P	P	13 36 45.3	-1.0
FORT	Forrest	38.42	239	P	P	13 37 33.8	-1.1
FITZ	Fitzroy Crossi	39.04	259	P	P	13 37 40.0	-0.2
FITZ				IAmb	IAmb	13 37 40.3	
	comp=Z,19nm,1.9s						

*SKO **06** 14:10:55.8, 40°02N×21°50E, h0km*
*ATH **06** 14:10:56.0, 40°15N×21°58E, h16km±2km, ML2.2/6, Error ellipse: s-maj=2.5km s-min=0.9km az=338.0*

THE 06 14:10:56.2, 40°16N×21°56E, h11km±2km, ML2.1/6, Error ellipse: s-maj=2.3km s-min=0.6km az=318.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.22	47	P	Pg	14 11 01.2	+0.4
KZN				S	Sg	14 11 04.7	+0.7
	868nm,0.3s						
KZN	Kozani	0.22	47	P	Pg	14 11 01.4	+0.5
KZN				S	Sg	14 11 04.9	+1.0
KZN				AML	AML	14 11 05.6	
	comp=E,1901μm,0.3s						
KZN				AML	AML	14 11 06.0	
	comp=N,1517μm,0.2s						
KPRO	Kipourio	0.25	217	P	Pg	14 11 01.3	-0.1
KPRO				S	Sg	14 11 05.9	+1.0
	comp=N,585nm,0.3s						
KPRO	Kipourio	0.25	217	P	Pg	14 11 01.6	+0.1
KPRO				S	Sg	14 11 05.9	+1.0
KPRO				AML	AML	14 11 08.3	
	comp=N,1092μm,0.3s						
KPRO				AML	AML	14 11 08.9	
	comp=E,1249μm,0.3s						
PENT	Pentalofos	0.33	277	P	Pg	14 11 02.8	0.0
PENT				S	Sg	14 11 07.0	-0.2
	comp=E,495nm,0.5s						
PENT	Pentalofos	0.33	277	P	Pg	14 11 02.7	-0.1
PENT				S	Sg	14 11 08.1	+0.8
PENT				AML	AML	14 11 14.0	
	comp=E,748μm,0.4s						
PENT				AML	AML	14 11 14.1	
	comp=N,1217μm,0.5s						
MEV	Metsovon	0.45	215	P	Pb	14 11 06.1	-0.2
NEST	Nestorio	0.47	303	P	Pg	14 11 05.4	0.0
NEST	Nestorio	0.47	303	P	Pg	14 11 05.5	+0.1
NEST				S	Sb	14 11 12.7	-0.9
NEST				AML	AML	14 11 17.6	
	comp=E,626μm,0.4s						
NEST				AML	AML	14 11 20.1	
	comp=N,760μm,0.4s						
KTI	Kastanea	0.48	61	P	Pg	14 11 05.8	+0.1
FNA	Florina	0.64	347	P	Pg	14 11 08.2	-0.5
FNA				S	Sg	14 11 17.3	+0.1
	comp=N,448nm,0.4s						
FNA	Florina	0.64	347	*i* Pg	Pg	14 11 08.6	-0.1
FNA				*i* Sg	Sb	14 11 19.2	+0.7
FNA	Florina	0.64	347	P	Pg	14 11 08.6	-0.1
FNA				S	Sg	14 11 17.7	+0.6

SNZO	**South Karori**	**27.46**	**164**	P	**P**	**14 48 27.2**	**+0.1**
WB2	**Warramunga Arr**	**29.78**	**256**	P	**P**	**14 48 48.3**	**+0.2**
WB2				IAmb	IAmb	14 49 51.2	
	comp=Z,2.2nm,1.6s						
WRAB	**Tennant Creek**	**29.78**	**256**	P	**P**	**14 48 48.6**	**+0.5**
WRAB				IAmb	IAmb	14 49 16.5	
	comp=Z,26nm,1.8s						
WRA	**Warramunga Arr**	**29.79**	**256**	P	**P**	**14 48 49.0**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=86,slow=9.4,SNR=3.1						
WRA	**Warramunga Arr**	**29.79**	**256**	P	**P**	**14 48 48.8**	**+0.6**
AS31	**Alice Springs**	**30.68**	**249**	P	**P**	**14 48 55.2**	**-0.8**
ASAR	**Alice Springs**	**30.68**	**249**	P	**P**	**14 48 56.7**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=76,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**30.68**	**249**	P	**P**	**14 48 56.2**	**+0.2**
BBOO	**Buckleboo**	**31.81**	**231**	P	**P**	**14 49 06.2**	**+0.3**
SARN	**Sarigan**	**36.88**	**328**	P	**P**	**14 49 49.3**	**-0.6**
FORT	**Forrest**	**37.41**	**239**	P	**P**	**14 49 53.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**37.97**	**260**	P	**P**	**14 49 59.9**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=100,slow=11,SNR=1.7						
FITZ	**Fitzroy Crossi**	**37.97**	**260**	P	**P**	**14 49 59.5**	**+0.3**
FITZ				IAmb	IAmb	14 51 07.5	
	comp=Z,26nm,1.9s						

*IDC **06** 14:53:05.7±0.7, 31°32N×76°20E, h0km, mb4.0/17, mb1 4.1/21, mb1mx4.0/59, mbtmp4.0/21, ML3.8/4, MS3.4/8, Ms1 3.4/8, ms1mx3.0/43, Error ellipse: s-maj=22.0km s-min=14.8km az=45.0*

*NDI **06** 14:53:10.3±4.8, 31°43N×76°23E, h15km, mb4.4, ML4.3, mb4.4(NEIC)*

*BJI **06** 14:53:10.5±0.0, 31°69N×75°80E, h34km, mb4.4/19, mB4.7/17, ML4.6/2, Ms4.1/7, Ms7 4.0/7*

*NEIC **06** 14:53:14.0±2.0, 31°73N±0°09×76°1E±0°1, h41km±6km, mb4.4/26*

*NNC **06** 14:53:18.9±4.9, 31°97N×76°19E, h73km±42km, mb3.9, Error ellipse: s-maj=39.1km s-min=31.3km az=124.0*

ISC 06 14:53:09.0±0.4, 31°47N±0°04×76°34E±0°04, h20km±3km, n125, σ2°72/136, mb4.3/35, MS3.4/9, 5C-11D, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**0.78**	**357**	⇓*iP*		**Pn**	**14 53 25.6**	**+0.4**
DHRM				*eS*		**Sn**	**14 53 36.8**	**+0.5**
DHRM				IAML			14 53 37.8	
	comp=E,11μm,0.5s						
DHRM				IAML			14 53 38.1	
	comp=N,8μm,0.5s						
SMLA	**Simla**	**0.78**	**115**	*e*P		**Pn**	**14 53 25.7**	**+0.8**
SMLA				*e*S		**Sn**	**14 53 37.6**	**+1.7**
SMLA				IAML			14 53 39.3	
	comp=N,12μm,0.2s						
SMLA				IAML			14 53 42.0	
	comp=E,10μm,0.3s						
JMU	**Jammu**	**1.75**	**316**	*e*P		**Pb**	**14 53 40.5**	**+0.1**
JMU				*e*S		**Sb**	**14 54 05.0**	**+3.2**
DDI	**Dehra Dun**	**1.86**	**127**	*e*P		**Pb**	**14 53 44.2**	**+1.8**
DDI				*e*S		**Sb**	**14 54 09.3**	**+4.1**
DDI				IAML			14 54 13.3	
	comp=N,11μm,0.1s						
DDI				IAML			14 54 19.6	
	comp=E,8μm,0.3s						
NDI	**New Delhi**	**2.88**	**164**	*e*P		**Pn**	**14 53 55.0**	**+1.3**
NDI				*e*P		**Pn**	**14 53 55.0**	**+1.3**
NDI				*ex*		**Sn**	**14 54 26.0**	**-1.7**
NDI				*ex*		x	14 54 26.0	
JOSI	**Joshimath**	**2.91**	**107**	*e*P		**Pb**	**14 53 58.7**	**-1.6**
JOSI				*e*S		**Sb**	**14 54 33.2**	**-2.2**
JOSI				IAML			14 54 45.5	
	comp=N,2μm,0.5s						
JOSI				IAML			14 54 51.5	
	comp=E,3μm,0.4s						
SARP	**Sargodha**	**3.16**	**279**	P		**Pn**	**14 53 57.8**	**+0.2**
KUDL	**Kundal**	**3.31**	**178**	*e*P		Pn	14 53 53.9	-5.8
KUDL				*e*S		Sn	14 54 21.6	-17
CHCP	**Chirah Chowk**	**3.40**	**311**	P		**Pn**	**14 54 03.0**	**+2.1**
NIL	**Nilore**	**3.40**	**311**			**Pn**	**14 54 02.7**	**+1.8**
THW	**Thamme Wali**	**4.12**	**290**	P		**Pn**	**14 54 12.1**	**+1.3**
CEP	**Cherat**	**4.42**	**303**	P		**Pn**	**14 54 16.4**	**+1.4**
AJM	**Ajmer**	**5.19**	**197**	*e*P		**Pn**	**14 54 26.0**	**+0.5**
AJM				*e*S		**Sn**	**14 55 26.0**	**+1.2**
JHNI	**Jhansi**	**6.28**	**162**	*e*P		**Pn**	**14 54 39.0**	**-1.5**
JHNI				*e*S		**Sn**	**14 55 49.0**	**-2.8**
KBL	**Kabul**	**6.85**	**299**			**Pn**	**14 54 49.2**	**+0.6**
DANN	**Dangsing**	**7.15**	**114**	*e*Pn		**Pn**	**14 54 54.6**	**+1.9**
DANN				*e*Sn		**Sn**	**14 56 12.1**	**-1.4**
	comp=E,83nm,0.2s						
KOLN	**Koldanda**	**7.31**	**118**	*e*Pn		**Pn**	**14 54 57.8**	**+2.9**
GKN	**Gorkha**	**8.00**	**113**	*e*Pn		**Pn**	**14 55 06.0**	**+1.8**
KSH	**Kashi**	**8.04**	**358**	Pn		**Pn**	**14 55 08.0**	**+3.3**
KSH				Sn		Sn	14 56 24.9	-10
KSH				smax		smax		
	comp=N,290nm,0.3s						
KSH				smax		smax		
	comp=E,350nm,0.4s						
BHPL	**Bhopal**	**8.25**	**173**	*e*P		**Pn**	**14 55 07.6**	**0.0**
BHPL				*ex*		x	14 56 37.0	
BHPL				IAML			14 56 42.2	
	comp=N,162nm,0.2s						
BHPL				IAML			14 57 35.1	
	comp=E,168nm,0.6s						
DMN	**Daman**	**8.55**	**115**	*e*Pn		**Pn**	**14 55 14.2**	**+2.4**
KKN	**Kakani**	**8.60**	**113**	*e*Pn		**Pn**	**14 55 14.3**	**+1.8**
KKN				*e*Sn		**Sn**	**14 56 44.7**	**-4.3**
	comp=E,51nm,0.3s						
PKIN	**Phulchoki**	**8.79**	**114**	*e*Pn		**Pn**	**14 55 16.6**	**+1.4**
PKIN				*e*Sn		**Sn**	**14 56 51.4**	**-2.4**
	comp=E,131nm,0.3s						
PKI	**Pulchoki**	**8.80**	**114**	*e*Pn		**Pn**	**14 55 17.1**	**+1.7**
JBP	**Jabalpur**	**8.88**	**158**	⇓*e*P		**Pn**	**14 55 17.4**	**+1.3**
JBP				*e*S		**Sn**	**14 56 49.1**	**-6.5**
JBP				AML		AML	14 57 12.8	
	comp=Z,145nm,0.4s						
GUN	**Gumba**	**9.02**	**111**	*e*Pn		**Pn**	**14 55 20.1**	**+1.7**
JIRN	**Jiri**	**9.38**	**111**	*e*Pn		**Pn**	**14 55 24.7**	**+1.4**
NRN	**Naryn**	**9.95**	**359**			**Pn**	**14 55 30.6**	**-0.5**
RAMN	**Ramite**	**10.03**	**114**	*e*Pn		**Pn**	**14 55 33.7**	**+1.6**
RAMN				*e*Sn		**Sn**	**14 57 19.1**	**-5.1**
	comp=Z,133nm,0.3s						
ARSB	**Arslanbob**	**10.20**	**346**			**Pn**	**14 55 34.1**	**-0.3**
TARG	**Taragay, Kyrgy**	**10.31**	**6**			**Pn**	**14 55 38.4**	**+2.3**
NGP	**Nagpur**	**10.56**	**166**	*e*P		**Pn**	**14 55 38.6**	**-0.5**
NGP				*e*S		**Sn**	**14 57 31.1**	**-5.8**
KDJ	**Kajisay**	**10.66**	**3**	Pn		**Pn**	**14 55 43.5**	**+2.8**
ODAN	**Odare**	**10.69**	**113**	*e*Pn		**Pn**	**14 55 42.6**	**+1.4**
TAPN	**Taplejung**	**10.73**	**110**	*e*Pn		**Pn**	**14 55 42.0**	**+0.2**
AAK	**Ala-Archa**	**11.25**	**353**	⇓P		**Pn**	**14 55 51.9**	**+3.2**
	comp=Z,2.0nm,0.5s						
AAK				S		**Sn**	**14 57 53.5**	**-0.3**
	comp=Z,15nm,0.6s						
AAK	**Ala-Archa**	**11.25**	**353**	Pn		**Pn**	**14 55 51.6**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=141,slow=8.3,SNR=8.4						
AAK				Sn		**Sn**	**14 57 47.4**	**-6.5**
	comp=Z,0.7nm,0.3s,baz=187,slow=21,SNR=1.5						
AAK	**Ala-Archa**	**11.25**	**353**			**Pn**	**14 55 49.3**	**+0.6**
BOK	**Bokaro**	**11.40**	**130**	*e*P		**Pn**	**14 55 50.2**	**-0.4**
BOK				*e*S		**Sn**	**14 57 51.3**	**-6.1**
TKM2	**Tokmak 2**	**11.45**	**357**	⇑P		**Pn**	**14 55 53.2**	**+1.6**
	comp=Z,2.7nm,0.5s						
TKM2				⇑S		**Sn**	**14 57 56.2**	**-2.7**
	comp=Z,7.3nm,0.7s						
GTK	**Tadong**	**11.46**	**108**	*e*P		Pn	14 55 58.8	+7.1
PDGK	**Podgornoye**	**12.10**	**11**	⇑P		**Pn**	**14 56 01.6**	**+1.3**
	comp=Z,7.1nm,0.4s						
PDGK				⇓S		**Sn**	**14 58 10.9**	**-3.9**
	comp=Z,64nm,0.8s						
HRA	**Herat**	**12.20**	**288**	Pn		**Pn**	**14 56 02.1**	**+0.4**
KK31	**Karatay Array**	**12.50**	**340**	P		**Pn**	**14 56 04.8**	**-1.0**
	comp=Z,4.8nm,0.4s,baz=161,slow=13,SNR=127						
KK31	**Karatay Array**	**12.50**	**340**	⇓S		Sn	14 58 15.1	-9.3
	comp=Z,11nm,0.4s,baz=156,slow=22,SNR=13						
KK31	**Karatay Array**	**12.50**	**340**			**Pn**	**14 56 04.5**	**-1.3**
KKAR	**Karatay Array**	**12.50**	**340**			**Pn**	**14 56 04.4**	**-1.4**
KKAR	**Karatay Array**	**12.50**	**340**			**Pn**	**14 56 04.4**	**-1.4**
POO	**Poona**	**13.08**	**191**	⇓*ix*		Pn	14 56 19.0	+5.3
	comp=Z,10.0nm,1.0s						
HYB	**Hyderabad**	**14.13**	**171**	*i* P		**Pn**	**14 56 24.0**	**-4.1**
HYB				*e*S		Sn	14 58 52.0	-12
KAD	**Karad**	**14.23**	**188**	*ex*		Pn	14 56 26.6	-2.9
KAD				*ex*		Sn	14 58 54.3	-13
SHL	**Shillong**	**14.87**	**109**	P		P	14 56 50.1	+6.2
WMQ	**Urumqi**	**15.24**	**33**	*e*P		**P**	**14 56 46.2**	**-1.7**
WMQ				sP		sP	14 57 02.0	+5.4
WMQ				pmax		pmax		
	comp=Z,41nm,0.7s						
WMQ				pmax		pmax		
	comp=Z,160nm,3.8s						
WMQ				LR		LR		
	comp=Z,200nm,7.1s						
WMQ				LR		LR		
	comp=Z,120nm,5.3s						
WMQ				LR		LR		
	comp=Z,140nm,6.3s						
MAKZ	**Makanchi**	**15.92**	**14**	⇓P		**Pn**	**14 56 51.4**	**-0.4**
	comp=Z,2.9nm,0.6s						
MAKZ				⇑S		**Sn**	**14 59 39.1**	**-8.6**
	comp=Z,6.7nm,0.7s						
MAKZ	**Makanchi**	**15.92**	**14**			**Pn**	**14 56 51.4**	**-0.4**
MK31	**Makanchi Array**	**15.98**	**15**	⇑P		**Pn**	**14 56 52.2**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=200,slow=12,SNR=36						
MK31				⇓S		**Sn**	**14 59 41.5**	**-7.6**
	comp=Z,4.5nm,0.6s,baz=158,slow=39,SNR=3.5						
MK31	**Makanchi Array**	**15.98**	**15**			**Pn**	**14 56 51.6**	**-0.9**
MKAR	**Makanchi Array**	**15.98**	**15**	Pn		**Pn**	**14 56 51.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=19						
MKAR				Sn		**Sn**	**14 59 39.2**	**-10**
	comp=Z,1.6nm,0.3s,baz=198,slow=23,SNR=9.8						
MKAR	**Makanchi Array**	**15.98**	**15**			**Pn**	**14 56 51.5**	**-1.0**
GEYT	**Alibeck**	**16.30**	**298**			**Pn**	**14 56 54.5**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=137,slow=11,SNR=6.3						
GEYT	**Alibeck**	**16.30**	**298**			**Pn**	**14 56 55.4**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**16.30**	**298**	Pn		**Pn**	**14 56 55.6**	**-1.2**
WSAR	**Wadi Sarin**	**17.72**	**247**	S		Sn	15 00 11.9	-20
	comp=Z,0.5nm,0.3s,baz=247,slow=18,SNR=6.1						
WSAR				LR		LR	15 04 22.1	
	comp=Z,31nm,20.4s,baz=97,slow=38						
UOSS	**Minazif**	**18.89**	**255**	P		**Pn**	**14 57 29.3**	**+0.4**
UOSS				IAmb		IAmb	14 57 31.2	
	comp=Z,47nm,1.6s						
KURBB	**Kurchatov Arra**	**19.21**	**4**	⇓P		**P**	**14 57 31.9**	**+0.4**
	comp=Z,2.3nm,0.5s						
KURBB	**Kurchatov Arra**	**19.21**	**4**	P		**P**	**14 57 31.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=7.3						
KURBB				S		**Sn**	**15 01 02.5**	**-4.7**
	baz=183,slow=19,SNR=3.7						
KURK	**Kurchatov**	**19.31**	**4**	⇓P		**Pn**	**14 57 33.4**	**-0.3**
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**19.31**	**4**	P		**P**	**14 57 32.8**	**+0.2**
KURK	**Kurchatov**	**19.31**	**4**			**Sn**	**15 01 02.5**	**-7.0**
GTA	**Gaotai**	**20.66**	**61**	*e*P		Pn	14 57 49.6	-0.4
GTA				pP		sP	14 58 01.3	+4.9
GTA				sP		pP	14 58 06.3	+13
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax		pmax		
	comp=Z,57nm,6.3s						
GTA				LR		LR		
	comp=Z,210nm,15.9s						
GTA				LR		LR		
	comp=Z,110nm,16.5s						
GTA				LR		LR		
	comp=Z,130nm,15.9s						
AB31	**Akbulak array**	**21.64**	**330**	P		**P**	**14 57 57.8**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=137,slow=11,SNR=51						
ABKAR	**Akbulak array**	**21.64**	**330**	P		**P**	**14 57 57.3**	**-0.5**
ABKAR	**Akbulak array**	**21.64**	**330**	P		**P**	**14 57 57.4**	**-0.5**
ABKAR				IAmb		IAmb	14 58 08.2	
	comp=Z,4.7nm,0.7s						
BVAR	**Borovoye Array**	**21.98**	**350**	P		**P**	**14 58 02.3**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=165,slow=12,SNR=14						
BRVK	**Borovoye**	**22.02**	**350**	P		**P**	**14 58 02.0**	**0.0**
BRVK				IAmb		IAmb	14 58 14.9	
	comp=Z,9.0nm,0.8s						
ZAA0	**Zalesovo Array**	**23.28**	**13**	P		**P**	**14 58 15.9**	**+0.7**
ZALV	**Zalesovo Beam**	**23.28**	**13**	P		**P**	**14 58 16.1**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=213,slow=12,SNR=5.9						
ZALV	**Zalesovo Beam**	**23.28**	**13**	P		**P**	**14 58 15.7**	**+0.5**
LZH	**Lanzhou**	**23.29**	**71**	*e*P		**P**	**14 58 18.5**	**+2.9**
LZH				pP		sP	14 58 28.7	+4.2
LZH				sP		pP	14 58 33.6	+12
LZH				pmax		pmax		
	comp=Z,22nm,1.0s						
LZH				pmax		pmax		
	comp=Z,59nm,4.5s						
LZH				LR		LR		
	comp=Z,220nm,11.0s						
LZH				LR		LR		
	comp=Z,230nm,11.8s						
LZH				LR		LR		
	comp=Z,380nm,13.5s						
AKTO	**Aktyubinsk**	**23.35**	**330**	⇓P		**P**	**14 58 16.0**	**+0.1**
	comp=Z,8.2nm,0.8s						
AKTO	**Aktyubinsk**	**23.35**	**330**	P		**P**	**14 58 16.1**	**+0.1**
	comp=Z,7.5nm,0.6s,baz=127,slow=8.8,SNR=29						
AKTO				LR		LR	15 07 11.7	
	comp=Z,98nm,19.1s,baz=334,slow=36						
MHMT	**Maesarieng**	**23.59**	**119**	P		P	14 58 28.3	+10
	comp=Z,13nm,0.8s,comp=Z,990nmcomp=Z,0.1nm						
CHTO	**Chiang Mai**	**23.97**	**116**	P		**P**	**14 58 28.3**	**+6.1**
CHTO				IAmb		IAmb	14 58 30.5	
	comp=Z,7.3nm,0.8s						
CMMT	**Chiang Mai**	**23.97**	**116**	P		**P**	**14 58 29.1**	**+6.9**
	comp=Z,5.5nm,0.8s,comp=Z,0.0nm						
KMI	**Kunming**	**24.05**	**99**	P		**P**	**14 58 28.8**	**+5.6**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.6s						
CM31	**Chiang Mai Arr**	**24.18**	**117**	P		**P**	**14 58 29.1**	**+4.9**
CM31				IAmb		IAmb	14 58 32.8	
	comp=Z,23nm,1.2s						
CMAR	**Chiang Mai Arr**	**24.18**	**117**	P		**P**	**14 58 24.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=312,slow=9.5,SNR=4.9						
CMAR				LR		LR	15 09 41.7	
	comp=Z,48nm,20.9s,baz=178,slow=41						
CMAR	**Chiang Mai Arr**	**24.18**	**117**	P		**P**	**14 58 29.5**	**+5.3**
PALK	**Pallekele**	**24.41**	**169**	LR		LR	15 07 20.2	
	comp=Z,80nm,19.2s,baz=294,slow=35						
SLVN	**Son La**	**26.61**	**106**	P		**P**	**14 58 50.7**	**+4.5**
SLVN				IAmb		IAmb	14 58 57.0	
	comp=Z,7.4nm,1.1s						
ARU	**Arti**	**27.88**	**339**	P		**P**	**14 59 01.8**	**+4.6**
	comp=Z,1.4nm,0.7s,baz=146,slow=11,SNR=5.0						
TLY	**Talaya**	**28.45**	**37**	P		**P**	**14 59 03.6**	**+1.3**
TLY				IAmb		IAmb	14 59 07.2	
	comp=Z,4.7nm,0.6s						
KBZ	**Khabaz**	**28.99**	**304**	P		**P**	**14 59 07.6**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=101,slow=5.2,SNR=4.0						
HHC	**Hu-ho-hao-te**	**29.77**	**62**	*e*P		P	14 59 19.9	+5.5
HHC				pmax		pmax		
	comp=Z,7.0nm,1.1s						
KIRV	**Kirov**	**32.70**	**334**	LR		LR	15 14 47.2	
	comp=Z,73nm,20.0s,baz=284,slow=40						
BR131	**Keskin Array S**	**35.42**	**296**	P		**P**	**15 00 04.2**	**+0.4**
BR131				IAmb		IAmb	15 00 05.0	
	comp=Z,3.5nm,0.6s						
BRTR	**Keskin Array B**	**35.42**	**296**	P		**P**	**15 00 04.5**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=116,slow=9.9,SNR=15						
BRTR	**Keskin Array B**	**35.42**	**296**	P		**P**	**15 00 04.0**	**+0.2**
IPM	**Ipoh**	**35.47**	**134**	P		P	15 00 10.8	+6.5
EIL	**Élat**	**35.54**	**278**	LR		LR	15 18 52.4	
	comp=Z,41nm,18.6s,baz=106,slow=44						
ELL	**Elmali**	**38.51**	**291**	P		**P**	**15 00 30.3**	**+0.2**
AKASG	**Malin Array Be**	**39.59**	**313**	P		**P**	**15 00 38.4**	**-0.3**
	comp=Z,5.9nm,0.6s,baz=82,slow=6.5,SNR=4.3						
AKASG	**Malin Array Be**	**39.59**	**313**	P		**P**	**15 00 38.1**	**-0.6**
AKBB	**Malin Array Si**	**39.59**	**313**	P		**P**	**15 00 38.4**	**-0.3**
AKBB				IAmb		IAmb	15 00 39.1	
	comp=Z,9.2nm,0.6s						
KARP	**Karpathos**	**40.87**	**289**	P		**P**	**15 00 50.1**	**+0.5**
BURAR	**Bucovina Array**	**41.81**	**308**	P		**P**	**15 00 56.8**	**-0.5**
BUR08	**Bucovina Ar. S**	**41.82**	**308**	P		**P**	**15 00 55.3**	**-2.1**
BUR08				IAmb		IAmb	15 01 30.3	
	comp=Z,6.6nm,1.4s						
FIA1	**FINESS Array S**	**44.11**	**328**	P		**P**	**15 01 16.0**	**+0.5**
FIA1				IAmb		IAmb	15 02 01.0	
	comp=Z,56nm,1.8s						
FINES	**FINESS Array B**	**44.11**	**328**	P		**P**	**15 01 15.8**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=118,slow=11,SNR=15						
FINES	**FINESS Array B**	**44.11**	**328**	P		**P**	**15 01 15.7**	**+0.2**
ARCES	**ARCESS Array B**	**47.46**	**338**	P		**P**	**15 01 43.2**	**+1.3**
	comp=Z,2.5nm,0.4s,baz=115,slow=8.1,SNR=62						
ARCES				LR		LR	15 23 34.2	
	comp=Z,108nm,18.4s,baz=314,slow=38						
GERES	**GERESS Array B**	**49.50**	**310**	P		**P**	**15 01 57.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=81,slow=6.3,SNR=2.6						
GERES	**GERESS Array B**	**49.50**	**310**	P		**P**	**15 01 58.1**	**0.0**
RGN	**Rugen**	**49.61**	**317**	P		**P**	**15 01 59.4**	**+0.7**
NOA	**NORSAR Array B**	**51.05**	**325**	P		**P**	**15 02 10.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=97,slow=7.6,SNR=3.3						
NOA				LR		LR	15 26 08.1	
	comp=Z,46nm,18.4s,baz=285,slow=39						
SENIN	**Lac Senin/Sane**	**54.10**	**307**	P		**P**	**15 02 32.4**	**-0.2**
ESDC	**Sonseca Array**	**63.81**	**302**	P		**P**	**15 03 39.1**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=60,slow=7.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**70.26**	**274**	P		**P**	**15 04 19.9**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=54,slow=5.1,SNR=16						
WRA	**Warramunga Arr**	**75.53**	**125**	P		**P**	**15 04 52.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=324,slow=5.9,SNR=11						
ASAR	**Alice Springs**	**77.71**	**128**	P		**P**	**15 05 04.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=310,slow=5.4,SNR=4.6						
DBIC	**Dimbokro**	**79.06**	**271**	P		**P**	**15 05 11.5**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=41,slow=2.3,SNR=4.4						
DBIC	**Dimbokro**	**79.06**	**271**	IAmb		IAmb	15 06 51.5	
	comp=Z,17nm,1.4s						
KIC	**Kosan Boka**	**79.12**	**271**	*e*P		**P**	**15 05 11.8**	**-0.8**
	comp=Z,43nm,1.5s						
TIC	**Toumodi**	**79.21**	**271**	*e*P		**P**	**15 05 11.9**	**-1.2**
LIC	**Lamto**	**79.43**	**271**	*e*P		**P**	**15 05 13.4**	**-0.9**
	comp=Z,34nm,1.4s						
YKA	**Yellowknife Ar**	**85.95**	**5**	P		**P**	**15 05 47.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=343,slow=5.1,SNR=5.2						

*ISCJB **06** 14:54:26.3±0.4, 13°68N±0°06×120°90E±0°07, h150km, mb3.8/16, Error ellipse: s-maj=9.6km s-min=7.6km az=157.7*

*IDC **06** 14:54:26.7±0.6, 13°66N×120°93E, h138km±3km, mb3.7/16, mb1 3.8/16, mb1mx3.5/57, mbtmp4.1/16, Error ellipse: s-maj=32.2km s-min=12.3km az=64.0*

*NEIC **06** 14:54:27.1±1.0, 13°7N±0°1×120°9E±0°2, h144km±3km, mb4.2/25*

*MAN **06** 14:54:27.6, 13°63N×120°52E, h119km, MS3.0*

ISC 06 14:54:27.8±0.6, 13°65N±0°08×120°87E±0°10, h150km, n54, σ0°71/57, mb4.1/27, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.45**	**8**	P		**Pn**	**14 54 47.9**	**-1.1**
	836nm,0.3s,baz=195,slow=1.0,SNR=49						
TGY				S		**Sn**	**14 55 03.0**	**-2.2**
	563nm,0.3s,baz=22,slow=19,SNR=16						
TGY	**Tagaytay City**	**0.45**	**8**	⇑*e*P		**Pn**	**14 54 47.9**	**-1.1**
TGY				*e*S		**Sn**	**14 55 06.1**	**+0.9**
LQP	**Lukban**	**0.79**	**55**	⇑*i*P		**Pn**	**14 54 51.7**	**+0.6**
LQP				*i* S		**Sn**	**14 55 09.1**	**+0.1**
SBUM	**Sibu**	**14.04**	**218**	P		**P**	**14 57 43.5**	**+0.1**
SLVN	**Son La**	**17.88**	**298**	P		**P**	**14 58 26.0**	**+0.1**
PBKT	**Sadao Pong**	**19.43**	**281**	P		**P**	**14 58 43.6**	**+0.9**
PBKT				IAmb		IAmb	14 58 57.5	
	comp=Z,9.4nm,1.2s						
MYKOM	**Kota Tinggi**	**20.55**	**236**	P		**P**	**14 58 55.9**	**+1.1**
KULM	**Kulim**	**21.59**	**249**	P		**P**	**14 59 07.1**	**+1.1**
KULM				IAmb		IAmb	14 59 46.9	
	comp=Z,22nm,1.6s						
IPM	**Ipoh**	**21.59**	**247**	P		**P**	**14 59 06.8**	**+0.8**
IPM				IAmb		IAmb	14 59 21.3	
	comp=Z,10nm,1.2s						
CMAR	**Chiang Mai Arr**	**21.60**	**286**	P		**P**	**14 59 06.6**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=92,slow=8.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**21.60**	**286**	P		**P**	**14 59 06.2**	**+0.2**
CM31	**Chiang Mai Arr**	**21.60**	**286**	P		**P**	**14 59 06.0**	**0.0**
CM31				IAmb		IAmb	14 59 07.9	
	comp=Z,7.6nm,0.8s						
CHTO	**Chiang Mai**	**21.66**	**287**	P		**P**	**14 59 06.2**	**-0.4**
CHTO				IAmb		IAmb	14 59 08.2	
	comp=Z,6.0nm,0.8s						
RPSI	**Rantau Prapat**	**24.27**	**245**	P		**P**	**14 59 31.3**	**0.0**
RPSI				IAmb		IAmb	14 59 32.2	
	comp=Z,4.1nm,0.6s						
LSA	**Lhasa**	**31.77**	**305**	P		**P**	**15 00 38.7**	**+0.2**
PSA00	**Pilbara Seismi**	**35.02**	**182**	P		**P**	**15 01 06.3**	**+0.2**
WRA	**Warramunga Arr**	**35.92**	**158**	P		**P**	**15 01 13.1**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=331,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**35.92**	**158**	P		**P**	**15 01 12.9**	**-0.9**
WB2	**Warramunga Arr**	**35.92**	**158**	P		**P**	**15 01 13.5**	**-0.4**
SONM	**Songino Array**	**36.15**	**343**	P		**P**	**15 01 16.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=163,slow=10.0,SNR=6.8						
SONM	**Songino Array**	**36.15**	**343**	P		**P**	**15 01 15.7**	**0.0**
AS31	**Alice Springs**	**39.22**	**161**	P		**P**	**15 01 41.3**	**-0.3**
ASAR	**Alice Springs**	**39.22**	**161**	P		**P**	**15

KULM	**Kulim**	**23.83 260**	P	P	15 25 23.6	-14
KULM			IAmb	IAmb	15 25 51.0	
comp=Z,15nm,1.4s						
MAJO	**Matsushiro**	**29.29 23**	P	P	15 26 38.4	+12
MAJO			IAmb	IAmb	15 27 27.6	
comp=Z,17nm,1.4s						
MJB9	**Matsu-Tunnel**	**29.29 23**	P	P	15 26 38.0	+12
MJB9			IAmb	IAmb	15 27 27.6	
comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**31.39 162**	P	**P**	**15 26 43.6**	**-1.6**
comp=Z,0.3nm,0.7s,baz=343,slow=9.2,SNR=3.6						
AS31	**Alice Springs**	**34.79 164**	P	**P**	**15 27 14.1**	**-0.8**
ASAR	**Alice Springs**	**34.79 164**	P	**P**	**15 27 14.4**	**-0.5**
comp=Z,0.7nm,0.6s,baz=340,slow=6.6,SNR=26						
ASAR	**Alice Springs**	**34.79 164**	P	**P**	**15 27 13.8**	**-1.1**
NWAO	**Narrogin (SRO)**	**43.22 189**	P	P	15 28 18.2	-7.1
STKA	**Stephens Creek**	**44.85 159**	P	**P**	**15 28 38.5**	**+0.1**
comp=Z,1.7nm,0.9s,baz=333,slow=14,SNR=2.0						
ARMA	**Armidale**	**48.06 148**	P	**P**	**15 29 05.8**	**+2.0**
MK31	**Makanchi Array**	**51.03 324**	P	**P**	**15 29 26.4**	**+0.2**
MK31			IAmb	IAmb	15 29 29.6	
comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**51.03 324**	P	**P**	**15 29 26.8**	**+0.6**
comp=Z,0.9nm,0.7s,baz=120,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**51.03 324**	P	**P**	**15 29 26.3**	**+0.1**
TOO	**Toolangi**	**51.36 158**	P	**P**	**15 29 26.9**	**-1.9**
TOO			IAmb	IAmb	15 30 15.6	
comp=Z,21nm,1.4s						
KURK	**Kurchatov**	**55.15 326**	P	**P**	**15 29 56.5**	**0.0**
KURK			IAmb	IAmb	15 29 57.5	
comp=Z,6.3nm,1.2s						
KKAR	**Karatay Array**	**57.00 315**	P	**P**	**15 30 08.4**	**-1.5**

ASRS 06 15:22:42.1±0.3, 52°N±2°×9°5E±°, h1km, MLh3.8/16, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.57**	**57**	Pg	Pg	15 22 50.5	-2.5
TDJR				Sg	Sg	15 22 59.8	-0.5
KZLR	**Kyzyl**	**0.67**	**234**	Pg	Pg	15 22 53.7	-1.2
KZLR				Sg	Sb	15 23 05.2	-1.1
CERR	**Cheremushki**	**2.51**	**289**	Pg	Pg	15 23 32.3	+2.1
CERR				Sg	Sg	15 24 06.9	+4.2
MINR	**Mina**	**2.89**	**347**	Pn	Pb	15 23 32.7	-1.7
MINR				Pg	Pg	15 23 40.3	+2.8
MINR				Sg	Sg	15 24 21.0	+6.1
VEH	**Verkhnyaya Baz**	**3.26**	**293**	Pn	Pn	15 23 37.2	+2.8
VEH				Pg	Pg	15 23 44.5	-0.1
VEH				Sg	Sg	15 24 29.7	+2.8
LUZB	**Luzhba, Kemero**	**4.20**	**294**	Pg	Pg	15 24 02.1	-0.4
LUZB				Sg	Sg	15 24 59.0	+2.2
GZLN	**Zheleznogorsk**	**4.39**	**349**	Pg	Pg	15 24 03.8	-2.4
GZLN				Sg	Sg	15 25 07.7	+4.6
TASR	**Tashtagol**	**4.61**	**281**	Pg	Pg	15 24 08.7	-1.6
TASR				Sg	Sg	15 25 13.2	+3.2
CUR	**Chagan-Uzun**	**4.83**	**248**	Pn	Pn	15 23 56.2	+0.2
CUR				Pg	Pb	15 24 10.0	+2.4
CUR				Sg	Sb	15 25 11.1	+5.0
ULGR	**Ulagan, Altay**	**4.84**	**255**	Pg	Pg	15 24 17.3	+2.4
ULGR				Sg	Sg	15 25 17.2	-0.4
ARTR	**Artybash**	**4.99**	**270**	Pg	Pg	15 24 17.0	-0.6
AKAR	**Aktash**	**5.16**	**253**	Pn	Pn	15 24 01.6	+1.0
AKAR				Pg	Pg	15 24 19.6	-1.3
AKAR				Sg	Sg	15 25 24.4	-3.3
CHBI	**Chibit, Altay**	**5.23**	**253**	Pn	Pn	15 24 02.6	+1.1
CHBI				Pg	Pg	15 24 20.5	-1.8
BRCR	**Berchikul'**	**5.46**	**313**	Pg	Pg	15 24 26.1	-0.5
BRCR				Sg	Sg	15 25 43.6	+6.3
ELT	**Eltsovka**	**5.65**	**286**	Pg	Pb	15 24 25.2	+3.8
ELT				Sg	Sg	15 25 44.4	+0.9
ELDR	**Elanda**	**5.82**	**265**	Pn	Pn	15 24 11.8	+2.3
ELDR				Pg	Pg	15 24 33.7	+0.2
ELDR				Sg	Sg	15 25 51.4	+2.6
TUNR	**Tungur**	**5.99**	**255**	Pg	Pg	15 24 36.6	-0.1
TUNR				Sg	Sg	15 25 55.1	+0.9
SALR	**Pechorkino, Sa**	**6.23**	**296**	Sg	Sg	15 26 04.2	+2.3
UKR	**Ust'-Kan**	**6.69**	**264**	Pg	Pg	15 24 50.8	+0.6
UKR				Sg	Sg	15 26 20.0	+3.2

*SOF **06** 16:00:33.2, 41.78N×22.75E, h9km, MD2.8*
*ISCJB **06** 16:00:33.4±0.4, 41.77N±0.01×22.72E±0.03, h6km±3km, Error ellipse: s-maj=3.8km s-min=2.4km az=165.4*
*SKO **06** 16:00:33.8, 41.77N×22.79E, h8km, M2.0, ML2.5*
*THE **06** 16:00:34.3, 41.76N×22.81E, h14km±3km, ML2.5/3, Error ellipse: s-maj=5.3km s-min=1.3km az=272.0*
*BEO **06** 16:00:35.1±0.4, 41.78N×22.79E, h4km±2km, ML2.7/10*
*ATH **06** 16:00:35.3, 41.69N×22.84E, h25km±1km, ML2.5/5, Error ellipse: s-maj=3.5km s-min=1.6km az=150.0*

ISC 06 16:00:33.2±1.1, 41.76N±0.02×22.71E±0.02, h1km±10km, n64, σ1°17/87, 14C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.30**	**69**	*i* Pg	**Pg**	**16 00 39.8**	**+0.8**
KKB				*i* Sg	**Sg**	**16 00 43.5**	**+0.6**
KKB	**Krupnik**	**0.30**	**69**	Pg	**Pg**	**16 00 39.8**	**+0.8**
STIP	**Stip**	**0.40**	**260**	*i* Pg	**Pg**	**16 00 39.1**	**-1.7**
STIP				*i* Sg	**Sg**	**16 00 42.8**	**-3.2**
STIP				*e*Lg	Lg	16 00 42.9	
comp=N,278nm,0.3s							
STIP				*e*Lg	Lg	16 00 43.2	
comp=E,295nm,0.3s							
VAY	**Valandovo**	**0.45**	**193**	*e*Pg	**Pn**	**16 00 48.5**	**+1.6**
VAY	**Valandovo**	**0.45**	**193**	*i* Pg	**Pb**	**16 00 43.6**	**-0.3**
VAY				*i* Sg	**Sb**	**16 00 50.8**	**-0.4**
VAY				*e*Lg	Lg	16 00 51.5	
comp=N,234nm,0.4s							
VAY				*e*Lg	Lg	16 00 52.0	
comp=E,321nm,0.5s							
KNT	**Kendrikon**	**0.61**	**166**	P	**Pb**	**16 00 46.0**	**-0.8**
KNT				S	**Sg**	**16 00 54.1**	**+1.1**
comp=E,465nm,0.2s							
KNT	**Kendrikon**	**0.61**	**166**	⇑*i*Pg	**Pb**	**16 00 46.0**	**-0.8**
KNT				*i* Sg	**Sg**	**16 00 54.4**	**+1.4**
KNT	**Kendrikon**	**0.61**	**166**	P	**Pb**	**16 00 46.0**	**-0.8**
KNT				S	**Sg**	**16 00 53.9**	**+1.0**
KNT				AML	AML	16 00 55.1	
comp=N,889μm,0.2s							
KNT				AML	AML	16 00 56.8	
comp=E,918μm,0.2s							
BOSS	**Bosilegrad**	**0.75**	**347**	*e*Pg	**Pb**	**16 00 49.0**	**-0.2**
BOSS				*e*Sg	**Sb**	**16 00 59.2**	**-0.8**
MMB	**Musomiste**	**0.78**	**102**	⇓*i*Pg	**Pb**	**16 00 49.0**	**-0.8**
MMB				*i* Sg	**Sg**	**16 00 59.2**	**+0.8**
MMB	**Musomiste**	**0.78**	**102**	*i* Pg	**Pb**	**16 00 48.9**	**-0.8**
SRS	**Serrai**	**0.93**	**134**	P	**Pg**	**16 00 51.0**	**+0.1**
SRS	**Serrai**	**0.93**	**134**	⇑*i*Pg	**Pg**	**16 00 51.0**	**+0.1**
SRS	**Serrai**	**0.93**	**134**	P	**Pg**	**16 00 51.0**	**+0.1**
SRS				S	**Sg**	**16 01 02.7**	**-0.2**
SRS				AML	AML	16 01 09.2	
comp=N,516μm,0.3s							
SRS				AML	AML	16 01 10.3	
comp=E,437μm,0.3s							
VTS	**Vitosha**	**0.94**	**24**	*e*Sg	Pg	16 00 43.6	-7.7
VTS	**Vitosha**	**0.94**	**24**	*e*Pg	**Sg**	**16 01 03.3**	**-0.2**
VTS	**Vitosha**	**0.94**	**24**	P	**Pg**	**16 00 50.1**	**-1.2**
VTS				S	**Sg**	**16 01 03.4**	**-0.1**
VTS	**Vitosha**	**0.94**	**24**	*i* Pg	**Pb**	**16 00 51.0**	**-0.2**
VTS				*i* Sg	**Sg**	**16 01 03.9**	**+0.4**
VTS	**Vitosha**	**0.94**	**24**	*i* Pg	**Pb**	**16 00 51.1**	**-0.2**
VTS	**Vitosha**	**0.94**	**24**	⇓P	**Pg**	**16 00 51.1**	**-0.2**
VTS				⇑S	**Sg**	**16 01 03.5**	**0.0**
VTS				AML	AML	16 01 09.1	
NVR	**Nevrokopi**	**0.96**	**115**	P	**Pg**	**16 00 51.8**	**+0.2**
NVR	**Nevrokopi**	**0.96**	**115**	P	**Pg**	**16 00 51.8**	**+0.2**
NVR				S	**Sg**	**16 01 03.8**	**-0.3**
NVR				AML	AML	16 01 09.9	
comp=N,448μm,0.2s							
NVR				AML	AML	16 01 10.8	
comp=E,518μm,0.2s							
SOH	**Sokhos**	**1.06**	**152**	P	**Pb**	**16 00 54.0**	**-0.4**
SOH				S	**Sg**	**16 01 07.1**	**-0.1**
comp=E,390nm,0.4s							
SOH	**Sokhos**	**1.06**	**152**	*i* Pg	**Pb**	**16 00 54.0**	**-0.4**
SOH	**Sokhos**	**1.06**	**152**	P	**Pb**	**16 00 54.0**	**-0.4**
SOH				S	**Sg**	**16 01 07.2**	**0.0**
SOH				AML	AML	16 01 12.9	
comp=N,934μm,0.5s							
SOH				AML	AML	16 01 13.1	
comp=E,646μm,0.4s							
THE	**Thessaloniki**	**1.14**	**170**	P	**Pg**	**16 00 55.2**	**+0.1**
THE	**Thessaloniki**	**1.14**	**170**	*e*Pg	**Pb**	**16 00 55.8**	**0.0**
THE				*i* Sg	**Sb**	**16 01 11.6**	**+0.5**
THE	**Thessaloniki**	**1.14**	**170**	P	**Pb**	**16 00 55.6**	**-0.2**
HORT	**Hortiatis**	**1.20**	**166**	P	**Pg**	**16 00 56.5**	**+0.3**
HORT				S	**Sg**	**16 01 11.6**	**-0.1**
comp=E,138nm,0.7s							
HORT	**Hortiatis**	**1.20**	**166**	P	**Pg**	**16 00 56.5**	**+0.3**
BARS	**Barje**	**1.25**	**328**	*e*Pg	**Pn**	**16 00 58.0**	**+0.2**
BARS	**Barje**	**1.25**	**328**	*e*Pn	**Sg**	**16 01 14.0**	**+0.8**
BARS				*e*Sg	**Sb**	**16 01 14.9**	**+0.8**
BARS				*e*Sn	Sn	16 01 43.0	+28
PGB	**Panagyurishte**	**1.34**	**54**	Pg	**Pb**	**16 00 59.6**	**+0.4**
PLG	**Polygyros**	**1.49**	**158**	P	**Pn**	**16 01 00.8**	**-0.5**
PLG				S	**Sb**	**16 01 20.5**	**-0.8**
RZN	**Rozhen**	**1.51**	**92**	P	**Pg**	**16 01 02.2**	**+0.1**
PLD	**Plovdiv**	**1.53**	**76**	*i* Pg	**Pg**	**16 01 02.9**	**+0.4**
PLD	**Plovdiv**	**1.53**	**76**	P	**Pn**	**16 01 01.7**	**0.0**
KAVA	**Kavala**	**1.56**	**119**	P	**Pn**	**16 01 01.8**	**-0.3**
KAVA				S	**Sn**	**16 01 20.1**	**-2.8**
KAVA				AML	AML	16 01 25.1	
comp=N,614μm,0.6s							
KAVA				AML	AML	16 01 26.4	
comp=E,713μm,0.7s							
OHR	**Ohrid**	**1.57**	**246**	*e*Pg	**Pg**	**16 01 03.6**	**+0.2**
OHR				*i* Sg	**Sg**	**16 01 27.2**	**+3.4**
OHR				*e*Lg	Lg	16 01 27.7	
comp=N,20nm,0.5s							
OHR				*e*Lg	Lg	16 01 29.1	
comp=E,45nm,0.8s							
OUR	**Ouranopolis**	**1.72**	**145**	P	**Pn**	**16 01 04.6**	**+0.3**
MPEP	**Malo Peshtene**	**1.77**	**25**	P	**Pg**	**16 01 07.9**	**+0.8**
BLKB	**Belogradchik**	**1.86**	**359**	⇑S	**Sn**	**16 01 29.8**	**-0.7**
BLKB				AML	AML	16 01 34.6	
SELS	**Selova**	**1.87**	**322**	*e*Sn	Pg	16 01 17.9	+8.8
SELS	**Selova**	**1.87**	**322**	*e*Pn	**Sb**	**16 01 32.1**	**-0.1**
PAIG	**Paliouri**	**1.98**	**158**	P	**Pn**	**16 01 08.5**	**+0.7**
BOVS	**Bovan**	**2.01**	**339**	*e*Pn	**Pb**	**16 01 10.7**	**+0.1**
BOVS				*e*Sn	**Sn**	**16 01 35.0**	**+0.8**
KDZ	**Kurdzhali**	**2.03**	**92**	P	**Pb**	**16 01 10.2**	**-0.8**
ZAGS	**Zajecar**	**2.08**	**350**	*e*Pn	**Sn**	**16 01 36.1**	**+0.2**
DIM	**Dimitrovgrad**	**2.13**	**81**	P	**Pg**	**16 01 13.7**	**-0.3**
PLVB	**Pleven**	**2.15**	**40**	⇑P	**Pb**	**16 01 13.5**	**+0.5**
PLVB				⇑S	**Sg**	**16 01 41.7**	**-0.7**
PLVB				AML	AML	16 01 50.0	
SJES	**Sjenica**	**2.52**	**307**	*e*Pn	Pn	16 01 08.8	-6.6
VLAD	**Vladila**	**2.56**	**29**	⇑S	**Sb**	**16 01 50.2**	**-1.7**
VLAD				AML	AML	16 02 18.8	
GRUS	**Gruza**	**2.58**	**326**	*e*Sn	**Pb**	**16 01 22.8**	**+2.5**
GRUS	**Gruza**	**2.58**	**326**	*e*Pn	**Sn**	**16 01 51.4**	**+3.1**
IVAS	**Ivanjica**	**2.62**	**315**	*e*Sn	**Pn**	**16 01 18.8**	**+2.1**
IVAS	**Ivanjica**	**2.62**	**315**	*e*Pn	**Sn**	**16 01 51.1**	**+1.9**
ELND	**Elena**	**2.62**	**63**	⇑S	**Sb**	**16 01 55.2**	**+1.4**
ELND				AML	AML	16 01 59.2	
TRUS	**Trudelj**	**2.98**	**326**	*e*Pn	**Pn**	**16 01 18.0**	**-3.7**
TRUS				*e*Sn	**Pb**	**16 01 23.8**	**-3.4**
MDVR	**Moldovita**	**3.10**	**347**	⇑P	**Pn**	**16 01 24.2**	**+0.8**
MDVR				⇑S	**Sn**	**16 02 00.5**	**-0.7**
MDVR				AML	AML	16 02 11.2	
HERR	**Herculane**	**3.13**	**356**	⇑P	**Pn**	**16 01 23.8**	**+0.1**
HERR				⇓S	**Sn**	**16 02 01.4**	**-0.2**
HERR				AML	AML	16 02 04.1	
GZR	**Gura Zlata**	**3.63**	**1**	⇑P	**Pn**	**16 01 31.1**	**+0.5**
GZR				⇑S	**Sn**	**16 02 13.2**	**-1.1**
GZR				AML	AML	16 02 16.4	
LOT	**Lotru**	**3.77**	**11**	⇑S	**Sn**	**16 02 17.9**	**+0.2**
STON	**Ston**	**3.88**	**288**	*e*Pg	Pn	16 01 29.0	-5.0
STON				Sg	Pb	16 01 33.1	-9.2
BZS	**Buzias**	**3.94**	**349**	⇓P	**Pn**	**16 01 35.6**	**+0.8**
BZS				AML	AML	16 02 45.2	

IDC 06 16:18:45.5±3.0, 32.94S×178.27W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/35, mbtmp3.6/3, ML2.8/1, Error ellipse: s-maj=71.0km s-min=36.0km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.51**	**214**	Pn	Pn	16 20 22.2	-0.3
0.2nm,0.3s,baz=31,slow=15,SNR=3.3							
URZ				Sn	Sn	16 21 36.6	-0.8
0.5nm,0.3s,baz=54,slow=19,SNR=3.0							
ASAR	**Alice Springs**	**42.81**	**270**	P	P	16 26 45.5	+0.3
0.4nm,0.5s,baz=109,slow=7.4,SNR=10							
WRA	**Warramunga Arr**	**44.03**	**275**	P	P	16 26 54.9	-0.2
0.3nm,0.4s,baz=114,slow=8.0,SNR=8.2							
FINES	**FINESS Array B**	**147.43**	**338**	PKPbc	PKPbc	16 38 29.6	-0.9
0.7nm,0.5s,baz=225,slow=3.5,SNR=4.0							

*IDC **06** 16:26:24.1±3.1, 32.75S×178.31W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/35, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=70.5km s-min=36.2km az=116.0*
*ISCJB **06** 16:26:25.4±1.1, 32.86S±0.08×178.1W±0.2, h34km, Error ellipse: s-maj=23.8km s-min=8.9km az=21.7*
*NEIC **06** 16:26:26.0±0.7, 32.8S±0.2×178.2W±0.3, h17km±4km, mb4.5/6*

ISC 06 16:26:28.2±1.3, 32.8S±0.1×178.2W±0.2, h34km, n16, σ0°75/17, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.66**	**214**	Pn	**Pn**	**16 28 03.3**	**-0.3**
2.0nm,0.3s,baz=329,slow=1.6,SNR=26							
URZ				Sn	**Sn**	**16 29 18.8**	**+0.5**
7.0nm,0.3s,baz=120,slow=20,SNR=14							
BKZ	**Black Stump Fm**	**7.68**	**212**	Pn	**Pn**	**16 28 17.8**	**+0.1**
BFZ	**Birch Farm**	**9.05**	**208**	Pn	**Pn**	**16 28 35.5**	**-0.9**
KHZ	**Kahutara**	**11.62**	**212**	Pn	**Pn**	**16 29 11.2**	**-0.4**
NIUE	**Niue**	**15.54**	**31**	Pn	**Pn**	**16 30 03.9**	**-1.0**
LHI	**Lord Howe Isla**	**19.28**	**268**	P	**P**	**16 30 49.5**	**-0.5**
LHI				IAmb	IAmb	16 31 34.7	
comp=Z,62nm,1.1s							
CTAO	**Charters Tower**	**34.07**	**283**	P	**P**	**16 33 09.0**	**-0.6**
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**16 34 23.2**	**-0.2**
comp=Z,0.4nm,0.5s,baz=111,slow=7.8,SNR=12							
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**16 34 23.5**	**+0.1**
WB2	**Warramunga Arr**	**44.05**	**275**	P	**P**	**16 34 33.2**	**+0.2**
WB2				IAmb	IAmb	16 35 24.4	
comp=Z,3.6nm,1.7s							
WRAB	**Tennant Creek**	**44.05**	**275**	P	**P**	**16 34 33.0**	**0.0**
WRAB				IAmb	IAmb	16 35 00.5	
comp=Z,18nm,1.7s							
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**16 34 33.5**	**+0.4**
comp=Z,1.3nm,0.4s,baz=112,slow=8.0,SNR=49							
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**16 34 33.3**	**+0.2**
FINES	**FINESS Array B**	**147.30**	**339**	PKPbc	**PKPbc**	**16 46 07.8**	**+0.4**
comp=Z,1.9nm,0.8s,baz=29,slow=4.4,SNR=5.6							
FINES	**FINESS Array B**	**147.30**	**339**		**PKPbc**	**16 46 08.0**	**+0.6**
CLL	**Collm**	**159.75**	**339**	*e*PKPab	**PKPab**	**16 47 04.0**	**+2.1**

*NEIC **06** 16:27:48.4±0.6, 32.6S±0.2×178.2W±0.2, h10km±2km, mb4.5/4*
*IDC **06** 16:27:48.7±7.0, 32.15S×178.47W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/34, mbtmp3.8/2, Error ellipse: s-maj=314.7km s-min=56.9km az=160.0*
*ISCJB **06** 16:27:52.0±5.2, 32.8S±0.1×178.6W±0.7, h33km, Error ellipse: s-maj=91.2km s-min=13.2km az=9.2*

ISC 06 16:27:54.4±2.4, 32.7S±0.2×178.7W±0.4, h33km, n9, σ0°48/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.55**	**210**	Sn	**Sn**	**16 30 42.1**	**+0.2**
2.5nm,0.3s,baz=38,slow=19,SNR=6.8							
TUWZ	**Tuamarina**	**10.54**	**212**	Pn	**Pn**	**16 30 22.9**	**-0.2**
EIDS	**Eidsvold**	**27.34**	**278**	P	**P**	**16 33 35.7**	**-0.7**
EIDS				IAmb	IAmb	16 33 42.2	
comp=Z,29nm,1.6s							
ASAR	**Alice Springs**	**42.45**	**270**	P	**P**	**16 35 46.8**	**+0.4**
comp=Z,0.6nm,0.8s,baz=109,slow=7.8,SNR=4.7							
WB2	**Warramunga Arr**	**43.63**	**275**	P	**P**	**16 35 56.4**	**+0.4**
WB2				IAmb	IAmb	16 37 13.1	
comp=Z,1.3nm,1.3s							
WRAB	**Tennant Creek**	**43.63**	**275**	P	**P**	**16 35 56.1**	**+0.2**
WRAB				IAmb	IAmb	16 37 25.3	
comp=Z,18nm,1.7s							
WRA	**Warramunga Arr**	**43.64**	**275**	P	**P**	**16 35 56.6**	**+0.6**
comp=Z,1.0nm,0.4s,baz=115,slow=7.9,SNR=11							
FINES	**FINESS Array B**	**147.03**	**338**	PKPbc	**PKPdf**	**16 47 30.7**	**-0.2**
comp=Z,1.0nm,0.8s,baz=55,slow=5.3,SNR=2.8							
FINES	**FINESS Array B**	**147.03**	**338**		**PKPdf**	**16 47 31.1**	**+0.2**

TAP 06 17:11:43.1, 24.63N×122.23E, h78km±1km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.12**	**228**	P	Pn	17 11 54.8	+0.4
baz=228							
EOS1				S	Sn	17 12 03.8	+1.2
baz=228							
TWC	**Suao**	**0.35**	**266**	P	Pn	17 11 55.4	-0.1
baz=266							
TWC				S	Sn	17 12 04.5	-0.1
baz=266							
NTC	**Toucheng**	**0.43**	**302**	*e*P	Pn	17 11 56.5	+0.5
baz=301							
NTC				*e*S	Sn	17 12 06.0	+0.5
baz=301							
TWB1	**Santiao Chiao**	**0.43**	**330**	P	Pn	17 11 56.0	-0.2
baz=330							
TWB1				*e*S	Sn	17 12 06.1	+0.4
baz=330							
NANB	**Nanao**	**0.48**	**245**	*i* P	Pn	17 11 56.8	+0.3
baz=245							
NANB				*i* S	Sn	17 12 06.9	+0.5
baz=245							
ENA	**Nanau**	**0.49**	**246**	*i* P	Pn	17 11 56.9	+0.4
baz=244							
ENA				*i* S	Sn	17 12 07.3	+0.9
baz=244							
TIPB	**Shuangxi**	**0.50**	**313**	P	Pn	17 11 57.0	+0.2
baz=312							
TIPB				*i* S	Sn	17 12 06.7	-0.1
baz=312							
TWE	**Neicheng**	**0.52**	**280**	P	Pn	17 11 57.5	+0.6
baz=279							
TWE				*e*S	Sn	17 12 07.8	+0.8
baz=279							
SLBB	**Yuanshan**	**0.55**	**283**	P	Pn	17 11 57.4	+0.2
baz=282							
SLBB				S	Sn	17 12 07.5	-0.1
baz=282							
NWF	**Wu-fen Shan**	**0.60**	**317**	*e*S	Sn	17 12 09.5	+1.0
baz=317							
WFSB	**Wu-fen Shan**	**0.60**	**317**	*e*S	Sn	17 12 08.7	+0.4
baz=317							
ENTT	**Nioudou**	**0.60**	**271**	*i* P	Pn	17 11 58.7	+1.1
baz=270							
ENTT				S	Sn	17 12 09.4	+1.0
baz=270							
NDT	**Datong Townshi**	**0.65**	**268**	P	Pn	17 11 59.0	+0.9
baz=267							
NDT				S	Sn	17 12 10.2	+0.9
baz=267							
NWLT	**Wulai**	**0.68**	**283**	*e*P	Pn	17 11 59.6	+1.2
baz=282							
NWLT				*e*S	Sn	17 12 11.0	+1.2
baz=282							
NACB	**Ninganchiao**	**0.74**	**232**	P	Pn	17 11 58.9	-0.2
baz=231							
NACB				S	Sn	17 12 10.8	0.0
baz=231							
YHNB	**Yeheng**	**0.78**	**273**	P	Pn	17 12 00.3	+0.8
baz=272							
YHNB				S	Sn	17 12 12.6	+0.9
baz=272							
YM01	**YM01**	**0.79**	**311**	*e*P	Pn	17 12 01.3	+1.6
baz=310							
YM01				*e*S	Sn	17 12 12.2	+0.3
baz=310							
NNSB	**Datong**	**0.80**	**256**	P	Pn	17 12 00.4	+0.6
baz=255							
NNSB				*e*S	Sn	17 12 12.5	+0.3
baz=255							
ETLH	**Xiulin Townshi**	**0.80**	**238**	P	Pn	17 11 59.7	-0.1
baz=238							
ETLH				S	Sn	17 12 12.6	+0.3
baz=238							
NNS	**Nan Shan**	**0.80**	**256**	P	Pn	17 12 00.4	+0.5
baz=255							
NNS				S	Sn	17 12 12.6	+0.3
baz=255							
WHF	**Hehuan Shan**	**1.00**	**241**	P	Pn	17 12 02.7	+0.1
baz=240							
WHF				S	Sn	17 12 16.6	-0.3
baz=240							
TWT	**Tachien**	**1.03**	**249**	P	Pn	17 12 02.6	0.0
baz=248							
TWT				S	Sn	17 12 18.0	+0.8
baz=248							
TDCB	**Techi**	**1.05**	**249**	P	Pn	17 12 03.6	+0.8
baz=248							
TDCB				*e*S	Sn	17 12 18.1	+0.7
baz=248							
ESL	**Shilin**	**1.09**	**222**	*e*P	Pn	17 12 03.1	-0.1
baz=221							
ESL				*e*S	Sn	17 12 18.3	+0.1
baz=221							
LIOB	**Emei**	**1.10**	**271**	*e*P	Pn	17 12 04.4	+1.1
baz=270							
LIOB				*e*S	Sn	17 12 18.7	+0.2
baz=270							
CHGB	**Renai**	**1.12**	**240**	P	Pn	17 12 04.2	+0.5
baz=239							
CHGB				*e*S	Sn	17 12 19.0	-0.1
baz=239							
NSTT	**Nanjuang**	**1.12**	**270**	*e*S	Sn	17 12 19.5	+0.7
baz=269							
VWDT	**VWDT**	**1.32**	**229**	*e*P	Pn	17 12 06.0	0.0
baz=228							
HGSD	**Ruisui**	**1.35**	**213**	*e*P

UWA2	**Uwa jima 2**	**0.28**	**167**	⇓P	**Pn**	**17 13 51.5**	**-0.1**
UWA2				S	**Sn**	**17 13 57.4**	**+0.1**
JKU	**Kubokawa**	**0.46**	**112**	⇑P	**Pn**	**17 13 53.9**	**+0.2**
JKU				S	**Sn**	**17 14 01.7**	**+0.7**
JET	**Tanbara**	**0.51**	**55**	⇑P	**Pn**	**17 13 54.3**	**0.0**
JET				S	**Sn**	**17 14 02.2**	**+0.2**
JHM	**Kurahashi**	**0.65**	**358**	⇑P	**Pn**	**17 13 56.3**	**+0.1**
JHM				S	**Sn**	**17 14 05.9**	**+0.5**
JTO	**Tosashimizu**	**0.66**	**161**	⇓P	**Pn**	**17 13 56.6**	**+0.3**
JTO				S	**Sn**	**17 14 06.4**	**+0.8**
JMN	**Monobe**	**1.13**	**77**	P	**Pn**	**17 14 03.5**	**+0.7**
JHT	**Toyohira**	**1.18**	**355**	⇑P	**Pn**	**17 14 04.0**	**+0.5**
JNU	**Nakatsue**	**1.45**	**256**	Pn	**Pn**	**17 14 07.6**	**+0.5**
	11nm,0.3s,baz=77,slow=4.6,SNR=47.2						
JNU				Lg	Lg	17 14 24.6	
	24nm,0.3s,baz=78,slow=19,SNR=14						
JNU				LR	LR	17 14 45.6	
	comp=Z,105nm,20.6s,baz=46,slow=46						
KSRS	**Korea Array**	**5.47**	**318**	Pn	**Pn**	**17 15 02.6**	**+0.3**
	0.1nm,0.3s,baz=140,slow=17,SNR=2.9						
KSRS				Sn	**Sn**	**17 16 04.5**	**+0.5**
	0.2nm,0.3s,baz=135,slow=24,SNR=4.2						
KSRS				LR	LR	17 17 29.3	
	comp=Z,39nm,21.5s,baz=156,slow=42						
MJAR	**Matsushiro Arr**	**5.55**	**55**	Pn	**Pn**	**17 15 03.5**	**0.0**
	0.1nm,0.3s,baz=239,slow=14,SNR=7.5						
MJAR				LR	LR	17 17 34.8	
	comp=Z,66nm,20.3s,baz=210,slow=43						
ASAJ	**Asahikawa**	**13.18**	**33**	LR	LR	17 21 33.9	
	comp=Z,66nm,18.5s,baz=193,slow=36						
SONM	**Songino Array**	**24.33**	**314**	P	**P**	**17 18 57.1**	**-0.1**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**53.16**	**178**	P	**P**	**17 22 56.8**	**-0.5**
	0.4nm,0.6s,baz=353,slow=8.1,SNR=4.8						
FINES	**FINESS Array B**	**68.42**	**330**	P	**P**	**17 24 40.2**	**-0.4**
	1.4nm,0.9s,baz=72,slow=6.4,SNR=2.1						

*ISCJB **06** 17:16:41.1±1.4, 7°.84N±0°.04×77°.56W±0°.02, h11km±9km, Error ellipse: s-maj=6.1km s-min=3.4km az=18.4*
*UPA **06** 17:16:41.1±1.4, 7°.81N×77°.61W, h6km±11km, MW3.5*
*RSNC **06** 17:16:41.7±0.8, 7°.86N×77°.57W, h4km±5km, ML2.8*
ISC 06 17:16:41.1±1.5, 7°.86N±0°.04×77°.57W±0°.03, h4km±12km, n20, σ0.98/36, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.74**	**199**	*e*P	**Pg**	**17 16 54.8**	**-0.6**
PTAC				*e*S	**Sg**	**17 17 05.2**	**+0.1**
PTAC				*i*		17 17 11.3	
	comp=Z,3μm,0.2s						
PTAC	**Punta Ardita,**	**0.74**	**199**	*e*P	**Pg**	**17 16 54.8**	**-0.6**
PTAC				*e*S	**Sg**	**17 17 05.2**	**+0.1**
UPD2	**Meteti**	**0.82**	**327**	*e*P	**Pg**	**17 16 57.2**	**+0.3**
UPD2				*e*S	**Sb**	**17 17 09.6**	**+0.2**
CHPO	**Chepo, Panama**	**2.01**	**311**	*e*P	**Pn**	**17 17 15.8**	**-0.2**
CHPO				*e*S	**Sn**	**17 17 41.7**	**+0.1**
UPA	**Univ. de Panam**	**2.24**	**300**	*e*P	**Pn**	**17 17 18.7**	**-0.4**
UPA				*e*S	**Sn**	**17 17 47.3**	**+0.1**
CHOR3	**La Chorrera**	**2.41**	**296**	*e*P	**Pn**	**17 17 21.2**	**-0.1**
CHOR3				*e*S	**Sn**	**17 17 51.7**	**+0.3**
ZANG	**Zanguenga, Cho**	**2.52**	**296**	*e*P	**Pn**	**17 17 21.4**	**-1.6**
ZANG				*e*S	**Sn**	**17 17 55.6**	**+1.4**
FRIJ	**El Hiral**	**2.53**	**303**	*e*P	**Pn**	**17 17 21.6**	**-1.4**
BCIP	**Isla Barro Col**	**2.59**	**300**	*e*P	**Pn**	**17 17 23.6**	**-0.4**
BCIP				*e*S	**Sn**	**17 17 55.5**	**-0.5**
BCIP	**Isla Barro Col**	**2.59**	**300**	*e*P	**Pn**	**17 17 22.9**	**-1.1**
BCIP				*e*S	**Sn**	**17 17 57.0**	**+1.0**
HELC	**Santa Helena**	**2.62**	**129**	*e*P	**Pn**	**17 17 26.5**	**+1.9**
HELC				*e*S	**Sn**	**17 17 56.6**	**-0.4**
MLIR	**Monte Lirio**	**2.65**	**302**	*e*S	**Sb**	**17 18 03.5**	**+1.4**
AZU	**Azuero**	**2.68**	**269**	*e*P	**Pn**	**17 17 25.6**	**+0.4**
AZU				*e*S	**Sn**	**17 17 57.7**	**-0.4**
ZARC	**Zaragoza, Cauc**	**2.71**	**97**	*e*P	**Pn**	**17 17 26.2**	**+0.6**
ZARC				*e*S	**Sn**	**17 17 57.6**	**-1.3**
ZARC				*i*		17 18 11.3	
	comp=Z,26nm,0.4s						
SJCC	**San Jacinto, C**	**3.11**	**49**	*e*P	**Pn**	**17 17 30.1**	**-1.1**
SJCC				*e*S	**Sn**	**17 18 07.3**	**-1.6**
SJCC				*i*		17 18 12.8	
	comp=Z,9.8nm,0.5s						
SJCC	**San Jacinto, C**	**3.11**	**49**	*e*P	**Pn**	**17 17 32.7**	**+1.5**
SJCC				*e*S	**Sn**	**17 18 08.0**	**-0.9**
CACAO	**El Cacao, Vera**	**3.30**	**261**	*e*S	**Sn**	**17 18 12.2**	**-1.2**
PTBC	**PUERTO BERRIO,**	**3.35**	**113**	*e*P	**Pn**	**17 17 34.4**	**0.0**
PTBC				*e*S	**Sn**	**17 18 14.7**	**-0.1**
PTBC				*i*		17 18 23.2	
	comp=Z,11nm,0.6s						
SMLC	**San Martn de**	**3.59**	**75**	*e*P	**Pn**	**17 17 38.4**	**+0.8**
SMLC				*e*S	**Sn**	**17 18 18.7**	**-1.8**
PAMC	**Pamplona, Colo**	**4.86**	**96**	*e*S	**Sn**	**17 18 52.8**	**+0.3**

*ISCJB **06** 17:46:39.9±0.3, 49°.89N±0°.02×18°.40E±0°.02, h0km, Error ellipse: s-maj=3.3km s-min=2.0km az=22.1*
*IPEC **06** 17:46:41.3±0.1, 49°.86N×18°.50E, h0km, ML2.4/3, Error ellipse: s-maj=1.6km s-min=1.1km az=163.0*
*PRU **06** 17:46:41.7±0.0, 49°.83N×18°.42E, h0km, Mining Induced Event Karvina, E=1.4e6*
*IDC **06** 17:46:41.3±2.1, 49°.71N×18°.47E, h0km, mb1 3.5/5, mb1mx3.1/38, mbtmp3.4/5, ML2.6/4, Error ellipse: s-maj=32.1km s-min=10.3km az=137.0*
ISC 06 17:46:40.7±0.7, 49°.86N±0°.02×18°.46E±0°.02, h0km, n46, σ1.92/92, 4C-4D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**264**	*e*PG	**Pg**	**17 46 46.2**	**+1.6**
OKC				*e*SG	**Sg**	**17 46 48.9**	**+1.7**
	comp=Z,622nm,0.4s						
RAC	**Raciborz**	**0.28**	**323**	*e*Pg	**Pg**	**17 46 48.1**	**+1.9**
RAC				*e*Pg	**Pg**	**17 46 48.1**	**+1.9**
RAC				*e*Sg	**Sg**	**17 46 52.6**	**+2.7**
RAC				*e*Sg	**Sg**	**17 46 52.6**	**+2.7**
MORC	**Moravsky Berou**	**0.60**	**263**	⇓P	**Pg**	**17 46 52.9**	**+0.7**
MORC				⇑S	**Sg**	**17 47 01.7**	**+1.8**
MORC				AML	AML	17 47 08.1	
MORC	**Moravsky Berou**	**0.60**	**263**	*e*PG	**Pg**	**17 46 52.9**	**+0.7**
MORC				*e*SG	**Sg**	**17 47 01.0**	**+1.0**
MORC	**Moravsky Berou**	**0.60**	**263**	*e*Pg	**Pg**	**17 46 52.9**	**+0.7**
	baz=82						
MORC				*e*Sg	**Sg**	**17 47 00.9**	**+1.0**
	107nm,0.4s,baz=82						
OJC	**Ojcow**	**0.94**	**67**	*e*Pg	**Pg**	**17 46 59.0**	**+0.3**
OJC				*e*Pg	**Pg**	**17 46 59.0**	**+0.3**
OJC				*e*Sg	**Sg**	**17 47 11.5**	**+0.6**
OJC				*e*Sg	**Sg**	**17 47 11.5**	**+0.6**
LANS	**Liptovska Anna**	**0.97**	**137**	*e*PG	**Pb**	**17 47 00.4**	**0.0**
LANS				*e*SG	**Sb**	**17 47 14.3**	**+0.6**
LANS				*e*LG	Lg	17 47 18.4	
KRLC	**Kraliky**	**1.10**	**282**	*e*PG	**Pg**	**17 47 01.7**	**-0.2**
KRLC				*e*SG	**Sg**	**17 47 16.8**	**+0.6**
JAVC	**Velka Javorina**	**1.12**	**208**	*e*PG	**Pb**	**17 47 03.4**	**+0.3**
JAVC	**Velka Javorina**	**1.12**	**208**	*e*Pg	**Pb**	**17 47 03.3**	**+0.2**
	baz=28						
NIE	**Niedzica**	**1.28**	**109**	*e*Pg	**Pb**	**17 47 06.2**	**+0.6**
NIE				*e*Pg	**Pb**	**17 47 06.2**	**+0.6**
NIE				*e*Sg	**Sn**	**17 47 23.8**	**+0.2**
NIE				*e*Sg	**Sn**	**17 47 23.8**	**+0.2**
VRAC	**Vranov**	**1.33**	**246**	Pg	**Pg**	**17 47 06.6**	**+0.4**
	33nm,0.3s,baz=69,slow=15,SNR=61						
VRAC				Lg	Lg	17 47 24.3	
	22nm,0.3s,baz=336,slow=16,SNR=11						
VRAC	**Vranov**	**1.33**	**246**	⇓P	**Pg**	**17 47 06.6**	**+0.4**
VRAC				AML	AML	17 47 07.0	
VRAC				⇑S	**Sn**	**17 47 25.2**	**+0.2**
VRAC	**Vranov**	**1.33**	**246**	*e*PG	**Pg**	**17 47 06.7**	**+0.4**
VRAC				*e*SG	**Sg**	**17 47 23.8**	**+0.3**
VRAC	**Vranov**	**1.33**	**246**	*e*Pg	**Pg**	**17 47 06.7**	**+0.4**
	baz=66						
VRAC				*e*Sg	**Sg**	**17 47 23.7**	**+0.3**
	46nm,0.4s,baz=66						
VYHS	**Vyhne**	**1.39**	**170**	*e*PG	**Pg**	**17 47 07.5**	**+0.2**
VYHS				*e*SG	**Sn**	**17 47 26.7**	**+0.3**
DPC	**Dobruska-Polom**	**1.46**	**291**	*e*PG	**Pn**	**17 47 08.2**	**-0.2**
DPC				*e*SG	**Sb**	**17 47 28.8**	**+0.9**
	comp=Z,38nm,0.4s						
SMOL	**Smolenice**	**1.50**	**207**	*e*PN	**Pn**	**17 47 09.4**	**+0.4**
SMOL				*e*SN	**Sn**	**17 47 30.2**	**+0.9**
SMOL				*e*LG	Lg	17 47 31.5	
KRUC	**Moravsky**	**1.56**	**240**	*e*PG	**Pn**	**17 47 10.1**	**+0.3**
KRUC				*e*SG	**Sb**	**17 47 31.0**	**+0.2**
KRUC	**Moravsky**	**1.56**	**240**	*e*Pg	**Pn**	**17 47 10.0**	**+0.3**
	baz=59						
KRUC				*e*Sg	**Sb**	**17 47 31.0**	**+0.2**
	36nm,0.4s,baz=59						
MODS	**Modra-Piesok**	**1.68**	**208**	*e*PN	**Pn**	**17 47 11.0**	**-0.3**
MODS				*e*SN	**Sn**	**17 47 33.3**	**-0.2**
MODS				*e*LG	Lg	17 47 34.1	
KSP	**Ksiaz**	**1.70**	**306**	*e*Pn	**Pn**	**17 47 11.4**	**-0.3**
KSP				*e*Pn	**Pn**	**17 47 11.4**	**-0.3**
KSP				*e*Pg	**Pg**	**17 47 14.4**	**+1.0**
KSP				*e*Pg	**Pg**	**17 47 14.4**	**+1.0**
KSP				*e*Sg	**Sb**	**17 47 35.6**	**+0.8**
KSP				*e*Sg	**Sb**	**17 47 35.6**	**+0.8**
UPC	**Upice**	**1.70**	**293**	*e*PG	**Pb**	**17 47 13.0**	**+0.1**
UPC				*e*SG	**Sb**	**17 47 35.7**	**+0.9**
	comp=Z,30nm,0.4s						
CHVC	**Chvalec**	**1.71**	**296**	*e*PG	**Pn**	**17 47 12.7**	**+0.9**
CHVC				*e*SG	**Sg**	**17 47 36.7**	**+1.1**
	comp=Z,37nm,0.6s						
ZST	**Bratislava**	**1.89**	**209**	*e*PN	**Pn**	**17 47 13.9**	**-0.3**
ZST				*e*SN	**Sn**	**17 47 39.3**	**+0.6**
KECS	**Kecovo**	**1.91**	**135**	*e*PN	**Pb**	**17 47 17.1**	**+0.6**
KECS				*e*SN	**Sb**	**17 47 41.5**	**+0.6**
KECS				*e*LG	Lg	17 47 43.7	
TREC	**Trest**	**2.01**	**255**	*e*PG	**Pb**	**17 47 17.8**	**-0.4**
TREC				*e*SG	**Sb**	**17 47 43.6**	**-0.2**
	comp=Z,36nm,0.4s						
PSZ	**Piszkesteto**	**2.16**	**153**	⇓P	**Pn**	**17 47 18.7**	**+0.6**
PSZ				AML	AML	17 47 56.4	
GOPC	**GO Pecny, Ondr**	**2.37**	**273**	*e*PN	**Pn**	**17 47 20.2**	**-0.7**
GOPC				*e*PG	**Pb**	**17 47 23.2**	**-1.2**
PRU	**Pruhonice**	**2.53**	**274**	*e*PG	**Pb**	**17 47 27.6**	**+0.5**
PRU				*e*SG	**Sb**	**17 47 59.8**	**+1.0**
	comp=Z,8.6nm,0.4s						
CONA	**Conrad Observa**	**2.58**	**223**	*e*Pn	**Pn**	**17 47 23.3**	**-0.5**
	1.3nm,0.3s						
CONA				Sn	**Sn**	**17 47 54.9**	**-1.0**
	6.5nm,0.4s						
PVCC	**Panska Ves**	**2.59**	**287**	*e*PG	**Pb**	**17 47 28.4**	**+0.4**
PVCC				*e*SG	**Sg**	**17 48 04.0**	**+0.2**
	comp=Z,30nm,0.7s						
KOLS	**Kolonicke sedl**	**2.66**	**109**	*e*PG	**Pg**	**17 47 33.2**	**+1.5**
BRG	**Berggiesshubel**	**3.06**	**291**	PG	**Pb**	**17 47 37.3**	**+1.2**
BRG				SG	**Sg**	**17 48 19.0**	**-0.2**
	11nm,0.4s						
ARSA	**Arzberg**	**3.26**	**218**	*i* Pn	**Pn**	**17 47 34.4**	**+1.4**
	1.4nm,0.4s						
ARSA				Sg	**Sg**	**17 48 26.9**	**+1.7**
	2.2nm,0.4s						
KHC	**Kasperske Hory**	**3.26**	**259**	*e*PN	**Pn**	**17 47 33.0**	**-0.2**
KHC				*e*PG	**Pb**	**17 47 40.2**	**+0.7**
KHC				*e*SG	**Sg**	**17 48 25.5**	**0.0**
	comp=Z,11nm,0.3s						
GERES	**GERESS Array B**	**3.27**	**254**	Pn	**Pn**	**17 47 33.1**	**-0.2**
	0.4nm,0.3s,baz=68,slow=14,SNR=10						
GERES				Pg	**Pb**	**17 47 39.7**	**0.0**
	1.9nm,0.3s,baz=70,slow=15,SNR=21						
GERES				Lg	Lg	17 48 22.0	
	3.2nm,0.3s,baz=74,slow=28,SNR=5.4						
MOA	**Molln**	**3.42**	**236**	*e*Pn	**Pn**	**17 47 35.6**	**+0.3**
	0.7nm,0.2s						
MOA				Sg	**Sb**	**17 48 26.7**	**+2.4**
	3.9nm,0.3s						
CLL	**Collm**	**3.77**	**295**	*e*Pn	**Pn**	**17 47 40.0**	**0.0**
CLL				*e*Pg	**Pg**	**17 47 52.0**	**-0.9**
CLL				*e*Sg	**Sg**	**17 48 42.0**	**+0.3**
	comp=Z,14nm,0.6s						
DRGR		**4.18**	**136**	⇑P	**Pn**	**17 47 46.2**	**+0.4**
BZS	**Buzias**	**4.75**	**152**	⇑P	**Pn**	**17 47 54.1**	**+0.6**
BURAR	**Bucovina Array**	**5.00**	**114**	⇓P	**Pn**	**17 47 58.6**	**+1.4**
DAVOX	**Davos/Dischmat**	**6.50**	**245**	Pn	**Pn**	**17 48 18.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=107,slow=11,SNR=3.4						
DAVOX				Lg	Lg	17 50 01.0	
	comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=3.4						
HFS	**Hagfors**	**10.65**	**347**	Pn	**Pn**	**17 49 12.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**12.37**	**17**	Pn	**Pn**	**17 49 34.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=4.7						
ARCES	**ARCESS Array B**	**20.03**	**7**	Pn	**P**	**17 51 13.5**	**-1.4**
	comp=Z,3.9nm,1.0s,baz=193,slow=14,SNR=2.5						

*ISCJB **06** 17:51:23.8±0.3, 42°.95N±0°.02×18°.44E±0°.02, h17km±4km, Error ellipse: s-maj=3.3km s-min=2.5km az=168.9*
*BEO **06** 17:51:23.4±0.3, 42°.94N×18°.40E, h14km±2km, ML2.4/12*
*RHSSO **06** 17:51:23.7±0.2, 42°.97N×18°.40E, h7km±2km, ML2.6/1*
*PDG **06** 17:51:23.6±0.1, 42°.95N×18°.46E, h15km, MD2.6/3, ML2.5/11, Error ellipse: s-maj=0.2km s-min=0.5km az=0.0*
ISC 06 17:51:23.3±0.8, 42°.97N±0°.02×18°.41E±0°.02, h15km±5km, n60, σ0.86/112, 16C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.11**	**125**	⇑*i*Pg	**Pg**	**17 51 26.9**	**+0.1**
BRY				*e*Sg	**Sb**	**17 51 29.8**	**0.0**
BRY	**Bratogost**	**0.11**	**125**	⇑*i*Pg	**Pg**	**17 51 27.0**	**+0.1**
BRY				*e*Sg	**Sg**	**17 51 29.0**	**-0.2**
TREB	**Trebinje**	**0.25**	**191**	*e*Pg	**Pg**	**17 51 28.5**	**-0.3**
TREB				*e*Sg	**Sb**	**17 51 33.2**	**-0.5**
TREB	**Trebinje**	**0.25**	**191**	⇑*i*Pg	**Pg**	**17 51 28.5**	**-0.3**
TREB				*e*Sg	**Sb**	**17 51 33.2**	**-0.5**
DBRK	**Dubrovnik**	**0.35**	**214**	*i* Pg	**Pg**	**17 51 30.2**	**-0.3**
DBRK				Sg	**Sb**	**17 51 36.6**	**0.0**
UPM	**Unac-Piva**	**0.43**	**56**	⇓*i*Pg	**Pg**	**17 51 31.4**	**-0.6**
UPM				*e*Sg	**Sb**	**17 51 38.8**	**-0.3**
UPM	**Unac-Piva**	**0.43**	**56**	⇓*i*Pg	**Pg**	**17 51 31.5**	**-0.6**
UPM				*e*Sg	**Sg**	**17 51 38.6**	**+0.6**
NKME	**Niksic**	**0.44**	**116**	⇑*i*Pg	**Pg**	**17 51 31.4**	**-0.7**
NKME				*e*Sg	**Sg**	**17 51 38.0**	**-0.2**
NKY	**Niksic**	**0.45**	**109**	⇑*i*Pg	**Pg**	**17 51 31.7**	**-0.6**
NKY				*i* Sg	**Sg**	**17 51 38.4**	**-0.1**
HCY	**Herceg Novi**	**0.52**	**174**	⇓*i*Pg	**Pg**	**17 51 33.0**	**-0.6**
HCY				*e*Sg	**Sb**	**17 51 41.4**	**0.0**
HCY	**Herceg Novi**	**0.52**	**174**	⇓*i*Pg	**Pg**	**17 51 33.0**	**-0.6**
HCY				*i* Sg	**Sb**	**17 51 41.1**	**-0.3**
STON	**Ston**	**0.53**	**260**	*e*Pg	**Pg**	**17 51 32.9**	**-0.8**
STON				*e*Sg	**Sb**	**17 51 41.7**	**0.0**
STON	**Ston**	**0.53**	**260**	*e*Pg	**Pg**	**17 51 33.4**	**-0.4**
STON				Sg	**Sb**	**17 51 42.3**	**+0.6**
STON	**Ston**	**0.53**	**260**	*e*Pg	**Pg**	**17 51 33.0**	**-0.8**
STON				*e*Sg	**Sg**	**17 51 41.3**	**+0.4**
CEME	**Cevo**	**0.56**	**138**	⇓*i*Pg	**Pg**	**17 51 33.5**	**-0.8**
CEME				*e*Sg	**Sg**	**17 51 42.1**	**+0.3**
BUM	**Brajici-Budva**	**0.75**	**152**	⇓*i*Pg	**Pg**	**17 51 37.3**	**-0.6**
BUM				*e*Sg	**Sb**	**17 51 48.7**	**+0.6**
PLE	**Pljevlja**	**0.80**	**63**	⇓*i*Pg	**Pg**	**17 51 38.3**	**-0.6**
PLE				*i* Sg	**Sb**	**17 51 50.7**	**+1.1**
PDG	**Podgorica**	**0.82**	**130**	*e*Pg	**Pg**	**17 51 38.6**	**-0.6**
PDG				*e*Sg	**Sb**	**17 51 50.1**	**+0.1**
PDG	**Podgorica**	**0.82**	**130**	*e*Pg	**Pg**	**17 51 38.7**	**-0.5**
PDG				*e*Sg	**Sb**	**17 51 50.9**	**+0.9**
PDG	**Podgorica**	**0.82**	**130**	⇓P	**Pg**	**17 51 39.0**	**-0.2**
PDG				⇑S	**Sb**	**17 51 50.4**	**+0.4**
PDG				AML	AML	17 51 53.9	
TTG	**Podgorica**	**0.82**	**130**	⇑*i*Pg	**Pg**	**17 51 38.2**	**-1.0**
TTG				*i* Sg	**Sb**	**17 51 50.4**	**+0.4**
RUDO	**Rudo**	**0.96**	**47**	*e*Pg	**Pb**	**17 51 40.4**	**-1.1**
RUDO				*e*Sg	**Sb**	**17 51 53.6**	**-0.4**
DRME	**Dracevica, Mon**	**0.96**	**144**	*e*Pg	**Pb**	**17 51 41.5**	**-0.1**
DRME				*e*Sg	**Sn**	**17 51 55.1**	**-0.5**
DRME	**Dracevica, Mon**	**0.96**	**144**	⇑*i*Pg	**Pb**	**17 51 41.2**	**-0.4**
DRME				*e*Sg	**Sn**	**17 51 56.0**	**+0.4**
IVA	**Berane**	**1.09**	**94**	⇑*i*Pg	**Pb**	**17 51 43.1**	**-0.8**
IVA				*i* Sg	**Sn**	**17 51 59.8**	**+0.9**
BBLS	**Lazići**	**1.15**	**38**	*e*Pg	**Pn**	**17 51 45.0**	**0.0**
BBLS				*e*Sg	**Sg**	**17 52 02.1**	**+1.5**
BBLS	**Lazići**	**1.15**	**38**	*e*Pg	**Pn**	**17 51 44.9**	**0.0**
BBLS				*e*Sg	**Sg**	**17 52 00.8**	**+0.2**
ULC	**Ulcinj**	**1.17**	**148**	⇓*i*Pg	**Pn**	**17 51 44.8**	**-0.3**
ULC				*i* Sg	**Sg**	**17 52 02.6**	**+1.4**
SJES	**Sjenica**	**1.18**	**75**	*e*Pg	**Pn**	**17 51 45.4**	**+0.1**
SJES				*e*Sg	**Sg**	**17 52 01.8**	**+0.4**
HAPS	**Han Pijesak,BI**	**1.19**	**19**	*e*Pg	**Pn**	**17 51 44.9**	**-0.5**
HAPS				*e*Sg	**Sb**	**17 52 01.1**	**+0.4**
HAPS	**Han Pijesak,BI**	**1.19**	**19**	⇑*i*Pg	**Pn**	**17 51 44.9**	**-0.5**
HAPS				*e*Sg	**Sb**	**17 52 01.2**	**+0.5**
PVY	**Plav**	**1.20**	**108**	⇓*i*Pg	**Pn**	**17 51 45.1**	**-0.4**
PVY				*i* Sg	**Sg**	**17 52 03.3**	**+1.3**
IVAS	**Ivanjica**	**1.41**	**64**	*e*Pg	**Pn**	**17 51 48.6**	**+0.2**
IVAS				*e*Sg	**Sb**	**17 52 08.0**	**+0.9**
HVAR	**Hvar**	**1.46**	**279**	*e*Pn	**Pn**	**17 51 49.6**	**+0.6**
HVAR				Sn	**Sg**	**17 52 09.9**	**-0.3**
DIVS	**Divibare**	**1.61**	**45**	*e*Pn	**Pn**	**17 51 52.1**	**+0.9**
DIVS				*e*Sn	**Sn**	**17 52 12.3**	**+0.5**
DIVS	**Divibare**	**1.61**	**45**	*e*Pn	**Pn**	**17 51 52.1**	**+0.9**
DIVS				*e*Sn	**Sb**	**17 52 13.7**	**+0.8**
MGRS	**Mrkonjic Grad**	**1.74**	**327**	*e*Pn	**Pn**	**17 51 54.0**	**+1.0**
MGRS				*e*Sn	**Sb**	**17 52 16.4**	**-0.2**
TEKS	**Tekeris**	**1.78**	**27**	*e*Pn	**Pn**	**17 51 54.4**	**+1.0**
TEKS				*e*Sg	**Sg**	**17 52 21.8**	**+1.3**
TEKS	**Tekeris**	**1.78**	**27**	*e*Pn	**Pb**	**17 51 54.8**	**-0.7**
TEKS				*e*Sn	**Sb**	**17 52 17.4**	**-0.2**
GRUS	**Gruza**	**1.91**	**60**	*e*Pn	**Pn**	**17 51 56.1**	**+0.8**
GRUS				*e*Sn	**Sn**	**17 52 20.2**	**+1.1**
TRUS	**Trudelj**	**1.92**	**48**	*e*Pn	**Pn**	**17 51 55.8**	**+0.5**
TRUS				*e*Sn	**Sn**	**17 52 19.5**	**+0.3**
BLY	**Banja Luka**	**1.99**	**334**	*e*Pn	**Pn**	**17 51 57.7**	**+1.3**
BLY				*e*Sn	**Sb**	**17 52 23.4**	**-0.4**
BLY	**Banja Luka**	**1.99**	**334**	⇑P	**Pb**	**17 51 58.5**	**-0.7**
BLY				⇓S	**Sb**	**17 52 25.1**	**+1.3**
BLY				AML	AML	17 52 35.1	
SELS	**Selova**	**2.00**	**82**	*e*Pn	**Pn**	**17 51 56.7**	**+0.2**
ZIRJ	**Zirje**	**2.14**	**290**	*e*Pn	**Pn**	**17 51 59.3**	**+1.0**
ZIRJ				Sn	**Sb**	**17 52 27.5**	**-0.4**
MORI	**Morici**	**2.17**	**295**	*e*Pn	**Pb**	**17 52 00.8**	**-1.3**
MORI				Sn	**Sb**	**17 52 29.3**	**+0.5**
UDBI	**Udbina**	**2.48**	**310**	*e*Pn	**Pb**	**17 52 05.8**	**-1.7**
UDBI				Sn	**Sb**	**17 52 37.6**	**-0.2**
BARS	**Barje**	**2.50**	**92**	*e*Pn	**Pn**	**17 52 04.6**	**+1.2**
DUGI	**Dugi Otok**	**2.65**	**294**	*e*Pn	**Pn**	**17 52 06.5**	**+1.1**
DUGI				Sn	**Sn**	**17 52 40.1**	**+2.9**
MOSL	**Moslavina**	**2.90**	**336**	*i* Pn	**Pn**	**17 52 09.9**	**+1.0**
MDVR	**Moldovita**	**3.00**	**52**	⇑P	**Pn**	**17 52 10.5**	**+0.3**
MDVR				⇓S	**Sn**	**17 52 44.5**	**-1.4**
NVLJ	**Novalja**	**3.02**	**303**	*e*Pn	**Pn**	**17 52 11.6**	**+1.1**
NVLJ				Sn	**Sb**	**17 52 50.4**	**-3.0**
BLKB	**Belogradchik**	**3.18**	**77**	⇓S	**Sn**	**17 52 50.1**	**-0.3**
PTJ	**Puntijarka**	**3.42**	**330**	*e*Pn	**Pn**	**17 52 17.2**	**+1.1**
KALN	**Kalnik**	**3.46**	**337**	*e*Pn	**Pn**	**17 52 17.1**	**+0.5**
BZS	**Buzias**	**3.51**	**40**	⇓P	**Pn**	**17 52 17.0**	**-0.2**
CRES	**Cresnjev**	**3.56**	**324**	*e*Pn	**Pn**	**17 52 19.0**	**+1.1**
CRES				*e*Sn	**Sn**	**17 53 00.8**	**+1.1**
VTS	**Vitosha**	**3.56**	**94**	⇑P	**Pn**	**17 52 19.4**	**+1.3**
VTS				⇑S	**Sn**	**17 53 00.6**	**+0.6**
BRJN	**Brijuni**	**3.89**	**302**	*e*Pn	**Pn**	**17 52 23.6**	**+1.2**
GZR	**Gura Zlata**	**3.97**	**51**	⇑P	**Pn**	**17 52 22.4**	**-1.2**
GZR				⇑S	**Sn**	**17 53 07.7**	**-2.1**
GZR				AML	AML	17 53 19.6	

JMA 06 18:23:12.2±0.3, 37°.13N×144°.52E, h46km, M3.8, Off east coast of Honshu

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

s-maj=96.0km s-min=25.7km az=70.0
*ISCJB **06** 19:22:31.0±1.1,2°.61N±0°.08×127°.6E±0°.1,h64km,mb3.5/4, Error ellipse: s-maj=16.9km s-min=7.8km az=143.7*
*DJA **06** 19:22:36.4±0.9,2°N±3°×12°7E±°,h33km±17km,M3.7/6, mb3.7/1,MLv3.7/6*
ISC 06 19:22:33.1±1.2,2°.57N±0°.09×127°.5E±0°.1,h64km,n9, σ1§31/12,mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.79**	**184**	P	**Pn**	**19 23 03.8**	**+1.9**
TNTI				S	**Sn**	**19 23 23.9**	**+0.3**
SGSI	**Sangihe**	**2.25**	**300**	P	**Pn**	**19 23 09.0**	**+1.0**
SGSI				S	**Sn**	**19 23 34.2**	**-0.5**
KMSI	**Cibinong**	**4.02**	**241**	P	**Pn**	**19 23 32.2**	**-0.1**
MRSI	**Marisa**	**5.92**	**250**	P	**Pn**	**19 23 59.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.62**	**185**	P	**P**	**19 27 06.3**	**-1.0**
	1.2nm,0.8s,baz=0.0,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**23.36**	**164**	P	**P**	**19 27 35.2**	**-1.1**
	0.8nm,0.3s,baz=346,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.82**	**167**	P	**P**	**19 28 05.5**	**-2.1**
	0.4nm,0.6s,baz=345,slow=7.4,SNR=8.4						
ASAR				PcP	**PcP**	**19 31 28.6**	**-0.6**
	0.2nm,0.4s,baz=347,slow=2.0,SNR=6.4						
STKA	**Stephens Creek**	**36.79**	**160**	P	**P**	**19 29 34.5**	**-0.3**
	1.0nm,0.6s,baz=339,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**58.93**	**325**	P	**P**	**19 32 27.0**	**+1.1**
	0.6nm,0.9s,baz=131,slow=6.8,SNR=2.3						

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*ISCJB **06** 20:10:30.1±0.6,5°.71S±0°.05×130°.97E±0°.05,h68km, mb3.7/4,Error ellipse: s-maj=7.8km s-min=6.6km az=161.8*
*IDC **06** 20:10:30.4±2.9,5°.77S×130°.80E,h56km±33km,mb3.5/4, mb1 3.9/8,mb1mx3.6/44,mbtmp4.0/8,ML4.1/4,Error ellipse: s-maj=62.5km s-min=22.6km az=87.0*
*DJA **06** 20:10:32.5±0.3,6°S±2°×13°1E±°,h92km±10km,M4.5/13, mb4.5/7,mB5.3/4,MLv4.4/13,Mw(mB)4.7/4*
ISC 06 20:10:31.1±0.8,5°.64S±0°.04×130°.96E±0°.06,h68km,n18, σ3§24/25,mb3.7/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.53**	**317**	P	**Pn**	**20 10 59.6**	**+3.2**
BNDI				S	**Sn**	**20 11 16.9**	**+1.4**
SAUI	**Saumlaki**	**2.35**	**172**	P	**Pn**	**20 11 11.5**	**+4.0**
SAUI				S	**Sn**	**20 11 39.6**	**+4.3**
FAKI	**Fak Fak**	**2.99**	**25**	P	**Pn**	**20 11 18.9**	**+2.7**
FAKI				S	**Sn**	**20 11 51.9**	**+0.9**
MSAI	**Masohi**	**3.05**	**318**	P	**Pn**	**20 11 19.2**	**+2.2**
MSAI				S	**Sn**	**20 11 51.7**	**-0.7**
AAI	**Ambon**	**3.37**	**305**	P	**Pn**	**20 11 23.6**	**+2.2**
AAI				S	**Sn**	**20 12 00.5**	**+0.3**
SIJI	**Sorong**	**4.75**	**4**	P	**Pn**	**20 11 41.7**	**+1.5**
	19nm,0.3s,baz=44,slow=9.5,SNR=90						
SIJI				S	**Sn**	**20 12 30.9**	**-3.1**
	12nm,0.3s,baz=255,slow=23,SNR=15						
SWI	**Sorong**	**4.76**	**4**	P	**Pn**	**20 11 41.3**	**+1.0**
RKPI	**Ransiki, Papua**	**5.21**	**38**	P	**Pn**	**20 11 49.2**	**+2.7**
LBMI	**Labuha**	**6.05**	**325**	P	**Pn**	**20 11 59.2**	**+1.2**
SANI	**Sanana**	**6.11**	**306**	P	**Pn**	**20 12 01.7**	**+2.9**
SOEI	**Soe**	**7.79**	**238**	P	**Pn**	**20 12 24.3**	**+2.4**
FITZ	**Fitzroy Crossi**	**13.43**	**202**	P	**Pn**	**20 13 35.0**	**-3.7**
	1.1nm,0.3s,baz=37,slow=13,SNR=54						
FITZ				S	Sn	20 15 55.0	-11
	0.7nm,0.3s,baz=122,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**14.59**	**167**	P	**Pn**	**20 13 51.6**	**-2.4**
	0.8nm,0.3s,baz=345,slow=14,SNR=22						
WRA				S	Sn	20 16 25.0	-10
	0.9nm,0.3s,baz=352,slow=19,SNR=7.7						
ASAR	**Alice Springs**	**18.14**	**171**	P	**Pn**	**20 14 38.8**	**+0.3**
	0.4nm,0.3s,baz=341,slow=9.7,SNR=4.5						
ASAR				S	**Sn**	**20 17 50.2**	**-10**
	0.2nm,0.3s,baz=358,slow=26,SNR=6.2						
CMAR	**Chiang Mai Arr**	**39.62**	**308**	P	**P**	**20 17 56.9**	**+0.4**
	0.4nm,0.5s,baz=124,slow=6.8,SNR=6.4						
SONM	**Songino Array**	**57.47**	**341**	P	**P**	**20 20 14.5**	**+1.3**
	0.2nm,0.5s,baz=166,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**67.63**	**326**	P	**P**	**20 21 21.6**	**+0.8**
	1.5nm,0.4s,baz=120,slow=8.3,SNR=31						
ZALV	**Zalesovo Beam**	**70.80**	**333**	P	**P**	**20 21 40.4**	**+0.1**
	0.6nm,0.6s,baz=158,slow=1.6,SNR=2.7						

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*ISCJB **06** 20:23:21.9±0.7,3°.46S±0°.08×128°.79E±0°.05,h10km, mb3.4/1,Error ellipse: s-maj=12.0km s-min=4.8km az=152.5*
*DJA **06** 20:23:22.2±0.3,3°S±4°×12°9E±°,h10km,M4.0/8,mb4.9/2, MLv3.5/8*
*IDC **06** 20:23:23.8±7.4,3°.30S×133°.95E,h155km±53km,mb2.5/2, mb1 2.7/4,mb1mx2.6/40,mbtmp3.2/4,Error ellipse: s-maj=148.9km s-min=18.6km az=69.0*
ISC 06 20:23:22.4±1.0,3°.48S±0°.08×128°.73E±0°.04,h10km,n12, σ1§56/13,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.24**	**58**	P	**Pg**	**20 23 25.4**	**-1.9**
MSAI				S	**Sg**	**20 23 28.6**	**-2.0**
AAI	**Ambon**	**0.57**	**248**	P	**Pn**	**20 23 34.9**	**-1.7**
AAI				S	**Sb**	**20 23 44.2**	**+1.6**
NLAI	**Namlea**	**1.64**	**278**	P	**Pg**	**20 23 52.6**	**-1.3**
SANI	**Sanana**	**3.08**	**297**	P	**Pn**	**20 24 10.5**	**-0.6**
FAKI	**Fak Fak**	**3.56**	**81**	P	**Pn**	**20 24 17.9**	**+0.2**
SIJI	**Sorong**	**3.63**	**45**	P	**Pn**	**20 24 19.2**	**+0.6**
	10.0nm,0.3s,baz=255,slow=12,SNR=45						
SIJI				S	**Sn**	**20 25 02.6**	**+1.1**
	2.7nm,0.3s,baz=88,slow=21,SNR=9.4						
SWI	**Sorong**	**3.63**	**44**	P	**Pn**	**20 24 18.5**	**-0.1**
TNTI	**Ternate**	**4.43**	**342**	P	**Pn**	**20 24 28.6**	**-1.1**
SAUI	**Saumlaki**	**5.16**	**150**	P	**Pn**	**20 24 39.4**	**-0.3**
WRA	**Warramunga Arr**	**17.26**	**162**	P	Pn	20 27 06.7	-17
	0.0nm,0.3s,baz=349,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**20.69**	**166**	P	P	20 27 47.2	-16
	0.1nm,0.5s,baz=27,slow=8.3,SNR=2.9						
MKAR	**Makanchi Array**	**64.60**	**327**	P	**P**	**20 34 02.7**	**+2.6**
	0.3nm,0.7s,baz=115,slow=9.9,SNR=2.3						

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*ISCJB **06** 20:26:23.7±0.3,30°.35N±0°.03×103°.06E±0°.04,h10km, mb3.8/17,MS3.4/2,Error ellipse: s-maj=5.5km s-min=4.9km az=24.9*
*IDC **06** 20:26:23.8±0.6,30°.37N×103°.15E,h0km,mb3.9/16, mb1 4.0/18,mb1mx3.8/53,mbtmp3.9/18,ML3.1/1,MS3.2/4, Ms1 3.2/4,ms1mx2.8/40,Error ellipse: s-maj=24.3km s-min=12.3km az=53.0*
*BJI **06** 20:26:27.5±0.0,30°.35N×102°.90E,h20km,mb3.9/6, ML3.8/20,Ms3.7/7,Ms7 3.6/7*
*NEIC **06** 20:26:29±1.7,30°.36N±0°.08×103°.12E±0°.09,h36km±7km, mb4.1/19*
ISC 06 20:26:25.8±0.4,30°.40N±0°.04×103°.08E±0°.05,h10km,n68, σ1§80/71,mb4.0/25,2C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.77**	**49**	⇑Pg	**Pg**	**20 26 44.0**	**+3.3**
CD2				Sg	**Sn**	**20 26 56.8**	**+2.3**
CD2				smax	smax		
	comp=N,4μm,0.8s						
CD2				smax	smax		
	comp=E,3μm,0.4s						
GYA	**Guiyang**	**5.04**	**140**	⇑*i*Pn	Pn	20 27 47.3	+5.7
GYA				Sn	**Sn**	**20 28 45.9**	**+5.9**
GYA				Sg	**Sg**	**20 29 05.6**	**-2.1**
GYA				smax	smax		
	comp=N,330nm,0.8s						
GYA				smax	smax		
	comp=E,180nm,0.8s						
KMI	**Kunming**	**5.27**	**183**	Pn	**Pn**	**20 27 45.6**	**+0.7**
KMI				Sn	**Sn**	**20 28 46.6**	**+0.8**
KMI				smax	smax		
	comp=N,100nm,1.0s						
KMI				smax	smax		
	comp=E,91nm,0.8s						
KMI				LR	LR		
	comp=E,730nm,5.6s						
KMI				LR	LR		
	comp=Z,750nm,11.5s						
KMI	**Kunming**	**5.27**	**183**		**Pn**	**20 27 44.9**	**+0.1**
ENH	**Enshi**	**5.54**	**90**		**Pn**	**20 27 50.1**	**+1.7**
LZH	**Lanzhou**	**5.70**	**6**	Pg	Pb	20 28 12.0	+6.5
LZH				Sg	**Sg**	**20 29 27.6**	**-1.3**
LZH				smax	smax		
	comp=N,69nm,1.2s						
LZH				smax	smax		
	comp=E,75nm,1.1s						
LZH				LR	LR		
	comp=E,810nm,6.2s						
LZH				LR	LR		
	comp=Z,730nm,7.9s						
XAN	**Xi'an**	**6.13**	**52**	Pn	**Pn**	**20 27 56.6**	**+0.1**
XAN				Pg	Pg	20 28 21.2	-2.1
XAN				Sn	**Sn**	**20 29 08.4**	**+1.6**
XAN				Sg	**Sg**	**20 29 43.4**	**+0.7**
XAN				smax	smax		
	comp=N,190nm,0.9s						
XAN				smax	smax		
	comp=E,130nm,0.7s						
XAN	**Xi'an**	**6.13**	**52**		**Pn**	**20 27 56.5**	**-0.1**
SLVN	**Son La**	**9.06**	**175**	Pn	**Pn**	**20 28 36.9**	**+0.1**
GTA	**Gaotai**	**9.38**	**344**	*e*P	Pn	20 28 51.5	+10
GTA				pP		20 28 55.8	
GTA				sP		20 28 58.6	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				smax	smax		
	comp=N,3.0nm,0.9s						
GTA				smax	smax		
	comp=E,4.0nm,1.2s						
WHN	**Wuhan**	**9.72**	**86**	P	Pn	20 28 37.3	-8.5
WHN				S	**Sn**	**20 30 30.0**	**-5.1**
WHN				LR	LR		
	comp=N,1μm,5.2s						
WHN				LR	LR		
	comp=E,550nm,3.5s						
WHN				LR	LR		
	comp=Z,840nm,9.5s						
LSA	**Lhasa**	**10.36**	**269**		**Pn**	**20 28 55.5**	**+0.5**
SHL	**Shillong**	**11.01**	**247**		**Pn**	**20 29 03.1**	**-0.4**
CHTO	**Chiang Mai**	**12.14**	**199**		**Pn**	**20 29 21.3**	**+2.5**
CM31	**Chiang Mai Arr**	**12.47**	**198**	Pn	**Pn**	**20 29 24.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**12.47**	**198**	Pn	**Pn**	**20 29 23.8**	**+0.3**
	baz=10,slow=12,SNR=7.7						
CMAR				LR	LR	20 34 42.7	
	comp=Z,11nm,18.4s,baz=305,slow=40						
TAPN	**Taplejung**	**13.81**	**261**	*e*P	Pn	20 29 38.9	-3.1
	comp=Z,16nm,0.8s						
PBKT	**Sadao Pong**	**13.91**	**188**	P	**P**	**20 29 50.6**	**-0.7**
JIRN	**Jiri**	**15.03**	**264**	*e*P	**Pn**	**20 29 56.6**	**-2.1**
GUN	**Gumba**	**15.23**	**265**	*e*P	**Pn**	**20 30 01.0**	**-0.4**
	comp=Z,12nm,0.7s						
PKI	**Pulchoki**	**15.72**	**264**	*e*P	**Pn**	**20 30 05.0**	**-2.7**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**15.73**	**264**	*e*P	**Pn**	**20 30 04.9**	**-2.9**
	comp=Z,10nm,0.8s						
KKN	**Kakani**	**15.78**	**265**	*e*P	**Pn**	**20 30 06.6**	**-1.8**
DMN	**Daman**	**15.97**	**264**	*e*P	**Pn**	**20 30 08.7**	**-2.2**
SONM	**Songino Array**	**17.59**	**7**	P	**Pn**	**20 30 32.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=2.7						
SONM				LR	LR	20 38 22.6	
	comp=Z,132nm,21.8s,baz=190,slow=41						
WMQ	**Urumqi**	**18.12**	**322**	*e*P	**Pn**	**20 30 37.4**	**-0.3**
WMQ				pP	P	20 30 42.6	+4.6
WMQ				sP	pP	20 30 44.2	+2.9
WMQ				LR	LR		
	comp=Z,230nm,8.9s						
KS19	**Wonju Array Si**	**21.71**	**64**	P	P	20 31 12.9	-4.2
KSRS	**Korea Array**	**21.74**	**64**	P	**P**	**20 31 15.7**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=253,slow=10,SNR=5.5						
MK31	**Makanchi Array**	**22.95**	**321**	P	**P**	**20 31 30.7**	**+0.4**
MKAR	**Makanchi Array**	**22.95**	**321**	P	**P**	**20 31 30.7**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=125,slow=11,SNR=11						
MKAR				LR	LR	20 41 07.0	
	comp=Z,95nm,18.1s,baz=48,slow=38						
MKAR	**Makanchi Array**	**22.95**	**321**	P	**P**	**20 31 31.2**	**+0.9**
MAKZ	**Makanchi**	**23.13**	**321**	P	**P**	**20 31 33.7**	**+1.6**
MAKZ				IAmb	IAmb	20 31 39.2	
	comp=Z,4.4nm,0.8s						
TARG	**Taragay, Kyrgy**	**23.27**	**306**	P	**P**	**20 31 34.8**	**+0.9**
NRN	**Naryn**	**24.44**	**304**	P	**P**	**20 31 47.2**	**+2.1**
NRN				IAmb	IAmb	20 31 52.8	
	comp=Z,5.9nm,1.1s						
NIL	**Nilore**	**25.46**	**285**	P	**P**	**20 31 53.2**	**-0.8**
AAK	**Ala-Archa**	**25.89**	**306**	P	**P**	**20 31 58.9**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=356,slow=18,SNR=3.0						
AAK	**Ala-Archa**	**25.89**	**306**	P	**P**	**20 31 57.5**	**-0.5**
ZAA0	**Zalesovo Array**	**26.98**	**336**	P	**P**	**20 32 07.7**	**+0.1**
ZAA0				IAmb	IAmb	20 32 14.6	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**26.98**	**336**	P	**P**	**20 32 08.2**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=142,slow=7.4,SNR=4.7						
ZALV				LR	LR	20 44 16.2	
	comp=Z,99nm,18.1s,baz=30,slow=40						
ZALV	**Zalesovo Beam**	**26.98**	**336**	P	**P**	**20 32 08.1**	**+0.5**
KURBB	**Kurchatov Arra**	**27.28**	**325**	P	**P**	**20 32 10.3**	**0.0**
	comp=Z,1.2nm,0.8s,baz=133,slow=9.4,SNR=11						
KURK	**Kurchatov**	**27.30**	**325**	P	**P**	**20 32 11.3**	**+0.9**
KURK				IAmb	IAmb	20 32 17.1	
	comp=Z,3.8nm,0.9s						
KK31	**Karatay Array**	**28.82**	**305**	P	**P**	**20 32 28.3**	**+4.1**
KK31				IAmb	IAmb	20 32 30.7	
	comp=Z,3.9nm,1.3s						
KKAR	**Karatay Array**	**28.82**	**305**	P	**P**	**20 32 28.1**	**+3.9**
KKAR	**Karatay Array**	**28.82**	**305**	P	**P**	**20 32 28.4**	**+4.2**
KKAR				IAmb	IAmb	20 32 30.7	
	comp=Z,3.9nm,1.3s						
ABKAR	**Akbulak array**	**37.49**	**313**	P	**P**	**20 33 39.4**	**-0.1**
ABKAR	**Akbulak array**	**37.49**	**313**	P	**P**	**20 33 39.2**	**-0.4**
ABKAR				IAmb	IAmb	20 33 50.0	
	comp=Z,1.5nm,0.8s						
GEYT	**Alibeck**	**37.66**	**294**	P	**P**	**20 33 41.5**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=181,slow=5.9,SNR=3.9						
GEYT	**Alibeck**	**37.66**	**294**	P	**P**	**20 33 42.1**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**37.66**	**294**	P	**P**	**20 33 41.7**	**+0.5**
GYA0B				IAmb	IAmb	20 33 43.1	
	comp=Z,4.4nm,1.0s						
AKTO	**Aktyubinsk**	**38.98**	**314**	P	**P**	**20 33 52.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=99,slow=13,SNR=2.0						
ARU	**Arti**	**40.45**	**323**	P	**P**	**20 34 07.6**	**+3.3**
	comp=Z,1.2nm,0.8s,baz=126,slow=8.7,SNR=5.8						
ARU	**Arti**	**40.45**	**323**	P	**P**	**20 34 03.4**	**-0.9**
ARU				IAmb	IAmb	20 34 18.4	
	comp=Z,26nm,2.0s						
BRTR	**Keskin Array B**	**56.32**	**300**	P	**P**	**20 36 07.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=48,slow=2.1,SNR=2.9						
AKASG	**Malin Array Be**	**57.22**	**313**	P	**P**	**20 36 11.6**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=65,slow=6.4,SNR=2.3						
ARCES	**ARCESS Array B**	**57.54**	**336**	P	**P**	**20 36 14.6**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=83,slow=7.5,SNR=5.0						
FINES	**FINESS Array B**	**57.66**	**326**	P	**P**	**20 36 14.7**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=81,slow=9.0,SNR=2.9						
WRAB	**Tennant Creek**	**58.39**	**145**	P	**P**	**20 36 20.6**	**-1.0**
WRA	**Warramunga Arr**	**58.40**	**145**	P	**P**	**20 36 20.6**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=337,slow=7.5,SNR=51						
WRA				PcP	**PcP**	**20 37 11.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=320,slow=4.5,SNR=2.9						
WRA	**Warramunga Arr**	**58.40**	**145**	P	**P**	**20 36 20.5**	**-1.2**
WB2	**Warramunga Arr**	**58.40**	**145**	P	**P**	**20 36 20.4**	**-1.3**
WB2				IAmb	IAmb	20 36 21.6	
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**61.36**	**148**	P	**P**	**20 36 41.1**	**-0.9**
	comp=Z,3.1nm,1.0s,baz=334,slow=6.8,SNR=20						
ASAR				PcP	**PcP**	**20 37 24.1**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=335,slow=4.1,SNR=3.5						
ASAR	**Alice Springs**	**61.36**	**148**	P	P	20 36 40.3	-1.7
ALN	**Alexandroupoli**	**61.62**	**303**	P	**P**	**20 36 42.7**	**-1.0**
BMAR	**Burnt Mountain**	**70.26**	**22**	P	**P**	**20 37 40.2**	**+1.3**
ILAR	**Eielson Array**	**70.84**	**25**	P	**P**	**20 37 42.8**	**+0.3**
	comp=Z,1.2nm,1.1s,baz=287,slow=4.8,SNR=4.4						
STKA	**Stephens Creek**	**71.91**	**146**	P	**P**	**20 37 48.3**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=330,slow=7.7,SNR=5.7						
INK	**Inuvik**	**73.10**	**19**	P	**P**	**20 37 56.2**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=342,slow=6.4,SNR=3.0						

IDC 06 20:28:41.9±357.0,38°.57N×117°.89W,h0km,Error ellipse: s-maj=151.4km s-min=101.6km az=158.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.35**	**247**	*i*		20 33 48.9	
	4.1nm,0.3s,baz=215,slow=10,SNR=52						
I57US	**PINON FLAT INF**	**5.09**	**166**	*i*		21 02 20.0	
	baz=344,slow=313,SNR=2.6						
I56US	**NEWPORT INFRAS**	**9.71**	**3**	*i*		21 34 00.0	
	baz=181,slow=324,SNR=1.1						
I10CA	**LAC DU BONNET**	**19.40**	**46**	*i*		22 28 30.0	
	baz=240,slow=332,SNR=1.1						

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*IGQ **06** 20:34:06.7±0.6,1°S±3°×8°1W±°,h10km,Mjma3.9,ML4.7, MLv4.3*
ISC 06 20:34:05.4±3.4,0°.90S±0°.06×81°.1W±0°.1,h13km±25km,n33, σ1§14/47,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.08**	**54**	P	**Pb**	**20 34 25.3**	**-0.8**
SALI	**Salinas**	**1.28**	**176**	P	**Pn**	**20 34 29.1**	**+0.2**
SALI				S	**Sn**	**20 34 44.6**	**-1.3**
MAG1	**Magdalena**	**1.55**	**58**	P	**Pb**	**20 34 33.5**	**-0.5**
MORR	**Playas El Morr**	**1.88**	**157**	P	**Pn**	**20 34 38.0**	**+0.8**
MORR				S	**Sn**	**20 35 01.7**	**+0.9**
NINA	**Atacazo Ninahu**	**2.52**	**78**	P	**Pn**	**20 34 46.3**	**-0.1**
TERV	**Terraza Guagua**	**2.58**	**74**	P	**Pn**	**20 34 48.0**	**+0.6**
BNAS	**Cotopaxi Volca**	**2.61**	**85**	P	**Pn**	**20 34 48.2**	**+0.5**
YANA	**Yana**	**2.63**	**73**	P	**Pn**	**20 34 48.1**	**+0.2**
BREF	**Cotopaxi Volca**	**2.65**	**85**	P	**Pn**	**20 34 49.7**	**+1.3**
BMAS	**Trigal station**	**2.67**	**103**	S	**Sn**	**20 35 19.5**	**-1.3**
BVC2	**Cotopaxi Volca**	**2.68**	**85**	P	**Pn**	**20 34 49.4**	**+0.6**
BVC2				S	**Sn**	**20 35 22.2**	**+0.8**
PISA	**Pisayambo**	**2.70**	**93**	P	**Pn**	**20 34 50.2**	**+1.2**
PAT1	**Patacocha**	**2.71**	**103**	P	**Pn**	**20 34 50.5**	**+1.4**
BPAT	**Tungurahua Vol**	**2.71**	**103**	P	**Pn**	**20 34 49.1**	**0.0**
BPAT				S	**Sn**	**20 35 21.6**	**-0.5**
BULB	**Ulba Tungurahu**	**2.72**	**101**	P	**Pn**	**20 34 50.0**	**+0.8**
OTAV	**Otavalo**	**2.87**	**67**	*e*P	**Pn**	**20 34 51.2**	**0.0**
OTAV				*e*S	**Sn**	**20 35 22.5**	**-3.3**
OTAV	**Otavalo**	**2.87**	**67**	*e*P	**Pn**	**20 34 51.2**	**0.0**
OTAV				*e*S	**Sn**	**20 35 22.5**	**-3.3**
OTAV	**Otavalo**	**2.87**	**67**	P	**Pn**	**20 34 51.2**	**0.0**
CUSE	**Cuicocha Este**	**2.94**	**66**	P	**Pn**	**20 34 52.8**	**+0.6**
CUIC	**Cuicocha-Domo**	**2.97**	**66**	P	**Pn**	**20 34 53.4**	**+0.8**
CUSW	**Cuicocha Oeste**	**2.98**	**67**	P	**Pn**	**20 34 54.4**	**+1.8**
URCU	**Urcuqui**	**3.12**	**65**	P	**Pn**	**20 34 56.3**	**+1.6**
ARDO	**Archidona, Ten**	**3.28**	**92**	S	**Sn**	**20 35 36.6**	**+1.0**
GCUF	**Volcan Galeras**	**4.29**	**61**	*e*P	**Pn**	**20 35 11.1**	**+0.2**
GCUF	**Volcan Galeras**	**4.29**	**61**	*e*P	**Pn**	**20 35 11.1**	**+0.2**
BBAC	**Balboa, Cauca**	**4.81**	**53**	*e*P	**Pn**	**20 35 17.8**	**+0.1**
BBAC				*e*S	**Sn**	**20 36 14.8**	**+1.3**
BBAC				*i*		20 36 24.8	
	comp=Z,39nm,0.5s						
BBAC	**Balboa, Cauca**	**4.81**	**53**	*e*P	**Pn**	**20 35 17.8**	**+0.1**
BBAC				*e*S	**Sn**	**20 36 14.8**	**+1.3**
BBAC				*i*		20 36 24.8	
	comp=Z,39nm,0.5s						
SOTA	**Rioblanco**	**5.40**	**56**	*e*P	**Pn**	**20 35 27.4**	**+1.4**
SOTA				*e*S	**Sn**	**20 36 27.8**	**-0.6**
SOTA				*i*		20 36 45.3	
	comp=Z,18nm,0.5s						
SOTA	**Rioblanco**	**5.40**	**56**	*e*P	**Pn**	**20 35 27.4**	**+1.4**
SOTA				*e*S	**Sn**	**20 36 27.8**	**-0.6**
SOTA				*i*		20 36 45.3	
	comp=Z,18nm,0.5s						
POPC	**Popayan, Colom**	**5.58**	**52**	*e*P	**Pn**	**20 35 29.2**	**+0.9**
POPC				*e*S	**Sn**	**20 36 32.3**	**-0.1**
POPC	**Popayan, Colom**	**5.58**	**52**	*e*P	**Pn**	**20 35 29.2**	**+0.9**
POPC				*e*S	**Sn**	**20 36 32.3**	**-0.1**
PCON	**Cinco Dias**	**5.68**	**56**	*e*P	**Pn**	**20 35 31.3**	**+1.3**
PCON				*e*S	**Sn**	**20 36 35.7**	**+0.4**
PCON				*i*		20 36 56.0	
	comp=Z,18nm,0.6s						
PCON	**Cinco Dias**	**5.68**	**56**	*e*P	**Pn**	**20 35 31.3**	**+1.3**
PCON				*e*S	**Sn**	**20 36 35.7**	**+0.4**
PCON				*i*		20 36 56.0	
	comp=Z,18nm,0.6s						

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*JMA **06** 20:50:36.4±0.1,22°.83N×120°.53E,h7km±3km,M3.6*
*TAP **06** 20:50:38.0,22°.86N×120°.66E,h17km,ML3.6,B*
*ISCJB **06** 20:50:39.3±0.2,22°.83N±0°.01×120°.66E±0°.02,h17km±2km, Error ellipse: s-maj=2.4km s-min=1.8km az=164.4*
ISC 06 20:50:38.2±0.8,22°.86N±0°.01×120°.64E±0°.02,h17km±1km, n93,σ1§12/172,2C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.12**	**182**	⇑*i*P	**Pb**	**20 50 42.0**	**0.0**
	baz=191						
SSD				S	**Sg**	**20 50 44.6**	**+0.1**
	baz=191						
SLGT	**Liugui**	**0.13**	**4**	P	**Pb**	**20 50 42.7**	**+0.4**
	baz=354						
SLGT				*e*S	**Sg**	**20 50 46.0**	**+1.3**
	baz=354						
SGLT	**Jiouru**	**0.19**	**224**	⇑P	**Pb**	**20 50 44.1**	**+0.8**
	baz=229						
SGLT				*e*S	**Sg**	**20 50 48.6**	**+2.5**
	baz=229						
TWM1	**Shoushan**	**0.20**	**258**	*e*P	**Pb**	**20 50 44.3**	**+0.8**
	baz=266						
TWM1				*e*S	**Sg**	**20 50 50.1**	**+3.6**
	baz=266						
SGST	**Jiashian**	**0.22**	**347**	⇓*e*P	**Pb**	**20 50 44.5**	**+0.6**

SCZT				eS	Sb	20 50 54.4	-0.8
	baz=179						
SCLT	**Jiali**	**0.51**	**307**	eP	Pn	20 50 50.0	-0.8
	baz=307						
SCLT				eS	Sb	20 50 59.3	+3.4
	baz=307						
EAST	**Anshuo**	**0.52**	**158**	eP	Pb	20 50 48.6	-0.3
	baz=157						
EAST				eS	Sb	20 50 56.0	-0.1
	baz=157						
TAW	**Tawu**	**0.56**	**155**	P	Pb	20 50 49.3	-0.2
	baz=154						
TAW				eS	Sb	20 50 56.2	-1.0
	baz=154						
WLCH	**Liuqiu**	**0.56**	**205**	eP	Pn	20 50 52.8	+1.4
	baz=208						
WLCH				eS	Sn	20 51 03.0	+2.7
	baz=208						
TWP	**Hsiaoliuchiu**	**0.57**	**206**	eP	Pn	20 50 52.5	+0.9
	baz=208						
CHN8	**Yiju**	**0.62**	**321**	P	Pn	20 50 51.7	-0.5
	baz=320						
CHN8				eS	Sn	20 51 01.9	+0.2
	baz=320						
CHY	**Chiayi**	**0.66**	**343**	eP	Pn	20 50 52.4	-0.4
	baz=341						
CHY				eS	Sn	20 51 03.1	+0.3
	baz=341						
CHN2	**Minshiung**	**0.68**	**347**	P	Pn	20 50 52.9	-0.2
	baz=345						
CHN2				eS	Sn	20 51 03.8	+0.5
	baz=345						
WLGB	**Puzi**	**0.69**	**333**	eP	Pn	20 50 52.6	-0.5
	baz=332						
WLGB				eS	Sn	20 51 03.4	0.0
	baz=332						
YUS	**Yu-Shan**	**0.69**	**25**	eP	Pb	20 50 52.4	+0.4
	baz=23						
YUS				eS	Sb	20 51 02.5	+1.0
	baz=23						
FULB	**Fuli**	**0.69**	**61**	eP	Pb	20 50 52.5	+0.6
	baz=50						
FULB				eS	Sb	20 51 01.7	+0.6
	baz=50						
CHKT	**Chengkung**	**0.71**	**71**	eP	Pb	20 50 52.7	+0.5
	baz=84						
CHKT				eS	Sb	20 51 02.8	+1.2
	baz=84						
TWF1	**Yuli**	**0.78**	**51**	P	Pb	20 50 53.5	+0.2
	baz=50						
TWF1				eS	Sg	20 51 03.5	-0.3
	baz=50						
YULB	**Yu-li**	**0.80**	**49**	eP	Pb	20 50 53.8	0.0
	baz=55						
YULB				eS	Sg	20 51 04.5	-0.2
	baz=55						
WGK	**Gukeng**	**0.82**	**355**	eP	Pn	20 50 54.8	-0.2
	baz=354						
WGK				eS	Sn	20 51 07.4	+0.7
	baz=354						
WDLH	**Douliu**	**0.83**	**354**	eP	Pn	20 50 54.8	-0.3
	baz=352						
WDLH				eS	Sn	20 51 08.2	+1.3
	baz=352						
WHYT	**Xinyi Township**	**0.85**	**13**	eP	Pn	20 50 55.2	-0.3
	baz=3.0						
WHYT				eS	Sn	20 51 07.9	+0.3
	baz=3.0						
HEN	**Hengchun**	**0.86**	**174**	eP	Pn	20 50 55.7	+0.1
	baz=165						
HEN				eS	Sn	20 51 08.7	+1.1
	baz=165						
WSF	**Szhu**	**0.86**	**334**	eP	Pn	20 50 55.2	-0.3
	baz=333						
EHY	**Hungye**	**0.90**	**44**	eP	Pb	20 50 55.6	+0.2
	baz=50						
EHY				eS	Sg	20 51 07.4	-0.2
	baz=50						
TWK1	**Hengchun**	**0.93**	**170**	eP	Pn	20 50 56.7	+0.2
	baz=172						
TWK1				eS	Sn	20 51 10.2	+0.8
	baz=172						
TWKBT	**Hengchun**	**0.93**	**170**	eP	Pn	20 50 56.7	+0.1
	baz=172						
TWKBT				eS	Sn	20 51 10.1	+0.6
	baz=172						
HGSD	**Ruisui**	**0.96**	**49**	eP	Pn	20 50 57.3	+0.4
	baz=47						
HGSD				eS	Sn	20 51 11.1	+0.9
	baz=47						
WJS	**Zhushan**	**0.96**	**5**	eP	Pn	20 50 57.3	+0.4
	baz=3.0						
WJS				eS	Sn	20 51 11.4	+1.3
	baz=3.0						
SSLB	**Suanglung**	**0.96**	**18**	eP	Pn	20 50 56.7	-0.3
	baz=20						
SSLB				eS	Sn	20 51 10.3	-0.1
	baz=20						
WDGT	**Dungji**	**0.98**	**294**	eP	Pn	20 50 56.4	-0.8
	baz=294						
WDGT				eS	Sn	20 51 09.9	-0.8
	baz=294						
VWDT	**VWDT**	**1.00**	**28**	eP	Pn	20 50 57.4	-0.1
	baz=18						
VWDT				eS	Sn	20 51 11.8	+0.6
	baz=18						
WNT	**Mingjian**	**1.01**	**2**	eP	Pn	20 50 57.9	+0.3
	baz=347						
WNT				eS	Sn	20 51 12.9	+1.5
	baz=347						
SMLT	**Sun Moon Lake**	**1.04**	**13**	P	Pn	20 50 58.8	+0.6
	baz=12						
SMLT				eS	Sn	20 51 13.9	+1.5
	baz=12						
WTCT	**Ta-ch'eng**	**1.05**	**342**	eS	Sn	20 51 13.1	+0.7
	baz=341						
RLNB	**Erlin**	**1.05**	**346**	eS	Sn	20 51 13.4	+0.9
	baz=345						
TYC	**Yuchr**	**1.05**	**11**	P	Pn	20 50 59.0	+0.8
	baz=10.0						
TYC				eS	Sn	20 51 14.1	+1.6
	baz=10.0						
EGFH	**Guangfu**	**1.08**	**42**	eP	Pg	20 50 59.0	-0.2
	baz=49						
EGFH				eS	Sn	20 51 13.8	+0.6
	baz=49						
VCHM	**Qimei**	**1.16**	**287**	eP	Pb	20 50 58.8	-1.1
	baz=289						
PHUB	**P'eng-hu**	**1.17**	**304**	eP	Pb	20 50 58.9	-1.1
	baz=316						
PHUB				eS	Sb	20 51 14.2	-0.8
	baz=316						
LAY	**Lan-yu**	**1.18**	**134**	eP	Pn	20 50 59.5	-0.4
	baz=134						
DPDB	**Guoxing**	**1.19**	**13**	eP	Pg	20 51 00.9	-0.5
	baz=11						
DPDB				eS	Sg	20 51 17.5	+0.5
	baz=11						
ESL	**Shilin**	**1.20**	**38**	eP	Pg	20 51 00.9	-0.5
	baz=36						
ESL				eS	Sg	20 51 17.4	+0.4
	baz=36						
WCHH	**Zhanghua**	**1.21**	**357**	eP	Pb	20 51 00.6	-0.1
	baz=355						
PNG	**Penghu**	**1.22**	**305**	eP	Pn	20 50 59.5	-1.0
	baz=305						
PNG				eS	Sb	20 51 15.5	-0.7
	baz=305						
TCU	**Taichung**	**1.28**	**2**	eP	Pg	20 51 02.4	-0.6
	baz=349						
CHGB	**Renai**	**1.29**	**22**	eP	Pg	20 51 02.7	-0.4
	baz=9.0						
CHGB				eS	Sg	20 51 20.0	-0.1
	baz=9.0						
ENLB	**Shoufeng**	**1.36**	**40**	eP	Pg	20 51 04.3	-0.3
	baz=47						
WHF	**Hehuan Shan**	**1.40**	**24**	P	Pg	20 51 04.8	-0.5
	baz=23						
WHF				eS	Sg	20 51 23.1	-0.5
	baz=23						
TDCB	**Techi**	**1.46**	**19**	eP	Pb	20 51 05.0	-0.1
	baz=17						
TDCB				eS	Sg	20 51 24.8	-0.7
	baz=17						
TWT	**Tachien**	**1.47**	**20**	eP	Pb	20 51 05.1	-0.1
	baz=17						
TWT				eS	Sb	20 51 24.6	+1.0
	baz=17						
WDJ	**Dajia District**	**1.48**	**0**	eP	Pb	20 51 05.2	0.0
	baz=359						
WDJ				eS	Sg	20 51 25.8	-0.2
	baz=359						
TWQ1	**Liyutan**	**1.48**	**5**	eP	Pb	20 51 05.3	0.0
	baz=4.0						
TWQ1				eS	Sg	20 51 25.5	-0.7
	baz=4.0						
TWD	**Chiawan**	**1.50**	**36**	eP	Pb	20 51 05.8	+0.2
	baz=34						
TWD				eS	Sb	20 51 25.7	+1.4
	baz=34						
ETLH	**Xiulin Townshi**	**1.54**	**30**	eP	Pg	20 51 07.2	-0.9
	baz=28						
ETLH				eS	Sb	20 51 27.2	+1.4
	baz=28						
NSY	**Sanyi**	**1.55**	**4**	eP	Pg	20 51 06.9	-1.2
	baz=3.0						
NSY				eS	Sg	20 51 27.5	-0.8
	baz=3.0						
NACB	**Ninganchiao**	**1.57**	**34**	eP	Pb	20 51 06.2	-0.7
	baz=32						
NACB				eS	Sb	20 51 27.4	+1.0
	baz=32						
NMLH	**Miaoli**	**1.67**	**5**	eP	Pb	20 51 08.8	+0.2
	baz=349						
NNSB	**Datong**	**1.70**	**24**	eP	Pb	20 51 08.9	-0.2
	baz=22						
NNSB				eS	Sb	20 51 30.6	+0.3
	baz=22						
NNS	**Nan Shan**	**1.71**	**23**	eP	Pb	20 51 09.5	+0.2
	baz=22						
NNS				eS	Sb	20 51 31.6	+1.1
	baz=22						
NSTT	**Nanjuang**	**1.79**	**11**	eP	Pb	20 51 09.7	-0.9
	baz=352						
NSTT				eS	Sb	20 51 33.1	+0.3
	baz=352						
LIOB	**Emei**	**1.81**	**11**	eP	Pb	20 51 09.8	-1.1
	baz=353						
LIOB				eS	Sb	20 51 34.0	+0.7
	baz=353						
ENA	**Nanau**	**1.86**	**33**	eP	Pn	20 51 10.4	+1.1
	baz=29						
NANB	**Nanao**	**1.86**	**33**	eP	Pb	20 51 10.6	-1.2
	baz=31						
NANB				eS	Sb	20 51 34.7	-0.1
	baz=31						
NDT	**Datong Townshi**	**1.91**	**25**	eP	Pb	20 51 12.9	+0.3
	baz=3.0						
NSK	**Sanguang**	**1.92**	**20**	eP	Pb	20 51 12.7	-0.2
	baz=19						
NSK				eS	Sb	20 51 36.4	-0.2
	baz=19						
YHNB	**Yeheng**	**1.92**	**20**	eP	Pb	20 51 12.5	-0.4
	baz=19						
YHNB				eS	Sn	20 51 35.7	+1.7
	baz=19						
ENTT	**Nioudou**	**1.96**	**26**	eP	Pb	20 51 13.4	-0.1
	baz=24						
ENTT				eS	Sb	20 51 38.5	+0.8
	baz=24						
TWE	**Neicheng**	**2.08**	**27**	eP	Pb	20 51 14.6	-0.8
	baz=13						
TWE				eS	Sb	20 51 41.3	+0.4
	baz=13						
JYNG	**Yonagunijimaku**	**2.64**	**53**	P	Pn	20 51 22.2	+2.2
JYNG				S	Sn	20 51 53.7	+2.0
HATJ	**Hateruma jima**	**3.14**	**67**	P	Pn	20 51 28.3	+1.4
HATJ				eS	Sn	20 52 05.4	+1.4
IRIF	**Iriomote-Funau**	**3.19**	**62**	P	Pn	20 51 29.6	+2.0
IRIF				eS	Sn	20 52 08.2	+2.9
JKRS	**Kuro-shima**	**3.38**	**66**	P	Pn	20 51 32.1	+1.9
JIJ	**Ishigaki jima**	**3.54**	**64**	P	Pn	20 51 33.7	+1.2
JIJ				eS	Sn	20 52 15.8	+1.8
JISG	**Ishigakijimahi**	**3.78**	**62**	P	Pn	20 51 36.3	+0.6
JISG				eS	Sn	20 52 20.2	+0.4
JTJ	**Tarama**	**4.12**	**64**	P	Pn	20 51 42.4	+2.0
JTJ				S	Sn	20 52 31.2	+2.9

*ISCJB **06** 20:52:17.0±0.5, 48°.16N±0°.06×154°.19E±0°.09, h42km, mb3.8/19, Error ellipse: s-maj=12.1km s-min=3.2km az=43.0*
*SKHL **06** 20:52:17.8±0.7, 48°.03N×154°.51E, h93km±7km, mb5.3/2, msh5.0/2*
*MOS **06** 20:52:20.3±1.0, 48°.24N×154°.33E, h79km, mb4.8/2, Error ellipse: s-maj=13.4km s-min=4.5km az=70.8*
*KRSC **06** 20:52:20.9±2.0, 48°.23N×156°.24E, h7km±37km, ML4.7*
*NEIC **06** 20:52:21.5±2.1, 48°.30N±0°.05×154°.4E±0°.2, h85km±8km, mb4.7/6*
*IDC **06** 20:52:23.1±2.3, 48°.28N×154°.19E, h85km±20km, mb3.5/17, mb1 3.7/23, mb1mx3.5/55, mbtmp3.9/23, Error ellipse: s-maj=18.3km s-min=12.5km az=128.0*

ISC 06 20:52:17.4±0.6, 48°.08N±0°.07×154°.47E±0°.07, h42km, n114, σ2S41/130, mb3.9/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.82**	**22**	eP	Pn	20 53 01.4	+1.5
SKR				eS	Sn	20 53 32.5	-0.1
SKR	**Severo-Kuril's**	**2.82**	**22**	ePN	Pn	20 53 02.0	+2.1
SKR				eS	Sn	20 53 32.2	-0.4
SKR				pmax	pmax		
	comp=Z,89nm,0.5s						
SKR				smax	smax		
	comp=N,382nm,0.6s						
SKR				smax	smax		
	comp=E,257nm,0.5s						
SKR	**Severo-Kuril's**	**2.82**	**22**	eP	Pn	20 53 01.3	+1.4
SKR				AMB	AMB	20 53 05.5	
	comp=E,730nm,3.0s						
SKR				eS	Sn	20 53 33.5	+0.9
SKR				A	A	20 53 35.5	
	comp=E,1μm,4.0s						
SKR				A	A	20 53 35.5	
	comp=E,1μm,4.0s						
SKR				A	A	20 53 37.7	
	comp=E,389nm,0.2s						
SKR				A	A	20 53 37.7	
	comp=E,256nm,0.2s						
PAU	**Pauzhetka**	**3.71**	**23**	eP	Pn	20 53 15.4	+3.2
PAU				eS	Sn	20 53 57.0	+2.3
PAU	**Pauzhetka**	**3.71**	**23**	PN	Pn	20 53 15.4	+3.2
PAU				S	Sn	20 53 57.0	+2.3
KDTR	**Khodutka, Kamc**	**4.40**	**31**	eP	Pn	20 53 22.2	+0.6
KDTR				eS	Sn	20 54 08.7	-2.8
KDTR	**Khodutka, Kamc**	**4.40**	**31**	PN	Pn	20 53 22.2	+0.6
KDTR				S	Sn	20 54 08.7	-2.8
ASAK	**Asacha**	**4.84**	**26**	P	Pn	20 53 29.6	+1.9
ASAK	**Asacha**	**4.84**	**26**	PN	Pn	20 53 29.6	+1.9
MTVR	**Mutnovka**	**5.01**	**27**	eP	Pn	20 53 31.7	+1.6
MTVR				eS	Sn	20 54 26.4	-0.4
MTVR	**Mutnovka**	**5.01**	**27**	PN	Pn	20 53 31.7	+1.6
MTVR				S	Sn	20 54 26.4	-0.4
GRL	**Gorelyy**	**5.04**	**26**	eP	Pn	20 53 33.5	+3.0
GRL	**Gorelyy**	**5.04**	**26**	PN	Pn	20 53 33.5	+3.0
RUS	**Russkaya**	**5.07**	**29**	eP	Pn	20 53 31.4	+0.6
RUS				eS	Sn	20 54 25.4	-2.6
RUS	**Russkaya**	**5.07**	**29**	PN	Pn	20 53 31.4	+0.6
RUS				S	Sn	20 54 25.4	-2.6
APC	**Apacha**	**5.14**	**18**	eP	Pn	20 53 36.1	+4.3
APC	**Apacha**	**5.14**	**18**	PN	Pn	20 53 36.1	+4.3
KUR	**Kuril'sk**	**5.36**	**240**	ePN	Pn	20 53 39.1	+4.2
KUR				eS	Sn	20 54 41.2	+5.9
KUR				pmax	pmax		
	comp=Z,65nm,0.5s						
KUR				smax	smax		
	comp=N,41nm,0.5s						
KUR				smax	smax		
	comp=E,101nm,0.5s						
KUR	**Kuril'sk**	**5.36**	**240**	eP	Pn	20 53 36.4	+1.5
KUR				AMB	AMB	20 53 41.6	
	comp=E,48nm,0.3s						
KUR				AMB	AMB	20 53 42.9	
	comp=E,777nm,3.4s						
KUR				eS	Sn	20 54 35.1	-0.2
KUR				A	A	20 54 53.9	
	comp=E,139nm,0.6s						
KUR				A	A	20 54 53.9	
	comp=E,138nm,0.6s						
KUR				A	A	20 54 55.0	
	comp=E,2μm,3.0s						
KUR				A	A	20 54 55.0	
	comp=E,1μm,3.0s						
PETK	**Petropavlovsk-**	**5.44**	**21**	PN	Pn	20 53 38.6	+2.7
PETK	**Petropavlovsk-**	**5.44**	**21**	P	Pn	20 53 38.9	+3.0
	comp=E,2.2nm,0.3s,baz=180,slow=12,SNR=25						
PETK				S	Sn	20 54 49.0	+12
	comp=E,0.3nm,0.3s,baz=208,slow=18,SNR=2.0						
PETK	**Petropavlovsk-**	**5.44**	**21**		Pn	20 53 38.6	+2.7
PET	**Petropavlovsk**	**5.62**	**27**	ePN	Pn	20 53 44.3	+5.9
PET				eS	Sn	20 54 41.8	+0.2
PET				pmax	pmax		
	comp=Z,24nm,0.5s						
PET				smax	smax		
	comp=E,93nm,0.6s						
PET				smax	smax		
	comp=N,97nm,0.8s						
PET	**Petropavlovsk**	**5.62**	**27**	eP	Pn	20 53 40.0	+1.6
DALK	**Dalny**	**5.66**	**27**	eP	Pn	20 53 41.9	+3.0
DALK				eS	Sn	20 54 42.3	-0.2
DALK	**Dalny**	**5.66**	**27**	PN	Pn	20 53 41.9	+3.0
DALK				S	Sn	20 54 42.3	-0.2
UGLR	**Uglovaya**	**5.83**	**27**	eP	Pn	20 53 45.5	+4.1
UGLR	**Uglovaya**	**5.83**	**27**	PN	Pn	20 53 45.5	+4.1
KOK	**Koryaka**	**5.85**	**25**	eP	Pn	20 53 45.5	+3.9
KOK	**Koryaka**	**5.85**	**25**	PN	Pn	20 53 45.5	+3.9
AVH	**Avacha**	**5.86**	**26**	eP	Pn	20 53 45.6	+3.9
AVH	**Avacha**	**5.86**	**26**	PN	Pn	20 53 45.6	+3.9
KRER	**Koryakskii**	**5.89**	**26**	eP	Pn	20 53 46.0	+3.7
KRER				eS	Sn	20 54 49.0	+0.4
KRER	**Koryakskii**	**5.89**	**26**	PN	Pn	20 53 46.0	+3.7
KRER				S	Sn	20 54 49.0	+0.4
SDLR	**Sedlovina**	**5.91**	**27**	eP	Pn	20 53 45.7	+3.2
SDLR	**Sedlovina**	**5.91**	**27**	PN	Pn	20 53 45.7	+3.2
KRX	**Arik**	**5.91**	**25**	eP	Pn	20 53 45.8	+3.3
KRX				eS	Sn	20 54 49.5	+0.5
KRX	**Arik**	**5.91**	**25**	PN	Pn	20 53 45.8	+3.3
KRX				S	Sn	20 54 49.5	+0.5
NLC	**Nalytchevo**	**5.97**	**29**	eS	Sn	20 54 45.8	-4.2
GNL	**Ganaly**	**6.04**	**20**	eP	Pn	20 53 48.6	+4.4
GNL	**Ganaly**	**6.04**	**20**	PN	Pn	20 53 48.6	+4.4
SPN	**Mys Shipunski**	**6.14**	**33**	eP	Pn	20 53 46.7	+1.2
SPN				eS	Sn	20 54 51.6	-2.8
SPN	**Mys Shipunski**	**6.14**	**33**	PN	Pn	20 53 46.7	+1.2
YUK	**Yuzh-Kuril'sk**	**7.23**	**239**	eP	Pn	20 54 01.0	+0.6
YUK				AMB	AMB	20 54 06.0	
	comp=N,175nm,0.5s						
YUK				eS	Sn	20 55 19.0	-2.1
NMR	**Nemuro--Hokkai**	**7.72**	**236**	ePN	Pn	20 54 07.7	+0.5
NMR	**Nemuro--Hokkai**	**7.72**	**236**	eP	Pn	20 54 07.0	-0.2
NMR				eS	Sn	20 55 30.0	-3.2
KZV	**Kizimen**	**7.92**	**25**	eP	Pn	20 54 14.3	+4.3
KZV	**Kizimen**	**7.92**	**25**	PN	Pn	20 54 14.3	+4.3
YSS	**Yuzh-Sakhalins**	**8.01**	**266**	ePN	Pn	20 54 15.2	+4.0
TUMD	**Tumrok D**	**8.03**	**25**	eP	Pn	20 54 15.7	+4.3
TUMR	**Tumrok**	**8.03**	**24**	PN	Pn	20 54 15.7	+4.2
TYV	**Tymovskoe**	**8.19**	**294**	eP	Pn	20 54 14.8	+1.3
JKA	**Kamikawa-asahi**	**9.15**	**249**		Pn	20 54 31.8	+5.1
ASAJ	**Asahikawa**	**9.15**	**249**	P	Pn	20 54 31.8	+5.0
	comp=N,2.1nm,0.3s,baz=81,slow=17,SNR=17						
MA2	**Magadan**	**11.72**	**351**	P	Pn	20 55 03.6	+1.7
	comp=N,2.8nm,0.3s,baz=170,slow=19,SNR=4.7						
MA2	**Magadan**	**11.72**	**351**		Pn	20 55 02.5	+0.7
SEY	**Seymchan**	**14.94**	**356**	P	Pn	20 55 47.8	+2.3
	comp=N,0.2nm,0.3s,baz=193,slow=18,SNR=2.6						
KLR	**Kul'dur**	**15.05**	**283**	P	P	20 55 52.4	+0.7
	comp=N,0.4nm,0.3s,baz=78,slow=8.8,SNR=12						
USRK	**Ussuriysk Ar.**	**16.05**	**264**	P	P	20 56 02.0	-0.7
	baz=65,slow=10,SNR=5.9						
USRK	**Ussuriysk Ar.**	**16.05**	**264**	P	P	20 56 01.7	-1.1
MJAR	**Matsushiro Arr**	**16.62**	**232**	P	P	20 56 10.2	+0.9
	comp=N,0.1nm,0.3s,baz=30,slow=10,SNR=5.2						
YAK	**Yakutsk**	**19.74**	**324**	P	P	20 56 39.8	-3.5
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
YAK	**Yakutsk**	**19.74**	**324**	P	P	20 56 43.8	+0.5
	comp=Z,0.1nm,0.3s,baz=149,slow=5.9,SNR=5.0						
YAK	**Yakutsk**	**19.74**	**324**	P	P	20 56 39.8	-3.5
KSRS	**Korea Array**	**22.09**	**251**	P	P	20 57 10.3	+1.5
	comp=Z,4,4nm,0.7s,baz=40,slow=10,SNR=12						
FALS	**False Pass**	**26.76**	**59**	P	P	20 57 50.4	-2.5
H11N2	**WAKE ISLAND Hy**	**30.02**	**156**	T	T	21 29 55.6	
	baz=345,slow=76						
H11N1	**WAKE ISLAND Hy**	**30.03**	**156**	T	T	21 30 04.1	
	baz=345,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.04**	**156**	T	T	21 29 55.9	
	baz=345,slow=76						
H11S1	**WAKE ISLAND Hy**	**31.13**	**157**	T	T	21 31 17.5	
	baz=345,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.14**	**157**	T	T	21 31 26.5	
	baz=345,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.15**	**157**	T	T	21 31 26.3	
	baz=345,slow=76						
SONM	**Songino Array**	**31.78**	**288**	P	P	20 58 37.0	-0.7
SONM	**Songino Array**	**31.78**	**288**	P	P	20 58 37.0	-0.7
	comp=Z,0.4nm,0.9s,baz=91,slow=12,SNR=2.6						
ILAR	**Eielson Array**	**34.93**	**40**	P	P	20 59 05.6	+0.8
	comp=Z,0.5nm,1.0s,baz=257,slow=8.2,SNR=4.2						
ILAR				PcP	PcP	21 01 35.6	-0.8
	comp=Z,0.2nm,0.8s,baz=293,slow=4.8,SNR=2.8						
INK	**Inuvik**	**40.03**	**33**	P	P	20 59 48.9	+1.1
	comp=Z,1.0nm,0.5s,baz=315,slow=7.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.59**	**305**	P	P	21 00 07.2	-1.8
	comp=Z,0.3nm,0.3s,baz=86,slow=7.4,SNR=2.3						
ZALV				PcP	PcP	21 02 00.5	0.0
	comp=Z,0.5nm,0.4s,baz=29,slow=3.4,SNR=4.4						
MKAR	**Makanchi Array**	**47.16**	**297**	P	P	21 00 42.8	-2.6
MKAR	**Makanchi Array**	**47.16**	**297**	P	P	21 00 43.8	-1.6
	comp=Z,0.4nm,0.5s,baz=70,slow=8.2,SNR=8.1						
MKAR	**Makanchi Array**	**47.16**	**297**	P	P	21 00 42.8	-2.6
CHTO	**Chiang Mai**	**53.32**	**257**	P	P	21 01 31.3	-1.1
CHTO				pmax	pmax		
	comp=Z,17nm,2.0s						
CHTO	**Chiang Mai**	**53.32**	**257**	P	P	21 01 31.3	-1.1
CHTO				IAmb	IAmb	21 03 04.6	
	comp=Z,16nm,1.9s						
SHL	**Shillong**	**53.33**	**269**	P	P	21 01 31.2	-1.4
SHL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SHL	**Shillong**	**53.33**	**269**	P	P	21 01 31.2	-1.4
SHL				IAmb	IAmb	21 01 32.2	
	comp=Z,2.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**53.58**	**257**	P	P	21 01 34.9	+0.6
	comp=Z,1.4nm,0.5s,baz=37,slow=7.0,SNR=12						
CMAR	**Chiang Mai Arr**	**53.58**	**257**	P	P	21 01 34.3	0.0
LTY	**Liberty**	**54.26**	**57**	P	P	21 01 37.9	-1.1
LTY				IAmb	IAmb	21 02 52.1	
	comp=Z,11nm,1.1s						
ARU	**Arti**	**54.66**	**317**	P	P	21 01 39.7	-1.9
	comp=Z,0.4nm,0.4s,baz=7,3,slow=18,SNR=3.2						
JIRN	**Jiri**	**55.76**	**275**	eP	P	21 01 50.5	+0.1
	comp=Z,3.7nm,0.4s						
RAMN	**Ramite**	**55.95**	**274**	eP	P	21 01 51.2	-0.5
	comp=Z,2.2nm,0.3s						
PKI	**Pulchoki**	**56.34**	**275**	eP	P	21 01 54.4	-0.1
	comp=Z,3.3nm,0.5s						
PKIN	**Phulchoki**	**56.34**	**275**	eP	P	21 01 54.1	-0.4
	comp=Z,2.7nm,0.6s						
DMN	**Daman**	**56.52**	**275**	eP	P	21 01 55.6	-0.1
	comp=Z,2.0nm,0.3s						
GKN	**Gorkha**	**56.57**	**276**	eP	P	21 01 55.5	-0.5
	comp=Z,4.0nm,0.4s						
DANN	**Dangsing**	**56.93**	**277**	eP	P	21 01 58.8	+0.1
NVAR	**Mina Array Bea**	**61.01**	**64**	P	P	21 02 29.2	+2.5
	comp=Z,0.4nm,0.4s,baz=280,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**63.23**	**335**	P	P	21 02 40.0	-0.9
FINES	**FINESS Array B**	**63.23**	**335**	P	P	21 02 40.0	-0.9
	comp=Z,0.8n

TORD	Torodi Ar. Bea	114.41 331	PKP	PKiKP	21 10 51.4	-1.5
	comp=Z,0.3nm,0.4s,baz=16,slow=1.6,SNR=5.5					
VNA2	Neumayer--Watz	155.52 194	P	PKPab	21 12 37.2	+6.2
	baz=328,slow=17					
VNA3	Neumayer Olymp	155.59 192	P	PKPab	21 12 34.6	+3.3
VNA1	Neumayer--Stat	155.90 194	P	PKPab	21 12 32.2	-0.4

ISCJB ***06*** *21:23:42.2±0.7, 4°.07S±0°.08×142°.0E±0°.1, h109km, mb3.4/3, Error ellipse: s-maj=16.8km s-min=9.1km az=146.1*

IDC ***06*** *21:23:42.9±1.8, 3°.98S×142°.03E, h110km±15km, mb3.2/4, mb1 3.4/6, mb1mx3.1/35, mbtmp3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.5/17, Error ellipse: s-maj=27.8km s-min=14.7km az=73.0*

ISC 06 21:23:43.2±0.9, 4°.0S±0°.1×142°.0E±0°.1, h109km, n9, σ1§11/9, mb3.4/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.95	318	P	Pn	21 24 15.8	+0.2
	5.4nm,0.3s,baz=162,slow=7.2,SNR=28						
JAY				S	Sn	21 24 40.7	+0.4
	6.2nm,0.3s,baz=32,slow=16,SNR=6.2						
PMG	Port Moresby	7.43	137	P	Pn	21 25 29.4	+0.4
	2.0nm,0.3s,baz=289,slow=15,SNR=3.1						
WRA	Warramunga Arr	17.53	205	P	P	21 27 38.9	-1.5
	0.5nm,0.3s,baz=23,slow=13,SNR=27						
GUMO	Guam	17.69	9	LR	LR	21 35 09.3	
	comp=Z,30nm,18.7s,baz=112,slow=39						
HNR	Honiara	18.62	108	P	Pn	21 27 55.0	+1.0
ASAR	Alice Springs	21.07	201	P	P	21 28 18.4	-0.5
	1.1nm,0.6s,baz=29,slow=11,SNR=16						
FITZ	Fitzroy Crossi	21.29	228	P	P	21 28 21.8	+0.6
	1.4nm,0.6s,baz=57,slow=10.0,SNR=5.3						
MKAR	Makanchi Array	72.81	322	P	P	21 35 00.6	+0.5
	0.4nm,0.7s,baz=111,slow=6.8,SNR=3.3						
ILAR	Eielson Array	85.64	24	P	P	21 36 07.7	-1.7
	0.2nm,0.4s,baz=249,slow=5.6,SNR=3.5						

BJI ***06*** *21:25:06.2±0.0, 3°.90S×141°.91E, h6km, mb4.5/6, mB4.9/2*

DJA ***06*** *21:25:12.0±0.4, 3°.5±4°.×14°.2E±°, h10km, M4.7/15, mB7.0/2, mb4.5/15, MLv4.8/7, Mw(mB)6.9/2*

ISCJB ***06*** *21:25:13.3±0.5, 3°.30S±0°.04×141°.21E±0°.05, h10km, mb4.2/12, Error ellipse: s-maj=7.2km s-min=5.1km az=167.6*

IDC ***06*** *21:25:14.4±0.8, 3°.27S×141°.02E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/34, mbtmp4.0/11, ML4.1/1, Error ellipse: s-maj=23.0km s-min=8.3km az=79.0*

NEIC ***06*** *21:25:15.3±2.0, 3°.32S±0°.05×141°.04E±0°.10, h9km±4km, mb4.4/16*

ISC 06 21:25:15.5±0.6, 3°.36S±0°.04×141°.03E±0°.06, h10km, n63, σ1§95/65, mb4.2/16, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.90	339	Pn	Pg	21 25 30.1	-2.8
	85nm,0.3s,baz=161,slow=11,SNR=55						
JAY				Pg	Pb	21 25 31.4	-1.8
	85nm,0.3s,baz=174,slow=7.9,SNR=24						
JAY				Lg	Lg	21 25 39.5	
	163nm,0.3s,baz=182,slow=8.1,SNR=18						
JAY	Jayapura	0.90	339	P	Pg	21 25 29.7	-3.2
GENI	Genyem	1.15	311	P	Pb	21 25 35.9	-1.6
GENI				S	Sn	21 25 59.6	+6.1
WAMI	Wamena	2.37	257	P	Pb	21 25 57.1	-1.2
WAMI				S	Sb	21 26 28.2	+0.5
SMPI	Sarmi	2.69	300	P	Pn	21 26 00.1	+1.3
SRPI	Serui, Papua	5.01	287	P	Pn	21 26 32.6	+1.8
PMG	Port Moresby	8.55	135	Pn	Pn	21 27 21.1	+1.6
	0.7nm,0.3s,baz=337,slow=7.7,SNR=2.8						
PMG	Port Moresby	8.55	135		Pn	21 27 20.2	+0.8
FAKI	Fak Fak	8.78	273	P	Pn	21 27 24.8	+2.2
FAKI	Fak Fak	8.78	273	Pn	Pn	21 27 24.8	+2.2
FAKI					Sn	21 28 58.7	-3.0
SIJI	Sorong	10.06	284	Pn	Pn	21 27 44.0	+3.7
	1.8nm,0.3s,baz=167,slow=22,SNR=4.8						
COEN	Coen	10.74	169	Pn	Pn	21 27 50.7	+1.2
MTN	Manton Dam	13.59	226		Pn	21 28 26.4	-2.0
MTN					Sn	21 30 55.7	-3.9
KNRA	Kununurra	17.19	224	P	Pn	21 29 16.4	+0.4
KNRA				IAmb	IAmb	21 29 22.0	
	comp=Z,38nm,0.7s						
KNRA				S	Sn	21 32 24.0	-3.4
WRAB	Tennant Creek	17.71	201	P	P	21 29 23.3	-0.1
WRAB				IAmb	IAmb	21 29 37.7	
	comp=Z,20nm,0.9s						
WB2	Warramunga Arr	17.72	201	P	P	21 29 23.9	+0.5
WRA	Warramunga Arr	17.73	201	P	P	21 29 23.7	+0.2
	comp=Z,0.7nm,0.3s,baz=20,slow=12,SNR=24						
WRA				S	Sn	21 32 38.6	-1.8
	comp=Z,0.1nm,0.3s,baz=23,slow=22,SNR=3.7						
WRA	Warramunga Arr	17.73	201	P	Pn	21 29 22.7	0.0
SOEI	Soe	17.82	248	P	P	21 29 27.7	+3.1
SOEI	Soe	17.82	248	P	P	21 29 26.7	+2.0
LUWI	Luwuk	18.39	277	P	P	21 29 32.9	+2.0
LUWI				IAmb	IAmb	21 29 51.3	
	comp=Z,20nm,0.8s						
BBSI	Bau Bau	18.52	263	P	Pn	21 29 36.0	+3.5
	comp=Z,6.2nm,1.2s						
BATI	Baumata	18.53	248	P	Pn	21 29 33.9	+1.4
	comp=Z,5.2nm,0.3s,baz=330,slow=2.6,SNR=14						
BATI	Baumata	18.53	248	P	Pn	21 29 34.3	+1.7
MRSI	Marisa	19.46	281	P	Pn	21 29 43.6	-0.2
EDFI	Ende, Flores	19.96	254	P	P	21 29 48.8	+0.7
BNSI	Bone	20.90	266	P	Pn	21 30 02.2	+1.4
	comp=Z,33nm,0.9s						
BKSI	Bulukumba	20.94	264	P	Pn	21 30 01.7	+0.5
FITZ	Fitzroy Crossi	21.02	225	P	P	21 30 00.7	+1.2
	comp=Z,4.5nm,0.6s,baz=37,slow=14,SNR=13						
FITZ				S	S	21 33 51.4	-2.4
	comp=Z,4.5nm,0.9s,baz=189,slow=14,SNR=3.2						
FITZ	Fitzroy Crossi	21.02	225	P	P	21 29 57.9	-1.6
AS31	Alice Springs	21.33	198	P	P	21 30 03.5	+0.7
ASAR	Alice Springs	21.33	198	P	P	21 30 03.5	+0.6
	comp=Z,4.8nm,0.5s,baz=30,slow=10,SNR=30						
ASAR				S	S	21 34 02.9	+3.0
	comp=Z,0.6nm,0.9s,baz=18,slow=18,SNR=2.8						
ASAR	Alice Springs	21.33	198	P	P	21 30 02.9	0.0
MPSI	Mapaga	21.44	279	P	P	21 30 07.8	+3.7
WSI	Waingapu	21.52	252	P	P	21 30 05.1	+0.1
	comp=Z,1μm,0.4s,comp=Z,95μm						
EIDS	Eidsvold	23.92	157	P	P	21 30 27.9	-1.9
EIDS				IAmb	IAmb	21 30 33.1	
	comp=Z,9.7nm,0.8s						
JCJI	Jatiwangi	32.78	263	P	P	21 31 47.3	-1.9
H11S3	WAKE ISLAND Hy	33.32	48	T	T	22 06 29.3	
	baz=232,slow=75,SNR=29						
H11S2	WAKE ISLAND Hy	33.33	48	T	T	22 06 28.0	
	baz=232,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	33.34	48	T	T	22 06 25.5	
	baz=232,slow=75,SNR=13						
MORW	Morawa	34.89	220	P	P	21 32 08.9	+1.6
RPSI	Rantau Prapat	42.51	278	P	P	21 33 09.3	-2.3
RPSI				IAmb	IAmb	21 33 11.6	
	comp=Z,13nm,1.3s						
CM31	Chiang Mai Arr	46.77	299	P	P	21 33 45.4	-0.1
CM31				IAmb	IAmb	21 33 56.9	
	comp=Z,5.7nm,1.1s						
CMAR	Chiang Mai Arr	46.77	299	P	P	21 33 45.4	-0.1
	comp=Z,0.9nm,0.6s,baz=114,slow=6.5,SNR=9.3						
USRK	Ussuriysk Ar.	48.04	351	P	P	21 33 54.8	-0.2
	comp=Z,1.7nm,0.7s,baz=162,slow=11,SNR=4.6						
SONM	Songino Array	59.31	334	P	P	21 35 18.9	+1.2
	comp=Z,0.2nm,0.4s,baz=104,slow=6.1,SNR=2.2						
SONM	Songino Array	59.31	334	IAmb	IAmb	21 35 21.7	
	comp=Z,1.2nm,1.3s						
MKAR	Makanchi Array	71.72	322	P	P	21 36 38.2	+0.3
	comp=Z,1.3nm,0.7s,baz=113,slow=8.1,SNR=11						
MKAR	Makanchi Array	71.72	322	P	P	21 36 37.1	-0.8
MAKZ	Makanchi	71.92	322	P	P	21 36 38.7	-0.5
MAKZ				IAmb	IAmb	21 36 40.2	
	comp=Z,1.9nm,0.7s						
KSH	Kashi	73.22	313	*e*P	P	21 36 47.4	+0.3
NIL	Nilore	73.57	306	P	P	21 36 49.7	+0.5
ZALV	Zalesovo Beam	73.67	329	P	P	21 36 51.5	+2.2
	comp=Z,0.4nm,0.4s,baz=106,slow=7.1,SNR=2.5						
ZALV	Zalesovo Beam	73.67	329	P	P	21 36 48.7	-0.5
KURK	Kurchatov	75.58	324	P	P	21 37 01.1	+0.6
KURK	Kurchatov	75.58	324	IAmb	IAmb	21 37 01.1	
	comp=Z,1.5nm,0.7s						
KURBB	Kurchatov Arra	75.60	324	P	P	21 37 01.1	+0.5
	comp=Z,0.7nm,0.3s,baz=112,slow=5.4,SNR=2.8						
BVAR	Borovoye Array	81.17	325	P	P	21 37 31.7	+0.4
	comp=Z,1.5nm,0.6s,baz=111,slow=8.1,SNR=10						
ILAR	Eielson Array	85.47	24	P	P	21 37 51.6	-1.7
	comp=Z,0.6nm,0.8s,baz=268,slow=4.2,SNR=6.4						
TORD	Torodi Ar. Bea	138.66	286	PKP	PKiKP	21 44 44.5	-0.5
	comp=Z,0.9nm,0.6s,baz=44,slow=3.2,SNR=5.2						
LPAZ	La Paz	145.19	125	PKPbc	PKPdf	21 44 55.5	+0.2
	comp=Z,5.2nm,0.8s,baz=243,slow=2.3,SNR=21						
CPUP	Villa Florida	145.55	150	PKPbc	PKPdf	21 44 54.2	-0.7
	comp=Z,1.4nm,0.7s,baz=11,slow=3.5,SNR=3.0						
DBIC	Dimbokro	145.87	277	PKPbc	PKPbc	21 44 56.2	-0.1
	comp=Z,5.0nm,0.6s,baz=82,slow=3.5,SNR=8.8						

IDC ***06*** *21:29:42.2±2.8, 36°.25N×70°.97E, h162km±24km, mb3.3/8, mb1 3.3/14, mb1mx3.0/52, mbtmp3.7/14, Error ellipse: s-maj=21.9km s-min=15.8km az=176.0*

ISCJB ***06*** *21:29:45.3±0.5, 36°.55N±0°.04×70°.90E±0°.06, h188km, mb3.5/7, Error ellipse: s-maj=6.7km s-min=5.8km az=143.6*

NNC ***06*** *21:29:49.3±3.8, 36°.83N×70°.83E, h165km±59km, mb3.2, mpv4.0, Error ellipse: s-maj=34.4km s-min=27.0km az=6.0*

ISC 06 21:29:45.9±0.7, 36°.55N±0°.07×70°.88E±0°.07, h188km, n33, σ1§39/38, mb3.5/7, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.99	21	P	Pn	21 31 13.1	0.0
	SNR=87						
UCH	Uchtor	6.33	25	P	Pn	21 31 17.7	+0.1
	SNR=9.6						
EKS2	Erkin-Say	6.50	19	P	Pn	21 31 19.7	+0.2
	SNR=23						
KK31	Karatay Array	6.55	358	P	Pn	21 31 20.1	-0.1
	3.3nm,0.3s,baz=185,slow=12,SNR=122						
KK31				⇑S	Sn	21 32 30.3	-4.4
	7.1nm,0.5s,baz=182,slow=20,SNR=8.1						
AAK	Ala-Archa	6.69	24	⇑P	Pn	21 31 21.9	-0.1
	3.7nm,0.4s						
AAK				⇓S	Sn	21 32 36.7	-1.5
	11nm,0.8s						
AAK	Ala-Archa	6.69	24	P	Pn	21 31 22.2	+0.1
	2.6nm,0.3s,baz=165,slow=5.7,SNR=32						
AAK				S	Sn	21 32 36.9	-1.3
	0.6nm,0.3s,baz=137,slow=22,SNR=10						
AAK	Ala-Archa	6.69	24	P	Pn	21 31 22.5	+0.4
	SNR=7.1						
KBK	Karagaybulak	6.86	26	P	Pn	21 31 24.7	+0.4
	SNR=12						
CHMS	Chumysh	7.10	24	P	Pn	21 31 27.3	+0.1
	SNR=9.5						
USP	Ospenovka	7.26	21	P	Pn	21 31 29.5	0.0
	SNR=5.5						
TKM2	Tokmak 2	7.33	28	⇓P	Pn	21 31 30.4	0.0
	16nm,0.6s						
TKM2				⇓S	Sn	21 32 50.3	-3.0
	2.4nm,0.7s						
TKM2	Tokmak 2	7.33	28	P	Pn	21 31 30.4	0.0
	SNR=31						
GEYT	Alibeck	10.27	282	P	Pn	21 32 09.2	+0.5
	0.3nm,0.3s,baz=101,slow=7.6,SNR=2.8						
GEYT				S	Sn	21 34 01.4	-1.8
	0.5nm,0.3s,baz=41,slow=25,SNR=3.0						
MKAR	Makanchi Array	13.31	36	P	Pn	21 32 48.1	+0.6
	0.1nm,0.3s,baz=206,slow=14,SNR=4.3						
DANN	Dangsing	13.60	123	*e*P	Pn	21 32 50.9	-0.7
KOLN	Koldanda	13.87	126	*e*P	Pn	21 32 54.5	-0.4
AB31	Akbulak array	14.99	331	⇓P	P	21 33 10.0	+0.8
	0.8nm,0.4s,baz=145,slow=12,SNR=23						
KURBB	Kurchatov Arra	15.11	19	P	P	21 33 12.1	+1.7
	0.1nm,0.3s,baz=212,slow=9.7,SNR=3.4						
PKIN	Phulchoki	15.20	122	*e*P	P	21 33 11.9	-0.2
	5.9nm,0.4s						
PKI	Pulchoki	15.21	122	*e*P	Pn	21 33 11.6	0.0
	9.0nm,0.5s						
JIRN	Jiri	15.70	120	*e*P	P	21 33 18.0	+0.4
	10nm,0.3s						
BVAR	Borovoye Array	16.48	359	P	Pn	21 33 28.1	+1.8
	0.2nm,0.3s,baz=166,slow=10,SNR=6.6						
AKTO	Aktyubinsk	16.69	330	⇑P	Pn	21 33 29.7	+0.9
	2.7nm,0.8s						
AKTO	Aktyubinsk	16.69	330	P	Pn	21 33 30.2	+1.4
	0.2nm,0.3s,baz=150,slow=14,SNR=3.6						
TAPN	Taplejung	16.96	118	*e*P	Pn	21 33 34.8	+2.2
	6.3nm,0.4s						
ZALV	Zalesovo Beam	19.91	25	P	P	21 34 03.5	+0.7
	0.8nm,0.4s,baz=218,slow=10,SNR=4.6						
FINES	FINESS Array B	37.39	326	P	P	21 36 41.6	+1.5
	2.0nm,1.0s,baz=116,slow=9.6,SNR=3.4						
ARCES	ARCESS Array B	41.06	338	P	P	21 37 11.8	+1.3
	2.8nm,1.0s,baz=113,slow=9.3,SNR=6.1						
NOA	NORSAR Array B	44.28	323	P	P	21 37 37.3	+0.7
	0.3nm,0.6s,baz=96,slow=7.6,SNR=2.6						
TORD	Torodi Ar. Bea	65.62	269	P	P	21 40 08.6	-1.4
	0.4nm,0.7s,baz=46,slow=5.9,SNR=3.7						
YKA	Yellowknife Ar	81.20	3	P	P	21 41 41.4	+1.2
	1.1nm,0.7s,baz=350,slow=5.1,SNR=3.2						
WRA	Warramunga Arr	82.10	122	P	P	21 41 43.8	-1.8
	0.3nm,0.5s,baz=325,slow=4.8,SNR=6.8						
ASAR	Alice Springs	84.36	125	P	P	21 41 55.0	-2.1
	0.5nm,0.6s,baz=312,slow=5.1,SNR=8.7						

IDC 06 21:54:02.2±2.3, 4°.07S×128°.63E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/29, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=181.0km s-min=27.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.73	161	Pn	Pn	21 57 58.9	+0.7
	0.1nm,0.3s,baz=340,slow=12,SNR=5.1						
ASAR	Alice Springs	20.14	166	P	P	21 58 37.8	-0.3
	1.2nm,0.5s,baz=348,slow=10,SNR=19						
MKAR	Makanchi Array	65.04	327	P	P	22 04 44.4	0.0
	0.1nm,0.4s,baz=131,slow=8.2,SNR=2.4						

NIED ***06*** *22:47:00, 42°.50N×142°.40E, h74km, Mw3.8 Best double couple: M0=6.48000×10^14 NP1:φs=255.00000°, δ13.00000°, λ125.00000°. NP2:φs=39.00000°, δ80.00000°, λ83.00000°.*

ISCJB ***06*** *22:47:53.6±0.2, 42°.52N±0°.03×142°.39E±0°.03, h89km±2km, mb4.0/23, Error ellipse: s-maj=4.7km s-min=3.3km az=150.8*

MOS ***06*** *22:47:53.6±0.7, 42°.51N×142°.46E, h94km, mb3.7/8, Error ellipse: s-maj=9.2km s-min=6.9km az=76.9*

JMA ***06*** *22:47:54.2±0.2, 42°.55N×142°.44E, h84km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs=26.00000°, δ87.00000°, λ59.00000°. NP2:φs=291.00000°, δ31.00000°, λ174.00000°. Principal axes: T Plg40.0000°, Azm268.0000°; N Plg31.0000°, Azm28.0000°; P Plg35.0000°, Azm142.0000°;*

JMA Felt II J1.

NEIC ***06*** *22:47:54.9±1.6, 42°.57N±0°.06×142°.6E±0°.1, h95km±7km, mb4.3/16*

IDC ***06*** *22:47:54.7±1.4, 42°.56N×142°.39E, h83km±10km, mb3.7/16, mb1 3.8/20, mb1mx3.7/57, mbtmp4.0/20, MS3.2/2, Ms1 3.3/2, ms1mx2.5/47, Error ellipse: s-maj=18.0km s-min=11.2km az=120.0*

ISC 06 22:47:54.7±0.6, 42°.53N±0°.04×142°.39E±0°.03, h86km±5km, n102, σ1§08/123, mb4.2/26, 7C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	Hidakashinhida	0.13	154	⇑P	Pn	22 48 06.1	-0.9
JBT2	Biratori 2	0.25	356	⇓P	Pn	22 48 06.3	-1.1
JBT2				S	Sn	22 48 15.5	-1.4
JIAM	Iburiatsuma	0.36	286	⇓P	Pn	22 48 07.9	-0.1
JIAM				*e*S	Sn	22 48 18.5	+0.7
JNBK	Urakawa-nobuka	0.36	132	⇑P	Pn	22 48 07.3	-0.7
JNBK				*e*S	Sn	22 48 17.8	-0.1
JFR	Furan	0.65	13	⇓P	Pn	22 48 09.5	-0.9
JFR				*e*S	Sn	22 48 20.8	-1.3
JCH	Churui	0.72	83	⇑P	Pn	22 48 10.4	-0.7
JCH				S	Sn	22 48 22.5	-0.8
JEW	Eniwo	0.76	295	⇓P	Pn	22 48 10.9	-0.6
JEW				*e*S	Sn	22 48 23.5	-0.5
ERM	Erimo	0.77	132	*de*PN	Pn	22 48 11.7	+0.2
ERM				pmax	pmax		
	comp=Z,481nm,1.0s						
ERM	Erimo	0.77	132		Pn	22 48 11.9	+0.4
JEM	Erimo	0.77	132	⇑P	Pn	22 48 11.7	+0.2
JAB	Ashibetsu	0.98	353	⇓P	Pn	22 48 13.8	-0.2
JAB				*e*S	Sn	22 48 28.9	+0.6
JNB	Noboribetsu	1.00	267	⇓P	Pn	22 48 12.8	-1.3
JNB				S	Sn	22 48 26.8	-1.9
JISS	Ishikarishitsu	1.03	317	⇓P	Pn	22 48 14.2	-0.3
JISS				*e*S	Sn	22 48 28.5	-0.8
JOB	Onbets	1.13	70	⇑P	Pn	22 48 15.5	-0.1
JOB				*e*S	Sn	22 48 31.5	+0.2
JKB	Kayabe	1.19	238	⇑P	Pn	22 48 15.5	-0.9
JKB				S	Sn	22 48 31.1	-1.6
JAR	Ashorobuto	1.27	52	P	Pn	22 48 16.7	-0.7
JAR				S	Sn	22 48 33.9	-0.6
JHR	Hokuryu	1.31	338	⇓P	Pn	22 48 18.2	+0.3
JHR				S	Sn	22 48 37.2	+1.9
JKK2	Kamakawa 2	1.37	11	⇓P	Pn	22 48 18.5	-0.1
JOT	Ohata	1.52	222	⇑P	Pn	22 48 19.7	-0.8
JOT				*e*S	Sn	22 48 39.3	-0.7
ASAJ	Asahikawa	1.60	5	P	Pn	22 48 21.6	+0.1
	comp=Z,76nm,0.3s,baz=211,slow=14,SNR=127						
ASAJ				S	Sn	22 48 40.6	-1.2
	comp=Z,29nm,0.3s,baz=188,slow=30,SNR=10						
JKA	Kamikawa-asahi	1.60	5		Pn	22 48 21.6	+0.1
JKA					Sn	22 48 40.6	-1.2
JSK	Shakotan	1.63	301	⇓P	Pn	22 48 21.3	-0.6
JSK				S	Sn	22 48 42.3	-0.2
GLVR	Golovnino	2.59	61	PN	Pn	22 48 33.5	-1.1
GLVR				*e*S	Sn	22 49 07.1	+1.9
GLVR				pmax	pmax		
	comp=E,245nm,0.5s						
GLVR				pmax	pmax		
	comp=Z,307nm,0.5s						
GLVR				pmax	pmax		
	comp=N,217nm,0.4s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,943nm,0.3s						
GRPR	Tuman	2.87	58	PN	Pn	22 48 37.3	-1.1
GRPR				S	Sn	22 49 13.6	+1.6
GRPR				pmax	pmax		
	comp=Z,266nm,0.4s						
GRPR				pmax	pmax		
	comp=N,49nm,0.3s						
GRPR				pmax	pmax		
	comp=E,157nm,0.3s						
GRPR				smax	smax		
	comp=E,305nm,0.6s						
GRPR				smax	smax		
	comp=N,706nm,0.5s						
LAGR	Lagunnoye	2.91	57	*e*PN	Pn	22 48 37.6	-1.3
LAGR				*e*S	Sn	22 49 14.7	+1.7
LAGR				pmax	pmax		
	comp=N,224nm,0.4s						
LAGR				pmax	pmax		
	comp=E,293nm,0.4s						
LAGR				pmax	pmax		
	comp=Z,375nm,0.4s						
LAGR				smax	smax		
	comp=N,1μm,0.4s						
LAGR				smax	smax		
	comp=E,463nm,0.3s						
YUK	Yuzh-Kuril'sk	2.95	58	*de*PN	Pn	22 48 41.4	+2.0
YSS	Yuzh-Sakhalins	4.43	3	*e*PN	Pn	22 49 00.7	+1.2
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
MJB9	Matsu-Tunnel	6.79	210	Pn	Pn	22 49 33.3	+1.5
MAJO	Matsushiro	6.79	210	PN	Pn	22 49 32.3	+0.6
MAJO	Matsushiro	6.79	210	Pn	Pn	22 49 32.3	+0.6
MAT	Matsushiro	6.79	210	P	Pn	22 49 32.7	+0.9
MJAR	Matsushiro Arr	6.79	210	P	Pn	22 49 32.9	+1.1
	comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=8.6						
USA0B	Ussuriysk Arra	7.76	286	PN	Pn	22 49 46.8	+1.9
USA0B	Ussuriysk Arra	7.76	286	Pn	Pn	22 49 46.8	+1.9
USRK	Ussuriysk Ar.	7.76	286	PN	Pn	22 49 46.5	+1.6
USRK						22 51 14.5	
USRK	Ussuriysk Ar.	7.76	286	P	Pn	22 49 45.9	+1.0
	baz=92,slow=14,SNR=20						
USRK	Ussuriysk Ar.	7.76	286		Pn	22 49 46.5	+1.6
USRK				Sn	Sn	22 51 14.5	+3.4
INU	Inuyama	8.30	212	Pn	Pn	22 49 54.2	+2.0
KLR	Kul'dur	9.99	316	*e*PN	Pn	22 50 16.4	+1.2
KLR	Kul'dur	9.99	316	P	Pn	22 50 16.6	+1.3
	comp=Z,0.1nm,0.3s,baz=120,slow=15,SNR=8.4						
KSRS	Korea Array	12.19	250	P	Pn	22 50 45.5	+0.4
	comp=Z,0.1nm,0.3s,baz=146,slow=35,SNR=3.3						
KSRS				LR	LR	22 54 23.9	
	comp=Z,23nm,19.5s,baz=60,slow=32						
PETK	Petropavlovsk-	14.72	39	P	Pn	22 51 18.2	-0.1
	comp=Z,0.2nm,0.3s,baz=202,slow=7.0,SNR=4.2						
MA2	Magadan	17.84	14	*e*P	P	22 51 56.1	-0.5
MA2				pmax	pmax		
	comp=Z,50nm,1.4s						
SEY	Seymchan	21.27	13	P	P	22 52 33.4	-0.3
	comp=Z,2.5nm,0.6s,baz=343,slow=21,SNR=3.2						
SONM	Songino Array	25.76	294	P	P	22 53 17.8	+0.5
	comp=Z,1.2nm,0.6s,baz=85,slow=8.0,SNR=10.0						
SONM	Songino Array	25.76	294	P	P	22 53 17.6	+0.2
H11N2	WAKE ISLAND Hy	30.73	130	T	T	23 25 48.7	
	baz=324,slow=74,SNR=28						
H11N1	WAKE ISLAND Hy	30.74	130	T	T	23 25 47.7	
	baz=324,slow=74,SNR=24						
H11N3	WAKE ISLAND Hy	30.74	130	T	T	23 25 50.0	
	baz=324,slow=74,SNR=27						
ZAA0	Zalesovo Array	38.97	307	P	P	22 55 11.8	-0.3
ZALV	Zalesovo Beam	38.97	307	P	P	22 55 11.9	-0.2
	comp=Z,1.4nm,0.4s,baz=78,slow=6.8,SNR=6.4						
ZALV				PcP	PcP	22 57 21.6	+0.7
	comp=Z,0.6nm,0.6s,baz=48,slow=2.1,SNR=3.1						
ZALV	Zalesovo Be

comp=Z,34nm,0.7s
INK Inuvik 49.19 29 P **P 22 56 33.8 +0.2**
comp=Z,1.0nm,0.5s,baz=301,slow=8.2,SNR=3.5
KOLN Koldanda 49.34 273 *eP* **P 22 56 36.2 +0.6**
ARSB Arslanbob 50.30 294 P **P 22 56 42.5 -0.1**
KKAR Karatay Array 51.17 297 P **P 22 56 48.6 -0.4**
KKAR Karatay Array 51.17 297 P **P 22 56 48.6 -0.4**
ABKAR Abkulak array 55.08 308 P **P 22 57 17.4 -0.1**
ABKAR PcP **PcP 22 58 14.5 -3.4**
ABKAR Abkulak array 55.08 308 IAmb IAmb 22 57 17.9
comp=Z,2.3nm,0.5s
ABKAR PcP **PcP 22 58 14.5 -3.4**
RES Resolute Bay 57.11 15 P **P 22 57 31.9 +0.4**
baz=304,slow=8.9
RES Resolute Bay 57.11 15 P **P 22 57 31.0 -0.6**
ARCES ARCESS Array B 59.14 339 P **P 22 57 45.6 -0.2**
comp=Z,5.3nm,1.0s,baz=50,slow=8.4,SNR=3.5
ARCES ARCESS Array B 59.14 339 P **P 22 57 44.7 -1.2**
GEYT Alibeck 61.93 297 P **P 22 58 05.8 +0.4**
comp=Z,1.3nm,0.7s,baz=48,slow=2.2,SNR=3.6
GEYT Alibeck 61.93 297 P **P 22 58 05.1 -0.2**
WRA Warramunga Arr 62.60 189 *eP* **P 22 58 09.5 -0.3**
WRA Warramunga Arr 62.60 189 P **P 22 58 09.2 -0.6**
comp=Z,0.3nm,0.4s,baz=7.1,slow=6.9,SNR=7.7
WRA Warramunga Arr 62.60 189 P **P 22 58 08.3 -1.5**
FINES FINESS Array B 64.33 331 P **P 22 58 20.2 -0.6**
comp=Z,3.3nm,0.6s,baz=49,slow=7.2,SNR=22
ASAR Alice Springs 66.33 188 P **P 22 58 34.0 -0.1**
ASAR Alice Springs 66.33 188 P **P 22 58 34.0 -0.1**
comp=Z,0.4nm,0.7s,baz=16,slow=4.8,SNR=3.3
KBZ Khabaz 67.94 310 *eP* **P 22 58 46.0 +1.9**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 67.94 310 P **P 22 58 45.0 +0.9**
comp=Z,1.5nm,0.7s,baz=57,slow=7.9,SNR=4.0
NB2 NORSAR Subarra 69.42 337 P **P 22 58 52.4 -0.7**
comp=Z,1.6nm,0.7s,baz=35,slow=6.5
NOA NORSAR Array B 69.42 337 P **P 22 58 52.7 -0.4**
comp=Z,2.0nm,0.7s,baz=37,slow=6.2,SNR=14
NOA LR LR 23 34 10.3
comp=Z,65nm,18.3s,baz=355,slow=40
AKASG Malin Array Be 70.44 322 P **P 22 58 59.4 -0.1**
comp=Z,0.3nm,0.3s,baz=28,slow=36,SNR=2.8
U15A North Rim 76.07 53 P **P 22 59 30.5 -2.7**
U15A IAmb IAmb 22 59 37.8
comp=Z,5.4nm,0.8s
TXAR Lajitas Array 86.20 53 P **P 23 00 28.6 +1.8**
comp=Z,0.2nm,0.7s,baz=317,slow=7.5,SNR=2.6

*ISCJB **06** 22:59:41.6±0.4,39.°40N±0.°02×26.°39E±0.°03,h9km±3km,*
Error ellipse: s-maj=3.8km s-min=2.8km az=165.5
*ISK **06** 22:59:41.0,39.°40N×26.°36E,h10km,ML2.4/19*
*ATH **06** 22:59:41.5,39.°42N×26.°35E,h20km±2km,ML2.4/2,Error*
ellipse: s-maj=3.4km s-min=1.0km az=254.0
*DDA **06** 22:59:42.2,39.°45N×26.°46E,h7km±4km,ML2.6*
*THE **06** 22:59:42.3,39.°41N×26.°33E,h12km±1km,ML2.3/2,Error*
ellipse: s-maj=2.4km s-min=0.9km az=113.0
ISC 06 22:59:41.9±0.8,39.°41N±0.°02×26.°38E±0.°02,h18km±5km,
n44,σ0.9/96,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.18**	**207**	P	**Pg**	**22 59 46.8**	**+0.3**
PRK				S	**Sg**	**22 59 49.5**	**-0.1**
2μm,0.2s							
PRK	**Paraskevi**	**0.18**	**207**	P	**Pg**	**22 59 46.7**	**+0.2**
PRK				S	**Sg**	**22 59 49.7**	**+0.1**
PRK				AML	AML	22 59 50.0	
comp=N,4364μm,0.2s							
PRK				AML	AML	22 59 50.6	
comp=E,2443μm,0.2s							
AYVA	**Ayvalik**	**0.26**	**112**	*i* P	**Pg**	**22 59 47.6**	**-0.2**
AYVA				*i* S	**Sg**	**22 59 52.0**	**+0.2**
EZN	**Ezine**	**0.42**	**355**	P	**Pg**	**22 59 50.1**	**-0.4**
EZN				S	**Sg**	**22 59 56.5**	**+0.1**
EZN	**Ezine**	**0.42**	**355**	PG	**Pg**	**22 59 50.2**	**-0.3**
SIGR	**SIGRI**	**0.45**	**244**	P	**Pg**	**22 59 50.5**	**-0.6**
SIGR				S	**Sg**	**22 59 56.4**	**-0.8**
comp=E,442nm,0.2s							
SIGR	**SIGRI**	**0.45**	**244**	P	**Pg**	**22 59 50.5**	**-0.6**
SIGR				S	**Sg**	**22 59 56.7**	**-0.4**
SIGR				AML	AML	22 59 57.0	
comp=E,810μm,0.2s							
SIGR				AML	AML	22 59 57.2	
comp=N,952μm,0.3s							
SIGR	**SIGRI**	**0.45**	**244**	PG	**Pg**	**22 59 50.4**	**-0.6**
SIGR				SG	**Sg**	**22 59 56.3**	**-0.9**
BOZC	**Bozcaada**	**0.50**	**330**	*i* P	**Pg**	**22 59 52.2**	**+0.2**
BOZC				*i* S	**Sg**	**22 59 55.9**	**-3.0**
BOZC				IAML_P			
comp=Z,3μm,0.1s							
BOZC	**Bozcaada**	**0.50**	**330**	PG	**Pg**	**22 59 51.5**	**-0.5**
BOZC				SG	**Sg**	**22 59 58.7**	**-0.1**
DKL	**Dikili**	**0.53**	**129**	PG	**Pg**	**22 59 52.5**	**0.0**
ZEDA	**zmir-Bergama**	**0.70**	**129**	*i* P	**Pg**	**22 59 55.2**	**-0.4**
ZEDA				*i* S	**Sg**	**23 00 03.5**	**-1.5**
ZEDA				IAML_P			
comp=Z,840nm,0.1s							
KRBN	**Karaburun**	**0.82**	**170**	PG	**Pg**	**22 59 56.9**	**-1.1**
GELI	**Tayfur-Gelibol**	**0.99**	**4**	PG	**Pg**	**23 00 00.7**	**-0.5**
LPK	**Lapseki**	**1.01**	**17**	PG	**Pg**	**23 00 00.7**	**-0.8**
BALY	**Balya**	**1.02**	**70**	*i* P	**Pb**	**23 00 01.6**	**+0.5**
BALY				*i* S	**Sg**	**23 00 13.0**	**-2.0**
BALY				IAML_P			
comp=Z,946nm,0.1s							
STEP	**BALIKESIR_Sava**	**1.04**	**91**	*i* P	**Pb**	**23 00 01.8**	**+0.3**
STEP				*i* S	**Sb**	**23 00 14.0**	**-0.8**
STEP				IAML_P			
comp=Z,880nm,0.2s							
LIA	**Limnos Island**	**1.04**	**298**	P	**Pb**	**23 00 01.6**	**+0.1**
LIA				S	**Sb**	**23 00 15.6**	**+0.8**
LIA	**Limnos Island**	**1.04**	**298**	P	**Pb**	**23 00 01.3**	**-0.1**
LIA				S	**Sg**	**23 00 15.3**	**-0.6**
CHOS	**Chios island**	**1.05**	**194**	P	**Pb**	**23 00 00.7**	**-0.9**
CHOS	**Chios island**	**1.05**	**194**	P	**Pb**	**23 00 00.8**	**-0.9**
CHOS				S	**Sg**	**23 00 16.2**	**+0.1**
CHOS	**Chios island**	**1.05**	**194**	PG	**Pb**	**23 00 01.5**	**-0.1**
URLA	**Izmir**	**1.06**	**171**	*i* P	**Pb**	**23 00 01.9**	**+0.1**
URLA	**Izmir**	**1.06**	**171**	PG	**Pb**	**23 00 00.8**	**-1.0**
ZEY	**zmir**	**1.17**	**175**	*i* P	**Pb**	**23 00 02.2**	**-1.5**
ZEY				*i* S	**Sb**	**23 00 16.5**	**-1.9**
BALB	**Balikesir**	**1.19**	**78**	PN	**Pn**	**23 00 04.8**	**+1.2**
KRBG	**Karabiga-Canak**	**1.21**	**35**	PN	**Pn**	**23 00 04.1**	**+0.1**
AKHS	**Akhisar**	**1.23**	**115**	*i* P	**Pn**	**23 00 05.0**	**+0.7**
AKHS				IAML_P			
comp=Z,208nm,0.1s							
SMTH	**Samothraki Isl**	**1.25**	**329**	P	**Pn**	**23 00 04.6**	**+0.1**
SMTH	**Samothraki Isl**	**1.25**	**329**	P	**Pn**	**23 00 04.9**	**+0.4**
SMTH				S	**Sb**	**23 00 21.5**	**+0.8**
ERIK	**Erikli-Kesan**	**1.27**	**5**	PN	**Pn**	**23 00 04.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.42**	**25**	PN	**Pn**	**23 00 07.7**	**+0.8**
KESN	**Edirne-Kesan**	**1.44**	**9**	*i* P	**Pn**	**23 00 08.3**	**+0.8**
KESN				*i* S	**Sn**	**23 00 26.7**	**+0.6**
EDC	**Edincik**	**1.48**	**50**	PN	**Pn**	**23 00 07.8**	**+0.1**
ALN	**Alexandroupoli**	**1.51**	**350**	P	**Pn**	**23 00 09.4**	**+1.3**
ALN				S	**Sg**	**23 00 30.1**	**-0.6**
ALN	**Alexandroupoli**	**1.51**	**350**	PN	**Pn**	**23 00 08.9**	**+0.8**
MRMT	**Marmara Adasi**	**1.52**	**38**	PN	**Pn**	**23 00 09.3**	**+1.0**
DURS	**Dursunbey**	**1.63**	**83**	*i* P	**Pn**	**23 00 11.3**	**+1.4**
DURS				IAML_P			
comp=Z,110nm,0.2s							
UKOP	**Uzunkopru-Edir**	**1.73**	**6**	PN	**Pn**	**23 00 12.6**	**+1.5**
SMG	**Samos**	**1.73**	**168**	P	**Pn**	**23 00 13.3**	**+2.1**
SMG				S	**Sb**	**23 00 36.5**	**+1.8**
KCTX	**Karacabey (Bur**	**1.75**	**60**	PN	**Pn**	**23 00 11.9**	**+0.5**
RDO	**Rodhopi**	**1.85**	**340**	P	**Pn**	**23 00 13.7**	**+0.9**
RDO	**Rodhopi**	**1.85**	**340**	PN	**Pn**	**23 00 13.9**	**+1.1**
ARMT	**Armutlu**	**2.23**	**58**	PN	**Pn**	**23 00 19.6**	**+1.5**

*ISCJB **06** 23:24:14.3±0.3,6.°84N±0.°02×73.°10W±0.°03,h153km±3km,*
mb3.6/5,Error ellipse: s-maj=4.8km s-min=3.6km az=34.5
*IDC **06** 23:24:15.5±0.7,6.°77N×72.°96W,h159km±8km,mb3.4/5,*
mb1 3.7/8,mb1mx3.2/50,mbtmp3.9/8,Error ellipse:
s-maj=25.3km s-min=7.1km az=133.0
*RSNC **06** 23:24:16.5±1.2,6.°79N×73.°14W,h143km±5km,ML3.6,*
Mw3.6
ISC 06 23:24:15.1±0.7,6.°86N±0.°03×73.°09W±0.°04,h150km±5km,
n41,σ1.5/45/70,mb3.9/5,7C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**199**	⇓*i* P	**Pn**	**23 24 36.1**	**+0.1**
BARC				*eS*	**Sn**	**23 24 50.6**	**-1.2**
BARC				*i*		23 24 52.3	
comp=Z,2μm,0.4s							
PAMC	**Pamplona, Colo**	**0.61**	**39**	⇑*i* P	**Pn**	**23 24 39.0**	**+1.2**
PAMC				*eS*	**Sn**	**23 24 55.6**	**+0.7**
PAMC				*i*		23 24 57.5	
comp=Z,908nm,0.5s							
BRRC	**Barranca, Sant**	**0.66**	**292**	⇑*i* P	**Pn**	**23 24 38.0**	**+0.6**
BRRC				*eS*	**Sn**	**23 24 54.3**	**-0.1**
BRRC				*i*		23 24 56.4	
comp=Z,1μm,0.2s							
RUSC	**La Rusia**	**0.96**	**180**	⇑*i* P	**Pn**	**23 24 40.0**	**-0.2**
RUSC				*eS*	**Sn**	**23 24 58.1**	**-1.2**
RUSC				*i*		23 24 59.7	
comp=Z,809nm,0.3s							
TAMC	**Tame, Arauca**	**1.36**	**108**	⇑*i* P	**Pn**	**23 24 44.5**	**+1.2**
TAMC				*eS*	**Sn**	**23 25 05.2**	**+0.4**
TAMC				*i*		23 25 06.3	
comp=Z,458nm,0.3s							
OCAC	**Ocana**	**1.39**	**351**	⇑*i* P	**Pn**	**23 24 44.5**	**+0.7**
OCAC				*eS*	**Sn**	**23 25 05.9**	**+0.2**
OCAC				*i*		23 25 07.8	
comp=Z,650nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	⇓*i* P	**Pn**	**23 24 42.6**	**-1.0**
PTBC				*eS*	**Sn**	**23 25 03.0**	**-2.4**
PTBC				*i*		23 25 04.9	
comp=Z,706nm,0.2s							
SPBC	**San Pablo de B**	**1.55**	**219**	⇓*i* P	**Pn**	**23 24 45.0**	**-0.3**
SPBC				*eS*	**Sn**	**23 25 06.3**	**-2.1**
SPBC				*i*		23 25 09.2	
comp=Z,715nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*eP*	**Pn**	**23 24 48.9**	**+0.2**
ZARC				*eS*	**Sn**	**23 25 14.3**	**-0.2**
ZARC				*i*		23 25 19.6	
comp=Z,618nm,0.4s							
SMLC	**San Martn de**	**2.16**	**333**	*eP*	**Pn**	**23 24 52.4**	**+0.2**
SMLC				*eS*	**Sn**	**23 25 21.1**	**+0.4**
SMLC				*i*		23 25 30.7	
comp=Z,427nm,0.1s							
NORC	**Norcasia**	**2.19**	**234**	⇑*i* P	**Pn**	**23 24 52.1**	**-0.5**
NORC				*eS*	**Sn**	**23 25 19.0**	**-2.3**
NORC				*i*		23 25 25.8	
comp=Z,353nm,0.2s							
ROSC	**El Rosal**	**2.35**	**211**	*eP*	**Pn**	**23 24 56.1**	**+1.2**
ROSC				*eS*	**Sn**	**23 25 26.8**	**+1.4**
ROSC				*i*		23 25 35.1	
comp=Z,368nm,0.5s							
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**23 24 56.0**	**+1.2**
comp=Z,78nm,0.3s,baz=44,slow=20,SNR=66							
ROSC				S	**Sn**	**23 25 26.9**	**+1.5**
comp=Z,118nm,0.3s,baz=112,slow=23,SNR=17							
HELC	**Santa Helena**	**2.51**	**255**	*eP*	**Pn**	**23 24 56.5**	**-0.3**
HELC				*eS*	**Sn**	**23 25 28.3**	**-0.5**
HELC				*i*		23 25 35.4	
comp=Z,397nm,0.3s							
CVER	**Cruz Verde, Cu**	**2.52**	**203**	*eP*	**Pn**	**23 24 58.7**	**+1.7**
GUY2C	**Guyana, Caldas**	**2.79**	**234**	*eP*	**Pn**	**23 25 00.7**	**+0.4**
GUY2C				*eS*	**Sn**	**23 25 34.0**	**-1.0**
GUY2C				*i*		23 25 41.0	
comp=Z,202nm,0.3s							
VILC	**Villavicencio,**	**2.80**	**192**	*eP*	**Pn**	**23 25 00.0**	**-0.1**
VILC				*eS*	**Sn**	**23 25 33.1**	**-1.7**
VILC				*i*		23 25 45.0	
comp=Z,203nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.81**	**160**	⇑*i* P	**Pn**	**23 24 59.2**	**-0.9**
PTGC				*eS*	**Sn**	**23 25 32.8**	**-2.2**
PTGC				*i*		23 25 34.6	
comp=Z,233nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.07**	**251**	*eP*	**Pn**	**23 25 04.3**	**+0.7**
CBOC				*eS*	**Sn**	**23 25 38.1**	**-2.9**
CBOC				*i*		23 25 55.0	
comp=Z,114nm,0.5s							
CODC	**Agustn Codazz**	**3.08**	**353**	*eP*	**Pn**	**23 25 04.3**	**+0.8**
CODC				*eS*	**Sn**	**23 25 39.1**	**-1.9**
CODC				*i*		23 25 50.8	
comp=Z,41nm,0.3s							
DBBC	**Dabeiba**	**3.10**	**273**	*eP*	**Pn**	**23 25 04.1**	**+0.3**
DBBC				*eS*	**Sn**	**23 25 40.5**	**-1.1**
DBBC				*i*		23 25 48.2	
comp=Z,254nm,0.4s							
SDV	**Santo Domingo**	**3.16**	**50**	*eP*	**Pn**	**23 25 06.0**	**+1.3**
SDV				*eS*	**Sn**	**23 25 42.6**	**-0.5**
SDV				*i*		23 25 45.9	
comp=Z,173nm,0.4s							
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**23 25 06.0**	**+1.3**
comp=Z,34nm,0.3s,baz=243,slow=13,SNR=39							
SDV				S	**Sn**	**23 25 43.3**	**+0.2**
comp=Z,54nm,0.3s,baz=65,slow=22,SNR=44							
ORTC	**Ortega, Tolima**	**3.63**	**216**	*eP*	**Pn**	**23 25 10.8**	**+0.1**
ORTC				*eS*	**Sn**	**23 25 52.9**	**-0.9**
ORTC				*i*		23 26 00.3	
comp=Z,137nm,0.5s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*	**Pn**	**23 25 10.7**	**-0.4**
SJCC				*eS*	**Sn**	**23 25 50.5**	**-3.9**
SJCC				*i*		23 25 56.2	
comp=Z,66nm,0.3s							
PLMC	**San Jos del P**	**3.72**	**239**	*eP*	**Pn**	**23 25 12.3**	**+0.4**
PLMC				*eS*	**Sn**	**23 25 56.7**	**+0.8**
PLMC				*i*		23 25 59.1	
comp=Z,112nm,0.4s							
GUVC	**San Jose del G**	**4.31**	**174**	*eS*	**Sn**	**23 26 08.0**	**-1.7**
YOTC	**Yotoco, Valle**	**4.32**	**229**	*eP*	**Pn**	**23 25 18.9**	**-0.8**
YOTC				*eS*	**Sn**	**23 26 11.9**	**+1.9**
YOTC				*i*		23 26 15.8	
comp=Z,16nm,0.6s							
MACC	**Macarena, Meta**	**4.75**	**189**	*eP*	**Pn**	**23 25 23.3**	**-2.0**
MACC				*eS*	**Sn**	**23 26 14.9**	**-5.0**
MACC				*i*		23 26 17.8	
comp=Z,48nm,1.5s							
URIC	**Uribia, Colomb**	**4.93**	**13**	*eP*	**Pn**	**23 25 26.9**	**-0.8**
URIC				*eS*	**Sn**	**23 26 20.7**	**-3.6**
URIC				*i*		23 26 23.4	
comp=Z,20nm,0.4s							
SOTA	**Rioblanco**	**5.86**	**217**	*eP*	**Pn**	**23 25 41.6**	**+1.2**
SOTA				*i*		23 26 55.9	
comp=Z,17nm,0.6s							
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**23 26 21.5**	**-0.3**
comp=Z,1.0nm,0.3s,baz=230,slow=11,SNR=7.3							
PCRV				S	**Sn**	**23 28 00.8**	**-0.8**
comp=Z,0.8nm,0.3s,baz=344,slow=20,SNR=2.7							
TEIG	**Tepich**	**19.84**	**314**	P	**Pn**	**23 28 39.0**	**+1.4**
comp=Z,0.6nm,0.3s,baz=300,slow=5.3,SNR=5.0							
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**23 31 07.0**	**+1.1**
comp=Z,0.4nm,0.4s,baz=125,slow=9.0,SNR=5.2							
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**23 32 33.1**	**0.0**
comp=Z,1.1nm,0.4s,baz=135,slow=9.4,SNR=1.7							
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**23 32 40.7**	**+1.0**
comp=Z,0.3nm,0.3s,baz=135,slow=9.0,SNR=4.6							
YBH	**Yreka Blue Hor**	**55.93**	**317**	P	**P**	**23 33 37.1**	**-0.7**
comp=Z,0.6nm,0.4s,baz=128,slow=6.9,SNR=2.5							
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**23 34 27.4**	**+0.1**
comp=Z,0.8nm,0.5s,baz=131,slow=6.6,SNR=2.3							
MKAR	**Makanchi Array**	**122.28**	**20**	PKP	**PKPdf**	**23 42 51.9**	**-0.6**
comp=Z,0.1nm,0.4s,baz=277,slow=2.3,SNR=1.5							
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**23 43 45.6**	**-1.1**
comp=Z,1.1nm,0.5s,baz=115,slow=3.7,SNR=15							
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**23 43 48.8**	**-1.0**
comp=Z,0.9nm,0.4s,baz=107,slow=2.7,SNR=17							

*VAO **06** 23:31:56.9±0.8,22.°00S×69.°37W,h185km,mb4.2*
*NEIC **06** 23:31:59.8±3.5,21.°74S±0.°05×68.°60W±0.°08,h128km±4km*
*SJA **06** 23:31:59.5±0.5,21.°69S×68.°60W,h136km±3km,ML3.3,*
MW3.5
*IDC **06** 23:31:60.0±1.1,21.°64S×68.°29W,h109km±13km,mb3.5/7,*
mb1 3.7/9,mb1mx3.5/38,mbtmp3.9/9,MS2.5/1,Ms1 2.5/1,
ms1mx2.2/17,Error ellipse: s-maj=22.4km s-min=17.3km
az=180.0
*ISCJB **06** 23:31:59.6±0.3,21.°76S±0.°03×68.°66W±0.°05,h142km±4km,*
mb3.5/6,Error ellipse: s-maj=7.3km s-min=4.7km
az=176.1
*GUC **06** 23:32:00.6±0.7,21.°69S×68.°63W,h126km±5km,ML4.4*
ISC 06 23:32:00.4±0.6,21.°76S±0.°04×68.°61W±0.°05,h130km±6km,
n73,σ1.9/32/91,mb3.8/8,10C-1D,Chile-Bolivia border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.59**	**266**	⇑*i* P	**Pn**	**23 32 20.9**	**+0.7**
PB09				*i* S	**Sn**	**23 32 35.4**	**+0.3**
PB09	**IPOC Station P**	**0.59**	**266**	*i* P	**Pn**	**23 32 20.7**	**+0.5**
PB09				*eS*	**Sn**	**23 32 36.4**	**+1.2**
LVC	**Limon Verde**	**0.89**	**198**	P	**Pn**	**23 32 23.3**	**+0.6**
52nm,0.3s,baz=355,slow=6.5,SNR=461							
LVC				S	**Sn**	**23 32 39.9**	**+0.2**
271nm,0.3s,baz=285,slow=20,SNR=107							
LVC	**Limon Verde**	**0.89**	**198**		**Pn**	**23 32 23.3**	**+0.6**
LVC					**Sn**	**23 32 37.6**	**-2.1**
LVC	**Limon Verde**	**0.89**	**198**	*i* P	**Pn**	**23 32 23.8**	**+1.0**
LVC				IAML		23 32 41.0	
1μm,0.2s							
LVC				*eS*	**Sn**	**23 32 41.4**	**+1.7**
LVC	**Limon Verde**	**0.89**	**198**	*eP*	**Pn**	**23 32 23.4**	**+0.6**
LVC	**Limon Verde**	**0.89**	**198**	*eP*	**Pn**	**23 32 23.4**	**+0.6**
PB01	**IPOC Station P**	**1.08**	**311**	⇑*i* P	**Pn**	**23 32 24.1**	**0.0**
PB01				*i* S	**Sn**	**23 32 41.7**	**-0.5**
PB01				IAML		23 32 42.6	
comp=N,5μm,0.3s							
PB01	**IPOC Station P**	**1.08**	**311**		**Pn**	**23 32 24.2**	**0.0**
PB01				Sn	**Sn**	**23 32 39.3**	**-2.9**
PB03	**IPOC Station P**	**1.10**	**255**	⇑*i* P	**Pn**	**23 32 25.2**	**+0.8**
PB03				*i* S	**Sn**	**23 32 43.2**	**+0.5**
PB03				IAML		23 32 43.7	
comp=E,7μm,0.2s							
PB07	**IPOC Station P**	**1.19**	**271**	⇑*i* P	**Pn**	**23 32 25.9**	**+0.6**
PB07				*i* S	**Sn**	**23 32 44.8**	**+0.6**
PB07				IAML		23 32 45.6	
comp=N,12μm,0.4s							
PB02	**IPOC Station P**	**1.27**	**290**	⇑*i* P	**Pn**	**23 32 26.4**	**+0.3**
PB02				*i* S	**Sn**	**23 32 46.0**	**+0.3**
PB02				IAML		23 32 47.9	
comp=E,7μm,0.3s							
PB06	**IPOC Station P**	**1.30**	**223**	⇑*i* P	**Pn**	**23 32 27.6**	**+1.2**
PB06				*i* S	**Sn**	**23 32 47.7**	**+1.5**
PB06				IAML		23 32 48.4	
comp=E,5μm,0.4s							
PB06	**IPOC Station P**	**1.30**	**223**	*i* P	**Pn**	**23 32 27.4**	**+1.0**
PB04	**IPOC Station P**	**1.54**	**248**	⇑*i* P	**Pn**	**23 32 29.9**	**+0.8**
PB04				*i* S	**Sn**	**23 32 51.9**	**+0.9**
PB04				IAML		23 32 53.6	
comp=N,4μm,0.2s							
PB04	**IPOC Station P**	**1.54**	**248**		**Pn**	**23 32 29.9**	**+0.8**
PB04					**Sn**	**23 32 47.7**	**-3.2**
PB04	**IPOC Station P**	**1.54**	**248**	*i* P	**Pn**	**23 32 29.9**	**+0.8**
PB15	**IPOC Station P**	**1.65**	**209**	⇑*i* P	**Pn**	**23 32 31.6**	**+1.2**
PB15				*i* S	**Sn**	**23 32 55.3**	**+2.0**
PB15				IAML		23 32 57.6	
comp=E,11μm,0.4s							
PB15	**IPOC Station P**	**1.65**	**209**	*i* P	**Pn**	**23 32 31.6**	**+1.2**
PB15				*eS*	**Sn**	**23 32 55.4**	**+2.0**
GO01	**Chusmiza**	**2.15**	**345**	⇑*i* P	**Pn**	**23 32 36.5**	**-0.2**
GO01				*i* S	**Sn**	**23 33 04.0**	**-0.4**
GO01				IAML		23 33 05.7	
comp=N,2μm,0.4s							
GO01	**Chusmiza**	**2.15**	**345**		**Pn**	**23 32 36.6**	**-0.2**
PB11	**IPOC Station P**	**2.21**	**334**	⇑*i* P	**Pn**	**23 32 36.7**	**-0.5**
PB11				*i* S	**Sn**	**23 33 04.2**	**-1.1**
PB11				IAML		23 33 06.0	
comp=E,3μm,0.4s							
PB11	**IPOC Station P**	**2.21**	**334**		**Pn**	**23 32 36.7**	**-0.5**
PB10	**IPOC Station P**	**2.50**	**225**		**Pn**	**23 32 41.8**	**+1.1**
PB10					**Sn**	**23 33 09.0**	**-2.6**
PB10	**IPOC Station P**	**2.50**	**225**	*i* P	**Pn**	**23 32 41.5**	**+0.8**
MNMC	**Minye Minye**	**2.77**	**340**		**Pn**	**23 32 43.9**	**-0.5**
YJA	**Yavi**	**2.91**	**99**	⇓*i* P	**Pn**	**23 32 47.0**	**+0.8**
YJA				IAML		23 32 48.8	
comp=Z,12nm,0.4s							
PB14	**IPOC Station P**	**3.30**	**210**	*i* P	**Pn**	**23 32 52.0**	**+0.8**
GO02	**Mina Guanaco**	**3.51**	**195**		**Pn**	**23 32 54.0**	**+0.1**
AZAP	**Zapla**	**4.09**	**128**	*i* P	**Pn**	**23 33 02.5**	**+1.0**
SLA	**San Lorenzo**	**4.11**	**137**	*i* P	**Pn**	**23 33 03.2**	**+1.4**
SLA				IAML		23 33 04.8	
comp=Z,68nm,0.7s							
LPAZ	**La Paz**	**5.46**	**5**	P	**Pn**	**23 33 21.9**	**+1.7**
comp=Z,0.7nm,0.3s,baz=173,slow=4.9,SNR=14							
LPAZ	**La Paz**	**5.46**	**5**	*eP*	**Pn**	**23 33 22.0**	**+1.7**
LPAZ	**La Paz**	**5.46**	**5**	*eP*	**Pn**	**23 33 22.0**	**+1.7**
GO03	**Copiap**	**6.00**	**194**	Pn	**Pn**	**23 33 25.7**	**-1.3**
GO04	**Tololo Observa**	**8.61**	**193**	Pn	**Pn**	**23 34 00.8**	**-1.4**
GO04					**Sn**	**23 35 35.8**	**-2.0**
ACCO	**Cerro Coronel**	**8.80**	**183**	*i* P	**Pn**	**23 34 04.5**	**-0.4**
APLL	**PUNTA DE LOS L**	**8.80**	**168**	*i* P	**Pn**	**23 34 02.5**	**-2.2**
SIV	**San Ignacio**	**9.15**	**52**	P	Pn	23 34 05.2	-4.3
comp=Z,1.2nm,0.3s,baz=252,slow=12,SNR=30							
SIV				S	Sn	23 35 40.0	-11
comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=6.5							
TCA	**Tanti**	**10.19**	**160**	*i* P	**Pn**	**23 34 20.6**	**-2.8**
CPUP	**Villa Florida**	**11.27**	**116**	P	**Pn**	**23 34 35.5**	**-2.1**
comp=Z,0.1nm,0.3s,baz=306,slow=9.9,SNR=5.2							
NNA	**Nana**	**12.50**	**320**	LR	LR	23 39 33.8	
comp=Z,21nm,20.7s,baz=122,slow=36			

H11N2	WAKE ISLAND Hy 33.16	47	T	T	00 28 10.3		
	baz=230,slow=76,SNR=49						
H11N3	WAKE ISLAND Hy 33.16	47	T	T	00 28 10.3		
	baz=230,slow=76,SNR=8.1						
NWAO	Narrogin (SRO)	37.95 215	LR	LR	00 12 21.9		
	comp=Z,53nm,18.8s,baz=46,slow=41						
MKAR	Makanchi Array	71.67 321	P	P	23 57 41.0	+0.4	
	0.2nm,0.8s,baz=99,slow=7.4,SNR=3.8						

IDC 07 00:37:51.3±1.2,57°.19S×151°.01W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.7/18,mbtmp3.6/3,Error ellipse: s-maj=365.5km s-min=32.9km az=1.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	62.40	269	P	P	00 48 15.7	-0.1
	0.8nm,0.8s,baz=142,slow=6.7,SNR=6.4						
H01W1	Cape Leeuwin H	63.90	246	T	T	01 58 30.2	
	baz=142,slow=76,SNR=7.0						
H01W2	Cape Leeuwin H	63.91	246	T	T	01 58 30.6	
	baz=142,slow=76,SNR=9.4						
H01W3	Cape Leeuwin H	63.92	246	T	T	01 58 31.4	
	baz=142,slow=76,SNR=7.6						
WRA	Warramunga Arr	65.17	272	P	P	00 48 33.9	-0.2
	0.2nm,0.6s,baz=146,slow=5.9,SNR=2.8						
LPAZ	La Paz	72.62	93	P	P	00 49 21.2	-0.1
	0.9nm,0.8s,baz=224,slow=5.1,SNR=4.1						
MKAR	Makanchi Array	146.41	275	PKPbc	PKPbc	00 57 33.0	-0.1
	1.1nm,0.7s,baz=127,slow=5.0,SNR=11						
ZALV	Zalesovo Beam	149.02	288	PKPbc	PKPbc	00 57 39.0	-0.9
	0.7nm,0.5s,baz=122,slow=2.8,SNR=4.1						

ISCJB 07 01:01:16.5±1.4,17°.6S±0°.4×178°.4W±0°.2,h547km,mb3.6/7, Error ellipse: s-maj=51.3km s-min=20.2km az=152.5
IDC 07 01:01:20.6±5.9,17°.69S×178°.40W,h586km±64km,mb2.9/6, mb1 3.2/6,mb1mx3.0/25,mbtmp3.8/6,Error ellipse: s-maj=43.0km s-min=21.7km az=137.0

ISC 07 01:01:16.8±1.3,17°.7S±0°.3×178°.3W±0°.2,h547km,n10, σ0°76/12,mb3.5/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.75	259	P	P	01 08 42.0	-0.1
	0.1nm,0.4s,baz=95,slow=6.3,SNR=6.1						
WRA				PcP	PcP	01 10 11.3	-1.3
	0.3nm,0.5s,baz=90,slow=3.4,SNR=3.8						
ASAR	Alice Springs	44.92	254	P	P	01 08 44.6	+1.2
	1.5nm,0.5s,baz=88,slow=9.0,SNR=19						
ASAR				PcP	PcP	01 10 13.1	-0.1
	0.4nm,0.4s,baz=111,slow=3.6,SNR=4.3						
MJAR	Matsushiro Arr	67.81	323	P	P	01 11 20.2	-0.3
	68nm,0.2s,baz=153,slow=6.5,SNR=3.2						
PETK	Petropavlovsk-	73.52	345	P	P	01 11 54.6	+0.7
	4.0nm,0.8s,baz=152,slow=6.5,SNR=2.9						
NVAR	Mina Array Bea	79.23	44	P	P	01 12 26.6	+0.7
	0.2nm,0.5s,baz=230,slow=7.0,SNR=2.5						
ILAR	Eielson Array	85.69	13	P	P	01 12 57.0	-0.5
	0.4nm,0.4s,baz=220,slow=4.8,SNR=10						
TXAR	Lajitas Array	85.83	58	P	P	01 12 59.2	0.0
	0.5nm,0.8s,baz=202,slow=4.5,SNR=3.9						
ARCES	ARCESS Array B	126.15	350	PKP	PKPdf	01 19 15.8	-0.8
	3.0nm,0.9s,baz=358,slow=2.2,SNR=2.8						
BRTR	Keskin Array B	144.71	315	PKP	PKPdf	01 19 51.5	-0.4
	0.7nm,0.5s,baz=80,slow=2.5,SNR=5.0						
GERES	GERESS Array B	147.45	345	PKPbc	PKPbc	01 19 59.6	+0.1
	1.3nm,0.6s,baz=27,slow=2.4,SNR=5.2						

IDC 07 01:08:11.7±11.0,55°.88S×150°.99W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.6/24,mbtmp3.5/2,Error ellipse: s-maj=1005.0km s-min=110.8km az=166.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	62.45	268	P	P	01 18 36.3	-0.3
	0.4nm,0.5s,baz=141,slow=7.0,SNR=6.2						
H01W1	Cape Leeuwin H	64.45	245	T	T	02 28 48.2	
	baz=145						
H01W2	Cape Leeuwin H	64.46	245	T	T	02 28 53.1	
	baz=145						
H01W3	Cape Leeuwin H	64.47	245	T	T	02 28 48.5	
	baz=145						
WRA	Warramunga Arr	65.15	271	P	P	01 18 54.8	+0.4
	0.3nm,0.9s,baz=143,slow=8.4,SNR=3.3						
ZALV	Zalesovo Beam	148.60	290	PKPbc	PKPbc	01 27 58.6	-0.7
	0.7nm,0.5s,baz=92,slow=4.3,SNR=2.9						

IDC 07 01:15:24.1±4.3,57°.48S×26°.38W,h0km,mb4.0/2, mb1 4.2/2,mb1mx3.7/15,mbtmp4.0/2,Error ellipse: s-maj=149.3km s-min=57.8km az=171.0
ISCJB 07 01:15:45.5±1.1,56°.4S±0°.2×26°.7W±0°.6,h150km,mb3.7/2, Error ellipse: s-maj=46.4km s-min=14.7km az=157.0

ISC 07 01:15:46.8±1.1,56°.4S±0°.2×26°.9W±0°.3,h150km,n10, σ1°08/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.37	158	P	P	01 19 29.2	+1.5
VNA3	Neumayer Olymp	16.57	160	P	Pn	01 19 29.9	-0.1
VNA2	Neumayer--Watz	16.77	158	P	Pn	01 19 31.8	-0.6
	baz=335,slow=14						
SNAA	Sanae	18.32	156	P	P	01 19 48.6	-0.5
H10N1	ASCENSION HYDR	49.43	16	T	T	02 18 22.8	
	baz=187						
H10N3	ASCENSION HYDR	49.43	16	T	T	02 18 14.9	
	baz=187						
H10N2	ASCENSION HYDR	49.45	16	T	T	02 18 20.4	
	baz=187						
LPAZ	La Paz	50.75	305	P	P	01 24 32.4	+0.4
	1.2nm,0.4s,baz=146,slow=4.7,SNR=3.0						
TORD	Torodi Ar. Bea	73.30	29	P	P	01 27 01.8	+0.2
	0.7nm,0.7s,baz=203,slow=6.6,SNR=4.0						
ILAR	Eielson Array	150.51	311	PKPbc	PKPbc	01 35 17.8	-1.3
	0.2nm,0.7s,baz=116,slow=3.5,SNR=2.3						

SVSA 07 01:16:25.5±1.1,38°.93N×26°.76W,h10km,MD3.5,ML2.3, Error ellipse: s-maj=12.9km s-min=9.1km az=107.0, Azores Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCM	Serra do Cume	0.36	231	eP	Pg	01 16 32.1	-0.5
PSCM				eS	Sg	01 16 36.8	-0.5
PSCM				A	A	01 16 41.2	
	139nm,0.2s						
ADH	Angra Heroismo	0.46	234	eP	Pg	01 16 33.2	-1.2
ADH				eS	Sg	01 16 38.4	-2.1
ADH				A	A	01 16 40.5	
	122nm,0.2s						
ROSA	Rosais	1.17	260	eP	Pb	01 16 43.0	-4.9
ROSA				eS	Sb	01 16 57.1	-6.0
ROSA				A	A	01 16 58.6	
	22nm,0.2s						
PICO	Pico	1.37	252	eS	Sb	01 17 01.4	-7.4
PICO				A	A	01 17 03.0	
	42nm,0.4s						

ISCJB 07 01:16:37.0±0.8,0°.0S±0°.1×121°.8E±0°.1,h202km,mb3.0/2, Error ellipse: s-maj=20.3km s-min=16.5km az=152.3
DJA 07 01:16:39.4±0.9,0°.N±9°.×12°.2E±°,h187km±8km,M2.8/6, MLv2.8/6
IDC 07 01:18:04.8±7.6,6°.42S×124°.99E,h519km±110km,mb3.0/1, mb1 2.7/4,mb1mx2.6/31,mbtmp3.5/4,Error ellipse: s-maj=128.4km s-min=38.2km az=50.0

ISC 07 01:16:37.4±1.3,0°.2N±0°.1×121°.8E±0°.1,h202km,n7, σ1°40/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.33	26	P	Pn	01 17 04.6	+0.3
MRSI				S	S	01 17 24.9	-0.4
APSI	Ampana	1.09	188	P	Pn	01 17 09.6	+1.6
MPSI	Mapaga	1.91	275	P	Pn	01 17 16.0	+0.9
KMSI	Cibinong	2.22	80	P	Pn	01 17 19.7	+1.3
FITZ	Fitzroy Crossi	18.55	168	P	P	01 20 38.3	-0.9
	0.1nm,0.3s,baz=4.7,slow=9.7,SNR=1.7						
WRA	Warramunga Arr	23.47	149	P	P	01 21 27.2	-1.8
	0.2nm,0.3s,baz=325,slow=11,SNR=5.0						
ASAR	Alice Springs	26.46	154	P	P	01 21 55.4	-0.7
	0.1nm,0.3s,baz=343,slow=15,SNR=2.9						

SKO 07 01:16:37.9,40°.74N×22°.74E,h9km,M2.5,ML2.7
THE 07 01:16:39.6,40°.84N×22°.76E,h2km±24km,ML1.5/7,Error ellipse: s-maj=24.5km s-min=0.4km az=0.0
ATH 07 01:16:40.0,40°.84N×22°.79E,h10km±31km,ML1.5/5,Error ellipse: s-maj=31.6km s-min=1.1km az=0.0

ISC 07 01:16:39.5±1.0,40°.84N±0°.02×22°.75E±0°.03,h12km±10km, n26,σ0°35/45,3C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	Thessaloniki	0.26	141	P	Pg	01 16 44.8	-0.1
THE				S	Sg	01 16 48.4	-0.2
	200nm,0.2s						
THE	Thessaloniki	0.26	141	⇑ iPg	Pg	01 16 44.8	-0.1
THE				i Sg	Sg	01 16 48.4	-0.2
THE	Thessaloniki	0.26	141	P	Pg	01 16 44.8	-0.1
THE				S	Sg	01 16 48.4	-0.2
THE				AML	AML	01 16 48.5	
	comp=E,312μm,0.3s						
THE				AML	AML	01 16 48.5	
	comp=N,432μm,0.2s						
KNT	Kendrikon	0.34	20	P	Pg	01 16 46.5	+0.1
KNT				S	Sg	01 16 50.9	-0.2
	comp=N,165nm,0.1s						
KNT	Kendrikon	0.34	20	⇑ iPg	Pg	01 16 46.5	+0.1
KNT	Kendrikon	0.34	20	P	Pg	01 16 46.5	+0.1
KNT				S	Sg	01 16 51.2	+0.1
KNT				AML	AML	01 16 51.3	
	comp=E,326μm,0.2s						
KNT				AML	AML	01 16 52.4	
	comp=N,312μm,0.1s						
HORT	Hortiatis	0.36	131	P	Pg	01 16 46.4	-0.3
HORT				S	Sg	01 16 51.5	-0.1
	comp=N,90nm,0.2s						
HORT	Hortiatis	0.36	131	P	Pg	01 16 46.4	-0.3
HORT				S	Sg	01 16 51.5	-0.1
HORT				AML	AML	01 16 52.3	
	comp=N,159μm,0.2s						
HORT				AML	AML	01 16 52.4	
	comp=E,195μm,0.2s						
SOH	Sokhos	0.46	92	P	Pg	01 16 48.5	-0.1
SOH				S	Sg	01 16 54.8	+0.1
	comp=E,92nm,0.5s						
SOH	Sokhos	0.46	92	i Pg	Pg	01 16 48.7	+0.1
SOH				i Sg	Sg	01 16 55.5	+0.8
SOH	Sokhos	0.46	92	P	Pg	01 16 48.7	+0.1
SOH				S	Sg	01 16 54.8	+0.1
SOH				AML	AML	01 16 57.5	
	comp=N,210μm,0.3s						
SOH				AML	AML	01 17 03.0	
	comp=E,168μm,0.3s						
VAY	Valandovo	0.50	345	⇑ iPg	Pg	01 16 49.6	+0.2
VAY				i Sg	Sb	01 16 57.1	-0.5
VAY				eLg	Lg	01 16 57.2	
	comp=N,244nm,0.3s						
VAY				eLg	Lg	01 16 57.3	
	comp=E,356nm,0.2s						
SRS	Serrai	0.70	66	P	Pg	01 16 52.6	-0.4
SRS				S	Sg	01 17 02.2	-0.1
	comp=E,28nm,0.2s						
SRS	Serrai	0.70	66	i Pg	Pg	01 16 52.7	-0.4
SRS	Serrai	0.70	66	P	Pg	01 16 52.7	-0.4
SRS				S	Sg	01 17 02.1	-0.2
PLG	Polygyros	0.71	131	P	Pg	01 16 52.8	-0.3
PLG				S	Sb	01 17 03.2	-0.3
PLG	Polygyros	0.71	131	P	Pg	01 16 52.9	-0.3
PLG				S	Sg	01 17 02.3	-0.2
LIT	Litokhoron	0.76	195	P	Pg	01 16 53.8	-0.4
LIT				S	Sg	01 17 04.5	+0.3
	comp=E,45nm,0.2s						
KZN	Kozani	0.91	235	P	Pb	01 16 58.0	+0.7
STIP	Stip	0.95	334	i Pg	Pg	01 16 56.8	-1.1
STIP				i Sg	Sg	01 17 10.5	+0.2
STIP				eLg	Lg	01 17 10.9	
	comp=N,5.4nm,0.2s						
STIP				eLg	Lg	01 17 11.0	
	comp=E,8.6nm,0.3s						
NVR	Nevrokopi	0.99	58	P	Pg	01 16 58.0	-0.5
NVR				S	Sb	01 17 11.9	+0.3
	comp=E,38nm,0.5s						
NVR	Nevrokopi	0.99	58	P	Pb	01 16 58.7	+0.1
NVR				S	Sb	01 17 11.9	+0.3
NVR				AML	AML	01 17 15.5	
	comp=N,92μm,0.6s						
NVR				AML	AML	01 17 16.2	
	comp=E,55μm,0.2s						
FNA	Florina	1.04	268	i Pg	Pg	01 16 59.3	-0.2
MMB	Musomiste	1.06	44	i Pg	Pb	01 16 59.9	+0.2
KKB	Krupnik	1.06	14	i Pg	Pg	01 16 59.4	-0.5
VTS	Vitosha	1.82	11	i Pn	Pb	01 17 13.3	+0.5

ISCJB 07 01:33:38.5±0.8,22°.2S±0°.1×179°.3W±0°.1,h604km,mb4.0/9, Error ellipse: s-maj=19.1km s-min=11.6km az=153.3
IDC 07 01:33:39.9±2.3,21°.49S×179°.40W,h598km±26km,mb3.5/9, mb1 3.7/9,mb1mx3.3/30,mbtmp4.4/9,Error ellipse: s-maj=59.4km s-min=14.3km az=160.0
NEIC 07 01:33:41.2±2.2,21°.7S±0°.2×179°.4W±0°.2,h615km±9km, mb4.3/9

ISC 07 01:33:40.3±0.9,22°.0S±0°.2×179°.3W±0°.1,h604km,n24, σ1°41/27,mb4.2/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.87	329	P	P	01 35 11.6	-1.0
MSVF					S	01 36 28.5	+0.7
STKA	Stephens Creek	36.05	246	P	P	01 39 53.5	+0.9
	2.1nm,0.4s,baz=81,slow=14,SNR=5.5						
STKA	Stephens Creek	36.05	246	IAmb	IAmb	01 40 56.8	
	comp=Z,5.9nm,1.6s						
AS31	Alice Springs	42.99	258	P	P	01 40 48.9	+0.7
ASAR	Alice Springs	42.99	258	P	P	01 40 48.5	+0.3
	comp=Z,7.6nm,0.6s,baz=91,slow=8.3,SNR=67						
ASAR				PcP	PcP	01 42 23.7	-0.8
	comp=Z,0.7nm,0.5s,baz=108,slow=4.0,SNR=4.2						
ASAR				ScP	ScP	01 45 21.3	+2.4
	comp=Z,0.7nm,0.8s,baz=91,slow=3.7,SNR=3.9						
ASAR				S	S	01 46 29.3	-2.0
	comp=Z,0.9nm,0.9s,baz=92,slow=17,SNR=4.6						
ASAR	Alice Springs	42.99	258	P	P	01 40 48.2	0.0
WB2	Warramunga Arr	43.17	264	P	P	01 40 49.6	0.0
WRA	Warramunga Arr	43.19	264	P	P	01 40 49.2	-0.6
	comp=Z,7.0nm,0.6s,baz=93,slow=8.0,SNR=146						
WRA				S	S	01 46 33.7	-0.4
	comp=Z,0.6nm,0.9s,baz=103,slow=19,SNR=3.0						
WRA	Warramunga Arr	43.19	264	P	P	01 40 49.3	-0.5
KNRA	Kununurra	49.34	268	P	P	01 41 36.7	+0.6
FITZ	Fitzroy Crossi	51.62	264	P	P	01 41 52.9	+0.3
	comp=Z,1.3nm,0.3s,baz=123,slow=6.6,SNR=16						
FITZ	Fitzroy Crossi	51.62	264	IAmb	IAmb	01 41 54.0	
	comp=Z,14nm,1.4s						
SIJI	Sorong	52.43	287	P	P	01 41 57.7	-0.8
	comp=Z,26nm,0.8s,baz=93,slow=4.9,SNR=4.7						
SOEI	Soe	55.32	273	P	P	01 42 20.5	+1.6
SOEI				IAmb	IAmb	01 42 25.2	
	comp=Z,20nm,0.6s						
GSTR	Great Sitkin T	73.78	2		PcP	01 44 25.4	-0.5
NVAR	Mina Array Bea	82.93	44	P	P	01 45 01.8	-1.5
	comp=Z,0.7nm,0.7s,baz=220,slow=9.0,SNR=5.7						
LTY	Liberty	86.75	36	P	P	01 45 21.5	+0.2
LTY				IAmb	IAmb	01 45 26.0	
	comp=Z,5.0nm,0.5s						
TXAR	Lajitas Array	88.88	58	P	P	01 45 31.5	-0.3
	comp=Z,0.9nm,0.9s,baz=218,slow=6.9,SNR=6.0						
CMAR	Chiang Mai Arr	89.43	290	P	P	01 45 34.1	-0.3
	comp=Z,0.9nm,0.3s,baz=135,slow=4.4,SNR=6.0						
PDAR	Pinedale Array	90.87	44	P	P	01 45 39.5	-1.3
	comp=Z,0.8nm,1.0s,baz=214,slow=7.7,SNR=4.5						
EGAK	Eagle	91.33	15	P	P	01 45 45.5	+3.4
ARCES	ARCESS Array B	130.11	349	PKP	PKPdf	01 51 40.4	-1.5
	comp=Z,2.5nm,1.0s,baz=34,slow=5.8,SNR=3.3						
FINES	FINESS Array B	136.79	342	PKP	PKPdf	01 51 51.3	-3.2
	comp=Z,1.5nm,0.8s,baz=48,slow=6.6,SNR=2.8						
BRTR	Keskin Array B	146.85	310	PKPbc	PKPdf	01 52 14.4	+1.1
	comp=Z,0.5nm,0.6s,baz=29,slow=3.3,SNR=3.3						

IDC 07 01:35:56.6±1.3,7°.26S×124°.94E,h537km±17km,mb2.6/1, mb1 3.1/6,mb1mx2.7/31,mbtmp3.9/6,Error ellipse: s-maj=37.6km s-min=23.9km az=74.0

ISC 07 01:35:56.8±1.1,7°.1S±0°.1×125°.0E±0°.2,h500km,n6, σ3°47/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	3.32	203	P	P	01 37 11.1	+1.1
	16nm,0.3s,baz=98,slow=7.1,SNR=3.1						
BATI				S	S	01 38 13.7	+4.0
	2.2nm,0.3s,baz=134,slow=5.6,SNR=1.0						
SIJI	Sorong	8.83	45	P	P	01 38 04.6	+2.7
	4.8nm,0.3s,baz=258,slow=23,SNR=2.8						
FITZ	Fitzroy Crossi	10.92	177	P	P	01 38 23.0	-0.9
	0.3nm,0.3s,baz=15,slow=12,SNR=2.6						
WRA	Warramunga Arr	15.64	145	P	P	01 39 10.6	-3.1
	0.2nm,0.3s,baz=325,slow=11,SNR=6.0						
ASAR	Alice Springs	18.54	153	P	P	01 39 39.8	-2.4
	0.3nm,0.3s,baz=334,slow=8.8,SNR=10						
MKAR	Makanchi Array	65.70	329	P	P	01 45 48.5	-2.8
	0.3nm,0.6s,baz=120,slow=5.7,SNR=3.2						

JMA 07 01:39:49.8±0.3,43°.96N×148°.10E,h0km,M3.8
SKHL 07 01:39:51.2±0.4,44°.49N×148°.27E,h65km±4km,mb4.3/3

ISC 07 01:39:52.3±2.8,44°.5N±0°.2×148°.1E±0°.2,h64km±56km,n14, σ0°89/12,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.72	346	eP	Pn	01 40 06.0	-1.1
KUR				AMB	AMB	01 40 07.0	
	176nm,0.3s						
KUR				eS	Sn	01 40 17.5	-0.4
KUR				A	A	01 40 21.0	
	778nm,0.3s						
KUR				A	A	01 40 21.0	
	453nm,0.3s						
YUK	Yuzh-Kuril'sk	1.70	254	eP	Pn	01 40 19.1	-0.6
YUK				AMB	AMB	01 40 20.0	
	140nm,0.4s						
YUK				eS	Sn	01 40 40.0	-0.5
YUK				A	A	01 40 51.0	
	256nm,0.4s						
YUK				A	A	01 40 51.0	
	415nm,0.4s						
LAGR	Lagunnoye	1.74	255	eS	Sn	01 40 41.0	-0.6
GRPR	Tuman	1.77	253	eP	Pn	01 40 19.7	-1.0
GRPR				AMB	AMB	01 40 22.0	
	104nm,0.4s						
GRPR				eS	Sn	01 40 41.0	-1.3
GRPR				A	A	01 40 49.0	
	254nm,0.2s						
GRPR				A	A	01 40 49.0	
	97nm,0.2s						
GLVR	Golovnino	2.04	248	eP	Pn	01 40 23.9	-0.4
GLVR				eS	Sn	01 40 48.2	-0.4
GLVR				A	A	01 40 56.0	
	433nm,0.5s						
GLVR				A	A	01 40 56.0	
	297nm,0.5s						
NEM2	Nemuro 2	2.08	237	P	Pn	01 40 22.6	-2.2
NEM2				eS	Sn	01 40 46.7	-2.9
NMR	Nemuro--Hokkai	2.08	237	eP	Pn	01 40 22.0	-2.9
NMR				eS	Sn	01 40 50.0	+0.2
JNSB	Nemuroshibetsu	2.37	252	P	Pn	01 40 29.4	+0.6
JNK	Nakash	2.63	250	P	Pn	01 40 32.3	-0.1
JNK				eS	Sn	01 41 03.5	+0.4
JAK	Akkeshi	2.92	239	P	Pn	01 40 35.0	-1.3
JAR	Ashorobuto	3.38	250	P	Pn	01 40 43.4	+0.8
JAR				eS	Sn	01 41 23.1	+1.6
JCH	Churui	3.96	243	P	Pn	01 40 49.9	-0.6
JNBK	Urakawa-nobuka	4.51	242	P	Pn	01 40 58.0	-0.1
JKB	Kayabe	5.82	245	P	Pn	01 41 16.0	+0.1
JKB				eS	Sn	01 42 19.9	-1.3

IDC 07 02:05:00.3±6.4,17°.57S×178°.75W,h498km±69km,mb3.1/6, mb1 3.4/6,mb1mx3.1/34,mbtmp4.0/6,Error ellipse: s-maj=93.1km s-min=27.3km az=156.0
ISCJB 07 02:05:03.0±1.4,17°.5S±0°.6×179°.0W±0°.4,h539km,mb3.6/6, Error ellipse: s-maj=119.9km s-min=18.9km az=154.3

ISC 07 02:05:03.8±1.4,17°.6S±0°.6×178°.9W±0°.3,h539km,n10, σ0°53/12,mb3.5/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.42	241	P	P	02 11 39.2	-0.3
	2.0nm,0.5s,baz=75,slow=9.8,SNR=5.0						
WRA	Warramunga Arr	44.28	259	P	P	02 12 25.5	-0.6
	0.5nm,0.3s,baz=97,slow=7.3,SNR=17						
WRA				PcP	PcP	02 13 59.2	+0.5
	0.7nm,1.1s,baz=100,slow=3.8,SNR=2.7						
ASAR	Alice Springs	44.47	254	P	P	02 12 27.5	-0.1
	9.5nm,0.7s,baz=89,slow=8.2,SNR=102						
ASAR				PcP	PcP	02 13 60.0	+0.6
	0.4nm,0.5s,baz=101,slow=4.8,SNR=3.3						
FITZ	Fitzroy Crossi	52.66	260	P	P	02 13 29.1	+0.7
	1.2nm,0.5s,baz=76,slow=7.8,SNR=10						
TXAR	Lajitas Array	86.18	58	P	P	02 16 48.8	+0.2
	0.3nm,0.6s,baz=262,slow=5.4,SNR=2.6						
PDAR	Pinedale Array	87.41	44	P	P	02 16 53.7	-0.5
	0.2nm,0.5s,baz=236,slow=6.4,SNR=2.4						
ARCES	ARCESS Array B	125.93	350	PKP	PKPdf	02 23 03.4	-0.6
	2.7nm,0.8s,baz=54,slow=6.2,SNR=3.9						
FINES	FINESS Array B	132.77	344	PKP	PKPdf	02 23 17.4	+0.3
	1.6nm,0.9s,baz=16,slow=4.5,SNR=2.8						
BRTR	Keskin Array B	144.26	315	PKP	PKPab	02 23 38.9	-0.2
	0.9nm,0.6s,baz=29,slow=3.3,SNR=7.2						
GERES	GERESS Array B	147.19	345	PKPbc	PKPbc	02 23 47.2	+0.5
	0.3nm,0.3s,baz=38,slow=5.0,SNR=4.1						

ISCJB 07 02:23:08.4±0.4,28°.53N±0°.04×140°.20E±0°.08,h300km, mb3.5/22,Error ellipse: s-maj=10.0km s-min=4.2km az=160.5
IDC 07 02:23:08.1±0.6,28°.51N×139°.98E,h278km±7km,mb3.3/22, mb1 3.5/25,mb1mx3.4/52,mbtmp4.0/25,Error ellipse: s-maj=13.6km s-min=8.9km az=69.0
JMA 07 02:23:09.6±0.2,28°.68N×140°.64E,h306km±4km,M4.3

ISC 07 02:23:10.1±0.5,28°.64N±0°.06×140°.37E±0°.09,h300km,n47, σ1°51/58,mb3.6/22,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.22	133	P	Pn	02 23 57.9	-0.8
CBIJ				S	S	02 24 35.2	-2.3
JCJ	Chichijima	2.22	133	P	Pn	02 23 57.9	-0.8
	61nm,0.3s,baz=305,slow=22,SNR=44						
JCJ				S	S	02 24 34.9	-2.6
	287nm,0.3s,baz=281,slow=22,SNR=11						
JHH2	Haha-jima-NKT2	2.56	141	P	Pn	02 24 00.7	-1.0
JHH2				S	S	02 24 41.1	-1.8
JHJ2	Mitsune	4.49	354	P	Pn	02 24 21.8	+0.2
JHJ	Hachijo jima 2	4.50	354	P	Pn	02 24 20.6	-1.1
	144nm,0.3s,baz=94,slow=19,SNR=16						
JHJ				S	S	02 25 16.9	-2.3
	41nm,0.3s,baz=80,slow=22,SNR=2.1						
JMKN	Mikurajimanish	5.28	353	P	Pn	02 24 31.2	+0.4
JMKN				eS	S	02 25 33.7	-2.0
BSO1	Boso 1	6.02	5	e

MA2 Magadan 31.74 10 P P 02 29 08.1 +1.8
4.5nm,0.4s,baz=172,slow=19,SNR=2.1
SONM Songino Array 32.49 316 P P 02 29 12.2 -1.0
0.5nm,0.3s,baz=120,slow=7.3,SNR=5.4
SONM PcP **PcP 02 31 53.0 +0.7**
0.2nm,0.4s,baz=122,slow=2.8,SNR=4.1
CMAR Chiang Mai Arr 39.13 264 P P 02 30 06.0 -3.5
0.7nm,0.3s,baz=43,slow=11,SNR=5.9
ZALV Zalesovo Beam 47.27 318 P P 02 31 12.3 -1.3
0.5nm,0.3s,baz=100,slow=10,SNR=2.5
MKAR Makanchi Array 48.26 309 P P 02 31 18.9 -2.4
0.3nm,0.6s,baz=108,slow=6.6,SNR=3.8
MKAR PcP **PcP 02 32 42.4 -0.8**
0.3nm,0.4s,baz=73,slow=5.1,SNR=6.0
WRA Warramunga Arr 48.64 188 P P 02 31 23.1 -1.3
0.7nm,0.4s,baz=3.3,slow=7.5,SNR=21
WRA pP **pwP 02 32 28.9 -2.1**
1.1nm,0.7s,baz=6.9,slow=8.4,SNR=5.8
NRIK Noril'sk 50.63 339 P P 02 31 38.5 -0.2
1.5nm,0.5s,baz=96,slow=9.6,SNR=4.2
KURBB Kurchatov Arra 50.82 314 P P 02 31 38.7 -1.6
0.6nm,0.3s,baz=92,slow=8.4,SNR=5.1
ASAR Alice Springs 52.37 187 P P 02 31 51.5 -0.6
0.3nm,0.4s,baz=359,slow=3.8,SNR=5.3
AAK Ala-Archa 54.06 304 P P 02 32 03.3 -1.1
0.4nm,0.3s,baz=135,slow=2.9,SNR=2.7
BVAR Borovoye Array 55.82 317 P P 02 32 16.0 -0.6
1.2nm,0.6s,baz=97,slow=7.3,SNR=8.5
BVAR PcP **PcP 02 33 11.5 0.0**
0.8nm,0.5s,baz=103,slow=3.2,SNR=5.0
ILAR Eielson Array 57.15 29 P P 02 32 27.7 +2.1
0.5nm,0.8s,baz=279,slow=5.7,SNR=4.5
YKA Yellowknife Ar 71.55 28 P P 02 33 59.6 +1.1
1.3nm,0.8s,baz=296,slow=5.7,SNR=2.8
ARCES ARCESS Array B 71.56 340 P P 02 33 59.0 +0.5
1.2nm,0.5s,baz=70,slow=9.3,SNR=13
KBZ Khabaz 75.78 312 P P 02 34 22.9 -0.4
3.7nm,0.8s,baz=143,slow=5.6,SNR=6.2
FINES FINESS Array B 75.86 333 P P 02 34 23.2 -0.1
1.4nm,0.4s,baz=65,slow=5.1,SNR=15
NEW Newport 76.85 42 P P 02 34 31.2 +1.9
0.5nm,0.3s,baz=229,slow=11,SNR=2.7
AKASG Malin Array Be 80.42 323 P P 02 34 47.7 -0.8
0.9nm,0.5s,baz=52,slow=5.7,SNR=3.1
NVAR Mina Array Bea 80.82 51 P P 02 34 53.7 +2.6
1.3nm,0.6s,baz=290,slow=5.7,SNR=13
NB2 NORSAR Subarra 81.58 338 P P 02 34 54.1 -0.4
comp=Z,3.0nm,0.8s,baz=44,slow=5.3
NOA NORSAR Array B 81.58 338 P P 02 34 54.1 -0.4
comp=Z,0.5nm,0.6s,baz=54,slow=6.6,SNR=4.9
BRTR Keskin Array B 83.78 312 P P 02 35 06.0 -0.2
comp=Z,0.8nm,0.5s,baz=125,slow=3.6,SNR=6.0
TORD Torodi Ar. Bea 122.36 310 PKP **PKPdf 02 41 30.1 -0.2**
comp=Z,0.4nm,0.4s,baz=120,slow=1.3,SNR=12
PTGA Pitinga 146.12 39 PKPbc **PKPab 02 42 16.5 -0.6**
comp=Z,1.3nm,0.3s,baz=338,slow=20,SNR=5.1

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*ISCJB **07** 02:27:32.4±1.1, 43°.20N±0°.07×145°.91E±0°.09, h54km±9km, Error ellipse: s-maj=14.6km s-min=5.6km az=137.4*
*JMA **07** 02:27:32.6±0.1, 43°.14N×145°.91E, h50km±1km, M3.1*
*SKHL **07** 02:27:32.0±0.2, 43°.15N×145°.76E, h64km±1km, mb4.1/4*
ISC 07 02:27:32.9±1.9, 43°.19N±0°.08×145°.91E±0°.08, h49km±11km, n13, σ0°52/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.22**	**325**	P	**Pn**	**02 27 41.4**	**+0.1**
NEM2				eS	**Sn**	**02 27 47.6**	**+0.4**
JKHN	**Kushirohamanak**	**0.56**	**260**	P	**Pn**	**02 27 44.8**	**0.0**
JKHN				eS	**Sn**	**02 27 53.8**	**+0.4**
GLVR	**Golovnino**	**0.62**	**333**	eP	**Pn**	**02 27 45.0**	**-0.6**
GLVR				AMB	AMB	02 27 46.0	
	125nm,0.2s						
GLVR				eS	**Sn**	**02 27 54.6**	**-0.2**
GLVR				A	A	02 27 56.0	
	2μm,0.3s						
GLVR				A	A	02 27 56.0	
	309nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.85**	**357**	eP	**Pn**	**02 27 48.0**	**-0.6**
YUK				AMB	AMB	02 27 49.0	
	120nm,0.3s						
YUK				eS	**Sn**	**02 28 00.0**	**0.0**
YUK				A	A	02 28 03.0	
	897nm,0.3s						
YUK				A	A	02 28 03.0	
	525nm,0.3s						
LAGR	**Lagunnoye**	**0.87**	**354**	eP	**Pn**	**02 27 48.0**	**-0.9**
LAGR				AMB	AMB	02 27 49.0	
	126nm,0.3s						
LAGR				eS	**Sn**	**02 28 00.0**	**-0.6**
LAGR				A	A	02 28 01.0	
	521nm,0.3s						
LAGR				A	A	02 28 01.0	
	946nm,0.3s						
JNSB	**Nemuroshibetsu**	**0.89**	**312**	P	**Pn**	**02 27 49.3**	**+0.3**
JAK	**Akkeshi**	**0.91**	**258**	P	**Pn**	**02 27 48.9**	**-0.5**
JAK				eS	**Sn**	**02 28 01.0**	**-0.5**
JRA	**Rausu**	**0.95**	**323**	P	**Pn**	**02 27 50.4**	**+0.6**
JNK	**Nakash**	**0.96**	**295**	P	**Pn**	**02 27 49.8**	**-0.2**
JNK				eS	**Sn**	**02 28 02.5**	**-0.1**
JOB	**Onbets**	**1.55**	**260**	P	**Pn**	**02 27 57.8**	**-0.2**
JOB				eS	**Sn**	**02 28 16.6**	**-0.4**
JAR	**Ashorobuto**	**1.57**	**275**	P	**Pn**	**02 27 58.5**	**+0.2**
JAR				eS	**Sn**	**02 28 17.6**	**+0.1**
JTKR	**Abashiri--Toko**	**1.66**	**299**	P	**Pn**	**02 28 00.6**	**+1.1**
KUR	**Kuril'sk**	**2.48**	**34**	eP	**Pn**	**02 28 11.0**	**+0.2**
KUR				AMB	AMB	02 28 12.0	
	20nm,0.4s						
KUR				eS	**Sn**	**02 28 40.5**	**+0.7**
KUR				A	A	02 28 42.0	
	89nm,0.4s						
KUR				A	A	02 28 42.0	
	193nm,0.4s						

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*IDC **07** 02:29:38.4±1.4, 52°.28N×168°.67W, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.7/56, mbtmp3.8/15, ML2.9/1, Error ellipse: s-maj=36.6km s-min=20.8km az=161.0*
*ISCJB **07** 02:29:40.1±0.6, 52°.08N±0°.06×168°.6W±0°.1, h29km, mb3.9/13, Error ellipse: s-maj=11.1km s-min=6.1km az=33.4*
*AEIC **07** 02:29:42.7±0.7, 52°.30N±0°.05×168°.3W±0°.1, h4km±6km, ML2.9*
ISC 07 02:29:42.5±0.8, 52°.22N±0°.08×168°.58W±0°.08, h29km, n33, σ0°75/31, mb3.9/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.78**	**347**		**Pb**	**02 29 56.6**	**-0.8**
NIKH					Pn	02 30 05.4	+7.9
NIKH	**Nikolski High**	**0.78**	**347**		**Sn**	**02 30 10.1**	**+1.9**
OKSP	**Okmok Steeple**	**1.05**	**9**		**Pn**	**02 30 00.9**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.22**	**15**		**Pn**	**02 30 03.8**	**+0.2**
OKFG	**Magazine Ridge**	**1.26**	**18**		**Pn**	**02 30 04.3**	**+0.2**
OKFG					**Sb**	**02 30 21.1**	**-0.4**
OKNC	**Okmok New Cone**	**1.27**	**12**		**Pb**	**02 30 05.1**	**-0.7**
OKWE	**Okmok W'ng Wal**	**1.28**	**9**		**Pn**	**02 30 04.8**	**+0.4**
OKER	**Okmok East Rim**	**1.28**	**14**		**Pn**	**02 30 04.7**	**+0.2**
OKER					**Sb**	**02 30 23.3**	**+1.2**
MCIR	**Makushin Cirqu**	**2.01**	**30**		**Pn**	**02 30 15.2**	**+0.6**
MSW	**Makushin Switc**	**2.02**	**32**		**Pn**	**02 30 14.9**	**+0.3**
UNV	**Unalaska Valle**	**2.06**	**37**		**Pn**	**02 30 15.1**	**0.0**
UNV				Sn	**Sn**	**02 30 39.2**	**-0.5**
AKMO	**Akutan Morgan**	**2.43**	**38**		**Pn**	**02 30 21.0**	**+0.7**
AKMO					**Sn**	**02 30 50.3**	**+1.3**
ILAR	**Eielson Array**	**16.81**	**33**	Pn	**Pn**	**02 33 34.0**	**-1.4**
	0.0nm,0.3s,baz=245,slow=13,SNR=3.1						
PETK	**Petropavlovsk-**	**20.37**	**286**	P	**P**	**02 34 15.8**	**-0.7**
	2.3nm,0.4s,baz=86,slow=13,SNR=5.8						
INK	**Inuvik**	**23.21**	**33**	P	**P**	**02 34 46.2**	**-0.3**
	2.1nm,0.9s,baz=240,slow=14,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**37.64**	**220**	T	T	03 17 01.8	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.65**	**220**	T	T	03 16 44.7	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.66**	**220**	T	T	03 16 58.0	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**38.83**	**219**	T	T	03 18 22.9	
	baz=24,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**38.84**	**219**	T	T	03 18 39.7	
	baz=24,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**38.84**	**219**	T	T	03 18 23.3	
	baz=24,slow=76,SNR=4.5						

PDAR	**Pinedale Array**	**39.95**	**79**	P	**P**	**02 37 15.0**	**+0.7**
	0.4nm,0.6s,baz=18,slow=5.2,SNR=3.9						
SONM	**Songino Array**	**51.80**	**301**	P	**P**	**02 38 48.4**	**+0.9**
	0.5nm,0.5s,baz=52,slow=4.9,SNR=3.4						
ARCES	**ARCESS Array B**	**58.12**	**354**	P	**P**	**02 39 32.0**	**-0.7**
	4.9nm,1.1s,baz=2.9,slow=5.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**62.92**	**319**	P	**P**	**02 40 05.2**	**-0.4**
	0.5nm,0.5s,baz=46,slow=6.9,SNR=5.2						
BVAR	**Borovoye Array**	**64.11**	**325**	P	**P**	**02 40 12.7**	**-0.8**
	0.7nm,0.5s,baz=62,slow=6.9,SNR=5.3						
MKAR	**Makanchi Array**	**64.26**	**314**	P	**P**	**02 40 14.3**	**-0.4**
	0.6nm,0.7s,baz=43,slow=6.3,SNR=5.4						
FINES	**FINESS Array B**	**66.09**	**352**	P	**P**	**02 40 26.2**	**+0.1**
	1.4nm,0.5s,baz=16,slow=8.2,SNR=16						
NOA	**NORSAR Array B**	**67.09**	**0**	P	**P**	**02 40 32.8**	**+0.1**
	0.7nm,0.8s,baz=359,slow=6.2,SNR=2.7						
AKASG	**Malin Array Be**	**76.36**	**348**	P	**P**	**02 41 28.4**	**-0.1**
	0.4nm,0.3s,baz=9.9,slow=5.4,SNR=2.3						
CMAR	**Chiang Mai Arr**	**77.13**	**283**	P	**P**	**02 41 34.0**	**+0.7**
	0.8nm,0.4s,baz=33,slow=6.2,SNR=4.1						
ESDC	**Sonseca Array**	**87.51**	**12**	P	**P**	**02 42 27.4**	**0.0**
	0.7nm,0.8s,baz=348,slow=5.0,SNR=3.9						
ASAR	**Alice Springs**	**90.67**	**231**	P	**P**	**02 42 42.4**	**+0.2**
	0.4nm,0.9s,baz=10,slow=5.7,SNR=3.7						

IDC 07 02:39:40.5±5.1, 15°.97S×72°.21W, h120km±37km, mb3.9/2, mb1 3.6/5, mb1mx3.2/27, mbtmp4.0/5, Error ellipse: s-maj=50.2km s-min=31.4km az=127.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.94**	**95**	P	Pn	02 40 41.1	+1.4
	1.4nm,0.3s,baz=275,slow=11,SNR=36						
LPAZ				S	Sn	02 41 25.9	+0.3
	0.5nm,0.3s,baz=251,slow=6.7,SNR=5.1						
LVC	**Limon Verde**	**7.31**	**155**	P	Pn	02 41 24.1	-0.8
	0.8nm,0.3s,baz=350,slow=12,SNR=12						
LVC				S	Sn	02 42 41.0	-5.6
	1.8nm,0.3s,baz=87,slow=18,SNR=9.1						
PTGA	**Pitinga**	**19.37**	**40**	P	P	02 43 56.2	-0.7
	1.1nm,0.3s,baz=209,slow=14,SNR=13						
DBIC	**Dimbokro**	**70.35**	**77**	P	P	02 50 41.6	-0.1
	2.6nm,0.9s,baz=277,slow=8.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**78.58**	**73**	P	P	02 51 29.7	+0.3
	1.2nm,0.7s,baz=252,slow=5.1,SNR=14						

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*IDC **07** 03:10:59.5±2.5, 52°.67N×168°.48W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.6/49, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=63.1km s-min=22.6km az=179.0*
*AEIC **07** 03:11:01.0±1.4, 52°.13N±0°.04×168°.50W±0°.05, h26km±4km, ML3.0*
ISC 07 03:10:58.1±2.3, 52°.19N±0°.09×168°.39W±0°.09, h6km±12km, n28, σ1°39/29, mb4.0/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.84**	**340**		**Pn**	**03 11 16.1**	**-0.3**
NIKH					**Sn**	**03 11 26.5**	**-2.6**
NIKH	**Nikolski High**	**0.84**	**340**		**Sn**	**03 11 29.8**	**+0.7**
OKSP	**Okmok Steeple**	**1.07**	**3**		**Pn**	**03 11 20.7**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.22**	**10**		**Pn**	**03 11 23.1**	**+1.4**
OKFG	**Magazine Ridge**	**1.26**	**13**		**Pg**	**03 11 23.6**	**+1.4**
OKFG					**Sn**	**03 11 41.3**	**+1.7**
OKNC	**Okmok New Cone**	**1.28**	**7**		**Pg**	**03 11 24.3**	**+1.6**
OKER	**Okmok East Rim**	**1.29**	**9**		**Pg**	**03 11 24.2**	**+1.5**
OKWE	**Okmok W'ng Wal**	**1.29**	**4**		**Pg**	**03 11 23.9**	**+1.1**
OKWE					**Sn**	**03 11 42.6**	**+2.3**
MSW	**Makushin Switc**	**1.98**	**29**		**Pg**	**03 11 34.6**	**-1.5**
MSW					**Sb**	**03 11 58.8**	**-0.8**
MCIR	**Makushin Cirqu**	**1.98**	**26**		**Pg**	**03 11 34.8**	**-1.3**
UNV	**Unalaska Valle**	**2.01**	**34**		**Pb**	**03 11 34.1**	**-0.9**
UNV				Sn	**Sb**	**03 11 58.3**	**-2.1**
UNV	**Unalaska Valle**	**2.01**	**34**		**Sb**	**03 11 59.9**	**-0.5**
AKMO	**Akutan Morgan**	**2.38**	**36**		**Pb**	**03 11 40.0**	**-1.4**
AKRB	**Akutan Reef Bi**	**2.40**	**35**		**Pb**	**03 11 40.4**	**-1.2**
KDAK	**Kodiak Island**	**10.66**	**52**	Pn	**Pn**	**03 13 32.0**	**+0.8**
	0.7nm,0.3s,baz=220,slow=6.0,SNR=16						
KDAK	**Kodiak Island**	**10.66**	**52**		**Pn**	**03 13 31.4**	**+0.3**
PETK	**Petropavlovsk-**	**20.49**	**286**	P	Pn	03 15 35.9	-2.7
	1.4nm,0.4s,baz=78,slow=16,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**38.88**	**220**	T	T	03 59 40.7	
	baz=21,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.89**	**220**	T	T	03 59 43.4	
	baz=21,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.90**	**220**	T	T	03 59 43.6	
	baz=21						
PDAR	**Pinedale Array**	**39.84**	**80**	P	**P**	**03 18 34.8**	**+2.3**
	0.4nm,0.5s,baz=291,slow=1.3,SNR=5.3						
ARCES	**ARCESS Array B**	**58.17**	**354**	P	**P**	**03 20 51.2**	**-0.9**
	3.7nm,1.1s,baz=0.0,slow=5.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**63.02**	**319**	P	**P**	**03 21 25.0**	**-0.4**
	0.2nm,0.4s,baz=40,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**64.37**	**314**	P	**P**	**03 21 33.5**	**-1.1**
	0.5nm,0.6s,baz=54,slow=6.6,SNR=5.0						
FINES	**FINESS Array B**	**66.13**	**352**	P	**P**	**03 21 45.3**	**-0.4**
	0.9nm,0.4s,baz=13,slow=7.3,SNR=16						
NOA	**NORSAR Array B**	**67.12**	**0**	P	**P**	**03 21 51.8**	**-0.3**
	1.1nm,1.0s,baz=357,slow=5.9,SNR=2.6						
HFS	**Hagfors**	**68.02**	**359**	P	**P**	**03 21 57.7**	**0.0**
	0.9nm,0.4s,baz=46,slow=4.3,SNR=17						
AKASG	**Malin Array Be**	**76.41**	**349**	P	**P**	**03 22 47.5**	**-0.4**
	0.5nm,0.5s,baz=11,slow=5.9,SNR=2.6						

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*SOME **07** 03:21:43.0, 39°.55N×75°.15E, h5km*
*KRNET **07** 03:21:50.0±0.1, 39°.77N×75°.37E, mb3.0*
*NNC **07** 03:21:50.6±3.4, 39°.96N×75°.06E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=23.7km s-min=19.5km az=150.0*
ISC 07 03:21:47.2±2.7, 39°.8N±0°.1×75°.27E±0°.04, h3km±17km, n35, σ1°18/57, 21C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.75**	**18**	⇓iP	**Pg**	**03 22 21.8**	**+1.0**
	baz=15						
NRN				⇓iS	**Sg**	**03 22 45.8**	**+2.3**
	baz=15						
ARLS	**Aral**	**2.21**	**341**	⇑iP	**Pg**	**03 22 30.0**	**+0.4**
	baz=40						
ARLS				⇑iS	**Sg**	**03 23 00.5**	**+2.3**
	baz=40						
KZA	**Kyzart**	**2.30**	**360**	⇑eP	**Pg**	**03 22 31.3**	**-0.1**
	baz=58						
KZA				⇑iS	**Sg**	**03 23 02.0**	**+0.7**
	baz=58						
ARSB	**Arslanbob**	**2.33**	**312**	⇑iP	**Pg**	**03 22 32.7**	**+0.8**
	baz=11						
ARSB				⇑iS	**Sg**	**03 23 03.9**	**+1.7**
	baz=11						
UCH	**Uchtor**	**2.52**	**347**	⇓iP	**Pg**	**03 22 34.9**	**-0.6**
	baz=45						
UCH				⇓iS	**Sg**	**03 23 07.2**	**-1.0**
	baz=45						
ULHL	**Ulahol**	**2.58**	**16**	⇑iP	**Pb**	**03 22 35.0**	**+0.7**
	baz=15						
ULHL				⇑iS	**Sb**	**03 23 07.6**	**+1.1**
	baz=15						
AML	**Almayashu**	**2.64**	**334**	⇑eP	**Pg**	**03 22 36.7**	**-1.2**
	baz=32						
AML				⇑iS	**Sg**	**03 23 10.7**	**-1.4**
	baz=32						
TARG	**Taragay, Kyrgy**	**2.75**	**44**	⇓eP	**Pb**	**03 22 36.8**	**-0.5**
	baz=43						
TARG				⇓iS	**Sb**	**03 23 11.1**	**-0.4**
	baz=43						
BOOM	**Boomskoye usch**	**2.76**	**10**	⇑eP	**Pb**	**03 22 37.4**	**0.0**
	baz=9.0						
BOOM				⇑iS	**Sb**	**03 23 12.0**	**+0.2**
	baz=9.0						
KDJ	**Kajisay**	**2.77**	**31**	⇑eP	**Pb**	**03 22 37.2**	**-0.3**
	baz=30						
KDJ				⇑iS	**Sb**	**03 23 11.7**	**-0.2**
	baz=30						
KBK	**Karagaybulak**	**2.89**	**355**	⇓iP	**Pb**	**03 22 39.9**	**+0.3**
	baz=54						
KBK				⇓iS	**Sb**	**03 23 15.9**	**+0.4**
	baz=54						
AAK	**Ala-Archa**	**2.92**	**349**	Pg	**Pb**	**03 22 40.6**	**+0.4**
	7.0nm,0.6s						
AAK				⇓Lg	Lg	03 23 18.1	
	16nm,0.9s						
AAK	**Ala-Archa**	**2.92**	**349**	⇑eP	**Pb**	**03 22 40.3**	**+0.2**
	baz=47						
AAK				⇑iS	**Sb**	**03 23 16.7**	**+0.4**
	baz=47						
EKS2	**Erkin-Say**	**3.10**	**339**	⇑iP	**Pb**	**03 22 43.1**	**0.0**
	baz=38						
EKS2				⇑iS	**Sb**	**03 23 21.1**	**-0.3**
	baz=38						
TKM2	**Tokmak 2**	**3.16**	**4**	⇓Pg	**Pb**	**03 22 43.3**	**-0.8**
	3.6nm,0.5s						
TKM2				⇑Lg	Lg	03 23 24.2	
	23nm,0.8s						
TKM2	**Tokmak 2**	**3.16**	**4**	⇑iP	**Pb**	**03 22 43.4**	**-0.8**
	baz=3.0						
TKM2				⇑iS	**Sb**	**03 23 22.1**	**-1.0**
	baz=3.0						
KST	**Kastek**	**3.31**	**9**	Pg	**Pb**	**03 22 45.6**	**-1.2**
	5.3nm,0.5s						
KST				Lg	Lg	03 23 26.9	
	47nm,0.9s						
KST	**Kastek**	**3.31**	**9**	eP	**Pb**	**03 22 48.0**	**+1.3**
	6.4nm,0.4s						
KST				eS	**Sg**	**03 23 35.3**	**+1.7**
	49nm,0.8s						
MRKS	**Merke**	**3.35**	**333**	Pg	**Pb**	**03 22 47.8**	**+0.5**
	2.5nm,0.4s						
MRKS				Lg	Lg	03 23 30.5	
	3.7nm,0.5s						
MRKS	**Merke**	**3.35**	**333**	eP	**Pb**	**03 22 46.5**	**-0.8**
	2.5nm,0.4s						
MRKS				eS	**Sg**	**03 23 32.2**	**-2.5**
	5.4nm,0.9s						
IZV	**Izvestkoviy**	**3.42**	**17**	Pg	**Pg**	**03 22 52.3**	**-0.4**
	6.9nm,0.5s						
IZV				Lg	Lg	03 23 38.8	
	20nm,0.6s						
IZV	**Izvestkoviy**	**3.42**	**17**	eP	**Pb**	**03 22 50.1**	**+1.6**
	6.9nm,0.5s						
IZV				eS	**Sg**	**03 23 38.8**	**+1.8**
	20nm,0.6s						
DGS	**Degeres**	**3.49**	**6**	Pg	**Pb**	**03 22 47.8**	**-1.9**
	5.0nm,0.5s						
DGS				Lg	Lg	03 23 31.1	
	8.1nm,0.7s						
DGS	**Degeres**	**3.49**	**6**	eP	**Pb**	**03 22 50.2**	**+0.4**
	5.0nm,0.5s						
DGS				eS	**Sg**	**03 23 38.7**	**-0.6**
	20nm,0.6s						
TNSS	**Tian-Shan**	**3.50**	**21**	Pg	**Pg**	**03 22 52.6**	**-1.7**
	5.0nm,0.6s						
TNSS				Lg	Lg	03 23 39.7	
	12nm,0.6s						
TNSS	**Tian-Shan**	**3.50**	**21**	eP	**Pb**	**03 22 50.9**	**+0.8**
	5.0nm,0.6s						
TNSS				eS	**Sg**	**03 23 40.1**	**+0.4**
	18nm,0.8s						
MDOK	**Medeo**	**3.64**	**21**	Lg	Lg	03 23 43.4	
	20nm,0.8s						
MDOK	**Medeo**	**3.64**	**21**	Pg	**Pg**	**03 22 55.1**	**-2.0**
	3.5nm,0.4s						
MDOK				Lg	Lg	03 23 43.1	
	16nm,0.8s						
MDOK	**Medeo**	**3.64**	**21**	eP	**Pb**	**03 22 53.3**	**+0.9**
	3.5nm,0.4s						
MDOK				eS	**Sg**	**03 23 44.3**	**0.0**
	16nm,0.8s						
KOTS	**Kotyrbulak**	**3.73**	**21**	Pg	**Pg**	**03 22 57.1**	**-1.5**
	5.5nm,0.1s						
KOTS				Lg	Lg	03 23 47.0	
	33nm,0.6s						
KOTS	**Kotyrbulak**	**3.73**	**21**	eP	**Pb**	**03 22 54.9**	**+1.1**
	6.3nm,0.2s						
KOTS				eS	**Sg**	**03 23 47.0**	**+0.1**
	33nm,0.6s						
KTBS	**Karatobe**	**4.08**	**15**	Pg	**Pg**	**03 23 04.0**	**-1.4**
	2.3nm,0.5s						
KTBS				Lg	Lg	03 23 58.5	
	21nm,0.6s						
KTBS	**Karatobe**	**4.08**	**15**	eP	**Pb**	**03 23 01.4**	**+1.7**
	2.3nm,0.5s						
KTBS				eS	**Sg**	**03 23 58.7**	**+0.5**
	21nm,0.6s						
KUU	**Kurty**	**4.20**	**11**	Pg	**Pg**	**03 23 05.7**	**-1.9**
	1.6nm,0.4s						
KUU				Lg	Lg	03 24 01.4	
	6.8nm,0.5s						
KUU	**Kurty**	**4.20**	**11**	eP	**Pb**	**03 23 03.5**	**+1.8**
	1.6nm,0.4s						
KUU				eS	**Sg**	**03 24 01.4**	**-0.6**
	6.8nm,0.5s						

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*SJA **07** 03:34:10.3±0.6, 30°.43S×72°.41W, h10km, ML3.4, MW3.4*
*GUC **07** 03:34:14.2±0.6, 30°.71S×72°.00W, h62km±17km, ML3.4*
ISC 07 03:34:12.6±1.8, 30°.61S±0°.05×72°.13W±0°.09, h10km, n18, σ1°79/23, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.03**	**48**	⇓iP	**Pn**	**03 34 33.7**	**+0.5**
LSCH				iS	**Sn**	**03 34 48.6**	**+0.9**
CO02	**Combarbal**	**1.14**	**122**	⇓iP	**Pb**	**03 34 33.3**	**-1.2**
CO02				iS	**Sb**	**03 34 48.2**	**-1.1**
CO02				IAML		03 34 51.5	
	comp=N,2μm,0.2s						
GO04	**Tololo Observa**	**1.23**	**70**	eP	**Pg**	**03 34 35.9**	**-0.3**
GO04				iS	**Sn**	**03 34 53.1**	**+0.3**
ROCH	**El Roble**	**2.54**	**158**	eP	**Pn**	**03 34 53.6**	**-0.5**
ROCH				IAML		03 35 41.1	
	comp=N,171nm,0.5s						
ACCO	**Cerro Coronel**	**2.64**	**90**	iP	**Pb**	**03 34 60.0**	**-0.2**
ACCO				eS	**Sg**	**03 35 36.7**	**-0.8**
RTLS	**Leoncito**	**2.70**	**117**	iP	**Pb**	**03 35 00.9**	**-0.3**
RTLS				eS	**Sg**	**03 35 38.7**	**-0.7**
RTLS				IAML		03 35 40.2	
	comp=Z,66nm,0.5s						
PEL	**Peldehue**	**2.81**	**155**	iP	**Pb**	**03 35 01.8**	**-1.2**
PEL				eS	**Sb**	**03 35 40.4**	**+2.9**
AMOG	**MOGNA**	**3.14**	**97**	iP	**Pb**	**03 35 06.5**	**-2.2**
RTLL	**Cerro Villicun**	**3.22**	**104**	iP	**Pb**	**03 35 07.5**	**-2.4**
RTCV	**Cerro Valdivia**	**3.32**	**113**	iP	**Pb**	**03 35 09.3**	**-2.3**
RTCV				eS	**Sb**	**03 35 53.0**	**+1.0**
GO03	**Copiap**	**3.43**	**29**	iP	**Pn**	**03 35 06.8**	**+0.6**
ASAL	**Salagasta**	**3.43**	**126**	iP	**Pb

ULHL	**Ulahol**	**2.39**	**15**	⇓*eP*		**Pb**	**04 03 24.5**	**-1.3**
	baz=14							
ULHL				⇓*iS*		**Sb**	**04 03 57.0**	**+1.2**
	baz=14							
TARG	**Taragay, Kyrgy**	**2.55**	**45**	⇓*iP*		**Pb**	**04 03 26.5**	**-2.0**
	baz=43							
TARG				⇓*iS*		**Sb**	**04 04 00.6**	**+0.1**
	baz=43							
AML	**Almayashu**	**2.55**	**330**	⇓*iP*		**Pb**	**04 03 26.2**	**-2.4**
	baz=31							
AML				⇓*iS*		**Sb**	**04 04 00.2**	**-0.4**
	baz=31							
KDJ	**Kajisay**	**2.56**	**31**	⇓*iP*		**Pb**	**04 03 26.8**	**-1.9**
	baz=30							
KDJ				⇓*iS*		**Sb**	**04 04 00.7**	**-0.1**
	baz=30							
BOOM	**Boomskoye usch**	**2.58**	**9**	⇑*iP*		**Pb**	**04 03 27.1**	**-1.9**
	baz=8.0							
BOOM				⇑*iS*		**Sb**	**04 04 01.4**	**+0.1**
	baz=8.0							
KBK	**Karagaybulak**	**2.74**	**353**	P		**Pg**	**04 03 34.4**	**0.0**
	SNR=8.9							
AAK	**Ala-Archa**	**2.79**	**346**	⇑Pn		**Pn**	**04 03 26.9**	**-0.8**
	7.2nm,0.6s							
AAK				⇑Sn		**Sb**	**04 04 08.3**	**+1.1**
	8.4nm,0.6s							
AAK	**Ala-Archa**	**2.79**	**346**	⇓*iP*		**Pn**	**04 03 29.6**	**+1.9**
	baz=46							
AAK				⇓*iS*		**Sb**	**04 04 06.3**	**-0.9**
	baz=46							
AAK	**Ala-Archa**	**2.79**	**346**	P		**Pb**	**04 03 30.7**	**-1.8**
	SNR=8.4							
TKM2	**Tokmak 2**	**2.98**	**2**	Pg		**Pb**	**04 03 32.7**	**-3.1**
	3.2nm,0.5s							
TKM2				⇓Lg		Lg	04 04 19.6	
	22nm,0.8s							
TKM2	**Tokmak 2**	**2.98**	**2**	⇑*iP*		**Pb**	**04 03 32.8**	**-3.1**
	baz=2.0							
TKM2				⇑*iS*		**Sb**	**04 04 11.6**	**-1.3**
	baz=2.0							
TKM2	**Tokmak 2**	**2.98**	**2**	P		**Pb**	**04 03 33.3**	**-2.6**
	SNR=6.0							
EKS2	**Erkin-Say**	**2.99**	**336**	⇓*eP*		**Pn**	**04 03 32.2**	**+1.8**
	baz=37							
EKS2				⇓*iS*		**Sb**	**04 04 10.8**	**-2.2**
	baz=37							
CHMS	**Chumysh**	**3.10**	**351**	P		**Pb**	**04 03 34.7**	**-3.1**
	SNR=6.3							
KST	**Kastek**	**3.13**	**7**	Pg		**Pn**	**04 03 34.5**	**+2.1**
	5.3nm,0.4s							
KST				Lg		Lg	04 04 24.2	
	46nm,0.7s							
KST	**Kastek**	**3.13**	**7**	*eP*		**Pn**	**04 03 34.5**	**+2.1**
	5.3nm,0.4s							
KST				*eS*		**Sg**	**04 04 24.8**	**+2.4**
	46nm,0.9s							
IZV	**Izvestkoviy**	**3.22**	**16**	Pg		**Pb**	**04 03 36.3**	**-3.6**
	6.8nm,0.6s							
IZV				Lg		Lg	04 04 27.4	
	19nm,0.7s							
IZV	**Izvestkoviy**	**3.22**	**16**	*eP*		**Pb**	**04 03 36.3**	**-3.6**
	6.8nm,0.6s							
IZV				*eS*		**Sg**	**04 04 27.8**	**+2.4**
	19nm,0.7s							
MRKS	**Merke**	**3.26**	**330**	*eP*		**Pn**	**04 03 34.3**	**+0.3**
	2.6nm,0.5s							
MRKS				*eS*		**Sg**	**04 04 25.0**	**-1.5**
	4.1nm,0.8s							
TNSS	**Tian-Shan**	**3.30**	**20**	Pg		**Pn**	**04 03 37.0**	**+2.0**
	3.8nm,0.3s							
TNSS				Lg		Lg	04 04 29.3	
	16nm,0.8s							
TNSS	**Tian-Shan**	**3.30**	**20**	*eP*		**Pn**	**04 03 37.0**	**+2.0**
	3.8nm,0.3s							
TNSS				*eS*		**Sg**	**04 04 29.2**	**+1.2**
	16nm,0.6s							
DGS	**Degeres**	**3.31**	**4**	Pg		**Pb**	**04 03 38.0**	**-3.4**
	3.7nm,0.5s							
DGS				Lg		Lg	04 04 30.2	
	10nm,0.7s							
DGS	**Degeres**	**3.31**	**4**	*eP*		**Pb**	**04 03 37.9**	**-3.6**
	3.7nm,0.3s							
DGS				*eS*		**Sg**	**04 04 30.2**	**+1.9**
	10nm,0.7s							
MDOK	**Medeo**	**3.45**	**20**	⇑Lg		Lg	04 04 30.1	
	19nm,0.8s							
MDOK	**Medeo**	**3.45**	**20**	Pg		**Pn**	**04 03 39.4**	**+2.6**
	1.7nm,0.1s							
MDOK				Lg		Lg	04 04 32.6	
	16nm,0.7s							
MDOK	**Medeo**	**3.45**	**20**	*eP*		**Pn**	**04 03 39.4**	**+2.6**
	5.5nm,0.5s							
MDOK				*eS*		**Sg**	**04 04 32.6**	**0.0**
	16nm,0.6s							
KUU	**Kurty**	**4.01**	**10**	Pg		**Pb**	**04 03 50.0**	**-3.3**
	1.5nm,0.1s							
KUU				Lg		Lg	04 04 50.7	
	16nm,0.9s							
KUU	**Kurty**	**4.01**	**10**	*eP*		**Pb**	**04 03 49.9**	**-3.3**
	1.5nm,0.1s							
KUU				*eS*		**Sg**	**04 04 51.5**	**+0.7**
	16nm,0.9s							
CHKK	**Chushkaly**	**4.09**	**16**	Pg		**Pb**	**04 03 51.3**	**-3.2**
	0.6nm,0.1s							
CHKK				Lg		Lg	04 04 53.3	
	18nm,0.7s							
CHKK	**Chushkaly**	**4.09**	**16**	*eP*		**Pb**	**04 03 51.4**	**-3.2**
	1.1nm,0.4s							
CHKK				*eS*		**Sg**	**04 04 54.0**	**+0.9**
	18nm,0.7s							
ARXS	**Arharly**	**4.63**	**22**	Pg		**Pb**	**04 04 01.3**	**-2.7**
	1.9nm,0.9s							
ARXS				Lg		Lg	04 05 10.4	
	7.3nm,0.6s							
ARXS	**Arharly**	**4.63**	**22**	*eP*		**Pb**	**04 04 01.2**	**-2.7**
	1.9nm,0.8s							
ARXS				*eS*		**Sg**	**04 05 10.4**	**-0.3**
	7.3nm,0.6s							

*SJA **07** 04:10:15.6±0.8,21.°44S×68.°43W,h165km±6km,ML3.0, MW3.2*
*ISCJB **07** 04:10:17.9±0.8,21.°47S±0.°03×68.°50W±0.°07,h147km±9km, Error ellipse: s-maj=11.2km s-min=5.0km az=176.8*
*GUC **07** 04:10:17.8±0.8,21.°48S×68.°43W,h133km±6km,ML3.4*
ISC 07 04:10:17.6±1.5,21.°47S±0.°04×68.°47W±0.°07, h149km±12km,n25,σ1°01/42,10C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.79**	**245**	⇑*iP*		**Pn**	**04 10 40.9**	**+0.1**
PB09				*i* S		**Sn**	**04 10 58.2**	**-0.3**
PB09				IAML			04 11 00.7	
	comp=N,224nm,0.4s							
PB09	**IPOC Station P**	**0.79**	**245**	*i* P		**Pn**	**04 10 41.0**	**+0.2**
PB09				*eS*		**Sn**	**04 11 00.8**	**+2.2**
PB09				IAML			04 11 03.5	
	comp=Z,134nm,0.3s							
PB01	**IPOC Station P**	**1.04**	**294**	⇑*iP*		**Pn**	**04 10 42.6**	**-0.1**
PB01				*i* S		**Sn**	**04 11 01.1**	**-0.8**
PB01				IAML			04 11 03.1	
	comp=E,1μm,0.2s							
LVC	**Limon Verde**	**1.21**	**200**	⇓*iP*		**Pn**	**04 10 44.1**	**-0.5**
LVC				*i* S		**Sn**	**04 11 03.9**	**-1.4**
LVC	**Limon Verde**	**1.21**	**200**	⇑*iP*		**Pn**	**04 10 44.1**	**-0.5**
LVC				*eS*		**Sn**	**04 11 06.4**	**+1.2**
LVC				IAML			04 11 07.0	
	comp=Z,62nm,0.6s							
PB03	**IPOC Station P**	**1.33**	**244**	⇑*iP*		**Pn**	**04 10 45.5**	**0.0**
PB03				*i* S		**Sn**	**04 11 06.0**	**-0.8**
PB03				IAML			04 11 07.2	
	comp=E,539nm,0.1s							
PB02	**IPOC Station P**	**1.34**	**276**	⇑*iP*		**Pn**	**04 10 45.8**	**+0.3**
PB02				*i* S		**Sn**	**04 11 06.9**	**+0.1**
PB02				IAML			04 11 08.1	
	comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**1.34**	**259**	⇑*iP*		**Pn**	**04 10 45.9**	**+0.3**
PB07				*i* S		**Sn**	**04 11 07.0**	**-0.1**
PB07				IAML			04 11 07.9	
	comp=E,598nm,0.4s							
PB08	**IPOC Station P**	**1.47**	**334**	⇑*iP*		**Pn**	**04 10 47.9**	**+0.7**
PB08				*i* S		**Sn**	**04 11 10.0**	**+0.3**
PB08				IAML			04 11 12.5	
	comp=N,348nm,0.5s							
PB06	**IPOC Station P**	**1.60**	**220**	⇑*iP*		**Pn**	**04 10 48.4**	**+0.1**
PB06				*i* S		**Sn**	**04 11 11.5**	**-0.5**
PB06				IAML			04 11 12.2	
	comp=E,376nm,0.3s							
PB06	**IPOC Station P**	**1.60**	**220**	*i* P		**Pn**	**04 10 48.6**	**+0.3**
PB06				IAML			04 11 15.8	
	comp=Z,186nm,0.3s							
PB04	**IPOC Station P**	**1.78**	**241**	⇑*iP*		**Pn**	**04 10 50.5**	**+0.1**
PB04				*i* S		**Sn**	**04 11 14.6**	**-0.9**
PB04				IAML			04 11 17.5	
	comp=E,253nm,0.2s							
PB04	**IPOC Station P**	**1.78**	**241**	*i* P		**Pn**	**04 10 50.7**	**+0.3**
GO01	**Chusmiza**	**1.92**	**339**	⇑*iP*		**Pn**	**04 10 52.7**	**+0.5**
GO01				*i* S		**Sn**	**04 11 18.6**	**-0.1**
GO01				IAML			04 11 22.4	
	comp=E,480nm,0.2s							
PB15	**IPOC Station P**	**1.97**	**208**	⇓*iP*		**Pn**	**04 10 52.8**	**+0.3**
PB15				*i* S		**Sn**	**04 11 19.6**	**+0.3**
PB15	**IPOC Station P**	**1.97**	**208**	*i* P		**Pn**	**04 10 52.7**	**+0.3**
PB15				*eS*		**Sn**	**04 11 20.3**	**+1.0**
PB11	**IPOC Station P**	**2.03**	**327**	⇑*iP*		**Pn**	**04 10 53.3**	**0.0**
PB11				*i* S		**Sn**	**04 11 20.6**	**0.0**
PB11				IAML			04 11 22.9	
	comp=E,482nm,0.2s							
PSGC	**Pisagua**	**2.42**	**320**	*eP*		**Pn**	**04 10 57.4**	**-0.5**
PSGC				*i* S		**Sn**	**04 11 27.9**	**-0.9**
PSGC				IAML			04 11 29.5	
	comp=E,186nm,0.3s							
MNMC	**Minye Minye**	**2.55**	**335**	⇓*iP*		**Pn**	**04 11 00.1**	**+0.5**
MNMC				*i* S		**Sn**	**04 11 32.5**	**+0.5**
MNMC				IAML			04 11 34.2	
	comp=N,385nm,0.2s							
PB10	**IPOC Station P**	**2.81**	**223**	*i* P		**Pn**	**04 11 02.5**	**0.0**
PB10				IAML			04 11 57.3	
	comp=Z,34nm,1.3s							
YJA	**Yavi**	**2.83**	**105**	*i* P		**Pn**	**04 11 03.1**	**-0.1**
HJA	**Humahuaca**	**3.32**	**122**	*i* P		**Pn**	**04 11 09.4**	**+0.1**
PB14	**IPOC Station P**	**3.61**	**209**	*i* P		**Pn**	**04 11 13.2**	**+0.1**
PB14				IAML			04 12 08.4	
	comp=Z,32nm,0.5s							
AMOG	**MOGNA**	**9.43**	**180**	*i* P		**Pn**	**04 12 33.7**	**+3.6**
RTLL	**Cerro Villicun**	**9.82**	**180**	*i* P		**Pn**	**04 12 32.0**	**-3.2**

*SOME **07** 04:12:54.1,39.°03N×75.°20E,h20km*
*NNC **07** 04:12:59.4±1.3,39.°37N×75.°11E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=10.0km s-min=8.5km az=111.0*
*KRNET **07** 04:13:15.2±0.1,39.°88N×75.°38E,mb2.9*
ISC 07 04:13:16.4±3.5,40.°0N±0.°1×75.°37E±0.°04,h8km±20km,n28, σ1°95/47,21C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.56**	**18**	⇑*iP*		**Pb**	**04 13 45.5**	**-0.2**
	baz=16							
NRN				⇑*iS*		**Sg**	**04 14 07.7**	**+1.1**
	baz=16							
ARLS	**Aral**	**2.07**	**338**	⇑*eP*		**Pb**	**04 13 55.0**	**+0.7**
	baz=38							
ARLS				⇑*iS*		**Sg**	**04 14 23.4**	**+0.5**
	baz=38							
KZA	**Kyzart**	**2.13**	**358**	⇑*iP*		**Pb**	**04 13 55.0**	**-0.5**
	baz=57							
KZA				⇑*iS*		**Sg**	**04 14 24.7**	**-0.2**
	baz=57							
ARSB	**Arslanbob**	**2.28**	**308**	⇑*iP*		**Pb**	**04 13 57.5**	**-0.4**
	baz=9.0							
ARSB				⇑*iS*		**Sb**	**04 14 27.9**	**+1.7**
	baz=9.0							
UCH	**Uchtor**	**2.37**	**344**	⇑*eP*		**Pb**	**04 13 58.0**	**-1.6**
	baz=45							
UCH				⇑*iS*		**Sb**	**04 14 30.2**	**+1.1**
	baz=45							
ULHL	**Ulahol**	**2.39**	**16**	⇑*eP*		**Pb**	**04 13 58.5**	**-1.3**
	baz=15							
ULHL				⇑*iS*		**Sb**	**04 14 30.8**	**+1.4**
	baz=15							
AML	**Almayashu**	**2.52**	**330**	⇓*iP*		**Pb**	**04 14 00.5**	**-1.7**
	baz=31							
AML				⇓*iS*		**Sb**	**04 14 33.5**	**0.0**
	baz=31							
TARG	**Taragay, Kyrgy**	**2.56**	**45**	⇓*iP*		**Pb**	**04 14 00.8**	**-2.1**
	baz=44							
TARG				⇓*iS*		**Sb**	**04 14 34.7**	**0.0**
	baz=44							
KDJ	**Kajisay**	**2.57**	**32**	⇑*iP*		**Pb**	**04 14 00.9**	**-2.0**
	baz=31							
KDJ				⇑*iS*		**Sb**	**04 14 34.9**	**+0.1**
	baz=31							
BOOM	**Boomskoye usch**	**2.58**	**9**	⇑*iP*		**Pb**	**04 14 00.9**	**-2.0**
	baz=9.0							
BOOM				⇑*iS*		**Sb**	**04 14 35.1**	**+0.3**
	baz=9.0							
AAK	**Ala-Archa**	**2.77**	**346**	Pg		**Pn**	**04 13 59.3**	**-1.9**
	5.2nm,0.6s							
AAK				⇑Lg		Lg	04 14 44.3	
	7.3nm,0.6s							
AAK	**Ala-Archa**	**2.77**	**346**	⇑*iP*		**Pb**	**04 14 03.9**	**-2.3**
	baz=47							
AAK				⇑*iS*		**Sb**	**04 14 39.4**	**-0.9**
	baz=47							
TKM2	**Tokmak 2**	**2.97**	**3**	⇑Pg		**Pn**	**04 14 05.5**	**+1.4**
	3.2nm,0.7s							
TKM2				⇑Lg		Lg	04 14 53.7	
	14nm,0.8s							
TKM2	**Tokmak 2**	**2.97**	**3**	⇓*eP*		**Pb**	**04 14 06.7**	**-3.1**
	baz=3.0							
TKM2				⇓*iS*		**Sb**	**04 14 44.4**	**-1.9**
	baz=3.0							
KST	**Kastek**	**3.12**	**8**	Pg		**Pn**	**04 14 08.0**	**+1.9**
	3.8nm,0.2s							
KST				Lg		Lg	04 14 58.9	
	19nm,0.7s							
KST	**Kastek**	**3.12**	**8**	*eP*		**Pn**	**04 14 08.0**	**+1.9**
	3.9nm,0.2s							
KST				*eS*		**Sg**	**04 14 58.9**	**+2.1**
	34nm,0.8s							
IZV	**Izvestkoviy**	**3.22**	**16**	Pg		**Pn**	**04 14 09.5**	**+2.1**
	6.0nm,0.8s							
IZV				Lg		Lg	04 15 01.8	
	16nm,0.6s							
IZV	**Izvestkoviy**	**3.22**	**16**	*eP*		**Pn**	**04 14 09.5**	**+2.1**
	5.9nm,0.6s							
IZV				*eS*		**Sg**	**04 15 01.8**	**+1.9**
	16nm,0.6s							
MRKS	**Merke**	**3.23**	**331**	Pg		**Pn**	**04 14 06.2**	**-1.2**
	0.6nm,0.2s							
MRKS				Lg		Lg	04 14 55.7	
	2.9nm,0.5s							
MRKS	**Merke**	**3.23**	**331**	*eP*		**Pn**	**04 14 06.2**	**-1.2**
	0.9nm,0.1s							
MRKS				*eS*		**Sb**	**04 14 55.7**	**+2.2**
	2.9nm,0.5s							
DGS	**Degeres**	**3.30**	**5**	Pg		**Pn**	**04 14 10.2**	**+1.7**
	3.2nm,0.5s							
DGS				Lg		Lg	04 15 03.4	
	7.2nm,0.7s							
DGS	**Degeres**	**3.30**	**5**	*eP*		**Pn**	**04 14 10.2**	**+1.7**
	3.2nm,0.4s							
DGS				*eS*		**Sg**	**04 15 03.1**	**+0.5**
	10nm,0.6s							
KOTS	**Kotyrbulak**	**3.53**	**21**	Pg		**Pn**	**04 14 14.4**	**+2.7**
	8.5nm,0.3s							
KOTS				Lg		Lg	04 15 10.1	
	23nm,0.7s							
KOTS	**Kotyrbulak**	**3.53**	**21**	*eP*		**Pn**	**04 14 14.4**	**+2.7**
	8.5nm,0.3s							
KOTS				*eS*		**Sg**	**04 15 10.1**	**+0.2**
	23nm,0.7s							
KTBS	**Karatobe**	**3.89**	**14**	Pg		**Pb**	**04 14 22.2**	**-3.0**
	1.9nm,0.9s							
KTBS				Lg		Lg	04 15 23.2	
	16nm,0.5s							
KTBS	**Karatobe**	**3.89**	**14**	*eP*		**Pb**	**04 14 22.2**	**-3.0**
	1.9nm,0.9s							
KTBS				*eS*		**Sg**	**04 15 23.2**	**+2.0**
	16nm,0.5s							
KUU	**Kurty**	**4.01**	**10**	Pg		**Pb**	**04 14 23.0**	**-4.2**
	1.6nm,0.1s							
KUU				Lg		Lg	04 15 24.5	
	9.9nm,0.9s							
KUU	**Kurty**	**4.01**	**10**	*eP*		**Pb**	**04 14 23.0**	**-4.2**
	1.6nm,0.1s							
KUU				*eS*		**Sg**	**04 15 24.5**	**-0.6**
	9.9nm,0.9s							

*IDC **07** 04:18:12.8±2.8,6.°36S×130.°14E,h113km±34km,mb3.8/3, mb1 3.7/7,mb1mx3.4/34,mbtmp4.0/7,Error ellipse: s-maj=70.0km s-min=20.3km az=89.0*
ISC 07 04:18:13.4±0.9,6.°57S±0.°07×130.°5E±0.°2,h146km,n7, σ3°24/10,mb3.8/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.72**	**8**	P		**Pn**	**04 19 33.5**	**-2.9**
	4.3nm,0.3s,baz=162,slow=20,SNR=26							
SIJI				S		Sn	04 20 30.3	-11
	14nm,0.3s,baz=74,slow=22,SNR=20							
FITZ	**Fitzroy Crossi**	**12.39**	**202**	P		**Pn**	**04 21 06.3**	**+1.3**
	0.5nm,0.3s,baz=35,slow=12,SNR=30							
FITZ				S		**Sn**	**04 23 17.4**	**-4.5**
	1.2nm,0.3s,baz=81,slow=13,SNR=7.4							
WRA	**Warramunga Arr**	**13.81**	**165**	P		**P**	**04 21 26.5**	**-0.3**
	0.9nm,0.3s,baz=347,slow=13,SNR=49							
WRA				S		**Sn**	**04 23 52.8**	**-3.4**
	1.8nm,0.3s,baz=330,slow=24,SNR=11							
ASAR	**Alice Springs**	**17.32**	**169**	P		**Pn**	**04 22 11.7**	**+5.3**
	0.3nm,0.3s,baz=339,slow=9.7,SNR=11							
ASAR				S		**Sn**	**04 25 18.9**	**-1.4**
	0.5nm,0.3s,baz=358,slow=28,SNR=7.0							
SONM	**Songino Array**	**58.19**	**341**	P		**P**	**04 27 53.1**	**+0.9**
	0.6nm,0.5s,baz=166,slow=5.8,SNR=3.0							
MKAR	**Makanchi Array**	**68.13**	**327**	P		**P**	**04 28 58.6**	**+0.9**
	3.0nm,0.4s,baz=118,slow=7.0,SNR=43							
ZALV	**Zalesovo Beam**	**71.41**	**334**	P		**P**	**04 29 17.9**	**+0.3**
	0.5nm,0.3s,baz=151,slow=6.4,SNR=3.7							

IDC 07 04:21:36.8±451.0,46.°26N×65.°67E,h0km,Error ellipse: s-maj=190.0km s-min=141.5km az=163.0,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.56**	**312**	*i*		05 00 00.0	
	baz=124,slow=315,SNR=2.6						
I46RU	**ZALESOVO INFRA**	**14.46**	**51**	*i*		05 55 10.0	
	baz=244,slow=343,SNR=1.1						
I34MN	**SONGINO INFRAS**	**27.59**	**72**	*i*		07 11 20.0	
	baz=279,slow=323,SNR=0.8						
I18DK	**QAANAAQ INFRAS**	**53.43**	**349**	*i*		10 16 40.0	
	baz=25,slow=339,SNR=2.7						

*AEIC **07** 04:49:47.2±0.8,51.°7N±0.°1×168.°5W±0.°2,h13km±9km, ML3.5*
*ISCJB **07** 04:49:54.5±0.7,52.°24N±0.°07×168.°1W±0.°1,h10km, mb3.9/9,Error ellipse: s-maj=9.9km s-min=9.3km az=174.1*
*IDC **07** 04:49:54.5±1.1,52.°02N×168.°11W,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.7/45,mbtmp3.8/11,ML3.0/1,Error ellipse: s-maj=31.4km s-min=19.1km az=174.0*
ISC 07 04:49:56.0±0.8,52.°18N±0.°07×168.°15W±0.°06,h10km,n28, σ2°34/26,mb3.9/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.91**	**332**		**Pg**	**04 50 10.3**	**-3.1**
NIKH	**Nikolski High**	**0.91**	**332**		**Sg**	**04 50 27.3**	**+2.0**
OKSP	**Okmok Steeple**	**1.08**	**355**		**Pn**	**04 50 13.6**	**-3.7**
OKTU	**Okmok Mt. Tuli**	**1.21**	**3**		**Pn**	**04 50 16.2**	**-2.9**
OKFG	**Magazine Ridge**	**1.25**	**6**		**Pn**	**04 50 16.6**	**-2.8**
OKFG					**Sg**	**04 50 39.1**	**+3.0**
OKER	**Okmok East Rim**	**1.28**	**3**		**Pn**	**04 50 17.1**	**-2.9**
MREP	**Makushin Rep't**	**1.84**	**27**		**Pn**	**04 50 25.4**	**-2.3**
MSW	**Makushin Switc**	**1.93**	**25**		**Pn**	**04 50 26.2**	**-2.6**
MSW					**Sb**	**04 50 57.5**	**+2.2**
UNV	**Unalaska Valle**	**1.94**	**30**		**Pn**	**04 50 25.4**	**-3.6**
UNV					**Pg**	**04 50 33.2**	**0.0**
UNV	**Unalaska Valle**	**1.94**	**30**		**Sb**	**04 50 57.3**	**+1.5**
KDAK	**Kodiak Island**	**10.55**	**52**	Pn	**Pn**	**04 52 25.7**	**-1.3**
	0.4nm,0.3s,baz=168,slow=4.6,SNR=23						
KDAK				Sn	**Sn**	**04 54 20.6**	**-4.6**
	0.0nm,0.3s,baz=149,slow=18,SNR=2.0						
ILAR	**Eielson Array**	**16.70**	**33**	Pn	**Pn**	**04 53 50.7**	**+0.9**
	0.1nm,0.3s,baz=238,slow=8.4,SNR=3.4						
PETK	**Petropavlovsk-**	**20.64**	**286**	P	**P**	**04 54 35.4**	**0.0**
	3.5nm,0.5s,baz=83,slow=14,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**37.78**	**220**	T	T	05 37 12.1	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.79**	**220**	T	T	05 37 02.2	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.80**	**220**	T	T	05 37 15.7	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**38.96**	**220**	T	T	05 38 45.2	
	baz=23						
H11S2	**WAKE ISLAND Hy**	**38.98**	**220**	T	T	05 38 45.2	
	baz=23						
H11S3	**WAKE ISLAND Hy**	**38.98**	**220**	T	T	05 38 45.2	
	baz=23						
PDAR	**Pinedale Array**	**39.70**	**80**	P	**P**	**04 57 28.1**	**-0.3**
	0.6nm,0.5s,baz=304,slow=4.5,SNR=7.0						
KSRS	**Korea Array**	**46.17**	**278**	P	**P**	**04 58 20.9**	**+0.3**
	1.1nm,0.4s,baz=57,slow=5.9,SNR=4.1						
TXAR	**Lajitas Array**	**52.00**	**90**	P	**P**	**04 59 04.7**	**-0.8**
	0.6nm,0.6s,baz=311,slow=5.5,SNR=2.5						
MKAR	**Makanchi Array**	**64.48**	**314**	P	**P**	**05 00 33.1**	**+0.6**
	0.8nm,0.7s,baz=52,slow=7.9,SNR=6.5						
FINES	**FINESS Array B**	**66.16**	**353**	P	**P**	**05 00 43.9**	**+0.8**
	1.9nm,0.8s,baz=12,slow=7.4,SNR=8.6						
NOA	**NORSAR Array B**	**67.13**	**0**	P	**P**	**05 00 50.5**	**+1.1**
	0.5nm,0.7s,baz=314,slow=6.2,SNR=3.2						
BRTR	**Keskin Array B**	**86.53**	**343**	P	**P**	**05 02 40.7**	**+1.6**
	0.5nm,0.6s,baz=344,slow=3.9,SNR=3.6						
ESDC	**Sonseca Array**	**87.49**	**12**	P	**P**	**05 02 45.5**	**+1.8**
	0.3nm,0.6s,baz=334,slow=4.3,SNR=4.0						
ASAR	**Alice Springs**	**90.85**	**231**	P	**P**	**05 03 00.1**	**+0.6**
	0.7nm,0.6s,baz=34,slow=4.2,SNR=5.8						

*ISCJB **07** 05:04:34.7±0.9,28.°84S±0.°03×72.°37W±0.°09,h35km, mb3.7/2,MS3.2/1,Error ellipse: s-maj=10.7km s-min=4.8km az=1.9*
*SJA **07** 05:04:35.6±0.6,28.°91S×72.°21W,h40km±11km,ML3.4, MW3.7*
*GUC **07** 05:04:38.4±0.8,29.°02S×71.°82W,h57km±18km,ML3.8*
*IDC **07** 05:04:51.8±2.6,28.°45S×70.°17W,h57km±25km,mb3.6/2, mb1 3.7/6,mb1mx3.4/25,mbtmp3.6/6,ML3.3/4,MS2.8/4, Ms1 2.8/4,ms1mx2.6/22,Error ellipse: s-maj=48.8km s-min

ASAL Salagasta 4.80 141 *i* P **Pn 05 05 47.1 +2.6**
ASAL IAML 05 07 07.3
comp=Z,30nm,1.8s
ACLC CERRO LA CRUZ 4.83 97 *i* P **Pn 05 05 46.5 +1.6**
ACLC IAML 05 07 02.8
comp=Z,61nm,1.3s
ARCO CERRO ARCO 4.94 143 *i* P **Pn 05 05 49.2 +2.7**
ARCO IAML 05 07 16.1
comp=Z,34nm,1.4s
AAGR Agrelo 5.19 144 *i* P **Pn 05 05 52.4 +2.5**
ACAN Cantantal 5.63 128⇑ *i* P **Pn 05 05 57.9 +2.0**
ACAN IAML 05 07 57.9
comp=Z,16nm,1.4s
CYA Choya 5.85 87 *i* P **Pn 05 06 00.4 +1.5**
CYA IAML 05 07 48.7
comp=Z,11nm,1.0s
GO05 Huala 6.09 176 *i* P **Pn 05 06 05.6 +3.4**
AHML Horco Molle 6.64 73 *i* P **Pn 05 06 13.8 +4.1**
AHML IAML 05 08 16.1
comp=Z,8.5nm,2.0s
PB06 IPOC Station P 6.70 23 *i* P **Pn 05 06 10.4 -0.3**
PB06 IAML 05 08 09.3
comp=Z,12nm,0.5s
PB04 IPOC Station P 6.87 18 *i* P **Pn 05 06 12.6 -0.4**
LVC Limon Verde 7.04 28 P **Pn 05 06 16.2 +0.7**
comp=Z,0.5nm,0.3s,baz=180,slow=9.5,SNR=14
LVC S **Sn 05 07 31.6 -2.8**
comp=Z,0.6nm,0.3s,baz=168,slow=19,SNR=4.0
LVC LR LR 05 09 03.7
comp=Z,68nm,19.8s,baz=210,slow=42
LVC Limon Verde 7.04 28 *i* P **Pn 05 06 16.2 +0.7**
TCA Tanti 7.21 112 *i* P **Pn 05 06 17.4 -0.2**
LPAZ La Paz 13.18 18 P Pn 05 07 45.8 +5.9
comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=4.1
LPAZ LR LR 05 13 27.6
comp=Z,33nm,19.0s,baz=225,slow=42
SIV San Ignacio 16.59 42 P **Pn 05 08 20.4 -4.2**
comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=2.5
SNAA Sanae 56.43 159 LR LR 05 37 31.6
comp=Z,19nm,18.6s,baz=188,slow=35
TXAR Lajitas Array 65.15 330 P P 05 15 31.3 +19
comp=Z,0.6nm,0.7s,baz=152,slow=7.5,SNR=6.7
TORD Torodi Ar. Bea 82.83 71 P **P 05 16 59.4 +3.6**
comp=Z,0.6nm,0.8s,baz=226,slow=5.1,SNR=6.7

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*IDC **07** 05:13:06.8±1.4, 62°.13N×150°.74W, h52km±12km, mb4.0/22, mb1 4.2/26, mb1mx4.1/36, mbtmp4.3/26, ML4.1/5, MS3.4/13, Ms1 3.4/13, ms1mx3.2/49, Error ellipse: s-maj=11.5km s-min=8.3km az=99.0*
*ISCJB **07** 05:13:07.1±0.1, 62°.08N±0°.01×150°.48W±0°.03, h68km±1km, mb4.2/28, Error ellipse: s-maj=2.5km s-min=2.2km az=11.3*
*AEIC **07** 05:13:08.9±1.5, 62°.03N±0°.03×150°.49W±0°.05, h53km±4km, ML4.4, mb4.6/131(NEIC), Mwr4.3(NEIC)*
ISC 07 05:13:07.8±0.8, **62°.05N**±0°.03×**150°.53W**±0°.03, **h61**km±7km, **n644**, σ0°.**77**/639, **mb4.5**/87, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SKT	**Skwentna**	**0.48**	**262**			**Pn**	05 13 19.7	+0.1
SKT						Sn	05 13 28.4	+0.2
SKT						Sn	05 13 28.5	+0.3
SUA	**Susitna One**	**0.60**	**190**			**Pn**	**05 13 21.0**	**0.0**
SUA						**Sn**	**05 13 30.4**	**-0.1**
PMR	**Palmer**	**0.81**	**124**			**Pn**	**05 13 22.9**	**-0.4**
PMR						**Sn**	**05 13 34.3**	**-0.4**
PMR						Sn	05 13 34.5	-0.2
GHO	**Glory Hole Cre**	**0.81**	**109**			**Pn**	**05 13 23.4**	**0.0**
HUR	**Hurricane**	**1.02**	**23**			**Pn**	**05 13 26.9**	**+0.8**
CGLM	**Capps Glacier**	**1.03**	**224**			**Pn**	**05 13 26.1**	**-0.2**
RC01	**Rabbit Creek A**	**1.03**	**158**			**Pn**	**05 13 25.9**	**-0.3**
RC01						**Sn**	**05 13 39.8**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.04**	**224**			**Pn**	**05 13 26.3**	**-0.2**
SPCG						**Sn**	**05 13 40.7**	**+0.3**
SML	**Sawmill**	**1.06**	**102**			**Pn**	**05 13 26.6**	**-0.1**
SML	**Sawmill**	**1.06**	**102**			**Sn**	**05 13 42.1**	**+1.4**
SPCP	**Crater Peak Br**	**1.10**	**225**			**Pn**	**05 13 27.2**	**-0.1**
SPCP						**Sn**	**05 13 42.3**	**+0.5**
PPLA	**Purkeypile**	**1.15**	**318**			Pn	05 13 28.4	+0.5
PPLA	**Purkeypile**	**1.15**	**318**			Sn	05 13 43.5	+0.6
PPLA	**Purkeypile**	**1.15**	**318**			Sn	05 13 43.8	+0.9
CKT	**Bend**	**1.17**	**224**			**Pn**	**05 13 28.7**	**+0.6**
SPCR	**Spurr Chakacha**	**1.17**	**224**			**Pn**	**05 13 27.9**	**-0.2**
KNK	**Knik Glacier**	**1.17**	**122**			**Pn**	**05 13 28.4**	**+0.3**
KNK						**Sn**	**05 13 43.6**	**+0.4**
KNK						Sn	05 13 44.5	+1.3
WAT1	**Susitna Watana**	**1.21**	**49**			**Pn**	**05 13 28.7**	**+0.2**
WAT1						**Sn**	**05 13 44.8**	**+0.8**
CKL	**Chakachamna La**	**1.22**	**226**			**Pn**	**05 13 29.4**	**+0.6**
SPNN	**North Nagishla**	**1.24**	**237**			**Pn**	**05 13 29.6**	**+0.5**
SPWE	**Spurr West**	**1.24**	**232**			**Pn**	**05 13 29.5**	**+0.4**
WAT2	**Susitna Watana**	**1.28**	**44**			**Pn**	**05 13 30.0**	**+0.4**
WAT2						**Sn**	**05 13 47.0**	**+0.9**
CAPN	**Captain Cook N**	**1.32**	**194**			**Pn**	**05 13 32.0**	**+2.1**
TRF	**Thorofare Moun**	**1.41**	**4**	Pn		**Pn**	**05 13 32.2**	**+0.9**
TRF						**Sn**	**05 13 49.8**	**+0.7**
KTH	**Kantishna Hill**	**1.52**	**353**			**Pn**	**05 13 33.9**	**+1.1**
SCM	**Sheep Creek Mo**	**1.53**	**97**			**Pn**	**05 13 33.4**	**+0.6**
CAST	**Castle Rocks**	**1.55**	**333**			**Pn**	**05 13 33.7**	**+0.6**
SLKM	**Skilak Lake**	**1.55**	**174**			**Pn**	**05 13 33.0**	**-0.2**
RND	**Reindeer**	**1.56**	**29**			**Pn**	**05 13 34.0**	**+0.6**
PWL	**Port Wells**	**1.59**	**138**			**Pn**	**05 13 33.3**	**-0.4**
DHY	**Denali Highway**	**1.79**	**53**			**Pn**	**05 13 37.0**	**+0.6**
DFR	**Drift River**	**1.80**	**216**			**Pn**	**05 13 37.0**	**+0.5**
RDJH	**Redoubt Jeurge**	**1.83**	**218**			**Pn**	**05 13 37.8**	**+0.8**
MCK	**McKinley**	**1.84**	**23**			**Pn**	**05 13 38.0**	**+1.0**
RSO	**Redoubt South**	**1.92**	**215**			**Pn**	**05 13 39.1**	**+0.8**
RDWB	**Redoubt West**	**1.93**	**217**			**Pn**	**05 13 39.3**	**+1.0**
RED	**Redoubt Volcan**	**1.96**	**215**			**Pn**	**05 13 40.0**	**+1.2**
CHUM	**Lake Minchumin**	**2.01**	**337**			**Pn**	**05 13 40.1**	**+0.7**
SEW	**Seward**	**2.02**	**165**			**Pn**	**05 13 40.5**	**+1.1**
GLI	**Glacier Island**	**2.02**	**124**			**Pn**	**05 13 38.9**	**-0.6**
BPAW	**Bear Paw Mtn.**	**2.07**	**354**			**Pn**	**05 13 40.6**	**+0.4**
BWN	**Browne**	**2.19**	**12**			**Pn**	**05 13 42.7**	**+1.0**
VMT	**TAPS Tl Valdez**	**2.21**	**114**			**Pn**	**05 13 42.2**	**+0.1**
BRLK	**Bradley Lake**	**2.30**	**185**			**Pn**	**05 13 44.1**	**+0.8**
BRSE	**Bradley Lake S**	**2.32**	**183**			**Pn**	**05 13 44.8**	**+1.2**
FID	**Port Fidalgo**	**2.34**	**122**			**Pn**	**05 13 42.9**	**-1.0**
ILW	**Iliamna West**	**2.37**	**214**			**Pn**	**05 13 45.2**	**+0.9**
IVE	**Iliamna Volcan**	**2.37**	**212**			**Pn**	**05 13 45.3**	**+1.0**
PS11	**TAPS Pump St11**	**2.38**	**87**			**Pn**	**05 13 45.3**	**+1.0**
HOM	**Homer**	**2.46**	**193**			**Pn**	**05 13 47.0**	**+1.6**
PAX	**Paxson**	**2.52**	**66**			**Pn**	**05 13 47.1**	**+0.8**
CNPM	**China Poot**	**2.56**	**188**			**Pn**	**05 13 48.2**	**+1.4**
HIN	**Hinchinbrook I**	**2.56**	**129**			**Pn**	**05 13 46.0**	**-0.8**
SVW2	**Sparrevohn**	**2.60**	**251**			**Pn**	**05 13 47.5**	**+0.1**
NEA	**Nenana**	**2.62**	**14**			**Pn**	**05 13 48.0**	**+0.4**
PS12	**TAPS Pump St12**	**2.62**	**100**			**Pn**	**05 13 47.6**	**-0.1**
WRH	**Wood River Hil**	**2.67**	**23**			**Pn**	**05 13 48.8**	**+0.5**
TT01	**Tatalina**	**2.69**	**291**			**Pn**	**05 13 48.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.75**	**121**			**Pn**	**05 13 49.4**	**0.0**
HDA	**Harding Lake**	**2.87**	**33**	P		**Pn**	**05 13 51.6**	**+0.6**
baz=216,SNR=299								
HDA	**Harding Lake**	**2.87**	**33**			**Pn**	**05 13 51.6**	**+0.6**
CCB	**Clear Creek Bu**	**2.88**	**24**			**Pn**	**05 13 51.6**	**+0.4**
MLY	**Manley**	**3.00**	**358**			**Pn**	**05 13 53.3**	**+0.6**
PS08	**TAPS Pump Stn8**	**3.01**	**32**			**Pn**	**05 13 53.4**	**+0.5**
AUQ	**Augustine Qik'**	**3.05**	**209**			**Pn**	**05 13 55.1**	**+1.5**
TCOL	**CIGO, UAF Yank**	**3.08**	**22**	P		**Pn**	**05 13 54.5**	**+0.7**
baz=204,SNR=301								
TCOL	**CIGO, UAF Yank**	**3.08**	**22**			**Pn**	**05 13 54.5**	**+0.7**
COLA	**College**	**3.08**	**22**			**Pn**	**05 13 54.4**	**+0.6**
COLA	**College**	**3.08**	**22**			**Pn**	**05 13 54.5**	**+0.7**
MDM	**Murphy Dome**	**3.10**	**18**			**Pn**	**05 13 54.8**	**+0.6**
RIDG	**Independent Ri**	**3.10**	**54**			**Pn**	**05 13 55.5**	**+1.2**
GOAT	**Goat Mountain**	**3.16**	**115**			**Pn**	**05 13 55.7**	**+0.6**
IL31	**IL31**	**3.19**	**29**			**Pn**	**05 13 55.7**	**+0.4**
ILAR	**Eielson Array**	**3.19**	**29**	P		**Pn**	**05 13 55.6**	**+0.3**
39nm,0.3s,baz=211,slow=14,SNR=1907								
ILAR				S		**Sn**	**05 14 30.9**	**-1.1**
127nm,0.3s,baz=220,slow=22,SNR=15								
ILAR				LR		LR	05 15 16.7	
comp=Z,409nm,21.9s,baz=294,slow=41								
ILAR	**Eielson Array**	**3.19**	**29**			**Pn**	**05 13 55.3**	**0.0**
GLB	**Gilahina Butte**	**3.25**	**98**			**Pn**	**05 13 55.8**	**-0.5**
MENT	**Mentasta**	**3.28**	**71**			**Pn**	**05 13 57.4**	**+0.7**
RAGM	**Ragged Mountai**	**3.28**	**118**			**Pn**	**05 13 57.1**	**+0.4**
DOT	**Dot Lake**	**3.37**	**59**			**Pn**	**05 13 59.0**	**+1.1**
POKR	**Poker Plat Res**	**3.38**	**23**	P		**Pn**	**05 13 58.7**	**+0.7**
baz=205,SNR=286								
POKR	**Poker Plat Res**	**3.38**	**23**			**Pn**	**05 13 58.6**	**+0.6**
VRDI	**Verde Repeater**	**3.47**	**101**			**Pn**	**05 13 59.4**	**-0.1**
HMT	**Hamilton**	**3.48**	**117**			**Pn**	**05 13 59.8**	**+0.3**
MCARA	**McCarthy VSAT**	**3.63**	**97**			**Pn**	**05 14 01.4**	**-0.1**
CRQM	**Cirque**	**3.78**	**107**			**Pn**	**05 14 04.2**	**+0.6**
SUCK	**Suckling Hills**	**3.83**	**118**			**Pn**	**05 14 05.0**	**+0.8**
PS06	**TAPS Pump Stn6**	**3.84**	**5**			**Pn**	**05 14 05.1**	**+0.9**
GRIN	**Grindle Hills**	**3.92**	**114**			**Pn**	**05 14 06.1**	**+0.7**
TGL	**Tana Glacier**	**3.92**	**106**			**Pn**	**05 14 05.9**	**+0.4**
WAX	**Waxell Ridge**	**4.04**	**110**			**Pn**	**05 14 07.3**	**+0.3**
BALM	**Baldy**	**4.04**	**101**			**Pn**	**05 14 06.7**	**-0.5**
KIAG	**Kiagna River**	**4.08**	**102**			**Pn**	**05 14 06.9**	**-0.7**
PRP	**Porcupine Dome**	**4.13**	**30**			**Pn**	**05 14 09.0**	**+0.7**
BCAR	**Beaver Creek A**	**4.17**	**72**			**Pn**	**05 14 08.6**	**-0.3**
KULT	**Kultieth River**	**4.19**	**112**			**Pn**	**05 14 09.2**	**+0.1**
IM03		**4.20**	**342**			**Pn**	**05 14 09.7**	**+0.6**
IMAR	**Indian Mountai**	**4.20**	**342**			**Pn**	**05 14 09.8**	**+0.6**
BARN	**Barnard Glacie**	**4.36**	**99**			**Pn**	**05 14 12.2**	**+0.7**
KDAK	**Kodiak Island**	**4.40**	**195**	P		**Pn**	**05 14 11.3**	**-0.7**
6.1nm,0.3s,baz=43,slow=8.3,SNR=50								
KDAK				S		**Sn**	**05 15 02.2**	**+0.3**
33nm,0.3s,baz=122,slow=22,SNR=6.9								
KDAK				LR		LR	05 16 09.3	
comp=Z,511nm,21.2s,baz=57,slow=41								
KDAK	**Kodiak Island**	**4.40**	**195**			Pn	05 14 12.9	+0.9
KDAK	**Kodiak Island**	**4.40**	**195**			**Pn**	**05 14 13.2**	**+1.2**
GRNC	**Granite Creek**	**4.42**	**104**			**Pn**	**05 14 12.0**	**-0.4**
KABU	**Katmai Buttres**	**4.47**	**214**			Pn	05 14 14.6	+1.5
CTGM	**Chitina Glacie**	**4.54**	**100**			**Pn**	**05 14 14.7**	**+0.7**
BVCY	**Beaver Creek**	**4.54**	**81**			**Pn**	**05 14 14.5**	**+0.7**
MESA	**MESA**	**4.56**	**110**			**Pn**	**05 14 15.4**	**+1.0**
YAH	**Yahtse**	**4.57**	**108**			**Pn**	**05 14 15.1**	**+0.6**
YUK2	**White River**	**4.58**	**89**			**Pn**	**05 14 14.7**	**+0.1**
YUK1	**Sand Pete Hill**	**4.70**	**84**			**Pn**	**05 14 16.9**	**+0.7**
YUK3	**Moose Creek**	**4.77**	**89**			**Pn**	**05 14 17.1**	**-0.1**
RKAV	**Rock Avalanche**	**4.78**	**107**			**Pn**	**05 14 17.8**	**+0.6**
PS05	**TAPS Pump Stn5**	**4.78**	**359**			Pn	05 14 18.8	+1.6
CHX	**Chaix Hills**	**4.99**	**109**			**Pn**	**05 14 20.6**	**+0.5**
EGAK	**Eagle**	**5.02**	**53**			**Pn**	**05 14 20.9**	**+0.5**
OHAK	**Old Harbor**	**5.04**	**197**			**Pn**	**05 14 20.1**	**-0.6**
FYU	**Fort Yukon**	**5.08**	**25**			Pn	05 14 22.4	+1.2
SAMH	**Samovar Hills**	**5.11**	**108**			**Pn**	**05 14 22.6**	**+0.9**
COLD	**Coldfoot**	**5.20**	**1**			Pn	05 14 24.9	+2.0
PCA	**Pinnacle**	**5.36**	**107**			**Pn**	**05 14 25.8**	**+0.8**
DAWY	**Dawson**	**5.45**	**63**			**Pn**	**05 14 26.9**	**+0.5**
YUK4	**Talbot Arm**	**5.70**	**92**			**Pn**	**05 14 30.1**	**+0.2**
BCPM	**Bancas Point**	**5.70**	**107**			**Pn**	**05 14 29.8**	**+0.1**
SII	**Sitkinak Islan**	**5.82**	**200**			Pn	05 14 32.5	+1.2
YUK6	**Outpost Mounta**	**5.93**	**95**			**Pn**	**05 14 33.2**	**+0.1**
PNL	**Peninsula**	**5.94**	**109**			**Pn**	**05 14 33.4**	**+0.4**
BM03	**Burnt Mountain**	**5.96**	**23**			**Pn**	**05 14 33.7**	**+0.4**
BMAR	**Burnt Mountain**	**5.97**	**23**			Pn	05 14 34.5	+1.1
YUK5	**Granite Creek**	**6.12**	**93**			**Pn**	**05 14 35.4**	**-0.1**
HYT	**Haines Junctio**	**6.37**	**95**			**Pn**	**05 14 38.6**	**-0.4**
TOLK	**Toolik Lake Re**	**6.63**	**3**	P		Pn	05 14 44.4	+1.9
baz=184,SNR=29								
TOLK	**Toolik Lake Re**	**6.63**	**3**			Pn	05 14 44.8	+2.3
DHAK	**Deception Hill**	**6.75**	**111**			**Pn**	**05 14 44.3**	**+0.2**
CHIR	**Chirikof Islan**	**6.78**	**205**	Pn		Pn	05 14 44.5	0.0
CHGN	**Chignik**	**7.04**	**219**	Pn		Pn	05 14 49.6	+1.6
ANM	**Nome**	**7.14**	**297**	Pn		Pn	05 14 51.2	+1.8
EPYK	**Eagle Plains**	**7.41**	**48**	P		**Pn**	**05 14 54.0**	**+0.9**
baz=240,SNR=16								
EPYK	**Eagle Plains**	**7.41**	**48**			**Pn**	**05 14 53.8**	**+0.7**
WHY	**Whitehorse**	**7.65**	**94**			**Pn**	**05 14 55.5**	**-0.9**
SKAG	**Skagway**	**7.88**	**102**			**Pn**	**05 14 59.4**	**-0.1**
BESE	**Bessie Mountai**	**8.51**	**107**	Pn		**Pn**	**05 15 08.0**	**-0.2**
JIS	**Juneau Island**	**8.88**	**108**			**Pn**	**05 15 13.9**	**+0.7**
INK	**Inuvik**	**9.48**	**41**	P		**Pn**	**05 15 21.3**	**0.0**
1.1nm,0.3s,baz=242,slow=12,SNR=24								
INK				S		**Sn**	**05 17 06.2**	**+0.1**
1.2nm,0.3s,baz=245,slow=8.0,SNR=3.7								
INK				LR		LR	05 19 25.3	
comp=Z,270nm,19.5s,baz=219,slow=40								
INK	**Inuvik**	**9.48**	**41**			**Pn**	**05 15 21.7**	**+0.3**
DLBC	**Dease Lake**	**10.79**	**100**	P		**Pn**	**05 15 39.3**	**-0.1**
0.7nm,0.3s,baz=332,slow=14,SNR=5.7								
DLBC				LR		LR	05 20 00.9	
comp=Z,372nm,20.4s,baz=313,slow=38								
DLBC	**Dease Lake**	**10.79**	**100**			**Pn**	**05 15 38.6**	**-0.7**
C36M	**Paulatuk**	**13.01**	**45**	P		**Pn**	**05 16 06.7**	**-2.7**
baz=249,SNR=5.3								
A36M	**Sachs Harbour**	**13.88**	**34**	P		**Pn**	**05 16 19.3**	**-1.7**
baz=237,SNR=14								
YKA	**Yellowknife Ar**	**16.59**	**73**	P		**Pn**	**05 16 56.0**	**0.0**
0.6nm,0.3s,baz=283,slow=9.6,SNR=12								
YKA				LR		LR	05 23 23.8	
comp=Z,18nm,20.7s,baz=320,slow=37								
B05A	**Bryant**	**21.08**	**118**	P		**P**	**05 17 46.6**	**0.0**
baz=322,SNR=7.6								
D03D	**Eldon**	**21.25**	**121**	P		**P**	**05 17 51.1**	**+2.6**
baz=323								
C06D	**Leavenworth**	**21.85**	**117**	P		**P**	**05 17 56.5**	**+1.6**
baz=321								
E04D	**Cinebar**	**22.25**	**121**	P		**P**	**05 18 00.7**	**+1.6**
baz=324								
LON	**Longmire**	**22.40**	**120**			**PcP**	**05 21 52.2**	**-1.1**
RES	**Resolute Bay**	**22.92**	**34**	P		**P**	**05 18 05.7**	**-0.4**
6.1nm,0.5s,baz=259,slow=9.2,SNR=15								
NEW	**Newport**	**23.21**	**111**	P		**P**	**05 18 09.9**	**+0.7**
baz=319,SNR=8.4								
NEW	**Newport**	**23.21**	**111**	P		**P**	**05 18 10.1**	**+0.9**
7.2nm,0.8s,baz=314,slow=6.7,SNR=14								
NEW	**Newport**	**23.21**	**111**	P		**P**	**05 18 09.9**	**+0.7**
NEW				IAmb		IAmb	05 18 11.9	
comp=Z,11nm,1.1s								
HAWA	**Hanford**	**23.62**	**117**	P		**P**	**05 18 14.2**	**+1.1**
G05D	**Wamic, OR**	**23.82**	**121**	P		**P**	**05 18 15.5**	**+0.6**
baz=325								
H04D	**Lebanon**	**23.86**	**124**	P		**P**	**05 18 16.4**	**+1.2**
baz=327								
WALA	**Waterton Lakes**	**24.06**	**106**	P		**P**	**05 18 18.3**	**+1.1**
WALA				IAmb		IAmb	05 18 20.0	
comp=Z,20nm,0.8s								
K02D	**Willamette Mer**	**25.07**	**128**	P		**P**	**05 18 28.2**	**+1.9**
baz=330								
J05D	**Fort Rock, OR**	**25.49**	**124**	P		**P**	**05 18 31.8**	**+1.6**
baz=328,SNR=6.5								
SEY	**Seymchan**	**25.65**	**297**	P		**P**	**05 18 30.3**	**-1.0**
comp=Z,2.9nm,0.7s,baz=94,slow=7.4,SNR=4.7								
MSO	**Missoula**	**25.70**	**109**	P		**P**	**05 18 32.3**	**+0.3**
baz=320								
MSO	**Missoula**	**25.70**	**109**	P		**P**	**05 18 32.9**	**+0.9**
BMO	**Blue Mountains**	**25.80**	**116**	P		**P**	**05 18 33.9**	**+1.1**
FFC	**Flin Flon**	**25.92**	**84**	P		**P**	**05 18 35.5**	**+1.7**
L04D	**Klamath Falls**	**25.98**	**127**	P		**P**	**05 18 35.4**	**+0.7**
baz=330								
PLID	**Pearl Lake**	**26.16**	**114**	P		**P**	**05 18 37.3**	**+0.9**
YBH	**Yreka Blue Hor**	**26.25**	**128**	P		**P**	**05 18 38.3**	**+1.2**
comp=Z,3.8nm,0.9s,baz=328,slow=2.4,SNR=11								
YBH	**Yreka Blue Hor**	**26.25**	**128**	P		**P**	**05 18 38.1**	**+1.1**
M02C	**Callahan**	**26.50**	**128**	P		**P**	**05 18 40.6**	**+1.4**
baz=331								
M04C	**Macdoel**	**26.54**	**127**	P		**P**	**05 18 40.6**	**+0.9**
baz=330								
EGMT	**Eagleton**	**26.71**	**103**	P		**P**	**05 18 41.4**	**+0.3**
baz=317,SNR=8.5								
EGMT	**Eagleton**	**26.71**	**103**	P		**P**	**05 18 41.7**	**+0.6**
EGMT				IAmb		IAmb	05 18 42.5	
comp=Z,22nm,0.9s								
HRY	**Holter Researc**	**26.74**	**107**	P		**P**	**05 18 42.4**	**+1.0**
N02D	**Trinity Center**	**26.91**	**129**	P		**P**	**05 18 45.3**	**+2.3**
baz=331,SNR=7.9								
MOD	**Modoc Plateau**	**27.02**	**124**	P		**P**	**05 18 45.3**	**+1.3**
WDC	**Whiskeytown Da**	**27.32**	**129**	P		**P**	**05 18 47.8**	**+1.3**
MFID	**Camas Ranch**	**27.58**	**116**	P		**P**	**05 18 50.4**	**+1.4**
O02D	**Mt. Diablo Mer**	**27.58**	**130**	P		**P**	**05 18 49.7**	**+0.7**
baz=332								
BOZ	**Bozeman (W)**	**27.68**	**108**	P		**P**	**05 18 49.7**	**-0.1**
baz=320								
BOZ	**Bozeman (W)**	**27.68**	**108**	P		**P**	**05 18 50.4**	**+0.5**
MCMT	**McKenzie Canyo**	**27.74**	**111**	P		**P**	**05 18 51.7**	**+1.2**
O03E	**Paynes Creek**	**27.84**	**128**	P		**P**	**05 18 52.0**	**+0.8**
baz=331,SNR=6.2								
GCMT	**Greycliff**	**28.41**	**106**	P		**P**	**05 18 58.0**	**+1.5**
PETK	**Petropavlovsk-**	**28.42**	**276**	LR		LR	05 30 10.3	
comp=Z,96nm,18.3s,baz=62,slow=36								
YHL	**Hebgen Lake**	**28.46**	**109**	P		**P**	**05 18 58.5**	**+1.5**
YMR	**Madison River**	**28.70**	**109**	P		**P**	**05 19 00.3**	**+1.3**
BEKR	**Beckworth**	**28.75**	**126**	P		**P**	**05 19 00.8**	**+1.3**
DGMT	**Dagmar**	**28.97**	**96**	P		**P**	**05 19 01.8**	**+0.6**
baz=315								
RLMT	**Red Lodge**	**29.11**	**106**	P		**P**	**05 19 04.1**	**+1.4**
baz=320,SNR=12								
RLMT	**Red Lodge**	**29.11**	**106**	P		**P**	**05 19 04.4**	**+1.8**
RLMT				IAmb		IAmb	05 19 05.2	
comp=Z,12nm,0.7s								
LAO	**LASA Array**	**29.32**	**101**	P		**P**	**05 19 04.6**	**+0.3**
baz=318								
FXWY	**Fox Creek**	**29.48**	**110**	P		**P**	**05 19 07.5**	**+1.6**
VCNR	**Virginia City**	**29.52**	**126**	P		**P**	**05 19 07.8**	**+1.5**
TPAW	**Teton Pass**	**29.63**	**110**	P		**P**	**05 19 09.2**	**+1.8**
TPAW				IAmb		IAmb	05 19 10.0	
comp=Z,6.2nm,0.8s								
LOHW	**Long Hollow**	**29.69**	**110**	P		**P**	**05 19 09.6**	**+1.8**
LOHW				IAmb		IAmb	05 19 10.1	
comp=Z,8.9nm,0.6s								
PNTR	**Pine Nut**	**29.72**	**126**	P		**P**	**05 19 09.6**	**+1.4**
PNTR				IAmb		IAmb	05 19 10.4	
comp=Z,4.7nm,0.8s								
SNOW	**Snow King Moun**	**29.74**	**110**	P		**P**	**05 19 09.5**	**+1.2**
REDW	**Red Top Meadow**	**29.78**	**110**	P		**P**	**05 19 10.3**	**+1.7**
HVU	**Hansel Valley**	**30.22**	**115**	P		**P**	**05 19 14.2**	**+1.8**
WAKR	**Walker**	**30.29**	**127**	P		**P**	**05 19 14.9**	**+1.8**
WAKR				IAmb		IAmb	05 19 16.2	
comp=Z,5.4nm,1.0s								
KVN	**Kaiserville**	**30.33**	**124**	P		**P**	**05 19 15.1**	**+1.6**
RYN	**Ryan**	**30.53**	**125**	P		**P**	**05 19 16.9**	**+1.7**
NVAR	**Mina Array Bea**	**30.79**	**125**	P		**P**	**05 19 19.1**	**+1.5**
comp=Z,5.6nm,0.8s,baz=308,slow=8.2,SNR=39								
NVAR				PcP		**PcP**	**05 22 14.1**	**+0.7**
comp=Z,0.9nm,0.6s,baz=287,slow=1.8,SNR=5.4								
NVAR				LR		LR	05 30 21.3	
comp=Z,41nm,18.2s,baz=272,slow=33								
NVAR	**Mina Array Bea**	**30.79**	**125**	P		**P**	**05 19 18.9**	**+1.3**
BGU	**Big Grassy Mou**	**30.81**	**116**	P		**P**	**05 19 19.1**	**+1.4**
BW06	**Boulder Array**	**30.82**	**110**	P		**P**	**05 19 18.0**	**+0.2**
baz=323								
PD31	**Pinedale Array**	**30.82**	**110**	P		**P**	**05 19 19.1**	**+1.2**
PDAR	**Pinedale Array**	**30.82**	**110**	P		**P**	**05 19 18.9**	**+1.0**
comp=Z,1.5nm,0.5s,baz=326,slow=4.0,SNR=24								
PDAR				PcP		**PcP**	**05 22 12.8**	**-0.6**
comp=Z,0.5nm,0.5s,baz=93,slow=1.9,SNR=5.0								
PDAR				LR		LR	05 32 23.6	
comp=Z,84nm,20.5s,baz=3.0,slow=37								
NV11	**Mina Array Sit**	**30.85**	**125**	P		**P**	**05 19 19.4**	**+1.5**
NV11				IAmb		IAmb	05 19 20.5	
comp=Z,6.4nm,0.9s								
MDPB	**Devils Postpil**	**31.19**	**127**	P		**P**	**05 19 22.8**	**+1.7**
OMMB	**Old Mammoth Mi**	**31.24**	**127**	P		**P**	**05 19 22.9**	**+1.3**
MLAC	**Mammoth, Mammo**	**31.29**	**127**	P		**P**	**05 19 23.3**	**+1.3**
baz=332				

Y12C IAmb IAmb 05 20 08.0
comp=Z,6.9nm,0.8s
MONP2 Monument Peak 36.39 127 P **P 05 20 07.3 +1.0**
baz=334,SNR=6.3
SPMN Marine on St. 36.69 90 P **P 05 20 09.0 +0.6**
baz=318
SPMN Marine on St. 36.69 90 P **P 05 20 09.2 +0.8**
SPMN IAmb IAmb 05 20 09.9
comp=Z,13nm,1.1s
SDCO Great Sand Dun 36.71 110 P **P 05 20 10.0 +1.0**
baz=326,SNR=5.4
SDCO Great Sand Dun 36.71 110 P **P 05 20 10.4 +1.4**
IKP In-Ko-Pah, Jac 36.73 127 P **P 05 20 10.3 +1.4**
baz=334
GLA Glamis 36.85 125 P **P 05 20 10.9 +0.9**
baz=333
KSCO Kaye Shedlock' 36.96 106 P **P 05 20 10.9 0.0**
baz=325
KSCO Kaye Shedlock' 36.96 106 P **P 05 20 11.9 +1.0**
X16A Lo Mia Camp, P 37.00 120 P **P 05 20 12.9 +1.6**
G40A Rib Lake 37.88 88 P **P 05 20 18.0 -0.5**
baz=318
SUMG Summit 38.03 27 *i* P **P 05 20 20.0 +0.1**
comp=Z,26nm,0.7s
SUMG Summit 38.03 27 P **P 05 20 20.4 +0.5**
DAG Danmarks Havn 38.20 16 *i* P **P 05 20 19.6 -1.1**
comp=Z,8.8nm,0.9s
CBKS Cedar Bluff 38.44 103 P **P 05 20 24.1 +0.8**
baz=324
214A Organ Pipe Nat 38.61 124 P **P 05 20 25.2 +0.4**
baz=333
214A Organ Pipe Nat 38.61 124 P **P 05 20 26.2 +1.4**
214A IAmb IAmb 05 20 27.1
comp=Z,5.4nm,0.9s
ANMO Albuquerque 38.64 114 P **P 05 20 25.8 +0.6**
baz=328
JFWS Jewell Farm 39.64 90 P **P 05 20 32.8 -0.5**
baz=320
JFWS Jewell Farm 39.64 90 P **P 05 20 33.0 -0.2**
KSU1 Kansas State U 39.65 100 P **P 05 20 33.1 -0.2**
baz=324,SNR=7.3
L40A Anamosa 39.84 92 P **P 05 20 34.3 -0.5**
baz=321
D48A Paudash Townsh 40.40 79 P **P 05 20 39.1 -0.3**
baz=317
MATQ Matagami 40.42 73 P **P 05 20 39.1 -0.4**
baz=316
N41A Harden Midland 41.07 93 P **P 05 20 44.9 -0.1**
baz=322
MSTX Muleshoe 41.08 111 P **P 05 20 45.3 0.0**
baz=328,SNR=14
MSTX Muleshoe 41.08 111 P **P 05 20 46.1 +0.9**
I46A Reed City 41.12 85 P **P 05 20 46.0 +0.6**
baz=320
H47A Mio 41.20 83 P **P 05 20 45.9 -0.2**
baz=319
LSQQ Lebel-sur-Quev 41.22 73 P **P 05 20 45.9 -0.3**
baz=317
SCHQ Schefferville 41.46 60 P **P 05 20 48.1 0.0**
comp=Z,11nm,0.8s,baz=307,slow=11,SNR=6.7
SCHQ LR LR 05 38 24.1
comp=Z,92nm,18.1s,baz=341,slow=37
CHGQ Chibougamau 41.77 70 P **P 05 20 49.9 -0.8**
baz=317
MNTX Cornudas Mount 41.88 115 P **P 05 20 52.4 +0.6**
baz=330
HDIL Hopedale 41.92 92 P **P 05 20 51.5 -0.5**
baz=322
D52A ZEK Kipawa Sen 42.11 76 P **P 05 20 53.0 -0.4**
baz=318
WMOK Wichita Mounta 42.22 106 P **P 05 20 54.8 +0.2**
baz=327,SNR=12
WMOK Wichita Mounta 42.22 106 P **P 05 20 55.3 +0.8**
WMOK IAmb IAmb 05 20 55.8
comp=Z,11nm,0.9s
K47A Vermontville 42.30 86 P **P 05 20 54.7 -0.4**
baz=320
D53A Lac Vacive, Po 42.35 76 P **P 05 20 55.1 -0.3**
baz=318
D53A Lac Vacive, Po 42.35 76 P **P 05 20 55.6 +0.2**
D53A IAmb IAmb 05 20 56.3
comp=Z,5.9nm,0.7s
P43A Skaggs, Pawnee 42.54 93 P **P 05 20 56.0 -1.0**
baz=322
TUL1 Leonard 42.62 102 P **P 05 20 57.8 +0.1**
baz=326
D54A Lac Fusel, La 42.78 75 P **P 05 20 58.6 -0.2**
baz=318
E53A Dumoine, Ponti 42.90 76 P **P 05 21 01.5 +1.6**
baz=319
K49A Clarkson 42.94 84 P **P 05 21 00.1 -0.1**
baz=320
CCM Cathedral Cave 42.99 96 P **P 05 20 59.6 -1.1**
baz=324
E54A Lac Daplat, Po 43.07 76 P **P 05 21 01.2 0.0**
baz=319
SFIN Lafayette 43.10 90 P **P 05 21 01.4 -0.1**
baz=322
L48A N Adams 43.13 86 P **P 05 21 01.9 +0.1**
baz=321
HHAR Hobbs 43.17 100 P **P 05 21 01.0 -1.2**
HHAR IAmb IAmb 05 21 01.3
comp=Z,4.2nm,0.6s
L49A Milan 43.31 85 P **P 05 21 03.4 +0.2**
baz=321
N47A Urbana 43.36 88 P **P 05 21 03.2 -0.5**
baz=322
N47A Urbana 43.36 88 P **P 05 21 03.5 -0.2**
D55A Sainte-Anne-du 43.41 74 P **P 05 21 04.0 +0.1**
baz=319
FVM French Village 43.43 95 P **P 05 21 04.1 -0.1**
FVM IAmb IAmb 05 21 04.2
comp=Z,6.2nm,0.6s
ABTX Abilene, Hawle 43.60 108 P **P 05 21 06.4 +0.6**
baz=328
U40A Yellville 43.61 99 P **P 05 21 04.8 -1.0**
baz=325
U40A Yellville 43.61 99 P **P 05 21 05.0 -0.8**
P46A Rosedale 43.65 91 P **P 05 21 06.6 +0.7**
baz=322
N48A Decatur 43.70 88 P **P 05 21 05.8 -0.6**
baz=322
D56A ZEC Mazanza, M 43.72 74 P **P 05 21 05.8 -0.6**
baz=319,SNR=6.5
E56A St. Veronique 43.97 74 P **P 05 21 08.0 -0.4**
baz=319
N49A Columbus Grove 44.04 87 P **P 05 21 08.9 -0.2**
baz=322
N49A Columbus Grove 44.04 87 P **P 05 21 08.9 -0.2**
N49A IAmb IAmb 05 21 09.5
comp=Z,7.2nm,0.7s
D57A Chemin Vers le 44.13 73 P **P 05 21 09.3 -0.5**
baz=319,SNR=5.6
G55A Calabogie 44.18 77 P **P 05 21 09.8 -0.4**
baz=320
S44A Carbondale 44.22 94 P **P 05 21 10.0 -0.5**
baz=324
DRWO Darlington Wes 44.31 80 P **P 05 21 10.8 -0.3**
baz=320
FCAR Ozark Folk Cen 44.34 98 P **P 05 21 10.3 -1.2**
FCAR IAmb IAmb 05 21 11.8
comp=Z,5.9nm,1.0s
LATQ La Tuque 44.35 72 P **P 05 21 11.1 -0.4**
baz=319
PBMO Poplar Bluff 44.40 96 P **P 05 21 11.5 -0.5**
E57A Chemin Saint G 44.47 74 P **P 05 21 11.9 -0.6**
baz=319
D58A Chemin du LacG 44.52 72 P **P 05 21 12.4 -0.5**
baz=319
O49A Covington 44.55 88 P **P 05 21 12.1 -1.0**
baz=322
O49A Covington 44.55 88 P **P 05 21 12.7 -0.5**
O49A IAmb IAmb 05 21 12.9
comp=Z,7.2nm,0.5s
ORIO Orleans, Innes 44.58 76 P **P 05 21 12.7 -0.7**
baz=320
P48A Milroy 44.61 89 P **P 05 21 12.6 -1.1**
baz=323
P48A Milroy 44.61 89 P **P 05 21 13.0 -0.7**
P48A IAmb IAmb 05 21 18.5
comp=Z,4.6nm,0.9s
M51A Elyria 44.66 85 P **P 05 21 14.1 +0.1**
baz=322
TX31 Lajitas Ar. Si 44.66 115 P **P 05 21 15.7 +1.4**
TX32 Lajitas Array 44.66 115 P **P 05 21 15.7 +1.4**
TXAR Lajitas Array 44.66 115 P **P 05 21 15.5 +1.2**
comp=Z,2.1nm,0.9s,baz=330,slow=6.7,SNR=17
TXAR PcP **PcP 05 22 56.1 +0.2**
comp=Z,1.0nm,0.7s,baz=43,slow=1.8,SNR=8.7
TXAR Lajitas Array 44.66 115 P **P 05 21 15.7 +1.4**
ALFO Alfred 44.73 75 P **P 05 21 13.9 -0.6**
baz=320
MIAR Mount Ida 44.76 101 P **P 05 21 14.5 -0.4**
baz=326
MIAR Mount Ida 44.76 101 P **P 05 21 15.0 +0.1**
MIAR IAmb IAmb 05 21 15.5
comp=Z,4.1nm,0.8s
W41B Gary Mavity, V 44.86 99 P **P 05 21 15.2 -0.5**
baz=326
Q48A North Vernon 44.89 90 P **P 05 21 15.0 -0.9**
baz=323
E58A La Victoria 44.89 73 P **P 05 21 15.3 -0.5**
baz=319
H56A Elgin 44.89 77 P **P 05 21 15.3 -0.6**
baz=320
O50A Cable 44.92 87 P **P 05 21 15.8 -0.3**
baz=322
X40A Basin Creek Fa 45.16 100 P **P 05 21 17.7 -0.3**
baz=326
WCI Wyandotte Cave 45.18 91 P **P 05 21 18.1 -0.1**
baz=323
Q49A Aurora 45.22 89 P **P 05 21 18.0 -0.5**
baz=323
P50A Jamestown 45.26 88 P **P 05 21 18.4 -0.4**
baz=323
M53A WI Miller and 45.28 83 P **P 05 21 19.4 +0.4**
baz=322
JCT Junction City 45.36 110 P **P 05 21 20.1 +0.4**
baz=329,SNR=6.0
O51A Pataskala 45.39 86 P **P 05 21 19.2 -0.7**
baz=322
G58A Ormstown 45.47 75 P **P 05 21 19.8 -0.6**
baz=320
D60A Saint Jean D'O 45.54 71 P **P 05 21 20.8 -0.1**
baz=320
LONY Lake Ozonia 45.64 76 P **P 05 21 21.4 -0.4**
baz=320
D61A St Aubert, Com 45.64 70 P **P 05 21 21.9 +0.1**
baz=320
M54A Oil Creek Stat 45.70 82 P **P 05 21 22.0 -0.3**
baz=322
M54A Oil Creek Stat 45.70 82 P **P 05 21 22.5 +0.1**
M54A IAmb IAmb 05 21 31.1
comp=Z,12nm,1.1s
N53A Lisbon 45.70 84 P **P 05 21 22.5 +0.2**
baz=322
N53A Lisbon 45.70 84 P **P 05 21 22.9 +0.5**
P51A Williamsport 45.71 87 P **P 05 21 22.2 -0.1**
baz=323
E60A Ste Agathe de 45.72 72 P **P 05 21 21.9 -0.4**
baz=320
L55A Hinsdale 45.75 81 P **P 05 21 22.6 -0.1**
baz=321
O52A Adamsville 45.78 85 P **P 05 21 23.2 +0.3**
O52A IAmb IAmb 05 21 42.1
comp=Z,16nm,1.1s
T47A Sharon Grove 45.80 93 P **P 05 21 23.2 +0.1**
baz=324
F60A Warwick 45.80 72 P **P 05 21 22.8 -0.1**
baz=320
K56A Middlesex 45.86 80 P **P 05 21 23.7 +0.1**
baz=321
Q51A Peebles 45.93 88 P **P 05 21 23.9 -0.2**
baz=323
N54A Moraine State 45.98 83 P **P 05 21 24.4 -0.1**
baz=322
N54A Moraine State 45.98 83 P **P 05 21 24.9 +0.4**
N54A IAmb IAmb 05 21 25.0
comp=Z,10nm,0.8s
S49A Springfield 46.01 90 P **P 05 21 24.4 -0.4**
baz=324
P52A Corning 46.02 86 P **P 05 21 24.0 -0.8**
baz=323
H59A Cadyville 46.03 75 P **P 05 21 24.3 -0.5**
baz=320
X43A Marvell 46.04 98 P **P 05 21 25.4 +0.4**
baz=326
R50A Paris 46.06 89 P **P 05 21 25.3 +0.1**
baz=323
WVT Waverly 46.15 94 P **P 05 21 26.1 +0.3**
baz=325
WVT Waverly 46.15 94 P **P 05 21 26.4 +0.6**
WVT IAmb IAmb 05 21 28.6
comp=Z,3.0nm,0.7s
M55A Ridgway 46.15 82 P **P 05 21 25.7 -0.2**
baz=322
I58A Old Forge 46.18 77 P **P 05 21 25.9 -0.1**
baz=321
L56A Greenwood 46.19 80 P **P 05 21 26.1 -0.1**
baz=322
L56A Greenwood 46.19 80 P **P 05 21 26.9 +0.7**
L56A IAmb IAmb 05 21 30.0
comp=Z,11nm,1.1s
K57A Scipio Center 46.21 79 P **P 05 21 26.4 +0.1**
baz=321
F61A St Evariste 46.22 72 P **P 05 21 26.3 -0.1**
baz=320
D62A Allapoint, All 46.24 69 P **P 05 21 26.4 -0.1**
baz=320
D62A Allapoint, All 46.24 69 P **P 05 21 26.6 +0.2**
D62A IAmb IAmb 05 21 27.4
comp=Z,11nm,0.8s
G60A Masonville 46.29 74 P **P 05 21 26.7 -0.2**
baz=320
E62A Clayton Lake 46.38 70 P **P 05 21 27.4 -0.2**
baz=320
E62A Clayton Lake 46.38 70 P **P 05 21 27.7 +0.1**
R51A Hillsboro 46.40 88 P **P 05 21 27.6 -0.2**
baz=323
O54A Avella 46.41 84 P **P 05 21 27.8 -0.1**
baz=322
M56A Emporium 46.41 81 P **P 05 21 27.9 -0.1**
baz=322
M56A Emporium 46.41 81 P **P 05 21 28.2 +0.2**
M56A IAmb IAmb 05 21 29.5
comp=Z,13nm,1.0s
T49A Edmonton 46.44 91 P **P 05 21 28.1 -0.1**
baz=324
T49A Edmonton 46.44 91 P **P 05 21 28.5 +0.4**
T49A IAmb IAmb 05 21 28.8
comp=Z,14nm,1.1s
P53A Whipple 46.49 86 P **P 05 21 27.9 -0.5**
baz=323
P53A Whipple 46.49 86 P **P 05 21 28.2 -0.3**
Q52A Bidwell 46.49 87 P **P 05 21 27.8 -0.7**
baz=323
S50A Richmond 46.51 90 P **P 05 21 28.4 -0.3**
baz=324
H60A Morristown 46.54 74 P **P 05 21 28.1 -0.8**
baz=321
N55A Mon Center 46.59 83 P **P 05 21 29.1 -0.2**
baz=322,SNR=8.1
I59A Olmsteadville 46.60 76 P **P 05 21 29.3 0.0**
baz=321
L57A Andrews Acres 46.63 80 P **P 05 21 29.0 -0.6**
baz=322
D63A Stockholm 46.69 69 P **P 05 21 29.9 -0.1**
baz=320
OXF Oxford 46.73 97 P **P 05 21 30.5 +0.1**
baz=326
OXF Oxford 46.73 97 P **P 05 21 31.0 +0.6**
F62A Pittston Farm, 46.74 71 P **P 05 21 30.2 -0.2**
baz=320
F62A Pittston Farm, 46.74 71 P **P 05 21 30.5 +0.1**
F62A IAmb IAmb 05 21 37.8
comp=Z,8.3nm,1.0s
U49A Red Boiling Sp 46.80 92 P **P 05 21 30.9 -0.1**
baz=324,SNR=8.1
N56A West Decatur 46.81 82 P **P 05 21 31.1 +0.1**
baz=322
P54A Burton 46.82 85 P **P 05 21 30.8 -0.3**
baz=323
T50A Nancy 46.84 91 P **P 05 21 31.2 0.0**
baz=324,SNR=6.9
BINY Binghamton 46.87 79 P **P 05 21 31.2 -0.3**
baz=322
CLTN Cedars of Leba 46.89 93 P **P 05 21 32.6 +0.9**
CLTN IAmb IAmb 05 21 32.9
comp=Z,5.3nm,0.8s
O55A Ligonier 46.90 83 P **P 05 21 31.7 0.0**
baz=322
H61A Lyndonville 46.91 74 P **P 05 21 31.4 -0.3**
baz=321
Q53A Leroy 46.92 86 P **P 05 21 31.5 -0.4**
baz=323
S51A Beattyville 46.93 89 P **P 05 21 31.5 -0.4**
baz=324
S51A Beattyville 46.93 89 P **P 05 21 31.7 -0.2**
S51A IAmb IAmb 05 21 32.3
comp=Z,8.5nm,0.6s
V48A Smith Brothers 46.94 93 P **P 05 21 32.1 +0.1**
baz=325
V48A Smith Brothers 46.94 93 P **P 05 21 32.5 +0.4**
V48A IAmb IAmb 05 21 32.9
comp=Z,8.5nm,1.0s
PLAL Pickwick Lake 46.97 95 P **P 05 21 32.6 +0.3**
G62A West of Eustis 47.01 72 P **P 05 21 32.4 -0.2**
baz=321
G62A West of Eustis 47.01 72 P **P 05 21 32.9 +0.4**
G62A IAmb IAmb 05 21 50.5
comp=Z,9.4nm,1.0s
M57A Sunshine Farm, 47.02 81 P **P 05 21 32.6 0.0**
baz=322
E63A Oxbow 47.02 69 P **P 05 21 31.8 -0.7**
baz=320
E63A Oxbow 47.02 69 P **P 05 21 32.1 -0.5**
E63A IAmb IAmb 05 21 32.5
comp=Z,5.8nm,0.6s
L58A Harry Jones Me 47.06 79 P **P 05 21 32.7 -0.2**
baz=322
MCWV Mont Chateau 47.08 84 P **P 05 21 32.9 -0.2**
baz=323
LBNH Lisbon 47.14 74 P **P 05 21 33.4 -0.1**
baz=321
R53A Hurricane 47.15 87 P **P 05 21 33.4 -0.2**
baz=323
Q54A Coxs Mills 47.15 86 P **P 05 21 33.2 -0.4**
baz=323
Q54A Coxs Mills 47.15 86 P **P 05 21 33.7 0.0**
Q54A IAmb IAmb 05 21 48.6
comp=Z,3.2nm,0.7s
O56A Blue Knob Stat 47.19 83 P **P 05 21 33.7 -0.4**
baz=322
O56A Blue Knob Stat 47.19 83 P **P 05 21 34.0 -0.1**
O56A IAmb IAmb 05 21 34.9
comp=Z,7.8nm,0.7s
P55A Reedsville 47.20 84 P **P 05 21 34.0 -0.1**
baz=323
SSPA Standing Stone 47.22 82 P **P 05 21 34.2 0.0**
baz=322
SSPA Standing Stone 47.22 82 P **P 05 21 34.3 +0.1**
SSPA IAmb IAmb 05 21 36.7
comp=Z,9.7nm,1.1s
J60A Lant Hill Farm 47.24 76 P **P 05 21 34.0 -0.3**
baz=321
I61A Oroboro, Fairl 47.25 74 P **P 05 21 34.2 -0.2**
baz=321
F63A Nahmakanta, Br 47.27 71 P **P 05 21 34.5 -0.1**
baz=321
N57A Milroy 47.28 81 P **P 05 21 34.4 -0.2**
baz=322
E64A Bridgewater 47.29 69 P **P 05 21 33.9 -0.7**
baz=321
M58A Price's Panora 47.30 80 P **P 05 21 34.5 -0.4**
baz=322
T51A Gray 47.30 90 P **P 05 21 34.6 -0.3**
baz=324
U50A Jamestown 47.32 91 P **P 05 21 35.0 -0.1**
baz=324
V49A McMinnville 47.35 93 P **P 05 21 35.0 -0.2**
baz=325
F64A Sherman 47.48 70 P **P 05 21 35.6 -0.5**
baz=321
F64A Sherman 47.48 70 P **P 05 21 36.0 -0.1**
PKME Peaks-Kenny Pk 47.53 71 P **P 05 21 36.2 -0.3**
baz=321
J61A Chester 47.55 75 P **P 05 21 37.2 +0.5**
baz=321
N58A Sunbury 47.60 81 P **P 05 21 37.2 +0.1**
baz=322
T52A Hallie 47.64 89 P **P 05 21 37.4 -0.1**
baz=324
M59A Waymart 47.65 79 P **P 05 21 37.0 -0.5**
baz=322
H63A New Sharon 47.67 72 P **P 05 21 37.0 -0.6**
baz=321
P56A Dayton Farm, R 47.67 83 P **P 05 21 37.7 0.0**
baz=323
O57A Amberson 47.67 82 P **P 05 21 38.0 +0.3**
baz=323
W49A Belvidere 47.71 93 P **P 05 21 37.8 -0.2**
baz=325
R54A Victor 47.72 86 P **P 05 21 37.9 -0.2**
baz=324
K61A Williamstown 47.76 76 P **P 05 21 38.0 -0.3**
baz=322
G64A Maxfield 47.78 71 P **P 05 21 38.0 -0.4**
baz=321
SWET Sewanee 47.79 93 P **P 05 21 38.4 -0.3**
SWET IAmb IAmb 05 21 39.0
comp=Z,9.8nm,1.0s
V50A Pikevile 47.81 92 P **P 05 21 38.6 -0.2**
baz=325
TZTN Tazewell 47.83 90 P **P 05 21 39.2 +0.2**
baz=324
Q56A Snyder Ridge, 47.88 84 P **P 05 21 39.4 +0.1**
baz=323
X48A Hartselle 47.89 95 P **P 05 21 39.1 -0.3**
baz=326
X48A Hartselle 47.89 95 P **P 05 21 39.2 -0.3**
I63A Otisfield 47.90 73 P **P 05 21 39.7 +0.3**
baz=321
T53A Wise 47.95 89 P **P 05 21 40.0 0.0**
baz=324
L61A Hillsdale 1, H 48.00 77 P **P 05 21 40.3 +0.1**
baz=322
V51A Loudon 48.05 91 P **P 05 21 40.8 +0.2**
baz=325
V51A Loudon 48.05 91 P **P 05 21 41.1 +0.4**
P57A Homestead Farm 48.07 83 P **P 05 21 40.7 -0.1**
baz=323,SNR=5.2
P57A Homestead Farm 48.07 83 P **P 05 21 41.2 +0.4**
O58A Lewisberry 48.07 81 P **P 05 21 41.0 +0.2**
baz=323
VBMS Vicksburg 48.11 100 P **P 05 21 41.8 +0.6**
baz=327
VBMS Vicksburg 48.11 100 P **P 05 21 42.4 +1.2**
M60A Port Jervis 48.19 79 P **P 05 21 41.4 -0.2**
baz=322
K62A Royalston 48.23 76 P **P 05 21 42.0 0.0**
baz=322
Q57A Strasburg 48.24 83 P **P 05 21 42.0 -0.2**
baz=323
O59A Robesonia 48.27 81 P **P 05 21 42.2 -0.1**
baz=323
S55A Lewisburg 48.27 86 P **P 05 21 42.4 -0.1**
baz=324
N60A Cedar Hill Far 48.33 79 P **P 05 21 43.0 +0.3**
baz=322
T54A Tazewell 48.34 88 P **P 05 21 43.0 0.0**
baz=324
G65A Princeton 48.35 70 P **P 05 21 42.7 -0.1**
baz=321
V52A Sevierville 48.38 90 P **P 05 21 43.3 +0.1**
baz=325
W51A Cleveland 48.38 92 P **P 05 21 43.2 0.0**
baz=325
LUPA Lehigh Univers 48.42 80 P **P 05 21 44.0 +0.5**
U53A Fall Branch 48.43 89 P **P 05 21 43.7 +0.1**
baz=324
FPAL Fort Paine 48.49 93 P **P 05 21 44.3 +0.2**
O60A Telford 48.62 80 P **P 05 21 45.2 +0.2**
baz=323
Q58A Fox Den Farm, 48.66 83 P **P 05 21 45.3 0.0**
baz=323,SNR=5.7
U54A Nelsons Funny 48.66 88 P **P 05 21 45.6 +0.1**
baz=324
T55A Pulaski 48.67 87 P **P 05 21 45.5 0.0**
baz=324
ARCES ARCESS Array B 48.67 2 P **P 05 21 43.8 -1.3**
comp=Z,1.6nm,0.6s,baz=10,slow=8.6,SNR=10.0
ARCES PcP **PcP 05 23 08.8 -0.5**
comp=Z,1.1nm,0.5s,baz=347,slow=3.7,SNR=6.6
Y49A Blount Mountai 48.68 95 P **P 05 21 45.2 -0.3**
baz=326
P59A Jarrettsville 48.71 81 P **P 05 21 45.4 -0.3**
baz=323
BLA Blacksburg 48.76 87 P **P 05 21 46.1 -0.1**
baz=324
R57A Stanardsville 48.78 84 P **P 05 21 46.2 0.0**
baz=324
N61A South Mountain 48.79 79 P **P 05 21 46.2 -0.1**
baz=323

X51A	Calhoun	48.83	93	P	P	05 21 46.6	0.0
	baz=325						
W52A	Murphy	48.83	91	P	P	05 21 46.8	0.0
	baz=325						
V53A	Saluda	48.89	90	P	P	05 21 47.4	+0.2
	baz=325						
U55A	TA2, Sparta	49.04	88	P	P	05 21 48.6	+0.2
	baz=324						
LRAL	Lakeview Retre	49.08	96	P	P	05 21 48.2	-0.4
	baz=326						
T56A	Rocky Mt	49.09	86	P	P	05 21 49.0	+0.3
	baz=324						
W53A	Cullowhee	49.13	91	P	P	05 21 49.0	-0.1
	baz=325						
O61A	Allentown	49.20	79	P	P	05 21 49.7	+0.3
	baz=323						
V54A	Nebo	49.21	89	P	P	05 21 49.6	0.0
	baz=325						
X52A	Dahlonega	49.25	92	P	P	05 21 50.0	+0.1
	baz=325,SNR=5.6						
Y51A	Rockmart	49.27	93	P	P	05 21 49.9	-0.2
	baz=326						
R58B	Mineral	49.35	84	P	P	05 21 50.9	+0.3
	baz=324						
Z50A	Ashland	49.40	95	P	P	05 21 50.9	-0.2
	baz=326,SNR=13						
U56A	King	49.48	87	P	P	05 21 51.5	-0.1
	baz=324						
T57A	Hurt	49.48	86	P	P	05 21 51.5	-0.1
	baz=324						
V55A	Taylorsville	49.49	88	P	P	05 21 51.7	-0.1
	baz=325						
R59A	King George, V	49.52	83	P	P	05 21 52.4	+0.6
	baz=324						
X53A	Estanollee	49.61	91	P	P	05 21 52.8	+0.2
	baz=325						
W54A	Cherokee Point	49.66	90	P	P	05 21 53.3	+0.4
	baz=325						
Z51A	Franklin	49.70	94	P	P	05 21 53.3	-0.1
	baz=326						
Y52A	Lilburn	49.77	92	P	P	05 21 54.3	+0.4
	baz=326,SNR=6.3						
S59A	Mechanicsville	49.79	84	P	P	05 21 53.9	0.0
	baz=324						
V56A	Mocksville	49.86	88	P	P	05 21 54.3	-0.3
	baz=325						
T58A	Grand View Acr	49.87	85	P	P	05 21 54.3	-0.2
	baz=324						
U57A	Blanch	49.90	86	P	P	05 21 54.9	0.0
	baz=324						
Y53A	Monroe	50.01	92	P	P	05 21 56.0	+0.3
	baz=326						
X54A	Belton	50.01	90	P	P	05 21 55.8	+0.2
	baz=325						
KMSC	Kings Mountain	50.01	89	P	P	05 21 56.1	+0.4
	baz=325						
PAULI	Pauline	50.05	90	P	P	05 21 56.1	+0.1
Z52A	Williamson	50.16	93	P	P	05 21 56.9	0.0
	baz=326						
250A	Grady	50.30	96	P	P	05 21 57.7	-0.1
	baz=327						
250A	Grady	50.30	96	P	P	05 21 57.8	-0.1
T59A	Double "B" Far	50.30	84	P	P	05 21 58.0	+0.2
	baz=324						
HODGE	Hodges	50.32	91	P	P	05 21 58.3	+0.3
Y54A	Tignall	50.42	91	P	P	05 21 58.9	+0.1
	baz=326						
152A	Waverly Hall	50.45	94	P	P	05 21 58.7	-0.3
	baz=326						
152A	Waverly Hall	50.45	94	P	P	05 21 58.9	-0.1
Z53A	Monticello	50.49	92	P	P	05 21 58.9	-0.3
	baz=326						
V58A	Windy Hill, Pi	50.53	87	P	P	05 21 59.9	+0.3
	baz=325						
HAL	Halifax	50.53	67	P	P	05 21 59.6	+0.1
T60A	Surry	50.55	84	P	P	05 22 00.1	+0.4
	baz=324						
BRAL	Brewton	50.61	97	P	P	05 22 00.5	+0.4
	baz=327						
W57A	Gilead	50.64	88	P	P	05 22 00.2	-0.1
	baz=325						
W57A	Gilead	50.64	88	P	P	05 22 00.5	+0.1
W57A				IAmb	IAmb	05 22 02.3	
	comp=Z,5.9nm,0.9s						
X56A	White Oak	50.69	89	P	P	05 22 00.6	-0.2
	baz=325						
U59A	Littleton	50.69	85	P	P	05 22 00.6	-0.2
	baz=325						
JSC	Jenkinsville	50.75	90	P	P	05 22 01.5	+0.2
JSC				IAmb	IAmb	05 22 02.5	
	comp=Z,14nm,1.2s						
Y55A	Saluda	50.75	90	P	P	05 22 01.5	+0.2
	baz=326						
GBN	Guysborough	50.82	65	P	P	05 22 01.9	+0.3
Z54A	Sparta	50.87	92	P	P	05 22 01.8	-0.3
	baz=326,SNR=5.5						
153A	Fort Valley	50.89	93	P	P	05 22 02.1	-0.2
	baz=326						
U60A	Pendleton	50.89	84	P	P	05 22 02.3	0.0
	baz=324						
252A	Lumpkin	51.00	94	P	P	05 22 02.2	-1.0
	baz=327						
W58A	Raeford	51.10	87	P	P	05 22 03.8	0.0
	baz=325						
Y56A	Pelion	51.13	90	P	P	05 22 03.9	-0.3
	baz=326						
X57A	Johnson Farm,	51.15	88	P	P	05 22 04.2	0.0
	baz=325						
Z55A	Blythe	51.21	91	P	P	05 22 05.0	+0.2
	baz=326						
253A	Americus	51.23	94	P	P	05 22 04.2	-0.7
	baz=326						
154A	Montrose	51.26	92	P	P	05 22 04.6	-0.5
	baz=326						
U61A	Possum Corner	51.34	84	P	P	05 22 05.6	-0.1
	baz=325						
352A	Blakely	51.34	95	P	P	05 22 05.3	-0.4
	baz=327						
Z56A	Williston	51.49	90	P	P	05 22 07.1	+0.3
	baz=326						
451A	Vernon	51.68	96	P	P	05 22 08.3	0.0
V61A	Roper	51.72	84	P	P	05 22 09.4	+0.9
254A	Abbeville	51.72	93	P	P	05 22 08.0	-0.6
	baz=326						
X59A	McDuffie Farm,	51.77	87	P	P	05 22 08.8	0.0
	baz=325						
Y58A	Scranton	51.81	88	P	P	05 22 09.7	+0.5
	baz=326						
Z57A	Bowman	51.82	90	P	P	05 22 09.9	+0.6
	baz=326						
TIGA	Tifton	52.01	94	P	P	05 22 10.2	-0.5
	baz=327						
255A	Hazlehurst	52.12	92	P	P	05 22 11.2	-0.3
	baz=326						
255A	Hazlehurst	52.12	92	P	P	05 22 11.7	+0.2
453A	Whigham	52.15	95	P	P	05 22 11.6	-0.1
	baz=327						
456A	Hilliard	53.34	93	P	P	05 22 20.8	+0.3
	baz=327						
456A	Hilliard	53.34	93	P	P	05 22 20.8	+0.3
KSRS	Korea Array	53.90	283	P	P	05 22 24.0	-0.5
	comp=Z,3.6nm,0.6s,baz=29,slow=7.2,SNR=8.8						
KSRS				LR	LR	05 46 45.1	
	comp=Z,26nm,18.3s,baz=50,slow=38						
557A	Orange Park	54.07	93	P	P	05 22 26.0	+0.2
	baz=327						
SONM	Songino Array	54.55	306	P	P	05 22 29.4	+0.1
	comp=Z,2.0nm,0.7s,baz=36,slow=6.0,SNR=10.0						
SONM	Songino Array	54.55	306	P	P	05 22 30.4	+1.1
859A	Kempfer Cattle	56.10	94	P	P	05 22 41.1	+0.6
	baz=328						
NC405	NORSAR Array S	56.41	10	P	P	05 22 41.4	-1.0
NC405				IAmb	IAmb	05 22 48.6	
	comp=Z,4.7nm,0.8s						
ZALV	Zalesovo Beam	56.42	324	P	P	05 22 41.4	-1.0
	comp=Z,1.0nm,0.3s,baz=40,slow=7.7,SNR=3.9						
NB201	NORSAR Array S	56.44	10	P	P	05 22 42.0	-0.6
NB2	NORSAR Subarra	56.44	11	P	P	05 22 40.6	-2.0
	comp=Z,324nm,5.0s,baz=350,slow=6.9						
NB2	NORSAR Subarra	56.44	11	P	P	05 22 40.6	-2.0
	baz=350,slow=6.9						
NOA	NORSAR Array B	56.44	11	P	P	05 22 41.1	-1.5
	comp=Z,2.3nm,0.7s,baz=350,slow=7.0,SNR=13						
FINES	FINESS Array B	56.80	2	P	P	05 22 43.5	-1.5
	comp=Z,2.4nm,0.6s,baz=6.8,slow=8.4,SNR=11						
FINES	FINESS Array B	56.80	2	P	P	05 22 43.9	-1.2
HHC	Hu-ho-hao-te	58.30	298	P	P	05 22 57.4	+1.4
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,13nm,6.0s						
MKAR	Makanchi Array	63.56	322	P	P	05 23 30.3	-1.2
	comp=Z,0.6nm,0.5s,baz=30,slow=7.4,SNR=5.8						
MKAR	Makanchi Array	63.56	322	P	P	05 23 30.8	-0.7
GTA	Gaotai	64.22	306	*e*P	P	05 23 39.0	+2.9
GTA				pP	pP	05 23 49.6	-2.8
GTA				sP	sP	05 23 53.8	-5.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,48nm,7.3s						
GTA				LR	LR		
	comp=N,130nm,16.2s						
GTA				LR	LR		
	comp=E,150nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,18.4s						
WMQ	Urumqi	64.60	317	*e*P	P	05 23 42.9	+4.5
LZH	Lanzhou	65.52	301	*e*P	P	05 23 47.3	+2.7
LZH				pP	sP	05 24 00.2	-7.6
LZH				sP	pP	05 24 04.5	+3.5
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				pmax	pmax		
	comp=Z,68nm,4.6s						
LZH				LR	LR		
	comp=N,65nm,15.0s						
LZH				LR	LR		
	comp=E,73nm,14.8s						
LZH				LR	LR		
	comp=Z,96nm,17.8s						
ABKAR	Akbulak array	66.41	339	P	P	05 23 49.0	-0.9
ABKAR	Akbulak array	66.41	339	P	P	05 23 49.7	-0.2
ABKAR				IAmb	IAmb	05 23 49.9	
	comp=Z,4.1nm,1.0s						
BRG	Berggiesshubel	66.75	11	*e*P	P	05 23 50.4	-1.7
	comp=Z,6.0nm,0.9s						
DPC	Dobruska-Polom	67.46	9	*e*P	P	05 23 56.4	-0.2
AKASG	Malin Array Be	67.60	0	P	P	05 23 56.8	-0.6
	comp=Z,3.2nm,0.5s,baz=2.2,slow=6.5,SNR=11						
KHC	Kasperske Hory	68.44	11	*e*P	P	05 24 02.5	-0.3
VRAC	Vranov	68.52	9	LR	LR	05 56 21.5	
	comp=Z,67nm,18.5s,baz=340,slow=38						
GERES	GERESS Array B	68.74	11	P	P	05 24 04.4	-0.3
	comp=Z,1.7nm,0.9s,baz=353,slow=7.4,SNR=5.2						
GERES	GERESS Array B	68.74	11	P	P	05 24 04.7	0.0
LANS	Liptovska Anna	68.86	7	*e*P	P	05 24 05.8	+0.4
KOLS	Kolonicke sedl	69.22	5	*e*P	P	05 24 08.0	+0.4
VYHS	Vyhne	69.48	8	*e*P	P	05 24 08.9	-0.3
BUR08	Bucovina Ar. S	70.60	3	P	P	05 24 16.5	+0.3
TUE	Stuetta	70.63	15	P	P	05 24 17.2	+0.7
TUE				IAmb	IAmb	05 24 17.5	
	comp=Z,4.9nm,0.8s						
BURAR	Bucovina Array	70.63	3	P	P	05 24 16.6	+0.2
MTE	Manteigas	73.61	29	P	P	05 24 35.4	+1.2
MTE				IAmb	IAmb	05 24 47.8	
	comp=Z,12nm,1.1s						
NRCA	Norcia	74.64	12	P	P	05 24 41.1	+1.0
NRCA				IAmb	IAmb	05 24 42.8	
	comp=Z,4.0nm,0.8s						
LATE	Laterza	74.72	13	P	P	05 24 41.9	+1.3
LATE				IAmb	IAmb	05 24 43.2	
	comp=Z,11nm,1.0s						
ESDC	Sonseca Array	75.08	26	P	P	05 24 42.8	+0.1
	comp=Z,1.9nm,0.6s,baz=343,slow=5.6,SNR=16						
ESDC	Sonseca Array	75.08	26	P	P	05 24 43.3	+0.5
PAB	San Pablo	75.13	26	P	P	05 24 43.4	+0.3
PAB				IAmb	IAmb	05 24 55.0	
	comp=Z,4.2nm,1.1s						
PVAQ	Vaqueiros	76.43	30	P	P	05 24 51.1	+0.7
PVAQ				IAmb	IAmb	05 24 53.1	
	comp=Z,5.8nm,1.0s						
BRTR	Keskin Array B	78.52	357	P	P	05 25 01.7	-0.5
	comp=Z,1.1nm,0.8s,baz=56,slow=3.1,SNR=5.7						
KEST	Kesra	81.21	16	P	P	05 25 16.7	0.0
	comp=Z,5.1nm,0.7s,baz=12,slow=9.3,SNR=7.3						
KEST	Kesra	81.21	16	P	P	05 25 17.2	+0.4
CMAR	Chiang Mai Arr	83.07	296	P	P	05 25 25.9	-0.7
	comp=Z,0.6nm,0.5s,baz=11,slow=6.3,SNR=4.9						
CMAR				LR	LR	06 06 32.3	
	comp=Z,18nm,21.1s,baz=125,slow=39						
BOSA	Boshof	146.45	7	PKPbc	PKPdf	05 32 40.8	+0.8
	comp=Z,2.2nm,0.4s,baz=341,slow=3.3,SNR=6.4						
BOSA	Boshof	146.45	7	PKPbc	PKPdf	05 32 41.2	+1.1
SUR	Sutherland	149.79	15	PKPbc	PKPbc	05 32 50.2	-0.1
	comp=Z,8.6nm,0.9s,baz=228,slow=2.3,SNR=4.4						
SUR	Sutherland	149.79	15		PKPbc	05 32 49.1	-1.2
QSPA	South Pole Qui	151.86	180	PKPbc	PKPbc	05 32 53.6	-0.3
	comp=Z,4.1nm,0.7s,baz=262,slow=0.4,SNR=15						

IDC 07 05:51:47.5±2.7, 16°.52S×173°.16W, h0km, mb3.9/5, mb1 4.3/5, mb1mx4.0/29, mbtmp3.9/5, MS3.6/7, Ms1 3.7/7, ms1mx3.3/31, Error ellipse: s-maj=208.6km s-min=23.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.50	112	LR	LR	05 58 58.2	
	comp=Z,174nm,18.9s,baz=280,slow=32						
DZM	Mont Dzumac	20.02	251	*e*LR	LR	06 01 48.7	
	comp=Z,182nm,26.4s						
DZM	Mont Dzumac	20.02	251	LR	LR	06 02 45.3	
	comp=Z,162nm,18.7s,baz=213,slow=33						
PPT	Papeete	22.57	96	LR	LR	06 03 03.5	
	comp=Z,72nm,20.2s,baz=194,slow=30						
PPT2	Papeete2	22.57	96	*e*LR	LR	06 01 56.3	
	comp=Z,123nm,23.5s						
TBI	Tubuai	23.27	111	*e*LR	LR	06 02 22.8	
	comp=Z,192nm,26.2s						
VAH	Vaihoa	24.59	91	*e*T	T	06 21 39.2	
	3.9nm,0.3s						
HNR	Honiara	27.11	282	LR	LR	06 06 45.5	
	comp=Z,234nm,21.6s,baz=126,slow=33						
TAOE	Nuku Hiva Isla	33.06	81	*e*LR	LR	06 06 40.2	
	comp=Z,78nm,25.3s						
WRA	Warramunga Arr	49.82	258	P	P	06 00 42.4	-0.3
	0.2nm,0.3s,baz=96,slow=7.5,SNR=4.6						
WRA				LR	LR	06 21 17.1	
	comp=Z,59nm,18.2s,baz=80,slow=36						
ASAR	Alice Springs	49.99	253	P	P	06 00 43.6	-0.4
	3.7nm,0.9s,baz=87,slow=8.4,SNR=20						
NVAR	Mina Array Bea	75.00	42	P	P	06 03 30.5	-0.7
	0.7nm,0.8s,baz=227,slow=10,SNR=5.8						
NVAR				LR	LR	06 31 33.7	
	comp=Z,47nm,20.2s,baz=270,slow=32						
TXAR	Lajitas Array	81.04	56	P	P	06 04 05.7	+0.9
	0.5nm,0.8s,baz=220,slow=7.6,SNR=3.7						
PDAR	Pinedale Array	82.94	42	P	P	06 04 14.4	-0.3
	1.2nm,0.9s,baz=212,slow=3.0,SNR=8.1						
ULM	Lac du Bonnet	94.65	39	LR	LR	06 44 54.2	
	comp=Z,71nm,18.1s,baz=338,slow=34						
BRTR	Keskin Array B	147.16	320	PKPbc	PKPbc	06 11 33.4	+0.2
	2.3nm,0.8s,baz=48,slow=3.1,SNR=8.6						

ISN 07 06:28:27.6±0.3, 35°.53N×46°.45E, h16km±9km, ML3.2
AZER 07 06:28:28.0±6.9, 34°.59N×46°.49E, h4km, ml3.4/4, Error ellipse: s-maj=66.0km s-min=43.7km az=126.0
TEH 07 06:28:30.9, 35°.31N×46°.26E, h10km, ML3.1
ISCJB 07 06:28:32.2±0.4, 35°.26N±0°.03×46°.17E±0°.04, h10km, Error ellipse: s-maj=5.8km s-min=4.2km az=139.4

ISC 07 06:28:31.1±0.8, 35°.32N±0°.02×46°.25E±0°.04, h10km, n31, σ1§63/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.63	170	*e*Pg	Pb	06 28 43.5	-0.8
IDHR				IAMB	IAmb	06 28 55.1	
	comp=Z,0.0nm,0.1s						
ILIN	Lien	0.70	124	*e*Pg	Pg	06 28 43.7	-1.0
ILIN				*e*Sg	Sb	06 28 55.9	+0.4
ILIN				IAMB	IAmb	06 28 59.8	
	comp=Z,14μm,0.2s						
IGHG	Ghaleghazi	1.02	165	*e*Pg	Pn	06 28 51.1	-0.6
IGHG				IAMB	IAmb	06 28 55.6	
	comp=Z,5μm,0.2s						
KER	Kermanshah	1.18	142	*e*Pg	Pb	06 28 52.5	-1.1
KCHF	Cheshme Sefid,	1.23	148	*e*Pg	Pg	06 28 54.5	-0.1
KCHF				IAMB	IAmb	06 29 02.6	
	comp=Z,0.0nm,0.2s						
MAHB	Mahabad	1.51	343	*e*Pn	Pn	06 28 57.9	-0.4
MAHB				IAMB	IAmb	06 29 24.3	
	comp=Z,0.0nm,0.6s						
IKOM	Komasi	1.54	137	*e*Pn	Pb	06 28 59.7	-0.1
IKOM				IAMB	IAmb	06 29 03.4	
	comp=Z,0.0nm,0.2s						
IKRK	Kirkuk	1.57	274	*e*Pg	Pn	06 28 59.0	0.0
IKRK				*e*Sg	Sg	06 29 22.0	+0.5
IBZA	Bozab	1.57	122	*e*Pn	Pb	06 29 00.0	-0.3
IBZA				IAMB	IAmb	06 29 04.9	
	comp=Z,0.0nm,0.3s						
HSRG	Sareghieh	1.66	92	*e*Pn	Pn	06 29 00.8	+0.3
IDOB	Doab	2.20	133	*e*Pn	Pb	06 29 10.5	-0.6
IBDR	Badra	2.22	187	*e*Pn	Pn	06 29 09.0	+1.1
IBDR				*e*Sn	Sb	06 29 39.0	+0.2
IKFM	Kafar-mosalman	2.22	143	*e*Pn	Pb	06 29 11.9	+0.6
IKFM				IAMB	IAmb	06 29 16.8	
	comp=Z,0.0nm,0.3s						
HSAM	Samen	2.23	119	IAMB	IAmb	06 29 49.2	
	comp=Z,0.0nm,0.6s						
HSAM				*e*Pn	Pn	06 29 09.1	+0.8
IAZR	Azarshahr	2.37	355	*e*Pn	Pb	06 29 12.3	-1.6
HAGD	Aghdareh	2.42	101	*e*Pn	Pb	06 29 14.6	-0.2
HAGD				IAMB	IAmb	06 29 57.2	
	comp=Z,0.0nm,0.5s						
IBST	Bostanabad	2.43	12	*e*Pn	Pb	06 29 13.4	-1.6
IKMR	Kamar-syah	2.51	135	*e*Pn	Pb	06 29 15.1	-1.2
IKMR				IAMB	IAmb	06 30 04.2	
	comp=Z,0.0nm,0.4s						
BDRS	Dareh Seyedi	2.56	121	*e*Pn	Pb	06 29 16.4	-0.8
BHD	Baghdad	2.57	218	*e*Pn	Pn	06 29 14.0	+1.3
BHD				*e*Sn	Sb	06 29 48.0	-0.8
BMDN	Meydan	2.69	127	*e*Pn	Pb	06 29 19.9	+0.6
ISRB	Sarab	2.75	24	*e*Pn	Pb	06 29 18.0	-2.4
ISRB				IAMB	IAmb	06 29 59.8	
	comp=Z,825nm,0.5s						
ISHB	Shabestar	3.00	350	*e*Pn	Pn	06 29 21.7	+2.8
ISHB				IAMB	IAmb	06 30 22.2	
	comp=Z,832nm,0.9s						
IRAZ	Razeghan	3.00	87	IAMB	IAmb	06 30 16.8	
	comp=Z,802nm,0.8s						
IHRS	Heris	3.06	12	*e*Pn	Pn	06 29 22.2	+2.5
IHSH	Hashtrud	3.09	15	*e*Pn	Pn	06 29 09.7	-11
IMRD	Marand	3.42	353	IAMB	IAmb	06 29 38.1	
	comp=Z,430nm,0.3s						
ORD	Ordubad	3.61	357	P	Pb	06 29 35.1	+0.1
	SNR=2.9						
ORD				S	Sg	06 30 27.0	0.0
LRK	Lerik	3.71	26	P	Pb	06 29 34.7	-2.2
LRK				S	Sb	06 30 26.1	+4.1
ASTR	Astara	3.82	31	P	Pb	06 29 35.0	-3.5
	SNR=3.4						
ASTR				S	Sb	06 30 27.5	+2.7
YRD	Yardimli	3.93	23	S	Sg	06 30 34.4	-2.7

NIC 07 06:39:26.8±0.0, 36°.91N×35°.81E, h7km±31km, Ml3.9/5
IDC 07 06:39:27.7±0.9, 37°.43N×36°.17E, h0km, mb3.8/8, mb1 3.7/12, mb1mx3.6/46, mbtmp3.7/12, ML3.3/3, MS3.1/4, Ms1 3.1/4, ms1mx2.7/62, Error ellipse: s-maj=17.9km s-min=10.9km az=45.0
DDA 07 06:39:28.7, 37°.37N×36°.24E, h18km±2km, MW4.1
ISCJB 07 06:39:28.7±0.3, 37°.35N±0°.01×36°.20E±0°.02, h10km±2km, mb3.8/7, MS3.2/3, Error ellipse: s-maj=2.6km s-min=2.0km az=156.1
ISK 07 06:39:28.5, 37°.40N×36°.24E, h6km, ML3.9/19
NEIC 07 06:39:29.6±1.5, 37°.39N±0°.04×36°.16E±0°.04, h18km±4km

ISC 07 06:39:28.4±0.9, 37°.39N±0°.02×36°.18E±0°.01, h11km±6km, n136, σ1§56/170, mb3.8/9, MS3.1/3, 17C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.23	35	⇓*i*P	Pg	06 39 33.5	+0.2
ANDN				*i* S	Sg	06 39 38.4	+1.7
ANDN				IAML		06 39 39.0	
	comp=E,33μm,0.4s						
ANDN				IAML		06 39 41.0	
	comp=N,36μm,0.7s						
KAMA	Osmaniye	0.44	117	⇑*i*P	Pg	06 39 37.5	+0.4
KAMA				*i* S	Sg	06 39 41.7	-1.3
KAMA				IAML		06 39 42.0	
	comp=N,7μm,0.6s						
KAMA				IAML		06 39 42.0	
	comp=E,8μm,0.4s						
CEYT	Ceyhan	0.51	222	PG	Pg	06 39 38.9	+0.5
CEYT	Ceyhan	0.51	222	Pg	Pb	06 39 39.7	+0.3
HCB	Kahramanmara	0.58	94	⇑*i*P	Pg	06 39 39.1	-0.7
HCB				*i* S	Sg	06 39 47.4	-0.1
HCB				IAML		06 39 48.0	
	comp=N,4μm,0.2s						
HCB				IAML		06 39 48.0	
	comp=E,5μm,0.3s						
AKO	Adana	0.59	277	⇑*i*P	Pg	06 39 40.3	+0.5
AKO				*i* S	Sn	06 39 52.0	-0.4
AKO				IAML		06 39 53.0	
	comp=E,2μm,0.5s						
AKO				IAML		06 39 59.0	
	comp=N,2μm,0.7s						
KMRS	Kahramanmaras	0.59	78	PG	Pg	06 39 39.4	-0.4
KMRS				SG	Sg	06 39 47.4	-0.2
KMRS	Kahramanmaras	0.59	78	Pg	Pg	06 39 39.4	-0.4
SAIM	ADANA	0.59	353	⇑*i*P	Pb	06 39 40.6	-0.2
SAIM				*i* S	Sb	06 39 49.6	+0.3
SAIM				IAML		06 39 55.0	
	comp=E,6μm,0.4s						
SAIM				IAML		06 39 56.0	
	comp=N,6μm,0.3s						
YURE	YUREGIR	0.71	218	*i* P	Pg	06 39 42.0	-0.2
YURE				*i* S	Sn	06 39 55.9	+0.5
YURE	YUREGIR	0.71	218	PG	Pb	06 39 43.4	+0.6
YURE				SG	Sb	06 39 54.5	+1.9
KHMN	Narli-Kahraman	0.78	90	PG	Pg	06 39 43.5	0.0
KHMN	Narli-Kahraman	0.78	90		Pb	06 39 44.7	+0.7
KARA	Karaisali	0.90	262	PG	Pg	06 39 45.2	-0.6
KARA	Karaisali	0.90	262	Pg	Pg	06 39 45.3	-0.6
KUZU	Kuzuini	0.94	130	⇑*i*P	Pg	06 39 46.5	-0.1
KUZU				*i* S	Sg	06 39 59.1	+0.2
KUZU				IAML		06 40 01.0	
	comp=N,18μm,0.3s						
KUZU				IAML		06 40 04.0	
	comp=E,16μm,0.3s						
YAHY	KAYSERI_Yahyal	0.95	318	⇑*i*P	Pg	06 39 46.2	-0.6
YAHY				*i* S	Sn	06 40 02.0	+0.4
YAHY				IAML		06 40 05.0	
	comp=E,1μm,0.8s						
YAHY				IAML		06 40 11.0	
	comp=N,845nm,0.7s						
KRTS	Karatas	1.04	218	PG	Pn	06 39 49.6	+0.7
KRTS	Karatas	1.04	218	Pn	Pn	06 39 49.7	+0.8
GZT	Gaziantep	1.11	91	⇑*i*P	Pg	06 39 49.8	+0.2
GZT				*i* S	Sg	06 40 03.4	-0.7
GZT				IAML		06 40 05.0	
	comp=N,12μm,0.4s						
GZT				IAML		06 40 05.0	
	comp=E,14μm,0.4s						
GULE	Gulek	1.12	265	⇑*i*P	Pg	06 39 49.1	-0.9
GULE				*i* S	Sn	06 40 08.4	+2.6
GULE				IAML		06 40 17.0	
	comp=N,3μm,0.7s						
GULE				IAML		06 40 19.0	
	comp=E,3μm,0.8s			

DARE Darende-Malaty 1.57 41 PN **Pn 06 39 57.0 +0.7**
DARE Darende-Malaty 1.57 41 Pn **Pn 06 39 57.2 +0.9**
CUGUR Gurin_SVAS 1.59 33 *e*P **Pg 06 39 58.7 -0.2**
CUGUR *i* S **Sg 06 40 20.4 +0.9**
CUGUR IAML 06 40 22.0
comp=E,6μm,0.4s
CUGUR IAML 06 40 23.0
comp=N,5μm,0.5s
KERG Konya-Eregli 1.63 272 *i* P **Pn 06 39 56.7 -0.6**
KERG *i* S **Sn 06 40 17.8 -0.5**
KERG IAML 06 40 25.0
comp=N,400nm,0.5s
KERG IAML 06 40 28.0
comp=E,388nm,0.9s
AKCD Akcadag 1.65 56⇑*i*P **Pb 06 39 58.8 -0.2**
AKCD *i* S **Sn 06 40 19.6 +0.8**
AKCD IAML 06 40 24.0
comp=N,7μm,0.6s
AKCD IAML 06 40 26.0
comp=E,5μm,0.6s
ATAB Bozova 1.69 87 *i* P **Pn 06 39 57.1 -0.8**
ATAB *i* S **Sb 06 40 21.2 +0.4**
ATAB IAML 06 40 25.0
comp=E,4μm,0.9s
AVNS Nevsehir-Avano 1.76 324 *i* P **Pb 06 40 00.9 +0.1**
AVNS *i* S **Sg 06 40 24.6 -0.5**
AVNS IAML 06 40 37.0
comp=N,914nm,0.7s
AVNS IAML 06 40 43.0
comp=E,592nm,0.6s
KIZK Mersin 1.86 241 *i* P **Pn 06 40 00.3 0.0**
KIZK *i* S **Sg 06 40 27.6 -0.7**
KIZK IAML 06 40 44.0
comp=E,366nm,0.6s
KIZK IAML 06 40 45.0
comp=N,425nm,0.7s
KIZK Mersin 1.86 241 PN **Pb 06 40 02.3 -0.2**
MALT Malatya 2.01 62 PN **Pn 06 40 02.9 +0.6**
SURC SANLIURFA_SURC 2.01 104 *i* P **Pn 06 40 01.7 -0.6**
SURC *i* S **Sn 06 40 28.7 +1.2**
SURC IAML 06 40 33.0
comp=N,4μm,0.4s
SURC IAML 06 40 33.0
comp=E,3μm,0.4s
CUSAR Sarkisla-SIVAS 2.03 1 *i* P **Pn 06 40 03.6 +0.9**
CUSAR *i* S **Sb 06 40 31.5 +0.9**
CUSAR IAML 06 40 39.0
comp=N,331nm,0.9s
CUSAR IAML 06 40 51.0
comp=E,353nm,0.6s
HEKM Malatya_Hekimh 2.05 43 *i* P **Pb 06 40 04.9 -0.8**
HEKM *i* S **Sg 06 40 33.6 -0.6**
HEKM IAML 06 40 37.0
comp=N,1μm,0.5s
HEKM IAML 06 40 42.0
comp=E,2μm,0.5s
SILI Silifke-Mersin 2.08 241 PN **Pb 06 40 05.5 -0.6**
SIRC Yozgat 2.10 338 *i* P **Pb 06 40 05.9 -0.8**
SIRC *i* S **Sb 06 40 33.0 +0.1**
SIRC IAML 06 40 48.0
comp=E,142nm,1.2s
SIRC IAML 06 40 55.0
comp=N,72nm,0.7s
CUKAN kangal_SIVAS 2.17 27 *i* P **Pn 06 40 06.1 +1.4**
CUKAN *i* S **Sb 06 40 35.9 +1.0**
CUKAN IAML 06 40 46.0
comp=N,409nm,0.4s
CUKAN IAML 06 40 46.0
comp=E,440nm,0.4s
KEBE Keben-Mersin 2.19 245 PN **Pb 06 40 07.1 -0.9**
SANL SANLIURFA_Merk 2.25 95 *i* P **Pn 06 40 04.3 -1.3**
SANL *i* S **Sn 06 40 35.3 +1.8**
SANL IAML 06 40 46.0
comp=N,2μm,0.6s
SANL IAML 06 40 49.0
comp=E,2μm,0.6s
AKSY AKSARAY - Alti 2.29 304 *i* P **Pn 06 40 06.1 -0.1**
AKSY *i* S **Sn 06 40 33.5 -0.8**
AKSY IAML 06 40 49.0
comp=E,247nm,1.0s
AKSY IAML 06 40 53.0
comp=N,260nm,0.8s
IKL Isikli 2.31 241 PN **Pn 06 40 08.6 +2.3**
YOZ Yozgat 2.35 344 PN **Pn 06 40 08.9 +1.9**
TEVE Tevekalti-Mers 2.39 247 PN **Pn 06 40 09.9 +2.3**
YAYX Yaylak 2.42 310 PN **Pn 06 40 10.2 +2.1**
GULN MERSIN_Gulnar 2.43 241 *i* P **Pn 06 40 08.3 +0.2**
GULN *i* S **Sn 06 40 39.4 +1.5**
GULN IAML 06 41 06.0
comp=N,152nm,0.9s
GULN IAML 06 41 14.0
comp=E,147nm,1.0s
EREN Erenkoy 2.46 222 *i* P **Pn 06 40 09.5 +1.1**
EREN IAML 06 40 42.0
comp=N,239nm,1.1s
EREN IAML 06 41 19.0
comp=E,294nm,0.7s
EREN Erenkoy 2.46 222 PN **Pn 06 40 10.6 +2.1**
ELZG Elazig 2.48 63 *i* P **Pn 06 40 09.6 +0.7**
ELZG *i* S **Sn 06 40 39.6 +0.4**
ELZG IAML 06 40 54.0
comp=E,1μm,0.6s
ELZG IAML 06 40 59.0
comp=N,853nm,0.8s
KIRS Kırehir-Merke 2.49 315 *i* P **Pn 06 40 10.1 +1.1**
KIRS IAML 06 40 55.0
comp=N,102nm,1.3s
KIRS IAML 06 40 56.0
comp=E,77nm,1.8s
SCER sogukcermik 2.58 17 *i* P **Pn 06 40 11.1 +0.8**
SCER IAML 06 40 58.0
comp=E,401nm,0.7s
SCER IAML 06 41 13.0
comp=N,355nm,0.9s
SERE Sereflikochisa 2.58 308 PN **Pn 06 40 12.6 +2.4**
BERE Bereket-Mersin 2.59 247 PN **Pn 06 40 12.8 +2.5**
KEMA Kemaliye 2.62 43 *i* P **Pn 06 40 11.2 +0.6**
KEMA IAML 06 40 57.0
comp=N,533nm,0.7s
KEMA IAML 06 41 02.0
comp=E,475nm,0.7s
CDAG Cicekdag 2.64 328 *i* P **Pn 06 40 12.1 +1.0**
CDAG IAML 06 41 06.0
comp=E,179nm,0.8s
CDAG IAML 06 41 12.0
comp=N,126nm,0.7s
ERMK Ermenek 2.72 255 *i* P **Pb 06 40 16.0 -1.2**
ERMK IAML 06 41 02.0
comp=E,402nm,1.0s
ERMK IAML 06 41 13.0
comp=N,352nm,0.8s
TEKE Tekeli-Mersin 2.76 244 PN **Pn 06 40 14.9 +2.4**
CUZAR Zara_SIVAS 2.79 26 *i* P **Pn 06 40 16.0 +2.8**
CUZAR IAML 06 41 07.0
comp=N,263nm,1.3s
CUZAR IAML 06 41 13.0
comp=E,265nm,1.1s
REFA Refahiye_ERZN 2.85 45 *i* P **Pg 06 40 22.5 -0.6**
REFA IAML 06 41 19.0
comp=N,213nm,0.8s
REFA IAML 06 41 19.0
comp=E,246nm,1.0s
TOKA Tokat 2.94 4 *i* P **Pn 06 40 11.6 -3.5**
PARAL Paralimni 2.95 217 ⇑P **Pn 06 40 12.6 -2.6**
PARAL S **Sn 06 40 48.7 -1.9**
PARAL AML AML 06 40 58.6
comp=E,1.7nm,0.8s
PARAL AML AML 06 40 58.6
comp=E,1.7nm,0.8s
PARAL AML AML 06 40 59.5
comp=E,1.7nm,0.7s
PARAL AML AML 06 40 59.5
comp=E,1.7nm,0.7s
COAL Corum-Alaca 3.01 342 *i* P **Pb 06 40 19.9 -2.1**
COAL IAML 06 41 12.0
comp=N,140nm,1.4s
COAL IAML 06 41 24.0
comp=E,142nm,1.0s
BRTR Keskin Array B 3.06 320 Pn **Pn 06 40 18.7 +1.8**
comp=E,1.5nm,0.3s,baz=144,slow=15,SNR=41
BRTR Pg **Pb 06 40 24.7 +1.6**
comp=E,3.2nm,0.3s,baz=150,slow=18,SNR=23
BRTR Sn **Sn 06 40 55.6 +2.0**
comp=E,2.9nm,0.3s,baz=160,slow=22,SNR=5.2
BRTR Keskin Array B 3.06 320 **Pn 06 40 16.9 0.0**
BR131 Keskin Array S 3.07 320 **Pn 06 40 19.1 +2.2**
KONT Konya--Tatoy 3.08 282 *e*P **Pn 06 40 18.9 +1.9**
KONT IAML 06 41 26.0
comp=N,69nm,1.0s
KONT IAML 06 41 34.0
comp=E,65nm,0.7s
KKUL Konya-Kulu 3.12 306 *i* P **Pn 06 40 20.5 +2.8**
KKUL IAML 06 41 16.0
comp=E,240nm,1.0s
KKUL IAML 06 41 17.0
comp=N,171nm,1.5s
MVOU Mavrovouni 3.14 222 ⇑P **Pn 06 40 18.2 +0.4**
MVOU S **Sn 06 40 55.9 +0.7**
MVOU AML AML 06 40 58.4
comp=N,0.7nm,1.0s
MVOU AML AML 06 40 58.4
comp=N,0.7nm,1.0s
MVOU AML AML 06 41 08.8
comp=N,0.6nm,0.7s
MVOU AML AML 06 41 08.8
comp=N,0.6nm,0.7s
DELI KIRIKKALE 3.15 327 *i* P **Pn 06 40 20.0 +2.0**
DELI IAML 06 41 15.0
comp=E,72nm,1.7s
DELI IAML 06 41 19.0
comp=N,48nm,0.8s
TNCL Tunceli-Merkez 3.16 56 *i* P **Pn 06 40 21.4 +3.2**
TNCL IAML 06 41 14.0
comp=E,327nm,0.6s
TNCL IAML 06 41 22.0
comp=N,214nm,0.8s
DIYA Diyarbakir 3.17 79 *i* P **Pn 06 40 21.7 +3.3**
DIYA IAML 06 41 16.0
comp=N,679nm,0.8s
DIYA IAML 06 41 16.0
comp=E,718nm,0.7s
SUSE Susehri 3.23 29 *i* P **Pn 06 40 22.9 +3.7**
SUSE IAML 06 41 23.0
comp=N,170nm,1.1s
SUSE IAML 06 41 23.0
comp=E,90nm,0.9s
GAZI Gazipasa 3.31 251 *i* P **Pn 06 40 21.9 +1.7**
GAZI IAML 06 41 25.0
comp=N,244nm,0.9s
GAZI IAML 06 41 25.0
comp=E,172nm,1.0s
CSS Mathiatis 3.34 224 **Pn 06 40 22.4 +1.8**
KDHN Kadinhani 3.40 291 *i* P **Pn 06 40 24.1 +2.5**
KDHN IAML 06 41 54.0
comp=N,30nm,1.2s
KDHN IAML 06 42 24.0
comp=E,42nm,4.3s
HANI Diyarbakir_Han 3.49 72 *i* P **Pn 06 40 25.7 +3.0**
HANI IAML 06 41 31.0
comp=N,269nm,0.9s
HANI IAML 06 41 32.0
comp=E,289nm,0.7s
ASGA Asgata 3.52 223 ⇑P **Pn 06 40 23.5 +0.5**
ASGA S **Sn 06 41 07.3 +2.7**
ASGA AML AML 06 41 22.6
comp=E,0.8nm,1.1s
ASGA AML AML 06 41 22.6
comp=E,0.8nm,1.1s
ASGA AML AML 06 41 33.2
comp=E,0.8nm,0.9s
ASGA AML AML 06 41 33.2
comp=E,0.8nm,0.9s
BR231 Keskin MP Arra 3.62 314 **Pn 06 40 25.7 +1.2**
ANTO Ankara 3.63 314 **Pn 06 40 27.3 +2.7**
DOGA KONYA_Doganhis 3.65 283 *e*P **Pn 06 40 26.0 +1.1**
DOGA IAML 06 41 41.0
comp=N,39nm,1.0s
DOGA IAML 06 41 47.0
comp=E,56nm,0.9s
ALFC Alefka 3.65 233 ⇑P **Pn 06 40 25.0 +0.1**
ALFC AML AML 06 41 09.4
comp=E,1.0nm,0.5s
ALFC AML AML 06 41 15.8
comp=E,0.9nm,0.4s
KELT Kelkit 3.66 40 *i* P **Pn 06 40 29.0 +3.8**
KELT IAML 06 41 33.0
comp=N,93nm,1.2s
KELT IAML 06 41 35.0
comp=E,77nm,0.7s
MARD Mardin 3.67 90 *i* P **Pn 06 40 23.4 -1.8**
MARD IAML 06 41 36.0
comp=N,2μm,0.7s
MARD IAML 06 41 37.0
comp=E,1μm,0.4s
KEPZ Antalya-Kepez 3.69 264 *i* P **Pn 06 40 25.1 -0.3**
HAVZ Havza 3.70 355 *e*P **Pn 06 40 27.7 +2.2**
HAVZ IAML 06 41 42.0
comp=E,119nm,1.5s
HAVZ IAML 06 41 44.0
comp=N,53nm,0.9s
SZAC Souni 3.75 226 ⇑P **Pn 06 40 28.8 +2.6**
SZAC S **Sb 06 41 16.3 -3.7**
SZAC AML AML 06 41 26.2
comp=N,1.0nm,0.9s
SZAC AML AML 06 41 26.2
comp=N,1.0nm,0.9s
SZAC AML AML 06 41 33.0
comp=N,1.1nm,0.7s
SZAC AML AML 06 41 33.0
comp=N,1.1nm,0.7s
BGOL Bingol 3.88 64 *i* P **Pb 06 40 39.5 +2.5**
AKMS Akamas 3.91 234 ⇑P **Pn 06 40 31.3 +2.9**
AKMS S **Sb 06 41 21.4 -3.2**
NATA Nata 3.91 229 ⇑P **Pn 06 40 30.1 +1.7**
SVAN Silvan-Diyarba 4.05 78 *i* P **Pb 06 40 39.5 -0.3**
BTMN Batman 4.07 81 *i* P **Pb 06 40 37.8 -2.4**
ILGA Ilgaz 4.13 333 *i* P **Pn 06 40 34.3 +2.7**
ILGA IAML 06 41 59.0
comp=N,34nm,1.7s
ILGA IAML 06 42 11.0
comp=E,44nm,1.0s
ILGA Ilgaz 4.13 333 **Pn 06 40 31.5 -0.1**
BNGL BINGOL 4.22 67 *i* P **Pb 06 40 39.5 -3.2**
MMAI Mount Meron Ar 4.41 188 Pn **Pn 06 40 36.9 +1.5**
comp=E,9.7nm,0.3s,baz=11,slow=16,SNR=10
MMAI Sn **Sn 06 41 26.7 0.0**
comp=E,13nm,0.3s,baz=19,slow=28,SNR=7.0
MUSM Mu-Merkez 4.42 71 *i* P Pn 06 40 40.6 +5.1
SRTM Siirt_Merkez 4.60 81 *i* P **Pn 06 40 42.5 +4.6**
ASF Jabal al Asfar 5.24 173 Pn **Pn 06 40 49.5 +2.8**
comp=E,0.4nm,0.3s,baz=320,slow=7.9,SNR=3.0
ASF Lg Lg 06 42 11.0
comp=E,4.2nm,0.3s,baz=204,slow=19,SNR=3.7
GEVA Gevas 5.52 78 *e*P **Pb 06 41 04.3 -0.7**
DBAD Bademkaya 5.61 48 *i* P **Pg 06 41 12.9 -2.9**
EIL Elat 7.77 188 Pn **Pn 06 41 23.1 +1.7**
baz=349,slow=5.2,SNR=2.0
KBZ Khabaz 8.14 37 LR LR 06 44 22.4
comp=E,40nm,20.6s,baz=214,slow=36
AKASG Malin Array Be 14.21 342 Pn **P 06 42 54.9 -2.0**
comp=E,0.6nm,0.3s,baz=157,slow=10,SNR=4.0
TIP Timpagrande 15.36 283 Pn **Pn 06 43 05.3 +0.2**
TIP IAmb IAmb 06 43 48.1
comp=Z,22nm,1.4s
SGRT San Giovanni R 16.34 292 Pn **Pn 06 43 14.3 -3.5**
SGRT IAmb IAmb 06 43 57.7
comp=Z,60nm,1.8s
TEOL Teolo 19.99 301 P **P 06 44 01.4 +0.6**
TEOL IAmb IAmb 06 44 03.4
comp=Z,17nm,1.0s
AKTO Aktyubinsk 20.34 43 P **P 06 44 05.2 +0.6**
comp=Z,1.8nm,0.7s,baz=240,slow=12,SNR=4.4
ABKAR Akbulak array 20.87 48 P **P 06 44 10.9 +0.6**
ABKAR Akbulak array 20.87 48 P **P 06 44 10.5 +0.2**
ABKAR IAmb IAmb 06 44 48.5
comp=Z,1.4nm,0.8s
ECH Echery 23.75 306 P **P 06 44 41.0 +0.4**
FINES FINESS Array B 24.90 348 P **P 06 44 51.5 +0.5**
comp=Z,1.3nm,0.6s,baz=144,slow=12,SNR=2.8
KK31 Karatay Array 26.70 67 P **P 06 45 07.8 +0.3**
KK31 IAmb IAmb 06 46 02.3
comp=Z,11nm,1.9s
KKAR Karatay Array 26.70 67 P **P 06 45 07.2 -0.4**
HFS Hagfors 26.90 335 P **P 06 45 11.2 +2.0**
comp=Z,1.4nm,0.7s,baz=154,slow=14,SNR=2.6
NOA NORSAR Array B 28.40 334 LR LR 06 58 37.1
comp=Z,33nm,21.0s,baz=345,slow=40
MDT Midelt 33.49 275 LR LR 07 01 02.4
comp=Z,37nm,18.3s,baz=297,slow=39
MK31 Makanchi Array 35.05 60 P **P 06 46 20.8 -0.4**
MKAR Makanchi Array 35.05 60 P **P 06 46 22.3 +1.1**
comp=Z,1.2nm,0.8s,baz=273,slow=7.2,SNR=9.1
MKAR Makanchi Array 35.05 60 P **P 06 46 21.2 +0.1**
ZALV Zalesovo Beam 36.98 48 P **P 06 46 38.1 +0.5**
comp=Z,0.9nm,0.6s,baz=266,slow=9.4,SNR=3.5
ZALV Zalesovo Beam 36.98 48 P **P 06 46 37.7 +0.1**
TORD Torodi Ar. Bea 39.08 241 P **P 06 46 55.9 +0.2**
comp=Z,1.6nm,0.9s,baz=24,slow=11,SNR=6.9
TORD Torodi Ar. Bea 39.08 241 P **P 06 46 56.1 +0.4**
SONM Songino Array 51.06 55 P **P 06 48 31.7 +0.9**
comp=Z,0.6nm,0.7s,baz=281,slow=8.7,SNR=2.3
SONM LR LR 07 15 01.1
comp=Z,58nm,18.7s,baz=12,slow=42
SONM Songino Array 51.06 55 P **P 06 48 30.3 -0.5**
CMAR Chiang Mai Arr 57.57 91 P **P 06 49 18.6 +0.2**
comp=Z,1.0nm,0.6s,baz=296,slow=8.5,SNR=8.0
CMAR Chiang Mai Arr 57.57 91 P **P 06 49 17.8 -0.6**
XAN Xi'an 57.78 70 P **P 06 49 19.6 -0.1**
XAN IAmb IAmb 06 49 26.7
comp=Z,4.7nm,0.8s
CISI Cisompet, Garu 80.22 107 P **P 06 51 38.8 -0.6**

IDC 07 06:49:35.0±1.6, 19°.09S×63°.86W, h0km, mb3.7/1, mb1 3.8/5, mb1mx3.6/48, mbtmp3.7/5, ML3.4/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/27, Error ellipse: s-maj=23.1km s-min=18.2km az=172.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**4.07**	**41**	Pn	Pn	Pn	06 50 38.9	+0.3
4.7nm,0.3s,baz=233,slow=13,SNR=74								
SIV				Sn	Sn	Sn	06 51 27.6	+0.5
2.9nm,0.3s,baz=169,slow=18,SNR=6.9								
SIV				Lg	Lg	Lg	06 51 44.4	
2.3nm,0.3s,baz=287,slow=21,SNR=3.7								
LPAZ	**La Paz**	**4.94**	**304**	Pn	Pn	Pn	06 50 51.5	+0.5
0.5nm,0.3s,baz=127,slow=11,SNR=21								
LPAZ				Sn	Sn	Sn	06 51 49.5	+0.3
1.6nm,0.3s,baz=260,slow=17,SNR=5.4								
LPAZ				Lg	Lg	Lg	06 52 12.0	
1.3nm,0.3s,baz=25,slow=18,SNR=2.4								
LVC	**Limon Verde**	**5.88**	**233**	Pn	Pn	Pn	06 51 03.9	+0.1
0.5nm,0.3s,baz=58,slow=13,SNR=9.6								
LVC				LR	LR	LR	06 53 46.7	
comp=Z,105nm,19.7s,baz=44,slow=43								
CPUP	**Villa Florida**	**9.39**	**141**	Pn	Pn	Pn	06 51 51.4	-0.2
0.2nm,0.3s,baz=312,slow=13,SNR=4.1								
NNA	**Nana**	**14.36**	**298**	LR	LR	LR	06 58 29.9	
comp=Z,42nm,18.7s,baz=145,slow=37								
TORD	**Torodi Ar. Bea**	**72.07**	**69**	P	P	P	07 01 01.5	0.0
0.6nm,0.7s,baz=247,slow=6.3,SNR=3.7								

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*GCG **07** 06:52:44.6±0.7, 13°.95N×92°.33W, h128km±41km, MD4.3*
*ISCJB **07** 06:52:48.9±0.7, 13°.91N±0°.05×92°.21W±0°.04, h33km±7km, mb3.9/10, MS3.3/7, Error ellipse: s-maj=9.4km s-min=4.2km az=35.1*
*MEX **07** 06:52:49.7±0.4, 13°.98N×92°.04W, h90km±9km, MD4.3*
*NEIC **07** 06:52:49.1±5.5, 13°.87N±0°.07×92°.15W±0°.05, h36km±6km*
*SNET **07** 06:52:55.8±1.2, 14°.09N×91°.59W, h17km±13km, ML3.4*
*IDC **07** 06:52:59.6±2.3, 14°.26N×91°.72W, h98km±18km, mb3.6/10, mb1 3.9/14, mb1mx3.6/63, mbtmp4.0/14, MS3.4/8, Ms1 3.4/8, ms1mx3.1/38, Error ellipse: s-maj=27.0km s-min=13.9km az=55.0*

ISC 07 06:52:49.5±1.4, 13°.97N±0°.06×92°.16W±0°.04, h31km±10km, n69, σ2°.13/83, mb4.1/11, MS3.3/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.74**	**51**	*e*P	**Pb**	**Pb**	**06 53 06.5**	**+2.6**
STG3	**Santiaguito 3,**	**0.93**	**38**	*e*P	**Pb**	**Pb**	**06 53 08.6**	**+1.3**
THIG		**0.94**	**354**	*e*P	**Pb**	**Pb**	**06 53 07.5**	**+0.3**
THIG				*e*S	**Sb**	**Sb**	**06 53 21.3**	**+1.9**
THIG		**0.94**	**354**		**Pb**	**Pb**	**06 53 07.5**	**+0.3**
THIG					**Sb**	**Sb**	**06 53 21.3**	**+1.9**
FUG	**Fuego 3**	**1.36**	**69**	*e*P	**Pb**	**Pb**	**06 53 14.2**	**-0.3**
IXG	**Ixpaco**	**1.68**	**83**	*e*P	**Pn**	**Pn**	**06 53 17.3**	**+0.4**
IXG	**Ixpaco**	**1.68**	**83**	*e*P	**Pn**	**Pn**	**06 53 16.0**	**-1.0**
NBG	**Las Nubes**	**1.86**	**71**	*e*P	**Pb**	**Pb**	**06 53 22.9**	**-0.1**
NBG				*e*S	**Sb**	**Sb**	**06 53 47.8**	**+1.7**
APG	**El Apazote**	**1.94**	**58**	P	**Pb**	**Pb**	**06 53 23.6**	**-0.8**
47nm,0.3s,baz=213,slow=8.3,SNR=520								
APG				S	**Sn**	**Sn**	**06 53 44.6**	**+0.6**
40nm,0.3s,baz=191,slow=14,SNR=5.4								
PCIG		**2.00**	**329**	*e*P	**Pn**	**Pn**	**06 53 21.9**	**+0.7**
PCIG				*i* S	**Sn**	**Sn**	**06 53 46.0**	**+0.7**
PCIG		**2.00**	**329**		**Pn**	**Pn**	**06 53 21.9**	**+0.7**
PCIG					**Sn**	**Sn**	**06 53 46.0**	**+0.7**
CCIG	**Comitan**	**2.30**	**1**	*e*P	**Pn**	**Pn**	**06 53 25.6**	**+0.1**
CCIG				*i* S	**Sn**	**Sn**	**06 53 52.6**	**-0.2**
CCIG	**Comitan**	**2.30**	**1**		**Pb**	**Pb**	**06 53 28.5**	**-1.9**
CCIG				Sn	**Sn**	**Sn**	**06 53 52.9**	**0.0**
CCIG	**Comitan**	**2.30**	**1**		**Pn**	**Pn**	**06 53 25.6**	**+0.1**
CCIG					**Sn**	**Sn**	**06 53 52.6**	**-0.2**
RTR	**El Retiro**	**2.44**	**91**	*e*P	**Pn**	**Pn**	**06 53 28.4**	**+1.0**
UNIC	**Universidad Ca**	**2.54**	**89**	*e*P	**Pn**	**Pn**	**06 53 29.1**	**+0.5**
MTO3	**Montecristo**	**2.75**	**81**	*e*P	**Pn**	**Pn**	**06 53 32.1**	**+0.4**
MTO3				*e*S	**Sn**	**Sn**	**06 53 60.0**	**-4.0**
MTO3				IAML			06 54 18.1	
comp=Z,86nm,0.6s								
SNET	**Serv Nac Est T**	**2.86**	**95**		**Pn**	**Pn**	**06 53 32.2**	**-0.9**
SNET				Sn	**Sn**	**Sn**	**06 54 02.8**	**-3.7**
LOMA	**Loma Larga**	**2.92**	**96**	*e*P	**Pn**	**Pn**	**06 53 34.1**	**+0.1**
LOMA				IAML			06 54 17.1	
comp=Z,296nm,0.4s								
TGIG		**2.94**	**342**	*e*P	**Pn**	**Pn**	**06 53 33.8**	**-0.4**
TGIG				*i* S	**Sn**	**Sn**	**06 54 08.0**	**-0.5**
TGIG		**2.94**	**342**		**Pn**	**Pn**	**06 53 33.8**	**-0.4**
TGIG					**Sn**	**Sn**	**06 54 08.0**	**-0.5**
PAVA	**Las Pavas**	**3.14**	**94**	*e*P	**Pn**	**Pn**	**06 53 37.6**	**+0.5**
PAVA				IAML			06 54 36.4	
comp=Z,168nm,0.5s								
COEG	**Centro de Oper**	**3.21**	**96**	*e*P	**Pn**	**Pn**	**06 53 38.3**	**+0.4**
COEG				IAML			06 54 35.1	
comp=Z,206nm,0.1s								
COEB	**Comit de Eme**	**3.56**	**97**	*e*P	**Pn**	**Pn**	**06 53 42.9**	**+0.2**
COEB				IAML			06 54 41.7	
comp=Z,98nm,0.4s								
JUCU	**Jucuarın**	**3.87**	**100**	*e*P	**Pn**	**Pn**	**06 53 47.4**	**+0.4**
CMIG	**Matias Romero**	**4.06**	**320**	P	**Pn**	**Pn**	**06 53 50.9**	**+1.3**
comp=Z,1.9nm,0.3s,baz=146,slow=14,SNR=60								
CMIG				S	**Sb**	**Sb**	**06 54 42.7**	**-6.4**
comp=Z,12nm,0.3s,baz=90,slow=20,SNR=6.4								
CMIG	**Matias Romero**	**4.06**	**320**	*e*P	**Pn**	**Pn**	**06 53 50.0**	**+0.4**
CMIG				*i* S	**Sn**	**Sn**	**06 54 36.6**	**+0.4**
CMIG	**Matias Romero**	**4.06**	**320**		**Pn**	**Pn**	**06 53 50.0**	**+0.4**
CMIG					**Sn**	**Sn**	**06 54 36.6**	**+0.4**
LCND	**La Caada**	**4.20**	**99**	*e*P	**Pn**	**Pn**	**06 53 51.7**	**+0.2**
HUIG	**Huatulco**	**4.21**	**296**	*e*P	**Pn**	**Pn**	**06 53 51.6**	**0.0**
HUIG				*i* S	**Sn**	**Sn**	**06 54 41.1**	**+1.2**
HUIG	**Huatulco**	**4.21**	**296**		**Pn**	**Pn**	**06 53 51.6**	**0.0**
HUIG					**Sn**	**Sn**	**06 54 41.1**	**+1.2**
TGUH	**Tegucigalpa,Un**	**4.74**	**88**		**Pn**	**Pn**	**06 54 00.2**	**+1.2**
ESTN	**Estel**	**5.70**	**98**		**Pn**	**Pn**	**06 54 12.6**	**+0.4**
ACON	**Acoyapa**	**7.09**	**105**	Pn	**Pn**	**Pn**	**06 54 33.7**	**+2.4**
TLIG	**Tlapa**	**7.13**	**301**		**Pn**	**Pn**	**06 54 34.9**	**+3.1**
TEIG	**Tepich**	**7.24**	**30**	P	**Pn**	**Pn**	**06 54 36.5**	**+3.2**
comp=Z,11nm,0.3s,baz=91,slow=0.5,SNR=74								
TEIG				S	**Sn**	**Sn**	**06 55 53.9**	**-0.6**
baz=139,slow=19,SNR=2.5								
ESPN	**Las Esperanzas**	**7.86**	**102**		**Pn**	**Pn**	**06 54 39.2**	**-2.6**
JTS	**Las Juntas de**	**7.94**	**117**	P	Pn	**Pn**	06 54 49.3	+6.3
comp=Z,1.8nm,0.3s,baz=319,slow=20,SNR=9.8								
JTS				S	**Sn**	**Sn**	**06 56 10.5**	**-1.3**
comp=Z,1.3nm,0.3s,baz=322,slow=19,SNR=3.1								
JTS				LR	LR	LR	06 57 49.4	
comp=Z,166nm,21.0s,baz=12,slow=38								
JTS	**Las Juntas de**	**7.94**	**117**		**Pn**	**Pn**	**06 54 44.3**	**+1.3**
JTS				Sn	**Sn**	**Sn**	**06 56 09.2**	**-2.6**
HDC	**Heredia**	**8.80**	**116**	Pn	**Pn**	**Pn**	**06 54 51.5**	**-3.3**
MOIG	**Morelia**	**10.34**	**305**	Pn	**Pn**	**Pn**	**06 55 15.3**	**-0.7**
CBCY	**The Bluff, Cay**	**13.18**	**63**	Pn	**Pn**	**Pn**	**06 55 51.2**	**-3.5**
ZAIG	**Zacatecas**	**13.19**	**313**		**P**	**Pn**	**06 56 00.6**	**-4.1**
435B	**Jarrell**	**17.46**	**344**	P	**Pn**	**Pn**	**06 56 48.3**	**-2.5**
435B				IAmb	IAmb	IAmb	06 56 58.4	
comp=Z,8.1nm,0.8s								
NATX	**Nacogdoches**	**17.85**	**353**		**Pn**	**Pn**	**06 56 52.3**	**-3.3**
HPIG		**18.05**	**318**	P	**Pn**	**Pn**	**06 56 54.5**	**-3.8**
VBMS	**Vicksburg**	**18.23**	**4**	P	**Pn**	**Pn**	**06 56 55.5**	**-4.7**
VBMS				IAmb	IAmb	IAmb	06 57 08.2	
comp=Z,18nm,0.9s								
TXAR	**Lajitas Array**	**18.64**	**327**	P	**Pn**	**Pn**	**06 57 09.5**	**+4.2**
comp=Z,0.1nm,0.3s,baz=155,slow=9.7,SNR=15								

TXAR	**Lajitas Array**	**18.64 327**	P	**P**		**06 57 01.3**	**-3.6**
TX32	**Lajitas Array**	**18.64 327**	P	**P**		**06 57 00.3**	**-4.5**
TX32			IAmb	IAmb		06 57 18.8	
	comp=Z,4.3nm,0.9s						
ROSC	**El Rosal**	**19.79 116**	P	**Pn**		**06 57 20.6**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=219,slow=17,SNR=4.4						
Y52A	**Lilburn**	**21.12 19**	P	P		06 57 24.1	-7.7
Y52A			IAmb	IAmb		06 57 43.4	
	comp=Z,11nm,1.1s						
TKL	**Tuckaleechee C**	**22.87 18**	**P**	**P**		**06 57 51.7**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=165,slow=11,SNR=4.8						
TKL			LR	LR		07 07 16.0	
	comp=Z,107nm,19.6s,baz=153,slow=38						
ANMO	**Albuquerque**	**24.55 331**	**P**	**P**		**06 58 10.1**	**+3.3**
	comp=Z,2.3nm,0.7s,baz=145,slow=12,SNR=14						
ATAH	**Atahualpa**	**25.03 146**	LR	LR		07 06 39.3	
	comp=Z,70nm,19.4s,baz=213,slow=33						
SJG	**San Juan**	**25.32 77**	LR	LR		07 07 40.4	
	comp=Z,70nm,18.0s,baz=315,slow=36						
PFO	**Pinyon Flats O**	**29.48 316**	LR	LR		07 11 21.0	
	comp=Z,53nm,18.3s,baz=120,slow=37						
PDAR	**Pinedale Array**	**32.38 336**	P	**P**		**06 59 19.5**	**+2.8**
	comp=Z,0.2nm,0.7s,baz=140,slow=10.0,SNR=2.8						
NVAR	**Mina Array Bea**	**33.60 321**	P	**P**		**06 59 31.5**	**+4.1**
	comp=Z,1.9nm,0.7s,baz=132,slow=8.3,SNR=20						
NVAR			PcP	**PcP**		**07 02 09.6**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=120,slow=3.2,SNR=3.5						
LPAZ	**La Paz**	**38.31 141**	LR	LR		07 14 41.4	
	comp=Z,43nm,18.8s,baz=325,slow=34						
SIV	**San Ignacio**	**42.78 133**	**P**	**P**		**07 00 47.0**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=293,slow=7.7,SNR=3.6						
SCHQ	**Schefferville**	**45.30 20**	LR	LR		07 20 46.2	
	comp=Z,108nm,19.3s,baz=328,slow=37						
YKA	**Yellowknife Ar**	**51.02 347**	**P**	**P**		**07 01 49.8**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=152,slow=7.5,SNR=4.2						
CPUP	**Villa Florida**	**52.46 140**	LR	LR		07 26 25.0	
	comp=Z,30nm,18.2s,baz=26,slow=38						
INK	**Inuvik**	**60.42 344**	P	**P**		**07 02 57.4**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=129,slow=7.2						
ILAR	**Eielson Array**	**62.80 337**	P	**P**		**07 03 14.1**	**+2.2**
	comp=Z,1.6nm,1.0s,baz=126,slow=5.3,SNR=9.4						
EKA	**Eskdalemuir Ar**	**78.08 36**	P	**P**		**07 04 43.7**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=277,slow=5.7,SNR=5.7						
ARCES	**ARCESS Array B**	**86.21 18**	P	**P**		**07 05 27.0**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=322,slow=7.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**145.97 341**	PKPbc	**PKPab**		**07 12 28.1**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=339,slow=3.8,SNR=19						

*IDC **07** 07:14:08.5±1.6, 32.°90S×178.°18W, h0km, mb4.4/3, mb1 4.6/4, mb1mx3.9/35, mbtmp4.4/4, ML4.3/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/44, Error ellipse: s-maj=48.8km s-min=29.5km az=140.0*
*NEIC **07** 07:14:09.3±3.0, 33.°03S±0.°07×178.°2W±0.°1, h10km±1km, mb4.5/15*
*ISCJB **07** 07:14:11.2±0.6, 32.°93S±0.°04×178.°2W±0.°1, h34km, mb4.3/3, MS3.4/8, Error ellipse: s-maj=13.8km s-min=3.6km az=17.4*
*WEL **07** 07:14:11.8±0.8, 33.°S±6.°×17.°8W±1.°6, h33km, M4.5/20, mB5.0/10, ML5.0/18, MLv4.8/20, Mw(mB)4.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8*

ISC 07 07:14:12.9±0.7, 32.°94S±0.°06×178.°1W±0.°1, h34km, n78, σ2.9 07/92, mb4.5/16, MS3.3/8, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.67**	**3**	P	Pn	07 15 01.0	-6.2
GLKZ				S	**Sn**	**07 15 42.3**	**-7.0**
RAO	**Raoul Island**	**3.68**	**3**	**Pn**	**Pn**	**07 15 08.8**	**+1.4**
RAO				Sn	**Sn**	**07 15 51.9**	**+2.3**
MXZ	**Matakaoa Point**	**5.46 211**		**P**	**Pn**	**07 15 34.1**	**+2.2**
MXZ				S	**Sn**	**07 16 35.9**	**+2.4**
MXZ	**Matakaoa Point**	**5.46 211**		Pn	Pn	07 15 23.8	-8.1
MXZ				Sn	**Sn**	**07 16 30.7**	**-2.8**
WMGZ	**Waiomatatini S**	**5.63 209**		P	**Pn**	**07 15 36.4**	**+2.2**
WMGZ				S	**Sn**	**07 16 41.3**	**+3.6**
PKGZ	**Pakihiroa**	**5.83 211**		P	**Pn**	**07 15 37.6**	**+0.6**
PKGZ				S	**Sn**	**07 16 44.8**	**+2.1**
HAZ	**Te Kaha**	**5.86 214**		P	**Pn**	**07 15 38.7**	**+1.4**
HAZ				S	**Sn**	**07 16 47.7**	**+4.5**
PUZ	**Puketiti**	**5.91 209**		P	**Pn**	**07 15 37.6**	**-0.5**
PUZ				S	**Sn**	**07 16 46.9**	**+2.2**
RUGZ	**Raukumara Rang**	**6.08 213**		P	**Pn**	**07 15 41.6**	**+1.1**
RUGZ				S	**Sn**	**07 16 50.8**	**+2.0**
TWGZ	**Tauwhareparae**	**6.12 210**		P	**Pn**	**07 15 42.6**	**+1.6**
TWGZ				S	**Sn**	**07 16 53.0**	**+3.3**
CNGZ	**Carnagh Statio**	**6.29 207**		P	**Pn**	**07 15 44.1**	**+0.9**
MWZ	**Matawai**	**6.44 212**		P	**Pn**	**07 15 47.4**	**+2.0**
MWZ				S	**Sn**	**07 16 59.4**	**+1.7**
URZ	**Urewera**	**6.58 215**		Pn	**Pn**	**07 15 47.3**	**+0.1**
	5.6nm,0.3s,baz=358,slow=1.9,SNR=30						
URZ				Sn	**Sn**	**07 17 03.3**	**+2.3**
	5.7nm,0.3s,baz=118,slow=24,SNR=6.5						
URZ	**Urewera**	**6.58 215**		P	**Pn**	**07 15 48.1**	**+0.9**
URZ				S	**Sn**	**07 17 02.3**	**+1.4**
URZ	**Urewera**	**6.58 215**			**Pn**	**07 15 44.6**	**-2.6**
URZ					**Sn**	**07 17 03.7**	**+2.8**
RIGZ	**Rimuhau**	**6.66 209**		P	**Pn**	**07 15 49.6**	**+1.2**
RIGZ				S	**Sn**	**07 17 04.0**	**+1.0**
SNGZ	**Shannon Statio**	**6.90 211**		P	**Pn**	**07 15 52.5**	**+0.9**
SNGZ				S	**Sn**	**07 17 10.3**	**+1.4**
MUGZ	**Murupara**	**6.91 215**		P	**Pn**	**07 15 53.1**	**+1.3**
MUGZ				S	**Sn**	**07 17 10.0**	**+0.7**
RTZ	**Ruatahuna**	**6.92 214**		P	**Pn**	**07 15 52.9**	**+0.9**
KNZ	**Kokohu**	**6.96 208**		P	**Pn**	**07 15 52.3**	**-0.2**
KNZ				S	**Sn**	**07 17 10.5**	**+0.1**
RAHZ	**Arahi**	**7.12 212**		P	**Pn**	**07 15 56.9**	**+2.2**
RAHZ				S	**Sn**	**07 17 15.1**	**+0.7**
MTHZ	**Maungataniwha**	**7.18 213**		P	**Pn**	**07 15 57.4**	**+1.9**
MTHZ				S	**Sn**	**07 17 17.2**	**+1.3**
OUZ	**Omahuta**	**7.24 249**		P	**Pn**	**07 15 59.8**	**+3.5**
OUZ	**Omahuta**	**7.24 249**		Pn	**Pn**	**07 15 55.8**	**-0.5**
NMHZ	**Naumai**	**7.39 212**		P	**Pn**	**07 15 59.6**	**+1.2**
NMHZ				S	**Sn**	**07 17 22.7**	**+1.6**
BKZ	**Black Stump Fm**	**7.59 214**		P	**Pn**	**07 16 02.4**	**+1.2**
BKZ	**Black Stump Fm**	**7.59 214**			**Pn**	**07 16 01.8**	**+0.6**
BKZ				Sn	**Sn**	**07 17 27.2**	**+1.2**
MCHZ	**McNeill Hill**	**7.72 211**		P	**Pn**	**07 16 04.5**	**+1.5**
KAHZ	**Kahuranaki**	**7.94 209**		P	**Pn**	**07 16 07.0**	**+1.0**
BFZ	**Birch Farm**	**8.95 209**		Pn	**Pn**	**07 16 19.4**	**-0.4**
BFZ				Sn	**Sn**	**07 17 57.3**	**-2.0**
MSWZ	**Moikau Station**	**9.97 210**		Pn	**Pn**	**07 16 33.5**	**-0.4**
MSWZ				Sn	**Sn**	**07 18 21.4**	**-3.2**
SNZO	**South Karori**	**10.13 212**		Pn	**Pn**	**07 16 35.9**	**+0.1**
SNZO				Sn	**Sn**	**07 18 24.4**	**-3.8**
TUWZ	**Tuamarina**	**10.57 214**		Pn	**Pn**	**07 16 42.5**	**+0.6**
TUWZ				Sn	**Sn**	**07 18 32.8**	**-6.3**
QRZ	**Quartz Range**	**10.86 221**		Pn	**Pn**	**07 16 45.4**	**-0.5**
QRZ				Sn	**Sn**	**07 18 44.2**	**-1.9**
THZ	**Tophouse**	**11.33 216**		Pn	**Pn**	**07 16 52.3**	**-0.1**
THZ				Sn	**Sn**	**07 18 53.7**	**-4.2**
KHZ	**Kahutara**	**11.53 212**		Pn	**Pn**	**07 16 55.2**	**+0.1**
KHZ				Sn	**Sn**	**07 18 56.3**	**-6.3**
LTZ	**Lake Taylor**	**12.41 215**		Pn	**Pn**	**07 17 05.4**	**-1.7**
DZM	**Mont Dzumac**	**17.43 305**	*e*LR	LR		07 22 11.7	
	comp=Z,251nm,21.7s						
RAR	**Rarotonga**	**20.05**	**59**	LR	LR	07 24 49.2	
	comp=Z,64nm,21.6s,baz=309,slow=32						
TBI	**Tubuai**	**26.95**	**77**	*e*LR	LR	07 26 33.3	
	comp=Z,96nm,27.8s						
EIDS	**Eidsvold**	**27.86 278**		P	**P**	**07 20 00.6**	**+1.2**
EIDS				IAmb	IAmb	07 20 01.3	
	comp=Z,4.7nm,0.8s						
PPT2	**Papeete2**	**29.87**	**66**	*e*LR	LR	07 27 49.6	
	comp=Z,60nm,27.5s						
PPT	**Papeete**	**29.89**	**66**	LR	LR	07 29 37.7	
	comp=Z,24nm,21.7s,baz=299,slow=31						
STKA	**Stephens Creek**	**33.88 261**	LR	LR		07 33 05.7	
	comp=Z,97nm,18.2s,baz=34,slow=34						
CTA	**Charters Tower**	**34.18 283**	P	**P**		**07 20 56.3**	**+1.1**
	comp=Z,3.6nm,0.5s,baz=119,slow=12,SNR=9.4						
CTAO	**Charters Tower**	**34.18 283**	P	**P**		**07 20 57.6**	**+2.3**
CTAO			IAmb	IAmb		07 21 13.8	
	comp=Z,7.1nm,1.0s						
AS31	**Alice Springs**	**42.93 270**	P	**P**		**07 22 08.1**	**-0.6**
AS31			IAmb	IAmb		07 22 08.9	
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**42.93 270**	P	**P**		**07 22 08.4**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=107,slow=7.4,SNR=59						
ASAR	**Alice Springs**	**42.93 270**	P	**P**		**07 22 08.1**	**-0.6**
WR0	**Warramunga Arr**	**43.97 275**	P	**P**		**07 22 15.6**	**-1.5**
WR0			IAmb	IAmb		07 22 17.7	
	comp=Z,4.5nm,0.7s						
WB2	**Warramunga Arr**	**44.14 275**	P	**P**		**07 22 17.6**	**-0.8**
WB2			IAmb	IAmb		07 22 31.9	
	comp=Z,5.9nm,0.8s						
WRAB	**Tennant Creek**	**44.14 275**	P	**P**		**07 22 17.4**	**-1.1**
WRAB			IAmb	IAmb		07 22 19.0	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**44.15 275**	P	**P**		**07 22 17.9**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=115,slow=7.7,SNR=29						
WRA	**Warramunga Arr**	**44.15 275**	P	**P**		**07 22 17.4**	**-1.1**
WRA			IAmb	IAmb		07 22 19.1	
	comp=Z,0.3nm,0.7s						
WB0	**Warramunga Arr**	**44.18 275**	P	**P**		**07 22 17.7**	**-1.1**
WB0			IAmb	IAmb		07 22 19.3	
	comp=Z,6.7nm,0.7s						
JAY	**Jayapura**	**49.01 299**	LR	LR		07 42 14.5	
	comp=Z,44nm,20.2s,baz=18,slow=34						
FITZ	**Fitzroy Crossi**	**52.30 272**	LR	LR		07 44 53.8	
	comp=Z,79nm,19.7s,baz=115,slow=35						
FITZ	**Fitzroy Crossi**	**52.30 272**	P	**P**		**07 23 20.8**	**-0.5**
FITZ			IAmb	IAmb		07 23 21.4	
	comp=Z,3.3nm,0.9s						
PSAD2	**Pilbara Seismi**	**55.49 265**	P	**P**		**07 23 42.8**	**-1.9**
PSAD2			IAmb	IAmb		07 23 46.2	
	comp=Z,18nm,1.5s						
PSAB3	**Pilbara Seismi**	**55.59 265**	P	**P**		**07 23 44.0**	**-1.5**
PSAB3			IAmb	IAmb		07 23 46.7	
	comp=Z,5.8nm,0.8s						
HMH	**Humu'ula Sheep**	**56.55 26**	P	**P**		**07 23 53.8**	**+1.4**
HMH			IAmb	IAmb		07 23 55.3	
	comp=Z,72nm,1.3s						
QSPA	**South Pole Qui**	**57.18 180**	P	P		07 23 52.0	-4.3
QSPA			IAmb	IAmb		07 24 10.8	
	comp=Z,6.2nm,1.4s						
BATI	**Baumata**	**57.91 279**	LR	LR		07 48 06.1	
	comp=Z,118nm,18.3s,baz=142,slow=35						
PMSA	**Palmer Station**	**70.00 155**	P	**P**		**07 25 19.7**	**-1.0**
PMSA			IAmb	IAmb		07 25 21.6	
	comp=Z,27nm,1.5s						
SYO	**Syowa Base**	**74.63 193**	⇑*e*X	P		07 25 55.2	+7.0
SNAA	**Sanae**	**75.63 178**	P	**P**		**07 25 52.4**	**-1.7**
SNAA			IAmb	IAmb		07 26 04.0	
	comp=Z,3.7nm,1.3s						
VNA3	**Neumayer Olymp**	**75.79 176**	P	P		07 26 07.7	+13
VNA2	**Neumayer--Watz**	**76.22 177**	P	P		07 26 10.1	+13
	baz=174,slow=5.0						
VNA1	**Neumayer--Stat**	**76.45 177**	P	P		07 26 10.9	+12
EMPR	**Esperanza - Ma**	**117.66 85**		**PKiKP**		**07 32 57.5**	**+1.6**
FINES	**FINESS Array B**	**147.47 339**	PKPbc	**PKPbc**		**07 33 53.0**	**+0.4**
	comp=Z,7.5nm,0.8s,baz=64,slow=4.4,SNR=16						
FINES	**FINESS Array B**	**147.47 339**		**PKPbc**		**07 33 52.7**	**+0.2**
NB2	**NORSAR Subarra**	**151.23 351**	PKP	**PKPbc**		**07 34 02.3**	**+0.3**
	comp=Z,3.1nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.23 351**	PKPbc	**PKiKP**		**07 34 02.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=21,slow=4.6,SNR=4.4						
AKASG	**Malin Array Be**	**153.21 320**	PKPbc	**PKiKP**		**07 34 07.8**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=46,slow=2.3,SNR=3.9						
AKASG	**Malin Array Be**	**153.21 320**	PKPdf	**PKPdf**		**07 33 59.9**	**+0.6**
AKASG				**PKiKP**		**07 34 07.5**	**+0.6**
BRTR	**Keskin Array B**	**153.62 294**	PKPbc	**PKiKP**		**07 34 08.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=113,slow=2.1,SNR=5.7						
BRTR	**Keskin Array B**	**153.62 294**		**PKPbc**		**07 34 08.4**	**+0.2**

*IDC **07** 07:23:15.7±1.1, 1.°28N×126.°98E, h0km, mb4.2/5, mb1 4.3/7, mb1mx3.8/48, mbtmp4.2/7, Error ellipse: s-maj=51.9km s-min=17.5km az=70.0*
*ISCJB **07** 07:23:19.2±0.4, 1.°18N±0.°04×126.°64E±0.°05, h35km, mb4.4/6, MS4.8/1, Error ellipse: s-maj=8.0km s-min=5.5km az=151.9*
*DJA **07** 07:23:21.4±1.0, 1.°N±4.°×12.°7E±.°, h29km±11km, M4.0/7, MLv4.0/7*
*NEIC **07** 07:23:22.4±1.6, 1.°14N±0.°03×126.°77E±0.°07, h53km±9km, mb4.3/18*

ISC 07 07:23:20.9±0.6, 1.°22N±0.°06×126.°74E±0.°07, h35km, n39, σ1.9 06/42, mb4.3/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.77 125**		P	**Pn**	**07 23 36.4**	**+1.2**
TNTI				S	**Sn**	**07 23 47.0**	**+1.4**
TNTI	**Ternate**	**0.77 125**			**Pn**	**07 23 36.2**	**+0.9**
TNTI				Sn	**Sn**	**07 23 46.4**	**+0.8**
LBMI	**Labuha**	**2.00 157**		P	**Pn**	**07 23 52.9**	**+0.8**
SGSI	**Sangihe**	**2.73 334**		P	**Pn**	**07 24 03.0**	**+0.7**
SANI	**Sanana**	**3.33 193**		P	**Pn**	**07 24 11.6**	**+1.1**
KAPI	**Kappang**	**9.33 228**		Pn	**Pn**	**07 25 35.6**	**+2.7**
	baz=64,slow=13						
KAPI	**Kappang**	**9.33 228**			**Pn**	**07 25 34.4**	**+1.5**
KAPI				Sn	**Sn**	**07 27 16.6**	**-0.1**
MTN	**Manton Dam**	**14.64 163**		Pn	**Pn**	**07 26 45.3**	**-0.2**
KNRA	**Kununurra**	**16.91 173**		Pn	**Pn**	**07 27 14.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.23 183**		P	**P**	**07 27 42.4**	**+0.3**
	baz=17,slow=11						
FITZ	**Fitzroy Crossi**	**19.23 183**		P	**P**	**07 27 41.5**	**-0.6**
WB0	**Warramunga Arr**	**22.17 161**		P	**P**	**07 28 13.2**	**-0.8**
WRAB	**Tennant Creek**	**22.31 161**		P	**P**	**07 28 14.5**	**-1.0**
WRAB				IAmb	IAmb	07 28 16.5	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**22.31 161**		P	**P**	**07 28 14.8**	**-0.8**
	comp=Z,3.6nm,0.3s,baz=338,slow=11,SNR=48						
WRA	**Warramunga Arr**	**22.31 161**		P	**P**	**07 28 13.8**	**-1.8**
WB2	**Warramunga Arr**	**22.32 161**		P	**P**	**07 28 14.9**	**-0.7**
WB2				IAmb	IAmb	07 28 17.2	
	comp=Z,12nm,0.9s						
WR0	**Warramunga Arr**	**22.39 160**		P	**P**	**07 28 14.5**	**-1.9**
WR0				IAmb	IAmb	07 28 18.4	
	comp=Z,6.6nm,0.5s						
PSAC2	**Pilbara Seismi**	**23.61 196**		P	**P**	**07 28 27.4**	**-1.4**
PSAC2				IAmb	IAmb	07 28 30.1	
	comp=Z,10nm,1.1s						
PSAB2	**Pilbara Seismi**	**23.61 196**		P	**P**	**07 28 28.0**	**-0.8**
PSAD3	**Pilbara Seismi**	**23.72 196**		P	**P**	**07 28 27.6**	**-2.2**
PSAD3				IAmb	IAmb	07 28 41.5	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**25.70 165**		P	**P**	**07 28 47.6**	**-0.3**
ASAR	**Alice Springs**	**25.70 165**		P	**P**	**07 28 47.5**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=342,slow=8.0,SNR=61						
CMAR	**Chiang Mai Arr**	**32.20 304**		P	**P**	**07 29 45.3**	**-0.6**
KMI	**Kunming**	**33.19 318**		P	**P**	**07 29 56.0**	**+1.3**
KMI				pmax	pmax		
	comp=Z,31nm,0.5s						
KMI				pmax	pmax		
	comp=Z,160nm,4.6s						
KMI				LR	LR		
	comp=N,420nm,11.7s						
KMI				LR	LR		
	comp=E,1μm,10.2s						
KMI				LR	LR		
	comp=Z,1μm,10.5s						
BBOO	**Buckleboo**	**34.97 166**		P	**P**	**07 30 09.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.13 194**		P	**P**	**07 30 10.8**	**-0.4**
STKA	**Stephens Creek**	**35.80 158**		P	**P**	**07 30 16.8**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=352,slow=8.4,SNR=4.2						
STKA	**Stephens Creek**	**35.80 158**		P	**P**	**07 30 16.2**	**-0.7**
MK31	**Makanchi Array**	**59.62 326**		P	**P**	**07 33 22.3**	**+0.8**
MK31				IAmb	IAmb	07 33 22.3	
	comp=Z,2.9nm,1.2s						
MKAR	**Makanchi Array**	**59.62 326**		P	**P**	**07 33 22.1**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=120,slow=7.7,SNR=9.9						
MKAR	**Makanchi Array**	**59.62 326**		P	**P**	**07 33 22.0**	**+0.5**
ZAA0	**Zalesovo Array**	**62.82 334**		P	**P**	**07 33 42.6**	**-0.3**
ZAA0				IAmb	IAmb	07 33 44.8	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**62.82 334**		P	**P**	**07 33 43.6**	**+0.7**
KURBB	**Kurchatov Arra**	**63.85 328**		P	**P**	**07 33 50.5**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=130,slow=6.2,SNR=14						
KURK	**Kurchatov**	**63.86 328**		P	**P**	**07 33 49.7**	**-0.1**
GSTR	**Great Sitkin T**	**69.47 34**		P	**P**	**07 34 26.1**	**+0.4**
ABKAR	**Akbulak array**	**74.09 321**		P	**P**	**07 34 52.0**	**-1.4**
ABKAR	**Akbulak array**	**74.09 321**		P	**P**	**07 34 52.2**	**-1.3**
ABKAR				IAmb	IAmb	07 34 54.7	
	comp=Z,2.0nm,0.7s						
RAYN	**Ar Rayn**	**81.47 293**		P	**P**	**07 35 36.1**	**+0.9**
RAYN				IAmb	IAmb	07 35 36.5	
	comp=Z,2.1nm,0.8s						

*NIED **07** 07:25:00, 24.°00N×121.°70E, h5km, Mw4.4 Best double couple: M0 5.28000×10^15 NP1:φ=233.00000°, δ=10.00000°, λ=89.00000°. NP2:φ=54.00000°, δ=80.00000°, λ=90.00000°.*
*IDC **07** 07:25:08.5±0.7, 24.°05N×121.°84E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/59, mbtmp4.0/17, ML3.1/1, MS3.6/4, Ms1 3.7/4, ms1mx3.0/52, Error ellipse: s-maj=19.1km s-min=15.1km az=77.0*
*TAP **07** 07:25:10.6, 24.°06N×121.°64E, h10km, ML4.6, B*
*JMA **07** 07:25:10.2±0.1, 24.°03N×121.°65E, h5km±2km, M4.1*
*ASIES **07** 07:25:10.3, 24.°10N×121.°64E, h19km, MW3.9*
*NEIC **07** 07:25:10.5±1.4, 24.°03N±0.°02×121.°66E±0.°04, h16km±4km, mb4.6/32, ML4.3(TAP)*
*ISCJB **07** 07:25:10.2±0.2, 24.°055N±0.°008×121.°71E±0.°01, h10km±1km, mb4.0/18, Error ellipse: s-maj=1.9km s-min=1.3km az=27.5*
*BJI **07** 07:25:10.9±0.0, 24.°14N×121.°67E, h11km, mb4.4/18, mB4.6/15, ML4.1/7, Ms4.3/17, Ms7 4.1/15*

ISC 07 07:25:10.3±0.7, 24.°06N±0.°01×121.°66E±0.°02, h12km±4km, n217, σ0.9 97/317, mb4.3/33, 15C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.06 294**		⇓*i*P	**Pg**	**07 25 12.7**	**0.0**
	baz=305						
TWD				*i* S	**Sg**	**07 25 13.9**	**-0.6**
	baz=305						
HWA	**Hwalien**	**0.09 210**		P	**Pg**	**07 25 13.7**	**+0.6**
	baz=192						
HWA				S	**Sg**	**07 25 15.7**	**+0.6**
	baz=192						
NACB	**Ninganchiao**	**0.13 335**		⇓P	**Pg**	**07 25 13.6**	**-0.1**
	baz=342						
NACB				S	**Sg**	**07 25 15.6**	**-0.4**
	baz=342						
NACB	**Ninganchiao**	**0.13 335**		Pg	**Pg**	**07 25 13.6**	**-0.1**
NACB				Sg	**Sg**	**07 25 15.7**	**-0.3**
ENLB	**Shoufeng**	**0.16 198**		P	**Pg**	**07 25 13.9**	**-0.1**
	baz=191						
ENLB				S	**Sg**	**07 25 17.4**	**+0.8**
	baz=191						
ETLH	**Xiulin Townshi**	**0.22 314**		⇓P	**Pg**	**07 25 15.2**	**+0.1**
	baz=316						
ETLH				S	**Sg**	**07 25 18.4**	**0.0**
	baz=316						
ESL	**Shilin**	**0.32 220**		⇓*i*P	**Pg**	**07 25 16.8**	**+0.1**
	baz=224						
ESL				S	**Sg**	**07 25 21.0**	**0.0**
	baz=224						
WHF	**Hehuan Shan**	**0.37 284**		⇓*i*P	**Pg**	**07 25 18.0**	**+0.1**
	baz=284						
WHF				*i* S	**Sg**	**07 25 22.9**	**0.0**
	baz=284						
ENA	**Nanau**	**0.38**	**12**	⇓*i*P	**Pg**	**07 25 18.2**	**+0.3**
	baz=16						
ENA				S	**Sg**	**07 25 23.2**	**+0.2**
	baz=16						
NANB	**Nanao**	**0.38**	**13**	⇓*i*P	**Pg**	**07 25 18.2**	**+0.2**
	baz=16						
NANB				S	**Sg**	**07 25 23.2**	**+0.1**
	baz=16						
EGFH	**Guangfu**	**0.44 208**		P	**Pg**	**07 25 19.5**	**+0.5**
	baz=212						
EGFH				*e*S	**Sg**	**07 25 25.6**	**+0.7**
	baz=212						
CHGB	**Renai**	**0.44 271**		⇓P	**Pg**	**07 25 19.6**	**+0.5**
	baz=269						
CHGB				S	**Sg**	**07 25 25.0**	**0.0**
	baz=269						
NNSB	**Datong**	**0.45 326**		⇓P	**Pg**	**07 25 19.6**	**+0.4**
	baz=327						
NNSB				S	**Sg**	**07 25 25.4**	**+0.2**
	baz=327						
NNS	**Nan Shan**	**0.46 326**		⇓*i*P	**Pg**	**07 25 19.9**	**+0.4**
	baz=328						
NNS				*i* S	**Sg**	**07 25 26.1**	**+0.4**
	baz=328						
TWT	**Tachien**	**0.48 294**		*e*P	**Pb**	**07 25 20.5**	**-0.4**
	baz=293						
TWT				S	**Sg**	**07 25 27.0**	**+0.8**
	baz=293						
TDCB	**Techi**	**0.49 294**		⇓P	**Pb**	**07 25 20.7**	**-0.3**
	baz=293						
TDCB				S	**Sg**	**07 25 27.0**	**+0.3**
	baz=293						
VWDT	**VWDT**	**0.56 237**		⇓P	**Pb**	**07 25 21.7**	**-0.3**
	baz=228						
VWDT				S	**Sg**	**07 25 29.1**	**+0.5**
	baz=228						
NDT	**Datong Townshi**	**0.56 347**		⇓*i*P	**Pb**	**07 25 22.0**	**-0.1**
	baz=348						
NDT				S	**Sg**	**07 25 29.0**	**+0.2**
	baz=348						
TWC	**Suao**	**0.58**	**18**	⇓P	**Pg**	**07 25 22.0**	**+0.3**
	baz=12						
TWC				S	**Sg**	**07 25 29.5**	**+0.1**
	baz=12

EGS 0.83 18 ⇓P Pb 07 25 26.9 +0.3
baz=28
EGS eS Sb 07 25 38.5 +0.8
baz=28
LIOB Emei 0.83 315 ⇓iP Pn 07 25 27.4 -0.4
baz=316
LIOB S Sg 07 25 37.3 +0.1
baz=316
NSTT Nanjuang 0.83 314 ⇓P Pb 07 25 27.2 +0.6
baz=314
NSTT eS Sg 07 25 36.9 -0.3
baz=314
TWQ1 Liyutan 0.86 290 eP Pn 07 25 27.8 -0.4
baz=302
TWQ1 S Sb 07 25 39.8 +1.1
baz=302
YUS Yu-Shan 0.86 229 eP Pb 07 25 27.3 -0.2
baz=240
WLTB Daxi 0.87 335 eP Pn 07 25 28.4 -0.1
baz=346
WLTB eS Sb 07 25 39.3 +0.2
baz=346
WJS Zhushan 0.88 255⇑eP Pn 07 25 28.6 0.0
baz=254
WJS eS Sn 07 25 40.9 -0.4
baz=254
NSY Sanyi 0.89 294 eP Pn 07 25 29.2 +0.4
baz=304
NSY eS Sn 07 25 40.8 -0.8
baz=304
TCU Taichung 0.90 276⇑eP Pn 07 25 29.4 +0.6
baz=271
TCU eS Sn 07 25 42.7 +1.0
baz=271
WNT Mingjian 0.91 259 ⇑P Pn 07 25 29.2 +0.3
baz=257
WNT eS Sn 07 25 41.5 -0.4
baz=257
NHDH Xindian Distri 0.91 353 eP Pb 07 25 28.5 +0.4
baz=343
NHDH eS Sg 07 25 39.9 +0.1
baz=343
FULB Fuli 0.92 201 eP Pg 07 25 28.1 0.0
baz=213
FULB eS Sn 07 25 42.0 -0.2
baz=213
NMLH Miaoli 0.92 301 eP Pn 07 25 29.6 +0.4
baz=301
NMLH eS Sn 07 25 41.8 -0.6
baz=301
TWA Mucha 0.92 356 P Pn 07 25 28.8 -0.4
baz=347
TWA eS Sg 07 25 39.7 -0.5
baz=347
TIPB Shuangxi 0.93 10 ⇓P Pb 07 25 28.5 +0.1
baz=2.0
TIPB S Sg 07 25 40.1 -0.2
baz=2.0
TATO Taipei 0.93 351 P Pb 07 25 28.6 +0.2
baz=351
TATO S Sg 07 25 40.3 -0.2
baz=351
TATO Taipei 0.93 351 Pn 07 25 29.1 -0.1
TATO Sn 07 25 42.0 -0.5
PTSB Yuanli 0.95 294 ⇑P Pn 07 25 30.6 +1.1
baz=304
PTSB eS Sb 07 25 41.6 +0.3
baz=304
SBCB Hsinchu 0.95 320 eP Pn 07 25 30.1 +0.5
baz=320
SBCB eS Sn 07 25 42.4 -0.7
baz=320
HSN Hsinchu 0.97 320 eP Pn 07 25 30.6 +0.9
baz=323
HSN eS Sn 07 25 43.3 -0.2
baz=323
WDJ Dajia District 0.97 288 eP Pn 07 25 30.1 +0.3
baz=297
WDJ eS Sn 07 25 43.1 -0.4
baz=297
CHKT Chengkung 0.99 196 eP Pb 07 25 29.1 -0.3
baz=175
CHKT eS Sn 07 25 44.3 +0.4
baz=175
TAP Taipei 0.99 352 eP Pn 07 25 29.9 -0.2
baz=344
TAP S Sb 07 25 43.1 +0.7
baz=344
TWB1 Santiao Chiao 1.00 18 eP Pn 07 25 29.9 -0.3
baz=10.0
WCHH Zhanghua 1.00 272⇑eP Pn 07 25 30.6 +0.4
baz=271
WCHH eS Sn 07 25 45.4 +1.1
baz=271
CHN5 Tsauling 1.00 243⇑iP Pn 07 25 30.9 +0.6
baz=231
CHN5 S Sn 07 25 45.6 +1.2
baz=231
NCUH Zhongli 1.00 335 eP Pn 07 25 31.2 +0.9
baz=346
NCUH eS Sn 07 25 45.3 +1.0
baz=346
NCU National Centr 1.00 335 eP Pn 07 25 30.9 +0.6
baz=345
NCU eS Sn 07 25 45.0 +0.7
baz=345
NWF Wu-fen Shan 1.02 6 eP Pn 07 25 30.6 +0.1
baz=7.0
NWF eS Sg 07 25 42.4 -0.9
baz=7.0
WFSB Wu-fen Shan 1.02 6 eP Pn 07 25 30.6 +0.2
baz=7.0
WFSB eS Sb 07 25 42.7 -0.6
baz=7.0
ELDTW Lidau 1.04 214 eP Pb 07 25 29.9 -0.5
baz=202
TWS1 Kuangyinshan 1.06 348 eP Pn 07 25 31.5 +0.5
baz=349
TWS1 eS Sn 07 25 46.3 +0.5
baz=349
WGK Gukeng 1.07 250 ⇑P Pn 07 25 32.0 +0.9
baz=250
WDLH Douliu 1.08 251 eP Pn 07 25 32.6 +1.2
baz=251
YM01 YM01 1.09 356 P Pn 07 25 32.0 +0.6
baz=346
YM01 eS Sg 07 25 45.8 +0.2
baz=346
YM10 YM10 1.10 356⇑eP Pn 07 25 31.9 +0.3
baz=6.0
YM10 eS Sg 07 25 45.8 0.0
baz=6.0
YM11 YM11 1.11 356 eP Pn 07 25 32.2 +0.4
baz=356
YM11 eS Sb 07 25 45.9 0.0
baz=356
NTST Danshui 1.12 350 eP Pg 07 25 32.9 +0.9
baz=351
NTST eS Sn 07 25 48.5 +1.4
baz=351
YM08 YM08 1.13 357 P Pg 07 25 32.5 +0.3
baz=343
ANP Anpu 1.13 354 eP Pg 07 25 32.5 +0.3
baz=354
RLNB Erlin 1.20 262⇑eP Pg 07 25 33.9 +0.5
baz=262
RLNB S Sn 07 25 50.8 +1.8
baz=262
CHN4 Tsaushan 1.20 234 ⇑P Pg 07 25 34.1 +0.7
baz=221
CHN4 S Sn 07 25 51.5 +2.3
baz=221
CHN2 Minshiung 1.20 244 eP Pg 07 25 34.6 +1.2
baz=244
CHN2 S Sn 07 25 51.2 +2.1
baz=244
TPUB Ta-pu 1.20 232 ⇑P Pg 07 25 34.0 +0.5
baz=223
TPUB S Sn 07 25 50.1 +0.8
baz=223
TPUB Ta-pu 1.20 232 Pg 07 25 34.0 +0.5
TPUB Sn 07 25 50.5 +1.2
STYT Tauyuan 1.21 223⇓eP Pg 07 25 33.6 -0.1
baz=222
STYT eS Sg 07 25 49.5 +0.1
baz=222
TWY Chenhua 1.22 358 eP Pg 07 25 34.2 +0.4
baz=345

JYNG Yonagunijimaku 1.24 71 P Pb 07 25 33.8 +0.1
JYNG eS Sn 07 25 50.0 -0.2
WTP Ta-pu 1.25 230 ⇑P Pg 07 25 34.6 +0.2
baz=229
WTP eS Sg 07 25 51.0 +0.3
baz=229
CHY Chiayi 1.26 244 eP Pg 07 25 35.0 +0.4
baz=243
CHY eS Sg 07 25 52.6 +1.7
baz=243
YOJ Yonaguni jima 1.30 72 ⇓P Pb 07 25 34.6 -0.1
baz=71
YOJ Yonaguni jima 1.30 72 P Pb 07 25 34.6 -0.1
YOJ eS Sn 07 25 51.6 -0.1
YOJ Yonaguni jima 1.30 72 Pb 07 25 34.6 -0.1
WMLT Mailiao 1.33 259 eP Pn 07 25 34.9 +0.1
baz=260
TWG Pinlang 1.34 204 eP Pn 07 25 33.3 -1.6
baz=204
TWG Pinlang 1.34 204 Pn 07 25 32.6 -2.3
TWG Sn Sb 07 25 50.0 -2.5
TWGBT Beinan 1.34 203 eP Pn 07 25 33.5 -1.3
baz=204
SNST Tainan City 1.35 232 eP Pg 07 25 36.7 +0.4
baz=232
SNST eS Sg 07 25 55.6 +1.8
baz=232
CHN1 Nanshi 1.35 230 eP Pg 07 25 36.4 +0.1
baz=230
CHN1 S Sg 07 25 55.6 +1.7
baz=230
WSF Szhu 1.38 253 eP Pg 07 25 36.6 -0.2
baz=252
WSF eS Sg 07 25 56.0 +1.3
baz=252
SGST Jiashian 1.38 226 eP Pb 07 25 36.2 +0.1
baz=217
SGST eS Sg 07 25 56.1 +1.3
baz=217
SLGT Liugui 1.41 221 eP Pb 07 25 36.9 +0.4
baz=222
CHN8 Yiju 1.50 242 eP Pb 07 25 38.1 -0.1
baz=242
CHN8 eS Sg 07 25 59.3 +0.6
baz=242
CHN3 Shinhua 1.53 231 eP Pg 07 25 39.8 0.0
baz=232
ECL Taimali 1.59 204 eP Pn 07 25 37.5 -0.8
baz=192
SCLT Jiali 1.60 237 eP Pb 07 25 39.2 -0.6
baz=238
SSD Sandimen 1.61 216 eP Pb 07 25 40.3 +0.3
baz=216
SSD eS Sb 07 26 00.5 +0.3
baz=216
PCYT Pengchaiyu 1.61 13 eP Pb 07 25 40.0 0.0
baz=12
TWM1 Shoushan 1.67 223 eP Pg 07 25 42.2 -0.2
baz=224
MASBT Mashibuluo 1.72 213 eP Pn 07 25 40.6 +0.6
baz=216
MASBT eS Sg 07 26 04.6 -1.0
baz=216
SNJT Kaohsiung City 1.77 223 eP Pb 07 25 42.8 0.0
baz=225
EAST Anshuo 1.82 204 eP Pn 07 25 40.9 -0.6
baz=193
IRIF Iriomote-Funau 1.92 81 P Pn 07 25 43.1 +0.3
IRIF eS Sb 07 26 08.5 -0.6
SCZT Fangliau 1.93 210 eP Pb 07 25 45.0 -0.5
baz=212
HATJ Hateruma jima 1.97 90 P Pn 07 25 44.5 +1.0
PHUB P'eng-hu 1.98 255 eP Pn 07 25 44.7 +1.0
baz=255
PHUB eS Sn 07 26 09.7 +1.2
baz=255
PNG Penghu 1.98 256 eP Pn 07 25 44.3 +0.6
baz=247
PNG eS Sb 07 26 10.2 -0.8
baz=247
WDGT Dungji 1.99 247 eP Pn 07 25 45.0 +1.2
baz=232
WDGT eS Sb 07 26 10.7 -0.7
baz=232
LAY Lan-yu 2.01 183 eP Pn 07 25 42.0 -2.1
baz=182
WLCH Liuqiu 2.06 215 eP Pb 07 25 47.9 +0.2
baz=235
TWP Hsiaoliuchiu 2.08 215 eP Pb 07 25 48.2 +0.2
baz=235
JKRS Kuro-shima 2.16 85 P Pn 07 25 46.9 +0.8
JKRS eS Sn 07 26 12.9 +0.1
HEN Hengchun 2.21 203 eP Pb 07 25 49.6 -0.7
baz=192
VCHM Qimei 2.21 248 eP Pn 07 25 47.1 +0.3
baz=233
VWUC VWUC 2.21 295 eP Pn 07 25 46.7 -0.2
baz=295
PTTC Pingtan 2.24 310⇑eP Pn 07 25 47.3 +0.1
baz=295
TWK1 Hengchun 2.24 201 eP Pb 07 25 49.5 -1.3
baz=187
TWKBT Hengchun 2.24 200 eP Pn 07 25 48.0 +0.7
baz=187
TSEB Hengchuen, Pin 2.25 198 eP Pn 07 25 49.2 +1.7
baz=187
JIJ Ishigaki jima 2.29 82 P Pn 07 25 48.1 +0.1
JIJ S Sn 07 26 17.8 +1.7
JISG Ishigakijimahi 2.48 77 P Pn 07 25 50.1 -0.5
PTMZ Houxiangcun 2.51 294 eP Pn 07 25 50.9 0.0
baz=293
PTMZ eS Sn 07 26 20.6 -0.8
baz=293
MATB Ma-tsu 2.60 324 eP Pn 07 25 52.8 +0.6
baz=323
JTJ Tarama 2.84 78 P Pn 07 25 56.2 +0.7
JTJ S Sn 07 26 31.8 +2.2
QZH Quanzhou 2.93 288 Pn Pn 07 25 57.6 +0.9
QZH Sn Sn 07 26 30.8 -1.0
QZH smax smax
comp=N,560nm,1.1s
QZH smax smax
comp=E,380nm,0.7s
KNM Kinmen 2.96 278 eP Pn 07 25 59.8 +2.6
baz=277
KNMB Chin-men Tao 3.01 278 eP Pn 07 25 58.3 +0.4
baz=278
KNMB Chin-men Tao 3.01 278 Pn 07 25 57.3 -0.5
KNMB Sn Sn 07 26 34.0 +0.2
LYJJ Jianjiangzhen 3.02 326 eP Pn 07 25 58.1 +0.1
baz=325
MHZQ Yeshan 3.13 311 eP Pn 07 26 00.0 +0.5
baz=297
XPSS Dashiqiu 3.15 335 eP Pn 07 25 59.2 -0.6
baz=336
JMJ Miyako jima 2 3.40 76 eP Pn 07 26 04.9 +1.7
baz=94
AXDP Jialang 3.46 285 eP Pn 07 26 04.2 +0.2
baz=284
ZPLA Ao Xicun 3.57 269 eP Pn 07 26 06.4 +0.8
baz=267
JOW Kunigami 6.59 64 eP Pn 07 26 46.6 -0.5
baz=68
JOW Kunigami 6.59 64 Pn Pn 07 26 46.5 -0.6
1.0nm,0.3s,baz=174,slow=13,SNR=17
JOW Sn Sn 07 28 01.1 -1.2
0.0nm,0.3s,baz=182,slow=14,SNR=2.3
JOW Kunigami 6.59 64 Pn 07 26 46.2 -0.9
JOW Sn 07 28 02.4 +0.2
WHN Wuhan 9.16 316 ⇑P Pn 07 27 22.9 +0.6
WHN S Sn 07 29 00.7 -4.7
WHN pmax pmax
comp=Z,43nm,0.8s
WHN pmax pmax
comp=Z,240nm,5.8s
WHN LR LR
comp=N,2μm,8.4s
WHN LR LR
comp=E,2μm,10.0s
WHN LR LR
comp=Z,3μm,9.0s
GYA Guiyang 13.78 283 eP P 07 28 30.4 -3.8
GYA S Sn 07 31 05.2 +6.5
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA LR LR
comp=N,230nm,12.0s

GYA LR LR
comp=E,870nm,9.1s
GYA LR LR
comp=Z,980nm,10.5s
KSRS Korea Array 14.39 20 Pn P 07 28 39.8 -1.0
1.1nm,0.3s,baz=198,slow=12,SNR=13
XAN Xi'an 14.92 315 P Pn 07 28 42.9 +1.8
XAN pP P 07 28 51.4 +4.6
XAN pmax pmax
comp=Z,11nm,1.0s
XAN LR LR
comp=N,240nm,9.2s
XAN LR LR
comp=E,690nm,10.2s
XAN LR LR
comp=Z,630nm,9.8s
MJAR Matsushiro Arr 18.92 45 P Pn 07 29 36.2 +4.6
0.0nm,0.3s,baz=233,slow=12,SNR=4.2
USRK Ussuriysk Ar. 21.80 20 P P 07 30 01.6 -0.6
1.1nm,0.5s,baz=210,slow=8.2,SNR=5.6
USRK Ussuriysk Ar. 21.80 20 P P 07 30 02.6 +0.4
CMAR Chiang Mai Arr 21.88 260 P P 07 30 05.6 +2.4
1.5nm,0.3s,baz=55,slow=7.8,SNR=6.1
CMAR LR LR 07 38 55.9
comp=Z,68nm,19.6s,baz=125,slow=38
CMAR Chiang Mai Arr 21.88 260 P P 07 30 03.0 -0.2
GTA Gaotai 23.98 315 eP P 07 30 23.7 -1.2
GTA pP sP 07 30 30.9 +0.8
GTA sP pP 07 30 34.6 +5.9
GTA S S 07 34 38.2 -3.4
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA pmax pmax
comp=Z,23nm,5.4s
GTA LR LR
comp=N,180nm,13.0s
GTA LR LR
comp=E,340nm,12.4s
GTA LR LR
comp=Z,380nm,11.7s
KLR Kul'dur 26.35 15 P P 07 30 45.6 -0.5
4.2nm,0.9s,baz=283,slow=2.0,SNR=7.8
SONM Songino Array 26.65 337 P P 07 30 49.9 +0.8
1.5nm,0.6s,baz=156,slow=9.7,SNR=8.1
SONM LR LR 07 42 35.2
comp=Z,127nm,19.7s,baz=160,slow=39
SONM Songino Array 26.65 337 P P 07 30 47.9 -1.2
WMQ Urumqi 34.05 314 eP P 07 31 57.5 +3.0
WMQ pP sP 07 32 01.4 +1.6
WMQ sP pP 07 32 04.7 +6.3
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,97nm,5.1s
WMQ LR LR
comp=N,690nm,17.9s
WMQ LR LR
comp=E,890nm,21.5s
WMQ LR LR
comp=Z,120nm,14.3s
MK31 Makanchi Array 38.73 316 P P 07 32 33.0 -1.3
MKAR Makanchi Array 38.73 316 P P 07 32 35.5 +1.1
1.0nm,0.5s,baz=111,slow=9.7,SNR=12
MKAR PcP PcP 07 34 46.3 +0.4
0.4nm,0.6s,baz=96,slow=4.3,SNR=2.8
MKAR Makanchi Array 38.73 316 P P 07 32 34.1 -0.2
ZAA0 Zalesovo Array 40.59 327 P P 07 32 49.4 -0.2
ZALV Zalesovo Beam 40.59 327 P P 07 32 49.8 +0.2
1.3nm,0.5s,baz=114,slow=7.7,SNR=5.2
ZALV Zalesovo Beam 40.59 327 P P 07 32 49.0 -0.6
H11S3 WAKE ISLAND Hy 42.19 89 T T 08 18 17.1
baz=284
H11S1 WAKE ISLAND Hy 42.20 89 T T 08 18 24.7
baz=284
H11S2 WAKE ISLAND Hy 42.21 89 T T 08 18 24.0
baz=284
KURK Kurchatov 42.47 320 P P 07 33 05.1 0.0
KURBB Kurchatov Arra 42.48 320 P P 07 33 06.1 +0.8
0.8nm,0.7s,baz=106,slow=9.5,SNR=5.8
WRA Warramunga Arr 45.45 163 P P 07 33 28.4 -0.9
1.4nm,0.5s,baz=346,slow=8.7,SNR=19
WRA Warramunga Arr 45.45 163 P P 07 33 28.3 -1.0
WB2 Warramunga Arr 45.45 163 P P 07 33 28.5 -0.9
WB2 IAmb IAmb 07 33 32.8
comp=Z,4.9nm,0.9s
KKAR Karatay Array 45.89 307 P P 07 33 32.4 -0.4
KKAR Karatay Array 45.89 307 P P 07 33 30.7 -2.1
KKAR IAmb IAmb 07 33 41.4
comp=Z,2.6nm,1.1s
ASAR Alice Springs 48.91 165 P P 07 33 55.9 -0.4
comp=Z,1.7nm,0.8s,baz=340,slow=7.0,SNR=13
ASAR Alice Springs 48.91 165 P P 07 33 55.0 -1.3
ABKAR Akbulak array 53.84 314 P P 07 34 33.9 +0.9
ABKAR Akbulak array 53.84 314 P P 07 34 33.8 +0.7
ABKAR IAmb IAmb 07 34 45.5
comp=Z,4.7nm,1.4s
WSAR Wadi Sarin 57.28 283 LR LR 08 03 55.8
comp=Z,26nm,19.7s,baz=77,slow=40
STKA Stephens Creek 58.80 160 P P 07 35 08.4 -0.1
comp=Z,1.4nm,0.7s,baz=329,slow=12,SNR=3.3
STKA Stephens Creek 58.80 160 P P 07 35 07.4 -1.2
PPLA Purkeypile 67.14 30 P P 07 36 04.2 +0.2
SKT Skwentna 67.59 31 P P 07 36 06.0 -0.6
SKT IAmb IAmb 07 36 16.1
comp=Z,12nm,1.4s
KTH Kantishna Hill 67.61 29 P P 07 36 06.2 -0.6
KTH IAmb IAmb 07 36 20.3
comp=Z,8.4nm,1.4s
KDAK Kodiak Island 67.76 35 P P 07 36 06.8 -0.9
comp=Z,1.4nm,0.5s,baz=282,slow=9.3,SNR=3.3
KDAK LR LR 08 07 49.1
comp=Z,223nm,18.3s,baz=175,slow=38
KDAK Kodiak Island 67.76 35 P P 07 36 06.3 -1.4
CNPM China Poot 68.15 33 P P 07 36 09.0 -1.1
MCK McKinley 68.46 29 P P 07 36 12.1 0.0
MCK IAmb IAmb 07 36 22.8
comp=Z,3.8nm,0.9s
RND Reindeer 68.56 29 P P 07 36 12.7 -0.1
RND IAmb IAmb 07 36 14.6
comp=Z,6.1nm,0.6s
CCB Clear Creek Bu 68.77 28 P P 07 36 13.7 -0.2
CCB IAmb IAmb 07 36 25.9
comp=Z,4.2nm,1.4s
PMR Palmer 68.78 31 P P 07 36 13.4 -0.6
GHO Glory Hole Cre 68.84 31 P P 07 36 14.6 +0.1
GHO IAmb IAmb 07 36 24.2
comp=Z,7.2nm,1.2s
IL31 69.13 27 P P 07 36 16.6 +0.4
IL31 IAmb IAmb 07 36 30.0
comp=Z,3.2nm,1.3s
ILAR Eielson Array 69.13 27 P P 07 36 15.5 -0.7
comp=Z,0.4nm,0.4s,baz=290,slow=6.1,SNR=8.9
BMAR Burnt Mountain 69.47 24 P P 07 36 19.3 +1.0
SCM Sheep Creek Mo 69.57 30 P P 07 36 19.0 0.0
GLB Gilahina Butte 71.29 30 P P 07 36 29.7 +0.2
GLB IAmb IAmb 07 36 38.5
comp=Z,5.5nm,1.2s
VRDI Verde Repeater 71.52 31 P P 07 36 30.4 -0.7
VRDI IAmb IAmb 07 36 43.1
comp=Z,12nm,1.4s
BCAR Beaver Creek A 71.74 28 P P 07 36 32.5 +0.2
FINES FINESS Array B 71.77 330 P P 07 36 32.9 +0.5
comp=Z,1.8nm,0.7s,baz=58,slow=6.5,SNR=6.3
FINES FINESS Array B 71.77 330 P P 07 36 32.8 +0.4
TGL Tana Glacier 71.94 31 P P 07 36 33.9 +0.4
TGL IAmb IAmb 07 36 35.8
comp=Z,6.0nm,0.9s
WAX Waxell Ridge 72.02 31 P P 07 36 33.4 -0.6
BALM Baldy 72.09 31 P P 07 36 34.3 -0.2
BALM IAmb IAmb 07 36 35.2
comp=Z,5.1nm,1.3s
DAWY Dawson 72.45 27 P P 07 36 36.8 +0.3
DAWY IAmb IAmb 07 36 44.4
comp=Z,9.5nm,1.4s
CTGM Chitina Glacie 72.58 30 P P 07 36 37.0 -0.4
CTGM IAmb IAmb 07 36 48.3
comp=Z,11nm,1.2s
EPYK Eagle Plains 72.74 24 P P 07 36 38.2 0.0
INK Inuvik 73.18 22 P P 07 36 40.9 +0.2
comp=Z,2.3nm,0.8s,baz=286,slow=7.7,SNR=3.0
INK Inuvik 73.18 22 P P 07 36 41.1 +0.5
BRTR Keskin Array B 73.59 307 P P 07 36 45.1 +1.3
comp=Z,0.6nm,0.7s,baz=101,slow=6.0,SNR=2.8
BRTR Keskin Array B 73.59 307 P P 07 36 43.1 -0.8
YKA Yellowknife Ar 82.92 23 P P 07 37 34.8 0.0
comp=Z,2.1nm,0.7s,baz=311,slow=4.9,SNR=5.6

MURB Monte Urbino 86.68 316 P P 07 37 53.0 -1.3

NIED ***07*** *07:31:00,24.00N×121.70E,h5km,Mw4.4 Best double couple: M0=4.54000×1015 NP1:φ0=246.00000°,δ11.00000°, λ101.00000°. NP2:φ0=55.00000°,δ79.00000°,λ88.00000°.*
ISCJB ***07*** *07:31:40.8±0.2,24.042N±0.008×121.70E±0.01, h5km±1km,mb3.8/12,Error ellipse: s-maj=1.9km s-min=1.2km az=24.5*
NEIC ***07*** *07:31:40.8±1.9,24.07N±0.02×121.73E±0.03,h15km±2km, mb4.3/18,ML4.7(TAP)*
JMA ***07*** *07:31:40.9±0.1,24.04N×121.67E,h1km±1km,M3.8*
TAP ***07*** *07:31:41.2,24.06N×121.64E,h10km,ML4.5,C*
ASIES ***07*** *07:31:41.1,24.10N×121.57E,h14km,MW3.8*
BJI ***07*** *07:31:42.7±0.0,24.13N×121.62E,h15km,mb4.5/14, mB4.6/9,ML4.2/4,Ms4.2/14,Ms7 4.2/13*
IDC ***07*** *07:31:50.9±3.5,24.28N×122.25E,h103km±34km, mb3.5/10,mb1 3.6/10,mb1mx3.4/56,mbtmp3.8/10,MS3.2/5, Ms1 3.2/5,ms1mx2.9/43,Error ellipse: s-maj=24.7km s-min=14.1km az=64.0*
ISC 07 07:31:40.6±0.7,24.05N±0.01×121.69E±0.01,h14km±4km, n195,σ1§11/300,mb4.0/19,8C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=308	**0.09**	**287**	P	**Pg**	**07 31 43.3**	**-0.2**
TWD	baz=308			S	**Sg**	**07 31 44.6**	**-0.9**
HWA	**Hwalien** baz=196	**0.11**	**225**	⇑*e*P	**Pg**	**07 31 44.2**	**+0.5**
NACB	**Ninganchiao** baz=349	**0.15**	**324**	⇓P	**Pg**	**07 31 44.2**	**-0.1**
NACB	baz=349			S	**Sg**	**07 31 46.4**	**-0.4**
NACB	**Ninganchiao**	**0.15**	**324**		**Pg**	**07 31 44.1**	**-0.1**
NACB					**Sg**	**07 31 46.2**	**-0.6**
ENLB	**Shoufeng** baz=193	**0.17**	**208**	*e*P	**Pg**	**07 31 44.7**	**+0.1**
ENLB	baz=193			*e*S	**Sg**	**07 31 47.8**	**+0.5**
ETLH	**Xiulin Townshi** baz=316	**0.24**	**309**	⇓P	**Pg**	**07 31 45.8**	**0.0**
ETLH	baz=316			S	**Sg**	**07 31 49.2**	**-0.2**
ESL	**Shilin** baz=225	**0.33**	**224**	P	**Pg**	**07 31 47.4**	**0.0**
ESL	baz=225			*i* S	**Sg**	**07 31 51.8**	**-0.3**
ENA	**Nanau** baz=15	**0.38**	**7**	⇓*i*P	**Pb**	**07 31 48.8**	**-0.2**
ENA	baz=15			S	**Sb**	**07 31 54.2**	**-0.6**
NANB	**Nanao** baz=15	**0.38**	**9**	⇓*i*P	**Pb**	**07 31 48.8**	**-0.2**
NANB	baz=15			S	**Sb**	**07 31 54.1**	**-0.7**
WHF	**Hehuan Shan** baz=284	**0.40**	**283**	⇓*i*P	**Pg**	**07 31 48.6**	**-0.1**
WHF	baz=284			*i* S	**Sg**	**07 31 53.7**	**-0.5**
EGFH	**Guangfu** baz=213	**0.45**	**212**	*e*P	**Pg**	**07 31 50.1**	**+0.6**
EGFH	baz=213			S	**Sg**	**07 31 55.9**	**+0.3**
NNSB	**Datong** baz=327	**0.47**	**323**	⇓P	**Pb**	**07 31 50.2**	**-0.5**
NNSB	baz=327			S	**Sg**	**07 31 56.5**	**+0.4**
CHGB	**Renai** baz=261	**0.47**	**271**	⇓P	**Pg**	**07 31 50.2**	**+0.2**
CHGB	baz=261			S	**Sg**	**07 31 56.0**	**-0.3**
NNS	**Nan Shan** baz=328	**0.48**	**323**	⇓*i*P	**Pb**	**07 31 50.5**	**-0.4**
NNS	baz=328			S	**Sg**	**07 31 57.0**	**+0.4**
TWT	**Tachien** baz=293	**0.51**	**293**	⇓P	**Pb**	**07 31 51.2**	**-0.2**
TWT	baz=293			S	**Sg**	**07 31 57.8**	**+0.3**
TDCB	**Techi** baz=294	**0.52**	**292**	⇓P	**Pb**	**07 31 51.3**	**-0.4**
TDCB	baz=294			S	**Sg**	**07 31 57.8**	**-0.2**
NDT	**Datong Townshi** baz=348	**0.57**	**344**	⇓P	**Pb**	**07 31 52.6**	**+0.2**
NDT	baz=348			S	**Sb**	**07 32 00.1**	**-0.3**
TWC	**Suao** baz=12	**0.57**	**15**	⇓*i*P	**Pb**	**07 31 52.8**	**+0.4**
TWC	baz=12			S	**Sb**	**07 32 00.9**	**+0.5**
VWDT	**VWDT** baz=229	**0.58**	**239**	P	**Pb**	**07 31 52.6**	**0.0**
VWDT	baz=229			S	**Sg**	**07 31 59.8**	**+0.1**
ENTT	**Nioudou** baz=354	**0.59**	**349**	⇓*i*P	**Pb**	**07 31 53.0**	**+0.2**
ENTT	baz=354			*e*S	**Sb**	**07 32 01.2**	**+0.1**
HGSD	**Ruisui** baz=214	**0.61**	**203**	*e*P	**Pb**	**07 31 53.7**	**+0.7**
HGSD	baz=214			*e*S	**Sn**	**07 32 04.1**	**-0.4**
EOS1	**EOS1** baz=32	**0.64**	**39**	*e*P	**Pn**	**07 31 55.4**	**+0.3**
EHY	**Hungye** baz=215	**0.64**	**212**	P	**Pg**	**07 31 53.3**	**+0.2**
EHY	baz=215			S	**Sg**	**07 32 01.7**	**+0.1**
TWE	**Neicheng** baz=3.0	**0.66**	**358**	⇓P	**Pb**	**07 31 54.5**	**+0.5**
TWE	baz=3.0			S	**Sb**	**07 32 03.5**	**+0.5**
YHNB	**Yeheng** baz=338	**0.68**	**335**	⇓P	**Pb**	**07 31 54.5**	**+0.3**
YHNB	baz=338			S	**Sb**	**07 32 03.2**	**-0.3**
YHNB	**Yeheng**	**0.68**	**335**		**Pb**	**07 31 54.5**	**+0.3**
YHNB					**Sg**	**07 32 02.6**	**-0.1**
NSK	**Sanguang** baz=331	**0.69**	**334**	⇓*i*P	**Pb**	**07 31 54.7**	**+0.3**
NSK	baz=331			S	**Sb**	**07 32 03.5**	**-0.3**
DPDB	**Guoxing** baz=258	**0.70**	**268**	*e*P	**Pg**	**07 31 54.4**	**+0.2**
DPDB	baz=258			S	**Sg**	**07 32 03.2**	**-0.2**
SLBB	**Yuanshan** baz=350	**0.70**	**356**	⇓P	**Pg**	**07 31 54.2**	**0.0**
ILA	**Ilan** baz=9.0	**0.71**	**4**	*e*P	**Pb**	**07 31 55.3**	**+0.6**
ILA	baz=9.0			*e*S	**Sb**	**07 32 04.9**	**+0.5**
WHP	**Taichung City** baz=289	**0.71**	**288**	⇓P	**Pb**	**07 31 55.1**	**+0.2**
WHP	baz=289			*e*S	**Sb**	**07 32 04.8**	**+0.2**
SSLB	**Suanglung** baz=258	**0.72**	**249**	⇓P	**Pg**	**07 31 54.8**	**+0.2**
SSLB	baz=258			*e*S	**Sg**	**07 32 03.0**	**-1.1**
SSLB	**Suanglung**	**0.72**	**249**		**Pg**	**07 31 54.9**	**+0.2**
SSLB					**Sg**	**07 32 04.4**	**+0.3**
NWLT	**Wulai** baz=350	**0.74**	**347**	⇓P	**Pb**	**07 31 55.7**	**+0.4**
NWLT	baz=350			S	**Sb**	**07 32 05.2**	**-0.1**
SMLT	**Sun Moon Lake** baz=255	**0.74**	**257**	P	**Pb**	**07 31 55.3**	**0.0**
SMLT	baz=255			S	**Sg**	**07 32 04.8**	**0.0**
YULB	**Yu-li** baz=216	**0.75**	**209**	*e*P	**Pg**	**07 31 55.1**	**0.0**
YULB	baz=216			*e*S	**Sg**	**07 32 05.1**	**+0.1**
YULB	**Yu-li**	**0.75**	**209**		**Pg**	**07 31 55.5**	**+0.3**
YULB					**Sg**	**07 32 05.6**	**+0.6**
TYC	**Yuchr** baz=258	**0.78**	**259**	*e*P	**Pb**	**07 31 55.9**	**0.0**
TYC	baz=258			S	**Sg**	**07 32 05.0**	**-0.8**
TWF1	**Yuli** baz=215	**0.79**	**207**	*e*P	**Pg**	**07 31 55.9**	**0.0**
TWF1	baz=215			*e*S	**Sb**	**07 32 07.6**	**+1.0**
NTC	**Toucheng** baz=2.0	**0.81**	**9**	*e*P	**Pn**	**07 31 57.2**	**-0.4**
EGS	baz=26	**0.82**	**16**	*e*P	**Pn**	**07 31 57.7**	**0.0**
WHYT	**Xinyi Township** baz=251	**0.84**	**245**	*e*P	**Pb**	**07 31 57.7**	**+0.6**
WHYT	baz=251			*e*S	**Sb**	**07 32 08.6**	**+0.4**
LIOB	**Emei** baz=316	**0.85**	**314**	⇓P	**Pn**	**07 31 58.0**	**-0.2**
LIOB	baz=316			*e*S	**Sb**	**07 32 08.7**	**+0.3**
NSTT	**Nanjuang** baz=314	**0.85**	**313**	P	**Pn**	**07 31 57.8**	**-0.4**
NSTT	baz=314			*e*S	**Sg**	**07 32 07.6**	**-0.6**
YUS	**Yu-Shan** baz=228	**0.88**	**230**	P	**Pb**	**07 31 58.0**	**+0.1**
YUS	baz=228			*e*S	**Sb**	**07 32 09.8**	**+0.1**
TWQ1	**Liyutan** baz=302	**0.89**	**289**	*e*P	**Pn**	**07 31 58.9**	**+0.2**
TWQ1	baz=302			*e*S	**Sn**	**07 32 10.7**	**-0.7**
WLTB	**Daxi** baz=346	**0.89**	**334**	*e*P	**Pn**	**07 31 58.9**	**+0.2**
WLTB	baz=346			*e*S	**Sb**	**07 32 09.9**	**+0.3**
WJS	**Zhushan** baz=254	**0.91**	**255**	*e*P	**Pn**	**07 31 59.3**	**+0.3**
WJS	baz=254			*e*S	**Sn**	**07 32 11.6**	**-0.3**
NHDH	**Xindian Distri** baz=343	**0.92**	**351**	*e*P	**Pn**	**07 31 59.4**	**+0.3**
NHDH	baz=343			*e*S	**Sb**	**07 32 10.8**	**+0.4**
NSY	**Sanyi** baz=304	**0.92**	**293**	P	**Pn**	**07 31 59.7**	**+0.5**
NSY	baz=304			S	**Sn**	**07 32 11.5**	**-0.7**
TIPB	**Shuangxi** baz=2.0	**0.92**	**8**	*e*P	**Pn**	**07 31 59.4**	**+0.2**
TIPB	baz=2.0			*e*S	**Sn**	**07 32 11.3**	**-1.0**
FULB	**Fuli** baz=215	**0.93**	**203**	*e*P	**Pn**	**07 31 59.1**	**-0.1**
TWA	**Mucha** baz=347	**0.93**	**354**	P	**Pn**	**07 31 59.6**	**+0.3**
TWA	baz=347			*e*S	**Sb**	**07 32 10.5**	**-0.2**
TCU	**Taichung** baz=270	**0.93**	**276**	⇑*e*P	**Pn**	**07 32 00.4**	**+1.1**
TCU	baz=270			*e*S	**Sn**	**07 32 12.9**	**+0.5**
TATO	**Taipei**	**0.94**	**349**		**Pn**	**07 31 59.4**	**+0.1**
TATO					**Sg**	**07 32 10.4**	**-0.5**
WNT	**Mingjian** baz=258	**0.94**	**259**	⇑P	**Pn**	**07 32 00.1**	**+0.8**
WNT	baz=258			*e*S	**Sn**	**07 32 12.1**	**-0.5**
NMLH	**Miaoli** baz=301	**0.95**	**301**	*e*P	**Pn**	**07 32 00.5**	**+1.0**
NMLH	baz=301			*e*S	**Sn**	**07 32 13.2**	**+0.2**
SBCB	**Hsinchu** baz=320	**0.97**	**319**	*e*P	**Pn**	**07 32 00.9**	**+1.0**
SBCB	baz=320			*e*S	**Sn**	**07 32 14.3**	**+0.8**
PTSB	**Yuanli** baz=305	**0.98**	**294**	P	**Pn**	**07 32 01.2**	**+1.2**
PTSB	baz=305			S	**Sn**	**07 32 14.2**	**+0.5**
TWB1	**Santiao Chiao** baz=11	**0.99**	**16**	*e*P	**Pn**	**07 32 00.5**	**+0.4**
TWB1	baz=11			*e*S	**Sn**	**07 32 13.2**	**-0.7**
HSN	**Hsinchu** baz=323	**0.99**	**319**	*e*P	**Pn**	**07 32 00.5**	**+0.3**
HSN	baz=323			*e*S	**Sn**	**07 32 14.5**	**+0.6**
TAP	**Taipei** baz=344	**0.99**	**350**	*e*P	**Pn**	**07 32 00.7**	**+0.6**
TAP	baz=344			*e*S	**Sn**	**07 32 14.0**	**0.0**
CHKT	**Chengkung** baz=176	**1.00**	**197**	*e*P	**Pb**	**07 31 59.7**	**+0.1**
CHKT	baz=176			*e*S	**Sn**	**07 32 15.1**	**+1.1**
WDJ	**Dajia District** baz=297	**1.00**	**287**	*e*P	**Pn**	**07 32 01.6**	**+1.4**
WDJ	baz=297			*e*S	**Sn**	**07 32 14.5**	**+0.3**
NWF	**Wu-fen Shan** baz=6.0	**1.02**	**5**	*e*P	**Pn**	**07 32 01.6**	**+1.0**
WFSB	**Wu-fen Shan** baz=7.0	**1.02**	**5**	*e*P	**Pn**	**07 32 01.5**	**+1.0**
WFSB	baz=7.0			*e*S	**Sn**	**07 32 14.2**	**-0.4**
NCUH	**Zhongli** baz=346	**1.02**	**333**	*e*P	**Pn**	**07 32 01.9**	**+1.4**
NCUH	baz=346			*e*S	**Sn**	**07 32 15.9**	**+1.2**
NCU	**National Centr** baz=345	**1.02**	**333**	*e*P	**Pn**	**07 32 01.5**	**+1.0**
NCU	baz=345			*e*S	**Sn**	**07 32 14.5**	**-0.2**
CHN5	**Tsauling** baz=232	**1.03**	**244**	⇑P	**Pn**	**07 32 01.6**	**+0.9**
CHN5	baz=232			*e*S	**Sn**	**07 32 16.3**	**+1.2**
WCHH	**Zhanghua** baz=271	**1.03**	**272**	*e*P	**Pn**	**07 32 01.6**	**+1.0**
WCHH	baz=271			*e*S	**Sn**	**07 32 16.4**	**+1.5**
ELDTW	**Lidau** baz=203	**1.06**	**216**	*e*P	**Pb**	**07 32 00.3**	**-0.4**
ELDTW	baz=203			*e*S	**Sb**	**07 32 14.7**	**+0.1**
TWS1	**Kuangyinshan** baz=349	**1.07**	**347**	*e*P	**Pn**	**07 32 02.6**	**+1.4**
TWS1	baz=349			*e*S	**Sn**	**07 32 16.3**	**+0.4**
YM01	**YM01** baz=356	**1.09**	**354**	*e*P	**Pg**	**07 32 03.0**	**+1.3**
YM01	baz=356			*e*S	**Sn**	**07 32 17.5**	**+0.9**
WGK	**Gukeng** baz=250	**1.09**	**251**	*e*P	**Pg**	**07 32 02.6**	**+0.9**
WGK	baz=250			*e*S	**Sn**	**07 32 16.9**	**+0.4**
YM10	**YM10** baz=355	**1.10**	**354**	⇑*e*P	**Pg**	**07 32 03.0**	**+1.1**
YM10	baz=355			*e*S	**Sn**	**07 32 16.4**	**-0.4**
YM04	**YM04** baz=354	**1.10**	**353**	⇑*e*P	**Pg**	**07 32 03.0**	**+1.2**
YM04	baz=354			*e*S	**Sg**	**07 32 15.9**	**-0.4**
YM05	**YM05** baz=355	**1.11**	**354**	⇑P	**Pg**	**07 32 03.4**	**+1.4**
YM05	baz=355			*e*S	**Sn**	**07 32 17.6**	**+0.6**
YM11	**YM11** baz=356	**1.11**	**355**	P	**Pg**	**07 32 03.0**	**+1.0**
YM11	baz=356			*e*S	**Sn**	**07 32 18.2**	**+1.2**
WDLH	**Douliu** baz=250	**1.11**	**251**	*e*P	**Pg**	**07 32 02.8**	**+0.7**
WDLH	baz=250			*e*S	**Sn**	**07 32 18.2**	**+1.2**
NTST	**Danshui** baz=351	**1.13**	**349**	*e*P	**Pg**	**07 32 03.9**	**+1.6**
NTST	baz=351			*e*S	**Sn**	**07 32 19.7**	**+2.4**
YM08	**YM08** baz=342	**1.13**	**355**	*e*P	**Pg**	**07 32 03.2**	**+0.8**
YM08	baz=342			*e*S	**Sn**	**07 32 18.4**	**+0.9**
ANP	**Anpu** baz=354	**1.14**	**352**	*e*P	**Pg**	**07 32 02.9**	**+0.4**
JYNG	**Yonagunijimaku**	**1.21**	**71**	P	**Pg**	**07 32 04.5**	**+0.6**
JYNG				*e*S	**Sg**	**07 32 20.9**	**+1.1**
TWY	**Chenhua** baz=345	**1.22**	**356**	*e*P	**Pg**	**07 32 05.3**	**+1.3**
TWY	baz=345			*e*S	**Sg**	**07 32 21.4**	**+1.4**
CHN4	**Tsaushan** baz=222	**1.22**	**235**	P	**Pg**	**07 32 05.0**	**+0.8**
CHN4	baz=222			S	**Sg**	**07 32 22.2**	**+2.1**
CHN2	**Minshiung** baz=244	**1.23**	**245**	*e*P	**Pg**	**07 32 04.9**	**+0.7**
CHN2	baz=244			*e*S	**Sg**	**07 32 21.6**	**+1.4**
RLNB	**Erlin** baz=262	**1.23**	**263**	*e*P	**Pg**	**07 32 04.9**	**+0.7**
RLNB	baz=262			*e*S	**Sg**	**07 32 22.0**	**+1.8**
TPUB	**Ta-pu** baz=219	**1.23**	**233**	⇑P	**Pg**	**07 32 04.6**	**+0.3**
TPUB	baz=219			S	**Sg**	**07 32 20.7**	**+0.5**
TPUB	**Ta-pu**	**1.23**	**233**	Pn	**Pg**	**07 32 04.5**	**+0.3**
TPUB				Sn	**Sn**	**07 32 20.2**	**+0.4**
STYT	**Tauyuan** baz=222	**1.23**	**224**	P	**Pg**	**07 32 04.4**	**+0.1**
STYT	baz=222			*e*S	**Sb**	**07 32 19.9**	**+0.4**
WTP	**Ta-pu** baz=230	**1.27**	**231**	*e*P	**Pg**	**07 32 05.3**	**+0.2**
WTP	baz=230			*e*S	**Sg**	**07 32 22.3**	**+0.6**
YOJ	**Yonaguni jima** baz=72	**1.27**	**71**	*e*P	**Pg**	**07 32 05.2**	**+0.1**
YOJ	baz=72			*e*S	**Sg**	**07 32 22.8**	**+1.1**
YOJ	**Yonaguni jima**	**1.27**	**71**	P	**Pg**	**07 32 05.5**	**+0.4**
YOJ				*e*S	**Sg**	**07 32 23.6**	**+1.9**
YOJ	**Yonaguni jima**	**1.27**	**71**		**Pg**	**07 32 05.3**	**+0.2**
YOJ				Sn	**Sb**	**07 32 18.1**	**-2.5**
CHY	**Chiayi** baz=244	**1.28**	**245**	*e*P	**Pg**	**07 32 06.4**	**+1.1**
CHY	baz=244			*e*S	**Sg**	**07 32 23.7**	**+1.6**
WTCT	**Ta-ch'eng** baz=261	**1.30**	**262**	*e*P	**Pg**	**07 32 05.9**	**+0.3**
WTCT	baz=261			*e*S	**Sg**	**07 32 22.9**	**+0.3**
TWG	**Pinlang** baz=204	**1.35**	**205**	*e*P	**Pn**	**07 32 04.1**	**-1.0**
TWG	**Pinlang**	**1.35**	**205**	Pn	**Pn**	**07 32 03.8**	**-1.2**
TWG				Sn	**Sn**	**07 32 22.5**	**-0.3**
TWGBT	**Beinan** baz=210	**1.35**	**205**	*e*P	**Pn**	**07 32 04.0**	**-1.1**
TWGBT	baz=210			*e*S	**Sb**	**07 32 23.5**	**+0.6**
WMLT	**Mailiao** baz=247	**1.36**	**260**	*e*P	**Pb**	**07 32 06.1**	**+0.2**
WMLT	baz=247			*e*S	**Sg**	**07 32 24.9**	**+0.3**
CHN1	**Nanshi** baz=230	**1.37**	**231**	P	**Pg**	**07 32 07.1**	**+0.1**
CHN1	baz=230			*e*S	**Sg**	**07 32 25.5**	**+0.7**
SNST	**Tainan City** baz=233	**1.37**	**233**	*e*P	**Pg**	**07 32 07.0**	**0.0**
SNST	baz=233			*e*S	**Sg**	**07 32 25.3**	**+0.5**
TTN	**Taitung** baz=201	**1.39**	**201**	*e*P	**Pn**	**07 32 05.9**	**+0.4**
WLGB	**Puzi** baz=246	**1.40**	**246**	*e*P	**Pg**	**07 32 07.2**	**-0.3**
SGST	**Jiashian** baz=225	**1.40**	**227**	P	**Pb**	**07 32 06.9**	**+0.3**
SGST	baz=225			S	**Sg**	**07 32 27.1**	**+1.3**
WSF	**Szhu** baz=252	**1.41**	**253**	*e*P	**Pb**	**07 32 07.1**	**+0.5**
WSF	baz=252			*e*S	**Sg**	**07 32 26.1**	**+0.2**
SLGT	**Liugui** baz=223	**1.43**	**222**	*e*P	**Pg**	**07 32 07.9**	**-0.1**
CHN8	**Yiju** baz=243	**1.53**	**243**	*e*P	**Pg**	**07 32 09.6**	**-0.3**
CHN8	baz=243			*e*S	**Sg**	**07 32 30.3**	**+0.5**
ECL	**Taimali** baz=191	**1.60**	**205**	*e*P	**Pn**	**07 32 08.5**	**+0.1**
PCYT	**Pengchaiyu** baz=12	**1.61**	**12**	*e*P	**Pg**	**07 32 10.9**	**-0.6**
SSD	**Sandimen** baz=207	**1.62**	**217**	*e*P	**Pb**	**07 32 10.1**	**-0.2**
SCLT	**Jiali** baz=238	**1.63**	**238**	*e*P	**Pb**	**07 32 10.4**	**+0.1**
TWM1	**Shoushan** baz=224	**1.69**	**224**	*e*P	**Pg**	**07 32 12.9**	**-0.1**
MASBT	**Mashibuluo** baz=216	**1.73**	**214**	*e*P	**Pb**	**07 32 11.7**	**-0.5**
MASBT	baz=216			*e*S	**Sb**	**07 32 35.4**	**+1.6**
SNJT	**Kaohsiung City** baz=225	**1.79**	**224**	*e*P	**Pb**	**07 32 13.4**	**+0.1**
EAST	**Anshuo** baz=192	**1.83**	**205**	*e*P	**Pb**	**07 32 13.5**	**-0.5**
TAW	**Tawu** baz=204	**1.84**	**204**	*e*P	**Pb**	**07 32 14.6**	**+0.5**
SSPT	**Xinbi** baz=216	**1.87**	**214**	*e*P	**Pn**	**07 32 13.6**	**+1.4**
IRIF	**Iriomote-Funau**	**1.89**	**81**	P	**Pb**	**07 32 14.0**	**-0.8**
IRIF				*e*S	**Sb**	**07 32 39.3**	**+1.1**
SCZT	**Fangliau** baz=212	**1.94**	**211**	*e*P	**Pn**	**07 32 14.7**	**+1.5**
LAY	**Lan-yu** baz=181	**2.01**	**184**	*e*P	**Pn**	**07 32 13.4**	**-0.8**
PHUB	**P'eng-hu** baz=256	**2.01**	**255**	*e*P	**Pb**	**07 32 15.7**	**-1.3**
PHUB	baz=256			*e*S	**Sb**	**07 32 40.7**	**-1.1**
PNG	**Penghu** baz=256	**2.01**	**256**	*e*P	**Pn**	**07 32 15.6**	**+1.4**
WDGT	**Dungji** baz=247	**2.02**	**247**	*e*P	**Pn**	**07 32 15.7**	**+1.5**
WLCH	**Liuqiu** baz=235	**2.08**	**216**	*e*P	**Pg**	**07 32 20.0**	**-0.5**
TWP	**Hsiaoliuchiu** baz=235	**2.09**	**216**	*e*P	**Pb**	**07 32 17.2**	**-1.1**
JKRS	**Kuro-shima**	**2.13**	**85**	P	**Pb**	**07 32 18.3**	**-0.6**
JKRS				S	**Sb**	**07 32 45.8**	**+0.6**
HEN	**Hengchun** baz=191	**2.22**	**203**	*e*P	**Pn**	**07 32 18.6**	**+1.6**
VCHM	**Qimei** baz=234	**2.24**	**248**	*e*P	**Pn**	**07 32 18.3**	**+1.1**
VCHM	baz=234			*e*S	**Sn**	**07 32 46.4**	**+1.7**
VWUC	**VWUC** baz=295	**2.24**	**295**	*e*P	**Pn**	**07 32 18.0**	**+0.7**
VWUC	baz=295			*e*S	**Sn**	**07 32 44.1**	**-0.8**
TWK1	**Hengchun** baz=202	**2.25**	**201**	*e*P	**Pn**	**07 32 18.9**	**+1.5**
TWKBT	**Hengchun** baz=202	**2.25**	**201**	*e*P	**Pn**	**07 32 18.7**	**+1.2**
PTTC	**Pingtan** baz=295	**2.26**	**310**	*e*P	**Pn**	**07 32 18.7**	**+1.2**
JIJ	**Ishigaki jima**	**2.26**	**82**	P	**Pn**	**07 32 19.0**	**+1.4**
JIJ				*e*S	**Sn**	**07 32 46.5**	**+1.2**
TSEB	**Hengchuen, Pin** baz=185	**2.26**	**199**	*e*P	**Pn**	**07 32 19.0**	**+1.4**
JISG	**Ishigakijimahi**	**2.45**	**77**	P	**Pn**	**07 32 21.5**	**+1.3**
JISG				*e*S	**Sb**	**07 32 52.7**	**-1.8**
PTMZ	**Houxiangcun** baz=293	**2.54**	**293**	*e*P	**Pn**	**07 32 22.4**	**+1.0**
PTMZ	baz=293			*e*S	**Sn**	**07 32 51.3**	**-0.8**
MATB	**Ma-tsu** baz=323	**2.62**	**323**	*e*P	**Pn**	**07 32 23.3**	**+0.8**
QZH	**Quanzhou**	**2.96**	**288**	Pn	**Pn**	**07 32 28.1**	**+1.0**
QZH				Sn	**Sn**	**07 33 01.8**	**-0.6**
KNM	**Kinmen** baz=278	**2.99**	**278**	*e*P	**Pn**	**07 32 30.4**	**+2.7**
LYJJ	**Jianjiangzhen** baz=326	**3.04**	**325**	*e*P	**Pn**	**07 32 29.3**	**+1.1**
KNMB	**Chin-men Tao** baz=279	**3.04**	**278**	*e*P	**Pn**	**07 32 29.1**	**+0.8**
KNMB	**Chin-men Tao**	**3.04**	**278**	Pn	**Pn**	**07 32 29.2**	**+0.9**
KNMB				Sn	**Sn**	**07 33 06.1**	**+1.6**
MHZQ	**Yeshan** baz=297	**3.16**	**311**	*e*P	**Pn**	**07 32 31.1**	**+1.2**
XPSS	**Dashiqiu** baz=335	**3.17**	**335**	*e*P	**Pn**	**07 32 31.2**	**+1.1**
AXDP	**Jialang** baz=284	**3.49**	**285**	*e*P	**Pn**	**07 32 35.7**	**+1.2**
ZPLA	**Ao Xicun**	**3.60**	**269**	*e*P	**Pn**	**07 32 37.1**	**+1.0**

baz=268
JOW Kunigami 6.56 64 *e*P Pn **07 33 17.5 +0.7**
baz=70
JOW Kunigami 6.56 64 P Pn **07 33 17.4 +0.7**
0.7nm,0.3s,baz=150,slow=11,SNR=14
JOW Kunigami 6.56 64 Pn **07 33 17.4 +0.6**
JOW Sn **Sn 07 34 32.4 +1.0**
WHN Wuhan 9.18 316 P Pn 07 34 01.0 +8.3
WHN S **Sn 07 35 41.6 +5.7**
WHN LR LR
comp=N,2μm,8.8s
WHN LR LR
comp=E,2μm,10.2s
WHN LR LR
comp=Z,2μm,9.8s
GYA Guiyang 13.80 283 *e*P Pn **07 34 55.0 -1.1**
GYA S **Sn 07 37 25.4 -3.9**
GYA pmax pmax
comp=Z,110nm,4.2s
GYA LR LR
comp=N,320nm,11.8s
GYA LR LR
comp=E,690nm,10.6s
GYA LR LR
comp=Z,960nm,9.8s
KSRS Korea Array 14.38 20 P **P 07 35 12.6 +1.9**
0.4nm,0.3s,baz=202,slow=12,SNR=7.8
KSRS LR LR 07 41 16.6
comp=Z,57nm,18.2s,baz=215,slow=40
XAN Xi'an 14.94 315 P **Pn 07 35 13.7 +2.2**
XAN pP P 07 35 19.6 +2.6
XAN S **S 07 38 06.7 -8.1**
XAN pmax pmax
comp=Z,11nm,1.1s
XAN pmax pmax
comp=Z,200nm,9.6s
XAN LR LR
comp=N,150nm,4.5s
XAN LR LR
comp=E,590nm,11.0s
XAN LR LR
comp=Z,610nm,8.7s
DAV Davao City (W) 17.30 167 LR LR 07 42 54.9
comp=Z,113nm,19.1s,baz=26,slow=38
JCJ Chichijima 18.73 76 LR LR 07 42 59.7
comp=Z,75nm,18.3s,baz=324,slow=37
CMAR Chiang Mai Arr 21.91 260 P P 07 36 42.0 +8.5
0.9nm,0.3s,baz=69,slow=8.9,SNR=7.9
SBUM Sibu 23.35 205 P **P 07 36 49.2 +0.5**
SBUM IAmb IAmb 07 37 01.2
comp=Z,5.9nm,1.3s
GTA Gaotai 24.00 315 *e*P **P 07 36 50.0 -5.1**
GTA pP sP 07 37 01.3 0.0
GTA sP pP 07 37 06.7 +7.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,61nm,6.2s
GTA LR LR
comp=N,160nm,12.7s
GTA LR LR
comp=E,350nm,12.7s
GTA LR LR
comp=Z,440nm,14.0s
GUMO Guam 24.25 111 P **P 07 36 56.4 -1.0**
SIJI Sorong 26.46 158 LR LR 07 49 14.9
comp=Z,46nm,18.8s,baz=336,slow=39
SONM Songino Array 26.67 337 P **P 07 37 20.5 +1.3**
comp=Z,14nm,0.8s,baz=151,slow=10,SNR=6.0
SONM Songino Array 26.67 337 P **P 07 37 19.9 +0.8**
KAPI Kappang 28.95 184 LR LR 07 49 24.5
comp=Z,35nm,18.2s,baz=20,slow=36
WMQ Urumqi 34.08 314 *e*P **P 07 38 27.6 +2.9**
WMQ pP sP 07 38 33.5 +2.9
WMQ sP pP 07 38 37.8 +8.7
WMQ pmax pmax
comp=Z,13nm,0.6s
WMQ pmax pmax
comp=Z,88nm,4.1s
WMQ LR LR
comp=Z,170nm,18.5s
WMQ LR LR
comp=Z,2μm,19.7s
WMQ LR LR
comp=Z,120nm,21.3s
MK31 Makanchi Array 38.75 316 P **P 07 39 03.6 -0.9**
MKAR Makanchi Array 38.75 316 P **P 07 39 06.4 +1.9**
comp=Z,1.6nm,0.8s,baz=104,slow=9.7,SNR=6.5
MKAR Makanchi Array 38.75 316 P **P 07 39 05.2 +0.7**
ZALV Zalesovo Beam 40.60 327 P **P 07 39 20.4 +0.6**
comp=Z,0.7nm,0.3s,baz=118,slow=6.9,SNR=3.5
ZALV Zalesovo Beam 40.60 327 P **P 07 39 20.2 +0.4**
WRA Warramunga Arr 45.44 163 P **P 07 39 59.5 +0.2**
comp=Z,0.9nm,0.5s,baz=345,slow=8.6,SNR=8.2
WRA Warramunga Arr 45.44 163 P **P 07 40 00.2 +1.0**
WB2 Warramunga Arr 45.44 163 P **P 07 39 59.3 +0.1**
WB2 IAmb IAmb 07 40 05.4
comp=Z,4.0nm,1.1s
WR0 Warramunga Arr 45.51 163 P **P 07 40 00.1 +0.3**
WR0 IAmb IAmb 07 40 08.8
comp=Z,6.4nm,1.2s
KK31 Karatay Array 45.91 307 P **P 07 40 03.2 +0.3**
KKAR Karatay Array 45.91 307 P **P 07 40 03.6 +0.7**
AS31 Alice Springs 48.90 165 P **P 07 40 26.7 +0.4**
ASAR Alice Springs 48.90 165 P **P 07 40 27.1 +0.9**
comp=Z,0.8nm,0.5s,baz=342,slow=6.7,SNR=8.8
ASAR Alice Springs 48.90 165 P **P 07 40 26.5 +0.3**
ABKAR Akbulak array 53.86 314 P **P 07 41 02.5 -0.7**
ABKAR Akbulak array 53.86 314 P **P 07 41 04.5 +1.3**
ABKAR IAmb IAmb 07 41 17.3
comp=Z,2.4nm,1.1s
TARA Tarawa 54.43 107 P **P 07 41 06.1 -1.7**
GEYT Alibeck 55.26 300 P **P 07 41 13.7 +0.1**
STKA Stephens Creek 58.78 160 P **P 07 41 38.8 +0.4**
comp=Z,2.2nm,0.8s,baz=320,slow=7.9,SNR=2.7
STKA Stephens Creek 58.78 160 P **P 07 41 39.0 +0.6**
STKA IAmb IAmb 07 41 42.3
comp=Z,1.8nm,1.2s
PMR Palmer 68.76 31 P **P 07 42 43.9 0.0**
ILAR Eielson Array 69.12 27 P **P 07 42 43.1 -2.9**
comp=Z,0.2nm,0.5s,baz=269,slow=5.3,SNR=5.8
ILAR Eielson Array 69.12 27 P **P 07 42 45.2 -0.9**
BMAR Burnt Mountain 69.45 24 P **P 07 42 46.2 -1.9**
SCM Sheep Creek Mo 69.55 30 P **P 07 42 49.6 +0.7**
SCM IAmb IAmb 07 42 52.0
comp=Z,4.7nm,0.7s
MCARA McCarthy VSAT 71.66 30 P **P 07 43 00.5 -1.2**
MCARA IAmb IAmb 07 43 06.5
comp=Z,5.9nm,0.8s
BCAR Beaver Creek A 71.73 28 P **P 07 43 01.7 -0.5**
FINES FINESS Array B 71.79 330 P **P 07 43 02.5 +0.1**
comp=Z,0.3nm,0.4s,baz=112,slow=11,SNR=3.9
DAWY Dawson 72.44 27 P **P 07 43 07.7 +1.3**
DAWY IAmb IAmb 07 43 16.3
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 73.62 307 P **P 07 43 15.3 +1.4**
comp=Z,0.3nm,0.5s,baz=74,slow=6.6,SNR=2.7

*IDC **07** 07:31:47.1±0.8, 9°.82N×124°.12E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/49, mbtmp3.9/9, MS3.7/2, Ms1 3.6/2, ms1mx2.8/45, Error ellipse: s-maj=39.1km s-min=16.8km az=72.0*
*NEIC **07** 07:31:48.6±1.3, 9°.83N±0°.07×124°.0E±0°.2, h10km±4km, mb4.5/14*
*ISCJB **07** 07:31:49.2±0.8, 9°.81N±0°.03×124°.03E±0°.05, h26km±5km, mb3.8/9, MS3.7/2, Error ellipse: s-maj=8.5km s-min=4.6km az=172.4*
*MAN **07** 07:31:49.2, 9°.79N×123°.93E, h14km, MS3.4*
ISC 07 07:31:48.3±1.9, 9°.81N±0°.04×123°.99E±0°.07, h10km±12km, n41, σ1§20/45, mb4.2/16, 5C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.51**	**358**	⇓*i*P	**Pb**	**07 31 59.5**	**+0.2**
LLP				*i*S	**Sb**	**07 32 07.4**	**+0.6**
SNPH	**Sibulan**	**0.87**	**238**	⇓*i*P	**Pg**	**07 32 05.0**	**-0.1**
SNPH				*i*S	**Sg**	**07 32 16.3**	**-0.1**
DCPH	**Dipolog City**	**1.37**	**207**	⇑*e*P	**Pn**	**07 32 13.5**	**+0.1**
DCPH				*e*S	**Sb**	**07 32 30.8**	**-0.6**
CGP	**Cagayan de Oro**	**1.51**	**152**	⇑*e*P	**Pn**	**07 32 14.9**	**-0.5**
CGP				*i*S	**Sn**	**07 32 34.3**	**-0.9**
RCP	**Roxas**	**2.13**	**325**	⇑*e*P	**Pn**	**07 32 24.6**	**+0.7**
RCP				*e*S	**Sb**	**07 32 52.0**	**-1.5**
JAP	**San Jose, Anti**	**2.21**	**295**	⇓*e*P	**Pb**	**07 32 27.8**	**-0.6**
CTBH	**Cotabato--PC H**	**2.58**	**174**	⇑*i*P	**Pn**	**07 32 31.1**	**+1.0**
CTBH				*i*S	**Sn**	**07 33 03.0**	**+1.5**
KCP	**Kidapawan**	**2.98**	**158**	⇑*e*P	**Pn**	**07 32 35.8**	**+0.1**
IPM	**Ipoh**	**23.38**	**259**	P	**P**	**07 36 57.8**	**+0.4**
IPM				IAmb	IAmb	07 36 58.7	
comp=Z,10nm,0.8s							
PBKT	**Sadao Pong**	**23.38**	**289**	P	**P**	**07 36 57.8**	**+0.4**
KULM	**Kulim**	**23.56**	**261**	P	**P**	**07 36 59.4**	**+0.3**
KULM				IAmb	IAmb	07 37 00.7	
comp=Z,8.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**25.74**	**292**	P	**P**	**07 37 21.6**	**+2.4**
comp=Z,1.2nm,0.3s,baz=97,slow=7.4,SNR=4.9							
KSRS	**Korea Array**	**27.76**	**7**	P	**P**	**07 37 38.3**	**+1.2**
comp=Z,1.8nm,0.7s,baz=187,slow=10,SNR=3.4							
FITZ	**Fitzroy Crossi**	**27.77**	**177**	P	**P**	**07 37 40.8**	**+3.3**
WRAB	**Tennant Creek**	**31.26**	**161**	P	**P**	**07 38 10.3**	**+1.8**
WRAB				IAmb	IAmb	07 38 27.9	
comp=Z,18nm,1.7s							
WRA	**Warramunga Arr**	**31.27**	**161**	P	**P**	**07 38 09.0**	**+0.4**
comp=Z,0.3nm,0.7s,baz=332,slow=10,SNR=3.1							
WRA	**Warramunga Arr**	**31.27**	**161**	P	**P**	**07 38 10.4**	**+1.9**
WB2	**Warramunga Arr**	**31.27**	**161**	P	**P**	**07 38 09.1**	**+0.6**
WB2				IAmb	IAmb	07 38 10.5	
comp=Z,6.3nm,1.1s							
WR0	**Warramunga Arr**	**31.35**	**161**	P	**P**	**07 38 09.2**	**0.0**
ASAR	**Alice Springs**	**34.65**	**164**	P	**P**	**07 38 38.5**	**+0.4**
comp=Z,0.5nm,0.5s,baz=341,slow=7.0,SNR=7.7							
ASAR	**Alice Springs**	**34.65**	**164**	P	**P**	**07 38 36.0**	**-2.1**
USRK	**Ussuriysk Ar.**	**34.96**	**10**	P	**P**	**07 38 40.2**	**-0.3**
comp=Z,2.6nm,0.8s,baz=186,slow=12,SNR=3.9							
USRK	**Ussuriysk Ar.**	**34.96**	**10**	P	**P**	**07 38 39.6**	**-0.9**
SONM	**Songino Array**	**40.71**	**342**	P	**P**	**07 39 29.8**	**+0.5**
comp=Z,0.5nm,0.7s,baz=157,slow=9.4,SNR=2.2							
BBOO	**Buckleboo**	**43.91**	**165**	P	**P**	**07 39 55.3**	**0.0**
STKA	**Stephens Creek**	**44.74**	**159**	LR	LR	08 02 36.6	
comp=Z,95nm,19.8s,baz=25,slow=41							
PETK	**Petropavlovsk-**	**51.01**	**26**	P	**P**	**07 40 50.6**	**+0.4**
MK31	**Makanchi Array**	**51.06**	**324**	P	**P**	**07 40 51.3**	**+0.5**
MKAR	**Makanchi Array**	**51.06**	**324**	P	**P**	**07 40 51.8**	**+0.9**
comp=Z,2.4nm,0.7s,baz=122,slow=8.7,SNR=7.1							
MKAR	**Makanchi Array**	**51.06**	**324**	P	**P**	**07 40 51.2**	**+0.4**
ZALV	**Zalesovo Beam**	**53.98**	**333**	P	**P**	**07 41 12.5**	**+0.3**
comp=Z,1.0nm,0.4s,baz=120,slow=7.2,SNR=3.2							
KURK	**Kurchatov**	**55.19**	**327**	P	**P**	**07 41 21.1**	**-0.1**
KURK				IAmb	IAmb	07 41 25.7	
comp=Z,7.0nm,1.2s							
KURBB	**Kurchatov Arra**	**55.20**	**326**	P	**P**	**07 41 21.9**	**+0.7**
comp=Z,0.5nm,0.3s,baz=117,slow=7.9,SNR=4.2							
KK31	**Karatay Array**	**56.99**	**315**	P	**P**	**07 41 31.7**	**-2.5**
KK31				IAmb	IAmb	07 42 09.6	
comp=Z,5.5nm,1.4s							
KKAR	**Karatay Array**	**56.99**	**315**	P	**P**	**07 41 34.6**	**+0.4**
KKAR	**Karatay Array**	**56.99**	**315**	P	**P**	**07 41 31.7**	**-2.5**
KKAR				IAmb	IAmb	07 42 09.6	
comp=Z,5.5nm,1.4s							
ABKAR	**Akbulak array**	**65.77**	**320**	P	**P**	**07 42 33.6**	**+0.2**
KBZ	**Khabaz**	**76.87**	**313**	LR	LR	08 23 32.8	
comp=Z,38nm,18.5s,baz=26,slow=40							
PAX	**Paxson**	**81.59**	**28**	P	**P**	**07 44 04.4**	**-1.9**
TORD	**Torodi Ar. Bea**	**118.34**	**291**	PKP	**PKPdf**	**07 50 36.3**	**-0.7**
comp=Z,0.4nm,0.7s,baz=8.5,slow=2.9,SNR=2.9							
PLCA	**Paso Flores**	**146.61**	**160**	PKPbc	**PKPbc**	**07 51 30.2**	**-0.4**
comp=Z,3.9nm,1.1s,baz=243,slow=2.3,SNR=3.7							

*NEIC **07** 07:42:54.2±1.2, 51°.51N±0°.04×174°.66W±0°.02, h32km±7km*
AEIC 07 07:42:53±1.8, 51°.55N±0°.07×174°.74W±0°.05, h17km±6km, mb4.3/12(NEIC), Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.73**	**27**		Pg	07 43 07.7	+0.4
ATKA					Sg	07 43 17.7	+0.7
KOFP	**Korovin Flat P**	**0.82**	**29**		Pn	07 43 09.7	-0.1
KOKL	**Mount Kliuchef**	**0.84**	**23**		Pn	07 43 09.9	-0.2
GSIG	**Igitkin Island**	**0.87**	**301**		Pn	07 43 10.3	0.0
KOWE	**Korovin West**	**0.87**	**20**		Pn	07 43 10.6	+0.2
KOSE	**Korovin Southe**	**0.90**	**28**		Pn	07 43 11.1	+0.2
KOSE					Sn	07 43 24.0	+0.5
GSMY	**Great Sitkin M**	**0.95**	**301**		Pn	07 43 11.8	+0.2
GSTR	**Great Sitkin T**	**0.98**	**304**		Pg	07 43 12.6	+0.5
GSTR					Sn	07 43 26.9	+1.3
GSTD	**Great Sitkin T**	**1.01**	**300**		Pg	07 43 12.7	+0.2
GSTD					Sn	07 43 27.1	+0.8
ADK	**Adak**	**1.25**	**286**		Pn	07 43 15.7	0.0
ADK				Sn	Sb	07 43 32.0	0.0
KIWB	**Kanaga Island**	**1.53**	**282**	Pn	Pn	07 43 19.6	0.0
KIWB					Sb	07 43 39.6	-0.4
KIMD	**Kanaga Island**	**1.57**	**279**		Pn	07 43 20.5	+0.4
UNV	**Unalaska Valle**	**5.51**	**62**	Pn	Pn	07 44 14.0	-0.1
UNV				Sn	Sn	07 45 15.5	-1.5
OHAK	**Old Harbor**	**13.70**	**57**	Pn	Pn	07 46 05.1	-1.1
KDAK	**Kodiak Island**	**14.21**	**55**	Pn	Pn	07 46 11.9	-1.4
CNPM	**China Poot**	**15.44**	**50**	Pn	Pn	07 46 29.4	-0.4
BRLK	**Bradley Lake**	**15.69**	**49**	Pn	Pn	07 46 32.3	-0.8
BRLK				IAmb	IAmb	07 47 23.0	
comp=Z,30nm,1.4s							
SEW	**Seward**	**16.49**	**49**	Pn	Pn	07 46 41.0	-2.2
SEW				IAmb	IAmb	07 47 36.2	
comp=Z,50nm,1.8s							
GHO	**Glory Hole Cre**	**17.36**	**44**	Pn	Pn	07 46 53.2	-1.0
GHO				IAmb	IAmb	07 47 25.5	
comp=Z,46nm,1.8s							
TRF	**Thorofare Moun**	**17.59**	**38**	IAmb	IAmb	07 46 54.7	
comp=Z,38nm,1.8s							
TRF				Pn	Pn	07 46 54.9	-2.2
HIN	**Hinchinbrook I**	**17.98**	**50**	Pn	Pn	07 46 59.7	-2.2
HDA	**Harding Lake**	**19.35**	**38**	P	P	07 47 16.7	-0.6
GLB	**Gilahina Butte**	**19.54**	**48**	P	P	07 47 18.9	-0.6
GLB				IAmb	IAmb	07 48 06.0	
comp=Z,32nm,1.9s							
IL31		**19.55**	**37**	P	P	07 47 19.4	0.0
ILAR	**Eielson Array**	**19.55**	**37**	P	P	07 47 19.2	-0.3
DOT	**Dot Lake**	**20.17**	**41**	P	P	07 47 25.7	-0.6
CTGM	**Chitina Glacie**	**20.58**	**50**	P	P	07 47 30.1	-0.8
DAWY	**Dawson**	**22.25**	**42**	P	P	07 47 49.0	+0.2
DAWY				IAmb	IAmb	07 48 20.7	
comp=Z,18nm,1.9s							
MCMT	**McKenzie Canyo**	**40.70**	**74**	P	P	07 50 32.0	-0.7
PDAR	**Pinedale Array**	**43.82**	**75**	P	P	07 50 56.9	-1.2
TXAR	**Lajitas Array**	**56.11**	**84**	P	P	07 52 32.3	+0.9

*SOME **07** 07:51:22.1, 39°.48N×74°.28E, h5km*
*KRNET **07** 07:51:25.0±0.1, 39°.41N×74°.15E, mb3.5*
*NNC **07** 07:51:27.0±2.4, 39°.77N×74°.41E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=17.9km s-min=10.3km az=162.0*
ISC 07 07:51:19.9±2.1, 39°.49N±0°.08×74°.23E±0°.03, h11km±14km, n47, σ1§83/75, 26C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**2.07**	**333**	⇑*i*P	**Pg**	**07 52 02.1**	**+2.6**
baz=35							
ARSB				⇑*i*S	**Sg**	**07 52 29.0**	**+2.6**
baz=35							
NRN	**Naryn**	**2.37**	**34**	⇑*i*P	**Pg**	**07 52 06.6**	**+1.3**
baz=34							
NRN				⇑*i*S	**Sg**	**07 52 37.1**	**+1.1**
baz=34							
ARLS	**Aral**	**2.37**	**2**	⇓*i*P	**Pg**	**07 52 06.9**	**+1.5**
baz=3.0							
ARLS				⇓*i*S	**Sg**	**07 52 38.0**	**+1.9**
baz=3.0							
AML	**Almayashu**	**2.67**	**351**	⇓*e*P	**Pg**	**07 52 11.1**	**0.0**
baz=53							
AML				⇓*i*S	**Sg**	**07 52 44.9**	**-0.9**
baz=53							
AML	**Almayashu**	**2.67**	**351**	P	**Pg**	**07 52 11.9**	**+0.7**
SNR=11							
BTK	**Batken**	**2.69**	**283**	⇓*e*P	**Pb**	**07 52 09.8**	**+1.6**
baz=85							
BTK				⇓*i*S	**Sb**	**07 52 42.3**	**+1.1**
baz=85							
KZA	**Kyzart**	**2.70**	**16**	⇑*i*P	**Pg**	**07 52 12.1**	**+0.4**
baz=17							
KZA				⇑*i*S	**Sg**	**07 52 46.2**	**-0.5**
baz=17							
KZA	**Kyzart**	**2.70**	**16**	P	**Pg**	**07 52 12.9**	**+1.3**
SNR=9.2							
UCH	**Uchtor**	**2.75**	**4**	⇑*i*P	**Pg**	**07 52 12.5**	**0.0**
baz=5.0							
UCH				⇑*i*S	**Sg**	**07 52 47.1**	**-1.0**
baz=5.0							
UCH	**Uchtor**	**2.75**	**4**	P	**Pg**	**07 52 13.2**	**+0.7**
SNR=53							
ARK	**Arkit**	**2.88**	**324**	⇓*i*P	**Pb**	**07 52 12.8**	**+1.4**
baz=26							
ARK				⇓*i*S	**Sb**	**07 52 48.1**	**+1.4**
baz=26							
ULHL	**Ulahol**	**3.15**	**28**	⇑*e*P	**Pg**	**07 52 18.0**	**-2.2**
baz=29							
ULHL				⇑*i*S	**Sb**	**07 52 56.3**	**+1.8**
baz=29							
ULHL	**Ulahol**	**3.15**	**28**	P	**Pg**	**07 52 21.6**	**+1.3**
SNR=6.8							
AAK	**Ala-Archa**	**3.15**	**4**	⇑Pg	**Pg**	**07 52 19.8**	**-0.5**
23nm,0.5s							
AAK				⇑Lg	Lg	07 52 59.8	
18nm,0.5s							
AAK	**Ala-Archa**	**3.15**	**4**	⇑*e*P	**Pb**	**07 52 18.0**	**+1.9**
baz=5.0							
AAK				⇑*i*S	**Sb**	**07 52 56.6**	**+2.0**
baz=5.0							
AAK	**Ala-Archa**	**3.15**	**4**	P	**Pg**	**07 52 21.1**	**+0.8**
SNR=6.8							
EKS2	**Erkin-Say**	**3.19**	**354**	⇓*i*P	**Pb**	**07 52 18.2**	**+1.5**
baz=55							
EKS2				⇓*i*S	**Sb**	**07 52 57.1**	**+1.5**
baz=55							
EKS2	**Erkin-Say**	**3.19**	**354**	P	**Pg**	**07 52 19.5**	**-1.5**
SNR=6.7							
BOOM	**Boomskoye usch**	**3.27**	**23**	⇑*e*P	**Pb**	**07 52 19.6**	**+1.6**
baz=23							
BOOM				⇑*i*S	**Sb**	**07 52 59.2**	**+1.3**
baz=23							
FRU1	**Bishkek**	**3.33**	**5**	⇑*i*P	**Pb**	**07 52 19.9**	**+0.8**
baz=6.0							
FRU1				⇑*i*S	**Sb**	**07 53 00.6**	**+0.9**
baz=6.0							
MRKS	**Merke**	**3.34**	**347**	Pg	**Pb**	**07 52 21.3**	**+2.1**
11nm,0.4s							
MRKS				Lg	Lg	07 53 03.3	
26nm,0.5s							
MRKS	**Merke**	**3.34**	**347**	*e*P	**Pg**	**07 52 23.6**	**-0.3**
15nm,0.4s							
MRKS				*e*S	**Sg**	**07 53 05.8**	**-1.4**
26nm,0.5s							
KDJ	**Kajisay**	**3.46**	**39**	⇑*e*P	**Pb**	**07 52 22.3**	**+1.0**
baz=39							
KDJ				⇑*i*S	**Sb**	**07 53 04.3**	**+0.8**
baz=39							
CHMS	**Chumysh**	**3.53**	**6**	⇑*e*P	**Pb**	**07 52 23.3**	**+0.9**
baz=7.0							
CHMS				⇑*i*S	**Sb**	**07 53 05.5**	**+0.2**
baz=7.0							
TKM2	**Tokmak 2**	**3.58**	**16**	⇓Pg	**Pb**	**07 52 25.7**	**+2.3**
3.5nm,0.4s							
TKM2				⇓Lg	Lg	07 53 12.7	
20nm,0.6s							
TKM2	**Tokmak 2**	**3.58**	**16**	⇑*i*P	**Pb**	**07 52 24.4**	**+1.0**
baz=17							
TKM2				⇑*i*S	**Sb**	**07 53 06.9**	**-0.1**
baz=17							
USP	**Ospenovka**	**3.78**	**3**	P	**Pg**	**07 52 32.2**	**-0.1**
SNR=9.0							
KST	**Kastek**	**3.78**	**20**	Pg	**Pb**	**07 52 27.6**	**+0.8**
9.7nm,0.4s							
KST				Lg	Lg	07 53 14.1	
36nm,0.7s							
KST	**Kastek**	**3.78**	**20**	*e*P	**Pb**	**07 52 29.3**	**+2.5**
10nm,0.5s							
KST				*e*S	**Sb**	**07 53 15.9**	**+3.2**
38nm,0.7s							
DGS	**Degeres**	**3.92**	**17**	Pg	**Pb**	**07 52 30.1**	**+0.9**
6.0nm,0.4s							
DGS				Lg	Lg	07 53 18.0	
18nm,0.6s							
DGS	**Degeres**	**3.92**	**17**	*e*P	**Pg**	**07 52 34.0**	**-1.1**
8.7nm,0.4s							
DGS				*e*S	**Sg**	**07 53 23.6**	**-2.3**
18nm,0.6s							
SGDS	**Sogindy**	**3.97**	**4**	Pg	**Pg**	**07 52 33.2**	**-2.8**
7.5nm,0.4s							
SGDS				Lg	Lg	07 53 23.8	
9.8nm,0.8s							
IZV	**Izvestkoviy**	**3.97**	**26**	Pg	**Pg**	**07 52 35.1**	**-1.0**
13nm,0.6s							
IZV				Lg	Lg	07 53 26.6	
31nm,0.7s							
IZV	**Izvestkoviy**	**3.97**	**26**	*e*P	**Pg**	**07 52 33.5**	**-2.5**
13nm,0.6s							
IZV				*e*S	**Sb**	**07 53 22.9**	**+4.7**
31nm,0.7s							
TNSS	**Tian-Shan**	**4.09**	**29**	Pg	**Pg**	**07 52 36.8**	**-1.5**
23nm,0.4s							
TNSS				Lg	Lg	07 53 30.4	
15nm,0.5s							
TNSS	**Tian-Shan**	**4.09**	**29**	*e*P	**Pg**	**07 52 38.3**	**-0.1**
23nm,0.4s							
TNSS				*e*S	**Sg**	**07 53 30.8**	**-0.6**
16nm,0.7s							
MDOK	**Medeo**	**4.24**	**29**	*e*P	**Pg**	**07 52 40.8**	**-0.4**
16nm,0.5s							
MDOK				*e*S	**Sg**	**07 53 35.3**	**-0.8**
18nm,1.0s							
KK31	**Karatay Array**	**4.57**	**323**	⇓Pn	**Pb**	**07 52 37.0**	**-3.1**
0.4nm,0.3s,baz=121,slow=13,SNR=6.8							
KK31				⇓Pg	**Pg**	**07 52 47.2**	**-0.2**
1.6nm,0.4s,baz=126,slow=17,SNR=10							
KK31				⇓Sn	**Sb**	**07 53 30.5**	**-4.7**
2.5nm,0.4s,baz=134,slow=22,SNR=4.3							
KK31				⇑Lg	Lg	07 53 46.7	
17nm,1.0s,baz=144,slow=27,SNR=4.5							
KTBS	**Karatobe**	**4.60**	**23**	Pg	**Pg**	**07 52 46.2**	**-1.8**
4.9nm,0.3s							
KTBS				Lg	Lg	07 53 46.1	
16nm,0.5s							
KTBS	**Karatobe**	**4.60**	**23**	*e*P	**Pg**	**07 52 47.0**	**-1.0**
4.9nm,0.3s							
KTBS				*e*S	**Sg**	**07 53 46.0**	**-1.6**
16nm,0.5s							
KUU	**Kurty**	**4.67**	**19**	Pg	**Pg**	**07 52 46.1**	**-3.4**
2.3nm,0.4s							
KUU				Lg	Lg	07 53 45.8	
12nm,0.5s							
KUU	**Kurty**	**4.67**	**19**	*e*P	**Pg**	**07 52 47.6**	**-1.8**
2.3nm,0.4s							
KUU				*e*S	**Sg**	**07 53 46.6**	**-3.3**
25nm,0.6s							
CHKK	**Chushkaly**	**4.83**	**24**	Pg	**Pg**	**07 52 50.3**	**-2.0**
3.6nm,0.4s							
CHKK				Lg	Lg	07 53 52.6	
10nm,0.6s							
CHKK	**Chushkaly**	**4.83**	**24**	*e*P	**Pg**	**07 52 51.3**	**-1.0**
3.6nm,0.5s							
CHKK				*e*S	**Sg**	**07 53 52.6**	**-2.2**
15nm,0.6s							
ARXS	**Arharly**	**5.43**	**28**	Pg	**Pg**	**07 53 01.3**	**-2.6**
5.0nm,0.4s							
ARXS				Lg	Lg	07 54 11.4	
7.1nm,0.6s							
ARXS	**Arharly**	**5.43**	**28**	*e*P	**Pg**	**07 53 02.4**	**-1.5**
5.1nm,0.5s							
ARXS				*e*S	**Sg**	**07 54 11.4**	**-2.8**
7.1nm,0.6s							
AB31	**Akbulak array**	**14.11**	**318**	⇑Pn	**P**	**07 54 46.3**	**-1.1**
0.7nm,0.7s,baz=124,slow=14,SNR=6.9							

*SOME **07** 07:55:44.8, 43°.27N×80°.22E, h15km*
*KRNET **07** 07:55:46.4±0.1, 43°.29N×80°.22E, h17km, mb3.5*
*NNC **07** 07:55:46.0±0.7, 43°.31N×80°.14E, h7km±3km, mb3.6, mpv3.4, Error ellipse: s-maj=5.2km s-min=2.5km az=133.0*
*ISCJB **07** 07:55:47.9±0.8, 43°.28N±0°.03×80°.20E±0°.06, h10km, Error ellipse: s-maj=6.5km s-min=3.9km az=32.0*
ISC 07 07:55:45.7±1.3, 43°.23N±0°.04×80°.18E±0°.05, h10km, n57, σ1§81/89, 25C-17D, Kazakhstan-Xinjiang border region

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

SHLS			⇑iS		Sg	07 55 56.0	-7.0
	baz=42						
SHLS	**Shalkode**	**0.53 262**	⇓iP		Pg	07 55 51.3	-4.7
	312nm,0.1s						
SHLS			⇑iS		Sg	07 55 56.0	-7.0
	1μm,0.3s						
UZB	**Uzynbulak**	**0.85 265**	⇑iP		Pg	07 56 01.9	-0.2
	baz=61						
UZB			⇑iS		Sb	07 56 14.0	-0.1
	baz=61						
UZB	**Uzynbulak**	**0.85 265**	⇑iP		Pg	07 56 01.9	-0.2
	76nm,0.3s						
UZB			⇑iS		Sb	07 56 14.0	-0.1
	190nm,0.1s						
KPKS	**Kokpek**	**1.12 283**	eP		Pb	07 56 06.7	-0.5
	baz=78						
KPKS			eS		Sb	07 56 22.2	+0.4
	baz=78						
KPKS	**Kokpek**	**1.12 283**	eP		Pb	07 56 06.7	-0.5
	67nm,0.1s						
KPKS			eS		Sb	07 56 22.2	+0.4
	405nm,0.5s						
DJR	**Jarkent**	**1.14 346**	P		Pb	07 56 06.2	-1.3
	62nm,0.1s						
DJR			S		Sg	07 56 21.2	-1.2
	39nm,0.1s						
DJR	**Jarkent**	**1.14 346**	⇓iP		Pb	07 56 06.2	-1.3
	80nm,0.3s						
DJR			⇑iS		Sb	07 56 21.9	-0.5
	39nm,0.2s						
SATY	**Saty**	**1.31 263**	P		Pn	07 56 10.1	0.0
	55nm,0.2s						
SATY			S		Sn	07 56 27.9	+0.2
	326nm,0.1s						
SATY	**Saty**	**1.31 263**	⇑iP		Pn	07 56 10.1	0.0
	55nm,0.2s						
SATY			⇑iS		Sg	07 56 28.4	+0.6
	485nm,0.1s						
KURS	**Kuram**	**1.49 281**	P		Pn	07 56 12.8	+0.2
	6.1nm,0.3s						
KURS			S		Sb	07 56 32.5	+0.1
	32nm,0.2s						
KURS	**Kuram**	**1.49 281**	eP		Pn	07 56 12.8	+0.2
	6.1nm,0.3s						
KURS			eS		Sb	07 56 32.6	+0.1
	32nm,0.2s						
PRZ	**Przheval'sk**	**1.50 241**	⇓eP		Pb	07 56 14.2	+0.4
	baz=39						
PRZ			⇓iS		Sg	07 56 34.5	+0.4
	baz=39						
ANVS	**Anan'yevo**	**1.90 257**	⇑iP		Pb	07 56 21.0	+0.5
	baz=56						
ANVS			⇑iS		Sg	07 56 46.4	-0.2
	baz=56						
ARXS	**Arharly**	**1.97 301**	Pg		Pb	07 56 21.3	-0.4
	5.7nm,0.2s						
ARXS			Lg		Lg	07 56 47.1	
	67nm,0.4s						
ARXS	**Arharly**	**1.97 301**	eP		Pb	07 56 20.8	-0.9
	5.7nm,0.2s						
ARXS			eS		Sb	07 56 47.3	+1.1
	67nm,0.4s						
KAPS	**Kapalarasan**	**2.14 344**	Pg		Pb	07 56 23.7	-0.9
	19nm,0.1s						
KAPS			Lg		Lg	07 56 51.2	
	20nm,0.3s						
KAPS	**Kapalarasan**	**2.14 344**	eP		Pb	07 56 23.5	-1.1
	19nm,0.1s						
KAPS			eS		Sb	07 56 51.2	+0.1
	80nm,0.3s						
TDK	**Taldyqorghan**	**2.19 325**	Pg		Pb	07 56 24.7	-0.7
	74nm,0.2s						
TDK			Lg		Lg	07 56 52.9	
	142nm,0.3s						
TDK	**Taldyqorghan**	**2.19 325**	eP		Pb	07 56 24.6	-0.7
	74nm,0.2s						
TDK			eS		Sb	07 56 52.9	+0.4
	153nm,0.4s						
KOTS	**Kotyrbulak**	**2.24 271**	Pg		Pb	07 56 26.9	+0.6
	30nm,0.2s						
KOTS			Lg		Lg	07 56 56.7	
	110nm,0.5s						
KOTS	**Kotyrbulak**	**2.24 271**	eP		Pb	07 56 26.6	+0.2
	30nm,0.2s						
KOTS			eS		Sg	07 56 56.7	-1.0
	248nm,0.5s						
MDOK	**Medeo**	**2.29 269**	⇓Pg		Pb	07 56 27.3	+0.1
	2.0nm,0.3s						
MDOK			⇑Lg		Lg	07 56 58.3	
	17nm,0.5s						
MDOK	**Medeo**	**2.29 269**	Pg		Pb	07 56 27.4	+0.1
	4.8nm,0.3s						
MDOK			Lg		Lg	07 56 57.6	
	28nm,0.3s						
MDOK	**Medeo**	**2.29 269**	eP		Pb	07 56 27.3	+0.1
	6.1nm,0.3s						
MDOK			eS		Sg	07 56 58.0	-1.2
	51nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.31 230**	⇓iP		Pb	07 56 27.6	-0.1
	baz=30						
TARG			⇓iS		Sb	07 56 57.5	+1.1
	baz=30						
TNSS	**Tian-Shan**	**2.37 266**	Pg		Pb	07 56 28.5	-0.3
	11nm,0.3s						
TNSS			Lg		Lg	07 56 59.4	
	28nm,0.3s						
TNSS	**Tian-Shan**	**2.37 266**	eP		Pb	07 56 28.5	-0.3
	14nm,0.3s						
TNSS			eS		Sb	07 56 59.4	+1.2
	35nm,0.4s						
CHKK	**Chushkaly**	**2.40 286**	Pg		Pb	07 56 28.7	-0.3
	4.0nm,0.4s						
CHKK			Lg		Lg	07 56 59.8	
	49nm,0.3s						
CHKK	**Chushkaly**	**2.40 286**	eP		Pb	07 56 28.7	-0.3
	4.0nm,0.4s						
CHKK			eS		Sb	07 56 59.8	+1.0
	49nm,0.3s						
KDJ	**Kajisay**	**2.47 245**	⇑eP		Pb	07 56 29.5	-0.7
	baz=43						
KDJ			⇑iS		Sb	07 57 00.9	+0.1
	baz=43						
KTBS	**Karatobe**	**2.59 282**	Pg		Pb	07 56 32.1	-0.2
	6.0nm,0.5s						
KTBS			Lg		Lg	07 57 05.5	
	79nm,0.5s						
KTBS	**Karatobe**	**2.59 282**	eP		Pb	07 56 32.1	-0.2
	6.0nm,0.5s						
KTBS			eS		Sb	07 57 05.5	+1.4
	79nm,0.5s						
IZV	**Izvestkoviy**	**2.62 267**	Pg		Pb	07 56 33.8	+1.0
	13nm,0.2s						
IZV			Lg		Lg	07 57 08.6	
	75nm,0.5s						
IZV	**Izvestkoviy**	**2.62 267**	eP		Pb	07 56 32.7	-0.1
	13nm,0.2s						
IZV			eS		Sg	07 57 07.7	-2.1
	74nm,0.6s						
MTBS	**Maitube**	**2.74 269**	Pg		Pb	07 56 35.4	+0.5
	8.5nm,0.3s						
MTBS			Lg		Lg	07 57 11.3	
	30nm,0.5s						
MTBS	**Maitube**	**2.74 269**	eP		Pb	07 56 35.4	+0.5
	8.5nm,0.3s						
MTBS			eS		Sb	07 57 11.2	+2.6
	38nm,0.4s						
KUU	**Kurty**	**2.87 285**	Pg		Pb	07 56 36.7	-0.3
	1.4nm,0.3s						
KUU			Lg		Lg	07 57 13.5	
	35nm,0.3s						
KUU	**Kurty**	**2.87 285**	eP		Pb	07 56 37.0	0.0
	1.4nm,0.3s						
KUU			eS		Sb	07 57 13.9	+1.8
	35nm,0.3s						
ULHL	**Ulahol**	**3.06 253**	⇑iP		Pb	07 56 38.1	-2.3
	baz=52						
ULHL			⇑iS		Sb	07 57 15.4	-2.5
	baz=52						
KST	**Kastek**	**3.09 268**	Pg		Pb	07 56 41.5	+0.7
	14nm,0.4s						
KST			Lg		Lg	07 57 21.8	
	23nm,0.5s						
KST	**Kastek**	**3.09 268**	eP		Pb	07 56 41.5	+0.7
	14nm,0.4s						
KST			eS		Sb	07 57 21.8	+3.1
	23nm,0.5s						
BOOM	**Boomskoye usch**	**3.20 258**	⇓iP		Pb	07 56 40.0	-2.8
	baz=57						
BOOM			⇓eS		Sb	07 57 18.5	-3.4
	baz=57						
DGS	**Degeres**	**3.22 272**	Pg		Pb	07 56 42.8	-0.2
	4.2nm,0.3s						
DGS			Lg		Lg	07 57 24.0	
	26nm,0.5s						
DGS	**Degeres**	**3.22 272**	eP		Pb	07 56 42.8	-0.2
	4.2nm,0.3s						
DGS			eS		Sb	07 57 24.0	+1.6
	26nm,0.5s						
TKM2	**Tokmak 2**	**3.37 266**	⇑Pg		Pb	07 56 46.1	+0.5
	4.0nm,0.7s						
TKM2			⇑Lg		Lg	07 57 33.2	
	17nm,0.5s						
TKM2	**Tokmak 2**	**3.37 266**	⇓iP		Pb	07 56 42.4	-3.2
	baz=65						
TKM2			⇓iS		Sn	07 57 22.5	+3.8
	baz=65						
NRN	**Naryn**	**3.58 241**	⇑eP		Pb	07 56 45.6	-3.7
	baz=41						
NRN			⇑iS		Sn	07 57 27.6	+3.5
	baz=41						
MAKZ	**Makanchi**	**3.80 19**	⇑Lg		Lg	07 57 43.3	
	2.5nm,0.5s						
MK31	**Makanchi Array**	**3.87 22**	⇑Pn		Pn	07 56 46.4	+1.1
	0.2nm,0.2s,baz=199,slow=14,SNR=31						
MK31			⇓Pg		Pb	07 56 53.9	0.0
	0.6nm,0.3s,baz=195,slow=16,SNR=3.9						
MK31			⇑Lg		Lg	07 57 44.9	
	0.9nm,0.2s,baz=196,slow=26,SNR=8.5						
AAK	**Ala-Archa**	**4.21 264**	⇓Pg		Pb	07 57 02.8	+2.8
	1.7nm,0.5s						
AAK			⇓Lg		Lg	07 58 00.6	
	7.6nm,0.5s						
MRKS	**Merke**	**5.12 267**	Pg		Pb	07 57 18.6	+3.1
	2.0nm,0.5s						
MRKS			Lg		Lg	07 58 25.3	
	5.3nm,0.3s						
MRKS	**Merke**	**5.12 267**	eP		Pb	07 57 18.6	+3.1
	2.0nm,0.5s						
MRKS			eS		Sg	07 58 25.3	-4.8
	5.3nm,0.3s						
KK31	**Karatay Array**	**7.07 272**	⇓Lg		Lg	07 59 26.3	
	1.5nm,0.5s						
KURK	**Kurchatov**	**7.56 352**	⇓Lg		Lg	07 59 43.7	
	3.2nm,0.8s						

*IDC **07** 08:01:10.1±2.9,28°.84N×143°.07E,h0km,mb3.7/5,*
mb1 3.8/6,mb1mx3.6/49,mbtmp3.7/6,ML3.1/1,Error
ellipse: s-maj=96.0km s-min=19.1km az=78.0
*ISCJB **07** 08:01:12.2±0.8,28°.78N±0°.05×142°.8E±0°.2,h27km,*
mb3.8/5,Error ellipse: s-maj=23.0km s-min=7.6km
az=178.5
*NEIC **07** 08:01:14.1±2.9,28°.79N±0°.07×143°.0E±0°.2,h35km±8km,*
mb4.6/7
ISC 07 08:01:14.9±1.1,28°.77N±0°.08×142°.6E±0°.2,h27km,n21,
σ1§10/20,mb4.0/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.70**	**192**		Pn		**Pn**	**08 01 43.4**	**+0.6**
	8.9nm,0.3s,baz=351,slow=20,SNR=11								
JCJ					Sn		**Sn**	**08 02 03.0**	**-0.6**
	29nm,0.3s,baz=92,slow=23,SNR=17								
MJAR	**Matsushiro Arr**	**8.58**	**336**		Pn		**Pn**	**08 03 17.7**	**+0.4**
	0.2nm,0.3s,baz=180,slow=6.7,SNR=5.8								
MJAR	**Matsushiro Arr**	**8.58**	**336**				**Pn**	**08 03 17.6**	**+0.3**
SARN	**Sarigan**	**12.37**	**165**		Pn		Pn	08 04 06.4	-2.9
WB2	**Warramunga Arr**	**49.07**	**190**		P		**P**	**08 09 60.0**	**+0.1**
WB2					IAmb		IAmb	08 11 12.9	
	comp=Z,17nm,1.6s								
WRA	**Warramunga Arr**	**49.07**	**190**		P		**P**	**08 09 59.9**	**0.0**
	comp=Z,1.2nm,0.8s,baz=16,slow=9.0,SNR=7.3								
WRA	**Warramunga Arr**	**49.07**	**190**		P		**P**	**08 09 59.3**	**-0.6**
MK31	**Makanchi Array**	**49.69**	**309**		P		**P**	**08 10 06.9**	**+2.4**
MK31					IAmb		IAmb	08 10 17.1	
	comp=Z,6.5nm,1.9s								
MKAR	**Makanchi Array**	**49.69**	**309**		P		**P**	**08 10 05.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=91,slow=8.6,SNR=3.4								
MKAR	**Makanchi Array**	**49.69**	**309**		P		**P**	**08 10 04.8**	**+0.3**
KURK	**Kurchatov**	**52.07**	**314**		P		**P**	**08 10 22.3**	**+0.1**
KURBB	**Kurchatov Arra**	**52.13**	**313**		P		**P**	**08 10 23.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=91,slow=7.3,SNR=9.7								
ASAR	**Alice Springs**	**52.79**	**190**		P		**P**	**08 10 29.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=13,slow=8.6,SNR=4.1								
ASAR	**Alice Springs**	**52.79**	**190**		P		**P**	**08 10 27.5**	**-0.4**
CAST	**Castle Rocks**	**53.68**	**30**		P		**P**	**08 10 33.8**	**-0.2**
GHO	**Glory Hole Cre**	**54.96**	**33**		P		P	08 10 36.4	-7.0
BVAR	**Borovoye Array**	**57.05**	**317**		P		**P**	**08 10 59.7**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.8,SNR=4.6								
KKAR	**Karatay Array**	**58.40**	**305**		P		**P**	**08 11 07.3**	**-0.8**
KKAR	**Karatay Array**	**58.40**	**305**		P		**P**	**08 11 07.4**	**-0.7**
KKAR					IAmb		IAmb	08 12 44.8	
	comp=Z,12nm,1.9s								
ABKAR	**Akbulak array**	**64.18**	**314**		P		**P**	**08 11 45.9**	**-1.1**
ABKAR					IAmb		IAmb	08 11 54.1	
	comp=Z,4.8nm,1.3s								
ABKAR	**Akbulak array**	**64.18**	**314**		P		**P**	**08 11 44.8**	**-2.3**

*SJA **07** 08:25:33.7±0.7,20°.28S×69°.33W,h189km±12km,ML2.4,*
MW2.9
*ISCJB **07** 08:25:36.7±0.7,20°.24S±0°.03×69°.27W±0°.07,h105km±6km,*
Error ellipse: s-maj=11.0km s-min=4.7km az=179.6
*GUC **07** 08:25:36.6±0.7,20°.21S×69°.22W,h96km±3km,ML3.4*
ISC 07 08:25:37.0±1.3,20°.23S±0°.03×69°.28W±0°.07,h96km±9km,
n21,σ1§34/31,4C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.15**	**53**	⇓iP			**Pn**	**08 25 51.1**	**0.0**
PB08				iS			**Sn**	**08 26 01.9**	**+0.3**
PB08					IAML			08 26 02.7	
	comp=E,5μm,0.1s								
GO01	**Chusmiza**	**0.56**	**8**	eP			**Pn**	**08 25 53.1**	**-0.4**
GO01				iS			**Sn**	**08 26 05.8**	**+0.1**
GO01					IAML			08 26 08.3	
	comp=N,4μm,0.1s								
PB11	**IPOC Station P**	**0.59**	**323**	⇑iP			**Pn**	**08 25 53.6**	**+0.4**
PB11				iS			**Sn**	**08 26 06.5**	**+1.1**
PB01	**IPOC Station P**	**0.83**	**194**	⇑iP			**Pn**	**08 25 55.8**	**+0.4**
PB01				iS			**Sn**	**08 26 10.4**	**+1.1**
PB01					IAML			08 26 11.0	
	comp=E,3μm,0.3s								
PSGC	**Pisagua**	**1.01**	**308**	⇑iP			**Pn**	**08 25 57.7**	**+0.3**
PSGC				iS			**Sn**	**08 26 13.9**	**+1.1**
PB02	**IPOC Station P**	**1.23**	**208**	⇑iP			**Pn**	**08 26 00.6**	**+0.8**
PB02				iS			**Sn**	**08 26 18.5**	**+1.4**
PB02					IAML			08 26 20.7	
	comp=E,1μm,0.2s								
PB07	**IPOC Station P**	**1.59**	**201**	iP			**Pn**	**08 26 04.9**	**+0.5**
PB07				iS			**Sn**	**08 26 26.4**	**+1.2**
PB07					IAML			08 26 29.3	
	comp=E,402nm,0.3s								
PB03	**IPOC Station P**	**1.86**	**194**	eP			**Pn**	**08 26 08.0**	**+0.2**
PB03				iS			**Sn**	**08 26 31.2**	**0.0**
PB12	**IPOC Station P**	**1.89**	**328**	iP			**Pn**	**08 26 08.2**	**+0.1**
PB12				iS			**Sn**	**08 26 32.5**	**+0.7**
PB16	**IPOC Station P**	**1.90**	**353**	⇓iP			**Pn**	**08 26 09.7**	**+1.0**
PB16				iS			**Sn**	**08 26 34.7**	**+2.0**
PB16					IAML			08 26 39.6	
	comp=E,77nm,0.7s								
LVC	**Limon Verde**	**2.39**	**172**	iP			**Pn**	**08 26 15.8**	**+0.9**
LVC					IAML			08 26 54.3	
	comp=Z,42nm,0.8s								
PB06	**IPOC Station P**	**2.48**	**186**	iP			**Pn**	**08 26 16.8**	**+0.9**
PB06				eS			**Sn**	**08 26 49.2**	**+3.6**
PB15	**IPOC Station P**	**2.97**	**183**	iP			**Pn**	**08 26 22.8**	**+0.4**
PB15				eS			**Sn**	**08 26 59.0**	**+1.6**
PB10	**IPOC Station P**	**3.48**	**200**	iP			**Pn**	**08 26 28.6**	**-0.4**
YJA	**Yavi**	**4.01**	**120**	iP			**Pn**	**08 26 37.7**	**+1.0**
YJA					IAML			08 26 38.1	
	comp=Z,1.0nm,0.2s								
LPAZ	**La Paz**	**4.07**	**16**	iP			**Pn**	**08 26 38.4**	**+0.7**
PB14	**IPOC Station P**	**4.50**	**193**	iP			**Pn**	**08 26 42.0**	**-1.2**
HJA	**Humahuaca**	**4.66**	**130**	iP			**Pn**	**08 26 45.3**	**-0.1**
AMOG	**MOGNA**	**10.69**	**176**	iP			Pn	08 27 58.8	-8.3
AMOG					IAML			08 28 07.5	
TCA	**Tanti**	**11.83**	**160**	iP			Pn	08 28 17.4	-5.2
ARCO	**CERRO ARCO**	**12.56**	**179**	iP			**Pn**	**08 28 28.7**	**-3.6**

IDC 07 08:31:51.8±2.8,7°.40S×155°.29E,h0km,mb3.7/2,
mb1 4.0/3,mb1mx3.5/51,mbtmp3.8/3,ML3.8/1,MS3.0/1,
Ms1 3.0/1,ms1mx2.5/29,Error ellipse: s-maj=55.7km
s-min=34.8km az=82.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.47**	**313**		Pn		Pn	08 33 02.3	+1.4
	4.7nm,0.3s,baz=111,slow=5.2,SNR=3.8								
KRVT					Sn		Sn	08 33 56.3	+2.6
	26nm,0.3s,baz=152,slow=15,SNR=4.0								
KRVT					LR		LR	08 34 57.0	
	comp=Z,176nm,19.4s,baz=111,slow=41								
WRA	**Warramunga Arr**	**23.84**	**236**		P		P	08 37 07.0	+0.2
	1.9nm,0.7s,baz=56,slow=9.6,SNR=10								
ASAR	**Alice Springs**	**26.13**	**229**		P		P	08 37 27.5	-0.3
	1.0nm,0.8s,baz=59,slow=8.8,SNR=11								
TORD	**Torodi Ar. Bea**	**153.41**	**285**		PKPbc		PKPbc	08 51 52.9	-0.3
	0.1nm,0.3s,baz=93,slow=2.9,SNR=2.3								

*ISCJB **07** 09:09:55.7±0.6,31°.93S±0°.03×69°.63W±0°.04,h120km±6km,*
Error ellipse: s-maj=6.0km s-min=4.6km az=35.3
*SJA **07** 09:09:55.8±0.6,31°.91S×69°.63W,h110km±2km,ML3.3,*
MW3.5
*GUC **07** 09:09:56.0±0.8,31°.95S×70°.02W,h153km±7km,ML3.9*
ISC 07 09:09:56.6±1.5,31°.93S±0°.04×69°.65W±0°.04,
h113km±11km,n31,σ0§84/44,3C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.33**	**67**	iP			**Pn**	**09 10 12.8**	**-0.3**
RTLS					IAML			09 10 25.6	
	comp=Z,425nm,0.2s								
RTLS				⇓eS			**Sn**	**09 10 25.7**	**0.0**
ZON	**Zonda**	**0.92**	**66**	iP			**Pn**	**09 10 16.9**	**-0.3**
ZON				eS			**Sn**	**09 10 31.9**	**-0.9**
ZON					IAML			09 10 34.8	
	comp=Z,244nm,0.6s								
RTCV	**Cerro Valdivia**	**0.95**	**86**	iP			**Pn**	**09 10 17.3**	**-0.3**
RTCV				eS			**Sn**	**09 10 32.9**	**-0.5**
RTCV					IAML			09 10 33.5	
	comp=Z,610nm,0.6s								
ASAL	**Salagasta**	**0.96**	**134**	⇓iP			**Pn**	**09 10 17.7**	**0.0**
ASAL				eS			**Sn**	**09 10 33.7**	**+0.1**
ASAL					IAML			09 10 34.8	
	comp=Z,1μm,0.5s								
ARCO	**CERRO ARCO**	**1.10**	**146**	iP			**Pn**	**09 10 19.3**	**+0.1**
ARCO				eS			**Sn**	**09 10 36.5**	**+0.2**
ARCO					IAML			09 10 38.3	
	comp=Z,706nm,0.6s								
RTLL	**Cerro Villicun**	**1.17**	**60**	iP			**Pn**	**09 10 19.8**	**-0.1**
RTLL					IAML			09 10 38.8	
	comp=Z,247nm,0.4s								
CFA	**Coronel Fontan**	**1.25**	**75**	iP			**Pn**	**09 10 20.1**	**-0.6**
AAGR	**Agrelo**	**1.35**	**149**	iP			**Pn**	**09 10 22.2**	**+0.3**
AAGR					IAML			09 10 56.8	
	comp=Z,370nm,1.1s								
CO02	**Combarbal**	**1.36**	**302**	⇑iP			**Pn**	**09 10 22.1**	**+0.1**
CO02				iS			**Sn**	**09 10 41.8**	**+0.4**
AMOG	**MOGNA**	**1.40**	**45**	iP			**Pn**	**09 10 22.8**	**+0.3**
AMOG					IAML			09 10 48.0	
	comp=Z,263nm,0.6s								
ACCO	**Cerro Coronel**	**1.43**	**21**	iP			**Pn**	**09 10 23.4**	**+0.3**
ACCO					IAML			09 10 47.6	
	comp=Z,547nm,0.5s								
PEL	**Peldehue**	**1.49**	**215**	iP			**Pn**	**09 10 23.5**	**0.0**
PEL				iS			**Sn**	**09 10 44.6**	**+0.6**
PEL					IAML			09 10 46.1	
	comp=N,752nm,0.2s								
PEL	**Peldehue**	**1.49**	**215**	iP			**Pn**	**09 10 23.7**	**+0.2**
PEL				eS			**Sn**	**09 10 44.5**	**+0.6**
FCH	**Farellones**	**1.50**	**201**	⇑iP			**Pn**	**09 10 24.6**	**+0.8**
FCH				iS			**Sn**	**09 10 46.0**	**+1.5**
FCH					IAML			09 10 53.0	
	comp=N,714nm,0.2s								
ROCH	**El Roble**	**1.55**	**227**	⇓iP			**Pn**	**09 10 24.0**	**-0.3**
ROCH				iS			**Sn**	**09 10 45.5**	**0.0**
ROCH					IAML			09 10 47.0	
	comp=E,2μm,0.3s								
ROC1	**El Roble**	**1.55**	**227**	iP			**Pn**	**09 10 24.8**	**+0.3**
ACDV	**Cuesta del Vie**	**1.81**	**15**	iP			**Pn**	**09 10 28.9**	**+1.4**
ACDV					IAML			09 10 54.8	
	comp=Z,155nm,0.6s								
LMEL	**Las Melosas**	**1.97**	**193**	eP			**Pn**	**09 10 29.8**	**+0.3**
LMEL				iS			**Sn**	**09 10 56.6**	**+2.1**
VA01	**Torpederas**	**2.01**	**237**	eP			**Pn**	**09 10 28.1**	**-1.6**
VA01				eS			**Sn**	**09 10 52.4**	**-2.7**
VA01					IAML			09 10 57.5	
	comp=E,864nm,0.4s								
GO04	**Tololo Observa**	**2.01**	**330**	⇑iP			**Pn**	**09 10 30.1**	**0.0**
GO04				iS			**Sn**	**09 10 56.2**	**+0.7**
GO04					IAML			09 10 58.9	
	comp=N,2μm,0.3s								
GO04	**Tololo Observa**	**2.01**	**330**	iP			**Pn**	**09 10 30.4**	**+0.3**
ACAN	**Cantantal**	**2.12**	**100**	⇑iP			**Pn**	**09 10 31.1**	**-0.2**
ACAN					IAML			09 11 00.9	
	comp=Z,66nm,0.7s								
APLL	**PUNTA DE LOS L**	**3.08**	**61**	iP			**Pn**	**09 10 43.8**	**0.0**
COIS	**El Sosneado**	**3.17**	**179**	iP			**Pn**	**09 10 45.6**	**+0.7**
MRA	**San Martin**	**3.37**	**99**	⇑iP			**Pn**	**09 10 46.9**	**-0.8**
ACLC	**CERRO LA CRUZ**	**3.41**	**44**	iP			**Pn**	**09 10 48.6**	**+0.3**
ACLC					IAML			09 11 59.4	
	comp=Z,87nm,0.6s								
VCA	**Vinchina**	**3.42**	**22**	iP			**Pn**	**09 10 48.6**	**+0.3**
VCA					IAML			09 11 35.1	
	comp=Z,113nm,1.0s								
GO05	**Huala**	**3.61**	**211**	iP			**Pn**	**09 10 48.8**	**-2.0**
GO03	**Copiap**	**4.35**	**353**	iP			**Pn**	**09 11 00.8**	**0.0**
CYA	**Choya**	**4.82**	**45**	iP			**Pn**	**09 11 06.7**	**-0.3**
CYA					IAML			09 12 27.3	
	comp=Z,16nm,0.7s								
AHML	**Horco Molle**	**6.36**	**37**	iP			**Pn**	**09 11 27.6**	**-0.3**
AHML					IAML			09 13 23.0	
	comp=Z,9.2nm,0.8s								

*ANF **07** 09:19:08.3±0.3,32°.26N×115°.32W,h15km,ML3.4/23*
*ISCJB **07** 09:19:08.1±0.4,32°.22N±0°.02×115°.31W±0°.02,h9km±3km,*
Error ellipse: s-maj=3.0km s-min=2.5km az=7.3
*NEIC **07** 09:19:09.0±1.9,32°.21N±0°.02×115°.34W±0°.03,h10km±6km*
*SCEDC **07** 09:19:09.3,32°.23N×115°.29W,h16km*
*ECX **07** 09:19:10.4±0.6,32°.25N×115°.34W,h5km,MD3.6,ML3.7*
*MEX **07** 09:19:11.2±1.0,32°.26N×115°.33W,h3km±13km,MD3.9*
ISC 07 09:19:09.2±0.9,32°.22N±0°.02×115°.34W±0°.02,h13km±6km,

	baz=149						
SWSC	Sam W. Stewart	0.82	332	⇓eP		Pb	09 19 23.8 -1.5
CRR	Carrizo Plain	0.85	322	⇓iP		Pb	09 19 24.8 -0.9
GLA	Glamis	0.94	28	P		Pb	09 19 25.2 -2.1
	baz=206,SNR=160						
GLA				S		Sb	09 19 37.6 -2.0
	baz=206						
GLA	Glamis	0.94	28	Pg		Pb	09 19 25.5 -1.8
GLA				Sg		Sb	09 19 38.1 -1.6
CBX	Cerro Bola	1.12	275	eP		Pb	09 19 30.4 -0.1
CBX				iS		Sb	09 19 44.5 -0.6
CBX	Cerro Bola	1.12	275			Pb	09 19 30.4 -0.1
CBX						Sb	09 19 44.5 -0.6
CBX	Cerro Bola	1.12	275	eP		Pb	09 19 30.3 -0.2
CBX				eS		Sg	09 19 45.3 -0.2
CBX				⇓e			09 19 47.0
CBX				IAML			09 19 47.0
	comp=N,1μm,1.2s						
TKX	Tecate	1.12	288	eP		Pb	09 19 30.0 -0.5
TKX				eS		Sb	09 19 44.7 -0.3
MONP2	Monument Peak	1.13	307	P		Pb	09 19 29.4 -1.3
	baz=125,SNR=130						
MONP2				S		Sb	09 19 44.5 -0.9
	baz=125						
MONP2	Monument Peak	1.13	307	⇑eP		Pb	09 19 30.2 -0.5
TJIG	Tijuana	1.15	281	eP		Pn	09 19 30.5 -0.4
TJIG				iS		Sb	09 19 45.0 -0.7
TJIG	Tijuana	1.15	281			Pn	09 19 30.5 -0.4
TJIG						Sb	09 19 45.0 -0.7
SPIG	San Pedro Mart	1.18	185	eP		Pg	09 19 31.9 0.0
SPIG				iS		Sn	09 19 47.5 -0.2
SPIG	San Pedro Mart	1.18	185			Pg	09 19 31.9 0.0
SPIG						Sn	09 19 47.5 -0.2
SPIG	San Pedro Mart	1.18	185	eP		Pg	09 19 31.6 -0.2
SPX	San Pedro Mart	1.19	185	eP		Pn	09 19 30.9 -0.9
SPX				iS		Sb	09 19 46.1 -1.0
SPX	San Pedro Mart	1.19	185			Pn	09 19 30.9 -0.9
SPX						Sb	09 19 46.1 -1.0
SPX	San Pedro Mart	1.19	185	eP		Pn	09 19 30.9 -0.9
SPX				IAML			09 19 49.6
	comp=E,656nm,0.4s						
SPX				⇑e			09 19 49.6
ECNX	Esteban Cantu	1.21	242	eP		Pn	09 19 30.8 -1.0
BAR	Barrett	1.21	293			Pb	09 19 31.9 -0.1
BAR				Sn		Sb	09 19 47.3 -0.3
BAR	Barrett	1.21	293	eP		Pn	09 19 31.5 -0.4
OLP	Otay Lakes Par	1.40	286	eP		Pn	09 19 34.0 -0.3
BC3	Big Chuckawall	1.43	356	P		Pn	09 19 32.8 -2.2
	baz=174,SNR=36						
113A	Mohawk Valley,	1.44	67	Pn		Pn	09 19 33.6 -1.3
113A				Sn		Sn	09 19 53.7 -0.1
SDRC	San Diego Road	1.45	291	eP		Pn	09 19 34.8 -0.2
109C	Camp Elliot, M	1.63	295	Pb		Pb	09 19 38.3 -0.8
	baz=113						
109C				Sb		Sb	09 19 59.5 0.0
	baz=113						
109C	Camp Elliot, M	1.63	295			Pn	09 19 38.0 +0.4
109C				Sn		Sn	09 19 58.4 0.0
Y12C	Blythe	1.67	24	Pg		Pb	09 19 39.6 -0.2
	baz=203						
Y12C				Sb		Sn	09 19 59.9 +0.4
	baz=203						
Y12C	Blythe	1.67	24			Pb	09 19 39.8 -0.1
PFO	Pinyon Flats O	1.67	326	P		Pn	09 19 36.4 -1.9
	baz=144,SNR=26						
PFO				Sb		Sb	09 20 00.5 -0.5
	baz=144						
PFO	Pinyon Flats O	1.67	326			Pn	09 19 36.6 -1.7
PFO				Sn		Sn	09 19 59.9 +0.2
BELC	Belle Mtn. Jos	1.86	343	P		Pn	09 19 38.8 -2.0
	baz=161,SNR=23						
IRM	Iron Mountain	1.94	5	P		Pn	09 19 40.1 -1.8
	baz=184,SNR=34						
IRM				Sb		Sb	09 20 08.6 +0.1
	baz=184						
MURC	Murrieta	2.08	312	Pg		Pb	09 19 47.9 +1.1
	baz=130						
MURC				Sb		Sb	09 20 13.5 +1.1
	baz=130						
214A	Organ Pipe Nat	2.17	96	P		Pn	09 19 43.4 -1.5
	baz=278,SNR=26						
214A				Sb		Sb	09 20 16.0 +0.9
	baz=278						
214A	Organ Pipe Nat	2.17	96			Pn	09 19 44.0 -1.0
PDMCI	Parker Dam,Lak	2.31	26	Pg		Pb	09 19 51.5 +0.8
	baz=205						
BBRC	Big Bear Solar	2.43	327	Pg		Pb	09 19 54.1 +1.2
	baz=146						
BBRC				Sb		Sb	09 20 24.2 +1.4
	baz=146						
GMRC	Granite Mounta	2.57	354	Pg		Pg	09 19 57.4 -1.1
	baz=173						
Y14A	Wickenburg	2.60	48			Pn	09 19 50.0 -1.0
HEC	Hector,Ludlow	2.73	343	Pg		Pg	09 20 00.7 -0.8
	baz=161						
BFSC	Mount Baldy Ra	2.79	317	Sb		Sb	09 20 33.7 +0.4
	baz=135						
SCI2	San Clemente I	2.81	286	Sb		Sb	09 20 34.1 +0.6
	baz=104						
CIS	Catalina Islan	2.84	295	P		Pn	09 19 53.1 -1.1
	baz=113						
CIS				Sb		Sb	09 20 35.3 +0.8
	baz=113						
FMP	Fort Macarthur	2.89	302	Sb		Sb	09 20 36.9 +1.0
	baz=120						
MWC	Mount Wilson	3.03	312	Pn		Pn	09 19 59.4 +2.4
MWC				Sb		Sb	09 20 41.3 +1.3
PASC	Pasadena Art C	3.08	310	Pn		Pn	09 19 58.4 +0.9
PASC				Sn		Sn	09 20 36.2 +2.1
W13A	Hualapai Mount	3.12	23	Pn		Pn	09 19 58.4 +0.2
TUQ	Turquoise Moun	3.24	352	Sb		Sb	09 20 46.4 +0.3
	baz=170						
GSC	Goldstone, Bar	3.31	339	Pn		Pn	09 20 01.0 +0.3
EDW2	Edwards Air Fo	3.45	321	Sb		Sb	09 20 53.9 +1.8
	baz=139						
OSI	Osito Audit: C	3.70	311	Sb		Sb	09 21 01.1 +1.9
	baz=129						
TUC	Tucson	3.86	87	Pn		Pn	09 20 09.2 +0.8
X16A	Lo Mia Camp, P	3.93	55			Pn	09 20 09.3 -0.1
SHPR	Sheep Range	4.28	2			Pn	09 20 15.0 +0.9
ISA	Isabella, Lake	4.31	324	Pn		Pn	09 20 15.2 +0.7
WUAZ	Wupatki	4.66	44			Pn	09 20 19.6 +0.3
TPNV	Topopah Spring	4.78	351	Pn		Pn	09 20 22.0 +1.0
X18A	Snowflake	5.07	62			Pn	09 20 25.1 +0.1
LCMT	Little Creek M	5.08	19			Pn	09 20 25.5 +0.3
KNB	Kanab	5.22	23			Pn	09 20 27.3 +0.3
319A	Douglas	5.23	98	Pn		Pn	09 20 29.7 +2.5
W18A	Petrified Fore	5.50	57	Pn		Pn	09 20 31.6 +0.7
CCUT	Cedar City	5.56	16	Pn		Pn	09 20 32.5 +0.7
SZCU	Shurtz Canyon	5.67	18	Pn		Pn	09 20 35.6 +2.2
PKCU	Pink Cliffs	5.78	25	Pn		Pn	09 20 36.4 +1.5
121A	Cookes Peak, D	6.40	85			Pn	09 20 43.3 -0.1
MSU	Marysvale	6.79	22	Pn		Pn	09 20 49.1 +0.4
LENM	Lemitar	7.28	72			Pn	09 20 55.9 +0.5
MVCO	Mesa Verde	7.52	47			Pn	09 20 59.5 +0.8
PV13	Radium Mtn., P	7.97	40	Pn		Pn	09 21 08.0 +3.0
PV17	East Wray Mesa	7.99	39	Pn		Pn	09 21 07.8 +2.6
PV14	Lion Creek, Pa	8.02	38	Pn		Pn	09 21 05.5 -0.1
PV03	Paradox Valley	8.03	40	Pn		Pn	09 21 09.2 +3.5
PV11	David Mesa, Pa	8.05	39	Pn		Pn	09 21 09.5 +3.6
PV23	Carpenter Ridg	8.09	38	Pn		Pn	09 21 05.4 -1.2
PV04	Paradox Valley	8.10	39	Pn		Pn	09 21 09.6 +2.9
PV21	Cone Mtn., Par	8.19	38			Pn	09 21 13.5 +5.6

*ISCJB **07** 09:22:26.4±0.3, 32°.02S±0°.03×179°.77E±0°.07, h363km, mb4.3/8, Error ellipse: s-maj=8.1km s-min=3.7km az=8.7*
*NEIC **07** 09:22:27.3±2.2, 32°.06S±0°.09×179°.9E±0°.1, h367km±7km, mb4.4/17*
*IDC **07** 09:22:30.6±1.8, 31°.87S×179°.76E, h390km±16km, mb4.1/8, mb1 4.2/9, mb1mx3.8/23, mbtmp4.8/9, Error ellipse: s-maj=18.1km s-min=13.0km az=11.0*

ISC 07 09:22:26.7±0.5, 32°.03S±0°.05×179°.89E±0°.08, h363km, n106, σ2°.00/123, mb4.4/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.34	35	P	Pn	09 23 28.5	-1.8
GLKZ				S	S	09 24 14.1	-7.3
RAO	Raoul Island	3.35	35	S	S	09 24 19.5	-2.1
	193nm,0.3s,baz=96,slow=18,SNR=5.6						
RAO	Raoul Island	3.35	35	Pn	Pn	09 23 31.4	+1.0
RIZ	Raoul Island	3.35	35	S	S	09 24 16.2	-5.4
MXZ	Matakaoa Point	5.67	193		Pn	09 23 55.6	+1.4
MXZ					S	09 25 03.3	-1.9
OUZ	Omahuta	6.14	237		Pn	09 24 02.0	+2.5
WHRZ	Whale Island	6.28	202	P	Pn	09 24 05.6	+4.5
WHRZ				S	S	09 25 18.3	+0.5
TWGZ	Tauwhareparae	6.33	194	P	Pn	09 24 03.0	+1.3
TWGZ				S	S	09 25 18.0	-0.8
MWZ	Matawai	6.58	196	P	Pn	09 24 05.7	+1.2
MWZ				S	S	09 25 22.5	-1.5
TKGZ	Te Karaka	6.61	194	P	Pn	09 24 03.0	-1.8
TKGZ				S	S	09 25 21.6	-2.9
URZ	Urewera	6.62	199	P	Pn	09 24 03.7	-1.1
	14nm,0.3s,baz=274,slow=4.9,SNR=107						
URZ				S	S	09 25 21.4	-3.4
	153nm,0.3s,baz=75,slow=22,SNR=22						
URZ	Urewera	6.62	199	P	P	09 24 06.6	+0.5
URZ				S	S	09 25 20.7	-4.1
URZ	Urewera	6.62	199		Pn	09 24 05.8	+0.9
RAGZ	Rawiri	6.76	197	P	Pn	09 24 06.8	+0.2
RAGZ				S	S	09 25 28.8	+0.9
TARZ	Mount Tarawera	6.78	203	P	P	09 24 10.8	+2.7
RRRZ	Republican Roa	6.87	203	P	P	09 24 10.5	+1.4
RIGZ	Rimuhau	6.88	194	P	P	09 24 09.8	+0.6
MUGZ	Murupara	6.92	201	P	P	09 24 10.0	+0.4
SNGZ	Shannon Statio	7.05	196	P	P	09 24 11.8	+0.7
PRRZ	Plateau Road	7.06	203	P	P	09 24 11.6	+0.4
PRGZ	Paritu Road	7.07	193	P	Pn	09 24 10.3	+0.2
PRGZ				S	S	09 25 27.6	-6.7
ALRZ	Allen Road	7.13	203	P	Pn	09 24 09.1	-1.8
KNZ	Kokohu	7.21	194	P	Pn	09 24 08.9	-2.7
RAHZ	Arahi	7.24	198	P	Pn	09 24 12.1	-0.1
MTHZ	Maungataniwha	7.25	199	P	Pn	09 24 12.5	+0.3
MHGZ	Mahia Peninsul	7.29	192	P	Pn	09 24 11.3	-1.3
WHHZ	Waihua	7.36	196	P	P	09 24 15.4	+0.8
NMHZ	Naumai	7.48	199	P	Pn	09 24 14.1	-0.9
ARHZ	Aropaoanui	7.59	197	P	Pn	09 24 15.7	-0.5
BKZ	Black Stump Fm	7.64	200		Pn	09 24 17.1	+0.4
HIZ	Hauiti	7.67	211		P	09 24 19.4	+1.2
KWHZ	Kaweka Forest	7.90	200	P	Pn	09 24 20.5	+0.7
CKHZ	Cape Kidnapper	7.95	196	P	Pn	09 24 18.8	-1.5
BFZ	Birch Farm	9.12	198	P	Pn	09 24 34.4	+0.3
MSWZ	Moikau Station	10.08	200	P	Pn	09 24 44.5	-1.0
SNZO	South Karori	10.15	203	P	Pn	09 24 45.2	-1.1
BHW	Baring Head	10.19	202	P	Pn	09 24 46.2	-0.5
PLWZ	Palliser	10.22	200	P	Pn	09 24 46.8	-0.3
TUWZ	Tuamarina	10.52	205	P	Pn	09 24 49.0	-1.7
TUWZ				S	S	09 26 41.8	-7.0
NNZ	Nelson	10.55	208	P	Pn	09 24 51.0	-0.1
QRZ	Quartz Range	10.59	212	P	Pn	09 24 51.2	-0.3
QRZ					S	09 26 47.6	-2.7
BSWZ	Blackbirch Sta	10.79	205	P	Pn	09 24 53.5	-0.4
THZ	Tophouse	11.20	208	P	Pn	09 24 58.9	+0.1
KHZ	Kahutara	11.53	204	P	P	09 25 01.7	-0.7
LTZ	Lake Taylor	12.31	207	P	P	09 25 11.6	+0.5
OXZ	Oxford	12.87	207	P	P	09 25 17.0	-0.2
CRLZ	Canterbury Las	12.87	204	P	P	09 25 17.4	+0.2
MQZ	McQueen's Vall	12.97	204	P	P	09 25 18.6	+0.2
RPZ	Rata Peaks	13.58	208	P	P	09 25 25.7	+0.7
	1.8nm,0.3s,baz=31,slow=3.6,SNR=9.8						
RPZ				S	S	09 27 46.9	-5.9
	9.6nm,0.3s,baz=26,slow=16,SNR=25						
FOZ	Fox Glacier	13.96	212	P	P	09 25 29.8	+0.6
MSVF	Nonsavu	14.33	353	P	P	09 25 33.6	-0.1
ODZ	Otahua Downs	14.86	206	P	P	09 25 41.0	+2.0
WKZ	Wanaka	15.34	211	P	Pn	09 25 46.6	-0.3
DZM	Mont Dzumac	15.54	306	P	Pn	09 25 48.9	-0.8
	0.7nm,0.3s,baz=121,slow=14,SNR=13						
DZM	Mont Dzumac	15.54	306	P	Pn	09 25 48.6	-1.1
AFI	Afiamalu	19.59	25	P	P	09 26 30.8	+0.9
CTA	Charters Tower	32.34	283	P	P	09 28 25.3	+1.6
	13nm,0.6s,baz=106,slow=11,SNR=20						
STKA	Stephens Creek	32.38	260	P	P	09 28 25.9	+1.9
	7.4nm,0.5s,baz=104,slow=11,SNR=35						
STKA	Stephens Creek	32.38	260	P	P	09 28 25.2	+1.2
BBOO	Buckleboo	36.81	257	P	P	09 29 02.1	+0.6
BBOO				IAmb	IAmb	09 29 03.4	
	comp=Z,16nm,0.6s						
KRVT	Keravat (AS076	37.99	311	P	P	09 29 10.5	-0.9
	comp=Z,44nm,0.7s,baz=150,slow=2.9,SNR=4.3						
COEN	Coen	38.05	290	P	P	09 29 12.2	+0.3
ASAR	Alice Springs	41.26	270	P	P	09 29 38.2	+0.1
	comp=Z,9.3nm,0.5s,baz=106,slow=7.5,SNR=212						
ASAR				ScP	ScP	09 34 43.0	-0.7
	comp=Z,0.3nm,0.5s,baz=113,slow=4.0,SNR=4.7						
ASAR				S	S	09 35 23.1	-1.4
	comp=Z,0.2nm,0.7s,baz=122,slow=12,SNR=3.0						
WR0	Warramunga Arr	42.22	275	P	P	09 29 45.8	0.0
WR0				IAmb	IAmb	09 29 47.0	
	comp=Z,13nm,0.5s						
WB2	Warramunga Arr	42.39	275	P	P	09 29 46.9	-0.2
WRAB	Tennant Creek	42.39	275	P	P	09 29 47.0	-0.2
WRAB				IAmb	IAmb	09 29 47.7	
	comp=Z,13nm,0.6s						
WRA	Warramunga Arr	42.40	275	P	P	09 29 47.2	0.0
	comp=Z,17nm,0.4s,baz=115,slow=7.7,SNR=478						
WRA				ScP	ScP	09 34 47.2	-1.0
	comp=Z,0.4nm,0.7s,baz=112,slow=3.9,SNR=6.0						
WRA				S	S	09 35 39.1	-2.0
	comp=Z,1.0nm,1.0s,baz=120,slow=18,SNR=4.5						
WB0	Warramunga Arr	42.43	275	P	P	09 29 47.6	+0.2
WB0				IAmb	IAmb	09 29 48.0	
	comp=Z,20nm,0.6s						
FORT	Forrest	43.90	257	P	P	09 29 59.4	+0.4
FORT				IAmb	IAmb	09 29 59.9	
	comp=Z,15nm,0.7s						
KNRA	Kununurra	49.07	277	P	P	09 30 39.0	+0.2
KNRA				IAmb	IAmb	09 30 39.8	
	comp=Z,11nm,0.8s						
FITZ	Fitzroy Crossi	50.58	272	P	P	09 30 50.5	+0.4
QSPA	South Pole Qui	58.08	180	P	P	09 31 45.8	+2.9
	comp=Z,6.7nm,0.8s,baz=5.3,slow=0.7,SNR=26						
QSPA	South Pole Qui	58.08	180	P	P	09 31 46.3	+3.3
QSPA				IAmb	IAmb	09 31 47.7	
	comp=Z,17nm,1.3s						
SNAA	Sanae	76.57	179	P	P	09 33 39.3	+1.8
SNAA	Sanae	76.57	179	P	P	09 33 39.4	+1.8
SNAA				IAmb	IAmb	09 33 40.3	
	comp=Z,5.9nm,1.0s						
VNA3	Neumayer Olymp	76.79	177	P	P	09 33 40.6	+1.9
VNA2	Neumayer--Watz	77.20	178	P	P	09 33 43.3	+2.4
	baz=174,slow=4.4						
VNA1	Neumayer--Stat	77.44	177	P	P	09 33 44.3	+2.1
PETK	Petropavlovsk-	86.96	347	P	P	09 34 31.4	+0.3
	comp=Z,2.9nm,0.8s,baz=140,slow=7.0,SNR=2.2						
NVAR	Mina Array Bea	90.66	44	P	P	09 34 51.2	+2.1
	comp=Z,1.0nm,0.7s,baz=219,slow=7.3,SNR=12						
PINE	Pine Mountain	92.80	39	P	P	09 35 01.6	+2.8
PINE				IAmb	IAmb	09 35 02.2	
	comp=Z,6.8nm,1.0s						
MKAR	Makanchi Array	117.43	310	PKP	PKPdf	09 40 28.2	-1.2
	comp=Z,0.7nm,0.6s,baz=145,slow=1.6,SNR=6.5						
ZALV	Zalesovo Beam	118.04	318	PKP	PKPdf	09 40 29.4	-0.9
	comp=Z,1.3nm,0.5s,baz=128,slow=2.4,SNR=5.4						
KSH	Kashi	119.51	300	PKP	PKPdf	09 40 29.8	-4.0
KSH				PP	pPKPdf	09 42 05.1	+2.6
KSH				sPKP		09 42 50.8	
KSH				PKS	PKSdf	09 44 05.0	-5.5
KSH				SKKS		09 48 15.2	
KSH	Kashi	119.51	300	SS	SS	09 57 58.9	+2.2
KSH				AMB	AMB		
	comp=Z,310nm,4.7s						
KSH				LR	LR		
	comp=N,300nm,10.1s						
KSH				LR	LR		
	comp=E,120nm,12.5s						
KSH				LR	LR		
	comp=Z,170nm,13.2s						
SPA0	Spitsbergen Ar	133.19	355	ePKPdf	PKiKP	09 40 59.8	0.0
ARCES	ARCESS Array B	139.77	346	PKhKP	PKPpre	09 41 03.3	
	comp=Z,1.9nm,0.8s,baz=35,slow=3.0,SNR=6.6						
ARCES				PKP	PKPdf	09 41 11.7	+0.7
	comp=Z,2.1nm,0.6s,baz=54,slow=1.6,SNR=9.9						
KBZ	Khabaz	144.47	302	PKP	PKPbc	09 41 19.4	-0.2
	comp=Z,2.6nm,0.9s,baz=333,slow=4.5,SNR=3.7						
MOR8	Moi Rana	144.72	350	ePKPbc	PKPbc	09 41 19.0	-0.7
FIA1	FINESS Array S	146.01	338		PKPbc	09 41 23.6	0.0
FINES	FINESS Array B	146.01	338	PKPbc	PKPbc	09 41 23.6	0.0
	comp=Z,21nm,0.6s,baz=40,slow=4.0,SNR=116						
NSS	Namsos	146.62	351	ePKPbc	PKPbc	09 41 25.6	+0.3
DOMB	Dombas	149.40	352	ePKPbc	PKPbc	09 41 32.8	+0.2
NC303	NORSAR Array S	149.84	349		PKPbc	09 41 34.2	+0.6
NB2	NORSAR Subarra	150.05	349	PKP	PKPbc	09 41 34.0	-0.2
	comp=Z,2.9nm,0.5s,baz=17,slow=2.6						
NB2	NORSAR Subarra	150.05	349	PKPdf	PKPbc	09 41 34.0	-0.2
	baz=17,slow=2.6						
NOA	NORSAR Array B	150.05	349	PKPbc	PKPbc	09 41 34.4	+0.2
	comp=Z,7.1nm,0.7s,baz=17,slow=4.2,SNR=24						
NC602	NORSAR Array S	150.28	348	ePKPbc	PKPbc	09 41 35.0	+0.3
NC602	NORSAR Array S	150.28	348		PKPbc	09 41 34.6	0.0
SKAR	Skarslia	150.81	352	ePKPbc	PKiKP	09 41 37.1	+0.6
OSL	Oslo	151.17	349	ePKPdf	PKPdf	09 41 30.9	+0.5
AKASG	Malin Array Be	151.43	319	PKPbc	PKPbc	09 41 37.3	-0.3
	comp=Z,3.9nm,0.6s,baz=50,slow=2.6,SNR=8.4						
KONO	Kongsberg	151.62	350	ePKPbc	PKiKP	09 41 38.5	+0.4
BRTR	Keskin Array B	151.72	295	PKPbc	PKPbc	09 41 38.6	-0.2
	comp=Z,2.0nm,0.5s,baz=134,slow=3.6,SNR=9.7						
BLS5	Blasjo	152.25	353	ePKPbc	PKiKP	09 41 40.5	+1.0
TORD	Torodi Ar. Bea	161.13	185	PKP	PKPdf	09 41 45.2	+0.5
	comp=Z,1.3nm,1.0s,baz=317,slow=1.2,SNR=5.1						
TORD				PKPab	PKPab	09 42 30.4	+0.3
	comp=Z,1.1nm,0.5s,baz=189,slow=3.1,SNR=15						

*ISK **07** 09:36:01.9, 39°.67N×28°.97E, h5km, ML3.5/45*
*DDA **07** 09:36:02.5, 39°.68N×28°.96E, h7km±2km, ML3.5*
*THE **07** 09:36:04.6, 39°.51N×29°.23E, h3km±17km, ML3.2/5, Error ellipse: s-maj=28.1km s-min=2.0km az=87.0*

ISC 07 09:36:02.3±1.3, 39°.68N±0°.02×28°.96E±0°.02, h2km±14km, n78, σ0°.91/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	Orhaneli	0.37	352	PG	Pg	09 36 09.9	+0.4
DURS	Dursunbey	0.39	259	iP	Pg	09 36 10.2	+0.5
TVSB	Tavsanli	0.45	120	PG	Pg	09 36 11.6	+0.8
TVSB				SG	Sb	09 36 18.4	-1.6
ULDT	Uludag	0.48	16	iP	Pg	09 36 12.2	+0.6
SMAA	Simav-Kutahya	0.57	179	PG	Pb	09 36 14.4	-0.7
SMAA				SG	Sb	09 36 23.1	-0.6
SIMA	Simav-Kutahya	0.59	179	PG	Pg	09 36 14.6	+1.0
SIMA				SG	Sb	09 36 23.2	-1.0
IGD	Bursa	0.61	17	iP	Pg	09 36 15.0	+0.9
IGD				IAML_P			
	comp=Z,22μm,0.3s						
SHAP	Saphane-Kutahy	0.68	163	PG	Pb	09 36 16.3	-0.6
MDNY	Mudanya-Bursa	0.69	355	PG	Pg	09 36 16.0	+0.4
GDZ	Gediz	0.71	146	iP	Pb	09 36 16.8	-0.6
GDZ				IAML_P			
	comp=Z,10μm,0.2s						
GEDZ	Gediz	0.72	151	PG	Pb	09 36 16.9	-0.6
KCTX	Karacabey (Bur	0.75	322	PG	Pg	09 36 17.2	+0.5
IZI	Iznik	0.77	30	PG	Pg	09 36 17.2	+0.2
GEMT	Gemlik	0.78	13	PG	Pb	09 36 18.2	-0.3
BALB	Balikesir	0.84	268	PG	Pb	09 36 19.5	0.0
CAVI	Cavuskoy	0.86	52	PG	Pb	09 36 19.6	-0.2
ARMT	Armutlu	0.89	355	PG	Pg	09 36 19.7	+0.3
YLV	Yalova	0.94	19	PG	Pg	09 36 20.9	+0.5
USAK	Uak-Merkez	0.96	177	iP	Pb	09 36 21.4	-0.2
ADVT	Abdulvahap	0.96	38	PG	Pb	09 36 21.5	-0.1
STEP	BALIKESIR_Sava	1.01	253	iP	Pb	09 36 22.4	0.0
STEP				IAML_P			
	comp=Z,7μm,0.2s						
BALY	Balya	1.04	274	iP	Pb	09 36 22.8	-0.2
BALY				IAML_P			
	comp=Z,8μm,0.2s						
GONE	Gonen-Balikesi	1.05	291	PG	Pg	09 36 22.9	+0.5
EDC	Edincik	1.08	309	PN	Pn	09 36 24.2	-0.2
BORA	Eskisehir	1.17	79	iP	Pg	09 36 24.9	+0.3
BORA	Eskisehir	1.17	79	PN	Pn	09 36 25.6	-0.1
BUY	Buyukada	1.18	6	iP	Pb	09 36 25.4	+0.1
BUY	Buyukada	1.18	6	PN	Pn	09 36 25.9	+0.1
KULA	Kula-Manisa	1.18	192	P	Pg	09 36 25.2	+0.3
KULA				S	Sg	09 36 40.0	-0.3
KULA	Kula-Manisa	1.18	192	PN	Pb	09 36 25.4	-0.1
AKHS	Akhisar	1.20	229	iP	Pn	09 36 26.4	+0.4
AKHS				IAML_P			
	comp=Z,12μm,0.2s						
HRT	Hereke	1.27	25	PN	Pn	09 36 26.9	-0.1
AUKIR	Kırka- Seyitga	1.28	108	iP	Pn	09 36 28.8	+1.7
GEYV	SAKARYA_Geyve	1.30	51	iP	Pg	09 36 29.0	+1.8
SRCK	Saricakaya, Es	1.33	74	iP	Pg	09 36 28.8	+1.1
SRCK	Saricakaya, Es	1.33	74	PN	Pg	09 36 28.6	+0.8
KHAL	Karahalli	1.37	162	iP	Pg	09 36 29.8	+1.3
KAVV	Kandilli-Istan	1.39	3	PN	Pg	09 36 29.2	+0.3
ISK	Istanbul-Kandi	1.39	3	PN	Pg	09 36 29.3	+0.4
MRMT	Marmara Adasi	1.40	312	PN	Pg	09 36 30.0	+0.9
GULT	Gulveren	1.41	57	PN	Pg	09 36 30.3	+1.0
SP

h15km±10km, n68, σ1ʖ56/79, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.91**	**85**		**Pg**	**09 55 24.2**	**+1.3**
KCTM					**Sg**	**09 55 35.9**	**+1.0**
KSMM	**Slide Mountain**	**1.05**	**101**		**Pg**	**09 55 25.4**	**-0.3**
KMPM	**Mount Pierce**	**1.07**	**89**		**Pg**	**09 55 26.4**	**+0.4**
JCC	**Jacoby Creek,**	**1.21**	**69**	Pg	**Pb**	**09 55 27.7**	**-0.2**
JCC	**Jacoby Creek,**	**1.21**	**69**		**Sg**	**09 55 41.6**	**-2.8**
JCC	**Jacoby Creek,**	**1.21**	**69**		**Sg**	**09 55 42.0**	**-2.5**
KCRM	**Chalk Rock**	**1.30**	**88**		**Pn**	**09 55 29.6**	**+0.6**
KRPM	**Rodgers**	**1.37**	**56**		**Pn**	**09 55 29.9**	**-0.1**
KMRM	**Mail Ridge**	**1.40**	**97**		**Pn**	**09 55 31.6**	**+1.2**
KMRM	**Mail Ridge**	**1.40**	**97**	Sg	**Sb**	**09 55 48.6**	**-0.3**
KHMM	**Horse Mountain**	**1.44**	**70**		**Pn**	**09 55 31.5**	**+0.4**
KHMM	**Horse Mountain**	**1.44**	**70**	Sn	**Sn**	**09 55 48.2**	**-1.7**
KCSM	**Cold Springs**	**1.54**	**84**		**Pn**	**09 55 33.3**	**+0.9**
KBSM	**Bell Springs**	**1.55**	**107**		**Pn**	**09 55 33.5**	**+0.9**
KCPM	**Cahto Peak**	**1.65**	**115**		**Pn**	**09 55 34.6**	**+0.7**
KCPM	**Cahto Peak**	**1.65**	**115**	Sn	**Sn**	**09 55 53.0**	**-1.9**
KPPM	**Pickett Peak**	**1.65**	**91**		**Pn**	**09 55 35.5**	**+1.5**
KIPM	**Iron Peak**	**1.67**	**110**		**Pn**	**09 55 34.9**	**+0.6**
KHBM	**Hayfork Bally**	**1.77**	**81**		**Pn**	**09 55 36.5**	**+0.7**
KFPM	**Farley Peak**	**1.78**	**115**		**Pn**	**09 55 36.1**	**+0.4**
KOMM	**Orleans Mounta**	**1.80**	**60**		**Pn**	**09 55 36.2**	**+0.2**
GTC	**Three Chop Rid**	**1.81**	**123**		**Pn**	**09 55 35.9**	**-0.2**
KBNM	**Bluenose Ridge**	**1.86**	**105**		**Pn**	**09 55 38.1**	**+1.4**
GNAM	**Navarro Ridge**	**1.89**	**129**		**Pn**	**09 55 36.7**	**-0.4**
LBPM	**Beegum Peak**	**2.02**	**91**		**Pn**	**09 55 40.1**	**+1.2**
KBO	**Bosley Butte**	**2.06**	**28**	Pn	**Pn**	**09 55 40.0**	**+0.5**
O02D	**Mt. Diablo Mer**	**2.10**	**95**	P	**Pn**	**09 55 41.1**	**+1.0**
	baz=277,SNR=9.1						
O02D				S	**Sn**	**09 56 04.9**	**-1.1**
	baz=277						
O02D	**Mt. Diablo Mer**	**2.10**	**95**		**Pn**	**09 55 41.1**	**+1.0**
LGPM	**Granite Peak**	**2.11**	**75**		**Pn**	**09 55 40.8**	**+0.5**
GHMM	**Hull Mountain**	**2.19**	**114**		**Pn**	**09 55 42.2**	**+0.8**
KTRM	**Thompson Ridge**	**2.21**	**46**		**Pn**	**09 55 42.3**	**+0.7**
N02D	**Trinity Center**	**2.22**	**74**	P	**Pn**	**09 55 42.1**	**+0.4**
	baz=254,SNR=22						
N02D				Sb	**Sn**	**09 56 07.9**	**-1.0**
	baz=254						
N02D	**Trinity Center**	**2.22**	**74**		**Pn**	**09 55 42.5**	**+0.8**
M02C	**Callahan**	**2.25**	**63**	P	**Pn**	**09 55 42.6**	**+0.4**
	baz=242,SNR=105						
M02C				Sb	**Sn**	**09 56 08.3**	**-1.5**
	baz=242						
M02C	**Callahan**	**2.25**	**63**		**Pn**	**09 55 42.6**	**+0.4**
GVV	**Valley View**	**2.27**	**105**		**Pn**	**09 55 43.7**	**+1.2**
L02E	**Cave Junction**	**2.28**	**39**	P	**Pn**	**09 55 43.0**	**+0.5**
	baz=215						
L02E				S	**Sn**	**09 56 08.5**	**-1.8**
	baz=215						
LBKM	**Bonanza King**	**2.28**	**72**		**Pn**	**09 55 43.4**	**+0.8**
GASB	**Alder Springs**	**2.28**	**108**		**Pn**	**09 55 43.8**	**+1.2**
WDC	**Whiskeytown Da**	**2.28**	**85**		**Pn**	**09 55 43.4**	**+0.9**
WDC	**Whiskeytown Da**	**2.28**	**85**		**Pn**	**09 55 43.8**	**+1.3**
WDC				Sn	**Sn**	**09 56 09.9**	**-0.5**
HOPS	**Hopland Field**	**2.35**	**126**	Pn	**Pn**	**09 55 43.5**	**0.0**
LAMM	**Antelope Mount**	**2.50**	**60**		**Pn**	**09 55 46.8**	**+1.1**
YBH	**Yreka Blue Hor**	**2.51**	**57**	Pn	**Pn**	**09 55 47.0**	**+1.3**
LTCM	**Tuscan Springs**	**2.61**	**93**		**Pn**	**09 55 48.6**	**+1.6**
LSHM	**Sage Hen Hill**	**2.68**	**80**		**Pn**	**09 55 49.2**	**+1.2**
K02D	**Willamette Mer**	**2.68**	**31**	P	**Pn**	**09 55 49.4**	**+1.3**
	baz=208,SNR=31						
K02D				S	**Sn**	**09 56 18.2**	**-2.2**
	baz=208						
LGBM	**Gray Butte**	**2.69**	**68**		**Pn**	**09 55 48.8**	**+0.4**
M03C	**McCloud**	**2.72**	**70**		**Pn**	**09 55 50.6**	**+1.9**
B040	**Montague**	**2.75**	**58**		**Pn**	**09 55 50.9**	**+2.0**
LMPM	**Military Pass**	**2.77**	**66**		**Pn**	**09 55 51.5**	**+2.2**
LHEM	**Herd Peak**	**2.79**	**63**		**Pn**	**09 55 51.2**	**+1.5**
O03E	**Paynes Creek**	**2.85**	**91**	P	**Pn**	**09 55 51.2**	**+0.9**
	baz=273,SNR=47						
O03E				S	**Sn**	**09 56 23.4**	**-1.0**
	baz=273						
HUMO	**Hull Mountain**	**2.93**	**40**		**Pn**	**09 55 53.4**	**+2.0**
J01E	**Myrtle Point**	**3.00**	**23**	P	**Pn**	**09 55 53.6**	**+1.2**
	baz=200						
J01E				S	**Sn**	**09 56 26.3**	**-1.9**
	baz=200						
L04D	**Klamath Falls**	**3.03**	**52**	P	**Pn**	**09 55 56.0**	**+3.1**
	baz=231,SNR=143						
MCCM	**Marconi Confer**	**3.05**	**137**	Pn	**Pn**	**09 55 52.9**	**-0.1**
M04C	**Macdoel**	**3.11**	**62**	P	**Pn**	**09 55 57.0**	**+3.0**
	baz=242,SNR=8.4						
ORV	**Oroville**	**3.20**	**104**	Pn	**Pn**	**09 55 56.8**	**+1.7**
ORV					**Sn**	**09 56 32.5**	**-0.6**
K04D	**Chiloquin, OR**	**3.60**	**51**	P	**Pn**	**09 56 03.5**	**+2.8**
	baz=230,SNR=9.8						
I03D	**Drain, OR**	**3.67**	**25**	P	**Pn**	**09 56 03.4**	**+1.8**
	baz=204,SNR=52						
I03D				S	**Sn**	**09 56 44.3**	**-0.3**
	baz=204						
AFDM	**Forest Hills D**	**3.80**	**111**		**Pn**	**09 56 05.3**	**+1.9**
AFDM				Sn	**Sn**	**09 56 45.7**	**-2.2**
BEKR	**Beckworth**	**3.99**	**96**		**Pn**	**09 56 10.3**	**+4.1**
BEKR				Sn	**Sn**	**09 56 56.0**	**+3.1**
MOD	**Modoc Plateau**	**4.22**	**67**	Pn	**Pn**	**09 56 10.7**	**+1.5**
J05D	**Fort Rock, OR**	**4.31**	**47**	P	**Pn**	**09 56 13.7**	**+3.2**
	baz=227,SNR=24						
CMB	**Columbia Colle**	**4.64**	**119**		**Pn**	**09 56 18.1**	**+3.2**
MDPB	**Devils Postpil**	**5.73**	**117**	Pn	Pn	09 56 34.0	+3.9
OMMB	**Old Mammoth Mi**	**5.79**	**117**	Pn	Pn	09 56 35.0	+4.0

*EST **07** 10:02:47.7±0.1, 59°.25N×27°.73E, $h0^{km}$, ML1.2(HEL), Explosion*
*LVSN **07** 10:02:52.8±2.7, 58°.57N×24°.97E, $h0^{km}$±30^{km}, ML1.2*

HEL 07 10:02:46.4±0.5, 59°.33N×28°.13E, $h0^{km}$, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBE	**Arbavere**	**1.10**	**276**	*e*P	Pg	10 03 03.8	-3.8
ARBE				*e*S	Sg	10 03 14.9	-6.9
VSU	**Vasula**	**1.13**	**220**	*e*P	Pn	10 03 10.0	+0.5
VSU	**Vasula**	**1.13**	**220**	*e*P	Pg	10 03 04.7	-3.4
VSU				*e*S	Sg	10 03 16.9	-5.9
VJF	**Virojoki**	**1.25**	**347**	*e*P	Pb	10 03 10.6	-0.2
VJF				*e*S	Sb	10 03 27.4	+0.1
VJF				MSG		10 03 31.2	
	comp=Z,1.6nm,0.1s						
PVF	**Pernaja**	**1.67**	**318**	*e*PG	Pn	10 03 16.6	-0.2
PVF				*e*SG	Sn	10 03 37.0	-1.9
PVF				MSG		10 03 41.0	
	comp=Z,1.3nm,0.1s						
MEF	**Metsahovi**	**2.09**	**297**	*e*P	Pn	10 03 21.8	-0.8
MEF				AML	AML	10 03 22.7	
	comp=Z,4.2nm,0.6s						
MEF				AML	AML	10 03 23.0	
	comp=E,4.7nm,0.5s						
MEF				*e*S	Sn	10 03 46.7	-2.5
MEF				AML	AML	10 03 48.5	
	comp=N,3.7nm,0.4s						
MEF	**Metsahovi**	**2.09**	**297**	MSG		10 03 48.3	
	comp=Z,1.4nm,0.1s						
NUR	**Nurmijrvi**	**2.12**	**305**	*e*PG	Pn	10 03 23.6	+0.6
NUR				*e*S	Sn	10 03 47.9	-2.0
FIA0	**FINESS Array S**	**2.35**	**335**	*e*P	Pn	10 03 27.2	+0.9
FIA0				*e*PB	Pb	10 03 28.6	-1.0
FIA0				*e*SG	Sb	10 04 00.2	+1.1
FIA1	**FINESS Array S**	**2.35**	**335**	*e*P	Pn	10 03 27.3	+1.0
FIA1				*e*PB	Pb	10 03 28.6	-1.0
FIA1				*e*SG	Sb	10 03 59.9	+0.8
FIA1				MSG		10 04 01.9	
	comp=Z,0.8nm,0.1s						
KAF	**Kangasniemi**	**2.93**	**343**	*e*PB	Pb	10 03 38.7	-0.8
KAF				*e*SB	Sb	10 04 16.7	+0.9
KAF				MSG		10 04 20.3	
	comp=Z,0.5nm,0.1s						
RAF	**Rauma**	**3.60**	**301**	*e*P	Pn	10 03 44.0	+0.6
RAF				*e*S	Sn	10 04 20.3	-6.3
RAF	**Rauma**	**3.60**	**301**	*e*P	Pn	10 03 43.9	+0.5

*SJA **07** 10:21:02.9±0.8, 21°.37S×66°.68W, $h227^{km}$±7^{km}, ML3.3, MW3.3*
*ISCJB **07** 10:21:03.8±0.9, 21°.52S±0°.07×66°.80W±0°.05, $h231^{km}$±8^{km}, Error ellipse: s-maj=11.5km s-min=5.9km az=25.2*

*GUC **07** 10:21:04.6±0.5, 21°.43S×67°.18W, $h249^{km}$±18^{km}, ML3.9*

ISC 07 10:21:03.1±2.1, 21°.44S±0°.10×66°.75W±0°.06, $h231^{km}$±17^{km}, n23, σ1ʖ07/33, 2C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.36**	**123**	*i*P	**Pn**	**10 21 39.1**	**+0.1**
YJA				*e*S	**S**	**10 22 06.1**	**-0.9**
HJA	**Humahuaca**	**2.15**	**145**	*i*P	**Pn**	**10 21 46.6**	**+0.8**
HJA				*e*S	**S**	**10 22 19.3**	**0.0**
HJA				IAML		10 22 19.9	
	comp=Z,34nm,0.7s						
LVC	**Limon Verde**	**2.32**	**240⇓**	*i*P	**Pn**	**10 21 48.6**	**+1.2**
PB09	**IPOC Station P**	**2.35**	**261**	*i*P	**Pn**	**10 21 48.7**	**+1.1**
PB09				IAML		10 22 25.9	
	comp=Z,40nm,0.4s						
PB08	**IPOC Station P**	**2.60**	**299**	*i*P	**Pn**	**10 21 51.8**	**+1.4**
PB08				IAML		10 22 31.5	
	comp=E,59nm,0.2s						
PB03	**IPOC Station P**	**2.86**	**257⇑**	*i*P	**Pn**	**10 21 53.7**	**+0.7**
PB03				*i*S	**S**	**10 22 31.2**	**-0.9**
PB03				IAML		10 22 32.2	
	comp=E,123nm,0.1s						
GO01	**Chusmiza**	**2.89**	**307**	*i*P	**Pn**	**10 21 55.2**	**+1.5**
GO01				IAML		10 22 40.1	
	comp=E,192nm,0.1s						
PB06	**IPOC Station P**	**2.91**	**244**	*i*P	**Pn**	**10 21 54.2**	**+0.7**
PB06				*i*S	**S**	**10 22 32.6**	**-0.4**
PB06				IAML		10 22 33.9	
	comp=E,129nm,0.2s						
PB06	**IPOC Station P**	**2.91**	**244**	*i*P	**Pn**	**10 21 55.0**	**+1.5**
PB06				IAML		10 22 36.2	
	comp=Z,71nm,0.3s						
PB07	**IPOC Station P**	**2.93**	**264**	*i*P	**Pn**	**10 21 54.8**	**+0.9**
PB07				*i*S	**S**	**10 22 32.2**	**-1.4**
PB07				IAML		10 22 33.1	
	comp=E,224nm,0.2s						
PB02	**IPOC Station P**	**2.94**	**272⇓**	*i*P	**Pn**	**10 21 54.5**	**+0.7**
PB02				*i*S	**S**	**10 22 32.2**	**-1.3**
PB02				IAML		10 22 32.8	
	comp=N,386nm,0.5s						
PB15	**IPOC Station P**	**3.07**	**235**	*i*P	**Pn**	**10 21 57.5**	**+2.1**
PB15				*i*S	**S**	**10 22 36.6**	**+0.1**
PB15				IAML		10 22 40.5	
	comp=N,582nm,0.2s						
PB15	**IPOC Station P**	**3.07**	**235**	*i*P	**Pn**	**10 21 56.8**	**+1.3**
PB15				*e*S	**S**	**10 22 36.3**	**-0.2**
AZAP	**Zapla**	**3.17**	**151**	*i*P	**Pn**	**10 21 57.5**	**+1.0**
AZAP				IAML		10 22 42.2	
	comp=Z,17nm,0.5s						
PB11	**IPOC Station P**	**3.20**	**301⇑**	*i*P	**Pn**	**10 21 57.6**	**+0.8**
PB11				*i*S	**S**	**10 22 38.4**	**-0.5**
PB04	**IPOC Station P**	**3.28**	**254**	*i*P	**Pn**	**10 21 58.2**	**+0.5**
PB04				*i*S	**S**	**10 22 39.1**	**-1.6**
SLA	**San Lorenzo**	**3.46**	**161**	*i*P	**Pn**	**10 22 00.9**	**+1.1**
PB10	**IPOC Station P**	**4.08**	**239**	*i*P	**Pn**	**10 22 07.6**	**+0.7**
PB10				IAML		10 23 03.9	
	comp=Z,17nm,1.4s						
PB14	**IPOC Station P**	**4.62**	**226**	*i*P	**Pn**	**10 22 14.2**	**+0.3**
PB14				IAML		10 23 09.9	
	comp=Z,38nm,0.1s						
ACLC	**CERRO LA CRUZ**	**7.95**	**181**	*i*P	**Pn**	**10 22 55.4**	**-0.4**
ACLC				IAML		10 24 46.5	
	comp=Z,6.3nm,1.5s						
APLL	**PUNTA DE LOS L**	**8.92**	**179**	*i*P	**Pn**	**10 23 07.2**	**-0.9**
APLL				IAML		10 25 03.1	
	comp=Z,2.0nm,3.0s						
ACAN	**Cantantal**	**10.80**	**182**	*i*P	**Pn**	**10 23 30.6**	**-1.4**
ASAL	**Salagasta**	**11.26**	**189**	*i*P	**Pn**	**10 23 38.1**	**+0.3**

*IDC **07** 10:23:17.8±1.5, 34°.98N×76°.91E, $h0^{km}$, mb3.6/3, mb1 3.7/6, mb1mx3.4/48, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=35.1km s-min=29.2km az=75.0*
*ISCJB **07** 10:23:19.7±1.0, 35°.26N±0°.06×77°.4E±0°.2, $h10^{km}$, mb3.5/3, Error ellipse: s-maj=18.9km s-min=5.2km az=160.6*
*BJI **07** 10:23:20.4±0.0, 35°.41N×77°.33E, $h7^{km}$, ML3.9/1*

ISC 07 10:23:22.7±1.3, 35°.26N±0°.09×77°.4E±0°.1, $h10^{km}$, n17, σ1ʖ58/18, mb3.7/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.41**	**345**	Pg	**Pn**	**10 24 29.6**	**-0.2**
KSH				Sn	**Sn**	**10 25 20.8**	**-0.4**
KSH				smax	smax		
	comp=N,260nm,0.7s						
KSH				smax	smax		
	comp=E,210nm,0.7s						
AAK	**Ala-Archa**	**7.72**	**344**	Pn	**Pn**	**10 25 19.3**	**+4.1**
	0.3nm,0.3s,baz=157,slow=13,SNR=2.1						
AAK				Sn	**Sn**	**10 26 42.6**	**-0.1**
	0.1nm,0.3s,baz=209,slow=14,SNR=2.1						
AAK				Lg	Lg	10 27 14.3	
	0.3nm,0.3s,baz=9.5,slow=19,SNR=3.5						
KOLN	**Koldanda**	**9.13**	**143**	*e*P	**Pn**	**10 25 35.9**	**+1.2**
	5.0nm,0.3s						
GKN	**Gorkha**	**9.48**	**138**	*e*P	**Pn**	**10 25 41.9**	**+2.4**
	9.8nm,0.3s						
DMN	**Daman**	**10.05**	**137**	*e*P	**Pn**	**10 25 47.9**	**+0.6**
PKI	**Pulchoki**	**10.24**	**136**	*e*P	**Pn**	**10 25 50.0**	**-0.1**
GUN	**Gumba**	**10.26**	**133**	*e*P	**Pn**	**10 25 51.0**	**+0.6**
	9.0nm,0.4s						
JIRN	**Jiri**	**10.63**	**133**	*e*P	**Pn**	**10 25 54.3**	**-1.1**
	12nm,0.3s						
WMQ	**Urumqi**	**11.64**	**40**	*e*P	**Pn**	**10 26 08.7**	**-0.2**
WMQ				pP		10 26 11.9	
TAPN	**Taplejung**	**11.79**	**129**	*e*P	Pn	10 26 08.0	-3.3
MKAR	**Makanchi Array**	**12.09**	**16**	Pn	**Pn**	**10 26 13.7**	**-1.2**
	0.2nm,0.3s,baz=201,slow=13,SNR=3.8						
MKAR				Sn	**Sn**	**10 28 31.0**	**+1.2**
	0.1nm,0.3s,baz=188,slow=23,SNR=7.5						
GTA	**Gaotai**	**18.25**	**70**	*e*P	**P**	**10 27 36.6**	**+0.2**
GTA				pP	Pn	10 27 40.3	+4.1
GTA				sP	pP	10 27 42.8	+2.0
BVAR	**Borovoye Array**	**18.45**	**346**	P	**P**	**10 27 36.1**	**-2.3**
	0.2nm,0.3s,baz=160,slow=9.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**19.39**	**13**	P	**P**	**10 27 49.2**	**+0.6**
	0.2nm,0.3s,baz=205,slow=11,SNR=4.6						
SONM	**Songino Array**	**24.89**	**51**	P	**P**	**10 28 46.2**	**+0.5**
	0.9nm,0.7s,baz=243,slow=9.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**70.97**	**273**	P	P	10 34 34.6	-6.2
	0.4nm,0.6s,baz=50,slow=5.6,SNR=3.4						
WRA	**Warramunga Arr**	**76.96**	**126**	P	**P**	**10 35 14.2**	**-1.5**
	0.3nm,0.5s,baz=308,slow=3.9,SNR=3.7						

MAN 07 10:38:45.0, 9°.76N×123°.83E, $h0^{km}$, MS3.5, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.72**	**235⇑**	*i*P	Pb	10 39 01.3	+0.8
SNPH				*i*S	Sb	10 39 12.6	+1.6

*BJI **07** 10:47:28.6±0.0, 2°.39S×139°.11E, $h33^{km}$, mb5.0/73, mB5.4/51, Ms4.9/60, Ms7 4.7/51*
*IDC **07** 10:47:31.0±0.4, 1°.75S×138°.71E, $h0^{km}$, mb4.8/29, mb1 4.9/32, mb1mx4.8/44, mbtmp4.9/32, ML5.4/4, MS4.4/31, Ms1 4.4/31, ms1mx4.3/44, Error ellipse: s-maj=15.1km s-min=8.4km az=87.0*
*ISCJB **07** 10:47:33.4±0.2, 1°.79S±0°.02×138°.75E±0°.02, $h29^{km}$, mb5.2/105, MS4.5/44, Error ellipse: s-maj=3.2km s-min=3.0km az=36.3*
*MOS **07** 10:47:33.8±1.0, 1°.78S×138°.68E, $h31^{km}$, mb5.4/28, Error ellipse: s-maj=10.8km s-min=5.8km az=111.1*
*DJA **07** 10:47:34.0±0.6, 2°.S±3°×13°.9E±°, $h20^{km}$±3^{km}, M5.0/74, mB5.5/41, mb5.2/74, MLv5.4/10, Mw(mB)5.0/41*
*GCMT **07** 10:47:34.6±0.1, 1°.56S±0°.01×138°.84E±0°.01, $h12^{km}$, MW5.3/124, Moment Tensor Solution. s91,c138; s124,c211; Duration: 1ʖ1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.79±.01; $M_{\theta\theta}$-0.60±.01; $M_{\phi\phi}$-0.18±.01; $M_{r\theta}$-0.92±.03; $M_{r\phi}$0.37±.01; $M_{\theta\phi}$0.41±.03; Best double couple: $M_0$1.29000×10^{17} NP1:ϕ_s295.00000°, δ71.00000°, λ86.00000°. NP2:ϕ_s126.00000°, δ20.00000°, λ100.00000°. Principal axes: T 1.2770, Plg64.0000°, Azm199.0000°; N 0.0240, Plg3.0000°, Azm296.0000°; P -1.3020, Plg26.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 10:47:35.6±2.0, 1°.77S±0°.08×138°.78E±0°.05, $h34^{km}$±1^{km}, mb5.2/100*

ISC 07 10:47:34.9±0.2, 1°.80S±0°.03×138°.76E±0°.03, $h29^{km}$, n416, σ1ʖ73/396, mb5.2/135, MS4.6/45, 15C-6D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.20**	**194**	P	**Pn**	**10 47 41.5**	**-0.4**
SMPI				S	**Sb**	**10 47 47.7**	**+2.7**
GENI	**Genyem**	**1.61**	**119**	P	**Pn**	**10 48 01.1**	**-0.3**
GENI				S	**Sb**	**10 48 27.4**	**+3.4**
JAY	**Jayapura**	**2.07**	**110**	Pn	**Pn**	**10 48 06.2**	**-1.5**
	75nm,0.3s,baz=248,slow=9.4,SNR=164						
JAY				Sn	**Sn**	**10 48 30.1**	**-2.5**
	142nm,0.3s,baz=104,slow=16,SNR=7.9						
JAY				LR	LR	10 48 34.3	
	comp=Z,3μm,18.2s,baz=328,slow=30						
JAY	**Jayapura**	**2.07**	**110**	P	**Pn**	**10 48 06.1**	**-1.7**
SRPI	**Serui, Papua**	**2.52**	**268**	P	**Pn**	**10 48 13.5**	**-0.4**
BAKI	**Biak**	**2.72**	**283**	P	**Pn**	**10 48 15.2**	**-1.4**
RKPI	**Ransiki, Papua**	**4.59**	**274**	P	**Pn**	**10 48 43.4**	**+1.1**
FAKI	**Fak Fak**	**6.60**	**260**	P	**Pn**	**10 49 10.5**	**+0.5**
	190nm,0.7s,2μm0.9nm						
FAKI	**Fak Fak**	**6.60**	**260**		**Pn**	**10 49 10.4**	**+0.4**
FAKI				Sn	**Sn**	**10 50 25.1**	**+0.8**
MMPI	**Merauke**	**6.82**	**166**	P	**Pn**	**10 49 16.0**	**+3.0**
	732nm,0.6s,6.7nm						
SIJI	**Sorong**	**7.55**	**277**	Pn	**Pn**	**10 49 23.2**	**+0.2**
	6.3nm,0.3s,baz=35,slow=20,SNR=17						
SIJI				Sn	**Sn**	**10 50 51.5**	**+3.8**
	baz=270,slow=20,SNR=2.6						
SWI	**Sorong**	**7.55**	**277**	P	**Pn**	**10 49 23.4**	**+0.3**
	83nm,0.7s,2μm0.4nm						
MANU	**Manus Island**	**8.61**	**92**		**Pn**	**10 49 39.2**	**+1.6**
BNDI	**Bandanaira**	**9.24**	**253**	P	**Pn**	**10 49 46.7**	**+0.4**
	267nm,0.8s						
SAUI	**Saumlaki**	**9.64**	**230**	Pn	**Pn**	**10 49 50.5**	**-1.2**
MSAI	**Masohi**	**9.94**	**261**	P	**Pn**	**10 49 57.8**	**+1.9**
	44nm,0.9s,675nm						
AAI	**Ambon**	**10.72**	**260**	P	**Pn**	**10 50 07.8**	**+1.3**
	120nm,0.7s						
PMG	**Port Moresby**	**11.27**	**132**	P	**Pn**	**10 50 16.1**	**+2.1**
PMG	**Port Moresby**	**11.27**	**132**	Pn	Pn	10 50 20.1	+6.0
	1.7nm,0.3s,baz=343,slow=4.6,SNR=10						
PMG				LR	LR	10 55 53.3	
	comp=Z,5μm,20.2s,baz=337,slow=44						
PMG	**Port Moresby**	**11.27**	**132**		**Pn**	**10 50 16.1**	**+2.1**
NLAI	**Namlea**	**11.73**	**263**	P	**Pn**	**10 50 21.1**	**+0.6**
	73nm,0.7s,2μm						
SANI	**Sanana**	**12.77**	**269**	P	**Pn**	**10 50 31.4**	**-3.2**
COEN	**Coen**	**12.85**	**160**		**Pn**	**10 50 35.1**	**-0.6**
MTN	**Manton Dam**	**13.32**	**214**		**Pn**	**10 50 42.4**	**+0.2**
KRVT	**Keravat (AS076**	**13.48**	**101**	Pn	**P**	**10 50 49.0**	**-4.2**
	1.0nm,0.3s,baz=56,slow=7.7,SNR=4.6						
KRVT				LR	LR	10 55 24.7	
	comp=Z,2μm,18.6s,baz=279,slow=35						
KMSI	**Cibinong**	**14.96**	**279**	P	**Pn**	**10 51 04.4**	**-0.1**
	194nm,1.0s						
LUWI	**Luwuk**	**16.00**	**272**	P	**Pn**	**10 51 14.5**	**-3.5**
LUWI	**Luwuk**	**16.00**	**272**	P	**P**	**10 51 20.9**	**-0.3**
LUWI				IAmb	IAmb	10 52 02.5	
	comp=Z,142nm,0.9s						
KCP	**Kidapawan**	**16.20**	**303⇑**	*i*P	**P**	**10 51 26.0**	**+2.4**
KDI	**Kendari**	**16.26**	**262**	P	**P**	**10 51 22.7**	**-1.5**
	comp=Z,69nm,1.0s						
SOEI	**Soe**	**16.43**	**241**	P	**Pn**	**10 51 22.9**	**-0.8**
	comp=Z,363nm,1.1s,comp=Z,4μm						
SOEI	**Soe**	**16.43**	**241**		**Pn**	**10 51 23.3**	**-0.4**
GUMO	**Guam**	**16.45**	**21**	LR	LR	10 57 18.5	
	comp=Z,2μm,18.7s,baz=200,slow=36						
BBSI	**Bau Bau**	**16.56**	**257**	P	P	10 51 36.3	+8.8
KNRA	**Kununurra**	**16.95**	**215**		**Pn**	**10 51 29.4**	**-0.7**
MRSI	**Marisa**	**16.97**	**278**	P	**P**	**10 51 31.3**	**-0.7**
	comp=Z,36nm,1.0s						
APSI	**Ampana**	**17.13**	**273**	P	**P**	**10 51 32.7**	**-1.1**
	comp=Z,83nm,1.1s,comp=Z,1μm						
BATI	**Baumata**	**17.17**	**240**	P	**P**	**10 51 33.8**	**-0.4**
	comp=Z,55nm,0.3s,baz=176,slow=2.4,SNR=19						
BATI				S	**Sn**	**10 54 39.3**	**-3.8**
	comp=Z,2.2nm,0.3s,baz=86,slow=19,SNR=1.9						
BATI	**Baumata**	**17.17**	**240**	P	**P**	**10 51 33.5**	**-0.8**
	comp=Z,232nm,0.7s,comp=Z,2μm						
MMRI	**Maumere**	**17.79**	**247**	P	**P**	**10 51 42.2**	**+1.1**
	comp=Z,98nm,1.3s,comp=Z,3μm						
EDFI	**Ende, Flores**	**18.34**	**247**	P	**Pn**	**10 51 47.8**	**+0.5**
	comp=Z,54nm,0.9s						
WRAB	**Tennant Creek**	**18.53**	**193**	*d*P	**Pn**	**10 51 49.6**	**0.0**
WRAB				pmax	pmax		
	comp=Z,215nm,0.8s						
WRAB	**Tennant Creek**	**18.53**	**193**	P	**Pn**	**10 51 49.9

comp=Z,64nm,0.9s
EIDS Eidsvold 26.27 154 P **P 10 53 09.4 +1.5**
GRJI Gresik 26.68 258 P **P 10 53 11.5 -0.2**
comp=Z,150nm,0.9s,comp=Z,1μm
PSAD1 Pilbara Seismi 26.86 222 P **P 10 53 14.6 +1.3**
SBUM Sibu 26.86 279 P **P 10 53 14.7 +1.3**
PSAD2 Pilbara Seismi 26.89 222 P **P 10 53 14.7 +1.1**
PSAD2 IAmb IAmb 10 53 19.1
comp=Z,55nm,0.8s
PSA00 Pilbara Seismi 26.93 222 P **P 10 53 13.9 0.0**
PSA00 Pilbara Seismi 26.93 222 IAmb IAmb 10 53 16.6
comp=Z,62nm,0.8s
STKI Sintang 27.34 274 P **P 10 53 18.2 +0.5**
PWJI Pagerwojo 27.54 256 P **P 10 53 18.5 -1.0**
comp=Z,83nm,0.9s
NGJI Ngawi 27.75 258 P **P 10 53 21.6 +0.2**
comp=Z,52nm,1.0s
KSM Kuching 28.63 276 P **P 10 53 29.9 +0.7**
JCJ Chichijima 28.92 6 LR LR 11 02 29.9
comp=Z,834nm,20.4s,baz=172,slow=31
STKA Stephens Creek 30.04 175 P **P 10 53 42.0 +0.6**
comp=Z,38nm,0.8s,baz=343,slow=8.7,SNR=43
STKA LR LR 11 07 23.1
comp=Z,2μm,19.2s,baz=346,slow=40
KPJI Karang Pucung 30.22 259 P **P 10 53 43.6 +0.3**
comp=Z,49nm,0.8s
FORT Forrest 30.55 198 P **P 10 53 47.4 +1.4**
BBOO Buckleboo 30.95 184 P **P 10 53 50.5 +0.9**
BBOO IAmb IAmb 10 53 54.4
comp=Z,48nm,0.8s
ARMA Armidale 30.97 158 P **P 10 53 51.4 +1.5**
ARMA IAmb IAmb 10 53 56.7
comp=Z,29nm,0.7s
TPI Tanjungpandan 31.09 268 P **P 10 53 52.6 +1.6**
comp=Z,47nm,0.9s,comp=Z,412nm
GIRL Giralia 31.57 227 P **P 10 53 52.7 -2.4**
DZM Mont Dzumac 33.63 129 *e*LR LR 11 03 16.7
comp=Z,1μm,27.6s
DZM Mont Dzumac 33.63 129 LR LR 11 07 34.6
comp=Z,653nm,20.5s,baz=310,slow=36
H11S3 WAKE ISLAND Hy 34.08 52 T T 11 30 07.5
baz=241
H11S2 WAKE ISLAND Hy 34.10 53 T T 11 30 08.7
baz=241
H11S1 WAKE ISLAND Hy 34.10 52 T T 11 30 08.7
baz=241
MORW Morawa 34.70 216 IAmb IAmb 10 54 25.5
comp=Z,30nm,0.7s
H11N1 WAKE ISLAND Hy 34.92 51 T T 11 31 14.6
baz=292
H11N2 WAKE ISLAND Hy 34.94 51 T T 11 31 13.7
baz=292
H11N3 WAKE ISLAND Hy 34.94 51 T T 11 31 14.9
baz=292
QIZ Qiongzhong 35.16 307 P **P 10 54 26.0 -0.4**
QIZ S **S 10 59 55.6 -2.3**
QIZ SS **SS 11 02 28.7 -2.7**
QIZ pmax pmax
comp=Z,25nm,1.5s
QIZ LR LR
comp=Z,490nm,15.2s
QIZ LR LR
comp=Z,610nm,16.2s
LHSI Lahat 35.25 266 P **P 10 54 28.1 +0.8**
comp=Z,98nm,1.1s
JNU Nakatsue 35.52 349 P **P 10 54 30.8 +1.4**
comp=Z,26nm,0.9s,baz=114,slow=8.3,SNR=5.8
JNU LR LR 11 06 36.6
comp=Z,1μm,21.3s,baz=162,slow=32
JNU Nakatsue 35.52 349 P **P 10 54 29.5 +0.1**
JNU IAmb IAmb 10 54 36.0
comp=Z,34nm,1.0s
TOO Toolangi 36.13 171 P **P 10 54 35.9 +1.3**
TOO pmax pmax
comp=Z,46nm,1.0s
TOO Toolangi 36.13 171 P **P 10 54 35.9 +1.3**
TOO IAmb IAmb 10 54 41.4
comp=Z,46nm,0.9s
NWAO Narrogin (SRO) 36.98 211 P **P 10 54 42.5 +0.7**
comp=Z,45nm,0.9s,baz=42,slow=9.6,SNR=10
NWAO Narrogin (SRO) 36.98 211 P **P 10 54 43.0 +1.2**
NWAO IAmb IAmb 10 54 46.2
comp=Z,49nm,0.9s
BKNI Bangkinang 37.77 273 P **P 10 54 48.2 -0.6**
comp=Z,99nm,0.9s
MJAR Matsushiro Arr 38.15 359 P **P 10 54 53.0 +1.3**
comp=Z,3.5nm,0.9s,baz=178,slow=8.5,SNR=3.6
MJAR LR LR 11 08 19.1
comp=Z,811nm,20.2s,baz=175,slow=33
IPM Ipoh 38.22 280 P **P 10 54 52.4 -0.3**
PDSI Padang 38.30 271 P **P 10 54 52.4 -0.9**
comp=Z,66nm,0.7s
NJ2 Nanjing 38.59 332 *e*P **P 10 54 56.6 +1.1**
NJ2 pP **sP 10 55 05.9 -1.7**
NJ2 S **S 11 00 52.2 +2.2**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,370nm,3.9s
NJ2 LR LR
comp=Z,790nm,17.1s
NJ2 LR LR
comp=Z,660nm,16.9s
NJ2 LR LR
comp=Z,1μm,16.1s
KULM Kulim 38.71 281 P **P 10 54 56.1 -0.6**
KULM IAmb IAmb 10 54 58.2
comp=Z,43nm,0.8s
SKLT Songkhla 39.09 284 P **P 10 55 00.5 +0.6**
comp=Z,19nm,0.9s,comp=Z,374nm
TJN Taejon 39.44 345⇑ *e*P **P 10 55 01.9 -0.5**
SISI Saibi 39.66 270 P **P 10 55 03.9 -0.8**
comp=Z,170nm,0.8s,comp=Z,1μm
WHN Wuhan 39.69 326 ⇑P **P 10 55 06.5 +1.8**
WHN S **S 11 01 03.8 -2.8**
WHN pmax pmax
comp=Z,83nm,1.3s
WHN pmax pmax
comp=Z,320nm,9.4s
WHN LR LR
comp=Z,700nm,8.5s
WHN LR LR
comp=Z,2μm,20.0s
WHN LR LR
comp=Z,1μm,19.6s
RPSI Rantau Prapat 40.07 276 P **P 10 55 07.7 -0.4**
PSI Prapat 40.08 276 P **P 10 55 07.7 -0.7**
PSI pmax pmax
comp=Z,60nm,0.8s
TRTT Trang 40.12 284 P **P 10 55 08.3 -0.2**
comp=Z,82nm,0.8s,comp=Z,910nm
NONG Nongkai 40.23 301 P **P 10 55 08.5 -0.9**
comp=Z,0.9nm,0.9s
KSRS Korea Array 40.33 347 P **P 10 55 11.0 +1.2**
comp=Z,2.2nm,0.8s,baz=161,slow=9.5,SNR=5.0
KSRS LR LR 11 11 10.3
comp=Z,572nm,18.1s,baz=162,slow=35
CHAI Chaiyaphum 40.37 297 P **P 10 55 09.6 -0.9**
comp=Z,50μm,0.7s,comp=Z,495μm
SLVN Son La 41.11 306 P **P 10 55 16.5 -0.2**
SURT Suratani 41.23 286 P **P 10 55 19.5 +1.8**
comp=Z,15nm,0.8s,comp=Z,599nm
PKDT Phuket 41.45 284 P **P 10 55 19.5 0.0**
comp=Z,46nm,0.8s,comp=Z,8μm
PHET Kaeng Krachan 41.49 292 P **P 10 55 20.7 +0.9**
comp=Z,73μm,0.8s
PBKT Sadao Pong 41.52 298 P P 10 55 26.9 +6.9
PBKT Sadao Pong 41.52 298 P **P 10 55 19.4 -0.6**
MSVF Nonsavu 41.70 115 *c i*P **P 10 55 23.9 +2.4**
MSVF pmax pmax
comp=Z,48nm,1.4s
MSVF Nonsavu 41.70 115 P **P 10 55 23.7 +2.2**
MSVF IAmb IAmb 10 55 35.8
comp=Z,42nm,1.0s
GYA Guiyang 41.82 314 *e*P **P 10 55 25.9 +3.4**
GYA PP **PnPn 10 57 04.9 +0.3**
GYA S **S 11 01 40.3 +1.7**
GYA SS **SS 11 04 43.9 -1.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,630nm,17.0s
GYA LR LR
comp=Z,570nm,17.1s
GYA LR LR
comp=Z,580nm,17.5s
LHMI Lhok Sumawe 42.34 280 P **P 10 55 28.1 +1.3**
comp=Z,259nm,0.8s
LHMI Lhok Sumawe 42.34 280 P **P 10 55 26.2 -0.6**
ENH Enshi 42.38 321 IAmb IAmb 10 55 34.6
comp=Z,43nm,1.3s
SRDT SRDT 42.41 294 P P 10 55 35.8 +8.5
UTHA Uthaitani 42.52 295 P **P 10 55 28.2 0.0**
comp=Z,42μm,0.8s
NANT Nan 42.65 300 P **P 10 55 28.8 -0.4**
comp=Z,326μm,1.0s
MLSI Meulaboh, Aceh 42.75 278 P **P 10 55 33.4 +3.3**
TIA Tai'an 42.86 334 P **P 10 55 31.0 +0.4**
TIA pmax pmax
comp=Z,14nm,0.9s
KHLT Khaolaem Dam 43.04 294 P P 10 55 36.9 +4.5
comp=Z,30nm,1.6s
UMPA Umpang Tak 43.27 296 P **P 10 55 35.8 +1.5**
comp=Z,29μm,0.8s
LAMP Lampang 43.46 299 P **P 10 55 37.0 +1.2**
comp=Z,57μm,0.8s
DL2 Dalian 43.47 340 P **P 10 55 35.5 0.0**
DL2 S **S 11 01 59.8 -2.5**
DL2 pmax pmax
comp=Z,28nm,1.1s
DL2 pmax pmax
comp=Z,210nm,5.3s
DL2 LR LR
comp=Z,370nm,24.5s
DL2 LR LR
comp=Z,610nm,21.0s
DL2 LR LR
comp=Z,670nm,18.2s
PAYA Payao 43.59 301 P **P 10 55 36.4 -0.5**
comp=Z,110μm,0.8s
ERM Erimo 43.79 5⇓ *e*P **P 10 55 41.2 +3.2**
ERM pmax pmax
comp=Z,45nm,1.1s
KMI Kunming 43.97 310 P **P 10 55 41.9 +1.8**
KMI pP pP 10 55 49.0 +0.2
KMI sP sP 10 55 56.3 +4.0
KMI PP **PcP 10 57 23.9 -1.8**
KMI S **S 11 02 09.4 -1.1**
KMI sS sS 11 02 26.4 +1.5
KMI pmax pmax
comp=Z,16nm,1.0s
KMI pmax pmax
comp=Z,230nm,4.4s
KMI LR LR
comp=Z,390nm,18.0s
KMI LR LR
comp=Z,360nm,17.6s
KMI LR LR
comp=Z,600nm,20.2s
CM31 Chiang Mai Arr 44.03 299 P **P 10 55 40.2 -0.2**
SNR=8.2
CMAR Chiang Mai Arr 44.03 299 P **P 10 55 40.3 -0.1**
comp=Z,8.6nm,0.7s,baz=118,slow=6.6,SNR=44
CMAR PcP **PcP 10 57 27.3 +1.6**
comp=Z,5.5nm,0.8s,baz=136,slow=2.4,SNR=7.6
CMAR LR LR 11 16 21.5
comp=Z,166nm,18.8s,baz=85,slow=39
CMMT Chiang Mai 44.17 299 P **P 10 55 41.3 -0.2**
comp=Z,8.5nm,0.9s,comp=Z,276nm
CHTO Chiang Mai 44.17 299 P **P 10 55 41.0 -0.5**
SNR=9.2
CHTO Chiang Mai 44.17 299 P **P 10 55 41.4 -0.1**
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO Chiang Mai 44.17 299 P **P 10 55 41.4 -0.1**
MHMT Maesarieng 44.82 298 P P 10 55 54.9 +8.3
XAN Xi'an 45.36 325 P **P 10 55 50.2 -0.6**
XAN pP pP 10 55 59.1 -0.5
XAN S **S 11 02 26.6 -3.6**
XAN pmax pmax
comp=Z,24nm,1.7s
XAN LR LR
comp=Z,350nm,12.7s
XAN LR LR
comp=Z,320nm,14.7s
XAN Xi'an 45.36 325 P **P 10 55 50.8 0.0**
XAN pmax pmax
comp=Z,60nm,1.3s
XAN Xi'an 45.36 325 P **P 10 55 50.8 0.0**
XAN IAmb IAmb 10 55 54.5
comp=Z,60nm,1.3s
SNY Shenyang 45.55 344 ⇑P **P 10 55 53.4 +1.3**
SNY S **S 11 02 29.8 -2.7**
SNY pmax pmax
comp=Z,32nm,2.4s
SNY pmax pmax
comp=Z,280nm,4.0s
SNY LR LR
comp=Z,680nm,14.3s
SNY LR LR
comp=Z,630nm,15.7s
SNY LR LR
comp=Z,1μm,18.4s
JKA Kamikawa-asahi 45.84 4 P **P 10 55 54.2 -0.1**
ASAJ Asahikawa 45.84 4 P **P 10 55 54.2 -0.1**
comp=Z,5.8nm,0.8s,baz=310,slow=2.8,SNR=5.5
USA0B Ussuriysk Arra 46.19 353⇑ *e*P **P 10 55 57.2 +0.1**
USRK Ussuriysk Ar. 46.19 353 P **P 10 55 57.2 +0.1**
USRK Ussuriysk Ar. 46.19 353 P **P 10 55 57.5 +0.4**
comp=Z,5.9nm,1.0s,baz=187,slow=6.8,SNR=5.5
USRK LR LR 11 11 56.4
comp=Z,1μm,21.7s,baz=158,slow=32
USRK Ussuriysk Ar. 46.19 353 P **P 10 55 57.2 +0.1**
TIY Taiyuan 46.25 331 *e*P **P 10 55 57.9 +0.1**
TIY S **S 11 02 41.6 -1.3**
TIY pmax pmax
comp=Z,230nm,4.4s
TIY LR LR
comp=Z,500nm,10.6s
TIY LR LR
comp=Z,390nm,11.8s
TIY LR LR
comp=Z,820nm,22.4s
BJI Beijing 46.49 336 ⇑ *i*P **P 10 56 00.3 +0.8**
BJI pP **sP 10 56 10.1 -1.6**
BJI sP **pP 10 56 13.5 +5.3**
BJI S **S 11 02 46.5 +0.6**
BJI pmax pmax
comp=Z,23nm,1.7s
BJI LR LR
comp=Z,670nm,20.3s
BJI LR LR
comp=Z,680nm,22.6s
CD2 Chengdu 46.55 317 P **P 10 56 00.5 +0.3**
CD2 sP sP 10 56 12.7 +0.3
CD2 S **S 11 02 43.3 -4.0**
CD2 SS **SS 11 06 16.1 +2.4**
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 pmax pmax
comp=Z,320nm,5.7s
CD2 LR LR
comp=Z,780nm,18.5s
CD2 LR LR
comp=Z,700nm,18.5s
CD2 LR LR
comp=Z,710nm,18.5s
CN2 Changchun 46.94 347 *e*P **P 10 56 04.5 +1.5**
CN2 *e*S **S 11 02 53.0 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,800nm,25.0s
YSS Yuzh-Sakhalins 48.68 4 *e*P **P 10 56 17.8 +1.4**
YSS pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 49.15 333 P **P 10 56 22.0 +1.7**
HHC pmax pmax
comp=Z,6.0nm,0.8s
RAO Raoul Island 49.41 128 LR LR 11 15 34.7
comp=Z,235nm,20.8s,baz=312,slow=34
BTO Baotou 49.68 331 *e*P **P 10 56 26.2 +1.9**
BTO S **S 11 03 28.8 -2.6**
LZH Lanzhou 49.79 323 ⇑P **P 10 56 27.2 +1.9**
LZH sP sP 10 56 42.0 +4.4
LZH S **S 11 03 33.4 +0.2**
LZH sS sS 11 03 49.2 +1.5
LZH *e*SS **SS 11 07 03.5 -2.7**
LZH pmax pmax
comp=Z,58nm,1.3s
LZH pmax pmax
comp=Z,290nm,5.4s
LZH LR LR
comp=Z,410nm,14.3s
LZH LR LR
comp=Z,660nm,14.1s
LZH LR LR
comp=Z,790nm,16.3s
URZ Urewera 50.48 141 LR LR 11 18 06.5
comp=Z,536nm,20.1s,baz=318,slow=36
BKZ Black Stump Fm 50.65 142 P **P 10 56 32.8 +1.1**
BKZ IAmb IAmb 10 56 33.7
comp=Z,22nm,0.8s
RPZ Rata Peaks 50.65 150 P **P 10 56 32.1 +0.6**
RPZ IAmb IAmb 10 57 13.6
comp=Z,28nm,1.0s
BSWZ Blackbirch Sta 50.74 146 P **P 10 56 32.5 +0.2**
WHZ Wether Hill Ro 50.82 154 P **P 10 56 31.9 -0.9**
OXZ Oxford 50.87 149 P **P 10 56 34.2 +1.0**
KHZ Kahutara 51.03 147 P **P 10 56 34.2 -0.2**
KLR Kul'dur 51.19 354⇓ *e*P **P 10 56 35.6 +0.2**
KLR pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 51.19 354 P **P 10 56 35.9 +0.4**
comp=Z,4.4nm,0.6s,baz=168,slow=8.7,SNR=16
BFZ Birch Farm 51.44 144 P **P 10 56 36.7 -0.8**
SKR Severo-Kuril's 54.35 14 *e*P P 10 57 08.9 +10
GTA Gaotai 54.37 323 *e*P **P 10 56 59.3 -0.1**
GTA pP pP 10 57 07.4 -0.8
GTA sP sP 10 57 12.2 +0.5
GTA S **S 11 04 33.6 -2.4**
GTA sS sS 11 04 51.4 +0.8
GTA SS **SS 11 08 17.2 -1.4**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,150nm,8.3s
GTA LR LR
comp=Z,230nm,19.0s
GTA LR LR
comp=Z,230nm,18.1s
GTA LR LR
comp=Z,380nm,20.0s
ZEA Zeya 56.17 352 *e*P **P 10 57 14.2 +2.4**
ZEA pmax pmax
comp=Z,37nm,1.4s
ULN Ulaanbaatar 56.66 335 P **P 10 57 16.1 +0.4**
SNR=13
ULN Ulaanbaatar 56.66 335⇓ *e*P **P 10 57 16.1 +0.4**
ULN pmax pmax
comp=Z,68nm,2.5s
ULN Ulaanbaatar 56.66 335 P **P 10 57 16.2 +0.5**
ULN IAmb IAmb 10 57 20.5
comp=Z,58nm,1.6s
SONM Songino Array 56.92 335 P **P 10 57 17.4 -0.1**
comp=Z,3.1nm,0.7s,baz=157,slow=8.2,SNR=14
SONM LR LR 11 22 42.6
comp=Z,966nm,18.8s,baz=136,slow=37
PETK Petropavlovsk- 56.97 13 P **P 10 57 18.1 +0.6**
comp=Z,3.4nm,0.8s,baz=187,slow=5.0,SNR=5.2
PETK LR LR 11 18 17.8
comp=Z,543nm,21.9s,baz=231,slow=32
TAPN Taplejung 57.00 304 *e*P **P 10 57 18.9 +0.3**
ODAN Odare 57.08 304 *e*P **P 10 57 18.9 -0.3**
comp=Z,76nm,1.0s
PET Petropavlovsk 57.12 14 *e*P **P 10 57 21.8 +3.2**
PET *e*S **S 11 05 12.0 +0.2**
RAMN Ramite 57.77 304 *e*P **P 10 57 23.9 -0.1**
comp=Z,30nm,0.9s
JIRN Jiri 58.37 304 *e*P **P 10 57 28.1 -0.3**
comp=Z,47nm,0.8s
GUN Gumba 58.71 304 *e*P **P 10 57 30.4 -0.3**
comp=Z,61nm,1.0s
PKI Pulchoki 58.98 304 *e*P **P 10 57 31.9 -0.7**
comp=Z,23nm,0.9s
PKIN Phulchoki 58.99 304 *e*P **P 10 57 31.9 -0.7**
comp=Z,15nm,0.8s
KKN Kakani 59.17 304 *e*P **P 10 57 33.5 -0.2**
comp=Z,42nm,0.8s
DMN Daman 59.25 304 *e*P **P 10 57 34.1 -0.3**
comp=Z,74nm,1.1s
GKN Gorkha 59.77 304 *e*P **P 10 57 37.7 -0.2**
comp=Z,65nm,0.9s
ZAK Zakamensk 60.19 335 *e*P **P 10 57 38.6 -1.6**
ZAK pmax pmax
comp=Z,31nm,1.3s
KOLN Koldanda 60.56 303 *e*P **P 10 57 43.2 -0.1**
comp=Z,47nm,1.0s
DANN Dangsing 60.62 304 *e*P **P 10 57 43.4 -0.4**
comp=Z,65nm,0.8s
TLY Talaya 61.01 336 P **P 10 57 46.4 +0.7**
SNR=6.4
TLY Talaya 61.01 336 *e*P **P 10 57 48.3 +2.6**
TLY *e*S **S 11 06 08.5 +6.1**
TLY *e* 11 07 37.9
TLY pmax pmax
comp=Z,63nm,1.1s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 61.01 336 P **P 10 57 45.7 0.0**
comp=Z,6.8nm,0.7s,baz=45,slow=7.1,SNR=5.0
TLY Talaya 61.01 336 P **P 10 57 44.4 -1.3**
TLY IAmb IAmb 10 57 53.1
comp=Z,31nm,1.3s
MOY Mondy 62.12 334 *e*P **P 10 57 53.9 +0.7**
MOY pmax pmax
comp=Z,95nm,2.2s
HYB Hyderabad 62.30 291 *i* P **P 10 57 54.0 -1.0**
BOD Bodaibo 62.65 345 *e*P **P 10 57 57.7 +1.2**
BOD pmax pmax
comp=Z,22nm,1.9s
YAK Yakutsk 64.03 355 *e*P **P 10 58 05.6 0.0**
YAK *e**PP **sP 10 58 22.9 +4.9**
YAK *e*S **S 11 06 39.0 -0.9**
YAK *e**SS sS 11 07 03.5 +8.7
YAK *e* 11 07 54.7
YAK *e*SS **SS 11 10 43.0 -6.2**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,128nm,3.2s
YAK pmax pmax
comp=N,127nm,3.2s
YAK pmax pmax
comp=E,136nm,3.0s
YAK smax smax
comp=N,386nm,4.2s
YAK smax smax
comp=E,384nm,4.1s
YAK Yakutsk 64.03 355 P **P 10 58 06.8 +1.2**
comp=E,7.8nm,0.4s,baz=180,slow=1.4,SNR=10
YAK Yakutsk 64.03 355 P **P 10 58 04.8 -0.8**
WMQ Urumqi 64.33 321 *e*P **P 10 58 09.6 +1.5**
WMQ pP sP 10 58 19.3 -1.2
WMQ pmax pmax
comp=E,31nm,0.9s
WMQ pmax pmax
comp=E,240nm,5.7s
WMQ LR LR
comp=E,260nm,22.5s
WMQ LR LR
comp=E,890nm,27.3s
SEY Seymchan 65.38 7⇓ *e*P **P 10 58 15.6 +1.2**
SEY Seymchan 65.38 7 P **P 10 58 15.9 +1.5**
comp=E,3.5nm,0.8s,baz=128,slow=9.4,SNR=4.4
CASY Casey 67.37 192 P **P 10 58 28.2 +1.2**
MK31 Makanchi Array 69.10 322 IAmb IAmb 10 58 43.1
comp=Z,50nm,1.6s
MKAR Makanchi Array 69.10 322 P **P 10 58 38.4 0.0**
comp=Z,11nm,0.5s,baz=104,slow=8.5,SNR=66
MKAR LR LR 11 31 28.9
comp=Z,184nm,18.2s,baz=104,slow=38
MAKZ Makanchi 69.30 322 P **P 10 58 39.6 0.0**
MAKZ pmax pmax
comp=Z,22nm,0.7s
MAKZ Makanchi 69.30 322 P **P 10 58 39.6 0.0**

MAKZ IAmb IAmb 10 58 41.3
comp=Z,22nm,0.7s
KSH Kashi 70.50 313 P **P** **10 58 48.1 +0.8**
KSH sP sP 10 59 02.1 +2.3
KSH PP **PP** **11 01 27.1 +3.4**
KSH S **S** **11 07 55.6 -3.3**
KSH pmax pmax
comp=Z,41nm,1.1s
KSH pmax pmax
comp=Z,500nm,6.8s
KSH LR LR
comp=Z,270nm,12.3s
KSH LR LR
comp=Z,430nm,14.3s
KSH LR LR
comp=Z,670nm,14.8s
NIL Nilore 70.82 307 P **P** **10 58 49.6 +0.4**
NIL pmax pmax
comp=Z,22nm,0.8s
NIL Nilore 70.82 307 P **P** **10 58 49.6 +0.4**
NIL IAmb IAmb 10 58 53.3
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 71.18 330 P **P** **10 58 49.8 -1.1**
comp=Z,6.2nm,0.5s,baz=109,slow=6.1,SNR=24
ZALV LR LR 11 29 52.3
comp=Z,276nm,20.8s,baz=104,slow=36
KZA Kyzart 71.87 315 P **P** **10 58 57.0 +1.1**
SNR=17
TKM2 Tokmak 2 71.92 316 P **P** **10 58 56.1 +0.2**
SNR=9.7
PPT Papeete 71.98 108 LR LR 11 28 05.7
comp=Z,130nm,19.6s,baz=270,slow=34
PPT2 Papeete2 71.99 108 *e*S **S** **11 08 15.9 -0.8**
comp=Z,147nm,29.0s
PPT2 *e*LQ LQ 11 17 55.4
comp=Z,667nm,37.5s
PPT2 *e*LR LR 11 21 04.8
comp=Z,592nm,25.5s
UCH Uchtor 72.44 315 P **P** **10 59 00.1 +0.8**
SNR=19
TBI Tubuai 72.57 114 *e*S **S** **11 08 23.4 +0.3**
comp=Z,154nm,37.5s
TBI *e*LQ LQ 11 18 15.2
comp=Z,621nm,36.0s
TBI *e*LR LR 11 21 20.5
comp=Z,479nm,29.2s
AAK Ala-Archa 72.59 316*ce*P **P** **10 59 00.1 +0.3**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 72.59 316 P **P** **10 59 00.5 +0.7**
baz=101,slow=5.2
USP Ospenovka 72.80 316 P **P** **10 59 01.2 +0.3**
SNR=9.9
AML Almayashu 72.98 315 P **P** **10 59 03.0 +0.6**
SNR=15
KURK Kurchatov 73.00 325 P **P** **10 59 01.6 -0.3**
SNR=12
KURK Kurchatov 73.00 325*c i*P **P** **10 59 01.3 -0.6**
KURK pmax pmax
comp=Z,36nm,1.3s
KURK Kurchatov 73.00 325 P **P** **10 59 01.6 -0.3**
KURK IAmb IAmb 10 59 03.3
comp=Z,19nm,0.7s
KURBB Kurchatov Arra 73.02 325 P **P** **10 59 01.6 -0.4**
comp=Z,16nm,0.8s,baz=114,slow=5.6,SNR=43
EKS2 Erkin-Say 73.10 316 P **P** **10 59 03.8 +1.0**
SNR=6.8
TIXI Tiksi 73.60 357⇑*e*P **P** **10 59 04.9 -0.1**
TIXI pmax pmax
comp=Z,22nm,2.5s
TIXI Tiksi 73.60 357 P **P** **10 59 05.6 +0.6**
KBL Kabul 74.43 307 P **P** **10 59 10.7 -0.2**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 74.43 307 P **P** **10 59 10.7 -0.2**
SBA Scott Base 77.44 174 P **P** **10 59 28.8 +1.9**
SBA pmax pmax
comp=Z,15nm,1.3s
SBA Scott Base 77.44 174 P **P** **10 59 28.8 +1.9**
BVAR Borovoye Array 78.60 325 P **P** **10 59 33.7 -0.1**
comp=Z,25nm,0.6s,baz=112,slow=7.9,SNR=96
BRVK Borovoye 78.67 325 P **P** **10 59 34.2 0.0**
SNR=14
BRVK Borovoye 78.67 325*c i*P **P** **10 59 34.1 -0.1**
BRVK pmax pmax
comp=Z,31nm,0.9s
BRVK Borovoye 78.67 325 P **P** **10 59 34.3 +0.1**
NRIK Noril'sk 78.87 344 P **P** **10 59 35.5 +0.5**
comp=Z,4.6nm,0.5s,baz=106,slow=4.5,SNR=12
NRIK LR LR 11 34 54.9
comp=Z,312nm,21.4s,baz=124,slow=36
SVW2 Sparrevohn 80.05 27 P **P** **10 59 41.7 +0.2**
SVW2 IAmb IAmb 10 59 49.3
comp=Z,44nm,1.4s
KDAK Kodiak Island 80.30 30 P **P** **10 59 42.9 -0.1**
comp=Z,9.1nm,0.6s,baz=217,slow=5.1,SNR=14
KDAK Kodiak Island 80.30 30 IAmb IAmb 10 59 47.6
comp=Z,65nm,1.3s
WBK Wadi Bani Khal 81.27 293 P **P** **10 59 48.7 -0.2**
CNPM China Poot 81.53 29 P **P** **10 59 48.8 -0.8**
BRLK Bradley Lake 81.77 29 IAmb IAmb 10 59 56.0
comp=Z,25nm,1.0s
BIDO Bidbid 82.13 294 P **P** **10 59 53.8 +0.3**
SNR=5.2
SKT Skwentna 82.17 27 P **P** **10 59 51.8 -1.1**
SKT IAmb IAmb 10 59 59.8
comp=Z,68nm,1.8s
HOQ Hoqain 82.88 294 P **P** **10 59 57.3 -0.1**
SNR=6.0
KTH Kantishna Hill 82.94 25 IAmb IAmb 11 00 03.3
comp=Z,16nm,0.9s
MAW Mawson 82.98 202 P **P** **10 59 57.9 +1.0**
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW Mawson 82.98 202 P **P** **10 59 58.0 +1.0**
comp=Z,5.8nm,1.0s,baz=83,slow=6.7,SNR=19
MAW LR LR 11 35 32.4
comp=Z,452nm,18.1s,baz=62,slow=35
MAW Mawson 82.98 202 P **P** **10 59 57.9 +1.0**
PMR Palmer 83.14 27 IAmb IAmb 11 00 01.4
comp=Z,24nm,1.2s
SML Sawmill 83.57 27 P **P** **11 00 00.2 +0.1**
ARQ Araqi 83.58 294 P **P** **11 00 01.0 0.0**
SNR=6.9
GEYT Alibeck 83.72 308 P **P** **11 00 00.8 -0.6**
comp=Z,5.1nm,0.8s,baz=205,slow=6.2,SNR=6.7
GEYT LR LR 11 39 19.4
comp=Z,221nm,21.2s,baz=55,slow=37
GEYT Alibeck 83.72 308 P **P** **11 00 01.0 -0.5**
RND Reindeer 83.79 26 IAmb IAmb 11 00 09.1
comp=Z,24nm,1.0s
UOSS Minazif 84.00 295 P **P** **11 00 02.3 -0.8**
SCM Sheep Creek Mo 84.03 27 IAmb IAmb 11 00 09.5
comp=Z,27nm,1.0s
ABKAR Abkulak array 84.06 320 IAmb IAmb 11 00 07.3
comp=Z,23nm,1.2s
WRH Wood River Hil 84.41 25 IAmb IAmb 11 00 11.5
comp=Z,32nm,1.2s
CCB Clear Creek Bu 84.58 24 IAmb IAmb 11 00 12.3
comp=Z,36nm,1.4s
COLA College 84.62 24⇑*e*P **P** **11 00 06.6 +1.3**
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 84.99 24 P **P** **11 00 06.0 -1.2**
comp=Z,4.2nm,1.0s,baz=259,slow=4.4,SNR=23
ILAR LR LR 11 31 57.1
comp=Z,309nm,21.9s,baz=238,slow=31
SVE Sverdlovsk 85.01 327 *e*P **P** **11 00 08.3 +0.8**
TOLK Toolik Lake Re 85.06 20 IAmb IAmb 11 00 20.0
comp=Z,31nm,1.2s
AKTO Aktyubinsk 85.48 321 P **P** **11 00 09.8 -0.3**
comp=Z,4.5nm,0.8s,baz=107,slow=7.3,SNR=12
GLB Gilahina Butte 85.58 28 IAmb IAmb 11 00 19.1
comp=Z,14nm,1.0s
WHFO Wadi Hawf 85.78 288 P **P** **11 00 11.4 -0.9**
ARU Arti 86.06 327*d i*P **P** **11 00 11.9 -0.9**
ARU S S 11 10 34.0 -11
ARU pmax pmax
comp=Z,14nm,0.9s
ARU Arti 86.06 327 P **P** **11 00 11.8 -0.9**
comp=Z,2.4nm,0.2s,baz=117,slow=2.3,SNR=13
ARU Arti 86.06 327 P **P** **11 00 11.7 -1.1**
ARU IAmb IAmb 11 00 13.3
comp=Z,12nm,0.8s
BALM Baldy 86.19 29 P **P** **11 00 13.3 -0.2**
BALM IAmb IAmb 11 00 21.1
comp=Z,16nm,1.1s

ABTO Aybut 86.20 287 P **P** **11 00 14.1 -0.3**
BARN Barnard Glacie 86.52 29 IAmb IAmb 11 00 22.2
comp=Z,13nm,0.8s
EGAK Eagle 87.39 25 IAmb IAmb 11 00 27.5
comp=Z,23nm,1.2s
QSPA South Pole Qui 88.14 180 P **P** **11 00 23.3 +0.5**
QSPA IAmb IAmb 11 00 33.8
comp=Z,26nm,1.2s
HYT Haines Junctio 88.50 29 IAmb IAmb 11 00 32.8
comp=Z,16nm,1.1s
SKAG Skagway 89.45 31 IAmb IAmb 11 00 33.9
comp=Z,14nm,1.0s
WHY Whitehorse 89.77 29 IAmb IAmb 11 00 38.4
comp=Z,12nm,1.1s
SYO Syowa Base 91.62 201⇑*e*P **P** **11 00 40.8 +2.0**
PRGR Permogore 93.06 331 *e*P **P** **11 00 43.1 -2.5**
PRGR pmax pmax
comp=Z,16nm,0.4s
RAYN Ar Rayn 93.70 293 P **P** **11 00 49.1 -0.4**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 93.70 293 P **P** **11 00 49.1 -0.4**
RAYN IAmb IAmb 11 00 50.6
comp=Z,8.4nm,0.8s
GNI Garni 94.23 310 LR LR 11 47 11.7
comp=Z,82nm,21.8s,baz=55,slow=38
KIV Kislovodsk 95.62 314 *e*P **P** **11 00 54.3 -3.7**
KIV pmax pmax
comp=Z,16nm,1.1s
KLMR Klimovskoe 96.07 331 *e*P **P** **11 00 57.9 -1.5**
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 96.07 331 *e*P **P** **11 00 58.0 -1.5**
KLMR AMP 11 01 08.1
comp=Z,14nm,1.5s
KLMR LQ LQ 11 35 18.9
KLMR LQ LQ 11 35 18.9
KLMR LR LR 11 44 41.1
VORD Divnogorie 97.36 321 *e*P **P** **11 01 02.1 -3.4**
VORD pmax pmax
comp=Z,5.0nm,0.5s
VSR Storozhevoye 97.41 321 *e*P **P** **11 01 03.2 -2.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 98.44 325 LR LR 11 47 36.3
comp=Z,52nm,21.1s,baz=12,slow=37
YKA Yellowknife Ar 99.23 27 LR LR 11 41 20.4
comp=Z,50nm,21.9s,baz=279,slow=33
ARCES ARCESS Array B 99.67 341 P **Pdif** **11 01 14.4 -1.1**
comp=Z,3.4nm,0.8s,baz=67,slow=6.9,SNR=8.5
ARCES LR LR 11 47 23.6
comp=Z,102nm,21.9s,baz=12,slow=36
CLL Collm 113.01 326 *e*SS SS 11 22 51.0 +11
CLL Lm MLR 11 58 00.0
comp=Z,500nm,19.3s
TXAR Lajitas Array 114.78 58 PKP **PKiKP** **11 06 13.5 0.0**
comp=Z,0.2nm,0.6s,baz=242,slow=1.9,SNR=2.8
TXAR PKKPab **PKKPab** **11 16 58.2 +1.3**
comp=Z,0.5nm,0.6s,baz=126,slow=6.5,SNR=4.2
JCT Junction City 117.76 56 PKiKP **PKPdf** **11 06 17.4 -1.8**
JCT Junction City 117.76 56 **PKPdf** **11 06 17.4 -1.8**
PLCA Paso Flores 129.94 151 PKiKP **PKPdf** **11 06 40.6 -1.7**
PLCA Paso Flores 129.94 151 PKP **PKiKP** **11 06 44.5 +1.4**
comp=Z,3.1nm,0.7s,baz=210,slow=4.0,SNR=7.0
PLCA Paso Flores 129.94 151 **PKPdf** **11 06 40.6 -1.7**
PVAQ Vaqueiros 133.03 323 *e*PKPdf **PKiKP** **11 06 52.0 +2.7**
MESJ Messejana 133.04 324 *e*PKPdf **PKiKP** **11 06 48.8 -0.5**
TORD Torodi Ar. Bea 136.04 287 PKhKP PKPpre 11 06 40.8
comp=Z,0.2nm,0.5s,baz=99,slow=2.9,SNR=3.7
PRVC Isla de Provid 138.68 72 *e*P PKiKP 11 07 09.9 +8.6
PRVC Isla de Provid 138.68 72 *e*P PKiKP 11 07 09.9 +8.6
UPA Univ. de Panam 141.25 78 *e*P PKiKP 11 07 17.9 +11
UPA Univ. de Panam 141.25 78 *e*P PKiKP 11 07 17.9 +11
UPD2 Meteti 142.79 78 *e*P PKiKP 11 07 19.9 +10
UPD2 Meteti 142.79 78 *e*P PKiKP 11 07 19.9 +10
KIC Kosan Boka 143.32 278 *e*P PKPbc 11 07 04.3 -0.4
comp=Z,18nm,0.8s
DBIC Dimbokro 143.41 279 PKhKP PKPpre 11 07 04.5
comp=Z,19nm,0.7s,baz=75,slow=4.1,SNR=21
CMBC Cumbal 143.42 91 *e*P **PKiKP** **11 07 15.9 +4.2**
CMBC Cumbal 143.42 91 *e*P **PKiKP** **11 07 15.9 +4.2**
TIC Toumodi 143.57 279 *e*P PKPbc 11 07 05.1 -0.3
LIC Lamto 143.62 278 *e*P **PKPdf** **11 07 06.0 -2.1**
comp=Z,35nm,0.8s
LVC Limon Verde 143.71 134 PKiKP **PKPdf** **11 07 08.0 -0.5**
LVC Limon Verde 143.71 134 **PKPdf** **11 07 08.0 -0.5**
MALC Bahia Malaga 143.89 86 *e*P **PKPdf** **11 07 07.9 -0.7**
MALC Bahia Malaga 143.89 86 *e*P **PKPdf** **11 07 07.9 -0.7**
CPAS1 Pasto 143.93 90 *e*P **PKiKP** **11 07 17.2 +4.5**
CPAS1 Pasto 143.93 90 *e*P **PKiKP** **11 07 17.2 +4.5**
BBAC Balboa, Cauca 144.01 89 *e*P PKPbc 11 07 05.9 -1.1
BBAC Balboa, Cauca 144.01 89 *e*P PKPbc 11 07 05.9 -1.1
CRUC La Cruz 144.31 90 *e*P **PKPdf** **11 07 09.2 -0.6**
CRUC La Cruz 144.31 90 *e*P **PKPdf** **11 07 09.2 -0.6**
SOTA Rioblanco 144.65 89 *e*P **PKPdf** **11 07 09.9 -0.7**
SOTA Rioblanco 144.65 89 *e*P **PKPdf** **11 07 09.9 -0.7**
PCON Cinco Dias 144.87 89 *e*P **PKPdf** **11 07 10.6 -0.5**
PCON Cinco Dias 144.87 89 *e*P **PKPdf** **11 07 10.6 -0.5**
YOTC Yotoco, Valle 144.88 86 *e*P **PKiKP** **11 07 14.6 +0.3**
YOTC Yotoco, Valle 144.88 86 *e*P **PKPdf** **11 07 09.2 -1.3**
YOTC Yotoco, Valle 144.88 86 *e*P **PKiKP** **11 07 14.6 +0.3**
YOTC Yotoco, Valle 144.88 86 *e*P **PKPdf** **11 07 09.2 -1.3**
CBOC Ciudad Bolivar 145.08 82 *e*P **PKiKP** **11 07 11.9 -2.9**
CBOC Ciudad Bolivar 145.08 82 *e*P **PKiKP** **11 07 11.9 -2.9**
GO01 Chusmiza 145.25 129 **PKiKP** **11 07 12.6 -2.8**
SJCC San Jacinto, C 145.32 75 *e*P **PKPdf** **11 07 11.2 +0.1**
SJCC San Jacinto, C 145.32 75 *e*P **PKPdf** **11 07 11.2 +0.1**
HELC Santa Helena 145.53 82 *e*P **PKPab** **11 07 11.2 -1.1**
HELC Santa Helena 145.53 82 *e*P **PKPab** **11 07 11.2 -1.1**
CFLOR Florencia 145.60 90 *e*P **PKiKP** **11 07 21.2 +5.5**
CFLOR Florencia 145.60 90 *e*P **PKiKP** **11 07 21.2 +5.5**
FLOC Florencia 145.60 90 *e*P **PKPab** **11 07 12.6 +0.4**
FLOC Florencia 145.60 90 *e*P **PKPab** **11 07 12.6 +0.4**
GUY2C Guyana, Caldas 145.78 83 *e*P **PKPdf** **11 07 10.6 -1.9**
GUY2C Guyana, Caldas 145.78 83 *e*P **PKPdf** **11 07 10.6 -1.9**
BETC Betania 145.82 88 *e*P **PKPdf** **11 07 09.9 -2.1**
BETC Betania 145.82 88 *e*P **PKPdf** **11 07 09.9 -2.1**
CIBA1 Ibague, SGC 145.96 85 *e*P **PKiKP** **11 07 20.5 +4.0**
CIBA1 Ibague, SGC 145.96 85 *e*P **PKiKP** **11 07 20.5 +4.0**
ORTC Ortega, Tolima 145.98 86 *e*P **PKPbc** **11 07 11.9 -1.2**
ORTC Ortega, Tolima 145.98 86 *e*P **PKPbc** **11 07 11.9 -1.2**
ZARC Zaragoza, Cauc 146.04 79 *e*P **PKPdf** **11 07 10.6 -1.8**
ZARC Zaragoza, Cauc 146.04 79 *e*P **PKPdf** **11 07 10.6 -1.8**
NORC Norcasia 146.24 83 *e*P **PKPab** **11 07 13.2 -1.4**
NORC Norcasia 146.24 83 *e*P **PKPab** **11 07 13.2 -1.4**
PTLC Puerto Leguiza 146.41 92 *e*P **PKPbc** **11 07 13.2 -1.1**
PTLC Puerto Leguiza 146.41 92 *e*P **PKPbc** **11 07 13.2 -1.1**
PTBC PUERTO BERRIO146.55 81 *e*P **PKPdf** **11 07 11.9 -1.3**
PTBC PUERTO BERRIO146.55 81 *e*P **PKPdf** **11 07 11.9 -1.3**
SMLC San Martn de 146.60 77 *e*P **PKPdf** **11 07 12.6 -0.7**
SMLC San Martn de 146.60 77 *e*P **PKPdf** **11 07 12.6 -0.7**
ROSC El Rosal 146.84 84 PKPbc **PKiKP** **11 07 16.9 -1.7**
comp=Z,14nm,0.6s,baz=322,slow=22,SNR=5.8
CODC Agustn Codazz 146.99 75 *e*P **PKPab** **11 07 15.9 -1.5**
CODC Agustn Codazz 146.99 75 *e*P **PKPab** **11 07 15.9 -1.5**
CCODA Codazzi, Cesar 146.99 75 *e*P **PKPdf** **11 07 11.9 -2.0**
CCODA Codazzi, Cesar 146.99 75 *e*P **PKPdf** **11 07 11.9 -2.0**
SPBC San Pablo de B 147.02 82 *e*P **PKPdf** **11 07 11.9 -2.2**
SPBC San Pablo de B 147.02 82 *e*P **PKPdf** **11 07 11.9 -2.2**
MACC Macarena, Meta 147.41 89 *e*P **PKPbc** **11 07 15.9 -1.3**
MACC Macarena, Meta 147.41 89 *e*P **PKPbc** **11 07 15.9 -1.3**
VILC Villavicencio, 147.51 85 *e*P **PKPdf** **11 07 13.2 -1.8**
VILC Villavicencio, 147.51 85 *e*P **PKPdf** **11 07 13.2 -1.8**
BARC Barichara 147.80 81 *e*P **PKPab** **11 07 20.5 -0.4**
BARC Barichara 147.80 81 *e*P **PKPab** **11 07 20.5 -0.4**
LPAZ La Paz 147.93 125 PKP2 **PKPbc** **11 07 17.7 -1.5**
LPAZ La Paz 147.93 125 PKPbc **PKPab** **11 07 20.6 -1.2**
comp=Z,26nm,0.8s,baz=245,slow=1.3,SNR=31
LPAZ La Paz 147.93 125 **PKPbc** **11 07 17.7 -1.5**
URIC Uribia, Colomb 147.96 71 *e*P **PKPbc** **11 07 15.9 -2.7**
URIC Uribia, Colomb 147.96 71 *e*P **PKPbc** **11 07 15.9 -2.7**
URIC Uribia, Colomb 147.96 71 *e*P **PKPbc** **11 07 15.9 -2.7**
URIC Uribia, Colomb 147.96 71 *e*P **PKPbc** **11 07 15.9 -2.7**
RUSC La Rusia 147.98 82 *e*P **PKPdf** **11 07 14.6 -1.7**
RUSC La Rusia 147.98 82 *e*P **PKPdf** **11 07 14.6 -1.7**
CPUP Villa Florida 148.01 152 PKPbc **PKPab** **11 07 19.8 -1.2**
comp=Z,21nm,0.8s,baz=223,slow=2.3,SNR=35
PAMC Pamplona, Colo 148.18 79 *e*P **PKiKP** **11 07 19.9 -1.7**
PAMC Pamplona, Colo 148.18 79 *e*P **PKiKP** **11 07 19.9 -1.7**
SDV Santo Domingo 149.92 75 **PKPdf** **11 07 19.5 +0.6**
CRPR Cabo Rojo, PR 149.93 56 **PKiKP** **11 07 23.0 -1.4**
MLPR Magueyes Islan 150.01 56 **PKiKP** **11 07 23.5 -1.0**

OBIP Obispado Ponce 150.33 55 **PKiKP** **11 07 24.6 -0.6**
SJG San Juan 150.67 55 PKIKP **PKiKP** **11 07 25.4 -0.5**
SJG San Juan 150.67 55 **PKiKP** **11 07 25.4 -0.5**
MTP Monte Pirata 151.16 54 **PKiKP** **11 07 25.5 -1.4**

*SJA **07** 10:52:41.1±0.7,23°.65S×66°.62W,h268km±6km,ML2.4, MW2.9*
*ISCJB **07** 10:52:46.7±1.3,23°.76S±0°.06×66°.91W±0°.05, h210km±13km,Error ellipse: s-maj=10.1km s-min=6.5km az=21.4*
*GUC **07** 10:52:46.7±0.5,23°.85S×67°.34W,h247km±11km,ML3.6*
ISC 07 10:52:43.4±3.0,23°.80S±0°.07×66°.81W±0°.06, h240km±24km,n19,σ1°69/33,5C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.41**	**66**	*i* P		**Pn**		**10 53 20.2**	**-0.3**
HJA					IAML			10 53 21.1	
	comp=Z,7.0nm,0.6s								
HJA				*e*S		**S**		**10 53 49.0**	**-0.5**
SLA	**San Lorenzo**	**1.50**	**128**	*i* P		**Pn**		**10 53 21.2**	**+0.3**
SLA					IAML			10 53 21.4	
	comp=Z,13nm,0.5s								
SLA				*e*S		**S**		**10 53 51.5**	**+1.1**
AZAP	**Zapla**	**1.65**	**105**	*i* P		**Pn**		**10 53 21.8**	**-0.4**
AZAP					IAML			10 53 22.0	
	comp=Z,20nm,0.6s								
AZAP				*e*S		**S**		**10 53 52.5**	**0.0**
LVC	**Limon Verde**	**2.27**	**301**	*i* P		**Pn**		**10 53 29.5**	**+1.5**
LVC					IAML			10 53 29.8	
	comp=Z,9.8nm,0.4s								
LVC				*e*S		**S**		**10 54 04.2**	**+1.2**
PB15	**IPOC Station P**	**2.52**	**283**⇑	*i* P		**Pn**		**10 53 31.6**	**+1.3**
PB15				*i* S		**S**		**10 54 05.6**	**-1.6**
PB15					IAML			10 54 12.1	
	comp=E,151nm,0.2s								
PB15	**IPOC Station P**	**2.52**	**283**	*i* P		**Pn**		**10 53 31.6**	**+1.3**
PB15				*e*S		**S**		**10 54 08.9**	**+1.7**
PB06	**IPOC Station P**	**2.77**	**293**⇑	*i* P		**Pn**		**10 53 34.3**	**+1.4**
PB06				*i* S		**S**		**10 54 10.1**	**-1.8**
PB06	**IPOC Station P**	**2.77**	**293**	*i* P		**Pn**		**10 53 34.1**	**+1.2**
GO02	**Mina Guanaco**	**2.88**	**241**⇑	*i* P		**Pn**		**10 53 35.3**	**+1.1**
GO02				*i* S		**S**		**10 54 12.6**	**-1.6**
GO02					IAML			10 54 14.0	
	comp=E,102nm,0.2s								
PB09	**IPOC Station P**	**3.00**	**311**	*i* P		**Pn**		**10 53 37.7**	**+2.2**
PB03	**IPOC Station P**	**3.23**	**302**⇑	*i* P		**Pn**		**10 53 39.4**	**+1.4**
PB03				*i* S		**S**		**10 54 18.8**	**-2.2**
PB14	**IPOC Station P**	**3.39**	**255**	*i* P		**Pn**		**10 53 41.0**	**+1.1**
PB14				*i* S		**S**		**10 54 21.5**	**-2.9**
PB14	**IPOC Station P**	**3.39**	**255**	*i* P		**Pn**		**10 53 40.9**	**+1.1**
PB04	**IPOC Station P**	**3.41**	**295**	*i* P		**Pn**		**10 53 41.4**	**+1.4**
PB04				*i* S		**S**		**10 54 23.2**	**-1.5**
PB04	**IPOC Station P**	**3.41**	**295**	*i* P		**Pn**		**10 53 41.7**	**+1.7**
PB10	**IPOC Station P**	**3.45**	**274**	*i* P		**Pn**		**10 53 41.5**	**+1.2**
PB07	**IPOC Station P**	**3.51**	**305**⇑	*i* P		**Pn**		**10 53 42.7**	**+1.4**
PB07				*i* S		**S**		**10 54 24.3**	**-2.6**
PB01	**IPOC Station P**	**3.70**	**317**⇓	*i* P		**Pn**		**10 53 45.0**	**+1.7**
PB01				*i* S		**S**		**10 54 28.7**	**-1.9**
PB02	**IPOC Station P**	**3.77**	**310**⇓	*i* P		**Pn**		**10 53 45.7**	**+1.5**
PB02				*i* S		**S**		**10 54 29.3**	**-3.0**

*IDC **07** 11:13:29.9±1.4, 1°.70S×138°.82E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/34, mbtmp4.1/6, ML4.1/2, Error ellipse: s-maj=33.0km s-min=23.1km az=69.0*
*DJA **07** 11:13:32.0±0.6,2°.5±5°.5×13°.9E±°.°,h10km,M4.0/6,MLv4.0/6*
*ISCJB **07** 11:13:34.3±0.8, 1°.96S±0°.09×138°.79E±0°.04, h29km, mb3.9/3, Error ellipse: s-maj=12.3km s-min=6.3km az=2.7*
*NEIC **07** 11:13:34.5±1.2, 1°.8S±0°.2×138°.87E±0°.09, h33km±15km, mb4.0/9*
ISC 07 11:13:35.5±0.9,2°.01S±0°.09×138°.83E±0°.04,h29km,n26, σ2°12/31,mb3.9/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.12**	**278**	P		**Pb**		**11 13 40.5**	**-0.3**
SMPI				S		**Sb**		**11 13 47.0**	**+2.5**
GENI	**Genyem**	**1.46**	**114**	P		**Pn**		**11 14 00.8**	**+0.8**
GENI				S		**Sb**		**11 14 21.6**	**+1.3**
JAY	**Jayapura**	**1.94**	**105**	Pn		**Pn**		**11 14 05.2**	**-1.5**
	3.5nm,0.3s,baz=267,slow=12,SNR=7.0								
JAY				Sn		**Sn**		**11 14 29.8**	**-0.4**
	9.4nm,0.3s,baz=224,slow=6.2,SNR=5.3								
JAY	**Jayapura**	**1.94**	**105**	P		**Pn**		**11 14 04.9**	**-1.7**
JAY				S		**Sn**		**11 14 31.2**	**+1.1**
SRPI	**Serui, Papua**	**2.59**	**273**	P		**Pn**		**11 14 15.4**	**-0.1**
RKPI	**Ransiki, Papua**	**4.67**	**276**	P		**Pn**		**11 14 43.4**	**-0.8**
PMG	**Port Moresby**	**11.08**	**132**	Pn		**Pn**		**11 16 11.5**	**-0.6**
MTN	**Manton Dam**	**13.19**	**215**	Pn		**Pn**		**11 16 42.6**	**+1.6**
KNRA	**Kununurra**	**16.82**	**216**	Pn		**Pn**		**11 17 30.0**	**+0.9**
WB0	**Warramunga Arr**	**18.18**	**193**	P		**P**		**11 17 47.1**	**+1.1**
WB0					IAmb	IAmb		11 18 00.5	
	comp=Z,9.8nm,0.8s								
WR0	**Warramunga Arr**	**18.33**	**193**	P		**Pn**		**11 17 50.4**	**+2.6**
WR0					IAmb	IAmb		11 17 54.0	
	comp=Z,8.2nm,0.8s								
WRAB	**Tennant Creek**	**18.35**	**193**	P		**Pn**		**11 17 49.4**	**+1.4**
WRAB					IAmb	IAmb		11 17 53.8	
	comp=Z,11nm,0.9s								
WB2	**Warramunga Arr**	**18.36**	**193**	P		**Pn**		**11 17 49.1**	**+0.9**
WRA	**Warramunga Arr**	**18.36**	**194**	P		**Pn**		**11 17 48.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=17,slow=12,SNR=53								
WRA				S		**Sn**		**11 21 07.0**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=9,3,slow=22,SNR=4.8								
WRA	**Warramunga Arr**	**18.36**	**194**	P		**Pn**		**11 17 48.9**	**+0.7**
CTA	**Charters Tower**	**19.38**	**159**	P		**Pn**		**11 18 02.4**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=331,slow=9.1,SNR=7.1								
CTAO	**Charters Tower**	**19.38**	**159**	P		**Pn**		**11 18 00.4**	**-0.1**
CTAO					IAmb	IAmb		11 18 14.7	
	comp=Z,17nm,1.5s								
FITZ	**Fitzroy Crossi**	**20.57**	**218**	P		**P**		**11 18 13.1**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=36,slow=12,SNR=3.9								
FITZ				S		**S**		**11 21 55.2**	**-5.8**
	comp=Z,4.7nm,1.2s,baz=197,slow=18,SNR=3.0								
FITZ	**Fitzroy Crossi**	**20.57**	**218**	P		**P**		**11 18 12.4**	**+0.2**
FITZ						**S**		**11 21 58.9**	**-2.0**
AS31	**Alice Springs**	**22.05**	**192**	P		**P**		**11 18 30.1**	**+1.9**
ASAR	**Alice Springs**	**22.05**	**192**	P		**P**		**11 18 29.4**	**+1.3**
	comp=Z,7.2nm,0.9s,baz=177,slow=10,SNR=55								
ASAR				S		**S**		**11 22 32.9**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=14,slow=25,SNR=3.4								
STKA	**Stephens Creek**	**29.83**	**175**	P		**P**		**11 19 41.5**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=8.1,slow=7.1,SNR=3.9								
H11S3	**WAKE ISLAND Hy 34.16**	**52**		T		T		11 56 00.0	
	baz=236,slow=75,SNR=41								
H11S2	**WAKE ISLAND Hy 34.17**	**52**		T		T		11 56 00.9	
	baz=236,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hy 34.17**	**52**		T		T		11 56 01.3	
	baz=236,slow=75,SNR=41								
MKAR	**Makanchi Array**	**69.31**	**322**	P		**P**		**11 24 37.8**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=109,slow=7.8,SNR=2.9								

*MAN **07** 11:32:34.1,8°.45N×126°.86E, h9km, mb4.7, ML3.6, MS3.5*
*IDC **07** 11:32:55.1±2.1,5°.61N×126°.74E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/43, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/24, Error ellipse: s-maj=118.9km s-min=25.0km az=69.0*
ISC 07 11:32:33.5±2.2,8°.3N±0°.2×126°.93E±0°.10,h10km,n8, σ0°82/9,mb3.3/3,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**256**⇓	*e*P		**Pg**		**11 32 45.4**	**+0.7**
BIPH				*i* S		**Sg**		**11 32 51.6**	**-0.7**
CGP	**Cagayan de Oro**	**2.21**	**273**	*e*P		**Pn**		**11 33 10.7**	**+0.4**
CGP				*e*S		**Sn**		**11

*NEIC **07** 11:40:37±2.8, 22°.7N±0°.2×112°.7W±0°.1, h14km±9km, mb3.8/8*
*IDC **07** 11:40:49.7±2.0, 24°.16N×112°.12W, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.6/40, mbtmp3.5/4, ML3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/35, Error ellipse: s-maj=37.7km s-min=13.8km az=17.0*
ISC 07 11:40:50.0±1.8, **24°.0N**±0°.2×**112°.2W**±0°.1, **h10**km, **n27**, σ1$**95**/23, **Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.70**	**85**	Pg	**Pn**	**11 41 19.5**	**-0.1**
	23nm,0.3s,baz=295,slow=3.7,SNR=25						
LPIG				Lg	Lg	11 41 42.6	
	66nm,0.3s,baz=12,slow=5.4,SNR=8.1						
LPIG				LR	LR	11 41 54.0	
	comp=Z,167nm,20.6s,baz=316,slow=39						
SRIG	**Santa Rosalia**	**3.33**	**359**		**Pb**	**11 41 46.8**	**-2.3**
H06N1	**SOCORRO T-PHAS**	**5.21**	**168**	T	T	11 47 46.0	
	SNR=5.7						
HPIG		**6.57**	**62**		**Pn**	**11 42 26.7**	**-0.1**
214A	**Organ Pipe Nat**	**7.97**	**356**	Pn	**Pn**	**11 42 48.4**	**+2.4**
113A	**Mohawk Valley,**	**8.87**	**351**		**Pn**	**11 42 58.4**	**+0.2**
TXAR	**Lajitas Array**	**9.28**	**53**	Pn	**Pn**	**11 43 07.3**	**+3.3**
	0.1nm,0.3s,baz=240,slow=14,SNR=2.5						
MNTX	**Cornudas Mount**	**9.75**	**36**	Pn	**Pn**	**11 43 13.8**	**+3.5**
W13A	**Hualapai Mount**	**11.18**	**353**		**Pn**	**11 43 33.0**	**+2.8**
833A	**Chaparral WMA,**	**12.25**	**67**		**Pn**	**11 43 42.8**	**-1.8**
PSUT	**Pine Spring**	**14.58**	**355**	P	**P**	**11 44 21.2**	**-1.9**
R11A	**Troy Canyon, C**	**14.62**	**349**	P	**P**	**11 44 22.2**	**-1.4**
OMMB	**Old Mammoth Mi**	**14.80**	**338**	P	**P**	**11 44 25.1**	**-0.6**
OMMB				IAmb	IAmb	11 44 30.6	
	comp=Z,3.1nm,1.1s						
Q16A	**Castle Valley**	**14.92**	**3**	P	**P**	**11 44 30.6**	**+3.7**
NVAR	**Mina Array Bea**	**15.33**	**341**	Pn	**Pn**	**11 44 28.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=156,slow=16,SNR=4.6						
VCNR	**Virginia City**	**16.54**	**339**	P	**P**	**11 44 45.7**	**+0.8**
VCNR				IAmb	IAmb	11 44 49.2	
	comp=Z,6.9nm,1.1s						
ELK	**Elko**	**16.92**	**352**	Pn	**P**	**11 44 48.3**	**-0.8**
	baz=162,slow=6.4,SNR=2.3						
ELK				LR	LR	11 50 39.0	
	comp=Z,207nm,21.2s,baz=282,slow=35						
PDAR	**Pinedale Array**	**18.86**	**6**	P	**Pn**	**11 45 10.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=6.0						
PDAR	**Pinedale Array**	**18.86**	**6**	P	**Pn**	**11 45 10.7**	**-0.4**
TPAW	**Teton Pass**	**19.49**	**3**	P	**Pn**	**11 45 18.4**	**-0.2**
TPAW				IAmb	IAmb	11 45 31.7	
	comp=Z,9.4nm,1.2s						
FXWY	**Fox Creek**	**19.63**	**2**	P	**Pn**	**11 45 19.3**	**-1.1**
FXWY				IAmb	IAmb	11 45 30.6	
	comp=Z,10.0nm,1.3s						
IMW	**Indian Meadow**	**19.89**	**3**	P	**Pn**	**11 45 22.5**	**-1.0**
ILAR	**Eielson Array**	**46.58**	**340**	P	**P**	**11 49 17.0**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=153,slow=7.5,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**74.25**	**285**	T	T	13 13 30.0	
	baz=68,slow=75						
H11N2	**WAKE ISLAND Hy**	**74.26**	**285**	T	T	13 13 32.2	
	baz=68,slow=75						
H11N1	**WAKE ISLAND Hy**	**74.27**	**285**	T	T	13 13 36.3	
	baz=68,slow=75						
ASAR	**Alice Springs**	**120.11**	**256**	PKP	**PKPdf**	**11 59 43.5**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=72,slow=2.1,SNR=2.7						

IDC 07 11:47:16.4±5.5, **24°.03N**×**112°.17W**, **h0**km, **mb3.5**/1, **mb1 3.7**/3, **mb1mx3.5**/34, **mbtmp3.2**/3, **ML4.2**/1, **Error ellipse: s-maj=92.8km s-min=14.8km az=16.0, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.70**	**87**	Pg	Pb	11 47 48.2	-0.3
	23nm,0.3s,baz=292,slow=5.4,SNR=34						
LPIG				Lg	Lg	11 48 09.5	
	72nm,0.3s,baz=256,slow=18,SNR=9.7						
H06N1	**SOCORRO T-PHAS**	**5.26**	**168**	T	T	11 54 11.7	
	SNR=4.2						
NVAR	**Mina Array Bea**	**15.28**	**341**	Pn	P	11 50 56.8	-2.0
	0.0nm,0.3s,baz=163,slow=10,SNR=4.9						
PDAR	**Pinedale Array**	**18.81**	**6**	P	P	11 51 37.5	-0.4
	0.1nm,0.3s,baz=181,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**46.53**	**340**	P	P	11 55 44.9	-0.6
	0.5nm,0.8s,baz=146,slow=7.8,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**74.24**	**285**	T	T	13 20 09.9	
	baz=68,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**74.24**	**285**	T	T	13 20 03.8	
	baz=68,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**74.25**	**285**	T	T	13 20 02.8	
	baz=68,slow=75,SNR=6.0						

*ISCJB **07** 12:04:26.4±1.2, 4°.7S±0°.2×154°.2E±0°.1, h400km, mb3.2/4, Error ellipse: s-maj=22.1km s-min=18.9km az=31.7*
*IDC **07** 12:04:27.6±1.2, 4°.53S×154°.06E, h410km±10km, mb2.9/5, mb1 3.1/6, mb1mx2.8/30, mbtmp3.8/6, Error ellipse: s-maj=25.0km s-min=21.2km az=144.0*
ISC 07 12:04:27.2±1.3, **4°.6S**±0°.2×**154°.2E**±0°.2, **h400**km, **n7**, σ1$**01**/8, **mb3.2**/5, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.18**	**278**	P	**Pn**	**12 05 25.6**	**+1.3**
	50nm,0.3s,baz=72,slow=6.4,SNR=83						
KRVT				S	**S**	**12 06 11.0**	**+0.5**
	baz=127,slow=20,SNR=1.5						
CTA	**Charters Tower**	**17.21**	**206**	P	**P**	**12 08 03.8**	**+0.3**
	0.2nm,0.3s,baz=24,slow=12,SNR=3.2						
DZM	**Mont Dzumac**	**21.03**	**147**	P	**P**	**12 08 41.9**	**+0.7**
	6.7nm,1.1s,baz=344,slow=18,SNR=5.0						
WRA	**Warramunga Arr**	**24.61**	**230**	P	**P**	**12 09 13.3**	**-0.2**
	1.2nm,0.6s,baz=53,slow=9.3,SNR=42						
ASAR	**Alice Springs**	**27.23**	**224**	P	**P**	**12 09 36.1**	**-0.7**
	0.2nm,0.4s,baz=52,slow=9.2,SNR=10						
FITZ	**Fitzroy Crossi**	**30.96**	**242**	P	**P**	**12 10 08.3**	**-1.3**
	0.5nm,0.5s,baz=82,slow=7.1,SNR=5.5						
ILAR	**Eielson Array**	**81.47**	**22**	P	**P**	**12 16 00.1**	**-0.7**
	0.3nm,0.7s,baz=251,slow=5.4,SNR=4.7						

*DDA **07** 12:23:29.5, 41°.81N×42°.00E, h7km±5km, ML2.5*
*TIF **07** 12:23:37.2, 42°.35N×41°.04E, h23km±5km*
ISC 07 12:23:19.2±3.2, **42°.3N**±0°.1×**41°.2E**±0°.1, **h1**km±13km, **n10**, σ1$**24**/20, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.78**	**152**	P	**Pn**	**12 23 37.2**	**0.0**
BATM				S	**Sn**	**12 23 50.2**	**+0.7**
BATM	**Batumi**	**0.78**	**152**	*i* P	**Pn**	**12 23 36.1**	**-1.1**
BATM				*i* S	**Sn**	**12 23 50.4**	**+0.9**
DBOC	**Borcka**	**1.01**	**160**	*i* P	**Pn**	**12 23 40.6**	**+0.2**
DBOC				*i* S	**Sn**	**12 23 55.2**	**0.0**
DBOC				IAML_P			
	comp=Z,948nm,0.1s						
ARTV	**Artvin**	**1.23**	**154**	*i* P	**Pn**	**12 23 43.6**	**0.0**
ARTV				*i* S	**Sn**	**12 24 01.8**	**+0.9**
DAGI	**Agillar**	**1.32**	**156**	*i* P	**Pn**	**12 23 45.4**	**+0.6**
DAGI				*i* S	**Sn**	**12 24 03.5**	**+0.4**
TKB	**Tkibuli**	**1.32**	**87**	P	**Pn**	**12 23 44.9**	**+0.1**
TKB				S	**Sn**	**12 24 04.2**	**+1.2**
DBAD	**Bademkaya**	**1.32**	**164**	*i* P	**Pg**	**12 23 44.9**	**+0.4**
DBAD				*i* S	**Sn**	**12 24 02.8**	**-0.3**
EPOS	**Posof**	**1.38**	**124**	*i* P	**Pb**	**12 23 42.1**	**-3.7**
EPOS				*i* S	**Sn**	**12 24 06.3**	**+1.8**
DDEM	**Demirkent**	**1.46**	**164**	*i* P	**Pb**	**12 23 47.1**	**0.0**
DDEM				*i* S	**Sg**	**12 24 06.6**	**+0.7**
DDEM				IAML_P			
	comp=Z,374nm,0.2s						
ONI	**Oni**	**1.69**	**79**	P	**Pn**	**12 23 49.9**	**+0.1**
ONI				S	**Sg**	**12 24 14.8**	**+1.5**

*IDC **07** 12:47:48.0±1.4, 38°.69S×73°.53W, h0km, mb4.3/8, mb1 4.3/10, mb1mx4.1/26, mbtmp4.3/10, ML4.1/2, MS3.6/14, Ms1 3.6/14, ms1mx3.4/34, Error ellipse: s-maj=39.1km s-min=19.7km az=96.0*
*NEIC **07** 12:47:51.8±2.6, 38°.69S±0°.06×73°.8W±0°.2, h33km±4km, mb4.5/9, ML4.4(GUC)*
*GUC **07** 12:47:51.0±0.8, 38°.55S×74°.64W, h39km±3km, ML4.4*
ISC 07 12:47:49.2±0.8, **38°.66S**±0°.05×**73°.5W**±0°.1, **h10**km, **n52**, σ2$**36**/37, **mb4.5**/11, **MS3.5**/10, **1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**1.79**	**122**	IAML		12 48 48.5	
	comp=E,2μm,0.4s						
GO06	**Curarrehue**	**1.79**	**122**		**Pg**	**12 48 22.7**	**-0.9**
PLCA	**Paso Flores**	**3.05**	**134**	Pn	**Pn**	**12 48 38.7**	**+1.2**
	comp=E,4.5nm,0.3s,baz=326,slow=14,SNR=40						
PLCA				Pg	**Pb**	**12 48 43.9**	**+0.3**
	comp=E,32nm,0.3s,baz=323,slow=15,SNR=188						
PLCA				Lg	Lg	12 49 21.7	
	comp=E,38nm,0.3s,baz=60,slow=22,SNR=10						
PLCA				LR	LR	12 50 04.2	
	comp=E,1μm,19.6s,baz=330,slow=44						
PLCA	**Paso Flores**	**3.05**	**134**		**Pb**	**12 48 39.8**	**-3.8**
GO05	**Huala**	**3.84**	**19**		**Pb**	**12 48 52.4**	**-4.7**
PEL	**Peldehue**	**5.95**	**23**		**Pn**	**12 49 20.1**	**+2.8**
ROC1	**El Roble**	**6.01**	**20**		**Pn**	**12 49 21.8**	**+3.4**
GO04	**Tololo Observa**	**8.75**	**15**	Pn	**Pn**	**12 49 58.7**	**+2.8**
GO04				Sn	**Sn**	**12 51 34.7**	**0.0**
TRQA	**Tornquist**	**9.03**	**90**	Pn		12 50 04.4	+4.8
LVC	**Limon Verde**	**16.46**	**15**	LR	LR	12 57 39.3	
	comp=E,119nm,20.4s,baz=194,slow=36						
USHA	**Ushuaia**	**16.53**	**170**	LR	LR	12 58 13.0	
	comp=E,175nm,18.5s,baz=24,slow=38						
EFI	**East Falkland**	**16.90**	**145**	Pn	**Pn**	**12 51 44.3**	**-1.3**
EFI				IAmb	IAmb	12 52 00.9	
	comp=Z,42nm,1.1s						
CPUP	**Villa Florida**	**18.30**	**53**	P	**P**	**12 52 04.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=218,slow=9.1,SNR=5.1						
CPUP				LR	LR	12 59 05.6	
	comp=Z,89nm,19.0s,baz=223,slow=37						
MNMC	**Minye Minye**	**19.75**	**11**	P	**P**	**12 52 18.8**	**-0.7**
MNMC				IAmb	IAmb	12 52 36.4	
	comp=Z,11nm,0.7s						
LPAZ	**La Paz**	**22.77**	**13**	P	**P**	**12 52 58.5**	**+6.1**
	comp=Z,1.4nm,0.7s,baz=205,slow=5.2,SNR=4.2						
LPAZ	**La Paz**	**22.77**	**13**	P	**P**	**12 52 53.1**	**+0.6**
SIV	**San Ignacio**	**25.07**	**29**	P	**P**	**12 53 14.8**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=236,slow=11,SNR=8.6						
SIV				LR	LR	13 04 51.6	
	comp=Z,88nm,19.5s,baz=243,slow=41						
PMSA	**Palmer Station**	**26.73**	**171**	LR	LR	13 03 48.6	
	comp=Z,131nm,18.2s,baz=335,slow=36						
NNA	**Nana**	**26.73**	**353**	LR	LR	13 02 09.0	
	comp=Z,81nm,18.2s,baz=200,slow=32						
BDFB	**Brasilia**	**32.02**	**51**	LR	LR	13 08 37.5	
	comp=Z,173nm,18.0s,baz=93,slow=39						
VNA3	**Neumayer Olymp**	**45.53**	**156**	P	**P**	**12 56 08.9**	**+0.4**
VNA2	**Neumayer--Watz**	**46.21**	**155**	P	**P**	**12 56 14.5**	**+0.7**
	baz=290,slow=9.9						
SNAA	**Sanae**	**47.75**	**156**	P	**P**	**12 56 26.4**	**+0.5**
SNAA	**Sanae**	**47.75**	**156**	P	**P**	**12 56 26.0**	**+0.1**
	comp=Z,6.7nm,0.9s,baz=277,slow=6.6,SNR=15						
SNAA	**Sanae**	**47.75**	**156**	P	**P**	**12 56 25.8**	**-0.2**
JTS	**Las Juntas de**	**49.87**	**345**	LR	LR	13 12 19.4	
	comp=Z,36nm,21.1s,baz=212,slow=30						
QSPA	**South Pole Qui**	**51.58**	**180**	P	**P**	**12 56 55.9**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=135,slow=2.7,SNR=19						
QSPA	**South Pole Qui**	**51.58**	**180**	P	**P**	**12 56 56.5**	**+1.1**
QSPA				IAmb	IAmb	12 57 08.0	
	comp=Z,5.6nm,0.9s						
SJG	**San Juan**	**56.88**	**8**	LR	LR	13 20 26.9	
	comp=Z,28nm,21.9s,baz=324,slow=34						
CMIG	**Matias Romero**	**58.98**	**336**	LR	LR	13 18 48.5	
	comp=Z,32nm,19.4s,baz=142,slow=32						
SYO	**Syowa Base**	**61.97**	**158**	*i*eX	**P**	**12 58 10.4**	**+1.6**
PPT	**Papeete**	**68.55**	**264**	LR	LR	13 22 04.5	
	comp=Z,65nm,20.5s,baz=277,slow=30						
MAW	**Mawson**	**69.04**	**164**	P	**P**	**12 58 54.9**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=211,slow=9.6,SNR=3.5						
TXAR	**Lajitas Array**	**73.29**	**333**	LR	LR	13 26 32.6	
	comp=Z,62nm,18.9s,baz=0.0,slow=32						
LIC	**Lamto**	**77.34**	**71**	*e*P	**P**	**12 59 43.0**	**-1.4**
	comp=Z,27nm,1.2s						
TIC	**Toumodi**	**77.62**	**71**	*e*P	**P**	**12 59 46.8**	**+0.8**
KIC	**Kosan Boka**	**77.64**	**71**	*e*P	**P**	**12 59 46.8**	**+0.7**
	comp=Z,15nm,0.9s						
DBIC	**Dimbokro**	**77.76**	**71**	P	**P**	**12 59 47.7**	**+1.0**
	comp=Z,4.9nm,0.6s,baz=187,slow=4.5,SNR=8.3						
DBIC	**Dimbokro**	**77.76**	**71**	IAmb	IAmb	12 59 48.7	
	comp=Z,5.4nm,0.7s						
BOSA	**Boshof**	**78.92**	**118**	P	**P**	**12 59 53.4**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=223,slow=6.9,SNR=4.3						
BOSA	**Boshof**	**78.92**	**118**	IAmb	IAmb	13 00 07.3	
	comp=Z,6.6nm,1.0s						
RPZ	**Rata Peaks**	**79.39**	**222**	LR	LR	13 30 02.5	
	comp=Z,54nm,18.9s,baz=10.0,slow=32						
MATP	**Matopo**	**86.34**	**113**	P	**P**	**13 00 32.2**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=206,slow=6.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.85**	**71**	P	**P**	**13 00 34.5**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=220,slow=3.5,SNR=6.7						
BOZ	**Bozeman (W)**	**90.63**	**334**	P	P	13 00 45.6	-5.9
H11S2	**WAKE ISLAND Hy**	**124.46**	**267**	T	T	15 23 22.2	
	baz=126,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**124.47**	**267**	T	T	15 23 23.3	
	baz=126,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy**	**124.48**	**267**	T	T	15 23 23.4	
	baz=126,slow=75,SNR=44						
LVZ	**Lovozero**	**131.91**	**29**		PKPpre	13 06 48.6	
ABKAR	**Akbulak array**	**145.33**	**57**	PKPdf	**PKPab**	**13 07 26.3**	**-0.3**
KSH	**Kashi**	**156.30**	**78**	PKP	**PKPdf**	**13 07 43.1**	**-0.9**
KSH				sPKP		13 07 58.3	
KSH				PKS	**PKSdf**	**13 11 14.4**	**-3.6**
KSH				PP	**PP**	**13 11 52.0**	**+1.5**
KSH				SKS	**SKSdf**	**13 14 42.9**	**-7.4**
MKAR	**Makanchi Array**	**160.47**	**58**	PKPab	**PKPab**	**13 08 30.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=298,slow=4.6,SNR=3.9						

*NIED **07** 13:18:00, 37°.10N×140°.70E, h5km, Mw3.6 Best double couple: M0:2.49000×10^14 NP1:φs169.00000°, δ25.00000°, λ-128.00000°. NP2:φs30.00000°, δ70.00000°, λ-74.00000°.*
*IDC **07** 13:18:42.2±1.0, 36°.99N×140°.65E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/48, mbtmp3.7/6, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/38, Error ellipse: s-maj=23.9km s-min=20.4km az=102.0*
*JMA **07** 13:18:43.3, 37°.09N×140°.67E, h9km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs339.00000°, δ63.00000°, λ-113.00000°. NP2: φs203.00000°, δ35.00000°, λ-52.00000°. Principal axes: T Plg15.0000°, Azm86.0000°; N Plg21.0000°, Azm350.0000°; P Plg64.0000°, Azm209.0000°;*
JMA Felt II J1.
ISC 07 13:18:43.5±0.9, **37°.08N**±0°.03×**140°.69E**±0°.03, **h8**km±5km, **n24**, σ0$**75**/29, **mb3.8**/5, **7C-2D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.09**	**78**	⇑P	**Pg**	**13 18 45.9**	**+0.1**
ONAJ				S	**Sg**	**13 18 47.8**	**+0.4**
JFFD	**Fukushimafurud**	**0.10**	**274**	⇑P	**Pg**	**13 18 45.6**	**-0.3**
JFFD				S	**Sg**	**13 18 47.2**	**-0.4**
JFK	**Kawauchi**	**0.32**	**28**	⇑P	**Pg**	**13 18 49.6**	**-0.2**
JFK				S	**Sg**	**13 18 54.2**	**+0.1**
JHO	**Hitachi**	**0.48**	**192**	⇓P	**Pg**	**13 18 52.6**	**-0.2**
JHO				S	**Sg**	**13 18 59.2**	**+0.1**
JFT	**Otama**	**0.52**	**327**	⇑P	**Pg**	**13 18 53.3**	**-0.2**
JFT				S	**Sg**	**13 19 00.3**	**0.0**
JSB	**Shiboa**	**0.63**	**260**	⇑P	**Pg**	**13 18 55.9**	**+0.4**
JSB				S	**Sg**	**13 19 04.4**	**+0.7**
JMM	**Marumori**	**0.79**	**6**	⇑P	**Pg**	**13 18 57.8**	**-0.8**
JMM				S	**Sg**	**13 19 08.4**	**-0.4**
JFY	**Yanaizu**	**0.85**	**293**	⇑P	**Pg**	**13 18 59.3**	**-0.5**
JFY				S	**Sg**	**13 19 10.1**	**-0.8**
JYT	**Yasato**	**0.94**	**205**	⇓P	**Pg**	**13 19 00.7**	**-0.8**
JYT				S	**Sg**	**13 19 12.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.06**	**256**	Pn	**Pn**	**13 19 18.9**	**+0.5**
	3.0nm,0.3s,baz=89,slow=14,SNR=107						
MJAR				Sn	**Sn**	**13 19 45.3**	**+1.1**
	2.0nm,0.3s,baz=92,slow=27,SNR=5.6						
MAT	**Matsushiro**	**2.06**	**256**	P	**Pn**	**13 19 19.0**	**+0.6**
MAT				S	**Sb**	**13 19 47.1**	**+0.1**
ASAJ	**Asahikawa**	**7.17**	**11**	Pn	**Pn**	**13 20 28.5**	**-0.1**
	0.6nm,0.3s,baz=219,slow=14,SNR=8.4						
ASAJ				Sn	**Sn**	**13 21 50.1**	**-0.1**
	0.1nm,0.3s,baz=93,slow=18,SNR=1.7						
SONM	**Songino Array**	**27.28**	**304**	P	**P**	**13 24 28.0**	**-0.4**
	0.4nm,0.4s,baz=99,slow=8.9,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	13 54 28.5	
	baz=313,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	13 54 25.9	
	baz=313,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**28.69**	**120**	T	T	13 54 29.8	
	baz=313,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**29.38**	**122**	T	T	13 55 25.1	
	baz=314,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**29.38**	**122**	T	T	13 55 24.4	
	baz=314,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**29.39**	**122**	T	T	13 55 24.0	
	baz=314,slow=76,SNR=30						
MKAR	**Makanchi Array**	**43.60**	**302**	P	**P**	**13 26 47.1**	**-0.9**
	0.4nm,0.6s,baz=93,slow=9.4,SNR=3.2						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**13 27 38.2**	**+2.2**
	0.8nm,0.8s,baz=260,slow=5.1,SNR=7.1						
INK	**Inuvik**	**54.60**	**27**	LR	LR	13 55 51.2	
	comp=Z,79nm,18.7s,baz=238,slow=41						
WRA	**Warramunga Arr**	**57.03**	**187**	P	**P**	**13 28 28.6**	**-1.3**
	2.1nm,0.5s,baz=2.9,slow=7.5,SNR=54						
ASAR	**Alice Springs**	**60.76**	**187**	P	**P**	**13 28 55.1**	**-0.6**
	0.8nm,0.7s,baz=20,slow=5.7,SNR=12						

*IDC **07** 13:21:58.6±24.0, 17°.51S×178°.29W, h590km±213km, mb2.9/3, mb1 3.2/3, mb1mx2.8/33, mbtmp3.9/3, Error ellipse: s-maj=321.6km s-min=39.9km az=133.0*
*ISCJB **07** 13:21:59.7±0.8, 17°.1S±0°.1×178°.8W±0°.1, h600km, mb3.5/3, Error ellipse: s-maj=16.8km s-min=12.9km az=22.4*
*NEIC **07** 13:22:01.3±2.7, 17°.2S±0°.1×178°.7W±0°.2, h614km±12km, mb4.4/14*
ISC 07 13:22:00.6±0.9, **17°.1S**±0°.1×**178°.8W**±0°.1, **h600**km, **n21**, σ1$**38**/24, **mb4.2**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.05**	**258**	P	**P**	**13 23 22.4**	**+2.3**
NIUE	**Niue**	**8.67**	**104**	P	**P**	**13 24 05.8**	**-0.5**
RAO	**Raoul Island**	**12.09**	**176**	P	**P**	**13 24 41.4**	**+1.3**
MXZ	**Matakaoa Point**	**20.51**	**187**	P	**P**	**13 25 58.9**	**+0.2**
LTZ	**Lake Taylor**	**26.67**	**195**	P	**P**	**13 26 51.6**	**-1.7**
LTZ				IAmb	IAmb	13 26 54.0	
	comp=Z,50nm,1.5s						
EIDS	**Eidsvold**	**29.18**	**249**	P	**P**	**13 27 15.0**	**-0.3**
EIDS				IAmb	IAmb	13 27 32.9	
	comp=Z,12nm,1.4s						
PMG	**Port Moresby**	**33.96**	**279**	P	**P**	**13 27 54.6**	**-1.4**
PMG				IAmb	IAmb	13 28 00.5	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**38.67**	**240**	P	**P**	**13 28 34.2**	**-0.2**
WB0	**Warramunga Arr**	**44.36**	**259**	P	**P**	**13 29 21.7**	**+2.3**
WB2	**Warramunga Arr**	**44.39**	**259**	P	**P**	**13 29 21.5**	**+1.9**
WB2				IAmb	IAmb	13 29 22.9	
	comp=Z,8.3nm,1.5s						
WRAB	**Tennant Creek**	**44.39**	**259**	P	**P**	**13 29 20.8**	**+1.3**
WRAB				IAmb	IAmb	13 29 32.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**13 29 21.4**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=95,slow=7.6,SNR=29						
WRA				PcP	**PcP**	**13 30 50.4**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=89,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**13 29 21.4**	**+1.8**
AS31	**Alice Springs**	**44.63**	**254**	P	**P**	**13 29 21.9**	**+0.4**
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**13 29 22.9**	**+1.5**
	comp=Z,3.0nm,0.6s,baz=87,slow=8.6,SNR=55						
ASAR				PcP	**PcP**	**13 30 50.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=103,slow=3.8,SNR=6.5						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**13 29 22.8**	**+1.3**
ASAR					**PcP**	**13 30 51.7**	**+0.8**
MTN	**Manton Dam**	**48.44**	**268**	P	**P**	**13 29 50.5**	**+0.4**
MTN				IAmb	IAmb	13 30 05.0	
	comp=Z,12nm,1.2s						
SARN	**Sarigan**	**48.45**	**312**	P	**P**	**13 29 50.5**	**+0.3**
FORT	**Forrest**	**49.99**	**244**	P	**P**	**13 30 00.8**	**-0.5**
FORT				IAmb	IAmb	13 30 09.0	
	comp=Z,32nm,1.1s						
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**13 31 26.5**	**-2.3**
ILAR	**Eielson Array**	**85.22**	**13**	P	**P**	**13 33 34.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=226,slow=4.7,SNR=3.1						

*ISCJB **07** 13:39:21.0±0.3, 8°.94S±0°.04×29°.36E±0°.05, h10km, mb4.2/13, MS4.0/23, Error ellipse: s-maj=7.1km s-min=5.0km az=18.8*
*NEIC **07** 13:39:23.0±2.7, 8°.88S±0°.07×29°.2E±0°.1, h10km±1km, mb4.6/11*
*IDC **07** 13:39:22.8±0.7, 8°.88S×29°.21E, h0km, mb4.0/10, mb1 4.2/15, mb1mx4.0/36, mbtmp4.2/15, ML3.8/4, MS3.9/29, Ms1 3.9/29, ms1mx3.9/37, Error ellipse: s-maj=25.3km s-min=13.5km az=92.0*
*LSZ **07** 13:39:27.6±0.3, 12°.15S×30°.31E

TSUM			Sn	Sn	13 45 39.0	-7.0
	3.2nm,0.3s,baz=3.8,slow=15,SNR=5.6					
TSUM			Lg	Lg	13 47 19.1	
	1.0nm,0.3s,baz=135,slow=19,SNR=2.7					
TSUM			LR	LR	13 49 17.4	
	comp=Z,2μm,18.2s,baz=354,slow=39					
TSUM	**Tsumeb**	**15.21 227**	⇑*i*P	**P**	**13 43 02.1**	**-0.3**
TSUM			*i* S	**Sn**	**13 45 40.4**	**-5.6**
TSUM	**Tsumeb**	**15.21 227**		**Pn**	**13 42 58.8**	**+1.5**
TSUM			IAmb	IAmb	13 43 14.4	
	comp=Z,27nm,0.8s					
TSUM			Sn	**Sn**	**13 45 40.2**	**-5.8**
LBTB	**Lobatse**	**16.27 192**	Pn	**Pn**	**13 43 11.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=8.6,slow=15,SNR=9.8					
LBTB			Sn	**Sn**	**13 46 04.9**	**-6.9**
	comp=Z,2.0nm,0.3s,baz=285,slow=20,SNR=3.7					
LBTB			Lg	Lg	13 47 56.4	
	comp=Z,1.3nm,0.3s,baz=69,slow=22,SNR=5.1					
LBTB			LR	LR	13 49 44.9	
	comp=Z,838nm,19.2s,baz=18,slow=38					
LBTB	**Lobatse**	**16.27 192**		**Pn**	**13 43 12.5**	**+1.5**
LBTB			IAmb	IAmb	13 43 25.4	
	comp=Z,64nm,1.1s					
WIN	**Windhoek**	**17.85 220**	P	**P**	**13 43 32.6**	**+1.0**
OPO	**Ambohidratompo**	**19.74 121**	P	**Pn**	**13 43 56.8**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=294,slow=15,SNR=10					
OPO			S	**S**	**13 47 30.0**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=209,slow=19,SNR=3.4					
OPO			LR	LR	13 50 37.9	
	comp=Z,166nm,18.5s,baz=212,slow=34					
BOSA	**Boshof**	**19.84 191**	*i* P	**Pn**	**13 43 57.4**	**+2.4**
BOSA			*i* S	**S**	**13 47 32.9**	**-4.1**
BOSA	**Boshof**	**19.84 191**	P	**Pn**	**13 43 56.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=8.5,slow=9.6,SNR=12					
BOSA			S	**S**	**13 47 27.8**	**-9.2**
	comp=Z,1.1nm,0.3s,baz=106,slow=15,SNR=5.2					
BOSA			Lg	Lg	13 49 52.2	
	comp=Z,0.7nm,0.3s,baz=287,slow=19,SNR=2.7					
BOSA			LR	LR	13 51 52.9	
	comp=Z,641nm,19.7s,baz=352,slow=38					
BOSA	**Boshof**	**19.84 191**	*i* P	**Pn**	**13 43 57.3**	**+2.3**
BOSA			*i* S	**S**	**13 47 28.4**	**-8.6**
BOSA	**Boshof**	**19.84 191**	P	**Pn**	**13 43 56.5**	**+1.5**
BOSA			IAmb	IAmb	13 44 09.4	
	comp=Z,37nm,1.0s					
ABPO	**Ambohimpanom**	**19.97 122**	P	Pn	13 43 57.5	+0.9
ABPO			IAmb	IAmb	13 44 14.3	
	comp=Z,20nm,0.9s					
ATD	**Arta Tunnel**	**24.47 34**	Lg	Lg	13 52 09.6	
	comp=Z,2.2nm,0.3s,baz=202,slow=19,SNR=2.3					
SUR	**Sutherland**	**24.52 198**	P	**P**	**13 44 46.0**	**+3.8**
	comp=Z,8.5nm,0.9s,baz=27,slow=6.8,SNR=5.4					
SUR			Lg	Lg	13 52 16.4	
	comp=Z,39nm,1.0s,baz=315,slow=19,SNR=2.8					
SUR			LR	LR	13 54 53.3	
	comp=Z,460nm,19.3s,baz=7.0,slow=38					
SUR	**Sutherland**	**24.52 198**	P	**P**	**13 44 42.4**	**+0.2**
TOA0	**Torodi Ar. Sit**	**35.21 308**	P	**P**	**13 46 16.3**	**-0.6**
TOA0			IAmb	IAmb	13 46 28.3	
	comp=Z,10nm,1.0s					
TORD	**Torodi Ar. Bea**	**35.21 308**	P	**P**	**13 46 17.7**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=117,slow=9.0,SNR=14					
TORD			LR	LR	14 01 08.6	
	comp=Z,524nm,20.1s,baz=20,slow=37					
TORD	**Torodi Ar. Bea**	**35.21 308**	P	**P**	**13 46 16.0**	**-0.9**
KIC	**Kosan Boka**	**37.25 293**	*e*P	**P**	**13 46 35.4**	**+0.9**
	comp=Z,23nm,1.0s					
LIC	**Lamto**	**37.46 293**	*e*P	**P**	**13 46 36.2**	**0.0**
	comp=Z,36nm,1.3s					
DBIC	**Dimbokro**	**37.48 293**	LR	LR	14 00 56.3	
	comp=Z,103nm,20.1s,baz=103,slow=35					
TIC	**Toumodi**	**37.62 293**	*e*P	**P**	**13 46 37.9**	**+0.3**
ASF	**Jabal al Asfar**	**41.62 10**	P	**P**	**13 47 13.0**	**+2.3**
	comp=Z,1.0nm,0.4s,baz=162,slow=4.8,SNR=3.4					
KARP	**Karpathos**	**44.40 357**	P	**P**	**13 47 31.5**	**-1.6**
KEST	**Kesra**	**48.37 338**	LR	LR	14 10 10.6	
	comp=Z,141nm,18.5s,baz=215,slow=38					
BR131	**Keskin Array S**	**48.69 4**	P	**P**	**13 48 05.8**	**-1.1**
BRTR	**Keskin Array B**	**48.69 4**	P	**P**	**13 48 09.5**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=172,slow=11,SNR=3.7					
BRTR			LR	LR	14 10 51.1	
	comp=Z,44nm,20.3s,baz=174,slow=39					
GEYT	**Alibeck**	**53.92 28**	LR	LR	14 13 13.1	
	comp=Z,190nm,18.9s,baz=335,slow=38					
KBZ	**Khabaz**	**53.95 12**	LR	LR	14 11 50.3	
	comp=Z,107nm,20.9s,baz=196,slow=36					
ESDC	**Sonseca Array**	**57.47 330**	LR	LR	14 15 46.0	
	comp=Z,126nm,21.1s,baz=80,slow=38					
GERES	**GERESS Array B**	**59.27 348**	P	**P**	**13 49 23.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=153,slow=8.8,SNR=1.8					
AKASG	**Malin Array Be**	**59.50 360**	P	**P**	**13 49 25.6**	**+0.2**
	comp=Z,0.2nm,0.2s,baz=183,slow=5.6,SNR=4.3					
SYO	**Syowa Base**	**60.27 176**⇑*e*X		**P**	**13 49 29.1**	**-1.3**
SYO	**Syowa Base**	**60.27 176**⇑*e*pP		pP	13 49 34.6	+0.6
MAW	**Mawson**	**62.62 166**	P	**P**	**13 49 50.4**	**+4.0**
	comp=Z,4.4nm,0.9s,baz=322,slow=6.2,SNR=12					
MAW			LR	LR	14 12 50.8	
	comp=Z,116nm,21.8s,baz=26,slow=32					
MAW	**Mawson**	**62.62 166**	P	**P**	**13 49 50.8**	**+4.4**
KSH	**Kashi**	**64.82 38**	P	**P**	**13 50 00.4**	**-1.1**
KSH			sP	sP	13 50 19.8	+13
KSH			PP	**PP**	**13 52 24.7**	**+0.4**
KSH			S	S	13 58 33.0	-10
KSH			sS	sS	13 58 55.6	+7.0
KSH			pmax	pmax		
	comp=Z,290nm,6.7s					
KSH			LR	LR		
	comp=N,200nm,9.9s					
KSH			LR	LR		
	comp=E,190nm,6.8s					
KSH			LR	LR		
	comp=Z,250nm,12.1s					
FINES	**FINESS Array B**	**70.32 358**	LR	LR	14 23 00.7	
	comp=Z,86nm,18.5s,baz=274,slow=37					
NOA	**NORSAR Array B**	**71.31 351**	LR	LR	14 26 10.3	
	comp=Z,35nm,19.1s,baz=265,slow=40					
MKAR	**Makanchi Array**	**72.83 35**	P	**P**	**13 50 52.4**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=235,slow=5.8,SNR=8.2					
MKAR			LR	LR	14 25 42.5	
	comp=Z,113nm,20.1s,baz=260,slow=38					
MKAR	**Makanchi Array**	**72.83 35**	P	**P**	**13 50 52.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**73.89 68**	P	**P**	**13 51 00.5**	**+2.5**
	comp=Z,1.4nm,0.9s,baz=258,slow=8.1,SNR=9.6					
CMAR			LR	LR	14 22 17.2	
	comp=Z,12nm,18.7s,baz=110,slow=35					
BDFB	**Brasilia**	**75.50 256**	LR	LR	14 19 28.1	
	comp=Z,54nm,21.1s,baz=37,slow=32					
ZALV	**Zalesovo Beam**	**78.18 30**	LR	LR	14 27 25.0	
	comp=Z,60nm,18.5s,baz=218,slow=37					
ARCES	**ARCESS Array B**	**78.44 359**	P	**P**	**13 51 23.9**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=169,slow=5.5,SNR=3.6					
ARCES			LR	LR	14 27 21.2	
	comp=Z,70nm,21.5s,baz=178,slow=37					
GTA	**Gaotai**	**80.98 48**	*e*P	P	13 51 50.0	+13
GTA			pP	PcP	13 51 55.4	+12
GTA			sP	sP	13 51 58.6	+16
GTA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
GTA			pmax	pmax		
	comp=Z,44nm,6.0s					
GTA			LR	LR		
	comp=N,150nm,15.2s					
GTA			LR	LR		
	comp=E,120nm,15.9s					
GTA			LR	LR		
	comp=Z,120nm,17.8s					
CPUP	**Villa Florida**	**83.08 244**	LR	LR	14 26 02.6	
	comp=Z,61nm,18.2s,baz=38,slow=34					
PLCA	**Paso Flores**	**91.56 228**	LR	LR	14 28 26.6	
	comp=Z,73nm,21.9s,baz=154,slow=32					
FITZ	**Fitzroy Crossi**	**93.15 109**	LR	LR	14 28 49.6	
	comp=Z,43nm,19.0s,baz=255,slow=32					
LPAZ	**La Paz**	**94.57 253**	LR	LR	14 34 36.4	
	comp=Z,19nm,18.2s,baz=106,slow=35					
ASAR	**Alice Springs**	**99.53 116**	LR	LR	14 35 07.9	
	comp=Z,75nm,20.4s,baz=287,slow=34					

*ISK **07** 13:44:05.9,38.°70N×24.°60E,h18km,ML3.6/33*
*IDC **07** 13:44:06.0±1.9,38.°25N×24.°86E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.3/44,mbtmp3.5/3,ML2.9/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/43,Error ellipse: s-maj=58.1km s-min=29.3km az=168.0*
*THE **07** 13:44:06.4,38.°62N×24.°57E,h12km,ML3.5/18,Error ellipse: s-maj=1.1km s-min=0.5km az=280.0*
*ATH **07** 13:44:06.0,38.°64N×24.°60E,h36km±2km,ML3.5/8,Error ellipse: s-maj=2.6km s-min=0.9km az=295.0*
*ISCJB **07** 13:44:06.6±0.3,38.°67N±0.°01×24.°58E±0.°02,h25km±3km, mb3.6/2,Error ellipse: s-maj=2.7km s-min=2.2km az=138.2*
*DDA **07** 13:44:09.2,38.°78N×24.°99E,h24km±6km,ML3.9*
*SOF **07** 13:44:14.7,39.°39N×24.°72E,h15km*
ISC 07 13:44:07.0±0.9,38.°65N±0.°02×24.°57E±0.°02,h13km±7km, n131,σ1°62/153,7C-10D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.23**	**356**	P	**Pg**	**13 44 11.9**	**-0.1**
SKY				S	**Sg**	**13 44 15.7**	**+0.3**
	27μm,0.2s						
EREA	**Eretria**	**0.55**	**246**	P	**Pg**	**13 44 17.1**	**-0.7**
EREA				S	**Sg**	**13 44 25.4**	**+0.3**
	16μm,0.2s						
KARY	**Karystos**	**0.62**	**190**	P	**Pg**	**13 44 17.4**	**-1.7**
KARY				S	**Sg**	**13 44 26.5**	**-0.8**
	8μm,0.3s						
ALNA	**Alonissos**	**0.74**	**313**	P	**Pg**	**13 44 21.2**	**-0.3**
AOS	**Alonnisos**	**0.75**	**314**	P	**Pg**	**13 44 21.2**	**-0.3**
AOS				S	**Sg**	**13 44 32.3**	**+0.9**
	3μm,0.4s						
AOS	**Alonnisos**	**0.75**	**314**	P	**Pg**	**13 44 21.2**	**-0.3**
AOS				S	**Sg**	**13 44 31.2**	**-0.2**
AOS				AML	AML	13 44 35.8	
	comp=E,6330μm,0.5s						
AOS				AML	AML	13 44 37.0	
	comp=N,5873μm,0.3s						
AOS	**Alonnisos**	**0.75**	**314**	PG	**Pg**	**13 44 21.3**	**-0.3**
AOS				SG	**Sg**	**13 44 31.4**	**0.0**
MRKA	**Markates**	**0.77**	**275**	P	**Pg**	**13 44 21.0**	**-0.9**
MRKA				S	**Sg**	**13 44 33.0**	**+0.9**
	comp=N,7μm,0.4s						
PSRA	**Psara**	**0.79**	**97**	P	**Pg**	**13 44 22.0**	**-0.2**
PTL	**Penteli**	**0.81**	**223**	P	**Pg**	**13 44 21.4**	**-1.4**
PTL				S	**Sg**	**13 44 32.9**	**-0.5**
	comp=N,6μm,0.5s						
PTL	**Penteli**	**0.81**	**223**	P	**Pg**	**13 44 21.6**	**-1.2**
PTL				S	**Sg**	**13 44 32.9**	**-0.5**
PTL				AML	AML	13 44 34.5	
	comp=N,10694μm,0.6s						
PTL				AML	AML	13 44 35.4	
	comp=E,11828μm,0.5s						
ATHU	**Athens Univers**	**0.92**	**223**	P	**Pg**	**13 44 23.1**	**-1.6**
ATHU				S	**Sg**	**13 44 35.6**	**-1.1**
	comp=E,2μm,0.3s						
ATH	**Athens Observa**	**0.95**	**225**	P	**Pg**	**13 44 24.1**	**-1.2**
ATH				S	**Sg**	**13 44 37.0**	**-0.7**
	comp=E,7μm,0.2s						
ATH	**Athens Observa**	**0.95**	**225**	P	**Pg**	**13 44 24.2**	**-1.1**
ATH				S	**Sg**	**13 44 36.9**	**-0.9**
ATH				AML	AML	13 44 39.8	
	comp=N,15617μm,0.2s						
ATH				AML	AML	13 44 40.2	
	comp=E,12658μm,0.2s						
EFSA	**Agios Efstrati**	**0.95**	**20**	P	**Pg**	**13 44 24.6**	**-0.8**
EFSA				S	**Sg**	**13 44 37.4**	**-0.4**
VILL	**Villia**	**1.10**	**244**	P	**Pg**	**13 44 26.8**	**-1.4**
VILL				S	**Sg**	**13 44 41.6**	**-0.9**
	comp=E,4μm,0.6s						
SIGR	**SIGRI**	**1.15**	**60**	P	**Pg**	**13 44 27.1**	**-2.0**
SIGR				S	**Sg**	**13 44 44.6**	**+0.5**
	comp=E,2μm,0.7s						
SIGR	**SIGRI**	**1.15**	**60**	P	**Pg**	**13 44 27.3**	**-1.9**
SIGR				S	**Sg**	**13 44 43.5**	**-0.7**
SIGR				AML	AML	13 44 45.5	
	comp=N,3138μm,0.9s						
SIGR				AML	AML	13 44 46.1	
	comp=E,3642μm,0.5s						
SIGR	**SIGRI**	**1.15**	**60**	PN	**Pg**	**13 44 27.4**	**-1.7**
SIGR				SN	**Sg**	**13 44 42.4**	**-1.7**
CHOS	**Chios island**	**1.19**	**102**	P	**Pg**	**13 44 27.9**	**-2.1**
CHOS				S	**Sg**	**13 44 45.2**	**-0.3**
	comp=E,2μm,0.8s						
CHOS	**Chios island**	**1.19**	**102**	P	**Pg**	**13 44 27.8**	**-2.1**
CHOS	**Chios island**	**1.19**	**102**	PN	**Pg**	**13 44 28.3**	**-1.7**
CHOS				SN	**Sg**	**13 44 44.7**	**-0.8**
TNSA	**Tinos**	**1.20**	**157**	P	**Pg**	**13 44 28.3**	**-1.8**
LKR	**Lokris**	**1.23**	**271**	P	**Pg**	**13 44 28.7**	**-1.9**
LKR				S	**Sg**	**13 44 45.3**	**-1.4**
	comp=E,1μm,0.3s						
LKR	**Lokris**	**1.23**	**271**	P	**Pg**	**13 44 28.8**	**-1.8**
NEO	**Neokhori**	**1.24**	**303**	P	**Pg**	**13 44 28.9**	**-2.0**
NEO				S	**Sg**	**13 44 45.2**	**-1.8**
XOR	**Xorichti**	**1.29**	**304**	P	**Pg**	**13 44 30.3**	**-1.6**
XOR				S	**Sg**	**13 44 45.5**	**-3.1**
XOR				AML	AML	13 44 50.9	
	comp=E,1349μm,0.4s						
XOR				AML	AML	13 44 53.2	
	comp=N,2548μm,0.4s						
LIA	**Limnos Island**	**1.34**	**21**	P	**Pg**	**13 44 29.7**	**-3.0**
LIA				S	**Sg**	**13 44 48.2**	**-1.9**
	comp=N,1μm,0.5s						
LIA	**Limnos Island**	**1.34**	**21**	P	**Pg**	**13 44 29.9**	**-2.8**
LIA				S	**Sg**	**13 44 47.8**	**-2.4**
LIA				AML	AML	13 44 53.2	
	comp=N,1890μm,0.4s						
LIA				AML	AML	13 44 53.9	
	comp=E,2122μm,0.6s						
LTK	**Loutraki**	**1.41**	**244**	P	**Pg**	**13 44 31.4**	**-2.6**
LTK				S	**Sg**	**13 44 49.4**	**-2.8**
LTK				AML	AML	13 44 57.4	
	comp=N,5096μm,0.4s						
LTK				AML	AML	13 44 57.8	
	comp=E,4162μm,0.3s						
PAIG	**Paliouri**	**1.45**	**332**	P	**Pn**	**13 44 31.8**	**-1.2**
PAIG				S	**Sg**	**13 44 53.0**	**-0.8**
	comp=E,878nm,0.6s						
PAIG	**Paliouri**	**1.45**	**332**	P	**Pn**	**13 44 31.7**	**-1.2**
PRK	**Paraskevi**	**1.46**	**65**	P	**Pn**	**13 44 32.6**	**-0.4**
PRK				S	**Sg**	**13 44 50.7**	**-3.2**
	comp=E,2μm,0.7s						
PRK	**Paraskevi**	**1.46**	**65**	P	Pn	13 44 31.5	-1.5
PRK				S	**Sg**	**13 44 48.6**	**-5.3**
PRK				AML	AML	13 45 01.5	
	comp=N,3232μm,0.8s						
PRK				AML	AML	13 45 03.3	
	comp=E,3093μm,1.0s						
GPNR	**Gulpinar-Canak**	**1.46**	**56**	PN	Pn	13 44 31.4	-1.6
SERI	**Serifos**	**1.48**	**183**	P	Pn	13 44 31.7	-1.7
SERI				S	**Sg**	**13 44 50.7**	**-4.1**
	comp=E,935nm,0.4s						
DID	**Didima**	**1.55**	**223**	P	**Pn**	**13 44 32.8**	**-1.5**
DID				S	**Sg**	**13 44 53.6**	**-3.3**
	comp=E,988nm,0.3s						
DID	**Didima**	**1.55**	**223**	P	**Pn**	**13 44 33.0**	**-1.3**
KRBN	**Karaburun**	**1.56**	**91**	PN	**Pn**	**13 44 33.2**	**-1.1**
YDRA	**Hydra**	**1.56**	**214**	P	**Pn**	**13 44 33.0**	**-1.4**
URLA	**Izmir**	**1.61**	**100**	*i* P	**Pn**	**13 44 34.2**	**-1.0**
URLA				*i* S	**Sn**	**13 44 58.1**	**+2.2**
URLA	**Izmir**	**1.61**	**100**	PN	**Pn**	**13 44 33.8**	**-1.4**
DSF	**Desfina**	**1.62**	**262**	P	**Pn**	**13 44 35.0**	**-0.3**
BOZC	**Bozcaada**	**1.66**	**43**	*i* P	**Pn**	**13 44 34.9**	**-0.8**
BOZC				*i* S	**Sn**	**13 44 54.6**	**-2.3**
BOZC	**Bozcaada**	**1.66**	**43**	PN	Pn	13 44 34.1	-1.7
FOCM	**Foa**	**1.69**	**87**	PN	**Pn**	**13 44 35.5**	**-0.7**
OUR	**Ouranopolis**	**1.75**	**345**	P	**Pn**	**13 44 36.0**	**-1.0**
OUR	**Ouranopolis**	**1.75**	**345**	P	**Pn**	**13 44 35.8**	**-1.2**
OUR	**Ouranopolis**	**1.75**	**345**	PN	**Pn**	**13 44 35.7**	**-1.2**
APE	**Apeiranthos**	**1.75**	**154**	P	Pn	13 44 35.4	-1.6
APE				S	**Sn**	**13 44 57.1**	**-2.1**
	comp=E,538nm,0.7s						
APE	**Apeiranthos**	**1.75**	**154**	P	Pn	13 44 35.1	-2.0
APE	**Apeiranthos**	**1.75**	**154**	⇓P	**Pn**	**13 44 35.6**	**-1.5**
APE				⇓S	**Sn**	**13 44 58.0**	**-1.2**
APE				AML	AML	13 45 12.1	
APE	**Apeiranthos**	**1.75**	**154**	PN	**Pn**	**13 44 35.8**	**-1.2**
AYVA	**Ayvalik**	**1.78**	**68**	*i* P	**Pn**	**13 44 37.3**	**-0.2**
AYVA				*i* S	**Sn**	**13 45 03.6**	**+3.8**
AGG	**Agios Georgios**	**1.79**	**283**	P	**Pn**	**13 44 36.5**	**-1.0**
AGG	**Agios Georgios**	**1.79**	**283**	PN	**Pn**	**13 44 37.1**	**-0.5**
EZN	**Ezine**	**1.80**	**49**	⇑P	Pn	13 44 36.0	-1.7
EZN				⇓S	**Sn**	**13 44 57.9**	**-2.5**
EZN				AML	AML	13 45 14.0	
EZN	**Ezine**	**1.80**	**49**	PN	Pn	13 44 36.1	-1.7
DKL	**Dikili**	**1.87**	**76**	PN	**Pn**	**13 44 37.9**	**-0.8**
PLG	**Polygyros**	**1.93**	**334**	P	**Pn**	**13 44 38.3**	**-1.3**
THAS	**Thassos island**	**1.96**	**3**	P	Pn	13 44 38.2	-1.7
SMTH	**Samothraki Isl**	**1.97**	**22**	P	Pn	13 44 37.9	-2.1
SERG	**Sergoula**	**1.98**	**264**	P	**Pn**	**13 44 39.9**	**-0.4**
ZEDA	**zmir-Bergama**	**1.98**	**80**	*i* P	**Pn**	**13 44 39.2**	**-1.0**
ZEDA				*i* S	**Sb**	**13 45 10.4**	**+2.8**
KLV	**Kalavryta, Ach**	**2.00**	**253**	P	**Pn**	**13 44 39.8**	**-0.7**
AMGA	**Amorgos Island**	**2.09**	**150**	P	Pn	13 44 40.1	-1.7
EFP	**Efpalio**	**2.10**	**265**	P	**Pn**	**13 44 41.7**	**-0.2**
VLX	**Vlachokerasia**	**2.15**	**234**	P	**Pn**	**13 44 42.0**	**-0.6**
EVR	**Evrytania**	**2.17**	**278**	P	**Pn**	**13 44 42.2**	**-0.8**
HORT	**Hortiatis**	**2.26**	**330**	PN	**Pn**	**13 44 43.1**	**-1.0**
GELI	**Tayfur-Gelibol**	**2.29**	**39**	PN	**Pn**	**13 44 43.3**	**-1.1**
VLI	**Velia**	**2.32**	**214**	P	**Pn**	**13 44 43.7**	**-1.2**
DRO	**Drossia**	**2.35**	**254**	P	**Pn**	**13 44 45.3**	**0.0**
SANT	**Santorini**	**2.38**	**162**	⇓P	**Pn**	**13 44 46.9**	**+1.2**
SANT				⇓S	**Sn**	**13 45 17.4**	**+2.7**
SANT	**Santorini**	**2.38**	**162**	PN	**Pn**	**13 44 45.5**	**-0.2**
PVO	**Paravola**	**2.38**	**270**	P	**Pn**	**13 44 45.5**	**-0.2**
LPK	**Lapseki**	**2.42**	**44**	PN	**Pn**	**13 44 44.9**	**-1.3**
ANAF	**Anafi Island**	**2.48**	**157**	P	**Pn**	**13 44 45.5**	**-1.5**
ERIK	**Erikli-Kesan**	**2.52**	**36**	PN	Pn	13 44 45.9	-1.7
ALN	**Alexandroupoli**	**2.52**	**26**	P	Pn	13 44 45.9	-1.7
ALN	**Alexandroupoli**	**2.52**	**26**	PN	Pn	13 44 45.9	-1.7
ITM	**Ithomi**	**2.55**	**236**	P	**Pn**	**13 44 47.9**	**-0.2**
ITM	**Ithomi**	**2.55**	**236**	PN	**Pn**	**13 44 48.4**	**+0.3**
STEP	**BALIKESIR_Sava**	**2.56**	**72**	*i* P	**Pb**	**13 44 55.1**	**+2.4**
STEP				*i* S	**Sb**	**13 45 29.3**	**+5.2**
STEP				IAML_P			
	comp=Z,4μm,0.2s						
RDO	**Rodhopi**	**2.61**	**16**	PN	Pn	13 44 47.1	-1.7
BALY	**Balya**	**2.61**	**64**	*i* P	**Pn**	**13 44 49.2**	**+0.3**
BALY				*i* S	**Sb**	**13 45 28.8**	**+3.2**
BODT	**Bodrum**	**2.68**	**125**	PN	**Pn**	**13 44 49.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.70**	**104**	PN	**Pn**	**13 44 49.8**	**-0.5**
KESN	**Edirne-Kesan**	**2.72**	**36**	*i* P	**Pn**	**13 44 49.5**	**-1.2**
KESN				*i* S	**Sn**	**13 45 20.9**	**-2.7**
KESN				IAML_P			
	comp=Z,399nm,0.1s						
KRBG	**Karabiga-Canak**	**2.74**	**50**	PN	**Pn**	**13 44 49.3**	**-1.3**
BALB	**Balikesir**	**2.76**	**68**	PN	**Pn**	**13 44 50.0**	**-0.9**
AYDN	**Tasoluk**	**2.79**	**110**	*i* P	**Pn**	**13 44 51.8**	**+0.4**
KNT	**Kendrikon**	**2.82**	**333**	PN	**Pn**	**13 44 51.4**	**-0.4**
GRG	**Griva**	**2.85**	**325**	PN	**Pn**	**13 44 51.3**	**-0.9**
MMB	**Musomiste**	**3.01**	**348**	*i* P	**Pn**	**13 44 53.2**	**-1.2**
RZN	**Rozhen**	**3.04**	**2**	*i* P	**Pn**	**13 44 54.2**	**-0.7**
MRMT	**Marmara Adasi**	**3.05**	**49**	PN	**Pn**	**13 44 53.6**	**-1.3**
DAT	**Datca**	**3.06**	**128**	PN	**Pn**	**13 44 55.1**	**0.0**
EDC	**Edincik**	**3.06**	**55**	PN	**Pn**	**13 44 53.9**	**-1.2**
KDZ	**Kurdzhali**	**3.07**	**12**	*i* P	Pn	13 44 53.3	-1.9
KDZ	**Kurdzhali**	**3.07**	**12**	PN	Pn	13 44 53.5	-1.7
MANT	**Manisa**	**3.13**	**92**	*i* P	**Pn**	**13 44 56.4**	**+0.2**
KULA	**Kula-Manisa**	**3.21**	**91**	PN	**Pn**	**13 44 56.9**	**-0.3**
IMMV	**Iera Moni Meta**	**3.21**	**189**	PN	**Pn**	**13 44 57.7**	**+0.5**
FNA	**Florina**	**3.26**	**312**	PN	**Pn**	**13 44 57.6**	**-0.2**
KCTX	**Karacabey (Bur**	**3.35**	**60**	PN	**Pn**	**13 44 57.9**	**-1.1**
KKB	**Krupnik**	**3.41**	**341**	*i* P	**Pn**	**13 44 59.7**	**-0.2**
USAK	**Uak-Merkez**	**3.48**	**87**	*i* P	**Pn**	**13 45 01.6**	**+0.8**
STIP	**Stip**	**3.55**	**330**	*i* Pn	**Pn**	**13 45 01.6**	**-0.2**
EDRB	**Edirne**	**3.60**	**27**	PN	**Pn**	**13 45 01.5**	**-1.0**
KARP	**Karpathos**	**3.72**	**145**	PN	**Pn**	**13 45 04.3**	**+0.1**
ZKR	**Zakros**	**3.76**	**159**	PN	**Pn**	**13 45 05.1**	**+0.4**
ARMT	**Armutlu**	**3.83**	**59**	PN	**Pn**	**13 45 04.7**	**-0.9**
TVSB	**Tavsanli**	**3.89**	**77**	PN	**Pn**	**13 45 05.7**	**-0.9**
VTS	**Vitosha**	**4.10**	**346**	*i* P	**Pn**	**13 45 09.4**	**0.0**
VTS	**Vitosha**	**4.10**	**346**	⇑P	**Pn**	**13 45 09.2**	**-0.2**
VTS				⇓S	**Sn**	**13 45 55.1**	**-2.2**
VTS				AML	AML	13 45 59.7	
YLV	**Yalova**	**4.18**	**61**	⇑P	**Pn**	**13 45 09.1**	**-1.4**
YLV				AML	AML	13 46 22.7	
ELND	**Elena**	**4.39**	**13**	⇑P	**Pn**	**13 45 12.3**	**-1.0**
TIP	**Timpagrande**	**6.12**	**277**	⇓P	**Pn**	**13 45 38.0**	**+0.9**
HERR	**Herculane**	**6.43**	**346**	⇑P	Pn	13 45 39.6	-1.8
MDVR	**Moldovita**	**6.49**	**342**	⇑P	**Pn**	**13 45 40.7**	**-1.6**
ARR	**Arges**	**6.72**	**0**	⇑P	**Pn**	**13 45 43.8**	**-1.5**
VOIR		**6.80**	**3**	⇓P	**Pn**	**13 45 45.7**	**-0.8**
GZR	**Gura Zlata**	**6.87**	**349**	⇓P	**Pn**	**13 45 46.4**	**-1.0**
MLR	**Muntele Rosu**	**6.92**	**8**	⇓P	**Pn**	**13 45 46.7**	**-1.4**
BRTR	**Keskin Array B**	**7.13**	**78**	Pn	**Pn**	**13 45 52.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=257,slow=10,SNR=3.7						
VYHS	**Vyhne**	**10.68**	**339**	*e*PN	P

JCJ	**Chichijima**	**1.00**	**248**	Pn		**Pn**	**13 49 01.6 +0.1**
	115nm,0.3s,baz=4.5,slow=8.3,SNR=284						
JCJ				Sn		**Sn**	**13 49 14.0 -0.4**
	326nm,0.3s,baz=90,slow=20,SNR=34						
JCJ				LR		LR	13 49 39.5
	comp=Z,327nm,19.8s,baz=280,slow=54						
JHH2	**Haha-jima-NKT2**	**1.26**	**228**	P		**Pn**	**13 49 05.2 +0.1**
JHJ2	**Mitsune**	**6.34**	**333**	P		**Pn**	**13 50 12.9 -2.0**
JHJ2	**Mitsune**	**6.34**	**333**	Pn		**Pn**	**13 50 14.6 -0.3**
JYN	**Shimob**	**8.94**	**335**	P		**Pn**	**13 50 50.3 -0.3**
JYN				*e*S		**Sn**	**13 52 30.5 +0.4**
MJAR	**Matsushiro Arr**	**9.99**	**336**	Pn		**Pn**	**13 51 03.8 -1.2**
	0.3nm,0.3s,baz=151,slow=11,SNR=16						
MJAR				Sn		**Sn**	**13 52 53.9 -2.0**
	0.1nm,0.3s,baz=142,slow=24,SNR=3.7						
MJAR	**Matsushiro Arr**	**9.99**	**336**			**Pn**	**13 51 03.5 -1.5**
MJAR						**Sn**	**13 52 54.2 -1.6**
MAJO	**Matsushiro**	**9.99**	**336**	Pn		**Pn**	**13 51 04.4 -0.6**
MJB9	**Matsu-Tunnel**	**10.00**	**336**	Pn		**Pn**	**13 51 04.4 -0.7**
JNU	**Nakatsue**	**12.06**	**301**	LR		LR	13 56 15.3
	comp=Z,62nm,19.9s,baz=56,slow=37						
ERM	**Erimo**	**14.51**	**360**	P		**Pn**	**13 52 08.9 +2.4**
KSRS	**Korea Array**	**16.29**	**311**	Pn		**P**	**13 52 32.6 0.0**
	0.2nm,0.3s,baz=125,slow=11,SNR=3.4						
KSRS				LR		LR	13 58 55.8
	comp=Z,37nm,19.6s,baz=45,slow=37						
JKA	**Kamikawa-asahi**	**16.61**	**358**			**Pn**	**13 52 31.4 -2.6**
ASAJ	**Asahikawa**	**16.61**	**358**	Pn		**Pn**	**13 52 31.4 -2.6**
	0.3nm,0.3s,baz=142,slow=18,SNR=5.2						
ASAJ				LR		LR	13 59 57.9
	comp=Z,44nm,20.1s,baz=15,slow=41						
USA0B	**Ussuriysk Arra**	**18.98**	**334**	P		**P**	**13 53 02.1 -0.2**
USRK	**Ussuriysk Ar.**	**18.98**	**334**	P		**Pn**	**13 53 05.0 +1.8**
	baz=151,slow=9.4,SNR=5.3						
USRK	**Ussuriysk Ar.**	**18.98**	**334**	P		**P**	**13 53 01.2 -1.1**
TPUB	**Ta-pu**	**20.83**	**264**	P		**P**	**13 53 22.1 -0.5**
KLR	**Kul'dur**	**23.46**	**341**	P		**P**	**13 53 51.0 +0.9**
	2.1nm,0.5s,baz=223,slow=2.2,SNR=8.2						
DAV	**Davao City (W)**	**26.31**	**223**	P		**P**	**13 54 15.0 -1.6**
SONM	**Songino Array**	**35.09**	**315**	P		**P**	**13 55 35.1 +1.2**
	0.6nm,0.6s,baz=109,slow=7.4,SNR=3.7						
SEY	**Seymchan**	**35.97**	**7**	P		**P**	**13 55 42.1 +1.1**
	1.8nm,0.7s,baz=174,slow=19,SNR=3.7						
UNV	**Unalaska Valle**	**45.07**	**40**	P		**P**	**13 56 55.6 -0.7**
WB0	**Warramunga Arr**	**47.74**	**191**	P		**P**	**13 57 17.1 -0.4**
WB0				IAmb		IAmb	13 57 35.9
	comp=Z,6.4nm,1.2s						
WRAB	**Tennant Creek**	**47.91**	**191**	P		**P**	**13 57 18.4 -0.5**
WRAB				IAmb		IAmb	13 57 21.7
	comp=Z,5.0nm,0.9s						
WB2	**Warramunga Arr**	**47.92**	**191**	P		**P**	**13 57 17.8 -1.2**
WB2				IAmb		IAmb	13 57 34.9
	comp=Z,7.9nm,1.1s						
WRA	**Warramunga Arr**	**47.92**	**191**	P		**P**	**13 57 18.7 -0.3**
	comp=Z,2.7nm,0.7s,baz=13,slow=8.5,SNR=19						
WRA	**Warramunga Arr**	**47.92**	**191**	P		**P**	**13 57 18.7 -0.3**
ZALV	**Zalesovo Beam**	**49.81**	**319**	P		**P**	**13 57 33.4 +0.2**
	comp=Z,0.6nm,0.5s,baz=94,slow=8.7,SNR=3.4						
ZALV				PcP		**PcP**	**13 58 54.1 +0.6**
	comp=Z,0.9nm,0.6s,baz=108,slow=3.2,SNR=3.7						
MKAR	**Makanchi Array**	**50.95**	**309**	P		**P**	**13 57 42.6 +0.7**
	comp=Z,0.4nm,0.4s,baz=87,slow=10,SNR=5.1						
MAKZ	**Makanchi**	**51.17**	**309**	P		**P**	**13 57 44.3 +0.8**
MAKZ				IAmb		IAmb	13 58 14.6
	comp=Z,5.9nm,1.4s						
AS31	**Alice Springs**	**51.63**	**191**	P		**P**	**13 57 46.0 -1.3**
ASAR	**Alice Springs**	**51.63**	**191**	P		**P**	**13 57 46.6 -0.6**
	comp=Z,0.4nm,0.7s,baz=13,slow=5.4,SNR=6.2						
ASAR	**Alice Springs**	**51.63**	**191**	P		**P**	**13 57 46.0 -1.2**
SVW2	**Sparrevohn**	**52.47**	**32**	P		**P**	**13 57 51.8 -1.3**
SVW2				IAmb		IAmb	13 58 10.2
	comp=Z,14nm,1.4s						
KURK	**Kurchatov**	**53.38**	**314**	P		**P**	**13 57 59.6 -0.3**
KURK				IAmb		IAmb	13 58 18.2
	comp=Z,3.0nm,0.8s						
PPLA	**Purkeypile**	**54.36**	**31**	P		**P**	**13 58 08.4 +1.4**
ILAR	**Eielson Array**	**56.93**	**29**	P		**P**	**13 58 24.6 -0.7**
	comp=Z,0.5nm,0.8s,baz=258,slow=4.5,SNR=4.6						
ABKAR	**Abkulak array**	**65.50**	**314**	P		**P**	**13 59 24.6 +1.0**
ABKAR	**Abkulak array**	**65.50**	**314**	P		**P**	**13 59 25.4 +1.8**
ABKAR				IAmb		IAmb	13 59 28.8
	comp=Z,5.4nm,1.5s						
FINES	**FINESS Array B**	**78.01**	**334**	P		**P**	**14 00 39.3 +0.8**
	comp=Z,0.7nm,0.4s,baz=74,slow=4.6,SNR=10.0						
NVAR	**Mina Array Bea**	**79.55**	**52**	P		**P**	**14 00 46.7 -1.0**
	comp=Z,0.6nm,0.6s,baz=295,slow=6.3,SNR=5.4						
PDAR	**Pinedale Array**	**83.29**	**45**	P		**P**	**14 01 07.6 +0.1**
	comp=Z,0.4nm,0.8s,baz=302,slow=5.2,SNR=3.2						

*JSO **07** 14:00:01.4±0.4,31°N±3°×3°5E± °, h10km, M2.5/7, Mjma2.6/7, ML2.5/1, MLv2.5/7*
*HLW **07** 14:00:02.0,31°30N×35°26E, h10km±17km, Md2.6*
*ISCJB **07** 14:00:05.9±0.6, 30°92N±0°05×34°97E±0°05, h8km, Error ellipse: s-maj=8.3km s-min=6.2km az=150.7*
ISC 07 14:00:06.1±1.0,**30°92N**±0°05×**34°93E**±0°04,**h8**km,**n12**, σ**0°76**/12,**Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZIT	**Kziot**	**0.46**	**268**	P		**Pg**	**14 00 13.5 -1.5**
LISJ	**El Lisan**	**0.57**	**56**	P		**Pg**	**14 00 16.3 -0.8**
AMAZ	**Amatzia**	**0.61**	**359**	P		**Pg**	**14 00 18.2 +0.3**
JDRJ	**Daraweish**	**0.66**	**107**	P		**Pg**	**14 00 18.8 -0.1**
HRFI	**Mount Harif**	**0.89**	**174**	P		Pg	14 00 07.1 -16
WALJ	**Wala**	**0.99**	**50**	P		**Pg**	**14 00 24.1 -1.0**
RSH		**1.04**	**272**	P		**Pg**	**14 00 26.1 0.0**
	baz=257						
RSH				S		**Sn**	**14 00 42.7 +1.0**
	baz=257						
EIL	**Elat**	**1.25**	**179**	P		Pn	14 00 22.8 -7.1
MMLI	**Mount Malkishu**	**1.57**	**15**	P		**Pb**	**14 00 35.5 +0.1**
HBST	**Basata**	**1.71**	**186**	P		**Pn**	**14 00 36.4 +0.2**
	baz=193						
HBST				S		**Sg**	**14 01 01.4 +0.3**
	baz=193						
SUZ	**Suez**	**2.11**	**240**	P		**Pn**	**14 00 41.6 -0.1**
	baz=236						
HKAT	**Jabal Katrina**	**2.52**	**199**	P		**Pn**	**14 00 47.7 +0.1**
	baz=203						

*IDC **07** 14:26:15.4±0.7, 52°73N×169°21W, h0km, mb3.8/9, mb1 4.2/10, mb1mx3.7/82, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=31.4km s-min=16.2km az=158.0*
*ISCJB **07** 14:26:24.6±0.5, 52°99N±0°05×169°00W±0°06, h83km±3km, mb3.7/10, Error ellipse: s-maj=8.9km s-min=5.6km az=152.5*
*NEIC **07** 14:26:25.5±2.6, 52°89N±0°07×168°82W±0°09, h76km±3km*
*AEIC **07** 14:26:25.9±4.0, 52°76N±0°08×168°59W±0°09, h53km±5km, ML3.8, mb4.1/41(NEIC)*
ISC 07 14:26:25.0±0.8,**52°86N**±0°08×**168°91W**±0°06,**h72**km±6km, **n117**, σ**1°27**/114,**mb4.0**/13,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.11**	**17**		**Pn**	**14 26 35.5 -0.1**
NIKH	**Nikolski High**	**0.11**	**17**		**Sn**	**14 26 43.6 +0.3**
NIKH	**Nikolski High**	**0.11**	**17**	Sn	**Sn**	**14 26 43.1 -0.2**
OKSP	**Okmok Steeple**	**0.54**	**44**		**Pn**	**14 26 38.3 -0.2**
OKWR	**Okmok West Rim**	**0.71**	**36**		**Pn**	**14 26 40.2 -0.1**
OKTU	**Okmok Mt. Tuli**	**0.74**	**45**		**Pn**	**14 26 40.5 0.0**
OKNC	**Okmok New Cone**	**0.76**	**38**		**Pn**	**14 26 40.7 0.0**
OKNC					**Sn**	**14 26 53.3 +0.9**
OKFG	**Magazine Ridge**	**0.81**	**47**		**Pn**	**14 26 41.6 +0.3**
OKFG					**Sn**	**14 26 54.8 +1.3**
MGOD	**Makushin Gods**	**1.54**	**52**		**Pn**	**14 26 50.5 -0.1**
MREP	**Makushin Rep't**	**1.61**	**53**		**Pn**	**14 26 51.5 0.0**
MCIR	**Makushin Cirqu**	**1.63**	**47**		**Pn**	**14 26 51.9 +0.1**
MSW	**Makushin Switc**	**1.65**	**50**		**Pn**	**14 26 52.0 -0.1**
MSW					**Sn**	**14 27 12.9 +0.4**
MNAT	**Makushin Natee**	**1.68**	**52**		**Pn**	**14 26 52.4 0.0**
MTBL	**Makushin Table**	**1.73**	**49**		**Pn**	**14 26 53.3 +0.1**
UNV	**Unalaska Valle**	**1.75**	**55**		**Pn**	**14 26 53.3 0.0**
UNV	**Unalaska Valle**	**1.75**	**55**	Sn	**Sn**	**14 27 14.7 +0.1**
AKRB	**Akutan Reef Bi**	**2.12**	**52**		**Pn**	**14 26 58.8 +0.5**
AKMO	**Akutan Morgan**	**2.12**	**53**		**Pn**	**14 26 58.9 +0.5**
AKMO					**Sn**	**14 27 24.9 +1.1**
ZRO	**Akutan Zero**	**2.14**	**54**		**Pn**	**14 26 59.3 +0.7**
LVA	**Lava Point**	**2.15**	**52**		**Pn**	**14 26 59.3 +0.5**
AKBBA	**Akutan Broad B**	**2.17**	**54**		**Pn**	**14 26 59.6 +0.7**
AKGG	**Akutan Green G**	**2.20**	**51**		**Pn**	**14 27 00.2 +0.9**
AKGG					**Sn**	**14 27 26.3 +0.7**
AKUT	**Akutan**	**2.27**	**55**		**Pn**	**14 27 01.4 +1.2**
AKSA	**Akutan Strait**	**2.30**	**55**		**Pn**	**14 27 01.5 +0.7**
WESE	**West Dahl East**	**3.04**	**56**		**Pn**	**14 27 12.1 +1.3**
ATKA	**Atka Island**	**3.29**	**261**	Pn	**Pn**	**14 27 15.8 +1.6**
SSBA	**Shishaldin**	**3.42**	**54**		**Pn**	**14 27 16.5 +0.6**
FALS	**False Pass**	**3.82**	**56**		**Pn**	**14 27 21.7 +0.5**
SPIA	**Saint Paul Isl**	**4.39**	**350**	Pn	**Pn**	**14 27 29.5 +0.4**
SPIA					**Sn**	**14 28 18.7 -0.1**
ADK	**Adak**	**4.86**	**261**	Pn	**Pn**	**14 27 37.4 +1.8**
SDPT	**Sand Point**	**5.55**	**60**		**Pn**	**14 27 45.5 +0.5**
CHGN	**Chignik**	**7.00**	**56**	Pn	**Pn**	**14 28 01.6 -3.2**
CHIR	**Chirikof Islan**	**8.31**	**64**	Pn	**Pn**	**14 28 21.1 -1.6**
SII	**Sitkinak Islan**	**9.29**	**61**	Pn	**Pn**	**14 28 36.3 +0.3**
OHAK	**Old Harbor**	**9.97**	**58**	Pn	**Pn**	**14 28 41.8 -3.4**
KDAK	**Kodiak Island**	**10.52**	**56**	Pn	Pn	14 28 49.1 -3.6
	1.9nm,0.3s,baz=180,slow=4.3,SNR=30						
KDAK				Sn	Sn	14 30 39.5 -9.1
	0.2nm,0.3s,baz=345,slow=20,SNR=2.1						
KDAK	**Kodiak Island**	**10.52**	**56**		**Pn**	**14 28 50.6 -2.1**
SVW2	**Sparrevohn**	**10.98**	**36**	Pn	**Pn**	**14 29 00.2 +1.2**
RSO	**Redoubt South**	**11.68**	**43**	Pn	Pn	14 29 04.9 -3.8
CNPM	**China Poot**	**11.87**	**49**	Pn	**Pn**	**14 29 10.1 -1.0**
BRLK	**Bradley Lake**	**12.13**	**48**	Pn	**Pn**	**14 29 15.0 +0.3**
SEW	**Seward**	**12.93**	**48**	Pn	**Pn**	**14 29 23.5 -2.0**
SKT	**Skwentna**	**13.04**	**39**	Pn	**Pn**	**14 29 28.6 +1.6**
SUA	**Susitna One**	**13.05**	**42**	Pn	**Pn**	**14 29 27.3 +0.1**
GHO	**Glory Hole Cre**	**13.95**	**42**	Pn	**Pn**	**14 29 39.3 +0.2**
KNK	**Knik Glacier**	**13.96**	**44**	Pn	**Pn**	**14 29 38.8 -0.5**
KTH	**Kantishna Hill**	**14.24**	**34**		**Pn**	**14 29 43.1 +0.2**
GLI	**Glacier Island**	**14.32**	**47**	Pn	**Pn**	**14 29 40.7 -3.2**
HIN	**Hinchinbrook I**	**14.40**	**50**	Pn	**Pn**	**14 29 42.0 -3.0**
FID	**Port Fidalgo**	**14.54**	**48**		Pn	14 29 42.2 -4.5
SCM	**Sheep Creek Mo**	**14.64**	**44**		**Pn**	**14 29 45.1 -3.0**
EYAK	**Cordova Ski Ar**	**14.80**	**50**	Pn	**Pn**	**14 29 47.8 -2.3**
RND	**Reindeer**	**14.88**	**37**		**Pn**	**14 29 51.5 +0.4**
RAGM	**Ragged Mountai**	**15.24**	**51**	Pn	**Pn**	**14 29 54.5 -1.3**
HMT	**Hamilton**	**15.42**	**51**	Pn	**Pn**	**14 29 57.7 -0.5**
WRH	**Wood River Hil**	**15.79**	**34**	Pn	**Pn**	**14 30 02.1 -0.5**
WRH				IAmb	IAmb	14 30 18.5
	comp=Z,8.4nm,0.7s					
PAX	**Paxson**	**15.94**	**41**		**Pn**	**14 30 04.0 -0.7**
CCB	**Clear Creek Bu**	**15.99**	**34**		**Pn**	**14 30 03.9 -1.3**
GLB	**Gilahina Butte**	**16.00**	**48**		**Pn**	**14 30 04.0 -1.5**
GLB				IAmb	IAmb	14 30 25.5
	comp=Z,15nm,1.5s					
MDM	**Murphy Dome**	**16.05**	**33**	Pn	**Pn**	**14 30 06.0 0.0**
VRDI	**Verde Repeater**	**16.09**	**49**		**Pn**	**14 30 05.3 -1.4**
VRDI				IAmb	IAmb	14 30 11.1
	comp=Z,6.5nm,0.5s					
WAX	**Waxell Ridge**	**16.13**	**52**		**Pn**	**14 30 06.8 -0.2**
WAX				IAmb	IAmb	14 30 31.1
	comp=Z,15nm,0.8s					
HDA	**Harding Lake**	**16.15**	**36**	Pn	**Pn**	**14 30 07.3 0.0**
TGL	**Tana Glacier**	**16.23**	**51**	Pn	**Pn**	**14 30 07.3 -1.0**
TGL				IAmb	IAmb	14 30 13.4
	comp=Z,8.8nm,0.4s					
MCARA	**McCarthy VSAT**	**16.34**	**48**	Pn	**Pn**	**14 30 08.5 -1.1**
MCARA				IAmb	IAmb	14 30 09.4
	comp=Z,10nm,0.8s					
IL31		**16.39**	**35**	Pn	**Pn**	**14 30 08.4 -1.7**
ILAR	**Eielson Array**	**16.39**	**35**	Pn	**Pn**	**14 30 07.4 -2.7**
	comp=Z,0.3nm,0.3s,baz=224,slow=11,SNR=9.0					
ILAR	**Eielson Array**	**16.39**	**35**		**Pn**	**14 30 10.4 +0.3**
MESA	**MESA**	**16.49**	**53**	Pn	**Pn**	**14 30 09.5 -2.2**
MESA				IAmb	IAmb	14 30 16.1
	comp=Z,15nm,0.7s					
BALM	**Baldy**	**16.54**	**50**	Pn	**Pn**	**14 30 10.7 -1.5**
BALM				IAmb	IAmb	14 30 34.1
	comp=Z,12nm,1.4s					
YAH	**Yahtse**	**16.63**	**52**	Pn	**Pn**	**14 30 12.6 -0.9**
YAH				IAmb	IAmb	14 30 55.0
	comp=Z,34nm,1.4s					
MENT	**Mentasta**	**16.64**	**43**		**Pn**	**14 30 13.3 0.0**
DOT	**Dot Lake**	**16.83**	**40**	Pn	**Pn**	**14 30 14.8 -0.9**
DOT				IAmb	IAmb	14 30 55.1
	comp=Z,13nm,1.4s					
BARN	**Barnard Glacie**	**16.86**	**50**	Pn	**Pn**	**14 30 16.0 -0.3**
BARN				IAmb	IAmb	14 30 26.4
	comp=Z,17nm,1.5s					
CTGM	**Chitina Glacie**	**16.99**	**51**	Pn	**Pn**	**14 30 17.8 0.0**
CTGM				IAmb	IAmb	14 30 21.6
	comp=Z,7.8nm,0.5s					
BCAR	**Beaver Creek A**	**17.50**	**44**	Pn	**P**	**14 30 23.9 -0.2**
TOLK	**Toolik Lake Re**	**18.28**	**23**	P	**P**	**14 30 31.8 -0.9**
EGAK	**Eagle**	**18.48**	**39**	P	**P**	**14 30 32.9 -1.9**
EGAK				IAmb	IAmb	14 30 37.7
	comp=Z,7.2nm,0.6s					
BMAR	**Burnt Mountain**	**18.76**	**30**	P	**P**	**14 30 37.2 -0.8**
HYT	**Haines Junctio**	**18.77**	**52**	P	**Pn**	**14 30 39.6 +0.1**
DAWY	**Dawson**	**18.88**	**42**	P	**P**	**14 30 37.6 -1.6**
SKAG	**Skagway**	**19.66**	**57**	P	**P**	**14 30 48.7 +0.9**
SKAG				IAmb	IAmb	14 30 52.4
	comp=Z,10.0nm,0.6s					
BESE	**Bessie Mountai**	**19.86**	**60**	Pn	**Pn**	**14 30 52.6 +0.4**
PETK	**Petropavlovsk-**	**20.01**	**284**	Pn	Pn	14 30 58.4 +4.4
WHY	**Whitehorse**	**20.02**	**54**	P	**P**	**14 30 52.4 +0.6**
WHY				IAmb	IAmb	14 30 56.1
	comp=Z,7.1nm,1.1s					
EPYK	**Eagle Plains**	**20.84**	**37**	P	**P**	**14 30 58.2 -2.2**
DLBC	**Dease Lake**	**22.39**	**60**	P	**P**	**14 31 17.1 -0.1**
	comp=Z,1.5nm,0.7s,baz=271,slow=13,SNR=4.2					
DLBC	**Dease Lake**	**22.39**	**60**	IAmb	IAmb	14 32 05.5
	comp=Z,14nm,1.5s					
INK	**Inuvik**	**22.78**	**34**	P	**P**	**14 31 16.9 -4.2**
INK				IAmb	IAmb	14 31 20.6
	comp=Z,4.8nm,0.7s					
YKA	**Yellowknife Ar**	**29.71**	**50**	P	**P**	**14 32 24.2 +0.5**
	comp=Z,0.7nm,0.7s,baz=272,slow=7.1,SNR=2.6					
NEW	**Newport**	**32.62**	**77**	P	**P**	**14 32 50.6 +0.9**
	comp=Z,0.9nm,0.5s,baz=318,slow=16,SNR=2.7					
NEW	**Newport**	**32.62**	**77**	IAmb	IAmb	14 33 03.5
	comp=Z,4.6nm,1.2s					
PNTR	**Pine Nut**	**36.20**	**92**	P	**P**	**14 33 21.9 +1.1**
YERR	**Yerington**	**36.48**	**92**	P	**P**	**14 33 25.6 +2.4**
MCMT	**McKenzie Canyo**	**36.91**	**79**	P	**P**	**14 33 27.8 +1.0**
EGMT	**Eagleton**	**37.05**	**73**	P	**P**	**14 33 28.0 +0.2**
KVN	**Kaiserville**	**37.13**	**91**	P	**P**	**14 33 30.5 +1.8**
RYN	**Ryan**	**37.14**	**92**	P	**P**	**14 33 30.3 +1.6**
RYN				IAmb	IAmb	14 33 31.1
	comp=Z,1.3nm,0.6s					
NVAR	**Mina Array Bea**	**37.40**	**92**	P	**P**	**14 33 31.5 +0.5**
	comp=Z,1.2nm,0.6s,baz=304,slow=8.4,SNR=12					
NVAR				PcP	**PcP**	**14 35 48.6 +0.2**
	comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=3.0					
NVAR	**Mina Array Bea**	**37.40**	**92**	P	**P**	**14 33 32.8 +1.7**
NVAR					**PcP**	**14 35 49.7 +1.3**
YHL	**Hebgen Lake**	**37.89**	**78**	P	**P**	**14 33 36.4 +1.2**
H11N2	**WAKE ISLAND Hy**	**38.02**	**219**	T	T	15 14 01.3
	baz=24,slow=76,SNR=35					
H11N3	**WAKE ISLAND Hy**	**38.02**	**219**	T	T	15 14 02.6
	baz=24,slow=76,SNR=39					
H11N1	**WAKE ISLAND Hy**	**38.03**	**219**	T	T	15 14 02.0
	baz=24,slow=76,SNR=41					
YHH	**Holmes Hill**	**38.12**	**78**	P	**P**	**14 33 37.4 +0.3**
FXWY	**Fox Creek**	**38.66**	**80**	P	**P**	**14 33 40.5 -1.0**
FXWY				IAmb	IAmb	14 33 49.7
	comp=Z,2.7nm,1.4s					
H11S1	**WAKE ISLAND Hy**	**39.20**	**218**	T	T	15 15 31.8
	baz=23,slow=76,SNR=104					
H11S2	**WAKE ISLAND Hy**	**39.22**	**218**	T	T	15 15 31.1
	baz=23,slow=76,SNR=97					
H11S3	**WAKE ISLAND Hy**	**39.22**	**218**	T	T	15 15 31.6
	baz=23,slow=76,SNR=89					
PDAR	**Pinedale Array**	**40.04**	**80**	P	**P**	**14 33 53.5 +0.4**
	comp=Z,0.5nm,0.6s,baz=278,slow=3.6,SNR=7.5					
TXAR	**Lajitas Array**	**52.46**	**90**	P	**P**	**14 35 31.1 +0.7**
	comp=Z,1.6nm,0.6s,baz=300,slow=5.3,SNR=11					
KURK	**Kurchatov**	**62.19**	**318**	P	**P**	**14 36 38.8 +0.4**
KURBB	**Kurchatov Arra**	**62.30**	**318**	P	**P**	**14 36 38.8 -0.4**
	comp=Z,0.1nm,0.3s,baz=46,slow=5.3,SNR=2.8					
CMAR	**Chiang Mai Arr**	**76.78**	**283**	P	**P**	**14 38 07.4 -1.4**
	comp=Z,0.3nm,0.3s,baz=36,slow=7.9,SNR=3.1					
WRA	**Warramunga Arr**	**87.53**	**232**	P	**P**	**14 39 03.6 -1.2**
	comp=Z,0.6nm,0.6s,baz=32,slow=5.9,SNR=6.6					
ASAR	**Alice Springs**	**90.93**	**230**	P	**P**	**14 39 20.2 -0.4**
	comp=Z,0.6nm,0.7s,baz=23,slow=4.2,SNR=12					
MAW	**Mawson**	**151.44**	**219**	PKPbc	**PKiKP**	**14 46 09.0 -0.4**
	comp=Z,0.7nm,0.8s,baz=98,slow=5.9,SNR=6.1					
MAW				PKPab	**PKPab**	**14 46 16.9 -0.8**
	comp=Z,1.2nm,0.6s,baz=101,slow=5.1,SNR=8.0					

*ISCJB **07** 14:34:52.7±0.4, 45°72N±0°02×26°72E±0°03, h140km±3km,*
Error ellipse: s-maj=4.1km s-min=3.4km az=38.6
*NEIC **07** 14:34:53.3±1.1, 45°76N±0°04×26°70E±0°06, h141km±2km*
*BUC **07** 14:34:53.8±0.3, 45°72N×26°70E, h132km±2km, ml3.9/35,*
Error ellipse: s-maj=1.9km s-min=1.6km az=32.0
*SOF **07** 14:34:56.9, 45°44N×26°69E, h20km*
ISC 07 14:34:52.1±0.8,**45°73N**±0°03×**26°71E**±0°02,**h142**km±5km, **n147**, σ**1°15**/232,**90C-54D**,**Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.12**	**340**	⇑P		**Pn**	**14 35 11.9 +0.6**
PLOR				⇓S		**Sn**	**14 35 25.4 -0.6**
PLOR	**Plostina**	**0.12**	**340**	⇑P		**Pn**	**14 35 11.9 +0.6**
PLOR				⇓S		**Sn**	**14 35 25.4 -0.6**
PLOR				AML	AML	14 35 26.6	
PLOR				AML	AML	14 35 29.1	
PLOR	**Plostina**	**0.12**	**340**		**Pn**	**14 35 11.9 +0.6**
PLOR					**Sn**	**14 35 25.4 -0.6**
VRI	**Vrincioaia**	**0.13**	**5**	⇑P	**Pn**	**14 35 12.1 +0.8**
VRI				⇑S	**Sn**	**14 35 25.7 -0.3**
VRI	**Vrincioaia**	**0.13**	**5**	⇑P	**Pn**	**14 35 12.1 +0.8**
VRI				⇑S	**Sn**	**14 35 25.7 -0.3**
VRI				AML	AML	14 35 26.4	
VRI	**Vrincioaia**	**0.13**	**5**		**Pn**	**14 35 12.1 +0.8**
VRI					**Sn**	**14 35 26.2 +0.3**
BISRR	**Bisoca**	**0.18**	**180**		**Pn**	**14 35 12.8 +1.4**
BISRR					**Sn**	**14 35 27.2 +1.0**
ODBI	**Odobesti**	**0.24**	**83**		**Sn**	**14 35 28.0 +1.8**
PETR	**Petresti**	**0.36**	**91**	⇑P	**Pn**	**14 35 13.2 +1.3**
PETR				⇓S	**Sn**	**14 35 27.7 +0.9**
PETR	**Petresti**	**0.36**	**91**	⇑P	**Pn**	**14 35 13.2 +1.3**
PETR				⇓S	**Sn**	**14 35 27.7 +0.9**
PETR				AML	AML	14 35 28.4	
PETR	**Petresti**	**0.36**	**91**		**Pn**	**14 35 13.2 +1.3**
PETR					**Sn**	**14 35 27.8 +0.9**
GRER		**0.40**	**152**	⇑P	**Pn**	**14 35 12.6 +0.6**
GRER		**0.40**	**152**	⇑P	**Pn**	**14 35 12.6 +0.6**
GRER				AML	AML	14 35 30.6	
GRER		**0.40**	**152**		**Pn**	**14 35 12.6 +0.6**
GRER					**Sn**	**14 35 29.1 +1.9**
MLR	**Muntele Rosu**	**0.59**	**246**	⇑P	**Pn**	**14 35 14.5 +1.3**
MLR				⇑S	**Sn**	**14 35 29.2 +0.1**
MLR	**Muntele Rosu**	**0.59**	**246**	⇑P	**Pn**	**14 35 14.5 +1.3**
MLR				⇑S	**Sn**	**14 35 29.2 +0.1**
MLR				AML	AML	14 35 30.5	
MLR	**Muntele Rosu**	**0.59**	**246**		**Pn**	**14 35 14.5 +1.3**
MLR					**Sn**	**14 35 29.2 +0.1**
ISR	**Istrita**	**0.63**	**191**	⇓S	**Sn**	**14 35 29.7 +0.3**
ISR	**Istrita**	**0.63**	**191**	⇓S	**Sn**	**14 35 29.7 +0.3**
ISR				AML	AML	14 35 33.0	
ISR	**Istrita**	**0.63**	**191**		**Sn**	**14 35 31.1 +1.7**
TUDR		**0.69**	**101**	⇑P	**Pn**	**14 35 14.8 +1.3**
TUDR				⇑S	**Sn**	**14 35 30.5 +0.6**
TUDR		**0.69**	**101**	⇑P	**Pn**	**14 35 14.8 +1.3**
TUDR				⇑S	**Sn**	**14 35 30.5 +0.6**
TUDR				AML	AML	14 35 32.0	
TUDR		**0.69**	**101**		**Pn**	**14 35 14.8 +1.3**
TUDR					**Sn**	**14 35 31.1 +1.2**
OZUR		**0.74**	**300**	⇓P	**Pn**	**14 35 14.4 +0.3**
OZUR		**0.74**	**300**	⇓P	**Pn**	**14 35 14.4 +0.3**
OZUR				AML	AML	14

SGRR				AML	AML	14 35 46.3	
SGRR	**Singureni**	**1.60**	**199**		**Pn**	**14 35 23.2**	**+1.1**
SGRR					**Sn**	**14 35 45.4**	**+0.4**
CVDA	**Cernavoda**	**1.69**	**146**	⇓P	**Pn**	**14 35 24.4**	**+1.3**
CVDA				⇑S	**Sn**	**14 35 46.5**	**-0.2**
CVDA	**Cernavoda**	**1.69**	**146**	⇓P	**Pn**	**14 35 24.4**	**+1.3**
CVDA				⇑S	**Sn**	**14 35 46.5**	**-0.2**
CVDA	**Cernavoda**	**1.69**	**146**		**Pn**	**14 35 24.6**	**+1.5**
CVDA					**Sn**	**14 35 46.2**	**-0.5**
HUMR	**Humele**	**1.72**	**226**	⇑P	**Pn**	**14 35 24.3**	**+0.9**
HUMR				⇑S	**Sn**	**14 35 47.0**	**-0.4**
HUMR	**Humele**	**1.72**	**226**	⇑P	**Pn**	**14 35 24.3**	**+0.9**
HUMR				⇑S	**Sn**	**14 35 47.0**	**-0.4**
HUMR				AML	AML	14 35 47.9	
HUMR	**Humele**	**1.72**	**226**		**Pn**	**14 35 24.3**	**+0.9**
HUMR					**Sn**	**14 35 47.0**	**-0.4**
TIRR	**Tirgusor**	**1.75**	**136**	⇓P	**Pn**	**14 35 25.3**	**+1.5**
TIRR	**Tirgusor**	**1.75**	**136**	⇓P	**Pn**	**14 35 25.3**	**+1.5**
TIRR				AML	AML	14 35 48.7	
TIRR	**Tirgusor**	**1.75**	**136**		**Pn**	**14 35 25.4**	**+1.5**
TIRR				Sn	**Sn**	**14 35 47.8**	**-0.3**
TIRR	**Tirgusor**	**1.75**	**136**		**Pn**	**14 35 25.3**	**+1.5**
TIRR					**Sn**	**14 35 47.6**	**-0.5**
ICOR	**Ion Corvin**	**1.79**	**154**	⇑P	**Pn**	**14 35 26.1**	**+1.8**
ICOR				⇑S	**Sn**	**14 35 49.0**	**+0.1**
ICOR	**Ion Corvin**	**1.79**	**154**	⇑P	**Pn**	**14 35 26.1**	**+1.8**
ICOR				⇑S	**Sn**	**14 35 49.0**	**+0.1**
ICOR				AML	AML	14 35 52.0	
ICOR	**Ion Corvin**	**1.79**	**154**		**Pn**	**14 35 26.1**	**+1.8**
ICOR					**Sn**	**14 35 49.0**	**+0.1**
MILM	**Milestii Mici**	**1.88**	**50**	⇑P	**Pn**	**14 35 26.6**	**+1.4**
MILM	**Milestii Mici**	**1.88**	**50**	⇑P	**Pn**	**14 35 26.6**	**+1.4**
MILM				AML	AML	14 35 50.9	
MILM	**Milestii Mici**	**1.88**	**50**		**Pn**	**14 35 26.6**	**+1.4**
COPA	**Copaceanca**	**1.92**	**214**	⇓P	**Pn**	**14 35 26.8**	**+1.0**
COPA				⇓S	**Sn**	**14 35 51.1**	**-0.4**
COPA	**Copaceanca**	**1.92**	**214**	⇓P	**Pn**	**14 35 26.8**	**+1.0**
COPA				⇓S	**Sn**	**14 35 51.1**	**-0.4**
COPA				AML	AML	14 35 51.5	
COPA	**Copaceanca**	**1.92**	**214**		**Sn**	**14 35 51.1**	**-0.4**
MFTR	**Murfatlar**	**1.97**	**141**	⇑P	**Pn**	**14 35 27.7**	**+1.3**
MFTR				⇑S	**Sn**	**14 35 52.4**	**-0.2**
MFTR	**Murfatlar**	**1.97**	**141**	⇑P	**Pn**	**14 35 27.7**	**+1.3**
MFTR				⇑S	**Sn**	**14 35 52.4**	**-0.2**
MFTR				AML	AML	14 35 53.4	
MFTR	**Murfatlar**	**1.97**	**141**		**Pn**	**14 35 27.7**	**+1.3**
LOT	**Lotru**	**2.08**	**263**	⇑P	**Pn**	**14 35 28.0**	**+0.1**
LOT				⇓S	**Sn**	**14 35 56.4**	**+1.1**
LOT	**Lotru**	**2.08**	**263**	⇑P	**Pn**	**14 35 28.0**	**+0.1**
LOT				⇓S	**Sn**	**14 35 56.4**	**+1.1**
LOT				AML	AML	14 35 58.2	
LOT	**Lotru**	**2.08**	**263**		**Pn**	**14 35 30.1**	**+2.3**
LOT					**Sn**	**14 35 57.4**	**+2.1**
BURAR	**Bucovina Array**	**2.15**	**332**	⇑P	**Pn**	**14 35 30.4**	**+1.9**
BURAR				⇓S	**Sn**	**14 35 58.2**	**+1.7**
BURAR	**Bucovina Array**	**2.15**	**332**	⇑P	**Pn**	**14 35 30.4**	**+1.9**
BURAR				⇓S	**Sn**	**14 35 58.2**	**+1.7**
BURAR	**Bucovina Array**	**2.15**	**332**		**Pn**	**14 35 30.1**	**+1.6**
BURAR	**Bucovina Array**	**2.15**	**332**		**Pn**	**14 35 30.4**	**+1.9**
EFOR	**EFORIE**	**2.15**	**140**	⇑S	**Sn**	**14 35 56.5**	**+0.2**
EFOR	**EFORIE**	**2.15**	**140**	⇑S	**Sn**	**14 35 56.5**	**+0.2**
EFOR				AML	AML	14 35 57.7	
EFOR	**EFORIE**	**2.15**	**140**		**Sn**	**14 35 56.5**	**+0.2**
RAZG	**Razgrad**	**2.17**	**184**	⇓P	**Pn**	**14 35 30.2**	**+1.4**
RAZG				⇓S	**Sn**	**14 35 57.2**	**+0.2**
RAZG	**Razgrad**	**2.17**	**184**	⇓P	**Pn**	**14 35 30.2**	**+1.4**
RAZG				⇓S	**Sn**	**14 35 57.2**	**+0.2**
RAZG				AML	AML	14 35 58.6	
RAZG	**Razgrad**	**2.17**	**184**		**Pn**	**14 35 30.2**	**+1.4**
RAZG					**Sn**	**14 35 56.8**	**-0.2**
BUR08	**Bucovina Ar. S**	**2.18**	**332**		**Pn**	**14 35 31.1**	**+2.2**
TSSL	**Sulina**	**2.20**	**104**	⇓S	**Sn**	**14 35 58.8**	**+1.3**
TSSL	**Sulina**	**2.20**	**104**	⇓S	**Sn**	**14 35 58.8**	**+1.3**
TSSL				AML	AML	14 36 00.4	
TSSL	**Sulina**	**2.20**	**104**		**Sn**	**14 35 59.2**	**+1.8**
PSN	**Preselentsi**	**2.30**	**152**	*i* P	**Pn**	**14 35 32.2**	**+1.8**
MANR	**Mangalia**	**2.34**	**144**	⇑P	**Pn**	**14 35 32.0**	**+1.3**
MANR				⇑S	**Sn**	**14 36 00.8**	**+0.3**
MANR	**Mangalia**	**2.34**	**144**	⇑P	**Pn**	**14 35 32.0**	**+1.3**
MANR				⇑S	**Sn**	**14 36 00.8**	**+0.3**
MANR				AML	AML	14 36 02.4	
MANR	**Mangalia**	**2.34**	**144**		**Pn**	**14 35 32.0**	**+1.3**
MANR					**Sn**	**14 36 00.8**	**+0.3**
SZH	**Strazhica**	**2.53**	**193**	*i* P	**Pn**	**14 35 34.3**	**+1.1**
PRD	**Provadia**	**2.58**	**169**	*i* P	**Pn**	**14 35 35.8**	**+2.0**
SORM	**Soroca**	**2.65**	**24**	⇑P	**Pn**	**14 35 35.8**	**+1.2**
SORM	**Soroca**	**2.65**	**24**	⇑P	**Pn**	**14 35 35.8**	**+1.2**
SORM	**Soroca**	**2.65**	**24**		**Pn**	**14 35 35.8**	**+1.2**
ROIA	**ROIAK**	**2.68**	**170**	*i* P	**Pn**	**14 35 36.7**	**+1.6**
PVL	**Pavlikeni**	**2.70**	**202**	*i* P	**Pn**	**14 35 38.2**	**+2.9**
GZR	**Gura Zlata**	**2.78**	**264**	⇑P	**Pn**	**14 35 37.9**	**+1.5**
GZR				⇑S	**Sn**	**14 36 12.4**	**+1.8**
GZR	**Gura Zlata**	**2.78**	**264**	⇑P	**Pn**	**14 35 37.9**	**+1.5**
GZR				⇑S	**Sn**	**14 36 12.4**	**+1.8**
GZR				AML	AML	14 36 15.6	
GZR	**Gura Zlata**	**2.78**	**264**		**Pn**	**14 35 38.0**	**+1.5**
GZR					**Sn**	**14 36 12.5**	**+1.9**
ELND	**Elena**	**2.87**	**192**	⇑P	**Pn**	**14 35 38.7**	**+1.3**
ELND				⇓S	**Sn**	**14 36 13.3**	**+0.9**
ELND	**Elena**	**2.87**	**192**	⇑P	**Pn**	**14 35 38.7**	**+1.3**
ELND				⇓S	**Sn**	**14 36 13.3**	**+0.9**
ELND				AML	AML	14 36 14.4	
ELND	**Elena**	**2.87**	**192**		**Pn**	**14 35 39.0**	**+1.5**
ELND					**Sn**	**14 36 12.3**	**-0.1**
HERR	**Herculane**	**3.15**	**256**	⇓P	**Pn**	**14 35 41.4**	**+0.5**
HERR	**Herculane**	**3.15**	**256**	⇓P	**Pn**	**14 35 41.4**	**+0.5**
HERR				AML	AML	14 36 18.6	
HERR	**Herculane**	**3.15**	**256**		**Pn**	**14 35 41.3**	**+0.3**
MDVR	**Moldovita**	**3.66**	**257**	⇓P	**Pn**	**14 35 48.3**	**+0.7**
MDVR	**Moldovita**	**3.66**	**257**	⇓P	**Pn**	**14 35 48.3**	**+0.7**
MDVR	**Moldovita**	**3.66**	**257**		**Pn**	**14 35 48.4**	**+0.7**
ALN	**Alexandroupoli**	**4.86**	**186**	Pn	**Pn**	**14 36 05.3**	**+1.8**
ILGA	**Ilgaz**	**6.92**	**130**	Pn	**Pn**	**14 36 30.1**	**-1.1**
PRMA	**PARMA**	**11.60**	**271**	Pn	**Pn**	**14 37 30.6**	**-2.6**
NC602	**NORSAR Array S**	**17.48**	**335**	P	**P**	**14 38 47.6**	**+1.7**
NC303	**NORSAR Array S**	**17.93**	**335**	P	**P**	**14 38 50.1**	**-0.6**
ABKAR	**Akbulak array**	**22.62**	**69**	P	**P**	**14 39 39.4**	**-1.3**
ESBB	**Sonseca Array**	**23.25**	**266**	P	**P**	**14 39 47.6**	**+0.8**
ESBB				IAmb	IAmb	14 39 56.0	
	comp=Z,8.8nm,1.4s						
TAM	**Tamanrasset**	**28.65**	**224**	P	**P**	**14 40 35.2**	**-0.3**
TAM				IAmb	IAmb	14 40 35.3	
	comp=Z,3.0nm,0.3s						

DDA 07 14:36:07.4, 40°.99N×38°.00E, h8km±2km, ML2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDU	**Ordu-Boztepe**	**0.11**	**270**	*i* P	Pg	14 36 06.7	-3.2
ORDU				*i* S	Sg	14 36 12.2	+0.5
ORDU				IAML_P			
	comp=Z,530nm,0.1s						
SUSE	**Susehri**	**0.80**	**169**	*i* P	Pb	14 36 23.5	-0.1
SUSE				*i* S	Sb	14 36 34.3	-0.3
SUSE				IAML_P			
	comp=Z,1μm,0.1s						
ERBA	**Erbaa**	**0.99**	**252**	*i* P	Pn	14 36 28.0	+0.3
ERBA				IAML_P			
	comp=Z,2μm,0.1s						
KELT	**Kelkit**	**1.27**	**131**	*i* P	Pg	14 36 32.0	+0.2
KELT				*i* S	Sn	14 36 50.8	+1.7
MACK	**Trabzon**	**1.34**	**92**	*i* P	Pg	14 36 33.4	+0.3
MACK				*i* S	Sn	14 36 51.9	+1.4
KEMA	**Kemaliye**	**1.76**	**167**	*i* P	Pg	14 36 41.1	-0.1
KEMA				*i* S	Sg	14 37 06.2	+2.1
BAYB	**BAYBURT**	**1.87**	**112**	*i* P	Pg	14 36 42.9	-0.3
BAYB				*i* S	Sb	14 37 06.0	+0.5

DDA 07 14:36:33.8, 36°.29N×29°.54E, h7km±7km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.08**	**134**	*i* P	Pg	14 36 36.4	+0.5
AKAS				*i* S	Sg	14 36 38.5	+1.1
AKAS				IAML_P			
	comp=Z,24μm,0.2s						
FETY	**Fethiye**	**0.50**	**314**	*i* P	Pg	14 36 43.4	-0.2
FETY				*i* S	Sb	14 36 53.1	+0.5
FETY				IAML_P			
	comp=Z,544nm,0.1s						
AKUM	**Antalya-Kumluc**	**0.65**	**87**	*i* S	Sn	14 37 02.1	+2.1
DALY	**Dalyan (Mula)**	**0.89**	**307**	*i* P	Pg	14 36 50.5	-0.3
DALY				*i* S	Sb	14 37 03.9	+0.4
GOLH	**Golhisar**	**0.95**	**1**	*i* P	Pn	14 36 53.6	-0.1
GOLH				*i* S	Sn	14 37 14.4	+6.9

*IDC **07** 14:37:01.1±2.5, 35°.28N×76°.74E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/52, mbtmp3.4/6, ML3.0/3, MS3.7/2, Ms1 3.7/2, ms1mx2.6/42, Error ellipse: s-maj=57.3km s-min=24.3km az=56.0*
*BJI **07** 14:37:05.0±0.0, 35°.39N×77°.20E, h6km, ML3.9/1*
*NNC **07** 14:37:11.5±2.5, 35°.77N×77°.09E, h1km±17km, mb4.2, mpv4.0, Error ellipse: s-maj=45.3km s-min=17.0km az=85.0*

ISC 07 14:37:04.3±1.6, 35°.2N±0°.1×77°.0E±0°.1, h10km, n13, σ2s95/14, 6C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.65**	**346**	⇑Pg	**Pb**	**14 39 21.1**	**+4.0**
	11nm,1.2s						
AAK				⇓Lg	Lg	14 40 59.3	
	12nm,0.9s						
AAK	**Ala-Archa**	**7.65**	**346**	Pn	**Pn**	**14 38 57.5**	**+1.6**
	0.1nm,0.3s,baz=174,slow=9.2,SNR=1.5						
AAK				Lg	Lg	14 40 46.4	
	0.3nm,0.3s,baz=163,slow=18,SNR=2.8						
TKM2	**Tokmak 2**	**7.76**	**352**	⇑Pg	**Pb**	**14 39 23.4**	**+4.5**
TKM2				⇓Lg	Lg	14 41 01.6	
PDGK	**Podgornoye**	**8.30**	**13**	⇑Pn	**Pn**	**14 39 05.8**	**+0.9**
	13nm,1.4s						
PDGK				⇑Sn	**Sn**	**14 40 35.8**	**-3.0**
PDGK				⇓Lg	Lg	14 41 19.0	
	23nm,0.9s						
WMQ	**Urumqi**	**11.88**	**41**	*e*P	**Pn**	**14 39 55.0**	**+1.3**
WMQ				pP		14 39 58.2	
MK31	**Makanchi Array**	**12.21**	**17**	⇑Pn	**Pn**	**14 39 59.8**	**+1.7**
	3.9nm,1.1s,baz=192,slow=14,SNR=4.9						
MK31				⇑Sn	**Sn**	**14 42 11.4**	**-2.9**
	3.2nm,0.9s,baz=200,slow=22,SNR=5.4						
MKAR	**Makanchi Array**	**12.21**	**17**	Pn	**Pn**	**14 39 57.0**	**-1.1**
	0.1nm,0.3s,baz=201,slow=14,SNR=4.8						
MKAR				Sn	Sn	14 42 00.3	-14
	baz=198,slow=22,SNR=2.0						
BVAR	**Borovoye Array**	**18.40**	**347**	P	**Pn**	**14 41 14.7**	**-4.7**
	0.1nm,0.3s,baz=163,slow=10,SNR=4.8						
GTA	**Gaotai**	**18.58**	**70**	*e*P	**P**	**14 41 22.0**	**+0.4**
GTA				pP	Pn	14 41 27.5	+5.7
GTA				sP	pP	14 41 30.6	+4.8
AKTO	**Aktyubinsk**	**20.53**	**324**	P	**P**	**14 41 39.5**	**-3.2**
	0.8nm,0.5s,baz=90,slow=9.1,SNR=3.2						
SONM	**Songino Array**	**25.16**	**51**	P	**P**	**14 42 30.7**	**+0.9**
	1.2nm,0.8s,baz=264,slow=10.0,SNR=2.7						
SONM				LR	LR	14 53 52.5	
	comp=Z,73nm,18.5s,baz=17,slow=40						
CMAR	**Chiang Mai Arr**	**25.63**	**125**	P	**P**	**14 42 34.0**	**0.0**
	0.5nm,0.6s,baz=314,slow=11,SNR=5.5						
TGY	**Tagaytay City**	**44.66**	**107**	LR	LR	15 03 56.1	
	comp=Z,186nm,20.6s,baz=123,slow=36						

*ISCJB **07** 14:37:12.7±0.6, 27°.04N±0°.08×126°.13E±0°.08, h172km±7km, mb3.4/4, Error ellipse: s-maj=16.8km s-min=4.9km az=139.6*
*IDC **07** 14:37:14.4±3.9, 27°.29N×126°.44E, h184km±63km, mb3.1/4, mb1 3.3/4, mb1mx2.9/57, mbtmp3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/19, Error ellipse: s-maj=141.4km s-min=15.5km az=62.0*
*JMA **07** 14:37:14.5±0.3, 27°.03N×126°.12E, h163km, M3.4*

ISC 07 14:37:12.8±1.1, 27°.1N±0°.1×126°.01E±0°.09, h163km±12km, n22, σ1s16/37, mb3.4/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.05**	**139**	P	**Pn**	**14 37 40.2**	**+0.9**
JKE				*e*S	**Sn**	**14 37 59.4**	**-0.2**
JAGN	**Aguni-jima**	**1.22**	**115**	P	**Pn**	**14 37 41.7**	**+1.0**
JAGN				*e*S	**Sn**	**14 38 01.4**	**-0.7**
JIH	**Iheya**	**1.74**	**92**	P	**Pn**	**14 37 47.1**	**+1.2**
JIH				S	**Sn**	**14 38 10.4**	**-1.0**
JJT3	**Tamagusuku3**	**1.86**	**121**	P	**Pn**	**14 37 48.5**	**+1.3**
JJT3				*e*S	**Sn**	**14 38 13.5**	**-0.2**
JNTH	**Nagotoyohara**	**1.89**	**108**	P	**Pn**	**14 37 48.4**	**+0.8**
JNTH				S	**Sn**	**14 38 12.3**	**-2.0**
JOW	**Kunigami**	**2.04**	**98**	P	**Pn**	**14 37 49.9**	**+0.7**
JOW				S	**Sn**	**14 38 15.2**	**-2.1**
JOW	**Kunigami**	**2.04**	**98**	P	**Pn**	**14 37 50.0**	**+0.8**
	5.7nm,0.3s,baz=203,slow=15,SNR=294						
JOW				S	**Sn**	**14 38 15.1**	**-2.2**
	18nm,0.3s,baz=330,slow=16,SNR=30						
JYRO	**Yoronjima**	**2.17**	**92**	P	**Pn**	**14 37 51.4**	**+0.7**
JYRO				S	**Sn**	**14 38 18.5**	**-1.5**
JOKE	**Okinoerabujima**	**2.29**	**83**	P	**Pn**	**14 37 52.7**	**+0.6**
JOKE				*e*S	**Sn**	**14 38 21.6**	**-0.9**
JIKM	**Ikemajima**	**2.29**	**198**	P	**Pn**	**14 37 53.5**	**+1.3**
JIKM				*e*S	**Sn**	**14 38 22.4**	**-0.2**
JIRB	**Irabujima**	**2.41**	**199**	P	**Pn**	**14 37 54.1**	**+0.6**
JIRB				*e*S	**Sn**	**14 38 23.8**	**-1.2**
JOGS	**Gusukube**	**2.41**	**193**	P	**Pn**	**14 37 54.3**	**+0.7**
JOGS				S	**Sn**	**14 38 25.4**	**+0.3**
JMJ2	**Miyako jima3**	**2.45**	**195**	P	**Pn**	**14 37 54.7**	**+0.7**
JMJ2				S	**Sn**	**14 38 26.2**	**+0.3**
JTK	**Tokunoshima**	**2.69**	**75**	P	**Pn**	**14 37 57.5**	**+0.6**
JTK				*e*S	**Sn**	**14 38 30.1**	**-1.0**
JTJ	**Tarama**	**2.74**	**206**	P	**Pn**	**14 37 58.0**	**+0.5**
JAMN	**Amaminishikomi**	**3.02**	**68**	P	**Pn**	**14 38 01.7**	**+0.8**
JAMN				S	**Sn**	**14 38 37.4**	**-0.9**
JIJ	**Ishigaki jima**	**3.22**	**212**	P	**Pn**	**14 38 03.1**	**-0.4**
JIJ				S	**Sn**	**14 38 39.8**	**-3.1**
KAPI	**Kappang**	**32.52**	**192**	LR	LR	14 58 12.1	
	comp=Z,31nm,18.2s,baz=106,slow=38						
MKAR	**Makanchi Array**	**39.46**	**312**	P	**P**	**14 44 27.2**	**0.0**
	0.2nm,0.3s,baz=103,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.34**	**323**	P	**P**	**14 44 34.9**	**+0.7**
	0.8nm,0.5s,baz=115,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**47.48**	**169**	P	**P**	**14 45 30.7**	**-0.7**
	0.8nm,0.5s,baz=351,slow=8.3,SNR=9.2						
ASAR	**Alice Springs**	**51.06**	**171**	P	**P**	**14 45 59.3**	**+0.7**
	0.5nm,0.8s,baz=359,slow=15,SNR=19						

*ISCJB **07** 15:07:05.7±0.4, 3°.69N±0°.08×32°.00W±0°.06, h10km, mb4.1/13, MS3.7/19, Error ellipse: s-maj=11.9km s-min=8.0km az=147.3*
*IDC **07** 15:07:05.7±0.8, 3°.69N×31°.93W, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.1/46, mbtmp4.3/15, ML4.3/1, MS3.7/19, Ms1 3.7/19, ms1mx3.5/39, Error ellipse: s-maj=25.6km s-min=15.7km az=150.0*
*NEIC **07** 15:07:07.4±1.6, 3°.62N±0°.10×32°.0W±0°.1, h10km±4km, mb4.6/37*

ISC 07 15:07:06.9±0.5, 3°.51N±0°.07×31°.96W±0°.09, h10km, n71, σ1s34/60, mb4.5/27, MS3.7/19, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.07**	**203**	Pn	**Pn**	**15 09 33.0**	**+1.2**
	2.4nm,0.3s,baz=122,slow=0.9,SNR=24						
RCBR				Sn	**Sn**	**15 11 19.3**	**-5.7**
	4.0nm,0.3s,baz=107,slow=2.7,SNR=4.8						
RCBR	**Riachuelo**	**10.07**	**203**		**Pn**	**15 09 32.5**	**+0.7**
RCBR					**Sn**	**15 11 22.7**	**-2.3**
SACV	**Santiago Islan**	**14.05**	**35**		**Pn**	**15 10 23.9**	**-2.4**
MDP	**Montagnes des**	**20.68**	**275**	P	**P**	**15 11 47.2**	**-0.2**
	30nm,0.8s,baz=96,slow=9.7,SNR=11						
MDP				LR	LR	15 18 17.6	
	comp=Z,124nm,20.4s,baz=48,slow=32						
H10N3	**ASCENSION HYDR**	**20.75**	**123**	T	T	15 33 20.9	
	baz=302,slow=75,SNR=41						
H10N2	**ASCENSION HYDR**	**20.75**	**123**	T	T	15 33 22.0	
	baz=302,slow=75,SNR=47						
H10N1	**ASCENSION HYDR**	**20.77**	**123**	T	T	15 33 22.0	
	baz=302,slow=75,SNR=47						
BDFB	**Brasilia**	**24.79**	**219**	P	**P**	**15 12 30.0**	**+0.6**
	1.8nm,0.3s,baz=110,slow=10.0,SNR=4.0						
BDFB				LR	LR	15 21 18.7	
	comp=Z,162nm,18.9s,baz=80,slow=34						
BDFB	**Brasilia**	**24.79**	**219**	P	**P**	**15 12 31.3**	**+1.9**
DBIC	**Dimbokro**	**27.18**	**82**	P	**P**	**15 12 50.7**	**-0.3**
	3.0nm,0.8s,baz=302,slow=15,SNR=2.4						
DBIC				LR	LR	15 21 41.1	
	comp=Z,142nm,19.2s,baz=244,slow=32						
DBIC	**Dimbokro**	**27.18**	**82**	P	**P**	**15 12 51.2**	**+0.3**
DBIC				IAmb	IAmb	15 13 05.1	
	comp=Z,21nm,1.6s						
SAML	**Samuel**	**33.49**	**248**	P	**P**	**15 13 48.4**	**+1.5**
SAML				IAmb	IAmb	15 13 49.5	
	comp=Z,5.3nm,1.1s						
TOA0	**Torodi Ar. Sit**	**34.61**	**72**	P	**P**	**15 13 57.7**	**+1.1**
TOA0				IAmb	IAmb	15 13 59.6	
	comp=Z,5.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**34.61**	**72**	P	**P**	**15 13 55.8**	**-0.8**
	comp=Z,3.6nm,1.0s,baz=268,slow=8.7,SNR=11						
TORD				LR	LR	15 26 26.0	
	comp=Z,220nm,18.2s,baz=290,slow=34						
TORD	**Torodi Ar. Bea**	**34.61**	**72**	P	**P**	**15 13 57.1**	**+0.6**
SIV	**San Ignacio**	**34.70**	**235**	P	**P**	**15 13 60.0**	**+2.6**
	comp=Z,4.8nm,0.8s,baz=89,slow=9.7,SNR=25						
MTP	**Monte Pirata**	**35.94**	**296**	P	**P**	**15 14 06.7**	**-1.3**
MTP				IAmb	IAmb	15 14 08.2	
	comp=Z,20nm,1.1s						
HUMP	**Col San Antoni**	**36.23**	**296**	P	**P**	**15 14 08.2**	**-2.2**
HUMP				IAmb	IAmb	15 14 11.2	
	comp=Z,25nm,1.4s						
CPUP	**Villa Florida**	**38.50**	**218**	P	**P**	**15 14 31.9**	**+2.3**
	comp=Z,0.9nm,0.4s,baz=56,slow=15,SNR=3.1						
CPUP				LR	LR	15 30 05.7	
	comp=Z,194nm,19.4s,baz=37,slow=36						
CPUP	**Villa Florida**	**38.50**	**218**	P	**P**	**15 14 30.6**	**+1.0**
CPUP				IAmb	IAmb	15 14 33.0	
	comp=Z,13nm,1.4s						
SDV	**Santo Domingo**	**38.80**	**280**	P	**P**	**15 14 32.4**	**-0.1**
	comp=Z,4.1nm,0.4s,baz=64,slow=7.1,SNR=3.2						
LPAZ	**La Paz**	**40.81**	**240**	P	**P**	**15 14 51.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=84,slow=7.6,SNR=5.2						
LPAZ				LR	LR	15 30 51.1	
	comp=Z,138nm,21.8s,baz=46,slow=35						
LPAZ	**La Paz**	**40.81**	**240**	P	**P**	**15 14 50.5**	**+0.8**
TAM	**Tamanrasset**	**41.03**	**59**	P	**P**	**15 14 52.3**	**+1.3**
ROSC	**El Rosal**	**42.26**	**273**	P	**P**	**15 15 02.1**	**+0.7**
	comp=Z,7.2nm,0.3s,baz=8.8,slow=10,SNR=5.5						
ROSC				LR	LR	15 32 18.5	
	comp=Z,134nm,18.6s,baz=102,slow=36						
ROSC	**El Rosal**	**42.26**	**273**	P	**P**	**15 15 01.9**	**+0.4**
ROSC				IAmb	IAmb	15 15 03.7	
	comp=Z,9.7nm,0.9s						
PB11	**IPOC Station P**	**43.66**	**237**	P	**P**	**15 15 12.2**	**-0.2**
PB11				IAmb	IAmb	15 15 16.9	
	comp=Z,7.6nm,1.0s						
ESDC	**Sonseca Array**	**44.04**	**31**	P	**P**	**15 15 15.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=232,slow=9.2,SNR=4.4						
ESDC	**Sonseca Array**	**44.04**	**31**	P	**P**	**15 15 14.8**	**-0.3**
GTBY	**Guantanamo Bay**	**45.11**	**295**	P	**P**	**15 15 23.2**	**-0.6**
PB04	**IPOC Station P**	**45.30**	**234**	P	**P**	**15 15 26.1**	**+0.7**
GO02	**Mina Guanaco**	**46.32**	**230**	P	**P**	**15 15 35.2**	**+1.6**
BRYW	**Bryant College**	**52.08**	**323**	P	**P**	**15 16 20.4**	**+3.2**
PLCA	**Paso Flores**	**56.40**	**215**	LR	LR	15 40 35.4	
	comp=Z,105nm,20.4s,baz=102,slow=36						
Y49A	**Blount Mountai**	**58.90**	**308**	P	**P**	**15 17 06.6**	**+0.2**
Y49A				IAmb	IAmb	15 17 12.8	
	comp=Z,7.9nm,1.1s						
SWET	**Sewanee**	**58.96**	**309**	P	**P**	**15 17 07.2**	**+0.2**
CCIG	**Comitan**	**60.42**	**287**	P	**P**	**15 17 16.3**	**-1.1**
T47A	**Sharon Grove**	**60.45**	**311**	P	**P**	**15 17 16.8**	**-0.3**
T47A				IAmb	IAmb	15 17 17.9	
	comp=Z,10nm,0.9s						
PLAL	**Pickwick Lake**	**60.55**	**308**	P	**P**	**15 17 17.3**	**-0.5**
PLAL				IAmb	IAmb	15 17 18.2	
	comp=Z,6.8nm,0.9s						
WVT	**Waverly**	**60.72**	**310**	P	**P**	**15 17 18.1**	**-0.9**
WVT				IAmb	IAmb	15 17 19.2	
	comp=Z,4.9nm,1.0s						
BOSA	**Boshof**	**63.50**	**124**	LR	LR	15 39 18.4	
	comp=Z,50nm,21.3s,baz=204,slow=30						
MGMO	**Mountain Grove**	**64.43**	**310**	P	**P**	**15 17 42.7**	**-1.1**
MLR	**Muntele Rosu**	**65.40**	**41**	LR	LR	15 48 42.7	
	comp=Z,53nm,18.4s,baz=300,slow=38		

SAUI **Sn** **15 41 56.8 +1.0**
FAKI **Fak Fak** **4.67 36** **Pn** **15 42 02.0 +2.1**
FAKI **Sn** **15 42 50.4 -3.4**
SOEI **Soe** **6.00 240** **Pn** **15 42 19.6 +2.0**
SIJI **Sorong** **6.10 17** P **Pn** **15 42 16.1 -2.6**
0.4nm,0.3s,baz=139,slow=19,SNR=2.5
SIJI S **Sn** **15 43 21.8 -5.9**
0.3nm,0.3s,baz=253,slow=19,SNR=2.1
MTN **Manton Dam** **6.26 165** **Pn** **15 42 23.5 +2.6**
MTN Sn **Sn** **15 43 29.7 -1.8**
BATI **Baumata** **6.74 239** P **Pn** **15 42 28.6 +1.3**
7.7nm,0.3s,baz=99,slow=2.2,SNR=10
BATI S **Sn** **15 43 42.5 -0.6**
7.0nm,0.3s,baz=65,slow=14,SNR=5.9
KNRA **Kununurra** **8.90 185** **Pn** **15 42 57.2 +1.0**
KNRA **Sn** **15 44 31.6 -3.5**
FITZ **Fitzroy Crossi** **11.90 198** P **Pn** **15 43 35.4 -0.3**
1.7nm,0.3s,baz=30,slow=11,SNR=51
FITZ S Sn 15 45 38.7 -8.6
0.4nm,0.3s,baz=342,slow=20,SNR=2.1
FITZ **Fitzroy Crossi** **11.90 198** **Pn** **15 43 36.0 +0.3**
FITZ **Sn** **15 45 42.4 -4.9**
WB0 **Warramunga Arr** **13.77 160** Pn **Pn** **15 43 59.4 -0.5**
WRAB **Tennant Creek** **13.91 161** **Pn** **15 44 01.3 -0.3**
WRA **Warramunga Arr** **13.92 161** P **Pn** **15 44 01.3 -0.4**
0.9nm,0.3s,baz=343,slow=12,SNR=40
WRA S Sn 15 46 26.8 -9.2
1.2nm,0.3s,baz=35,slow=6.8,SNR=7.9
WB2 **Warramunga Arr** **13.92 161** **Pn** **15 44 01.5 -0.2**
WR0 **Warramunga Arr** **14.00 160** Pn **Pn** **15 44 03.4 +0.7**
COEN **Coen** **15.21 119** **Pn** **15 44 20.0 +2.2**
COEN IAmb IAmb 15 44 32.0
comp=Z,22nm,1.3s
JAGI **Jajag, Banyuwa** **15.34 263** **P** **15 44 20.8 +0.1**
AS31 **Alice Springs** **17.34 166** P **Pn** **15 44 45.8 +2.1**
ASAR **Alice Springs** **17.34 166** P **Pn** **15 44 46.4 +2.7**
comp=Z,1.1nm,0.3s,baz=342,slow=9.4,SNR=192
ASAR S **S** **15 47 51.0 -4.9**
comp=Z,0.2nm,0.3s,baz=342,slow=24,SNR=3.7
ASAR **Alice Springs** **17.34 166** P **Pn** **15 44 45.8 +2.1**
ASAR **S** **15 47 51.8 -4.1**
PSA00 **Pilbara Seismi** **17.45 211** **P** **15 44 42.6 -1.5**
PSA00 **Pilbara Seismi** **17.45 211** P **P** **15 44 44.5 +0.4**
PSA00 IAmb IAmb 15 44 50.4
comp=Z,25nm,1.2s
BBOO **Buckleboo** **26.63 168** P **P** **15 46 16.2 +0.8**
STKA **Stephens Creek** **27.42 157** P **P** **15 46 25.2 +2.8**
comp=Z,3.6nm,1.0s,baz=340,slow=12,SNR=2.6
STKA **Stephens Creek** **27.42 157** **P** **15 46 24.5 +2.0**
TOO **Toolangi** **33.94 157** P **P** **15 47 18.7 -1.0**
TOO IAmb IAmb 15 47 34.4
comp=Z,12nm,1.2s
CMAR **Chiang Mai Arr** **39.21 310** P **P** **15 48 06.2 +1.6**
comp=Z,0.5nm,0.5s,baz=132,slow=7.3,SNR=6.8
CMAR **Chiang Mai Arr** **39.21 310** P **P** **15 48 05.0 +0.4**
MKAR **Makanchi Array** **67.76 327** P **P** **15 51 34.5 +2.2**
comp=Z,0.6nm,0.5s,baz=120,slow=7.4,SNR=9.6
MAKZ **Makanchi** **67.94 327** P **P** **15 51 35.5 +2.1**
MAKZ IAmb IAmb 15 51 37.7
comp=Z,3.5nm,1.2s
KURBB **Kurchatov Arra** **72.05 329** P **P** **15 52 00.4 +2.1**
comp=Z,0.4nm,0.3s,baz=126,slow=5.0,SNR=4.0
KURK **Kurchatov** **72.06 329** P **P** **15 52 00.4 +2.0**
KURK IAmb IAmb 15 52 14.6
comp=Z,5.7nm,1.5s

TAP 07 16:05:39.7,23.71N×121.38E,h16km±1km,ML1.3,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.06**	**128**	P	Pg	16 05 43.5	+0.7
EGFH	baz=128			S	Sg	16 05 45.6	+0.8
ESL	**Shilin**	**0.12**	**25**	*i* P	Pb	16 05 44.0	+0.4
ESL	baz=28			*i* S	Sb	16 05 46.5	+0.3
EHY	**Hungye**	**0.20**	**195**	P	Pb	16 05 45.4	+0.3
EHY	baz=192			*e*S	Sb	16 05 48.8	+0.2
HGSD	**Ruisui**	**0.22**	**169**	*e*P	Pb	16 05 46.1	+0.9
HGSD	baz=168			*e*S	Sb	16 05 48.6	-0.3
VWDT	**VWDT**	**0.22**	**283**	*e*P	Pb	16 05 46.1	+0.8
VWDT	baz=282			*e*S	Sb	16 05 50.2	+1.1
YULB	**Yu-li**	**0.32**	**193**	P	Pb	16 05 47.2	+0.2
YULB	baz=193			S	Sb	16 05 52.2	+0.2
TWF1	**Yuli**	**0.36**	**192**	P	Pb	16 05 47.9	+0.2
TWF1	baz=190			*e*S	Sb	16 05 53.4	+0.3
SSLB	**Suanglung**	**0.40**	**282**	*e*P	Pb	16 05 48.9	+0.5
SSLB	baz=281			S	Sb	16 05 53.8	-0.4
CHGB	**Renai**	**0.40**	**332**	P	Pb	16 05 48.8	+0.2
CHGB	baz=332			*e*S	Sg	16 05 53.8	+0.2
WHF	**Hehuan Shan**	**0.45**	**347**	*e*P	Pb	16 05 49.3	-0.2
WHF	baz=347			*e*S	Sg	16 05 55.3	+0.1
WHF	**Hehuan Shan**	**0.45**	**347**	*e*P	Pb	16 05 49.6	+0.1
WHF	baz=251			*e*S	Sg	16 05 55.3	+0.1
SMLT	**Sun Moon Lake**	**0.47**	**292**	*e*P	Pb	16 05 50.2	+0.5
SMLT	baz=292			*e*S	Sb	16 05 56.7	+0.2
WHYT	**Xinyi Township**	**0.48**	**269**	*e*P	Pb	16 05 50.0	+0.2
WHYT	baz=268			*e*S	Sb	16 05 57.3	+0.6
FULB	**Fuli**	**0.51**	**189**	*e*P	Pb	16 05 50.7	+0.4
FULB	baz=188			*e*S	Sb	16 05 57.5	0.0
TYC	**Yuchr**	**0.52**	**293**	*e*P	Pb	16 05 50.3	0.0
TYC	baz=293			*e*S	Sb	16 05 58.3	+0.7
ELDTW	**Lidau**	**0.61**	**213**	*e*P	Pb	16 05 52.0	0.0
ELDTW	baz=212			*e*S	Sb	16 06 01.0	+0.6
CHN5	**Tsauling**	**0.65**	**261**	*e*P	Pg	16 05 52.6	+0.1
CHN5	baz=260			*e*S	Sg	16 06 01.0	-0.2
TPUB	**Ta-pu**	**0.80**	**240**	*e*S	Sg	16 06 06.3	+0.5
	baz=239						

TAP 07 16:05:40.3,24.28N×121.71E,h10km±1km,ML1.2,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.15**	**226**	P	Pb	16 05 44.5	-0.7
NACB	baz=226			S	Sg	16 05 47.2	+1.2
ENA	**Nanau**	**0.15**	**10**	P	Pb	16 05 44.6	-0.6
ENA	baz=12			S	Sg	16 05 47.4	+1.2
NANB	**Nanao**	**0.15**	**13**	P	Pb	16 05 44.6	-0.7
NANB	baz=12			S	Sg	16 05 47.3	+1.2
ETLH	**Xiulin Townshi**	**0.22**	**251**	P	Pb	16 05 46.1	-0.4
ETLH	baz=251			*e*S	Sg	16 05 49.9	+1.8
HWA	**Hwalien**	**0.32**	**198**	*e*P	Pg	16 05 46.9	+0.3
	baz=196						

NNSB	**Datong**	**0.34**	**297**	P	Pb	16 05 48.3	-0.1
NNSB	baz=296			S	Sb	16 05 53.8	-0.2
NNS	**Nan Shan**	**0.35**	**298**	P	Pg	16 05 47.9	+0.6
NNS	baz=297			*e*S	Sb	16 05 53.7	-0.7
NDT	**Datong Townshi**	**0.37**	**331**	P	Pb	16 05 48.9	-0.1
NDT	baz=330			S	Sb	16 05 54.5	-0.3
ENTT	**Nioudou**	**0.38**	**340**	P	Pb	16 05 49.0	-0.2
ENTT	baz=340			*e*S	Sb	16 05 54.9	-0.3
TWE	**Neicheng**	**0.44**	**355**	*e*P	Pb	16 05 49.8	-0.4
	baz=356						
YHNB	**Yeheng**	**0.50**	**322**	*e*P	Pb	16 05 51.3	+0.1
YHNB	baz=321			S	Sb	16 05 58.6	+0.1
NSK	**Sanguang**	**0.51**	**321**	*e*S	Sb	16 05 58.8	-0.1
	baz=321						
NWLT	**Wulai**	**0.53**	**339**	*e*P	Pb	16 05 51.3	-0.5
	baz=338						
NWLT	baz=338			*e*S	Sb	16 05 59.0	-0.5

IDC 07 16:23:37.9±3.6,19.96S×170.21E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.8/22,mbtmp3.7/5,ML3.2/1,MS3.8/2, Ms1 3.8/2,ms1mx3.0/38,Error ellipse: s-maj=136.3km s-min=29.5km az=144.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10**	**238**	Pn	Pn	16 24 41.3	-0.6
	1.6nm,0.3s,baz=116,slow=13,SNR=53						
DZM				Sn	Sn	16 25 25.4	-5.2
	8.6nm,0.3s,baz=130,slow=21,SNR=6.7						
DZM				LR	LR	16 26 06.9	
	comp=Z,220nm,19.0s,baz=30,slow=36						
WRA	**Warramunga Arr**	**33.68**	**264**	P	P	16 30 19.7	-1.2
	0.5nm,0.8s,baz=91,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**33.85**	**257**	P	P	16 30 22.2	-0.2
	1.9nm,0.7s,baz=84,slow=9.2,SNR=40						
CMAR	**Chiang Mai Arr**	**79.63**	**294**	P	P	16 35 49.5	+1.8
	0.5nm,0.8s,baz=122,slow=4.4,SNR=3.6						
PFO	**Pinyon Flats O**	**87.81**	**53**	LR	LR	17 11 53.6	
	comp=Z,182nm,18.4s,baz=272,slow=33						
ILAR	**Eielson Array**	**90.65**	**17**	P	P	16 36 41.2	-0.7
	0.2nm,0.6s,baz=204,slow=3.9,SNR=2.8						
GERES	**GERESS Array B**	**145.55**	**332**	PKPbc	PKPdf	16 43 17.0	-1.2
	0.5nm,0.7s,baz=18,slow=4.3,SNR=3.8						

*NEIC **07** 16:46:34.7±1.6,22.32S±0.07×171.54E±0.07,h98km±1km, mb5.6/298,Mwb5.7,Mww5.7,Mwc5.8(GCMT),Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.65; $M_{\theta\theta}$-2.88; $M_{\phi\phi}$0.23; $M_{r\theta}$2.46; $M_{\theta\phi}$2.38; $M_{\phi r}$1.75; Fault plane solution: M_o4.74000×10^{17} NP1: ϕ_s329.34000°,δ44.92000°,λ145.74000°. NP2: ϕ_s85.09000°,δ66.58000°,λ50.50000°. Principal axes: T 4.9731, Plg51.0000°, Azm309.0000°; N -0.5057, Plg36.0000°, Azm103.0000°; P -4.4674, Plg13.0000°, Azm203.0000°;*

*ISCJB **07** 16:46:35.7±0.6,22.32S±0.02×171.57E±0.02,h115km±5km, mb5.6/176 Error ellipse: s-maj=3.6km s-min=2.9km az=7.4*

*NEIC **07** 16:46:35,22.34S×171.59E,h109km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.33; $M_{\theta\theta}$-1.84; $M_{\phi\phi}$0.51; $M_{r\theta}$2.01; $M_{\theta\phi}$2.71; $M_{\phi r}$1.24; Fault plane solution: M_o3.95000×10^{17} NP1:ϕ_s85.00000°, δ73.00000°,λ39.00000°. NP2:ϕ_s341.00000°,δ53.00000°, λ158.00000°. Principal axes: T 4.0544, Plg39.0000°, Azm309.0000°; N -0.2133, Plg48.0000°, Azm104.0000°; P -3.8411, Plg13.0000°, Azm209.0000°;*

*BJI **07** 16:46:36.3±0.0,21.71S×171.68E,h106km,mb5.4/72, mB5.5/50*

*MOS **07** 16:46:36.9±1.2,22.23S×171.50E,h122km,mb5.4/14, Error ellipse: s-maj=7.3km s-min=6.7km az=116.3*

*IDC **07** 16:46:37.2±1.3,22.33S×171.52E,h117km±10km, mb5.1/34,mb1 5.2/38,mb1mx5.2/42,mbtmp5.5/38, MS4.4/37,Ms1 4.4/37,ms1mx4.4/43,Error ellipse: s-maj=10.1km s-min=8.2km az=173.0*

*GCMT **07** 16:46:38.7±0.1,22.41S±0.01×171.61E±0.01,h117km, MW5.7/137,Moment Tensor Solution. s119,c232; s137,c290; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}2.14±.04; $M_{\theta\theta}$-2.84±.05; $M_{\phi\phi}$0.70±.05; $M_{r\theta}$2.38±.04; $M_{\theta\phi}$3.09±.05; $M_{\phi r}$1.56±.03; Best double couple: M_o4.92100×10^{17} NP1:ϕ_s84.00000°,δ70.00000°, λ42.00000°. NP2:ϕ_s336.00000°,δ51.00000°,λ154.00000°. Principal axes: T 4.9470, Plg44.0000°, Azm307.0000°; N -0.0470, Plg44.0000°, Azm104.0000°; P -4.8950, Plg12.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 16:46:39,22.41S×171.61E,h117km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.09; $M_{\theta\theta}$-2.93; $M_{\phi\phi}$0.83; $M_{r\theta}$2.50; $M_{\theta\phi}$3.00; $M_{\phi r}$1.60; Fault plane solution: M_o4.96000×10^{17} NP1:ϕ_s82.00000°, δ71.00000°,λ43.00000°. NP2:ϕ_s335.00000°,δ50.00000°, λ154.00000°. Principal axes: T 5.0098, Plg44.0000°, Azm307.0000°; N -0.0943, Plg43.0000°, Azm102.0000°; P -4.9155, Plg13.0000°, Azm204.0000°;*

ISC 07 16:46:36.1±0.3,22.36S±0.03×171.61E±0.04,h111km±2km, h111km:pP-P,n1118,σ1s33/1192,mb5.6/272,63C-19D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.80**	**272**	*e*Pn	**Pn**	**16 47 46.3**	**0.0**
	812nm,0.2s						
DZM				*e*Sn	**Sn**	**16 48 39.6**	**-1.2**
	4μm,0.3s						
DZM				*e*LR	LR	16 48 51.7	
	comp=Z,13μm,33.0s						
DZM	**Mont Dzumac**	**4.80**	**272**	P	**Pn**	**16 47 46.6**	**+0.4**
	385nm,0.3s,baz=126,slow=11,SNR=3317						
DZM				S	**Sn**	**16 48 39.7**	**-1.2**
	452nm,0.3s,baz=68,slow=18,SNR=14						
DZM				LR	LR	16 48 58.6	
	comp=Z,2μm,22.0s,baz=92,slow=30						
DZM	**Mont Dzumac**	**4.80**	**272**		**Pn**	**16 47 46.2**	**0.0**
DZM				Sn	**Sn**	**16 48 38.8**	**-2.0**
NFK	**Norfolk Island**	**7.43**	**206**	P	**Pn**	**16 48 22.3**	**+0.5**
	baz=7.6,SNR=397						
MSVF	**Nonsavu**	**7.60**	**54**	*d*P	**Pn**	**16 48 25.9**	**+1.6**
MSVF	**Nonsavu**	**7.60**	**54**		**Pn**	**16 48 25.7**	**+1.4**
RIZ	**Raoul Island**	**11.65**	**128**	P	**Pn**	**16 49 23.0**	**+4.2**
RAO	**Raoul Island**	**11.66**	**128**	P	**Pn**	**16 49 22.4**	**+3.4**
	135nm,0.3s,baz=217,slow=20,SNR=3.4						
RAO	**Raoul Island**	**11.66**	**128**	Pn	**Pn**	**16 49 18.4**	**-0.5**
GLKZ	**Green Lake**	**11.66**	**128**	P	**Pn**	**16 49 19.8**	**+0.8**
OUZ	**Omahuta**	**12.93**	**173**	P	**Pn**	**16 49 37.6**	**+2.0**
OUZ				S	**Sn**	**16 51 57.0**	**-0.8**
OUZ	**Omahuta**	**12.93**	**173**		**Pn**	**16 49 37.2**	**+1.6**
OUZ					**Sn**	**16 51 56.0**	**-1.9**
WCZ	**Waipu Caves**	**13.74**	**171**	P	**P**	**16 49 50.5**	**-0.5**
WCZ				S	**Sn**	**16 52 13.6**	**-3.9**
GRZ	**Great Barrier**	**14.24**	**167**	P	**P**	**16 49 58.3**	**+1.8**
GRZ				S	**Sn**	**16 52 29.3**	**-0.3**
LHI	**Lord Howe Isla**	**14.43**	**228**	P	**P**	**16 49 57.7**	**-1.0**
	baz=15,SNR=24						
LHI	**Lord Howe Isla**	**14.43**	**228**	P	**Pn**	**16 49 56.1**	**+1.1**
ABAZ	**Army Bay**	**14.46**	**170**	P	**Pn**	**16 49 55.7**	**+0.3**
KUZ	**Kuaotunu**	**14.77**	**167**	P	**P**	**16 50 02.7**	**+0.3**
KUZ				S	**Sn**	**16 52 39.2**	**-3.2**
MKAZ	**Moumakai**	**15.01**	**169**	P	**P**	**16 50 04.8**	**-0.3**
MKAZ				S	**Sn**	**16 52 43.8**	**-4.3**
FUNA	**Funafuti**	**15.57**	**29**	P	**Pn**	**16 50 09.9**	**+0.4**
TOZ	**Tahuroa Road**	**15.68**	**169**	P	**Pn**	**16 50 11.5**	**+0.7**
MXZ	**Matakaoa Point**	**16.21**	**161**	P	**P**	**16 50 20.6**	**+2.2**
TLZ	**Tolley Road**	**16.27**	**169**	P	**P**	**16 50 21.6**	**+2.5**
HIZ	**Hauiti**	**16.34**	**171**	P	**P**	**16 50 22.8**	**+3.0**
HIZ				S	**Sn**	**16 53 19.9**	**-0.3**
HIZ	**Hauiti**	**16.34**	**171**	P	**P**	**16 50 20.8**	**+1.0**
HIZ				IAmb	IAmb	16 50 31.2	
	comp=Z,506nm,1.3s						
PKGZ	**Pakihiroa**	**16.45**	**162**	P	**P**	**16 50 24.2**	**+3.1**
URZ	**Urewera**	**16.53**	**165**	P	**P**	**16 50 24.3**	**+2.3**
	comp=Z,7.9nm,0.3s,baz=348,slow=5.1,SNR=23						
URZ				LR	LR	16 56 02.7	
	comp=Z,4μm,18.6s,baz=348,slow=34						
URZ	**Urewera**	**16.53**	**165**	P	**P**	**16 50 23.8**	**+1.9**
URZ				IAmb	IAmb	16 50 27.5	
	comp=Z,243nm,0.9s						
MRHZ	**Matea Rd**	**16.93**	**167**	P	**P**	**16 50 29.5**	**+3.2**
TWVZ	**Taurewa**	**16.97**	**170**	P	**P**	**16 50 32.4**	**+5.4**
WTVZ	**West Tongariro**	**17.04**	**169**	P	**P**	**16 50 31.9**	**+4.2**
HNR	**Honiara**	**17.05**	**317**	P	**Pn**	**16 50 28.1**	**+0.4**
	comp=Z,33nm,0.3s,baz=164,slow=3.7,SNR=27						
HNR				LR	LR	16 55 59.6	
	comp=Z,2μm,19.1s,baz=146,slow=33						
HNR	**Honiara**	**17.05**	**317**	*e*P	**Pn**	**16 50 28.0**	**+0.2**
HNR	**Honiara**	**17.05**	**317**	P	**P**	**16 50 27.6**	**-0.2**
PKVZ	**Pokaka**	**17.17**	**170**	P	**Pn**	**16 50 32.7**	**+3.5**
BKZ	**Black Stump Fm**	**17.26**	**167**	P	**P**	**16 50 30.2**	**+0.2**
BKZ				IAmb	IAmb	16 50 36.4	
	comp=Z,284nm,1.1s						
NIUE	**Niue**	**17.58**	**83**	P	**P**	**16 50 31.1**	**-2.6**
NIUE				IAmb	IAmb	16 50 36.1	
	comp=Z,457nm,1.4s						
AFI	**Afiamalu**	**17.87**	**65**	P	**P**	**16 50 34.8**	**-2.2**
AFI				pmax	pmax		
	comp=Z,88nm,0.9s						
AFI	**Afiamalu**	**17.87**	**65**	P	**P**	**16 50 34.8**	**-2.2**
QRZ	**Quartz Range**	**18.42**	**178**	P	**Pn**	**16 50 46.1**	**+2.0**
QRZ	**Quartz Range**	**18.42**	**178**	P	**Pn**	**16 50 44.9**	**+0.7**
QRZ				IAmb	IAmb	16 50 50.3	
	comp=Z,535nm,1.5s						
BFZ	**Birch Farm**	**18.68**	**169**	P	**P**	**16 50 45.3**	**-0.2**
NNZ	**Nelson**	**18.86**	**176**	P	**Pn**	**16 50 50.2**	**+0.9**
NNZ	**Nelson**	**18.86**	**176**	P	**Pn**	**16 50 49.2**	**0.0**
NNZ				IAmb	IAmb	16 50 54.9	
	comp=Z,364nm,1.0s						
EIDS	**Eidsvold**	**19.01**	**257**	P	**Pn**	**16 50 51.9**	**+0.7**
	baz=19,SNR=62						
EIDS	**Eidsvold**	**19.01**	**257**	P	**Pn**	**16 50 51.5**	**+0.3**
EIDS				IAmb	IAmb	16 50 58.8	
	comp=Z,354nm,1.2s						
SNZO	**South Karori**	**19.07**	**173**	P	**P**	**16 50 49.8**	**0.0**
SNZO				IAmb	IAmb	16 50 51.8	
	comp=Z,415nm,1.4s						
TUWZ	**Tuamarina**	**19.11**	**175**	P	**P**	**16 50 51.2**	**+1.0**
BHW	**Baring Head**	**19.19**	**173**	P	**P**	**16 50 50.9**	**-0.1**
MSWZ	**Moikau Station**	**19.24**	**172**	P	**P**	**16 50 51.4**	**-0.3**
THZ	**Tophouse**	**19.38**	**177**	P	**Pn**	**16 50 55.1**	**-0.3**
THZ	**Tophouse**	**19.38**	**177**	P	**Pn**	**16 50 54.8**	**-0.5**
THZ				IAmb	IAmb	16 50 56.7	
	comp=Z,188nm,0.7s						
BSWZ	**Blackbirch Sta**	**19.39**	**175**	P	**Pn**	**16 50 55.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**19.39**	**175**	P	**P**	**16 50 54.3**	**+1.1**
PLWZ	**Palliser**	**19.39**	**172**	P	**P**	**16 50 53.1**	**-0.3**
CMWZ	**Cape Campbell**	**19.45**	**174**	P	**P**	**16 50 54.9**	**+1.0**
ARMA	**Armidale**	**19.60**	**242**	P	**Pn**	**16 50 58.7**	**+0.5**
	baz=20,SNR=99						
ARMA	**Armidale**	**19.60**	**242**	P	**Pn**	**16 50 57.9**	**-0.2**
KHZ	**Kahutara**	**20.06**	**176**	P	**P**	**16 51 00.7**	**+0.2**
KHZ	**Kahutara**	**20.06**	**176**	P	**P**	**16 51 00.1**	**-0.3**
KHZ				IAmb	IAmb	16 51 04.0	
	comp=Z,278nm,0.8s						
INZ	**Inchbonnie**	**20.31**	**180**	P	Pn	16 51 05.0	-1.1
LTZ	**Lake Taylor**	**20.37**	**179**	P	**P**	**16 51 05.1**	**+1.2**
LTZ	**Lake Taylor**	**20.37**	**179**	P	**P**	**16 51 04.5**	**+0.6**
GVZ	**Greta Valley S**	**20.58**	**177**	P	**P**	**16 51 06.4**	**+0.2**
OXZ	**Oxford**	**20.91**	**179**	P	**P**	**16 51 10.6**	**+1.0**
OXZ	**Oxford**	**20.91**	**179**	P	**P**	**16 51 09.4**	**-0.2**
OXZ				IAmb	IAmb	16 51 12.9	
	comp=Z,378nm,0.9s						
MGCD	**Mangrove Creek**	**21.07**	**235**	P	**P**	**16 51 14.4**	**+2.9**
	baz=21,SNR=32						
FOZ	**Fox Glacier**	**21.16**	**184**	P	**P**	**16 51 13.5**	**+1.2**
CRLZ	**Canterbury Las**	**21.17**	**178**	P	**P**	**16 51 11.7**	**-0.7**
CRLZ				IAmb	IAmb	16 51 16.0	
	comp=Z,404nm,1.4s						
RMQ	**Roma**	**21.20**	**254**	P	**P**	**16 51 15.4**	**+2.5**
	baz=21,SNR=136						
RPZ	**Rata Peaks**	**21.30**	**181**	P	**P**	**16 51 15.2**	**+1.4**
	comp=Z,224nm,1.0s,baz=18,slow=3.1,SNR=38						
RPZ				LR	LR	16 58 36.9	
	comp=Z,2μm,18.6s,baz=8.0,slow=34						
RPZ	**Rata Peaks**	**21.30**	**181**	P	**P**	**16 51 14.0**	**+0.2**
MQZ	**McQueen's Vall**	**21.30**	**178**	P	**P**	**16 51 13.8**	**0.0**
MQZ	**McQueen's Vall**	**21.30**	**178**	P	**P**	**16 51 12.8**	**-1.0**
RIV	**Riverview**	**21.31**	**233**	P	**P**	**16 51 17.0**	**+2.9**
	baz=22,SNR=6.6						
OKCZ	**Okains Bay**	**21.34**	**177**	P	**P**	**16 51 14.3**	**+0.1**
LBZ	**Lake Benmore**	**22.00**	**183**	P	**P**	**16 51 20.8**	**-0.4**
MSZ	**Milford Sound**	**22.46**	**187**	P	**P**	**16 51 28.9**	**+3.0**
WKZ	**Wanaka**	**22.51**	**185**	P	**P**	**16 51 26.7**	**+0.2**
WKZ				IAmb	IAmb	16 51 47.8	
	comp=Z,378nm,1.3s						
ODZ	**Otahua Downs**	**22.64**	**182**	P	**P**	**16 51 28.2**	**+0.4**
ODZ				IAmb	IAmb	16 51 31.1	
	comp=Z,340nm,1.5s						
MLZ	**Mavora Lakes**	**23.12**	**186**	P	**P**	**16 51 34.9**	**+2.4**
MLZ	**Mavora Lakes**	**23.12**	**186**	P	**P**	**16 51 33.4**	**+0.9**
CNB	**Canberra Magne**	**23.31**	**231**	P	**P**	**16 51 36.5**	**+2.1**
	baz=23,SNR=148						
DCZ	**Deep Cove**	**23.33**	**188**	P	**P**	**16 51 36.0**	**+1.6**
DCZ	**Deep Cove**	**23.33**	**188**	P	**P**	**16 51 35.0**	**+0.6**
CAN	**Canberra**	**23.58**	**232**	P	**P**	**16 51 37.9**	**+1.1**
CAN				pmax	pmax		
	comp=Z,126nm,0.9s						
CAN	**Canberra**	**23.58**	**232**	P	**P**	**16 51 37.9**	**+1.1**
YNG	**Young**	**23.58**	**235**	P	**P**	**16 51 38.4**	**+1.6**
	baz=24,SNR=96						
TARA	**Tarawa**	**23.61**	**3**	P	**P**	**16 51 36.5**	**-0.6**
TARA				IAmb	IAmb	16 51 39.3	
	comp=Z,536nm,1.4s						
WHZ	**Wether Hill Ro**	**23.66**	**186**	P	**P**	**16 51 38.5**	**+1.2**
WHZ	**Wether Hill Ro**	**23.66**	**186**	P	**P**	**16 51 38.6**	**+1.2**
WHZ				IAmb	IAmb	16 51 41.2	
	comp=Z,278nm,1.2s						
CTA	**Charters Tower**	**23.74**	**271**	P	**P**	**16 51 39.7**	**+1.4**
	comp=Z,42nm,0.7s,baz=94,slow=10,SNR=35						
CTA				S	**S**	**16 55 40.5**	**-5.2**
	comp=Z,3.4nm,0.8s,baz=42,slow=19,SNR=1.5						
CTAO	**Charters Tower**	**23.74**	**271**	P	**P**	**16 51 38.5**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,300nm,1.4s						
CTAO	**Charters Tower**	**23.74**	**271**	P	**P**	**16 51 38.5**	**+0.1**
CTAO				IAmb	IAmb	16 51 43.1	
	comp=Z,300nm,1.4s						
MILA	**Mila**	**24.31**	**228**	P	**P**	**16 51 44.8**	**+1.5**
	baz=24,SNR=28						
APZ	**The Paps**	**24.59**	**186**	P	**P**	**16 51 47.4**	**+1.6**
CMSA	**Cobar Meteorol**	**24.80**	**243**	P	**P**	**16 51 48.7**	**+0.9**
	baz=25,SNR=183						
QLP	**Quilpie**	**25.25**	**255**	P	**P**	**16 51 52.8**	**+0.8**
	baz=25,SNR=45						
KNTN	**Kanton**	**25.32**	**42**	P	**P**	**16 51 52.3**	**-0.4**
KNTN				IAmb	IAmb	16 51 55.2	
	comp=Z,297nm,1.4s						
KNTN					**pP**	**16 52 16.8**	**+1.0**
MTSU	**Mount Surprise**	**25.93**	**274**	P	**P**	**16 51 59.3**	**+1.0**
	baz=26,SNR=267						
KRVT	**Keravat (AS076**	**26.11**	**311**	P	**P**	**16 51 60.0**	**+0.1**
	comp=Z,423nm,0.6s,baz=94,slow=1.0,SNR=28						
KRVT				LR	LR	17 00 40.4	
	comp=Z,616nm,21.0s,baz=132,slow=32						
RAR	**Rarotonga**	**26.58**	**93**	LR	LR	17 00 49.6	
	comp=Z,302nm,19.4s,baz=259,slow=32						
PMG	**Port Moresby**

baz=28,SNR=49
STKA Stephens Creek 28.27 244 P **P** **16 52 19.8 +0.7**
comp=Z,47nm,0.7s,baz=90,slow=11,SNR=68
STKA PcP **PcP** **16 55 30.4 +0.7**
comp=Z,13nm,0.8s,baz=114,slow=13,SNR=3.0
STKA ScP **ScP** **16 59 00.5 -0.2**
comp=Z,6.0nm,0.9s,baz=19,slow=5.4,SNR=4.7
STKA LR LR 17 01 59.9
comp=Z,814nm,20.5s,baz=72,slow=33
STKA Stephens Creek 28.27 244 P **P** **16 52 19.6 +0.6**
MOO Moorlands 28.57 220 P **P** **16 52 23.2 +1.6**
baz=29,SNR=9.0
ARPS Mount Arapiles 29.47 234 P **P** **16 52 30.6 +1.0**
baz=30,SNR=22
QIS Mount Isa 29.81 267 P **P** **16 52 33.8 +1.0**
baz=30,SNR=12
HTT Hallett 30.80 242 P **P** **16 52 42.1 +0.6**
baz=31,SNR=32
MANU Manus Island 31.03 307 P **P** **16 52 43.2 -0.4**
MANU IAmb IAmb 16 52 45.2
comp=Z,117nm,0.7s
BBOO Buckleboo 33.05 244 P **P** **16 53 01.4 +0.3**
baz=33,SNR=24
BBOO Buckleboo 33.05 244 P **P** **16 53 00.9 -0.2**
AS31 Alice Springs 34.67 260 P **P** **16 53 14.6 -0.6**
AS31 IAmb IAmb 16 53 18.2
comp=Z,48nm,0.8s
ASAR Alice Springs 34.67 260 P **P** **16 53 15.3 0.0**
comp=Z,135nm,0.9s,baz=94,slow=8.0,SNR=538
ASAR PcP **PcP** **16 55 47.0 -0.1**
comp=Z,3.3nm,0.6s,baz=122,slow=3.0,SNR=5.8
ASAR S **S** **16 58 36.5 -0.6**
comp=Z,1.9nm,0.8s,baz=88,slow=16,SNR=4.9
ASAR ScP **ScP** **16 59 23.4 +0.9**
comp=Z,4.3nm,0.9s,baz=108,slow=3.4,SNR=6.9
ASAR LR LR 17 07 17.9
comp=Z,296nm,19.9s,baz=100,slow=36
ASAR Alice Springs 34.67 260 P **P** **16 53 13.6 -1.7**
ASAR **PcP** **16 55 47.6 +0.5**
ASAR **ScP** **16 59 23.7 +1.3**
WC3 Warramunga Arr 34.76 267 P **P** **16 53 15.0 -1.1**
WB2 Warramunga Arr 34.78 267 P **P** **16 53 14.9 -1.3**
WRAB Tennant Creek 34.78 267 *d iP* **P** **16 53 15.4 -0.8**
WRAB pmax pmax
comp=Z,159nm,1.9s
WRAB Tennant Creek 34.78 267 P **P** **16 53 14.7 -1.6**
WRA Warramunga Arr 34.79 267 P **P** **16 53 15.2 -1.1**
comp=Z,25nm,0.6s,baz=98,slow=7.8,SNR=131
WRA PcP **PcP** **16 55 46.8 -0.7**
comp=Z,7.6nm,0.9s,baz=102,slow=2.5,SNR=5.5
WRA S **S** **16 58 37.0 -2.0**
comp=Z,2.2nm,0.8s,baz=115,slow=14,SNR=5.5
WRA ScP **ScP** **16 59 23.4 +0.5**
comp=Z,4.2nm,0.9s,baz=91,slow=4.0,SNR=4.9
WRA LR LR 17 07 41.9
comp=Z,601nm,18.4s,baz=105,slow=36
WRA Warramunga Arr 34.79 267 P **P** **16 53 14.1 -2.3**
WRA **PcP** **16 55 46.5 -1.0**
WRA **S** **16 58 36.4 -2.6**
WRA **ScP** **16 59 23.6 +0.8**
TBI Tubuai 35.81 99 *eS* **S** **16 58 53.2 -1.3**
comp=Z,318nm,32.5s
TBI *e*LQ LQ 17 01 24.4
comp=Z,2μm,35.2s
TBI *e*LR LR 17 03 02.4
comp=Z,2μm,29.5s,baz=256
JAY Jayapura 35.91 299 P **P** **16 53 25.9 -0.1**
comp=Z,252nm,0.9s,baz=108,slow=4.2,SNR=39
JAY LR LR 17 07 31.9
comp=Z,327nm,18.9s,baz=148,slow=35
JAY Jayapura 35.91 299 P **P** **16 53 27.0 +1.1**
comp=Z,2μm,1.0s,comp=Z,18μm
GENI Genyem 36.30 298 P **P** **16 53 30.3 +1.1**
comp=Z,267nm,1.3s
PPT2 Papeete2 36.72 90 *eS* **S** **16 59 07.2 -1.4**
comp=Z,797nm,26.2s
PPT2 *e*LQ LQ 17 01 50.0
comp=Z,4μm,28.0s
PPT2 *e*LR LR 17 03 36.1
comp=Z,3μm,28.0s,baz=239
PPT Papeete 36.72 90 LR LR 17 05 05.9
comp=Z,946nm,18.9s,baz=258,slow=30
SMPI Sarmi 37.83 298 P **P** **16 53 44.4 +2.2**
KDU Kakadu 38.44 278 P **P** **16 53 46.8 -0.5**
baz=38,SNR=75
XMAS Kiritimati 38.74 55 P **P** **16 53 48.7 -1.1**
XMAS IAmb IAmb 16 54 27.1
comp=Z,212nm,1.6s
PMOR Pomariorio Ree 38.96 86 *eP* **P** **16 53 51.0 -0.6**
comp=Z,194nm,1.3s
MTN Manton Dam 39.62 277 P **P** **16 53 56.5 -0.7**
baz=40,SNR=119
MTN Manton Dam 39.62 277 P **P** **16 53 55.8 -1.4**
WRKA Warakurna 39.63 257 P **P** **16 53 57.1 -0.2**
baz=40,SNR=67
FORT Forrest 39.65 248 P **P** **16 53 57.0 -0.2**
baz=40,SNR=59
FORT Forrest 39.65 248 P **P** **16 53 57.1 -0.2**
SRPI Serui, Papua 39.94 296 P **P** **16 54 01.6 +1.8**
comp=Z,189nm,0.6s,comp=Z,2μm
BAKI Biak 40.43 296 P **P** **16 54 06.3 +2.5**
comp=Z,426nm,1.0s,comp=Z,4μm
H11S2 WAKE ISLAND Hy 40.88 353 T T 17 38 14.4
baz=171,slow=76,SNR=29
H11S3 WAKE ISLAND Hy 40.89 353 T T 17 38 15.0
baz=171,slow=76,SNR=20
H11S1 WAKE ISLAND Hy 40.90 353 T T 17 38 15.8
baz=171,slow=76,SNR=23
KNRA Kununurra 40.95 272 P **P** **16 54 07.7 -0.4**
baz=41,SNR=39
KNRA Kununurra 40.95 272 P **P** **16 54 07.0 -1.1**
SAUI Saumlaki 41.30 284 P **P** **16 54 09.8 -1.1**
WAKE Wake Island 41.67 353 P **P** **16 54 13.0 -0.8**
RKPI Ransiki, Papua 41.87 294 P **P** **16 54 17.6 +2.0**
H11N1 WAKE ISLAND Hy 42.07 353 T T 17 39 43.0
baz=172,slow=76,SNR=21
H11N3 WAKE ISLAND Hy 42.08 353 T T 17 39 43.1
baz=172,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 42.09 353 T T 17 39 43.1
baz=172,slow=76,SNR=21
FAKI Fak Fak 42.78 291 P **P** **16 54 23.2 +0.1**
comp=Z,96nm,0.6s,comp=Z,2μm
FAKI Fak Fak 42.78 291 P **P** **16 54 22.3 -0.8**
FAKI IAmb IAmb 16 54 26.1
comp=Z,121nm,1.1s
FAKI PcP **PcP** **16 56 10.3 -2.3**
FITZ Fitzroy Crossi 43.22 267 P **P** **16 54 27.1 +0.6**
baz=43,SNR=219
FITZ Fitzroy Crossi 43.22 267 P **P** **16 54 27.1 +0.6**
comp=Z,215nm,0.8s,baz=117,slow=7.4,SNR=239
FITZ LR LR 17 13 01.5
comp=Z,568nm,18.2s,baz=100,slow=37
FITZ Fitzroy Crossi 43.22 267 P **P** **16 54 26.2 -0.4**
BNDI Bandanaira 44.06 287 P **P** **16 54 34.5 +1.2**
comp=Z,287nm,1.1s,comp=Z,3μm
GUMO Guam 44.31 321 P **P** **16 54 34.6 -0.6**
GUMO pmax pmax
comp=Z,355nm,1.3s
GUMO Guam 44.31 321 P **P** **16 54 34.5 -0.6**
comp=Z,70nm,0.8s,baz=171,slow=19,SNR=3.2
GUMO LR LR 17 10 41.9
comp=Z,488nm,20.3s,baz=136,slow=33
GUMO Guam 44.31 321 P **P** **16 54 34.6 -0.6**
SWI Sorong 44.68 293 P **P** **16 54 38.3 0.0**
comp=Z,261nm,1.2s,comp=Z,2μm
KMBL Kambalda 44.95 248 P **P** **16 54 40.1 -0.1**
baz=45,SNR=49
AAI Ambon 45.96 287 P **P** **16 54 50.0 +1.6**
comp=Z,146nm,0.7s,comp=Z,2μm
SARN Sarigan 46.33 325 P **P** **16 54 49.6 -1.6**
SARN IAmb IAmb 16 54 51.7
comp=Z,149nm,1.2s
SOEI Soe 47.00 278 P **P** **16 54 59.2 +2.5**
comp=Z,208nm,1.0s,comp=Z,2μm
SOEI Soe 47.00 278 P **P** **16 54 56.2 -0.5**
NLAI Namlea 47.13 287 P **P** **16 54 59.1 +1.6**
comp=Z,160nm,0.8s,comp=Z,2μm
BATI Baumata 47.40 277 LR LR 17 14 24.0
comp=Z,903nm,20.8s,baz=136,slow=35
BATI Baumata 47.40 277 P **P** **16 55 02.1 +2.5**
comp=Z,101nm,1.1s,comp=Z,1μm
PSAD2 Pilbara Seismi 47.70 261 P **P** **16 55 01.1 -0.8**
PSAC2 Pilbara Seismi 47.77 261 P **P** **16 55 02.6 +0.2**
PSAC2 IAmb IAmb 16 55 05.8
comp=Z,109nm,1.0s
PSAB3 Pilbara Seismi 47.80 261 P **P** **16 55 02.2 -0.5**
PSAB2 Pilbara Seismi 47.80 261 P **P** **16 55 02.3 -0.4**

PSAB2 IAmb IAmb 16 55 06.0
comp=Z,120nm,1.1s
PSAA3 Pilbara Seismi 47.81 261 P **P** **16 55 02.5 -0.3**
PSAA3 IAmb IAmb 16 55 06.1
comp=Z,114nm,1.1s
PSA00 Pilbara Seismi 47.81 261 P **P** **16 55 02.4 -0.3**
PSA00 IAmb IAmb 16 55 06.2
comp=Z,116nm,1.1s
PSA00 Pilbara Seismi 47.81 261 P **P** **16 55 01.6 -1.2**
PSA00 IAmb IAmb 16 55 05.0
comp=Z,126nm,1.5s
PSA00 PcP **PcP** **16 56 30.1 0.0**
PSAA2 Pilbara Seismi 47.82 261 P **P** **16 55 02.7 -0.1**
PSAA2 IAmb IAmb 16 55 06.2
comp=Z,125nm,1.1s
PSAA2 PcP **PcP** **16 56 30.6 +0.6**
MBWA Marble Bar 48.00 261 P **P** **16 55 04.3 +0.1**
SNR=13
MBWA P **P** **16 55 04.3 +0.1**
SNR=13
MBWA Marble Bar 48.00 261 P **P** **16 55 04.0 -0.2**
MEEK Meekatharra 48.14 254 P **P** **16 55 04.8 -0.4**
baz=48,SNR=60
TAOE Nuku Hiva Isla 48.16 82 *e*LQ LQ 17 06 38.9
comp=Z,6μm,26.5s
TAOE *e*LR LR 17 08 47.9
comp=Z,2μm,27.8s
KLBR Kellerberrin 48.46 247 P **P** **16 55 07.2 -0.5**
baz=48,SNR=77
SANI Sanana 48.67 288 P **P** **16 55 10.5 +1.1**
comp=Z,267nm,0.6s,comp=Z,4μm
NWAO Narrogin (SRO) 48.84 245 P **P** **16 55 10.7 +0.1**
baz=49,SNR=23
NWAO Narrogin (SRO) 48.84 245 P **P** **16 55 10.8 +0.3**
SNR=8.6
NWAO P **P** **16 55 10.8 +0.3**
SNR=8.6
NWAO Narrogin (SRO) 48.84 245 P **P** **16 55 10.6 +0.1**
comp=Z,122nm,0.7s,baz=103,slow=6.8,SNR=70
NWAO LR LR 17 13 54.1
comp=Z,1μm,21.9s,baz=96,slow=34
NWAO Narrogin (SRO) 48.84 245 P **P** **16 55 10.2 -0.3**
TNTI Ternate 48.85 292 P **P** **16 55 11.4 +0.6**
TNTI IAmb IAmb 16 55 19.0
comp=Z,125nm,1.4s
RKGY Rocky Gully 49.02 243 P **P** **16 55 11.9 +0.1**
baz=49,SNR=36
MMRI Maumere 49.28 278 P **P** **16 55 15.3 +1.3**
comp=Z,294nm,0.9s,comp=Z,3μm
MMRI Maumere 49.28 278 P **P** **16 55 13.7 -0.4**
MMRI PcP **PcP** **16 56 34.6 -0.8**
EDFI Ende, Flores 49.73 278 P **P** **16 55 19.6 +2.0**
comp=Z,105nm,1.0s,comp=Z,1μm
MUN Mundaring 49.76 246 P **P** **16 55 17.5 0.0**
baz=50,SNR=19
MORW Morawa 50.13 250 P **P** **16 55 20.1 -0.3**
baz=50,SNR=58
MORW Morawa 50.13 250 P **P** **16 55 19.6 -0.7**
BBSI Bau Bau 50.21 282 P **P** **16 55 24.1 +3.0**
comp=Z,31nm,1.1s,comp=Z,421nm
WSI Wangagpu 50.68 276 P **P** **16 55 27.9 +3.3**
comp=Z,683nm,1.1s,comp=Z,10μm
KDI Kendari 50.81 284 P **P** **16 55 28.0 +2.4**
comp=Z,167nm,1.1s,comp=Z,72μm
MIDW Midway 51.40 12 P **P** **16 55 29.1 -0.5**
WBSI Waikabubak, Su 51.53 275 P **P** **16 55 33.8 +2.8**
comp=Z,155nm,1.1s,comp=Z,2μm
KMSI Cibinong 51.68 290 P **P** **16 55 34.6 +2.5**
comp=Z,170nm,1.1s,comp=Z,2μm
SGSI Sangihe 51.93 294 P **P** **16 55 37.1 +3.1**
LUWI Luwuk 51.98 287 P **P** **16 55 36.3 +2.0**
comp=Z,194nm,0.8s,comp=Z,5μm
LUWI Luwuk 51.98 287 P **P** **16 55 34.5 +0.2**
LUWI PcP **PcP** **16 56 45.5 +0.1**
BKSI Bulukumba 52.50 281 P **P** **16 55 38.9 +0.7**
comp=Z,69nm,1.1s,comp=Z,922nm
KIP Kipapa 52.65 36⇑ *eP* **P** **16 55 39.4 +0.4**
KIP pmax pmax
comp=Z,45nm,1.2s
HMH Humu'ula Sheep 52.66 40 P **P** **16 55 40.1 +0.5**
GIRL Giralia 52.71 258 P **P** **16 55 41.0 +1.4**
baz=53,SNR=6.7
BNSI Bone 52.89 282 P **P** **16 55 42.7 +1.6**
comp=Z,120nm,1.4s,comp=Z,2μm
KAPI Kappang 52.96 281 P **P** **16 55 42.2 +0.6**
SNR=27
KAPI Kappang 52.96 281 P **P** **16 55 41.6 0.0**
KAPI pmax pmax
comp=Z,248nm,1.5s
KAPI Kappang 52.96 281 P **P** **16 55 41.6 0.0**
APSI Ampana 53.03 287 P **P** **16 55 45.1 +3.0**
comp=Z,94nm,1.1s,comp=Z,1μm
KHLH Kahului Airpor 53.12 38 P **P** **16 55 41.3 -1.2**
PLAI Plampang 53.31 276 P **P** **16 55 46.7 +2.6**
comp=Z,174nm,1.1s,comp=Z,2μm
SPSI Sidrap Palu 53.38 282 P **P** **16 55 44.8 +0.2**
comp=Z,24nm,1.1s,comp=Z,511nm
MRSI Marisa 53.42 288 P **P** **16 55 45.4 +0.5**
comp=Z,30nm,1.4s
TTSI Tana Toraja 53.72 283 P **P** **16 55 50.5 +3.4**
comp=Z,66nm,1.5s,comp=Z,938nm
KCP Kidapawan 54.10 297⇑ *eP* **P** **16 55 48.9 -1.0**
TWSI Taliwang, Sumb 54.16 275 P **P** **16 55 52.3 +1.9**
comp=Z,150nm,1.1s,comp=Z,2μm
CTBH Cotabato--PC H 54.91 297⇑ *iP* **P** **16 55 56.6 +0.9**
MPSI Mapaga 55.16 287 P **P** **16 55 58.1 +0.6**
comp=Z,47nm,1.3s,comp=Z,764nm
SBA Scott Base 55.59 181 P **P** **16 56 00.7 +1.0**
SBA pmax pmax
comp=Z,292nm,0.9s
SBA Scott Base 55.59 181 P **P** **16 56 00.7 +1.0**
IGBI Denpasar 55.73 275 P **P** **16 56 04.6 +2.9**
comp=Z,467nm,0.9s,comp=Z,5μm
SRBI Singaraja 55.94 275 P **P** **16 56 05.3 +2.2**
comp=Z,119nm,1.0s,comp=Z,2μm
JAGI Jajag, Banyuwa 56.78 275 P **P** **16 56 10.3 +1.2**
comp=Z,138nm,1.2s
JCJ Chichijima 56.81 328 P **P** **16 56 08.5 -0.5**
comp=Z,172nm,0.5s,baz=238,slow=1.9,SNR=24
KBKI Kotabaru 56.92 281 P **P** **16 56 12.7 +2.6**
comp=Z,18nm,1.0s,comp=Z,232nm
BKB Balikpapan 57.12 284 P **P** **16 56 12.9 +1.4**
BKB IAmb IAmb 16 56 17.5
comp=Z,116nm,1.2s
SMKI Samarinda 57.20 285 P **P** **16 56 16.0 +3.9**
comp=Z,60nm,0.5s
GMJI Gumukmas 57.50 274 P P 16 56 19.5 +5.3
comp=Z,58nm,0.9s
CASY Casey 58.19 205 P **P** **16 56 17.5 -0.7**
GRJI Gresik 58.88 275 P **P** **16 56 28.5 +4.7**
comp=Z,119nm,1.1s,comp=Z,1μm
PWJI Pagerwojo 59.10 274 P **P** **16 56 27.4 +2.1**
comp=Z,127nm,0.9s
PCJI Pacitan 59.62 274 P **P** **16 56 31.9 +3.0**
comp=Z,303nm,1.1s
NGJI Ngawi 59.66 275 P P 16 56 42.3 +13
UGM Wanagama 60.33 274 P **P** **16 56 36.6 +2.8**
comp=Z,407nm,1.2s
UGM Wanagama 60.33 274 P **P** **16 56 33.0 -0.8**
YOGI Yogyakarta 60.57 274 P **P** **16 56 38.9 +3.5**
comp=Z,640nm,1.0s
SMRI Semarang 60.72 274 P **P** **16 56 39.3 +2.9**
comp=Z,170nm,0.9s
SMRI Semarang 60.72 274 P **P** **16 56 35.6 -0.8**
KKM Kota Kinabalu 61.10 291 P **P** **16 56 38.9 -0.2**
PBKI Pangkalan Bun 61.26 280 P **P** **16 56 43.2 +3.1**
comp=Z,301nm,1.1s,comp=Z,7μm
KPJI Karang Pucung 62.01 274 P **P** **16 56 47.1 +2.0**
comp=Z,120nm,0.9s
STKI Sintang 62.58 282 P **P** **16 56 50.4 +1.5**
comp=Z,156nm,1.4s,comp=Z,5μm
JCJI Jatiwangi 62.92 274 P **P** **16 56 53.6 +2.4**
comp=Z,334nm,1.1s
SBUM Sibu 62.95 285 P **P** **16 56 51.1 -0.2**
CISI Cisompet, Garu 62.96 273 P **P** **16 56 53.3 +1.8**
comp=Z,216nm,1.2s,comp=Z,2μm
CISI Cisompet, Garu 62.96 273 P **P** **16 56 51.0 -0.5**
LEM Lembang 63.40 274 P **P** **16 56 56.0 +1.4**
KSM Kuching 64.23 283 P **P** **16 56 59.1 -0.7**
SKJI Sukabumi 64.32 273 P **P** **16 57 03.1 +2.7**
comp=Z,277nm,1.0s,comp=Z,3μm
JOW Kunigami 64.42 317 P **P** **16 57 01.1 +0.4**
TPI Tanjungpandan 64.91 278 P **P** **16 57 06.8 +2.6**
comp=Z,50nm,1.3s,comp=Z,815nm
CGJI Cibinong 65.26 273 P **P** **16 57 07.9 +1.4**
comp=Z,302nm,1.0s,comp=Z,3μm

INU Inuyama 66.11 329 P **P** **16 57 11.9 +0.6**
INU IAmb IAmb 16 57 14.7
comp=Z,67nm,1.1s
BLSI Bandar Lampung 66.13 274 P **P** **16 57 13.1 +1.0**
comp=Z,279nm,0.9s
YOJ Yonaguni jima 66.29 312 P **P** **16 57 11.8 -1.0**
YOJ pmax pmax
comp=Z,314nm,1.5s
YOJ Yonaguni jima 66.29 312 P **P** **16 57 11.8 -1.0**
MJAR Matsushiro Arr 66.54 331 P **P** **16 57 13.5 -0.7**
comp=Z,41nm,1.0s,baz=167,slow=7.2,SNR=34
MJAR LR LR 17 23 45.1
comp=Z,68nm,20.7s,baz=150,slow=34
MJAR PKP2bc **P'P'df** **17 25 46.5 +3.0**
comp=Z,2.0nm,0.8s,baz=5.7,slow=1.3,SNR=5.1
MJAR Matsushiro Arr 66.54 331 P **P** **16 57 13.1 -1.1**
MAJO Matsushiro 66.54 331 *deP* **P** **16 57 14.2 0.0**
MAJO pmax pmax
comp=Z,33nm,0.9s
MAJO Matsushiro 66.54 331 P **P** **16 57 13.7 -0.5**
MAT Matsushiro 66.54 331 P **P** **16 57 13.6 -0.6**
MAT S **S** **17 05 56.8 +0.4**
MJB9 Matsu-Tunnel 66.55 331 P **P** **16 57 13.5 -0.7**
MJB9 IAmb IAmb 16 57 16.5
comp=Z,41nm,0.8s
TWG Pinlang 66.61 309 P **P** **16 57 14.2 -0.8**
KASI Kota Agung 66.77 274 P **P** **16 57 17.2 +1.1**
comp=Z,244nm,0.9s,comp=Z,2μm
KLSI 66.86 275 P **P** **16 57 18.0 +1.3**
comp=Z,61nm,1.0s
NACB Ninganchiao 67.09 311 P **P** **16 57 16.8 -1.1**
NACB IAmb IAmb 16 57 20.6
comp=Z,171nm,1.5s
TPUB Ta-pu 67.23 309 P **P** **16 57 17.3 -1.6**
TPUB IAmb IAmb 16 57 20.1
comp=Z,87nm,1.2s
SSLB Suanglung 67.30 310 P **P** **16 57 17.9 -1.4**
SSLB IAmb IAmb 16 57 20.5
comp=Z,67nm,1.2s
LWLI Liwa 67.36 274 P **P** **16 57 21.1 +1.1**
comp=Z,151nm,0.9s,comp=Z,6μm
JNU Nakatsue 67.48 324 LR LR 17 23 07.6
comp=Z,154nm,21.2s,baz=129,slow=32
JNU Nakatsue 67.48 324 P **P** **16 57 19.6 -0.7**
JNU IAmb IAmb 16 57 22.7
comp=Z,74nm,0.9s
PMBI Palembang 67.49 276 P **P** **16 57 22.2 +1.5**
YHNB Yeheng 67.56 311 P **P** **16 57 20.9 -0.1**
YHNB IAmb IAmb 16 57 23.8
comp=Z,72nm,0.9s
TATO Taipei 67.68 311 P **P** **16 57 20.5 -1.1**
QSPA South Pole Qui 67.71 180 P **P** **16 57 21.3 -0.1**
comp=Z,159nm,0.8s,baz=346,slow=0.7,SNR=619
QSPA South Pole Qui 67.71 180 P **P** **16 57 20.9 -0.4**
LHSI Lahat 68.30 275 P **P** **16 57 28.0 +2.2**
comp=Z,75nm,1.0s,comp=Z,2μm
MNAI Manna 68.62 274 P **P** **16 57 27.5 -0.3**
JMBI JAMBI 69.03 277 P **P** **16 57 34.3 +4.0**
comp=Z,410nm,0.8s
TPRI Tanjung Pinang 69.25 280 P **P** **16 57 34.6 +3.0**
comp=Z,102nm,1.4s
MASI Maura Aman, Be 69.74 275 P **P** **16 57 37.0 +2.2**
MYKOM Kota Tinggi 70.22 281 P **P** **16 57 37.9 +0.3**
MYKOM IAmb IAmb 16 57 41.6
comp=Z,95nm,1.3s
DLV T Lat 70.63 292 P **P** **16 57 39.0 -1.2**
DLV IAmb IAmb 16 57 44.8
comp=Z,106nm,1.3s
KUR Kuril'sk 70.67 342 *eP* **P** **16 57 39.4 -0.2**
KUR PPP PPP 17 02 05.8
RGRI Rengat 70.74 278 P **P** **16 57 41.4 +0.6**
comp=Z,438nm,0.4s,comp=Z,29μm
KRJI Kerinci 70.86 276 P **P** **16 57 45.1 +3.4**
comp=Z,58nm,1.0s
ASAJ Asahikawa 71.30 338 LR LR 17 24 29.8
comp=Z,375nm,21.1s,baz=132,slow=32
TJN Taejon 71.83 324 *c iP* **P** **16 57 46.7 -0.1**
SSE Sheshan 71.85 316 P **P** **16 57 47.2 +0.1**
SSE IAmb IAmb 16 57 50.5
comp=Z,59nm,0.9s
KSRS Korea Array 72.33 325 P **P** **16 57 50.1 +0.4**
comp=Z,46nm,0.9s,baz=143,slow=6.1,SNR=76
KSRS LR LR 17 29 15.3
comp=Z,100nm,18.6s,baz=128,slow=35
KSAR Wonju Array Be 72.34 325 P **P** **16 57 49.6 -0.2**
KSAR Wonju Array Be 72.34 325 P **P** **16 57 49.6 -0.2**
KS19 Wonju Array Si 72.39 325 P **P** **16 57 49.6 -0.5**
KS19 IAmb IAmb 16 57 52.8
comp=Z,81nm,1.1s
QIZ Qiongzhong 73.04 299 P **P** **16 57 55.6 +1.2**
QIZ PP **PP** **17 00 40.8 +2.1**
QIZ S **SKiKP** **17 07 16.7 +0.4**
QIZ sS **sS** **17 08 03.9 +4.2**
QIZ pmax pmax
comp=Z,470nm,5.9s
YSS Yuzh-Sakhalins 73.75 340 *eP* **P** **16 58 00.0 +2.1**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS Yuzh-Sakhalins 73.75 340 P **P** **16 57 58.1 +0.2**
YSS IAmb IAmb 16 58 01.0
comp=Z,67nm,0.8s
IPM Ipoh 73.89 282 P **P** **16 57 58.7 -0.9**
IPM IAmb IAmb 16 58 03.0
comp=Z,98nm,0.9s
NJ2 Nanjing 73.98 315 *eP* **P** **16 57 59.4 -0.2**
NJ2 pmax pmax
comp=Z,99nm,1.1s
SKR Severo-Kuril's 74.00 350 *eP* **P** **16 57 59.6 +0.4**
SKR *e*PP **pwP** **16 58 29.7 0.0**
SKR *e*S **S** **17 07 28.5 +6.0**
SKR *e*SS **sS** **17 08 12.6 +3.8**
SKR *e*SS **SS** **17 12 04.7 -5.4**
SKR pmax pmax
comp=Z,200nm,8.8s
SKR MLR MLR
comp=Z,400nm,16.0s
SKR MLR MLR
comp=Z,200nm,17.0s
KULM Kulim 74.57 282 P **P** **16 58 03.2 -0.3**
KULM IAmb IAmb 16 58 06.9
comp=Z,148nm,1.3s
MSHR Mys Shultsa 74.62 330⇑ *eP* **P** **16 58 01.3 -1.7**
RPSI Rantau Prapat 75.08 279 P **P** **16 58 06.5 +0.1**
RPSI IAmb IAmb 16 58 09.1
comp=Z,99nm,1.2s
PSI Prapat 75.12 279 P **P** **16 58 06.5 -0.3**
PSI pmax pmax
comp=Z,99nm,1.2s
SKLT Songkhla 75.39 284 P **P** **16 58 10.6 +2.5**
comp=Z,63nm,1.1s,comp=Z,745nm
USA0B Ussuriysk Arra 75.52 332⇑ *eP* **P** **16 58 09.2 +1.0**
USA0B Ussuriysk Arra 75.52 332 P **P** **16 58 08.5 +0.3**
USRK Ussuriysk Ar. 75.52 332 P **P** **16 58 08.1 -0.1**
comp=Z,20nm,1.0s,baz=115,slow=4.7,SNR=17
USRK LR LR 17 26 24.5
comp=Z,133nm,21.8s,baz=138,slow=32
PET Petropavlovsk 75.91 352 *eP* **P** **16 58 09.7 -0.5**
PET *e*S **S** **17 07 45.1 +1.5**
PET pmax pmax
comp=Z,25nm,0.9s
PET pmax pmax
comp=Z,500nm,14.1s
PET Petropavlovsk 75.91 352 P **P** **16 58 10.4 +0.2**
WHN Wuhan 76.08 312 ⇓P **P** **16 58 12.1 +0.4**
WHN pmax pmax
comp=Z,130nm,1.0s
PEA0B Petropavlovsk- 76.12 351⇑ *eP* **P** **16 58 09.9 -1.5**
PEA0B Petropavlovsk- 76.12 351 P **P** **16 58 12.1 +0.7**
PETK Petropavlovsk- 76.12 351 P **P** **16 58 11.7 +0.3**
PETK Petropavlovsk- 76.12 351 P **P** **16 58 11.6 +0.1**
comp=Z,46nm,1.0s,baz=134,slow=5.4,SNR=24
PETK LR LR 17 25 54.8
comp=Z,489nm,21.9s,baz=129,slow=31
PETK Petropavlovsk- 76.12 351 P **P** **16 58 11.7 +0.3**
MAW Mawson 76.38 202 P **P** **16 58 13.4 +0.5**
baz=76,SNR=75
MAW Mawson 76.38 202 P **P** **16 58 13.5 +0.7**
comp=Z,34nm,0.6s,baz=120,slow=6.2,SNR=129
MAW Mawson 76.38 202 P **P** **16 58 12.9 0.0**
KCSI Kotacane, Aceh 76.46 280 P **P** **16 58 14.6 +0.3**
TRTT Trang 76.50 284 P **P** **16 58 15.9 +1.4**
comp=Z,84nm,1.1s,comp=Z,1μm
DL2 Dalian 76.83 322 P **P** **16 58 14.7 -1.0**
DL2 sP **pwP** **16 58 50.6 +4.1**
DL2 S **S** **17 07 52.8 -1.5**

DL2			pmax	pmax		
	comp=Z,120nm,1.2s					
DL2			pmax	pmax		
	comp=Z,450nm,5.0s					
DL2			LR	LR		
	comp=Z,420nm,24.0s					
DL2			LR	LR		
	comp=Z,460nm,24.2s					
DL2			LR	LR		
	comp=Z,880nm,31.3s					
MDJ	**Mudanjiang**	**76.92 331**	P	**P**	**16 58 18.4**	**+2.3**
MDJ			pmax	pmax		
	comp=Z,45nm,1.0s					
MDJ			pmax	pmax		
	comp=Z,480nm,3.7s					
MDJ	**Mudanjiang**	**76.92 331**	P	**P**	**16 58 16.0**	**-0.1**
NIKH	**Nikolski High**	**76.92 12**	P	**P**	**16 58 16.0**	**+0.1**
TYV	**Tymovskoe**	**77.25 342**	*e*P	P	16 58 23.1	+5.3
TYV			pmax	pmax		
	comp=Z,500nm,3.9s					
TYV			pmax	pmax		
	comp=Z,26nm,1.6s					
TIA	**Tai'an**	**77.74 318**	P	**P**	**16 58 21.0**	**+0.1**
TIA			pmax	pmax		
	comp=Z,170nm,1.0s					
PKDT	**Phuket**	**77.74 284**	P	**P**	**16 58 24.3**	**+2.9**
	comp=Z,64nm,1.2s,comp=Z,1µm					
SURT	**Suratani**	**77.78 285**	P	**P**	**16 58 23.9**	**+2.3**
	comp=Z,110nm,1.1s,comp=Z,1µm					
SNY	**Shenyang**	**77.80 325** ⇓	P	P	16 58 12.0	-9.1
SNY			pP	PcP	16 58 22.5	-8.1
SNY			S	**S**	**17 08 00.2**	**-4.5**
SNY			pmax	pmax		
	comp=Z,10.0nm,0.5s					
SNY			pmax	pmax		
	comp=Z,150nm,3.8s					
SNY			LR	LR		
	comp=N,540nm,15.5s					
SNY			LR	LR		
	comp=E,430nm,16.6s					
SNY			LR	LR		
	comp=Z,920nm,34.3s					
LHMI	**Lhok Sumawe**	**77.90 281**	P	**P**	**16 58 26.5**	**+4.2**
	comp=Z,125nm,1.2s,comp=Z,1µm					
LHMI	**Lhok Sumawe**	**77.90 281**	P	**P**	**16 58 22.1**	**-0.2**
LHMI			IAmb	IAmb	16 58 26.1	
	comp=Z,108nm,1.0s					
MLSI	**Meulaboh, Aceh**	**78.01 280**	P	**P**	**16 58 25.4**	**+2.5**
	comp=Z,173nm,1.3s					
CHAI	**Chaiyaphum**	**78.05 293**	P	**P**	**16 58 25.1**	**+2.1**
	comp=Z,40µm,1.0s					
NONG	**Nongkai**	**78.07 295**	P	**P**	**16 58 24.9**	**+1.8**
	comp=Z,1.3nm,1.4s,comp=Z,65nm					
CN2	**Changchun**	**78.27 328**	*e*P	**P**	**16 58 24.0**	**+0.4**
CN2			*e*S	**S**	**17 08 11.5**	**+1.9**
CN2			pmax	pmax		
	comp=Z,40nm,1.3s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=Z,300nm,15.0s					
CN2			LR	LR		
	comp=Z,400nm,15.0s					
CN2			LR	LR		
	comp=Z,400nm,15.0s					
PHET	**Kaeng Krachan**	**78.74 289**	P	**P**	**16 58 30.5**	**+3.6**
	comp=Z,130µm,0.9s					
SLVN	**Son La**	**79.01 299**	P	**P**	**16 58 28.7**	**+0.3**
GRNR	**Gornyy**	**79.15 338**	*e*P	**P**	**16 58 29.7**	**+1.3**
GRNR			pmax	pmax		
	comp=Z,20nm,1.1s					
PBKT	**Sadao Pong**	**79.22 293**	P	**P**	**16 58 31.6**	**+2.2**
	comp=Z,24nm,1.8s					
PBKT	**Sadao Pong**	**79.22 293**	P	**P**	**16 58 29.0**	**-0.4**
ENH	**Enshi**	**79.36 309**	P	**P**	**16 58 29.3**	**-0.6**
ENH			IAmb	IAmb	16 58 33.1	
	comp=Z,168nm,1.3s					
GYA	**Guiyang**	**79.41 304** ⇓	*i*P	**P**	**16 58 31.4**	**+0.9**
GYA			pP	pP	16 58 56.2	-1.8
GYA			sP	sP	16 59 07.8	-1.7
GYA			PP	**PP**	**17 01 38.0**	**+5.6**
GYA			S	**S**	**17 08 24.8**	**+2.0**
GYA			SKS	**SKSac**	**17 08 35.6**	**-1.5**
GYA			sS	sS	17 09 08.2	-2.1
GYA			pmax	pmax		
	comp=Z,40nm,1.2s					
GYA			pmax	pmax		
	comp=Z,150nm,5.4s					
KLR	**Kul'dur**	**79.62 335** ⇑	*e*P	**P**	**16 58 32.7**	**+1.8**
KLR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
KLR	**Kul'dur**	**79.62 335**	LR	LR	17 29 06.3	
	comp=Z,181nm,20.8s,baz=152,slow=32					
UTHA	**Uthaitani**	**80.07 291**	P	**P**	**16 58 36.5**	**+2.4**
	comp=Z,172µm,0.9s					
KHLT	**Khaolaem Dam**	**80.48 290**	P	**P**	**16 58 35.8**	**-0.5**
	comp=Z,82nm,1.4s,comp=Z,1µm					
BJT	**Baijiatuau**	**80.74 320**	P	**P**	**16 58 36.5**	**-0.6**
BJT			pmax	pmax		
	comp=Z,64nm,1.0s					
BJT	**Baijiatuau**	**80.74 320**	P	**P**	**16 58 36.5**	**-0.6**
BJT			IAmb	IAmb	16 58 40.2	
	comp=Z,64nm,1.0s					
BJI	**Beijing**	**80.75 320** ⇓	*e*P	**P**	**16 58 37.1**	**0.0**
BJI			pP	**pP**	**16 59 02.8**	**-1.8**
BJI			S	**S**	**17 08 38.6**	**+2.7**
BJI			sS	**sS**	**17 09 20.3**	**-3.1**
BJI			pmax	pmax		
	comp=Z,70nm,1.2s					
BJI			LR	LR		
	comp=Z,310nm,29.6s					
BJI			LR	LR		
	comp=Z,460nm,31.4s					
UMPA	**Umpang Tak**	**80.86 292**	P	**P**	**16 58 40.9**	**+2.6**
	comp=Z,110µm,1.0s					
LAMP	**Lampang**	**81.24 294**	P	**P**	**16 58 44.1**	**+3.8**
	comp=Z,75µm,0.9s					
PAYA	**Payao**	**81.42 295**	P	**P**	**16 58 44.2**	**+3.0**
	comp=Z,40µm,1.5s,comp=Z,562µm					
TIY	**Taiyuan**	**81.62 316**	*e*P	**P**	**16 58 43.7**	**+1.7**
TIY			pP	**pP**	**16 59 08.4**	**-1.0**
TIY			S	**S**	**17 08 45.7**	**+0.4**
TIY			sS	**sS**	**17 09 30.9**	**-1.8**
TIY			pmax	pmax		
	comp=Z,190nm,1.2s					
TIY			pmax	pmax		
	comp=Z,460nm,3.6s					
KMI	**Kunming**	**81.79 301**	P	**P**	**16 58 44.3**	**+1.0**
KMI			pP	pP	16 59 07.5	-3.4
KMI			sP	sP	16 59 23.2	+0.8
KMI			PP	**PP**	**17 01 53.2**	**+1.0**
KMI			S	**S**	**17 08 50.6**	**+2.7**
KMI			pmax	pmax		
	comp=Z,45nm,1.3s					
KMI			pmax	pmax		
	comp=Z,480nm,5.5s					
KMI			LR	LR		
	comp=Z,200nm,14.4s					
KMI			LR	LR		
	comp=Z,270nm,15.6s					
KMI			LR	LR		
	comp=Z,320nm,16.6s					
KMI	**Kunming**	**81.79 301**	P	**P**	**16 58 44.0**	**+0.7**
KMI			pmax	pmax		
	comp=Z,97nm,1.4s					
KMI	**Kunming**	**81.79 301**	P	**P**	**16 58 44.0**	**+0.7**
KMI			IAmb	IAmb	16 58 47.8	
	comp=Z,97nm,1.4s					
CM31	**Chiang Mai Arr**	**81.80 294**	P	**P**	**16 58 44.9**	**+1.7**
	SNR=16					
CM31	**Chiang Mai Arr**	**81.80 294**	P	**P**	**16 58 43.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**81.80 294**	P	**P**	**16 58 45.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**81.80 294**	P	**P**	**16 58 45.0**	**+1.8**
	comp=Z,23nm,1.0s,baz=133,slow=4.0,SNR=75					
CMAR			LR	LR	17 35 38.7	
	comp=Z,130nm,20.6s,baz=160,slow=36					
CMAR	**Chiang Mai Arr**	**81.80 294**	P	**P**	**16 58 43.3**	**+0.1**
XAN	**Xi'an**	**81.84 312**	P	**P**	**16 58 43.4**	**+0.2**
XAN			pmax	pmax		
	comp=Z,40nm,1.2s					
XAN			LR	LR		
	comp=Z,250nm,7.9s					
XAN			LR	LR		
	comp=Z,360nm,8.0s					
XAN			LR	LR		
	comp=Z,180nm,7.4s					
XAN	**Xi'an**	**81.84 312**	P	**P**	**16 58 42.7**	**-0.5**
XAN			pmax	pmax		
	comp=Z,116nm,1.1s					
XAN	**Xi'an**	**81.84 312**	P	**P**	**16 58 42.7**	**-0.5**
XAN			IAmb	IAmb	16 58 46.9	
	comp=Z,116nm,1.1s					
CMMT	**Chiang Mai**	**81.95 294**	P	**P**	**16 58 45.4**	**+1.4**
	comp=Z,27nm,1.4s,comp=Z,466nm					
CHTO	**Chiang Mai**	**81.95 294**	P	**P**	**16 58 45.3**	**+1.2**
	SNR=16					
CHTO	**Chiang Mai**	**81.95 294**	P	**P**	**16 58 44.8**	**+0.8**
CHTO			pmax	pmax		
	comp=Z,78nm,1.3s					
CHTO	**Chiang Mai**	**81.95 294**	P	**P**	**16 58 44.8**	**+0.8**
CHGN	**Chignik**	**82.36 16**		**P**	**16 58 45.2**	**0.0**
MHMT	**Maesarieng**	**82.53 293**	P	**P**	**16 58 49.5**	**+2.5**
	comp=Z,72nm,1.2s,comp=Z,985nm					
SYO	**Syowa Base**	**82.55 196** ⇑	*e*P	**P**	**16 58 44.0**	**-2.3**
SYO	**Syowa Base**	**82.55 196** ⇑	*i*X	**P**	**16 58 47.7**	**+1.4**
SYO	**Syowa Base**	**82.55 196** ⇑	*i*pP	pP	16 59 07.8	-5.9
CHIR	**Chirikof Islan**	**82.70 18**	P	**P**	**16 58 47.5**	**+0.5**
PMSA	**Palmer Station**	**83.22 159**	P	**P**	**16 58 49.6**	**-0.2**
PMSA			IAmb	IAmb	16 58 52.7	
	comp=Z,115nm,1.0s					
PMSA	**Palmer Station**	**83.22 159**	*e*P	**P**	**16 58 50.1**	**+0.3**
PMSA	**Palmer Station**	**83.22 159**	*e*P	**P**	**16 58 50.1**	**+0.3**
MA2	**Magadan**	**83.42 349**	P	**P**	**16 58 50.3**	**-0.3**
MA2			pmax	pmax		
	comp=Z,57nm,1.5s					
MA2	**Magadan**	**83.42 349**	LR	LR	17 30 42.2	
	comp=Z,462nm,20.9s,baz=161,slow=32					
MA2	**Magadan**	**83.42 349**	P	**P**	**16 58 50.3**	**-0.3**
SII	**Sitkinak Islan**	**83.75 18**	P	**P**	**16 58 51.1**	**-1.3**
CD2	**Chengdu**	**83.88 307**	P	**P**	**16 58 55.4**	**+1.6**
CD2			pP	pP	16 59 18.8	-2.7
CD2			sP	sP	16 59 31.6	-1.4
CD2			S	**S**	**17 09 09.2**	**+0.7**
CD2			sS	sS	17 09 59.3	+2.8
CD2			pmax	pmax		
	comp=Z,40nm,0.9s					
CD2			pmax	pmax		
	comp=Z,620nm,8.7s					
CD2			LR	LR		
	comp=Z,460nm,15.7s					
CD2			LR	LR		
	comp=Z,710nm,35.6s					
HHC	**Hu-ho-hao-te**	**84.02 319**	P	**P**	**16 58 55.8**	**+1.5**
HHC			pmax	pmax		
	comp=Z,20nm,1.0s					
HHC			pmax	pmax		
	comp=Z,50nm,3.6s					
OHAK	**Old Harbor**	**84.58 18**	P	**P**	**16 58 56.8**	**+0.3**
BTO	**Baotou**	**84.83 318**	*e*P	**P**	**16 58 59.5**	**+1.1**
ZEA	**Zeya**	**84.90 335**	*e*P	**P**	**16 58 58.2**	**-0.1**
ZEA			pmax	pmax		
	comp=Z,15nm,0.8s					
HIA	**Hailar**	**84.92 329**	P	**P**	**16 58 58.3**	**-0.3**
HIA			pmax	pmax		
	comp=Z,41nm,1.7s					
HIA	**Hailar**	**84.92 329**	P	**P**	**16 58 58.3**	**-0.3**
KDAK	**Kodiak Island**	**85.25 18**	*c*e*P*	**P**	**16 59 02.8**	**+2.9**
KDAK	**Kodiak Island**	**85.25 18**	P	**P**	**16 59 02.2**	**+2.2**
	comp=Z,25nm,1.1s,baz=252,slow=2.9,SNR=4.5					
KDAK			LR	LR	17 29 23.8	
	comp=Z,608nm,21.6s,baz=207,slow=30					
KDAK	**Kodiak Island**	**85.25 18**	P	**P**	**16 59 00.2**	**+0.3**
KDAK			IAmb	IAmb	16 59 32.5	
	comp=Z,87nm,1.4s					
SNCC	**San Nicolas Is**	**85.80 52**	P	**P**	**16 59 03.8**	**+0.5**
	baz=240					
SNCC	**San Nicolas Is**	**85.80 52**	P	**P**	**16 59 03.8**	**+0.5**
SNCC			IAmb	IAmb	16 59 07.1	
	comp=Z,82nm,1.1s					
MCCM	**Marconi Confer**	**85.99 46**	P	**P**	**16 59 05.1**	**+1.0**
MCCM			IAmb	IAmb	16 59 07.3	
	comp=Z,67nm,1.1s					
SCZ2	**Santa Cruz Isl**	**86.09 51**	P	**P**	**16 59 04.7**	**-0.1**
	baz=240					
SNAA	**Sanae**	**86.14 182**	P	**P**	**16 59 03.3**	**-1.2**
SNAA	**Sanae**	**86.14 182**	*d*i*P*	**P**	**16 59 03.1**	**-1.4**
SNAA	**Sanae**	**86.14 182**	P	**P**	**16 59 02.7**	**-1.8**
SNAA			IAmb	IAmb	16 59 04.6	
	comp=Z,68nm,1.0s					
SAO	**San Andreas Ge**	**86.23 48**	P	**P**	**16 59 05.2**	**-0.2**
SAO			pmax	pmax		
	comp=Z,51nm,1.1s					
SAO	**San Andreas Ge**	**86.23 48**	P	**P**	**16 59 05.2**	**-0.2**
SAO			IAmb	IAmb	16 59 09.2	
	comp=Z,51nm,1.1s					
SBC	**Santa Barbara**	**86.26 50**	P	**P**	**16 59 06.5**	**+1.0**
	baz=240					
HOPS	**Hopland Field**	**86.32 45**	P	**P**	**16 59 06.8**	**+1.1**
HOPS			IAmb	IAmb	16 59 09.7	
	comp=Z,70nm,1.1s					
KCPM	**Cahto Peak**	**86.36 44**	P	**P**	**16 59 06.2**	**+0.1**
SEY	**Seymchan**	**86.36 351** ⇓	*e*P	**P**	**16 59 05.0**	**-0.3**
SCI2	**San Clemente I**	**86.38 52**	P	**P**	**16 59 06.3**	**+0.1**
	baz=240					
GDXM	**Geysers**	**86.40 45**	P	**P**	**16 59 07.9**	**+1.7**
PKM	**Mcpherson Peak**	**86.41 50**	P	**P**	**16 59 06.7**	**+0.2**
	baz=240					
LZH	**Lanzhou**	**86.45 311** ⇑	P	**P**	**16 59 07.9**	**+1.3**
LZH			pP	pP	16 59 33.4	-1.1
LZH			PP	**PP**	**17 02 30.2**	**+0.3**
LZH			SKS	**SKSac**	**17 09 21.7**	**-1.5**
LZH			S	**S**	**17 09 33.6**	**-0.3**
LZH			sS	sS	17 10 23.9	+1.8
LZH			pmax	pmax		
	comp=Z,99nm,1.3s					
LZH			pmax	pmax		
	comp=Z,530nm,7.0s					
LZH			LR	LR		
	comp=Z,250nm,16.5s					
LZH			LR	LR		
	comp=Z,290nm,16.3s					
LZH			LR	LR		
	comp=Z,360nm,18.4s					
SMMC	**Simmler**	**86.50 50**	P	**P**	**16 59 07.5**	**+0.7**
	baz=240					
PAGB	**Antelope Grade**	**86.53 49**	P	**P**	**16 59 08.1**	**+1.3**
BLG	**Laguna Peak, P**	**86.56 51**	P	**P**	**16 59 07.2**	**+0.1**
	baz=240					
KMRM	**Mail Ridge**	**86.57 44**	P	**P**	**16 59 07.7**	**+0.7**
KMRM			IAmb	IAmb	16 59 11.3	
	comp=Z,75nm,0.9s					
VNA3	**Neumayer Olymp**	**86.64 180**	P	**P**	**16 59 05.5**	**-1.4**
CIS	**Catalina Islan**	**86.68 52**	P	**P**	**16 59 07.9**	**+0.2**
	baz=240					
JCC	**Jacoby Creek,**	**86.69 43**	P	**P**	**16 59 08.6**	**+1.2**
JCC			IAmb	IAmb	16 59 11.7	
	comp=Z,102nm,1.4s					
KHMM	**Horse Mountain**	**86.91 43**	P	**P**	**16 59 10.0**	**+1.2**
KHMM			IAmb	IAmb	16 59 13.0	
	comp=Z,78nm,0.9s					
VNA2	**Neumayer--Watz**	**86.96 180**	P	**P**	**16 59 07.6**	**-0.8**
	baz=181,slow=4.6					
OSI	**Osito Audit: C**	**87.05 51**	P	**P**	**16 59 10.0**	**+0.5**
	baz=240					
OSI	**Osito Audit: C**	**87.05 51**	P	**P**	**16 59 11.3**	**+1.9**
OSI			IAmb	IAmb	16 59 13.3	
	comp=Z,43nm,1.0s					
CNPM	**China Poot**	**87.10 18**	P	**P**	**16 59 09.7**	**+0.7**
CNPM			IAmb	IAmb	17 00 12.8	
	comp=Z,76nm,1.4s					
O02D	**Mt. Diablo Mer**	**87.14 44**	P	**P**	**16 59 10.8**	**+1.1**
	baz=238,SNR=77					
KRMB	**Red Mountain**	**87.16 43**	P	**P**	**16 59 10.9**	**+1.0**
KRMB			IAmb	IAmb	16 59 14.2	
	comp=Z,90nm,1.2s					
ARVC	**Arvin**	**87.23 50**	P	**P**	**16 59 10.9**	**+0.6**
	baz=240					
VNA1	**Neumayer--Stat**	**87.24 180**	P	**P**	**16 59 08.6**	**-1.1**
SVW2	**Sparrevohn**	**87.29 15**		**P**	**16 59 11.6**	**+1.7**
SVW2			IAmb	IAmb	16 59 15.4	
	comp=Z,56nm,1.4s					
MWC	**Mount Wilson**	**87.34 51**	P	**P**	**16 59 11.4**	**+0.4**
MWC			pmax	pmax		
	comp=Z,109nm,1.6s					
MWC	**Mount Wilson**	**87.34 51**	P	**P**	**16 59 11.4**	**+0.4**
MWC			IAmb	IAmb	16 59 14.4	
	comp=Z,109nm,1.6s					
GO10	**Punta Arenas**	**87.37 148**	P	**P**	**16 59 11.6**	**+0.9**
109C	**Camp Elliot, M**	**87.39 53**	P	**P**	**16 59 11.7**	**+0.7**
	baz=241					
109C	**Camp Elliot, M**	**87.39 53**	P	**P**	**16 59 12.0**	**+1.0**
VES	**Vestal, Richgr**	**87.40 50**	P	**P**	**16 59 12.3**	**+1.2**
	baz=240,SNR=7.7					
RSO	**Redoubt South**	**87.47 17**	P	**P**	**16 59 11.6**	**+0.6**
WDC	**Whiskeytown Da**	**87.51 44**	P	**P**	**16 59 11.8**	**+0.3**
WDC			pmax	pmax		
	comp=Z,113nm,1.5s					
WDC	**Whiskeytown Da**	**87.51 44**	P	**P**	**16 59 11.8**	**+0.3**
WDC			IAmb	IAmb	16 59 15.5	
	comp=Z,113nm,1.4s					
CMB	**Columbia Colle**	**87.61 47**	P	**P**	**16 59 12.7**	**+0.6**
CMB			pmax	pmax		
	comp=Z,94nm,1.4s					
CMB	**Columbia Colle**	**87.61 47**	P	**P**	**16 59 12.7**	**+0.6**
CMB			IAmb	IAmb	16 59 15.7	
	comp=Z,94nm,1.4s					
BAR	**Barrett**	**87.61 53**	P	**P**	**16 59 12.4**	**+0.2**
N02D	**Trinity Center**	**87.62 44**	P	**P**	**16 59 12.9**	**+0.9**
	baz=238,SNR=43					
BFSC	**Mount Baldy Ra**	**87.64 52**	P	**P**	**16 59 12.8**	**+0.4**
	baz=241,SNR=15					
ORV	**Oroville**	**87.65 45**	P	**P**	**16 59 12.3**	**+0.2**
ORV			pmax	pmax		
	comp=Z,144nm,1.6s					
ORV	**Oroville**	**87.65 45**	P	**P**	**16 59 12.3**	**+0.2**
ORV			IAmb	IAmb	16 59 15.8	
	comp=Z,144nm,1.6s					
MURC	**Murrieta**	**87.67 52**	P	**P**	**16 59 13.1**	**+0.7**
	baz=241,SNR=6.3					
SIMRM	**Sittwe**	**87.67 293**	P	**P**	**16 59 12.9**	**+0.2**
AFDM	**Forest Hills D**	**87.69 46**	P	**P**	**16 59 12.6**	**+0.2**
AFDM			IAmb	IAmb	16 59 16.0	
	comp=Z,98nm,1.3s					
L02E	**Cave Junction**	**87.69 42**	P	**P**	**16 59 13.8**	**+1.5**
	baz=237,SNR=6.4					
EDW2	**Edwards Air Fo**	**87.71 51**	P	**P**	**16 59 13.1**	**+0.5**
	baz=241,SNR=6.8					
ISA	**Isabella, Lake**	**87.75 50**	P	**P**	**16 59 13.3**	**+0.6**
	baz=240,SNR=47					
ISA	**Isabella, Lake**	**87.75 50**	P	**P**	**16 59 12.3**	**-0.5**
ISA			pmax	pmax		
	comp=Z,78nm,1.1s					
ISA	**Isabella, Lake**	**87.75 50**	P	**P**	**16 59 12.3**	**-0.5**
ISA			IAmb	IAmb	16 59 16.6	
	comp=Z,78nm,1.1s					
MGL	**Magalia**	**87.75 45**	P	**P**	**16 59 12.8**	**0.0**
M02C	**Callahan**	**87.75 43**	P	**P**	**16 59 13.7**	**+1.1**
	baz=237,SNR=40					
GO09	**Cerro Castillo**	**87.77 146**	P	**P**	**16 59 13.2**	**+0.5**
O03E	**Paynes Creek**	**87.84 45**	P	**P**	**16 59 13.5**	**+0.3**
	baz=238,SNR=46					
MONP2	**Monument Peak**	**87.90 53**	P	**P**	**16 59 14.0**	**+0.3**
	baz=242,SNR=14					
K02D	**Willamette Mer**	**87.95 42**	P	**P**	**16 59 14.7**	**+1.1**
	baz=237,SNR=6.9					
IKP	**In-Ko-Pah, Jac**	**88.02 54**	P	**P**	**16 59 14.8**	**+0.7**
	baz=242,SNR=12					
YBH	**Yreka Blue Hor**	**88.02 43**	P	**P**	**16 59 15.0**	**+1.0**
	comp=Z,22nm,0.7s,baz=176,slow=1.9,SNR=42					
YBH			LR	LR	17 33 18.3	
	comp=Z,198nm,18.3s,baz=246,slow=32					
YBH	**Yreka Blue Hor**	**88.02 43**	P	**P**	**16 59 14.6**	**+0.6**
J01E	**Myrtle Point**	**88.04 41**	P	**P**	**16 59 15.0**	**+1.2**
	baz=237					
SEW	**Seward**	**88.09 18**	P	**P**	**16 59 14.0**	**+0.4**
SEW			IAmb	IAmb	16 59 56.8	
	comp=Z,69nm,1.6s					
BBRC	**Big Bear Solar**	**88.18 52**	P	**P**	**16 59 15.3**	**+0.2**
	baz=241					
PFO	**Pinyon Flats O**	**88.21 53**	P	**P**	**16 59 15.5**	**+0.4**
	baz=242,SNR=9.0					
PFO	**Pinyon Flats O**	**88.21 53**	*c*i*P*	**P**	**16 59 17.1**	**+2.0**
PFO	**Pinyon Flats O**	**88.21 53**	P	**P**	**16 59 15.5**	**+0.4**
	comp=Z,13nm,1.1s,baz=249,slow=3.6,SNR=17					
PFO			LR	LR	17 28 45.3	
	comp=Z,309nm,20.7s,baz=244,slow=29					
PFO	**Pinyon Flats O**	**88.21 53**	P	**P**	**16 59 15.1**	**0.0**
PFO			IAmb	IAmb	16 59 18.7	
	comp=Z,60nm,1.6s					
LRMC	**Laurel Mtn Rad**	**88.22 50**	P	**P**	**16 59 15.8**	**+0.7**
	baz=241,SNR=40					
RUBR	**Rubicon Trail**	**88.28 46**	P	**P**	**16 59 16.0**	**+0.5**
MDPB	**Devils Postpil**	**88.30 48**	P	**P**	**16 59 16.3**	**+0.7**
MDPB			IAmb	IAmb	16 59 19.4	
	comp=Z,84nm,1.2s					
HUMO	**Hull Mountain**	**88.34 42**	P	**P**	**16 59 16.1**	**+0.7**
HUMO			IAmb	IAmb	16 59 19.6	
	comp=Z,65nm,1.0s					
OMMB	**Old Mammoth Mi**	**88.34 48**	P	**P**	**16 59 16.1**	**+0.3**
OMMB			IAmb	IAmb	16 59 19.7	
	comp=Z,76nm,1.3s					
SWSC	**Sam W. Stewart**	**88.39 53**	P	**P**	**16 59 16.8**	**+1.1**
	baz=242,SNR=9.0					
CWC	**Cottonwood Cre**	**88.41 49**	P	**P**	**16 59 16.5**	**+0.5**
	baz=241					
MLAC	**Mammoth, Mammo**	**88.47 48**	P	**P**	**16 59 17.2**	**+0.8**
	baz=240					
WAKR	**Walker**	**88.49 47**	P	**P**	**16 59 16.5**	**+0.1**
L04D	**Klamath Falls**	**88.54 43**	P	**P**	**16 59 17.1**	**+0.6**
	baz=238,SNR=17					
M04C	**Macdoel**	**88.60 43**	P	**P**	**16 59 18.1**	**+1.4**
	baz=238,SNR=18					
TIN	**Tinemaha, Big**	**88.60 49**	P	**P**	**16 59 18.0**	**+1.1**
	baz=240,SNR=5.7					
MPMC	**Manual Prospec**	**88.64 50**	P	**P**	**16 59 17.8**	**+0.7**
	baz=241,SNR=35					
DAC	**Darwin (Calif)**	**88.67 50**	P	**P**	**16 59 19.0**	**+1.7**
DAC			pmax	pmax		
	comp=Z,49nm,1.3s					
DAC	**Darwin (Calif)**	**88.67 50**	P	**P**	**16 59 19.0**	**+1.7**
DAC			IAmb	IAmb	16 59 23.1	
	comp=Z,49nm,1.3s					
PNTR	**Pine Nut**	**88.68 47**	P	**P**	**16 59 17.0**	**-0.3**
I03D	**Drain, OR**	**88.69 41**	P	**P**	**16 59 18.1**	**+1.2**
	baz=237					
BELC	**Belle Mtn. Jos**	**88.73 52**	P	**P**	**16 59 18.3**	**+0.7**
	baz=242,SNR=34					
VCNR	**Virginia City**	**88.75 46**	P	**P**	**16 59 18.4**	**+0.8**
VCNR			IAmb	IAmb	16 59 21.4	
	comp=Z,108nm,1.6s					
GSC	**Goldstone, Bar**	**88.76 51**	P	**P**	**16 59 18.5**	**+0.9**
	baz=241,SNR=15					
GSC	**Goldstone, Bar**	**88.76 51**	P	**P**	**16 59 18.1**	**+0.5**
GSC			pmax	pmax		
	comp=Z,50nm,1.3s					
GSC	**Goldstone, Bar**	**88.76 51**	P	**P**	**16 59 18.1**	**+0.5**
GSC			IAmb	IAmb	16 59 21.3	
	comp=Z,50nm,1.3s					
LPIG	**La Paz**	**88.79 63**	P	**P**	**16 59 19.2**	**+1.4**
	comp=Z,20nm,0.3s,baz=294,slow=20,SNR=3.9					
RC01	**Rabbit Creek A**	**88.81 18**	P	**P**	**16 59 17.9**	**+0.8**
SUA	**Susitna One**	**88.84 17**	P	**P**	**16 59 17.5**	**+0.1**
SUA			IAmb	IAmb	17 01 36.9	
	comp=Z,91nm,1.4s					
YERR	**Yerington**	**88.87 47**	P	**P**	**16 59 18.6**	**+0.4**
HEC	**Hector,Ludlow**	**88.88 52**	P	**P**	**16 59 19.0**	**+0.9**
	baz=242,SNR=8.0					
BC3	**Big Chuckawall**	**88.97 53**	P	**P**	**16 59 19.6**	**+0.9**
	baz=242,SNR=16					
K04D	**Chiloquin, OR**	**89.10 43**	P	**P**	**16 59 19.7**	**+0.7**
	baz=238					
PAHR	**Pah Rah Range**	**89.13 46**	P	**P**	**16 59 19.8**	**+0.5**
GLA	**Glamis**	**89.16 54**	P	**P**	**16 59 20.9**	**+1.4**
	baz=242,SNR=6.3					
GLA	**Glamis**	**89.16 54**	P	**P**	**16 59 21.1**	**+1.6**
GLA			pmax	pmax		
	comp=Z,96nm,1.3s					
GLA	**Glamis**	**89.16 54**	P	**P**	**16 59 21.1**	**+1.6**
GLA			IAmb	IAmb	16 59 23.5	
	comp=Z,96nm,1.2s					
**

NVAR P'P'df 17 25 05.2 +0.8
FURC Furnace Creek, 89.28 50 P P 16 59 20.8 +1.0
baz=241,SNR=12
NV11 Mina Array Sit 89.33 48 P P 16 59 20.2 -0.1
NV11 IAmb IAmb 16 59 23.9
comp=Z,62nm,1.0s
GMRC Granite Mounta 89.35 52 P P 16 59 21.3 +0.9
baz=242,SNR=18
PMR Palmer 89.39 18 P P 16 59 20.0 +0.3
PMR pmax pmax
comp=Z,28nm,1.2s
PMR Palmer 89.39 18 P P 16 59 20.0 +0.3
GLI Glacier Island 89.41 19 P P 16 59 20.1 +0.2
GLI IAmb IAmb 16 59 21.8
comp=Z,74nm,1.1s
SHOC Shoshone, Teco 89.43 51 P P 16 59 20.9 +0.3
baz=242,SNR=11
DIB Dawson Inlet, 89.43 30 P P 16 59 20.5 +0.4
IRM Iron Mountain 89.43 53 P P 16 59 21.7 +1.0
baz=242,SNR=32
KNK Knik Glacier 89.44 18 P P 16 59 20.4 +0.3
TUQ Turquoise Moun 89.46 51 P P 16 59 21.9 +0.9
baz=242,SNR=36
FID Port Fidalgo 89.50 19 P P 16 59 19.7 -0.6
FID IAmb IAmb 16 59 22.2
comp=Z,58nm,1.2s
H04D Lebanon 89.50 41 P P 16 59 21.8 +1.0
baz=237
EYAK Cordova Ski Ar 89.56 20 P P 16 59 20.4 -0.1
G03D McMinnville, O 89.56 40 P P 16 59 21.8 +0.8
baz=237
GHO Glory Hole Cre 89.60 18 P P 16 59 21.0 +0.1
MOD Modoc Plateau 89.64 44 P P 16 59 21.8 +0.1
MOD IAmb IAmb 16 59 25.2
comp=Z,66nm,1.0s
KVN Kaiserville 89.67 47 P P 16 59 21.9 0.0
KVN pmax pmax
comp=Z,72nm,1.0s
KVN Kaiserville 89.67 47 P P 16 59 21.9 0.0
KVN IAmb IAmb 16 59 25.4
comp=Z,72nm,1.0s
CIT Chita 89.70 328 *e*P P 16 59 21.1 -0.4
CIT *e* 17 00 02.9
CIT pmax pmax
comp=Z,143nm,1.4s
Y12C Blythe 89.70 53 P P 16 59 23.0 +1.1
baz=243,SNR=10.0
Y12C Blythe 89.70 53 P P 16 59 22.8 +0.9
Y12C IAmb IAmb 16 59 25.7
comp=Z,68nm,1.2s
J05D Fort Rock, OR 89.77 42 P P 16 59 23.0 +0.8
baz=238
RAGM Ragged Mountai 89.77 20 P P 16 59 22.2 +0.6
RAGM IAmb IAmb 16 59 24.1
comp=Z,78nm,1.2s
SML Sawmill 89.79 18 P P 16 59 22.3 +0.6
SML IAmb IAmb 17 02 27.8
comp=Z,31nm,1.0s
HMT Hamilton 89.86 20 P P 16 59 22.2 +0.1
HMT IAmb IAmb 16 59 24.4
comp=Z,48nm,1.0s
H04A Detroit Lake 89.92 41 P P 16 59 22.6 -0.2
H04A IAmb IAmb 16 59 25.8
comp=Z,68nm,1.1s
TPNV Topopah Spring 89.94 50 P P 16 59 23.7 +0.5
baz=242,SNR=57
TPNV Topopah Spring 89.94 50 P P 16 59 23.1 -0.1
TPNV pmax pmax
comp=Z,47nm,1.0s
TPNV Topopah Spring 89.94 50 P P 16 59 23.1 -0.1
TPNV IAmb IAmb 16 59 26.8
comp=Z,47nm,0.9s
SCM Sheep Creek Mo 90.10 18 P P 16 59 23.6 +0.4
SCM pmax pmax
comp=Z,49nm,1.2s
SCM Sheep Creek Mo 90.10 18 P P 16 59 23.6 +0.4
SCM IAmb IAmb 16 59 25.5
comp=Z,49nm,1.2s
E03A Lebam 90.11 39 P P 16 59 23.7 +0.2
F04D Rainier, OR 90.18 39 P P 16 59 24.6 +0.7
baz=237
214A Organ Pipe Nat 90.19 55 P P 16 59 25.6 +1.3
baz=244,SNR=8.0
214A Organ Pipe Nat 90.19 55 P P 16 59 25.6 +1.3
214A IAmb IAmb 16 59 28.2
comp=Z,49nm,1.3s
PINE Pine Mountain 90.22 42 P P 16 59 24.1 -0.3
BILL Bilibino 90.22 358 *i* P P 16 59 23.2 -0.3
BILL *i* *PP pP 16 59 51.6 +0.2
BILL pmax pmax
comp=Z,30nm,1.1s
BILL Bilibino 90.22 358 P P 16 59 23.5 0.0
BILL IAmb IAmb 16 59 26.4
comp=Z,39nm,1.1s
PDMCI Parker Dam,Lak 90.24 53 P P 16 59 25.4 +1.0
baz=243,SNR=18
I05D Terrebonne, OR 90.25 41 P P 16 59 24.9 +0.6
baz=238
HSIG 90.36 59 P P 16 59 25.6 +0.4
HSIG IAmb IAmb 16 59 28.6
comp=Z,46nm,1.1s
NLWA Neilton Lookou 90.40 38 P P 16 59 25.7 +0.8
WAX Waxell Ridge 90.41 21 P P 16 59 24.3 -0.3
WAX IAmb IAmb 16 59 27.3
comp=Z,53nm,0.9s
F04A Amboy 90.45 40 P P 16 59 24.7 -0.4
MESA MESA 90.50 21 P P 16 59 26.7 +1.4
MESA IAmb IAmb 16 59 28.0
comp=Z,44nm,1.0s
SHPR Sheep Range 90.51 50 P P 16 59 25.3 -0.5
SHPR IAmb IAmb 16 59 29.7
comp=Z,51nm,1.3s
YAK Yakutsk 90.51 342 *e*P P 16 59 24.2 -0.8
YAK pmax pmax
comp=Z,31nm,1.0s
YAK Yakutsk 90.51 342 P P 16 59 24.1 -0.8
YAK IAmb IAmb 16 59 26.9
comp=Z,36nm,1.1s
CRQM Cirque 90.55 20 P P 16 59 24.9 -0.5
CRQM IAmb IAmb 16 59 27.8
comp=Z,68nm,1.2s
TRF Thorofare Moun 90.61 16 P P 16 59 24.6 -1.0
TRF IAmb IAmb 17 02 34.4
comp=Z,64nm,1.9s
TGL Tana Glacier 90.65 21 P P 16 59 25.3 -0.5
TGL IAmb IAmb 16 59 28.2
comp=Z,45nm,1.1s
ULN Ulaanbaatar 90.68 323 P P 16 59 26.6 +0.3
SNR=22
ULN Ulaanbaatar 90.68 323 *c i*P P 16 59 25.9 -0.4
ULN pmax pmax
comp=Z,80nm,1.4s
ULN Ulaanbaatar 90.68 323 P P 16 59 26.0 -0.4
ULN IAmb IAmb 16 59 29.9
comp=Z,87nm,1.4s
E04D Cinebar 90.69 39 P P 16 59 27.1 +0.9
baz=238
YAH Yahtse 90.71 21 P P 16 59 26.1 -0.1
YAH IAmb IAmb 16 59 29.0
comp=Z,44nm,1.1s
G05D Wamic, OR 90.74 41 P P 16 59 26.8 +0.3
baz=238
SHL Shillong 90.76 297 P P 16 59 29.2 +1.9
SNR=14
SHL Shillong 90.76 297 P P 16 59 27.0 -0.3
SHL Shillong 90.76 297 P P 16 59 27.0 -0.3
W13A Hualapai Mount 90.79 52 P P 16 59 27.0 -0.2
W13A IAmb IAmb 16 59 31.0
comp=Z,60nm,1.4s
VRDI Verde Repeater 90.80 20 P P 16 59 25.6 -1.0
VRDI IAmb IAmb 16 59 28.9
comp=Z,81nm,1.6s
VRDI pP pP 16 59 52.9 -1.7
GLB Gilahina Butte 90.85 20 P P 16 59 25.5 -1.2
GLB IAmb IAmb 16 59 28.8
comp=Z,32nm,1.0s
GLB pP pP 16 59 52.4 -2.2
GTA Gaotai 90.87 313 ‖P P 16 59 27.8 +0.4
GTA PP PP 17 03 02.5 -2.6
GTA S S 17 10 16.3 +1.1
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,300nm,8.7s
GTA LR LR
comp=Z,190nm,19.0s
GTA LR LR
comp=Z,220nm,20.0s
GTA LR LR
comp=Z,310nm,21.6s
BBB Bella Bella 90.89 32 P P 16 59 28.0 +1.1
comp=Z,19nm,0.8s,baz=256,slow=6.1,SNR=6.7
BBB LR LR 17 32 49.9
comp=Z,187nm,20.6s,baz=209,slow=30
BBB Bella Bella 90.89 32 P P 16 59 28.6 +1.7
Y14A Wickenburg 90.92 54 P P 16 59 27.6 0.0
D03D Eldon 90.92 38 P P 16 59 27.9 +0.7
baz=237
BMN Battle Mountai 90.93 46 P P 16 59 27.3 -0.4
BMN pmax pmax
comp=Z,97nm,1.2s
BMN Battle Mountai 90.93 46 P P 16 59 27.3 -0.4
RND Reindeer 90.94 17 P P 16 59 26.6 -0.5
RND pmax pmax
comp=Z,71nm,1.5s
RND Reindeer 90.94 17 P P 16 59 26.6 -0.5
RND IAmb IAmb 16 59 29.0
comp=Z,71nm,1.5s
RND pP pP 16 59 53.5 -1.5
F05D White Salmon 90.99 40 P P 16 59 28.1 +0.4
baz=238
BALM Baldy 91.01 21 P P 16 59 26.9 -0.6
BALM IAmb IAmb 16 59 29.9
comp=Z,37nm,1.0s
SONM Songino Array 91.04 322 P P 16 59 27.9 -0.1
comp=Z,44nm,1.1s,baz=144,slow=3.5,SNR=44
SONM PKKPbc PKKPdf 17 16 51.2 +1.1
comp=Z,1.0nm,0.9s,baz=300,slow=1.2,SNR=4.2
SONM LR LR 17 38 58.8
comp=Z,101nm,20.8s,baz=122,slow=34
SONM Songino Array 91.04 322 P P 16 59 27.2 -0.7
MCARA McCarthy VSAT 91.06 20 P P 16 59 27.1 -0.5
MCARA IAmb IAmb 16 59 30.1
comp=Z,48nm,1.1s
R11A Troy Canyon, C 91.06 49 P P 16 59 28.4 0.0
baz=242,SNR=28
R11A Troy Canyon, C 91.06 49 P P 16 59 28.3 -0.1
DHY Denali Highway 91.08 17 P P 16 59 26.8 -1.0
DHY IAmb IAmb 16 59 29.8
comp=Z,71nm,1.9s
LON Longmire 91.24 39 P P 16 59 28.4 -0.4
LON pmax pmax
comp=Z,97nm,1.9s
LON Longmire 91.24 39 P P 16 59 28.4 -0.4
LON IAmb IAmb 16 59 31.8
comp=Z,97nm,1.9s
BARN Barnard Glacie 91.25 21 P P 16 59 28.3 -0.4
BARN pP pP 16 59 55.2 -1.5
CTGM Chitina Glacie 91.29 21 P P 16 59 28.6 -0.3
CTGM IAmb IAmb 16 59 31.4
comp=Z,46nm,1.2s
D05A Enumclaw 91.37 39 P P 16 59 29.3 -0.1
D05A pP pP 16 59 56.5 -0.8
PAX Paxson 91.53 18 P P 16 59 29.6 -0.3
PAX pmax pmax
comp=Z,21nm,1.2s
PAX Paxson 91.53 18 P P 16 59 29.6 -0.3
B05A Bryant 91.88 38 P P 16 59 32.8 +1.1
baz=238
TUC Tucson 91.89 56 P P 16 59 32.3 0.0
baz=245
TUC Tucson 91.89 56 P P 16 59 32.1 -0.1
TUC pmax pmax
comp=Z,25nm,1.2s
TUC Tucson 91.89 56 P P 16 59 32.1 -0.1
TUC IAmb IAmb 16 59 36.1
comp=Z,25nm,1.2s
TUC sP sP 17 00 10.8 -1.0
F07A Phinny Hill Vi 91.91 41 P P 16 59 31.4 -0.5
F07A IAmb IAmb 16 59 35.1
comp=Z,25nm,0.8s
IMAR Indian Mountai 91.92 13 P P 16 59 30.2 -1.2
IMAR pP 16 59 59.5 +0.1
BESE Bessie Mountai 91.95 25 P P 16 59 32.5 +0.6
BESE pP pP 16 59 58.7 -1.0
BESE IAmb IAmb 17 00 05.5
comp=Z,38nm,1.2s
WRH Wood River Hil 92.00 16 P P 16 59 32.2 +0.3
WRH IAmb IAmb 16 59 33.5
comp=Z,42nm,1.3s
WRH pP pP 16 59 58.4 -1.4
LCMT Little Creek M 92.11 51 P P 16 59 33.4 +0.2
LTY Liberty 92.17 39 P P 16 59 32.3 -0.9
G08A Pilot Rock 92.20 41 P P 16 59 33.1 -0.3
G08A IAmb IAmb 16 59 36.5
comp=Z,26nm,0.8s
HDA Harding Lake 92.26 17 P P 16 59 32.0 -1.1
baz=218
HDA Harding Lake 92.26 17 P P 16 59 31.7 -1.4
HDA pP pP 16 59 58.5 -2.5
CCUT Cedar City 92.26 50 P P 16 59 34.1 +0.1
E07A Sunnyside 92.29 40 P P 16 59 33.4 -0.2
E07A IAmb IAmb 16 59 37.0
comp=Z,30nm,0.9s
PSUT Pine Spring 92.36 49 P P 16 59 34.6 +0.2
SKAG Skagway 92.36 24 P P 16 59 33.4 -0.2
SKAG pP 17 00 00.8 -0.7
SKAG IAmb IAmb 17 00 09.1
comp=Z,28nm,1.2s
MDM Murphy Dome 92.36 16 P P 16 59 30.9 -2.6
MDM IAmb IAmb 16 59 34.9
comp=Z,36nm,1.2s
MDM pP pP 16 59 58.3 -3.2
TCOL CIGO, UAF Yank 92.39 16 P P 16 59 32.1 -1.5
baz=217
COLA College 92.39 16 *c i*P P 16 59 33.5 -0.1
COLA pmax pmax
comp=Z,35nm,1.0s
COLA College 92.39 16 P P 16 59 32.0 -1.6
COLA IAmb IAmb 16 59 35.0
comp=Z,53nm,1.1s
COLA pP pP 17 00 00.5 -1.1
HAWA Hanford 92.40 40 P P 16 59 32.6 -1.6
HAWA IAmb IAmb 16 59 37.5
comp=Z,28nm,0.8s
ELK Elko 92.41 47 P P 16 59 34.9 +0.2
comp=Z,9.6nm,1.0s,baz=248,slow=3.9,SNR=21
ELK LR LR 17 38 23.5
comp=Z,156nm,18.2s,baz=246,slow=34
ELK Elko 92.41 47 P P 16 59 33.7 -0.9
ELK IAmb IAmb 16 59 38.1
comp=Z,44nm,1.6s
KNB Kanab 92.41 51 P P 16 59 34.7 0.0
KNB pmax pmax
comp=Z,44nm,1.1s
KNB Kanab 92.41 51 P P 16 59 34.7 0.0
DOT Dot Lake 92.46 18 P P 16 59 32.9 -1.1
DOT pP 16 59 59.2 -2.8
DOT IAmb IAmb 17 00 06.7
comp=Z,31nm,1.2s
SZCU Shurtz Canyon 92.48 50 P P 16 59 35.5 +0.5
U15A North Rim 92.54 52 P P 16 59 35.6 +0.2
IL31 92.56 17 P P 16 59 32.4 -2.0
IL31 IAmb IAmb 16 59 35.8
comp=Z,27nm,1.1s
IL31 pP pP 17 00 00.6 -1.7
ILAR Eielson Array 92.56 17 P P 16 59 32.9 -1.6
comp=Z,11nm,1.0s,baz=234,slow=5.8,SNR=40
ILAR PKKPbc PKKPdf 17 16 46.1 -1.6
comp=Z,1.1nm,0.8s,baz=354,slow=2.9,SNR=8.6
ILAR LR LR 17 33 44.4
comp=Z,470nm,22.0s,baz=230,slow=30
ILAR Eielson Array 92.56 17 P P 16 59 32.4 -2.0
ILAR pP pP 17 00 00.3 -2.1
ILAR PKKPdf 17 16 45.7 -2.0
319A Douglas 92.66 57 P P 16 59 34.8 -1.1
319A IAmb IAmb 16 59 39.7
comp=Z,40nm,1.2s
POKR Poker Flat Res 92.69 16 P P 16 59 34.1 -1.0
baz=217
BCAR Beaver Creek A 92.70 19 P P 16 59 34.5 -0.7
BCAR pP pP 17 00 01.1 -2.1
E08A Dider Farm, El 92.73 40 P P 16 59 35.6 -0.1
E08A IAmb IAmb 16 59 38.9
comp=Z,29nm,1.0s
WUAZ Wupatki 92.81 53 P P 16 59 37.2 +0.7
baz=244
WUAZ Wupatki 92.81 53 P P 16 59 36.5 0.0
WUAZ IAmb IAmb 16 59 40.2
comp=Z,33nm,1.1s
PKCU Pink Cliffs 92.97 51 P P 16 59 38.7 +1.3
BMO Blue Mountains 93.00 42 P P 16 59 37.8 +0.7
BMO pmax pmax
comp=Z,8.0nm,1.1s
BMO Blue Mountains 93.00 42 P P 16 59 37.8 +0.7
LSA Lhasa 93.04 301 P P 16 59 37.2 -0.9
LSA pmax pmax
comp=Z,17nm,1.2s
LSA Lhasa 93.04 301 P P 16 59 37.1 -0.9
MFID Camas Ranch 93.26 44 P P 16 59 39.0 +0.6
MFID IAmb IAmb 16 59 42.5
comp=Z,25nm,1.1s
MTPU Mount Pierson 93.32 50 P P 16 59 39.4 +0.3
B08A Colville Reser 93.51 39 P P 16 59 39.4 +0.1
MSU Marysvale 93.53 50 P P 16 59 39.9 +0.1
MSU Marysvale 93.53 50 P P 16 59 39.9 +0.1
PALK Pallekele 93.56 276 ‖*e*P P 16 59 39.2 -1.1
F10A Beach Ranch, E 93.59 41 P P 16 59 38.8 -0.9
F10A IAmb IAmb 16 59 44.4
comp=Z,22nm,0.8s
COLD Coldfoot 93.74 14 P P 16 59 39.9 0.0
DLBC Dease Lake 93.80 27 P P 16 59 40.4 0.0
comp=Z,3.5nm,0.9s,baz=219,slow=4.6,SNR=4.8
DLBC LR LR 17 33 53.2
comp=Z,138nm,20.6s,baz=202,slow=30
DLBC Dease Lake 93.80 27 P P 16 59 40.7 +0.3
DLBC IAmb IAmb 17 00 14.9
comp=Z,57nm,1.9s
DUG Dugway, Tooele 93.81 48 P P 16 59 41.9 +0.8
baz=244
DUG Dugway, Tooele 93.81 48 P P 16 59 41.2 +0.2
DUG pmax pmax
comp=Z,22nm,1.8s
DUG Dugway, Tooele 93.81 48 P P 16 59 41.2 +0.2
W18A Petrified Fore 93.86 54 P P 16 59 42.3 +0.9
baz=245
PLID Pearl Lake 93.93 43 P P 16 59 41.5 -0.1
BGU Big Grassy Mou 93.99 47 P P 16 59 43.4 +1.6
ZAK Zakamensk 94.12 323 *e*P P 16 59 41.0 -1.1
ZAK pmax pmax
comp=Z,24nm,1.4s
EGAK Eagle 94.16 18 P P 16 59 41.0 -0.8
EGAK pP 17 00 07.8 -2.0
EGAK IAmb IAmb 17 00 14.6
comp=Z,32nm,1.1s
DAWY Dawson 94.17 19 P P 16 59 41.8 -0.1
DAWY pP 17 00 07.7 -2.2
DAWY IAmb IAmb 17 00 14.8
comp=Z,23nm,1.2s
121A Cookes Peak, D 94.29 57 P P 16 59 44.1 +0.7
baz=246
121A Cookes Peak, D 94.29 57 P P 16 59 43.4 0.0
Q16A Castle Valley 94.41 50 P P 16 59 45.6 +1.7
EFI East Falkland 94.42 152 ‖*e*P P 16 59 43.9 +0.4
EFI pmax pmax
comp=Z,51nm,1.1s
HVU Hansel Valley 94.53 47 P P 16 59 45.2 +0.9
HVU pmax pmax
comp=Z,18nm,1.1s
HVU Hansel Valley 94.53 47 P P 16 59 45.2 +0.9
TMUT Trail Mountain 94.54 49 P P 16 59 44.6 0.0
TLY Talaya 94.58 325 *e*P P 16 59 45.7 +1.6
TLY pmax pmax
comp=Z,59nm,1.1s
TLY MLR MLR
comp=Z,328nm,14.0s
TLY Talaya 94.58 325 P P 16 59 44.4 +0.3
TLY IAmb IAmb 16 59 46.8
comp=Z,27nm,1.2s
PLCA Paso Flores 94.74 138 P P 16 59 45.9 +0.6
PLCA pmax pmax
comp=Z,5μm,1.5s
PLCA Paso Flores 94.74 138 P P 16 59 45.6 +0.3
comp=Z,18nm,0.9s,baz=235,slow=7.9,SNR=13
PLCA LR LR 17 31 54.5
comp=Z,158nm,21.1s,baz=236,slow=29
PLCA Paso Flores 94.74 138 P P 16 59 45.9 +0.6
PLCA Paso Flores 94.74 138 *e*P P 16 59 46.7 +1.3
PLCA *e*pP PcP 16 59 50.0 +4.3
PLCA Paso Flores 94.74 138 *e*P P 16 59 46.7 +1.3
PLCA *e*pP PcP 16 59 50.0 +4.3
NEW Newport 94.75 39 LR LR 17 33 24.9
comp=Z,179nm,21.7s,baz=235,slow=30
GO06 Curarrehue 94.81 136 P P 16 59 45.3 -0.5
SRU San Rafael Swe 94.95 50 P P 16 59 46.0 -0.3
SRU pmax pmax
comp=Z,12nm,1.2s
SRU San Rafael Swe 94.95 50 P P 16 59 46.0 -0.3
TCUT Toone Canyon 95.18 48 P P 16 59 47.9 +0.5
BMAR Burnt Mountain 95.22 16 P P 16 59 45.9 -0.8
LENM Lemitar 95.56 55 P P 16 59 48.8 -0.4
PV09 Paradox Valley 95.69 51 P P 16 59 50.5 +0.7
PV14 Lion Creek, Pa 95.72 51 P P 16 59 50.3 +0.5
PV19 Morning Glory 95.72 51 P P 16 59 49.9 +0.1
PV20 West Nyswonger 95.74 51 P P 16 59 50.3 +0.4
PV04 Paradox Valley 95.81 51 P P 16 59 50.9 +0.7
MCMT McKenzie Canyo 95.81 44 P P 16 59 50.9 +0.7
PV21 Cone Mtn., Par 95.83 51 P P 16 59 51.8 +1.4
MNTX Cornudas Mount 95.84 58 P P 16 59 50.9 +0.6
baz=247
MNTX Cornudas Mount 95.84 58 P P 16 59 50.8 +0.5
PV12 Saucer Basin, 95.85 51 P P 16 59 51.2 +0.7
PV01 Paradox Valley 95.94 51 P P 16 59 51.0 0.0
PV22 Blue Mesa, Par 95.95 51 P P 16 59 51.0 +0.1
DLMT Dillon 96.20 43 P P 16 59 52.5 +0.7
ANMO Albuquerque 96.25 55 P P 16 59 52.6 +0.3
baz=247
ANMO Albuquerque 96.25 55 *c i*P P 16 59 53.9 +1.5
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 96.25 55 P P 16 59 53.1 +0.7
comp=Z,3.3nm,0.9s,baz=238,slow=4.3,SNR=5.5
ANMO Albuquerque 96.25 55 P P 16 59 52.7 +0.3
TX31 Lajitas Ar. Si 96.31 61 P P 16 59 53.4 +0.7
TX32 Lajitas Array 96.31 61 P P 16 59 53.0 +0.3
TXAR Lajitas Array 96.32 61 P P 16 59 53.8 +1.2
comp=Z,3.0nm,1.1s,baz=220,slow=4.9,SNR=10
TXAR PKKPbc PKKPbc 17 16 37.5 -0.8
comp=Z,0.9nm,0.6s,baz=80,slow=2.6,SNR=6.7
TXAR LR LR 17 33 57.0
comp=Z,322nm,22.0s,baz=0.0,slow=30
TXAR Lajitas Array 96.32 61 P P 16 59 53.2 +0.6
TXAR PKKPbc 17 16 37.9 -0.4
TPAW Teton Pass 96.48 46 P P 16 59 54.5 +1.2
FXWY Fox Creek 96.49 45 P P 16 59 53.7 +0.4
REDW Red Top Meadow 96.49 46 P P 16 59 52.5 -0.8
EPYK Eagle Plains 96.59 19 P P 16 59 54.1 +1.2
baz=227
EPYK Eagle Plains 96.59 19 P P 16 59 53.6 +0.6
EPYK pP pP 17 00 19.0 -1.9
EPYK IAmb IAmb 17 00 25.1
comp=Z,29nm,1.4s
IMW Indian Meadow 96.66 45 P P 16 59 54.6 +0.5
QLMT Earthquake Lak 96.73 44 P P 16 59 56.3 +2.0
FLWY Flagg Ranch 96.89 45 P P 16 59 56.8 +1.7
YHL Hebgen Lake 96.90 44 P P 16 59 57.3 +2.2
BOZ Bozeman (W) 96.92 44 P P 16 59 55.8 +0.7
baz=245
BOZ Bozeman (W) 96.92 44 P P 16 59 56.3 +1.3
BOZ pmax pmax
comp=Z,10.0nm,1.4s
BOZ Bozeman (W) 96.92 44 P P 16 59 56.3 +1.3
O20A White River Ci 96.97 50 P P 16 59 55.5 0.0
baz=247
S22A 4UR Ranch, Cre 97.06 52 P P 16 59 55.9 -0.2
baz=247
S22A 4UR Ranch, Cre 97.06 52 P Pdif 16 59 56.3 +0.1
YHH Holmes Hill 97.08 44 P Pdif 16 59 57.5 +1.4
BW06 Boulder Array 97.12 47 P Pdif 16 59 56.3 +0.1
baz=246
PD31 Pinedale Array 97.12 47 P Pdif 16 59 56.5 +0.3
PDAR Pinedale Array 97.12 47 P Pdif 16 59 57.0 +0.8
comp=Z,1.1nm,0.8s,baz=248,slow=4.0,SNR=6.8
PDAR PP PP 17 03 52.0 -1.9
comp=Z,1.3nm,1.0s,baz=242,slow=6.4,SNR=5.6
PDAR PKKPbc PKKPbc 17 16 34.6 -2.3
comp=Z,1.0nm,0.9s,baz=84,slow=6.8,SNR=3.8
PDAR PKPPKP P'P'df 17 24 51.4 +1.8
comp=Z,1.0nm,0.9s,baz=111,slow=3.3,SNR=6.3
PDAR LR LR 17 41 16.5
comp=Z,139nm,18.0s,baz=234,slow=34
PDAR Pinedale Array 97.12 47 P P 16 59 56.0 -0.1
PDAR PP 17 03 51.5 -2.4
PDAR PKKPbc 17 16 34.0 -3.0

PDAR					P'P'df	17 24 47.4	-2.1
SDCO	**Great Sand Dun**	**98.03**	**53**	P	**P**	**17 00 00.3**	**-0.1**
	baz=248						
RLMT	**Red Lodge**	**98.25**	**45**	P	Pdif	17 00 01.7	+0.5
	baz=247						
TIXI	**Tiksi**	**98.25 347**		⇓eP	**P**	**17 00 00.1**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**98.25 347**		PKKPbc	PKKPbc	17 16 30.4	-4.1
	comp=Z,0.8nm,0.5s,baz=0.0,slow=24,SNR=4.8						
TIXI	**Tiksi**	**98.25 347**		P	Pdif	17 00 00.3	+0.1
TIXI				IAmb	IAmb	17 03 58.7	
	comp=Z,27nm,2.0s						
T25A	**Trinidad**	**98.61**	**53**	P	Pdif	17 00 03.1	+0.1
	baz=248						
MSTX	**Muleshoe**	**98.72**	**57**	P	Pdif	17 00 03.9	+0.5
	baz=249						
INK	**Inuvik**	**98.81**	**18**	P	Pdif	17 00 03.4	+0.6
	comp=Z,1.1nm,0.7s,baz=236,slow=7.3,SNR=2.8						
N23A	**Red Feather La**	**98.88**	**50**	P	Pdif	17 00 04.6	+0.4
	baz=248						
WMQ	**Urumqi**	**100.95 313**		*e*P	**Pdif**	**17 00 13.3**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,60nm,4.3s						
WMQ				LR	LR		
	comp=Z,150nm,28.9s						
WMQ				LR	LR		
	comp=Z,1μm,29.1s						
WMQ				LR	LR		
	comp=Z,420nm,26.9s						
C36M	**Paulatuk**	**102.20**	**19**	P	**Pdif**	**17 00 19.2**	**+1.4**
	baz=239						
MK31	**Makanchi Array**	**105.50 315**		*i* P	**Pdif**	**17 00 34.0**	**+0.9**
MK31	**Makanchi Array**	**105.50 315**			**Pdif**	**17 00 34.0**	**+0.9**
MKAR	**Makanchi Array**	**105.50 315**		*i* P	**Pdif**	**17 00 31.5**	**-1.6**
MKAR	**Makanchi Array**	**105.50 315**		Pdiff	**Pdif**	**17 00 33.4**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=88,slow=5.5,SNR=14						
MKAR				PKiKP	**PKiKP**	**17 04 47.0**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=136,slow=3.6,SNR=3.5						
MKAR				PKKPbc	**PKKPbc**	**17 16 10.2**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=259,slow=2.9,SNR=12						
MKAR	**Makanchi Array**	**105.50 315**			**Pdif**	**17 00 31.5**	**-1.6**
MKAR					**PKKPbc**	**17 16 09.5**	**-2.9**
ZAA0	**Zalesovo Array**	**105.93 322**			**Pdif**	**17 00 34.8**	**0.0**
ZALV	**Zalesovo Beam**	**105.93 322**		*i* P	**Pdif**	**17 00 34.5**	**-0.3**
ZALV	**Zalesovo Beam**	**105.93 322**		Pdiff	**Pdif**	**17 00 35.4**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=121,slow=5.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**105.93 322**			**Pdif**	**17 00 34.5**	**-0.3**
KSH	**Kashi**	**108.06 306**		*e*Pdif	**Pdif**	**17 00 49.1**	**+4.3**
KURK	**Kurchatov**	**108.83 318**		*i* P	**Pdif**	**17 00 48.9**	**+1.2**
KURK	**Kurchatov**	**108.83 318**		Pdif	**Pdif**	**17 00 48.9**	**+1.2**
KURBB	**Kurchatov Arra**	**108.86 318**		PKKPbc	PKKPbc	17 15 58.3	-3.6
	comp=Z,2.7nm,0.9s,baz=281,slow=4.0,SNR=11						
BRVK	**Borovoye**	**114.29 320**		⇓*i*PKIKP	**PKiKP**	**17 05 03.2**	**+0.8**
BOSA	**Boshof**	**119.82 214**		PKP	**PKPdf**	**17 05 14.1**	**0.0**
	comp=Z,16nm,0.8s,baz=141,slow=2.1,SNR=13						
SVE	**Sverdlovsk**	**119.88 324**		*e*PKIKP	**PKiKP**	**17 05 14.0**	**+0.9**
JUQB	**Juquia**	**120.06 138**		*e*P	**PKiKP**	**17 05 15.1**	**+0.5**
JUQB	**Juquia**	**120.06 138**		*e*P	**PKiKP**	**17 05 15.1**	**+0.5**
ABKAR	**Akbulak array**	**120.64 315**			**PKPdf**	**17 05 13.5**	**-1.2**
ABKAR	**Akbulak array**	**120.64 315**			**PKPdf**	**17 05 13.3**	**-1.4**
ARU	**Arti**	**121.06 323**		*i* PKIKP	**PKiKP**	**17 05 15.7**	**+0.3**
ARU						17 06 46.2	
ARU						17 12 18.1	
ARU				SS	SS	17 23 08.5	-1.9
ARU	**Arti**	**121.06 323**			**PKPdf**	**17 05 14.8**	**-0.5**
UOSS	**Minazif**	**121.28 286**		P	**PKiKP**	**17 05 17.2**	**+0.4**
UOSS	**Minazif**	**121.28 286**			**PKPdf**	**17 05 16.1**	**-0.7**
RBK	**Rabkut**	**121.31 277**		P	**PKiKP**	**17 05 18.5**	**+1.4**
	SNR=6.1						
HATD	**Hatta, Dubai**	**121.32 286**		P	**PKiKP**	**17 05 17.8**	**+0.8**
	SNR=5.5						
ASHO	**Ashiyiah**	**121.36 286**		P	**PKiKP**	**17 05 17.8**	**+0.8**
	SNR=5.6						
GEYT	**Alibeck**	**121.56 302**		PKP	**PKPdf**	**17 05 16.3**	**-0.6**
	comp=Z,5.6nm,0.7s,baz=235,slow=5.2,SNR=13						
GEYT	**Alibeck**	**121.56 302**			**PKPdf**	**17 05 16.0**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**121.56 302**			**PKPdf**	**17 05 16.0**	**-0.9**
WHFO	**Wadi Hawf**	**121.82 278**		P	**PKiKP**	**17 05 19.1**	**+1.0**
ABTO	**Aybut**	**122.11 277**		P	**PKiKP**	**17 05 20.2**	**+1.5**
	SNR=6.0						
LBTB	**Lobatse**	**122.50 217**		PKIKP	**PKPdf**	**17 05 18.9**	**-0.4**
LBTB	**Lobatse**	**122.50 217**			**PKPdf**	**17 05 18.9**	**-0.4**
PTGA	**Pitinga**	**124.78 107**		PKP	**PKPdf**	**17 05 22.0**	**-1.8**
	comp=Z,1.5nm,0.4s,baz=264,slow=2.2,SNR=5.7						
PDPR	**Patillas Dam,**	**126.00**	**83**		**PKPdf**	**17 05 24.7**	**-1.2**
PRGR	**Permogore**	**126.31 331**		*e*PKIKP	**PKPdf**	**17 05 20.7**	**-4.5**
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
APA	**Apatity**	**127.89 341**		⇑*i*PKIKP	**PKiKP**	**17 05 35.8**	**+7.1**
APA				*i* *PP	**sPKPdf**	**17 06 04.0**	**-4.5**
APA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,600nm,27.0s						
LSZ	**Lusaka**	**128.20 227**		PKIKP	**PKPdf**	**17 05 30.2**	**-0.2**
LSZ	**Lusaka**	**128.20 227**			**PKPdf**	**17 05 30.2**	**-0.2**
KIBK	**Kibwezi**	**128.47 248**		P	**PKiKP**	**17 05 33.8**	**+2.2**
	SNR=7.6						
ARCES	**ARCESS Array B**	**128.63 345**		PKIKP	**PKPdf**	**17 05 28.6**	**-0.9**
ARCES	**ARCESS Array B**	**128.63 345**		PKP	**PKPdf**	**17 05 27.7**	**-1.8**
	comp=Z,3.6nm,0.8s,baz=34,slow=0.4,SNR=9.6						
ARCES	**ARCESS Array B**	**128.63 345**			**PKPdf**	**17 05 28.6**	**-0.9**
WIN	**Windhoek**	**128.91 211**		PKIKP	**PKPdf**	**17 05 32.1**	**+0.4**
WIN	**Windhoek**	**128.91 211**			**PKPdf**	**17 05 32.1**	**+0.4**
KLMR	**Klimovskoe**	**129.32 332**		*e*PKIKP	**PKPdf**	**17 05 30.8**	**-0.2**
KLMR				*e*		17 07 41.3	
KLMR				pmax	pmax		
	comp=Z,28nm,1.4s						
KLMR	**Klimovskoe**	**129.32 332**		*e*PKPdf	**PKPdf**	**17 05 30.8**	**-0.2**
KLMR				AMP		17 05 33.2	
	comp=Z,28nm,1.4s						
KLMR				*e*PP	**PP**	**17 07 41.3**	**0.0**
AKT	**Akhty**	**129.60 306**		*i* PKIKP	**PKiKP**	**17 05 32.8**	**-0.2**
AKT				*e*		17 07 45.9	
AKT				pmax	pmax		
	comp=Z,20nm,1.4s						
MAK	**Makhachkala**	**129.64 308**		*e*P	**Pdif**	**17 02 19.0**	**-1.5**
MAK				*i*		17 05 32.3	
MAK				*e*		17 07 41.4	
MAK				pmax	pmax		
	comp=Z,196nm,1.2s						
KMBO	**Kilima Mbogo**	**129.77 248**		P	**PKiKP**	**17 05 36.5**	**+2.1**
	SNR=9.7						
KMBO	**Kilima Mbogo**	**129.77 248**		PKP	**PKiKP**	**17 05 35.0**	**+0.6**
	comp=Z,18nm,1.1s,baz=64,slow=2.7,SNR=21						
KMBO				SKPbc	SKPbc	17 08 50.2	+4.2
	comp=Z,6.6nm,0.9s,baz=49,slow=5.5,SNR=12						
KMBO	**Kilima Mbogo**	**129.77 248**			**PKiKP**	**17 05 34.4**	**0.0**
KMBO					SKPbc	17 08 49.7	+3.7
RAYN	**Ar Rayn**	**130.61 282**		PKIKP	**PKPdf**	**17 05 34.2**	**-0.5**
RAYN	**Ar Rayn**	**130.61 282**			**PKPdf**	**17 05 34.2**	**-0.5**
GROC	**Groznyy**	**130.85 308**		*i* PKIKP	**PKPdf**	**17 05 34.2**	**-0.2**
GROC				pmax	pmax		
	comp=Z,44nm,1.5s						
TSUM	**Tsumeb**	**131.51 214**			**PKPdf**	**17 05 36.6**	**-0.1**
GNI	**Garni**	**131.97 304**		⇑*i*PKIKP	**PKiKP**	**17 05 40.0**	**+2.1**
KIV	**Kislovodsk**	**132.98 310**		*i* PKIKP	**PKiKP**	**17 05 39.8**	**0.0**
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
LPSR	**Galich'ya Gora**	**133.04 322**		*e*PKIKP	**PKPdf**	**17 05 36.1**	**-2.2**
LPSR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN	**Obninsk**	**133.31 326**		*i* PKIKP	**PKiKP**	**17 05 42.5**	**+2.6**
OBN				*i*		17 08 11.2	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VSR	**Storozhevoye**	**133.39 320**		*e*PKIKP	**PKPdf**	**17 05 38.2**	**-0.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
FINES	**FINESS Array B**	**134.30 338**		PKHKP	PKPpre	17 05 31.7	
FINES	**FINESS Array B**	**134.30 338**		PKhKP	PKPpre	17 05 31.9	
	comp=Z,0.6nm,0.4s,baz=113,slow=3.6,SNR=5.1						
FINES				SKPbc	**SKPbc**	**17 08 57.4**	**-2.6**
	comp=Z,4.7nm,0.8s,baz=56,slow=4.8,SNR=6.9						
FINES	**FINESS Array B**	**134.30 338**			PKPpre	17 05 31.7	
FINES					**SKPbc**	**17 08 56.6**	**-3.4**
NBPN	**Ponto Novo - B**	**134.59 133**		*e*P	**PKiKP**	**17 05 44.3**	**+0.4**
NBPN	**Ponto Novo - B**	**134.59 133**		*e*P	**PKiKP**	**17 05 44.3**	**+0.4**
SOC	**Sochi**	**135.16 310**		*e*PKIKP	**PKPdf**	**17 05 41.4**	**-1.1**
SOC				*e*		17 08 16.1	
SOC				*e*		17 12 39.4	
SOC				*e*PS	PS	17 18 35.8	-7.3
SOC				*e*SS	SS	17 25 58.3	-7.3
SOC				*e*SSS	SSS	17 31 08.3	
AKASG	**Malin Array Be**	**139.31 323**		PKHKP	PKPpre	17 05 39.6	
AKASG						17 05 50.2	
AKASG	**Malin Array Be**	**139.31 323**		PKhKP	PKPpre	17 05 41.7	
	comp=Z,1.4nm,0.7s,baz=64,slow=2.9,SNR=5.0						
AKASG				PP	**PP**	**17 08 43.6**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=55,slow=6.8,SNR=4.5						
AKASG				SKPbc	**SKPbc**	**17 09 13.1**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=52,slow=3.2,SNR=5.9						
AKASG	**Malin Array Be**	**139.31 323**			PKPpre	17 05 39.6	
AKASG				PKPdf	**PKPdf**	**17 05 50.2**	**+0.3**
AKASG					**SKPbc**	**17 09 12.5**	**-2.7**
AKBB	**Malin Array Si**	**139.31 323**		PKHKP	PKPpre	17 05 43.6	
AKBB						17 05 48.9	
AKBB	**Malin Array Si**	**139.31 323**			PKPpre	17 05 43.6	
AKBB				PKPdf	**PKPdf**	**17 05 48.9**	**-1.1**
BRTR	**Keskin Array B**	**140.45 306**		PKIKP	**PKPdf**	**17 05 47.8**	**-4.8**
BRTR	**Keskin Array B**	**140.45 306**		PKhKP	PKPpre	17 05 47.4	
	comp=Z,4.6nm,0.9s,baz=105,slow=1.2,SNR=13						
BRTR				PP	**PP**	**17 08 53.7**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=100,slow=6.9,SNR=5.4						
BRTR	**Keskin Array B**	**140.45 306**			PKPpre	17 05 47.8	
BRTR					PP	17 08 43.8	-8.9
CSS	**Mathiatis**	**141.56 298**			**PKPdf**	**17 05 52.7**	**-1.9**
TOPG	**Topolog**	**142.49 316**		⇑P	**PKPdf**	**17 05 53.0**	**-2.9**
LVV	**L'vov**	**142.59 325**		*e*PKIKP	**PKPdf**	**17 05 53.1**	**-2.8**
TIRR	**Tirgusor**	**142.64 315**		⇑PKIKP	**PKPdf**	**17 05 54.3**	**-1.8**
TIRR	**Tirgusor**	**142.64 315**		⇑P	**PKPdf**	**17 05 54.3**	**-1.8**
TIRR	**Tirgusor**	**142.64 315**		⇑P	**PKPdf**	**17 05 54.3**	**-1.8**
TLB	**Topalu**	**142.83 315**		⇑PKIKP	**PKPdf**	**17 05 55.4**	**-1.1**
TLB	**Topalu**	**142.83 315**		⇑P	**PKPdf**	**17 05 55.4**	**-1.1**
TESR	**Tescani**	**142.85 319**		⇑P	**PKPdf**	**17 05 52.8**	**-3.7**
VRI	**Vrincioaia**	**143.10 318**		⇑PKIKP	PKPbc	17 05 54.3	+0.1
VRI	**Vrincioaia**	**143.10 318**		⇑P	PKPbc	17 05 54.3	+0.1
BUR08	**Bucovina Ar. S**	**143.14 321**			PKPbc	17 05 54.8	+0.4
BURAR	**Bucovina Array**	**143.15 321**			PKPbc	17 05 55.1	+0.7
PLOR	**Plostina**	**143.16 318**		⇑PKIKP	PKPbc	17 05 53.7	-0.7
PLOR	**Plostina**	**143.16 318**		⇑P	PKPab	17 05 53.7	+0.8
PGOR	**Pogoanele**	**143.37 318**		⇑P	PKPbc	17 05 55.4	+0.5
KWP	**Kalwaria Pacla**	**143.40 326**		PKIKP	PKPbc	17 05 55.2	+0.3
KWP	**Kalwaria Pacla**	**143.40 326**		*e*PKP	PKPbc	17 05 56.1	+1.3
KWP				*e*PKP	PKPbc	17 05 56.1	+1.3
KWP	**Kalwaria Pacla**	**143.40 326**			PKPbc	17 05 55.2	+0.4
BUY	**Buyukada**	**143.47 309**		*i* P	PKPab	17 05 54.6	+0.4
BUY				IAML_P			
	comp=Z,584nm,0.4s						
OZUR		**143.57 319**		⇓P	PKPbc	17 05 56.1	+0.6
ULDT	**Uludag**	**143.68 308**		*i* P	PKPbc	17 05 56.4	+0.2
ULDT				IAML_P			
	comp=Z,236nm,0.6s						
MLR	**Muntele Rosu**	**143.76 318**		PKIKP	PKPab	17 05 55.6	+0.2
MLR	**Muntele Rosu**	**143.76 318**			PKPab	17 05 55.6	+0.2
PRD	**Provadia**	**143.82 314**		P	PKPbc	17 05 56.5	+0.3
SECR		**143.90 317**		⇓P	PKPbc	17 05 57.0	+0.6
KHAL	**Karahalli**	**143.92 305**		*i* P	PKPbc	17 05 57.1	+0.2
KHAL				IAML_P			
	comp=Z,401nm,0.4s						
SULR		**143.94 316**		⇑P	PKPbc	17 05 56.7	+0.2
PLAR	**PLOIESTI**	**143.98 317**		⇑P	**PKPdf**	**17 05 58.7**	**+0.2**
ELL	**Elmali**	**143.99 302**		PKIKP	PKPab	17 05 56.7	+0.1
ELL	**Elmali**	**143.99 302**			PKPab	17 05 56.7	+0.1
KOLS	**Kolonicke sedl**	**144.04 325**		*e*PKIKP	**PKPdf**	**17 05 57.9**	**-0.6**
KOLS	**Kolonicke sedl**	**144.04 325**		*e*PKP	**PKPdf**	**17 05 57.9**	**-0.6**
USAK	**Uak-Merkez**	**144.18 306**		*i* P	**PKPab**	**17 05 57.3**	**+0.2**
USAK				IAML_P			
	comp=Z,742nm,0.4s						
UZH	**Uzhgorod**	**144.21 325**		⇑*i*PKIKP	**PKPab**	**17 05 56.3**	**-0.5**
RAZG	**Razgrad**	**144.26 315**		⇑P	PKPbc	17 05 57.7	+0.1
SGRR	**Singureni**	**144.32 316**		⇑P	**PKPdf**	**17 05 59.9**	**+0.8**
DURS	**Dursunbey**	**144.33 307**		*i* P	PKPbc	17 05 58.4	+0.3
DURS				IAML_P			
	comp=Z,3μm,0.5s						
VOIR		**144.34 318**		⇑PKIKP	PKPbc	17 05 58.3	+0.4
VOIR		**144.34 318**		⇑P	PKPbc	17 05 58.3	+0.4
TRPA	**Tarpa**	**144.37 324**		⇑P	PKPbc	17 05 58.0	+0.2
OJC	**Ojcow**	**144.49 329**		*e*PKIKP	**PKPab**	**17 05 57.5**	**-0.4**
OJC	**Ojcow**	**144.49 329**		*e*PKP	**PKPab**	**17 05 57.5**	**-0.4**
OJC				*e*PKP	**PKPab**	**17 05 57.5**	**-0.4**
OJC	**Ojcow**	**144.49 329**			**PKPab**	**17 05 57.7**	**-0.2**
KULA	**Kula-Manisa**	**144.51 306**		P	**PKPab**	**17 05 58.4**	**0.0**
KIRK	**Kırklareli**	**144.57 312**		*i* P	PKPbc	17 05 59.1	+0.5
KIRK				IAML_P			
	comp=Z,2μm,0.9s						
MANT	**Manisa**	**144.59 306**		*i* P	PKPbc	17 05 59.2	+0.1
MANT				IAML_P			
	comp=Z,2μm,1.0s						
MANT	**Manisa**	**144.59 306**			PKPbc	17 05 59.1	0.0
JMB	**Yambol**	**144.66 313**		P	PKPbc	17 05 59.0	+0.1
BALB	**Balikesir**	**144.75 308**			**PKPab**	**17 05 58.7**	**-0.5**
NIE	**Niedzica**	**144.76 327**		*e*PKIKP	**PKPdf**	**17 05 59.9**	**+0.1**
NIE	**Niedzica**	**144.76 327**		*e*PKP	**PKPdf**	**17 05 59.9**	**+0.1**
NIE				*e*PKP	**PKPdf**	**17 05 59.9**	**+0.1**
SZH	**Strazhica**	**144.76 314**		P	PKPbc	17 05 59.3	+0.1
EDRB	**Edirne**	**144.79 312**		P	**PKPab**	**17 05 58.7**	**-0.5**
SART	**Tekirdag**	**144.91 310**		*i* P	**PKPdf**	**17 06 00.8**	**+0.4**
SART				IAML_P			
	comp=Z,5μm,0.9s						
BALY	**Balya**	**144.91 308**		*i* P	PKPbc	17 05 59.8	0.0
BALY				IAML_P			
	comp=Z,3μm,0.9s						
STEP	**BALIKESIR_Sava**	**144.95 307**		*i* P	PKPbc	17 05 60.0	0.0
STEP				IAML_P			
	comp=Z,2μm,0.9s						
ZIMR		**144.97 315**		⇑PKIKP	**PKPdf**	**17 06 01.5**	**+1.3**
ZIMR		**144.97 315**		⇑P	**PKPdf**	**17 06 01.5**	**+1.3**
AKHS	**Akhisar**	**145.03 306**		*i* P	**PKPdf**	**17 06 01.0**	**+0.4**
AKHS				IAML_P			
	comp=Z,3μm,1.0s						
YER	**Yerkesik**	**145.16 303**		P	**PKPbc**	**17 06 00.2**	**-0.5**
KESN	**Edirne-Kesan**	**145.22 310**		*i* P	**PKPbc**	**17 06 00.2**	**-0.9**
KESN				IAML_P			
	comp=Z,304nm,0.5s						
KECS	**Kecovo**	**145.26 326**		*e*PKIKP	**PKPab**	**17 06 00.9**	**+0.1**
KECS	**Kecovo**	**145.26 326**		*e*PKP	**PKPab**	**17 06 00.9**	**+0.1**
LANS	**Liptovska Anna**	**145.35 327**		*e*PKIKP	**PKPab**	**17 06 01.3**	**+0.1**
LANS	**Liptovska Anna**	**145.35 327**		*e*PKP	**PKPab**	**17 06 01.3**	**+0.1**
VLAD	**Vladila**	**145.43 316**		⇑P	**PKPdf**	**17 06 00.7**	**-0.4**
OKC	**Ostrava-Krasne**	**145.54 329**		*e*PKP2	**PKPab**	**17 06 02.0**	**+0.2**
OKC	**Ostrava-Krasne**	**145.54 329**		*e*PKP	**PKPab**	**17 06 02.0**	**+0.2**
OKC				*ex*	x	17 06 08.6	
ZEDA	**zmir-Bergama**	**145.56 307**		*i* P	**PKPdf**	**17 06 01.1**	**-0.3**
ZEDA				IAML_P			
	comp=Z,74nm,0.1s						
PLVB	**Pleven**	**145.57 315**		⇓P	**PKPab**	**17 06 02.0**	**-0.1**
ALN	**Alexandroupoli**	**145.64 311**		P	**PKPdf**	**17 06 01.6**	**+0.1**
ALN	**Alexandroupoli**	**145.64 311**		PKIKP	**PKPdf**	**17 06 00.6**	**-0.9**
ALN	**Alexandroupoli**	**145.64 311**			**PKPdf**	**17 06 00.6**	**-0.9**
KSP	**Ksiaz**	**145.67 332**		*e*PKP2	**PKPbc**	**17 06 01.7**	**-0.1**
KSP	**Ksiaz**	**145.67 332**		*e*PKP	**PKPbc**	**17 06 01.7**	**-0.1**
KSP				*e*PKP	**PKPbc**	**17 06 01.7**	**-0.1**
KDZ	**Kurdzhali**	**145.78 312**		P	**PKPbc**	**17 06 02.4**	**0.0**
GCAM	**G?zelcaml?**	**145.81 305**		*i* P	**PKPab**	**17 06 03.1**	**-0.1**
GCAM				IAML_P			
	comp=Z,3μm,0.8s						
EZN	**Ezine**	**145.82 309**		P	**PKPdf**	**17 06 02.1**	**+0.3**
SRE	**Strehaia**	**145.86 318**		⇑PKP2	**PKPab**	**17 06 03.4**	**+0.2**
SRE	**Strehaia**	**145.86 318**		⇑P	**PKPab**	**17 06 03.4**	**+0.2**
MORC	**Moravsky Berou**	**145.87 330**		PKP2	**PKPdf**	**17 06 01.5**	**-0.2**
MORC	**Moravsky Berou**	**145.87 330**		*e*PKP	**PKPdf**	**17 06 02.0**	**+0.3**
MORC	**Moravsky Berou**	**145.87 330**			**PKPdf**	**17 06 01.6**	**-0.2**
RDO	**Rodhopi**	**145.90 311**		P	**PKPdf**	**17 06 02.0**	**+0.1**
PSZ	**Piszkesteto**	**145.92 325**		⇑PKIKP	**PKPdf**	**17 06 01.5**	**-0.4**
PSZ	**Piszkesteto**	**145.92 325**		⇑P	**PKPdf**	**17 06 01.5**	**-0.4**
PSZ	**Piszkesteto**	**145.92 325**			**PKPdf**	**17 06 01.0**	**-0.9**
SIRR	**Siria**	**145.93 322**		⇓P	**PKPbc**	**17 06 03.0**	**+0.2**
BODT	**Bodrum**	**145.93 304**		P	**PKPdf**	**17 06 02.5**	**+0.3**
CHVC	**Chvalec**	**145.96 332**		*e*PKP	**PKPbc**	**17 06 02.3**	**-0.4**
BOZC	**Bozcaada**	**146.01 309**		*i* P	**PKPdf**	**17 05 56.4**	**-5.8**
BOZC				IAML_P			
	comp=Z,482nm,0.4s						
DPC	**Dobruska-Polom**	**146.01 331**		*e*PKP2	**PKPbc**	**17 06 02.5**	**-0.4**
DPC	**Dobruska-Polom**	**146.01 331**		*e*PKP	**PKPbc**	**17 06 02.5**	**-0.4**
DPC				*ep*PKP	**pPKPdf**	**17 06 30.6**	**-1.0**
UPC	**Upice**	**146.04 332**		*e*PKP2	**PKPab**	**17 06 04.1**	**+0.5**
UPC	**Upice**	**146.04 332**		*e*PKP	**PKPab**	**17 06 04.1**	**+0.5**
PRK	**Paraskevi**	**146.06 308**		P	**PKPab**	**17 06 03.9**	**-0.2**
VYHS	**Vyhne**	**146.10 327**		*e*PKP2	**PKPbc**	**17 06 03.5**	**+0.3**
VYHS	**Vyhne**	**146.10 327**		*e*PKP	**PKPbc**	**17 06 03.5**	**+0.3**
URLA	**Izmir**	**146.10 306**		*i* P	**PKPdf**	**17 06 00.7**	**-1.7**
URLA				IAML_P			
	comp=Z,50nm,0.1s						
SMTH	**Samothraki Isl**	**146.16 310**		P	**PKPdf**	**17 06 02.7**	**+0.3**
PGB	**Panagyurishte**	**146.25 314**		P	**PKPbc**	**17 06 04.3**	**+0.4**
RZN	**Rozhen**	**146.25 313**		P	**PKPbc**	**17 06 03.5**	**-0.6**
SIGR	**SIGRI**	**146.37 308**		P	**PKPdf**	**17 06 02.4**	**-0.4**
KARP	**Karpathos**	**146.42 301**			**PKPdf**	**17 06 03.7**	**+0.6**
JAVC	**Velka Javorina**	**146.43 328**		*e*PKP	**PKPab**	**17 06 05.1**	**-0.2**
CHOS	**Chios island**	**146.50 306**		P	**PKPab**	**17 06 06.0**	**+0.1**
LIA	**Limnos Island**	**146.62 309**		P	**PKPbc**	**17 06 04.3**	**-0.6**
BRG	**Berggiesshubel**	**146.63 334**		*i* PKP	**PKPbc**	**17 06 04.1**	**-0.5**
	comp=Z,21nm,1.5s						
BRG				*i*		17 06 07.0	
	comp=Z,569nm,1.2s						
BRG				*es*PKP		17 06 42.2	
	comp=Z,14nm,1.0s						
BRG	**Berggiesshubel**	**146.63 334**		*i* PKP2	**PKPbc**	**17 06 04.1**	**-0.5**
BRG				pmax	pmax		
	comp=Z,21nm,1.5s						
BRG				pmax	pmax		
	comp=Z,569nm,1.2s						
BRG				pmax	pmax		
	comp=N,15nm,1.0s						
VRAC	**Vranov**	**146.63 330**		⇑PKP2	**PKPbc**	**17 06 04.6**	**-0.1**
VRAC	**Vranov**	**146.63 330**		⇑P	**PKPbc**	**17 06 04.6**	**-0.1**
VRAC	**Vranov**	**146.63 330**		*e*PKP	**PKPbc**	**17 06 05.4**	**+0.7**
CLL	**Collm**	**146.67 335**		*i* PKP2	**PKPbc**	**17 06 03.9**	**-0.8**
CLL				pmax	pmax		
	comp=Z,59nm,1.2s						
CLL	**Collm**	**146.67 335**		*i* PKPdf	**PKPbc**	**17 06 03.9**	**-0.8**
CLL				*i* PKPbc	**PKPab**	**17 06 05.4**	**-0.6**
	comp=Z,59nm,1.2s						
CLL				*e*PKPlp		17 06 06.0	
	comp=Z,400nm,18.4s						
CLL				*i* PKiKP	**PKiKP**	**17 06 08.6**	**+1.2**
	comp=Z,30nm,1.0s						
CLL				*es*PKPbc	**sPKPdf**	**17 06 42.0**	**-1.8**
CLL				*e*PP	**PP**	**17 09 30.0**	**+1.3**
CLL				*e*SKPbc	**SKPbc**	**17 09 32.0**	**-1.2**
CLL				*e*PP	PP	17 09 36.0	+7.3
CLL				*ep*PPP		17 13 06.0	
CLL				*e*(SKKSac)		17 16 00.0	
CLL				*e*Sdif	SKKPbc	17 17 54.0	+30
CLL				*e*PSKS		17 19 42.0	
CLL				*e*(pPSKS)		17 20 12.0	
CLL				*e*PPS	PPS	17 22 07.0	
CLL				*e*(pPSPS)		17 29 54.0	

TIR	**Tirane**	**149.64 315**	⇑PKP2		**PKPbc**	**17 06 12.9**	**+0.1**
TIR	**Tirane**	**149.64 315**	⇑P		**PKPbc**	**17 06 12.9**	**+0.1**
TIR	**Tirane**	**149.64 315**			**PKPbc**	**17 06 12.4**	**-0.4**
DRME	**Dracevica, Mon**	**149.65 317**	⇑*i*P		**PKPbc**	**17 06 13.3**	**+0.5**
BRY	**Bratogost**	**149.66 319**	*e*P		**PKPbc**	**17 06 11.9**	**-1.1**
PVO	**Paravola**	**149.73 309**	P		**PKPbc**	**17 06 13.2**	**0.0**
KBA	**Koelnbreinsper**	**149.75 330**	*i* PKPbc		**PKPbc**	**17 06 11.9**	**-1.2**
	comp=Z,39nm,1.3s,SNR=8.9						
JAN	**Janina**	**149.77 311**	P		**PKiKP**	**17 06 14.6**	**+0.4**
DRO	**Drossia**	**149.86 308**	P		**PKiKP**	**17 06 15.2**	**+0.8**
TREB	**Trebinje**	**149.88 319**	*e*P		**PKPdf**	**17 06 10.9**	**+2.4**
BOJS	**Bojanci**	**149.92 326**	*i* PKPbc		**PKiKP**	**17 06 14.8**	**+0.6**
LJU	**Ljubljana**	**149.92 327**	*e*PKPbc		**PKiKP**	**17 06 14.5**	**+0.2**
LJU	**Ljubljana**	**149.92 327**	⇑P		**PKiKP**	**17 06 13.9**	**-0.4**
MYKA	**Terra Mystica**	**149.94 329**	*i* PKPbc		**PKPdf**	**17 06 11.0**	**+2.5**
	comp=Z,28nm,1.1s,SNR=8.5						
HCY	**Herceg Novi**	**149.94 318**	*e*P		**PKPbc**	**17 06 13.9**	**+0.3**
ITM	**Ithomi**	**149.98 306**			**PKPbc**	**17 06 13.6**	**-0.2**
PDO	**Prodromos**	**149.98 309**	P		**PKPbc**	**17 06 13.1**	**-0.7**
DBRK	**Dubrovnik**	**150.03 319**	*i* P		**PKPbc**	**17 06 14.0**	**+0.3**
STU	**Stuttgart**	**150.16 336**	PKP2		**PKiKP**	**17 06 14.7**	**0.0**
STU	**Stuttgart**	**150.16 336**			**PKiKP**	**17 06 14.7**	**0.0**
CEY	**Cerknica**	**150.18 327**	⇑*i*P		**PKiKP**	**17 06 14.9**	**0.0**
STON	**Ston**	**150.18 319**	*i* P		**PKPbc**	**17 06 14.3**	**+0.3**
STON	**Ston**	**150.18 319**	*e*P		**PKPbc**	**17 06 12.5**	**-1.6**
IGT	**Igoumenitsa**	**150.19 312**	P		**PKPbc**	**17 06 13.9**	**-0.3**
UDBI	**Udbina**	**150.29 324**	*i* P		**PKPbc**	**17 06 14.6**	**+0.2**
WATA	**Walderalm**	**150.35 332**	*i* PKPbc		**PKPdf**	**17 06 11.5**	**+2.2**
	comp=Z,43nm,1.6s,SNR=8.3						
ABTA	**Abfaltersbach**	**150.38 330**	*i* PKPbc		**PKPbc**	**17 06 13.2**	**-1.4**
	comp=Z,47nm,1.2s,SNR=12						
WTTA	**Wattenberg**	**150.38 332**	*i* PKiKP		**PKPbc**	**17 06 14.3**	**-0.4**
	comp=Z,56nm,1.2s,SNR=10						
WLF	**Walferdange**	**150.43 341**	PKIKP		**PKPdf**	**17 06 09.3**	**+0.2**
WLF	**Walferdange**	**150.43 341**	PKPdf		**PKPdf**	**17 06 09.3**	**+0.2**
WLF					**PKiKP**	**17 06 14.9**	**-0.3**
RIY	**Rijeka**	**150.44 326**	*i* P		**PKiKP**	**17 06 15.2**	**-0.1**
RIY	**Rijeka**	**150.44 326**	⇑*i*P		**PKiKP**	**17 06 15.4**	**+0.1**
TRI	**Trieste**	**150.53 328**	PKIKP		**PKPdf**	**17 06 09.0**	**-0.3**
TRI	**Trieste**	**150.53 328**	PKPdf		**PKPdf**	**17 06 09.1**	**-0.3**
TRI					**PKiKP**	**17 06 15.6**	**+0.1**
MOTA	**Moosalm**	**150.55 333**	*i* PKPbc		**PKPbc**	**17 06 13.8**	**-1.2**
	comp=Z,41nm,1.1s,SNR=10						
RETA	**Reutte**	**150.55 333**	*i* PKiKP		**PKiKP**	**17 06 15.7**	**0.0**
	comp=Z,15nm,1.1s,SNR=8.1						
SQTA	**Sankt Quirin**	**150.60 332**	*i* PKPbc		**PKPbc**	**17 06 14.0**	**-1.1**
	comp=Z,29nm,0.9s,SNR=9.9						
STAL	**STALIGIAL**	**150.65 329**			**PKPdf**	**17 06 08.9**	**-0.7**
STAL			PKPbc		**PKPbc**	**17 06 15.3**	**+0.2**
MORI	**Morici**	**150.74 323**	*i* P		**PKiKP**	**17 06 16.1**	**+0.1**
HVAR	**Hvar**	**150.74 321**	*i* P		**PKPbc**	**17 06 15.5**	**+0.1**
NVLJ	**Novalja**	**150.75 325**	*i* P		**PKPbc**	**17 06 15.5**	**+0.2**
BFO	**Black Forest**	**150.85 337**	PKIKP		**PKPbc**	**17 06 15.8**	**+0.2**
BFO						17 06 22.9	
BFO	**Black Forest**	**150.85 337**			**PKPbc**	**17 06 15.8**	**+0.2**
BFO			PKPab		**PKPab**	**17 06 22.9**	**-0.2**
ZIRJ	**Zirje**	**150.91 323**	*i* P		**PKiKP**	**17 06 16.4**	**+0.1**
FETA	**Feichten**	**150.96 333**	*i* PKPbc		**PKPbc**	**17 06 14.8**	**-1.3**
	comp=Z,34nm,1.1s,SNR=9.3						
DUGI	**Dugi Otok**	**151.02 324**	*i* P		**PKiKP**	**17 06 16.6**	**0.0**
BRJN	**Brijuni**	**151.10 326**	*i* P		**PKiKP**	**17 06 16.7**	**0.0**
DAVA	**Damuels**	**151.11 334**	*i* PKiKP		**PKPbc**	**17 06 15.8**	**-0.6**
	comp=Z,27nm,1.7s,SNR=6.2						
SCTE	**Santa Cesarea**	**151.20 314**			**PKPbc**	**17 06 15.0**	**-1.6**
SCTE					**PKPab**	**17 06 26.0**	**+1.2**
CTI	**Castel Tesino**	**151.30 330**	PKIKP		**PKPdf**	**17 06 08.7**	**-2.0**
CTI	**Castel Tesino**	**151.30 330**	PKPdf		**PKPdf**	**17 06 08.7**	**-2.0**
CTI					**PKPbc**	**17 06 15.4**	**-1.4**
ECH	**Echery**	**151.36 338**	PKIKP		**PKPbc**	**17 06 16.6**	**-0.2**
ECH						17 06 24.9	
ECH	**Echery**	**151.36 338**			**PKPbc**	**17 06 16.6**	**-0.2**
ECH			PKPab		**PKPab**	**17 06 24.9**	**-0.3**
TUE	**Stuetta**	**151.98 333**			**PKPbc**	**17 06 17.4**	**-1.1**
TUE			PKPab		**PKPab**	**17 06 28.0**	**-0.1**
SGRT	**San Giovanni R**	**152.01 319**			**PKPbc**	**17 06 17.3**	**-1.2**
SGRT			PKPab		**PKPab**	**17 06 28.2**	**-0.1**
ACER	**Acerenza**	**152.45 317**	PKPbc		**PKiKP**	**17 06 19.7**	**0.0**
ACER					**PKPab**	**17 06 29.9**	**-0.2**
TIP	**Timpagrande**	**152.79 314**	P		**PKiKP**	**17 06 21.5**	**+1.0**
TIP	**Timpagrande**	**152.79 314**	⇓P		**PKiKP**	**17 06 21.6**	**+1.1**
TIP	**Timpagrande**	**152.79 314**	PKPdf		**PKPdf**	**17 06 11.9**	**-1.2**
TIP					**PKPbc**	**17 06 20.4**	**0.0**
TIP			PKPab		**PKPab**	**17 06 32.7**	**+1.1**
NRCA	**Norcia**	**152.85 324**	PKPdf		**PKPdf**	**17 06 11.7**	**-1.4**
NRCA					**PKPbc**	**17 06 18.5**	**-1.8**
NRCA			PKPab		**PKPab**	**17 06 32.1**	**+0.4**
MURB	**Monte Urbino**	**152.87 325**	PKPdf		**PKPdf**	**17 06 12.8**	**-0.2**
MURB					**PKPbc**	**17 06 18.8**	**-1.5**
ZCCA	**Zocca**	**152.88 329**			**PKPbc**	**17 06 20.3**	**0.0**
INTR	**Introdacqua**	**152.94 322**	PKPdf		**PKPdf**	**17 06 13.3**	**+0.1**
INTR					**PKPbc**	**17 06 20.3**	**-0.3**
INTR					**PKPab**	**17 06 32.8**	**+0.7**
AQU	**L'Aquila**	**153.01 323**	*e*P		**PKPab**	**17 06 34.4**	**+2.0**
KEST	**Kesra**	**159.60 315**	PKPab		**PKPab**	**17 07 01.4**	**+0.4**
	comp=Z,26nm,0.9s,baz=312,slow=3.5,SNR=17						
KEST	**Kesra**	**159.60 315**	PKPdf		**PKPdf**	**17 06 20.3**	**-1.9**
KEST					**PKPab**	**17 07 01.8**	**+0.8**
PBRG	**Braganca**	**160.56 356**	*e*PKPab		**PKPab**	**17 07 04.9**	**+0.1**
PVRL	**Vila Real**	**161.13 358**	*e*PKPab		**PKPab**	**17 07 07.9**	**+0.6**
MVO	**Moncorvo**	**161.22 357**	*e*PKPab		**PKPab**	**17 07 07.8**	**+0.1**
PVIS	**Viseu**	**161.70 359**	*e*PKPab		**PKPab**	**17 07 09.9**	**+0.1**
MTE	**Manteigas**	**162.00 358**	*e*PKPab		**PKPab**	**17 07 11.5**	**+0.4**
ESDC	**Sonseca Array**	**162.34 349**	PKPab		**PKPab**	**17 07 11.3**	**-1.3**
	comp=Z,6.6nm,1.0s,baz=12,slow=3.9,SNR=14						
ESDC			PP		**PP**	**17 10 56.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=14,slow=5.9,SNR=3.0						
ESDC	**Sonseca Array**	**162.34 349**	PKPdf		**PKPdf**	**17 06 23.4**	**-1.5**
ESDC					**PKPab**	**17 07 10.5**	**-2.1**
PCBR	**Castelo Branco**	**162.56 358**	*e*PKPab		**PKPab**	**17 07 14.2**	**+0.7**
PTOM	**Tomar**	**162.80 0**	*e*PKPab		**PKPab**	**17 07 14.7**	**+0.2**
LIC	**Lamto**	**163.63 192**	*e*PKP2		**PKPab**	**17 07 18.6**	**-0.2**
	comp=Z,110nm,1.5s						
KIC	**Kosan Boka**	**163.71 193**	*e*PKP2		**PKPab**	**17 07 19.1**	**0.0**
	comp=Z,55nm,1.0s						
EVO	**Evora**	**163.88 359**	*e*PKPab		**PKPab**	**17 07 20.3**	**+1.0**
DBIC	**Dimbokro**	**164.03 193**	PKIKP		**PKPdf**	**17 06 27.2**	**0.0**
DBIC						17 07 19.9	
DBIC	**Dimbokro**	**164.03 193**	PKPab		**PKPab**	**17 07 19.1**	**-1.5**
	comp=Z,10.0nm,0.7s,baz=155,slow=5.3,SNR=14						
DBIC			PP		**PP**	**17 11 04.0**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=157,slow=10,SNR=3.4						
DBIC	**Dimbokro**	**164.03 193**	PKPdf		**PKPdf**	**17 06 27.2**	**0.0**
DBIC					**PKPab**	**17 07 19.9**	**-0.6**
TIC	**Toumodi**	**164.04 192**	*e*PKP2		**PKPab**	**17 07 20.4**	**-0.2**
PNCL	**Nicolau / Gran**	**164.30 0**	*e*PKPab		**PKPab**	**17 07 23.3**	**+2.1**
MESJ	**Messejana**	**164.57 359**	*e*PKPab		**PKPab**	**17 07 22.7**	**+0.3**
PCVE	**Castro Verde**	**164.78 359**	*e*PKPab		**PKPab**	**17 07 24.8**	**+1.5**
PVAQ	**Vaqueiros**	**165.00 358**	*e*PKPab		**PKPab**	**17 07 25.6**	**+1.3**
MORF	**Marmelete**	**165.10 1**	*e*PKPab		**PKPab**	**17 07 25.7**	**+0.9**
TOA0	**Torodi Ar. Sit**	**166.73 228**	P		**PKPdf**	**17 06 30.4**	**+1.0**
	SNR=7.0						
TOA0	**Torodi Ar. Sit**	**166.73 228**			**PKPdf**	**17 06 28.8**	**-0.6**
TOA0					**PKPab**	**17 07 31.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**166.73 228**	PKP		**PKPdf**	**17 06 29.2**	**-0.2**
	comp=Z,14nm,1.1s,baz=155,slow=2.3,SNR=32						
TORD			PKPab		**PKPab**	**17 07 31.8**	**-0.9**
	comp=Z,20nm,1.3s,baz=332,slow=18,SNR=23						
TORD			PP		**PP**	**17 11 18.5**	**-1.7**
	comp=Z,1.9nm,0.9s,baz=152,slow=9.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**166.73 228**			**PKPdf**	**17 06 27.6**	**-1.8**
TORD			PKPab		**PKPab**	**17 07 32.9**	**+0.3**
TORD					**PP**	**17 11 17.1**	**-3.1**
TAM	**Tamanrasset**	**167.14 275**	PKIKP		**PKPdf**	**17 06 29.7**	**0.0**
TAM						17 07 35.2	
TAM	**Tamanrasset**	**167.14 275**			**PKPdf**	**17 06 29.7**	**0.0**
TAM					**PKPab**	**17 07 35.2**	**+0.5**

*ISCJB **07** 16:51:59.0±0.4, 32°.85N±0°.02×35°.59E±0°.04, h14km±3km, Error ellipse: s-maj=5.7km s-min=2.8km az=17.4*
*GII **07** 16:51:58.4±0.2, 32°.85N×35°.58E, h6km±1km, MD1.5/8*
*JSO **07** 16:51:59.7±0.6, 33°N±3°×3°6E±°, h4km±4km, M1.9/6, Mjma2.0/6, ML1.4/5, MLv2.2/6*
*GRAL **07** 16:52:01.4±0.3, 32°.93N×35°.63E, h0km±5km, MD2.7*
ISC 07 16:51:59.3±0.9, 32°.85N±0°.02×35°.61E±0°.03, h12km±8km, n21, σ0°83/35, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.18**	**132**	P	**Pg**	**16 52 02.9**	**-0.4**
KSHT	**Keshet**	**0.22**	**51**	Pg	**Pg**	**16 52 04.1**	**0.0**
MMA0B	**Mount Meron ar**	**0.24**	**315**	Pg	**Pg**	**16 52 03.4**	**-1.1**
MMA0B				Sg	**Sg**	**16 52 07.9**	**-0.1**
KSDI	**Kefar Szold**	**0.35**	**7**	Pg	**Pg**	**16 52 06.0**	**-0.4**
KSDI				Sg	**Sg**	**16 52 12.5**	**+1.4**
KSDI	**Kefar Szold**	**0.35**	**7**	P	**Pb**	**16 52 07.6**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.37**	**253**	Pg	**Pg**	**16 52 05.8**	**-0.9**
BLGI				Sg	**Sg**	**16 52 11.7**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.37**	**7**	Pg	**Pg**	**16 52 07.0**	**+0.3**
GEM				Sg	**Sg**	**16 52 12.8**	**+1.1**
NATI	**Neve Ativ**	**0.43**	**15**	Pg	**Pg**	**16 52 07.2**	**-0.7**
NATI				Sg	**Sg**	**16 52 14.7**	**+1.1**
HNTI	**Hanita**	**0.43**	**303**	Pg	**Pg**	**16 52 07.6**	**-0.4**
HNTI				Sg	**Sg**	**16 52 14.2**	**+0.4**
MMLI	**Mount Malkishu**	**0.43**	**201**	Pg	**Pg**	**16 52 07.4**	**-0.5**
MMLI				Sg	**Sg**	**16 52 14.5**	**+0.8**
MMLI	**Mount Malkishu**	**0.43**	**201**	P	**Pg**	**16 52 07.8**	**-0.1**
MMLI				S	**Sg**	**16 52 14.1**	**+0.4**
SHBL	**Chebaa**	**0.52**	**13**	*e*P	**Pg**	**16 52 09.1**	**-0.4**
SHBL				*e*S	**Sg**	**16 52 14.8**	**-1.5**
OFRI	**`Ofer**	**0.57**	**247**	Pg	**Pg**	**16 52 10.0**	**-0.5**
OFRI				Sg	**Sg**	**16 52 18.2**	**+0.2**
HMDT	**Nahal Hemdat**	**0.59**	**187**	Pg	**Pg**	**16 52 10.4**	**-0.5**
HMDT				Sg	**Sg**	**16 52 19.9**	**+1.1**
RCY	**Rachaya**	**0.68**	**16**	*e*P	**Pg**	**16 52 12.1**	**-0.4**
QRWL	**Qaraoun**	**0.70**	**5**	*e*P	**Pg**	**16 52 12.5**	**-0.5**
QRWL				*e*S	**Sg**	**16 52 20.7**	**-1.6**
SLTI	**Sal'it**	**0.77**	**219**	Pg	**Pg**	**16 52 13.5**	**-0.7**
SLTI				Sg	**Sg**	**16 52 24.8**	**+0.5**
ASF	**Jabal al Asfar**	**1.28**	**121**	P	**Pg**	**16 52 22.5**	**-1.4**
WALJ	**Wala**	**1.29**	**172**	P	**Pg**	**16 52 22.9**	**-1.2**
HWQ	**Hawqa**	**1.46**	**11**	*e*P	**Pn**	**16 52 25.8**	**+0.2**
YTIR	**Yattir**	**1.54**	**196**	Pn	**Pn**	**16 52 26.5**	**-0.1**
YTIR				Sn	**Sn**	**16 52 47.6**	**+1.1**

*ISCJB **07** 17:01:04.5±1.9, 37°.49S±0°.03×73°.72W±0°.05, h11km±11km, mb4.8/42, MS4.8/10, Error ellipse: s-maj=6.9km s-min=4.6km az=150.7*
*IDC **07** 17:01:04.1±0.5, 37°.55S×73°.67W, h0km, mb4.6/21, mb1 4.7/25, mb1mx4.6/40, mbtmp4.6/25, ML4.2/4, MS4.6/8, Ms1 4.6/8, ms1mx4.2/26, Error ellipse: s-maj=19.2km s-min=9.8km az=74.0*
*GUC **07** 17:01:05.8±0.9, 37°.30S×74°.35W, h26km, ML4.9, MW5.0*
*VAO **07** 17:01:06.9±0.7, 37°.44S×73°.70W, h10km, mb5.1*
*BJI **07** 17:01:07.5±0.0, 37°.50S×73°.80W, h26km, mB5.3/8, Ms5.3/10, Ms7 5.0/6*
*MOS **07** 17:01:08.2±1.0, 37°.45S×73°.62W, h33km, mb5.1/6, Error ellipse: s-maj=13.3km s-min=7.3km az=95.0*
*NEIC **07** 17:01:08.4±1.0, 37°.48S±0°.06×73°.6W±0°.1, h26km±3km*
*GCMT **07** 17:01:09.0±0.4, 37°.60S±0°.03×74°.25W±0°.03, h22km±1km, MW5.2/65, Moment Tensor Solution. s30,c35; s65,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.82±.49; $M_{\theta\theta}$-1.37±.26; $M_{\phi\phi}$-5.45±.30; $M_{r\theta}$-1.40±.43; $M_{\theta\phi}$0.90±.15; $M_{\phi r}$-4.03±.42; Best double couple: $M_0$7.49300×10^{16} NP1:ϕ_s183.00000°, δ62.00000°, λ102.00000°. NP2: ϕ_s339.00000°, δ30.00000°, λ69.00000°. Principal axes: T 8.2900, Plg71.0000°, Azm120.0000°; N -1.5940, Plg10.0000°, Azm358.0000°; P -6.6960, Plg16.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 17:01:06.7±0.4, 37°.59S±0°.04×73°.80W±0°.05, h18km±1km, h18km:pP-P, n457, σ1°.96/484, mb5.0/81, MS4.7/10, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.93**	**37**	*i* P	**Pg**	**17 01 24.6**	**-0.1**
CCSP				*e*S	**Sn**	**17 01 38.7**	**+1.1**
CCSP				IAML		17 01 46.0	
	comp=N,64μm,0.5s						
COCH	**Cobquecura**	**1.67**	**30**	⇑*i*P	**Pn**	**17 01 34.0**	**-1.0**
GO06	**Curarrehue**	**2.70**	**138**	*e*P	**Pn**	**17 01 49.2**	**-0.1**
GO06				*e*S	**Sb**	**17 02 26.2**	**-1.2**
GO06				IAML		17 02 40.5	
	comp=N,3μm,0.8s						
GO06	**Curarrehue**	**2.70**	**138**		**Pn**	**17 01 50.5**	**+1.1**
GO05	**Huala**	**2.98**	**31**		**Pn**	**17 01 52.3**	**-0.8**
PLCA	**Paso Flores**	**4.03**	**142**	Pn	**Pn**	**17 02 07.9**	**+0.3**
	comp=N,2.8nm,0.3s,baz=338,slow=11,SNR=70						
PLCA				Pg	**Pb**	**17 02 16.5**	**-0.7**
	comp=N,16nm,0.3s,baz=328,slow=16,SNR=33						
PLCA				Sn	**Sn**	**17 02 54.1**	**-0.3**
	comp=N,28nm,0.3s,baz=294,slow=4.0,SNR=4.9						
PLCA				Lg	Lg	17 03 12.8	
	comp=N,18nm,0.3s,baz=102,slow=21,SNR=3.5						
PLCA	**Paso Flores**	**4.03**	**142**		**Pn**	**17 02 08.5**	**+0.9**
PLCA	**Paso Flores**	**4.03**	**142**	*e*P	**Pn**	**17 02 09.0**	**+1.5**
PLCA	**Paso Flores**	**4.03**	**142**	*e*P	**Pn**	**17 02 09.0**	**+1.5**
PEL	**Peldehue**	**5.11**	**31**	P	**Pn**	**17 02 21.8**	**-0.6**
PEL	**Peldehue**	**5.11**	**31**		**Pn**	**17 02 21.8**	**-0.6**
ROC1	**El Roble**	**5.13**	**27**		**Pn**	**17 02 21.9**	**-1.0**
GO04	**Tololo Observa**	**7.80**	**20**		**Pn**	**17 02 57.8**	**-1.7**
TRQA	**Tornquist**	**9.37**	**96**	P	**Pn**	**17 03 22.7**	**+1.9**
TRQA	**Tornquist**	**9.37**	**96**		**Pn**	**17 03 22.7**	**+1.9**
TRQA	**Tornquist**	**9.37**	**96**	*e*P	**Pn**	**17 03 21.8**	**+1.1**
TRQA	**Tornquist**	**9.37**	**96**	*e*P	**Pn**	**17 03 21.8**	**+1.1**
GO03	**Copiap**	**10.41**	**18**		**Pn**	**17 03 33.1**	**-2.0**
GO02	**Mina Guanaco**	**12.89**	**17**		**Pn**	**17 04 05.7**	**-3.6**
LPA	**La Plata**	**13.09**	**83**	*i* P	Pn	17 04 05.0	-6.6
LPA				PPP	PPP	17 05 02.3	
LPA				S	**Sn**	**17 06 38.5**	**+1.8**
LVC	**Limon Verde**	**15.51**	**17**	P	**Pn**	**17 04 43.5**	**-1.4**
LVC				S	**Sn**	**17 07 42.4**	**+5.9**
LVC				pmax	pmax		
	comp=Z,81nm,1.3s						
LVC	**Limon Verde**	**15.51**	**17**	Pn	**Pn**	**17 04 43.9**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=221,slow=6.4,SNR=5.8						
LVC				Sn	**Sn**	**17 07 42.4**	**+5.9**
	comp=Z,0.2nm,0.3s,baz=195,slow=20,SNR=1.7						
LVC				LR	LR	17 10 45.9	
	comp=Z,2μm,20.0s,baz=200,slow=38						
LVC	**Limon Verde**	**15.51**	**17**		**Pn**	**17 04 43.5**	**-1.4**
LVC	**Limon Verde**	**15.51**	**17**	*e*P	**Pn**	**17 04 41.6**	**-3.2**
LVC	**Limon Verde**	**15.51**	**17**	*e*P	**Pn**	**17 04 41.6**	**-3.2**
PB04	**IPOC Station P**	**15.53**	**13**	P	**Pn**	**17 04 43.6**	**-1.2**
PB01	**IPOC Station P**	**16.91**	**14**		**Pn**	**17 05 01.0**	**-1.4**
PB01				IAmb	IAmb	17 05 14.2	
	comp=Z,183nm,1.0s						
PLTB	**Pedras Altas**	**17.59**	**77**	*e*P	**Pn**	**17 05 10.1**	**-0.8**
PLTB	**Pedras Altas**	**17.59**	**77**	*e*P	**Pn**	**17 05 10.1**	**-0.8**
USHA	**Ushuaia**	**17.64**	**170**	P	**P**	**17 05 11.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=349,slow=9.1,SNR=6.5						
USHA				LR	LR	17 11 51.4	
	comp=Z,2μm,19.1s,baz=346,slow=37						
CPUP	**Villa Florida**	**17.90**	**56**	P	**Pn**	**17 05 13.3**	**-1.3**
CPUP				pmax	pmax		
	comp=Z,29nm,1.0s						
CPUP	**Villa Florida**	**17.90**	**56**	P	**Pn**	**17 05 13.4**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=224,slow=11,SNR=18						
CPUP				Lg	Lg	17 10 27.1	
	comp=Z,0.1nm,0.3s,baz=156,slow=19,SNR=2.4						
CPUP				LR	LR	17 13 11.8	
	comp=Z,2μm,19.0s,baz=234,slow=41						
CPUP	**Villa Florida**	**17.90**	**56**	P	**Pn**	**17 05 13.3**	**-1.3**
EFI	**East Falkland**	**17.94**	**147**	⇓*e*P	**P**	**17 05 16.5**	**+1.0**
EFI	**East Falkland**	**17.94**	**147**	P	**P**	**17 05 15.6**	**+0.1**
EFI				IAmb	IAmb	17 05 18.5	
	comp=Z,177nm,1.1s						
PB11	**IPOC Station P**	**18.13**	**13**		**Pn**	**17 05 17.0**	**-0.7**
GO01	**Chusmiza**	**18.30**	**14**	P	**Pn**	**17 05 19.4**	**-0.7**
GO01				IAmb	IAmb	17 05 32.2	
	comp=Z,220nm,1.9s						
MNMC	**Minye Minye**	**18.75**	**12**	P	**P**	**17 05 24.3**	**-0.7**
MNMC				IAmb	IAmb	17 05 35.9	
	comp=Z,182nm,0.9s						
CNLB	**Canela**	**20.81**	**73**	*e*P	**P**	**17 05 47.2**	**0.0**
CNLB	**Canela**	**20.81**	**73**	*e*P	**P**	**17 05 47.2**	**0.0**
ITAB	**Concordia**	**20.96**	**67**	*e*P	**P**	**17 05 48.7**	**0.0**
ITAB	**Concordia**	**20.96**	**67**	*e*P	**P**	**17 05 48.7**	**0.0**
LPAZ	**La Paz**	**21.80**	**15**	P	**P**	**17 05 58.1**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,100nm,1.2s						
LPAZ	**La Paz**	**21.80**	**15**	P	**P**	**17 05 58.9**	**+0.5**
	comp=Z,29nm,0.9s,baz=181,slow=7.0,SNR=37						
LPAZ	**La Paz**	**21.80**	**15**	P	**P**	**17 05 58.1**	**-0.3**
LPAZ				IAmb	IAmb	17 06 13.0	
	comp=Z,100nm,1.1s						
LPAZ	**La Paz**	**21.80**	**15**	*e*P	**P**	**17 05 58.2**	**-0.3**
LPAZ	**La Paz**	**21.80**	**15**	*e*P	**P**	**17 05 58.2**	**-0.3**
PTGB	**Pitanga**	**22.53**	**62**	*e*P	**P**	**17 06 05.2**	**-0.5**
PTGB	**Pitanga**	**22.53**	**62**	*e*P	**P**	**17 06 05.2**	**-0.5**
AQDB	**Aquidauana**	**23.19**	**48**	*e*P	**P**	**17 06 12.3**	**-0.2**
AQDB	**Aquidauana**	**23.19**	**48**	*e*P	**P**	**17 06 12.3**	**-0.2**
TRCB	**Terra Rica**	**23.42**	**57**	*e*P	**P**	**17 06 14.5**	**-0.3**
TRCB	**Terra Rica**	**23.42**	**57**	*e*P	**P**	**17 06 14.5**	**-0.3**
SIV	**San Ignacio**	**24.28**	**31**	P	**P**	**17 06 23.3**	**+0.2**
	comp=Z,15nm,0.8s,baz=222,slow=13,SNR=46						
SIV				LR	LR	17 18 05.2	
	comp=Z,2μm,18.0s,baz=222,slow=42						
FRTB	**Fartura**	**25.16**	**63**	*e*P	**P**	**17 06 30.9**	**-0.1**
FRTB	**Fartura**	**25.16**	**63**	*e*P	**P**	**17 06 30.9**	**-0.1**
NNA	**Nana**	**25.64**	**353**	⇑*e*P	**P**	**17 06 35.5**	**+0.2**
NNA	**Nana**	**25.64**	**353**	P	**P**	**17 06 35.7**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=164,slow=15,SNR=3.0						
SPB	**Sao Paulo**	**26.53**	**66**	P	**P**	**17 06 42.2**	**-1.1**
SPB	**Sao Paulo**	**26.53**	**66**	*e*P	**P**	**17 06 43.4**	**0.0**
SPB				*e*pP	**pP**	**17 06 46.7**	**-2.1**
SPB				*e*S	**S**	**17 11 19.2**	**+2.3**
SPB	**Sao Paulo**	**26.53**	**66**	*e*P	**P**	**17 06 43.4**	**0.0**
SPB				*e*pP	**pP**	**17 06 46.7**	**-2.1**
SPB				*e*S	**S**	**17 11 19.2**	**+2.3**
RCLB	**Rio Claro- Sao**	**27.19**	**64**	*e*P	**P**	**17 06 49.4**	**0.0**
RCLB				*e*pP	**pP**	**17 06 52.5**	**-2.4**
RCLB	**Rio Claro- Sao**	**27.19**	**64**	*e*P	**P**	**17 06 49.4**	**0.0**
RCLB				*e*pP	**pP**	**17 06 52.5**	**-2.4**
VAO	**Valinhos**	**27.23**	**65**	*e*P	**P**	**17 06 50.4**	**+0.6**
VAO	**Valinhos**	**27.23**	**65**	*e*P	**P**	**17 06 50.4**	**+0.6**
BB19B	**Bebedouro**	**27.38**	**60**	*e*P	**P**	**17 06 51.0**	**0.0**
BB19B	**Bebedouro**	**27.38**	**60**	*e*P	**P**	**17 06 51.0**	**0.0**
PMSA	**Palmer Station**	**27.83**	**171**	P	**P**	**17 06 54.5**	**-0.1**
	comp=Z,6.0nm,1.1s,baz=338,slow=19,SNR=2.6						
PMSA				LR	LR	17 18 39.0	
	comp=Z,1μm,18.4s,baz=336,slow=38						
PMSA	**Palmer Station**	**27.83**	**171**	P	**P**	**17 06 55.2**	**+0.6**
ARAG	**Araguaiana, MT**	**29.21**	**48**	*e*P	**P**	**17 07 07.4**	**0.0**
ARAG	**Araguaiana, M

comp=Z,16nm,1.0s
Y51A Rockmart 71.89 350 P P 17 12 28.7 +0.2
baz=171
JCT Junction City 71.95 337 P P 17 12 30.2 +1.2
baz=158
JCT Junction City 71.95 337 P P 17 12 29.1 +0.2
JCT pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 71.95 337 P P 17 12 29.1 +0.2
JCT IAmb IAmb 17 12 38.6
comp=Z,11nm,0.9s
X58A Rowland 71.96 355 P P 17 12 28.2 -0.6
X54A Belton 72.21 353 P P 17 12 30.9 +0.6
baz=173
TXAR Lajitas Array 72.21 333 P P 17 12 29.6 -1.0
comp=Z,1.5nm,0.8s,baz=155,slow=11,SNR=9.9
TXAR Lajitas Array 72.21 333 P P 17 12 31.0 +0.4
TXAR **sP 17 12 39.3 +0.8**
TX31 Lajitas Ar. Si 72.21 333 P P 17 12 31.0 +0.4
TX31 **sP 17 12 39.1 +0.6**
TX32 Lajitas Array 72.21 333 P P 17 12 30.8 +0.2
TX32 **sP 17 12 39.0 +0.4**
X53A Estanollee 72.27 352 P P 17 12 31.2 +0.6
baz=172
X52A Dahlonega 72.44 351 P P 17 12 31.8 +0.1
baz=172
X51A Calhoun 72.52 350 P P 17 12 33.0 +0.8
baz=171
X51A Calhoun 72.52 350 P P 17 12 32.6 +0.5
FPAL Fort Paine 72.60 350 P P 17 12 32.1 -0.6
WHTX Lake Whitney, 72.66 339 P P 17 12 33.3 +0.1
baz=160
WHTX Lake Whitney, 72.66 339 P P 17 12 33.2 +0.1
KMSC Kings Mountain 72.70 354 P P 17 12 33.6 +0.3
baz=174
KMSC Kings Mountain 72.70 354 P P 17 12 33.3 0.0
KMSC IAmb IAmb 17 12 34.1
comp=Z,13nm,0.8s
BG3 Lake Jocassee 72.71 352 P P 17 12 33.4 0.0
W54A Cherokee Point 72.72 353 P P 17 12 34.0 +0.6
baz=173
X48A Hartselle 72.72 349 P P 17 12 33.7 +0.3
baz=169
X48A Hartselle 72.72 349 P P 17 12 33.7 +0.3
W53A Cullowhee 72.91 352 P P 17 12 34.9 +0.3
baz=172
W51A Cleveland 73.09 351 P P 17 12 36.3 +0.7
baz=171
V59A Middlesex 73.10 356 P P 17 12 36.3 +0.7
baz=176
V58A Windy Hill, Pi 73.18 355 P P 17 12 36.1 +0.1
baz=176
W50A Signal Mountai 73.20 350 P P 17 12 36.7 +0.4
baz=170
W50A Signal Mountai 73.20 350 P P 17 12 36.8 +0.4
W49A Belvidere 73.26 349 P P 17 12 36.8 +0.2
baz=170
V56A Mocksville 73.29 354 P P 17 12 37.1 +0.4
baz=174
V56A Mocksville 73.29 354 P P 17 12 36.8 0.0
V56A IAmb IAmb 17 12 37.7
comp=Z,16nm,0.9s
SWET Sewanee 73.31 350 P P 17 12 37.3 +0.4
SWET **sP 17 12 44.8 0.0**
CPCT Cooper Cave 73.35 351 P P 17 12 37.2 +0.1
CPCT **sP 17 12 45.2 +0.1**
CPCT IAmb IAmb 17 12 46.0
comp=Z,17nm,0.8s
V53A Saluda 73.37 352 P P 17 12 37.4 +0.1
baz=172
V53A Saluda 73.37 352 P P 17 12 37.3 +0.1
V53A IAmb IAmb 17 12 38.2
comp=Z,39nm,1.6s
V54A Nebo 73.39 353 P P 17 12 37.9 +0.5
baz=173
V55A Taylorsville 73.39 354 P P 17 12 37.6 +0.2
baz=174
V55A Taylorsville 73.39 354 P P 17 12 37.5 +0.2
V55A IAmb IAmb 17 12 38.3
comp=Z,15nm,0.8s
TKL Tuckaleechee C 73.46 352 P P 17 12 36.7 -1.0
comp=Z,8.5nm,0.9s,baz=170,slow=6.4,SNR=6.6
V52A Sevierville 73.62 352 P P 17 12 38.6 -0.1
baz=172
V50A Pikeville 73.64 350 P P 17 12 39.3 +0.5
baz=171
U56A King 73.82 354 P P 17 12 40.5 +0.7
baz=174
V49A McMinnville 73.84 350 P P 17 12 40.3 +0.3
baz=170
ABTX Abilene, Hawle 73.89 337 P P 17 12 41.8 +1.4
baz=159
ABTX Abilene, Hawle 73.89 337 P P 17 12 41.1 +0.7
ABTX IAmb IAmb 17 12 49.8
comp=Z,15nm,0.9s
V48A Smith Brothers 73.95 349 P P 17 12 41.4 +0.7
baz=169
V48A Smith Brothers 73.95 349 P P 17 12 40.9 +0.3
V48A **sP 17 12 48.0 -0.6**
U55A TA2, Sparta 74.03 354 P P 17 12 41.3 +0.2
baz=174
U53A Fall Branch 74.03 353 P P 17 12 41.0 -0.1
baz=173
U54A Nelsons Funny 74.11 353 P P 17 12 41.8 +0.2
baz=173
U54A Nelsons Funny 74.11 353 P P 17 12 41.6 0.0
U54A **sP 17 12 49.6 0.0**
U54A IAmb IAmb 17 12 51.7
comp=Z,19nm,0.8s
U51A La Follette 74.20 351 P P 17 12 41.2 -0.9
baz=172
CLTN Cedars of Leba 74.22 349 P P 17 12 41.7 -0.5
T59A Double "B" Far 74.27 357 P P 17 12 43.2 +0.8
baz=177
T59A Double "B" Far 74.27 357 P P 17 12 42.3 -0.2
T59A IAmb IAmb 17 12 51.6
comp=Z,33nm,1.3s
TZTN Tazewell 74.31 352 P P 17 12 42.9 +0.2
baz=172
TZTN Tazewell 74.31 352 P P 17 12 42.8 +0.1
U50A Jamestown 74.34 351 P P 17 12 42.7 -0.2
baz=171
T57A Hurt 74.39 355 P P 17 12 43.4 +0.3
baz=175
T57A Hurt 74.39 355 P P 17 12 43.3 +0.2
W41B Gary Mavity, V 74.39 344 P P 17 12 42.7 -0.4
baz=165
T56A Rocky Mt 74.47 355 P P 17 12 44.1 +0.5
baz=175
WVT Waverly 74.49 348 P P 17 12 43.6 -0.1
baz=168
WVT Waverly 74.49 348 P P 17 12 43.6 -0.1
WVT pmax pmax
comp=Z,165nm,0.9s
WVT Waverly 74.49 348 P P 17 12 43.6 -0.1
WVT **sP 17 12 51.4 -0.3**
WHAR Wooly Hollow 74.51 344 P P 17 12 44.0 +0.1
WHAR IAmb IAmb 17 12 53.1
comp=Z,21nm,1.2s
T55A Pulaski 74.61 354 P P 17 12 44.7 +0.2
baz=174
T54A Tazewell 74.62 354 P P 17 12 44.3 -0.3
baz=174
BLA Blacksburg 74.68 355 P P 17 12 44.8 0.0
baz=174
W39A Magazine 74.76 343 P P 17 12 46.1 +0.8
baz=164
W39A Magazine 74.76 343 P P 17 12 45.9 +0.6
W39A IAmb IAmb 17 13 54.2
comp=Z,20nm,1.2s
T51A Gray 74.77 352 P P 17 12 45.4 0.0
baz=172
MNTX Cornudas Mount 74.97 332 P P 17 12 47.0 +0.3
baz=154
LCAR Lake Charles 75.03 346 P P 17 12 47.2 +0.3
LCAR **sP 17 12 54.4 -0.5**
LCAR IAmb IAmb 17 12 55.5
comp=Z,9.1nm,0.8s
FCAR Ozark Folk Cen 75.06 345 P P 17 12 46.3 -0.7
S56A Natural Bridge 75.08 355 P P 17 12 47.6 +0.5
baz=175
T49A Edmonton 75.11 350 P P 17 12 47.1 -0.2
baz=170
S57A Dark Hollow, R 75.13 356 P P 17 12 47.7 +0.3
baz=176
X34A Smith Ranch, M 75.22 340 P P 17 12 48.6 +0.6

T47A Sharon Grove 75.22 349 P P 17 12 48.4 +0.4
baz=169
T47A Sharon Grove 75.22 349 P P 17 12 48.0 +0.1
S55A Lewisburg 75.24 355 P P 17 12 48.4 +0.3
baz=174
S51A Beattyville 75.40 352 P P 17 12 49.0 0.0
baz=172
S51A Beattyville 75.40 352 P P 17 12 48.8 -0.2
S51A IAmb IAmb 17 12 49.8
comp=Z,15nm,0.8s
S50A Richmond 75.53 351 P P 17 12 49.9 +0.1
baz=171
WMOK Wichita Mounta 75.61 339 P P 17 12 50.4 +0.1
WMOK pmax pmax
comp=Z,12nm,1.4s
WMOK Wichita Mounta 75.61 339 P P 17 12 50.4 +0.1
U40A Yellville 75.66 344 P P 17 12 50.2 -0.3
U40A IAmb IAmb 17 13 49.1
comp=Z,20nm,0.8s
TUL1 Leonard 75.92 342 P P 17 12 52.1 +0.1
R50A Paris 76.12 351 P P 17 12 53.0 -0.1
R50A IAmb IAmb 17 13 03.0
comp=Z,45nm,1.9s
MSTX Muleshoe 76.13 336 P P 17 12 54.6 +1.2
baz=157
MSTX Muleshoe 76.13 336 P P 17 12 53.9 +0.5
MSTX IAmb IAmb 17 13 02.6
comp=Z,16nm,1.4s
SIUC Southern Illin 76.27 347 P P 17 12 54.4 +0.5
SIUC IAmb IAmb 17 15 05.5
comp=Z,16nm,0.7s
CASY Casey 76.41 182 P P 17 12 55.8 +1.3
CASY IAmb IAmb 17 13 04.0
comp=Z,16nm,0.9s
AMTX Amarillo 76.62 337 P P 17 12 57.5 +1.4
baz=158
AMTX Amarillo 76.62 337 P P 17 12 56.6 +0.5
AMTX IAmb IAmb 17 13 05.7
comp=Z,11nm,0.8s
Q51A Peebles 76.74 352 P P 17 12 56.4 -0.2
Q51A IAmb IAmb 17 13 05.2
comp=Z,12nm,0.8s
FVM French Village 76.75 347 P P 17 12 56.7 +0.1
FVM pmax pmax
comp=Z,39nm,1.6s
FVM French Village 76.75 347 P P 17 12 56.7 +0.1
FVM IAmb IAmb 17 13 04.8
comp=Z,39nm,1.6s
P56A Dayton Farm, R 76.86 356 P P 17 12 58.4 +1.2
baz=176
Q48A North Vernon 76.93 350 P P 17 12 57.9 +0.3
baz=170
CCM Cathedral Cave 76.97 346 P P 17 12 58.4 +0.5
baz=166
CCM Cathedral Cave 76.97 346 P P 17 12 58.0 +0.1
CCM pmax pmax
comp=Z,18nm,0.8s
CCM Cathedral Cave 76.97 346 P P 17 12 58.0 +0.1
CCM IAmb IAmb 17 13 07.0
comp=Z,18nm,0.8s
P51A Williamsport 77.17 353 P P 17 12 59.2 +0.3
baz=172
P51A Williamsport 77.17 353 P P 17 12 58.6 -0.3
P51A IAmb IAmb 17 13 06.7
comp=Z,32nm,1.2s
LIC Lamto 77.26 72 *e*P **P 17 13 01.1 +1.0**
comp=Z,88nm,0.8s
WIN Windhoek 77.28 109 P P 17 13 01.3 +0.8
WIN pmax pmax
comp=Z,27nm,0.9s
WIN Windhoek 77.28 109 P P 17 13 01.3 +0.8
SLM Saint Louis 77.35 347 P P 17 13 00.1 +0.1
SLM pmax pmax
comp=Z,25nm,0.5s
SLM Saint Louis 77.35 347 P P 17 13 00.1 +0.1
P48A Milroy 77.42 351 P P 17 12 60.0 -0.4
baz=170
TIC Toumodi 77.54 72 *e*P **P 17 13 02.7 +1.0**
KIC Kosan Boka 77.56 72 *e*P **P 17 13 03.1 +1.3**
comp=Z,85nm,0.8s
DBIC Dimbokro 77.68 72 P P 17 13 01.3 -1.2
comp=Z,21nm,0.8s,baz=212,slow=6.6,SNR=17
DBIC Dimbokro 77.68 72 P P 17 13 04.0 +1.5
O51A Pataskala 77.78 353 P P 17 13 02.4 0.0
baz=173
ACSO Alum Creek Sta 77.90 353 P P 17 13 03.4 +0.3
baz=172
ANMO Albuquerque 78.28 333 P P 17 13 06.4 +0.9
baz=154
ANMO Albuquerque 78.28 333↓ *e*P **P 17 13 06.9 +1.3**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 78.28 333 P P 17 13 06.3 +0.8
comp=Z,4.2nm,1.1s,baz=156,slow=11,SNR=5.4
ANMO Albuquerque 78.28 333 P P 17 13 05.7 +0.2
N50A Nevada 78.45 353 P P 17 13 06.3 +0.2
baz=172
T25A Trinidad 79.56 336 P P 17 13 14.1 +1.6
baz=156
T25A Trinidad 79.56 336 P P 17 13 13.0 +0.5
T25A IAmb IAmb 17 13 23.1
comp=Z,12nm,0.9s
TSUM Tsumeb 79.61 106 P P 17 13 12.8 -0.4
BOSA Boshof 79.66 118 P P 17 13 12.5 -0.9
comp=Z,14nm,1.0s,baz=237,slow=5.7,SNR=7.1
BOSA Boshof 79.66 118 P P 17 13 13.4 -0.1
BOSA IAmb IAmb 17 13 15.9
comp=Z,24nm,1.1s
SDCO Great Sand Dun 80.47 335 P P 17 13 17.3 -0.2
SDCO **sP 17 13 26.7 +1.1**
WUAZ Wupatki 80.66 330 P P 17 13 19.1 +0.7
KSCO Kaye Shedlock' 80.71 338 P P 17 13 19.1 +0.5
KSCO IAmb IAmb 17 13 27.4
comp=Z,37nm,1.6s
S22A 4UR Ranch, Cre 80.93 334 P P 17 13 21.5 +1.5
baz=154
S22A 4UR Ranch, Cre 80.93 334 P P 17 13 21.0 +1.0
TPFO Pinon Flats 81.20 325 P P 17 13 24.7 +3.3
baz=147
PFO Pinyon Flats O 81.21 325 P P 17 13 24.8 +3.4
baz=147
PFO Pinyon Flats O 81.21 325↑ *e*P **P 17 13 21.1 -0.3**
PFO pmax pmax
comp=Z,7.0nm,1.3s
PFO Pinyon Flats O 81.21 325 P P 17 13 23.2 +1.9
comp=Z,2.2nm,0.8s,baz=173,slow=8.1,SNR=2.6
PFO Pinyon Flats O 81.21 325 P P 17 13 21.6 +0.2
Q24A Divide 81.46 336 P P 17 13 24.3 +1.5
baz=155
Q24A Divide 81.46 336 P P 17 13 23.1 +0.2
Q24A IAmb IAmb 17 13 32.5
comp=Z,38nm,1.7s
U15A North Rim 81.81 330 P P 17 13 25.9 +1.1
PV13 Radium Mtn., P 82.00 333 P P 17 13 26.2 +0.5
PV13 IAmb IAmb 17 13 27.9
comp=Z,26nm,1.8s
PV02 Paradox Valley 82.01 333 P P 17 13 25.2 -0.5
PV02 IAmb IAmb 17 15 54.4
comp=Z,22nm,1.6s
PV05 Paradox Valley 82.03 333 P P 17 13 26.2 +0.4
PV05 IAmb IAmb 17 14 26.2
comp=Z,7.4nm,0.6s
LBTB Lobatse 82.08 115 P P 17 13 27.2 +0.8
LBTB pmax pmax
comp=Z,36nm,1.1s
LBTB Lobatse 82.08 115 P P 17 13 27.2 +0.8
PV03 Paradox Valley 82.10 333 P P 17 13 26.0 -0.1
SMCO Snowmass 82.26 335 P P 17 13 28.1 +0.9
SMCO IAmb IAmb 17 13 39.6
comp=Z,32nm,1.8s
PV14 Lion Creek, Pa 82.27 333 P P 17 13 27.4 +0.4
PLVO Plevna 82.30 358 P P 17 13 26.6 0.0
PLVO IAmb IAmb 17 15 33.0
comp=Z,38nm,1.5s
ISCO Idaho Springs 82.37 336 P P 17 13 29.3 +1.7
baz=155
ISCO Idaho Springs 82.37 336 P P 17 13 28.1 +0.5
ISCO pmax pmax
comp=Z,7.0nm,1.4s
ISCO Idaho Springs 82.37 336 P P 17 13 28.1 +0.5
PV09 Paradox Valley 82.42 333 P P 17 13 28.2 +0.4
KNB Kanab 82.54 329 P P 17 13 29.5 +1.1
KNB pmax pmax
comp=Z,11nm,1.1s
KNB Kanab 82.54 329 P P 17 13 29.5 +1.1

SZCU Shurtz Canyon 83.14 330 P P 17 13 32.0 +0.5
MTPU Mount Pierson 83.17 330 P P 17 13 32.4 +0.6
F62A Pittston Farm, 83.18 3 P P 17 13 32.7 +1.5
baz=183
CCUT Cedar City 83.22 329 P P 17 13 30.6 -1.3
ALGO Algonquin Park 83.25 357 P P 17 13 31.9 +0.3
baz=176
Q16A Castle Valley 83.54 332 P P 17 13 34.2 +0.6
ECSD EROS Data Cent 83.55 344 P P 17 13 33.8 +0.6
baz=162
ECSD EROS Data Cent 83.55 344 P P 17 13 33.5 +0.3
ECSD IAmb IAmb 17 13 42.5
comp=Z,14nm,0.8s
O20A White River Ci 83.55 334 P P 17 13 34.0 +0.4
O20A IAmb IAmb 17 13 46.0
comp=Z,7.3nm,0.6s
MSU Marysvale 83.57 331 P P 17 13 35.2 +1.4
MSU *PP **sP 17 13 43.6 +1.8**
MSU Marysvale 83.57 331 P P 17 13 35.2 +1.4
MSU pP **sP 17 13 43.6 +1.8**
TCRU Three Creeks R 83.76 331 P P 17 13 35.5 +0.7
ISA Isabella, Lake 83.83 325 P P 17 13 35.5 +0.5
ISA pmax pmax
comp=Z,12nm,1.5s
ISA Isabella, Lake 83.83 325 P P 17 13 35.5 +0.5
TMUT Trail Mountain 83.89 332 P P 17 13 36.0 +0.5
E62A Clayton Lake 83.92 3 P P 17 13 36.6 +1.6
baz=183
E62A Clayton Lake 83.92 3 P P 17 13 36.3 +1.3
PSUT Pine Spring 84.26 330 P P 17 13 38.3 +1.0
CWC Cottonwood Cre 84.29 326 P P 17 13 39.5 +2.1
baz=146
D58A Chemin du LacG 84.31 1 P P 17 13 37.5 +0.5
baz=181
D62A Allapoint, All 84.40 3 P P 17 13 38.8 +1.4
baz=184
D63A Stockholm 84.40 4 P P 17 13 38.8 +1.3
baz=184
R11A Troy Canyon, C 84.81 328 P P 17 13 42.1 +2.1
baz=148
R11A Troy Canyon, C 84.81 328 P P 17 13 41.3 +1.3
K22A Casper 85.24 336 P P 17 13 42.5 +0.5
DUG Dugway, Tooele 85.28 331 P P 17 13 44.4 +2.1
baz=150
DUG Dugway, Tooele 85.28 331 P P 17 13 43.3 +1.1
DUG pmax pmax
comp=Z,15nm,1.5s
DUG Dugway, Tooele 85.28 331 P P 17 13 43.3 +1.1
DUG IAmb IAmb 17 13 45.4
comp=Z,14nm,1.4s
TCUT Toone Canyon 85.55 332 P P 17 13 44.1 +0.4
OMMB Old Mammoth Mi 85.68 326 P P 17 13 44.1 -0.4
RSSD Black Hills 85.82 339 P P 17 13 45.8 +0.9
baz=156
RSSD Black Hills 85.82 339 P P 17 13 45.0 +0.1
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 85.82 339 P P 17 13 45.0 +0.1
RSSD IAmb IAmb 17 13 55.0
comp=Z,5.3nm,0.7s
NV11 Mina Array Sit 85.98 327 P P 17 13 46.1 +0.3
BGU Big Grassy Mou 85.99 331 P P 17 13 46.4 +0.6
NVAR Mina Array Bea 86.04 327 P P 17 13 47.1 +0.9
comp=Z,0.6nm,0.8s,baz=158,slow=4.3,SNR=4.7
NVAR Mina Array Bea 86.04 327 P P 17 13 46.7 +0.5
BW06 Boulder Array 86.34 334 P P 17 13 48.6 +1.0
baz=152
BW06 Boulder Array 86.34 334 P P 17 13 46.3 -1.3
PD31 Pinedale Array 86.34 334 P P 17 13 47.7 +0.1
PDAR Pinedale Array 86.34 334 P P 17 13 48.0 +0.4
comp=Z,5.2nm,1.2s,baz=151,slow=3.4,SNR=14
PDAR Pinedale Array 86.34 334 P P 17 13 46.2 -1.4
ELK Elko 86.70 330 P P 17 13 50.1 +0.7
comp=Z,2.2nm,1.0s,baz=355,slow=0.5,SNR=5.6
ELK Elko 86.70 330 P P 17 13 50.1 +0.7
ELK IAmb IAmb 17 14 01.0
comp=Z,16nm,1.7s
TOA0 Torodi Ar. Sit 86.76 71 P P 17 13 49.7 -0.3
TOA0 IAmb IAmb 17 13 51.6
comp=Z,22nm,1.2s
TORD Torodi Ar. Bea 86.76 71 P P 17 13 48.6 -1.4
comp=Z,12nm,1.1s,baz=235,slow=4.2,SNR=19
TORD Torodi Ar. Bea 86.76 71 P P 17 13 48.5 -1.5
AHID Auburn Hatcher 86.88 333 P P 17 13 50.9 +0.7
AHID IAmb IAmb 17 13 59.7
comp=Z,6.7nm,0.9s
CHGQ Chibougamau 87.12 360 P P 17 13 51.5 +0.6
baz=180
TPAW Teton Pass 87.46 334 P P 17 13 53.1 0.0
TPAW IAmb IAmb 17 14 03.2
comp=Z,5.9nm,0.8s
FXWY Fox Creek 87.62 334 P P 17 13 53.2 -0.6
AGMN Agassiz Nation 87.74 345 P P 17 13 54.3 +0.4
baz=163
AGMN Agassiz Nation 87.74 345 P P 17 13 54.1 +0.2
AGMN **sP 17 14 02.0 0.0**
AGMN IAmb IAmb 17 14 02.6
comp=Z,25nm,1.4s
IMW Indian Meadow 87.81 334 P P 17 13 54.9 +0.2
FLWY Flagg Ranch 87.89 334 P P 17 13 54.6 -0.4
ORV Oroville 88.39 325 P P 17 13 57.9 +0.7
ORV pmax pmax
comp=Z,18nm,1.8s
ORV Oroville 88.39 325 P P 17 13 57.9 +0.7
ORV IAmb IAmb 17 14 59.0
comp=Z,18nm,1.8s
YMR Madison River 88.50 334 P P 17 13 57.5 -0.4
YHH Holmes Hill 88.57 335 P P 17 13 58.1 -0.2
MFID Camas Ranch 89.20 331 P P 17 14 01.9 +0.8
MCMT McKenzie Canyo 89.30 333 P P 17 14 03.7 +2.0
LSZ Lusaka 90.01 109 P P 17 14 05.9 +0.2
LSZ pmax pmax
comp=Z,14nm,1.1s
LSZ Lusaka 90.01 109 P P 17 14 05.9 +0.2
LSZ IAmb IAmb 17 14 09.2
comp=Z,14nm,1.1s
PLID Pearl Lake 90.68 332 P P 17 14 08.1 -0.1
PLID IAmb IAmb 17 14 10.4
comp=Z,16nm,1.4s
SCHQ Schefferville 92.25 4 LR LR 17 55 40.6
comp=Z,228nm,19.2s,baz=290,slow=36
DZM Mont Dzumac 97.98 234 *e*LR LR 17 46 26.7
comp=Z,329nm,24.4s
MCARA McCarthy VSAT 113.37 331 Pdif 17 15 49.9 +0.5
GERES GERESS Array B 115.67 47 PKP PKPdf 17 19 46.9 -0.5
comp=Z,1.2nm,0.8s,baz=202,slow=1.4,SNR=6.8
GERES GERESS Array B 115.67 47 PKPdf 17 19 47.2 -0.2
BUR08 Bucovina Ar. S 122.11 52 PKiKP 17 20 00.5 +0.5
BURAR Bucovina Array 122.11 52 PKiKP 17 20 00.2 +0.2
BR131 Keskin Array S 124.77 64 PKIKP PKiKP 17 20 05.5 -0.1
BR131 Keskin Array S 124.77 64 PKiKP 17 20 05.5 -0.1
BRTR Keskin Array B 124.77 64 PKIKP PKPdf 17 20 05.2 -0.1
BRTR Keskin Array B 124.77 64 PKP PKPdf 17 20 05.3 +0.1
comp=Z,3.4nm,0.8s,baz=193,slow=4.2,SNR=14
BRTR Keskin Array B 124.77 64 PKPdf 17 20 05.2 -0.1
AKASG Malin Array Be 125.64 50 PKP PKPdf 17 20 05.9 -0.5
comp=Z,0.4nm,0.5s,baz=251,slow=2.8,SNR=5.1
RAYN Ar Rayn 126.72 87 PKIKP PKPdf 17 20 08.3 -1.1
RAYN Ar Rayn 126.72 87 PKPdf 17 20 08.3 -1.1
OBN Obninsk 131.00 46 *i* PKIKP **PKPdf 17 20 16.2 -0.2**
OBN *i* 17 20 24.0
OBN *i* 17 22 33.6
OBN pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 132.53 61 *e*PKIKP **PKPdf 17 20 20.4 +0.6**
KIV pmax pmax
comp=Z,25nm,1.0s
KLMR Klimovskoe 133.12 38 *e*PKIKP **PKPdf 17 20 19.6 -0.6**
KLMR *e* 17 22 44.9
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 133.12 38 *e*PKPdf **PKPdf 17 20 19.6 -0.6**
KLMR AMP 17 20 24.2
comp=Z,18nm,1.5s
KLMR *e*PP **PP 17 22 44.9 -2.5**
PRGR Permogore 136.06 37 *e*PKIKP **PKPdf 17 20 25.4 -0.3**
PRGR pmax pmax
comp=Z,14nm,1.3s
GEYT Alibeck 142.32 74 PKhKP PKPpre 17 20 33.9
comp=Z,3.7nm,0.9s,baz=242,slow=6.4,SNR=4.8
GEYT PKP **PKPdf 17 20 38.5 +0.5**
comp=Z,3.6nm,0.7s,baz=204,slow=3.3,SNR=5.5
GEYT Alibeck 142.32 74 PKPdf 17 20 34.7 -3.3
SKR Severo-Kuril's 142.56 307 *e*PKIKP **PKPdf 17 20 36.1 -1.8**

SKR					MLR	MLR		
	comp=Z,200nm,21.0s							
ARU	**Arti**	**143.36**	**43**	*i*	PKIKP	PKPbc	17 20 36.1	-0.3
ARU	**Arti**	**143.36**	**43**		PKhKP	PKPbc	17 20 35.9	-0.4
	comp=Z,1.8nm,0.6s,baz=317,slow=4.5,SNR=9.1							
AKTO	**Aktyubinsk**	**143.68**	**54**		PKhKP	PKPpre	17 20 37.3	
	comp=Z,12nm,1.1s,baz=258,slow=3.4,SNR=15							
TIXI	**Tiksi**	**143.93**	**348⇑**	*e*	PKIKP	PKPab	17 20 37.1	+0.1
TIXI	**Tiksi**	**143.93**	**348**		PKhKP	PKPab	17 20 36.7	-0.3
	comp=Z,1.6nm,0.3s,baz=180,slow=24,SNR=9.7							
TIXI	**Tiksi**	**143.93**	**348**			PKPab	17 20 36.6	-0.4
SVE	**Sverdlovsk**	**144.40**	**42**	*e*	PKIKP	**PKPdf**	**17 20 40.5**	**-0.5**
SVE					pmax	pmax		
	comp=Z,25nm,1.4s							
HRA	**Herat**	**144.53**	**82**			PKPbc	17 20 41.2	+0.3
SBUM	**Sibu**	**144.60**	**190**			PKPbc	17 20 41.8	+0.5
RPSI	**Rantau Prapat**	**144.64**	**167**			PKPbc	17 20 41.7	+0.2
RPSI					pPKPdf	pPKPdf	17 20 49.7	+0.9
PSI	**Prapat**	**144.74**	**167**		PKIKP	**PKPab**	**17 20 41.7**	**-0.2**
ABKAR	**Akbulak array**	**144.96**	**56**			**PKPdf**	**17 20 41.9**	**-0.3**
POO	**Poona**	**145.96**	**115**	*e*	P	**PKiKP**	**17 20 53.0**	**+3.9**
NRIK	**Noril'sk**	**146.62**	**12**		PKPbc	**PKPbc**	**17 20 46.4**	**+0.4**
	comp=Z,5.3nm,0.5s,baz=11,slow=0.9,SNR=11							
IPM	**Ipoh**	**146.71**	**171**			**PKPdf**	**17 20 46.3**	**-0.1**
KULM	**Kulim**	**147.46**	**170**			**PKPdf**	**17 20 47.3**	**-0.3**
HYB	**Hyderabad**	**148.49**	**122**	*i*	PKP	**PKPbc**	**17 20 52.0**	**-0.7**
KBL	**Kabul**	**149.94**	**84**			**PKPdf**	**17 20 50.9**	**-0.3**
BRVK	**Borovoye**	**150.76**	**46**	*e*	PKIKP	**PKPdf**	**17 20 52.6**	**+1.0**
BRVK	**Borovoye**	**150.76**	**46**			**PKPdf**	**17 20 53.2**	**+1.6**
BVAR	**Borovoye Array**	**150.83**	**46**		PKPbc	**PKiKP**	**17 20 57.8**	**-0.2**
	comp=Z,14nm,0.9s,baz=263,slow=1.2,SNR=31							
YAK	**Yakutsk**	**151.54**	**337⇑**	*e*	PKIKP	**PKPdf**	**17 20 51.2**	**-1.3**
YAK	**Yakutsk**	**151.54**	**337**		PKPbc	**PKiKP**	**17 20 59.2**	**0.0**
	comp=Z,4.2nm,0.3s,baz=43,slow=1.3,SNR=12							
YAK					PKPab	**sPKPbc**	**17 21 06.6**	**-0.3**
	comp=Z,9.0nm,0.4s,baz=276,slow=0.7,SNR=6.3							
YAK	**Yakutsk**	**151.54**	**337**			**PKiKP**	**17 20 59.0**	**-0.1**
KK31	**Karatay Array**	**152.39**	**67**			**PKPbc**	**17 21 01.4**	**+0.1**
KKAR	**Karatay Array**	**152.39**	**67**			**PKiKP**	**17 21 01.7**	**+0.1**
BTK	**Batken**	**152.43**	**74**		PKIKP	**PKPdf**	**17 20 53.6**	**-1.1**
BTK							17 21 02.1	
BTK	**Batken**	**152.43**	**74**		PKPdf	**PKPdf**	**17 20 53.6**	**-1.1**
BTK						**PKiKP**	**17 21 02.1**	**+0.2**
NIL	**Nilore**	**153.01**	**88**		PKIKP	**PKPdf**	**17 20 56.1**	**+0.4**
NIL							17 21 03.3	
NIL	**Nilore**	**153.01**	**88**		PKPdf	**PKPdf**	**17 20 56.1**	**+0.4**
NIL						**PKiKP**	**17 21 03.2**	**+0.1**
ARSB	**Arslanbob**	**154.17**	**71**			**PKPdf**	**17 20 57.0**	**-0.3**
AAK	**Ala-Archa**	**155.32**	**68**		PKPab	**PKPab**	**17 21 24.5**	**+0.3**
	comp=Z,8.9nm,0.6s,baz=216,slow=2.9,SNR=10							
AAK	**Ala-Archa**	**155.32**	**68**			PKPdf	17 21 07.9	+9.1
KSH	**Kashi**	**156.33**	**76**		PKP	**PKPdf**	**17 20 58.8**	**-1.4**
KSH					pPKP	sPKPdf	17 21 09.7	+1.3
KSH					PKS	**PKSdf**	**17 24 31.7**	**-2.5**
KSH					PP	**PP**	**17 25 07.8**	**+0.9**
KSH					SKKS	**SKKSac**	**17 31 50.4**	**-4.7**
KSH					SS	**SS**	**17 44 50.9**	**-6.0**
KSH					AMB	AMB		
	comp=Z,380nm,6.9s							
KSH					LR	LR		
	comp=Z,160nm,12.1s							
KSH					LR	LR		
	comp=Z,470nm,11.9s							
KURBB	**Kurchatov Arra**	**156.40**	**48**		PKP	**PKPdf**	**17 20 59.9**	**+0.1**
	comp=Z,2.3nm,1.1s,baz=290,slow=1.9,SNR=9.6							
KURBB					PKPab	**PKPab**	**17 21 27.1**	**-1.1**
	comp=Z,12nm,1.3s,baz=297,slow=3.9,SNR=9.2							
KURK	**Kurchatov**	**156.42**	**47**		PKIKP	**PKPdf**	**17 20 59.9**	**+0.1**
KURK							17 21 27.2	
KURK	**Kurchatov**	**156.42**	**47**			**PKPdf**	**17 21 00.4**	**+0.7**
NRN	**Naryn**	**156.45**	**71**		PKIKP	**PKPdf**	**17 21 00.9**	**+0.3**
NRN	**Naryn**	**156.45**	**71**		PKPdf	**PKPdf**	**17 21 00.9**	**+0.3**
NRN						**PKPab**	**17 21 28.9**	**-0.4**
ZAA0	**Zalesovo Array**	**158.00**	**35**			**PKPdf**	**17 21 01.3**	**-0.4**
ZAA0						**PKPab**	**17 21 36.0**	**+0.9**
ZALV	**Zalesovo Beam**	**158.00**	**35**		PKIKP	**PKPdf**	**17 21 01.0**	**-0.7**
ZALV	**Zalesovo Beam**	**158.00**	**35**		PKP	**PKPdf**	**17 21 01.6**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=250,slow=3.0,SNR=12							
ZALV					PKPab	**PKPab**	**17 21 35.2**	**+0.2**
	comp=Z,14nm,0.9s,baz=300,slow=4.8,SNR=16							
ZALV	**Zalesovo Beam**	**158.00**	**35**			**PKPdf**	**17 21 00.9**	**-0.7**
ZALV						**PKPab**	**17 21 35.9**	**+0.9**
KOLN	**Koldanda**	**158.65**	**111**	*e*	P	**PKPab**	**17 21 39.2**	**+0.2**
DANN	**Dangsing**	**159.08**	**110**	*e*	P	**PKPab**	**17 21 41.1**	**+0.1**
DMN	**Daman**	**159.67**	**113**	*e*	P	**PKPab**	**17 21 43.9**	**+0.4**
	comp=Z,27nm,1.0s							
PKIN	**Phulchoki**	**159.87**	**114**	*e*	P	**PKPab**	**17 21 44.4**	**+0.1**
	comp=Z,25nm,0.9s							
PKI	**Pulchoki**	**159.87**	**114**	*e*	P	**PKPab**	**17 21 44.5**	**+0.1**
	comp=Z,44nm,0.9s							
MAKZ	**Makanchi**	**159.89**	**55**		PKIKP	**PKPdf**	**17 21 04.7**	**+0.5**
MAKZ	**Makanchi**	**159.89**	**55**			**PKPdf**	**17 21 04.7**	**+0.5**
KKN	**Kakani**	**159.90**	**113**	*e*	P	**PKPab**	**17 21 44.7**	**+0.3**
	comp=Z,24nm,0.7s							
CMAR	**Chiang Mai Arr**	**159.91**	**160**		PKP	**PKPdf**	**17 21 04.7**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=235,slow=3.1,SNR=7.2							
CMAR					PKPab	**PKPab**	**17 21 43.0**	**-1.2**
	comp=Z,2.8nm,1.2s,baz=220,slow=3.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**159.91**	**160**			**PKPdf**	**17 21 04.8**	**-0.2**
MK31	**Makanchi Array**	**160.10**	**55**		PKIKP	**PKPdf**	**17 21 04.2**	**-0.2**
MK31	**Makanchi Array**	**160.10**	**55**			**PKPdf**	**17 21 04.2**	**-0.2**
MKAR	**Makanchi Array**	**160.10**	**55**		PKP	**PKPdf**	**17 21 04.4**	**-0.1**
	comp=Z,5.2nm,1.2s,baz=336,slow=2.7,SNR=9.7							
MKAR					PKPab	**PKPab**	**17 21 44.8**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=288,slow=4.2,SNR=9.8							
RAMN	**Ramite**	**160.36**	**117**	*e*	P	**PKPab**	**17 21 46.9**	**+0.4**
	comp=Z,22nm,0.7s							
GUN	**Gumba**	**160.41**	**114**	*e*	P	**PKPab**	**17 21 47.2**	**+0.4**
JIRN	**Jiri**	**160.49**	**115**	*e*	P	**PKPab**	**17 21 47.6**	**+0.4**
ODAN	**Odare**	**160.86**	**119**	*e*	P	**PKPab**	**17 21 49.0**	**+0.4**
	comp=Z,63nm,1.1s							
TAPN	**Taplejung**	**161.39**	**118**	*e*	P	**PKPab**	**17 21 51.2**	**+0.2**
	comp=Z,31nm,1.0s							
WMQ	**Urumqi**	**164.66**	**60**	*e*	PKP	**PKPdf**	**17 21 08.9**	**-0.2**
WMQ					LR	LR		
	comp=Z,140nm,7.1s							
LSA	**Lhasa**	**165.21**	**118**			**PKPab**	**17 22 08.9**	**+1.0**
KMI	**Kunming**	**167.23**	**166**		PKP	**PKPdf**	**17 21 12.0**	**0.0**
NJ2	**Nanjing**	**168.23**	**246**	*e*	PKP	**PKPdf**	**17 21 12.6**	**+0.4**
SONM	**Songino Array**	**169.76**	**359**		PKIKP	**PKPdf**	**17 21 11.1**	**-1.7**
SONM	**Songino Array**	**169.76**	**359**		PKPab	**PKPab**	**17 22 27.8**	**+0.9**
	comp=Z,3.3nm,1.1s,baz=4.7,slow=3.0,SNR=8.6							
SONM	**Songino Array**	**169.76**	**359**		PKPdf	**PKPdf**	**17 21 11.1**	**-1.7**
SONM						**PKPab**	**17 22 27.7**	**+0.7**
CD2	**Chengdu**	**173.04**	**162**		PKP	**PKPdf**	**17 21 14.1**	**-0.8**
GTA	**Gaotai**	**174.67**	**68**	⇑	PKP	**PKPdf**	**17 21 15.8**	**+0.5**
GTA					pPKP	sPKPdf	17 21 24.0	+0.5
GTA					sPKP		17 21 28.5	
GTA					PKPab	**PKPab**	**17 22 50.5**	**+1.2**
GTA					PP	**PP**	**17 26 43.0**	**+0.9**
GTA					SS	SS	17 47 58.6	-5.1
GTA					AMB	AMB		
	comp=Z,150nm,6.2s							
GTA					LR	LR		
	comp=Z,140nm,19.0s							
GTA					LR	LR		
	comp=Z,160nm,20.6s							
GTA					LR	LR		
	comp=Z,200nm,18.7s							
HHC	**Hu-ho-hao-te**	**174.71**	**310**		PKP	**PKPdf**	**17 21 14.3**	**-0.9**
LZH	**Lanzhou**	**177.59**	**128**	*e*	PKP	**PKPdf**	**17 21 15.0**	**-1.1**
LZH					pPKP	sPKPdf	17 21 24.1	-0.2
LZH					sPKP		17 21 27.2	
LZH					LR	LR		
	comp=Z,230nm,18.1s							
LZH					LR	LR		
	comp=Z,240nm,18.0s							
LZH					LR	LR		
	comp=Z,310nm,20.2s							

TIR ***07*** *17:01:55.2,41.91N±21.53E,h5km,Md3.2/6*
PDG ***07*** *17:01:55.7±0.4,41.98N±21.63E,h12km,ML3.0/10,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
SOF ***07*** *17:01:55.2,41.96N±21.55E,h13km*
SKO ***07*** *17:01:55.3,41.91N±21.61E,h6km,M2.8,ML3.2*
BEO ***07*** *17:01:56.0±0.2,41.96N±21.55E,h7km±1km,ML2.7/17*
NEIC ***07*** *17:01:56.2±0.5,41.93N±0.05×21.66E±0.06,h9km±1km*
THE ***07*** *17:01:56.0,41.94N±21.59E,h0km±2km,ML2.5/11,Error ellipse: s-maj=2.3km s-min=1.0km az=352.0*
ISC 07 17:01:55.6±0.9,41.96N±0.02×21.60E±0.01,h6km±7km, n121,σ0.91/185,17C-14D,Northwestern Balkan

Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.12**	**278**	*e*Pg	**Pg**	**17 01 58.2**	**+0.1**
SKO				*e*Sg	**Sg**	**17 02 00.0**	**+0.2**
SKO	**Skopje**	**0.12**	**278⇑**	*i*Pg	**Pg**	**17 01 58.3**	**+0.1**
SKO				*i* Sg	**Sg**	**17 02 00.4**	**+0.5**
STIP	**Stip**	**0.51**	**121**	*i* Pg	**Pb**	**17 02 07.8**	**+0.8**
STIP				*i* Sg	**Sn**	**17 02 17.4**	**-1.1**
BOSS	**Bosilegrad**	**0.85**	**50**	*e*Pg	**Pg**	**17 02 11.8**	**-0.1**
BOSS				*e*Sg	**Sb**	**17 02 24.2**	**-0.2**
BARS	**Barje**	**0.88**	**11**	*e*Pg	**Pg**	**17 02 11.7**	**-0.7**
BARS				*e*Sg	**Sg**	**17 02 24.0**	**+0.2**
BARS	**Barje**	**0.88**	**11**	*e*Pn	**Sn**	**17 02 32.2**	**+4.7**
PHP	**Peshkopia**	**0.91**	**253**	P	**Pg**	**17 02 11.9**	**-1.1**
PHP				S	**Sg**	**17 02 24.5**	**-0.3**
PHP	**Peshkopia**	**0.91**	**253**	*i* PG	**Pg**	**17 02 11.9**	**-1.1**
PHP				*i* SG	**Sg**	**17 02 24.9**	**+0.1**
VAY	**Valandovo**	**0.97**	**131**	*e*Pg	**Pg**	**17 02 13.4**	**-0.7**
VAY				*e*Sg	**Sg**	**17 02 26.8**	**+0.1**
VAY	**Valandovo**	**0.97**	**131**	*i* Pg	**Pg**	**17 02 13.5**	**-0.7**
VAY				*i* Sg	**Sn**	**17 02 28.6**	**-1.1**
VAY				*e*Lg	Lg	17 02 29.5	
	comp=N,243nm,0.7s						
VAY				*e*Lg	Lg	17 02 32.2	
	comp=E,246nm,0.5s						
OHR	**Ohrid**	**1.03**	**216**	*i* Pg	**Pg**	**17 02 14.9**	**-0.6**
OHR				*i* Sg	**Sb**	**17 02 29.4**	**-0.4**
OHR				*e*Lg	Lg	17 02 30.2	
	comp=E,953nm,0.4s						
OHR				*e*Lg	Lg	17 02 30.3	
	comp=N,554nm,0.4s						
KKB	**Krupnik**	**1.11**	**94**	*i* Pn	**Pb**	**17 02 17.3**	**0.0**
KKB				*e*Sg	**Sn**	**17 02 34.4**	**+1.1**
KKB	**Krupnik**	**1.11**	**94**	P	**Pn**	**17 02 18.2**	**+0.5**
GRG	**Griva**	**1.17**	**149**	P	**Pg**	**17 02 17.6**	**-0.4**
GRG				S	**Sn**	**17 02 34.0**	**-0.7**
	comp=N,330nm,0.6s						
GRG	**Griva**	**1.17**	**149**	*i* Pg	**Pg**	**17 02 17.4**	**-0.5**
GRG				*i* Sg	**Sn**	**17 02 35.5**	**+0.8**
FNA	**Florina**	**1.18**	**188**	P	**Pg**	**17 02 17.5**	**-0.8**
FNA				S	**Sn**	**17 02 34.8**	**-0.4**
	comp=N,552nm,0.4s						
FNA	**Florina**	**1.18**	**188**	*i* Pg	**Pg**	**17 02 17.6**	**-0.7**
FNA				*i* Sg	**Sn**	**17 02 34.6**	**-0.6**
FNA	**Florina**	**1.18**	**188**	*i* PN	**Pg**	**17 02 17.6**	**-0.7**
FNA				*i* SN	**Sn**	**17 02 34.6**	**-0.6**
FNA	**Florina**	**1.18**	**188**		**Pg**	**17 02 17.7**	**-0.5**
BCI	**Bajram Curri**	**1.21**	**290**	*i* PN	**Pb**	**17 02 18.9**	**0.0**
BCI				*i* SN	**Sn**	**17 02 37.0**	**+1.2**
KNT	**Kendrikon**	**1.26**	**129**	P	**Pn**	**17 02 18.9**	**-0.8**
KNT				S	**Sn**	**17 02 36.6**	**-0.3**
	comp=N,158nm,0.3s						
KNT	**Kendrikon**	**1.26**	**129**	*i* Pg	**Pn**	**17 02 18.9**	**-0.8**
KNT				*i* Sg	**Sn**	**17 02 36.6**	**-0.3**
PUK	**Puka**	**1.27**	**274**	*i* PN	**Pn**	**17 02 19.4**	**-0.6**
PUK				*i* SN	**Sn**	**17 02 37.0**	**-0.4**
SELS	**Selova**	**1.31**	**345**	*e*Pg	**Pn**	**17 02 19.4**	**-1.1**
SELS				*e*Sg	**Sb**	**17 02 37.3**	**-0.4**
PVY	**Plav**	**1.37**	**298⇓**	*i*Pg	**Pb**	**17 02 21.6**	**-0.2**
PVY				*i* Sg	**Sn**	**17 02 41.8**	**+1.8**
VTS	**Vitosha**	**1.38**	**61**	*e*Pg	**Pn**	**17 02 21.7**	**+0.1**
VTS				*e*Sg	**Sb**	**17 02 39.9**	**0.0**
VTS	**Vitosha**	**1.38**	**61**	P	**Pn**	**17 02 21.4**	**-0.2**
VTS				S	**Sn**	**17 02 41.0**	**+0.7**
VTS	**Vitosha**	**1.38**	**61**	*i* Pn	**Pn**	**17 02 21.8**	**+0.1**
VTS				*i* Sn	**Sn**	**17 02 41.0**	**+0.7**
VTS	**Vitosha**	**1.38**	**61**	P	**Pn**	**17 02 21.7**	**+0.1**
VTS	**Vitosha**	**1.38**	**61**	⇑P	**Pn**	**17 02 21.5**	**0.0**
VTS				⇑S	**Sn**	**17 02 40.5**	**+0.2**
VTS				AML	AML	17 02 46.2	
VTS	**Vitosha**	**1.38**	**61**		**Pn**	**17 02 21.6**	**0.0**
TIR	**Tirane**	**1.43**	**245**	P	**Pg**	**17 02 23.4**	**+0.3**
TIR				S	**Sg**	**17 02 43.4**	**+1.7**
	comp=N,122nm,0.9s						
TIR	**Tirane**	**1.43**	**245**	*i* Pn	**Pg**	**17 02 23.6**	**+0.5**
TIR	**Tirane**	**1.43**	**245**	*i* PN	**Pg**	**17 02 23.4**	**+0.3**
TIR				*i* SN	**Sg**	**17 02 43.8**	**+2.2**
TIR	**Tirane**	**1.43**	**245**	⇓P	**Pg**	**17 02 23.5**	**+0.5**
TIR				⇓S	**Sg**	**17 02 43.4**	**+1.7**
TIR				AML	AML	17 02 50.8	
TIR	**Tirane**	**1.43**	**245**		**Pg**	**17 02 23.5**	**+0.5**
BEY	**Berane**	**1.56**	**307**	*i* Sn	**Sg**	**17 02 45.6**	**-0.1**
IVA	**Berane**	**1.56**	**307⇑**	*i*Pg	**Pb**	**17 02 24.6**	**-0.3**
IVA				*e*Sg	**Sg**	**17 02 47.2**	**+1.5**
NEST	**Nestorio**	**1.59**	**195**	P	**Pn**	**17 02 24.8**	**+0.4**
NEST				S	**Sb**	**17 02 45.9**	**0.0**
	comp=N,200nm,0.4s						
KTI	**Kastanea**	**1.61**	**166**	P	**Pn**	**17 02 25.1**	**+0.4**
MMB	**Musomiste**	**1.64**	**102**	*i* Pn	**Pb**	**17 02 26.2**	**0.0**
MMB				*i* Sn	**Sg**	**17 02 47.9**	**-0.2**
MMB	**Musomiste**	**1.64**	**102**	P	**Pb**	**17 02 26.3**	**+0.1**
KZN	**Kozani**	**1.65**	**175**	P	**Pn**	**17 02 25.7**	**+0.5**
KZN				S	**Sg**	**17 02 49.0**	**+0.3**
	comp=N,105nm,0.5s						
THE	**Thessaloniki**	**1.68**	**142**	P	**Pb**	**17 02 26.1**	**-0.7**
THE	**Thessaloniki**	**1.68**	**142**	*i* Pn	**Pb**	**17 02 26.4**	**-0.4**
BOVS	**Bovan**	**1.68**	**3**	*e*Pn	**Pn**	**17 02 25.2**	**-0.3**
BOVS				*e*Sn	**Sb**	**17 02 48.1**	**-0.2**
SOH	**Sokhos**	**1.74**	**130**	P	**Pn**	**17 02 27.0**	**+0.6**
SOH	**Sokhos**	**1.74**	**130**	*i* Pn	**Pg**	**17 02 29.2**	**+0.2**
ULC	**Ulcinj**	**1.75**	**271**	*i* Pn	**Pb**	**17 02 28.1**	**-0.2**
ULC	**Ulcinj**	**1.75**	**271**	⇓*i*Pn	**Pb**	**17 02 28.0**	**-0.2**
ULC				*i* Sn	**Sg**	**17 02 52.6**	**+0.6**
HORT	**Hortiatis**	**1.77**	**140**	P	**Pn**	**17 02 27.2**	**+0.4**
HORT				S	**Sg**	**17 02 51.6**	**-0.8**
	comp=N,42nm,0.4s						
SJES	**Sjenica**	**1.77**	**318**	*e*Pn	**Pn**	**17 02 26.9**	**0.0**
SJES				*e*Sn	**Sn**	**17 02 48.3**	**-1.5**
KOME	**Kolasin**	**1.78**	**301**	⇓*i*Pn	**Pn**	**17 02 27.6**	**+0.6**
KOME				*e*Sn	**Sg**	**17 02 53.2**	**+0.3**
PENT	**Pentalofos**	**1.79**	**191**	P	**Pb**	**17 02 28.1**	**-0.8**
PENT				S	**Sb**	**17 02 51.8**	**+0.2**
	comp=N,108nm,0.7s						
NVR	**Nevrokopi**	**1.80**	**109**	P	**Pn**	**17 02 27.4**	**+0.2**
NVR				S	**Sb**	**17 02 52.5**	**+0.7**
	comp=N,80nm,0.5s						
PDG	**Podgorica**	**1.80**	**286**	*e*Pn	**Pn**	**17 02 28.0**	**+0.8**
PDG				*e*Sn	**Sn**	**17 02 49.1**	**-1.3**
PDG	**Podgorica**	**1.80**	**286**	*i* Pn	**Pb**	**17 02 28.3**	**-0.7**
PDG				*i* Sn	**Sg**	**17 02 53.3**	**-0.3**
PDG	**Podgorica**	**1.80**	**286**	*e*Pn	**Pb**	**17 02 28.2**	**-0.9**
PDG	**Podgorica**	**1.80**	**286**	⇓P	**Pb**	**17 02 28.1**	**-0.9**
PDG				⇑S	**Sg**	**17 02 52.9**	**-0.7**
PDG				AML	AML	17 02 55.9	
PDG	**Podgorica**	**1.80**	**286**		**Pb**	**17 02 28.2**	**-0.9**
TTG	**Podgorica**	**1.80**	**286⇑**	*i*Pn	**Pb**	**17 02 28.3**	**-0.7**
TTG				*i* Sn	**Sg**	**17 02 53.3**	**-0.3**
DRME	**Dracevica, Mon**	**1.81**	**278**	*e*Pn	**Pb**	**17 02 28.4**	**-0.8**
DRME	**Dracevica, Mon**	**1.81**	**278**	⇓*i*Pn	**Pb**	**17 02 28.3**	**-0.9**
DRME				*e*Sn	**Sg**	**17 02 53.9**	**+0.1**
BLKB	**Belogradchik**	**1.84**	**25**	⇑S	**Sb**	**17 02 52.8**	**-0.3**
BLKB				AML	AML	17 03 00.8	
ZAGS	**Zajecar**	**1.91**	**14**	*e*Pn	**Pn**	**17 02 29.7**	**+1.0**
ZAGS				*e*Sn	**Pn**	**17 02 53.3**	**+0.2**
IVAS	**Ivanjica**	**1.94**	**327**	*e*Pn	**Pn**	**17 02 28.1**	**-1.0**
IVAS				*e*Sn	**Sn**	**17 02 54.6**	**+0.8**
LIT	**Litokhoron**	**1.97**	**160**	P	**Pn**	**17 02 29.6**	**0.0**
LIT	**Litokhoron**	**1.97**	**160**	*i* Pn	**Pn**	**17 02 29.6**	**0.0**
LIT	**Litokhoron**	**1.97**	**160**		**Pn**	**17 02 29.5**	**-0.1**
PGB	**Panagyurishte**	**2.00**	**72**	P	**Pn**	**17 02 30.9**	**+1.0**
KPRO	**Kipourio**	**2.01**	**185**	P	**Pn**	**17 02 31.0**	**+0.9**
KPRO				S	**Sn**	**17 02 55.5**	**0.0**
	comp=N,95nm,0.5s						
GRUS	**Gruza**	**2.04**	**342**	*e*Pn	**Pn**	**17 02 30.5**	**+0.1**
BUM	**Brajici-Budva**	**2.04**	**281**	⇓*i*Pn	**Pn**	**17 02 31.2**	**+0.7**
BUM				*i* Sn	**Sb**	**17 02 58.8**	**0.0**
TPE	**Tepelena**	**2.05**	**216**	*i* PN	**Pg**	**17 02 34.3**	**-0.5**
TPE				*i* SN	**Sg**	**17 03 02.9**	**+1.6**
CEME	**Cevo**	**2.08**	**287**	⇓*i*Pn	**Pb**	**17 02 32.5**	**-1.2**
CEME				*e*Sn	**Sb**	**17 02 59.7**	**0.0**
NKY	**Niksic**	**2.11**	**295**	⇓*i*Pn	**Pb**	**17 02 33.0**	**-1.3**
NKY				*i* Sn	**Sb**	**17 03 00.4**	**-0.4**
NKME	**Niksic**	**2.12**	**293**	⇑*i*Pn	**Pn**	**17 02 32.8**	**+1.2**
NKME				*e*Sn	**Sb**	**17 03 01.0**	**0.0**
RUDO	**Rudo**	**2.33**	**316**	*e*Pn	**Pn**	**17 02 33.9**	**-0.6**
RZN	**Rozhen**	**2.35**	**96**	P	**Pn**	**17 02 36.1**	**+1.3**
UPM	**Unac-Piva**	**2.35**	**303**	*e*Pn	**Pn**	**17 02 35.6**	**+0.7**
UPM	**Unac-Piva**	**2.35**	**303**	⇑*i*Pn	**Pn**	**17 02 35.6**	**+0.7**
UPM				*e*Sn	**Sb**	**17 03 06.4**	**-1.3**
HCY	**Herceg Novi**	**2.36**	**283**	*e*Pn	**Pn**	**17 02 36.5**	**+1.7**
HCY	**Herceg Novi**	**2.36**	**283**	⇓*i*Pn	**Pn**	**17 02 36.1**	**+1.3**
HCY				*i* Sn	**Sb**	**17 03 06.7**	**-1.1**
THL	**Klokotos Trika**	**2.41**	**172**	P	**Pn**	**17 02 36.3**	**+0.8**
THL				S	**Sn**	**17 03 07.0**	**+1.7**
	comp=N,35nm,0.8s						
TRUS	**Trudelj**	**2.43**	**339**	*e*Pn	**Pn**	**17 02 35.4**	**-0.4**
DIVS	**Divibare**	**2.44**	**332**	*e*Pn	**Pn**	**17 02 35.6**	**-0.5**
DIVS	**Divibare**	**2.44**	**332**	*e*Pn	**Pn**	**17 02 35.8**	**-0.3**
BRY	**Bratogost**	**2.45**	**294**	*e*Pn	**Pb**	**17 02 38.2**	**-2.0**
BRY	**Bratogost**	**2.45**	**294⇑**	*i*Pn	**Pn**	**17 02 37.0**	**+0.7**
BRY				*i* Sn	**Sb**	**17 03 08.9**	**-1.8**
BBLS	**Lazići**	**2.50**	**321**	*e*Pn	**Pn**	**17 02 36.5**	**-0.3**
BBLS	**Lazići**	**2.50**	**321**	*e*Pn	**Pn**	**17 02 36.2**	**-0.6**
TREB	**Trebinje**	**2.52**	**289**	*e*Pn	**Pn**	**17 02 38.9**	**+1.8**
IGT	**Igoumenitsa**	**2.60**	**202**	*i* Pn	**Pb**	**17 02 41.7**	**-1.0**
DBRK	**Dubrovnik**	**2.66**	**287**	*i* Pn	**Pb**	**17 02 41.3**	**-2.2**
DBRK				Sn	**Sb**	**17 03 17.9**	**+1.5**
MDVR	**Moldovita**	**2.83**	**2**	⇑P	**Pn**	**17 02 41.2**	**-0.1**
MDVR				AML	AML	17 03 11.5	
MDVR				⇑S	**Sn**	**17 03 16.2**	**+0.5**
HAPS	**Han Pijesak,BI**	**2.88**	**319**	*e*Pn	**Pn**	**17 02 41.0**	**-1.1**
HAPS	**Han Pijesak,BI**	**2.88**	**319**	*e*Pn	**Pn**	**17 02 40.5**	**-1.6**
AGG	**Agios Georgios**	**2.98**	**169**		**Pn**	**17 02 43.2**	**-0.2**
HERR	**Herculane**	**2.98**	**11**	⇑P	**Pn**	**17 02 43.5**	**+0.1**
HERR				⇑S	**Sn**	**17 03 20.7**	**+1.2**
HERR				AML	AML	17 03 32.5	
SCTE	**Santa Cesarea**	**3.02**	**233**	Pn	**Pn**	**17 02 44.4**	**+0.4**
STON	**Ston**	**3.03**	**289**	*e*Pn	**Pn**	**17 02 45.8**	**+1.8**
STON	**Ston**	**3.03**	**289**	*e*Pn	**Pn**	**17 02 44.3**	**+0.3**
ELND	**Elena**	**3.31**	**72**	⇑P	**Pn**	**17 02 48.4**	**+0.4**
ELND				⇑S	**Sn**	**17 03 28.6**	**+1.0**
ELND				AML	AML	17 03 46.7	
FRGS	**Fruska Gora**	**3.45**	**339**	*e*Pn	**Pn**	**17 02 49.0**	**-0.9**
FRGS	**Fruska Gora**	**3.45**	**339**	*e*Pn	**Pn**	**17 02 49.1**	**-0.9**
ALN	**Alexandroupoli**	**3.51**	**106**	Pn	**Pn**	**17 02 51.0**	**+0.4**
GZR	**Gura Zlata**

comp=Z,3.7nm,0.7s
TUWZ Tuamarina 51.76 139 P **P 17 14 35.3 +2.1**
ODAN Odare 53.46 311 *e*P **P 17 14 46.0 -0.3**
comp=Z,8.6nm,0.5s
TAPN Taplejung 53.49 311 *e*P **P 17 14 46.3 -0.2**
comp=Z,10nm,0.4s
RAMN Ramite 54.11 310 *e*P **P 17 14 51.2 +0.2**
comp=Z,22nm,0.5s
JIRN Jiri 54.79 311 *e*P **P 17 14 55.9 -0.2**
comp=Z,8.7nm,0.3s
GUN Gumba 55.16 311 *e*P **P 17 14 58.6 -0.1**
comp=Z,16nm,0.5s
PKI Pulchoki 55.34 310 *e*P **P 17 14 59.4 -0.6**
comp=Z,5.6nm,0.5s
PKIN Phulchoki 55.35 310 *e*P **P 17 14 59.4 -0.6**
comp=Z,4.2nm,0.6s
KKN Kakani 55.55 310 *e*P **P 17 15 01.1 -0.3**
comp=Z,6.8nm,0.6s
DMN Daman 55.59 310 *e*P **P 17 15 01.4 -0.3**
comp=Z,5.7nm,0.5s
GKN Gorkha 56.14 310 *e*P **P 17 15 05.4 -0.2**
comp=Z,13nm,0.4s
KOLN Koldanda 56.82 309 *e*P **P 17 15 10.2 -0.2**
comp=Z,8.3nm,0.6s
DANN Dangsing 56.99 310 *e*P **P 17 15 12.3 +0.6**
SONM Songino Array 58.34 341 P **P 17 15 22.3 +1.7**
comp=Z,1.1nm,0.4s,baz=164,slow=7.2,SNR=13
SONM Songino Array 58.34 341 P **P 17 15 22.0 +1.4**
NIL Nilore 67.42 311 P **P 17 16 21.1 +0.1**
KSH Kashi 68.16 317 P **P 17 16 27.2 +1.5**
KSH sP sP 17 17 03.7 +7.8
KSH PP **PP 17 19 02.8 +5.5**
KSH S **S 17 25 16.8 -2.2**
KSH sS sS 17 25 59.1 +2.8
KSH SS **SS 17 29 42.4 -1.2**
KSH pmax pmax
comp=Z,260nm,6.4s
KSH LR LR
comp=Z,340nm,10.7s
KSH LR LR
comp=Z,120nm,9.9s
KSH LR LR
comp=Z,350nm,20.6s
MK31 Makanchi Array 68.27 327 P **P 17 16 27.2 +1.1**
MK31 lAmb lAmb 17 16 28.1
comp=Z,4.4nm,0.6s
MKAR Makanchi Array 68.27 327 P **P 17 16 27.4 +1.3**
comp=Z,6.6nm,0.5s,baz=114,slow=8.4,SNR=84
MKAR Makanchi Array 68.27 327 P **P 17 16 26.8 +0.7**
MAKZ Makanchi 68.45 326 P **P 17 16 28.2 +1.0**
MAKZ lAmb lAmb 17 16 29.1
comp=Z,6.7nm,0.5s
AAK Ala-Archa 70.66 320 P **P 17 16 43.0 +1.9**
comp=Z,2.2nm,0.4s,baz=140,slow=5.2,SNR=12
AAK Ala-Archa 70.66 320 P **P 17 16 42.9 +1.9**
ZALV Zalesovo Beam 71.56 334 P **P 17 16 46.5 +0.5**
comp=Z,1.3nm,0.5s,baz=129,slow=5.4,SNR=6.0
ZALV Zalesovo Beam 71.56 334 P **P 17 16 46.6 +0.6**
KURBB Kurchatov Arra 72.54 328 P **P 17 16 52.8 +0.8**
comp=Z,1.2nm,0.7s,baz=123,slow=4.9,SNR=12
KURK Kurchatov 72.55 328 P **P 17 16 52.8 +0.8**
KURK lAmb lAmb 17 16 53.3
comp=Z,17nm,1.9s
KK31 Karatay Array 73.47 319 P **P 17 16 58.3 +0.7**
KKAR Karatay Array 73.47 319 P **P 17 16 58.6 +0.9**
KKAR **pP 17 17 16.8 -2.3**
BVAR Borovoye Array 78.10 328 P **P 17 17 24.7 +0.9**
comp=Z,0.5nm,0.3s,baz=103,slow=8.3,SNR=6.7
TIXI Tiksi 78.21 359 P **P 17 17 25.2 +1.2**
comp=Z,0.9nm,0.4s,baz=210,slow=2.6,SNR=5.2
TIXI Tiksi 78.21 359 P **P 17 17 25.0 +1.0**
ABKAR Akbulak array 82.61 321 P **P 17 17 48.9 +0.8**
SET Setif 122.04 309 P **PKPdf 17 24 16.0 -3.5**
TORD Torodi Ar. Bea 129.26 281 PKP **PKiKP 17 24 35.6 +1.2**
comp=Z,0.2nm,0.3s,baz=138,slow=2.0,SNR=3.9

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*ISCJB **07** 17:15:42.6±0.8, 36°.59N±0°.05×71°.0E±0°.1, h188km, mb3.7/1, Error ellipse: s-maj=12.6km s-min=4.9km az=159.1*
*IDC **07** 17:15:45.8±9.2, 36°.81N×70°.80E, h182km±61km, mb3.4/1, mb1 3.1/7, mb1mx2.8/60, mbtmp3.7/7, MS3.3/2, Ms1 3.3/2, ms1mx2.7/37, Error ellipse: s-maj=85.1km s-min=50.7km az=175.0*
*NNC **07** 17:15:48.9±4.3, 37°.00N×70°.83E, h202km±65km, mb2.8, mpv3.8, Error ellipse: s-maj=42.2km s-min=26.0km az=16.0*
ISC 07 17:15:43.4±1.1, 36°.57N±0°.07×71°.1E±0°.1, h188km, n25, σ1§53/29, 1C-3D, Afghanistan-Tajikistan border region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DHRM DHARAMSHALA 6.12 133 *e*P **Pn 17 17 12.6 +0.4**
DHRM *e*S **Sn 17 18 20.1 -2.2**
DHRM IAML 17 18 22.7
comp=N,145nm,0.8s
DHRM IAML 17 18 23.5
comp=E,238nm,1.1s
KK31 Karatay Array 6.54 357 P **Pn 17 17 17.1 -0.3**
comp=E,7.6nm,0.7s,baz=213,slow=45,SNR=26
KK31 ⇓S **Sn 17 18 27.7 -4.0**
comp=E,13nm,0.5s,baz=183,slow=19,SNR=24
AAK Ala-Archa 6.61 23 P **Pn 17 17 20.7 +2.2**
comp=E,1.6nm,0.4s
AAK S **Sn 17 18 34.0 +0.2**
comp=E,21nm,0.7s
AAK Ala-Archa 6.61 23 P **Pn 17 17 19.1 +0.5**
comp=E,0.8nm,0.3s,baz=173,slow=5.5,SNR=8.5
AAK S **Sn 17 18 33.3 -0.5**
comp=E,2.5nm,0.3s,baz=321,slow=22,SNR=24
TKM2 Tokmak 2 7.24 28 ⇓P **Pn 17 17 27.8 +1.0**
comp=E,10nm,1.1s
TKM2 ⇓S **Sn 17 18 46.8 -2.0**
comp=E,6.0nm,0.8s
SMLA Simla 7.44 135 *e*P **Pn 17 17 32.5 +3.2**
SMLA *e*S **Sn 17 18 49.8 -3.5**
SMLA IAML 17 18 54.6
comp=N,49nm,0.0s
SMLA IAML 17 18 54.9
comp=E,40nm,0.6s
MKAR Makanchi Array 13.21 36 P **Pn 17 18 45.1 +1.4**
comp=E,0.1nm,0.3s,baz=224,slow=11,SNR=3.7
DANN Dangsing 13.50 124 *e*P **Pn 17 18 48.3 +0.5**
comp=E,13nm,0.5s
GKN Gorkha 14.31 123 *e*P **P 17 18 59.1 -0.5**
comp=E,27nm,0.4s
DMN Daman 14.88 123 *e*P **Pn 17 19 05.1 +0.2**
comp=E,10nm,0.7s
KKN Kakani 14.88 122 *e*P **P 17 19 05.7 -0.3**
comp=E,12nm,0.6s
AB31 Akbulak array 15.04 331 P **P 17 19 06.8 -0.4**
comp=E,0.4nm,0.3s,baz=145,slow=13,SNR=18
KURBB Kurchatov Arra 15.04 19 P **P 17 19 07.9 +0.7**
comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=3.8
PKIN Phulchoki 15.10 122 *e*P **P 17 19 08.7 +0.3**
comp=E,20nm,0.6s
PKI Pulchoki 15.11 122 *e*P **P 17 19 08.8 +0.2**
comp=E,28nm,0.6s
GUN Gumba 15.22 120 *e*P **P 17 19 10.0 +0.2**
comp=E,5.7nm,0.3s
JIRN Jiri 15.59 120 *e*P **P 17 19 14.6 +0.6**
comp=E,23nm,0.4s
RAMN Ramite 16.32 122 *e*P **P 17 19 21.7 -0.2**
comp=E,6.9nm,0.4s
BVAR Borovoye Array 16.46 359 P **P 17 19 22.8 -0.1**
comp=E,0.3nm,0.3s,baz=158,slow=9.2,SNR=5.1
AKTO Aktyubinsk 16.74 330 ⇑P **P 17 19 25.2 -0.7**
comp=E,5.9nm,1.1s
AKTO Aktyubinsk 16.74 330 P **P 17 19 25.2 -0.7**
comp=E,0.2nm,0.3s,baz=147,slow=9.4,SNR=9.4
ZALV Zalesovo Beam 19.83 25 P **P 17 20 00.9 +1.5**
comp=E,0.6nm,0.3s,baz=212,slow=13,SNR=9.1
KVAR Kislovodsk Arr 22.78 298 LR LR 17 31 47.3
comp=E,63nm,20.0s,baz=84,slow=43
BRTR Keskin Array B 29.45 288 LR LR 17 35 20.7
comp=E,81nm,19.2s,baz=102,slow=40
ARCES ARCESS Array B 41.09 338 P **P 17 23 08.7 +0.5**
comp=E,1.6nm,0.8s,baz=111,slow=10.0,SNR=1.8

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*MOS **07** 17:16:09.7±0.9, 42°.58N×143°.35E, h121km, mb4.5/4, Error ellipse: s-maj=12.1km s-min=7.9km az=67.4*
*ISCJB **07** 17:16:09.7±0.3, 42°.64N±0°.03×143°.34E±0°.03, h113km±2km, mb3.9/14, Error ellipse: s-maj=5.7km*

s-min=3.5km az=148.5
*IDC **07** 17:16:10.5±2.0, 42°.66N×143°.40E, h108km±12km, mb3.5/11, mb1 3.6/14, mb1mx3.3/73, mbtmp3.8/14, Error ellipse: s-maj=22.3km s-min=16.1km az=131.0*
*NEIC **07** 17:16:10.1±1.5, 42°.63N±0°.07×143°.4E±0°.2, h106km±8km, mb4.5/5*
*JMA **07** 17:16:11.7±0.1, 42°.67N×143°.30E, h95km±1km, M3.7*
JMA Felt I J1.
*SKHL **07** 17:16:11.1±0.9, 42°.63N×143°.35E, h104km±2km, mb5.1/5, msh5.6/5*
ISC 07 17:16:10.7±0.7, 42°.63N±0°.05×143°.37E±0°.04, h106km±6km, n78, σ1§18/99, mb4.0/16, 9C-11D, Hokkaido region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JCH Churui 0.02 193 ⇑P **Pn 17 16 25.0 -0.3**
JCH *e*S **Sn 17 16 34.8 -1.4**
JTHR Tokachihiroo 0.35 189 ⇑P **Pn 17 16 26.1 -0.1**
JTHR *e*S **Sn 17 16 37.4 -0.4**
JOB Onbets 0.44 52 ⇑P **Pn 17 16 27.2 +0.5**
JOB *e*S **Sn 17 16 38.9 +0.2**
JNBK Urakawa-nobuka 0.58 232 ⇑P **Pn 17 16 28.1 +0.5**
JNBK *e*S **Sn 17 16 40.8 +0.4**
JEM Erimo 0.64 194 ⇑P **Pn 17 16 29.1 +1.0**
ERM Erimo 0.64 194 *c i*PN **Pn 17 16 29.0 +0.9**
ERM Erimo 0.64 194 **Pn 17 16 28.2 +0.1**
JAR Ashorobuto 0.72 24 ⇓P **Pn 17 16 29.1 +0.2**
JAR *e*S **Sn 17 16 41.9 -0.7**
JBT2 Biratori 2 0.75 281 ⇑P **Pn 17 16 28.9 -0.2**
JBT2 *e*S **Sn 17 16 42.3 -0.7**
JFR Furan 0.78 313 P **Pn 17 16 28.6 -0.8**
JAK Akkeshi 1.04 69 ⇓P **Pn 17 16 32.3 +0.3**
JAK *e*S **Sn 17 16 48.5 +0.5**
JIAM Iburiatsuma 1.07 270 P **Pn 17 16 33.8 +1.6**
JAB Ashibetsu 1.21 316 P **Pn 17 16 33.8 0.0**
JKK2 Kamakawa 2 1.32 340 P **Pn 17 16 35.4 +0.3**
JNK Nakash 1.37 46 ⇓P **Pn 17 16 35.9 +0.2**
JNK *e*S **Sn 17 16 55.1 +0.4**
JMP Maruseppu 1.37 360 ⇓P **Pn 17 16 36.0 +0.2**
JMP *e*S **Sn 17 16 54.7 -0.1**
JKHN Kushirohamanak 1.39 71 ⇓P **Pn 17 16 36.5 +0.6**
JKHN *e*S **Sn 17 16 55.3 +0.2**
JTKR Abashiri--Toko 1.39 16 ⇓P **Pn 17 16 36.2 +0.3**
JTKR *e*S **Sn 17 16 54.8 -0.3**
JEW Eniwo 1.43 279 ⇓P **Pn 17 16 36.6 +0.2**
JEW *e*S **Sn 17 16 55.4 -0.5**
JKA Kamikawa-asahi 1.58 340 **Pn 17 16 38.4 +0.1**
JKA **Sn 17 16 59.0 -0.2**
ASAJ Asahikawa 1.58 339 P **Pn 17 16 38.4 +0.1**
8.7nm,0.3s,baz=196,slow=13,SNR=101
ASAJ S **Sn 17 16 59.0 -0.3**
13nm,0.3s,baz=62,slow=27,SNR=9.9
JHR Hokuryu 1.64 313 P **Pn 17 16 39.5 +0.6**
JHR *e*S **Sn 17 17 00.5 +0.2**
NMR Nemuro--Hokkai 1.88 66 *d i*PN **Pn 17 16 42.0 +0.1**
NMR *i* S **Sn 17 17 04.4 -1.4**
NMR Nemuro--Hokkai 1.88 66 *i* P **Pn 17 16 42.0 +0.1**
NMR *i* S **Sn 17 17 04.0 -1.8**
GLVR Golovnino 1.92 54 *e*PN **Pn 17 16 43.6 +1.2**
GLVR *i* S **Sn 17 17 07.9 +1.2**
GLVR pmax pmax
comp=N,293μm,0.2s
GLVR pmax pmax
comp=E,263μm,0.2s
GLVR pmax pmax
comp=Z,407μm,0.2s
GLVR smax smax
comp=N,519nm,0.2s
GLVR smax smax
comp=E,543nm,0.3s
GLVR Golovnino 1.92 54 *e*P **Pn 17 16 43.0 +0.6**
GLVR AMB AMB 17 16 47.0
comp=E,406nm,0.2s
GLVR *i* S **Sn 17 17 07.0 +0.3**
GLVR A A 17 17 11.0
comp=E,519nm,0.3s
GLVR A A 17 17 11.0
comp=E,543nm,0.3s
GRPR Tuman 2.22 51 *e*PN **Pn 17 16 47.1 +0.8**
GRPR *i* S **Sn 17 17 14.1 +0.5**
GRPR pmax pmax
comp=Z,129nm,0.2s
GRPR pmax pmax
comp=E,327nm,0.3s
GRPR pmax pmax
comp=N,162nm,0.4s
GRPR smax smax
comp=E,367nm,0.2s
GRPR smax smax
comp=N,538nm,0.3s
GRPR Tuman 2.22 51 *e*P **Pn 17 16 47.0 +0.8**
GRPR AMB AMB 17 16 50.0
comp=N,129nm,0.2s
GRPR *i* S **Sn 17 17 14.0 +0.5**
GRPR A A 17 17 15.0
comp=N,538nm,0.3s
GRPR A A 17 17 15.0
comp=N,367nm,0.3s
LAGR Lagunnoye 2.27 50 ⇓ *i*PN **Pn 17 16 47.8 +1.0**
LAGR *i* S **Sn 17 17 15.2 +0.6**
LAGR pmax pmax
comp=Z,235nm,0.3s
LAGR smax smax
comp=N,572nm,0.4s
LAGR smax smax
comp=E,544nm,0.4s
LAGR Lagunnoye 2.27 50 *i* P **Pn 17 16 47.0 +0.2**
LAGR AMB AMB 17 16 49.0
comp=E,235nm,0.3s
LAGR *i* S **Sn 17 17 15.0 +0.4**
LAGR A A 17 17 17.0
comp=E,572nm,0.4s
LAGR A A 17 17 17.0
comp=E,544nm,0.4s
YUK Yuzh-Kuril'sk 2.30 52 *d i*PN **Pn 17 16 48.4 +1.2**
YUK *i* S **Sn 17 17 16.6 +1.3**
YUK pmax pmax
comp=N,287μm,0.2s
YUK pmax pmax
comp=E,98μm,0.2s
YUK pmax pmax
comp=Z,385μm,0.2s
YUK smax smax
comp=E,286nm,0.3s
YUK smax smax
comp=N,484nm,0.4s
YUK Yuzh-Kuril'sk 2.30 52 *i* P **Pn 17 16 48.0 +0.8**
YUK AMB AMB 17 16 51.0
comp=N,385nm,0.4s
YUK *i* S **Sn 17 17 16.0 +0.7**
YUK A A 17 17 19.0
comp=N,484nm,0.4s
YUK A A 17 17 19.0
comp=N,389nm,0.4s
KUR Kuril'sk 4.16 50 *c i*PN **Pn 17 17 14.7 +2.7**
KUR *i* S **Sn 17 18 03.5 +3.9**
KUR pmax pmax
comp=Z,25μm,0.3s
KUR pmax pmax
comp=E,20μm,0.4s
KUR pmax pmax
comp=N,16μm,0.2s
KUR smax smax
comp=N,57nm,0.2s
KUR smax smax
comp=E,75nm,0.3s
KUR Kuril'sk 4.16 50 *i* P **Pn 17 17 14.0 +2.0**
KUR AMB AMB 17 17 18.0
comp=E,26nm,0.3s
KUR *i* S **Sn 17 18 01.0 +1.4**
KUR A A 17 18 05.0
comp=E,57nm,0.2s
KUR A A 17 18 05.0
comp=E,75nm,0.2s
YSS Yuzh-Sakhalins 4.34 354 *e*PN **Pn 17 17 18.2 +3.7**
MJB9 Matsu-Tunnel 7.27 215 Pn **Pn 17 17 54.0 -0.2**
MAJO Matsushiro 7.27 215 ⇓ *e*PN **Pn 17 17 54.1 -0.2**
MAJO Matsushiro 7.27 215 Pn **Pn 17 17 53.9 -0.4**
MAT Matsushiro 7.27 215 P **Pn 17 17 54.1 -0.2**
MAT *e*S **Sn 17 19 19.1 +3.9**
MJAR Matsushiro Arr 7.27 215 P **Pn 17 17 53.9 -0.3**
comp=E,0.3nm,0.3s,baz=30,slow=12,SNR=13
MJAR Matsushiro Arr 7.27 215 **Pn 17 17 53.8 -0.5**

USRK Ussuriysk Ar. 8.43 285 P **Pn 17 18 10.8 +0.9**
baz=85,slow=18,SNR=4.3
INU Inuyama 8.79 216 Pn **Pn 17 18 15.5 +0.6**
KSRS Korea Array 12.91 252 P **Pn 17 19 10.3 +0.2**
comp=E,0.2nm,0.3s,baz=62,slow=14,SNR=2.6
YAK Yakutsk 21.07 342 ⇓ *e*P **P 17 20 43.7 -2.2**
YAK pmax pmax
comp=Z,20nm,1.4s
SONM Songino Array 26.38 294 P **P 17 21 36.7 -0.3**
comp=Z,0.4nm,0.6s,baz=112,slow=5.7,SNR=3.0
TLY Talaya 28.18 303 *e*P **P 17 21 57.5 +4.6**
TLY pmax pmax
comp=Z,24nm,0.9s
TLY Talaya 28.18 303 P **P 17 21 52.3 -0.7**
TLY lAmb lAmb 17 22 21.5
comp=Z,9.3nm,0.8s
H11N2 WAKE ISLAND Hy 30.25 132 T T 17 53 39.3
baz=327,slow=76
H11N1 WAKE ISLAND Hy 30.26 132 T T 17 53 21.7
baz=327,slow=76
H11N3 WAKE ISLAND Hy 30.27 132 T T 17 53 46.1
baz=327,slow=76
H11S1 WAKE ISLAND Hy 31.14 133 T T 17 54 26.4
baz=329,slow=76
H11S3 WAKE ISLAND Hy 31.14 133 T T 17 54 51.1
baz=329,slow=76
H11S2 WAKE ISLAND Hy 31.16 133 T T 17 54 55.4
baz=329,slow=76
ZALV Zalesovo Beam 39.47 308 P **P 17 23 30.0 -0.3**
ZALV Zalesovo Beam 39.47 308 P **P 17 23 30.0 -0.3**
comp=Z,0.7nm,0.3s,baz=80,slow=6.9,SNR=3.7
ZALV Zalesovo Beam 39.47 308 P **P 17 23 29.3 -1.0**
MK31 Makanchi Array 42.65 297 P **P 17 23 55.1 -1.4**
MK31 pmax pmax
comp=Z,5.0nm,1.4s
MK31 Makanchi Array 42.65 297 P **P 17 23 55.1 -1.4**
MKAR Makanchi Array 42.65 297 P **P 17 23 56.4 -0.1**
comp=Z,0.6nm,0.6s,baz=85,slow=10,SNR=4.8
MKAR Makanchi Array 42.65 297 P **P 17 23 55.5 -0.9**
KURK Kurchatov 43.86 304 P **P 17 24 06.5 +0.4**
KURBB Kurchatov Arra 43.94 304 P **P 17 24 06.5 -0.3**
comp=Z,1.6nm,0.5s,baz=73,slow=8.9,SNR=11
ILAR Eielson Array 44.01 35 P **P 17 24 05.8 -1.4**
comp=Z,0.4nm,0.5s,baz=256,slow=5.4,SNR=7.9
ILAR Eielson Array 44.01 35 P **P 17 24 05.7 -1.5**
VRDI Verde Repeater 46.06 40 P **P 17 24 21.2 -2.4**
VRDI lAmb lAmb 17 24 59.6
comp=Z,14nm,1.4s
BVAR Borovoye Array 48.06 309 P **P 17 24 38.7 -0.4**
comp=Z,0.7nm,0.4s,baz=88,slow=9.2,SNR=9.9
INK Inuvik 48.75 29 P **P 17 24 45.0 +0.9**
INK pmax pmax
comp=Z,7.0nm,1.4s
INK Inuvik 48.75 29 P **P 17 24 45.0 +0.9**
INK lAmb lAmb 17 25 50.2
comp=Z,7.0nm,1.4s
NRN Naryn 48.82 293 pP 17 25 09.1 -1.7
ABKAR Akbulak array 55.59 308 P **P 17 25 35.5 +0.6**
RES Resolute Bay 56.81 16 P **P 17 25 42.8 -0.5**
comp=Z,1.5nm,0.7s,baz=333,slow=7.0,SNR=5.9
RES Resolute Bay 56.81 16 P **P 17 25 42.7 -0.5**
FINES FINESS Array B 64.58 332 P **P 17 26 35.9 -0.2**
comp=Z,1.8nm,0.6s,baz=54,slow=7.4,SNR=9.6
FINES FINESS Array B 64.58 332 P **P 17 26 35.3 -0.9**
NOA NORSAR Array B 69.61 337 P **P 17 27 07.1 -0.8**
comp=Z,0.3nm,0.4s,baz=42,slow=5.5,SNR=2.8
HFS Hagfors 69.61 336 P **P 17 27 07.6 -0.3**
comp=Z,1.0nm,0.4s,baz=52,slow=9.3,SNR=9.9
TXAR Lajitas Array 85.56 54 P **P 17 28 37.5 +0.2**
comp=Z,0.4nm,0.7s,baz=323,slow=5.9,SNR=3.1

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*ISCJB **07** 17:21:02.4±0.6, 16°.10S±0°.08×168°.50E±0°.07, h250km, mb4.2/11, Error ellipse: s-maj=11.6km s-min=8.6km az=39.9*
*BJI **07** 17:21:02.4±0.0, 16°.21S×168°.88E, h273km, mb4.6/13, mB4.9/9*
*IDC **07** 17:21:04.6±2.3, 15°.99S×168°.48E, h263km±19km, mb3.5/7, mb1 3.7/8, mb1mx3.4/40, mbtmp4.1/8, Error ellipse: s-maj=22.6km s-min=18.7km az=167.0*
*NEIC **07** 17:21:05.7±2.1, 16°.0S±0°.2×168°.5E±0°.1, h283km±13km, mb4.6/18*
ISC 07 17:21:04.0±0.6, 15°.99S±0°.08×168°.46E±0°.09, h250km, n60, σ1§41/63, mb4.6/18, 2C, Vanuatu Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 6.34 197 P **Pn 17 22 37.7 +1.1**
1.4nm,0.3s,baz=235,slow=14,SNR=14
DZM S **S 17 23 51.4 +0.7**
0.3nm,0.3s,baz=143,slow=20,SNR=2.3
DZM Mont Dzumac 6.34 197 **Pn 17 22 38.5 +1.9**
MSVF Nonsavu 9.34 102 **Pn 17 23 16.1 +1.6**
EIDS Eidsvold 18.73 237 P **P 17 25 04.7 +0.1**
baz=19,SNR=10
EIDS Eidsvold 18.73 237 P **P 17 25 06.0 +1.4**
EIDS lAmb lAmb 17 25 06.8
comp=Z,16nm,0.8s
ARMA Armidale 21.07 224 P **P 17 25 30.1 +0.7**
baz=21,SNR=14
ARMA Armidale 21.07 224 P **P 17 25 30.1 +0.7**
ARMA lAmb lAmb 17 25 31.5
comp=Z,37nm,1.1s
RMQ Roma 21.10 237 P **P 17 25 30.3 +0.6**
baz=21,SNR=17
CTA Charters Tower 21.50 256 P **P 17 25 33.8 +0.1**
comp=Z,9.4nm,0.9s,baz=86,slow=12,SNR=8.7
CTAO Charters Tower 21.50 256 P **P 17 25 34.1 +0.5**
MTSU Mount Surprise 23.18 261 P **P 17 25 50.5 +1.4**
baz=23,SNR=16
MGCD Mangrove Creek 23.24 219 P **P 17 25 50.2 +0.8**
baz=23,SNR=6.1
URZ Urewera 23.46 163 P **P 17 25 50.5 -0.7**
comp=Z,4.1nm,0.4s,baz=333,slow=4.5,SNR=6.2
URZ Urewera 23.46 163 P **P 17 25 50.5 -0.7**
URZ lAmb lAmb 17 26 38.7
comp=Z,41nm,1.2s
BKZ Black Stump Fm 24.14 165 P **P 17 25 57.3 -0.2**
BKZ lAmb lAmb 17 26 35.0
comp=Z,57nm,1.8s
BFZ Birch Farm 25.52 166 P **P 17 26 08.2 -1.6**
TUWZ Tuamarina 25.79 170 P **P 17 26 10.7 -1.5**
CMSA Cobar Meteorol 25.88 229 P **P 17 26 13.1 -0.1**
baz=26,SNR=11
MSWZ Moikau Station 26.01 168 P **P 17 26 12.5 -1.7**
BSWZ Blackbirch Sta 26.06 171 P **P 17 26 12.5 -2.2**
PLWZ Palliser 26.16 168 P **P 17 26 14.2 -1.4**
KHZ Kahutara 26.70 172 P **P 17 26 17.4 -2.9**
KHZ lAmb lAmb 17 26 46.5
comp=Z,31nm,1.3s
STKA Stephens Creek 29.10 232 P **P 17 26 42.3 +0.5**
baz=29,SNR=8.6
STKA Stephens Creek 29.10 232 P **P 17 26 41.8 0.0**
comp=Z,4.1nm,0.3s,baz=69,slow=9.6,SNR=34
STKA Stephens Creek 29.10 232 P **P 17 26 41.7 0.0**
HTT Hallett 31.80 231 P **P 17 27 05.6 +0.1**
baz=32,SNR=9.1
WB2 Warramunga Arr 32.65 258 P **P 17 27 11.9 -1.2**
WRA Warramunga Arr 32.66 258 P **P 17 27 11.4 -1.7**
comp=Z,1.7nm,0.3s,baz=82,slow=7.9,SNR=86
WRA ScP **ScP 17 33 10.6 -2.3**
comp=Z,0.6nm,1.1s,baz=296,slow=3.9,SNR=3.6
WRA Warramunga Arr 32.66 258 P **P 17 27 11.2 -2.0**
AS31 Alice Springs 33.33 251 P **P 17 27 18.1 -0.8**
ASAR Alice Springs 33.33 251 P **P 17 27 18.2 -0.7**
comp=Z,25nm,0.4s,baz=76,slow=9.3,SNR=1129
ASAR ScP **ScP 17 33 11.7 -3.5**
comp=Z,0.4nm,0.7s,baz=96,slow=4.1,SNR=6.5
ASAR Alice Springs 33.33 251 P **P 17 27 17.8 -1.2**
BBOO Buckleboo 33.75 234 P **P 17 27 22.5 +0.2**
baz=34,SNR=8.1
BBOO Buckleboo 33.75 234 P **P 17 27 22.1 -0.2**
KDU Kakadu 35.00 271 P **P 17 27 32.6 -0.6**
baz=35,SNR=3.5
MTN Manton Dam 36.26 270 P **P 17 27 45.4 +1.4**
baz=36,SNR=5.0
MTN Manton Dam 36.26 270 P **P 17 27 42.2 -1.8**
KNRA Kununurra 38.16 265 P **P 17 27 59.2 -0.6**
baz=38,SNR=27
KNRA Kununurra 38.16 265 P **P 17 27 58.9 -0.9**
KNRA lAmb lAmb 17 27 59.9
comp=Z,38nm,1.1s
WRAKA Warakurna 38.56 250 P **P 17 28 02.8 -0.4**
baz=39,SNR=4.6
FORT Forrest 39.67 241 P **P 17 28 11.8 -0.4**

FORT IAmb IAmb 17 28 12.7
comp=Z,22nm,0.6s
FITZ Fitzroy Crossi 40.93 261 P **P** **17 28 22.4 -0.3**
baz=41,SNR=30
FITZ Fitzroy Crossi 40.93 261 P **P** **17 28 22.3 -0.3**
MEEK Meekatharra 47.38 248 P **P** **17 29 13.1 -0.5**
baz=48,SNR=14
NWAO Narrogin (SRO) 49.11 240 P **P** **17 29 24.3 -2.4**
NWAO IAmb IAmb 17 29 26.5
comp=Z,23nm,1.0s
MORW Morawa 49.78 245 P **P** **17 29 31.0 -0.8**
baz=50,SNR=4.0
MORW Morawa 49.78 245 P **P** **17 29 30.3 -1.5**
MORW IAmb IAmb 17 29 32.4
comp=Z,38nm,1.4s
NJ2 Nanjing 67.38 316 *e*P **P** **17 31 34.2 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 76.51 294 P **P** **17 32 27.7 +0.6**
comp=Z,0.4nm,0.7s,baz=131,slow=5.0,SNR=4.3
HHC Hu-ho-hao-te 77.29 319 P **P** **17 32 31.8 +0.7**
HHC pmax pmax
comp=Z,7.0nm,0.7s
LZH Lanzhou 80.02 312 ⇑P **P** **17 32 47.0 +0.8**
LZH sP sP 17 34 22.3 +11
LZH PP **PP** **17 35 55.2 +3.1**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,72nm,8.7s
NVAR Mina Array Bea 87.22 49 P **P** **17 33 23.4 +0.7**
comp=Z,0.5nm,0.6s,baz=230,slow=8.0,SNR=4.8
ILAR Eielson Array 87.37 18 P **P** **17 33 19.9 -2.6**
comp=Z,0.3nm,0.6s,baz=237,slow=4.6,SNR=6.2
ILAR Eielson Array 87.37 18 P **P** **17 33 20.5 -2.0**
SYO Syowa Base 87.83 196⇑*e*PcP **PcP** **17 33 27.0 +0.7**
WMQ Urumqi 94.43 314 *e*P **P** **17 33 55.9 +0.1**
KSH Kashi 101.88 308 SS SS 17 52 48.1 -11
KSH pmax pmax
comp=Z,310nm,7.2s
KSH LR LR
comp=N,290nm,12.3s
KSH LR LR
comp=E,190nm,9.6s
KSH LR LR
comp=Z,230nm,15.5s
ARCES ARCESS Array B 121.75 346 PKP **PKPdf** **17 39 25.2 -2.4**
comp=Z,3.7nm,0.9s,baz=39,slow=4.6,SNR=6.3
ARCES ARCESS Array B 121.75 346 **PKPdf** **17 39 25.8 -1.8**
CLL Collm 139.67 336 *e*PKPdf **PKPdf** **17 40 03.0 +1.1**

ISCJB ***07*** *17:28:16.9±0.3, 67.°16N±0.°02×20.°66E±0.°06, h0km, Error ellipse: s-maj=3.3km s-min=2.5km az=18.2*
HEL ***07*** *17:28:18.8±0.1, 67.°18N×20.°66E, h0km, ML2.4, ML2.9(UPP), Explosion*
IDC ***07*** *17:28:18.4±0.8, 67.°15N×21.°08E, h0km, mb1 3.1/4, mb1mx2.9/47, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=14.6km s-min=6.1km az=115.0*
NAO ***07*** *17:28:18.1±0.8, 67.°16N×20.°87E, ML2.9*
BER ***07*** *17:28:20.1±3.8, 67.°07N×20.°98E, h0km, ML2.3, ML2.9(NAO), Suspected explosion*
ISC 07 17:28:17.0±0.7, 67.°17N±0.°02×20.°46E±0.°02, h0km, n48, σ1§84/94, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.66**	**64**	*i* P	**Pg**	**17 28 29.6**	**-0.1**
MASU				*i* S	**Sg**	**17 28 37.4**	**-1.0**
RATU	**Laukkuluspa**	**0.73**	**334**	*i* P	**Pb**	**17 28 32.4**	**-0.3**
RATU				*i* S	**Sb**	**17 28 42.6**	**-0.7**
HARU	**Harads**	**1.03**	**168**	*e*P	**Pg**	**17 28 37.2**	**+0.4**
PAJU	**Pajala**	**1.05**	**97**	*e*P	**Pg**	**17 28 36.4**	**-0.8**
PAJU				*e*S	**Sg**	**17 28 49.8**	**-1.0**
LANU	**Lannavaara**	**1.06**	**33**	*e*P	**Pg**	**17 28 36.7**	**-0.6**
baz=207							
LANU				*e*SB	**Sg**	**17 28 51.0**	**0.0**
SJUU	**Sjulsmark**	**1.73**	**164**	*e*P	**Pb**	**17 28 49.5**	**-0.2**
HEF	**Hetta**	**1.74**	**43**	Pg	**Pn**	**17 28 48.5**	**+0.1**
HEF				Lg	Lg	17 29 10.9	
HEF	**Hetta**	**1.74**	**43**	*e*P	**Pn**	**17 28 48.2**	**-0.3**
baz=225							
HEF				MSG		17 29 08.6	
comp=Z,22nm,0.2s							
HEF				*e*SG	**Sn**	**17 29 10.4**	**-1.0**
HEF	**Hetta**	**1.74**	**43**	Pg	**Pn**	**17 28 48.5**	**+0.1**
HEF				Sg	**Sn**	**17 29 10.9**	**-0.5**
KALU	**Kalix**	**1.76**	**137**	*e*PG	**Pn**	**17 28 49.4**	**+0.7**
KALU				*e*SN	**Sb**	**17 29 12.5**	**-0.1**
KIF	**Kilpisjarvi**	**1.85**	**4**	Pn	**Pb**	**17 28 51.8**	**+0.1**
KIF				Lg	Lg	17 29 16.9	
KIF	**Kilpisjarvi**	**1.85**	**4**	*e*P	**Pb**	**17 28 51.6**	**0.0**
baz=184							
KIF				MSG		17 29 14.1	
comp=Z,45nm,0.2s							
KIF				*e*SG	**Sg**	**17 29 17.3**	**+1.0**
KIF	**Kilpisjarvi**	**1.85**	**4**	Pn	**Pb**	**17 28 51.8**	**+0.1**
TOF	**Tornio**	**1.89**	**124**	*e*PN	**Pn**	**17 28 51.3**	**+0.8**
TOF				MSG		17 29 13.8	
comp=Z,36nm,0.2s							
TOF				*e*SN	**Sn**	**17 29 15.7**	**+0.6**
KTK1	**Kautokeino**	**2.12**	**28**	*e*P	**Pb**	**17 28 55.7**	**-0.6**
KTK1				*e*S	**Sb**	**17 29 22.7**	**-0.5**
KTK1				IAML		17 29 26.9	
comp=Z,66nm,0.4s							
STEI	**Steigen**	**2.14**	**293**	*e*P	**Pg**	**17 28 58.1**	**+0.1**
STEI				*e*S	**Sg**	**17 29 27.6**	**+1.8**
STEI				IAML		17 29 28.9	
comp=Z,20nm,0.3s							
SGF	**Sodankyl**	**2.37**	**81**	*e*P	**Pn**	**17 28 58.0**	**+0.9**
baz=267							
SGF				*e*SG	**Sb**	**17 29 29.0**	**-1.3**
MOR8	**Moi Rana**	**2.60**	**250**	*e*P	**Pn**	**17 29 02.3**	**+2.0**
MOR8				*e*S	**Sn**	**17 29 32.5**	**+0.1**
MOR8				IAML		17 29 39.6	
comp=Z,42nm,0.4s							
LOF	**Lofoten**	**2.81**	**293**	*e*P	**Pb**	**17 29 08.4**	**+0.4**
LOF				*e*S	**Sb**	**17 29 41.8**	**-1.1**
LOF				IAML		17 29 54.0	
comp=Z,17nm,0.4s							
KONS	**Konsvik**	**2.98**	**260**	*e*P	**Pn**	**17 29 08.1**	**+2.6**
ARE0	**ARCESS Array S**	**3.02**	**36**	*e*P	**Pn**	**17 29 07.1**	**+1.0**
ARE0				*e*SB	**Sb**	**17 29 46.6**	**-2.5**
ARA0	**ARCESS Array S**	**3.02**	**36**	Pn	**Pn**	**17 29 06.8**	**+0.7**
baz=209,slow=14							
ARA0				Sn	**Sn**	**17 29 43.6**	**+0.6**
baz=213,slow=22							
ARA0				Lg	Lg	17 29 47.5	
baz=218,slow=28							
ARA0	**ARCESS Array S**	**3.02**	**36**	Pn	**Pn**	**17 29 06.8**	**+0.7**
baz=209,slow=14							
ARA0				Sn	**Sn**	**17 29 43.6**	**+0.6**
baz=213,slow=22							
ARCES	**ARCESS Array B**	**3.02**	**36**	Pn	**Pn**	**17 29 06.6**	**+0.5**
comp=Z,2.2nm,0.3s,baz=217,slow=13,SNR=88							
ARCES				Sn	**Sn**	**17 29 43.1**	**+0.1**
comp=Z,3.4nm,0.3s,baz=216,slow=22,SNR=19							
ARCES				Lg	Lg	17 29 47.6	
comp=Z,7.4nm,0.3s,baz=217,slow=24,SNR=17							
OUL	**Oulu**	**3.05**	**131**	*e*PB	**Pn**	**17 29 09.2**	**+2.8**
OUL				*e*SG	**Sb**	**17 29 50.3**	**+0.6**
UMAU	**Umeaa**	**3.30**	**178**	*e*P	**Pn**	**17 29 12.3**	**+2.4**
OUF	**Merijarvi**	**3.32**	**146**	*e*P	**Pn**	**17 29 11.4**	**+1.2**
baz=334							
OUF				*e*SG	**Sb**	**17 29 59.4**	**+1.8**
KEV	**Kevo**	**3.54**	**40**	Pn	**Pn**	**17 29 14.1**	**+0.8**
KEV				Pg	**Pb**	**17 29 21.8**	**+1.3**
KEV				Sn	**Sn**	**17 29 55.3**	**-0.5**
KEV				Lg	Lg	17 30 08.3	
KEV	**Kevo**	**3.54**	**40**	*e*P	**Pn**	**17 29 13.7**	**+0.5**
baz=224							
KEV				*e*S	**Sn**	**17 29 54.9**	**-0.9**
KEV	**Kevo**	**3.54**	**40**	Pn	**Pn**	**17 29 14.1**	**+0.8**
KEV				Pg	**Pb**	**17 29 21.8**	**+1.3**
VRF	**Varrio**	**3.57**	**76**	*e*P	**Pn**	**17 29 14.1**	**+0.5**
baz=266							
VRF				*e*SG	**Sb**	**17 30 04.5**	**-0.3**
MSF	**Maaselka**	**3.66**	**106**	*e*P	**Pn**	**17 29 15.7**	**+0.9**
MSF				*e*SG	**Sb**	**17 30 08.4**	**+1.0**
KU6	**Riekki**	**3.94**	**103**	*e*P	**Pn**	**17 29 19.3**	**+0.7**
baz=292							
KU6				*e*SG	**Sb**	**17 30 19.3**	**+4.0**
VAF	**Ylistaro**	**4.25**	**166**	*e*P	**Pn**	**17 29 24.7**	**+1.8**
VAF				*e*S	**Sn**	**17 30 13.8**	**+0.6**
HEMU	**Hemsoen**	**4.63**	**194**	*e*PB	**Pb**	**17 29 39.3**	**+0.3**
baz=13							
HEMU				*e*S	**Sn**	**17 30 24.2**	**+1.7**
APA0	**Apatity Array**	**4.86**	**79**	Pn	**Pn**	**17 29 30.3**	**-1.0**
APA0				Sn	**Sn**	**17 30 24.6**	**-3.5**
baz=280,slow=28							
APA0				Lg	Lg	17 30 42.3	
baz=282,slow=22							
APA0	**Apatity Array**	**4.86**	**79**	Pn	**Pn**	**17 29 30.3**	**-1.0**
APA0				Sn	**Sn**	**17 30 24.6**	**-3.5**
baz=280,slow=28							
APA0				Sg	**Sb**	**17 30 42.3**	**+0.5**
baz=282,slow=22							
FIA0	**FINESS Array S**	**6.25**	**154**	Pn	**Pn**	**17 29 52.2**	**+1.9**
baz=344,slow=16							
FIA0				Sn	**Sn**	**17 31 00.3**	**-2.0**
baz=338,slow=28							
FIA0				Lg	Lg	17 31 29.6	
baz=346,slow=37							
FIA0	**FINESS Array S**	**6.25**	**154**	Pn	**Pn**	**17 29 52.2**	**+1.9**
baz=344,slow=16							
FIA0				Sg	**Sb**	**17 31 29.6**	**+8.0**
baz=346,slow=37							
FINES	**FINESS Array B**	**6.25**	**154**	Pn	**Pn**	**17 29 51.4**	**+1.0**
comp=Z,0.5nm,0.3s,baz=348,slow=15,SNR=19							
FINES				Sn	**Sn**	**17 31 00.6**	**-1.7**
comp=Z,0.5nm,0.3s,baz=343,slow=22,SNR=6.4							
FINES				Lg	Lg	17 31 28.8	
comp=Z,1.3nm,0.3s,baz=339,slow=25,SNR=5.8							
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**17 30 07.8**	**+2.2**
NB2				Sn	**Sn**	**17 31 27.9**	**-1.8**
baz=29,slow=28							
NB2				Lg	Lg	17 32 07.2	
baz=34,slow=37							
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**17 30 07.8**	**+2.2**
NB2				Sn	**Sn**	**17 31 27.9**	**-1.8**
baz=29,slow=28							
NB2				Sg	**Sg**	**17 32 07.2**	**-5.8**
baz=34,slow=37							
NOA	**NORSAR Array B**	**7.36**	**218**	Pn	**Pn**	**17 30 07.6**	**+2.0**
comp=Z,0.0nm,0.3s,baz=27,slow=11,SNR=6.0							
NOA				Sn	**Sn**	**17 31 30.6**	**+0.9**
comp=Z,0.0nm,0.3s,baz=34,slow=22,SNR=4.9							
NOA				Lg	Lg	17 32 07.0	
comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=4.9							
NRA0	**NORESS Array S**	**7.55**	**215**	Pn	**Pn**	**17 30 10.6**	**+2.4**
baz=31,slow=14							
NRA0				Sn	**Sn**	**17 31 33.2**	**-1.2**
baz=36,slow=22							
NRA0				Lg	Lg	17 32 14.8	
baz=20,slow=18							
NRA0	**NORESS Array S**	**7.55**	**215**	Pn	**Pn**	**17 30 10.6**	**+2.4**
baz=31,slow=14							
NRA0				Sn	**Sn**	**17 31 33.2**	**-1.2**
baz=36,slow=22							
NRA0				Sg	**Sg**	**17 32 14.8**	**-4.4**
baz=20,slow=18							
HFS	**Hagfors**	**7.67**	**206**	Pn	**Pn**	**17 30 10.6**	**+0.7**
baz=15,slow=11							
HFS				Sn	**Sn**	**17 31 35.3**	**-2.1**
baz=20,slow=22							
HFS				Lg	Lg	17 32 19.4	
baz=39,slow=28							
HFS	**Hagfors**	**7.67**	**206**	Pn	**Pn**	**17 30 10.1**	**+0.2**
comp=Z,0.4nm,0.3s,baz=27,slow=12,SNR=12							
HFS				Sn	**Sn**	**17 31 34.8**	**-2.6**
comp=Z,0.5nm,0.3s,baz=28,slow=25,SNR=6.6							
HFS				Lg	Lg	17 32 19.7	
comp=Z,0.6nm,0.3s,baz=45,slow=32,SNR=5.5							
HFS	**Hagfors**	**7.67**	**206**	Pn	**Pn**	**17 30 10.6**	**+0.7**
baz=15,slow=11							
HFS				Sn	**Sn**	**17 31 35.3**	**-2.1**
baz=20,slow=22							
HFS				Sg	**Sg**	**17 32 19.4**	**-3.7**
baz=39,slow=28							

ISCJB ***07*** *17:41:46.2±0.3, 7.°37N±0.°05×59.°47E±0.°03, h10km, mb4.6/95, MS4.0/12, Error ellipse: s-maj=7.8km s-min=4.4km az=15.9*
MOS ***07*** *17:41:46.7±1.1, 7.°53N×59.°59E, h10km, mb4.9/23, Error ellipse: s-maj=8.5km s-min=5.3km az=105.6*
IDC ***07*** *17:41:47.1±0.5, 7.°57N×59.°61E, h0km, mb4.3/34, mb1 4.4/36, mb1mx4.2/55, mbtmp4.3/36, ML3.5/2, MS3.9/8, Ms1 3.9/8, ms1mx3.5/52, Error ellipse: s-maj=13.3km s-min=11.7km az=156.0*
BJI ***07*** *17:41:47.0±0.0, 7.°50N×59.°60E, h10km, mb4.7/39, mB4.9/27, Ms4.6/13, Ms7 4.4/12*
NEIC ***07*** *17:41:48.4±1.9, 7.°5N±0.°1×59.°56E±0.°10, h10km±1km, mb4.7/69*
ISC 07 17:41:48.8±0.5, 7.°54N±0.°07×59.°60E±0.°06, h10km, n277, σ1§43/273, mb4.7/105, MS4.0/12, 27C-9D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**15.64**	**357**	Pn	**Pn**	**17 45 30.2**	**+0.8**
0.1nm,0.3s,baz=193,slow=18,SNR=2.4							
ARQ	**Araqi**	**15.98**	**350**	P	**P**	**17 45 38.3**	**+0.8**
SNR=13							
ATD	**Arta Tunnel**	**16.98**	**285**	P	**P**	**17 45 51.5**	**+2.9**
SNR=5.2							
ATD	**Arta Tunnel**	**16.98**	**285**	Pn	**P**	**17 45 48.2**	**-0.4**
0.5nm,0.3s,baz=86,slow=11,SNR=10							
ATD	**Arta Tunnel**	**16.98**	**285**	P	**P**	**17 45 48.1**	**-0.6**
ATD				IAmb	IAmb	17 45 52.1	
comp=Z,47nm,1.0s							
ASHO	**Ashiyiah**	**17.38**	**349**	*i* P	**P**	**17 45 53.1**	**+0.1**
SNR=6.3							
ASHO	**Ashiyiah**	**17.38**	**349**	P	**P**	**17 45 56.6**	**+3.7**
SNR=9.2							
ASUD	**Al Ashush, Dub**	**17.48**	**347**	P	**Pn**	**17 45 53.0**	**+0.2**
HATD	**Hatta, Dubai**	**17.51**	**349**	*i* P	**P**	**17 45 55.5**	**+1.1**
SNR=8.7							
HATD	**Hatta, Dubai**	**17.51**	**349**	P	**P**	**17 45 56.7**	**+2.4**
SNR=8.1							
UOSS	**Minazif**	**17.61**	**350**	P	**P**	**17 45 55.1**	**-0.4**
UOSS	**Minazif**	**17.61**	**350**	P	**P**	**17 45 56.2**	**+0.8**
POO	**Poona**	**17.65**	**50**	*e*P	P	17 46 06.0	+10
H08N2	**Diego Garcia H**	**17.86**	**140**	T	T	18 04 14.2	
baz=320,slow=76,SNR=920							
H08N3	**Diego Garcia H**	**17.87**	**140**	T	T	18 04 15.0	
baz=320,slow=76,SNR=671							
H08N1	**Diego Garcia H**	**17.88**	**140**	T	T	18 04 13.4	
baz=320,slow=76,SNR=992							
MSFE	**Esma-Masafi**	**18.02**	**350**	P	**P**	**17 46 00.7**	**+0.6**
SHME	**Shamm**	**18.70**	**350**	P	**Pn**	**17 46 08.5**	**+0.6**
FURI	**Furi**	**20.75**	**275**	P	**P**	**17 46 28.5**	**-1.7**
FURI				IAmb	IAmb	17 46 40.4	
comp=Z,48nm,0.9s							
RAYN	**Ar Rayn**	**20.87**	**321**	*i* P	**P**	**17 46 30.3**	**-0.9**
SNR=26							
RAYN	**Ar Rayn**	**20.87**	**321**	P	**P**	**17 46 30.7**	**-0.6**
RAYN				pmax	pmax		
comp=Z,19nm,1.0s							
RAYN	**Ar Rayn**	**20.87**	**321**	P	**P**	**17 46 30.6**	**-0.6**
HYB	**Hyderabad**	**20.93**	**60**	*i* P	Pn	17 46 35.0	+0.5
PALK	**Pallekele**	**20.93**	**89**⇑	*e*P	**P**	**17 46 32.0**	**0.0**
PALK				pmax	pmax		
comp=Z,60nm,1.8s							
PALK	**Pallekele**	**20.93**	**89**	P	Pn	17 46 33.4	-1.1
comp=Z,12nm,0.9s,baz=296,slow=13,SNR=2.8							
PALK				LR	LR	17 52 58.3	
comp=Z,346nm,18.5s,baz=296,slow=32							
KMBO	**Kilima Mbogo**	**23.89**	**250**	*i* P	**P**	**17 47 03.9**	**+0.6**
SNR=9.5							
KMBO	**Kilima Mbogo**	**23.89**	**250**	P	**P**	**17 47 04.5**	**+1.2**
SNR=6.9							
KMBO	**Kilima Mbogo**	**23.89**	**250**	P	**P**	**17 47 03.5**	**+0.3**
comp=Z,12nm,0.8s,baz=48,slow=12,SNR=24							
KMBO	**Kilima Mbogo**	**23.89**	**250**	P	**P**	**17 47 01.4**	**-1.8**
KMBO				IAmb	IAmb	17 47 07.4	
comp=Z,13nm,0.8s							
LODK	**Lodwar**	**24.46**	**262**	P	**P**	**17 47 11.2**	**+2.9**
SNR=11							
HRA	**Herat**	**26.83**	**5**	P	**P**	**17 47 27.7**	**-2.0**
KBL	**Kabul**	**28.25**	**17**	P	**P**	**17 47 45.4**	**+2.9**
KBL				pmax	pmax		
comp=Z,13nm,1.6s							
KBL	**Kabul**	**28.25**	**17**	P	**P**	**17 47 45.4**	**+2.9**
OPO	**Ambohidratompo**	**28.68**	**205**	LR	LR	17 56 09.1	
comp=Z,390nm,21.5s,baz=276,slow=30							
NIL	**Nilore**	**28.89**	**24**	P	**P**	**17 47 50.5**	**+2.5**
NIL				pmax	pmax		
comp=Z,23nm,1.8s							
NIL	**Nilore**	**28.89**	**24**	P	**P**	**17 47 50.5**	**+2.5**
NIL				IAmb	IAmb	17 48 03.3	
comp=Z,23nm,1.8s							
KOLN	**Koldanda**	**30.35**	**46**	*e*P	**P**	**17 48 03.4**	**+2.2**
DANN	**Dangsing**	**30.81**	**45**	*e*P	**P**	**17 48 07.4**	**+2.0**
GKN	**Gorkha**	**31.23**	**46**	*e*P	**P**	**17 48 10.8**	**+1.9**
DMN	**Daman**	**31.34**	**47**	*e*P	**P**	**17 48 12.3**	**+2.3**
PKIN	**Phulchoki**	**31.53**	**48**	*e*P	**P**	**17 48 13.6**	**+1.9**
PKI	**Pulchoki**	**31.54**	**48**	*e*P	**P**	**17 48 13.8**	**+2.0**
KKN	**Kakani**	**31.57**	**47**	*e*P	**P**	**17 48 14.1**	**+2.2**
GUN	**Gumba**	**32.07**	**48**	*e*P	**P**	**17 48 18.9**	**+2.4**
RAMN	**Ramite**	**32.09**	**50**	*e*P	**P**	**17 48 18.7**	**+2.2**
JIRN	**Jiri**	**32.16**	**48**	*e*P	**P**	**17 48 19.4**	**+2.0**
ODAN	**Odare**	**32.64**	**51**	*e*P	**P**	**17 48 23.2**	**+1.8**
TAPN	**Taplejung**	**33.14**	**50**	*e*P	**P**	**17 48 27.3**	**+1.5**
MMAI	**Mount Meron Ar**	**33.85**	**322**	P	**P**	**17 48 34.4**	**+2.8**
comp=Z,1.3nm,0.2s,baz=100,slow=3.2,SNR=1.6							
MMAI				LR	LR	18 02 14.8	
comp=Z,199nm,18.2s,baz=115,slow=36							
BTK	**Batken**	**33.91**	**16**	P	**P**	**17 48 32.7**	**+0.6**
BTK				pmax	pmax		
comp=Z,14nm,1.4s							
BTK	**Batken**	**33.91**	**16**	P	**P**	**17 48 32.7**	**+0.6**
BTK				IAmb	IAmb	17 48 36.9	
comp=Z,14nm,1.4s							
KSH	**Kashi**	**35.08**	**22**	P	**P**	**17 48 40.4**	**-1.9**
KSH				pP	sP	17 48 45.4	+0.4
KSH				PcP	**PcP**	**17 51 13.7**	**-0.4**
KSH				S	**S**	**17 54 09.1**	**-5.8**
KSH				sS	pS	17 54 16.3	-0.9
KSH				SS	**SnSn**	**17 56 21.9**	**-9.1**
KSH				pmax	pmax		
comp=Z,290nm,6.9s							
KSH				LR	LR		
comp=Z,160nm,9.8s							
KSH				LR	LR		
comp=Z,130nm,8.9s							
KSH				LR	LR		
comp=Z,220nm,11.7s							
GNI	**Garni**	**35.09**	**340**⇓	*e*P	**P**	**17 48 44.7**	**+2.2**
GNI				pmax	pmax		
comp=Z,71nm,1.7s							
GNI	**Garni**	**35.09**	**340**	P	**P**	**17 48 42.9**	**+0.4**
comp=Z,5.9nm,0.7s,baz=114,slow=5.8,SNR=4.2							
GNI	**Garni**	**35.09**	**340**	P	**P**	**17 48 42.8**	**+0.3**
GNI				IAmb	IAmb	17 48 46.9	
comp=Z,13nm,1.1s							
SHL	**Shillong**	**35.61**	**56**	P	**P**	**17 48 46.0**	**-1.2**
SHL	**Shillong**	**35.61**	**56**	P	**P**	**17 48 46.0**	**-1.2**
AKH	**Akhalkalaki**	**36.64**	**340**	P	**P**	**17 48 56.3**	**+0.5**
AKH				pmax	pmax		
comp=Z,27nm,1.7s							
AKH	**Akhalkalaki**	**36.64**	**340**	P	**P**	**17 48 56.3**	**+0.5**
AKH				IAmb	IAmb	17 49 05.1	
comp=Z,27nm,1.7s							
KK31	**Karatay Array**	**36.70**	**13**	P	**P**	**17 48 57.7**	**+1.6**
KK31				pmax	pmax		
comp=Z,8.0nm,0.8s							
KK31	**Karatay Array**	**36.70**	**13**	P	**P**	**17 48 57.7**	**+1.6**
KK31				IAmb	IAmb	17 48 58.9	
comp=Z,8.0nm,0.8s							
KKAR	**Karatay Array**	**36.70**	**13**	P	**P**	**17 48 57.6**	**+1.5**
KKAR	**Karatay Array**	**36.70**	**13**	P	**P**	**17 48 57.6**	**+1.5**
KKAR	**Karatay Array**	**36.70**	**13**	P	**P**	**17 48 58.1**	**+2.0**
KKAR				IAmb	IAmb	17 48 58.9	
comp=Z,8.0nm,0.8s							
LSA	**Lhasa**	**36.94**	**49**	P	**P**	**17 49 00.8**	**+2.1**
LSA	**Lhasa**	**36.94**	**49**	P	**P**	**17 49 00.2**	**+1.4**
LSA				pmax	pmax		
comp=Z,12nm,0.8s							
LSA	**Lhasa**	**36.94**	**49**	P	**P**	**17 49 00.2**	**+1.4**
LSA				IAmb	IAmb	17 49 01.6	
comp=Z,12nm,0.8s							
AAK	**Ala-Archa**	**37.35**	**18**	P	**P**	**17 49 02.2**	**+0.5**
AAK	**Ala-Archa**	**37.35**	**18**	*ce*P	**P**	**17 49 04.0**	**+2.3**
AAK				pmax	pmax		
comp=Z,12nm,1.7s							
AAK	**Ala-Archa**	**37.35**	**18**	P	**P**	**17 49 02.2**	**+0.5**
comp=Z,4.5nm,0.8s,baz=160,slow=6.3,SNR=11							
AAK	**Ala-Archa**	**37.35**	**18**	P	**P**	**17 49 02.3**	**+0.5**
LSZ	**Lusaka**	**38.50**	**234**	P	**P**	**17 49 13.3**	**+1.5**
comp=Z,2.9nm,0.7s,baz=40,slow=4.1,SNR=6.5							
LSZ	**Lusaka**	**38.50**	**234**	IAmb	IAmb	17 49 34.8	
comp=Z,31nm,1.9s							
KBZ	**Khabaz**	**38.90**	**341**	P	**P**	**17 49 15.1**	**+0.5**
comp=Z,3.4nm,0.8s,baz=174,slow=6.6,SNR=6.3							
KIV	**Kislovodsk**	**39.18**	**341**	*e*P	**P**	**17 49 19.2**	**+2.2**
KIV				pmax	pmax		
comp=Z,32nm,1.1s							
KIV				MLR	MLR		
comp=Z,283nm,16.0s							
KIV	**Kislovodsk**	**39.18**	**341**	P	**P**	**17 49 19.0**	**+1.9**
KIV				IAmb	IAmb	17 49 20.8	
comp=Z,26nm,1.5s							
BR131	**Keskin Array S**	**39.60**	**328**	P	**P**	**17 49 21.5**	**+0.8**
BR131				pmax	pmax		
comp=Z,6.0nm,1.1s							
BR131	**Keskin Array S**	**39.60**	**328**	P	**P**	**17 49 21.5**	**+0.8**
BRTR	**Keskin Array B**	**39.60**	**328**	P	**P**	**17 49 21.0**	**+0.2**
BRTR	**Keskin Array B**	**39.60**	**328**	P	**P**	**17 49 20.9**	**+0.2**
comp=Z,2.3nm,0.8s,baz=147,slow=10,SNR=11							
BRTR	**Keskin Array B**	**39.60**	**328**	P	**P**	**17 49 21.2**	**+0.4**
CM31	**Chiang Mai Arr**	**39.76**	**70**	P	**P**	**17 49 21.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**39.76**	**70**	P	**P**	**17 49 22.2**	**+0.1**
comp=Z,1.9nm,1.1s,baz=256,slow=8.5,SNR=12							
CMAR				PcP	**PcP**	**17 51 28.1**	**-0.6**
comp=Z,1.4nm,0.9s,baz=260,slow=5.1,SNR=6.7							
CMAR				LR	LR	18 05 49.6	
comp=Z,87nm,18.1s,baz=186,slow=36							
CMAR	**Chiang Mai Arr**	**39.76**	**70**	P	**P**	**17 49 22.5**	**+0.3**
BR231	**Keskin MP Arra**	**40.15**	**327**	P	**P**	**17 49 24.4**	**-0.9**
BR231				IAmb	IAmb	17 49 28.6	
comp=Z,15nm,0.9s							
ANTO	**Ankara**	**40.16**	**327**	P	**P**	**17 49 25.4**	**+0.1**
ANTO				pmax	pmax		
comp=Z,23nm,1.4s							
ANTO	**Ankara**	**40.16**	**327**	P	**P**	**17 49 25.4**	**+0.1**
ANTO				IAmb	IAmb	17 49 29.2	
comp=Z,23nm,1.4s							
KULM	**Kulim**	**40.85**	**91**	P	**P**	**17 49 30.9**	**-0.3**
MATP	**Matopo**	**41.32**	**227**	P

comp=Z,4.7nm,0.8s,baz=214,slow=8.0,SNR=38
KURK Kurchatov 45.86 17 *d* iP **P 17 50 11.8 +0.7**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURK Kurchatov 45.86 17 P **P 17 50 11.5 +0.3**
KURK IAmb IAmb 17 50 12.8
comp=Z,6.7nm,0.8s
AGG Agios Georgios 45.87 319 P **P 17 50 11.4 -0.1**
AGG pmax pmax
comp=Z,92nm,1.9s
AGG Agios Georgios 45.87 319 P **P 17 50 11.4 -0.1**
TLB Topalu 45.98 329 ⇓P **P 17 50 12.5 +0.3**
TOPG Topolog 46.01 329 ⇑P **P 17 50 12.7 +0.2**
HARR Harsova 46.11 329 ⇑P **P 17 50 13.3 +0.1**
HARR mb 17 50 15.9
BVAR Borovoye Array 46.20 9 P **P 17 50 14.1 +0.3**
comp=Z,2.7nm,0.7s,baz=178,slow=6.8,SNR=28
BRVK Borovoye 46.22 9 *d e*P **P 17 50 14.1 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 46.22 9 P **P 17 50 14.5 +0.6**
VORD Divnogorie 46.45 342 *e*P **P 17 50 14.6 -1.2**
VORD pmax pmax
comp=Z,6.0nm,0.7s
VSR Storozhevoye 46.71 342 *e*P **P 17 50 17.1 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VTS Vitosha 47.37 324 P **P 17 50 23.4 0.0**
VTS pmax pmax
comp=Z,8.0nm,0.9s
VTS Vitosha 47.37 324 ⇓P **P 17 50 24.0 +0.7**
VTS mb 17 50 25.9
VTS Vitosha 47.37 324 P **P 17 50 23.4 0.0**
VTS IAmb IAmb 17 50 25.9
comp=Z,7.9nm,0.9s
VRI Vrincioaia 47.54 329 ⇑P **P 17 50 26.0 +1.6**
PLOR Plostina 47.57 329 ⇑P **P 17 50 25.9 +1.2**
MLR Muntele Rosu 47.69 328 P **P 17 50 26.4 +0.7**
MLR pmax pmax
comp=Z,13nm,0.9s
MLR Muntele Rosu 47.69 328 P **P 17 50 26.8 +1.0**
comp=Z,7.6nm,0.8s,baz=166,slow=0.7,SNR=9.6
MLR Muntele Rosu 47.69 328 ⇑P **P 17 50 27.4 +1.6**
MLR Muntele Rosu 47.69 328 P **P 17 50 26.4 0.7**
LPSR Galich'ya Gora 48.01 343 *e*P **P 17 50 27.1 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.8s
GTA Gaotai 48.02 42 *e*P **P 17 50 30.5 +2.1**
GTA pP pwP 17 50 35.2 -0.1
GTA sP sP 17 50 37.6 +6.4
GTA PcP **PcP 17 51 56.8 +0.3**
GTA pmax pmax
comp=Z,2.0nm,0.9s
TESR Tescani 48.02 330 ⇑P **P 17 50 28.4 +0.2**
VOIR 48.12 328 ⇑P **P 17 50 29.0 0.0**
OZUR 48.18 329 ⇑P **P 17 50 30.1 +0.6**
DOPR Dopca 48.30 328 ⇑P **P 17 50 30.9 +0.6**
SORM Soroca 48.35 332 ⇑P **P 17 50 30.0 -0.7**
BIZ Bicaz 48.59 330 ⇑P **P 17 50 33.9 +1.4**
ARU Arti 48.77 359 *c i*P **P 17 50 34.1 +0.3**
ARU 17 51 52.0
ARU 17 52 32.1
ARU S **S 17 57 40.1 +3.5**
ARU SS **SS 18 01 07.3 +0.2**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 48.77 359 P **P 17 50 33.7 0.0**
comp=Z,1.9nm,0.8s,baz=160,slow=12,SNR=4.9
ARU Arti 48.77 359 P **P 17 50 33.4 -0.4**
ARU IAmb IAmb 17 50 38.5
comp=Z,9.0nm,1.0s
PRAR RASCA 48.82 330 ⇑P **P 17 50 34.5 +0.2**
PRAR mb 17 50 36.7
BOSA Boshof 48.87 221 P **P 17 50 35.5 +0.4**
comp=Z,4.9nm,1.1s,baz=26,slow=8.9,SNR=3.2
BOSA LR LR 18 08 29.1
comp=Z,129nm,19.6s,baz=62,slow=33
HERR Herculane 49.21 325 ⇑P **P 17 50 37.9 +0.6**
GZR Gura Zlata 49.33 326 ⇑P **P 17 50 40.0 +1.6**
LZH Lanzhou 49.33 48 *e*P **P 17 50 41.0 +2.4**
LZH pP pwP 17 50 46.1 +0.6
LZH sP sP 17 50 48.5 +7.1
LZH *e*PP **PP 17 52 36.2 +3.5**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,78nm,6.5s
LZH LR LR
comp=Z,310nm,14.2s
LZH LR LR
comp=Z,320nm,14.0s
LZH LR LR
comp=Z,430nm,17.0s
BURAR Bucovina Array 49.49 330 ⇑P **P 17 50 40.3 +0.7**
BURAR Bucovina Array 49.49 330 P **P 17 50 39.8 +0.2**
BUR08 Bucovina Ar. S 49.52 330 P **P 17 50 40.4 +0.6**
BUR08 IAmb IAmb 17 50 46.5
comp=Z,11nm,1.4s
MDVR Moldovita 49.55 325 ⇑P **P 17 50 39.8 -0.2**
AKASG Malin Array Be 49.87 335 P **P 17 50 41.4 -0.8**
comp=Z,3.6nm,0.7s,baz=135,slow=6.6,SNR=17
AKASG Malin Array Be 49.87 335 P **P 17 50 41.4 -0.8**
AKBB Malin Array Si 49.87 335 P **P 17 50 41.6 -0.7**
AKBB pmax pmax
comp=Z,14nm,1.1s
AKBB Malin Array Si 49.87 335 P **P 17 50 41.6 -0.7**
AKBB IAmb IAmb 17 50 44.2
comp=Z,14nm,1.1s
SIRR Siria 50.48 326 ⇑P **P 17 50 48.0 +1.0**
ZAA0 Zalesovo Array 50.56 19 P **P 17 50 46.7 -0.7**
ZAA0 IAmb IAmb 17 50 55.0
comp=Z,9.0nm,1.1s
ZALV Zalesovo Beam 50.56 19 *c e*P **P 17 50 47.4 0.0**
ZALV Zalesovo Beam 50.56 19 P **P 17 50 46.9 -0.6**
comp=Z,3.9nm,0.7s,baz=232,slow=7.3,SNR=12
ZALV Zalesovo Beam 50.56 19 P **P 17 50 46.4 -1.0**
KSM Kuching 50.88 94 P **P 17 50 50.2 -0.3**
OBN Obninsk 50.88 343 *i* P **P 17 50 49.6 -0.2**
OBN *i* 17 52 05.2
OBN pmax pmax
comp=Z,13nm,1.2s
MOS Moscow 51.14 344 *e*P **P 17 50 52.7 +1.0**
TRPA Tarpa 51.19 329 ⇑P **P 17 50 52.6 +0.4**
TRPA mb 17 50 56.8
UZH Uzhgorod 51.63 329 ⇓ *i*P **P 17 50 56.9 +1.3**
UZH *i* 17 51 02.3
ENH Enshi 51.83 57 P **P 17 50 57.5 +0.1**
KOLS Kolonicke sedl 51.84 329 *e*P **P 17 50 58.6 +1.4**
KOLS pmax pmax
comp=Z,17nm,1.3s
KOLS Kolonicke sedl 51.84 329 *e*P **P 17 50 58.6 +1.4**
KWP Kalwaria Pacla 52.08 330 P **P 17 50 58.8 -0.1**
KWP pmax pmax
comp=Z,396nm,1.5s
KWP Kalwaria Pacla 52.08 330 P **P 17 50 58.8 -0.1**
BLY Banja Luka 52.19 323 P **P 17 50 57.8 -2.0**
BLY IAmb IAmb 17 51 02.5
comp=Z,21nm,1.6s
XAN Xi'an 52.47 53 P **P 17 51 02.2 +0.1**
XAN pP pwP 17 51 11.9 +2.9
XAN pmax pmax
comp=Z,16nm,1.4s
XAN Xi'an 52.47 53 P **P 17 51 02.3 +0.1**
XAN pmax pmax
comp=Z,25nm,1.1s
XAN Xi'an 52.47 53 P **P 17 51 02.4 +0.2**
SBUM Sibu 52.64 93 P **P 17 51 02.5 -1.1**
VYHS Vyhne 53.36 327 *e*P **P 17 51 08.0 -0.4**
VYHS pmax pmax
comp=Z,18nm,1.8s
VYHS Vyhne 53.36 327 *e*P **P 17 51 08.0 -0.4**
LANS Liptovska Anna 53.41 328 *e*P **P 17 51 09.6 +0.7**
LANS pmax pmax
comp=Z,7.0nm,1.5s
LANS Liptovska Anna 53.41 328 *e*P **P 17 51 09.6 +0.7**
NRCA Norcia 53.81 319 P **P 17 51 11.5 -0.4**
NRCA IAmb IAmb 17 52 27.7
comp=Z,9.3nm,1.2s
OJC Ojcow 53.90 329 P **P 17 51 11.5 -0.8**
OJC pmax pmax
comp=Z,9.0nm,1.2s
OJC Ojcow 53.90 329 P **P 17 51 11.5 -0.8**
OJC IAmb IAmb 17 51 13.9
comp=Z,9.3nm,1.2s

SMOL Smolenice 54.13 327 *e*P **P 17 51 15.2 +1.1**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 54.13 327 *e*P **P 17 51 15.2 +1.1**
MODS Modra-Piesok 54.13 326 *e*P **P 17 51 13.5 -0.6**
MODS pmax pmax
comp=Z,18nm,1.4s
MODS Modra-Piesok 54.13 326 *e*P **P 17 51 13.5 -0.6**
SOKA Soboth 54.49 324 *i* P **P 17 51 16.8 0.0**
comp=Z,2.6nm,0.9s
ARSA Arzberg 54.50 324 *i* P **P 17 51 15.5 -1.3**
comp=Z,6.4nm,1.0s
CONA Conrad Observa 54.67 325 *i* P **P 17 51 16.1 -2.0**
comp=Z,10nm,1.3s
OBKA Obir 54.69 323 *i* P **P 17 51 18.5 +0.2**
comp=Z,7.9nm,1.1s
MORC Moravsky Berou 54.80 328 P **P 17 51 18.2 -0.8**
MORC pmax pmax
comp=Z,12nm,1.0s
MORC Moravsky Berou 54.80 328 ⇓P **P 17 51 18.8 -0.2**
MORC mb 17 51 22.6
MORC Moravsky Berou 54.80 328 P **P 17 51 18.2 -0.8**
MORC IAmb IAmb 17 51 21.0
comp=Z,12nm,1.0s
SUW Suwalki 54.82 335 P **P 17 51 18.3 -0.7**
SUW pmax pmax
comp=Z,26nm,0.9s
SUW Suwalki 54.82 335 P **P 17 51 18.3 -0.7**
KLMR Klimovskoe 55.29 348 *e*P **P 17 51 19.6 -2.6**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 55.29 348 *e*P **P 17 51 19.6 -2.6**
KLMR AMP 17 51 24.8
comp=Z,23nm,1.3s
KLMR LR LR 18 18 26.3
MYKA Terra Mystica 55.29 323 *i* P **P 17 51 23.3 +0.7**
comp=Z,11nm,1.2s
MOA Molln 55.54 324 *i* P **P 17 51 24.1 -0.3**
comp=Z,5.9nm,0.8s
STAL STALIGIAL 55.67 322 P **P 17 51 24.7 -0.6**
STAL IAmb IAmb 17 51 27.0
comp=Z,12nm,1.1s
KBA Koenbreinsper 55.69 323 *i* P **P 17 51 22.4 -3.2**
comp=Z,9.9nm,1.5s
DPC Dobruska-Polom 55.77 328 *e*P **P 17 51 25.9 -0.1**
DPC Dobruska-Polom 55.77 328 *e*P **P 17 51 25.9 -0.1**
WHN Wuhan 55.98 58 ⇓P **P 17 51 27.1 -0.6**
ABTA Abfaltersbach 56.02 323 *i* P **P 17 51 26.8 -1.1**
comp=Z,7.3nm,1.2s
CHVC Chvalec 56.05 328 *e*P **P 17 51 27.7 -0.2**
CTI Castel Tesino 56.22 322 P **P 17 51 28.8 -0.5**
CTI pmax pmax
comp=Z,8.0nm,1.0s
CTI Castel Tesino 56.22 322 P **P 17 51 28.9 -0.5**
CTI IAmb IAmb 17 51 33.7
comp=Z,8.2nm,1.0s
GERES GERESS Array B 56.38 325 P **P 17 51 28.6 -1.8**
comp=Z,0.6nm,0.6s,baz=139,slow=9.1,SNR=2.9
SONM Songino Array 56.39 36 P **P 17 51 31.1 +0.6**
comp=Z,1.7nm,0.8s,baz=239,slow=6.4,SNR=8.5
SONM Songino Array 56.39 36 P **P 17 51 31.1 +0.6**
PRU Pruhonice 56.52 327 *e*P **P 17 51 32.5 +1.2**
PRU Pruhonice 56.52 327 *e*P **P 17 51 32.5 +1.2**
KHC Kasperske Hory 56.60 326 ⇑ *e*P **P 17 51 31.1 -0.8**
KHC pmax pmax
comp=Z,26nm,1.8s
KHC Kasperske Hory 56.60 326 *e*P **P 17 51 30.4 -1.5**
KHC Kasperske Hory 56.60 326 P **P 17 51 30.6 -1.3**
KHC IAmb IAmb 17 51 33.4
comp=Z,10nm,1.9s
HHC Hu-ho-hao-te 56.75 46 P **P 17 51 36.4 +3.2**
HHC pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 56.79 36 ⇓ *e*P **P 17 51 34.7 +1.3**
ULN pmax pmax
comp=Z,4.0nm,1.3s
WTTA Wattenberg 56.80 323 *i* P **P 17 51 32.5 -1.0**
comp=Z,9.9nm,1.2s
WATA Walderalm 56.87 323 *i* P **P 17 51 34.6 +0.6**
comp=Z,11nm,1.1s
SQTA Sankt Quirin 57.03 323 *i* P **P 17 51 33.3 -1.9**
comp=Z,6.8nm,0.8s
TOA0 Torodi Ar. Sit 57.13 281 P **P 17 51 35.5 -0.7**
TOA0 IAmb IAmb 17 51 44.9
comp=Z,14nm,1.8s
TORD Torodi Ar. Bea 57.13 281 P **P 17 51 35.8 -0.5**
comp=Z,2.1nm,1.1s,baz=76,slow=4.6,SNR=6.9
TORD Torodi Ar. Bea 57.13 281 P **P 17 51 35.9 -0.3**
MOTA Moosalm 57.16 323 *i* P **P 17 51 34.3 -1.7**
comp=Z,15nm,1.5s
FETA Feichten 57.23 322 *i* P **P 17 51 32.3 -4.3**
comp=Z,7.6nm,1.2s
RETA Reutte 57.43 323 *i* P **P 17 51 34.1 -3.7**
comp=Z,5.6nm,1.2s
DAVOX Davos/Dischmat 57.64 322 P **P 17 51 38.8 -0.7**
comp=Z,5.8nm,0.9s,baz=161,slow=5.5,SNR=5.7
NKC Novy Kostel 57.80 326 *e*P **P 17 51 40.4 +0.1**
NKC Novy Kostel 57.80 326 *e*P **P 17 51 40.4 +0.1**
DAVA Damuels 57.87 322 *i* P **P 17 51 40.6 -0.4**
comp=Z,16nm,1.5s
CLL Collm 58.06 327 *e*P **P 17 51 43.0 +0.9**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 58.06 327 *e*P **P 17 51 43.0 +0.9**
comp=Z,8.0nm,1.2s
SENIN Lac Senin/Sane 59.08 320 P **P 17 51 49.6 0.0**
FINES FINESS Array B 59.24 342 P **P 17 51 48.9 -1.2**
comp=Z,5.8nm,1.0s,baz=151,slow=4.4,SNR=5.6
BFO Black Forest 59.27 323 *i* P **P 17 51 52.8 +2.1**
ECH Echery 59.93 322 P **P 17 51 54.4 -0.8**
ECH pmax pmax
comp=Z,21nm,1.4s
ECH Echery 59.93 322 P **P 17 51 54.4 -0.8**
NJ2 Nanjing 60.05 57 *e*P **P 17 51 57.0 +0.7**
NJ2 pmax pmax
comp=Z,16nm,0.6s
KAPI Kappang 61.30 100 P **P 17 52 04.1 -1.0**
KAPI pmax pmax
comp=Z,18nm,1.3s
KAPI Kappang 61.30 100 P **P 17 52 04.1 -1.0**
HFS Hagfors 62.73 336 P **P 17 52 13.3 -0.6**
comp=Z,3.8nm,0.8s,baz=148,slow=7.0,SNR=5.7
DBIC Dimbokro 63.91 274 P **P 17 52 23.0 +0.4**
DBIC Dimbokro 63.91 274 P **P 17 52 22.9 +0.4**
comp=Z,5.7nm,0.9s,baz=74,slow=8.2,SNR=3.7
NB2 NORSAR Subarra 64.26 336 P **P 17 52 23.2 -0.9**
comp=Z,20nm,1.7s,baz=125,slow=6.9
NOA NORSAR Array B 64.26 336 P **P 17 52 22.4 -1.6**
comp=Z,1.7nm,0.8s,baz=122,slow=7.0,SNR=3.9
MDT Midelt 64.30 303 P **P 17 52 23.7 -1.3**
comp=Z,1.5nm,0.9s,baz=95,slow=15,SNR=2.8
NRIK Noril'sk 64.37 11 P **P 17 52 23.2 -1.3**
comp=Z,1.6nm,0.4s,baz=163,slow=17,SNR=2.9
ESDC Sonseca Array 64.94 310 P **P 17 52 27.9 -1.0**
comp=Z,2.8nm,0.7s,baz=93,slow=4.8,SNR=14
ESDC Sonseca Array 64.94 310 P **P 17 52 28.9 -0.1**
ARCES ARCESS Array B 65.75 348 P **P 17 52 32.6 -1.0**
comp=Z,4.4nm,0.7s,baz=152,slow=5.4,SNR=8.8
H01W3 Cape Leeuwin H 66.50 133 T T 19 04 53.8
baz=299,slow=75,SNR=3.8
H01W2 Cape Leeuwin H 66.51 133 T T 19 04 56.1
baz=299,slow=75,SNR=4.6
H01W1 Cape Leeuwin H 66.52 133 T T 19 05 02.3
baz=299,slow=75,SNR=3.8
KSAR Wonju Array Be 68.23 53 P **P 17 52 48.9 -1.1**
KSAR Wonju Array Be 68.23 53 P **P 17 52 48.9 -1.1**
KSRS Korea Array 68.27 53 P **P 17 52 48.9 -1.3**
comp=Z,4.1nm,0.8s,baz=261,slow=6.8,SNR=12
KSRS LR LR 18 21 43.1
comp=Z,60nm,20.9s,baz=92,slow=35
EKA Eskdalemuir Ar 68.51 327 P **P 17 52 50.2 -1.1**
comp=Z,3.1nm,0.9s,baz=113,slow=7.2,SNR=4.2
JNU Nakatsue 70.25 58 P **P 17 53 02.7 0.0**
KLR Kul'dur 72.69 41 LR LR 18 26 23.5
comp=Z,119nm,20.5s,baz=308,slow=37
YAK Yakutsk 74.09 27 *e*P **P 17 53 24.7 -0.2**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK Yakutsk 74.09 27 P **P 17 53 24.6 -0.4**
MJAR Matsushiro Arr 76.42 54 P **P 17 53 37.3 -1.6**
MJAR pmax pmax
comp=Z,8.0nm,1.5s
MJAR Matsushiro Arr 76.42 54 P **P 17 53 37.3 -1.6**
TIXI Tiksi 76.42 18 ⇑ *i*P **P 17 53 37.7 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.3s

TIXI Tiksi 76.42 18 P **P 17 53 36.9 -1.3**
TIXI IAmb IAmb 17 53 38.4
comp=Z,6.7nm,1.1s
SYO Syowa Base 77.63 187 ⇑ *e*P P 17 53 36.8 -8.1
WRA Warramunga Arr 78.39 112 P **P 17 53 49.5 -0.8**
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 78.39 112 P **P 17 53 49.2 -1.0**
comp=Z,4.8nm,1.0s,baz=292,slow=4.4,SNR=18
WRA Warramunga Arr 78.39 112 P **P 17 53 49.5 -0.8**
WRAB Tennant Creek 78.40 112 *c e*P **P 17 53 50.3 0.0**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WRAB Tennant Creek 78.40 112 P **P 17 53 50.0 -0.3**
WRAB IAmb IAmb 17 53 51.0
comp=Z,12nm,1.1s
WB2 Warramunga Arr 78.40 112 P **P 17 53 49.8 -0.5**
WB2 IAmb IAmb 17 53 50.9
comp=Z,12nm,1.1s
WC3 Warramunga Arr 78.42 112 P **P 17 53 48.9 -1.5**
ASAR Alice Springs 78.82 116 P **P 17 53 52.1 -0.5**
ASAR Alice Springs 78.82 116 P **P 17 53 51.7 -0.9**
comp=Z,3.7nm,0.9s,baz=284,slow=5.3,SNR=22
ASAR Alice Springs 78.82 116 P **P 17 53 52.1 -0.5**
AS31 Alice Springs 78.82 116 P **P 17 53 52.7 +0.1**
YPP Pitchstone Pla 127.71 351 **PKPdf 18 00 52.3 -3.0**
PDAR Pinedale Array 128.97 350 PKP **PKiKP 18 00 57.7 -0.6**
comp=Z,1.3nm,0.9s,baz=54,slow=3.8,SNR=7.4
PDAR Pinedale Array 128.97 350 **PKPdf 18 00 56.5 -1.1**
NVAR Mina Array Bea 134.23 358 PKP **PKiKP 18 01 08.3 -0.7**
comp=Z,1.9nm,0.8s,baz=351,slow=0.4,SNR=12
NVAR Mina Array Bea 134.23 358 **PKiKP 18 01 08.5 -0.5**

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*ISCJB **07** 17:47:46.8±0.5, 39°.37N±0°.02×25°.86E±0°.03, h7km±3km,*
Error ellipse: s-maj=4.4km s-min=3.0km az=171.8
*ISK **07** 17:47:46.5, 39°.37N×25°.90E, h10km, ML2.4/8*
*ATH **07** 17:47:47.0, 39°.36N×25°.85E, h7km±3km, ML2.0/5, Error*
ellipse: s-maj=3.8km s-min=1.0km az=241.0
*THE **07** 17:47:47.0, 39°.37N×25°.86E, h2km±3km, ML1.9/6, Error*
ellipse: s-maj=3.3km s-min=0.7km az=187.0
*DDA **07** 17:47:48.1, 39°.45N×26°.01E, h8km±3km, ML2.8*
ISC 07 17:47:46.8±0.9, 39°.36N±0°.02×25°.89E±0°.03, h9km±7km,
n31, σ0°48/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.15**	**191**	P	**Pg**	**17 47 49.8**	**-0.3**
SIGR				S	**Sg**	**17 47 52.5**	**+0.2**
2μm,0.3s							
SIGR	**SIGRI**	**0.15**	**191**	P	**Pg**	**17 47 49.8**	**-0.3**
SIGR				S	**Sg**	**17 47 52.3**	**0.0**
SIGR				AML	AML	17 47 52.8	
comp=E,2683μm,0.3s							
SIGR				AML	AML	17 47 52.9	
comp=N,3504μm,0.4s							
PRK	**Paraskevi**	**0.32**	**111**	P	**Pb**	**17 47 54.1**	**-0.5**
PRK				S	**Sb**	**17 47 59.0**	**-0.8**
comp=N,225nm,0.3s							
PRK	**Paraskevi**	**0.32**	**111**	P	**Pb**	**17 47 54.0**	**-0.5**
PRK				S	**Sb**	**17 47 59.0**	**-0.8**
PRK				AML	AML	17 48 01.1	
comp=E,474μm,0.2s							
PRK				AML	AML	17 48 01.8	
comp=N,414μm,0.4s							
BOZC	**Bozcaada**	**0.50**	**14**	*i* P	**Pg**	**17 47 56.1**	**-0.4**
BOZC				*i* S	**Sg**	**17 48 03.8**	**+0.7**
BOZC				IAML_P			
comp=Z,2μm,0.2s							
BOZC	**Bozcaada**	**0.50**	**14**	PG	**Pg**	**17 47 56.4**	**-0.1**
BOZC				SG	**Sg**	**17 48 03.9**	**+0.9**
EZN	**Ezine**	**0.57**	**36**	P	**Pg**	**17 47 57.8**	**-0.2**
EZN				S	**Sg**	**17 48 05.9**	**+0.4**
EZN	**Ezine**	**0.57**	**36**	PG	**Pg**	**17 47 57.7**	**-0.2**
EZN				SG	**Sg**	**17 48 06.2**	**+0.7**
AYVA	**Ayvalik**	**0.62**	**95**	*i* P	**Pb**	**17 48 00.1**	**+0.3**
AYVA				*i* S	**Sb**	**17 48 09.2**	**+0.6**
AYVA				IAML_P			
comp=Z,496nm,0.1s							
LIA	**Limnos Island**	**0.77**	**315**	P	**Pg**	**17 48 01.5**	**-0.1**
LIA				S	**Sb**	**17 48 12.6**	**-0.2**
comp=Z,72nm,0.4s							
LIA	**Limnos Island**	**0.77**	**315**	P	**Pg**	**17 48 01.4**	**-0.1**
LIA				S	**Sg**	**17 48 11.7**	**0.0**
LIA				AML	AML	17 48 15.8	
comp=E,156μm,0.3s							
LIA				AML	AML	17 48 16.2	
comp=N,120μm,0.3s							
DKL	**Dikili**	**0.84**	**110**	PG	**Pg**	**17 48 03.1**	**+0.2**
PSRA	**Psara**	**0.86**	**198**	P	**Pg**	**17 48 03.7**	**+0.4**
PSRA				S	**Sg**	**17 48 14.6**	**+0.2**
CHOS	**Chios island**	**0.98**	**173**	P	**Pg**	**17 48 05.2**	**-0.4**
CHOS				S	**Sb**	**17 48 19.4**	**+0.4**
comp=N,155nm,0.5s							
CHOS	**Chios island**	**0.98**	**173**	P	**Pg**	**17 48 05.2**	**-0.4**
CHOS				S	**Sb**	**17 48 20.1**	**+1.1**
CHOS				AML	AML	17 48 23.2	
comp=N,333μm,0.6s							
CHOS				AML	AML	17 48 23.9	
comp=E,292μm,0.2s							
ZEDA	**zmir-Bergama**	**1.00**	**113**	*i* P	**Pb**	**17 48 06.4**	**+0.1**
ZEDA				*i* S	**Sn**	**17 48 20.9**	**-0.3**
ZEDA				IAML_P			
comp=Z,2μm,0.2s							
GELI	**Tayfur-Gelibol**	**1.13**	**23**	PN	**Pg**	**17 48 08.5**	**0.0**
URLA	**Izmir**	**1.14**	**151**	*i* P	**Pg**	**17 48 08.8**	**+0.1**
URLA				*i* S	**Sg**	**17 48 22.4**	**-1.1**
URLA	**Izmir**	**1.14**	**151**	PN	**Pg**	**17 48 08.7**	**0.0**
SMTH	**Samothraki Isl**	**1.14**	**346**	P	**Pg**	**17 48 08.3**	**-0.5**
SMTH				S	**Sg**	**17 48 23.7**	**0.0**
comp=Z,52nm,0.3s							
SMTH	**Samothraki Isl**	**1.14**	**346**	P	**Pg**	**17 48 08.1**	**-0.7**
SMTH				S	**Sb**	**17 48 24.1**	**+0.4**
SMTH				AML	AML	17 48 25.1	
comp=E,97μm,0.4s							
SMTH				AML	AML	17 48 25.7	
comp=N,106μm,0.2s							
LPK	**Lapseki**	**1.21**	**33**	PN	**Pb**	**17 48 09.7**	**-0.2**
LPK				SN	**Sn**	**17 48 26.5**	**0.0**
BALY	**Balya**	**1.39**	**74**	*i* P	**Pb**	**17 48 13.1**	**+0.1**
BALY				*i* S	**Sg**	**17 48 31.9**	**+0.4**
ERIK	**Erikli-Kesan**	**1.39**	**20**	PN	**Pn**	**17 48 12.4**	**0.0**
STEP	**BALIKESIR_Sava**	**1.42**	**89**	*i* P	**Pg**	**17 48 14.0**	**0.0**
STEP				*i* S	**Sg**	**17 48 32.3**	**0.0**
STEP				IAML_P			
comp=Z,634nm,0.1s							
KRBG	**Karabiga-Canak**	**1.50**	**46**	PN	**Pn**	**17 48 14.3**	**+0.5**
THAS	**Thassos island**	**1.54**	**324**	P	**Pb**	**17 48 15.5**	**+0.1**
ALN	**Alexandroupoli**	**1.54**	**4**	P	**Pn**	**17 48 14.2**	**-0.2**
ALN				S	**Sg**	**17 48 36.2**	**-0.1**
comp=Z,25nm,0.5s							
KESN	**Edirne-Kesan**	**1.58**	**22**	*i* P	**Pn**	**17 48 15.7**	**+0.3**
KESN				*i* S	**Sn**	**17 48 36.1**	**0.0**
KESN				IAML_P			
comp=Z,127nm,0.1s							
SART	**Tekirdag**	**1.66**	**36**	*i* P	**Pn**	**17 48 14.9**	**-1.1**
SART				IAML_P			
comp=Z,958nm,0.1s							
SMG	**Samos**	**1.81**	**156**	P	**Pb**	**17 48 20.8**	**+0.8**

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*ISCJB **07** 18:03:56.9±0.3, 67°.08N±0°.02×21°.00E±0°.06, h0km, Error*
ellipse: s-maj=3.5km s-min=2.9km az=6.2
*UPP **07** 18:03:57.5±0.1, 67°.08N×20°.94E, h0km, ML2.3, Explosion*
*HEL **07** 18:03:58.1±0.1, 67°.09N×20°.95E, h0km, ML2.3,*
ML2.3(UPP), Explosion
*IDC **07** 18:03:58.2±0.8, 67°.05N×21°.30E, h0km, mb1 3.3/5,*
mb1mx3.1/46, mbtmp3.3/5, ML2.1/4, Error ellipse:
s-maj=14.8km s-min=6.3km az=109.0
*NAO **07** 18:03:58.0±0.9, 67°.08N×21°.11E, ML2.6*
*BER **07** 18:04:00.3±3.4, 67°.05N×20°.93E, h0km, ML1.5,*
ML2.6(NAO), Suspected explosion
ISC 07 18:03:57.0±0.7, 67°.06N±0°.02×20°.92E±0°.02, h0km, n57,
σ1§17/81, Sweden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**295**	P	**Pg**	**18 04 00.7**	**+0.8**
DUNU				S	**Sg**	**18 04 03.4**	**+1.5**
DUNU	**Dundret**	**0.15**	**295**	*i* P	**Pg**	**18 04 00.7**	**+0.8**
DUNU				*i* S	**Sg**	**18 04 03.4**	**+1.5**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**18 04 08.2**	**+0.2**

MASU	**Masugnsbyn**	**0.58**	**46**	*i* P	**Pg**	**18 04 08.2**	**+0.2**
PAJU	**Pajala**	**0.86**	**91**	P	**Pg**	**18 04 13.4**	**0.0**
PAJU	**Pajala**	**0.86**	**91**	*i* P	**Pg**	**18 04 13.4**	**0.0**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**18 04 14.6**	**+0.4**
HARU	**Harads**	**0.90**	**179**	*e*P	**Pg**	**18 04 14.6**	**+0.4**
RATU	**Laukkuluspa**	**0.93**	**327**	P	**Pg**	**18 04 14.3**	**-0.4**
RATU	**Laukkuluspa**	**0.93**	**327**	*e*P	**Pg**	**18 04 14.3**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**290**	*e*P	**Pn**	**18 04 19.0**	**+0.8**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**18 04 16.8**	**-0.8**
LANU	**Lannavaara**	**1.08**	**22**	*e*P	**Pg**	**18 04 16.7**	**-0.8**
LANU				*e*SB	**Sg**	**18 04 31.7**	**+0.2**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**18 04 26.1**	**+0.3**
KALU	**Kalix**	**1.55**	**140**	*e*P	**Pn**	**18 04 26.0**	**+0.3**
KALU				*e*SN	**Sg**	**18 04 48.3**	**+1.6**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**18 04 26.8**	**+0.6**
SJUU	**Sjulsmark**	**1.58**	**170**	*e*P	**Pn**	**18 04 26.8**	**+0.6**
TOF	**Tornio**	**1.68**	**124**	*e*P	**Pn**	**18 04 28.2**	**+0.7**
TOF				MSG		18 04 49.1	
	comp=Z,27nm,0.2s						
TOF				*e*SN	**Sb**	**18 04 51.6**	**+1.4**
HEF	**Hetta**	**1.71**	**36**	Pg	**Pn**	**18 04 28.0**	**0.0**
HEF				Lg	Lg	18 04 50.3	
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**18 04 27.8**	**-0.2**
HEF				MSG		18 04 48.6	
	comp=Z,22nm,0.2s						
HEF				*e*SN	**Sg**	**18 04 52.6**	**+0.8**
KIF	**Kilpisjarvi**	**1.96**	**359**	Pn	**Pb**	**18 04 33.1**	**-0.3**
KIF				Sn	**Sg**	**18 04 59.2**	**-0.5**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*PB	**Pb**	**18 04 32.8**	**-0.6**
KIF				MSG		18 04 56.4	
	comp=Z,37nm,0.2s						
KIF				*e*SG	**Sg**	**18 04 59.8**	**+0.1**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*P	**Pb**	**18 04 32.8**	**-0.6**
KTK1	**Kautokeino**	**2.15**	**23**	*e*P	**Pn**	**18 04 34.9**	**+0.8**
KTK1				*e*S	**Sn**	**18 05 02.2**	**+0.9**
KTK1				IAML		18 05 09.3	
	comp=Z,9.7nm,0.3s						
SGF	**Sodankyl**	**2.21**	**77**	*e*PB	**Pn**	**18 04 36.2**	**+1.4**
SGF				*e*SG	**Sb**	**18 05 06.3**	**+0.6**
STEI	**Steigen**	**2.35**	**294**	*e*P	**Pb**	**18 04 38.6**	**-1.6**
STEI				IAML		18 05 40.8	
	comp=Z,4.1nm,0.2s						
MOR8	**Moi Rana**	**2.74**	**254**	*e*P	**Pn**	**18 04 42.6**	**+0.5**
MOR8				IAML		18 05 42.7	
	comp=Z,5.0nm,0.1s						
OUL	**Oulu**	**2.83**	**132**	*e*P	**Pn**	**18 04 45.6**	**+2.1**
	baz=316						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**18 04 46.3**	**+0.4**
	baz=210,slow=14						
ARA0				Sn	**Sn**	**18 05 22.7**	**0.0**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**18 04 46.3**	**+0.4**
	baz=210,slow=14						
ARA0				Sn	**Sn**	**18 05 22.7**	**0.0**
	baz=212,slow=28						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 04 46.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=210,slow=14,SNR=106						
ARCES				Sn	**Sn**	**18 05 22.5**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=211,slow=16,SNR=8.7						
ARCES				Lg	Lg	18 05 30.0	
	comp=Z,1.4nm,0.3s,baz=210,slow=26,SNR=8.4						
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**18 04 46.3**	**+0.4**
ARE0				*e*S	**Sn**	**18 05 19.9**	**-2.8**
OUF	**Merijarvi**	**3.13**	**148**	*e*P	**Pn**	**18 04 49.1**	**+1.7**
OUF				MSG		18 05 30.6	
	comp=Z,4.5nm,0.2s						
KONS	**Konsvik**	**3.14**	**263**	*e*P	**Pn**	**18 04 49.8**	**+2.2**
UMAU	**Umeaa**	**3.19**	**182**	*e*P	**Pn**	**18 04 49.7**	**+1.4**
VRF	**Varrio**	**3.42**	**74**	*e*P	**Pn**	**18 04 52.2**	**+0.6**
MSF	**Maaselka**	**3.45**	**106**	*e*P	**Pn**	**18 04 53.3**	**+1.4**
	baz=291						
KEV	**Kevo**	**3.52**	**37**	Pn	**Pn**	**18 04 53.2**	**+0.4**
KEV				Sn	**Sn**	**18 05 36.9**	**+1.8**
KEV				Lg	Lg	18 05 49.3	
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 04 53.4**	**+0.6**
KEV				*e*S	**Sn**	**18 05 36.8**	**+1.7**
KEV	**Kevo**	**3.52**	**37**	Pn	**Pn**	**18 04 53.2**	**+0.4**
KEV				Sn	**Sn**	**18 05 36.9**	**+1.8**
KEV				Sg	**Sg**	**18 05 49.3**	**-0.6**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**18 04 56.5**	**+0.8**
VAF	**Ylistaro**	**4.10**	**169**	*e*P	**Pn**	**18 05 02.6**	**+1.8**
HEMU	**Hemsoen**	**4.57**	**197**	*e*P	**Pn**	**18 05 08.6**	**+1.3**
APA0	**Apatity Array**	**4.70**	**78**	Pn	**Pn**	**18 05 09.6**	**+0.5**
APA0	**Apatity Array**	**4.70**	**78**	Pn	**Pn**	**18 05 09.6**	**+0.5**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 05 29.6**	**+1.8**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**18 06 37.5**	**-0.3**
	baz=337,slow=22						
FIA0				Lg	Lg	18 07 08.9	
	baz=339,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 05 29.6**	**+1.8**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**18 06 37.5**	**-0.3**
	baz=337,slow=22						
FIA0				Sg	**Sg**	**18 07 08.9**	**-2.7**
	baz=339,slow=28						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**18 05 29.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=8.8						
FINES				Sn	**Sn**	**18 06 36.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=350,slow=24,SNR=8.3						
FINES				Lg	Lg	18 07 07.1	
	comp=Z,0.2nm,0.3s,baz=129,slow=18,SNR=3.5						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**18 05 45.9**	**0.0**
	baz=27,slow=14						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**18 05 45.9**	**0.0**
	baz=27,slow=14						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**18 05 45.8**	**0.0**
	comp=Z,0.0nm,0.3s,baz=48,slow=4.0,SNR=7.4						
NOA				Sn	**Sn**	**18 07 05.6**	**-4.7**
	comp=Z,0.0nm,0.3s,baz=17,slow=12,SNR=2.5						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**18 05 48.5**	**+0.1**
	baz=52,slow=16						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**18 05 48.5**	**+0.1**
	baz=52,slow=16						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 05 50.0**	**+0.4**
	baz=23,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 05 50.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=8.0						
HFS				Sn	**Sn**	**18 07 15.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=20,slow=29,SNR=2.8						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 05 50.0**	**+0.4**
	baz=23,slow=14						
SPITS	**Spitsbergen Ar**	**11.26**	**355**	Pn	**Pn**	**18 06 38.4**	**-0.4**
	baz=185,slow=16,SNR=2.7						

IDC 07 18:11:06.5±4.0, 22°.80S×178°.73W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/29, mbtmp4.3/3, Error ellipse: s-maj=167.9km s-min=51.6km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.22**	**247**	P	P	18 18 10.6	-0.8
	1.7nm,0.4s,baz=100,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**43.38**	**259**	P	P	18 19 10.8	-0.2
	1.3nm,0.6s,baz=90,slow=6.4,SNR=55						
WRA	**Warramunga Arr**	**43.66**	**265**	P	P	18 19 13.7	+0.3
	3.2nm,0.4s,baz=99,slow=7.1,SNR=54						
HFS	**Hagfors**	**141.68**	**350**	PKP	PKPdf	18 30 37.4	-2.1
	1.7nm,0.4s,baz=48,slow=2.1,SNR=15						
BRTR	**Keskin Array B**	**147.82**	**309**	PKPbc	PKPbc	18 30 53.6	-0.2
	0.5nm,0.6s,baz=99,slow=3.6,SNR=2.9						

IDC 07 18:13:49.4±2.2, 26°.40N×143°.85E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=51.0km s-min=23.7km az=61.0

ISC 07 18:13:53.8±1.4, 26°.5N±0°.2×143°.8E±0°.2, h31km, n6, σ0°70/7, mb3.6/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.61**	**293**	Pn	**Pn**	**18 14 19.2**	**-0.8**
	8.0nm,0.3s,baz=298,slow=16,SNR=17						
JCJ				Sn	**Sb**	**18 14 43.1**	**+0.3**
	19nm,0.3s,baz=287,slow=19,SNR=5.4						
MJAR	**Matsushiro Arr**	**11.13**	**336**	Pn	**Pn**	**18 16 30.4**	**-0.5**
	0.1nm,0.3s,baz=156,slow=12,SNR=4.0						
SONM	**Songino Array**	**36.19**	**316**	P	**P**	**18 20 54.1**	**+0.4**
	0.7nm,0.4s,baz=116,slow=7.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**42.08**	**269**	P	**P**	**18 21 43.4**	**+0.3**
	0.2nm,0.6s,baz=65,slow=7.1,SNR=3.1						
WRA	**Warramunga Arr**	**47.04**	**192**	P	**P**	**18 22 22.3**	**-0.3**
	0.7nm,0.8s,baz=12,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**52.01**	**310**	P	**P**	**18 23 01.1**	**+0.7**
	0.5nm,0.8s,baz=92,slow=8.7,SNR=3.7						

ISK 07 18:29:30.7, 39°.38N×25°.82E, h1km, ML2.5/10
ISCJB 07 18:29:32.1±0.4, 39°.36N±0°.02×25°.86E±0°.03, h6km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=157.3
ATH 07 18:29:32.2, 39°.34N×25°.85E, h12km±4km, ML2.3/5, Error ellipse: s-maj=4.4km s-min=0.9km az=178.0
THE 07 18:29:32.4, 39°.38N×25°.87E, h2km±2km, ML2.2/6, Error ellipse: s-maj=2.9km s-min=0.7km az=194.0
DDA 07 18:29:33.5, 39°.46N×26°.05E, h6km±3km, ML2.8

ISC 07 18:29:32.4±0.9, 39°.36N±0°.02×25°.85E±0°.03, h9km±8km, n33, σ0°59/53, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.15**	**179**	P	**Pg**	**18 29 35.2**	**-0.4**
SIGR				S	**Sg**	**18 29 37.8**	**0.0**
	2μm,0.4s						
SIGR	**SIGRI**	**0.15**	**179**	P	**Pg**	**18 29 35.3**	**-0.4**
SIGR				S	**Sg**	**18 29 37.6**	**-0.2**
SIGR				AML	AML	18 29 38.2	
	comp=N,4224μm,0.4s						
SIGR				AML	AML	18 29 39.4	
	comp=E,4306μm,0.5s						
PRK	**Paraskevi**	**0.34**	**110**	P	**Pg**	**18 29 39.6**	**+0.5**
PRK				S	**Sg**	**18 29 44.6**	**+0.9**
	comp=E,810nm,0.4s						
PRK	**Paraskevi**	**0.34**	**110**	P	**Pg**	**18 29 39.1**	**0.0**
PRK				S	**Sg**	**18 29 44.3**	**+0.6**
PRK				AML	AML	18 29 44.8	
	comp=N,1158μm,0.4s						
PRK				AML	AML	18 29 45.0	
	comp=E,2040μm,0.4s						
BOZC	**Bozcaada**	**0.50**	**18**	*i* P	**Pg**	**18 29 42.0**	**-0.1**
BOZC				*i* S	**Sg**	**18 29 49.3**	**+0.5**
BOZC	**Bozcaada**	**0.50**	**18**	PG	**Pg**	**18 29 41.6**	**-0.5**
BOZC				SG	**Sg**	**18 29 49.3**	**+0.5**
EZN	**Ezine**	**0.59**	**38**	P	**Pg**	**18 29 43.0**	**-0.8**
EZN				S	**Sg**	**18 29 51.4**	**-0.1**
EZN	**Ezine**	**0.59**	**38**	PG	**Pg**	**18 29 43.0**	**-0.8**
AYVA	**Ayvalik**	**0.65**	**94**	*i* P	**Pg**	**18 29 44.9**	**0.0**
EFSA	**Agios Efstrati**	**0.69**	**285**	P	**Pg**	**18 29 45.8**	**+0.1**
EFSA				S	**Sg**	**18 29 55.8**	**+1.0**
LIA	**Limnos Island**	**0.74**	**316**	P	**Pg**	**18 29 46.9**	**+0.2**
LIA				S	**Sb**	**18 29 58.3**	**+0.5**
	comp=E,208nm,0.4s						
LIA	**Limnos Island**	**0.74**	**316**	P	**Pg**	**18 29 46.5**	**-0.2**
LIA				S	**Sb**	**18 29 57.4**	**-0.4**
LIA				AML	AML	18 30 00.5	
	comp=N,494μm,0.5s						
LIA				AML	AML	18 30 01.1	
	comp=E,345μm,0.3s						
DKL	**Dikili**	**0.87**	**109**	PG	**Pg**	**18 29 48.9**	**-0.1**
CHOS	**Chios island**	**0.99**	**171**	P	**Pg**	**18 29 50.9**	**-0.4**
CHOS				S	**Sb**	**18 30 06.1**	**+1.3**
	comp=E,210nm,0.3s						
CHOS	**Chios island**	**0.99**	**171**	P	**Pg**	**18 29 50.3**	**-1.0**
CHOS				S	**Sg**	**18 30 03.5**	**-0.6**
CHOS				AML	AML	18 30 08.5	
	comp=E,466μm,0.3s						
CHOS				AML	AML	18 30 08.6	
	comp=N,359μm,0.3s						
ZEDA	**zmir-Bergama**	**1.03**	**112**	*i* P	**Pg**	**18 29 51.7**	**-0.4**
ZEDA				*i* S	**Sg**	**18 30 05.5**	**0.0**
ZEDA				IAML_P			
	comp=Z,1μm,0.1s						
SMTH	**Samothraki Isl**	**1.14**	**347**	P	**Pg**	**18 29 53.2**	**-1.0**
SMTH				S	**Sb**	**18 30 09.4**	**+0.4**
	comp=Z,80nm,0.4s						
SMTH	**Samothraki Isl**	**1.14**	**347**	P	**Pg**	**18 29 54.0**	**-0.2**
SMTH				S	**Sb**	**18 30 09.5**	**+0.4**
SMTH				AML	AML	18 30 11.8	
	comp=E,171μm,0.4s						
SMTH				AML	AML	18 30 13.1	
	comp=N,147μm,0.4s						
GELI	**Tayfur-Gelibol**	**1.14**	**25**	PN	**Pg**	**18 29 53.7**	**-0.5**
URLA	**Izmir**	**1.16**	**150**	*i* P	**Pg**	**18 29 53.5**	**-1.0**
URLA				*i* S	**Sg**	**18 30 09.6**	**0.0**
URLA	**Izmir**	**1.16**	**150**	PN	**Pg**	**18 29 54.1**	**-0.4**
LPK	**Lapseki**	**1.23**	**34**	PN	**Pg**	**18 29 54.8**	**-1.1**
ERIK	**Erikli-Kesan**	**1.40**	**21**	PN	**Pn**	**18 29 57.8**	**-0.3**
BALY	**Balya**	**1.42**	**74**	*i* P	**Pn**	**18 29 57.8**	**-0.5**
BALY				*i* S	**Sb**	**18 30 16.6**	**-0.6**
BALY				IAML_P			
	comp=Z,178nm,0.2s						
STEP	**BALIKESIR_Sava**	**1.45**	**89**	*i* P	**Pb**	**18 29 59.6**	**+0.1**
STEP				*i* S	**Sg**	**18 30 20.1**	**+1.3**
STEP				IAML_P			
	comp=Z,1μm,0.3s						
KRBG	**Karabiga-Canak**	**1.52**	**47**	PN	**Pn**	**18 29 59.8**	**+0.1**
ALN	**Alexandroupoli**	**1.54**	**5**	P	**Pn**	**18 29 59.1**	**-0.9**
ALN				S	**Sb**	**18 30 20.7**	**0.0**
	comp=Z,52nm,0.4s						
BALB	**Balikesir**	**1.59**	**79**	PN	**Pn**	**18 30 01.1**	**+0.4**
KESN	**Edirne-Kesan**	**1.59**	**23**	*i* P	**Pn**	**18 30 01.2**	**+0.1**
KESN				*i* S	**Sn**	**18 30 21.8**	**-0.2**
KESN				IAML_P			
	comp=Z,301nm,0.4s						
RKY	**Sarkoy-Tekirda**	**1.67**	**37**	PN	**Pn**	**18 30 01.9**	**0.0**
SART	**Tekirdag**	**1.67**	**37**	*i* P	**Pn**	**18 30 01.8**	**-0.1**
MRMT	**Marmara Adasi**	**1.82**	**47**	PN	**Pn**	**18 30 04.9**	**+0.9**
KCTX	**Karacabey (Bur**	**2.13**	**64**	PN	**Pn**	**18 30 08.3**	**+0.2**

ISCJB 07 18:38:48.1±0.2, 4°.21N±0°.02×126°.49E±0°.03, h50km, mb4.8/39, MS3.5/9, Error ellipse: s-maj=4.8km s-min=2.8km az=156.4
MAN 07 18:38:50.0, 3°.77N×126°.23E, h107km, MS4.2
NEIC 07 18:38:51.8±2.5, 4°.09N±0°.05×126°.31E±0°.08, h72km±5km, mb4.7/56
BJI 07 18:38:52.7±0.0, 4°.14N×126°.11E, h78km, mb4.7/25, mB5.0/18, Ms4.9/5, Ms7 4.6/3
IDC 07 18:38:52.3±1.4, 4°.00N×126°.06E, h70km±12km, mb4.3/31, mb1 4.3/36, mb1mx4.2/53, mbtmp4.6/36, MS3.4/11, Ms1 3.5/11, ms1mx3.2/48, Error ellipse: s-maj=15.6km s-min=7.5km az=79.0
DJA 07 18:38:52.9±0.3, 4°.N±3°×12°.7E±°, h56km±3km, M4.9/40, mB5.3/16, mb5.0/40, MLv5.3/15, Mw(mB)4.7/16

ISC 07 18:38:49.9±0.3, 4°.08N±0°.03×126°.33E±0°.05, h50km, n195, σ2°.95/187, mb4.7/54, MS3.4/9, 8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.89**	**244**	P	**Pn**	**18 39 09.3**	**+3.1**
SGSI				S	**Sn**	**18 39 22.5**	**+4.3**
GSPH	**General Santos**	**2.43**	**325**	‖*e*P	**Pn**	**18 39 31.6**	**+4.3**
GSPH				*e*S		18 41 01.5	
DAV	**Davao City (W)**	**3.06**	**346**	P	**Pn**	**18 39 37.7**	**+1.8**
	37nm,0.3s,baz=314,slow=18,SNR=4.0						
DAV				S	**Sn**	**18 40 12.2**	**+0.8**
	92nm,0.3s,baz=161,slow=20,SNR=5.4						
DAV	**Davao City (W)**	**3.06**	**346**		**Pn**	**18 39 34.5**	**-1.5**
DMPH	**Davao City--Mi**	**3.10**	**345**	‖*i* P	Pn	18 39 44.6	+8.3
DMPH				*i* S	**Sn**	**18 40 20.3**	**+8.2**
KCP	**Kidapawan**	**3.16**	**337**	‖*e*P	Pn	18 39 42.6	+5.3
KCP				*i* S	Sn	18 40 30.4	+16
TNTI	**Ternate**	**3.44**	**163**	P	**Pn**	**18 39 44.8**	**+3.7**
TNTI				S	**Sn**	**18 40 22.5**	**+1.8**
TNTI	**Ternate**	**3.44**	**163**		**Pn**	**18 39 42.3**	**+1.2**
CTBH	**Cotabato--PC H**	**3.75**	**326**	‖*i* P	**Pn**	**18 39 49.6**	**+4.3**
CTBH				*i* S	**Sn**	**18 40 35.8**	**+7.5**
KMSI	**Cibinong**	**4.20**	**214**	P	**Pn**	**18 39 55.9**	**+4.4**
CGP	**Cagayan de Oro**	**4.64**	**340**	‖*e*P	Pn	18 40 03.8	+6.2
ZCP	**Zamboanga City**	**5.10**	**304**	‖*i* P	**Pn**	**18 40 06.2**	**+2.3**
ZCP				*i* S	**Sn**	**18 41 04.1**	**+2.6**
MRSI	**Marisa**	**5.66**	**231**	P	**Pn**	**18 40 15.9**	**+4.3**
	918nm,0.5s,11μm3.8nm						
SANI	**Sanana**	**6.10**	**183**	P	**Pn**	**18 40 17.9**	**+0.4**
	241nm,0.6s,6μm1.3nm						
LUWI	**Luwuk**	**6.21**	**215**	P	Pn	18 40 26.8	+7.7
	3μm,0.9s,25μm9.0nm						
LUWI	**Luwuk**	**6.21**	**215**		**Pn**	**18 40 21.4**	**+2.3**
LLP	**Lapu-Lapu**	**6.63**	**339**	*e*P	Pn	18 40 19.7	-5.1
LLP				*e*S	Sn	18 42 07.6	+29
APSI	**Ampana**	**6.82**	**223**	P	Pn	18 40 34.2	+6.8
	357nm,0.7s,4μm1.3nm						
SWI	**Sorong**	**6.95**	**135**	P	**Pn**	**18 40 31.5**	**+2.2**
SWI				S	**Sn**	**18 41 48.3**	**+1.3**
SIJI	**Sorong**	**6.96**	**135**	P	**Pn**	**18 40 32.0**	**+2.6**
	24nm,0.3s,baz=332,slow=13,SNR=114						
SIJI				S	**Sn**	**18 41 47.9**	**+0.6**
	7.4nm,0.3s,baz=148,slow=20,SNR=14						
NLAI	**Namlea**	**7.31**	**174**	P	**Pn**	**18 40 36.2**	**+2.0**
	93nm,0.5s,4μm1.6nm						
MPSI	**Mapaga**	**7.43**	**240**	P	Pn	18 40 42.5	+6.7
	62nm,0.8s,731nm0.2nm						
AAI	**Ambon**	**7.94**	**166**	P	**Pn**	**18 40 45.5**	**+2.8**
FAKI	**Fak Fak**	**9.12**	**140**	P	**Pn**	**18 41 02.1**	**+3.0**
FAKI	**Fak Fak**	**9.12**	**140**		**Pn**	**18 41 01.7**	**+2.7**
TTSI	**Tana Toraja**	**9.62**	**223**	P	Pn	18 41 11.3	+5.5
	135nm,0.8s,2μm						
BBSI	**Bau Bau**	**10.22**	**202**	P	Pn	18 41 24.4	+10
KKM	**Kota Kinabalu**	**10.27**	**281**		Pn	18 41 20.3	+5.5
SPSI	**Sidrap Palu**	**10.34**	**219**	P	Pn	18 41 22.1	+6.4
	49nm,0.8s						
BNSI	**Bone**	**10.47**	**217**	P	Pn	18 41 24.7	+7.2
	66nm,0.7s						
BKB	**Balikpapan**	**10.82**	**241**	Pn	**Pn**	**18 41 23.7**	**+1.4**
KAPI	**Kappang**	**11.17**	**216**	P	**Pn**	**18 41 25.4**	**-1.7**
	0.7nm,0.3s,baz=269,slow=23,SNR=3.5						
KAPI				LR	LR	18 46 15.8	
	comp=Z,260nm,21.0s,baz=352,slow=40						
KAPI	**Kappang**	**11.17**	**216**		**Pn**	**18 41 26.0**	**-1.1**
BKSI	**Bulukumba**	**11.21**	**214**	P	Pn	18 41 34.6	+7.0
	20nm,0.7s						
TGY	**Tagaytay City**	**11.29**	**332**	LR	LR	18 46 16.0	
	comp=Z,387nm,21.0s,baz=152,slow=40						
KBKI	**Kotabaru**	**12.53**	**234**	P	**P**	**18 41 54.2**	**-1.7**
	18nm,0.8s,206nm						
MMRI	**Maumere**	**13.27**	**198**	P	P	18 42 13.1	+8.9
MMRI	**Maumere**	**13.27**	**198**	Pn	**Pn**	**18 41 58.3**	**+2.4**
EDFI	**Ende, Flores**	**13.56**	**200**	P	**P**	**18 42 05.2**	**-2.3**
SOEI	**Soe**	**13.90**	**189**	P	P	18 42 16.2	+4.9
SOEI	**Soe**	**13.90**	**189**		**Pn**	**18 42 07.2**	**+2.8**
SBUM	**Sibu**	**14.18**	**264**	P	**P**	**18 42 13.4**	**-0.9**
BATI	**Baumata**	**14.44**	**191**	P	**Pn**	**18 42 13.0**	**+1.4**
	2.3nm,0.3s,baz=333,slow=2.9,SNR=3.5						
BATI	**Baumata**	**14.44**	**191**	P	**P**	**18 42 16.0**	**-1.2**
WBSI	**Waikabubak, Su**	**15.29**	**207**	P	**P**	**18 42 27.9**	**+1.3**
STKI	**Sintang**	**15.37**	**255**	P	P	18 42 40.2	+13
PLAI	**Plampang**	**15.40**	**214**	P	**P**	**18 42 29.2**	**+1.3**
JAY	**Jayapura**	**15.78**	**114**	P	**P**	**18 42 33.6**	**+1.4**
	0.5nm,0.3s,baz=293,slow=13,SNR=2.5						
JAY				LR	LR	18 48 29.9	
	comp=Z,117nm,19.0s,baz=13,slow=36						
TWSI	**Taliwang, Sumb**	**15.84**	**216**	P	**P**	**18 42 35.4**	**+2.7**
	124nm,0.7s						
KSM	**Kuching**	**16.21**	**261**	P	**Pn**	**18 42 29.4**	**-5.1**
SRBI	**Singaraja**	**16.40**	**223**	P	**P**	**18 42 42.5**	**+3.5**
JAGI	**Jajag, Banyuwa**	**17.41**	**224**	P	**P**	**18 42 53.8**	**+3.7**
JAGI	**Jajag, Banyuwa**	**17.41**	**224**	P	**P**	**18 42 49.8**	**-0.3**
JAGI				IAmb	IAmb	18 42 58.0	
	comp=Z,47nm,0.8s						
MTN	**Manton Dam**	**17.48**	**164**	P	**Pn**	**18 42 48.4**	**-1.8**
MTN				IAmb	IAmb	18 43 01.4	
	comp=Z,36nm,0.5s						
GMJI	**Gumukmas**	**17.77**	**226**	P	**P**	**18 42 58.5**	**+4.4**
NGJI	**Ngawi**	**18.70**	**233**	P	Pn	18 43 14.7	+10
PWJI	**Pagerwojo**	**18.83**	**230**	P	**Pn**	**18 43 12.8**	**+6.1**
DLV	**T Lat**	**19.31**	**295**	P	**Pn**	**18 43 13.1**	**+0.4**
DLV				IAmb	IAmb	18 43 18.8	
	comp=Z,59nm,1.0s						
KNRA	**Kununurra**	**19.77**	**173**	P	**P**	**18 43 16.2**	**+0.1**
KNRA				IAmb	IAmb	18 43 27.4	
	comp=Z,44nm,0.8s						
YULB	**Yu-li**	**19.81**	**346**	P	**P**	**18 43 15.4**	**-1.0**
YULB				IAmb	IAmb	18 43 19.5	
	comp=Z,63nm,1.5s						
TPI	**Tanjungpandan**	**19.86**	**250**	P	Pn	18 43 29.0	+10
TPUB	**Ta-pu**	**19.89**	**344**	P	**P**	**18 43 15.9**	**-1.4**
SSLB	**Suanglung**	**20.27**	**346**	P	**P**	**18 43 21.8**	**+0.3**
SSLB				IAmb	IAmb	18 44 08.1	
	comp=Z,68nm,1.5s						
GUMO	**Guam**	**20.59**	**62**	LR	LR	18 49 56.3	
	comp=Z,99nm,21.6s,baz=304,slow=32						
LEM	**Lembang**	**21.60**	**240**	P	**P**	**18 43 35.1**	**-0.9**
	comp=Z,5.9nm,0.5s,baz=54,slow=19,SNR=1.7						
LEM				LR	LR	18 53 56.8	
	comp=Z,123nm,18.9s,baz=102,slow=42						
FITZ	**Fitzroy Crossi**	**22.05**	**182**	P	**P**

comp=Z,4.1nm,0.6s,baz=180,slow=9.7,SNR=15
KSRS LR LR 18 57 28.0
comp=Z,85nm,21.7s,baz=202,slow=34
XAN Xi'an 33.93 334 P **P 18 45 28.8 +0.3**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN Xi'an 33.93 334 P **P 18 45 27.6 -0.9**
XAN IAmb IAmb 18 45 29.5
comp=Z,10nm,0.7s
MJAR Matsushiro Arr 34.10 17 P **P 18 45 32.4 +2.4**
comp=Z,2.0nm,0.7s,baz=182,slow=8.4,SNR=4.9
MJAR LR LR 18 57 20.7
comp=Z,46nm,21.8s,baz=180,slow=32
FORT Forrest 34.70 177 P **P 18 45 35.5 +0.4**
BJT Baijiatuan 36.94 347 P **P 18 45 54.8 +0.6**
NWAO Narrogin (SRO) 37.80 193 P **P 18 46 02.0 +0.5**
comp=Z,6.4nm,0.3s,baz=24,slow=8.0,SNR=22
STKA Stephens Creek 38.59 159 P **P 18 46 09.2 +1.0**
comp=Z,9.5nm,0.8s,baz=340,slow=9.0,SNR=22
STKA Stephens Creek 38.59 159 P **P 18 46 08.7 +0.5**
USRK Ussuriysk Ar. 40.27 6 P **P 18 46 23.8 +1.8**
comp=Z,6.8nm,0.8s,baz=192,slow=6.1,SNR=13
USRK Ussuriysk Ar. 40.27 6 P **P 18 46 23.2 +1.2**
MDJ Mudanjiang 40.47 4 P **P 18 46 25.0 +1.2**
LSA Lhasa 41.91 311 P **P 18 46 36.2 -0.2**
LSA IAmb IAmb 18 46 49.9
comp=Z,7.6nm,0.7s
ARMA Armidale 41.97 147 P **P 18 46 37.1 +0.7**
ARMA IAmb IAmb 18 46 40.3
comp=Z,10.0nm,0.8s
ASAJ Asahikawa 42.38 17 P **P 18 46 41.5 +2.1**
comp=Z,13nm,0.9s,baz=289,slow=8.7,SNR=5.4
GTA Gaotai 42.60 329 *eP* **P 18 46 37.3 -4.1**
GTA PcP **PcP 18 48 35.0 +2.0**
TAPN Taplejung 43.49 306 *eP* **P 18 46 49.1 +0.1**
comp=Z,13nm,0.5s
ODAN Odare 43.55 305 *eP* **P 18 46 49.4 0.0**
comp=Z,23nm,0.6s
RAMN Ramite 44.23 305 *eP* **P 18 46 54.5 -0.4**
comp=Z,12nm,0.6s
JIRN Jiri 44.85 306 *eP* **P 18 46 59.7 -0.3**
comp=Z,23nm,0.6s
GUN Gumba 45.20 306 *eP* **P 18 47 02.9 +0.2**
comp=Z,41nm,0.7s
KLR Kul'dur 45.22 5 P **P 18 47 03.5 +1.4**
comp=Z,5.8nm,0.7s,baz=213,slow=6.9,SNR=11
HIA Hailar 45.37 354 P **P 18 47 04.0 +0.6**
PKI Pulchoki 45.45 305 *eP* **P 18 47 03.8 -0.9**
comp=Z,6.0nm,0.6s
PKIN Phulchoki 45.46 305 *eP* **P 18 47 04.1 -0.6**
comp=Z,4.5nm,0.5s
KKN Kakani 45.64 306 *eP* **P 18 47 05.6 -0.5**
comp=Z,5.7nm,0.5s
DMN Daman 45.71 305 *eP* **P 18 47 06.1 -0.6**
comp=Z,8.4nm,0.6s
GKN Gorkha 46.24 305 *eP* **P 18 47 10.1 -0.7**
comp=Z,7.3nm,0.5s
ULN Ulaanbaatar 46.67 342 P **P 18 47 13.9 +0.2**
SONM Songino Array 46.84 342 P **P 18 47 15.5 +0.4**
comp=Z,2.2nm,0.6s,baz=158,slow=9.3,SNR=9.5
SONM Songino Array 46.84 342 P **P 18 47 14.7 -0.4**
KOLN Koldanda 47.00 305 *eP* **P 18 47 15.9 -0.8**
comp=Z,54nm,0.6s
DANN Dangsing 47.09 306 *eP* **P 18 47 16.3 -1.3**
comp=Z,64nm,0.6s
PETK Petropavlovsk- 55.26 22 P **P 18 48 19.9 +1.9**
comp=Z,1.8nm,0.5s,baz=196,slow=4.9,SNR=18
PETK Petropavlovsk- 55.26 22 P **P 18 48 18.1 +0.1**
MSVF Nonsavu 55.41 115 P **P 18 48 17.6 -2.2**
MSVF IAmb IAmb 18 48 26.6
comp=Z,8.5nm,0.8s
MK31 Makanchi Array 57.05 325 P **P 18 48 30.1 -0.8**
MKAR Makanchi Array 57.05 325 P **P 18 48 30.6 -0.3**
comp=Z,4.8nm,0.5s,baz=119,slow=7.9,SNR=41
MKAR ScP **ScP 18 53 19.5 -1.7**
comp=Z,0.6nm,0.6s,baz=140,slow=4.5,SNR=3.6
MKAR LR LR 19 13 11.0
comp=Z,48nm,21.6s,baz=102,slow=36
MKAR Makanchi Array 57.05 325 P **P 18 48 29.2 -1.7**
MAKZ Makanchi 57.23 325 P **P 18 48 31.4 -0.8**
MAKZ IAmb IAmb 18 48 34.6
comp=Z,5.6nm,0.6s
NIL Nilore 57.40 308 P **P 18 48 32.3 -1.4**
KSH Kashi 57.52 315 P **P 18 48 38.4 +3.9**
KSH PcP **PcP 18 49 29.6 +2.0**
KSH S **S 18 56 30.1 +1.4**
KSH sS sS 18 56 57.7 +6.0
KSH pmax pmax
comp=Z,240nm,6.2s
KSH LR LR
comp=Z,220nm,10.2s
KSH LR LR
comp=Z,220nm,11.2s
KSH LR LR
comp=Z,260nm,14.8s
YAK Yakutsk 57.87 2 P **P 18 48 37.6 +1.3**
comp=Z,11nm,0.6s,baz=337,slow=2.5,SNR=10
YAK Yakutsk 57.87 2 P **P 18 48 36.3 -0.1**
ZALV Zalesovo Beam 60.10 333 P **P 18 48 50.9 -1.1**
comp=Z,1.1nm,0.4s,baz=137,slow=7.3,SNR=5.3
ZALV Zalesovo Beam 60.10 333 P **P 18 48 48.9 -3.0**
ARSB Arslanbob 60.34 316 P **P 18 48 54.4 +0.4**
KBL Kabul 61.00 307 P **P 18 48 57.9 -0.9**
KURBB Kurchatov Arra 61.23 327 P **P 18 48 59.0 -0.8**
comp=Z,7.6nm,0.5s,baz=131,slow=6.5,SNR=41
KURK Kurchatov 61.24 328 P **P 18 48 58.8 -0.9**
BTK Batken 61.40 314 P **P 18 49 00.4 -0.8**
KK31 Karatay Array 62.71 317 P **P 18 49 08.7 -1.1**
KK31 IAmb IAmb 18 49 11.1
comp=Z,5.7nm,0.8s
KKAR Karatay Array 62.71 317 P **P 18 49 08.3 -1.6**
KKAR IAmb IAmb 18 49 11.1
comp=Z,5.7nm,0.8s
URZ Urewera 63.06 137 LR LR 19 18 02.5
comp=Z,50nm,18.1s,baz=318,slow=37
BVAR Borovoye Array 66.81 327 P **P 18 49 35.8 -0.6**
comp=Z,4.2nm,0.7s,baz=120,slow=8.8,SNR=19
BRVK Borovoye 66.89 327 P **P 18 49 34.4 -2.5**
BRVK IAmb IAmb 18 49 39.8
comp=Z,6.0nm,0.7s
TIXI Tiksi 67.50 1 P **P 18 49 39.8 -0.5**
TIXI IAmb IAmb 18 49 44.8
comp=Z,8.7nm,1.0s
NRIK Noril'sk 70.00 346 P **P 18 49 56.5 +0.5**
comp=Z,12nm,0.8s,baz=137,slow=5.5,SNR=18
GEYT Alibeck 70.37 309 P **P 18 49 58.4 -0.5**
comp=Z,4.1nm,0.8s,baz=140,slow=5.8,SNR=9.3
GEYT Alibeck 70.37 309 P **P 18 49 58.7 -0.3**
CASY Casey 71.11 187 P **P 18 50 03.2 +0.5**
CASY IAmb IAmb 18 50 50.8
comp=Z,20nm,1.8s
ABKAR Abkulak array 71.63 321 P **P 18 50 04.6 -1.7**
ABKAR Abkulak array 71.63 321 P **P 18 50 04.8 -1.5**
ABKAR IAmb IAmb 18 50 07.6
comp=Z,5.7nm,0.7s
AKTO Aktyubinsk 73.14 322 P **P 18 50 14.6 -0.6**
comp=Z,5.7nm,0.7s,baz=98,slow=8.3,SNR=23
ARU Arti 74.43 328 P **P 18 50 21.4 -1.3**
comp=Z,3.0nm,0.5s,baz=117,slow=6.0,SNR=18
ARU Arti 74.43 328 P **P 18 50 21.1 -1.6**
ARU IAmb IAmb 18 50 24.2
comp=Z,9.3nm,0.6s
RAYN Ar Rayn 79.98 293 P **P 18 50 52.6 -1.9**
KLMR Klimovskoe 84.91 331 *eP* **P 18 51 17.8 -1.6**
KLMR AMP 18 51 20.9
comp=Z,17nm,1.1s
ILAR Eielson Array 84.96 25 P **P 18 51 19.8 +0.2**
comp=Z,0.3nm,0.6s,baz=247,slow=6.0,SNR=5.2
ILAR Eielson Array 84.96 25 P **P 18 51 18.6 -1.0**
BMAR Burnt Mountain 85.91 23 P **P 18 51 24.4 +0.1**
BRTR Keskin Array B 89.50 310 P **P 18 51 40.8 -1.5**
comp=Z,1.2nm,0.8s,baz=126,slow=6.0,SNR=6.5
BRTR Keskin Array B 89.50 310 P **P 18 51 38.7 -3.6**
ARCES ARCESS Array B 89.99 340 P **P 18 51 42.8 -1.0**
comp=Z,4.2nm,0.7s,baz=81,slow=6.3,SNR=13
ARCES ARCESS Array B 89.99 340 P **P 18 51 41.6 -2.1**
FINES FINESS Array B 91.34 332 P **P 18 51 48.9 -1.2**
comp=Z,2.0nm,0.5s,baz=26,slow=4.1,SNR=9.3
FINES FINESS Array B 91.34 332 P **P 18 51 47.9 -2.2**
AKASG Malin Array Be 91.38 321 P **P 18 51 49.0 -1.6**
comp=Z,0.5nm,0.4s,baz=68,slow=4.2,SNR=4.7
AKASG Malin Array Be 91.38 321 P **P 18 51 48.6 -1.9**
SYO Syowa Base 92.61 201 *eP* **P 18 51 56.0 +0.2**
BURAR Bucovina Array 94.48 318 P **P 18 52 04.1 -1.0**
NB2 NORSAR Subarra 98.30 334 P **P 18 52 20.7 -1.3**
comp=Z,3.9nm,0.7s,baz=67,slow=4.6
NB2 NORSAR Subarra 98.30 334 P **P 18 52 20.7 -1.3**
baz=67,slow=4.6
NOA NORSAR Array B 98.30 334 P **P 18 52 20.8 -1.3**
comp=Z,3.0nm,0.7s,baz=66,slow=4.5,SNR=12
VYHS Vyhne 98.44 320 *e*PDIFF Pdif 18 52 25.2 +2.3
GERES GERESS Array B 101.57 322 P **Pdif 18 52 37.0 +0.1**
comp=Z,0.4nm,0.6s,baz=106,slow=3.6,SNR=3.4
GERES GERESS Array B 101.57 322 Pdif 18 52 36.4 -0.6
TXAR Lajitas Array 121.70 52 PKP **PKiKP 18 57 40.2 +0.9**
comp=Z,0.2nm,0.6s,baz=327,slow=1.5,SNR=2.7
TXAR Lajitas Array 121.70 52 PKiKP 18 57 39.8 +0.5
TORD Torodi Ar. Bea 122.44 288 PKP **PKPdf 18 57 39.7 -1.0**
comp=Z,0.5nm,0.7s,baz=58,slow=1.6,SNR=3.8
W39A Magazine 125.75 41 PKPdf 18 57 46.9 +0.3
MIAR Mount Ida 126.28 41 PKPpre 18 57 35.5

UCR ***07*** *18:49:10.5±0.3, 4.°45N×82.°91W, h11km±999km, MW4.6*
IDC ***07*** *18:49:14.1±0.9, 4.°54N×82.°58W, h0km, mb4.3/8, mb1 4.5/15, mb1mx4.3/37, mbtmp4.4/15, ML3.7/7, MS3.8/19, Ms1 3.8/19, ms1mx3.6/41, Error ellipse: s-maj=24.4km s-min=14.9km az=54.0*
NEIC ***07*** *18:49:15.4±1.7, 4.°59N±0.°07×82.°55W±0.°08, h10km±1km, mb4.6/48*
ISCJB ***07*** *18:49:16.5±0.2, 4.°72N±0.°03×82.°60W±0.°03, h33km, mb4.3/8, MS3.8/15, Error ellipse: s-maj=4.6km s-min=2.7km az=138.1*
ISC 07 18:49:17.6±0.5, 4.°61N±0.°05×82.°70W±0.°07, h35km, n224, σ1.°78/206, mb4.5/46, MS3.8/15, 3C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**3.95**	**351**	*eP*		**Pn**	**18 50 13.3**		**-2.4**
AZU	**Azuero**	**3.98**	**37**	*eP*		**Pn**	**18 50 14.9**		**-1.3**
BRU2	**Volcan**	**4.16**	**0**	*eP*		**Pn**	**18 50 16.1**		**-2.7**
BRU2	**Volcan**	**4.16**	**0**	*eP*		**Pn**	**18 50 16.2**		**-2.6**
BRU2				*eS*		**Sn**	**18 51 03.7**		**-2.6**
EDSV	**San Vito**	**4.19**	**356**	*eP*		**Pn**	**18 50 16.8**		**-2.4**
EDPN	**Palmar Norte**	**4.39**	**350**	*eP*		**Pn**	**18 50 19.2**		**-2.6**
EDPN	**Palmar Norte**	**4.39**	**350**	*eP*		**Pn**	**18 50 19.0**		**-2.8**
EDPN				*eS*		**Sn**	**18 51 09.3**		**-2.4**
ICCO	**Coco Island**	**4.44**	**282**	*eP*		Pn	18 50 15.2		-7.2
DRK0	**Durika**	**4.66**	**353**	*eP*		**Pn**	**18 50 23.4**		**-2.2**
EDLM	**Las Mercedes**	**4.72**	**349**	*eP*		**Pn**	**18 50 24.7**		**-1.8**
EDLM	**Las Mercedes**	**4.72**	**349**	*eP*		**Pn**	**18 50 24.7**		**-1.8**
EDDO	**Dominical**	**4.76**	**346**	*eP*		**Pn**	**18 50 24.1**		**-2.8**
EDDO	**Dominical**	**4.76**	**346**	*eP*		**Pn**	**18 50 23.6**		**-3.2**
ZANG	**Zanguenga, Cho**	**5.16**	**33**	*eP*		**Pn**	**18 50 32.4**		**0.0**
ZANG	**Zanguenga, Cho**	**5.16**	**33**	*eP*		**Pn**	**18 50 32.5**		**+0.1**
LCR2	**La Lucha 2**	**5.26**	**346**	*eP*		**Pn**	**18 50 31.5**		**-2.5**
LCR2	**La Lucha 2**	**5.26**	**346**	*eP*		**Pn**	**18 50 31.3**		**-2.7**
BCIP	**Isla Barro Col**	**5.35**	**32**	*eP*		**Pn**	**18 50 33.9**		**-1.1**
BCIP	**Isla Barro Col**	**5.35**	**32**	*eP*		**Pn**	**18 50 33.9**		**-1.1**
BCIP	**Isla Barro Col**	**5.35**	**32**	*eP*		**Pn**	**18 50 33.4**		**-1.6**
BCIP	**Isla Barro Col**	**5.35**	**32**	*eP*		**Pn**	**18 50 34.6**		**-0.3**
BCIP	**Isla Barro Col**	**5.35**	**32**			**Pn**	**18 50 33.5**		**-1.4**
UPA	**Univ. de Panam**	**5.36**	**36**	*eP*		**Pn**	**18 50 34.4**		**-0.8**
UPA	**Univ. de Panam**	**5.36**	**36**	*eP*		**Pn**	**18 50 34.6**		**-0.6**
MALC	**Bahia Malaga**	**5.38**	**96**	*eP*		**Pn**	**18 50 35.2**		**-0.3**
MALC	**Bahia Malaga**	**5.38**	**96**	*eP*		**Pn**	**18 50 35.2**		**-0.3**
CVTR	**Volcan Turrial**	**5.48**	**349**	*eP*		**Pn**	**18 50 35.2**		**-2.0**
CVTR	**Volcan Turrial**	**5.48**	**349**	*eP*		**Pn**	**18 50 35.3**		**-1.9**
HDC	**Heredia**	**5.54**	**345**	*eP*		**Pn**	**18 50 35.4**		**-2.3**
HDC	**Heredia**	**5.54**	**345**	*eP*		**Pn**	**18 50 35.5**		**-2.3**
HDC	**Heredia**	**5.54**	**345**			**Pn**	**18 50 35.2**		**-2.5**
BBAC	**Balboa, Cauca**	**6.02**	**115**	*eP*		**Pn**	**18 50 42.5**		**-2.0**
BBAC	**Balboa, Cauca**	**6.02**	**115**	*eP*		**Pn**	**18 50 42.5**		**-2.0**
JTS	**Las Juntas de**	**6.07**	**339**	Pn		**Pn**	**18 50 42.2**		**-2.8**
	67nm,0.3s,baz=155,slow=23,SNR=57								
JTS				Sn		**Sn**	**18 51 49.8**		**-3.5**
	26nm,0.3s,baz=336,slow=22,SNR=8.5								
JTS				LR		LR	18 52 47.1		
	comp=Z,1μm,21.7s,baz=228,slow=34								
JTS	**Las Juntas de**	**6.07**	**339**	*eP*		**Pn**	**18 50 42.5**		**-2.5**
JTS	**Las Juntas de**	**6.07**	**339**	*eP*		**Pn**	**18 50 42.5**		**-2.5**
JTS				*eS*		**Sn**	**18 51 50.6**		**-2.7**
JTS	**Las Juntas de**	**6.07**	**339**			**Pn**	**18 50 41.7**		**-3.2**
OTAV	**Otavalo**	**6.07**	**136**			**Pn**	**18 50 43.1**		**-2.2**
OTAV	**Otavalo**	**6.07**	**136**	*eP*		**Pn**	**18 50 43.2**		**-2.2**
OTAV	**Otavalo**	**6.07**	**136**	*eP*		**Pn**	**18 50 43.2**		**-2.2**
CEDE	**Laguna Cedeo**	**6.17**	**341**	*eP*		**Pn**	**18 50 44.8**		**-1.5**
CEDE	**Laguna Cedeo**	**6.17**	**341**	*eP*		**Pn**	**18 50 44.9**		**-1.5**
POPC	**Popayan, Colom**	**6.36**	**109**	*eP*		**Pn**	**18 50 45.9**		**-3.2**
POPC	**Popayan, Colom**	**6.36**	**109**	*eP*		**Pn**	**18 50 45.9**		**-3.2**
YOTC	**Yotoco, Valle**	**6.37**	**95**	*eP*		**Pn**	**18 50 47.8**		**-1.3**
YOTC	**Yotoco, Valle**	**6.37**	**95**	*eP*		**Pn**	**18 50 47.8**		**-1.3**
PLMC	**San Jos del P**	**6.40**	**87**	*eP*		**Pn**	**18 50 49.2**		**-0.4**
PLMC	**San Jos del P**	**6.40**	**87**	*eP*		**Pn**	**18 50 49.2**		**-0.4**
CUI	**Cuipilapa**	**6.49**	**338**	*eP*		**Pn**	**18 50 48.9**		**-1.8**
CUI	**Cuipilapa**	**6.49**	**338**	*eP*		**Pn**	**18 50 48.9**		**-1.8**
CRUC	**La Cruz**	**6.49**	**118**	*eP*		**Pn**	**18 50 49.2**		**-1.8**
CRUC	**La Cruz**	**6.49**	**118**	*eP*		**Pn**	**18 50 49.2**		**-1.8**
SOTA	**Rioblanco**	**6.56**	**112**	*eP*		**Pn**	**18 50 53.2**		**+1.0**
SOTA	**Rioblanco**	**6.56**	**112**	*eP*		**Pn**	**18 50 53.2**		**+1.0**
PCON	**Cinco Dias**	**6.69**	**110**	*eP*		**Pn**	**18 50 55.1**		**+1.2**
PCON	**Cinco Dias**	**6.69**	**110**	*eP*		**Pn**	**18 50 55.1**		**+1.2**
BUEV	**Buena Vista**	**6.71**	**337**	*eP*		**Pn**	**18 50 53.0**		**-0.8**
BUEV	**Buena Vista**	**6.71**	**337**	*eP*		**Pn**	**18 50 53.5**		**-0.3**
GB1A	**Borinquen Arri**	**6.72**	**337**	*eP*		**Pn**	**18 50 53.9**		**0.0**
GB1A	**Borinquen Arri**	**6.72**	**337**	*eP*		**Pn**	**18 50 54.0**		**0.0**
CBOC	**Ciudad Bolivar**	**6.78**	**79**	*eP*		**Pn**	**18 50 55.8**		**+1.0**
CBOC	**Ciudad Bolivar**	**6.78**	**79**	*eP*		**Pn**	**18 50 55.8**		**+1.0**
DBBC	**Dabeiba**	**6.89**	**69**	*eP*		**Pn**	**18 50 59.8**		**+3.5**
DBBC	**Dabeiba**	**6.89**	**69**	*eP*		**Pn**	**18 50 59.8**		**+3.5**
GUY2C	**Guyana, Caldas**	**7.33**	**85**	*eP*		**Pn**	**18 51 01.8**		**-1.0**
GUY2C	**Guyana, Caldas**	**7.33**	**85**	*eP*		**Pn**	**18 51 01.8**		**-1.0**
ORTC	**Ortega, Tolima**	**7.47**	**95**	*eP*		**Pn**	**18 51 03.1**		**-1.1**
ORTC	**Ortega, Tolima**	**7.47**	**95**	*eP*		**Pn**	**18 51 03.1**		**-1.1**
BETC	**Betania**	**7.49**	**105**	*eP*		**Pn**	**18 51 05.8**		**+1.2**
BETC	**Betania**	**7.49**	**105**	*eP*		**Pn**	**18 51 05.8**		**+1.2**
FLOC	**Florencia**	**7.65**	**113**	*eP*		**Pn**	**18 51 07.8**		**+1.0**
FLOC	**Florencia**	**7.65**	**113**	*eP*		**Pn**	**18 51 07.8**		**+1.0**
ESPN	**Las Esperanzas**	**7.70**	**348**	*eP*		**Pn**	**18 51 05.7**		**-1.7**
ESPN	**Las Esperanzas**	**7.70**	**348**	*eP*		**Pn**	**18 51 05.6**		**-1.8**
ESPN	**Las Esperanzas**	**7.70**	**348**			**Pn**	**18 51 05.0**		**-2.4**
ACON	**Acoyapa**	**7.71**	**342**	*eP*		**Pn**	**18 51 05.8**		**-1.7**
ACON	**Acoyapa**	**7.71**	**342**	*eP*		**Pn**	**18 51 06.0**		**-1.4**
ACON	**Acoyapa**	**7.71**	**342**			**Pn**	**18 51 05.2**		**-2.2**
NORC	**Norcasia**	**7.86**	**83**	*eP*		**Pn**	**18 51 09.8**		**+0.2**
NORC	**Norcasia**	**7.86**	**83**	*eP*		**Pn**	**18 51 09.8**		**+0.2**
ZARC	**Zaragoza, Cauc**	**8.31**	**69**	*eP*		Pn	18 51 23.1		+7.3
ZARC	**Zaragoza, Cauc**	**8.31**	**69**	*eP*		Pn	18 51 23.1		+7.3
ROSC	**El Rosal**	**8.36**	**88**	*eP*		Pn	18 51 22.4		+5.7
ROSC				*eP*		Pn	18 51 25.7		+9.0
ROSC	**El Rosal**	**8.36**	**88**	*eP*		Pn	18 51 22.4		+5.7
ROSC				*eP*		Pn	18 51 25.7		+9.0
ROSC	**El Rosal**	**8.36**	**88**	Pn		**Pn**	**18 51 14.8**		**-1.9**
	2.7nm,0.3s,baz=261,slow=19,SNR=2.1								
ROSC				Sn		**Sn**	**18 52 53.3**		**+3.2**
	3.5nm,0.3s,baz=270,slow=20,SNR=2.6								
ROSC				LR		LR	18 54 21.8		
	comp=Z,397nm,18.5s,baz=22,slow=37								
ROSC	**El Rosal**	**8.36**	**88**			**Pn**	**18 51 14.1**		**-2.6**
PTBC	**PUERTO BERRIO,**	**8.43**	**76**	*eP*		**Pn**	**18 51 19.7**		**+2.4**
PTBC	**PUERTO BERRIO,**	**8.43**	**76**	*eP*		**Pn**	**18 51 19.7**		**+2.4**
VILC	**Villavicencio,**	**9.00**	**93**	*eP*		**Pn**	**18 51 27.0**		**+1.8**
VILC	**Villavicencio,**	**9.00**	**93**	*eP*		**Pn**	**18 51 27.0**		**+1.8**
PTLC	**Puerto Leguiza**	**9.04**	**119**	*eP*		**Pn**	**18 51 27.0**		**+1.2**
PTLC	**Puerto Leguiza**	**9.04**	**119**	*eP*		**Pn**	**18 51 27.0**		**+1.2**
SJCC	**San Jacinto, C**	**9.12**	**54**	*eP*		**Pn**	**18 51 29.7**		**+2.8**
SJCC	**San Jacinto, C**	**9.12**	**54**	*eP*		**Pn**	**18 51 29.7**		**+2.8**
ESTN	**Estel**	**9.18**	**337**			Pn	18 51 25.5		-2.3
PAYG	**Puerto Ayora**	**9.22**	**235**			Pn	18 51 30.9		+2.7
RUSC	**La Rusia**	**9.66**	**82**	*eP*		**Pn**	**18 51 35.0**		**+0.3**
RUSC	**La Rusia**	**9.66**	**82**	*eP*		**Pn**	**18 51 35.0**		**+0.3**
TGUH	**Tegucigalpa,Un**	**10.41**	**335**	Pn		**Pn**	**18 51 45.0**		**+0.3**
CODC	**Agustn Codazz**	**10.60**	**60**	*eP*		**Pn**	**18 51 51.0**		**+3.9**
CODC	**Agustn Codazz**	**10.60**	**60**	*eP*		**Pn**	**18 51 51.0**		**+3.9**
SNET	**Serv Nac Est T**	**11.08**	**325**	Pn		**Pn**	**18 51 54.7**		**+0.9**
ATAH	**Atahualpa**	**12.43**	**160**	Pn		**Pn**	**18 52 12.1**		**-0.5**
	1.5nm,0.3s,baz=11,slow=7.9,SNR=7.3								
ATAH				LR		LR	18 56 32.3		
	comp=Z,1μm,21.7s,baz=343,slow=36								
SDV	**Santo Domingo**	**12.71**	**70**	Pn		**Pn**	**18 52 15.6**		**-0.6**
	0.5nm,0.3s,baz=244,slow=9.6,SNR=11								
SDV	**Santo Domingo**	**12.71**	**70**			**Pn**	**18 52 15.1**		**-1.2**
SDV	**Santo Domingo**	**12.71**	**70**	*eP*		**Pn**	**18 52 13.4**		**-2.8**
SDV	**Santo Domingo**	**12.71**	**70**	*eP*		**Pn**	**18 52 13.4**		**-2.8**
URIC	**Uribia, Colomb**	**12.72**	**56**	*eP*		**Pn**	**18 52 16.2**		**0.0**
URIC	**Uribia, Colomb**	**12.72**	**56**	*eP*		**Pn**	**18 52 16.2**		**0.0**
APG	**El Apazote**	**12.85**	**324**	Pn		Pn	18 52 20.7		+2.6
	1.5nm,0.3s,baz=114,slow=9.5,SNR=7.2								
APG				LR		LR	18 56 36.3		
	comp=Z,465nm,19.6s,baz=116,slow=34								
CMIG	**Matias Romero**	**17.22**	**317**	P		**P**	**18 53 17.0**		**+0.2**
	0.1nm,0.3s,baz=117,slow=14,SNR=3.0								
NNA	**Nana**	**17.49**	**161**	P		**P**	**18 53 18.8**		**-1.0**
	1.8nm,0.3s,baz=328,slow=13,SNR=4.8								
NNA	**Nana**	**17.49**	**161**	P		**P**	**18 53 18.3**		**-1.6**
NNA				IAmb		IAmb	18 53 24.7		
	comp=Z,33nm,1.0s								
SDDR	**Presa de Saban**	**18.12**	**37**	P		**Pn**	**18 53 26.6**		**-0.1**
SDDR				IAmb		IAmb	18 53 31.3		
	comp=Z,36nm,1.2s								
BANI	**BANI**	**18.25**	**40**			**P**	**18 53 27.6**		**-0.7**
PCRV	**Puerto La Cruz**	**18.74**	**72**	P		**Pn**	**18 53 34.4**		**+0.1**
	comp=Z,0.7nm,0.3s,baz=307,slow=4.4,SNR=5.6								
PLCV	**Puerto La Cruz**	**18.78**	**72**	P		**Pn**	**18 53 34.4**		**-0.4**
TLIG	**Tlapa**	**20.18**	**311**	P		Pn	18 53 50.6		-0.9
TLIG				IAmb		IAmb	18 54 28.1		
	comp=Z,11nm,0.9s								
GRTK	**Grand Turk**	**20.21**	**33**	P		**P**	**18 53 49.3**		**-0.3**
GRTK				IAmb		IAmb	18 53 51.2		
	comp=Z,114nm,1.1s								
CRPR	**Cabo Rojo, PR**	**20.25**	**48**	P		**P**	**18 53 50.8**		**+0.7**
MLPR	**Magueyes Islan**	**20.27**	**48**	P		**P**	**18 53 50.5**		**+0.2**
MLPR				IAmb		IAmb	18 53 57.8		
	comp=Z,50nm,1.3s								
MPR	**Mayaguez**	**20.35**	**47**	P		**P**	**18 53 51.1**		**-0.1**
MPR				IAmb		IAmb	18 53 57.7		
	comp=Z,38nm,1.1s								
OBIP	**Obispado Ponce**	**20.64**	**48**	P		**P**	**18 53 54.1**		**-0.3**
AOPR	**Arecibo Observ**	**20.72**	**48**	P		**P**	**18 53 55.9**		**+0.6**
SJG	**San Juan**	**21.03**	**49**	P		**P**	**18 53 59.3**		**+0.8**
	comp=Z,11nm,0.4s,baz=254,slow=9.0,SNR=6.5								
SJG	**San Juan**	**21.03**	**49**	P		**P**	**18 53 59.5**		**+1.0**
SJG				IAmb		IAmb	18 54 00.7		
	comp=Z,78nm,1.4s								
PDPR	**Patillas Dam,**	**21.07**	**49**	P		**P**	**18 53 59.4**		**+0.4**
GCPR	**Guaynabo City**	**21.20**	**49**	P		**P**	**18 54 01.2**		**+0.8**
GCPR				IAmb		IAmb	18 54 02.5		
	comp=Z,83nm,0.9s								
HUMP	**Col San Antoni**	**21.27**	**49**	P		**P**	**18 54 00.7**		**-0.4**
CBYP	**Canovanas**	**21.34**	**49**	P		**P**	**18 54 02.8**		**+0.8**
MTP	**Monte Pirata**	**21.47**	**50**	P		**P**	**18 54 03.4**		**+0.2**
CUPR	**Culebra, Puert**	**21.80**	**50**	P		**P**	**18 54 07.4**		**+0.6**
STVI	**Saint Thomas**	**22.08**	**50**	P		**P**	**18 54 09.3**		**-0.5**
PTGA	**Pitinga**	**23.32**	**103**	P		**P**	**18 54 22.6**		**-0.3**
	comp=Z,4.6nm,0.7s,baz=297,slow=12,SNR=7.5								
PTGA	**Pitinga**	**23.32**	**103**	P		**P**	**18 54 22.2**		**-0.7**
PTGA				IAmb		IAmb	18 54 30.4		
	comp=Z,54nm,1.9s								
PTGA	**Pitinga**	**23.32**	**103**	*eP*		**P**	**18 54 23.0**		**+0.1**
PTGA				*ep*P		**pP**	**18 54 26.2**		**-5.3**
PTGA	**Pitinga**	**23.32**	**103**	*eP*		**P**	**18 54 23.0**		**+0.1**
PTGA				*ep*P		**pP**	**18 54 26.2**		**-5.3**
SAML	**Samuel**	**23.66**	**125**	P		**P**	**18 54 24.9**		**-1.3**
SAML				IAmb		IAmb	18 54 27.7		
	comp=Z,32nm,1.1s								
SAML	**Samuel**	**23.66**	**125**	*eP*		**P**	**18 54 25.7**		**-0.5**
SAML				*eS*		**S**	**18 58 40.5**		**+1.7**
SAML	**Samuel**	**23.66**	**125**	*eP*		**P**	**18 54 25.7**		**-0.5**
SAML				*eS*		**S**	**18 58 40.5**		**+1.7**
LPAZ	**La Paz**	**25.28**	**146**	P		**P**	**18 54 42.8**		**+1.2**
	comp=Z,9.3nm,0.6s,baz=332,slow=8.3,SNR=38								
LPAZ				LR		LR	19 06 02.5		
	comp=Z,311nm,20.6s,baz=302,slow=40								
LPAZ	**La Paz**	**25.28**	**146**	P		**P**	**18 54 42.1**		**+0.5**
LPAZ				IAmb		IAmb	18 54 48.8		

PKCU	**Pink Cliffs**	**42.43 324**	P	P	18 57 12.7	+3.2
PKCU			IAmb	IAmb	18 57 13.9	
	comp=Z,45nm,1.5s					
KNB	**Kanab**	**42.44 323**	P	**P**	**18 57 11.8**	**+2.3**
KNB			IAmb	IAmb	18 57 13.8	
	comp=Z,9.2nm,1.1s					
PMNB	**Patos De Minas**	**42.50 124**	*eP*	**P**	**18 57 09.9**	**-0.1**
PMNB	**Patos De Minas**	**42.50 124**	*eP*	**P**	**18 57 09.9**	**-0.1**
FRTB	**Fartura**	**42.63 132**	*eP*	**P**	**18 57 12.1**	**+1.1**
FRTB	**Fartura**	**42.63 132**	*eP*	**P**	**18 57 12.1**	**+1.1**
PFO	**Pinyon Flats O**	**42.64 317**	LR	LR	19 14 25.0	
	comp=Z,104nm,18.0s,baz=140,slow=35					
SZCU	**Shurtz Canyon**	**42.99 324**	P	**P**	**18 57 15.9**	**+2.0**
SZCU			IAmb	IAmb	18 57 17.4	
	comp=Z,5.8nm,0.9s					
ITAB	**Concordia**	**43.29 139**	*eP*	**P**	**18 57 16.8**	**+0.6**
ITAB	**Concordia**	**43.29 139**	*eP*	**P**	**18 57 16.8**	**+0.6**
SHPR	**Sheep Range**	**43.53 321**	P	**P**	**18 57 20.8**	**+2.5**
SHPR			IAmb	IAmb	18 57 22.3	
	comp=Z,3.6nm,0.9s					
RCLB	**Rio Claro- Sao**	**43.64 129**	*eP*	**P**	**18 57 18.5**	**-0.7**
RCLB	**Rio Claro- Sao**	**43.64 129**	*eP*	**P**	**18 57 18.5**	**-0.7**
GSC	**Goldstone, Bar**	**43.86 319**	P	P	18 57 24.1	+3.2
GSC			IAmb	IAmb	18 57 24.7	
	comp=Z,5.8nm,1.2s					
PDAR	**Pinedale Array**	**44.86 332**	LR	LR	19 18 18.1	
	comp=Z,124nm,18.5s,baz=108,slow=39					
R11A	**Troy Canyon, C**	**44.97 323**	P	**P**	**18 57 32.1**	**+2.3**
R11A			IAmb	IAmb	18 57 34.4	
	comp=Z,11nm,1.6s					
ELK	**Elko**	**46.34 326**	P	**P**	**18 57 42.6**	**+2.0**
ELK			IAmb	IAmb	18 57 44.0	
	comp=Z,3.9nm,1.0s					
PLCA	**Paso Flores**	**46.48 167**	P	**P**	**18 57 42.1**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=12,slow=8.0,SNR=4.1					
PLCA	**Paso Flores**	**46.48 167**	P	**P**	**18 57 42.5**	**+1.0**
PLCA			IAmb	IAmb	18 58 21.7	
	comp=Z,38nm,1.8s					
NV11	**Mina Array Sit**	**46.60 321**	P	**P**	**18 57 45.0**	**+2.4**
NV11			IAmb	IAmb	18 57 46.4	
	comp=Z,8.3nm,1.2s					
OMMB	**Old Mammoth Mi**	**46.65 320**	P	**P**	**18 57 44.7**	**+1.5**
OMMB			IAmb	IAmb	18 57 46.7	
	comp=Z,4.4nm,1.0s					
NVAR	**Mina Array Bea**	**46.69 321**	P	**P**	**18 57 45.7**	**+2.3**
	comp=Z,3.7nm,0.9s,baz=134,slow=7.5,SNR=19					
NVAR			LR	LR	19 17 38.2	
	comp=Z,127nm,18.3s,baz=90,slow=36					
NVAR	**Mina Array Bea**	**46.69 321**	P	**P**	**18 57 45.3**	**+1.9**
KVN	**Kaiserville**	**46.94 322**	P	**P**	**18 57 47.6**	**+2.3**
KVN			IAmb	IAmb	18 57 52.9	
	comp=Z,9.5nm,1.6s					
RYN	**Ryan**	**46.95 321**	P	P	18 57 48.7	+3.4
RYN			IAmb	IAmb	18 57 49.5	
	comp=Z,5.5nm,1.2s					
BMN	**Battle Mountai**	**47.27 324**	P	**P**	**18 57 49.6**	**+1.7**
BMN			IAmb	IAmb	18 57 51.3	
	comp=Z,11nm,1.2s					
WAKR	**Walker**	**47.45 320**	P	**P**	**18 57 50.3**	**+1.0**
WAKR			IAmb	IAmb	18 57 59.6	
	comp=Z,3.8nm,0.9s					
MCMT	**McKenzie Canyo**	**47.98 331**	P	**P**	**18 57 53.1**	**-0.2**
MCMT				**S**	**19 04 51.6**	**+2.5**
YBH	**Yreka Blue Hor**	**51.36 322**	LR	LR	19 20 39.0	
	comp=Z,81nm,20.5s,baz=70,slow=37					
NEW	**Newport**	**52.50 332**	LR	LR	19 21 06.9	
	comp=Z,81nm,20.8s,baz=271,slow=36					
BBB	**Bella Bella**	**60.41 330**	LR	LR	19 27 00.4	
	comp=Z,71nm,18.3s,baz=180,slow=37					
DLBC	**Dease Lake**	**64.96 335**	LR	LR	19 33 39.7	
	comp=Z,100nm,18.2s,baz=130,slow=41					
PPT	**Papeete**	**69.54 249**	LR	LR	19 20 59.3	
	comp=Z,20nm,20.3s,baz=26,slow=27					
SUMG	**Summit**	**73.07 13**	*i* P	**P**	**19 00 45.3**	**+1.0**
	comp=Z,30nm,1.1s					
ILAR	**Eielson Array**	**75.04 336**	P	P	19 00 58.5	+3.1
	comp=Z,0.9nm,1.0s,baz=141,slow=5.6,SNR=5.1					
ILAR			LR	LR	19 39 26.2	
	comp=Z,72nm,18.0s,baz=184,slow=40					
ILAR	**Eielson Array**	**75.04 336**	P	**P**	**19 00 57.4**	**+2.0**
TORD	**Torodi Ar. Bea**	**83.52 77**	LR	LR	19 38 31.7	
	comp=Z,24nm,20.3s,baz=320,slow=36					
H11S2	**WAKE ISLAND Hyl**	**07.91 291**	T	T	21 04 27.6	
	baz=77,slow=75,SNR=4.4					
H11S1	**WAKE ISLAND Hyl**	**07.91 291**	T	T	21 04 28.1	
	baz=77,slow=75,SNR=4.1					
H11S3	**WAKE ISLAND Hyl**	**07.93 291**	T	T	21 04 24.5	
	baz=77,slow=75,SNR=3.6					
ASAR	**Alice Springs**	**139.96 238**	PKhKP	PKPpre	19 08 37.5	
	comp=Z,0.3nm,0.8s,baz=115,slow=3.6,SNR=2.9					
ASAR			PKP	**PKiKP**	**19 08 45.3**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=124,slow=2.7,SNR=6.5					
WRA	**Warramunga Arr**	**140.86 244**	PKhKP	PKPpre	19 08 41.0	
	comp=Z,0.6nm,1.0s,baz=102,slow=2.0,SNR=3.3					
WRA			PKP	**PKiKP**	**19 08 46.8**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=102,slow=2.1,SNR=8.3					

*IDC **07** 19:17:55.0±58.0, 19°.70S×179°.04W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/49, mbtmp3.9/3, Error ellipse: s-maj=1051.0km s-min=160.5km az=81.0*
*ISCJB **07** 19:18:51.9±1.0, 18°.9S±0°.2×180°.0W±0°.2, h600km, mb3.6/3, Error ellipse: s-maj=33.3km s-min=16.7km az=148.9*
*NEIC **07** 19:18:54.8±2.3, 18°.9S±0°.2×179°.9E±0°.2, h620km±14km, mb4.4/12*

ISC 07 19:18:52.8±1.1, 18°.8S±0°.2×179°.9E±0°.2, h600km, n16, σ1976/16, mb4.3/10, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**27.47**	**251**	P	**P**	**19 23 53.2**	**+0.5**
EIDS				IAmb	IAmb	19 24 40.9	
	comp=Z,35nm,2.0s						
ARMA	**Armidale**	**28.11**	**240**	P	**P**	**19 23 58.8**	**+0.4**
ARMA				IAmb	IAmb	19 24 31.6	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**36.80**	**242**	P	**P**	**19 25 08.8**	**-2.7**
	comp=Z,0.8nm,0.5s,baz=54,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**36.80**	**242**	P	**P**	**19 25 09.2**	**-2.3**
MCQ	**Macquarie Isla**	**39.07**	**199**	P	**P**	**19 25 30.2**	**+0.8**
WR0	**Warramunga Arr**	**42.72**	**261**	P	**P**	**19 26 01.3**	**+2.4**
WR0				IAmb	IAmb	19 26 46.1	
	comp=Z,5.8nm,0.8s						
WB0	**Warramunga Arr**	**42.88**	**261**	P	**P**	**19 26 02.5**	**+2.3**
WB0				IAmb	IAmb	19 26 50.2	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**42.90**	**261**	P	**P**	**19 26 02.4**	**+2.1**
WB2				IAmb	IAmb	19 26 08.9	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**42.91**	**261**	P	**P**	**19 26 02.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**42.91**	**261**	P	**P**	**19 26 02.3**	**+1.9**
AS31	**Alice Springs**	**43.02**	**255**	P	**P**	**19 26 01.4**	**+0.2**
ASAR	**Alice Springs**	**43.02**	**255**	P	**P**	**19 26 02.2**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=95,slow=7.9,SNR=44						
ASAR	**Alice Springs**	**43.02**	**255**	P	**P**	**19 26 02.1**	**+0.8**
GIRL	**Giralia**	**61.12**	**254**	P	**P**	**19 28 09.7**	**-0.8**
BARN	**Barnard Glacie**	**85.37**	**18**	P	**P**	**19 30 27.1**	**-0.5**
BARN				IAmb	IAmb	19 32 29.8	
	comp=Z,39nm,1.9s						
121A	**Cookes Peak, D**	**85.89**	**54**	P	**P**	**19 30 31.0**	**+0.3**
121A				IAmb	IAmb	19 30 33.1	
	comp=Z,4.5nm,0.7s						

NEIC 07 19:21:22.9±0.9, 36°.24N±0°.01×120°.83W±0°.01, h16km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPB	**Monarch Peak**	**0.03**	**130**	Pg	Pg	19 21 26.1	+0.2
PPTM	**Peach Tree Val**	**0.16**	**145**		Pg	19 21 26.7	-0.4
LRC	**Lone Oak Road**	**0.17**	**273**		Pg	19 21 26.8	-0.5
PSAM	**San Ardo**	**0.22**	**192**		Pg	19 21 27.7	-0.2
LRV	**Little Rabbit**	**0.24**	**321**		Pg	19 21 28.4	+0.1
PSMM	**Smith Mountain**	**0.26**	**131**		Pg	19 21 28.8	+0.2
PSMM					Sb	19 21 33.2	-0.3
PCCM	**Crazy Canyon**	**0.30**	**241**		Pg	19 21 29.6	+0.2
PHPM	**Hope Ranch**	**0.32**	**144**		Pg	19 21 29.4	-0.2
BBNM	**San Benito**	**0.34**	**324**		Pg	19 21 30.2	+0.3
PKD	**Bear Valley Ra**	**0.38**	**141**		Pg	19 21 30.5	-0.2
PKD					Sg	19 21 35.8	-0.1
BBGB	**Big Mountain B**	**0.38**	**334**		Pb	19 21 31.3	-0.1
BBGB					Sb	19 21 38.0	+0.9
BSGM	**Shirttail Gulc**	**0.38**	**297**		Pg	19 21 30.3	-0.5
PARM	**Anticline Ridg**	**0.40**	**88**		Pb	19 21 31.9	+0.3
PVCM	**Vineyard Canyo**	**0.40**	**142**		Pg	19 21 31.0	-0.1
PSTM	**Stockdale Moun**	**0.41**	**139**		Pg	19 21 31.0	-0.2
PPO	**Portuguese Can**	**0.41**	**154**		Pb	19 21 31.6	-0.2
BMSM	**Mercy Hot Spri**	**0.42**	**4**		Pb	19 21 32.2	+0.1
BAVM	**Antelope Valle**	**0.44**	**339**		Pg	19 21 32.0	+0.3
PHSB	**Hesperia Broad**	**0.45**	**203**		Pg	19 21 32.1	+0.1
PHSB					Sb	19 21 38.6	-0.5
PANM	**San Antonio Re**	**0.46**	**187**		Pg	19 21 32.4	+0.2
BEMM	**Emmet**	**0.47**	**333**		Pb	19 21 32.9	-0.1
PWKM	**Work Ranch**	**0.50**	**148**		Pb	19 21 33.1	-0.2
PHFM	**Heflinger Ranc**	**0.50**	**135**		Pg	19 21 33.0	+0.1
BSMM	**Soledad Missio**	**0.50**	**287**		Pg	19 21 32.8	-0.2
CTM	**Castle Mountai**	**0.51**	**127**		Pb	19 21 34.1	+0.6
BEHM	**Elkhorn Ranch**	**0.51**	**327**		Pb	19 21 33.6	+0.1
PHAM	**Harlan Ranch**	**0.53**	**139**		Pg	19 21 33.3	-0.2
PAPM	**Alder Peak**	**0.54**	**233**		Pg	19 21 33.8	+0.2
BJCM	**Johnson Can.**	**0.55**	**305**		Pg	19 21 33.3	-0.5
BJOM	**Mount Johnson**	**0.55**	**315**		Pg	19 21 33.1	-0.7
PCMM	**Cholame Hills**	**0.55**	**141**		Pg	19 21 34.0	+0.2
BLRM	**Lewis Ranch**	**0.56**	**320**		Pg	19 21 33.8	-0.1
GHC	**Gold Hill**	**0.56**	**136**		Pg	19 21 33.9	-0.2
SCZ	**Santa Cruz**	**0.58**	**308**		Pg	19 21 33.9	-0.6
PSRM	**Scobie Ranch**	**0.59**	**130**		Pg	19 21 34.7	+0.1
BCWM	**Chews Ridge**	**0.60**	**277**		Pg	19 21 34.5	-0.2
BRMM	**Rolling Bench**	**0.60**	**1**		Pb	19 21 35.9	+0.8
HAST	**Hastings Reser**	**0.60**	**285**		Pg	19 21 34.3	-0.4
BHRM	**Hodges Ranch**	**0.60**	**325**		Pb	19 21 35.3	+0.2
PHCM	**Hearst Castle**	**0.61**	**205**		Pg	19 21 35.1	+0.1
PKEM	**Kettleman Hill**	**0.61**	**106**		Pn	19 21 36.5	-0.5
PKLM	**Kerr Lake**	**0.61**	**139**		Pg	19 21 35.0	0.0
BCGM	**Cienega Road**	**0.62**	**319**		Pg	19 21 34.9	-0.3
PSNM	**Stone Corral**	**0.63**	**136**		Pb	19 21 35.5	0.0
PMCM	**McMillan Canyo**	**0.64**	**144**		Pg	19 21 35.5	+0.1
TCHL	**Shandon**	**0.65**	**147**		Pb	19 21 36.0	0.0
BAPM	**Anderson Peak**	**0.66**	**265**		Pg	19 21 35.5	-0.4
PMRM	**Maxey Ranch**	**0.66**	**133**		Pg	19 21 36.0	+0.1
BSLM	**Silva Ranch**	**0.68**	**322**		Pn	19 21 37.4	-0.6
BVYM	**Vineyard**	**0.69**	**318**		Pg	19 21 35.9	-0.6
PAGB	**Antelope Grade**	**0.69**	**137**	Pg	Pg	19 21 36.2	-0.3
BSRM	**Salinas Radio**	**0.70**	**308**		Pg	19 21 36.1	-0.5
BLDC	**Black Mountain**	**0.70**	**185**		Pg	19 21 36.8	+0.1
BLDC	**Black Mountain**	**0.70**	**185**		Pg	19 21 36.8	0.0
THIS	**South End of C**	**0.71**	**136**		Pg	19 21 36.8	0.0
SAO	**San Andreas Ge**	**0.72**	**317**		Pg	19 21 36.6	-0.5
SAO	**San Andreas Ge**	**0.72**	**317**	Pg	Pg	19 21 36.2	-0.9
TRAM	**Private Proper**	**0.72**	**141**		Pg	19 21 37.0	-0.1
BPCNC	**Pine Canyon**	**0.72**	**298**		Pg	19 21 36.8	-0.3
FRP	**Fremont Peak**	**0.74**	**314**		Pg	19 21 36.6	-0.8
PCBM	**Cambria**	**0.74**	**194**		Pb	19 21 37.6	+0.1
BPOM	**Post Ranch**	**0.76**	**270**		Pg	19 21 37.2	-0.5
PTRM	**Twissleman Ran**	**0.77**	**139**		Pg	19 21 38.0	0.0
ARDC	**Alexander Ranc**	**0.78**	**189**		Pb	19 21 38.2	0.0
TSCN	**Private Proper**	**0.80**	**150**		Pb	19 21 38.3	-0.1
HJGM	**San Juan Grade**	**0.82**	**313**		Pb	19 21 38.2	-0.6
HBTM	**San Juan Bauti**	**0.84**	**317**		Pb	19 21 38.9	-0.3
PTAM	**Tassajara Cree**	**0.85**	**173**		Pb	19 21 39.2	-0.2
PACP	**Pacheco Peak**	**0.85**	**335**		Pn	19 21 40.1	-0.3
HFEM	**San Felipe**	**0.87**	**329**		Pg	19 21 40.1	+0.2
HTUM	**Tustin Road**	**0.88**	**312**		Pb	19 21 39.3	-0.6
ANZ	**Anzar Road**	**0.89**	**317**		Pb	19 21 39.9	-0.1
SLD	**San Luis Dam**	**0.89**	**340**		Pb	19 21 40.1	0.0
HPCM	**Pacheco Lake**	**0.89**	**337**		Pg	19 21 40.5	+0.2
PBPM	**Bitterwater Pu**	**0.90**	**137**		Pg	19 21 40.4	0.0
HERM	**Elkhorn Road**	**0.90**	**309**		Pb	19 21 40.0	-0.2
EFD	**Emergency Oper**	**0.92**	**174**		Pb	19 21 40.5	0.0
LSDC	**Los Osos Digit**	**0.94**	**180**		Pn	19 21 42.3	+0.8
CSR	**Chase Ranch**	**0.94**	**320**		Pg	19 21 41.1	-0.1
CDC	**Canada Road**	**0.94**	**327**		Pn	19 21 42.1	+0.5
HMOM	**Monterey**	**0.95**	**293**		Pb	19 21 40.5	-0.5
VPDC	**Valencia Peak**	**1.00**	**182**		Pn	19 21 42.5	+0.2
DPD	**Davis Peak**	**1.00**	**178**		Pg	19 21 42.4	0.0
DCD	**Diablo Creek**	**1.02**	**180**		Pb	19 21 42.4	0.0
HLPM	**Lions Peak**	**1.03**	**322**		Pn	19 21 42.7	0.0
HSPM	**Sheep**	**1.03**	**328**		Pg	19 21 43.2	+0.2
JELB	**Ellicott, Sant**	**1.06**	**311**		Pb	19 21 41.6	-1.2
SMMC	**Simmler**	**1.15**	**143**		Pb	19 21 44.6	+0.2
MHDM	**Hidden Dam**	**1.16**	**40**		Pn	19 21 43.8	-0.7
JLAB	**Laurel Hill**	**1.17**	**322**		Pn	19 21 44.6	-0.1
MYLM	**Yosemite Lake**	**1.19**	**16**		Pn	19 21 44.5	-0.5
BCH	**Branch Mountai**	**1.22**	**150**		Pn	19 21 45.2	-0.2
CCOB	**Coe Ranch Numb**	**1.22**	**327**		Pb	19 21 46.1	+0.3
CARC	**Carrizo Plain**	**1.23**	**139**		Pb	19 21 46.1	+0.3
ARN	**Arnold Ranch**	**1.24**	**333**		Pb	19 21 46.1	0.0
JUMM	**Mount Umunhum**	**1.26**	**317**		Pn	19 21 45.5	-0.5
CMMM	**Mount Mocho**	**1.33**	**337**		Pb	19 21 47.4	-0.2
PMLM	**Mount Lospe**	**1.35**	**172**		Pb	19 21 47.7	-0.2
JBNB	**Ben Lomond Mou**	**1.38**	**310**		Pn	19 21 46.6	-1.1
MRHM	**Rocky Hill**	**1.41**	**88**		Pn	19 21 46.9	-1.1
MMIM	**Miami Mountain**	**1.47**	**36**		Pn	19 21 49.4	+0.5
JPC	**Peters Creek,**	**1.51**	**313**		Pn	19 21 49.6	+0.2
HELL	**Mitchell Peak,**	**1.52**	**73**		Pn	19 21 49.5	-0.2
CMJM	**Mission San Jo**	**1.53**	**327**		Pn	19 21 50.2	+0.5
JPSM		**1.55**	**309**		Pn	19 21 49.4	-0.5
PKM	**Mcpherson Peak**	**1.58**	**148**		Pn	19 21 50.5	-0.1
BGH	**Bear Gulch**	**1.64**	**313**		Pn	19 21 50.5	-0.6
FIGC	**Figueroa Mtn.**	**1.66**	**155**		Pn	19 21 51.4	-0.1
MCUB	**Copperopolis B**	**1.74**	**6**		Pn	19 21 52.8	+0.2
CMB	**Columbia Colle**	**1.83**	**11**		Pn	19 21 53.9	+0.1
MDPB	**Devils Postpil**	**1.98**	**45**		Pn	19 21 57.0	+0.9
ISA	**Isabella, Lake**	**2.00**	**106**		Pn	19 21 56.6	+0.4
OMMB	**Old Mammoth Mi**	**2.01**	**46**		Pn	19 21 57.9	+1.4
CPIM	**Pinole Ridge**	**2.07**	**328**		Pn	19 21 56.9	-0.2
NOLM	**Olema**	**2.38**	**320**		Pn	19 22 00.8	-0.6
MCCM	**Marconi Confer**	**2.51**	**320**	Pn	Pn	19 22 02.7	-0.4
WAKR	**Walker**	**2.52**	**26**		Pn	19 22 04.8	+1.3
DAC	**Darwin (Calif)**	**2.62**	**88**	Pn	Pn	19 22 04.9	+0.1
NVAR	**Mina Array Bea**	**2.98**	**42**	Pn	Pn	19 22 10.6	+0.8
PNTR	**Pine Nut**	**3.01**	**19**	Pn	Pn	19 22 12.3	+2.1
RYN	**Ryan**	**3.01**	**37**		Pn	19 22 10.2	0.0
YERR	**Yerington**	**3.02**	**24**		Pn	19 22 10.7	+0.4
YERR				Pg	Pb	19 22 16.3	-0.2
NV11	**Mina Array Sit**	**3.06**	**43**	Pn	Pn	19 22 12.2	+1.4
NV11				Pg	Pb	19 22 17.0	-0.1
KVN	**Kaiserville**	**3.55**	**37**	Pg	Pb	19 22 23.8	-1.7
TPNV	**Topopah Spring**	**3.76**	**78**	Pn	Pn	19 22 18.6	-1.8

*TAP **07** 19:26:07.5, 24°.83N×122°.00E, h9km, ML2.6, C*
*JMA **07** 19:26:08.0, 24°.86N×121°.94E, h26km*

ISC 07 19:26:07.5±0.8, 24°.84N±0°.02×121°.98E±0°.02, h13km±5km, n63, σ0°70/110, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.04**	**279**	P	**Pg**	**19 26 09.7**	**-0.2**
	baz=289						
EGS				S	**Sg**	**19 26 11.3**	**-0.3**
	baz=289						
NTC	**Toucheng**	**0.14**	**277**	P	**Pg**	**19 26 11.6**	**+0.6**
	baz=281						
NTC				S	**Sb**	**19 26 14.7**	**-0.2**
	baz=281						
TWB1	**Santiao Chiao**	**0.17**	**3**	P	**Pg**	**19 26 11.6**	**+0.1**
	baz=359						
TWB1				S	**Sg**	**19 26 14.3**	**+0.1**
	baz=359						
TIPB	**Shuangxi**	**0.19**	**314**	⇑P	**Pg**	**19 26 12.4**	**+0.5**
	baz=302						
TIPB				S	**Sg**	**19 26 15.5**	**+0.7**
	baz=302						
ILA	**Ilan**	**0.22**	**251**	P	**Pb**	**19 26 13.0**	**-0.4**
	baz=255						
ILA				S	**Sb**	**19 26 16.9**	**-0.5**
	baz=255						
TWC	**Suao**	**0.26**	**207**	P	**Pg**	**19 26 12.9**	**-0.1**
	baz=212						
TWC				S	**Sg**	**19 26 16.1**	**-0.4**
	baz=212						
NWF	**Wu-fen Shan**	**0.29**	**322**	P	**Pb**	**19 26 14.6**	**-0.2**
	baz=312						
NWF				S	**Sb**	**19 26 19.4**	**-0.2**
	baz=312						
WFSB	**Wu-fen Shan**	**0.29**	**322**	*e*P	**Pb**	**19 26 14.5**	**-0.2**
	baz=312						
WFSB				*e*S	**Sb**	**19 26 19.4**	**-0.1**
	baz=312						
TWE	**Neicheng**	**0.31**	**248**	P	**Pg**	**19 26 14.2**	**+0.4**
	baz=250						
TWE				S	**Sg**	**19 26 18.6**	**+0.6**
	baz=250						
EOS1	**EOS1**	**0.32**	**154**	*e*P	**Pg**	**19 26 14.3**	**+0.3**
	baz=149						
EOS1				*e*S	**Sg**	**19 26 19.4**	**+1.0**
	baz=149						
SLBB	**Yuanshan**	**0.32**	**255**	P	**Pg**	**19 26 13.9**	**-0.3**
	baz=258						
SLBB				S	**Sg**	**19 26 18.9**	**+0.4**
	baz=258						
TWA	**Mucha**	**0.39**	**292**	P	**Pb**	**19 26 16.3**	**0.0**
	baz=282						
TWA				S	**Sb**	**19 26 21.8**	**-0.4**
	baz=282						
ENTT	**Nioudou**	**0.42**	**242**	P	**Pb**	**19 26 16.6**	**-0.3**
	baz=245						
ENTT				S	**Sg**	**19 26 22.4**	**+0.7**
	baz=245						
NHDH	**Xindian Distri**	**0.43**	**287**	*e*P	**Pn**	**19 26 18.1**	**-1.3**
	baz=278						
NHDH				S	**Sb**	**19 26 23.9**	**+0.5**
	baz=278						
NWLT	**Wulai**	**0.44**	**262**	*e*S	**Sg**	**19 26 22.4**	**+0.4**
	baz=264						
NANB	**Nanao**	**0.46**	**207**	P	**Pg**	**19 26 16.6**	**0.0**
	baz=217						
NANB				S	**Sg**	**19 26 22.9**	**+0.2**
	baz=217						
TAP1	**Taipei**	**0.46**	**296**	*e*S	**Sb**	**19 26 24.8**	**+0.6**
	baz=286						
ENA	**Nanau**	**0.46**	**208**	P	**Pg**	**19 26 17.1**	**+0.4**
	baz=217						
ENA				S	**Sg**	**19 26 22.6**	**-0.2**
	baz=217						
TAP	**Taipei**	**0.47**	**295**	S	**Sb**	**19 26 25.0**	**+0.3**
	baz=287						
YM01	**YM01**	**0.48**	**310**	P	**Pb**	**19 26 18.5**	**+0.5**
	baz=300						
YM01				S	**Sb**	**19 26 25.1**	**+0.1**
	baz=300						
NDT	**Datong Townshi**	**0.48**	**241**	P	**Pb**	**19 26 17.6**	**-0.4**
	baz=244						
NDT				S	**Sg**	**19 26 23.9**	**+0.4**
	baz=244						
YM11	**YM11**	**0.49**	**312**	*e*P	**Pb**	**19 26 18.5**	**+0.4**
	baz=310						
YM10	**YM10**	**0.49**	**310**	*e*P	**Pb**	**19 26 18.6**	**+0.5**
	baz=309						
YM05	**YM05**	**0.49**	**311**	*e*P	**Pb**	**19 26 18.5**	**+0.3**
	baz=310						
YM08	**YM08**	**0.49**	**315**	*e*P	**Pb**	**19 26 18.4**	**+0.2**
	baz=313						
YM04	**YM04**	**0.51**	**308**	*e*P	**Pb**	**19 26 18.8**	**+0.4**
	baz=307						
TWS1	**Kuangyinshan**	**0.57**	**297**	P	**Pn**	**19 26 20.6**	**-0.9**
	baz=297						
YHNB	**Yeheng**	**0.57**	**253**	*e*P	**Pg**	**19 26 18.9**	**+0.1**
	baz=255						
YHNB				*e*S	**Sg**	**19 26 26.8**	**+0.4**
	baz=255						
NTST	**Danshui**	**0.58**	**304**	*e*P	**Pn**	**19 26 20.8**	**-0.7**
	baz=303						
NTST				*e*S	**Sn**	**19 26 29.0**	**-1.9**
	baz=303						
NSK	**Sanguang**	**0.59**	**254**	P	**Pg**	**19 26 19.1**	**+0.1**
	baz=256						
NSK				S	**Sb**	**19 26 27.7**	**-0.3**
	baz=256						
WLTB	**Daxi**	**0.66**	**271**	*e*P	**Pn**	**19 26 22.1**	**-0.6**
	baz=272						
WLTB				*e*S	**Sn**	**19 26 32.0**	**-0.9**
	baz=272						
NNS	**Nan Shan**	**0.68**	**234**	*e*P	**Pb**	**19 26 21.4**	**+0.1**
	baz=236						
NNS				S	**Sg**	**19 26 30.0**	**+0.2**
	baz=236						
NNSB	**Datong**	**0.68**	**233**	*e*P	**Pb**	**19 26 21.2**	**-0.1**
	baz=236						
NNSB				*e*S	**Sg**	**19 26 29.9**	**+0.2**
	baz=236						
NACB	**Ninganchiao**	**0.75**	**208**	*e*P	**Pg**	**19 26 22.4**	**+0.4**
	baz=211						
NACB				*e*S	**Sb**	**19 26 31.9**	**-0.7**
	baz=211						
ETLH	**Xiulin Townshi**	**0.77**	**216**	*e*P	**Pg**	**19 26 23.0**	**+0.4**
	baz=229						
ETLH				*e*S	**Sb**	**19 26 32.9**	**-0.5**
	baz=229						
PCYT	**Pengchaiyu**	**0.79**	**6**	*e*P	**Pn**	**19 26 24.1

CHN4	**Tsaushan** baz=226	**1.95 221**	*e*P	**Pg**	**19 26 44.5**	**-0.5**
CHN4	baz=226		*e*S	**Sg**	**19 27 11.5**	**+1.3**
TPUB	**Ta-pu** baz=208	**1.96 219**	*e*P	**Pg**	**19 26 44.7**	**-0.6**
TPUB	baz=208		*e*S	**Sg**	**19 27 10.5**	**-0.3**
WTP	**Ta-pu** baz=212	**2.02 218**	*e*P	**Pb**	**19 26 44.0**	**-0.1**
WTP	baz=212		*e*S	**Sg**	**19 27 12.0**	**-0.4**
TWK	**Hsinying** baz=227	**2.07 221**	*e*S	**Sg**	**19 27 14.3**	**0.0**

IDC ***07*** *19:27:12.3±2.1,24°.82N×122°.16E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/51,mbtmp3.5/4,Error ellipse: s-maj=205.7km s-min=22.4km az=66.0*
TAP ***07*** *19:27:12.8,24°.82N×122°.00E,h9km,ML3.6,C*
JMA ***07*** *19:27:13.3±0.1,24°.83N×121°.93E,h38km±4km,M3.1*
ISC 07 19:27:12.9±0.9,24°.81N±0°.02×122°.03E±0°.02,h7km±6km, n121,σ0°72/198,mb3.7/4,20C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=292	**0.09**	**291**	⇑*i*P	**Pg**	**19 27 15.1**	**+0.1**
EGS	baz=292			*i* S	**Sg**	**19 27 16.5**	**+0.1**
NTC	**Toucheng** baz=282	**0.18**	**284**	⇑*i*P	**Pg**	**19 27 17.0**	**+0.4**
NTC	baz=282			*e*S	**Sg**	**19 27 19.5**	**+0.4**
TWB1	**Santiao Chiao** baz=359	**0.20**	**350**	⇑*i*P	**Pg**	**19 27 17.0**	**+0.1**
TWB1	baz=359			*i* S	**Sg**	**19 27 19.8**	**+0.2**
TIPB	**Shuangxi** baz=312	**0.24**	**311**	⇑*i*P	**Pg**	**19 27 17.9**	**+0.2**
TIPB	baz=312			*i* S	**Sg**	**19 27 21.0**	**0.0**
ILA	**Ilan** baz=256	**0.26**	**260**	⇓*i*P	**Pg**	**19 27 18.3**	**+0.4**
ILA	baz=256			S	**Sg**	**19 27 22.1**	**+0.7**
TWC	**Suao** baz=212	**0.26**	**219**	P	**Pg**	**19 27 18.3**	**+0.4**
TWC	baz=212			S	**Sg**	**19 27 21.4**	**0.0**
EOS1	**EOS1** baz=148	**0.28**	**160**	⇑P	**Pb**	**19 27 19.8**	**-0.4**
EOS1	baz=148			*e*S	**Sb**	**19 27 24.7**	**-0.4**
TWE	**Neicheng** baz=251	**0.34**	**255**	⇓*i*P	**Pg**	**19 27 19.5**	**0.0**
TWE	baz=251			*i* S	**Sg**	**19 27 23.8**	**-0.2**
NWF	**Wu-fen Shan** baz=312	**0.34**	**319**	⇑*i*P	**Pg**	**19 27 19.9**	**+0.3**
NWF	baz=312			*i* S	**Sg**	**19 27 24.9**	**+0.7**
WFSB	**Wu-fen Shan** baz=312	**0.34**	**319**	⇑P	**Pg**	**19 27 19.9**	**+0.4**
WFSB	baz=312			S	**Sg**	**19 27 24.6**	**+0.6**
SLBB	**Yuanshan** baz=259	**0.36**	**261**	P	**Pg**	**19 27 19.2**	**-0.8**
SLBB	baz=259			*e*S	**Sg**	**19 27 24.2**	**-0.5**
TWA	**Mucha** baz=282	**0.44**	**293**	⇑*i*P	**Pg**	**19 27 21.5**	**+0.2**
TWA	baz=282			S	**Sg**	**19 27 26.9**	**-0.2**
ENTT	**Nioudou** baz=245	**0.45**	**248**	P	**Pg**	**19 27 21.5**	**-0.1**
NANB	**Nanao** baz=217	**0.46**	**213**	⇑P	**Pg**	**19 27 21.9**	**+0.2**
NANB	baz=217			*e*S	**Sg**	**19 27 27.8**	**0.0**
ENA	**Nanau** baz=217	**0.46**	**214**	*e*P	**Pg**	**19 27 22.0**	**+0.2**
ENA	baz=217			*e*S	**Sg**	**19 27 27.9**	**0.0**
NWLT	**Wulai** baz=265	**0.48**	**266**	⇓P	**Pg**	**19 27 22.1**	**0.0**
NWLT	baz=265			*e*S	**Sg**	**19 27 27.6**	**-0.8**
NHDH	**Xindian Distri** baz=279	**0.48**	**288**	*e*P	**Pg**	**19 27 22.6**	**+0.4**
NHDH	baz=279			*e*S	**Sg**	**19 27 28.4**	**0.0**
TAP1	**Taipei** baz=287	**0.51**	**296**	⇑P	**Pb**	**19 27 23.6**	**-0.6**
TAP1	baz=287			S	**Sg**	**19 27 30.1**	**+0.7**
NDT	**Datong Townshi** baz=245	**0.51**	**246**	⇓P	**Pg**	**19 27 22.7**	**0.0**
NDT	baz=245			*e*S	**Sg**	**19 27 29.0**	**-0.4**
TAP	**Taipei** baz=287	**0.53**	**296**	⇑P	**Pb**	**19 27 23.7**	**-0.8**
TAP	baz=287			S	**Sg**	**19 27 30.3**	**+0.4**
YM01	**YM01** baz=300	**0.53**	**309**	⇑*i*P	**Pb**	**19 27 23.8**	**-0.8**
YM01	baz=300			S	**Sg**	**19 27 30.5**	**+0.4**
YM11	**YM11** baz=300	**0.54**	**311**	⇑P	**Pb**	**19 27 24.0**	**-0.9**
YM11	baz=300			*e*S	**Sg**	**19 27 30.3**	**-0.1**
YM10	**YM10** baz=298	**0.54**	**309**	⇑*i*P	**Pb**	**19 27 24.1**	**-0.8**
YM10	baz=298			*e*S	**Sg**	**19 27 30.3**	**-0.2**
YM08	**YM08** baz=314	**0.55**	**313**	⇑P	**Pg**	**19 27 23.8**	**+0.3**
YM05	**YM05** baz=299	**0.55**	**310**	⇑P	**Pb**	**19 27 24.1**	**-0.8**
YM05	baz=299			S	**Sb**	**19 27 31.3**	**-1.7**
YM04	**YM04** baz=307	**0.56**	**308**	⇑P	**Pb**	**19 27 24.3**	**-0.8**
YM04	baz=307			*e*S	**Sg**	**19 27 31.3**	**+0.2**
ANP	**Anpu** baz=310	**0.59**	**309**	⇑P	**Pg**	**19 27 24.5**	**+0.2**
YHNB	**Yeheng** baz=255	**0.61**	**257**	⇓P	**Pg**	**19 27 24.3**	**-0.3**
YHNB	baz=255			S	**Sg**	**19 27 31.9**	**-0.7**
NSK	**Sanguang** baz=256	**0.62**	**258**	⇓*i*P	**Pg**	**19 27 24.5**	**-0.4**
NSK	baz=256			*e*S	**Sg**	**19 27 32.1**	**-0.9**
TWS1	**Kuangyinshan** baz=297	**0.62**	**298**	⇑*i*P	**Pb**	**19 27 25.9**	**-0.3**
TWS1	baz=297			*e*S	**Sg**	**19 27 33.2**	**+0.1**
NTST	**Danshui** baz=304	**0.63**	**304**	⇑*e*P	**Pb**	**19 27 26.1**	**-0.2**
NTST	baz=304			S	**Sb**	**19 27 34.1**	**-1.3**
NNSB	**Datong** baz=236	**0.70**	**237**	*e*P	**Pg**	**19 27 26.1**	**-0.2**
NNSB	baz=236			S	**Sg**	**19 27 35.2**	**-0.3**
NNS	**Nan Shan** baz=236	**0.70**	**238**	*e*P	**Pg**	**19 27 25.9**	**-0.5**
NNS	baz=236			*e*S	**Sg**	**19 27 35.5**	**0.0**
WLTB	**Daxi** baz=273	**0.70**	**274**	P	**Pb**	**19 27 27.4**	**-0.2**
WLTB	baz=273			*e*S	**Sb**	**19 27 36.9**	**-0.6**
NACB	**Ninganchiao** baz=211	**0.75**	**212**	⇓P	**Pg**	**19 27 27.3**	**0.0**
NACB	baz=211			S	**Sg**	**19 27 37.2**	**+0.3**
NCU	**National Centr** baz=281	**0.78**	**282**	*e*P	**Pb**	**19 27 29.0**	**+0.2**
NCU	baz=281			*e*S	**Sb**	**19 27 39.6**	**0.0**
ETLH	**Xiulin Townshi** baz=229	**0.78**	**220**	*e*P	**Pg**	**19 27 28.2**	**+0.3**
ETLH	baz=229			*e*S	**Sb**	**19 27 38.8**	**-0.9**
NCUH	**Zhongli** baz=281	**0.78**	**282**	*e*P	**Pb**	**19 27 28.9**	**0.0**
NCUH	baz=281			*e*S	**Sn**	**19 27 40.4**	**-2.0**
PCYT	**Pengchaiyu** baz=2.0	**0.82**	**3**	*e*P	**Pb**	**19 27 29.2**	**-0.2**
TWD	**Chiawan** baz=200	**0.83**	**208**	*e*P	**Pg**	**19 27 28.7**	**0.0**
TWD	baz=200			*e*S	**Sg**	**19 27 39.4**	**-0.1**
JYNG	**Yonagunijimaku**	**0.91**	**113**	P	**Pb**	**19 27 31.2**	**+0.2**
JYNG				*e*S	**Sb**	**19 27 44.1**	**+0.8**
HWA	**Hwalien** baz=216	**0.92**	**205**	*e*P	**Pn**	**19 27 31.6**	**-0.6**
HWA	baz=216			*e*S	**Sb**	**19 27 43.5**	**0.0**
LIOB	**Emei** baz=259	**0.93**	**260**	*e*P	**Pb**	**19 27 31.4**	**-0.1**
LIOB	baz=259			*e*S	**Sb**	**19 27 44.0**	**-0.1**
SBCB	**Hsinchu** baz=268	**0.95**	**269**	*e*P	**Pn**	**19 27 32.3**	**-0.4**
SBCB	baz=268			*e*S	**Sn**	**19 27 45.7**	**-0.8**
NSTT	**Nanjuang** baz=258	**0.95**	**259**	P	**Pb**	**19 27 31.3**	**-0.4**
NSTT	baz=258			*e*S	**Sb**	**19 27 44.4**	**-0.2**
TWT	**Tachien** baz=229	**0.95**	**235**	*e*P	**Pb**	**19 27 31.4**	**-0.5**
TWT	baz=229			*e*S	**Sg**	**19 27 43.8**	**+0.2**
WHF	**Hehuan Shan** baz=226	**0.96**	**226**	*e*P	**Pg**	**19 27 31.1**	**-0.3**
WHF	baz=226			*e*S	**Sg**	**19 27 44.2**	**+0.3**
HSN	**Hsinchu** baz=271	**0.96**	**270**	*e*P	**Pb**	**19 27 31.6**	**-0.3**
HSN	baz=271			*e*S	**Sb**	**19 27 44.9**	**0.0**
YOJ	**Yonaguni jima**	**0.96**	**111**	P	**Pb**	**19 27 31.8**	**-0.1**
YOJ				*e*S	**Sn**	**19 27 45.7**	**-1.1**
TDCB	**Techi** baz=230	**0.97**	**235**	*e*P	**Pg**	**19 27 31.3**	**-0.2**
TDCB	baz=230			*e*S	**Sg**	**19 27 43.5**	**-0.5**
ENLB	**Shoufeng** baz=215	**0.98**	**203**	*e*P	**Pn**	**19 27 32.5**	**-0.7**
ENLB	baz=215			*e*S	**Sn**	**19 27 46.8**	**-0.6**
CHGB	**Renai** baz=226	**1.08**	**226**	*e*P	**Pg**	**19 27 33.3**	**-0.3**
CHGB	baz=226			*e*S	**Sg**	**19 27 47.1**	**-0.5**
WHP	**Taichung City** baz=242	**1.12**	**242**	*e*P	**Pb**	**19 27 34.5**	**-0.2**
ESL	**Shilin** baz=209	**1.13**	**209**	⇓P	**Pb**	**19 27 34.1**	**-0.7**
ESL	baz=209			*e*S	**Sg**	**19 27 48.8**	**-0.4**
NMLH	**Miaoli** baz=256	**1.16**	**257**	*e*P	**Pn**	**19 27 36.0**	**+0.4**
NMLH	baz=256			*e*S	**Sn**	**19 27 52.9**	**+1.2**
NSY	**Sanyi** baz=251	**1.22**	**251**	*e*P	**Pg**	**19 27 37.4**	**+1.1**
NSY	baz=251			*e*S	**Sn**	**19 27 53.8**	**+0.6**
TWQ1	**Liyutan** baz=248	**1.23**	**248**	*e*P	**Pg**	**19 27 37.1**	**+0.6**
TWQ1	baz=248			*e*S	**Sn**	**19 27 53.9**	**+0.4**
PTSB	**Yuanli** baz=242	**1.26**	**254**	*e*P	**Pg**	**19 27 37.3**	**+0.3**
PTSB	baz=242			*e*S	**Sn**	**19 27 55.1**	**+0.9**
EGFH	**Guangfu** baz=214	**1.26**	**206**	*e*P	**Pn**	**19 27 36.7**	**-0.3**
EGFH	baz=214			*e*S	**Sg**	**19 27 53.6**	**+0.1**
DPDB	**Guoxing** baz=241	**1.27**	**233**	*e*P	**Pg**	**19 27 37.1**	**-0.1**
DPDB	baz=241			*e*S	**Sg**	**19 27 53.7**	**+0.1**
VWDT	**VWDT** baz=219	**1.33**	**218**	P	**Pb**	**19 27 38.1**	**0.0**
VWDT	baz=219			*e*S	**Sn**	**19 27 55.4**	**-0.4**
WDJ	**Dajia District** baz=250	**1.34**	**250**	*e*P	**Pg**	**19 27 39.3**	**+0.6**
WDJ	baz=250			*e*S	**Sg**	**19 27 58.3**	**+2.2**
TCU	**Taichung** baz=261	**1.40**	**242**	*e*P	**Pg**	**19 27 40.3**	**+0.6**
TYC	**Yuchr** baz=223	**1.40**	**230**	*e*P	**Pg**	**19 27 39.6**	**-0.1**
TYC	baz=223			*e*S	**Sb**	**19 27 57.0**	**-0.4**
SSLB	**Suanglung** baz=226	**1.41**	**224**	P	**Pb**	**19 27 39.4**	**-0.3**
SSLB	baz=226			*e*S	**Sg**	**19 27 58.2**	**-0.2**
HGSD	**Ruisui** baz=222	**1.42**	**203**	*e*P	**Pg**	**19 27 40.5**	**+0.3**
HGSD	baz=222			*e*S	**Sg**	**19 28 00.1**	**+1.4**
EHY	**Hungye** baz=213	**1.45**	**207**	*e*P	**Pb**	**19 27 39.8**	**-0.5**
EHY	baz=213			*e*S	**Sn**	**19 27 58.2**	**-0.7**
WCHH	**Zhanghua** baz=259	**1.52**	**242**	*e*P	**Pb**	**19 27 41.1**	**-0.4**
WNT	**Mingjian** baz=223	**1.54**	**233**	*e*P	**Pg**	**19 27 42.7**	**+0.4**
WNT	baz=223			*e*S	**Sg**	**19 28 04.2**	**+1.9**
WJS	**Zhushan** baz=222	**1.54**	**231**	*e*P	**Pg**	**19 27 42.9**	**+0.5**
WJS	baz=222			*e*S	**Sg**	**19 28 04.1**	**+1.7**
WHYT	**Xinyi Township** baz=225	**1.54**	**224**	*e*P	**Pg**	**19 27 42.6**	**+0.1**
YULB	**Yu-li** baz=218	**1.56**	**205**	*e*P	**Pn**	**19 27 41.0**	**-0.1**
YULB	baz=218			*e*S	**Sb**	**19 28 02.2**	**+0.1**
TWF1	**Yuli** baz=217	**1.60**	**205**	*e*P	**Pb**	**19 27 42.2**	**-0.6**
TWF1	baz=217			*e*S	**Sb**	**19 28 03.2**	**0.0**
IRIF	**Iriomote-Funau**	**1.62**	**107**	P	**Pn**	**19 27 41.4**	**-0.5**
IRIF				*e*S	**Sn**	**19 28 01.5**	**-1.6**
YUS	**Yu-Shan** baz=227	**1.64**	**217**	*e*P	**Pb**	**19 27 43.8**	**0.0**
YUS	baz=227			*e*S	**Sg**	**19 28 05.8**	**+0.1**
CHN5	**Tsauling** baz=228	**1.73**	**226**	*e*P	**Pg**	**19 27 46.1**	**+0.2**
CHN5	baz=228			S	**Sg**	**19 28 09.4**	**+1.1**
FULB	**Fuli** baz=219	**1.74**	**203**	*e*P	**Pb**	**19 27 44.8**	**-0.4**
WGK	**Gukeng** baz=247	**1.74**	**230**	*e*P	**Pg**	**19 27 46.2**	**-0.1**
WGK	baz=247			*e*S	**Sg**	**19 28 09.7**	**+0.7**
WDLH	**Douliu** baz=249	**1.76**	**231**	*e*P	**Pb**	**19 27 45.9**	**+0.4**
RLNB	**Erlin** baz=255	**1.77**	**239**	*e*P	**Pn**	**19 27 44.5**	**+0.4**
HATJ	**Hateruma jima**	**1.79**	**114**	P	**Pn**	**19 27 43.7**	**-0.5**
HATJ				*e*S	**Sn**	**19 28 06.5**	**-0.7**
CHKT	**Chengkung** baz=217	**1.81**	**200**	*e*P	**Pb**	**19 27 45.5**	**-0.9**
ELDTW	**Lidau** baz=212	**1.86**	**210**	*e*P	**Pb**	**19 27 46.2**	**-1.1**
JKRS	**Kuro-shima**	**1.89**	**107**	P	**Pn**	**19 27 45.6**	**-0.1**
JKRS				*e*S	**Sn**	**19 28 08.7**	**-1.1**
CHN4	**Tsaushan** baz=225	**1.96**	**222**	*e*P	**Pg**	**19 27 49.7**	**-0.7**
CHY	**Chiayi** baz=247	**1.96**	**229**	*e*P	**Pg**	**19 27 49.8**	**-0.7**
TPUB	**Ta-pu** baz=208	**1.97**	**221**	*e*P	**Pb**	**19 27 49.5**	**+0.3**
TPUB	baz=208			*e*S	**Sg**	**19 28 17.1**	**+0.7**
JIJ	**Ishigaki jima**	**1.98**	**103**	P	**Pn**	**19 27 46.9**	**+0.1**
JIJ				*e*S	**Sn**	**19 28 12.0**	**+0.1**
STYT	**Tauyuan** baz=206	**2.01**	**216**	*e*P	**Pb**	**19 27 50.2**	**+0.3**
WSF	**Szhu** baz=250	**2.02**	**235**	*e*P	**Pb**	**19 27 48.6**	**-1.4**
WTP	**Ta-pu** baz=211	**2.02**	**220**	*e*P	**Pb**	**19 27 50.3**	**+0.3**
WTP	baz=211			*e*S	**Sg**	**19 28 17.1**	**-0.9**
WLGB	**Puzi** baz=247	**2.06**	**230**	*e*P	**Pb**	**19 27 49.7**	**-1.0**
TWK	**Hsinying** baz=228	**2.08**	**223**	*e*P	**Pb**	**19 27 51.3**	**+0.2**
TWK	baz=228			*e*S	**Sg**	**19 28 18.7**	**-1.2**
SNST	**Tainan City** baz=225	**2.11**	**222**	*e*P	**Pb**	**19 27 51.7**	**+0.1**
CHN1	**Nanshi** baz=212	**2.12**	**221**	*e*P	**Pb**	**19 27 52.0**	**+0.3**
CHN1	baz=212			*e*S	**Sg**	**19 28 21.0**	**-0.1**
PTTC	**Pingtan** baz=286	**2.16**	**289**	*e*P	**Pn**	**19 27 48.5**	**-0.8**
TWG	**Pinlang** baz=207	**2.17**	**204**	*e*P	**Pb**	**19 27 51.5**	**-0.9**
TWGBT	**Beinan** baz=207	**2.17**	**204**	*e*P	**Pb**	**19 27 51.4**	**-1.1**
SGST	**Jiashian** baz=210	**2.17**	**218**	*e*P	**Pb**	**19 27 51.5**	**-1.0**
SGST	baz=210			*e*S	**Sb**	**19 28 19.8**	**+0.1**
CHN8	**Yiju** baz=232	**2.21**	**229**	*e*P	**Pn**	**19 27 51.3**	**+1.2**
MATB	**Ma-tsu** baz=303	**2.31**	**306**	*e*P	**Pn**	**19 27 51.8**	**+0.5**
VWUC	**VWUC** baz=272	**2.35**	**275**	*e*P	**Pn**	**19 27 50.5**	**-1.4**
ECL	**Taimali** baz=195	**2.41**	**204**	*e*P	**Pn**	**19 27 54.4**	**+1.5**
SSD	**Sandimen** baz=216	**2.42**	**212**	*e*P	**Pb**	**19 27 56.2**	**-0.6**
MASBT	**Mashibuluo** baz=214	**2.54**	**211**	*e*P	**Pn**	**19 27 56.3**	**+1.7**
PHUB	**P'eng-hu** baz=240	**2.59**	**241**	*e*P	**Pn**	**19 27 54.2**	**-1.0**
EAST	**Anshuo** baz=196	**2.65**	**204**	*e*P	**Pn**	**19 27 57.3**	**+1.1**
PTMZ	**Houxiangcun** baz=272	**2.65**	**276**	*e*P	**Pn**	**19 27 55.9**	**-0.2**
WDGT	**Dungji** baz=235	**2.66**	**235**	*e*P	**Pn**	**19 27 57.8**	**+1.6**
LYJJ	**Jianjiangzhen** baz=308	**2.68**	**311**	*e*P	**Pn**	**19 27 55.1**	**-1.4**
XPSS	**Dashiqiu** baz=321	**2.68**	**322**	*e*P	**Pn**	**19 27 57.4**	**+0.9**
SCZT	**Fangliau** baz=212	**2.75**	**208**	*e*P	**Pb**	**19 28 00.6**	**-1.8**
MHZQ	**Yeshan** baz=293	**3.00**	**296**	*e*P	**Pn**	**19 28 00.5**	**-0.4**
TWKBT	**Hengchun** baz=194	**3.07**	**202**	*e*P	**Pb**	**19 28 04.8**	**-3.0**
KNMB	**Chin-men Tao** baz=261	**3.33**	**265**	*e*P	**Pn**	**19 28 04.6**	**-0.8**
AXDP	**Jialang** baz=268	**3.69**	**272**	*e*P	**Pn**	**19 28 09.8**	**-0.5**
ZPLA	**Ao Xicun** baz=255	**4.00**	**258**	*e*P	**Pn**	**19 28 14.3**	**-0.3**
SONM	**Songino Array** 1.7nm,1.0s,baz=146,slow=11,SNR=5.3	**26.10**	**336**	P	**P**	**19 32 48.3**	**+0.8**
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=346,slow=8.6,SNR=7.8	**46.07**	**164**	P	**P**	**19 35 37.5**	**-0.2**
BVAR	**Borovoye Array** 0.4nm,0.6s,baz=97,slow=6.0,SNR=2.6	**47.68**	**320**	P	**P**	**19 35 51.0**	**+1.0**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=336,slow=6.7,SNR=4.1	**49.55**	**166**	P	**P**	**19 36 05.2**	**+0.6**

TAP 07 19:30:59.5,24°.87N×121°.96E,h20km±1km,ML2.8,7C-11D, C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=208	**0.03**	**226**	⇑*i*P	Pg	19 31 02.9	-0.1
EGS	baz=208			S	Sg	19 31 04.1	-1.2
NTC	**Toucheng** baz=262	**0.12**	**263**	⇓*i*P	Pg	19 31 04.5	+0.9
NTC	baz=262			S	Sg	19 31 07.2	+0.9
TWB1	**Santiao Chiao** baz=14	**0.14**	**11**	⇑*i*P	Pg	19 31 04.9	+1.0
TWB1	baz=14			S	Sg	19 31 07.4	+0.7
TIPB	**Shuangxi** baz=310	**0.16**	**310**	⇑*i*P	Pg	19 31 05.7	+1.6
TIPB	baz=310			*i* S	Sg	19 31 08.8	+1.5
ILA	**Ilan** baz=240	**0.22**	**242**	*e*P	Pg	19 31 05.3	+0.4
ILA	baz=240			*e*S	Sg	19 31 09.9	+1.4
NWF	**Wu-fen Shan** baz=321	**0.26**	**321**	*e*P	Pg	19 31 06.6	+1.0
NWF	baz=321			*e*S	Sg	19 31 11.2	+1.5
WFSB	**Wu-fen Shan** baz=321	**0.26**	**321**	*e*P	Pn	19 31 06.9	-1.3
WFSB	baz=321			*e*S	Sn	19 31 12.4	-1.2
TWC	**Suao** baz=199	**0.28**	**201**	⇑P	Pg	19 31 06.1	+0.4
TWC	baz=199			*e*S	Sg	19 31 11.3	+1.2
TWE	**Neicheng** baz=239	**0.30**	**241**	⇓P	Pb	19 31 07.3	+1.1
TWE	baz=239			S	Sg	19 31 11.5	+0.7
SLBB	**Yuanshan** baz=248	**0.32**	**249**	P	Pb	19 31 06.8	+0.4
EOS1	**EOS1** baz=154	**0.35**	**154**	*i* P	Pb	19 31 07.6	+0.5
EOS1	baz=154			*e*S	Sb	19 31 13.1	+0.9
TWA	**Mucha** baz=287	**0.36**	**288**	⇓*e*P	Pn	19 31 09.2	-0.3
TWA	baz=287			*e*S	Sn	19 31 14.9	-1.2
TWA	**Mucha** baz=140	**0.36**	**288**	⇓*i*P	Pn	19 31 09.2	-0.3
NHDH	**Xindian Distri** baz=283	**0.41**	**283**	⇓*i*P	Pb	19 31 08.8	+0.8
NHDH	baz=283			*e*S	Sn	19 31 16.2	-1.0
NHDH	**Xindian Distri** baz=173	**0.41**	**283**	⇓*i*P	Pb	19 31 08.9	+0.9
ENTT	**Nioudou** baz=236	**0.42**	**238**	*e*P	Pb	19 31 09.3	+1.0
ENTT	baz=236			*e*S	Sb	19 31 15.4	+1.1
NWLT	**Wulai** baz=257	**0.42**	**258**	*i* P	Pn	19 31 09.8	-0.7
NWLT	baz=257			*e*S	Sb	19 31 15.2	+0.8
TAP1	**Taipei** baz=292	**0.43**	**293**	⇓*i*P	Pg	19 31 07.6	-0.8
TAP1	baz=292			*e*S	Sb	19 31 15.7	+1.3
TAP1	**Taipei** baz=178	**0.43**	**293**	⇓*i*P	Pg	19 31 07.6	-0.8
TAP	**Taipei** baz=292	**0.45**	**293**	⇓*i*P	Pg	19 31 07.7	-1.0
TAP	baz=292			*e*S	Sn	19 31 17.6	-0.6
TAP	**Taipei** baz=178	**0.45**	**293**	⇓*i*P	Pg	19 31 07.6	-1.0
YM01	**YM01** baz=307	**0.45**	**308**	⇑*i*P	Pb	19 31 08.8	+0.1
YM01	baz=307			*e*S	Sb	19 31 16.3	+1.3
YM01	**YM01** baz=33	**0.45**	**308**	*i* P	Pb	19 31 08.8	+0.1
YM10	**YM10** baz=308	**0.46**	**308**	*e*P	Pg	19 31 08.8	-0.2
YM10	baz=308			*e*S	Sb	19 31 16.0	+0.6
YM10	**YM10** baz=26	**0.46**	**308**	*i* P	Pg	19 31 08.8	-0.2
YM05	**YM05** baz=309	**0.46**	**310**	⇑*i*P	Pb	19 31 09.1	+0.1

YM05				*e*S	Sn	19 31 18.4 -0.3
	baz=309					
YM05	**YM05**	**0.46 310**	⇑	*i*P	Pb	19 31 09.1 +0.1
	baz=26					
YM08	**YM08**	**0.46 314**		*i* P	Pg	19 31 09.4 +0.4
	baz=313					
YM08				*e*S	Sg	19 31 15.1 -0.2
	baz=313					
YM08	**YM08**	**0.46 314**		*i* P	Pg	19 31 09.4 +0.4
	baz=29					
YM04	**YM04**	**0.48 307**		*e*P	Pb	19 31 08.5 -0.7
	baz=306					
YM04				*e*S	Sb	19 31 16.1 +0.3
	baz=306					
YM04	**YM04**	**0.48 307**		*i* P	Pb	19 31 08.6 -0.7
	baz=13					
NANB	**Nanao**	**0.48 203**		*e*P	Pg	19 31 09.7 +0.5
	baz=203					
NANB				*e*S	Sb	19 31 15.9 +0.1
	baz=203					
ENA	**Nanau**	**0.48 204**		*e*P	Pg	19 31 09.8 +0.5
	baz=203					
ENA				*e*S	Sg	19 31 15.7 -0.2
	baz=203					
NDT	**Datong Townshi**	**0.48 237**		P	Pn	19 31 10.5 -0.8
	baz=236					
NDT				*e*S	Sb	19 31 16.7 +0.7
	baz=236					
ANP	**Anpu**	**0.51 309**		*e*P	Pb	19 31 09.1 -0.7
	baz=308					
ANP				*e*S	Sg	19 31 17.3 +0.5
	baz=308					
ANP	**Anpu**	**0.51 309**		P	Pb	19 31 09.2 -0.6
	baz=7.0					
YHNB	**Yeheng**	**0.57 250**		*e*P	Pg	19 31 11.4 +0.5
	baz=249					
YHNB				*e*S	Sg	19 31 19.4 +0.8
	baz=249					
NSK	**Sanguang**	**0.58 251**	⇓	P	Pn	19 31 12.2 -0.4
	baz=250					
NSK				*e*S	Sn	19 31 20.4 -1.3
	baz=250					
NNS	**Nan Shan**	**0.68 231**		*e*P	Pn	19 31 13.6 -0.5
	baz=230					
NNS				*e*S	Sg	19 31 22.8 +0.6
	baz=230					
NNSB	**Datong**	**0.68 230**		*e*P	Pn	19 31 14.0 -0.1
	baz=230					
NNSB				*e*S	Sn	19 31 23.5 -0.7
	baz=230					
NACB	**Ninganchiao**	**0.77 206**		*e*P	Pn	19 31 15.1 -0.1
	baz=205					
NACB				*e*S	Sg	19 31 25.1 +0.3
	baz=205					
ETLH	**Xiulin Townshi**	**0.79 213**		*e*P	Pn	19 31 15.6 0.0
	baz=213					
ETLH				*e*S	Sg	19 31 25.6 0.0
	baz=213					
TWD	**Chiawan**	**0.85 203**		*e*P	Pn	19 31 16.5 +0.2
	baz=202					
TWD				*e*S	Sb	19 31 26.5 -0.1
	baz=202					
LIOB	**Emei**	**0.89 256**		*e*P	Pn	19 31 17.5 +0.6
	baz=255					
TWT	**Tachien**	**0.94 229**		*e*P	Pg	19 31 19.7 +1.9
	baz=229					
TDCB	**Techi**	**0.95 230**		*e*P	Pg	19 31 18.7 +0.6
	baz=229					
TDCB				*e*S	Sn	19 31 31.8 +0.8
	baz=229					
WHF	**Hehuan Shan**	**0.96 221**		*e*P	Pg	19 31 18.7 +0.5
	baz=220					
WHF				*e*S	Sn	19 31 31.3 -0.2
	baz=220					
CHGB	**Renai**	**1.08 222**		*e*P	Pg	19 31 20.7 +0.3
	baz=221					
CHGB				*e*S	Sg	19 31 34.5 -0.2
	baz=221					
ESL	**Shilin**	**1.16 205**		*e*P	Pg	19 31 22.1 +0.2
	baz=204					
ESL				*e*S	Sg	19 31 36.9 -0.1
	baz=204					
TWQ1	**Liyutan**	**1.20 245**		*e*P	Pg	19 31 22.9 +0.2
	baz=244					
SMLT	**Sun Moon Lake**	**1.38 225**		*e*P	Pn	19 31 23.9 +0.2
	baz=224					
TYC	**Yuchr**	**1.39 227**		*e*P	Pg	19 31 25.6 -0.7
	baz=225					

TAP 07 19:31:05.9, 25°.07N×121°.51E, h7km, ML2.1, 2C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YM04	**YM04**	**0.09**	**14**	S	Sg	19 31 10.2	+0.7
	baz=13						
TWS1	**Kuangyinshan**	**0.09**	**291**	⇑ *i*P	Pg	19 31 08.6	+0.5
	baz=292						
TWS1				*i* S	Sg	19 31 10.8	+1.2
	baz=292						
YM01	**YM01**	**0.09**	**33**	*e*S	Sg	19 31 11.1	+1.4
	baz=33						
YM10	**YM10**	**0.10**	**26**	S	Sg	19 31 11.2	+1.4
	baz=26						
TWA	**Mucha**	**0.11**	**143**	*i* S	Sg	19 31 11.5	+1.5
	baz=140						
YM05	**YM05**	**0.11**	**26**	S	Sg	19 31 11.2	+1.1
	baz=26						
NTST	**Danshui**	**0.11**	**329**	P	Pg	19 31 09.1	+0.7
	baz=329						
YM11	**YM11**	**0.11**	**29**	⇑ *i*P	Pg	19 31 09.2	+0.7
	baz=29						
YM11				*i* S	Sg	19 31 11.7	+1.5
	baz=29						
ANP	**Anpu**	**0.12**	**3**	S	Sg	19 31 11.4	+1.0
	baz=7.0						
YM08	**YM08**	**0.14**	**30**	*e*S	Sg	19 31 11.6	+0.7
	baz=29						

BJI ***07*** *19:33:25.0±0.0, 18°.03N×146°.05E, h447km, mb4.3/29, mB4.5/23*
ISCJB ***07*** *19:33:34.6±0.5, 18°.60N±0°.04×145°.20E±0°.04, h473km±5km, mb3.9/31, Error ellipse: s-maj=6.7km s-min=5.6km az=22.2*
NEIC ***07*** *19:33:35.7±1.1, 18°.58N±0°.09×145°.23E±0°.10, h476km±4km, mb4.5/96*
IDC ***07*** *19:33:35.3±0.9, 18°.58N×145°.23E, h469km±11km, mb3.5/27, mb1 3.6/32, mb1mx3.5/61, mbtmp4.4/32, Error ellipse: s-maj=12.0km s-min=7.3km az=86.0*
ISC 07 19:33:35.3±0.7, 18°.58N±0°.05×145°.24E±0°.08, h471km±7km, n168, σ0°88/176, mb4.3/74, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.93**	**164**	P	**P**	**19 34 37.0**	**-0.6**
ANA2	**Anatahan**	**2.27**	**168**	P	**P**	**19 34 40.1**	**+0.7**
GUMO	**Guam**	**4.97**	**184**	P	**P**	**19 35 00.7**	**+0.1**
	33nm,0.3s,baz=176,slow=0.3,SNR=18						
GUMO				S	**S**	**19 36 08.1**	**-1.9**
	104nm,0.3s,baz=356,slow=23,SNR=20						
GUMO	**Guam**	**4.97**	**184**	P	**P**	**19 35 01.1**	**+0.5**
JCJ	**Chichijima**	**8.94**	**342**	P	**P**	**19 35 42.7**	**+1.8**
	34nm,0.3s,baz=106,slow=7.8,SNR=24						
JCJ				S	**S**	**19 37 26.1**	**+1.9**
	2.6nm,0.3s,baz=287,slow=19,SNR=1.7						
JOW	**Kunigami**	**17.66**	**301**	P	**P**	**19 37 13.7**	**-0.1**
	1.8nm,0.3s,baz=124,slow=14,SNR=29						
JOW	**Kunigami**	**17.66**	**301**	P	**P**	**19 37 13.3**	**-0.5**
MJAR	**Matsushiro Arr**	**18.94**	**342**	P	**P**	**19 37 24.5**	**-1.2**
	0.5nm,0.3s,baz=167,slow=9.9,SNR=28						
MJAR				S	**S**	**19 40 30.4**	**-3.2**
	0.0nm,0.3s,baz=261,slow=13,SNR=3.5						
MJAR	**Matsushiro Arr**	**18.94**	**342**	P	**P**	**19 37 23.7**	**-2.0**
MAJO	**Matsushiro**	**18.94**	**342**	P	**P**	**19 37 24.1**	**-1.7**
MAT	**Matsushiro**	**18.94**	**342**	P	**P**	**19 37 23.4**	**-2.3**
MJB9	**Matsu-Tunnel**	**18.95**	**342**	P	**P**	**19 37 24.6**	**-1.2**
JNU	**Nakatsue**	**19.38**	**321**	P	**P**	**19 37 29.3**	**-0.5**
	0.9nm,0.3s,baz=46,slow=1.3,SNR=8.4						
JNU	**Nakatsue**	**19.38**	**321**	P	**P**	**19 37 30.2**	**+0.3**
JNU				IAmb	IAmb	19 37 44.2	
	comp=Z,21nm,1.2s						
MANU	**Manus Island**	**20.59**	**174**	P	**P**	**19 37 40.8**	**-0.3**
YOJ	**Yonaguni jima**	**21.48**	**290**	P	**P**	**19 37 49.2**	**+0.2**
NACB	**Ninganchiao**	**22.70**	**288**	P	**P**	**19 37 59.9**	**-0.1**
YULB	**Yu-li**	**22.85**	**286**	P	**P**	**19 38 01.5**	**+0.1**
YHNB	**Yeheng**	**22.98**	**289**	P	**P**	**19 38 02.7**	**+0.1**
SSLB	**Suanglung**	**23.22**	**287**	P	**P**	**19 38 04.9**	**+0.2**
TPUB	**Ta-pu**	**23.45**	**286**	P	**P**	**19 38 07.0**	**+0.3**
KSRS	**Korea Array**	**24.16**	**325**	P	**P**	**19 38 12.8**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=148,slow=9.4,SNR=18						
KS19	**Wonju Array Si**	**24.23**	**325**	P	**P**	**19 38 12.9**	**-0.5**
NJ2	**Nanjing**	**27.28**	**305**	*e*P	**P**	**19 38 41.1**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.86**	**339**	P	**P**	**19 38 45.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=126,slow=4.7,SNR=4.0						
USRK	**Ussuriysk Ar.**	**27.86**	**339**	P	**P**	**19 38 45.2**	**-0.3**
WHN	**Wuhan**	**30.42**	**299**	⇑P	**P**	**19 39 03.4**	**-4.6**
KKM	**Kota Kinabalu**	**30.91**	**250**	P	**P**	**19 39 13.2**	**+0.6**
KKM				IAmb	IAmb	19 39 39.1	
	comp=Z,29nm,1.2s						
COEN	**Coen**	**32.39**	**184**	P	**P**	**19 39 25.8**	**+0.6**
KLR	**Kul'dur**	**32.46**	**343**	P	**P**	**19 39 25.6**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=163,slow=6.5,SNR=7.4						
ENH	**Enshi**	**34.44**	**297**	P	**P**	**19 39 42.4**	**-0.1**
PETK	**Petropavlovsk-**	**35.80**	**13**	P	**P**	**19 39 54.5**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=156,slow=8.1,SNR=4.7						
PETK				PcP	**PcP**	**19 42 06.6**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=145,slow=5.3,SNR=2.9						
PETK	**Petropavlovsk-**	**35.80**	**13**	P	**P**	**19 39 53.7**	**+0.2**
SBUM	**Sibu**	**36.09**	**248**	P	**P**	**19 39 56.8**	**+0.4**
SBUM				IAmb	IAmb	19 39 57.3	
	comp=Z,4.9nm,0.5s						
HHC	**Hu-ho-hao-te**	**36.38**	**315**	P	**P**	**19 40 01.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KNRA	**Kununurra**	**37.70**	**207**	P	**P**	**19 40 10.1**	**+0.4**
KNRA				IAmb	IAmb	19 40 39.3	
	comp=Z,26nm,1.3s						
WRA	**Warramunga Arr**	**39.74**	**196**	P	**P**	**19 40 26.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=18,slow=8.9,SNR=14						
WRA				PcP	**PcP**	**19 42 21.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=9.9,slow=3.3,SNR=6.4						
WRA	**Warramunga Arr**	**39.74**	**196**	P	**P**	**19 40 26.4**	**+0.1**
LZH	**Lanzhou**	**40.35**	**304**	⇓P	**P**	**19 40 30.3**	**-0.9**
LZH				pP	pP	19 41 57.8	+1.3
LZH				PP	**PP**	**19 42 16.4**	**-1.0**
LZH				sP	sP	19 42 50.5	+0.9
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,67nm,5.2s						
MA2	**Magadan**	**41.14**	**4**	P	**P**	**19 40 38.4**	**+1.5**
	comp=Z,13nm,0.6s,baz=191,slow=11,SNR=7.3						
FITZ	**Fitzroy Crossi**	**41.22**	**209**	P	**P**	**19 40 38.3**	**+0.2**
	comp=Z,1.2nm,0.2s,baz=12,slow=6.6,SNR=31						
FITZ	**Fitzroy Crossi**	**41.22**	**209**	P	**P**	**19 40 38.3**	**+0.2**
PBKT	**Sadao Pong**	**42.17**	**274**	P	**P**	**19 40 46.7**	**+0.9**
ULN	**Ulaanbaatar**	**42.60**	**322**	P	**P**	**19 40 49.3**	**+0.4**
SONM	**Songino Array**	**42.97**	**322**	P	**P**	**19 40 52.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=137,slow=7.6,SNR=9.9						
SONM	**Songino Array**	**42.97**	**322**	P	**P**	**19 40 52.8**	**+1.0**
AS31	**Alice Springs**	**43.42**	**195**	P	**P**	**19 40 55.5**	**+0.1**
ASAR	**Alice Springs**	**43.42**	**195**	P	**P**	**19 40 55.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=16,slow=6.6,SNR=12						
ASAR				PcP	**PcP**	**19 42 33.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=32,slow=3.6,SNR=6.3						
ASAR	**Alice Springs**	**43.42**	**195**	P	**P**	**19 40 55.8**	**+0.3**
ASAR				PcP	**PcP**	**19 42 33.2**	**-0.4**
CHTO	**Chiang Mai**	**43.76**	**278**	P	**P**	**19 40 58.5**	**+0.3**
CM31	**Chiang Mai Arr**	**43.80**	**278**	P	**P**	**19 40 59.4**	**+0.8**
CM31				IAmb	IAmb	19 41 00.2	
	comp=Z,7.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.80**	**278**	P	**P**	**19 40 59.2**	**+0.7**
	comp=Z,6.7nm,0.7s,baz=72,slow=6.8,SNR=61						
CMAR	**Chiang Mai Arr**	**43.80**	**278**	P	**P**	**19 40 58.9**	**+0.3**
GTA	**Gaotai**	**44.28**	**308**	*e*P	P	19 40 55.0	-7.1
GTA				pP	pP	19 42 23.1	-6.5
GTA				PcP	pwP	19 42 29.4	-5.5
GTA				sP	sP	19 43 13.6	-8.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SEY	**Seymchan**	**44.59**	**5**	P	**P**	**19 41 04.7**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=186,slow=7.5,SNR=17						
YAK	**Yakutsk**	**44.76**	**350**	P	**P**	**19 41 05.0**	**-0.2**
	comp=Z,16nm,0.5s,baz=211,slow=2.7,SNR=9.4						
YAK	**Yakutsk**	**44.76**	**350**	P	**P**	**19 41 05.1**	**-0.2**
DZM	**Mont Dzumac**	**45.41**	**152**	P	**P**	**19 41 12.0**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=156,slow=23,SNR=6.2						
DZM	**Mont Dzumac**	**45.41**	**152**	IAmb	IAmb	19 42 57.3	
	comp=Z,12nm,1.1s						
LSA	**Lhasa**	**50.20**	**293**	P	**P**	**19 41 47.3**	**-0.2**
TAPN	**Taplejung**	**53.30**	**291**	*e*P	**P**	**19 42 10.0**	**+0.2**
	comp=Z,5.9nm,0.3s						
ODAN	**Odare**	**53.62**	**290**	*e*P	**P**	**19 42 12.0**	**0.0**
	comp=Z,11nm,0.5s						
WMQ	**Urumqi**	**54.06**	**311**	*e*P	**P**	**19 42 15.9**	**+1.2**
JIRN	**Jiri**	**54.63**	**291**	*e*P	**P**	**19 42 19.3**	**0.0**
	comp=Z,20nm,0.6s						
GUN	**Gumba**	**54.88**	**291**	*e*P	**P**	**19 42 21.3**	**+0.2**
	comp=Z,8.5nm,0.5s						
PKI	**Pulchoki**	**55.32**	**291**	*e*P	**P**	**19 42 23.7**	**-0.4**
	comp=Z,4.6nm,0.3s						
PKIN	**Phulchoki**	**55.33**	**291**	*e*P	**P**	**19 42 23.7**	**-0.4**
	comp=Z,3.6nm,0.4s						
KKN	**Kakani**	**55.42**	**291**	*e*P	**P**	**19 42 24.7**	**0.0**
	comp=Z,4.9nm,0.5s						
DMN	**Daman**	**55.59**	**291**	*e*P	**P**	**19 42 25.7**	**-0.2**
	comp=Z,5.8nm,0.4s						
GKN	**Gorkha**	**55.97**	**292**	*e*P	**P**	**19 42 28.2**	**-0.3**
	comp=Z,6.4nm,0.4s						
DANN	**Dangsing**	**56.72**	**292**	*e*P	**P**	**19 42 33.9**	**+0.1**
	comp=Z,52nm,0.6s						
KOLN	**Koldanda**	**56.91**	**291**	*e*P	P	19 42 28.5	-6.5
ZALV	**Zalesovo Beam**	**57.85**	**323**	P	**P**	**19 42 40.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=3.5						
MKAR	**Makanchi Array**	**58.23**	**314**	P	**P**	**19 42 44.0**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=91,slow=8.1,SNR=9.8						
MKAR				PcP	**PcP**	**19 43 27.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=93,slow=3.8,SNR=3.2						
KDAK	**Kodiak Island**	**59.70**	**33**	P	**P**	**19 42 53.6**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=222,slow=0.9,SNR=23						
KURK	**Kurchatov**	**61.07**	**318**	P	**P**	**19 43 02.7**	**+0.3**
KURBB	**Kurchatov Arra**	**61.12**	**318**	P	**P**	**19 43 03.4**	**+0.7**
	comp=Z,5.5nm,0.5s,baz=98,slow=7.1,SNR=36						
NRIK	**Noril'sk**	**61.58**	**340**	P	**P**	**19 43 05.2**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=118,slow=8.2,SNR=9.8						
GHO	**Glory Hole Cre**	**62.41**	**29**	P	**P**	**19 43 11.3**	**+0.2**
GHO				IAmb	IAmb	19 43 25.4	
	comp=Z,26nm,1.3s						
KNK	**Knik Glacier**	**62.55**	**30**	P	**P**	**19 43 12.3**	**+0.4**
KNK				IAmb	IAmb	19 43 48.4	
	comp=Z,11nm,0.6s						
KSH	**Kashi**	**62.59**	**305**	*e*P	**P**	**19 43 15.4**	**+2.7**
DHY	**Denali Highway**	**63.39**	**28**	P	**P**	**19 43 17.6**	**+0.2**
DHY				IAmb	IAmb	19 43 53.2	
	comp=Z,38nm,1.9s						
CCB	**Clear Creek Bu**	**63.54**	**26**	P	**P**	**19 43 17.8**	**-0.4**
CCB				IAmb	IAmb	19 44 17.8	
	comp=Z,6.9nm,0.8s						
TOLK	**Toolik Lake Re**	**63.87**	**22**	P	**P**	**19 43 21.5**	**+1.2**
TOLK				IAmb	IAmb	19 43 22.3	
	comp=Z,13nm,1.0s						
IL31		**63.95**	**26**	P	**P**	**19 43 19.8**	**-1.0**
IL31				IAmb	IAmb	19 43 20.3	
	comp=Z,4.8nm,0.6s						
ILAR	**Eielson Array**	**63.95**	**26**	P	**P**	**19 43 19.9**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=247,slow=5.9,SNR=47						
ILAR	**Eielson Array**	**63.95**	**26**	P	**P**	**19 43 19.9**	**-0.9**
PAX	**Paxson**	**64.22**	**28**	P	**P**	**19 43 23.0**	**+0.3**
PAX				IAmb	IAmb	19 43 23.8	
	comp=Z,9.5nm,0.6s						
DOT	**Dot Lake**	**64.96**	**28**	P	**P**	**19 43 27.5**	**+0.2**
DOT				IAmb	IAmb	19 43 28.2	
	comp=Z,10nm,0.7s						
NIL	**Nilore**	**65.21**	**299**	P	**P**	**19 43 29.2**	**-0.3**
NIL				IAmb	IAmb	19 45 19.6	
	comp=Z,6.2nm,0.8s						
BMAR	**Burnt Mountain**	**65.40**	**24**	P	**P**	**19 43 31.5**	**+1.4**
BALM	**Baldy**	**65.41**	**31**	P	**P**	**19 43 30.9**	**+0.5**
BALM				IAmb	IAmb	19 45 58.8	
	comp=Z,33nm,1.8s						
BCAR	**Beaver Creek A**	**65.90**	**28**	P	**P**	**19 43 33.9**	**+0.6**
BVAR	**Borovoye Array**	**66.29**	**320**	P	**P**	**19 43 35.8**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=96,slow=7.6,SNR=32						
BRVK	**Borovoye**	**66.36**	**320**	P	**P**	**19 43 36.8**	**+0.5**
KK31	**Karatay Array**	**66.51**	**310**	P	**P**	**19 43 37.3**	**-0.2**
KKAR	**Karatay Array**	**66.51**	**310**	P	**P**	**19 43 37.8**	**+0.4**
KKAR	**Karatay Array**	**66.51**	**310**	P	**P**	**19 43 37.5**	**0.0**
KKAR				IAmb	IAmb	19 43 46.9	
	comp=Z,6.2nm,1.6s						
KKAR				pP	**pP**	**19 45 13.7**	**-1.4**
DAWY	**Dawson**	**67.06**	**28**	P	**P**	**19 43 41.3**	**+0.8**
EPYK	**Eagle Plains**	**68.35**	**25**	P	**P**	**19 43 49.1**	**+0.7**
EPYK				IAmb	IAmb	19 43 49.4	
	comp=Z,7.7nm,0.7s						
INK	**Inuvik**	**69.66**	**23**	P	**P**	**19 43 56.4**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=267,slow=7.1,SNR=19						
INK	**Inuvik**	**69.66**	**23**	P	**P**	**19 43 56.0**	**-0.1**
INK				IAmb	IAmb	19 43 57.6	
	comp=Z,9.7nm,1.0s						
ARU	**Arti**	**72.91**	**325**	P	**P**	**19 44 15.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=96,slow=10,SNR=4.5						
ABKAR	**Akbulak array**	**73.13**	**317**	P	**P**	**19 44 16.5**	**-0.5**
ABKAR	**Akbulak array**	**73.13**	**317**	P	**P**	**19 44 16.4**	**-0.5**
YKA	**Yellowknife Ar**	**78.30**	**28**	P	**P**	**19 44 45.4**	**0.0**
	comp=Z,3.0nm,0.6s,baz=288,slow=5.0,SNR=5.6						
B08A	**Colville Reser**	**79.86**	**42**	P	**P**	**19 44 54.4**	**+0.2**
B08A				IAmb	IAmb	19 46 49.6	
	comp=Z,28nm,1.9s						
ORV	**Oroville**	**80.84**	**51**	P	**P**	**19 44 58.9**	**-0.5**
ORV				IAmb	IAmb	19 45 00.7	
	comp=Z,8.3nm,1.1s						
NEW	**Newport**	**81.30**	**42**	P	**P**	**19 45 01.8**	**+0.2**
NEW				IAmb	IAmb	19 45 02.9	
	comp=Z,10.0nm,1.1s						
AFDM	**Forest Hills D**	**81.41**	**52**	P	**P**	**19 45 02.6**	**+0.3**
BEKR	**Beckworth**	**81.60**	**51**	P	**P**	**19 45 03.9**	**+0.3**
BEKR				IAmb	IAmb	19 45 05.3	
	comp=Z,8.2nm,0.9s						
CMB	**Columbia Colle**	**82.12**	**53**	P	**P**	**19 45 06.5**	**+0.4**
CMB				IAmb	IAmb	19 45 07.5	
	comp=Z,7.0nm,0.9s						
BMO	**Blue Mountains**	**82.24**	**45**	P	**P**	**19 45 06.8**	**+0.2**
PNTR	**Pine Nut**	**82.39**	**51**	P	**P**	**19 45 06.6**	**-1.0**
PNTR				IAmb	IAmb	19 45 09.8	
	comp=Z,9.5nm,0.8s						
ARCES	**ARCESS Array B**	**82.48**	**342**	P	**P**	**19 45 06.8**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=69,slow=8.4,SNR=9.4						
WAKR	**Walker**	**82.69**	**52**	P	**P**	**19 45 08.6**	**-0.5**
WAKR				IAmb	IAmb	19 45 11.0	
	comp=Z,5.4nm,0.8s						
YERR	**Yerington**	**82.69**	**51**	P	**P**	**19 45 08.6**	**-0.6**
YERR				IAmb	IAmb	19 45 10.7	
	comp=Z,6.3nm,0.9s						
PLID	**Pearl Lake**	**83.04**	**45**	P	**P**	**19 45 10.3**	**-0.5**
JTMT	**Jette**	**83.27**	**42**	P	**P**	**19 45 12.2**	**+0.4**
JTMT				IAmb	IAmb	19 45 13.0	
	comp=Z,7.3nm,1.0s						
OMMB	**Old Mammoth Mi**	**83.29**	**53**	P	**P**	**19 45 12.0**	**-0.3**
RYN	**Ryan**	**83.33**	**52**	P	**P**	**19 45 11.6**	**-0.7**
RYN				IAmb	IAmb	19 45 14.0	
	comp=Z,5.3nm,0.8s						
KVN	**Kaiserville**	**83.51**	**51**	P	**P**	**19 45 13.6**	**+0.4**
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**19 45 14.3**	**+0.8**
	comp=Z,5.8nm,0.7s,baz=262,slow=6.2,SNR=39						
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**19 45 13.8**	**+0.2**
NV11	**Mina Array Sit**	**83.67**	**52**	P	**P**	**19 45 13.7**	**-0.3**
NV11				IAmb	IAmb	19 45 15.6	
	comp=Z,4.9nm,0.9s						
BMN	**Battle Mountai**	**83.71**	**50**	P	**P**	**19 45 13.0**	**-1.2**
MFID	**Camas Ranch**	**83.71**	**46**	P	**P**	**19 45 14.2**	**+0.2**
MFID				IAmb	IAmb	19 45 15.7	
	comp=Z,12nm,0.8s						
ELK	**Elko**	**85.03**	**49**	P	**P**	**19 45 20.9**	**+0.1**
ELK				IAmb	IAmb	19 45 22.4	
	comp=Z,6.0nm,0.9s						
LRM	**Limekiln Ridge**	**85.13**	**43**	P	**P**	**19 45 18.6**	**-2.6**
TPNV	**Topopah Spring**	**85.58**	**53**	P	**P**	**19 45 23.8**	**+0.3**
TPNV				IAmb	IAmb	19 45 24.9	
	comp=Z,7.0nm,0.9s						
R11A	**Troy Canyon, C**	**85.60**	**51**	P	**P**	**19 45 23.8**	**+0.3**
GSC	**Goldstone, Bar**	**85.71**	**54**	P	**P**	**19 45 22.8**	**-1.3**
SHPR	**Sheep Range**	**86.56**	**53**	P	**P**	**19 45 27.9**	**-0.2**
SHPR				IAmb	IAmb	19 45 30.1	
	comp=Z,4.1nm,0.8s						
FINES	**FINESS Array B**	**86.81**	**335**	P	**P**	**19 45 26.7**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=69,slow=4.6,SNR=12						
DUG	**Dugway, Tooele**	**86.95**	**49**	P	**P**	**19 45 29.4**	**-0.5**
W13A	**Hualapai Mount**	**88.02**	**54**	P	**P**	**19 45 34.9**	**-0.2**
W13A				IAmb	IAmb	19 45 36.8	
	comp=Z,3.9nm,0.8s						
KNB	**Kanab**	**88.12**	**52**	P	**P**	**19 45 35.4**	**-0.1**
PDAR	**Pinedale Array**	**88.22**	**45**	P	**P**	**19 45 35.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=244,slow=0.2,SNR=5.2						
U15A	**North Rim**	**88.74**	**52**	P	**P**	**19 45 37.9**	**-0.6**
U15A				IAmb	IAmb	19 45 40.9	
	comp=Z,4.3nm,1.1s						
SRU	**San Rafael Swe**	**89.00**	**49**	P	**P**	**19 45 39.1**	**-0.5**
PV21	**Cone Mtn., Par**	**90.33**	**49**	P	**P**	**19 45 45.9**	**+0.1**
PV23	**Carpenter Ridg**	**90.35**	**49**	P	**P**	**19 45 46.1**	**+0.2**
PV14	**Lion Creek, Pa**	**90.37**	**49**	P	**P**	**19 45 46.5**	**+0.5**
PV20	**West Nyswonger**	**90.42**	**49**	P	**P**	**19 45 46.5**	**+0.3**
PV19	**Morning Glory**	**90.43**	**49**	P	**P**	**19 45 46.4**	**+0.2**
**P

4.6nm,0.3s,baz=236,slow=23,SNR=5.0
JCJ S **Sn** **19 41 04.5 -3.9**
7.4nm,0.3s,baz=346,slow=21,SNR=5.6
MJAR **Matsushiro Arr** **18.74 340** P **P** **19 41 33.1 +2.7**
0.1nm,0.3s,baz=158,slow=10,SNR=4.0
MANU **Manus Island** **21.05 177** P **P** **19 41 53.1 -2.1**
MANU IAmb IAmb 19 41 58.0
comp=Z,21nm,0.8s
WB0 **Warramunga Arr** **40.33 197** P **P** **19 44 44.0 -0.8**
WB0 IAmb IAmb 19 45 52.6
comp=Z,16nm,0.8s
WRAB **Tennant Creek** **40.50 197** P **P** **19 44 45.1 -1.1**
WRAB IAmb IAmb 19 44 46.0
comp=Z,5.7nm,0.7s
WB2 **Warramunga Arr** **40.51 197** P **P** **19 44 45.8 -0.4**
WRA **Warramunga Arr** **40.52 197** P **P** **19 44 45.6 -0.7**
comp=Z,3.3nm,0.5s,baz=18,slow=8.9,SNR=42
WRA **Warramunga Arr** **40.52 197** P **P** **19 44 44.7 -1.6**
FITZ **Fitzroy Crossi** **42.14 210** P **P** **19 44 58.0 -1.4**
comp=Z,1.9nm,0.3s,baz=30,slow=7.4,SNR=33
FITZ **Fitzroy Crossi** **42.14 210** P **P** **19 44 57.9 -1.5**
FITZ IAmb IAmb 19 46 23.1
comp=Z,17nm,1.7s
ASAR **Alice Springs** **44.18 196** P **P** **19 45 15.1 -0.8**
comp=Z,1.3nm,0.6s,baz=15,slow=7.9,SNR=16
ASAR **Alice Springs** **44.18 196** P **P** **19 45 14.9 -0.8**
MYKOM **Kota Tinggi** **44.90 253** P **P** **19 45 20.5 -1.2**
MYKOM IAmb IAmb 19 46 58.6
comp=Z,22nm,1.6s
STKA **Stephens Creek** **50.88 185** P **P** **19 46 06.8 -0.4**
comp=Z,2.4nm,0.9s,baz=14,slow=8.3,SNR=3.9
STKA **Stephens Creek** **50.88 185** P **P** **19 46 06.6 -0.6**
GAMB **Gambell** **52.89 22** P **P** **19 46 21.2 -0.4**
MKAR **Makanchi Array** **58.54 314** P **P** **19 47 02.4 +0.2**
comp=Z,0.2nm,0.5s,baz=88,slow=8.5,SNR=2.6
KURBB **Kurchatov Arra** **61.35 318** P **P** **19 47 21.1 0.0**
comp=Z,0.2nm,0.4s,baz=92,slow=7.6,SNR=3.1
BVAR **Borovoye Array** **66.48 320** P **P** **19 47 54.1 -0.4**
comp=Z,0.5nm,0.4s,baz=105,slow=7.4,SNR=5.3
BVAR pP **pP** **19 48 45.3 +4.9**
comp=Z,0.4nm,0.4s,baz=94,slow=6.2,SNR=1.8
ABKAR **Abkulak array** **73.38 317** P **P** **19 48 36.1 -0.5**
PINE **Pine Mountain** **79.02 47** P P 19 49 07.6 -1.2
FINES **FINESS Array B** **86.72 335** P **P** **19 49 46.0 -1.6**
comp=Z,1.0nm,0.6s,baz=59,slow=3.3,SNR=7.6
FINES **FINESS Array B** **86.72 335** P **P** **19 49 45.9 -1.7**

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*ISCJB **07** 19:46:31.1±1.1, 43°.06N±0°.07×145°.83E±0°.08, h52km±10km, Error ellipse: s-maj=13.6km s-min=6.1km az=140.3*
*SKHL **07** 19:46:31.2±0.8, 43°.49N×145°.08E, h94km±2km, mb4.1/5, msh5.1/5*
*JMA **07** 19:46:31.2±0.1, 43°.01N×145°.81E, h50km±1km, M2.6*
ISC 07 19:46:31.9±2.0, 43°.07N±0°.09×145°.80E±0°.08, h49km±13km, n14, σ0s65/22, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.30**	**351**	P	**Pn**	**19 46 40.9**	**0.0**
NEM2				*e*S	**Sn**	**19 46 47.6**	**+0.4**
JKHN	**Kushirohamanak**	**0.47**	**271**	P	**Pn**	**19 46 42.4**	**-0.3**
GLVR	**Golovnino**	**0.70**	**343**	*e*P	**Pn**	**19 46 45.0**	**-0.5**
GLVR				AMB	AMB	19 46 47.0	
91nm,0.2s							
GLVR				*i* S	**Sn**	**19 46 56.0**	**+0.6**
GLVR				A	A	19 46 59.0	
205nm,0.2s							
GLVR				A	A	19 46 59.0	
388nm,0.2s							
JAK	**Akkeshi**	**0.81**	**265**	P	**Pn**	**19 46 46.6**	**-0.5**
JAK				*e*S	**Sn**	**19 46 57.9**	**-0.2**
JNSB	**Nemuroshibetsu**	**0.91**	**321**	P	**Pn**	**19 46 48.7**	**+0.3**
GRPR	**Tuman**	**0.92**	**359**	*e*P	**Pn**	**19 46 48.0**	**-0.5**
GRPR				AMB	AMB	19 46 49.0	
49nm,0.2s							
GRPR				*i* S	**Sn**	**19 47 00.0**	**-0.7**
GRPR				A	A	19 47 02.0	
151nm,0.2s							
GRPR				A	A	19 47 02.0	
263nm,0.2s							
JNK	**Nakash**	**0.94**	**303**	P	**Pn**	**19 46 48.8**	**0.0**
JNK				*e*S	**Sn**	**19 47 01.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.96**	**2**	*i* P	**Pn**	**19 46 49.0**	**-0.1**
YUK				AMB	AMB	19 46 50.0	
61nm,0.2s							
YUK				*i* S	**Sn**	**19 47 02.0**	**+0.3**
YUK				A	A	19 47 04.0	
216nm,0.2s							
YUK				A	A	19 47 04.0	
179nm,0.2s							
LAGR	**Lagunnoye**	**0.98**	**359**	*e*P	**Pn**	**19 46 48.0**	**-1.3**
LAGR				AMB	AMB	19 46 49.0	
57nm,0.2s							
LAGR				*i* S	**Sn**	**19 47 01.0**	**-1.2**
LAGR				A	A	19 47 02.0	
194nm,0.2s							
LAGR				A	A	19 47 02.0	
146nm,0.2s							
JRA	**Rausu**	**1.00**	**330**	*e*S	**Sn**	**19 47 03.7**	**+1.2**
JOB	**Onbets**	**1.46**	**264**	P	**Pn**	**19 46 55.4**	**-0.3**
JAR	**Ashorobuto**	**1.50**	**279**	P	**Pn**	**19 46 56.7**	**+0.3**
JAR				*e*S	**Sn**	**19 47 15.3**	**+0.4**
JTKR	**Abashiri--Toko**	**1.65**	**304**	P	Pn	19 46 59.4	+1.1
KUR	**Kuril'sk**	**2.62**	**34**	*e*P	**Pn**	**19 47 12.0**	**+0.3**
KUR				AMB	AMB	19 47 15.4	
12nm,0.3s							
KUR				*i* S	**Sn**	**19 47 43.0**	**+0.8**
KUR				A	A	19 47 49.1	
190nm,0.3s							
KUR				A	A	19 47 49.1	
17nm,0.3s							

IDC 07 19:52:27.7±359.0, 50°.14N×110°.29W, h0km, Error ellipse: s-maj=158.8km s-min=98.3km az=80.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**4.86**	**250**	*i*		20 22 20.0	
baz=61, slow=320,SNR=2.5							
I10CA	**LAC DU BONNET**	**9.16**	**84**	*i*		20 43 32.9	
baz=273,slow=338,SNR=15							
I18DK	**QAANAAQ INFRAS**	**31.46**	**16**	*i*		23 09 00.0	
baz=234,slow=334,SNR=1.5							

JMA 07 20:00:41.1±0.2, 36°.91N×143°.81E, h57km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.33**	**308**	P	Pn	20 01 17.8	+0.8
JFK	**Kawauchi**	**2.39**	**282**	P	Pn	20 01 18.6	+0.7
JFK				*e*S	Sn	20 01 47.0	+1.0
ONAJ	**Iwakimizuishiy**	**2.42**	**275**	P	Pn	20 01 19.2	+0.9
ONAJ				S	Sn	20 01 47.5	+0.8
JMST	**Minamisoumatoc**	**2.47**	**290**	P	Pn	20 01 19.8	+0.9
JMST				S	Sn	20 01 49.2	+1.4
JIO	**Ouri**	**2.49**	**309**	P	Pn	20 01 20.1	+1.0
JIO				S	Sn	20 01 49.1	+0.8
JMM	**Marumori**	**2.58**	**293**	P	Pn	20 01 21.6	+1.1
JFT	**Otama**	**2.84**	**283**	P	Pn	20 01 25.8	+1.8
JMK	**Ichinoseki**	**2.89**	**316**	P	Pn	20 01 25.5	+0.9
BSO1	**Boso 1**	**3.22**	**226**	P	Pn	20 01 28.0	-0.7
JOM	**Ohasama**	**3.24**	**323**	P	Pn	20 01 30.7	+1.3
JOM				S	Sn	20 02 07.4	+0.7
JYK	**Kaneyama**	**3.39**	**307**	P	Pn	20 01 33.5	+2.1
JAG	**Ashikaga**	**3.54**	**263**	P	Pn	20 01 34.6	+1.1
JAG				*e*S	Sn	20 02 15.4	+1.3
JRY	**Ryogami san**	**4.05**	**259**	P	Pn	20 01 41.3	+0.6
JRY				*e*S	Sn	20 02 27.2	+0.3
JOD2	**Odawara 2**	**4.16**	**248**	P	Pn	20 01 42.6	+0.5
JOD2				*e*S	Sn	20 02 29.7	+0.2
MAT	**Matsushiro**	**4.52**	**267**	P	Pn	20 01 48.6	+1.6
MAT				S	Sn	20 02 42.4	+4.2
JHJ2	**Mitsune**	**5.01**	**222**	P	Pn	20 01 52.6	-1.1
JCH	**Churui**	**5.71**	**357**	P	Pn	20 02 02.8	-0.4
JTKR	**Abashiri--Toko**	**7.05**	**1**	*e*S	Sn	20 03 35.9	-4.4

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*AZER **07** 20:03:17.4±0.2, 38°.47N×44°.90E, h5km, ml4.0/32, Error ellipse: s-maj=3.4km s-min=2.3km az=44.0*

*NSSP **07** 20:03:17.8, 38°.38N×44°.88E, h5km, Ms3.8*
*DDA **07** 20:03:18.0, 38°.36N×44°.91E, h9km±2km, ML3.8*
*THR **07** 20:03:18.4, 38°.36N×44°.75E, h14km, ML3.6*
*IDC **07** 20:03:18.8±0.8, 38°.40N×44°.93E, h0km, mb3.7/11, mb1 3.8/17, mb1mx3.6/67, mbtmp3.6/17, ML2.9/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/39, Error ellipse: s-maj=12.8km s-min=11.1km az=137.0*
*TEH **07** 20:03:18.8, 38°.37N×44°.88E, h6km, ML3.9*
*NEIC **07** 20:03:20.6±1.6, 38°.38N±0°.05×44°.77E±0°.09, h10km±2km, mb4.0/20, mb_Lg3.8(TEH), ML3.8(ISK)*
*ISK **07** 20:03:20.3, 38°.27N×44°.72E, h5km, ML3.8/13*
ISC 07 20:03:19.6±0.7, 38°.37N±0°.02×44°.87E±0°.02, h6km±4km, n247, σ1s49/295, mb3.9/20, MS3.0/3, 12C-11D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.60**	**98**	*e*Pg	**Pg**	**20 03 30.2**	**-0.9**
ISHB				*e*Sg	**Sg**	**20 03 39.0**	**+0.1**
ISHB				IAMB	IAmb	20 03 43.4	
comp=Z,14μm,0.4s							
IMRD	**Marand**	**0.74**	**62**	*e*Pg	**Pg**	**20 03 32.9**	**-0.9**
IMRD				IAMB	IAmb	20 03 51.4	
comp=Z,38μm,0.2s							
BASK	**Baskale_VAN**	**0.75**	**245**	*i* P	**Pg**	**20 03 33.4**	**-0.6**
BASK				*i* S	**Sg**	**20 03 44.1**	**+0.4**
BASK				IAML_P			
comp=Z,9μm,0.1s							
BASK	**Baskale_VAN**	**0.75**	**245**	*e*Pg	**Pg**	**20 03 33.2**	**-0.8**
YOVA	**Hakkari_Yksek**	**0.91**	**210**	*i* P	**Pg**	**20 03 36.3**	**-0.6**
YOVA				*i* S	**Sb**	**20 03 49.6**	**-0.6**
YOVA				IAML_P			
comp=Z,25μm,0.3s							
YOVA	**Hakkari_Yksek**	**0.91**	**210**	*e*Pg	**Pg**	**20 03 35.6**	**-1.4**
NAX	**Nakhchivan**	**0.94**	**31**	*e*Pg	**Pg**	**20 03 36.7**	**-0.9**
NAX	**Nakhchivan**	**0.94**	**31**	P	**Pg**	**20 03 36.7**	**-0.9**
SNR=236							
NAX				S	**Sg**	**20 03 50.1**	**+0.2**
MAKU	**Maku**	**0.99**	**352**	*e*Pg	**Pg**	**20 03 37.0**	**-1.6**
MAKU	**Maku**	**0.99**	**352**	*e*Pg	**Pg**	**20 03 37.0**	**-1.6**
MAKU	**Maku**	**0.99**	**352**	*e*Sg	**Sg**	**20 03 50.8**	**-0.8**
ITBZ	**Tabriz**	**1.02**	**97**	*e*Pg	**Pg**	**20 03 37.7**	**-1.4**
ORD	**Ordubad**	**1.04**	**57**	*e*Pg	**Pg**	**20 03 38.5**	**-1.1**
ORD	**Ordubad**	**1.04**	**57**	P	**Pg**	**20 03 38.5**	**-1.1**
SNR=135							
ORD				S	**Sg**	**20 03 53.3**	**+0.1**
CLDR	**Caldiran**	**1.07**	**316**	*i* P	**Pg**	**20 03 38.9**	**-1.2**
CLDR				*i* S	**Sb**	**20 03 54.8**	**-0.1**
CLDR				IAML_P			
comp=Z,22μm,0.2s							
CLDR	**Caldiran**	**1.07**	**316**	*e*Pg	**Pg**	**20 03 40.1**	**0.0**
IAZR	**Azarshahr**	**1.12**	**128**	*e*Pg	**Pg**	**20 03 39.4**	**-1.7**
IAZR				IAMB	IAmb	20 03 47.6	
comp=Z,60μm,0.4s							
SBZ	**Shahbuz**	**1.16**	**27**	*e*Pg	**Pg**	**20 03 40.3**	**-1.5**
SBZ	**Shahbuz**	**1.16**	**27**	P	**Pg**	**20 03 40.3**	**-1.5**
SNR=262							
SBZ				S	**Sg**	**20 03 56.3**	**-0.5**
TVAN	**Van**	**1.16**	**278**	*i* P	**Pg**	**20 03 41.5**	**-0.3**
TVAN				*i* S	**Sn**	**20 03 59.4**	**+0.6**
TVAN				IAML_P			
comp=Z,4μm,0.2s							
TVAN	**Van**	**1.16**	**278**	*e*Pg	**Pg**	**20 03 41.2**	**-0.6**
VANB	**Van**	**1.18**	**281**	*e*Pg	**Pg**	**20 03 41.2**	**-1.0**
VANB	**Van**	**1.18**	**281**	PG	**Pg**	**20 03 41.2**	**-1.0**
VANB				SG	**Sg**	**20 03 56.9**	**-0.6**
VMUR	**Van-Muradiye**	**1.19**	**302**	*i* P	**Pg**	**20 03 42.1**	**-0.2**
VMUR				*i* S	**Sn**	**20 03 59.3**	**-0.1**
VMUR				IAML_P			
comp=Z,3μm,0.2s							
VMUR	**Van-Muradiye**	**1.19**	**302**	*e*Pg	**Pg**	**20 03 41.5**	**-0.8**
HAKT	**HAKKARI**	**1.22**	**229**	*i* P	**Pg**	**20 03 42.0**	**-1.1**
HAKT				*i* S	**Sn**	**20 04 00.8**	**+0.4**
HAKT				IAML_P			
comp=Z,8μm,0.2s							
HAKT	**HAKKARI**	**1.22**	**229**	*e*Pg	**Pg**	**20 03 41.4**	**-1.6**
HYR	**Heyderabad**	**1.35**	**360**	*e*Pg	**Pn**	**20 03 43.4**	**-1.5**
HYR	**Heyderabad**	**1.35**	**360**	P	**Pn**	**20 03 43.5**	**-1.5**
SNR=145							
HYR				S	**Sn**	**20 04 03.3**	**+0.1**
GEVA	**Gevas**	**1.42**	**268**	*i* P	**Pn**	**20 03 45.9**	**-0.2**
GEVA				*i* S	**Sg**	**20 04 07.3**	**+2.0**
GEVA				IAML_P			
comp=Z,8μm,0.3s							
GEVA	**Gevas**	**1.42**	**268**	*e*Pg	**Pn**	**20 03 44.8**	**-1.3**
AKDM	**Akdamar-Van**	**1.48**	**269**	*e*Pn	**Pb**	**20 03 47.8**	**+0.2**
AKDM	**Akdamar-Van**	**1.48**	**269**	PN	**Pn**	**20 03 46.7**	**-0.3**
AKDM				SN	**Sg**	**20 04 07.8**	**+0.6**
CUKT	**Cukurca**	**1.50**	**222**	*i* P	**Pb**	**20 03 47.8**	**-0.1**
CUKT				IAML_P			
comp=Z,7μm,0.3s							
CUKT	**Cukurca**	**1.50**	**222**	*e*Pn	**Pn**	**20 03 46.8**	**-0.3**
CUKT	**Cukurca**	**1.50**	**222**	PN	**Pn**	**20 03 46.9**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.68**	**343**	*e*Pn	**Pg**	**20 03 54.2**	**+2.4**
TASB	**TASBURUN-IGDIR**	**1.68**	**343**	PN	**Pg**	**20 03 52.3**	**+0.5**
TASB				SN	**Sg**	**20 04 16.8**	**+3.1**
IHRS	**Heris**	**1.71**	**91**	*e*Pn	**Pn**	**20 03 50.2**	**0.0**
IHRS				IAMB	IAmb	20 03 57.9	
comp=Z,16μm,0.5s							
IBST	**Bostanabad**	**1.73**	**112**	IAMB	IAmb	20 04 18.0	
comp=Z,1.1μm,0.6s							
MAHB	**Mahabad**	**1.74**	**157**	*e*Pn	**Pn**	**20 03 50.4**	**0.0**
MAHB				IAMB	IAmb	20 04 30.8	
comp=Z,0.0nm,0.6s							
GNI	**Garni**	**1.78**	**357**	*e*Pn	**Pn**	**20 03 51.7**	**+0.7**
GNI	**Garni**	**1.78**	**357**	⇓*i*P	**Pn**	**20 03 51.1**	**+0.1**
GNI				⇑*i*S	**Sb**	**20 04 15.4**	**+0.1**
GNI	**Garni**	**1.78**	**357**	Pn	**Pn**	**20 03 51.6**	**+0.7**
comp=Z,15nm,0.3s,baz=199,slow=1.3,SNR=74							
GNI				Lg	Lg	20 04 17.0	
comp=Z,50nm,0.3s,baz=344,slow=21,SNR=11							
GNI	**Garni**	**1.78**	**357**		**Pb**	**20 03 52.7**	**0.0**
METS	**Metsamor**	**1.88**	**341**	⇑*i*P	**Pb**	**20 03 54.6**	**+0.3**
METS				⇑S	**Sg**	**20 04 23.1**	**+3.2**
IHSH	**Hashtrud**	**1.89**	**91**	*e*Pn	**Pg**	**20 03 57.9**	**+2.1**
IHSH				IAMB	IAmb	20 04 07.5	
comp=Z,8μm,0.3s							
TUTA	**Tutak**	**1.90**	**303**	*i* P	**Pb**	**20 03 54.0**	**-0.9**
TUTA				IAML_P			
comp=Z,8μm,0.3s							
TUTA	**Tutak**	**1.90**	**303**	*e*Pn	**Pn**	**20 03 53.5**	**+0.7**
VNNZ	**Vanand**	**1.91**	**335**	⇑*i*P	**Pg**	**20 03 55.7**	**-0.5**
VNNZ				⇑S	**Sg**	**20 04 24.5**	**+3.6**
VADZ	**Vardenis**	**1.92**	**21**	*i* P	**Pb**	**20 03 54.1**	**-1.0**
VADZ				*i* S	**Sb**	**20 04 19.8**	**+0.3**
KAPZ	**Kaputan**	**1.95**	**356**	⇑*i*P	**Pn**	**20 03 54.1**	**+0.7**
KAPZ				⇑*i*S	**Sg**	**20 04 21.8**	**-0.5**
MLAZ	**Malazgirt-MUS**	**1.97**	**294**	PN	**Pb**	**20 03 55.9**	**0.0**
ARUZ	**Aruch**	**2.00**	**343**	⇓*i*P	**Pn**	**20 03 55.0**	**+1.0**
ARUZ				⇓S	**Sg**	**20 04 22.9**	**-1.0**
SIRN	**Sırnak**	**2.13**	**246**	*i* P	**Pb**	**20 03 57.7**	**-0.9**
SIRN				IAML_P			
comp=Z,11μm,0.6s							
SIRN	**Sırnak**	**2.13**	**246**	*e*Pn	**Pb**	**20 03 57.5**	**-1.1**
BLIS	**Bitlis-Merkez**	**2.16**	**272**	*i* P	**Pb**	**20 03 58.2**	**-1.0**
BLIS				*i* S	**Sb**	**20 04 27.6**	**+1.3**
BLIS				IAML_P			
comp=Z,5μm,0.3s							
BLIS	**Bitlis-Merkez**	**2.16**	**272**	*e*Pn	**Pb**	**20 03 58.1**	**-1.1**
QRD	**Qoradiz**	**2.20**	**60**	P	**Pn**	**20 03 57.1**	**+0.4**
QRD				S	**Sb**	**20 04 27.0**	**-0.4**
GURO	**Guroymak-BITLI**	**2.23**	**275**	*e*Pn	**Pn**	**20 03 58.3**	**+1.1**
GURO	**Guroymak-BITLI**	**2.23**	**275**	PN	**Pn**	**20 03 58.4**	**+1.2**
ISRB	**Sarab**	**2.28**	**103**	*e*Pn	**Pn**	**20 03 59.0**	**+1.1**
ISRB				IAMB	IAmb	20 04 16.3	
comp=Z,7μm,0.5s							
DIGO	**Kars**	**2.34**	**331**	*i* P	**Pb**	**20 04 01.6**	**-0.8**
DIGO	**Kars**	**2.34**	**331**	*e*Pn	**Pn**	**20 04 00.5**	**+1.6**
SRTM	**Siirt_Merkez**	**2.35**	**262**	*i* P	**Pb**	**20 04 00.8**	**-1.6**
SRTM				IAML_P			
comp=Z,2μm,0.3s							
SRTM	**Siirt_Merkez**	**2.35**	**262**	*e*Pn	**Pn**	**20 04 00.5**	**+1.7**
EATA	**Eleskirt**	**2.37**	**310**	*i* P	**Pb**	**20 04 03.5**	**+0.6**
EATA	**Eleskirt**	**2.37**	**310**	*e*Pn	**Pb**	**20 04 03.2**	**+0.3**
GRMI	**Germi**	**2.41**	**79**	*e*Pn	**Pn**	**20 04 01.1**	**+1.4**
GRMI	**Germi**	**2.41**	**79**	*e*AML	AML	20 04 41.0	
comp=N,286nm,0.8s							
GRMI	**Germi**	**2.41**	**79**	*e*Pn	**Pn**	**20 04 01.1**	**+1.4**
GRMI	**Germi**	**2.41**	**79**	*e*Sg	**Sg**	**20 04 36.9**	**-0.2**
GDB	**GEDABAY**	**2.44**	**16**	*e*Pn	**Pn**	**20 04 00.1**	**-0.1**
GDB	**GEDABAY**	**2.44**	**16**	P	**Pn**	**20 04 00.2**	**-0.1**
SNR=55							

GDB				S	**Sb**	**20 04 34.3 -0.2**
AGDM	**Agdam**	**2.46**	**44**	P	**Pn**	**20 04 00.8 +0.6**
AGDM				S	**Sb**	**20 04 34.2 -0.5**
BLQ	**Beylaqan**	**2.49**	**56**	P	**Pn**	**20 04 02.0 +1.3**
BLQ				S	**Sn**	**20 04 33.2 +1.8**
EAK	**Akyaka**	**2.51**	**338**	*i* P	**Pb**	**20 04 03.8 -1.3**
EAK				*i* S	**Sg**	**20 04 43.1 +2.9**
EAK	**Akyaka**	**2.51**	**338**	*e*Pn	**Pb**	**20 04 03.3 -1.8**
GANJ	**Ganja**	**2.54**	**26**	*e*Pn	**Pn**	**20 04 02.1 +0.8**
GANJ	**Ganja**	**2.54**	**26**	P	**Pn**	**20 04 02.1 +0.8**
SNR=84						
GANJ				S	**Sn**	**20 04 34.5 +1.9**
BRDA	**Brd**	**2.61**	**43**	*e*Pn	**Pn**	**20 04 02.5 +0.3**
BRDA	**Brd**	**2.61**	**43**	P	**Pn**	**20 04 02.5 +0.3**
SNR=37						
BRDA				S	**Sn**	**20 04 35.9 +1.7**
KARS	**Kars**	**2.64**	**329**	*e*Pn	**Pb**	**20 04 07.4 0.0**
KARS	**Kars**	**2.64**	**329**	PN	**Pb**	**20 04 05.9 -1.5**
MUSM	**Mu-Merkez**	**2.65**	**279**	*i* P	**Pb**	**20 04 08.2 +0.6**
MUSM				IAML_P		
comp=Z,678nm,0.3s						
MUSM	**Mu-Merkez**	**2.65**	**279**	*e*Pn	**Pb**	**20 04 08.0 +0.4**
YRD	**Yardimli**	**2.70**	**77**	P	**Pn**	**20 04 05.3 +1.6**
SNR=85						
YRD				S	**Sb**	**20 04 42.7 +0.8**
QZX	**Qazax, Azerbai**	**2.71**	**8**	*e*Pn	**Pn**	**20 04 03.9 +0.2**
QZX	**Qazax, Azerbai**	**2.71**	**8**	P	**Pn**	**20 04 03.9 +0.2**
SNR=7.5						
QZX				S	**Sn**	**20 04 38.9 +2.0**
LRK	**Lerik**	**2.74**	**83**	*e*Pn	**Pn**	**20 04 05.6 +1.4**
LRK	**Lerik**	**2.74**	**83**	P	**Pn**	**20 04 05.7 +1.4**
LRK				S	**Sb**	**20 04 41.6 -1.3**
VRTB	**Varto-Mus**	**2.78**	**288**	*i* P	**Pb**	**20 04 10.3 +0.5**
VRTB	**Varto-Mus**	**2.78**	**288**	*e*Pn	**Pb**	**20 04 08.3 -1.4**
VRTB	**Varto-Mus**	**2.78**	**288**	PN	**Pn**	**20 04 06.7 +1.9**
HOMI	**Horasan**	**2.84**	**307**	*i* P	**Pg**	**20 04 13.3 -0.8**
BTMN	**Batman**	**2.88**	**262**	*i* P	**Pn**	**20 04 07.3 +1.3**
GLBA	**Clilabad**	**2.89**	**71**	*e*Pn	**Pn**	**20 04 07.5 +1.4**
GLBA	**Clilabad**	**2.89**	**71**	P	**Pn**	**20 04 07.6 +1.4**
SNR=79						
GLBA				S	**Sb**	**20 04 45.4 -1.7**
SVAN	**Silvan-Diyarba**	**2.89**	**267**	*i* P	**Pn**	**20 04 08.1 +1.9**
SVAN	**Silvan-Diyarba**	**2.89**	**267**	*e*Pn	**Pn**	**20 04 07.4 +1.2**
SVAN	**Silvan-Diyarba**	**2.89**	**267**	PN	**Pn**	**20 04 07.4 +1.2**
ZRD	**Zardab**	**2.90**	**48**	*e*Pn	**Pn**	**20 04 07.4 +1.2**
ZRD	**Zardab**	**2.90**	**48**	P	**Pn**	**20 04 07.5 +1.2**
SNR=68						
ZRD				S	**Sb**	**20 04 44.7 -2.7**
SENK	**Senkaya-Erzuru**	**2.93**	**319**	*e*Pn	**Pb**	**20 04 10.9 -1.4**
SENK	**Senkaya-Erzuru**	**2.93**	**319**	PN	**Pb**	**20 04 10.9 -1.4**
MNGR	**Mingechevir, A**	**2.95**	**35**	*e*Pn	**Pn**	**20 04 07.5 +0.6**
MNGR	**Mingechevir, A**	**2.95**	**35**	P	**Pn**	**20 04 07.5 +0.6**
SNR=7.5						
MNGR				S	**Sb**	**20 04 45.9 -2.9**
BNGL	**BINGOL**	**2.96**	**282**	*i* P	**Pg**	**20 04 15.5 -0.9**
ASTR	**Astara**	**3.09**	**85**	*e*Pn	**Pn**	**20 04 10.3 +1.5**
ASTR	**Astara**	**3.09**	**85**	P	**Pn**	**20 04 10.3 +1.5**
SNR=19						
ASTR				S	**Sn**	**20 04 48.7 +2.7**
LKRN	**Lenkeran, Azer**	**3.09**	**83**	*e*Pn	**Pn**	**20 04 09.9 +1.1**
LKRN	**Lenkeran, Azer**	**3.09**	**83**	P	**Pn**	**20 04 09.9 +1.1**
SNR=30						
LKRN				S	**Sn**	**20 04 49.0 +2.9**
SAAT	**Saatly**	**3.14**	**61**	*e*Pn	**Pn**	**20 04 10.7 +1.1**
SAAT	**Saatly**	**3.14**	**61**	P	**Pn**	**20 04 10.7 +1.1**
SNR=9.7						
SAAT				S	**Sn**	**20 04 49.1 +1.7**
AKH	**Akhalkalaki**	**3.21**	**341**	⇑P	**Pb**	**20 04 18.9 +1.7**
AKH	**Akhalkalaki**	**3.21**	**341**		**Pn**	**20 04 12.8 +2.1**
DDFL	**Dedoflistskaro**	**3.22**	**17**	*i* P	**Pb**	**20 04 15.0 -2.1**
AKDA	**Akdag**	**3.22**	**304**	*i* P	**Pg**	**20 04 24.1 +2.8**
KDMR	**Kurdemir**	**3.26**	**51**	S	**Sn**	**20 04 53.2 +2.9**
BTNK	**Botanikuri**	**3.31**	**359**	*i* P	**Pb**	**20 04 18.4 -0.3**
BNGB	**Bingl**	**3.33**	**282**	PN	**Pb**	**20 04 16.4 -2.8**
BGOL	**Bingol**	**3.34**	**282**	*i* P	**Pg**	**20 04 21.8 -1.8**
SEKA	**Sheki**	**3.36**	**32**	*e*Pn	**Pn**	**20 04 13.4 +0.8**
SEKA	**Sheki**	**3.36**	**32**	P	**Pn**	**20 04 13.4 +0.8**
SNR=8.8						
SEKA				S	**Sb**	**20 04 57.0 -3.6**
TBLG	**Delisi**	**3.36**	**358**		**Pn**	**20 04 14.7 +2.1**
QBL	**Gabala**	**3.45**	**41**	*e*Pn	**Pn**	**20 04 14.4 +0.6**
QBL	**Gabala**	**3.45**	**41**	P	**Pn**	**20 04 14.4 +0.6**
SNR=15						
QBL				S	**Sn**	**20 04 58.3 +3.3**
BINT	**Bingol**	**3.46**	**280**	*e*Pn	**Pn**	**20 04 15.8 +1.6**
ZNJK	**Zanjan**	**3.48**	**118**	*e*Pn	**Pn**	**20 04 15.2 +0.7**
ZNJK	**Zanjan**	**3.48**	**118**	*e*Pn	**Pn**	**20 04 15.2 +0.7**
HANI

JHBN Jahan bin 7.75 141 *e*Pn **Pn 20 05 15.7 +2.6**
BRTR Keskin Array B 8.84 282 Pn **Pn 20 05 32.4 +4.4**
comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=5.7
BRTR Keskin Array B 8.84 282 Pn 20 05 28.7 +0.8
ASF Jabal al Asfar 8.98 229 Pn **20 05 31.6 +1.7**
comp=Z,0.1nm,0.3s,baz=355,slow=11,SNR=2.1
ASF Lg Lg 20 08 09.7
comp=Z,0.2nm,0.3s,baz=35,slow=21,SNR=4.1
MMAI Mount Meron Ar 9.37 238 Pn **Pn 20 05 36.4 +1.2**
baz=79,slow=15,SNR=2.4
GEYT Alibeck 10.45 88 Pn **Pn 20 05 54.2 +4.2**
comp=Z,0.2nm,0.3s,baz=269,slow=19,SNR=3.9
GEYT Alibeck 10.45 88 Pn 20 05 52.9 +2.9
TIRR Tirgusor 13.75 301 ⇓P **P 20 06 44.9 +1.2**
TLB Topalu 14.05 302 ⇓P **P 20 06 48.0 +1.0**
RAYN Ar Rayn 14.81 178 Pn **Pn 20 06 45.6 -4.1**
AKTO Aktyubinsk 15.26 34 Pn **Pn 20 06 56.6 +1.2**
comp=Z,0.3nm,0.3s,baz=230,slow=11,SNR=3.4
ABKAR Akbulak array 15.36 40 P **Pn 20 06 56.8 +0.1**
PLOR Plostina 15.43 305 ⇓P **P 20 07 02.8 +0.4**
MLR Muntele Rosu 15.76 303 Pn **P 20 07 06.1 -0.1**
comp=Z,0.3nm,0.3s,baz=99,slow=18,SNR=2.2
MLR Muntele Rosu 15.76 303 P Pn 20 07 04.0 +1.9
MLR IAmb IAmb 20 07 33.9
comp=Z,8.9nm,1.2s
OZUR 16.08 305 ⇑P **P 20 07 10.7 +1.1**
DOPR Dopca 16.29 304 ⇓P **P 20 07 12.4 +0.4**
VOIR 16.33 302 ⇓P **P 20 07 12.6 +0.1**
UOSS Minazif 16.48 141 Pn **Pn 20 07 10.7 -0.8**
UOSS IAmb IAmb 20 07 19.5
comp=Z,19nm,1.3s
AKASG Malin Array Be 16.58 323 Pn **Pn 20 07 12.2 -0.3**
comp=Z,0.3nm,0.3s,baz=131,slow=12,SNR=11
AKASG Malin Array Be 16.58 323 Pn 20 07 12.2 -0.3
AKBB Malin Array Si 16.58 323 Pn 20 07 13.4 +0.9
AKBB IAmb IAmb 20 07 18.4
comp=Z,33nm,1.9s
ARR Arges 16.59 301 ⇑P **P 20 07 17.0 +1.7**
VTS Vitosha 16.98 291 ⇓P **P 20 07 20.9 +1.1**
VTS Vitosha 16.98 291 P P 20 07 19.4 -0.3
BURAR Bucovina Array 17.05 309 ⇓P **Pn 20 07 19.0 +0.4**
BURAR Bucovina Array 17.05 309 P P 20 07 19.9 -0.5
BUR08 Bucovina Ar. S 17.07 309 P P 20 07 20.4 -0.2
BUR08 IAmb IAmb 20 07 29.6
comp=Z,15nm,1.4s
GZR Gura Zlata 17.85 300 ⇓P **P 20 07 29.2 -0.1**
MDVR Moldovita 18.44 298 ⇑P **P 20 07 34.0 -1.7**
BZS Buzias 18.70 300 ⇑P **P 20 07 35.7 -2.8**
WSAR Wadi Sarin 19.13 138 LR LR 20 16 57.8
comp=Z,41nm,18.4s,baz=359,slow=43
KOLS Kolonicke sedl 19.39 310 *e*P **Pn 20 07 48.1 +0.9**
KBL Kabul 19.80 94 P **Pn 20 07 53.2 +0.7**
PDG Podgorica 19.89 290 P **P 20 07 50.7 -0.9**
PDG IAmb IAmb 20 07 52.5
comp=Z,7.2nm,1.0s
KK31 Karatay Array 19.97 68 P **P 20 07 52.8 +0.4**
KK31 IAmb IAmb 20 08 01.6
comp=Z,15nm,1.6s
KKAR Karatay Array 19.97 68 P **Pn 20 07 53.5 -0.7**
KKAR Karatay Array 19.97 68 P **P 20 07 53.0 +0.5**
KKAR IAmb IAmb 20 08 01.6
comp=Z,15nm,1.6s
ARU Arti 20.24 22 P **P 20 07 54.2 -1.0**
comp=Z,0.8nm,0.5s,baz=222,slow=12,SNR=7.0
ARU LR LR 20 18 51.9
comp=Z,56nm,19.5s,baz=68,slow=46
ARU Arti 20.24 22 P **P 20 07 55.5 +0.3**
KIRV Kirov 20.44 7 LR LR 20 15 53.4
comp=Z,76nm,18.3s,baz=132,slow=37
PSZ Piszkesteto 20.49 306 P **P 20 07 57.9 -0.2**
VYHS Vyhne 21.34 307 *e*P **P 20 08 08.7 +1.4**
OJC Ojcow 21.39 312 P **P 20 08 08.1 +0.4**
OJC IAmb IAmb 20 08 11.7
comp=Z,5.8nm,0.8s
SUW Suwalki 21.55 324 P **P 20 08 09.4 0.0**
AAK Ala-Archa 22.87 70 P **P 20 08 24.2 +0.3**
comp=Z,0.9nm,0.7s,baz=243,slow=2.3,SNR=2.9
AAK Ala-Archa 22.87 70 P **P 20 08 25.0 +1.1**
AAK IAmb IAmb 20 08 50.3
comp=Z,11nm,1.5s
BVAR Borovoye Array 22.91 42 P **P 20 08 24.4 +0.5**
comp=Z,1.2nm,0.8s,baz=216,slow=32,SNR=3.6
VRAC Vranov 23.00 308 P **P 20 08 26.1 +1.1**
comp=Z,1.9nm,0.4s,baz=113,slow=6.7,SNR=3.2
CONA Conrad Observa 23.10 304 *i*pP **P 20 08 26.6 +0.6**
comp=Z,3.6nm,0.9s
ARSA Arzberg 23.17 302 *i*pP **P 20 08 28.1 +1.3**
comp=Z,4.7nm,1.2s
OBKA Obir 23.69 300 *i*pP **P 20 08 33.0 +0.9**
comp=Z,4.1nm,1.1s
MOA Molln 24.13 303 *i*P **P 20 08 36.0 -0.1**
comp=Z,6.6nm,1.2s
KBA Koelnbreinsper 24.60 301 *i*P **P 20 08 40.8 +0.2**
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 24.71 305 P **P 20 08 40.9 -0.7**
GEC2 IAmb IAmb 20 08 43.4
comp=Z,5.1nm,1.0s
GERES GERESS Array B 24.71 305 P **P 20 08 41.5 -0.1**
comp=Z,2.5nm,0.9s,baz=111,slow=7.6,SNR=14
GERES GERESS Array B 24.71 305 P **P 20 08 41.1 -0.4**
KHC Kasperske Hory 24.86 306 *e*P **P 20 08 42.4 -0.3**
KHC *e*pP **sP 20 08 47.3 +1.3**
KHC Kasperske Hory 24.86 306 P **P 20 08 42.5 -0.3**
BRG Berggiesshubel 25.11 310 *e*P **P 20 08 46.6 +1.7**
comp=Z,5.2nm,1.1s
ABTA Abfaltersbach 25.12 300 *i*P **P 20 08 44.8 -0.4**
comp=Z,3.1nm,1.0s
WTTA Wattenberg 25.78 301 *i*P **P 20 08 51.0 -0.3**
comp=Z,3.8nm,0.9s
CLL Collm 25.80 310 *e*(P) **P 20 08 52.0 +0.7**
CLL *i*pP **pP 20 08 53.2 -0.3**
CLL *e* 20 08 56.0
CLL *e* 20 09 00.0
FINES FINESS Array B 25.88 339 P **P 20 08 52.7 +0.9**
comp=Z,2.6nm,0.9s,baz=159,slow=24,SNR=3.5
SQTA Sankt Quirin 26.06 301 *i*P **P 20 08 54.7 +0.9**
comp=Z,5.9nm,1.7s
KURBB Kurchatov Arra 26.71 52 P **P 20 08 59.2 -0.3**
comp=Z,1.1nm,0.7s,baz=262,slow=9.1,SNR=7.1
KURK Kurchatov 26.79 52 P **P 20 09 00.8 +0.6**
MKAR Makanchi Array 28.59 61 P **P 20 09 17.0 +0.6**
comp=Z,0.8nm,0.7s,baz=259,slow=4.6,SNR=5.7
MKAR Makanchi Array 28.59 61 P **P 20 09 17.4 +1.0**
NOA NORSAR Array B 30.85 328 LR LR 20 24 06.4
comp=Z,31nm,19.7s,baz=300,slow=40
ESDC Sonseca Array 37.58 288 P **P 20 10 33.4 -1.5**
comp=Z,0.4nm,0.6s,baz=66,slow=8.3,SNR=5.2
ESDC Sonseca Array 37.58 288 P **P 20 10 33.0 -1.8**
TORD Torodi Ar. Bea 45.72 249 P **P 20 11 40.5 -1.2**
comp=Z,0.9nm,0.9s,baz=34,slow=5.7,SNR=3.7
CMAR Chiang Mai Arr 50.78 97 P **P 20 12 20.9 +0.1**
comp=Z,0.8nm,0.6s,baz=303,slow=8.2,SNR=6.8

*IDC **07** 20:08:48.1±2.1, 37.°92N×142.°54E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/58, mbtmp3.4/4, ML2.3/1, MS3.9/2, Ms1 3.9/2, ms1mx2.8/36, Error ellipse: s-maj=45.8km s-min=31.3km az=54.0*
*ISCJB **07** 20:08:57.3±1.0, 37.°98N±0.°04×141.°77E±0.°09, h53km±7km, mb3.7/3, MS3.8/2, Error ellipse: s-maj=12.2km s-min=5.2km az=21.6*
*JMA **07** 20:08:57.9, 38.°00N×141.°72E, h53km±1km, M3.5*
JMA Felt I J1.
ISC 07 20:08:57.5±1.7, 37.°99N±0.°05×141.°8E±0.°1, h43km±14km, n24, σ1°50/33, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.43**	**318**	P	**Pn**	**20 09 08.1**	**+0.6**
JIKH				S	**Sn**	**20 09 15.2**	**+0.6**
JIO	**Ouri**	**0.60**	**321**	P	**Pn**	**20 09 09.8**	**+0.1**
JIO				S	**Sn**	**20 09 18.2**	**-0.2**
JMST	**Minamisoumatoc**	**0.79**	**251**	P	**Pn**	**20 09 11.9**	**-0.4**
JMST				S	**Sn**	**20 09 22.1**	**-0.8**
JMM	**Marumori**	**0.83**	**262**	P	**Pn**	**20 09 12.3**	**-0.5**
JMM				S	**Sn**	**20 09 22.8**	**-1.1**
JKMT	**Kesennumamotoy**	**0.87**	**341**	P	**Pn**	**20 09 13.5**	**+0.2**
JKMT				S	**Sn**	**20 09 24.6**	**-0.2**
JFK	**Kawauchi**	**0.98**	**231**	P	**Pn**	**20 09 14.5**	**-0.4**
JFK				S	**Sn**	**20 09 26.7**	**-0.9**
JOU	**Okura**	**0.99**	**293**	P	**Pn**	**20 09 14.8**	**-0.2**
JOU				S	**Sn**	**20 09 27.0**	**-0.9**
JMK	**Ichinoseki**	**1.07**	**334**	P	**Pn**	**20 09 16.4**	**+0.3**
JMK				S	**Sn**	**20 09 29.7**	**-0.2**
JFT	**Otama**	**1.27**	**249**	P	**Pn**	**20 09 19.0**	**+0.1**
JFT				S	**Sn**	**20 09 34.4**	**-0.4**
JYS	**Shirataka**	**1.41**	**280**	P	**Pn**	**20 09 20.7**	**-0.1**
JYS				S	**Sn**	**20 09 37.6**	**-0.6**
JYK	**Kaneyama**	**1.48**	**309**	P	**Pn**	**20 09 21.8**	**+0.1**
JYK				S	**Sn**	**20 09 39.3**	**-0.6**
JOM	**Ohasama**	**1.54**	**344**	P	**Pn**	**20 09 23.1**	**+0.6**
JOM				S	**Sn**	**20 09 41.6**	**+0.3**
JRG	**Rokugo**	**1.69**	**327**	P	**Pn**	**20 09 25.5**	**+0.9**
JRG				S	**Sn**	**20 09 45.9**	**+0.9**
JYA	**Atsumi**	**1.77**	**291**	P	**Pn**	**20 09 25.5**	**-0.2**
JFY	**Yanaizu**	**1.78**	**252**	P	**Pn**	**20 09 26.0**	**+0.1**
JFY				S	**Sn**	**20 09 46.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.23**	**245**	Pn	**Pn**	**20 09 47.2**	**+1.5**
0.2nm,0.3s,baz=62,slow=11,SNR=7.3							
MJAR				Sn	**Sn**	**20 10 30.2**	**+7.2**
0.3nm,0.3s,baz=305,slow=22,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**28.37**	**123**	T	T	20 45 02.3	
baz=316,slow=75,SNR=8.6							
H11N1	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	20 45 03.0	
baz=316,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	20 45 03.7	
baz=316,slow=75,SNR=6.6							
TLY	**Talaya**	**29.97**	**310**	LR	LR	20 26 17.9	
comp=Z,51nm,20.2s,baz=71,slow=34							
SIJI	**Sorong**	**39.88**	**197**	LR	LR	20 30 24.7	
comp=Z,646nm,22.0s,baz=88,slow=32							
KURBB	**Kurchatov Arra**	**45.68**	**307**	P	**P**	**20 17 14.2**	**+0.3**
0.4nm,0.3s,baz=80,slow=7.8,SNR=6.6							
WRA	**Warramunga Arr**	**58.05**	**188**	P	**P**	**20 18 44.8**	**-1.5**
0.7nm,0.8s,baz=6.9,slow=6.8,SNR=6.2							
ASAR	**Alice Springs**	**61.78**	**188**	P	P	20 19 07.0	-4.8
0.4nm,0.8s,baz=4.8,slow=12,SNR=3.1							

*MOS **07** 20:13:51.2±1.1, 6.°39S×154.°92E, h51km, mb5.1/9, Error ellipse: s-maj=8.7km s-min=8.1km az=167.8*
*DJA **07** 20:13:51.0±0.6, 6.°5±.°3×15.°5E±.°, h58km±5km, M5.4/60, mb5.5/60, mB5.8/37, Mw(mB)5.4/37, Mwp6.0/1*
*IDC **07** 20:13:53.3±0.4, 6.°51S×154.°88E, h56km±3km, mb4.5/21, mb1 4.6/22, mb1mx4.5/38, mbtmp4.8/22, MS4.2/23, Ms1 4.2/23, ms1mx4.1/24, Error ellipse: s-maj=12.0km s-min=10.6km az=110.0*
*NEIC **07** 20:13:53.8±1.5, 6.°46S±0.°08×154.°89E±0.°07, h62km±3km, mb5.3/82, Mwb5.4, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.28; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$1.27; $M_{r\theta}$0.55; $M_{\theta\phi}$-0.51; $M_{\phi r}$0.36; Fault plane solution: $M_0$1.42000×10^{17} NP1:ϕ_s209.60000°, δ76.56000°, λ-27.08000°. NP2:ϕ_s306.38000°, δ63.72000°, λ-164.98000°. Principal axes: T 1.4157, Plg9.0000°, Azm260.0000°; N 0.0136, Plg60.0000°, Azm5.0000°; P -1.4293, Plg29.0000°, Azm165.0000°;*
*ISCJB **07** 20:13:54.1±0.8, 6.°51S±0.°03×154.°94E±0.°03, h78km±7km, mb5.2/101 Error ellipse: s-maj=5.1km s-min=4.0km az=30.3*
*GCMT **07** 20:13:55.8±0.1, 6.°65S±0.°01×154.°89E±0.°01, h59km±1km, MW5.3/108, Moment Tensor Solution. s106,c159; s108,c198; Duration: 1±1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.23±.02; $M_{\theta\theta}$-0.79±.02; $M_{\phi\phi}$1.02±.02; $M_{r\theta}$0.41±.02; $M_{\theta\phi}$-0.50±.02; $M_{\phi r}$0.53±.02; Best double couple: $M_0$1.24700×10^{17} NP1:ϕ_s207.00000°, δ81.00000°, λ-34.00000°. NP2:ϕ_s303.00000°, δ56.00000°, λ-170.00000°. Principal axes: T 1.2710, Plg17.0000°, Azm260.0000°; N -0.0490, Plg55.0000°, Azm15.0000°; P -1.2230, Plg30.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **07** 20:13:57.2±0.0, 6.°02S×154.°29E, h60km, mb4.9/37, mB5.2/28, Ms5.0/27, Ms7 4.7/22*
ISC 07 20:13:53.5±0.3, 6.°44S±0.°05×154.°94E±0.°04, h59km±2km, h59km:pP-P, n320, σ1°38/327, mb5.2/130, MS4.4/34, 13C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.59**	**306**	P	**Pn**	**20 14 49.4**	**+2.7**
109nm,0.3s,baz=328,slow=3.9,SNR=54							
KRVT				S	**Sn**	**20 15 34.8**	**+6.8**
278nm,0.3s,baz=320,slow=0.8,SNR=5.5							
HNR	**Honiara**	**5.78**	**121**	P	**Pn**	**20 15 18.9**	**+2.1**
HNR	**Honiara**	**5.78**	**121**	P	**Pn**	**20 15 19.6**	**+2.8**
24nm,0.3s,baz=166,slow=8.9,SNR=28							
HNR				S	**Sn**	**20 16 23.0**	**+1.2**
60nm,0.3s,baz=285,slow=18,SNR=4.5							
HNR				LR	LR	20 17 27.3	
comp=Z,8μm,21.1s,baz=294,slow=37							
HNR	**Honiara**	**5.78**	**121**	*e*P	**Pn**	**20 15 21.0**	**+4.2**
HNR	**Honiara**	**5.78**	**121**		**Pn**	**20 15 18.9**	**+2.1**
PMG	**Port Moresby**	**8.25**	**249**	*c*P	**Pn**	**20 15 52.6**	**+2.0**
PMG				pmax	pmax		
comp=Z,4μm,0.8s							
PMG	**Port Moresby**	**8.25**	**249**	P	**Pn**	**20 15 52.9**	**+2.3**
comp=Z,38nm,0.3s,baz=52,slow=7.6,SNR=108							
PMG				S	**Sn**	**20 17 25.7**	**+3.3**
comp=Z,21nm,0.3s,baz=71,slow=20,SNR=8.5							
PMG				LR	LR	20 19 26.3	
comp=Z,2μm,18.5s,baz=12,slow=41							
PMG	**Port Moresby**	**8.25**	**249**		**Pn**	**20 15 51.6**	**+1.1**
MANU	**Manus Island**	**8.72**	**300**		**Pn**	**20 15 58.4**	**+1.3**
COEN	**Coen**	**13.77**	**236**	P	**Pn**	**20 17 07.7**	**+1.7**
baz=14,SNR=18							
COEN	**Coen**	**13.77**	**236**		**Pn**	**20 17 06.6**	**+0.6**
JAY	**Jayapura**	**14.71**	**285**	P	**Pn**	**20 17 20.1**	**+1.6**
comp=Z,0.6nm,0.3s,baz=107,slow=5.7,SNR=22							
JAY				LR	LR	20 23 49.9	
comp=Z,1μm,19.2s,baz=76,slow=41							
JAY	**Jayapura**	**14.71**	**285**	P	**Pn**	**20 17 20.0**	**+1.5**
comp=Z,1μm,1.1s,comp=Z,38μm							
GENI	**Genyem**	**15.21**	**284**	P	**P**	**20 17 26.9**	**-1.8**
comp=Z,610nm,0.5s,comp=Z,84μm							
MTSU	**Mount Surprise**	**15.57**	**221**	P	**P**	**20 17 31.8**	**-0.9**
baz=16,SNR=12							
CTA	**Charters Tower**	**15.97**	**211**	P	**P**	**20 17 36.7**	**-0.5**
comp=Z,0.9nm,0.3s,baz=35,slow=14,SNR=16							
CTA				LR	LR	20 22 13.3	
comp=Z,664nm,21.8s,baz=25,slow=32							
CTAO	**Charters Tower**	**15.97**	**211**	P	**Pn**	**20 17 33.2**	**-1.4**
CTAO				pmax	pmax		
comp=Z,36nm,1.0s							
CTAO	**Charters Tower**	**15.97**	**211**	P	**Pn**	**20 17 33.2**	**-1.4**
SMPI	**Sarmi**	**16.77**	**285**	P	**P**	**20 17 45.9**	**-0.2**
comp=Z,166nm,0.8s,comp=Z,5μm							
DZM	**Mont Dzumac**	**19.10**	**146**	P	**P**	**20 18 12.5**	**+0.7**
comp=Z,7.1nm,0.3s,baz=292,slow=9.3,SNR=55							
DZM	**Mont Dzumac**	**19.10**	**146**	P	**P**	**20 18 12.4**	**+0.6**
DZM				IAmb	IAmb	20 18 14.6	
comp=Z,263nm,1.2s							
EIDS	**Eidsvold**	**19.18**	**191**	P	**Pn**	**20 18 13.5**	**-0.4**
baz=19,SNR=30							
EIDS	**Eidsvold**	**19.18**	**191**	P	**P**	**20 18 11.7**	**-0.7**
EIDS				IAmb	IAmb	20 18 14.9	
comp=Z,237nm,1.6s							
TARA	**Tarawa**	**19.55**	**67**	P	**Pn**	**20 18 18.1**	**-0.4**
TARA				IAmb	IAmb	20 18 38.4	
comp=Z,200nm,1.0s							
QIS	**Mount Isa**	**20.44**	**225**	P	**P**	**20 18 27.0**	**+0.7**
baz=20,SNR=55							
RMQ	**Roma**	**20.79**	**196**	P	**P**	**20 18 31.1**	**+1.1**
baz=21,SNR=65							
RKPI	**Ransiki, Papua**	**21.27**	**282**	P	**P**	**20 18 36.6**	**+1.3**
comp=Z,200nm,1.0s,comp=Z,4μm							
GUMO	**Guam**	**22.27**	**333**	LR	LR	20 26 06.4	
comp=Z,587nm,21.9s,baz=132,slow=33							
QLP	**Quilpie**	**22.48**	**206**	P	**P**	**20 18 48.2**	**+0.2**
baz=22,SNR=8.5							
FAKI	**Fak Fak**	**22.88**	**278**	P	**P**	**20 18 52.7**	**+0.3**
comp=Z,178nm,1.9s,comp=Z,4μm							
FAKI	**Fak Fak**	**22.88**	**278**	P	**P**	**20 18 51.6**	**-0.8**
KDU	**Kakadu**	**22.99**	**253**	P	**P**	**20 18 53.3**	**-0.3**
baz=23,SNR=34							
SAUI	**Saumlaki**	**23.50**	**265**	P	**P**	**20 18 59.1**	**+0.6**
comp=Z,727nm,1.3s,comp=Z,11μm							
ARMA	**Armidale**	**24.05**	**187**	P	**P**	**20 19 03.9**	**+0.5**
baz=24,SNR=52							
ARMA	**Armidale**	**24.05**	**187**	P	**P**	**20 19 03.4**	**-0.1**
WRAB	**Tennant Creek**	**24.07**	**234**	*c*P	**P**	**20 19 03.9**	**+0.3**
WRAB				pmax	pmax		
comp=Z,437nm,1.7s							
WRAB	**Tennant Creek**	**24.07**	**234**	P	**P**	**20 19 04.0**	**+0.3**
WB2	**Warramunga Arr**	**24.08**	**234**	P	**P**	**20 19 04.2**	**+0.5**
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**20 19 02.4**	**-1.4**
comp=Z,41nm,0.4s,baz=58,slow=9.5,SNR=230							
WRA				PcP	**PcP**	**20 22 44.3**	**+0.2**
comp=Z,1.2nm,0.4s,baz=54,slow=2.4,SNR=4.8							
WRA				S	**S**	**20 23 14.5**	**-3.0**
comp=Z,1.8nm,0.9s,baz=65,slow=14,SNR=5.5							
WRA				LR	LR	20 28 14.9	
comp=Z,366nm,18.1s,baz=50,slow=36							
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**20 19 03.0**	**-0.8**
SIJI	**Sorong**	**24.25**	**282**	P	**P**	**20 19 05.9**	**+0.5**
comp=Z,186nm,1.0s,baz=81,slow=7.9,SNR=62							
SWI	**Sorong**	**24.26**	**282**	P	**P**	**20 19 06.0**	**+0.6**
comp=Z,305nm,1.1s,comp=Z,4μm							
MTN	**Manton Dam**	**24.30**	**253**	P	**P**	**20 19 06.8**	**+1.1**
baz=24,SNR=12							
MTN	**Manton Dam**	**24.30**	**253**	P	**P**	**20 19 06.4**	**+0.6**
PALU	**Palau**	**24.58**	**304**	P	**P**	**20 19 09.5**	**+1.2**
baz=25,SNR=4.5							
BNDI	**Bandanaira**	**24.99**	**273**	P	**P**	**20 19 13.3**	**+1.3**
MSVF	**Nonsavu**	**25.20**	**119**	*e*P	**P**	**20 19 14.3**	**+0.3**
MSVF				pmax	pmax		
comp=Z,26nm,1.2s							
MSVF	**Nonsavu**	**25.20**	**119**	P	**P**	**20 19 14.1**	**+0.1**
MSVF				IAmb	IAmb	20 19 35.7	
comp=Z,94nm,1.2s							
LHI	**Lord Howe Isla**	**25.25**	**172**	P	**P**	**20 19 13.8**	**-0.4**
baz=25,SNR=5.3							
LHI	**Lord Howe Isla**	**25.25**	**172**	P	**P**	**20 19 12.6**	**-1.6**
LHI				IAmb	IAmb	20 19 14.3	
comp=Z,59nm,0.8s							
CMSA	**Cobar Meteorol**	**26.42**	**198**	P	**P**	**20 19 24.6**	**-0.2**
baz=26,SNR=13							
AS31	**Alice Springs**	**26.50**	**228**	P	**P**	**20 19 25.7**	**+0.1**
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**20 19 25.6**	**-0.1**
comp=Z,8.4nm,0.6s,baz=57,slow=9.4,SNR=123							
ASAR				PcP	**PcP**	**20 22 49.4**	**-0.1**
comp=Z,2.8nm,0.9s,baz=46,slow=4.0,SNR=4.4							
ASAR				ScP	**ScP**	**20 26 24.5**	**-0.1**
comp=Z,2.2nm,0.8s,baz=60,slow=3.9,SNR=6.4							
ASAR				LR	LR	20 28 54.1	
comp=Z,511nm,21.6s,baz=50,slow=34							
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**20 19 24.5**	**-1.2**
ASAR				PcP	**PcP**	**20 22 49.7**	**+0.2**
ASAR				ScP	**ScP**	**20 26 24.1**	**-0.6**
AAI	**Ambon**	**26.77**	**275**	P	**P**	**20 19 28.2**	**0.0**
comp=Z,123nm,0.8s							
MGCD	**Mangrove Creek**	**26.87**	**187**	P	**P**	**20 19 29.6**	**+0.8**
baz=27,SNR=9.9							
KNRA	**Kununurra**	**27.25**	**248**	P	**P**	**20 19 32.7**	**+0.3**
baz=27,SNR=18							
KNRA	**Kununurra**	**27.25**	**248**	P	**P**	**20 19 32.9**	**+0.5**
KNRA				IAmb	IAmb	20 20 07.2	
comp=Z,70nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**27.36**	**25**	T	T	20 47 58.9	
baz=203,slow=75,SNR=52							
H11S2	**WAKE ISLAND Hy**	**27.36**	**25**	T	T	20 47 48.3	
baz=203,slow=75,SNR=98							
H11S1	**WAKE ISLAND Hy**	**27.37**	**25**	T	T	20 48 00.8	
baz=203,slow=75,SNR=83							
LBMI	**Labuha**	**27.97**	**281**	P	**P**	**20 19 40.0**	**+1.0**
comp=Z,343nm,0.9s							
STKA	**Stephens Creek**	**28.21**	**205**	P	**P**	**20 19 40.4**	**-0.5**
baz=28,SNR=14							
STKA	**Stephens Creek**	**28.21**	**205**	P	**P**	**20 19 40.2**	**-0.6**
comp=Z,9.4nm,0.7s,baz=5.2,slow=8.6,SNR=26							
STKA				LR	LR	20 30 02.8	
comp=Z,543nm,21.8s,baz=22,slow=34							
STKA	**Stephens Creek**	**28.21**	**205**	P	**P**	**20 19 40.0**	**-0.9**
H11N1	**WAKE ISLAND Hy**	**28.53**	**24**	T	T	20 49 21.2	
baz=205,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**28.54**	**24**	T	T	20 49 20.2	
baz=205,slow=76,SNR=11							
H11N2	**WAKE ISLAND Hy**	**28.54**	**24**	T	T	20 49 14.9	
baz=205,slow=76,SNR=8.3							
SANI	**Sanana**	**29.19**	**277**	P	**P**	**20 19 50.7**	**+0.9**
comp=Z,79nm,1.3s,comp=Z,1μm							
SOEI	**Soe**	**30.53**	**262**	P	**P**	**20 20 02.4**	**+0.6**
comp=Z,65nm,1.1s,comp=Z,2μm							
SOEI	**Soe**	**30.53**	**262**	P	**P**	**20 20 01.5**	**-0.3**
SOEI				IAmb	IAmb	20 20 54.9	
comp=Z,106nm,1.1s							
HTT	**Hallett**	**30.69**	**207**	P	**P**	**20 20 02.5**	**-0.4**
baz=31,SNR=4.0							
FITZ	**Fitzroy Crossi**	**30.82**	**245**	P	**P**	**20 20 03.9**	**-0.2**
baz=31,SNR=38							
FITZ	**Fitzroy Crossi**	**30.82**	**245**	P	**P**	**20 20 03.7**	**-0.5**
comp=Z,29nm,0.6s,baz=43,slow=8.2,SNR=44							
FITZ	**Fitzroy Crossi**	**30.82**	**245**	P	**P**	**20 20 03.7**	**-0.5**
FITZ				IAmb	IAmb	20 20 43.8	
comp=Z,68nm,1.1s							
BATI	**Baumata**	**31.16**	**261**	P	**P**	**20 20 07.7**	**+0.5**
baz=156,slow=3.0							
BATI	**Baumata**	**31.16**	**261**	P	**P**	**20 20 09.3**	**+2.1**
comp=Z,29nm,1.1s,comp=Z,770nm							
WRKA	**Warakurna**	**31.50**	**231**	P	**P**	**20 20 09.6**	**-0.5**
baz=32,SNR=37							
BBOO	**Buckleboo**	**31.57**	**211**	P	**P**	**20 20 10.1**	**-0.6**
baz=32,SNR=10.0							
KMSI	**Cibinong**	**31.67**	**282**	P	**P**	**20 20 12.3**	**+0.6**
comp=Z,277nm,1.0s,comp=Z,3μm							
TOO	**Toolangi**	**32.16**	**194**	P	**P**	**20 20 16.2**	**+0.5**
baz=32,SNR=5.5							
BBSI	**Bau Bau**	**32.20**	**270**	P	**P**	**20 20 18.0**	**+1.6**
comp=Z,22nm,1.3s,comp=Z,435nm							
DAV	**Davao City (W)**	**32.22**	**294**	LR	LR	20 31 24.5	
comp=Z,485nm,18.9s,baz=106,slow=33							
ARPS	**Mount Arapiles**	**32.47**	**200**	P	**P**	**20 20 18.7**	**+0.2**
baz=32,SNR=7.9							
MMRI	**Maumere**	**32.48**	**264**	P	**P**	**20 20 19.3**	**+0.5**
comp=Z,300nm,1.7s,comp=Z,5μm							
MMRI	**Maumere**	**32.48**	**264**	P	**P**	**20 20 17.3**	**-1.5**
LUWI	**Luwuk**	**32.53**	**278**	P	P	20 20 35.1	+16
EDFI	**Ende, Flores**	**33.03**	**264**

comp=Z,210nm,1.2s,comp=Z,4µm
OXZ Oxford 39.70 160 P P 20 21 19.0 -1.1
OXZ IAmb IAmb 20 21 20.4
comp=Z,42nm,0.8s
RPZ Rata Peaks 39.73 162 P P 20 21 20.6 +0.2
comp=Z,35nm,0.7s,baz=292,slow=2.4,SNR=23
RPZ Rata Peaks 39.73 162 P P 20 21 20.1 -0.3
MEEK Meekatharra 39.97 236 P P 20 21 23.2 +0.5
baz=40,SNR=11
CRLZ Canterbury Las 40.12 160 P P 20 21 23.5 -0.1
MQZ McQueen's Vall 40.25 160 P P 20 21 23.9 -0.7
MQZ IAmb IAmb 20 21 25.4
comp=Z,66nm,1.1s
DCZ Deep Cove 40.30 167 P P 20 21 24.3 -0.7
DCZ IAmb IAmb 20 21 28.7
comp=Z,75nm,1.4s
MLZ Mavora Lakes 40.43 166 P P 20 21 25.8 -0.4
JAGI Jajag, Banyuwa 40.48 265 P P 20 21 25.8 -1.2
comp=Z,131nm,1.2s
JAGI Jajag, Banyuwa 40.48 265 P P 20 21 25.4 -1.6
KKM Kota Kinabalu 40.59 287 P P 20 21 27.3 -0.7
KKM IAmb IAmb 20 21 29.9
comp=Z,89nm,1.0s
JOW Kunigami 41.97 323 pP pP 20 21 55.4 +1.6
comp=Z,1.5nm,0.7s,baz=134,slow=13,SNR=4.9
KLBR Kellerberrin 42.80 229 P P 20 21 45.1 -0.6
baz=43,SNR=6.4
PWJI Pagerwojo 42.80 265 P P 20 21 46.1 +0.1
comp=Z,81nm,1.1s
MORW Morawa 43.03 234 P P 20 21 47.9 +0.2
baz=43,SNR=5.1
MORW Morawa 43.03 234 P P 20 21 46.4 -1.2
MORW IAmb IAmb 20 21 48.7
comp=Z,54nm,1.2s
PCJI Pacitan 43.42 265 P P 20 21 52.0 +1.0
comp=Z,228nm,1.3s
SBUM Sibu 43.55 280 P P 20 21 53.4 +1.4
NACB Ninganchiao 44.53 314 P P 20 22 00.0 +0.3
NACB IAmb IAmb 20 22 20.2
comp=Z,50nm,1.0s
KSM Kuching 45.24 278 P P 20 22 04.9 -0.6
KSM IAmb IAmb 20 22 24.7
comp=Z,44nm,0.8s
JNU Nakatsue 45.50 331 pP pP 20 22 22.8 +0.3
comp=Z,21nm,0.8s,baz=133,slow=3.2,SNR=7.6
JNU Nakatsue 45.50 331 P P 20 22 06.5 -0.8
JNU IAmb IAmb 20 22 25.1
comp=Z,24nm,0.8s
MJAR Matsushiro Arr 45.54 341 pP **pP 20 22 22.4 -0.4**
comp=Z,2.7nm,0.8s,baz=157,slow=7.0,SNR=3.2
MJAR LR LR 20 40 41.1
comp=Z,90nm,20.5s,baz=175,slow=35
KPJI Karang Pucung 45.67 266 P P 20 22 08.8 -0.1
comp=Z,92nm,1.1s
CISI Cisompet, Garu 46.77 266 P P 20 22 17.9 +0.3
comp=Z,144nm,1.2s,comp=Z,2µm
LEM Lembang 46.99 267 P P 20 22 19.4 -0.1
comp=Z,28nm,0.8s,baz=102,slow=14,SNR=6.3
LEM pP **pP 20 22 34.2 +0.5**
comp=Z,42nm,0.9s,baz=105,slow=7.3,SNR=4.9
TPI Tanjungpandan 47.26 272 P P 20 22 22.9 +1.5
comp=Z,27nm,1.3s,comp=Z,420nm
CGJI Cibinong 48.91 267 P P 20 22 33.8 -0.3
comp=Z,107nm,1.1s,comp=Z,1µm
KASI Kota Agung 50.16 268 P P 20 22 43.9 +0.2
KSRS Korea Array 50.43 332 P P 20 22 45.4 +0.2
comp=Z,1.8nm,0.8s,baz=155,slow=12,SNR=5.6
KSRS pP **pP 20 23 00.1 -0.5**
comp=Z,7.0nm,0.9s,baz=146,slow=8.2,SNR=10
QIZ Qiongzhong 51.13 301 P P 20 22 50.4 -0.5
QIZ LR LR
comp=Z,320nm,20.7s
QIZ LR LR
comp=Z,400nm,17.5s
NJ2 Nanjing 51.45 320 *e*P **P 20 22 53.8 +0.7**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,490nm,22.0s
NJ2 LR LR
comp=Z,530nm,19.6s
NJ2 LR LR
comp=Z,710nm,22.5s
KIP Kipapa 53.81 58⇑ *e*P **P 20 23 06.8 -3.9**
KIP pmax pmax
comp=Z,37nm,1.2s
YSS Yuzh-Sakhalins 54.25 350 *e*P P 20 23 19.1 +5.7
YSS pmax pmax
comp=Z,30nm,1.2s
USRK Ussuriysk Ar. 54.50 340 pP **pP 20 23 31.3 +0.5**
comp=Z,5.4nm,0.9s,baz=152,slow=8.6,SNR=5.9
USRK LR LR 20 43 16.6
comp=Z,156nm,21.9s,baz=139,slow=32
PDSI Padang 54.61 273 P P 20 23 16.6 -0.1
DL2 Dalian 54.67 328 *e*P **P 20 23 21.2 +4.6**
DL2 pmax pmax
comp=Z,36nm,1.0s
DL2 LR LR
comp=Z,440nm,18.5s
DL2 LR LR
comp=Z,410nm,21.9s
DL2 LR LR
comp=Z,550nm,22.5s
IPM Ipoh 54.90 280 P P 20 23 17.7 -1.1
IPM IAmb IAmb 20 23 20.0
comp=Z,32nm,0.9s
PPT Papeete 55.21 107 LR LR 20 42 26.4
comp=Z,199nm,21.5s,baz=282,slow=31
PPT2 Papeete2 55.21 107 *e*S **S 20 31 05.3 +4.7**
comp=Z,264nm,25.5s
PPT2 *e*LQ LQ 20 37 09.4
comp=Z,369nm,26.8s
PPT2 *e*LR LR 20 39 28.5
comp=Z,500nm,24.2s
TIA Tai'an 55.29 323 P P 20 23 36.9 +16
TIA pmax pmax
comp=Z,13nm,1.1s
KULM Kulim 55.43 281 P P 20 23 21.0 -1.6
KULM IAmb IAmb 20 23 23.6
comp=Z,35nm,1.2s
MDJ Mudanjiang 55.71 338 P P 20 23 39.8 +16
MDJ pmax pmax
comp=Z,16nm,1.4s
MDJ pmax pmax
comp=Z,270nm,5.8s
TBI Tubuai 55.95 114 *e*S **S 20 31 17.0 +6.8**
comp=Z,185nm,35.2s
TBI *e*LQ LQ 20 37 27.8
comp=Z,2µm,34.2s
TBI *e*LR LR 20 39 52.9
comp=Z,2µm,32.0s,baz=284
NONG Nongkai 56.60 296 P **P 20 23 32.1 +1.2**
comp=Z,0.7nm,0.7s,comp=Z,148nm
RPSI Rantau Prapat 56.65 277 pP 20 23 45.4 -1.4
CN2 Changchun 56.67 335 *e*P P 20 23 45.1 +14
CN2 pmax pmax
comp=Z,10.0nm,1.5s
PSI Prapat 56.67 278 P **P 20 23 29.9 -1.7**
comp=Z,3.2nm,0.5s,baz=144,slow=10,SNR=6.1
PSI pP **pP 20 23 45.4 -1.7**
comp=Z,3.5nm,0.4s,baz=77,slow=3.8,SNR=3.4
ENH Enshi 56.82 313 P **P 20 23 32.0 -0.2**
TRTT Trang 56.89 284 P **P 20 23 34.0 +1.0**
comp=Z,18nm,1.6s
GYA Guiyang 57.07 307⇑ *i*P **P 20 23 36.5 +2.3**
GYA pP pP 20 23 52.6 +3.0
GYA sP sP 20 23 59.8 +3.6
GYA PP **PP 20 25 45.5 +3.8**
GYA S **S 20 31 26.8 +1.6**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,600nm,17.9s
GYA LR LR
comp=Z,590nm,18.8s
GYA LR LR
comp=Z,540nm,18.0s
SLVN Son La 57.16 300 P **P 20 23 34.3 -0.5**
SLVN IAmb IAmb 20 23 57.9
comp=Z,25nm,1.3s
PBKT Sadao Pong 58.06 294 P **P 20 23 43.2 +2.1**
comp=Z,8.6nm,1.4s,comp=Z,571nm
PBKT Sadao Pong 58.06 294 P **P 20 23 40.6 -0.6**
PBKT IAmb IAmb 20 24 10.7
comp=Z,40nm,1.5s

PKDT Phuket 58.22 283 P **P 20 23 43.0 +0.7**
comp=Z,30nm,1.2s
BJI Beijing 58.43 326 P **P 20 23 43.3 0.0**
KLR Kul'dur 59.02 342 pP pP 20 24 04.8 +1.8
comp=Z,22nm,1.2s,baz=137,slow=11,SNR=14
UTHA Uthaitani 59.14 292 P **P 20 23 50.4 +1.7**
comp=Z,51µm,0.9s,comp=Z,472µm
XAN Xi'an 59.27 316 P **P 20 23 48.7 -0.7**
XAN pmax pmax
comp=Z,95nm,1.9s
XAN Xi'an 59.27 316 P **P 20 23 48.6 -0.7**
PEA0B Petropavlovsk- 59.37 2⇑ *e*P **P 20 23 48.0 -1.6**
PETK Petropavlovsk- 59.37 2 P **P 20 23 49.1 -0.5**
comp=Z,3.2nm,0.8s,baz=155,slow=8.9,SNR=4.1
PETK pP **pP 20 24 06.2 +0.9**
comp=Z,28nm,1.1s,baz=113,slow=10,SNR=11
PETK LR LR 20 48 09.1
comp=Z,147nm,20.1s,baz=231,slow=35
PETK Petropavlovsk- 59.37 2 P **P 20 23 49.6 0.0**
KMI Kunming 59.66 304 P **P 20 23 54.1 +1.7**
KMI pP pP 20 24 08.6 +0.7
KMI sP sP 20 24 20.0 +5.5
KMI PP **PP 20 25 59.4 -5.4**
KMI S **S 20 31 58.0 -1.1**
KMI pmax pmax
comp=Z,18nm,0.9s
KMI pmax pmax
comp=Z,170nm,4.2s
KMI LR LR
comp=Z,190nm,16.4s
KMI LR LR
comp=Z,380nm,21.2s
KHLT Khaolaem Dam 59.71 291 P **P 20 23 51.7 -0.9**
comp=Z,39nm,1.1s,comp=Z,546nm
UMPA Umpang Tak 59.87 293 P **P 20 23 55.7 +1.9**
comp=Z,50µm,1.0s,comp=Z,427µm
LAMP Lampang 59.90 296 P **P 20 23 56.2 +2.3**
comp=Z,76µm,0.8s,comp=Z,944µm
PAYA Payao 59.97 297 P **P 20 23 55.9 +1.5**
comp=Z,81µm,0.9s,comp=Z,697µm
CM31 Chiang Mai Arr 60.50 295 P **P 20 23 59.0 +1.0**
CMAR Chiang Mai Arr 60.50 295 P **P 20 23 59.5 +1.5**
comp=Z,22nm,0.8s,baz=116,slow=5.3,SNR=135
CMAR pP **pP 20 24 13.9 +0.3**
comp=Z,25nm,0.9s,baz=125,slow=5.4,SNR=12
CMAR LR LR 20 49 24.0
comp=Z,133nm,20.1s,baz=107,slow=35
CMAR Chiang Mai Arr 60.50 295 P **P 20 23 59.1 +1.1**
CMMT Chiang Mai 60.61 296 P **P 20 23 59.9 +1.1**
comp=Z,15nm,1.2s,comp=Z,270nm
CHTO Chiang Mai 60.61 296 P **P 20 23 59.2 +0.4**
CHTO pmax pmax
comp=Z,44nm,1.2s
CHTO Chiang Mai 60.61 296 P **P 20 23 59.2 +0.4**
CHTO IAmb IAmb 20 24 19.3
comp=Z,44nm,1.2s
MHMT Maesarieng 61.32 295 P **P 20 24 05.3 +1.7**
comp=Z,35nm,1.0s,comp=Z,493nm
CD2 Chengdu 61.41 310 P **P 20 24 04.4 +0.3**
CD2 sP sP 20 24 31.3 +5.3
CD2 PP **PP 20 26 18.8 -1.2**
CD2 S **S 20 32 16.0 -5.0**
CD2 sS sS 20 32 46.3 -0.8
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 LR LR
comp=Z,510nm,16.4s
CD2 LR LR
comp=Z,510nm,16.4s
CD2 LR LR
comp=Z,700nm,19.9s
HHC Hu-ho-hao-te 61.62 324 P **P 20 24 08.6 +3.3**
HHC pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 63.88 315 *e*P **P 20 24 22.3 +1.7**
LZH pP pP 20 24 39.5 +3.1
LZH sP sP 20 24 46.0 +3.0
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,210nm,7.2s
LZH LR LR
comp=Z,300nm,16.0s
LZH LR LR
comp=Z,380nm,15.4s
LZH LR LR
comp=Z,550nm,17.8s
TAOE Nuku Hiva Isla 64.32 97 *e*LR LR 20 43 39.7
comp=Z,549nm,26.8s
ZEA Zeya 64.33 342 *e*P P 20 24 38.2 +15
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,43nm,1.2s
MA2 Magadan 65.89 358 pP pP 20 24 49.5 +0.6
comp=Z,10nm,0.8s,baz=118,slow=8.7,SNR=3.2
GTA Gaotai 68.30 317 *e*P **P 20 24 49.6 +0.8**
GTA pP pP 20 25 04.2 -0.6
GTA sP sP 20 25 11.8 +0.5
GTA S **S 20 33 44.3 -1.2**
GTA sS sS 20 34 12.8 +0.6
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,7.9s
GTA LR LR
comp=Z,150nm,20.0s
GTA LR LR
comp=Z,230nm,20.6s
GTA LR LR
comp=Z,390nm,21.6s
ULN Ulaanbaatar 68.51 328 P **P 20 24 49.8 -0.1**
ULN pmax pmax
comp=Z,27nm,1.2s
ULN Ulaanbaatar 68.51 328 P **P 20 24 49.8 -0.1**
ULN IAmb IAmb 20 25 09.0
comp=Z,27nm,1.2s
SONM Songino Array 68.84 327 P **P 20 24 52.9 +0.9**
comp=Z,3.6nm,0.8s,baz=131,slow=6.3,SNR=19
SONM pP **pP 20 25 09.0 +1.1**
comp=Z,14nm,1.1s,baz=144,slow=4.8,SNR=14
SONM PKPPKP **P'P'df 20 53 05.2 +1.0**
comp=Z,0.3nm,0.5s,baz=339,slow=6.7,SNR=4.1
SONM LR LR 20 57 04.8
comp=Z,119nm,18.5s,baz=142,slow=38
SONM Songino Array 68.84 327 P **P 20 24 51.9 -0.1**
SONM Songino Array 68.84 327 IAmb IAmb 20 25 10.9
comp=Z,20nm,1.3s
SHL Shillong 68.97 300 P **P 20 24 52.6 -0.7**
SHL Shillong 68.97 300 P **P 20 24 52.6 -0.7**
SEY Seymchan 69.20 359⇓ *e*P **P 20 24 53.4 -0.3**
LSA Lhasa 70.91 304 P **P 20 25 05.7 +0.2**
LSA pmax pmax
comp=Z,38nm,1.6s
LSA Lhasa 70.91 304 P **P 20 25 05.7 +0.2**
LSA IAmb IAmb 20 25 25.3
comp=Z,38nm,1.6s
YAK Yakutsk 71.01 348 *e*P P 20 25 19.4 +15
YAK pmax pmax
comp=Z,25nm,1.1s
SBA Scott Base 71.64 177 P **P 20 25 08.0 -0.4**
SBA pmax pmax
comp=Z,76nm,1.9s
SBA Scott Base 71.64 177 P **P 20 25 08.0 -0.4**
SBA IAmb IAmb 20 25 11.3
comp=Z,76nm,1.9s
ZAK Zakamensk 72.00 328 *e*P **P 20 25 11.3 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TAPN Taplejung 73.07 301 *e*P **P 20 25 18.1 -0.2**
comp=Z,32nm,0.9s
ODAN Odare 73.20 300 *e*Pn **P 20 25 19.9 +0.9**
RAMN Ramite 73.91 300 *e*P **P 20 25 23.7 +0.6**
comp=Z,6.4nm,0.5s
JIRN Jiri 74.45 301 *e*P **P 20 25 26.5 +0.1**
comp=Z,8.7nm,0.4s
BILL Bilibino 74.74 4 *i*P **P 20 25 27.1 +0.3**
BILL *i* 20 25 42.3
BILL *i* 20 28 18.2
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 74.74 4 P **P 20 25 27.1 +0.3**
BILL IAmb IAmb 20 25 46.7
comp=Z,27nm,1.1s
GUN Gumba 74.78 301 *e*P **P 20 25 28.9 +0.6**
PKI Pulchoki 75.09 301 *e*P **P 20 25 30.3 +0.2**
comp=Z,3.1nm,0.3s
PKIN Phulchoki 75.11 301 *e*P **P 20 25 30.7 +0.6**
comp=Z,4.8nm,0.4s
KKN Kakani 75.26 301 *e*P **P 20 25 31.4 +0.5**
comp=Z,11nm,0.6s
PALK Pallekele 75.30 279⇑ *e*P **P 20 25 29.5 -1.7**
DMN Daman 75.36 301 *e*P **P 20 25 32.4 +0.8**
comp=Z,11nm,0.4s
GKN Gorkha 75.87 301 *e*P **P 20 25 34.8 +0.5**
KOLN Koldanda 76.69 300 *e*P **P 20 25 39.0 -0.1**
comp=Z,18nm,0.8s
DANN Dangsing 76.70 301 *e*P **P 20 25 39.5 +0.3**
comp=Z,8.9nm,0.5s
WMQ Urumqi 78.38 317 *e*P **P 20 25 48.8 +0.8**
WMQ pP pP 20 26 06.8 +2.5
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,88nm,4.3s
WMQ LR LR
comp=Z,550nm,28.9s
WMQ LR LR
comp=Z,2µm,29.2s
HYB Hyderabad 79.03 289 *i*P **P 20 25 51.0 -1.1**
HYB *e*pP **pP 20 26 06.0 -2.4**
KTH Kantishna Hill 80.73 22 P **P 20 25 59.5 -0.8**
TRF Thorofare Moun 80.91 22 P **P 20 26 01.3 -0.1**
IMAR Indian Mountai 81.23 19 P **P 20 26 03.2 +0.4**
RND Reindeer 81.42 22 P **P 20 26 04.0 0.0**
RND pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 81.42 22 P **P 20 26 04.0 0.0**
DHY Denali Highway 81.80 23 P **P 20 26 06.6 +0.5**
GLB Gilahina Butte 82.42 25 P **P 20 26 09.7 +0.5**
VRDI Verde Repeater 82.47 25 P **P 20 26 10.8 +1.2**
ILAR Eielson Array 82.88 22 P **P 20 26 11.6 +0.1**
comp=Z,0.5nm,0.6s,baz=240,slow=5.7,SNR=6.6
ILAR pP **pP 20 26 28.0 0.0**
comp=Z,5.1nm,0.9s,baz=258,slow=4.5,SNR=16
ILAR LR LR 21 03 11.8
comp=Z,113nm,18.7s,baz=243,slow=36
ILAR Eielson Array 82.88 22 P **P 20 26 11.8 +0.3**
MK31 Makanchi Array 82.95 319 P **P 20 26 12.3 0.0**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 82.95 319 P **P 20 26 12.3 0.0**
MKAR Makanchi Array 82.95 319 P **P 20 26 12.4 +0.1**
comp=Z,3.1nm,0.8s,baz=104,slow=5.5,SNR=19
MKAR pP **pP 20 26 26.9 -1.9**
comp=Z,6.6nm,0.8s,baz=100,slow=6.1,SNR=11
MKAR LR LR 21 03 37.7
comp=Z,120nm,20.4s,baz=100,slow=36
MKAR Makanchi Array 82.95 319 P **P 20 26 12.3 -0.1**
MAKZ Makanchi 83.16 319 P **P 20 26 13.5 +0.1**
MAKZ pmax pmax
comp=Z,14nm,1.1s
MAKZ Makanchi 83.16 319 P **P 20 26 13.5 +0.1**
BARN Barnard Glacie 83.17 26 P **P 20 26 12.2 -1.1**
CTGM Chitina Glacie 83.27 26 P **P 20 26 14.0 +0.2**
CTGM pP **pP 20 26 31.1 +0.8**
CTGM IAmb IAmb 20 26 33.9
comp=Z,23nm,1.0s
PCA Pinnacle 83.37 27 P **P 20 26 14.2 0.0**
PCA pP **pP 20 26 32.1 +1.4**
PCA IAmb IAmb 20 26 52.9
comp=Z,34nm,1.1s
DOT Dot Lake 83.38 23 P **P 20 26 14.9 +0.7**
QSPA South Pole Qui 83.53 180 P **P 20 26 14.8 -0.3**
QSPA IAmb IAmb 20 26 37.6
comp=Z,34nm,0.9s
ZAA0 Zalesovo Array 83.69 326 P **P 20 26 14.7 -1.2**
ZALV Zalesovo Beam 83.69 326⇑ *e*P **P 20 26 15.2 -0.7**
ZALV Zalesovo Beam 83.69 326 P **P 20 26 14.9 -1.0**
comp=Z,2.0nm,0.7s,baz=90,slow=5.9,SNR=8.2
ZALV pP **pP 20 26 29.6 -2.9**
comp=Z,4.5nm,0.8s,baz=89,slow=3.6,SNR=8.0
ZALV LR LR 21 05 27.4
comp=Z,48nm,19.0s,baz=104,slow=37
ZALV Zalesovo Beam 83.69 326 P **P 20 26 14.8 -1.1**
BCAR Beaver Creek A 84.02 24 P **P 20 26 18.0 +0.6**
BCAR pP **pP 20 26 34.7 +0.7**
MAW Mawson 84.88 203 P **P 20 26 21.7 0.0**
baz=85,SNR=43
MAW Mawson 84.88 203 P **P 20 26 21.6 0.0**
comp=Z,7.1nm,0.5s,baz=95,slow=6.0,SNR=61
MAW pP **pP 20 26 38.0 +0.1**
comp=Z,7.6nm,0.6s,baz=113,slow=7.4,SNR=6.3
MAW LR LR 21 00 23.2
comp=Z,155nm,20.4s,baz=65,slow=33
MAW Mawson 84.88 203 P **P 20 26 21.6 -0.1**
MAW **pP 20 26 38.2 +0.2**
HYT Haines Junctio 84.91 27 P **P 20 26 22.4 +0.3**
HYT IAmb IAmb 20 26 41.7
comp=Z,20nm,0.9s
EGAK Eagle 85.03 23 P **P 20 26 23.3 +0.8**
EGAK IAmb IAmb 20 26 41.8
comp=Z,14nm,0.9s
BMAR Burnt Mountain 85.06 20 P **P 20 26 23.2 +0.6**
DAWY Dawson 85.42 24 P **P 20 26 25.9 +1.5**
DAWY IAmb IAmb 20 27 02.6
comp=Z,24nm,1.7s
KSH Kashi 85.61 310 P **P 20 26 29.4 +3.3**
KSH S **S 20 36 53.0 -0.9**
KSH LR LR
comp=Z,460nm,14.7s
KSH LR LR
comp=Z,370nm,11.4s
KSH LR LR
comp=Z,330nm,13.0s
KURK Kurchatov 86.36 322⇑ *e*P **P 20 26 26.7 -2.6**
KURK pmax pmax
comp=Z,7.0nm,1.9s
NRIK Noril'sk 88.20 341 P **P 20 26 37.6 -0.2**
comp=Z,1.6nm,0.5s,baz=111,slow=8.6,SNR=2.8
NRIK pP **pP 20 26 52.5 -1.9**
comp=Z,7.7nm,0.9s,baz=96,slow=5.4,SNR=5.9
NRIK LR LR 21 07 26.9
comp=Z,126nm,19.4s,baz=112,slow=36
INK Inuvik 89.22 21 P **P 20 26 41.9 -0.7**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 89.22 21 pP pP 20 27 00.5 +1.2
comp=Z,3.9nm,0.9s,baz=216,slow=7.0,SNR=7.3
INK Inuvik 89.22 21 P **P 20 26 41.9 -0.7**
INK IAmb IAmb 20 27 06.5
comp=Z,14nm,1.3s
KKAR Karatay Array 90.30 313 P **P 20 26 47.8 -0.5**
KKAR Karatay Array 90.30 313 P **P 20 26 47.8 -0.5**
ISA Isabella, Lake 90.95 54 P **P 20 26 51.7 +0.1**
ISA pmax pmax
comp=Z,15nm,1.6s
ISA Isabella, Lake 90.95 54 P **P 20 26 51.7 +0.1**
ISA IAmb IAmb 20 27 13.9
comp=Z,14nm,1.6s
MWC Mount Wilson 91.11 56 P **P 20 26 51.6 -0.9**
MWC pmax pmax
comp=Z,21nm,1.2s
MWC Mount Wilson 91.11 56 P **P 20 26 51.6 -0.9**
MWC IAmb IAmb 20 27 16.6
comp=Z,21nm,1.2s
NVAR Mina Array Bea 91.43 52 P **P 20 26 54.6 +0.7**
comp=Z,0.5nm,0.3s,baz=264,slow=4.4,SNR=12
NVAR pP **pP 20 27 09.4 -1.2**
comp=Z,0.5nm,0.3s,baz=70,slow=25,SNR=2.9
NVAR LR LR 21 00 29.8
comp=Z,176nm,21.9s,baz=272,slow=30
NVAR Mina Array Bea 91.43 52 P **P 20 26 52.0 -1.9**
NVAR **pP 20 27 09.8 -0.8**
NV11 Mina Array Sit 91.54 52 P **P 20 26 54.6 +0.3**
NV11 IAmb IAmb 20 27 17.5
comp=Z,12nm,1.3s
DAC Darwin (Calif) 91.73 54 P **P 20 26 55.1 -0.2**
DAC pmax pmax
comp=Z,9.0nm,1.3s
DAC Darwin (Calif) 91.73 54 P **P 20 26 55.1 -0.2**
DAC IAmb IAmb 20 27 20.9
comp=Z,9.3nm,1.3s
BRVK Borovoye 91.89 323⇑ *e*P **P 20 26 55.9 +0.5**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 91.89 323 P **P 20 26 55.4 0.0**
PFO Pinyon Flats O 92.36 57⇑ *e*P **P 20 26 58.2 0.0**
PFO pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 92.49 50 P **P 20 26 59.0 +0.3**

BMN pmax pmax
comp=Z,5.0nm,1.1s
BMN Battle Mountai 92.49 50 P **P 20 26 59.0 +0.3**
SYO Syowa Base 92.83 199⇑*e*P **P 20 26 56.0 -3.4**
SYO Syowa Base 92.83 199⇑*e*PcP **PcP 20 27 01.0 +0.9**
TPNV Topopah Spring 92.88 53 P **P 20 27 00.4 -0.2**
TPNV pmax pmax
comp=Z,19nm,1.6s
TPNV Topopah Spring 92.88 53 P **P 20 27 00.4 -0.2**
TPNV IAmb IAmb 20 27 23.8
comp=Z,19nm,1.6s
ELK Elko 94.02 50 P **P 20 27 06.5 +0.7**
ELK pmax pmax
comp=Z,6.0nm,1.3s
ELK Elko 94.02 50 P **P 20 27 06.5 +0.7**
YKA Yellowknife Ar 95.88 28 P **P 20 27 13.6 +0.1**
comp=Z,2.2nm,0.9s,baz=250,slow=3.5,SNR=3.7
YKA pP **pP 20 27 30.3 +0.1**
comp=Z,3.8nm,0.8s,baz=264,slow=4.6,SNR=6.5
YNR Norris Junctio 97.60 46 P **P 20 27 21.6 -0.5**
PDAR Pinedale Array 98.37 48 P **P 20 27 25.6 0.0**
comp=Z,0.2nm,0.4s,baz=49,slow=2.7,SNR=3.6
PDAR pP **pP 20 27 41.9 -0.5**
comp=Z,0.6nm,0.8s,baz=122,slow=4.5,SNR=3.5
PDAR LR LR 21 08 07.2
comp=Z,87nm,18.4s,baz=268,slow=33
GEYT Alibeck 99.30 307 LR LR 21 15 42.7
comp=Z,93nm,19.6s,baz=105,slow=37
TXAR Lajitas Array 103.05 61 PP PKiKP 20 32 15.1 +8.8
comp=Z,0.9nm,1.0s,baz=250,slow=3.6,SNR=4.7
ULM Lac du Bonnet 107.17 39 Pdiff **Pdif 20 28 02.5 -1.7**
comp=Z,2.5nm,0.8s,baz=339,slow=14,SNR=3.0
APA Apatity 107.60 340⇓*i*P **Pdif 20 28 01.3 -4.4**
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,600nm,24.0s
ARCES ARCESS Array B 109.05 343 PP **PP 20 32 43.8 -0.7**
comp=Z,3.0nm,1.1s,baz=33,slow=2.9,SNR=3.5
KIV Kislovodsk 110.42 315 *i* PKiKP **PKiKP 20 32 18.6 -1.0**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,281nm,21.0s
FINES FINESS Array B 113.41 336 PKKPbc PKKPbc 20 43 08.4 -3.2
comp=Z,4.0nm,1.1s,baz=225,slow=2.4,SNR=4.8
ANN Anapa 113.89 316 *i* P **Pdif 20 28 35.1 +0.9**
ANN pmax pmax
comp=Z,145nm,2.3s
CLL Collm 125.30 332 *e*pPKPdf **pPKPdf 20 33 05.0 0.0**
CLL *e*SS SS 20 51 42.0 +11
CLL *e* 20 52 48.0
CLL LmV 21 30 00.0
comp=Z,200nm,19.7s
KHC Kasperske Hory 126.43 329 *e*PKP **pPKPdf 20 33 05.8 -1.5**
KHC *ex* x 20 33 13.2
KHC *ex* x 20 33 20.3
GERES GERESS Array B 126.55 329 PKP **PKPdf 20 32 50.0 -0.3**
comp=Z,0.3nm,0.6s,baz=132,slow=2.9,SNR=2.3
GERES pPKP **pPKPdf 20 33 05.5 -2.2**
comp=Z,1.0nm,0.8s,baz=54,slow=2.3,SNR=5.3
ESK Eskdalemuir 128.22 344 *i* PKiKP **PKPdf 20 32 50.0 -3.2**
LPAZ La Paz 131.77 118 pPKP pPKPdf 20 33 19.6 +0.4
comp=Z,0.7nm,0.5s,baz=356,slow=6.3,SNR=3.3
PBEJ Beja 144.90 336 *e*PKP pPKPdf 20 33 41.1 -0.7
PNCL Nicolau / Gran 145.08 337 *e*PKP pPKPdf 20 33 40.9 -1.2
MESJ Messejana 145.20 336 *e*PKP pPKPdf 20 33 41.8 -0.5
PCVE Castro Verde 145.30 336 *e*PKP pPKPdf 20 33 42.3 -0.2
PVAQ Vaqueiros 145.37 335 *e*PKP pPKPdf 20 33 42.4 -0.2
PTEO Sao Teotonio 145.65 337 *e*PKP pPKPdf 20 33 43.5 +0.4
BDFB Brasilia 148.41 134 PKPbc **PKPdf 20 33 32.2 +1.1**
comp=Z,2.0nm,0.6s,baz=153,slow=2.3,SNR=2.6
BDFB pPKPbc **pPKPbc 20 33 50.8 -1.0**
comp=Z,11nm,0.7s,baz=204,slow=8.8,SNR=6.3
BDFB Brasilia 148.41 134 **PKPdf 20 33 29.1 -2.0**
TOA0 Torodi Ar. Sit 152.82 286 **PKPbc 20 33 44.2 -0.9**
TORD Torodi Ar. Bea 152.82 286 PKPbc **PKPbc 20 33 44.7 -0.3**
comp=Z,2.3nm,0.6s,baz=111,slow=3.0,SNR=17
TORD pPKPbc **sPKPdf 20 34 01.0 -0.5**
comp=Z,4.1nm,0.8s,baz=117,slow=2.2,SNR=8.9
TORD Torodi Ar. Bea 152.82 286 **PKPbc 20 33 43.7 -1.4**
DBIC Dimbokro 159.92 272 PKP **PKPdf 20 33 49.8 +2.7**
comp=Z,4.3nm,0.9s,baz=351,slow=7.7,SNR=3.1
DBIC PKPab **PKPab 20 34 27.0 +0.2**
comp=Z,5.1nm,0.6s,baz=55,slow=2.1,SNR=6.5

*IDC **07** 20:45:42.5±0.6, 59°.22S×25°.65W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/22, mbtmp4.4/11, ML4.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/21, Error ellipse: s-maj=22.7km s-min=17.2km az=51.0*
*ISCJB **07** 20:45:45.3±0.5, 59°.35S±0°.09×25°.6W±0°.2, h32km, mb4.3/10, MS3.8/3, Error ellipse: s-maj=17.7km s-min=7.9km az=143.0*
*NEIC **07** 20:45:47.8±0.6, 59°.3S±0°.1×25°.8W±0°.3, h35km±3km, mb4.7/12*
ISC 07 20:45:47.1±0.5, 59°.3S±0°.1×25°.6W±0°.1, h32km, n53, σ0s78/44, mb4.5/14, MS3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.47**	**155**	P	**Pn**	**20 48 54.7**	**-0.9**
VNA1				S	Sn	20 51 14.5	-9.4
VNA3	**Neumayer Olymp**	**13.65**	**158**	P	**Pn**	**20 48 56.9**	**-1.1**
VNA3				S	Sn	20 51 17.0	-11
VNA2	**Neumayer--Watz**	**13.87**	**155**	P	**Pn**	**20 48 59.6**	**-1.5**
	baz=318,slow=15						
VNA2				S	Sn	20 51 23.1	-11
	baz=317,slow=23						
SNAA	**Sanae**	**15.44**	**153**	P	**Pn**	**20 49 21.3**	**-0.9**
SNAA				S	Sn	20 52 01.4	-11
SNAA	**Sanae**	**15.44**	**153**	Pn	**Pn**	**20 49 21.2**	**-0.9**
	4.4nm,0.3s,baz=320,slow=16,SNR=44						
SNAA				Sn	Sn	20 52 01.1	-11
	0.9nm,0.3s,baz=325,slow=19,SNR=5.5						
SNAA	**Sanae**	**15.44**	**153**		**Pn**	**20 49 21.1**	**-1.1**
SNAA				IAmb	IAmb	20 49 22.9	
	comp=Z,11nm,0.5s						
USHA	**Ushuaia**	**23.39**	**262**	P	**P**	**20 50 53.1**	**+0.5**
	comp=Z,10nm,0.6s,baz=97,slow=9.8,SNR=6.2						
QSPA	**South Pole Qui**	**30.94**	**180**	P	**P**	**20 52 02.1**	**+1.3**
	comp=Z,3.1nm,0.5s,baz=253,slow=0.7,SNR=24						
QSPA	**South Pole Qui**	**30.94**	**180**	P	**P**	**20 52 02.0**	**+1.3**
QSPA				IAmb	IAmb	20 52 02.4	
	comp=Z,15nm,1.5s						
PLCA	**Paso Flores**	**33.49**	**283**	P	**P**	**20 52 23.6**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=182,slow=8.0,SNR=7.0						
PLCA	**Paso Flores**	**33.49**	**283**	P	**P**	**20 52 23.3**	**0.0**
MAW	**Mawson**	**37.06**	**141**	P	**P**	**20 52 54.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=212,slow=9.5,SNR=3.7						
MAW	**Mawson**	**37.06**	**141**	P	**P**	**20 52 54.2**	**+0.7**
PEL	**Peldehue**	**39.55**	**291**	P	**P**	**20 53 14.6**	**-0.3**
GO02	**Mina Guanaco**	**45.77**	**299**	P	**P**	**20 54 06.0**	**+0.3**
GO02				IAmb	IAmb	20 54 09.3	
	comp=Z,13nm,0.8s						
LVC	**Limon Verde**	**47.69**	**301**	P	**P**	**20 54 19.0**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=158,slow=5.4,SNR=3.8						
GO01	**Chusmiza**	**50.40**	**303**	P	**P**	**20 54 41.5**	**-0.2**
GO01				IAmb	IAmb	20 54 42.8	
	comp=Z,5.9nm,0.9s						
SIV	**San Ignacio**	**50.43**	**314**	LR	LR	21 15 36.1	
	comp=Z,30nm,18.6s,baz=184,slow=36						
H10S2	**ASCENSION HYDR**	**50.92**	**14**	T	T	21 50 27.7	
	baz=33,slow=74,SNR=5.1						
H10S3	**ASCENSION HYDR**	**50.92**	**14**	T	T	21 50 33.1	
	baz=187,slow=74,SNR=4.4						
MNMC	**Minye Minye**	**51.05**	**302**	P	**P**	**20 54 46.5**	**+0.1**
MNMC				IAmb	IAmb	20 54 48.0	
	comp=Z,9.0nm,0.7s						
H10N1	**ASCENSION HYDR**	**52.03**	**14**	T	T	21 51 28.7	
	baz=202						
H10N3	**ASCENSION HYDR**	**52.04**	**14**	T	T	21 51 21.1	
	baz=202						
H10N2	**ASCENSION HYDR**	**52.05**	**14**	T	T	21 51 54.6	
	baz=202						
LPAZ	**La Paz**	**52.95**	**306**	P	**P**	**20 55 01.1**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=142,slow=4.7,SNR=8.6						
LPAZ	**La Paz**	**52.95**	**306**	P	**P**	**20 55 00.9**	**-0.1**
DBIC	**Dimbokro**	**67.82**	**22**	P	**P**	**20 56 41.6**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=193,slow=8.6,SNR=3.3						
TOA0	**Torodi Ar. Sit**	**75.52**	**27**	P	**P**	**20 57 29.6**	**+1.6**
TOA0				IAmb	IAmb	20 57 30.8	
	comp=Z,5.8nm,0.8s						

TORD	**Torodi Ar. Bea**	**75.52**	**27**	P	**P**	**20 57 28.3**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=200,slow=6.2,SNR=36						
TORD	**Torodi Ar. Bea**	**75.52**	**27**	P	**P**	**20 57 28.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**83.09**	**149**	LR	LR	21 31 42.2	
	comp=Z,51nm,18.0s,baz=130,slow=33						
STKA	**Stephens Creek**	**88.55**	**169**	P	**P**	**20 58 36.7**	**+0.4**
	comp=Z,0.8nm,0.2s,baz=89,slow=4.0,SNR=3.6						
STKA	**Stephens Creek**	**88.55**	**169**	P	**P**	**20 58 36.9**	**+0.6**
STKA				IAmb	IAmb	21 01 51.8	
	comp=Z,9.2nm,2.0s						
ASAR	**Alice Springs**	**95.63**	**161**	P	**P**	**20 59 08.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=185,slow=4.3,SNR=13						
ASAR	**Alice Springs**	**95.63**	**161**	P	**P**	**20 59 09.1**	**-0.1**
WRA	**Warramunga Arr**	**99.35**	**161**	LR	LR	21 42 50.4	
	comp=Z,47nm,18.5s,baz=200,slow=34						
CMAR	**Chiang Mai Arr**	**123.12**	**111**	PKP	**PKiKP**	**21 04 40.6**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=222,slow=3.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**123.12**	**111**		**PKiKP**	**21 04 40.4**	**+0.2**
FINES	**FINESS Array B**	**126.86**	**28**	PKP	**PKiKP**	**21 04 46.3**	**0.0**
	comp=Z,4.8nm,1.1s,baz=336,slow=4.2,SNR=5.4						
FINES	**FINESS Array B**	**126.86**	**28**		**PKiKP**	**21 04 46.5**	**+0.1**
ABKAR	**Akbulak array**	**128.49**	**57**		**PKiKP**	**21 04 49.9**	**-0.1**
ARCES	**ARCESS Array B**	**133.65**	**22**	PKP	**PKiKP**	**21 04 58.9**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=219,slow=2.8,SNR=9.6						
ARCES	**ARCESS Array B**	**133.65**	**22**		**PKiKP**	**21 04 59.1**	**-0.7**
YKA	**Yellowknife Ar**	**139.11**	**315**	PKP	**PKPdf**	**21 05 09.1**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=128,slow=1.5,SNR=6.0						
YKA	**Yellowknife Ar**	**139.11**	**315**		**PKPdf**	**21 05 08.8**	**0.0**
ZALV	**Zalesovo Beam**	**142.96**	**67**	PKhKP	PKPpre	21 05 12.8	
	comp=Z,0.6nm,0.4s,baz=213,slow=2.4,SNR=3.9						
INK	**Inuvik**	**148.81**	**317**	PKPbc	**PKPbc**	**21 05 29.1**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=335,slow=4.3,SNR=12						
INK	**Inuvik**	**148.81**	**317**		**PKPbc**	**21 05 28.0**	**-1.4**
SONM	**Songino Array**	**149.96**	**91**	PKPbc	**PKiKP**	**21 05 34.0**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=220,slow=3.2,SNR=13						
SONM	**Songino Array**	**149.96**	**91**		**PKiKP**	**21 05 33.7**	**-0.4**
BCAR	**Beaver Creek A**	**150.13**	**305**		**PKiKP**	**21 05 32.9**	**-0.9**
ILAR	**Eielson Array**	**152.83**	**307**	PKPbc	**PKiKP**	**21 05 38.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=327,slow=1.4,SNR=14						
ILAR	**Eielson Array**	**152.83**	**307**		**PKiKP**	**21 05 38.7**	**-0.6**

*ISCJB **07** 21:05:14.1±0.3, 43°.80N±0°.02×105°.28W±0°.03, h7km, mb3.8/4, Error ellipse: s-maj=3.6km s-min=3.4km az=11.8*
*NEIC **07** 21:05:15.2±1.4, 43°.80N±0°.05×105°.27W±0°.07, h0km±2km, ML3.5/76*
*IDC **07** 21:05:15.9±0.8, 44°.05N×105°.76W, h0km, mb3.8/4, mb1 3.9/9, mb1mx3.6/45, mbtmp3.7/9, ML3.4/4, Error ellipse: s-maj=21.0km s-min=7.7km az=144.0*
ISC 07 21:05:15.7±0.6, 43°.86N±0°.04×105°.34W±0°.03, h7km, n94, σ1s24/101, mb4.0/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**74**		**Pg**	**21 05 33.8**	**-0.7**
K22A	**Casper**	**1.48**	**216**		**Pn**	**21 05 41.1**	**-1.8**
K22A				IAML		21 06 05.5	
	comp=N,645nm,0.3s						
K22A				IAML		21 06 07.3	
	comp=E,637nm,0.7s						
PHWY	**Pilot Hill**	**2.55**	**182**		**Pn**	**21 05 57.0**	**-0.8**
RWWY	**Rawlins**	**2.56**	**213**		**Pn**	**21 05 57.8**	**-0.1**
RWWY				IAML		21 06 32.6	
	comp=E,310nm,0.9s						
RWWY				IAML		21 06 34.5	
	comp=E,310nm,1.1s						
LAO	**LASA Array**	**2.90**	**348**		**Pn**	**21 06 03.8**	**+1.4**
N23A	**Red Feather La**	**2.99**	**189**		**Pn**	**21 06 03.7**	**-0.1**
N23A				IAML		21 06 47.2	
	comp=N,202nm,0.7s						
N23A				IAML		21 06 48.2	
	comp=E,159nm,0.8s						
RLMT	**Red Lodge**	**3.08**	**296**		**Pn**	**21 06 06.3**	**+1.3**
RLMT				IAML		21 07 04.4	
	comp=E,95nm,0.8s						
RLMT				IAML		21 07 04.7	
	comp=E,124nm,0.7s						
BW06	**Boulder Array**	**3.26**	**252**		**Pn**	**21 06 08.3**	**+0.7**
BW06				IAML		21 07 00.5	
	comp=N,91nm,0.7s						
BW06				IAML		21 07 06.8	
	comp=E,72nm,0.8s						
PD31	**Pinedale Array**	**3.26**	**252**		**Pn**	**21 06 07.5**	**0.0**
PDAR	**Pinedale Array**	**3.26**	**252**	Pn	**Pn**	**21 06 07.8**	**+0.3**
	comp=E,4.8nm,0.3s,baz=74,slow=16,SNR=62						
PDAR				Lg	Lg	21 06 50.8	
	comp=E,7.2nm,0.3s,baz=52,slow=27,SNR=4.2						
PDAR	**Pinedale Array**	**3.26**	**252**		**Pn**	**21 06 07.2**	**-0.3**
YMP	**Mirror Lake Pl**	**3.57**	**286**	Pn	**Pn**	**21 06 13.1**	**+1.3**
YMP					**Pb**	**21 06 21.5**	**+2.2**
GCMT	**Greycliff**	**3.64**	**304**		**Pn**	**21 06 14.4**	**+1.8**
GCMT				Pg	**Pg**	**21 06 24.7**	**-0.7**
LKWY	**Lake**	**3.71**	**283**	Pn	**Pn**	**21 06 14.5**	**+0.8**
LKWY					**Pg**	**21 06 25.9**	**-0.8**
LKWY				IAML		21 06 42.1	
	comp=E,102nm,0.7s						
LKWY				IAML		21 08 03.3	
	comp=E,58nm,1.4s						
OGNE	**Ogallala**	**3.80**	**139**		**Pn**	**21 06 15.1**	**+0.3**
H17A	**Grant Village**	**3.81**	**280**		**Pn**	**21 06 16.2**	**+1.1**
YUF	**Upper Falls**	**3.81**	**285**	Pn	**Pn**	**21 06 16.0**	**+0.9**
LOHW	**Long Hollow**	**3.82**	**268**	Pn	**Pn**	**21 06 16.4**	**+1.2**
FLWY	**Flagg Ranch**	**3.88**	**275**		**Pn**	**21 06 17.2**	**+1.2**
FLWY				IAML		21 07 26.9	
	comp=E,129nm,1.9s						
FLWY				IAML		21 07 30.3	
	comp=E,84nm,1.0s						
MOOW	**Moose Ponds**	**3.91**	**270**	Pn	**Pn**	**21 06 17.8**	**+1.4**
YNR	**Norris Junctio**	**3.93**	**284**	Pn	**Pn**	**21 06 16.4**	**-0.3**
SNOW	**Snow King Moun**	**3.95**	**266**	Pn	**Pn**	**21 06 17.4**	**+0.4**
SNOW				IAML		21 07 26.0	
	comp=E,93nm,1.0s						
SNOW				IAML		21 07 51.4	
	comp=E,74nm,1.6s						
YPP	**Pitchstone Pla**	**3.96**	**278**		**Pn**	**21 06 17.8**	**+0.7**
REDW	**Red Top Meadow**	**4.03**	**265**	IAML		21 07 36.8	
	comp=E,63nm,1.3s						
REDW				IAML		21 07 42.7	
	comp=E,82nm,1.4s						
IMW	**Indian Meadow**	**4.05**	**273**	IAML		21 07 30.1	
	comp=E,58nm,0.7s						
IMW				IAML		21 07 37.2	
	comp=E,47nm,0.7s						
ISCO	**Idaho Springs**	**4.06**	**183**		**Pn**	**21 06 18.8**	**+0.3**
TPAW	**Teton Pass**	**4.09**	**267**	Pg	**Pg**	**21 06 32.9**	**-1.1**
TPAW				IAML		21 07 44.2	
	comp=E,78nm,0.8s						
TPAW				IAML		21 07 47.9	
	comp=E,38nm,0.8s						
FXWY	**Fox Creek**	**4.12**	**269**	Pg	**Pg**	**21 06 32.3**	**-2.4**
YHB	**Horse Butte**	**4.30**	**284**	Pn	**Pn**	**21 06 23.3**	**+1.6**
O20A	**White River Ci**	**4.30**	**211**	IAML		21 07 31.8	
	comp=E,89nm,0.8s						
YHL	**Hebgen Lake**	**4.31**	**285**		**Pn**	**21 06 22.6**	**+0.7**
YHL				Pg	**Pg**	**21 06 38.5**	**+0.3**
AHID	**Auburn Hatcher**	**4.34**	**257**	Pn	**Pn**	**21 06 23.4**	**+1.1**
AHID				IAML		21 07 25.5	
	comp=N,74nm,0.1s						
QLMT	**Earthquake Lak**	**4.47**	**285**	Pn	**Pn**	**21 06 24.9**	**+0.7**
RDMU	**Red Mountain**	**4.54**	**225**	Pn	**Pn**	**21 06 25.2**	**+0.2**
SUSD	**Miller**	**4.63**	**81**	Pn	**Pn**	**21 06 26.3**	**+0.2**
SUSD				Pg	**Pg**	**21 06 42.9**	**-1.5**
DGMT	**Dagmar**	**4.68**	**9**		**Pn**	**21 06 29.6**	**+2.8**
BOZ	**Bozeman (W)**	**4.81**	**293**	Pn	**Pn**	**21 06 28.4**	**-0.3**
BOZ				IAML		21 07 50.4	
	comp=N,34nm,1.1s						
BOZ				IAML		21 07 53.2	
	comp=N,28nm,0.9s						
SMCO	**Snowmass**	**4.83**	**195**	Pn	**Pn**	**21 06 29.8**	**+0.5**
SMCO					**Pb**	**21 06 42.9**	**+2.0**
SMCO				IAML		21 07 52.5	
	comp=N,51nm,0.9s						
SMCO				IAML		21 07 55.5	
	comp=N,29nm,0.7s						
Q24A	**Divide**	**4.89**	**178**	Pn	**Pn**	**21 06 29.7**	**-0.2**
Q24A				IAML		21 07 48.3	
	comp=N,23nm,0.7s						
Q24A				IAML		21 07 48.4	
	comp=E,50nm,0.7s						
EGMT	**Eagleton**	**5.18**	**325**		**Pn**	**21 06 35.2**	**+1.4**
EGMT				Pg	**Pg**	**21 06 54.1**	**-0.8**
KSCO	**Kaye Shedlock'**	**5.25**	**156**	Pn	**Pn**	**21 06 33.9**	**-0.9**
KSCO					**Pg**	**21 06 53.8**	**-2.5**
TCUT	**Toone Canyon**	**5.25**	**241**	Pg	**Pg**	**21 06 56.5**	**+0.1**

DLMT	**Dillon**	**5.39**	**289**	Pn	**Pn**	**21 06 38.0**	**+1.3**
HRY	**Holter Researc**	**5.40**	**304**		**Pn**	**21 06 38.6**	**+1.9**
MCMT	**McKenzie Canyo**	**5.47**	**283**		**Pn**	**21 06 39.8**	**+1.9**
JLU	**Jordanelle**	**5.58**	**236**	Pn	**Pn**	**21 06 39.4**	**+0.1**
MDND	**Maddock**	**5.66**	**43**	Pn	**Pn**	**21 06 41.6**	**+1.4**
MDND					**Pb**	**21 06 52.4**	**-2.4**
CTU	**Camp Tracy**	**5.71**	**239**	Pn	**Pn**	**21 06 41.2**	**+0.1**
SPUT	**South Promonto**	**5.83**	**247**		**Pn**	**21 06 42.9**	**+0.2**
HVU	**Hansel Valley**	**5.85**	**252**	Pn	**Pn**	**21 06 42.6**	**-0.4**
MPU	**Maple Canyon**	**6.06**	**233**	Pn	**Pn**	**21 06 46.5**	**+0.6**
PV23	**Carpenter Ridg**	**6.07**	**208**	Pn	**Pn**	**21 06 46.6**	**+0.6**
PV09	**Paradox Valley**	**6.07**	**209**		**Pn**	**21 06 46.1**	**0.0**
PV12	**Saucer Basin,**	**6.12**	**206**	Pn	**Pn**	**21 06 46.9**	**+0.1**
SRU	**San Rafael Swe**	**6.13**	**221**	Pn	**Pn**	**21 06 46.7**	**-0.2**
PV14	**Lion Creek, Pa**	**6.14**	**208**	Pn	**Pn**	**21 06 47.2**	**+0.1**
PV19	**Morning Glory**	**6.18**	**208**	Pn	**Pn**	**21 06 47.8**	**+0.1**
PV03	**Paradox Valley**	**6.19**	**207**		**Pn**	**21 06 47.8**	**+0.1**
PV17	**East Wray Mesa**	**6.20**	**207**	Pn	**Pn**	**21 06 48.2**	**+0.3**
S22A	**4UR Ranch, Cre**	**6.21**	**191**	Pn	**Pn**	**21 06 46.1**	**-1.9**
S22A					**Pb**	**21 07 04.5**	**+0.2**
PV01	**Paradox Valley**	**6.21**	**204**	Pn	**Pn**	**21 06 48.2**	**+0.1**
PV18	**Skein Mesa, Pa**	**6.22**	**207**		**Pn**	**21 06 48.9**	**+0.8**
PV13	**Radium Mtn., P**	**6.27**	**206**	Pn	**Pn**	**21 06 49.1**	**+0.3**
ECSD	**EROS Data Cent**	**6.32**	**88**		**Pn**	**21 06 49.6**	**+0.3**
NLU	**North Lily Min**	**6.36**	**234**	Pn	**Pn**	**21 06 51.0**	**+0.9**
CBKS	**Cedar Bluff**	**6.57**	**138**	Pn	**Pn**	**21 06 51.2**	**-1.6**
CBKS					**Pb**	**21 07 14.8**	**+4.6**
T25A	**Trinidad**	**6.75**	**174**	Pn	**Pn**	**21 06 54.6**	**-0.8**
MSO	**Missoula**	**6.75**	**299**	Pn	**Pn**	**21 06 56.7**	**+1.4**
MVCO	**Mesa Verde**	**7.06**	**201**	Pn	**Pn**	**21 06 59.4**	**-0.3**
JTMT	**Jette**	**7.36**	**305**	Pg	**Pg**	**21 07 33.4**	**-3.2**
MSU	**Marysvale**	**7.42**	**226**	Pn	**Pn**	**21 07 04.3**	**-0.3**
MSU				Pg	**Pg**	**21 07 34.2**	**-3.5**
MFID	**Camas Ranch**	**7.62**	**270**	Pn	**Pn**	**21 07 08.3**	**+1.0**
PLID	**Pearl Lake**	**7.72**	**283**	Pn	**Pn**	**21 07 09.2**	**+0.5**
MTPU	**Mount Pierson**	**7.78**	**224**		**Pn**	**21 07 09.8**	**+0.1**
AGMN	**Agassiz Nation**	**7.95**	**53**	Pn	**Pn**	**21 07 10.6**	**-1.0**
ELK	**Elko**	**7.97**	**250**	Pn	**Pn**	**21 07 12.5**	**+0.3**
	comp=E,0.6nm,0.3s,baz=72,slow=8.0,SNR=7.6						
PKCU	**Pink Cliffs**	**8.31**	**222**	Pn	**Pn**	**21 07 16.9**	**0.0**
SZCU	**Shurtz Canyon**	**8.58**	**226**	Pn	**Pn**	**21 07 20.7**	**+0.1**
BMO	**Blue Mountains**	**8.63**	**281**	Pn	**Pn**	**21 07 22.9**	**+1.7**
F10A	**Beach Ranch, E**	**8.70**	**288**	Pn	**Pn**	**21 07 23.6**	**+1.6**
KNB	**Kanab**	**8.89**	**222**	Pn	**Pn**	**21 07 24.7**	**-0.1**
I10CA	**LAC DU BONNET**	**8.98**	**42**	*i*		21 57 30.0	
	baz=219,slow=329,SNR=1.7						
ULM	**Lac du Bonnet**	**9.09**	**42**	Pn	**Pn**	**21 07 26.4**	**-0.8**
	comp=E,1.1nm,0.3s,baz=238,slow=9.2,SNR=14						
ULM				Pg		21 07 57.4	
	comp=E,0.6nm,0.3s,baz=237,slow=18,SNR=2.8						
ULM				Lg	Lg	21 09 57.0	
	comp=E,0.6nm,0.3s,baz=135,slow=19,SNR=2.5						
U15A	**North Rim**	**9.13**	**218**		**Pn**	**21 07 28.6**	**+0.5**
R11A	**Troy Canyon, C**	**9.49**	**238**	Pn	**Pn**	**21 07 32.9**	**0.0**
WUAZ	**Wupatki**	**9.53**	**211**	Pn	**Pn**	**21 07 34.2**	**+0.7**
FFC	**Flin Flon**	**11.10**	**10**		**Pn**	**21 07 54.4**	**-0.3**
NVAR	**Mina Array Bea**	**11.17**	**245**	Pn	**Pn**	**21 07 57.9**	**+1.9**
	comp=E,0.1nm,0.3s,baz=50,slow=12,SNR=6.5						
YBH	**Yreka Blue Hor**	**12.94**	**267**	Pn	Pn	21 08 24.9	+4.9
	comp=E,0.1nm,0.3s,baz=104,slow=4.2,SNR=3.5						
TXAR	**Lajitas Array**	**14.55**	**174**	Pn	**P**	**21 08 48.3**	**-0.5**
	baz=0.0,slow=8.6,SNR=3.7						
TXAR				Pg		21 09 43.9	
	comp=E,0.1nm,0.3s,baz=11,slow=13,SNR=5.8						
TXAR				Lg	Lg	21 12 55.1	
	comp=E,0.0nm,0.3s,baz=3.6,slow=30,SNR=5.4						
ILAR	**Eielson Array**	**31.15**	**327**	P	**P**	**21 11 34.1**	**-0.7**
	comp=E,0.2nm,0.7s,baz=108,slow=8.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**82.19**	**354**	P	**P**	**21 17 37.2**	**+0.2**
	comp=E,1.5nm,0.7s,baz=1.3,slow=5.6,SNR=5.5						
SONM	**Songino Array**	**84.51**	**339**	P	**P**	**21 17 50.1**	**+0.8**
	comp=E,0.4nm,0.5s,baz=46,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**89.48**	**355**	P	**P**	**21 18 13.7**	**+0.3**
	comp=E,0.8nm,0.7s,baz=350,slow=3.7,SNR=5.4						

*NSSP **07** 21:22:42.5, 38°.43N×45°.03E, h5km, Ms3.0*
*DDA **07** 21:22:42.4, 38°.29N×44°.85E, h8km±2km, ML3.0*
*ISK **07** 21:22:45.0, 38°.34N×44°.62E, h7km, ML2.6/7*
ISC 07 21:22:42.6±1.6, 38°.34N±0°.03×44°.88E±0°.06, h5km±12km, n21, σ1s15/33, 4C, Turkey-Iran border region

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

SBLS				*e*S	**Sg**	**21 33 04.0**	**-0.4**
IXG	**Ixpaco**	**1.05 357**		*e*P	**Pg**	**21 32 52.3**	**+1.0**
IXG	**Ixpaco**	**1.05 357**	⇓	*e*P	Pg	21 32 51.2	-0.1
RTR	**El Retiro**	**1.06 43**	⇑	*i*P	**Pg**	**21 32 51.5**	**0.0**
RTR				*e*S	**Sg**	**21 33 05.5**	**+0.2**
SNJE	**San Jose**	**1.06 46**		*i*P	**Pg**	**21 32 51.4**	**-0.2**
UNIC	**Universidad Ca**	**1.18 44**		*e*P	**Pg**	**21 32 53.0**	**-0.9**
UNIC				*e*S	**Sg**	**21 33 07.1**	**-2.2**
FUG	**Fuego 3**	**1.39 342**		*e*P	**Pn**	**21 32 57.8**	**-0.1**
FUG				*e*S	**Sn**	**21 33 15.1**	**-1.9**
NBG	**Las Nubes**	**1.46 2**		*e*P	**Pn**	**21 33 02.8**	**+3.9**
NBG				*e*S	**Sn**	**21 33 18.8**	**0.0**
MTO3	**Montecristo**	**1.62 38**		*e*P	Pn	21 32 58.5	-2.5
STG3	**Santiaguito 3,**	**1.95 324**		*e*P	**Pn**	**21 33 06.2**	**+0.6**
STG3				*e*S	**Sn**	**21 33 28.7**	**-2.2**

ISCJB ***07*** *22:14:46.5±0.4, 35°.88N±0°.05×138°.43E±0°.06, h188km±3km, mb3.7/9, Error ellipse: s-maj=8.3km s-min=7.5km az=3.2*
JMA ***07*** *22:14:47.3±0.1, 35°.83N×138°.47E, h185km±1km, M3.4*
IDC ***07*** *22:14:47.3±0.5, 35°.89N×138°.37E, h180km±2km, mb3.5/9, mb1 3.7/13, mb1mx3.4/41, mbtmp4.0/13, Error ellipse: s-maj=18.6km s-min=8.3km az=69.0*

ISC 07 22:14:47.3±0.7, 35°.90N±0°.06×138°.46E±0°.05, h182km±5km, n30, σ1°.01/40, mb3.7/9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.26**	**265**	P	**Pn**	**22 15 12.0**	**+0.2**
JNT				*e*S	**Sn**	**22 15 30.7**	**+0.2**
JRY	**Ryogami san**	**0.38**	**72**	P	**Pn**	**22 15 12.7**	**+0.7**
JRY				*e*S	**Sn**	**22 15 31.6**	**+0.7**
JYN	**Shimob**	**0.41**	**170**	P	**Pn**	**22 15 12.2**	**0.0**
JYN				*e*S	**Sn**	**22 15 31.3**	**+0.1**
MJAR	**Matsushiro Arr**	**0.67**	**343**	P	**Pn**	**22 15 13.1**	**-0.1**
	2.4nm,0.3s,baz=170,slow=7.0,SNR=81						
MJAR				S	**Sn**	**22 15 33.6**	**+0.3**
	2.2nm,0.3s,baz=47,slow=6.3,SNR=24						
MAT	**Matsushiro**	**0.68**	**343**	P	**Pn**	**22 15 13.7**	**+0.5**
MAT				S	**Sn**	**22 15 33.6**	**+0.3**
MAT	**Matsushiro**	**0.68**	**343**	P	**Pn**	**22 15 13.7**	**+0.5**
MAT				S	**Sn**	**22 15 33.7**	**+0.4**
JOD2	**Odawara 2**	**0.81**	**141**	P	**Pn**	**22 15 13.8**	**-0.3**
JOD2				*e*S	**Sn**	**22 15 33.9**	**-0.7**
JAG	**Ashikaga**	**0.96**	**57**	P	**Pn**	**22 15 15.0**	**0.0**
JYTA	**Yamagatataniai**	**1.43**	**258**	P	**Pn**	**22 15 18.7**	**-0.1**
JYTA				S	**Sn**	**22 15 42.4**	**-0.8**
JKG	**Kaga**	**1.76**	**283**	P	**Pn**	**22 15 23.0**	**+1.0**
JKG				S	**Sn**	**22 15 50.9**	**+2.0**
JSZ	**Suzu**	**1.78**	**331**	P	**Pn**	**22 15 22.9**	**+0.8**
TK02	**Tokai 2**	**2.03**	**197**	P	**Pn**	**22 15 24.8**	**+0.2**
JNS	**Sasagawa**	**2.04**	**20**	P	**Pn**	**22 15 25.9**	**+1.0**
JIE	**Ise**	**2.08**	**224**	P	**Pn**	**22 15 25.4**	**0.0**
JIE				*e*S	**Sn**	**22 15 54.3**	**-0.6**
JFT	**Otama**	**2.21**	**42**	P	**Pn**	**22 15 27.9**	**+1.1**
JHJ	**Hachijo jima 2**	**2.98**	**158**	P	**Pn**	**22 15 34.9**	**-0.9**
	161nm,0.3s,baz=326,slow=13,SNR=43						
JHJ				S	**Sn**	**22 16 15.8**	**+2.1**
	14nm,0.3s,baz=150,slow=20,SNR=3.0						
JNU	**Nakatsue**	**6.84**	**248**	P	**Pn**	**22 16 25.2**	**-0.2**
	0.5nm,0.3s,baz=64,slow=4.4,SNR=4.9						
ASAJ	**Asahikawa**	**8.80**	**20**	P	**Pn**	**22 16 47.3**	**-3.6**
	1.2nm,0.3s,baz=209,slow=9.6,SNR=8.9						
ASAJ				S	Sn	22 18 22.0	-7.3
	0.5nm,0.3s,baz=348,slow=19,SNR=4.3						
JCJ	**Chichijima**	**9.33**	**159**	P	Pn	22 16 50.5	-7.6
	8.5nm,0.3s,baz=6.7,slow=21,SNR=10						
JCJ				S	Sn	22 18 28.0	-14
	6.7nm,0.3s,baz=307,slow=20,SNR=4.3						
USRK	**Ussuriysk Ar.**	**9.66**	**331**	P	**Pn**	**22 17 01.6**	**-0.6**
	baz=134,slow=14,SNR=5.2						
KLR	**Kul'dur**	**14.20**	**342**	P	**Pn**	**22 17 59.0**	**-1.2**
	1.1nm,0.3s,baz=149,slow=10,SNR=19						
SONM	**Songino Array**	**26.50**	**307**	P	**P**	**22 20 06.9**	**-0.8**
	0.9nm,0.6s,baz=106,slow=9.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**40.94**	**313**	P	**P**	**22 22 11.8**	**+0.1**
	1.9nm,0.3s,baz=89,slow=7.3,SNR=10						
MKAR	**Makanchi Array**	**42.71**	**303**	P	**P**	**22 22 26.6**	**+0.4**
	2.2nm,0.7s,baz=87,slow=10,SNR=15						
ILAR	**Eielson Array**	**51.72**	**32**	P	**P**	**22 23 35.5**	**+0.1**
	0.3nm,0.5s,baz=282,slow=4.7,SNR=7.2						
WRA	**Warramunga Arr**	**55.67**	**185**	P	**P**	**22 24 03.2**	**-1.3**
	0.6nm,0.3s,baz=0.1,slow=7.5,SNR=12						
ARCES	**ARCESS Array B**	**64.21**	**339**	P	**P**	**22 25 02.5**	**+0.4**
	2.9nm,1.0s,baz=55,slow=6.9,SNR=2.7						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**22 25 30.8**	**+0.1**
	0.7nm,0.4s,baz=58,slow=6.9,SNR=13						
NVAR	**Mina Array Bea**	**77.57**	**52**	P	**P**	**22 26 24.7**	**+1.3**
	0.4nm,0.5s,baz=337,slow=7.1,SNR=3.6						
TXAR	**Lajitas Array**	**92.69**	**51**	P	**P**	**22 27 39.7**	**+0.8**
	0.3nm,0.5s,baz=300,slow=2.8,SNR=5.0						

IDC 07 22:52:55.7±1.3, 12°.15N×141°.68E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/34, mbtmp3.9/6, Error ellipse: s-maj=56.9km s-min=28.5km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.70**	**193**	P	P	22 59 30.1	+0.1
	0.5nm,0.9s,baz=14,slow=9.7,SNR=2.7						
MKAR	**Makanchi Array**	**60.39**	**317**	P	P	23 03 06.9	0.0
	0.7nm,0.8s,baz=95,slow=9.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**61.01**	**326**	P	P	23 03 11.3	+0.4
	0.6nm,0.6s,baz=87,slow=13,SNR=3.2						
ILAR	**Eielson Array**	**71.19**	**25**	P	P	23 04 16.4	+0.2
	0.6nm,0.7s,baz=267,slow=5.4,SNR=6.0						
ARCES	**ARCESS Array B**	**87.47**	**342**	P	P	23 05 44.8	-0.1
	1.2nm,0.7s,baz=56,slow=7.4,SNR=3.8						
FINES	**FINESS Array B**	**91.12**	**334**	P	P	23 06 01.4	-0.8
	0.7nm,0.4s,baz=33,slow=3.3,SNR=7.1						

IDC 07 23:02:43.8±8.3, 6°.40S×145°.51E, h49km±79km, mb2.9/1, mb1 3.4/3, mb1mx3.1/31, mbtmp3.3/3, ML2.4/2, Error ellipse: s-maj=71.6km s-min=48.2km az=8.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**151**	P	Pn	23 03 35.3	+0.8
	3.1nm,0.3s,baz=339,slow=11,SNR=7.4						
PMG				S	Sn	23 04 14.0	+0.3
	1.5nm,0.3s,baz=30,slow=8.7,SNR=3.7						
WRA	**Warramunga Arr**	**17.29**	**218**	P	Pn	23 06 40.2	-1.7
	0.1nm,0.3s,baz=44,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**20.48**	**212**	P	P	23 07 18.6	+0.9
	0.6nm,0.8s,baz=35,slow=12,SNR=4.5						
TORD	**Torodi Ar. Bea**	**143.74**	**283**	PKP	PKPdf	23 22 13.4	-1.1
	0.2nm,0.8s,baz=91,slow=2.8,SNR=3.5						

ISCJB ***07*** *23:02:58.4±1.5, 0°.99N±0°.06×79°.70W±0°.1, h20km, Error ellipse: s-maj=16.5km s-min=6.8km az=21.7*
IGQ ***07*** *23:02:59.4±1.0, 1°.N±7°×8°.0W±°, h7km, Mjma3.6, ML4.0, MLv3.7*

ISC 07 23:02:57.7±1.8, 0°.90N±0°.06×79°.70W±0°.09, h20km, n36, σ1°.08/42, 2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.96**	**184**	P	**Pb**	**23 03 16.0**	**+0.2**
PAC1	**Pacto, Paraso**	**1.10**	**125**	P	**Pn**	**23 03 17.6**	**-0.6**
OTAV	**Otavalo**	**1.41**	**118**	⇓	*i*P	**Pn**	**23 03 22.6**	**-0.1**
OTAV				*e*S	**Sn**	**23 03 40.9**	**0.0**
OTAV	**Otavalo**	**1.41**	**118**	⇓	*i*P	**Pn**	**23 03 22.6**	**-0.1**
OTAV				*e*S	**Sn**	**23 03 40.9**	**0.0**
CUSW	**Cuicocha Oeste**	**1.48**	**114**	P	**Pn**	**23 03 24.3**	**+0.8**
PULU	**Pululahua**	**1.48**	**126**	P	**Pb**	**23 03 24.4**	**-0.3**
YANA	**Yana**	**1.51**	**132**	P	**Pn**	**23 03 24.9**	**+0.8**
URCU	**Urcuqui**	**1.51**	**107**	P	**Pn**	**23 03 24.1**	**+0.1**
TERV	**Terraza Guagua**	**1.52**	**134**	P	**Pb**	**23 03 25.3**	**-0.3**
GGP	**Refugio Guagua**	**1.53**	**134**	P	**Pb**	**23 03 25.6**	**-0.2**
GGPC	**Guagua Pichinc**	**1.53**	**134**	P	**Pn**	**23 03 25.3**	**+0.8**
IMBA	**Imbabura, San**	**1.62**	**112**	P	**Pb**	**23 03 27.5**	**+0.3**
NINA	**Atacazo Ninahu**	**1.67**	**140**	P	**Pn**	**23 03 27.5**	**+1.1**
YAHU	**Yahuarcocha**	**1.71**	**108**	P	**Pb**	**23 03 28.0**	**-0.7**
CAYA	**Cayambe**	**1.89**	**116**	P	**Pb**	**23 03 33.3**	**+1.3**
TULM	**Tulcn-Chalpat**	**1.92**	**95**	P	**Pb**	**23 03 31.6**	**-0.8**
BNAS	**Cotopaxi Volca**	**1.98**	**142**	P	**Pb**	**23 03 32.9**	**-0.4**
BREF	**Cotopaxi Volca**	**2.00**	**141**	P	**Pb**	**23 03 33.4**	**-0.4**
BVC2	**Cotopaxi Volca**	**2.01**	**140**	P	**Pb**	**23 03 33.5**	**-0.4**
PIS1	**Pisayambo**	**2.34**	**146**	P	**Pb**	**23 03 39.1**	**-0.5**
PISA	**Pisayambo**	**2.34**	**146**	P	**Pb**	**23 03 39.0**	**-0.6**
BULB	**Ulba Tungurahu**	**2.65**	**151**	P	**Pb**	**23 03 44.2**	**-0.6**
BMAS	**Trigal station**	**2.68**	**153**	P	**Pb**	**23 03 44.6**	**-0.6**
BBAC	**Balboa, Cauca**	**2.69**	**65**	*e*P	**Pn**	**23 03 40.2**	**0.0**
BBAC				*e*S	**Sb**	**23 04 16.4**	**-1.7**
BBAC	**Balboa, Cauca**	**2.69**	**65**	*e*P	**Pn**	**23 03 40.2**	**0.0**
BBAC				*e*S	**Sb**	**23 04 16.4**	**-1.7**
BPAT	**Tungurahua Vol**	**2.70**	**152**	P	**Pb**	**23 03 44.7**	**-0.9**
CRUC	**La Cruz**	**2.83**	**76**	*e*P	**Pn**	**23 03 44.6**	**+2.6**
CRUC				*e*S	**Sb**	**23 04 21.9**	**-0.2**
CRUC	**La Cruz**	**2.83**	**76**	*e*P	**Pn**	**23 03 44.6**	**+2.6**
CRUC				*e*S	**Sb**	**23 04 21.9**	**-0.2**
SOTA	**Rioblanco**	**3.33**	**68**	*e*P	**Pn**	**23 03 50.6**	**+1.5**
SOTA	**Rioblanco**	**3.33**	**68**	*e*P	**Pn**	**23 03 50.6**	**+1.5**
POPC	**Popayan, Colom**	**3.43**	**62**	*e*P	**Pn**	**23 03 50.5**	**+0.2**
POPC	**Popayan, Colom**	**3.43**	**62**	*e*P	**Pn**	**23 03 50.5**	**+0.2**
FLOC	**Florencia**	**4.10**	**80**	*e*P	**Pn**	**23 04 01.8**	**+2.5**
FLOC	**Florencia**	**4.10**	**80**	*e*P	**Pn**	**23 04 01.8**	**+2.5**
YOTC	**Yotoco, Valle**	**4.54**	**47**	*e*P	**Pn**	**23 04 05.8**	**+0.4**
YOTC	**Yotoco, Valle**	**4.54**	**47**	*e*P	**Pn**	**23 04 05.8**	**+0.4**

IDC 07 23:04:53.8±4.1, 20°.82S×168°.08E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/31, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=116.8km s-min=30.0km az=130.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.97**	**231**	Pn	Pn	23 05 28.3	-0.3
	10nm,0.3s,baz=99,slow=10,SNR=77						
DZM				LR	LR	23 05 42.4	
	comp=Z,54nm,18.3s,baz=40,slow=25						
DZM				Sn	Sn	23 05 54.0	+0.1
	27nm,0.3s,baz=148,slow=20,SNR=7.4						
WRA	**Warramunga Arr**	**31.61**	**266**	P	P	23 11 18.4	-0.2
	0.2nm,0.5s,baz=84,slow=5.7,SNR=3.2						
ASAR	**Alice Springs**	**31.72**	**258**	P	P	23 11 19.8	+0.2
	1.3nm,0.7s,baz=84,slow=9.3,SNR=15						
ASAJ	**Asahikawa**	**68.71**	**341**	LR	LR	23 39 26.5	
	comp=Z,20nm,20.8s,baz=183,slow=30						
CMAR	**Chiang Mai Arr**	**78.17**	**295**	P	P	23 16 56.2	+0.7
	0.5nm,0.3s,baz=126,slow=4.6,SNR=4.0						
GERES	**GERESS Array B**	**145.34**	**330**	PKPbc	PKPbc	23 24 32.0	-1.5
	0.5nm,0.7s,baz=28,slow=2.3,SNR=3.3						

PRU 07 23:16:12.9±0.0, 50°.09N×19°.12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.68**	**248**	*e*PG	Pg	23 16 26.0	+0.1
OKC				*e*SG	Sg	23 16 35.6	+1.0
LANS	**Liptovska Anna**	**0.97**	**166**	*e*PG	Pg	23 16 31.5	+0.1
LANS				*e*SG	Sb	23 16 45.3	-0.6
KRLC	**Kraliky**	**1.51**	**270**	*e*SG	Sg	23 17 00.3	-1.0
VYHS	**Vyhne**	**1.61**	**187**	*e*PN	Pn	23 16 41.8	-0.8
VYHS				*e*SN	Sn	23 17 03.7	-0.3
VYHS	**Vyhne**	**1.61**	**187**	*e*PN	Sn	23 17 03.6	-0.4
DPC	**Dobruska-Polom**	**1.82**	**279**	*e*SG	Sb	23 17 10.6	+0.3
CHVC	**Chvalec**	**2.03**	**285**	*e*SG	Sg	23 17 17.6	-0.4

SOME ***07*** *23:16:23.5, 42°.00N×77°.42E, h15km*
KRNET ***07*** *23:16:23.2±0.1, 42°.00N×77°.42E, h15km, mb2.5*
KNET ***07*** *23:16:25.3±0.4, 42°.02N×77°.27E, h9km±2km, ml1.9, Error ellipse: s-maj=3.8km s-min=2.3km az=26.0*
NNC ***07*** *23:16:25.1±0.7, 42°.10N×77°.43E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=4.4km s-min=2.4km az=0.0*

ISC 07 23:16:23.9±1.1, 42°.00N±0°.03×77°.41E±0°.02, h6km±9km, n69, σ1°.23/127, 35C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.21**	**307**	⇑	*i*P	**Pg**	**23 16 27.9**	**-0.2**
	baz=9.0						
KDJ				⇑	*i*S	**Sg**	**23 16 30.9**	**-0.1**
	baz=9.0						
TARG	**Taragay, Kyrgy**	**0.40**	**133**	⇓	*i*P	**Pg**	**23 16 30.8**	**-1.0**
	baz=33						
TARG				⇓	*i*S	**Sg**	**23 16 36.4**	**-0.8**
	baz=33						
ANVS	**Anan'yevo**	**0.80**	**14**	⇓	*i*P	**Pg**	**23 16 38.8**	**-0.6**
	baz=13						
ANVS				⇓	*i*S	**Sg**	**23 16 49.8**	**0.0**
	baz=13						
PRZ	**Przheval'sk**	**0.88**	**57**	⇑	*i*P	**Pg**	**23 16 40.1**	**-0.7**
	baz=56						
PRZ				⇑	*i*S	**Sg**	**23 16 52.2**	**0.0**
	baz=56						
ULHL	**Ulahol**	**0.90**	**286**	⇑	*e*P	**Pb**	**23 16 40.2**	**-1.9**
	baz=86						
ULHL				⇑	*i*S	**Sb**	**23 16 52.6**	**-1.8**
	baz=86						
ULHL	**Ulahol**	**0.90**	**286**	⇓	P	**Pb**	**23 16 40.5**	**-1.5**
	8.9nm,0.1s,SNR=114						
ULHL				⇓	S	**Sb**	**23 16 53.1**	**-1.4**
	10nm,0.1s						
TNSS	**Tian-Shan**	**1.09**	**342**	P	P	**Pb**	**23 16 43.9**	**-1.4**
	3.6nm,0.1s						
TNSS				S	**Sb**	**23 16 58.6**	**-1.4**
	12nm,0.1s						
TNSS	**Tian-Shan**	**1.09**	**342**	*e*P	**Pb**	**23 16 44.0**	**-1.4**
	6.8nm,0.2s						
TNSS				*e*S	**Sb**	**23 16 58.7**	**-1.4**
	23nm,0.2s						
IZV	**Izvestkoviy**	**1.19**	**331**	P	**Pn**	**23 16 45.8**	**-1.5**
	6.2nm,0.1s						
IZV				S	**Sb**	**23 17 01.9**	**-0.8**
	21nm,0.1s						
IZV	**Izvestkoviy**	**1.19**	**331**	*e*P	**Pn**	**23 16 45.8**	**-1.5**
	6.2nm,0.1s						
IZV				*e*S	**Sb**	**23 17 01.9**	**-0.8**
	21nm,0.1s						
MDOK	**Medeo**	**1.19**	**347**	⇓	P	**Pn**	**23 16 45.5**	**-1.8**
	1.5nm,0.3s						
MDOK				S	**Sb**	**23 17 01.2**	**-1.5**
	11nm,0.5s						
MDOK	**Medeo**	**1.19**	**347**	⇓	P	**Pn**	**23 16 45.5**	**-1.8**
	1.5nm,0.3s						
MDOK				S	**Sb**	**23 17 01.2**	**-1.5**
	11nm,0.5s						
MDOK	**Medeo**	**1.19**	**347**	Pg	**Pn**	**23 16 45.4**	**-1.8**
	4.5nm,0.2s						
MDOK				Lg	Lg	23 17 01.2	
	16nm,0.5s						
MDOK	**Medeo**	**1.19**	**347**	*e*P	**Pn**	**23 16 45.5**	**-1.8**
	4.5nm,0.2s						
MDOK				*e*S	**Sb**	**23 17 01.5**	**-1.2**
	16nm,0.5s						
BOOM	**Boomskoye usch**	**1.19**	**295**	⇑	*e*P	**Pn**	**23 16 45.8**	**-1.6**
	baz=95						
BOOM				⇑	*i*S	**Sb**	**23 17 02.3**	**-0.5**
	baz=95						
NRN	**Naryn**	**1.20**	**242**	⇑	*e*P	**Pn**	**23 16 46.8**	**-0.7**
	baz=43						
NRN				⇑	*i*S	**Sb**	**23 17 02.5**	**-0.6**
	baz=43						
KOTS	**Kotyrbulak**	**1.25**	**350**	P	**Pn**	**23 16 46.8**	**-1.3**
	6.6nm,0.2s						
KOTS				S	**Sb**	**23 17 03.5**	**-0.9**
	38nm,0.3s						
KOTS	**Kotyrbulak**	**1.25**	**350**	*e*P	**Pn**	**23 16 46.8**	**-1.3**
	7.7nm,0.1s						
KOTS				*e*S	**Sb**	**23 17 03.4**	**-1.0**
	38nm,0.3s						
SATY	**Saty**	**1.29**	**35**	P	**Pn**	**23 16 47.2**	**-1.4**
	6.8nm,0.1s						
SATY				S	**Sb**	**23 17 04.1**	**-1.4**
	32nm,0.1s						
SATY	**Saty**	**1.29**	**35**	*e*P	**Pn**	**23 16 47.2**	**-1.4**
	6.8nm,0.1s						
SATY				*e*S	**Sb**	**23 17 04.1**	**-1.4**
	32nm,0.1s						
MTBS	**Maitube**	**1.34**	**328**	P	**Pn**	**23 16 48.4**	**-0.9**
	9.4nm,0.2s						
MTBS				S	**Sb**	**23 17 06.5**	**-0.5**
	22nm,0.3s						
MTBS	**Maitube**	**1.34**	**328**	*e*P	**Pn**	**23 16 48.4**	**-0.9**
	9.4nm,0.2s						
MTBS				*e*S	**Sb**	**23 17 06.5**	**-0.5**
	22nm,0.3s						
ZHN	**Zhinishke**	**1.39**	**33**	P	**Pn**	**23 16 49.0**	**-1.0**
	4.3nm,0.2s						
ZHN				S	**Sn**	**23 17 07.4**	**-1.4**
	21nm,0.2s						
ZHN	**Zhinishke**	**1.39**	**33**	*e*P	**Pn**	**23 16 49.0**	**-1.0**
	4.4nm,0.1s						
ZHN				*e*S	**Sn**	**23 17 07.4**	**-1.4**
	21nm,0.2s						
KST	**Kastek**	**1.49**	**315**	P	**Pn**	**23 16 51.2**	**-0.2**
	11nm,0.1s						
KST				S	**Sn**	**23 17 10.7**	**-0.6**
	13nm,0.4s						
KST	**Kastek**	**1.49**	**315**	*e*P	**Pn**	**23 16 51.2**	**-0.2**
	11nm,0.1s						
KST				*e*S	**Sb**	**23 17 11.9**	**+0.5**
	9.3nm,0.4s						
KURS	**Kuram**	**1.59**	**20**	P	**Pb**	**23 16 53.6**	**-0.1**
	1.4nm,0.2s						
KURS				S	**Sg**	**23 17 15.1**	**+0.1**
	4.5nm,0.3s						
KURS	**Kuram**	**1.59**	**20**	*e*P	**Pb**	**23 16 53.6**	**-0.1**
	1.4nm,0.2s						
KURS				*e*S	**Sg**	**23 17 15.1**	**+0.1**
	4.5nm,0.3s						
KZA	**Kyzart**	**1.61**	**273**	⇓	*e*P	**Pn**	**23 16 53.4**	**+0.1**
	baz=74						
KZA				⇓	*i*S	**Sb**	**23 17 14.9**	**-0.1**
	baz=74						
KZA	**Kyzart**	**1.61**	**273**	⇓	P	**Pn**	**23 16 53.6**	**+0.3**
	3.8nm,0.2s,SNR=8.7						
KZA				⇑	S	**Sb**	**23 17 15.8**	**+0.8**
	3.4nm,0.1s						
TKM2	**Tokmak 2**	**1.62**	**305**	⇓	P	**Pn**	**23 16 53.6**	**+0.3**
	3.4nm,0.2s						
TKM2				⇑	S	**Sb**	**23 17 15.9**	**+0.6**
	7.3nm,0.3s						
TKM2	**Tokmak 2**	**1.62**	**305**	⇓	P	**Pn**	**23 16 53.6**	**+0.3**
	3.4nm,0.2s						
TKM2				⇑	S	**Sb**	**23 17 15.9**	**+0.6**
	7.3nm,0.3s						
TKM2	**Tokmak 2**	**1.62**	**305**	⇓	*i*P	**Pn**	**23 16 53.5**	**+0.3**
	baz=5.0						
TKM2				⇓	*i*S	**Sb**	**23 17 15.6**	**+0.3**
	baz=5.0						
TKM2	**Tokmak 2**	**1.62**	**305**	⇓	P	**Pn**	**23 16 53.6**	**+0.3**
	16nm,0.2s,SNR=9.5						
TKM2				⇑	S	**Sg**	**23 17 16.2**	**+0.1**
	16nm,0.1s						
UZB	**Uzynbulak**	**1.65**	**46**	P	**Pn**	**23 16 53.6**	**0.0**
	3.1nm,0.2s						
UZB				S	**Sb**	**23 17 15.0**	**-1.0**
	8.5nm,0.1s						
UZB	**Uzynbulak**	**1.65**	**46**	*e*P	**Pn**	**23 16 53.6**	**0.0**
	3.7nm,0.1s						
UZB				*e*S	**Sb**	**23 17 15.0**	**-1.0**
	8.5nm,0.1s						
DGS	**Degeres**	**1.73**	**316**	P	**Pn**	**23 16 55.4**	**+0.8**
	2.6nm,0.2s						
DGS				S	**Sb**	**23 17 18.8**	**+0.6**
	18nm,0.3s						
DGS	**Degeres**	**1.73**	**316**	*e*P	**Pn**	**23 16 55.4**	**+0.8**
	2.6nm,0.1s						
DGS				*e*S	**Sb**	**23 17 18.8**	**+0.6**
	18nm,0.3s						
KPKS	**Kokpek**	**1.74**	**32**	*e*P	**Pn**	**23 16 55.4**	**+0.6**
	18nm,0.2s						
KPKS				*e*S	**Sb**	**23 17 18.1**	**-0.4**
	36nm,0.3s						
KTBS	**Karatobe**	**1.79**	**343**	P	**Pb**	**23 16 56.5**	**-0.7**
	3.1nm,0.2s						
KTBS				S	**Sb**	**23 17 20.3**	**+0.4**
	41nm,0.4s						
KTBS	**Karatobe**	**1.79**	**343**	*e*P	**Pb**	**23 16 56.5**	**-0.7**
	3.1nm,0.2s						
KTBS				*e*S	**Sb**	**23 17 20.3**	**+0.4**
	41nm,0.3s						
CHKK	**Chushkaly**	**1.88**	**351**	P	**Pb**	**23 16 58.0**	**-0.6**
	2.8nm,0.1s						
CHKK				S	**Sb**	**23 17 22.0**	**-0.3**
	44nm,0.2s						
CHKK	**Chushkaly**	**1.88**	**351**	*e*P	**Pb**	**23 16 58.0**	**-0.6**
	2.7nm,0.1s						
CHKK				*e*S	**Sb**	**23 17 23.1**	**+0.7**
	44nm,0.2s						
SHLS	**Shalkode**	**1.91**	**52**	Pg	**Pg**	**23 17 03.4**	**+3.0**
	1.7nm,0.3s						
SHLS				Lg	Lg	23 17 31.7	
	22nm,0.4s						
SHLS	**Shalkode**	**1.91**	**52**	*e*P	**Pg**	**23 17 03.4**	**+3.0**
	1.7nm,0.3s						
SHLS				*e*S	**Sg**	**23 17 31.7**	**+6.5**
	22nm,0.4s						
KBK	**Karagaybulak**	**1.94**	**291**	⇑	*i*P	**Pb**	**23 16 58.9**	**-0.8**
	baz=91						
KBK				⇑	*i*S	**Sb**	**23 17 24.9**	**+0.7**
	baz=91						
KBK	**Karagaybulak**	**1.94**	**291**	⇓	P	**Pb**	**23 16 59.4**	**-0.4**
	5.7nm,0.1s,SNR=18						
PDGK	**Podgornoye**	**2.03**	**49**	⇑	Pn	**Pn**	**23 16 59.9**	**+1.1**
	4.6nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	Kapalarasan	3.57	23	Pg	Pb	23 17 27.6	+0.1
	0.9nm,0.6s						
KAPS				Lg	Lg	23 18 12.9	
	2.7nm,0.4s						
KAPS	Kapalarasan	3.57	23	eP	Pb	23 17 27.8	+0.2
	0.9nm,0.4s						
KAPS				eS	Sb	23 18 13.6	+2.4
	2.8nm,0.4s						

DSN ***07*** *23:38:48.9±2.1,26°.58N×58°.00E,h10km,ML4.3/8,Error ellipse: s-maj=30.7km s-min=9.4km az=3.0*
IDC ***07*** *23:38:49.2±1.2,26°.57N×57°.92E,h0km,mb3.6/10, mb1 3.7/12,mb1mx3.5/50,mbtmp3.6/12,ML3.7/2,MS3.1/7, Ms1 3.1/7,ms1mx2.8/42,Error ellipse: s-maj=22.5km s-min=19.0km az=138.0*
TEH ***07*** *23:38:50.9,26°.70N×57°.80E,h8km,ML4.0*
OMAN ***07*** *23:38:50.8±1.3,26°.68N×58°.09E,h22km,ml4.0/16,Error ellipse: s-maj=10.1km s-min=3.6km az=31.0*
NEIC ***07*** *23:38:52.8±1.8,26°.54N±0°.09×57°.7E±0°.1,h24km±6km*
ISCJB ***07*** *23:38:52.3±1.1,26°.61N±0°.02×57°.81E±0°.03,h28km±10km, mb3.5/8,MS3.1/5,Error ellipse: s-maj=5.1km s-min=2.8km az=179.7*
THR ***07*** *23:38:53.1,26°.58N×57°.55E,h42km,ML3.9*
ISC 07 23:38:53.0±0.7,26°.60N±0°.03×57°.84E±0°.04,h22km±7km, n114,σ1§50/122,mb3.7/12,MS3.1/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	0.96	184	ePg	Pb	23 39 11.6	+0.7
NIAN	Nian	1.31	317	ePg	Pn	23 39 15.2	-0.9
NIAN				eSg	Sn	23 39 33.0	0.0
NIAN				IAMB	IAmb	23 39 42.2	
	comp=Z,0.0nm,0.4s						
KHNJ	Kahnooj	1.35	355	ePg	Pn	23 39 14.3	-2.3
KHNJ				eSg	Sn	23 39 31.9	-2.0
BANOM	Banah	1.54	244	eP	Pn	23 39 18.0	-1.2
	SNR=433						
BANOM				S	Sb	23 39 40.7	+0.7
BANOM	Banah	1.54	244	P	Pn	23 39 19.5	+0.3
	SNR=50						
BANOM				S	Sb	23 39 40.9	+0.9
SHME	Shamm	1.62	251	eP	Pn	23 39 20.0	-0.4
	SNR=312						
SHME				S	Sb	23 39 42.3	-0.1
SHME	Shamm	1.62	251	ePn	Pn	23 39 20.0	-0.4
GENO	Geno	1.69	299	ePn	Pn	23 39 20.9	-0.5
GENO				IAMB	IAmb	23 39 52.0	
	comp=Z,0.0nm,0.4s						
BNDS	Bandar-Abbas	1.69	299	ePg	Pn	23 39 20.1	-1.3
BNDS	Bandar-Abbas	1.69	299	ePg	Pn	23 39 20.1	-1.3
MDH	Madha	1.90	227	eP	Pn	23 39 22.0	-2.1
	SNR=41						
MDH	Madha	1.90	227	P	Pn	23 39 22.1	-2.1
	SNR=41						
MDH	Madha	1.90	227	ePn	Pn	23 39 22.0	-2.1
MSFE	Esma-Masafi	1.95	231	eP	Pn	23 39 22.8	-2.1
	SNR=35						
MSFE	Esma-Masafi	1.95	231	ePn	Pn	23 39 22.8	-2.1
UOSS	Minazif	2.21	222	eP	Pn	23 39 26.0	-2.5
	SNR=17						
UOSS	Minazif	2.21	222	ePn	Pn	23 39 25.8	-2.6
UOSS	Minazif	2.21	222		Pn	23 39 25.8	-2.6
HATD	Hatta, Dubai	2.34	222	eP	Pn	23 39 27.8	-2.5
	SNR=29						
HATD	Hatta, Dubai	2.34	222	P	Pn	23 39 31.5	+1.3
HATD	Hatta, Dubai	2.34	222	ePn	Pn	23 39 28.2	-2.1
ASHO	Ashiyiah	2.50	221	eP	Pn	23 39 30.3	-2.1
	SNR=26						
ASHO	Ashiyiah	2.50	221	P	Pn	23 39 31.2	-1.1
	SNR=26						
ASHO	Ashiyiah	2.50	221	ePn	Pn	23 39 30.9	-1.5
NAZ	Nazwa, Dubai	2.54	231	eP	Pn	23 39 32.8	-0.1
	SNR=24						
NAZ	Nazwa, Dubai	2.54	231	ePn	Pn	23 39 33.7	+0.8
CHBR	Chabahar	2.57	112	ePn	Pb	23 39 37.0	-1.5
CHBR	Chabahar	2.57	112	ePn	Pb	23 39 37.0	-1.5
FAQ	Al Faqa, Dubai	2.74	228	ePn	Pn	23 39 36.2	+0.5
ASUD	Al Ashush, Dub	3.00	230	i P	Pn	23 39 38.0	-1.3
	SNR=16						
ASUD	Al Ashush, Dub	3.00	230	P	Pn	23 39 41.0	+1.7
	SNR=16						
ASUD	Al Ashush, Dub	3.00	230	ePn	Pn	23 39 40.5	+1.2
HOQ	Hoqain	3.04	189	P	Pn	23 39 38.1	-1.7
	SNR=63						
BIDO	Bidbid	3.07	175	P	Pn	23 39 39.3	-0.9
BIDO				S	Sn	23 40 18.0	+1.6
BIDO	Bidbid	3.07	175	ePn	Pn	23 39 39.4	-0.9
ALNE	Al Ain	3.16	217	i P	Pn	23 39 41.9	+0.4
	SNR=22						
ALNE	Al Ain	3.16	217	ePn	Pn	23 39 42.2	+0.7
NGRK	Negar Kerman	3.19	342	ePn	Pn	23 39 43.1	+0.9
NGRK				IAMB	IAmb	23 40 37.8	
	comp=Z,0.0nm,1.0s						
CHMN	Cheshme madani	3.26	355	ePn	Pn	23 39 45.6	+2.4
CHMN				IAMB	IAmb	23 39 55.4	
	comp=Z,0.0nm,0.7s						
AJN	Ajban	3.28	232	ePn	Pn	23 39 43.8	+0.7
WSAR	Wadi Sarin	3.42	168	P	Pn	23 39 45.1	0.0
	SNR=7.5						
WSAR	Wadi Sarin	3.42	168	Pn	Pn	23 39 44.9	-0.2
	comp=Z,11nm,0.3s,baz=1.7,slow=13,SNR=171						
WSAR				Sn	Sn	23 40 24.7	-0.2
	comp=Z,13nm,0.3s,baz=252,slow=20,SNR=14						
ARQ	Araqi	3.46	201	P	Pn	23 39 46.7	+1.1
	SNR=98						
ARQ				S	Sn	23 40 28.4	+2.4
KRBR	Kerman	3.50	344	ePn	Pn	23 39 46.1	-0.4
KRBR	Kerman	3.50	344	ePn	Pn	23 39 46.1	-0.4
TVBK	TV Kerman	3.51	344	ePn	Pn	23 39 48.4	+1.8
TVBK				IAMB	IAmb	23 39 59.4	
	comp=Z,0.0nm,0.8s						
SMDO	Samad	3.53	177	P	Pn	23 39 46.5	-0.1
	SNR=12						
SMDO				S	Sn	23 40 28.5	+0.7
BSY	Bisya	3.88	189	P	Pn	23 39 52.2	+0.8
	SNR=44						
BSY				S	Sn	23 40 39.2	+2.9
SZD1	Zahaedan-tmp	3.93	42	ePn	Pn	23 39 52.3	+0.2
KHGB	Koh Gabri	3.95	343	ePn	Pn	23 39 54.2	+1.6
KHGB				IAMB	IAmb	23 41 05.1	
	comp=Z,0.0nm,1.0s						
ZHSF	Zahedan	3.96	40	ePn	Pn	23 39 55.8	+3.1
ZHSF	Zahedan	3.96	40	ePn	Pn	23 39 55.8	+3.1
WBK	Wadi Bani Khal	4.10	165	P	Pn	23 39 54.0	-0.5
	SNR=42						
WBK				S	Sn	23 40 40.8	-1.0
JMDO	Jabal Madar	4.22	177	P	Pn	23 39 56.7	+0.7
	SNR=9.9						
JMDO				S	Sn	23 40 47.2	+2.6
JHRM	Jahrom	4.24	298	ePn	Pn	23 39 55.7	-0.7
LMD1	Lamerd	4.24	281	ePn	Pn	23 39 57.2	+0.8
JLN	Jalan Bani Buh	4.65	162	P	Pn	23 40 01.4	-0.6
	SNR=34						
JLN				S	Sn	23 40 53.6	-1.8
ISRV	Sarvestan	5.02	305	ePn	Pn	23 40 06.9	-0.4
NHDN	Nehbandan	5.15	22	ePn	Pn	23 40 09.6	+0.6
IBAF	Bafgh	5.36	339	ePn	Pn	23 40 13.6	+1.8
IMEH	Mehriz	5.55	330	ePn	Pn	23 40 14.9	+0.3
IKOO	Kooshah	5.89	10	ePn	Pn	23 40 19.4	+0.1
IKAZ	Kazeroun	6.17	302	ePn	Pn	23 40 21.0	-2.2
ITEG	Tejag	6.33	7	ePn	Pn	23 40 25.8	+0.6
IDAH	Dahanechah	6.37	16	ePn	Pn	23 40 29.2	+3.4
ICHK	Chekchek	6.38	333	ePn	Pn	23 40 26.9	+1.0
YZKH	Yazd	6.43	335	ePn	Pn	23 40 26.0	-0.5
YZKH	Yazd	6.43	335	ePn	Pn	23 40 26.0	-0.5
TPRV	Parvadeh(Tabas	6.49	351	ePn	Pn	23 40 27.8	+0.5
IMON	Monand	6.76	13	ePn	Pn	23 40 32.4	+1.2
AFRZ	Afriz	6.88	8	ePn	Pn	23 40 34.5	+1.8
IRAM	Ramesheh	7.05	319	ePn	Pn	23 40 35.1	-0.1
TNSJ	Nastanj	7.42	352	ePn	Pn	23 40 40.4	+0.3
ANAR	Anarak	7.48	332	ePn	Pn	23 40 40.6	-0.3
IBRJ	Brojen	7.81	314	ePn	Pn	23 40 47.5	+1.8
IZEF	Zefreh	7.90	324	ePn	Pn	23 40 47.6	+0.8
ZNGN	Zangian	8.21	314	ePn	Pn	23 40 51.8	+0.6
JHBN	Jahan bin	8.41	314	ePn	Pn	23 40 53.8	0.0
IPIR	Pirpir	8.56	317	ePn	Pn	23 40 56.5	+0.5
HRA	Herat	8.64	25	Pn	Pn	23 40 58.4	+1.4
IKMR	Kamar-syah	10.71	312	ePn	Pn	23 41 24.0	-1.1
GEYT	Alibeck	11.30	1	LR	LR	23 46 18.6	
	comp=Z,62nm,19.1s,baz=5.0,slow=40						
GEYT	Alibeck	11.30	1	Pn	Pn	23 41 33.8	+0.5
RAYN	Ar Rayn	11.60	257		Pn	23 41 32.8	-4.5
NIL	Nilore	15.06	59		Pn	23 42 25.8	+1.2
NIL				IAmb	IAmb	23 42 29.8	
	comp=Z,7.6nm,1.1s						
BTK	Batken	17.23	36	Pn	P	23 42 54.6	+0.8
GNI	Garni	17.36	324	LR	LR	23 50 08.1	
	comp=Z,34nm,18.7s,baz=82,slow=39						
ASF	Jabal al Asfar	19.07	292	P	P	23 43 13.3	-0.8
	comp=Z,0.2nm,0.3s,baz=96,slow=18,SNR=3.6						
KKAR	Karatay Array	19.43	29	P	Pn	23 43 19.1	-0.1
EIL	Elat	20.41	284	P	P	23 43 29.4	+0.7
	comp=Z,3.1nm,0.7s,baz=40,slow=7.9,SNR=3.3						
EIL				LR	LR	23 53 15.9	
	comp=Z,62nm,21.2s,baz=112,slow=42						
MMAI	Mount Meron Ar	20.48	294	P	P	23 43 30.1	+0.7
	comp=Z,1.2nm,0.7s,baz=80,slow=10,SNR=3.3						
AAK	Ala-Archa	21.00	36	P	P	23 43 35.0	-0.1
	comp=Z,0.9nm,0.8s,baz=195,slow=12,SNR=2.4						
BOOM	Boomskoye usch	21.69	38	P	P	23 43 44.9	+2.4
BOOM				IAmb	IAmb	23 43 47.5	
	comp=Z,9.8nm,1.1s						
KDJ	Kajisay	22.17	41	P	P	23 43 47.9	+0.2
TARG	Taragay, Kyrgy	22.30	42	P	P	23 43 51.6	+2.3
TARG				IAmb	IAmb	23 43 54.4	
	comp=Z,4.3nm,1.0s						
CSS	Mathiatis	22.61	298	P	P	23 43 49.8	-2.5
CSS				IAmb	IAmb	23 44 09.1	
	comp=Z,6.3nm,0.9s						
ABKAR	Akbulak array	22.68	4	P	P	23 43 53.5	+0.6
ABKAR	Akbulak array	22.68	4	P	P	23 43 52.3	-0.6
ABKAR				IAmb	IAmb	23 44 01.0	
	comp=Z,2.5nm,0.8s						
AKTO	Aktyubinsk	23.80	0	P	P	23 44 03.4	-0.7
	comp=Z,1.9nm,0.7s,baz=177,slow=13,SNR=5.5						
BRTR	Keskin Array B	24.04	309	P	P	23 44 06.5	-0.2
	comp=Z,1.3nm,0.7s,baz=132,slow=10.0,SNR=7.5						
BRTR				LR	LR	23 54 46.1	
	comp=Z,48nm,18.0s,baz=98,slow=40						
ANTO	Ankara	24.68	309	P	P	23 44 10.5	-2.0
ANTO				IAmb	IAmb	23 44 11.3	
	comp=Z,7.6nm,0.6s						
KARP	Karpathos	27.66	296	P	P	23 44 37.4	-2.0
MKAR	Makanchi Array	27.92	37	LR	LR	23 56 08.0	
	comp=Z,48nm,19.4s,baz=124,slow=37						
KURBB	Kurchatov Arra	28.74	28	P	P	23 44 47.9	-0.8
	comp=Z,0.3nm,0.8s,baz=229,slow=8.2,SNR=3.3						
KAAM	Kaadhehdhoo	29.77	148	P	P	23 44 57.0	-1.2
AKASG	Malin Array Be	32.49	325	P	P	23 45 22.8	+1.0
	comp=Z,0.3nm,0.4s,baz=134,slow=7.4,SNR=2.8						
ZALV	Zalesovo Beam	33.81	29	P	P	23 45 31.4	-2.0
	comp=Z,0.4nm,0.5s,baz=201,slow=11,SNR=3.2						
ZALV	Zalesovo Beam	33.81	29	P	P	23 45 35.9	+2.5
SCTE	Santa Cesarea	35.25	302	P	P	23 45 44.8	-1.2
FINES	FINESS Array B	40.86	337	P	P	23 46 34.5	+1.5
	comp=Z,0.9nm,0.7s,baz=122,slow=10,SNR=5.8						
NRIK	Noril'sk	46.19	14	LR	LR	00 10 02.1	
	comp=Z,47nm,20.5s,baz=228,slow=40						
TORD	Torodi Ar. Bea	54.09	267	P	P	23 48 15.2	-1.3
	comp=Z,1.2nm,0.6s,baz=80,slow=8.1,SNR=9.9						
TORD	Torodi Ar. Bea	54.09	267	P	P	23 48 17.4	+0.9
KSRS	Korea Array	59.17	61	LR	LR	00 16 12.7	
	comp=Z,20nm,19.2s,baz=345,slow=38						

IDC ***07*** *23:58:10.8±0.9,19°.56S×172°.75W,h0km,mb4.1/11, mb1 4.4/11,mb1mx4.3/28,mbtmp4.1/11,MS3.4/5, Ms1 3.4/5,ms1mx3.1/26,Error ellipse: s-maj=40.0km s-min=18.7km az=148.0*
ISCJB ***07*** *23:58:12.1±0.4,19°.92S±0°.07×172°.42W±0°.08,h33km, mb4.1/11,MS3.5/5,Error ellipse: s-maj=12.2km s-min=7.1km az=38.2*
NEIC ***07*** *23:58:12.9±3.0,19°.9S±0°.1×172°.36W±0°.09,h28km±5km, mb4.5/19*
ISC 07 23:58:14.2±0.5,19°.95S±0°.09×172°.32W±0°.07,h35km,n42, σ1§51/38,mb4.4/17,MS3.4/5,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.42	69	Pn	Pn	23 58 49.3	-1.9
AFI	Afiamalu	6.03	5	Pn	Pn	23 59 40.3	-0.7
RAR	Rarotonga	11.82	98	Pn	Pn	00 01 02.0	+1.7
	2.8nm,0.3s,baz=243,slow=9.6,SNR=6.5						
RAR				Sn	Sn	00 03 07.8	-3.1
	1.3nm,0.3s,baz=63,slow=14,SNR=2.1						
RAR				LR	LR	00 05 27.0	
	comp=Z,128nm,18.9s,baz=339,slow=36						
DZM	Mont Dzumac	19.94	260	LR	LR	00 08 45.4	
	comp=Z,162nm,19.8s,baz=75,slow=32						
TBI	Tubuai	21.51	103	eLR	LR	00 08 10.7	
	comp=Z,230nm,32.0s						
HIZ	Hauiti	21.58	208	P	P	00 03 01.7	+0.9
HIZ				IAmb	IAmb	00 03 18.1	
	comp=Z,30nm,1.2s						
PPT2	Papeete2	21.66	88	eLR	LR	00 08 09.4	
	comp=Z,276nm,26.5s						
PPT	Papeete	21.66	87	LR	LR	00 10 24.4	
	comp=Z,113nm,18.2s,baz=262,slow=33						
BFZ	Birch Farm	22.86	203	P	P	00 03 13.3	-1.1
BFZ				IAmb	IAmb	00 03 22.1	
	comp=Z,21nm,1.0s						
PLWZ	Palliser	24.00	203	P	P	00 03 25.5	-0.1
NNZ	Nelson	24.45	207	P	P	00 03 30.6	+0.9
LTZ	Lake Taylor	26.20	206	P	P	00 03 44.4	-1.3
XMAS	Kiritimati	26.29	35	P	P	00 03 45.0	-1.5
OXZ	Oxford	26.75	206	P	P	00 03 49.8	-0.7
OXZ				IAmb	IAmb	00 04 08.5	
	comp=Z,15nm,1.1s						
FOZ	Fox Glacier	27.87	209	P	P	00 03 59.9	-0.6
JOHN	Johnston Islan	36.56	4	P	P	00 05 16.9	+0.2
CTA	Charters Tower	38.85	262	P	P	00 05 34.8	-1.5
	comp=Z,3.9nm,0.5s,baz=92,slow=11,SNR=9.1						
CTAO	Charters Tower	38.85	262	P	P	00 05 34.4	-1.9
CTAO				IAmb	IAmb	00 05 42.5	
	comp=Z,6.3nm,0.9s						
STKA	Stephens Creek	42.83	244	P	P	00 06 09.8	+0.8
	comp=Z,1.7nm,0.7s,baz=136,slow=16,SNR=2.8						
BBOO	Buckleboo	47.56	243	P	P	00 06 45.4	-1.1
ASAR	Alice Springs	49.83	255	P	P	00 07 03.0	-1.1
	comp=Z,4.6nm,0.8s,baz=92,slow=8.4,SNR=36						
WB2	Warramunga Arr	49.95	260	P	P	00 07 03.5	-1.6
WRA	Warramunga Arr	49.96	260	P	P	00 07 03.3	-1.8
	comp=Z,2.1nm,0.5s,baz=97,slow=8.8,SNR=39						
FORT	Forrest	54.40	246	P	P	00 07 36.2	-1.7
MJAR	Matsushiro Arr	73.07	320	P	P	00 09 39.9	-0.9
	comp=Z,2.2nm,0.8s,baz=159,slow=5.9,SNR=4.8						
NVAR	Mina Array Bea	77.05	41	P	P	00 10 05.6	+1.6
	comp=Z,0.5nm,0.6s,baz=231,slow=9.2,SNR=4.8						
KSRS	Korea Array	80.12	316	P	P	00 10 21.4	+0.9
	comp=Z,1.9nm,0.7s,baz=125,slow=6.3,SNR=5.5						
TXAR	Lajitas Array	82.32	55	P	P	00 10 35.8	+3.1
	comp=Z,0.4nm,0.7s,baz=216,slow=9.1,SNR=6.1						
TXAR	Lajitas Array	82.32	55	P	P	00 10 33.5	+0.8
MAW	Mawson	83.83	198	P	P	00 10 43.7	+4.0
	comp=Z,2.6nm,0.8s,baz=130,slow=6.5,SNR=9.1						
MAW				LR	LR	00 51 38.9	
	comp=Z,16nm,19.1s,baz=77,slow=38						
MAW	Mawson	83.83	198	P	P	00 10 40.8	+1.1
BESE	Bessie Mountai	84.13	19	P	P	00 10 41.7	+0.4
BALM	Baldy	84.24	14	P	P	00 10 41.9	+0.1
BALM				IAmb	IAmb	00 10 52.5	
	comp=Z,4.0nm,0.9s						
PDAR	Pinedale Array	84.98	41	P	P	00 10 47.6	+1.4
	comp=Z,0.6nm,0.7s,baz=218,slow=4.2,SNR=5.3						
PDAR	Pinedale Array	84.98	41	P	P	00 10 45.5	-0.6
RND	Reindeer	85.10	10	P	P	00 10 46.4	+0.3
RND				IAmb	IAmb	00 10 57.6	
	comp=Z,3.1nm,1.0s						
CCB	Clear Creek Bu	86.42	10	P	P	00 10 52.2	-0.3
IL31		86.70	11	P	P	00 10 54.9	+1.1
IL31				IAmb	IAmb	00 10 56.3	
	comp=Z,2.3nm,0.9s						
ILAR	Eielson Array	86.70	11	P	P	00 10 53.5	-0.4
	comp=Z,1.3nm,0.7s,baz=219,slow=5.3,SNR=11						
LPAZ	La Paz	97.29	110	LR	LR	00 48 27.7	
	comp=Z,20nm,18.1s,baz=321,slow=31						
BRTR	Keskin Array B	150.25	317	PKPbc	PKiKP	00 18 02.7	-0.1
	comp=Z,0.4nm,0.6s,baz=96,slow=4.5,SNR=3.4						
GERES	GERESS Array B	150.77	352	PKPbc	PKiKP	00 18 04.6	+1.1
	comp=Z,0.1nm,0.3s,baz=0.0,slow=2.0,SNR=2.9						

ISCJB ***08*** *00:01:29.9±0.3,18°.99S±0°.05×169°.52E±0°.06,h246km, mb4.0/13,Error ellipse: s-maj=8.2km s-min=6.9km az=170.8*

NEIC ***08*** *00:01:33.2±1.3,19°.0S±0°.1×169°.5E±0°.1,h268km±9km, mb4.2/28*
IDC ***08*** *00:01:34.1±1.9,19°.02S×169°.53E,h278km±17km, mb3.7/12,mb1 4.0/14,mb1mx3.8/25,mbtmp4.5/14,Error ellipse: s-maj=21.9km s-min=17.1km az=146.0*
ISC 08 00:01:31.6±0.5,18°.85S±0°.08×169°.52E±0°.08,h246km,n58, σ1§46/58,mb4.1/20,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.31	221	eP	Pn	00 02 40.5	+1.5
	357nm,1.2s						
DZM				eLR	LR	00 07 11.6	
	comp=Z,184nm,24.1s						
DZM	Mont Dzumac	4.31	221	P	Pn	00 02 40.5	+1.5
	12nm,0.3s,baz=52,slow=13,SNR=118						
DZM				S	S	00 03 35.9	+3.5
	3.5nm,0.3s,baz=126,slow=19,SNR=2.2						
DZM	Mont Dzumac	4.31	221	P	Pn	00 02 40.6	+1.7
DZM	Mont Dzumac	4.31	221		Pn	00 02 40.6	+1.7
MSVF	Nonsavu	8.18	84		Pn	00 03 30.8	+3.5
HNR	Honiara	13.18	314	P	P	00 04 32.9	+1.3
	8.3nm,0.3s,baz=197,slow=4.3,SNR=6.3						
HNR	Honiara	13.18	314	P	P	00 04 32.5	+0.9
OUZ	Omahuta	16.70	168	P	P	00 05 09.5	-0.7
HIZ	Hauiti	20.14	168	P	P	00 05 45.8	-1.4
MXZ	Matakaoa Point	20.17	159	P	P	00 05 46.4	-1.1
URZ	Urewera	20.44	163	P	P	00 05 48.5	-2.0
URZ				IAmb	IAmb	00 05 54.9	
	comp=Z,11nm,1.0s						
CTA	Charters Tower	21.97	263	P	P	00 06 06.3	+0.6
	comp=Z,7.1nm,0.6s,baz=92,slow=11,SNR=6.8						
CTAO	Charters Tower	21.97	263	P	P	00 06 05.2	-0.5
CTAO				IAmb	IAmb	00 06 07.9	
	comp=Z,6.5nm,0.6s						
BFZ	Birch Farm	22.51	167	P	P	00 06 08.0	-2.5
NNZ	Nelson	22.54	172	P	P	00 06 08.4	-2.3
NNZ				IAmb	IAmb	00 06 18.3	
	comp=Z,17nm,1.2s						
TUWZ	Tuamarina	22.82	171	P	P	00 06 12.2	-1.0
SNZO	South Karori	22.82	170	P	P	00 06 12.1	-1.2
BHW	Baring Head	22.95	170	P	P	00 06 12.8	-1.6
MSWZ	Moikau Station	23.02	169	P	P	00 06 13.1	-2.0
PLWZ	Palliser	23.17	169	P	P	00 06 14.7	-1.8
PMG	Port Moresby	23.60	290	P	P	00 06 22.1	+1.4
	comp=Z,21nm,0.7s,baz=74,slow=6.6,SNR=5.8						
PMG	Port Moresby	23.60	290	P	P	00 06 21.1	+0.4
KNTN	Kanton	24.34	51	P	P	00 06 27.3	-0.1
FOZ	Fox Glacier	24.61	179	P	P	00 06 26.5	-2.9
STKA	Stephens Creek	28.27	237	P	P	00 07 02.5	+0.1
	comp=Z,2.5nm,0.7s,baz=100,slow=6.4,SNR=3.8						
WB2	Warramunga Arr	33.15	262	P	P	00 07 44.2	-1.1
WRA	Warramunga Arr	33.16	262	P	P	00 07 44.1	-1.3
	comp=Z,2.3nm,0.3s,baz=82,slow=5.9,SNR=27						
WRA	Warramunga Arr	33.16	262	IAmb	IAmb	00 07 44.8	
	comp=Z,0.3nm,0.8s						
AS31	Alice Springs	33.48	255	P	P	00 07 46.8	-1.3
ASAR	Alice Springs	33.48	255	P	P	00 07 47.2	-0.8
	comp=Z,18nm,0.5s,baz=80,slow=9.0,SNR=58						
MTN	Manton Dam	37.35	273	P	P	00 08 20.9	-0.1
KNRA	Kununurra	38.99	268	P	P	00 08 34.1	-0.6
FITZ	Fitzroy Crossi	41.54	264	P	P	00 08 55.8	+0.3
FITZ				IAmb	IAmb	00 08 56.3	
	comp=Z,7.8nm,0.7s						
SBA	Scott Base	59.05	181	P	P	00 11 05.2	-0.3
PETK	Petropavlovsk-	72.39	353	P	P	00 12 31.5	+0.9
	comp=Z,2.5nm,0.8s,baz=224,slow=6.0,SNR=2.6						
CMAR	Chiang Mai Arr	78.59	294	P	P	00 13 05.4	-1.1
	comp=Z,1.4nm,0.3s,baz=119,slow=4.3,SNR=4.1						
MAW	Mawson	78.89	202	P	P	00 13 06.1	-1.2
	comp=Z,1.5nm,1.0s,baz=90,slow=6.1,SNR=3.6						
KCPM	Cahto Peak	85.27	45	P	P	00 13 40.4	-0.6
KMRM	Mail Ridge	85.45	45	P	P	00 13 42.2	+0.4
KHMM	Horse Mountain	85.75	44	P	P	00 13 43.7	+0.4
GLI	Glacier Island	86.76	20	P	P	00 13 47.7	+0.1
YBH	Yreka Blue Hor	86.84	44	P	P	00 13 47.8	-0.7
YBH				IAmb	IAmb	00 13 50.3	
	comp=Z,3.3nm,1.0s						
SONM	Songino Array	87.07	323	P	P	00 13 50.2	+0.7
	comp=Z,0.4nm,0.6s,baz=160,slow=4.6,SNR=3.1						
SONM	Songino Array	87.07	323	P	P	00 13 49.0	-0.5
HUMO	Hull Mountain	87.10	43	P	P	00 13 49.8	+0.2
MDPB	Devils Postpil	87.45	49	P	P	00 13 51.0	-0.8
MDPB				IAmb	IAmb	00 13 53.1	
	comp=Z,2.9nm,0.9s						
WAKR	Walker	87.58	48	P	P	00 13 51.9	-0.4
WAKR				IAmb	IAmb	00 13 53.3	
	comp=Z,2.8nm,0.8s						
KTH	Kantishna Hill	87.72	17	P	P	00 13 51.7	-0.5
NVAR	Mina Array Bea	88.35	48	P	P	00 13 55.2	-0.7
	comp=Z,1.6nm,0.7s,baz=226,slow=9.1,S

PRNS				S	Sn	00 07 17.6	+2.3
KTHA	**Kythira Island**	**0.91**	**342**	P	**Pn**	**00 07 07.2**	**+3.5**
KTHA				S	**Sn**	**00 07 19.4**	**+3.8**
comp=N,1μm,0.5s							
KTHA	**Kythira Island**	**0.91**	**342**	P	**Pn**	**00 07 07.1**	**+3.5**
KTHA				S	**Sn**	**00 07 19.3**	**+3.8**
KTHA				AML	AML	00 07 22.6	
comp=E,3774μm,0.6s							
KTHA				AML	AML	00 07 22.9	
comp=N,1913μm,0.5s							
KTHR	**Kythira**	**0.93**	**340**	P	**Pn**	**00 07 07.2**	**+3.3**
KTHR				S	**Sn**	**00 07 19.9**	**+3.9**
comp=N,1μm,0.4s							
TMBK	**Timbaki Herakl**	**1.16**	**105**	P	**Pn**	**00 07 11.2**	**+4.2**
TMBK				S	**Sn**	**00 07 27.0**	**+5.3**
comp=N,455nm,0.7s							
SIVA	**Sivas**	**1.21**	**107**	P	**Pn**	**00 07 12.0**	**+4.3**
SIVA				S	**Sn**	**00 07 27.6**	**+4.7**
comp=N,985nm,0.7s							
SIVA	**Sivas**	**1.21**	**107**	P	**Pn**	**00 07 11.4**	**+3.7**
SIVA				S	**Sn**	**00 07 26.6**	**+3.7**
SIVA				AML	AML	00 07 36.4	
comp=N,1342μm,0.4s							
SIVA				AML	AML	00 07 37.8	
comp=E,2739μm,0.8s							
MNVA	**Monemvasia**	**1.33**	**347**	P	**Pn**	**00 07 12.8**	**+3.4**
VLI	**Veliai**	**1.38**	**344**	P	**Pn**	**00 07 13.4**	**+3.3**
VLI				S	**Sn**	**00 07 31.4**	**+4.3**
comp=E,435nm,0.5s							
VLI	**Veliai**	**1.38**	**344**	P	**Pn**	**00 07 13.5**	**+3.5**
VLI				S	**Sn**	**00 07 30.2**	**+3.1**
VLI				AML	AML	00 07 35.8	
comp=N,670μm,0.5s							
VLI				AML	AML	00 07 36.6	
comp=E,1105μm,0.5s							
MHLO	**Agia Marina, M**	**1.53**	**32**	P	**Pn**	**00 07 14.7**	**+2.6**
MHLO	**Agia Marina, M**	**1.53**	**32**	P	**Pn**	**00 07 14.8**	**+2.6**
MHLA	**Plaka, Milos I**	**1.58**	**31**	P	**Pn**	**00 07 15.2**	**+2.3**
NPS	**Neapolis**	**1.81**	**93**	P	**Pn**	**00 07 19.6**	**+3.6**
THR5	**Thira Island,**	**1.88**	**56**	P	**Pn**	**00 07 19.6**	**+2.6**
THR6	**Thira Island,**	**1.89**	**59**	P	**Pn**	**00 07 19.9**	**+2.9**
YDRA	**Hydra**	**1.96**	**1**	P	**Pn**	**00 07 21.3**	**+3.3**
SERI	**Serifos**	**1.97**	**26**	P	**Pn**	**00 07 20.6**	**+2.3**
PYL	**PYLOS**	**2.02**	**319**	P	**Pn**	**00 07 19.6**	**+0.8**
DID	**Didima**	**2.12**	**356**	P	**Pn**	**00 07 23.1**	**+2.9**
DID	**Didima**	**2.12**	**356**	P	**Pn**	**00 07 23.9**	**+3.7**
VLX	**Vlachokerasia**	**2.14**	**338**	P	Pn	00 07 26.0	+5.4
VLX	**Vlachokerasia**	**2.14**	**338**	P	**Pn**	**00 07 24.0**	**+3.4**
ITM	**Ithomi**	**2.15**	**327**	P	**Pn**	**00 07 23.2**	**+2.6**
ITM	**Ithomi**	**2.15**	**327**	P	**Pn**	**00 07 24.0**	**+3.4**
ZKR	**Zakros**	**2.32**	**96**	P	**Pn**	**00 07 26.6**	**+3.6**
APE	**Apeiranthos**	**2.40**	**45**	P	**Pn**	**00 07 26.5**	**+2.3**
ATHU	**Athens Univers**	**2.59**	**7**	P	**Pn**	**00 07 29.3**	**+2.6**
LOUT	**Loutraki**	**2.62**	**353**	P	**Pn**	**00 07 30.3**	**+3.2**
LTK	**Loutraki**	**2.65**	**353**	P	**Pn**	**00 07 30.5**	**+2.9**
LTK	**Loutraki**	**2.65**	**353**	P	**Pn**	**00 07 31.1**	**+3.5**
PTL	**Penteli**	**2.68**	**8**	P	**Pn**	**00 07 30.7**	**+2.7**
PTL	**Penteli**	**2.68**	**8**	P	**Pn**	**00 07 30.7**	**+2.7**
KARY	**Karystos**	**2.77**	**17**	P	**Pn**	**00 07 31.7**	**+2.6**
VIL2	**Platees**	**2.82**	**358**	P	**Pn**	**00 07 32.0**	**+2.1**
KLV	**Kalavryta, Ach**	**2.83**	**340**	P	**Pn**	**00 07 33.3**	**+3.2**
KLV	**Kalavryta, Ach**	**2.83**	**340**	P	**Pn**	**00 07 33.6**	**+3.5**
PROD	**Prodromos**	**2.89**	**352**	P	**Pn**	**00 07 33.4**	**+2.5**
PROD	**Prodromos**	**2.89**	**352**	P	**Pn**	**00 07 34.4**	**+3.6**
EREA	**Eretria**	**3.05**	**8**	P	**Pn**	**00 07 36.3**	**+3.2**
EREA	**Eretria**	**3.05**	**8**	P	**Pn**	**00 07 36.4**	**+3.3**
LAKA	**Lakka**	**3.06**	**339**	P	**Pn**	**00 07 37.0**	**+3.7**
DSF	**Desfina**	**3.10**	**347**	P	**Pn**	**00 07 37.1**	**+3.4**
KALE	**Kalithea**	**3.16**	**342**	P	**Pn**	**00 07 37.4**	**+2.8**
KALE	**Kalithea**	**3.16**	**342**	P	**Pn**	**00 07 38.0**	**+3.3**
LKR	**Lokris**	**3.27**	**354**	P	**Pn**	**00 07 39.1**	**+3.1**
MRKA	**Markates**	**3.31**	**3**	P	**Pn**	**00 07 39.5**	**+2.8**
MRKA				S	**Sn**	**00 08 18.6**	**+3.8**
comp=E,75nm,0.5s							
AXAR	**Agios Charalam**	**3.42**	**350**	P	**Pn**	**00 07 41.9**	**+3.7**
VLS	**Valsamata**	**3.58**	**322**	P	**Pn**	**00 07 41.3**	**+1.0**
DAT	**Datca**	**3.64**	**67**	*i* P	**Pn**	**00 07 45.9**	**+4.7**
DAT				IAML_P			
comp=Z,77nm,0.2s							
PDO	**Prodromos**	**3.66**	**332**	P	**Pn**	**00 07 44.8**	**+3.4**
MAKR	**Makrakomi, Fth**	**3.76**	**345**	P	**Pn**	**00 07 46.5**	**+3.8**
EVGI	**Lefkada island**	**3.90**	**327**	P	**Pn**	**00 07 48.2**	**+3.5**
AYDN	**Tasoluk**	**4.26**	**57**	*i* P	Pn	00 07 54.5	+4.9
AYDN				IAML_P			
comp=Z,492nm,0.3s							
TURN	**Turunc**	**4.46**	**69**	*i* P	**Pn**	**00 07 51.9**	**-0.5**
TURN				IAML_P			
comp=Z,490nm,0.2s							
DALY	**Dalyan (Mula)**	**4.48**	**70**	*i* P	Pn	00 07 57.7	+5.0
DALY				IAML_P			
comp=Z,267nm,0.2s							
FETY	**Fethiye**	**4.77**	**73**	*i* P	**Pn**	**00 07 59.5**	**+2.9**
FETY				*i* S	**Sn**	**00 08 50.9**	**+0.2**
FETY				IAML_P			
comp=Z,586nm,0.2s							
AKAS	**Kas**	**5.11**	**79**	*i* P	**Pn**	**00 08 03.3**	**+1.8**
AKAS				*i* S	**Sn**	**00 08 58.7**	**-0.5**
AKAS				IAML_P			
comp=Z,608nm,0.1s							
GOLH	**Golhisar**	**5.30**	**68**	*i* P	**Pn**	**00 08 07.8**	**+3.7**
GOLH				IAML_P			
comp=Z,361nm,0.3s							
AKUM	**Antalya-Kumluc**	**5.71**	**79**	*i* P	**Pn**	**00 08 12.4**	**+2.8**
AKUM				*i* S	**Sn**	**00 09 12.0**	**-1.9**
AKUM				IAML_P			
comp=Z,485nm,0.2s							
BRDR	**BURDUR-Merkez**	**5.83**	**65**	*i* P	**Pn**	**00 08 14.3**	**+3.0**
BRDR				IAML_P			
comp=Z,236nm,0.3s							
VAE	**Valguarnera**	**7.54**	**289**	P	**Pn**	**00 08 36.6**	**+1.9**
comp=Z,0.2nm,0.3s,baz=91,slow=6.4,SNR=1.8							
VAE				S	**Sn**	**00 09 53.1**	**-5.8**
comp=Z,0.5nm,0.3s,baz=90,slow=3.0,SNR=2.9							
BRTR	**Keskin Array B**	**9.21**	**59**	P	**Pn**	**00 08 57.9**	**+0.2**
comp=Z,0.0nm,0.3s,baz=240,slow=15,SNR=2.8							
MMAI	**Mount Meron Ar**	**10.22**	**100**	P	**Pn**	**00 09 09.5**	**-1.9**
comp=Z,0.4nm,0.3s,baz=286,slow=10,SNR=7.9							
MMAI				S	**Sn**	**00 10 58.1**	**-6.7**
comp=Z,0.8nm,0.3s,baz=265,slow=26,SNR=4.4							
EIL	**Elat**	**11.29**	**117**	P	**Pn**	**00 09 24.6**	**-1.4**
comp=Z,0.2nm,0.3s,baz=333,slow=11,SNR=4.1							
EIL				S	Sn	00 11 18.9	-12
comp=Z,0.1nm,0.3s,baz=75,slow=21,SNR=1.7							
GERES	**GERESS Array B**	**15.23**	**335**	P	**Pn**	**00 10 20.4**	**+1.0**
comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=2.1							
AKASG	**Malin Array Be**	**15.88**	**14**	P	**Pn**	**00 10 26.9**	**-0.8**
comp=Z,1.2nm,0.3s,baz=210,slow=10,SNR=3.2							
HFS	**Hagfors**	**25.55**	**349**	P	**P**	**00 12 11.3**	**-0.7**
comp=Z,1.2nm,0.5s,baz=163,slow=11,SNR=5.8							
FINES	**FINESS Array B**	**26.13**	**3**	P	**P**	**00 12 15.8**	**-1.4**
comp=Z,1.2nm,0.7s,baz=157,slow=10,SNR=4.9							
NOA	**NORSAR Array B**	**26.83**	**347**	P	**P**	**00 12 22.2**	**-1.4**
comp=Z,0.3nm,0.4s,baz=152,slow=10,SNR=3.1							
EKA	**Eskdalemuir Ar**	**27.03**	**326**	P	**P**	**00 12 23.8**	**-1.6**
comp=Z,0.8nm,0.5s,baz=118,slow=9.0,SNR=2.9							
GEYT	**Alibeck**	**27.87**	**74**	P	**P**	**00 12 33.8**	**+0.5**
comp=Z,1.1nm,0.5s,baz=275,slow=8.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**29.57**	**227**	P	**P**	**00 12 49.6**	**+1.3**
comp=Z,0.3nm,0.6s,baz=23,slow=8.1,SNR=3.4							
ARCES	**ARCESS Array B**	**34.22**	**1**	P	**P**	**00 13 27.2**	**-1.4**
comp=Z,1.4nm,0.9s,baz=198,slow=7.5,SNR=4.4							
MKAR	**Makanchi Array**	**44.85**	**57**	P	**P**	**00 14 57.3**	**-0.1**
comp=Z,0.4nm,0.4s,baz=270,slow=8.3,SNR=9.2							
ZALV	**Zalesovo Beam**	**45.88**	**46**	P	**P**	**00 15 04.4**	**-1.1**
comp=Z,0.7nm,0.4s,baz=269,slow=9.5,SNR=4.4							

DDA 08 00:06:50.5, 39°.46N×27°.39E, h7km±2km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.27**	**108**	*i* P	Pb	00 06 57.0	-0.7
BALY	**Balya**	**0.33**	**33**	*i* P	Pb	00 06 58.7	0.0
BALY				*i* S	Sg	00 07 01.6	+0.2
BALY				IAML_P			
comp=Z,254nm,0.1s							
DURS	**Dursunbey**	**0.85**	**80**	*i* P	Pn	00 07 15.2	+6.2

*ISCJB **08** 00:16:43.2±0.3, 9°.08S±0°.04×117°.90E±0°.03, h10km, mb4.3/13, MS3.6/3, Error ellipse: s-maj=5.8km s-min=3.2km az=26.4*
*IDC **08** 00:16:45.8±3.2, 8°.87S×117°.79E, h24km±19km, mb4.0/9, mb1 4.1/13, mb1mx3.9/32, mbtmp4.2/13, ML4.2/4, MS3.2/5, Ms1 3.2/5, ms1mx2.9/40, Error ellipse: s-maj=23.1km s-min=13.9km az=68.0*
*DJA **08** 00:16:46.1±0.2, 9°.S±3°.×117°.8E±°, h10km, M4.7/18, mb4.8/6, mB6.1/1, MLv4.6/18, Mw(mB)5.8/1*
*NEIC **08** 00:16:48.7±1.8, 9°.04S±0°.08×117°.81E±0°.07, h65km±7km, mb4.6/12*

ISC 08 00:16:43.6±0.4, 9°.02S±0°.05×117°.89E±0°.05, h10km, n75, σ2°.09/82, mb4.4/17, MS3.2/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.22**	**329**	P	**Pg**	**00 16 49.7**	**+1.5**
PLAI				S	**Sg**	**00 16 53.5**	**+2.2**
TWSI	**Taliwang, Sumb**	**1.04**	**286**	P	**Pg**	**00 17 04.7**	**+1.2**
TWSI				S	**Sg**	**00 17 18.1**	**+1.1**
WBSI	**Waikabubak, Su**	**1.60**	**113**	P	**Pn**	**00 17 12.2**	**+0.2**
WBSI				S	**Sn**	**00 17 32.3**	**-0.5**
WSI	**Waingapu**	**2.46**	**105**	P	Pn	00 17 19.3	-4.5
DNP	**Denpasar**	**2.67**	**277**	P	**Pn**	**00 17 29.4**	**+2.7**
IGBI	**Denpasar**	**2.72**	**274**	P	**Pn**	**00 17 30.1**	**+2.7**
SRBI	**Singaraja**	**2.81**	**289**	P	**Pn**	**00 17 30.5**	**+1.9**
JAGI	**Jajag, Banyuwa**	**3.74**	**278**	P	**Pn**	**00 17 43.7**	**+2.3**
JAGI	**Jajag, Banyuwa**	**3.74**	**278**		**Pn**	**00 17 43.6**	**+2.3**
EDFI	**Ende, Flores**	**3.76**	**86**	P	**Pn**	**00 17 44.6**	**+2.8**
BKSI	**Bulukumba**	**4.29**	**31**	P	**Pn**	**00 17 50.6**	**+1.7**
MMRI	**Maumere**	**4.31**	**85**	P	**Pn**	**00 17 53.1**	**+3.8**
MMRI	**Maumere**	**4.31**	**85**		**Pn**	**00 17 52.5**	**+3.2**
KAPI	**Kappang**	**4.39**	**25**	Pn	**Pn**	**00 17 51.1**	**+0.8**
6.6nm,0.3s,baz=215,slow=9.0,SNR=25							
KAPI				Sn	**Sn**	**00 18 39.7**	**-1.8**
28nm,0.3s,baz=294,slow=18,SNR=17							
KAPI				LR	LR	00 19 48.7	
comp=Z,202nm,21.6s,baz=214,slow=43							
KAPI	**Kappang**	**4.39**	**25**		**Pn**	**00 17 52.1**	**+1.8**
GMJI	**Gumukmas**	**4.46**	**279**	P	**Pn**	**00 17 54.3**	**+3.0**
BNSI	**Bone**	**5.09**	**26**	P	**Pn**	**00 18 02.3**	**+2.4**
63nm,0.7s,0.4nm							
SPSI	**Sidrap Palu**	**5.36**	**20**	P	**Pn**	**00 18 05.7**	**+2.1**
13nm,0.5s,0.1nm							
BATI	**Baumata**	**5.81**	**102**	Pn	**Pn**	**00 18 13.8**	**+3.8**
29nm,0.3s,baz=284,slow=4.3,SNR=11							
BATI				Sn	**Sn**	**00 19 20.2**	**+3.5**
15nm,0.3s,baz=264,slow=18,SNR=2.7							
BATI	**Baumata**	**5.81**	**102**	P	**Pn**	**00 18 13.9**	**+4.0**
58nm,0.7s,0.2nm							
PWJI	**Pagerwojo**	**6.10**	**279**	P	**Pn**	**00 18 17.9**	**+4.0**
71nm,0.8s,0.4nm							
SOEI	**Soe**	**6.33**	**97**	P	**Pn**	**00 18 21.9**	**+4.7**
160nm,1.1s,0.5nm							
SOEI	**Soe**	**6.33**	**97**		**Pn**	**00 18 20.9**	**+3.7**
PCJI	**Pacitan**	**6.69**	**277**	P	**Pn**	**00 18 23.6**	**+1.6**
UGM	**Wanagama**	**7.37**	**278**	Pn	**Pn**	**00 18 33.3**	**+1.9**
SMRI	**Semarang**	**7.63**	**284**	Pn	**Pn**	**00 18 35.4**	**+0.5**
CISI	**Cisompet, Garu**	**10.08**	**278**	Pn	**Pn**	**00 19 09.5**	**+0.9**
LEM	**Lembang**	**10.41**	**281**	LR	LR	00 23 52.4	
comp=Z,161nm,18.3s,baz=30,slow=42							
FITZ	**Fitzroy Crossi**	**11.75**	**141**	Pn	**Pn**	**00 19 32.5**	**+1.1**
0.7nm,0.3s,baz=349,slow=10,SNR=26							
FITZ				Sn	Sn	00 21 36.1	-6.6
0.6nm,0.3s,baz=219,slow=12,SNR=3.8							
FITZ	**Fitzroy Crossi**	**11.75**	**141**		**Pn**	**00 19 32.8**	**+1.4**
FITZ					**Sn**	**00 21 39.9**	**-2.8**
XMIS	**Christmas Isla**	**12.15**	**262**	Pn	**Pn**	**00 19 35.3**	**-1.6**
KNRA	**Kununurra**	**12.51**	**123**		**Pn**	**00 19 42.9**	**+1.2**
PSA00	**Pilbara Seismi**	**12.62**	**172**	Pn	**Pn**	**00 19 45.0**	**+1.7**
FAKI	**Fak Fak**	**15.51**	**68**	Pn	**Pn**	**00 20 23.6**	**+1.1**
FAKI				IAmb	IAmb	00 20 29.8	
comp=Z,12nm,0.7s							
MNAI	**Manna**	**15.54**	**286**	Pn	**Pn**	**00 20 21.0**	**-2.0**
MNAI				IAmb	IAmb	00 20 39.6	
comp=Z,442nm,1.2s							
WRA	**Warramunga Arr**	**19.25**	**126**	P	**P**	**00 21 09.7**	**+1.3**
comp=Z,0.6nm,0.3s,baz=305,slow=14,SNR=24							
WRA				S	Sn	00 24 35.2	-10
comp=Z,0.2nm,0.3s,baz=300,slow=24,SNR=4.1							
WRA				LR	LR	00 28 42.1	
comp=Z,51nm,20.7s,baz=160,slow=37							
WRA				ScP	**ScP**	**00 29 05.7**	**-2.1**
comp=Z,0.1nm,0.3s,baz=354,slow=8.2,SNR=5.2							
WRA	**Warramunga Arr**	**19.25**	**126**	P	**P**	**00 21 10.0**	**+1.6**
WB2	**Warramunga Arr**	**19.26**	**126**	P	**P**	**00 21 10.2**	**+1.7**
AS31	**Alice Springs**	**21.14**	**135**	P	**P**	**00 21 31.1**	**+2.3**
ASAR	**Alice Springs**	**21.14**	**135**	P	**P**	**00 21 31.1**	**+2.2**
comp=Z,9.1nm,1.0s,baz=308,slow=9.8,SNR=39							
ASAR				S	**S**	**00 25 18.8**	**-5.4**
comp=Z,0.7nm,0.7s,baz=307,slow=24,SNR=3.1							
ASAR				PcP	**PcP**	**00 25 35.5**	**+0.5**
comp=Z,1.4nm,0.5s,baz=300,slow=1.7,SNR=8.3							
ASAR				ScP	**ScP**	**00 29 10.7**	**-1.5**
comp=Z,0.4nm,0.8s,baz=337,slow=1.5,SNR=4.4							
ASAR	**Alice Springs**	**21.14**	**135**	P	**P**	**00 21 30.8**	**+1.9**
FORT	**Forrest**	**23.64**	**158**	P	**P**	**00 21 54.6**	**-0.4**
FORT				IAmb	IAmb	00 22 04.9	
comp=Z,41nm,1.2s							
COEN	**Coen**	**25.25**	**104**	P	**P**	**00 22 10.0**	**-0.2**
COEN				IAmb	IAmb	00 22 26.9	
comp=Z,7.9nm,0.9s							
BBOO	**Buckleboo**	**29.03**	**147**	P	**P**	**00 22 43.3**	**-0.6**
BBOO				IAmb	IAmb	00 22 49.4	
comp=Z,44nm,1.4s							
STKA	**Stephens Creek**	**31.64**	**139**	P	**P**	**00 23 09.1**	**+2.0**
comp=Z,3.9nm,0.7s,baz=322,slow=9.2,SNR=5.9							
STKA				PcP	**PcP**	**00 25 58.9**	**-0.3**
comp=Z,3.1nm,0.7s,baz=335,slow=8.7,SNR=4.0							
STKA				LR	LR	00 38 18.5	
comp=Z,49nm,18.8s,baz=26,slow=41							
CMAR	**Chiang Mai Arr**	**33.09**	**326**	LR	LR	00 37 10.9	
comp=Z,36nm,18.4s,baz=140,slow=37							
PATS	**Pohnpei**	**43.25**	**70**	P	**P**	**00 24 44.4**	**-1.2**
KAAM	**Kaadhehdhoo**	**45.70**	**280**	P	P	00 25 00.9	-4.3
LZH	**Lanzhou**	**46.78**	**344**	*e*P	**P**	**00 25 16.0**	**+2.5**
LZH				pP	sP	00 25 31.8	+14
LZH				sP	pP	00 25 39.1	+22
LZH				*e*PP	PP	00 27 17.2	+14
LZH				pmax	pmax		
comp=Z,16nm,1.1s							
LZH				pmax	pmax		
comp=Z,47nm,5.4s							
KSRS	**Korea Array**	**47.17**	**11**	P	**P**	**00 25 14.5**	**-1.9**
comp=Z,1.3nm,0.7s,baz=185,slow=8.8,SNR=3.5							
HHC	**Hu-ho-hao-te**	**49.96**	**354**	*e*P	**P**	**00 25 39.9**	**+2.0**
HHC				pmax	pmax		
comp=Z,8.0nm,1.2s							
HHC				pmax	pmax		
comp=Z,14nm,6.8s							
GTA	**Gaotai**	**51.02**	**342**	*e*P	**P**	**00 25 46.0**	**0.0**
GTA				pP	sP	00 26 03.7	+13
GTA				sP	pP	00 26 09.8	+21
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**54.49**	**12**	P	**P**	**00 26 10.9**	**-0.5**
comp=Z,2.7nm,0.6s,baz=188,slow=6.8,SNR=8.8							
USRK	**Ussuriysk Ar.**	**54.49**	**12**	P	**P**	**00 26 10.2**	**-1.2**
SONM	**Songino Array**	**57.52**	**351**	P	**P**	**00 26 32.4**	**-0.8**
comp=Z,1.8nm,0.7s,baz=173,slow=7.6,SNR=13							
SONM	**Songino Array**	**57.52**	**351**	P	**P**	**00 26 31.2**	**-2.0**
TUWZ	**Tuamarina**	**58.84**	**133**	P	**P**	**00 26 40.5**	**-1.9**
WMQ	**Urumqi**	**59.30**	**335**	*e*P	**P**	**00 26 45.1**	**-0.6**
WMQ				sP	sP	00 27 07.8	+18
WMQ				pmax	pmax		
comp=Z,9.0nm,1.1s							
WMQ				pmax	pmax		
comp=Z,120nm,6.1s							
WMQ				LR	LR		
comp=N,260nm,29.2s							
WMQ				LR	LR		
comp=E,1μm,29.1s							
WMQ				LR	LR		
comp=Z,190nm,29.0s							
MK31	**Makanchi Array**	**63.98**	**334**	P	**P**	**00 27 15.3**	**-1.8**
MK31				IAmb	IAmb	00 27 24.8	
comp=Z,3.8nm,1.2s							
MKAR	**Makanchi Array**	**63.98**	**334**	P	**P**	**00 27 15.9**	**-1.2**
comp=Z,0.9nm,0.7s,baz=154,slow=4.9,SNR=8.1							
MKAR	**Makanchi Array**	**63.98**	**334**	P	**P**	**00 27 15.4**	**-1.7**
ZALV	**Zalesovo Beam**	**68.67**	**340**	P	**P**	**00 27 44.7**	**-2.4**
comp=Z,1.3nm,0.6s,baz=158,slow=5.0,SNR=6.3							
ZALV	**Zalesovo Beam**	**68.67**	**340**	P	**P**	**00 27 44.9**	**-2.2**
MAW	**Mawson**	**68.85**	**200**	P	**P**	**00 27 48.6**	**+0.7**
comp=Z,1.4nm,0.9s,baz=67,slow=6.6,SNR=3.6							
ABKAR	**Akbulak array**	**76.95**	**325**	P	**P**	**00 28 33.9**	**-2.4**
BOSA	**Boshof**	**88.04**	**241**	P	**P**	**00 29 35.7**	**+0.8**
comp=Z,4.8nm,0.9s,baz=106,slow=7.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**117.39**	**280**	PKP	**PKPdf**	**00 35 28.9**	**-1.6**
comp=Z,0.3nm,0.7s,baz=35,slow=2.2,SNR=6.6							
NVAR	**Mina Array Bea**	**121.87**	**50**	PKP	**PKPdf**	**00 35 39.4**	**+0.5**
comp=Z,0.5nm,0.6s,baz=249,slow=3.5,SNR=5.5							
TXAR	**Lajitas Array**	**136.16**	**57**	PKhKP	PKPpre	00 35 56.3	
comp=Z,0.4nm,0.8s,baz=29,slow=2.9,SNR=3.5							
TXAR				PKP	**PKPdf**	**00 36 04.8**	**-1.3**
comp=Z,0.2nm,0.6s,baz=20,slow=2.9,SNR=2.8							
WVT	**Waverly**	**144.28**	**37**		**PKPab**	**00 36 18.2**	**-0.1**
CPUP	**Villa Florida**	**144.56**	**187**	PKP	**PKPab**	**00 36 20.5**	**+0.9**
comp=Z,2.4nm,0.6s,baz=157,slow=2.7,SNR=9.0							
X48A	**Hartselle**	**145.88**	**38**		**PKPdf**	**00 36 22.6**	**-0.7**
W50A	**Signal Mountai**	**146.40**	**36**		**PKPdf**	**00 36 24.1**	**-0.1**
Z50A	**Ashland**	**147.38**	**39**		**PKPdf**	**00 36 27.3**	**+1.5**
BDFB	**Brasilia**	**151.80**	**210**	PKPbc	**PKPbc**	**00 36 40.7**	**+0.9**
comp=Z,2.3nm,0.4s,baz=84,slow=9.2,SNR=7.2							

*GCG **08** 00:33:42.8±0.5, 15°.13N×91°.71W, h91km±35km, MD3.4*
*MEX **08** 00:33:42.5±0.3, 14°.06N×92°.20W, h15km, MD3.6*

ISC 08 00:33:38.8±2.4, 14°.2N±0°.1×92°.18W±0°.08, h7km±16km, n7, σ1°.19/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.71**	**354**	*e*S	**Sn**	**00 34 05.8**	**-0.8**
STG3	**Santiaguito 3,**	**0.78**	**49**	*e*P	**Pn**	**00 33 57.9**	**+1.3**
STG3				*e*S	**Sn**	**00 34 09.5**	**+0.8**
FUG	**Fuego 3**	**1.32**	**79**	*e*P	**Pg**	**00 34 04.4**	**+0.2**
FUG				*e*S	**Sb**	**00 34 20.8**	**-0.7**
IXG	**Ixpaco**	**1.69**	**91**	*e*P	**Pb**	**00 34 09.9**	**-0.5**
IXG				*e*S	**Sn**	**00 34 29.7**	**-1.3**
PCIG		**1.80**	**326**	*i* P	**Pn**	**00 34 10.9**	**+0.5**
PCIG				*e*S	**Sb**	**00 34 33.8**	**-1.3**
CCIG	**Comitan**	**2.07**	**1**	*i* P	**Pb**	**00 34 16.3**	**-0.7**
CCIG				*i* S	**Sb**	**00 34 41.9**	**-1.1**
TGIG		**2.72**	**341**	*i* P	**Pn**	**00 34 24.6**	**+1.5**
TGIG				*i* S	**Sn**	**00 34 57.5**	**+1.1**

*IDC **08** 00:36:21.9±1.7, 57°.22S×23°.19W, h0km, mb4.2/2, mb1 4.3/2, mb1mx3.8/17, mbtmp4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=74.4km s-min=41.8km az=4.0*
*ISCJB **08** 00:36:22.4±0.8, 57°.11S±0°.09×23°.6W±0°.2, h10km, mb4.1/2, MS3.3/1, Error ellipse: s-maj=19.3km s-min=11.4km az=151.1*
*NEIC **08** 00:36:27.6±1.4, 57°.0S±0°.1×23°.6W±0°.3, h32km±7km, mb4.2/7*

ISC 08 00:36:24.1±0.8, 57°.1S±0°.1×23°.5W±0°.2, h10km, n20, σ0°.94/19, mb4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.08**	**160**	P	**Pn**	**00 39 56.3**	**-0.5**
VNA3	**Neumayer Olymp**	**15.35**	**163**	P	**Pn**	**00 39 59.8**	**-0.6**
VNA2	**Neumayer--Watz**	**15.47**	**160**	P	**Pn**	**00 40 00.5**	**-1.5**
baz=304,slow=10							
SNAA	**Sanae**	**16.96**	**158**	P	**P**	**00 40 22.9**	**-0.2**
SNAA	**Sanae**	**16.96**	**158**	P	**P**	**00 40 22.5**	**-0.6**
EFI	**East Falkland**	**20.72**	**270**	P	**P**	**00 41 03.1**	**-1.1**
PMSA	**Palmer Station**	**20.83**	**232**	P	**P**	**00 41 05.5**	**+0.2**
PMSA				IAmb	IAmb	00 41 16.5	
comp=Z,12nm,1.1s							
CASY	**Casey**	**52.20**	**158**	P	**P**	**00 45 36.6**	**+2.3**
LPAZ	**La Paz**	**52.68**	**302**	P	**P**	**00 45 40.2**	**+1.0**
comp=Z,1.7nm,0.6s,baz=202,slow=6.4,SNR=9.8							
LPAZ	**La Paz**	**52.68**	**302**	P	**P**	**00 45 39.4**	**+0.2**
MATP	**Matopo**	**52.68**	**68**

mb3.6/7, Error ellipse: s-maj=8.7km s-min=4.9km az=146.8
*IDC **08** 01:42:45.3±4.0, 37°.46N×71°.96E, h88km±26km, mb3.4/7, mb1 3.5/14, mb1mx3.3/49, mbtmp3.7/14, Error ellipse: s-maj=43.9km s-min=18.7km az=146.0*
*NNC **08** 01:42:50.5±3.1, 38°.10N×71°.73E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=23.9km s-min=16.1km az=172.0*
ISC 08 01:42:47.2±0.8, 37°.55N±0°.07×71°.88E±0°.07, h113km, n34, σ2.9 13/41, mb3.8/7, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=74	**4.78**	**16**	P	**Pn**	**01 43 58.5**	**+1.1**
UCH	**Uchtor** SNR=13	**5.09**	**23**	P	**Pn**	**01 44 03.2**	**+1.5**
KZA	**Kyzart** SNR=8.2	**5.21**	**29**	P	**Pn**	**01 44 05.7**	**+2.4**
EKS2	**Erkin-Say** SNR=19	**5.31**	**15**	P	**Pn**	**01 44 06.3**	**+2.1**
AAK	**Ala-Archa** 2.3nm,0.3s	**5.46**	**21**	⇑P	**Pn**	**01 44 07.6**	**+1.2**
AAK	15nm,0.6s			⇑S	**Sn**	**01 45 06.3**	**-1.8**
AAK	**Ala-Archa** 2.0nm,0.3s,baz=174,slow=4.5,SNR=26	**5.46**	**21**	P	**Pn**	**01 44 06.9**	**+0.6**
AAK	2.5nm,0.3s,baz=342,slow=20,SNR=14			S	**Sn**	**01 45 06.6**	**-1.4**
AAK	**Ala-Archa** SNR=6.4	**5.46**	**21**	P	**Pn**	**01 44 08.0**	**+1.6**
KK31	**Karatay Array** 4.0nm,0.3s,baz=173,slow=12,SNR=199	**5.64**	**350**	⇑P	**Pn**	**01 44 09.2**	**+0.5**
KK31	12nm,0.3s,baz=178,slow=22,SNR=14			⇓S	**Sn**	**01 45 09.4**	**-2.8**
USP	**Ospenovka** SNR=7.0	**6.05**	**18**	P	**Pn**	**01 44 15.0**	**+0.8**
TKM2	**Tokmak 2** 2.8nm,0.5s	**6.07**	**27**	⇑P	**Pn**	**01 44 15.9**	**+1.2**
TKM2	6.5nm,0.6s			⇓S	**Sn**	**01 45 21.9**	**-0.9**
GEYT	**Alibeck** 0.3nm,0.3s,baz=97,slow=12,SNR=4.9	**10.91**	**276**	P	**Pn**	**01 45 17.8**	**-2.2**
GEYT	0.3nm,0.3s,baz=100,slow=14,SNR=2.9			S	Sn	01 47 11.3	-8.7
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=223,slow=16,SNR=6.8	**12.03**	**37**	P	**Pn**	**01 45 35.0**	**+0.1**
DANN	**Dangsing** 6.2nm,0.2s	**13.54**	**129**	*eP*	**Pn**	**01 45 52.3**	**-2.7**
KOLN	**Koldanda** 4.9nm,0.3s	**13.87**	**131**	*eP*	**Pn**	**01 45 56.1**	**-3.0**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=208,slow=10,SNR=2.8	**13.90**	**18**	P	**Pn**	**01 46 00.4**	**+1.2**
GKN	**Gorkha** 12nm,0.2s	**14.34**	**128**	*eP*	**Pn**	**01 46 02.4**	**-2.7**
AB31	**Akbulak array** 0.3nm,0.3s,baz=134,slow=15,SNR=21	**14.54**	**327**	⇓P	**Pn**	**01 46 08.7**	**+1.4**
AB31	1.4nm,0.5s,baz=146,slow=24,SNR=11			S	**Sn**	**01 48 46.0**	**-1.7**
PKIN	**Phulchoki**	**15.11**	**127**	*eP*	**Pn**	**01 46 13.2**	**-1.8**
PKI	**Pulchoki** 8.5nm,0.6s	**15.12**	**127**	*eP*	**Pn**	**01 46 12.9**	**-2.3**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=142,slow=7.3,SNR=3.2	**15.51**	**357**	P	**Pn**	**01 46 19.1**	**-0.4**
JIRN	**Jiri** 10nm,0.3s	**15.56**	**125**	*eP*	**Pn**	**01 46 18.8**	**-2.0**
AKTO	**Aktyubinsk** 1.5nm,0.4s	**16.25**	**327**	⇓P	**Pn**	**01 46 30.1**	**+1.3**
AKTO	1.7nm,0.5s			⇓S	**Sn**	**01 49 27.3**	**-1.6**
AKTO	**Aktyubinsk** 0.7nm,0.3s,baz=115,slow=7.6,SNR=14	**16.25**	**327**	P	**Pn**	**01 46 30.3**	**+1.5**
AKTO	0.3nm,0.3s,baz=198,slow=20,SNR=6.6			S	**Sn**	**01 49 21.2**	**-7.7**
RAMN	**Ramite**	**16.32**	**126**	*eP*	**Pn**	**01 46 27.2**	**-2.8**
TAPN	**Taplejung**	**16.77**	**123**	*eP*	**Pn**	**01 46 34.0**	**-1.6**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=252,slow=12,SNR=4.4	**18.67**	**24**	P	**P**	**01 46 56.5**	**+0.3**
FINES	**FINESS Array B** 1.1nm,0.3s,baz=118,slow=9.5,SNR=18	**37.01**	**325**	P	**P**	**01 49 47.2**	**+1.6**
ARCES	**ARCESS Array B** 0.8nm,0.4s,baz=117,slow=8.9,SNR=21	**40.45**	**337**	P	**P**	**01 50 15.8**	**+1.7**
NB2	**NORSAR Subarra** comp=Z,2.3nm,0.7s,baz=96,slow=7.9	**43.97**	**322**	P	**P**	**01 50 43.7**	**+0.9**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=108,slow=7.3,SNR=5.1	**43.97**	**322**	P	**P**	**01 50 44.0**	**+1.2**
ESDC	**Sonseca Array** comp=Z,0.1nm,0.4s,baz=53,slow=6.9,SNR=3.5	**57.59**	**298**	P	**P**	**01 52 27.1**	**+1.8**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=44,slow=6.2,SNR=7.6	**66.44**	**269**	P	**P**	**01 53 25.5**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=322,slow=7.0,SNR=2.6	**73.57**	**16**	P	**P**	**01 54 08.3**	**+0.7**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.4s,baz=352,slow=5.6,SNR=4.2	**80.16**	**3**	P	**P**	**01 54 45.7**	**+1.3**

*ISCJB **08** 01:46:48.8±2.4, 14°.1N±0°.1×91°.76W±0°.06, h30km±12km, Error ellipse: s-maj=19.4km s-min=7.1km az=23.9*
*MEX **08** 01:46:48.6±0.6, 14°.08N×91°.48W, h10km±237km, MD3.7*
*GCG **08** 01:46:51.9±0.3, 15°.02N×91°.25W, h50km±38km, MD3.4*
ISC 08 01:46:48.9±2.2, 14°.1N±0°.2×91°.71W±0°.07, h23km±26km, n6, σ0.9 91/12, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.62**	**13**	*eP*	**Pn**	**01 47 03.1**	**+0.6**
STG3				*eS*	**Sn**	**01 47 11.8**	**-0.1**
FUG	**Fuego 3**	**0.91**	**68**	*eP*	**Pb**	**01 47 06.1**	**-0.1**
FUG				*eS*	**Sn**	**01 47 19.1**	**+0.1**
THIG		**0.96**	**326**	*i* P	**Pn**	**01 47 06.0**	**-1.1**
THIG				*eS*	**Sn**	**01 47 21.0**	**+0.9**
IXG	**Ixpaco**	**1.23**	**87**	*eP*	**Pb**	**01 47 11.1**	**-0.5**
IXG				*eS*	**Sb**	**01 47 28.1**	**+0.9**
PCIG		**2.16**	**318**	*i* P	**Pn**	**01 47 23.7**	**+0.2**
PCIG				*eS*	**Sn**	**01 47 50.9**	**+1.3**
CCIG	**Comitan**	**2.21**	**349**	*eP*	**Pn**	**01 47 23.2**	**-1.1**
CCIG				*i* S	**Sn**	**01 47 50.6**	**-0.4**

*KRNET **08** 02:04:37.5±0.1, 42°.87N×77°.57E, h19km, mb3.6*
*SOME **08** 02:04:37.9, 42°.87N×77°.55E, h20km*
*NNC **08** 02:04:37.1±0.3, 42°.88N×77°.59E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=3.2km s-min=1.3km az=5.0*
*KNET **08** 02:04:38.9±0.5, 42°.80N×77°.43E, h6km±3km, ml3.1, Error ellipse: s-maj=4.5km s-min=2.8km az=153.0*
ISC 08 02:04:37.2±1.1, 42°.91N±0°.02×77°.53E±0°.01, h3km±10km, n91, σ1.9 31/166, 56C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo** baz=40	**0.16**	**141**	⇓*i*P	**Pg**	**02 04 40.6**	**+0.3**
ANVS	baz=40			⇓*i*S	**Sg**	**02 04 42.5**	**+0.1**
MDOK	**Medeo** 15nm,0.4s	**0.44**	**306**	⇑P	**Pb**	**02 04 46.9**	**-0.7**
MDOK	193nm,0.6s			⇑S	**Sb**	**02 04 53.4**	**-1.3**
MDOK	**Medeo** 34nm,0.4s	**0.44**	**306**	Pg	**Pb**	**02 04 47.1**	**-0.5**
MDOK	237nm,1.1s			Lg	Lg	02 04 53.7	
MDOK	**Medeo** baz=7.0	**0.44**	**306**	⇑*i*P	**Pb**	**02 04 47.1**	**-0.5**
MDOK	baz=7.0			⇓*i*S	**Sb**	**02 04 53.6**	**-1.1**
MDOK	**Medeo** 26nm,0.1s	**0.44**	**306**	⇑*i*P	**Pb**	**02 04 47.1**	**-0.5**
MDOK	192nm,0.4s			*eS*	**Sb**	**02 04 53.5**	**-1.1**
TNSS	**Tian-Shan** 46nm,0.4s	**0.45**	**287**	P	**Pb**	**02 04 47.2**	**-0.8**
TNSS	124nm,0.3s			S	**Sb**	**02 04 54.1**	**-1.1**
TNSS	**Tian-Shan** baz=90	**0.45**	**287**	*eP*	**Pb**	**02 04 47.1**	**-0.9**
TNSS	baz=90			*eS*	**Sb**	**02 04 53.9**	**-1.3**
TNSS	**Tian-Shan** 24nm,0.2s	**0.45**	**287**	*eP*	**Pb**	**02 04 47.1**	**-0.9**
TNSS	216nm,0.3s			*eS*	**Sb**	**02 04 53.9**	**-1.3**
KOTS	**Kotyrbulak** 71nm,0.2s	**0.45**	**317**	P	**Pb**	**02 04 47.1**	**-0.7**
KOTS	870nm,0.3s			S	**Sb**	**02 04 53.8**	**-1.2**
KOTS	**Kotyrbulak** baz=17	**0.45**	**317**	*eP*	**Pb**	**02 04 47.2**	**-0.7**
KOTS	baz=17			*eS*	**Sb**	**02 04 53.9**	**-1.1**
KOTS	**Kotyrbulak** 71nm,0.2s	**0.45**	**317**	*eP*	**Pb**	**02 04 47.1**	**-0.7**
KOTS	870nm,0.3s			*eS*	**Sb**	**02 04 53.8**	**-1.2**
KNDC	**Almaty** 11nm,0.2s	**0.52**	**307**	⇑P	**Pg**	**02 04 47.3**	**+0.2**
KNDC	79nm,0.3s			⇑S	**Sb**	**02 04 56.6**	**-0.4**
AAA	**Alma-Ata** 67nm,0.2s	**0.54**	**304**	P	**Pb**	**02 04 49.5**	**+0.1**
AAA	304nm,0.2s			S	**Sb**	**02 04 57.8**	**+0.1**
AAA	**Alma-Ata** baz=5.0	**0.54**	**304**	*eP*	**Pb**	**02 04 49.5**	**+0.1**
AAA	baz=5.0			*eS*	**Sb**	**02 04 57.7**	**+0.1**
AAA	**Alma-Ata** 49nm,0.1s	**0.54**	**304**	*eP*	**Pb**	**02 04 49.5**	**+0.1**
AAA	304nm,0.2s			*eS*	**Sb**	**02 04 57.8**	**+0.1**
SATY	**Saty** 64nm,0.1s	**0.66**	**76**	P	**Pg**	**02 04 50.0**	**+0.2**
SATY	641nm,0.2s			S	**Sg**	**02 04 58.8**	**+0.4**
SATY	**Saty** 64nm,0.1s	**0.66**	**76**	⇑*i*P	**Pg**	**02 04 50.0**	**+0.2**
SATY	641nm,0.2s			⇑*i*S	**Sg**	**02 04 58.8**	**+0.4**
IZV	**Izvestkoviy** 38nm,0.1s	**0.69**	**281**	P	**Pb**	**02 04 51.3**	**-0.6**
IZV	154nm,0.2s			S	**Sb**	**02 05 01.1**	**-0.8**
IZV	**Izvestkoviy** baz=84	**0.69**	**281**	*eP*	**Pb**	**02 04 51.3**	**-0.6**
IZV	baz=84			*eS*	**Sb**	**02 05 01.1**	**-0.8**
IZV	**Izvestkoviy** 38nm,0.1s	**0.69**	**281**	*eP*	**Pb**	**02 04 51.3**	**-0.6**
IZV	154nm,0.2s			*eS*	**Sb**	**02 05 01.1**	**-0.8**
ZHN	**Zhinishke** baz=65	**0.71**	**68**	*eP*	**Pg**	**02 04 50.9**	**0.0**
ZHN	baz=65			*eS*	**Sg**	**02 05 00.2**	**+0.1**
ZHN	**Zhinishke** 52nm,0.1s	**0.71**	**68**	*eP*	**Pg**	**02 04 50.9**	**0.0**
ZHN	635nm,0.2s			*eS*	**Sg**	**02 05 00.1**	**+0.1**
KURS	**Kuram** 34nm,0.6s	**0.75**	**39**	P	**Pb**	**02 04 52.1**	**-0.7**
KURS	333nm,0.4s			S	**Sb**	**02 05 02.2**	**-1.3**
KURS	**Kuram** baz=35	**0.75**	**39**	*eP*	**Pb**	**02 04 52.1**	**-0.7**
KURS	baz=35			*eS*	**Sb**	**02 05 02.2**	**-1.3**
KURS	**Kuram** 34nm,0.6s	**0.75**	**39**	*eP*	**Pb**	**02 04 52.1**	**-0.7**
KURS	333nm,0.4s			*eS*	**Sb**	**02 05 02.2**	**-1.3**
PRZ	**Przheval'sk** baz=22	**0.77**	**123**	⇑*i*P	**Pb**	**02 04 52.1**	**-1.2**
PRZ	baz=22			⇑*i*S	**Sg**	**02 05 01.8**	**0.0**
KDJ	**Kajisay** baz=1.0	**0.82**	**199**	⇑*i*P	**Pg**	**02 04 52.5**	**-0.4**
KDJ	baz=1.0			⇑*i*S	**Sg**	**02 05 02.9**	**-0.6**
MTBS	**Maitube** 31nm,0.2s	**0.84**	**286**	P	**Pb**	**02 04 54.0**	**-0.4**
MTBS	92nm,0.3s			S	**Sb**	**02 05 05.7**	**-0.5**
MTBS	**Maitube** baz=88	**0.84**	**286**	⇑*i*P	**Pb**	**02 04 54.0**	**-0.4**
MTBS	baz=88			⇓*i*S	**Sb**	**02 05 05.6**	**-0.5**
MTBS	**Maitube** 15nm,0.3s	**0.84**	**286**	⇑*i*P	**Pb**	**02 04 54.0**	**-0.4**
MTBS	90nm,0.2s			⇓*i*S	**Sb**	**02 05 05.7**	**-0.5**
KPKS	**Kokpek** baz=54	**1.01**	**56**	*eP*	**Pg**	**02 04 56.5**	**-0.1**
KPKS	baz=54			*eS*	**Sg**	**02 05 09.8**	**+0.1**
KPKS	**Kokpek** 76nm,0.1s	**1.01**	**56**	*eP*	**Pg**	**02 04 56.5**	**-0.1**
KPKS	472nm,0.5s			*eS*	**Sg**	**02 05 09.8**	**+0.1**
KTBS	**Karatobe** 29nm,0.2s	**1.02**	**323**	P	**Pb**	**02 04 57.4**	**0.0**
KTBS	95nm,0.5s			S	**Sb**	**02 05 11.5**	**+0.2**
KTBS	**Karatobe** 29nm,0.2s	**1.02**	**323**	*eP*	**Pb**	**02 04 57.4**	**0.0**
KTBS	95nm,0.5s			*eS*	**Sb**	**02 05 11.5**	**+0.2**
CHKK	**Chushkaly** 32nm,0.3s	**1.03**	**337**	P	**Pb**	**02 04 57.7**	**+0.1**
CHKK	466nm,0.2s			S	**Sb**	**02 05 11.5**	**0.0**
CHKK	**Chushkaly** baz=37	**1.03**	**337**	⇓*i*P	**Pb**	**02 04 57.7**	**+0.1**
CHKK	baz=37			⇑*i*S	**Sb**	**02 05 11.5**	**0.0**
CHKK	**Chushkaly** 32nm,0.3s	**1.03**	**337**	⇓*i*P	**Pb**	**02 04 57.7**	**+0.1**
CHKK	466nm,0.2s			⇑*i*S	**Sb**	**02 05 11.5**	**0.0**
UZB	**Uzynbulak** 26nm,0.2s	**1.12**	**77**	P	**Pg**	**02 04 58.0**	**-0.6**
UZB	168nm,0.3s			S	**Sg**	**02 05 12.3**	**-0.8**
UZB	**Uzynbulak** baz=75	**1.12**	**77**	*eP*	**Pg**	**02 04 58.0**	**-0.6**
UZB	baz=75			*eS*	**Sg**	**02 05 12.3**	**-0.8**
UZB	**Uzynbulak** 26nm,0.2s	**1.12**	**77**	*eP*	**Pg**	**02 04 58.0**	**-0.6**
UZB	168nm,0.3s			*eS*	**Sg**	**02 05 12.3**	**-0.8**
ULHL	**Ulahol** baz=38	**1.16**	**236**	⇑*i*P	**Pg**	**02 04 59.2**	**-0.2**
ULHL	baz=38			⇑*i*S	**Sg**	**02 05 14.5**	**+0.1**
ULHL	**Ulahol** 28nm,0.1s,SNR=221	**1.16**	**236**	⇑P	**Pg**	**02 04 59.3**	**-0.2**
ULHL	283nm,0.2s			⇑S	**Sg**	**02 05 14.4**	**-0.1**
KST	**Kastek** 33nm,0.4s	**1.16**	**277**	P	**Pb**	**02 04 59.6**	**-0.3**
KST	67nm,0.8s			S	**Sb**	**02 05 15.7**	**+0.3**
KST	**Kastek** baz=79	**1.16**	**277**	⇑*i*P	**Pb**	**02 04 59.6**	**-0.3**
KST	baz=79			⇓*i*S	**Sb**	**02 05 15.7**	**+0.3**
KST	**Kastek** 33nm,0.4s	**1.16**	**277**	⇑*i*P	**Pb**	**02 04 59.6**	**-0.3**
KST	67nm,0.8s			⇓*i*S	**Sb**	**02 05 15.7**	**+0.3**
BOOM	**Boomskoye usch** baz=53	**1.25**	**251**	⇑*i*P	**Pg**	**02 05 00.9**	**-0.1**
BOOM	baz=53			⇑*i*S	**Sg**	**02 05 17.3**	**+0.1**
KUU	**Kurty** 30nm,0.1s	**1.31**	**319**	P	**Pg**	**02 05 02.6**	**+0.2**
KUU	374nm,0.3s			S	**Sn**	**02 05 20.4**	**-0.1**
KUU	**Kurty** baz=19	**1.31**	**319**	*eP*	**Pg**	**02 05 02.6**	**+0.2**
KUU	baz=19			*eS*	**Sn**	**02 05 20.4**	**-0.1**
KUU	**Kurty** 30nm,0.1s	**1.31**	**319**	*eP*	**Pg**	**02 05 02.5**	**+0.2**
KUU	479nm,0.4s			*eS*	**Sn**	**02 05 20.4**	**-0.1**
ARXS	**Arharly** 54nm,0.2s	**1.32**	**9**	P	**Pb**	**02 05 02.5**	**-0.3**
ARXS	152nm,0.1s			S	**Sn**	**02 05 20.4**	**-0.4**
ARXS	**Arharly** 32nm,0.2s	**1.32**	**9**	*eP*	**Pb**	**02 05 02.5**	**-0.3**
ARXS	198nm,0.1s			*eS*	**Sn**	**02 05 20.4**	**-0.4**
DGS	**Degeres** 13nm,0.1s	**1.33**	**285**	P	**Pg**	**02 05 02.9**	**+0.2**
DGS	184nm,0.2s			S	**Sn**	**02 05 21.4**	**+0.4**
DGS	**Degeres** baz=86	**1.33**	**285**	*eP*	**Pg**	**02 05 02.9**	**+0.2**
DGS	baz=86			*eS*	**Sn**	**02 05 21.0**	**-0.1**
DGS	**Degeres** 8.7nm,0.2s	**1.33**	**285**	*eP*	**Pg**	**02 05 02.9**	**+0.2**
DGS	184nm,0.2s			*eS*	**Sn**	**02 05 21.0**	**-0.1**
TKM2	**Tokmak 2** 6.1nm,0.3s	**1.42**	**271**	⇓P	**Pg**	**02 05 04.6**	**+0.1**
TKM2	20nm,0.2s			⇑S	**Sg**	**02 05 24.4**	**+1.5**
TKM2	**Tokmak 2** baz=73	**1.42**	**271**	⇑*i*P	**Pg**	**02 05 04.5**	**+0.1**
TKM2	baz=73			⇑*i*S	**Sg**	**02 05 24.2**	**+1.3**
TKM2	**Tokmak 2** 15nm,0.2s,SNR=16	**1.42**	**271**	⇓P	**Pg**	**02 05 04.8**	**+0.3**
TKM2	75nm,0.1s			⇑S	**Sg**	**02 05 25.3**	**+2.4**
SHLS	**Shalkode** baz=80	**1.44**	**79**	*eP*	Pg	02 05 09.2	+4.5
SHLS	baz=80			*eS*	**Sg**	**02 05 31.6**	**+8.3**
SHLS	**Shalkode** 12nm,0.3s	**1.44**	**79**	*eP*	Pg	02 05 09.2	+4.5
SHLS	205nm,0.3s			*eS*	**Sg**	**02 05 31.6**	**+8.3**
PDGK	**Podgornoye** 6.2nm,0.3s	**1.50**	**73**	⇑P	**Pn**	**02 05 04.5**	**-0.6**
PDGK	70nm,0.6s			⇓S	**Sn**	**02 05 23.5**	**-1.6**
NRN	**Naryn** baz=20	**1.86**	**218**	⇑*i*P	**Pb**	**02 05 11.8**	**-0.2**
NRN	baz=20			⇑*i*S	**Sb**	**02 05 35.8**	**0.0**
KZA	**Kyzart** baz=46	**1.88**	**245**	⇓*i*P	**Pb**	**02 05 12.2**	**-0.1**
KZA	baz=46			⇓*i*S	**Sg**	**02 05 36.8**	**-0.8**
KZA	**Kyzart** 33nm,0.3s,SNR=37	**1.88**	**245**	⇑P	**Pb**	**02 05 12.3**	**-0.1**
KZA	120nm,0.4s			⇑S	**Sg**	**02 05 37.4**	**-0.2**
KBK	**Karagaybulak** baz=65	**1.92**	**263**	⇓*i*P	**Pb**	**02 05 13.1**	**+0.2**
KBK	baz=65			⇓*i*S	**Sg**	**02 05 38.2**	**-0.6**
KBK	**Karagaybulak** 46nm,0.2s,SNR=42	**1.92**	**263**	⇑P	**Pg**	**02 05 13.4**	**-0.5**
CHMS	**Chumysh** baz=74	**2.04**	**274**	⇓*i*P	**Pb**	**02 05 14.7**	**-0.2**
CHMS	baz=74			⇓*i*S	**Sb**	**02 05 41.3**	**+0.5**
CHMS	**Chumysh** 12nm,0.2s,SNR=15	**2.04**	**274**	⇓P	**Pb**	**02 05 15.2**	**+0.3**
FRU1	**Bishkek** baz=69	**2.14**	**268**	⇑*i*P	**Pb**	**02 05 16.1**	**-0.4**
FRU1	baz=69			⇑*i*S	**Sb**	**02 05 43.3**	**-0.1**
DJR	**Jarkent** 48nm,0.2s	**2.17**	**48**	*eP*	**Pb**	**02 05 16.8**	**-0.4**
DJR	86nm,0.3s			*eS*	**Sb**	**02 05 45.3**	**+0.7**
TDK	**Taldyqorghan** 104nm,0.4s	**2.19**	**16**	Pg	**Pb**	**02 05 17.5**	**+0.1**
TDK	604nm,0.5s			Lg	Lg	02 05 46.5	
TDK	**Taldyqorghan** 83nm,0.3s	**2.19**	**16**	*eP*	**Pb**	**02 05 17.5**	**+0.1**
TDK	598nm,0.4s			*eS*	**Sg**	**02 05 46.5**	**-1.0**
SGDS	**Sogindy** 14nm,0.2s	**2.19**	**285**	Pg	**Pb**	**02 05 17.5**	**0.0**
SGDS	32nm,0.2s			Lg	Lg	02 05 46.2	
USP	**Ospenovka** baz=81	**2.25**	**280**	⇑*i*P	**Pb**	**02 05 17.9**	**-0.6**
USP	baz=81			⇑*i*S	**Sb**	**02 05 46.4**	**-0.3**
USP	**Ospenovka** 23nm,0.2s,SNR=23	**2.25**	**280**	⇑P	**Pb**	**02 05 18.6**	**+0.1**
AAK	**Ala-Archa** 19nm,0.5s	**2.25**	**264**	⇑Pn	**Pb**	**02 05 18.9**	**+0.4**
AAK	36nm,0.5s			⇓Lg	Lg	02 05 49.3	
AAK	**Ala-Archa** baz=65	**2.25**	**264**	⇑*i*P	**Pb**	**02 05 17.5**	**-1.1**
AAK	baz=65			⇑*i*S	**Sb**	**02 05 46.2**	**-0.7**
AAK	**Ala-Archa** 28nm,0.2s,SNR=38	**2.25**	**264**	⇑P	**Pb**	**02 05 18.8**	**+0.2**
UCH	**Uchtor** baz=55	**2.33**	**254**	⇓*i*P	**Pb**	**02 05 18.6**	**-1.5**
UCH	baz=55			⇓*i*S	**Sb**	**02 05 48.2**	**-1.2**
UCH	**Uchtor** 25nm,0.3s,SNR=39	**2.33**	**254**	⇑P	**Pb**	**02 05 20.2**	**+0.1**
ARLS	**Aral** baz=49	**2.60**	**247**	⇑*e*P	**Pn**	**02 05 21.6**	**+1.4**
ARLS	baz=49			⇑*i*S	**Sn**	**02 05 53.2**	**+0.9**
KAPS	**Kapalarasan** 12nm,0.3s	**2.72**	**28**	Pg	**Pb**	**02 05 27.1**	**+0.7**
KAPS	115nm,0.3s			Lg	Lg	02 06 02.6	
KAPS	**Kapalarasan** 23nm,0.3s	**2.72**	**28**	*eP*	**Pb**	**02 05 26.3**	**-0.2**
KAPS	115nm,0.3s			*eS*	**Sb**	**02 06 01.3**	**+1.1**
EKS2	**Erkin-Say** baz=67	**2.77**	**266**	⇑*i*P	**Pb**	**02 05 24.9**	**-2.6**
EKS2	baz=67			⇑*i*S	**Sb**	**02 05 58.9**	**-3.0**
EKS2	**Erkin-Say** 6.4nm,0.2s,SNR=15	**2.77**	**266**	⇑P	**Pb**	**02 05 26.2**	**-1.3**
AML	**Almayashu** baz=57	**2.94**	**256**	⇑*i*P	**Pn**	**02 05 27.3**	**+2.2**
AML	baz=57			⇑*i*S	**Sn**	**02 06 02.8**	**+1.7**
MRKS	**Merke** 13nm,0.2s	**3.17**	**269**	Pg	**Pb**	**02 05 35.1**	**+0.8**
MRKS	47nm,0.5s			Lg	Lg	02 06 16.6	
MRKS	**Merke** 13nm,0.2s	**3.17**	**269**	*eP*	**Pb**	**02 05 35.0**	**+0.8**
MRKS	47nm,0.5s			*eS*	**Sg**	**02 06 16.3**	**-2.8**
MAKZ	**Makanchi** 3.0nm,1.2s	**5.02**	**37**	⇓Pn	**Pn**	**02 05 55.6**	**+2.3**
MAKZ	6.3nm,1.3s			⇓Pg	**Pg**	**02 06 09.4**	**-3.9**
MAKZ	2.9nm,0.6s			⇑Lg	Lg	02 07 13.4	
MK31	**Makanchi Array** 0.2nm,0.2s,baz=215,slow=15,SNR=15	**5.15**	**39**	⇑Pn	**Pn**	**02 05 57.7**	**+2.5**
MK31	1.2nm,0.5s,baz=218,slow=16,SNR=8.2			Pg	**Pg**	**02 06 11.6**	**-4.2**
MK31	1.8nm,0.5s,baz=221,slow=29,SNR=7.1			⇓Lg	Lg	02 07 18.6	
KURBB	**Kurchatov Arra** 5.2nm,1.4s	**7.75**	**5**	⇑Pn	**Pn**	**02 06 31.1**	**+0.3**
KURBB	12nm,0.7s			⇓Lg	Lg	02 08 42.7	
KURK	**Kurchatov** 4.6nm,1.5s	**7.85**	**5**	⇑Pn	**Pn**	**02 06 32.2**	**0.0**
KURK	9.6nm,1.0s			⇑Lg	Lg	02 08 46.8	

*ISCJB **08** 02:11:26.3±0.3, 22°.31S±0°.05×179°.67W±0°.07, h579km, mb4.2/20, Error ellipse: s-maj=8.5km s-min=6.7km az=10.1*
*NEIC **08** 02:11:27.4±1.5, 22°.2S±0°.1×179°.7W±0°.1, h581km±6km, mb4.6/45*
*IDC **08** 02:11:27.0±1.2, 22°.33S×179°.63W, h578km±13km, mb3.7/13, mb1 3.9/15, mb1mx3.8/27, mbtmp4.6/15, Error ellipse: s-maj=16.1km s-min=10.4km az=150.0*
ISC 08 02:11:26.9±0.4, 22°.34S±0°.07×179°.60W±0°.08, h579km, n194, σ1.9 05/231, mb4.5/35, 31C-20D, South of Fiji Islands

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

MSVF	Nonsavu	5.09 334	P	P	02 12 59.9	+0.5
RAO	Raoul Island	7.04 168	P	P	02 13 16.3	-0.1
	91nm,0.3s,baz=357,slow=19,SNR=3.6					
RAO			S	S	02 14 45.3	-0.7
	22nm,0.3s,baz=60,slow=20,SNR=3.2					
RAO	Raoul Island	7.04 168	P	P	02 13 19.3	+3.0
DZM	Mont Dzumac	12.93 269	P	P	02 14 14.2	-1.1
	0.4nm,0.3s,baz=95,slow=15,SNR=4.9					
URZ	Urewera	16.11 189	P	P	02 14 44.8	-1.3
	1.8nm,0.3s,baz=328,slow=3.2,SNR=12					
URZ			S	S	02 17 24.5	-3.9
	2.1nm,0.3s,baz=107,slow=19,SNR=10					
URZ	Urewera	16.11 189	P	P	02 14 46.8	+0.7
URZ			IAmb	IAmb	02 14 50.6	
	comp=Z,20nm,0.8s					
TARA	Tarawa	24.66 342	P	P	02 16 02.5	-0.9
EIDS	Eidsvold	26.96 258	P	P	02 16 24.2	+0.7
EIDS			IAmb	IAmb	02 16 25.7	
	comp=Z,8.1nm,0.6s					
CTAO	Charters Tower	31.87 268	P	P	02 17 06.5	+0.5
CTAO			IAmb	IAmb	02 17 08.1	
	comp=Z,11nm,0.7s					
TOO	Toolangi	33.62 235	P	P	02 17 21.4	+1.0
TOO			IAmb	IAmb	02 17 23.1	
	comp=Z,35nm,1.2s					
PMG	Port Moresby	34.37 287	P	P	02 17 27.5	+0.6
STKA	Stephens Creek	35.66 246	P	P	02 17 39.1	+1.5
	comp=Z,12nm,0.5s,baz=94,slow=11,SNR=35					
STKA	Stephens Creek	35.66 246	P	P	02 17 38.8	+1.3
AS31	Alice Springs	42.67 259	P	P	02 18 34.5	+0.6
ASAR	Alice Springs	42.67 259	P	P	02 18 34.5	+0.6
	comp=Z,15nm,0.8s,baz=92,slow=8.0,SNR=111					
ASAR			PcP	PcP	02 20 13.0	+0.6
	comp=Z,3.2nm,0.8s,baz=111,slow=3.3,SNR=10					
ASAR			ScP	ScP	02 23 10.9	+2.2
	comp=Z,1.4nm,0.7s,baz=103,slow=4.0,SNR=6.0					
ASAR			S	S	02 24 14.9	-1.4
	comp=Z,7.2nm,1.0s,baz=96,slow=15,SNR=24					
ASAR	Alice Springs	42.67 259	P	P	02 18 34.0	0.0
ASAR				PcP	02 20 12.4	0.0
ASAR				ScP	02 23 11.2	+2.5
WC3	Warramunga Arr	42.87 264	P	P	02 18 35.1	-0.4
WB2	Warramunga Arr	42.89 264	P	P	02 18 35.7	0.0
WRAB	Tennant Creek	42.89 264	P	P	02 18 35.8	+0.1
WRAB			IAmb	IAmb	02 18 36.4	
	comp=Z,14nm,0.9s					
WRA	Warramunga Arr	42.90 264	P	P	02 18 35.6	-0.1
	comp=Z,3.9nm,0.3s,baz=90,slow=5.8,SNR=68					
WRA			PcP	PcP	02 20 13.8	+0.6
	comp=Z,2.4nm,0.8s,baz=96,slow=3.6,SNR=4.6					
WRA			ScP	ScP	02 23 11.8	+2.2
	comp=Z,2.4nm,0.9s,baz=100,slow=4.3,SNR=7.2					
WRA			S	S	02 24 16.6	-3.0
	comp=Z,0.5nm,0.3s,baz=100,slow=14,SNR=12					
WRA	Warramunga Arr	42.90 264		ScP	02 23 13.2	+3.6
WRA	Warramunga Arr	42.90 264	P	P	02 18 35.3	-0.5
KNRA	Kununurra	49.08 268	P	P	02 19 22.7	+0.1
FITZ	Fitzroy Crossi	51.33 264	P	P	02 19 38.8	-0.2
FITZ			IAmb	IAmb	02 19 40.7	
	comp=Z,12nm,0.8s					
PSA00	Pilbara Seismi	55.82 258	P	P	02 20 09.4	-1.2
QSPA	South Pole Qui	67.73 180	P	P	02 21 28.8	+1.5
QSPA			IAmb	IAmb	02 23 30.5	
	comp=Z,12nm,1.1s					
MJAR	Matsushiro Arr	70.83 325	P	P	02 21 45.9	-0.2
	comp=Z,8.6nm,0.8s,baz=155,slow=5.9,SNR=14					
MJAR	Matsushiro Arr	70.83 325	IAmb	IAmb	02 21 46.6	
	comp=Z,2.1nm,0.7s					
KSM	Kuching	72.21 279	P	P	02 21 55.0	+0.3
KSM			IAmb	IAmb	02 21 56.1	
	comp=Z,25nm,0.9s					
TPUB	Ta-pu	73.75 304	P	P	02 22 02.7	-0.5
KSRS	Korea Array	77.30 320	P	P	02 22 23.4	+0.9
	comp=Z,2.4nm,0.7s,baz=136,slow=6.0,SNR=6.7					
KSAR	Wonju Array Be	77.31 320	P	P	02 22 22.8	+0.2
PETK	Petropavlovsk-	77.68 346	P	P	02 22 24.3	0.0
	comp=Z,18nm,0.8s,baz=135,slow=7.9,SNR=15					
PETK	Petropavlovsk-	77.68 346	P	P	02 22 23.9	-0.3
MAW	Mawson	79.33 200	P	P	02 22 33.8	+1.0
	comp=Z,2.5nm,0.9s,baz=151,slow=5.0,SNR=5.2					
MAW	Mawson	79.33 200	P	P	02 22 33.9	+1.0
USRK	Ussuriysk Ar.	79.66 327	P	P	02 22 35.8	+0.8
	comp=Z,10nm,1.0s,baz=139,slow=3.6,SNR=11					
USRK	Ussuriysk Ar.	79.66 327	P	P	02 22 35.4	+0.4
NJ2	Nanjing	79.92 311	*e*P	P	02 22 37.5	+0.9
NJ2			pmax	pmax		
	comp=Z,16nm,0.6s					
IPM	Ipoh	81.90 278	P	P	02 22 47.7	+0.5
IPM				PcP	02 22 48.2	-2.9
IPM			IAmb	IAmb	02 22 48.8	
	comp=Z,20nm,0.9s					
WHN	Wuhan	82.35 307	⇑P	P	02 22 50.7	+1.6
CN2	Changchun	82.86 323	*e*P	P	02 22 51.9	+0.5
CN2			pmax	pmax		
	comp=Z,20nm,1.0s					
RPSI	Rantau Prapat	83.14 276	P	P	02 22 53.0	-0.4
RPSI			IAmb	IAmb	02 22 54.2	
	comp=Z,10nm,1.0s					
NVAR	Mina Array Bea	83.38 44	P	P	02 22 54.8	+0.4
	comp=Z,1.4nm,0.8s,baz=226,slow=7.9,SNR=13					
BJI	Beijing	86.17 316	P	P	02 23 06.5	-1.0
BJI			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PBKT	Sadao Pong	86.80 289	P	P	02 23 11.2	+0.2
PBKT			IAmb	IAmb	02 23 14.0	
	comp=Z,13nm,1.2s					
G08A	Pilot Rock	86.98 38	IAmb	IAmb	02 23 13.2	
	comp=Z,11nm,1.2s					
MFID	Camas Ranch	87.75 41	P	P	02 23 15.8	+0.7
XAN	Xi'an	88.07 308	P	P	02 23 15.9	-0.8
XAN			pmax	pmax		
	comp=Z,9.0nm,0.8s					
XAN	Xi'an	88.07 308	P	P	02 23 17.3	+0.6
XAN			IAmb	IAmb	02 23 18.8	
	comp=Z,7.0nm,0.8s					
BALM	Baldy	88.37 17	IAmb	IAmb	02 23 18.5	
	comp=Z,9.2nm,0.8s					
KTH	Kantishna Hill	88.53 12	IAmb	IAmb	02 23 18.1	
	comp=Z,16nm,1.0s					
LAMP	Lampang	88.76 290	P	P	02 23 23.8	+3.6
PAYA	Payao	88.89 291	P	P	02 23 23.4	+2.6
TCUT	Toone Canyon	89.30 45	P	P	02 23 23.1	+0.5
TXAR	Lajitas Array	89.30 58	P	P	02 23 22.7	+0.1
	comp=Z,0.8nm,0.8s,baz=214,slow=4.8,SNR=7.8					
TXAR	Lajitas Array	89.30 58	P	P	02 23 23.5	+0.9
CMAR	Chiang Mai Arr	89.33 290	P	P	02 23 23.9	+1.0
	comp=Z,11nm,0.9s,baz=129,slow=3.5,SNR=39					
CMAR	Chiang Mai Arr	89.33 290	P	P	02 23 24.5	+1.6
CHTO	Chiang Mai	89.47 290	P	P	02 23 24.4	+0.9
HHC	Hu-ho-hao-te	89.58 315	*e*P	P	02 23 23.2	-0.4
HHC			pmax	pmax		
	comp=Z,7.0nm,1.0s					
WRH	Wood River Hil	89.92 13	IAmb	IAmb	02 23 24.5	
	comp=Z,8.6nm,1.0s					
CCB	Clear Creek Bu	90.14 13	IAmb	IAmb	02 23 24.9	
	comp=Z,7.7nm,1.1s					
BCAR	Beaver Creek A	90.20 16	P	P	02 23 25.7	-0.2
IMAR	Indian Mountai	90.22 10	P	P	02 23 25.5	-0.3
MCMT	McKenzie Canyo	90.32 41	P	P	02 23 27.3	+0.2
COLA	College	90.33 13	P	P	02 23 25.5	-0.8
ILAR	Eielson Array	90.44 13	P	P	02 23 25.9	-1.0
	comp=Z,1.1nm,0.7s,baz=226,slow=4.7,SNR=9.9					
PDAR	Pinedale Array	91.32 44	P	P	02 23 30.4	-1.4
	comp=Z,1.4nm,1.0s,baz=222,slow=2.0,SNR=6.2					
PDAR	Pinedale Array	91.32 44	P	P	02 23 31.2	-0.6
LZH	Lanzhou	92.71 308	⇓P	P	02 23 36.7	-1.6
LZH			pP	pP	02 25 44.5	+1.3
LZH			sP	sP	02 26 41.3	+0.8
LZH			PP	PP	02 27 32.6	+1.7
LZH			pmax	pmax		
	comp=Z,17nm,1.4s					
YAK	Yakutsk	93.27 339	P	P	02 23 39.4	-0.5
GTA	Gaotai	96.99 310	*e*P	P	02 23 58.4	+0.9
GTA			pP	pwP	02 26 09.4	+1.5
GTA			sP	sP	02 27 07.5	+7.5
GTA			pmax	pmax		
	comp=Z,2.0nm,1.2s					
MKAR	Makanchi Array	111.37 313	PKiKP	PKiKP	02 28 55.1	-0.7
	comp=Z,0.7nm,0.7s,baz=36,slow=1.1,SNR=3.3					
KSH	Kashi	114.70 304	*e*PKP	PKPdf	02 29 00.8	-1.7
KK31	Karatay Array	119.21 308		PKPdf	02 29 10.5	-0.4
KKAR	Karatay Array	119.21 308		PKPdf	02 29 10.4	-0.6
KKAR	Karatay Array	119.21 308		PKPdf	02 29 10.5	-0.4
KBL	Kabul	119.45 298		PKiKP	02 29 12.0	0.0
ABKAR	Abkulak array	126.37 315		PKPdf	02 29 24.1	-0.4
GEYT	Alibeck	128.49 301	PKP	PKiKP	02 29 29.9	+0.2
	comp=Z,2.1nm,0.8s,baz=3.8,slow=4.3,SNR=6.1					
GEYT			SKPbc	SKPdf	02 31 55.5	-14
	comp=Z,2.2nm,1.0s,baz=191,slow=6.0,SNR=4.0					
ARCES	ARCESS Array B	130.44 349	PKP	PKPdf	02 29 29.8	-1.8
	comp=Z,2.7nm,0.7s,baz=356,slow=1.5,SNR=7.4					
KLMR	Klimovskoe	132.94 335	*e*PKPdf	PKPdf	02 29 35.9	-0.6
KLMR			AMP		02 29 37.9	
	comp=Z,16nm,1.4s					
KLMR			*e*PP	PP	02 32 08.4	-2.5
FINES	FINESS Array B	137.09 342	PKP	PKPdf	02 29 42.4	-1.9
	comp=Z,3.8nm,0.9s,baz=102,slow=18,SNR=3.6					
FINES			SKPbc	SKPbc	02 32 23.6	+0.2
	comp=Z,1.8nm,0.7s,baz=29,slow=4.4,SNR=2.1					
NB2	NORSAR Subarra	140.60 352	PKP	PKPdf	02 29 44.6	-6.1
	comp=Z,6.2nm,1.2s,baz=17,slow=2.6					
NOA	NORSAR Array B	140.60 352	PKhKP	PKPpre	02 29 43.4	
	comp=Z,0.5nm,0.6s,baz=359,slow=3.6,SNR=4.2					
NOA			SKPbc	SKPbc	02 32 33.8	+0.6
	comp=Z,4.4nm,1.1s,baz=14,slow=4.2,SNR=4.5					
MBAR	Mbarara	142.66 236		PKPdf	02 29 54.9	-1.1
AKASG	Malin Array Be	143.85 329	PKP	PKPbc	02 29 54.4	-1.6
	comp=Z,3.4nm,0.4s,baz=41,slow=4.2,SNR=48					
AKASG			SKPbc	SKPbc	02 32 41.2	-0.2
	comp=Z,3.7nm,0.9s,baz=43,slow=2.4,SNR=8.2					
AKASG	Malin Array Be	143.85 329		PKPbc	02 29 55.0	-1.0
AKASG				SKiKP	02 32 42.0	-0.1
AKBB	Malin Array Si	143.85 329		PKPbc	02 29 54.8	-1.2
SUW	Suwalki	143.99 337	*e*PKP	PKPbc	02 29 56.0	-0.4
SUW			*e*PKP	PKPbc	02 29 56.0	-0.4
SUW	Suwalki	143.99 337		PKPbc	02 29 55.9	-0.4
SORM	Soroca	145.94 326	⇓P	PKPbc	02 30 02.1	-0.2
MILM	Milestii Mici	146.45 324	⇓P	PKPbc	02 30 03.3	-0.4
BEL	Belsk	146.60 337	*e*PKP	PKPbc	02 30 04.3	+0.3
BEL			*e*PKP	PKPbc	02 30 04.3	+0.3
BR131	Keskin Array S	146.91 309	PKPbc	PKPbc	02 30 04.8	-0.6
BRTR	Keskin Array B	146.91 309	PKPbc	PKPbc	02 30 05.0	-0.5
	comp=Z,4.9nm,0.8s,baz=137,slow=3.8,SNR=27					
ANTO	Ankara	147.46 310	⇓P	PKPbc	02 30 06.9	+0.1
ANTO	Ankara	147.46 310		PKPbc	02 30 07.3	+0.6
KWP	Kalwaria Pacla	147.57 333	*e*PKP	PKPbc	02 30 06.9	+0.2
KWP			*e*PKP	PKPbc	02 30 06.9	+0.2
BUR08	Bucovina Ar. S	147.86 328		PKiKP	02 30 08.2	-0.7
CFR	Carcaliu	147.86 322	⇑P	PKPbc	02 30 07.3	-0.2
TESR	Tescani	147.87 325	⇓P	PKPbc	02 30 07.3	-0.2
BURAR	Bucovina Array	147.87 328	⇑P	PKiKP	02 30 08.4	-0.6
BURAR	Bucovina Array	147.87 328		PKPbc	02 30 07.8	+0.2
BIZ	Bicaz	147.88 326	⇓P	PKPbc	02 30 08.1	+0.6
TOPG	Topolog	147.90 321	⇑P	PKPbc	02 30 07.7	+0.1
TIRR	Tirgusor	148.12 320	⇑P	PKPbc	02 30 08.6	+0.5
VRI	Vrincioaia	148.23 324	⇓P	PKPbc	02 30 08.1	-0.3
TLB	Topalu	148.26 321	⇑P	PKPbc	02 30 08.8	+0.4
HARR	Harsova	148.26 321	⇓P	PKiKP	02 30 09.3	-0.4
OJC	Ojcow	148.28 336	*e*PKP	PKPbc	02 30 08.3	-0.1
OJC			*e*PKP	PKPbc	02 30 08.3	-0.1
OJC	Ojcow	148.28 336		PKPbc	02 30 08.4	0.0
KOLS	Kolonicke sedl	148.29 332	*e*PKP	PKiKP	02 30 09.2	-0.5
CSS	Mathiatis	148.63 301		PKPbc	02 30 09.9	+0.1
NIE	Niedzica	148.73 335	*e*PKP	PKiKP	02 30 10.2	-0.4
NIE			*e*PKP	PKiKP	02 30 10.2	-0.4
TRPA	Tarpa	148.77 331	⇑P	PKPbc	02 30 09.6	0.0
DOPR	Dopca	148.89 325	⇓P	PKiKP	02 30 10.5	-0.5
MLR	Muntele Rosu	148.90 324	⇑P	PKPbc	02 30 10.0	-0.2
MLR	Muntele Rosu	148.90 324		PKPbc	02 30 10.2	-0.1
LEF	Lefka	148.94 301	⇓P	PKPbc	02 30 10.1	-0.4
KSP	Ksiaz	148.96 340	*e*PKP	PKPbc	02 30 10.4	+0.3
KSP			*e*PKP	PKPbc	02 30 10.4	+0.3
OKC	Ostrava-Krasne	149.20 337	⇑*e*PKP	PKiKP	02 30 11.1	-0.4
OSTC	Ostas	149.24 340	⇑*e*PKP	PKiKP	02 30 11.9	+0.3
OSTC			*e*PKPAB	PKPab	02 30 19.6	+1.9
CHVC	Chvalec	149.26 340	⇑*e*PKP	PKiKP	02 30 11.3	-0.3
CHVC			*ex*	x	02 32 15.5	
LANS	Liptovska Anna	149.27 335	*e*PKP	PKiKP	02 30 12.3	+0.6
LANS			*e*		02 30 18.1	
CJR	Cluj-Napoca	149.29 328	⇑P	PKPbc	02 30 11.2	+0.1
DPC	Dobruska-Polom	149.38 340	⇑*e*PKP	PKiKP	02 30 11.8	-0.1
VOIR		149.41 325	⇑P	PKPbc	02 30 11.2	-0.2
MORC	Moravsky Berou	149.47 338	⇓P	PKPbc	02 30 11.5	+0.2
MORC	Moravsky Berou	149.47 338	*e*PKP	PKPbc	02 30 11.5	+0.2
MORC	Moravsky Berou	149.47 338		PKPbc	02 30 11.5	+0.2
KRLC	Kraliky	149.47 339	⇑*e*PKP	PKiKP	02 30 11.7	-0.4
CLL	Collm	149.47 344	*e*PKPdf	PKPdf	02 30 06.0	0.0
CLL			⇓*i*PKPbc	PKPbc	02 30 11.3	+0.1
	comp=Z,31nm,0.8s					
CLL			⇑*i*PKPab	PKPab	02 30 18.5	-0.1
	comp=Z,14nm,0.8s					
CLL	Collm	149.47 344		PKPbc	02 30 11.3	+0.1
BRG	Berggiesshubel	149.62 343	*i* PKP	PKPbc	02 30 11.7	+0.1
	comp=Z,23nm,0.8s					
BRG	Berggiesshubel	149.62 343	*i* PKP	PKPab	02 30 19.5	+0.2
	comp=Z,9.5nm,0.8s					
BRG			*e*pPKP	pPKPab	02 32 31.6	+5.0
	comp=Z,4.0nm,0.9s					
BRG			*e*		02 33 40.3	
	comp=Z,21nm,2.0s					
DRGR		149.67 329	⇑P	PKPbc	02 30 12.1	+0.1
ARR	Arges	149.68 325	⇑P	PKiKP	02 30 13.5	+0.8
PVCC	Panska Ves	149.76 342	*e*PKPAB	PKPab	02 30 20.8	+1.0
HUMR	Humele	150.03 323	⇓P	PKPbc	02 30 12.2	-0.6
VYHS	Vyhne	150.05 335	*e*PKP	PKPbc	02 30 12.9	+0.2
VYHS			*e*		02 30 21.6	
LOT	Lotru	150.08 326	⇓P	PKPbc	02 30 12.7	-0.4
COPA	Copaceanca	150.15 323	⇑P	PKPbc	02 30 13.0	0.0
JAVC	Velka Javorina	150.19 337	*e*PKP	PKiKP	02 30 14.4	+0.8
VRAC	Vranov	150.19 338	⇓P	PKiKP	02 30 13.6	0.0
VRAC	Vranov	150.19 338	*e*PKP	PKiKP	02 30 13.4	-0.2
PRA	Prague	150.21 342	⇑*e*PKP	PKiKP	02 30 13.6	+0.1
DEV	Deva	150.22 327	⇑P	PKiKP	02 30 13.4	-0.3
GOPC	GO Pecny, Ondr	150.24 341	⇑*e*PKP	PKPbc	02 30 12.9	-0.2
PRU	Pruhonice	150.25 341	⇑*e*PKP	PKPbc	02 30 13.2	+0.1
PRU			*e*PKPAB	PKPab	02 30 22.6	+0.7
KRUC	Moravsky	150.47 338	*e*PKP	PKPbc	02 30 13.7	0.0
ELND	Elena	150.50 320	⇓P	PKiKP	02 30 14.4	0.0
SIRR	Siria	150.55 329	⇓P	PKiKP	02 30 14.2	-0.3
SMOL	Smolenice	150.57 337	*e*PKP	PKiKP	02 30 14.7	+0.3
SMOL			*e*		02 30 24.2	
TREC	Trest	150.57 340	⇑*e*PKP	PKPbc	02 30 13.9	0.0
NKC	Novy Kostel	150.60 344	⇑*e*PKP	PKPbc	02 30 14.1	+0.1
NKC			*e*PKPab	PKPab	02 30 23.9	+0.5
GZR	Gura Zlata	150.62 327	⇓P	PKPbc	02 30 14.0	-0.3
PBCC	Pribram	150.68 342	⇑*e*PKP	PKPbc	02 30 14.2	+0.1
MODS	Modra-Piesok	150.74 337	*e*PKP	PKPbc	02 30 14.2	-0.1
MODS			*e*		02 30 23.4	
PLVB	Pleven	150.96 322	⇓P	PKPbc	02 30 14.1	-0.9
BZS	Buzias	151.04 328	⇑P	PKPbc	02 30 15.0	0.0
HERR	Herculane	151.16 326	⇑P	PKPbc	02 30 15.3	-0.1
KHC	Kasperske Hory	151.29 342	⇑*e*PKP	PKPbc	02 30 15.0	-0.6
KHC			*e*PKPAB	PKPab	02 30 27.1	+0.6
KHC	Kasperske Hory	151.29 342		PKPbc	02 30 15.3	-0.3
KHC				PKPab	02 30 27.0	+0.6
MEM	Membach	151.45 353	PKPdf	PKPdf	02 30 09.2	+0.1
MEM			PKiKP	PKPbc	02 30 15.7	-0.1
GEC2	GERESS Array S	151.51 341		PKiKP	02 30 16.3	-0.2
GEC2			PKPab	PKPab	02 30 27.7	+0.3
GERES	GERESS Array B	151.51 341	PKP	PKPdf	02 30 07.8	-1.6
	comp=Z,0.2nm,0.3s,baz=11,slow=22,SNR=2.9					
GERES			PKPbc	PKPbc	02 30 15.7	-0.5
	comp=Z,2.6nm,0.7s,baz=94,slow=1.7,SNR=16					
GERES			PKPab	PKPab	02 30 27.4	-0.1
	comp=Z,2.5nm,0.9s,baz=42,slow=4.2,SNR=6.5					
GERES	GERESS Array B	151.51 341		PKPbc	02 30 15.8	-0.4
GERES				PKPab	02 30 27.2	-0.2
MDVR	Moldovita	151.59 327	⇓P	PKPbc	02 30 16.3	-0.1
CONA	Conrad Observa	151.62 338	*i* PKPdf	PKPdf	02 30 10.5	+0.9
	comp=Z,5.0nm,1.7s					
CONA			*i* PKiKP	PKiKP	02 30 16.5	-0.2
	comp=Z,7.1nm,0.8s,SNR=8.6					
CONA			*i* PKPab	PKPab	02 30 28.7	+0.8
	comp=Z,12nm,1.3s					
BCLA	Clavier	151.72 353	PKiKP	PKPbc	02 30 16.0	-0.4
EZN	Ezine	151.93 314	⇑P	PKPbc	02 30 16.9	-0.3
MOA	Molln	152.22 340	*i* PKiKP	PKPbc	02 30 17.5	-0.2
	comp=Z,3.6nm,0.8s					
MOA			*i* PKPab	PKPab	02 30 29.5	-0.8
	comp=Z,5.4nm,1.1s					
VTS	Vitosha	152.23 322	⇑P	PKPbc	02 30 17.9	-0.1
VTS	Vitosha	152.23 322	PKPbc	PKPbc	02 30 17.5	-0.5
VTS				PKPab	02 30 30.9	+0.2
SOKA	Soboth	152.99 337	*i* PKPbc	PKPbc	02 30 18.8	-0.7
	comp=Z,5.4nm,1.1s					
SOKA			*i* PKPab	PKPab	02 30 33.9	+0.2
	comp=Z,3.2nm,0.9s					
KBA	Koelnbreinsper	153.20 340	*i* PKPbc	PKPbc	02 30 19.2	-0.8
	comp=Z,5.3nm,1.2s					
KBA			*i* PKPab	PKPab	02 30 36.2	+1.4
	comp=Z,2.9nm,0.7s					
WATA	Walderalm	153.49 343	*i* PKiKP	PKPbc	02 30 20.4	-0.2
	comp=Z,3.0nm,0.6s					
WATA			*i* PKPab	PKPab	02 30 36.3	+0.4
	comp=Z,12nm,1.2s					
MYKA	Terra Mystica	153.50 339	*i* PKiKP	PKiKP	02 30 20.9	+0.3
	comp=Z,1.8nm,0.5s					
MYKA			*i* PKPab	PKPab	02 30 35.1	-0.8
	comp=Z,5.0nm,0.8s					
WTTA	Wattenberg	153.54 343	*i* PKiKP	PKPbc	02 30 20.6	-0.2
	comp=Z,5.2nm,0.9s					
WTTA			*i* PKPab	PKPab	02 30 36.6	+0.4
	comp=Z,14nm,1.1s,SNR=5.1					
RETA	Reutte	153.56 344	*i* PKPab	PKPab	02 30 36.4	+0.2
	comp=Z,8.3nm,1.1s					
MOTA	Moosalm	153.61 343	*i* PKiKP	PKPbc	02 30 20.5	-0.4
	comp=Z,5.0nm,1.2s					
MOTA			*i* PKPab	PKPab	02 30 36.6	+0.2
	comp=Z,12nm,1.1s					
SQTA	Sankt Quirin	153.69 343	*i* PKPab	PKPab	02 30 37.1	+0.3
	comp=Z,7.6nm,1.0s					
ABTA	Abfaltersbach	153.75 341	*i* PKPbc	PKPbc	02 30 20.3	-0.7
	comp=Z,6.3nm,1.1s					
ABTA			*i* PKPab	PKPab	02 30 36.5	-0.5
	comp=Z,7.1nm,0.9s,SNR=4.5					
DAVA	Damuels	153.97 345	*i* PKiKP	PKiKP	02 30 21.6	0.0
	comp=Z,6.0nm,1.3s					
DAVA			*i* PKPab	PKPab	02 30 38.0	0.0
	comp=Z,4.3nm,0.8s					
FETA	Feichten	154.00 344	*i* PKPab	PKPab	02 30 38.5	+0.4
	comp=Z,6.6nm,1.2s					
STAL	STALIGIAL	154.13 340	PKPbc	PKiKP	02 30 22.2	+0.4
STAL				PKPab	02 30 38.0	-0.6
CTI	Castel Tesino	154.64 341		PKPab	02 30 40.6	-0.2
TUE	Stuetta	154.86 345		PKPab	02 30 42.5	+0.6
ESDC	Sonseca Array	162.33 11	PKPab	PKPab	02 31 13.1	-1.3
	comp=Z,2.1nm,1.0s,baz=340,slow=4.5,SNR=7.8					
ESDC	Sonseca Array	162.33 11	PKPdf	PKPdf	02 30 23.0	-0.1
ESDC				PKPab	02 31 13.1	-1.3
TORD	Torodi Ar. Bea	170.77 188	PKP	PKPdf	02 30 28.1	-1.9
	comp=Z,1.2nm,0.9s,baz=166,slow=1.3,SNR=7.6					
TORD			PKPab	PKPab	02 31 52.0	-0.1
	comp=Z,0.3nm,0.6s,baz=162,slow=7.1,SNR=2.8					
TORD	Torodi Ar. Bea	170.77 188		PKPdf	02 30 29.0	-1.0

IDC 08 02:53:36.1±25.0, 6°.34N×126°.08E, h504km±335km, mb2.8/5, mb1 3.0/5, mb1mx2.7/40, mbtmp3.7/5, Error ellipse: s-maj=160.6km s-min=30.0km az=50.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.35	163	P	P	02 58 39.8	-0.5
	0.3nm,0.4s,baz=340,slow=9.3,SNR=7.4						
ASAR	Alice Springs	30.78	166	P	P	02 59 09.6	-0.6
	0.8nm,0.3s,baz=340,slow=7.5,SNR=22						
STKA	Stephens Creek	40.78	160	P	P	03 00 34.7	+1.7
	0.7nm,0.3s,baz=339,slow=8.6,SNR=3.1						
MKAR	Makanchi Array	55.06	325	P	P	03 02 20.1	+0.3
	0.5nm,0.6s,baz=124,slow=8.0,SNR=4.9						
ILAR	Eielson Array	83.05	26	P	P	03 05 07.4	-0.6
	0.3nm,0.9s,baz=256,slow=3.6,SNR=2.7						

*IDC **08** 03:07:36.6±2.3, 39°.33N×106°.29W, h0km, mb1 3.3/2, mb1mx3.1/47, mbtmp2.8/2, ML3.3/2, Error ellipse: s-maj=35.4km s-min=12.2km az=76.0*
*ISCJB **08** 03:07:39.8±0.4, 38°.89N±0°.04×107°.64W±0°.04, h7km, Error ellipse: s-maj=6.2km s-min=4.5km az=151.8*
*NEIC **08** 03:07:39.7±2.4, 38°.94N±0°.02×107°.58W±0°.03, h1km±2km, ML2.9/101*

ISC 08 03:07:37.8±1.0, 39°.03N±0°.03×107°.64W±0°.03, h7km, n37, σ1§52/28, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCO	Snowmass	0.54	74		Pb	03 07 49.9	+0.1
PV07	Paradox Valley	0.99	234		Pb	03 07 57.3	0

comp=E,9.2nm,1.1s
FXWY IAML 03 10 45.7
comp=E,8.8nm,1.1s
ELK Elko 6.09 289 Pg **Pg 03 09 32.8 -1.7**
comp=E,0.1nm,0.3s,baz=80,slow=18,SNR=2.3
ELK Lg Lg 03 10 54.9
comp=E,0.1nm,0.3s,baz=205,slow=19,SNR=2.9
NVAR Mina Array Bea 8.36 269 Pn Pb 03 09 55.7 -7.2
comp=E,0.1nm,0.3s,baz=87,slow=17,SNR=3.0
TXAR Lajitas Array 10.21 160 Pg Pn 03 10 45.2 +40
comp=E,0.0nm,0.3s,baz=359,slow=14,SNR=3.2
TXAR Lg Lg 03 12 58.3
comp=E,0.0nm,0.3s,baz=351,slow=28,SNR=2.2

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*ISCJB **08** 03:09:29.8±0.4, 1°.56N±0°.04×126°.54E±0°.04, h47km, mb4.3/9, Error ellipse: s-maj=7.1km s-min=5.4km az=41.4*
*DJA **08** 03:09:30.0±0.2, 2°N±3°×12°7E±°, h10km, M4.3/12, mb4.5/9, mB4.7/2, MLv4.2/12, Mw(mB)3.9/2*
*NEIC **08** 03:09:31.6±1.1, 1°.50N±0°.06×126°.45E±0°.07, h52km±8km, mb4.3/10*
*IDC **08** 03:09:33.0±3.2, 1°.45N×126°.41E, h64km±31km, mb4.0/8, mb1 4.1/11, mb1mx3.7/45, mbtmp4.3/11, ML4.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/41, Error ellipse: s-maj=32.4km s-min=16.7km az=70.0*
ISC 08 03:09:31.6±0.7, 1°.51N±0°.08×126°.55E±0°.07, h47km, n45, σ1°16/42, mb4.3/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**132**	P	**Pn**	**03 09 51.0**	**+0.4**
TNTI				S	**Sn**	**03 10 05.3**	**+0.6**
TNTI	**Ternate**	**1.10**	**132**		**Pn**	**03 09 50.7**	**+0.1**
LBMI	**Labuha**	**2.34**	**156**	P	**Pn**	**03 10 08.6**	**+1.0**
SGSI	**Sangihe**	**2.39**	**335**	P	**Pn**	**03 10 08.7**	**+0.4**
KMSI	**Cibinong**	**2.73**	**250**	P	**Pn**	**03 10 13.4**	**+0.5**
SANI	**Sanana**	**3.58**	**189**	P	**Pn**	**03 10 24.7**	**+0.1**
LUWI	**Luwuk**	**4.55**	**236**	P	**Pn**	**03 10 38.5**	**+0.6**
LUWI	**Luwuk**	**4.55**	**236**	Pn	**Pn**	**03 10 39.1**	**+1.2**
MRSI	**Marisa**	**4.72**	**257**	P	**Pn**	**03 10 44.0**	**+3.8**
NLAI	**Namlea**	**4.75**	**173**	P	**Pn**	**03 10 41.8**	**+1.1**
SIJI	**Sorong**	**5.28**	**117**	P	**Pn**	**03 10 50.4**	**+2.4**
	2.0nm,0.3s,baz=128,slow=20,SNR=7.6						
SIJI				LR	LR	03 12 46.7	
	comp=Z,94nm,21.4s,baz=34,slow=36						
MSAI	**Masohi**	**5.38**	**154**	P	Pn	03 10 54.7	+5.4
APSI	**Ampana**	**5.46**	**244**	P	**Pn**	**03 10 51.2**	**+0.8**
MPSI	**Mapaga**	**6.75**	**260**	P	**Pn**	**03 11 09.7**	**+1.6**
FAKI	**Fak Fak**	**7.20**	**128**		**Pn**	**03 11 14.1**	**-0.3**
TTSI	**Tana Toraja**	**8.11**	**236**	P	**Pn**	**03 11 27.4**	**+0.7**
	38nm,0.5s						
SPSI	**Sidrap Palu**	**8.69**	**231**	P	**Pn**	**03 11 36.7**	**+2.0**
	27nm,0.5s						
BNSI	**Bone**	**8.71**	**228**	P	**Pn**	**03 11 36.3**	**+1.3**
	28nm,0.6s						
BKSI	**Bulukumba**	**9.34**	**223**	P	**Pn**	**03 11 45.2**	**+1.5**
	8.9nm,0.5s						
KAPI	**Kappang**	**9.38**	**226**	P	**Pn**	**03 11 45.0**	**+0.7**
	8.7nm,0.3s,baz=56,slow=3.5,SNR=9.4						
SOEI	**Soe**	**11.42**	**191**	Pn	**Pn**	**03 12 11.1**	**-1.1**
TWSI	**Taliwang, Sumb**	**14.02**	**223**	P	**Pn**	**03 12 48.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**19.50**	**183**	P	**P**	**03 13 53.6**	**-1.3**
	0.3nm,0.3s,baz=15,slow=9.9,SNR=12						
WB0	**Warramunga Arr**	**22.50**	**160**	P	**P**	**03 14 27.2**	**-0.2**
WRAB	**Tennant Creek**	**22.64**	**161**	P	**P**	**03 14 28.4**	**-0.4**
WRAB				IAmb	IAmb	03 14 30.4	
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**03 14 28.0**	**-1.0**
	comp=Z,8.9nm,0.4s,baz=339,slow=11,SNR=141						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**03 14 28.4**	**-0.5**
WB2	**Warramunga Arr**	**22.65**	**161**	P	**P**	**03 14 28.2**	**-0.8**
AS31	**Alice Springs**	**26.03**	**164**	P	**P**	**03 15 00.5**	**0.0**
AS31				IAmb	IAmb	03 15 05.8	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**26.03**	**164**	P	**P**	**03 15 00.7**	**+0.2**
	comp=Z,3.9nm,0.5s,baz=347,slow=7.0,SNR=41						
ASAR	**Alice Springs**	**26.03**	**164**	P	**P**	**03 15 00.3**	**-0.2**
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**03 16 29.8**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=333,slow=9.9,SNR=6.3						
STKA	**Stephens Creek**	**36.14**	**158**	IAmb	IAmb	03 16 37.2	
	comp=Z,7.1nm,1.8s						
HHC	**Hu-ho-hao-te**	**41.44**	**343**	*e*P	P	03 17 18.6	+4.8
HHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KLR	**Kul'dur**	**47.75**	**5**	P	**P**	**03 18 05.2**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=257,slow=7.5,SNR=4.5						
MK31	**Makanchi Array**	**59.27**	**326**	P	**P**	**03 19 28.0**	**-0.5**
MK31				IAmb	IAmb	03 19 29.5	
	comp=Z,5.3nm,1.4s						
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**03 19 27.8**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=120,slow=7.6,SNR=24						
KSH	**Kashi**	**59.49**	**316**	*e*P	P	03 19 35.5	+5.3
ZALV	**Zalesovo Beam**	**62.48**	**334**	P	**P**	**03 19 48.8**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=143,slow=6.0,SNR=3.6						
KURK	**Kurchatov**	**63.51**	**328**	P	**P**	**03 19 56.1**	**-0.8**
BRVK	**Borovoye**	**69.15**	**328**	P	**P**	**03 20 32.5**	**-0.5**
BRVK				IAmb	IAmb	03 21 11.5	
	comp=Z,3.5nm,1.1s						
ABKAR	**Akbulak array**	**73.75**	**321**	P	**P**	**03 20 59.8**	**-1.0**
BRTR	**Keskin Array B**	**91.28**	**310**	P	**P**	**03 22 31.2**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=52,slow=2.0,SNR=3.7						
FINES	**FINESS Array B**	**93.69**	**332**	P	**P**	**03 22 42.4**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=69,slow=5.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**123.41**	**287**	PKP	**PKPdf**	**03 28 23.9**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=59,slow=3.5,SNR=3.3						

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*NNC **08** 03:12:54.9±5.4, 38°.80N×70°.65E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=41.8km s-min=26.2km az=4.0*
ISC 08 03:12:54.4±3.5, 38°.6N±0°.2×70°.6E±0°.1, h17km, n9, σ1°19/13, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.24**	**33**	P	**Pn**	**03 13 58.9**	**+0.4**
	SNR=12						
KK31	**Karatay Array**	**4.47**	**360**	P	**Pn**	**03 14 02.5**	**+1.1**
	1.9nm,0.3s,baz=178,slow=12,SNR=26						
KK31				⇑S	**Sn**	**03 14 54.8**	**+1.8**
	6.7nm,0.8s,baz=184,slow=22,SNR=5.0						
UCH	**Uchtor**	**4.69**	**39**	P	**Pn**	**03 14 06.4**	**+1.6**
	SNR=7.8						
AAK	**Ala-Archa**	**5.00**	**36**	⇑P	**Pn**	**03 14 09.4**	**+0.6**
	2.9nm,0.5s						
AAK				⇑S	**Sn**	**03 15 04.7**	**-1.5**
	5.8nm,0.6s						
AAK	**Ala-Archa**	**5.00**	**36**	P	**Pn**	**03 14 09.9**	**+1.1**
	SNR=7.4						
USP	**Ospenovka**	**5.51**	**32**	P	**Pn**	**03 14 15.9**	**+0.3**
	SNR=8.9						
TKM2	**Tokmak 2**	**5.74**	**40**	⇑P	**Pn**	**03 14 19.4**	**+0.4**
	3.0nm,0.4s						
TKM2				⇑S	**Sn**	**03 15 24.3**	**-0.3**
	4.2nm,0.7s						
TKM2	**Tokmak 2**	**5.74**	**40**	P	**Pn**	**03 14 19.6**	**+0.6**
	SNR=10						
AB31	**Akbulak array**	**13.07**	**328**	⇓P	**Pn**	**03 15 58.7**	**-0.5**
	0.9nm,0.6s,baz=156,slow=10,SNR=14						
AB31				⇑S	**Sn**	**03 18 22.7**	**-1.5**
	1.2nm,0.8s						

WEL 08 03:20:04.9±0.7, 32°S±13°×18°0W±3°4, h262km±17km, M4.4/15, mB4.8/7, ML5.0/7, MLv4.7/15, Mw(mB)4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.85**	**33**	P	Pn	03 20 56.2	-0.4
GLKZ				S	S	03 21 38.2	+0.7
RIZ	**Raoul Island**	**2.86**	**32**	P	Pn	03 20 55.6	-1.1
MXZ	**Matakaoa Point**	**6.10**	**195**	P	Pn	03 21 35.9	+1.5
MXZ				S	S	03 22 48.2	+2.0
WMGZ	**Waiomatatini S**	**6.32**	**194**	P	Pn	03 21 38.6	+1.4
WMGZ				S	S	03 22 53.5	+2.2
HAZ	**Te Kaha**	**6.41**	**198**	P	Pn	03 21 38.9	+0.6
HAZ				S	S	03 22 55.2	+1.9
PUZ	**Puketiti**	**6.60**	**194**	P	Pn	03 21 42.0	+1.4
PUZ				S	S	03 22 57.2	-0.4
RUGZ	**Raukumara Rang**	**6.64**	**198**	P	Pn	03 21 40.9	-0.3
RUGZ				S	S	03 22 56.7	-1.9
MWZ	**Matawai**	**7.02**	**198**	P	Pn	03 21 45.0	-0.9
URZ	**Urewera**	**7.07**	**201**	P	Pn	03 21 47.1	+0.6
URZ				S	S	03 23 07.2	-1.1
RIGZ	**Rimuhau**	**7.32**	**196**	P	Pn	03 21 50.8	+1.2
RIGZ				S	S	03 23 12.2	-1.8
MUGZ	**Murupara**	**7.38**	**202**	P	Pn	03 21 48.6	-1.8
RTZ	**Ruatahuna**	**7.44**	**201**	P	Pn	03 21 51.3	+0.1
SNGZ	**Shannon Statio**	**7.49**	**198**	P	Pn	03 21 52.0	+0.1
PRGZ	**Paritu Road**	**7.50**	**195**	P	Pn	03 21 53.5	+1.6
KNZ	**Kokohu**	**7.64**	**196**	P	Pn	03 21 52.0	-1.6
RAHZ	**Arahi**	**7.69**	**199**	P	Pn	03 21 54.4	+0.1
MTHZ	**Maungataniwha**	**7.70**	**201**	P	Pn	03 21 54.4	-0.1
MTHZ				S	S	03 23 22.3	-0.5
TLZ	**Tolley Road**	**7.71**	**209**	P	Pn	03 21 55.7	+1.2
MHGZ	**Mahia Peninsul**	**7.71**	**194**	P	Pn	03 21 55.3	+0.8
MRHZ	**Matea Rd**	**7.82**	**203**	P	Pn	03 21 55.4	-0.6
NMHZ	**Naumai**	**7.94**	**200**	P	Pn	03 21 55.4	-2.1
ARHZ	**Arapaoanui**	**8.04**	**199**	P	Pn	03 21 57.3	-1.3
BKZ	**Black Stump Fm**	**8.10**	**202**	P	Pn	03 21 57.6	-1.8
HIZ	**Hauiti**	**8.16**	**212**	P	Pn	03 22 03.0	+2.9
MCHZ	**McNeill Hill**	**8.29**	**200**	P	Pn	03 22 01.2	-0.6
TUVZ	**Tukino**	**8.47**	**205**	P	Pn	03 22 02.9	-1.3
FWVZ	**Far West T-bar**	**8.50**	**206**	P	Pn	03 22 03.1	-1.6
BHHZ	**Black Hill Sta**	**8.53**	**203**	P	Pn	03 21 55.1	-10
TRVZ	**Turoa**	**8.54**	**206**	P	Pn	03 22 04.1	-1.1
KAHZ	**Kahuranaki**	**8.57**	**198**	P	Pn	03 22 03.3	-2.0
KRHZ	**Kereru**	**8.57**	**201**	P	Pn	03 22 03.0	-2.4
PXZ	**Pawanui**	**8.79**	**198**	P	Pn	03 22 06.4	-1.6
PNHZ	**Pukenui**	**8.87**	**201**	P	Pn	03 22 06.5	-2.7
PRHZ	**Porangahau**	**9.07**	**198**	P	Pn	03 22 09.8	-1.8
ANWZ	**Angora Road**	**9.30**	**198**	P	Pn	03 22 12.6	-1.8

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*IDC **08** 03:25:07.6±0.7, 5°.80S×153°.34E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.3/33, mbtmp4.4/16, ML2.4/1, MS3.6/21, Ms1 3.6/21, ms1mx3.5/42, Error ellipse: s-maj=20.9km s-min=14.4km az=98.0*
*ISCJB **08** 03:25:10.7±0.4, 5°.85S±0°.04×153°.38E±0°.06, h32km, mb4.5/20, MS3.7/26, Error ellipse: s-maj=8.3km s-min=6.0km az=6.9*
*NEIC **08** 03:25:10.6±1.7, 5°.83S±0°.09×153°.5E±0°.1, h20km±4km, mb4.6/32*
*DJA **08** 03:25:11.6±1.3, 6°S±4°×15°3E±°, h32km±11km, M5.6/13, mb4.7/13, MLv6.1/1*
ISC 08 03:25:12.4±0.5, 5°.85S±0°.06×153°.42E±0°.08, h32km, n93, σ1°45/87, mb4.5/26, MS3.7/26, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.07**	**318**	Pn	**Pn**	**03 25 44.3**	**-0.7**
	47nm,0.3s,baz=295,slow=6.0,SNR=10.0						
KRVT				Sn	**Sn**	**03 26 08.9**	**-0.8**
	234nm,0.3s,baz=189,slow=23,SNR=11						
MANU	**Manus Island**	**7.13**	**302**	Pn	**Pn**	**03 26 54.0**	**-0.5**
PMG	**Port Moresby**	**7.14**	**240**	Pn	**Pn**	**03 26 53.0**	**-1.7**
	3.5nm,0.3s,baz=176,slow=4.6,SNR=6.5						
PMG				Sn	**Sn**	**03 28 15.0**	**+0.2**
	1.8nm,0.3s,baz=241,slow=19,SNR=4.7						
PMG				LR	LR	03 30 05.2	
	comp=Z,795nm,18.2s,baz=354,slow=42						
PMG	**Port Moresby**	**7.14**	**240**		**Pn**	**03 26 53.1**	**-1.6**
PMG					**Sn**	**03 28 15.1**	**+0.2**
CTAO	**Charters Tower**	**15.77**	**206**	P	**P**	**03 28 56.4**	**+0.5**
CTAO				IAmb	IAmb	03 28 58.2	
	comp=Z,50nm,1.5s						
EIDS	**Eidsvold**	**19.54**	**186**	P	**P**	**03 29 38.1**	**+0.7**
DZM	**Mont Dzumac**	**20.46**	**143**	*e*P	**P**	**03 29 48.0**	**+0.4**
	comp=Z,66nm,1.4s						
DZM	**Mont Dzumac**	**20.46**	**143**	P	Pn	03 29 49.3	-0.5
	comp=Z,17nm,1.1s,baz=1.0,slow=7.5,SNR=4.4						
DZM	**Mont Dzumac**	**20.46**	**143**	P	**P**	**03 29 46.7**	**-0.9**
DZM				IAmb	IAmb	03 30 12.7	
	comp=Z,30nm,1.2s						
GUMO	**Guam**	**21.10**	**336**	LR	LR	03 38 26.9	
	comp=Z,98nm,18.1s,baz=155,slow=38						
MTN	**Manton Dam**	**23.05**	**251**	P	**P**	**03 30 15.8**	**+0.6**
MTN				IAmb	IAmb	03 30 34.5	
	comp=Z,23nm,0.8s						
WRAB	**Tennant Creek**	**23.23**	**231**	P	**P**	**03 30 17.7**	**+0.7**
WRAB				IAmb	IAmb	03 30 34.6	
	comp=Z,10.0nm,0.9s						
WB2	**Warramunga Arr**	**23.23**	**231**	P	**P**	**03 30 18.0**	**+0.9**
WRA	**Warramunga Arr**	**23.24**	**231**	P	**P**	**03 30 15.1**	**-2.1**
	comp=Z,6.2nm,1.1s,baz=56,slow=10,SNR=14						
WRA				ScP	**ScP**	**03 37 46.7**	**+6.3**
	comp=Z,1.3nm,1.0s,baz=64,slow=2.5,SNR=4.7						
WRA				LR	LR	03 39 31.7	
	comp=Z,97nm,21.4s,baz=65,slow=37						
WRA	**Warramunga Arr**	**23.24**	**231**	P	**P**	**03 30 18.3**	**+1.1**
ARMA	**Armidale**	**24.50**	**184**	P	**P**	**03 30 29.4**	**+0.4**
ARMA				IAmb	IAmb	03 30 30.8	
	comp=Z,25nm,1.2s						
AS31	**Alice Springs**	**25.82**	**225**	P	**P**	**03 30 40.3**	**-0.7**
ASAR	**Alice Springs**	**25.82**	**225**	P	**P**	**03 30 39.8**	**-1.2**
	comp=Z,5.5nm,0.9s,baz=54,slow=8.9,SNR=36						
ASAR				ScP	**ScP**	**03 37 53.9**	**+6.4**
	comp=Z,0.9nm,0.9s,baz=8.1,slow=1.8,SNR=6.1						
ASAR				LR	LR	03 41 09.5	
	comp=Z,243nm,18.1s,baz=67,slow=37						
ASAR	**Alice Springs**	**25.82**	**225**	P	**P**	**03 30 39.6**	**-1.4**
STKA	**Stephens Creek**	**28.16**	**202**	LR	LR	03 41 17.0	
	comp=Z,78nm,21.4s,baz=25,slow=34						
FITZ	**Fitzroy Crossi**	**29.72**	**243**	P	**P**	**03 31 14.4**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=55,slow=7.9,SNR=9.8						
FITZ				LR	LR	03 44 07.4	
	comp=Z,129nm,18.4s,baz=68,slow=38						
FITZ	**Fitzroy Crossi**	**29.72**	**243**	P	**P**	**03 31 15.4**	**-0.6**
FITZ				IAmb	IAmb	03 31 27.8	
	comp=Z,8.0nm,0.8s						
DAV	**Davao City (W)**	**30.60**	**294**	LR	LR	03 42 24.4	
	comp=Z,112nm,20.4s,baz=358,slow=34						
FORT	**Forrest**	**34.38**	**221**	P	**P**	**03 31 56.2**	**-0.5**
URZ	**Urewera**	**38.77**	**150**	LR	LR	03 48 31.1	
	comp=Z,225nm,18.5s,baz=2.0,slow=36						
RPZ	**Rata Peaks**	**40.78**	**160**	LR	LR	03 49 36.9	
	comp=Z,540nm,18.1s,baz=359,slow=36						
NWAO	**Narrogin (SRO)**	**43.11**	**227**	LR	LR	03 51 30.9	
	comp=Z,186nm,18.3s,baz=60,slow=37						
JNU	**Nakatsue**	**44.27**	**333**	LR	LR	03 47 32.6	
	comp=Z,30nm,20.8s,baz=188,slow=30						
MJAR	**Matsushiro Arr**	**44.51**	**342**	P	**P**	**03 33 18.5**	**-2.6**
	comp=Z,3.5nm,0.8s,baz=169,slow=9.3,SNR=6.4						
MJAR				LR	LR	03 49 12.2	
	comp=Z,26nm,20.9s,baz=205,slow=32						
KSRS	**Korea Array**	**49.21**	**333**	P	**P**	**03 33 56.9**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=142,slow=8.7,SNR=11						
KSRS				LR	LR	03 52 39.5	
	comp=Z,38nm,19.0s,baz=258,slow=34						
KSAR	**Wonju Array Be**	**49.22**	**333**	P	**P**	**03 33 57.6**	**-0.2**
NJ2	**Nanjing**	**50.05**	**321**	*e*P	**P**	**03 34 04.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**53.44**	**341**	P	**P**	**03 34 28.7**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=170,slow=9.7,SNR=7.8						
USRK				LR	LR	03 55 45.4	
	comp=Z,30nm,19.1s,baz=145,slow=34						
USRK	**Ussuriysk Ar.**	**53.44**	**341**	P	**P**	**03 34 29.5**	**+0.2**
ENH	**Enshi**	**55.32**	**313**	P	**P**	**03 34 43.1**	**-0.2**
COCO	**West Island**	**56.16**	**259**	P	**P**	**03 34 47.5**	**-2.0**
PPT2	**Papeete2**	**56.83**	**107**	*e*LR	LR	03 51 33.7	
	comp=Z,71nm,22.2s						
TBI	**Tubuai**	**57.57**	**114**	*e*LR	LR	03 51 52.5	
	comp=Z,104nm,22.5s						
XAN	**Xi'an**	**57.80**	**317**	P	**P**	**03 35 00.7**	**-0.2**
XAN				pP	pP	03 35 06.6	-2.3
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**57.80**	**317**	P	**P**	**03 35 00.8**	**-0.2**
PETK	**Petropavlovsk-**	**58.85**	**3**	P	**P**	**03 35 07.6**	**-0.2**
	comp=Z,9.3nm,0.8s,baz=168,slow=7.4,SNR=6.0						
PETK				LR	LR	04 01 41.3	
	comp=Z,27nm,18.1s,baz=235,slow=37						
PETK	**Petropavlovsk-**	**58.85**	**3**	P	**P**	**03 35 07.9**	**+0.1**
CM31	**Chiang Mai Arr**	**58.88**	**296**	P	**P**	**03 35 08.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**58.88**	**296**	P	**P**	**03 35 08.6**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=116,slow=5.3,SNR=15						
CMAR				LR	LR	04 00 23.9	
	comp=Z,14nm,18.1s,baz=90,slow=36						
CMAR	**Chiang Mai Arr**	**58.88**	**296**		**P**	**03 35 09.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**60.26**	**324**	*e*P	**P**	**03 35 21.5**	**+3.6**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HIA	**Hailar**	**62.24**	**336**	P	**P**	**03 35 31.9**	**+0.8**
LZH	**Lanzhou**	**62.41**	**316**	*e*P	**P**	**03 35 34.2**	**+1.5**
LZH				pP	sP	03 35 42.5	-1.3
LZH				sP	pwP	03 35 46.3	-1.9
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,82nm,7.2s						
LZH				LR	LR		
	comp=Z,220nm,14.6s						
LZH				LR	LR		
	comp=Z,230nm,15.0s						
LZH				LR	LR		
	comp=Z,350nm,18.1s						
TAOE	**Nuku Hiva Isla**	**65.88**	**97**	*e*LR	LR	03 55 48.0	
	comp=Z,206nm,27.5s						
GTA	**Gaotai**	**66.84**	**317**	*e*P	**P**	**03 36 02.3**	**+0.8**
GTA				S	**S**	**03 44 56.0**	**+3.7**
GTA				sS	sS	03 45 08.7	+2.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,7.5s						
GTA				LR	LR		
	comp=Z,140nm,16.5s						
GTA				LR	LR		
	comp=Z,110nm,15.9s						
GTA				LR	LR		
	comp=Z,120nm,17.8s						
ULN	**Ulaanbaatar**	**67.21**	**328**	P	**P**	**03 36 04.5**	**+0.8**
ULN				IAmb	IAmb	03 36 06.7	
	comp=Z,6.8nm,0.9s						
SONM	**Songino Array**	**67.54**	**328**	P	**P**	**03 36 06.3**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=128,slow=6.1,SNR=8.5						
SONM	**Songino Array**	**67.54**	**328**	P	**P**	**03 36 06.4**	**+0.7**
LSA	**Lhasa**	**69.34**	**305**	P	**P**	**03 36 17.6**	**-0.2**
YAK	**Yakutsk**	**70.12**	**348**	P	**P**	**03 36 21.7**	**+0.4**
ODAN	**Odare**	**71.61**	**301**	*e*P	**P**	**03 36 31.6**	**+0.2**
GUN	**Gumba**	**73.19**	**301**	*e*P	**P**	**03 36 41.3**	**+0.3**
	comp=Z,18nm,0.8s						
PKI	**Pulchoki**	**73.50**	**301**	*e*P	**P**	**03 36 42.4**	**-0.4**
PKIN	**Phulchoki**	**73.51**	**301**	*e*P	**P**	**03 36 42.4**	**-0.4**
KOLN	**Koldanda**	**75.10**	**301**	*e*P	**P**	**03 36 51.8**	**-0.2**
	comp=Z,16nm,0.8s						
DANN	**Dangsing**	**75.11**	**301**	*e*P	**P**	**03 36 51.8**	**-0.3**
	comp=Z,17nm,0.8s						
WMQ	**Urumqi**	**76.93**	**317**	*e*P	**P**	**03 37 03.3**	**+1.4**
WMQ				pP	sP	03 37 11.1	-2.1
WMQ				sP	pwP	03 37 15.8	-1.9
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.5s						
WMQ				LR	LR		
	comp=Z,500nm,29.1s						
WMQ				LR	LR		
	comp=Z,1μm,29.3s						
WMQ				LR	LR		
	comp=Z,170nm,27.7s						
TIXI	**Tiksi**	**79.02**	**352**	P	**P**	**03 37 12.6**	**-0.1**
IMAR	**Indian Mountai**	**81.16**	**19**	P	**P**	**03 37 24.1**	**-0.4**
MK31	**Makanchi Array**	**81.52**	**319**	P	**P**	**03 37 27.5**	**+0.7**
MK31				IAmb	IAmb	03 37 57.6	
	comp=Z,19nm,1.9s						
MKAR	**Makanchi Array**	**81.52**	**319**	P	**P**	**03 37 27.4**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=114,slow=3.0,SNR=8.4						
MKAR	**Makanchi Array**	**81.52**	**319**	P	**P**	**03 37 26.9**	**+0.1**
MCK	**McKinley**	**81.59**	**22**	P	**P**	**03 37 26.6**	**-0.2**
MAKZ	**Makanchi**	**81.73**	**319**	P	**P**	**03 37 27.6**	**-0.4**
ZAA0	**Zalesovo Array**	**82.36**	**326**	P	**P**	**03 37 30.9**	**-0.2**
ZAA0				IAmb	IAmb	03 37 31.0	
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**82.36**	**326**	P	**P**	**03 37 30.8**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=109,slow=5.3,SNR=12						
ZALV				LR	LR	04 14 47.7	
	comp=Z,13nm,21.2s,baz=90,slow=36						
ZALV	**Zalesovo Beam**	**82.36**	**326**	P	**P**	**03 37 30.4**	**-0.6**
ILAR	**Eielson Array**	**82.90**	**22**	P	**P**	**03 37 31.9**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=249,slow=5.6,SNR=9.0						
ILAR				LR	LR	04 12 46.9	
	comp=Z,61nm,19.5s,baz=255,slow=34						
ILAR	**Eielson Array**	**82.90**	**22**	P	**P**	**03 37 31.3**	**-2.4**
KSH	**Kashi**	**84.08**	**311**	*e*P	**P**	**03 37 43.2**	**+2.7**
QSPA	**South Pole Qui**	**84.11**	**180**	P	**P**	**03 37 40.5**	**+0.4**
MAW	**Mawson**	**84.84**	**203**	P	**P**	**03 37 44.8**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=90,slow=2.0,SNR=3.6						
MAW				LR	LR	04 14 43.9	
	comp=Z,30nm,18.1s,baz=56,slow=35						
KURK	**Kurchatov**	**84.97**	**322**	P	**P**	**03 37 44.3**	**-0.2**
BMAR	**Burnt Mountain**	**85.02**	**20**	P	**P**	**03 37 43.6**	**-0.8**
NIL	**Nilore**	**85.08**	**304**	P	**P**	**03 37 46.5

*IDC **08** 03:50:05.5±2.8, 56°.73S×27°.08W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.7/16, mbtmp3.9/2, Error ellipse: s-maj=103.4km s-min=46.0km az=175.0*
*ISCJB **08** 03:50:19.0±1.1, 56°.25±0°.2×27°.2W±0°.6, h100km, mb3.8/2, Error ellipse: s-maj=47.6km s-min=14.8km az=157.0*
ISC 08 03:50:20.2±1.0, 56°.25±0°.2×27°.3W±0°.3, h100km, n8, σ0$53/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.69	158	P	P	03 54 08.6	+0.3
VNA3	Neumayer Olymp	16.88	160	P	Pn	03 54 09.5	-0.4
VNA2	Neumayer--Watz	17.09	158	P	P	03 54 13.3	+0.7
	baz=315,slow=14						
SNAA	Sanae	18.64	156	P	P	03 54 29.9	+0.2
LPAZ	La Paz	50.39	305	P	P	03 59 08.2	+0.2
	0.5nm,0.4s,baz=153,slow=2.3,SNR=5.2						
TORD	Torodi Ar. Bea	73.23	30	P	P	04 01 40.5	+0.2
	1.6nm,1.0s,baz=201,slow=6.9,SNR=12						
FINES	FINESS Array B	124.56	28	PKP	PKPdf	04 09 05.6	-0.6
	1.0nm,0.7s,baz=252,slow=3.6,SNR=5.0						
ILAR	Eielson Array	150.15	311	PKPbc	PKPbc	04 09 57.4	-0.4
	0.3nm,0.6s,baz=121,slow=1.9,SNR=5.1						

*ISCJB **08** 04:01:02.0±0.7, 14°.4N±0°.1×119°.6E±0°.2, h36km, mb3.9/8, Error ellipse: s-maj=27.2km s-min=16.3km az=153.0*
*IDC **08** 04:01:07.3±2.5, 14°.39N×119°.61E, h69km±24km, mb3.6/9, mb1 3.8/9, mb1mx3.5/41, mbtmp3.9/9, Error ellipse: s-maj=31.1km s-min=16.5km az=66.0*
ISC 08 04:01:04.2±0.9, 14°.4N±0°.2×119°.5E±0°.1, h36km, n10, σ1$29/10, mb4.0/8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.47	102	P	Pn	04 01 29.9	+1.7
	112nm,0.3s,baz=151,slow=1.3,SNR=6.8						
CMAR	Chiang Mai Arr	20.07	284	P	P	04 05 36.4	+1.7
	1.1nm,0.4s,baz=90,slow=7.7,SNR=4.2						
KLR	Kul'dur	36.15	14	P	P	04 08 02.7	-0.2
	1.9nm,0.7s,baz=213,slow=4.2,SNR=4.5						
WRA	Warramunga Arr	37.16	156	P	P	04 08 10.4	-1.4
	2.0nm,0.4s,baz=332,slow=9.8,SNR=46						
ASAR	Alice Springs	40.41	159	P	P	04 08 38.5	-0.5
	1.4nm,0.5s,baz=337,slow=7.0,SNR=22						
KURBB	Kurchatov Arra	48.92	326	P	P	04 09 46.6	0.0
	0.3nm,0.3s,baz=120,slow=8.2,SNR=4.1						
ARCES	ARCESS Array B	77.98	339	P	P	04 12 59.0	+0.6
	0.9nm,0.7s,baz=87,slow=7.7,SNR=6.0						
ILAR	Eielson Array	78.63	26	P	P	04 13 00.4	-1.7
	1.1nm,1.1s,baz=281,slow=7.0,SNR=4.0						
FINES	FINESS Array B	79.07	331	P	P	04 13 05.0	+0.4
	3.1nm,1.0s,baz=66,slow=6.7,SNR=3.1						
NOA	NORSAR Array B	86.06	332	P	P	04 13 40.8	-0.3
	0.2nm,0.4s,baz=86,slow=4.9,SNR=2.9						

*ISCJB **08** 04:08:12.5±0.6, 35°.70N±0°.04×140°.85E±0°.07, h54km±4km, mb3.6/5, Error ellipse: s-maj=10.0km s-min=6.5km az=162.4*
*JMA **08** 04:08:13.2±0.1, 35°.72N×140°.70E, h50km±2km, M3.1 JMA Felt I J1.*
*IDC **08** 04:08:16.2±2.5, 35°.59N×140°.67E, h72km±22km, mb3.4/5, mb1 3.5/7, mb1mx3.3/46, mbtmp3.7/7, MS2.7/3, Ms1 2.7/3, ms1mx2.5/20, Error ellipse: s-maj=29.6km s-min=8.6km az=68.0*
ISC 08 04:08:13.8±0.9, 35°.71N±0°.04×140°.79E±0°.07, h46km±6km, n25, σ1$14/25, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.06	98	P	Pn	04 08 21.1	0.0
CHOJ				S	Sn	04 08 26.8	+0.6
JSMT	Sammumatsuo	0.28	256	P	Pn	04 08 22.0	-0.4
JSMT				S	Sn	04 08 28.9	+0.4
JIHU	Itakohorinouch	0.33	320	P	Pn	04 08 22.7	-0.2
JIHU				S	Sn	04 08 29.9	+0.5
JCN	Nagara	0.56	239	P	Pn	04 08 25.2	-0.4
JCN				S	Sn	04 08 34.4	+0.4
JYT	Yasato	0.70	317	P	Pn	04 08 26.2	-1.3
JYT				eS	Sn	04 08 35.0	-2.3
BSO4	Boso 4	0.81	207	P	Pn	04 08 28.3	-0.5
BSO4				X		04 08 39.8	
JHO	Hitachi	0.91	349	P	Pn	04 08 29.9	-0.4
BSO3	Boso 3	0.94	194	P	Pn	04 08 30.0	-0.3
BSO1	Boso 1	1.07	171	P	Pn	04 08 32.2	+0.3
MJAR	Matsushiro Arr	2.24	292	P	Pn	04 08 48.7	+0.2
	1.4nm,0.3s,baz=101,slow=10,SNR=46						
MJAR				S	Sn	04 09 17.7	+2.7
	1.1nm,0.3s,baz=91,slow=12,SNR=7.1						
MJAR				LR	LR	04 09 49.6	
	comp=Z,118nm,18.6s,baz=100,slow=43						
MAT	Matsushiro	2.25	292	P	Pn	04 08 48.7	+0.2
MAT				S	Sn	04 09 17.2	+2.2
JHJ	Hachijo jima 2	2.72	198	P	Pn	04 08 54.1	-0.8
	12nm,0.3s,baz=3.7,slow=19,SNR=4.4						
JHJ				S	Sn	04 09 26.5	-0.1
	24nm,0.3s,baz=54,slow=18,SNR=5.2						
JNU	Nakatsue	8.58	255	LR	LR	04 13 54.7	
	comp=Z,51nm,18.1s,baz=268,slow=40						
KSRS	Korea Array	10.49	283	LR	LR	04 14 34.0	
	comp=Z,60nm,19.1s,baz=105,slow=36						
H11N2	WAKE ISLAND Hy 27.94	118		T	T	04 43 07.6	
	baz=311,slow=75,SNR=6.2						
H11N1	WAKE ISLAND Hy 27.95	118		T	T	04 43 08.1	
	baz=311,slow=75,SNR=6.7						
H11N3	WAKE ISLAND Hy 27.96	118		T	T	04 43 03.1	
	baz=311,slow=75,SNR=8.1						
H11S3	WAKE ISLAND Hy 28.60	120		T	T	04 44 00.2	
	baz=312,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy 28.60	120		T	T	04 44 00.8	
	baz=312,slow=75,SNR=18						
H11S2	WAKE ISLAND Hy 28.62	120		T	T	04 44 05.6	
	baz=312,slow=75,SNR=13						
ZALV	Zalesovo Beam	42.44	313	P	P	04 16 02.6	-1.3
	0.4nm,0.3s,baz=105,slow=9.1,SNR=3.0						
MKAR	Makanchi Array	44.40	303	P	P	04 16 19.5	-0.3
	0.4nm,0.6s,baz=89,slow=9.9,SNR=2.9						
KURBB	Kurchatov Arra	46.42	309	P	P	04 16 35.2	-0.5
	1.2nm,0.2s,baz=82,slow=8.5,SNR=3.6						
ILAR	Eielson Array	50.88	32	P	P	04 17 11.3	+1.6
	0.4nm,0.8s,baz=269,slow=6.3,SNR=3.8						
WRA	Warramunga Arr	55.69	187	P	P	04 17 44.7	-0.8
	0.2nm,0.4s,baz=1.5,slow=7.4,SNR=10.0						

*ISCJB **08** 04:12:47.1±0.8, 26°.94N±0°.05×61°.44E±0°.08, h10km, mb3.7/6, MS5.6/1, Error ellipse: s-maj=11.7km s-min=5.3km az=28.2*
*TEH **08** 04:12:47.7, 26°.99N×61°.40E, h10km, ML3.5*
*THR **08** 04:12:50.6, 27°.10N×60°.86E, h14km, ML3.3*
*IDC **08** 04:12:50.7±3.4, 27°.45N×61°.03E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.6/48, mbtmp4.0/7, ML3.9/1, MS5.5/1, Ms1 5.5/1, ms1mx2.9/40, Error ellipse: s-maj=74.7km s-min=27.6km az=145.0*
ISC 08 04:12:49.9±1.2, 27°.00N±0°.06×61°.35E±0°.10, h10km, n40, σ0$98/35, mb3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBR	Chabahar	1.60	209	eAML	AML	04 14 01.7	
	412nm,0.7s						
CHBR				ePg	Pn	04 13 18.7	+0.5
CHBR				eAML	AML	04 14 04.1	
	337nm,0.5s						
SZD1	Zahaedan-tmp	2.52	350	ePn	Pn	04 13 31.6	+0.5
KHNJ	Kahnooj	3.38	287	ePn	Pn	04 13 41.9	-0.9
NIAN	Nian	4.06	279	ePn	Pn	04 13 53.8	+1.7
NIAN				IAMB	IAmb	04 14 08.8	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	4.41	311	ePn	Pn	04 13 57.1	-0.1
CHMN				IAMB	IAmb	04 15 14.9	
	comp=Z,0.0nm,0.7s						
NHDN	Nehbandan	4.53	346	ePn	Pn	04 13 58.9	+0.2
NHDN				IAMB	IAmb	04 15 42.4	
	comp=Z,0.0nm,0.9s						
BIDO	Bidbid	4.53	221	ePn	Pn	04 13 57.7	-0.9
GENO	Geno	4.63	276	ePn	Pn	04 14 00.3	+0.1
GENO				IAMB	IAmb	04 14 25.3	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	4.76	260	ePn	Pn	04 14 02.0	+0.1
MDH	Madha	4.85	251	ePn	Pn	04 14 01.6	-1.4
NGRK	Negar Kerman	4.85	304	ePn	Pn	04 14 03.8	+0.4
NGRK				IAMB	IAmb	04 15 28.6	
	comp=Z,0.0nm,1.0s						
MSFE	Esma-Masafi	4.94	252	ePn	Pn	04 14 05.2	+0.9
KRBR	Kerman	5.02	307	ePn	Pn	04 14 02.3	-3.3
KRBR	Kerman	5.02	307	ePn	Pn	04 14 02.3	-3.3
TVBK	TV Kerman	5.02	307	IAMB	IAmb	04 14 37.0	
	comp=Z,0.0nm,0.5s						
TVBK				ePn	Pn	04 14 06.2	+0.6
UOSS	Minazif	5.06	247	ePn	Pn	04 14 04.2	-1.8
HATD	Hatta, Dubai	5.17	246	ePn	Pn	04 14 06.8	-0.7
ASHO	Ashiyiah	5.30	245	ePn	Pn	04 14 09.3	+0.1
BSRN	Basiran	5.32	339	ePn	Pn	04 14 08.7	-0.9
BSRN	Basiran	5.32	339	ePn	Pn	04 14 08.7	-0.9
BSRN				eSg	Sb	04 15 27.8	+0.7
KHGB	Koh Gabri	5.45	309	ePn	Pn	04 14 11.9	+0.5
NAZ	Nazwa, Dubai	5.50	250	ePn	Pn	04 14 13.7	+1.8
IKOO	Kooshah	5.78	340	ePn	Pn	04 14 16.3	+0.3
IDAH	Dahanechah	5.87	348	ePn	Pn	04 14 19.5	+2.3
IDAH				IAMB	IAmb	04 14 47.3	
	comp=N,141nm,0.4s						
ASUD	Al Ashush, Dub	5.92	248	ePn	Pn	04 14 18.7	+1.0
ITEG	Tejag	6.30	340	ePn	Pn	04 14 22.9	-0.2
IMON	Monand	6.34	347	ePn	Pn	04 14 24.4	+0.6
AFRZ	Afriz	6.72	343	ePn	Pn	04 14 29.7	+0.9
AFRZ				IAMB	IAmb	04 17 09.1	
	comp=Z,0.0nm,0.7s						
TPRV	Parvadeh(Tabas	7.25	327	ePn	Pn	04 14 36.1	+0.1
ISRV	Sarvestan	7.65	290	ePn	Pn	04 14 41.4	-0.4
TNSJ	Nastanj	8.06	331	ePn	Pn	04 14 48.1	+0.9
IKAZ	Kazeroun	8.82	291	ePn	Pn	04 14 55.9	-2.0
AAK	Ala-Archa	18.93	31	P	P	04 17 10.8	-0.4
	comp=Z,0.4nm,0.3s,baz=171,slow=6.4,SNR=6.6						
BVAR	Borovoye Array	26.86	12	P	P	04 18 30.0	-0.6
	comp=Z,0.9nm,0.5s,baz=187,slow=10,SNR=7.9						
KURBB	Kurchatov Arra	26.99	24	P	P	04 18 31.2	-0.6
	comp=Z,1.1nm,0.9s,baz=222,slow=8.7,SNR=7.1						
AKASG	Malin Array Be	34.01	323	P	P	04 19 31.5	-2.3
	comp=Z,0.3nm,0.4s,baz=127,slow=8.5,SNR=3.4						
FINES	FINESS Array B	41.76	335	P	P	04 20 37.0	-2.1
	comp=Z,1.0nm,0.4s,baz=128,slow=9.5,SNR=9.3						
ARCES	ARCESS Array B	47.39	344	P	P	04 21 21.9	-2.0
	comp=Z,2.2nm,0.8s,baz=139,slow=8.4,SNR=8.6						
TORD	Torodi Ar. Bea	57.24	269	P	P	04 22 38.4	+0.4
	comp=Z,0.4nm,0.6s,baz=54,slow=6.5,SNR=6.8						
TIXI	Tiksi	57.56	20	LR	LR	04 47 59.7	
	comp=Z,4μm,20.0s,baz=8.5,slow=37						

*RHSSO **08** 04:24:24.8±0.2, 44°.21N×17°.81E, h3km±2km, ML1.9/9*
BEO 08 04:24:23.4±0.4, 44°.27N×17°.80E, h0km, ML1.6/6, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOB	Doboj	0.51	24	ePg	Pb	04 24 34.4	-0.9
DOB				eSg	Sb	04 24 42.6	-0.7
MGRS	Mrkonjic Grad	0.54	287	⇑iPg	Pg	04 24 34.5	+0.8
MGRS				eSg	Sb	04 24 42.5	-1.5
BLY	Banja Luka	0.66	318	ePg	Pg	04 24 36.3	+0.3
BLY				eSg	Sg	04 24 44.6	+0.1
BLY	Banja Luka	0.66	318	⇑iPg	Pb	04 24 37.3	-0.4
BLY				eSg	Sb	04 24 47.7	+0.3
HAPS	Han Pijesak,Bl	0.85	102	ePg	Pg	04 24 39.5	-0.1
HAPS				eSg	Sg	04 24 49.2	-1.4
HAPS	Han Pijesak,Bl	0.85	102	⇑iPg	Pg	04 24 39.7	+0.1
HAPS				eSg	Sg	04 24 51.4	+0.8
BBLS	Lazići	1.22	108	ePg	Pg	04 24 45.2	-1.6
BBLS				eSg	Sg	04 25 02.5	-0.2
BBLS	Lazići	1.22	108	ePg	Pg	04 24 46.6	-0.2
BBLS				eSg	Sg	04 25 03.2	+0.5
RUDO	Rudo	1.30	119	ePg	Pg	04 24 47.9	-0.5
RUDO				eSg	Sg	04 25 08.8	-0.5
STON	Ston	1.40	183	eSg	Sg	04 25 08.2	0.0
STON	Ston	1.40	183	ePg	Pn	04 24 48.8	-1.3
STON				Sg	Sg	04 25 07.0	-1.2
STON	Ston	1.40	183	ePg	Pn	04 24 49.3	-0.8
STON				eSg	Sg	04 25 06.9	-1.3
BRY	Bratogost	1.46	158	ePg	Pn	04 24 49.7	-1.5
BRY				eSg	Sg	04 25 10.3	-0.1
HVAR	Hvar	1.46	223	ePn	Pb	04 24 51.6	+0.1
HVAR				Sg	Sn	04 25 11.7	+0.8
UDBI	Udbina	1.48	281	Sn	Sn	04 25 14.4	+2.9
MOSL	Moslavina	1.54	331	ePn	Pn	04 24 52.2	0.0
MOSL				Sn	Sb	04 25 15.1	+2.2
MORI	Morici	1.56	256	ePn	Pb	04 24 53.0	-0.2
MORI				Sn	Sg	04 25 17.4	+3.9
DIVS	Divibare	1.58	95	eSn	Sn	04 25 14.1	+0.1
TREB	Trebinje	1.60	165	ePg	Pn	04 24 51.5	-1.4
TREB				eSg	Sn	04 25 13.7	-0.5
TREB	Trebinje	1.60	165	ePn	Pn	04 24 53.0	+0.1
TREB				eSg	Sn	04 25 14.3	+0.1
ZIRJ	Zirje	1.67	249	ePn	Pb	04 24 54.6	-0.5
ZIRJ				Sn	Sg	04 25 17.9	+0.8
FRGS	Fruska Gora	1.69	57	ePn	Pg	04 24 55.8	+0.1
FRGS				eSn	Sg	04 25 18.5	+0.9
IVAS	Ivanjica	1.83	111	eSg	Sg	04 25 22.2	-0.1
SJES	Sjenica	1.87	122	eSg	Sb	04 25 22.8	+0.5
DUGI	Dugi Otok	2.00	263	ePn	Pb	04 25 00.2	-0.3
DUGI				Sn	Sg	04 25 27.2	-0.3
MORH	Mrgy, Hungar	2.04	17	eSn	Sb	04 25 26.9	-0.3
NVLJ	Novalja	2.12	279	iPn	Pb	04 25 01.8	-0.9
NVLJ				Sn	Sb	04 25 29.9	+0.4

*DDA **08** 04:24:59.6, 42°.19N×26°.33E, h20km±1km, ML2.8*
*SOF **08** 04:24:59.2, 42°.22N×26°.25E, h20km*
ISC 08 04:24:59.6±1.2, 42°.19N±0°.02×26°.25E±0°.03, h5km±11km, n24, σ1$00/37, 12C-8D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	Yambol	0.37	42	iPg	Pg	04 25 06.8	+0.1
DIM	Dimitrovgrad	0.55	255	iPg	Pg	04 25 10.7	+0.5
KIRK	Kırklareli	0.75	123	iP	Pg	04 25 14.4	+0.4
KIRK				iS	Sg	04 25 23.5	-0.3
ELND	Elena	0.79	339	⇓P	Pg	04 25 15.0	+0.4
ELND				⇑S	Sg	04 25 25.1	+0.3
ELND				AML	AML	04 25 26.2	
KDZ	Kurdzhali	0.83	229	iPg	Pn	04 25 17.2	-0.7
SZH	Strazhica	1.10	348	iPg	Pn	04 25 21.2	-0.5
ROIA	ROIAK	1.22	42	iPg	Pn	04 25 23.7	+0.3
PRD	Provadia	1.31	40	iPg	Pg	04 25 24.7	-0.1
KESN	Edirne-Kesan	1.40	167	iP	Pn	04 25 26.2	0.0
KESN				iS	Sn	04 25 45.6	+0.3
KESN				IAML_P			
	comp=Z,225nm,0.3s						
SART	Tekirdag	1.66	155	iP	Pb	04 25 30.8	+0.1
SART				iS	Sb	04 25 52.1	+0.2
SART				IAML_P			
	comp=Z,432nm,0.2s						
PLVB	Pleven	1.69	315	⇓P	Pb	04 25 31.1	-0.1
PLVB				⇑S	Sb	04 25 52.3	-0.5
PLVB				AML	AML	04 26 02.1	
ELBA	Catalca	1.94	122	iP	Pn	04 25 33.2	0.0
ELBA				iS	Sb	04 26 00.5	+0.6
COPA	Copaceanca	2.08	339	⇑P	Pb	04 25 37.4	-0.4
COPA				⇑S	Sn	04 26 02.1	+0.6
COPA				AML	AML	04 26 07.8	
ICOR	Ion Corvin	2.23	30	⇓P	Pb	04 25 40.9	+0.5
ICOR				⇑S	Sg	04 26 10.8	-0.5
ICOR				AML	AML	04 26 13.4	
VTS	Vitosha	2.27	282	P	Pn	04 25 38.3	+0.3
VTS	Vitosha	2.27	282	⇑P	Pn	04 25 38.6	+0.6
VTS				⇓S	Sn	04 26 05.5	-0.9
VTS				AML	AML	04 26 22.9	
BUY	Buyukada	2.54	121	iP	Pn	04 25 41.3	-0.1
BUY				IAML_P			
	comp=Z,140nm,0.1s						
TLB	Topalu	2.72	28	⇑P	Pb	04 25 47.6	-1.2
TLB				⇓S	Sb	04 26 23.7	+1.3
TLB				AML	AML	04 26 28.8	
TIRR	Tirgusor	2.76	34	⇓P	Pb	04 25 48.9	-0.4
TIRR				⇓S	Sb	04 26 24.9	+1.5
HARR	Harsova	2.78	26	⇑P	Pb	04 25 49.8	0.0
STIP	Stip	3.07	262	iPn	Pn	04 25 48.2	-0.6
TOPG	Topolog	3.10	29	⇑P	Pb	04 25 53.6	-1.5
TOPG				⇑S	Sb	04 26 32.1	-1.1
CFR	Carcaliu	3.28	24	⇓P	Pb	04 25 55.7	-2.6
CFR				⇑S	Sb	04 26 36.8	-1.7
VOIR		3.36	345	⇑P	Pn	04 25 55.9	+3.1

*ISCJB **08** 05:26:42.1±0.8, 22°.92N±0°.08×143°.7E±0°.2, h48km, mb3.6/8, Error ellipse: s-maj=31.7km s-min=10.0km az=168.5*
*IDC **08** 05:26:45.5±3.4, 22°.98N×143°.61E, h64km±29km, mb3.4/8, mb1 3.6/9, mb1mx3.4/56, mbtmp3.7/9, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/29, Error ellipse: s-maj=34.9km s-min=16.7km az=91.0*
ISC 08 05:26:43.5±0.9, 22°.9N±0°.1×143°.7E±0°.2, h48km, n17, σ1$05/11, mb3.6/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.40	342	P	Pn	05 27 48.6	+0.9
	6.0nm,0.3s,baz=276,slow=19,SNR=3.9						
JCJ				S	Sn	05 28 38.1	+0.4
	11nm,0.3s,baz=127,slow=20,SNR=4.6						
JHJ	Hachijo jima 2	10.75	342	LR	LR	05 31 58.9	
	comp=Z,85nm,20.9s,baz=96,slow=29						
H11N1	WAKE ISLAND Hy 21.82	94		T	T	05 53 46.2	
	baz=283						
H11N2	WAKE ISLAND Hy 21.82	94		T	T	05 53 50.9	
	baz=283						
H11N3	WAKE ISLAND Hy 21.84	94		T	T	05 53 54.7	
	baz=283						
H11S3	WAKE ISLAND Hy 21.93	97		T	T	05 53 55.4	
	baz=286						
H11S1	WAKE ISLAND Hy 21.93	97		T	T	05 54 02.5	
	baz=286						
H11S2	WAKE ISLAND Hy 21.94	97		T	T	05 54 03.7	
	baz=286						
WRA	Warramunga Arr	43.56	193	P	P	05 34 42.4	-0.5
	0.5nm,0.4s,baz=14,slow=9.0,SNR=12						
ASAR	Alice Springs	47.27	192	P	P	05 35 14.0	+1.8
	0.1nm,0.4s,baz=6.8,slow=7.7,SNR=3.2						
MKAR	Makanchi Array	54.25	312	P	P	05 36 03.1	-1.5
	0.2nm,0.6s,baz=86,slow=7.8,SNR=2.0						
ILAR	Eielson Array	60.74	27	P	P	05 36 49.2	-0.7
	0.3nm,0.6s,baz=262,slow=6.3,SNR=4.2						
NVAR	Mina Array Bea	82.01	52	P	P	05 38 59.5	+0.5
	0.2nm,0.6s,baz=271,slow=5.1,SNR=2.4						
FINES	FINESS Array B	82.31	335	P	P	05 39 00.4	+0.6
	3.7nm,1.0s,baz=66,slow=5.7,SNR=5.5						
HFS	Hagfors	87.81	337	P	P	05 39 27.5	+0.2
	0.8nm,0.5s,baz=79,slow=7.5,SNR=3.8						
NOA	NORSAR Array B	88.00	339	P	P	05 39 27.4	-1.0
	0.4nm,0.6s,baz=46,slow=4.5,SNR=2.5						
LPAZ	La Paz	149.33	83	PKPbc	PKPbc	05 46 28.4	-0.3
	2.1nm,0.7s,baz=242,slow=2.7,SNR=10						

NEIC 08 05:49:32.2±0.9, 35°.59N±0°.03×97°.42W±0°.04, h6km±5km, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.01	201		Pg	05 49 33.4	0.0
ADOK	Arcadia Dam	0.07	33	Pg	Pg	05 49 34.0	0.0
OK005	Luther M Schoo	0.19	72	Pg	Pg	05 49 35.9	-0.2
FNO	Franklin	0.34	178		Pg	05 49 38.9	+0.1
FNO				Sg	Sg	05 49 44.0	+0.8
X34A	Smith Ranch, M	1.05	199		Pg	05 49 52.1	-0.2
TUL1	Leonard	1.36	76		Pn	05 49 56.1	-1.6
TUL1				Sn	Sb	05 50 14.5	-1.1
WMOK	Wichita Mounta	1.41	233		Pn	05 49 57.9	-0.4
WMOK				Sn	Sb	05 50 17.0	0.0
U32A	Winter Ranch,	1.50	302		Pn	05 49 59.9	+0.2
U32A				Sn	Sg	05 50 20.8	+0.2
HHAR	Hobbs	2.90	75		Pn	05 50 19.7	+0.8
HHAR					Pg	05 50 26.9	-1.0
W39A	Magazine	2.99	97	Pn	Pn	05 50 19.8	-0.4
MIAR	Mount Ida	3.32	107	Pn	Pn	05 50 25.6	+1.0
ABTX	Abilene, Hawle	3.49	213	Pn	Pn	05 50 28.9	+1.9
U40A	Yellville	3.78	77	Pn	Pn	05 50 30.9	-0.1
X40A	Basin Creek Fa	3.92	105	Pn	Pn	05 50 33.0	+0.1
WHAR	Wooly Hollow	4.20	93	Pn	Pn	05 50 36.5	-0.2

*ISCJB **08** 05:50:04.7±0.5, 35°.63N±0°.03×97°.39W±0°.03, h10km±3km, Error ellipse: s-maj=5.2km s-min=3.5km az=168.1*
*NEIC **08** 05:50:05.4±1.7, 35°.627N±0°.008×97°.40W±0°.05, h5km±2km*
*ANF **08** 05:50:06.8±1.4, 35°.59N×97°.41W, h19km±9km, ML4.0/7, Error ellipse: s-maj=6.5km s-min=3.1km az=153.0*
ISC 08 05:50:06.9±1.0, 35°.59N±0°.03×97°.37W±0°.03, h6km±7km, n47, σ1$79/54, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.04	262		Pg	05 50 06.7	-1.6
ADOK	Arcadia Dam	0.07	2		Pg	05 50 07.3	-1.3
OK005	Luther M Schoo	0.16	65	Pg	Pg	05 50 09.2	-1.0
FNO	Franklin	0.33	184		Pg	05 50 12.2	-1.1
FNO				Sg	Sg	05 50 17.6	0.0
X34A	Smith Ranch, M	1.05	201	Pg	Pg	05 50 25.6	-1.6
TUL1	Leonard	1.33	75	P	Pn	05 50 29.6	-2.5
	baz=257						
TUL1				S	Sb	05 50 47.8	-1.7
	baz=257						
TUL1	Leonard	1.33	75	Pn	Pn	05 50 29.5	-2.5
WMOK	Wichita Mounta	1.43	234	P	Pn	05 50 31.3	-2.2
	baz=53						
WMOK				S	Sb	05 50 50.3	-2.2
	baz=53						
WMOK	Wichita Mounta	1.43	234	Pn	Pn	05 50 31.3	-2.2
WMOK				Sn	Sb	05 50 50.4	-2.2
U32A	Winter Ranch,	1.54	301	Pn	Pn	05 50 33.1	-1.9
HHAR	Hobbs	2.87	75	Pn	Pn	05 50 52.0	-1.3

ISC 08 05:52:59.4±0.9, 35°.61N±0°.03×97°.40W±0°.03, h10km±7km, n30, σ1°.36/43, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.05**	**24**		**Pg**	**05 53 01.4**	**-0.1**
FNO	**Franklin**	**0.35**	**181**		**Pg**	**05 53 06.2**	**-0.1**
FNO				Sg	**Sg**	**05 53 11.1**	**+0.2**
X34A	**Smith Ranch, M**	**1.06**	**200**		**Pg**	**05 53 19.2**	**-0.6**
X34A					**Sg**	**05 53 33.3**	**-0.4**
TUL1	**Leonard**	**1.34**	**76**	P	**Pn**	**05 53 23.6**	**-0.6**
	baz=257						
TUL1				S	**Sb**	**05 53 41.7**	**-0.1**
	baz=257						
TUL1	**Leonard**	**1.34**	**76**		**Pn**	**05 53 23.5**	**-0.6**
TUL1					**Sg**	**05 53 42.5**	**0.0**
WMOK	**Wichita Mounta**	**1.43**	**233**	P	**Pn**	**05 53 25.1**	**-0.3**
	baz=53						
WMOK				S	**Sb**	**05 53 44.2**	**-0.1**
	baz=53						
WMOK	**Wichita Mounta**	**1.43**	**233**	Pn	**Pn**	**05 53 24.8**	**-0.6**
WMOK					**Sb**	**05 53 44.2**	**-0.1**
U32A	**Winter Ranch,**	**1.51**	**301**	Pn	**Pb**	**05 53 27.1**	**-0.5**
U32A					**Sg**	**05 53 47.9**	**-0.1**
HHAR	**Hobbs**	**2.88**	**75**		**Pn**	**05 53 47.7**	**+2.3**
W39A	**Magazine**	**2.98**	**97**	P	**Pn**	**05 53 47.4**	**+0.7**
	baz=279						
W39A				S	**Sn**	**05 54 23.4**	**+1.0**
	baz=279						
W39A	**Magazine**	**2.98**	**97**	Pn	**Pn**	**05 53 47.1**	**+0.4**
W39A					LR	05 54 34.7	
MIAR	**Mount Ida**	**3.31**	**108**	S	**Sn**	**05 54 31.6**	**+1.0**
	baz=290						
MIAR	**Mount Ida**	**3.31**	**108**	Pn	**Pn**	**05 53 52.5**	**+1.3**
ABTX	**Abilene, Hawle**	**3.51**	**213**	Pn	**Pn**	**05 53 55.6**	**+1.5**
ABTX				Pg	**Pg**	**05 54 03.9**	**-2.8**
AMTX	**Amarillo**	**3.58**	**260**	Pg	**Pg**	**05 54 05.3**	**-2.7**
WHTX	**Lake Whitney,**	**3.61**	**181**	Sb	**Sb**	**05 54 49.3**	**+2.2**
	baz=0.9						
WHTX	**Lake Whitney,**	**3.61**	**181**	Pn	**Pn**	**05 53 56.1**	**+0.8**
WHTX				Pg	**Pg**	**05 54 05.8**	**-2.7**
CBKS	**Cedar Bluff**	**3.71**	**330**	Pb	**Pb**	**05 54 06.2**	**+1.2**
	baz=149						
CBKS	**Cedar Bluff**	**3.71**	**330**		**Pb**	**05 54 06.2**	**+1.2**
X40A	**Basin Creek Fa**	**3.91**	**105**	Pn	**Pn**	**05 54 00.8**	**+1.4**
WLAR	**White Oak Lake**	**4.02**	**117**	Pn	**Pn**	**05 54 02.7**	**+1.8**
WHAR	**Wooly Hollow**	**4.18**	**93**	Pn	**Pn**	**05 54 03.3**	**+0.1**
WHAR				Sn	**Sn**	**05 54 52.8**	**+0.7**
WHAR				Sg	**Sg**	**05 55 09.7**	**-3.9**
UALR	**University of**	**4.22**	**100**	Pn	**Pn**	**05 54 03.3**	**-0.5**
W41B	**Gary Mavity, V**	**4.23**	**94**	S	**Sn**	**05 54 53.4**	**+0.1**
	baz=277						
W41B	**Gary Mavity, V**	**4.23**	**94**	Pn	**Pn**	**05 54 03.8**	**0.0**
W41B				Sn	**Sn**	**05 54 53.2**	**-0.1**
MSTX	**Muleshoe**	**4.72**	**251**	Pg	**Pb**	**05 54 23.1**	**+0.8**
435B	**Jarrell**	**4.81**	**182**	Pn	**Pn**	**05 54 13.1**	**+1.2**
PV12	**Saucer Basin,**	**9.52**	**290**		**Pn**	**05 55 18.6**	**+1.9**
P48A	**Milroy**	**10.25**	**64**		**Pn**	**05 55 25.9**	**-0.6**
X51A	**Calhoun**	**10.33**	**92**		**Pn**	**05 55 27.9**	**+0.4**

*ISCJB **08** 05:55:25.3±0.6, 51°.27N±0°.06×172°.84W±0°.04, h10km, mb3.9/12, Error ellipse: s-maj=8.7km s-min=3.9km az=178.6*
*IDC **08** 05:55:26.0±0.9, 51°.62N×172°.98W, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/48, mbtmp3.8/13, ML3.8/1, Error ellipse: s-maj=27.5km s-min=18.8km az=171.0*
*AEIC **08** 05:55:27±2.1, 51°.30N±0°.08×172°.9W±0°.1, h17km±3km*
*NEIC **08** 05:55:28.1±2.2, 51°.41N±0°.08×172°.9W±0°.1, h16km±5km, mb3.8/22, ML3.4(AEIC)*

ISC 08 05:55:27.3±0.7, 51°.36N±0°.08×172°.93W±0°.05, h10km, n65, σ1°.09/63, mb4.1/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.17**	**322**		**Pn**	**05 55 48.9**	**-0.9**
KOSE	**Korovin Southe**	**1.21**	**325**		**Pb**	**05 55 50.9**	**+0.6**
KOSE					**Sn**	**05 56 07.7**	**+1.0**
KOKL	**Mount Kliuchef**	**1.25**	**321**		**Pn**	**05 55 50.8**	**0.0**
KONE	**Korovin Northe**	**1.27**	**325**		**Pn**	**05 55 51.2**	**0.0**
KONE					**Sg**	**05 56 10.0**	**+1.7**
KOWE	**Korovin West**	**1.30**	**321**		**Pn**	**05 55 51.1**	**-0.4**
GSIG	**Igitkin Island**	**1.97**	**290**		**Pn**	**05 56 00.5**	**-0.2**
GSIG					**Sn**	**05 56 24.8**	**-0.6**
GSTR	**Great Sitkin T**	**2.08**	**292**	Pn	**Pb**	**05 56 04.4**	**-0.8**
GSTD	**Great Sitkin T**	**2.12**	**291**		**Pn**	**05 56 03.3**	**+0.5**
ADAG	**Mount Adagdak**	**2.37**	**287**		**Pn**	**05 56 06.5**	**+0.3**
ADK	**Adak**	**2.40**	**284**		**Pn**	**05 56 07.6**	**+1.0**
ADK	**Adak**	**2.40**	**284**	Pn	**Pn**	**05 56 07.4**	**+0.8**
ADK				Sn	**Sn**	**05 56 34.9**	**-1.1**
KIWB	**Kanaga Island**	**2.68**	**282**		**Pn**	**05 56 11.4**	**+1.0**
KIMD	**Kanaga Island**	**2.72**	**280**		**Pn**	**05 56 12.1**	**+1.1**
NIKH	**Nikolski High**	**2.98**	**56**		**Sn**	**05 56 50.7**	**+0.4**
CNPM	**China Poot**	**14.72**	**48**	P	**P**	**05 58 59.8**	**-1.7**
BRLK	**Bradley Lake**	**14.98**	**47**	P	**P**	**05 59 02.9**	**-1.5**
SEW	**Seward**	**15.78**	**47**		**Pn**	**05 59 07.3**	**-1.9**
SEW				IAmb	IAmb	05 59 12.0	
	comp=Z,13nm,1.1s						
SUA	**Susitna One**	**15.82**	**42**	P	**P**	**05 59 13.4**	**-0.4**
SUA				IAmb	IAmb	05 59 24.0	
	comp=Z,12nm,1.2s						
PPLA	**Purkeypile**	**16.04**	**36**	P	**P**	**05 59 16.1**	**-0.2**
PPLA				IAmb	IAmb	05 59 25.2	
	comp=Z,12nm,1.2s						
GHO	**Glory Hole Cre**	**16.73**	**42**	P	**Pn**	**05 59 21.9**	**+0.3**
GHO				IAmb	IAmb	05 59 30.2	
	comp=Z,10nm,1.2s						
KTH	**Kantishna Hill**	**16.89**	**35**	P	**P**	**05 59 24.8**	**-0.8**
KTH				IAmb	IAmb	05 59 27.6	
	comp=Z,8.8nm,1.1s						
TRF	**Thorofare Moun**	**17.06**	**36**	P	**Pn**	**05 59 26.6**	**+0.8**
TRF				IAmb	IAmb	05 59 44.5	
	comp=Z,4.5nm,1.0s						
BPAW	**Bear Paw Mtn.**	**17.20**	**34**	P	**P**	**05 59 29.1**	**+0.1**
SCM	**Sheep Creek Mo**	**17.44**	**43**	P	**Pn**	**05 59 29.1**	**-1.3**
SCM				IAmb	IAmb	05 59 31.1	
	comp=Z,6.6nm,1.0s						
RND	**Reindeer**	**17.58**	**37**	P	**Pn**	**05 59 32.1**	**0.0**
RND				IAmb	IAmb	05 59 48.1	
	comp=Z,4.7nm,1.1s						
IMAR	**Indian Mountai**	**17.61**	**26**	P	**P**	**05 59 35.4**	**+2.0**
DHY	**Denali Highway**	**17.99**	**39**	P	**P**	**05 59 39.5**	**+1.7**
CCB	**Clear Creek Bu**	**18.64**	**35**	P	**P**	**05 59 45.0**	**+0.2**
HDA	**Harding Lake**	**18.82**	**36**	P	**P**	**05 59 46.2**	**-0.6**
HDA				IAmb	IAmb	05 59 53.3	
	comp=Z,4.7nm,0.8s						
VRDI	**Verde Repeater**	**18.94**	**47**	P	**P**	**05 59 47.3**	**-1.0**
IL31		**19.04**	**35**	P	**P**	**05 59 48.5**	**-0.7**
ILAR	**Eielson Array**	**19.04**	**35**	P	**P**	**05 59 46.7**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=225,slow=9.4,SNR=17						
ILAR	**Eielson Array**	**19.04**	**35**	P	**P**	**05 59 49.6**	**+0.4**
BALM	**Baldy**	**19.40**	**48**	P	**P**	**05 59 52.0**	**-1.3**
BALM				IAmb	IAmb	06 00 04.8	
	comp=Z,3.6nm,1.1s						
CTGM	**Chitina Glacie**	**19.85**	**49**	P	**P**	**05 59 58.6**	**+0.3**
CTGM				IAmb	IAmb	06 00 06.4	
	comp=Z,8.4nm,1.2s						
DHAK	**Deception Hill**	**21.05**	**55**	P	**P**	**06 00 12.5**	**+1.4**
EGAK	**Eagle**	**21.21**	**39**	P	**P**	**06 00 11.8**	**-0.9**
BMAR	**Burnt Mountain**	**21.31**	**30**	P	**P**	**06 00 14.1**	**+0.3**
SKAG	**Skagway**	**22.56**	**54**	P	**P**	**06 00 29.3**	**+2.1**
SKAG				IAmb	IAmb	06 00 34.5	
	comp=Z,5.9nm,0.9s						
DLBC	**Dease Lake**	**25.29**	**57**	P	**P**	**06 00 52.8**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=284,slow=13,SNR=5.7						
INK	**Inuvik**	**25.40**	**33**	P	**P**	**06 00 52.9**	**-1.5**
	comp=Z,3.0nm,0.6s,baz=223,slow=9.3,SNR=5.6						
INK	**Inuvik**	**25.40**	**33**	P	**P**	**06 00 52.9**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**35.33**	**214**	T	T	06 40 36.2	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**35.34**	**214**	T	T	06 40 40.1	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**35.35**	**214**	T	T	06 40 39.2	
	baz=22						
H11S1	**WAKE ISLAND Hy**	**36.53**	**214**	T	T	06 41 55.3	
	baz=20						
H11S2	**WAKE ISLAND Hy**	**36.54**	**214**	T	T	06 41 54.5	
	baz=20						
H11S3	**WAKE ISLAND Hy**	**36.55**	**214**	T	T	06 41 57.9	
	baz=20						
PDAR	**Pinedale Array**	**42.78**	**76**	P	**P**	**06 03 25.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=299,slow=3.9,SNR=5.6						
PDAR	**Pinedale Array**	**42.78**	**76**	P	**P**	**06 03 25.5**	**+0.5**
TXAR	**Lajitas Array**	**55.00**	**85**	P	**P**	**06 04 58.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=300,slow=6.3,SNR=3.8						
TXAR	**Lajitas Array**	**55.00**	**85**	P	**P**	**06 04 59.2**	**+0.4**
ARCES	**ARCESS Array B**	**58.67**	**353**	P	**P**	**06 05 22.2**	**-1.9**
	comp=Z,2.5nm,1.0s,baz=21,slow=7.7,SNR=4.2						
KURK	**Kurchatov**	**61.63**	**317**	P	**P**	**06 05 43.9**	**-0.8**
KURBB	**Kurchatov Arra**	**61.74**	**317**	P	**P**	**06 05 43.7**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=52,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**62.87**	**312**	P	**P**	**06 05 51.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=43,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**62.87**	**312**	P	**P**	**06 05 52.0**	**-1.1**
BVAR	**Borovoye Array**	**63.21**	**323**	P	**P**	**06 05 54.5**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=44,slow=7.2,SNR=4.7						
AAK	**Ala-Archa**	**69.63**	**313**	P	**P**	**06 06 36.5**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=215,slow=21,SNR=4.8						
AAK	**Ala-Archa**	**69.63**	**313**	P	**P**	**06 06 37.0**	**+0.2**
AKTO	**Aktyubinsk**	**69.74**	**328**	P	**P**	**06 06 36.2**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=45,slow=7.3,SNR=4.4						
ABKAR	**Akbulak array**	**70.09**	**326**		**P**	**06 06 38.6**	**-0.7**
WRA	**Warramunga Arr**	**84.66**	**229**	P	**P**	**06 08 01.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=31,slow=5.5,SNR=3.4						
ASAR	**Alice Springs**	**88.07**	**227**	P	**P**	**06 08 19.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=37,slow=4.5,SNR=5.2						
ASAR	**Alice Springs**	**88.07**	**227**	P	**P**	**06 08 19.5**	**+1.7**

*ISK **08** 05:55:33.8, 38°.52N×36°.78E, h5km, ML3.5/17*
*DDA **08** 05:55:34.2, 38°.51N×36°.74E, h6km±2km, ML3.9*

ISC 08 05:55:35.7±1.1, 38°.49N±0°.02×36°.76E±0°.02, h5km±10km, n64, σ1°.03/89, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBS	**KAHRAMANMARAS**	**0.33**	**119**	*i* P	**Pg**	**05 55 41.6**	**-0.6**
ELBS				*i* S	**Sg**	**05 55 47.0**	**+0.4**
CUGUR	**Gurin_SVAS**	**0.46**	**59**	*i* P	**Pg**	**05 55 44.1**	**-0.5**
CUGUR				*i* S	**Sg**	**05 55 51.0**	**+0.2**
DARE	**Darende-Malaty**	**0.57**	**81**	PG	**Pg**	**05 55 45.4**	**-1.3**
DARE				SG	**Sg**	**05 55 54.7**	**+0.6**
SAIM	**ADANA**	**0.74**	**227**	*i* P	**Pg**	**05 55 48.7**	**-1.2**
SAIM				*i* S	**Sg**	**05 55 59.5**	**-0.1**
CUALT	**Altinyayla-SIV**	**0.79**	**359**	*i* P	**Pg**	**05 55 50.3**	**-0.5**
CUALT				*i* S	**Sg**	**05 56 00.6**	**-0.4**
BNN	**Bunyan**	**0.81**	**297**	PG	**Pg**	**05 55 50.1**	**-1.1**
BNN				SG	**Sg**	**05 56 02.5**	**+0.8**
AKCD	**Akcadag**	**0.93**	**102**	*i* P	**Pb**	**05 55 52.3**	**-2.1**
AKCD				*i* S	**Sg**	**05 56 07.4**	**+1.8**
ANDN	**Andirin**	**0.96**	**200**	*i* P	**Pb**	**05 55 53.1**	**-1.9**
KMRS	**Kahramanmaras**	**0.99**	**174**	PG	**Pb**	**05 55 54.5**	**-0.8**
CUKAN	**kangal_SIVAS**	**0.99**	**33**	*i* P	**Pb**	**05 55 53.2**	**-2.3**
HEKM	**Malatya_Hekimh**	**1.01**	**67**	*i* P	**Pb**	**05 55 54.1**	**-1.8**
HEKM				*i* S	**Sg**	**05 56 09.7**	**+1.4**
HEKM				IAML_P			
	comp=Z,17μm,0.2s						
KHMN	**Narli-Kahraman**	**1.14**	**164**	PN	**Pn**	**05 55 57.3**	**-1.0**
KHMN				SN	**Sn**	**05 56 13.9**	**-0.4**
HCB	**Kahramanmara**	**1.15**	**174**	*i* P	**Pb**	**05 55 58.7**	**+0.7**
HCB				*i* S	**Sb**	**05 56 12.4**	**-0.8**
HCB				IAML_P			
	comp=Z,13μm,0.2s						
YAHY	**KAYSERI_Yahyal**	**1.17**	**251**	*i* P	**Pn**	**05 55 57.2**	**-1.6**
YAHY				*i* S	**Sn**	**05 56 14.7**	**-0.5**
GZT	**Gaziantep**	**1.29**	**151**	*i* P	**Pg**	**05 56 02.0**	**+1.4**
GZT				*i* S	**Sn**	**05 56 18.3**	**-0.1**
KAMA	**Osmaniye**	**1.30**	**183**	*i* P	**Pn**	**05 56 00.9**	**+0.3**
KAMA				*i* S	**Sb**	**05 56 18.0**	**+0.2**
KAMA				IAML_P			
	comp=Z,11μm,0.3s						
MALT	**Malatya**	**1.32**	**97**	PN	**Pn**	**05 55 58.3**	**-2.6**
ARPR	**Arapgir-MALATY**	**1.37**	**63**	PN	**Pn**	**05 56 00.7**	**-0.9**
SVSK	**Karacayir**	**1.44**	**7**	PN	**Pn**	**05 56 01.4**	**-1.0**
AKO	**Adana**	**1.46**	**226**	*i* P	**Pn**	**05 56 01.7**	**-1.0**
AKO				*i* S	**Sg**	**05 56 25.1**	**+2.5**
SIRC	**Yozgat**	**1.52**	**304**	*i* P	**Pn**	**05 56 04.0**	**+0.3**
SIRC				*i* S	**Sn**	**05 56 23.3**	**-0.6**
AVNS	**Nevsehir-Avano**	**1.53**	**283**	*i* P	**Pn**	**05 56 03.6**	**-0.3**
AVNS				*i* S	**Sb**	**05 56 24.5**	**0.0**
ATAB	**Bozova**	**1.58**	**130**	*i* P	**Pb**	**05 56 05.9**	**+0.5**
ATAB				IAML_P			
	comp=Z,10μm,0.2s						
CUZAR	**Zara_SIVAS**	**1.60**	**29**	*i* P	**Pb**	**05 56 05.7**	**-0.1**
CUZAR				*i* S	**Sg**	**05 56 29.8**	**+2.6**
YOZ	**Yozgat**	**1.61**	**316**	PN	**Pn**	**05 56 04.4**	**-0.5**
CEYT	**Ceyhan**	**1.68**	**209**	PN	**Pn**	**05 56 06.1**	**+0.4**
KUZU	**Kuzuini**	**1.73**	**172**	*i* P	**Pb**	**05 56 08.2**	**+0.3**
KUZU				*i* S	**Sn**	**05 56 28.0**	**-0.9**
ELZG	**Elazig**	**1.74**	**89**	*i* P	**Pn**	**05 56 06.8**	**0.0**
ELZG				*i* S	**Sn**	**05 56 29.4**	**0.0**
ELZG				IAML_P			
	comp=Z,5μm,0.2s						
REFA	**Refahiye_ERZN**	**1.81**	**59**	*i* P	**Pg**	**05 56 11.7**	**+1.4**
KARA	**Karaisali**	**1.82**	**228**	PN	**Pn**	**05 56 08.0**	**+0.3**
TOKT	**Tokat**	**1.84**	**355**	PN	**Pn**	**05 56 07.7**	**-0.3**
TOKA	**Tokat**	**1.85**	**353**	*i* P	**Pn**	**05 56 08.6**	**+0.5**
YURE	**YUREGIR**	**1.89**	**209**	*i* P	**Pb**	**05 56 10.1**	**-0.5**
YURE	**YUREGIR**	**1.89**	**209**	PN	**Pn**	**05 56 09.2**	**+0.6**
URFA	**Urfa**	**1.93**	**122**	PN	**Pn**	**05 56 09.0**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.96**	**13**	PN	**Pn**	**05 56 09.2**	**-0.4**
GULE	**Gulek**	**1.98**	**233**	*i* P	**Pb**	**05 56 11.7**	**-0.6**
GULE				*i* S	**Sg**	**05 56 40.1**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.00**	**92**	PN	**Pn**	**05 56 10.1**	**-0.2**
SURC	**SANLIURFA_SURC**	**2.17**	**137**	*i* P	**Pn**	**05 56 12.8**	**+0.2**
DED	**Mersin**	**2.18**	**226**	*i* P	**Pb**	**05 56 14.7**	**-1.0**
CDAG	**Cicekdag**	**2.18**	**302**	*i* P	**Pn**	**05 56 13.7**	**+1.0**
CDAG				*i* S	**Sg**	**05 56 45.2**	**-0.6**
ERBA	**Erbaa**	**2.19**	**360**	*i* P	**Pb**	**05 56 16.6**	**+0.8**
ERBA				*i* S	**Sg**	**05 56 47.2**	**+1.1**
SANL	**SANLIURFA_Merk**	**2.20**	**126**	*i* P	**Pn**	**05 56 12.8**	**-0.1**
KRTS	**Karatas**	**2.21**	**210**	PN	**Pn**	**05 56 13.6**	**+0.6**
COAL	**Corum-Alaca**	**2.24**	**323**	*i* P	**Pn**	**05 56 14.8**	**+1.3**
TNCL	**Tunceli-Merkez**	**2.26**	**73**	*i* P	**Pb**	**05 56 16.3**	**-0.8**
TNCL				*i* S	**Sb**	**05 56 46.2**	**+0.9**
TNCL				IAML_P			
	comp=Z,889nm,0.5s						
KIRS	**Kırehir-Merke**	**2.32**	**287**	*i* P	**Pn**	**05 56 15.4**	**+0.8**
KERG	**Konya-Eregli**	**2.34**	**244**	*i* P	**Pb**	**05 56 17.9**	**-0.7**
KERG				*i* S	**Sb**	**05 56 48.4**	**+0.6**
YAYX	**Yaylak**	**2.35**	**282**	PN	**Pn**	**05 56 15.3**	**+0.2**
MERS	**Mersin**	**2.40**	**228**	PN	**Pn**	**05 56 16.5**	**+0.7**
YAYL	**Yayladag**	**2.50**	**192**	*i* P	**Pn**	**05 56 17.4**	**+0.2**
KELT	**Kelkit**	**2.55**	**49**	*i* P	**Pn**	**05 56 18.6**	**+0.8**
KELT				*i* S	**Sg**	**05 56 56.2**	**-1.4**
EUZM	**Uzumlu**	**2.59**	**61**	*i* P	**Pb**	**05 56 23.2**	**+0.6**
EUZM				IAML_P			
	comp=Z,5μm,0.3s						
ORDU	**Ordu-Boztepe**	**2.64**	**18**	*i* P	**Pn**	**05 56 20.4**	**+1.4**
CTAK	**Corum_Osmancik**	**2.64**	**325**	*i* P	**Pn**	**05 56 21.1**	**+2.0**
DELI	**KIRIKKALE**	**2.67**	**305**	*i* P	**Pn**	**05 56 20.3**	**+0.8**
DIYA	**Diyarbakir**	**2.70**	**101**	*i* P	**Pg**	**05 56 27.3**	**-0.2**
DIYA				IAML_P			
	comp=Z,2μm,0.3s						
HAVZ	**Havza**	**2.71**	**343**	*i* P	**Pn**	**05 56 21.6**	**+1.7**
BRTR	**Keskin Array B**	**2.73**	**298**	PN	**Pn**	**05 56 20.9**	**+0.6**
KIZK	**Mersin**	**2.89**	**227**	PN	**Pn**	**05 56 23.3**	**+0.9**
MAZI	**Mazidag**	**3.09**	**108**	PN	**Pn**	**05 56 25.5**	**+0.3**
BAYB	**BAYBURT**	**3.23**	**56**	*i* P	**Pb**	**05 56 34.1**	**+0.4**
KOPT	**Kop Dagi**	**3.28**	**61**	*i* P	**Pg**	**05 56 37.3**	**-1.2**
DIKM	**Dikmen**	**3.36**	**340**	PN	**Pn**	**05 56 29.2**	**+0.3**

*IDC **08** 06:32:21.0±61.0, 21°.16S×179°.46W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, Error ellipse: s-maj=1108.0km s-min=160.1km az=83.0*
*ISCJB **08** 06:33:16.5±1.2, 23°.3S±0°.1×180°.0W±0°.2, h550km, mb3.6/3, Error ellipse: s-maj=23.9km s-min=9.9km az=151.1*
*NEIC **08** 06:33:17.1±1.6, 23°.3S±0°.2×179°.8W±0°.2, h562km±21km, mb4.2/19*

ISC 08 06:33:17.4±1.4, 23°.4S±0°.1×179°.9W±0°.2, h550km, n29, σ1°.14/29, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.92**	**341**	P	**P**	**06 34 56.3**	**+0.8**
RAO	**Raoul Island**	**6.13**	**164**	P	**P**	**06 34 55.9**	**-1.2**
OUZ	**Omahuta**	**13.12**	**204**	P	**P**	**06 36 08.2**	**+0.9**
URZ	**Urewera**	**15.08**	**189**	P	**P**	**06 36 28.9**	**+1.4**
URZ				IAmb	IAmb	06 36 30.4	
	comp=Z,5.8nm,0.9s						
BKZ	**Black Stump Fm**	**16.06**	**190**	P	**P**	**06 36 41.8**	**+4.4**
BKZ				IAmb	IAmb	06 36 47.8	
	comp=Z,15nm,1.4s						
BHW	**Baring Head**	**18.53**	**192**	P	**P**	**06 36 59.9**	**0.0**
QRZ	**Quartz Range**	**18.55**	**198**	P	**P**	**06 37 00.8**	**+0.7**
QRZ				IAmb	IAmb	06 37 17.2	
	comp=Z,12nm,1.0s						
NNZ	**Nelson**	**18.69**	**196**	P	**P**	**06 37 00.6**	**-0.8**
TUWZ	**Tuamarina**	**18.75**	**195**	P	**P**	**06 37 01.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**19.04**	**194**	P	**P**	**06 37 04.6**	**+0.1**
THZ	**Tophouse**	**19.32**	**196**	P	**P**	**06 37 06.8**	**-0.4**
THZ				IAmb	IAmb	06 37 17.6	
	comp=Z,11nm,1.1s						
KHZ	**Kahutara**	**19.78**	**195**	P	**P**	**06 37 10.8**	**-0.5**
LTZ	**Lake Taylor**	**20.44**	**197**	P	**P**	**06 37 16.9**	**-0.4**
CAN	**Canberra**	**29.51**	**239**	P	**P**	**06 38 38.6**	**+1.0**
CTAO	**Charters Tower**	**31.58**	**269**	P	**P**	**06 38 55.7**	**+0.1**
CTAO				IAmb	IAmb	06 39 10.3	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**32.83**	**236**	P	**P**	**06 39 06.6**	**+0.6**
TOO				IAmb	IAmb	06 39 12.8	
	comp=Z,2.2nm,1.0s						
STKA	**Stephens Creek**	**35.02**	**247**	P	**P**	**06 39 24.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=101,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**35.02**	**247**	P	**P**	**06 39 24.3**	**-0.1**
COEN	**Coen**	**36.14**	**278**	P	**P**	**06 39 32.9**	**-1.0**
COEN				IAmb	IAmb	06 39 37.6	
	comp=Z,8.5nm,1.1s						
AS31	**Alice Springs**	**42.23**	**260**	P	**P**	**06 40 22.9**	**0.0**
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**06 40 22.6**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=84,slow=8.0,SNR=15						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**06 40 23.1**	**+0.3**
WB2	**Warramunga Arr**	**42.54**	**266**	P	**P**	**06 40 24.2**	**-1.1**
WB0	**Warramunga Arr**	**42.54**	**266**	P	**P**	**06 40 24.2**	**-1.1**
WB0				IAmb	IAmb	06 40 42.3	
	comp=Z,5.3nm,1.3s						
WRAB	**Tennant Creek**	**42.54**	**266**	P	**P**	**06 40 24.4**	**-0.9**
WRAB				IAmb	IAmb	06 40 32.2	
	comp=Z,4.6nm,1.2s						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**06 40 24.6**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=95,slow=8.3,SNR=29						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**06 40 24.7**	**-0.7**
FORT	**Forrest**	**46.60**	**249**	P	**P**	**06 40 55.5**	**-0.9**
FORT				IAmb	IAmb	06 41 14.4	
	comp=Z,18nm,1.1s						
QSPA	**South Pole Qui**	**66.73**	**180**	P	**P**	**06 43 13.9**	**-0.1**

*ISCJB **08** 06:39:16.3±0.5, 36°.44N±0°.04×71°.23E±0°.06, h100km, mb3.7/5, Error ellipse: s-maj=6.9km s-min=5.6km az=149.2*
*IDC **08** 06:39:16.1±3.6, 36°.31N×71°.29E, h79km±31km, mb3.5/5, mb1 3.7/12, mb1mx3.4/49, mbtmp4.0/12, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=29.4km s-min=22.8km az=177.0*
*NNC **08** 06:39:21.0±4.1, 37°.12N×70°.90E, h0km, mb4.5, mpv4.5, Error ellipse: s-maj=32.8km s-min=23.5km az=169.0*

ISC 08 06:39:18.4±0.7, 36°.61N±0°.06×71°.18E±0°.07, h100km, n36, σ2°.67/43, mb4.0/5, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.84**	**168**	P	Pn	06 40 04.7	+2.4
CEP				S	**Sn**	**06 40 39.0**	**+3.1**
CHCP	**Chirah Chowk**	**3.41**	**149**	P	Pn	06 40 12.9	+3.2
AML	**Almayashu**	**5.85**	**19**	P	**Pn**	**06 40 45.0**	**+2.1**
	SNR=136					

12nm,0.8s,baz=76,slow=31,SNR=16
KURBB Kurchatov Arra 6.04 237 Pn Pn 07 11 23.0 +2.0
0.3nm,0.3s,baz=53,slow=13,SNR=9.8
KURBB Lg Lg 07 13 03.6
0.1nm,0.3s,baz=57,slow=32,SNR=3.4
MKAR Makanchi Array 7.84 202 Pn Pn 07 11 45.8 -0.1
0.5nm,0.3s,baz=24,slow=13,SNR=7.1
MKAR Lg Lg 07 14 01.5
0.3nm,0.3s,baz=19,slow=24,SNR=4.1

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*ISCJB **08** 07:25:05.0±0.7, 17.°68S±0.°05×69.°20W±0.°1, h158km±6km, mb3.3/2, Error ellipse: s-maj=17.9km s-min=6.8km az=18.6*
*GUC **08** 07:25:05.3±0.7, 17.°72S×69.°52W, h152km±5km, ML3.3*
*IDC **08** 07:25:06.1±1.2, 17.°76S×68.°94W, h150km±9km, mb3.1/2, mb1 3.4/4, mb1mx3.2/24, mbtmp3.8/4, Error ellipse: s-maj=24.4km s-min=11.4km az=101.0*
ISC 08 07:25:05.6±1.0, 17.°65S±0.°06×69.°20W±0.°09, h140km±9km, n13, σ2§06/23, 2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.74**	**203**	⇓*i* P	**Pn**	**07 25 29.0**	**+1.0**
PB16				*i* S	**Sn**	**07 25 47.4**	**+2.3**
PB12	**IPOC Station P**	**1.44**	**228**	*i* P	**Pn**	**07 25 32.6**	**-1.2**
PB12				*i* S	**Sn**	**07 25 53.0**	**-2.5**
PB12				IAML		07 25 54.5	
	comp=E,589nm,0.3s						
LPAZ	**La Paz**	**1.70**	**37**	P	**Pn**	**07 25 38.4**	**+1.1**
LPAZ	comp=E,14nm,0.3s,baz=235,slow=5.8,SNR=570			S	**Sn**	**07 26 02.4**	**+0.9**
	comp=E,2.4nm,0.3s,baz=154,slow=5.4,SNR=13						
GO01	**Chusmiza**	**2.01**	**180**	⇓*i* P	**Pn**	**07 25 42.1**	**+1.4**
GO01				*i* S	**Sn**	**07 26 09.3**	**+1.7**
GO01				IAML		07 26 16.9	
	comp=N,192nm,0.1s						
PB11	**IPOC Station P**	**2.15**	**191**	*i* P	**Pn**	**07 25 41.9**	**-0.2**
PB11				*i* S	**Sn**	**07 26 10.3**	**+0.3**
PB11				IAML		07 26 11.7	
	comp=E,170nm,0.3s						
PB08	**IPOC Station P**	**2.48**	**179**	*i* P	**Pn**	**07 25 47.7**	**+1.3**
PB08				*i* S	**Sn**	**07 26 20.0**	**+2.3**
PB08				IAML		07 26 23.5	
	comp=E,66nm,0.2s						
PB02	**IPOC Station P**	**3.71**	**190**	*i* P	**Pn**	**07 26 01.6**	**-0.3**
PB02				*i* S	**Sn**	**07 26 45.3**	**-0.2**
PB07	**IPOC Station P**	**4.11**	**189**	*i* P	**Pn**	**07 26 06.5**	**-0.7**
PB07				*i* S	**Sn**	**07 26 51.1**	**-3.9**
LVC	**Limon Verde**	**4.94**	**177**	P	**Pn**	**07 26 18.6**	**+0.1**
	comp=E,8.6nm,0.3s,baz=351,slow=6.8,SNR=228						
LVC				S	**Sn**	**07 27 12.8**	**-2.4**
	comp=E,1.1nm,0.3s,baz=119,slow=19,SNR=2.5						
SIV	**San Ignacio**	**7.96**	**79**	P	**Pn**	**07 26 57.0**	**-1.5**
	comp=E,2.5nm,0.3s,baz=276,slow=12,SNR=49						
SIV				S	**Sn**	**07 28 22.3**	**-4.9**
	baz=0.8,slow=18,SNR=1.0						
BDFB	**Brasilia**	**20.40**	**88**	P	**P**	**07 29 33.1**	**+1.3**
	comp=E,1.7nm,0.5s,baz=263,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**57.34**	**324**	P	**P**	**07 34 40.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=147,slow=5.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.36**	**71**	P	**P**	**07 36 38.1**	**-1.7**
	comp=E,0.7nm,0.5s,baz=255,slow=4.6,SNR=7.5						

IDC 08 07:43:55.6±3.0, 54.°42N×86.°88E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.4km s-min=18.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**249**	*i*		07 50 50.7	
	baz=69,slow=317,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.30**	**249**	Pg	Pg	07 44 18.8	-1.7
	1.5nm,0.3s,baz=68,slow=19,SNR=22						
ZALV				Lg	Lg	07 44 37.0	
	2.3nm,0.3s,baz=74,slow=28,SNR=8.4						
ZALV				Rg	Rg	07 44 48.8	
	22nm,1.0s,baz=72,slow=30,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.36**	**237**	Pn	Pn	07 45 31.6	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=13						
KURBB				Lg	Lg	07 47 19.5	
	0.0nm,0.3s,baz=45,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	Pn	07 45 56.3	+0.9
	0.2nm,0.3s,baz=20,slow=12,SNR=6.9						
MKAR				Sn	Sn	07 47 28.3	-0.2
	0.1nm,0.3s,baz=25,slow=25,SNR=4.2						
MKAR				Lg	Lg	07 48 13.8	
	0.0nm,0.3s,baz=20,slow=34,SNR=4.0						

IDC 08 07:50:07.5±2.7, 53.°76N×86.°84E, h0km, mb1 3.0/2, mb1mx2.9/55, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=24.9km s-min=15.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**280**	*i*		07 57 05.0	
	baz=100,slow=323,SNR=9.1						
ZALV	**Zalesovo Beam**	**1.21**	**280**	Pg	Pg	07 50 29.8	-0.9
	1.3nm,0.3s,baz=95,slow=18,SNR=6.3						
ZALV				Lg	Lg	07 50 47.0	
	0.6nm,0.3s,baz=100,slow=25,SNR=6.9						
ZALV				Rg	Rg	07 50 56.3	
	3.0nm,0.4s,baz=94,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**5.99**	**242**	Pn	Pn	07 51 38.2	+0.8
	0.1nm,0.3s,baz=59,slow=14,SNR=5.3						
KURBB				Lg	Lg	07 53 18.6	
	0.0nm,0.3s,baz=60,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**7.55**	**204**	Pn	Pn	07 52 00.1	+1.2
	0.1nm,0.3s,baz=23,slow=14,SNR=10						

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*IDC **08** 07:58:47.5±1.2, 55.°78N×162.°50E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/47, mbtmp3.6/6, ML2.8/1, MS2.9/5, Ms1 2.9/5, ms1mx2.6/42, Error ellipse: s-maj=44.9km s-min=23.4km az=150.0*
*KRSC **08** 07:58:48.5±0.7, 55.°44N×162.°70E, h33km±17km, ML4.2*
*ISCJB **08** 07:58:49.9±0.6, 55.°48N±0.°02×162.°70E±0.°05, h29km±6km, mb3.6/5, MS3.1/1, Error ellipse: s-maj=4.5km s-min=3.6km az=6.8*
ISC 08 07:58:48.3±1.4, 55.°55N±0.°03×162.°65E±0.°03, h11km±9km, n55, σ1§25/69, mb3.7/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.67**	**8**	*eP*	**Pn**	**07 59 03.5**	**-0.3**
KBTR				*eS*	**Sn**	**07 59 13.9**	**-0.3**
KBG	**Krutoberegovo**	**0.71**	**2**	*eP*	**Pn**	**07 59 04.1**	**-0.2**
KBG				*eS*	**Sn**	**07 59 14.7**	**-0.5**
MKZ	**Mys Kozlova**	**1.13**	**209**	*eP*	**Pb**	**07 59 08.8**	**-1.0**
MKZ				*eS*	**Sb**	**07 59 22.9**	**-1.6**
ZLN	**Zelenaya**	**1.15**	**295**	*eP*	**Pg**	**07 59 10.5**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.18**	**290**	*eP*	**Pb**	**07 59 10.6**	**-0.1**
CIRR	**Tsirk**	**1.22**	**299**	*eP*	**Pn**	**07 59 11.4**	**0.0**
SMKR	**Semkarok**	**1.23**	**328**	*eP*	**Pg**	**07 59 12.1**	**+0.1**
SMKR				*eS*	**Sn**	**07 59 28.8**	**+0.5**
BZMR	**Bezymyannaya**	**1.28**	**288**	*eS*	**Sg**	**07 59 30.7**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.29**	**290**	*eP*	**Pn**	**07 59 12.3**	**-0.2**
BDR	**Baidarnaya**	**1.30**	**322**	*i* P	**Pg**	**07 59 13.6**	**+0.2**
BDR				*eS*	**Sg**	**07 59 31.3**	**+1.0**
TUMD	**Tumrok D**	**1.33**	**256**	*eP*	**Pn**	**07 59 12.8**	**-0.1**
TUMD				*eS*	**Sb**	**07 59 29.7**	**-0.7**
KLY	**Klyuchi**	**1.36**	**305**	*eP*	**Pn**	**07 59 12.2**	**-1.1**
KLY				*eS*	**Sb**	**07 59 29.4**	**-1.9**
KIRR	**Kirishev**	**1.37**	**288**	*eP*	**Pn**	**07 59 13.4**	**-0.1**
KIRR				*eS*	**Sb**	**07 59 31.2**	**-0.4**
KMNR	**Kamenistaya**	**1.39**	**280**	*eP*	**Pb**	**07 59 14.6**	**+0.3**
KMNR				*eS*	**Sg**	**07 59 32.7**	**-0.2**
SRKR	**Sorokina**	**1.39**	**324**	*eP*	**Pb**	**07 59 14.5**	**+0.2**
SRKR				*eS*	**Sg**	**07 59 32.6**	**-0.3**
KZV	**Kizimen**	**1.42**	**253**	*eP*	**Pn**	**07 59 13.8**	**-0.4**
KZV				*eS*	**Sn**	**07 59 31.6**	**-1.3**
KPT	**Kopyto**	**1.44**	**288**	*eP*	**Pb**	**07 59 15.1**	**-0.1**
TUMR	**Tumrok**	**1.45**	**260**	*eP*	**Pb**	**07 59 15.1**	**-0.4**
TUMR				*eS*	**Sn**	**07 59 33.5**	**-0.3**
KOZ	**Kozyrevsk**	**1.65**	**289**	*eP*	**Pb**	**07 59 18.7**	**-0.1**
KOZ				*eS*	**Sg**	**07 59 40.9**	**-0.5**
SRDR	**Sredinnyy**	**1.82**	**296**	*eP*	**Pb**	**07 59 21.3**	**-0.4**
SRDR				*eS*	**Sb**	**07 59 44.4**	**-0.2**
BKI	**Bering**	**1.93**	**99**	*eP*	**Pn**	**07 59 21.2**	**+0.2**
BKI				*eS*	**Sn**	**07 59 44.8**	**-0.4**
ESO	**Esso**	**2.27**	**281**	*eP*	**Pn**	**07 59 27.0**	**+1.2**
KII	**Karymskiy**	**2.40**	**232**	*eP*	**Pn**	**07 59 26.3**	**-1.3**
SPN	**Mys Shipunski**	**2.90**	**213**	*eP*	**Pn**	**07 59 33.7**	**-0.7**
SPN				*eS*	**Sn**	**08 00 07.0**	**-2.2**
NLC	**Nalytchevo**	**3.07**	**220**	*eP*	**Pn**	**07 59 36.2**	**-0.5**
NLC				*eS*	**Sn**	**08 00 11.1**	**-2.3**
SDLR	**Sedlovina**	**3.17**	**226**	*eP*	**Pn**	**07 59 39.2**	**+1.0**
KRER	**Koryakskii**	**3.20**	**227**	*eP*	**Pn**	**07 59 39.4**	**+0.6**
KRX	**Arik**	**3.21**	**228**	*eP*	**Pn**	**07 59 40.3**	**+1.5**
SMAR	**Somma**	**3.21**	**226**	*eP*	**Pn**	**07 59 39.7**	**+0.8**
AVH	**Avacha**	**3.24**	**227**	*eP*	**Pn**	**07 59 41.4**	**+2.3**
UGLR	**Uglovaya**	**3.24**	**225**	*eP*	**Pn**	**07 59 40.2**	**+1.0**
KOK	**Koryaka**	**3.26**	**228**	*eP*	**Pn**	**07 59 40.4**	**+0.9**
GNL	**Ganaly**	**3.31**	**238**	*eP*	**Pn**	**07 59 41.5**	**+1.3**
DALK	**Dalny**	**3.40**	**224**	*eP*	**Pn**	**07 59 41.3**	**0.0**
DALK				*eS*	**Sn**	**08 00 19.5**	**-2.1**
OSSR	**Ossora**	**3.72**	**3**	*eP*	**Pn**	**07 59 48.2**	**+2.6**
PETK	**Petropavlovsk-**	**3.79**	**232**	Pn	**Pn**	**07 59 48.7**	**+1.9**
	3.1nm,0.3s,baz=59,slow=17,SNR=11						
PETK				Sn	**Sn**	**08 00 34.9**	**+3.6**
	0.9nm,0.3s,baz=268,slow=39,SNR=2.4						
PETK				LR	LR	08 01 20.6	
	comp=Z,111nm,19.7s,baz=62,slow=40						
KRMR	**Karymshinskiy**	**3.81**	**226**	*eP*	**Pn**	**07 59 48.1**	**+1.3**
KRMR				*eS*	**Sn**	**08 00 32.0**	**+0.5**
PALN	**Palana**	**3.84**	**339**	P	**Pb**	**07 59 52.7**	**-3.3**
RUS	**Russkaya**	**3.96**	**220**	*eP*	**Pn**	**07 59 50.8**	**+1.8**
MTVR	**Mutnovka**	**4.05**	**222**	*eP*	**Pn**	**07 59 53.1**	**+2.8**
APC	**Apacha**	**4.16**	**233**	*eP*	**Pn**	**07 59 52.3**	**+0.6**
ASAK	**Asacha**	**4.24**	**223**	*eP*	**Pn**	**07 59 54.1**	**+1.3**
KDTR	**Khodutka, Kamc**	**4.63**	**218**	*eP*	**Pn**	**07 59 59.4**	**+1.2**
KDTR				*eS*	**Sn**	**08 00 53.0**	**+1.1**
MA2	**Magadan**	**7.56**	**307**	LR	LR	08 03 40.3	
	comp=Z,59nm,20.9s,baz=116,slow=40						
ASAJ	**Asahikawa**	**17.20**	**237**	LR	LR	08 09 08.9	
	comp=Z,46nm,21.9s,baz=176,slow=36						
KLR	**Kul'dur**	**19.78**	**264**	LR	LR	08 12 19.2	
	comp=Z,46nm,19.2s,baz=17,slow=41						
ILAR	**Eielson Array**	**26.04**	**49**	P	**P**	**08 04 21.7**	**+0.5**
	1.3nm,0.8s,baz=267,slow=8.8,SNR=11						
TLY	**Talaya**	**34.30**	**289**	LR	LR	08 18 58.5	
	comp=Z,34nm,20.5s,baz=113,slow=36						
H11N2	**WAKE ISLAND Hy**	**35.90**	**173**	T	T	08 44 08.8	
	baz=357,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.92**	**173**	T	T	08 44 06.6	
	baz=357						
H11N1	**WAKE ISLAND Hy**	**35.92**	**173**	T	T	08 44 09.4	
	baz=357,slow=74						
NVAR	**Mina Array Bea**	**53.55**	**73**	P	**P**	**08 08 10.6**	**+1.4**
	0.7nm,0.7s,baz=312,slow=8.2,SNR=5.7						
PDAR	**Pinedale Array**	**55.05**	**64**	P	**P**	**08 08 20.1**	**0.0**
	0.2nm,0.7s,baz=288,slow=3.7,SNR=2.7						
FINES	**FINESS Array B**	**58.45**	**337**	P	**P**	**08 08 42.6**	**-0.9**
	0.6nm,0.4s,baz=42,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**68.33**	**70**	P	**P**	**08 09 50.5**	**+0.9**
	0.6nm,0.6s,baz=286,slow=5.9,SNR=12						

IDC 08 08:04:36.2±2.5, 13.°58S×167.°23E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/35, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=58.4km s-min=43.5km az=110.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.48**	**185**	Pn	Pn	08 06 41.2	+0.7
	1.7nm,0.3s,baz=68,slow=11,SNR=16						
DZM				Sn	Sn	08 08 07.9	-9.1
	0.2nm,0.3s,baz=342,slow=20,SNR=2.2						
STKA	**Stephens Creek**	**29.72**	**228**	P	P	08 10 43.1	-1.1
	1.4nm,0.6s,baz=74,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**32.08**	**254**	P	P	08 11 06.5	+1.2
	0.4nm,0.9s,baz=84,slow=8.5,SNR=3.1						
ASAR	**Alice Springs**	**33.06**	**247**	P	P	08 11 13.4	-0.4
	0.5nm,0.6s,baz=77,slow=9.3,SNR=4.5						
ARCES	**ARCESS Array B**	**119.13**	**346**	PKP	PKPdf	08 23 26.4	-0.2
	2.7nm,1.0s,baz=46,slow=2.6,SNR=5.5						

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*SOME **08** 08:12:09.4, 44.°22N×83.°07E, h20km*
*NNC **08** 08:12:11.9±3.2, 44.°35N×82.°79E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=29.6km s-min=9.7km az=121.0*
ISC 08 08:12:16.7±2.8, 44.°4N±0.°1×83.°0E±0.°1, h17km, n8, σ1§43/11, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.27**	**270**	*eP*	**Pn**	**08 12 52.6**	**-0.8**
	1.8nm,0.3s						
DJR				*eS*	**Sb**	**08 13 25.0**	**+0.1**
	2.1nm,0.4s						
MK31	**Makanchi Array**	**2.48**	**350**	⇑Pg	**Pn**	**08 12 57.1**	**+0.9**
	0.1nm,0.2s,baz=178,slow=16,SNR=7.3						
MK31				⇓Lg	Lg	08 13 29.3	
	0.3nm,0.2s,baz=170,slow=28,SNR=8.0						
MAKZ	**Makanchi**	**2.54**	**345**	⇓Pg	**Pn**	**08 12 57.3**	**+0.1**
	4.0nm,1.2s						
MAKZ				⇑Lg	Lg	08 13 29.8	
	0.6nm,0.5s						
PDGK	**Podgornoye**	**2.71**	**249**	Pg	**Pn**	**08 12 59.5**	**0.0**
	0.9nm,0.3s						
PDGK				Lg	Lg	08 13 30.6	
	2.8nm,0.4s						
PDGK	**Podgornoye**	**2.71**	**249**	⇑Pg	**Pn**	**08 12 59.4**	**-0.1**
	1.3nm,0.6s						
PDGK				⇓Lg	Lg	08 13 35.4	
	3.8nm,0.5s						
KAPS	**Kapalarasan**	**2.72**	**291**	Pg	**Pb**	**08 13 02.8**	**-2.0**
	0.9nm,0.5s						
KAPS				Lg	Lg	08 13 36.5	
	1.1nm,0.8s						
KAPS	**Kapalarasan**	**2.72**	**291**	*eP*	**Pn**	**08 13 00.5**	**+0.9**
	0.2nm,0.2s						
KAPS				*eS*	**Sb**	**08 13 37.8**	**-0.1**
	1.0nm,0.3s						
KPKS	**Kokpek**	**3.21**	**255**	*eP*	**Pn**	**08 13 06.6**	**+0.2**
	2.4nm,0.2s						
KPKS				*eS*	**Sn**	**08 13 47.4**	**+3.2**
	8.5nm,0.4s						

IDC 08 08:13:44.1±3.2, 54.°60N×87.°00E, h0km, mb1 2.9/2, mb1mx2.9/43, mbtmp2.9/2, ML2.7/2, 2C-2D, Error ellipse: s-maj=27.7km s-min=22.0km az=35.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**244**	*i*		08 20 30.0	
	baz=61,slow=314,SNR=18						
ZALV	**Zalesovo Beam**	**1.43**	**244**	Pg	Pn	08 14 08.7	-2.7
	0.8nm,0.3s,baz=56,slow=18,SNR=5.9						
ZALV				Lg	Lg	08 14 30.8	
	1.2nm,0.3s,baz=65,slow=30,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.51**	**236**	Pn	Pn	08 15 21.8	+0.7
	0.1nm,0.3s,baz=51,slow=14,SNR=4.0						
KURBB				Lg	Lg	08 17 10.9	
	0.0nm,0.3s,baz=45,slow=28,SNR=5.5						
MK31	**Makanchi Array**	**8.36**	**203**	⇓Pg	Pg	08 16 53.9	+30
	0.1nm,0.2s,baz=175,slow=16,SNR=16						
MK31				⇑Lg	Lg	08 17 25.5	
	0.4nm,0.2s,baz=169,slow=27,SNR=9.2						
MKAR	**Makanchi Array**	**8.36**	**203**	Pn	Pn	08 15 47.9	+1.4
	0.3nm,0.3s,baz=22,slow=13,SNR=5.2						
MKAR				Lg	Lg	08 18 06.0	
	0.3nm,0.3s,baz=28,slow=28,SNR=2.8						
MAKZ	**Makanchi**	**8.42**	**204**	⇑Pg	Pg	08 16 53.3	+28
	1.9nm,1.1s						
MAKZ				⇓Lg	Lg	08 17 28.1	
	0.4nm,0.2s						

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*NNC **08** 08:32:47.1±3.8, 53.°67N×90.°28E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=28.8km s-min=21.7km az=53.0, Suspected Mining explosion.*
ASRS 08 08:32:37.5, 53.°69N×91.°06E, M3.2, 7C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.71**	**277**	⇑Pg	Pb	08 33 44.9	+1.1
	2.2nm,1.1s						
ZAA0				⇑Lg	Lg	08 34 34.2	
	8.6nm,0.8s						
KURK	**Kurchatov**	**8.20**	**254**	⇑Pn	Pn	08 34 43.3	+5.8
	8.2nm,1.4s						
KURK				⇓Sn	Sn	08 36 09.7	-1.2
	15nm,0.9s						
KURK				⇓Lg	Lg	08 36 51.8	
	44nm,1.3s						
KURBB	**Kurchatov Arra**	**8.29**	**253**	⇑Pn	Pn	08 34 42.5	+3.6
	2.9nm,0.6s						
KURBB				⇑Sn	Sn	08 36 12.4	-0.8
	52nm,1.1s						
KURBB				⇑Lg	Lg	08 36 57.1	
	69nm,1.2s						
MK31	**Makanchi Array**	**8.89**	**223**	⇓Pn	Pn	08 34 52.7	+5.5
	1.8nm,0.8s,baz=38,slow=14,SNR=5.8						
MK31				⇑Sn	Sn	08 36 31.2	+3.2
	4.2nm,0.9s						
MK31				⇓Lg	Lg	08 37 19.6	
	12nm,1.0s,baz=30,slow=31,SNR=3.7						

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*UCR **08** 08:35:01.8±1.2, 7.°79N×82.°73W, h11km±12km, MW3.7*
*ISCJB **08** 08:35:03.1±1.7, 7.°87N±0.°08×82.°66W±0.°05, h25km±11km, Error ellipse: s-maj=14.8km s-min=5.2km az=23.1*
*UPA **08** 08:35:04.1±0.8, 7.°90N×82.°68W, h28km±20km, MW3.5*
ISC 08 08:34:59.8±1.6, 7.°89N±0.°08×82.°66W±0.°05, h7km±12km, n16, σ1§25/25, 3C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.58**	**21**	⇑*i* P	**Pn**	**08 35 15.0**	**+0.4**
DVD				*eS*	**Sn**	**08 35 23.3**	**-1.1**
EDSV	**San Vito**	**0.97**	**342**	⇑*i* P	**Pn**	**08 35 21.1**	**+1.0**
EDSV				*eS*	**Sn**	**08 35 34.6**	**+0.3**
CHGR2	**Aguacate**	**1.16**	**26**	*eP*	**Pn**	**08 35 23.7**	**+1.1**
CHGR2				*eS*	**Sb**	**08 35 38.4**	**+0.8**
EDBA	**Buenos Aires**	**1.40**	**334**	*eP*	**Pg**	**08 35 27.4**	**+0.6**
GMAL	**Guarumal, Vera**	**1.42**	**95**	*eP*	**Pg**	**08 35 27.4**	**+0.2**
GMAL				*eS*	**Sg**	**08 35 45.5**	**-0.1**
DRK0	**Durika**	**1.48**	**337**	*eP*	**Pg**	**08 35 28.3**	**0.0**
EDLM	**Las Mercedes**	**1.66**	**326**	*eP*	**Pb**	**08 35 30.6**	**-0.2**
EDLM				*eS*	**Sg**	**08 35 52.8**	**-0.4**
CACAO	**El Cacao, Vera**	**1.87**	**107**	*eP*	**Pb**	**08 35 34.0**	**-0.3**
CACAO				*eS*	**Sb**	**08 35 57.0**	**-0.8**
LCR2	**La Lucha 2**	**2.27**	**324**	*eP*	**Pb**	**08 35 39.9**	**-1.4**
AZU	**Azuero**	**2.37**	**92**	*eP*	**Pb**	**08 35 42.0**	**-0.8**
AZU				*eS*	**Sn**	**08 36 08.5**	**0.0**
CVTR	**Volcan Turrial**	**2.38**	**333**	*eP*	**Pb**	**08 35 42.2**	**-1.1**
PNME	**Penonome**	**2.39**	**75**	*eP*	**Pb**	**08 35 42.3**	**-0.9**
PNME				*eS*	**Sn**	**08 36 10.6**	**+1.6**
HDC	**Heredia**	**2.54**	**326**	⇑*eP*	**Pb**	**08 35 44.4**	**-1.6**
ZANG	**Zanguenga, Cho**	**2.96**	**69**	*eP*	**Pb**	**08 35 52.2**	**-0.8**
ZANG				*eS*	**Sn**	**08 36 19.6**	**-3.6**
UPA	**Univ. de Panam**	**3.28**	**70**	*eS*	**Sb**	**08 36 40.3**	**+1.7**
JTS	**Las Juntas de**	**3.29**	**317**	*eP*	**Pn**	**08 35 52.9**	**+1.0**

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*ISCJB **08** 08:41:17.8±0.6, 9.°02N±0.°04×82.°58W±0.°03, h6km±5km, Error ellipse: s-maj=7.5km s-min=3.6km az=27.0*
*UPA **08** 08:41:18.0±2.2, 8.°96N×82.°60W, h3km±7km, MD3.1, MW3.5*
*UCR **08** 08:41:18.3±1.7, 8.°97N×82.°64W, h4km, MW3.4*
ISC 08 08:41:18.8±1.0, 8.°98N±0.°04×82.°63W±0.°03, h12km±8km, n20, σ1§11/31, 11C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.19**	**197**	⇑*i* P	**Pg**	**08 41 23.2**	**+0.1**
BRU2				*eS*	**Sg**	**08 41 26.6**	**+0.6**
BRU2	**Volcan**	**0.19**	**197**	⇑*i* P	**Pg**	**08 41 23.2**	**+0.1**
	baz=31,slow=12						
BRU2				*i* S	**Sg**	**08 41 26.9**	**+0.9**
BCO2	**Palmira**	**0.28**	**158**	⇑*i* P	**Pg**	**08 41 24.4**	**-0.2**
BCO2				*i* S	**Sg**	**08 41 27.7**	**-0.8**
EDSV	**San Vito**	**0.37**	**245**	⇑*i* P	**Pb**	**08 41 26.8**	**-0.6**
EDSV				*eS*	**Sb**	**08 41 33.4**	**+0.3**
CHGR2	**Aguacate**	**0.48**	**95**	*eP*	**Pg**	**08 41 26.7**	**-1.6**
CHGR2				*i* S	**Sg**	**08 41 33.1**	**-1.7**
DVD	**David**	**0.57**	**161**	⇑*eP*	**Pb**	**08 41 29.8**	**-0.9**
EDBA	**Buenos Aires**	**0.66**	**286**	*eP*	**Pb**	**08 41 32.2**	**-0.1**
EDBA				*eS*	**Sg**	**08 41 40.8**	**+0.5**
EDBA				*e*		08 41 40.8	
DRK0	**Durika**	**0.67**	**295**	⇑*i* P	**Pg**	**08 41 30.4**	**-1.4**
DRK0				*eS*	**Sg**	**08 41 39.7**	**-0.8**
DRK0	**Durika**	**0.67**	**295**	⇑*i* P	**Pg**	**08 41 30.4**	**-1.4**
DRK0				*i* S	**Sg**	**08 41 39.8**	**-0.8**
EDDO	**Dominical**	**1.25**	**283**	*eS*	**Sg**	**08 41 58.6**	**-0.3**
CVTR	**Volcan Turrial**	**1.52**	**313**	⇑*eP*	**Pn**	**08 41 45.6**	**-0.6**
CVTR				*eS*	**Sn**	**08 42 06.4**	**+0.2**
LCR2	**La Lucha 2**	**1.55**	**299**	*eP*	**Pn**	**08 41 46.6**	**+0.2**
HDC	**Heredia**	**1.78**	**305**	⇑*eP*	**Pn**	**08 41 49.9**	**+0.3**
HDC				*i* S	**Sn**	**08 42 13.3**	**+1.0**
GMAL	**Guarumal, Vera**	**1.84**	**131**	⇑*i* P	**Pn**	**08 41 49.1**	**-1.1**
GMAL				*i* S	**Sn**	**08 42 12.6**	**-0.9**
CACAO	**El Cacao, Vera**

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.77**	**274**	P	**Pn**	**09 15 34.2**	**-1.3**
JHYU				*e*S	**Sn**	**09 15 43.3**	**-2.6**
CHOJ	**Chosi**	**0.80**	**223**	P	**Pn**	**09 15 35.2**	**-0.9**
CHOJ				*e*S	**Sn**	**09 15 45.4**	**-1.4**
JHO	**Hitachi**	**0.84**	**292**	P	**Pn**	**09 15 34.8**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.00**	**324**	P	**Pn**	**09 15 37.5**	**-1.4**
ONAJ				*e*S	**Sn**	**09 15 49.7**	**-2.1**
JYT	**Yasato**	**1.09**	**267**	P	**Pn**	**09 15 38.3**	**-1.6**
JFK	**Kawauchi**	**1.20**	**334**	P	**Pn**	**09 15 40.4**	**-1.1**
JFK				*e*S	**Sn**	**09 15 55.1**	**-1.4**
JFT	**Otama**	**1.56**	**322**	P	**Pn**	**09 15 46.5**	**+0.1**
JFT				*e*S	**Sn**	**09 16 04.8**	**-0.6**
JMM	**Marumori**	**1.68**	**340**	P	**Pn**	**09 15 47.7**	**-0.4**
JMM				*e*S	**Sn**	**09 16 07.0**	**-1.4**
JAG	**Ashikaga**	**1.69**	**275**	P	**Pn**	**09 15 46.9**	**-1.3**
BSO1	**Boso 1**	**1.70**	**196**	P	**Pn**	**09 15 48.4**	**+0.5**
BSO1				*e*S	**Sn**	**09 16 08.6**	**+0.6**
JFY	**Yanaizu**	**1.84**	**308**	P	**Pn**	**09 15 50.1**	**-0.3**
JKT	**Katashina**	**1.90**	**285**	P	**Pn**	**09 15 50.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.69**	**276**	Pn	**Pn**	**09 16 01.8**	**-0.2**
	4.0nm,0.3s,baz=121,slow=8.7,SNR=154						
MJAR				Sn	**Sn**	**09 16 32.3**	**-1.2**
	1.3nm,0.3s,baz=88,slow=14,SNR=4.5						
MJAR				LR	LR	09 17 19.6	
	comp=Z,315nm,18.3s,baz=115,slow=45						
MJAR	**Matsushiro Arr**	**2.69**	**276**		**Pn**	**09 16 01.5**	**-0.6**
MJAR					**Sn**	**09 16 34.3**	**+0.9**
MAJO	**Matsushiro**	**2.70**	**276**		**Pn**	**09 16 02.6**	**+0.5**
MAT	**Matsushiro**	**2.70**	**276**	P	**Pn**	**09 16 02.4**	**+0.3**
MAT				*e*S	**Sn**	**09 16 33.5**	**0.0**
MJB9	**Matsu-Tunnel**	**2.70**	**276**		**Pn**	**09 16 02.7**	**+0.5**
MJB9				Sn	**Sn**	**09 16 33.7**	**+0.1**
JHJ2	**Mitsune**	**3.47**	**205**	Pn	**Pn**	**09 16 13.3**	**+0.5**
JHJ2				Sn	**Sn**	**09 16 52.4**	**-0.3**
JHJ	**Hachijo jima 2**	**3.48**	**205**	Pn	**Pn**	**09 16 13.2**	**+0.4**
	28nm,0.3s,baz=317,slow=12,SNR=16						
JHJ				Sn	**Sn**	**09 16 52.1**	**-0.7**
	54nm,0.3s,baz=251,slow=23,SNR=7.7						
JHJ				LR	LR	09 17 50.6	
	comp=Z,157nm,18.2s,baz=66,slow=44						
INU	**Inuyama**	**3.79**	**257**		**Pn**	**09 16 19.1**	**+1.9**
INU				Sn	**Sn**	**09 17 01.8**	**+1.3**
ERM	**Erimo**	**5.85**	**12**	Pn	**Pn**	**09 16 45.2**	**-0.2**
ERM				Sn	**Sn**	**09 17 53.5**	**+2.3**
ASAJ	**Asahikawa**	**7.86**	**6**	Pn	**Pn**	**09 17 13.8**	**+0.8**
	0.6nm,0.3s,baz=261,slow=14,SNR=6.7						
ASAJ				Sn	**Sn**	**09 18 37.6**	**-3.0**
	0.2nm,0.3s,baz=171,slow=13,SNR=2.3						
ASAJ				LR	LR	09 20 18.3	
	comp=Z,74nm,20.8s,baz=196,slow=38						
JKA	**Kamikawa-asahi**	**7.86**	**6**		**Pn**	**09 17 13.8**	**+0.8**
JKA					**Sn**	**09 18 37.6**	**-3.0**
JCJ	**Chichijima**	**9.19**	**176**	Pn	**Pn**	**09 17 31.3**	**0.0**
	12nm,0.3s,baz=98,slow=22,SNR=8.0						
JCJ				Sn	Sn	09 19 02.5	-11
	4.9nm,0.3s,baz=90,slow=20,SNR=3.2						
JNU	**Nakatsue**	**9.33**	**253**	Pn	**Pn**	**09 17 34.8**	**+1.6**
	0.3nm,0.3s,baz=63,slow=9.0,SNR=3.1						
JNU				LR	LR	09 21 23.9	
	comp=Z,117nm,18.7s,baz=18,slow=39						
JNU	**Nakatsue**	**9.33**	**253**		**Pn**	**09 17 35.1**	**+1.9**
JNU				Sn	**Sn**	**09 19 16.1**	**-0.7**
USA0B	**Ussuriysk Arra**	**10.74**	**320**	Pn	**Pn**	**09 17 53.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.74**	**320**	Pn	**Pn**	**09 17 55.2**	**+2.7**
	baz=124,slow=11,SNR=7.0						
USRK				LR	LR	09 21 10.1	
	comp=Z,34nm,19.6s,baz=86,slow=33						
USRK	**Ussuriysk Ar.**	**10.74**	**320**		**Pn**	**09 17 55.0**	**+2.4**
KSRS	**Korea Array**	**10.97**	**280**	Pn	**Pn**	**09 17 59.5**	**+3.9**
	0.2nm,0.3s,baz=90,slow=14,SNR=5.0						
KSRS				LR	LR	09 22 13.3	
	comp=Z,42nm,19.4s,baz=68,slow=38						
KLR	**Kul'dur**	**14.78**	**334**	LR	LR	09 23 36.8	
	comp=Z,23nm,20.0s,baz=180,slow=34						
PETK	**Petropavlovsk-**	**20.28**	**29**	LR	LR	09 29 26.9	
	comp=Z,28nm,18.1s,baz=236,slow=42						
YULB	**Yu-li**	**21.70**	**239**	P	**P**	**09 20 08.2**	**-1.0**
YULB				IAmb	IAmb	09 20 11.5	
	comp=Z,35nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**27.69**	**120**	T	T	09 50 19.4	
	baz=311,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.70**	**120**	T	T	09 50 24.2	
	baz=311,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**27.71**	**120**	T	T	09 50 24.7	
	baz=311,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	09 51 06.5	
	baz=314,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	09 51 15.4	
	baz=314,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.40**	**122**	T	T	09 51 12.8	
	baz=314,slow=76,SNR=20						
TLY	**Talaya**	**30.89**	**312**	LR	LR	09 34 40.2	
	comp=Z,45nm,19.0s,baz=90,slow=38						
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**09 23 13.4**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=94,slow=6.9,SNR=4.5						
MK31	**Makanchi Array**	**44.60**	**303**	P	**P**	**09 23 30.5**	**+0.6**
MKAR	**Makanchi Array**	**44.60**	**303**	P	**P**	**09 23 30.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=89,slow=9.1,SNR=7.3						
MKAR	**Makanchi Array**	**44.60**	**303**	P	**P**	**09 23 30.2**	**+0.3**
KURK	**Kurchatov**	**46.47**	**309**	P	**P**	**09 23 44.5**	**0.0**
KURK				IAmb	IAmb	09 23 56.9	
	comp=Z,4.9nm,0.9s						
KURBB	**Kurchatov Arra**	**46.54**	**309**	P	**P**	**09 23 45.3**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=84,slow=7.8,SNR=14						
ILAR	**Eielson Array**	**50.07**	**32**	P	**P**	**09 24 12.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=263,slow=6.0,SNR=4.8						
CTGM	**Chitina Glacie**	**52.97**	**37**	P	**P**	**09 24 34.7**	**+0.6**
KNRA	**Kununurra**	**53.08**	**195**	P	**P**	**09 24 33.8**	**-1.3**
WRAB	**Tennant Creek**	**56.33**	**188**	P	**P**	**09 24 59.1**	**+0.4**
WRAB				IAmb	IAmb	09 25 34.4	
	comp=Z,15nm,1.7s						
ABKAR	**Akbulak array**	**58.49**	**311**	P	**P**	**09 25 14.1**	**+0.4**
ABKAR	**Akbulak array**	**58.49**	**311**	P	**P**	**09 25 14.3**	**+0.7**
ABKAR				IAmb	IAmb	09 26 37.4	
	comp=Z,6.1nm,1.6s						
AS31	**Alice Springs**	**60.07**	**188**	P	**P**	**09 25 22.3**	**-2.5**
ASAR	**Alice Springs**	**60.07**	**188**	P	**P**	**09 25 23.6**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=0.2,slow=5.0,SNR=5.3						
ASAR	**Alice Springs**	**60.07**	**188**	P	**P**	**09 25 22.9**	**-1.9**
ARCES	**ARCESS Array B**	**64.72**	**340**	P	**P**	**09 25 56.2**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=40,slow=9.9,SNR=4.2						
ARCES	**ARCESS Array B**	**64.72**	**340**	P	**P**	**09 25 56.3**	**+1.0**
AKASG	**Malin Array Be**	**74.94**	**322**	P	**P**	**09 26 58.9**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=46,slow=6.2,SNR=5.9						
AKASG	**Malin Array Be**	**74.94**	**322**	P	**P**	**09 26 58.7**	**+0.3**
BUR08	**Bucovina Ar. S**	**78.94**	**322**	P	**P**	**09 27 18.7**	**-2.5**
BUR08				IAmb	IAmb	09 29 60.0	
	comp=Z,8.7nm,1.5s						
BURAR	**Bucovina Array**	**78.95**	**322**	P	**P**	**09 27 18.7**	**-2.6**

*SOME **08** 09:25:07.0, 43°.62N×69°.72E*
NNC 08 09:25:08.2±1.0, 43°.70N×69°.79E, h0km, mb3.7, mpv3.2, 3C-3D, Error ellipse: s-maj=5.5km s-min=3.8km az=112.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.80**	**138**	⇑P	Pg	09 25 23.2	-0.2
	1.1nm,0.2s,baz=324,slow=17,SNR=48						
KK31				⇑S	Sg	09 25 34.8	+1.1
	15nm,0.3s,baz=319,slow=24,SNR=113						
MRKS	**Merke**	**2.69**	**110**	Pg	Pb	09 25 58.1	+0.9
	3.7nm,0.4s						
MRKS				Lg	Lg	09 26 35.4	
	11nm,0.3s						
BTLS	**Baital**	**3.34**	**65**	Pg	Pg	09 26 10.3	-1.8
	9.7nm,0.5s						
BTLS				Lg	Lg	09 26 56.5	
	2.9nm,0.5s						
AAK	**Ala-Archa**	**3.60**	**105**	⇓Pg	Pb	09 26 13.8	+1.0
	4.0nm,0.7s						
AAK				⇓Lg	Lg	09 27 03.8	
	2.6nm,0.4s						
TKM2	**Tokmak 2**	**4.31**	**98**	⇑Pg	Pb	09 26 26.4	+1.5
	5.7nm,1.4s						
TKM2				⇓Lg	Lg	09 27 26.1	
	2.6nm,0.5s						
DGS	**Degeres**	**4.38**	**94**	Pg	Pb	09 26 28.8	+2.7
	3.1nm,0.5s						
DGS				Lg	Lg	09 27 28.3	
	6.2nm,0.5s						
KST	**Kastek**	**4.55**	**96**	Pg	Pb	09 26 31.8	+2.8
	4.3nm,0.4s						
KST				Lg	Lg	09 27 33.5	
	6.1nm,0.7s						
KUU	**Kurty**	**4.75**	**85**	Pg	Pb	09 26 35.6	+3.3
	1.0nm,0.3s						
KUU				Lg	Lg	09 27 40.3	
	12nm,0.4s						
KTBS	**Karatobe**	**5.00**	**87**	Pg	Pg	09 26 40.3	-3.7
	2.3nm,0.4s						
KTBS				Lg	Lg	09 27 47.5	
	16nm,0.4s						

UPA 08 09:27:53.5±1.0, 7°.34N×80°.48W, h8km±2km, MD2.8, MW3.6, 2C-4D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSI3	**Tonosi**	**0.07**	**30**	⇑*i*P	Pg	09 27 55.9	+0.4
TOSI3				*i* S	Sg	09 27 57.6	+0.7
CACAO	**El Cacao, Vera**	**0.38**	**270**	⇓*i*P	Pg	09 28 01.5	+0.5
	baz=92,slow=14						
CACAO				*i* S	Sg	09 28 07.2	+1.3
AZU	**Azuero**	**0.49**	**24**	⇓*i*P	Pg	09 28 03.0	0.0
	baz=214,slow=16						
AZU				*i* S	Sg	09 28 10.2	+0.8
CHIT3	**Chitre**	**0.61**	**6**	*i* P	Pg	09 28 05.9	+0.6
OCU3	**Ocu, Herrera**	**0.67**	**334**	*e*P	Pg	09 28 06.6	+0.2
GMAL	**Guarumal, Vera**	**0.86**	**299**	⇑*i*P	Pg	09 28 10.2	+0.2
GMAL				*i* S	Sn	09 28 23.7	-0.9
CRIS3	**El Cristo, Coc**	**0.92**	**351**	*i* P	Pg	09 28 11.1	0.0
CRIS3				*i* S	Sb	09 28 24.3	+0.3
SFRA3	**San Francisco,**	**1.02**	**331**	*e*P	Pg	09 28 12.4	-0.8
CALO3	**Calobre, Verag**	**1.04**	**340**	*e*P	Pg	09 28 12.9	-0.5
CNAZ3	**Canazas, Verag**	**1.23**	**324**	*e*P	Pn	09 28 16.2	-0.9
CHOR3	**La Chorrera**	**1.70**	**25**	*e*P	Pn	09 28 22.8	-0.7
ZANG	**Zanguenga, Cho**	**1.71**	**21**	⇓*e*P	Pn	09 28 21.0	-2.7
BCIP	**Isla Barro Col**	**1.92**	**19**	⇓*i*P	Pn	09 28 26.4	-0.1

*ASRS **08** 09:36:15.8, 54°.08N×87°.14E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 08 09:36:16.8±3.0, 54°.22N×87°.25E, h0km, mb1 3.3/2, mb1mx3.1/52, mbtmp3.3/2, ML2.5/2, Error ellipse: s-maj=25.4km s-min=16.4km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**260**	*i*		09 44 15.0	
	baz=80,slow=318,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.46**	**260**	Pg	Pn	09 36 43.5	-0.8
	2.4nm,0.3s,baz=79,slow=15,SNR=22						
ZALV				Lg	Lg	09 37 03.0	
	2.9nm,0.3s,baz=79,slow=27,SNR=20						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	09 37 53.0	+0.3
	0.1nm,0.3s,baz=59,slow=14,SNR=6.8						
KURBB				Lg	Lg	09 39 41.0	
	0.1nm,0.3s,baz=57,slow=32,SNR=4.8						
MKAR	**Makanchi Array**	**8.07**	**205**	Pn	Pn	09 38 16.4	+1.1
	0.1nm,0.3s,baz=24,slow=11,SNR=3.4						
MKAR				Sn	Sn	09 39 46.9	-0.3
	0.1nm,0.3s,baz=24,slow=26,SNR=5.6						
MKAR				Lg	Lg	09 40 36.7	
	0.2nm,0.3s,baz=30,slow=35,SNR=6.6						

*ISCJB **08** 09:38:14.5±0.4, 60°.92N±0°.04×43°.88W±0°.06, h10km, mb3.5/11, MS3.8/2, Error ellipse: s-maj=6.4km s-min=4.3km az=171.4*
*IDC **08** 09:38:14.9±0.8, 60°.83N×43°.90W, h0km, mb3.6/11, mb1 3.9/14, mb1mx3.7/58, mbtmp3.7/14, ML3.1/2, MS3.8/2, Ms1 3.8/2, ms1mx2.9/45, Error ellipse: s-maj=24.7km s-min=14.6km az=174.0*
*NEIC **08** 09:38:16.0±1.8, 60°.89N±0°.07×43°.93W±0°.06, h10km±1km, mb4.4/10*
ISC 08 09:38:16.2±0.5, 60°.85N±0°.06×44°.08W±0°.04, h10km, n45, σ1°33/52, mb3.9/16, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**0.72**	**296**	*i* P	**Pg**	**09 38 30.8**	**+0.7**
NRS				*i* S	**Sb**	**09 38 42.7**	**+1.9**
NRS	**Narsarsuaq**	**0.72**	**296**	Pg	**Pg**	**09 38 30.8**	**+0.7**
NRS				Sg	**Sb**	**09 38 42.2**	**+1.4**
IVI	**Ivigtut**	**2.02**	**282**		**Pn**	**09 38 50.6**	**+0.3**
IVI				Sn	**Sn**	**09 39 16.8**	**+1.2**
ANGG	**Ammassalik, Gr**	**5.60**	**29**	Pn	**Pn**	**09 39 37.8**	**-1.5**
ANGG				Sn	**Sn**	**09 40 44.2**	**+0.6**
SFJD	**Kangerlussuaq**	**6.80**	**338**	*i* P	**Pn**	**09 39 56.2**	**+0.3**
SFJD				*e*S	**Sn**	**09 41 11.7**	**-1.6**
SFJD	**Kangerlussuaq**	**6.80**	**338**	Pn	**Pn**	**09 39 56.1**	**+0.2**
	1.8nm,0.3s,baz=148,slow=14,SNR=13						
SFJD				Sn	**Sn**	**09 41 12.6**	**-0.7**
	7.2nm,0.3s,baz=138,slow=11,SNR=7.7						
SFJD				Lg	Lg	09 41 45.8	
	8.2nm,0.3s,baz=235,slow=24,SNR=7.6						
SFJD	**Kangerlussuaq**	**6.80**	**338**		**Pn**	**09 39 56.0**	**+0.1**
SFJD					**Sn**	**09 41 12.9**	**-0.4**
ILULI	**Ilulissat**	**8.90**	**344**	Pn	**Pn**	**09 40 22.3**	**-2.3**
ILULI				Sn	**Sn**	**09 42 03.1**	**-1.5**
BORG	**Borgarnes**	**11.09**	**60**	Pn	**Pn**	**09 40 54.3**	**-0.2**
	baz=309,slow=11						
BORG	**Borgarnes**	**11.09**	**60**		**Pn**	**09 40 54.6**	**0.0**
SUMG	**Summit**	**11.98**	**8**	*i* P	**Pn**	**09 41 05.7**	**-1.3**
SUMG	**Summit**	**11.98**	**8**		**Pn**	**09 41 06.0**	**-1.0**
SUMG					**Sn**	**09 43 20.4**	**-0.2**
SCHQ	**Schefferville**	**13.49**	**254**	Pn	**Pn**	**09 41 27.6**	**+0.2**
	0.4nm,0.3s,baz=80,slow=16,SNR=3.0						
SCHQ				Sn	Sn	09 43 46.9	-10
	0.1nm,0.3s,baz=90,slow=20,SNR=2.0						
SCHQ	**Schefferville**	**13.49**	**254**		**Pn**	**09 41 28.4**	**+1.0**
SCHQ				Sn	**Sn**	**09 43 51.7**	**-5.6**
LATQ	**La Tuque**	**21.33**	**244**	P	**P**	**09 43 03.2**	**+0.2**
G62A	**West of Eustis**	**22.08**	**237**	P	**P**	**09 43 12.3**	**+1.2**
G62A				IAmb	IAmb	09 43 12.5	
	comp=Z,9.6nm,1.1s						
D53A	**Lac Vacive, Po**	**23.77**	**250**	P	**P**	**09 43 29.6**	**+1.0**
D53A				IAmb	IAmb	09 43 34.0	
	comp=Z,22nm,1.5s						
SADO	**Sadowa**	**26.18**	**248**	LR	LR	09 53 50.6	
	comp=Z,44nm,19.5s,baz=179,slow=36						
ARCES	**ARCESS Array B**	**28.80**	**43**	P	**P**	**09 44 13.6**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=289,slow=5.6,SNR=3.2						
ARCES	**ARCESS Array B**	**28.80**	**43**	P	**P**	**09 44 12.4**	**-1.4**
ESDC	**Sonseca Array**	**32.50**	**112**	P	**P**	**09 44 47.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=326,slow=9.7,SNR=3.0						
INK	**Inuvik**	**35.78**	**321**	LR	LR	09 59 07.9	
	comp=Z,813nm,19.7s,baz=252,slow=35						
LRAL	**Lakeview Retre**	**39.26**	**245**	P	**P**	**09 45 43.9**	**-0.8**
AKASG	**Malin Array Be**	**40.32**	**70**	P	**P**	**09 45 52.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=310,slow=8.3,SNR=2.9						
ILAR	**Eielson Array**	**42.16**	**321**	P	**P**	**09 46 10.2**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=47,slow=8.2,SNR=4.4						
PDAR	**Pinedale Array**	**42.31**	**276**	P	**P**	**09 46 11.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=73,slow=6.0,SNR=4.5						
PDAR	**Pinedale Array**	**42.31**	**276**	P	**P**	**09 46 09.6**	**-0.4**
CTGM	**Chitina Glacie**	**43.03**	**315**	P	**P**	**09 46 14.6**	**-0.9**
CTGM				IAmb	IAmb	09 46 22.8	
	comp=Z,6.4nm,1.2s						
BARN	**Barnard Glacie**	**43.08**	**315**	P	**P**	**09 46 16.1**	**+0.1**
BARN				IAmb	IAmb	09 46 20.2	
	comp=Z,13nm,1.4s						
WAX	**Waxell Ridge**	**43.92**	**315**	P	**P**	**09 46 20.9**	**-1.7**
NVAR	**Mina Array Bea**	**49.89**	**279**	P	**P**	**09 47 09.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=52,slow=10,SNR=3.4						
NVAR	**Mina Array Bea**	**49.89**	**279**	P	**P**	**09 47 10.1**	**+0.3**
TXAR	**Lajitas Array**	**50.10**	**259**	P	**P**	**09 47 11.1**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=74,slow=6.7,SNR=2.8						
AKTO	**Aktyubinsk**	**52.79**	**52**	P	**P**	**09 47 30.8**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=334,slow=9.7,SNR=5.5						
ABKAR	**Akbulak array**	**54.48**	**51**	P	**P**	**09 47 42.4**	**-1.0**
ABKAR				IAmb	IAmb	09 47 46.6	
	comp=Z,3.9nm,0.8s						
ABKAR	**Akbulak array**	**54.48**	**51**	P	**P**	**09 47 41.9**	**-1.5**
BVAR	**Borovoye Array**	**55.08**	**42**	P	**P**	**09 47 48.3**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=337,slow=7.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**58.01**	**125**	P	**P**	**09 48 08.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=335,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**58.01**	**125**	P	**P**	**09 48 09.2**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**63.13**	**60**	P	**P**	**09 48 45.6**	**+1.8**
KKAR	**Karatay Array**	**63.61**	**48**	P	**P**	**09 48 49.3**	**+2.4**
MK31	**Makanchi Array**	**64.27**	**38**	P	**P**	**09 48 51.4**	**+0.2**
MKAR	**Makanchi Array**	**64.27**	**38**	P	**P**	**09 48 50.5**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=343,slow=6.4,SNR=7.0						
MKAR	**Makanchi Array**	**64.27**	**38**	P	**P**	**09 48 51.1**	**-0.1**
ASAR	**Alice Springs**	**142.81**	**3**	PKhKP	PKPpre	09 57 44.7	
	comp=Z,0.3nm,0.5s,baz=354,slow=2.7,SNR=6.1						

*SJA **08** 09:43:44.8±0.4, 38°.05S×75°.31W, h20km, ML4.2, MW4.3*
*NEIC **08** 09:44:00.7±3.4, 37°.50S±0°.06×74°.2W±0°.2, h24km±9km*
*GUC **08** 09:44:01.4±0.8, 37°.55S×74°.17W, h41km±4km, ML4.1*
*IDC **08** 09:44:02.1±1.8, 37°.45S×73°.52W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.7/24, mbtmp3.6/6, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=44.4km s-min=19.8km az=64.0*
ISC 08 09:44:01.1±3.0, 37°.55S±0°.04×74°.2W±0°.1, h30km±20km, n42, σ1°89/53, mb3.8/6, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.12**	**52**	*i* P	**Pn**	**09 44 20.5**	**-0.4**
CCSP				*i* S	**Sb**	**09 44 34.4**	**-1.9**
CCSP				IAML		09 44 43.7	
	comp=E,7μm,0.3s						
COCH	**Cobquecura**	**1.81**	**39**	⇑*i*P	**Pn**	**09 44 30.2**	**-0.1**
COCH				*i* S	**Sn**	**09 44 51.8**	**-0.5**
COCH	**Cobquecura**	**1.81**	**39**	*i* P	**Pn**	**09 44 30.5**	**+0.2**
COCH				*e*S	Sb	09 45 04.8	+8.8
CCHI	**Chillan**	**1.95**	**62**	⇑*i*P	**Pn**	**09 44 33.0**	**+0.8**
CCHI				*i* S	**Sn**	**09 44 57.7**	**+2.0**
CCHI				IAML		09 45 13.2	
	comp=E,4μm,0.5s						
CCHI	**Chillan**	**1.95**	**62**	*i* P	**Pn**	**09 44 33.1**	**+1.0**
CCHI				*e*S	**Sb**	**09 45 03.2**	**+3.4**
GO06	**Curarrehue**	**2.96**	**134**	*i* P	**Pn**	**09 44 47.1**	**+0.9**
GO06				*i* S	**Sn**	**09 45 20.5**	**-0.2**
GO06				IAML		09 45 36.8	
	comp=E,363nm,0.3s						
GO06	**Curarrehue**	**2.96**	**134**		**Pn**	**09 44 47.2**	**+0.9**
GO06				Sn	**Sn**	**09 45 15.8**	**-4.9**
GO05	**Huala**	**3.13**	**37**		**Pn**	**09 44 49.5**	**+1.1**
GO05				Sn	**Sn**	**09 45 22.9**	**-2.0**
PLCA	**Paso Flores**	**4.27**	**139**	Pn	**Pn**	**09 45 05.4**	**+1.2**
	comp=E,0.6nm,0.3s,baz=342,slow=13,SNR=24						
PLCA				Lg	Lg	09 46 11.8	
	comp=E,4.9nm,0.3s,baz=90,slow=17,SNR=4.0						
PLCA	**Paso Flores**	**4.27**	**139**		**Pn**	**09 45 05.8**	**+1.6**
PLCA				Sn	**Sn**	**09 45 48.8**	**-4.3**
PUMA	**Malargue**	**4.35**	**63**	*i* P	**Pn**	**09 45 07.3**	**+2.1**
COIS	**El Sosneado**	**4.45**	**58**	*i* P	**Pn**	**09 45 08.8**	**+2.1**
COIS				*e*S	**Sb**	**09 46 11.1**	**-0.7**
LMEL	**Las Melosas**	**4.92**	**43**	*i* P	**Pn**	**09 45 14.7**	**+1.4**
LMEL				*i* S	**Sn**	**09 46 09.5**	**+0.2**
PEL	**Peldehue**	**5.25**	**34**		**Pn**	**09 45 18.4**	**+0.7**
PEL				Sn	**Sn**	**09 46 12.1**	**-5.2**
ROC1	**El Roble**	**5.25**	**31**		**Pn**	**09 45 18.6**	**+0.7**
ROC1				Sn	**Sn**	**09 46 15.7**	**-1.9**
ROC1	**El Roble**	**5.25**	**31**	*i* P	**Pn**	**09 45 18.3**	**+0.4**
RTLS	**Leoncito**	**7.02**	**37**	*i* P	**Pn**	**09 45 43.6**	**+1.5**
RTLS				IAML		09 45 44.6	
	comp=Z,25nm,0.5s						
RTLL	**Cerro Villicun**	**7.80**	**39**	⇓*i*P	**Pn**	**09 45 53.4**	**+0.7**
RTLL				IAML		09 45 53.5	
	comp=Z,32nm,0.4s						
ACAN	**Cantantal**	**7.80**	**50**	*i* P	**Pn**	**09 45 53.5**	**+0.8**
GO04	**Tololo Observa**	**7.88**	**22**	Pn	**Pn**	**09 45 54.2**	**+0.3**
GO04				Sn	**Sn**	**09 47 19.5**	**-2.8**
AMOG	**MOGNA**	**8.11**	**37**	*i* P	**Pn**	**09 45 57.3**	**+0.3**
ACCO	**Cerro Coronel**	**8.15**	**33**	*i* P	**Pn**	**09 45 58.6**	**+0.9**
AROD	**Rodeo**	**8.35**	**30**	*i* P	**Pn**	**09 46 01.2**	**+0.8**
ACDV	**Cuesta del Vie**	**8.48**	**31**	*i* P	**Pn**	**09 46 02.4**	**+0.2**
APLL	**PUNTA DE L

0.2nm,0.3s,baz=79,slow=15,SNR=3.4

IDC ***08*** *09:51:00.8±0.5, 1.21S×67.70E, h0km, mb4.3/30, mb1 4.5/31, mb1mx4.4/45, mbtmp4.4/31, ML5.3/1, MS4.8/45, Ms1 4.8/45, ms1mx4.7/55, Error ellipse: s-maj=13.0km s-min=12.1km az=127.0*

BJI ***08*** *09:51:00.0±0.0, 1.30S×67.70E, h5km, mb4.8/38, mB5.1/36, Ms5.1/36, Ms7 4.8/34*

NEIC ***08*** *09:51:01.5±1.9, 1.19S±0.06×67.68E±0.03, h10km±1km, mb4.9/63, Ms_20 5.1/229, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.22; Mθθ-2.30; Mφφ2.08; Mrθ-0.40; Mθφ-1.00; Mφr0.00; Fault plane solution: M0 2.44000×10^17^ NP1:φs32.44000°, δ82.53000°, λ-3.95000°. NP2:φs122.95000°, δ86.09000°, λ-172.51000°. Principal axes: T 2.2971, Plg3.0000°, Azm258.0000°; N 0.2716, Plg82.0000°, Azm150.0000°; P -2.5687, Plg8.0000°, Azm348.0000°;*

ISCJB ***08*** *09:51:01.1±0.2, 1.26S±0.03×67.69E±0.03, h17km, mb4.6/52, MS4.8/58 Error ellipse: s-maj=4.5km s-min=4.0km az=140.7*

GCMT ***08*** *09:51:04.5±0.1, 1.29S±0.01×67.49E±0.01, h15km, MW5.6/135, Moment Tensor Solution. s117,c193; s135,c297; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; Mrr-0.41±.03; Mθθ-2.54±.03; Mφφ2.95±.04; Mrθ-0.54±.10; Mφθ-0.89±.03; Mφr0.45±.10; Best double couple: M0 2.97000×10^17^ NP1:φs126.00000°, δ88.00000°, λ-166.00000°. NP2:φs36.00000°, δ76.00000°, λ-2.00000°. Principal axes: T 3.1680, Plg8.0000°, Azm260.0000°; N -0.4000, Plg76.0000°, Azm134.0000°; P -2.7720, Plg11.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***08*** *09:51:05, 1.26S×67.50E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.47; Mθθ-2.62; Mφφ3.09; Mrθ-0.11; Mφθ-0.95; Mφr0.19; Fault plane solution: M0 3.04000×10^17^ NP1:φs306.00000°, δ89.00000°, λ176.00000°. NP2:φs36.00000°, δ86.00000°, λ1.00000°. Principal axes: T 3.2543, Plg3.0000°, Azm261.0000°; N -0.4776, Plg86.0000°, Azm113.0000°; P -2.7767, Plg2.0000°, Azm351.0000°;*

ISC 08 09:51:02.8±0.3, 1.32S±0.04×67.64E±0.04, h17km, n360, σ2.32/279, mb4.8/74, MS5.0/170, 17C-1D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.65**	**71**	P	**Pn**	**09 52 22.2**	**-3.8**
KAAM	**Kaadhehdhoo**	**5.65**	**71**		**Pn**	**09 52 22.0**	**-3.9**
H08N2	**Diego Garcia H**	**6.00**	**146**	Pn	**Pn**	**09 52 29.6**	**-0.9**
	baz=312,slow=15,SNR=76						
H08N2				T	T	09 58 47.2	
	baz=324,slow=76						
H08N3	**Diego Garcia H**	**6.01**	**146**	Pn	**Pn**	**09 52 29.6**	**-1.1**
	baz=312,slow=15,SNR=47						
H08N3				T	T	09 58 47.0	
	baz=324,slow=76						
H08N1	**Diego Carcia H**	**6.02**	**146**	Pn	**Pn**	**09 52 30.1**	**-0.8**
	baz=312,slow=15,SNR=64						
H08N1				T	T	09 58 48.1	
	baz=324,slow=76						
DGAR	**Diego Garcia**	**7.72**	**142**		**Pn**	**09 52 54.5**	**-0.1**
DGAR				Sn	**Sn**	**09 54 20.3**	**-1.4**
H08S3	**Diego Garcia H**	**7.91**	**143**	Pn	**Pn**	**09 53 01.0**	**+4.1**
	baz=337,slow=18,SNR=15						
H08S3				T	T	10 01 25.1	
	SNR=65						
H08S1	**Diego Carcia H**	**7.92**	**143**	Pn	**Pn**	**09 53 01.5**	**+4.5**
	baz=337,slow=18,SNR=14						
H08S1				T	T	10 01 26.2	
	SNR=99						
H08S2	**Diego Garcia H**	**7.93**	**143**	Pn	**Pn**	**09 53 01.4**	**+4.3**
	baz=337,slow=18,SNR=14						
H08S2				T	T	10 01 25.4	
	SNR=92						
HMDM	**Hanimaadhoo**	**9.76**	**34**	P	**Pn**	**09 53 21.5**	**-0.9**
HMDM	**Hanimaadhoo**	**9.76**	**34**		**Pn**	**09 53 20.3**	**-2.1**
HMDM				Sn	**Sn**	**09 55 06.5**	**-5.1**
MNCI	**Minicoy**	**10.96**	**29**		**Pn**	**09 53 36.5**	**-2.4**
MNCI				Sn	**Sn**	**09 55 40.1**	**-1.1**
MSEY	**Mahe Island**	**12.59**	**254**	P	**Pn**	**09 53 59.4**	**-1.9**
MSEY				P	**Pn**	**09 53 59.4**	**-1.9**
MSEY	**Mahe Island**	**12.59**	**254**		**Pn**	**09 53 59.3**	**-2.0**
MSEY				Sn	**Sn**	**09 56 17.4**	**-4.0**
PALK	**Pallekele**	**15.58**	**57**	P	**Pn**	**09 54 39.5**	**-2.3**
PALK	**Pallekele**	**15.58**	**57**	Pn	**Pn**	**09 54 40.0**	**-1.8**
	13nm,0.3s,baz=295,slow=8.7,SNR=49						
PALK				Sn	Sn	09 57 21.9	-12
	3.3nm,0.3s,baz=116,slow=3.3,SNR=6.4						
PALK				LR	LR	09 59 27.0	
	comp=Z,7μm,20.7s,baz=320,slow=33						
PALK	**Pallekele**	**15.58**	**57**		**Pn**	**09 54 39.6**	**-2.2**
PALK				IAmb	IAmb	09 54 50.9	
	comp=Z,91nm,1.2s						
PALK					**Sn**	**09 57 31.4**	**-2.8**
BOM	**Bombay**	**20.72**	**14**	*e*P	Pn	09 55 54.8	+10
BOM				*i* P	pwP	09 55 57.5	+7.5
BOM				*e*S	Sn	09 59 48.5	+10
BOM				*e*S	Sn	09 59 48.5	+10
BOM				IAMs_20	IAMs_20	10 01 38.1	
	comp=Z,3μm,30.5s						
BOM				AMS	AMS	10 03 10.2	
	comp=Z,362nm,15.5s						
BOM				AMS	AMS	10 03 10.2	
	comp=Z,362nm,15.5s						
SHAO	**Shalim**	**22.57**	**329**	P	**P**	**09 56 06.8**	**+4.3**
SHAO				P	**P**	**09 56 06.8**	**+4.3**
SHAO				S	**S**	**10 00 14.9**	**+5.6**
SHAO				S	**S**	**10 00 14.9**	**+5.6**
DMTO	**DMTO**	**22.67**	**327**	P	**P**	**09 56 07.8**	**+4.3**
DMTO				P	**P**	**09 56 07.8**	**+4.3**
DMTO				S	**S**	**10 00 17.8**	**+6.6**
DMTO				S	**S**	**10 00 17.8**	**+6.6**
RER	**Riviere de l'E**	**22.88**	**210**	P	**P**	**09 56 07.1**	**+1.3**
RBK	**Rabkut**	**22.91**	**325**	P	**P**	**09 56 08.5**	**+2.4**
RBK				S	**S**	**10 00 21.3**	**+5.7**
WHFO	**Wadi Hawf**	**23.49**	**325**	P	**P**	**09 56 11.5**	**-0.5**
WHFO				P	**P**	**09 56 11.5**	**-0.5**
WHFO				S	Sn	10 00 39.3	-5.9
WHFO				S	Sn	10 00 39.3	-5.9
JLN	**Jalan Bani Buh**	**24.67**	**341**	P	**P**	**09 56 28.2**	**+5.3**
JLN				S	**S**	**10 00 46.5**	**+2.6**
WBK	**Wadi Bani Khal**	**25.24**	**341**	P	**P**	**09 56 33.4**	**+5.3**
WBK				P	**P**	**09 56 33.4**	**+5.3**
WBK				S	**S**	**10 00 57.5**	**+4.4**
WBK				S	**S**	**10 00 57.5**	**+4.4**
JMDO	**Jabal Madar**	**25.32**	**339**	P	**P**	**09 56 32.3**	**+3.6**
JMDO				P	**P**	**09 56 32.3**	**+3.6**
JMDO				P	**P**	**09 56 32.3**	**+3.6**
JMDO				S	**S**	**10 00 59.7**	**+5.3**
JMDO				S	**S**	**10 00 59.7**	**+5.3**
JMDO				S	**S**	**10 00 59.7**	**+5.3**
WSAR	**Wadi Sarin**	**25.94**	**341**	P	**P**	**09 56 33.6**	**-0.8**
	comp=Z,5.8nm,1.1s,baz=154,slow=6.8,SNR=2.8						
WSAR				LR	LR	10 04 21.8	
	comp=Z,5μm,22.0s,baz=173,slow=31						
BSY	**Bisya**	**25.99**	**338**	P	**P**	**09 56 40.0**	**+5.1**
BSY				P	**P**	**09 56 40.0**	**+5.1**
OPO	**Ambohidratompo**	**26.39**	**228**	P	**P**	**09 56 39.4**	**+0.6**
	comp=Z,7.2nm,1.0s,baz=33,slow=9.6,SNR=4.5						
ABPO	**Ambohimpanom**	**26.64**	**227**	P	**P**	**09 56 42.5**	**+1.5**
ARQ	**Araqi**	**26.79**	**337**	P	**P**	**09 56 44.9**	**+2.8**
	SNR=5.5						
ARQ				P	**P**	**09 56 44.9**	**+2.8**
	SNR=5.5						
ARQ				P	**P**	**09 56 44.9**	**+2.8**
	SNR=5.5						
ARQ				S	**S**	**10 01 20.2**	**+2.6**
ARQ				S	**S**	**10 01 20.2**	**+2.6**
ARQ				S	**S**	**10 01 20.2**	**+2.6**
ATD	**Arta Tunnel**	**27.75**	**298**	LR	LR	10 05 29.4	
	comp=Z,2μm,20.8s,baz=111,slow=31						
ASHO	**Ashiyiah**	**28.18**	**337**	P	**P**	**09 56 59.1**	**+4.5**
ASHO				P	**P**	**09 56 59.1**	**+4.5**
ASHO				S	**S**	**10 01 42.4**	**+2.7**
ASHO				S	**S**	**10 01 42.4**	**+2.7**
BANOM	**Banah**	**29.22**	**339**	P	**P**	**09 57 06.3**	**+2.5**
BANOM				S	**S**	**10 01 56.8**	**+1.0**
LHMI	**Lhok Sumawe**	**29.99**	**77**	P	**P**	**09 57 10.4**	**-0.4**
LHMI				IAMs_20	IAMs_20	10 07 09.7	
	comp=Z,3μm,20.0s						
KMBO	**Kilima Mbogo**	**30.38**	**270**	P	**P**	**09 57 15.5**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=57,slow=10,SNR=15						
KMBO				LR	LR	10 06 59.9	
	comp=Z,4μm,21.7s,baz=81,slow=32						
KMBO	**Kilima Mbogo**	**30.38**	**270**	P	**P**	**09 57 15.0**	**+0.5**
KMBO				IAmb	IAmb	09 57 16.3	
	comp=Z,13nm,1.1s						
KMBO	**Kilima Mbogo**	**30.38**	**270**	IAMs_20	IAMs_20	10 06 48.0	
	comp=Z,4μm,21.0s						
FURI	**Furi**	**30.59**	**290**	IAMs_20	IAMs_20	10 07 58.4	
	comp=Z,4μm,21.0s						
COCO	**West Island**	**30.89**	**112**	P	**P**	**09 57 17.5**	**-1.3**
RPSI	**Rantau Prapat**	**31.53**	**83**	P	**P**	**09 57 23.2**	**-1.1**
RPSI				IAMs_20	IAMs_20	10 07 42.7	
	comp=Z,4μm,21.0s						
KOLN	**Koldanda**	**32.74**	**27**	*e*P	**P**	**09 57 34.8**	**-0.3**
	comp=Z,57nm,1.3s						
RAYN	**Ar Rayn**	**32.76**	**320**	P	**P**	**09 57 34.6**	**-0.5**
RAYN				IAMs_20	IAMs_20	10 08 17.2	
	comp=Z,3μm,18.0s						
DMN	**Daman**	**33.31**	**29**	*e*P	**P**	**09 57 40.7**	**+0.6**
	comp=Z,35nm,0.9s						
DANN	**Dangsing**	**33.31**	**26**	*e*P	**P**	**09 57 40.5**	**+0.4**
	comp=Z,70nm,1.3s						
PKI	**Pulchoki**	**33.42**	**29**	*e*P	**P**	**09 57 41.2**	**0.0**
BKNI	**Bangkinang**	**33.44**	**87**	IAMs_20	IAMs_20	10 08 22.5	
	comp=Z,3μm,22.0s						
RAMN	**Ramite**	**33.52**	**32**	*e*P	**P**	**09 57 42.9**	**+0.9**
	comp=Z,35nm,0.8s						
KULM	**Kulim**	**33.62**	**78**	P	**P**	**09 57 43.4**	**+0.7**
KULM				IAmb	IAmb	09 57 46.1	
	comp=Z,27nm,1.2s						
KULM				IAMs_20	IAMs_20	10 09 33.9	
	comp=Z,4μm,20.0s						
KULM	**Kulim**	**33.62**	**78**	P	**P**	**09 57 44.0**	**+1.3**
IPM	**Ipoh**	**33.85**	**80**	P	**P**	**09 57 43.8**	**-1.0**
IPM				IAmb	IAmb	09 57 54.1	
	comp=Z,18nm,1.2s						
IPM				IAMs_20	IAMs_20	10 08 57.2	
	comp=Z,4μm,22.0s						
ODAN	**Odare**	**33.87**	**33**	*e*P	**P**	**09 57 45.5**	**+0.5**
	comp=Z,122nm,1.1s						
GUN	**Gumba**	**33.94**	**30**	*e*P	**P**	**09 57 45.7**	**0.0**
	comp=Z,56nm,0.9s						
TAPN	**Taplejung**	**34.43**	**33**	*e*P	**P**	**09 57 50.7**	**+0.8**
	comp=Z,58nm,0.8s						
NIL	**Nilore**	**35.18**	**8**	P	**P**	**09 57 55.2**	**-0.8**
NIL				IAmb	IAmb	09 58 11.2	
	comp=Z,14nm,0.9s						
JRMM	**Jerantut**	**35.20**	**81**	P	**P**	**09 57 58.0**	**+1.6**
MNAI	**Manna**	**35.40**	**96**	IAMs_20	IAMs_20	10 09 41.9	
	comp=Z,3μm,19.0s						
UTHA	**Uthaitani**	**35.63**	**61**	P	**P**	**09 58 02.6**	**+2.5**
	comp=Z,17μm,1.1s						
KBL	**Kabul**	**35.69**	**2**	P	**P**	**09 57 59.6**	**-1.0**
KBL				IAmb	IAmb	09 58 14.3	
	comp=Z,18nm,1.4s						
HRA	**Herat**	**35.88**	**352**	P	**P**	**09 58 00.5**	**-1.7**
MYKOM	**Kota Tinggi**	**36.34**	**85**	P	**P**	**09 58 05.3**	**-0.9**
MYKOM				IAmb	IAmb	09 58 08.5	
	comp=Z,14nm,1.0s						
MYKOM	**Kota Tinggi**	**36.34**	**85**	P	**P**	**09 58 08.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**36.52**	**56**	P	**P**	**09 58 08.4**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=243,slow=10,SNR=22						
CMAR				LR	LR	10 12 45.9	
	comp=Z,1μm,18.0s,baz=239,slow=36						
CMAR	**Chiang Mai Arr**	**36.52**	**56**	P	**P**	**09 58 04.8**	**-2.9**
CHTO	**Chiang Mai**	**36.70**	**55**	P	**P**	**09 58 09.0**	**-0.2**
CMMT	**Chiang Mai**	**36.70**	**55**	P	**P**	**09 58 10.4**	**+1.2**
	comp=Z,7.8nm,1.0s,comp=Z,221nm						
MBAR	**Mbarara**	**36.90**	**271**	P	**P**	**09 58 11.8**	**+0.6**
MBAR				IAmb	IAmb	09 58 13.7	
	comp=Z,20nm,1.0s						
PMBI	**Palembang**	**37.14**	**93**	IAMs_20	IAMs_20	10 10 42.0	
	comp=Z,3μm,20.0s						
PBKT	**Sadao Pong**	**37.38**	**60**	P	**P**	**09 58 16.9**	**+1.9**
	comp=Z,9.0nm,0.9s,comp=Z,409nm						
PBKT	**Sadao Pong**	**37.38**	**60**	P	**P**	**09 58 13.3**	**-1.7**
PBKT				IAmb	IAmb	09 58 18.1	
	comp=Z,14nm,0.9s						
CHAI	**Chaiyaphum**	**38.00**	**62**	P	**P**	**09 58 22.2**	**+1.9**
	comp=Z,45μm,0.8s,comp=Z,427μm						
LSA	**Lhasa**	**38.15**	**34**	P	**P**	**09 58 21.4**	**-0.5**
XMIS	**Christmas Isla**	**38.84**	**105**	IAMs_20	IAMs_20	10 10 25.7	
	comp=Z,2μm,21.0s						
NONG	**Nongkai**	**39.90**	**59**	P	**P**	**09 58 37.1**	**+1.0**
	comp=Z,0.5nm,0.8s						
ASHT	**Ashkhabad**	**39.99**	**349**	IAMs_20	IAMs_20	10 13 56.7	
	comp=Z,2μm,20.0s						
GEYT	**Alibeck**	**40.03**	**348**	P	**P**	**09 58 37.5**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=164,slow=11,SNR=3.0						
GEYT				LR	LR	10 14 10.2	
	comp=Z,3μm,21.8s,baz=140,slow=35						
GEYT	**Alibeck**	**40.03**	**348**	P	**P**	**09 58 34.4**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**40.03**	**348**	P	**P**	**09 58 36.2**	**-0.8**
GYA0B				IAMs_20	IAMs_20	10 13 58.8	
	comp=Z,3μm,20.0s						
CISI	**Cisompet, Garu**	**40.51**	**100**	IAMs_20	IAMs_20	10 11 50.6	
	comp=Z,2μm,20.0s						
BTK	**Batken**	**41.28**	**4**	P	**P**	**09 58 46.6**	**-0.7**
BTK				IAmb	IAmb	09 58 57.9	
	comp=Z,25nm,1.2s						
LSZ	**Lusaka**	**41.32**	**248**	P	**P**	**09 58 48.9**	**+0.8**
	comp=Z,28nm,0.8s,baz=69,slow=7.2,SNR=36						
LSZ	**Lusaka**	**41.32**	**248**	P	**P**	**09 58 47.3**	**-0.9**
LSZ				IAmb	IAmb	09 58 49.5	
	comp=Z,32nm,0.8s						
LSZ	**Lusaka**	**41.32**	**248**	IAMs_20	IAMs_20	10 14 07.8	
	comp=Z,3μm,18.0s						
KSH	**Kashi**	**41.35**	**10**	P	P	09 58 42.6	-5.4
KSH				pP	pP	09 58 47.2	-5.2
KSH				PcP	**PcP**	**10 00 43.9**	**-2.4**
KSH				S	S	10 04 51.3	-11
KSH				SS	SS	10 07 48.3	-18
KSH				pmax	pmax		
	comp=Z,14nm,0.6s						
KSH				pmax	pmax		
	comp=Z,470nm,4.9s						
KSH				LR	LR		
	comp=Z,2μm,12.4s						
KSH				LR	LR		
	comp=Z,2μm,14.4s						
KSH				LR	LR		
	comp=Z,3μm,14.9s						
SLVN	**Son La**	**41.99**	**56**	P	**P**	**09 58 52.3**	**-1.2**
DLV	**T Lat**	**42.66**	**71**	IAMs_20	IAMs_20	10 14 32.1	
	comp=Z,2μm,21.0s						
KSM	**Kuching**	**42.75**	**86**	IAMs_20	IAMs_20	10 13 50.4	
	comp=Z,2μm,20.0s						
KMI	**Kunming**	**42.96**	**50**	P	**P**	**09 59 02.4**	**+0.9**
KMI				S	**S**	**10 05 28.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,190nm,5.5s						
KMI				LR	LR		
	comp=Z,1μm,17.1s						
KMI				LR	LR		
	comp=Z,1μm,21.1s						
KMI				LR	LR		
	comp=Z,1μm,18.7s						
SMRI	**Semarang**	**43.04**	**99**	IAMs_20	IAMs_20	10 14 01.7	
	comp=Z,3μm,21.0s						
NRN	**Naryn**	**43.22**	**9**	P	**P**	**09 59 02.0**	**-1.5**
NRN				IAMs_20	IAMs_20	10 17 20.2	
	comp=Z,2μm,20.0s						
ITZ	**Itezhi-Tezhi**	**43.47**	**248**	*i* P	**P**	**09 59 05.1**	**-0.5**
KDJ	**Kajisay**	**44.10**	**10**	IAMs_20	IAMs_20	10 17 34.6	
	comp=Z,2μm,21.0s						
AAK	**Ala-Archa**	**44.19**	**7**	P	**P**	**09 59 13.0**	**+2.0**
AAK				P	**P**	**09 59 13.0**	**+2.0**
AAK	**Ala-Archa**	**44.19**	**7**	P	**P**	**09 59 11.9**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=179,slow=9.4,SNR=4.4						
AAK	**Ala-Archa**	**44.19**	**7**	P	**P**	**09 59 10.7**	**-0.3**
AAK				IAmb	IAmb	09 59 23.9	
	comp=Z,19nm,1.4s						
ASF	**Jabal al Asfar**	**44.23**	**322**	LR	LR	10 15 39.5	
	comp=Z,938nm,20.4s,baz=88,slow=34						
BOOM	**Boomskoye usch**	**44.25**	**9**	IAMs_20	IAMs_20	10 16 16.7	
	comp=Z,2μm,22.0s						
KK31	**Karatay Array**	**44.30**	**3**	P	**P**	**09 59 10.2**	**-1.5**
KKAR	**Karatay Array**	**44.30**	**3**	P	**P**	**09 59 10.3**	**-1.4**
KKAR	**Karatay Array**	**44.30**	**3**	P	**P**	**09 59 10.2**	**-1.5**
KKAR				IAmb	IAmb	09 59 23.8	
	comp=Z,11nm,1.1s						
SBUM	**Sibu**	**44.73**	**85**	P	**P**	**09 59 18.0**	**+2.4**
MMAI	**Mount Meron Ar**	**45.73**	**321**	LR	LR	10 16 36.6	
	comp=Z,1μm,18.5s,baz=165,slow=34						
QIZ	**Qiongzhong**	**46.11**	**62**	P	**P**	**09 59 24.4**	**-2.1**
QIZ				PP	**PP**	**10 01 13.8**	**-1.1**
QIZ				S	**S**	**10 06 15.3**	**+3.3**
QIZ				LR	LR		
	comp=Z,760nm,17.7s						
QIZ				LR	LR		
	comp=Z,740nm,25.0s						
QIZ				LR	LR		
	comp=Z,1μm,26.5s						
GNI	**Garni**	**46.27**	**336**	LR	LR	10 18 34.2	
	comp=Z,1μm,20.6s,baz=137,slow=36						
GNI	**Garni**	**46.27**	**336**	P	**P**	**09 59 25.9**	**-1.8**
GNI	**Garni**	**46.27**	**336**	IAMs_20	IAMs_20	10 17 36.0	
	comp=Z,3μm,22.0s						
JAGI	**Jajag, Banyuwa**	**46.84**	**100**	P	**P**	**09 59 31.6**	**-0.8**
AKH	**Akhalkalaki**	**47.84**	**335**	IAMs_20	IAMs_20	10 19 14.7	
	comp=Z,2μm,20.0s						
WMQ	**Urumqi**	**48.39**	**19**	P	**P**	**09 59 46.4**	**+2.4**
WMQ				sP	pwP	09 59 52.0	-0.2
WMQ				S	**S**	**10 06 49.0**	**+5.1**
WMQ				SS	**SS**	**10 10 12.6**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.9s						
WMQ				LR	LR		
	comp=Z,720nm,17.1s						
WMQ				LR	LR		
	comp=Z,750nm,14.3s						
WMQ				LR	LR		
	comp=Z,890nm,21.3s						
BOSA	**Boshof**	**48.69**	**232**	P	**P**	**09 59 47.2**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=64,slow=7.5,SNR=6.4						
BOSA				LR	LR	10 17 01.8	
	comp=Z,1μm,20.7s,baz=66,slow=32						
BOSA	**Boshof**	**48.69**	**232**	P	**P**	**09 59 47.3**	**+0.7**
BOSA				IAmb	IAmb	09 59 55.9	
	comp=Z,18nm,0.9s						
KKM	**Kota Kinabalu**	**49.05**	**81**	IAMs_20	IAMs_20	10 19 50.9	
	comp=Z,1μm,19.0s						
MKAR	**Makanchi Array**	**49.61**	**13**	P	**P**	**09 59 52.0**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=192,slow=8.1,SNR=8.7						
MKAR	**Makanchi Array**	**49.61**	**13**	P	**P**	**09 59 51.9**	**-1.4**
KBZ	**Khabaz**	**50.02**	**337**	P	**P**	**09 59 55.9**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=150,slow=7.0,SNR=9.0						
KBZ				LR	LR	10 20 22.9	
	comp=Z,893nm,20.7s,baz=159,slow=35						
GTA	**Gaotai**	**50.12**	**33**	*e*P	**P**	**09 59 57.0**	**-0.4**
GTA				pP	sP	10 00 04.1	+0.5
GTA				sP	pwP	10 00 07.1	+1.7
GTA				S	**S**	**10 07 07.4**	**-1.1**
GTA				sS	pS	10 07 13.2	-0.7
GTA				SS	**SS**	**10 10 37.4**	**-4.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,93nm,7.0s						
GTA				LR	LR		
	comp=Z,1μm,15.5s						
GTA				LR	LR		
	comp=Z,880nm,17.1s						
GTA				LR	LR		
	comp=Z,1μm,18.1s						
LZH	**Lanzhou**	**50.20**	**39**	*e*P	**P**	**09 59 58.5**	**+0.4**
LZH				pP	pP	10 00 01.8	-0.9
LZH				sP	sP	10 00 03.2	-1.2
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,87nm,7.6s						
LZH				LR	LR		
	comp=Z,330nm,14.8s						
LZH				LR	LR		
	comp=Z,340nm,15.2s						
LZH				LR	LR		
	comp=Z,460nm,18.1s						
ENH	**Enshi**	**50.74**	**48**	IAMs_20	IAMs_20	10 20 49.7	
	comp=Z,1μm,21.0s						
ABKAR	**Akbulak array**	**50.81**	**353**	P	**P**	**10 00 00.9**	**-1.3**
ABKAR				IAmb	IAmb	10 00 11.5	
	comp=Z,10nm,0.8s						
HKPS	**Hong Kong Po S**	**51.04**	**60**	IAMs_20	IAMs_20	10 19 02.8	
	comp=Z,1μm,22.0s						
BR131	**Keskin Array S**	**51.34**	**326**	P	**P**	**10 00 08.5**	**+1.9**
BR131	**Keskin Array S**	**51.34**	**326**	P	**P**	**10 00 04.5**	**-2.1**
BR131				IAmb	IAmb	10 00 15.2	
	comp=Z,14nm,1.1s						
BRTR	**Keskin Array B**	**51.34**	**326**	P	**P**	**10 00 05.7**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=142,slow=7.3,SNR=18						
BRTR				LR	LR	10 21 42.7	
	comp=Z,849nm,18.6s,baz=132,slow=36						
BRTR	**Keskin Array B**	**51.34**	**326**	P	**P**	**10 00 05.5**	**-1.1**
ISP	**Isparta**	**51.88**	**323**	IAMs_20	IAMs_20	10 21 24.8	
	comp=Z,2μm,18.0s						
TSUM	**Tsumeb**	**52.12**	**247**	P	**P**	**10 00 13.1**	**+0.4**
TSUM				IAmb	IAmb	10 00 15.6	
	comp=Z,22nm,1.1s						
KAPI	**Kappang**	**52.15**	**95**	LR	LR	10 22 29.0	
	comp=Z,858nm,18.1s,baz=120,slow=36						
AKTO	**Aktyubinsk**	**52.21**	**352**	P	**P**	**10 00 11.2**	**-1.5**
	comp=Z,5.9nm,0.8s,baz=156,slow=6.4,SNR=17						
AKTO				LR	LR	10 23 31.1	
	comp=Z,313nm,18.1s,baz=167,slow=37						
ILGA	**Ilgaz**	**52.23**	**328**	P	**P**	**10 00 13.5**	**+0.2**
ILGA				IAmb	IAmb	10 00 27.4	
	comp=Z,35nm,1.3s						
ILGA				IAMs_20	IAMs_20	10 20 20.3	
	comp=Z,2μm,20.0s						
XAN	**Xi'an**	**52.33**	**44**	P	**P**	**10 00 13.5**	**-0.4**
XAN				pP	pwP	10 00 22.3	+0.4
XAN				S	**S**	**10 07 39.2**	**+0.3**
XAN				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN				pmax	pmax		
	comp=Z,200nm,5.3s						
XAN				LR	LR		
	comp=Z,970nm,17.2s						
XAN				LR	LR		
	comp=Z,460nm,13.2s						
XAN				LR	LR		
	comp=Z,920nm,18.4s						
XAN	**Xi'an**	**52.33**	**44**	P	**P**	**10 00 13.3**	**-0.6**
XAN				IAmb	IAmb	10 00 22.8	
	comp=Z,25nm,1.0s						
BKSI	**Bulukumba**	**52.53**	**96**	P	**P**	**10 00 16.6**	**+0.9**
KURBB	**Kurch

comp=Z,2μm,21.8s,baz=276,slow=35
ALN Alexandroupoli 56.50 323 P **P 10 00 44.2 +0.1**
ALN IAmb IAmb 10 00 53.1
comp=Z,14nm,1.2s
ZAA0 Zalesovo Array 56.90 12 P **P 10 00 46.5 -0.2**
ZAA0 IAmb IAmb 10 00 58.6
comp=Z,19nm,1.4s
ZALV Zalesovo Beam 56.90 12 P **P 10 00 45.0 -1.7**
comp=Z,1.9nm,0.7s,baz=213,slow=5.6,SNR=4.4
ZALV PP **PP 10 02 57.7 +4.4**
comp=Z,1.2nm,0.3s,baz=114,slow=3.7,SNR=5.5
ZALV LR LR 10 25 40.2
comp=Z,934nm,21.4s,baz=208,slow=37
ZALV Zalesovo Beam 56.90 12 P **P 10 00 45.5 -1.1**
SOEI Soe 56.91 101 IAms_20 IAms_20 10 20 46.3
comp=Z,1μm,21.0s
TPUB Ta-pu 57.02 61 IAms_20 IAms_20 10 22 17.4
comp=Z,1μm,21.0s
TIRR Tirgusor 57.41 327 ⇑P **P 10 00 53.4 +3.0**
TIRR Tirgusor 57.41 327 P **P 10 00 51.1 +0.7**
TIRR IAms_20 IAms_20 10 26 17.4
comp=Z,2μm,19.0s
YULB Yu-li 57.63 61 IAms_20 IAms_20 10 23 33.6
comp=Z,1μm,20.0s
TLB Topalu 57.69 327 ⇑P **P 10 00 51.4 -1.1**
TOPG Topolog 57.70 328 ⇑P P 10 00 57.7 +5.2
AGG Agios Georgios 57.77 319 P **P 10 00 53.3 +0.1**
AGG IAmb IAmb 10 01 01.1
comp=Z,21nm,1.1s
HARR Harsova 57.82 327 ⇓P **P 10 00 54.2 +0.8**
ARU Arti 58.03 354 LR LR 10 27 11.0
comp=Z,512nm,18.2s,baz=162,slow=38
CFR Carcaliu 58.03 328 ⇑P P 10 01 03.6 +8.8
YHNB Yeheng 58.09 60 IAms_20 IAms_20 10 24 41.7
comp=Z,1μm,20.0s
NACB Ninganchiao 58.13 60 IAms_20 IAms_20 10 24 52.7
comp=Z,1μm,20.0s
DAV Davao City (W) 58.40 81 LR LR 10 26 46.6
comp=Z,553nm,19.8s,baz=262,slow=37
NJ2 Nanjing 58.68 51 *e*P **P 10 01 00.1 +0.5**
NJ2 pP **pP 10 01 04.6 +0.3**
NJ2 S **S 10 09 08.9 +5.1**
NJ2 sS **sS 10 09 15.1 +3.7**
NJ2 pmax pmax
comp=Z,17nm,0.8s
NJ2 pmax pmax
comp=Z,230nm,3.5s
NJ2 LR LR
comp=Z,620nm,17.1s
NJ2 LR LR
comp=Z,1μm,17.0s
NJ2 LR LR
comp=Z,920nm,14.3s
ISR Istrita 58.85 327 ⇑P P 10 01 10.8 +10
KIS Kishinev 58.90 330 *e*P P 10 01 06.0 +5.1
KIS LQM 10 26 50.0
comp=Z,400nm,23.0s
KIS LRM MLR 10 31 10.0
comp=Z,500nm,16.0s
VTS Vitosha 59.22 323 ⇑P P 10 01 08.8 +5.4
VTS Vitosha 59.22 323 P **P 10 01 03.0 -0.4**
VTS IAmb IAmb 10 01 11.5
comp=Z,12nm,1.2s
VRI Vrincioaia 59.23 328 ⇑P **P 10 01 02.7 -0.5**
PLOR Plostina 59.26 328 ⇑P **P 10 01 02.8 -0.7**
FITZ Fitzroy Crossi 59.27 110 LR LR 10 25 49.5
comp=Z,745nm,18.1s,baz=280,slow=35
MLR Muntele Rosu 59.41 327 LR LR 10 27 17.9
comp=Z,866nm,18.5s,baz=136,slow=37
MLR Muntele Rosu 59.41 327 ⇑P P 10 01 12.0 +7.4
MLR Muntele Rosu 59.41 327 P **P 10 01 05.2 +0.6**
MLR IAms_20 IAms_20 10 25 46.3
comp=Z,1μm,21.0s
SONM Songino Array 59.44 29 P **P 10 01 05.4 +0.6**
comp=Z,4.0nm,0.8s,baz=221,slow=5.9,SNR=5.2
SONM LR LR 10 26 50.5
comp=Z,2μm,19.2s,baz=218,slow=36
SONM Songino Array 59.44 29 P **P 10 01 05.4 +0.6**
YOJ Yonaguni jima 59.45 61 IAms_20 IAms_20 10 24 53.7
comp=Z,1μm,20.0s
TESR Tescani 59.69 328 ⇑P **P 10 01 04.5 -1.9**
ULN Ulaanbaatar 59.79 30 P **P 10 01 07.2 0.0**
ULN IAmb IAmb 10 01 21.5
comp=Z,14nm,1.3s
ULN Ulaanbaatar 59.79 30 IAms_20 IAms_20 10 26 50.4
comp=Z,2μm,19.0s
VOIR 59.87 327 ⇑P **P 10 01 05.7 -2.1**
BIZ Bicaz 60.26 328 ⇑P **P 10 01 08.6 -1.7**
BJI Beijing 60.42 41 P **P 10 01 11.5 0.0**
BJI S **S 10 09 27.7 +1.7**
BJI SS **SS 10 13 27.4 +3.3**
BJI pmax pmax
comp=Z,7.0nm,1.5s
BJI LR LR
comp=Z,430nm,12.3s
BJI LR LR
comp=Z,400nm,16.0s
TIR Tirane 60.60 320 P **P 10 01 12.7 0.0**
GZR Gura Zlata 61.11 325 ⇑P **P 10 01 19.5 +3.3**
BURAR Bucovina Array 61.15 329 ⇑P **P 10 01 16.1 -0.4**
BURAR Bucovina Array 61.15 329 P **P 10 01 14.8 -1.6**
AKASG Malin Array Be 61.28 333 P **P 10 01 16.0 -1.2**
comp=Z,0.8nm,0.5s,baz=126,slow=5.9,SNR=6.0
AKASG LR LR 10 29 34.5
comp=Z,606nm,19.6s,baz=130,slow=38
AKASG Malin Array Be 61.28 333 P **P 10 01 16.8 -0.3**
AKBB Malin Array Si 61.28 333 P **P 10 01 16.5 -0.6**
KIRV Kirov 61.45 349 LR LR 10 27 59.3
comp=Z,464nm,21.1s,baz=148,slow=36
OBN Obninsk 61.75 340 LR LR 10 30 35.5
comp=Z,65nm,19.0s,baz=143,slow=38
KNRA Kununurra 61.89 107 IAms_20 IAms_20 10 22 48.4
comp=Z,2μm,21.0s
MTN Manton Dam 63.88 104 IAms_20 IAms_20 10 24 56.2
comp=Z,1μm,22.0s
JOW Kunigami 64.67 59 IAms_20 IAms_20 10 31 54.9
comp=Z,1μm,21.0s
TAM Tamanrasset 65.00 296 IAms_20 IAms_20 10 28 11.6
comp=Z,1μm,20.0s
VYHS Vyhne 65.11 327 *e*P **P 10 01 44.2 +1.6**
KEST Kesra 65.53 310 LR LR 10 27 31.5
comp=Z,687nm,21.9s,baz=12,slow=33
KLMR Klimovskoe 65.69 345 *e*P **P 10 01 43.3 -2.7**
KLMR AMP 10 02 01.4
comp=Z,35nm,1.5s
KLMR *e*S **S 10 10 28.1 -3.0**
KLMR *e*S **S 10 10 28.1 -3.0**
KLMR *e*SS **SS 10 14 42.3 -3.3**
KLMR *e*SS **SS 10 14 42.3 -3.3**
KLMR LQ LQ 10 25 47.1
KLMR LQ LQ 10 25 47.1
KLMR LR LR 10 29 56.3
MODS Modra-Piesok 65.91 326 *e*P **P 10 01 49.0 +1.2**
SNY Shenyang 66.21 43 ⇑P **P 10 01 49.0 -0.8**
SNY S **S 10 10 38.9 +0.7**
SNY pmax pmax
comp=Z,7.0nm,0.7s
SNY pmax pmax
comp=Z,190nm,3.7s
SNY LR LR
comp=Z,850nm,15.4s
SNY LR LR
comp=Z,580nm,20.4s
SNY LR LR
comp=Z,910nm,19.5s
MAW Mawson 66.24 182 P **P 10 01 50.7 +1.2**
comp=Z,5.1nm,0.8s,baz=336,slow=6.3,SNR=12
MAW LR LR 10 25 31.8
comp=Z,899nm,18.1s,baz=10.0,slow=31
MAW Mawson 66.24 182 P **P 10 01 51.5 +2.0**
SOKA Soboth 66.33 323 *i* P **P 10 01 50.9 +0.3**
comp=Z,7.5nm,1.3s
CONA Conrad Observa 66.48 325 *i* P **P 10 01 51.8 +0.2**
comp=Z,7.8nm,1.0s
VRAC Vranov 66.79 326 LR LR 10 32 12.5
comp=Z,284nm,21.5s,baz=127,slow=37
TOA2 Torodi Ar. Sit 66.93 285 IAms_20 IAms_20 10 31 21.8
comp=Z,2μm,18.0s
TOA0 Torodi Ar. Sit 66.94 285 IAms_20 IAms_20 10 31 12.9
comp=Z,2μm,19.0s
TORD Torodi Ar. Bea 66.94 285 P **P 10 01 57.4 +2.4**
comp=Z,2.4nm,1.0s,baz=123,slow=7.2,SNR=9.4
TORD LR LR 10 31 32.9
comp=Z,2μm,18.1s,baz=20,slow=36
TORD Torodi Ar. Bea 66.94 285 P **P 10 01 55.4 +0.5**
TOA1 Torodi Ar. Sit 66.94 285 IAms_20 IAms_20 10 31 22.0
comp=Z,2μm,18.0s
TOC7 Torodi Ar. Sit 66.95 285 IAms_20 IAms_20 10 31 20.4
comp=Z,2μm,18.0s
MOA Molln 67.37 324 *i* pP **P 10 02 00.7 +3.6**
comp=Z,7.1nm,0.9s
KSAR Wonju Array Be 67.60 48 P **P 10 01 56.9 -1.8**
KSRS Korea Array 67.63 48 P **P 10 01 58.6 -0.3**
comp=Z,3.9nm,1.0s,baz=257,slow=6.3,SNR=7.5
KSRS LR LR 10 33 23.4
comp=Z,784nm,19.1s,baz=238,slow=38
WC1 Warramunga Arr 67.68 111 IAms_20 IAms_20 10 27 30.0
comp=Z,822nm,21.0s
WRA Warramunga Arr 67.68 111 P **P 10 02 00.4 +0.8**
comp=Z,5.3nm,0.8s,baz=282,slow=6.2,SNR=41
WC4 Warramunga Arr 67.68 111 IAms_20 IAms_20 10 27 48.1
comp=Z,903nm,19.0s
WRAB Tennant Creek 67.69 111 P **P 10 02 00.7 +1.0**
WRAB Tennant Creek 67.69 111 IAms_20 IAms_20 10 27 16.5
comp=Z,1μm,22.0s
WB2 Warramunga Arr 67.69 111 P **P 10 01 59.3 -0.4**
WB2 IAms_20 IAms_20 10 27 16.3
comp=Z,983nm,21.0s
WB9 Warramunga Arr 67.70 111 IAms_20 IAms_20 10 26 02.7
comp=Z,938nm,22.0s
WB0 Warramunga Arr 67.71 111 P **P 10 02 00.1 +0.3**
WB0 IAmb IAmb 10 02 13.6
comp=Z,12nm,0.9s
WC3 Warramunga Arr 67.71 111 P **P 10 02 01.1 +1.2**
WR3 Warramunga Arr 67.72 111 IAms_20 IAms_20 10 27 16.2
comp=Z,1μm,22.0s
WR4 Warramunga Arr 67.74 111 IAms_20 IAms_20 10 27 20.7
comp=Z,1μm,22.0s
WR5 Warramunga Arr 67.77 111 IAms_20 IAms_20 10 27 16.3
comp=Z,1μm,21.0s
ASAR Alice Springs 67.78 115 P **P 10 02 01.3 +1.0**
comp=Z,3.0nm,0.7s,baz=286,slow=6.3,SNR=35
ASAR LR LR 10 27 19.9
comp=Z,595nm,21.6s,baz=284,slow=32
AS31 Alice Springs 67.78 115 P **P 10 02 01.3 +1.0**
WR8 Warramunga Arr 67.83 111 IAms_20 IAms_20 10 27 45.1
comp=Z,937nm,22.0s
ABTA Abfaltersbach 67.88 322 *i* pP **P 10 02 02.3 +1.8**
comp=Z,7.6nm,0.9s
KHC Kasperske Hory 68.40 325 *e*P **P 10 02 04.0 +0.4**
JNU Nakatsue 68.57 54 IAms_20 IAms_20 10 32 30.8
comp=Z,783nm,20.0s
WTTA Wattenberg 68.65 323 *i* pP **P 10 02 08.9 +3.5**
comp=Z,6.9nm,0.7s
MOTA Moosalm 69.01 323 *i* P **P 10 02 07.9 +0.3**
comp=Z,16nm,1.5s
BRG Berggiesshubel 69.06 327 *e*P **P 10 02 09.5 +1.8**
comp=Z,4.1nm,0.7s
BRG S **S 10 11 14.0 +1.9**
BRG SS **SS 10 15 43.0 +4.7**
comp=N,685nm,34.0s
comp=E,805nm,27.9s
comp=Z,754nm,19.6s
FETA Feichten 69.10 322 *i* pP **P 10 02 10.0 +1.9**
comp=Z,11nm,1.3s
DAVOX Davos/Dischmat 69.52 322 LR LR 10 32 39.1
comp=Z,451nm,20.1s,baz=113,slow=36
DAVA Damuels 69.73 322 *i* P **P 10 02 12.2 +0.1**
comp=Z,18nm,0.9s
CLL Collm 69.79 327 *e*(P) **P 10 02 14.0 +1.8**
comp=Z,6.0nm,0.7s
CLL *e* 10 02 54.0
CLL *e*PP **PP 10 04 42.0 -4.7**
CLL *e* 10 05 12.0
CLL *e*S **S 10 11 18.0 -2.7**
CLL *e*PPS PPS 10 11 52.0
CLL *e*SS **SS 10 15 48.0 -1.6**
CLL *e*SSS SSS 10 19 12.0
CLL *e*SSSS 10 20 24.0
FINES FINESS Array B 70.16 340 P **P 10 02 16.2 +2.0**
comp=Z,4.0nm,0.9s,baz=86,slow=7.1,SNR=3.1
FINES LR LR 10 35 41.3
comp=Z,442nm,19.1s,baz=141,slow=38
SYO Syowa Base 70.17 190 *e*X **P 10 02 09.6 -4.5**
SENIN Lac Senin/Sane 70.97 320 P **P 10 02 20.4 +0.6**
KIC Kosan Boka 72.65 277 *e*P **P 10 02 30.5 +0.3**
comp=Z,36nm,0.9s
DBIC Dimbokro 72.78 277 P **P 10 02 31.6 +0.6**
comp=Z,6.4nm,0.7s,baz=73,slow=8.6,SNR=7.2
DBIC LR LR 10 33 51.8
comp=Z,927nm,20.0s,baz=74,slow=35
DBIC Dimbokro 72.78 277 P **P 10 02 30.5 -0.5**
DBIC IAmb IAmb 10 02 41.7
comp=Z,15nm,0.8s
USRK Ussuriysk Ar. 72.82 43 LR LR 10 36 19.5
comp=Z,316nm,20.9s,baz=238,slow=37
LIC Lamto 72.92 277 *e*P **P 10 02 29.1 -2.8**
comp=Z,55nm,1.2s
TIC Toumodi 72.94 277 *e*P **P 10 02 32.2 +0.2**
SHEL Horse Pasture 73.67 254 IAms_20 IAms_20 10 29 56.7
comp=Z,1μm,21.0s
KLR Kul'dur 74.40 38 P **P 10 02 38.9 -0.9**
comp=Z,2.1nm,0.8s,baz=290,slow=7.2,SNR=3.9
MJAR Matsushiro Arr 75.27 52 P **P 10 02 45.5 +0.3**
comp=Z,3.6nm,0.9s,baz=257,slow=7.4,SNR=6.1
MJAR LR LR 10 36 40.8
comp=Z,456nm,20.2s,baz=260,slow=36
MJAR Matsushiro Arr 75.27 52 P **P 10 02 44.4 -0.8**
NOA NORSAR Array B 75.57 335 P **P 10 02 48.3 +1.9**
comp=Z,1.7nm,1.0s,baz=119,slow=6.1,SNR=2.7
NOA LR LR 10 37 36.7
comp=Z,376nm,18.8s,baz=120,slow=37
COEN Coen 75.64 104 IAms_20 IAms_20 10 33 17.9
comp=Z,974nm,21.0s
STKA Stephens Creek 75.69 122 P **P 10 02 48.5 +0.8**
comp=Z,1.8nm,0.8s,baz=104,slow=17,SNR=2.4
STKA LR LR 10 32 54.3
comp=Z,584nm,21.1s,baz=271,slow=33
KEV Kevo 75.95 346 IAms_20 IAms_20 10 34 49.0
comp=Z,1μm,22.0s
ARCES ARCESS Array B 76.15 346 P **P 10 02 50.9 +1.4**
comp=Z,1.7nm,0.8s,baz=150,slow=7.3,SNR=5.9
ARCES LR LR 10 37 51.7
comp=Z,774nm,20.6s,baz=136,slow=37
ARCES ARCESS Array B 76.15 346 P **P 10 02 51.0 +1.5**
ESDC Sonseca Array 76.76 311 P **P 10 02 55.6 +1.9**
comp=Z,0.6nm,0.4s,baz=78,slow=4.6,SNR=8.0
ESDC LR LR 10 33 18.8
comp=Z,165nm,21.0s,baz=140,slow=33
ESDC Sonseca Array 76.76 311 P **P 10 02 52.8 -0.9**
GUMO Guam 77.90 76 LR LR 10 35 55.8
comp=Z,289nm,20.5s,baz=268,slow=35
CTAO Charters Tower 78.85 110 IAms_20 IAms_20 10 33 23.1
comp=Z,1μm,21.0s
PMG Port Moresby 79.44 99 IAms_20 IAms_20 10 34 41.5
comp=Z,732nm,21.0s
EKA Eskdalemuir Ar 80.26 327 LR LR 10 40 28.5
comp=Z,212nm,20.5s,baz=115,slow=37
TIXI Tiksi 82.48 16 LR LR 10 41 05.5
comp=Z,846nm,21.4s,baz=216,slow=36
TIXI Tiksi 82.48 16 P **P 10 03 24.0 +0.1**
TIXI IAms_20 IAms_20 10 40 43.1
comp=Z,862nm,20.0s
SNAA Sanae 82.68 197 P P 10 03 30.6 +5.4
SNAA Sanae 82.68 197 P **P 10 03 26.1 +1.0**
SNAA IAmb IAmb 10 03 35.9
comp=Z,6.4nm,0.9s
SNAA IAms_20 IAms_20 10 32 25.5
comp=Z,630nm,20.0s
EIDS Eidsvold 83.51 115 P **P 10 03 28.3 -2.0**
VNA2 Neumayer--Watz 83.89 199 P **P 10 03 34.8 +3.5**
baz=62,slow=4.5
VNA1 Neumayer--Stat 84.11 199 P **P 10 03 37.1 +4.8**
VNA3 Neumayer Olymp 84.68 198 P **P 10 03 37.8 +2.4**
KBS Kingsbay 85.04 351 IAms_20 IAms_20 10 44 42.5
comp=Z,640nm,19.0s
JMIC Jan Mayen 86.74 341 LR LR 10 44 46.9
comp=Z,313nm,18.4s,baz=112,slow=37
QSPA South Pole Qui 88.68 180 P **P 10 03 54.8 -0.3**
QSPA South Pole Qui 88.68 180 IAms_20 IAms_20 10 37 01.1
comp=Z,691nm,22.0s
BORG Borgarnes 90.74 335 LR LR 10 45 55.9
comp=Z,684nm,18.2s,baz=103,slow=36
PETK Petropavlovsk- 91.08 37 LR LR 10 46 59.6
comp=Z,415nm,20.4s,baz=258,slow=37
HNR Honiara 92.06 99 LR LR 10 47 09.0
comp=Z,608nm,19.4s,baz=222,slow=37
DZM Mont Dzumac 97.67 112 *e*P Pdif 10 04 37.8 +0.3
comp=Z,41nm,1.4s
DZM Mont Dzumac 97.67 112 *e*SS SS 10 22 44.3 +1.2
comp=Z,405nm,31.9s
DZM Mont Dzumac 97.67 112 *e*LR LR 10 35 51.6
comp=Z,2μm,29.9s
HIZ Hauiti 102.59 130 IAMs_20 IAMs_20 11 00 39.5
comp=Z,387nm,20.0s
RCBR Riachuelo 103.33 264 IAMs_20 IAMs_20 10 45 05.7
comp=Z,783nm,22.0s
INK Inuvik 111.58 8 IAMs_20 IAMs_20 11 05 26.5
comp=Z,417nm,20.0s
RND Reindeer 112.46 17 IAMs_20 IAMs_20 11 00 42.5
comp=Z,626nm,22.0s
GHO Glory Hole Cre 113.69 18 IAMs_20 IAMs_20 10 51 20.1
comp=Z,392nm,18.0s
HMT Hamilton 116.23 17 IAMs_20 IAMs_20 11 06 19.1
comp=Z,882nm,22.0s
GBN Guysborough 117.44 322 IAMs_20 IAMs_20 10 46 24.9
comp=Z,575nm,19.0s
HAL Halifax 119.11 322 IAMs_20 IAMs_20 10 48 43.9
comp=Z,627nm,22.0s
PTGA Pitinga 127.57 268 IAMs_20 IAMs_20 11 03 16.0
comp=Z,429nm,20.0s
FDF Fort de France 127.72 288 IAMs_20 IAMs_20 11 01 42.1
comp=Z,403nm,20.0s
E43A Lone Tree Farm 129.94 337 IAMs_20 IAMs_20 11 09 01.7
comp=Z,551nm,21.0s
MCWV Mont Chateau 131.71 326 IAMs_20 IAMs_20 11 08 00.7
comp=Z,498nm,20.0s
LPAZ La Paz 132.97 246 PKP **PKiKP 10 10 21.5 +1.2**
comp=Z,0.4nm,0.4s,baz=185,slow=12,SNR=3.0
HAWA Hanford 134.67 7 IAMs_20 IAMs_20 10 57 49.0
comp=Z,419nm,18.0s
BOZ Bozeman (W) 135.90 359 IAMs_20 IAMs_20 10 53 37.6
comp=Z,584nm,22.0s
TBI Tubuai 136.37 127 *e*SS SS 10 31 00.8 -5.5
comp=Z,266nm,38.0s
TBI Tubuai 136.37 127 *e*LR LR 10 53 57.9
comp=Z,440nm,27.0s
SDV Santo Domingo 137.80 282 IAMs_20 IAMs_20 11 15 05.2
comp=Z,336nm,20.0s
Y52A Lilburn 138.17 324 IAMs_20 IAMs_20 11 08 36.2
comp=Z,536nm,22.0s
V48A Smith Brothers 138.34 328 IAMs_20 IAMs_20 11 16 38.0
comp=Z,439nm,20.0s
PDAR Pinedale Array 138.66 357 PKP **PKPdf 10 10 27.1 -1.5**
comp=Z,0.6nm,0.7s,baz=73,slow=3.1,SNR=4.2
PDAR Pinedale Array 138.66 357 **PKPdf 10 10 26.3 -2.3**
PPT2 Papeete2 138.81 119 *e*SS SS 10 31 31.8 -4.2
comp=Z,280nm,33.0s
PPT2 Papeete2 138.81 119 *e*LQ LQ 10 48 49.7
comp=Z,1μm,34.8s
PPT2 *e*LR LR 10 55 04.4
comp=Z,745nm,25.2s
PENMO Penman 139.20 332 IAMs_20 IAMs_20 11 15 43.1
comp=Z,595nm,20.0s
LNXT Lenox 139.41 331 IAMs_20 IAMs_20 11 15 13.9
comp=Z,636nm,22.0s
HALT Halls 139.49 331 IAMs_20 IAMs_20 11 14 17.7
comp=Z,540nm,21.0s
N23A Red Feather La 140.18 352 IAMs_20 IAMs_20 10 55 51.7
comp=Z,459nm,21.0s
LCAR Lake Charles 140.22 333 IAMs_20 IAMs_20 11 15 14.1
comp=Z,557nm,20.0s
OXF Oxford 140.63 329 IAMs_20 IAMs_20 11 06 42.5
comp=Z,521nm,21.0s
CBKS Cedar Bluff 140.93 344 IAMs_20 IAMs_20 10 59 37.4
comp=Z,562nm,22.0s
ISCO Idaho Springs 141.21 352 IAMs_20 IAMs_20 11 13 29.0
comp=Z,520nm,22.0s
KSCO Kaye Shedlock' 141.44 348 IAMs_20 IAMs_20 11 15 16.5
comp=Z,599nm,21.0s
MTDJ Mount Denham 141.92 298 IAMs_20 IAMs_20 11 15 40.4
comp=Z,344nm,18.0s
MIAR Mount Ida 142.58 334 IAMs_20 IAMs_20 11 15 12.3
comp=Z,484nm,21.0s
NVAR Mina Array Bea 142.66 8 PKP **PKPdf 10 10 36.0 +0.1**
comp=Z,0.3nm,0.6s,baz=14,slow=4.2,SNR=3.6
NVAR Mina Array Bea 142.66 8 **PKPdf 10 10 34.5 -1.4**
PV22 Blue Mesa, Par 142.81 355 **PKPdf 10 10 35.3 -0.8**
PV22 IAMs_20 IAMs_20 11 26 40.3
comp=Z,545nm,20.0s
PV03 Paradox Valley 143.10 355 IAMs_20 IAMs_20 11 28 32.8
comp=Z,440nm,20.0s
PV18 Skein Mesa, Pa 143.11 355 IAMs_20 IAMs_20 11 25 36.2
comp=Z,500nm,20.0s
S22A 4UR Ranch, Cre 143.39 353 IAMs_20 IAMs_20 11 14 54.8
comp=Z,557nm,21.0s
SZCU Shurtz Canyon 143.89 1 PKPbc 10 10 36.6 +0.9
WMOK Wichita Mounta 144.42 341 **PKPdf 10 10 39.0 +0.2**
WMOK Wichita Mounta 144.42 341 IAMs_20 IAMs_20 11 14 13.1
comp=Z,529nm,22.0s
LCMT Little Creek M 144.47 1 **PKPdf 10 10 38.9 -0.1**
SHPR Sheep Range 144.89 4 **PKPdf 10 10 39.7 0.0**
U15A North Rim 145.06 360 **PKPdf 10 10 40.9 +0.6**
ATAH Atahualpa 145.09 256 PKPbc **PKiKP 10 10 43.0 -1.8**
comp=Z,2.5nm,0.5s,baz=94,slow=4.6,SNR=2.2
GSC Goldstone, Bar 145.94 7 **PKPab 10 10 42.8 +0.2**
WUAZ Wupatki 145.96 359 **PKPab 10 10 42.8 +0.1**
ANMO Albuquerque 146.09 351 **PKPdf 10 10 40.6 -1.3**
ANMO Albuquerque 146.09 351 IAMs_20 IAMs_20 11 12 31.3
comp=Z,396nm,19.0s
W13A Hualapai Mount 146.36 2 **PKPdf 10 10 42.8 +0.4**
ABTX Abilene, Hawle 146.64 340 IAMs_20 IAMs_20 11 18 50.9
comp=Z,600nm,21.0s
BCIP Isla Barro Col 146.72 285 IAMs_20 IAMs_20 11 21 19.7
comp=Z,354nm,20.0s
HKT Hockley 147.48 333 IAMs_20 IAMs_20 11 21 45.0
comp=Z,503nm,22.0s
PFO Pinyon Flats O 147.64 6 **PKPbc 10 10 46.7 -0.4**
JCT Junction City 148.64 339 **PKPbc 10 10 49.9 +0.2**
JCT IAMs_20 IAMs_20 11 19 42.2
comp=Z,565nm,22.0s
121A Cookes Peak, D 148.65 353 **PKPbc 10 10 49.4 -0.6**
MNTX Cornudas Mount 149.07 348 **PKPbc 10 10 51.0 +0.2**
TUC Tucson 149.14 357 PKPab **PKPab 10 10 54.8 -0.4**
EPT El Paso 149.21 350 IAMs_20 IAMs_20 11 22 50.9
comp=Z,416nm,21.0s
319A Douglas 149.96 355 PKPbc **PKPbc 10 10 52.8 -0.3**
319A **PKPab 10 10 57.7 -0.9**
ESPN Las Esperanzas 150.16 292 IAMs_20 IAMs_20 11 19 13.7
comp=Z,254nm,20.0s
833A Chaparral WMA, 150.42 336 **PKPbc 10 10 52.4 -1.8**
833A PKPab **PKPab 10 10 58.1 -2.4**
TX31 Lajitas Ar. Si 150.93 344 **PKPbc 10 10 53.4 -2.1**
TX31 PKPab **PKPab 10 10 59.8 -2.9**
TX32 Lajitas Array 150.93 344 **PKPbc 10 10 53.3 -2.2**
TX32 PKPab **PKPab 10 10 59.9 -2.7**
TXAR Lajitas Array 150.93 344 PKPbc **PKPbc 10 10 55.1 -0.4**
comp=Z,2.4nm,0.8s,baz=73,slow=1.1,SNR=24
ESTN Estel 151.73 296 IAMs_20 IAMs_20 11 24 07.7
comp=Z,413nm,20.0s
TGUH Tegucigalpa,Un 152.15 298 IAMs_20 IAMs_20 11 25 09.5
comp=Z,394nm,20.0s

JMA ***08*** *10:08:27.2±0.4, 45°.61N×150°.23E, h173km, M3.7*
SKHL 08 10:08:25.9±0.6, 44°.88N×151°.00E, h40km±3km, mb4.6/4,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.25**	**280**	*i* P		Pn	10 09 00.5	-0.1
KUR					AMB	AMB	10 09 01.0	
	60nm,0.3s							
KUR				*i* S		Sn	10 09 26.8	-0.2
KUR					A	A	10 09 32.0	
	320nm,0.4s							
KUR					A	A	10 09 32.0	
	280nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.77**	**259**	*e*P		Pn	10 09 22.5	+1.0
YUK					AMB	AMB	10 09 24.0	
	57nm,0.3s							
YUK				*i* S		Sn	10 10 04.5	-0.2
YUK					A	A	10 10 09.0	
	112nm,0.3s							
YUK					A	A	10 10 09.0	
	109nm,0.3s							
LAGR	**Lagunnoye**	**3.82**	**259**	*e*S		Sn	10 10 06.5	+0.7
GRPR	**Tuman**	**3.85**	**259**	*e*P		Pn	10 09 24.0	+1.5
GRPR					AMB	AMB	10 09 27.0	
	49nm,0.3s							
GRPR				*i* S		Sn	10 10 07.3	+0.8
GRPR					A	A	10 10 13.0	
	154nm,0.3s							
GRPR					A	A	10 10 13.0	
	73nm,0.3s							
NEM2	**Nemuro 2**	**4.08**	**250**	P		Pn	10 09 27.5	+1.8
NEM2				*e*S		Sn	10 10 14.1	+2.0
NMR	**Nemuro--Hokkai**	**4.08**	**250**	*i* P		Pn	10 09 27.0	+1.2
NMR				*i* S		Sn	10 10 14.0	+1.7

GLVR	**Golovnino**	**4.10 256**	*e*P	Pn	10 09 27.0	+1.1
GLVR			AMB	AMB	10 09 29.0	
	46nm,0.3s					
GLVR			*i* S	Sn	10 10 13.2	+0.6
GLVR			A	A	10 10 20.0	
	141nm,0.3s					
GLVR			A	A	10 10 20.0	
	200nm,0.3s					
JNK	**Nakash**	**4.70 256**	P	Pn	10 09 34.8	+0.6
JAK	**Akkeshi**	**4.93 250**	P	Pn	10 09 38.3	+1.0
JAK			*e*S	Sn	10 10 33.3	+0.3
JTKR	**Abashiri--Toko**	**5.16 262**	P	Pn	10 09 38.7	-1.9
JAR	**Ashorobuto**	**5.44 256**	P	Pn	10 09 45.7	+1.2
JOB	**Onbets**	**5.54 252**	*e*S	Sn	10 10 47.7	-0.5
JCH	**Churui**	**5.98 250**	P	Pn	10 09 51.8	0.0
JCH			*e*S	Sn	10 10 56.4	-2.5
JKK2	**Kamakawa 2**	**6.00 263**	P	Pn	10 09 49.7	-2.4
ASAJ	**Asahikawa**	**6.06 266**	P	Pn	10 09 50.1	-2.8
JNBK	**Urakawa-nobuka**	**6.53 249**	P	Pn	10 09 58.5	-0.8
JNBK			*e*S	Sn	10 11 07.6	-4.9
JKB	**Kayabe**	**7.85 251**	*e*S	Sn	10 11 37.4	-7.6
JTM	**Tenmabayashi**	**8.37 244**	*e*S	Sn	10 11 51.4	-6.2

AZER ***08*** *10:12:33.2±0.2, 37°.89N×47°.23E, h9km, ml4.5/32, Error ellipse: s-maj=3.8km s-min=1.7km az=11.0*
NEIC ***08*** *10:12:35.0±1.6, 37°.87N±0°.05×47°.34E±0°.06, h10km±2km*
BJI ***08*** *10:12:34.0±0.0, 37°.70N×47°.30E, h10km, mb4.5/10, mB4.7/5, Ms4.4/4, Ms7 4.1/2*
IDC ***08*** *10:12:34.6±1.0, 37°.75N×47°.21E, h0km, mb4.1/14, mb1 4.2/21, mb1mx4.0/57, mbtmp4.1/21, ML4.1/5, MS3.8/3, Ms1 3.8/3, ms1mx3.3/48, Error ellipse: s-maj=19.0km s-min=11.3km az=8.0*
TEH ***08*** *10:12:34.4, 37°.81N×47°.17E, h5km, ML4.5*
MOS ***08*** *10:12:34.4±1.2, 37°.63N×47°.29E, h26km, mb4.7/11, Error ellipse: s-maj=6.4km s-min=3.7km az=117.1*
THR ***08*** *10:12:35.0, 37°.86N×47°.27E, h15km, ML4.5*
ISCJB ***08*** *10:12:37.2±0.5, 37°.79N±0°.01×47°.27E±0°.02, h29km±4km, mb4.3/33, MS3.8/5, Error ellipse: s-maj=2.6km s-min=2.3km az=154.2*
NNC ***08*** *10:12:41.1±4.6, 38°.37N×47°.79E, h0km, mb4.2, Error ellipse: s-maj=42.1km s-min=22.1km az=55.0*
DDA ***08*** *10:12:54.2, 37°.69N×47°.42E, h16km, ML4.1*
ISC 08 10:12:34.7±0.9, 37°.79N±0°.02×47°.26E±0°.02, h11km±6km, n332, σ2°.21/374, mb4.4/37, MS3.9/5, 16C-9D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	**Bostanabad**	**0.30**	**253**	*e*Pg	**Pg**	**10 12 38.8**	**-2.1**
IBST				*e*Sg	**Sg**	**10 12 43.3**	**-1.8**
ISRB	**Sarab**	**0.33**	**83**	*e*Pg	**Pg**	**10 12 41.5**	**+0.2**
ISRB				*e*Sg	**Sb**	**10 12 48.1**	**+0.1**
IHSH	**Hashtrud**	**0.52**	**0**	*e*Pg	**Pg**	**10 12 44.9**	**0.0**
ITBZ	**Tabriz**	**0.98**	**297**	*e*Pg	**Pg**	**10 12 52.0**	**-1.7**
IAZR	**Azarshahr**	**1.02**	**264**	*e*Pg	**Pg**	**10 12 52.5**	**-1.8**
GRMI	**Germi**	**1.14**	**26**	*e*Pg	**Pb**	**10 12 55.0**	**-1.4**
GRMI	**Germi**	**1.14**	**26**		**Pb**	**10 12 55.0**	**-1.4**
LRK	**Lerik**	**1.21**	**45**	*e*Pg	**Pb**	**10 12 57.1**	**-0.6**
LRK	**Lerik**	**1.21**	**45**	P	**Pb**	**10 12 57.2**	**-0.5**
	SNR=2259						
LRK				S	**Sn**	**10 13 15.2**	**+1.0**
YRD	**Yardimli**	**1.37**	**34**	P	**Pn**	**10 12 59.6**	**-0.3**
	SNR=477						
YRD				S	**Sg**	**10 13 19.3**	**+0.6**
ISHB	**Shabestar**	**1.39**	**291**	*e*Pn	**Pn**	**10 12 59.0**	**-1.3**
ISHB				IAMB	IAmb	10 13 20.9	
	comp=Z,99μm,0.6s						
ASTR	**Astara**	**1.43**	**57**	*e*Pg	**Pb**	**10 13 01.3**	**-0.1**
ASTR	**Astara**	**1.43**	**57**	P	**Pb**	**10 13 01.3**	**-0.1**
	SNR=358						
ASTR				S	**Sg**	**10 13 22.5**	**+1.7**
LKRN	**Lenkeran, Azer**	**1.51**	**52**	P	**Pg**	**10 13 02.9**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.51**	**52**	*e*Pn	**Pg**	**10 13 02.9**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.51**	**52**	P	**Pg**	**10 13 03.0**	**-0.7**
	SNR=216						
LKRN				S	**Sg**	**10 13 25.1**	**+1.9**
ORD	**Ordubad**	**1.51**	**319**	*e*Pn	**Pn**	**10 13 01.1**	**-0.7**
ORD	**Ordubad**	**1.51**	**319**	P	**Pn**	**10 13 01.4**	**-0.4**
	SNR=698						
ORD				S	**Sg**	**10 13 23.6**	**+0.2**
IMRD	**Marand**	**1.54**	**308**	*e*Pg	**Pn**	**10 13 01.9**	**-0.3**
IMRD				IAMB	IAmb	10 13 28.0	
	comp=Z,51μm,0.8s						
ZNJK	**Zanjan**	**1.59**	**134**	*e*Pn	**Pb**	**10 13 04.6**	**+0.3**
ZNJK	**Zanjan**	**1.59**	**134**	*e*Sg	**Sg**	**10 13 27.2**	**+1.3**
ZNJK	**Zanjan**	**1.59**	**134**	*e*P	**Pb**	**10 13 04.5**	**+0.3**
ZNJK				*e*AML	AML	10 13 33.1	
	comp=N,4μm,0.4s						
ZNJK	**Zanjan**	**1.59**	**134**		**Pb**	**10 13 04.0**	**-0.3**
ZNJK				Sg	**Sg**	**10 13 27.0**	**+1.1**
MAHB	**Mahabad**	**1.60**	**231**	*e*Sg	**Sb**	**10 13 25.1**	**+0.3**
MAHB				*e*Pn	**Pn**	**10 13 03.2**	**+0.1**
MAHB				IAMB	IAmb	10 13 29.8	
	comp=Z,0.0nm,0.3s						
QRD	**Qoradiz**	**1.67**	**2**	P	**Pn**	**10 13 04.3**	**+0.4**
	SNR=26						
QRD				S	**Sg**	**10 13 29.1**	**+0.6**
GLBA	**Clilabad**	**1.70**	**31**	*e*Pn	**Pg**	**10 13 06.7**	**-0.6**
GLBA	**Clilabad**	**1.70**	**31**	P	**Pb**	**10 13 05.4**	**-0.7**
	SNR=161						
GLBA				S	**Sg**	**10 13 31.0**	**+1.6**
BLQ	**Beylaqan**	**1.94**	**7**	P	**Pn**	**10 13 08.3**	**+0.6**
	SNR=118						
BLQ				S	**Sg**	**10 13 35.7**	**-1.5**
NAX	**Nakhchivan**	**1.96**	**316**	P	**Pb**	**10 13 09.4**	**-1.0**
NAX	**Nakhchivan**	**1.96**	**316**	*e*Pn	**Pb**	**10 13 09.4**	**-1.0**
NAX	**Nakhchivan**	**1.96**	**316**	P	**Pn**	**10 13 08.6**	**+0.6**
	SNR=318						
NAX				S	**Sg**	**10 13 36.6**	**-1.1**
SBZ	**Shahbuz**	**2.09**	**321**	*e*Pn	**Pb**	**10 13 12.0**	**-0.7**
SBZ	**Shahbuz**	**2.09**	**321**	P	**Pn**	**10 13 10.3**	**+0.4**
	SNR=193						
SBZ				S	**Sb**	**10 13 39.4**	**+0.6**
SAAT	**Saatly**	**2.26**	**23**	*e*Pn	**Pb**	**10 13 15.3**	**-0.2**
SAAT	**Saatly**	**2.26**	**23**	P	**Pb**	**10 13 13.8**	**-1.7**
	SNR=16						
SAAT				S	**Sg**	**10 13 45.4**	**-2.0**
AGDM	**Agdam**	**2.32**	**357**	P	**Pn**	**10 13 13.7**	**+0.8**
	SNR=382						
AGDM				S	**Sb**	**10 13 43.7**	**-1.6**
YOVA	**Hakkari_Yksek**	**2.37**	**266**	*i* P	**Pb**	**10 13 17.2**	**-0.2**
YOVA				*i* S	**Sg**	**10 13 51.3**	**+0.6**
YOVA				IAML_P			
	comp=Z,8μm,0.4s						
YOVA	**Hakkari_Yksek**	**2.37**	**266**	*e*Pn	**Pb**	**10 13 17.0**	**-0.4**
BRDA	**Brd**	**2.47**	**359**	*e*Pn	**Pb**	**10 13 17.2**	**-1.9**
BRDA	**Brd**	**2.47**	**359**	P	**Pn**	**10 13 15.7**	**+0.8**
	SNR=31						
BRDA				S	**Sb**	**10 13 47.6**	**-2.0**
ZRD	**Zardab**	**2.51**	**7**	*e*Pn	**Pb**	**10 13 18.6**	**-1.2**
ZRD	**Zardab**	**2.51**	**7**	P	**Pn**	**10 13 16.3**	**+0.8**
	SNR=4.8						
ZRD				S	**Sb**	**10 13 50.0**	**-0.7**
MAKU	**Maku**	**2.56**	**309**	*e*Pn	**Pn**	**10 13 17.4**	**+1.1**
MAKU	**Maku**	**2.56**	**309**	*e*Pn	**Pn**	**10 13 17.4**	**+1.1**
MAKU				*e*Sg	**Sb**	**10 13 54.0**	**+1.8**
MAKU	**Maku**	**2.56**	**309**	Pn	**Pn**	**10 13 17.0**	**+0.7**
MAKU				LR	LR	10 13 54.0	
ALIB	**&AumI;li-Bayra**	**2.56**	**32**	*e*Pn	**Pb**	**10 13 19.7**	**-0.9**
ALIB	**&AumI;li-Bayra**	**2.56**	**32**	P	**Pn**	**10 13 17.3**	**+1.1**
	SNR=12						
ALIB				S	**Sb**	**10 13 51.7**	**-0.5**
BASK	**Baskale_VAN**	**2.59**	**277**	*i* P	**Pb**	**10 13 21.0**	**-0.2**
BASK				*i* S	**Sg**	**10 13 59.8**	**+2.0**
HSRG	**Sareghieh**	**2.67**	**162**	*e*Pn	**Pb**	**10 13 21.5**	**-1.2**
KDMR	**Kurdemir**	**2.68**	**15**	S	**Sb**	**10 13 53.8**	**-1.9**
HYR	**Heyderabad**	**2.69**	**316**	*e*Pn	**Pb**	**10 13 20.9**	**-2.1**
HYR	**Heyderabad**	**2.69**	**316**	P	**Pn**	**10 13 19.1**	**+1.0**
	SNR=84						
HYR				S	**Sb**	**10 13 54.5**	**-1.6**
IGZV	**Ghazvin**	**2.75**	**120**	*e*Pn	**Pn**	**10 13 20.8**	**+1.8**
IGZV				IAMB	IAmb	10 14 10.8	
	comp=Z,44μm,0.4s						
QABG	**Abgarm-Qazvin**	**2.79**	**137**	*e*Pn	**Pb**	**10 13 22.7**	**-2.0**
QABG				IAMB	IAmb	10 14 15.6	
	comp=Z,0.0nm,0.5s						
HAKT	**HAKKARI**	**2.83**	**266**	*i* P	**Pb**	**10 13 24.8**	**-0.6**
HAKT	**HAKKARI**	**2.83**	**266**	*e*Pn	**Pb**	**10 13 23.4**	**-2.0**
ILIN	**Lien**	**2.87**	**185**	*e*Pn	**Pb**	**10 13 24.6**	**-1.5**
GANJ	**Ganja**	**2.95**	**346**	P	**Pn**	**10 13 23.9**	**+2.4**
GANJ	**Ganja**	**2.95**	**346**	*e*Pn	**Pn**	**10 13 23.9**	**+2.4**
GANJ	**Ganja**	**2.95**	**346**	P	**Pn**	**10 13 22.2**	**+0.7**
	SNR=59						
GANJ				S	**Sn**	**10 13 58.0**	**+1.1**
CLDR	**Caldiran**	**2.95**	**298**	*i* P	**Pb**	**10 13 25.8**	**-1.7**
CLDR				*i* S	**Sg**	**10 14 10.2**	**+0.6**
CLDR	**Caldiran**	**2.95**	**298**	*e*Pn	**Pb**	**10 13 25.4**	**-2.1**
CUKT	**Cukurca**	**2.95**	**261**	*i* P	**Pb**	**10 13 25.8**	**-1.6**
CUKT	**Cukurca**	**2.95**	**261**	*e*Pn	**Pb**	**10 13 24.8**	**-2.6**
MNGR	**Mingechevir, A**	**2.98**	**357**	P	**Pn**	**10 13 24.7**	**+2.7**
MNGR	**Mingechevir, A**	**2.98**	**357**	*e*Pn	**Pn**	**10 13 24.7**	**+2.7**
MNGR	**Mingechevir, A**	**2.98**	**357**	P	**Pn**	**10 13 22.6**	**+0.6**
	SNR=26						
MNGR				S	**Sn**	**10 13 58.5**	**+0.8**
QALM	**Alamut, Qazvin**	**3.03**	**116**	*e*Pn	**Pb**	**10 13 26.1**	**-2.6**
GBS	**Qobustan**	**3.04**	**25**	*e*Pn	**Pb**	**10 13 25.9**	**-3.0**
GBS	**Qobustan**	**3.04**	**25**	P	**Pn**	**10 13 23.6**	**+0.8**
	SNR=11						
GBS				S	**Sb**	**10 14 02.8**	**-3.2**
GNI	**Garni**	**3.07**	**321**	*i* P	**Pn**	**10 13 25.6**	**+2.3**
GNI	**Garni**	**3.07**	**321**	*e*Pn	**Pn**	**10 13 25.7**	**+2.4**
GNI	**Garni**	**3.07**	**321**	Pn	**Pb**	**10 13 27.1**	**-2.3**
	comp=Z,47nm,0.3s,baz=3.1,slow=0.9,SNR=33						
GNI				Sn	**Sg**	**10 14 15.7**	**+2.4**
	comp=Z,38nm,0.3s,baz=55,slow=21,SNR=6.8						
GNI	**Garni**	**3.07**	**321**	Pn	**Pn**	**10 13 25.1**	**+1.8**
GNI				Sn	**Sn**	**10 14 00.3**	**+0.2**
IML	**Ismayilli**	**3.09**	**13**	*e*Pn	**Pn**	**10 13 26.3**	**+2.9**
IML	**Ismayilli**	**3.09**	**13**	P	**Pn**	**10 13 24.2**	**+0.8**
	SNR=6.7						
VMUR	**Van-Muradiye**	**3.14**	**294**	*i* P	**Pb**	**10 13 28.6**	**-2.0**
VMUR				*i* S	**Sg**	**10 14 19.9**	**+4.5**
VMUR	**Van-Muradiye**	**3.14**	**294**	*e*Pn	**Pb**	**10 13 28.3**	**-2.3**
GDB	**GEDABAY**	**3.15**	**339**	*e*Pn	**Pb**	**10 13 27.7**	**-3.2**
GDB	**GEDABAY**	**3.15**	**339**	P	**Pn**	**10 13 24.8**	**+0.3**
	SNR=8.2						
GDB				S	**Sn**	**10 14 03.9**	**+1.6**
VANB	**Van**	**3.15**	**286**	*e*Pn	**Pb**	**10 13 27.7**	**-3.1**
IDHR	**Dehrash**	**3.16**	**193**	*e*Pn	**Pb**	**10 13 29.0**	**-2.0**
PQL	**Pirkuli**	**3.17**	**19**	*e*Pn	**Pb**	**10 13 28.2**	**-3.0**
PQL	**Pirkuli**	**3.17**	**19**	P	**Pn**	**10 13 25.6**	**+0.9**
	SNR=12						
PQL				S	**Sn**	**10 14 04.2**	**+1.6**
QBL	**Gabala**	**3.19**	**8**	*e*Pn	**Pb**	**10 13 28.2**	**-3.1**
QBL	**Gabala**	**3.19**	**8**	P	**Pn**	**10 13 25.8**	**+1.0**
	SNR=4.8						
QBL				S	**Sn**	**10 14 04.0**	**+1.2**
IRAZ	**Razeghan**	**3.20**	**137**	*e*Pn	**Pn**	**10 13 28.1**	**+2.9**
IRAZ				IAMB	IAmb	10 14 22.7	
	comp=Z,14μm,0.5s						
HAGD	**Aghdareh**	**3.33**	**152**	*e*Pn	**Pn**	**10 13 30.1**	**+3.2**
ATGJ	**Altiaghaj**	**3.33**	**22**	*e*Pn	**Pn**	**10 13 29.8**	**+2.9**
ATGJ	**Altiaghaj**	**3.33**	**22**	P	**Pn**	**10 13 27.7**	**+0.8**
	SNR=6.7						
ATGJ				S	**Sn**	**10 14 08.4**	**+1.8**
IBZA	**Bozab**	**3.35**	**171**	*e*Pn	**Pb**	**10 13 31.6**	**-2.6**
GEVA	**Gevas**	**3.36**	**280**	*i* P	**Pb**	**10 13 31.9**	**-2.4**
GEVA	**Gevas**	**3.36**	**280**	*e*Pn	**Pb**	**10 13 31.4**	**-2.9**
KER	**Kermanshah**	**3.40**	**182**	*e*Pn	**Pn**	**10 13 30.5**	**+2.7**
SEKA	**Sheki**	**3.42**	**359**	P	**Pn**	**10 13 30.1**	**+2.1**
SEKA	**Sheki**	**3.42**	**359**	*e*Pn	**Pn**	**10 13 30.1**	**+2.1**
SEKA	**Sheki**	**3.42**	**359**	P	**Pn**	**10 13 28.8**	**+0.8**
	SNR=8.6						
SEKA				S	**Sn**	**10 14 11.8**	**+3.2**
AKDM	**Akdamar-Van**	**3.42**	**280**	*e*Pn	**Pn**	**10 13 31.2**	**+3.0**
XNQ	**Khinaliq**	**3.45**	**11**	*e*Pn	**Pn**	**10 13 31.0**	**+2.4**
XNQ	**Khinaliq**	**3.45**	**11**	P	**Pn**	**10 13 29.2**	**+0.6**
	SNR=8.2						
IMHD	**Mahdasht**	**3.45**	**126**	*e*Pn	**Pn**	**10 13 31.1**	**+2.6**
THKV	**Tehran--Karaj**	**3.45**	**122**	*e*Pn	**Pn**	**10 13 31.2**	**+2.6**
THKV	**Tehran--Karaj**	**3.45**	**122**	*e*Pn	**Pn**	**10 13 31.1**	**+2.6**
THKV	**Tehran--Karaj**	**3.45**	**122**	*e*AML	AML	10 14 30.4	
	comp=E,1μm,0.5s						
THKV	**Tehran--Karaj**	**3.45**	**122**	Pn	**Pn**	**10 13 31.0**	**+2.4**
IGHG	**Ghaleghazi**	**3.50**	**189**	*e*Pn	**Pn**	**10 13 31.8**	**+2.6**
KCHF	**Cheshme Sefid,**	**3.51**	**183**	*e*Pn	**Pn**	**10 13 32.0**	**+2.6**
SIZA	**Siyzn**	**3.52**	**21**	*e*Pn	**Pn**	**10 13 32.7**	**+3.3**
SIZA	**Siyzn**	**3.52**	**21**	P	**Pn**	**10 13 30.3**	**+0.9**
	SNR=6.3						
SIZA				S	**Sn**	**10 14 13.2**	**+2.0**
QZX	**Qazax, Azerbai**	**3.58**	**336**	*e*Pn	**Pn**	**10 13 33.7**	**+3.5**
QZX	**Qazax, Azerbai**	**3.58**	**336**	P	**Pn**	**10 13 30.9**	**+0.7**
	SNR=40						
IKOM	**Komasi**	**3.61**	**177**	*e*Pn	**Pb**	**10 13 35.0**	**-3.7**
QUB	**Quba**	**3.69**	**13**	*e*Pn	**Pn**	**10 13 35.5**	**+3.8**
QUBA	**Quba, Azerbaij**	**3.69**	**15**	P	**Pn**	**10 13 32.4**	**+0.7**
	SNR=3.7						
AKT	**Akhty**	**3.71**	**5**	*e*P	**Pn**	**10 13 33.7**	**+1.7**
AKT				*e*S	**Sn**	**10 14 19.7**	**+3.9**
AKT				pmax	pmax		
	comp=Z,233nm,0.5s						
AKT				smax	smax		
	comp=N,116nm,1.1s						
AKT				smax	smax		
	comp=E,343nm,0.6s						
AKT				smax	smax		
	comp=E,306nm,0.9s						
HSAM	**Samen**	**3.73**	**163**	*e*Pn	**Pb**	**10 13 37.0**	**-3.8**
DDFL	**Dedoflistskaro**	**3.76**	**347**	P	**Pb**	**10 13 42.1**	**+0.9**
DDFL				S	**Sb**	**10 14 29.3**	**+2.6**
QSAR	**Qusar**	**3.80**	**11**	*e*Pn	**Pn**	**10 13 36.6**	**+3.3**
QSAR	**Qusar**	**3.80**	**11**	P	**Pn**	**10 13 34.0**	**+0.7**
	SNR=6.9						
TUTA	**Tutak**	**3.84**	**296**	*i* P	**Pb**	**10 13 39.1**	**-3.5**
TUTA				IAML_P			
	comp=Z,2μm,0.6s						
ZKTA	**Zakatala**	**3.88**	**353**	P	**Pn**	**10 13 34.9**	**+0.6**
	SNR=8.3						
ZKT	**Zaqatala**	**3.89**	**353**	*e*Pn	**Pn**	**10 13 37.0**	**+2.6**
MLAZ	**Malazgirt-MUS**	**3.94**	**292**	*e*Pn	**Pn**	**10 13 38.7**	**+3.5**
IHSB	**Hasanabad**	**3.99**	**125**	*e*Pn	**Pn**	**10 13 39.2**	**+3.3**
BDRS	**Dareh Seyedi**	**4.04**	**161**	*e*Pn	**Pb**	**10 13 42.0**	**-4.1**
IDOB	**Doab**	**4.06**	**169**	*e*Pn	**Pb**	**10 13 42.5**	**-3.9**
LGD	**Lagodekhi**	**4.12**	**349**	P	**Pn**	**10 13 41.7**	**+4.1**
LGD				S	**Sb**	**10 14 41.1**	**+4.1**
GURO	**Guroymak-BITLI**	**4.19**	**282**	*e*Pn	**Pn**	**10 13 42.1**	**+3.4**
IQOM	**Qom**	**4.25**	**133**	*e*Pn	**Pn**	**10 13 41.8**	**+2.1**
BMDN	**Meydan**	**4.30**	**162**	*e*Pn	**Pb**	**10 13 48.0**	**-2.4**
BTNK	**Botanikuri**	**4.33**	**335**	P	**Pb**	**10 13 51.4**	**+0.6**
IPRN	**Peran**	**4.35**	**109**	*e*Pn	**Pn**	**10 13 43.8**	**+3.0**
IKMR	**Kamar-syah**	**4.36**	**168**	*e*Pn	**Pb**	**10 13 46.9**	**-4.4**
TBLG	**Delisi**	**4.39**	**335**	P	**Pb**	**10 13 50.3**	**-1.6**
TBLG				S	**Sb**	**10 14 48.1**	**+3.3**
TBLG	**Delisi**	**4.39**	**335**	P	**Pn**	**10 13 41.4**	**0.0**
TBLG	**Delisi**	**4.39**	**335**	*e*Pn	**Pn**	**10 13 43.4**	**+2.0**
TBLG	**Delisi**	**4.39**	**335**	Pn	**Pn**	**10 13 41.4**	**0.0**
BGD	**Bogdanovka**	**4.48**	**322**	P	**Pb**	**10 13 55.7**	**+2.2**
IVRN	**Varamin**	**4.55**	**126**	*e*Pn	**Pn**	**10 13 46.0**	**+2.3**
AKH	**Akhalkalaki**	**4.64**	**322**	P	**Pb**	**10 13 58.3**	**+2.1**
AKH				S	**Sg**	**10 15 09.8**	**+6.0**
AKH	**Akhalkalaki**	**4.64**	**322**	P	**Pn**	**10 13 44.9**	**0.0**
AKH	**Akhalkalaki**	**4.64**	**322**	Pn	**Pn**	**10 13 44.9**	**0.0**
SENK	**Senkaya-Erzuru**	**4.71**	**308**	*e*Pn	Pn	10 13 51.5	+5.5
SVAN	**Silvan-Diyarba**	**4.80**	**276**	*e*Pn	**Pn**	**10 13 51.0**	**+4.0**
IFIR	**Firoozkooh**	**4.91**	**114**	*e*Pn	Pb	10 13 55.0	-5.8
MAK	**Makhachkala**	**5.17**	**2**	*e*P	**Pn**	**10 13 53.1**	**+1.1**
MAK				*e*S	**Sn**	**10 14 54.0**	**+2.3**
MAK				pmax	pmax		
	comp=Z,248nm,1.1s						
MAK				MLR	MLR		
	comp=Z,2μm,16.0s						
ILAS	**Lasjerd**	**5.18**	**116**	*e*Pn	**Pn**	**10 13 55.5**	**+3.2**
ISHM	**Shahmirzad**	**5.23**	**110**	*e*Pn	**Pn**	**10 13 57.8**	**+4.7**
IGLO	**Ghaloghah**	**5.40**	**102**	*e*Pn	**Pn**	**10 13 57.9**	**+2.5**
BINT	**Bingol**	**5.43**	**284**	P	**Pn**	**10 13 58.1**	**+2.3**
BINT	**Bingol**	**5.43**	**284**	*e*Pn	**Pn**	**10 13 58.1**	**+2.3**
GROC	**Groznyy**	**5.52**	**349**	*e*P	**Pn**	**10 13 53.7**	**-3.2**
GROC				*e*		10 14 55.9	
GROC				pmax	pmax		
	comp=Z,52nm,2.0s						
GROC				pmax	pmax		
	comp=Z,158nm,1.1s						
GROC				smax	smax		
	comp=N,336nm,1.3s						
GROC				smax	smax		
	comp=N,235nm,1.4s						
GROC				smax	smax		
	comp=E,578nm,1.8s						
GROC				smax	smax		
	comp=E,229nm,1.4s						
TKB	**Tkibuli**	**5.61**	**326**	P	**Pb**	**10 14 13.0**	**+0.4**
ONI	**Oni**	**5.61**	**330**	P	**Pb**	**10 14 14.8**	**+2.1**
ONI				S	**Sb**	**10 15 23.4**	**+3.3**
ZEI	**Tsey**	**5.62**	**334**	*e*P	Pn	10 14 03.5	+5.2
ZEI				pmax	pmax		
	comp=Z,21nm,0.6s						
IKLH	**Kolahrood**	**5.68**	**140**	*e*Pn	**Pn**	**10 14 03.8**	**+4.5**
IANJ	**Anjilo**	**5.83**	**111**	*e*Pn	**Pn**	**10 14 05.8**	**+4.5**
IPIR	**Pirpir**	**5.89**	**149**	*e*Pn	**Pn**	**10 14 06.7**	**+4.4**
JHBN	**Jahan bin**	**6.21**	**152**	*e*Pn	**Pn**	**10 14 10.5**	**+3.9**
ROKH	**ROKH**	**6.25**	**149**	*e*Pn	**Pn**	**10 14 11.7**	**+4.6**
NCK	**Nalchik**	**6.35**	**335**	*i* P	**Pn**	**10 14 10.9**	**+2.7**
ZNGN	**Zangian**	**6.38**	**151**	*e*Pn	**Pn**	**10 14 12.9**	**+4.0**
IZEF	**Zefreh**	**6.40**	**138**	*e*Pn	**Pn**	**10 14 13.6**	**+4.4**
KBZ	**Khabaz**	**6.79**	**332**	*i* P	**Pn**	**10 14 16.8**	**+2.5**
KBZ	**Khabaz**	**6.79**	**332**	Pg	**Pb**	**10 14 34.4**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=18,SNR=2.7						
SHA1	**Shidzhatmaz**	**6.89**	**331**	*i* P	**Pn**	**10 14 18.3**	**+2.4**
DOMR	**Dombai**	**6.97**	**324**	*i* P	**Pn**	**10 14 20.5**	**+3.6**
ANAR	**Anarak**	**6.99**	**129**	*e*Pn	**Pn**	**10 14 21.2**	**+4.0**
KEMA	**Kemaliye**	**7.03**	**285**	*e*Pn	**Pn**	**10 14 21.2**	**+3.5**
KIV	**Kislovodsk**	**7.07**	**332**	*e*P	**Pn**	**10 14 21.2**	**+3.0**
KIV				pmax	pmax		
	comp=Z,39nm,1.0s						
KIV	**Kislovodsk**	**7.07**	**332**	Pn	**Pn**	**10 14 18.2**	**+0.1**
ISAD	**Sadrabad**	**7.89**	**136**	*e*Pn	**Pn**	**10 14 32.3**	**+2.7**
GEYT	**Alibeck**	**8.59**	**86**	Pn	**Pn**	**10 14 39.7**	**+0.7**
	comp=Z,5.0nm,0.3s,baz=285,slow=16,SNR=17						
GEYT				Sn	**Sn**	**10 16 18.6**	**+2.7**
	comp=Z,2.3nm,0.3s,baz=278,slow=20,SNR=4.4						
GEYT	**Alibeck**	**8.59**	**86**		**Pn**	**10 14 38.4**	**-0.7**
GEYT					**Sn**	**10 16 12.7**	**-3.3**
GYA0B	**ALIBECK ARRAY**	**8.59**	**86**	⇑P	**Pn**	**10 14 39.1**	**+0.1**
GYA0B				⇑S	**Sn**	**10 16 15.7**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**8.59**	**86**		**Pn**	**10 14 38.0**	**-1.0**
GYA0B					**Sn**	**10 16 13.0**	**-3.0**
TOTH	**TOTAH**	**9.86**	**247**	*e*P	**Pn**	**10 14 57.6**	**+1.1**
TOTH				*e*S	Sn	10 17 07.2	+20
TOTH				AML	AML	10 18 15.3	
	comp=N,6.7nm,0.8s						
TOTH				AML	AML	10 18 29.0	
	comp=E,7.6nm,0.9s						
QASN	**Qassioun**	**9.89**	**248**	*e*P	**Pn**	**10 14 54.3**	**-2.7**
QASN				*e*S	Sn	10 17 01.9	+14
QASN				AML	AML	10 17 58.7	
	comp=N,29nm,0.8s						
QASN				AML	AML	10 18 13.8	
	comp=E,32nm,0.4s						
ASF	**Jabal al Asfar**	**10.18**	**240**	Sn	**Sn**	**10 16 56.1**	**+1.1**
	comp=E,0.4nm,0.3s,baz=357,slow=17,SNR=3.8						
ASF				Lg	Lg	10 18 08.4	
	comp=E,0.1nm,0.3s,baz=307,slow=20,SNR=5.6						
BRBR	**Barbar**	**10.19**	**248**	*e*P	**Pn**	**10 14 56.5**	**-4.6**
BRBR				*e*S	Sn	10 17 05.5	+10
BRBR				AML	AML	10 18 11.3	
	comp=N,4.1nm,0.7s						
BRBR				AML	AML	10 18 24.6	
	comp=E,8.4nm,0.7s						
BR131	**Keskin Array S**	**10.81**	**285**	P	**Pn**	**10 15 10.1**	**+0.5**
BR131	**Keskin Array S**	**10.81**	**285**		**Pn**	**10 15 10.1**	**+0.6**
**BRTR

MOS	Moscow	19.10	343	eP		Pn	10 17 05.9 +7.9
AGG	Agios Georgios	19.56	281	P		Pn	10 17 04.4 +0.5
AGG				pmax		pmax	
comp=Z,20nm,1.0s							
AGG	Agios Georgios	19.56	281	P		Pn	10 17 04.4 +0.5
AGG				IAmb		IAmb	10 17 06.0
comp=Z,20nm,1.0s							
ARSB	Arslanbob	20.12	72	P		P	10 17 08.9 +0.1
ARSB				IAmb		IAmb	10 17 20.4
comp=Z,20nm,1.4s							
ARU	Arti	20.12	18d	iP		P	10 17 09.0 +0.5
ARU							10 17 24.1
ARU				S		Sn	10 20 59.8 +3.2
ARU				SS		SnSn	10 21 18.2 +7.2
ARU				pmax		pmax	
comp=Z,16nm,1.4s							
ARU	Arti	20.12	18	P		Pn	10 17 09.8 -0.5
comp=Z,2.7nm,0.2s,baz=196,slow=12,SNR=5.5							
ARU				S		S	10 20 43.6 -11
comp=Z,2.0nm,0.2s,baz=0.0,slow=20,SNR=3.9							
ARU	Arti	20.12	18	P		Pn	10 17 09.4 -0.9
ARU				IAmb		IAmb	10 17 23.0
comp=Z,10nm,0.6s							
DRGR		20.20	304	⇑P		Pn	10 17 15.1 +3.7
DRGR		20.20	304	⇑P		Pn	10 17 15.1 +3.7
FNA	Florina	20.23	287	P		P	10 17 09.6 -0.3
FNA				pmax		pmax	
comp=Z,17nm,1.1s							
FNA	Florina	20.23	287	P		P	10 17 09.6 -0.3
FNA				IAmb		IAmb	10 17 14.2
comp=Z,18nm,1.1s							
LVV	L'vov	20.54	313	eP		Pn	10 17 20.3 +5.1
TRPA	Tarpa	20.75	308	⇑P		Pn	10 17 16.7 -1.0
KIRV	Kirov	20.86	3	P		Pn	10 17 20.2 +1.3
comp=Z,12nm,0.6s,baz=41,slow=3.6,SNR=4.9							
SVE	Sverdlovsk	21.03	21	eP		P	10 17 20.5 +2.3
SVE				eS		S	10 21 08.1 -4.0
SVE				pmax		pmax	
comp=Z,29nm,1.3s							
SVE				MLR		MLR	
comp=Z,708nm,17.0s							
UZH	Uzhgorod	21.09	309⇑	iP		P	10 17 20.9 +2.0
UZH				e			10 17 26.3
UZH				e			10 17 40.3
UZH				eS		S	10 21 11.0 -2.4
UZH				MLR		MLR	
comp=N,150nm,18.0s							
UZH				MLR		MLR	
comp=E,180nm,18.0s							
UZH				MLR		MLR	
comp=Z,70nm,18.0s							
KOLS	Kolonicke sedl	21.21	310	eP		P	10 17 22.6 +2.3
KOLS	Kolonicke sedl	21.21	310	eP		P	10 17 22.6 +2.3
KWP	Kalwaria Pacla	21.23	312	P		P	10 17 20.1 -0.4
KWP				pmax		pmax	
comp=Z,379nm,1.3s							
KWP	Kalwaria Pacla	21.23	312	P		P	10 17 20.1 -0.4
AAK	Ala-Archa	21.31	68	iP		P	10 17 22.4 +0.8
AAK				pmax		pmax	
comp=Z,9.0nm,1.4s							
AAK	Ala-Archa	21.31	68	P		P	10 17 23.1 +1.5
comp=Z,1.7nm,0.8s,baz=245,slow=9.8,SNR=3.0							
AAK	Ala-Archa	21.31	68	P		P	10 17 22.6 +0.9
AAK				IAmb		IAmb	10 17 34.2
comp=Z,20nm,1.4s							
NIL	Nilore	21.48	93	P		P	10 17 22.8 -0.6
NIL				pmax		pmax	
comp=Z,40nm,1.3s							
NIL	Nilore	21.48	93	P		P	10 17 22.8 -0.6
BRVK	Borovoye	22.09	39	iP		P	10 17 31.0 +1.3
BRVK				pmax		pmax	
comp=Z,6.0nm,1.0s							
BRVK	Borovoye	22.09	39	P		P	10 17 31.2 +1.5
BRVK				IAmb		IAmb	10 17 38.9
comp=Z,8.2nm,0.8s							
BVAR	Borovoye Array	22.12	39	P		P	10 17 31.6 +1.5
comp=Z,1.5nm,0.5s,baz=256,slow=6.0,SNR=9.2							
BVAR				S		S	10 21 37.2 +3.5
comp=Z,0.8nm,0.5s,baz=232,slow=23,SNR=3.1							
PSZ	Piszkesteto	22.36	306	P		P	10 17 33.1 +0.3
PSZ				pmax		pmax	
comp=Z,5.0nm,0.9s							
PSZ	Piszkesteto	22.36	306	P		P	10 17 33.1 +0.3
KSH	Kashi	22.45	77	eP		P	10 17 29.3 -4.6
LANS	Liptovska Anna	23.01	308	eP		P	10 17 41.7 +2.1
LANS	Liptovska Anna	23.01	308	eP		P	10 17 41.6 +2.0
SUW	Suwalki	23.15	322	P		P	10 17 40.7 -0.2
SUW				pmax		pmax	
comp=Z,86nm,1.2s							
SUW	Suwalki	23.15	322	P		P	10 17 40.6 -0.2
OJC	Ojcow	23.19	311	P		P	10 17 39.1 -2.2
OJC				pmax		pmax	
comp=Z,26nm,1.3s							
OJC	Ojcow	23.19	311	P		P	10 17 39.1 -2.2
OJC				IAmb		IAmb	10 17 45.6
comp=Z,26nm,1.3s							
VYHS	Vyhne	23.21	307	eP		P	10 17 43.7 +2.1
VYHS	Vyhne	23.21	307	eP		P	10 17 43.7 +2.1
KLMR	Klimovskoe	23.60	351	eP		P	10 17 44.7 -0.6
KLMR				eS		S	10 22 02.6 +3.2
KLMR				pmax		pmax	
comp=Z,50nm,1.2s							
KLMR	Klimovskoe	23.60	351	eP		P	10 17 44.7 -0.6
KLMR				AMP			10 17 52.8
comp=Z,50nm,1.2s							
KLMR				eS		S	10 22 02.6 +3.2
KLMR				eS		S	10 22 02.6 +3.2
TARG	Taragay, Kyrgy	23.75	71	P		P	10 17 46.1 -1.3
TARG				IAmb		IAmb	10 18 03.7
comp=Z,17nm,1.5s							
TIP	Timpagrande	23.87	283	P		P	10 17 48.2 0.0
TIP				IAmb		IAmb	10 17 50.5
comp=Z,14nm,1.1s							
PRGR	Permogore	23.90	358	eP		P	10 17 45.9 -2.2
PRGR				pmax		pmax	
comp=Z,10.0nm,0.7s							
VRAC	Vranov	24.86	307	P		P	10 17 58.4 +1.3
comp=Z,1.9nm,0.3s,baz=110,slow=6.9,SNR=5.2							
DPC	Dobruska-Polom	25.33	310	eP		P	10 18 03.8 +2.4
DPC	Dobruska-Polom	25.33	310	eP		P	10 18 03.8 +2.4
KURBB	Kurchatov Arra	25.62	50	P		P	10 18 06.4 +2.5
comp=Z,1.8nm,0.7s,baz=257,slow=9.6,SNR=14							
KURK	Kurchatov	25.70	50	P		P	10 18 03.9 -0.8
KURK				pmax		pmax	
comp=Z,11nm,1.3s							
KURK	Kurchatov	25.70	50	P		P	10 18 03.9 -0.8
KURK				IAmb		IAmb	10 18 10.4
comp=Z,11nm,1.2s							
AQU	L'Aquila	26.20	291	P		P	10 18 09.3 -0.1
AQU				pmax		pmax	
comp=Z,20nm,0.9s							
AQU	L'Aquila	26.20	291	P		P	10 18 09.3 -0.1
GEC2	GERESS Array S	26.59	305	P		P	10 18 13.9 +0.9
GEC2				IAmb		IAmb	10 18 15.4
comp=Z,5.6nm,0.9s							
GERES	GERESS Array B	26.59	305	P		P	10 18 13.1 +0.1
GERES	GERESS Array B	26.59	305	P		P	10 18 13.4 +0.4
comp=Z,2.8nm,0.8s,baz=99,slow=8.2,SNR=11							
GERES	GERESS Array B	26.59	305	P		P	10 18 13.1 +0.1
KHC	Kasperske Hory	26.73	306	P		P	10 18 14.5 +0.4
KHC				pmax		pmax	
comp=Z,3.0nm,1.1s							
KHC	Kasperske Hory	26.73	306	eP		P	10 18 15.3 +1.2
KHC	Kasperske Hory	26.73	306	P		P	10 18 14.5 +0.4
TMCR	Tamitsa	26.98	351	eP		P	10 18 17.6 +1.5
TMCR				pmax		pmax	
comp=Z,37nm,1.0s							
FINES	FINESS Array B	27.12	338	P		P	10 18 17.5 +0.1
FINES	FINESS Array B	27.12	338	P		P	10 18 19.3 +1.9
comp=Z,5.8nm,1.0s,baz=128,slow=13,SNR=4.7							
FINES	FINESS Array B	27.12	338	P		P	10 18 17.5 +0.1
MK31	Makanchi Array	27.24	59	P		P	10 18 18.3 -0.4
MK31				pmax		pmax	
comp=Z,3.0nm,0.8s							
MK31	Makanchi Array	27.24	59	P		P	10 18 18.3 -0.4
MK31				IAmb		IAmb	10 18 37.9
comp=Z,2.9nm,0.8s							
MKAR	Makanchi Array	27.24	59	P		P	10 18 18.2 -0.6
MKAR	Makanchi Array	27.24	59	P		P	10 18 21.0 +2.2
comp=Z,1.9nm,0.8s,baz=262,slow=8.5,SNR=7.1							
MKAR	Makanchi Array	27.24	59	P		P	10 18 18.2 -0.6
CLL	Collm	27.62	310	P		P	10 18 22.2 +0.1
CLL				pmax		pmax	
comp=Z,11nm,0.5s							

CLL	Collm	27.62	310	P		P	10 18 22.2 +0.1
GRA1	Grafenberg Arr	28.35	306	P		P	10 18 27.1 -1.5
GRF	Grafenberg Arr	28.35	306	P		P	10 18 27.1 -1.5
GRF				pmax		pmax	
comp=Z,21nm,0.8s							
DAVOX	Davos/Dischmat	28.85	300	P		P	10 18 34.2 +1.0
comp=Z,1.3nm,0.4s,baz=165,slow=2.2,SNR=3.7							
HFS	Hagfors	30.83	327	P		P	10 18 52.5 +2.0
comp=Z,2.3nm,0.8s,baz=113,slow=11,SNR=2.6							
WMQ	Urumqi	30.96	66	eP		P	10 18 54.6 +2.7
WMQ				pP		sP	10 18 58.3 +0.9
WMQ				sP		pP	10 19 00.2 +4.4
WMQ				pmax		pmax	
comp=Z,12nm,0.9s							
WMQ				pmax		pmax	
comp=Z,150nm,5.9s							
WMQ				LR		LR	
comp=Z,260nm,9.1s							
WMQ				LR		LR	
comp=Z,370nm,9.9s							
ARCES	ARCESS Array B	33.90	346	P		P	10 19 17.3 0.0
ARCES	ARCESS Array B	33.90	346	P		P	10 19 18.5 +1.2
comp=Z,2.5nm,0.9s,baz=134,slow=5.2,SNR=6.2							
ARCES	ARCESS Array B	33.90	346	P		P	10 19 17.3 0.0
GTA	Gaotai	40.62	71	eP		P	10 20 12.4 -2.4
GTA				pmax		pmax	
comp=Z,4.0nm,1.0s							
SPITS	Spitsbergen Ar	42.50	351	LR		LR	10 40 47.5
comp=Z,154nm,19.0s,baz=40,slow=40							
LZH	Lanzhou	44.66	74	eP		P	10 20 45.2 -2.5
LZH				pmax		pmax	
comp=Z,16nm,1.2s							
LZH				pmax		pmax	
comp=Z,53nm,5.3s							
LZH				LR		LR	
comp=Z,78nm,13.5s							
LZH				LR		LR	
comp=Z,82nm,14.0s							
TORD	Torodi Ar. Bea	47.30	251	P		P	10 21 08.8 +0.3
comp=Z,0.3nm,0.5s,baz=64,slow=6.6,SNR=3.0							
CMAR	Chiang Mai Arr	48.83	98	P		P	10 21 19.9 -0.4
CMAR	Chiang Mai Arr	48.83	98	P		P	10 21 22.5 +2.2
comp=Z,0.8nm,0.3s,baz=301,slow=8.2,SNR=9.3							
CMAR	Chiang Mai Arr	48.83	98	P		P	10 21 19.9 -0.4
HHC	Hu-ho-hao-te	48.84	65	eP		P	10 21 23.5 +3.2
HHC				pmax		pmax	
comp=Z,7.0nm,1.0s							
XAN	Xi'an	49.29	75	P		P	10 21 23.7 0.0
XAN				pmax		pmax	
comp=Z,13nm,1.3s							
XAN	Xi'an	49.29	75	P		P	10 21 23.7 0.0
COCO	West Island	68.02	127	iP		P	10 23 33.8 -0.4
IMAR	Indian Mountai	75.29	9	P		P	10 24 18.5 +1.1
YKA	Yellowknife Ar	79.00	352	LR		LR	11 01 34.8
comp=Z,42nm,18.2s,baz=350,slow=37							
BARN	Barnard Glacie	81.23	4	P		P	10 24 50.8 +0.2
BARN				IAmb		IAmb	10 24 54.5
comp=Z,4.4nm,1.2s							
CTGM	Chitina Glacie	81.35	4	P		P	10 24 49.0 -2.2
TGL	Tana Glacier	81.46	5	P		P	10 24 52.0 +0.3
TGL				IAmb		IAmb	10 24 57.8
comp=Z,6.0nm,0.9s							

ISCJB ***08*** *10:17:17.9±1.5, 6°.1S±0°.1×151°.7E±0°.2, h41km, mb3.7/4, Error ellipse: s-maj=35.6km s-min=7.5km az=30.3*
IDC ***08*** *10:17:21.6±1.7, 5°.44S×151°.03E, h49km±20km, mb3.5/4, mb1 3.9/5, mb1mx3.5/39, mbtmp3.9/5, ML2.1/1, Error ellipse: s-maj=98.0km s-min=13.6km az=132.0*
ISC 08 10:17:18.5±1.6, 6°.1S±0°.2×151°.9E±0°.3, h41km, n7, σ1§76/9, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.79	5	P		Pn	10 17 46.0 -1.0
98nm,0.3s,baz=200,slow=5.4,SNR=28							
KRVT				S		Sn	10 18 10.6 +2.2
99nm,0.3s,baz=49,slow=17,SNR=6.8							
KRVT				LR		LR	10 18 14.6
comp=Z,154nm,19.4s,baz=147,slow=35							
PMG	Port Moresby	5.70	235	P		Pn	10 18 42.6 +1.9
3.5nm,0.3s,baz=87,slow=3.3,SNR=8.9							
PMG				S		Sn	10 19 42.6 -2.3
4.5nm,0.3s,baz=241,slow=19,SNR=4.1							
WRA	Warramunga Arr	21.89	229	P		P	10 22 08.2 -0.1
0.9nm,0.5s,baz=54,slow=10,SNR=15							
ASAR	Alice Springs	24.57	223	P		P	10 22 36.3 +1.5
1.8nm,0.9s,baz=45,slow=9.3,SNR=15							
FITZ	Fitzroy Crossi	28.23	243	P		P	10 23 07.1 -0.7
1.2nm,0.3s,baz=60,slow=8.6,SNR=6.2							
ILAR	Eielson Array	83.71	22	P		P	10 29 42.5 -0.2
0.6nm,0.8s,baz=247,slow=5.2,SNR=4.1							
TORD	Torodi Ar. Bea	149.79	286	PKPbc		PKiKP	10 37 05.1 -1.1
1.0nm,0.7s,baz=70,slow=3.1,SNR=6.6							

NAO ***08*** *10:20:43.4±1.7, 67°.57N×33°.98E, ML2.7*
HEL ***08*** *10:20:43.5±0.3, 67°.57N×34°.03E, h0km, ML2.1, Explosion*
ISC 08 10:20:47.2±1.4, 67°.71N±0°.04×33°.44E±0°.07, h0km, n28, σ1§47/46, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	Apatity	0.14	186	Pg	Pg	10 20 48.5	-1.3
APZ9				Lg	Lg	10 20 51.3	
APZ9	Apatity	0.14	186	Pg	Pg	10 20 48.5	-1.3
APZ9				Sg	Sg	10 20 51.3	-0.2
APA0	Apatity Array	0.20	240	Pg	Pg	10 20 51.0	+0.1
baz=105,slow=18							
APA0				Lg	Lg	10 20 56.3	
APA0				Rg	Rg	10 20 58.2	
APA0	Apatity Array	0.20	240	Pg	Pg	10 20 51.0	+0.1
baz=105,slow=18							
APA0				Sg	Sg	10 20 56.3	+2.8
APA0				Rg	Rg	10 20 58.2	
VRF	Varrio	1.46	273	PG	Pn	10 21 14.0	-0.8
baz=92							
VRF				MSG		10 21 34.3	
comp=Z,17nm,0.2s							
VRF				SG	Sn	10 21 35.1	+0.5
KU6	Riekki	2.19	221	PG	Pn	10 21 23.8	-1.0
baz=48							
KU6				MSG		10 21 50.4	
comp=Z,7.2nm,0.2s							
KU6				SG	Sb	10 21 54.2	-1.1
MSF	Maaselka	2.51	226	PG	Pn	10 21 29.5	+0.4
MSF				SG	Sb	10 22 03.7	-0.6
SGF	Sodankyl	2.67	268	PB	Pn	10 21 31.3	0.0
SGF				SG	Sb	10 22 10.0	+1.1
KEV	Kevo	3.12	314	Pn	Pn	10 21 37.9	+0.4
KEV				Sn	Sn	10 22 16.3	+0.9
KEV				Lg	Lg	10 22 25.0	
KEV	Kevo	3.12	314	PN	Pn	10 21 37.7	+0.1
baz=130							
KEV				SN	Sn	10 22 16.6	+1.2
KEV	Kevo	3.12	314	Pn	Pn	10 21 37.9	+0.4
KEV				Sn	Sn	10 22 16.3	+0.9
ARA0	ARCESS Array S	3.44	306	Pn	Pn	10 21 41.6	-0.3
baz=122,slow=16							
ARA0				Sn	Sn	10 22 23.2	-0.1
baz=120,slow=28							
ARA0				Lg	Lg	10 22 34.9	
baz=121,slow=37							
ARA0	ARCESS Array S	3.44	306	Pn	Pn	10 21 41.6	-0.3
baz=122,slow=16							
ARA0				Sn	Sn	10 22 23.2	-0.1
baz=120,slow=28							
ARE0	ARCESS Array S	3.44	306	PN	Pn	10 21 41.6	-0.3
baz=122							
ARE0				SN	Sn	10 22 23.2	-0.1
ARE0	ARCESS Array S	3.44	306	IAML		10 22 39.6	
comp=Z,0.4nm,0.3s							
HEF	Hetta	3.74	285	Pn	Pn	10 21 45.2	-0.8
HEF				Pg	Pb	10 21 55.2	+1.3
HEF				Sn	Sn	10 22 31.4	+0.6
HEF				Lg	Lg	10 22 46.0	
HEF	Hetta	3.74	285	PN	Pn	10 21 45.8	-0.2
HEF				SN	Sn	10 22 31.9	+1.1
HEF	Hetta	3.74	285	Pn	Pn	10 21 45.2	-0.8
HEF				Pg	Pb	10 21 55.2	+1.3
HEF				Sn	Sn	10 22 31.4	+0.6
HEF				Sg	Sg	10 22 46.0	-1.1
TOF	Tornio	3.95	250	PG	Pb	10 21 58.0	+0.5
KTK1	Kautokeino	4.00	294	eS	Sn	10 22 36.9	-0.3
KTK1				IAML		10 22 54.4	
comp=Z,7.0nm,0.4s							
OUL	Oulu	4.01	233	PG	Pb	10 21 59.5	+0.9
baz=51							
LANU	Lannavaara	4.34	280	PN	Pn	10 21 53.4	-1.0
LANU				SG	Sg	10 23 03.6	-2.9
KALU	Kalix	4.40	250	SG	Sg	10 23 04.1	-4.2
KIF	Kilpisjarvi	4.86	291	Pn	Pn	10 22 00.1	-1.3
KIF				Sn	Sn	10 22 56.6	-1.6
KIF				Lg	Lg	10 23 18.6	
KIF	Kilpisjarvi	4.86	291	Pn	Pn	10 22 00.1	-1.3
KIF				Sn	Sn	10 22 56.6	-1.6
FIA0	FINESS Array S	7.04	210	Lg	Lg	10 24 19.8	
baz=24,slow=28							
FIA0	FINESS Array S	7.04	210	Sg	Sb	10 24 19.8	+5.3
baz=24,slow=28							
NACGM	Naroch	13.22	197	eLQ	LQ	10 23 39.0	
NACGM				eLR	LR	10 29 25.0	

AZER ***08*** *10:25:58.9±0.3, 37°.80N×47°.14E, h2km, ml3.5/26, Error ellipse: s-maj=5.2km s-min=2.4km az=12.0*
TEH ***08*** *10:26:02.8, 37°.86N×47°.17E, h8km, ML3.5*
THR ***08*** *10:26:04.1, 37°.87N×47°.38E, h15km, ML3.2*
DDA ***08*** *10:26:55.3, 37°.71N×47°.46E, h15km±1km, ML3.5*
ISC 08 10:26:03.2±1.1, 37°.86N±0°.02×47°.17E±0°.02, h3km±10km, n76, σ1§11/98, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.27	234	eSg	Sg	10 26 11.6	-0.5
IBST				ePg	Pg	10 26 07.4	-1.1
ISRB	Sarab	0.39	95	ePg	Pg	10 26 10.1	-0.7
ISRB				eSg	Sg	10 26 16.7	+0.7
IHSH	Hashtrud	0.45	9	ePg	Pb	10 26 13.5	-0.5
ITBZ	Tabriz	0.89	295	ePg	Pg	10 26 19.4	-0.9
IAZR	Azarshahr	0.96	259	ePg	Pg	10 26 21.0	-0.7
IAZR				IAMB	IAmb	10 26 39.1	
comp=Z,18μm,0.2s							
GRMI	Germi	1.10	31	ePg	Pg	10 26 23.3	-1.1
GRMI	Germi	1.10	31	eAML	AML	10 26 39.8	
comp=Z,628nm,0.2s							
LRK	Lerik	1.21	49	ePg	Pg	10 26 26.2	-0.1
LRK	Lerik	1.21	49	P	Pg	10 26 26.3	-0.1
SNR=23							
LRK				S	Sn	10 26 43.4	-0.7
ISHB	Shabestar	1.30	289	ePg	Pn	10 26 27.5	-1.0
ISHB				IAMB	IAmb	10 26 48.3	
comp=Z,19μm,0.4s							
YRD	Yardimli	1.35	38	P	Pn	10 26 29.0	-0.1
SNR=14							
YRD				S	Sn	10 26 47.6	-0.1
ORD	Ordubad	1.41	319	ePg	Pn	10 26 29.4	-0.4
ORD	Ordubad	1.41	319	P	Pn	10 26 29.5	-0.4
SNR=10							
ORD				S	Sg	10 26 49.9	+1.3
IMRD	Marand	1.44	307	ePg	Pb	10 26 30.4	-0.3
IMRD				IAMB	IAmb	10 26 55.5	
comp=Z,22μm,0.6s							
ASTR	Astara	1.46	61	ePn	Pn	10 26 30.0	-0.4
ASTR	Astara	1.46	61	P	Pn	10 26 30.0	-0.4
SNR=37							
ASTR				S	Sg	10 26 51.2	+1.2
LKRN	Lenkeran, Azer	1.52	56	ePn	Pb	10 26 31.5	-0.6
LKRN	Lenkeran, Azer	1.52	56	P	Pb	10 26 31.6	-0.6
SNR=14							
LKRN				S	Sg	10 26 54.6	+2.4
MAHB	Mahabad	1.60	227	ePn	Pn	10 26 31.6	-0.9
MAHB				IAMB	IAmb	10 27 00.6	
comp=Z,0.0nm,0.4s							
QRD	Qoradiz	1.60	4	P	Pn	10 26 32.8	+0.4
SNR=8.0							
QRD				S	Sg	10 26 57.6	+2.9
GLBA	Clilabad	1.68	34	ePn	Pn	10 26 33.1	-0.3
GLBA	Clilabad	1.68	34	P	Pn	10 26 33.2	-0.3
SNR=11							
GLBA				S	Sg	10 26 59.4	+2.3
ZNJK	Zanjan	1.69	134	ePg	Pn	10 26 33.4	-0.6
ZNJK				eSg	Sn	10 26 54.9	-1.4
NAX	Nakhchivan	1.86	315	ePn	Pn	10 26 35.9	-0.1
NAX	Nakhchivan	1.86	315	P	Pn	10 26 35.9	-0.1
SNR=41							
NAX				S	Sg	10 27 03.8	+0.9
BLQ	Beylaqan	1.88	9	P	Pn	10 26 36.3	0.0
SNR=5.5							
BLQ				S	Sg	10 27 05.6	+1.9
SBZ	Shahbuz	1.99	321	ePn	Pn	10 26 37.7	-0.2
SBZ	Shahbuz	1.99	321	P	Pn	10 26 37.7	-0.2
SNR=34							
SBZ				S	Sg	10 27 07.7	+0.5
AGDM	Agdam	2.25	359	P	Pn	10 26 40.9	-0.4
SNR=12							
AGDM				S	Sb	10 27 11.9	-0.7
YOVA	Hakkari_Yksek	2.30	264	iP	Pg	10 26 47.2	-0.1
YOVA				IAML_P			
comp=Z,2μm,0.4s							
YOVA	Hakkari_Yksek	2.30	264	ePn	Pg	10 26 47.1	-0.2
BRDA	Brd	2.40	0	ePn	Pn	10 26 43.0	-0.3
BRDA	Brd	2.40	0	P	Pn	10 26 43.1	-0.3
SNR=5.0							
BRDA				S	Sb	10 27 16.5	-0.5
ZRD	Zardab	2.45	9	ePn	Pn	10 26 43.9	-0.1
ZRD	Zardab	2.45	9	P	Pn	10 26 43.9	-0.1
SNR=3.2							
ZRD				S	Sb	10 27 18.1	-0.3
MAKU	Maku	2.45	308	ePn	Pb	10 26 47.6	-0.5
ALIB	Äli-Bayra	2.54	34	ePn	Pn	10 26 44.8	-0.4
ALIB	Äli-Bayra	2.54	34	P	Pn	10 26 44.9	-0.4
ALIB				S	Sb	10 27 20.6	-0.3
HYR	Heyderabad	2.59	316	ePn	Pn	10 26 45.2	-0.9
HYR	Heyderabad	2.59	316	P	Pn	10 26 45.3	-0.9
HYR				S	Sb	10 27 22.3	-0.4
KDMR	Kurdemir	2.63	17	S	Sb	10 27 24.6	+0.9
HSRG	Sareghieh	2.76	161	ePn	Pn	10 26 50.0	+1.4
HAKT	HAKKARI	2.76	265	iP	Pg	10 26 55.8	-0.4
HAKT				iS	Sg	10 27 34.2	+2.2
HAKT				IAML_P			
comp=Z,892nm,0.4s							
CLDR	Caldiran	2.86	298	ePn	Pn	10 26 51.2	+1.3
GANJ	Ganja	2.86	347	ePn	Pn	10 26 49.4	-0.3
GANJ	Ganja	2.86	347	P	Pn	10 26 49.4	-0.3
SNR=7.5							
GANJ				S	Sb	10 27 29.0	-1.3
QABG	Abgarm-Qazvin	2.89	137	ePn	Pn	10 26 51.0	+0.6
CUKT	Cukurca	2.90	259	iP	Pg	10 26 58.1	-0.6
CUKT				IAML_P			
comp=Z,2μm,0.3s							
CUKT	Cukurca	2.90	259	ePn	Pb	10 26 54.7	-0.9
GBS	Qobustan	3.00	27	S	Sb	10 27 32.1	-2.4
GDB	GEDABAY	3.06	339	ePn	Pn	10 26 52.5	-0.1
GDB	GEDABAY	3.06	339	P	Pn	10 26 52.6	-0.1
GDB				S	Sb	10 27 34.4	-1.8
VANB	Van	3.07	285	ePn	Pn	10 26 54.3

ISFB Sefidab 5.39 129 *e*Pn **Pn 10 27 25.7 +1.1**

ISK ***08*** *10:32:19.6, 37°.54N×41°.96E, h1km, ML2.7/7*
ISCJB ***08*** *10:32:20.6±1.0, 37°.50N±0°.05×41°.94E±0°.04, h6km±6km, Error ellipse: s-maj=7.7km s-min=5.8km az=3.1*
DDA ***08*** *10:32:20.8, 37°.50N×41°.85E, h7km±7km, ML2.4*
ISC 08 10:32:21.0±1.6, 37°.56N±0°.06×41°.88E±0°.03, h6km±12km, n15, σ1§37/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sırnak**	**0.43**	**98**	*i* P	**Pb**	**10 32 31.1**	**0.0**
SIRN				*i* S	Sb	10 32 47.2	+9.3
SIRN				IAML_P			
	comp=Z,2μm,0.2s						
SRTM	**Siirt_Merkez**	**0.43**	**4**	*i* P	**Pg**	**10 32 30.0**	**+0.6**
SRTM				*i* S	**Sb**	**10 32 39.6**	**+1.6**
SRTM				IAML_P			
	comp=Z,648nm,0.4s						
BTMN	**Batman**	**0.59**	**305**	*i* P	**Pg**	**10 32 32.2**	**-0.1**
BTMN				*i* S	**Sb**	**10 32 43.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**0.80**	**318**	*i* P	**Pn**	**10 32 38.3**	**-0.6**
SVAN				*i* S	**Sn**	**10 32 49.7**	**-1.5**
SVAN				IAML_P			
	comp=Z,753nm,0.2s						
SVAN	**Silvan-Diyarba**	**0.80**	**318**	PG	**Pb**	**10 32 37.2**	**-0.2**
SVAN				SG	**Sn**	**10 32 49.9**	**-1.3**
GURO	**Guroymak-BITLI**	**1.00**	**7**	PG	**Pg**	**10 32 39.9**	**-0.2**
GURO				SG	**Sn**	**10 32 54.7**	**-1.5**
MAZI	**Mazidag**	**1.14**	**265**	PN	**Pb**	**10 32 42.8**	**-0.5**
AKDM	**Akdamar-Van**	**1.16**	**48**	PN	**Pb**	**10 32 42.1**	**-1.5**
AKDM				SN	**Sn**	**10 32 58.7**	**-1.6**
GEVA	**Gevas**	**1.20**	**51**	*i* P	**Pg**	**10 32 44.4**	**+0.4**
GEVA				*i* S	**Sn**	**10 33 04.3**	**+3.1**
GEVA				IAML_P			
	comp=Z,844nm,0.4s						
MUSM	**Mu-Merkez**	**1.20**	**346**	*i* P	**Pb**	**10 32 44.0**	**-0.2**
MUSM				*i* S	**Sn**	**10 33 02.1**	**+1.0**
MUSM				IAML_P			
	comp=Z,653nm,0.2s						
CUKT	**Cukurca**	**1.41**	**102**	PN	**Pn**	**10 32 46.2**	**-1.2**
DYBB	**Diyarbakir**	**1.43**	**286**	PN	**Pg**	**10 32 48.5**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.19**	**293**	PN	**Pb**	**10 32 59.3**	**-1.9**
URFA	**Urfa**	**2.44**	**268**	PN	**Pn**	**10 33 02.8**	**+1.4**
MALT	**Malatya**	**2.83**	**286**	PN	**Pn**	**10 33 08.5**	**+1.6**

BEO ***08*** *10:38:30.7±0.4, 41°.79N×22°.75E, h5km±3km, ML1.5/4*
SKO 08 10:38:29.8, 41°.80N×22°.79E, h15km, M0.9, ML1.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.23**	**73**	*e*Pg	Pg	10 38 35.1	+0.2
KKB				*i* Sg	Sg	10 38 38.6	+0.2
STIP	**Stip**	**0.46**	**257**	*i* Pg	Pg	10 38 35.5	-3.6
STIP				*i* Sg	Sg	10 38 39.5	-5.9
VAY	**Valandovo**	**0.51**	**199**	*e*Pg	Pg	10 38 39.9	+0.1
VAY				*e*Sg	Sg	10 38 46.0	-0.6
VAY	**Valandovo**	**0.51**	**199**	*i* Pg	Pb	10 38 41.0	+0.7
VAY				*i* Sg	Sb	10 38 47.4	-0.2
VAY				*e*Lg	Lg	10 38 48.7	
	comp=E,11nm,0.3s						
VAY				*e*Lg	Lg	10 38 49.1	
	comp=N,15nm,0.5s						
KNT	**Kendrikon**	**0.64**	**173**	*i* Pg	Pg	10 38 42.4	0.0
KNT				*i* Sg	Sg	10 38 50.7	-0.2
BOSS	**Bosilegrad**	**0.73**	**342**	*e*Pg	Pb	10 38 44.4	+0.1
BOSS				*e*Sg	Sg	10 38 53.9	+0.1
MMB	**Musomiste**	**0.73**	**106**	*i* Pg	Pb	10 38 44.5	+0.2
MMB				*i* Sg	Sb	10 38 54.5	+0.3
VTS	**Vitosha**	**0.88**	**22**	*e*Pg	Pg	10 38 47.0	+0.1
VTS				*e*Sg	Sg	10 38 57.9	-0.7
VTS	**Vitosha**	**0.88**	**22**	*i* Pg	Pb	10 38 46.4	-0.5
VTS				*i* Sg	Sg	10 38 58.3	-0.3
GRG	**Griva**	**0.89**	**199**	*i* Pg	Pg	10 38 47.3	+0.2
GRG				*i* Sg	Sg	10 38 59.1	+0.3
SOH	**Sokhos**	**1.07**	**156**	*i* Pg	Pg	10 38 50.6	+0.2
SOH				*i* Sg	Sg	10 39 04.3	0.0
BARS	**Barje**	**1.25**	**325**	*e*Pg	Pg	10 38 53.9	+0.1
BARS				*e*Sg	Sg	10 39 09.9	-0.2
BOVS	**Bovan**	**2.00**	**337**	*e*Pn	Pb	10 39 05.2	-0.7
BOVS				*e*Sn	Sb	10 39 30.0	-0.6
ZAGS	**Zajecar**	**2.05**	**349**	*e*Pn	Pb	10 39 06.6	-0.2
ZAGS				*e*Sn	Sn	10 39 30.6	+1.5

BJI ***08*** *10:46:50.0±0.0, 41°.20N×125°.20W, h5km, mb4.8/8, mB5.1/2, Ms5.0/2*
ISCJB ***08*** *10:46:54.7±0.4, 41°.28N±0°.01×125°.22W±0°.02, h13km±3km, mb4.3/14, MS4.0/11, Error ellipse: s-maj=2.8km s-min=1.6km az=164.7*
NEIC ***08*** *10:46:54.6±2.4, 41°.29N±0°.02×125°.27W±0°.04, h3km±4km*
IDC ***08*** *10:46:55.4±0.9, 41°.40N×125°.08W, h0km, mb4.2/10, mb1 4.5/16, mb1mx4.2/45, mbtmp4.3/16, ML4.2/6, MS3.8/16, Ms1 3.9/16, ms1mx3.6/52, Error ellipse: s-maj=14.9km s-min=8.9km az=41.0*
ANF ***08*** *10:46:56.1±1.8, 41°.40N×124°.96W, ML4.4/10, Error ellipse: s-maj=18.4km s-min=8.2km az=79.0*
ISC 08 10:46:55.1±1.3, 41°.34N±0°.03×125°.21W±0°.04, h4km±8km, n586, σ1§59/631, mb4.8/69, MS3.9/12, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**0.91**	**101**		**Pb**	**10 47 13.4**	**-0.1**
KRPM					**Sb**	**10 47 25.6**	**-0.3**
KRMB	**Red Mountain**	**0.99**	**79**		**Pb**	**10 47 14.4**	**-0.5**
KRMB				Sg	**Sb**	**10 47 28.0**	**-0.3**
JCC	**Jacoby Creek,**	**1.03**	**120**		**Pg**	**10 47 14.7**	**-0.2**
JCC				Sg	**Sg**	**10 47 27.7**	**-0.5**
KCTM	**Capetown**	**1.09**	**142**		**Pg**	**10 47 15.8**	**-0.2**
KCTM					**Sg**	**10 47 29.9**	**-0.2**
KSXB	**Camp Six Broad**	**1.11**	**64**		**Pg**	**10 47 16.2**	**-0.2**
KBO	**Bosley Butte**	**1.14**	**40**		**Pg**	**10 47 16.5**	**-0.4**
KHMM	**Horse Mountain**	**1.21**	**112**		**Pg**	**10 47 17.9**	**-0.3**
KHMM				Sn	**Sg**	**10 47 33.0**	**-1.0**
KMPM	**Mount Pierce**	**1.24**	**138**		**Pg**	**10 47 17.8**	**-1.0**
KMPM					**Sg**	**10 47 33.1**	**-1.8**
KOMM	**Orleans Mounta**	**1.32**	**92**		**Pg**	**10 47 19.6**	**-0.9**
KCRM	**Chalk Rock**	**1.39**	**131**		**Pn**	**10 47 20.1**	**-1.2**
KSMM	**Slide Mountain**	**1.40**	**146**		**Pn**	**10 47 19.7**	**-1.7**
L02E	**Cave Junction**	**1.45**	**55**	P	**Pn**	**10 47 21.2**	**-0.8**
	baz=239,SNR=1000						
L02E				S	**Sb**	**10 47 38.5**	**-2.9**
	baz=239						
L02E	**Cave Junction**	**1.45**	**55**		**Pn**	**10 47 21.2**	**-0.8**
KTRM	**Thompson Ridge**	**1.48**	**67**		**Pn**	**10 47 21.6**	**-1.1**
KCSM	**Cold Springs**	**1.51**	**122**		**Pn**	**10 47 22.2**	**-0.9**
KMRM	**Mail Ridge**	**1.60**	**134**		**Pn**	**10 47 23.5**	**-0.7**
KMRM				Sn	**Sn**	**10 47 44.4**	**-0.8**
KHBM	**Hayfork Bally**	**1.65**	**114**		**Pn**	**10 47 23.8**	**-1.2**
KEBM	**Edson Butte**	**1.66**	**23**		**Pn**	**10 47 23.7**	**-1.3**
KEBM				Sn	**Sn**	**10 47 43.8**	**-3.0**
KPPM	**Pickett Peak**	**1.72**	**125**		**Pn**	**10 47 25.1**	**-0.8**
M02C	**Callahan**	**1.77**	**88**	P	**Pn**	**10 47 25.9**	**-0.6**
	baz=269,SNR=1000						
M02C				S	**Sn**	**10 47 46.3**	**-3.3**
	baz=269						
M02C	**Callahan**	**1.77**	**88**		**Pn**	**10 47 26.0**	**-0.6**
K02D	**Willamette Mer**	**1.77**	**40**	P	**Pn**	**10 47 25.8**	**-0.8**
	baz=224,SNR=1000						
K02D				S	**Sn**	**10 47 46.0**	**-3.6**
	baz=224						
LGPM	**Granite Peak**	**1.85**	**103**		**Pn**	**10 47 26.7**	**-0.9**
KBSM	**Bell Springs**	**1.88**	**139**		**Pn**	**10 47 27.2**	**-0.9**
YBH	**Yreka Blue Hor**	**1.91**	**77**	Pn	**Pn**	**10 47 28.5**	**0.0**
	193nm,0.3s,baz=267,slow=13,SNR=1969						
YBH				Sn	**Sn**	**10 47 51.7**	**-1.3**
	223nm,0.3s,baz=241,slow=19,SNR=8.8						
YBH	**Yreka Blue Hor**	**1.91**	**77**	Pn	**Pn**	**10 47 28.6**	**0.0**
YBH					**Sn**	**10 47 52.4**	**-0.7**
N02D	**Trinity Center**	**1.92**	**100**	P	**Pn**	**10 47 27.9**	**-0.8**
	baz=280,SNR=415						
N02D				S	**Sn**	**10 47 50.0**	**-3.3**
	baz=280						
N02D	**Trinity Center**	**1.92**	**100**		**Pn**	**10 47 27.8**	**-0.8**
LBKM	**Bonanza King**	**1.93**	**97**		**Pn**	**10 47 28.1**	**-0.7**
LAMM	**Antelope Mount**	**1.96**	**81**		**Pn**	**10 47 29.1**	**-0.1**
KIPM	**Iron Peak**	**2.02**	**139**		**Pn**	**10 47 29.1**	**-0.9**
LBPM	**Beegum Peak**	**2.04**	**119**		**Pn**	**10 47 29.4**	**-0.9**
J01E	**Myrtle Point**	**2.05**	**27**	P	**Pn**	**10 47 29.3**	**-1.0**
	baz=212,SNR=39						
J01E				S	**Sn**	**10 47 52.3**	**-3.9**
	baz=212						
KCPM	**Cahto Peak**	**2.07**	**143**		**Pn**	**10 47 29.5**	**-1.2**
KCPM				Sn	**Sn**	**10 47 53.9**	**-3.0**
HUMO	**Hull Mountain**	**2.10**	**52**	Pn	**Pn**	**10 47 30.6**	**-0.5**
HUMO				Sn	**Sn**	**10 47 55.1**	**-2.5**
KBNM	**Bluenose Ridge**	**2.11**	**133**		**Pn**	**10 47 30.9**	**-0.4**
LCSM	**College of the**	**2.12**	**87**		**Pn**	**10 47 31.1**	**-0.3**
B040	**Montague**	**2.15**	**76**		**Pn**	**10 47 31.8**	**+0.2**
WDC	**Whiskeytown Da**	**2.16**	**110**	Pn	**Pn**	**10 47 31.3**	**-0.5**
WDC				Sn	**Sn**	**10 47 56.8**	**-2.2**
O02D	**Mt. Diablo Mer**	**2.17**	**122**	P	**Pn**	**10 47 31.2**	**-0.9**
	baz=300,SNR=312						
O02D				S	**Sn**	**10 47 56.1**	**-3.4**
	baz=300						
O02D	**Mt. Diablo Mer**	**2.17**	**122**		**Pn**	**10 47 31.2**	**-0.9**
KFPM	**Farley Peak**	**2.18**	**141**		**Pn**	**10 47 30.9**	**-1.2**
LHEM	**Herd Peak**	**2.26**	**82**		**Pn**	**10 47 33.9**	**+0.5**
LGBM	**Gray Butte**	**2.27**	**89**		**Pn**	**10 47 33.9**	**+0.3**
LMPM	**Military Pass**	**2.29**	**85**		**Pn**	**10 47 34.6**	**+0.8**
DBO	**Dodson Butte**	**2.30**	**39**		**Pn**	**10 47 33.4**	**-0.4**
GTC	**Three Chop Rid**	**2.31**	**146**		**Pn**	**10 47 32.5**	**-1.4**
M03C	**McCloud**	**2.32**	**91**		**Pn**	**10 47 34.5**	**+0.3**
L04D	**Klamath Falls**	**2.34**	**67**	P	**Pn**	**10 47 35.1**	**+0.7**
	baz=250,SNR=1000						
L04D	**Klamath Falls**	**2.34**	**67**		**Pn**	**10 47 35.3**	**+0.8**
GROM	**Round Mountain**	**2.40**	**126**		**Pn**	**10 47 34.7**	**-0.5**
BBOR	**Butler Butte**	**2.43**	**50**		**Pn**	**10 47 35.8**	**+0.1**
LSHM	**Sage Hen Hill**	**2.46**	**102**		**Pn**	**10 47 35.8**	**-0.1**
GNAM	**Navarro Ridge**	**2.46**	**150**		**Pn**	**10 47 34.4**	**-1.5**
GVV	**Valley View**	**2.48**	**128**		**Pn**	**10 47 36.2**	**-0.2**
LBFM	**Black Fox Moun**	**2.50**	**89**		**Pn**	**10 47 37.3**	**+0.7**
GHMM	**Hull Mountain**	**2.53**	**136**		**Pn**	**10 47 36.2**	**-0.9**
GASB	**Alder Springs**	**2.54**	**131**		**Pn**	**10 47 36.9**	**-0.3**
LGMM	**Garner Mountai**	**2.54**	**83**		**Pn**	**10 47 38.1**	**+0.8**
M04C	**Macdoel**	**2.56**	**79**	P	**Pn**	**10 47 38.3**	**+0.8**
	baz=261,SNR=473						
M04C	**Macdoel**	**2.56**	**79**		**Pn**	**10 47 38.3**	**+0.8**
LTCM	**Tuscan Springs**	**2.60**	**115**		**Pn**	**10 47 37.6**	**-0.3**
GHOM	**Hamilton Openi**	**2.63**	**150**		**Pn**	**10 47 36.7**	**-1.6**
LMHM	**Little Mount H**	**2.68**	**84**		**Pn**	**10 47 39.6**	**+0.4**
I03D	**Drain, OR**	**2.72**	**30**	P	**Pn**	**10 47 39.1**	**-0.5**
	baz=214,SNR=1000						
I03D				S	**Sn**	**10 48 09.0**	**-3.9**
	baz=214						
LASM	**Arnica Sink**	**2.74**	**83**		**Pn**	**10 47 40.2**	**+0.2**
LDBM	**Digger Butte**	**2.75**	**108**		**Pn**	**10 47 39.5**	**-0.5**
HOG	**Hogback Mounta**	**2.77**	**70**		**Pn**	**10 47 40.9**	**+0.6**
GCK	**Clark Valley**	**2.77**	**129**		**Pn**	**10 47 40.8**	**+0.6**
O03E	**Paynes Creek**	**2.79**	**111**	P	**Pn**	**10 47 39.7**	**-0.8**
	baz=292,SNR=585						
O03E				S	**Sn**	**10 48 11.0**	**-3.6**
	baz=292						
O03E	**Paynes Creek**	**2.79**	**111**		**Pn**	**10 47 39.7**	**-0.8**
LTIM	**Timbered Crate**	**2.81**	**92**		**Pn**	**10 47 40.9**	**+0.1**
GGUM	**Gualala**	**2.81**	**152**		**Pn**	**10 47 39.0**	**-1.8**
GTSM	**Trough Springs**	**2.84**	**135**		**Pn**	**10 47 40.7**	**-0.6**
GHLM	**Highland Sprin**	**2.84**	**143**		**Pn**	**10 47 40.0**	**-1.4**
GSNM	**Snow Mountain**	**2.85**	**147**		**Pn**	**10 47 40.1**	**-1.3**
HOPS	**Hopland Field**	**2.86**	**144**	Pn	**Pn**	**10 47 40.1**	**-1.3**
HOPS				Sn	**Sn**	**10 48 11.4**	**-4.9**
LMEM	**Manzanita Entr**	**2.87**	**105**		**Pn**	**10 47 41.7**	**0.0**
K04D	**Chiloquin, OR**	**2.87**	**62**	P	**Pn**	**10 47 42.3**	**+0.6**
	baz=246,SNR=159						
K04D	**Chiloquin, OR**	**2.87**	**62**		**Pn**	**10 47 42.3**	**+0.6**
HATC	**Hat Creek Radi**	**2.88**	**99**		**Pn**	**10 47 42.0**	**+0.2**
I02D	**Swisshome**	**2.94**	**19**	P	**Pn**	**10 47 41.7**	**-0.8**
	baz=203,SNR=6.9						
I02D				S	**Sn**	**10 48 14.5**	**-3.7**
	baz=203						
LBCM	**Butte Creek Ri**	**2.96**	**99**		**Pn**	**10 47 42.8**	**-0.2**
J04D	**Umpqua Nationa**	**2.98**	**49**	P	**Pn**	**10 47 44.2**	**+0.9**
	baz=233,SNR=89						
GDCM	**Dry Creek**	**2.98**	**149**		**Pn**	**10 47 41.7**	**-1.5**
GFC	**Funks Creek**	**3.00**	**131**		**Pn**	**10 47 43.5**	**+0.1**
GMKM	**Mount Konoctai**	**3.01**	**141**		**Pn**	**10 47 42.7**	**-0.8**
GBMM	**Baldy Mountain**	**3.02**	**136**		**Pn**	**10 47 43.0**	**-0.8**
GPMM	**Pine Mountain**	**3.04**	**144**		**Pn**	**10 47 43.0**	**-1.0**
LCMM	**Colby Mountain**	**3.04**	**112**		**Pn**	**10 47 43.8**	**-0.4**
GACM	**Adobe Creek**	**3.05**	**143**		**Pn**	**10 47 42.9**	**-1.3**
GCVM	**Cloverdale**	**3.07**	**146**		**Pn**	**10 47 43.1**	**-1.3**
GSGM	**Seigler Mounta**	**3.13**	**141**		**Pn**	**10 47 44.7**	**-0.4**
GSSM	**Skaggs Springs**	**3.13**	**147**		**Pn**	**10 47 45.8**	**+0.6**
GDXM	**Geysers**	**3.14**	**143**		**Pn**	**10 47 44.6**	**-0.7**
GHCM	**House Creek**	**3.14**	**150**		**Pn**	**10 47 43.7**	**-1.6**
MGL	**Magalia**	**3.17**	**118**		**Pn**	**10 47 44.8**	**-1.0**
GCRM	**Castle Rock Sp**	**3.20**	**143**		**Pn**	**10 47 45.3**	**-0.9**
FTR	**Fort Ross**	**3.23**	**150**		**Pn**	**10 47 45.0**	**-1.5**
GAXM	**Alexander Vall**	**3.23**	**144**		**Pn**	**10 47 45.3**	**-1.3**
MNRC	**McLaughlin Min**	**3.25**	**138**		**Pn**	**10 47 46.2**	**-0.7**
NMCNC	**Mill Creek, So**	**3.27**	**147**		**Pn**	**10 47 45.5**	**-1.5**
NMTM	**Middletown**	**3.30**	**139**		**Pn**	**10 47 46.3**	**-1.3**
NHSM	**Mount Saint He**	**3.34**	**143**		**Pn**	**10 47 47.1**	**-1.1**
ORV	**Oroville**	**3.34**	**121**		**Pn**	**10 47 46.9**	**-1.2**
ORV	**Oroville**	**3.34**	**121**		**Pn**	**10 47 46.9**	**-1.2**
SUTB	**Sutter Butte**	**3.36**	**128**		**Pn**	**10 47 46.9**	**-1.4**
MAC	**Mark West Spri**	**3.38**	**145**		**Pn**	**10 47 47.3**	**-1.3**
NSHM	**Saint Helena R**	**3.46**	**144**		**Pn**	**10 47 48.4**	**-1.3**
OHCM	**Honcut**	**3.48**	**124**		**Pn**	**10 47 48.9**	**-1.1**
J05D	**Fort Rock, OR**	**3.53**	**55**	P	**Pn**	**10 47 51.6**	**+0.8**
	baz=239,SNR=1000						
J05D				S	**Sn**	**10 48 30.0**	**-2.9**
	baz=239						
COR	**Corvallis**	**3.53**	**23**		**Pn**	**10 47 50.6**	**-0.1**
COR				Sn	**Sn**	**10 48 31.8**	**-0.9**
NBPM	**Berryessa Peak**	**3.53**	**138**		**Pn**	**10 47 50.1**	**-0.6**
NDHM	**Dunnigan Hills**	**3.61**	**134**		**Pn**	**10 47 51.4**	**-0.3**
H04D	**Lebanon**	**3.66**	**29**	P	**Pn**	**10 47 52.4**	**0.0**
	baz=212,SNR=63						
H04D				S	**Sn**	**10 48 33.4**	**-2.5**
	baz=212						
MCCM	**Marconi Confer**	**3.66**	**150**		**Pn**	**10 47 50.7**	**-1.7**
MCCM	**Marconi Confer**	**3.66**	**150**	Sn	**Sn**	**10 48 35.0**	**-1.1**
MCCM	**Marconi Confer**	**3.66**	**150**	Pn	**Pn**	**10 47 50.5**	**-1.9**
CVS	**Carmenet Viney**	**3.67**	**144**		**Pn**	**10 47 50.8**	**-1.8**
MOD	**Modoc Plateau**	**3.72**	**80**	Pn	**Pn**	**10 47 53.2**	**-0.2**
MOD				Sn	**Sn**	**10 48 37.2**	**-0.5**
NPRM	**Point Reyes**	**3.75**	**152**		**Pn**	**10 47 52.4**	**-1.2**
NOLM	**Olema**	**3.79**	**150**		**Pn**	**10 47 52.8**	**-1.4**
NADM	**Allendale**	**3.81**	**138**		**Pn**	**10 47 54.7**	**+0.3**
BEKR	**Beckworth**	**3.97**	**110**		**Pn**	**10 47 57.3**	**+0.4**
BEKR				Sn	**Sn**	**10 48 44.0**	**0.0**
PINE	**Pine Mountain**	**3.99**	**51**		**Pn**	**10 47 58.1**	**+1.0**
PINE				Sn	**Sn**	**10 48 47.6**	**+3.2**
CPMM	**Point Molate**	**4.02**	**147**		**Pn**	**10 47 56.2**	**-1.2**
FARB	**Farallon Islan**	**4.02**	**154**		**Pn**	**10 47 56.1**	**-1.3**
AFDM	**Forest Hills D**	**4.03**	**125**		**Pn**	**10 47 57.3**	**-0.3**
AFDM				Sn	**Sn**	**10 48 41.9**	**-3.4**
CSPM	**San Pablo Ridg**	**4.05**	**146**		**Pn**	**10 47 57.4**	**-0.5**
G03D	**McMinnville, O**	**4.12**	**19**	P	**Pn**	**10 47 58.4**	**-0.3**
	baz=203,SNR=41						
G03D				S	**Sn**	**10 48 44.0**	**-3.3**
	baz=203						
I05D	**Terrebonne, OR**	**4.13**	**42**	P	**Pn**	**10 47 59.3**	**+0.4**
	baz=226,SNR=70						
I05D				S	**Sn**	**10 48 45.3**	**-2.3**
	baz=226						
LOY	**Loyalton**	**4.14**	**112**		**Pn**	**10 47 59.6**	**+0.4**
BKS	**Berkeley--Byer**	**4.15**	**146**		**Pn**	**10 47 58.2**	**-1.0**
CYBM	**Yerba Buena Is**	**4.16**	**147**		**Pn**	**10 47 56.2**	**-3.0**
IND	**Independence**	**4.21**	**115**		**Pn**	**10 48 01.2**	**+1.0**
DONR	**Donner Summit**	**4.23**	**116**		**Pn**	**10 48 01.3**	**+0.7**
KBF	**Kyburz Flat**	**4.23**	**114**		**Pn**	**10 48 01.1**	**+0.7**
JSBM	**San Bruno Moun**	**4.25**	**148**		**Pn**	**10 47 59.3**	**-1.3**
ASMM	**Slate Mountain**	**4.29**	**124**		**Pn**	**10 48 01.4**	**+0.2**
AASM	**Arroyo Seco**	**4.29**	**131**		**Pn**	**10 48 00.0**	**-1.0**
SAC	**San Andreas**	**4.33**	**149**		**Pn**	**10 47 59.6**	**-2.1**
CLCB	**Lake Chabot**	**4.34**	**145**		**Pn**	**10 48 00.7**	**-1.1**
PEAR	**Pebvine Mounta**	**4.36**	**112**		**Pn**	**10 48 02.7**	**+0.4**
JCPM	**Coyote Point**	**4.36**	**148**		**Pn**	**10 48 00.4**	**-1.7**
VPK	**Verdi Peak**	**4.36**	**114**		**Pn**	**10 48 03.1**	**+0.7**
OXMT	**Ox Mountain**	**4.40**	**150**		**Pn**	**10 48 00.8**	**-1.9**
JCHM	**Cahill Ridge**	**4.40**	**149**		**Pn**	**10 48 00.8**	**-1.9**
TAHR	**Tahoe**	**4.44**	**118**		**Pn**	**10 48 04.5**	**+1.2**
MPK	**Martis Peak**	**4.45**	**116**		**Pn**	**10 48 04.5**	**+0.9**
CNIC	**Niles Canyon**	**4.49**	**145**		**Pn**	**10 48 03.0**	**-0.9**
RUBR	**Rubicon Trail**	**4.49**	**119**		**Pn**	**10 48 05.3**	**+1.2**
RUBR				Sn	**Sn**	**10 48 56.1**	**-0.8**
CVLM	**Vallecito**	**4.54**	**144**		**Pn**	**10 48 04.9**	**+0.5**
EMB	**Emerald Bay**	**4.57**	**120**		**Pn**	**10 48 06.4**	**+1.2**
WENL	**Wente Vineyard**	**4.57**	**143**		**Pn**	**10 48 04.8**	**-0.2**
JSFB	**Stanford Teles**	**4.58**	**148**		**Pn**	**10 48 03.9**	**-1.2**
CMJM	**Mission San Jo**	**4.61**	**145**		**Pn**	**10 48 04.7**	**-0.8**
JFP	**Foothills Park**	**4.61**	**149**		**Pn**	**10 48 03.7**	**-1.9**
JJRM	**Joaquin Road**	**4.62**	**149**		**Pn**	**10 48 04.2**	**-1.5**
JPC	**Peters Creek,**	**4.68**	**149**		**Pn**	**10 48 04.8**	**-1.7**
JPSM		**4.69**	**151**		**Pn**	**10 48 04.8**	**-1.8**
VCNR	**Virginia City**	**4.71**	**114**		**Pn**	**10 48 07.7**	**+0.5**
VCNR				Sn	**Sn**	**10 49 02.1**	**-0.2**
PAHR	**Pah Rah Range**	**4.73**	**108**		**Pn**	**10 48 07.6**	**+0.3**
JSGM	**Saratoga Golf**	**4.74**	**148**		**Pn**	**10 48 05.8**	**-1.4**
JHUM	**Huhtala Lane,**	**4.75**	**149**		**Pn**	**10 48 05.9**	**-1.5**
G05D	**Wamic, OR**	**4.82**	**35**	P	**Pn**	**10 48 09.6**	**+1.1**
	baz=219,SNR=210						
CMMM	**Mount Mocho**	**4.83**	**142**		**Pn**	**10 48 08.7**	**+0.1**
JBNB	**Ben Lomond Mou**	**4.83**	**150**		**Pn**	**10 48 06.5**	**-2.1**
PNTR	**Pine Nut**	**4.85**	**116**		**Pn**	**10 48 09.4**	**+0.5**
PNTR				Sn	**Sn**	**10 49 05.9**	**+0.3**
MHC	**Mount Hamilton**	**4.86**	**144**		**Pn**	**10 48 08.2**	**-0.8**
MCUB	**Copperopolis B**	**4.88**	**132**		**Pn**	**10 48 09.1**	**-0.2**
JUMM	**Mount Umunhum**	**4.90**	**147**		**Pn**	**10 48 07.7**	**-1.9**
CCOB	**Coe Ranch Numb**	**4.91**	**145**		**Pn**	**10 48 08.9**	**-0.7**
BFC	**Buffalo Canyon**	**4.94**	**118**		**Pn**	**10 48 10.8**	**+0.6**
CMB	**Columbia Colle**	**4.97**	**130**		**Pn**	**10 48 11.0**	**+0.5**
CMB	**Columbia Colle**	**4.97**	**130**	Sn	**Sn**	**10 49 08.7**	**+0.2**
CMB	**Columbia Colle**	**4.97**	**130**	Pn	**Pn**	**10 48 10.9**	**+0.4**
JLAB	**Laurel Hill**	**4.97**	**146**		**Pn**	**10 48 08.9**	**-1.7**
F04D	**Rainier, OR**	**5.00**	**18**	P	**Pn**	**10 48 11.8**	**+0.9**
	baz=201,SNR=6.6						
F04D				S	**Sn**	**10 49 06.9**	**-2.1**
	baz=201						
F04A	**Amboy**	**5.01**	**23**		**Pn**	**10 48 10.8**	**-0.2**
F04A				Sn	**Sn**	**10 49 06.6**	**-2.7**
JTGM	**Trout Gulch Ro**	**5.02**	**148**		**Pn**	**10 48 10.2**	**-1.0**
JELB	**Ellicott, Sant**	**5.13**	**148**		**Pn**	**10 48 11.4**	**-1.3**
YERR	**Yerington**	**5.14**	**115**		**Pn**	**10 48 13.4**	**+0.4**
YERR				Sn	**Sn**	**10 49 10.4**	**-2.5**
CDC	**Canada Road**	**5.19**	**145**		**Pn**	**10 48 12.4**	**-1.1**
CSR	**Chase Ranch**	**5.21**	**146**		**Pn**	**10 48 12.1**	**-1.6**
HPCM	**Pacheco Lake**	**5.25**	**143**		**Pn**	**10 48 13.9**	**-0.5**
HFEM	**San Felipe**	**5.26**	**145**		**Pn**	**10 48 13.3**	**-1.2**
WAKR	**Walker**	**5.26**	**121**		**Pn**	**10 48 15.9**	**+1.3**
SLD	**San Luis Dam**	**5.27**	**143**		**Pn**	**10 48 14.1**	**-0.4**
OCR	**O'Connell Ranc**	**5.27**	**146**		**Pn**	**10 48 13.1**	**-1.5**
HERM	**Elkhorn Road**	**5.29**	**148**		**Pn**	**10 48 13.6**	**-1.2**
F05D	**White Salmon**	**5.29**	**30**	P	**Pn**	**10 48 14.9**	**+0.1**
	baz=214,SNR=15						
F05D		

TPNV Topopah Spring 8.22 119 Pn Pn 10 48 56.7 +1.4
LRMC Laurel Mtn Rad 8.31 132 P Pn 10 48 59.3 +2.8
baz=316
OSI Osito Audit: C 8.44 141 P Pn 10 48 59.7 +1.5
baz=324
OSI Osito Audit: C 8.44 141 Pn 10 48 59.6 +1.4
EDW2 Edwards Air Fo 8.60 136 P Pn 10 49 01.6 +1.3
baz=320
DECC Green Verdugo 8.92 140 P Pn 10 49 05.1 +0.4
baz=324
GSC Goldstone, Bar 8.94 130 P Pn 10 49 07.7 +2.6
baz=314
GSC Goldstone, Bar 8.94 130 Pn 10 49 08.7 +3.7
NEW Newport 8.99 37 P Pn 10 49 05.5 -0.1
baz=223
NEW Newport 8.99 37 Pn Pn 10 49 06.5 +0.9
0.9nm,0.3s,baz=219,slow=14,SNR=15
NEW Sn Sn 10 50 42.2 -5.1
0.6nm,0.3s,baz=120,slow=15,SNR=3.7
NEW LR LR 10 52 43.1
comp=Z,898nm,18.6s,baz=226,slow=39
NEW Newport 8.99 37 Pn 10 49 06.3 +0.7
PASC Pasadena Art C 9.06 140 Pn 10 49 07.1 +0.5
MWC Mount Wilson 9.08 139 Pn 10 49 07.2 +0.2
RRX Edison Barstow 9.14 132 P Pn 10 49 09.9 +2.2
baz=317
PSUT Pine Spring 9.16 104 Pn 10 49 09.5 +1.4
SHPR Sheep Range 9.20 118 Pn 10 49 11.0 +2.4
BGU Big Grassy Mou 9.20 89 Pn 10 49 11.6 +2.9
BFSC Mount Baldy Ra 9.27 138 P Pn 10 49 10.8 +1.2
baz=321
HVU Hansel Valley 9.33 83 Pn 10 49 13.4 +2.9
DUG Dugway, Tooele 9.47 93 P Pn 10 49 14.2 +1.9
baz=281
DUG Dugway, Tooele 9.47 93 Pn 10 49 14.3 +1.9
HEC Hector,Ludlow 9.54 130 P Pn 10 49 15.9 +2.5
baz=315
CIS Catalina Islan 9.59 144 P Pn 10 49 15.2 +1.3
baz=327
SPUT South Promonto 9.60 86 Pn 10 49 16.5 +2.4
BBRC Big Bear Solar 9.64 135 P Pn 10 49 16.3 +1.6
baz=319
MCMT McKenzie Canyo 9.69 65 Pn 10 49 16.9 +1.5
MSO Missoula 9.78 52 P Pn 10 49 18.0 +1.5
baz=240
MSO Missoula 9.78 52 Pn 10 49 18.3 +1.7
CCUT Cedar City 9.91 109 Pn 10 49 21.0 +2.6
GMRC Granite Mounta 9.97 128 P Pn 10 49 23.0 +3.8
baz=313
MURC Murrieta 10.01 138 P Pn 10 49 19.8 +0.2
baz=322
DLMT Dillon 10.02 62 Pn 10 49 21.3 +1.4
NLU North Lily Min 10.08 94 Pn 10 49 23.3 +2.5
JTMT Jette 10.08 47 Pn 10 49 21.4 +0.7
SZCU Shurtz Canyon 10.09 108 Pn 10 49 20.5 -0.4
CTU Camp Tracy 10.19 89 Pn 10 49 23.0 +0.7
LCMT Little Creek M 10.24 111 Pn Pn 10 49 25.8 +2.9
BELC Belle Mtn. Jos 10.34 132 P Pn 10 49 25.3 +1.1
baz=317
PFO Pinyon Flats O 10.38 135 P Pn 10 49 25.6 +0.7
baz=320
PFO Pinyon Flats O 10.38 135 Pn Pn 10 49 26.1 +1.3
2.1nm,0.3s,baz=318,slow=13,SNR=47
PFO LR LR 10 53 59.2
comp=Z,654nm,18.7s,baz=310,slow=41
PFO Pinyon Flats O 10.38 135 Pn 10 49 24.9 +0.1
TPFO Pinon Flats 10.39 135 P Pn 10 49 26.0 +1.1
baz=320
MSU Marysvale 10.40 102 Pn 10 49 27.9 +2.8
TCUT Toone Canyon 10.40 87 Pn 10 49 25.1 0.0
JLU Jordanelle 10.43 90 Pn 10 49 26.9 +1.3
AHID Auburn Hatcher 10.59 78 Pn 10 49 29.1 +1.4
QLMT Earthquake Lak 10.66 66 Pn 10 49 30.6 +1.9
PKCU Pink Cliffs 10.71 107 Pn 10 49 31.6 +2.1
IRM Iron Mountain 10.71 129 P Pn 10 49 32.4 +3.1
baz=314
FXWY Fox Creek 10.72 73 Pn 10 49 32.5 +3.0
BOZ Bozeman (W) 10.74 62 P Pn 10 49 31.0 +1.2
baz=252
BOZ Bozeman (W) 10.74 62 Pn 10 49 30.9 +1.2
TPAW Teton Pass 10.76 74 Pn 10 49 33.1 +3.0
YHB Horse Butte 10.80 67 Pn 10 49 31.5 +0.8
REDW Red Top Meadow 10.81 74 Pn 10 49 31.5 +0.7
IMW Indian Meadow 10.82 72 Pn Pn 10 49 33.8 +2.8
YHL Hebgen Lake 10.84 66 Pn 10 49 32.6 +1.4
W13A Hualapai Mount 10.86 121 Pn 10 49 31.6 +0.1
TMUT Trail Mountain 10.88 96 Pn 10 49 34.3 +2.4
SNOW Snow King Moun 10.90 74 Pn 10 49 32.9 +0.9
BC3 Big Chuckawall 10.90 132 P Pn 10 49 33.3 +1.4
baz=317
MOOW Moose Ponds 10.94 73 Pn Pn 10 49 34.9 +2.3
YMR Madison River 10.95 68 Pn 10 49 35.1 +2.5
MONP2 Monument Peak 10.96 138 P Pn 10 49 34.3 +1.4
baz=322
YPP Pitchstone Pla 10.98 70 Pn 10 49 35.7 +2.5
BAR Barrett 11.01 139 Pn 10 49 33.4 +0.1
Q16A Castle Valley 11.02 98 Pn 10 49 36.8 +3.2
HRY Holter Researc 11.02 56 Pn 10 49 35.5 +2.0
FLWY Flagg Ranch 11.02 71 Pn 10 49 36.9 +3.3
BBB Bella Bella 11.03 351 Pn Pn 10 49 37.8 +4.4
0.5nm,0.3s,baz=189,slow=5.7,SNR=11
YHH Holmes Hill 11.05 67 Pn 10 49 36.8 +2.7
WALA Waterton Lakes 11.08 42 Pn 10 49 36.0 +1.6
YNR Norris Junctio 11.15 68 Pn 10 49 36.9 +1.4
H17A Grant Village 11.16 69 Pn 10 49 39.1 +3.5
P17A Butcher Ranch, 11.19 95 Pn 10 49 38.8 +2.9
U15A North Rim 11.19 112 Pn 10 49 38.3 +2.2
YUF Upper Falls 11.27 68 Pn 10 49 38.9 +1.8
Y12C Blythe 11.37 128 Pn 10 49 37.9 -0.3
SRU San Rafael Swe 11.45 96 Pn 10 49 42.3 +2.8
YMP Mirror Lake Pl 11.52 68 Pn Pn 10 49 41.6 +1.0
GLA Glamis 11.70 132 P Pn 10 49 44.3 +1.5
baz=318
GLA Glamis 11.70 132 Pn 10 49 44.2 +1.5
BW06 Boulder Array 11.72 78 P Pn 10 49 44.9 +1.6
baz=268
BW06 Boulder Array 11.72 78 Pn 10 49 45.6 +2.3
PD31 Pinedale Array 11.72 78 Pn 10 49 45.6 +2.3
PDAR Pinedale Array 11.72 78 Pn Pn 10 49 45.9 +2.6
0.4nm,0.3s,baz=257,slow=12,SNR=33
PDAR LR LR 10 54 43.7
comp=Z,1μm,18.2s,baz=246,slow=40
PDAR Pinedale Array 11.72 78 Pn Pn 10 49 45.2 +1.9
RDMU Red Mountain 11.85 89 Pn 10 49 48.3 +3.2
GCMT Greycliff 12.11 63 Pn 10 49 49.7 +1.2
Y14A Wickenburg 12.16 124 Pn 10 49 50.1 +0.9
RLMT Red Lodge 12.22 67 P Pn 10 49 51.7 +1.7
baz=258
WUAZ Wupatki 12.30 114 P Pn 10 49 53.8 +2.7
baz=302
WUAZ Wupatki 12.30 114 Pn 10 49 49.5 -1.7
PV21 Cone Mtn., Par 12.76 97 Pn 10 49 58.9 +1.4
PV19 Morning Glory 12.83 98 Pn Pn 10 50 01.0 +2.5
EGMT Eagleton 12.85 54 P Pn 10 49 59.0 +0.5
baz=245
PV04 Paradox Valley 12.87 98 Pn 10 50 01.6 +2.7
O20A White River Ci 12.93 90 P Pn 10 50 01.5 +1.8
baz=281
O20A White River Ci 12.93 90 Pn Pn 10 50 00.8 +1.1
PV03 Paradox Valley 12.95 98 Pn 10 50 02.7 +2.7
RWWY Rawlins 13.49 83 Pn 10 50 07.0 -0.4
MVCO Mesa Verde 13.58 102 P Pn 10 50 10.9 +2.2
baz=293
MVCO Mesa Verde 13.58 102 Pn 10 50 11.3 +2.6
W18A Petrified Fore 13.65 112 P Pn 10 50 12.4 +2.8
baz=301
W18A Petrified Fore 13.65 112 Pn 10 50 12.1 +2.6
X18A Snowflake 13.82 115 Pn 10 50 15.6 +3.8
K22A Casper 13.96 78 P Pn 10 50 13.9 +0.2
baz=271
K22A Casper 13.96 78 Pn 10 50 14.2 +0.5
SMCO Snowmass 14.09 93 Pn 10 50 16.8 +1.0
N23A Red Feather La 14.53 85 P Pn 10 50 21.2 -0.5
baz=278
N23A Red Feather La 14.53 85 Pn 10 50 20.4 -1.2
S22A 4UR Ranch, Cre 14.62 98 P Pn 10 50 24.8 +1.8
baz=290
S22A 4UR Ranch, Cre 14.62 98 Pn 10 50 22.9 -0.1
TUC Tucson 14.63 123 P Pn 10 50 25.1 +2.1
baz=312
TUC Tucson 14.63 123 Pn Pn 10 50 20.8 -2.1
LAO LASA Array 14.65 62 P Pn 10 50 23.4 +0.2
baz=256
LAO LASA Array 14.65 62 Pn 10 50 22.5 -0.6

PHWY Pilot Hill 14.84 84 Pn 10 50 25.5 -0.4
ISCO Idaho Springs 14.97 89 P Pn 10 50 28.1 +0.4
baz=282
ISCO Idaho Springs 14.97 89 Pn 10 50 28.6 +0.9
Q24A Divide 15.52 92 P Pn 10 50 35.1 +0.1
baz=285
Q24A Divide 15.52 92 Pn 10 50 35.9 +0.9
SDCO Great Sand Dun 15.62 97 P Pn 10 50 37.5 +1.3
baz=289
SDCO Great Sand Dun 15.62 97 Pn 10 50 37.9 +1.6
SDCO IAmb IAmb 10 50 43.1
comp=Z,32nm,0.7s
WRAK Wrangell Islan 15.79 345 Pn Pn 10 50 38.4 +0.4
RSSD Black Hills 15.80 73 P Pn 10 50 36.5 -2.0
baz=267
RSSD Black Hills 15.80 73 Pn Pn 10 50 36.7 -1.8
ANMO Albuquerque 16.06 107 P Pn 10 50 42.7 +0.8
baz=299
ANMO Albuquerque 16.06 107 Pn P 10 50 43.6 -1.8
comp=Z,0.2nm,0.3s,baz=307,slow=15,SNR=27
ANMO LR LR 10 56 38.3
comp=Z,203nm,20.2s,baz=289,slow=36
ANMO Albuquerque 16.06 107 P P 10 50 43.8 -1.6
LENM Lemitar 16.09 111 P P 10 50 44.4 -1.3
319A Douglas 16.21 123 P P 10 50 45.6 -1.3
LPM Los Pinos Moun 16.25 110 P P 10 50 46.0 -1.6
BNM Barren Site 16.34 110 P P 10 50 47.7 -0.8
121A Cookes Peak, D 16.45 117 P P 10 50 48.2 -1.6
baz=307
121A Cookes Peak, D 16.45 117 P Pn 10 50 47.7 +0.8
DGMT Dagmar 16.47 57 P Pn 10 50 45.5 -1.4
baz=252
DGMT Dagmar 16.47 57 P Pn 10 50 46.2 -0.7
T25A Trinidad 16.64 98 P Pn 10 50 50.4 +1.0
baz=291
T25A Trinidad 16.64 98 P P 10 50 51.2 -0.7
T25A IAmb IAmb 10 50 55.4
comp=Z,37nm,0.7s
T25A PcP 10 55 38.5 -0.8
DLBC Dease Lake 17.38 351 Pn P 10 51 01.2 +1.4
comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=9.3
KSCO Kaye Shedlock' 17.41 90 P Pn 10 50 58.6 -0.2
baz=285
KSCO Kaye Shedlock' 17.41 90 P Pn 10 50 58.8 0.0
KSCO IAmb IAmb 10 51 02.1
comp=Z,91nm,1.0s
OGNE Ogallala 17.45 84 P Pn 10 50 58.4 -1.0
baz=279
OGNE Ogallala 17.45 84 P Pn 10 50 59.0 -0.4
OGNE IAmb IAmb 10 51 00.6
comp=Z,109nm,0.9s
JIS Juneau Island 17.93 344 P Pn 10 51 05.6 +0.7
MNTX Cornudas Mount 18.58 115 P P 10 51 12.6 -0.5
SKAG Skagway 19.21 344 P P 10 51 20.2 +0.4
SKAG IAmb IAmb 10 51 25.6
comp=Z,47nm,1.2s
SUSD Miller 19.45 72 P P 10 51 21.4 -1.2
baz=270
SUSD Miller 19.45 72 P P 10 51 20.6 -2.0
AMTX Amarillo 19.57 102 P P 10 51 23.3 -0.7
AMTX IAmb IAmb 10 51 35.1
comp=Z,61nm,1.4s
CBKS Cedar Bluff 19.63 89 P P 10 51 23.4 -1.2
baz=286
CBKS Cedar Bluff 19.63 89 P P 10 51 23.5 -1.2
CBKS IAmb IAmb 10 51 26.8
comp=Z,38nm,0.8s
BGNE Belgrade 20.28 81 P P 10 51 30.2 -1.4
baz=279
FFC Flin Flon 20.38 41 P P 10 51 32.3 -0.2
HYT Haines Junctio 20.91 343 P P 10 51 39.4 +0.9
HYT IAmb IAmb 10 51 45.8
comp=Z,43nm,1.1s
U32A Winter Ranch, 20.96 95 P P 10 51 39.8 +0.7
U32A IAmb IAmb 10 51 43.5
comp=Z,88nm,0.9s
ECSD EROS Data Cent 21.16 74 P P 10 51 39.7 -1.4
baz=274
ECSD EROS Data Cent 21.16 74 P P 10 51 41.0 -0.1
ECSD IAmb IAmb 10 51 42.6
comp=Z,30nm,0.7s
TX31 Lajitas Ar. Si 21.20 118 P P 10 51 42.8 +1.0
TX32 Lajitas Array 21.20 118 P P 10 51 42.9 +1.2
TXAR Lajitas Array 21.20 118 P P 10 51 44.0 +2.2
comp=Z,6.3nm,0.8s,baz=299,slow=8.2,SNR=73
TXAR Lajitas Array 21.20 118 P P 10 51 43.6 +1.8
HPIG 21.57 126 P P 10 51 46.1 +0.3
WMOK Wichita Mounta 21.78 99 P P 10 51 46.5 -1.4
baz=295
WMOK Wichita Mounta 21.78 99 P P 10 51 46.9 -1.0
AGMN Agassiz Nation 21.85 62 P P 10 51 47.3 -1.2
baz=262
AGMN Agassiz Nation 21.85 62 P P 10 51 46.7 -1.8
AGMN IAmb IAmb 10 51 52.8
comp=Z,41nm,1.2s
KSU1 Kansas State U 21.91 86 P P 10 51 47.8 -1.4
baz=285
YKA Yellowknife Ar 22.11 13 P P 10 51 51.4 +0.3
comp=Z,6.3nm,0.6s,baz=197,slow=11,SNR=15
ABTX Abilene, Hawle 22.14 105 P P 10 51 50.5 -1.2
baz=300
ABTX Abilene, Hawle 22.14 105 P P 10 51 51.1 -0.6
BARN Barnard Glacie 22.15 339 P P 10 51 51.8 0.0
BARN IAmb IAmb 10 51 55.9
comp=Z,31nm,0.9s
YKW3 Yellowknife Ar 22.17 13 P P 10 51 52.3 +0.5
ULM Lac du Bonnet 22.18 56 P P 10 51 51.7 -0.3
comp=Z,16nm,0.7s,baz=257,slow=9.6,SNR=17
TGL Tana Glacier 22.23 337 P P 10 51 55.5 +2.9
BALM Baldy 22.32 338 P P 10 51 54.1 +0.6
BALM IAmb IAmb 10 51 57.5
comp=Z,24nm,0.9s
MCARA McCarthy VSAT 22.80 338 P P 10 51 58.6 +0.2
MCARA IAmb IAmb 10 52 03.8
comp=Z,55nm,1.2s
GLB Gilahina Butte 23.07 337 P P 10 52 04.3 +2.9
JCT Junction City 23.18 110 P P 10 52 02.8 +0.1
baz=305
JCT Junction City 23.18 110 P P 10 52 03.2 +0.5
JCT IAmb IAmb 10 52 14.2
comp=Z,39nm,1.1s
TUL1 Leonard 23.55 94 P P 10 52 06.2 -0.2
baz=292
TUL1 Leonard 23.55 94 P P 10 52 06.4 0.0
SPMN Marine on St. 23.81 70 P P 10 52 08.4 -0.5
baz=272
SPMN Marine on St. 23.81 70 P P 10 52 07.2 -1.7
DAWY Dawson 24.21 345 P P 10 52 15.0 +2.5
DAWY IAmb IAmb 10 52 16.4
comp=Z,21nm,1.0s
MENT Mentasta 24.25 339 P P 10 52 13.7 +0.8
MENT IAmb IAmb 10 52 18.2
comp=Z,23nm,1.2s
SCM Sheep Creek Mo 24.46 334 P P 10 52 16.6 +1.8
SCM IAmb IAmb 10 52 20.1
comp=Z,29nm,1.0s
KNK Knik Glacier 24.54 333 P P 10 52 15.0 -0.5
KNK IAmb IAmb 10 52 20.7
comp=Z,23nm,1.0s
EYMN Ely 24.73 63 P P 10 52 16.6 -0.8
baz=267
EYMN Ely 24.73 63 P P 10 52 17.2 -0.2
EYMN IAmb IAmb 10 52 28.4
comp=Z,24nm,0.9s
833A Chaparral WMA, 24.74 113 P P 10 52 19.5 +1.9
833A IAmb IAmb 10 52 21.8
comp=Z,20nm,1.1s
SML Sawmill 24.77 334 P P 10 52 18.1 +0.4
SML IAmb IAmb 10 52 21.9
comp=Z,35nm,1.4s
HHAR Hobbs 24.80 91 P P 10 52 17.4 -0.7
PMR Palmer 24.89 333 P P 10 52 19.5 +0.9
PMR IAmb IAmb 10 52 22.9
comp=Z,27nm,1.2s
GHO Glory Hole Cre 24.95 333 P P 10 52 21.1 +1.8
GHO IAmb IAmb 10 52 24.7
comp=Z,15nm,1.0s
G39A Holcombe 24.96 69 P P 10 52 19.4 0.0
baz=273
SCRK Sand Creek 25.17 340 P P 10 52 23.8 +2.5
SCRK IAmb IAmb 10 52 26.7
comp=Z,25nm,1.2s
W39A Magazine 25.33 94 P P 10 52 22.6 -0.3
baz=293
W39A Magazine 25.33 94 P P 10 52 23.2 +0.3

W39A IAmb IAmb 10 52 34.1
comp=Z,33nm,1.2s
SUA Susitna One 25.38 331 P P 10 52 22.1 -1.1
SUA IAmb IAmb 10 52 28.8
comp=Z,23nm,1.0s
DHY Denali Highway 25.40 336 P P 10 52 22.0 -1.4
DHY IAmb IAmb 10 52 27.3
comp=Z,20nm,0.9s
U40A Yellville 25.59 91 P P 10 52 25.0 -0.3
baz=291
U40A Yellville 25.59 91 P P 10 52 25.3 0.0
G40A Rib Lake 25.65 69 P P 10 52 25.3 -0.4
baz=274
MIAR Mount Ida 25.75 95 P P 10 52 27.3 +0.6
baz=295
MIAR Mount Ida 25.75 95 P P 10 52 28.1 +1.4
MIAR IAmb IAmb 10 52 31.8
comp=Z,20nm,0.8s
MGMO Mountain Grove 25.76 88 P P 10 52 26.0 -0.8
JFWS Jewell Farm 25.86 75 P P 10 52 26.8 -0.8
baz=279
JFWS Jewell Farm 25.86 75 P P 10 52 27.2 -0.4
JFWS IAmb IAmb 10 52 37.5
comp=Z,41nm,1.1s
EPYK Eagle Plains 25.89 349 P P 10 52 28.6 +0.9
baz=160
EPYK Eagle Plains 25.89 349 P P 10 52 28.4 +0.7
EPYK IAmb IAmb 10 52 33.0
comp=Z,24nm,0.9s
RND Reindeer 26.09 336 P P 10 52 32.4 +2.8
CCM Cathedral Cave 26.24 86 P P 10 52 30.9 -0.1
baz=288
CCM Cathedral Cave 26.24 86 P P 10 52 31.2 +0.1
CCM IAmb IAmb 10 52 41.0
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 26.31 91 P P 10 52 29.7 -2.1
HKT Hockley 26.31 106 P P 10 52 30.9 -0.9
HKT IAmb IAmb 10 52 44.4
comp=Z,24nm,1.4s
X40A Basin Creek Fa 26.33 94 P P 10 52 30.9 -1.1
baz=295
COWI Conover 26.35 67 P P 10 52 34.0 +2.0
COWI IAmb IAmb 10 52 35.3
comp=Z,14nm,0.6s
WHAR Wooly Hollow 26.42 92 P P 10 52 33.7 +1.0
WHAR IAmb IAmb 10 52 44.1
comp=Z,10.0nm,0.6s
WLAR White Oak Lake 26.47 96 P P 10 52 32.8 -0.4
W41B Gary Mavity, V 26.50 93 P P 10 52 33.2 -0.2
baz=293
W41B Gary Mavity, V 26.50 93 P P 10 52 35.0 +1.5
IL31 26.56 339 P P 10 52 33.9 +0.1
ILAR Eielson Array 26.56 339 P P 10 52 35.9 +2.1
comp=Z,4.3nm,0.8s,baz=154,slow=8.3,SNR=40
ILAR Eielson Array 26.56 339 P P 10 52 35.5 +1.7
TRF Thorofare Moun 26.58 335 P P 10 52 35.7 +1.6
TRF IAmb IAmb 10 52 41.0
comp=Z,20nm,1.3s
WRH Wood River Hil 26.66 338 P P 10 52 36.9 +2.3
WRH IAmb IAmb 10 52 48.6
comp=Z,22nm,1.2s
I42A Draeger Farm, 26.70 72 P P 10 52 35.1 -0.1
baz=277
CCB Clear Creek Bu 26.72 338 P P 10 52 37.0 +1.9
PRP Porcupine Dome 26.82 341 P P 10 52 34.0 -2.2
FVM French Village 26.88 86 P P 10 52 36.9 +0.1
FVM IAmb IAmb 10 52 46.4
comp=Z,17nm,1.1s
LCAR Lake Charles 26.98 90 P P 10 52 37.8 +0.1
HDIL Hopedale 27.02 80 P P 10 52 39.6 +1.5
HDIL IAmb IAmb 10 52 47.1
comp=Z,21nm,0.9s
P43A Skaggs, Pawnee 27.08 82 P P 10 52 37.5 -1.1
baz=285
BPAW Bear Paw Mtn. 27.26 335 P P 10 52 42.0 +1.9
PBMO Poplar Bluff 27.27 88 P P 10 52 40.5 +0.1
PBMO IAmb IAmb 10 52 50.1
comp=Z,24nm,0.9s
INK Inuvik 27.39 353 P P 10 52 42.7 +1.6
comp=Z,12nm,1.1s,baz=165,slow=10,SNR=17
INK Inuvik 27.39 353 P P 10 52 42.7 +1.6
INK IAmb IAmb 10 52 43.8
comp=Z,24nm,1.2s
H43A Windswept, Lux 27.44 71 P P 10 52 41.4 -0.5
baz=277
E43A Lone Tree Farm 27.82 67 P P 10 52 44.3 -0.9
baz=274
PARMO Parma 27.82 88 P P 10 52 45.5 +0.2
MLY Manley 27.84 337 P P 10 52 47.1 +1.8
S44A Carbondale 27.85 86 P P 10 52 43.3 -2.3
baz=289
SIUC Southern Illin 27.87 86 P P 10 52 46.2 +0.5
FALS False Pass 28.48 311 P P 10 52 52.2 +1.3
SFIN Lafayette 28.69 79 P P 10 52 55.2 +2.1
SFIN IAmb IAmb 10 53 03.0
comp=Z,30nm,1.1s
OXF Oxford 28.90 92 P P 10 52 55.9 +1.0
USIN University of 28.95 84 P P 10 52 56.1 +0.7
BLO Bloomington 29.44 81 P P 10 53 00.5 +0.8
WVT Waverly 29.46 88 P P 10 53 00.9 +1.0
PLAL Pickwick Lake 29.71 90 P P 10 53 03.4 +1.2
PLAL IAmb IAmb 10 53 12.3
comp=Z,20nm,1.1s
J47A Sunmer 29.73 73 P P 10 53 03.4 +1.1
I47A Gladwin 29.82 71 P P 10 53 04.8 +1.8
WCI Wyandotte Cave 29.89 83 P P 10 53 05.3 +1.6
WCI IAmb IAmb 10 53 12.9
comp=Z,24nm,0.9s
T49A Edmonton 30.84 85 P P 10 53 13.1 +1.0
T49A IAmb IAmb 10 53 22.3
comp=Z,27nm,0.9s
K50A Casco 31.41 73 P P 10 53 17.7 +0.7
ACSO Alum Creek Sta 31.76 78 P P 10 53 20.6 +0.3
Q51A Peebles 31.84 80 P P 10 53 22.1 +1.1
Q51A IAmb IAmb 10 53 31.5
comp=Z,8.1nm,0.8s
P51A Williamsport 31.92 79 P P 10 53 23.0 +1.4
V51A Loudon 32.20 86 P P 10 53 24.5 +0.4
V51A IAmb IAmb 10 53 33.8
comp=Z,20nm,1.1s
CPCT Cooper Cave 32.20 87 P P 10 53 24.9 +0.7
Y52A Lilburn 33.20 89 P P 10 53 32.3 -0.6
V53A Saluda 33.40 86 P P 10 53 34.7 0.0
M54A Oil Creek Stat 33.84 74 P P 10 53 40.7 +2.2
PAULI Pauline 34.49 86 P P 10 53 44.5 +0.4
M55A Ridgway 34.51 74 P P 10 53 45.3 +1.1
N55A Marion Center 34.53 75 P P 10 53 45.5 +1.0
DELO Deloro Mine 34.60 68 P P 10 53 48.1 +3.1
DELO IAmb IAmb 10 53 54.4
comp=Z,21nm,0.9s
BLA Blacksburg 34.62 82 P P 10 53 47.7 +2.4
BLA IAmb IAmb 10 53 52.2
comp=Z,18nm,0.9s
KMSC Kings Mountain 34.72 86 P P 10 53 47.6 +1.5
Q56A Snyder Ridge, 34.91 78 P P 10 53 48.7 +1.0
Q56A IAmb IAmb 10 53 51.1
comp=Z,16nm,1.0s
M56A Emporium 34.92 74 P P 10 53 49.2 +1.4
JSC Jenkinsville 35.13 87 P P 10 53 50.4 +0.8
JSC IAmb IAmb 10 53 58.9
comp=Z,25nm,1.1s
L56A Greenwood 35.20 72 P P 10 53 50.8 +0.6
SSPA Standing Stone 35.38 75 P P 10 53 53.1 +1.5
SSPA IAmb IAmb 10 54 00.9
comp=Z,29nm,0.9s
M57A Sunshine Farm, 35.73 74 P P 10 53 54.2 -0.5
V58A Windy Hill, Pi 36.13 83 P P 10 53 59.3 +1.1
N58A Sunbury 36.17 74 P P 10 53 59.5 +1.0
RES Resolute Bay 36.18 13 P P 10 53 59.5 +1.3
RES IAmb IAmb 10 54 00.6
comp=Z,14nm,0.8s
S58A Poland Farm, P 36.24 80 P P 10 54 00.8 +1.7
S58A IAmb IAmb 10 54 10.1
comp=Z,17nm,1.2s
BINY Binghamton 36.31 72 P P 10 54 02.1 +2.4
BINY IAmb IAmb 10 54 09.9
comp=Z,22nm,0.7s
K58A Earlville 36.40 71 P P 10 54 02.4 +2.0
N59A State Game Lan 36.83 74 P P 10 54 07.3 +3.2
N59A IAmb IAmb 10 54 14.9
comp=Z,47nm,1.5s
L59A Walton 36.98 72 P P 10 54 07.2 +1.6
L59A IAmb IAmb 10 54 15.3
comp=Z,27nm,1.1s

H62A	**Milan**	**39.09**	**67**	P	**P**	**10 54 23.7**	**+0.5**
H62A				IAmb	IAmb	10 54 25.1	
	comp=Z,26nm,1.2s						
I62A	**Tamworth**	**39.14**	**68**	P	**P**	**10 54 25.8**	**+2.2**
G62A	**West of Eustis**	**39.35**	**65**	P	**P**	**10 54 26.5**	**+1.2**
G62A				IAmb	IAmb	10 54 32.4	
	comp=Z,40nm,1.4s						
I63A	**Otisfield**	**39.62**	**67**	P	**P**	**10 54 29.6**	**+2.1**
I63A				IAmb	IAmb	10 54 33.8	
	comp=Z,47nm,1.4s						
E62A	**Clayton Lake**	**39.70**	**63**	P	**P**	**10 54 29.9**	**+1.6**
E62A				IAmb	IAmb	10 54 31.9	
	comp=Z,32nm,1.5s						
APG	**El Apazote**	**39.90**	**121**	LR	LR	11 13 48.1	
	comp=Z,310nm,21.8s,baz=94,slow=40						
SCHQ	**Schefferville**	**40.08**	**50**	P	**P**	**10 54 33.7**	**+2.4**
	comp=Z,4.6nm,0.4s,baz=274,slow=12,SNR=9.2						
SCHQ	**Schefferville**	**40.08**	**50**	P	**P**	**10 54 33.1**	**+1.8**
SCHQ				IAmb	IAmb	10 54 35.9	
	comp=Z,36nm,1.4s						
PKME	**Peaks-Kenny Pk**	**40.19**	**65**	P	**P**	**10 54 33.1**	**+0.8**
E63A	**Oxbow**	**40.49**	**63**	P	**P**	**10 54 35.1**	**+0.4**
E63A				IAmb	IAmb	10 54 43.0	
	comp=Z,20nm,1.2s						
G65A	**Princeton**	**41.38**	**65**	P	**P**	**10 54 44.6**	**+2.5**
BATG	**Bathurst New B**	**41.85**	**61**	P	**P**	**10 54 46.9**	**+0.9**
BATG				IAmb	IAmb	10 54 55.3	
	comp=Z,45nm,1.4s						
DRLN	**Deer Lake**	**46.82**	**56**	P	**P**	**10 55 28.0**	**+2.3**
JTS	**Las Juntas de**	**46.97**	**120**	P	**P**	**10 55 27.4**	**0.0**
JTS				IAmb	IAmb	10 55 34.3	
	comp=Z,5.4nm,0.8s						
SUMG	**Summit**	**50.18**	**23**	P	**P**	**10 55 53.3**	**+1.5**
SUMG				IAmb	IAmb	10 55 54.4	
	comp=Z,8.5nm,1.0s						
SEY	**Seymchan**	**50.90**	**324**	P	**P**	**10 55 57.9**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=200,slow=22,SNR=1.5						
MLPR	**Magueyes Islan**	**54.56**	**97**	P	**P**	**10 56 27.8**	**+3.4**
MTP	**Monte Pirata**	**55.60**	**96**	P	**P**	**10 56 33.2**	**+1.2**
H11N3	**WAKE ISLAND Hy**	**60.81**	**271**	T	T	12 03 40.8	
	baz=52,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**60.81**	**271**	T	T	12 03 28.0	
	baz=52,slow=75,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**60.82**	**271**	T	T	12 03 36.3	
	baz=52,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**61.69**	**270**	T	T	12 04 44.5	
	baz=51,slow=74,SNR=31						
H11S2	**WAKE ISLAND Hy**	**61.70**	**270**	T	T	12 04 45.6	
	baz=51,slow=74,SNR=40						
H11S3	**WAKE ISLAND Hy**	**61.71**	**270**	T	T	12 04 46.2	
	baz=51,slow=74,SNR=32						
ARCES	**ARCESS Array B**	**67.35**	**11**	LR	LR	11 28 18.6	
	comp=Z,65nm,18.4s,baz=348,slow=37						
NOA	**NORSAR Array B**	**71.98**	**21**	LR	LR	11 29 53.5	
	comp=Z,75nm,19.9s,baz=305,slow=36						
MDP	**Montagnes des**	**73.57**	**98**	LR	LR	11 34 32.9	
	comp=Z,51nm,20.9s,baz=290,slow=39						
FINES	**FINESS Array B**	**74.94**	**14**	P	**P**	**10 58 36.4**	**-0.4**
	comp=Z,8.6nm,1.2s,baz=335,slow=8.5,SNR=3.3						
FINES				LR	LR	11 31 22.8	
	comp=Z,98nm,18.9s,baz=18,slow=36						
ZALV	**Zalesovo Beam**	**81.64**	**343**	P	**P**	**10 59 14.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=4.6,SNR=1.4						
ZALV				LR	LR	11 37 29.6	
	comp=Z,36nm,18.9s,baz=72,slow=37						
SIV	**San Ignacio**	**82.20**	**119**	P	**P**	**10 59 18.1**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=338,slow=5.4,SNR=4.7						
GERES	**GERESS Array B**	**83.16**	**26**	LR	LR	11 39 19.7	
	comp=Z,109nm,18.2s,baz=306,slow=38						
ESDC	**Sonseca Array**	**83.28**	**42**	LR	LR	11 32 24.8	
	comp=Z,53nm,20.2s,baz=80,slow=33						
HHC	**Hu-ho-hao-te**	**83.35**	**320**	*e*P	**P**	**10 59 22.1**	**-1.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AKASG	**Malin Array Be**	**85.64**	**16**	LR	LR	11 38 53.7	
	comp=Z,40nm,18.9s,baz=10.0,slow=36						
NJ2	**Nanjing**	**86.11**	**310**	*e*P	**P**	**10 59 33.6**	**-3.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
AKTO	**Aktyubinsk**	**88.56**	**358**	LR	LR	11 41 41.1	
	comp=Z,30nm,19.5s,baz=12,slow=37						
MKAR	**Makanchi Array**	**88.90**	**342**	P	**P**	**10 59 51.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=15,slow=6.0,SNR=2.9						
WMQ	**Urumqi**	**90.20**	**337**	*e*P	**P**	**10 59 56.3**	**-0.4**
LZH	**Lanzhou**	**90.79**	**322**	*e*P	**P**	**10 59 56.2**	**-3.5**
LZH				pP	pP	11 00 00.3	+0.1
LZH				sP	PcP	11 00 01.9	+1.1
LZH				*e*PP	**PP**	**11 03 33.5**	**-0.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LZH				pmax	pmax		
	comp=Z,76nm,9.3s						
LZH				LR	LR		
	comp=Z,150nm,17.2s						
LZH				LR	LR		
	comp=Z,150nm,17.0s						
KSH	**Kashi**	**97.24**	**344**	P	**P**	**11 00 29.4**	**+0.2**
KSH				PP	**PP**	**11 04 28.1**	**+3.7**
KSH				S	**S**	**11 11 49.7**	**-4.0**
KSH				SS	**SS**	**11 18 31.8**	**+2.8**
KSH				LR	LR		
	comp=Z,190nm,9.7s						
KSH				LR	LR		
	comp=Z,140nm,10.5s						

*NEIC **08** 11:00:28.2±1.0, 62°.16N±0°.02×148°.92W±0°.07, h39km±12km*

AEIC 08 11:00:28±1.0**, 62°.15N**±0°.02×**148°.90W**±0°.06**, h35**km±9km**, ML2.9, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.38**	**181**		Pn	11 00 37.2	+0.3
GHO					Sn	11 00 44.5	+1.1
SML	**Sawmill**	**0.44**	**142**		Pn	11 00 37.7	0.0
SML					Sn	11 00 45.6	+1.1
PMR	**Palmer**	**0.57**	**191**		Pn	11 00 38.7	-0.9
PMR					Sn	11 00 47.6	-0.1
WAT1	**Susitna Watana**	**0.70**	**13**		Pn	11 00 41.1	-0.4
WAT1					Sn	11 00 51.6	+0.5
KNK	**Knik Glacier**	**0.77**	**164**		Pn	11 00 42.0	-0.3
KNK				Sn	Sn	11 00 53.2	+0.6
SCM	**Sheep Creek Mo**	**0.81**	**112**		Pn	11 00 42.5	-0.4
WAT2	**Susitna Watana**	**0.83**	**10**		Pn	11 00 42.9	-0.4
WAT2					Sn	11 00 54.7	+0.3
HUR	**Hurricane**	**0.90**	**338**		Pn	11 00 44.1	0.0
HUR					Sn	11 00 56.6	+0.7
SUA	**Susitna One**	**1.11**	**233**		Pn	11 00 47.0	-0.1
RC01	**Rabbit Creek A**	**1.14**	**201**		Pn	11 00 47.2	-0.2
RC01					Sn	11 01 02.5	+0.8
DHY	**Denali Highway**	**1.17**	**37**		Pn	11 00 47.6	-0.3
SKT	**Skwentna**	**1.25**	**263**		Pn	11 00 48.5	-0.5
SKT				Sn	Sn	11 01 04.6	+0.1
RND	**Reindeer**	**1.26**	**1**		Pn	11 00 49.2	0.0
RND				Sn	Sn	11 01 04.2	-0.8
PWL	**Port Wells**	**1.32**	**168**		Pn	11 00 49.9	-0.1
TRF	**Thorofare Moun**	**1.45**	**335**		Pn	11 00 51.9	0.0
GLI	**Glacier Island**	**1.54**	**145**		Pn	11 00 52.8	-0.1
JPK	**Jack Peak**	**1.56**	**134**		Pn	11 00 53.2	+0.1
MCK	**McKinley**	**1.59**	**360**		Pn	11 00 53.9	+0.3
PS11	**TAPS Pump St11**	**1.61**	**91**		Pn	11 00 55.4	+1.5
VMT	**TAPS Tl Valdez**	**1.62**	**130**		Pn	11 00 53.7	-0.2
KTH	**Kantishna Hill**	**1.69**	**328**		Pn	11 00 55.0	0.0
PPLA	**Purkeypile**	**1.70**	**298**		Pn	11 00 55.3	+0.1
CGLM	**Capps Glacier**	**1.70**	**242**		Pn	11 00 55.6	+0.4
SPCG	**Spurr Capps Gl**	**1.71**	**241**		Pn	11 00 56.0	+0.6
SLKM	**Skilak Lake**	**1.77**	**202**		Pn	11 00 56.7	+0.6
SPCP	**Crater Peak Br**	**1.78**	**242**		Pn	11 00 56.8	+0.4
PAX	**Paxson**	**1.79**	**61**		Pn	11 00 57.3	+0.9
FID	**Port Fidalgo**	**1.82**	**139**		Pn	11 00 56.7	-0.2
SPCR	**Spurr Chakacha**	**1.84**	**240**		Pn	11 00 57.5	+0.4
SPBG	**Spurr Blockage**	**1.88**	**243**		Pn	11 00 58.2	+0.6
PS12	**TAPS Pump St12**	**1.91**	**109**		Pn	11 00 58.4	+0.4
PS10	**TAPS Pump St10**	**1.93**	**47**		Pn	11 00 59.9	+1.6
CAST	**Castle Rocks**	**1.94**	**312**	Pn	Pn	11 00 59.1	+0.7
SPWE	**Spurr West**	**1.95**	**245**		Pn	11 00 59.5	+0.8
SPNN	**North Nagishla**	**1.97**	**248**		Pn	11 00 59.6	+0.7
BWN	**Browne**	**2.05**	**353**		Pn	11 01 00.4	+0.6
SEW	**Seward**	**2.07**	**188**		Pn	11 01 00.8	+0.7
HIN	**Hinchinbrook I**	**2.11**	**146**		Pn	11 01 00.8	+0.1
BPAW	**Bear Paw Mtn.**	**2.17**	**335**		Pn	11 01 01.4	-0.2
EYAK	**Cordova Ski Ar**	**2.21**	**135**		Pn	11 01 02.6	+0.5
RDT	**Redoubt**	**2.31**	**228**		Pn	11 01 04.0	+0.4
CHUM	**Lake Minchumin**	**2.33**	**320**		Pn	11 01 04.1	+0.3
WRH	**Wood River Hil**	**2.36**	**9**		Pn	11 01 04.2	0.0
DFR	**Drift River**	**2.40**	**231**		Pn	11 01 05.2	+0.4
HDA	**Harding Lake**	**2.44**	**20**		Pn	11 01 05.6	+0.4
NEA	**Nenana**	**2.44**	**358**		Pn	11 01 05.3	0.0
RDJH	**Redoubt Jeurge**	**2.44**	**232**		Pn	11 01 05.9	+0.5
RIDG	**Independent Ri**	**2.45**	**47**		Pn	11 01 07.0	+1.5
RSO	**Redoubt South**	**2.51**	**229**		Pn	11 01 07.0	+0.5
GLB	**Gilahina Butte**	**2.52**	**104**		Pn	11 01 06.8	+0.4
RDWB	**Redoubt West**	**2.53**	**230**		Pn	11 01 07.1	+0.5
MENT	**Mentasta**	**2.53**	**69**		Pn	11 01 07.3	+0.8
RED	**Redoubt Volcan**	**2.55**	**229**		Pn	11 01 07.1	+0.3
CCB	**Clear Creek Bu**	**2.56**	**11**		Pn	11 01 06.7	-0.1
BRSE	**Bradley Lake S**	**2.58**	**201**		Pn	11 01 06.9	-0.2
PS08	**TAPS Pump Stn8**	**2.58**	**20**		Pn	11 01 07.4	+0.3
BRLK	**Bradley Lake**	**2.58**	**203**		Pn	11 01 06.8	-0.4
DOT	**Dot Lake**	**2.68**	**54**		Pn	11 01 09.1	+0.5
RAGM	**Ragged Mountai**	**2.70**	**129**		Pn	11 01 09.2	+0.3
VRDI	**Verde Repeater**	**2.76**	**107**		Pn	11 01 09.8	0.0
TCOL	**CIGO, UAF Yank**	**2.77**	**9**		Pn	11 01 10.2	+0.4
COLA	**College**	**2.78**	**9**		Pn	11 01 09.8	-0.1
IL31		**2.78**	**18**		Pn	11 01 10.0	+0.1
ILAR	**Eielson Array**	**2.78**	**18**		Pn	11 01 09.7	-0.3
HOM	**Homer**	**2.83**	**209**	Pn	Pn	11 01 12.1	+1.4
MDM	**Murphy Dome**	**2.84**	**6**		Pn	11 01 10.9	+0.1
CNPM	**China Poot**	**2.87**	**204**		Pn	11 01 11.7	+0.5
HMT	**Hamilton**	**2.89**	**127**		Pn	11 01 11.3	-0.2
SCRK	**Sand Creek**	**2.89**	**49**		Pn	11 01 12.3	+0.7
MCARA	**McCarthy VSAT**	**2.90**	**103**		Pn	11 01 11.7	+0.2
IVE	**Iliamna Volcan**	**2.93**	**225**		Pn	11 01 12.4	+0.3
ILW	**Iliamna West**	**2.94**	**226**		Pn	11 01 12.8	+0.6
MLY	**Manley**	**3.01**	**345**		Pn	11 01 13.1	0.0
POKR	**Poker Plat Res**	**3.05**	**12**		Pn	11 01 13.9	+0.2
NICHA	**Nichawak Mount**	**3.06**	**127**		Pn	11 01 13.8	0.0
CRQM	**Cirque**	**3.10**	**114**		Pn	11 01 14.9	+0.3
PTPK	**Patty Peak**	**3.22**	**105**		Pn	11 01 17.1	+0.9
TGL	**Tana Glacier**	**3.23**	**113**		Pn	11 01 16.1	-0.2
BALM	**Baldy**	**3.33**	**107**		Pn	11 01 17.4	-0.2
KIAG	**Kiagna River**	**3.37**	**109**		Pn	11 01 18.1	0.0
WAX	**Waxell Ridge**	**3.38**	**118**		Pn	11 01 18.6	+0.3
TT01	**Tatalina**	**3.38**	**286**		Pn	11 01 18.1	-0.2
TTA	**Tatalina**	**3.38**	**287**		Pn	11 01 18.0	-0.3
BCAR	**Beaver Creek A**	**3.42**	**71**		Pn	11 01 19.3	+0.5
AUQ	**Augustine Qik'**	**3.57**	**220**		Pn	11 01 21.7	+0.9
AUJK	**Augustine Jueg**	**3.57**	**220**		Pn	11 01 21.9	+1.1
PRP	**Porcupine Dome**	**3.70**	**22**		Pn	11 01 22.8	+0.1
GRNC	**Granite Creek**	**3.72**	**109**		Pn	11 01 22.9	-0.1
CTGM	**Chitina Glacie**	**3.81**	**105**		Pn	11 01 24.6	+0.4
YAH	**Yahtse**	**3.89**	**114**		Pn	11 01 25.1	-0.3
EGAK	**Eagle**	**4.36**	**49**		Pn	11 01 32.7	+1.1
IMAR	**Indian Mountai**	**4.40**	**333**		Pn	11 01 32.1	0.0
DAWY	**Dawson**	**4.73**	**62**	Pn	Pn	11 01 37.8	+1.1
BMAR	**Burnt Mountain**	**5.61**	**17**		Pn	11 01 49.2	+0.4
HYT	**Haines Junctio**	**5.62**	**99**	Pn	Pn	11 01 49.6	+0.5

*NEIC **08** 11:12:41.3±1.2, 41°.32N±0°.03×125°.19W±0°.08, h15km±8km*
*ANF **08** 11:12:43.5±0.9, 41°.42N×124°.93W, h15km±6km, ML2.3/1,*
Error ellipse: s-maj=7.5km s-min=3.4km az=78.0

ISC 08 11:12:41.4±1.9**, 41°.35N**±0°.03×**125°.11W**±0°.08, h14**km±10km**, n50, σ0s77/63, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**0.84**	**103**		**Pn**	**11 12 58.9**	**0.0**
KRPM					**Sn**	**11 13 11.2**	**+0.1**
KRMB	**Red Mountain**	**0.92**	**79**		**Pn**	**11 13 00.0**	**0.0**
KRMB				Sn	**Sn**	**11 13 13.2**	**+0.1**
JCC	**Jacoby Creek,**	**0.97**	**122**		**Pb**	**11 13 00.1**	**+0.1**
JCC					**Sg**	**11 13 13.2**	**+0.3**
KSXB	**Camp Six Broad**	**1.04**	**62**		**Pg**	**11 13 01.7**	**+0.1**
KCTM	**Capetown**	**1.05**	**146**		**Pb**	**11 13 01.5**	**+0.1**
KCTM					**Sb**	**11 13 15.3**	**+0.4**
KBO	**Bosley Butte**	**1.09**	**37**		**Pb**	**11 13 02.1**	**0.0**
KBO				Sn	**Sg**	**11 13 16.2**	**-0.5**
KHMM	**Horse Mountain**	**1.15**	**114**		**Pb**	**11 13 03.4**	**+0.3**
KMPM	**Mount Pierce**	**1.19**	**141**		**Pn**	**11 13 03.3**	**-0.5**
KOMM	**Orleans Mounta**	**1.25**	**93**		**Pb**	**11 13 05.1**	**+0.2**
KCRM	**Chalk Rock**	**1.34**	**133**		**Pn**	**11 13 05.7**	**-0.1**
KSMM	**Slide Mountain**	**1.36**	**148**		**Pn**	**11 13 05.3**	**-0.7**
L02E	**Cave Junction**	**1.39**	**54**	P	**Pn**	**11 13 06.6**	**+0.2**
	baz=236,SNR=26						
L02E				S	**Sn**	**11 13 24.0**	**-0.5**
	baz=236						
L02E	**Cave Junction**	**1.39**	**54**		**Pn**	**11 13 06.8**	**+0.4**
KTRM	**Thompson Ridge**	**1.42**	**66**		**Pn**	**11 13 07.4**	**+0.5**
KCSM	**Cold Springs**	**1.46**	**123**		**Pn**	**11 13 07.7**	**+0.3**
KMRM	**Mail Ridge**	**1.55**	**136**		**Pn**	**11 13 09.2**	**+0.6**
KHBM	**Hayfork Bally**	**1.59**	**115**		**Pn**	**11 13 09.4**	**+0.2**
KEBM	**Edson Butte**	**1.63**	**21**	Pn	**Pn**	**11 13 10.3**	**+0.5**
M02C	**Callahan**	**1.70**	**88**	P	**Pn**	**11 13 11.4**	**+0.7**
	baz=268,SNR=99						
M02C				S	**Sn**	**11 13 32.5**	**+0.2**
	baz=268						
K02D	**Willamette Mer**	**1.73**	**38**	P	**Pn**	**11 13 11.4**	**+0.3**
	baz=221,SNR=50						
K02D				S	**Sn**	**11 13 32.1**	**-0.8**
	baz=221						
LGPM	**Granite Peak**	**1.78**	**103**		**Pn**	**11 13 12.2**	**+0.4**
KBSM	**Bell Springs**	**1.83**	**141**		**Pn**	**11 13 13.0**	**+0.4**
YBH	**Yreka Blue Hor**	**1.84**	**77**		**Pb**	**11 13 14.4**	**-0.6**
N02D	**Trinity Center**	**1.85**	**101**	P	**Pn**	**11 13 13.4**	**+0.6**
	baz=281,SNR=39						
N02D				S	**Sn**	**11 13 35.4**	**-0.7**
	baz=281						
N02D	**Trinity Center**	**1.85**	**101**		**Pn**	**11 13 13.5**	**+0.6**
LBKM	**Bonanza King**	**1.86**	**97**		**Pn**	**11 13 13.9**	**+0.9**
KIPM	**Iron Peak**	**1.98**	**140**		**Pn**	**11 13 14.8**	**+0.2**
LBPM	**Beegum Peak**	**1.98**	**121**		**Pn**	**11 13 15.1**	**+0.5**
J01E	**Myrtle Point**	**2.02**	**25**	S	**Sn**	**11 13 39.0**	**-1.0**
	baz=208						
KCPM	**Cahto Peak**	**2.03**	**144**		**Pn**	**11 13 15.4**	**+0.2**
KCPM					**Sn**	**11 13 39.2**	**-1.2**
HUMO	**Hull Mountain**	**2.04**	**51**	Pn	**Pn**	**11 13 16.3**	**+0.9**
KBNM	**Bluenose Ridge**	**2.06**	**134**		**Pn**	**11 13 16.5**	**+0.8**
WDC	**Whiskeytown Da**	**2.09**	**111**		**Pn**	**11 13 17.0**	**+1.0**
O02D	**Mt. Diablo Mer**	**2.12**	**123**	P	**Pn**	**11 13 17.2**	**+0.8**
	baz=302,SNR=14						
O02D				S	**Sn**	**11 13 42.6**	**0.0**
	baz=302						
KFPM	**Farley Peak**	**2.14**	**142**		**Pn**	**11 13 16.6**	**-0.1**
LHEM	**Herd Peak**	**2.19**	**82**		**Pb**	**11 13 19.9**	**-1.1**
LGBM	**Gray Butte**	**2.20**	**89**		**Pb**	**11 13 19.7**	**-1.4**
LMPM	**Military Pass**	**2.22**	**85**		**Pb**	**11 13 20.6**	**-0.9**
L04D	**Klamath Falls**	**2.27**	**67**	Pb	**Pb**	**11 13 21.4**	**-0.9**
	baz=249,SNR=137						
L04D				Sb	**Sb**	**11 13 50.0**	**-0.3**
	baz=249						
GROM	**Round Mountain**	**2.34**	**127**		**Pn**	**11 13 20.8**	**+1.3**
GVV	**Valley View**	**2.43**	**129**		**Pn**	**11 13 22.0**	**+1.2**
M04C	**Macdoel**	**2.49**	**79**	Pb	**Pb**	**11 13 24.2**	**-1.8**
	baz=261						
I03D	**Drain, OR**	**2.69**	**28**	S	**Sn**	**11 13 55.9**	**-0.6**
	baz=211						
O03E	**Paynes Creek**	**2.72**	**112**	P	**Pn**	**11 13 25.6**	**+0.8**
	baz=292,SNR=39						
O03E				S	**Sn**	**11 13 57.8**	**+0.3**
	baz=292						
ORV	**Oroville**	**3.29**	**122**		**Pn**	**11 13 32.8**	**+0.4**
J05D	**Fort Rock, OR**	**3.47**	**55**	P	**Pn**	**11 13 36.8**	**+1.7**
	baz=238,SNR=5.6						
H04D	**Lebanon**	**3.62**	**28**	S	**Sn**	**11 14 19.7**	**+0.1**
	baz=211						
BEKR	**Beckworth**	**3.91**	**111**	Pn	**Pn**	**11 13 42.4**	**+1.2**
PINE	**Pine Mountain**	**3.93**	**50**	Pn	**Pn**	**11 13 43.1**	**+1.6**
H04A	**Detroit Lake**	**3.97**	**32**	Pn	**Pn**	**11 13 43.5**	**+1.7**

*SJA **08** 11:19:10.7±0.6, 23°.37S×69°.92W, h32km±2km, ML3.8, MW4.0*
*ISCJB **08** 11:19:11.5±0.5, 23°.45S±0°.02×69°.94W±0°.04, h28km±4km, mb3.9/3, Error ellipse: s-maj=5.7km s-min=3.4km az=17.3*
*GUC **08** 11:19:11.9±0.6, 23°.39S×69°.93W, h30km±2km, ML4.1*
*NEIC **08** 11:19:13.2±2.0, 23°.37S±0°.03×70°.05W±0°.02, h35km±8km*
*IDC **08** 11:19:16.0±4.1, 23°.46S×69°.67W, h51km±30km, mb3.7/3, mb1 3.7/4, mb1mx3.5/26, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=49.9km s-min=33.4km az=120.0*

ISC 08 11:19:12.0±1.0**, 23°.38S**±0°.03×**69°.96W**±0°.03**, h25**km±8km**, n50**, σ0s98/71**, mb4.1**/5**, 1C-10D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.48**	**70**	↓*i*P	**Pb**	**11 19 21.7**	**-0.3**
PB15				*i* S	**Sb**	**11 19 28.4**	**-0.3**
PB15	**IPOC Station P**	**0.48**	**70**	*i* P	**Pb**	**11 19 21.1**	**-0.8**
PB15				*e*S	**Sb**	**11 19 28.8**	**+0.1**
PB10	**IPOC Station P**	**0.57**	**256**	↑*i*P	**Pb**	**11 19 23.2**	**-0.1**
PB10				*i* S	**Sb**	**11 19 31.0**	**0.0**
PB10	**IPOC Station P**	**0.57**	**256**	Pn	**Pb**	**11 19 23.2**	**-0.1**
PB10				Sn	**Sb**	**11 19 31.1**	**0.0**
PB06	**IPOC Station P**	**0.75**	**28**	↓*i*P	**Pb**	**11 19 26.2**	**-0.4**
PB06				*i* S	**Sb**	**11 19 36.3**	**-0.2**
PB06	**IPOC Station P**	**0.75**	**28**	*i* P	**Pb**	**11 19 25.9**	**-0.7**
PB06				*e*S	**Sb**	**11 19 37.1**	**+0.6**
PB04	**IPOC Station P**	**1.05**	**350**	↓*i*P	**Pn**	**11 19 31.2**	**-0.1**
PB04				*i* S	**Sb**	**11 19 45.5**	**+0.4**
PB04				IAML		11 19 47.5	
	comp=E,9μm,0.3s						
PB04	**IPOC Station P**	**1.05**	**350**	Pn	**Pn**	**11 19 31.0**	**-0.3**
PB04				Sn	**Sb**	**11 19 45.2**	**+0.2**
PB04	**IPOC Station P**	**1.05**	**350**	*i* P	**Pn**	**11 19 31.2**	**-0.1**
PB04				*e*S	**Sn**	**11 19 46.2**	**+0.9**
PB04				IAML		11 19 49.6	
	comp=Z,4μm,0.2s						
LVC	**Limon Verde**	**1.23**	**52**	P	**Pn**	**11 19 34.2**	**+0.3**
	comp=Z,143nm,0.3s,baz=232,slow=8.6,SNR=17.71						
LVC				S	**Sn**	**11 19 49.9**	**-0.1**
	comp=Z,495nm,0.3s,baz=60,slow=19,SNR=64						
LVC				LR	LR	11 20 07.3	
	comp=Z,327nm,18.0s,baz=214,slow=47						
LVC	**Limon Verde**	**1.23**	**52**		**Pn**	**11 19 34.0**	**+0.1**
LVC				Sn	**Sn**	**11 19 49.6**	**-0.3**
LVC	**Limon Verde**	**1.23**	**52**	*i* P	**Pn**	**11 19 33.9**	**-0.1**
LVC				*e*S	**Sb**	**11 19 50.3**	**0.0**
LVC				IAML		11 19 51.0	
	comp=Z,1μm,0.1s						
PB14	**IPOC Station P**	**1.31**	**198**	↓*i*P	**Pn**	**11 19 34.6**	**-0.4**
PB14				*i* S	**Sn**	**11 19 51.2**	**-0.7**
PB14				IAML		11 19 52.5	
	comp=E,5μm,0.2s						
PB03	**IPOC Station P**	**1.33**	**8**	↓*i*P	**Pn**	**11 19 35.5**	**+0.3**
PB03				*i* S	**Sn**	**11 19 53.0**	**+0.7**
PB03				IAML		11 19 54.6	
	comp=E,5μm,0.3s						
PB03	**IPOC Station P**	**1.33**	**8**	*i* P	**Pn**	**11 19 34.7**	**-0.5**
PB07	**IPOC Station P**	**1.64**	**2**	↓*i*P	**Pn**	**11 19 40.2**	**+0.7**
PB07				*i* S	**Sb**	**11 20 01.9**	**-0.1**
PB07				IAML		11 20 02.8	
	comp=E,3μm,0.6s						
PB07	**IPOC Station P**	**1.64**	**2**	*i* P	**Pn**	**11 19 41.0**	**+1.5**
PB09	**IPOC Station P**	**1.70**	**23**	↓*i*P	**Pb**	**11 19 42.0**	**-0.7**
PB09				*i* S	**Sb**	**11 20 04.0**	**+0.2**
PB09				IAML		11 20 08.7	
	comp=N,2μm,0.6s						
GO02	**Mina Guanaco**	**1.81**	**169**	↓*i*P	**Pn**	**11 19 43.0**	**+1.1**
GO02				*i* S	**Sb**	**11 20 06.6**	**-0.5**
GO02				IAML		11 20 10.3	
	comp=N,6μm,0.5s						
GO02	**Mina Guanaco**	**1.81**	**169**	Pn	**Pn**	**11 19 42.8**	**+0.9**
GO02					**Sn**	**11 20 06.0**	**+1.8**
PB02	**IPOC Station P**	**2.05**	**2**	↓*i*P	**Pn**	**11 19 45.9**	**+0.9**
PB02				*i* S	**Sb**	**11 20 14.0**	**+0.4**
PB02				IAML		11 20 23.9	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**2.05**	**2**	*i* P	**Pn**	**11 19 45.9**	**+0.9**
PB01	**IPOC Station P**	**2.36**	**11**	↓*i*P	**Pn**	**11 19 50.7**	**+1.4**
PB01				*i* S	**Sb**	**11 20 20.6**	**-2.0**
PB01				IAML		11 20 25.0	
	comp=E,2μm,0.3s					

JNK *e*S **Sb** **11 25 28.6 -0.2**
JAK Akkeshi 2.79 244 P **Pb** **11 25 00.2 -1.4**
JAR Ashorobuto 3.29 254 P **Pb** **11 25 08.6 -1.6**

IDC ***08*** *11:29:28.5±1.4, 41°.83N×88°.08E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.4/59, mbtmp3.5/5, ML3.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/51, Error ellipse: s-maj=102.0km s-min=19.7km az=58.0*
BJI ***08*** *11:29:28.3±0.0, 41°.92N×87°.85E, h6km, mb3.5/1, ML3.4/10*
ISCJB ***08*** *11:29:31.3±0.7, 41°.97N±0°.07×87°.75E±0°.08, h35km, mb3.4/2, MS3.6/1, Error ellipse: s-maj=11.0km s-min=6.4km az=32.8*
NNC ***08*** *11:29:36.2±2.5, 42°.34N×87°.43E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=18.1km s-min=13.4km az=122.0*
ISC 08 11:29:33.6±1.0, 41°.98N±0°.08×87°.83E±0°.07, h35km, n12, σ1§70/17, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.84**	**357**	Pg	**Pn**	**11 30 03.1**	**+0.3**
WMQ				Sg	**Sn**	**11 30 27.3**	**+2.4**
MK31	**Makanchi Array**	**6.24**	**322**	⇑Pn	**Pn**	**11 31 03.0**	**-0.1**
	0.9nm,0.3s,baz=146,slow=14,SNR=67						
MK31				⇑Sn	**Sn**	**11 32 11.5**	**-1.6**
	1.4nm,0.3s						
MK31				⇓Lg	Lg	11 32 39.4	
	11nm,0.7s,baz=140,slow=27,SNR=4.7						
MKAR	**Makanchi Array**	**6.24**	**322**	Pn	**Pn**	**11 31 02.7**	**-0.4**
	0.7nm,0.3s,baz=143,slow=13,SNR=24						
MKAR				Sn	**Sn**	**11 32 12.2**	**-0.9**
	1.6nm,0.3s,baz=139,slow=20,SNR=5.9						
MKAR				Lg	Lg	11 32 42.0	
	1.8nm,0.3s,baz=138,slow=27,SNR=3.9						
PDGK	**Podgornoye**	**6.29**	**285**	⇑Pn	**Pn**	**11 31 03.9**	**-0.2**
	9.5nm,0.8s						
PDGK				⇓Sn	**Sn**	**11 32 15.6**	**+0.8**
	20nm,0.6s						
PDGK				⇓Lg	Lg	11 32 46.0	
	14nm,0.4s						
MAKZ	**Makanchi**	**6.39**	**321**	⇓Pn	**Pn**	**11 31 04.8**	**-0.4**
	2.7nm,0.6s						
MAKZ				⇑Sn	**Sn**	**11 32 14.4**	**-2.5**
	2.8nm,0.4s						
MAKZ				⇓Lg	Lg	11 32 45.6	
	12nm,1.1s						
MDOK	**Medeo**	**8.04**	**282**	⇑Pn	**Pn**	**11 31 31.8**	**+3.7**
	2.6nm,0.4s						
MDOK				Sn	**Sn**	**11 32 58.4**	**+0.6**
	6.3nm,0.8s						
MDOK				Lg	Lg	11 33 42.1	
	14nm,1.1s						
GTA	**Gaotai**	**9.46**	**102**	*e*P	**Pn**	**11 31 48.8**	**+1.3**
GTA				pP		11 31 53.7	
GTA				sP		11 31 56.1	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURBB	**Kurchatov Arra**	**10.77**	**327**	Pn	**Pn**	**11 32 06.4**	**+1.3**
	0.1nm,0.3s,baz=132,slow=13,SNR=5.3						
ZALV	**Zalesovo Beam**	**12.14**	**352**	Pn	**Pn**	**11 32 25.6**	**+1.6**
	0.5nm,0.3s,baz=174,slow=12,SNR=5.4						
CMAR	**Chiang Mai Arr**	**25.29**	**155**	P	**P**	**11 34 55.7**	**-1.1**
	0.4nm,0.4s,baz=334,slow=10.0,SNR=4.3						
DAV	**Davao City (W)**	**48.20**	**125**	LR	LR	11 58 51.2	
	comp=Z,67nm,19.4s,baz=179,slow=37						
WRA	**Warramunga Arr**	**75.12**	**135**	P	**P**	**11 41 10.4**	**-1.7**
	0.4nm,0.7s,baz=332,slow=5.5,SNR=6.2						

ISCJB ***08*** *11:37:17.4±0.2, 44°.61N±0°.02×124°.16E±0°.03, h10km, mb4.4/45, MS3.9/11, Error ellipse: s-maj=3.4km s-min=3.1km az=159.8*
NEIC ***08*** *11:37:19.9±1.1, 44°.67N±0°.07×124°.15E±0°.04, h14km±4km, mb4.6/35*
MOS ***08*** *11:37:19.9±0.8, 44°.59N×124°.19E, h28km, mb4.8/19, Error ellipse: s-maj=7.8km s-min=5.6km az=114.1*
BJI ***08*** *11:37:19.0±0.0, 44°.65N×124°.12E, h9km, mb4.5/38, mB4.7/31, ML4.8/22, Ms4.4/35, Ms7 4.1/33*
IDC ***08*** *11:37:21.4±2.7, 44°.60N×124°.24E, h28km±19km, mb4.1/26, mb1 4.2/30, mb1mx4.1/69, mbtmp4.3/30, ML3.4/4, MS3.5/7, Ms1 3.6/7, ms1mx3.1/52, Error ellipse: s-maj=12.3km s-min=10.4km az=76.0*
ISC 08 11:37:19.2±0.3, 44°.66N±0°.03×124°.18E±0°.03, h10km, n195, σ1§48/210, mb4.5/53, MS4.0/11, 20C-5D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.25**	**133**	*e*Pg	**Pn**	**11 37 42.3**	**-0.5**
CN2				*e*Sg	**Sb**	**11 37 59.7**	**+0.6**
CN2				smax	smax		
	comp=N,18μm,0.6s						
CN2				smax	smax		
	comp=E,10μm,0.6s						
SNY	**Shenyang**	**2.86**	**189**	Pn	**Pn**	**11 38 03.8**	**-1.1**
SNY				⇓Pg	**Pb**	**11 38 12.9**	**+2.5**
SNY				Sn	**Sn**	**11 38 37.5**	**-1.9**
SNY				Sg	**Sb**	**11 38 47.5**	**+2.1**
SNY				smax	smax		
	comp=N,1μm,0.5s						
SNY				smax	smax		
	comp=E,1μm,0.6s						
MDJ	**Mudanjiang**	**3.87**	**89**	Pn	**Pn**	**11 38 20.6**	**+1.9**
MDJ				Pg	**Pb**	**11 38 29.8**	**+2.3**
MDJ				Sg	**Sg**	**11 39 21.0**	**-2.3**
MDJ				smax	smax		
	comp=N,3μm,0.8s						
MDJ				smax	smax		
	comp=E,2μm,0.7s						
MDJ	**Mudanjiang**	**3.87**	**89**		**Pn**	**11 38 19.2**	**+0.5**
MSHR	**Mys Shultsa**	**5.48**	**110**	*i* P	**Pn**	**11 38 41.7**	**+0.9**
HIA	**Hailar**	**5.52**	**328**	P	**Pn**	**11 38 41.1**	**-0.3**
HIA	**Hailar**	**5.52**	**328**		**Pn**	**11 38 41.1**	**-0.3**
USA0B	**Ussuriysk Arra**	**5.61**	**92**	P	**Pn**	**11 38 44.8**	**+2.1**
USA0B						11 39 48.5	
USA0B	**Ussuriysk Arra**	**5.61**	**92**		**Pn**	**11 38 44.8**	**+2.1**
USA0B				Sn	**Sn**	**11 39 48.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**5.61**	**92**	P	**Pn**	**11 38 44.8**	**+2.1**
USRK	**Ussuriysk Ar.**	**5.61**	**92**	Pn	**Pn**	**11 38 43.0**	**+0.3**
	baz=273,slow=12,SNR=16						
USRK				Pg	**Pg**	**11 39 03.6**	**-3.1**
	baz=280,slow=18,SNR=30						
USRK				Lg	Lg	11 40 18.6	
	baz=298,slow=25,SNR=9.9						
USRK	**Ussuriysk Ar.**	**5.61**	**92**		**Pn**	**11 38 44.8**	**+2.1**
USRK					**Pg**	**11 39 05.7**	**-1.0**
VLA	**Vladivostok**	**5.78**	**103**	*i* P	**Pn**	**11 38 45.0**	**+0.1**
DL2	**Dalian**	**6.05**	**199**	*i* Pn	**Pn**	**11 38 49.2**	**+0.5**
DL2				Sn	**Sn**	**11 39 56.5**	**-1.6**
DL2				smax	smax		
	comp=N,220nm,0.9s						
DL2				smax	smax		
	comp=E,380nm,1.0s						
DL2				LR	LR		
	comp=N,800nm,9.6s						
DL2				LR	LR		
	comp=E,2μm,9.8s						
DL2				LR	LR		
	comp=Z,950nm,9.1s						
KLR	**Kul'dur**	**6.91**	**46**	*i* P	**Pn**	**11 39 01.8**	**+1.3**
KLR	**Kul'dur**	**6.91**	**46**	Pn	**Pn**	**11 39 00.4**	**-0.1**
	2.7nm,0.3s,baz=228,slow=11,SNR=21						
KLR				Pg	Pb	11 39 26.2	+6.9
	7.5nm,0.3s,baz=238,slow=15,SNR=12						
KLR				Lg	Lg	11 40 58.3	
	18nm,0.3s,baz=352,slow=23,SNR=5.7						
BJI	**Beijing**	**7.51**	**235**	Pg	**Pg**	**11 39 39.3**	**-3.6**
BJI				Sg	Sg	11 41 11.3	-8.8
BJI				smax	smax		
	comp=N,360nm,0.7s						
BJI				smax	smax		
	comp=E,400nm,1.1s						
BJT	**Baijiatuau**	**7.53**	**235**	P	**Pn**	**11 39 10.3**	**+1.3**
BJT	**Baijiatuau**	**7.53**	**235**		**Pn**	**11 39 10.3**	**+1.3**
KS19	**Wonju Array Si**	**7.67**	**157**		**Pn**	**11 39 12.6**	**+1.6**
KSRS	**Korea Array**	**7.73**	**157**	Pn	**Pn**	**11 39 12.6**	**+0.8**
	comp=E,2.0nm,0.3s,baz=343,slow=13,SNR=45						
KSRS				Pg	Pb	11 39 40.5	+7.2
	comp=E,2.9nm,0.3s,baz=332,slow=16,SNR=10						
KSRS				Lg	Lg	11 41 24.9	
	comp=E,13nm,0.3s,baz=59,slow=20,SNR=11						
KSAR	**Wonju Array Be**	**7.74**	**158**	P	**Pn**	**11 39 11.7**	**-0.1**
KSAR	**Wonju Array Be**	**7.74**	**158**		**Pn**	**11 39 11.7**	**-0.1**
TJN	**Taejon**	**8.62**	**163**	*i* P	**Pn**	**11 39 23.6**	**-0.4**
ZEA	**Zeya**	**9.31**	**11**	*e*P	**Pn**	**11 39 32.2**	**-1.1**
ZEA				*e*		11 41 24.8	
ZEA				pmax	pmax		
	comp=Z,24nm,0.6s						
ZEA				smax	smax		
	comp=N,58nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,1μm,8.0s						
ZEA				MLR	MLR		
	comp=N,1μm,9.0s						
TIA	**Tai'an**	**10.00**	**215**	P	**Pn**	**11 39 43.2**	**+0.3**
TIA				pmax	pmax		
	comp=N,6.0nm,0.6s						
TIA				LR	LR		
	comp=N,230nm,7.1s						
TIA				LR	LR		
	comp=N,390nm,10.7s						
TIA				LR	LR		
	comp=N,300nm,8.5s						
HHC	**Hu-ho-hao-te**	**10.03**	**252**	*e*P	**Pn**	**11 39 41.4**	**-1.9**
HHC				S	**Sn**	**11 41 33.8**	**-2.1**
HHC				pmax	pmax		
	comp=N,6.0nm,1.2s						
GRNR	**Gornyy**	**10.26**	**49**	*e*P	**Pn**	**11 39 48.6**	**+2.2**
GRNR				*e*S	**Sn**	**11 41 42.6**	**+1.1**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				MLR	MLR		
	comp=Z,700nm,15.0s						
ULN	**Ulaanbaatar**	**12.28**	**291**	*i* P	**Pn**	**11 40 15.7**	**+1.6**
ULN	**Ulaanbaatar**	**12.28**	**291**	Pn	**Pn**	**11 40 12.6**	**-1.5**
JNU	**Nakatsue**	**12.64**	**153**	Lg	Lg	11 44 08.0	
	comp=Z,0.3nm,0.3s,baz=289,slow=22,SNR=7.7						
SONM	**Songino Array**	**12.71**	**291**	P	**Pn**	**11 40 18.4**	**-1.6**
SONM	**Songino Array**	**12.71**	**291**	Sn	Sn	11 42 31.5	-10
	comp=Z,0.4nm,0.3s,baz=108,slow=18,SNR=3.6						
SONM				Lg	Lg	11 44 03.1	
	comp=Z,1.8nm,0.3s,baz=95,slow=28,SNR=7.9						
SONM				LR	LR	11 45 55.8	
	comp=Z,176nm,18.4s,baz=64,slow=40						
SONM	**Songino Array**	**12.71**	**291**	Pn	**Pn**	**11 40 18.4**	**-1.6**
ASAJ	**Asahikawa**	**13.19**	**86**	LR	LR	11 45 21.4	
	comp=Z,265nm,18.9s,baz=339,slow=36						
NJ2	**Nanjing**	**13.26**	**200**	*e*P	**Pn**	**11 40 27.2**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				LR	LR		
	comp=Z,530nm,9.5s						
NJ2				LR	LR		
	comp=Z,710nm,10.7s						
NJ2				LR	LR		
	comp=Z,620nm,11.4s						
MAJO	**Matsushiro**	**13.38**	**122**	*i* P	**Pn**	**11 40 29.3**	**+0.2**
MAT	**Matsushiro**	**13.38**	**122**	P	**P**	**11 40 40.5**	**+1.8**
MJAR	**Matsushiro Arr**	**13.38**	**122**	LR	LR	11 45 09.3	
	comp=Z,105nm,18.2s,baz=335,slow=35						
BOD	**Bodaibo**	**14.61**	**338**	*e*P	**P**	**11 40 53.0**	**+0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,2.3s						
ZAK	**Zakamensk**	**15.21**	**300**	*e*P	**P**	**11 41 01.2**	**+2.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TLY	**Talaya**	**15.36**	**304**	*e*P	**P**	**11 41 03.3**	**+2.6**
TLY				pmax	pmax		
	comp=Z,20nm,0.9s						
TLY				MLR	MLR		
	comp=Z,442nm,8.0s						
TLY	**Talaya**	**15.36**	**304**	Pn	**P**	**11 41 00.6**	**0.0**
	comp=Z,0.0nm,0.3s,baz=336,slow=7.6,SNR=2.7						
TLY				Lg	Lg	11 45 30.1	
	comp=Z,0.0nm,0.3s,baz=225,slow=20,SNR=6.9						
TLY	**Talaya**	**15.36**	**304**		**Pn**	**11 40 55.8**	**-0.1**
XAN	**Xi'an**	**15.84**	**233**	P	**Pn**	**11 41 03.2**	**+1.0**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN	**Xi'an**	**15.84**	**233**	Pn	**Pn**	**11 41 03.2**	**+1.0**
WHN	**Wuhan**	**16.08**	**212**	P	**Pn**	**11 41 07.1**	**+1.8**
LZH	**Lanzhou**	**17.67**	**248**	*e*P	**P**	**11 41 27.0**	**+0.6**
LZH				pP	pP	11 41 30.5	+1.2
LZH				sP	sP	11 41 34.2	+3.6
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,220nm,4.9s						
LZH				LR	LR		
	comp=Z,760nm,10.8s						
LZH				LR	LR		
	comp=Z,560nm,11.0s						
LZH				LR	LR		
	comp=Z,780nm,13.7s						
YAK	**Yakutsk**	**17.70**	**9**	*e*P	**Pn**	**11 41 25.4**	**-0.1**
YAK				*e*S	**Sn**	**11 44 43.3**	**+0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,95nm,2.3s						
YAK				pmax	pmax		
	comp=N,157nm,2.8s						
YAK				pmax	pmax		
	comp=E,73nm,2.8s						
YAK				smax	smax		
	comp=E,139nm,4.0s						
YAK				smax	smax		
	comp=N,251nm,3.8s						
YAK				MLR	MLR		
	comp=Z,111nm,14.0s						
YAK				MLR	MLR		
	comp=N,122nm,19.0s						
YAK				MLR	MLR		
	comp=E,54nm,18.0s						
YAK	**Yakutsk**	**17.70**	**9**	Lg	Lg	11 46 46.8	
	comp=E,0.1nm,0.3s,baz=81,slow=19,SNR=6.3						
YAK	**Yakutsk**	**17.70**	**9**		**Pn**	**11 41 25.9**	**+0.4**
GTA	**Gaotai**	**18.81**	**262**	*e*P	**Pn**	**11 41 40.4**	**+1.0**
GTA				pP	sP	11 41 44.6	+1.4
GTA				sP	pP	11 41 47.6	+5.8
GTA				S	**Sn**	**11 45 09.3**	**-0.6**
GTA				pmax	pmax		
	comp=E,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=E,130nm,6.5s						
GTA				LR	LR		
	comp=E,280nm,11.7s						
GTA				LR	LR		
	comp=E,630nm,11.7s						
GTA				LR	LR		
	comp=E,560nm,12.1s						
YHNB	**Yeheng**	**20.07**	**187**	P	**P**	**11 41 52.9**	**+0.1**
YHNB				IAmb	IAmb	11 41 57.7	
	comp=Z,36nm,0.8s						
CD2	**Chengdu**	**21.11**	**236**	P	**P**	**11 42 02.9**	**-1.0**
CD2				S	**S**	**11 45 57.3**	**-1.5**
CD2				pmax	pmax		
	comp=Z,80nm,1.0s						
CD2				LR	LR		
	comp=Z,500nm,10.7s						
CD2				LR	LR		
	comp=Z,590nm,12.8s						
CD2				LR	LR		
	comp=Z,430nm,9.3s						
PETK	**Petropavlovsk-**	**23.43**	**57**	P	**P**	**11 42 28.9**	**+0.6**
PETK	**Petropavlovsk-**	**23.43**	**57**	P	**P**	**11 42 29.5**	**+1.3**
	comp=Z,8.6nm,1.0s,baz=260,slow=8.3,SNR=2.8						
PETK				LR	LR	11 52 43.7	
	comp=Z,133nm,19.6s,baz=241,slow=39						
PETK	**Petropavlovsk-**	**23.43**	**57**	P	**P**	**11 42 28.9**	**+0.6**
SEY	**Seymchan**	**24.41**	**32**	P	**P**	**11 42 38.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=176,slow=5.9,SNR=6.2						
WMQ	**Urumqi**	**26.02**	**281**	*e*P	**P**	**11 42 53.6**	**+1.3**
WMQ				pP	pP	11 42 56.1	+0.7
WMQ				sP	sP	11 43 00.8	+4.1
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,5.3s						
WMQ				LR	LR		
	comp=Z,280nm,10.3s						
WMQ				LR	LR		
	comp=Z,380nm,14.5s						
WMQ				LR	LR		
	comp=Z,240nm,14.5s						
WMQ	**Urumqi**	**26.02**	**281**	P	**P**	**11 42 53.0**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,12nm,0.5s						
WMQ	**Urumqi**	**26.02**	**281**	P	**P**	**11 42 53.0**	**+0.7**
KMI	**Kunming**	**26.11**	**229**	P	**P**	**11 42 54.2**	**+0.7**
KMI				pP	pP	11 42 56.7	+0.1
KMI				sP	sP	11 43 01.2	+3.4
KMI				PP	**PnPn**	**11 43 33.0**	**+1.4**
KMI				S	**S**	**11 47 21.5**	**-3.6**
KMI				sS	sS	11 47 39.2	+9.0
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				pmax	pmax		
	comp=Z,85nm,4.0s						
KMI				LR	LR		
	comp=Z,320nm,14.8s						
KMI				LR	LR		
	comp=Z,310nm,13.9s						
KMI				LR	LR		
	comp=Z,990nm,23.4s						
ZALV	**Zalesovo Beam**	**26.98**	**304**	*i* P	**P**	**11 43 02.4**	**+1.6**
ZALV	**Zalesovo Beam**	**26.98**	**304**	P	**P**	**11 43 00.7**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=100,slow=7.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**26.98**	**304**	P	**P**	**11 43 00.4**	**-0.4**
TIXI	**Tiksi**	**27.16**	**3**	*c*eP	**P**	**11 43 01.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,29nm,1.7s						
TIXI	**Tiksi**	**27.16**	**3**	P	**P**	**11 43 02.0**	**-0.2**
	comp=Z,12nm,0.8s,baz=188,slow=5.6,SNR=25						
TIXI	**Tiksi**	**27.16**	**3**	P	**P**	**11 43 02.3**	**+0.1**
TIXI				IAmb	IAmb	11 43 05.1	
	comp=Z,12nm,0.8s						
QIZ	**Qiongzhong**	**28.22**	**210**	P	**P**	**11 43 13.5**	**+1.3**
QIZ				S	**S**	**11 47 59.4**	**+1.5**
QIZ				LR	LR		
	comp=Z,290nm,12.3s						
QIZ				LR	LR		
	comp=Z,170nm,11.6s						
MK31	**Makanchi Array**	**29.07**	**289**	*i* P	**P**	**11 43 20.1**	**+0.5**
MKAR	**Makanchi Array**	**29.07**	**289**	P	**P**	**11 43 19.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=82,slow=11,SNR=10						
MKAR				PcP	**PcP**	**11 46 27.0**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=66,slow=0.5,SNR=4.7						
MKAR				LR	LR	11 55 46.3	
	comp=Z,124nm,18.4s,baz=90,slow=38						
MKAR	**Makanchi Array**	**29.07**	**289**	P	**P**	**11 43 19.1**	**-0.5**
KURK	**Kurchatov**	**30.86**	**298**	P	**P**	**11 43 36.1**	**+0.7**
KURK						11 46 30.5	
KURK	**Kurchatov**	**30.86**	**298**	P	**P**	**11 43 35.2**	**-0.2**
KURK				IAmb	IAmb	11 43 37.9	
	comp=Z,6.3nm,0.8s						
KURBB	**Kurchatov Arra**	**30.93**	**298**	P	**P**	**11 43 36.1**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=84,slow=9.7,SNR=18						
KURBB				PcP	**PcP**	**11 46 30.5**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=80,slow=2.5,SNR=5.8						
BILL	**Bilibino**	**31.98**	**28**	*e*P	**P**	**11 43 47.2**	**+2.2**
BILL				*e*		11 44 49.8	
BILL				PPP	PPP	11 45 03.0	
BILL				*e*		11 46 34.3	
BILL				S	**S**	**11 48 49.0**	**-7.1**
BILL				pmax	pmax		
	comp=Z,12nm,2.0s						
BILL				MLR	MLR		
	comp=Z,174nm,18.0s						
SHL	**Shillong**	**32.27**	**245**	P	**P**	**11 43 47.9**	**-0.3**
SHL	**Shillong**	**32.27**	**245**	P	**P**	**11 43 47.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**33.57**	**227**	P	**P**	**11 43 59.7**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=36,slow=8.0,SNR=4.5						
CMAR				LR	LR	11 59 51.7	
	comp=Z,72nm,19.8s,baz=176,slow=40						
CMAR	**Chiang Mai Arr**	**33.57**	**227**	P	**P**	**11 43 59.4**	**0.0**
AAK	**Ala-Archa**	**35.56**	**285**	*c*eP	**P**	**11 44 16.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s						
AAK	**Ala-Archa**	**35.56**	**285**	P	**P**	**11 44 16.7**	**0.0**
AAK				IAmb	IAmb	11 44 20.7	
	comp=Z,7.3nm,0.9s						
BVAR	**Borovoye Array**	**35.62**	**303**	P	**P**	**11 44 17.0**	**+0.2**
BVAR	**Borovoye Array**	**35.62**	**303**	P	**P**	**11 44 17.0**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=90,slow=7.6,SNR=12						
BRVK	**Borovoye**	**35.67**	**303**	*i* P	**P**	**11 44 17.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**35.67**	**303**	P	**P**	**11 44 17.2**	**-0.1**
BRVK				IAmb	IAmb	11 44 20.1	
	comp=Z,6.4nm,1.0s						
KSH	**Kashi**	**35.72**	**279**	P	**P**	**11 44 22.6**	**+4.6**
KSH				PcP	**PcP**	**11 46 49.4**	**+3.4**
KSH				S	**S**	**11 50 00.0**	**+5.2**
KSH				PcS	**PcS**	**11 50 35.4**	**+2.1**
KSH				SS	**SnSn**	**11 52 21.7**	**+5.5**
KSH				pmax	pmax		
	comp=Z,230nm,6.2s						
KSH				LR	LR		
	comp=Z,200nm,12.8s						
KSH				LR	LR		
	comp=Z,220nm,10.2s						
KSH				LR	LR		
	comp=Z,120nm,10.6s						
KK31	**Karatay Array**	**38.13**	**287**	P	**P**	**11 44 38.1**	**-0.2**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KK31	**Karatay Array**	**38.13**	**287**	P	**P**	**11 44 38.1**	**-0.2**
KKAR	**Karatay Array**	**38.13**	**287**	P	**P**	**11 44 38.4**	**+0.1**
KKAR	**Karatay Array**	**38.13**	**287**	P	**P**	**11 44 38.4**	**+0.1**
BTK	**Batken**	**39.11**	**283**	IAmb	IAmb	11 44 50.1	
	comp=Z,8.3nm,0.9s						
NIL	**Nilore**	**40.40**	**272**	P	**P**	**11 44 57.2**	**-0.2**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NIL	**Nilore**	**40.40**	**272**	P	**P**	**11 44 57.2**	**-0.2**
NIL				IAmb	IAmb	11 45 01.6	
	comp=Z,7.8nm,1.1s						
ARU	**Arti**	**41.74**	**311**	*d* iP	**P**	**11 45 08.5**	**+0.4**
ARU						11 46 41.4	
ARU				S	**S**	**11 51 26.1**	**+1.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**41.74**	**311**	P	**P**	**11 45 08.8**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=90,slow=4.8,SNR=5.8						
ARU	**Arti**	**41.74**	**311**	P	**P**	**11 45 07.5**	**-0.6**
ABKAR	**Akbulak array**	**42.91**	**300**	P	**P**	**11 45 17.4**	**-0.3**
ABKAR	**Akbulak array**	**42.91**	**300**	IAmb	IAmb	11 45 20.4	
	comp=Z,4.9nm,1.0s						
AKTO	**Aktyubinsk**	**43.70**	**302**	P	**P**	**11 45 24.1**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=70,slow=6.7,SNR=5.8						
PRGR	**Permogore**	**46.91**	**320**	*e*P	**P**	**11 45 48.6**	**-0.8**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
IMAR	**Indian Mountai**	**47.20**	**34**	P	**P**	**11 45 51.2**	**-0.5**
PSI	**Prapat**	**47.26**	**215**	LR	LR	12 06 54.7	
	comp=Z,107nm,19.2s,baz=340,slow=38						
KLMR	**Klimovskoe**	**49.96**	**320**	*e*P	**P**	**11 46 08.7**	**-4.2**
KLMR				pmax	pmax		
	comp=Z,18nm,1.5s						
KLMR	**Klimovskoe**	**49.96**	**320**	*e*P	**P**	**11 46 08.7**	**-4.2**
KLMR				AMP		11 46 23.3	
	comp=Z,18nm,1.5s						
ILAR	**Eielson Array**	**50.31**	**34**	P	**P**	**11 46 16.0**	**+0.4**
ILAR	**Eielson Array**	**50.31**	**34**	P	**P**	**11 46 15.0**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=286,slow=6.7,SNR=14						
ILAR	**Eielson Array**	**50.31**	**34**	P	**P**	**11 46 16.0**	**+0.4**
KDAK	**Kodiak Island**	**50.47**	**44**	P	**P**	**11 46 16.5**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,113nm,1.5s						
KDAK	**Kodiak Island**	**50.47**

INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**53.58**	**27**	P	**P**	**11 46 39.8**	**0.0**
	comp=Z,4.0nm,0.6s,baz=318,slow=6.6,SNR=13						
INK	**Inuvik**	**53.58**	**27**	P	**P**	**11 46 40.1**	**+0.4**
INK				IAmb	IAmb	11 46 42.9	
	comp=Z,4.2nm,0.7s						
VSR	**Storozhevoye**	**54.29**	**310**	*i* P	**P**	**11 46 46.1**	**+0.8**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FINES	**FINESS Array B**	**55.53**	**325**	P	**P**	**11 46 54.2**	**+0.2**
	comp=Z,5.3nm,0.6s,baz=64,slow=6.5,SNR=14						
FINES				PcP	**PcP**	**11 47 54.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=53,slow=5.4,SNR=3.4						
NCK	**Nalchik**	**55.57**	**299**	*i* P	**P**	**11 46 54.8**	**+0.1**
NCK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBZ	**Khabaz**	**55.88**	**300**	*e*P	**P**	**11 46 57.7**	**+0.9**
KIV	**Kislovodsk**	**55.89**	**300**	*e*P	**P**	**11 46 57.2**	**+0.1**
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KIV				MLR	MLR		
	comp=Z,168nm,17.0s						
RES	**Resolute Bay**	**58.12**	**11**	P	**P**	**11 47 12.6**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=331,slow=10,SNR=5.6						
RES	**Resolute Bay**	**58.12**	**11**	P	**P**	**11 47 12.5**	**+0.3**
AKASG	**Malin Array Be**	**59.90**	**313**	P	**P**	**11 47 24.5**	**-0.5**
	comp=Z,6.0nm,0.6s,baz=48,slow=7.4,SNR=26						
AKASG	**Malin Array Be**	**59.90**	**313**	P	**P**	**11 47 25.1**	**+0.1**
AKBB	**Malin Array Si**	**59.90**	**313**	P	**P**	**11 47 24.7**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKBB	**Malin Array Si**	**59.90**	**313**	P	**P**	**11 47 24.7**	**-0.3**
KNRA	**Kununurra**	**60.19**	**175**	P	**P**	**11 47 25.9**	**-1.3**
NB2	**NORSAR Subarra**	**61.55**	**329**	P	**P**	**11 47 35.4**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=49,slow=6.9						
NOA	**NORSAR Array B**	**61.55**	**329**	P	**P**	**11 47 35.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=56,slow=7.1,SNR=8.5						
FITZ	**Fitzroy Crossi**	**62.47**	**178**	P	**P**	**11 47 41.5**	**-1.1**
	comp=Z,3.0nm,0.6s,baz=326,slow=6.7,SNR=11						
FITZ	**Fitzroy Crossi**	**62.47**	**178**	P	**P**	**11 47 41.7**	**-0.8**
FITZ				IAmb	IAmb	11 47 42.2	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	**63.34**	**26**	P	**P**	**11 47 47.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=310,slow=7.1,SNR=2.1						
TLCR		**63.38**	**308**	⇑P	**P**	**11 47 49.8**	**+1.3**
TLCR		**63.38**	**308**	⇑P	**P**	**11 47 49.8**	**+1.3**
BIZ	**Bicaz**	**63.80**	**311**	⇑P	**P**	**11 47 53.1**	**+1.8**
TOPG	**Topolog**	**63.81**	**308**	⇑P	**P**	**11 47 52.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**63.85**	**312**	P	**P**	**11 47 52.1**	**+0.3**
BRTR	**Keskin Array B**	**63.85**	**301**	P	**P**	**11 47 51.6**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=57,slow=5.3,SNR=7.0						
BRTR	**Keskin Array B**	**63.85**	**301**	P	**P**	**11 47 51.7**	**-0.2**
BURAR	**Bucovina Array**	**63.86**	**312**	⇑P	**P**	**11 47 53.4**	**+1.6**
BURAR	**Bucovina Array**	**63.86**	**312**	⇑P	**P**	**11 47 53.4**	**+1.6**
BURAR	**Bucovina Array**	**63.86**	**312**	P	**P**	**11 47 51.9**	**+0.2**
VRI	**Vrincioaia**	**64.12**	**310**	⇑P	**P**	**11 47 54.6**	**+1.2**
VRI	**Vrincioaia**	**64.12**	**310**	⇑P	**P**	**11 47 54.6**	**+1.2**
PLOR	**Plostina**	**64.17**	**310**	⇑P	**P**	**11 47 55.0**	**+1.2**
PLOR	**Plostina**	**64.17**	**310**	⇑P	**P**	**11 47 55.0**	**+1.2**
KOLS	**Kolonicke sedl**	**64.56**	**314**	*e*P	**P**	**11 47 56.9**	**+0.6**
KOLS	**Kolonicke sedl**	**64.56**	**314**	*e*P	**P**	**11 47 56.9**	**+0.6**
MLR	**Muntele Rosu**	**64.78**	**310**	⇑P	**P**	**11 47 59.0**	**+1.1**
MLR	**Muntele Rosu**	**64.78**	**310**	⇑P	**P**	**11 47 59.0**	**+1.1**
MLR	**Muntele Rosu**	**64.78**	**310**	IAmb	IAmb	11 48 01.8	
	comp=Z,3.7nm,0.7s						
TRPA	**Tarpa**	**64.94**	**314**	⇑P	**P**	**11 47 59.9**	**+1.2**
WRA	**Warramunga Arr**	**64.95**	**169**	P	**P**	**11 47 57.9**	**-1.1**
WRA	**Warramunga Arr**	**64.95**	**169**	P	**P**	**11 47 57.5**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=353,slow=7.2,SNR=34						
WRA	**Warramunga Arr**	**64.95**	**169**	P	**P**	**11 47 57.9**	**-1.1**
WB2	**Warramunga Arr**	**64.96**	**169**	P	**P**	**11 47 57.8**	**-1.2**
WB2				IAmb	IAmb	11 47 58.7	
	comp=Z,5.0nm,0.8s						
MTUR	**Matau**	**65.43**	**310**	⇓P	**P**	**11 48 04.1**	**+2.0**
MTUR	**Matau**	**65.43**	**310**	⇓P	**P**	**11 48 04.1**	**+2.0**
ARR	**Arges**	**65.58**	**310**	⇑P	**P**	**11 48 04.2**	**+1.2**
DRGR		**65.70**	**312**	⇑P	**P**	**11 48 04.9**	**+1.1**
DRGR		**65.70**	**312**	⇑P	**P**	**11 48 04.9**	**+1.1**
MORC	**Moravsky Berou**	**66.36**	**317**	IAmb	IAmb	11 48 11.3	
	comp=Z,6.3nm,1.0s						
DPC	**Dobruska-Polom**	**66.56**	**318**	*e*P	**P**	**11 48 10.6**	**+1.4**
DPC	**Dobruska-Polom**	**66.56**	**318**	*e*P	**P**	**11 48 10.6**	**+1.4**
GZR	**Gura Zlata**	**66.57**	**311**	⇑P	**P**	**11 48 09.7**	**+0.3**
GZR	**Gura Zlata**	**66.57**	**311**	⇑P	**P**	**11 48 09.7**	**+0.3**
UPC	**Upice**	**66.61**	**319**	*e*P	**P**	**11 48 12.3**	**+2.9**
UPC	**Upice**	**66.61**	**319**	*e*P	**P**	**11 48 12.3**	**+2.9**
CLL	**Collm**	**67.45**	**321**	*i* P	**P**	**11 48 14.2**	**-0.6**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	**Collm**	**67.45**	**321**	*i* P	**P**	**11 48 14.2**	**-0.6**
	comp=Z,7.0nm,0.8s						
VTS	**Vitosha**	**68.12**	**309**	P	**P**	**11 48 19.3**	**-0.1**
VTS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VTS	**Vitosha**	**68.12**	**309**	P	**P**	**11 48 19.3**	**-0.1**
ASAR	**Alice Springs**	**68.57**	**170**	P	**P**	**11 48 21.1**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=354,slow=5.8,SNR=12						
KHC	**Kasperske Hory**	**68.70**	**319**	P	**P**	**11 48 23.2**	**+0.5**
KHC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KHC	**Kasperske Hory**	**68.70**	**319**	*e*P	**P**	**11 48 23.0**	**+0.3**
KHC				*e*pP	**pP**	**11 48 25.3**	**-0.7**
KHC	**Kasperske Hory**	**68.70**	**319**	P	**P**	**11 48 23.2**	**+0.5**
KHC				IAmb	IAmb	11 48 26.2	
	comp=Z,1.8nm,0.7s						
GERES	**GERESS Array B**	**68.84**	**318**	P	**P**	**11 48 23.8**	**+0.1**
GERES	**GERESS Array B**	**68.84**	**318**	P	**P**	**11 48 23.5**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=44,slow=5.9,SNR=7.0						
GERES	**GERESS Array B**	**68.84**	**318**	P	**P**	**11 48 23.8**	**+0.1**
BCLA	**Clavier**	**71.46**	**324**	P	**P**	**11 48 41.3**	**+1.8**
BCLA	**Clavier**	**71.46**	**324**	PcP	**PcP**	**11 48 56.4**	**-2.7**
TUE	**Stuetta**	**72.59**	**319**	IAmb	IAmb	11 48 49.8	
	comp=Z,5.5nm,0.9s						
NRCA	**Norcia**	**73.39**	**314**	IAmb	IAmb	11 48 54.7	
	comp=Z,7.6nm,1.0s						
STKA	**Stephens Creek**	**77.81**	**165**	P	**P**	**11 49 15.1**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=343,slow=11,SNR=3.5						
ULM	**Lac du Bonnet**	**79.26**	**25**	P	**P**	**11 49 23.6**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=307,slow=6.8,SNR=3.2						
SNAA	**Sanae**	**143.17**	**205**	PKPdf	PKPab	11 56 48.7	+0.9
VNA2	**Neumayer--Watz**	**144.81**	**205**	PKPdf	**PKPab**	**11 56 53.2**	**-0.8**
	baz=93,slow=2.6						
VNA1	**Neumayer--Stat**	**145.18**	**206**	PKPdf	**PKPbc**	**11 56 54.3**	**-0.9**
VNA3	**Neumayer Olymp**	**145.36**	**204**	PKPdf	**PKPbc**	**11 56 54.5**	**-1.3**
LPAZ	**La Paz**	**149.87**	**24**	PKPbc	**PKPbc**	**11 57 09.1**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=281,slow=5.2,SNR=4.4						

BJI **08** *11:38:54.8±0.0,* **44°64N×124°10E,h12**^{km}**,mb4.5/3, mB4.5/2,ML4.5/6,Ms4.1/4,Ms7 4.0/4,1D,Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.28**	**130**	*e*Pg	Pn	11 39 17.4	-1.1
CN2				*e*Sg	Sb	11 39 34.0	-1.3
CN2				smax	smax		
	comp=N,13μm,0.6s						
CN2				smax	smax		
	comp=E,8μm,0.6s						
SNY	**Shenyang**	**2.84**	**188**	Pn	Pb	11 39 44.6	-0.7
SNY				⇓Pg	Pg	11 39 47.8	-1.3
SNY				Sn	Sn	11 40 13.4	-0.5
SNY				Sg	Sb	11 40 21.7	+1.7
SNY				smax	smax		
	comp=N,620nm,0.5s						
SNY				smax	smax		
	comp=E,1μm,0.5s						
DL2	**Dalian**	**6.02**	**199**	*e*Pn	Pn	11 40 23.9	+0.3
DL2				*e*Sn	Sn	11 41 34.0	+1.6
DL2				smax	smax		
	comp=N,190nm,0.8s						
DL2				smax	smax		
	comp=E,220nm,0.7s						
DL2				LR	LR		
	comp=N,930nm,7.7s						
DL2				LR	LR		
	comp=E,570nm,5.3s						
DL2				LR	LR		
	comp=Z,370nm,7.8s						
GTA	**Gaotai**	**18.75**	**262**	*e*P	P	11 43 13.7	0.0
GTA				pP	sP	11 43 18.2	-0.5
GTA				sP	pP	11 43 20.9	+3.8
GTA				S	Sn	11 46 43.5	-0.3
GTA				pmax	pmax		
	comp=Z,79nm,5.1s						
GTA				LR	LR		
	comp=N,280nm,11.7s						
GTA				LR	LR		
	comp=Z,560nm,11.4s						
WMQ	**Urumqi**	**25.97**	**281**	*e*P	P	11 44 27.8	+0.6
WMQ				pP	sP	11 44 32.1	-0.3
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,59nm,3.8s						
WMQ				LR	LR		
	comp=N,370nm,10.1s						
WMQ				LR	LR		
	comp=Z,280nm,13.7s						

EST **08** *11:44:24.0±0.2,59°.25N×27°.81E,h0*^{km}*,ML1.2(HEL), Explosion*

LVSN 08 11:44:22.8±3.8,59°.11N×28°.22E,h0^{km}**±45**^{km}**,ML1.6, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**1.01**	**231**	*e*S	Sg	11 44 53.3	-1.7
VSU				AML	AML	11 45 00.6	
	comp=E,38nm,0.4s						
VSU				AML	AML	11 45 06.6	
	comp=N,40nm,0.5s						
VSU				AML	AML	11 45 15.3	
	comp=Z,24nm,0.8s						
VSU	**Vasula**	**1.01**	**231**	*e*P	Pg	11 44 41.2	-0.8
ARBE	**Arbavere**	**1.19**	**287**	*e*PB	Pg	11 44 41.4	-4.2
VJF	**Virojoki**	**1.48**	**347**	*e*P	Pn	11 44 47.4	-3.1
VJF				*e*SB	Sg	11 45 04.8	-5.3
VJF				MSG		11 45 08.2	
	comp=Z,1.6nm,0.1s						
PVF	**Pernaja**	**1.87**	**322**	*e*PG	Pn	11 44 53.2	-2.7
PVF				*e*S	Sn	11 45 13.9	-6.3
PVF				MSG		11 45 17.9	
	comp=Z,1.5nm,0.1s						
MEF	**Metsahovi**	**2.23**	**302**	*e*P	Pn	11 44 59.4	-1.6
MEF				*e*S	Sn	11 45 24.6	-4.6
MEF				AML	AML	11 45 25.6	
	comp=N,6.5nm,0.3s						
MEF				AML	AML	11 45 26.2	
	comp=E,4.5nm,0.8s						
MEF				AML	AML	11 45 26.6	
	comp=Z,4.8nm,0.5s						
MEF	**Metsahovi**	**2.23**	**302**	MSG		11 45 25.8	
	comp=Z,1.1nm,0.1s						
NUR	**Nurmijrvi**	**2.29**	**309**	*e*PG	Pn	11 45 00.3	-1.5
NUR				*e*SG	Sn	11 45 26.7	-3.8
MTSE	**Matsula**	**2.32**	**262**	*e*P	Pn	11 45 01.1	-1.0
MTSE				*e*S	Sn	11 45 29.5	-1.8
MTSE	**Matsula**	**2.32**	**262**	*e*PB	Pn	11 45 01.7	-0.4
MTSE				*e*SG	Sn	11 45 29.9	-1.4
SLIT	**Slitere, Latvi**	**3.46**	**247**	*e*P	Pn	11 45 15.0	-2.8

MOS **08** *11:44:55.8±0.9,50°.17N×129°.97W,h10*^{km}*,mb5.1/24, Error ellipse: s-maj=11.1km s-min=5.1km az=121.8*
PGC **08** *11:44:56.1±3.6,50°.04N×130°.19W,h10*^{km}*,ML3.8/39, MLSn3.8/39,Mw4.4/39,210km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
NEIC **08** *11:44:56.8±1.7,50°.10N±0°.06×130°.13W±0°.08,h10*^{km}*±2*^{km}
ISCJB **08** *11:44:56.7±0.2,50°.23N±0°.01×129°.91W±0°.03,h10*^{km}*, mb4.6/44,MS4.2/33,Error ellipse: s-maj=2.8km s-min=1.5km az=148.0*
BJI **08** *11:44:57.0±0.0,50°.30N×129°.70W,h5*^{km}*,mb4.7/23, mB5.1/13,Ms5.0/10,Ms7 4.7/10*
IDC **08** *11:44:58.2±0.7,50°.22N×130°.03W,h0*^{km}*,mb4.3/16, mb1 4.4/25,mb1mx4.3/58,mbtmp4.3/25,ML3.9/9,MS4.1/33, Ms1 4.1/33,ms1mx4.0/43,Error ellipse: s-maj=13.4km s-min=9.6km az=50.0*
GCMT **08** *11:44:59.2±0.2,50°.00N±0°.02×130°.24W±0°.02,h16*^{km}*±1*^{km}*, MW5.0/106,Moment Tensor Solution. s36,c41; s106,c163; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr-1.68±.17; Mθθ-2.83±.12; Mϕϕ4.51±.13; Mrθ-0.72±.41; Mθϕ0.55±.10; Mϕr-1.02±.30; Best double couple: M0 3.95300×10*^{16} *NP1:φs45.00000°,δ79.00000°, λ-25.00000°. NP2:φs140.00000°,δ65.00000°, λ-168.00000°. Principal axes: T 4.7310, Plg10.0000°, Azm95.0000°; N -1.5550, Plg63.0000°, Azm204.0000°; P -3.1750, Plg25.0000°, Azm0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 11:44:58.7±0.4,50°.17N±0°.04×129°.92W±0°.04,h10^{km}**, n879,σ1§44/882,mb4.9/69,MS4.1/33,4D,Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.24**	**67**	Pn	**Pn**	**11 45 20.4**	**-1.7**
HOLB				Sn	**Sb**	**11 45 33.3**	**-4.9**
HOLB	**Holberg**	**1.24**	**67**	Pn	**Pn**	**11 45 20.4**	**-1.7**
HOLB				Sn	**Sb**	**11 45 33.3**	**-4.9**
HOLB	**Holberg**	**1.24**	**67**	Pn	**Pn**	**11 45 20.4**	**-1.7**
BPBC	**Brooks Peninsu**	**1.38**	**90**	Pn	**Pn**	**11 45 21.2**	**-2.9**
BPBC	**Brooks Peninsu**	**1.38**	**90**	Pn	**Pn**	**11 45 21.2**	**-2.9**
BPBC	**Brooks Peninsu**	**1.38**	**90**	Pn	**Pn**	**11 45 21.2**	**-2.9**
PACB	**Port Alice, BC**	**1.58**	**79**	Pn	**Pn**	**11 45 24.6**	**-2.1**
PACB	**Port Alice, BC**	**1.58**	**79**	Pn	**Pn**	**11 45 24.6**	**-2.1**
PACB	**Port Alice, BC**	**1.58**	**79**	Pn	**Pn**	**11 45 24.6**	**-2.1**
PHC	**Port Hardy**	**1.68**	**70**	Pn	**Pn**	**11 45 26.7**	**-1.4**
PHC				Sn	**Sn**	**11 45 48.0**	**-1.7**
PHC	**Port Hardy**	**1.68**	**70**	Pn	**Pn**	**11 45 26.7**	**-1.4**
PHC				Sn	**Sn**	**11 45 48.0**	**-1.7**
PHC	**Port Hardy**	**1.68**	**70**	Pn	**Pn**	**11 45 26.7**	**-1.4**
MAYB	**Maynard**	**1.78**	**81**	Pn	**Pn**	**11 45 27.5**	**-2.1**
MAYB	**Maynard**	**1.78**	**81**	Pn	**Pn**	**11 45 27.5**	**-2.1**
MAYB	**Maynard**	**1.78**	**81**	Pn	**Pn**	**11 45 27.5**	**-2.1**
EDB	**Eliza Dome**	**1.83**	**98**	Pn	**Pn**	**11 45 27.3**	**-2.8**
EDB	**Eliza Dome**	**1.83**	**98**	Pn	**Pn**	**11 45 27.3**	**-2.8**
EDB	**Eliza Dome**	**1.83**	**98**	Pn	**Pn**	**11 45 27.3**	**-2.8**
WOSB	**Woss**	**2.15**	**89**	Pn	**Pn**	**11 45 33.1**	**-1.6**
WOSB	**Woss**	**2.15**	**89**	Pn	**Pn**	**11 45 33.1**	**-1.6**
WOSB	**Woss**	**2.15**	**89**	Pn	**Pn**	**11 45 33.1**	**-1.6**
NTKA	**Nootka**	**2.21**	**104**	Pn	**Pn**	**11 45 32.5**	**-2.9**
NTKA	**Nootka**	**2.21**	**104**	Pn	**Pn**	**11 45 32.5**	**-2.9**
BBB	**Bella Bella**	**2.31**	**29**	Pn	**Pn**	**11 45 36.0**	**-0.8**
	150nm,0.3s,baz=230,slow=5.6,SNR=3567						
BBB				Sn	**Sn**	**11 46 03.3**	**-2.0**
	180nm,0.3s,baz=318,slow=21,SNR=15						
BBB	**Bella Bella**	**2.31**	**29**	Pn	**Pn**	**11 45 36.0**	**-0.8**
BBB				Sn	**Sn**	**11 46 03.9**	**-1.4**
BBB	**Bella Bella**	**2.31**	**29**	Pn	**Pn**	**11 45 36.0**	**-0.8**
BBB				Sn	**Sn**	**11 46 03.9**	**-1.4**
NCRB	**Newcastle Ridg**	**2.49**	**83**	Pn	**Pn**	**11 45 38.3**	**-1.0**
NCRB	**Newcastle Ridg**	**2.49**	**83**	Pn	**Pn**	**11 45 38.3**	**-1.0**
NCRB	**Newcastle Ridg**	**2.49**	**83**	Pn	**Pn**	**11 45 38.3**	**-1.0**
HG3B	**Hotspring**	**2.59**	**339**	Pn	**Pn**	**11 45 36.5**	**-4.1**
HG3B	**Hotspring**	**2.59**	**339**	Pn	**Pn**	**11 45 36.5**	**-4.1**
HG3B	**Hotspring**	**2.59**	**339**	Pn	**Pn**	**11 45 36.5**	**-4.1**
BNB	**Barry Inlet**	**2.67**	**335**	Pn	Pn	11 45 36.8	-5.0
BNB	**Barry Inlet**	**2.67**	**335**	Pn	Pn	11 45 36.8	-5.0
TOFB	**Tofino**	**2.80**	**110**	Pn	**Pn**	**11 45 44.3**	**+0.8**
TOFB	**Tofino**	**2.80**	**110**	Pn	**Pn**	**11 45 44.3**	**+0.8**
TOFB	**Tofino**	**2.80**	**110**	Pn	**Pn**	**11 45 44.3**	**+0.8**
BTB	**Buttle Lake**	**2.93**	**102**	Pn	**Pn**	**11 45 43.3**	**-2.3**
BTB	**Buttle Lake**	**2.93**	**102**	Pn	**Pn**	**11 45 43.3**	**-2.3**
BTB	**Buttle Lake**	**2.93**	**102**	Pn	**Pn**	**11 45 43.3**	**-2.3**
CBB	**Campbell River**	**2.94**	**91**	Pn	**Pn**	**11 45 44.4**	**-1.0**
CBB	**Campbell River**	**2.94**	**91**	Pn	**Pn**	**11 45 44.4**	**-1.0**
CBB	**Campbell River**	**2.94**	**91**	Pn	**Pn**	**11 45 44.4**	**-1.0**
BCBC	**Bella Coola**	**2.97**	**41**	Pn	**Pn**	**11 45 46.3**	**+0.5**
BCBC				Sn	**Sn**	**11 46 22.4**	**+1.0**
BCBC	**Bella Coola**	**2.97**	**41**	Pn	**Pn**	**11 45 46.3**	**+0.5**
BCBC				Sn	**Sn**	**11 46 22.4**	**+1.0**
BCBC	**Bella Coola**	**2.97**	**41**	Pn	**Pn**	**11 45 46.3**	**+0.5**
BCBC				Sn	**Sn**	**11 46 22.4**	**+1.0**
MWAB	**Mount Washingt**	**3.01**	**96**	Pn	**Pn**	**11 45 45.4**	**-1.2**
MWAB	**Mount Washingt**	**3.01**	**96**	Pn	**Pn**	**11 45 45.4**	**-1.2**
MWAB	**Mount Washingt**	**3.01**	**96**	Pn	**Pn**	**11 45 45.4**	**-1.2**
HG1B	**Mitchell Dam**	**3.09**	**334**	Pn	**Pn**	**11 45 43.2**	**-4.3**
HG1B	**Mitchell Dam**	**3.09**	**334**	Pn	**Pn**	**11 45 43.2**	**-4.3**
HG1B	**Mitchell Dam**	**3.09**	**334**	Pn	**Pn**	**11 45 43.2**	**-4.3**
OZB	**Mount Ozzard**	**3.13**	**111**	Pn	**Pn**	**11 45 47.6**	**-0.4**
OZB	**Mount Ozzard**	**3.13**	**111**	Pn	**Pn**	**11 45 47.6**	**-0.4**
OZB	**Mount Ozzard**	**3.13**	**111**	Pn	**Pn**	**11 45 47.6**	**-0.4**
MOBC	**Moresby Island**	**3.24**	**338**	Pn	**Pn**	**11 45 45.6**	**-4.0**
MOBC	**Moresby Island**	**3.24**	**338**	Pn	**Pn**	**11 45 45.6**	**-4.0**
MOBC	**Moresby Island**	**3.24**	**338**	Sn	**Sn**	**11 46 25.8**	**-2.5**
B928	**Bamfield**	**3.39**	**111**	Pn	**Pn**	**11 45 51.6**	**0.0**
B928	**Bamfield**	**3.39**	**111**	Pn	**Pn**	**11 45 51.6**	**0.0**
B928	**Bamfield**	**3.39**	**111**	Pn	**Pn**	**11 45 51.6**	**0.0**
DIB	**Dawson Inlet,**	**3.43**	**333**	Pn	**Pn**	**11 45 47.5**	**-4.6**
DIB	**Dawson Inlet,**	**3.43**	**333**	Pn	**Pn**	**11 45 47.5**	**-4.6**
DIB	**Dawson Inlet,**	**3.43**	**333**		**Pn**	**11 45 48.3**	**-3.8**
DIB				Sn	**Sn**	**11 46 29.6**	**-3.1**
B927	**Port Alberni**	**3.45**	**104**	Pn	**Pn**	**11 45 51.8**	**-0.6**
B927	**Port Alberni**	**3.45**	**104**	Pn	**Pn**	**11 45 51.8**	**-0.6**
B927	**Port Alberni**	**3.45**	**104**	Pn	**Pn**	**11 45 51.8**	**-0.6**
TXB	**Texada**	**3.57**	**96**	Pn	**Pn**	**11 45 52.7**	**-1.5**
TXB	**Texada**	**3.57**	**96**	Pn	**Pn**	**11 45 52.7**	**-1.5**
TXB	**Texada**	**3.57**	**96**	Pn	**Pn**	**11 45 52.7**	**-1.5**
MGB	**Mount Grey**	**3.60**	**107**	Pn	**Pn**	**11 45 51.3**	**-3.3**
MGB	**Mount Grey**	**3.60**	**107**	Pn	**Pn**	**11 45 51.3**	**-3.3**
MGB	**Mount Grey**	**3.60**	**107**	Pn	**Pn**	**11 45 51.3**	**-3.3**
GHNB	**Nanoose**	**3.79**	**101**	Pn	**Pn**	**11 45 56.7**	**-0.3**
GHNB	**Nanoose**	**3.79**	**101**	Pn	**Pn**	**11 45 56.7**	**-0.3**
GHNB	**Nanoose**	**3.79**	**101**	Pn	**Pn**	**11 45 56.7**	**-0.3**
YOUB	**Youbou, Lake C**	**3.90**	**107**	Pn	**Pn**	**11 45 57.0**	**-1.6**
YOUB	**Youbou, Lake C**	**3.90**	**107**	Pn	**Pn**	**11 45 57.0**	**-1.6**
YOUB	**Youbou, Lake C**	**3.90**	**107**	Pn	**Pn**	**11 45 57.0**	**-1.6**
PFB	**Port Renfrew**	**3.92**	**112**	Pn	**Pn**	**11 45 58.4**	**-0.6**
PFB	**Port Renfrew**	**3.92**	**112**	Pn	**Pn**	**11 45 58.4**	**-0.6**
PFB	**Port Renfrew**	**3.92**	**112**	Pn	**Pn**	**11 45 58.4**	**-0.6**
OCP	**Olym-Cheeka Pk**	**3.94**	**116**	Pn	**Pn**	**11 45 58.3**	**-0.9**
OCP	**Olym-Cheeka Pk**	**3.94**	**116**	Pn	**Pn**	**11 45 58.3**	**-0.9**
OCP	**Olym-Cheeka Pk**	**3.94**	**116**	Pn	**Pn**	**11 45 58.3**	**-0.9**
SHB	**Sechelt**	**3.95**	**96**	Pn	**Pn**	**11 45 58.4**	**-1.0**
SHB	**Sechelt**	**3.95**	**96**	Pn	**Pn**	**11 45 58.4**	**-1.0**
SHB	**Sechelt**	**3.95**	**96**	Pn	**Pn**	**11 45 58.4**	**-1.0**
NLLB	**Nanaimo Lost L**	**3.96**	**102**	Pn	**Pn**	**11 45 59.1**	**-0.3**
NLLB	**Nanaimo Lost L**	**3.96**	**102**	Pn	**Pn**	**11 45 59.1**	**-0.3**
NLLB	**Nanaimo Lost L**	**3.96**	**102**	Pn	**Pn**	**11 45 59.1**	**-0.3**
B926	**Mesachie Lake**	**4.01**	**107**	Pn	**Pn**	**11 45 59.8**	**-0.3**
B926	**Mesachie Lake**	**4.01**	**107**	Pn	**Pn**	**11 45 59.8**	**-0.3**
B926	**Mesachie Lake**	**4.01**	**107**	Pn	**Pn**	**11 45 59.8**	**-0.3**
RUBB	**Prince Rupert**	**4.17**	**357**	Pn	**Pn**	**11 46 00.4**	**-1.8**
RUBB	**Prince Rupert**	**4.17**	**357**	Pn	**Pn**	**11 46 00.4**	**-1.8**
RUBB	**Prince Rupert**	**4.17**	**357**	Pn	**Pn**	**11 46 00.4**	**-1.8**
BPCB	**Bare Point**	**4.24**	**105**	Pn	**Pn**	**11 46 03.0**	**-0.2**
BPCB	**Bare Point**	**4.24**	**105**	Pn	**Pn**	**11 46 03.0**	**-0.2**
BPCB	**Bare Point**	**4.24**	**105**	Pn	**Pn**	**11 46 03.0**	**-0.2**
LZB	**Mount Lazard**	**4.28**	**109**	Pn	**Pn**	**11 46 03.1**	**-0.7**
LZB	**Mount Lazard**	**4.28**	**109**	Pn	**Pn**	**11 46 03.1**	**-0.7**
LZB	**Mount Lazard**	**4.28**	**109**	Pn	**Pn**	**11 46 03.1**	**-0.7**
GOBB	**Galiano Island**	**4.35**	**104**	Pn	**Pn**	**11 46 05.4**	**+0.6**
GOBB	**Galiano Island**	**4.35**	**104**	Pn	**Pn**	**11 46 05.4**	**+0.6**
GOBB	**Galiano Island**	**4.35**	**104**	Pn	**Pn**	**11 46 05.4**	**+0.6**
BIB	**Bowen Island**	**4.35**	**98**	Pn	**Pn**	**11 46 04.6**	**-0.2**
BIB	**Bowen Island

baz=316
C06D Leavenworth 6.34 107 P Pn 11 46 33.1 +0.8
baz=296
FMW Mount Fremont 6.36 117 Pn Pn 11 46 33.9 +1.2
FMW Mount Fremont 6.36 117 Pn Pn 11 46 33.9 +1.2
FMW Mount Fremont 6.36 117 Pn Pn 11 46 33.9 +1.2
LON Longmire 6.39 119 P Pn 11 46 33.4 +0.6
LON Longmire 6.39 119 Pn Pn 11 46 34.4 +1.6
LON Longmire 6.39 119 Pn Pn 11 46 34.4 +1.6
LON Longmire 6.39 119 Pn 11 46 33.4 +0.6
WRAK Wrangell Islan 6.43 348 Pn 11 46 33.0 -0.3
F04A Amboy 6.58 127 Pn 11 46 36.0 +0.7
G03D McMinnville, O 6.69 135 P Pn 11 46 39.1 +2.2
baz=322
LTY Liberty 6.78 112 Pn Pn 11 46 39.2 +1.0
LTY Liberty 6.78 112 Pn Pn 11 46 39.2 +1.0
LTY Liberty 6.78 112 Pn 11 46 39.0 +0.7
F05D White Salmon 7.11 124 P Pn 11 46 44.0 +1.2
baz=312
B08A Colville Reser 7.16 101 Pn Pn 11 46 44.0 +0.6
B08A Colville Reser 7.16 101 Pn Pn 11 46 44.0 +0.6
B08A Colville Reser 7.16 101 Pn 11 46 43.1 -0.3
BMBC Bull Mountain 7.52 36 P Pn 11 46 50.0 +1.6
BMBC S Sn 11 48 14.8 +1.2
BMBC Bull Mountain 7.52 36 P Pn 11 46 50.0 +1.6
BMBC S Sn 11 48 14.8 +1.2
BMBC Bull Mountain 7.52 36 P Pn 11 46 50.0 +1.6
BMBC Sn 11 48 14.8 +1.2
SLEB Sale Mountain 7.56 78 P Pn 11 46 52.2 +3.2
SLEB Sale Mountain 7.56 78 P Pn 11 46 52.2 +3.2
SLEB Sale Mountain 7.56 78 Pn 11 46 52.2 +3.2
H04A Detroit Lake 7.59 133 Pn 11 46 49.0 -0.4
G05D Wamic, OR 7.61 127 P Pn 11 46 51.5 +1.9
baz=315
E07A Sunnyside 7.62 114 Pn 11 46 49.4 -0.3
NBC4 NorthernBC 4 7.86 42 P Pn 11 46 54.7 +1.7
NBC4 S Sn 11 48 22.3 +0.4
NBC4 NorthernBC 4 7.86 42 P Pn 11 46 54.7 +1.7
NBC4 S Sn 11 48 22.3 +0.4
NBC4 NorthernBC 4 7.86 42 Pn 11 46 54.7 +1.7
NBC4 Sn 11 48 22.3 +0.4
I03D Drain, OR 7.88 143 P Pn 11 46 55.5 +2.3
baz=329
HAWA Hanford 7.89 115 Pn 11 46 53.9 +0.5
C09A Chrisman Ranch 8.02 103 P Pn 11 46 55.5 +0.3
C09A Chrisman Ranch 8.02 103 P Pn 11 46 55.5 +0.3
C09A Chrisman Ranch 8.02 103 Pn 11 46 54.3 -0.9
J01E Myrtle Point 8.13 147 P Pn 11 46 58.9 +2.2
baz=333
I05D Terrebonne, OR 8.25 132 P Pn 11 47 00.4 +2.0
baz=320
DLBC Dease Lake 8.28 360 Pn Pn 11 47 00.0 +1.2
1.3nm,0.3s,baz=194,slow=12,SNR=37
DLBC Sn Sn 11 48 35.4 +3.0
0.8nm,0.3s,baz=18,slow=20,SNR=2.7
DLBC LR LR 11 49 59.2
comp=Z,2µm,20.9s,baz=186,slow=37
DLBC Dease Lake 8.28 360 P Pn 11 47 00.0 +1.2
DLBC Dease Lake 8.28 360 P Pn 11 47 00.0 +1.2
DLBC Dease Lake 8.28 360 Pn 11 46 59.5 +0.7
NBC5 NorthernBC 5 8.52 27 P Pn 11 47 03.2 +1.2
NBC5 S Sn 11 48 39.2 +1.1
NBC5 NorthernBC 5 8.52 27 P Pn 11 47 03.2 +1.2
NBC5 S Sn 11 48 39.2 +1.1
NBC5 NorthernBC 5 8.52 27 Pn 11 47 03.2 +1.2
NBC5 Sn 11 48 39.2 +1.1
NEW Newport 8.59 98 P Pn 11 47 02.9 -0.2
baz=289,SNR=14
NEW Newport 8.59 98 Pn Pn 11 47 03.7 +0.6
0.9nm,0.3s,baz=292,slow=10,SNR=21
NEW LR LR 11 50 23.3
comp=Z,6µm,18.2s,baz=279,slow=38
NEW Newport 8.59 98 Pn 11 47 03.1 0.0
J04D Umpqua Nationa 8.76 139 P Pn 11 47 07.1 +1.5
baz=326
G08A Pilot Rock 8.85 119 Pn 11 47 06.4 -0.3
J05D Fort Rock, OR 9.11 136 P Pn 11 47 11.9 +1.7
baz=324
FNBB Fort Nelson 9.61 22 P Pn 11 47 18.1 +1.2
FNBB S Sn 11 49 06.2 +1.3
FNBB Fort Nelson 9.61 22 P Pn 11 47 18.1 +1.2
FNBB S Sn 11 49 06.2 +1.3
FNBB Fort Nelson 9.61 22 Pn 11 47 18.1 +1.2
FNBB Sn 11 49 06.2 +1.3
NBC6 NorthernBC 6 9.80 27 P Pn 11 47 22.7 +3.2
NBC6 S Sn 11 49 09.0 -0.4
NBC6 NorthernBC 6 9.80 27 P Pn 11 47 22.7 +3.2
NBC6 S Sn 11 49 09.0 -0.4
YBH Yreka Blue Hor 9.81 147 Pn Pn 11 47 23.8 +3.9
0.1nm,0.3s,baz=344,slow=12,SNR=8.3
YBH LR LR 11 50 50.9
comp=Z,2µm,18.4s,baz=331,slow=36
PRDA Priddis 9.98 80 P Pn 11 47 24.3 +2.2
PRDA Priddis 9.98 80 P Pn 11 47 24.3 +2.2
PRDA Priddis 9.98 80 Pn 11 47 24.3 +2.2
BMO Blue Mountains 10.05 117 P Pn 11 47 23.4 +0.3
BMO Blue Mountains 10.05 117 Pn 11 47 23.4 +0.3
M02C Callahan 10.07 148 P Pn 11 47 25.7 +2.3
baz=334
M04C Macdoel 10.09 143 P Pn 11 47 25.9 +2.1
baz=330
BSMT Bassoo Peak 10.21 97 P Pn 11 47 25.5 +0.1
BSMT Bassoo Peak 10.21 97 P Pn 11 47 25.5 +0.1
BSMT Bassoo Peak 10.21 97 Pn 11 47 25.5 +0.1
KHMM Horse Mountain 10.26 153 Pn 11 47 24.5 -1.5
WALA Waterton Lakes 10.45 90 P Pn 11 47 30.8 +2.2
WALA Waterton Lakes 10.45 90 P Pn 11 47 30.8 +2.2
WALA Waterton Lakes 10.45 90 Pn 11 47 29.5 +0.9
N02D Trinity Center 10.49 149 P Pn 11 47 30.7 +1.6
baz=335,SNR=9.3
NBC2 NorthernBC 2 10.52 21 P Pn 11 47 33.0 +3.6
NBC2 NorthernBC 2 10.52 21 P Pn 11 47 33.0 +3.6
NBC2 NorthernBC 2 10.52 21 Pn 11 47 33.0 +3.6
JTMT Jette 10.57 97 P Pn 11 47 31.2 +1.0
JTMT Jette 10.57 97 P Pn 11 47 31.2 +1.0
JTMT Jette 10.57 97 Pn 11 47 29.6 -0.6
FBMT Ferry Basin 10.59 99 P Pn 11 47 30.5 -0.1
FBMT Ferry Basin 10.59 99 P Pn 11 47 30.5 -0.1
FBMT Ferry Basin 10.59 99 Pn 11 47 30.5 -0.1
MOD Modoc Plateau 10.62 137 Pn 11 47 29.7 -1.4
YBMT Yellow Bay 10.70 96 P Pn 11 47 32.0 -0.1
YBMT Yellow Bay 10.70 96 P Pn 11 47 32.0 -0.1
YBMT Yellow Bay 10.70 96 Pn 11 47 32.0 -0.1
EDM Edmonton 10.73 67 P Pn 11 47 36.7 +4.4
EDM Edmonton 10.73 67 P Pn 11 47 36.7 +4.4
EDM Edmonton 10.73 67 P Pn 11 47 36.7 +4.4
EDM Edmonton 10.73 67 Pn 11 47 36.7 +4.4
SWMT Swartz Lake 10.83 98 P Pn 11 47 33.7 -0.1
SWMT Swartz Lake 10.83 98 P Pn 11 47 33.7 -0.1
SWMT Swartz Lake 10.83 98 Pn 11 47 33.7 -0.1
KMRM Mail Ridge 10.87 154 Pn 11 47 33.7 -0.6
WHY Whitehorse 10.88 347 P Pn 11 47 34.5 +0.1
WHY Whitehorse 10.88 347 P Pn 11 47 34.5 +0.1
WHY Whitehorse 10.88 347 Pn 11 47 34.5 +0.1
MSO Missoula 11.12 101 P Pn 11 47 37.1 -0.6
baz=294,SNR=12
MSO Missoula 11.12 101 Pn 11 47 37.4 -0.3
O02D Mt. Diablo Mer 11.18 151 P Pn 11 47 40.9 +2.3
baz=337
SLMT Seeley Lake 11.24 99 P Pn 11 47 40.3 +0.8
SLMT Seeley Lake 11.24 99 P Pn 11 47 40.3 +0.8
SLMT Seeley Lake 11.24 99 Pn 11 47 40.3 +0.8
HILA High Level 11.26 37 P Pn 11 47 38.7 -0.8
HILA High Level 11.26 37 P Pn 11 47 38.7 -0.8
YUK7 Dusty Glacier 11.38 339 P Pn 11 47 48.1 +6.8
YUK7 Dusty Glacier 11.38 339 P Pn 11 47 48.1 +6.8
O03E Paynes Creek 11.41 147 P Pn 11 47 44.0 +2.4
baz=334
BPMT Black Pine Rid 11.59 102 P Pn 11 47 44.5 +0.2
BPMT Black Pine Rid 11.59 102 P Pn 11 47 44.5 +0.2
BPMT Black Pine Rid 11.59 102 Pn 11 47 44.5 +0.2
OVMT Ovando 11.62 99 P Pn 11 47 45.0 +0.4
OVMT Ovando 11.62 99 P Pn 11 47 45.0 +0.4
OVMT Ovando 11.62 99 Pn 11 47 45.0 +0.4
MFID Camas Ranch 11.78 120 Pn 11 47 46.3 -0.5
ELMT Elliston 12.15 101 P Pn 11 47 53.3 +1.4
ELMT Elliston 12.15 101 P Pn 11 47 53.3 +1.4
ORV Oroville 12.17 148 P Pn 11 47 51.3 -0.7
ORV Oroville 12.17 148 Pn 11 47 51.3 -0.7
BEKR Beckworth 12.31 143 Pn 11 47 55.3 +1.2
HRY Holter Researc 12.50 99 Pn 11 47 56.1 -0.5
GRNC Granite Creek 12.51 332 P Pn 11 47 55.9 -0.9
GRNC Granite Creek 12.51 332 Pn 11 47 55.9 -0.9
CTGM Chitina Glacie 12.57 334 P Pn 11 47 57.3 -0.3
CTGM Chitina Glacie 12.57 334 P Pn 11 47 57.3 -0.3
CTGM Chitina Glacie 12.57 334 Pn 11 47 57.9 +0.3
DLMT Dillon 12.60 106 Pn 11 47 57.5 -0.5
MCMT McKenzie Canyo 12.71 108 Pn 11 47 59.8 +0.2
BARN Barnard Glacie 12.74 333 Pn 11 47 59.9 0.0
PAHR Pah Rah Range 12.84 141 Pn 11 47 58.9 -2.4
KIAG Kiagna River 12.84 332 P Pn 11 47 59.3 -2.0
KIAG Kiagna River 12.84 332 P Pn 11 47 59.3 -2.0
KIAG Kiagna River 12.84 332 Pn 11 47 59.3 -2.0
TGL Tana Glacier 12.86 330 Pn 11 48 01.1 -0.4
BALM Baldy 12.93 332 P Pn 11 48 00.3 -2.0
BALM Baldy 12.93 332 P Pn 11 48 00.3 -2.0
VCNR Virginia City 13.08 142 Pn 11 48 05.6 +0.9
PTPK Patty Peak 13.08 332 P Pn 11 47 58.2 -6.4
PTPK Patty Peak 13.08 332 P Pn 11 47 58.2 -6.4
BOZ Bozeman (W) 13.09 103 P Pn 11 48 04.1 -0.6
baz=298
BOZ Bozeman (W) 13.09 103 P Pn 11 48 04.8 +0.1
BOZ Bozeman (W) 13.09 103 Pn Pn 11 48 04.8 +0.1
PNTR Pine Nut 13.28 143 Pn 11 48 07.4 0.0
EGMT Eagleton 13.38 91 P Pn 11 48 08.1 -0.6
baz=288,SNR=12
EGMT Eagleton 13.38 91 Pn 11 48 08.9 +0.3
TPMT Tepee Creek 13.49 107 P Pn 11 48 13.3 +3.0
TPMT Tepee Creek 13.49 107 P Pn 11 48 13.3 +3.0
TPMT Tepee Creek 13.49 107 Pn 11 48 13.3 +3.0
QLMT Earthquake Lak 13.58 106 Pn 11 48 12.2 +0.7
YHL Hebgen Lake 13.72 106 Pn 11 48 14.4 +0.9
YHB Horse Butte 13.77 106 Pn 11 48 14.8 +0.8
CMB Columbia Colle 13.92 147 P Pn 11 48 15.3 -0.6
CMB Columbia Colle 13.92 147 Pn 11 48 15.3 -0.6
KVN Kaiserville 13.92 138 P Pn 11 48 15.5 -0.6
KVN Kaiserville 13.92 138 Pn 11 48 15.5 -0.6
ELK Elko 13.94 127 P Pn 11 48 16.0 -0.4
ELK Elko 13.94 127 Pn Pn 11 48 18.2 +1.8
0.1nm,0.3s,baz=321,slow=16,SNR=4.8
ELK LR LR 11 53 43.7
comp=Z,1µm,18.0s,baz=314,slow=38
ELK Elko 13.94 127 Pn 11 48 16.0 -0.4
YHH Holmes Hill 13.96 105 Pn 11 48 16.9 +0.1
RYN Ryan 14.11 141 Pn 11 48 18.7 +0.1
YPP Pitchstone Pla 14.25 107 P Pn 11 48 23.5 +2.8
H17A Grant Village 14.33 106 P Pn 11 48 21.3 -0.4
baz=302
H17A Grant Village 14.33 106 P P 11 48 25.1 -3.8
NVAR Mina Array Bea 14.36 140 Pn Pn 11 48 22.6 +0.4
0.0nm,0.3s,baz=323,slow=9.5,SNR=14
YMP Mirror Lake Pl 14.42 105 Pn 11 48 22.4 -0.6
NV11 Mina Array Sit 14.42 140 P Pn 11 48 25.9 +2.9
BCAR Beaver Creek A 14.44 338 Pn 11 48 22.2 -0.8
FXWY Fox Creek 14.45 110 Pn 11 48 23.5 0.0
HVU Hansel Valley 14.55 119 P Pn 11 48 24.4 -0.3
HVU Hansel Valley 14.55 119 Pn 11 48 24.4 -0.3
MDPB Devils Postpil 14.75 144 Pn 11 48 25.5 -2.0
RLMT Red Lodge 14.79 102 P Pn 11 48 27.4 -0.6
baz=298,SNR=38
RLMT Red Lodge 14.79 102 Pn 11 48 28.5 +0.5
OMMB Old Mammoth Mi 14.79 144 Pn 11 48 27.0 -1.2
DAWY Dawson 14.82 344 P Pn 11 48 30.4 +2.2
DAWY Dawson 14.82 344 P Pn 11 48 30.4 +2.2
DAWY Dawson 14.82 344 Pn 11 48 28.2 +0.1
MENT Mentasta 14.84 335 Pn 11 48 26.2 -2.1
MLAC Mammoth, Mammo 14.84 143 P Pn 11 48 30.4 +1.7
baz=332
AHID Auburn Hatcher 14.91 113 P P 11 48 32.6 -2.8
YKA Yellowknife Ar 14.93 28 Pn Pn 11 48 28.6 -0.9
0.3nm,0.3s,baz=223,slow=12,SNR=9.4
YKA Yellowknife Ar 14.93 28 Pn 11 48 29.9 +0.4
YKW1 Yellowknife Ar 14.96 29 P Pn 11 48 29.4 -0.6
YKW1 Yellowknife Ar 14.96 29 P Pn 11 48 29.4 -0.6
YKW3 Yellowknife Ar 14.98 28 P Pn 11 48 27.8 -2.4
YKW3 Yellowknife Ar 14.98 28 P Pn 11 48 27.8 -2.4
YKW3 Yellowknife Ar 14.98 28 Pn 11 48 30.3 +0.1
SPUT South Promonto 15.05 119 P Pn 11 48 33.8 +2.4
KDAK Kodiak Island 15.30 309 *i* P Pn 11 48 33.0 -1.5
KDAK Kodiak Island 15.30 309 LR LR 11 52 55.2
comp=Z,2µm,20.9s,baz=136,slow=31
PAX Paxson 15.36 332 P Pn 11 48 34.2 -1.2
PAX pmax pmax
comp=Z,25nm,1.2s
PAX Paxson 15.36 332 Pn 11 48 34.1 -1.2
PMPB Monarch Peak 15.43 151 P Pn 11 48 35.1 -1.4
PMPB IAmb IAmb 11 48 45.5
comp=Z,56nm,1.2s
SML Sawmill 15.48 326 Pn 11 48 36.8 -0.1
SML IAmb IAmb 11 48 51.6
comp=Z,56nm,1.2s
DOT Dot Lake 15.50 336 P Pn 11 48 37.8 +0.6
DOT Dot Lake 15.50 336 P Pn 11 48 37.8 +0.6
DOT Dot Lake 15.50 336 P Pn 11 48 38.2 +1.1
TIN Tinemaha, Big 15.58 143 P Pn 11 48 40.2 +1.8
baz=332
DUG Dugway, Tooele 15.62 123 P Pn 11 48 39.4 +0.5
baz=316,SNR=20
DUG Dugway, Tooele 15.62 123 P Pn 11 48 39.3 +0.4
DUG pmax pmax
comp=Z,79nm,1.2s
DUG Dugway, Tooele 15.62 123 Pn 11 48 39.3 +0.4
DUG IAmb IAmb 11 48 51.2
comp=Z,79nm,1.2s
R11A Troy Canyon, C 15.62 134 P Pn 11 48 39.6 +0.6
baz=325,SNR=11
R11A Troy Canyon, C 15.62 134 Pn 11 48 38.5 -0.5
SCRK Sand Creek 15.75 337 Pn 11 48 40.4 -0.1
SCRK IAmb IAmb 11 48 49.4
comp=Z,58nm,1.4s
EGAK Eagle 15.80 342 Pn 11 48 41.2 +0.2
BW06 Boulder Array 15.83 110 P Pn 11 48 41.7 -0.1
baz=306,SNR=34
PD31 Pinedale Array 15.83 110 P P 11 48 44.7 -0.9
PDAR Pinedale Array 15.83 110 Pn P 11 48 44.6 -1.0
comp=Z,0.2nm,0.3s,baz=304,slow=8.6,SNR=51
PDAR LR LR 11 54 58.7
comp=Z,1µm,20.0s,baz=314,slow=38
CTU Camp Tracy 15.85 120 Pn 11 48 41.3 -0.7
GRAC Grapevine Rang 15.97 141 P P 11 48 45.6 -1.4
baz=330,SNR=8.0
DHY Denali Highway 16.03 330 Pn 11 48 42.7 -1.4
PAGB Antelope Grade 16.05 150 Pn 11 48 42.1 -2.4
LAO LASA Array 16.09 93 P Pn 11 48 44.8 -0.1
baz=292,SNR=5.5
LAO LASA Array 16.09 93 Pn 11 48 45.4 +0.5
LAO IAmb IAmb 11 48 47.7
comp=Z,62nm,1.1s
CWC Cottonwood Cre 16.18 144 P P 11 48 48.2 -1.2
baz=333
NLU North Lily Min 16.18 122 Pn 11 48 45.1 -1.2
VES Vestal, Richgr 16.34 147 P P 11 48 50.4 -0.6
baz=335
TPNV Topopah Spring 16.48 138 P P 11 48 51.6 -1.1
baz=328,SNR=26
TPNV Topopah Spring 16.48 138 P Pn 11 48 48.9 -1.2
TPNV pmax pmax
comp=Z,59nm,1.1s
TPNV Topopah Spring 16.48 138 P Pn 11 48 48.9 -1.2
TPNV IAmb IAmb 11 49 05.8
comp=Z,59nm,1.1s
RSO Redoubt South 16.49 317 P Pn 11 48 50.1 +0.1
SMMC Simmler 16.52 150 P P 11 48 52.9 -0.1
baz=338
EPYK Eagle Plains 16.62 350 P Pn 11 48 51.4 0.0
baz=164,SNR=5.2
EPYK Eagle Plains 16.62 350 P Pn 11 48 52.1 +0.6
FURC Furnace Creek, 16.63 140 P P 11 48 53.6 -0.6
baz=330,SNR=13
ISA Isabella, Lake 16.72 146 P P 11 48 54.9 -0.4
baz=334,SNR=14
MPMC Manual Prospec 16.74 143 P P 11 48 55.1 -0.6
baz=332,SNR=20
DGMT Dagmar 16.83 86 P Pn 11 48 53.3 -1.0
baz=286,SNR=12
DGMT Dagmar 16.83 86 Pn 11 48 54.5 +0.1
DGMT IAmb IAmb 11 48 57.3
comp=Z,67nm,1.1s
HDA Harding Lake 16.89 334 P Pn 11 48 55.5 +0.7
baz=139
PKM Mcpherson Peak 16.97 150 P P 11 48 58.6 +0.5
baz=338
MCK McKinley 16.99 330 P Pn 11 48 55.3 -0.9
MCK pmax pmax
comp=Z,63nm,1.4s
MCK McKinley 16.99 330 P Pn 11 48 55.3 -0.9
ARVC Arvin 17.07 148 P P 11 48 59.9 +0.8
baz=336
IL31 17.15 335 P Pn 11 48 57.4 -0.7
ILAR Eielson Array 17.15 335 P Pn 11 48 56.5 -1.6
ILAR Eielson Array 17.15 335 P P 11 48 59.6 -0.2
comp=Z,0.1nm,0.3s,baz=151,slow=9.9,SNR=20
ILAR LR LR 11 55 00.5
comp=Z,387nm,18.1s,baz=146,slow=35
ILAR Eielson Array 17.15 335 Pn 11 48 56.5 -1.6
LRMC Laurel Mtn Rad 17.17 144 P P 11 49 00.1 -0.3
baz=333,SNR=11
MSU Marysvale 17.18 126 P Pn 11 48 58.8 -0.1
MSU Marysvale 17.18 126 P Pn 11 48 58.9 -0.1
WRH Wood River Hil 17.26 333 P Pn 11 48 59.1 -0.4
CCUT Cedar City 17.32 130 Pn 11 48 58.6 -2.0
SHOC Shoshone, Teco 17.36 140 P P 11 49 03.5 +1.2
baz=330,SNR=22
PRP Porcupine Dome 17.40 338 P Pn 11 48 59.3 -2.1
SBC Santa Barbara 17.41 151 P P 11 49 03.2 +0.3
baz=338
COLA College 17.50 334 P Pn 11 49 00.7 -1.7
COLA pmax pmax
comp=Z,30nm,1.3s
COLA College 17.50 334 P Pn 11 49 00.7 -1.7
TCOL CIGO, UAF Yank 17.50 334 P Pn 11 49 02.2 -0.2
baz=138
POKR Poker Plat Res 17.57 335 P P 11 49 04.1 -0.3
baz=140
FFC Flin Flon 17.57 64 P Pn 11 49 02.9 -0.5
FFC pmax pmax
comp=Z,108nm,1.4s
FFC Flin Flon 17.57 64 Pn 11 49 02.9 -0.5
FFC IAmb IAmb 11 49 09.2
comp=Z,108nm,1.4s
EDW2 Edwards Air Fo 17.59 146 P P 11 49 06.0 +1.1
baz=335
GSC Goldstone, Bar 17.67 142 P P 11 49 07.2 +1.4
baz=332
GSC Goldstone, Bar 17.67 142 P Pn 11 49 02.9 -2.0
GSC pmax pmax
comp=Z,33nm,1.4s
GSC Goldstone, Bar 17.67 142 P Pn 11 49 02.9 -2.0
DHRN Dharma Camp 17.71 13 P P 11 49 05.6 -0.3
DHRN Dharma Camp 17.71 13 P P 11 49 05.6 -0.3
DHRN Dharma Camp 17.71 13 P P 11 49 05.6 -0.3
K22A Casper 17.75 106 P Pn 11 49 05.8 -0.1
baz=304,SNR=14
LCMT Little Creek M 17.80 131 P P 11 49 06.8 -0.6
SCZ2 Santa Cruz Isl 17.85 151 P P 11 49 09.0 +1.3
baz=339
TUQ Turquoise Moun 17.91 140 P P 11 49 08.7 +0.2
baz=330,SNR=16
BLG Laguna Peak, P 17.92 149 P P 11 49 09.2 +0.7
baz=338
RRX Edison Barstow 17.97 143 P P 11 49 09.6 +0.6
baz=333
SVW2 Sparrevohn 18.02 317 P Pn 11 49 06.0 -2.9
SVW2 IAmb IAmb 11 49 14.7
comp=Z,52nm,1.1s
DECC Green Verdugo 18.04 148 P P 11 49 10.3 +0.5
baz=336
O20A White River Ci 18.23 115 P Pn 11 49 11.4 -0.4
baz=311,SNR=17
O20A White River Ci 18.23 115 P Pn 11 49 11.6 -0.3
O20A IAmb IAmb 11 49 22.3
comp=Z,86nm,1.2s
HEC Hector,Ludlow 18.27 142 P P 11 49 13.7 +1.3
baz=332,SNR=9.2
INK Inuvik 18.28 356 P Pn 11 49 10.5 -1.5
INK pmax pmax
comp=Z,20nm,1.1s
INK Inuvik 18.28 356 P P 11 49 12.7 +0.5
comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=6.7
INK LR LR 11 55 50.9
comp=Z,649nm,19.0s,baz=170,slow=36
INK Inuvik 18.28 356 P P 11 49 13.4 +1.2
INK Inuvik 18.28 356 P P 11 49 13.4 +1.2
INK Inuvik 18.28 356 P Pn 11 49 10.5 -1.5
BFSC Mount Baldy Ra 18.29 146 P P 11 49 15.3 +2.6
baz=335
BBRC Big Bear Solar 18.54 144 P Pn 11 49 17.1 +1.3
baz=334,SNR=6.3
FMP Fort Macarthur 18.54 148 P Pn 11 49 17.3 +1.8
baz=337
RSSD Black Hills 18.56 99 P P 11 49 15.5 -0.3
baz=299
RSSD Black Hills 18.56 99 P P 11 49 15.1 -0.7
RSSD pmax pmax
comp=Z,58nm,1.3s
RSSD Black Hills 18.56 99 P P 11 49 15.1 -0.7
RSSD IAmb IAmb 11 49 31.2
comp=Z,58nm,1.3s
SNCC San Nicolas Is 18.57 152 P Pn 11 49 17.7 +1.8
baz=339
GMRC Granite Mounta 18.58 140 P Pn 11 49 17.3 +1.2
baz=331,SNR=11
U15A North Rim 18.73 130 P P 11 49 16.9 -0.8
CIS Catalina Islan 18.79 149 P Pn 11 49 20.4 +1.9
baz=337
NEE2 Needles Airpor 19.03 138 P Pn 11 49 22.4 +1.0
baz=329
MURC Murrieta 19.03 146 P Pn 11 49 22.5 +1.1
baz=335
TTA Tatalina 19.06 322 P P 11 49 18.6 -2.3
TTA pmax pmax
comp=Z,51nm,1.4s
TTA Tatalina 19.06 322 P P 11 49 18.6 -2.3
W13A Hualapai Mount 19.07 136 P P 11 49 20.0 -1.4
N23A Red Feather La 19.12 110 P P 11 49 21.6 -0.3
baz=308,SNR=7.9
N23A Red Feather La 19.12 110 P P 11 49 21.4 -0.5
N23A IAmb IAmb 11 49 36.2
comp=Z,45nm,1.1s
BELC Belle Mtn. Jos 19.13 142 P Pn 11 49 23.3 +0.6
baz=333,SNR=16
SCI2 San Clemente I 19.13 150 P Pn 11 49 23.3 +0.6
baz=338
PHWY Pilot Hill 19.17 108 P P 11 49 20.9 -1.6
PHWY IAmb IAmb 11 49 26.2
comp=Z,45nm,1.3s
KUKN Kugluktuk,NWT 19.18 17 P Pn 11 49 23.5 +0.5
KUKN Kugluktuk,NWT 19.18 17 P Pn 11 49 23.5 +0.5
KUKN Kugluktuk,NWT 19.18 17 P Pn 11 49 23.5 +0.5
PFO Pinyon Flats O 19.29 144 P Pn 11 49 25.5 +0.8
baz=334
PFO Pinyon Flats O 19.29 144 P Pn 11 49 25.6 +0.8
comp=Z,0.1nm,0.3s,baz=345,slow=5.1,SNR=6.6
PFO LR LR 11 57 02.8
comp=Z,626nm,18.6s,baz=320,slow=37
PFO Pinyon Flats O 19.29 144 P P 11 49 21.2 -2.5
IRM Iron Mountain 19.33 140 P Pn 11 49 25.1 0.0
baz=331
PV01 Paradox Valley 19.40 120 P P 11 49 23.1 -1.9
PV01 IAmb IAmb 11 49 31.0
comp=Z,72nm,1.1s
C36M Paulatuk 19.44 6 P P 11 49 23.5 -1.4
baz=191
PDMCI Parker Dam,Lak 19.63 138 P Pn 11 49 28.9 +0.3
baz=329
BC3 Big Chuckawall 19.64 142 P Pn 11 49 29.4 +0.5
baz=332
109C Camp Elliot, M 19.70 146 P Pn 11 49 30.4 +0.9
baz=336
WUAZ Wupatki 19.90 130 P Pn 11 49 31.6 -0.5
baz=324,SNR=6.6
WUAZ Wupatki 19.90 130 P P 11 49 29.2 -1.2
COLD Coldfoot 19.91 337 P P 11 49 30.8 +0.7
COLD Coldfoot 19.91 337 P P 11 49 30.8 +0.7
COLD Coldfoot 19.91 337 P P 11 49 30.8 +0.7
Y12C Blythe 19.94 140 P Pn 11 49 33.0 +0.7
baz=331
MONP2 Monument Peak 19.95 145 P Pn 11 49 32.8 +0.1
baz=335,SNR=12
MDND Maddock 19.96 85 P P 11 49 30.0 -0.7
baz=288,SNR=11
MDND Maddock 19.96 85 P Pn 11 49 32.0 -0.5
ISCO Idaho Springs 19.99 112 P Pn 11 49 32.3 -0.9
baz=310,SNR=14
ISCO Idaho Springs 19.99 112 P P 11 49 30.1 -1.4
ISCO pmax pmax
comp=Z,41nm,1.4s
ISCO Idaho Springs 19.99 112 P P 11 49 30.1 -1.4
ISCO IAmb IAmb 11 49 47.4
comp=Z,41nm,1.4s
IMAR Indian Mountai 20.03 331 P P 11 49 28.3 -3.1

BAR	Barrett	20.05	146	P	P	11 49 29.1	-2.8
MVCO	Mesa Verde	20.10	122	P	P	11 49 33.0	+0.4
	baz=318,SNR=40						
SWSC	Sam W. Stewart	20.14	143	P	Pn	11 49 34.5	-0.1
	baz=334,SNR=6.4						
IKP	In-Ko-Pah, Jac	20.28	144	P	Pn	11 49 36.4	0.0
	baz=334,SNR=14						
GLA	Glamis	20.42	141	P	Pn	11 49 38.2	+0.1
	baz=332						
Y14A	Wickenburg	20.44	136	P	P	11 49 34.7	-1.4
S22A	4UR Ranch, Cre	20.65	118	P	P	11 49 39.1	+0.4
	baz=315,SNR=42						
Q24A	Divide	20.80	113	P	P	11 49 40.4	0.0
	baz=311,SNR=7.1						
Q24A	Divide	20.80	113	P	P	11 49 36.1	-4.3
Q24A				IAmb	IAmb	11 49 47.7	
	comp=Z,88nm,1.4s						
TOLK	Toolik Lake Re	20.86	340	P	P	11 49 41.3	+0.8
	baz=142						
W18A	Petrified Fore	21.04	128	P	P	11 49 44.0	+1.2
	baz=323,SNR=6.0						
W18A	Petrified Fore	21.04	128	P	P	11 49 41.1	-1.6
SDCO	Great Sand Dun	21.41	116	P	P	11 49 46.2	-0.7
	baz=314,SNR=38						
OGNE	Ogallala	21.49	105	P	P	11 49 47.3	-0.1
	baz=305,SNR=7.7						
OGNE	Ogallala	21.49	105	P	P	11 49 46.7	-0.8
SUSD	Miller	21.66	93	P	P	11 49 48.5	-0.8
	baz=297						
ULM	Lac du Bonnet	21.68	77	P	P	11 49 48.6	-0.8
ULM				pmax	pmax		
	comp=Z,213nm,1.1s						
ULM	Lac du Bonnet	21.68	77	P	P	11 49 50.5	+1.1
	comp=Z,92nm,0.8s,baz=286,slow=11,SNR=21						
ULM				LR	LR	11 57 49.7	
	comp=Z,827nm,19.5s,baz=280,slow=36						
ULM	Lac du Bonnet	21.68	77	P	P	11 49 50.3	+1.0
ULM	Lac du Bonnet	21.68	77	P	P	11 49 50.3	+1.0
ULM	Lac du Bonnet	21.68	77	P	P	11 49 48.6	-0.8
A36M	Sachs Harbour	21.99	4	P	P	11 49 52.1	-0.4
	baz=188,SNR=12						
AGMN	Agassiz Nation	22.21	82	P	P	11 49 54.2	-0.8
	baz=288,SNR=8.3						
AGMN	Agassiz Nation	22.21	82	P	P	11 49 54.6	-0.4
AGMN				IAmb	IAmb	11 50 05.8	
	comp=Z,59nm,1.2s						
214A	Organ Pipe Nat	22.21	139	P	P	11 49 57.0	+1.8
	baz=331,SNR=5.9						
214A	Organ Pipe Nat	22.21	139	P	P	11 49 53.2	-2.0
214A				IAmb	IAmb	11 50 02.4	
	comp=Z,38nm,1.4s						
KSCO	Kaye Shedlock'	22.28	110	P	P	11 49 56.2	+0.1
	baz=310,SNR=26						
FCC	Fort Churchill	22.29	54	P	P	11 49 57.1	+1.4
FCC	Fort Churchill	22.29	54	P	P	11 49 57.1	+1.4
T25A	Trinidad	22.46	116	P	P	11 49 57.8	-0.2
	baz=314,SNR=12						
T25A	Trinidad	22.46	116	P	P	11 49 56.5	-1.6
T25A				IAmb	IAmb	11 50 07.9	
	comp=Z,86nm,1.2s						
TUC	Tucson	22.81	134	P	P	11 50 03.4	+1.8
	baz=328						
TUC	Tucson	22.81	134	P	P	11 50 00.2	-1.4
TUC				pmax	pmax		
	comp=Z,36nm,1.1s						
TUC	Tucson	22.81	134	P	P	11 50 00.2	-1.4
TUC				IAmb	IAmb	11 50 10.0	
	comp=Z,36nm,1.1s						
ANMO	Albuquerque	22.89	123	P	P	11 50 02.8	+0.2
	baz=320						
ANMO	Albuquerque	22.89	123	P	P	11 50 04.9	+2.3
ANMO	Albuquerque	22.89	123	P	P	11 50 01.2	-1.4
ANMO				pmax	pmax		
	comp=Z,40nm,1.3s						
ANMO	Albuquerque	22.89	123	P	P	11 50 04.9	+2.3
	comp=Z,16nm,1.1s,baz=314,slow=10.0,SNR=34						
ANMO				LR	LR	11 59 23.6	
	comp=Z,355nm,19.9s,baz=313,slow=38						
ANMO	Albuquerque	22.89	123	P	P	11 50 01.2	-1.4
ANMO				IAmb	IAmb	11 50 10.2	
	comp=Z,40nm,1.3s						
EPLO	Experimental L	23.17	77	P	P	11 50 06.0	+0.8
EPLO	Experimental L	23.17	77	P	P	11 50 06.0	+0.8
EPLO	Experimental L	23.17	77	P	P	11 50 06.0	+0.8
LPM	Los Pinos Moun	23.27	124	P	P	11 50 05.4	-1.2
Y22D	IRIS PASSCAL I	23.30	125	P	P	11 50 07.7	+0.9
	baz=321						
ECSD	EROS Data Cent	23.49	93	P	P	11 50 07.7	-0.8
	baz=298,SNR=32						
ECSD	EROS Data Cent	23.49	93	P	P	11 50 07.6	-0.8
BGNE	Belgrade	23.67	99	P	P	11 50 09.9	-0.3
	baz=303						
BGNE	Belgrade	23.67	99	P	P	11 50 09.6	-0.7
121A	Cookes Peak, D	24.07	129	P	P	11 50 15.1	+0.8
	baz=324,SNR=13						
121A	Cookes Peak, D	24.07	129	P	P	11 50 12.4	-1.9
121A				IAmb	IAmb	11 50 24.1	
	comp=Z,44nm,1.2s						
SOLO	Sioux Lookout	24.11	76	P	P	11 50 13.9	-0.4
SOLO	Sioux Lookout	24.11	76	P	P	11 50 13.9	-0.4
SOLO	Sioux Lookout	24.11	76	P	P	11 50 13.9	-0.4
CBKS	Cedar Bluff	24.17	106	P	P	11 50 15.0	0.0
	baz=308						
CBKS	Cedar Bluff	24.17	106	P	P	11 50 13.9	-1.1
CBKS				pmax	pmax		
	comp=Z,88nm,1.2s						
CBKS	Cedar Bluff	24.17	106	P	P	11 50 13.9	-1.1
319A	Douglas	24.29	133	P	P	11 50 13.9	-2.4
319A				IAmb	IAmb	11 50 25.4	
	comp=Z,52nm,1.2s						
ATKO	Atikokan Iron	24.75	78	P	P	11 50 21.5	+1.4
ATKO	Atikokan Iron	24.75	78	P	P	11 50 21.5	+1.4
ATKO	Atikokan Iron	24.75	78	P	P	11 50 21.5	+1.4
PKLO	Pickle Lake	24.82	72	P	P	11 50 20.6	-0.1
PKLO	Pickle Lake	24.82	72	P	P	11 50 20.6	-0.1
PKLO	Pickle Lake	24.82	72	P	P	11 50 20.6	-0.1
EYMN	Ely	25.09	80	P	P	11 50 22.6	-0.7
	baz=290,SNR=17						
EYMN	Ely	25.09	80	P	P	11 50 22.7	-0.6
SPMN	Marine on St.	25.28	87	P	P	11 50 24.9	-0.1
	baz=295,SNR=7.2						
SPMN	Marine on St.	25.28	87	P	P	11 50 24.1	-0.9
SPMN				IAmb	IAmb	11 50 29.2	
	comp=Z,27nm,0.8s						
E38A	The Farm, Brul	25.53	83	P	P	11 50 26.8	-0.4
	baz=293						
AMTX	Amarillo	25.61	116	P	P	11 50 28.7	+0.5
	baz=316						
AMTX	Amarillo	25.61	116	P	P	11 50 27.5	-0.6
MSTX	Muleshoe	25.65	119	P	P	11 50 29.2	+0.6
	baz=318,SNR=7.4						
MSTX	Muleshoe	25.65	119	P	P	11 50 27.7	-0.8
MSTX				IAmb	IAmb	11 50 35.5	
	comp=Z,32nm,1.1s						
KSU1	Kansas State U	25.95	102	P	P	11 50 30.7	-0.4
	baz=307						
MNTX	Cornudas Mount	25.96	126	P	P	11 50 32.1	+0.8
	baz=323,SNR=24						
MNTX	Cornudas Mount	25.96	126	P	P	11 50 30.1	-1.2
MNTX				IAmb	IAmb	11 50 40.6	
	comp=Z,49nm,1.4s						
U32A	Winter Ranch,	26.17	110	P	P	11 50 32.7	-0.5
U32A				IAmb	IAmb	11 50 40.7	
	comp=Z,46nm,1.2s						
TBO	Thunder Bay	26.18	78	P	P	11 50 34.3	+1.2
TBO	Thunder Bay	26.18	78	P	P	11 50 34.3	+1.2
TBO	Thunder Bay	26.18	78	P	P	11 50 34.3	+1.2
G39A	Holcombe	26.30	86	P	P	11 50 33.5	-0.7
	baz=295						
SCIA	State Center	26.56	94	P	P	11 50 36.4	-0.2
	baz=301						
G40A	Rib Lake	26.93	85	P	P	11 50 39.8	-0.2
	baz=295						
D41A	Chassel	27.27	80	P	P	11 50 42.8	-0.1
	baz=292						
GTO	Geraldton	27.36	74	P	P	11 50 44.8	+1.0
GTO	Geraldton	27.36	74	P	P	11 50 44.8	+1.0
GTO	Geraldton	27.36	74	P	P	11 50 44.8	+1.0
WMOK	Wichita Mounta	27.42	112	P	P	11 50 44.8	+0.4
	baz=314,SNR=24						
WMOK	Wichita Mounta	27.42	112	P	P	11 50 43.0	-1.4
WMOK				pmax	pmax		
	comp=Z,41nm,1.1s						
WMOK	Wichita Mounta	27.42	112	P	P	11 50 43.0	-1.4
WMOK				IAmb	IAmb	11 50 51.6	
	comp=Z,41nm,1.1s						
I41A	Arkdale	27.68	87	P	P	11 50 46.4	-0.2
	baz=297						
JFWS	Jewell Farm	27.97	90	P	P	11 50 49.1	-0.2
	baz=299						
JFWS	Jewell Farm	27.97	90	P	P	11 50 48.9	-0.4
JFWS				pmax	pmax		
	comp=Z,46nm,1.4s						
JFWS	Jewell Farm	27.97	90	P	P	11 50 48.9	-0.4
JFWS				IAmb	IAmb	11 50 52.4	
	comp=Z,46nm,1.4s						
F42A	Maple Grove Fa	28.05	83	P	P	11 50 49.0	-1.0
	baz=295						
I42A	Draeger Farm,	28.37	87	P	P	11 50 51.9	-0.9
	baz=298						
ABTX	Abilene, Hawle	28.41	117	P	P	11 50 54.3	+1.0
	baz=318						
ABTX	Abilene, Hawle	28.41	117	P	P	11 50 52.3	-1.1
ABTX				IAmb	IAmb	11 51 00.1	
	comp=Z,48nm,1.4s						
TUL1	Leonard	28.44	107	P	P	11 50 53.7	+0.2
	baz=311,SNR=12						
RES	Resolute Bay	28.57	19	LR	LR	12 02 10.0	
	comp=Z,405nm,18.0s,baz=188,slow=36						
TX31	Lajitas Ar. Si	28.74	127	P	P	11 50 55.5	-0.8
TX31				IAmb	IAmb	11 51 04.5	
	comp=Z,24nm,1.4s						
TXAR	Lajitas Array	28.74	127	P	P	11 50 55.7	-0.6
TXAR	Lajitas Array	28.74	127	P	P	11 50 58.1	+1.8
	comp=Z,4.4nm,0.9s,baz=328,slow=5.6,SNR=21						
TXAR				LR	LR	12 03 04.4	
	comp=Z,663nm,19.9s,baz=0.0,slow=38						
TXAR	Lajitas Array	28.74	127	P	P	11 50 55.7	-0.6
HHAR	Hobbs	29.35	104	P	P	11 51 00.9	-0.7
HHAR				IAmb	IAmb	11 51 11.7	
	comp=Z,21nm,1.5s						
F45A	CMU Biological	29.75	81	P	P	11 51 04.3	-0.7
	baz=295						
HDIL	Hopedale	29.79	93	P	P	11 51 05.1	-0.3
	baz=303						
MGMO	Mountain Grove	29.85	101	P	P	11 51 05.1	-0.9
MGMO				IAmb	IAmb	11 51 16.3	
	comp=Z,16nm,1.1s						
H45A	Beulah	29.87	84	P	P	11 51 05.4	-0.7
	baz=297						
JCT	Junction City	29.92	120	P	P	11 51 07.2	+0.4
	baz=320,SNR=11						
CCM	Cathedral Cave	29.95	99	P	P	11 51 06.9	-0.1
	baz=307						
CCM	Cathedral Cave	29.95	99	P	P	11 51 05.4	-1.5
CCM				pmax	pmax		
	comp=Z,23nm,1.4s						
CCM	Cathedral Cave	29.95	99	P	P	11 51 05.4	-1.5
CCM				IAmb	IAmb	11 51 12.6	
	comp=Z,23nm,1.4s						
U40A	Yellville	29.98	103	P	P	11 51 07.5	+0.3
	baz=310						
U40A	Yellville	29.98	103	P	P	11 51 05.8	-1.4
U40A				IAmb	IAmb	11 51 14.2	
	comp=Z,39nm,1.4s						
WHTX	Lake Whitney,	30.14	115	P	P	11 51 10.4	+1.8
	baz=317						
WHTX	Lake Whitney,	30.14	115	P	P	11 51 07.4	-1.2
P43A	Skaggs, Pawnee	30.14	95	P	P	11 51 08.6	0.0
	baz=304						
W39A	Magazine	30.14	106	P	P	11 51 09.0	+0.4
	baz=312						
M44A	Midewin, Midew	30.15	91	P	P	11 51 08.8	+0.2
	baz=302						
LPIG	La Paz	30.17	142	LR	LR	12 02 27.7	
	comp=Z,214nm,20.7s,baz=332,slow=35						
KAPO	Kapuskasing	30.20	73	P	P	11 51 09.0	0.0
KAPO	Kapuskasing	30.20	73	P	P	11 51 09.0	0.0
KAPO	Kapuskasing	30.20	73	P	P	11 51 09.0	0.0
E46A	Sault Ste Mari	30.23	79	P	P	11 51 09.1	-0.2
	baz=294						
H46A	Fife Lake	30.45	83	P	P	11 51 11.0	-0.2
	baz=297						
MIAR	Mount Ida	30.70	107	P	P	11 51 14.6	+1.1
	baz=312,SNR=18						
MIAR	Mount Ida	30.70	107	P	P	11 51 11.2	-2.3
MIAR				pmax	pmax		
	comp=Z,51nm,1.3s						
MIAR	Mount Ida	30.70	107	P	P	11 51 11.2	-2.3
FCAR	Ozark Folk Cen	30.73	103	P	P	11 51 11.6	-2.2
FCAR				IAmb	IAmb	11 51 16.7	
	comp=Z,21nm,0.8s						
435B	Jarrell	30.95	116	P	P	11 51 17.1	+1.3
	baz=319						
W41B	Gary Mavity, V	31.11	104	P	P	11 51 17.7	+0.5
	baz=311						
W41B	Gary Mavity, V	31.11	104	P	P	11 51 15.8	-1.4
X40A	Basin Creek Fa	31.20	106	P	P	11 51 18.4	+0.5
	baz=312						
LCAR	Lake Charles	31.23	102	P	P	11 51 16.8	-1.3
LCAR				IAmb	IAmb	11 51 20.5	
	comp=Z,11nm,0.7s						
SFIN	Lafayette	31.30	92	P	P	11 51 19.2	+0.5
	baz=303						
J47A	Sumner	31.30	85	P	P	11 51 18.5	-0.2
	baz=299						
S44A	Carbondale	31.44	98	P	P	11 51 20.0	0.0
	baz=307						
SIUC	Southern Illin	31.45	98	P	P	11 51 19.3	-0.7
SIUC				IAmb	IAmb	11 51 25.9	
	comp=Z,27nm,1.2s						
D48A	Paudash Townsh	31.48	77	P	P	11 51 19.8	-0.5
	baz=294						
WLAR	White Oak Lake	31.56	107	P	P	11 51 20.1	-1.0
OLIL	Olney	31.57	95	P	P	11 51 20.0	-1.1
P46A	Rosedale	31.64	93	P	P	11 51 22.3	+0.5
	baz=304						
833A	Chaparral WMA,	31.81	122	P	P	11 51 25.2	+1.9
	baz=322						
833A	Chaparral WMA,	31.81	122	P	P	11 51 21.8	-1.5
N47A	Urbana	31.93	90	P	P	11 51 25.3	+1.0
	baz=302						
M48A	Edgerton	32.24	88	P	P	11 51 27.2	+0.2
	baz=302						
N48A	Decatur	32.37	89	P	P	11 51 27.9	-0.2
	baz=302						
HKT	Hockley	32.58	115	P	P	11 51 28.5	-1.5
HKT				pmax	pmax		
	comp=Z,52nm,1.5s						
HKT	Hockley	32.58	115	P	P	11 51 28.5	-1.5
D50A	G1974 Best Tow	32.71	76	P	P	11 51 30.8	-0.3
	baz=294						
P48A	Milroy	32.87	92	P	P	11 51 32.1	-0.5
	baz=304						
P48A	Milroy	32.87	92	P	P	11 51 31.2	-1.4
P48A				IAmb	IAmb	11 51 42.6	
	comp=Z,22nm,1.1s						
N49A	Columbus Grove	32.88	88	P	P	11 51 31.4	-1.2
	baz=302						
Q48A	North Vernon	32.98	93	P	P	11 51 33.1	-0.4
	baz=305						
WCI	Wyandotte Cave	33.02	94	P	P	11 51 33.3	-0.5
	baz=306						
D51A	Lot 18 Range I	33.03	75	P	P	11 51 32.9	-1.0
	baz=295						
O49A	Covington	33.17	90	P	P	11 51 34.4	-0.9
	baz=303						
T47A	Sharon Grove	33.23	97	P	P	11 51 35.1	-0.6
	baz=308						
P49A	Miami Univ. Ec	33.29	91	P	P	11 51 35.6	-0.7
	baz=304						
WVT	Waverly	33.29	99	P	P	11 51 35.9	-0.3
	baz=309						
OXF	Oxford	33.32	102	P	P	11 51 36.6	+0.1
	baz=311,SNR=13						
OXF	Oxford	33.32	102	P	P	11 51 35.5	-1.0
OXF				pmax	pmax		
	comp=Z,127nm,1.2s						
OXF	Oxford	33.32	102	P	P	11 51 35.5	-1.0
O50A	Cable	33.66	89	P	P	11 51 38.8	-0.6
	baz=303						
LSQQ	Lebel-sur-Quev	33.72	71	P	P	11 51 39.4	-0.5
	baz=293						
BUKO	Buck Lake	33.73	78	P	P	11 51 39.0	-1.0
	baz=297						
E52A	Mattawa	33.82	76	P	P	11 51 40.0	-0.8
	baz=296						
P50A	Jamestown	33.84	90	P	P	11 51 40.1	-0.9
	baz=304						
PLAL	Pickwick Lake	33.85	100	P	P	11 51 39.5	-1.7
ACSO	Alum Creek Sta	34.02	89	P	P	11 51 42.0	-0.5
	baz=303						
D53A	Lac Vacive, Po	34.08	75	P	P	11 51 41.7	-1.3
	baz=295						
VBMS	Vicksburg	34.16	107	P	P	11 51 45.2	+1.4
	baz=314						
V48A	Smith Brothers	34.17	98	P	P	11 51 44.6	+0.7
	baz=309						
R50A	Paris	34.25	93	P	P	11 51 45.3	+0.7
	baz=306						
R50A	Paris	34.25	93	P	P	11 51 42.7	-1.9
O51A	Pataskala	34.31	88	P	P	11 51 44.8	-0.3
	baz=303						
ALGO	Algonquin Park	34.34	77	P	P	11 51 45.2	-0.1
	baz=297						
P51A	Williamsport	34.38	90	P	P	11 51 46.1	+0.3
	baz=304						
P51A	Williamsport	34.38	90	P	P	11 51 44.8	-1.0
E53A	Dumoine, Ponti	34.40	76	P	P	11 51 45.4	-0.4
	baz=296						
Q51A	Peebles	34.45	91	P	P	11 51 46.3	0.0
	baz=305						
Q51A	Peebles	34.45	91	P	P	11 51 45.4	-1.0
Q51A				IAmb	IAmb	11 51 53.5	
	comp=Z,40nm,1.4s						
S50A	Richmond	34.55	93	P	P	11 51 47.2	0.0
	baz=306						
R51A	Hillsboro	34.72	92	P	P	11 51 48.0	-0.7
	baz=306						
ZAIG	Zacatecas	34.73	132	P	P	11 51 47.1	-2.0
ZAIG				IAmb	IAmb	11 51 56.8	
	comp=Z,13nm,1.1s						
V49A	McMinnville	34.74	97	P	P	11 51 48.9	0.0
	baz=309						
O52A	Adamsville	34.82	88	P	P	11 51 49.8	+0.3
	baz=303						
X48A	Hartselle	34.85	100	P	P	11 51 49.8	+0.1
	baz=310						
P52A	Corning	34.90	89	P	P	11 51 49.6	-0.6
	baz=304						
W49A	Belvidere	34.92	99	P	P	11 51 50.9	+0.5
	baz=310						
N53A	Lisbon	35.09	86	P	P	11 51 51.6	-0.2
	baz=303						
S51A	Beattyville	35.09	93	P	P	11 51 51.6	-0.3
	baz=306						
Q52A	Bidwell	35.18	90	P	P	11 51 52.5	-0.2
	baz=305						
BILL	Bilibino	35.28	324⇓	eP	P	11 51 51.8	-1.4
BILL				*PP	pP	11 51 55.0	-0.6
BILL				e		11 52 01.1	
BILL						11 53 15.8	
BILL				e		11 54 28.8	
BILL				S	S	11 57 26.0	-0.6
BILL				pmax	pmax		
	comp=Z,13nm,1.3s						
BILL				MLR	MLR		
	comp=Z,246nm,16.0s						
R52A	Catlettsburg	35.30	91	P	P	11 51 53.2	-0.5
	baz=306						
L54A	Sinclairville	35.32	83	P	P	11 51 53.0	-0.8
	baz=301						
P53A	Whipple	35.45	89	P	P	11 51 54.9	0.0
	baz=304						
N54A	Moraine State	35.55	85	P	P	11 51 55.3	-0.5
	baz=302						
U51A	La Follette	35.57	95	P	P	11 51 55.9	-0.1
	baz=308						
R53A	Hurricane	35.75	91	P	P	11 51 56.3	-1.2
	baz=306						
TZTN	Tazewell	35.77	94	P	P	11 51 58.2	+0.4
	baz=308						
T52A	Hallie	35.80	93	P	P	11 51 57.9	-0.1
	baz=307						
T52A	Hallie	35.80	93	P	P	11 51 56.6	-1.3
LRAL	Lakeview Retre	35.80	102	P	P	11 51 58.5	+0.5
	baz=312						
L55A	Hinsdale	35.91	83	P	P	11 51 58.6	-0.3
	baz=301						
D56A	ZEC Mazanza, M	35.91	73	P	P	11 51 57.8	-1.0
	baz=296						
P54A	Burton	35.98	88	P	P	11 51 59.3	-0.2
	baz=304						
U52A	Thorn Hill	35.98	94	P	P	11 51 59.3	-0.3
	baz=308						
GAC	Glen Almond	36.06	76	P	P	11 52 01.7	+1.6
GAC	Glen Almond	36.06	76	P	P	11 52 01.7	+1.6
GAC	Glen Almond	36.06	76	P	P	11 52 01.7	+1.6
GAC	Glen Almond	36.06	76	P	P	11 52 01.7	+1.6
Q54A	Coxs Mills	36.09	89	P	P	11 51 59.9	-0.6
	baz=305,SNR=5.3						
Q54A	Coxs Mills	36.09	89	P	P	11 51 59.6	-0.9
T53A	Wise	36.16	93	P	P	11 52 01.2	0.0
	baz=307						
X51A	Calhoun	36.16	98	P	P	11 52 01.1	+0.1
	baz=310						
V52A	Sevierville	36.17	95	P	P	11 52 01.7	+0.5
	baz=308						
Z50A	Ashland	36.33	101	P	P	11 52 01.8	-0.8
	baz=312						
Z50A	Ashland	36.33	101	P	P	11 52 01.3	-1.3
Z50A				IAmb	IAmb	11 52 09.1	
	comp=Z,42nm,1.4s						
O55A	Ligonier	36.40	86	P	P	11 52 02.3	-0.8
	baz=304						
W52A	Murphy	36.42	97	P	P	11 52 02.7	-0.7
	baz=309						
R54A	Victor	36.45	90	P	P	11 52 03.2	-0.4
	baz=306						
D57A	Chemin Vers le	36.45	73	P	P	11 52 02.3	-1.2
	baz=296						
U53A	Fall Branch	36.51	94	P	P	11 52 03.3	-0.8
	baz=308						
Q55A	Buckhannon	36.57	88	P	P	11 52 03.3	-1.3
	baz=305						
T54A	Tazewell	36.73	92	P	P	11 52 05.5	-0.5
	baz=307						
Z51A	Franklin	36.77	100	P	P	11 52 06.8	+0.6
	baz=311						
V53A	Saluda	36.78	95	P	P	11 52 06.7	+0.3
	baz=308						
V53A	Saluda	36.78	95	P	P	11 52 05.2	-1.2
V53A				IAmb	IAmb	11 52 13.3	
	comp=Z,36nm,1.2s						
W53A	Cullowhee	36.86	96	P	P	11 52 07.6	+0.4
	baz=309						
250A	Grady	36.96	103	P	P	11 52 09.1	+1.2
	baz=313						
250A	Grady	36.96	103	P	P	11 52 06.8	-1.1
Y52A	Lilburn	37.12	98	P	P	11 52 09.3	0.0
	baz=310						
BG3	Lake Jocassee	37.12	96	P	P	11 52 08.6	-0.7
N57A	Milroy	37.22	84	P	P	11 52 09.4	-0.6
	baz=303						
V54A	Nebo	37.27	94	P	P	11 52 11.2	+0.6
	baz=308						
Z52A	Williamson	37.33	99	P	P	11 52 11.1	+0.1
	baz=311						
Y53A	Monroe	37.43	98	P	P	11 52 12.2	+0.3
	baz=310						
BINY	Binghamton	37.46	81	P	P	11 52 11.1	-1.0
	baz=302						
O57A	Amberson	37.46	85	P	P	11 52 11.6	-0.5
	baz=304						
152A	Waverly Hall	37.48	100	P	P	11 52 12.5	+0.2
	baz=312						
152A	Waverly Hall	37.48	100	P	P	11 52 10.9	-1.4
152A				IAmb	IAmb	11 52 14.8	
	comp=Z,25nm,0.9s						
SCHQ	Schefferville	37.53	58	LR	LR	12 08 05.0	
	comp=Z,1μm,18.5s,baz=299,slow=37						
W54A	Cherokee Point	37.54	95	P	P	11 52 12.2	-0.7
	baz=309						
L58A	Harry Jones Me	37.62	81	P	P	11 52 13.7	+0.3
	baz=302						
P57A	Homestead Farm	37.62	86	P	P	11 52 13.9	+0.5
	baz=304						
H59A	Cadyville	37.67	76	P	P	11 52 13.7	-0.2
	baz=299						
V55A	Taylorsville	37.69	93	P	P	11 52 14.3	+0.2
	baz=308						
N58A	Sunbury	37.71	83	P	P	11 52 14.3	+0.2
	baz=303						
T56A	Rocky Mt	37.74	91	P	P	11 52 14.4	-0.2
	baz=307

GOGA	**Godfrey**	**37.79**	**98**	P	**P**	**11 52 14.3**	**-0.6**
GOGA				pmax	pmax		
comp=Z,42nm,1.4s							
GOGA	**Godfrey**	**37.79**	**98**	P	**P**	**11 52 14.3**	**-0.6**
GOGA				IAmb	IAmb	11 52 20.6	
comp=Z,42nm,1.4s							
Z53A	**Monticello**	**37.81**	**99**	P	**P**	**11 52 15.5**	**+0.4**
baz=311							
252A	**Lumpkin**	**37.91**	**101**	P	**P**	**11 52 16.2**	**+0.2**
baz=312							
O58A	**Lewisberry**	**37.97**	**84**	P	**P**	**11 52 16.2**	**-0.2**
baz=304							
I59A	**Olmsteadville**	**37.98**	**77**	P	**P**	**11 52 16.0**	**-0.4**
baz=300							
Y54A	**Tignall**	**37.99**	**97**	P	**P**	**11 52 16.1**	**-0.6**
baz=310							
S57A	**Dark Hollow, R**	**38.00**	**89**	P	**P**	**11 52 16.4**	**-0.4**
baz=306							
S57A	**Dark Hollow, R**	**38.00**	**89**	P	**P**	**11 52 16.3**	**-0.4**
S57A				IAmb	IAmb	11 52 23.8	
comp=Z,30nm,1.1s							
Q58A	**Fox Den Farm,**	**38.14**	**87**	P	**P**	**11 52 18.0**	**+0.2**
baz=305							
T57A	**Hurt**	**38.26**	**90**	P	**P**	**11 52 18.6**	**-0.3**
baz=307							
N59A	**State Game Lan**	**38.27**	**83**	P	**P**	**11 52 19.1**	**+0.1**
baz=303							
Z54A	**Sparta**	**38.30**	**98**	P	**P**	**11 52 19.5**	**+0.3**
baz=311							
R58A	**Rapidan**	**38.30**	**88**	P	**P**	**11 52 19.2**	**0.0**
baz=306							
I60A	**Shoreham**	**38.32**	**77**	P	**P**	**11 52 18.2**	**-1.0**
baz=300							
O59A	**Robesonia**	**38.34**	**84**	P	**P**	**11 52 19.3**	**-0.2**
baz=304							
Y55A	**Saluda**	**38.48**	**96**	P	**P**	**11 52 20.8**	**+0.1**
baz=310							
U57A	**Blanch**	**38.55**	**91**	P	**P**	**11 52 20.6**	**-0.7**
baz=308							
R58B	**Mineral**	**38.58**	**88**	P	**P**	**11 52 21.2**	**-0.4**
baz=306							
254A	**Abbeville**	**38.86**	**100**	P	**P**	**11 52 23.7**	**-0.3**
baz=312							
V58A	**Windy Hill, Pi**	**39.08**	**92**	P	**P**	**11 52 24.9**	**-0.8**
baz=308							
T59A	**Double "B" Far**	**39.37**	**89**	P	**P**	**11 52 28.6**	**+0.5**
baz=307							
U59A	**Littleton**	**39.59**	**90**	P	**P**	**11 52 30.0**	**+0.1**
baz=308							
SFJD	**Kangerlussuaq**	**41.31**	**36**	LR	LR	12 10 09.6	
comp=Z,278nm,19.1s,baz=286,slow=37							
H66A	**Whiting**	**41.55**	**72**	P	**P**	**11 52 45.9**	**-0.2**
baz=301							
SEY	**Seymchan**	**41.95**	**318**	*i* P	**P**	**11 52 49.0**	**-0.2**
SEY	**Seymchan**	**41.95**	**318**	P	**P**	**11 52 50.1**	**+1.0**
comp=Z,7.7nm,1.0s,baz=86,slow=9.2,SNR=6.8							
PET	**Petropavlovsk**	**42.77**	**303**	*i* P	**P**	**11 52 53.3**	**-2.7**
PET				pmax	pmax		
comp=Z,43nm,1.1s							
PETK	**Petropavlovsk-**	**43.25**	**303**	P	**P**	**11 53 00.2**	**+0.3**
comp=Z,10nm,0.8s,baz=55,slow=12,SNR=5.1							
PETK				LR	LR	12 08 43.5	
comp=Z,244nm,18.8s,baz=62,slow=33							
TIXI	**Tiksi**	**46.62**	**335**	*i* P	**P**	**11 53 27.8**	**+1.4**
TIXI				pmax	pmax		
comp=Z,8.0nm,1.2s							
YAK	**Yakutsk**	**51.63**	**324**	P	**P**	**11 54 02.8**	**-2.1**
YAK				pmax	pmax		
comp=Z,12nm,0.8s							
YAK	**Yakutsk**	**51.63**	**324**	P	**P**	**11 54 05.7**	**+0.8**
comp=Z,5.2nm,0.4s,baz=253,slow=7.4,SNR=4.0							
YAK	**Yakutsk**	**51.63**	**324**	P	**P**	**11 54 02.8**	**-2.1**
YAK				IAmb	IAmb	11 54 06.7	
comp=Z,12nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**57.98**	**263**	T	T	12 57 28.6	
baz=42,slow=76,SNR=180							
H11N3	**WAKE ISLAND Hy**	**57.98**	**263**	T	T	12 57 28.6	
baz=42,slow=76,SNR=270							
H11N1	**WAKE ISLAND Hy**	**57.99**	**263**	T	T	12 57 29.9	
baz=42,slow=76,SNR=168							
H11S1	**WAKE ISLAND Hy**	**59.00**	**262**	T	T	12 58 48.2	
baz=47,slow=74,SNR=23							
H11S2	**WAKE ISLAND Hy**	**59.01**	**262**	T	T	12 58 45.1	
baz=47,slow=74,SNR=18							
H11S3	**WAKE ISLAND Hy**	**59.02**	**262**	T	T	12 58 52.4	
baz=47,slow=74,SNR=11							
ARCES	**ARCESS Array B**	**59.25**	**10**	P	**P**	**11 54 58.5**	**-1.2**
ARCES	**ARCESS Array B**	**59.25**	**10**	P	**P**	**11 54 59.4**	**-0.3**
comp=Z,2.6nm,0.9s,baz=340,slow=7.7,SNR=2.8							
ARCES				LR	LR	12 21 52.0	
comp=Z,78nm,18.6s,baz=344,slow=37							
ARCES	**ARCESS Array B**	**59.25**	**10**	P	**P**	**11 54 58.5**	**-1.2**
TAOE	**Nuku Hiva Isla**	**59.45**	**192**	*e* LR	LR	12 11 48.1	
comp=Z,223nm,29.1s							
TAOE	**Nuku Hiva Isla**	**59.45**	**192**	*e* T	T	12 58 33.0	
comp=Z,16nm,0.2s							
USRK	**Ussuriysk Ar.**	**62.16**	**306**	P	**P**	**11 55 19.4**	**-0.4**
comp=Z,6.3nm,1.1s,baz=77,slow=7.6,SNR=5.9							
USRK				LR	LR	12 21 36.2	
comp=Z,118nm,20.9s,baz=31,slow=35							
USRK	**Ussuriysk Ar.**	**62.16**	**306**	P	**P**	**11 55 17.1**	**-2.7**
ROSC	**El Rosal**	**64.77**	**115**	LR	LR	12 28 47.4	
comp=Z,116nm,18.3s,baz=332,slow=40							
NOA	**NORSAR Array B**	**64.83**	**20**	LR	LR	12 23 32.9	
comp=Z,109nm,18.8s,baz=30,slow=36							
PMOR	**Pomariorio Res**	**66.79**	**199**	*e* T	T	13 07 41.2	
comp=Z,12nm,0.3s							
FINES	**FINESS Array B**	**67.08**	**12**	P	**P**	**11 55 50.4**	**-1.3**
FINES	**FINESS Array B**	**67.08**	**12**	P	**P**	**11 55 51.5**	**-0.1**
comp=Z,1.9nm,0.8s,baz=14,slow=8.6,SNR=3.2							
FINES				LR	LR	12 25 43.4	
comp=Z,155nm,18.8s,baz=333,slow=36							
FINES	**FINESS Array B**	**67.08**	**12**	P	**P**	**11 55 50.4**	**-1.3**
PRGR	**Permogore**	**68.49**	**2**	*e* P	**P**	**11 55 58.0**	**-2.5**
PRGR				pmax	pmax		
comp=Z,13nm,1.0s							
KLMR	**Klimovskoe**	**69.00**	**6**	*e* P	**P**	**11 56 03.6**	**-0.1**
KLMR				pmax	pmax		
comp=Z,38nm,1.5s							
KLMR	**Klimovskoe**	**69.00**	**6**	*e* P	**P**	**11 56 03.7**	**0.0**
KLMR				AMP		11 56 10.8	
comp=Z,38nm,1.5s							
KSRS	**Korea Array**	**69.15**	**304**	P	**P**	**11 56 04.6**	**-0.4**
comp=Z,1.5nm,0.9s,baz=47,slow=9.1,SNR=4.2							
KSRS				LR	LR	12 24 22.8	
comp=Z,55nm,19.7s,baz=30,slow=34							
KSAR	**Wonju Array Be**	**69.18**	**304**	P	**P**	**11 56 03.1**	**-2.1**
KSAR	**Wonju Array Be**	**69.18**	**304**	P	**P**	**11 56 03.1**	**-2.1**
PPT2	**Papeete2**	**69.66**	**200**	*e* LR	LR	12 16 30.1	
comp=Z,91nm,25.2s							
SONM	**Songino Array**	**71.00**	**324**	LR	LR	12 26 47.0	
comp=Z,295nm,21.6s,baz=28,slow=35							
ZAA0	**Zalesovo Array**	**72.22**	**339**	P	**P**	**11 56 21.5**	**-1.9**
ZAA0				IAmb	IAmb	11 56 29.6	
comp=Z,7.6nm,1.2s							
ZALV	**Zalesovo Beam**	**72.22**	**339**	P	**P**	**11 56 21.9**	**-1.5**
ZALV	**Zalesovo Beam**	**72.22**	**339**	P	**P**	**11 56 22.7**	**-0.8**
comp=Z,1.3nm,0.6s,baz=34,slow=5.4,SNR=6.6							
ZALV				LR	LR	12 33 15.3	
comp=Z,99nm,18.2s,baz=7.0,slow=40							
ZALV	**Zalesovo Beam**	**72.22**	**339**	P	**P**	**11 56 21.9**	**-1.5**
SVE	**Sverdlovsk**	**73.01**	**354**	*e* P	**P**	**11 56 31.2**	**+3.1**
SVE				pmax	pmax		
comp=Z,15nm,1.2s							
ARU	**Arti**	**73.53**	**355**	*d i* P	**P**	**11 56 33.1**	**+1.9**
ARU						11 59 09.7	
ARU				S	**SKiKP**	**12 06 05.2**	**+4.0**
ARU				SS	**SS**	**12 10 44.5**	**+2.6**
ARU				pmax	pmax		
comp=Z,12nm,1.2s							
OBN	**Obninsk**	**74.48**	**8**	⇓ *e* P	P	11 56 42.0	+5.3
OBN				*PP	pwP	11 56 46.0	+3.8
OBN				*SP	**PcP**	**11 56 49.0**	**-2.2**
OBN						11 56 52.0	
OBN				*e*		12 07 01.2	
OBN				SS	SS	12 10 57.0	+0.7
OBN				pmax	pmax		
comp=Z,10.0nm,0.4s							
OBN				MLR	MLR		
comp=Z,88nm,17.0s							
HHC	**Hu-ho-hao-te**	**74.57**	**316**	*e* P	**P**	**11 56 38.5**	**+0.8**
HHC				pmax	pmax		
comp=Z,6.0nm,1.0s							
BRVK	**Borovoye**	**75.74**	**348**	*i* P	**P**	**11 56 47.3**	**+3.2**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.1s							
KURK	**Kurchatov**	**76.58**	**342**	P	**P**	**11 56 47.5**	**-1.4**
KURK				pmax	pmax		
comp=Z,11nm,1.5s							
KURK	**Kurchatov**	**76.58**	**342**	P	**P**	**11 56 47.5**	**-1.4**
KURK				IAmb	IAmb	11 56 51.4	
comp=Z,11nm,1.5s							
AKASG	**Malin Array Be**	**77.94**	**13**	P	**P**	**11 56 55.1**	**-1.4**
AKASG				pmax	pmax		
comp=Z,2.0nm,1.3s							
AKASG	**Malin Array Be**	**77.94**	**13**	P	**P**	**11 56 59.2**	**+2.7**
comp=Z,1.4nm,0.6s,baz=330,slow=5.2,SNR=7.0							
AKASG				LR	LR	12 30 49.0	
comp=Z,106nm,19.9s,baz=300,slow=35							
AKASG	**Malin Array Be**	**77.94**	**13**	P	**P**	**11 56 55.1**	**-1.4**
NJ2	**Nanjing**	**78.07**	**306**	*e* P	**P**	**11 57 01.0**	**+3.5**
NJ2				pmax	pmax		
comp=Z,12nm,0.5s							
VSR	**Storozhevoye**	**78.56**	**7**	*i* P	**P**	**11 57 03.2**	**+3.3**
VSR				pmax	pmax		
comp=Z,10.0nm,1.1s							
UZH	**Uzhgorod**	**78.72**	**18**	⇓ *i* P	P	11 57 06.7	+5.9
UZH				*e*		11 57 12.3	
ESDC	**Sonseca Array**	**78.72**	**40**	P	**P**	**11 57 03.6**	**+2.5**
comp=Z,0.3nm,0.3s,baz=333,slow=4.6,SNR=3.4							
ESDC	**Sonseca Array**	**78.72**	**40**	P	**P**	**11 57 00.6**	**-0.5**
MK31	**Makanchi Array**	**79.48**	**338**	*i* P	**P**	**11 57 04.1**	**-1.0**
MKAR	**Makanchi Array**	**79.48**	**338**	P	**P**	**11 57 02.7**	**-2.4**
MKAR	**Makanchi Array**	**79.48**	**338**	P	**P**	**11 57 04.0**	**-1.1**
comp=Z,1.0nm,0.8s,baz=34,slow=7.1,SNR=5.2							
MKAR				LR	LR	12 36 29.6	
comp=Z,117nm,18.3s,baz=17,slow=39							
MKAR	**Makanchi Array**	**79.48**	**338**	P	**P**	**11 57 02.7**	**-2.4**
MAKZ	**Makanchi**	**79.54**	**338**	P	**P**	**11 57 03.3**	**-2.1**
MAKZ				pmax	pmax		
comp=Z,13nm,1.2s							
MAKZ	**Makanchi**	**79.54**	**338**	P	**P**	**11 57 03.4**	**-2.1**
MAKZ				IAmb	IAmb	11 57 10.7	
comp=Z,13nm,1.2s							
ABKAR	**Akbulak array**	**80.59**	**353**	P	**P**	**11 57 09.2**	**-1.8**
GTA	**Gaotai**	**80.66**	**323**	*e* P	**P**	**11 57 11.0**	**-0.8**
GTA				pP	sP	11 57 15.4	+0.1
GTA				sP	PcP	11 57 18.1	-0.5
GTA				pmax	pmax		
comp=Z,1.0nm,0.9s							
WMQ	**Urumqi**	**80.81**	**333**	*e* P	**P**	**11 57 16.2**	**+3.8**
WMQ				sP	PcP	11 57 22.3	+3.3
WMQ				pmax	pmax		
comp=Z,7.0nm,0.7s							
WMQ				pmax	pmax		
comp=Z,81nm,3.7s							
WMQ				LR	LR		
comp=Z,810nm,29.3s							
WMQ				LR	LR		
comp=Z,1μm,28.3s							
WMQ				LR	LR		
comp=Z,260nm,26.3s							
LZH	**Lanzhou**	**81.88**	**319**	*e* P	**P**	**11 57 21.0**	**+2.7**
LZH				pP	PcP	11 57 24.2	+0.2
LZH				sP	pwP	11 57 25.8	+2.0
LZH				pmax	pmax		
comp=Z,21nm,1.3s							
LZH				pmax	pmax		
comp=Z,82nm,8.7s							
LZH				LR	LR		
comp=Z,220nm,16.5s							
LZH				LR	LR		
comp=Z,230nm,16.7s							
LZH				LR	LR		
comp=Z,330nm,19.0s							
AAK	**Ala-Archa**	**85.14**	**342**	*i* P	**P**	**11 57 35.6**	**+0.6**
AAK				pmax	pmax		
comp=Z,4.0nm,1.3s							
LPAZ	**La Paz**	**85.50**	**122**	P	**P**	**11 57 40.8**	**+3.3**
comp=Z,2.4nm,0.8s,baz=308,slow=4.7,SNR=5.8							
LPAZ				LR	LR	12 39 31.3	
comp=Z,54nm,19.3s,baz=326,slow=38							
KIV	**Kislovodsk**	**86.03**	**5**	*e* P	**P**	**11 57 39.8**	**+0.5**
KIV				pmax	pmax		
comp=Z,27nm,1.1s							
KIV				MLR	MLR		
comp=Z,160nm,20.0s							
KBZ	**Khabaz**	**86.27**	**5**	*i* P	**P**	**11 57 44.3**	**+4.0**
KSH	**Kashi**	**87.83**	**340**	P	**P**	**11 57 51.6**	**+3.4**
KSH				PP	**PP**	**12 01 19.7**	**+6.7**
KSH				S	**S**	**12 08 31.5**	**+0.7**
KSH				sS	ScS	12 08 39.7	+2.3
KSH				SS	**SS**	**12 14 21.2**	**+5.2**
KSH				LR	LR		
comp=Z,180nm,9.9s							
KSH				LR	LR		
comp=Z,100nm,8.8s							
KSH				LR	LR		
comp=Z,250nm,10.9s							
BRTR	**Keskin Array B**	**89.32**	**13**	P	**P**	**11 57 53.2**	**-2.0**
BRTR	**Keskin Array B**	**89.32**	**13**	P	**P**	**11 57 57.8**	**+2.6**
comp=Z,0.4nm,0.7s,baz=343,slow=3.0,SNR=3.7							
BRTR				LR	LR	12 39 59.3	
comp=Z,33nm,19.3s,baz=180,slow=37							
BRTR	**Keskin Array B**	**89.32**	**13**	P	**P**	**11 57 53.2**	**-2.0**
DZM	**Mont Dzumac**	**91.22**	**236**	*e* LR	LR	12 26 28.1	
comp=Z,168nm,30.9s							
GEYT	**Alibeck**	**91.99**	**354**	LR	LR	12 42 25.4	
comp=Z,18nm,19.7s,baz=25,slow=38							
BDFB	**Brasilia**	**96.78**	**106**	LR	LR	12 48 05.0	
comp=Z,66nm,18.4s,baz=256,slow=39							
CMAR	**Chiang Mai Arr**	**99.24**	**314**	LR	LR	12 46 22.9	
comp=Z,48nm,21.9s,baz=6.0,slow=37							
CPUP	**Villa Florida**	**99.51**	**120**	LR	LR	12 49 37.3	
comp=Z,43nm,18.7s,baz=29,slow=39							
VNA3	**Neumayer Olymp**	**146.04**	**150**	PKPdf	**PKPbc**	**12 04 37.2**	**-0.1**
VNA1	**Neumayer--Stat**	**146.57**	**149**	PKPdf	**PKPbc**	**12 04 38.9**	**+0.2**
VNA2	**Neumayer--Watz**	**146.82**	**150**	PKPdf	**PKiKP**	**12 04 41.6**	**-0.6**
baz=318,slow=5.0							

ISK 08 11:45:27.1,37°.17N×27°.86E, h5km, ML1.6/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.14**	**332**	PG	Pg	11 45 30.8	+0.8
MLSB				SG	Sg	11 45 33.1	+1.1
YER	**Yerkesik**	**0.34**	**96**	PG	Pb	11 45 34.9	-0.8
YER				SG	Sb	11 45 40.1	-1.3
BODT	**Bodrum**	**0.45**	**257**	PG	Pb	11 45 37.1	-0.5
BODT				SG	Sb	11 45 44.3	-0.3
TURN	**Turunc**	**0.66**	**116**	PG	Pg	11 45 37.9	-1.9
TURN				SG	Sg	11 45 46.1	-2.3
AYDB	**Zeytinkoy-Aydi**	**0.78**	**2**	PG	Pb	11 45 43.2	0.0
AYDB				SG	Sb	11 45 55.4	+1.3

*IDC **08** 11:51:16.9±2.0, 1°.04N×125°.29E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/41, mbtmp3.5/3, Error ellipse: s-maj=166.9km s-min=27.0km az=64.0*
*ISCJB **08** 11:51:30.6±0.6, 0°.01S±0°.06×123°.78E±0°.04, h122km±6km, mb3.4/3, Error ellipse: s-maj=10.7km s-min=6.9km az=8.3*
*DJA **08** 11:51:31.3±0.4, 0°N±3°×12°4E±°, h110km±6km, M3.9/12, mb4.0/5, mB4.2/1, MLv3.8/12, Mw(mB)3.3/1*

ISC 08 11:51:31.2±1.0, 0°.02N±0°.06×123°.79E±0°.05, h119km±9km, n14, σ1°78/21, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.58**	**19**	P	**Pn**	**11 51 50.2**	**+0.6**
KMSI				S	**Sn**	**11 52 05.1**	**+1.7**
LUWI	**Luwuk**	**1.47**	**224**	P	**Pn**	**11 51 58.8**	**+0.7**
LUWI				S	**Sn**	**11 52 17.8**	**-0.8**
MRSI	**Marisa**	**1.91**	**284**	P	**Pn**	**11 52 01.5**	**-1.9**
MRSI				S	**Sn**	**11 52 24.1**	**-3.9**
APSI	**Ampana**	**2.33**	**247**	P	**Pn**	**11 52 09.7**	**+0.9**
APSI				S	**Sn**	**11 52 37.4**	**-0.2**
SANI	**Sanana**	**3.00**	**133**	P	**Pn**	**11 52 16.5**	**-1.0**
SANI				S	**Sn**	**11 52 49.2**	**-4.0**
MPSI	**Mapaga**	**3.91**	**275**	P	**Pn**	**11 52 29.2**	**-0.3**
MPSI				S	**Sn**	**11 53 15.2**	**+0.6**
NLAI	**Namlea**	**4.62**	**134**	P	**Pn**	**11 52 39.7**	**+0.6**
NLAI				S	**Sn**	**11 53 30.5**	**-1.4**
TTSI	**Tana Toraja**	**5.00**	**233**	P	**Pn**	**11 52 44.6**	**+0.4**
33nm,0.8s,0.2nm							
BBSI	**Bau Bau**	**5.60**	**193**	P	**Pn**	**11 52 53.0**	**+0.7**
SPSI	**Sidrap Palu**	**5.64**	**225**	P	**Pn**	**11 52 53.2**	**+0.4**
6.9nm,0.7s,0.0nm							
MSAI	**Masohi**	**6.12**	**123**	P	**Pn**	**11 53 00.5**	**+1.2**
WRA	**Warramunga Arr**	**22.37**	**153**	P	**P**	**11 56 19.5**	**-0.2**
1.3nm,0.7s,baz=335,slow=10,SNR=16							
ASAR	**Alice Springs**	**25.51**	**158**	P	**P**	**11 56 51.4**	**+2.7**
0.4nm,0.4s,baz=352,slow=15,SNR=7.4							
MKAR	**Makanchi Array**	**59.02**	**328**	P	**P**	**12 01 18.4**	**-0.1**
0.4nm,0.8s,baz=134,slow=7.8,SNR=3.6							

*IDC **08** 11:57:32.6±3.0, 50°.61N×131°.74W, h0km, mb3.9/1, mb1 3.7/5, mb1mx3.4/46, mbtmp3.5/5, ML3.6/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/53, Error ellipse: s-maj=35.1km s-min=30.0km az=74.0*
*ISCJB **08** 11:57:39.9±1.4, 50°.14N±0°.08×130°.1W±0°.1, h10km, mb3.9/1, MS3.6/1, Error ellipse: s-maj=11.8km s-min=9.5km az=27.2*
*PGC **08** 11:57:40.0±16.0, 50°.09N×130°.31W, h10km, MLSn2.9/11, Mw3.6/11, Mw3.5/11, 216km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 08 11:57:41.8±1.5, 50°.30N±0°.07×130°.06W±0°.08, h10km, n19, σ1°88/19, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.28**	**74**	Pn	**Pb**	**11 58 05.4**	**-0.6**
BPBC	**Brooks Peninsu**	**1.48**	**95**	Pn	Pn	11 58 03.7	-4.8
PACB	**Port Alice, BC**	**1.65**	**84**	Sn	**Sn**	**11 58 30.5**	**-1.5**
PHC	**Port Hardy**	**1.73**	**75**	Sn	**Sb**	**11 58 33.6**	**-1.8**
MAYB	**Maynard**	**1.85**	**86**	Sn	**Sb**	**11 58 38.6**	**-0.5**
WOSB	**Woss**	**2.25**	**92**	Pn	**Pn**	**11 58 18.0**	**-1.1**
BBB	**Bella Bella**	**2.25**	**32**	Pn	**Pn**	**11 58 18.4**	**-0.6**
8.9nm,0.3s,baz=269,slow=3.2,SNR=15							
BBB				Sn	**Sb**	**11 58 49.4**	**-1.0**
9.2nm,0.3s,baz=313,slow=21,SNR=16							
BBB	**Bella Bella**	**2.25**	**32**	Pn	**Pn**	**11 58 18.0**	**-1.1**
BBB				Sn	**Sb**	**11 58 48.9**	**-1.5**
BNB	**Barry Inlet**	**2.51**	**336**	Pn	**Pn**	**11 58 22.3**	**-0.5**
NCRB	**Newcastle Ridg**	**2.57**	**86**	Pn	**Pn**	**11 58 23.3**	**-0.3**
BCBC	**Bella Coola**	**2.94**	**44**	Pn	**Pb**	**11 58 31.9**	**-2.2**
BCBC				Sn	**Sb**	**11 59 08.4**	**-1.7**
CBB	**Campbell River**	**3.03**	**93**	Pn	**Pn**	**11 58 28.9**	**-0.9**
UBRB	**Upper Baezaeko**	**4.54**	**53**	Pn	**Pn**	**11 58 54.2**	**+3.5**
UBRB				Sn	**Sn**	**11 59 47.5**	**+3.9**
NEW	**Newport**	**8.70**	**99**	LR	LR	12 04 00.9	
comp=Z,60nm,20.3s,baz=268,slow=40							
NVAR	**Mina Array Bea**	**14.52**	**140**	Pn	**P**	**12 01 14.2**	**0.0**
0.0nm,0.3s,baz=322,slow=10,SNR=2.4							
PDAR	**Pinedale Array**	**15.96**	**110**	P	**P**	**12 01 31.5**	**+1.4**
0.1nm,0.3s,baz=317,slow=8.1,SNR=6.4							
ILAR	**Eielson Array**	**17.00**	**335**	Pn	Pn	12 01 21.6	-18
0.1nm,0.3s,baz=172,slow=13,SNR=4.9							
ULM	**Lac du Bonnet**	**21.74**	**77**	P	**P**	**12 02 35.6**	**+2.5**
4.6nm,0.9s,baz=276,slow=11,SNR=3.4							
GNI	**Garni**	**89.82**	**4**	LR	LR	12 55 47.1	
comp=Z,25nm,19.4s,baz=40,slow=39							

MIRAS 08 12:07:53.3±0.0, 54°.94N×61°.18E, h0km, ML2.4/3, 4C-2D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAUR	**Kamensk Uralsk**	**1.51**	**7**	⇓ *i* P	Pn	12 08 21.2	-0.4
214μm,5.3s							
KAUR				*e* S	Sg	12 08 41.5	-0.3
ARU	**Arti**	**2.11**	**316**	⇑ *i* P	Pn	12 08 29.9	+0.1
41μm,1.0s							
ARU				*e* S	Sb	12 08 58.8	-0.3
PR3R	**Kungur**	**3.43**	**319**	*e* P	Pn	12 08 47.2	-0.8
51μm,3.9s							
PR3R				*e* S	Sn	12 09 30.1	+0.9
AKTO	**Aktyubinsk**	**4.90**	**204**	⇑ Pg	Pb	12 09 18.6	-1.4
2.2nm,0.9s							
AKTO				⇑ Lg	Lg	12 10 20.7	
6.0nm,1.3s							
AB31	**Akbulak array**	**5.74**	**188**	⇑ Pg	Pb	12 09 31.5	-2.8
0.4nm,0.6s,baz=11,slow=16							
AB31				⇓ Lg	Lg	12 10 42.7	
1.0nm,0.5s,baz=16,slow=27,SNR=3.9							

IDC 08 12:26:38.3±2.2, 50°.39N×129°.73W, h0km, mb1 3.6/5, mb1mx3.4/50, mbtmp3.3/5, ML3.3/5, Error ellipse: s-maj=32.7km s-min=16.2km az=77.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.06**	**29**	Pn	Pn	12 27 12.1	-2.0
12nm,0.3s,baz=222,slow=14,SNR=11							
BBB				Sn	Sn	12 27 40.2	-0.4
29nm,0.3s,baz=307,slow=21,SNR=12							
DLBC	**Dease Lake**	**8.07**	**359**	Pn	Pn	12 28 37.3	+0.7
0.1nm,0.3s,baz=213,slow=10,SNR=6.1							
NVAR	**Mina Array Bea**	**14.46**	**141**	Pn	P	12 30 08.7	-2.6
0.1nm,0.3s,baz=326,slow=13,SNR=4.8							
PDAR	**Pinedale Array**	**15.79**	**111**	Pn	Pn	12 30 23.6	+1.4
0.0nm,0.3s,baz=309,slow=9.4,SNR=4.4							
ILAR	**Eielson Array**	**17.00**	**334**	P	Pn	12 30 37.2	0.0
0.0nm,0.3s,baz=151,slow=12,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**58.12**	**263**	T	T	13 39 01.6	
baz=42,slow=75,SNR=3.9							
H11N3	**WAKE ISLAND Hy**	**58.13**	**263**	T	T	13 39 04.5	
baz=42,slow=75,SNR=5.2							
H11N1	**WAKE ISLAND Hy**	**58.14**	**263**	T	T	13 39 05.3	
baz=42,slow=75,SNR=3.8							

*NNC **08** 12:27:24.0±0.8, 44°.32N×81°.77E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.2km s-min=3.6km az=131.0*
*SOME **08** 12:27:24.2, 44°.25N×81°.73E, h5km*

ISC 08 12:27:23.1±1.6, 44°.19N±0°.04×81°.79E±0°.06, h15km±12km, n43, σ1°53/65, 12C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.44**	**276**

MK31 Lg Lg 12 28 40.0
9.3nm,0.3s,baz=187,slow=27,SNR=15
ZHN Zhinishke 2.64 248 Pg **Pg 12 28 12.4 -1.3**
9.9nm,0.1s
ZHN Lg Lg 12 28 47.0
54nm,0.4s
ZHN Zhinishke 2.64 248 *e*P **Pg 12 28 12.3 -1.3**
9.9nm,0.1s
ZHN *e*S **Sg 12 28 47.0 -0.9**
54nm,0.4s
SATY Saty 2.70 246 Pg **Pg 12 28 13.2 -1.7**
8.4nm,0.1s
SATY Lg Lg 12 28 48.6
252nm,0.3s
SATY Saty 2.70 246 *e*P **Pg 12 28 13.2 -1.7**
8.4nm,0.1s
SATY *e*S **Sg 12 28 48.6 -1.3**
252nm,0.3s
KURS Kuram 2.71 256 Pg **Pg 12 28 13.9 -1.2**
5.5nm,0.4s
KURS Lg Lg 12 28 49.8
41nm,0.4s
KURS Kuram 2.71 256 *e*P **Pg 12 28 13.9 -1.2**
5.5nm,0.4s
KURS *e*S **Sg 12 28 49.8 -0.4**
41nm,0.4s
ARXS Arharly 2.85 272 *e*P **Pg 12 28 16.1 -1.6**
10nm,0.2s
ARXS *e*S **Sg 12 28 53.9 -0.8**
88nm,0.4s
CHKK Chushkaly 3.48 266 Pg **Pg 12 28 27.6 -2.1**
14nm,0.4s
CHKK Lg Lg 12 29 13.3
78nm,0.3s
CHKK Chushkaly 3.48 266 *e*P **Pg 12 28 27.6 -2.1**
14nm,0.4s
CHKK *e*S **Sg 12 29 13.3 -1.4**
78nm,0.3s
KOTS Kotyrbulak 3.52 256 Pg **Pg 12 28 29.5 -1.1**
38nm,0.4s
KOTS Lg Lg 12 29 16.7
247nm,0.6s
KOTS Kotyrbulak 3.52 256 *e*P **Pg 12 28 29.5 -1.1**
38nm,0.4s
KOTS *e*S **Sg 12 29 16.7 +0.5**
247nm,0.6s
MDOK Medeo 3.59 255 ⇑Pg **Pg 12 28 31.0 -0.8**
8.9nm,0.6s
MDOK Lg Lg 12 29 19.4
17nm,0.4s
MDOK Medeo 3.59 255 Pg **Pg 12 28 31.2 -0.6**
9.6nm,0.6s
MDOK Lg Lg 12 29 19.4
31nm,0.6s
MDOK Medeo 3.59 255 *e*P **Pg 12 28 31.2 -0.6**
9.6nm,0.6s
MDOK *e*S **Sg 12 29 19.4 +1.1**
31nm,0.6s
TNSS Tian-Shan 3.70 254 Pg **Pg 12 28 31.5 -2.5**
9.3nm,0.4s
TNSS Lg Lg 12 29 19.5
31nm,0.4s
TNSS Tian-Shan 3.70 254 *e*P **Pg 12 28 31.4 -2.5**
9.3nm,0.4s
TNSS *e*S **Sg 12 29 19.5 -2.4**
31nm,0.4s
KTBS Karatobe 3.72 264 Pg **Pg 12 28 32.3 -2.0**
4.2nm,0.4s
KTBS Lg Lg 12 29 21.4
63nm,0.7s
KTBS Karatobe 3.72 264 *e*P **Pg 12 28 32.3 -2.0**
4.2nm,0.4s
KTBS *e*S **Sg 12 29 21.4 -1.1**
63nm,0.7s
ZSN Zaisan 3.91 32 Pg **Pb 12 28 32.1 +0.4**
9.7nm,0.2s
ZSN Lg Lg 12 29 21.1
29nm,0.3s
ZSN Zaisan 3.91 32 *e*P **Pb 12 28 32.1 +0.4**
9.7nm,0.2s
ZSN *e*S **Sb 12 29 21.1 +2.3**
29nm,0.3s
IZV Izvestkoviy 3.93 255 Pg **Pg 12 28 37.2 -1.2**
6.6nm,0.3s
IZV Lg Lg 12 29 29.9
42nm,0.7s
IZV Izvestkoviy 3.93 255 *e*P **Pg 12 28 37.2 -1.2**
6.6nm,0.3s
IZV *e*S **Sg 12 29 29.9 +0.6**
42nm,0.7s
KUU Kurty 3.94 268 Pg **Pg 12 28 37.2 -1.3**
7.0nm,0.3s
KUU Lg Lg 12 29 29.9
32nm,0.5s
KUU Kurty 3.94 268 *e*P **Pg 12 28 37.2 -1.3**
7.0nm,0.3s
KUU *e*S **Sg 12 29 29.9 +0.4**
32nm,0.5s
KST Kastek 4.38 257 Pg **Pg 12 28 44.4 -2.6**
7.0nm,0.4s
KST Lg Lg 12 29 42.4
34nm,0.6s
KST Kastek 4.38 257 *e*P **Pg 12 28 44.4 -2.6**
7.0nm,0.4s
KST *e*S **Sg 12 29 42.4 -1.3**
34nm,0.6s
TKM2 Tokmak 2 4.67 256 ⇑Pg **Pb 12 28 48.0 +3.1**
5.1nm,0.7s
TKM2 ⇑Lg Lg 12 29 51.4
20nm,0.6s
AAK Ala-Archa 5.53 256 ⇑Pg **Pg 12 29 05.3 -3.8**
6.0nm,0.9s
AAK ⇑Lg Lg 12 30 19.7
9.2nm,0.6s
KURBB Kurchatov Arra 6.80 342 ⇑Pn **Pn 12 29 02.6 +0.3**
0.7nm,0.3s
KURBB ⇑Sn **Sn 12 30 17.2 -2.2**
7.8nm,0.6s
KURBB ⇑Lg Lg 12 30 54.2
17nm,0.6s
KURK Kurchatov 6.87 343 ⇓Pn **Pn 12 29 02.6 -0.6**
1.7nm,0.9s
KURK ⇓Sn **Sn 12 30 18.8 -2.3**
2.2nm,0.4s
KURK ⇓Lg Lg 12 30 57.7
14nm,0.7s
KK31 Karatay Array 8.25 266 ⇓Lg Lg 12 31 46.0
1.6nm,0.6s,baz=74,slow=28,SNR=3.8

IDC ***08*** *12:29:59.0±0.9,31°.58S×177°.92W,h0km,mb4.7/4, mb1 4.6/7,mb1mx4.2/32,mbtmp4.6/7,ML4.1/3,MS3.4/3, Ms1 3.4/3,ms1mx2.9/24,Error ellipse: s-maj=28.9km s-min=20.7km az=130.0*
ISCJB ***08*** *12:29:59.8±0.5,31°.70S±0°.03×178°.19W±0°.10,h10km, mb4.6/6,MS3.6/2,Error ellipse: s-maj=12.7km s-min=3.4km az=15.7*
NEIC ***08*** *12:30:00.6±1.6,31°.61S±0°.05×178°.1W±0°.2,h9km±5km, mb4.8/14*
ISC 08 12:30:00.7±0.6,31°.57S±0°.05×178°.0W±0°.1,h10km,n96, σ1§86/117,mb4.8/12,2C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.31**	**2**	Pn	**Pn**	**12 30 38.8**	**-0.1**
	140nm,0.3s,baz=50,slow=15,SNR=11						
RAO				Sn	**Sn**	**12 31 03.2**	**-4.1**
	686nm,0.3s,baz=238,slow=23,SNR=8.7						
RAO				LR	LR	12 31 29.6	
	comp=Z,374nm,20.5s,baz=215,slow=39						
RAO	**Raoul Island**	**2.31**	**2**		**Pn**	**12 30 39.6**	**+0.8**
RAO				Pg	**Pb**	**12 30 43.5**	**+1.0**
RAO				Sn	**Sn**	**12 31 03.6**	**-3.8**
RIZ	**Raoul Island**	**2.32**	**2**	P	**Pn**	**12 30 38.2**	**-0.7**
RIZ				S	**Sn**	**12 31 02.5**	**-5.0**
MXZ	**Matakaoa Point**	**6.70**	**206**	P	**Pn**	**12 31 38.6**	**-0.7**
MXZ				S	**Sn**	**12 32 56.0**	**+0.4**
WMGZ	**Waiomatatini S**	**6.89**	**204**	P	**Pn**	**12 31 42.0**	**+0.2**
WMGZ				S	**Sn**	**12 33 00.7**	**+0.5**
HAZ	**Te Kaha**	**7.08**	**208**	P	**Pn**	**12 31 44.3**	**0.0**
HAZ				S	**Sn**	**12 33 04.8**	**+0.1**
PKGZ	**Pakihiroa**	**7.08**	**206**	P	**Pn**	**12 31 44.0**	**-0.3**
PKGZ				S	**Sn**	**12 33 03.6**	**-1.3**
PUZ	**Puketiti**	**7.17**	**204**	P	**Pn**	**12 31 44.2**	**-1.5**
PUZ				S	**Sn**	**12 33 05.4**	**-1.8**
RUGZ	**Raukumara Rang**	**7.30**	**208**	P	**Pn**	**12 31 47.1**	**-0.4**
RUGZ				S	**Sn**	**12 33 09.4**	**-1.0**
KUZ	**Kuaotunu**	**7.32**	**223**	P	Pn	12 31 52.7	+5.0
TWGZ	**Tauwhareparae**	**7.37**	**205**	P	**Pn**	**12 31 48.2**	**-0.1**
TWGZ				S	**Sn**	**12 33 11.3**	**-0.8**
CNGZ	**Carnagh Statio**	**7.56**	**203**	P	**Pn**	**12 31 50.2**	**-0.8**
CNGZ				S	**Sn**	**12 33 15.7**	**-1.0**
TKGZ	**Te Karaka**	**7.65**	**205**	P	**Pn**	**12 31 51.5**	**-0.6**
TKGZ				S	**Sn**	**12 33 17.4**	**-1.5**
MWZ	**Matawai**	**7.67**	**207**	P	**Pn**	**12 31 51.4**	**-1.2**
MWZ				S	**Sn**	**12 33 18.1**	**-1.6**
OPRZ	**Ohinepanea**	**7.69**	**214**	P	**Pn**	**12 31 56.6**	**+3.8**
OPRZ				S	**Sn**	**12 33 22.6**	**+2.7**
WCZ	**Waipu Caves**	**7.71**	**234**	P	Pn	12 32 00.3	+7.3
URZ	**Urewera**	**7.78**	**210**	Pn	**Pn**	**12 31 52.2**	**-1.8**
	0.9nm,0.3s,baz=272,slow=5.6,SNR=17						
URZ				Sn	**Sn**	**12 33 21.2**	**-0.9**
	8.2nm,0.3s,baz=247,slow=24,SNR=8.1						
URZ	**Urewera**	**7.78**	**210**	P	**Pn**	**12 31 52.2**	**-1.8**
URZ				S	**Sn**	**12 33 19.9**	**-2.2**
URZ	**Urewera**	**7.78**	**210**		**Pn**	**12 31 53.4**	**-0.6**
URZ				Sn	**Sn**	**12 33 21.0**	**-1.1**
RAGZ	**Rawiri**	**7.86**	**207**	P	**Pn**	**12 31 54.8**	**-0.3**
RAGZ				S	**Sn**	**12 33 22.5**	**-1.7**
RIGZ	**Rimuhau**	**7.91**	**205**	P	**Pn**	**12 31 55.2**	**-0.6**
RIGZ				S	**Sn**	**12 33 23.3**	**-2.2**
PRGZ	**Paritu Road**	**8.07**	**203**	P	**Pn**	**12 31 58.8**	**+0.8**
PRGZ				S	**Sn**	**12 33 26.1**	**-3.1**
MUGZ	**Murupara**	**8.11**	**210**	P	**Pn**	**12 31 57.4**	**-1.1**
MUGZ				S	**Sn**	**12 33 28.4**	**-1.9**
RTZ	**Ruatahuna**	**8.14**	**209**	P	**Pn**	**12 31 57.4**	**-1.6**
SNGZ	**Shannon Statio**	**8.14**	**207**	P	**Pn**	**12 31 58.3**	**-0.6**
SNGZ				S	**Sn**	**12 33 29.1**	**-1.9**
KNZ	**Kokohu**	**8.23**	**204**	P	**Pn**	**12 31 58.4**	**-1.7**
KNZ				S	**Sn**	**12 33 29.1**	**-4.0**
MHGZ	**Mahia Peninsul**	**8.27**	**203**	P	**Pn**	**12 31 58.8**	**-1.8**
MHGZ				S	**Sn**	**12 33 30.8**	**-3.3**
RAHZ	**Arahi**	**8.35**	**207**	P	**Pn**	**12 32 01.5**	**-0.4**
RAHZ				S	**Sn**	**12 33 33.5**	**-2.7**
WHHZ	**Waihua**	**8.43**	**206**	P	**Pn**	**12 32 03.3**	**+0.3**
MRHZ	**Matea Rd**	**8.56**	**211**	P	**Pn**	**12 32 05.0**	**+0.3**
NMHZ	**Naumai**	**8.62**	**208**	P	**Pn**	**12 32 05.2**	**-0.3**
ARHZ	**Aropaoanui**	**8.69**	**207**	P	**Pn**	**12 32 05.2**	**-1.2**
BKZ	**Black Stump Fm**	**8.80**	**209**	P	**Pn**	**12 32 06.8**	**-1.3**
BKZ	**Black Stump Fm**	**8.80**	**209**	Pn	**Pn**	**12 32 07.0**	**-1.1**
BKZ				Sn	**Sn**	**12 33 43.8**	**-3.6**
MCHZ	**McNeill Hill**	**8.96**	**207**	P	**Pn**	**12 32 10.0**	**-0.1**
KWHZ	**Kaweka Forest**	**9.05**	**208**	P	**Pn**	**12 32 10.0**	**-1.5**
HIZ	**Hauiti**	**9.06**	**218**	P	Pn	12 32 15.7	+4.2
KAHZ	**Kahuranaki**	**9.20**	**205**	P	**Pn**	**12 32 11.4**	**-2.0**
BHHZ	**Black Hill Sta**	**9.26**	**210**	P	**Pn**	**12 32 14.0**	**-0.3**
PXZ	**Pawanui**	**9.41**	**205**	P	**Pn**	**12 32 14.8**	**-1.6**
PNHZ	**Pukenui**	**9.56**	**208**	P	**Pn**	**12 32 15.9**	**-2.5**
VRZ	**Vera Road**	**9.57**	**216**	P	Pn	12 32 24.4	+5.9
PRHZ	**Porangahau**	**9.70**	**205**	P	**Pn**	**12 32 18.2**	**-2.1**
BFZ	**Birch Farm**	**10.21**	**205**	P	**Pn**	**12 32 25.3**	**-1.9**
BFZ	**Birch Farm**	**10.21**	**205**	Pn	**Pn**	**12 32 25.8**	**-1.4**
BFZ				Sn	**Sn**	**12 34 15.5**	**-6.3**
MRZ	**Mangatainoka R**	**10.44**	**208**	P	**Pn**	**12 32 26.0**	**-4.5**
TMWZ	**Te Maipa**	**10.71**	**206**	P	**Pn**	**12 32 30.6**	**-3.6**
MTW	**Mount Morrison**	**10.90**	**207**	P	**Pn**	**12 32 32.8**	**-3.9**
CAW	**Cannon Point**	**11.03**	**208**	P	**Pn**	**12 32 34.3**	**-4.2**
TUWZ	**Tuamarina**	**11.77**	**211**	Pn	**Pn**	**12 32 48.4**	**-0.3**
NNZ	**Nelson**	**11.86**	**213**	P	**Pn**	**12 32 46.5**	**-3.4**
LTZ	**Lake Taylor**	**13.60**	**212**	Pn	**Pn**	**12 33 12.3**	**-1.4**
RPZ	**Rata Peaks**	**14.88**	**212**	Pn	**Pn**	**12 33 29.0**	**-2.2**
	0.7nm,0.3s,baz=61,slow=13,SNR=2.7						
RPZ				Sn	Sn	12 36 00.1	-16
	1.0nm,0.3s,baz=9.5,slow=18,SNR=5.7						
RPZ	**Rata Peaks**	**14.88**	**212**		**Pn**	**12 33 29.2**	**-2.0**
CTA	**Charters Tower**	**33.99**	**281**	P	**P**	**12 36 46.5**	**+1.8**
	9.9nm,0.5s,baz=105,slow=11,SNR=21						
CTAO	**Charters Tower**	**33.99**	**281**	P	**P**	**12 36 46.3**	**+1.5**
CTAO				IAmb	IAmb	12 36 47.2	
	comp=Z,16nm,0.7s						
STKA	**Stephens Creek**	**34.22**	**259**	P	**P**	**12 36 48.0**	**+1.4**
	comp=Z,3.4nm,0.4s,baz=102,slow=12,SNR=17						
STKA	**Stephens Creek**	**34.22**	**259**	P	**P**	**12 36 48.1**	**+1.4**
BBOO	**Buckleboo**	**38.65**	**256**	P	**P**	**12 37 24.3**	**-0.2**
BBOO				IAmb	IAmb	12 37 24.4	
	comp=Z,49nm,1.4s						
COEN	**Coen**	**39.59**	**287**	P	**P**	**12 37 33.0**	**+0.5**
COEN				IAmb	IAmb	12 37 34.6	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**43.04**	**268**	P	**P**	**12 38 00.6**	**-0.3**
AS31				IAmb	IAmb	12 38 01.5	
	comp=Z,7.2nm,0.4s						
ASAR	**Alice Springs**	**43.04**	**268**	P	**P**	**12 38 00.7**	**-0.2**
	comp=Z,15nm,0.5s,baz=107,slow=7.4,SNR=406						
ASAR	**Alice Springs**	**43.04**	**268**	P	**P**	**12 38 00.5**	**-0.4**
WB2	**Warramunga Arr**	**44.13**	**273**	P	**P**	**12 38 09.4**	**-0.2**
WRAB	**Tennant Creek**	**44.13**	**273**	P	**P**	**12 38 09.5**	**-0.2**
WRAB				IAmb	IAmb	12 38 10.2	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**44.14**	**273**	P	**P**	**12 38 09.5**	**-0.2**
	comp=Z,17nm,0.3s,baz=111,slow=8.0,SNR=722						
WRA				LR	LR	12 55 11.2	
	comp=Z,61nm,18.4s,baz=75,slow=34						
WRA	**Warramunga Arr**	**44.14**	**273**	P	**P**	**12 38 09.2**	**-0.5**
KNRA	**Kununurra**	**50.79**	**275**	P	**P**	**12 39 01.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.35**	**271**	P	**P**	**12 39 12.6**	**-0.5**
CASY	**Casey**	**54.10**	**208**	P	**P**	**12 39 25.8**	**+0.4**
CASY				IAmb	IAmb	12 39 26.4	
	comp=Z,9.4nm,1.0s						
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**12 40 00.1**	**+2.8**
MAW	**Mawson**	**71.21**	**201**	P	**P**	**12 41 21.1**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=159,slow=4.6,SNR=3.1						
MAW	**Mawson**	**71.21**	**201**	P	**P**	**12 41 21.0**	**+1.6**
SYO	**Syowa Base**	**75.98**	**193**⇑	*e*P	**P**	**12 41 46.8**	**-0.7**
SYO	**Syowa Base**	**75.98**	**193**⇑	*e*pP	pP	12 41 49.6	+0.4
SNAA	**Sanae**	**76.99**	**178**	P	**P**	**12 41 54.3**	**+0.9**
VNA3	**Neumayer Olymp**	**77.14**	**176**	P	**P**	**12 41 55.5**	**+1.4**
VNA2	**Neumayer--Watz**	**77.58**	**177**	P	**P**	**12 41 58.2**	**+1.7**
	baz=179,slow=4.0						
VNA1	**Neumayer--Stat**	**77.81**	**177**	P	**P**	**12 41 59.7**	**+1.9**
USA0B	**Ussuriysk Arra**	**88.12**	**327**	P	**P**	**12 42 52.8**	**+1.5**
USA0B				IAmb	IAmb	12 43 03.9	
	comp=Z,6.3nm,1.2s						
NVAR	**Mina Array Bea**	**89.11**	**43**	P	**P**	**12 42 57.3**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=226,slow=7.3,SNR=2.2						
NVAR	**Mina Array Bea**	**89.11**	**43**	P	**P**	**12 42 57.0**	**+0.6**
PDAR	**Pinedale Array**	**96.99**	**44**	LR	LR	13 24 04.3	
	comp=Z,18nm,18.1s,baz=239,slow=34						
MKAR	**Makanchi Array**	**118.51**	**310**	PKP	**PKPdf**	**12 48 47.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=88,slow=1.2,SNR=9.8						
ARCES	**ARCESS Array B**	**139.72**	**347**	PKhKP	PKPpre	12 49 21.3	
	comp=Z,1.4nm,0.7s,baz=48,slow=1.3,SNR=6.4						
FINES	**FINESS Array B**	**146.23**	**339**	PKPbc	**PKPdf**	**12 49 39.8**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=51,slow=3.8,SNR=29						
FINES	**FINESS Array B**	**146.23**	**339**		**PKPdf**	**12 49 39.6**	**+0.1**
NB2	**NORSAR Subarra**	**149.90**	**351**	PKP	**PKPbc**	**12 49 49.8**	**-0.8**
	comp=Z,15nm,1.4s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**149.90**	**351**	PKPbc	**PKPbc**	**12 49 50.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=15,slow=4.1,SNR=5.2						
HFS	**Hagfors**	**150.38**	**348**	PKPbc	**PKPbc**	**12 49 51.1**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=143,slow=3.7,SNR=7.0						
MMAI	**Mount Meron Ar**	**151.78**	**282**	PKPbc	**PKiKP**	**12 49 56.4**	**0.0**
	comp=Z,2.1nm,0.4s,baz=106,slow=6.2,SNR=6.8						
AKASG	**Malin Array Be**	**152.21**	**321**	PKPbc	**PKPbc**	**12 49 55.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=54,slow=2.3,SNR=7.7						
AKASG	**Malin Array Be**	**152.21**	**321**		**PKPbc**	**12 49 55.5**	**-0.7**
BRTR	**Keskin Array B**	**153.12**	**296**	PKPbc	**PKPbc**	**12 49 57.7**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=113,slow=3.0,SNR=5.0						
BRTR	**Keskin Array B**	**153.12**	**296**		**PKPbc**	**12 49 58.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**161.66**	**179**	PKPab	**PKPab**	**12 50 47.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=173,slow=4.0,SNR=4.0						

THE ***08*** *12:36:58.2,38°.63N×24°.56E,h8km±1km,ML2.0/8,Error ellipse: s-maj=1.4km s-min=0.6km az=259.0*
ATH 08 12:36:57.0,38°.65N×24°.60E,h26km±1km,ML2.1/8,Error ellipse: s-maj=1.9km s-min=1.1km az=277.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.23**	**350**	P	Pb	12 37 03.4	+0.3
SKY				S	Sb	12 37 07.1	-0.2
	2μm,0.2s						
SKY	**Skiros Island**	**0.23**	**350**	P	Pb	12 37 03.0	-0.1
SKY				S	Sb	12 37 07.0	-0.3
SKY				AML	AML	12 37 07.2	
	comp=E,4051μm,0.2s						
SKY				AML	AML	12 37 07.7	
	comp=N,3324μm,0.2s						
EREA	**Eretria**	**0.57**	**247**	P	Pb	12 37 08.7	+0.2
EREA				S	Sb	12 37 16.4	+0.1
	comp=N,360nm,0.2s						
EREA	**Eretria**	**0.57**	**247**	P	Pb	12 37 08.3	-0.2
EREA				S	Sb	12 37 17.0	+0.7
EREA				AML	AML	12 37 18.4	
	comp=N,626μm,0.2s						
EREA				AML	AML	12 37 20.4	
	comp=E,796μm,0.1s						
KARY	**Karystos**	**0.63**	**192**	P	Pb	12 37 09.7	+0.3
KARY				S	Sn	12 37 19.2	-0.3
	comp=E,185nm,0.3s						
KARY	**Karystos**	**0.63**	**192**	P	Pb	12 37 09.6	+0.2
KARY				S	Sn	12 37 19.4	-0.1
KARY				AML	AML	12 37 21.1	
	comp=E,335μm,0.3s						
KARY				AML	AML	12 37 21.6	
	comp=N,394μm,0.3s						
ALNA	**Alonissos**	**0.76**	**311**	P	Pn	12 37 12.5	+0.5
ALNA				S	Sn	12 37 23.1	+0.5
AOS	**Alonnisos**	**0.77**	**313**	P	Pn	12 37 12.7	+0.6
AOS				S	Sn	12 37 23.0	+0.1
	comp=N,80nm,0.3s						
AOS	**Alonnisos**	**0.77**	**313**	P	Pn	12 37 12.6	+0.4
AOS				S	Sn	12 37 22.9	+0.1
AOS				AML	AML	12 37 25.9	
	comp=E,166μm,0.2s						
AOS				AML	AML	12 37 27.3	
	comp=N,170μm,0.3s						
PTL	**Penteli**	**0.84**	**224**	P	Pn	12 37 13.2	+0.1
PTL				S	Sn	12 37 24.6	0.0
	comp=N,98nm,0.5s						
PTL	**Penteli**	**0.84**	**224**	P	Pn	12 37 13.2	+0.1
PTL				S	Sn	12 37 24.6	0.0
ATHU	**Athens Univers**	**0.94**	**224**	P	Pb	12 37 14.8	+0.2
SKIA	**Skiathos**	**1.03**	**300**	P	Pb	12 37 17.8	+1.7
SKIA				S	Sn	12 37 31.7	+2.4
	comp=N,90nm,0.4s						
SKIA	**Skiathos**	**1.03**	**300**	P	Pb	12 37 17.5	+1.4
SKIA				S	Sn	12 37 31.0	+1.8
SKIA				AML	AML	12 37 33.0	
	comp=N,182μm,0.4s						
SKIA				AML	AML	12 37 33.4	
	comp=E,186μm,0.4s						
VILL	**Villia**	**1.12**	**245**	P	Pb	12 37 18.6	+0.8
VILL				S	Sb	12 37 34.2	+2.2
	comp=E,10.0nm,0.3s						
VIL2	**Platees**	**1.14**	**248**	P	Pb	12 37 18.7	+0.7
VIL2				S	Sb	12 37 34.1	+1.8
VIL2				AML	AML	12 37 38.4	
	comp=N,119μm,0.2s						
VIL2				AML	AML	12 37 39.7	
	comp=E,172μm,0.6s						
CHOS	**Chios island**	**1.17**	**103**	P	Pb	12 37 19.9	+1.4
CHOS	**Chios island**	**1.17**	**103**	P	Pb	12 37 19.8	+1.2
NEO	**Neokhori**	**1.26**	**302**	P	Pb	12 37 21.1	+1.0
NEO				AML	AML	12 37 41.8	
	comp=E,121μm,0.3s						
NEO				AML	AML	12 37 42.2	
	comp=N,137μm,0.4s						
XOR	**Xorichti**	**1.31**	**303**	P	Pb	12 37 21.8	+0.8
XOR				S	Sb	12 37 40.3	+2.9
	comp=N,32nm,0.3s						
XOR	**Xorichti**	**1.31**	**303**	P	Pb	12 37 21.4	+0.4
LIA	**Limnos Island**	**1.32**	**20**	P	Pb	12 37 21.9	+0.8
LIA	**Limnos Island**	**1.32**	**20**	P	Pb	12 37 21.2	+0.1
PROD	**Prodromos**	**1.39**	**254**	P	Pb	12 37 22.7	+0.4
PROD				AML	AML	12 37 45.2	
	comp=N,139μm,0.2s						
PROD				AML	AML	12 37 46.7	
	comp=E,124μm,0.2s						
LTK	**Loutraki**	**1.43**	**245**	P	Pb	12 37 23.0	0.0
LTK	**Loutraki**	**1.43**	**245**	P	Pb	12 37 22.9	-0.1
LOUT	**Loutraki**	**1.44**	**243**	P	Pb	12 37 24.3	+1.1
PAIG	**Paliouri**	**1.46**	**331**	P	Pb	12 37 23.4	-0.1
DID	**Didima**	**1.57**	**224**	P	Pb	12 37 24.7	-0.7
DSF	**Desfina**	**1.65**	**262**	P	Pb	12 37 26.0	-0.7

IDC ***08*** *12:38:09.5±1.3,21°.95S×174°.04W,h0km,mb4.0/5, mb1 4.3/6,mb1mx3.9/34,mbtmp4.1/6,ML3.6/1,MS3.6/12, Ms1 3.5/12,ms1mx3.4/29,Error ellipse: s-maj=63.6km s-min=23.9km az=155.0*
ISCJB ***08*** *12:38:10.1±0.5,21°.15S±0°.08×173°.80W±0°.07,h10km, mb4.0/5,MS3.6/13,Error ellipse: s-maj=13.0km s-min=6.9km az=149.2*
NEIC ***08*** *12:38:12.0±2.2,21°.09S±0°.10×173°.82W±0°.06,h10km±1km, mb4.3/10*
ISC 08 12:38:12.1±0.5,21°.13S±0°.08×173°.82W±0°.07,h10km,n43, σ1§88/34,mb4.2/9,MS3.6/13,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.19**	**62**	Pn	**Pn**	**12 39 15.7**	**-0.4**
NIUE				Sn	**Sn**	**12 40 03.6**	**-1.6**
AFI	**Afiamalu**	**7.44**	**16**	Pn	**Pn**	**12 40 00.9**	**+0.1**
AFI				Sn	**Sn**	**12 41 22.0**	**-3.4**
MSVF	**Nonsavu**	**8.38**	**292**	Pn	**Pn**	**12 40 15.1**	**+1.4**
RAR	**Rarotonga**	**13.11**	**93**	Pn	**Pn**	**12 41 17.8**	**-0.6**
	3.2nm,0.3s,baz=274,slow=7.3,SNR=18						
RAR				Sn	Sn	12 43 34.0	-10
	0.7nm,0.3s,baz=94,slow=16,SNR=4.2						
RAR				LR	LR	12 46 45.4	
	comp=Z,64nm,18.5s,baz=273,slow=39						
RAR	**Rarotonga**	**13.11**	**93**		**Pn**	**12 41 18.3**	**-0.1**
DZM	**Mont Dzumac**	**18.38**	**263**	*e*P	P	12 42 37.4	+10
	58nm,1.4s						
DZM				*e*LQ	LQ	12 46 10.0	
	518nm,25.4s						
DZM				*e*LR	LR	12 46 57.6	
	comp=Z,306nm,22.4s						
DZM	**Mont Dzumac**	**18.38**	**263**	LR	LR	12 48 10.5	
	comp=Z,295nm,20.4s,baz=92,slow=33						
URZ	**Urewera**	**18.78**	**203**	P	**P**	**12 42 31.4**	**-0.1**
TBI	**Tubuai**	**22.65**	**100**	*e*LQ	LQ	12 47 42.4	
	283nm,30.8s						
TBI				*e*LR	LR	12 48 32.3	
	comp=Z,333nm,33.2s						
PPT2	**Papeete2**	**23.14**	**85**	*e*LQ	LQ	12 47 50.7	
	192nm,26.2s						
PPT2				*e*LR	LR	12 48 59.0	
	comp=Z,280nm,26.2s,baz=257						
PPT	**Papeete**	**23.14**	**85**	LR	LR	12 52 26.7	
	comp=Z,76nm,18.0s,baz=283,slow=37						
WHZ	**Wether Hill Ro**	**28.86**	**207**	P	**P**	**12 44 11.4**	**+0.6**
ARMA	**Armidale**	**32.35**	**246**	P	**P**	**12 44 40.1**	**-1.9**
ARMA				IAmb	IAmb	12 44 45.9	
	comp=Z,7.4nm,1.1s						
TAOE	**Nuku Hiva Isla**	**34.66**	**74**	*e*LR	LR	12 54 14.7	
	comp=Z,159nm,28.1s						
KRVT	**Keravat (AS076**	**37.14**	**292**	LR	LR	12 58 10.6	
	comp=Z,157nm,20.1s,baz=232,slow=32						
TOO	**Toolangi**	**38.73**	**236**	P	**P**	**12 45 35.5**	**-1.1**
TOO				IAmb	IAmb	12 45 46.1	
	comp=Z,7.9nm,1.1s					

NVAR	Mina Array Bea	78.86	41	P	P	12 50 19.6	+3.8
	comp=Z,0.7nm,0.6s,baz=224,slow=7.6,SNR=9.0						
NVAR	Mina Array Bea	78.86	41	P	P	12 50 16.3	+0.5
NV11	Mina Array Sit	78.95	41	P	P	12 50 16.2	0.0
KSRS	Korea Array	79.99	317	LR	LR	13 19 38.0	
	comp=Z,15nm,21.9s,baz=185,slow=31						
USRK	Ussuriysk Ar.	81.73	324	LR	LR	13 22 14.1	
	comp=Z,43nm,20.3s,baz=139,slow=32						
TXAR	Lajitas Array	84.14	56	LR	LR	13 22 34.1	
	comp=Z,23nm,19.1s,baz=0.0,slow=31						
PLCA	Paso Flores	85.98	132	LR	LR	13 20 06.4	
	comp=Z,27nm,20.7s,baz=270,slow=29						
BOZ	Bozeman (W)	87.10	38	P	P	12 50 57.7	-0.6
ILAR	Eielson Array	88.11	11	P	P	12 51 05.5	+3.0
	comp=Z,0.4nm,0.7s,baz=206,slow=6.0,SNR=3.9						
ILAR	Eielson Array	88.11	11	P	P	12 51 03.6	+1.1
IMAR	Indian Mountai	88.17	8		P	12 51 03.3	+0.6
AKASG	Malin Array Be	145.37	334	PKPbc	PKPbc	12 57 49.8	-0.2
	comp=Z,1.5nm,0.6s,baz=42,slow=4.1,SNR=9.5						
AKASG	Malin Array Be	145.37	334		PKPdf	12 57 50.0	-0.1
CLL	Collm	149.41	352	e(PKPab)	PKPab	12 58 05.0	-0.9
BRTR	Keskin Array B	150.11	314	PKPbc	PKPdf	12 58 00.9	+2.3
	comp=Z,0.6nm,0.7s,baz=64,slow=3.4,SNR=3.1						
BRTR	Keskin Array B	150.11	314		PKPbc	12 58 03.0	-0.5

*SOME **08** 12:45:53.7, 39.°72N×72.°82E, h10km*
*KRNET **08** 12:45:56.7±0.1, 39.°57N×73.°06E, mb2.7*
*NNC **08** 12:45:59.8±4.3, 39.°81N×73.°63E, h0km, mb3.1, mpv2.7,*
Error ellipse: s-maj=32.4km s-min=16.6km az=165.0
ISC 08 12:45:59.9±2.8, 39.°4N±0.°1×73.°13E±0.°06, h33km, n15,
σ1°89/29, 15C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.96	357	⇑iP	Pn	12 46 29.5	-1.6
	baz=58						
ARSB				⇑iS	Sn	12 46 53.5	-1.1
	baz=58						
ARLS	Aral	2.66	20	⇑iP	Pn	12 46 41.0	+0.4
	baz=22						
ARLS				⇑iS	Sn	12 47 12.7	+0.9
	baz=22						
AML	Almayashu	2.80	9	⇑iP	Pn	12 46 42.1	-0.7
	baz=10.0						
AML				⇑iS	Sn	12 47 16.1	+0.5
	baz=10.0						
NRN	Naryn	3.02	46	⇑iP	Pn	12 46 46.5	+0.8
	baz=49						
NRN				⇑iS	Sn	12 47 23.4	+2.5
	baz=49						
UCH	Uchtor	3.05	20	⇑iP	Pn	12 46 46.0	-0.3
	baz=22						
UCH				⇑iS	Sn	12 47 22.8	+0.9
	baz=22						
KZA	Kyzart	3.16	30	⇓iP	Pn	12 46 48.1	+0.4
	baz=33						
KZA				⇓iS	Sn	12 47 26.6	+2.2
	baz=33						
EKS2	Erkin-Say	3.33	8	⇓iP	Pn	12 46 49.1	-0.8
	baz=10.0						
EKS2				⇓iS	Sn	12 47 28.4	0.0
	baz=10.0						
MRKS	Merke	3.38	1	eP	Pn	12 46 51.0	+0.5
	2.3nm,0.2s						
MRKS				eS	Sn	12 47 33.0	+3.5
	9.1nm,0.4s						
AAK	Ala-Archa	3.43	17	⇑Pg	Pn	12 46 51.6	+0.4
	2.0nm,0.5s						
AAK				⇑Lg	Lg	12 47 33.8	
	9.6nm,0.8s						
AAK	Ala-Archa	3.43	17	⇓iP	Pn	12 46 51.0	-0.3
	baz=19						
AAK				⇓iS	Sn	12 47 31.6	+0.7
	baz=19						
IUG	Iuzhnay	3.64	321	eP	Pn	12 46 54.3	+0.2
	0.5nm,0.2s						
IUG				eS	Sn	12 47 38.8	+2.8
	6.3nm,0.5s						
TKM2	Tokmak 2	4.01	27	⇑Pg	Pn	12 47 03.1	+3.7
	4.3nm,1.0s						
TKM2				⇑Lg	Lg	12 47 51.8	
	1.7nm,0.5s						
KK31	Karatay Array	4.23	333	⇓Pn	Pn	12 47 03.7	+1.7
	0.7nm,0.5s,baz=135,slow=12,SNR=4.3						
KK31				⇓Pg	Pb	12 47 11.7	-1.9
	0.5nm,0.4s,baz=156,slow=14,SNR=3.5						
KK31				⇑Sn	Sn	12 47 51.9	+1.6
	0.7nm,0.3s						
KK31				⇓Lg	Lg	12 48 08.7	
	0.6nm,0.2s,baz=141,slow=30						
KST	Kastek	4.25	29	eP	Pb	12 47 10.4	-3.7
	3.2nm,0.3s						
KST				eS	Sb	12 48 06.3	+1.2
	6.4nm,0.6s						
DGS	Degeres	4.36	26	eP	Pb	12 47 12.5	-3.4
	2.6nm,0.4s						
DGS				eS	Sb	12 48 10.0	+2.0
	6.2nm,0.6s						

*PDG **08** 12:47:33.4±0.5, 42.°85N×17.°83E, h4km±1km, MD3.0/2,*
ML2.9/11, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0
*BEO **08** 12:47:34.2±0.4, 42.°82N×17.°79E, h4km±1km, ML2.9/17*
*RHSSO **08** 12:47:34.3±0.2, 42.°85N×17.°87E, h3km±1km, ML3.0/1*
*TIR **08** 12:47:35.4, 42.°40N×17.°85E, h18km, Md3.3/6*
ISC 08 12:47:34.0±1.0, 42.°84N±0.°02×17.°88E±0.°01, h3km±9km,
n97, σ1°38/184, 29C-14B, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.13	284	ePg	Pg	12 47 36.5	-0.1
STON				eSg	Sg	12 47 38.7	+0.3
STON	Ston	0.13	284	iPg	Pg	12 47 36.6	-0.1
STON				Sg	Sg	12 47 38.9	+0.5
STON	Ston	0.13	284	⇓iPg	Pg	12 47 36.6	-0.1
STON				eSg	Sg	12 47 38.7	+0.3
DBRK	Dubrovnik	0.26	130	iPg	Pg	12 47 39.5	+0.4
DBRK				Sg	Sg	12 47 44.1	+1.7
TREB	Trebinje	0.37	109	ePg	Pg	12 47 40.9	-0.2
TREB				eSg	Sb	12 47 47.8	-1.5
TREB	Trebinje	0.37	109	⇓iPg	Pg	12 47 40.8	-0.3
TREB				eSg	Sb	12 47 47.1	-2.2
BRY	Bratogost	0.49	82	⇓iPg	Pg	12 47 42.9	-0.5
BRY				eSg	Sb	12 47 50.1	-2.9
BRY	Bratogost	0.49	82	⇓iPg	Pg	12 47 42.9	-0.5
BRY				eSg	Sb	12 47 51.3	-1.7
HCY	Herceg Novi	0.60	131	⇓iPg	Pg	12 47 45.0	-0.4
HCY				eSg	Sb	12 47 54.4	-1.6
HCY	Herceg Novi	0.60	131	⇓iPg	Pg	12 47 45.1	-0.4
HCY				eSg	Sb	12 47 55.1	-0.9
NKME	Niksic	0.80	95	⇑iPg	Pg	12 47 48.5	-0.7
NKME				eSg	Sb	12 48 01.5	-0.2
CEME	Cevo	0.82	111	⇓iPg	Pg	12 47 48.6	-1.1
CEME				eSg	Sb	12 48 02.5	+0.1
NKY	Niksic	0.82	91	⇑iPg	Pg	12 47 48.9	-0.8
NKY				eSg	Sb	12 48 02.7	+0.2
UPM	Unac-Piva	0.84	64	⇑iPg	Pg	12 47 48.8	-1.2
UPM				eSg	Sb	12 48 01.6	-1.4
UPM	Unac-Piva	0.84	64	⇓iPg	Pg	12 47 49.0	-1.0
UPM				eSg	Sb	12 48 02.9	-0.1
BUM	Brajici-Budva	0.92	125	⇑iPg	Pg	12 47 51.2	-0.5
BUM				eSg	Sb	12 48 06.0	+0.6
PDG	Podgorica	1.10	111	ePg	Pg	12 47 53.8	-1.2
PDG				eSg	Sn	12 48 11.6	-0.3
PDG	Podgorica	1.10	111	ePg	Pg	12 47 53.9	-1.1
PDG				eSg	Sb	12 48 09.7	-0.5
PDG	Podgorica	1.10	111	⇑P	Pb	12 47 54.8	-0.7
PDG				⇓S	Sn	12 48 10.9	-0.9
PDG				AML	AML	12 48 17.6	
TTG	Podgorica	1.10	111	⇑iPg	Pg	12 47 54.6	-0.4
TTG				eSg	Sn	12 48 12.1	+0.2
HVAR	Hvar	1.10	288	ePg	Pg	12 47 53.4	-1.7
HVAR				Sg	Sb	12 48 11.3	+0.9
DRME	Dracevica, Mon	1.17	124	⇑iPg	Pg	12 47 55.3	-1.0
DRME				eSg	Sb	12 48 11.9	-0.4
DRME	Dracevica, Mon	1.17	124	⇑iPg	Pg	12 47 55.5	-0.8
DRME				eSg	Sn	12 48 14.0	+0.4
KOME	Kolasin	1.21	89	⇓iPg	Pg	12 47 56.4	-0.7
KOME				eSg	Sn	12 48 15.7	+1.0
PLE	Pljevlja	1.21	66	⇑iPg	Pg	12 47 56.4	-0.8
PLE				eSg	Sn	12 48 16.2	+1.3
ULC	Ulcinj	1.34	130	⇑iPg	Pg	12 47 58.6	-1.0
ULC				eSg	Sn	12 48 20.1	+2.2
RUDO	Rudo	1.34	54	⇑iPg	Pg	12 47 58.5	-1.2
RUDO				eSg	Sn	12 48 16.6	-1.4
HAPS	Han Pijesak,Bl	1.47	32	ePg	Pn	12 48 00.4	-1.1
HAPS				eSg	Sn	12 48 22.6	+1.3
HAPS	Han Pijesak,Bl	1.47	32	⇑iPg	Pn	12 48 00.2	-1.3
HAPS				eSg	Sn	12 48 21.0	-0.3
IVA	Berane	1.48	88	⇑iPg	Pg	12 48 01.5	-0.9
IVA				eSg	Sn	12 48 24.9	+3.3
BBLS	Laziói	1.52	47	ePg	Pb	12 48 02.1	-0.7
BBLS				eSg	Sn	12 48 24.8	+2.4
BBLS	Laziói	1.52	47	⇓iPg	Pn	12 48 01.4	-0.7
BBLS				eSg	Sn	12 48 22.1	-0.3
PVY	Plav	1.55	98	⇓iPg	Pb	12 48 02.7	-0.8
PVY				eSn	Sn	12 48 26.7	+3.3
SJES	Sjenica	1.59	74	ePg	Pb	12 48 03.4	-0.7
SJES				eSg	Sg	12 48 27.5	+2.3
MGRS	Mrkonjic Grad	1.68	340	ePn	Pn	12 48 04.4	+0.1
MGRS				eSn	Sn	12 48 26.5	+0.2
BCI	Bajram Curri	1.69	106	iPN	Pg	12 48 07.2	+0.9
BCI				iSN	Sg	12 48 32.1	+4.0
PUK	Puka	1.69	117	iPN	Pg	12 48 05.8	-0.6
PUK				iSN	Sg	12 48 29.3	+1.0
IVAS	Ivanjica	1.82	65	ePn	Pb	12 48 07.0	-1.0
IVAS				eSn	Sg	12 48 31.7	-0.7
ZIRJ	Zirje	1.82	297	ePn	Pn	12 48 06.7	+0.5
ZIRJ				Sn	Sb	12 48 33.0	+1.8
MORI	Morici	1.89	304	ePn	Pn	12 48 07.7	+0.6
MORI				Sn	Sg	12 48 35.1	+0.5
SGRT	San Giovanni R	1.92	236	iPN	Pn	12 48 07.6	0.0
SGRT				iSN	Sn	12 48 33.3	+1.0
BLY	Banja Luka	1.97	346	ePn	Pb	12 48 10.2	-0.3
BLY				eSn	Sn	12 48 33.6	0.0
BLY	Banja Luka	1.97	346	ePn	Pn	12 48 08.9	+0.6
BLY				eSn	Sn	12 48 34.0	+0.4
BLY	Banja Luka	1.97	346	⇑P	Pb	12 48 10.3	-0.3
BLY				⇑S	Sg	12 48 37.2	-0.2
BLY				AML	AML	12 48 42.5	
DIVS	Divibare	1.99	50	ePn	Pb	12 48 09.6	-1.3
DIVS	Divibare	1.99	50	ePn	Pn	12 48 08.6	0.0
DIVS				eSn	Sn	12 48 33.4	-0.7
TEKS	Tekeris	2.09	34	ePn	Pb	12 48 10.8	-1.7
TEKS				eSn	Sb	12 48 37.8	-1.0
TEKS	Tekeris	2.09	34	ePn	Pn	12 48 09.8	-0.1
TEKS				eSn	Sn	12 48 36.1	-0.3
TIR	Tirane	2.10	135	⇑P	Pb	12 48 11.4	-1.3
TIR				⇑S	Sb	12 48 38.8	-0.4
TIR				AML	AML	12 48 51.6	
NOCI	Noci	2.14	197	iPN	Pn	12 48 08.5	-2.0
NOCI				iSN	Sn	12 48 33.7	-3.9
MRVN	Minervino Murg	2.17	216	iPN	Pn	12 48 10.8	-0.3
MRVN				iSN	Sn	12 48 37.3	-1.2
PHP	Peshkopia	2.23	120	iPN	Pb	12 48 15.0	+0.1
PHP				iSN	Sg	12 48 44.3	-1.2
TRUS	Trudelj	2.30	52	ePn	Pn	12 48 13.7	+0.9
GRUS	Gruza	2.32	62	ePn	Pn	12 48 14.1	+1.0
GRUS				eSn	Sb	12 48 44.9	-0.6
DUGI	Dugi Otok	2.35	300	iPn	Pn	12 48 14.8	+1.3
DUGI				Sn	Sb	12 48 46.1	-0.4
MATE	Matera	2.36	202	⇑P	Pb	12 48 16.8	-0.3
MATE				⇑S	Sn	12 48 42.8	-0.2
MATE				AML	AML	12 49 03.2	
SELS	Selova	2.41	80	ePn	Pn	12 48 15.5	+1.2
SELS				eSn	Sb	12 48 46.4	-1.6
FRGS	Fruska Gora	2.71	30	ePn	Pn	12 48 18.5	+0.1
FRGS				eSn	Sn	12 48 52.3	+0.7
FRGS	Fruska Gora	2.71	30	ePn	Pn	12 48 18.0	-0.4
FRGS				eSn	Sn	12 48 51.7	+0.1
NVLJ	Novalja	2.78	309	iPn	Pn	12 48 21.0	+1.7
NVLJ				Sn	Sn	12 48 56.4	+3.0
MOSL	Moslavina	2.89	344	ePn	Pn	12 48 22.6	+1.7
MOSL				Sn	Sb	12 48 59.2	-2.7
BARS	Barje	2.90	89	ePn	Pn	12 48 22.5	+1.5
BARS	Barje	2.90	89	ePn	Pb	12 48 27.1	+0.8
BARS				eSn	Sb	12 48 58.7	-3.4
BOVS	Bovan	2.91	73	ePn	Pn	12 48 22.7	+1.6
BOVS				eSn	Sn	12 48 57.5	+0.9
ZAGS	Zajecar	3.32	72	ePn	Pn	12 48 27.3	+0.4
ZAGS				eSn	Sn	12 49 07.9	+1.1
PTJ	Puntijarka	3.36	337	iPn	Pn	12 48 28.9	+1.5
PTJ				Sn	Sn	12 49 09.9	+2.1
MDVR	Moldovita	3.39	54	⇑S	Sn	12 49 08.6	+0.1
MDVR				AML	AML	12 49 30.2	
BOSS	Bosilegrad	3.41	94	eSn	Sn	12 49 10.4	+1.3
MORH	Mrgy, Hungar	3.42	9	ePn	Pn	12 48 28.2	0.0
MORH				eSn	Sn	12 49 08.4	-0.8
KALN	Kalnik	3.44	343	iPn	Pn	12 48 29.8	+1.2
KALN				Sn	Sn	12 49 11.1	+1.2
CRES	Cresnjev	3.45	331	ePn	Pn	12 48 30.1	+1.4
CRES				eSn	Sn	12 49 10.7	+0.6
	comp=Z,28nm,0.5s						
CRES	Cresnjev	3.45	331	ePn	Pn	12 48 29.1	+0.4
CRES				eSn	Sn	12 49 09.6	-0.5
GBRS	Gornja Briga	3.48	322	iPn	Pn	12 48 31.2	+2.2
GBRS				iSn	Sb	12 49 16.0	-2.9
	comp=Z,18nm,0.3s						
RIY	Rijeka	3.49	317	eSn	Sn	12 49 10.4	-0.4
BLKB	Belogradchik	3.59	76	⇑S	Sn	12 49 15.7	+2.2
BLKB				AML	AML	12 49 17.9	
BRJN	Brijuni	3.63	306	ePn	Pn	12 48 31.7	+0.7
BRJN				Sn	Sn	12 49 16.3	+1.9
CEY	Cerknica	3.81	321	ePn	Pn	12 48 33.8	+0.2
CEY				eSn	Sn	12 49 17.5	-1.5
BZS	Buzias	3.86	43	⇓P	Pn	12 48 36.0	+1.7
BZS				⇑S	Sn	12 49 19.9	-0.2
BZS				AML	AML	12 49 22.4	
HERR	Herculane	3.87	57	⇑P	Pn	12 48 36.2	+1.9
HERR				⇑S	Sn	12 49 21.9	+1.7
HERR				AML	AML	12 49 24.1	
SKDS	Skadanscina	3.88	316	iPn	Pn	12 48 35.6	+1.1
SKDS				eSn	Sn	12 49 22.0	+1.4
	comp=Z,27nm,0.4s						
VTS	Vitosha	3.95	91	⇓P	Pn	12 48 37.7	+2.1
VTS				⇑S	Sn	12 49 24.0	+1.4
VTS				AML	AML	12 49 27.4	
SOKA	Soboth	4.34	333	ePn	Pn	12 48 42.1	+1.2
	comp=Z,4.2nm,0.4s						
SOKA				eSn	Sn	12 49 32.9	+0.8
	comp=Z,5.0nm,0.4s						
GZR	Gura Zlata	4.36	52	⇑P	Pn	12 48 41.9	+0.8
GZR				⇑S	Sn	12 49 32.7	+0.3
GZR				AML	AML	12 49 36.1	
OBKA	Obir	4.37	328	ePn	Pn	12 48 42.2	+0.9
	comp=Z,1.4nm,0.2s						
OBKA				eSn	Sn	12 49 36.0	+3.2
	comp=Z,7.1nm,0.3s						
ARSA	Arzberg	4.72	340	ePn	Pn	12 48 47.7	+1.7
	comp=Z,6.0nm,0.3s,SNR=8.7						
ARSA				eSn	Sn	12 49 43.0	+1.7
	comp=Z,3.2nm,0.4s						
MYKA	Terra Mystica	4.84	323	ePn	Pn	12 48 50.0	+2.2
	comp=Z,3.4nm,0.5s						
MYKA				eSn	Sn	12 49 42.3	-2.1
	comp=Z,3.8nm,0.4s						
CONA	Conrad Observa	5.28	345	ePn	Pn	12 48 55.5	+1.6
	comp=Z,1.9nm,0.3s,SNR=4.6						
CONA				eSn	Sn	12 49 56.1	+0.8
	comp=Z,3.6nm,0.3s						
KBA	Koelnbreinsper	5.32	324	iPn	Pn	12 48 56.3	+1.8
	comp=Z,1.0nm,0.3s						
KBA				iSn	Sn	12 49 57.5	+1.2
	comp=Z,3.6nm,0.4s						
ABTA	Abfaltersbach	5.46	318	ePn	Pn	12 48 57.1	+0.8
	comp=Z,1.3nm,0.3s						
ABTA				eSn	Sn	12 49 58.9	-0.8
	comp=Z,5.6nm,0.4s						
MODS	Modra-Piesok	5.55	356	ePN	Pn	12 48 57.6	+0.1
MODS				eSN	Sn	12 50 00.7	-1.1
MOA	Molln	5.62	334	iPn	Pn	12 48 59.3	+0.8
	comp=Z,3.0nm,0.3s,SNR=6.3						
MOA				eSn	Sn	12 50 05.5	+2.0
	comp=Z,7.1nm,0.5s						
VYHS	Vyhne	5.70	6	ePN	Pn	12 49 04.9	+5.5
VYHS				eSN	Sn	12 50 07.3	+2.0
VOIR		5.78	61	⇑P	Pn	12 49 02.2	+1.6
VOIR				⇑S	Sn	12 50 08.2	+0.7
WTTA	Wattenberg	6.25	317	iPn	Pn	12 49 09.2	+1.9
	comp=Z,1.4nm,0.2s						
WTTA				eSn	Sn	12 50 22.6	+3.3
	comp=Z,1.7nm,0.3s						
WATA	Walderalm	6.33	317	ePn	Pn	12 49 09.3	+1.0
	comp=Z,3.0nm,0.2s						
WATA				eSn	Sn	12 50 19.4	-1.8
	comp=Z,1.9nm,0.2s						
MOTA	Moosalm	6.58	316	ePn	Pn	12 49 13.6	+1.9
	comp=Z,1.2nm,0.2s						
MOTA				eSn	Sn	12 50 29.6	+2.4
	comp=Z,2.1nm,0.3s						
CLL	Collm	9.10	340	eSb	Sn	12 51 56.0	+27

*IDC **08** 13:08:37.4±1.6, 55.°95S×27.°30W, h0km, mb4.0/4,*
mb1 3.9/4, mb1mx3.8/28, mbtmp4.0/4, Error ellipse:
s-maj=47.9km s-min=40.5km az=57.0
*ISCJB **08** 13:08:42.3±0.5, 55.°88S±0.°09×27.°0W±0.°2, h35km, mb3.9/4,*
Error ellipse: s-maj=15.9km s-min=10.9km az=142.2
*NEIC **08** 13:08:43.7±2.1, 56.°0S±0.°1×26.°9W±0.°1, h35km±2km,*
mb4.4/11
ISC 08 13:08:44.2±0.6, 55.°9S±0.°1×26.°8W±0.°1, h35km, n23,
σ2°01/23, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.78	282	Pn	Pn	13 10 10.8	+3.4
VNA1	Neumayer--Stat	16.86	159	P	P	13 12 41.4	+2.5
VNA3	Neumayer Olymp	17.06	161	P	P	13 12 42.9	+1.7
VNA2	Neumayer--Watz	17.25	158	P	P	13 12 46.4	+3.2
	baz=316,slow=13						
SNAA	Sanae	18.79	156	P	Pn	13 13 03.8	+2.9
SNAA	Sanae	18.79	156	P	Pn	13 12 59.9	-1.0
SNAA				IAmb	IAmb	13 13 09.0	
	comp=Z,7.7nm,0.4s						
QSPA	South Pole Qui	34.35	180	P	P	13 15 26.5	-0.8
QSPA				IAmb	IAmb	13 15 27.6	
	comp=Z,2.6nm,0.6s						
ROC1	El Roble	38.09	288	P	P	13 15 57.4	-2.3
MAW	Mawson	40.15	144	P	P	13 16 15.5	-0.6
	comp=Z,0.8nm,0.6s,baz=204,slow=8.6,SNR=1.8						
MAW	Mawson	40.15	144	P	P	13 16 15.8	-0.3
GO04	Tololo Observa	40.16	291	P	P	13 16 15.8	-1.3
BOSA	Boshof	45.73	76	P	P	13 17 02.2	+0.2
	comp=Z,1.8nm,0.8s,baz=211,slow=12,SNR=1.9						
BOSA	Boshof	45.73	76	P	P	13 17 00.0	-2.0
BOSA				IAmb	IAmb	13 17 15.2	
	comp=Z,10nm,1.4s						
SBA	Scott Base	46.24	184	P	P	13 17 03.1	-2.1
PB01	IPOC Station P	47.01	300	P	P	13 17 10.8	-1.3
PB01				IAmb	IAmb	13 17 24.3	
	comp=Z,20nm,1.5s						
LBTB	Lobatse	48.77	73	P	P	13 17 27.4	+1.8
LBTB				IAmb	IAmb	13 17 32.7	
	comp=Z,4.2nm,1.1s						
RCBR	Riachuelo	50.46	348		P	13 17 40.6	+2.2
LPAZ	La Paz	50.46	305	P	P	13 17 38.2	-0.9
LPAZ				IAmb	IAmb	13 17 41.7	
	comp=Z,1.6nm,0.8s						
MATP	Matopo	54.04	72	P	P	13 18 05.0	-0.2
	comp=Z,0.9nm,0.4s,baz=234,slow=14,SNR=2.0						
TORD	Torodi Ar. Bea	72.83	29	P	P	13 20 09.2	+0.1
	comp=Z,0.7nm,0.4s,baz=205,slow=5.5,SNR=6.1						
TORD	Torodi Ar. Bea	72.83	29	P	P	13 20 09.5	+0.4
ILAR	Eielson Array	150.17	312	PKPbc	PKPbc	13 28 27.5	-2.3
	comp=Z,1.2nm,0.7s,baz=132,slow=2.2,SNR=9.0						
ILAR	Eielson Array	150.17	312		PKPbc	13 28 26.9	-2.9

*ISCJB **08** 13:12:54.2±1.1, 9.°82S±0.°08×160.°1E±0.°2, h10km, mb3.8/5,*
Error ellipse: s-maj=25.4km s-min=11.5km az=172.4
*IDC **08** 13:12:54.1±1.2, 9.°73S×160.°14E, h0km, mb3.9/5,*
mb1 4.2/5, mb1mx3.8/25, mbtmp3.9/5, Error ellipse:
s-maj=27.4km s-min=14.3km az=67.0
ISC 08 13:12:55.4±1.2, 9.°8S±0.°1×160.°2E±0.°2, h10km, n7, σ2°18/8,
mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.39	324	Pn	Pn	13 13 07.1	-0.1
	1μm,0.3s,baz=180,slow=5.7,SNR=190						
HNR				Sn	Sb	13 13 13.7	+3.1
	4μm,0.3s,baz=250,slow=18,SNR=34						
HNR	Honiara	0.39	324	iP	Pg	13 13 01.0	-2.2
WRA	Warramunga Arr	26.92	245	P	P	13 18 35.1	-1.9
	1.0nm,1.0s,baz=73,slow=9.8,SNR=4.4						
ASAR	Alice Springs	28.65	238	P	P	13 18 54.2	+1.7
	0.3nm,0.5s,baz=62,slow=10,SNR=7.7						
ILAR	Eielson Array	84.11	20	P	P	13 25 25.9	-0.3
	1.4nm,0.4s,baz=248,slow=4.9,SNR=40						
MKAR	Makanchi Array	88.87	318	P	P	13 25 49.0	-1.0
	1.1nm,0.6s,baz=107,slow=5.7,SNR=8.5						
NVAR	Mina Array Bea	89.42	51	P	P	13 25 54.3	+1.3
	0.4nm,0.8s,baz=265,slow=8.6,SNR=2.7						

*ISCJB **08** 13:52:11.2±0.5, 14.°08S±0.°07×167.°43E±0.°07, h200km,*
mb3.8/7, Error ellipse: s-maj=10.6km s-min=8.8km
az=135.3
*NEIC **08** 13:52:11.5±2.9, 14.°1S±0.°1×167.°46E±0.°06, h186km±8km,*
mb4.5/25
*IDC **08** 13:52:18.4±12.0, 14.°23S×167.°20E, h239km±107km,*
mb3.6/8, mb1 3.7/8, mb1mx3.3/43, mbtmp4.2/8, Error
ellipse: s-maj=68.9km s-min=29.3km az=101.0
ISC 08 13:52:12.9±0.6, 14.°09S±0.°08×167.°45E±0.°10, h200km, n41,
σ1°30/39, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.00	187	S	Sn	13 55 37.4	+0.9
	1.0nm,0.3s,baz=109,slow=13,SNR=1.7						
MSVF	Nonsavu	10.82	111	Pn		13 54 29.2	-14
EIDS	Eidsvold	19.04	231	P	P	13 56 20.6	+0.5
EIDS				IAmb	IAmb	13 56 22.7	

QSPA	South Pole Qui	75.94	180	P	P	14 03 35.7	-1.8
SVW2	Sparrevohn	80.49	17	P	P	14 04 03.0	+0.8
SVW2				IAmb	IAmb	14 04 13.6	
	comp=Z,27nm,1.4s						
HOM	Homer	80.56	20	P	P	14 04 05.6	+3.0
MAW	Mawson	82.54	202	P	P	14 04 13.6	+0.5
	comp=Z,1.1nm,0.6s,baz=156,slow=10.0,SNR=2.5						
ILAR	Eielson Array	85.86	18	P	P	14 04 30.4	+0.8
	comp=Z,0.4nm,0.7s,baz=242,slow=4.6,SNR=5.5						
MKAR	Makanchi Array	96.86	316	P	P	14 05 23.2	+1.9
	comp=Z,0.4nm,0.6s,baz=90,slow=5.9,SNR=3.1						
ARCES	ARCESS Array B	119.68	346	PKP	PKiKP	14 10 39.5	+0.9
	comp=Z,1.1nm,0.6s,baz=62,slow=2.5,SNR=8.0						
FINES	FINESS Array B	125.19	338	PKP	PKiKP	14 10 50.7	+1.1
	comp=Z,5.1nm,1.0s,baz=108,slow=4.5,SNR=2.2						

*ISCJB **08** 13:58:51.5±0.8, 31°.02S±0°.09×178°.9W±0°.3, h400km, mb2.9/2, Error ellipse: s-maj=33.2km s-min=7.3km az=17.7*
*IDC **08** 13:58:53.4±9.0, 30°.92S×179°.96E, h400km±105km, mb2.6/2, mb1 3.1/3, mb1mx2.9/37, mbtmp3.7/3, Error ellipse: s-maj=101.4km s-min=47.0km az=6.0*
ISC 08 13:58:50.8±1.2, 30°.94S±0°.10×179°.2W±0°.2, h400km, n42, σ1§92/56, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.00	34	P	Pn	13 59 46.1	-0.8
GLKZ				S	S	14 00 24.5	-7.6
MXZ	Matakaoa Point	6.93	197	P	P	14 00 36.2	+2.1
MXZ				S	S	14 01 55.7	-1.7
WMGZ	Waiomatatini S	7.14	195	P	P	14 00 38.3	+1.8
WMGZ				S	S	14 02 02.5	+0.6
KUZ	Kuaotunu	7.18	215	P	P	14 00 38.7	+1.7
HAZ	Te Kaha	7.25	199	P	P	14 00 38.1	+0.4
HAZ				S	S	14 02 03.0	-1.1
WCZ	Waipu Caves	7.36	226	P	P	14 00 40.3	+1.4
PUZ	Puketiti	7.42	196	P	P	14 00 41.0	+1.4
PUZ				S	S	14 02 06.7	-1.1
RUGZ	Raukumara Rang	7.47	199	P	P	14 00 40.9	+0.5
RUGZ				S	S	14 02 06.5	-2.5
OPRZ	Ohinepanea	7.74	206	P	P	14 00 47.0	+3.9
MWZ	Matawai	7.86	199	P	P	14 00 44.9	+0.3
MWZ				S	S	14 02 15.7	-1.2
TKGZ	Te Karaka	7.87	197	P	P	14 00 45.1	+0.4
TKGZ				S	S	14 02 16.3	-0.8
URZ	Urewera	7.92	202	P	Pn	14 00 45.0	+0.3
	9.3nm,0.3s,baz=268,slow=4.9,SNR=78						
URZ				S	S	14 02 15.7	-2.3
	3.0nm,0.3s,baz=250,slow=23,SNR=18						
URZ	Urewera	7.92	202	P	Pn	14 00 45.0	+0.3
URZ				S	S	14 02 16.9	-1.1
KARZ	Kaharoa	8.01	207	P	P	14 00 49.5	+3.3
RAGZ	Rawiri	8.04	199	P	P	14 00 48.6	+1.9
RAGZ				S	S	14 02 20.4	-0.4
TOZ	Tahuroa Road	8.07	212	P	P	14 00 49.3	+2.4
RIGZ	Rimuhau	8.14	197	P	P	14 00 49.6	+1.9
UTU	Utuhina	8.16	207	P	P	14 00 52.0	+4.1
MUGZ	Murupara	8.22	203	P	P	14 00 48.9	+0.3
MUGZ				S	S	14 02 21.9	-2.6
RTZ	Ruatahuna	8.28	201	P	P	14 00 51.1	+1.8
RTZ				S	S	14 02 23.1	-2.8
HRRZ	Handcock Road	8.32	205	P	Pn	14 00 49.4	0.0
SNGZ	Shannon Statio	8.33	199	P	P	14 00 50.1	+0.3
SNGZ				S	S	14 02 25.9	-0.9
PRRZ	Plateau Road	8.37	205	P	P	14 00 53.1	+2.8
ALRZ	Allen Road	8.45	205	P	P	14 00 52.8	+1.7
RAHZ	Arahi	8.53	200	P	P	14 00 53.5	+1.5
RAHZ				S	S	14 02 29.3	-1.7
TLZ	Tolley Road	8.56	209	P	P	14 00 56.1	+3.8
WHHZ	Waihua	8.63	199	P	P	14 00 55.3	+2.2
WHHZ				S	S	14 02 31.5	-1.7
NMHZ	Naumai	8.78	201	P	P	14 00 57.4	+2.6
BKZ	Black Stump Fm	8.94	202	P	P	14 00 57.2	+0.6
HIZ	Hauiti	9.01	211	P	P	14 01 00.4	+3.1
MCHZ	McNeill Hill	9.13	201	P	P	14 01 00.6	+1.9
WTVZ	West Tongariro	9.21	206	P	P	14 01 01.4	+1.7
CKHZ	Cape Kidnapper	9.22	198	P	P	14 01 01.0	+1.4
NGZ	Ngauruhoe	9.26	206	P	P	14 01 02.0	+1.7
TUVZ	Tukino	9.32	206	P	Pn	14 01 02.8	+1.7
BHHZ	Black Hill Sta	9.37	203	P	P	14 01 00.9	-0.5
MOVZ	Moawhango	9.41	205	P	Pn	14 01 02.8	+0.9
KRHZ	Kereru	9.41	201	P	Pn	14 01 02.8	+0.8
MTVZ	Mangateitei	9.49	206	P	Pn	14 01 05.1	+2.1
ASAR	Alice Springs	42.07	268	P	P	14 06 03.1	-2.5
	0.4nm,0.7s,baz=103,slow=7.1,SNR=5.1						
WRA	Warramunga Arr	43.10	273	P		14 06 10.0	-3.9
	0.2nm,0.3s,baz=112,slow=8.0,SNR=19						
FINES	FINESS Array B	145.29	339	PKPbc	PKPdf	14 17 42.4	+1.5
	4.1nm,1.0s,baz=54,slow=7.1,SNR=3.4						

*ISCJB **08** 14:18:15.0±0.3, 17°.69S±0°.05×178°.68W±0°.06, h547km, mb4.0/17, Error ellipse: s-maj=8.3km s-min=6.5km az=31.3*
*IDC **08** 14:18:16.7±2.2, 17°.77S×178°.65W, h556km±25km, mb3.5/17, mb1 3.7/17, mb1mx3.5/35, mbtmp4.4/17, Error ellipse: s-maj=15.9km s-min=11.9km az=144.0*
*NEIC **08** 14:18:16.4±2.0, 17°.65S±0°.1×178°.7W±0°.1, h551km±7km, mb4.5/44*
ISC 08 14:18:16.2±0.4, 17°.65S±0°.09×178°.64W±0°.08, h547km, n135, σ1§17/135, mb4.3/36, 21C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.15	268	P	P	14 19 36.3	+4.3
AFI	Afiamalu	7.58	62	P	P	14 20 09.9	0.0
NIUE	Niue	8.39	101	P	P	14 20 19.1	+1.3
DZM	Mont Dzumac	14.70	250	P	P	14 21 22.8	+0.1
OUZ	Omahuta	18.81	200	P	P	14 22 03.9	+2.4
OUZ				IAmb	IAmb	14 22 05.6	
	comp=Z,14nm,0.8s						
URZ	Urewera	20.86	189	P	P	14 22 17.6	-2.5
	comp=Z,3.9nm,0.3s,baz=276,slow=2.5,SNR=10						
URZ	Urewera	20.86	189	P	P	14 22 18.0	-2.0
URZ				IAmb	IAmb	14 22 18.6	
	comp=Z,20nm,1.3s						
BKZ	Black Stump Fm	21.85	190	P	P	14 22 26.7	-2.3
QRZ	Quartz Range	24.31	196	P	P	14 22 52.8	+1.9
BHW	Baring Head	24.32	192	P	P	14 22 50.3	-0.5
NNZ	Nelson	24.46	195	P	P	14 22 50.6	-1.6
THZ	Tophouse	25.10	195	P	P	14 22 57.9	0.0
THZ				IAmb	IAmb	14 23 05.6	
	comp=Z,22nm,1.3s						
KHZ	Kahutara	25.57	194	P	P	14 22 59.9	-2.0
KHZ				IAmb	IAmb	14 23 09.5	
	comp=Z,28nm,1.2s						
LTZ	Lake Taylor	26.21	195	P	P	14 23 07.2	-0.5
LTZ				IAmb	IAmb	14 23 09.4	
	comp=Z,13nm,0.7s						
RPZ	Rata Peaks	27.40	196	P	P	14 23 17.0	-1.0
	comp=Z,4.5nm,0.7s,baz=11,slow=16,SNR=3.1						
FOZ	Fox Glacier	27.59	198	P	P	14 23 18.7	-0.9
EIDS	Eidsvold	29.15	249	P	P	14 23 34.1	+0.6
EIDS				IAmb	IAmb	14 23 34.5	
	comp=Z,4.4nm,0.8s						
MLZ	Mavora Lakes	29.76	199	P	P	14 23 39.3	+0.7
ARMA	Armidale	29.88	239	P	P	14 23 40.8	+0.9
ARMA				IAmb	IAmb	14 23 44.8	
	comp=Z,31nm,1.5s						
DCZ	Deep Cove	30.16	200	P	P	14 23 40.4	-1.5
DCZ				IAmb	IAmb	14 23 43.1	
	comp=Z,13nm,1.0s						
CTA	Charters Tower	33.27	260	P	P	14 24 08.7	-0.2
	comp=Z,2.6nm,0.5s,baz=86,slow=9.5,SNR=4.9						
CTAO	Charters Tower	33.27	260	P	P	14 24 08.1	-0.8
CTAO				IAmb	IAmb	14 24 09.4	
	comp=Z,8.7nm,1.1s						
CAN	Canberra	33.68	232	P	P	14 24 12.2	0.0
COEN	Coen	36.88	270	P	P	14 24 39.8	+0.8
COEN				IAmb	IAmb	14 24 40.7	
	comp=Z,8.3nm,0.8s						
TOO	Toolangi	37.16	230	P	P	14 24 41.9	+0.9
TOO				IAmb	IAmb	14 24 42.4	
	comp=Z,17nm,0.9s						
STKA	Stephens Creek	38.56	241	P	P	14 24 52.8	+0.4
	comp=Z,6.7nm,0.8s,baz=87,slow=9.3,SNR=16						
STKA	Stephens Creek	38.56	241	P	P	14 24 53.2	+0.8
BBOO	Buckleboo	43.34	241	P	P	14 25 30.6	+0.2
BBOO				IAmb	IAmb	14 25 31.5	
	comp=Z,12nm,0.6s						
WR0	Warramunga Arr	44.27	259	P	P	14 25 40.0	+2.3
WB2	Warramunga Arr	44.45	259	P	P	14 25 38.5	-0.7
WRA	Warramunga Arr	44.46	259	P	P	14 25 38.5	-0.8
	comp=Z,2.8nm,0.8s,baz=91,slow=6.7,SNR=68						
WRA				PcP	PcP	14 27 10.4	-0.5
	comp=Z,1.5nm,0.7s,baz=91,slow=3.7,SNR=8.2						
WRA	Warramunga Arr	44.46	259	P	P	14 25 38.4	-0.8
WRA					PcP	14 27 10.6	-0.3
AS31	Alice Springs	44.65	254	P	P	14 25 40.4	-0.3
AS31				IAmb	IAmb	14 25 41.4	
	comp=Z,6.4nm,0.5s						
ASAR	Alice Springs	44.65	254	P	P	14 25 40.4	-0.3
	comp=Z,22nm,0.6s,baz=90,slow=7.7,SNR=567						
ASAR				PcP	PcP	14 27 10.7	-0.9
	comp=Z,1.8nm,0.5s,baz=105,slow=3.6,SNR=10						
ASAR				S	S	14 31 34.7	-2.8
	comp=Z,0.9nm,0.8s,baz=87,slow=14,SNR=5.8						
ASAR	Alice Springs	44.65	254	P	P	14 25 40.1	-0.6
ASAR					PcP	14 27 12.1	+0.5
MTN	Manton Dam	48.58	268	P	P	14 26 10.4	-0.1
MTN				IAmb	IAmb	14 26 10.9	
	comp=Z,8.8nm,0.8s						
FORT	Forrest	49.91	244	P	P	14 26 18.9	-1.2
FORT				IAmb	IAmb	14 26 19.6	
	comp=Z,17nm,0.8s						
KNRA	Kununurra	50.29	264	P	P	14 26 22.7	-0.3
KNRA				IAmb	IAmb	14 26 23.2	
	comp=Z,12nm,0.8s						
SIJI	Sorong	51.96	283	P	P	14 26 35.7	+0.5
	comp=Z,12nm,0.6s,baz=118,slow=11,SNR=5.3						
FITZ	Fitzroy Crossi	52.85	260	P	P	14 26 41.9	+0.4
PSA00	Pilbara Seismi	57.76	255	P	P	14 27 14.9	-0.7
PSA00				IAmb	IAmb	14 27 16.0	
	comp=Z,7.5nm,0.6s						
MORW	Morawa	60.38	246	P	P	14 27 32.4	-0.7
SBA	Scott Base	60.66	184	P	P	14 27 36.2	+2.2
MJAR	Matsushiro Arr	67.57	323	P	P	14 28 18.2	-0.4
	comp=Z,3.7nm,0.6s,baz=164,slow=7.1,SNR=8.8						
MAJO	Matsushiro	67.57	323	P	P	14 28 18.0	-0.6
MAJO				IAmb	IAmb	14 28 19.0	
	comp=Z,6.4nm,0.8s						
MJB9	Matsu-Tunnel	67.58	323	P	P	14 28 17.9	-0.7
MJB9				IAmb	IAmb	14 28 19.0	
	comp=Z,6.4nm,0.8s						
KKM	Kota Kinabalu	68.47	284	P	P	14 28 25.3	+0.8
KKM				IAmb	IAmb	14 28 41.0	
	comp=Z,35nm,1.2s						
UGM	Wanagama	69.43	268	P	P	14 28 30.0	-0.3
TPUB	Ta-pu	71.94	302	P	P	14 28 43.7	-1.2
CISI	Cisompet, Garu	72.11	268	P	P	14 28 44.8	-1.3
QSPA	South Pole Qui	72.40	180	P	P	14 28 47.4	+0.5
PEA0B	Petropavlovsk-	73.38	345	P	P	14 28 51.8	-0.7
PETK	Petropavlovsk-	73.38	345	P	P	14 28 52.3	-0.1
	comp=Z,5.1nm,0.7s,baz=111,slow=5.8,SNR=7.0						
KSRS	Korea Array	74.36	318	P	P	14 28 58.8	+0.5
	comp=Z,1.0nm,0.7s,baz=136,slow=7.1,SNR=3.5						
YERR	Yerington	79.08	43	P	P	14 29 24.8	+0.4
NVAR	Mina Array Bea	79.40	44	P	P	14 29 26.6	+0.5
	comp=Z,1.5nm,0.7s,baz=223,slow=9.0,SNR=14						
NVAR	Mina Array Bea	79.40	44	P	P	14 29 27.0	+0.9
TRF	Thorofare Moun	83.81	12	P	P	14 29 46.8	-1.2
TRF				IAmb	IAmb	14 29 48.5	
	comp=Z,9.2nm,0.8s						
MAW	Mawson	84.02	200	P	P	14 29 48.9	0.0
	comp=Z,3.4nm,0.6s,baz=136,slow=6.5,SNR=15						
MAW	Mawson	84.02	200	P	P	14 29 49.1	+0.2
RND	Reindeer	84.07	13	P	P	14 29 49.0	-0.2
RND				IAmb	IAmb	14 29 49.6	
	comp=Z,9.1nm,0.8s						
ILAR	Eielson Array	85.69	13	P	P	14 29 55.2	-1.7
	comp=Z,1.2nm,0.7s,baz=222,slow=5.2,SNR=13						
ILAR	Eielson Array	85.69	13	P	P	14 29 55.9	-1.0
TXAR	Lajitas Array	86.05	58	P	P	14 30 00.1	+0.6
	comp=Z,1.5nm,0.7s,baz=219,slow=5.9,SNR=19						
TXAR	Lajitas Array	86.05	58	P	P	14 30 01.3	+1.7
HHC	Hu-ho-hao-te	86.94	315	*e*P	P	14 30 07.9	+4.4
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
PDAR	Pinedale Array	87.32	44	P	P	14 30 05.2	-0.3
	comp=Z,0.6nm,0.5s,baz=198,slow=3.0,SNR=5.3						
CMAR	Chiang Mai Arr	88.59	290	P	P	14 30 12.5	+0.9
	comp=Z,1.1nm,0.8s,baz=104,slow=3.1,SNR=6.4						
SYO	Syowa Base	89.35	193	⇑*e*P	P	14 30 12.8	-1.3
INK	Inuvik	91.70	15	P	P	14 30 23.9	-0.9
	comp=Z,0.8nm,0.7s,baz=221,slow=6.0,SNR=3.2						
MKAR	Makanchi Array	108.80	314	PKiKP	PKiKP	14 35 41.6	-1.8
	comp=Z,0.8nm,0.7s,baz=121,slow=1.9,SNR=2.9						
KSH	Kashi	112.75	306	*e*PKP	PKiKP	14 35 51.5	+0.2
ARCES	ARCESS Array B	126.03	350	PKP	PKPdf	14 36 15.5	-0.2
	comp=Z,1.2nm,0.7s,baz=12,slow=6.2,SNR=3.9						
FINES	FINESS Array B	132.88	344	PKP	PKiKP	14 36 29.6	-0.6
	comp=Z,4.5nm,1.0s,baz=108,slow=6.2,SNR=3.3						
KWP	Kalwaria Pacla	143.75	336		PKPdf	14 36 49.1	-0.1
TLCR		144.24	326	⇑P	PKPdf	14 36 50.1	0.0
BURAR	Bucovina Array	144.29	332	⇑P	PKPab	14 36 50.0	-0.3
BURAR	Bucovina Array	144.29	332		PKPab	14 36 51.7	+1.3
BIZ	Bicaz	144.38	330	⇑P	PKPab	14 36 50.5	-0.2
TESR	Tescani	144.43	330	⇑P	PKPbc	14 36 50.1	-0.3
BR131	Keskin Array S	144.45	315		PKPab	14 36 51.4	+0.1
BRTR	Keskin Array B	144.45	315	PKP	PKPbc	14 36 49.6	-1.2
	comp=Z,4.4nm,0.8s,baz=144,slow=4.2,SNR=21						
BRTR	Keskin Array B	144.45	315		PKPab	14 36 51.0	-0.4
KOLS	Kolonicke sedl	144.48	336	*e*PKP	PKPab	14 36 50.4	-0.6
CFR	Carcaliu	144.60	327	⇑P	PKPab	14 36 51.3	-0.1
TOPG	Topolog	144.68	326	⇑P	PKPab	14 36 51.3	-0.5
ASF	Jabal al Asfar	144.86	301	PKP	PKPbc	14 36 52.1	-0.2
	comp=Z,2.6nm,0.8s,baz=206,slow=0.9,SNR=5.1						
TRPA	Tarpa	145.03	335	⇑P	PKPbc	14 36 51.9	-0.2
HARR	Harsova	145.04	326	⇑P	PKPbc	14 36 52.0	-0.3
TLB	Topalu	145.05	326	⇑P	PKPbc	14 36 51.8	-0.5
ARCR	ARCALIA	145.07	332	⇑P	PKPdf	14 36 51.4	-0.1
CHVC	Chvalec	145.10	344	*e*PKP	PKPab	14 36 52.7	-0.6
CLL	Collm	145.17	347	*i* PKPbc	PKPbc	14 36 51.7	-0.7
	comp=Z,13nm,0.7s						
UPC	Upice	145.19	344	*e*PKP	PKPab	14 36 53.2	-0.4
DPC	Dobruska-Polom	145.24	343	*e*PKP	PKPbc	14 36 52.7	-0.1
LANS	Liptovska Anna	145.32	339	*e*PKP	PKPab	14 36 54.0	-0.2
KRLC	Kraliky	145.36	342	*e*PKP	PKPbc	14 36 52.4	-0.7
BRG	Berggiesshubel	145.37	346	*e*PKP	PKPbc	14 36 52.9	-0.2
	comp=Z,8.0nm,0.9s						
MORC	Moravsky Berou	145.40	341	⇑P	PKPdf	14 36 51.1	-1.0
MLR	Muntele Rosu	145.50	329	PKPbc	PKPbc	14 36 53.9	+0.1
	comp=Z,1.6nm,0.4s,baz=314,slow=10,SNR=4.6						
CJR	Cluj-Napoca	145.69	332	⇑P	PKPdf	14 36 52.6	0.0
MMAI	Mount Meron Ar	145.82	303	PKPbc	PKPbc	14 36 54.5	-0.5
	comp=Z,6.7nm,0.6s,baz=81,slow=5.2,SNR=13						
VOIR		145.98	330	⇑P	PKPbc	14 36 54.7	-0.3
DRGR		146.01	333	⇑P	PKPbc	14 36 54.8	-0.3
PRU	Pruhonice	146.04	345	*e*PKP	PKPbc	14 36 55.0	0.0
GOPC	GO Pecny, Ondr	146.05	344	*e*PKP	PKPbc	14 36 55.2	+0.2
VRAC	Vranov	146.10	342	⇑P	PKPab	14 36 56.9	-0.3
VYHS	Vyhne	146.10	339	*e*PKP	PKPbc	14 36 55.2	0.0
ARR	Arges	146.23	330	⇑P	PKPbc	14 36 56.2	+0.4
MODS	Modra-Piesok	146.72	341	*e*PKP	PKPbc	14 36 57.0	+0.1
YLV	Yalova	146.78	319	⇑P	PKPbc	14 36 56.3	-1.1
SIRR	Siria	146.87	334	⇑P	PKPbc	14 36 57.4	0.0
KHC	Kasperske Hory	147.08	345	*e*PKP	PKPbc	14 36 57.6	-0.3
KHC	Kasperske Hory	147.08	345		PKiKP	14 36 58.7	-1.0
EIL	Elat	147.11	298	PKPbc	PKPbc	14 36 58.4	-0.2
	comp=Z,4.9nm,0.9s,baz=328,slow=14,SNR=3.6						
GEC2	GERESS Array S	147.31	345		PKiKP	14 36 59.2	-1.0
GERES	GERESS Array B	147.31	345	PKPbc	PKPbc	14 36 58.1	-0.5
	comp=Z,3.4nm,0.6s,baz=25,slow=3.3,SNR=26						
GERES	GERESS Array B	147.31	345		PKiKP	14 36 59.3	-1.0
CONA	Conrad Observa	147.55	342	*e*PKiKP	PKPbc	14 36 59.4	+0.1
	comp=Z,5.5nm,0.6s						
HERR	Herculane	147.63	332	⇓P	PKPbc	14 36 59.1	-0.3
VTS	Vitosha	148.92	328	⇑P	PKPbc	14 37 02.0	-0.9
SOKA	Soboth	148.93	342	*i* PKPbc	PKPbc	14 37 01.8	-0.9
	comp=Z,5.7nm,1.3s						
KBA	Koelnbreinsper	149.04	344	*e*PKPbc	PKPdf	14 37 00.4	+2.1
	comp=Z,3.6nm,0.5s						
EZN	Ezine	149.09	321	⇑P	PKPdf	14 36 54.2	-4.1
WATA	Walderalm	149.23	346	*i* PKiKP	PKPbc	14 37 02.8	-0.7
	comp=Z,3.7nm,0.6s						
WTTA	Wattenberg	149.28	346	*e*PKiKP	PKPbc	14 37 03.1	-0.6
	comp=Z,6.2nm,0.5s						
MOTA	Moosalm	149.32	347	*e*PKiKP	PKPbc	14 37 03.0	-0.7
	comp=Z,5.0nm,0.9s						
MYKA	Terra Mystica	149.37	343	*e*PKPbc	PKPdf	14 37 00.8	+2.2
	comp=Z,4.2nm,0.5s						
SQTA	Sankt Quirin	149.42	347	*e*PKiKP	PKPbc	14 37 03.4	-0.5
	comp=Z,6.1nm,0.6s						
ABTA	Abfaltersbach	149.56	345	*e*PKPbc	PKPbc	14 37 01.7	-2.5
	comp=Z,7.0nm,0.5s						
DAVA	Damuels	149.63	348	*e*PKiKP	PKiKP	14 37 04.8	-0.3
	comp=Z,5.8nm,0.9s						
FETA	Feichten	149.71	347	*i* PKPbc	PKPbc	14 37 03.5	-1.2
	comp=Z,4.8nm,0.8s						
DAVOX	Davos/Dischmat	150.11	348	PKPbc	PKPbc	14 37 05.3	-0.3
	comp=Z,7.7nm,0.5s,baz=54,slow=4.3,SNR=16						
FNA	Florina	151.21	327		PKiKP	14 37 08.1	-0.4
TORD	Torodi Ar. Bea	175.51	184	PKP	PKPdf	14 37 22.4	-2.0
	comp=Z,0.8nm,0.7s,baz=229,slow=1.3,SNR=4.2						
TORD				PKPab	PKPab	14 39 04.5	-0.9
	comp=Z,0.6nm,0.8s,baz=184,slow=5.5,SNR=2.6						

*ISCJB **08** 14:22:48.2±0.4, 6°.65S±0°.05×154°.81E±0°.05, h48km, mb4.2/12, MS3.2/1, Error ellipse: s-maj=7.7km s-min=6.9km az=22.6*
*NEIC **08** 14:22:48.2±2.5, 6°.71S±0°.09×154°.71E±0°.09, h35km±1km, mb4.5/19*
*IDC **08** 14:22:52.1±2.1, 6°.55S×154°.66E, h66km±17km, mb3.8/11, mb1 4.0/14, mb1mx3.9/33, mbtmp4.2/14, MS3.3/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=17.5km s-min=13.5km az=80.0*
ISC 08 14:22:49.7±0.4, 6°.62S±0°.05×154°.80E±0°.06, h48km, n63, σ1§87/67, mb4.4/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.59	310	P	Pn	14 23 43.6	+0.6
	28nm,0.3s,baz=192,slow=2.0,SNR=30						
KRVT				S	Sn	14 24 23.3	-0.9
	45nm,0.3s,baz=112,slow=5.4,SNR=5.6						
HNR	Honiara	5.81	119	P	Pn	14 24 18.5	+5.1
	4.4nm,0.3s,baz=341,slow=18,SNR=3.2						
HNR				S	Sn	14 25 30.4	+12
	2.5nm,0.3s,baz=67,slow=18,SNR=2.6						
HNR	Honiara	5.81	119	P	Pn	14 24 18.0	+4.6
HNR	Honiara	5.81	119		Pn	14 24 13.2	-0.2
HNR					Sn	14 25 14.4	-4.4
PMG	Port Moresby	8.06	249	P	Pn	14 24 44.1	-0.1
	5.9nm,0.3s,baz=88,slow=6.9,SNR=14						
PMG				S	Sn	14 26 17.6	+3.5
	1.6nm,0.3s,baz=92,slow=24,SNR=4.8						
PMG	Port Moresby	8.06	249		Pn	14 24 45.0	+0.7
COEN	Coen	13.56	237	Pn	Pn	14 26 00.2	+0.7
PATS	Pohnpei	13.82	15	Pn	Pn	14 26 03.1	0.0
CTA	Charters Tower	15.75	211	P	P	14 26 32.2	+0.5
	0.1nm,0.3s,baz=34,slow=12,SNR=5.3						
CTAO	Charters Tower	15.75	211	P	Pn	14 26 29.4	+0.9
EIDS	Eidsvold	18.98	190	P	P	14 27 05.6	-1.7
DZM	Mont Dzumac	19.04	145	P	Pn	14 27 13.8	+4.6
	0.6nm,0.3s,baz=323,slow=17,SNR=6.0						
DZM				LR	LR	14 33 43.4	
	comp=Z,88nm,20.8s,baz=0.5,slow=34						
DZM	Mont Dzumac	19.04	145		P	14 27 08.5	+0.5
DZM				IAmb	IAmb	14 27 16.8	
	comp=Z,29nm,1.5s						
WR0	Warramunga Arr	23.72	234	P	P	14 27 49.9	-7.7
WR0				IAmb	IAmb	14 27 59.3	
	comp=Z,7.9nm,1.1s						
ARMA	Armidale	23.86	187	P	P	14 28 01.8	+2.9
ARMA				IAmb	IAmb	14 28 10.1	
	comp=Z,16nm,1.2s						
WRA	Warramunga Arr	23.87	234	P	P	14 27 58.9	-0.2
	comp=Z,4.4nm,0.9s,baz=58,slow=9.6,SNR=11						
WRA				PcP	PcP	14 31 42.0	+0.9
	comp=Z,1.2nm,0.6s,baz=62,slow=2.2,SNR=8.2						
WRA				LR	LR	14 37 02.1	
	comp=Z,76nm,20.2s,baz=55,slow=36						
WRA	Warramunga Arr	23.87	234	P	P	14 27 53.1	-5.9
MTN	Manton Dam	24.12	253	P	P	14 27 58.1	-3.2
MTN				IAmb	IAmb	14 28 09.3	
	comp=Z,18nm,1.4s						
SARN	Sarigan	24.83	339	P	P	14 28 05.0	-2.8
ASAR	Alice Springs	26.28	228	P	P	14 28 20.3	-0.6
	comp=Z,0.7nm,0.5s,baz=59,slow=9.0,SNR=5.9		

URZ			S	S	14 28 43.1	-1.0
	5.8nm,0.3s,baz=137,slow=18,SNR=11					
ASAR	**Alice Springs**	**41.26 269**	P	P	14 32 57.0	0.0
	0.1nm,0.4s,baz=109,slow=7.4,SNR=4.9					
WRA	**Warramunga Arr**	**42.36 275**	P	P	14 33 05.7	-0.1
	0.2nm,0.3s,baz=112,slow=7.7,SNR=9.5					
FINES	**FINESS Array B**	**145.66 338**	PKPbc	PKPdf	14 44 41.9	0.0
	2.4nm,0.7s,baz=39,slow=5.3,SNR=5.1					

*ISCJB **08** 14:35:44.9±0.4, 22°.31S±0°.03×68°.72W±0°.08, h146km±5km, Error ellipse: s-maj=11.6km s-min=4.9km az=4.5*
*NEIC **08** 14:35:45.0±2.7, 22°.34S±0°.05×68°.57W±0°.09, h131km±6km, mb4.2/6, ML4.0(GUC)*
*SJA **08** 14:35:45.8±0.7, 22°.27S×68°.60W, h128km±4km, ML3.4, MW3.6*
*GUC **08** 14:35:46.8±0.7, 22°.23S×68°.60W, h114km±4km, ML4.0*
*IDC **08** 14:35:57.9±9.3, 21°.47S×68°.26W, h183km±71km, mb3.6/1, mb1 3.5/2, mb1mx3.1/18, mbtmp3.9/2, Error ellipse: s-maj=114.2km s-min=85.9km az=75.0*

ISC 08 14:35:45.4±0.7, 22°.30S±0°.03×68°.62W±0°.06, h132km±6km, n43, σ1§39/65, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.41**	**222**	⇑*i*P	**Pn**	**14 36 04.8**	**+0.2**
LVC				*i* S	**Sn**	**14 36 17.9**	**-1.4**
LVC	**Limon Verde**	**0.41**	**222**		**Pn**	**14 36 04.9**	**+0.3**
LVC				Sn	**Sn**	**14 36 18.1**	**-1.1**
LVC	**Limon Verde**	**0.41**	**222**	*e*P	**Pn**	**14 36 05.0**	**+0.4**
LVC				*e*S	**Sn**	**14 36 17.7**	**-1.6**
LVC				IAML		14 36 19.0	
	comp=Z,2μm,0.2s						
PB09	**IPOC Station P**	**0.77**	**311**	⇓*i*P	**Pn**	**14 36 07.2**	**+0.5**
PB09				*i* S	**Sn**	**14 36 22.0**	**-0.8**
PB09	**IPOC Station P**	**0.77**	**311**	*e*P	**Pn**	**14 36 07.3**	**+0.7**
PB09				*e*S	**Sn**	**14 36 22.9**	**+0.2**
PB06	**IPOC Station P**	**0.97**	**245**	⇑*i*P	**Pn**	**14 36 09.3**	**+0.9**
PB06				*i* S	**Sn**	**14 36 26.4**	**+0.6**
PB06				IAML		14 36 30.4	
	comp=E,2μm,0.3s						
PB03	**IPOC Station P**	**1.08**	**283**	⇑*i*P	**Pn**	**14 36 10.1**	**+0.7**
PB03				*i* S	**Sn**	**14 36 27.5**	**-0.1**
PB03				IAML		14 36 29.1	
	comp=E,6μm,0.2s						
PB03	**IPOC Station P**	**1.08**	**283**	*e*P	**Pn**	**14 36 10.7**	**+1.3**
PB15	**IPOC Station P**	**1.20**	**221**	⇑*i*P	**Pn**	**14 36 12.1**	**+1.4**
PB15				*i* S	**Sn**	**14 36 31.3**	**+1.5**
PB15	**IPOC Station P**	**1.20**	**221**	*e*P	**Pn**	**14 36 12.2**	**+1.6**
PB15				*e*S	**Sn**	**14 36 31.1**	**+1.3**
PB07	**IPOC Station P**	**1.31**	**296**	⇓*i*P	**Pn**	**14 36 12.6**	**+0.8**
PB07				*i* S	**Sn**	**14 36 31.5**	**-0.3**
PB07				IAML		14 36 32.1	
	comp=N,4μm,0.4s						
PB07	**IPOC Station P**	**1.31**	**296**	*e*P	**Pn**	**14 36 12.6**	**+0.8**
PB07				*e*S	**Sn**	**14 36 32.3**	**+0.5**
PB04	**IPOC Station P**	**1.42**	**268**	⇑*i*P	**Pn**	**14 36 13.9**	**+1.0**
PB04				*i* S	**Sn**	**14 36 34.5**	**+0.7**
PB04				IAML		14 36 36.1	
	comp=N,3μm,0.2s						
PB04	**IPOC Station P**	**1.42**	**268**		**Pn**	**14 36 13.9**	**+1.0**
PB04				Sn	**Sn**	**14 36 34.8**	**+1.0**
PB04	**IPOC Station P**	**1.42**	**268**	*e*P	**Pn**	**14 36 14.2**	**+1.3**
PB04				IAML		14 36 36.0	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**1.49**	**327**	⇓*i*P	**Pn**	**14 36 13.8**	**+0.1**
PB01				*i* S	**Sn**	**14 36 34.4**	**-0.8**
PB01	**IPOC Station P**	**1.49**	**327**		**Pn**	**14 36 13.8**	**+0.1**
PB01				Sn	**Sn**	**14 36 34.2**	**-0.9**
PB02	**IPOC Station P**	**1.54**	**309**	⇓*i*P	**Pn**	**14 36 14.7**	**+0.5**
PB02				*i* S	**Sn**	**14 36 35.8**	**-0.3**
PB02				IAML		14 36 37.7	
	comp=E,2μm,0.1s						
PB02	**IPOC Station P**	**1.54**	**309**	*e*P	**Pn**	**14 36 15.1**	**+0.9**
PB10	**IPOC Station P**	**2.16**	**236**		**Pn**	**14 36 22.5**	**+1.1**
PB10				Sn	**Sn**	**14 36 48.1**	**-0.9**
PB10	**IPOC Station P**	**2.16**	**236**	*e*P	**Pn**	**14 36 22.7**	**+1.4**
PB08	**IPOC Station P**	**2.21**	**347**	⇑*i*P	**Pn**	**14 36 23.5**	**+1.0**
PB08				*i* S	**Sn**	**14 36 51.0**	**+0.3**
PB08	**IPOC Station P**	**2.21**	**347**	*e*P	**Pn**	**14 36 23.4**	**+1.0**
GO01	**Chusmiza**	**2.68**	**348**	*i* P	**Pn**	**14 36 29.0**	**+0.6**
GO01				*i* S	**Sn**	**14 37 01.9**	**+0.5**
GO01	**Chusmiza**	**2.68**	**348**		**Pn**	**14 36 29.0**	**+0.6**
GO01				Sn	**Sn**	**14 37 03.3**	**+1.9**
PB11	**IPOC Station P**	**2.71**	**339**		**Pn**	**14 36 28.1**	**-0.4**
PB14	**IPOC Station P**	**2.84**	**215**	*e*P	**Pn**	**14 36 31.9**	**+1.7**
YJA	**Yavi**	**2.88**	**88**	*e*P	**Pn**	**14 36 32.7**	**+1.8**
YJA				IAML		14 36 34.2	
	comp=Z,7.2nm,0.5s						
GO02	**Mina Guanaco**	**2.98**	**197**		**Pn**	**14 36 33.6**	**+1.5**
GO02				Sn	**Sn**	**14 37 05.0**	**-3.2**
MNMC	**Minye Minye**	**3.29**	**344**		**Pn**	**14 36 36.1**	**0.0**
PB12	**IPOC Station P**	**4.00**	**336**	*e*P	**Pn**	**14 36 45.9**	**+0.5**
GO03	**Copiap**	**5.47**	**195**		**Pn**	**14 37 04.4**	**-0.4**
LPAZ	**La Paz**	**6.00**	**4**	P	**Pn**	**14 37 14.7**	**+2.1**
	comp=Z,1.5nm,0.3s,baz=163,slow=4.5,SNR=34						
LPAZ				S	**Sn**	**14 38 15.4**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=233,slow=3.9,SNR=1.6						
GO04	**Tololo Observa**	**8.08**	**194**	Pn	**Pn**	**14 37 37.9**	**-2.2**
TRQA	**Tornquist**	**16.71**	**161**		**P**	**14 39 31.9**	**+0.2**
PLCA	**Paso Flores**	**18.45**	**185**	P	**P**	**14 39 48.9**	**-1.9**
PLCA				IAmb	IAmb	14 40 06.7	
	comp=Z,9.2nm,1.5s						
PTGA	**Pitinga**	**23.04**	**23**	P	**P**	**14 40 39.1**	**-0.1**
ROSC	**El Rosal**	**27.55**	**348**	P	**P**	**14 41 18.4**	**-2.0**
ROSC				IAmb	IAmb	14 41 30.6	
	comp=Z,4.3nm,0.7s						
GO09	**Cerro Castillo**	**29.06**	**185**	P	**P**	**14 41 31.0**	**-2.1**
BCIP	**Isla Barro Col**	**33.15**	**339**	P	**P**	**14 42 09.5**	**+0.2**
BCIP				IAmb	IAmb	14 42 26.3	
	comp=Z,9.6nm,0.8s						
TOSP	**Speyside**	**34.32**	**14**	P	**P**	**14 42 19.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.37**	**70**	P	**P**	**14 47 29.8**	**+3.6**
	comp=Z,0.5nm,0.4s,baz=264,slow=5.5,SNR=11						
MKAR	**Makanchi Array**	**146.12**	**37**	PKPbc	**PKiKP**	**14 55 12.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=318,slow=3.2,SNR=3.0						

*NEIC **08** 14:42:17.0±1.3, 46°.84N±0°.02×66°.97W±0°.02, h5km±3km*
*OTT **08** 14:42:17.3±0.3, 46°.82N×67°.04W, h5km, MN2.6/7, 29km east from Plaster Rock, Nb Northern Appalachians Seismic Zone.*

ISC 08 14:42:16.6±1.2, 46°.81N±0°.03×66°.98W±0°.03, h1km±11km, n22, σ0§65/39, New Brunswick

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PQI	**Presque Isle**	**0.72**	**259**	Pg	**Pg**	**14 42 30.9**	**+0.5**
PQI				Sg	**Sb**	**14 42 41.2**	**-1.2**
BATG	**Bathurst New B**	**0.78**	**53**	PG	**Pg**	**14 42 31.7**	**+0.1**
BATG				SG	**Sg**	**14 42 42.9**	**+1.1**
BATG				Trac		14 42 45.2	
	comp=Z,13nm,0.0s						
BATG	**Bathurst New B**	**0.78**	**53**	Pg	**Pg**	**14 42 29.1**	**-2.5**
BATG	**Bathurst New B**	**0.78**	**53**	Pg	**Pg**	**14 42 31.7**	**+0.1**
BATG				Sg	**Sg**	**14 42 42.9**	**+1.1**
HANN	**Hanwell**	**0.94**	**171**	PG	**Pb**	**14 42 35.9**	**+0.1**
HANN				SG	**Sg**	**14 42 47.0**	**+0.1**
HANN	**Hanwell**	**0.94**	**171**	Pg	**Pb**	**14 42 35.9**	**+0.1**
HANN				Sg	**Sg**	**14 42 47.0**	**+0.1**
E63A	**Oxbow**	**1.07**	**249**	Pn	**Pb**	**14 42 37.8**	**0.0**
F64A	**Sherman**	**1.34**	**225**	Pn	**Pn**	**14 42 41.2**	**-1.2**
F64A					**Sg**	**14 42 59.8**	**+0.2**
SRNB	**Snider Mountai**	**1.36**	**136**	PG	**Pn**	**14 42 42.2**	**-0.4**
SRNB				SG	**Sb**	**14 43 00.2**	**-0.4**
SRNB				Trac		14 43 02.1	
	comp=Z,9.2nm,0.1s						
SRNB	**Snider Mountai**	**1.36**	**136**		**Pn**	**14 42 42.2**	**-0.4**
SRNB				Sg	**Sb**	**14 43 00.2**	**-0.4**
HKNB	**Havelock Quarr**	**1.39**	**126**	PG	**Pn**	**14 42 42.9**	**-0.2**
HKNB				SG	**Sb**	**14 43 01.4**	**-0.2**
HKNB				Trac		14 43 03.1	
	comp=Z,15nm,0.1s						
HKNB	**Havelock Quarr**	**1.39**	**126**		**Pn**	**14 42 42.9**	**-0.2**
HKNB					**Sb**	**14 43 01.4**	**-0.2**
D62A	**Allapoint, All**	**1.44**	**281**		**Pb**	**14 42 44.1**	**-0.1**
WCNB	**Wards Creek**	**1.55**	**138**	PN	**Pn**	**14 42 45.4**	**0.0**
WCNB				SN	**Sn**	**14 43 06.5**	**+0.4**
WCNB				Trac		14 43 07.0	
	comp=Z,29nm,0.3s						
WCNB	**Wards Creek**	**1.55**	**138**	Pn	**Pn**	**14 42 45.4**	**0.0**
WCNB				Sn	**Sn**	**14 43 06.5**	**+0.4**
G65A	**Princeton**	**1.66**	**194**		**Pb**	**14 42 47.8**	**-0.2**
G65A					**Sb**	**14 43 09.7**	**+0.2**
GGN	**Saint George**	**1.70**	**177**	PN	**Pn**	**14 42 47.1**	**-0.2**
GGN				SG	**Sb**	**14 43 11.0**	**+0.6**
GGN				Trac		14 43 12.3	
	comp=Z,8.7nm,0.2s						
GGN	**Saint George**	**1.70**	**177**		**Pn**	**14 42 47.6**	**+0.3**
GGN					**Sb**	**14 43 10.4**	**-0.1**
E62A	**Clayton Lake**	**1.76**	**265**	Pn	**Pn**	**14 42 48.5**	**+0.3**
LMN	**Caledonia Moun**	**1.79**	**122**	PN	**Pn**	**14 42 48.7**	**0.0**
LMN				SN	**Sn**	**14 43 12.8**	**+0.8**
LMN				Trac		14 43 13.6	
	comp=Z,180nm,1.1s						
F63A	**Nahmakanta, Br**	**1.84**	**234**	Pn	**Pb**	**14 42 51.0**	**0.0**
A21	**Saint Andre**	**2.05**	**297**	PN	**Pn**	**14 42 52.8**	**+0.6**
A21				SN	**Sn**	**14 43 18.0**	**-0.3**
A21				Trac		14 43 22.4	
	comp=Z,85nm,1.2s						

IDC 08 14:46:52.9±10.0, 7°.21S×128°.78E, h205km±110km, mb3.1/2, mb1 2.9/4, mb1mx2.8/19, mbtmp3.4/4, Error ellipse: s-maj=237.9km s-min=41.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.76**	**157**	P	Pn	14 49 59.5	-0.2
	0.1nm,0.3s,baz=334,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**17.09**	**164**	P	P	14 50 38.7	+0.2
	0.1nm,0.3s,baz=346,slow=10,SNR=12						
STKA	**Stephens Creek**	**27.30**	**156**	P	P	14 52 18.4	-0.1
	1.3nm,0.7s,baz=337,slow=15,SNR=3.0						
HHC	**Hu-ho-hao-te**	**50.38**	**343**	*e*P	P	14 55 27.6	-1.8
HHC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	14 57 28.4	0.0
	comp=Z,0.3nm,0.8s,baz=137,slow=7.1,SNR=1.4						

*NIED **08** 14:59:00, 26°.30N×127°.40E, h50km, Mw3.9 Best double couple: M0=8.72000×10^14 NP1:φ=233.00000°, δ=41.00000°, λ=134.00000°. NP2:φ=1.00000°, δ=62.00000°, λ=59.00000°.*
*ISCJB **08** 14:59:36.6±0.3, 26°.22N±0°.04×127°.38E±0°.04, h59km±3km, mb3.6/9, Error ellipse: s-maj=7.4km s-min=4.9km az=151.6*
*NEIC **08** 14:59:37.9±2.5, 26°.21N±0°.07×127°.39E±0°.07, h53km±8km, mb4.4/18*
*IDC **08** 14:59:38.6±2.1, 26°.35N×127°.41E, h51km±25km, mb3.5/9, mb1 3.6/10, mb1mx3.4/37, mbtmp3.8/10, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/31, Error ellipse: s-maj=26.6km s-min=17.6km az=95.0*
*JMA **08** 14:59:38.6±0.2, 26°.29N×127°.36E, h45km±2km, M3.6*
JMA Felt I J1.

ISC 08 14:59:37.9±0.7, 26°.25N±0°.05×127°.36E±0°.04, h54km±7km, n52, σ1§28/57, mb4.0/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.35**	**343**	P	**Pn**	**14 59 47.5**	**-0.3**
JAGN				S	**Sn**	**14 59 54.0**	**-0.9**
JJT3	**Tamagusuku3**	**0.40**	**106**	P	**Pn**	**14 59 48.8**	**+0.5**
JJT3				*e*S	**Sn**	**14 59 55.9**	**+0.1**
JKE	**Kume jima 2**	**0.52**	**278**	P	**Pn**	**14 59 49.7**	**+0.1**
JKE				S	**Sn**	**14 59 57.8**	**-0.2**
JNTH	**Nagotoyohara**	**0.65**	**66**	P	**Pn**	**14 59 51.0**	**-0.2**
JNTH				S	**Sn**	**14 59 59.8**	**-1.1**
JIH	**Iheya**	**0.95**	**35**	P	**Pn**	**14 59 54.7**	**-0.4**
JIH				S	**Sn**	**15 00 06.1**	**-1.6**
JOW	**Kunigami**	**1.00**	**55**	P	**Pn**	**14 59 56.0**	**+0.2**
JOW				S	**Sn**	**15 00 08.3**	**-0.7**
JOW	**Kunigami**	**1.00**	**55**	P	**Pn**	**14 59 56.0**	**+0.2**
	30nm,0.3s,baz=166,slow=8.7,SNR=438						
JOW				S	**Sn**	**15 00 08.1**	**-1.0**
	196nm,0.3s,baz=91,slow=19,SNR=24						
JYRO	**Yoronjima**	**1.25**	**52**	P	**Pn**	**14 59 59.1**	**+0.1**
JYRO				S	**Sn**	**15 00 13.9**	**-0.9**
JOKE	**Okinoerabujima**	**1.55**	**44**	P	**Pn**	**15 00 02.8**	**-0.3**
TATO	**Taipei**	**5.45**	**258**	Sn	**Sn**	**15 01 55.2**	**-2.8**
NACB	**Ninganchiao**	**5.61**	**250**	Pn	**Pn**	**15 00 59.5**	**+0.7**
YULB	**Yu-li**	**6.20**	**244**	Pn	**Pn**	**15 01 06.0**	**-0.9**
SSLB	**Suanglung**	**6.30**	**248**	Pn	**Pn**	**15 01 09.6**	**+1.3**
SSLB				Sn	**Sn**	**15 02 17.1**	**-1.9**
TWG	**Pinlang**	**6.66**	**240**	Pn	**Pn**	**15 01 13.2**	**-0.1**
TPUB	**Ta-pu**	**6.78**	**246**	Pn	**Pn**	**15 01 16.8**	**+1.9**
JNU	**Nakatsue**	**7.50**	**23**	P	**Pn**	**15 01 25.9**	**+1.2**
	0.6nm,0.3s,baz=250,slow=3.7,SNR=7.1						
JNU				S	**Sn**	**15 02 46.9**	**-1.5**
	0.2nm,0.3s,baz=239,slow=20,SNR=1.3						
JNU	**Nakatsue**	**7.50**	**23**		**Pn**	**15 01 26.5**	**+1.8**
JHJ	**Hachijo jima 2**	**12.78**	**55**	LR	LR	15 07 02.7	
	comp=Z,43nm,19.2s,baz=272,slow=35						
USRK	**Ussuriysk Ar.**	**18.30**	**11**	P	**P**	**15 03 44.2**	**-3.2**
DAV	**Davao City (W)**	**19.15**	**185**	P	**Pn**	**15 03 59.4**	**+1.1**
	212nm,0.3s,baz=42,slow=3.9,SNR=4.2						
DAV	**Davao City (W)**	**19.15**	**185**	IAmb	IAmb	15 04 00.9	
	comp=Z,450nm,0.4s						
SARN	**Sarigan**	**19.58**	**115**	P	**P**	**15 03 59.6**	**-2.1**
SARN				IAmb	IAmb	15 04 06.9	
	comp=Z,96nm,1.2s						
ANA2	**Anatahan**	**19.72**	**116**	P	**P**	**15 04 01.9**	**-1.2**
KKM	**Kota Kinabalu**	**22.74**	**210**	P	**P**	**15 04 34.2**	**-1.5**
KKM				IAmb	IAmb	15 04 34.5	
	comp=Z,40nm,1.2s						
SONM	**Songino Array**	**27.11**	**328**	P	**P**	**15 05 17.9**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=140,slow=10,SNR=4.8						
SONM	**Songino Array**	**27.11**	**328**	IAmb	IAmb	15 05 19.6	
	comp=Z,0.9nm,0.8s						
CHTO	**Chiang Mai**	**27.23**	**260**	P	**P**	**15 05 19.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**27.36**	**259**	P	**P**	**15 05 20.1**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=52,slow=7.4,SNR=5.5						
SBUM	**Sibu**	**27.78**	**214**	P	**P**	**15 05 19.4**	**-2.5**
KULM	**Kulim**	**32.95**	**235**	P	**P**	**15 06 07.2**	**-0.4**
KULM				IAmb	IAmb	15 06 25.9	
	comp=Z,2.9nm,0.9s						
MANU	**Manus Island**	**34.14**	**142**	P	**P**	**15 06 18.4**	**+0.5**
MANU				IAmb	IAmb	15 06 33.1	
	comp=Z,22nm,1.3s						
MA2	**Magadan**	**37.05**	**20**	P	**P**	**15 06 41.3**	**-1.1**
MK31	**Makanchi Array**	**40.94**	**312**	P	**P**	**15 07 15.6**	**+0.5**
MKAR	**Makanchi Array**	**40.94**	**312**	P	**P**	**15 07 15.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=94,slow=10,SNR=18						
ZALV	**Zalesovo Beam**	**41.76**	**323**	P	**P**	**15 07 21.7**	**0.0**
	comp=Z,1.0nm,0.5s,baz=117,slow=8.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**44.12**	**182**	P	**P**	**15 07 40.1**	**-1.0**
FITZ				IAmb	IAmb	15 07 44.4	
	comp=Z,5.2nm,1.1s						
KURK	**Kurchatov**	**44.26**	**317**	P	**P**	**15 07 42.0**	**-0.1**
KURK	**Kurchatov**	**44.26**	**317**	IAmb	IAmb	15 07 48.2	
	comp=Z,4.5nm,1.4s						
KURBB	**Kurchatov Arra**	**44.30**	**317**	P	**P**	**15 07 42.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=104,slow=8.7,SNR=4.1						
TIXI	**Tiksi**	**45.44**	**1**	P	**P**	**15 07 51.6**	**+0.6**
TIXI				IAmb	IAmb	15 08 05.5	
	comp=Z,4.7nm,1.5s						
WRA	**Warramunga Arr**	**46.42**	**171**	P	**P**	**15 08 00.6**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=349,slow=8.4,SNR=1.7						
WR0	**Warramunga Arr**	**46.46**	**171**	P	**P**	**15 07 58.3**	**-1.4**
WR0				IAmb	IAmb	15 08 13.3	
	comp=Z,3.6nm,1.3s						
KKAR	**Karatay Array**	**48.76**	**305**	P	**P**	**15 08 18.5**	**+1.1**
BRVK	**Borovoye**	**49.80**	**318**	P	**P**	**15 08 25.1**	**-0.1**
BRVK				IAmb	IAmb	15 08 27.1	
	comp=Z,2.8nm,0.5s						
ASAR	**Alice Springs**	**50.03**	**172**	P	**P**	**15 08 26.3**	**-0.9**
ABKAR	**Akbulak array**	**56.06**	**313**	P	**P**	**15 09 12.4**	**+1.0**
ABKAR				IAmb	IAmb	15 09 12.8	
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**56.06**	**313**	P	**P**	**15 09 12.2**	**+0.9**
IMAR	**Indian Mountai**	**61.82**	**27**	P	**P**	**15 09 51.8**	**+0.8**
ILAR	**Eielson Array**	**64.79**	**28**	P	**P**	**15 10 12.0**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=132,slow=35,SNR=2.3						
FINES	**FINESS Array B**	**72.46**	**330**	P	**P**	**15 10 58.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=142,slow=4.3,SNR=5.9						
AKASG	**Malin Array Be**	**75.00**	**319**	P	**P**	**15 11 14.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=63,slow=6.0,SNR=2.2						
AKASG	**Malin Array Be**	**75.00**	**319**	IAmb	IAmb	15 11 21.9	
	comp=Z,1.4nm,1.3s						

*BUL **08** 15:09:48.5±1.8, 21°.62S×25°.94E, h10km±22km, MD4.0*

EAF 08 15:09:46.9±1.1, 21°.63S×25°.94E, h0km±17km, MD3.7, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**2.67**	**64**	*i* P	Pn	15 10 31.0	-0.4
MATP				*i* S	Sn	15 11 03.2	-1.3
MATP	**Matopo**	**2.67**	**64**	*i* P	Pn	15 10 31.0	-0.4
MATP				*i* S	Sn	15 11 03.2	-1.3
MSNA	**Messina**	**3.85**	**101**	*i* P	Pn	15 10 46.6	-0.9
MSNA				*i* S	Sn	15 11 30.5	-3.0
MSNA	**Messina**	**3.85**	**101**	*i* P	Pn	15 10 46.6	-0.9
MSNA				*i* S	Sn	15 11 30.5	-3.0
BOSA	**Boshof**	**6.98**	**185**	*i* P	Pn	15 11 28.5	-2.0
BOSA				*i* S	Sn	15 12 45.0	-5.7
BOSA	**Boshof**	**6.98**	**185**	*i* P	Pn	15 11 28.5	-2.0
BOSA				*i* S	Sn	15 12 45.0	-5.7

*IDC **08** 15:13:10.5±0.8, 16°.41S×173°.88W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/28, mbtmp4.3/9, ML3.1/1, MS3.7/16, Ms1 3.7/16, ms1mx3.5/29, Error ellipse: s-maj=42.6km s-min=17.8km az=137.0*
*ISCJB **08** 15:13:12.8±0.4, 16°.30S±0°.08×173°.9W±0°.1, h35km, mb4.3/8, MS3.8/13, Error ellipse: s-maj=17.2km s-min=6.3km az=37.9*
*NEIC **08** 15:13:12.7±2.5, 16°.4S±0°.1×173°.8W±0°.2, h22km±1km, mb4.8/17*

ISC 08 15:13:14.4±0.6, 16°.3S±0°.1×173°.9W±0°.1, h35km, n53, σ1§11/37, mb4.7/14, MS3.7/13, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.14**	**41**	Pn	**Pn**	**15 14 01.0**	**-0.5**
AFI				Sn	**Sn**	**15 14 36.6**	**-1.2**
RAO	**Raoul Island**	**13.40**	**195**	LR	LR	15 20 52.6	
	comp=Z,193nm,18.0s,baz=330,slow=35						
RAR	**Rarotonga**	**14.22**	**112**	LR	LR	15 20 21.1	
	comp=Z,90nm,21.8s,baz=290,slow=30						
DZM	**Mont Dzumac**	**19.44**	**250**	*e*P	Pn	15 17 49.0	+10
	55nm,1.2s						
DZM				*e*LQ	LQ	15 21 39.2	
	258nm,29.1s						
DZM				*e*LR	LR	15 22 28.5	
	comp=Z,683nm,25.6s						
DZM	**Mont Dzumac**	**19.44**	**250**	P	**Pn**	**15 17 39.1**	**-0.3**
	0.1nm,0.3s,baz=48,slow=15,SNR=2.4						
DZM				LR	LR	15 24 12.8	
	comp=Z,365nm,20.3s,baz=44,slow=34						
PAE	**Paea**	**23.28**	**97**	*e*T	T	15 41 31.9	
	4.2nm,0.4s						
PPT2	**Papeete2**	**23.28**	**97**	*e*T	T	15 41 32.3	
	2.6nm,0.3s						
PPT	**Papeete**	**23.28**	**97**	LR	LR	15 24 33.7	
	comp=Z,74nm,21.1s,baz=278,slow=29						
TVO	**Taravao**	**23.59**	**97**	*e*T	T	15 41 53.4	
	1.0nm,0.2s						
TBI	**Tubuai**	**23.99**	**111**	*e*T	T	15 42 10.8	
	6.2nm,0.3s						
PMOR	**Pomariorio Ree**	**25.05**	**91**	*e*T	T	15 43 49.5	
	2.2nm,0.2s						
HNR	**Honiara**	**26.39**	**282**	LR	LR	15 28 03.2	
	comp=Z,215nm,19.1s,baz=146,slow=34						
QRZ	**Quartz Range**	**27.11**	**203**	P	**P**	**15 18 54.4**	**+0.3**
QRZ	**Quartz Range**	**27.11**	**203**	P	**P**	**15 18 54.1**	**+0.1**
NNZ	**Nelson**	**27.15**	**201**	P	**P**	**15 18 54.3**	**0.0**
THZ	**Tophouse**	**27.80**	**202**	P	**P**	**15 18 59.9**	**-0.3**
KHZ	**Kahutara**	**28.16**	**200**	P	**P**	**15 19 04.3**	**+0.9**
GVZ	**Greta Valley S**	**28.82**	**200**	P	**P**	**15 19 12.3**	**+3.0**
LTZ	**Lake Taylor**	**28.91**	**201**	P	**P**	**15 19 11.2**	**+1.0**
LTZ	**Lake Taylor**	**28.91**	**201**	P	**P**	**15 19 10.1**	**-0.1**
LTZ				IAmb	IAmb	15 19 13.5	
	comp=Z,17nm,0.7s						
OXZ	**Oxford**	**29.48**	**201**	P	**P**	**15 19 15.3**	**+0.2**
MQZ	**McQueen's Vall**	**29.60**	**200**	P	**P**	15 19 22.5	+6.3
WVZ	**Waitaha Valley**	**29.73**	**203**	P	**P**	**15 19 19.0**	**+1.7**
RPZ	**Rata Peaks**	**30.16**	**202**	P	**P**	**15 19 22.8**	**+1.6**
	comp=Z,8.0nm,0.5s,baz=5.3,slow=2.0,SNR=9.0						
RPZ				LR	LR	15 30 23.1	
	comp=Z,176nm,21.9s,baz=15,slow=34						
RPZ	**Rata Peaks**	**30.16**	**202**	IAmb	IAmb	15 19 35.5	
	comp=Z,15nm,1.1s						
ARMA	**Armidale**	**34.48**	**240**	P	**P**	**15 19 58.2**	**-1.1**
ARMA				IAmb	IAmb	15 20 10.8	
	comp=Z,16nm,1.2s						
KRVT	**Keravat (AS076**	**35.53**	**286

PSGC				*i* S	Sn	15 17 26.9	-0.5
MNMC	**Minye Minye**	**2.71**	**95**⇑	*i* P	Pn	15 17 05.7	-0.1
MNMC				*i* S	Sn	15 17 38.6	+1.0
MNMC				IAML		15 17 43.0	
	comp=N,620nm,0.5s						
PB11	**IPOC Station P**	**2.78**	**108**⇑	*i* P	Pn	15 17 06.3	-0.2
PB11				*i* S	Sn	15 17 39.0	0.0
PB11				IAML		15 17 41.0	
	comp=N,369nm,0.4s						
PB16	**IPOC Station P**	**2.85**	**79**⇑	*i* P	Pn	15 17 07.6	-0.3
PB16				*i* S	Sn	15 17 42.1	+0.8
PB16				IAML		15 17 46.8	
	comp=N,247nm,0.5s						
GO01	**Chusmiza**	**3.17**	**104**⇑	*i* P	Pn	15 17 12.4	+0.1
GO01				*i* S	Sn	15 17 50.1	+0.9
GO01				IAML		15 17 54.5	
	comp=N,458nm,0.2s						
GO01			⇑	*i*		15 17 54.5	
PB02	**IPOC Station P**	**3.40**	**135**	*i* P	Pn	15 17 15.1	-0.1
PB02				*i* S	Sn	15 17 52.8	-1.5
PB02				IAML		15 17 59.5	
	comp=E,276nm,0.6s						
LPAZ	**La Paz**	**4.87**	**58**	Pn	Pn	15 17 37.9	+2.1
	comp=E,1.0nm,0.3s,baz=287,slow=5.5,SNR=25						
LPAZ				LR	LR	15 19 49.8	
	comp=E,91nm,18.7s,baz=257,slow=42						
LVC	**Limon Verde**	**4.96**	**139**	Pn	Pn	15 17 38.0	+1.2
	comp=E,0.9nm,0.3s,baz=9.6,slow=9.7,SNR=6.7						
LVC				Sn	Sn	15 18 32.9	-0.3
	comp=E,3.5nm,0.3s,baz=87,slow=17,SNR=14						
SIV	**San Ignacio**	**11.24**	**77**	Pn	Pn	15 19 01.1	-1.6
	comp=E,0.5nm,0.3s,baz=275,slow=9.5,SNR=9.6						
SIV				LR	LR	15 23 41.8	
	comp=E,56nm,19.1s,baz=184,slow=39						
PTGA	**Pitinga**	**21.82**	**36**	P	P	15 21 13.4	-0.3
	comp=E,0.8nm,0.4s,baz=212,slow=19,SNR=4.6						
TXAR	**Lajitas Array**	**56.63**	**327**	P	P	15 26 03.4	-0.8
	comp=E,0.2nm,0.5s,baz=161,slow=5.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**79.68**	**72**	P	P	15 28 31.2	+2.1
	comp=E,0.3nm,0.5s,baz=284,slow=5.3,SNR=2.0						
YKA	**Yellowknife Ar**	**87.67**	**342**	P	P	15 29 08.3	-0.5
	comp=E,0.7nm,0.6s,baz=162,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**130.49**	**212**	PKP	PKPdf	15 35 32.1	-0.2
	comp=E,0.2nm,0.8s,baz=117,slow=1.0,SNR=1.5						
WRA	**Warramunga Arr**	**133.31**	**216**	PKP	PKiKP	15 35 37.9	-0.9
	comp=E,0.3nm,0.9s,baz=142,slow=2.0,SNR=4.9						
MKAR	**Makanchi Array**	**145.31**	**31**	PKPbc	PKPab	15 35 58.6	+0.1
	comp=E,0.7nm,0.8s,baz=346,slow=4.4,SNR=4.4						

SNET ***08*** *15:30:28.3±0.7, 14°.53N×91°.61W, h15km, MD4.1*
ISC 08 15:30:27.4±1.7, 14°.4N±0°.1×91°.91W±0°.08, h60km±11km, n12, σ0§60/20, 3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.33**	**77**	⇓*e*P	Pn	15 30 37.6	-0.1
ERG				*e*S	Sn	15 30 45.7	+0.4
STG3	**Santiaguito 3,**	**0.47**	**43**	⇓*i*P	Pn	15 30 39.0	-0.2
THIG		**0.64**	**327**	*e*P	Pn	15 30 40.3	-0.6
THIG				*e*S	Sn	15 30 50.5	-0.3
FUG	**Fuego 3**	**1.03**	**85**	*e*P	Pn	15 30 45.3	-0.7
FUG				*e*S	Sn	15 31 01.3	+1.5
IXG	**Ixpaco**	**1.43**	**98**	⇓*e*P	Pn	15 30 50.8	-0.5
PCIG		**1.84**	**317**	*i* P	Pn	15 30 56.2	-0.4
PCIG				*e*S	Sn	15 31 18.8	-0.1
CCIG	**Comitan**	**1.92**	**353**	*e*P	Pn	15 30 57.6	-0.3
CCIG				*i* S	Sn	15 31 21.1	+0.1
RTR	**El Retiro**	**2.24**	**102**	*e*P	Pn	15 31 02.2	-0.1
SBLS	**San Blas**	**2.27**	**103**	*e*P	Pn	15 31 02.2	-0.6
SBLS				*e*S	Sn	15 31 29.6	-0.2
SNJE	**San Jose**	**2.28**	**102**	*e*P	Pn	15 31 02.5	-0.3
TGIG		**2.67**	**334**	*e*P	Pn	15 31 07.6	-0.4
TGIG				*i* S	Sn	15 31 39.7	+0.4
CMIG	**Matias Romero**	**3.95**	**314**	*i* P	Pn	15 31 26.2	+0.7
CMIG				*e*S	Sn	15 32 11.1	+0.5

ISCJB ***08*** *15:31:19.4±0.9, 31°.35N×0°.06×142°.9E±0°.1, h37km, mb3.4/3, Error ellipse: s-maj=16.5km s-min=6.4km az=155.7*
IDC ***08*** *15:31:20.9±3.9, 30°.88N×142°.04E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/32, mbtmp3.4/6, ML2.7/3, Error ellipse: s-maj=135.7km s-min=18.4km az=70.0*
JMA ***08*** *15:31:20.7±0.4, 31°.52N×142°.89E, h23km, M3.8*
ISC 08 15:31:20.9±1.3, 31°.24N±0°.07×142°.9E±0°.1, h37km, n13, σ2§21/20, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.23**	**306**	P	Pn	15 32 09.0	0.0
JHJ2				*e*S	Sn	15 32 44.4	-1.8
JHJ	**Hachijo jima 2**	**3.26**	**306**	Pn	Pn	15 32 08.7	-0.7
	1.0nm,0.3s,baz=197,slow=16,SNR=1.2						
JHJ				Sn	Sn	15 32 44.4	-2.5
	15nm,0.3s,baz=238,slow=24,SNR=6.9						
BSO1	**Boso 1**	**3.78**	**335**	P	Pn	15 32 15.8	-0.3
JCJ	**Chichijima**	**4.18**	**189**	Pn	Pn	15 32 21.9	-0.2
	3.3nm,0.3s,baz=327,slow=18,SNR=6.7						
JCJ				Sn	Sn	15 33 04.9	-4.8
	3.9nm,0.3s,baz=279,slow=17,SNR=2.3						
JYT	**Yasato**	**5.47**	**336**	P	Pn	15 32 39.3	-0.5
JHU	**Hanno**	**5.51**	**328**	P	Pn	15 32 41.2	+0.8
JHO	**Hitachi**	**5.71**	**341**	P	Pn	15 32 41.6	-1.5
JHO				*e*S	Sn	15 33 43.4	-3.9
JRY	**Ryogami san**	**5.83**	**326**	P	Pn	15 32 45.0	+0.2
JRY				*e*S	Sn	15 33 48.1	-2.2
JAG	**Ashikaga**	**5.92**	**332**	P	Pn	15 32 45.6	-0.5
JAG				*e*S	Sn	15 33 50.2	-2.5
MJAR	**Matsushiro Arr**	**6.58**	**325**	Pn	Pn	15 32 55.4	+0.3
	0.1nm,0.3s,baz=155,slow=13,SNR=7.5						
MJAR				Sn	Sn	15 34 07.6	-1.3
	0.1nm,0.3s,baz=144,slow=25,SNR=2.4						
MKAR	**Makanchi Array**	**48.43**	**307**	P	P	15 40 03.4	+3.9
	0.3nm,0.6s,baz=91,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**51.55**	**190**	P	P	15 40 24.5	+1.2
	0.3nm,0.6s,baz=7.3,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**55.27**	**190**	P	P	15 40 52.2	+1.6
	0.3nm,1.0s,baz=8.9,slow=6.6,SNR=1.8						

ISCJB ***08*** *15:41:37.8±0.6, 16°.46N±0°.05×96°.17W±0°.03, h82km±9km, Error ellipse: s-maj=8.7km s-min=4.4km az=15.2*
NEIC ***08*** *15:41:39.0±0.8, 16°.48N±0°.06×96°.17W±0°.05, h71km±15km*
MEX ***08*** *15:41:40.5±0.7, 16°.45N×96°.17W, h73km±7km, MD4.1*
ISC 08 15:41:39.4±0.9, 16°.47N±0°.05×96°.17W±0°.03, h66km±13km, n26, σ0§94/45, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.70**	**175**	*e*P	Pn	15 41 54.0	-0.1
HUIG				*e*S	Sn	15 42 05.1	+0.3
HUIG	**Huatulco**	**0.70**	**175**		Pn	15 41 54.0	-0.1
HUIG					Sn	15 42 05.1	+0.3
VHO	**Vista Hermosa**	**0.81**	**318**	*e*P	Pn	15 41 55.7	+0.1
VHO				*e*S	Sn	15 42 07.4	-0.1
CMIG	**Matias Romero**	**1.38**	**63**	*e*P	Pn	15 42 02.4	-0.3
CMIG				*i* S	Sn	15 42 20.2	+0.1
CMIG	**Matias Romero**	**1.38**	**63**		Pn	15 42 02.4	-0.3
CMIG					Sn	15 42 20.2	+0.1
PNIG	**Pinotepa**	**1.88**	**268**	*e*P	Pn	15 42 09.1	-0.3
PNIG				*e*S	Sn	15 42 31.2	-1.0
PNIG	**Pinotepa**	**1.88**	**268**		Pn	15 42 09.1	-0.3
PNIG					Sn	15 42 31.2	-1.0
TPIG	**Tehuac#an**	**2.25**	**330**	*e*P	Pn	15 42 14.6	+0.1
TPIG				*i* S	Sn	15 42 41.1	-0.3
TPIG	**Tehuac#an**	**2.25**	**330**		Pn	15 42 14.6	+0.1
TPIG					Sn	15 42 41.1	-0.3
TLIG	**Tlapa**	**2.54**	**296**	*i* P	Pn	15 42 18.3	-0.2
TLIG				*i* S	Sn	15 42 47.5	-0.8
TLIG	**Tlapa**	**2.54**	**296**		Pn	15 42 20.3	+1.8
TLIG	**Tlapa**	**2.54**	**296**		Pn	15 42 18.3	-0.2
TLIG					Sn	15 42 47.5	-0.8
PCIG		**2.94**	**105**	*e*P	Pn	15 42 23.9	+0.2
PCIG				*i* S	Sn	15 42 57.4	-0.4
PCIG		**2.94**	**105**		Pn	15 42 23.9	+0.2
PCIG					Sn	15 42 57.4	-0.4
TGIG		**2.94**	**84**	*i* P	Pn	15 42 23.4	-0.4
TGIG				*i* S	Sn	15 42 57.6	-0.4
TGIG		**2.94**	**84**		Pn	15 42 23.4	-0.4
TGIG					Sn	15 42 57.6	-0.4
YAIG	**Yautepec**	**3.65**	**311**	*i* P	Pn	15 42 33.3	-0.3
YAIG				*i* S	Sn	15 43 14.9	-0.6
YAIG	**Yautepec**	**3.65**	**311**		Pn	15 42 33.3	-0.3
YAIG					Sn	15 43 14.9	-0.6
CCIG	**Comitan**	**3.88**	**92**		Pn	15 42 39.9	+3.2
CAIG	**El Cayaco**	**3.97**	**279**	*e*P	Pn	15 42 38.4	+0.6
CAIG				*e*S	Sn	15 43 23.3	+0.1
CAIG	**El Cayaco**	**3.97**	**279**		Pn	15 42 38.4	+0.6
CAIG					Sn	15 43 23.3	+0.1
TEIG	**Tepich**	**8.37**	**62**	Pn	Pn	15 43 38.4	+0.2
ACON	**Acoyapa**	**11.56**	**111**	Pn	Pn	15 44 18.4	-3.3
HKT	**Hockley**	**13.42**	**1**	Pn	Pn	15 44 46.2	-0.7
TX31	**Lajitas Ar. Si**	**14.54**	**333**	P	P	15 45 08.3	+1.7
NATX	**Nacogdoches**	**15.29**	**5**	Pn	Pn	15 45 09.8	-1.4
NATX				IAmb	IAmb	15 45 28.1	
	comp=Z,11nm,0.7s						

ISCJB ***08*** *16:04:44.1±0.8, 5°.86S±0°.10×127°.8E±0°.1, h400km, mb3.0/2, Error ellipse: s-maj=20.4km s-min=8.5km az=31.7*
IDC ***08*** *16:04:45.1±1.3, 5°.84S×127°.99E, h388km±20km, mb2.8/2, mb1 2.9/6, mb1mx2.8/28, mbtmp3.7/6, Error ellipse: s-maj=31.0km s-min=15.4km az=97.0*
ISC 08 16:04:45.0±0.9, 5°.9S±0°.1×127°.9E±0°.2, h400km, n6, σ2§90/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.97**	**224**	P	Pn	16 06 17.9	+0.5
	10nm,0.3s,baz=57,slow=4.5,SNR=9.7						
BATI				S	S	16 07 28.6	-4.0
	11nm,0.3s,baz=170,slow=22,SNR=8.7						
SIJI	**Sorong**	**6.04**	**34**	P	Pn	16 06 18.5	+0.4
	1.8nm,0.3s,baz=198,slow=20,SNR=7.6						
SIJI				S	S	16 07 30.2	-3.8
	1.7nm,0.3s,baz=219,slow=22,SNR=10						
WRA	**Warramunga Arr**	**15.31**	**156**	P	P	16 08 01.7	+0.8
	0.2nm,0.3s,baz=335,slow=11,SNR=19						
ASAR	**Alice Springs**	**18.60**	**162**	P	P	16 08 36.9	+0.9
	0.1nm,0.3s,baz=343,slow=12,SNR=13						
SONM	**Songino Arrey**	**56.75**	**343**	P	P	16 13 48.3	-0.7
	0.9nm,0.8s,baz=145,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**66.16**	**328**	P	P	16 14 54.1	+3.1
	0.1nm,0.3s,baz=113,slow=9.5,SNR=1.3						

SNET ***08*** *16:21:09.6±1.9, 12°.46N×87°.97W, h35km±18km, ML3.9*
ISCJB ***08*** *16:21:10.1±0.6, 12°.51N±0°.07×88°.02W±0°.05, h61km±18km, Error ellipse: s-maj=14.2km s-min=4.4km az=31.6*

UCR ***08*** *16:21:10.8±2.2, 12°.58N×87°.95W, h80km±34km, MW3.8*
ISC 08 16:21:11.4±1.3, 12°.54N±0°.08×87°.98W±0°.05, h49km±33km, n22, σ1§22/35, 4C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.75**	**11**	⇓*i*P	Pn	16 21 25.7	-0.2
CNCH				*e*S	Sn	16 21 37.2	+0.8
CNCH				IAML		16 21 41.0	
	comp=Z,7μm,0.3s						
JUCU	**Jucuarın**	**0.76**	**340**	*e*P	Pn	16 21 25.2	-0.7
JUCU				*e*S	Sn	16 21 36.4	-0.1
JUCU				IAML		16 21 37.1	
	comp=Z,3μm,0.1s						
LCND	**La Caada**	**0.77**	**7**	⇓*i*P	Pn	16 21 25.9	-0.2
LCND				*e*S	Sn	16 21 37.9	+1.1
LCND				IAML		16 21 40.1	
	comp=Z,2μm,0.4s						
CRIN	**San Cristobal**	**0.93**	**80**	*e*P	Pn	16 21 28.2	+0.1
CRIN				*e*S	Sn	16 21 43.2	+2.7
LCY	**Lacayo**	**0.93**	**341**	*e*P	Pn	16 21 28.1	-0.2
ALJI	**Alcalda de J**	**0.97**	**324**	⇓*i*P	Pn	16 21 28.2	-0.5
ALJI				IAML		16 21 40.7	
	comp=Z,2μm,0.1s						
ALJI				*e*S	Sn	16 21 40.9	-0.6
FAGO	**Alcalda de S**	**1.16**	**354**	*e*S	Sn	16 21 46.1	0.0
COEG	**Centro de Oper**	**1.39**	**321**	⇓*i*P	Pn	16 21 33.8	-0.6
COEG				*e*S	Sn	16 21 50.9	-0.8
COEG				IAML		16 21 54.0	
	comp=Z,2μm,0.3s						
COPN	**Copaltepe**	**1.40**	**104**	⇓*i*P	Pn	16 21 32.1	-2.4
MOMN	**Momotombo**	**1.41**	**95**	⇑*i*P	Pn	16 21 32.3	-2.4
MOMN				*e*S	Sn	16 21 49.5	-2.8
PAVA	**Las Pavas**	**1.50**	**322**	*e*P	Pn	16 21 35.6	-0.3
PAVA				*e*P		16 21 35.9	
PAVA				*e*S	Sn	16 21 55.3	+0.9
LOMA	**Loma Larga**	**1.60**	**314**	⇑*i*P	Pn	16 21 36.6	-0.7
LOMA				IAML		16 22 00.0	
	comp=Z,1μm,0.1s						
LFU	**La Fuente**	**1.63**	**318**	⇓*i*P	Pn	16 21 37.6	-0.1
ESTN	**Estel**	**1.67**	**70**	*e*P	Pn	16 21 37.6	-0.7
ESTN				*e*S	Sn	16 21 59.4	+0.8
RCON	**San Juan de Ri**	**2.02**	**62**	*e*P	Pn	16 21 42.7	-0.4
MTO3	**Montecristo**	**2.29**	**324**	⇑*i*P	Pn	16 21 46.6	-0.3
MRL	**Marmol**	**3.02**	**327**	*e*P	Pn	16 21 57.3	+0.3
GB1A	**Borinquen Arri**	**3.05**	**124**	*e*P	Pn	16 21 57.0	-0.3
GB1A				*e*S	Sn	16 22 34.6	+2.0
BUEV	**Buena Vista**	**3.06**	**124**	*e*P	Pn	16 21 58.3	+1.0
BUEV				*e*S	Sn	16 22 30.9	-1.8
CUI	**Cuipilapa**	**3.33**	**124**	*e*P	Pn	16 22 01.2	+0.2
CUI				*e*S	Sn	16 22 40.8	+1.4
PLVR	**Palo Verde**	**3.37**	**130**⇑	*e*P	Pn	16 22 02.1	+0.4
PLVR				*e*S	Sn	16 22 41.9	+1.2
JTS	**Las Juntas de**	**3.71**	**127**	*e*P	Pn	16 22 06.3	0.0

SOME ***08*** *16:23:46.9, 41°.18N×71°.05E, h20km*
KRNET ***08*** *16:23:47.8±0.1, 41°.14N×71°.13E, h10km, mb2.6*
NNC ***08*** *16:23:49.2±3.9, 41°.36N×71°.12E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=31.8km s-min=13.4km az=28.0*
ISC 08 16:23:45.8±1.5, 41°.15N±0°.05×70°.91E±0°.03, h2km±12km, n15, σ1§39/28, 13C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**1.02**	**51**	⇓*i*P	Pg	16 24 05.3	-0.1
	baz=45						
ARK				⇓*i*S	Sg	16 24 17.4	-1.3
	baz=45						
BTK	**Batken**	**1.09**	**184**	⇓*i*P	Pn	16 24 08.7	+0.4
	baz=93						
BTK				⇓*i*S	Sn	16 24 24.4	+0.3
	baz=93						
IUG	**Iuzhnay**	**1.19**	**327**	*e*P	Pn	16 24 09.3	-0.4
	3.0nm,0.1s						
IUG				*e*S	Sn	16 24 25.4	-1.2
	38nm,0.2s						
CHM	**Chimkent**	**1.52**	**320**	*e*P	Pg	16 24 15.7	+0.8
	12nm,0.2s						
CHM				*e*S	Sg	16 24 36.5	+1.8
	100nm,0.2s						
ARSB	**Arslanbob**	**1.57**	**83**	⇑*i*P	Pn	16 24 14.4	-0.6
	baz=82						
ARSB				⇑*i*S	Sn	16 24 33.7	-2.3
	baz=82						
KK31	**Karatay Array**	**1.97**	**352**	⇑P	Pb	16 24 22.2	-0.3
	0.4nm,0.2s,baz=168,slow=16,SNR=6.4						
KK31				⇓S	Sn	16 24 45.6	-0.1
	2.9nm,0.4s,baz=178,slow=31,SNR=11						
BRLS	**Borolday**	**2.04**	**337**	*e*P	Pn	16 24 20.8	-0.4
	0.3nm,0.2s						
BRLS				*e*S	Sn	16 24 45.5	-1.9
	2.3nm,0.3s						
AML	**Almayashu**	**2.31**	**64**	⇑*i*P	Pb	16 24 27.4	-1.0
	baz=62						
AML				⇑*i*S	Sn	16 24 55.7	+1.3
	baz=62						
MRKS	**Merke**	**2.35**	**47**	*e*P	Pb	16 24 27.5	-1.5
	3.5nm,0.3s						
MRKS				*e*S	Sn	16 24 56.5	+1.3
	3.1nm,0.5s						
EKS2	**Erkin-Say**	**2.62**	**54**	⇓*i*P	Pb	16 24 32.1	-1.5
	baz=52						
EKS2				⇓*i*S	Sn	16 25 04.4	+2.6
	baz=52						
UCH	**Uchtor**	**2.91**	**67**	⇑*i*P	Pn	16 24 35.2	+1.6
	baz=66						
UCH				⇑*i*S	Sn	16 25 09.4	+0.1
	baz=66						
AAK	**Ala-Archa**	**3.06**	**60**	⇑Pg	Pb	16 24 40.7	-0.5
	7.2nm,1.4s						
AAK				⇑Lg	Lg	16 25 19.4	
	6.1nm,1.1s						
AAK	**Ala-Archa**	**3.06**	**60**	⇑*i*P	Pn	16 24 37.8	+2.4
	baz=58						
AAK				⇑*i*S	Sn	16 25 14.2	+1.5
	baz=58						
KZA	**Kyzart**	**3.38**	**73**	⇓*i*P	Pn	16 24 41.2	+1.1
	baz=72						
KZA				⇓*i*S	Sn	16 25 19.9	-1.2
	baz=72						
TKM2	**Tokmak 2**	**3.91**	**62**	⇑Pg	Pb	16 24 54.6	-1.1
	4.6nm,1.2s						
TKM2				⇑Lg	Lg	16 25 45.5	
	6.9nm,1.2s						

SOME ***08*** *17:23:56.9, 39°.18N×75°.33E, h5km*
NNC ***08*** *17:23:58.4±2.2, 39°.27N×75°.15E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=16.3km s-min=9.4km az=163.0*
ISC 08 17:23:56.1±2.2, 39°.2N±0°.1×75°.31E±0°.04, h10km, n35, σ2§13/49, 6C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.50**	**350**	Pg	Pb	17 24 57.0	-1.3
	6.4nm,0.5s						
AAK				Lg	Lg	17 25 44.3	
	11nm,0.7s						
TKM2	**Tokmak 2**	**3.74**	**3**	⇑Pg	Pb	17 25 05.8	+3.5
	23nm,1.3s						
TKM2				⇑Lg	Lg	17 25 55.2	
	16nm,0.6s						
KST	**Kastek**	**3.88**	**7**	Pg	Pg	17 25 08.9	-1.6
	8.7nm,0.3s						
KST				Lg	Lg	17 26 00.9	
	37nm,0.7s						
KST	**Kastek**	**3.88**	**7**	*e*P	Pg	17 25 08.9	-1.6
	8.7nm,0.3s						
KST				⇑*i*S	Sg	17 26 00.9	+0.1
	37nm,0.7s						
MRKS	**Merke**	**3.89**	**337**	Pg	Pg	17 25 09.7	-0.9
	5.0nm,0.3s						
MRKS				Lg	Lg	17 26 02.2	
	6.8nm,0.5s						
MRKS	**Merke**	**3.89**	**337**	*e*P	Pg	17 25 09.7	-0.9
	5.0nm,0.3s						
MRKS				*e*S	Sg	17 26 02.2	+1.3
	6.8nm,0.5s						
IZV	**Izvestkoviy**	**3.97**	**14**	Pg	Pg	17 25 11.2	-0.9
	18nm,0.4s						
IZV				Lg	Lg	17 26 04.5	
	23nm,0.5s						
IZV	**Izvestkoviy**	**3.97**	**14**	*e*P	Pg	17 25 11.2	-0.9
	18nm,0.4s						
IZV				*e*S	Sg	17 26 04.5	+0.9

WEL 08 15:17:47.4±1.0, 37°S±7°×17°7E±°, h124km±9km, M3.0/29, MLv3.0/29, Error ellipse: s-maj=0.0km s-min=0.0km az=178.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.66**	**150**	P	Pn	15 18 07.2	+0.3
HAZ				S	Sn	15 18 22.7	+1.1
RUGZ	**Raukumara Rang**	**0.82**	**162**	P	Pn	15 18 07.9	-0.4
RUGZ				S	Sn	15 18 23.9	-0.3
MXZ	**Matakaoa Point**	**0.84**	**117**	P	Pn	15 18 08.8	+0.5
MXZ				S	Sn	15 18 26.0	+1.8
MXZ	**Matakaoa Point**	**0.84**	**117**	P	Pn	15 18 09.0	+0.7
PKGZ	**Pakihiroa**	**0.90**	**141**	P	Pn	15 18 09.5	+0.6
PKGZ				S	Sn	15 18 26.5	+1.2
OPRZ	**Ohinepanea**	**0.92**	**224**	P	Pn	15 18 09.5	+0.4
MARZ	**Manawahe**	**0.97**	**214**	P	Pn	15 18 10.0	+0.5
TGRZ	**Tauranga**	**1.03**	**238**	P	Pn	15 18 10.5	+0.4
WMGZ	**Waiomatatini S**	**1.05**	**127**	P	Pn	15 18 10.7	+0.5
WMGZ				S	Sn	15 18 29.3	+1.7
URZ	**Urewera**	**1.09**	**191**	P	Pn	15 18 10.6	-0.1
URZ				S	Sn	15 18 28.9	+0.5
TWGZ	**Tauwhareparae**	**1.10**	**154**	P	Pn	15 18 11.6	+0.7
TWGZ				S	Sn	15 18 30.5	+1.8
LIRZ	**Lichensteins R**	**1.13**	**223**	P	Pn	15 18 11.8	+0.7
PUZ	**Puketiti**	**1.13**	**142**	P	Pn	15 18 11.2	+0.1
PUZ				S	Sn	15 18 29.6	+0.4
MWZ	**Matawai**	**1.15**	**174**	P	Pn	15 18 11.3	-0.1
MWZ				S	Sn	15 18 30.4	+0.7
OMRZ	**Omania**	**1.21**	**220**	P	Pn	15 18 12.4	+0.5
KARZ	**Kaharoa**	**1.22**	**227**	P	Pn	15 18 12.5	+0.5
TARZ	**Mount Tarawera**	**1.25**	**213**	P	Pn	15 18 13.1	+0.7
RAGZ	**Rawiri**	**1.31**	**178**	P	Pn	15 18 13.3	+0.3
RAGZ				S	Sn	15 18 33.1	+0.5
TKGZ	**Te Karaka**	**1.31**	**163**	P	Pn	15 18 12.8	-0.2
TKGZ				S	Sn	15 18 32.6	+0.2
KMRZ	**Kaimai**	**1.31**	**239**	P	Pn	15 18 13.8	+0.7
RRRZ	**Republican Roa**	**1.33**	**210**	P	Pn	15 18 13.3	+0.1
MUGZ	**Murupara**	**1.37**	**200**	P	Pn	15 18 13.3	-0.4
HSRZ	**Hossack Road**	**1.43**	**218**	P	Pn	15 18 15.4	+1.1
CNGZ	**Carnagh Statio**	**1.46**	**153**	P	Pn	15 18 14.8	+0.2
RTZ	**Ruatahuna**	**1.46**	**192**	P	Pn	15 18 13.8	-0.9
HRRZ	**Handcock Road**	**1.48**	**215**	P	Pn	15 18 15.3	+0.4
PRRZ	**Plateau Road**	**1.52**	**210**	P	Pn	15 18 15.3	-0.1
RIGZ	**Rimuhau**	**1.55**	**168**	P	Pn	15 18 15.2	-0.5
TOZ	**Tahuroa Road**	**1.58**	**249**	P	Pn	15 18 16.8	+0.9
SNGZ	**Shannon Statio**	**1.59**	**181**	P	Pn	15 18 15.5	-0.7
ALRZ	**Allen Road**	**1.59**	**210**	P	Pn	15 18 16.1	-0.1
MTHZ	**Maungataniwha**	**1.71**	**194**	P	Pn	15 18 16.6	-1.1
RAHZ	**Arahi**	**1.74**	**187**	P	Pn	15 18 17.4	-0.6
MKAZ	**Moumakai**	**1.76**	**272**	P	Pn	15

	23nm,0.5s							
MTBS	**Maitube**	**4.03**	**12**	Pg	**Pg**	**17 25 11.5**	**-1.8**
	3.6nm,0.2s							
MTBS				Lg	Lg	17 26 05.2	
	15nm,0.3s							
MTBS	**Maitube**	**4.03**	**12**	*e*P	**Pg**	**17 25 11.5**	**-1.8**
	3.6nm,0.2s							
MTBS				*e*S	**Sg**	**17 26 05.2**	**-0.2**
	15nm,0.3s							
TNSS	**Tian-Shan**	**4.04**	**17**	Pg	**Pg**	**17 25 11.8**	**-1.7**
	8.5nm,0.6s							
TNSS				Lg	Lg	17 26 05.7	
	14nm,0.9s							
TNSS	**Tian-Shan**	**4.04**	**17**	*e*P	**Pg**	**17 25 11.8**	**-1.7**
	8.5nm,0.6s							
TNSS				⇓*i*S	**Sg**	**17 26 05.7**	**-0.1**
	14nm,0.9s							
DGS	**Degeres**	**4.07**	**5**	Pg	**Pg**	**17 25 12.1**	**-1.9**
	9.2nm,0.4s							
DGS				Lg	Lg	17 26 06.1	
	13nm,0.7s							
DGS	**Degeres**	**4.07**	**5**	*e*P	**Pg**	**17 25 12.1**	**-1.9**
	9.2nm,0.4s							
DGS				*e*S	**Sg**	**17 26 06.1**	**-0.5**
	13nm,0.7s							
MDOK	**Medeo**	**4.18**	**18**	⇓Pg	**Pb**	**17 25 13.2**	**+3.4**
	20nm,1.4s							
MDOK				⇑Lg	Lg	17 26 09.6	
	49nm,1.2s							
MDOK	**Medeo**	**4.18**	**18**	Pg	**Pg**	**17 25 14.1**	**-2.1**
	8.2nm,0.6s							
MDOK				Lg	Lg	17 26 09.9	
	27nm,1.0s							
MDOK	**Medeo**	**4.18**	**18**	*e*P	**Pg**	**17 25 14.1**	**-2.1**
	8.2nm,0.6s							
MDOK				*e*S	**Sg**	**17 26 09.9**	**-0.5**
	27nm,1.0s							
KOTS	**Kotyrbulak**	**4.26**	**18**	Pg	**Pg**	**17 25 15.6**	**-2.2**
	15nm,0.4s							
KOTS				Lg	Lg	17 26 12.3	
	22nm,0.7s							
KOTS	**Kotyrbulak**	**4.26**	**18**	*e*P	**Pg**	**17 25 15.6**	**-2.2**
	15nm,0.4s							
KOTS				*e*S	**Sg**	**17 26 12.2**	**-0.8**
	22nm,0.7s							
SATY	**Saty**	**4.52**	**30**	Pg	**Pg**	**17 25 20.3**	**-2.4**
	13nm,0.5s							
SATY				Lg	Lg	17 26 20.5	
	15nm,0.3s							
SATY	**Saty**	**4.52**	**30**	*e*P	**Pg**	**17 25 20.3**	**-2.4**
	13nm,0.5s							
SATY				*e*S	**Sg**	**17 26 20.6**	**-0.7**
	15nm,0.3s							
KTBS	**Karatobe**	**4.64**	**12**	Pg	**Pg**	**17 25 22.7**	**-2.2**
	9.3nm,0.4s							
KTBS				Lg	Lg	17 26 24.6	
	20nm,0.4s							
KTBS	**Karatobe**	**4.64**	**12**	*e*P	**Pg**	**17 25 22.7**	**-2.2**
	9.3nm,0.4s							
KTBS				*e*S	**Sg**	**17 26 24.6**	**-0.4**
	20nm,0.4s							
KUU	**Kurty**	**4.76**	**9**	Pg	**Pb**	**17 25 24.3**	**+4.6**
	4.2nm,0.5s							
KUU				Lg	Lg	17 26 27.4	
	19nm,0.7s							
KUU	**Kurty**	**4.76**	**9**	*e*P	**Pb**	**17 25 24.3**	**+4.6**
	4.2nm,0.5s							
KUU				*e*S	**Sg**	**17 26 27.4**	**-1.6**
	19nm,0.7s							
CHKK	**Chushkaly**	**4.83**	**15**	Pg	**Pg**	**17 25 26.3**	**-2.3**
	5.4nm,0.4s							
CHKK				Lg	Lg	17 26 30.6	
	16nm,0.7s							
CHKK	**Chushkaly**	**4.83**	**15**	*e*P	**Pg**	**17 25 26.3**	**-2.3**
	5.4nm,0.4s							
CHKK				*e*S	**Sg**	**17 26 30.6**	**-0.5**
	16nm,0.7s							
IUG	**Iuzhnay**	**4.98**	**308**	Pg	**Pg**	**17 25 29.0**	**-2.5**
	0.5nm,0.2s							
IUG				Lg	Lg	17 26 35.3	
	13nm,0.6s							
IUG	**Iuzhnay**	**4.98**	**308**	*e*P	**Pg**	**17 25 29.1**	**-2.5**
	0.5nm,0.2s							
IUG				*e*S	**Sg**	**17 26 35.3**	**-0.8**
	13nm,0.6s							
PDGK	**Podgornoye**	**5.20**	**36**	⇓Pg	**Pb**	**17 25 30.2**	**+3.0**
	18nm,1.5s							
PDGK				⇑Lg	Lg	17 26 40.5	
	22nm,1.1s							
KK31	**Karatay Array**	**5.33**	**319**	Pn	**Pn**	**17 25 17.3**	**+1.5**
	0.2nm,0.2s,baz=140,slow=15,SNR=10							
KK31				⇑Sn	**Sn**	**17 26 15.6**	**-1.6**
	0.7nm,0.3s							
KK31				⇓Lg	Lg	17 26 41.7	
	3.1nm,0.6s,baz=139,slow=30,SNR=4.8							
ARXS	**Arharly**	**5.36**	**20**	Pg	**Pg**	**17 25 35.7**	**-3.1**
	3.2nm,0.6s							
ARXS				Lg	Lg	17 26 46.9	
	10nm,0.7s							
ARXS	**Arharly**	**5.36**	**20**	*e*P	**Pg**	**17 25 35.7**	**-3.1**
	3.2nm,0.6s							
ARXS				*e*S	**Sg**	**17 26 46.9**	**-1.4**
	10nm,0.7s							
BRLS	**Borolday**	**5.64**	**315**	Pg	Pb	17 25 40.3	+5.7
	0.6nm,0.1s							
BRLS				Lg	Lg	17 26 54.5	
	3.7nm,0.5s							
BRLS	**Borolday**	**5.64**	**315**	*e*P	Pb	17 25 40.3	+5.7
	0.6nm,0.1s							
BRLS				*e*S	**Sg**	**17 26 54.5**	**-2.6**
	3.7nm,0.5s							

*IDC **08** 17:30:18.3±4.8, 18°.00S×177°.86W, h450km±52km, mb3.3/14, mb1 3.6/14, mb1mx3.4/36, mbtmp4.1/14, Error ellipse: s-maj=20.4km s-min=17.7km az=22.0*
*ISCJB **08** 17:30:26.0±1.0, 18°.15S±0°.08×178°.08W±0°.09, h551km±12km, mb3.6/13, Error ellipse: s-maj=13.8km s-min=11.8km az=24.3*
*NEIC **08** 17:30:25.8±1.4, 18°.1S±0°.1×178°.0W±0°.2, h536km±4km, mb4.4/32*
ISC 08 17:30:26.6±1.3, **18°.1S**±0°.1×**178°.0W**±0°.1, **h543**km±13km, **n59**, σ0**97**/65, **mb4.2**/30, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.77**	**275**	P	**P**	**17 31 46.4**	**+0.1**
URZ	**Urewera**	**20.52**	**191**	P	**P**	**17 34 24.7**	**-2.8**
	3.3nm,0.3s,baz=268,slow=2.3,SNR=9.7						
QRZ	**Quartz Range**	**24.05**	**198**	P	**P**	**17 34 59.5**	**+0.3**
PLWZ	**Palliser**	**24.07**	**192**	P	**P**	**17 34 55.8**	**-3.6**
NNZ	**Nelson**	**24.18**	**196**	P	**P**	**17 35 00.8**	**+0.6**
THZ	**Tophouse**	**24.82**	**196**	P	**P**	**17 35 05.5**	**-0.4**
THZ				IAmb	IAmb	17 35 33.0	
	comp=Z,24nm,1.2s						
WKZ	**Wanaka**	**28.76**	**199**	P	**P**	**17 35 39.8**	**-0.8**
MLZ	**Mavora Lakes**	**29.53**	**200**	P	**P**	**17 35 48.0**	**+0.8**
MLZ				IAmb	IAmb	17 36 10.5	
	comp=Z,24nm,1.4s						
WHZ	**Wether Hill Ro**	**30.05**	**200**	P	**P**	**17 35 51.9**	**+0.3**
WHZ				IAmb	IAmb	17 36 05.7	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**17 37 05.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=43,slow=8.7,SNR=4.7						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**17 37 06.3**	**+0.8**
BBOO	**Buckleboo**	**43.64**	**241**	P	**P**	**17 37 43.8**	**+0.4**
BBOO				IAmb	IAmb	17 38 05.4	
	comp=Z,23nm,1.4s						
WB2	**Warramunga Arr**	**44.95**	**260**	P	**P**	**17 37 53.5**	**-0.2**
WB2				PcP	**PcP**	**17 39 23.9**	**+0.4**
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**17 37 52.9**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=97,slow=6.9,SNR=16						
WRA				PcP	**PcP**	**17 39 23.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=91,slow=3.8,SNR=4.6						
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**17 37 53.5**	**-0.3**
WRA					**PcP**	**17 39 24.2**	**+0.7**
AS31	**Alice Springs**	**45.10**	**254**	P	**P**	**17 37 55.2**	**+0.3**
ASAR	**Alice Springs**	**45.10**	**254**	P	**P**	**17 37 55.0**	**+0.2**
	comp=Z,7.9nm,0.5s,baz=88,slow=8.5,SNR=99						
ASAR				PcP	**PcP**	**17 39 24.4**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=105,slow=3.8,SNR=9.9						
ASAR				S	**S**	**17 43 51.9**	**-2.9**
	comp=Z,0.6nm,0.7s,baz=85,slow=15,SNR=6.7						
ASAR	**Alice Springs**	**45.10**	**254**	P	**P**	**17 37 54.3**	**-0.5**
ASAR					**PcP**	**17 39 24.6**	**+0.6**
FORT	**Forrest**	**50.26**	**245**	P	**P**	**17 38 33.2**	**-0.1**
FORT				IAmb	IAmb	17 38 53.5	
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**50.84**	**264**	P	**P**	**17 38 38.1**	**+0.4**
KNRA				IAmb	IAmb	17 38 55.8	
	comp=Z,17nm,1.1s						
SIJI	**Sorong**	**52.65**	**283**	P	**P**	**17 38 50.8**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=124,slow=7.7,SNR=5.6						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**17 38 55.5**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=106,slow=7.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**17 38 55.6**	**-0.3**
PSAD2	**Pilbara Seismi**	**58.11**	**255**	P	**P**	**17 39 28.4**	**-0.3**
PSAD2				IAmb	IAmb	17 39 53.6	
	comp=Z,18nm,1.4s						
PSAC2	**Pilbara Seismi**	**58.17**	**255**	P	**P**	**17 39 28.5**	**-0.6**
PSAC2				IAmb	IAmb	17 39 53.0	
	comp=Z,16nm,1.2s						
PSAB2	**Pilbara Seismi**	**58.21**	**255**	P	**P**	**17 39 29.3**	**-0.1**
PSAB2				IAmb	IAmb	17 39 48.1	
	comp=Z,21nm,1.5s						
PSA00	**Pilbara Seismi**	**58.22**	**255**	P	**P**	**17 39 29.4**	**-0.1**
PSAA2	**Pilbara Seismi**	**58.22**	**255**	P	**P**	**17 39 29.1**	**-0.3**
PSAA2				IAmb	IAmb	17 39 38.2	
	comp=Z,15nm,1.3s						
PSAA1	**Pilbara Seismi**	**58.23**	**255**	P	**P**	**17 39 29.0**	**-0.6**
PSAC3	**Pilbara Seismi**	**58.23**	**255**	P	**P**	**17 39 29.0**	**-0.5**
PSAC3				IAmb	IAmb	17 39 30.3	
	comp=Z,14nm,1.0s						
PSAD1	**Pilbara Seismi**	**58.25**	**256**	P	**P**	**17 39 29.8**	**+0.1**
PSAD1				IAmb	IAmb	17 39 45.7	
	comp=Z,20nm,1.4s						
PSAC1	**Pilbara Seismi**	**58.26**	**256**	P	**P**	**17 39 29.1**	**-0.6**
PSAC1				IAmb	IAmb	17 39 35.8	
	comp=Z,17nm,1.4s						
PSAD3	**Pilbara Seismi**	**58.27**	**255**	P	**P**	**17 39 29.3**	**-0.5**
PSAD3				IAmb	IAmb	17 39 46.5	
	comp=Z,18nm,1.5s						
DAV	**Davao City (W)**	**61.02**	**289**	P	**P**	**17 39 48.6**	**+0.4**
MJAR	**Matsushiro Arr**	**68.30**	**323**	P	**P**	**17 40 33.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=119,slow=7.1,SNR=4.4						
UGM	**Wanagama**	**70.02**	**268**	P	**P**	**17 40 45.2**	**+0.6**
JNU	**Nakatsue**	**70.55**	**316**	P	**P**	**17 40 47.0**	**-0.3**
	comp=Z,6.3nm,0.9s,baz=136,slow=3.2,SNR=3.1						
JNU	**Nakatsue**	**70.55**	**316**	P	**P**	**17 40 47.1**	**-0.1**
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**17 40 56.2**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=33,slow=8.3,SNR=6.7						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**17 40 56.4**	**+1.4**
NACB	**Ninganchiao**	**72.35**	**304**	P	**P**	**17 40 56.3**	**-1.6**
NACB				IAmb	IAmb	17 41 11.4	
	comp=Z,22nm,1.0s						
SSLB	**Suanglung**	**72.67**	**303**	P	**P**	**17 40 59.7**	**-0.1**
SSLB				IAmb	IAmb	17 41 06.3	
	comp=Z,31nm,1.3s						
TPUB	**Ta-pu**	**72.69**	**302**	P	**P**	**17 40 59.1**	**-0.8**
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**17 41 34.8**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=221,slow=8.0,SNR=6.7						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**17 41 35.1**	**-1.4**
ENH	**Enshi**	**84.70**	**304**	P	**P**	**17 42 04.9**	**+1.1**
ENH				IAmb	IAmb	17 42 06.1	
	comp=Z,7.9nm,0.8s						
TXAR	**Lajitas Array**	**85.79**	**57**	P	**P**	**17 42 09.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=225,slow=6.4,SNR=5.9						
ILAR	**Eielson Array**	**86.01**	**13**	P	**P**	**17 42 08.2**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=221,slow=5.3,SNR=7.8						
ILAR	**Eielson Array**	**86.01**	**13**	P	**P**	**17 42 08.3**	**-0.8**
PDAR	**Pinedale Array**	**87.24**	**43**	P	**P**	**17 42 16.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=230,slow=7.0,SNR=5.2						
PDAR	**Pinedale Array**	**87.24**	**43**	P	**P**	**17 42 15.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	**P**	**17 42 26.7**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=101,slow=3.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	**P**	**17 42 27.6**	**+1.9**
HHAR	**Hobbs**	**95.90**	**54**	P	**P**	**17 42 55.0**	**-0.5**
BR131	**Keskin Array S**	**145.20**	**315**		**PKPbc**	**17 49 03.9**	**0.0**
BRTR	**Keskin Array B**	**145.20**	**315**	PKPbc	**PKPbc**	**17 49 04.3**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=129,slow=3.7,SNR=14						
BRTR	**Keskin Array B**	**145.20**	**315**		**PKPdf**	**17 49 03.5**	**+0.6**
GERES	**GERESS Array B**	**147.91**	**345**	PKPbc	**PKPbc**	**17 49 10.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=0.0,slow=2.7,SNR=6.0						
GERES	**GERESS Array B**	**147.91**	**345**		**PKPbc**	**17 49 11.0**	**+0.1**

*ISCJB **08** 17:30:55.0±0.8, 6°.3S±0°.1×151°.1E±0°.2, h43km, mb3.9/4, Error ellipse: s-maj=31.3km s-min=6.2km az=36.3*
*NEIC **08** 17:30:55.3±1.1, 6°.1S±0°.2×151°.2E±0°.3, h44km±12km, mb4.1/9*
*IDC **08** 17:30:57.9±2.3, 5°.90S×150°.87E, h59km±21km, mb3.8/4, mb1 4.1/5, mb1mx3.5/34, mbtmp4.2/5, ML2.5/1, Error ellipse: s-maj=89.1km s-min=17.2km az=131.0*
ISC 08 17:30:55.9±1.0, **6°.2S**±0°.2×**151°.2E**±0°.2, **h43**km, **n22**, σ0**96**/25, **mb3.9**/6, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.10**	**24**	P	**Pn**	**17 31 29.2**	**+0.6**
	58nm,0.3s,baz=142,slow=1.4,SNR=182						
KRVT				S	**Sn**	**17 31 55.4**	**+1.8**
	63nm,0.3s,baz=320,slow=22,SNR=8.1						
PMG	**Port Moresby**	**5.06**	**231**	P	**Pn**	**17 32 10.9**	**+1.7**
	12nm,0.3s,baz=52,slow=4.2,SNR=46						
PMG				S	**Sn**	**17 33 06.2**	**-0.4**
	9.0nm,0.3s,baz=130,slow=22,SNR=10						
PMG	**Port Moresby**	**5.06**	**231**		**Pn**	**17 32 10.8**	**+1.5**
PMG					**Sn**	**17 33 05.5**	**-1.0**
HNR	**Honiara**	**9.26**	**111**		Pn	17 32 58.0	-8.9
COEN	**Coen**	**10.98**	**225**	Pn	**Pn**	**17 33 30.8**	**+0.3**
MTN	**Manton Dam**	**20.80**	**250**	P	**P**	**17 35 33.9**	**+0.1**
MTN				IAmb	IAmb	17 36 02.0	
	comp=Z,15nm,1.2s						
WRAB	**Tennant Creek**	**21.26**	**229**	P	**P**	**17 35 38.8**	**+0.1**
WRAB				IAmb	IAmb	17 35 39.9	
	comp=Z,3.7nm,0.7s						
WB2	**Warramunga Arr**	**21.27**	**229**	P	**P**	**17 35 39.2**	**+0.5**
WB2				IAmb	IAmb	17 35 51.6	
	comp=Z,6.9nm,1.2s						
WRA	**Warramunga Arr**	**21.28**	**229**	P	**P**	**17 35 39.4**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=54,slow=10,SNR=49						
WRA				PcP	**PcP**	**17 39 43.1**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=49,slow=2.3,SNR=2.4						
WRA	**Warramunga Arr**	**21.28**	**229**	P	**P**	**17 35 38.6**	**-0.2**
KNRA	**Kununurra**	**23.88**	**245**	P	**P**	**17 36 05.5**	**-0.2**
AS31	**Alice Springs**	**23.99**	**222**	P	**P**	**17 36 07.7**	**+0.9**
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**17 36 07.5**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=56,slow=9.4,SNR=82						
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**17 36 07.4**	**+0.6**
STKA	**Stephens Creek**	**27.03**	**198**	P	**P**	**17 36 34.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.55**	**242**	P	**P**	**17 36 38.9**	**0.0**
	comp=Z,1.4nm,0.4s,baz=57,slow=7.5,SNR=10						
FITZ	**Fitzroy Crossi**	**27.55**	**242**	P	**P**	**17 36 38.5**	**-0.4**
FITZ				IAmb	IAmb	17 36 39.7	
	comp=Z,13nm,1.6s						
FORT	**Forrest**	**32.65**	**219**	P	**P**	**17 37 23.8**	**-0.1**
ILAR	**Eielson Array**	**84.10**	**22**	P	**P**	**17 43 20.3**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=244,slow=5.3,SNR=5.4						
ILAR	**Eielson Array**	**84.10**	**22**	P	**P**	**17 43 20.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**149.16**	**285**	PKPbc	**PKPbc**	**17 50 39.2**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=86,slow=3.1,SNR=9.3						
TORD	**Torodi Ar. Bea**	**149.16**	**285**		**PKPbc**	**17 50 40.5**	**-0.2**

*IDC **08** 18:03:40.8±1.0, 21°.41N×122°.29E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/44, mbtmp3.7/8, ML3.2/2, MS3.0/1, Ms1 3.2/1, ms1mx2.4/37, Error ellipse: s-maj=34.5km s-min=18.4km az=75.0*
*JMA **08** 18:03:44.8±0.4, 21°.70N×122°.20E, h16km, M4.6*
*TAP **08** 18:03:45.5, 21°.69N×122°.17E, h11km±1km, ML4.5, D*
ISC 08 18:03:44.8±1.2, **21°.64N**±0°.03×**122°.23E**±0°.03, **h19**km±3km, **n126**, σ1**61**/189, **mb3.6**/6, **1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.75**	**302**	⇑*i*P	**Pb**	**18 03 58.8**	**-0.4**
	baz=301						
LAY				*i*S	**Sg**	**18 04 09.0**	**-0.5**
	baz=301						
TSEB	**Hengchuen, Pin**	**1.26**	**282**	*e*P	**Pg**	**18 04 09.9**	**+0.7**
	baz=279						
TSEB				S	**Sn**	**18 04 24.8**	**+0.9**
	baz=279						
TWKBT	**Hengchun**	**1.35**	**283**	*e*P	**Pg**	**18 04 10.5**	**-0.4**
	baz=281						
TWKBT				*e*S	**Sb**	**18 04 26.8**	**+0.4**
	baz=281						
TWK1	**Hengchun**	**1.36**	**283**	*e*P	**Pg**	**18 04 10.7**	**-0.4**
	baz=281						
TWK1				S	**Sb**	**18 04 27.1**	**+0.4**
	baz=281						
TAW	**Tawu**	**1.43**	**300**	P	**Pn**	**18 04 10.0**	**+0.3**
	baz=299						
TAW				S	**Sn**	**18 04 27.0**	**-1.0**
	baz=299						
HEN	**Hengchun**	**1.44**	**285**	*e*P	**Pb**	**18 04 11.5**	**+0.6**
	baz=283						
HEN				*e*S	**Sb**	**18 04 29.1**	**+0.3**
	baz=283						
EAST	**Anshuo**	**1.48**	**300**	*e*P	**Pn**	**18 04 09.3**	**-1.2**
	baz=299						
EAST				*e*S	**Sn**	**18 04 27.3**	**-2.0**
	baz=299						
TTN	**Taitung**	**1.50**	**318**	*e*S	**Sg**	**18 04 32.5**	**-0.8**
	baz=318						
ECL	**Taimali**	**1.52**	**309**	*e*P	**Pn**	**18 04 10.7**	**-0.2**
	baz=308						
ECL				*e*S	**Sn**	**18 04 29.0**	**-1.2**
	baz=308						
TWGBT	**Beinan**	**1.59**	**318**	P	**Pn**	**18 04 12.1**	**+0.2**
	baz=318						
TWGBT				S	**Sn**	**18 04 32.5**	**+0.6**
	baz=318						
TWG	**Pinlang**	**1.59**	**318**	P	**Pn**	**18 04 11.9**	**0.0**
	baz=318						
TWG				S	**Sn**	**18 04 32.4**	**+0.3**
	baz=318						
CHKT	**Chengkung**	**1.66**	**331**	*e*P	**Pn**	**18 04 12.1**	**-0.8**
	baz=332						
CHKT				*e*S	**Sn**	**18 04 32.4**	**-1.3**
	baz=332						
SCZT	**Fangliau**	**1.66**	**296**	*e*P	**Pn**	**18 04 13.6**	**+0.7**
	baz=295						
SCZT				*e*S	**Sn**	**18 04 35.0**	**+1.2**
	baz=295						
MASBT	**Mashibuluo**	**1.77**	**304**	P	**Pn**	**18 04 14.7**	**+0.3**
	baz=302						
MASBT				*e*S	**Sb**	**18 04 38.6**	**+0.1**
	baz=302						
FULB	**Fuli**	**1.78**	**331**	P	**Pn**	**18 04 14.1**	**-0.4**
	baz=331						
FULB				S	**Sn**	**18 04 36.8**	**+0.1**
	baz=331						
ELDTW	**Lidau**	**1.91**	**324**	*e*P	**Pn**	**18 04 16.6**	**+0.2**
	baz=324						
TWF1	**Yuli**	**1.91**	**333**	*e*P	**Pn**	**18 04 15.7**	**-0.7**
	baz=334						
TWF1				S	**Sn**	**18 04 40.2**	**+0.3**
	baz=334						
SGLT	**Jiouru**	**1.94**	**304**	*e*P	**Pb**	**18 04 19.4**	**-0.1**
	baz=303						
YULB	**Yu-li**	**1.95**	**334**	P	**Pn**	**18 04 16.8**	**0.0**
	baz=334						
YULB				S	**Sn**	**18 04 41.3**	**+0.4**
	baz=334						
HGSD	**Ruisui**	**1.99**	**338**	*e*P	**Pn**	**18 04 16.8**	**-0.6**
	baz=339						
HGSD				*e*S	**Sn**	**18 04 40.9**	**-0.9**
	baz=339						
SLGT	**Liugui**	**1.99**	**313**	*e*P	**Pn**	**18 04 19.0**	**+1.5**
	baz=312						
EHY	**Hungye**	**2.04**	**336**	P	**Pn**	**18 04 17.8**	**-0.4**
	baz=336						
EHY				S	**Sn**	**18 04 43.7**	**+0.6**
	baz=336						
STYT	**Tauyuan**	**2.04**	**318**	*e*P	**Pn**	**18 04 19.6**	**+1.4**
	baz=318						
STYT				*e*S	**Sn**	**18 04 44.5**	**+1.3**
	baz=318						
TWM1	**Shoushan**	**2.05**	**306**	*e*P	**Pb**	**18 04 20.9**	**-0.6**
	baz=304						
SNJT	**Kaohsiung City**	**2.08**	**303**	*e*P	**Pb**	**18 04 20.7**	**-1.2**
	baz=301						
SNJT				*e*S	**Sb**	**18 04 46.5**	**-0.8**
	baz=301						
SGST	**Jiashian**	**2.10**	**314**	P	**Pn**	**18 04 20.2**	**+1.4**
	baz=313						
SGST				*e*S	**Sn**	**18 04 46.5**	**+2.0**
	baz=313						
EGFH	**Guangfu**	**2.15**	**340**	P	**Pn**	**18 04 20.0**	**+0.3**
	baz=340						
EGFH				S	**Sn**	**18 04 46.6**	**+0.7**
	baz=340						
YUS	**Yu-Shan**	**2.19**	**328**	P	**Pn**	**18 04 21.1**	**+0.4**
	baz=327						
YUS				*e*S	**Sb**	**18 04 49.9**	**-1.2**
	baz=327						
WTP	**Ta-pu**	**2.19**	**317**	*e*P	**Pb**	**18 04 22.5**	**-1.3**
	baz=317						
CHN1	**Nanshi**	**2.20**	**315**	P	**Pb**	**18 04 22.6**	**-1.5**
	baz=314						
TPUB	**Ta-pu**	**2.22**	**318**	P	**Pn**	**18 04 22.3**	**+1.7**
	baz=318						
SNST	**Tainan City**	**2.25**	**315**	*e*P	**Pb**	**18 04 23.2**	**-1.6**
	baz=314						
CHN4	**Tsaushan**	**2.28**	**319**	*e*P	**Pn**	**18 04 23.2**	**+1.8**
	baz=318						
ESL	**Shilin**	**2.29**	**341**	*e*P	**Pn**	**18 04 21.3**	**-0.2**
	baz=342						
ESL				S	**Sn**	**18 04 48.9**	**-0.3**
	baz=342						
TAI1	**Yung-k'ang**	**2.32**	**307**	*e*S	**Sn**	**18 04 51.3**	**+1.3**
	baz=306						
ENLB	**Shoufeng**	**2.33**	**346**	*e*P	**Pn**	**18 04 22.1**	**0.0**
	baz=346						
ENLB				*e*S	**Sn**	**18 04 49.0**	**-1.2**
	baz=346						
VWDT	**VWDT**	**2.33**	**335**	P	**Pn**	**18 04 23.1**	**+0.9**
	baz=335						
VWDT				*e*S	**Sn**	**18 04 51.3**	**+1.0**
	baz=335						
HWA	**Hwalien**	**2.40**	**346**	*e*S	**Sn**	**18 04 53.8**	**+1.9**
	baz=347						
WHYT	**Xinyi Township**	**2.41**	**328**	P	**Pn**	**18 04 25.4**	**+2.1**
	baz=328						
WHYT		

DPDB eS Sn 18 05 00.8 +2.1
baz=333
WSF Szhu 2.72 317 eP Pn 18 04 29.4 +2.0
baz=317
WSF eS Sn 18 05 01.9 +2.1
baz=317
TWT Tachien 2.78 340 eP Pn 18 04 30.0 +1.5
baz=340
TWT S Sn 18 05 02.6 +1.0
baz=340
TDCB Techi 2.79 339 eP Pn 18 04 30.1 +1.6
baz=339
TDCB eS Sn 18 05 02.1 +0.4
baz=339
HATJ Hateruma jima 2.81 31 S Sn 18 05 02.6 +0.5
NANB Nanao 2.81 351 P Pn 18 04 29.4 +0.7
baz=351
NANB eS Sn 18 05 02.9 +0.8
baz=351
ENA Nanau 2.81 351 P Pn 18 04 29.2 +0.5
baz=351
ENA eS Sn 18 05 02.0 -0.1
baz=351
RLNB Erlin 2.83 323 eP Pn 18 04 31.4 +2.4
baz=322
RLNB eS Sn 18 05 05.3 +2.8
baz=322
WDGT Dungji 2.88 305 eP Pn 18 04 29.4 -0.1
baz=303
WDGT eS Sn 18 05 03.4 -0.3
baz=303
JYNG Yonaguni jima 2.88 13 P Pn 18 04 31.0 +1.4
JYNG eS Sn 18 05 04.9 +1.2
WCHH Zhanghua 2.88 328 eP Pn 18 04 32.3 +2.6
baz=328
TCU Taichung 2.88 330 eP Pb 18 04 33.0 -2.6
baz=330
WHP Taichung City 2.88 336 eP Pb 18 04 33.6 -2.1
baz=336
NNSB Datong 2.89 344 P Pn 18 04 31.6 +1.8
baz=345
NNSB S Sn 18 05 04.8 +0.7
baz=345
NNS Nan Shan 2.90 344 eP Pn 18 04 29.6 -0.4
baz=345
NNS eS Sn 18 05 05.5 +1.0
baz=345
EOS1 EOS1 2.90 358 P Pn 18 04 31.8 +1.9
baz=359
EOS1 eS Sn 18 05 06.3 +2.1
baz=359
YOJ Yonaguni jima 2.90 14 P Pn 18 04 31.2 +1.2
baz=15
YOJ eS Sn 18 05 06.3 +2.0
baz=15
YOJ Yonaguni jima 2.90 14 P Pn 18 04 31.8 +1.9
YOJ eS Sn 18 05 05.6 +1.3
TWC Suao 2.98 353 P Pn 18 04 33.0 +2.0
baz=354
TWC eS Sn 18 05 07.2 +1.0
baz=354
IRIF Iriomote-Funau 3.02 27 P Pn 18 04 33.6 +2.0
IRIF S Sn 18 05 08.1 +0.9
NDT Datong Townshi 3.02 348 P Pn 18 04 33.7 +2.0
baz=348
NDT eS Sn 18 05 09.5 +2.1
baz=348
VCHM Qimei 3.03 302 eP Pn 18 04 32.1 +0.4
baz=300
VCHM eS Sn 18 05 06.8 -0.6
baz=300
ENTT Nioudou 3.05 349 P Pn 18 04 34.3 +2.3
baz=349
ENTT eS Sn 18 05 09.6 +1.6
baz=349
JKRS Kuro-shima 3.06 32 P Pn 18 04 34.1 +1.9
JKRS S Sn 18 05 08.8 +0.5
WDJ Dajia District 3.07 332 P Pn 18 04 35.4 +3.1
baz=331
NSY Sanyi 3.08 334 eP Pb 18 04 36.0 -3.0
baz=334
PHUB P'eng-hu 3.09 308 eP Pn 18 04 32.9 +0.4
baz=307
PHUB eS Sn 18 05 07.9 -1.0
baz=307
TWE Neicheng 3.11 351 P Pn 18 04 34.9 +2.0
baz=351
TWE eS Sn 18 05 11.5 +1.9
baz=351
YHNB Yeheng 3.12 346 P Pn 18 04 35.2 +2.1
baz=346
YHNB eS Sn 18 05 11.7 +1.9
baz=346
NSK Sanguang 3.13 345 P Pn 18 04 35.6 +2.4
baz=346
NSK S Sn 18 05 11.2 +1.1
baz=346
PTSB Yuanli 3.13 334 P Pn 18 04 35.7 +2.6
baz=333
PNG Penghu 3.13 308 eP Pn 18 04 34.1 +1.0
baz=307
PNG eS Sn 18 05 09.3 -0.6
baz=307
ILA Ilan 3.15 352 eS Sn 18 05 12.6 +2.3
baz=352
SLBB Yuanshan 3.15 350 P Pn 18 04 34.5 +1.1
baz=350
SLBB eS Sn 18 05 12.5 +1.9
baz=350
NMLH Miaoli 3.18 336 eP Pn 18 04 36.7 +3.0
baz=335
NSTT Nanjuang 3.19 339 P Pn 18 04 36.6 +2.7
baz=339
LIOB Emei 3.20 340 eP Pn 18 04 37.4 +3.3
baz=340
LIOB eS Sn 18 05 14.8 +3.1
baz=340
NWLT Wulai 3.20 348 P Pn 18 04 36.3 +2.2
baz=348
NWLT S Sn 18 05 13.3 +1.7
baz=348
EGS 3.21 355 eP Pn 18 04 36.8 +2.7
baz=356
EGS eS Sn 18 05 13.8 +2.0
baz=356
NTC Toucheng 3.22 354 eP Pn 18 04 36.9 +2.5
baz=354
NTC eS Sn 18 05 13.6 +1.4
baz=354
JIJ Ishigaki jima 3.23 33 P Pn 18 04 35.8 +1.3
JIJ S Sn 18 05 12.2 -0.4
TWB1 Santiao Chiao 3.36 356 eP Pn 18 04 38.3 +2.0
baz=357
SGCP Mt. Cagua 3.38 183 eP Pn 18 04 33.8 -2.8
SGCP eS Sn 18 05 09.6 -6.6
NCU National Centr 3.45 344 eS Sn 18 05 20.7 +2.7
baz=344
JISG Ishigakijimahi 3.50 33 P Pn 18 04 39.4 +1.2
JISG S Sn 18 05 19.3 +0.1
JTJ Tarama 3.76 37 S Sn 18 05 25.4 0.0
APYP Conner 3.87 194 eP Pg 18 05 00.8 +1.9
APYP eS Sn 18 05 23.1 -5.1
SIPP Brgy, Tapao 4.05 205⇓ eP Pn 18 04 45.7 -0.1
JIRB Irabujima 4.17 40 P Pn 18 04 48.3 +0.9
JIRB S Sn 18 05 35.2 -0.5
JMJ2 Miyako jima3 4.20 42 S Sn 18 05 36.8 +0.4
JOGS Gusukube 4.27 43 S Sn 18 05 39.0 +1.0
JIKM Ikemajima 4.29 40 P Pn 18 04 50.1 +1.1
JIKM eS Sn 18 05 38.9 +0.4
CAUP Cauayan 4.69 185 eP Pn 18 04 54.2 -0.2
CAUP eS Sn 18 05 51.9 +3.6
ZZJH Jiuhuzhen 5.09 305 eS Sn 18 05 56.9 -1.4
baz=303
JOW Kunigami 7.56 46 Pn Pn 18 05 33.9 -0.1
0.4nm,0.3s,baz=182,slow=15,SNR=9.7
JOW Sn Sn 18 06 53.6 -5.6
0.2nm,0.3s,baz=77,slow=24,SNR=1.8
KSRS Korea Array 16.52 16 Pn P 18 07 37.9 0.0
0.4nm,0.3s,baz=206,slow=11,SNR=7.8
MJAR Matsushiro Arr 20.34 40 P Pn 18 08 23.7 +1.7
0.9nm,0.7s,baz=224,slow=5.9,SNR=2.7
CMAR Chiang Mai Arr 22.10 266 LR LR 18 18 54.5
comp=Z,32nm,18.1s,baz=352,slow=41
USRK Ussuriysk Ar. 23.91 18 P P 18 08 57.8 +0.4
2.4nm,0.9s,baz=209,slow=8.1,SNR=4.1
MKAR Makanchi Array 40.85 318 P P 18 11 26.9 +1.5
1.1nm,0.5s,baz=108,slow=9.4,SNR=14

H11N1 WAKE ISLAND Hy 41.72 84 T T 18 56 58.3
baz=281
H11N2 WAKE ISLAND Hy 41.72 84 T T 18 56 59.7
baz=281
H11N3 WAKE ISLAND Hy 41.74 84 T T 18 56 55.0
baz=281
H11S3 WAKE ISLAND Hy 41.77 86 T T 18 57 06.3
baz=282,slow=74
H11S1 WAKE ISLAND Hy 41.78 86 T T 18 57 07.8
baz=282,slow=74
H11S2 WAKE ISLAND Hy 41.79 86 T T 18 57 05.4
baz=282
ZALV Zalesovo Beam 42.90 328 P P 18 11 41.8 -0.2
0.7nm,0.4s,baz=120,slow=10,SNR=4.9
WRA Warramunga Arr 42.99 163 P P 18 11 39.7 -3.3
0.5nm,0.8s,baz=344,slow=8.6,SNR=3.9
KURBB Kurchatov Arra 44.68 321 P P 18 11 56.2 -0.1
0.2nm,0.3s,baz=119,slow=7.4,SNR=5.8
ASAR Alice Springs 46.44 165 P P 18 12 08.0 -2.6
0.2nm,0.5s,baz=346,slow=7.0,SNR=4.1

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*IDC **08** 18:09:38.2±1.3, 18°.39S×173°.68W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.8/28, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=43.6km s-min=29.1km az=143.0*
ISC 08 18:09:42.2±1.1, **18°.4S**±0°.2×**173°.5W**±0°.1, **h31**km, **n6**, σ1§**30**/6, **mb3.7**/4, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.24**	**104**	Pn	**Pn**	**18 12 47.7**	**-0.5**
	0.9nm,0.3s,baz=276,slow=11,SNR=1.2						
RAR				Sn	S	18 15 30.6	-7.7
	0.2nm,0.3s,baz=88,slow=23,SNR=1.9						
URZ	**Urewera**	**21.38**	**201**	P	**P**	**18 14 28.3**	**+1.1**
	2.6nm,0.6s,baz=4.7,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**49.09**	**259**	P	**P**	**18 18 26.0**	**-1.2**
	0.2nm,0.4s,baz=97,slow=7.5,SNR=7.2						
ASAR	**Alice Springs**	**49.11**	**254**	P	**P**	**18 18 26.9**	**-0.4**
	0.3nm,0.5s,baz=92,slow=7.3,SNR=7.0						
ILAR	**Eielson Array**	**85.43**	**11**	P	**P**	**18 22 17.5**	**+1.2**
	0.4nm,0.6s,baz=198,slow=3.4,SNR=8.6						
GERES	**GERESS Array B**	**149.10**	**351**	PKPbc	**PKiKP**	**18 29 28.1**	**-0.7**
	0.3nm,0.6s,baz=349,slow=1.0,SNR=3.6						

IDC 08 18:16:06.0±1.7, **13°.00N**×**146°.13E**, **h0**km, **mb3.5**/3, **mb1 3.6**/3, **mb1mx3.4**/29, **mbtmp3.5**/3, **Error ellipse: s-maj=35.7km s-min=10.9km az=46.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.36**	**296**	Pn	Pb	18 16 32.8	+0.5
	44nm,0.3s,baz=118,slow=6.9,SNR=3.9						
GUMO				Sn	Sn	18 16 51.7	+0.6
	35nm,0.3s,baz=1.6,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**34.73**	**200**	P	P	18 22 58.1	0.0
	0.5nm,0.9s,baz=22,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**38.36**	**198**	P	P	18 23 28.7	-0.3
	0.6nm,1.1s,baz=24,slow=7.1,SNR=2.4						
MKAR	**Makanchi Array**	**62.76**	**316**	P	P	18 26 32.9	-0.3
	0.6nm,0.9s,baz=92,slow=8.5,SNR=2.0						

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*ISK **08** 18:17:01.5, 40°.28N×25°.76E, h10km, ML1.9/14*
*ISCJB **08** 18:17:02.1±0.4, 40°.29N±0°.02×25°.78E±0°.03, h9km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=156.6*
*ATH **08** 18:17:02.1, 40°.31N×25°.74E, h26km±2km, ML1.7/4, Error ellipse: s-maj=2.8km s-min=1.3km az=339.0*
*DDA **08** 18:17:03.8, 40°.26N×25°.95E, h7km±2km, ML2.6*
ISC 08 18:17:02.2±0.9, **40°.28N**±0°.02×**25°.77E**±0°.03, **h13**km±7km, **n30**, σ0§**39**/38, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKC	**Gokceada-Canak**	**0.14**	**125**	PG	**Pg**	**18 17 05.4**	**-0.3**
GOKC				SG	**Sg**	**18 17 08.0**	**-0.2**
SMTH	**Samothraki Isl**	**0.26**	**316**	P	**Pg**	**18 17 08.0**	**+0.3**
SMTH				S	**Sg**	**18 17 12.0**	**+0.6**
SMTH				AML	AML	18 17 12.1	
	comp=E,693μm,0.1s						
SMTH				AML	AML	18 17 12.3	
	comp=N,641μm,0.1s						
BOZC	**Bozcaada**	**0.49**	**153**	*i* P	**Pb**	**18 17 12.5**	**-0.2**
BOZC				*i* S	**Sg**	**18 17 18.7**	**+0.3**
BOZC				IAML_P			
	comp=Z,1μm,0.1s						
BOZC	**Bozcaada**	**0.49**	**153**	PG	**Pg**	**18 17 11.7**	**-0.2**
BOZC				SG	**Sg**	**18 17 18.8**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.55**	**78**	PG	**Pg**	**18 17 13.1**	**+0.1**
GELI				SG	**Sg**	**18 17 20.8**	**+0.4**
LIA	**Limnos Island**	**0.59**	**230**	P	**Pb**	**18 17 14.5**	**+0.1**
LIA				S	**Sb**	**18 17 22.6**	**0.0**
EZN	**Ezine**	**0.63**	**137**	PG	**Pg**	**18 17 14.2**	**-0.2**
ALN	**Alexandroupoli**	**0.65**	**19**	P	**Pg**	**18 17 14.6**	**-0.3**
ALN				S	**Sg**	**18 17 23.6**	**+0.1**
ALN				AML	AML	18 17 24.1	
	comp=N,55μm,0.2s						
ALN				AML	AML	18 17 24.1	
	comp=E,57μm,0.1s						
ALN	**Alexandroupoli**	**0.65**	**19**	PG	**Pg**	**18 17 14.5**	**-0.4**
ERIK	**Erikli-Kesan**	**0.69**	**55**	PG	**Pg**	**18 17 15.4**	**-0.2**
LPK	**Lapseki**	**0.77**	**83**	PG	**Pg**	**18 17 16.5**	**-0.5**
THAS	**Thassos island**	**0.86**	**292**	P	**Pb**	**18 17 18.9**	**-0.1**
THAS				AML	AML	18 17 33.3	
	comp=N,83μm,0.2s						
THAS				AML	AML	18 17 33.4	
	comp=E,41μm,0.2s						
RDO	**Rodhopi**	**0.88**	**349**	P	**Pg**	**18 17 18.9**	**-0.3**
RDO	**Rodhopi**	**0.88**	**349**	PG	**Pg**	**18 17 18.9**	**-0.3**
KESN	**Edirne-Kesan**	**0.88**	**52**	*i* P	**Pb**	**18 17 20.2**	**+0.6**
KESN				*i* S	**Sg**	**18 17 30.4**	**-0.5**
KESN				IAML_P			
	comp=Z,221nm,0.1s						
SIGR	**SIGRI**	**1.07**	**176**	P	**Pn**	**18 17 23.1**	**+0.2**
SIGR				AML	AML	18 17 38.8	
	comp=N,334μm,0.5s						
SIGR				AML	AML	18 17 39.3	
	comp=E,168μm,0.6s						
SIGR	**SIGRI**	**1.07**	**176**	PG	**Pg**	**18 17 22.2**	**-0.6**
UKOP	**Uzunkopru-Edir**	**1.07**	**38**	PG	**Pg**	**18 17 22.6**	**-0.3**
PRK	**Paraskevi**	**1.10**	**159**	P	**Pn**	**18 17 24.0**	**+0.6**
KRBG	**Karabiga-Canak**	**1.18**	**84**	PN	**Pb**	**18 17 23.9**	**-0.5**
KAVA	**Kavala**	**1.19**	**307**	P	**Pb**	**18 17 24.4**	**-0.2**
AYVA	**Ayvalik**	**1.21**	**143**	*i* P	**Pg**	**18 17 26.0**	**+0.7**
OUR	**Ouranopolis**	**1.36**	**273**	P	**Pn**	**18 17 26.6**	**-0.4**
OUR	**Ouranopolis**	**1.36**	**273**	PN	**Pn**	**18 17 26.6**	**-0.4**
KDZ	**Kurdzhali**	**1.39**	**349**	PN	**Pn**	**18 17 27.6**	**+0.2**
MRMT	**Marmara Adasi**	**1.43**	**76**	PN	**Pn**	**18 17 28.1**	**+0.2**
BALY	**Balya**	**1.52**	**110**	*i* P	**Pb**	**18 17 30.2**	**-0.1**
BALY				IAML_P			
	comp=Z,192nm,0.1s						
EDC	**Edincik**	**1.60**	**87**	PN	**Pn**	**18 17 30.7**	**+0.4**
EDRB	**Edirne**	**1.73**	**25**	PN	**Pn**	**18 17 32.5**	**+0.5**
BALB	**Balikesir**	**1.75**	**111**	PN	**Pn**	**18 17 31.7**	**-0.5**

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*ISK **08** 18:19:22.9, 40°.29N×25°.78E, h9km, ML2.0/14*
*ISCJB **08** 18:19:23.6±0.4, 40°.31N±0°.02×25°.80E±0°.03, h8km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=151.4*
*ATH **08** 18:19:24.0, 40°.31N×25°.78E, h16km±6km, ML1.9/1, Error ellipse: s-maj=6.3km s-min=1.2km az=289.0*
*DDA **08** 18:19:25.2, 40°.29N×25°.95E, h7km±4km, ML2.5*
ISC 08 18:19:23.7±0.9, **40°.30N**±0°.02×**25°.80E**±0°.03, **h11**km±8km, **n30**, σ0§**47**/38, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKC	**Gokceada-Canak**	**0.14**	**137**	PG	**Pg**	**18 19 26.6**	**-0.3**
GOKC				SG	**Sg**	**18 19 29.2**	**0.0**
SMTH	**Samothraki Isl**	**0.26**	**310**	P	**Pg**	**18 19 29.4**	**+0.3**
SMTH				S	**Sg**	**18 19 33.4**	**+0.6**
SMTH				AML	AML	18 19 33.5	
	comp=E,643μm,0.1s						
SMTH				AML	AML	18 19 33.7	
	comp=N,951μm,0.2s						
BOZC	**Bozcaada**	**0.50**	**157**	*i* P	**Pg**	**18 19 33.7**	**+0.2**
BOZC				*i* S	**Sg**	**18 19 39.7**	**-0.3**
BOZC				IAML_P			
	comp=Z,844nm,0.1s						
BOZC	**Bozcaada**	**0.50**	**157**	PG	**Pg**	**18 19 33.4**	**0.0**
BOZC				SG	**Sg**	**18 19 40.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.53**	**79**	PG	**Pg**	**18 19 33.7**	**-0.3**
GELI				SG	**Sg**	**18 19 42.1**	**+1.1**
LIA	**Limnos Island**	**0.62**	**230**	P	**Pg**	**18 19 35.9**	**+0.2**
LIA				S	**Sb**	**18 19 44.8**	**-0.5**
ALN	**Alexandroupoli**	**0.62**	**18**	P	**Pg**	**18 19 35.9**	**+0.1**
ALN	**Alexandroupoli**	**0.62**	**18**	PG	**Pg**	**18 19 35.8**	**-0.1**
EZN	**Ezine**	**0.62**	**139**	PG	**Pg**	**18 19 35.6**	**-0.2**
ERIK	**Erikli-Kesan**	**0.66**	**56**	PG	**Pg**	**18 19 36.6**	**+0.1**
LPK	**Lapseki**	**0.74**	**84**	PG	**Pg**	**18 19 37.9**	**-0.1**
KESN	**Edirne-Kesan**	**0.85**	**52**	*i* P	**Pb**	**18 19 41.7**	**+0.9**
KESN				*i* S	**Sg**	**18 19 51.0**	**-0.4**
KESN				IAML_P			
	comp=Z,184nm,0.1s						
RDO	**Rodhopi**	**0.87**	**347**	P	**Pg**	**18 19 40.4**	**-0.1**
RDO	**Rodhopi**	**0.87**	**347**	PG	**Pg**	**18 19 40.3**	**-0.1**
THAS	**Thassos island**	**0.88**	**291**	P	**Pg**	**18 19 40.2**	**-0.4**
UKOP	**Uzunkopru-Edir**	**1.04**	**37**	PG	**Pg**	**18 19 43.4**	**-0.4**
SIGR	**SIGRI**	**1.09**	**178**	P	**Pg**	**18 19 44.4**	**-0.2**
SIGR	**SIGRI**	**1.09**	**178**	PN	**Pg**	**18 19 44.0**	**-0.6**
PRK	**Paraskevi**	**1.11**	**161**	P	**Pn**	**18 19 45.7**	**+0.4**
KRBG	**Karabiga-Canak**	**1.15**	**85**	PN	**Pb**	**18 19 44.7**	**-0.9**
KAVA	**Kavala**	**1.20**	**306**	P	**Pb**	**18 19 46.4**	**0.0**
AYVA	**Ayvalik**	**1.21**	**145**	*i* P	**Pg**	**18 19 48.0**	**+1.1**
AYVA				*i* S	**Sb**	**18 20 02.1**	**0.0**
KDZ	**Kurdzhali**	**1.38**	**348**	PN	**Pn**	**18 19 48.9**	**-0.1**
MRMT	**Marmara Adasi**	**1.41**	**77**	PN	**Pn**	**18 19 49.0**	**-0.4**
EDC	**Edincik**	**1.58**	**88**	PN	**Pn**	**18 19 51.9**	**+0.2**
ZEDA	**zmir-Bergama**	**1.66**	**143**	*i* P	**Pg**	**18 19 56.5**	**+1.0**
ZEDA				IAML_P			
	comp=Z,120nm,0.1s						
EDRB	**Edirne**	**1.70**	**25**	PN	**Pn**	**18 19 53.5**	**+0.1**
BALB	**Balikesir**	**1.73**	**112**	PN	**Pn**	**18 19 53.5**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.74**	**121**	*i* P	**Pb**	**18 19 55.6**	**-0.2**
STEP				IAML_P			
	comp=Z,217nm,0.2s						
CHOS	**Chios island**	**1.92**	**174**	PN	**Pn**	**18 19 56.5**	**0.0**

IDC 08 18:23:14.2±7.3, **56°.40S**×**151°.14W**, **h0**km, **mb3.7**/2, **mb1 3.9**/2, **mb1mx3.7**/34, **mbtmp3.7**/2, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.8**/13, **Error ellipse: s-maj=599.9km s-min=35.8km az=164.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**52.46**	**109**	LR	LR	18 50 07.1	
	comp=Z,22nm,18.4s,baz=142,slow=31						
ASAR	**Alice Springs**	**62.35**	**268**	P	P	18 33 38.3	-0.1
	0.9nm,0.8s,baz=140,slow=6.4,SNR=6.4						
H01W1	**Cape Leeuwin H**	**64.16**	**246**	T	T	19 43 55.2	
	baz=142,slow=76,SNR=6.2						
H01W2	**Cape Leeuwin H**	**64.17**	**246**	T	T	19 43 55.9	
	baz=142,slow=76,SNR=6.5						
H01W3	**Cape Leeuwin H**	**64.18**	**246**	T	T	19 43 56.5	
	baz=142,slow=76,SNR=6.9						
WRA	**Warramunga Arr**	**65.08**	**271**	P	P	18 33 56.6	+0.2
	0.6nm,0.9s,baz=142,slow=6.0,SNR=3.1						
ILAR	**Eielson Array**	**120.89**	**2**	PKP	PKPdf	18 42 06.5	-0.3
	0.6nm,0.8s,baz=208,slow=2.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**148.69**	**290**	PKPbc	PKPbc	18 43 01.6	-0.5
	0.6nm,0.5s,baz=147,slow=3.4,SNR=2.2						

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*BJI **08** 18:32:06.4±0.0, 7°.28S×129°.67E, h125km, mb4.6/40, mB5.0/29*
*NEIC **08** 18:32:10.9±2.1, 6°.95S±0°.06×129°.57E±0°.06, h131km±5km, mb4.7/64*
*ISCJB **08** 18:32:10.2±0.1, 6°.99S±0°.02×129°.59E±0°.02, h139km, mb4.7/26, Error ellipse: s-maj=3.2km s-min=2.7km az=37.5*
*DJA **08** 18:32:12.0±0.1, 7°.S±2°.×13°.0E±°, h160km±3km, M4.8/64, mb4.9/64, mB5.3/31, MLv5.2/17, Mw(mB)4.7/31*
*IDC **08** 18:32:12.2±1.3, 6°.91S×129°.53E, h140km±11km, mb4.1/15, mb1 4.3/20, mb1mx4.2/30, mbtmp4.7/20, MS3.1/5, Ms1 3.1/5, ms1mx2.8/33, Error ellipse: s-maj=13.6km s-min=9.4km az=65.0*
*KLM **08** 18:32:14.0, 7°.13S×129°.67E, h152km, mb4.8*
ISC 08 18:32:11.4±0.3, **7°.03S**±0°.04×**129°.64E**±0°.04, **h139**km, **n236**, σ1§**89**/252, **mb4.6**/50, **4D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.90**	**120**	P	**Pn**	**18 32 47.2**	**+2.5**
SAUI				S	**Sn**	**18 33 10.9**	**+0.7**
BNDI	**Bandanaira**	**2.50**	**6**	P	**Pn**	**18 32 54.2**	**+2.1**
AAI	**Ambon**	**3.62**	**336**	P	**Pn**	**18 33 08.5**	**+2.1**
AAI				S	**Sn**	**18 33 50.2**	**+1.2**
MSAI	**Masohi**	**3.72**	**349**	P	**Pn**	**18 33 10.7**	**+2.9**
MSAI				S	**Sn**	**18 33 55.5**	**+4.0**
NLAI	**Namlea**	**4.53**	**326**	P	**Pn**	**18 33 21.8**	**+3.3**
FAKI	**Fak Fak**	**4.84**	**33**	P	**Pn**	**18 33 21.3**	**-1.2**
FAKI				S	**Sn**	**18 34 13.4**	**-4.5**
MTN	**Manton Dam**	**5.96**	**166**	P	**Pn**	**18 33 38.1**	**+0.5**
	baz=6.1,SNR=881						
MTN	**Manton Dam**	**5.96**	**166**		**Pn**	**18 33 38.4**	**+0.8**
MTN				Sn	**Sn**	**18 34 42.1**	**-2.8**
SOEI	**Soe**	**5.97**	**243**	P	**Pn**	**18 33 39.1**	**+1.4**
SANI	**Sanana**	**6.14**	**323**	P	**Pn**	**18 33 42.3**	**+2.4**
KDU	**Kakadu**	**6.28**	**154**	P	**Pn**	**18 33 42.2**	**+0.5**
	baz=6.4,SNR=808						
SIJI	**Sorong**	**6.33**	**15**	P	**Pn**	**18 33 41.6**	**-0.9**
	19nm,0.3s,baz=54,slow=10,SNR=136						
SIJI				S	**Sn**	**18 34 48.1**	**-5.6**
	27nm,0.3s,baz=49,slow=23,SNR=14						
SWI	**Sorong**	**6.33**	**15**	P	**Pn**	**18 33 41.3**	**-1.2**
BATI	**Baumata**	**6.70**	**241**	P	**Pn**	**18 33 48.5**	**+1.0**
	128nm,0.3s,baz=132,slow=3.5,SNR=89						
BATI				S	**Sn**	**18 35 00.6**	**-2.1**
	100nm,0.3s,baz=109,slow=22,SNR=16						
BATI	**Baumata**	**6.70**	**241**	P	**Pn**	**18 33 48.7**	**+1.2**
RKPI	**Ransiki, Papua**	**7.11**	**40**	P	**Pn**	**18 33 52.8**	**-0.1**
BBSI	**Bau Bau**	**7.19**	**282**	P	**Pn**	**18 33 57.9**	**+3.8**
MMRI	**Maumere**	**7.51**	**257**	P	**Pn**	**18 34 00.1**	**+1.8**
KDI	**Kendari**	**7.62**	**293**	P	**Pn**	**18 34 02.3**	**+2.4**
TNTI	**Ternate**	**8.07**	**344**	P	**Pn**	**18 34 06.6**	**+0.7**
SRPI	**Serui, Papua**	**8.34**	**52**	P	**Pn**	**18 34 08.9**	**-0.5**
KNRA	**Kununurra**	**8.64**	**186**	P	**Pn**	**18 34 12.8**	**-0.7**
	baz=8.7,SNR=214						
KNRA	**Kununurra**	**8.64**	**186**		**Pn**	**18 34 12.8**	**-0.7**
KNRA				Sn	**Sn**	**18 35 43.1**	**-6.3**
LUWI	**Luwuk**	**9.07**	**311**	P	**Pn**	**18 34 21.8**	**+2.6**
	49nm,1.0s,5μm						
KMSI	**Cibinong**	**9.43**	**323**	P	**Pn**	**18 34 25.3**	**+1.3**
	63nm,0.7s						
WAMI	**Wamena**	**9.55**	**71**	P	**Pn**	**18 34 28.3**	**+2.6**
WSI	**Waingapu**	**9.61**	**254**	P	**Pn**	**18 34 25.7**	**-0.8**
BKSI	**Bulukumba**	**9.61**	**280**	P	**Pn**	**18 34 28.0**	**+1.5**
BNSI	**Bone**	**9.84**	**285**	P	**Pn**	**18 34 29.8**	**+0.3**
	57nm,0.9s						
APSI	**Ampana**	**10.02**	**307**	P	**Pn**	**18 34 34.8**	**+2.9**
KAPI	**Kappang**	**10.03**	**281**	P	**Pn**	**18 34 35.0**	**+2.9**
	1.3nm,0.3s,baz=133,slow=1.9,SNR=11						
KAPI				LR	LR	18 39 17.0	
	comp=Z,60nm,19.6s,baz=115,slow=43						
KAPI	**Kappang**	**10.03**	**281**		**Pn**	**18 34 30.7**	**-1.4**
SPSI	**Sidrap Palu**	**10.28**	**287**	P	**Pn**	**18 34 36.9**	**+1.4**
SMPI	**Sarmi**	**10.33**	**61**	P	**Pn**	**18 34 36.4**	**+0.3**
	29nm,0.6s						
WBSI	**Waikabubak, Su**	**10.47**	**255**	P	**Pn**	**18 34 37.0**	**-1.0**
	178nm,0.6s,2μm						
TTSI	**Tana Toraja**	**10.55**	**292**	P	**Pn**	**18 34 42.0**	**+3.0**
MRSI	**Marisa**	**10.70**	**314**	P	**Pn**	**18 34 44.8**	**+3.8**
MMPI	**Merauke**	**10.74**	**98**	P	**Pn**	**18 34 41.8**	**+0.2**
	598nm,1.0s,9μm						
GENI	**Genyem**	**11.38**	**68**	P	**Pn**	**18 34 50.7**	**+0.7**
	132nm,0.6s,2μm						
SGSI	**Sangihe**	**11.40**	**339**	P	**Pn**	**18 34 51.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**18 34 52.0**	**-1.8**
	baz=12,SNR=167						
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**18 34 51.8**	**-2.0**
	7.5nm,0.3s,baz=30,slow=11,SNR=108						
FITZ				S	Sn	18 36 51.8	-11
	11nm,0.3s,baz=46,slow=8.5,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.68**	**199**		**Pn**	**18 34 51.7**	**-2.1**
PLAI	**Plampang**	**11.89**	**261**	P	**Pn**	**18 34 55.3**	**-1.3**
	110nm,0.7s,1μm						
JAY	**Jayapura**	**11.90**	**68**	P	**Pn**	**18 34 57.8**	**+0.9**
	9.5nm,0.3s,baz=222,slow=8.3,SNR=20						
JAY				S	**Sn**	**18 37 06.4**	**-1.9**
	0.2nm,0.3s,baz=105,slow=19,SNR=2.6						
JAY	**Jayapura**	**11.90**	**68**	P	**Pn**	**18 34 56.2**	**-0.7**
MPSI	**Mapaga**	**12.16**	**307**	P	**Pn**	**18 35 02.6**	**+2.3**

12nm,0.7s,225nm
TWSI Taliwang, Sumb 12.75 261 P **Pn 18 35 05.9 -2.0**
WB0 Warramunga Arr 13.48 160 Pn **Pn 18 35 14.2 -3.0**
WB7 Warramunga Arr 13.54 161 P **Pn 18 35 15.5 -2.6**
baz=14
WRAB Tennant Creek 13.62 161 Pn 18 35 16.0 -3.1
WRA Warramunga Arr 13.63 161 P **Pn 18 35 16.4 -2.7**
9.7nm,0.3s,baz=331,slow=12,SNR=228
WRA S Sn 18 37 36.1 -14
30nm,0.3s,baz=332,slow=22,SNR=15
WRA Warramunga Arr 13.63 161 Pn 18 35 15.2 -3.9
WRA Sn 18 37 39.9 -10
WB2 Warramunga Arr 13.63 161 Pn 18 35 16.3 -2.9
WR0 Warramunga Arr 13.71 160 Pn **Pn 18 35 17.1 -3.1**
KBKI Kotabaru 13.92 285 P **Pn 18 35 24.7 +1.9**
BKB Balikpapan 13.94 294 P **P 18 35 26.0 -0.7**
SRBI Singaraja 14.34 265 P **Pn 18 35 28.7 +0.5**
14nm,0.9s
DNP Denpasar 14.39 263 P **Pn 18 35 28.5 -0.3**
IGBI Denpasar 14.47 262 P **Pn 18 35 27.9 -1.9**
130nm,0.5s
DAV Davao City (W) 14.58 344 LR LR 18 41 03.9
comp=Z,63nm,20.2s,baz=153,slow=37
COEN Coen 14.98 118 P **Pn 18 35 36.0 -0.3**
baz=15,SNR=46
COEN Coen 14.98 118 Pn 18 35 35.0 -1.2
COEN IAmb IAmb 18 35 41.7
comp=Z,32nm,0.7s
CTBH Cotabato--PC H 15.14 339⇓ *iP* **P 18 35 41.5 +1.4**
JAGI Jajag, Banyuwa 15.41 264 P **Pn 18 35 40.8 -0.8**
GMJI Gumukmas 16.10 265 P **Pn 18 35 50.1 0.0**
QIS Mount Isa 16.56 145 P **P 18 35 56.0 +0.3**
baz=17,SNR=42
GRJI Gresik 17.03 269 P **P 18 35 59.5 -1.5**
AS31 Alice Springs 17.05 167 P **Pn 18 36 01.5 -0.1**
AS31 IAmb IAmb 18 36 09.0
comp=Z,20nm,0.6s
ASAR Alice Springs 17.05 167 P **Pn 18 36 01.6 0.0**
comp=Z,12nm,0.3s,baz=340,slow=9.3,SNR=758
ASAR S S 18 38 57.4 -14
comp=Z,2.8nm,0.3s,baz=344,slow=13,SNR=5.5
ASAR ScP **ScP 18 44 00.4 -0.5**
baz=336,slow=2.0,SNR=4.3
ASAR Alice Springs 17.05 167 P **P 18 36 00.8 -0.3**
ASAR **S 18 39 01.6 -10**
ASAR **ScP 18 43 59.5 -1.4**
PSA00 Pilbara Seismi 17.28 212 P **P 18 36 03.9 +0.2**
PSA00 Pilbara Seismi 17.28 212 P **Pn 18 36 04.2 -0.2**
PSA00 IAmb IAmb 18 36 06.5
comp=Z,83nm,0.7s
PMG Port Moresby 17.50 99 P **Pn 18 36 09.6 +2.5**
comp=Z,3.8nm,0.3s,baz=265,slow=1.9,SNR=24
PMG S **S 18 39 13.5 -7.8**
comp=Z,2.0nm,0.3s,baz=193,slow=23,SNR=7.9
PMG Port Moresby 17.50 99 P **Pn 18 36 08.5 +1.4**
PMG IAmb IAmb 18 36 11.9
comp=Z,45nm,0.8s
PWJI Pagerwojo 17.71 266 P **P 18 36 08.2 -0.2**
comp=Z,48nm,0.5s
WRKA Warakurna 17.96 184 P **Pn 18 36 12.1 -0.4**
baz=18,SNR=219
MTSU Mount Surprise 18.07 129 P **Pn 18 36 15.1 +1.2**
baz=18,SNR=88
PCJI Pacitan 18.34 265 P **P 18 36 13.6 -1.7**
comp=Z,113nm,1.0s
KKM Kota Kinabalu 18.66 314 P **P 18 36 19.5 +0.6**
KKM IAmb IAmb 18 36 31.3
comp=Z,53nm,1.1s
UGM Wanagama 18.98 266 P **P 18 36 21.6 -0.7**
comp=Z,116nm,2.1s
UGM Wanagama 18.98 266 P **P 18 36 21.4 -0.9**
STKI Sintang 19.44 291 P **P 18 36 27.2 -0.1**
SBUM Sibu 19.77 298 P **Pn 18 36 32.5 -1.2**
SBUM IAmb IAmb 18 36 34.7
comp=Z,54nm,0.8s
SBUM Sibu 19.77 298 P **Pn 18 36 34.0 +0.2**
KPJI Karang Pucung 20.55 268 P **P 18 36 37.1 -2.1**
CTA Charters Tower 20.70 130 P Pn 18 36 43.5 -1.2
comp=Z,7.7nm,0.8s,baz=298,slow=12,SNR=7.3
CTA S **S 18 40 28.1 +3.6**
comp=Z,6.0nm,0.6s,baz=103,slow=18,SNR=2.3
CTAO Charters Tower 20.70 130 P Pn 18 36 43.5 -1.1
CMJI Cimerak 21.03 267 P **P 18 36 40.5 -3.9**
KSM Kuching 21.06 293 P **P 18 36 44.2 -0.5**
KSM IAmb IAmb 18 36 50.0
comp=Z,32nm,0.9s
KSM Kuching 21.06 293 P **P 18 36 48.0 +3.3**
GIRL Giralia 21.48 222 P **P 18 36 50.6 +1.5**
CISI Cisompet, Garu 21.65 267 P **P 18 36 48.7 -2.5**
LEM Lembang 21.86 269 P **P 18 36 51.4 -2.0**
comp=Z,49nm,0.6s,baz=46,slow=6.8,SNR=8.7
LEM LR LR 18 45 57.8
comp=Z,51nm,19.7s,baz=86,slow=38
LEM Lembang 21.86 269 P **P 18 36 51.1 -2.4**
MEEK Meekatharra 22.15 207 P **P 18 36 57.0 +0.9**
baz=22,SNR=7.2
TPI Tanjungpandan 22.31 280 P **P 18 36 56.3 -1.5**
SKJI Sukabumi 22.91 269 P **P 18 37 00.7 -2.9**
FORT Forrest 23.68 183 P **P 18 37 11.8 +1.4**
baz=24,SNR=115
FORT Forrest 23.68 183 P **P 18 37 11.6 +1.2**
CGJI Cibinong 23.78 270 P **P 18 37 08.7 -2.8**
QLP Quilpie 23.90 146 P **P 18 37 14.5 +2.0**
baz=24,SNR=32
KASI Kota Agung 25.04 272 P **P 18 37 20.0 -2.9**
KMBL Kambalda 25.28 196 P **P 18 37 26.6 +1.6**
baz=25,SNR=12
MORW Morawa 25.40 209 P **P 18 37 27.3 +1.3**
baz=26,SNR=12
MORW Morawa 25.40 209 P **P 18 37 26.4 +0.3**
MORW IAmb IAmb 18 37 30.4
comp=Z,10nm,0.7s
LHSI Lahat 26.19 276 P **P 18 37 32.8 -0.5**
BBOO Buckleboo 26.34 168 P **P 18 37 35.7 +1.2**
baz=26,SNR=30
BBOO Buckleboo 26.34 168 P **P 18 37 35.6 +1.1**
RMQ Roma 26.57 139 P **P 18 37 38.7 +2.1**
baz=27,SNR=4.1
KLBR Kellerberrin 26.84 203 P **P 18 37 40.6 +1.6**
baz=27,SNR=20
STKA Stephens Creek 27.13 157 P **P 18 37 43.1 +1.5**
baz=27,SNR=45
STKA Stephens Creek 27.13 157 P **P 18 37 43.0 +1.5**
comp=Z,21nm,0.5s,baz=341,slow=8.0,SNR=48
STKA S S 18 42 51.4 +42
comp=Z,5.3nm,0.7s,baz=348,slow=19,SNR=2.5
STKA Stephens Creek 27.13 157 P **P 18 37 42.9 +1.3**
MYKOM Kota Tinggi 27.19 288 P **P 18 37 42.4 +0.1**
MYKOM IAmb IAmb 18 37 45.7
comp=Z,18nm,1.1s
MYKOM Kota Tinggi 27.19 288 P **P 18 37 44.0 +1.7**
HTT Hallett 27.65 163 P **P 18 37 47.9 +1.7**
baz=28,SNR=17
MUN Mundaring 27.81 205 P **P 18 37 49.0 +1.4**
baz=28,SNR=4.8
NWAO Narrogin (SRO) 28.23 202 P **P 18 37 52.8 +1.4**
baz=28,SNR=11
NWAO Narrogin (SRO) 28.23 202 P **P 18 37 52.3 +0.9**
comp=Z,5.5nm,0.5s,baz=44,slow=7.2,SNR=14
NWAO S S 18 43 15.3 +48
comp=Z,6.4nm,0.8s,baz=96,slow=15,SNR=1.5
NWAO LR LR 18 49 03.7
comp=Z,52nm,18.4s,baz=71,slow=36
NWAO Narrogin (SRO) 28.23 202 P **P 18 37 52.8 +1.4**
NWAO IAmb IAmb 18 37 54.2
comp=Z,12nm,0.8s
CMSA Cobar Meteorol 28.63 150 P **P 18 37 57.0 +2.1**
baz=29,SNR=27
SDSI Sungai Dareh 28.77 281 P **P 18 37 53.5 -2.9**
JRMM Jerantut 29.20 291 P **P 18 38 02.0 +1.8**
IPM Ipoh 30.76 291 P **P 18 38 14.1 +0.1**
IPM IAmb IAmb 18 38 16.2
comp=Z,7.3nm,0.7s
IPM Ipoh 30.76 291 P **P 18 38 16.0 +2.0**
ARMA Armidale 31.10 141 P **P 18 38 19.9 +3.0**
TPUB Ta-pu 31.40 344 P **P 18 38 18.9 -0.6**
TPUB IAmb IAmb 18 38 37.1
comp=Z,18nm,1.1s
KULM Kulim 31.41 292 P **P 18 38 18.6 -1.1**
KULM IAmb IAmb 18 38 21.9
comp=Z,25nm,1.4s
KULM Kulim 31.41 292 P **P 18 38 20.0 +0.3**
ARPS Mount Arapiles 31.63 161 P **P 18 38 23.8 +2.5**
baz=32,SNR=19
RPSI Rantau Prapat 32.14 286 P **P 18 38 25.0 -1.1**

CAN Canberra 33.31 150 P **P 18 38 37.6 +1.6**
TRTT Trang 33.31 296 P **P 18 38 38.8 +2.5**
comp=Z,22nm,0.9s
TOO Toolangi 33.65 157 P **P 18 38 41.8 +2.9**
baz=34,SNR=4.7
TOO Toolangi 33.65 157 P **P 18 38 41.8 +2.9**
PKDT Phuket 34.55 295 P **P 18 38 49.4 +2.4**
comp=Z,16nm,0.9s
CHAI Chaiyaphum 35.62 310 P **P 18 38 56.3 +0.2**
comp=Z,20µm,0.7s
PBKT Sadao Pong 36.80 310 P **P 18 39 05.8 -0.2**
UTHA Uthaitani 37.39 307 P **P 18 39 13.3 +2.2**
comp=Z,19µm,0.8s,comp=Z,450µm
CM31 Chiang Mai Arr 39.47 310 P **P 18 39 28.0 -0.6**
CM31 IAmb IAmb 18 39 29.7
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 39.47 310 P **P 18 39 28.4 -0.1**
comp=Z,7.3nm,0.8s,baz=138,slow=7.4,SNR=73
CMAR ScP **ScP 18 45 09.1 -0.6**
comp=Z,1.1nm,0.8s,baz=158,slow=3.0,SNR=7.5
CMAR Chiang Mai Arr 39.47 310 P **P 18 39 28.0 -0.6**
CMAR **ScP 18 45 09.0 -0.6**
CMMT Chiang Mai 39.69 311 P **P 18 39 30.3 0.0**
comp=Z,11nm,1.0s,comp=Z,217nm
CHTO Chiang Mai 39.69 311 P **P 18 39 30.0 -0.3**
CHTO IAmb IAmb 18 39 31.4
comp=Z,14nm,0.8s
JNU Nakatsue 39.94 2 P **P 18 39 31.4 -0.8**
JNU IAmb IAmb 18 39 50.0
comp=Z,13nm,1.2s
NJ2 Nanjing 40.20 346 *e*P **P 18 39 35.2 +0.9**
NJ2 pmax pmax
comp=Z,18nm,0.5s
JHJ Hachijo jima 2 41.07 13 LR LR 18 57 14.9
comp=Z,37nm,18.2s,baz=204,slow=37
ENH Enshi 41.83 333 P **P 18 39 46.1 -1.6**
ENH IAmb IAmb 18 39 48.2
comp=Z,7.2nm,0.6s
MJAR Matsushiro Arr 44.08 10 P **P 18 40 04.7 -1.0**
comp=Z,3.1nm,0.9s,baz=190,slow=9.5,SNR=5.7
KSRS Korea Array 44.28 358 P **P 18 40 07.6 +0.4**
comp=Z,1.4nm,0.7s,baz=179,slow=9.1,SNR=4.9
XAN Xi'an 45.31 336 P **P 18 40 14.6 -1.0**
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 45.31 336 P **P 18 40 14.6 -1.0**
XAN IAmb IAmb 18 40 16.1
comp=Z,7.6nm,0.6s
BJT Baijiatuan 48.44 346 P **P 18 40 39.5 -0.2**
BJT IAmb IAmb 18 40 41.4
comp=Z,7.3nm,0.6s
BJI Beijing 48.45 346 P **P 18 40 39.7 -0.1**
BJI pmax pmax
comp=Z,9.0nm,0.6s
SHL Shillong 48.95 313 P **P 18 40 43.0 -1.1**
LZH Lanzhou 49.26 332 ⇓P **P 18 40 46.7 +0.5**
LZH pP pP 18 41 15.1 -1.9
LZH sP sP 18 41 29.3 -2.8
LZH PP **PP 18 42 42.8 +1.2**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,85nm,6.2s
HHC Hu-ho-hao-te 50.46 342 P **P 18 40 57.1 +2.0**
HHC pmax pmax
comp=Z,4.0nm,1.1s
PALK Pallekele 50.84 285 P **P 18 40 58.8 +0.4**
WKZ Wanaka 50.85 144 P **P 18 41 00.1 +2.1**
QRZ Quartz Range 50.88 138 P **P 18 41 01.3 +3.1**
WHZ Wether Hill Ro 50.88 146 P **P 18 41 00.3 +2.1**
USA0B Ussuriysk Arra 51.03 2 P **P 18 40 59.5 +0.3**
USRK Ussuriysk Ar. 51.03 2 P **P 18 40 59.0 -0.2**
comp=Z,2.6nm,0.6s,baz=179,slow=7.4,SNR=7.8
USRK Ussuriysk Ar. 51.03 2 P **P 18 40 58.9 -0.3**
LBZ Lake Benmore 51.28 143 P **P 18 41 03.0 +1.8**
LBZ IAmb IAmb 18 41 03.5
comp=Z,24nm,1.1s
RPZ Rata Peaks 51.43 142 P **P 18 41 04.9 +2.6**
THZ Tophouse 51.58 139 P **P 18 41 05.8 +2.2**
THZ IAmb IAmb 18 41 09.9
comp=Z,34nm,1.6s
LSA Lhasa 51.97 317 P **P 18 41 07.3 +0.2**
LSA IAmb IAmb 18 41 20.6
comp=Z,7.6nm,0.6s
TUWZ Tuamarina 52.10 138 P **P 18 41 08.8 +1.5**
BKZ Black Stump Fm 52.83 135 P **P 18 41 14.6 +1.7**
BKZ IAmb IAmb 18 41 19.8
comp=Z,14nm,1.2s
ODAN Odare 53.00 311 *e*P **P 18 41 14.1 -0.4**
comp=Z,16nm,0.5s
TAPN Taplejung 53.04 312 *e*P **P 18 41 14.4 -0.4**
comp=Z,5.4nm,0.3s
RAMN Ramite 53.64 311 *e*P **P 18 41 19.2 0.0**
comp=Z,22nm,0.6s
GTA Gaotai 53.82 331 *e*P **P 18 41 20.1 0.0**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,53nm,7.0s
GTA LR LR
comp=Z,53nm,17.8s
GTA LR LR
comp=Z,81nm,16.5s
GTA LR LR
comp=Z,100nm,15.9s
JIRN Jiri 54.33 311 *e*P **P 18 41 23.9 -0.4**
GUN Gumba 54.70 311 *e*P **P 18 41 26.5 -0.4**
comp=Z,25nm,0.6s
PKI Pulchoki 54.87 311 *e*P **P 18 41 27.4 -0.7**
PKIN Phulchoki 54.88 311 *e*P **P 18 41 27.4 -0.7**
KKN Kakani 55.08 311 *e*P **P 18 41 28.9 -0.6**
comp=Z,9.7nm,0.4s
DMN Daman 55.12 311 *e*P **P 18 41 29.3 -0.5**
GKN Gorkha 55.68 311 *e*P **P 18 41 33.2 -0.5**
KOLN Koldanda 56.34 310 *e*P **P 18 41 38.3 -0.2**
comp=Z,34nm,0.7s
DANN Dangsing 56.52 311 *e*P **P 18 41 39.9 +0.1**
ULN Ulaanbaatar 58.18 342 P **P 18 41 51.1 +0.2**
ULN IAmb IAmb 18 41 52.6
comp=Z,6.0nm,0.8s
SONM Songino Array 58.35 342 P **P 18 41 51.8 -0.3**
comp=Z,1.7nm,0.7s,baz=157,slow=8.0,SNR=6.8
SONM Songino Array 58.35 342 P **P 18 41 52.7 +0.6**
WMQ Urumqi 63.22 327 *e*P **P 18 42 25.9 +0.8**
WMQ pP pP 18 42 55.2 -2.2
WMQ sP sP 18 43 13.2 +1.1
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.8s
WMQ LR LR
comp=Z,350nm,29.0s
WMQ LR LR
comp=Z,75nm,28.9s
WMQ LR LR
comp=Z,150nm,29.1s
NIL Nilore 66.96 311 P **P 18 42 48.9 -0.5**
KSH Kashi 67.80 318 P **P 18 42 54.2 -0.4**
KSH S **S 18 51 36.7 -5.1**
KSH SS **SS 18 56 04.3 -1.9**
KSH pmax pmax
comp=Z,280nm,5.8s
KSH LR LR
comp=Z,260nm,10.1s
KSH LR LR
comp=Z,280nm,10.8s
KSH LR LR
comp=Z,250nm,6.1s
MK31 Makanchi Array 68.05 327 P **P 18 42 56.1 +0.1**
MK31 IAmb IAmb 18 42 57.5
comp=Z,6.3nm,0.6s
MKAR Makanchi Array 68.05 327 P **P 18 42 56.0 +0.1**
comp=Z,9.2nm,0.5s,baz=116,slow=8.1,SNR=164
MKAR Makanchi Array 68.05 327 P **P 18 42 55.6 -0.4**
MAKZ Makanchi 68.23 327 P **P 18 42 57.7 +0.7**
MAKZ IAmb IAmb 18 43 02.2
comp=Z,9.8nm,1.1s
YAK Yakutsk 68.85 0 P **P 18 43 00.4 -0.1**
AAK Ala-Archa 70.33 320 P **P 18 43 12.1 +1.8**
ARSB Arslanbob 70.67 318 P **P 18 43 12.4 +0.1**
ARSB IAmb IAmb 18 43 16.2
comp=Z,8.3nm,0.9s
ZAA0 Zalesovo Array 71.45 334 P **P 18 43 15.6 -1.0**
ZAA0 IAmb IAmb 18 43 18.1
comp=Z,8.7nm,0.9s

ZALV Zalesovo Beam 71.45 334 P **P 18 43 15.7 -0.8**
comp=Z,3.9nm,0.5s,baz=128,slow=5.0,SNR=19
ZALV Zalesovo Beam 71.45 334 P **P 18 43 15.6 -1.0**
KURK Kurchatov 72.35 329 P **P 18 43 22.0 0.0**
KURK IAmb IAmb 18 43 24.3
comp=Z,13nm,0.8s
KK31 Karatay Array 73.12 319 P **P 18 43 26.2 -0.6**
KKAR Karatay Array 73.12 319 P **P 18 43 26.6 -0.2**
KKAR Karatay Array 73.12 319 P **P 18 43 26.3 -0.5**
KKAR IAmb IAmb 18 43 28.7
comp=Z,3.1nm,0.8s
SBA Scott Base 73.36 172 P **P 18 43 30.1 +2.5**
MAW Mawson 74.80 201 P **P 18 43 38.1 +2.1**
baz=75,SNR=10
MAW Mawson 74.80 201 P **P 18 43 37.6 +1.6**
comp=Z,4.7nm,0.6s,baz=78,slow=6.4,SNR=21
MAW Mawson 74.80 201 P **P 18 43 37.8 +1.8**
HRA Herat 75.69 308 P **P 18 43 41.4 -0.6**
BRVK Borovoye 77.97 328 P **P 18 43 53.8 -0.3**
TIXI Tiksi 78.52 360 P **P 18 43 55.7 -1.0**
GEYT Alibeck 79.96 310 P **P 18 44 04.0 -1.4**
comp=Z,2.1nm,0.8s,baz=127,slow=3.8,SNR=5.0
GEYT Alibeck 79.96 310 P **P 18 44 04.5 -0.9**
GYA0B ALIBECK ARRAY 79.96 310 P **P 18 44 05.5 +0.1**
ABKAR Akbulak array 82.31 322 P **P 18 44 16.6 -0.9**
ABKAR Akbulak array 82.31 322 P **P 18 44 16.8 -0.7**
ABKAR IAmb IAmb 18 44 19.6
comp=Z,5.7nm,0.7s
QSPA South Pole Qui 82.95 180 P **P 18 44 21.3 +0.5**
QSPA IAmb IAmb 18 44 22.4
comp=Z,5.6nm,0.8s
SYO Syowa Base 83.51 201⇓ *e*P **P 18 44 23.6 +0.3**
SYO Syowa Base 83.51 201⇓ *e*PcP **PcP 18 44 26.4 -0.9**
ARU Arti 85.54 328 P **P 18 44 33.0 -0.7**
ARU IAmb IAmb 18 44 34.4
comp=Z,8.7nm,0.9s
RAYN Ar Rayn 87.43 294 P **P 18 44 43.9 +0.2**
RAYN IAmb IAmb 18 44 46.9
comp=Z,7.8nm,0.8s
KBZ Khabaz 92.45 314 P **P 18 45 06.5 -0.2**
comp=Z,1.1nm,0.8s,baz=135,slow=1.4,SNR=2.2
ILAR Eielson Array 93.52 25 P **P 18 45 09.8 -1.4**
comp=Z,0.6nm,0.8s,baz=251,slow=4.2,SNR=5.9
ILAR Eielson Array 93.52 25 P **P 18 45 09.7 -1.5**
BCAR Beaver Creek A 95.56 27 P **P 18 45 20.2 -0.4**
PDAR Pinedale Array 117.16 45 PKP **PKiKP 18 50 41.3 +0.6**
comp=Z,0.2nm,0.5s,baz=307,slow=3.3,SNR=3.4
PDAR Pinedale Array 117.16 45 PKPdf **PKiKP 18 50 41.0 +0.3**
TXAR Lajitas Array 125.25 59 PKP **PKiKP 18 50 57.6 +0.7**
comp=Z,0.3nm,0.6s,baz=251,slow=2.8,SNR=3.6
TORD Torodi Ar. Bea 128.46 281 PKP **PKPdf 18 51 02.9 +0.1**
comp=Z,1.1nm,0.6s,baz=111,slow=2.9,SNR=6.5
TORD SKPbc SKPbc 18 54 07.2
comp=Z,1.5nm,1.0s,baz=63,slow=3.8,SNR=5.4
TORD Torodi Ar. Bea 128.46 281 PKPdf 18 51 02.6 -0.2
CPUP Villa Florida 146.16 169 PKPbc **PKPab 18 51 37.7 +0.7**
comp=Z,6.3nm,0.8s,baz=203,slow=2.0,SNR=14
CPUP SKPbc **SKPbc 18 55 02.2 -0.2**
comp=Z,4.4nm,0.8s,baz=355,slow=0.9,SNR=7.9
CPUP Villa Florida 146.16 169 PKPab 18 51 37.2 +0.2
GO01 Chusmiza 147.63 145 PKiKP 18 51 42.6 -0.5
MNMC Minye Minye 147.83 144 PKPbc 18 51 41.6 +0.2
LPAZ La Paz 150.91 143 PKPbc **PKiKP 18 51 51.5 +1.4**
comp=Z,2.1nm,0.4s,baz=36,slow=3.0,SNR=15
LPAZ La Paz 150.91 143 PKPbc **PKiKP 18 51 51.0 +0.9**

GUC ***08*** *18:39:52.9±0.8, 31°.84S×70°.11W, h146km±6km, ML3.4*
ISCJB ***08*** *18:39:53.4±0.8, 31°.80S±0°.04×69°.72W±0°.04, h119km±7km, Error ellipse: s-maj=7.3km s-min=5.5km az=143.4*
SJA ***08*** *18:39:53.2±0.9, 31°.85S×69°.73W, h112km±5km, ML3.4, MW3.6*

ISC 08 18:39:54.1±1.6,**31°.81S**±0°.04×**69°.73W**±0°.04,
h115km±12km,**n21**,σ0**°62**/31,**6C**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.37**	**89**	*i* P	**Pn**	**18 40 10.9**	**-0.2**
RTLS				*e*S	**Sn**	**18 40 23.6**	**-0.2**
RTLS				IAML		18 40 24.8	
comp=Z,2µm,0.4s							
ZON	**Zonda**	**0.94**	**74**	*i* P	**Pn**	**18 40 15.1**	**0.0**
ZON				*e*S	**Sn**	**18 40 30.6**	**-0.3**
ZON				IAML		18 40 36.5	
comp=Z,261nm,0.2s							
RTCV	**Cerro Valdivia**	**1.02**	**93**	*i* P	**Pn**	**18 40 16.0**	**+0.2**
RTCV				*e*S	**Sn**	**18 40 32.5**	**+0.1**
RTLL	**Cerro Villicun**	**1.18**	**66**	⇑*i*P	**Pn**	**18 40 17.7**	**+0.1**
RTLL				*i* S	**Sn**	**18 40 35.3**	**0.0**
RTLL				IAML		18 40 36.4	
comp=N,1µm,0.3s							
RTLL	**Cerro Villicun**	**1.18**	**66**	*i* P	**Pn**	**18 40 17.6**	**0.0**
RTLL				*e*S	**Sn**	**18 40 35.0**	**-0.3**
RTLL				IAML		18 40 36.7	
comp=Z,563nm,0.5s							
CO02	**Combarbal**	**1.24**	**299**	⇑*i*P	**Pn**	**18 40 18.0**	**-0.3**
CO02				*i* S	**Sn**	**18 40 36.7**	**+0.1**
ACCO	**Cerro Coronel**	**1.34**	**25**	*i* P	**Pn**	**18 40 20.1**	**+0.4**
AMOG	**MOGNA**	**1.37**	**51**	*i* P	**Pn**	**18 40 20.1**	**+0.4**
PEL	**Peldehue**	**1.56**	**211**	⇑*i*P	**Pn**	**18 40 21.8**	**-0.1**
PEL				*i* S	**Sn**	**18 40 42.9**	**-0.1**
PEL				IAML		18 40 44.3	
comp=E,316nm,0.3s							
PEL	**Peldehue**	**1.56**	**211**	*i* P	**Pn**	**18 40 21.4**	**-0.5**
ROCH	**El Roble**	**1.59**	**223**	⇑*i*P	**Pn**	**18 40 21.9**	**-0.5**
ROCH				*i* S	**Sn**	**18 40 44.0**	**0.0**
ROCH				IAML		18 40 46.1	
comp=N,400nm,0.3s							
FCH	**Farellones**	**1.59**	**197**	⇑*i*P	**Pn**	**18 40 23.5**	**+0.9**
FCH				*i* S	**Sn**	**18 40 45.9**	**+1.7**
FCH				IAML		18 40 46.9	
comp=E,459nm,0.3s							
ROC1	**El Roble**	**1.59**	**223**	*i* P	**Pn**	**18 40 22.0**	**-0.6**
AROD	**Rodeo**	**1.65**	**8**	*i* P	**Pn**	**18 40 24.2**	**+0.9**
GO04	**Tololo Observa**	**1.87**	**330**	⇑*i*P	**Pn**	**18 40 25.8**	**-0.1**
GO04				*i* S	**Sn**	**18 40 49.4**	**-0.7**
ACAN	**Cantantal**	**2.21**	**103**	*i* P	**Pn**	**18 40 30.2**	**+0.2**
AGUA	**GUANDACOL**	**2.55**	**25**	*i* P	**Pn**	**18 40 35.6**	**+1.2**
VCA	**Vinchina**	**3.33**	**24**	*i* P	**Pn**	**18 40 45.5**	**+0.7**
MRA	**San Martin**	**3.46**	**101**	*i* P	**Pn**	**18 40 46.2**	**-0.2**
TCA	**Tanti**	**4.41**	**85**	*i* P	**Pn**	**18 40 58.6**	**-0.5**
CYA	**Choya**	**4.78**	**46**	*i* P	**Pn**	**18 41 02.9**	**-1.1**

ISCJB ***08*** *18:54:45.2±0.6, 46°.13N±0°.09×152°.20E±0°.09, h48km, mb3.8/12, Error ellipse: s-maj=15.0km s-min=4.9km az=145.2*
NEIC ***08*** *18:54:49.3±1.8, 46°.3N±0°.1×152°.1E±0°.2, h61km±11km, mb4.1/1*
IDC ***08*** *18:54:49.5±2.6, 46°.19N×152°.12E, h74km±22km, mb3.5/13, mb1 3.7/15, mb1mx3.5/36, mbtmp3.8/15, Error ellipse: s-maj=22.2km s-min=13.2km az=146.0*

ISC 08 18:54:46.9±0.8,**46°.1N**±0°.1×**152°.31E**±0°.09,**h48**km,**n32**,
σ1§**18**/30,**mb3.7**/12,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKA	**Kamikawa-asahi**	**7.14**	**258**		**Pn**	**18 56 31.0**	**+2.3**
JKA					**Sn**	**18 57 48.9**	**+0.5**
ASAJ	**Asahikawa**	**7.14**	**258**	P	**Pn**	**18 56 31.0**	**+2.3**
1.0nm,0.3s,baz=59,slow=18,SNR=9.3							
ASAJ				S	**Sn**	**18 57 48.9**	**+0.5**
0.3nm,0.3s,baz=88,slow=13,SNR=1.6							
ERM	**Erimo**	**7.73**	**242**	Pn	**Pn**	**18 56 37.6**	**+0.8**
ERM				Sn	**Sn**	**18 58 02.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**7.88**	**24**	Pn	**Pn**	**18 56 39.0**	**+0.3**
PETK	**Petropavlovsk-**	**7.88**	**24**	P	**Pn**	**18 56 38.9**	**+0.2**
0.5nm,0.3s,baz=181,slow=10,SNR=12							
PETK				S	**Sn**	**18 58 08.1**	**+1.6**
baz=229,slow=27,SNR=2.9							
PETK	**Petropavlovsk-**	**7.88**	**24**		**Pn**	**18 56 39.0**	**+0.2**
YAK	**Yakutsk**	**20.62**	**329**	P	**P**	**18 59 20.8**	**-0.9**
2.4nm,0.3s,baz=61,slow=1.6,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**28.87**	**151**	T	T	19 31 12.1	
baz=339,slow=75,SNR=140							
H11N1	**WAKE ISLAND Hy**	**28.89**	**151**	T	T	19 31 12.0	
baz=339,slow=75,SNR=57							
H11N3	**WAKE ISLAND Hy**	**28.89**	**151**	T	T	19 31 19.8	
baz=339,slow=75,SNR=65							
H11S1	**WAKE ISLAND Hy**	**29.95**	**152**	T	T	19 32 31.0	
baz=336							
H11S3	**WAKE ISLAND Hy**	**29.95**	**152**	T	T	19 32 25.4	
baz=336,slow=74							

H11S2	WAKE ISLAND Hy	29.96	152	T	T	19 32 25.5
	baz=336,slow=74					
SONM	Songino Array	31.04	290	P	P	19 00 59.9 -0.2
	0.7nm,0.5s,baz=95,slow=9.3,SNR=2.8					
ILAR	Eielson Array	37.44	38	P	P	19 01 54.9 -0.1
	0.4nm,0.6s,baz=257,slow=7.7,SNR=7.4					
ILAR	Eielson Array	37.44	38	P	P	19 01 54.4 -0.7
BCAR	Beaver Creek A	39.79	41	P	P	19 02 16.1 +1.3
INK	Inuvik	42.53	32	P	P	19 02 37.7 +0.5
	0.7nm,0.5s,baz=303,slow=6.1,SNR=4.6					
INK	Inuvik	42.53	32	P	P	19 02 37.9 +0.8
INK				IAmb	IAmb	19 02 41.6
	comp=Z,4.3nm,1.3s					
ARCES	ARCESS Array B	58.32	341	P	P	19 04 35.0 -1.3
	comp=Z,3.6nm,1.1s,baz=39,slow=7.4,SNR=3.3					
NVAR	Mina Array Bea	63.25	62	P	P	19 05 10.2 -0.4
	comp=Z,0.3nm,0.3s,baz=281,slow=7.7,SNR=4.6					
FINES	FINESS Array B	64.43	335	P	P	19 05 14.8 -2.8
	comp=Z,5.7nm,1.2s,baz=31,slow=6.5,SNR=5.7					
FINES	FINESS Array B	64.43	335	P	P	19 05 16.3 -1.3
PDAR	Pinedale Array	65.61	53	P	P	19 05 26.4 +0.5
	comp=Z,0.3nm,0.6s,baz=45,slow=2.3,SNR=3.9					
PDAR	Pinedale Array	65.61	53	P	P	19 05 26.8 +0.9
WRA	Warramunga Arr	67.68	198	P	P	19 05 38.8 -0.1
	comp=Z,0.1nm,0.4s,baz=21,slow=7.1,SNR=3.1					
NB2	NORSAR Subarra	68.70	341	P	P	19 05 44.3 -0.7
	comp=Z,0.7nm,0.5s,baz=27,slow=6.5					
NOA	NORSAR Array B	68.70	341	P	P	19 05 43.7 -1.2
	comp=Z,0.9nm,0.6s,baz=29,slow=6.6,SNR=6.7					
AKASG	Malin Array Be	71.81	326	P	P	19 06 02.7 -1.3
	comp=Z,0.4nm,0.4s,baz=36,slow=8.0,SNR=4.1					
TXAR	Lajitas Array	78.32	60	P	P	19 06 42.7 +0.7
	comp=Z,0.8nm,0.6s,baz=301,slow=9.7,SNR=7.2					
GERES	GERESS Array B	78.83	334	P	P	19 06 43.4 -1.2
	comp=Z,0.5nm,0.6s,baz=25,slow=7.6,SNR=6.0					
GERES	GERESS Array B	78.83	334	P	P	19 06 44.4 -0.2

*IDC **08** 18:54:46.2±0.9, 36.°90N×144.°68E, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.8/36, mbtmp4.0/9, ML3.5/4, MS3.1/4, Ms1 3.1/4, ms1mx2.5/47, Error ellipse: s-maj=35.1km s-min=18.2km az=123.0*

*ISCJB **08** 18:54:48.1±0.5, 37.°11N±0.°04×144.°44E±0.°05, h26km, mb3.8/5, MS3.7/2, Error ellipse: s-maj=6.4km s-min=5.3km az=9.2*

*NEIC **08** 18:54:50.8±2.9, 36.°88N±0.°08×144.°6E±0.°1, h36km±6km, mb4.3/5*

*JMA **08** 18:54:50.7±0.2, 37.°21N×144.°33E, h47km, M3.8*

ISC 08 18:54:49.4±0.9, 37.°08N±0.°06×144.°47E±0.°07, h26km, n44, σ1$59/47, mb4.0/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.68	298	P	Pn	18 55 30.4	-0.4
JIO	Ouri	2.83	300	P	Pn	18 55 32.6	-0.2
JIO				eS	Sn	18 56 04.2	-1.8
JFK	Kawauchi	2.88	277	P	Pn	18 55 33.6	0.0
JFK				eS	Sn	18 56 05.7	-1.8
JMST	Minamisoumatoc	2.92	284	P	Pn	18 55 33.8	-0.3
JMST				eS	Sn	18 56 06.3	-2.1
JKMT	Kesennumamotoy	2.93	307	P	Pn	18 55 33.7	-0.5
JKMT				S	Sn	18 56 06.0	-2.6
ONAJ	Iwakimizuishiy	2.93	271	P	Pn	18 55 34.7	+0.3
ONAJ				S	Sn	18 56 07.6	-1.2
JMK	Ichinoseki	3.17	307	P	Pn	18 55 37.4	-0.2
JFT	Otama	3.32	279	P	Pn	18 55 40.6	+0.9
JFT				eS	Sn	18 56 18.0	-0.3
JOM	Ohasama	3.46	315	P	Pn	18 55 41.4	-0.1
JOM				eS	Sn	18 56 18.7	-2.9
JYK	Kaneyama	3.73	301	P	Pn	18 55 45.7	+0.5
JRY	Ryogami san	4.60	258	P	Pn	18 55 57.6	+0.3
JRY				eS	Sn	18 56 48.0	-2.0
JOD2	Odawara 2	4.71	249	P	Pn	18 56 00.0	+1.2
ERM	Erimo	5.03	349	Pn	Pn	18 56 01.9	-1.2
JOT	Ohata	5.05	329	P	Pn	18 56 04.0	+0.6
MJAR	Matsushiro Arr	5.05	266	Pn	Pn	18 56 05.0	+1.5
	0.9nm,0.3s,baz=51,slow=17,SNR=45						
MJAR				Sn	Sn	18 57 03.1	+2.2
	0.2nm,0.3s,baz=69,slow=30,SNR=4.9						
MJAR				LR	LR	18 58 26.0	
	comp=Z,41nm,19.2s,baz=95,slow=42						
MJAR	Matsushiro Arr	5.05	266		Pn	18 56 04.8	+1.3
MAJO	Matsushiro	5.05	266		Pn	18 56 05.4	+2.0
MAT	Matsushiro	5.05	266	P	Pn	18 56 05.3	+1.8
MAT				S	Sn	18 57 03.4	+2.4
MJB9	Matsu-Tunnel	5.05	266		Pn	18 56 05.5	+2.0
JKB	Kayabe	5.49	332	P	Pn	18 56 09.7	+0.3
JHJ2	Mitsune	5.50	225	Pn	Pn	18 56 10.0	+0.4
JHJ	Hachijo jima 2	5.51	226	Pn	Pn	18 56 08.6	-1.2
	5.9nm,0.3s,baz=279,slow=23,SNR=12						
JHJ				Sn	Sn	18 57 08.5	-3.8
	18nm,0.3s,baz=100,slow=21,SNR=6.3						
INU	Inuyama	6.26	256	Pn	Pn	18 56 21.5	+1.4
JCJ	Chichijima	10.14	192	Pn	Pn	18 57 09.5	-3.8
	1.0nm,0.3s,baz=0.0,slow=20,SNR=2.7						
JCJ				Sn	Sn	18 58 52.5	-14
	1.7nm,0.3s,baz=326,slow=22,SNR=1.0						
KSRS	Korea Array	13.19	277	Pn	Pn	18 57 58.2	+3.3
	0.2nm,0.3s,baz=89,slow=15,SNR=3.2						
KSRS				LR	LR	19 03 36.7	
	comp=Z,29nm,18.4s,baz=195,slow=40						
SSLB	Suanglung	24.14	243	P	P	19 00 02.8	-0.5
H11N2	WAKE ISLAND Hy	26.13	125	T	T	19 27 13.2	
	baz=317,slow=74,SNR=186						
H11N1	WAKE ISLAND Hy	26.14	125	T	T	19 27 14.4	
	baz=317,slow=74,SNR=71						
H11N3	WAKE ISLAND Hy	26.14	125	T	T	19 27 16.4	
	baz=317,slow=74,SNR=119						
H11S1	WAKE ISLAND Hy	26.89	127	T	T	19 28 09.0	
	baz=318,slow=76,SNR=32						
H11S3	WAKE ISLAND Hy	26.89	127	T	T	19 28 17.4	
	baz=318,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	26.91	127	T	T	19 28 13.3	
	baz=318,slow=76,SNR=21						
ILAR	Eielson Array	48.15	32	P	P	19 03 27.7	+0.8
	0.7nm,0.8s,baz=261,slow=6.4,SNR=5.1						
ILAR	Eielson Array	48.15	32	P	P	19 03 27.4	+0.5
INK	Inuvik	53.23	27	P	P	19 04 06.2	+1.2
	1.5nm,0.7s,baz=246,slow=2.8,SNR=5.0						
INK	Inuvik	53.23	27	P	P	19 04 06.4	+1.4
INK				IAmb	IAmb	19 04 11.9	
	comp=Z,5.2nm,1.4s						
CTA	Charters Tower	56.89	178	LR	LR	19 29 34.0	
	comp=Z,116nm,18.8s,baz=248,slow=37						
WB0	Warramunga Arr	57.34	191	P	P	19 04 35.4	+0.1
WB2	Warramunga Arr	57.51	191	P	P	19 04 36.5	+0.1
WB2				IAmb	IAmb	19 04 36.8	
	comp=Z,2.6nm,0.8s						
WRA	Warramunga Arr	57.52	191	P	P	19 04 36.5	-0.1
	comp=Z,1.2nm,0.5s,baz=8.9,slow=7.0,SNR=22						
WRA	Warramunga Arr	57.52	191	P	P	19 04 36.4	-0.1
ASAR	Alice Springs	61.24	191	P	P	19 05 02.4	+0.2
	comp=Z,0.4nm,0.5s,baz=11,slow=8.0,SNR=8.3						
AKASG	Malin Array Be	75.73	324	LR	LR	19 43 54.6	
	comp=Z,15nm,18.5s,baz=265,slow=39						
PDAR	Pinedale Array	75.87	47	P	P	19 06 35.0	+1.2
	comp=Z,0.2nm,0.4s,baz=76,slow=0.6,SNR=3.7						

JMA 08 19:05:34.5±0.2, 38.°80N×144.°41E, h34km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.16	278	P	Pn	19 06 09.4	+1.4
OFUJ				eS	Sn	19 06 35.4	+1.8
MIYJ	Miyakonagasawa	2.16	292	P	Pn	19 06 09.4	+1.4
MIYJ				S	Sn	19 06 35.3	+1.7
JTH	Tanohata	2.28	301	P	Pn	19 06 10.9	+1.2
JTH				eS	Sn	19 06 38.6	+2.0
JKMT	Kesennumamotoy	2.29	271	P	Pn	19 06 11.3	+1.4
JKMT				eS	Sn	19 06 38.7	+1.8
JMK	Ichinoseki	2.50	274	P	Pn	19 06 14.6	+1.9
JOM	Ohasama	2.52	286	P	Pn	19 06 14.9	+1.9
JOM				eS	Sn	19 06 44.4	+2.0
JANG	Nango	2.73	306	P	Pn	19 06 16.9	+0.9
JANG				eS	Sn	19 06 48.5	+0.7
JYK	Kaneyama	3.17	273	P	Pn	19 06 24.3	+2.4
JFT	Otama	3.46	250	P	Pn	19 06 28.0	+2.1
JFT				eS	Sn	19 07 08.1	+2.4
JOT	Ohata	3.65	316	P	Pn	19 06 31.5	+3.0
JNBK	Urakawa-nobuka	3.70	341	P	Pn	19 06 29.6	+0.4
JNBK				eS	Sn	19 07 12.5	+0.9
JCH	Churui	3.89	349	P	Pn	19 06 31.0	-0.9
JCH				eS	Sn	19 07 14.1	-2.3
JKB	Kayabe	4.02	321	P	Pn	19 06 36.3	+2.7
NEM2	Nemuro 2	4.67	12	P	Pn	19 06 39.2	-3.3
NEM2				eS	Sn	19 07 29.0	-6.5
JTKR	Abashiri--Toko	5.18	356	P	Pn	19 06 48.3	-1.2
JTKR				eS	Sn	19 07 44.3	-3.8
JRY	Ryogami san	5.19	239	P	Pn	19 06 50.8	+1.0

*IDC **08** 19:19:31.9±1.0, 4.°25S×150.°86E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/32, mbtmp3.6/5, ML1.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/22, Error ellipse: s-maj=32.1km s-min=15.5km az=157.0*

*ISCJB **08** 19:19:35.2±1.1, 4.°2S±0.°1×150.°79E±0.°07, h33km, mb3.4/4, MS3.3/1, Error ellipse: s-maj=20.3km s-min=7.7km az=156.6*

ISC 08 19:19:36.9±1.1, 4.°2S±0.°2×150.°86E±0.°09, h35km, n8, σ1$06/9, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.16	95	Pn	Pn	19 19 55.7	-1.0
	252nm,0.3s,baz=204,slow=2.7,SNR=542						
KRVT				Sn	Sn	19 20 12.7	+1.3
	455nm,0.3s,baz=47,slow=22,SNR=9.3						
PMG	Port Moresby	6.34	215	Pn	Pn	19 21 07.6	-0.3
	0.5nm,0.3s,baz=159,slow=8.4,SNR=3.0						
PMG				Sn	Sn	19 22 20.2	+1.1
	1.4nm,0.3s,baz=186,slow=4.6,SNR=2.7						
WRA	Warramunga Arr	22.45	224	P	P	19 24 32.7	-0.4
	0.5nm,0.7s,baz=50,slow=10,SNR=13						
DZM	Mont Dzumac	23.31	141	LR	LR	19 32 11.1	
	comp=Z,89nm,18.2s,baz=5.0,slow=33						
ASAR	Alice Springs	25.34	219	P	P	19 24 59.5	-1.2
	0.4nm,0.4s,baz=55,slow=8.9,SNR=5.5						
FITZ	Fitzroy Crossi	28.28	239	P	P	19 25 27.0	-0.2
	1.0nm,0.8s,baz=79,slow=9.2,SNR=2.3						
ILAR	Eielson Array	82.35	22	P	P	19 31 55.9	+1.0
	0.9nm,0.7s,baz=246,slow=5.4,SNR=12						
TORD	Torodi Ar. Bea	148.29	288	PKPbc	PKPbc	19 39 20.3	-0.2
	0.5nm,0.7s,baz=88,slow=2.4,SNR=4.3						

*ISCJB **08** 19:45:56.8±0.6, 13.°28N±0.°05×87.°74W±0.°03, h9km±3km, Error ellipse: s-maj=9.5km s-min=5.6km az=30.9*

*UCR **08** 19:45:56.2±1.5, 13.°33N×87.°78W, h25km±17km*

*SNET **08** 19:45:57.0±0.8, 13.°27N×87.°72W, h12km±2km, MD1.8, ML3.0, MW2.7*

ISC 08 19:45:56.8±1.1, 13.°30N±0.°05×87.°74W±0.°03, h19km±3km, n12, σ0$90/21, 4C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.10	256	⇑iP	Pg	19 46 00.5	-0.2
CNCH				⇑iP		19 46 00.5	
CNCH				eS	Sg	19 46 03.2	-0.1
CNCH				IAML		19 46 04.2	
	comp=Z,19μm,0.2s						
LCND	La Caada	0.15	273	⇑iP	Pg	19 46 01.4	+0.3
LCND				eS	Sg	19 46 04.8	+0.7
JUCU	Jucuarın	0.50	265	eP	Pb	19 46 07.3	+0.2
JUCU				eS	Sb	19 46 15.1	+1.1
JUCU				IAML		19 46 16.4	
	comp=Z,435nm,0.2s						
FAGO	Alcalda de S	0.53	318	⇓iP	Pb	19 46 08.1	+0.5
FAGO				eS	Sn	19 46 16.3	-1.6
FAGO				IAML		19 46 16.8	
	comp=Z,284nm,0.1s						
LCY	Lacayo	0.56	283	⇓iP	Pn	19 46 09.0	-0.9
PACA	Pacayal	0.59	286	eP	Pn	19 46 09.4	-1.0
PACA				eS	Sn	19 46 18.6	-1.0
PACA				IAML		19 46 26.7	
	comp=Z,1μm,0.3s						
TGUH	Tegucigalpa,Un	0.88	31	⇑iP	Pb	19 46 13.5	0.0
TGUH				eS	Sg	19 46 25.5	-0.2
CRIN	San Cristobal	0.90	132	eP	Pb	19 46 12.9	-1.0
CRIN				eS	Sn	19 46 28.1	+1.1
VICT	Victoria	1.09	307	eS	Sg	19 46 33.9	+1.4
ESTN	Estel	1.35	98	eP	Pn	19 46 20.1	-0.7
ESTN				eS	Sn	19 46 37.9	-0.3
RCON	San Juan de Ri	1.55	83	eP	Pn	19 46 23.6	0.0
MATN	Matagalpa	1.80	102	eP	Pn	19 46 26.8	-0.2
MATN				eS	Sn	19 46 50.6	+1.1

*ISCJB **08** 19:51:17.4±0.3, 31.°67S±0.°03×69.°43W±0.°04, h122km±3km, mb3.6/3, Error ellipse: s-maj=5.2km s-min=4.3km az=32.2*

*SJA **08** 19:51:17.9±0.9, 31.°69S×69.°47W, h110km±4km, ML3.9, MW4.1*

*GUC **08** 19:51:17.7±0.9, 31.°66S×69.°73W, h146km±6km, ML4.0*

*NEIC **08** 19:51:18.1±2.3, 31.°65S±0.°04×69.°42W±0.°07, h115km±5km, mb4.4/9*

*IDC **08** 19:51:18.3±0.9, 31.°69S×69.°39W, h115km±6km, mb3.7/3, mb1 3.7/8, mb1mx3.5/28, mbtmp3.9/8, Error ellipse: s-maj=19.7km s-min=16.7km az=172.0*

ISC 08 19:51:17.9±0.6, 31.°64S±0.°04×69.°47W±0.°04, h114km±5km, n67, σ1$35/86, mb4.1/6, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.21	138	iP	Pn	19 51 34.8	+0.4
RTLS				eS	Sn	19 51 47.3	+0.8
RTLS				IAML		19 51 47.3	
	comp=Z,6μm,0.2s						
ZON	Zonda	0.68	82	iP	Pn	19 51 37.0	+0.4
ZON				eS	Sn	19 51 50.5	-0.1
ZON				IAML		19 51 51.7	
	comp=Z,1μm,0.3s						
SJA	San Juan	0.78	82	iP	Pn	19 51 38.0	+0.6
RTCV	Cerro Valdivia	0.82	106	iP	Pn	19 51 38.3	+0.5
RTLL	Cerro Villicun	0.90	70	eP	Pn	19 51 38.8	+0.2
RTLL				eS	Sn	19 51 54.2	0.0
RTLL				IAML		19 51 55.1	
	comp=N,3μm,0.4s						
RTLL	Cerro Villicun	0.90	70	iP	Pn	19 51 38.8	+0.2
RTLL				IAML		19 51 56.2	
	comp=Z,1μm,0.3s						
CFA	Coronel Fontan	1.05	88	P	Pn	19 51 39.9	-0.1
	comp=Z,71nm,0.3s,baz=276,slow=10,SNR=2.9						
CFA				S	Sn	19 51 56.4	-0.3
	comp=Z,503nm,0.3s,baz=257,slow=15,SNR=8.5						
AMOG	MOGNA	1.09	50	iP	Pn	19 51 41.3	+0.8
ACCO	Cerro Coronel	1.10	18	iP	Pn	19 51 42.0	+1.0
CO02	Combarbal	1.38	288	⇑iP	Pn	19 51 44.8	+1.0
CO02				iS	Sn	19 52 05.0	+1.6
AROD	Rodeo	1.47	360	iP	Pn	19 51 46.6	+1.7
ACDV	Cuesta del Vie	1.49	12	iP	Pn	19 51 46.8	+1.6
PEL	Peldehue	1.82	214	⇓iP	Pn	19 51 49.4	+0.4
PEL				iS	Sn	19 52 13.6	+1.0
PEL				IAML		19 52 16.0	
	comp=N,833nm,0.3s						
PEL	Peldehue	1.82	214		Pn	19 51 49.3	+0.4
PEL				Sn	Sn	19 52 13.1	+0.5
PEL	Peldehue	1.82	214	iP	Pn	19 51 49.5	+0.5
GO04	Tololo Observa	1.86	322	eP	Pn	19 51 50.1	+0.5
GO04	Tololo Observa	1.86	322		Pn	19 51 50.3	+0.8
GO04				Sn	Sn	19 52 15.0	+1.3
GO04	Tololo Observa	1.86	322	iP	Pn	19 51 50.4	+0.8
ROCH	El Roble	1.86	224	⇓iP	Pn	19 51 49.8	+0.2
ROCH				eS	Sn	19 52 14.8	+1.0
ROCH				IAML		19 52 17.4	
	comp=E,879nm,0.3s						
ROC1	El Roble	1.87	224		Pn	19 51 49.9	+0.1
ROC1				Sn	Sn	19 52 14.4	+0.4
ROC1	El Roble	1.87	224	iP	Pn	19 51 49.9	+0.1
ACAN	Cantantal	2.04	109	iP	Pn	19 51 52.0	+0.4
RCDM	Rinconada Maip	2.16	211	eP	Pn	19 51 54.7	+1.4
AGUA	GUANDACOL	2.30	22	iP	Pn	19 51 56.7	+1.6
LSCH	La Serena	2.31	318	eP	Pn	19 51 55.5	+0.4
LSCH				eS	Sn	19 52 23.3	-0.1
VCA	Vinchina	3.09	21	iP	Pn	19 52 08.0	+2.5
VCA				IAML		19 52 49.1	
	comp=Z,667nm,0.8s						
MRA	San Martin	3.28	105	iP	Pn	19 52 07.7	-0.1
PUMA	Malargue	3.85	180	iP	Pn	19 52 16.0	+0.7
GO05	Huala	3.94	211		Pn	19 52 14.5	-2.1
GO05				Sn	Sn	19 53 00.4	-1.7
GO05	Huala	3.94	211	iP	Pn	19 52 14.7	-2.0
GO03	Copiap	4.09	350		Pn	19 52 18.9	+0.3
GO03	Copiap	4.09	350	iP	Pn	19 52 19.0	+0.3
TCA	Tanti	4.17	87	iP	Pn	19 52 19.2	-0.5
CYA	Choya	4.50	46	iP	Pn	19 52 23.2	-0.9
AHML	Horco Molle	6.04	38	iP	Pn	19 52 43.1	-1.8
GO02	Mina Guanaco	6.45	359		Pn	19 52 50.1	-0.7
GO06	Curarrehue	8.09	191	Pn	Pn	19 53 08.0	-4.7
TRQA	Tornquist	8.88	138		Pn	19 53 22.0	-1.2
LVC	Limon Verde	9.01	3	P	Pn	19 53 25.5	+0.1
	comp=Z,0.6nm,0.3s,baz=188,slow=15,SNR=5.8						
LVC				S	Sn	19 55 01.0	-4.3
	comp=Z,0.6nm,0.3s,baz=316,slow=7.0,SNR=2.5						
LVC	Limon Verde	9.01	3		Pn	19 53 25.1	-0.3
PLCA	Paso Flores	9.12	185	P	Pn	19 53 26.3	-0.2
	comp=Z,0.1nm,0.3s,baz=28,slow=15,SNR=2.7						
PLCA	Paso Flores	9.12	185		Pn	19 53 24.9	-1.6
PLCA	Paso Flores	9.12	185	Pn	Pn	19 53 22.7	-3.8
PB11	IPOC Station P	11.83	359	Pn	Pn	19 54 04.9	+1.7
CPUP	Villa Florida	11.87	67	P	Pn	19 54 03.3	-0.2
	comp=Z,0.2nm,0.3s,baz=216,slow=8.7,SNR=2.9						
CPUP				S	Sn	19 56 16.9	+2.9
	comp=Z,0.2nm,0.3s,baz=3.0,slow=20,SNR=1.5						
CPUP	Villa Florida	11.87	67		Pn	19 54 03.2	-0.3
GO01	Chusmiza	11.92	1	Pn	Pn	19 54 07.1	+2.3
MNMC	Minye Minye	12.46	359	Pn	Pn	19 54 10.3	-1.3
LPAZ	La Paz	15.33	5	P	Pn	19 54 50.1	+1.3
	comp=Z,0.4nm,0.3s,baz=195,slow=5.1,SNR=13						
LPAZ	La Paz	15.33	5	P	P	19 54 50.6	-0.5
SIV	San Ignacio	17.35	28	P	P	19 55 12.3	-0.5
	comp=Z,0.8nm,0.3s,baz=206,slow=9.2,SNR=17						
EFI	East Falkland	21.71	161	P	P	19 56 00.3	+0.7
SAML	Samuel	23.32	16	P	P	19 56 16.9	+0.8
PTGA	Pitinga	32.03	18	P	P	19 57 33.4	-0.3
	comp=Z,0.8nm,0.4s,baz=189,slow=8.6,SNR=7.2						
PTGA	Pitinga	32.03	18	P	P	19 57 33.0	-0.7
PTGA				IAmb	IAmb	19 57 35.2	
	comp=Z,3.5nm,0.8s						
SNAA	Sanae	52.97	159	P	P	20 00 23.0	+0.7
SNAA				IAmb	IAmb	20 00 42.2	
	comp=Z,2.9nm,1.0s						
QSPA	South Pole Qui	58.59	180	P	P	20 01 04.3	+1.7
QSPA				IAmb	IAmb	20 01 10.8	
	comp=Z,10nm,1.7s						
TXAR	Lajitas Array	68.81	328	P	P	20 02 11.9	+1.9
	comp=Z,0.5nm,0.6s,baz=152,slow=8.5,SNR=4.7						
WVT	Waverly	69.58	344	P	P	20 02 15.1	+0.6
WVT				IAmb	IAmb	20 02 16.2	
	comp=Z,6.4nm,0.7s						
TORD	Torodi Ar. Bea	81.36	69	P	P	20 03 22.4	+0.2
	comp=Z,1.1nm,1.0s,baz=233,slow=4.4,SNR=5.2						
TORD				pP	pP	20 03 50.6	-1.4
	comp=Z,1.0nm,0.8s,baz=260,slow=4.4,SNR=5.3						
TORD	Torodi Ar. Bea	81.36	69	P	P	20 03 22.7	+0.5
MDPB	Devils Postpil	83.03	322	P	P	20 03 27.5	-3.3
WRA	Warramunga Arr	123.86	207	PKP	PKPdf	20 10 02.7	-0.4
	comp=Z,0.5nm,0.9s,baz=168,slow=1.6,SNR=3.2						
WRA				SKP		20 13 27.2	
	comp=Z,0.4nm,1.0s,baz=180,slow=1.5,SNR=5.3						
WRA	Warramunga Arr	123.86	207		PKPdf	20 10 03.1	-0.1
ZALV	Zalesovo Beam	151.08	32	PKPbc	PKiKP	20 10 58.1	+0.6
	comp=Z,3.9nm,0.6s,baz=298,slow=3.1,SNR=19						
ZALV				pPKPbc	pPKPbc	20 11 28.8	+0.3
	comp=Z,1.4nm,0.6s,baz=270,slow=2.4,SNR=4.0						
ZALV	Zalesovo Beam	151.08	32		PKiKP	20 10 57.5	0.0
ZALV					pPKPbc	20 11 28.5	0.0
MKAR	Makanchi Array	153.58	47	PKPbc	PKiKP	20 11 03.0	0.0
	comp=Z,0.3nm,0.7s,baz=294,slow=4.6,SNR=2.7						
MKAR				PKPab	PKPab	20 11 15.3	-0.7
	comp=Z,0.4nm,0.7s,baz=278,slow=6.1,SNR=3.5						
MKAR				pPKPbc	pPKPbc	20 11 33.7	-0.7
	comp=Z,0.6nm,0.8s,baz=306,slow=2.8,SNR=3.0						

*ISCJB **08** 19:59:08.9±0.4, 24.°24S±0.°03×67.°28W±0.°03, h190km±5km, mb3.4/1, Error ellipse: s-maj=4.8km s-min=4.4km az=39.8*

*SJA **08** 19:59:08.9±0.8, 24.°18S×67.°18W, h196km±7km, ML3.5, MW3.8*

*IDC **08** 19:59:08.8±1.2, 24.°21S×67.°07W, h166km±26km, mb3.4/1, mb1 3.6/7, mb1mx3.3/30, mbtmp4.0/7, MS3.1/1, Ms1 3.1/1, ms1mx2.3/16, Error ellipse: s-maj=32.9km s-min=13.4km az=92.0*

*NEIC **08** 19:59:10.1±2.6, 24.°22S±0.°07×67.°5W±0.°1, h202km±18km, mb4.1/2, ML4.4(GUC)*

*GUC **08** 19:59:11.3±0.5, 24.°15S×67.°53W, h191km±8km, ML4.3*

ISC 08 19:59:09.2±0.7, 24.°21S±0.°04×67.°25W±0.°04, h188km±8km, n51, σ1$34/71, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.67	108	iP	Pn	19 59 44.5	+0.7
SLA				IAML		19 59 45.5	
	comp=Z,43nm,0.6s						
SLA				eS	Sn	20 00 10.2	-0.3
HJA	Humahuaca	1.96	60	iP	Pn	19 59 47.6	+0.7
HJA				IAML		19 59 49.3	
	comp=Z,66nm,0.5s						
HJA				eS	Sn	20 00 16.1	+0.1
AZAP	Zapla	2.00	91	iP	Pn	19 59 47.2	+0.1
AZAP				IAML		19 59 48.1	
	comp=Z,64nm,0.2s						
AZAP				eS	Sn	20 00 15.8	-0.6
LVC	Limon Verde	2.20	316	⇑iP	Pn	19 59 50.8

GO04	Tololo Observa	6.73 207	Pn		Pn	20 00 44.7	-1.3
GO04					Sn	20 01 59.4	-3.1
AMOG	MOGNA	6.79 189	*i* P		Pn	20 00 46.9	+0.2
CFA	Coronel Fontan	7.42 187	P		Pn	20 00 54.6	-0.3
	comp=Z,2.8nm,0.3s,baz=358,slow=16,SNR=5.0						
CFA			S		Sn	20 02 15.7	-3.0
	comp=Z,0.8nm,0.3s,baz=154,slow=20,SNR=1.3						
LPAZ	La Paz	7.92 354	P		Pn	20 01 02.9	+0.8
	comp=Z,2.9nm,0.3s,baz=157,slow=7.4,SNR=42						
LPAZ			S		Sn	20 02 27.1	-4.5
	comp=Z,1.1nm,0.3s,baz=240,slow=12,SNR=7.5						
LPAZ	La Paz	7.92 354			Pn	20 01 03.0	+0.8
CPUP	Villa Florida	9.23 105	Pn		Pn	20 01 26.4	+7.9
ROC1	El Roble	9.34 200	Pn		Pn	20 01 20.0	-0.2
SIV	San Ignacio	10.03 37	P		Pn	20 01 27.2	-1.9
	comp=Z,0.6nm,0.3s,baz=231,slow=13,SNR=7.6						
TRQA	Tornquist	14.52 163			P	20 02 28.7	+1.2
PLCA	Paso Flores	16.71 189	P		Pn	20 02 53.5	+0.9
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=3.5						
PLCA	Paso Flores	16.71 189			Pn	20 02 53.0	+0.5
PLCA			IAmb		IAmb	20 02 55.7	
	comp=Z,4.1nm,1.1s						
BDFB	Brasilia	19.98 68	P		P	20 03 27.9	+0.5
	comp=Z,1.0nm,0.3s,baz=241,slow=11,SNR=12						
BDFB	Brasilia	19.98 68	P		P	20 03 27.8	+0.5
BDFB			IAmb		IAmb	20 03 28.4	
	comp=Z,8.8nm,0.7s						
ATAH	Atahualpa	20.06 326	LR		LR	20 12 27.4	
	comp=Z,54nm,19.8s,baz=237,slow=40						
TORD	Torodi Ar. Bea	76.86 69	P		P	20 10 42.0	+1.1
	comp=Z,0.4nm,0.4s,baz=248,slow=5.8,SNR=7.5						
LZH	Lanzhou	165.89 31	‖PKP		PKPdf	20 18 49.0	-2.9
LZH			pPKP		pPKPdf	20 19 41.8	-0.9
LZH			PKP		PKPab	20 19 52.9	+0.3
LZH			sPKP			20 20 02.6	

NEIC ***08*** *20:31:18.7±1.3,36°.26N±0°.03×120°.36W±0°.05,h19km±7km*
ANF ***08*** *20:31:18.6±0.4,36°.16N×120°.22W,h10km±1km,ML3.0/17,*
Error ellipse: s-maj=2.9km s-min=1.9km az=128.0
ISC 08 20:31:18.4±0.9,**36°.26N**±0°.02×**120°.32W**±0°.02,**h18**km±6km,
n196,σ0**.98**/206,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARM	Anticline Ridg	0.02	246		Pg	20 31 21.2	-0.3
PWMM	Westland Maint	0.20	27		Pg	20 31 23.9	+0.7
PKEM	Kettleman Hill	0.26	139		Pb	20 31 25.1	+0.6
PSMM	Smith Mountain	0.29	230		Pb	20 31 25.4	+0.2
CTM	Castle Mountai	0.33	183		Pb	20 31 26.0	+0.2
PPTM	Peach Tree Val	0.36	246		Pg	20 31 26.1	+0.3
PKD	Bear Valley Ra	0.36	210		Pb	20 31 26.3	0.0
PHPM	Hope Ranch	0.36	220		Pb	20 31 26.2	-0.1
PSTM	Stockdale Moun	0.36	205		Pb	20 31 26.5	+0.2
PVCM	Vineyard Canyo	0.38	208		Pb	20 31 26.7	+0.1
PHFM	Heflinger Ranc	0.38	190		Pb	20 31 27.2	+0.5
PMPB	Monarch Peak	0.39	264		Pg	20 31 26.7	+0.2
PSRM	Scobie Ranch	0.40	175		Pb	20 31 27.5	+0.6
GHC	Gold Hill	0.43	184		Pb	20 31 27.6	+0.1
PCMM	Cholame Hills	0.46	189		Pb	20 31 28.4	+0.4
PPO	Portuguese Can	0.46	212		Pb	20 31 28.3	+0.4
PWKM	Work Ranch	0.47	199		Pb	20 31 28.6	+0.4
PSNM	Stone Corral	0.47	178		Pb	20 31 28.1	0.0
PMRM	Maxey Ranch	0.48	172		Pb	20 31 28.5	+0.3
PKLM	Kerr Lake	0.48	182		Pb	20 31 28.6	+0.2
PBWM	Bitterwater Cr	0.50	277		Pg	20 31 28.4	+0.1
PSAM	San Ardo	0.52	243		Pg	20 31 28.6	-0.1
PAGB	Antelope Grade	0.53	174		Pb	20 31 29.1	0.0
PMCM	McMillan Canyo	0.53	185		Pb	20 31 29.5	+0.2
THIS	South End of C	0.54	172		Pb	20 31 29.5	+0.2
BMSM	Mercy Hot Spri	0.55	316		Pg	20 31 29.4	0.0
TCHL	Shandon	0.57	187		Pb	20 31 30.4	+0.5
TRAM	Private Proper	0.58	176		Pb	20 31 30.1	+0.1
LRC	Lone Oak Road	0.58	269		Pg	20 31 29.7	-0.2
LRV	Little Rabbit	0.59	287		Pg	20 31 30.3	+0.2
BBNM	San Benito	0.66	293		Pg	20 31 31.4	0.0
BBGB	Big Mountain B	0.66	299		Pg	20 31 31.6	+0.1
PANM	San Antonio Re	0.67	225		Pg	20 31 31.6	0.0
BAVM	Antelope Valle	0.69	304		Pg	20 31 31.4	-0.6
PCCM	Crazy Canyon	0.70	257		Pg	20 31 32.0	-0.2
BRMM	Rolling Bench	0.70	325		Pg	20 31 32.3	+0.1
PBPM	Bitterwater Pu	0.70	164		Pb	20 31 32.3	+0.2
TSCN	Private Proper	0.71	182		Pb	20 31 32.6	+0.3
BPIM	Pinnacles	0.72	289		Pg	20 31 31.9	-0.6
PHSB	Hesperia Broad	0.74	234		Pg	20 31 32.4	-0.3
BEMM	Emmet	0.74	303		Pg	20 31 32.4	-0.5
VOG	Valley Oaks Go	0.76	85	P	Pg	20 31 31.8	-1.4
	baz=267						
VOG				S	Sg	20 31 42.3	-1.0
	baz=267						
BSGM	Shirttail Gulc	0.77	282		Pg	20 31 32.7	-0.8
BVL	Bear Valley	0.77	295		Pg	20 31 32.8	-0.7
BEHM	Elkhorn Ranch	0.80	301		Pg	20 31 33.9	-0.1
BLDC	Black Mountain	0.86	214		Pb	20 31 35.1	+0.2
BLDC	Black Mountain	0.86	214		Pb	20 31 35.0	+0.2
BLRM	Lewis Ranch	0.87	298		Pb	20 31 35.5	+0.6
BJOM	Mount Johnson	0.88	295		Pb	20 31 34.9	-0.3
FRI	Friant	0.88	34		Pb	20 31 33.8	-1.4
PHCM	Hearst Castle	0.89	230		Pb	20 31 35.4	+0.1
BHRM	Hodges Ranch	0.89	302		Pb	20 31 35.3	0.0
BSMM	Soledad Missio	0.90	278		Pb	20 31 35.4	-0.2
BJCM	Johnson Can.	0.91	289		Pb	20 31 35.3	-0.4
PAPM	Alder Peak	0.91	248		Pb	20 31 35.6	-0.1
PTAM	Tassajara Cree	0.92	200		Pg	20 31 35.9	-0.4
MHDM	Hidden Dam	0.92	22		Pb	20 31 34.4	-1.5
SCZ	Santa Cruz	0.94	292		Pb	20 31 35.8	-0.3
BCGM	Cienega Road	0.94	299		Pb	20 31 36.5	+0.3
PCBM	Cambria	0.95	219		Pb	20 31 36.3	-0.1
ARDC	Alexander Ranc	0.96	214		Pb	20 31 36.3	-0.1
SMMC	Simmler	0.98	164		Pb	20 31 36.4	-0.4
BSLM	Silva Ranch	0.98	302		Pb	20 31 37.3	+0.5
EFD	Emergency Oper	0.99	200		Pb	20 31 36.8	-0.2
MRHM	Rocky Hill	1.00	88		Pb	20 31 35.5	-1.6
HAST	Hastings Reser	1.00	278		Pb	20 31 36.7	-0.6
BCWM	Chews Ridge	1.01	273		Pb	20 31 37.0	-0.4
HLTM	Lone Tree Road	1.01	308		Pb	20 31 37.4	0.0
CARC	Carrizo Plain	1.02	158		Pb	20 31 36.8	-0.8
SAO	San Andreas Ge	1.04	299		Pb	20 31 37.3	-0.5
SFJWR	San Luis Fatjo	1.05	319		Pb	20 31 36.6	-1.4
BSRM	Salinas Radio	1.05	293		Pb	20 31 37.5	-0.6
FRP	Fremont Peak	1.06	298		Pb	20 31 37.6	-0.7
BAPM	Anderson Peak	1.07	266		Pb	20 31 37.6	-0.9
PACP	Pacheco Peak	1.08	314		Pb	20 31 38.2	-0.4
VES	Vestal, Richgr	1.08	112	P	Pb	20 31 37.3	-1.3
	baz=294,SNR=11						
VES				S	Sb	20 31 50.8	-1.6
	baz=294						
VES	Vestal, Richgr	1.08	112		Pb	20 31 37.3	-1.3
BCH	Branch Mountai	1.09	170		Pb	20 31 38.4	-0.4
DPD	Davis Peak	1.09	200		Pg	20 31 39.0	-0.4
SLD	San Luis Dam	1.09	319		Pb	20 31 37.8	-0.9
BPCNC	Pine Canyon	1.10	287		Pb	20 31 38.1	-0.7
VPDC	Valencia Peak	1.11	204		Pb	20 31 38.9	-0.2
HPCM	Pacheco Lake	1.11	316		Pn	20 31 38.1	-1.0
DCD	Diablo Creek	1.13	202		Pb	20 31 38.8	-0.6
HELL	Mitchell Peak,	1.13	68		Pb	20 31 37.8	-1.6
MYLM	Yosemite Lake	1.13	356		Pn	20 31 37.9	-1.4
HFEM	San Felipe	1.13	310		Pn	20 31 38.8	-0.6
HJGM	San Juan Grade	1.15	298		Pn	20 31 39.0	-0.5
BPOM	Post Ranch	1.17	269		Pn	20 31 38.9	-1.0
HTUM	Tustin Road	1.21	298		Pn	20 31 39.9	-0.5
CDC	Canada Road	1.21	310		Pn	20 31 39.9	-0.6
CSR	Chase Ranch	1.23	305		Pn	20 31 39.9	-0.9
HERM	Elkhorn Road	1.24	296		Pn	20 31 40.6	-0.2
MMIM	Miami Mountain	1.25	22		Pn	20 31 40.2	-0.9
SPG2	Springville 2	1.26	92		Pn	20 31 39.7	-1.4
HSPM	Sheep	1.29	312		Pn	20 31 40.9	-0.7
TMB	Temblor Range	1.33	151		Pn	20 31 42.0	-0.2
HMOM	Monterey	1.33	285		Pn	20 31 41.5	-0.7
PMLM	Mount Lospe	1.38	190		Pn	20 31 42.7	-0.1
PKM	Mcpherson Peak	1.43	163	P	Pn	20 31 43.2	-0.3
	baz=343						
PKM	Mcpherson Peak	1.43	163		Pn	20 31 43.5	-0.1
JLAB	Laurel Hill	1.45	309		Pn	20 31 42.7	-1.1
ARN	Arnold Ranch	1.46	319		Pn	20 31 43.7	-0.3
JTGM	Trout Gulch Ro	1.47	302		Pn	20 31 43.2	-0.8
WOFM	Oak Flat	1.49	118		Pn	20 31 43.6	-0.8
BOW	Bitter Crk WRg	1.51	150		Pn	20 31 44.1	-0.6
MHC	Mount Hamilton	1.52	316		Pn	20 31 44.0	-0.8
CMMM	Mount Mocho	1.52	322		Pn	20 31 44.4	-0.5
FIGC	Figueroa Mtn.	1.55	170		Pn	20 31 45.4	+0.2
JUMM	Mount Umunhum	1.56	306		Pn	20 31 44.1	-1.2
ISA	Isabella, Lake	1.61	111	P	Pn	20 31 45.8	-0.2
	baz=293,SNR=24						
ISA				S	Sn	20 32 06.3	-0.1
	baz=293						
ISA	Isabella, Lake	1.61	111		Pn	20 31 45.8	-0.2
ARVC	Arvin	1.66	132	P	Pn	20 31 46.0	-0.5
	baz=314						
ARVC				S	Sn	20 32 06.7	-0.7
	baz=314						
ARVC	Arvin	1.66	132		Pn	20 31 46.2	-0.4
TEJ	El Tejon	1.68	127		Pn	20 31 46.3	-0.6
MRDM	Red Cones	1.68	37		Pn	20 31 47.4	+0.3
MDPB	Devils Postpil	1.69	36		Pn	20 31 47.7	+0.4
MMPM	Mammoth Pass	1.70	37		Pn	20 31 48.1	+0.6
GATR	Gnd/Air Tx Cnt	1.71	185		Pn	20 31 47.4	+0.1
MMSM	Mammoth Summit	1.71	37		Pn	20 31 48.3	+0.5
OMMB	Old Mammoth Mi	1.72	38		Pn	20 31 48.0	+0.3
MINS	Minaret Summit	1.72	35		Pn	20 31 48.2	+0.5
MLIM	Lincoln Peak	1.73	37		Pn	20 31 48.9	+1.0
MCUB	Copperopolis B	1.73	352		Pn	20 31 47.1	-0.5
MDYM	Dry Creek	1.75	36		Pn	20 31 49.0	+0.9
MLCM	Laurel Creek C	1.76	39		Pn	20 31 48.9	+0.7
MMLB	Mammoth Lakes	1.76	37		Pn	20 31 49.4	+1.0
MDCM	Deadman Creek	1.77	35		Pn	20 31 49.1	+0.6
CMB	Columbia Colle	1.77	358		Pn	20 31 48.1	-0.2
WORM	Onyx Ranch	1.77	108		Pn	20 31 48.8	+0.5
MGPM	Gravel Pit	1.78	39		Pn	20 31 49.6	+1.1
MCMM	Convict Lake	1.78	40		Pn	20 31 49.2	+0.7
MTUM	Tungsten Hills	1.78	52		Pn	20 31 49.5	+1.0
MCVM	Convict Lake	1.79	41		Pn	20 31 49.4	+0.7
MEMM	East Mammoth H	1.79	38		Pn	20 31 49.8	+1.1
WMD		1.79	48		Pn	20 31 49.9	+1.5
MCBM	Casa Benchmark	1.79	39		Pn	20 31 49.9	+1.2
MCSM	Casa Diablo Ho	1.80	39		Pn	20 31 49.9	+1.1
BHPR	Bishop	1.80	54		Pn	20 31 50.0	+1.2
MLAC	Mammoth, Mammo	1.81	40	P	Pn	20 31 50.0	+1.1
	baz=222,SNR=10						
MLAC				S	Sb	20 32 14.3	+0.6
	baz=222						
MLAC	Mammoth, Mammo	1.81	40		Pn	20 31 50.0	+1.1
CWC	Cottonwood Cre	1.82	84	P	Pn	20 31 49.5	+0.6
	baz=265						
CWC				S	Sn	20 32 12.7	+1.0
	baz=265						
CWC	Cottonwood Cre	1.82	84		Pn	20 31 49.6	+0.7
MDRNC	Doe Ridge	1.82	40		Pn	20 31 50.2	+1.1
LMCR	Lookout Mounta	1.83	36		Pn	20 31 50.4	+1.1
WCHM	Chimney Peak	1.86	101		Pn	20 31 50.2	+0.6
TIN	Tinemaha, Big	1.86	64	P	Pn	20 31 50.7	+1.3
	baz=246,SNR=42						
TIN				S	Sn	20 32 14.5	+1.9
	baz=246						
TIN	Tinemaha, Big	1.86	64		Pn	20 31 50.7	+1.3
MLHM	Little Hot Cre	1.86	40		Pn	20 31 51.1	+1.5
MFBM	Five Bridges	1.92	52		Pn	20 31 52.0	+1.8
MNHB	New Hogan Dam	1.93	348		Pn	20 31 49.8	-0.5
POCCA	Poleta Canyon	1.97	55		Pn	20 31 52.5	+1.4
MCDM	Chidago Canyon	1.98	49		Pn	20 31 52.9	+1.7
LUL	Lundy Lake	2.01	27		Pn	20 31 52.9	+1.3
BENR	Benton	2.02	43		Pn	20 31 53.4	+1.6
MGNR	McGee Canyon	2.02	39		Pn	20 31 54.1	+2.2
MRCM	Red Rock Canyo	2.03	45		Pn	20 31 53.6	+1.8
VPEM	Volcano Peak E	2.05	98		Pn	20 31 53.8	+1.7
MLNR	Milner Canyon	2.07	49		Pn	20 31 54.3	+1.9
TOW	Tower One	2.12	101		Pb	20 31 55.1	-1.2
PYR	Pyramid	2.12	142		Pn	20 31 53.3	+0.2
DAC	Darwin (Calif)	2.20	89		Pb	20 31 57.0	-0.8
BKS	Berkeley--Byer	2.23	317		Pn	20 31 53.9	-0.5
VAK	Adit at Lawren	2.23	317		Pn	20 31 56.3	+1.7
AASM	Arroyo Seco	2.26	344		Pn	20 31 54.5	-0.3
LRMC	Laurel Mtn Rad	2.28	109	Sb	Sb	20 32 26.1	-0.9
	baz=291						
MPMC	Manual Prospec	2.30	94	Pb	Pb	20 31 58.3	-1.2
	baz=276,SNR=34						
MPMC				Sb	Sb	20 32 28.0	+0.4
	baz=276						
EDW2	Edwards Air Fo	2.34	125	P	Pn	20 31 55.7	-0.4
	baz=307						
WAKR	Walker	2.35	17		Pn	20 31 58.2	+1.9
GRAC	Grapevine Rang	2.49	72	Sb	Sb	20 32 35.0	+2.1
	baz=254						
NVAR	Mina Array Bea	2.70	36	Pn	Pn	20 32 01.9	+0.8
AFDM	Forest Hills D	2.74	349		Pn	20 32 02.2	+0.8
MWC	Mount Wilson	2.75	137	Pn	Pn	20 32 02.4	+0.6
RYN	Ryan	2.77	31	Pn	Pn	20 32 03.0	+1.1
NV11	Mina Array Sit	2.77	38	Pn	Pn	20 32 03.5	+1.5
RUBR	Rubicon Trail	2.79	3	Pn	Pn	20 32 01.3	-1.1
FURC	Furnace Creek,	2.80	85	Sb	Sb	20 32 43.2	+1.5
	baz=267						
YERR	Yerington	2.85	17		Pn	20 32 02.0	-1.2
PNTR	Pine Nut	2.88	11		Pn	20 32 03.4	-0.3
GSC	Goldstone, Bar	3.01	107	S	Sn	20 32 41.3	+0.3
	baz=290						
GSC	Goldstone, Bar	3.01	107		Pn	20 32 03.7	-1.6
VCNR	Virginia City	3.08	10		Pn	20 32 06.5	+0.1
KVN	Kaiserville	3.30	32		Pn	20 32 12.7	+3.4
TPNV	Topopah Spring	3.35	77	P	Pn	20 32 11.2	+1.2
	baz=260,SNR=12						
TPNV				Sb	Sb	20 33 01.1	+3.3
	baz=260						
TPNV	Topopah Spring	3.35	77	Pn	Pn	20 32 10.4	+0.4
ORV	Oroville	3.42	345		Pn	20 32 09.8	-1.0
PAHR	Pah Rah Range	3.52	12		Pn	20 32 13.2	+0.8
BEKR	Beckworth	3.60	360	Pn	Pn	20 32 13.5	0.0
TUQ	Turquoise Moun	3.66	102	Sb	Sb	20 33 08.8	+1.9
	baz=284						
GMRC	Granite Mounta	4.07	110	P	Pn	20 32 19.8	-0.2
	baz=293						
GMRC				S	Sn	20 33 06.5	-0.8
	baz=293						
PFO	Pinyon Flats O	4.12	129	Pn	Pn	20 32 20.7	+0.1
TPFO	Pinon Flats	4.13	129	S	Sn	20 33 07.9	-0.8
	baz=311						
SHPR	Sheep Range	4.17	85		Pn	20 32 22.5	+1.2
R11A	Troy Canyon, C	4.31	60	Sb	Sb	20 33 30.5	+4.9
	baz=243						
R11A	Troy Canyon, C	4.31	60		Pn	20 32 22.3	-1.0
IRM	Iron Mountain	4.73	115	S	Sn	20 33 22.0	-1.2
	baz=298						

IDC ***08*** *20:42:40.8±0.8,35°.40N×88°.16E,h0km,mb3.6/11,*
mb1 3.7/16,mb1mx3.6/37,mbtmp3.6/16,ML3.3/4,MS3.6/19,
Ms1 3.6/19,ms1mx3.4/45,Error ellipse: s-maj=28.3km
s-min=14.8km az=52.0
BJI ***08*** *20:42:43.3±0.0,35°.28N×87°.74E,h5km,mb4.1/6,mB4.4/6,*
Ms3.9/6,Ms7 3.6/5
ISC 08 20:42:44.0±0.6,**35°.51N**±0°.06×**87°.8E**±0°.1,**h10**km,**n37,**
σ2**.32**/21,**mb3.6**/11,**MS3.6**/14,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	6.43	153	Pg	Pb	20 44 38.5	+2.2
GUN	Gumba	7.75	193	*e*P	Pn	20 44 45.6	+8.3
	21nm,1.1s						
JIRN	Jiri	7.95	191	*e*P	Pn	20 44 48.2	+8.2
TAPN	Taplejung	8.13	181	*e*P	Pn	20 44 45.1	+2.6
	20nm,0.8s						
PKI	Pulchoki	8.18	195	*e*P	Pn	20 44 48.8	+5.7
WMQ	Urumqi	8.30	359	*e*P	Pn	20 44 55.6	+11
WMQ				S	Sn	20 46 23.0	+4.6
WMQ				LR	LR		
	comp=N,260nm,9.5s						
WMQ				LR	LR		
	comp=E,450nm,8.1s						
RAMN	Ramite	8.60	187	*e*P	Pn	20 44 50.8	+2.0
	8.6nm,0.8s						
ODAN	Odare	8.63	183	*e*P	Pn	20 44 50.5	+1.3
	20nm,0.7s						
GTA	Gaotai	10.29	64	*e*P	Pn	20 45 14.7	+2.9
GTA				pP		20 45 19.0	
GTA				sP		20 45 21.6	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,67nm,5.9s						
GTA				LR	LR		
	comp=N,700nm,16.2s						
GTA				LR	LR		
	comp=E,320nm,14.6s						
GTA				LR	LR		
	comp=Z,460nm,15.2s						

MKAR	Makanchi Array	12.02 341	Pn		Pn	20 45 34.5	-0.9
	0.5nm,0.3s,baz=152,slow=14,SNR=25						
MKAR			LR		LR	20 51 14.7	
	comp=Z,178nm,19.6s,baz=156,slow=42						
AAK	Ala-Archa	12.57 309	LR		LR	20 51 34.6	
	comp=Z,176nm,20.0s,baz=112,slow=42						
KURBB	Kurchatov Arra	16.54 339	Pn		Pn	20 46 34.2	-1.8
	0.1nm,0.3s,baz=148,slow=12,SNR=7.1						
SONM	Songino Array	18.49 43	P		P	20 46 57.5	-2.7
	baz=229,slow=11,SNR=1.7						
ZALV	Zalesovo Beam	18.56 354	P		P	20 46 58.9	-1.9
	0.2nm,0.3s,baz=170,slow=11,SNR=11						
ZALV			LR		LR	20 55 14.6	
	comp=Z,218nm,19.4s,baz=159,slow=40						
CMAR	Chiang Mai Arr	19.63 147	P		P	20 47 08.2	-4.6
	0.1nm,0.3s,baz=340,slow=12,SNR=2.8						
CMAR			LR		LR	20 55 29.0	
	comp=Z,109nm,18.2s,baz=350,slow=40						
TLY	Talaya	19.74 30	LR		LR	20 55 14.0	
	comp=Z,102nm,19.2s,baz=221,slow=38						
BVAR	Borovoye Array	21.41 330	P		P	20 47 33.2	+1.3
	1.8nm,0.6s,baz=146,slow=12,SNR=13						
GEYT	Alibeck	23.90 285	LR		LR	20 59 15.8	
	comp=Z,115nm,20.8s,baz=55,slow=41						
AKTO	Aktyubinsk	26.21 314	P		P	20 48 20.4	+1.5
	2.1nm,0.6s,baz=101,slow=16,SNR=8.8						
AKTO			LR		LR	20 59 58.4	
	comp=Z,175nm,19.0s,baz=119,slow=39						
WSAR	Wadi Sarin	28.13 252	LR		LR	21 01 57.7	
	comp=Z,45nm,21.2s,baz=96,slow=41						
ARU	Arti	28.82 326	LR		LR	21 01 53.0	
	comp=Z,116nm,19.4s,baz=114,slow=40						
KSRS	Korea Array	32.12 75	LR		LR	21 04 32.0	
	comp=Z,53nm,19.4s,baz=176,slow=41						
NRIK	Noril'sk	33.89 360	LR		LR	21 04 22.7	
	comp=Z,177nm,20.6s,baz=196,slow=38						
MJAR	Matsshiro Arr	40.37 73	LR		LR	21 07 59.8	
	comp=Z,58nm,18.4s,baz=225,slow=38						
ASAJ	Asahikawa	42.25 61	LR		LR	21 08 55.4	
	comp=Z,76nm,18.2s,baz=319,slow=37						
BRTR	Keskin Array B	42.59 292	P		P	20 50 40.2	-0.2
	0.3nm,0.6s,baz=52,slow=9.3,SNR=2.3						
AKASG	Malin Array Be	44.24 309	LR		LR	21 11 17.8	
	comp=Z,88nm,20.0s,baz=60,slow=39						
DAV	Davao City (W)	44.68 120	LR		LR	21 12 06.8	
	comp=Z,59nm,18.5s,baz=322,slow=40						
FINES	FINESS Array B	46.16 324	P		P	20 51 07.9	-0.5
	3.0nm,0.9s,baz=106,slow=10,SNR=5.8						
FINES			LR		LR	21 11 44.9	
	comp=Z,105nm,18.1s,baz=136,slow=38						
ARCES	ARCESS Array B	47.58 335	P		P	20 51 19.5	0.0
	0.5nm,0.4s,baz=98,slow=7.5,SNR=8.0						
ARCES			LR		LR	21 13 18.2	
	comp=Z,82nm,18.7s,baz=92,slow=38						
NOA	NORSAR Array B	53.34 324	P		P	20 52 03.0	-0.3
	0.9nm,0.8s,baz=81,slow=7.4,SNR=3.3						
NOA			LR		LR	21 15 46.1	
	comp=Z,64nm,18.6s,baz=75,slow=37						
GERES	GERESS Array B	54.45 309	P		P	20 52 12.6	+1.0
	0.4nm,0.6s,baz=79,slow=6.9,SNR=5.6						
GUMO	Guam	55.48 98	LR		LR	21 16 06.0	
	comp=Z,53nm,21.7s,baz=108,slow=36						
WRA	Warramunga Arr	70.59 134	P		P	20 53 55.7	-3.9
	0.3nm,0.5s,baz=328,slow=6.5,SNR=3.4						
ILAR	Eielson Array	71.31 22	P		P	20 54 01.7	-1.7
	0.2nm,0.6s,baz=320,slow=4.1,SNR=3.4						
ASAR	Alice Springs	73.25 136	P		P	20 54 13.2	-2.3
	0.1nm,0.3s,baz=322,slow=5.9,SNR=3.2						
TORD	Torodi Ar. Bea	79.39 279	P		P	20 54 50.5	-0.2
	0.3nm,0.6s,baz=64,slow=4.4,SNR=2.8						

NEIC ***08*** *20:51:57.8±1.3,52°.2N±0°.1×168°.28W±0°.09,h20km±16km*
AEIC 08 20:51:57±1.8,**52°.24N**±0°.04×**168°.3W**±0°.1,**h5**km±7km,
mb3.8/12(NEIC),**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.81	335		Pb	20 52 13.5	0.0
NIKH	Nikolski High	0.81	335		Sn	20 52 27.1	-0.5
OKSP	Okmok Steeple	1.02	0		Pb	20 52 17.0	-0.1
OKSP					Sn	20 52 32.5	-0.1
OKTU	Okmok Mt. Tuli	1.16	8		Pb	20 52 19.7

KLNJ	Kolanjah	2.56	16	*e*Pn	Pn	21 14 56.5	+0.7
IRAM	Ramesheh	3.54	23	*e*Pn	Pn	21 15 09.7	+0.5
ZNGN	Zangian	3.57	1	*e*Pn	Pn	21 15 10.2	+0.6
ROKH	ROKH	3.80	3	*e*Pn	Pn	21 15 13.1	+0.3
IPIR	Pirpir	4.13	1	*e*Pn	Pn	21 15 18.1	+0.7
ISAD	Sadrabad	4.20	36	*e*Pn	Pn	21 15 19.5	+1.3
IMEH	Mehriz	4.37	48	*e*Pn	Pn	21 15 22.1	+1.5
IZEF	Zefreh	4.54	17	*e*Pn	Pn	21 15 23.5	+0.5
IKLH	Kolahrood	4.81	8	*e*Pn	Pn	21 15 27.2	+0.5
YZKH	Yazd	5.05	40	*e*Pn	Pn	21 15 30.4	+0.6
YZKH	Yazd	5.05	40	*e*Pn	Pn	21 15 30.4	+0.6
YZKH				*e*AML	AML	21 16 29.2	
	comp=Z,10.0nm,0.3s						
YZKH				*e*AML	AML	21 16 29.3	
	comp=Z,13nm,0.3s						
BANOM	Banah	5.55	117	P	Pn	21 15 36.4	-0.2
BANOM				S	Sn	21 16 36.8	-2.5
IKFM	Kafar-mosalman	5.58	334	*e*Pn	Pn	21 15 37.1	+0.2
NAZ	Nazwa, Dubai	5.61	128	P	Pn	21 15 38.2	+0.8
NAZ				S	Sn	21 16 40.3	-0.3
ASUD	Al Ashush, Dub	5.63	133	P	Pn	21 15 39.0	+1.3
	SNR=12						
ASUD				S	Sn	21 16 41.4	+0.3
UOSS	Minazif	6.02	125	P	Pn	21 15 43.9	+0.9
UOSS				S	Sn	21 16 48.6	-2.2
ASAO	Ashtian	6.03	354	*e*Pn	Pn	21 15 43.8	+0.4
ASAO	Ashtian	6.03	354	*e*Pn	Pn	21 15 43.8	+0.4
IKOM	Komasi	6.28	334	*e*Pn	Pn	21 15 47.1	+0.3
IQOM	Qom	6.29	2	*e*Pn	Pn	21 15 46.5	-0.5
ILIN	Lien	7.15	334	*e*Pn	Pn	21 15 58.5	-0.3
ARQ	Araqi	7.31	134	P	Pn	21 16 00.5	-0.3
	SNR=7.3						
ARQ				S	Sn	21 17 20.5	-2.0
TNSJ	Nastanj	7.35	41	*e*Pn	Pn	21 16 02.7	+1.3
BSY	Bisya	8.17	133	P	Pn	21 16 12.3	-0.3
	SNR=10						

*ISCJB **08** 21:15:27.6±2.5, 18°.0S±0°.1×12°.6W±0°.9, h10km, mb4.2/8, MS4.1/19, Error ellipse: s-maj=124.2km s-min=20.7km az=1.6*
*IDC **08** 21:15:28.5±3.0, 17°.94S×12°.40W, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.8/23, mbtmp4.1/6, MS4.1/19, Ms1 4.1/19, ms1mx4.1/20, Error ellipse: s-maj=153.3km s-min=25.8km az=91.0*
*GCMT **08** 21:15:34.0±0.3, 17°.72S±0°.02×13°.06W±0°.01, h22km±1km, MW5.0/89, Moment Tensor Solution. s32,c37; s89,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.01±.18; Mθθ1.86±.16; Mφφ~0.85±.14; Mrθ1.39±.23; Mφφ~3.26±.11; Mφr1.06±.23; Best double couple: Mo=4.03400×10^16 NP1:φs=263.00000°, δ75.00000°, λ-153.00000°. NP2: φs=165.00000°, δ64.00000°, λ-17.00000°. Principal axes: T 4.1030, Plg7.0000°, Azm32.0000°; N -0.1400, Plg60.0000°, Azm290.0000°; P -3.9640, Plg30.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 08 21:15:30.0±2.9, 18°.0S±0°.2×1°.2W±°, h10km, n26, σ0s74/9, mb4.2/8, MS4.2/19, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	ASCENSION HYDR	10.23	349	T	T	21 28 01.3	
	baz=174,slow=78,SNR=4.4						
H10N3	ASCENSION HYDR	10.24	349	T	T	21 28 02.2	
	baz=174,slow=78,SNR=11						
H10N2	ASCENSION HYDR	10.25	349	T	T	21 28 02.9	
	baz=174,slow=78,SNR=4.0						
LIC	Lamto	25.12	18	*e*P	P	21 20 54.8	-0.5
	54nm,1.4s						
KIC	Kosan Boka	25.34	18	*e*P	P	21 20 58.1	+0.9
	15nm,0.8s						
TIC	Toumodi	25.52	17	*e*P	P	21 20 58.9	0.0
DBIC	Dimbokro	25.59	18	P	P	21 20 59.0	-0.6
	4.5nm,0.9s,baz=180,slow=8.1,SNR=2.5						
DBIC				LR	LR	21 28 32.6	
	comp=Z,719nm,20.1s,baz=174,slow=31						
TORD	Torodi Ar. Bea	33.92	25	P	P	21 22 14.2	+0.7
	12nm,0.8s,baz=202,slow=8.3,SNR=56						
TORD				LR	LR	21 33 25.9	
	comp=Z,794nm,20.5s,baz=285,slow=32						
BDFB	Brasilia	34.06	268	LR	LR	21 33 02.5	
	comp=Z,267nm,20.7s,baz=119,slow=31						
BOSA	Boshof	36.12	114	LR	LR	21 35 02.3	
	comp=Z,351nm,20.3s,baz=288,slow=33						
CPUP	Villa Florida	42.20	250	LR	LR	21 37 39.4	
	comp=Z,131nm,20.9s,baz=94,slow=32						
LPAZ	La Paz	53.04	263	LR	LR	21 46 15.5	
	comp=Z,110nm,18.6s,baz=100,slow=35						
PLCA	Paso Flores	54.43	232	LR	LR	21 46 18.8	
	comp=Z,271nm,18.1s,baz=112,slow=34						
KEST	Kesra	57.26	21	LR	LR	21 47 58.6	
	comp=Z,314nm,21.7s,baz=158,slow=34						
ESDC	Sonseca Array	57.87	8	P	P	21 25 21.9	-0.2
	0.6nm,0.7s,baz=195,slow=8.8,SNR=4.2						
ESDC				LR	LR	21 48 49.6	
	comp=Z,146nm,20.3s,baz=225,slow=35						
ROSC	El Rosal	65.04	284	LR	LR	21 53 56.8	
	comp=Z,484nm,18.3s,baz=163,slow=35						
MAW	Mawson	67.97	156	P	P	21 26 29.0	+0.1
	1.3nm,0.8s						
MAW				LR	LR	21 51 39.3	
	comp=Z,126nm,18.2s,slow=32						
GERES	GERESS Array B	70.47	18	LR	LR	21 58 40.6	
	comp=Z,145nm,18.1s,baz=252,slow=37						
BRTR	Keskin Array B	71.71	36	P	P	21 26 51.4	-1.1
	1.1nm,0.9s,baz=213,slow=6.7,SNR=2.6						
AKASG	Malin Array Be	77.55	26	P	P	21 27 26.4	+0.5
	2.0nm,0.7s,baz=224,slow=5.6,SNR=4.2						
AKASG				LR	LR	22 04 35.8	
	comp=Z,50nm,18.2s,baz=210,slow=38						
NOA	NORSAR Array B	80.99	11	LR	LR	22 04 19.8	
	comp=Z,129nm,18.4s,baz=210,slow=36						
FINES	FINESS Array B	84.89	18	LR	LR	22 05 46.5	
	comp=Z,154nm,19.9s,baz=200,slow=36						
SCHQ	Schefferville	85.92	332	LR	LR	22 03 20.2	
	comp=Z,40nm,18.3s,baz=306,slow=33						
GEYT	Alibeck	86.41	48	LR	LR	22 05 06.3	
	comp=Z,123nm,20.3s,baz=200,slow=34						
ULM	Lac du Bonnet	99.47	320	LR	LR	22 06 47.1	
	comp=Z,66nm,20.4s,baz=116,slow=31						
TXAR	Lajitas Array	99.58	298	LR	LR	22 14 11.1	
	comp=Z,11nm,21.9s,baz=0.0,slow=35						

*SJA **08** 21:28:33.6±0.6, 32°.83S×71°.88W, h5km±15km, ML2.4, MW2.8*
*GUC **08** 21:28:40.7±0.6, 32°.68S×71°.49W, h42km±5km, ML2.9*
*ISCJB **08** 21:28:41.7±0.8, 32°.72S±0°.04×71°.53W±0°.06, h30km, Error ellipse: s-maj=7.8km s-min=4.9km az=165.9*

ISC 08 21:28:40.3±1.2, 32.71S±0.03×71.57W±0.06, h30km, n15, σ1s98/23, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.32	192	*i* P	Pn	21 28 49.5	+0.6
VA01				*i* S	Sn	21 28 55.8	+1.1
VA01				IAML		21 28 56.7	
	comp=E,1μm,0.2s						
ROC1	El Roble	0.53	120	*i* P	Pn	21 28 51.7	-0.5
ROC1				*e*S	Sn	21 29 00.1	-0.2
ROCH	El Roble	0.54	119	*i* P	Pn	21 28 51.7	-0.5
ROCH				*i* S	Sn	21 28 59.7	-0.6
ROCH				IAML		21 29 00.7	
	comp=N,829nm,0.3s						
PEL	Peldehue	0.86	121	⇑*i* P	Pb	21 28 56.3	-0.5
PEL				*i* S	Sb	21 29 07.9	0.0
PEL				IAML		21 29 08.7	
	comp=E,878nm,0.2s						
CLCH	Cerro Calan	1.10	129	*i* P	Pb	21 29 00.1	-0.7
CLCH				*i* S	Sb	21 29 14.4	-0.5
FCH	Farellones	1.23	120	⇓*i* P	Pb	21 29 01.9	-1.4
FCH				*i* S	Sb	21 29 18.4	-0.6
FCH				IAML		21 29 21.1	
	comp=N,158nm,0.2s						
CO02	Combarbal	1.58	18	*i* P	Pb	21 29 07.2	-1.8
CO02				*i* S	Sn	21 29 26.6	+0.7
CO02				IAML		21 29 28.2	
	comp=E,691nm,0.2s						
RTLS	Leoncito	2.13	65	*i* P	Pb	21 29 17.3	-1.0
RTLS				IAML		21 29 47.0	
	comp=Z,11nm,0.5s						
GO04	Tololo Observa	2.61	15	*i* P	Pn	21 29 22.0	+1.2
GO04				*e*S	Sb	21 29 58.1	-0.3
RTLL	Cerro Villicun	2.96	63	*i* P	Pb	21 29 28.3	-4.2
RTLL				IAML		21 30 12.1	
	comp=Z,12nm,0.5s						
ACCO	Cerro Coronel	3.00	46	*i* P	Pb	21 29 29.6	-3.8
ACCO				*e*S	Sb	21 30 11.2	+1.4
AMOG	MOGNA	3.16	57	*i* P	Pn	21 29 31.0	+3.0
ACAN	Cantantal	3.72	84	*i* P	Pn	21 29 39.4	+3.6
MRA	San Martin	4.95	88	*i* P	Pn	21 29 56.5	+3.8
MRA				IAML		21 31 16.8	
	comp=Z,3.4nm,0.4s						
TCA	Tanti	6.08	79	*i* P	Pn	21 30 11.4	+3.2

IDC 08 21:40:02.4±8.4, 22°.87N×144°.03E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, Error ellipse: s-maj=309.4km s-min=30.6km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy	21.53	94	T	T	22 07 10.8	
	baz=287						
H11N2	WAKE ISLAND Hy	21.53	94	T	T	22 07 11.9	
	baz=287						
H11N3	WAKE ISLAND Hy	21.54	94	T	T	22 07 11.1	
	baz=287						
H11S3	WAKE ISLAND Hy	21.63	97	T	T	22 07 21.3	
	baz=290						
H11S1	WAKE ISLAND Hy	21.64	97	T	T	22 07 21.9	
	baz=290						
H11S2	WAKE ISLAND Hy	21.65	97	T	T	22 07 21.9	
	baz=290						
WRA	Warramunga Arr	43.59	193	P	P	21 48 07.7	-0.8
	0.7nm,0.5s,baz=15,slow=8.9,SNR=14						
ASAR	Alice Springs	47.29	193	P	P	21 48 38.7	+0.8
	0.2nm,0.4s,baz=8.8,slow=7.5,SNR=4.5						
MKAR	Makanchi Array	54.49	312	P	P	21 49 31.8	-0.1
	0.2nm,0.6s,baz=90,slow=8.9,SNR=2.8						

*SOME **08** 21:43:29.0, 39°.72N×73°.35E, h5km*
*KRNET **08** 21:43:30.0±0.1, 39°.51N×73°.65E, mb3.0*
*NNC **08** 21:43:33.4±2.6, 39°.74N×73°.78E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.8km s-min=10.2km az=173.0*

ISC 08 21:43:27.7±1.9, 39°.59N±0°.08×73°.64E±0°.03, h11km±16km, n34, σ1s71/56, 20C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.80	344	⇑*i* P	Pg	21 44 04.7	+2.4
	baz=45						
ARSB				⇑*i* S	Sg	21 44 31.0	+5.3
	baz=45						
BTK	Batken	2.22	283	⇑*i* P	Pg	21 44 10.7	+0.4
	baz=85						
BTK				⇑*i* S	Sg	21 44 40.0	+0.9
	baz=85						
ARLS	Aral	2.33	13	⇓*e* P	Pg	21 44 12.7	+0.4
	baz=12						
ARLS				⇓*i* S	Sg	21 44 43.7	+1.2
	baz=12						
AML	Almayashu	2.54	1	⇓*i* P	Pg	21 44 16.1	-0.3
	baz=1.0						
AML				⇓*i* S	Sg	21 44 49.4	+0.1
	baz=1.0						
ARK	Arkit	2.54	331	⇑*i* P	Pg	21 44 15.6	-0.9
	baz=31						
ARK				⇑*i* S	Sg	21 44 48.4	-1.1
	baz=31						
NRN	Naryn	2.58	44	⇑*i* P	Pb	21 44 15.6	+1.5
	baz=42						
NRN				⇑*i* S	Sb	21 44 48.9	+3.0
	baz=42						
UCH	Uchtor	2.72	14	⇑*i* P	Pb	21 44 18.3	+1.7
	baz=13						
UCH				⇑*i* S	Sg	21 44 53.8	-1.2
	baz=13						
KZA	Kyzart	2.77	26	⇑*e* P	Pb	21 44 19.1	+1.6
	baz=25						
KZA				⇑*i* S	Sg	21 44 54.5	-2.2
	baz=25						
EKS2	Erkin-Say	3.07	2	⇑*i* P	Pb	21 44 23.0	+0.6
	baz=2.0						
EKS2				⇑*i* S	Sb	21 45 01.2	+1.3
	baz=2.0						
AAK	Ala-Archa	3.11	12	⇑Pg	Pb	21 44 25.5	+2.4
	3.3nm,0.4s						
AAK				⇑Lg	Lg	21 45 05.5	
	21nm,1.1s						
MRKS	Merke	3.17	355	Pg	Pb	21 44 25.0	+0.9
MRKS				Lg	Lg	21 45 05.4	
MRKS	Merke	3.17	355	*e* P	Pb	21 44 25.0	+0.9
MRKS				*e*S	Sg	21 45 05.4	-4.0
ULHL	Ulahol	3.31	36	⇑*i* P	Pb	21 44 25.8	-0.7
	baz=35						
ULHL				⇑*i* S	Sb	21 45 07.1	+0.3
	baz=35						
BOOM	Boomskoye usch	3.38	30	⇓*i* P	Pb	21 44 26.9	-0.8
	baz=29						
BOOM				⇓*i* S	Sb	21 45 09.2	+0.3
	baz=29						
TKM2	Tokmak 2	3.64	23	⇑Pg	Pg	21 44 36.2	-1.3
	11nm,1.3s						
TKM2				⇑Lg	Lg	21 45 24.6	
	3.6nm,0.5s						
IUG	Iuzhnay	3.74	314	Pg	Pb	21 44 33.6	-0.3
	0.7nm,0.2s						
IUG				Lg	Lg	21 45 19.9	
	14nm,0.4s						
IUG	Iuzhnay	3.74	314	*e* P	Pb	21 44 33.6	-0.3
	0.7nm,0.2s						
IUG				*e*S	Sb	21 45 19.9	+0.7
	14nm,0.4s						
KST	Kastek	3.87	26	Pg	Pg	21 44 41.0	-0.8
	11nm,1.0s						
KST				Lg	Lg	21 45 32.9	
	12nm,0.8s						
KST	Kastek	3.87	26	*e* P	Pg	21 44 41.0	-0.8
	11nm,1.0s						
KST				*e*S	Sg	21 45 32.9	+1.0
	12nm,0.8s						
DGS	Degeres	3.98	23	Pg	Pg	21 44 43.1	-1.0
	5.3nm,0.7s						
DGS				Lg	Lg	21 45 36.6	
	13nm,0.9s						
DGS	Degeres	3.98	23	*e* P	Pg	21 44 43.1	-1.0
	5.3nm,0.7s						
DGS				*e*S	Sg	21 45 36.6	+0.9
	13nm,0.9s						
IZV	Izvestkoviy	4.11	32	Pg	Pg	21 44 44.8	-1.6
	3.7nm,0.2s						
IZV				Lg	Lg	21 45 39.4	
	14nm,0.4s						
IZV	Izvestkoviy	4.11	32	*e* P	Pg	21 44 44.8	-1.6
	3.7nm,0.2s						
IZV				*e*S	Sg	21 45 39.4	-0.2
	14nm,0.4s						
KK31	Karatay Array	4.22	327	Pn	Pb	21 44 39.1	-2.9
	0.3nm,0.2s,baz=130,slow=12,SNR=8.3						
KK31				⇓Sn	Sb	21 45 30.3	-2.7
	1.0nm,0.3s,baz=337,slow=59,SNR=4.8						
KK31				⇓Lg	Lg	21 45 45.9	
	4.2nm,0.4s,baz=138,slow=30,SNR=6.5						
TNSS	Tian-Shan	4.25	35	Pg	Pg	21 44 47.9	-1.2
	5.1nm,0.5s						
TNSS				Lg	Lg	21 45 44.7	
	9.9nm,0.8s						
TNSS	Tian-Shan	4.25	35	*e* P	Pg	21 44 47.9	-1.2
	5.1nm,0.5s						
TNSS				*e*S	Sg	21 45 44.7	+0.5
	9.9nm,0.8s						
MDOK	Medeo	4.39	35	Pg	Pg	21 44 51.3	-0.6
	9.1nm,0.7s						
MDOK				Lg	Lg	21 45 50.6	
	16nm,1.2s						
MDOK	Medeo	4.39	35	*e* P	Pg	21 44 51.3	-0.6
	9.1nm,0.7s						
MDOK				*e*S	Sg	21 45 50.6	+1.7
	16nm,1.2s						
KOTS	Kotyrbulak	4.48	35	Pg	Pg	21 44 51.6	-1.9
	7.8nm,0.6s						
KOTS				Lg	Lg	21 45 51.1	
	43nm,1.1s						
KOTS	Kotyrbulak	4.48	35	*e* P	Pg	21 44 51.6	-1.9
	7.8nm,0.6s						
KOTS				*e*S	Sg	21 45 51.1	-0.4
	43nm,1.1s						
KTBS	Karatobe	4.71	28	Pg	Pg	21 44 56.1	-1.7
	2.8nm,0.6s						
KTBS				Lg	Lg	21 45 59.2	
	10.0nm,0.4s						
KTBS	Karatobe	4.71	28	*e* P	Pg	21 44 56.1	-1.7
	2.8nm,0.6s						
KTBS				*e*S	Sg	21 45 59.2	+0.4
	10.0nm,0.4s						
KUU	Kurty	4.75	24	Pg	Pg	21 44 56.3	-2.4
	4.4nm,0.9s						
KUU				Lg	Lg	21 45 59.1	
	9.4nm,0.8s						
KUU	Kurty	4.75	24	*e* P	Pg	21 44 56.3	-2.4
	4.4nm,0.9s						
KUU				*e*S	Sg	21 45 59.1	-1.0
	9.4nm,0.8s						

*IDC **08** 22:13:54.2±0.9, 9°.15S×158°.61E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/28, mbtmp3.8/7, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=25.9km s-min=17.4km az=171.0*
*ISCJB **08** 22:13:57.1±0.7, 9°.3S±0°.1×158°.55E±0°.07, h29km, mb3.7/6, Error ellipse: s-maj=20.1km s-min=10.3km az=171.3*

ISC 08 22:13:58.5±0.8, 9°.2S±0°.2×158°.55E±0°.07, h29km, n10, σ1s22/11, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.39	99	Pn	Pn	22 14 21.3	-0.7
	262nm,0.3s,baz=298,slow=5.3,SNR=35						
HNR				Sn	Sn	22 14 38.6	-0.9
	552nm,0.3s,baz=355,slow=23,SNR=8.8						
HNR				LR	LR	22 14 48.3	
	comp=Z,345nm,19.2s,baz=296,slow=40						
HNR	Honiara	1.39	99	*e* P	Pn	22 14 21.0	-1.0
HNR				*i* S	Sb	22 14 43.5	+2.2
KRVT	Keravat (AS076	8.11	307	LR	LR	22 19 23.4	
	comp=Z,96nm,18.9s,baz=78,slow=41						
CTA	Charters Tower	16.07	226	Pn	Pn	22 17 41.4	-1.1
	0.1nm,0.3s,baz=68,slow=18,SNR=1.9						
WRA	Warramunga Arr	25.71	243	P	P	22 19 28.1	+1.5
	1.1nm,0.6s,baz=69,slow=9.8,SNR=8.7						
STKA	Stephens Creek	27.50	213	P	P	22 19 42.5	0.0
	0.6nm,0.3s,baz=22,slow=11,SNR=2.0						
ASAR	Alice Springs	27.60	236	P	P	22 19 44.3	+0.7
	0.3nm,0.6s,baz=70,slow=9.7,SNR=2.9						
SONM	Songino Array	73.11	326	P	P	22 25 26.8	+0.4
	1.1nm,0.7s,baz=146,slow=5.5,SNR=6.0						
ILAR	Eielson Array	84.17	21	P	P	22 26 25.9	-0.8
	0.4nm,0.5s,baz=232,slow=5.6,SNR=6.3						
MKAR	Makanchi Array	87.39	318	P	P	22 26 43.4	+0.3
	0.5nm,0.6s,baz=88,slow=7.1,SNR=6.2						

IDC 08 22:44:52.0±5.5, 4°.16S×137°.94E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/25, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=233.8km s-min=31.7km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.08	192	Pn	Pn	22 48 40.9	+1.3
	0.1nm,0.3s,baz=13,slow=12,SNR=4.3						
ASAR	Alice Springs	19.78	191	P	P	22 49 23.4	-0.6
	0.1nm,0.3s,baz=20,slow=11,SNR=5.0						
MKAR	Makanchi Array	70.47	323	P	P	22 56 08.5	+0.1
	0.2nm,0.5s,baz=108,slow=7.7,SNR=2.5						

*ISCJB **08** 22:54:50.3±1.4, 51°.92N±0°.08×173°.54W±0°.05, h6km±8km, mb3.3/2, Error ellipse: s-maj=12.8km s-min=4.8km az=177.6*
*IDC **08** 22:54:50.9±1.9, 52°.01N×173°.65W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/41, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=100.2km s-min=35.2km az=144.0*
*NEIC **08** 22:54:51.8±1.3, 51°.93N±0°.04×173°.61W±0°.05, h9km±5km*
*AEIC **08** 22:54:52±2.2, 52°.05N±0°.03×173°.62W±0°.02, h7km±5km, ML3.1*

ISC 08 22:54:51.8±3.3, 51°.9N±0°.2×173°.61W±0°.05, h8km±19km, n25, σ0s66/28, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	0.45	318		Pg	22 55 00.6	0.0
KOFP					Sg	22 55 07.1	+0.5
KOSE	Korovin Southe	0.49	326		Pg	22 55 01.1	-0.3
KOSE					Sg	22 55 08.4	+0.6
KOKV	Korovin Volcan	0.55	321		Sg	22 55 10.2	+0.7
KONE	Korovin Northe	0.56	326		Pg	22 55 02.0	-0.5
KOWE	Korovin West	0.58	318		Pg	22 55 02.9	-0.2
GSIG	Igitkin Island	1.44	273		Pn	22 55 17.8	-0.3
GSMY	Great Sitkin M	1.52	275		Pn	22 55 19.1	-0.1
GSTR	Great Sitkin T	1.52	277	Pn	Pn	22 55 19.4	+0.1
GSTR				Sn	Sb	22 55 39.6	-0.1
GSTD	Great Sitkin T	1.57	275		Pn	22 55 19.8	-0.2
GSTD					Sn	22 55 40.7	+0.1
ADK	Adak	1.91	270	Pn	Pn	22 55 25.0	+0.4
ADK					Sn	22 55 48.7	+0.1
ADK	Adak	1.91	270		Pn	22 55 25.2	+0.7
ADK					Sn	22 55 48.4	-0.3
KIWB	Kanaga Island	2.20	269	Pn	Pn	22 55 29.0	+0.5
KIWB				Sn	Sn	22 55 56.3	+0.4
KIMD	Kanaga Island	2.26	267		Pn	22 55 28.5	-0.8
KIMD					Sb	22 55 58.9	-1.9
NIKH	Nikolski High	3.09	68	Pn	Pn	22 55 41.4	+0.7
NIKH				Sn	Sn	22 56 18.4	+0.6
UNV	Unalaska Valle	4.71	63	Pn	Pn	22 56 02.0	-0.9
AKUT	Akutan	5.21	62	Pn	Pn	22 56 09.0	-1.0
ILAR	Eielson Array	18.82	37	P	P	22 59 11.0	-0.5
	0.1nm,0.3s,baz=237,slow=8.1,SNR=4.1						
H11N2	WAKE ISLAND Hy	35.58	213	T	T	23 39 37.3	
	baz=21,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	35.59	213	T	T	23 39 37.3	
	baz=21,slow=76,SNR=35						
H11N1	WAKE ISLAND Hy	35.60	213	T	T	23 39 38.6	
	baz=21,slow=76,SNR=32						
H11S1	WAKE ISLAND Hy	36.78	212	T	T	23 41 04.6	
	baz=20,slow=75,SNR=106						
H11S2	WAKE ISLAND Hy	36.80	212	T	T	23 41 05.8	
	baz=20,slow=75,SNR=66						
H11S3	WAKE ISLAND Hy	36.80	212	T	T	23 41 04.8	
	baz=20,slow=75,SNR=29						
PDAR	Pinedale Array	43.05	76	P	P	23 02 52.2	+0.2
	0.1nm,0.3s,baz=328,slow=8.5,SNR=2.3						
ASAR	Alice Springs	88.16	227	P	P	23 07 43.7	+0.8
	0.2nm,0.5s,baz=32,slow=5.0,SNR=4.1						

IDC 08 23:00:56.5±11.0, 3°.68S×68°.20E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/30, mbtmp3.6/4, Error ellipse: s-maj=346.2km s-min=35.8km az=65.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	3.83	133	T	T	23 05 39.2	
	baz=327,slow=75,SNR=428						
H08N3	Diego Garcia H	3.84	134	T	T	23 05 46.3	
	baz=327,slow=75,SNR=354						
H08N1	Diego Garcia H	3.86	133	T	T	23 05 38.8	
	baz=327,slow=75,SNR=371						
H08S3	Diego Garcia H	5.79	133	T	T	23 08 17.9	
	baz=312						
H08S1	Diego

ISC 08 23:28:42.7±1.1, 17°44N±0°.03×100°.58W±0°.03, h16km±9km, n28, σ1§13/50, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.49**	**142**	*i* P	**Pb**	**23 28 53.9**	**+0.8**
CAIG				*e*S	**Sb**	**23 29 00.9**	**+0.8**
CAIG	**El Cayaco**	**0.49**	**142**		**Pb**	**23 28 53.9**	**+0.8**
CAIG					**Sb**	**23 29 00.9**	**+0.8**
ZIIG	**Zihuatanejo**	**0.86**	**281**	*e*P	**Pn**	**23 29 00.2**	**0.0**
ZIIG				*e*S	**Sg**	**23 29 10.4**	**-0.3**
ZIIG	**Zihuatanejo**	**0.86**	**281**		**Pn**	**23 29 00.2**	**0.0**
ZIIG					**Sg**	**23 29 10.4**	**-0.3**
ARIG	**Puente Sto Nin**	**0.86**	**15**	*i* P	**Pn**	**23 29 01.2**	**+0.9**
ARIG				*e*S	**Sn**	**23 29 13.9**	**+1.3**
ARIG	**Puente Sto Nin**	**0.86**	**15**		**Pn**	**23 29 01.2**	**+0.9**
ARIG					**Sn**	**23 29 13.9**	**+1.3**
ACP2	**Acapulco**	**0.87**	**130**	*e*P	**Pg**	**23 28 59.9**	**+0.2**
ACP2				*i* S	**Sb**	**23 29 09.7**	**-1.3**
ACP2	**Acapulco**	**0.87**	**130**		**Pg**	**23 28 59.9**	**+0.2**
ACP2					**Sb**	**23 29 09.7**	**-1.3**
MEIG	**Mezcala**	**1.04**	**62**	*e*P	**Pg**	**23 29 03.0**	**+0.1**
MEIG				*i* S	**Sn**	**23 29 16.9**	**-0.1**
MEIG	**Mezcala**	**1.04**	**62**		**Pg**	**23 29 03.0**	**+0.1**
MEIG					**Sn**	**23 29 16.9**	**-0.1**
PLIG	**Platanillo**	**1.40**	**47**	*e*P	**Pb**	**23 29 08.7**	**+0.1**
PLIG				*e*S	**Sg**	**23 29 27.1**	**-0.8**
PLIG	**Platanillo**	**1.40**	**47**		**Pb**	**23 29 08.7**	**+0.1**
PLIG					**Sg**	**23 29 27.1**	**-0.8**
TLIG	**Tlapa**	**1.93**	**86**	*e*P	**Pn**	**23 29 15.7**	**+0.7**
TLIG				*i* S	**Sn**	**23 29 37.7**	**-1.4**
TLIG	**Tlapa**	**1.93**	**86**		**Pb**	**23 29 16.5**	**-1.1**
TLIG	**Tlapa**	**1.93**	**86**		**Pn**	**23 29 15.7**	**+0.7**
TLIG					**Sn**	**23 29 37.7**	**-1.4**
YAIG	**Yautepec**	**2.02**	**45**	*i* P	**Pn**	**23 29 16.7**	**+0.4**
YAIG				*i* S	**Sn**	**23 29 41.1**	**-0.2**
YAIG	**Yautepec**	**2.02**	**45**		**Pn**	**23 29 16.7**	**+0.4**
YAIG					**Sn**	**23 29 41.1**	**-0.2**
MOIG	**Morelia**	**2.30**	**346**	*i* P	**Pn**	**23 29 21.6**	**+1.4**
MOIG				*i* S	**Sb**	**23 29 50.0**	**-2.2**
MOIG	**Morelia**	**2.30**	**346**		**Pn**	**23 29 21.6**	**+1.4**
MOIG					**Sb**	**23 29 50.0**	**-2.2**
MOIG	**Morelia**	**2.30**	**346**	Pn	**Pb**	**23 29 23.2**	**-0.8**
PNIG	**Pinotepa**	**2.57**	**114**	*e*P	**Pn**	**23 29 23.2**	**-0.7**
PNIG				*i* S	**Sn**	**23 29 52.7**	**-2.1**
PNIG	**Pinotepa**	**2.57**	**114**		**Pn**	**23 29 23.2**	**-0.7**
PNIG					**Sn**	**23 29 52.7**	**-2.1**
MMIG	**Aquila**	**2.76**	**288**	*e*P	**Pn**	**23 29 26.9**	**+0.5**
MMIG				*i* S	**Sn**	**23 29 58.3**	**-1.1**
MMIG	**Aquila**	**2.76**	**288**		**Pn**	**23 29 26.9**	**+0.5**
MMIG					**Sn**	**23 29 58.3**	**-1.1**
ZAIG	**Zacatecas**	**5.62**	**341**	Pn	**Pn**	**23 30 08.5**	**+2.6**
CCIG	**Comitan**	**8.17**	**97**	Pn	**Pn**	**23 30 42.0**	**+1.1**
KVTX	**Kingsville**	**10.36**	**13**	Pn	**Pn**	**23 31 10.4**	**-0.3**
435B	**Jarrell**	**13.56**	**11**	Pn	**Pn**	**23 31 56.5**	**+2.0**

*IDC **08** 23:58:01.6±2.6, 5°.04N×125°.11E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, Error ellipse: s-maj=260.7km s-min=27.2km az=65.0*
*ISCJB **08** 23:58:08.4±0.9, 5°.35N±0°.08×126°.3E±0°.1, h71km, mb3.0/3, Error ellipse: s-maj=15.9km s-min=8.5km az=150.2*

ISC 08 23:58:09.3±1.3, 5°37N±0°.10×126°4E±0°.1, h71km, n7, σ2§69/10, mb3.0/3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.99**	**318**	*e*P	**Pn**	**23 58 27.2**	**-0.5**
DDMP				*e*S	**Sn**	**23 58 39.7**	**-1.7**
MATI	**Mati**	**1.57**	**355**	*e*P	**Pn**	**23 58 34.4**	**-0.9**
MATI				*e*S	**Sn**	**23 58 55.8**	**+0.9**
KCP	**Kidapawan**	**2.08**	**322**	⇓*i*P	Pn	23 58 54.0	+12
KCP				*i* S	**Sn**	**23 59 13.2**	**+6.1**
SKMP	**Bagumbayan, Su**	**2.16**	**302**	*e*P	**Pn**	**23 58 42.9**	**-0.2**
SKMP				*e*S	**Sn**	**23 59 08.0**	**-0.9**
WRA	**Warramunga Arr**	**26.34**	**163**	P	**P**	**00 03 40.2**	**+1.4**
	0.2nm,0.4s,baz=339,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**29.78**	**166**	P	**P**	**00 04 10.6**	**+1.2**
	0.1nm,0.6s,baz=338,slow=6.8,SNR=2.8						
MKAR	**Makanchi Array**	**56.02**	**325**	P	**P**	**00 07 38.9**	**-1.9**
	0.2nm,0.5s,baz=113,slow=7.7,SNR=4.6						

*BJI **09** 00:20:36.9±0.0, 7°.47N×138°.18E, h23km, mb5.0/70, mB5.3/57, Ms4.9/68, Ms7 4.7/65*
*ISCJB **09** 00:20:41.2±0.9, 8°.11N±0°.02×137°.57E±0°.02, h8km±5km, mb5.1/115, MS4.6/56, Error ellipse: s-maj=4.1km s-min=3.6km az=13.7*
*IDC **09** 00:20:41.6±0.3, 8°.10N×137°.48E, h0km, mb4.8/38, mb1 4.9/45, mb1mx4.9/49, mbtmp4.9/45, ML4.7/4, MS4.5/42, Ms1 4.5/42, ms1mx4.4/49, Error ellipse: s-maj=12.3km s-min=8.4km az=86.0*
*MOS **09** 00:20:43.8±1.0, 8°.10N×137°.58E, h29km, mb5.4/54, MS4.7/5, Error ellipse: s-maj=8.1km s-min=4.6km az=106.6*
*GCMT **09** 00:20:45.8±0.1, 8°.11N±0°.01×137°.42E±0°.01, h18km, MW5.2/110, Moment Tensor Solution. s91,c142; s110,c200; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.79±.02; M_{tt}-0.40±.01; M_{pp}-0.38±.02; M_{rt}0.19±.04; M_{rp}-0.50±.01; M_{rf}-0.20±.04; Best double couple: $M_0$0.89000×10^{17} NP1:ϕ_s207.00000°, δ49.00000°, λ63.00000°. NP2:ϕ_s64.00000°, δ48.00000°, λ117.00000°. Principal axes: T 0.8850, Plg70.0000°, Azm46.0000°; N 0.0110, Plg20.0000°, Azm225.0000°; P -0.8960, Plg0.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 00:20:45.8±1.6, 8°.07N±0°.08×137°.56E±0°.08, h27km±3km, mb5.2/180*
*DJA **09** 00:20:49.4±0.6, 8°N±4°×13°7E±°, h68km±4km, M4.9/58, mb5.1/58, mB5.4/31, Mw(mB)4.9/31*

ISC 09 00:20:45.9±0.6, 8°.06N±0°.03×137°.61E±0°.04, h28km±3km, n627, σ1§43/583, mb5.1/182, MS4.5/59, 91C-8D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALU	**Palau**	**3.18**	**257**	P	**Pn**	**00 21 30.9**	**-3.2**
	baz=3.1,SNR=17						
GUMO	**Guam**	**9.00**	**52**	Pn	**Pn**	**00 22 53.9**	**-0.1**
	23nm,0.3s,baz=207,slow=18,SNR=5.2						
GUMO				Sn	**Sn**	**00 24 32.7**	**-1.8**
	13nm,0.3s,baz=164,slow=23,SNR=3.5						
GUMO				LR	LR	00 26 26.7	
	comp=Z,3μm,18.6s,baz=238,slow=38						
GUMO	**Guam**	**9.00**	**52**	Pn	**Pn**	**00 22 54.6**	**+0.6**
SRPI	**Serui, Papua**	**9.96**	**188**	P	**Pn**	**00 23 09.6**	**+2.4**
SMPI	**Sarmi**	**10.04**	**174**	P	**Pn**	**00 23 11.0**	**+2.7**
	381nm,0.7s,4μm						
SWI	**Sorong**	**10.89**	**216**	P	**Pn**	**00 23 23.1**	**+3.2**
SIJI	**Sorong**	**10.89**	**216**	Pn	**Pn**	**00 23 16.2**	**-3.8**
	0.9nm,0.3s,baz=271,slow=23,SNR=3.4						
SIJI				LR	LR	00 26 38.9	
	comp=Z,4μm,20.4s,baz=53,slow=33						
JAY	**Jayapura**	**10.95**	**163**	Pn	**Pn**	**00 23 21.0**	**+0.2**
	11nm,0.3s,baz=340,slow=6.9,SNR=34						
JAY				Sn	**Sn**	**00 25 21.8**	**-0.6**
	15nm,0.3s,baz=114,slow=22,SNR=8.0						
JAY				LR	LR	00 27 12.5	
	comp=Z,3μm,18.6s,baz=340,slow=36						
JAY	**Jayapura**	**10.95**	**163**	P	**Pn**	**00 23 23.0**	**+2.2**
	970nm,0.9s,12μm						
DAV	**Davao City (W)**	**11.96**	**266**	Pn	**Pn**	**00 23 33.3**	**-1.3**
	75nm,0.3s,baz=279,slow=11,SNR=2.1						
DAV				LR	LR	00 28 15.5	
	comp=Z,502nm,18.3s,baz=156,slow=38						
FAKI	**Fak Fak**	**12.14**	**206**	P	**Pn**	**00 23 41.1**	**+4.0**
KCP	**Kidapawan**	**12.45**	**266**	⇑*i*P	**Pn**	**00 23 44.7**	**+3.4**
TNTI	**Ternate**	**12.51**	**235**	P	**Pn**	**00 23 43.8**	**+1.7**
MSLP	**Maasin**	**12.75**	**280**	*e*P	**Pn**	**00 23 47.7**	**+2.3**
SGSI	**Sangihe**	**12.77**	**251**	P	**Pn**	**00 23 43.0**	**-2.7**
LBMI	**Labuha**	**13.27**	**230**	P	**Pn**	**00 23 50.7**	**-1.8**
MANU	**Manus Island**	**13.98**	**135**	P	**P**	**00 24 07.8**	**-2.1**
MSAI	**Masohi**	**14.26**	**218**	P	**P**	**00 24 09.6**	**-3.3**
BNDI	**Bandanaira**	**14.67**	**212**	P	**P**	**00 24 17.3**	**-0.2**
AAI	**Ambon**	**14.98**	**219**	P	**P**	**00 24 22.5**	**+1.6**
RCP	**Roxas**	**15.05**	**285**	⇓*e*P	**Pn**	**00 24 16.5**	**-0.2**
SANI	**Sanana**	**15.33**	**230**	P	**Pn**	**00 24 18.1**	**-2.3**
NLAI	**Namlea**	**15.36**	**223**	P	**P**	**00 24 26.1**	**+1.0**
KMSI	**Cibinong**	**15.48**	**242**	P	**Pn**	**00 24 22.4**	**+0.1**
MMPI	**Merauke**	**16.65**	**170**	P	P	00 24 51.3	+12
MRSI	**Marisa**	**17.33**	**245**	P	**Pn**	**00 24 45.4**	**-0.5**
LUWI	**Luwuk**	**17.34**	**239**	P	**Pn**	**00 24 46.4**	**+0.5**
TGY	**Tagaytay City**	**17.42**	**292**	P	**Pn**	**00 24 45.9**	**-1.1**
	84nm,0.3s,baz=81,slow=14,SNR=2.6						
TGY				LR	LR	00 30 48.2	
	comp=Z,2μm,21.2s,baz=112,slow=35						
APSI	**Ampana**	**18.23**	**241**	P	**Pn**	**00 24 55.8**	**-1.2**
KRVT	**Keravat (AS076**	**18.92**	**130**	P	**Pn**	**00 25 06.9**	**+1.6**
	1.9nm,0.3s,baz=143,slow=12,SNR=8.8						
KRVT				LR	LR	00 31 20.4	
	comp=Z,2μm,18.7s,baz=300,slow=34						
MPSI	**Mapaga**	**19.24**	**247**	P	**Pn**	**00 25 08.8**	**-0.4**
JCJ	**Chichijima**	**19.42**	**12**	P	**P**	**00 25 09.4**	**-0.7**
	17nm,0.3s,baz=279,slow=21,SNR=11						
JCJ				LR	LR	00 30 48.1	
	comp=Z,934nm,19.0s,baz=113,slow=31						
PMG	**Port Moresby**	**19.79**	**151**	*d*P	**Pn**	**00 25 15.2**	**-0.6**
PMG				pmax	pmax		
	comp=Z,112nm,1.0s						
PMG	**Port Moresby**	**19.79**	**151**	P	**P**	**00 25 13.9**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=181,slow=21,SNR=5.6						
PMG				LR	LR	00 32 49.3	
	comp=Z,2μm,18.1s,baz=325,slow=37						
PMG	**Port Moresby**	**19.79**	**151**	P	**P**	**00 25 14.3**	**+0.2**
BBSI	**Bau Bau**	**20.15**	**229**	P	Pn	00 25 20.3	+0.3
JOW	**Kunigami**	**20.66**	**336**	P	**P**	**00 25 21.4**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=98,slow=18,SNR=2.7						
JOW	**Kunigami**	**20.66**	**336**	P	**P**	**00 25 24.3**	**+0.8**
JOW				IAmb	IAmb	00 25 30.0	
	comp=Z,145nm,1.1s						
TTSI	**Tana Toraja**	**20.89**	**239**	P	Pn	00 25 27.7	-1.0
KDU	**Kakadu**	**21.23**	**194**	P	**P**	**00 25 30.2**	**+0.5**
	baz=21,SNR=4.6						
KKM	**Kota Kinabalu**	**21.32**	**266**	P	**P**	**00 25 31.8**	**+1.0**
KKM				IAmb	IAmb	00 25 43.5	
	comp=Z,72nm,0.9s						
BNSI	**Bone**	**21.40**	**235**	P	**P**	**00 25 32.8**	**+1.3**
SPSI	**Sidrap Palu**	**21.43**	**237**	P	**P**	**00 25 32.2**	**+0.3**
YOJ	**Yonaguni jima**	**21.46**	**321**	P	**P**	**00 25 33.2**	**+1.1**
YOJ				pmax	pmax		
	comp=Z,183nm,0.9s						
YOJ	**Yonaguni jima**	**21.46**	**321**	P	**P**	**00 25 33.2**	**+1.1**
TWG	**Pinlang**	**21.63**	**315**	P	**P**	**00 25 34.0**	**+0.1**
MTN	**Manton Dam**	**21.74**	**197**	P	**P**	**00 25 35.3**	**+0.1**
	baz=22,SNR=5.8						
MTN	**Manton Dam**	**21.74**	**197**	P	**P**	**00 25 35.6**	**+0.4**
YULB	**Yu-li**	**21.84**	**316**	P	**P**	**00 25 37.2**	**+0.9**
YULB				IAmb	IAmb	00 25 43.5	
	comp=Z,103nm,0.9s						
BKSI	**Bulukumba**	**21.93**	**233**	P	**P**	**00 25 38.3**	**+1.1**
SMKI	**Samarinda**	**22.02**	**248**	P	**P**	**00 25 37.6**	**-0.6**
KAPI	**Kappang**	**22.04**	**234**	P	**P**	**00 25 38.8**	**+0.3**
	comp=Z,32nm,0.7s,baz=76,slow=3.8,SNR=26						
KAPI	**Kappang**	**22.04**	**234**	P	**P**	**00 25 39.9**	**+1.4**
SOEI	**Soe**	**22.13**	**217**	P	**P**	**00 25 38.8**	**-0.7**
NACB	**Ninganchiao**	**22.17**	**318**	P	**P**	**00 25 40.2**	**+0.4**
TPUB	**Ta-pu**	**22.25**	**315**	P	**P**	**00 25 40.6**	**0.0**
TPUB				IAmb	IAmb	00 25 50.3	
	comp=Z,103nm,1.0s						
SSLB	**Suanglong**	**22.34**	**316**	P	**P**	**00 25 42.4**	**+0.8**
SSLB				IAmb	IAmb	00 25 51.3	
	comp=Z,59nm,0.9s						
COEN	**Coen**	**22.56**	**166**	P	**P**	**00 25 45.6**	**+1.6**
	baz=23,SNR=8.1						
COEN	**Coen**	**22.56**	**166**	P	**P**	**00 25 44.5**	**+0.4**
MMRI	**Maumere**	**22.57**	**223**	P	**P**	**00 25 45.0**	**+0.8**
BKB	**Balikpapan**	**22.63**	**247**	P	**P**	**00 25 43.7**	**-1.1**
YHNB	**Yeheng**	**22.66**	**319**	P	**P**	**00 25 45.4**	**+0.4**
BATI	**Baumata**	**22.85**	**218**	P	**P**	**00 25 45.6**	**-1.5**
	comp=Z,69nm,0.7s,baz=177,slow=1.2,SNR=15						
BATI				LR	LR	00 34 07.4	
	comp=Z,2μm,21.9s,baz=28,slow=35						
BATI	**Baumata**	**22.85**	**218**	P	**P**	**00 25 45.5**	**-1.5**
EDFI	**Ende, Flores**	**23.03**	**224**	P	**P**	**00 25 48.2**	**-0.8**
KBKI	**Kotabaru**	**24.18**	**243**	P	**P**	**00 25 55.3**	**-4.7**
KNMB	**Chin-men Tao**	**24.57**	**314**	P	**P**	**00 26 00.6**	**-2.9**
KNMB				IAmb	IAmb	00 26 13.0	
	comp=Z,56nm,0.8s						
KNRA	**Kununurra**	**25.16**	**200**	P	**P**	**00 26 08.9**	**+0.1**
	baz=25,SNR=10						
KNRA	**Kununurra**	**25.16**	**200**	IAmb	IAmb	00 26 09.9	
	comp=Z,61nm,0.8s						
WBSI	**Waikabubak, Su**	**25.26**	**226**	P	**P**	**00 26 03.5**	**-6.4**
JNU	**Nakatsue**	**25.70**	**347**	P	**P**	**00 26 13.1**	**-0.7**
	comp=Z,34nm,0.9s,baz=159,slow=5.1,SNR=12						
JNU	**Nakatsue**	**25.70**	**347**	IAmb	IAmb	00 26 22.0	
	comp=Z,81nm,1.1s						
SBUM	**Sibu**	**25.88**	**259**	P	**P**	**00 26 15.6**	**+0.1**
SBUM	**Sibu**	**25.88**	**259**	P	**P**	**00 26 18.0**	**+2.5**
PLAI	**Plampang**	**25.92**	**230**	P	**P**	**00 26 15.5**	**-0.3**
TWSI	**Taliwang, Sumb**	**26.55**	**231**	P	**P**	**00 26 14.8**	**-6.7**
HKPS	**Hong Kong Po S**	**26.64**	**305**	P	**P**	**00 26 21.2**	**-1.1**
HKPS				IAmb	IAmb	00 26 24.8	
	comp=Z,122nm,1.4s						
MTSU	**Mount Surprise**	**26.86**	**166**	P	**P**	**00 26 24.3**	**0.0**
	baz=27,SNR=9.6						
INU	**Inuyama**	**27.17**	**359**	P	**P**	**00 26 24.8**	**-2.0**
STKI	**Sintang**	**27.22**	**254**	P	**P**	**00 26 26.9**	**-0.8**
WRAB	**Tennant Creek**	**28.00**	**187**	*ce*P	**P**	**00 26 33.3**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,32nm,1.3s						
WRAB	**Tennant Creek**	**28.00**	**187**	P	**P**	**00 26 34.1**	**-0.4**
WRA	**Warramunga Arr**	**28.01**	**187**	P	**P**	**00 26 33.5**	**-1.1**
	comp=Z,46nm,1.0s,baz=5.0,slow=9.7,SNR=156						
WRA				PcP	**PcP**	**00 29 49.9**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=349,slow=2.2,SNR=4.7						
WRA				LR	LR	00 39 01.6	
	comp=Z,724nm,18.8s,baz=5.0,slow=39						
WRA	**Warramunga Arr**	**28.01**	**187**	P	**P**	**00 26 34.0**	**-0.6**
HNR	**Honiara**	**28.23**	**128**	LR	LR	00 37 18.8	
	comp=Z,1μm,18.2s,baz=304,slow=35						
MJAR	**Matsushiro Arr**	**28.36**	**1**	P	**P**	**00 26 36.9**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**28.36**	**1**	P	**P**	**00 26 35.3**	**-2.3**
	comp=Z,3.7nm,0.8s,baz=177,slow=9.1,SNR=7.6						
MJAR				PP	PP	00 27 27.8	-14
	comp=Z,1.3nm,0.4s,baz=176,slow=5.8,SNR=4.6						
MJAR				PcP	**PcP**	**00 29 50.0**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=162,slow=3.0,SNR=5.4						
MJAR				LR	LR	00 36 14.0	
	comp=Z,1μm,18.6s,baz=185,slow=33						
MJAR	**Matsushiro Arr**	**28.36**	**1**	P	**P**	**00 26 36.9**	**-0.6**
MAJO	**Matsushiro**	**28.36**	**1**	*i* P	**P**	**00 26 36.8**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAJO	**Matsushiro**	**28.36**	**1**	P	**P**	**00 26 37.5**	**0.0**
MJB9	**Matsu-Tunnel**	**28.36**	**1**	P	**P**	**00 26 37.7**	**+0.1**
QIS	**Mount Isa**	**28.51**	**176**	P	**P**	**00 26 40.2**	**+1.2**
	baz=29,SNR=11						
FITZ	**Fitzroy Crossi**	**28.55**	**204**	P	**P**	**00 26 38.5**	**-0.9**
	baz=29,SNR=12						
FITZ	**Fitzroy Crossi**	**28.55**	**204**	P	**P**	**00 26 38.4**	**-0.9**
	comp=Z,12nm,0.9s,baz=20,slow=10.0,SNR=21						
FITZ				LR	LR	00 38 50.1	
	comp=Z,422nm,18.9s,baz=28,slow=38						
QIZ	**Qiongzhong**	**29.06**	**295**	P	**P**	**00 26 43.2**	**-0.8**
QIZ				S	**S**	**00 31 35.4**	**+1.4**
QIZ				LR	LR		
	comp=Z,810nm,10.2s						
QIZ				LR	LR		
	comp=Z,780nm,15.9s						
CTA	**Charters Tower**	**29.24**	**163**	P	**P**	**00 26 46.1**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=340,slow=9.8,SNR=4.8						
CTA				LR	LR	00 38 17.6	
	comp=Z,696nm,19.9s,baz=52,slow=36						
CTAO	**Charters Tower**	**29.24**	**163**	P	**P**	**00 26 45.7**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,26nm,1.2s						
CTAO	**Charters Tower**	**29.24**	**163**	P	**P**	**00 26 45.7**	**+0.2**
NJ2	**Nanjing**	**29.56**	**326**	*e*P	**P**	**00 26 48.6**	**+0.3**
NJ2				pP	**pP**	**00 26 54.7**	**-0.9**
NJ2				S	**S**	**00 31 43.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,210nm,3.5s						
NJ2				LR	LR		
	comp=Z,930nm,14.7s						
NJ2				LR	LR		
	comp=Z,1μm,10.9s						
NJ2				LR	LR		
	comp=Z,1μm,16.1s						
H11S3	**WAKE ISLAND Hy 30.10**	**67**		T	T	00 58 36.6	
	baz=254,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hy 30.11**	**67**		T	T	00 58 44.7	
	baz=254,slow=75,SNR=89						
H11S2	**WAKE ISLAND Hy 30.11**	**67**		T	T	00 58 43.9	
	baz=254,slow=75,SNR=85						
PWJI	**Pagerwojo**	**30.27**	**239**	P	**P**	**00 26 53.2**	**-1.6**
KSAR	**Wonju Array Be**	**30.55**	**345**	P	**P**	**00 26 56.4**	**-0.6**
KSAR	**Wonju Array Be**	**30.55**	**345**	P	**P**	**00 26 56.4**	**-0.6**
KSRS	**Korea Array**	**30.55**	**345**	P	**P**	**00 26 56.3**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=163,slow=9.5,SNR=8.4						
KSRS				PP	PP	00 27 44.3	-22
	comp=Z,4.4nm,0.9s,baz=168,slow=11,SNR=3.4						
KSRS				PcP	**PcP**	**00 29 55.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=189,slow=3.0,SNR=3.9						
KSRS				LR	LR	00 37 32.9	
	comp=Z,689nm,21.4s,baz=162,slow=33						
H11N1	**WAKE ISLAND Hy 30.64**	**65**		T	T	00 59 25.6	
	baz=252,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy 30.65**	**65**		T	T	00 59 24.5	
	baz=252,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy 30.66**	**65**		T	T	00 59 18.2	
	baz=252,slow=75,SNR=20						
PCJI	**Pacitan**	**30.89**	**239**	P	P	00 27 07.9	+7.6
WHN	**Wuhan**	**31.20**	**319**	P	**P**	**00 27 05.9**	**+3.1**
WHN				PP	**PP**	**00 28 12.8**	**-0.8**
WHN				S	**S**	**00 32 11.4**	**+4.1**
WHN				pmax	pmax		
	comp=Z,33nm,0.8s						
WHN				LR	LR		
	comp=Z,2μm,11.2s						
WHN				LR	LR		
	comp=Z,910nm,13.7s						
WHN				LR	LR		
	comp=Z,2μm,14.0s						
UGM	**Wanagama**	**31.31**	**240**	P	**P**	**00 27 01.8**	**-2.2**
ASAR	**Alice Springs**	**31.74**	**186**	P	**P**	**00 27 07.7**	**+0.1**
	comp=Z,8.5nm,0.6s,baz=20,slow=12,SNR=138						
ASAR				PP	PP	00 27 55.6	-24
	comp=Z,7.0nm,0.9s,baz=6.3,slow=9.6,SNR=5.9						
ASAR				PcP	**PcP**	**00 29 59.5**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=14,slow=2.1,SNR=8.7						
ASAR				LR	LR	00 40 20.0	
	comp=Z,697nm,21.2s,baz=7.5,slow=37						
ASAR	**Alice Springs**	**31.74**	**186**	P	**P**	**00 27 07.2**	**-0.4**
TPI	**Tanjungpandan**	**31.75**	**251**	P	**P**	**00 27 06.1**	**-1.7**
KPJI	**Karang Pucung**	**32.42**	**243**	P	P	00 27 21.3	+7.6
LEM	**Lembang**	**33.36**	**244**	P	**P**	**00 27 21.5**	**-0.6**
	comp=Z,12nm,0.3s,baz=323,slow=22,SNR=3.8						
LEM	**Lembang**	**33.36**	**244**	P	**P**	**00 27 21.1**	**-1.0**
TIA	**Tai'an**	**33.68**	**329**	P	**P**	**00 27 24.6**	**+0.1**
TIA				pmax	pmax		
	comp=Z,15nm,0.8s						
DL2	**Dalian**	**33.91**	**337**	*e*P	**P**	**00 27 27.4**	**+1.0**
DL2				*e*S	**S**	**00 32 50.5**	**+1.2**
DL2				pmax	pmax		
	comp=Z,41nm,1.3s						
DL2				pmax	pmax		
	comp=Z,410nm,6.6s						
DL2				LR	LR		
	comp=Z,990nm,17.1s						
DL2				LR	LR		
	comp=Z,890nm,18.0s						
DL2				LR	LR		
	comp=Z,1μm,14.7s						
WRKA	**Warakurna**	**34.12**	**195**	P	**P**	**00 27 28.2**	**-0.3**
	baz=34,SNR=29						
ERM	**Erimo**	**34.17**	**7**	P	**P**	**00 27 27.0**	**-1.6**
ERM				pmax	pmax		
	comp=Z,78nm,1.3s						
ERM	**Erimo**	**34.17**	**7**	P	**P**	**00 27 27.0**	**-1.6**
MYKOM	**Kota Tinggi**	**34.18**	**261**	P	**P**	**00 27 30.0**	**+0.9**
PSA00	**Pilbara Seismi**	**34.22**	**210**	P	**P**	**00 27 26.8**	**-2.5**
PSA00	**Pilbara Seismi**	**34.22**	**210**	IAmb	IAmb	00 27 38.6	
	comp=Z,19nm,0.8s						
GYA	**Guiyang**	**34.60**	**306**	⇑*i*P	**P**	**00 27 34.6**	**+1.8**
GYA				pP	sP	00 27 41.8	-0.7
GYA				PP	**PP**	**00 28 53.1**	**+1.6**
GYA				PcP	**PcP**	**00 30 06.9**	**-0.1**
GYA				S	**S**	**00 33 06.4**	**+5.8**
GYA				sS	sS	00 33 16.4	+2.9
GYA				ScP	**ScP**	**00 33 49.2**	**-1.4**
GYA				SS	**SnSn**	**00 35 19.6**	**+5.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,4.5s						
GYA				LR	LR		
	comp=Z,440nm,17.6s						
GYA			

comp=Z,25nm,1.0s
TIY pmax pmax
comp=Z,220nm,5.1s
TIY LR LR
comp=Z,500nm,12.0s
TIY LR LR
comp=Z,300nm,11.4s
TIY LR LR
comp=Z,730nm,19.3s
KMI Kunming 37.31 301 P **P** **00 27 58.0 +1.9**
KMI sP pwP 00 28 10.6 +4.3
KMI S **S** **00 33 42.4 0.0**
KMI pmax pmax
comp=Z,15nm,1.4s
KMI LR LR
comp=Z,350nm,16.2s
KMI LR LR
comp=Z,1µm,18.3s
KMI LR LR
comp=Z,2µm,16.9s
TRTT Trang 37.54 272 P P 00 28 09.1 +11
PHET Kaeng Krachan 37.62 281 P P 00 28 07.8 +9.2
PHET Kaeng Krachan 37.62 281 P P 00 28 07.8 +9.2
GIRL Giralia 38.15 216 P **P** **00 28 02.9 0.0**
SRDT SRDT 38.23 283 P P 00 28 14.8 +11
SRDT SRDT 38.23 283 P P 00 28 14.8 +11
PAYA Payao 38.25 291 P **P** **00 28 06.1 +2.2**
comp=Z,18µm,1.0s
SURT Suratani 38.38 274 P P 00 28 16.2 +11
PSI Prapat 38.84 264 P **P** **00 28 07.3 -1.7**
comp=Z,15nm,0.6s,baz=94,slow=4.5,SNR=15
PSI PcP **PcP** **00 30 19.7 -0.3**
comp=Z,6.8nm,0.8s,baz=65,slow=9.8,SNR=3.8
RPSI Rantau Prapat 38.86 264 IAmb IAmb 00 28 19.3
comp=Z,25nm,0.8s
PKDT Phuket 38.88 273 P **P** **00 28 12.2 +3.0**
PKDT Phuket 38.88 273 P **P** **00 28 12.2 +3.0**
comp=Z,13nm,0.7s,comp=Z,4µm
CD2 Chengdu 38.91 310 P **P** **00 28 09.5 +0.1**
CD2 sP pwP 00 28 22.2 -1.4
CD2 S **S** **00 34 05.8 -0.4**
CD2 SS **SS** **00 36 58.5 +0.1**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,810nm,7.8s
CD2 LR LR
comp=Z,750nm,7.7s
CD2 LR LR
comp=Z,850nm,9.6s
CD2 LR LR
comp=Z,970nm,10.8s
CM31 Chiang Mai Arr 38.94 289 P **P** **00 28 10.4 +0.7**
CMAR Chiang Mai Arr 38.94 289 P **P** **00 28 08.6 -1.1**
CMAR Chiang Mai Arr 38.94 289 P **P** **00 28 09.5 -0.2**
comp=Z,9.3nm,0.9s,baz=93,slow=6.9,SNR=32
CMAR PcP **PcP** **00 30 20.5 +0.4**
comp=Z,3.0nm,0.7s,baz=105,slow=2.0,SNR=6.8
CMAR LR LR 00 46 16.0
comp=Z,422nm,18.1s,baz=100,slow=40
CMAR Chiang Mai Arr 38.94 289 P **P** **00 28 08.6 -1.1**
CMMT Chiang Mai 39.00 290 P **P** **00 28 13.1 +2.9**
CMMT Chiang Mai 39.00 290 P **P** **00 28 13.1 +2.9**
comp=Z,4.1nm,1.7s
CHTO Chiang Mai 39.01 290 P **P** **00 28 10.0 -0.2**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 39.01 290 P **P** **00 28 10.0 -0.2**
YSS Yuzh-Sakhalins 39.01 6 *e*P **P** **00 28 09.2 -0.6**
YSS *e* 00 28 18.0
YSS *e* 00 34 04.2
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=N,900nm,16.0s
YSS MLR MLR
comp=Z,1µm,16.0s
YSS Yuzh-Sakhalins 39.01 6 P **P** **00 28 09.4 -0.3**
YSS IAmb IAmb 00 28 10.2
comp=Z,46nm,1.0s
FORT Forrest 39.69 193 P **P** **00 28 16.0 +0.3**
baz=40,SNR=20
FORT Forrest 39.69 193 IAmb IAmb 00 28 16.8
comp=Z,43nm,0.7s
STKA Stephens Creek 39.89 175 P **P** **00 28 18.0 +0.7**
baz=40,SNR=9.8
STKA Stephens Creek 39.89 175 P **P** **00 28 17.4 0.0**
comp=Z,16nm,1.0s,baz=346,slow=9.1,SNR=9.3
STKA PcP **PcP** **00 30 23.6 +0.8**
comp=Z,4.1nm,0.9s,baz=288,slow=3.2,SNR=2.9
STKA LR LR 00 45 56.0
comp=Z,593nm,19.8s,baz=1.7,slow=38
HHC Hu-ho-hao-te 40.03 329 P **P** **00 28 22.5 +3.9**
HHC pmax pmax
comp=Z,9.0nm,0.9s
CMSA Cobar Meteorol 40.13 169 P **P** **00 28 21.6 +2.3**
baz=40,SNR=15
GSI Gunungsitoli 40.43 263 P **P** **00 28 19.3 -2.8**
GSI IAmb IAmb 00 28 36.6
comp=Z,30nm,0.8s
ARMA Armidale 40.56 161 P **P** **00 28 25.6 +2.6**
baz=41,SNR=7.2
ARMA Armidale 40.56 161 P **P** **00 28 24.2 +1.1**
ARMA IAmb IAmb 00 28 35.0
comp=Z,43nm,1.3s
BTO Baotou 40.66 327 *e*P **P** **00 28 25.1 +1.3**
BTO S S 00 34 43.5 +11
BBOO Buckleboo 40.67 182 P **P** **00 28 24.4 +0.7**
baz=41,SNR=8.9
BBOO Buckleboo 40.67 182 IAmb IAmb 00 28 34.1
comp=Z,29nm,0.9s
DZM Mont Dzumac 41.19 137 *e*S **S** **00 34 43.0 +2.7**
comp=Z,514nm,27.9s
DZM *e*LR LR 00 39 50.7
comp=Z,2µm,31.0s
DZM Mont Dzumac 41.19 137 P **P** **00 28 28.6 +0.2**
comp=Z,11nm,1.1s,baz=320,slow=9.5,SNR=3.0
HTT Hallett 41.28 178 P **P** **00 28 29.9 +1.1**
baz=42,SNR=4.8
KLR Kul'dur 41.33 354*c i*P **P** **00 28 29.8 +0.8**
KLR pmax pmax
comp=Z,59nm,0.9s
KLR Kul'dur 41.33 354 P **P** **00 28 29.6 +0.6**
comp=Z,26nm,0.6s,baz=177,slow=5.3,SNR=59
LZH Lanzhou 41.54 317 ⇑P **P** **00 28 31.7 +0.5**
LZH pP sP 00 28 39.7 -1.5
LZH S **S** **00 34 46.8 +1.3**
LZH SS **SnSn** **00 37 58.2 -2.9**
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,420nm,4.3s
LZH LR LR
comp=Z,640nm,15.7s
LZH LR LR
comp=Z,740nm,15.3s
LZH LR LR
comp=Z,1µm,15.2s
MORW Morawa 42.36 209 P **P** **00 28 36.8 -0.9**
GRNR Gornyy 42.59 359 *e*P **P** **00 28 36.7 -2.6**
GRNR pmax pmax
comp=Z,20nm,1.7s
GRNR MLR MLR
comp=N,800nm,17.0s
GRNR MLR MLR
comp=Z,600nm,18.0s
NWAO Narrogin (SRO) 45.14 204 P **P** **00 28 59.1 -0.9**
NWAO pmax pmax
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 45.14 204 P **P** **00 28 59.1 -0.9**
GTA Gaotai 46.03 319 ⇑P **P** **00 29 07.3 +0.1**
GTA pP sP 00 29 16.7 -0.6
GTA sP pwP 00 29 20.6 -0.4
GTA PcP **PcP** **00 30 44.4 +0.9**
GTA S **S** **00 35 50.8 -0.1**
GTA pmax pmax
comp=Z,23nm,1.1s
GTA pmax pmax
comp=Z,320nm,7.6s
GTA LR LR
comp=Z,430nm,15.2s
GTA LR LR
comp=Z,420nm,16.5s
GTA LR LR
comp=Z,680nm,16.2s
ZEA Zeya 46.31 352 *e*P **P** **00 29 07.2 -1.8**
ZEA *e*S S 00 36 06.0 +12
ZEA pmax pmax
comp=N,36nm,1.2s
ZEA pmax pmax
comp=Z,80nm,1.8s
ZEA smax smax
comp=N,700nm,10.0s
ZEA MLR MLR
comp=Z,1µm,18.0s
ZEA MLR MLR
comp=E,900nm,17.0s
ZEA MLR MLR
comp=N,800nm,16.0s
RKGY Rocky Gully 46.71 204 P **P** **00 29 13.6 +1.2**
baz=47,SNR=5.2
SHL Shillong 46.83 298 IAmb IAmb 00 29 13.4
comp=Z,18nm,0.7s
ULN Ulaanbaatar 47.38 332*c i*P **P** **00 29 18.3 +0.7**
ULN pmax pmax
comp=Z,68nm,2.5s
ULN Ulaanbaatar 47.38 332 P **P** **00 29 18.4 +0.8**
ULN IAmb IAmb 00 29 19.0
comp=Z,18nm,0.9s
SONM Songino Array 47.66 332 P **P** **00 29 20.0 +0.2**
SONM pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 47.66 332 P **P** **00 29 20.5 +0.7**
comp=Z,14nm,0.9s,baz=150,slow=9.1,SNR=57
SONM PcP **PcP** **00 30 49.1 0.0**
comp=Z,3.7nm,0.6s,baz=152,slow=4.2,SNR=5.7
SONM LR LR 00 50 42.3
comp=Z,965nm,18.0s,baz=141,slow=38
SONM Songino Array 47.66 332 P **P** **00 29 20.0 +0.2**
PETK Petropavlovsk- 47.79 16 P **P** **00 29 20.6 0.0**
PETK Petropavlovsk- 47.79 16 P **P** **00 29 20.7 +0.1**
comp=Z,4.5nm,0.7s,baz=186,slow=8.5,SNR=6.8
PETK LR LR 00 47 24.8
comp=Z,361nm,20.7s,baz=227,slow=34
PETK Petropavlovsk- 47.79 16 P **P** **00 29 20.6 0.0**
CIT Chita 48.06 340 *e*P **P** **00 29 22.7 -0.1**
CIT *e* 00 29 31.4
LSA Lhasa 48.53 303 P **P** **00 29 28.0 +0.8**
LSA pmax pmax
comp=Z,14nm,0.9s
LSA Lhasa 48.53 303 P **P** **00 29 28.0 +0.8**
LSA IAmb IAmb 00 29 43.4
comp=Z,14nm,0.9s
TAPN Taplejung 50.87 299 *e*P **P** **00 29 44.3 -0.6**
comp=Z,45nm,1.2s
ZAK Zakamensk 50.91 332 *e*P **P** **00 29 44.3 -0.3**
ZAK pmax pmax
comp=Z,26nm,1.7s
ODAN Odare 51.05 298 *e*P **P** **00 29 45.5 -0.7**
comp=Z,39nm,0.8s
TLY Talaya 51.66 334 P **P** **00 29 50.9 +0.9**
SNR=5.1
TLY P **P** **00 29 50.9 +0.9**
SNR=5.1
TLY Talaya 51.66 334 *e*P **P** **00 29 50.7 +0.6**
TLY *e* 00 31 54.1
TLY *e*S **S** **00 37 09.4 -0.1**
TLY pmax pmax
comp=Z,92nm,2.0s
TLY Talaya 51.66 334 P **P** **00 29 50.3 +0.3**
KNTN Kanton 51.68 100 P **P** **00 29 50.5 -0.3**
RAMN Ramite 51.76 298 *e*P **P** **00 29 51.0 -0.5**
comp=Z,23nm,0.9s
IRK Irkutsk 51.79 335 *e*P **P** **00 29 49.7 -1.3**
IRK pmax pmax
comp=Z,88nm,2.2s
JOHN Johnston Islan 52.22 75 P **P** **00 29 55.3 +0.6**
JIRN Jiri 52.26 299 *e*P **P** **00 29 54.9 -0.5**
comp=Z,34nm,0.6s
MA2 Magadan 52.36 8 P **P** **00 29 55.0 -0.1**
comp=Z,4.4nm,0.6s,baz=224,slow=17,SNR=2.7
MA2 LR LR 00 50 37.2
comp=Z,201nm,21.3s,baz=198,slow=34
GUN Gumba 52.58 299 *e*P **P** **00 29 57.2 -0.5**
comp=Z,97nm,1.0s
BOD Bodaibo 52.89 344 *e*P **P** **00 29 59.2 +0.1**
BOD pmax pmax
comp=Z,30nm,2.0s
PKI Pulchoki 52.92 298 *e*P **P** **00 29 59.2 -1.0**
comp=Z,23nm,0.9s
PKIN Phulchoki 52.93 298 *e*P **P** **00 29 59.2 -1.0**
KKN Kakani 53.07 299 *e*P **P** **00 30 00.3 -0.9**
comp=Z,32nm,0.8s
DMN Daman 53.19 298 *e*P **P** **00 30 01.4 -0.7**
SMY Shemya 53.51 27 P **P** **00 30 02.7 -1.0**
SMY pmax pmax
comp=Z,213nm,1.0s
SMY Shemya 53.51 27 P **P** **00 30 02.7 -1.0**
GKN Gorkha 53.67 299 *e*P **P** **00 30 04.8 -0.8**
YAK Yakutsk 54.18 355 *e*P **P** **00 30 07.4 -1.0**
YAK *e*PP **sP** **00 30 18.2 +0.6**
YAK *e* 00 31 13.0
YAK *e* 00 32 16.4
YAK *e*PPP PPP 00 33 14.7
YAK *e*S **S** **00 37 42.1 -1.4**
YAK *e* 00 39 51.6
YAK *e*SS **SS** **00 41 27.8 +2.4**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,390nm,5.0s
YAK pmax pmax
comp=N,218nm,4.7s
YAK pmax pmax
comp=E,366nm,5.1s
YAK smax smax
comp=N,269nm,3.6s
YAK smax smax
comp=E,293nm,5.9s
YAK Yakutsk 54.18 355 LR LR 00 51 47.8
comp=E,831nm,18.9s,baz=170,slow=34
YAK Yakutsk 54.18 355 P **P** **00 30 07.8 -0.6**
YAK IAmb IAmb 00 30 08.8
comp=Z,24nm,0.7s
DANN Dangsing 54.50 299 *e*P **P** **00 30 11.0 -0.8**
comp=Z,66nm,0.9s
KOLN Koldanda 54.53 298 *e*P **P** **00 30 11.3 -0.6**
comp=Z,39nm,0.8s
SEY Seymchan 55.81 8⇑*e*P **P** **00 30 21.3 +1.1**
SEY Seymchan 55.81 8 LR LR 00 53 25.4
comp=Z,350nm,20.9s,baz=156,slow=35
WMQ Urumqi 56.10 318 *e*P **P** **00 30 23.4 +0.6**
WMQ pP sP 00 30 31.7 -1.4
WMQ sP pwP 00 30 38.7 +2.2
WMQ S **S** **00 38 12.5 +2.5**
WMQ pmax pmax
comp=Z,18nm,1.5s
WMQ pmax pmax
comp=Z,99nm,3.8s
WMQ LR LR
comp=Z,850nm,19.9s
WMQ LR LR
comp=Z,1µm,27.9s
WMQ LR LR
comp=Z,160nm,23.9s
WMQ Urumqi 56.10 318 IAmb IAmb 00 30 32.8
comp=Z,31nm,1.0s
KIWB Kanaga Island 57.20 32 P **P** **00 30 30.6 +0.3**
HYB Hyderabad 58.15 285 *i* P **P** **00 30 36.0 -1.7**
BKZ Black Stump Fm 59.23 145 P **P** **00 30 45.5 +0.8**
BKZ IAmb IAmb 00 30 47.5
comp=Z,21nm,1.4s
RPZ Rata Peaks 59.79 152 P **P** **00 30 48.6 +0.2**
RPZ IAmb IAmb 00 31 05.3
comp=Z,22nm,0.9s
CMWZ Cape Campbell 59.84 149 P **P** **00 30 49.9 +1.0**
KHZ Kahutara 59.99 150 P **P** **00 30 49.9 0.0**
KHZ IAmb IAmb 00 30 59.7
comp=Z,33nm,1.2s
MK31 Makanchi Array 60.77 320 *i* P **P** **00 30 55.0 -0.2**
MK31 pmax pmax
comp=Z,21nm,0.8s
MK31 Makanchi Array 60.77 320 IAmb IAmb 00 30 56.1
comp=Z,19nm,0.8s
MKAR Makanchi Array 60.77 320*c i*P **P** **00 30 55.5 +0.3**
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR Makanchi Array 60.77 320 P **P** **00 30 55.3 0.0**
comp=Z,22nm,0.7s,baz=104,slow=8.7,SNR=162
MKAR LR LR 00 58 46.1
comp=Z,390nm,18.0s,baz=84,slow=38
MKAR Makanchi Array 60.77 320 P **P** **00 30 55.0 -0.2**
MAKZ Makanchi 60.97 320 P **P** **00 30 56.3 -0.3**
MAKZ pmax pmax
comp=Z,37nm,1.0s
MAKZ Makanchi 60.97 320 P **P** **00 30 56.9 +0.3**
PDGK Podgornoye 61.51 315 P **P** **00 30 59.9 -0.6**
PDGK pmax pmax
comp=Z,29nm,1.1s
NIKH Nikolski High 62.17 33 P **P** **00 31 04.2 -0.3**
ZALV Zalesovo Beam 62.20 328 P **P** **00 31 04.2 -0.6**
comp=Z,4.7nm,0.6s,baz=114,slow=6.7,SNR=23
ZALV PcP **PcP** **00 31 43.3 -1.2**
comp=Z,5.3nm,0.7s,baz=121,slow=2.4,SNR=3.9
ZALV LR LR 00 58 11.4
comp=Z,343nm,19.9s,baz=118,slow=36
ZALV Zalesovo Beam 62.20 328 P **P** **00 31 04.0 -0.7**
BILL Bilibino 62.88 12 *e*P **P** **00 31 08.8 -0.2**
BILL *e* 00 31 45.7
BILL pmax pmax
comp=Z,66nm,1.7s
BILL Bilibino 62.88 12 P **P** **00 31 09.3 +0.3**
KSH Kashi 63.11 310 P **P** **00 31 13.5 +2.2**
KSH PP **PP** **00 33 34.6 +4.4**
KSH S **S** **00 39 40.5 -0.3**
KSH pmax pmax
comp=Z,320nm,1.9s
KSH pmax pmax
comp=Z,390nm,5.3s
KSH LR LR
comp=Z,2µm,13.6s
KSH LR LR
comp=Z,1µm,13.6s
KSH LR LR
comp=Z,200nm,17.3s
HON Honolulu 63.30 70 P **P** **00 31 11.7 -0.9**
HON pmax pmax
comp=Z,84nm,0.9s
HON Honolulu 63.30 70 P **P** **00 31 11.7 -0.9**
NRN Naryn 63.52 312 IAmb IAmb 00 31 32.0
comp=Z,18nm,1.1s
TIXI Tiksi 63.76 357*c i*P **P** **00 31 14.2 -0.5**
TIXI pmax pmax
comp=Z,33nm,2.5s
TIXI Tiksi 63.76 357 LR LR 00 58 28.5
comp=Z,426nm,18.4s,baz=282,slow=36
TIXI Tiksi 63.76 357 P **P** **00 31 14.1 -0.6**
NIL Nilore 64.26 303 P **P** **00 31 18.7 -0.1**
NIL pmax pmax
comp=Z,51nm,1.0s
NIL Nilore 64.26 303 P **P** **00 31 18.7 -0.1**
AKUT Akutan 64.33 33 P **P** **00 31 18.4 -0.3**
KURK Kurchatov 64.41 323 P **P** **00 31 19.5 +0.1**
SNR=31
KURK P **P** **00 31 19.5 +0.1**
SNR=31
KURK Kurchatov 64.41 323*c i*P **P** **00 31 19.2 -0.2**
KURK pmax pmax
comp=Z,74nm,0.7s
KURK Kurchatov 64.41 323 P **P** **00 31 19.0 -0.4**
AAK Ala-Archa 64.88 313*c e*P **P** **00 31 23.0 +0.1**
AAK pmax pmax
comp=Z,22nm,2.5s
AAK Ala-Archa 64.88 313 P **P** **00 31 22.3 -0.6**
ARSB Arslanbob 65.72 312 P **P** **00 31 28.4 +0.1**
ARSB IAmb IAmb 00 31 29.0
comp=Z,16nm,0.8s
BTK Batken 67.12 310 IAmb IAmb 00 31 52.5
comp=Z,24nm,1.4s
KBL Kabul 67.83 304 P **P** **00 31 41.0 -1.0**
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 67.83 304 P **P** **00 31 41.0 -1.0**
KK31 Karatay Array 67.84 313 IAmb IAmb 00 31 43.1
comp=Z,38nm,1.4s
KKAR Karatay Array 67.84 313 P **P** **00 31 40.8 -0.9**
KKAR Karatay Array 67.84 313 P **P** **00 31 40.8 -0.9**
KKAR Karatay Array 67.84 313 IAmb IAmb 00 31 43.1
comp=Z,38nm,1.4s
CNBA Chernabura Isl 67.94 34 P **P** **00 31 42.2 +0.2**
CHGN Chignik 69.04 32 P **P** **00 31 48.6 -0.2**
NRIK Noril'sk 69.15 343 P **P** **00 31 49.1 -0.2**
comp=Z,7.0nm,0.8s,baz=130,slow=6.2,SNR=21
NRIK LR LR 01 02 57.0
comp=Z,540nm,18.1s,baz=134,slow=37
BRVK Borovoye 70.03 324 P **P** **00 31 55.1 +0.1**
SNR=22
BRVK P **P** **00 31 55.1 +0.1**
SNR=22
BRVK Borovoye 70.03 324*c i*P **P** **00 31 55.0 +0.1**
BRVK pmax pmax
comp=Z,41nm,0.6s
BRVK Borovoye 70.03 324 P **P** **00 31 55.2 +0.1**
CHIR Chirikof Islan 70.40 33 P **P** **00 31 57.9 +0.7**
SVW2 Sparrevohn 71.87 28 P **P** **00 32 06.8 +0.7**
SVW2 IAmb IAmb 00 32 08.5
comp=Z,43nm,1.4s
OHAK Old Harbor 72.00 32 P **P** **00 32 07.3 +0.4**
OHAK IAmb IAmb 00 32 25.6
comp=Z,44nm,1.4s
KDAK Kodiak Island 72.50 32 P **P** **00 32 10.5 +0.7**
KDAK pmax pmax
comp=Z,48nm,1.4s
KDAK Kodiak Island 72.50 32 LR LR 00 59 39.4
comp=Z,247nm,19.9s,baz=259,slow=32
KDAK Kodiak Island 72.50 32 P **P** **00 32 10.6 +0.7**
KDAK IAmb IAmb 00 32 25.9
comp=Z,48nm,1.4s
BRLK Bradley Lake 73.80 30 IAmb IAmb 00 32 18.0
comp=Z,24nm,0.8s
PPLA Purkeypile 73.89 27 IAmb IAmb 00 32 29.4
comp=Z,57nm,1.4s
SKT Skwentna 73.97 28 IAmb IAmb 00 32 22.2
comp=Z,30nm,1.4s
IMAR Indian Mountai 74.06 23 P **P** **00 32 18.8 -0.1**
SEW Seward 74.57 30 P **P** **00 32 22.1 +0.2**
RC01 Rabbit Creek A 74.62 29 IAmb IAmb 00 32 23.6
comp=Z,21nm,0.8s
BPAW Bear Paw Mtn. 74.70 26 IAmb IAmb 00 32 23.9
comp=Z,36nm,1.2s
PMR Palmer 75.01 28 IAmb IAmb 00 32 27.6
comp=Z,34nm,1.4s
MLY Manley 75.02 25 IAmb IAmb 00 32 25.9
comp=Z,15nm,0.9s
GHO Glory Hole Cre 75.14 28 IAmb IAmb 00 32 35.4
comp=Z,34nm,1.2s
BWN Browne 75.37 26 IAmb IAmb 00 32 27.7
comp=Z,24nm,1.0s
SML Sawmill 75.42 28 IAmb IAmb 00 32 27.9
comp=Z,29nm,0.9s
RND Reindeer 75.48 26 IAmb IAmb 00 32 32.3
comp=Z,25nm,1.4s
GLI Glacier Island 75.85 29 P **P** **00 32 29.1 -0.3**
AB31 Akbulak array 75.89 319 *i* P **P** **00 32 28.8 -1.0**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 75.89 319 P **P** **00 32 28.9 -0.9**
ABKAR Akbulak array 75.89 319 IAmb IAmb 00 32 29.9
comp=Z,15nm,0.8s
WRH Wood River Hil 76.02 25 IAmb IAmb 00 32 30.5
comp=Z,34nm,1.3s
MDM Murphy Dome 76.05 25 P **P** **00 32 29.9 -0.6**
HIN Hinchinbrook I 76.07 30 P **P** **00 32 31.0 +0.4**
DHY Denali Highway 76.08 27 IAmb IAmb 00 32 49.2
comp=Z,25nm,1.4s
SVE Sverdlovsk 76.17 327⇓*e*P **P** **00 32 30.9 -0.3**
SVE pmax pmax
comp=Z,35nm,1.0s
CCB Clear Creek Bu 76.17 25 IAmb IAmb 00 32 31.2
comp=Z,18nm,1.2s
COLA College 76.19 25 *i* P **P** **00 32 31.1 -0.1**
PPT Papeete 76.28 110 LR LR 01 02 11.3
comp=Z,288nm,18.5s,baz=316,slow=33
PPT2 Papeete2 76.28 110 *e*S **S** **00 42 16.3 +0.2**
comp=Z,208nm,29.5s
PPT2 Papeete2 76.28 110 *e*LQ LQ 00 52 50.3
comp=Z,386nm,25.0s
PPT2 *e*LR LR 00 56 01.8
comp=Z,282nm,21.2s,baz=285
PPT2 Papeete2 76.28 110 *e*T T 01 56 02.5
comp=Z,2.5nm,0.3s
TOLK Toolik Lake Re 76.31 21 P **P** **00 32 32.8 +1.0**
baz=257
TOLK Toolik Lake Re 76.31 21 IAmb IAmb 00 32 33.4

comp=Z,15nm,0.8s
WBK Wadi Bani Khal 76.49 291 P **P** **00 32 33.2 -0.6**
WBK P **P** **00 32 33.2 -0.6**
HDA Harding Lake 76.50 26 P **P** **00 32 32.1 -0.8**
baz=260
HDA Harding Lake 76.50 26 IAmb IAmb 00 32 33.8
comp=Z,23nm,1.1s
ILAR Eielson Array 76.58 25 P **P** **00 32 32.6 -0.9**
ILAR Eielson Array 76.58 25 P **P** **00 32 32.7 -0.7**
comp=Z,3.1nm,0.7s,baz=241,slow=6.2,SNR=35
ILAR LR LR 01 03 08.0
comp=Z,186nm,19.8s,baz=264,slow=33
ILAR Eielson Array 76.58 25 P **P** **00 32 32.6 -0.9**
CASY Casey 76.74 191 P **P** **00 32 33.9 -0.3**
CASY IAmb IAmb 00 32 41.3
comp=Z,24nm,1.1s
WSAR Wadi Sarin 76.77 292 P **P** **00 32 34.7 -0.7**
GEYT Alibeck 76.81 307 P **P** **00 32 35.5 +0.2**
comp=Z,3.8nm,0.8s,baz=242,slow=3.2,SNR=10
GEYT LR LR 01 10 02.9
comp=Z,145nm,18.0s,baz=115,slow=39
GEYT Alibeck 76.81 307 P **P** **00 32 35.7 +0.3**
GYA0B ALIBECK ARRAY 76.81 307 IAmb IAmb 00 32 38.2
comp=Z,27nm,1.4s
PAX Paxson 76.92 27 P **P** **00 32 35.6 +0.1**
PAX pmax pmax
comp=Z,34nm,1.4s
PAX Paxson 76.92 27 P **P** **00 32 35.6 +0.1**
PAX IAmb IAmb 00 32 43.9
comp=Z,34nm,1.4s
RAGM Ragged Mountai 76.97 30 P **P** **00 32 36.6 +0.8**
HMT Hamilton 77.17 30 P **P** **00 32 37.1 +0.2**
HMT IAmb IAmb 00 32 38.5
comp=Z,37nm,1.0s
BIDO Bidbid 77.22 292 P **P** **00 32 37.3 -0.5**
ARU Arti 77.27 326*c iP* **P** **00 32 36.6 -0.9**
ARU 00 35 30.6
ARU S **S** **00 42 25.6 +0.2**
ARU SS **SS** **00 47 18.4 -5.1**
ARU pmax pmax
comp=Z,62nm,1.9s
ARU MLR MLR
comp=Z,527nm,18.0s
ARU Arti 77.27 326 P **P** **00 32 36.7 -0.7**
ARU IAmb IAmb 00 32 43.7
comp=Z,20nm,0.7s
PMOR Pomariorio Ree 77.30 107 *e*T T 01 57 18.0
comp=Z,4.4nm,0.2s
RIDG Independent Ri 77.31 26 IAmb IAmb 00 32 38.3
comp=Z,22nm,1.1s
SMDO Samad 77.31 292 P **P** **00 32 37.5 -1.1**
SUCK Suckling Hills 77.38 30 P **P** **00 32 38.3 +0.2**
FYU Fort Yukon 77.55 24 IAmb IAmb 00 32 40.4
comp=Z,16nm,0.8s
VRDI Verde Repeater 77.66 29 IAmb IAmb 00 32 41.0
comp=Z,18nm,0.9s
TBI Tubuai 77.75 116 *e*S **S** **00 42 33.7 +2.0**
comp=Z,766nm,28.8s
TBI Tubuai 77.75 116 *e*LR LR 00 56 38.9
comp=Z,382nm,34.0s
MCARA McCarthy VSAT 77.88 29 P **P** **00 32 40.8 0.0**
MCARA IAmb IAmb 00 32 42.9
comp=Z,34nm,1.0s
TGL Tana Glacier 77.91 30 P **P** **00 32 41.2 +0.1**
BMAR Burnt Mountain 77.92 23 P **P** **00 32 41.5 +0.6**
HOQ Hoqain 77.96 292 P **P** **00 32 41.5 -0.5**
SNR=5.2
BSY Bisya 78.12 292 P **P** **00 32 41.9 -1.0**
BSY P **P** **00 32 41.9 -1.0**
BALM Baldy 78.17 29 P **P** **00 32 42.6 +0.1**
BALM IAmb IAmb 00 32 44.0
comp=Z,24nm,1.0s
MESA MESA 78.30 30 P **P** **00 32 44.1 +0.7**
YAH Yahtse 78.42 30 P **P** **00 32 44.7 +0.6**
YAH IAmb IAmb 00 32 46.0
comp=Z,40nm,1.1s
BARN Barnard Glacie 78.51 29 P **P** **00 32 45.2 +0.7**
BARN IAmb IAmb 00 32 55.9
comp=Z,20nm,0.9s
BCAR Beaver Creek A 78.60 27 P **P** **00 32 45.0 +0.1**
ARQ Araqi 78.70 292 P **P** **00 32 45.3 -0.8**
SNR=7.3
BANOM Banah 78.73 295 P **P** **00 32 45.9 -0.3**
BANOM P **P** **00 32 45.9 -0.3**
MDH Madha 78.77 294 P **P** **00 32 44.9 -1.5**
UOSS Minazif 78.88 294 P **P** **00 32 46.0 -1.1**
UOSS Minazif 78.88 294 P **P** **00 32 46.4 -0.7**
UOSS IAmb IAmb 00 32 55.1
comp=Z,22nm,1.4s
HATD Hatta, Dubai 78.95 294 P **P** **00 32 45.7 -1.8**
SNR=5.5
DAWY Dawson 79.74 26 IAmb IAmb 00 32 55.2
comp=Z,47nm,1.4s
DHAK Deception Hill 80.15 31 P **P** **00 32 52.7 -0.6**
DHAK IAmb IAmb 00 32 53.3
comp=Z,15nm,0.8s
EPYK Eagle Plains 80.93 24 P **P** **00 32 57.8 +0.4**
baz=269
EPYK Eagle Plains 80.93 24 IAmb IAmb 00 33 01.4
comp=Z,48nm,1.3s
SKAG Skagway 81.62 31 IAmb IAmb 00 33 13.9
comp=Z,33nm,1.2s
WHY Whitehorse 81.81 30 IAmb IAmb 00 33 04.2
comp=Z,25nm,1.0s
INK Inuvik 82.15 22 P **P** **00 33 03.5 -0.1**
comp=Z,8.0nm,1.0s,baz=244,slow=2.9,SNR=7.4
INK Inuvik 82.15 22 IAmb IAmb 00 33 05.0
comp=Z,31nm,1.4s
MSEY Mahe Island 82.88 264 P **P** **00 33 08.2 -0.5**
MSEY pmax pmax
comp=Z,42nm,1.4s
MSEY Mahe Island 82.88 264 P **P** **00 33 08.2 -0.5**
MSEY IAmb IAmb 00 33 10.0
comp=Z,42nm,1.4s
PRGR Permogore 83.91 331⇓*iP* **P** **00 33 12.7 -0.2**
PRGR pmax pmax
comp=Z,29nm,0.9s
DLBC Dease Lake 84.44 32 LR LR 01 08 22.4
comp=Z,140nm,18.5s,baz=314,slow=34
DLBC Dease Lake 84.44 32 P **P** **00 33 16.6 +0.8**
A36M Sachs Harbour 84.60 18 P **P** **00 33 16.6 +0.4**
baz=279
AKT Akhty 84.63 311 *e*P **P** **00 33 17.3 +0.1**
AKT pmax pmax
comp=Z,36nm,1.3s
MAK Makhachkala 84.64 312 *e*P **P** **00 33 14.2 -2.9**
MAK *e*S S 00 43 33.7 -9.0
MAK *e*SS **SS** **00 49 20.7 +6.5**
MAK pmax pmax
comp=Z,332nm,1.6s
RER Riviere de l'E 85.36 248 P **P** **00 33 21.2 0.0**
C36M Paulatuk 85.45 21 P **P** **00 33 20.5 0.0**
baz=281
GROC Groznyy 85.86 313 *e*P **P** **00 33 19.6 -3.6**
GROC *e* 00 36 39.6
GROC *e*S S 00 43 40.1 -15
GROC pmax pmax
comp=Z,50nm,1.1s
BBB Bella Bella 86.32 38 LR LR 01 05 45.4
comp=Z,139nm,19.9s,baz=292,slow=31
KLMR Klimovskoe 86.95 331 *e*P **P** **00 33 25.5 -2.5**
KLMR pmax pmax
comp=Z,37nm,1.0s
KLMR Klimovskoe 86.95 331 *e*P **P** **00 33 25.6 -2.5**
KLMR AMP 00 33 34.3
comp=Z,37nm,1.0s
KLMR LQ LQ 01 07 01.6
KLMR LQ LQ 01 07 01.6
KLMR LR LR 01 13 23.6
TMCR Tamitsa 86.96 334 *e*P **P** **00 33 25.7 -2.4**
TMCR pmax pmax
comp=Z,27nm,0.8s
GNI Garni 87.05 310 P **P** **00 33 31.2 +1.9**
SNR=5.2
GNI P **P** **00 33 31.2 +1.9**
SNR=5.2
GNI Garni 87.05 310*ce*P **P** **00 33 29.2 -0.1**
GNI pmax pmax
comp=Z,143nm,1.7s
GNI Garni 87.05 310 P **P** **00 33 30.7 +1.4**
ZEI Tsey 87.30 313 *e*P **P** **00 33 28.4 -2.1**
ZEI pmax pmax
comp=Z,28nm,1.4s
SBA Scott Base 87.30 174 P **P** **00 33 31.7 +2.3**
SBA pmax pmax
comp=Z,19nm,1.2s
SBA Scott Base 87.30 174 P **P** **00 33 31.7 +2.3**
SBA IAmb IAmb 00 33 49.7
comp=Z,19nm,1.1s
VRH Novokhopyorsk 87.45 321 *e*P **P** **00 33 26.8 -4.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
GOF Gofitskoye 87.57 315⇑*e*P **P** **00 33 31.3 -0.2**
GOF pmax pmax
comp=Z,32nm,1.0s
AKH Akhalkalaki 87.80 311 ⇑P **P** **00 33 32.7 -0.2**
AKH Akhalkalaki 87.80 311 IAmb IAmb 00 33 34.8
comp=Z,26nm,1.2s
KBZ Khabaz 87.88 314 P **P** **00 33 31.9 -1.1**
comp=Z,4.1nm,1.0s,baz=40,slow=8.6,SNR=7.1
KBZ LR LR 01 17 18.7
comp=Z,129nm,19.1s,baz=58,slow=39
KIV Kislovodsk 87.99 314 *e*P **P** **00 33 32.3 -1.4**
KIV *e* 00 43 57.8
KIV *e*SS SS 00 50 02.6 -0.8
KIV pmax pmax
comp=Z,24nm,1.0s
KIV pmax pmax
comp=Z,121nm,4.3s
KIV Kislovodsk 87.99 314 P **P** **00 33 33.3 -0.3**
KIV IAmb IAmb 00 33 48.1
comp=Z,20nm,1.1s
SPA0 Spitsbergen Ar 88.26 350 P **P** **00 33 33.3 -0.9**
KBS Kingsbay 88.56 351 P **P** **00 33 38.3 +2.8**
KBS pmax pmax
comp=Z,101nm,0.7s
KBS Kingsbay 88.56 351 P **P** **00 33 38.3 +2.8**
RAYN Ar Rayn 88.74 293 P **P** **00 33 37.2 -0.3**
RAYN pmax pmax
comp=Z,26nm,1.4s
RAYN Ar Rayn 88.74 293 P **P** **00 33 37.2 -0.3**
RAYN IAmb IAmb 00 33 47.1
comp=Z,26nm,1.4s
LPSR Galich'ya Gora 88.90 323 *e*P **P** **00 33 35.8 -1.8**
LPSR pmax pmax
comp=Z,20nm,1.4s
MOS Moscow 88.98 326 *e*P **P** **00 33 35.1 -2.8**
MOS *e* 00 37 04.8
MOS pmax pmax
comp=Z,37nm,1.3s
VORD Divnogorie 89.00 321 *e*P **P** **00 33 35.4 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 89.03 322 *e*P **P** **00 33 35.2 -3.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 89.71 326 *e*P **P** **00 33 39.8 -1.5**
OBN *e* 00 37 12.0
OBN *e*PPP PPP 00 39 09.0
OBN pmax pmax
comp=Z,34nm,1.7s
ARCES ARCESS Array B 90.04 341 P **P** **00 33 41.8 -0.8**
comp=Z,6.4nm,0.8s,baz=87,slow=6.2,SNR=11
ARCES LR LR 01 19 01.8
comp=Z,403nm,18.3s,baz=45,slow=39
ARCES ARCESS Array B 90.04 341 P **P** **00 33 41.9 -0.7**
SOC Sochi 90.17 314 *e*P P 00 33 36.8 -7.0
SOC *e* 00 37 14.1
SOC *e*SS SS 00 50 37.4 +2.5
SOC *e*SSS SSS 00 54 12.2
SOC MLR MLR
comp=Z,105nm,12.0s
D03D Eldon 90.35 42 P **P** **00 33 45.9 +1.4**
baz=282
YKW3 Yellowknife Ar 90.95 26 P **P** **00 33 46.4 -0.6**
YKW3 IAmb IAmb 00 33 47.9
comp=Z,13nm,0.9s
YKA Yellowknife Ar 90.98 26 P **P** **00 33 46.1 -1.0**
YKA Yellowknife Ar 90.98 26 P **P** **00 33 47.2 +0.1**
comp=Z,6.7nm,0.8s,baz=294,slow=4.7,SNR=8.7
YKA Yellowknife Ar 90.98 26 P **P** **00 33 46.1 -1.0**
RES Resolute Bay 91.48 12 P **P** **00 33 48.8 -0.4**
comp=Z,3.6nm,0.8s,baz=301,slow=3.2,SNR=11
RES Resolute Bay 91.48 12 P **P** **00 33 48.7 -0.5**
RES IAmb IAmb 00 33 49.4
comp=Z,7.5nm,1.0s
HUMO Hull Mountain 91.49 47 P **P** **00 33 50.9 +0.9**
HUMO IAmb IAmb 00 34 07.6
comp=Z,8.8nm,1.2s
MAW Mawson 91.65 202 P **P** **00 33 50.9 +0.9**
baz=92,SNR=8.9
MAW Mawson 91.65 202 P **P** **00 33 50.4 +0.4**
comp=Z,7.2nm,0.9s,baz=76,slow=8.0,SNR=12
MAW LR LR 01 12 15.0
comp=Z,126nm,19.4s,baz=60,slow=34
MAW Mawson 91.65 202 P **P** **00 33 50.9 +0.9**
YBH Yreka Blue Hor 91.85 48 P **P** **00 33 52.3 +0.5**
YBH pmax pmax
comp=Z,9.0nm,1.2s
YBH Yreka Blue Hor 91.85 48 P **P** **00 33 52.3 +0.5**
YBH IAmb IAmb 00 33 53.6
comp=Z,8.7nm,1.2s
N02D Trinity Center 92.02 48 P **P** **00 33 54.2 +1.7**
baz=282
L04D Klamath Falls 92.04 47 P **P** **00 33 53.6 +0.9**
baz=283
O02D Mt. Diablo Mer 92.13 49 P **P** **00 33 54.8 +1.7**
baz=282
WDC Whiskeytown Da 92.22 49 IAmb IAmb 00 33 55.2
comp=Z,9.5nm,1.3s
J05D Fort Rock, OR 92.57 46 P **P** **00 33 55.9 +0.8**
baz=284
B08A Colville Reser 92.61 41 IAmb IAmb 00 33 56.1
comp=Z,11nm,1.1s
PINE Pine Mountain 92.66 45 IAmb IAmb 00 34 09.6
comp=Z,15nm,1.2s
O03E Paynes Creek 92.84 49 P **P** **00 33 56.8 +0.4**
baz=283
FIA1 FINESS Array S 93.00 333 P **P** **00 33 54.9 -1.5**
FINES FINESS Array B 93.01 333 *i P* **P** **00 33 54.7 -1.8**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 93.01 333 P **P** **00 33 54.9 -1.6**
comp=Z,4.1nm,0.7s,baz=69,slow=5.3,SNR=18
FINES LR LR 01 20 03.9
comp=Z,555nm,18.0s,baz=60,slow=38
SIM Simferopol' 93.78 316*ce*P **P** **00 33 59.1 -1.4**
SIM pmax pmax
comp=Z,11nm,0.9s
NEW Newport 94.05 40 P **P** **00 34 02.0 +0.3**
baz=287
TULEG Thule 94.15 6 P **P** **00 34 01.3 -0.2**
DAG Danmarks Havn 94.20 355 *i P* **P** **00 34 00.0 -1.7**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 94.20 355 *i P* **P** **00 34 00.0 -1.7**
comp=Z,6.7nm,0.8s
PNTR Pine Nut 94.77 50 P **P** **00 34 05.2 -0.3**
PNTR IAmb IAmb 00 34 14.9
comp=Z,5.5nm,0.7s
PAHR Pah Rah Range 94.78 49 P **P** **00 34 05.2 -0.2**
BMO Blue Mountains 94.90 44 IAmb IAmb 00 34 06.9
comp=Z,9.2nm,1.4s
AKASG Malin Array Be 95.22 323 P **P** **00 34 04.9 -2.0**
comp=Z,0.3nm,0.2s,baz=57,slow=3.8,SNR=5.0
AKASG LR LR 01 18 06.4
comp=Z,226nm,21.2s,baz=55,slow=36
BRTR Keskin Array B 95.49 311 *i P* **P** **00 34 06.1 -2.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 95.49 311 P **P** **00 34 06.5 -2.1**
comp=Z,1.1nm,0.7s,baz=121,slow=4.2,SNR=8.0
BRTR LR LR 01 24 00.0
comp=Z,68nm,18.0s,baz=67,slow=40
BRTR Keskin Array B 95.49 311 P **P** **00 34 06.1 -2.5**
WALA Waterton Lakes 95.83 39 P **P** **00 34 10.9 +0.9**
WALA IAmb IAmb 00 34 16.6
comp=Z,13nm,1.4s
KVN Kaiserville 95.91 49 P **P** **00 34 10.5 -0.1**
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN Kaiserville 95.91 49 P **P** **00 34 10.5 -0.1**
NVAR Mina Array Bea 95.92 50 P **P** **00 34 11.6 +0.9**
comp=Z,1.6nm,0.8s,baz=264,slow=5.9,SNR=16
NVAR PKKP **PKKPbc** **00 50 60.0 -0.2**
comp=Z,0.4nm,0.6s,baz=120,slow=2.6,SNR=4.2
NVAR LR LR 01 11 23.5
comp=Z,87nm,20.2s,baz=284,slow=32
NVAR Mina Array Bea 95.92 50 P **P** **00 34 11.4 +0.7**
QSPA South Pole Qui 97.94 180 P Pdif 00 34 19.5 +0.5
QSPA IAmb IAmb 00 34 28.8
comp=Z,13nm,1.1s
R11A Troy Canyon, C 98.00 49 P Pdif 00 34 21.0 +0.9
baz=287
TESR Tescani 98.27 319 ⇑P **P** **00 34 19.3 -1.5**
VRI Vrincioaia 98.45 319 ⇑P **P** **00 34 21.3 -0.4**
VRI Vrincioaia 98.45 319 ⇑P **P** **00 34 21.3 -0.4**
PLOR Plostina 98.50 319 ⇑P **P** **00 34 20.6 -1.4**
PLOR Plostina 98.50 319 ⇑P **P** **00 34 20.6 -1.4**
BISRR Bisoca 98.57 318 ⇑P **P** **00 34 21.8 -0.5**
BURAR Bucovina Array 98.78 321 ⇑P **P** **00 34 21.9 -1.3**
BURAR Bucovina Array 98.78 321 ⇑P **P** **00 34 21.9 -1.3**
BURAR Bucovina Array 98.78 321 P **P** **00 34 21.7 -1.6**
EGMT Eagleton 98.78 39 P Pdif 00 34 23.4 +0.1
baz=292
HFS Hagfors 98.97 335 P **P** **00 34 21.7 -1.9**
comp=Z,3.2nm,0.8s,baz=30,slow=6.8,SNR=3.6
MLR Muntele Rosu 99.10 319 P **Pdif** **00 34 22.8 -1.9**
comp=Z,1.1nm,0.4s,baz=277,slow=22,SNR=3.0
NOA NORSAR Array B 99.45 337 P **Pdif** **00 34 24.3 -1.6**
comp=Z,1.0nm,0.9s,baz=54,slow=4.6,SNR=3.1
NOA LR LR 01 23 16.7
comp=Z,261nm,18.5s,baz=60,slow=38
VOIR 99.70 319 ⇑P **Pdif** **00 34 27.6 +0.2**
VOIR 99.70 319 ⇑P **Pdif** **00 34 27.6 +0.2**
ARR Arges 100.00 319 ⇑P **Pdif** **00 34 27.7 -1.0**
HUMR Humele 100.08 318 ⇑P **Pdif** **00 34 27.3 -1.7**
SYO Syowa Base 100.35 201⇓*e*Pdiff **Pdif** **00 34 29.8 +0.3**
SYO Syowa Base 100.35 201⇓*e*X **Pdif** **00 34 35.0 +5.5**
LOT Lotru 100.53 319 ⇑P **Pdif** **00 34 30.5 -0.6**
DRGR 100.67 321 ⇑P **Pdif** **00 34 29.3 -2.4**
DRGR 100.67 321 ⇑P **Pdif** **00 34 29.3 -2.4**
PLVB Pleven 100.75 317 ⇑P **Pdif** **00 34 30.9 -1.0**
VYHS Vyhne 102.30 323 *e*P **Pdif** **00 34 38.6 -0.2**
ZST Bratislava 103.46 324 *e*P **Pdif** **00 34 42.6 -1.3**
ZST Bratislava 103.46 324 *e*PDIFF **Pdif** **00 34 42.6 -1.3**
CLL Collm 104.16 328 *i P* **Pdif** **00 34 45.9 -1.0**
CLL Collm 104.16 328 *i* Pdif **Pdif** **00 34 45.9 -1.0**
CLL *e*PP'S PPS 00 49 12.0
CLL *e*SS SS 00 54 00.0 +8.9
CLL Lm MLR 01 28 00.0
comp=N,500nm,18.0s
CLL Lm MLR 01 28 00.0
comp=E,300nm,18.0s
GERES GERESS Array B 105.09 325 Pdiff **Pdif** **00 34 50.7 -0.6**
comp=E,0.3nm,0.6s,baz=67,slow=3.3,SNR=4.6
VNA2 Neumayer--Watz 113.47 192 PKiKP **PKiKP** **00 39 21.3 +0.6**
VNA3 Neumayer Olymp 113.66 191 PKiKP **PKiKP** **00 39 20.7 -0.4**
VNA1 Neumayer--Stat 113.86 192 PKiKP **PKiKP** **00 39 21.8 +0.3**
U40A Yellville 115.26 43 P **PKiKP** **00 39 25.1 -0.1**
baz=303
SADO Sadowa 117.87 29 PKP **PKPdf** **00 39 30.0 0.0**
comp=E,7.5nm,1.1s,baz=287,slow=4.7,SNR=2.5
P52A Corning 119.97 35 P **PKPdf** **00 39 33.7 -0.4**
baz=313
M54A Oil Creek Stat 119.99 32 P **PKPdf** **00 39 34.0 -0.2**
baz=316
T50A Nancy 120.09 39 P **PKPdf** **00 39 34.0 -0.4**
baz=310
E61A Lac Etchemin 120.24 22 P **PKiKP** **00 39 34.7 +0.1**
baz=328
G59A Clarenceville 120.29 25 P **PKPdf** **00 39 34.3 -0.3**
baz=324
W49A Belvidere 120.36 41 P **PKPdf** **00 39 34.8 -0.3**
baz=308
S51A Beattyville 120.45 37 P **PKPdf** **00 39 34.7 -0.5**
baz=311
U50A Jamestown 120.47 39 P **PKPdf** **00 39 35.0 -0.2**
baz=309
P53A Whipple 120.49 34 P **PKiKP** **00 39 35.4 +0.2**
baz=314
ESDC Sonseca Array 120.67 326 PKP **PKiKP** **00 39 36.2 +0.5**
comp=E,0.5nm,0.6s,baz=33,slow=1.5,SNR=4.6
LRAL Lakeview Retre 121.11 44 P **PKPdf** **00 39 36.5 0.0**
baz=306
Q54A Coxs Mills 121.15 34 P **PKiKP** **00 39 36.5 0.0**
baz=314
V52A Sevierville 121.61 39 P **PKiKP** **00 39 37.9 +0.3**
baz=310
X52A Dahlonega 122.21 40 P **PKiKP** **00 39 38.8 -0.1**
baz=309
W53A Cullowhee 122.31 39 P **PKPdf** **00 39 39.0 0.0**
baz=310
MDT Midelt 125.72 321 PKP **PKiKP** **00 39 46.5 +0.5**
comp=E,1.5nm,0.7s,baz=42,slow=3.6,SNR=3.6
TORD Torodi Ar. Bea 131.40 295 PKP **PKPdf** **00 39 56.6 0.0**
comp=E,1.9nm,0.8s,baz=21,slow=2.6,SNR=12
TORD PP **PP** **00 42 17.2 +2.1**
comp=E,1.2nm,1.0s,baz=55,slow=5.8,SNR=4.1
TORD Torodi Ar. Bea 131.40 295 **PKiKP** **00 39 57.2 -0.5**
PLCA Paso Flores 138.94 147 PKP **PKPdf** **00 40 10.5 +0.4**
comp=E,1.3nm,0.7s,baz=199,slow=5.8,SNR=3.1
DBIC Dimbokro 139.81 290 PKP **PKPdf** **00 40 12.4 +0.1**
comp=E,4.5nm,0.7s,baz=100,slow=3.5,SNR=7.0
KIC Kosan Boka 139.81 290 *e*P **PKPdf** **00 40 12.2 -0.2**
comp=E,20nm,0.8s
TIC Toumodi 139.97 290 *e*P **PKPdf** **00 40 11.0 -1.7**
LIC Lamto 140.12 290 *e*P **PKPdf** **00 40 09.6 -3.3**
comp=E,70nm,1.6s
SJCC San Jacinto, C 142.80 62⇓*iP* **PKPdf** **00 40 15.0 -2.8**
SJCC San Jacinto, C 142.80 62⇓*iP* **PKPdf** **00 40 15.0 -2.8**
SMRC Santa Marta, M 143.02 59 *e*P PKPbc 00 40 15.1 +0.2
SMRC Santa Marta, M 143.02 59 *e*P PKPbc 00 40 15.1 +0.2
OTAV Otavalo 143.13 79⇑*iP* PKPbc 00 40 16.2 +0.4
OTAV Otavalo 143.13 79⇑*iP* PKPbc 00 40 16.2 +0.4
OTAV Otavalo 143.13 79 PKIKP PKPbc 00 40 16.9 +1.1
OTAV Otavalo 143.13 79 PKPbc 00 40 16.9 +1.1
SHEL Horse Pasture 143.35 254 *i* PKIKP **PKPdf** **00 40 18.9 +0.2**
CBOC Ciudad Bolivar 143.73 69⇑*e*P PKPbc 00 40 18.1 +0.9
CBOC Ciudad Bolivar 143.73 69⇑*e*P PKPbc 00 40 18.1 +0.9
PLMC San Jos del P 143.83 70 *e*P PKPbc 00 40 17.3 0.0
PLMC San Jos del P 143.83 70 *e*P PKPbc 00 40 17.3 0.0
BBAC Balboa, Cauca 143.83 75⇑*iP* PKPbc 00 40 17.7 +0.2
BBAC Balboa, Cauca 143.83 75⇑*iP* PKPbc 00 40 17.7 +0.2
HELC Santa Helena 144.05 68⇑*iP* PKPbc 00 40 18.9 +0.5
HELC Santa Helena 144.05 68⇑*iP* PKPbc 00 40 18.9 +0.5
YOTC Yotoco, Valle 144.08 72⇑*iP* PKPbc 00 40 18.7 +0.5
YOTC Yotoco, Valle 144.08 72⇑*iP* PKPbc 00 40 18.7 +0.5
ZARC Zaragoza, Cauc 144.14 65⇑*iP* PKPbc 00 40 18.5 +0.3
ZARC Zaragoza, Cauc 144.14 65⇑*iP* PKPbc 00 40 18.5 +0.3
POPC Popayan, Colom 144.22 74⇑*iP* PKPbc 00 40 19.2 +0.5
POPC Popayan, Colom 144.22 74⇑*iP* PKPbc 00 40 19.2 +0.5
CRUC La Cruz 144.24 76 *e*P **PKPdf** **00 40 19.9 -0.8**
CRUC La Cruz 144.24 76 *e*P **PKPdf** **00 40 19.9 -0.8**
SMLC San Martn de 144.27 63⇑*iP* **PKPab** **00 40 18.2 0.0**
SMLC San Martn de 144.27 63⇑*iP* **PKPab** **00 40 18.2 0.0**
CODC Agustn Codazz 144.29 61⇑*iP* PKPbc 00 40 18.7 +0.1
CODC Agustn Codazz 144.29 61⇑*iP* PKPbc 00 40 18.7 +0.1
ATAH Atahualpa 144.31 91 PKP **PKPdf** **00 40 21.5 +0.6**
comp=E,27nm,0.7s,baz=207,slow=2.2,SNR=21
SOTA Rioblanco 144.41 75⇑*iP* **PKPdf** **00 40 20.7 -0.5**
SOTA Rioblanco 144.41 75⇑*iP* **PKPdf** **00 40 20.7 -0.5**
PCON Cinco Dias 144.55 74⇑*iP* **PKPdf** **00 40 21.6 0.0**
PCON Cinco Dias 144.55 74⇑*iP* **PKPdf** **00 40 21.6 0.0**
GUY2C Guyana, Caldas 144.56 69⇑*iP* **PKPdf** **00 40 21.4 -0.1**
GUY2C Guyana, Caldas 144.56 69⇑*iP* **PKPdf** **00 40 21.4 -0.1**
URIC Uribia, Colomb 144.62 57⇑*iP* **PKPab** **00 40 19.4 0.0**
URIC Uribia, Colomb 144.62 57⇑*iP* **PKPab** **00 40 19.4 0.0**
PTBC PUERTO BERRIO 144.89 66⇑*iP* **PKPab** **00 40 16.2 -4.3**
PTBC PUERTO BERRIO 144.89 66⇑*iP* **PKPab** **00 40 16.2 -4.3**
NORC Norcasia 144.90 68⇑*iP* **PKPdf** **00 40 21.2 -0.3**
NORC Norcasia 144.90 68⇑*iP* **PKPdf** **00 40 21.2 -0.3**
SJG San Juan 144.98 42 PKIKP PKPbc 00 40 21.0 +0.4
SJG San Juan 144.98 42 PKPbc PKPbc 00 40 21.0 +0.3
comp=E,23nm,0.6s,baz=33,slow=2.3,SNR=14
SJG San Juan 144.98 42 **PKPdf** **00 40 21.1 -0.3**
ORTC Ortega, Tolima 145.14 71⇑*iP* **PKPdf** **00 40 22.1 +0.2**
ORTC Ortega, Tolima 145.14 71⇑*iP* **PKPdf** **00 40 22.1 +0.2**
OCAC Ocana 145.19 63⇑*iP* **PKPdf** **00 40 22.1 0.0**
OCAC Ocana 145.19 63⇑*iP* **PKPdf** **00 40 22.1 0.0**
TRQA Tornquist 145.28 152 PKIKP **PKPdf** **00 40 21.8 +0.4**
TRQA Tornquist 145.28 152 **PKPdf** **00 40 21.8 +0.4**
BRRC Barranca, Sant 145.33 65⇑*iP* **PKPdf** **00 40 22.6 +0.4**
BRRC Barranca, Sant 145.33 65⇑*iP* **PKPdf** **00 40 22.6 +0.4**
BETC Betania 145.35 73 *e*P **PKPab** **00 40 23.7 +1.4**
BETC Betania 145.35 73 *e*P **PKPab** **00 40 23.7 +1.4**
FLOC Florencia 145.48 75⇑*iP* **PKPab** **00 40 23.3 +0.6**
FLOC Florencia 145.48 75⇑*iP* **PKPab** **00 40 23.3 +0.6**
STVI Saint Thomas 145.59 40 **PKPab** **00 40 22.8 0.0**
SPBC San Pablo de B 145.59 68⇑*e*P **PKPdf** **00 40 22.6 -0.1**
SPBC San Pablo de B 145.59 68⇑*e*P **PKPdf** **00 40 22.6 -0.1**
ROSC El Rosal 145.67 69⇑*iP* **PKPab** **00 40 24.8 +0.9**
ROSC El Rosal 145.67 69⇑*iP* **PKPab** **00 40 24.8 +0.9**
ROSC El Rosal 145.67 69 PKPbc **PKPab** **00 40 24.8 +0.9**

comp=E,18nm,0.7s,baz=320,slow=7.9,SNR=9.3

ROSC	El Rosal	145.67	69		PKPab	00 40 25.0	+1.1
ABVI	Anegada Island	145.69	39		PKPab	00 40 24.1	+0.9
CTAU	Tausa, Cundina	145.79	68	eP	PKPab	00 40 25.5	+1.0
CTAU	Tausa, Cundina	145.79	68	eP	PKPab	00 40 25.5	+1.0
NNA	Nana	145.87	99	PKPbc	PKPab	00 40 24.6	+0.4
	comp=E,4.3nm,0.4s,baz=266,slow=5.2,SNR=6.0						
NNA	Nana	145.87	99		PKPab	00 40 25.1	+0.9
BARC	Barichara	146.02	65	eP	PKPbc	00 40 24.5	+0.1
BARC	Barichara	146.02	65	eP	PKPbc	00 40 24.5	+0.1
PAMC	Pamplona, Colo	146.13	64⇑	eP	PKPbc	00 40 25.1	+0.1
PAMC	Pamplona, Colo	146.13	64⇑	eP	PKPbc	00 40 25.1	+0.1
DABV	Dabajuro	146.16	57⇑	iP	PKPbc	00 40 24.6	+0.1
DABV	Dabajuro	146.16	57⇑	iP	PKPbc	00 40 24.6	+0.1
CAPV	Capacho	146.24	63⇑	iP	PKPab	00 40 25.6	-0.1
CAPV	Capacho	146.24	63⇑	iP	PKPab	00 40 25.6	-0.1
RUSC	La Rusia	146.40	67⇑	iP	PKPbc	00 40 25.9	+0.1
RUSC	La Rusia	146.40	67⇑	iP	PKPbc	00 40 25.9	+0.1
VILC	Villavicencio,	146.52	70	eP	PKPdf	00 40 24.7	+0.4
VILC	Villavicencio,	146.52	70	eP	PKPdf	00 40 24.7	+0.4
PTLC	Puerto Leguiza	146.69	77⇑	iP	PKPbc	00 40 26.1	0.0
PTLC	Puerto Leguiza	146.69	77⇑	iP	PKPbc	00 40 26.1	0.0
MACC	Macarena, Meta	147.03	73⇑	iP	PKPbc	00 40 27.5	+0.3
MACC	Macarena, Meta	147.03	73⇑	iP	PKPbc	00 40 27.5	+0.3
SDV	Santo Domingo	147.21	60	eP	PKPdf	00 40 26.6	+1.0
SDV	Santo Domingo	147.21	60	eP	PKPdf	00 40 26.6	+1.0
SDV	Santo Domingo	147.21	60	PKPbc	PKPbc	00 40 27.3	-0.5
	comp=E,14nm,0.6s,baz=347,slow=1.8,SNR=6.8						
SDV	Santo Domingo	147.21	60		PKPdf	00 40 26.7	+1.1
SOCV	Socops	147.32	61	eP	PKPdf	00 40 24.6	-0.9
SOCV	Socops	147.32	61	eP	PKPdf	00 40 24.6	-0.9
TAMC	Tame, Arauca	147.34	65⇑	iP	PKPbc	00 40 28.7	+0.7
TAMC	Tame, Arauca	147.34	65⇑	iP	PKPbc	00 40 28.7	+0.7
PTGC	Puerto Gaitan,	147.93	69	eP	PKPab	00 40 32.3	+0.1
PTGC	Puerto Gaitan,	147.93	69	eP	PKPab	00 40 32.3	+0.1
GUVC	San Jose del G	148.06	72	eP	PKPdf	00 40 27.2	+0.5
GUVC	San Jose del G	148.06	72	eP	PKPdf	00 40 27.2	+0.5
ELOV	Elorza	149.12	62	eP	PKPdf	00 40 29.7	+1.2
ELOV	Elorza	149.12	62	eP	PKPdf	00 40 29.7	+1.2
FDF	Fort de France	150.69	39	PKIKP	PKiKP	00 40 37.1	0.0
FDF	Fort de France	150.69	39		PKiKP	00 40 37.1	0.0
LVC	Limon Verde	150.70	123	PKPbc	PKiKP	00 40 38.3	+0.9
	comp=E,7.1nm,0.7s,baz=261,slow=1.9,SNR=8.7						
PB01	IPOC Station P	150.84	119		PKiKP	00 40 37.6	+0.2
PB11	IPOC Station P	151.15	117		PKiKP	00 40 38.4	+0.3
MNMC	Minye Minye	151.41	115		PKiKP	00 40 39.6	+0.8
LPAZ	La Paz	153.57	110	PKP	PKPdf	00 40 37.1	+1.1
	comp=E,1.8nm,0.9s,baz=296,slow=3.3,SNR=5.2						
LPAZ				PKPbc	PKiKP	00 40 44.0	+0.3
	comp=E,3.5nm,0.7s,baz=280,slow=2.6,SNR=12						
LPAZ				PKPab	PKPab	00 40 54.8	-1.4
	comp=E,6.5nm,0.8s,baz=352,slow=1.4,SNR=9.4						
CPUP	Villa Florida	156.94	144	PKPab	PKPab	00 41 10.7	+1.3
	comp=E,3.5nm,0.8s,baz=199,slow=5.5,SNR=5.5						
SAML	Samuel	159.42	94	PKIKP	PKPdf	00 40 43.6	+0.8
SAML	Samuel	159.42	94		PKPdf	00 40 43.6	+0.8
SAML					PKPab	00 41 21.3	+0.7
SIV	San Ignacio	160.12	115	PKP	PKPdf	00 40 45.1	+1.5
	comp=E,0.4nm,0.5s,baz=248,slow=2.5,SNR=5.1						
SIV				PKPab	PKPab	00 41 25.0	+1.4
	comp=E,2.7nm,1.0s,baz=246,slow=6.1,SNR=4.2						
PTGA	Pitinga	161.04	68	PKP	PKPdf	00 40 45.6	+0.9
	comp=E,1.6nm,0.7s,baz=0.0,slow=2.0,SNR=5.2						
PTGA				PKPab	PKPab	00 41 29.1	+1.4
	comp=E,1.9nm,0.9s,baz=336,slow=7.1,SNR=2.3						

BJI 09 00:47:34.4±0.0, 39°27N×112°41E, h15km, mb3.9/2, ML3.6/17, Ms3.5/2, Ms7 3.5/2, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIY	Taiyuan	1.56	179	ePg	Pb	00 48 02.4	-0.5
TIY				Sg	Sb	00 48 23.1	+0.7
TIY				smax	smax		
	comp=N,1μm,0.8s						
TIY				smax	smax		
	comp=E,1μm,0.6s						
HHC	Hu-ho-hao-te	1.71	338	Pg	Pb	00 48 06.0	+0.5
HHC				Sg	Sb	00 48 26.4	-0.4
HHC				smax	smax		
	comp=N,960nm,0.5s						
HHC				smax	smax		
	comp=E,670nm,0.4s						
BTO	Baotou	2.27	307	ePg	Pg	00 48 17.5	-0.5
BTO				Sg	Sb	00 48 44.6	+1.5
BJI	Beijing	3.01	74	Pg	Pb	00 48 28.0	+0.4
BJI				Sg	Sg	00 49 08.2	-2.8
BJI				smax	smax		
	comp=N,180nm,0.8s						
BJI				smax	smax		
	comp=E,120nm,0.9s						
TIA	Tai'an	4.83	128	Pn	Pn	00 48 47.3	+0.8
TIA				Pg	Pb	00 49 00.8	+2.2
TIA				Sg	Sg	00 50 04.4	-4.9
TIA				smax	smax		
	comp=N,81nm,0.8s						
TIA				smax	smax		
	comp=E,54nm,0.4s						
XAN	Xi'an	5.92	209	Pg	Pb	00 49 15.0	-2.4
XAN				Sn	Sn	00 50 07.3	-2.0
XAN				smax	smax		
	comp=N,42nm,0.7s						
XAN				smax	smax		
	comp=E,38nm,1.2s						
LZH	Lanzhou	7.50	248	ePn	Pn	00 49 29.4	+6.0
LZH				Pg	Pb	00 49 50.1	+5.8
LZH				Sn	Sn	00 50 48.3	+0.1
LZH				Sg	Sg	00 51 26.2	-8.8
LZH				smax	smax		
	comp=N,110nm,0.8s						
LZH				smax	smax		
	comp=E,88nm,0.8s						
WHN	Wuhan	8.85	169	P	Pn	00 49 49.3	+7.6
GTA	Gaotai	9.76	275	eP	Pn	00 49 57.6	+3.3
GTA				pP		00 50 02.4	
GTA				sP		00 50 04.6	
GTA				pmax	pmax		
	comp=E,3.0nm,1.1s						
GTA				smax	smax		
	comp=E,31nm,1.0s						
GTA				smax	smax		
	comp=E,26nm,1.1s						
WMQ	Urumqi	19.02	292	eP	Pn	00 51 59.3	+2.8
WMQ				pP	sP	00 52 03.0	+0.5
WMQ				LR	LR		
	comp=E,75nm,11.3s						
WMQ				LR	LR		
	comp=E,10.0nm,12.3s						
WMQ				LR	LR		
	comp=E,120nm,8.5s						

KRSC 09 00:54:51.9±1.6, 50°47N×157°07E, h40km±19km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.65	290	eP	Pn	00 55 04.8	+0.3
SKR				eS	Sn	00 55 13.7	+0.1
PAU	Pauzhetka	1.01	351	eP	Pn	00 55 11.2	+1.7
PAU				eS	Sn	00 55 24.9	+2.4
KDTR	Khodutka, Kamc	1.48	25	eP	Pn	00 55 17.7	+1.7
KDTR				eS	Sn	00 55 36.1	+2.0
ASAK	Asacha	1.98	15	eP	Pn	00 55 25.5	+2.5
ASAK				eS	Sn	00 55 50.1	+3.5
MTVR	Mutnovka	2.13	19	eP	Pn	00 55 28.0	+3.0
RUS	Russkaya	2.16	24	eP	Pn	00 55 27.1	+1.8
RUS				eS	Sn	00 55 52.5	+1.7
KRMR	Karymshinskiy	2.45	15	eP	Pn	00 55 32.9	+3.6
KRMR				eS	Sn	00 56 03.2	+5.2
DALK	Dalny	2.77	22	eP	Pn	00 55 36.1	+2.5
DALK				eS	Sn	00 56 08.0	+2.2
AVH	Avacha	2.98	20	eP	Pn	00 55 40.6	+3.9
AVH				eS	Sn	00 56 15.6	+4.4
KOK	Koryaka	2.99	18	eP	Pn	00 55 41.4	+4.7
SMAR	Somma	2.99	20	eP	Pn	00 55 42.2	+5.2
KRER	Koryakskii	3.02	19	eP	Pn	00 55 41.1	+3.8
KRX	Arik	3.05	18	eP	Pn	00 55 42.6	+4.9
SPN	Mys Shipunski	3.21	34	eP	Pn	00 55 42.7	+3.1
SPN				eS	Sn	00 56 19.4	+2.8
GNL	Ganaly	3.27	9	eP	Pn	00 55 44.3	+3.6
TUMD	Tumrok D	5.15	22	eP	Pn	00 56 10.5	+4.1
TUMR	Tumrok	5.17	20	eP	Pn	00 56 12.1	+5.4
KBTR	Krutoberegovo	6.70	29	eP	Pn	00 56 31.9	+4.4

ANF 09 00:58:45.4±0.2, 33°99N×117°22W, h12km±1km, ML2.7/30, Error ellipse: s-maj=1.4km s-min=1.3km az=35.0
NEIC 09 00:58:45.7±1.1, 33°87N±0°01×117°27W±0°02, h9km±6km
SCEDC 09 00:58:46.5, 34°00N×117°22W, h13km
ISC 09 00:58:45.8±0.9, 33°99N±0°02×117°23W±0°01, h17km±7km, n59, σ1°11/105, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	Big Bear Solar	0.38	42	P	Pg	00 58 53.4	-0.2
	baz=223,SNR=36						
BBRC				S	Sg	00 58 58.5	-0.5
	baz=223						
MURC	Murrieta	0.39	176	P	Pg	00 58 54.0	+0.2
	baz=358,SNR=91						
MURC				S	Sg	00 58 59.4	+0.2
	baz=358						
BFSC	Mount Baldy Ra	0.44	305	P	Pg	00 58 54.5	-0.3
	baz=123,SNR=115						
BFSC				S	Sg	00 59 00.4	-0.5
	baz=123						
MWC	Mount Wilson	0.73	289		Pg	00 58 59.8	-0.3
MWC				Sg	Sg	00 59 09.9	+0.1
PFO	Pinyon Flats O	0.74	120	P	Pg	00 58 59.9	-0.4
	baz=302,SNR=71						
PFO				S	Sg	00 59 09.4	-0.7
	baz=302						
PFO	Pinyon Flats O	0.74	120		Pg	00 59 00.0	-0.3
PFO				Sg	Sg	00 59 09.3	-0.8
PASC	Pasadena Art C	0.82	283		Pg	00 59 01.1	-0.7
PASC				Sg	Sg	00 59 11.9	-0.7
RRX	Edison Barstow	0.91	12	P	Pg	00 59 03.2	-0.2
	baz=192						
RRX				S	Sb	00 59 15.2	+0.3
	baz=192						
FMP	Fort Macarthur	0.93	253	P	Pg	00 59 03.7	-0.1
	baz=72						
FMP				S	Sg	00 59 15.9	-0.1
	baz=72						
DECC	Green Verdugo	0.96	287	P	Pg	00 59 03.8	-0.6
	baz=105,SNR=8.0						
DECC				S	Sg	00 59 16.8	-0.1
	baz=105						
BELC	Belle Mtn. Jos	1.02	89	P	Pg	00 59 05.0	-0.5
	baz=270,SNR=254						
BELC				S	Sb	00 59 19.0	+0.8
	baz=270						
EDW2	Edwards Air Fo	1.10	325	P	Pb	00 59 06.2	-0.1
	baz=144,SNR=32						
EDW2				S	Sb	00 59 20.5	+0.1
	baz=144						
109C	Camp Elliot, M	1.10	175	P	Pb	00 59 05.8	-0.5
	baz=355						
109C				S	Sb	00 59 20.0	-0.3
	baz=355						
109C	Camp Elliot, M	1.10	175		Pb	00 59 05.9	-0.5
109C				Sn	Sb	00 59 19.2	-1.1
HEC	Hector,Ludlow	1.12	41	P	Pb	00 59 06.7	0.0
	baz=221,SNR=46						
HEC				S	Sb	00 59 21.3	+0.2
	baz=221						
CIS	Catalina Islan	1.15	240	P	Pb	00 59 07.6	+0.4
	baz=59,SNR=18						
CIS				S	Sg	00 59 23.1	0.0
	baz=59						
MONP2	Monument Peak	1.28	148	P	Pn	00 59 09.5	+0.4
	baz=329,SNR=32						
MONP2				S	Sb	00 59 26.3	+0.4
	baz=329						
GSC	Goldstone, Bar	1.36	15	P	Pn	00 59 10.7	+0.7
	baz=195,SNR=51						
GSC				S	Sg	00 59 29.0	-0.7
	baz=195						
GSC	Goldstone, Bar	1.36	15	Pn	Pb	00 59 10.9	0.0
GSC				Sn	Sb	00 59 28.3	+0.3
BAR	Barrett	1.38	160		Pn	00 59 09.6	-0.8
BAR				Sn	Sn	00 59 27.9	-0.3
OSI	Osito Audit: C	1.39	297	P	Pb	00 59 11.9	+0.6
	baz=116						
OSI				S	Sg	00 59 30.1	-0.6
	baz=116						
OSI	Osito Audit: C	1.39	297	Pn	Pb	00 59 12.0	+0.7
OSI					Sg	00 59 30.6	-0.1
BC3	Big Chuckawall	1.51	102	Pn	Pn	00 59 12.4	+0.2
	baz=284,SNR=85						
BC3				Pg	Pb	00 59 14.2	+0.7
	baz=284						
BC3				S	Sn	00 59 32.6	+1.1
	baz=284						
GMRC	Granite Mounta	1.52	58	Pn	Pn	00 59 12.8	+0.4
	baz=239,SNR=41						
GMRC				Pg	Pb	00 59 14.0	+0.4
	baz=239						
GMRC				S	Sg	00 59 33.8	-1.1
	baz=239						
BLG	Laguna Peak, P	1.53	275	P	Pn	00 59 12.6	+0.2
	baz=94						
BLG				S	Sb	00 59 33.9	+1.0
	baz=94						
LRMC	Laurel Mtn Rad	1.54	346	S	Sg	00 59 34.7	-0.7
	baz=165						
SWSC	Sam W. Stewart	1.58	131	P	Pn	00 59 13.4	+0.4
	baz=312,SNR=11						
SWSC				S	Sg	00 59 35.9	-0.8
	baz=312						
IKP	In-Ko-Pah, Jac	1.63	145	P	Pn	00 59 14.5	+0.7
	baz=326,SNR=8.3						
IKP				S	Sb	00 59 36.9	+1.2
	baz=326						
IRM	Iron Mountain	1.74	84	Pn	Pn	00 59 15.2	+0.1
	baz=265,SNR=48						
IRM				Pg	Pg	00 59 18.5	-0.7
	baz=265						
ARVC	Arvin	1.75	311	Pn	Pb	00 59 16.9	-0.5
	baz=130						
ARVC				Pb	Pg	00 59 18.2	-1.2
	baz=130						
ARVC				S	Sb	00 59 39.0	-0.1
	baz=130						
TUQ	Turquoise Moun	1.80	36	Pg	Pb	00 59 19.1	+0.7
	baz=217						
TUQ				Sb	Sg	00 59 42.4	-1.5
	baz=217						
ISA	Isabella, Lake	1.96	329	Pg	Pb	00 59 22.2	+1.1
	baz=148						
ISA				Sb	Sg	00 59 47.5	-1.5
	baz=148						
ISA	Isabella, Lake	1.96	329		Pb	00 59 21.6	+0.5
ISA				Sn	Sb	00 59 45.3	0.0
SNCC	San Nicolas Is	2.05	250	Pn	Pn	00 59 19.3	-0.2
SNCC				Sn	Sn	00 59 43.6	-1.2
SHOC	Shoshone, Teco	2.06	22	S	Sb	00 59 47.5	-0.7
	baz=202						
MPMC	Manual Prospec	2.08	354	P	Pn	00 59 20.9	+0.8
	baz=174,SNR=9.5						
MPMC				Sb	Sg	00 59 51.1	-1.7
	baz=174						
GLA	Glamis	2.21	114	Pg	Pg	00 59 27.1	-1.2
	baz=296,SNR=8.1						
GLA				Sg	Sg	00 59 55.9	-0.9
	baz=296						
GLA	Glamis	2.21	114		Pn	00 59 22.6	+0.9
GLA				Pg	Pg	00 59 27.0	-1.2
Y12C	Blythe	2.26	95	Pn	Pn	00 59 22.3	-0.1
	baz=277						
Y12C				Pg	Pb	00 59 27.5	+1.4
	baz=277,SNR=20						
Y12C				Sn	Sn	00 59 50.6	+0.8
	baz=277						
Y12C				Sg	Sg	00 59 58.3	-0.2
	baz=277						
Y12C	Blythe	2.26	95	Pn	Pn	00 59 22.4	0.0
Y12C					Pb	00 59 27.5	+1.4
DAC	Darwin (Calif)	2.31	353	Pn	Pb	00 59 26.0	-1.0
DAC					Sb	00 59 55.7	+0.4
W13A	Hualapai Mount	2.97	67	Sn	Sn	01 00 06.5	-1.3
SHPR	Sheep Range	3.03	33	Pn	Pn	00 59 34.5	+1.4
TPNV	Topopah Spring	3.06	15	P	Pn	00 59 35.7	+2.1
	baz=195						
TPNV				Sb	Sg	01 00 22.0	-2.2
	baz=195						
Y14A	Wickenburg	3.51	90	Pg	Pb	00 59 49.6	+2.2
PMPB	Monarch Peak	3.68	308	Pn	Pn	00 59 41.4	-0.6
OMMB	Old Mammoth Mi	3.90	339	Pn	Pn	00 59 47.5	+2.4
214A	Organ Pipe Nat	4.23	117	Pn	Pn	00 59 49.8	+0.4
SAO	San Andreas Ge	4.42	310	Pn	Pn	00 59 53.8	+1.6
LCMT	Little Creek M	4.43	46	Pn	Pn	00 59 54.5	+2.0
NV11	Mina Array Sit	4.50	351	Pn	Pn	00 59 55.7	+2.4
NVAR	Mina Array Bea	4.52	349	Pn	Pn	00 59 55.8	+2.2
R11A	Troy Canyon, C	4.55	16	Pn	Pn	00 59 56.8	+2.7
KNB	Kanab	4.70	49	Pn	Pn	00 59 57.8	+1.8
U15A	North Rim	4.72	58	Pn	Pn	00 59 57.1	+0.7
U15A					Pg	01 00 12.5	-3.7
WUAZ	Wupatki	5.05	71	Pn	Pn	01 00 03.0	+2.1
KVN	Kaiserville	5.10	352	Pn	Pn	01 00 03.9	+2.2
YERR	Yerington	5.25	343	Pn	Pn	01 00 04.5	+0.9
PSUT	Pine Spring	5.29	30	Pn	Pn	01 00 06.9	+2.7

NEIC 09 01:11:09.5±1.4, 39°76N±0°01×120°69W±0°01, h8km±5km
ANF 09 01:11:10.1±0.4, 39°79N×120°73W, h10km, ML3.0/9, Error ellipse: s-maj=7.8km s-min=2.8km az=44.0
ISC 09 01:11:08.9±1.1, 39°78N±0°02×120°71W±0°02, h1km±10km, n156, σ0°95/175, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.28	72	Pg	Pg	01 11 14.6	+0.3
BEKR				Sg	Sg	01 11 18.5	+0.4
LOY	Loyalton	0.39	108		Pg	01 11 16.5	+0.2
KBF	Kyburz Flat	0.47	125		Pg	01 11 18.1	+0.2
IND	Independence	0.47	136		Pg	01 11 18.4	+0.4
BABR	Babbit Peak	0.50	110		Pg	01 11 18.6	+0.2
DONR	Donner Summit	0.52	144		Pg	01 11 18.8	-0.1
DONR					Sg	01 11 25.7	0.0
VPK	Verdi Peak	0.60	120		Pg	01 11 20.4	0.0
PEAR	Peavine Mounta	0.60	106		Pg	01 11 20.5	0.0
ORV	Oroville	0.65	250		Pg	01 11 21.8	+0.5
ORV				Sg	Sb	01 11 31.8	-0.7
ORV	Oroville	0.65	250		Pg	01 11 21.9	+0.5
MGL	Magalia	0.65	273		Pg	01 11 22.0	+0.6
PAM	Palermo	0.71	243		Pg	01 11 22.7	+0.3
MPK	Martis Peak	0.71	132		Pg	01 11 22.6	0.0
ABJM	Bob Jauregui R	0.71	211		Pg	01 11 22.7	+0.1
LCMM	Colby Mountain	0.72	301		Pg	01 11 23.3	+0.5
OHCM	Honcut	0.74	234		Pg	01 11 23.0	-0.1
TAHR	Tahoe	0.76	146		Pg	01 11 23.3	-0.1
RUBR	Rubicon Trail	0.84	149		Pg	01 11 24.7	-0.3
RUBR	Rubicon Trail	0.84	149	Sg	Sg	01 11 35.8	-0.2
AFDM	Forest Hills D	0.85	194		Pg	01 11 24.9	-0.3
AFDM				Sg	Sg	01 11 35.7	-0.5
LRDM	Redding Peak	0.90	320		Pg	01 11 26.4	+0.4
EMB	Emerald Bay	0.93	149		Pg	01 11 26.2	-0.5
VCNR	Virginia City	0.95	120		Pg	01 11 27.1	-0.1
VCNR				Sg	Sg	01 11 38.8	-0.6
ASMM	Slate Mountain	0.95	179		Pg	01 11 26.5	-0.7
O03E	Paynes Creek	0.98	302	P	Pg	01 11 27.5	-0.2
	baz=121,SNR=876						
O03E				S	Sg	01 11 41.7	+1.1
	baz=121						
SUTB	Sutter Butte	1.00	237		Pg	01 11 27.9	-0.1
LMEM	Manzanita Entr	1.00	319		Pg	01 11 29.0	+0.9
OSUM	Sutter Buttes	1.02	241		Pg	01 11 28.7	+0.3
PAHR	Pah Rah Range	1.03	94		Pg	01 11 27.8	-0.7
PAHR	Pah Rah Range	1.03	94		Sg	01 11 40.7	-1.2
LDBM	Digger Butte	1.05	309		Pg	01 11 28.9	-0.2
GNO	Genoa	1.08	142		Pg	01 11 29.1	-0.4
PNTR	Pine Nut	1.10	128		Pg	01 11 29.6	-0.4
PNTR	Pine Nut	1.10	128		Sg	01 11 43.2	-1.1
LBCM	Butte Creek Ri	1.17	335		Pb	01 11 30.7	-1.2
LTCM	Tuscan Springs	1.17	292		Pb	01 11 31.4	-0.5
HATC	Hat Creek Radi	1.19	331		Pb	01 11 31.5	-0.7
BFC	Buffalo Canyon	1.23	136		Pb	01 11 31.7	-1.3
GFC	Funks Creek	1.30	250		Pn	01 11 34.2	+0.1
GCK	Clark Valley	1.35	261		Pn	01 11 34.9	0.0
NDHM	Dunnigan Hills	1.38	223		Pn	01 11 34.9	-0.2
AASM	Arroyo Seco	1.38	193		Pn	01 11 34.1	-1.1
YERR	Yerington	1.39	124		Pn	01 11 34.5	-1.0
YERR				Sn	Sb	01 11 52.7	-1.2
LSHM	Sage Hen Hill	1.44	315		Pn	01 11 35.6	-0.4
GVV	Valley View	1.51	271		Pn	01 11 36.5	-0.8
GROM	Round Mountain	1.52	276		Pn	01 11 36.5	-0.7
LTIM	Timbered Crate	1.52	337		Pn	01 11 36.9	-0.4
GBMM	Baldy Mountain	1.52	246		Pn	01 11 37.5	+0.3
GTSM	Trough Springs	1.54	253		Pn	01 11 37.0	-0.5
GASB	Alder Springs	1.55	266		Pn	01 11 37.1	-0.7
GWKM	Walker Ridge	1.56	243		Pn	01 11 37.6	-0.2
NBPM	Berryessa Peak	1.60	227		Pn	01 11 38.6	+0.4
WAKR	Walker	1.61	142	Pn	Pn	01 11 34.7	-3.9
WAKR				Sn	Sn	01 11 58.6	-1.5
MNRC	McLaughlin Min	1.61	237		Pn	01 11 38.5	-0.1
WDC	Whiskeytown Da	1.61	300		Pn	01 11 38.1	-0.4
WDC	Whiskeytown Da	1.61	300	Sn	Sn	01 11 59.4	-0.5
WDC	Whiskeytown Da	1.61	300	Pn	Pn	01 11 37.8	-0.7
MNHB	New Hogan Dam	1.63	183		Pn	01 11 38.0	-0.7
NADM	Allendale	1.64	217		Pn	01 11 39.5	+0.7
O02D	Mt. Diablo Mer	1.65	285	P	Pn	01 11 38.6	-0.3
	baz=103,SNR=12						
O02D				S	Sn	01 12 00.4	-0.4
	baz=103						
O02D	Mt. Diablo Mer	1.65	285		Pn	01 11 38.9	-0.1
NMTM	Middletown	1.66	235		Pn	01 11 38.8	-0.3
GRTM	Round Top Moun	1.73	242		Pn	01 11 40.2	0.0
GHMM	Hull Mountain	1.74	261		Pn	01 11 40.2	-0.1
LBPM	Beegum Peak	1.75	289		Pn	01 11 40.0	-0.5
CMB	Columbia Colle	1.76	172	Pn	Pn	01 11 40.3	-0.2
GSGM	Seigler Mounta	1.80	240		Pn	01 11 41.0	+0.1
GMKM	Mount Konoctai	1.80	244		Pn	01 11 41.2	+0.1
MCUB	Copperopolis B	1.80	178		Pn	01 11 40.9	-0.1
GBGM	Boggs Mountain	1.81	238		Pn	01 11 41.4	+0.2
LBFM	Black Fox Moun	1.81	331		Pn	01 11 42.2	+0.8
M03C	McCloud	1.84	325		Pb	01 11 42.9	-0.5
GCRM	Castle Rock Sp	1.85	238		Pn	01 11 41.8	0.0
NHSM	Mount Saint He	1.85	233		Pn	01 11 41.3	-0.6
GDXM	Geysers	1.88	240		Pn	01 11 42.6	+0.3
GACM	Adobe Creek	1.90	242		Pn	01 11 42.8	+0.3
GAXM	Alexander Vall	1.91	237		Pn	01 11 42.6	0.0
KBNM	Bluenose Ridge	1.92	274		Pn	01 11 43.3	+0.5
LGBM	Gray Butte	1.93	325		Pn

NV11	Mina Array Sit	2.40 123		Pn	01 11 48.8	-0.7
MYLM	Yosemite Lake	2.40 174		Pn	01 11 49.6	+0.3
B040	Montague	2.43 328		Pb	01 11 53.0	-0.4
MDCM	Deadman Creek	2.44 147		Pb	01 11 53.3	-0.4
MMIM	Miami Mountain	2.47 162		Pn	01 11 52.2	+1.8
YBH	Yreka Blue Hor	2.47 323		Pn	01 11 51.6	+1.2
MINS	Minaret Summit	2.48 148		Pb	01 11 54.1	-0.3
MDPB	Devils Postpil	2.49 149		Pb	01 11 54.3	-0.4
MDYM	Dry Creek	2.50 147		Pb	01 11 54.8	0.0
MMSM	Mammoth Summit	2.52 148		Pb	01 11 54.9	-0.1
MEMM	East Mammoth H	2.52 146		Pb	01 11 54.9	-0.2
MRDM	Red Cones	2.53 149		Pb	01 11 55.1	-0.2
MHC	Mount Hamilton	2.54 197		Pb	01 11 53.5	-1.8
OMMB	Old Mammoth Mi	2.54 148		Pb	01 11 55.2	-0.3
MCSM	Casa Diablo Ho	2.55 146		Pb	01 11 56.0	+0.5
KHMM	Horse Mountain	2.56 296		Pn	01 11 51.6	+0.1
MCBM	Casa Benchmark	2.56 146		Pb	01 11 56.2	+0.4
MGPM	Gravel Pit	2.57 146		Pb	01 11 56.1	+0.1
MLAC	Mammoth, Mammo	2.60 145	Pb	Pb	01 11 56.9	+0.5
	baz=327					
MLAC			Sb	Sg	01 12 33.3	+0.9
	baz=327					
MCMM	Convict Lake	2.60 146		Pb	01 11 56.6	+0.2
BONR	Boundary Peak	2.62 133		Pb	01 11 56.8	0.0
BENR	Benton	2.65 140		Pn	01 11 53.1	+0.1
L04D	Klamath Falls	2.72 334	P	Pn	01 11 54.7	+0.9
	baz=153,SNR=8.4					
BMN	Battle Mountai	2.75 75		Pn	01 11 52.0	-2.3
SAO	San Andreas Ge	3.06 191	Pn	Pn	01 11 58.4	0.0
HUMO	Hull Mountain	3.30 330	Pn	Pn	01 12 01.8	+0.2
J05D	Fort Rock, OR	3.53 354	Pb	Pb	01 12 11.0	-1.2
	baz=173,SNR=14					
J05D			Sb	Sg	01 13 00.2	-2.0
	baz=173					
PMPB	Monarch Peak	3.56 181	Pn	Pn	01 12 05.5	+0.2
PMPB			Pg	Pg	01 12 16.5	-0.5
CWC	Cottonwood Cre	3.92 147	Pb	Pb	01 12 20.0	+1.0
	baz=329					
CWC			Sb	Sb	01 13 10.9	+3.9
	baz=329					
PINE	Pine Mountain	4.01 358	Pn	Pn	01 12 11.1	-0.6
R11A	Troy Canyon, C	4.24 108	P	Pn	01 12 14.1	-0.6
	baz=292					
R11A			Sb	Sb	01 13 19.6	+3.6
	baz=292					
R11A	Troy Canyon, C	4.24 108		Pn	01 12 14.3	-0.4
DAC	Darwin (Calif)	4.27 144	Pn	Pn	01 12 16.2	+0.9
DAC				LR	01 13 24.0	
ELK	Elko	4.30 75		Pn	01 12 14.1	-1.5
ELK			Sg	Sb	01 13 21.1	+3.3
ISA	Isabella, Lake	4.47 156	Sg	Sb	01 13 26.1	+3.3
TPNV	Topopah Spring	4.50 127	Pn	Pn	01 12 17.3	-1.1
TPNV				Pg	01 12 36.7	+1.5
MPMC	Manual Prospec	4.50 145	Pb	Pb	01 12 31.3	+2.4
	baz=327					
MPMC			Sb	Sg	01 13 31.7	-1.8
	baz=327					
SHPR	Sheep Range	5.46 125	Pn	Pn	01 12 31.5	0.0
PSUT	Pine Spring	5.47 101	Pn	Pn	01 12 30.6	-1.1
MSU	Marysvale	6.75 98		Pn	01 12 50.0	+0.7

IDC 09 01:22:40.6±3.9, 5°.75S×153°.83E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.2/39, mbtmp3.0/2, Error ellipse: s-maj=180.8km s-min=53.9km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.62	232	P	P	01 27 53.6	0.0
	0.3nm,0.5s,baz=56,slow=9.5,SNR=5.1						
ASAR	Alice Springs	26.18	225	P	P	01 28 16.5	-0.5
	0.1nm,0.5s,baz=57,slow=10,SNR=2.7						
TORD	Torodi Ar. Bea	151.57	287	PKPbc	PKPbc	01 42 38.1	+0.2
	0.4nm,0.7s,baz=61,slow=1.6,SNR=2.5						

NEIC 09 01:30:38.6±1.4, 39°.775N±0°.008×120°.70W±0°.02, h8km±5km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.28	71		Pg	01 30 44.1	-0.2
BEKR					Sg	01 30 47.8	-0.2
LOY	Loyalton	0.38	108		Pg	01 30 46.0	-0.1
BMRR	Black Mountain	0.46	43		Pg	01 30 47.2	-0.4
BMRR					Sg	01 30 53.5	-0.2
KBF	Kyburz Flat	0.46	125		Pg	01 30 47.6	0.0
IND	Independence	0.46	137		Pg	01 30 47.9	+0.2
BABR	Babbit Peak	0.49	110		Pg	01 30 48.1	0.0
BABR					Sg	01 30 54.1	-0.5
DONR	Donner Summit	0.51	145		Pg	01 30 48.2	-0.4
PEAR	Peavine Mounta	0.59	106		Pg	01 30 49.9	-0.2
VPK	Verdi Peak	0.59	120		Pg	01 30 50.0	-0.1
ORV	Oroville	0.66	251		Pg	01 30 51.3	+0.1
ORV	Oroville	0.66	251		Pg	01 30 51.3	+0.1
ORV	Oroville	0.66	251	Pg	Pg	01 30 50.8	-0.4
MGL	Magalia	0.66	273		Pg	01 30 51.6	+0.2
MPK	Martis Peak	0.70	132		Pg	01 30 52.1	-0.2
PAM	Palermo	0.71	243		Pg	01 30 52.2	-0.1
ABJM	Bob Jauregui R	0.72	212		Pg	01 30 52.2	-0.2
LCMM	Colby Mountain	0.73	301		Pg	01 30 52.8	+0.1
OHCM	Honcut	0.75	234		Pg	01 30 52.5	-0.5
OHCM					Sg	01 31 02.8	+0.1
TAHR	Tahoe	0.75	146		Pg	01 30 52.8	-0.3
RUBR	Rubicon Trail	0.84	149		Pg	01 30 54.2	-0.5
AFDM	Forest Hills D	0.85	194		Pg	01 30 54.3	-0.7
LRDM	Redding Peak	0.90	320		Pg	01 30 56.2	+0.2
EMB	Emerald Bay	0.92	150		Pg	01 30 55.7	-0.6
VCNR	Virginia City	0.94	120		Pg	01 30 57.0	+0.2
ASMM	Slate Mountain	0.95	179		Pg	01 30 56.6	-0.2
O03E	Paynes Creek	0.99	302		Pg	01 30 57.2	-0.5
SUTB	Sutter Butte	1.00	237		Pg	01 30 57.4	-0.4
LMEM	Manzanita Entr	1.01	319		Pg	01 30 57.7	-0.4
PAHR	Pah Rah Range	1.02	93		Pg	01 30 57.3	-0.8
PAHR					Sg	01 31 10.7	-0.6
OSUM	Sutter Buttes	1.02	241		Pg	01 30 58.3	0.0
LDBM	Digger Butte	1.06	309		Pg	01 30 58.2	-0.8
GNO	Genoa	1.07	142		Pg	01 30 58.5	-0.6
PNTR	Pine Nut	1.09	128		Pg	01 30 59.1	-0.5
LBCM	Butte Creek Ri	1.17	335		Pg	01 31 00.4	-0.7
LTCM	Tuscan Springs	1.18	292		Pb	01 31 01.1	-0.1
HATC	Hat Creek Radi	1.19	331		Pg	01 31 00.9	-0.6
BFC	Buffalo Canyon	1.22	136		Pb	01 31 01.2	-0.9
GFC	Funks Creek	1.31	250		Pg	01 31 03.6	0.0
GCK	Clark Valley	1.36	261		Pb	01 31 04.4	+0.1
NDHM	Dunnigan Hills	1.38	223		Pg	01 31 04.8	-0.2
YERR	Yerington	1.38	124		Pn	01 31 04.0	-0.3
AASM	Arroyo Seco	1.38	193		Pn	01 31 03.7	-0.4
LSHM	Sage Hen Hill	1.44	315		Pn	01 31 05.4	+0.3
GROM	Round Mountain	1.52	276		Pn	01 31 06.2	-0.1
GBMM	Baldy Mountain	1.52	246		Pb	01 31 07.0	-0.1
GTSM	Trough Springs	1.54	253		Pn	01 31 06.7	+0.2
GASB	Alder Springs	1.56	266		Pn	01 31 06.8	+0.1
GWKM	Walker Ridge	1.56	243		Pb	01 31 07.3	-0.5
NBPM	Berryessa Peak	1.60	227		Pb	01 31 08.1	-0.3
WAKR	Walker	1.60	142		Pb	01 31 08.3	-0.3
WDC	Whiskeytown Da	1.62	300		Pn	01 31 08.1	+0.6
MNHB	New Hogan Dam	1.63	183		Pn	01 31 08.2	+0.6
O02D	Mt. Diablo Mer	1.65	285		Pn	01 31 08.2	+0.2
NMTM	Middletown	1.67	235		Pn	01 31 08.4	+0.3
CMB	Columbia Colle	1.75	172		Pn	01 31 09.9	+0.6
MCUB	Copperopolis B	1.80	178		Pb	01 31 11.1	-0.7
GMKM	Mount Konoctai	1.81	244		Pn	01 31 10.8	+0.8
M03C	McCloud	1.85	325		Pb	01 31 12.8	+0.1
GHLM	Highland Sprin	1.94	249		Pn	01 31 12.5	+0.5
HOPS	Hopland Field	2.00	248		Pn	01 31 13.5	+0.9
RYN	Ryan	2.04	123		Pb	01 31 16.2	+0.2
KVN	Kaiserville	2.14	109		Pb	01 31 16.6	-1.1
MOD	Modoc Plateau	2.15	8		Pb	01 31 17.1	-0.7
NVAR	Mina Array Bea	2.30	125		Pb	01 31 19.5	-1.0
NOLM	Olema	2.38	224		Pn	01 31 16.6	-1.2
NV11	Mina Array Sit	2.39	123	Pn	Pn	01 31 17.9	-0.3
NV11					Pb	01 31 21.9	-0.1
NV11				Sg	Sg	01 31 54.0	-1.4
MDPB	Devils Postpil	2.49	149		Pb	01 31 23.8	+0.2
OMMB	Old Mammoth Mi	2.54	148	Pn	Pn	01 31 19.8	-0.5
OMMB					Pb	01 31 24.8	+0.3
BMN	Battle Mountai	2.75	75	Pn	Pn	01 31 21.6	-1.5
BMN					Pb	01 31 27.8	-0.3
JPSM		2.88	207		Pn	01 31 23.6	-1.1
HERM	Elkhorn Road	3.08	195		Pn	01 31 28.8	+1.3

*ISCJB **09** 01:47:56.7±0.6, 17°.55N±0°.04×99°.50W±0°.05, h28km±7km, Error ellipse: s-maj=7.2km s-min=6.5km az=177.6*
*NEIC **09** 01:47:56.4±0.8, 17°.55N±0°.05×99°.47W±0°.03, h19km±7km*
*MEX **09** 01:47:58.2±0.7, 17°.54N×99°.49W, h5km, MD3.8*
ISC 09 01:47:56.2±1.1, 17°.52N±0°.04×99°.48W±0°.05, h13km±15km, n14, σ0s52/20, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.43	341	*i* P	Pg	01 48 04.8	+0.1
MEIG				*i* S	Sg	01 48 11.5	+1.0
MEIG	Mezcala	0.43	341		Pg	01 48 04.8	+0.1
ACP2	Acapulco	0.75	212	*i* P	Pb	01 48 11.4	+0.3
ACP2				*e*S	Sb	01 48 21.4	+0.1
ACP2	Acapulco	0.75	212		Pg	01 48 10.8	-0.1
TLIG	Tlapa	0.87	87	*e*P	Pb	01 48 13.2	0.0
TLIG	Tlapa	0.87	87		Pb	01 48 12.8	-0.4
TLIG	Tlapa	0.87	87		Pb	01 48 13.2	0.0
CAIG	El Cayaco	0.89	238	*i* P	Pg	01 48 13.3	-0.1
CAIG				*i* S	Sg	01 48 25.2	+0.1
CAIG	El Cayaco	0.89	238		Pg	01 48 13.3	-0.1
CAIG					Sg	01 48 25.2	+0.1
ARIG	Puente Sto Nin	1.12	312	*e*P	Pg	01 48 17.3	-0.6
ARIG				*i* S	Sg	01 48 31.2	-1.3
ARIG	Puente Sto Nin	1.12	312		Pg	01 48 18.0	+0.1
PNIG	Pinotepa	1.71	131	*e*P	Pn	01 48 26.0	+0.3
PNIG				*i* S	Sn	01 48 47.5	+0.1
PNIG	Pinotepa	1.71	131		Pb	01 48 26.6	-0.9
PNIG					Sb	01 48 49.0	+0.1
MOIG	Morelia	2.69	323	Pn	Pn	01 48 34.5	-4.9

*ANF **09** 01:57:54.3±0.5, 39°.73N×120°.75W, h5km, ML2.8/5, Error ellipse: s-maj=9.4km s-min=4.0km az=35.0*
*NEIC **09** 01:57:54.4±1.3, 39°.75N±0°.01×120°.71W±0°.02, h1km±2km*
ISC 09 01:57:53.7±1.1, 39°.74N±0°.02×120°.74W±0°.02, h5km±11km, n161, σ0s96/176, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.32	67		Pg	01 57 59.8	-0.2
BEKR					Sg	01 58 03.5	-0.8
LOY	Loyalton	0.40	102		Pg	01 58 01.7	+0.2
IND	Independence	0.47	131		Pg	01 58 03.6	+0.8
KBF	Kyburz Flat	0.47	120		Pg	01 58 03.3	+0.4
DONR	Donner Summit	0.51	140		Pg	01 58 03.9	+0.4
BABR	Babbit Peak	0.51	106		Pg	01 58 03.8	+0.2
VPK	Verdi Peak	0.61	116		Pg	01 58 05.6	+0.1
ORV	Oroville	0.61	252		Pb	01 58 07.0	+0.1
ORV	Oroville	0.61	252	Pg	Pb	01 58 06.8	-0.1
PEAR	Peavine Mounta	0.62	102		Pg	01 58 05.7	0.0
MGL	Magalia	0.63	276		Pb	01 58 07.2	-0.1
PAM	Palermo	0.67	244		Pb	01 58 07.9	0.0
PAM					Sn	01 58 18.6	-2.1
OHCM	Honcut	0.70	235		Pb	01 58 08.3	-0.2
MPK	Martis Peak	0.71	129		Pg	01 58 07.8	+0.4
LCMM	Colby Mountain	0.72	304		Pg	01 58 08.5	+0.9
TAHR	Tahoe	0.74	143		Pg	01 58 08.5	+0.5
AFDM	Forest Hills D	0.81	193		Pb	01 58 10.0	-0.4
RUBR	Rubicon Trail	0.83	146		Pg	01 58 09.9	+0.3
RUBR					Sg	01 58 20.9	+0.6
LRDM	Redding Peak	0.91	323		Pg	01 58 11.6	+0.5
EMB	Emerald Bay	0.91	147		Pg	01 58 11.5	+0.2
ASMM	Slate Mountain	0.92	177		Pg	01 58 11.7	+0.3
SUTB	Sutter Butte	0.96	238		Pb	01 58 13.1	+0.3
VCNR	Virginia City	0.96	118	Pg	Pg	01 58 11.9	-0.2
OSUM	Sutter Buttes	0.98	242		Pn	01 58 13.9	-0.2
O03E	Paynes Creek	0.98	304	P	Pg	01 58 12.7	+0.1
	baz=120,SNR=1000						
O03E				S	Sg	01 58 26.3	+1.0
	baz=120						
O03E	Paynes Creek	0.98	304		Pg	01 58 12.7	+0.1
LMEM	Manzanita Entr	1.02	322		Pg	01 58 13.9	+0.6
PAHR	Pah Rah Range	1.05	92		Pg	01 58 13.1	-0.8
PAHR					Sg	01 58 26.4	-1.0
LDBM	Digger Butte	1.05	311		Pg	01 58 13.9	-0.1
GNO	Genoa	1.07	139		Pg	01 58 14.3	+0.2
GNO					Sb	01 58 28.6	-0.5
PNTR	Pine Nut	1.10	126		Pg	01 58 14.8	0.0
LTCM	Tuscan Springs	1.16	294		Pn	01 58 16.8	+0.2
LBCM	Butte Creek Ri	1.19	337		Pb	01 58 15.9	-0.9
HATC	Hat Creek Radi	1.20	333		Pn	01 58 16.7	-0.6
BFC	Buffalo Canyon	1.22	134		Pb	01 58 16.9	-0.6
GFC	Funks Creek	1.27	251		Pg	01 58 19.1	+1.1
GCK	Clark Valley	1.32	262		Pg	01 58 20.1	+1.0
NDHM	Dunnigan Hills	1.33	223		Pg	01 58 19.9	+0.7
AASM	Arroyo Seco	1.34	192		Pb	01 58 19.2	-0.2
YERR	Yerington	1.39	123		Pn	01 58 19.5	-0.5
LSHM	Sage Hen Hill	1.44	317		Pn	01 58 20.9	+0.3
GBMM	Baldy Mountain	1.48	247		Pg	01 58 22.6	+0.4
GVV	Valley View	1.49	272		Pn	01 58 21.6	+0.2
GROM	Round Mountain	1.49	277		Pn	01 58 21.3	-0.1
GTSM	Trough Springs	1.50	254		Pb	01 58 22.1	-0.1
GWKM	Walker Ridge	1.52	244		Pg	01 58 23.1	+0.2
GASB	Alder Springs	1.52	267		Pb	01 58 22.3	-0.3
LTIM	Timbered Crate	1.54	339		Pn	01 58 22.1	+0.1
NBPM	Berryessa Peak	1.56	227		Pg	01 58 23.8	+0.3
MNRC	McLaughlin Min	1.58	237		Pb	01 58 23.6	+0.2
MNHB	New Hogan Dam	1.60	182		Pb	01 58 23.6	-0.1
NADM	Allendale	1.60	217		Pg	01 58 24.5	+0.1
WAKR	Walker	1.60	140		Pn	01 58 23.2	+0.3
WDC	Whiskeytown Da	1.61	302	Pn	Pn	01 58 23.4	+0.6
NMTM	Middletown	1.62	235		Pb	01 58 24.1	0.0
O02D	Mt. Diablo Mer	1.63	286	P	Pb	01 58 23.9	-0.4
	baz=103,SNR=50						
O02D				S	Sb	01 58 45.8	+0.5
	baz=103						
O02D	Mt. Diablo Mer	1.63	286		Pb	01 58 24.0	-0.4
GHMM	Hull Mountain	1.71	262		Pb	01 58 25.5	-0.2
CMB	Columbia Colle	1.73	171	Pn	Pb	01 58 25.6	-0.5
LBPM	Beegum Peak	1.74	290		Pn	01 58 25.4	+0.7
GSGM	Seigler Mounta	1.76	241		Pb	01 58 27.0	+0.5
GMKM	Mount Konoctai	1.76	245		Pb	01 58 26.4	-0.1
GBGM	Boggs Mountain	1.77	239		Pb	01 58 26.7	0.0
MCUB	Copperopolis B	1.77	177		Pb	01 58 26.0	-0.7
GCRM	Castle Rock Sp	1.81	238		Pb	01 58 26.9	-0.5
NHSM	Mount Saint He	1.81	234		Pb	01 58 26.6	-0.9
LBFM	Black Fox Moun	1.82	332		Pb	01 58 27.3	-0.4
GDXM	Geysers	1.85	240		Pb	01 58 27.4	-0.6
M03C	McCloud	1.86	326		Pb	01 58 28.2	0.0
GACM	Adobe Creek	1.86	243		Pn	01 58 25.1	-1.3
GAXM	Alexander Vall	1.87	237		Pb	01 58 27.7	-0.8
KBNM	Bluenose Ridge	1.89	275		Pb	01 58 28.7	-0.8
GHLM	Highland Sprin	1.90	249		Pb	01 58 28.2	-0.7
CVS	Carmenet Viney	1.93	224		Pb	01 58 28.5	-0.9
N02D	Trinity Center	1.94	310	P	Pn	01 58 28.3	+0.8
	baz=127,SNR=16						
N02D				S	Sb	01 58 54.6	+0.5
	baz=127						
N02D	Trinity Center	1.94	310		Pn	01 58 28.2	+0.8
LGBM	Gray Butte	1.94	326		Pb	01 58 29.4	-0.5
MAC	Mark West Spri	1.95	233		Pb	01 58 28.9	-0.8
HOPS	Hopland Field	1.95	248	Pn	Pn	01 58 28.6	+1.0
LASM	Arnica Sink	1.96	341		Pb	01 58 29.3	-0.8
LMHM	Little Mount H	1.96	340		Pb	01 58 29.7	-0.4
LGPM	Granite Peak	1.98	307		Pn	01 58 29.2	+1.2
LBKM	Bonanza King	1.99	313		Pb	01 58 29.7	-0.7
BDM	Black Diamond	1.99	206		Pb	01 58 30.5	+0.1
LGMM	Garner Mountai	2.03	336		Pn	01 58 29.7	+0.9
NMCNC	Mill Creek, So	2.04	236		Pb	01 58 30.2	-1.1
CRPB	Russellman Par	2.04	207		Pb	01 58 31.9	+0.6
GSSM	Skaggs Springs	2.05	240		Pb	01 58 30.6	-0.8
LMPM	Military Pass	2.05	329		Pb	01 58 31.5	-0.1
RYN	Ryan	2.05	122		Pn	01 58 29.0	-0.1
GSNM	Snow Mountain	2.06	248		Pb	01 58 30.9	-0.8
KFPM	Farley Peak	2.07	268		Pb	01 58 30.7	-1.2
KPPM	Pickett Peak	2.10	288		Pb	01 58 33.4	+1.0
CMOB	Morgan Territo	2.10	204		Pb	01 58 31.8	-0.6
KHBM	Hayfork Bally	2.10	297		Pb	01 58 31.4	-1.1
KIPM	Iron Peak	2.11	273		Pb	01 58 31.6	-0.9
BRIB	Briones	2.13	212		Pb	01 58 31.6	-1.2
KVN	Kaiserville	2.16	108		Pn	01 58 30.0	-0.6
MOD	Modoc Plateau	2.18	9		Pn	01 58 32.7	+1.8
MOD	Modoc Plateau	2.18	9	Pn	Pn	01 58 31.9	+1.1
KCPM	Cahto Peak	2.19	269	Pn	Pb	01 58 32.9	-1.0
LHEM	Herd Peak	2.19	330		Pb	01 58 33.9	-0.1
BKS	Berkeley--Byer	2.20	212		Pn	01 58 31.2	+0.3
GTC	Three Chop Rid	2.20	262		Pn	01 58 32.0	+1.1
M04C	Macdoel	2.20	338	P	Pb	01 58 33.6	-0.5
	baz=156,SNR=25						
M04C	Macdoel	2.20	338		Pb	01 58 33.6	-0.5
KBSM	Bell Springs	2.20	275		Pb	01 58 34.0	-0.1
LHV	Little Huntoon	2.29	130		Pn	01 58 33.1	+0.9
M02C	Callahan	2.30	316	P	Pb	01 58 35.1	-0.7
	baz=134,SNR=32						
M02C				S	Sb	01 59 05.3	+0.7
	baz=134						
NVAR	Mina Array Bea	2.31	124		Pn	01 58 32.7	+0.1
KMRM	Mail Ridge	2.33	283	Pn	Pb	01 58 35.7	-0.6
MYLM	Yosemite Lake	2.37	174		Pb	01 58 35.1	-1.8
CMJM	Mission San Jo	2.39	202		Pb	01 58 37.2	-0.1
NV11	Mina Array Sit	2.40	122	Pn	Pn	01 58 33.6	-0.2
NV11					Pb	01 58 37.5	0.0
MDCM	Deadman Creek	2.43	146		Pb	01 58 38.6	+0.5
B040	Montague	2.44	329		Pb	01 58 38.2	0.0
MMIM	Miami Mountain	2.45	161		Pb	01 58 37.4	-0.9
LMCR	Lookout Mounta	2.45	145		Pb	01 58 38.8	+0.3
MINS	Minaret Summit	2.47	147		Pb	01 58 39.3	+0.6
ARN	Arnold Ranch	2.47	195		Pb	01 58 36.9	-1.7
MDPB	Devils Postpil	2.48	148		Pb	01 58 39.4	+0.5
MDYM	Dry Creek	2.48	146		Pb	01 58 39.8	+0.8
YBH	Yreka Blue Hor	2.49	324		Pb	01 58 38.5	-0.4
YBH	Yreka Blue Hor	2.49	324	Pn	Pb	01 58 37.3	-1.6
MMLB	Mammoth Lakes	2.50	146		Pb	01 58 40.4	+1.1
MMSM	Mammoth Summit	2.50	147		Pb	01 58 40.2	+0.8
MGNR	McGee Canyon	2.50	140		Pb	01 58 40.1	+0.7
MEMM	East Mammoth H	2.51	145		Pb	01 58 40.6	+1.2
MRDM	Red Cones	2.52	148		Pb	01 58 40.0	+0.4
SAC	San Andreas	2.52	212		Pb	01 58 37.5	-2.0
OMMB	Old Mammoth Mi	2.53	147		Pb	01 58 40.4	+0.6
MCSM	Casa Diablo Ho	2.53	145		Pb	01 58 40.8	+0.9
MCBM	Casa Benchmark	2.55	145		Pb	01 58 41.4	+1.4
KOMM	Orleans Mounta	2.57	307		Pb	01 58 39.3	-1.1
MCMM	Convict Lake	2.58	145		Pb	01 58 41.8	+1.0
HOG	Hogback Mounta	2.60	344		Pb	01 58 40.2	-0.8
MCVM	Convict Lake	2.62	145		Pb	01 58 42.5	+1.1
JFP	Foothills Park	2.63	206		Pb	01 58 39.9	-1.6
BENR	Benton	2.64	139		Pn	01 58 38.3	+1.0
ORC	Owens River	2.66	142		Pb	01 58 43.3	+1.2
SFJWR	San Luis Fatjo	2.71	187		Pb	01 58 43.3	+0.6
HPCM	Pacheco Lake	2.71	189		Pg	01 58 44.9	-0.8
L04D	Klamath Falls	2.74	335	P	Pn	01 58 40.0	+1.5
	baz=153,SNR=6.1						
RCCR	Rock Creek Can	2.75	144		Pb	01 58 44.8	+1.2
BMN	Battle Mountai	2.79	75	Pn	Pn	01 58 36.9	-2.3
MCDM	Chidago Canyon	2.84	140		Pg	01 58 47.2	-0.9
MLNR	Milner Canyon	2.85	138		Pg	01 58 47.2	-1.2
SCHCA	Scheelite	2.87	145		Pb	01 58 46.5	+0.8
BRMM	Rolling Bench	2.91	181		Pb	01 58 46.1	0.0
MTUM	Tungsten Hills	2.94	144		Pg	01 58 48.7	-1.2
BHPR	Bishop	3.01	143		Pg	01 58 50.0	-1.5
SAO	San Andreas Ge	3.03	191	Pn	Pn	01 58 43.1	+0.8
POCCA	Poleta Canyon	3.06	140		Pg	01 58 50.9	-1.5
HUMO	Hull Mountain	3.31	330		Pb	01 58 53.3	+0.3
J05D	Fort Rock, OR	3.56	354	Pb	Pb	01 58 56.2	-1.1
	baz=173,SNR=9.1						
J05D				Sb	Sg	01 59 45.2	-2.8
	baz=173						
PINE	Pine Mountain	4.05	358	Pn	Pn	01 58 55.2	-1.3
PINE					Pb	01 59 07.5	+1.9
R11A	Troy Canyon, C	4.25	107	P	Pn	01 58 59.3	-0.1
	baz=292						
R11A				Sb	Sb	02 00 04.9	+4.1
	baz=292						
R11A	Troy Canyon, C	4.25	107	Pn	Pn	01 58 58.8	-0.5
DAC	Darwin (Calif)	4.26	143	Pn	Pn	01 58 59.5	0.0
ELK	Elko	4.33	75	Pn	Pn	01 58 58.4	-2.1
ELK					Pb	01 59 12.4	+1.9
ELK				Sg	Sb	02 00 07.0	+3.9
MPMC	Manual Prospec	4.49	144	P	Pn	01 59 03.0	+0.3
	baz=327						

*ISK **09** 02:09:54.9, 34°.79N×29°.04E, h31km, ML3.0/24*
*ISCJB **09** 02:09:55.5±0.4, 34°

TRO *e*S **Sn** **02 20 39.4 -7.3**
TRO IAML 02 20 42.4
comp=Z,12nm,0.5s
STEI Steigen 6.38 131 *e*P **Pn** **02 19 38.9 -0.9**
SPA0 Spitsbergen Ar 6.62 26 Pn **Pn** **02 19 42.7 -0.5**
baz=218,slow=16
SPA0 Spitsbergen Ar 6.62 26 Pn **Pn** **02 19 42.7 -0.5**
baz=218,slow=16
SPA0 *e*S **Sn** **02 20 53.6 -5.3**
SPA0 Spitsbergen Ar 6.62 26 **Pn** **02 19 43.0 -0.1**
SPITS Spitsbergen Ar 6.62 26 Pn **Pn** **02 19 42.6 -0.6**
baz=207,slow=16,SNR=94
SPITS Sn **Sn** **02 20 54.9 -4.0**
baz=315,slow=57,SNR=1.0
SPITS LR LR 02 21 48.4
comp=Z,568nm,21.4s,baz=210,slow=34
KBS Kingsbay 6.79 16 Pn **Pn** **02 19 43.9 -1.5**
KBS Kingsbay 6.79 16 *ce*P **Pn** **02 19 45.3 -0.1**
KBS pmax pmax
comp=Z,434nm,1.3s
KBS Kingsbay 6.79 16 *e*P **Pn** **02 19 43.9 -1.5**
KBS Kingsbay 6.79 16 **Pn** **02 19 44.8 -0.6**
DAG Danmarks Havn 6.94 317 *i* P **Pn** **02 19 43.2 -4.3**
DAG Danmarks Havn 6.94 317 *i* P **Pn** **02 19 43.2 -4.3**
DAG *e*S Sn 02 20 50.5 -16
DAG Danmarks Havn 6.94 317 *e* Pn 02 19 42.1 -5.4
baz=116,slow=16
DAG *i* P **Pn** **02 19 43.2 -4.3**
DAG *e*S Sn 02 20 50.6 -16
DAG IAML 02 20 55.8
comp=Z,61nm,0.5s
HAMF Hammerfest 7.00 96 *e*P **Pn** **02 19 47.0 -1.3**
KIF Kilpisjarvi 7.04 112 Pn **Pn** **02 19 47.9 -1.0**
KIF Sn **Sn** **02 21 02.6 -6.5**
KIF Kilpisjarvi 7.04 112 *e*P **Pn** **02 19 48.4 -0.5**
KIF *e*S **Sn** **02 21 03.1 -6.0**
KONS Konsvik 7.16 143 *e*P **Pn** **02 19 50.1 -0.5**
HOPEN Hopen 7.18 46 *e*P **Pn** **02 19 50.2 -0.6**
STOK Stokkvaagen 7.29 144 *e*P **Pn** **02 19 51.8 -0.6**
MOR8 Moi Rana 7.70 141 *e*P **Pn** **02 19 57.7 -0.3**
MOR8 *e*S **Sn** **02 21 18.2 -7.2**
KTK1 Kautokeino 7.73 107 *e*P **Pn** **02 19 58.9 +0.6**
SCO Scoresbysund 7.97 267 *i* P **Pn** **02 20 00.1 -1.5**
SCO Scoresbysund 7.97 267 *i* P **Pn** **02 20 00.1 -1.5**
SCO Scoresbysund 7.97 267 *i* P **Pn** **02 20 00.1 -1.5**
SCO Scoresbysund 7.97 267 **Pn** **02 19 59.9 -1.7**
ARA0 ARCESS Array S 8.09 101 Pn **Pn** **02 20 02.1 -1.2**
baz=309,slow=12
ARA0 Sn **Sn** **02 21 29.0 -6.0**
baz=294,slow=22
ARA0 ARCESS Array S 8.09 101 Pn **Pn** **02 20 02.1 -1.2**
baz=309,slow=12
ARA0 Sn **Sn** **02 21 29.0 -6.0**
baz=294,slow=22
ARCES ARCESS Array B 8.09 101 P **Pn** **02 20 03.8 +0.5**
ARCES ARCESS Array B 8.09 101 Pn **Pn** **02 20 03.5 +0.1**
comp=Z,0.9nm,0.3s,baz=313,slow=12,SNR=26
ARCES Sn **Sn** **02 21 28.8 -6.2**
comp=Z,0.5nm,0.3s,baz=302,slow=23,SNR=3.1
ARCES LR LR 02 23 02.2
comp=Z,74nm,21.3s,baz=351,slow=36
ARCES ARCESS Array B 8.09 101 Pn **Pn** **02 20 03.8 +0.5**
ARE0 ARCESS Array S 8.09 101 *e*P **Pn** **02 20 03.7 +0.5**
ARE0 ARCESS Array S 8.09 101 Pn **Pn** **02 20 03.8 +0.5**
HEF Hetta 8.23 110 *e*P **Pn** **02 20 05.0 -0.2**
HEF *e*S **Sn** **02 21 31.4 -6.9**
KEV Kevo 8.42 98 *e*P Pn 02 20 02.9 -4.9
NSS Namsos 8.80 152 *e*P **Pn** **02 20 11.9 -1.1**
TBLU Trondheim 9.82 159 *e*P **Pn** **02 20 25.4 -1.6**
MOL Molde 10.24 166 *e*P **Pn** **02 20 32.6 -0.1**
AKN Aaknes 10.59 168 Pn **Pn** **02 20 36.8 -0.9**
AKN Aaknes 10.59 168 Pn **Pn** **02 20 36.8 -0.9**
DOMB Dombas 10.88 163 *e*P **Pn** **02 20 41.1 -0.5**
APA0 Apatity Array 11.45 100 Pn **Pn** **02 20 48.3 -1.0**
baz=304,slow=18
APA0 Apatity Array 11.45 100 Pn **Pn** **02 20 48.3 -1.0**
baz=304,slow=18
BORG Borgarnes 11.57 239 LR LR 02 24 18.0
comp=Z,164nm,21.3s,baz=15,slow=32
LVZ Lovozero 11.76 97 P **Pn** **02 20 54.8 +1.2**
LVZ Lovozero 11.76 97 Pn **Pn** **02 20 54.8 +1.2**
NC204 NORSAR Array S 11.80 160 **Pn** **02 20 54.0 -0.2**
NC303 NORSAR Array S 11.91 158 **Pn** **02 20 55.9 +0.2**
NBO00 NORSAR Array S 12.04 160 Pn **Pn** **02 20 57.3 -0.1**
SUMG Summit 12.06 290 P **Pn** **02 20 56.2 -1.7**
SUMG Summit 12.06 290 *e*P **Pn** **02 20 56.6 -1.4**
SUMG Summit 12.06 290 **Pn** **02 20 56.2 -1.7**
NC405 NORSAR Array S 12.06 158 **Pn** **02 20 57.9 +0.2**
NB201 NORSAR Array S 12.08 159 Pn **Pn** **02 20 57.8 -0.1**
NB2 NORSAR Subarra 12.08 159 Pn **Pn** **02 20 57.1 -0.8**
baz=350,slow=14
NB2 NORSAR Subarra 12.08 159 Pn **Pn** **02 20 57.1 -0.8**
baz=350,slow=14
NOA NORSAR Array B 12.08 159 Pn **Pn** **02 20 57.1 -0.8**
comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=9.3
NOA LR LR 02 25 32.5
comp=Z,288nm,18.5s,baz=345,slow=37
NAO01 NORSAR Array S 12.24 160 Pn **Pn** **02 20 59.8 -0.3**
NC602 NORSAR Array S 12.41 159 Pn **Pn** **02 21 02.0 -0.5**
NRA0 NORESS Array S 12.41 159 Pn **Pn** **02 21 01.7 -0.7**
baz=336,slow=16
NRA0 NORESS Array S 12.41 159 Pn **Pn** **02 21 01.7 -0.7**
baz=336,slow=16
HFS Hagfors 13.26 155 Pn **Pn** **02 21 13.0 -1.0**
baz=344,slow=14
HFS Hagfors 13.26 155 Pn **Pn** **02 21 13.3 -0.7**
comp=Z,1.8nm,0.3s,baz=354,slow=12,SNR=45
HFS LR LR 02 25 48.7
comp=Z,318nm,22.0s,baz=324,slow=35
HFS Hagfors 13.26 155 Pn **Pn** **02 21 13.0 -1.0**
baz=344,slow=14
KONO Kongsberg 13.29 164 P **Pn** **02 21 13.4 -1.0**
KONO Kongsberg 13.29 164 Pn **Pn** **02 21 13.4 -1.0**
FIA0 FINESS Array S 14.36 129 Pn **Pn** **02 21 26.6 -2.3**
baz=346,slow=12
FIA0 FINESS Array S 14.36 129 Pn **Pn** **02 21 26.6 -2.3**
baz=346,slow=12
FINES FINESS Array B 14.36 129 *i* P **Pn** **02 21 27.2 -1.7**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 14.36 129 Pn **Pn** **02 21 27.3 -1.7**
comp=Z,0.4nm,0.3s,baz=2.4,slow=14,SNR=15
FINES Sn Sn 02 23 56.8 -11
comp=Z,0.1nm,0.3s,baz=327,slow=28,SNR=3.2
FINES LR LR 02 26 33.8
comp=Z,253nm,19.0s,baz=329,slow=35
FINES FINESS Array B 14.36 129 Pn **Pn** **02 21 27.1 -1.7**
TMCR Tamitsa 15.34 105 *e*P **Pn** **02 21 43.1 +1.0**
TMCR *e* 02 24 33.4
TMCR pmax pmax
comp=Z,26nm,1.1s
TMCR Tamitsa 15.34 105 *e*P **Pn** **02 21 43.1 +1.0**
comp=Z,8.8nm,0.5s
LSH Leshukonskoye 17.10 95 *e*P **Pn** **02 22 03.1 -1.6**
comp=Z,45nm,1.5s
VSU Vasula 17.17 133 *ce*P **P** **02 22 07.9 +0.6**
VSU pmax pmax
comp=Z,98nm,1.3s
ILULI Ilulissat 17.30 285 P **Pn** **02 22 05.5 -1.7**
ILULI pmax pmax
comp=Z,23nm,0.8s
ILULI Ilulissat 17.30 285 Pn **Pn** **02 22 05.5 -1.7**
EKA Eskdalemuir Ar 17.47 191 P **Pn** **02 22 09.0 -0.4**
EKA Eskdalemuir Ar 17.47 191 P **Pn** **02 22 09.0 -0.4**
baz=3.2,slow=12,SNR=9.6
ESK Eskdalemuir 17.49 191 P **Pn** **02 22 08.9 -0.7**
ESK pmax pmax
comp=Z,77nm,1.6s
ESK Eskdalemuir 17.49 191 Pn **Pn** **02 22 08.9 -0.7**
ESK IAmb IAmb 02 22 17.8
comp=Z,77nm,1.6s
TULEG Thule 18.24 315 Pn **Pn** **02 22 15.9 -2.8**
KLMR Klimovskoe 18.38 110 *e*P **Pn** **02 22 19.8 -0.7**
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR Klimovskoe 18.38 110 *e*P **Pn** **02 22 14.5 -6.1**
KLMR Klimovskoe 18.38 110 *e*Pn **Pn** **02 22 19.9 -0.6**
KLMR AMP 02 22 27.7
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 18.54 279 *i* 02 21 01.3
PRGR Permogore 19.52 102 *e*P **P** **02 22 32.3 -0.7**
PRGR pmax pmax
comp=Z,14nm,0.9s
PRGR Permogore 19.52 102 *e*P **P** **02 22 32.3 -0.7**
comp=Z,14nm,0.9s
SUW Suwalki 20.62 143 *e*P **P** **02 22 45.6 +0.5**
SUW Suwalki 20.62 143 *e*P **P** **02 22 45.6 +0.5**
SUW *e*P **P** **02 22 45.6 +0.5**
SUW Suwalki 20.62 143 P **P** **02 22 45.2 +0.1**
SUW IAmb IAmb 02 22 47.8
comp=Z,36nm,0.9s
MICGM Minsk 21.07 136 *e* **P** **02 22 50.0 0.0**
MNK Minsk 21.07 136 *e*P **P** **02 22 50.0 0.0**
CLL Collm 21.85 162 *e*P **P** **02 22 59.0 +0.6**
CLL pmax pmax
comp=Z,55nm,2.0s
CLL Collm 21.85 162 *e*P **P** **02 22 59.0 +0.6**
comp=Z,55nm,2.0s
CLL *i* 02 23 11.8
CLL *e*(sPP) 02 23 26.0
CLL *e*S Sn 02 27 12.0 +2.5
CLL Collm 21.85 162 P **P** **02 22 59.0 +0.6**
HGN Heimansgroeve 21.95 174 *e*P **P** **02 23 00.4 +1.0**
comp=Z,35nm,1.1s
MEM Membach 22.11 174 P **P** **02 23 01.9 +0.8**
MOS Moscow 22.25 120 *e*P **P** **02 23 02.3 -0.4**
MOS pmax pmax
comp=Z,34nm,1.0s
BCLA Clavier 22.28 175 P **P** **02 23 03.3 +0.3**
BRG Berggiesshubel 22.38 160 *e*P **P** **02 23 04.6 +0.5**
comp=Z,6.9nm,1.0s
BMRD Maredsous 22.38 176 P **P** **02 23 04.3 +0.2**
OBN Obninsk 22.54 123 *e*P **P** **02 23 05.0 -0.7**
OBN *e*PPP PPP 02 23 36.3
OBN pmax pmax
comp=Z,29nm,1.3s
OBN MLR MLR
comp=Z,206nm,17.0s
OBN Obninsk 22.54 123 P **P** **02 23 07.1 +1.4**
comp=Z,3.1nm,0.6s,baz=29,slow=7.9,SNR=4.7
OBN LR LR 02 31 38.8
comp=Z,62nm,18.5s,baz=352,slow=36
OBN Obninsk 22.54 123 P **P** **02 23 06.2 +0.5**
OBN IAmb IAmb 02 23 10.6
comp=Z,14nm,0.7s
DOU Dourbes 22.58 176 P **P** **02 23 06.4 +0.2**
DOU x x 02 23 20.0
KSP Ksiaz 22.66 157 *e*P **P** **02 23 08.4 +1.3**
KSP Ksiaz 22.66 157 *e*P **P** **02 23 08.4 +1.3**
KSP *e*P **P** **02 23 08.4 +1.3**
PVCC Panska Ves 22.78 160 *e*P **P** **02 23 10.3 +2.0**
PVCC Panska Ves 22.78 160 *e*P **P** **02 23 10.3 +2.0**
NKC Novy Kostel 22.87 163 *e*P **P** **02 23 10.1 +0.8**
NKC Novy Kostel 22.87 163 *e*P **P** **02 23 10.1 +0.8**
CHVC Chvalec 22.89 157 *e*P **P** **02 23 10.1 +0.6**
UPC Upice 22.96 157 *e*P **P** **02 23 11.2 +1.0**
UPC Upice 22.96 157 *e*P **P** **02 23 11.2 +1.0**
WLF Walferdange 23.06 174 P **P** **02 23 12.2 +1.0**
WLF pmax pmax
comp=Z,11nm,0.9s
WLF Walferdange 23.06 174 P **P** **02 23 12.2 +1.0**
KIRV Kirov 23.11 102 P **P** **02 23 12.6 +1.0**
comp=Z,9.6nm,0.7s,baz=64,slow=5.3,SNR=2.5
KIRV LR LR 02 31 53.8
comp=Z,51nm,18.8s,baz=260,slow=36
DPC Dobruska-Polom 23.15 157 *e*P **P** **02 23 13.7 +1.4**
DPC Dobruska-Polom 23.15 157 *e*P **P** **02 23 13.7 +1.4**
GRA1 Grafenberg Arr 23.31 165 P **P** **02 23 15.4 +1.6**
GRF Grafenberg Arr 23.31 165 P **P** **02 23 15.4 +1.6**
GRF pmax pmax
comp=Z,84nm,2.0s
PRU Pruhonice 23.31 160 *e*P **P** **02 23 14.9 +1.1**
PRU Pruhonice 23.31 160 *e*P **P** **02 23 14.9 +1.1**
GOPC GO Pecny, Ondr 23.41 160 *e*P **P** **02 23 15.0 +0.2**
GOPC GO Pecny, Ondr 23.41 160 *e*P **P** **02 23 15.0 +0.2**
KRLC Kraliky 23.48 156 *e*P **P** **02 23 16.9 +1.4**
KRLC Kraliky 23.48 156 *e*P **P** **02 23 16.9 +1.4**
PBCC Pribram 23.55 161 *e*P **P** **02 23 17.2 +0.9**
OJC Ojcow 23.74 151 IAmb IAmb 02 23 25.2
comp=Z,11nm,0.8s
MORC Moravsky Berou 23.86 155 P **P** **02 23 20.1 +0.8**
MORC pmax pmax
comp=Z,17nm,1.5s
MORC Moravsky Berou 23.86 155 ⇑P **P** **02 23 20.6 +1.3**
MORC mb 02 23 25.8
MORC Moravsky Berou 23.86 155 *e*P **P** **02 23 20.6 +1.3**
MORC Moravsky Berou 23.86 155 P **P** **02 23 20.1 +0.8**
OKC Ostrava-Krasne 23.88 154 *e*P **P** **02 23 19.5 +0.1**
OKC Ostrava-Krasne 23.88 154 *e*P **P** **02 23 19.5 +0.1**
KHC Kasperske Hory 24.06 162 ⇑*e*P **P** **02 23 23.1 +1.9**
KHC pmax pmax
comp=Z,34nm,1.7s
KHC Kasperske Hory 24.06 162 *e*P **P** **02 23 22.4 +1.2**
STU Stuttgart 24.09 169 P **P** **02 23 21.9 +0.5**
STU pmax pmax
comp=Z,18nm,1.1s
STU Stuttgart 24.09 169 P **P** **02 23 21.9 +0.5**
STU IAmb IAmb 02 23 25.3
comp=Z,18nm,1.1s
TREC Trest 24.10 159 *e*P **P** **02 23 22.3 +0.8**
TREC Trest 24.10 159 *e*P **P** **02 23 22.3 +0.8**
VRAC Vranov 24.21 157 P **P** **02 23 24.1 +1.5**
comp=Z,5.4nm,0.7s,baz=341,slow=8.4,SNR=14
VRAC LR LR 02 33 16.2
comp=Z,174nm,18.0s,baz=344,slow=38
VRAC Vranov 24.21 157 ⇑P **P** **02 23 24.0 +1.5**
VRAC mb 02 23 26.5
VRAC Vranov 24.21 157 *e*P **P** **02 23 24.1 +1.5**
GEC2 GERESS Array S 24.36 162 P **P** **02 23 25.5 +1.5**
GEC2 IAmb IAmb 02 23 27.0
comp=Z,10nm,0.8s
GERES GERESS Array B 24.36 162 P **P** **02 23 25.5 +1.5**
GERES GERESS Array B 24.36 162 P **P** **02 23 25.9 +1.9**
comp=Z,9.1nm,0.7s,baz=359,slow=9.2,SNR=90
GERES LR LR 02 32 51.3
comp=Z,138nm,19.6s,baz=307,slow=36
GERES GERESS Array B 24.36 162 P **P** **02 23 25.5 +1.5**
KRUC Moravsky 24.43 157 *e*P **P** **02 23 26.0 +1.5**
BFO Black Forest 24.48 170 P **P** **02 23 26.4 +1.4**
BFO pmax pmax
comp=Z,68nm,1.8s
BFO Black Forest 24.48 170 P **P** **02 23 26.4 +1.4**
ECH Echery 24.54 172 P **P** **02 23 26.5 +0.9**
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH Echery 24.54 172 P **P** **02 23 26.5 +0.9**
RES Resolute Bay 24.61 321 P **P** **02 23 25.3 -0.7**
comp=Z,3.0nm,1.2s,baz=239,slow=21,SNR=3.3
RES LR LR 02 33 07.5
comp=Z,263nm,18.3s,baz=346,slow=37
LANS Liptovska Anna 24.73 153 *e*P **P** **02 23 28.9 +1.6**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 24.73 153 *e*P **P** **02 23 28.9 +1.6**
JAVC Velka Javorina 24.78 155 *e*P **P** **02 23 29.9 +2.1**
AKASG Malin Array Be 24.93 137 *ce*P **P** **02 23 29.7 +0.7**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 24.93 137 P **P** **02 23 29.5 +0.4**
comp=Z,5.6nm,0.7s,baz=338,slow=9.9,SNR=16
AKASG LR LR 02 32 55.5
comp=Z,248nm,19.3s,baz=325,slow=36
AKASG Malin Array Be 24.93 137 P **P** **02 23 29.4 +0.4**
AKBB Malin Array Si 24.93 137 ⇑*i*P **P** **02 23 29.3 +0.3**
AKBB Malin Array Si 24.93 137 IAmb IAmb 02 23 35.5
comp=Z,22nm,1.2s
SMOL Smolenice 25.09 156 *e*P **P** **02 23 32.6 +2.1**
SMOL pmax pmax
comp=Z,10.0nm,0.8s
SMOL Smolenice 25.09 156 *e*P **P** **02 23 32.6 +2.1**
MODS Modra-Piesok 25.21 156 *e*P **P** **02 23 32.6 +1.0**
MODS pmax pmax
comp=Z,25nm,1.4s
MODS Modra-Piesok 25.21 156 *e*P **P** **02 23 32.6 +1.0**
VYHS Vyhne 25.29 154 *e*P **P** **02 23 33.5 +1.2**
VYHS pmax pmax
comp=Z,11nm,1.3s
VYHS Vyhne 25.29 154 *e*P **P** **02 23 33.5 +1.2**
KOLS Kolonicke sedl 25.36 148 *e*P **P** **02 23 34.5 +1.5**
KOLS pmax pmax
comp=Z,18nm,1.6s
KOLS Kolonicke sedl 25.36 148 *e*P **P** **02 23 34.5 +1.5**
MOA Molln 25.40 161 *i* P **P** **02 23 34.6 +1.3**
comp=Z,5.9nm,0.8s
LPSR Galich'ya Gora 25.42 122 *e*P **P** **02 23 34.3 +0.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
RETA Reutte 25.47 167 *i* P **P** **02 23 35.7 +1.8**
comp=Z,8.3nm,1.2s
CONA Conrad Observa 25.49 159 *i* P **P** **02 23 35.6 +1.4**
comp=Z,13nm,0.9s
KECS Kecovo 25.53 151 *e*P **P** **02 23 36.0 +1.5**
KECS pmax pmax
comp=Z,5.0nm,0.6s
KECS Kecovo 25.53 151 *e*P **P** **02 23 36.0 +1.5**
DAVA Damuels 25.61 168 *i* P **P** **02 23 36.9 +1.6**
comp=Z,20nm,0.9s
MOTA Moosalm 25.63 166 *i* P **P** **02 23 37.9 +2.3**
comp=Z,12nm,1.4s
UZH Uzhgorod 25.66 149 *e*P **P** **02 23 37.4 +1.8**
WATA Walderalm 25.68 165 *i* P **P** **02 23 38.1 +2.1**
comp=Z,10nm,0.9s
WTTA Wattenberg 25.75 165 *i* pP **P** **02 23 40.9 +4.2**
comp=Z,9.7nm,0.8s
SQTA Sankt Quirin 25.76 166 *i* P **P** **02 23 38.0 +1.2**
comp=Z,7.6nm,0.8s
NRIK Noril'sk 25.79 54 P **P** **02 23 38.0 +1.4**
comp=Z,3.2nm,0.4s,baz=330,slow=1.9,SNR=5.2
NRIK LR LR 02 36 24.2
comp=Z,77nm,18.5s,baz=358,slow=42
FETA Feichten 25.93 167 *i* pP **P** **02 23 42.2 +3.9**
comp=Z,4.1nm,0.8s
PSZ Piszkesteto 26.00 152 P **P** **02 23 40.0 +1.2**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 26.00 152 P **P** **02 23 40.0 +1.2**
KBA Koelnbreinsper 26.08 163 *i* P **P** **02 23 41.5 +1.9**
comp=Z,3.4nm,0.7s
DAVOX Davos/Dischmat 26.11 168 P **P** **02 23 41.9 +1.9**
comp=Z,4.1nm,0.8s,baz=305,slow=10,SNR=5.7
DAVOX LR LR 02 34 40.6
comp=Z,215nm,19.2s,baz=304,slow=38
ARSA Arzberg 26.12 159 *i* P **P** **02 23 44.1 +4.3**
comp=Z,3.2nm,1.0s
TRPA Tarpa 26.19 148 ⇑P **P** **02 23 42.1 +1.8**
TRPA mb 02 23 47.1
ABTA Abfaltersbach 26.34 164 *i* pP **P** **02 23 43.4 +1.5**
comp=Z,6.6nm,1.1s
TUE Stuetta 26.39 169 P **P** **02 23 43.4 +0.9**
TUE IAmb IAmb 02 24 32.6
comp=Z,28nm,2.0s
SENIN Lac Senin/Sane 26.40 172 P **P** **02 23 43.9 +1.3**
MYKA Terra Mystica 26.55 162 *i* pP **P** **02 23 45.6 +1.8**
comp=Z,7.1nm,1.0s
SOKA Soboth 26.64 160 *i* P **P** **02 23 45.2 +0.6**
comp=Z,2.0nm,0.7s
VSR Storozhevoye 26.74 123 *e*P **P** **02 23 45.2 -0.2**
VSR pmax pmax
comp=Z,9.0nm,0.8s
STAL STALIGIAL 26.84 164 P **P** **02 23 46.8 +0.5**
STAL IAmb IAmb 02 24 34.6
comp=Z,12nm,1.2s
CTI Castel Tesino 26.96 166 P **P** **02 23 49.0 +1.5**
CTI pmax pmax
comp=Z,18nm,1.5s
CTI Castel Tesino 26.96 166 P **P** **02 23 49.0 +1.5**
CTI IAmb IAmb 02 23 51.1
comp=Z,18nm,1.5s
VORD Divnogorie 27.00 123 *e*P **P** **02 23 47.9 +0.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
BUR08 Bucovina Ar. S 27.10 145 IAmb IAmb 02 23 56.5
comp=Z,28nm,1.6s
BURAR Bucovina Array 27.13 145 ⇑P **P** **02 23 50.3 +1.2**
BURAR mb 02 23 54.9
BURAR Bucovina Array 27.13 145 P **P** **02 23 50.5 +1.4**
SORM Soroca 27.20 140 ⇑P **P** **02 23 51.5 +1.9**
VRH Novokhopyorsk 27.41 120 *e*P **P** **02 23 51.9 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
DRGR 27.52 149 ⇑P **P** **02 23 54.1 +1.7**
ARU Arti 27.63 95 *d*i P **P** **02 23 54.3 +1.0**
ARU S **S** **02 28 37.9 +2.8**
ARU pmax pmax
comp=Z,20nm,2.8s
ARU Arti 27.63 95 P **P** **02 23 55.1 +1.8**
comp=Z,1.4nm,0.5s,baz=340,slow=7.2,SNR=6.5
ARU LR LR 02 34 26.4
comp=Z,44nm,19.6s,baz=106,slow=35
ARU Arti 27.63 95 P **P** **02 23 54.5 +1.2**
BZS Buzias 28.50 151 ⇑P **P** **02 24 02.8 +1.6**
GZR Gura Zlata 28.89 149 ⇑P **P** **02 24 06.2 +1.5**
PLOR Plostina 29.09 144 ⇑P **P** **02 24 08.4 +2.0**
ARR Arges 29.21 147 ⇑P **P** **02 24 09.7 +2.2**
MLR Muntele Rosu 29.31 145 P **P** **02 24 10.6 +2.0**
MLR pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 29.31 145 P **P** **02 24 10.9 +2.4**
comp=Z,2.6nm,0.7s,baz=157,slow=15,SNR=7.2
MLR LR LR 02 36 11.8
comp=Z,314nm,18.2s,baz=302,slow=37
MLR Muntele Rosu 29.31 145 P **P** **02 24 10.6 +2.0**
CFR Carcaliu 30.01 142 ⇑P **P** **02 24 15.5 +0.9**
NRCA Norcia 30.27 164 P **P** **02 24 17.9 +1.0**
NRCA IAmb IAmb 02 24 25.8
comp=Z,11nm,1.1s
HARR Harsova 30.44 143 ⇑P **P** **02 24 19.3 +0.9**
HARR mb 02 24 20.0
COPA Copaceanca 30.51 147 ⇑P **P** **02 24 20.5 +1.5**
TLB Topalu 30.56 142 ⇑P **P** **02 24 20.4 +1.0**
PDG Podgorica 31.31 156 ⇑P **P** **02 24 27.9 +1.9**
PDG Podgorica 31.31 156 P **P** **02 24 27.4 +1.4**
SIM Simferopol' 31.43 134 *e*P **P** **02 24 23.8 -3.3**
SIM pmax pmax
comp=Z,7.0nm,0.8s
VTS Vitosha 31.67 150 ⇑P **P** **02 24 30.4 +1.0**
VTS mb 02 24 32.3
TIXI Tiksi 32.04 29 *ce*P **P** **02 24 33.7 +1.6**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI Tiksi 32.04 29 P **P** **02 24 33.8 +1.6**
comp=Z,3.8nm,0.2s,baz=180,slow=24,SNR=5.0
TIXI LR LR 02 36 54.4
comp=Z,60nm,18.7s,baz=166,slow=35
TIXI Tiksi 32.04 29 P **P** **02 24 33.8 +1.7**
STIP Stip 32.42 152 *i* P **P** **02 24 36.8 +0.9**
MTE Manteigas 32.62 194 P **P** **02 24 37.8 +0.1**
ESDC Sonseca Array 33.13 189 P **P** **02 24 43.3 +1.2**
comp=Z,0.8nm,0.7s,baz=1.7,slow=7.9,SNR=5.1
ESDC Sonseca Array 33.13 189 P **P** **02 24 42.4 +0.3**
FNA Florina 33.20 153 P **P** **02 24 43.5 +0.8**
FNA pmax pmax
comp=Z,11nm,0.7s
FNA Florina 33.20 153 P **P** **02 24 43.5 +0.8**
PAB San Pablo 33.28 189 P **P** **02 24 44.0 +0.6**
PAB pmax pmax
comp=Z,38nm,2.0s
PAB San Pablo 33.28 189 P **P** **02 24 44.0 +0.6**
LIT Litokhoron 34.03 152 P **P** **02 24 51.5 +1.6**
LIT pmax pmax
comp=Z,10.0nm,1.0s
LIT Litokhoron 34.03 152 P **P** **02 24 51.5 +1.6**
LIT IAmb IAmb 02 25 33.2
comp=Z,10nm,1.0s
BRVK Borovoye 34.04 88 P **P** **02 24 50.9 +1.0**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 34.04 88 P **P** **02 24 50.9 +1.0**
PESTR Estremoz 34.15 194 P **P** **02 24 51.5 +0.6**
TIP Timpagrande 34.23 160 P **P** **02 24 53.3 +1.5**
ABKAR Akbulak array 34.29 101 P **P** **02 24 52.5 +0.4**
ABKAR IAmb IAmb 02 24 54.8
comp=Z,6.4nm,0.9s
ABKAR **PcP** **02 27 28.8 +0.8**
KIV Kislovodsk 34.37 124 *e*P **P** **02 24 53.8 +0.9**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,201nm,16.0s
KBZ Khabaz 34.63 124 P **P** **02 24 57.7 +2.6**
comp=Z,3.4nm,0.9s,baz=330,slow=4.7,SNR=6.5
KBZ LR LR 02 39 02.1
comp=Z,139nm,18.8s,baz=352,slow=36
NCK Nalchik 35.03 123 *i* P **P** **02 25 01.0 +2.5**
NCK pmax pmax
comp=Z,6.0nm,0.9s
AGG Agios Georgios 35.07 152 P **P** **02 24 59.8 +0.9**
AGG pmax pmax
comp=Z,11nm,1.2s
AGG Agios Georgios 35.07 152 P **P** **02 24 59.8 +0.9**
AGG IAmb IAmb 02 25 04.2
comp=Z,11nm,1.2s
CORL Corleone 35.19 165 P **P** **02 25 01.2 +1.2**

RAFF Raffo Rosso 35.95 164 P **P** **02 25 06.1 -0.3**
PFVI Vila Bisbo 35.97 195 P **P** **02 25 07.3 +0.7**
BR131 Keskin Array S 36.34 137 P **P** **02 25 11.3 +1.4**
BR131 pmax pmax
comp=Z,6.0nm,1.5s
BR131 Keskin Array S 36.34 137 P **P** **02 25 11.3 +1.4**
BRTR Keskin Array B 36.34 137 *ceP* **P** **02 25 12.1 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 36.34 137 P **P** **02 25 11.3 +1.4**
comp=Z,1.3nm,0.6s,baz=339,slow=6.9,SNR=7.3
BRTR PcP **PcP** **02 27 34.4 0.0**
comp=Z,0.7nm,1.0s,baz=336,slow=3.2,SNR=3.0
BRTR LR LR 02 40 44.9
comp=Z,43nm,20.5s,baz=346,slow=37
BRTR Keskin Array B 36.34 137 P **P** **02 25 10.9 +1.0**
INK Inuvik 36.41 334 P **P** **02 25 10.0 0.0**
comp=Z,7.4nm,1.0s,baz=6.7,slow=7.8,SNR=4.3
INK Inuvik 36.41 334 P **P** **02 25 09.9 -0.1**
INK IAmb IAmb 02 25 12.4
comp=Z,18nm,1.4s
ITM Ithomi 36.82 153 P **P** **02 25 14.7 +0.8**
KEST Kesra 37.09 171 P **P** **02 25 17.1 +0.8**
KEST IAmb IAmb 02 26 03.0
comp=Z,15nm,1.5s
ZALV Zalesovo Beam 37.58 74 P **P** **02 25 21.1 +0.9**
comp=Z,0.4nm,0.3s,baz=317,slow=10,SNR=2.5
ZALV PcP **PcP** **02 27 37.7 0.0**
comp=Z,0.8nm,0.6s,baz=243,slow=1.6,SNR=2.9
ZALV LR LR 02 43 18.0
comp=Z,51nm,20.7s,baz=5.5,slow=40
BMAR Burnt Mountain 38.54 340 P **P** **02 25 27.9 -0.3**
YKW3 Yellowknife Ar 38.58 319 P **P** **02 25 27.7 -0.7**
YKW3 IAmb IAmb 02 25 31.8
comp=Z,10nm,0.9s
KURK Kurchatov 38.60 82 *i* P **P** **02 25 29.2 +0.5**
KURK pmax pmax
comp=Z,11nm,2.4s
YKA Yellowknife Ar 38.64 318 P **P** **02 25 28.8 -0.1**
comp=Z,3.7nm,0.9s,baz=21,slow=11,SNR=3.3
EPYK Eagle Plains 38.66 335 P **P** **02 25 29.1 -0.1**
EPYK IAmb IAmb 02 25 39.3
comp=Z,27nm,1.6s
BILL Bilibino 39.23 9 *eP* **P** **02 25 34.1 +0.2**
BILL *e* 02 27 01.2
BILL pmax pmax
comp=Z,23nm,2.5s
BILL MLR MLR
comp=Z,203nm,15.0s
BILL Bilibino 39.23 9 P **P** **02 25 33.8 -0.1**
IMAR Indian Mountai 40.77 345 P **P** **02 25 46.8 +0.1**
ILAR Eielson Array 41.36 341 P **P** **02 25 51.2 -0.4**
comp=Z,2.4nm,0.9s,baz=8.4,slow=6.5,SNR=18
ILAR PcP **PcP** **02 27 49.1 -0.4**
comp=Z,0.9nm,0.7s,baz=332,slow=3.9,SNR=7.0
ILAR Eielson Array 41.36 341 P **P** **02 25 51.8 +0.3**
PKME Peaks-Kenny Pk 42.09 270 P **P** **02 25 57.9 +0.2**
RIDG Independent Ri 42.15 339 P **P** **02 25 58.0 -0.1**
RIDG IAmb IAmb 02 27 11.3
comp=Z,24nm,1.8s
DOT Dot Lake 42.16 338 P **P** **02 25 57.3 -0.8**
DOT IAmb IAmb 02 26 04.7
comp=Z,8.9nm,1.0s
BCAR Beaver Creek A 42.46 337 P **P** **02 26 00.5 -0.1**
FFC Flin Flon 42.82 304 P **P** **02 26 03.5 -0.1**
FFC pmax pmax
comp=Z,54nm,2.0s
FFC Flin Flon 42.82 304 P **P** **02 26 03.5 -0.1**
KKAR Karatay Array 43.00 95 P **P** **02 26 06.3 +1.1**
KKAR Karatay Array 43.00 95 P **P** **02 26 06.3 +1.1**
MKAR Makanchi Array 43.19 81 *ceP* **P** **02 26 07.4 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 43.19 81 P **P** **02 26 07.6 +0.9**
comp=Z,0.7nm,0.6s,baz=344,slow=7.3,SNR=6.6
MKAR LR LR 02 47 59.0
comp=Z,54nm,19.2s,baz=336,slow=41
MKAR Makanchi Array 43.19 81 P **P** **02 26 07.1 +0.3**
SEY Seymchan 43.23 19 P **P** **02 26 07.5 +0.7**
comp=Z,4.2nm,0.9s,baz=338,slow=2.2,SNR=5.7
GEYT Alibeck 44.13 110 P **P** **02 26 15.9 +1.5**
comp=Z,2.3nm,0.6s,baz=309,slow=5.0,SNR=5.4
GEYT LR LR 02 46 31.8
comp=Z,52nm,18.3s,baz=340,slow=39
GEYT Alibeck 44.13 110 P **P** **02 26 15.5 +1.1**
GLB Gilahina Butte 44.27 337 P **P** **02 26 15.8 +0.5**
GLB IAmb IAmb 02 26 17.5
comp=Z,12nm,1.3s
WMQ Urumqi 47.49 78 *eP* **P** **02 26 43.9 +3.0**
WMQ pP pwP 02 26 48.4 +3.1
WMQ sP sP 02 26 50.4 +8.5
WMQ pmax pmax
comp=Z,82nm,3.7s
WMQ LR LR
comp=Z,170nm,28.5s
WMQ LR LR
comp=Z,280nm,24.1s
KSH Kashi 47.93 91 *eP* **P** **02 26 46.4 +2.0**
SONM Songino Array 49.05 60 P **P** **02 26 54.6 +1.7**
comp=Z,1.0nm,0.8s,baz=324,slow=5.0,SNR=4.8
SONM PcP **PcP** **02 28 17.1 +0.5**
comp=Z,0.4nm,0.4s,baz=327,slow=2.4,SNR=3.1
SONM Songino Array 49.05 60 IAmb IAmb 02 26 55.2
comp=Z,1.3nm,1.0s
ULN Ulaanbaatar 49.19 59 *ceP* **P** **02 26 54.6 +0.5**
ULN pmax pmax
comp=Z,13nm,2.5s
KLR Kul'dur 53.50 39 *i* P **P** **02 27 27.3 +1.2**
KLR pmax pmax
comp=Z,27nm,2.2s
H17A Grant Village 54.50 306 P **P** **02 27 34.5 +0.7**
H17A IAmb IAmb 02 27 36.2
comp=Z,4.4nm,0.8s
MCMT McKenzie Canyo 54.64 308 P **P** **02 27 34.6 -0.2**
IMW Indian Meadow 55.06 306 P **P** **02 27 38.1 +0.2**
IMW IAmb IAmb 02 27 40.1
comp=Z,6.7nm,0.9s
MOOW Moose Ponds 55.15 306 IAmb IAmb 02 27 46.7
comp=Z,6.5nm,1.5s
LOHW Long Hollow 55.25 306 P **P** **02 27 39.1 0.0**
G08A Pilot Rock 55.61 313 IAmb IAmb 02 27 43.0
comp=Z,4.3nm,1.0s
PDAR Pinedale Array 55.78 304 P **P** **02 27 42.6 -0.5**
comp=Z,1.2nm,0.8s,baz=56,slow=5.5,SNR=9.2
PDAR LR LR 02 50 23.3
comp=Z,60nm,18.7s,baz=340,slow=35
PDAR Pinedale Array 55.78 304 P **P** **02 27 42.1 -0.9**
HHC Hu-ho-hao-te 56.90 59 P **P** **02 27 52.3 +1.4**
DUG Dugway, Tooele 59.01 306 P **P** **02 28 05.4 -0.4**
DUG pmax pmax
comp=Z,3.0nm,1.0s
DUG Dugway, Tooele 59.01 306 P **P** **02 28 05.4 -0.4**
DUG IAmb IAmb 02 28 11.9
comp=Z,3.4nm,0.9s
LZH Lanzhou 59.30 67 *eP* **P** **02 28 08.3 +0.5**
LZH pP pwP 02 28 12.6 +1.1
LZH sP sP 02 28 16.4 +7.2
LZH PP **PP** **02 30 20.8 +2.5**
LZH pmax pmax
comp=Z,19nm,1.1s
TOA0 Torodi Ar. Sit 59.41 181 P **P** **02 28 09.1 +0.5**
TOA0 IAmb IAmb 02 28 16.3
comp=Z,3.3nm,0.9s
TORD Torodi Ar. Bea 59.41 181 P **P** **02 28 07.4 -1.1**
comp=Z,1.5nm,0.6s,baz=354,slow=6.8,SNR=12
TORD PP PP 02 30 31.8 +12
comp=Z,0.7nm,1.2s,baz=359,slow=9.2,SNR=3.7
TORD LR LR 02 53 15.7
comp=Z,47nm,21.4s,baz=320,slow=36
TORD Torodi Ar. Bea 59.41 181 P **P** **02 28 09.0 +0.4**
W35A Tecumseh 59.54 290 P **P** **02 28 09.0 -0.3**
WLAR White Oak Lake 59.84 286 P **P** **02 28 11.2 -0.1**
MSU Marysvale 60.45 305 P **P** **02 28 16.7 +0.9**
MSU Marysvale 60.45 305 P **P** **02 28 16.7 +0.9**
DANN Dangsing 60.65 89 *eP* **P** **02 28 18.0 +0.7**
comp=Z,24nm,0.7s
MVCO Mesa Verde 60.75 301 P **P** **02 28 17.8 -0.1**
BEKR Beckworth 61.09 312 IAmb IAmb 02 28 22.9
comp=Z,5.1nm,1.2s
KOLN Koldanda 61.14 89 *eP* **P** **02 28 21.0 +0.4**
KVN Kaiserville 61.35 310 IAmb IAmb 02 28 23.2
comp=Z,2.6nm,0.8s
R11A Troy Canyon, C 61.43 308 IAmb IAmb 02 28 24.9
comp=Z,11nm,1.9s
KKN Kakani 61.63 88 *eP* **P** **02 28 24.4 +0.5**
YERR Yerington 61.68 311 IAmb IAmb 02 28 26.2
comp=Z,3.8nm,0.8s
GUN Gumba 61.70 87 *eP* **P** **02 28 25.2 +0.7**
comp=Z,27nm,0.9s
PKIN Phulchoki 61.87 88 *eP* **P** **02 28 25.9 +0.3**
PKI Pulchoki 61.88 88 *eP* **P** **02 28 26.7 +1.0**
NVAR Mina Array Bea 61.99 310 P **P** **02 28 24.3 -1.9**
comp=Z,1.7nm,0.8s,baz=29,slow=4.7,SNR=12
NVAR Mina Array Bea 61.99 310 P **P** **02 28 26.4 +0.2**
JIRN Jiri 62.03 87 *eP* **P** **02 28 27.8 +1.0**
ANMO Albuquerque 62.36 299 *ceP* **P** **02 28 27.9 -0.8**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
RAMN Ramite 62.82 87 *eP* **P** **02 28 32.3 +0.4**
ODAN Odare 63.14 86 *eP* **P** **02 28 34.9 +0.9**
comp=Z,16nm,0.7s
ISA Isabella, Lake 64.68 309 P **P** **02 28 43.9 0.0**
ISA pmax pmax
comp=Z,3.0nm,0.8s
ISA Isabella, Lake 64.68 309 P **P** **02 28 43.9 0.0**
ISA IAmb IAmb 02 28 46.0
comp=Z,3.3nm,0.8s
DBIC Dimbokro 65.99 188 LR LR 02 58 16.1
comp=Z,37nm,18.6s,baz=358,slow=36
TX32 Lajitas Array 66.91 294 P **P** **02 28 58.2 -0.1**
TX32 IAmb IAmb 02 28 58.9
comp=Z,6.9nm,1.5s
TXAR Lajitas Array 66.91 294 P **P** **02 28 58.1 -0.3**
comp=Z,0.6nm,0.6s,baz=47,slow=5.1,SNR=9.8
TXAR PcP **PcP** **02 29 27.6 +0.7**
comp=Z,0.9nm,1.0s,baz=40,slow=3.3,SNR=4.7
MJAR Matsushiro Arr 66.97 38 P **P** **02 28 58.9 +0.4**
comp=Z,2.9nm,1.0s,baz=2.5,slow=8.8,SNR=4.5
NJ2 Nanjing 67.08 56 *eP* **P** **02 28 59.1 -0.1**
NJ2 pmax pmax
comp=Z,17nm,0.6s
JHJ Hachijo jima 2 70.59 37 LR LR 03 01 48.6
comp=Z,37nm,18.7s,baz=316,slow=37
CMAR Chiang Mai Arr 74.50 78 P **P** **02 29 45.8 +1.3**
comp=Z,0.5nm,0.3s,baz=345,slow=6.6,SNR=3.1
WRA Warramunga Arr 120.85 55 PKP **PKPdf** **02 36 57.4 -0.6**
comp=Z,0.3nm,0.7s,baz=323,slow=2.5,SNR=6.0
ASAR Alice Springs 124.32 56 PKP **PKPdf** **02 37 03.7 -0.9**
comp=Z,1.4nm,0.6s,baz=352,slow=1.6,SNR=20
VNA2 Neumayer--Watz 143.41 185 PKPdf PKPbc 02 37 35.9 -0.1
baz=3.7,slow=0.7
VNA3 Neumayer Olymp 143.80 187 PKPdf PKPbc 02 37 36.7 -0.4
baz=73,slow=2.1
SNAA Sanae 144.06 183 PKPdf PKPbc 02 37 37.9 -0.1
baz=73,slow=2.1
MAW Mawson 145.48 144 PKPbc **PKPab** **02 37 43.1 +0.4**
comp=Z,5.1nm,0.7s,baz=334,slow=2.7,SNR=12

*ISCJB **09** 02:19:40.2±0.8, 44°.43N±0°.06×148°.32E±0°.08, h61km±8km, mb3.6/8, Error ellipse: s-maj=13.1km s-min=5.5km az=44.5*
*MOS **09** 02:19:40.2±1.1, 44°.53N×148°.34E, h60km, mb4.2/2, Error ellipse: s-maj=14.0km s-min=10.0km az=147.4*
*SKHL **09** 02:19:41.8±0.4, 44°.51N×148°.28E, h66km±6km, mb5.0/5*
*JMA **09** 02:19:41.0±0.3, 44°.03N×148°.10E, h0km, M4.5*
*IDC **09** 02:19:45.1±3.5, 44°.62N×148°.37E, h88km±29km, mb3.3/7, mb1 3.5/9, mb1mx3.3/57, mbtmp3.7/9, MS2.7/2, Ms1 2.7/2, ms1mx2.4/29, Error ellipse: s-maj=29.9km s-min=22.4km az=156.0*
ISC 09 02:19:39.5±1.6, 44°.35N±0°.06×148°.51E±0°.09, h43km±14km, n49, σ1§69/63, mb3.5/8, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.99**	**333**	*i* PN	**Pn**		**02 19 56.4**	**-0.6**
KUR				*e*S	**Sn**		**02 20 07.7**	**-2.2**
KUR				pmax	pmax			
	comp=N,323nm,0.1s							
KUR				pmax	pmax			
	comp=E,284nm,0.1s							
KUR				pmax	pmax			
	comp=Z,902nm,0.1s							
KUR				smax	smax			
	comp=N,3μm,0.2s							
KUR				smax	smax			
	comp=E,498nm,0.1s							
KUR	**Kuril'sk**	**0.99**	**333**	*i* P	**Pn**		**02 19 56.5**	**-0.6**
KUR				AMB	AMB		02 19 57.0	
	comp=E,720nm,0.2s							
KUR				*e*S	**Sn**		**02 20 07.0**	**-2.9**
KUR				A	A		02 20 09.0	
	comp=E,3μm,0.2s							
KUR				A	A		02 20 09.0	
	comp=E,498nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.93**	**262**	*e*PN	**Pn**		**02 20 09.6**	**-0.2**
YUK				*e*S	**Sn**		**02 20 31.2**	**-1.6**
YUK				pmax	pmax			
	comp=Z,673nm,0.2s							
YUK				pmax	pmax			
	comp=N,227nm,0.1s							
YUK				pmax	pmax			
	comp=E,245nm,0.2s							
YUK				smax	smax			
	comp=N,1μm,0.3s							
YUK				smax	smax			
	comp=E,498nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**1.93**	**262**	*e*P	**Pn**		**02 20 09.8**	**0.0**
YUK				AMB	AMB		02 20 12.0	
	comp=E,573nm,0.3s							
YUK				*e*S	**Sn**		**02 20 31.0**	**-1.8**
YUK				A	A		02 20 36.0	
	comp=E,1μm,0.3s							
YUK				A	A		02 20 36.0	
	comp=E,498nm,0.3s							
LAGR	**Lagunnoye**	**1.98**	**262**	*e*PN	**Pn**		**02 20 10.9**	**+0.4**
LAGR				*e*S	**Sn**		**02 20 31.2**	**-2.9**
LAGR				pmax	pmax			
	comp=Z,310nm,0.2s							
LAGR				pmax	pmax			
	comp=N,62nm,0.1s							
LAGR				pmax	pmax			
	comp=E,54nm,0.1s							
LAGR				smax	smax			
	comp=E,590nm,0.2s							
LAGR				smax	smax			
	comp=N,762nm,0.3s							
LAGR	**Lagunnoye**	**1.98**	**262**	*e*P	**Pn**		**02 20 10.0**	**-0.5**
LAGR				AMB	AMB		02 20 12.0	
	comp=N,310nm,0.3s							
LAGR				*e*S	**Sn**		**02 20 31.5**	**-2.6**
LAGR				A	A		02 20 32.0	
	comp=N,762nm,0.3s							
LAGR				A	A		02 20 32.0	
	comp=N,590nm,0.3s							
GRPR	**Tuman**	**2.00**	**261**	⇑*i* PN	**Pn**		**02 20 11.3**	**+0.5**
GRPR				*e*S	**Sn**		**02 20 32.6**	**-2.0**
GRPR				pmax	pmax			
	comp=Z,406nm,0.1s							
GRPR				pmax	pmax			
	comp=E,118nm,0.2s							
GRPR				pmax	pmax			
	comp=N,36nm,0.1s							
GRPR				smax	smax			
	comp=N,1μm,0.2s							
GRPR				smax	smax			
	comp=E,767nm,0.4s							
GRPR	**Tuman**	**2.00**	**261**	*i* P	**Pn**		**02 20 11.0**	**+0.2**
GRPR				AMB	AMB		02 20 13.0	
	comp=E,406nm,0.4s							
GRPR				*e*S	**Sn**		**02 20 32.8**	**-1.8**
GRPR				A	A		02 20 36.0	
	comp=E,1μm,0.4s							
GRPR				A	A		02 20 36.0	
	comp=E,767nm,0.4s							
NEM2	**Nemuro 2**	**2.23**	**245**	P	**Pn**		**02 20 14.1**	**+0.2**
NEM2				*e*S	**Sn**		**02 20 38.0**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.24**	**245**	⇓*i* PN	**Pn**		**02 20 14.1**	**0.0**
NMR				*e*S	**Sn**		**02 20 38.2**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.24**	**245**	*i* P	**Pn**		**02 20 14.0**	**0.0**
GLVR	**Golovnino**	**2.24**	**255**	⇑*i* PN	**Pn**		**02 20 15.0**	**+0.9**
GLVR				*e*S	**Sn**		**02 20 40.2**	**-0.3**
GLVR				pmax	pmax			
	comp=N,14nm,0.1s							
GLVR				pmax	pmax			
	comp=E,108nm,0.1s							
GLVR				pmax	pmax			
	comp=Z,248nm,0.1s							
GLVR				smax	smax			
	comp=E,2μm,0.2s							
GLVR				smax	smax			
	comp=N,1μm,0.3s							
GLVR	**Golovnino**	**2.24**	**255**	*i* P	**Pn**		**02 20 15.0**	**+0.9**
GLVR				AMB	AMB		02 20 16.0	
	comp=N,248nm,0.3s							
GLVR				*e*S	**Sn**		**02 20 40.0**	**-0.5**
GLVR				A	A		02 20 46.0	
	comp=N,1μm,0.3s							
GLVR				A	A		02 20 46.0	
	comp=N,2μm,0.3s							
JRA	**Rausu**	**2.47**	**262**	P	**Pn**		**02 20 18.7**	**+1.4**
JRA				*e*S	**Sn**		**02 20 46.5**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.59**	**258**	P	**Pn**		**02 20 20.5**	**+1.6**
JNSB				*e*S	**Sn**		**02 20 50.1**	**+1.0**
JKHN	**Kushirohamanak**	**2.74**	**244**	P	**Pn**		**02 20 21.6**	**+0.7**
JNK	**Nakash**	**2.84**	**256**	P	**Pn**		**02 20 23.7**	**+1.4**
JNK				*e*S	**Sn**		**02 20 55.1**	**-0.2**
JAK	**Akkeshi**	**3.08**	**245**	P	**Pn**		**02 20 26.2**	**+0.6**
JAK				*e*S	**Sn**		**02 20 59.3**	**-1.8**
JAR	**Ashorobuto**	**3.59**	**255**	P	**Pn**		**02 20 34.4**	**+1.8**
JAR				*e*S	**Sn**		**02 21 13.7**	**0.0**
JCH	**Churui**	**4.13**	**247**	P	**Pn**		**02 20 41.2**	**+1.2**
JCH				*e*S	**Sn**		**02 21 25.3**	**-1.7**
JKK2	**Kamakawa 2**	**4.18**	**265**	P	Pn		02 20 44.4	+3.7
ASAJ	**Asahikawa**	**4.25**	**269**	P	**Pn**		**02 20 44.5**	**+2.7**
	comp=N,2.3nm,0.3s,baz=78,slow=21,SNR=5.3							
ASAJ				S	**Sn**		**02 21 35.7**	**+5.6**
	baz=286,slow=22,SNR=1.8							
ASAJ				LR	LR		02 22 24.9	
	comp=N,52nm,18.8s,baz=30,slow=38							
ERM	**Erimo**	**4.56**	**241**	*i* PN	Pn		02 20 49.5	+3.6
JNBK	**Urakawa-nobuka**	**4.68**	**246**	P	**Pn**		**02 20 48.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.80**	**305**	*e*PN	**Pn**		**02 20 49.5**	**+0.3**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**4.80**	**305**	*e*P	**Pn**		**02 20 49.5**	**+0.3**
YSS				*e*rx	rx		02 21 05.1	
JKB	**Kayabe**	**6.00**	**248**	P	**Pn**		**02 21 07.2**	**+1.5**
JKB				*e*S	**Sn**		**02 22 11.6**	**-1.4**
JOT	**Ohata**	**6.23**	**244**	P	**Pn**		**02 21 09.9**	**+1.0**
JOT				*e*S	**Sn**		**02 22 16.4**	**-2.4**
JANG	**Nango**	**6.53**	**235**	P	**Pn**		**02 21 13.4**	**+0.4**
JANG				*e*S	**Sn**		**02 22 21.6**	**-4.5**
SKR	**Severo-Kuril's**	**8.16**	**36**	*i* PN	**Pn**		**02 21 37.1**	**+1.8**
SKR	**Severo-Kuril's**	**8.16**	**36**	*e*P	**Pn**		**02 21 37.1**	**+1.8**
USRK	**Ussuriysk Ar.**	**11.85**	**275**	P	**Pn**		**02 22 27.5**	**+1.7**
	baz=81,slow=13,SNR=6.0							
KLR	**Kul'dur**	**12.47**	**299**	LR	LR		02 26 41.8	
	comp=Z,46nm,19.5s,baz=124,slow=34							
BILL	**Bilibino**	**25.52**	**15**	*eP*	**P**		**02 25 03.9**	**+0.3**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.3s							
H11N2	**WAKE ISLAND Hy 28.94**	**142**		T	T		02 56 27.6	
	baz=332,slow=76,SNR=91							
H11N1	**WAKE ISLAND Hy 28.96**	**142**		T	T		02 56 28.6	
	baz=332,slow=76,SNR=104							
H11N3	**WAKE ISLAND Hy 28.96**	**142**		T	T		02 56 24.3	
	baz=332,slow=76,SNR=122							
SONM	**Songino Array**	**29.15**	**292**	P	**P**		**02 25 36.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=82,slow=10,SNR=2.4							
H11S1	**WAKE ISLAND Hy 29.94**	**144**		T	T		02 57 39.4	
	baz=333,slow=76,SNR=163							
H11S3	**WAKE ISLAND Hy 29.95**	**144**		T	T		02 57 39.4	
	baz=333,slow=76,SNR=137							
H11S2	**WAKE ISLAND Hy 29.96**	**144**		T	T		02 57 39.4	
	baz=333,slow=76,SNR=102							
ILAR	**Eielson Array**	**40.42**	**37**	P	**P**		**02 27 13.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=266,slow=7.1,SNR=4.1							
MKAR	**Makanchi Array**	**45.17**	**298**	P	**P**		**02 27 50.8**	**-1.1**
	comp=Z,1.5nm,1.1s,baz=68,slow=7.2,SNR=4.1							
MKAR				PcP	**PcP**		**02 29 30.6**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=68,slow=5.5,SNR=3.7							
FINES	**FINESS Array B**	**64.78**	**333**	*i* P	**P**		**02 30 13.6**	**+0.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**64.78**	**333**	P	**P**		**02 30 11.4**	**-1.8**
	comp=Z,4.0nm,1.0s,baz=22,slow=7.9,SNR=4.2							
ASAR	**Alice Springs**	**68.99**	**194**	P	**P**		**02 30 42.6**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=17,slow=5.1,SNR=4.1							
NOA	**NORSAR Array B**	**69.39**	**339**	P	**P**		**02 30 41.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=30,slow=6.7,SNR=4.4							
TXAR	**Lajitas Array**	**81.50**	**57**	P	**P**		**02 31 52.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=298,slow=3.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**115.30**	**324**	PKP	**PKPdf**		**02 38 15.6**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=5.1,slow=0.6,SNR=2.4							

*ISCJB **09** 02:22:25.1±0.5, 13°.06S±0°.06×70°.30W±0°.06, h10km, mb3.5/5, Error ellipse: s-maj=9.0km s-min=6.9km az=135.1*
*IDC **09** 02:22:25.2±0.8, 13°.05S×70°.29W, h0km, mb3.6/5, mb1 3.9/11, mb1mx3.8/36, mbtmp3.8/11, ML3.5/6, Error ellipse: s-maj=26.1km s-min=14.2km az=42.0*
*NEIC **09** 02:22:31.3±1.4, 13°.13S±0°.09×70°.35W±0°.04, h52km±6km, mb4.0/4*
ISC 09 02:22:26.8±0.6, 13°.05S±0°.08×70°.33W±0°.08, h10km, n25, σ1§31/26, mb3.5/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.86**	**147**		Pn		**Pn**	**02 23 28.2**	**+1.4**
	0.9nm,0.3s,baz=333,slow=9.8,SNR=32							
LPAZ					Pg		**Pb**	**02 23 34.7**	**-0.7**
	6.1nm,0.3s,baz=311,slow=16,SNR=38							
LPAZ					Lg		Lg	02 24 26.7	
	18nm,0.3s,baz=44,slow=23,SNR=6.5							
LPAZ	**La Paz**	**3.86**	**147**				**Pn**	**02 23 28.1**	**+1.3**
MNMC	**Minye Minye**	**6.09**	**173**				**Pn**	**02 23 58.3**	**+1.2**
NNA	**Nana**	**6.45**	**279**	Pn			**Pn**	**02 24 03.6**	**+1.7**
	1.0nm,0.3s,baz=61,slow=13,SNR=2.0							
GO01	**Chusmiza**	**6.67**	**171**				**Pn**	**02 24 08.5**	**+3.2**
PB11	**IPOC Station P**	**6.70**	**175**				**Pn**	**02 24 06.0**	**+0.6**
SAML	**Samuel**	**8.11**	**61**				**Pn**	**02 24 26.9**	**+2.1**
PB04	**IPOC Station P**	**9.23**	**179**	Pn			**Pn**	**02 24 40.2**	**0.0**
SIV	**San Ignacio**	**9.43**	**109**	Pn			**Pn**	**02 24 43.3**	**+0.4**
	1.1nm,0.3s,baz=277,slow=8.5,SNR=24							
SIV					Sn		**Sn**	**02 26 29.1**	**+0.1**
	0.6nm,0.3s,baz=34,slow=16,SNR=2.3							
SIV					Lg		Lg	02 27 26.6	
	2.7nm,0.3s,baz=310,slow=8.8,SNR=5.9							
LVC	**Limon Verde**	**9.60**	**172**	Pn			**Pn**	**02 24 45.0**	**-0.5**
	0.2nm,0.3s,baz=355,slow=11,SNR=2.3							
ATAH	**Atahualpa**	**9.88**	**306**	Pn			**Pn**	**02 24 50.2**	**+0.9**
	0.2nm,0.3s,baz=141,slow=17,SNR=2.8							
PTGA	**Pitinga**	**15.98**	**41**	Pn			**Pn**	**02 26 10.3**	**-1.5**
	1.7nm,0.3s,baz=216,slow=14,SNR=24							
PTGA	**Pitinga**	**15.98**	**41**				**Pn**	**02 26 13.4**	**+1.6**
PTGA				IAmb			IAmb	02 26 15.6	
	comp=Z,10nm,0.8s							
TXAR	**Lajitas Array**	**53.02**	**323**	P			**P**	**02 31 43.5**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=155,slow=8.6,SNR=4.4							
PDAR	**Pinedale Array**	**66.17**	**329**	P			**P**	**02 33 16.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=134,slow=5.2,SNR=2.5							
RLMT	**Red Lodge**	**67.78**	**331**	P			**P**	**02 33 24.9**	**-0.2**
NVAR	**Mina Array Bea**	**68.07**	**321**	P			**P**	**02 33 27.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=141,slow=5.8,SNR=3.3							
TORD	**Torodi Ar. Bea**	**75.98**	**73**	P			**P**	**02 34 14.2**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=270,slow=5.3,SNR=14							
TORD	**Torodi Ar. Bea**	**75.98**	**73**	IAmb			IAmb	02 34 14.9	
	comp=Z,1.3nm,0.9s							
ESDC	**Sonseca Array**	**80.86**	**46**	P			**P**	**02 34 41.6**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=251,slow=6.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**134.72**	**20**	PKP			**PKPdf**	**02 41 44.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=262,slow=3.0,SNR=4.1							
ASAR	**Alice Springs**	**136.49**	**213**	PKP			**PKPdf**	**02 41 48.3**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=144,slow=2.6,SNR=6.5							
WRA	**Warramunga Arr**	**139.20**	**217**	PKP			**PKPdf**	**02 41 55.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=147,slow=1.8,SNR=11							
SONM	**Songino Array**	**145.22**	**4**	PKPbc			**PKPbc**	**02 42 03.9**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=354,slow=4.4,SNR=10.0							
FITZ	**Fitzroy Crossi**	**145.27**	**207**	PKPbc			**PKPbc**	**02 42 03.9**	**

0.8nm,0.2s,baz=140,slow=6.9,SNR=4.1

*ISCJB **09** 02:28:48.4±1.0,52°.67N±0°.04×166°.80W±0°.05,h2km±6km, mb4.0/33,MS3.5/10,Error ellipse: s-maj=6.7km s-min=4.7km az=152.1*

*IDC **09** 02:28:49.6±0.7,52°.86N×166°.84W,h0km,mb4.0/24, mb1 4.2/25,mb1mx4.1/48,mbtmp4.0/25,ML2.8/1,MS3.5/10, Ms1 3.5/10,ms1mx3.2/40,Error ellipse: s-maj=21.3km s-min=14.0km az=176.0*

*AEIC **09** 02:28:50.9±1.8,52°.82N±0°.04×166°.83W±0°.05,h0km±4km, ML3.6,mb4.1/20(NEIC)*

*NEIC **09** 02:28:54.3±1.9,52°.79N±0°.04×166°.84W±0°.07,h33km±4km*

ISC 09 02:28:52.9±0.7,52°.78N±0°.08×166°.81W±0°.05,h21km±4km, n101,σ1§35/95,mb4.1/34,MS3.5/10,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	Magazine Ridge	0.92	314		Pb	02 29 09.7	-0.4
OKFG					Sn	02 29 24.0	+0.9
OKTU	Okmok Mt. Tuli	0.96	310		Pb	02 29 10.5	-0.4
MREP	Makushin Rep't	1.03	2		Pb	02 29 11.0	-1.2
OKNC	Okmok New Cone	1.04	311		Pb	02 29 11.7	-0.6
UNV	Unalaska Valle	1.08	10		Pn	02 29 11.0	-1.8
UNV					Sn	02 29 28.8	+1.6
MSW	Makushin Switc	1.14	1		Pn	02 29 12.8	-0.8
MSW					Sn	02 29 30.3	+1.7
MCIR	Makushin Cirqu	1.18	358		Pn	02 29 13.6	-0.6
MTBL	Makushin Table	1.20	4		Pn	02 29 14.0	-0.5
NIKH	Nikolski High	1.26	280		Pn	02 29 14.5	-0.7
NIKH					Sb	02 29 32.7	+1.1
AKMO	Akutan Morgan	1.40	20		Pn	02 29 17.6	+0.4
AKBBA	Akutan Broad B	1.42	21		Pn	02 29 17.5	-0.1
AKRB	Akutan Reef Bi	1.43	18		Pn	02 29 17.7	+0.1
AKRB					Sb	02 29 38.1	+1.6
AKLV	Akutan Long Va	1.48	20		Pn	02 29 18.4	+0.1
AKUT	Akutan	1.49	24		Pn	02 29 18.6	+0.1
AKUT					Sb	02 29 39.4	+1.0
AKGG	Akutan Green G	1.50	19		Pn	02 29 18.5	-0.2
AKSA	Akutan Strait	1.51	26		Pn	02 29 18.5	-0.3
WESP	Westdahl Peak	2.12	35		Pn	02 29 27.8	+0.6
SSBA	Shishaldin	2.56	37		Pn	02 29 33.8	+0.6
FALS	False Pass	2.89	43	Pn	Pn	02 29 37.9	+0.2
SDPT	Sand Point	4.53	53		Pn	02 30 00.9	+0.7
KDAK	Kodiak Island	9.53	53	Pn	Pn	02 31 06.6	-2.1
KDAK	0.1nm,0.3s,baz=318,slow=21,SNR=5.9				Sn	02 32 46.5	-8.6
	0.3nm,0.3s,baz=272,slow=16,SNR=1.6						
IMAR	Indian Mountai	14.77	21	Pn	Pn	02 32 20.9	+0.7
GLB	Gilahina Butte	15.13	46	Pn	Pn	02 32 25.9	+0.7
CRQM	Cirque	15.16	49	Pn	Pn	02 32 25.6	-0.2
MCARA	McCarthy VSAT	15.45	47	Pn	Pn	02 32 29.6	+0.3
ILAR	Eielson Array	15.75	33	Pn	Pn	02 32 32.4	-0.8
	0.0nm,0.3s,baz=235,slow=9.5,SNR=4.0						
BARN	Barnard Glacie	15.95	49	Pn	Pn	02 32 36.4	+0.4
BARN				IAmb	IAmb	02 32 48.3	
	comp=Z,11nm,0.9s						
CTGM	Chitina Glacie	16.07	49	Pn	Pn	02 32 36.9	-0.5
CTGM				IAmb	IAmb	02 32 56.9	
	comp=Z,10.0nm,0.8s						
SCRK	Sand Creek	16.29	38	Pn	Pn	02 32 39.0	-1.2
BCAR	Beaver Creek A	16.69	42	Pn	Pn	02 32 44.6	-0.7
HYT	Haines Junctio	17.82	52		P	02 33 01.2	+1.1
HYT				IAmb	IAmb	02 33 16.3	
	comp=Z,20nm,1.1s						
DAWY	Dawson	18.10	41	P	P	02 33 03.2	+0.2
BMAR	Burnt Mountain	18.22	28	P	Pn	02 33 04.1	-0.2
SKAG	Skagway	18.64	57	P	Pn	02 33 09.9	+0.5
EPYK	Eagle Plains	20.15	36	P	P	02 33 24.2	-1.1
EPYK				IAmb	IAmb	02 33 57.2	
	comp=Z,18nm,1.4s						
PETK	Petropavlovsk-	21.26	285	P	P	02 33 37.5	0.0
	comp=Z,7.2nm,0.5s,baz=80,slow=12,SNR=12						
PETK				LR	LR	02 42 00.1	
	comp=Z,109nm,20.0s,baz=62,slow=37						
INK	Inuvik	22.15	33	P	P	02 33 44.3	-2.6
	comp=Z,2.8nm,0.8s,baz=238,slow=9.3,SNR=2.1						
INK	Inuvik	22.15	33	IAmb	IAmb	02 33 56.7	
	comp=Z,5.1nm,0.8s						
SEY	Seymchan	23.55	312	P	P	02 34 01.2	-0.3
	comp=Z,2.6nm,0.7s,baz=76,slow=16,SNR=5.9						
MA2	Magadan	24.22	303	P	P	02 34 07.5	-0.3
	comp=Z,8.2nm,0.6s,baz=92,slow=9.3,SNR=4.3						
RES	Resolute Bay	35.32	26	P	P	02 35 48.2	+2.3
	comp=Z,1.1nm,0.7s,baz=270,slow=6.1,SNR=3.3						
RES	Resolute Bay	35.32	26	IAmb	IAmb	02 35 53.0	
	comp=Z,18nm,1.9s						
MCMT	McKenzie Canyo	35.67	81	P	P	02 35 50.3	+0.7
NVAR	Mina Array Bea	36.12	94	P	P	02 35 55.0	+1.5
	comp=Z,0.5nm,0.6s,baz=293,slow=8.1,SNR=7.6						
NVAR				LR	LR	02 48 01.0	
	comp=Z,58nm,21.9s,baz=330,slow=32						
YMR	Madison River	36.88	80		S	02 41 48.2	+4.8
H11N2	WAKE ISLAND Hy	38.77	222	T	T	03 17 51.1	
	baz=25,slow=76,SNR=132						
H11N3	WAKE ISLAND Hy	38.78	222	T	T	03 17 51.9	
	baz=25,slow=76,SNR=151						
H11N1	WAKE ISLAND Hy	38.79	222	T	T	03 17 53.3	
	baz=25,slow=76,SNR=93						
PDAR	Pinedale Array	38.79	81	P	P	02 36 16.6	+0.5
	comp=Z,0.4nm,0.6s,baz=283,slow=4.0,SNR=5.1						
H11S1	WAKE ISLAND Hy	39.95	221	T	T	03 19 15.7	
	baz=24,slow=76,SNR=102						
H11S2	WAKE ISLAND Hy	39.97	221	T	T	03 19 18.6	
	baz=24,slow=76,SNR=60						
H11S3	WAKE ISLAND Hy	39.97	221	T	T	03 19 18.6	
	baz=24,slow=76,SNR=56						
MAJO	Matsushiro	41.27	269	P	P	02 36 37.1	+0.7
MAT	Matsushiro	41.27	269	P	P	02 36 36.9	+0.4
MJAR	Matsushiro Arr	41.27	269	P	P	02 36 36.7	+0.3
	comp=Z,4.7nm,1.0s,baz=27,slow=5.6,SNR=8.5						
MJAR	Matsushiro Arr	41.27	269	P	P	02 36 37.5	+1.1
MJB9	Matsu-Tunnel	41.27	269	P	P	02 36 37.4	+0.9
ULM	Lac du Bonnet	42.57	64	LR	LR	02 53 38.3	
	comp=Z,75nm,19.6s,baz=16,slow=35						
NRIK	Noril'sk	46.80	332	LR	LR	02 59 49.7	
	comp=Z,53nm,19.6s,baz=56,slow=40						
KSRS	Korea Array	46.90	278	P	P	02 37 22.0	+0.4
	comp=Z,2.0nm,0.7s,baz=58,slow=7.6,SNR=4.7						
TXAR	Lajitas Array	51.19	91	P	P	02 37 54.3	-0.3
	comp=Z,0.8nm,0.9s,baz=299,slow=4.7,SNR=7.0						
SONM	Songino Array	52.42	302	P	P	02 38 04.2	+0.6
	comp=Z,0.6nm,0.4s,baz=90,slow=4.6,SNR=4.9						
SONM	Songino Array	52.42	302	IAmb	IAmb	02 38 09.4	
	comp=Z,0.8nm,0.8s						
ARCES	ARCESS Array B	57.67	355	P	P	02 38 40.2	-0.9
	comp=Z,2.5nm,0.8s,baz=8.5,slow=6.7,SNR=6.1						
ZALV	Zalesovo Beam	58.16	319	P	P	02 38 45.5	+0.8
	comp=Z,0.6nm,0.6s,baz=30,slow=6.7,SNR=2.8						
ZALV				LR	LR	03 05 14.2	
	comp=Z,48nm,18.6s,baz=46,slow=38						
MKAR	Makanchi Array	64.64	315	P	P	02 39 27.5	-1.2
	comp=Z,1.5nm,0.9s,baz=49,slow=9.8,SNR=5.5						
MKAR				LR	LR	03 08 38.2	
	comp=Z,64nm,18.5s,baz=22,slow=37						
FINES	FINESS Array B	65.66	353	P	P	02 39 33.7	-1.3
	comp=Z,1.2nm,0.5s,baz=23,slow=7.5,SNR=18						
NOA	NORSAR Array B	66.52	1	P	P	02 39 40.0	-0.6
	comp=Z,1.0nm,0.8s,baz=1.3,slow=6.2,SNR=2.9						
NOA				LR	LR	03 10 07.8	
	comp=Z,27nm,18.1s,baz=285,slow=37						
AKASG	Malin Array Be	76.01	350	P	P	02 40 36.8	-1.2
	comp=Z,3.0nm,0.6s,baz=14,slow=5.9,SNR=8.9						
TAPN	Taplejung	77.36	299	*e*P	P	02 40 46.4	-0.1
	comp=Z,10nm,0.6s						
GUN	Gumba	77.88	300	*e*P	P	02 40 49.3	-0.1
	comp=Z,31nm,1.2s						
JIRN	Jiri	77.92	300	*e*P	P	02 40 49.6	-0.1
ODAN	Odare	77.92	298	*e*P	P	02 40 48.9	-0.6
CMAR	Chiang Mai Arr	78.04	285	P	P	02 40 49.3	-0.7
	comp=Z,1.1nm,0.3s,baz=35,slow=3.3,SNR=3.0						
CMAR				LR	LR	03 19 02.0	
	comp=Z,25nm,18.6s,baz=195,slow=39						
RAMN	Ramite	78.27	299	*e*P	P	02 40 50.7	-0.8
	comp=Z,13nm,0.8s						
KKN	Kakani	78.30	301	*e*P	P	02 40 51.2	-0.3
PKI	Pulchoki	78.40	300	*e*P	P	02 40 51.7	-0.6
PKIN	Phulchoki	78.41	300	*e*P	P	02 40 51.5	-0.7
	comp=Z,4.4nm,0.5s						
GKN	Gorkha	78.46	301	*e*P	P	02 40 52.1	-0.3
	comp=Z,15nm,0.6s						
DMN	Daman	78.53	301	*e*P	P	02 40 52.9	0.0
DANN	Dangsing	78.63	302	*e*P	P	02 40 53.5	0.0
	comp=Z,38nm,0.7s						
GERES	GERESS Array B	78.75	360	P	P	02 40 53.2	-0.4
	comp=Z,0.6nm,0.7s,baz=15,slow=4.1,SNR=3.9						
KOLN	Koldanda	79.18	302	*e*P	P	02 40 56.2	-0.2
CONA	Conrad Observa	79.64	358	*i* P	P	02 40 59.0	+0.6
	comp=Z,1.6nm,0.8s						
MOA	Molln	79.75	359	*i* P	P	02 41 00.9	+2.0
	comp=Z,0.3nm,0.4s						
WTTA	Wattenberg	80.33	1	*i* P	P	02 41 01.6	-0.7
	comp=Z,0.4nm,0.2s						
SQTA	Sant Quirin	80.36	1	*i* P	P	02 41 03.0	+0.6
	comp=Z,1.0nm,0.3s						
KBA	Koelnbreinsper	80.52	360	*i* P	P	02 41 04.2	+0.9
	comp=Z,3.0nm,0.5s						
KBZ	Khabaz	80.52	339	P	P	02 41 03.8	+0.7
	comp=Z,1.2nm,0.3s,baz=301,slow=9.8,SNR=4.1						
KBZ				LR	LR	03 21 32.5	
	comp=Z,34nm,19.0s,baz=180,slow=39						
FETA	Feichten	80.56	2	*i* P	P	02 41 04.1	+0.6
	comp=Z,1.6nm,0.6s						
ABTA	Abfaltersbach	80.85	0	*i* PcP	P	02 41 09.4	+4.4
	comp=Z,1.7nm,0.7s						
SOKA	Soboth	80.91	359	*i* P	P	02 41 06.1	+0.8
	comp=Z,0.5nm,0.4s						
OBKA	Obir	81.08	359	*i* P	P	02 41 07.0	+0.8
	comp=Z,4.6nm,0.7s						
GEYT	Alibeck	81.60	326	P	P	02 41 09.4	+0.4
	comp=Z,1.4nm,0.6s,baz=350,slow=4.5,SNR=3.7						
GEYT	Alibeck	81.60	326	IAmb	IAmb	02 41 10.0	
	comp=Z,1.7nm,0.8s						
BRTR	Keskin Array B	86.18	344	P	P	02 41 31.8	-0.8
	comp=Z,2.3nm,0.9s,baz=47,slow=4.2,SNR=12						
BRTR				LR	LR	03 24 05.8	
	comp=Z,16nm,20.1s,baz=32,slow=38						
BRTR	Keskin Array B	86.18	344	P	P	02 41 32.4	-0.1
ESDC	Sonseca Array	86.73	13	P	P	02 41 34.6	-0.5
	comp=Z,0.4nm,0.6s,baz=342,slow=4.8,SNR=4.2						
WRA	Warramunga Arr	88.50	234	P	P	02 41 43.0	-0.6
	comp=Z,0.8nm,1.1s,baz=32,slow=5.9,SNR=3.0						
ASAR	Alice Springs	91.87	232	P	P	02 41 59.0	-0.3
	comp=Z,0.4nm,0.8s,baz=29,slow=4.2,SNR=3.6						
MAW	Mawson	152.17	219	PKPbc	PKPbc	02 48 44.8	-0.3
	comp=Z,2.5nm,0.8s,baz=101,slow=5.2,SNR=6.0						

IDC 09 03:02:10.4±2.0,2°.92S×152°.40E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.5/34,mbtmp3.5/3,Error ellipse: s-maj=172.9km s-min=27.4km az=125.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.43	225	P	P	03 07 31.7	+0.6
	0.9nm,0.6s,baz=49,slow=9.3,SNR=16						
ASAR	Alice Springs	27.30	219	P	P	03 07 56.5	-0.5
	0.4nm,0.4s,baz=55,slow=9.0,SNR=9.7						
ILAR	Eielson Array	80.58	22	P	P	03 14 24.5	-0.1
	0.2nm,0.7s,baz=225,slow=5.0,SNR=3.8						

*ISCJB **09** 03:45:12.5±0.1,12°.06S±0°.03×167°.09E±0°.03,h10km, mb5.1/73,MS5.1/40,Error ellipse: s-maj=4.5km s-min=3.4km az=140.8*

*NEIC **09** 03:45:13.9±1.5,12°.03S±0°.08×167°.12E±0°.08,h11km±2km, mb5.5/234,Mwc5.5(GCMT)*

*BJI **09** 03:45:14.8±0.0,12°.54S×167°.79E,h50km,mb5.1/56, mB5.5/41,Ms5.3/44,Ms7 5.1/43*

*GCMT **09** 03:45:15.9±0.1,11°.88S±0°.01×167°.47E±0°.01,h12km, MW5.5/119,Moment Tensor Solution. s107,c192; s119,c247; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr=0.04±.02; Mθθ=1.90±.02; Mφφ 1.94±.02; Mrθ=0.22±.05; Mθφ=-1.25±.02; Mφr=0.24±.05; Best double couple: M0=2.31400×10^17 NP1:φs=208.00000°,δ88.00000°, λ=-8.00000°. NP2:φs=299.00000°,δ82.00000°, λ=-178.00000°. Principal axes: T 2.3220, Plg4.0000°, Azm254.0000°; N -0.0130, Plg82.0000°, Azm13.0000°; P -2.3060, Plg7.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 03:45:16,11°.91S×167°.45E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.09; Mθθ=1.90; Mφφ 1.98; Mrθ=0.08; Mθφ=-1.31; Mφr=0.18; Fault plane solution: M0=2.35000×10^17 NP1:φs=28.00000°, δ90.00000°,λ5.00000°. NP2:φs=298.00000°,δ85.00000°, λ180.00000°. Principal axes: T 2.3932, Plg4.0000°, Azm253.0000°; N -0.0876, Plg85.0000°, Azm30.0000°; P -2.3056, Plg3.0000°, Azm163.0000°;*

*MOS **09** 03:45:16.0±1.0,11°.96S×167°.08E,h33km,mb5.6/39 Error ellipse: s-maj=8.1km s-min=7.5km az=97.7*

*IDC **09** 03:45:18.4±2.8,12°.07S×167°.27E,h46km±25km,mb4.6/26, mb1 4.7/30,mb1mx4.6/40,mbtmp4.8/30,ML4.8/3,MS5.0/26, Ms1 5.1/26,ms1mx5.0/27,Error ellipse: s-maj=15.2km s-min=14.1km az=87.0*

ISC 09 03:45:13.6±0.3,11°.99S±0°.05×167°.20E±0°.05,h10km,n492, σ1§67/457,mb5.4/159,MS5.1/42,9C-4D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.57	289	P	Pn	03 47 08.1	+4.0
	38nm,0.3s,baz=199,slow=2.5,SNR=5.1						
HNR				S	Sn	03 48 35.7	+5.7
	4.0nm,0.3s,baz=167,slow=20,SNR=1.3						
HNR				LR	LR	03 50 17.4	
	comp=Z,23μm,19.6s,baz=122,slow=39						
HNR	Honiara	7.57	289	*e*P	Pn	03 47 08.0	+3.9
HNR	Honiara	7.57	289		Pn	03 47 01.7	-2.4
DZM	Mont Dzumac	10.06	184	*e*Pn	Pn	03 47 39.9	+1.6
	291nm,1.4s						
DZM				*e*LR	LR	03 50 00.4	
	comp=Z,17μm,24.9s						
DZM	Mont Dzumac	10.06	184	P	Pn	03 47 38.7	+0.4
	4.1nm,0.3s,baz=24,slow=20,SNR=37						
DZM				LR	LR	03 51 00.2	
	comp=Z,13μm,20.8s,baz=20,slow=34						
DZM	Mont Dzumac	10.06	184		Pn	03 47 37.5	-0.8
MSVF	Nonsavu	11.94	120	*d* iP	Pn	03 48 08.0	+4.0
MSVF	Nonsavu	11.94	120		Pn	03 48 07.0	+3.0
KRVT	Keravat (AS076	16.84	296	P	P	03 49 10.9	-0.8
	3.2nm,0.3s,baz=117,slow=18,SNR=2.6						
KRVT				LR	LR	03 56 02.4	
	comp=Z,3μm,19.7s,baz=127,slow=38						
PMG	Port Moresby	19.86	275	P	Pn	03 49 48.1	+1.4
	1.5nm,0.3s,baz=180,slow=14,SNR=5.3						
PMG				LR	LR	03 56 45.4	
	comp=Z,12μm,21.2s,baz=104,slow=34						
PMG	Port Moresby	19.86	275	P	Pn	03 49 45.4	-1.3
EIDS	Eidsvold	20.23	227	P	Pn	03 49 51.1	+0.2
	baz=20,SNR=21						
EIDS	Eidsvold	20.23	227	P	Pn	03 49 49.6	-1.4
KWAJ	Kwajalein Atol	20.66	1	P	P	03 49 54.4	+0.8
KWAJ				pmax	pmax		
	comp=Z,622nm,1.6s						
KWAJ	Kwajalein Atol	20.66	1	P	P	03 49 54.4	+0.8
PATS	Pohnpei	20.68	334	P	Pn	03 49 56.4	+0.1
	baz=21,SNR=9.2						
PATS	Pohnpei	20.68	334	P	P	03 49 55.0	+1.0
LHI	Lord Howe Isla	20.84	200	P	Pn	03 49 57.8	-0.2
	baz=21,SNR=3.7						
LHI	Lord Howe Isla	20.84	200	P	P	03 49 56.0	+0.4
CTA	Charters Tower	21.67	246	P	P	03 50 06.6	+2.0
	comp=Z,31nm,0.8s,baz=75,slow=12,SNR=30						
CTA				LR	LR	03 57 32.5	
	comp=Z,10μm,19.8s,baz=70,slow=34						
CTAO	Charters Tower	21.67	246	P	P	03 50 05.2	+0.6
CTAO				pmax	pmax		
	comp=Z,62nm,1.1s						
CTAO	Charters Tower	21.67	246	P	P	03 50 05.2	+0.6
MANU	Manus Island	22.01	295	P	P	03 50 09.1	+0.9
MANU				IAmb	IAmb	03 50 42.3	
	comp=Z,175nm,1.4s						
RAO	Raoul Island	22.07	143	LR	LR	03 56 38.8	
	comp=Z,8μm,20.4s,baz=316,slow=31						
RMQ	Roma	22.57	228	P	P	03 50 15.8	+1.6
	baz=23,SNR=23						
KNTN	Kanton	22.80	68	P	P	03 50 20.3	+3.6
KNTN				IAmb	IAmb	03 50 45.8	
	comp=Z,228nm,1.4s						
MTSU	Mount Surprise	22.92	252	P	P	03 50 19.4	+1.4
	baz=23,SNR=22						
ARMA	Armidale	23.34	216	P	P	03 50 23.3	+1.0
	baz=24,SNR=14						
ARMA	Armidale	23.34	216	P	P	03 50 19.5	-2.8
COEN	Coen	23.50	263	P	P	03 50 26.0	+2.2
	baz=24,SNR=9.6						
COEN	Coen	23.50	263	P	P	03 50 23.0	-0.9
OUZ	Omahuta	23.85	167	P	P	03 50 26.6	-0.5
OUZ				IAmb	IAmb	03 50 36.0	
	comp=Z,306nm,1.8s						
MGCD	Mangrove Creek	25.76	212	P	P	03 50 45.7	+1.1
	baz=26,SNR=5.0						
QLP	Quilpie	26.03	233	P	P	03 50 47.5	+0.4
	baz=26,SNR=17						
MXZ	Matakaoa Point	27.34	161	P	P	03 50 59.3	+0.5
MXZ				IAmb	IAmb	03 51 03.0	
	comp=Z,65nm,0.9s						
URZ	Urewera	27.62	163	P	P	03 51 01.8	+0.5
	comp=Z,12nm,0.7s,baz=24,slow=6.1,SNR=6.6						
URZ				LR	LR	03 59 48.1	
	comp=Z,4μm,20.1s,baz=351,slow=32						
CMSA	Cobar Meteorol	27.79	222	P	P	03 51 03.2	+0.3
	baz=28,SNR=10						
QIS	Mount Isa	27.80	249	P	P	03 51 04.2	+1.1
	baz=28,SNR=8.6						
JAY	Jayapura	27.89	288	LR	LR	04 02 59.4	
	comp=Z,4μm,19.8s,baz=70,slow=38						
BKZ	Black Stump Fm	28.30	165	IAmb	IAmb	03 51 19.6	
	comp=Z,165nm,1.9s						
CAN	Canberra	28.49	212	P	P	03 51 09.5	+0.3
CAN				pmax	pmax		
	comp=Z,102nm,1.7s						
CAN	Canberra	28.49	212	P	P	03 51 09.5	+0.3
CAN				IAmb	IAmb	03 51 17.0	
	comp=Z,102nm,1.7s						
QRZ	Quartz Range	29.11	172	P	P	03 51 14.4	-0.2
SNZO	South Karori	29.94	169	P	P	03 51 21.8	-0.1
SNZO				IAmb	IAmb	03 52 20.2	
	comp=Z,106nm,1.4s						
MSWZ	Moikau Station	30.15	168	P	P	03 51 22.6	-1.2
H11S2	WAKE ISLAND Hy	30.29	359	T	T	04 23 31.2	
	baz=181,slow=76						
H11S3	WAKE ISLAND Hy	30.29	359	T	T	04 23 28.9	
	baz=181,slow=76						
H11S1	WAKE ISLAND Hy	30.30	359	T	T	04 23 27.7	
	baz=181,slow=76						
STKA	Stephens Creek	30.78	226	P	P	03 51 30.1	+0.5
	baz=31,SNR=14						
STKA	Stephens Creek	30.78	226	P	P	03 51 30.0	+0.5
	comp=Z,20nm,0.7s,baz=43,slow=9.1,SNR=32						
STKA				LR	LR	04 03 40.5	
	comp=Z,10μm,18.0s,baz=54,slow=36						
STKA	Stephens Creek	30.78	226	P	P	03 51 29.2	-0.2
H11N1	WAKE ISLAND Hy	31.50	359	T	T	04 25 02.9	
	baz=180,slow=76						
H11N3	WAKE ISLAND Hy	31.50	359	T	T	04 25 00.2	
	baz=180,slow=76						
H11N2	WAKE ISLAND Hy	31.52	359	T	T	04 24 60.0	
	baz=180,slow=76						
RPZ	Rata Peaks	31.79	175	P	P	03 51 36.8	-1.4
	comp=Z,8.8nm,0.7s,baz=311,slow=4.9,SNR=5.6						
MQZ	McQueen's Vall	31.95	173	P	P	03 51 40.0	+0.3
TOO	Toolangi	32.05	214	P	P	03 51 41.5	+0.9
	baz=32,SNR=5.5						
TOO	Toolangi	32.05	214	P	P	03 51 40.9	+0.3
TOO				pmax	pmax		
	comp=Z,64nm,1.5s						
TOO	Toolangi	32.05	214	P	P	03 51 40.9	+0.3
TOO				IAmb	IAmb	03 51 57.3	
	comp=Z,64nm,1.5s						
LBZ	Lake Benmore	32.39	176	P	P	03 51 43.2	-0.3
LBZ				IAmb	IAmb	03 51 56.1	
	comp=Z,78nm,1.5s						
WRAB	Tennant Creek	32.51	252	P	P	03 51 44.2	-0.7
WRAB				pmax	pmax		
	comp=Z,21nm,1.2s						
WRAB	Tennant Creek	32.51	252	P	P	03 51 44.1	-0.7
WRA	Warramunga Arr	32.53	252	P	P	03 51 44.5	-0.5
	comp=Z,6.5nm,0.6s,baz=84,slow=8.9,SNR=112						
WRA				LR	LR	04 03 37.4	
	comp=Z,3μm,21.1s,baz=75,slow=34						
WRA	Warramunga Arr	32.53	252	P	P	03 51 44.0	-1.0
WKZ	Wanaka	32.76	178	P	P	03 51 46.9	+0.1
MLZ	Mavora Lakes	33.28	179	P	P	03 51 51.2	-0.1
MLZ				IAmb	IAmb	03 51 56.6	
	comp=Z,82nm,1.5s						
DCZ	Deep Cove	33.37	180	P	P	03 51 50.8	-1.2
DCZ				IAmb	IAmb	03 52 03.0	
	comp=Z,67nm,1.4s						
HTT	Hallett	33.52	226	P	P	03 51 53.8	+0.3
	baz=34,SNR=11						
ASAR	Alice Springs	33.67	245	P	P	03 51 54.5	-0.6
	comp=Z,22nm,0.7s,baz=71,slow=9.4,SNR=290						
ASAR				LR	LR	04 04 30.2	
	comp=Z,8μm,21.6s,baz=84,slow=34						
ASAR	Alice Springs	33.67	245	P	P	03 51 53.7	-1.4
KDU	Kakadu	33.92	265	P	P	03 51 57.2	0.0
	baz=34,SNR=18						
MOO	Moorlands	34.99	206	P	P	03 52 06.2	+0.1
	baz=35,SNR=3.5						
MTN	Manton Dam	35.22	265	IAmb	IAmb	03 52 28.4	
	comp=Z,106nm,1.9s						
BBOO	Buckleboo	35.26	229	P	P	03 52 08.6	-0.1
	baz=35,SNR=17						
BBOO	Buckleboo	35.26	229	P	P	03 52 08.6	-0.1
KNRA	Kununurra	37.47	260	P	P	03 52 27.8	+0.1
	baz=38,SNR=14						
KNRA	Kununurra	37.47	260	P	P	03 52 27.8	+0.1
WRKA	Warakurna	38.97	245	P	P	03 52 39.7	-0.6
	baz=39,SNR=35						
FITZ	Fitzroy Crossi	40.53	256	P	P	03 52 53.3	-0.1
	baz=41,SNR=28						
FITZ	Fitzroy Crossi	40.53	256	P	P	03 52 53.7	+0.3
	comp=Z,12nm,0.6s,baz

comp=Z,5.0nm,1.2s
MJAR Matsushiro Arr 55.47 332 P **P 03 54 48.2 -0.4**
comp=Z,7.3nm,1.0s,baz=159,slow=6.3,SNR=9.6
MJAR LR LR 04 16 07.0
comp=Z,438nm,20.9s,baz=135,slow=33
MJAR Matsushiro Arr 55.47 332 P **P 03 54 49.4 +0.8**
MAJO Matsushiro 55.47 332 P **P 03 54 48.3 -0.3**
MAJO pmax pmax
comp=Z,18nm,1.1s
MAJO Matsushiro 55.47 332 P **P 03 54 48.3 -0.3**
MAT Matsushiro 55.47 332 P **P 03 54 48.1 -0.6**
MAT S **S 04 02 25.2 -8.6**
MJB9 Matsu-Tunnel 55.47 332 P **P 03 54 48.5 -0.2**
UGM Wanagama 55.90 269 P **P 03 54 51.8 -0.4**
YULB Yu-li 57.04 308 P **P 03 55 00.7 +0.5**
YULB IAmb IAmb 03 55 06.3
comp=Z,54nm,1.4s
NACB Ninganchiao 57.24 309 P **P 03 55 01.2 -0.3**
TPUB Ta-pu 57.50 308 P **P 03 55 03.9 +0.5**
TPUB IAmb IAmb 03 55 09.3
comp=Z,67nm,1.3s
YHNB Yeheng 57.68 309 P **P 03 55 05.3 +0.6**
YUK Yuzh-Kuril'sk 59.04 342 *e*P **P 03 55 12.0 -1.7**
YUK *e* 03 56 00.0
YUK *e* 03 57 21.7
YUK *e*PPP PPP 03 58 44.8
YUK *e*S **S 04 03 15.5 -5.0**
YUK *e*SS **SS 04 07 11.0 -3.9**
YUK pmax pmax
comp=Z,232nm,1.5s
YUK pmax pmax
comp=E,132nm,1.3s
YUK pmax pmax
comp=N,245nm,1.2s
YUK pmax pmax
comp=Z,333nm,1.9s
ASAJ Asahikawa 60.16 340 P **P 03 55 21.9 +0.5**
comp=Z,12nm,0.8s,baz=194,slow=12,SNR=4.8
KSRS Korea Array 61.46 325 P **P 03 55 30.8 +0.4**
comp=Z,1.8nm,0.5s,baz=134,slow=7.2,SNR=7.1
KSRS LR LR 04 21 35.0
comp=Z,461nm,18.8s,baz=131,slow=35
KSAR Wonju Array Be 61.47 325 P **P 03 55 30.6 +0.1**
KSAR Wonju Array Be 61.47 325 P **P 03 55 30.6 +0.1**
YSS Yuzh-Sakhalins 62.62 341 *e*P **P 03 55 41.4 +3.4**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 62.62 341 P **P 03 55 39.4 +1.4**
DLV T Lat 62.95 290 P **P 03 55 40.5 -0.7**
NJ2 Nanjing 63.69 315 *e*P **P 03 55 48.4 +2.9**
NJ2 S **S 04 04 23.5 +3.4**
NJ2 pmax pmax
comp=Z,22nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,4.7s
NJ2 LR LR
comp=Z,1μm,15.2s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,1μm,22.7s
QIZ Qiongzhong 64.38 298 P **P 03 55 51.4 +1.1**
QIZ pP pwP 03 56 09.0 +14
QIZ sP PcP 03 56 16.3 -8.5
QIZ S **S 04 04 23.7 -5.4**
QIZ LR LR
comp=Z,810nm,8.6s
QIZ LR LR
comp=Z,830nm,22.6s
QIZ LR LR
comp=Z,1μm,24.5s
MYKOM Kota Tinggi 64.39 278 P **P 03 55 50.1 -0.3**
USA0B Ussuriysk Arra 64.43 333 *i*P **P 03 55 48.3 -1.8**
USRK Ussuriysk Ar. 64.43 333 P **P 03 55 51.6 +1.5**
comp=Z,12nm,1.0s,baz=138,slow=7.4,SNR=9.5
USRK LR LR 04 21 01.5
comp=Z,999nm,20.8s,baz=133,slow=33
USRK Ussuriysk Ar. 64.43 333 P **P 03 55 50.4 +0.3**
PET Petropavlovsk 65.16 354 *e*P P 03 56 07.8 +13
PET pmax pmax
comp=Z,48nm,1.4s
PETK Petropavlovsk- 65.34 354 P **P 03 55 56.5 +0.6**
comp=Z,13nm,1.1s,baz=176,slow=4.3,SNR=2.6
PETK LR LR 04 20 53.4
comp=Z,2μm,19.6s,baz=156,slow=33
PETK Petropavlovsk- 65.34 354 P **P 03 55 55.2 -0.6**
MDJ Mudanjiang 65.85 331 P **P 03 55 57.8 -1.5**
MDJ IAmb IAmb 03 56 05.9
comp=Z,51nm,1.3s
SBA Scott Base 65.86 180 P **P 03 55 58.6 -0.3**
SBA pmax pmax
comp=Z,78nm,1.7s
SBA Scott Base 65.86 180 P **P 03 55 58.6 -0.3**
WHN Wuhan 66.08 311 P **P 03 56 04.8 +3.7**
WHN S **S 04 04 49.9 +0.3**
WHN pmax pmax
comp=Z,36nm,0.8s
WHN LR LR
comp=Z,680nm,9.7s
WHN LR LR
comp=Z,1μm,12.0s
WHN LR LR
comp=Z,2μm,18.8s
JRMM Jerantut 66.24 280 P **P 03 56 03.0 +0.5**
BKNI Bangkinang 66.78 276 P **P 03 56 06.0 0.0**
CN2 Changchun 67.28 328 *e*P **P 03 56 11.0 +2.5**
CN2 *es*P PcP 03 56 29.3 -6.9
CN2 *e*S **S 04 05 03.1 -0.6**
CN2 SS **SS 04 09 25.9 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,830nm,20.0s
CN2 LR LR
comp=Z,720nm,20.0s
CN2 LR LR
comp=Z,940nm,23.0s
IPM Ipoh 67.79 280 P **P 03 56 13.0 +0.6**
GRNR Gornyy 68.01 339 *e*P **P 03 56 16.2 +3.2**
GRNR pmax pmax
comp=Z,20nm,1.7s
KULM Kulim 68.36 281 P **P 03 56 15.6 -0.4**
KULM Kulim 68.36 281 P **P 03 56 16.0 +0.1**
KLR Kul'dur 68.49 336 *i*P **P 03 56 14.9 -1.1**
KLR pmax pmax
comp=Z,28nm,1.5s
ENH Enshi 69.60 309 P **P 03 56 22.3 -1.0**
ENH IAmb IAmb 03 56 29.8
comp=Z,58nm,1.3s
BJT Baijiatuau 70.10 321 P **P 03 56 26.0 -0.1**
BJT pmax pmax
comp=Z,41nm,1.4s
BJT Baijiatuau 70.10 321 P **P 03 56 26.1 -0.1**
BJT IAmb IAmb 03 56 40.7
comp=Z,41nm,1.4s
BJI Beijing 70.11 321 P P 03 56 31.8 +5.6
BJI S **S 04 05 38.1 +0.7**
BJI pmax pmax
comp=Z,16nm,1.6s
BJI LR LR
comp=Z,640nm,19.6s
BJI LR LR
comp=Z,880nm,19.2s
BJI LR LR
comp=Z,1μm,22.4s
SLVN Son La 70.41 298 IAmb IAmb 03 56 36.5
comp=Z,64nm,1.7s
TIY Taiyuan 71.22 317 *e*P P 03 56 38.9 +5.8
TIY pP **PcP 03 56 53.8 +0.7**
TIY S **S 04 05 46.1 -4.5**
TIY sS **SKiKP 04 06 18.8 +4.3**
TIY pmax pmax
comp=Z,38nm,1.1s
TIY LR LR
comp=Z,840nm,16.3s
TIY LR LR
comp=Z,2μm,23.3s
PBKT Sadao Pong 71.36 292 P **P 03 56 33.5 -0.7**
PBKT IAmb IAmb 03 56 41.3
comp=Z,60nm,1.7s
XAN Xi'an 71.81 312 P **P 03 56 36.4 -0.4**
XAN S **S 04 05 59.0 +1.5**
XAN pmax pmax
comp=Z,33nm,1.2s
XAN pmax pmax
comp=Z,210nm,3.7s
XAN LR LR
comp=Z,830nm,21.0s
XAN LR LR
comp=Z,760nm,22.1s
XAN LR LR
comp=Z,1μm,21.1s
XAN Xi'an 71.81 312 P **P 03 56 36.6 -0.2**
XAN pmax pmax
comp=Z,107nm,1.7s
XAN Xi'an 71.81 312 P **P 03 56 36.6 -0.2**
KMI Kunming 72.83 301 P **P 03 56 44.9 +1.6**
KMI S **SKiKP 04 06 14.2 -3.3**
KMI SKS **SKSac 04 06 45.9 -3.5**
KMI SS **SS 04 10 58.3 +8.0**
KMI pmax pmax
comp=Z,49nm,1.5s
KMI pmax pmax
comp=Z,350nm,6.1s
KMI LR LR
comp=Z,470nm,20.9s
KMI LR LR
comp=Z,670nm,22.2s
KMI LR LR
comp=Z,1μm,23.4s
KMI Kunming 72.83 301 P **P 03 56 43.8 +0.6**
KMI pmax pmax
comp=Z,148nm,1.6s
KMI Kunming 72.83 301 P **P 03 56 43.8 +0.6**
HHC Hu-ho-hao-te 73.47 319 P **P 03 56 49.1 +2.5**
ZEA Zeya 73.76 337 *e*P **P 03 56 48.8 +1.0**
ZEA *e* 03 57 04.5
ZEA *e*S **S 04 06 24.0 +5.1**
ZEA pmax pmax
comp=Z,400nm,3.0s
ZEA pmax pmax
comp=N,56nm,1.4s
ZEA pmax pmax
comp=Z,79nm,1.6s
ZEA smax smax
comp=E,800nm,10.0s
ZEA MLR MLR
comp=Z,2μm,20.0s
ZEA MLR MLR
comp=E,800nm,17.0s
CMAR Chiang Mai Arr 73.80 293 P **P 03 56 50.2 +1.4**
comp=E,13nm,0.7s,baz=117,slow=4.4,SNR=36
CMAR LR LR 04 28 26.1
comp=E,307nm,20.6s,baz=119,slow=35
CMAR Chiang Mai Arr 73.80 293 P **P 03 56 48.8 0.0**
HIA Hailar 73.89 330 P **P 03 56 49.0 +0.3**
HIA pmax pmax
comp=Z,69nm,1.6s
HIA Hailar 73.89 330 P **P 03 56 49.0 +0.3**
HIA IAmb IAmb 03 56 54.9
comp=Z,69nm,1.6s
CHTO Chiang Mai 73.91 294 P **P 03 56 48.4 -1.1**
CHTO pmax pmax
comp=Z,72nm,1.5s
CHTO Chiang Mai 73.91 294 P **P 03 56 48.4 -1.1**
CHTO IAmb IAmb 03 56 56.9
comp=Z,72nm,1.4s
CD2 Chengdu 74.31 307 P **P 03 56 52.0 +0.4**
CD2 S **S 04 06 22.9 -3.2**
CD2 sS SKSac 04 06 54.5 -5.4
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 pmax pmax
comp=Z,430nm,5.0s
CD2 LR LR
comp=Z,1μm,21.4s
CD2 LR LR
comp=Z,960nm,17.8s
CD2 LR LR
comp=Z,1μm,25.6s
BTO Baotou 74.34 318 *e*P P 03 56 46.6 -5.1
BTO S **SKiKP 04 06 18.6 -0.6**
MHMT Maesarieng 74.62 293 P P 03 57 01.7 +8.1
SEY Seymchan 75.57 353 *i*P **P 03 56 56.8 -1.3**
LZH Lanzhou 76.44 312 ⇑P **P 03 57 06.0 +2.0**
LZH S **S 04 06 49.3 -0.6**
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,260nm,5.4s
LZH LR LR
comp=Z,900nm,17.9s
LZH LR LR
comp=Z,780nm,17.4s
LZH LR LR
comp=Z,910nm,18.6s
QSPA South Pole Qui 78.03 180 P **P 03 57 11.3 -1.0**
QSPA IAmb IAmb 03 57 18.1
comp=Z,56nm,1.3s
CIT Chita 78.69 329 *e*P **P 03 57 16.2 +0.2**
CIT *e* 03 57 21.4
CIT *e* 03 57 35.0
YAK Yakutsk 79.40 343 P **P 03 57 17.8 -1.8**
YAK pmax pmax
comp=Z,68nm,1.4s
YAK Yakutsk 79.40 343 P **P 03 57 17.8 -1.8**
YAK IAmb IAmb 03 57 50.2
comp=Z,68nm,1.4s
BILL Bilibino 79.82 360 *e*P **P 03 57 21.2 -0.5**
BILL *e* 03 57 29.9
BILL *e* 04 00 29.0
BILL *e*PPP PPP 04 02 18.9
BILL pmax pmax
comp=Z,69nm,1.3s
BILL MLR MLR
comp=Z,646nm,19.0s
BILL Bilibino 79.82 360 P **P 03 57 21.5 -0.3**
ULN Ulaanbaatar 79.90 324 *ce*P **P 03 57 22.5 -0.3**
ULN pmax pmax
comp=Z,23nm,1.3s
ULN Ulaanbaatar 79.90 324 P **P 03 57 22.0 -0.9**
ULN IAmb IAmb 03 57 29.2
comp=Z,81nm,1.6s
SONM Songino Array 80.27 323 P **P 03 57 25.5 +0.7**
comp=Z,3.6nm,0.9s,baz=146,slow=4.8,SNR=17
SONM LR LR 04 34 21.1
comp=Z,429nm,18.0s,baz=116,slow=37
SONM Songino Array 80.27 323 P **P 03 57 24.3 -0.5**
SUA Susitna One 80.33 19 IAmb IAmb 03 57 32.0
comp=Z,117nm,2.0s
GTA Gaotai 80.74 314 ⇑P **P 03 57 28.9 +1.4**
GTA pP PcP 03 57 39.7 +5.5
GTA S **S 04 07 28.2 -7.5**
GTA SKS SKSac 04 07 35.3 -11
GTA sS ScS 04 08 04.0 +9.2
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,250nm,7.6s
GTA LR LR
comp=Z,550nm,18.1s
GTA LR LR
comp=Z,640nm,20.3s
GTA LR LR
comp=Z,900nm,20.3s
KNK Knik Glacier 81.04 20 IAmb IAmb 03 58 07.6
comp=Z,69nm,1.6s
SCM Sheep Creek Mo 81.72 20 P **P 03 57 33.0 +0.8**
SCM pmax pmax
comp=Z,94nm,1.7s
SCM Sheep Creek Mo 81.72 20 P **P 03 57 33.0 +0.8**
SCM IAmb IAmb 03 58 11.1
comp=Z,94nm,1.7s
HMT Hamilton 81.76 22 P **P 03 57 33.8 +1.5**
KTH Kantishna Hill 81.85 18 P **P 03 57 34.4 +1.6**
TRF Thorofare Moun 81.96 18 P **P 03 57 35.6 +2.1**
BOD Bodaibo 81.99 334 *e*P **P 03 57 32.8 -0.7**
BOD pmax pmax
comp=Z,46nm,1.7s
CRQM Cirque 82.46 22 P **P 03 57 36.7 +0.5**
KHMM Horse Mountain 82.50 46 IAmb IAmb 03 57 42.4
comp=Z,66nm,1.5s
TGL Tana Glacier 82.57 22 P **P 03 57 38.3 +1.6**
MCK McKinley 82.58 18 IAmb IAmb 03 58 06.9
comp=Z,46nm,1.6s
DHY Denali Highway 82.59 19 IAmb IAmb 03 58 15.8
comp=Z,42nm,1.6s
KRMB Red Mountain 82.62 45 P **P 03 57 37.9 +0.5**
KRMB IAmb IAmb 03 57 43.8
comp=Z,72nm,1.7s
SAO San Andreas Ge 82.63 50 P **P 03 57 37.0 -0.4**
SAO pmax pmax
comp=Z,19nm,1.1s
SAO San Andreas Ge 82.63 50 P **P 03 57 37.0 -0.4**
VRDI Verde Repeater 82.65 22 P **P 03 57 37.5 +0.3**
VRDI IAmb IAmb 03 58 11.3
comp=Z,87nm,1.8s
GLB Gilahina Butte 82.67 21 IAmb IAmb 03 57 42.0
comp=Z,55nm,1.6s
KBO Bosley Butte 82.68 44 P **P 03 57 37.8 +0.2**
O02D Mt. Diablo Mer 82.89 47 P **P 03 57 40.1 +1.3**
baz=248
SNCC San Nicolas Is 82.91 54 P **P 03 57 38.9 -0.1**
MCARA McCarthy VSAT 82.91 22 P **P 03 57 39.5 +1.2**
BALM Baldy 82.93 22 IAmb IAmb 03 57 43.4
comp=Z,75nm,1.8s
IMAR Indian Mountai 82.95 15 P **P 03 57 39.5 +1.1**
PAX Paxson 83.14 20 P **P 03 57 40.2 +0.6**
PAX pmax pmax
comp=Z,61nm,2.0s
PAX Paxson 83.14 20 P **P 03 57 40.2 +0.6**
PAX IAmb IAmb 03 57 45.4
comp=Z,61nm,2.0s
NEA Nenana 83.16 17 P **P 03 57 40.9 +1.4**
PAGB Antelope Grade 83.17 51 P **P 03 57 40.8 +0.5**
PAGB IAmb IAmb 03 57 51.1
comp=Z,59nm,1.8s
WDC Whiskeytown Da 83.22 46 IAmb IAmb 03 57 45.5
comp=Z,60nm,1.6s
PKM Mcpherson Peak 83.23 52 P **P 03 57 41.7 +0.8**
baz=250
SMMC Simmler 83.23 52 P **P 03 57 40.9 +0.3**
baz=250
N02D Trinity Center 83.25 46 P **P 03 57 42.2 +1.5**
baz=248,SNR=11
CTGM Chitina Glacie 83.27 23 IAmb IAmb 03 58 05.9
comp=Z,61nm,1.5s
ZAK Zakamensk 83.29 325 *e*P **P 03 57 40.5 -0.1**
ZAK pmax pmax
comp=Z,27nm,1.6s
M02C Callahan 83.31 45 P **P 03 57 42.6 +1.6**
baz=248,SNR=10
WRH Wood River Hil 83.37 18 P **P 03 57 41.0 +0.4**
YBH Yreka Blue Hor 83.53 45 P **P 03 57 42.5 +0.4**
comp=Z,17nm,1.2s,baz=216,slow=2.4,SNR=10.0
YBH Yreka Blue Hor 83.53 45 P **P 03 57 42.2 +0.1**
YBH IAmb IAmb 03 57 47.4
comp=Z,34nm,1.4s
ORV Oroville 83.58 47 P **P 03 57 43.0 +0.7**
ORV pmax pmax
comp=Z,48nm,1.7s
ORV Oroville 83.58 47 P **P 03 57 43.0 +0.7**
ORV IAmb IAmb 03 57 56.3
comp=Z,48nm,1.7s
CCB Clear Creek Bu 83.59 18 IAmb IAmb 03 57 43.7
comp=Z,54nm,1.9s
IRK Irkutsk 83.62 327 *e*P **P 03 57 42.9 +0.7**
IRK pmax pmax
comp=Z,77nm,1.7s
O03E Paynes Creek 83.64 47 P **P 03 57 43.3 +0.7**
baz=248,SNR=14
HDA Harding Lake 83.68 18 P **P 03 57 43.2 +1.0**
baz=225
HDA Harding Lake 83.68 18 P **P 03 57 43.0 +0.9**
HUMO Hull Mountain 83.70 44 IAmb IAmb 03 57 48.9
comp=Z,36nm,1.4s
TLY Talaya 83.70 326 *e*P **P 03 57 42.6 0.0**
TLY *e*S **S 04 08 02.4 -2.9**
TLY pmax pmax
comp=Z,44nm,1.6s
TLY MLR MLR
comp=Z,1μm,17.0s
MENT Mentasta 83.70 20 P **P 03 57 42.6 +0.2**
MENT IAmb IAmb 03 58 35.4
comp=Z,61nm,1.6s
COLA College 83.74 18 *d i*P **P 03 57 43.0 +0.6**
COLA pmax pmax
comp=Z,22nm,1.2s
COLA College 83.74 18 P **P 03 57 42.9 +0.4**
AFDM Forest Hills D 83.75 48 P **P 03 57 42.8 -0.4**
AFDM IAmb IAmb 03 57 48.6
comp=Z,42nm,1.5s
CMB Columbia Colle 83.86 49 P **P 03 57 43.6 -0.2**
CMB pmax pmax
comp=Z,29nm,1.5s
CMB Columbia Colle 83.86 49 P **P 03 57 43.6 -0.2**
CMB IAmb IAmb 03 57 48.3
comp=Z,29nm,1.4s
ILAR Eielson Array 83.95 18 P **P 03 57 44.3 +0.7**
ILAR Eielson Array 83.95 18 P **P 03 57 42.1 -1.4**
comp=Z,2.0nm,0.6s,baz=245,slow=5.3,SNR=16
ILAR LR LR 04 32 56.8
comp=Z,418nm,18.1s,baz=237,slow=34
ILAR Eielson Array 83.95 18 P **P 03 57 44.3 +0.7**
L04D Klamath Falls 84.00 45 P **P 03 57 45.5 +1.0**
baz=248
DOT Dot Lake 84.07 20 IAmb IAmb 03 58 09.6
comp=Z,46nm,1.3s
VES Vestal, Richgr 84.11 52 P **P 03 57 46.0 +1.0**
baz=251,SNR=6.9
M04C Macdoel 84.16 45 P **P 03 57 47.2 +1.8**
baz=248,SNR=12
PASC Pasadena Art C 84.27 53 P **P 03 57 46.0 +0.1**
PASC IAmb IAmb 03 57 50.2
comp=Z,29nm,1.3s
MAW Mawson 84.39 202 P **P 03 57 43.7 -2.2**
baz=84,SNR=11
MAW Mawson 84.39 202 P **P 03 57 45.2 -0.7**
MAW pmax pmax
comp=Z,20nm,1.6s
MAW Mawson 84.39 202 P **P 03 57 44.7 -1.1**
comp=Z,4.2nm,0.7s,baz=109,slow=8.9,SNR=14
MAW LR LR 04 31 18.2
comp=Z,560nm,20.3s,baz=88,slow=33
MAW Mawson 84.39 202 P **P 03 57 45.2 -0.7**
BCAR Beaver Creek A 84.45 21 P **P 03 57 45.0 -1.3**
BESE Bessie Mountai 84.47 26 P **P 03 57 46.9 +0.5**
BESE IAmb IAmb 03 58 22.4
comp=Z,45nm,1.2s
J04D Umpqua Nationa 84.51 44 P **P 03 57 48.8 +1.6**
baz=248
ISA Isabella, Lake 84.52 52 P **P 03 57 48.7 +1.5**
baz=251,SNR=13
ISA Isabella, Lake 84.52 52 P **P 03 57 47.7 +0.5**
ISA pmax pmax
comp=Z,62nm,1.6s
ISA Isabella, Lake 84.52 52 P **P 03 57 47.7 +0.5**
ISA IAmb IAmb 03 57 55.6
comp=Z,62nm,1.6s
BEKR Beckworth 84.52 47 IAmb IAmb 03 57 52.7
comp=Z,50nm,1.5s
K04D Chiloquin, OR 84.53 45 P **P 03 57 48.9 +1.7**
baz=248
EDW2 Edwards Air Fo 84.64 53 P **P 03 57 49.5 +1.6**
baz=251,SNR=19
BFSC Mount Baldy Ra 84.70 54 P **P 03 57 48.6 +0.3**
baz=252,SNR=15
MDPB Devils Postpil 84.70 50 IAmb IAmb 03 57 53.1
comp=Z,26nm,1.2s
109C Camp Elliot, M 84.72 55 P **P 03 57 49.7 +1.5**
baz=252
109C Camp Elliot, M 84.72 55 IAmb IAmb 03 57 52.9
comp=Z,36nm,1.2s
OMMB Old Mammoth Mi 84.75 50 IAmb IAmb 03 58 02.7
comp=Z,33nm,1.4s
SKAG Skagway 84.76 26 P **P 03 57 49.1 +1.4**
SKAG IAmb IAmb 03 58 08.8
comp=Z,43nm,1.4s
PNTR Pine Nut 84.80 48 IAmb IAmb 03 57 57.4
comp=Z,45nm,1.3s
COLD Coldfoot 84.82 15 P **P 03 57 48.8 +0.9**
E03A Lebam 84.83 40 P **P 03 57 49.2 +0.8**
E03A IAmb IAmb 03 57 54.1
comp=Z,48nm,1.3s
VCNR Virginia City 84.84 48 P **P 03 57 48.9 0.0**
MURC Murrieta 84.87 54 P **P 03 57 50.6 +1.6**
baz=252
MLAC Mammoth, Mammo 84.88 50 P **P 03 57 52.0 +2.8**
baz=251
YERR Yerington 85.03 49 P **P 03 57 50.2 +0.2**
CWC Cottonwood Cre 85.07 51 P **P 03 57 50.6 +0.5**
baz=251
LRMC Laurel Mtn Rad 85.07 52 P **P 03 57 51.3 +1.2**
baz=252

J05D	Fort Rock, OR	85.12	44	P	P	03 57 51.2	+1.0
	baz=249						
TIN	Tinemaha, Big	85.15	51	P	P	03 57 51.6	+1.2
	baz=251						
PAHR	Pah Rah Range	85.17	48	IAmb	IAmb	03 58 04.6	
	comp=Z,60nm,1.5s						
MOD	Modoc Plateau	85.27	46	IAmb	IAmb	03 58 15.5	
	comp=Z,50nm,1.6s						
MONP2	Monument Peak	85.27	55	P	P	03 57 51.0	-0.3
	baz=252,SNR=22						
F04A	Amboy	85.32	41	P	P	03 57 51.5	+0.6
DAC	Darwin (Calif)	85.39	52	P	P	03 57 52.2	+0.5
DAC				pmax	pmax		
	comp=Z,36nm,1.6s						
DAC	Darwin (Calif)	85.39	52	P	P	03 57 52.2	+0.5
DAC				IAmb	IAmb	03 57 56.2	
	comp=Z,36nm,1.6s						
MPMC	Manual Prospec	85.40	52	P	P	03 57 52.8	+1.0
	baz=252,SNR=15						
I05D	Terrebonne, OR	85.44	43	P	P	03 57 53.2	+1.6
	baz=248						
RYN	Ryan	85.44	49	IAmb	IAmb	03 58 09.9	
	comp=Z,43nm,1.5s						
IKP	In-Ko-Pah, Jac	85.45	55	P	P	03 57 53.1	+1.1
	baz=253,SNR=11						
PFO	Pinyon Flats O	85.46	54	P	P	03 57 52.8	+0.7
	baz=252,SNR=8.3						
PFO	Pinyon Flats O	85.46	54	*i* P	P	03 57 53.1	+1.0
PFO	Pinyon Flats O	85.46	54	P	P	03 57 51.8	-0.3
	comp=Z,7.5nm,1.1s,baz=238,slow=5.0,SNR=11						
PFO	Pinyon Flats O	85.46	54	P	P	03 57 52.1	+0.1
TPFO	Pinon Flats	85.46	54	P	P	03 57 52.6	+0.5
	baz=252,SNR=9.1						
E04D	Cinebar	85.47	41	P	P	03 57 53.0	+1.4
	baz=247						
PINE	Pine Mountain	85.50	44	IAmb	IAmb	03 57 54.9	
	comp=Z,52nm,1.6s						
D03D	Eldon	85.51	40	P	P	03 57 53.3	+1.5
	baz=247						
NVAR	Mina Array Bea	85.54	49	P	P	03 57 51.7	-0.8
	comp=Z,4.0nm,0.7s,baz=230,slow=8.6,SNR=30						
NVAR				LR	LR	04 27 47.6	
	comp=Z,3μm,21.0s,baz=272,slow=30						
NV11	Mina Array Sit	85.65	49	IAmb	IAmb	03 57 57.7	
	comp=Z,30nm,1.2s						
GSC	Goldstone, Bar	85.70	53	P	P	03 57 53.0	-0.2
	baz=252,SNR=9.6						
PGC	Sidney	85.73	38	P	P	03 57 54.0	+1.1
G05D	Wamic, OR	85.78	42	P	P	03 57 57.6	+4.3
	baz=248						
SWSC	Sam W. Stewart	85.79	55	P	P	03 57 55.1	+1.5
	baz=253,SNR=6.2						
GRAC	Grapevine Rang	85.79	51	P	P	03 57 55.3	+1.8
	baz=252,SNR=11						
DAWY	Dawson	85.92	21	P	P	03 57 55.5	+1.9
F05D	White Salmon	85.92	42	P	P	03 57 55.8	+1.8
	baz=248						
BELC	Belle Mtn. Jos	85.94	54	P	P	03 57 54.5	0.0
	baz=253,SNR=26						
FURC	Furnace Creek,	86.01	52	P	P	03 57 56.2	+1.6
	baz=252,SNR=11						
TOLK	Toolik Lake Re	86.03	15	P	P	03 57 55.6	+1.6
	baz=222						
A04D	Lummi Island	86.21	39	P	P	03 57 56.8	+1.5
	baz=247						
BC3	Big Chuckawall	86.27	55	P	P	03 57 57.8	+1.7
	baz=253,SNR=16						
SHOC	Shoshone, Teco	86.29	52	P	P	03 57 57.3	+1.3
	baz=252						
B05A	Bryant	86.41	39	P	P	03 57 57.8	+1.6
	baz=248						
TUQ	Turquoise Moun	86.42	53	P	P	03 57 58.4	+1.6
	baz=253,SNR=10						
GMRC	Granite Mounta	86.44	54	P	P	03 57 57.3	+0.4
	baz=253,SNR=9.8						
BMAR	Burnt Mountain	86.48	17	P	P	03 57 57.9	+1.6
GLA	Glamis	86.60	55	P	P	03 57 58.6	+1.0
	baz=253,SNR=8.1						
GLA	Glamis	86.60	55	P	P	03 57 58.6	+1.0
GLA				pmax	pmax		
	comp=Z,58nm,1.4s						
GLA	Glamis	86.60	55	P	P	03 57 58.6	+1.0
TPNV	Topopah Spring	86.62	51	P	P	03 57 58.7	+0.8
	baz=252,SNR=15						
TPNV	Topopah Spring	86.62	51	IAmb	IAmb	03 58 02.6	
	comp=Z,28nm,1.3s						
IRM	Iron Mountain	86.66	54	P	P	03 57 58.9	+1.0
	baz=253,SNR=21						
F07A	Phinny Hill Vi	86.93	42	P	P	03 57 58.7	-0.1
F07A				IAmb	IAmb	03 58 04.5	
	comp=Z,31nm,1.4s						
BMN	Battle Mountai	86.97	48	IAmb	IAmb	03 58 04.3	
	comp=Z,43nm,1.5s						
Y12C	Blythe	87.04	55	P	P	03 58 00.9	+1.1
	baz=254,SNR=13						
SRIG	Santa Rosalia	87.21	61	P	P	03 57 59.8	-0.9
SRIG				IAmb	IAmb	03 58 08.6	
	comp=Z,29nm,1.2s						
TIXI	Tiksi	87.28	349	*ce*P	P	03 57 59.2	-0.8
TIXI				pmax	pmax		
	comp=Z,25nm,1.7s						
TIXI	Tiksi	87.28	349	P	P	03 57 59.5	-0.5
SHPR	Sheep Range	87.33	52	IAmb	IAmb	03 58 06.3	
	comp=Z,42nm,1.4s						
G08A	Pilot Rock	87.36	43	IAmb	IAmb	03 58 18.2	
	comp=Z,35nm,1.4s						
HAWA	Hanford	87.36	42	IAmb	IAmb	03 58 18.3	
	comp=Z,39nm,1.4s						
PDMCI	Parker Dam,Lak	87.50	54	P	P	03 58 03.2	+1.3
	baz=254,SNR=12						
R11A	Troy Canyon, C	87.55	50	P	P	03 58 03.0	+0.7
	baz=253						
E08A	Dider Farm, El	87.70	42	IAmb	IAmb	03 58 07.6	
	comp=Z,40nm,1.3s						
W13A	Hualapai Mount	87.92	54	IAmb	IAmb	03 58 09.2	
	comp=Z,34nm,1.3s						
214A	Organ Pipe Nat	87.94	57	P	P	03 58 05.2	+1.1
	baz=254,SNR=20						
PALK	Pallekele	88.09	278	P	P	03 58 05.3	0.0
PALK				pmax	pmax		
	comp=Z,44nm,1.4s						
PALK	Pallekele	88.09	278	P	P	03 58 05.3	0.0
B08A	Colville Reser	88.17	40	IAmb	IAmb	03 58 09.1	
	comp=Z,40nm,1.6s						
EPYK	Eagle Plains	88.21	20	P	P	03 58 06.6	+1.9
	baz=234						
Y14A	Wickenburg	88.31	55	IAmb	IAmb	03 58 10.8	
	comp=Z,27nm,1.4s						
BMO	Blue Mountains	88.32	44	IAmb	IAmb	03 58 14.0	
	comp=Z,62nm,1.9s						
ELK	Elko	88.51	48	IAmb	IAmb	03 58 12.7	
	comp=Z,45nm,1.8s						
MFID	Camas Ranch	88.88	45	IAmb	IAmb	03 58 13.4	
	comp=Z,30nm,1.4s						
LCMT	Little Creek M	88.95	52	P	P	03 58 09.6	+0.7
PLID	Pearl Lake	89.27	44	IAmb	IAmb	03 58 15.5	
	comp=Z,26nm,1.4s						
NEW	Newport	89.53	40	P	P	03 58 12.4	+1.2
	baz=251						
TUC	Tucson	89.69	57	P	P	03 58 13.2	+0.8
	baz=256						
TUC	Tucson	89.69	57	P	P	03 58 13.3	+0.8
TUC	Tucson	89.69	57	P	P	03 58 13.3	+0.9
TUC				IAmb	IAmb	03 58 17.9	
	comp=Z,34nm,1.3s						
WUAZ	Wupatki	90.02	54	P	P	03 58 15.1	+1.1
	baz=255						
WUAZ	Wupatki	90.02	54	IAmb	IAmb	03 58 20.0	
	comp=Z,40nm,1.2s						
DUG	Dugway, Tooele	90.13	49	P	P	03 58 15.4	+1.0
	baz=254						
DUG	Dugway, Tooele	90.13	49	P	P	03 58 15.2	+0.8
DUG				pmax	pmax		
	comp=Z,45nm,1.5s						
DUG	Dugway, Tooele	90.13	49	P	P	03 58 15.2	+0.8
DUG				IAmb	IAmb	03 58 32.6	
	comp=Z,45nm,1.4s						
WMQ	Urumqi	90.77	315	*e*P	P	03 58 17.5	+0.3
WMQ				pmax	pmax		
	comp=Z,21nm,1.9s						
WMQ				LR	LR		
	comp=Z,310nm,19.9s						
WMQ				LR	LR		
	comp=Z,410nm,17.5s						
WMQ				LR	LR		
	comp=Z,540nm,22.3s						
WMQ	Urumqi	90.77	315	P	P	03 58 15.3	-1.9
WMQ				pmax	pmax		
	comp=Z,113nm,1.7s						
WMQ	Urumqi	90.77	315	P	P	03 58 15.3	-1.9
X18A	Snowflake	90.91	55	IAmb	IAmb	03 58 23.4	
	comp=Z,22nm,1.1s						
MSO	Missoula	91.15	42	P	P	03 58 19.9	+0.9
JTMT	Jette	91.19	41	P	P	03 58 19.7	+0.6
W18A	Petrified Fore	91.22	54	P	P	03 58 20.3	+0.6
W18A				IAmb	IAmb	03 58 36.3	
	comp=Z,22nm,1.0s						
SYO	Syowa Base	91.30	197	‖*e*X	P	03 58 16.0	-3.1
SYO	Syowa Base	91.30	197	‖*p*P	P	03 58 20.4	+1.3
SYO	Syowa Base	91.30	197	‖*i*sP	sP	03 58 22.0	-0.8
SRU	San Rafael Swe	91.56	50	P	P	03 58 22.8	+1.6
SRU				pmax	pmax		
	comp=Z,21nm,1.5s						
SRU	San Rafael Swe	91.56	50	P	P	03 58 22.8	+1.6
DLMT	Dillon	91.66	44	IAmb	IAmb	03 58 27.1	
	comp=Z,33nm,1.2s						
WALA	Waterton Lakes	91.80	40	IAmb	IAmb	03 58 27.7	
	comp=Z,28nm,1.4s						
AHID	Auburn Hatcher	92.03	47	P	P	03 58 24.7	+1.4
AHID				IAmb	IAmb	03 58 58.7	
	comp=Z,46nm,1.8s						
121A	Cookes Peak, D	92.21	57	P	P	03 58 25.5	+1.2
	baz=257						
121A	Cookes Peak, D	92.21	57	P	P	03 58 25.3	+1.0
121A				IAmb	IAmb	03 58 46.9	
	comp=Z,36nm,1.6s						
HYB	Hyderabad	92.26	287	*i* P	P	03 58 24.0	-0.6
BOZ	Bozeman (W)	92.37	44	P	P	03 58 25.9	+1.2
	baz=255						
BOZ	Bozeman (W)	92.37	44	IAmb	IAmb	03 58 30.5	
	comp=Z,31nm,1.4s						
SNOW	Snow King Moun	92.45	46	IAmb	IAmb	03 58 32.3	
	comp=Z,50nm,1.9s						
YHB	Horse Butte	92.46	45	P	P	03 58 26.7	+1.5
MOOW	Moose Ponds	92.53	46	IAmb	IAmb	03 58 45.4	
	comp=Z,32nm,1.7s						
PV19	Morning Glory	92.55	52	P	P	03 58 26.1	+0.3
PV19				IAmb	IAmb	03 58 40.0	
	comp=Z,32nm,1.6s						
PV20	West Nyswonger	92.56	51	P	P	03 58 26.2	+0.4
PV20				IAmb	IAmb	03 58 43.1	
	comp=Z,34nm,1.5s						
RDMU	Red Mountain	92.62	49	P	P	03 58 26.7	+0.7
PV13	Radium Mtn., P	92.64	52	P	P	03 58 26.9	+0.7
PV13				IAmb	IAmb	03 59 08.4	
	comp=Z,25nm,1.8s						
MVCO	Mesa Verde	92.67	53	P	P	03 58 27.8	+1.4
	baz=257						
MVCO	Mesa Verde	92.67	53	P	P	03 58 27.0	+0.6
MVCO				IAmb	IAmb	03 59 36.8	
	comp=Z,30nm,1.8s						
PV02	Paradox Valley	92.71	52	P	P	03 58 27.9	+1.3
HPIG		92.82	63	P	P	03 58 27.2	-0.1
PV01	Paradox Valley	92.82	52	P	P	03 58 27.8	+0.8
BW06	Boulder Array	93.14	47	P	P	03 58 29.5	+1.0
	baz=257						
BW06	Boulder Array	93.14	47	IAmb	IAmb	03 58 46.0	
	comp=Z,29nm,1.6s						
PD31	Pinedale Array	93.14	47	IAmb	IAmb	03 58 46.0	
	comp=Z,33nm,1.7s						
PDAR	Pinedale Array	93.14	47	P	P	03 58 28.9	+0.5
	comp=Z,2.6nm,1.1s,baz=264,slow=2.8,SNR=10						
PDAR				LR	LR	04 36 18.6	
	comp=Z,856nm,18.4s,baz=262,slow=33						
LENM	Lemitar	93.22	56	P	P	03 58 28.4	-0.6
O20A	White River Ci	93.51	50	P	P	03 58 31.4	+1.2
	baz=257						
O20A	White River Ci	93.51	50	IAmb	IAmb	03 58 35.1	
	comp=Z,37nm,1.8s						
ANMO	Albuquerque	93.80	55	P	P	03 58 32.6	+1.0
	baz=258						
ANMO	Albuquerque	93.80	55	*ce*P	P	03 58 30.9	-0.7
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	Albuquerque	93.80	55	P	P	03 58 31.7	+0.1
C36M	Paulatuk	93.84	19	P	P	03 58 31.7	+1.1
	baz=246						
RLMT	Red Lodge	93.88	45	P	P	03 58 33.8	+2.1
	baz=257						
MNTX	Cornudas Mount	94.03	59	P	P	03 58 33.3	+0.8
	baz=258						
S22A	4UR Ranch, Cre	94.08	52	P	P	03 58 33.8	+0.8
	baz=258						
EGMT	Eagleton	94.21	42	P	P	03 58 34.4	+1.4
	baz=257						
EGMT	Eagleton	94.21	42	IAmb	IAmb	03 58 38.5	
	comp=Z,39nm,1.4s						
PMSA	Palmer Station	94.36	160	P	P	03 58 31.9	-1.4
RWWY	Rawlins	94.61	49	P	P	03 58 36.0	+0.8
TXAR	Lajitas Array	95.02	61	P	P	03 58 37.6	+0.4
	comp=Z,1.2nm,0.8s,baz=219,slow=6.1,SNR=17						
TXAR				PP	PP	04 02 25.1	-1.7
	comp=Z,1.3nm,1.2s,baz=267,slow=5.0,SNR=4.3						
TXAR				LR	LR	04 32 06.6	
	comp=Z,1μm,21.9s,baz=0.0,slow=30						
TXAR	Lajitas Array	95.02	61	P	P	03 58 37.4	+0.1
SDCO	Great Sand Dun	95.12	53	P	P	03 58 38.8	+1.1
	baz=259						
YKA	Yellowknife Ar	95.15	27	P	P	03 58 37.5	+0.7
	comp=Z,1.7nm,0.9s,baz=250,slow=5.2,SNR=3.0						
YKA				LR	LR	04 38 43.3	
	comp=Z,17nm,18.0s,baz=258,slow=34						
ZAA0	Zalesovo Array	95.15	324	P	P	03 58 35.9	-1.2
ZALV	Zalesovo Beam	95.15	324	P	P	03 58 36.9	-0.2
	comp=Z,2.3nm,0.7s,baz=106,slow=3.2,SNR=7.9						
ZALV				LR	LR	04 40 16.6	
	comp=Z,560nm,20.8s,baz=91,slow=35						
ZALV	Zalesovo Beam	95.15	324	P	P	03 58 36.0	-1.0
MK31	Makanchi Array	95.18	317	P	P	03 58 36.6	-0.8
MK31				pmax	pmax		
	comp=Z,41nm,1.4s						
MK31	Makanchi Array	95.18	317	P	P	03 58 36.6	-0.8
MKAR	Makanchi Array	95.18	317	P	P	03 58 36.6	-0.8
	comp=Z,4.6nm,0.7s,baz=91,slow=6.4,SNR=20						
MKAR				LR	LR	04 40 55.4	
	comp=Z,377nm,20.9s,baz=93,slow=35						
MKAR	Makanchi Array	95.18	317	P	P	03 58 36.2	-1.2
N23A	Red Feather La	95.38	49	P	P	03 58 41.6	+2.8
	baz=259						
ISCO	Idaho Springs	95.42	51	P	P	03 58 40.6	+1.6
	baz=259						
SNAA	Sanae	96.27	183	P	P	03 58 40.4	-1.6
SNAA	Sanae	96.27	183	P	P	03 58 42.4	+0.4
SNAA				pmax	pmax		
	comp=Z,22nm,1.5s						
SNAA	Sanae	96.27	183	P	P	03 58 42.4	+0.4
SNAA				IAmb	IAmb	03 58 46.7	
	comp=Z,22nm,1.5s						
VNA3	Neumayer Olymp	96.94	181	P	P	03 58 41.5	-3.5
VNA2	Neumayer--Watz	97.20	182	P	P	03 58 43.9	-2.3
	baz=174,slow=3.4						
NRIK	Noril'sk	97.50	339	P	P	03 58 46.7	-0.7
	comp=Z,2.0nm,0.4s,baz=116,slow=4.4,SNR=7.8						
NRIK				LR	LR	04 40 59.2	
	comp=Z,842nm,20.4s,baz=101,slow=34						
KURK	Kurchatov	98.27	320	*i* P	P	03 58 50.5	-0.8
KURK				pmax	pmax		
	comp=Z,18nm,1.6s						
KURK	Kurchatov	98.27	320	P	P	03 58 49.7	-1.6
KURK				IAmb	IAmb	03 58 56.6	
	comp=Z,25nm,1.6s						
KSH	Kashi	98.45	309	*e*P	Pdif	03 58 54.2	+1.6
KSH				pP	pwP	03 59 14.4	+17
ARCES	ARCESS Array B	117.59	346	PKP	PKPdf	04 03 57.5	-1.8
	comp=Z,2.6nm,0.8s,baz=70,slow=2.5,SNR=6.8						
KLMR	Klimovskoe	118.21	334	*e*PKIKP	PKPdf	04 03 57.7	-3.0
KLMR				pmax	pmax		
	comp=Z,19nm,1.5s						
KLMR	Klimovskoe	118.21	334	*e*PKPdf	PKPdf	04 03 57.7	-3.0
KLMR				AMP		04 04 05.9	
	comp=Z,19nm,1.5s						
KLMR				LQ	LQ	04 48 38.9	
KLMR				LQ	LQ	04 48 38.9	
KLMR				LR	LR	04 51 17.5	
OBN	Obninsk	122.34	329	*e*PKIKP	PKPdf	04 04 08.1	-0.7
OBN				*e*PPP	PPP	04 08 20.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV	Kislovodsk	122.90	315	*i* PKIKP	PKPdf	04 04 08.9	-1.5
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
FINES	FINESS Array B	123.16	339	PKP	PKPdf	04 04 08.8	-1.4
	comp=Z,2.4nm,0.9s,baz=197,slow=4.0,SNR=5.0						
NOA	NORSAR Array B	127.97	345	PKP	PKPdf	04 04 18.5	-1.1
	comp=Z,1.0nm,0.9s,baz=36,slow=2.2,SNR=2.5						
AKASG	Malin Array Be	128.43	327	PKP	PKPdf	04 04 20.7	+0.1
	comp=Z,0.4nm,0.5s,baz=37,slow=0.9,SNR=5.9						
HUMP	Col San Antoni	128.54	76		PKPdf	04 04 22.1	+0.3
BRTR	Keskin Array B	130.65	313	PKIKP	PKiKP	04 04 29.1	+2.8
BRTR	Keskin Array B	130.65	313	PKP	PKPdf	04 04 26.1	+0.6
	comp=Z,0.7nm,0.8s,baz=122,slow=1.9,SNR=6.3						
BRTR	Keskin Array B	130.65	313		PKiKP	04 04 29.1	+2.8
BURAR	Bucovina Array	132.34	326		PKPdf	04 04 28.8	+0.5
KOLS	Kolonicke sedl	133.10	329	*e*PKIKP	PKPdf	04 04 30.0	+0.4
KOLS	Kolonicke sedl	133.10	329	*e*PKP	PKPdf	04 04 30.0	+0.4
UZH	Uzhgorod	133.28	328	*e*PKHKP	PKPpre	04 04 13.4	
LANS	Liptovska Anna	134.34	331	*e*PKIKP	PKiKP	04 04 34.1	+0.8
LANS	Liptovska Anna	134.34	331	*e*PKP	PKiKP	04 04 34.1	+0.8
VYHS	Vyhne	135.09	330	*e*PKIKP	PKPdf	04 04 34.0	+0.6
VYHS	Vyhne	135.09	330	*e*PKP	PKPdf	04 04 34.0	+0.6
BRG	Berggiesshubel	135.50	336	*e*PKP	PKiKP	04 04 38.2	+2.6
	comp=Z,14nm,1.5s						
BRG				PP	PP	04 07 29.0	+19
BRG				*e*PKKS		04 18 01.6	
	comp=Z,27nm,2.1s						
	comp=N,490nm,21.2s						
	comp=E,315nm,17.5s						
	comp=Z,517nm,21.9s						
CLL	Collm	135.53	337⇑	*i*PKIKP	PKPdf	04 04 32.4	-1.6
CLL				*i*		04 04 39.5	
CLL				MLR	MLR		
	comp=Z,500nm,19.8s						
CLL	Collm	135.53	337⇑	*i*PKPdf	PKPdf	04 04 32.4	-1.6
CLL				*i* sPKPdf	sPKPdf	04 04 39.5	+1.7
	comp=Z,19nm,1.7s						
CLL				*e*PP	PP	04 07 06.0	-4.5
CLL				*e*PKSdf	PKSdf	04 08 06.0	-4.1
CLL				*e*PPS	PPS	04 19 18.0	
CLL				*e*SS	SS	04 25 06.0	-0.8
CLL				*e*SSS	SSS	04 30 18.0	
CLL				*e*(SSSS)		04 34 42.0	
CLL				*e*		04 35 42.0	
CLL				LmV		05 09 00.0	
	comp=Z,500nm,19.8s						
TREC	Trest	136.06	333	*e*PKIKP	PKPdf	04 04 35.9	+0.7
TREC	Trest	136.06	333	*e*PKP	PKPdf	04 04 35.9	+0.7
CONA	Conrad Observa	136.90	332	*i* pPKPdf	PKiKP	04 04 38.2	-0.5
	comp=Z,9.5nm,1.3s						
CONA				*i* PP	PP	04 07 19.5	+0.2
	comp=Z,4.6nm,1.6s						
KHC	Kasperske Hory	137.00	335	*e*PKIKP	PKiKP	04 04 40.9	+2.1
KHC	Kasperske Hory	137.00	335	*e*PKP	PKiKP	04 04 40.9	+2.1
GERES	GERESS Array B	137.17	334	PKIKP	PKiKP	04 04 40.9	+1.7
GERES	GERESS Array B	137.17	334	PKP	PKPdf	04 04 37.7	+0.4
	comp=Z,2.0nm,0.9s,baz=291,slow=4.1,SNR=3.9						
GERES	GERESS Array B	137.17	334		PKiKP	04 04 40.9	+1.7
MOA	Molln	137.68	333	*i* pPKiKP	PKiKP	04 04 42.7	+2.5
	comp=Z,5.1nm,1.2s						
MOA				*i* PP	PP	04 07 25.9	+1.8
	comp=Z,3.6nm,0.9s						
SOKA	Soboth	138.20	331	*i* pPKPdf	PKiKP	04 04 41.5	+0.2
	comp=Z,9.4nm,1.4s						
FNA	Florina	138.50	320	PKIKP	PKPdf	04 04 39.0	-1.0
FNA	Florina	138.50	320		PKPdf	04 04 39.0	-1.0
OBKA	Obir	138.55	331	*i* PKiKP	PKPdf	04 04 41.1	+1.2
	comp=Z,8.4nm,1.2s						
KBA	Koelnbreinsper	138.67	333	*i* PKPdf	PKPdf	04 04 37.3	-2.9
	comp=Z,4.5nm,0.9s						
KBA				*i* PP	PP	04 07 34.3	+3.8
	comp=Z,3.2nm,0.6s						
MYKA	Terra Mystica	138.88	332	*i* PKiKP	PKPdf	04 04 40.2	-0.3
	comp=Z,5.8nm,1.1s						
WATA	Walderalm	139.24	335	*i* PP	PP	04 07 36.0	+2.1
	comp=Z,11nm,1.8s						
WTTA	Wattenberg	139.27	334	*i* PKPdf	PKPdf	04 04 40.0	-1.4
	comp=Z,12nm,1.4s						
WTTA				*i* PP	PP	04 07 37.8	+3.7
	comp=Z,16nm,1.8s						
ABTA	Abfaltersbach	139.30	333	*i* PKPdf	PKPdf	04 04 40.3	-1.0
	comp=Z,12nm,1.9s						
ABTA				*i* PP	PP	04 07 36.3	+2.1
	comp=Z,0.1nm,0.3s						
MOTA	Moosalm	139.43	335	*i* PKiKP	PKPdf	04 04 42.9	+1.3
	comp=Z,9.4nm,1.2s						
MOTA				*i* PP	PP	04 07 37.8	+2.8
	comp=Z,9.0nm,1.3s						
RETA	Reutte	139.46	335	*i* PKiKP	PKPdf	04 04 42.0	+0.4
	comp=Z,10nm,1.8s						
RETA				*i* PP	PP	04 07 37.0	+1.9
	comp=Z,11nm,1.8s						
SQTA	Sankt Quirin	139.49	335	*i* pPKiKP	PKiKP	04 04 45.2	+1.2
	comp=Z,8.4nm,1.4s						
SQTA				*i* PP	PP	04 07 39.2	+3.8
	comp=Z,11nm,1.5s						
FETA	Feichten	139.84	335	*i* pPKiKP	PKiKP	04 04 48.8	+4.1
	comp=Z,9.7nm,1.4s						
FETA				*i* PP	PP	04 07 41.0	+3.4
	comp=Z,6.8nm,1.3s						
DAVA	Damuels	139.98	336	*i* pPKiKP	PKiKP	04 04 46.3	+1.3
	comp=Z,9.6nm,1.2s						
BNI	Bardonecchia	143.08	337	PKIKP	PKPdf	04 04 48.3	+0.1
BNI	Bardonecchia	143.08	337		PKPdf	04 04 48.3	+0.1
SSB	Saint Sauveur	143.67	339	PKIKP	PKPdf	04 04 50.1	+1.0
SSB	Saint Sauveur	143.67	339		PKPdf	04 04 50.1	+1.0
RAFF	Raffo Rosso	145.01	321		PKPdf	04 04 51.9	+0.3
KEST	Kesra	149.02	323	PKPbc	PKPbc	04 05 02.3	-0.2
	comp=Z,12nm,0.8s,baz=261,slow=5.9,SNR=6.6						
KEST	Kesra	149.02	323		PKPbc	04 05 03.0	+0.4
PBRG	Braganca	149.83	351	*e*PKPab	PKPab	04 05 08.6	-1.0
POLO	Lamas de Olo	150.40	352	*e*PKPab	PKPab	04 05 11.3	-0.8
PVRL	Vila Real	150.48	352	*e*PKPbc	PKPbc	04 05 05.6	-0.3
PVRL	Vila Real	150.48	352	*e*PKPab	PKPab	04 05 11.4	-0.9
MVO	Moncorvo	150.50	351	*e*PKPab	PKiKP	04 05 09.9	+3.2
PVIS	Viseu	151.06	352	*e*PKPab	PKPab	04 05 12.6	-2.1
MTE	Manteigas	151.32	352	*e*PKPbc	PKPbc	04 05 07.5	-0.5
MTE	Manteigas	151.32	352	*e*PKPab	PKPab	04 05 13.4	-2.5
ESD

CSS	**Mathiatis**	**0.40**	**30**	Pg	**Pg**	**03 49 41.0**	**0.0**
CSS	**Mathiatis**	**0.40**	**30**	PG	**Pb**	**03 49 41.4**	**-0.4**
CSS				SG	**Sg**	**03 49 46.5**	**0.0**
CSS	**Mathiatis**	**0.40**	**30**	P	**Pg**	**03 49 41.1**	**+0.1**
CSS				S	**Sb**	**03 49 48.4**	**+0.6**
NATA	**Nata**	**0.46**	**291**	P	**Pg**	**03 49 42.5**	**+0.5**
NATA				S	**Sb**	**03 49 50.6**	**+1.2**
NATA				AML	AML	03 49 53.0	
	4.2nm,0.6s						
NATA				AML	AML	03 49 53.0	
	4.2nm,0.6s						
NATA				AML	AML	03 49 59.0	
	3.9nm,0.5s						
NATA				AML	AML	03 49 59.0	
	3.9nm,0.5s						
AKIN	**Akıncılar- Kıb**	**0.51**	**38**	PG	**Pb**	**03 49 43.3**	**-0.3**
AKIN				SG	**Sb**	**03 49 50.6**	**-0.2**
LEF	**Lefka**	**0.53**	**342**	*i* P	**Pb**	**03 49 44.0**	**0.0**
LEF				*i* S	**Sb**	**03 49 51.6**	**+0.2**
LEF				IAML_P			
	comp=Z,4μm,0.2s						
LEF	**Lefka**	**0.53**	**342**	PG	**Pb**	**03 49 43.8**	**-0.2**
LEF				SG	**Sb**	**03 49 51.9**	**+0.4**
ATHAL	**Athalassa**	**0.58**	**26**	P	**Pb**	**03 49 45.2**	**+0.4**
ATHAL				S	**Sn**	**03 49 54.2**	**-1.9**
ATHAL				AML	AML	03 50 00.6	
	comp=Z,2.0nm,0.5s						
ATHAL				AML	AML	03 50 00.6	
	comp=Z,2.0nm,0.5s						
ATHAL				AML	AML	03 50 03.7	
	comp=Z,2.3nm,0.7s						
ATHAL				AML	AML	03 50 03.7	
	comp=Z,2.3nm,0.7s						
MVOU	**Mavrovouni**	**0.60**	**48**	P	**Pg**	**03 49 44.6**	**-0.1**
MVOU				AML	AML	03 49 58.5	
	comp=Z,0.8nm,0.3s						
MVOU				AML	AML	03 50 00.5	
	comp=Z,1.0nm,0.5s						
ALFC	**Alefka**	**0.67**	**324**	P	**Pg**	**03 49 46.2**	**+0.1**
ALFC				S	**Sn**	**03 49 57.9**	**-0.5**
ALFC				AML	AML	03 50 00.6	
	comp=Z,1.5nm,0.3s						
ALFC				AML	AML	03 50 00.6	
	comp=Z,1.5nm,0.3s						
ALFC				AML	AML	03 50 00.7	
	comp=Z,1.4nm,0.3s						
ALFC				AML	AML	03 50 00.7	
	comp=Z,1.4nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**0.69**	**352**	PG	**Pb**	**03 49 46.8**	**+0.1**
AKMS	**Akamas**	**0.74**	**303**	P	**Pg**	**03 49 47.8**	**+0.6**
AKMS				S	**Sn**	**03 49 60.0**	**+0.1**
AKMS				AML	AML	03 50 06.4	
	comp=Z,0.8nm,0.5s						
AKMS				AML	AML	03 50 06.4	
	comp=Z,0.8nm,0.5s						
AKMS				AML	AML	03 50 08.0	
	comp=Z,1.3nm,0.4s						
AKMS				AML	AML	03 50 08.0	
	comp=Z,1.3nm,0.4s						
EREN	**Erenkoy**	**1.27**	**44**	*i* P	**Pg**	**03 49 58.4**	**+0.9**
EREN	**Erenkoy**	**1.27**	**44**	PN	**Pb**	**03 49 56.5**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.53**	**1**	PN	**Pn**	**03 50 00.2**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.59**	**14**	PN	**Pn**	**03 50 01.1**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.61**	**13**	*i* P	**Pb**	**03 50 02.8**	**+0.4**
GULN				*i* S	**Sg**	**03 50 23.8**	**-1.0**
GULN				IAML_P			
	comp=Z,334nm,0.1s						
IKL	**Isikli**	**1.69**	**17**	PN	**Pn**	**03 50 02.5**	**+0.5**
BERE	**Bereket-Mersin**	**1.73**	**4**	PN	**Pn**	**03 50 03.1**	**+0.4**
GAZI	**Gazipasa**	**1.74**	**339**	*i* P	**Pb**	**03 50 04.0**	**-0.5**
GAZI				*i* S	**Sn**	**03 50 25.1**	**+0.6**
GAZI				IAML_P			
	comp=Z,1μm,0.2s						
GAZI	**Gazipasa**	**1.74**	**339**	PN	**Pn**	**03 50 03.2**	**+0.6**
TEVE	**Tevekalti-Mers**	**1.84**	**9**	PN	**Pn**	**03 50 04.9**	**+0.8**
SILI	**Silifke-Mersin**	**1.88**	**21**	PN	**Pn**	**03 50 04.9**	**+0.4**
KEBE	**Keben-Mersin**	**1.90**	**15**	PN	**Pn**	**03 50 05.5**	**+0.6**
ERMK	**Ermenek**	**2.03**	**356**	*i* P	**Pb**	**03 50 10.1**	**+0.4**
ERMK				*i* S	**Sb**	**03 50 35.0**	**+0.2**
ERMK				IAML_P			
	comp=Z,801nm,0.1s						
KIZK	**Mersin**	**2.05**	**25**	*i* P	**Pb**	**03 50 09.5**	**-0.4**
KIZK	**Mersin**	**2.05**	**25**	PN	**Pn**	**03 50 07.5**	**+0.6**
HNTI	**Hanita**	**2.31**	**131**	Pn	**Pn**	**03 50 10.6**	**+0.1**
HNTI				Sn	**Sn**	**03 50 38.3**	**-0.4**
MMA0B	**Mount Meron ar**	**2.50**	**129**	Pn	**Pn**	**03 50 12.9**	**-0.3**
MERS	**Mersin**	**2.54**	**27**	PN	**Pn**	**03 50 14.9**	**+1.3**
OFRI	**`Ofer**	**2.54**	**141**	Pn	**Pn**	**03 50 13.3**	**-0.4**
OFRI				Sn	**Sn**	**03 50 43.8**	**-0.6**
GEM	**Giv'at Ha'Em**	**2.56**	**122**	Pn	**Pn**	**03 50 14.2**	**+0.3**
GEM				Sn	**Sn**	**03 50 44.8**	**0.0**
KSDI	**Kefar Szold**	**2.57**	**123**	Pn	**Pn**	**03 50 14.3**	**+0.4**
KSDI				Sn	**Sn**	**03 50 44.8**	**-0.1**
KSDI	**Kefar Szold**	**2.57**	**123**	P	**Pn**	**03 50 14.4**	**+0.4**
BLGI	**Bet Lehem HaGe**	**2.57**	**136**	Pn	**Pn**	**03 50 14.9**	**+0.9**
BLGI				Sn	**Sn**	**03 50 45.3**	**+0.3**
NATI	**Neve Ativ**	**2.58**	**121**	Pn	**Pn**	**03 50 14.7**	**+0.5**
NATI				Sn	**Sn**	**03 50 45.1**	**-0.2**
KEPZ	**Antalya-Kepez**	**2.58**	**333**	*i* P	**Pb**	**03 50 17.1**	**-1.9**
KEPZ				IAML_P			
	comp=Z,255nm,0.3s						
KSHT	**Keshet**	**2.79**	**125**	Pn	**Pn**	**03 50 17.9**	**+0.8**
SLTI	**Sal'it**	**2.88**	**145**	Pn	**Pn**	**03 50 18.9**	**+0.7**
SLTI				Sn	**Sn**	**03 50 52.4**	**-0.2**
MMLI	**Mount Malkishu**	**2.92**	**137**	Pn	**Pn**	**03 50 19.6**	**+0.8**
MMLI	**Mount Malkishu**	**2.92**	**137**	PN	**Pn**	**03 50 20.2**	**+1.4**
KERG	**Konya-Eregli**	**2.92**	**16**	*i* P	**Pb**	**03 50 23.6**	**-1.2**
KERG				*i* S	**Sb**	**03 51 02.0**	**+1.6**
GULE	**Gulek**	**3.00**	**27**	*i* P	**Pb**	**03 50 24.9**	**-1.2**
KARA	**Karaisali**	**3.09**	**31**	PN	**Pn**	**03 50 22.6**	**+1.4**
HMDT	**Nahal Hemdat**	**3.11**	**138**	Pn	**Pn**	**03 50 22.6**	**+1.1**
HMDT				Sn	**Sn**	**03 50 58.9**	**+0.4**
AMAZ	**Amatzia**	**3.43**	**153**	Pn	**Pn**	**03 50 26.5**	**+0.6**
AMAZ				Sn	**Sn**	**03 51 06.4**	**0.0**
DSI	**Dead Sea**	**3.59**	**147**	Pn	**Pn**	**03 50 28.1**	**0.0**
DSI				Sn	**Sn**	**03 51 10.5**	**+0.2**
YTIR	**Yattir**	**3.66**	**152**	Pn	**Pn**	**03 50 30.3**	**+1.2**
YTIR				Sn	**Sn**	**03 51 12.6**	**+0.5**
FETY	**Fethiye**	**3.83**	**303**	*i* P	**Pn**	**03 50 32.9**	**+1.4**
FETY				IAML_P			
	comp=Z,312nm,0.1s						
KZIT	**Kziot**	**3.86**	**163**	Pn	**Pn**	**03 50 32.2**	**+0.5**
KZIT				Sn	**Sn**	**03 51 16.6**	**-0.2**
DALY	**Dalyan (Mula)**	**4.22**	**303**	*i* P	**Pn**	**03 50 37.1**	**+0.4**
ZFRI	**Zfri**	**4.42**	**156**	Pn	**Pn**	**03 50 40.1**	**+0.7**
ZFRI				Sn	**Sn**	**03 51 29.9**	**-0.7**
PRNI	**Paran**	**4.55**	**159**	Pn	**Pn**	**03 50 41.9**	**+0.6**
PRNI				Sn	**Sn**	**03 51 34.0**	**+0.1**
KRMI	**Paran Flat**	**4.69**	**162**	Pn	**Pn**	**03 50 44.0**	**+0.8**
KRMI				Sn	**Sn**	**03 51 37.4**	**-0.1**
SUZ	**Suez**	**4.76**	**183**	P	**Pn**	**03 50 44.5**	**+0.3**
	baz=183						
SUZ				S	**Sn**	**03 51 37.4**	**-1.8**
	baz=183						
KOT	**Kottamia**	**4.79**	**193**	P	**Pn**	**03 50 45.0**	**+0.4**
	baz=193						
HRFI	**Mount Harif**	**4.85**	**160**	Pn	**Pn**	**03 50 46.0**	**+0.5**
HRFI				Sn	**Sn**	**03 51 41.2**	**-0.2**
MBRI	**Mt Berech**	**5.05**	**162**	Pn	**Pn**	**03 50 48.9**	**+0.7**
EIL	**Elat**	**5.17**	**162**	Pn	**Pn**	**03 50 50.6**	**+0.7**
EIL				Sn	**Sn**	**03 51 49.9**	**+0.5**
HRDS	**Abu Rudays**	**5.89**	**178**	P	**Pn**	**03 51 00.4**	**+0.7**
	baz=178						
HDHB	**Dhahab**	**6.02**	**167**	P	**Pn**	**03 51 01.5**	**+0.1**
	baz=167						
NBNS	**Bani Suef**	**6.16**	**195**	P	**Pn**	**03 51 03.2**	**-0.2**
	baz=195						
NBNS				S	**Sn**	**03 52 11.9**	**-1.9**
	baz=195						
SWA2		**8.41**	**233**	P	**Pn**	**03 51 33.1**	**-1.2**
	baz=232						

*ISCJB **09** 04:23:50.3±0.5, 6°.51S±0°.04×130°.41E±0°.06, h146km, mb3.3/1, Error ellipse: s-maj=8.9km s-min=5.6km az=6.7*
*DJA **09** 04:23:51.1±0.2, 6°.5S±2°×13°.0E±°, h96km±8km, M4.2/11, mb4.1/9, MLv4.3/11*
*IDC **09** 04:23:51.7±2.7, 6°.49S×130°.20E, h125km±37km, mb3.2/1, mb1 3.4/5, mb1mx3.1/37, mbtmp3.7/5, Error ellipse: s-maj=71.9km s-min=20.8km az=88.0*
ISC 09 04:23:50.7±0.8, **6°.56S**±0°.05×**130°.47E**±0°.09, **h146**km, **n15, σ2°93**/20, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.64**	**150**	P	Pn	04 24 16.6	-4.8
SAUI				S	**Sn**	**04 24 45.3**	**+0.3**
BNDI	**Bandanaira**	**2.10**	**345**	P	**Pn**	**04 24 23.2**	**-3.6**
BNDI				S	**Sn**	**04 24 58.8**	**+4.2**
MSAI	**Masohi**	**3.54**	**334**	P	**Pn**	**04 24 43.9**	**-1.0**
FAKI	**Fak Fak**	**4.03**	**26**	P	**Pn**	**04 24 51.7**	**+0.4**
FAKI				S	**Sn**	**04 25 37.2**	**-1.2**
SIJI	**Sorong**	**5.71**	**8**	P	**Pn**	**04 25 14.3**	**+0.8**
	2.8nm,0.3s,baz=108,slow=22,SNR=12						
SIJI				S	**Sn**	**04 26 12.9**	**-5.4**
	11nm,0.3s,baz=205,slow=22,SNR=16						
SWI	**Sorong**	**5.72**	**8**	P	**Pn**	**04 25 12.7**	**-0.9**
RKPI	**Ransiki, Papua**	**6.23**	**37**	P	**Pn**	**04 25 23.0**	**+2.5**
SOEI	**Soe**	**6.91**	**242**	P	**Pn**	**04 25 29.1**	**-0.6**
WBSI	**Waikabubak, Su**	**11.38**	**254**	P	**Pn**	**04 26 29.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.40**	**202**	P	**Pn**	**04 26 42.8**	**+0.5**
	0.6nm,0.3s,baz=48,slow=10,SNR=11						
FITZ				S	Sn	04 28 50.0	-9.3
	2.8nm,0.3s,baz=70,slow=21,SNR=13						
PLAI	**Plampang**	**12.78**	**259**	P	**Pn**	**04 26 46.0**	**-1.2**
WRA	**Warramunga Arr**	**13.82**	**165**	P	**Pn**	**04 27 03.2**	**+2.6**
	0.2nm,0.3s,baz=349,slow=13,SNR=16						
WRA				S	**Sn**	**04 29 28.5**	**-5.2**
	0.7nm,0.3s,baz=344,slow=19,SNR=8.1						
SMKI	**Samarinda**	**14.56**	**294**	P	**P**	**04 27 11.0**	**-1.4**
ASAR	**Alice Springs**	**17.32**	**169**	P	**Pn**	**04 27 48.5**	**+4.8**
	0.2nm,0.3s,baz=348,slow=9.6,SNR=14						
ASAR				S	**S**	**04 30 52.7**	**-3.4**
	0.1nm,0.3s,baz=350,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**04 34 36.8**	**+1.9**
	0.3nm,0.5s,baz=122,slow=5.2,SNR=3.4						

*ECX **09** 04:34:56.7±0.6, 31°.76N×115°.85W, h6km, MD2.6, ML2.8*
*MEX **09** 04:34:57.3±0.7, 31°.70N×115°.94W, h4km±11km, MD3.8*
ISC 09 04:34:55.3±1.1, **31°.78N**±0°.03×**115°.84W**±0°.04, **h11**km±14km, **n16, σ0°65**/26, **1C, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.66**	**260**	*e*P	**Pg**	**04 35 08.8**	**+0.7**
ECNX				*e*S	**Sb**	**04 35 18.3**	**+0.2**
CPBX	**Cerro Prieto**	**0.78**	**35**	*e*P	**Pg**	**04 35 10.8**	**+0.4**
CPBX				*e*S	**Sg**	**04 35 22.1**	**+1.4**
CPBX				IAML		04 35 25.1	
	comp=N,1μm,0.3s						
SPIG	**San Pedro Mart**	**0.80**	**156**	*e*P	**Pg**	**04 35 10.9**	**+0.2**
SPIG				*e*S	**Sg**	**04 35 22.4**	**+1.2**
SPX	**San Pedro Mart**	**0.80**	**157**	*e*P	**Pg**	**04 35 10.3**	**-0.6**
SPX				*e*S	**Sg**	**04 35 20.8**	**-0.7**
SPX	**San Pedro Mart**	**0.80**	**157**	*e*P	**Pg**	**04 35 10.4**	**-0.4**
SPX				*e*S	**Sg**	**04 35 21.3**	**-0.1**
RMX	**La Rumorosa**	**0.85**	**346**	*e*P	**Pg**	**04 35 10.9**	**-0.7**
RMX				*e*S	**Sg**	**04 35 21.7**	**-1.1**
CBX	**Cerro Bola**	**0.88**	**307**	*e*P	**Pg**	**04 35 12.5**	**+0.2**
CBX				*e*S	**Sg**	**04 35 23.7**	**-0.2**
CBX	**Cerro Bola**	**0.88**	**307**	*e*P	**Pg**	**04 35 12.3**	**0.0**
CBX				*e*S	**Sg**	**04 35 24.5**	**+0.6**
CBX				⇑*e*		04 35 25.0	
CBX				IAML		04 35 25.6	
	comp=E,409nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.90**	**345**	*e*P	**Pg**	**04 35 12.9**	**+0.2**
TJIG	**Tijuana**	**0.97**	**313**	*e*P	**Pg**	**04 35 13.9**	**0.0**
TJIG				*e*S	**Sg**	**04 35 26.1**	**-0.4**
SFX	**San Felipe**	**1.12**	**131**	*e*P	**Pg**	**04 35 16.5**	**-0.3**
SFX				*e*S	**Sg**	**04 35 30.8**	**-0.6**
BAR	**Barrett**	**1.15**	**322**	*e*P	**Pg**	**04 35 16.7**	**-0.6**
MONP2	**Monument Peak**	**1.22**	**336**	*e*P	**Pg**	**04 35 18.5**	**-0.2**
OLP	**Otay Lakes Par**	**1.24**	**312**	*e*P	**Pg**	**04 35 18.4**	**-0.8**
SDRC	**San Diego Road**	**1.34**	**316**	*e*P	**Pn**	**04 35 19.9**	**0.0**
EML	**El Monte Cty P**	**1.40**	**323**	*e*P	**Pn**	**04 35 20.9**	**+0.1**

IDC 09 04:37:56.9±1.8, **2°.01S**×**140°.06E, h0**km, **mb3.4**/2, **mb1 3.7**/3, **mb1mx3.4**/41, **mbtmp3.4**/3, **ML3.2**/1, **Error ellipse: s-maj=31.9km s-min=13.6km az=34.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.82**	**128**	Pg	Pg	04 38 12.7	+0.1
	15nm,0.3s,baz=141,slow=6.3,SNR=39						
JAY				Lg	Lg	04 38 24.0	
	22nm,0.3s,baz=217,slow=20,SNR=20						
WRA	**Warramunga Arr**	**18.68**	**197**	P	P	04 42 16.3	-0.5
	0.1nm,0.3s,baz=20,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**22.34**	**195**	P	P	04 42 56.2	-0.3
	0.6nm,0.9s,baz=32,slow=10,SNR=6.4						
ILAR	**Eielson Array**	**84.65**	**24**	P	P	04 50 32.3	+0.2
	0.5nm,0.8s,baz=253,slow=5.2,SNR=3.8						

*NIED **09** 05:03:00, 39°.90N×143°.50E, h14km, Mw4.3 Best double couple: M0=3.41000×10^15 NP1:φs=194.00000°, δ27.00000°, λ80.00000°. NP2:φs=25.00000°, δ64.00000°, λ95.00000°.*
*ISCJB **09** 05:03:17.0±0.2, 39°.90N±0°.02×143°.56E±0°.03, h6km, mb4.4/63, MS4.2/16, Error ellipse: s-maj=4.2km s-min=2.8km az=137.2*
*IDC **09** 05:03:17.6±0.6, 39°.87N×143°.50E, h0km, mb4.2/23, mb1 4.4/28, mb1mx4.3/45, mbtmp4.3/28, ML4.0/5, MS3.7/12, Ms1 3.7/12, ms1mx3.4/36, Error ellipse: s-maj=16.5km s-min=12.2km az=104.0*
*BJI **09** 05:03:18.2±0.0, 39°.88N×143°.48E, h17km, mb4.7/49, mB4.9/35, Ms4.4/23, Ms7 4.3/23*
*JMA **09** 05:03:19.9±0.2, 39°.95N×143°.53E, h25km±5km, M4.4*
*MOS **09** 05:03:20.6±1.3, 39°.93N×143°.53E, h33km, mb4.7/31, Error ellipse: s-maj=7.7km s-min=4.8km az=97.8*
*NEIC **09** 05:03:22.8±1.6, 39°.88N±0°.06×143°.5E±0°.1, h34km±5km, mb4.5/44*
ISC 09 05:03:18.0±0.4, **39°.87N**±0°.04×**143°.61E**±0°.04, **h6**km, **n234, σ1°78**/258, **mb4.5**/79, **MS4.3**/16, **11C-3D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.34**	**274**	P	**Pn**	**05 03 42.4**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.41**	**259**	P	**Pn**	**05 03 43.9**	**-0.3**
MIYJ				*e*S	**Sb**	**05 04 00.5**	**-2.4**
JKEN	**Kujiedanarisaw**	**1.50**	**284**	P	**Pn**	**05 03 44.3**	**-1.1**
JKEN				*e*S	**Sn**	**05 04 02.6**	**-2.6**
JANG	**Nango**	**1.68**	**288**	P	**Pn**	**05 03 47.0**	**-1.0**
JANG				S	**Sn**	**05 04 07.3**	**-2.6**
JOM	**Ohasama**	**1.83**	**258**	P	**Pn**	**05 03 50.4**	**+0.4**
JMK	**Ichinoseki**	**2.06**	**244**	P	**Pn**	**05 03 53.2**	**0.0**
JTM	**Tenmabayashi**	**2.15**	**296**	P	**Pn**	**05 03 54.5**	**+0.2**
ERM	**Erimo**	**2.17**	**351**	*ce*P	**Pn**	**05 03 55.4**	**+0.7**
ERM				pmax	pmax		
	comp=Z,80nm,0.8s						
ERM	**Erimo**	**2.17**	**351**		**Pn**	**05 03 54.4**	**-0.3**
JEM	**Erimo**	**2.17**	**351**	P	**Pn**	**05 03 54.4**	**-0.3**
JOT	**Ohata**	**2.47**	**309**	P	**Pn**	**05 03 59.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.50**	**345**	P	**Pn**	**05 03 59.7**	**+0.6**
JYK	**Kaneyama**	**2.69**	**250**	P	**Pn**	**05 04 02.5**	**+0.7**
JCH	**Churui**	**2.75**	**356**	P	**Pn**	**05 04 02.4**	**-0.2**
JCH				*e*S	**Sn**	**05 04 33.2**	**-3.0**
JKB	**Kayabe**	**2.81**	**317**	P	**Pn**	**05 04 03.1**	**-0.3**
JAK	**Akkeshi**	**3.23**	**14**	P	**Pn**	**05 04 08.6**	**-0.6**
JAK				*e*S	**Sn**	**05 04 44.4**	**-3.6**
NMR	**Nemuro--Hokkai**	**3.84**	**24**	⇑*i*P	**Pn**	**05 04 16.5**	**-1.1**
NMR				*e*S	**Sn**	**05 04 57.9**	**-5.2**
GLVR	**Golovnino**	**4.12**	**20**	⇑*i*P	**Pn**	**05 04 20.5**	**-1.0**
GLVR				*e*S	**Sn**	**05 05 05.4**	**-4.6**
GLVR				pmax	pmax		
	comp=Z,232nm,0.2s						
GLVR				pmax	pmax		
	comp=E,92nm,0.3s						
GLVR				pmax	pmax		
	comp=N,57nm,0.2s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,699nm,0.4s						
JKA	**Kamikawa-asahi**	**4.31**	**350**		**Pn**	**05 04 25.0**	**+0.9**
JKA					**Sn**	**05 05 14.2**	**-0.5**
ASAJ	**Asahikawa**	**4.31**	**350**	Pn	**Pn**	**05 04 25.0**	**+0.9**
	comp=E,10.0nm,0.3s,baz=210,slow=5.5,SNR=12						
ASAJ				Sn	**Sn**	**05 05 14.2**	**-0.5**
	comp=E,14nm,0.3s,baz=309,slow=30,SNR=6.8						
ASAJ				LR	LR	05 06 29.6	
	comp=E,324nm,18.4s,baz=154,slow=45						
GRPR	**Tuman**	**4.43**	**21**	⇑*i*P	**Pn**	**05 04 24.6**	**-1.0**
GRPR				*i* S	**Sn**	**05 05 12.5**	**-5.0**
GRPR				pmax	pmax		
	comp=N,112nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,231nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
LAGR	**Lagunnoye**	**4.49**	**20**	*e*P	**Pn**	**05 04 25.6**	**-0.9**
LAGR				*e*S	**Sn**	**05 05 14.4**	**-4.6**
LAGR				pmax	pmax		
	comp=E,317nm,0.5s						
LAGR				pmax	pmax		
	comp=Z,535nm,0.5s						
LAGR				pmax	pmax		
	comp=N,272nm,0.6s						
LAGR				smax	smax		
	comp=N,2μm,0.5s						
LAGR				smax	smax		
	comp=E,391nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.49**	**21**	⇑*i*P	**Pn**	**05 04 25.6**	**-0.9**
YUK				*i* S	**Sn**	**05 05 14.5**	**-4.5**
YUK				pmax	pmax		
	comp=Z,334nm,0.4s						
YUK				pmax	pmax		
	comp=E,146nm,0.3s						
YUK				pmax	pmax		
	comp=N,126nm,0.1s						
YUK				smax	smax		
	comp=N,958nm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
MJAR	**Matsushiro Arr**	**5.39**	**234**	P	**Pn**	**05 04 39.6**	**+0.6**
MJAR	**Matsushiro Arr**	**5.39**	**234**	Pn	**Pn**	**05 04 40.3**	**+1.3**
	comp=E,1.6nm,0.3s,baz=42,slow=11,SNR=78						
MJAR				LR	LR	05 06 45.6	
	comp=E,251nm,20.0s,baz=45,slow=39						
MJAR	**Matsushiro Arr**	**5.39**	**234**		**Pn**	**05 04 39.6**	**+0.6**
MAJO	**Matsushiro**	**5.40**	**234**	*i* P	**Pn**	**05 04 39.8**	**+0.8**
MAJO	**Matsushiro**	**5.40**	**234**		**Pn**	**05 04 40.2**	**+1.2**
MAT	**Matsushiro**	**5.40**	**234**	P	**Pn**	**05 04 40.3**	**+1.3**
MAT				*e*S	**Sn**	**05 05 43.6**	**+2.2**
MJB9	**Matsu-Tunnel**	**5.40**	**234**		**Pn**	**05 04 40.2**	**+1.2**
KUR	**Kuril'sk**	**6.21**	**29**	*e*P	**Pn**	**05 04 50.3**	**+0.1**
KUR				*i* S	**Sn**	**05 05 57.6**	**-3.9**
KUR				pmax	pmax		
	comp=Z,130nm,0.3s						
KUR				pmax	pmax		
	comp=E,44nm,0.2s						
KUR				pmax	pmax		
	comp=N,38nm,0.3s						
KUR				smax	smax		
	comp=N,289nm,0.5s						
KUR				smax	smax		
	comp=E,259nm,0.5s						
INU	**Inuyama**	**6.91**	**231**		**Pn**	**05 05 00.1**	**+0.4**
YSS	**Yuzh-Sakhalins**	**7.11**	**355**	*e*P	**Pn**	**05 05 06.3**	**+3.8**
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
TEY	**Ternei**	**7.31**	**317**	*e*P	**Pn**	**05 05 08.3**	**+3.0**
JHJ2	**Mitsune**	**7.40**	**206**	Pn	**Pn**	**05 05 06.8**	**+0.3**
JHJ	**Hachijo jima 2**	**7.41**	**206**	Pn	**Pn**	**05 05 06.5**	**-0.1**
	comp=Z,17nm,0.3s,baz=65,slow=18,SNR=3.3						
JHJ				Sn	**Sn**	**05 06 23.3**	**-7.6**
	comp=Z,15nm,0.3s,baz=108,slow=19,SNR=4.0						
USA0B	**Ussuriysk Arra**	**9.67**	**300**	*i* P	**Pn**	**05 05 37.0**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.67**	**300**		**Pn**	**05 05 40.2**	**+2.6**
USRK	**Ussuriysk Ar.**	**9.67**	**300**	P	**Pn**	**05 05 39.6**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.67**	**300**	Pn	**Pn**	**05 05 39.8**	**+2.2**
	baz=102,slow=13,SNR=25						
USRK				LR	LR	05 09 21.9	
	comp=Z,322nm,19.4s,baz=81,slow=38						
USRK	**Ussuriysk Ar.**	**9.67**	**300**		**Pn**	**05 05 39.6**	**+2.1**
MDJ	**Mudanjiang**	**11.42**	**299**	P	**Pn**	**05 06 04.3**	**+2.7**
MDJ				sP		05 06 07.4	
MDJ				S	**Sn**	**05 08 10.3**	**+0.9**
MDJ				SS	**SnSn**	**05 08 22.2**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,21nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,280nm,3.8s						
MDJ				LR	LR		
	comp=Z,680nm,11.7s						
MDJ				LR	LR		
	comp=Z,670nm,8.5s						
MDJ				LR	LR		
	comp=Z,740nm,13.4s						
MDJ	**Mudanjiang**	**11.42**	**299**		**Pn**	**05 06 04.0**	**+2.5**
GRNR	**Gornyy**	**12.01**	**338**	*e*P	**Pn**	**05 06 04.9**	**-4.7**
GRNR				MLR	MLR		
	comp=Z,300nm,12.0s						
JNU	**Nakatsue**	**12.25**	**241**	Pn	**Pn**	**05 06 12.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=127,slow=5.6,SNR=4.4						
JNU				LR	LR	05 11 04.7	
	comp=Z,368nm,20.3s,baz=42,slow=38						
JNU	**Nakatsue**	**12.25**	**241**	Pn	**Pn**	**05 06 12.8**	**-0.3**
KSRS	**Korea Array**	**12.50**	**264**	Pn	**Pn**	**05 06 19.1**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=85,slow=14,SNR=8.4						
KSRS				LR	LR	05 10 47.1	
	comp=Z,366nm,18.2s,baz=66,slow=36						
KSAR	**Wonju Array

YAK pmax pmax
comp=E,178nm,3.3s
YAK smax smax
comp=N,213nm,3.7s
YAK smax smax
comp=E,88nm,3.6s
YAK MLR MLR
comp=Z,100nm,18.0s
YAK MLR MLR
comp=E,63nm,19.0s
YAK MLR MLR
comp=N,58nm,18.0s
YAK Yakutsk 23.76 344 P **P 05 08 29.6 -1.2**
comp=N,21nm,0.6s,baz=199,slow=1.7,SNR=12
YAK Yakutsk 23.76 344 P **P 05 08 28.2 -2.6**
HHC Hu-ho-hao-te 24.37 283 P **P 05 08 36.9 0.0**
HHC pmax pmax
comp=N,11nm,0.9s
SSLB Suanglung 24.95 237 P **P 05 08 40.6 -1.5**
SSLB IAmb IAmb 05 08 42.5
comp=Z,9.6nm,0.8s
YULB Yu-li 25.01 236 P **P 05 08 43.0 +0.4**
YULB IAmb IAmb 05 08 45.4
comp=Z,17nm,0.9s
WHN Wuhan 25.56 258⇓*i*P **P 05 08 47.9 +0.3**
WHN S S 05 13 01.2 -15
WHN pmax pmax
comp=Z,94nm,0.8s
WHN LR LR
comp=Z,920nm,4.7s
WHN LR LR
comp=Z,1μm,6.1s
WHN LR LR
comp=Z,860nm,15.1s
BOD Bodaibo 26.17 323 *e*P **P 05 08 52.8 -0.1**
BOD pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 27.34 299*ce*P **P 05 09 02.0 -1.7**
ULN pmax pmax
comp=Z,19nm,1.3s
ULN Ulaanbaatar 27.34 299 P **P 05 09 04.2 +0.4**
ULN IAmb IAmb 05 09 05.2
comp=Z,13nm,0.9s
SONM Songino Array 27.78 299 P **P 05 09 07.8 +0.2**
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 27.78 299 P **P 05 09 08.3 +0.6**
comp=Z,6.7nm,0.6s,baz=89,slow=8.9,SNR=35
SONM LR LR 05 20 48.7
comp=Z,164nm,19.8s,baz=100,slow=38
SONM Songino Array 27.78 299 P **P 05 09 07.8 +0.2**
XAN Xi'an 28.21 269 P **P 05 09 10.5 -1.0**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 28.21 269 P **P 05 09 10.5 -1.0**
H11N2 WAKE ISLAND Hy 28.33 128 T T 05 40 19.7
baz=318,slow=75,SNR=111
H11N1 WAKE ISLAND Hy 28.34 128 T T 05 40 28.5
baz=318,slow=75,SNR=72
H11N3 WAKE ISLAND Hy 28.35 128 T T 05 40 29.2
baz=318,slow=75,SNR=66
H11S1 WAKE ISLAND Hy 29.16 130 T T 05 40 29.2
baz=322,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 29.16 130 T T 05 40 35.9
baz=322,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 29.18 130 T T 05 40 46.3
baz=322,slow=76,SNR=18
ENH Enshi 29.37 262 P **P 05 09 21.4 -0.5**
TLY Talaya 29.90 307 *e*P P 05 09 39.7 +13
TLY pmax pmax
comp=Z,25nm,0.9s
TLY MLR MLR
comp=Z,479nm,13.0s
ZAK Zakamensk 29.99 304 *e*P **P 05 09 25.7 -1.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 30.83 16 *e*P **P 05 09 35.1 +0.8**
BILL *e* 05 09 51.4
BILL *e* 05 10 36.9
BILL *e*PPP PPP 05 10 49.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
LZH Lanzhou 31.39 276⇑P **P 05 09 40.2 +0.3**
LZH pP pwP 05 09 51.5 +7.8
LZH sP sP 05 09 54.0 +13
LZH PP **PP 05 10 42.7 -7.9**
LZH pmax pmax
comp=Z,15nm,1.3s
LZH pmax pmax
comp=Z,68nm,4.9s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,340nm,13.6s
LZH LR LR
comp=Z,370nm,11.4s
TIXI Tiksi 32.72 351 *i* P **P 05 09 49.5 -1.3**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
CD2 Chengdu 33.47 267 P **P 05 09 57.2 -0.8**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,510nm,10.7s
CD2 LR LR
comp=Z,550nm,12.8s
GTA Gaotai 33.48 284⇑P **P 05 09 58.3 +0.2**
GTA pP pwP 05 10 07.3 +5.4
GTA sP sP 05 10 11.3 +12
GTA S **S 05 15 17.6 -2.5**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,7.3s
GTA LR LR
comp=Z,150nm,18.1s
GTA LR LR
comp=Z,330nm,18.4s
GTA LR LR
comp=Z,400nm,16.8s
WMQ Urumqi 41.17 294 *e*P **P 05 11 03.9 +0.7**
WMQ pP pwP 05 11 13.2 +6.1
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,510nm,26.3s
WMQ LR LR
comp=Z,1μm,27.7s
WMQ Urumqi 41.17 294 P **P 05 11 03.4 +0.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ Urumqi 41.17 294 P **P 05 11 03.4 +0.2**
ZAA0 Zalesovo Array 41.35 310 P **P 05 11 04.4 0.0**
ZAA0 IAmb IAmb 05 11 13.3
comp=Z,7.3nm,0.6s
ZALV Zalesovo Beam 41.35 310 P **P 05 11 04.3 -0.1**
ZALV 05 13 02.4
ZALV Zalesovo Beam 41.35 310 P **P 05 11 04.8 +0.4**
comp=Z,4.1nm,0.5s,baz=82,slow=8.2,SNR=16
ZALV PcP **PcP 05 13 02.7 +0.1**
comp=Z,2.6nm,0.6s,baz=89,slow=4.0,SNR=4.1
ZALV Zalesovo Beam 41.35 310 P **P 05 11 04.3 -0.1**
ZALV **PcP 05 13 02.4 -0.2**
NRIK Noril'sk 41.46 334 LR LR 05 28 45.3
comp=Z,153nm,18.2s,baz=281,slow=37
IMAR Indian Mountai 43.34 32 P **P 05 11 21.9 +1.4**
CMAR Chiang Mai Arr 43.91 254 P **P 05 11 25.2 -0.4**
comp=Z,0.8nm,0.4s,baz=47,slow=7.2,SNR=6.7
CMAR LR LR 05 31 44.9
comp=Z,61nm,18.5s,baz=260,slow=39
CMAR Chiang Mai Arr 43.91 254 P **P 05 11 26.1 +0.5**
MK31 Makanchi Array 44.14 300 P **P 05 11 27.1 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 44.14 300 P **P 05 11 27.1 -0.1**
MK31 IAmb IAmb 05 11 28.2
comp=Z,5.9nm,0.9s
MKAR Makanchi Array 44.14 300 P **P 05 11 26.9 -0.3**
MKAR Makanchi Array 44.14 300 P **P 05 11 27.1 -0.1**
comp=Z,3.6nm,0.7s,baz=84,slow=9.1,SNR=17
MKAR LR LR 05 31 12.2
comp=Z,111nm,18.6s,baz=344,slow=38
MKAR Makanchi Array 44.14 300 P **P 05 11 26.9 -0.3**
KURK Kurchatov 45.60 306*ce*P **P 05 11 37.8 -0.9**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 45.60 306 P **P 05 11 38.4 -0.3**
COLA College 45.77 34 *i* P **P 05 11 39.3 -0.5**
COLA pmax pmax
comp=Z,3.0nm,0.8s
IL31 46.18 34 P **P 05 11 43.7 +0.6**
IL31 IAmb IAmb 05 11 56.4
comp=Z,4.6nm,0.9s
ILAR Eielson Array 46.18 34 P **P 05 11 43.4 +0.3**
ILAR Eielson Array 46.18 34 P **P 05 11 44.4 +1.3**
comp=Z,1.2nm,0.8s,baz=264,slow=6.3,SNR=13
ILAR Eielson Array 46.18 34 P **P 05 11 43.4 +0.3**
BMAR Burnt Mountain 47.02 30 P **P 05 11 52.1 +2.4**
TAPN Taplejung 47.50 273 *e*P **P 05 11 55.0 +0.7**
comp=Z,39nm,1.1s
GLB Gilahina Butte 47.88 38 P **P 05 11 57.5 +0.9**
GLB IAmb IAmb 05 12 15.5
comp=Z,5.5nm,1.2s
ODAN Odare 47.99 272 *e*P **P 05 11 58.6 +0.5**
RAMN Ramite 48.56 273 *e*P **P 05 12 02.8 +0.4**
comp=Z,36nm,0.8s
BCAR Beaver Creek A 48.59 36 P **P 05 12 03.8 +1.8**
GUN Gumba 48.63 274 *e*P **P 05 12 03.5 +0.4**
comp=Z,39nm,0.6s
TARG Taragay, Kyrgy 48.74 295 P **P 05 12 04.9 +1.0**
KKN Kakani 49.15 275 *e*P **P 05 12 07.4 +0.5**
comp=Z,40nm,0.7s
BOOM Boomskoye usch 49.76 296 P **P 05 12 11.8 +0.4**
BOOM pmax pmax
comp=Z,49nm,1.1s
BOOM Boomskoye usch 49.76 296 P **P 05 12 11.8 +0.4**
BRVK Borovoye 50.03 311 *i* P **P 05 12 13.0 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 50.03 311 P **P 05 12 13.6 +0.5**
BRVK IAmb IAmb 05 12 25.8
comp=Z,4.4nm,0.7s
DANN Dangsing 50.03 276 *e*P **P 05 12 14.3 +0.5**
comp=Z,60nm,0.6s
EPYK Eagle Plains 50.21 31 P **P 05 12 15.8 +1.5**
EPYK IAmb IAmb 05 12 27.3
comp=Z,8.7nm,1.1s
KOLN Koldanda 50.45 276 *e*P **P 05 12 17.2 +0.4**
comp=Z,14nm,0.8s
AAK Ala-Archa 50.70 297 *i* P **P 05 12 17.6 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 50.70 297 P **P 05 12 17.9 -0.6**
AAK IAmb IAmb 05 12 19.5
comp=Z,4.7nm,1.1s
KSH Kashi 50.87 293 P **P 05 12 24.1 +4.4**
KSH PP **PP 05 14 22.9 +7.1**
KSH S **S 05 19 37.4 +1.0**
KSH sS sS 05 19 53.9 +15
KSH SS **SS 05 23 10.1 -0.6**
KSH pmax pmax
comp=Z,360nm,4.6s
KSH LR LR
comp=Z,810nm,12.3s
KSH LR LR
comp=Z,1μm,17.0s
KSH LR LR
comp=Z,340nm,13.6s
INK Inuvik 51.08 28 P **P 05 12 22.4 +1.7**
comp=Z,2.2nm,0.6s,baz=315,slow=5.8,SNR=6.0
INK Inuvik 51.08 28 P **P 05 12 22.5 +1.8**
INK IAmb IAmb 05 12 41.0
comp=Z,6.9nm,1.1s
ARSB Arslanbob 52.25 296 P **P 05 12 30.9 +0.8**
KK31 Karatay Array 53.23 299 P **P 05 12 37.7 +0.6**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 53.23 299 P **P 05 12 37.7 +0.6**
KK31 IAmb IAmb 05 12 37.8
comp=Z,4.5nm,0.9s
KKAR Karatay Array 53.23 299 P **P 05 12 36.9 -0.3**
KKAR Karatay Array 53.23 299 P **P 05 12 36.9 -0.3**
SVE Sverdlovsk 54.19 318 *e*P **P 05 12 45.0 +1.1**
SVE pmax pmax
comp=Z,13nm,0.8s
SVE MLR MLR
comp=Z,326nm,13.0s
ARU Arti 55.40 318*c i*P **P 05 12 52.6 -0.1**
ARU 05 14 54.0
ARU S **S 05 20 36.6 -0.9**
ARU SS **SS 05 24 20.6 -0.8**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU MLR MLR
comp=Z,361nm,16.0s
ABKAR Akbulak array 57.45 309 P **P 05 13 07.3 -0.2**
KBL Kabul 58.03 290 P **P 05 13 10.9 -1.1**
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 58.03 290 P **P 05 13 10.9 -1.1**
KBL IAmb IAmb 05 13 12.5
comp=Z,4.2nm,0.8s
RES Resolute Bay 59.42 15 P **P 05 13 21.0 +0.2**
RES pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 59.42 15 P **P 05 13 21.0 +0.2**
RES IAmb IAmb 05 13 33.2
comp=Z,3.6nm,0.7s
WRAB Tennant Creek 60.11 190 *i* P **P 05 13 25.1 -1.1**
WRAB pmax pmax
comp=Z,2.0nm,0.7s
WB2 Warramunga Arr 60.12 190 P **P 05 13 25.5 -0.7**
WRA Warramunga Arr 60.12 190 P **P 05 13 25.8 -0.5**
comp=Z,2.4nm,0.7s,baz=7.9,slow=6.9,SNR=30
WRA Warramunga Arr 60.12 190 P **P 05 13 25.6 -0.7**
ARCES ARCESS Array B 61.95 339 P **P 05 13 38.7 +0.6**
comp=Z,1.2nm,0.6s,baz=40,slow=8.4,SNR=6.9
KLMR Klimovskoe 62.29 328 *e*P **P 05 13 38.3 -2.2**
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 62.29 328 *e*P **P 05 13 38.3 -2.2**
KLMR AMP 05 13 41.0
comp=Z,13nm,1.3s
ASAR Alice Springs 63.85 190 P **P 05 13 51.2 -0.1**
comp=Z,1.0nm,0.7s,baz=8.1,slow=5.6,SNR=14
ASAR Alice Springs 63.85 190 P **P 05 13 51.5 +0.3**
GEYT Alibeck 63.98 299 P **P 05 13 52.2 0.0**
comp=Z,1.7nm,0.4s,baz=335,slow=10,SNR=4.1
GEYT Alibeck 63.98 299 P **P 05 13 52.0 -0.2**
OBN Obninsk 66.86 323 *e*P **P 05 14 07.8 -2.6**
OBN *e* 05 14 33.9
OBN *e* 05 16 35.7
OBN pmax pmax
comp=Z,5.0nm,1.2s
FIA1 FINESS Array S 67.11 332 P **P 05 14 12.3 +0.4**
FINES FINESS Array B 67.11 332 P **P 05 14 12.0 +0.1**
FINES FINESS Array B 67.11 332 P **P 05 14 11.9 +0.1**
comp=Z,5.1nm,0.7s,baz=47,slow=6.7,SNR=26
FINES LR LR 05 45 03.4
comp=Z,180nm,20.0s,baz=246,slow=37
FINES FINESS Array B 67.11 332 P **P 05 14 12.2 +0.3**
SUMG Summit 67.85 1 P **P 05 14 18.4 +1.4**
SUMG pmax pmax
comp=Z,3.0nm,0.6s
SUMG Summit 67.85 1 P **P 05 14 18.4 +1.4**
SUMG IAmb IAmb 05 14 33.7
comp=Z,2.9nm,0.6s
BEKR Beckworth 69.79 55 P **P 05 14 31.6 +2.3**
BEKR IAmb IAmb 05 14 41.1
comp=Z,3.2nm,0.9s
ZEI Tsey 70.33 310 *e*P **P 05 14 31.3 -1.3**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 70.35 311 *e*P **P 05 14 32.4 -0.1**
KIV pmax pmax
comp=Z,52nm,1.0s
KIV Kislovodsk 70.35 311 P **P 05 14 32.5 -0.1**
KBZ Khabaz 70.36 311 P **P 05 14 33.3 +0.8**
comp=Z,5.9nm,0.8s,baz=75,slow=6.2,SNR=12
YERR Yerington 71.01 55 P **P 05 14 38.4 +1.5**
YERR IAmb IAmb 05 14 49.5
comp=Z,9.6nm,1.5s
STKA Stephens Creek 71.41 182 P **P 05 14 40.5 +1.7**
comp=Z,1.1nm,0.5s,baz=342,slow=6.4,SNR=2.6
STKA Stephens Creek 71.41 182 P **P 05 14 41.4 +2.6**
BOZ Bozeman (W) 71.52 46 P **P 05 14 41.6 +1.8**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 71.52 46 P **P 05 14 41.6 +1.8**
KVN Kaiserville 71.69 54 P **P 05 14 42.7 +1.8**
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 71.69 54 P **P 05 14 42.7 +1.8**
NVAR Mina Array Bea 71.93 55 P **P 05 14 44.1 +1.7**
comp=Z,0.9nm,0.7s,baz=290,slow=5.7,SNR=8.6
NVAR Mina Array Bea 71.93 55 P **P 05 14 43.9 +1.5**
NC405 NORSAR Array S 72.03 338 P **P 05 14 42.9 +0.6**
NB2 NORSAR Subarra 72.23 338 P **P 05 14 43.7 +0.1**
comp=Z,3.2nm,1.0s,baz=36,slow=6.2
NOA NORSAR Array B 72.23 338 P **P 05 14 43.9 +0.3**
comp=Z,0.5nm,0.5s,baz=43,slow=4.6,SNR=9.5
NOA LR LR 05 52 15.6
comp=Z,54nm,18.8s,baz=220,slow=41
AKASG Malin Array Be 73.10 323 P **P 05 14 48.7 -0.2**
comp=Z,2.1nm,0.6s,baz=44,slow=6.0,SNR=11
AKASG Malin Array Be 73.10 323 P **P 05 14 49.0 +0.1**
PDAR Pinedale Array 74.46 47 P **P 05 14 58.2 +0.8**
comp=Z,0.4nm,0.6s,baz=350,slow=3.1,SNR=3.3
PDAR Pinedale Array 74.46 47 P **P 05 14 57.9 +0.5**
TMUT Trail Mountain 75.74 51 P **P 05 15 07.6 +2.7**
BUR08 Bucovina Ar. S 77.13 322 P **P 05 15 13.2 +0.9**
BUR08 IAmb IAmb 05 15 13.8
comp=Z,3.5nm,0.8s
BURAR Bucovina Array 77.14 322 P **P 05 15 13.2 +0.8**
KOLS Kolonicke sedl 77.53 325 *e*P **P 05 15 15.1 +0.7**
KOLS pmax pmax
comp=Z,2.0nm,0.9s
KOLS Kolonicke sedl 77.53 325 *e*P **P 05 15 15.1 +0.7**
PV16 Nyswonger Mesa 77.74 50 P **P 05 15 16.9 +0.8**
WUAZ Wupatki 78.08 54 P **P 05 15 19.2 +1.2**
BRTR Keskin Array B 78.25 312 P **P 05 15 18.3 -0.5**
comp=Z,0.7nm,0.7s,baz=40,slow=5.6,SNR=5.0
BRTR Keskin Array B 78.25 312 P **P 05 15 18.4 -0.3**
LANS Liptovska Anna 78.58 326 *e*P **P 05 15 22.1 +1.8**
LANS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 78.58 326 *e*P **P 05 15 22.1 +1.8**
MORC Moravsky Berou 78.91 328 P **P 05 15 22.6 +0.5**
MORC pmax pmax
comp=Z,8.0nm,1.4s
MORC Moravsky Berou 78.91 328 P **P 05 15 22.6 +0.5**
MORC IAmb IAmb 05 15 24.9
comp=Z,8.2nm,1.4s
KRLC Kraliky 78.99 328 *e*P **P 05 15 23.5 +1.0**
KRLC Kraliky 78.99 328 *e*P **P 05 15 23.5 +1.0**
VYHS Vyhne 79.35 326 *e*P **P 05 15 25.4 +0.9**
VYHS Vyhne 79.35 326 *e*P **P 05 15 25.4 +0.9**
CLL Collm 79.48 331⇓*i*P **P 05 15 25.5 +0.4**
CLL *e* 05 15 35.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 79.48 331⇓*i*P **P 05 15 25.5 +0.4**
comp=Z,5.0nm,0.9s
CLL *e*pP **PcP 05 15 35.0 +1.9**
CLL *e*PP **PP 05 18 24.0 -0.6**
GOPC GO Pecny, Ondr 79.91 329 *e*P **P 05 15 28.8 +1.3**
GOPC GO Pecny, Ondr 79.91 329 *e*P **P 05 15 28.8 +1.3**
SMOL Smolenice 79.94 327 *e*P **P 05 15 29.4 +1.7**
SMOL pmax pmax
comp=Z,2.0nm,0.6s
SMOL Smolenice 79.94 327 *e*P **P 05 15 29.4 +1.7**
PRU Pruhonice 79.95 329 *e*P **P 05 15 28.7 +1.0**
PRU Pruhonice 79.95 329 *e*P **P 05 15 28.7 +1.0**
TREC Trest 80.12 328 *e*P **P 05 15 29.7 +1.0**
TREC Trest 80.12 328 *e*P **P 05 15 29.7 +1.0**
KHC Kasperske Hory 81.01 329 *e*P **P 05 15 34.4 +0.9**
KHC Kasperske Hory 81.01 329 *e*P **P 05 15 34.4 +0.9**
CONA Conrad Observa 81.05 327 *i* PcP **P 05 15 35.0 +1.3**
comp=Z,1.9nm,0.7s
GEC2 GERESS Array S 81.19 329 P **P 05 15 35.3 +0.7**
GERES GERESS Array B 81.19 329 P **P 05 15 33.9 -0.6**
comp=Z,0.9nm,0.7s,baz=38,slow=7.5,SNR=3.9
GERES GERESS Array B 81.19 329 P **P 05 15 34.1 -0.4**
VTS Vitosha 81.75 320 P **P 05 15 38.2 +0.5**
VTS pmax pmax
comp=Z,4.0nm,0.7s
VTS Vitosha 81.75 320 P **P 05 15 38.2 +0.5**
VTS IAmb IAmb 05 15 39.6
comp=Z,4.4nm,0.7s
SOKA Soboth 82.38 327 *i* P **P 05 15 41.1 +0.3**
comp=Z,3.7nm,0.7s
OBKA Obir 82.72 327 *i* P **P 05 15 40.4 -2.2**
comp=Z,2.8nm,0.8s
WTTA Wattenberg 83.29 329 *i* PcP **P 05 15 46.6 +1.0**
comp=Z,0.2nm,0.2s
ABTA Abfaltersbach 83.36 329 *i* PcP **P 05 15 50.2 +4.3**
comp=Z,1.9nm,0.7s
MOTA Moosalm 83.43 330 *i* PcP **P 05 15 47.7 +1.4**
comp=Z,2.4nm,0.7s
FETA Feichten 83.84 330 *i* PcP **P 05 15 49.5 +1.1**
comp=Z,1.8nm,0.8s
DAVA Damuels 83.95 330 *i* PcP **P 05 15 50.4 +1.4**
comp=Z,2.1nm,0.6s
TXAR Lajitas Array 87.04 54 P **P 05 16 05.5 +0.8**
TXAR Lajitas Array 87.04 54 P **P 05 16 05.8 +1.1**
comp=Z,0.4nm,0.8s,baz=289,slow=3.8,SNR=5.5
TXAR Lajitas Array 87.04 54 P **P 05 16 05.5 +0.8**
VNA2 Neumayer--Watz 145.52 196 PKPdf **PKPdf 05 22 56.2 +0.4**
VNA3 Neumayer Olymp 145.74 195 PKPdf **PKPdf 05 22 56.9 +0.7**
VNA1 Neumayer--Stat 145.91 196 PKPdf **PKPab 05 22 58.5 +0.8**

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*SOME **09** 05:05:01.7, 39°.63N×75°.32E, h5km*
*NNC **09** 05:05:02.2±2.4, 39°.74N×75°.16E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=16.5km s-min=14.7km az=147.0
*KRNET **09** 05:05:05.3±0.1, 39°.63N×75°.73E, mb3.0*
ISC 09 05:05:05.9±2.6, 39°.6N±0°.1×75°.42E±0°.05, h10km, n32,
σ1§94/51, 20C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.84**	**14**	⇓*i*P	**Pn**	**05 05 37.3**	**-0.7**
NRN	baz=6.0			⇓*i*S	**Sn**	**05 06 00.6**	**-0.9**
ARLS	**Aral**	**2.37**	**340**	⇑*i*P	**Pb**	**05 05 46.6**	**-2.2**
ARLS	baz=35			⇑*i*S	**Sb**	**05 06 16.8**	**-1.3**
KZA	**Kyzart**	**2.44**	**357**	⇑*i*P	**Pn**	**05 05 46.6**	**+0.4**
KZA	baz=52			⇑*i*S	**Sn**	**05 06 17.2**	**+0.9**
ARSB	**Arslanbob**	**2.50**	**313**	⇑*i*P	**Pb**	**05 05 49.7**	**-1.4**
ARSB	baz=10.0			⇑*e*S	**Sb**	**05 06 22.2**	**+0.1**
UCH	**Uchtor**	**2.67**	**345**	⇑*i*P	**Pn**	**05 05 50.3**	**+0.8**
UCH	baz=41			⇑*i*S	**Sn**	**05 06 24.1**	**+2.0**
AML	**Almayashu**	**2.81**	**333**	⇑*i*P	**Pn**	**05 05 52.9**	**+1.6**
AML	baz=29			⇑*i*S	**Sn**	**05 06 27.7**	**+2.3**
KDJ	**Kajisay**	**2.82**	**28**	⇑*i*P	**Pn**	**05 05 50.0**	**-1.3**
KDJ	baz=24			⇑*i*S	**Sn**	**05 06 23.3**	**-2.1**
BOOM	**Boomskoye usch**	**2.87**	**8**	⇑*e*P	**Pn**	**05 05 52.0**	**0.0**
BOOM	baz=3.0			⇑*i*S	**Sn**	**05 06 26.8**	**+0.1**
AAK	**Ala-Archa**	**3.07**	**347**	⇑Pg	**Pn**	**05 05 55.6**	**+0.9**
AAK	10nm,0.6s			⇑Lg	Lg	05 06 35.2	
AAK	**Ala-Archa**	**3.07**	**347**	⇑*e*P	**Pn**	**05 05 55.8**	**+1.1**
AAK	baz=43			⇑*i*S	**Sn**	**05 06 33.0**	**+1.4**
EKS2	**Erkin-Say**	**3.26**	**338**	⇓*i*P	**Pn**	**05 05 58.9**	**+1.6**
EKS2	baz=35			⇓*i*S	**Sn**	**05 06 38.3**	**+2.1**
TKM2	**Tokmak 2**	**3.28**	**2**	⇓Pg	**Pb**	**05 06 00.2**	**-4.1**
TKM2	5.8nm,0.5s			⇓Lg	Lg	05 06 44.7	
TKM2	**Tokmak 2**	**3.28**	**2**	⇑*e*P	**Pn**	**05 05 58.0**	**+0.4**
TKM2	baz=58			⇑*i*S	**Sn**	**05 06 36.4**	**-0.3**
KST	**Kastek**	**3.42**	**7**	Pg	**Pb**	**05 06 03.7**	**-3.1**

5.9nm,0.5s
KST Lg Lg 05 06 48.4
45nm,0.8s
KST Kastek 3.42 7 *e*P **Pb 05 06 04.8 -1.9**
9.4nm,0.5s
KST *e*S **Sb 05 06 49.0 +0.6**
57nm,0.8s
IZV Izvestkoviy 3.51 14 Pg **Pb 05 06 06.5 -1.7**
12nm,0.5s
IZV Lg Lg 05 06 53.8
22nm,0.7s
IZV Izvestkoviy 3.51 14 *e*P **Pb 05 06 08.0 -0.3**
12nm,0.6s
IZV *e*S **Sb 05 06 54.2 +3.3**
16nm,0.8s
MRKS Merke 3.51 333 Pg **Pn 05 06 02.6 +1.9**
3.8nm,0.6s
MRKS Lg Lg 05 06 46.9
5.3nm,0.6s
MRKS Merke 3.51 333 *e*P **Pb 05 06 06.0 -2.3**
1.3nm,0.2s
MRKS *e*S **Sb 05 06 51.2 +0.2**
5.2nm,0.4s
TNSS Tian-Shan 3.58 18 Pg **Pb 05 06 07.4 -2.3**
7.9nm,0.7s
TNSS Lg Lg 05 06 55.6
20nm,0.6s
TNSS Tian-Shan 3.58 18 *e*P **Pb 05 06 09.7 +0.1**
6.2nm,0.4s
TNSS *e*S **Sg 05 06 57.1 -3.9**
18nm,0.6s
DGS Degeres 3.61 4 Pg **Pb 05 06 09.5 -0.4**
2.5nm,0.3s
DGS Lg Lg 05 06 58.8
17nm,0.4s
DGS Degeres 3.61 4 *e*P **Pb 05 06 08.2 -1.6**
5.0nm,0.4s
DGS *e*S **Sb 05 06 54.6 +0.9**
13nm,0.5s
MDOK Medeo 3.73 19 ⇓Pg **Pn 05 06 06.0 +2.3**
2.6nm,0.4s
MDOK Lg Lg 05 06 56.7
30nm,0.8s
MDOK Medeo 3.73 19 Pg **Pb 05 06 10.2 -1.7**
3.0nm,0.2s
MDOK Lg Lg 05 06 59.7
17nm,0.6s
KOTS Kotyrbulak 3.81 19 Pg **Pb 05 06 11.1 -2.3**
5.6nm,0.3s
KOTS Lg Lg 05 07 01.5
76nm,0.6s
KOTS Kotyrbulak 3.81 19 *e*P **Pb 05 06 13.0 -0.3**
2.5nm,0.2s
KOTS *e*S **Sb 05 07 02.6 +3.1**
20nm,0.7s
SATY Saty 4.09 32 Pg **Pb 05 06 17.9 -0.2**
5.4nm,0.2s
SATY Lg Lg 05 07 13.3
6.5nm,0.4s
KTBS Karatobe 4.17 13 Pg **Pb 05 06 18.6 -0.9**
3.0nm,0.5s
KTBS Lg Lg 05 07 14.0
24nm,0.6s
KTBS Karatobe 4.17 13 *e*P **Pb 05 06 19.9 +0.4**
0.9nm,0.4s
KTBS *e*S **Sb 05 07 14.4 +4.4**
6.9nm,0.6s
KUU Kurty 4.30 9 Pg **Pb 05 06 20.3 -1.3**
2.2nm,0.7s
KUU Lg Lg 05 07 17.0
13nm,0.7s
CHKK Chushkaly 4.37 15 *e*P **Pb 05 06 22.8 0.0**
0.4nm,0.0s
CHKK *e*S **Sb 05 07 19.8 +4.2**
15nm,0.7s

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*IDC **09** 05:05:14.8±3.3, 16°.51S×167°.92E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/28, mbtmp4.1/5, ML4.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=75.0km s-min=35.2km az=103.0*
*ISCJB **09** 05:05:18.8±0.7, 16°.64S±0°.07×167°.5E±0°.1, h20km, mb3.9/4, MS3.5/1, Error ellipse: s-maj=14.3km s-min=10.2km az=13.2*
*NEIC **09** 05:05:19.9±2.5, 16°.70S±0°.06×167°.5E±0°.2, h10km±2km, mb4.3/7*
ISC 09 05:05:20.4±0.9, 16°.61S±0°.10×167°.5E±0°.1, h20km, n17, σ1§22/17, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.53**	**190**	Pn	**Pn**	**05 06 40.4**	**-1.3**
	4.4nm,0.3s,baz=47,slow=7.6,SNR=64						
DZM				Sn	**Sn**	**05 07 43.7**	**-1.0**
	5.1nm,0.3s,baz=187,slow=21,SNR=4.4						
HNR	**Honiara**	**10.26**	**313**	LR	LR	05 11 09.5	
	comp=Z,116nm,18.9s,baz=16,slow=34						
FUNA	**Funafuti**	**13.94**	**56**	Pn	**Pn**	**05 08 36.8**	**-0.3**
URZ	**Urewera**	**23.16**	**161**	P	**P**	**05 10 27.3**	**+1.7**
URZ				IAmb	IAmb	05 10 36.8	
	comp=Z,14nm,1.2s						
BKZ	**Black Stump Fm**	**23.80**	**163**	P	**P**	**05 10 32.9**	**+0.9**
BFZ	**Birch Farm**	**25.15**	**164**	P	**P**	**05 10 44.5**	**+0.3**
PLWZ	**Palliser**	**25.75**	**167**	P	**P**	**05 10 47.7**	**-2.1**
STKA	**Stephens Creek**	**28.00**	**232**	P	**P**	**05 11 11.1**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=52,slow=8.5,SNR=4.4						
STKA	**Stephens Creek**	**28.00**	**232**	P	**P**	**05 11 09.6**	**-0.5**
WRA	**Warramunga Arr**	**31.64**	**259**	P	**P**	**05 11 43.0**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=90,slow=8.7,SNR=6.0						
WRA	**Warramunga Arr**	**31.64**	**259**	P	**P**	**05 11 42.1**	**-0.4**
AS31	**Alice Springs**	**32.27**	**252**	P	**P**	**05 11 49.0**	**+1.0**
AS31				IAmb	IAmb	05 11 51.7	
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**32.27**	**252**	P	**P**	**05 11 49.0**	**+1.0**
	comp=Z,5.9nm,0.8s,baz=78,slow=8.5,SNR=44						
ASAR				LR	LR	05 25 04.5	
	comp=Z,86nm,18.0s,baz=98,slow=36						
ASAR	**Alice Springs**	**32.27**	**252**	P	**P**	**05 11 49.3**	**+1.3**
SBA	**Scott Base**	**61.27**	**180**	P	**P**	**05 15 35.2**	**+1.4**
SBA				IAmb	IAmb	05 15 48.0	
	comp=Z,1.4nm,1.0s						
QSPA	**South Pole Qui**	**73.43**	**180**	P	**P**	**05 16 51.7**	**+0.6**
QSPA				IAmb	IAmb	05 17 01.9	
	comp=Z,4.9nm,1.2s						
SONM	**Songino Array**	**84.14**	**324**	P	**P**	**05 17 48.8**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=141,slow=4.8,SNR=2.8						

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*ISCJB **09** 05:33:56.0±1.3, 30°.40S±0°.04×71°.93W±0°.07, h2km±10km, Error ellipse: s-maj=11.2km s-min=6.3km az=24.1*
*SJA **09** 05:33:56.1±0.8, 30°.30S×71°.85W, h13km, ML3.5, MW3.8*
*GUC **09** 05:34:00.0±0.7, 30°.42S×71°.54W, h42km±4km, ML4.0*
ISC 09 05:33:55.8±2.9, 30°.35S±0°.05×71°.84W±0°.09, h4km±17km, n28, σ1§75/39, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.68**	**50**	⇓*i*P	**Pn**	**05 34 12.6**	**+0.5**
LSCH				*i* S	**Sn**	**05 34 21.3**	**-1.9**
GO04	**Tololo Observa**	**0.92**	**79**	⇑*i*P	**Pn**	**05 34 15.0**	**-0.7**
GO04				*i* S	**Sg**	**05 34 25.9**	**+0.7**
GO04				IAML		05 34 27.6	
	comp=N,19μm,0.5s						
GO04	**Tololo Observa**	**0.92**	**79**	*i* P	**Pn**	**05 34 15.2**	**-0.5**
GO04				*e*S	**Sb**	**05 34 26.8**	**-0.3**
CO02	**Combarbal**	**1.12**	**140**	⇑*i*P	**Pb**	**05 34 17.8**	**0.0**
CO02				*i* S	**Sb**	**05 34 31.2**	**-1.5**
CO02				IAML		05 34 35.2	
	comp=N,7μm,0.3s						
AROD	**Rodeo**	**2.06**	**86**	*i* P	**Pb**	**05 34 33.7**	**-0.2**
AROD				*e*S	**Sg**	**05 35 01.1**	**-0.7**
ACDV	**Cuesta del Vie**	**2.36**	**86**	*i* P	**Pb**	**05 34 37.7**	**-1.3**
ACCO	**Cerro Coronel**	**2.41**	**96**	*i* P	**Pb**	**05 34 39.9**	**0.0**
ACCO				*e*S	**Sb**	**05 35 10.3**	**+0.3**
RTLS	**Leoncito**	**2.62**	**124**	*i* P	**Pb**	**05 34 41.9**	**-1.5**
RTLS				*e*S	**Sb**	**05 35 15.8**	**-0.3**
RTLS				IAML		05 35 29.3	
	comp=Z,155nm,0.3s						
ROCH	**El Roble**	**2.71**	**165**	*i* P	**Pn**	**05 34 41.1**	**+0.8**
ROCH				*i* S	**Sn**	**05 35 13.8**	**+0.1**
ROCH				IAML		05 35 21.7	
	comp=N,377nm,0.7s						
AMOG	**MOGNA**	**2.94**	**102**	*i* P	**Pb**	**05 34 47.6**	**-1.3**
PEL	**Peldehue**	**2.95**	**161**	⇑*i*P	**Pn**	**05 34 44.7**	**+1.1**
PEL				*i* S	**Sn**	**05 35 18.9**	**-0.6**
PEL				IAML		05 35 27.4	
	comp=E,208nm,0.5s						
PEL	**Peldehue**	**2.95**	**161**	*i* P	**Pn**	**05 34 44.9**	**+1.3**
PEL				*e*S	**Sb**	**05 35 23.2**	**-2.4**
ZON	**Zonda**	**2.96**	**115**	*i* P	**Pn**	**05 34 46.0**	**+2.3**
ZON				IAML		05 35 35.8	
	comp=Z,91nm,0.3s						
RTLL	**Cerro Villicun**	**3.05**	**109**	*i* P	**Pn**	**05 34 47.3**	**+2.4**
RTLL				IAML		05 35 37.6	
	comp=Z,160nm,0.5s						
GO03	**Copiap**	**3.08**	**27**	*i* P	**Pn**	**05 34 47.0**	**+1.6**
RTCV	**Cerro Valdivia**	**3.21**	**119**	*i* P	**Pn**	**05 34 49.5**	**+2.5**
CFA	**Coronel Fontan**	**3.34**	**113**	*i* P	**Pn**	**05 34 51.3**	**+2.5**
VCA	**Vinchina**	**3.55**	**64**	*i* P	**Pb**	**05 34 57.3**	**-2.0**
VCA				IAML		05 35 53.5	
	comp=Z,196nm,0.3s						
LMEL	**Las Melosas**	**3.75**	**159**	*i* P	**Pn**	**05 34 56.7**	**+2.0**
LMEL				*i* S	**Sn**	**05 35 39.1**	**-0.3**
LMEL				IAML		05 35 53.9	
	comp=N,160nm,0.1s						
ACLC	**CERRO LA CRUZ**	**4.34**	**79**	*i* P	**Pn**	**05 35 05.4**	**+2.6**
ACAN	**Cantantal**	**4.42**	**117**	⇓*i*P	**Pn**	**05 35 06.7**	**+3.0**
APLL	**PUNTA DE LOS L**	**4.59**	**92**	*i* P	**Pn**	**05 35 08.6**	**+2.6**
APLL				IAML		05 35 12.4	
	comp=Z,29nm,0.2s						
COIS	**El Sosneado**	**5.11**	**159**	*i* P	**Pn**	**05 35 16.6**	**+3.4**
CYA	**Choya**	**5.60**	**72**	*i* P	**Pn**	**05 35 22.5**	**+2.6**
CYA				IAML		05 36 57.3	
	comp=Z,23nm,0.6s						
MRA	**San Martin**	**5.63**	**113**	*i* P	**Pn**	**05 35 21.8**	**+1.5**
MRA				IAML		05 36 58.1	
	comp=Z,37nm,0.5s						
PB14	**IPOC Station P**	**5.84**	**13**	*i* P	**Pn**	**05 35 25.6**	**+2.1**
TCA	**Tanti**	**6.31**	**101**	*i* P	**Pn**	**05 35 31.1**	**+1.4**
TRQA	**Tornquist**	**11.21**	**136**	*i* P	**Pn**	**05 36 37.9**	**+1.1**

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*ISCJB **09** 06:00:05.5±0.4, 56°.91S±0°.10×150°.6W±0°.1, h10km, mb4.6/16, MS4.0/20, Error ellipse: s-maj=13.9km s-min=7.9km az=10.5*
*IDC **09** 06:00:05.4±0.5, 56°.76S×150°.70W, h0km, mb4.6/16, mb1 4.7/16, mb1mx4.6/34, mbtmp4.6/16, MS3.7/15, Ms1 3.7/15, ms1mx3.7/26, Error ellipse: s-maj=25.9km s-min=13.4km az=7.0*
*NEIC **09** 06:00:07.0±2.0, 56°.85S±0°.1×150°.6W±0°.2, h10km±1km, mb4.8/27*
ISC 09 06:00:06.9±0.3, 56°.85S±0°.1×150°.55W±0°.08, h10km, n117, σ1§25/103, mb4.7/25, MS3.9/20, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.61**	**199**	P	**P**	**06 05 37.6**	**+1.8**
RPZ	**Rata Peaks**	**27.41**	**282**	LR	LR	06 14 27.0	
	comp=Z,243nm,18.8s,baz=135,slow=32						
BKZ	**Black Stump Fm**	**27.85**	**295**	P	**P**	**06 05 55.9**	**-0.5**
QSPA	**South Pole Qui**	**33.35**	**180**	P	**P**	**06 06 45.6**	**+0.7**
	18nm,1.0s,baz=64,slow=5.0,SNR=16						
QSPA				LR	LR	06 18 37.7	
	comp=Z,89nm,19.9s,baz=126,slow=33						
QSPA	**South Pole Qui**	**33.35**	**180**	P	**P**	**06 06 45.2**	**+0.4**
QSPA				IAmb	IAmb	06 06 50.9	
	comp=Z,23nm,1.1s						
TBI	**Tubuai**	**33.42**	**2**	*e*T	T	06 41 54.6	
	comp=Z,74nm,0.4s						
MEH	**Mehetia**	**38.90**	**4**	*e*T	T	06 48 45.7	
	comp=Z,12nm,0.2s						
TVO	**Taravao**	**38.96**	**2**	*e*T	T	06 48 49.8	
	comp=Z,1.6nm,0.3s						
PAE	**Paea**	**39.07**	**1**	*e*T	T	06 48 58.2	
	comp=Z,2.1nm,0.3s						
PPT2	**Papeete2**	**39.15**	**1**	*e*S	S	06 13 45.7	+11
	comp=Z,72nm,23.8s						
PPT2				*e*LR	LR	06 18 01.5	
	comp=Z,474nm,28.5s						
PPT2	**Papeete2**	**39.15**	**1**	*e*T	T	06 49 03.3	
	comp=Z,4.7nm,0.4s						
PPT	**Papeete**	**39.17**	**1**	LR	LR	06 19 45.7	
	comp=Z,148nm,19.6s,baz=146,slow=30						
PMSA	**Palmer Station**	**39.75**	**138**	P	**P**	**06 07 38.2**	**-0.9**
	comp=Z,9.4nm,1.0s,baz=49,slow=9.3,SNR=4.7						
PMSA	**Palmer Station**	**39.75**	**138**	P	**P**	**06 07 39.4**	**+0.3**
PMSA				IAmb	IAmb	06 07 42.7	
	comp=Z,19nm,1.1s						
VAH	**Vaihoa**	**41.54**	**4**	*e*T	T	06 52 03.4	
	comp=Z,146nm,0.3s						
RPN	**Rapa Nui**	**41.62**	**62**	LR	LR	06 21 16.1	
	comp=Z,70nm,21.6s,baz=150,slow=30						
TAOE	**Nuku Hiva Isla**	**48.51**	**14**	*e*S	S	06 16 01.6	+10
	comp=Z,124nm,25.3s						
TAOE				*e*LR	LR	06 22 30.8	
	comp=Z,291nm,29.9s						
VNA3	**Neumayer Olymp**	**49.30**	**164**	P	**P**	**06 08 54.0**	**-1.3**
SNAA	**Sanae**	**49.84**	**167**	P	**P**	**06 08 58.9**	**-0.6**
SNAA	**Sanae**	**49.84**	**167**	P	**P**	**06 08 58.2**	**-1.3**
VNA2	**Neumayer--Wat**	**49.92**	**165**	P	**P**	**06 08 59.3**	**-0.8**
	baz=202,slow=8.0						
VNA1	**Neumayer--Stat**	**50.04**	**165**	P	**P**	**06 09 00.9**	**0.0**
EIDS	**Eidsvold**	**51.91**	**282**	P	**P**	**06 09 18.0**	**+2.4**
EIDS				IAmb	IAmb	06 09 19.0	
	comp=Z,8.9nm,0.8s						
PLCA	**Paso Flores**	**52.02**	**108**	P	**P**	**06 09 17.9**	**+1.6**
	comp=Z,12nm,1.1s,baz=240,slow=8.1,SNR=12						
PLCA				LR	LR	06 26 10.1	
	comp=Z,104nm,18.1s,baz=233,slow=30						
PLCA	**Paso Flores**	**52.02**	**108**	P	**P**	**06 09 17.2**	**+0.8**
PLCA				IAmb	IAmb	06 09 19.2	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**52.03**	**268**	P	**P**	**06 09 17.3**	**+0.9**
	comp=Z,8.6nm,0.8s,baz=124,slow=6.7,SNR=13						
STKA	**Stephens Creek**	**52.03**	**268**	P	**P**	**06 09 19.0**	**+2.6**
GO06	**Curarrehue**	**52.37**	**107**	P	**P**	**06 09 20.0**	**+1.0**
GO06				IAmb	IAmb	06 09 25.0	
	comp=Z,10nm,1.0s						
MAW	**Mawson**	**53.47**	**195**	P	**P**	**06 09 27.2**	**+0.7**
	comp=Z,4.8nm,1.0s,baz=134,slow=5.7,SNR=5.2						
MAW				LR	LR	06 30 25.1	
	comp=Z,48nm,18.2s,baz=230,slow=34						
MAW	**Mawson**	**53.47**	**195**	P	**P**	**06 09 27.1**	**+0.6**
SYO	**Syowa Base**	**54.28**	**184**	⇑*e*P	**P**	**06 09 30.0**	**-2.5**
SYO	**Syowa Base**	**54.28**	**184**	⇑*i*pP	**P**	**06 09 33.0**	**+0.5**
PEL	**Peldehue**	**57.61**	**102**	P	**P**	**06 09 57.8**	**+0.9**
PEL				IAmb	IAmb	06 09 58.7	
	comp=Z,21nm,1.0s						
TRQA	**Tornquist**	**58.44**	**112**	P	**P**	**06 10 03.3**	**+0.7**
TRQA				IAmb	IAmb	06 10 03.8	
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**58.78**	**281**	P	**P**	**06 10 05.1**	**-0.1**
CTAO				IAmb	IAmb	06 10 09.3	
	comp=Z,12nm,1.1s						
CFA	**Coronel Fontan**	**60.11**	**103**	P	**P**	**06 10 14.5**	**+0.2**
	comp=Z,6.0nm,1.1s,baz=157,slow=8.2,SNR=3.6						
FORT	**Forrest**	**60.26**	**259**	P	**P**	**06 10 16.6**	**+1.4**
ASAR	**Alice Springs**	**62.66**	**268**	P	**P**	**06 10 30.4**	**-1.3**
	comp=Z,11nm,0.8s,baz=142,slow=6.6,SNR=31						
ASAR	**Alice Springs**	**62.66**	**268**	P	**P**	**06 10 30.2**	**-1.5**
AS31	**Alice Springs**	**62.66**	**268**	P	**P**	**06 10 30.8**	**-0.8**
AS31				IAmb	IAmb	06 10 34.1	
	comp=Z,3.9nm,0.9s						
H01W1	**Cape Leeuwin H**	**64.29**	**245**	T	T	07 20 44.1	
	baz=142,slow=76,SNR=70						
H01W2	**Cape Leeuwin H**	**64.30**	**245**	T	T	07 20 46.0	
	baz=142,slow=76,SNR=96						
H01W3	**Cape Leeuwin H**	**64.31**	**245**	T	T	07 20 45.3	
	baz=142,slow=76,SNR=77						
WRA	**Warramunga Arr**	**65.41**	**271**	P	**P**	**06 10 48.8**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=144,slow=5.8,SNR=15						
WRA				LR	LR	06 36 09.5	
	comp=Z,88nm,21.4s,baz=260,slow=33						
WRA	**Warramunga Arr**	**65.41**	**271**	P	**P**	**06 10 49.6**	**-0.1**
WRAB	**Tennant Creek**	**65.41**	**271**	P	**P**	**06 10 50.7**	**+1.0**
WRAB				IAmb	IAmb	06 10 52.1	
	comp=Z,13nm,1.1s						
COEN	**Coen**	**65.48**	**282**	P	**P**	**06 10 49.6**	**-0.6**
COEN				IAmb	IAmb	06 10 55.9	
	comp=Z,5.9nm,1.1s						
LVC	**Limon Verde**	**66.85**	**96**	P	**P**	**06 10 59.8**	**+0.5**
	comp=Z,10nm,0.7s,baz=224,slow=6.6,SNR=8.4						
LVC	**Limon Verde**	**66.85**	**96**	P	**P**	**06 10 59.9**	**+0.5**
PB11	**IPOC Station P**	**68.74**	**94**	P	**P**	**06 11 10.2**	**-0.8**
MNMC	**Minye Minye**	**69.28**	**93**	P	**P**	**06 11 15.2**	**+0.7**
CPUP	**Villa Florida**	**70.08**	**108**	P	**P**	**06 11 19.6**	**+0.6**
	comp=Z,13nm,0.9s,baz=232,slow=5.2,SNR=26						
CPUP				LR	LR	06 37 29.8	
	comp=Z,54nm,19.3s,baz=32,slow=32						
CPUP	**Villa Florida**	**70.08**	**108**	P	**P**	**06 11 18.6**	**-0.5**
NNA	**Nana**	**71.13**	**83**	P	**P**	**06 11 26.2**	**+0.5**
	comp=Z,10nm,0.8s,baz=218,slow=9.6,SNR=4.9						
NNA	**Nana**	**71.13**	**83**	P	**P**	**06 11 25.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**71.68**	**265**	P	**P**	**06 11 31.2**	**+2.3**
FITZ				IAmb	IAmb	06 11 31.9	
	comp=Z,7.5nm,0.9s						
PSA00	**Pilbara Seismi**	**72.01**	**258**	P	**P**	**06 11 30.3**	**-0.5**
LPAZ	**La Paz**	**72.39**	**93**	P	**P**	**06 11 35.5**	**+1.7**
	comp=Z,9.4nm,0.9s,baz=178,slow=2.6,SNR=29						
LPAZ				LR	LR	06 35 34.2	
	comp=Z,46nm,21.9s,baz=46,slow=29						
LPAZ	**La Paz**	**72.39**	**93**	P	**P**	**06 11 34.9**	**+1.0**
LPAZ				IAmb	IAmb	06 11 36.6	
	comp=Z,16nm,1.0s						
SIV	**San Ignacio**	**76.50**	**98**	P	**P**	**06 11 57.5**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=219,slow=4.9,SNR=22						
SIV				LR	LR	06 40 40.8	
	comp=Z,36nm,20.7s,baz=120,slow=32						
OTAV	**Otavalo**	**80.46**	**75**	P	**P**	**06 12 21.8**	**+2.3**
BDFB	**Brasilia**	**83.76**	**109**	P	**P**	**06 12 36.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=228,slow=7.6,SNR=4.5						
JTS	**Las Juntas de**	**85.67**	**64**	LR	LR	06 41 47.1	
	comp=Z,80nm,21.4s,baz=308,slow=29						
ROSC	**El Rosal**	**86.53**	**76**	LR	LR	06 45 38.7	
	comp=Z,42nm,19.0s,baz=236,slow=32						
PTGA	**Pitinga**	**89.72**	**91**	P	**P**	**06 13 05.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=170,slow=14,SNR=3.7						
PTGA	**Pitinga**	**89.72**	**91**	P	**P**	**06 13 05.2**	**-0.1**
PTGA				IAmb	IAmb	06 13 07.5	
	comp=Z,7.9nm,1.2s						
TXAR	**Lajitas Array**	**94.51**	**40**	P	**P**	**06 13 27.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=193,slow=6.5,SNR=2.7						
TXAR				LR	LR	06 47 49.5	
	comp=Z,41nm,18.1s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**94.51**	**40**	P	**P**	**06 13 28.5**	**+1.4**
BOSA	**Boshof**	**94.86**	**176**	LR	LR	06 51 19.6	
	comp=Z,33nm,19.8s,baz=206,slow=32						
NVAR	**Mina Array Bea**	**98.71**	**25**	LR	LR	06 48 14.4	
	comp=Z,44nm,19.6s,baz=211,slow=29						
CMAR	**Chiang Mai Arr**	**116.47**	**263**	PKP	**PKPdf**	**06 18 50.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=194,slow=1.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**116.47**	**263**		**PKPdf**	**06 18 48.4**	**-2.4**
NJ2	**Nanjing**	**116.48**	**288**	*e*PKP	**PKiKP**	**06 18 50.4**	**+0.1**
PETK	**Petropavlovsk-**	**117.44**	**328**	PKP	**PKPdf**	**06 18 50.9**	**-0.6**
	comp=Z,10nm,1.0s,baz=129,slow=2.0,SNR=3.9						
PETK	**Petropavlovsk-**	**117.44**	**328**		**PKPdf**	**06 18 50.8**	**-0.7**
BCAR	**Beaver Creek A**	**119.72**	**5**		**PKPdf**	**06 18 55.3**	**-0.3**
BPAW	**Bear Paw Mtn.**	**120.57**	**360**		**PKPdf**	**06 18 56.5**	**-0.7**
WRH	**Wood River Hil**	**120.95**	**1**		**PKiKP**	**06 18 58.7**	**+0.1**
CCB	**Clear Creek Bu**	**121.13**	**1**		**PKPdf**	**06 18 57.9**	**-0.3**
IL31		**121.27**	**2**		**PKPdf**	**06 18 57.3**	**-1.2**
ILAR	**Eielson Array**	**121.27**	**2**	PKP	**PKiKP**	**06 18 58.6**	**0.0**
	comp=Z,5.3nm,0.8s,baz=251,slow=1.8,SNR=39						
ILAR	**Eielson Array**	**121.27**	**2**		**PKPdf**	**06 18 57.9**	**-0.6**
IMAR	**Indian Mountai**	**122.48**	**358**		**PKiKP**	**06 19 00.9**	**0.0**
CD2	**Chengdu**	**123.69**	**276**	PKP	**PKPdf**	**06 19 03.9**	**-0.4**
HHC	**Hu-ho-hao-te**	**126.97**	**290**	PKP	**PKiKP**	**06 19 11.4**	**+0.6**
LZH	**Lanzhou**	**127.56**	**280**	*e*PKP	**PKPdf**	**06 19 08.2**	**-3.5**
LZH				sPKP		06 19 22.1	
LZH				LR	LR		
	comp=Z,230nm,18.1s						
LZH				LR	LR		
	comp=Z,240nm,18.0s						
LZH				LR	LR		
	comp=Z,310nm,20.2s						
TORD	**Torodi Ar. Bea**	**131.53**	**143**	PKhKP	PKPpre	06 19 13.8	
	comp=Z,0.6nm,0.9s,baz=209,slow=1.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**131.53**	**143**		**PKPdf**	**06 19 15.8**	**-3.9**
GTA	**Gaotai**	**132.16**	**280**	*e*PKP	**PKPdf**	**06 19 20.3**	**0.0**
SONM	**Songino Array**	**134.49**	**293**	PKP	**PKiKP**	**06 19 25.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=72,slow=4.7,SNR=5.6						
SONM	**Songino Array**	**134.49**	**293**		**PKPdf**	**06 19 24.4**	**0.0**
TIXI	**Tiksi**	**139.78**	**331**	PKhKP	PKPpre	06 19 24.7	
	comp=Z,2.8nm,0.4s,baz=110,slow=2.8,SNR=4.4						
TIXI	**Tiksi**	**139.78**	**331**		PKPpre	06 19 27.6	
WMQ	**Urumqi**	**141.79**	**276**	*e*PKP	**PKPdf**	**06 19 38.1**	**+0.2**
WMQ				LR	LR		
	comp=Z,190nm,13.3s						
WMQ				LR	LR		
	comp=Z,33nm,14.3s						
RAYN	**Ar Rayn**	**144.76**	**206**		**PKPab**	**06 19 42.2**	**-0.3**
KSH	**Kashi**	**145.29**	**260**	PKPbc	**PKPdf**	**06 19 44.8**	**+0.6**
KSH				PP	**PP**	**06 23 07.9**	**+3.6**
KSH				PKS	**PKSdf**	**06 23 16.7**	**-3.0**
KSH				SKS	**SKSdf**	**06 26 49.7**	**-3.5**
KSH				SS	**SS**	**06 41 55.2**	**-0.3**
KSH				LR	LR		
	comp=Z,300nm,15.6s						
NRN	**Naryn**	**146.62**	**263**		**PKPbc**	**06 19 48.0**	**-0.3**
MK31	**Makanchi Array**	**146.62**	**276**		**PKPbc**	**06 19 46.8**	**-1.0**
MKAR	**Makanchi Array**	**146.62**	**276**	PKPbc	**PKPbc**	**06 19 47.3**	**-0.5**
	comp=Z,11nm,0.8s,baz=114,slow=4.6,SNR=42						
MKAR	**Makanchi Array**	**146.62**	**276**		**PKPbc**	**06 19 46.9**	**-0.8**
ARSB	**Arslanbob**	**148.18**	**260**		**PKPbc**	**06 19 52.0**	**-0.4**
BTK	**Batken**	**148.45**	**256**		**PKPbc**	**06 19 53.0**	**0.0**
ZAA0	**Zalesovo Array**	**149.13**	**289**		**PKPdf**	**06 19 50.2**	**+0.2**
ZALV	**Zalesovo Beam**	**149.13**	**289**	PKPbc	**PKPbc**	**06 19 52.9**	**-1.2**
	comp=Z,5.5nm,0.7s,baz=119,slow=3.8,SNR=22						
ZALV	**Zalesovo Beam**	**149.13**	**289**		**PKPdf**	**06 19 49.4**	**-0.6**
ZALV				PKPbc	**PKPbc**	**06 19 53.0**	**-1.2**
SUMG	**Summit**	**149.16**	**33**		**PKPbc**	**06 19 54.5**	**+0.2**
KK31	**Karatay Array**	**150.74**	**260**		**PKPbc**	**06 19 57.7**	**-0.8**
KKAR	**Karatay Array**	**150.74**	**260**		**PKPbc**	**06 19 57.5**	**-1.0**
KKAR	**Karatay Array**	**150.74**	**260**		**PKPbc**	**06 19 58.2**	**-0.3**
KURK	**Kurchatov**	**150.84**	**279**		**PKPdf**	**06 19 51.7**	**-1.0**
KURK				PKPbc	**sPKPdf**	**

CMLM	Mount Lewis	0.39 137		Pg	06 04 35.6 +0.2
JCHM	Cahill Ridge	0.39 231		Pb	06 04 36.2 -0.1
JMGM	Milagra Ridge	0.41 252		Pb	06 04 36.3 -0.3
JHPM	Huddart Park	0.41 218		Pb	06 04 36.4 -0.1
JRSC	Jasper Ridge	0.41 209		Pb	06 04 36.2 -0.4
JFP	Foothills Park	0.43 201		Pb	06 04 36.9 -0.1
OXMT	Ox Mountain	0.43 232		Pb	06 04 36.8 -0.2
JJRM	Joaquin Road	0.45 202		Pb	06 04 37.3 -0.1
JBMM	Black Mountain	0.47 196		Pb	06 04 37.4 -0.2
JSGM	Saratoga Golf	0.48 186		Pb	06 04 38.1 +0.2
SCCB	Santa Clara Co	0.49 168		Pb	06 04 37.6 -0.3
CMMM	Mount Mocho	0.50 128		Pg	06 04 37.5 +0.2
BGH	Bear Gulch	0.51 213		Pb	06 04 38.5 +0.3
MHC	Mount Hamilton	0.51 147		Pg	06 04 37.7 +0.3
JPC	Peters Creek,	0.53 200		Pb	06 04 38.7 +0.1
NGVM		0.54 341		Pb	06 04 38.7 -0.2
ARN	Arnold Ranch	0.55 139		Pg	06 04 38.4 +0.1
JJOM	Saint Joseph's	0.56 179		Pb	06 04 39.0 -0.1
CCOB	Coe Ranch Numb	0.56 153		Pb	06 04 39.2 0.0
JHUM	Huhtala Lane,	0.57 195		Pb	06 04 39.6 +0.3
JUMM	Mount Umunhum	0.61 173		Pb	06 04 39.9 -0.2
JPSM		0.63 207		Pb	06 04 40.7 +0.3
JLAB	Laurel Hill	0.64 162		Pg	06 04 40.3 +0.3
JBNB	Ben Lomond Mou	0.66 192		Pb	06 04 40.9 0.0
CADM	Anderson Res.	0.67 154		Pb	06 04 41.0 +0.1
CVS	Carmenet Viney	0.69 328		Pg	06 04 40.8 0.0
NOLM	Olema	0.69 294		Pb	06 04 41.3 -0.1
NADM	Allendale	0.69 1		Pg	06 04 41.1 +0.1
JECB	Eureka Canyon	0.73 168		Pb	06 04 42.0 -0.1
JTGM	Trout Gulch Ro	0.74 173		Pb	06 04 42.8 +0.6
HSPM	Sheep	0.75 150		Pg	06 04 42.1 +0.1
HLPM	Lions Peak	0.78 158		Pb	06 04 42.8 -0.1
GHS	Gilroy Hot Spr	0.80 147		Pg	06 04 43.0 +0.1
MCCM	Marconi Confer	0.80 299		Pg	06 04 42.9 0.0
FARB	Farallon Islan	0.80 265		Pb	06 04 43.5 +0.2
NTYM	Taylor	0.82 320		Pg	06 04 43.4 +0.1
CDC	Canada Road	0.84 151		Pg	06 04 43.8 +0.1
NPRM	Point Reyes	0.84 286		Pg	06 04 43.3 -0.5
JELB	Ellicott, Sant	0.85 171		Pb	06 04 44.6 +0.5
CSR	Chase Ranch	0.87 158		Pg	06 04 44.2 0.0
NSHM	Saint Helena R	0.90 327		Pg	06 04 44.7 -0.1
HCOM	Corn Cob Canyo	0.91 166		Pn	06 04 45.5 -0.4
HPCM	Pacheco Lake	0.91 141		Pg	06 04 44.5 -0.4
HFEM	San Felipe	0.91 149		Pg	06 04 44.6 -0.5
NBPM	Berryessa Peak	0.92 350		Pg	06 04 44.7 -0.5
SLD	San Luis Dam	0.92 138		Pg	06 04 44.9 -0.4
OCR	O'Connell Ranc	0.93 155		Pg	06 04 45.2 -0.3
ANZ	Anzar Road	0.94 160		Pn	06 04 46.1 -0.2
PACP	Pacheco Peak	0.94 143		Pg	06 04 45.2 -0.5
AASM	Arroyo Seco	0.96 46		Pb	06 04 44.2 -1.8
SFJVR	San Luis Fatjo	0.97 137		Pb	06 04 45.6 -0.6
MAC	Mark West Spri	0.97 324		Pn	06 04 46.6 -0.3
HTUM	Tustin Road	0.98 163		Pb	06 04 46.2 -0.1
HERM	Elkhorn Road	0.99 167		Pn	06 04 46.9 -0.2
NDHM	Dunnigan Hills	1.00 4		Pb	06 04 46.4 -0.3
MNHB	New Hogan Dam	1.00 67		Pb	06 04 44.7 -2.1
NHSM	Mount Saint He	1.02 331		Pb	06 04 46.6 -0.4
HJGM	San Juan Grade	1.02 161		Pb	06 04 46.0 -1.1
MOBB	Monterey Bay O	1.08 188		Pb	06 04 48.0 +0.1
FRP	Fremont Peak	1.09 158		Pb	06 04 46.9 -1.3
SAO	San Andreas Ge	1.09 156		Pb	06 04 46.9 -1.3
NMTM	Middletown	1.10 341		Pb	06 04 48.0 -0.4
NMCNC	Mill Creek, So	1.10 319		Pb	06 04 47.7 -0.6
MCUB	Copperopolis B	1.10 79		Pb	06 04 46.4 -2.1
BSLM	Silva Ranch	1.11 152		Pb	06 04 47.9 -0.7
BVYM	Vineyard	1.11 155		Pb	06 04 47.9 -0.8
GAXM	Alexander Vall	1.12 328		Pb	06 04 47.5 -1.3
GCRM	Castle Rock Sp	1.16 331		Pb	06 04 48.1 -1.3
BSRM	Salinas Radio	1.16 161		Pb	06 04 47.7 -1.7
HMOM	Monterey	1.17 177		Pb	06 04 49.1 -0.4
MNRC	McLaughlin Min	1.17 342		Pb	06 04 48.5 -1.1
BCGM	Cienega Road	1.17 154		Pn	06 04 48.7 -0.9
GBGM	Boggs Mountain	1.18 333		Pb	06 04 49.0 -0.8
BHRM	Hodges Ranch	1.19 151		Pn	06 04 48.6 -1.2
FTR	Fort Ross	1.19 310		Pn	06 04 49.2 -0.7
GDXM	Geysers	1.22 329		Pb	06 04 50.4 0.0
BPCNC	Pine Canyon	1.23 166		Pn	06 04 49.4 -1.0
GSGM	Seigler Mounta	1.24 333		Pb	06 04 50.6 -0.1
BLRM	Lewis Ranch	1.24 152		Pn	06 04 49.6 -0.9
SCZ	Santa Cruz	1.26 158		Pn	06 04 49.0 -1.8
BJOM	Mount Johnson	1.26 154		Pn	06 04 50.1 -0.7
GHCM	House Creek	1.27 312		Pn	06 04 50.1 -0.8
BEHM	Elkhorn Ranch	1.28 149		Pn	06 04 49.7 -1.4
GCVM	Cloverdale	1.29 322		Pn	06 04 50.5 -0.7
CMB	Columbia Colle	1.30 78		Pb	06 04 50.0 -1.4
CMB	Columbia Colle	1.30 78	Sn	Sb	06 05 06.7 -1.6
GACM	Adobe Creek	1.30 328		Pb	06 04 51.8 -0.1
MYLM	Yosemite Lake	1.30 107		Pn	06 04 49.5 -1.9
BJCM	Johnson Can.	1.31 158		Pn	06 04 50.1 -1.4
BRMM	Rolling Bench	1.31 135		Pn	06 04 50.8 -0.8
BVL	Bear Valley	1.35 151		Pn	06 04 51.0 -1.0
BAVM	Antelope Valle	1.35 145		Pn	06 04 50.8 -1.3
GMKM	Mount Konoctai	1.35 333		Pg	06 04 53.3 -0.2
GDCM	Dry Creek	1.40 316		Pn	06 04 52.5 -0.3
BBGB	Big Mountain B	1.41 147		Pn	06 04 52.1 -0.8
HAST	Hastings Reser	1.42 166		Pn	06 04 52.0 -1.1
AFDM	Forest Hills D	1.43 34		Pn	06 04 51.3 -1.8
BPIM	Pinnacles	1.43 152		Pn	06 04 51.6 -1.6
BBNM	San Benito	1.45 150		Pn	06 04 52.7 -0.8
BSMM	Soledad Missio	1.45 162		Pn	06 04 52.8 -0.7
BMSM	Mercy Hot Spri	1.46 139		Pn	06 04 52.1 -1.5
SUTB	Sutter Butte	1.47 6		Pn	06 04 52.0 -1.8
ASMM	Slate Mountain	1.47 44		Pn	06 04 52.8 -1.1
HOPS	Hopland Field	1.49 326	Pn	Pn	06 04 54.1 +0.1
BCWM	Chaews Ridge	1.50 167		Pn	06 04 53.7 -0.5
GSNM	Snow Mountain	1.51 322		Pn	06 04 54.6 +0.3
GHLM	Highland Sprin	1.51 328		Pn	06 04 53.9 -0.4
BPOM	Post Ranch	1.54 173		Pn	06 04 52.5 -2.2
LRV	Little Rabbit	1.55 150		Pn	06 04 54.2 -0.6
GFC	Funks Creek	1.58 352		Pn	06 04 54.1 -1.0
GGUM	Gualala	1.61 313		Pn	06 04 55.2 -0.5
BAPM	Anderson Peak	1.61 170		Pn	06 04 54.8 -1.0
GTSM	Trough Springs	1.62 343		Pn	06 04 55.3 -0.6
OHCM	Honcut	1.62 14		Pn	06 04 54.1 -1.6
PBWM	Bitterwater Cr	1.68 149		Pn	06 04 56.1 -0.5
LRC	Lone Oak Road	1.70 153		Pn	06 04 56.2 -0.6
GHOM	Hamilton Openi	1.76 317		Pb	06 04 58.8 -0.9
MHDM	Hidden Dam	1.79 111		Pn	06 04 57.0 -1.0
GCK	Clark Valley	1.81 349		Pn	06 04 57.9 -0.5
MMIM	Miami Mountain	1.82 100		Pn	06 04 57.9 -0.7
ORV	Oroville	1.83 12		Pn	06 04 56.8 -1.9
EMB	Emerald Bay	1.91 50		Pn	06 05 00.2 +0.2
PAPM	Alder Peak	1.92 165		Pn	06 04 59.5 -0.5
GNAM	Navarro Ridge	1.92 318		Pn	06 04 59.8 -0.2
RUBR	Rubicon Trail	1.93 48		Pn	06 05 01.1 +0.8
GASB	Alder Springs	1.97 343		Pn	06 05 01.0 +0.3
TAHR	Tahoe	1.99 45		Pn	06 05 01.6 +0.5
GNO	Genoa	2.04 55		Pn	06 05 02.6 +0.8
DONR	Donner Summit	2.05 39		Pn	06 05 02.5 +0.5
MGL	Magalia	2.07 9		Pn	06 05 00.9 -1.2
PHSB	Hesperia Broad	2.08 159		Pn	06 05 01.6 -0.5
PHPM	Hope Ranch	2.10 148		Pn	06 05 01.9 -0.5
IND	Independence	2.13 38		Pn	06 05 04.5 +1.4
WAKR	Walker	2.14 69		Pn	06 05 04.5 +1.4
PKD	Bear Valley Ra	2.16 147		Pn	06 05 02.3 -0.9
PVCM	Vineyard Canyo	2.18 147		Pn	06 05 02.2 -1.4
BFC	Buffalo Canyon	2.19 58		Pn	06 05 05.0 +1.3
KBF	Kyburz Flat	2.23 38		Pn	06 05 05.5 +1.2
PNTR	Pine Nut	2.30 54		Pn	06 05 06.6 +1.3
MDPB	Devils Postpil	2.31 92		Pn	06 05 05.5 -0.1
MINS	Minaret Summit	2.33 92		Pn	06 05 06.3 +0.5
MRDM	Red Cones	2.33 93		Pn	06 05 06.2 +0.4
PCMM	Cholame Hills	2.33 147		Pn	06 05 05.1 -0.5
LOY	Loyalton	2.33 35		Pb	06 05 08.0 -1.6
MDCM	Deadman Creek	2.34 90		Pn	06 05 06.5 +0.6
MMSM	Mammoth Summit	2.35 92		Pn	06 05 07.0 +0.8
MDYM	Dry Creek	2.36 92		Pn	06 05 07.2 +0.9
OMMB	Old Mammoth Mi	2.38 93		Pn	06 05 06.9 +0.5
VCNR	Virginia City	2.39 50		Pn	06 05 07.8 +1.2
MMLB	Mammoth Lakes	2.39 92		Pn	06 05 07.5 +0.9
BLDC	Black Mountain	2.39 158		Pn	06 05 05.8 -0.6
LCMM	Colby Mountain	2.41 9		Pn	06 05 07.2 +0.4
LMCR	Lookout Mounta	2.41 90		Pn	06 05 08.7 +1.7
MEMM	East Mammoth H	2.42 91		Pn	06 05 08.1 +1.0
PEAR	Peavine Mounta	2.43 40		Pn	06 05 08.5 +1.4
MLCM	Laurel Creek C	2.44 93		Pn	06 05 08.3 +1.0
MCSM	Casa Diablo Ho	2.45 92		Pn	06 05 08.7 +1.2
MGPM	Gravel Pit	2.45 92		Pn	06 05 08.6 +1.2
BEKR	Beckworth	2.45 31		Pn	06 05 08.2 +0.8
MCBM	Casa Benchmark	2.46 92		Pn	06 05 08.7 +1.2
PAGB	Antelope Grade	2.47 145		Pg	06 05 13.4 -1.3
MCMM	Convict Lake	2.48 93		Pn	06 05 08.8 +1.0
YERR	Yerington	2.48 60		Pn	06 05 08.6 +0.8
MDRNC	Doe Ridge	2.50 92		Pn	06 05 09.6 +1.4
MCVM	Convict Lake	2.51 93		Pn	06 05 09.1 +0.8
O03E	Paynes Creek	2.53 3		Pb	06 05 07.6 -0.7
PTAM	Tassajara Cree	2.58 156		Pn	06 05 08.7 -0.4
HELL	Mitchell Peak,	2.60 114		Pn	06 05 09.5 0.0
RCCR	Rock Creek Can	2.61 95		Pn	06 05 10.4 +0.7
SCHCA	Scheelite	2.66 98		Pn	06 05 11.3 +1.1
NVAR	Mina Array Bea	2.98 76		Pn	06 05 14.7 0.0
NV11	Mina Array Sit	3.10 76		Pb	06 05 22.4 -0.1
ISA	Isabella, Lake	3.52 126		Pn	06 05 22.0 0.0

PGC 09 06:14:57.8±11.0, 50°.06N×130°.26W, h10km, MLSn3.1/21, Mw3.8/20, Mw3.7/21, 214km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.61	85	Pn	Pn	06 15 23.3	-3.0
BPBC				Sn	Sn	06 15 37.8	-9.3
PACB	Port Alice, BC	1.82	77	Pn	Pn	06 15 26.5	-2.6
PACB				Sn	Sn	06 15 46.9	-5.3
PHC	Port Hardy	1.92	69	Pn	Pn	06 15 28.8	-1.8
PHC				Sn	Sn	06 15 50.8	-4.0
MAYB	Maynard	2.01	79	Pn	Pn	06 15 30.5	-1.5
WOSB	Woss	2.38	86	Pn	Pn	06 15 35.7	-1.2
BBB	Bella Bella	2.52	32	Pn	Pn	06 15 37.6	-1.2
BBB				Sn	Sn	06 16 05.1	-4.5
HG3B	Hotspring	2.63	344	Pn	Pn	06 15 38.7	-1.6
HG3B				Sn	Sn	06 16 09.2	-3.0
BNB	Barry Inlet	2.69	340	Pn	Pn	06 15 38.8	-2.4
BNB				Sn	Sn	06 16 09.7	-4.1
NCRB	Newcastle Ridg	2.72	81	Pn	Pn	06 15 40.5	-1.2
GDR	Gold River	2.75	94	Pn	Pn	06 15 40.7	-1.2
SPLB	Strathcona Par	2.98	91	Pn	Pn	06 15 44.4	-0.8
SPLB				Sn	Sn	06 16 20.2	-0.7
BTB	Buttle Lake	3.13	99	Pn	Pn	06 15 47.0	-0.3
CBB	Campbell River	3.16	89	Pn	Pn	06 15 44.7	-2.9
CBB				Sn	Sn	06 16 21.4	-3.9
BCBC	Bella Coola	3.20	42	Pn	Pn	06 15 48.4	+0.4
BCBC				Sn	Sn	06 16 23.7	-2.5
MOBC	Moresby Island	3.27	342	Pn	Pn	06 15 48.3	-0.8
MOBC				Sn	Sn	06 16 25.9	-2.2
DIB	Dawson Inlet,	3.44	337	Pn	Pn	06 15 50.0	-1.3
MGB	Mount Grey	3.78	104	Pn	Pn	06 15 56.9	+0.7
TXB	Texada	3.78	93	Pn	Pn	06 15 57.6	+1.4
SHB	Sechelt	4.16	94	Sn	Sn	06 16 43.8	-6.3
WPB	Watts Point	4.58	92	Pn	Pn	06 16 08.1	+1.0
WSLR	Whistler	4.73	86	Pn	Pb	06 16 15.9	-4.9
UBRB	Upper Baezaeko	4.79	51	Pn	Pn	06 16 10.7	+0.5
UBRB				Sn	Sn	06 17 03.7	-2.0
VDB	Vedder Mountai	5.41	98	Pn	Pn	06 16 18.8	+0.2
MBW	Mount Baker	5.60	100	Pn	Pn	06 16 23.0	+1.7
FSB	Fort Saint Jam	5.73	37	Pn	Pn	06 16 22.8	-0.1
FMW	Mount Fremont	6.51	115	Pn	Pn	06 16 35.7	+1.9
LON	Longmire	6.53	117	Pn	Pn	06 16 37.5	+3.6
BMBC	Bull Mountain	7.74	36	P	Pn	06 16 52.2	+1.6
NBC4	NorthernBC 4	8.09	42	P	Pn	06 16 54.9	-0.4
NBC4				S	Sn	06 18 24.2	-2.6
NBC5	NorthernBC 5	8.72	28	P	Pn	06 17 05.4	+1.5
NBC5				S	Sn	06 18 40.4	-1.8
FNBB	Fort Nelson	9.80	23	P	Pn	06 17 20.4	+1.8

*ISCJB **09** 06:37:59.7±0.4, 58°.89S±0°.07×26°.4W±0°.2, h116km, mb4.3/10, Error ellipse: s-maj=14.1km s-min=6.9km az=141.9*
*IDC **09** 06:38:02.5±5.0, 58°.97S×26°.43W, h131km±46km, mb4.0/10, mb1 4.1/11, mb1mx3.8/30, mbtmp4.4/11, Error ellipse: s-maj=21.7km s-min=14.9km az=46.0*
*NEIC **09** 06:38:05.7±1.4, 59°.0S±0°.1×26°.4W±0°.2, h162km±4km, mb4.2/19*

ISC 09 06:38:00.8±0.6, 59°.06S±0°.09×26°.3W±0°.1, h116km, n42, σ1°.49/46, mb4.3/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.84	154	P	P	06 41 15.9	-0.2
VNA1				S	Sn	06 43 41.5	-2.4
VNA3	Neumayer Olymp	14.00	157	P	P	06 41 17.7	-0.3
VNA3				S	Sn	06 43 40.1	-7.9
VNA2	Neumayer--Watz	14.24	154	P	P	06 41 21.1	+0.5
baz=315,slow=14							
VNA2				S	Sn	06 43 47.4	-6.2
baz=314,slow=22							
SNAA	Sanae	15.82	152	P	P	06 41 40.1	+2.0
SNAA				S	Sn	06 44 30.9	-0.8
SNAA	Sanae	15.82	152	P	P	06 41 40.1	+2.0
1.3nm,0.3s,baz=308,slow=8.8,SNR=21							
SNAA				S	Sn	06 44 30.7	-1.0
0.3nm,0.3s,baz=348,slow=17,SNR=4.4							
SNAA	Sanae	15.82	152	P	P	06 41 39.6	+1.5
SNAA					Sn	06 44 30.5	-1.2
EFI	East Falkland	19.34	279	P	Pn	06 42 17.9	-1.2
TRQA	Tornquist	31.02	297	P	P	06 44 07.4	+0.2
TRQA				IAmb	IAmb	06 44 13.3	
comp=Z,9.6nm,1.4s							
QSPA	South Pole Qui	31.18	180	P	P	06 44 10.3	+1.9
comp=Z,6.0nm,0.6s,baz=214,slow=1.4,SNR=70							
QSPA	South Pole Qui	31.18	180	P	P	06 44 10.4	+1.9
PLCA	Paso Flores	33.08	284	P	P	06 44 25.8	+0.5
PLCA				IAmb	IAmb	06 44 44.5	
comp=Z,4.6nm,1.3s							
MAW	Mawson	37.48	141	P	P	06 45 03.7	+1.2
comp=Z,4.2nm,0.8s,baz=234,slow=9.1,SNR=7.9							
MAW	Mawson	37.48	141	P	P	06 45 04.0	+1.5
CFA	Coronel Fontan	39.23	296	P	P	06 45 16.3	-1.3
comp=Z,2.7nm,0.6s,baz=147,slow=8.4,SNR=7.5							
SBA	Scott Base	43.10	184	P	P	06 45 51.8	+3.2
SBA				IAmb	IAmb	06 45 52.2	
comp=Z,3.0nm,0.7s							
BOSA	Boshof	46.36	72	P	P	06 46 15.2	-0.1
comp=Z,5.2nm,0.6s,baz=201,slow=7.7,SNR=13							
BOSA	Boshof	46.36	72	P	P	06 46 15.6	+0.4
BOSA				IAmb	IAmb	06 46 16.4	
comp=Z,6.3nm,0.8s							
LVC	Limon Verde	47.25	302	P	P	06 46 22.3	-0.1
comp=Z,2.7nm,0.6s,baz=158,slow=5.4,SNR=3.2							
LVC	Limon Verde	47.25	302	P	P	06 46 22.6	+0.1
LVC				IAmb	IAmb	06 46 36.6	
comp=Z,3.3nm,0.8s							
LBTB	Lobatse	49.52	70	P	P	06 46 40.3	+0.7
LBTB				IAmb	IAmb	06 46 40.8	
comp=Z,5.8nm,0.8s							
GO01	Chusmiza	49.96	303	P	P	06 46 42.7	-0.7
GO01				IAmb	IAmb	06 46 50.1	
comp=Z,9.8nm,1.5s							
MNMC	Minye Minye	50.61	303	P	P	06 46 47.9	-0.1
MNMC				IAmb	IAmb	06 46 48.7	
comp=Z,7.1nm,0.8s							
LPAZ	La Paz	52.52	306	P	P	06 47 01.8	-0.8
comp=Z,0.7nm,0.5s,baz=79,slow=5.4,SNR=7.2							
LPAZ	La Paz	52.52	306	P	P	06 47 01.4	-1.3
TOA0	Torodi Ar. Sit	75.48	28	P	P	06 49 32.1	+0.1
TORD	Torodi Ar. Bea	75.48	28	P	P	06 49 31.9	0.0
comp=Z,1.1nm,0.3s,baz=193,slow=6.8,SNR=18							
TORD	Torodi Ar. Bea	75.48	28	P	P	06 49 31.0	-1.0
QRZ	Quartz Range	79.25	194	P	P	06 49 51.6	-1.2
STKA	Stephens Creek	88.84	170	P	P	06 50 41.7	+0.1
comp=Z,1.7nm,0.6s,baz=194,slow=4.2,SNR=3.7							
STKA	Stephens Creek	88.84	170	P	P	06 50 41.9	+0.3
ASAR	Alice Springs	95.97	162	P	P	06 51 14.3	-0.3
comp=Z,1.7nm,0.7s,baz=183,slow=4.1,SNR=34							
ASAR	Alice Springs	95.97	162	P	P	06 51 14.5	-0.2
AS31	Alice Springs	95.97	162	P	P	06 51 14.5	-0.2
AS31				IAmb	IAmb	06 51 15.1	
comp=Z,0.7nm,0.7s							
WRA	Warramunga Arr	99.69	162	P	Pdif	06 51 30.4	-0.9
comp=Z,0.3nm,0.8s,baz=190,slow=4.2,SNR=3.4							
WRA	Warramunga Arr	99.69	162		Pdif	06 51 30.9	-0.5
ARCES	ARCESS Array B	133.57	22	PKP	PKPdf	06 57 01.2	-0.5
comp=Z,5.1nm,1.2s,baz=196,slow=2.5,SNR=4.4							
ARCES	ARCESS Array B	133.57	22		PKPdf	06 57 01.4	-0.3
ZALV	Zalesovo Beam	143.20	67	PKhKP	PKPpre	06 57 15.6	
comp=Z,1.1nm,0.3s,baz=202,slow=3.3,SNR=5.2							
SONM	Songino Array	150.33	91	PKPbc	PKPbc	06 57 37.3	-0.1
comp=Z,3.2nm,0.8s,baz=228,slow=2.8,SNR=14							
SONM	Songino Array	150.33	91		PKPbc	06 57 36.6	-0.8
ILAR	Eielson Array	152.40	307	PKPbc	PKPbc	06 57 40.9	-0.6
comp=Z,0.3nm,0.8s,baz=145,slow=3.4,SNR=4.5							
ILAR	Eielson Array	152.40	307		PKPbc	06 57 39.4	-2.0

*IDC **09** 06:48:38.6±1.7, 38°.47N×142°.20E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/35, mbtmp3.7/6, ML2.5/1, Error ellipse: s-maj=43.7km s-min=22.2km az=69.0*
*ISCJB **09** 06:48:46.6±0.8, 38°.23N±0°.04×141°.76E±0°.09, h57km±5km, mb3.7/5, Error ellipse: s-maj=12.7km s-min=5.2km az=20.4*
*JMA **09** 06:48:47.9±0.1, 38°.24N×141°.70E, h51km±1km, M3.5*
JMA Felt I J1.

ISC 09 06:48:47.1±1.3, 38°.24N±0°.05×141°.80E±0°.09, h48km±9km, n28, σ1°.34/35, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.27	285	P	Pn	06 48 56.3	+0.6
JIKH				S	Sn	06 49 02.1	+0.3
JIO	Ouri	0.42	301	P	Pn	06 48 57.6	+0.4
JIO				S	Sn	06 49 04.2	-0.1
JKMT	Kesennumamotoy	0.63	336	P	Pn	06 49 00.3	+0.6
JKMT				S	Sn	06 49 08.9	0.0
JOFO	Osakifurukawao	0.79	298	P	Pn	06 49 02.2	+0.4
JOFO				eS	Sn	06 49 12.6	0.0
JMK	Ichinoseki	0.85	328	P	Pn	06 49 03.2	+0.6
JMK				S	Sn	06 49 14.0	0.0
OFUJ	Ofunato	0.85	353	P	Pn	06 49 03.3	+0.6
OFUJ				eS	Sn	06 49 14.4	+0.4
JMM	Marumori	0.88	245	P	Pn	06 49 02.6	-0.5
JMM				S	Sn	06 49 13.4	-1.4
JOU	Okura	0.90	278	P	Pn	06 49 03.4	0.0
JOU				S	Sn	06 49 15.0	-0.4
JFK	Kawauchi	1.14	220	P	Pn	06 49 06.6	0.0
JFK				eS	Sn	06 49 20.3	-0.9
JOM	Ohasama	1.29	342	P	Pn	06 49 09.6	+0.9
JOM				eS	Sn	06 49 25.9	+1.0
JYK	Kaneyama	1.32	301	P	Pn	06 49 09.3	+0.3
JFT	Otama	1.36	239	P	Pn	06 49 10.0	+0.3
JFT				eS	Sn	06 49 25.9	-0.7
JYS	Shirataka	1.37	270	P	Pn	06 49 09.8	+0.1
JRG	Rokugo	1.47	322	P	Pn	06 49 12.0	+0.9
JYA	Atsumi	1.68	283	P	Pn	06 49 14.2	+0.2
MJAR	Matsushiro Arr	3.33	240	Pn	Pn	06 49 37.8	+1.2
0.3nm,0.3s,baz=52,slow=10,SNR=13							
MJAR				Sn	Sn	06 50 20.6	+5.7
0.2nm,0.3s,baz=74,slow=11,SNR=4.5							
MAT	Matsushiro	3.33	241	P	Pn	06 49 38.4	+1.8
MAT				eS	Sn	06 50 16.0	+1.1
H11N2	WAKE ISLAND Hy	28.52	123	T	T	07 24 52.4	
baz=316,slow=75,SNR=44							
H11N1	WAKE ISLAND Hy	28.53	123	T	T	07 24 54.4	
baz=316,slow=75,SNR=56							
H11N3	WAKE ISLAND Hy	28.54	123	T	T	07 24 55.9	
baz=316,slow=75,SNR=60							
H11S1	WAKE ISLAND Hy	29.28	125	T	T	07 25 48.7	
baz=317,slow=76,SNR=26							
H11S3	WAKE ISLAND Hy	29.28	125	T	T	07 25 52.3	
baz=317,slow=76,SNR=25							
H11S2	WAKE ISLAND Hy	29.29	125	T	T	07 25 49.9	
baz=317,slow=76,SNR=32							
ZALV	Zalesovo Beam	41.34	311	P	P	06 56 25.1	-2.8
0.8nm,0.3s,baz=92,slow=6.3,SNR=2.9							
MKAR	Makanchi Array	43.75	301	P	P	06 56 47.7	0.0
0.6nm,0.6s,baz=79,slow=9.6,SNR=3.0							
KURBB	Kurchatov Arra	45.51	307	P	P	06 57 00.9	-0.6
1.0nm,0.3s,baz=86,slow=8.4,SNR=6.6							
WRA	Warramunga Arr	58.30	188	P	P	06 58 36.7	-0.3
0.4nm,0.5s,baz=4.3,slow=6.8,SNR=15							
ASAR	Alice Springs	62.02	188	P	P	06 59 02.7	+0.3
0.2nm,0.6s,baz=356,slow=6.0,SNR=3.6							

IDC 09 07:07:26.1±5.2, 17°.57S×176°.31W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/41, mbtmp3.5/3, Error ellipse: s-maj=389.0km s-min=30.5km az=153.0, Fiji Islands region

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

KTHR S **Sn** **07 15 22.3 +3.0**
comp=N,3μm,0.5s
MNVA Monemvasia 1.29 350 P **Pn** **07 15 14.7 +1.5**
MNVA S **Sn** **07 15 30.8 +1.5**
MNVA AML AML 07 15 35.6
comp=E,1793μm,0.7s
MNVA AML AML 07 15 36.0
comp=N,1069μm,0.5s
SIVA Sivas 1.29 108 P **Pn** **07 15 14.7 +1.4**
SIVA S **Sn** **07 15 31.0 +1.7**
SIVA AML AML 07 15 49.9
comp=E,2066μm,0.6s
SIVA AML AML 07 15 53.3
comp=N,1440μm,0.5s
VLI Veliai 1.33 347 P **Pn** **07 15 15.5 +1.6**
VLI Veliai 1.33 347 P **Pn** **07 15 15.6 +1.8**
VLI S **Sn** **07 15 31.8 +1.4**
VLI AML AML 07 15 36.7
comp=N,1773μm,0.5s
VLI AML AML 07 15 37.8
comp=E,1060μm,0.5s
MHLO Agia Marina, M 1.55 35 P **Pn** **07 15 17.6 +0.8**
MHLO S **Sn** **07 15 36.7 +1.0**
MHLO AML AML 07 15 39.5
comp=N,4141μm,0.5s
MHLO AML AML 07 15 41.0
comp=E,5381μm,0.5s
MHLA Plaka, Milos I 1.60 34 P **Pn** **07 15 18.5 +1.0**
MHLA S **Sn** **07 15 37.7 +0.7**
MHLA AML AML 07 15 49.6
comp=N,2657μm,1.0s
MHLA AML AML 07 15 51.8
comp=E,1797μm,1.0s
NPS Neapolis 1.89 94 P **Pn** **07 15 23.4 +2.0**
NPS S **Sn** **07 15 45.8 +1.8**
NPS AML AML 07 16 01.4
comp=N,453μm,0.5s
NPS AML AML 07 16 05.7
comp=E,626μm,0.5s
THR9 Santorini-Faro 1.91 60 P **Pn** **07 15 23.0 +1.3**
THR5 Thira Island, 1.93 58 P **Pn** **07 15 23.5 +1.5**
SAP3 Santorini-Thir 1.94 58 P **Pn** **07 15 23.5 +1.4**
PYL PYLOS 1.95 328 P **Pn** **07 15 22.8 +0.6**
THR3 Thira Island, 1.96 59 P **Pn** **07 15 23.7 +1.3**
SERI Serifos 1.98 28 P **Pn** **07 15 23.1 +0.4**
SERI S **Sn** **07 15 46.4 0.0**
SERI AML AML 07 15 50.5
comp=N,384μm,0.3s
SERI AML AML 07 16 01.2
comp=E,664μm,0.8s
SANT Santorini 1.99 61 P **Pn** **07 15 24.1 +1.2**
SANT S **Sn** **07 15 47.6 +1.1**
SANT AML AML 07 15 56.8
comp=E,498μm,0.3s
SANT AML AML 07 15 58.1
comp=N,216μm,0.4s
SANT Santorini 1.99 61 PN **Pn** **07 15 23.3 +0.5**
ITM Ithomi 2.08 328 P **Pn** **07 15 25.7 +1.5**
ITM Ithomi 2.08 328 PN **Pn** **07 15 25.2 +1.0**
DID Didima 2.08 358 P **Pn** **07 15 26.0 +1.7**
VLX Vlachokerasia 2.09 339 P **Pn** **07 15 27.5 +3.2**
ANAF Anafi Island 2.21 64 P **Pn** **07 15 26.9 +1.0**
ZKR Zakros 2.40 96 P **Pn** **07 15 31.5 +3.0**
ZKR Zakros 2.40 96 PN **Pn** **07 15 29.6 +1.1**
APE Apeiranthos 2.44 47 P **Pn** **07 15 30.0 +0.9**
APE Apeiranthos 2.44 47 PN **Pn** **07 15 29.7 +0.7**
AMGA Amorgos Island 2.52 55 P **Pn** **07 15 31.6 +1.4**
KARP Karpathos 3.14 87 P **Pn** **07 15 39.7 +1.0**
KARP Karpathos 3.14 87 PN **Pn** **07 15 39.9 +1.2**
BODT Bodrum 3.62 62 PN **Pn** **07 15 46.8 +1.5**
AGG Agios Georgios 3.68 348 PN **Pn** **07 15 47.7 +1.6**
CHOS Chios island 3.69 36 PN **Pn** **07 15 47.2 +0.9**
DAT Datca 3.69 68 *i* P **Pn** **07 15 47.6 +1.2**
DAT IAML_P
comp=Z,108nm,0.2s
AOS Alonnisos 3.77 7 PN **Pn** **07 15 47.4 +0.1**
URLA Izmir 3.94 41 PN **Pn** **07 15 50.6 +0.9**
ARG Arkhangelos 3.99 77 PN **Pn** **07 15 51.6 +1.2**
SLUM Salum 4.23 157 P **Pn** **07 15 54.7 +1.1**
baz=166
SLUM AMP 07 16 00.0
baz=166
SLUM S Sn 07 16 35.8 -5.8
baz=166
YER Yerkesik 4.37 65 PN **Pn** **07 15 57.1 +1.6**
TURN Turunc 4.52 70 *i* P Pn 07 15 52.3 -5.3
DALY Dalyan (Mula) 4.54 71 *i* P **Pn** **07 15 59.6 +1.7**
FETY Fethiye 4.83 74 *i* P **Pn** **07 16 03.9 +2.0**
FETY Fethiye 4.83 74 PN **Pn** **07 16 02.9 +1.0**
TAVA DENİZLİ_Tavas 4.96 64 *i* P **Pn** **07 16 06.1 +2.4**
TAVA IAML_P
comp=Z,269nm,0.2s
HORT Hortiatis 5.17 358 PN **Pn** **07 16 06.7 +0.1**
AKAS Kas 5.18 79 *i* P **Pn** **07 16 06.7 -0.1**
AKAS Kas 5.18 79 PN **Pn** **07 16 07.3 +0.5**
GOLH Golhisar 5.36 68 *i* P **Pn** **07 16 11.3 +2.0**
GOLH IAML_P
comp=Z,1μm,0.1s
FNA Florina 5.57 345 PN **Pn** **07 16 12.0 -0.1**
KNT Kendrikon 5.74 357 PN **Pn** **07 16 15.5 +1.1**
AKUM Antalya-Kumluc 5.78 79 *i* P **Pn** **07 16 15.5 +0.7**
AKUM IAML_P
comp=Z,2μm,0.1s
KORT Korkueli 5.91 72 *i* P **Pn** **07 16 18.4 +1.6**
KORT IAML_P
comp=Z,295nm,0.2s
SWA2 6.42 163 P **Pn** **07 16 22.2 -1.5**
baz=169
SWA2 AMP 07 17 00.0
baz=169
FASA Fasano 7.15 321 *e*Pn Pn 07 16 25.2 -8.4
SG1 Sgolgore (BA) 7.52 318 *e*Pn **Pn** **07 16 36.9 -1.9**
SG1 Sn Sn 07 17 51.5 -11
BRTR Keskin Array B 9.26 59 P **Pn** **07 17 04.5 +1.8**
comp=Z,0.1nm,0.3s,baz=248,slow=15,SNR=6.6
HFRF Wahat Farafira 9.29 151 P **Pn** **07 17 01.5 -1.5**
baz=155
SUZ Suez 9.76 122 P **Pn** **07 17 06.7 -2.9**
baz=124
RSH 9.79 114 P Pn 07 17 06.1 -3.7
baz=115
EIL Elat 11.37 117 P **Pn** **07 17 29.0 -2.4**
comp=Z,0.2nm,0.3s,baz=9.5,slow=18,SNR=3.7
EIL S Sn 07 19 25.9 -11
comp=Z,0.5nm,0.3s,baz=60,slow=20,SNR=4.4
VRAC Vranov 14.73 342 LR LR 07 25 55.3
comp=Z,44nm,18.8s,baz=63,slow=45
GERES GERESS Array B 15.18 335 P **P** **07 18 27.1 -0.2**
comp=Z,0.3nm,0.3s,baz=152,slow=12,SNR=5.3
AKASG Malin Array Be 15.87 14 P **Pn** **07 18 33.2 +1.5**
comp=Z,1.6nm,0.3s,baz=203,slow=10,SNR=6.2
HFS Hagfors 25.51 349 P **P** **07 20 14.6 -1.0**
comp=Z,2.2nm,0.5s,baz=143,slow=10,SNR=11
FINES FINESS Array B 26.11 3 P **P** **07 20 18.7 -2.2**
comp=Z,3.2nm,0.9s,baz=178,slow=9.7,SNR=4.0
NOA NORSAR Array B 26.79 347 P **P** **07 20 25.6 -1.6**
comp=Z,0.8nm,1.0s,baz=155,slow=9.4,SNR=6.1
EKA Eskdalemuir Ar 26.97 326 P **P** **07 20 29.5 +0.7**
comp=Z,0.5nm,0.4s,baz=123,slow=8.8,SNR=6.2
TORD Torodi Ar. Bea 29.53 227 P **P** **07 20 52.7 +0.7**
comp=Z,0.2nm,0.4s,baz=33,slow=9.4,SNR=3.1
ARCES ARCESS Array B 34.19 1 P P 07 21 29.9 -2.5
comp=Z,3.4nm,1.0s,baz=187,slow=8.8,SNR=6.3
KURBB Kurchatov Arra 42.14 51 P P 07 22 37.6 -1.8
comp=Z,0.3nm,0.3s,baz=282,slow=8.6,SNR=5.2
SPITS Spitsbergen Ar 42.97 358 P **P** **07 22 44.6 -1.2**
comp=Z,7.8nm,1.1s,baz=155,slow=14,SNR=5.7
MKAR Makanchi Array 44.89 57 P **P** **07 23 00.6 -1.1**
comp=Z,0.4nm,0.3s,baz=261,slow=7.3,SNR=3.6
ZALV Zalesovo Beam 45.92 46 P P 07 23 07.8 -1.8
comp=Z,1.5nm,0.3s,baz=268,slow=9.3,SNR=7.5
JNU Nakatsue 83.86 54 LR LR 08 12 08.1
comp=Z,37nm,18.3s,baz=182,slow=41

*IDC **09** 07:32:36.9±1.9, 56°.34S×27°.82W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/25, mbtmp3.8/1, Error ellipse: s-maj=103.1km s-min=76.6km az=144.0*
*ISCJB **09** 07:32:52.7±0.7, 55°.93S±0°.10×27°.5W±0°.2, h121km, mb3.5/1, Error ellipse: s-maj=18.8km s-min=9.5km az=142.4*
*NEIC **09** 07:32:55.4±1.4, 55°.9S±0°.1×27°.8W±0°.1, h134km±6km, mb4.0/5*

ISC 09 07:32:54.2±0.7, 55°.9S±0°.1×27°.7W±0°.1, h121km, n29, σ1§22/30, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.29**	**284**	Pn	**Pn**	**07 34 13.4**	**+2.4**
HOPE				Sn	**Sn**	**07 35 07.7**	**-3.1**
VNA1	**Neumayer--Stat**	**17.05**	**158**	P	**P**	**07 36 43.6**	**-1.0**
VNA3	**Neumayer Olymp**	**17.24**	**160**	P	**P**	**07 36 45.4**	**-1.4**
VNA2	**Neumayer--Watz**	**17.45**	**158**	P	**P**	**07 36 47.9**	**-1.2**
baz=321,slow=12							
SNAA	**Sanae**	**19.00**	**156**	P	**P**	**07 37 05.1**	**-1.0**
SNAA	**Sanae**	**19.00**	**156**	P	**P**	**07 37 04.8**	**-1.3**
GO09	**Cerro Castillo**	**26.53**	**261**	P	**P**	**07 38 22.0**	**+1.8**
QSPA	**South Pole Qui**	**34.36**	**180**	P	**P**	**07 39 28.3**	**-0.8**
MAW	**Mawson**	**40.45**	**144**	P	**P**	**07 40 22.1**	**+2.0**
SBA	**Scott Base**	**46.21**	**184**		**P**	**07 41 07.0**	**+0.7**
GO01	**Chusmiza**	**47.61**	**302**	P	**P**	**07 41 18.2**	**-0.2**
GO01				IAmb	IAmb	07 41 36.6	
comp=Z,5.6nm,1.2s							
MNMC	**Minye Minye**	**48.27**	**302**	P	**P**	**07 41 23.5**	**+0.3**
TOA0	**Torodi Ar. Sit**	**73.07**	**30**	P	**P**	**07 44 11.0**	**+0.1**
TOA0				IAmb	IAmb	07 44 14.3	
comp=Z,2.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.07**	**30**	P	**P**	**07 44 11.1**	**+0.1**
comp=Z,0.3nm,0.3s,baz=196,slow=6.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**73.07**	**30**	P	**P**	**07 44 11.3**	**+0.4**
PDAR	**Pinedale Array**	**120.01**	**303**	PKPdf	**PKiKP**	**07 51 30.6**	**+0.6**
EPYK	**Eagle Plains**	**146.11**	**317**	PKPdf	**PKPbc**	**07 52 17.8**	**-0.9**
SCRK	**Sand Creek**	**148.38**	**311**	PKPbc	**PKPbc**	**07 52 24.3**	**-0.8**
ILAR	**Eielson Array**	**149.79**	**312**	PKPbc	**PKPbc**	**07 52 27.4**	**-1.0**
comp=Z,0.9nm,0.7s,baz=116,slow=2.1,SNR=12							
GHO	**Glory Hole Cre**	**149.96**	**306**	PKPbc	**PKPbc**	**07 52 28.2**	**-0.7**
RND	**Reindeer**	**150.34**	**309**	PKPbc	**PKPbc**	**07 52 29.5**	**-0.3**
TRF	**Thorofare Moun**	**150.98**	**309**	PKPbc	**PKPbc**	**07 52 30.5**	**-1.0**
SONM	**Songino Array**	**151.01**	**87**	PKPbc	**PKPbc**	**07 52 30.7**	**-1.3**
comp=Z,0.8nm,0.5s,baz=250,slow=2.8,SNR=3.7							
SONM	**Songino Array**	**151.01**	**87**		**PKPbc**	**07 52 31.0**	**-1.0**
SKT	**Skwentna**	**151.21**	**305**	PKPbc	**PKPbc**	**07 52 31.2**	**-0.6**
TOLK	**Toolik Lake Re**	**151.37**	**320**	PKPbc	**PKPbc**	**07 52 31.5**	**-0.5**
RSO	**Redoubt South**	**151.40**	**302**	PKPab	**PKPab**	**07 52 40.5**	**-0.9**
BPAW	**Bear Paw Mtn.**	**151.41**	**310**	PKPbc	**PKPbc**	**07 52 31.3**	**-0.9**
IMAR	**Indian Mountai**	**152.81**	**314**	PKPbc	**PKiKP**	**07 52 35.1**	**-0.4**

*ISK **09** 07:34:13.6, 38°.42N×42°.93E, h2km, ML3.0/13*
*ISCJB **09** 07:34:14.5±0.6, 38°.39N±0°.03×42°.95E±0°.03, h2km±5km, Error ellipse: s-maj=5.7km s-min=3.5km az=158.3*
*DDA **09** 07:34:14.5, 38°.44N×42°.92E, h8km±4km, ML3.1*

ISC 09 07:34:14.9±1.1, 38°.42N±0°.03×42°.94E±0°.02, h9km±10km, n26, σ0§70/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.39**	**73**	*i* P	**Pg**	**07 34 22.3**	**-0.2**
VANB	**Van**	**0.40**	**63**	PG	**Pg**	**07 34 22.1**	**-0.6**
VANB				SG	**Sg**	**07 34 28.9**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.43**	**337**	*i* P	**Pb**	**07 34 23.9**	**-0.8**
BLIS	**Bitlis-Merkez**	**0.65**	**270**	*i* P	**Pg**	**07 34 27.3**	**0.0**
BLIS				*i* S	**Sg**	**07 34 35.9**	**+0.1**
GURO	**Guroymak-BITLI**	**0.72**	**281**	PG	**Pg**	**07 34 28.4**	**-0.4**
GURO				SG	**Sg**	**07 34 38.4**	**+0.1**
VMUR	**Van-Muradiye**	**0.76**	**41**	*i* P	**Pb**	**07 34 29.9**	**-0.5**
VMUR				*i* S	**Sb**	**07 34 41.3**	**+0.4**
MLAZ	**Malazgirt-MUS**	**0.79**	**338**	PG	**Pg**	**07 34 29.9**	**-0.1**
MLAZ				SG	**Sb**	**07 34 41.7**	**+0.1**
SRTM	**Siirt_Merkez**	**0.90**	**242**	*i* P	**Pn**	**07 34 33.6**	**-0.3**
SRTM				*i* S	**Sn**	**07 34 46.5**	**-0.5**
TUTA	**Tutak**	**0.99**	**355**	*i* P	**Pg**	**07 34 33.2**	**-0.8**
HAKT	**HAKKARI**	**1.05**	**144**	*i* P	**Pg**	**07 34 35.1**	**0.0**
CLDR	**Caldiran**	**1.06**	**46**	*i* P	**Pg**	**07 34 34.1**	**-1.0**
CLDR				IAML_P			
comp=Z,5μm,0.2s							
CLDR	**Caldiran**	**1.06**	**46**	PG	**Pg**	**07 34 34.0**	**-1.2**
CLDR				SG	**Sb**	**07 34 49.6**	**+0.1**
EKAR	**Karacoban**	**1.08**	**321**	*i* P	**Pn**	**07 34 37.5**	**+1.1**
MUSM	**Mu-Merkez**	**1.16**	**286**	*i* P	**Pb**	**07 34 36.3**	**-0.8**
MUSM				*i* S	**Sg**	**07 34 52.3**	**+0.1**
CUKT	**Cukurca**	**1.28**	**155**	PN	**Pb**	**07 34 39.0**	**-0.2**
VRTB	**Varto-Mus**	**1.38**	**303**	PN	**Pb**	**07 34 40.8**	**0.0**
SVAN	**Silvan-Diyarba**	**1.39**	**260**	*i* P	**Pg**	**07 34 41.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.39**	**260**	PN	**Pg**	**07 34 41.3**	**-0.3**
EATA	**Eleskirt**	**1.49**	**347**	*i* P	**Pg**	**07 34 43.4**	**0.0**
EATA				*i* S	**Sg**	**07 35 04.6**	**+1.9**
EATA				IAML_P			
comp=Z,637nm,0.2s							
KARO	**Karliova-Bingo**	**1.72**	**302**	PN	**Pn**	**07 34 45.5**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.79**	**332**	PN	**Pb**	**07 34 46.7**	**-1.1**
HOMI	**Horasan**	**1.81**	**334**	*i* P	**Pb**	**07 34 48.1**	**-0.3**
BNGB	**Bingl**	**1.86**	**289**	PN	**Pb**	**07 34 48.1**	**-0.9**
MAZI	**Mazidag**	**2.19**	**245**	PN	**Pn**	**07 34 52.0**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.19**	**348**	PN	**Pn**	**07 34 52.3**	**+0.7**
DYBB	**Diyarbakir**	**2.25**	**259**	PN	**Pn**	**07 34 53.1**	**+0.8**

*BJI **09** 07:48:39.4±0.0, 2°.70N×127°.20E, h15km, mb4.8/31, mB5.0/21, Ms4.7/7, Ms7 4.4/6*
*IDC **09** 07:48:40.9±3.2, 2°.69N×127°.24E, h22km±19km, mb4.3/26, mb1 4.4/26, mb1mx4.2/48, mbtmp4.4/26, MS3.3/5, Ms1 3.3/5, ms1mx2.8/40, Error ellipse: s-maj=24.2km s-min=10.9km az=79.0*
*ISCJB **09** 07:48:42.7±0.2, 2°.75N±0°.03×127°.30E±0°.04, h49km, mb4.5/34, Error ellipse: s-maj=6.0km s-min=3.8km az=155.2*
*NEIC **09** 07:48:42.0±1.4, 2°.73N±0°.05×127°.23E±0°.10, h27km±4km, mb4.7/38*
*DJA **09** 07:48:43.3±0.3, 3°.N±3°.×12°.7E±°, h44km±8km, M4.3/12, mb4.5/9, mB4.9/7, MLv4.3/12, Mw(mB)4.2/7*

ISC 09 07:48:44.8±0.3, 2.76N±0°.05×127°.33E±0°.06, h49km, n130, σ1§39/139, mb4.6/51, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.97**	**179**	P	**Pn**	**07 49 14.6**	**-1.2**
SGSI	**Sangihe**	**2.02**	**297**	P	**Pn**	**07 49 15.2**	**-1.3**
SGSI				S	**Sn**	**07 49 37.9**	**-2.7**
DAV	**Davao City (W)**	**4.63**	**338**	Pn	**Pn**	**07 49 48.6**	**-3.6**
KCP	**Kidapawan**	**4.78**	**332**	*e*P	**Pn**	**07 49 54.6**	**+0.3**
SANI	**Sanana**	**4.96**	**196**	P	**Pn**	**07 49 57.2**	**+0.4**
26nm,0.6s,1μm0.2nm							
SWI	**Sorong**	**5.32**	**132**	P	**Pn**	**07 50 02.3**	**+0.5**
69nm,0.9s,1μm0.3nm							
SIJI	**Sorong**	**5.33**	**132**	Pn	**Pn**	**07 50 02.6**	**+0.7**
16nm,0.3s,baz=318,slow=16,SNR=23							
SIJI				Sn	**Sn**	**07 51 02.2**	**+0.1**
2.3nm,0.3s,baz=186,slow=19,SNR=3.0							
SIJI				LR	LR	07 52 23.5	
comp=Z,348nm,19.6s,baz=278,slow=42							
MRSI	**Marisa**	**5.85**	**247**	P	**Pn**	**07 50 10.1**	**+1.2**
123nm,0.6s,1μm0.4nm							
MPSI	**Mapaga**	**7.81**	**252**	P	**Pn**	**07 50 37.3**	**+1.4**
7.0nm,0.6s,1μm							
KKM	**Kota Kinabalu**	**11.55**	**287**	Pn	**Pn**	**07 51 29.0**	**+1.7**
JAY	**Jayapura**	**14.36**	**111**	LR	LR	07 57 24.8	
comp=Z,95nm,18.5s,baz=201,slow=36							
SBUM	**Sibu**	**15.10**	**269**	P	**P**	**07 52 19.6**	**+0.2**
TWSI	**Taliwang, Sumb**	**15.46**	**222**	P	**Pn**	**07 52 20.4**	**+0.7**
33nm,0.8s,13μm							
KNRA	**Kununurra**	**18.37**	**176**	P	**Pn**	**07 52 56.1**	**+0.1**
PWJI	**Pagerwojo**	**18.83**	**235**	P	**P**	**07 53 00.0**	**-0.7**
43nm,2.0s							
PCJI	**Pacitan**	**19.44**	**236**	P	**Pn**	**07 53 08.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.79**	**185**	P	**P**	**07 53 20.0**	**-2.0**
2.2nm,0.6s,baz=34,slow=7.2,SNR=8.6							
FITZ	**Fitzroy Crossi**	**20.79**	**185**	P	**P**	**07 53 20.0**	**-2.0**
TWG	**Pinlang**	**20.85**	**344**	P	**P**	**07 53 20.8**	**-1.8**
YULB	**Yu-li**	**21.33**	**345**	P	**P**	**07 53 24.7**	**-3.1**
YULB				IAmb	IAmb	07 53 32.5	
comp=Z,16nm,0.8s							
TPUB	**Ta-pu**	**21.43**	**343**	P	**P**	**07 53 26.0**	**-2.9**
SSLB	**Suanglung**	**21.80**	**344**	P	**P**	**07 53 31.8**	**-1.0**
SSLB				IAmb	IAmb	07 53 37.7	
comp=Z,27nm,1.0s							
YHNB	**Yeheng**	**22.53**	**346**	P	**P**	**07 53 39.7**	**-1.0**
YHNB				IAmb	IAmb	07 53 47.6	
comp=Z,30nm,1.0s							
WRAB	**Tennant Creek**	**23.58**	**163**	P	**P**	**07 53 50.2**	**-1.0**
WRA	**Warramunga Arr**	**23.58**	**163**	P	**P**	**07 53 49.3**	**-2.0**
comp=Z,2.5nm,0.4s,baz=337,slow=11,SNR=22							
WRA				PcP	**PcP**	**07 57 35.4**	**-0.1**
comp=Z,0.4nm,0.5s,baz=333,slow=1.9,SNR=4.3							
WRA				ScP	**ScP**	**08 01 11.7**	**+1.8**
comp=Z,0.5nm,0.8s,baz=336,slow=2.8,SNR=4.7							
WRA	**Warramunga Arr**	**23.58**	**163**	P	**P**	**07 53 49.5**	**-1.7**
WB2	**Warramunga Arr**	**23.59**	**163**	P	**P**	**07 53 49.6**	**-1.7**
WB2				IAmb	IAmb	07 54 01.2	
comp=Z,18nm,1.1s							
PSA00	**Pilbara Seismi**	**25.27**	**197**	P	**P**	**07 54 06.0**	**-0.6**
PSA00				IAmb	IAmb	07 54 10.2	
comp=Z,12nm,1.0s							
AS31	**Alice Springs**	**27.03**	**167**	P	**P**	**07 54 21.9**	**-0.7**
ASAR	**Alice Springs**	**27.03**	**167**	P	**P**	**07 54 21.2**	**-1.4**
comp=Z,1.0nm,0.4s,baz=344,slow=7.2,SNR=21							
ASAR				PcP	**PcP**	**07 57 43.0**	**-0.1**
comp=Z,1.0nm,0.6s,baz=2.9,slow=2.5,SNR=7.3							
ASAR				ScP	**ScP**	**08 01 21.2**	**+1.7**
comp=Z,0.7nm,0.7s,baz=353,slow=2.7,SNR=9.4							
ASAR	**Alice Springs**	**27.03**	**167**	P	**P**	**07 54 22.0**	**-0.6**
ASAR					**PcP**	**07 57 43.0**	**-0.1**
ASAR					**ScP**	**08 01 20.6**	**+1.0**
NJ2	**Nanjing**	**30.21**	**346**	*e*P	**P**	**07 54 52.0**	**+1.3**
NJ2				pmax	pmax		
comp=Z,15nm,0.7s							
WHN	**Wuhan**	**30.25**	**337**	P	P	07 54 57.0	+6.0
WHN				pmax	pmax		
comp=Z,26nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.88**	**301**	P	**P**	**07 55 04.2**	**-1.5**
comp=Z,1.3nm,0.4s,baz=107,slow=7.2,SNR=8.1							
CMAR	**Chiang Mai Arr**	**31.88**	**301**	P	**P**	**07 55 04.0**	**-1.7**
MORW	**Morawa**	**33.45**	**198**	P	**P**	**07 55 18.4**	**-0.8**
MORW				IAmb	IAmb	07 55 25.8	
comp=Z,6.6nm,1.0s							
KSRS	**Korea Array**	**34.53**	**1**	P	**P**	**07 55 28.6**	**+0.1**
comp=Z,1.7nm,0.6s,baz=185,slow=10,SNR=6.5							
TIA	**Tai'an**	**34.60**	**345**	P	**P**	**07 55 29.7**	**+0.6**
TIA				pmax	pmax		
comp=Z,15nm,0.8s							
MJAR	**Matsushiro Arr**	**35.09**	**15**	P	**P**	**07 55 31.3**	**-2.0**
comp=Z,1.0nm,0.5s,baz=192,slow=11,SNR=5.0							
MJAR	**Matsushiro Arr**	**35.09**	**15**	P	**P**	**07 55 32.0**	**-1.4**
BBOO	**Buckleboo**	**36.33**	**168**	P	**P**	**07 55 43.4**	**-0.6**
BBOO				IAmb	IAmb	07 55 51.6	
comp=Z,20nm,1.4s							
NWAO	**Narrogin (SRO)**	**36.76**	**194**	P	**P**	**07 55 46.9**	**-0.8**
NWAO				IAmb	IAmb	07 55 58.7	
comp=Z,19nm,1.1s							
STKA	**Stephens Creek**	**37.01**	**160**	P	**P**	**07 55 48.7**	**-1.2**
comp=Z,4.5nm,0.6s,baz=331,slow=10,SNR=9.4							
STKA				LR	LR	08 14 10.4	
comp=Z,32nm,19.4s,baz=22,slow=41							
STKA	**Stephens Creek**	**37.01**	**160**	P	**P**	**07 55 49.0**	**-0.9**
BJT	**Baijiatuau**	**38.45**	**346**	P	**P**	**07 56 02.1**	**+0.3**
BJI	**Beijing**	**38.47**	**346**	P	**P**	**07 56 02.5**	**+0.5**
BJI				pmax	pmax		
comp=Z,26nm,0.7s							
LZH	**Lanzhou**	**39.64**	**330**	*e*P	**P**	**07 56 14.0**	**+1.9**
LZH				pP	pP	07 56 21.6	-2.9
LZH				sP	pwP	07 56 25.4	-2.0
LZH				PP	**PP**	**07 57 44.4**	**+0.5**
LZH				pmax	pmax		
comp=Z,15nm,1.3s							
ARMA	**Armidale**	**40.33**	**147**	P	**P**	**07 56 17.4**	**-0.4**
ARMA				IAmb	IAmb	07 56 21.3	
comp=Z,6.6nm,0.7s							
HHC	**Hu-ho-hao-te**	**40.51**	**341**	P	**P**	**07 56 18.8**	**-0.3**
HHC				pmax	pmax		
comp=Z,8.0nm,0.9s							
SHL	**Shillong**	**40.94**	**307**	P	**P**	**07 56 22.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**41.47**	**5**	P	**P**	**07 56 26.9**	**0.0**
comp=Z,3.2nm,0.8s,baz=180,slow=8.0,SNR=4.4							
USRK	**Ussuriysk Ar.**	**41.47**	**5**	P	**P**	**07 56 26.7**	**-0.2**
ASAJ	**Asahikawa**	**43.35**	**16**	P	**P**	**07 56 42.9**	**+0.8**
comp=Z,5.3nm,0.7s,baz=207,slow=16,SNR=3.7							
JKA	**Kamikawa-asahi**	**43.35**	**16**	P	**P**	**07 56 42.9**	**+0.8**
LSA	**Lhasa**	**43.53**	**312**	P	**P**	**07 56 44.0**	**-0.5**
LSA				IAmb	IAmb	07 56 46.1	
comp=Z,10.0nm,0.7s							
GTA	**Gaotai**	**44.23**	**329**	*e*P	**P**	**07 56 49.0**	**-0.5**
GTA				pP	pP	07 56 55.2	-6.8
GTA				sP	pwP	07 56 58.4	-6.5
GTA				pmax	pmax		
comp=Z,4.0nm,0.6s							
GTA				pmax	pmax		
comp=Z,120nm,6.5s							
GTA				LR	LR		
comp=Z,150nm,16.2s							
GTA				LR	LR		
comp=Z,140nm,17.1s							
GTA				LR	LR		
comp=Z,160nm,15.6s							
TAPN	**Taplejung**	**45.08**	**307**	*e*P	**P**	**07 56 55.1**	**-1.5**
ODAN	**Odare**	**45.12**	**306**	*e*P	**P**	**07 56 55.3**	**-1.6**
comp=Z,28nm,0.7s							
DZM	**Mont Dzumac**	**45.49**	**125**	LR	LR	08 16 43.9	
comp=Z,66nm,18.3s,baz=286,slow=37							
RAMN	**Ramite**	**45.80**	**306**	*e*P	**P**	**07 57 01.0**	**-1.3**
comp=Z,28nm,0.8s							
JIRN	**Jiri**	**46.43**	**306**	*e*P	**P**	**07 57 05.9**	**-1.5**
comp=Z,38nm,0.7s							
KLR	**Kul'dur**	**46.45**	**4**	P	**P**	**07 57 06.3**	**-0.4**
comp=Z,1.2nm,0.5s,baz=186,slow=10,SNR=4.0							
GUN	**Gumba**	**46.78**	**306**	*e*P	**P**	**07 57 08.6**	**-1.5**
comp=Z,44nm,0.7s							
PKI	**Pulchoki**	**47.02**	**306**	*e*P	**P**	**07 57 09.9**	**-2.1**
comp=Z,14nm,0.8s							
PKIN	**Phulchoki**	**47.03**	**306**	*e*P	**P**	**07 57 09.9**	**-2.1**
KKN	**Kakani**	**47.22**	**306**	*e*P	**P**	**07 57 11.5**	**-1.9**
DMN	**Daman**	**47.28**	**306**	*e*P	**P**	**07 57 12.2**	**-1.7**
comp=Z,31nm,0.9s							
ULN	**Ulaanbaatar**	**48.22**	**342**	P	**P**	**07 57 22.1**	**+1.3**
SONM	**Songino Array**	**48.41**	**341**	P	**P**	**07 57 22.7**	**+0.6**
comp=Z,7.8nm,0.7s,baz=154,slow=8.4,SNR=49							
SONM				PcP	**PcP**	**07 58 47.9**	**0.0**
comp=Z,2.4nm,0.8s,baz=156,slow=4.3,SNR=6.8							
SONM				LR	LR	08 17 56.0	
comp=Z,30nm,19.7s,baz=132,slow=36							
SONM	**Songino Array**	**48.41**	**341**	P	**P**	**07 57 22.9**	**+0.7**
KOLN	**Koldanda**	**48.57**	**305**	*e*P	**P**	**07 57 22.5**	**-1.4**
comp=Z,62nm,0.7s							
DANN	**Dangsing**	**48.67**	**306**	*e*P	**P

KKAR IAmb IAmb 07 59 18.2
comp=Z,2.8nm,0.8s
KKAR Karatay Array 64.35 317 P **P 07 59 15.1 -0.5**
BVAR Borovoye Array 68.46 327 P **P 07 59 41.6 -0.1**
comp=Z,7.1nm,0.6s,baz=129,slow=8.2,SNR=35
BRVK Borovoye 68.53 327 P **P 07 59 42.3 +0.2**
TIXI Tiksi 68.80 1 P **P 07 59 42.7 -0.7**
comp=Z,4.4nm,0.4s,baz=203,slow=5.7,SNR=14
TIXI Tiksi 68.80 1 P **P 07 59 42.9 -0.5**
TIXI IAmb IAmb 07 59 43.7
comp=Z,5.8nm,0.5s
NRIK Noril'sk 71.51 346 P **P 08 00 00.2 +0.1**
comp=Z,11nm,0.7s,baz=129,slow=6.3,SNR=17
ABKAR Akbulak array 73.28 321 P **P 08 00 10.8 -0.2**
ABKAR Akbulak array 73.28 321 P **P 08 00 11.1 +0.1**
ABKAR IAmb IAmb 08 00 11.6
comp=Z,8.0nm,0.7s
AKTO Aktyubinsk 74.79 322 P **P 08 00 20.0 +0.1**
comp=Z,11nm,0.6s,baz=102,slow=8.3,SNR=47
ARU Arti 76.08 328 P **P 08 00 26.6 -0.5**
comp=Z,3.9nm,0.5s,baz=123,slow=4.6,SNR=16
ARU Arti 76.08 328 P **P 08 00 26.8 -0.3**
RAYN Ar Rayn 81.42 293 P **P 08 00 57.2 0.0**
KDAK Kodiak Island 82.39 32 P **P 08 01 02.4 +0.9**
IMAR Indian Mountai 82.98 24 P **P 08 01 05.5 +1.1**
MAW Mawson 83.06 200 P **P 08 01 04.7 0.0**
comp=Z,2.3nm,0.8s,baz=92,slow=8.5,SNR=4.9
MAW Mawson 83.06 200 P **P 08 01 04.9 +0.2**
SKT Skwentna 83.41 28 P **P 08 01 06.6 -0.1**
SKT IAmb IAmb 08 01 21.9
comp=Z,5.9nm,1.1s
RND Reindeer 84.77 27 P **P 08 01 13.9 +0.2**
RND IAmb IAmb 08 01 25.5
comp=Z,9.3nm,1.4s
TOLK Toolik Lake Re 84.92 21 P **P 08 01 15.8 +1.4**
TOLK IAmb IAmb 08 01 17.2
comp=Z,5.7nm,1.0s
ILAR Eielson Array 85.72 25 P **P 08 01 18.4 0.0**
comp=Z,0.3nm,0.5s,baz=244,slow=5.3,SNR=4.0
ILAR Eielson Array 85.72 25 P **P 08 01 18.1 -0.2**
KLMR Klimovskoe 86.54 331 *eP* **P 08 01 20.5 -1.9**
KLMR AMP 08 01 29.9
comp=Z,15nm,1.3s
BMAR Burnt Mountain 86.73 23 P **P 08 01 24.9 +1.6**
BRTR Keskin Array B 91.10 310 P **P 08 01 46.4 +1.7**
comp=Z,0.9nm,0.7s,baz=85,slow=5.5,SNR=4.1
BRTR Keskin Array B 91.10 310 P **P 08 01 46.7 +2.0**
ARCES ARCESS Array B 91.56 340 P **P 08 01 44.9 -1.1**
comp=Z,5.5nm,0.7s,baz=80,slow=6.6,SNR=18
ARCES ARCESS Array B 91.56 340 P **P 08 01 44.7 -1.3**
FINES FINESS Array B 92.97 332 P **P 08 01 51.4 -1.2**
comp=Z,1.0nm,0.5s,baz=72,slow=6.2,SNR=6.2
FINES FINESS Array B 92.97 332 P **P 08 01 51.6 -1.0**
NOA NORSAR Array B 99.92 334 P **Pdif 08 02 22.2 -2.0**
comp=Z,0.6nm,0.7s,baz=63,slow=4.4,SNR=3.3
ECSD EROS Data Cent 119.23 35 PKPdf **PKiKP 08 07 29.4 +0.5**
MNTX Cornudas Mount 119.39 51 PKPdf **PKiKP 08 07 30.9 +1.3**
TX31 Lajitas Ar. Si 121.71 53 PKPdf **PKiKP 08 07 35.1 +0.8**
TX32 Lajitas Array 121.71 53 PKPdf **PKiKP 08 07 35.3 +1.0**
TXAR Lajitas Array 121.71 53 PKP **PKiKP 08 07 34.6 +0.4**
comp=Z,0.7nm,0.7s,baz=217,slow=0.5,SNR=11
TORD Torodi Ar. Bea 123.79 288 PKP **PKPdf 08 07 37.5 -0.9**
comp=Z,0.4nm,0.5s,baz=76,slow=2.8,SNR=4.0
JCT Junction City 124.23 50 **PKiKP 08 07 39.7 +0.5**
PLCA Paso Flores 138.89 159 PKP **PKPdf 08 08 07.2 +0.9**
comp=Z,1.3nm,1.0s,baz=202,slow=5.4,SNR=2.9
PLCA Paso Flores 138.89 159 **PKPdf 08 08 06.7 +0.4**
TRQA Tornquist 143.85 167 PKPdf PKPbc 08 08 13.3 +0.5
BCIP Isla Barro Col 150.44 66 PKPbc **PKiKP 08 08 33.3 +0.5**
GO02 Mina Guanaco 152.40 145 PKPbc **PKiKP 08 08 37.6 +0.6**
BANI BANI 152.70 39 **PKPab 08 08 48.1 +0.1**

*THE **09** 08:16:08.1,34.°78N×24.°96E,h18km±1km,ML2.8/4,Error ellipse: s-maj=2.8km s-min=1.3km az=13.0*
*ATH **09** 08:16:08.8,34.°87N×24.°87E,h24km±1km,ML2.7/5,Error ellipse: s-maj=3.1km s-min=1.0km az=359.0*
*ISCJB **09** 08:16:09.3±1.3,34.°81N±0.°07×24.°90E±0.°03,h14km±6km, Error ellipse: s-maj=11.8km s-min=4.6km az=174.5*
ISC 09 08:16:09.0±1.3,34.°85N±0.°07×24.°90E±0.°03,h20km±2km, n16,σ0§73/27,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.18**	**335**	P	**Pb**	**08 16 14.3**	**-0.3**
SIVA				S	**Sb**	**08 16 18.8**	**+0.4**
4μm,0.2s							
SIVA	**Sivas**	**0.18**	**335**	P	**Pb**	**08 16 14.1**	**-0.5**
SIVA				S	**Sb**	**08 16 18.3**	**-0.2**
SIVA				AML	AML	08 16 19.4	
comp=E,8501μm,0.3s							
SIVA				AML	AML	08 16 19.7	
comp=N,9494μm,0.2s							
LAST	**Lasithi**	**0.56**	**57**	P	**Pb**	**08 16 20.0**	**-0.3**
LAST	**Lasithi**	**0.56**	**57**	P	**Pb**	**08 16 20.3**	**0.0**
LAST				S	**Sn**	**08 16 29.4**	**-1.2**
GVDS	**Gavdos**	**0.67**	**269**	P	**Pb**	**08 16 21.6**	**-0.4**
GVDS				S	**Sn**	**08 16 33.3**	**+0.2**
GVD	**Gavdhos**	**0.67**	**269**	P	**Pb**	**08 16 21.2**	**-0.8**
GVD				S	**Sn**	**08 16 32.5**	**-0.7**
comp=N,668nm,0.3s							
GVD	**Gavdhos**	**0.67**	**269**	P	**Pb**	**08 16 21.2**	**-0.8**
GVD				S	**Sb**	**08 16 31.5**	**+0.6**
GVD				AML	AML	08 16 38.8	
comp=E,1237μm,0.4s							
GVD				AML	AML	08 16 40.6	
comp=N,1433μm,0.3s							
NPS	**Neapolis**	**0.71**	**55**	P	**Pn**	**08 16 23.2**	**-0.7**
NPS				S	**Sn**	**08 16 33.1**	**-1.1**
NPS				AML	AML	08 16 35.5	
comp=N,832μm,0.5s							
NPS				AML	AML	08 16 36.9	
comp=E,1165μm,0.5s							
VAM	**Vamos**	**0.80**	**314**	P	**Pb**	**08 16 23.2**	**-1.0**
VAM				S	**Sn**	**08 16 36.7**	**+0.3**
comp=E,492nm,0.3s							
VAM	**Vamos**	**0.80**	**314**	P	**Pb**	**08 16 23.4**	**-0.7**
VAM				S	**Sb**	**08 16 34.8**	**+0.3**
VAM				AML	AML	08 16 39.4	
comp=E,1000μm,0.5s							
VAM				AML	AML	08 16 43.8	
comp=N,985μm,0.4s							
IMMV	**Iera Moni Meta**	**0.97**	**309**	P	**Pb**	**08 16 26.2**	**-0.9**
IMMV				S	**Sn**	**08 16 41.2**	**+0.6**
comp=N,445nm,0.3s							
IMMV	**Iera Moni Meta**	**0.97**	**309**	P	**Pb**	**08 16 26.6**	**-0.5**
IMMV				S	**Sb**	**08 16 39.7**	**+0.3**
IMMV				AML	AML	08 16 44.7	
comp=N,965μm,0.3s							
IMMV				AML	AML	08 16 44.9	
comp=E,857μm,0.4s							
ZKR	**Zakros**	**1.11**	**76**	P	**Pb**	**08 16 30.2**	**+0.8**
ANKY	**Antikythira Is**	**1.66**	**308**	P	**Pb**	**08 16 38.7**	**-0.1**
KARP	**Karpathos**	**1.97**	**69**	P	**Pb**	**08 16 44.5**	**+0.3**
KTHA	**Kythira Island**	**2.05**	**314**	P	**Pn**	**08 16 43.8**	**+1.5**

*ISCJB **09** 08:34:15.6±0.5,43.°88S±0.°09×82.°1W±0.°1,h10km,mb3.8/7, MS3.8/11,Error ellipse: s-maj=13.3km s-min=10.9km az=141.5*
*IDC **09** 08:34:15.4±0.9,44.°01S×82.°17W,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.9/26,mbtmp3.8/8,ML3.5/1,MS3.8/13, Ms1 3.8/13,ms1mx3.6/20,Error ellipse: s-maj=31.0km s-min=24.3km az=133.0*
*NEIC **09** 08:34:16.7±1.6,44.°05±0.°1×82.°1W±0.°2,h10km±1km, mb4.3/8*
ISC 09 08:34:17.1±0.6,43.°9S±0.°1×82.°2W±0.°1,h10km,n42, σ1§03/29,mb4.0/9,MS3.8/11,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**9.06**	**65**		**Pn**	**08 36 26.9**	**-1.1**
PLCA	**Paso Flores**	**9.15**	**74**	Pn	**Pn**	**08 36 29.7**	**+0.5**
0.1nm,0.3s,baz=254,slow=16,SNR=5.4							
PLCA				LR	LR	08 39 35.4	
comp=Z,974nm,19.2s,baz=329,slow=35							
PLCA	**Paso Flores**	**9.15**	**74**		**Pn**	**08 36 30.0**	**+0.8**
GO05	**Huala**	**11.85**	**45**	Pn	**Pn**	**08 37 04.0**	**-2.1**
TRQA	**Tornquist**	**16.29**	**76**	P	**P**	**08 38 08.4**	**-0.6**
CFA	**Coronel Fontan**	**16.43**	**46**	LR	LR	08 44 07.4	
comp=Z,142nm,18.5s,baz=170,slow=36							
LVC	**Limon Verde**	**23.86**	**32**	LR	LR	08 46 28.1	
comp=Z,197nm,19.8s,baz=208,slow=31							
CPUP	**Villa Florida**	**26.65**	**57**	P	**P**	**08 39 56.9**	**+0.9**
2.9nm,0.9s,baz=236,slow=11,SNR=4.8							
CPUP				LR	LR	08 50 30.3	
comp=Z,471nm,19.2s,baz=216,slow=36							
CPUP	**Villa Florida**	**26.65**	**57**	P	**P**	**08 39 56.5**	**+0.5**
CPUP				IAmb	IAmb	08 39 58.9	
comp=Z,3.6nm,0.9s							
LPAZ	**La Paz**	**29.96**	**28**	P	**P**	**08 40 27.8**	**+1.5**
comp=Z,2.1nm,1.0s,baz=163,slow=9.0,SNR=5.9							
LPAZ	**La Paz**	**29.96**	**28**	P	**P**	**08 40 27.8**	**+1.5**
LPAZ				IAmb	IAmb	08 40 36.6	
comp=Z,4.5nm,1.1s							
NNA	**Nana**	**32.09**	**10**	LR	LR	08 50 40.1	
comp=Z,85nm,19.3s,baz=194,slow=31							
ATAH	**Atahualpa**	**36.73**	**6**	LR	LR	08 52 34.3	
comp=Z,95nm,19.8s,baz=216,slow=30							
BDFB	**Brasilia**	**40.38**	**57**	P	**P**	**08 41 55.3**	**0.0**
comp=Z,1.6nm,0.4s,baz=240,slow=7.6,SNR=2.8							
BDFB				LR	LR	08 59 05.8	
comp=Z,243nm,18.7s,baz=280,slow=37							
PTCN	**Pitcairn Islan**	**43.08**	**280**	P	**P**	**08 42 16.8**	**-0.5**
VNA3	**Neumayer Olymp**	**43.63**	**153**	P	**P**	**08 42 21.4**	**+0.2**
VNA1	**Neumayer--Stat**	**44.11**	**153**	P	**P**	**08 42 25.4**	**+0.3**
VNA2	**Neumayer--Watz**	**44.38**	**153**	P	**P**	**08 42 27.6**	**+0.3**
baz=274,slow=8.8							
QSPA	**South Pole Qui**	**46.38**	**180**	P	**P**	**08 42 42.8**	**-0.5**
comp=Z,2.2nm,1.0s,baz=122,slow=3.4,SNR=5.9							
QSPA	**South Pole Qui**	**46.38**	**180**	P	**P**	**08 42 41.8**	**-1.5**
QSPA				IAmb	IAmb	08 42 47.0	
comp=Z,2.7nm,1.1s							
PTGA	**Pitinga**	**47.28**	**31**	P	**P**	**08 42 49.5**	**-1.2**
PTGA				IAmb	IAmb	08 42 51.4	
comp=Z,2.7nm,0.8s							
ROSC	**El Rosal**	**48.99**	**10**	LR	LR	09 01 24.7	
comp=Z,119nm,21.0s,baz=216,slow=33							
PPT	**Papeete**	**61.83**	**272**	LR	LR	09 05 11.3	
comp=Z,57nm,18.9s,baz=128,slow=30							
BKZ	**Black Stump Fm**	**71.12**	**234**	P	**P**	**08 45 35.3**	**-0.4**
BKZ				IAmb	IAmb	08 45 46.2	
comp=Z,5.1nm,1.1s							
TXAR	**Lajitas Array**	**75.46**	**341**	P	**P**	**08 46 01.9**	**+0.7**
comp=Z,0.5nm,0.9s,baz=172,slow=9.0,SNR=4.6							
TXAR	**Lajitas Array**	**75.46**	**341**	P	**P**	**08 46 01.7**	**+0.4**
CCM	**Cathedral Cave**	**81.96**	**353**	P	**P**	**08 46 36.9**	**+0.3**
BOSA	**Boshof**	**82.03**	**122**	LR	LR	09 16 37.4	
comp=Z,40nm,21.1s,baz=210,slow=31							
DBIC	**Dimbokro**	**85.51**	**76**	LR	LR	09 22 31.9	
comp=Z,33nm,18.6s,baz=219,slow=34							
NVAR	**Mina Array Bea**	**88.21**	**332**	P	**P**	**08 47 09.4**	**+1.1**
comp=Z,0.2nm,0.7s,baz=159,slow=5.6,SNR=2.6							
PDAR	**Pinedale Array**	**89.68**	**340**	P	**P**	**08 47 15.5**	**+0.4**
comp=Z,0.3nm,0.8s,baz=146,slow=4.7,SNR=3.4							
PDAR	**Pinedale Array**	**89.68**	**340**	P	**P**	**08 47 15.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**94.62**	**76**	LR	LR	09 27 41.0	
comp=Z,23nm,19.4s,baz=325,slow=34							
STKA	**Stephens Creek**	**94.68**	**216**	LR	LR	09 20 51.8	
comp=Z,50nm,20.3s,baz=204,slow=30							
H11S2	**WAKE ISLAND Hyl**	**17.73**	**269**	T	T	11 01 23.6	
baz=131							
H11S1	**WAKE ISLAND Hyl**	**17.74**	**269**	T	T	11 01 34.4	
baz=131							
H11S3	**WAKE ISLAND Hyl**	**17.74**	**269**	T	T	11 01 22.2	
baz=131							
MJAR	**Matsushiro Arr**	**148.56**	**271**	PKPbc	**PKPdf**	**08 54 02.3**	**+2.0**
comp=Z,1.8nm,0.7s,baz=149,slow=3.9,SNR=6.1							
GEYT	**Alibeck**	**149.60**	**87**	PKPbc	**PKPbc**	**08 54 05.0**	**-1.6**
comp=Z,0.9nm,0.3s,baz=263,slow=5.8,SNR=3.0							
GEYT	**Alibeck**	**149.60**	**87**		**PKPbc**	**08 54 05.2**	**-1.4**
ZALV	**Zalesovo Beam**	**166.78**	**36**	PKPab	**PKPab**	**08 55 25.2**	**+0.1**
comp=Z,0.8nm,0.5s,baz=329,slow=1.7,SNR=3.9							
ZALV	**Zalesovo Beam**	**166.78**	**36**		**PKPab**	**08 55 25.0**	**-0.1**

*NIED **09** 08:57:00,36.°00N×140.°10E,h62km,Mw3.7 Best double couple: M0=4.71000×10^14 NP1:φ=209.00000°,δ30.00000°, λ118.00000°. NP2:φ=357.00000°,δ64.00000°,λ74.00000°.*
*ISCJB **09** 08:57:51.2±0.4,35.°95N±0.°03×140.°14E±0.°05,h77km±3km, mb3.6/6,Error ellipse: s-maj=6.3km s-min=5.0km az=162.5*
*JMA **09** 08:57:52.7±0.1,36.°01N×140.°10E,h61km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φ=8.00000°,δ73.00000°,λ82.00000°. NP2:φ=213.00000°, δ18.00000°,λ114.00000°. Principal axes: T Plg61.0000°, Azm267.0000°; N Plg7.0000°, Azm10.0000°; P Plg28.0000°, Azm104.0000°;*
JMA Felt II J1.
*IDC **09** 08:57:52.8±2.0,35.°93N×140.°15E,h76km±18km,mb3.4/6, mb1 3.5/10,mb1mx3.4/37,mbtmp3.7/10,MS2.3/1, Ms1 2.3/1,ms1mx2.1/25 Error ellipse: s-maj=25.7km s-min=17.6km az=78.0*
ISC 09 08:57:52.3±0.8,36.°00N±0.°04×140.°14E±0.°04,h67km±7km, n26,σ1§42/41,mb3.7/6,3C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.23**	**12**	⇑P	**Pn**	**08 58 02.6**	**-0.1**
JYT				S	**Sn**	**08 58 10.0**	**-0.3**
JIHU	**Itakohorinouch**	**0.32**	**96**	⇑P	**Pn**	**08 58 03.8**	**+0.6**
JIHU				*e*S	**Sn**	**08 58 12.5**	**+1.2**
JSMT	**Sammumatsuo**	**0.44**	**145**	⇑P	**Pn**	**08 58 04.9**	**+0.7**
JSMT				*e*S	**Sn**	**08 58 13.9**	**+0.9**
TOK	**Tokyo**	**0.44**	**225**	P	**Pn**	**08 58 05.4**	**+1.2**
TOK				S	**Sn**	**08 58 15.4**	**+2.5**
JAG	**Ashikaga**	**0.70**	**308**	⇓P	**Pn**	**08 58 07.0**	**0.0**
JAG				S	**Sn**	**08 58 17.3**	**-0.4**
JRY	**Ryogami san**	**1.00**	**271**	⇓P	**Pn**	**08 58 10.6**	**-0.1**
JRY				S	**Sn**	**08 58 24.3**	**0.0**
JKT	**Katashina**	**1.05**	**317**	⇓P	**Pn**	**08 58 11.4**	**+0.1**
JKT				S	**Sn**	**08 58 25.4**	**-0.1**
JOD2	**Odawara 2**	**1.13**	**230**	⇓P	**Pn**	**08 58 11.5**	**-0.8**
JOD2				S	**Sn**	**08 58 25.1**	**-2.1**
BSO3	**Boso 3**	**1.23**	**166**	P	**Pn**	**08 58 12.8**	**-0.6**
JYN	**Shimob**	**1.39**	**249**	⇓P	**Pn**	**08 58 15.7**	**0.0**
JYN				S	**Sn**	**08 58 32.5**	**-0.9**
JIM2	**Oshima 3**	**1.40**	**204**	P	**Pn**	**08 58 14.7**	**-1.2**
JIM2				S	**Sn**	**08 58 31.0**	**-2.7**
JFNN	**Fujinakano**	**1.43**	**236**	⇓P	**Pn**	**08 58 15.9**	**-0.3**
JFY	**Yanaizu**	**1.45**	**346**	⇓P	**Pn**	**08 58 17.2**	**+0.7**
JFY				S	**Sn**	**08 58 36.5**	**+1.8**
BSO1	**Boso 1**	**1.51**	**153**	P	**Pn**	**08 58 17.3**	**+0.5**
MJAR	**Matsushiro Arr**	**1.65**	**290**	P	**Pn**	**08 58 19.2**	**+0.1**
11nm,0.3s,baz=97,slow=10,SNR=734							
MJAR				S	**Sn**	**08 58 41.1**	**+1.7**
2.9nm,0.3s,baz=96,slow=22,SNR=7.9							
MJAR				LR	LR	08 58 58.7	
comp=Z,74nm,18.9s,baz=195,slow=40							
MAT	**Matsushiro**	**1.65**	**290**	P	**Pn**	**08 58 19.9**	**+0.7**
MAT				S	**Sn**	**08 58 41.2**	**+1.7**
JHJ	**Hachijo jima 2**	**2.89**	**186**	P	**Pn**	**08 58 36.4**	**+0.4**
23nm,0.3s,baz=100,slow=21,SNR=5.8							
JHJ				S	**Sn**	**08 59 07.5**	**-2.1**
33nm,0.3s,baz=72,slow=20,SNR=3.9							
JNU	**Nakatsue**	**8.16**	**252**	P	**Pn**	**08 59 48.2**	**+0.2**
0.2nm,0.3s,baz=69,slow=8.6,SNR=3.0							
ASAJ	**Asahikawa**	**8.32**	**12**	P	**Pn**	**08 59 50.0**	**-0.1**
1.0nm,0.3s,baz=207,slow=18,SNR=4.8							
ASAJ				S	**Sn**	**09 01 18.1**	**-4.5**
0.3nm,0.3s,baz=294,slow=20,SNR=2.2							
KSRS	**Korea Array**	**9.91**	**282**	P	**Pn**	**09 00 14.8**	**+2.9**
0.2nm,0.3s,baz=96,slow=15,SNR=2.9							
KSRS				LR	LR	09 04 02.9	
comp=Z,17nm,21.1s,baz=214,slow=37							
SONM	**Songino Array**	**27.53**	**306**	P	**P**	**09 03 33.7**	**+1.0**
0.4nm,0.5s,baz=87,slow=7.9,SNR=2.5							
ZALV	**Zalesovo Beam**	**41.86**	**313**	P	**P**	**09 05 35.5**	**0.0**
0.7nm,0.3s,baz=102,slow=9.1,SNR=3.7							
MKAR	**Makanchi Array**	**43.80**	**303**	P	**P**	**09 05 50.2**	**-1.2**
0.6nm,0.7s,baz=85,slow=11,SNR=4.7							
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**09 06 47.0**	**+0.7**
0.5nm,0.8s,baz=274,slow=5.8,SNR=4.9							
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**09 07 21.9**	**-1.4**
0.4nm,0.4s,baz=0.8,slow=7.5,SNR=11							
FINES	**FINESS Array B**	**69.25**	**332**	P	**P**	**09 08 51.3**	**-0.4**
1.7nm,0.8s,baz=52,slow=9.0,SNR=3.1							

*ISCJB **09** 09:25:59.8±0.6,42.°27N±0.°05×143.°10E±0.°06,h66km±3km, mb3.8/8,Error ellipse: s-maj=8.9km s-min=7.2km az=143.6*
*NIED **09** 09:26:00,42.°30N×143.°00E,h53km,Mw3.7 Best double couple: M0=4.32000×10^14 NP1:φ=208.00000°,δ17.00000°, λ85.00000°. NP2:φ=33.00000°,δ73.00000°,λ92.00000°.*
*JMA **09** 09:26:01.4±0.1,42.°30N×143.°02E,h51km±1km,M3.4*
JMA Felt I J1.
*IDC **09** 09:26:02.2±2.6,42.°36N×143.°07E,h71km±19km,mb3.6/8, mb1 3.6/11,mb1mx3.4/48,mbtmp3.7/11,MS3.0/2, Ms1 3.0/2,ms1mx2.3/46,Error ellipse: s-maj=32.9km s-min=20.4km az=135.0*
ISC 09 09:26:00.8±0.8,42.°29N±0.°06×143.°09E±0.°05,h57km±6km, n31,σ0§94/31,mb3.9/8,5C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.16**	**88**	⇑P	**Pn**	**09 26 09.9**	**+0.2**
JTHR				*e*S	**Sn**	**09 26 16.2**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.25**	**269**	⇑P	**Pn**	**09 26 09.7**	**-0.5**
JNBK				*e*S	**Sn**	**09 26 16.5**	**-0.5**
JEM	**Erimo**	**0.28**	**169**	⇑P	**Pn**	**09 26 10.7**	**+0.3**
JCH	**Churui**	**0.39**	**32**	⇑P	**Pn**	**09 26 11.7**	**+0.3**
JCH				*e*S	**Sn**	**09 26 19.7**	**+0.7**
JSHD	**Hidakashinhida**	**0.47**	**285**	⇓P	**Pn**	**09 26 12.1**	**-0.1**
JBT2	**Biratori 2**	**0.72**	**313**	⇓P	**Pn**	**09 26 15.0**	**-0.2**
JBT2				*e*S	**Sn**	**09 26 26.5**	**+0.8**
JOB	**Onbets**	**0.83**	**42**	⇑P	**Pn**	**09 26 17.8**	**+1.3**
JIAM	**Iburiatsuma**	**0.93**	**292**	P	**Pn**	**09 26 18.3**	**+0.6**
JFR	**Furan**	**0.95**	**338**	P	**Pn**	**09 26 17.4**	**-0.7**
JAR	**Ashorobuto**	**1.13**	**26**	P	**Pn**	**09 26 20.7**	**+0.3**
JAR				*e*S	**Sn**	**09 26 35.5**	**+0.5**
JEW	**Eniwo**	**1.33**	**295**	⇓P	**Pn**	**09 26 23.4**	**+0.3**
JEW				*e*S	**Sn**	**09 26 40.7**	**+0.9**
JAB	**Ashibetsu**	**1.37**	**333**	P	**Pn**	**09 26 24.6**	**+0.9**
ASAJ	**Asahikawa**	**1.86**	**349**	P	**Pn**	**09 26 31.4**	**+1.1**
37nm,0.3s,baz=199,slow=16,SNR=108							
ASAJ				S	**Sn**	**09 26 52.5**	**-0.3**
12nm,0.3s,baz=195,slow=20,SNR=7.4							
ASAJ				LR	LR	09 27 26.0	
comp=Z,74nm,20.4s,baz=14,slow=47							
MJAR	**Matsushiro Arr**	**6.87**	**215**	P	**Pn**	**09 27 39.7**	**+0.9**
0.1nm,0.3s,baz=36,slow=13,SNR=4.5							
USRK	**Ussuriysk Ar.**	**8.32**	**287**	P	**Pn**	**09 28 00.6**	**+1.9**
baz=108,slow=11,SNR=3.1							
KSRS	**Korea Array**	**12.61**	**253**	P	**Pn**	**09 28 59.3**	**+2.1**
0.2nm,0.3s,baz=52,slow=14,SNR=2.5							
KSRS				LR	LR	09 33 18.6	
comp=Z,22nm,20.8s,baz=215,slow=34							
SEY	**Seymchan**	**21.39**	**12**	P	**P**	**09 30 41.4**	**-1.9**
0.9nm,0.6s,baz=204,slow=20,SNR=4.8							
SONM	**Songino Array**	**26.33**	**295**	P	**P**	**09 31 30.4**	**-0.8**
0.9nm,0.6s,baz=78,slow=7.7,SNR=5.3							
H11N2	**WAKE ISLAND Hy**	**30.18**	**131**	T	T	10 03 35.6	
baz=324,slow=75,SNR=78							
H11N1	**WAKE ISLAND Hy**	**30.19**	**131**	T	T	10 03 41.3	
baz=324,slow=75,SNR=73							
H11N3	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	10 03 41.3	
baz=324,slow=75,SNR=57							
H11S1	**WAKE ISLAND Hy**	**31.05**	**133**	T	T	10 04 45.7	
baz=326,slow=76,SNR=86							
H11S3	**WAKE ISLAND Hy**	**31.06**	**133**	T	T	10 04 41.7	
baz=326,slow=76,SNR=64							
H11S2	**WAKE ISLAND Hy**	**31.07**	**133**	T	T	10 04 46.3	
baz=326,slow=76,SNR=49							
ZALV	**Zalesovo Beam**	**39.52**	**308**	P	**P**	**09 33 25.4**	**-0.2**
1.3nm,0.4s,baz=84,slow=5.9,SNR=5.1							
MKAR	**Makanchi Array**	**42.62**	**298**	P	**P**	**09 33 50.9**	**-0.3**
0.9nm,0.6s,baz=85,slow=11,SNR=5.1							
SIJI	**Sorong**	**44.27**	**197**	LR	LR	09 52 00.3	
comp=Z,49nm,19.8s,baz=128,slow=35							
RES	**Resolute Bay**	**57.20**	**16**	P	**P**	**09 35 40.4**	**-0.9**
0.8nm,0.5s,baz=313,slow=8.6,SNR=4.1							
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**09 35 57.7**	**-0.1**
5.4nm,1.1s,baz=51,slow=9.6,SNR=5.1							
FINES	**FINESS Array B**	**64.79**	**332**	P	**P**	**09 36 31.9**	**-0.9**
1.0nm,0.4s,baz=56,slow=6.9,SNR=16							
TXAR	**Lajitas Array**	**85.93**	**54**	P	**P**	**09 38 35.7**	**+0.9**
0.2nm,0.6s,baz=282,slow=3.2,SNR=3.5							

*IDC **09** 09:26:25.6±4.0,55.°84S×29.°44W,h0km,mb3.6/2, mb1 3.7/2,mb1mx3.6/20,mbtmp3.6/2,MS3.1/2,Ms1 3.0/2, ms1mx2.7/14,Error ellipse: s-maj=135.0km s-min=48.1km az=174.0*
*ISCJB **09** 09:26:27.7±1.1,55.°4S±0.°2×29.°3W±0.°5,h10km,mb3.6/2, MS3.1/2,Error ellipse: s-maj=48.1km s-min=15.0km az=156.7*
ISC 09 09:26:29.6±1.1,55.°4S±0.°2×29.°4W±0.°3,h10km,n9,σ1§39/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.86**	**157**	P	**P**	**09 30 39.9**	**+1.5**
VNA3	**Neumayer Olymp**	**18.01**	**159**	P	**P**	**09 30 40.5**	**+0.3**
VNA2	**Neumayer--Watz**	**18.25**	**157**	P	**Pn**	**09 30 41.9**	**-0.8**
baz=320,slow=13							
SNAA	**Sanae**	**19.83**	**155**	P	**P**	**09 30 59.1**	**-1.1**
PLCA	**Paso Flores**	**30.64**	**281**	LR	LR	09 43 53.3	
comp=Z,28nm,19.8s,baz=128,slow=34							
BOSA	**Boshof**	**47.07**	**79**	LR	LR	09 51 31.8	
comp=Z,27nm,19.2s,baz=200,slow=32							
LPAZ	**La Paz**	**48.98**	**307**	P	**P**	**09 35 16.3**	**-0.6**
0.5nm,0.6s,baz=169,slow=5.2,SNR=3.8							
TORD	**Torodi Ar. Bea**	**73.17**

SDLR	**Sedlovina**	**1.08 334**	PN	**Pn**	**09 30 02.0**	**+0.3**
SDLR			S	**Sn**	**09 30 16.1**	**-0.5**
SMAR	**Somma**	**1.09 331**	*e*P	**Pn**	**09 30 02.3**	**+0.3**
SMAR	**Somma**	**1.09 331**	PN	**Pn**	**09 30 02.3**	**+0.3**
ASAK	**Asacha**	**1.09 274**	*e*P	**Pn**	**09 30 01.5**	**-0.4**
ASAK	**Asacha**	**1.09 274**	PN	**Pn**	**09 30 01.5**	**-0.4**
AVH	**Avacha**	**1.11 329**	*e*P	**Pn**	**09 30 02.6**	**+0.5**
AVH			*e*S	**Sn**	**09 30 17.4**	**+0.2**
AVH	**Avacha**	**1.11 329**	PN	**Pn**	**09 30 02.6**	**+0.5**
AVH			S	**Sn**	**09 30 17.4**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.11 243**	*e*P	**Pn**	**09 30 01.8**	**-0.2**
KDTR			*e*S	**Sn**	**09 30 16.3**	**-0.8**
KDTR	**Khodutka, Kamc**	**1.11 243**	PN	**Pn**	**09 30 01.8**	**-0.2**
KDTR			S	**Sn**	**09 30 16.3**	**-0.8**
KRER	**Koryakskii**	**1.14 331**	*e*P	**Pn**	**09 30 02.0**	**-0.6**
KRER			*e*S	**Sn**	**09 30 17.0**	**-1.0**
KRER	**Koryakskii**	**1.14 331**	PN	**Pn**	**09 30 02.0**	**-0.6**
KRER			S	**Sn**	**09 30 17.0**	**-1.0**
KOK	**Koryaka**	**1.16 327**	*e*P	**Pn**	**09 30 03.2**	**+0.4**
KOK	**Koryaka**	**1.16 327**	PN	**Pn**	**09 30 03.2**	**+0.4**
KRX	**Arik**	**1.22 329**	*e*P	**Pn**	**09 30 03.7**	**+0.2**
KRX			*e*S	**Sn**	**09 30 20.0**	**+0.3**
KRX	**Arik**	**1.22 329**	PN	**Pn**	**09 30 03.7**	**+0.2**
KRX			S	**Sn**	**09 30 20.0**	**+0.3**
PETK	**Petropavlovsk-**	**1.44 304**	P	**Pn**	**09 30 04.6**	**-1.7**
	comp=N,8.0nm,0.3s,baz=105,slow=19,SNR=102					
PETK			S	**Sn**	**09 30 21.3**	**-3.4**
	comp=N,26nm,0.3s,baz=128,slow=14,SNR=25					
APC	**Apacha**	**1.65 293**	*e*P	**Pn**	**09 30 08.3**	**-0.7**
APC			*e*S	**Sn**	**09 30 27.5**	**-2.0**
APC	**Apacha**	**1.65 293**	PN	**Pn**	**09 30 08.3**	**-0.7**
APC			S	**Sn**	**09 30 27.5**	**-2.0**
KII	**Karymskiy**	**1.73 356**	*e*P	**Pn**	**09 30 10.7**	**+0.6**
KII			*e*S	**Sn**	**09 30 31.9**	**+0.5**
KII	**Karymskiy**	**1.73 356**	PN	**Pn**	**09 30 10.7**	**+0.6**
KII			S	**Sn**	**09 30 31.9**	**+0.5**
GNL	**Ganaly**	**1.73 323**	*e*P	**Pn**	**09 30 09.6**	**-0.6**
GNL			*e*S	**Sn**	**09 30 30.0**	**-1.7**
GNL	**Ganaly**	**1.73 323**	PN	**Pn**	**09 30 09.6**	**-0.6**
GNL			S	**Sn**	**09 30 30.0**	**-1.7**
PAU	**Pauzhetka**	**1.97 245**	*e*P	**Pn**	**09 30 13.2**	**0.0**
PAU			*e*S	**Sn**	**09 30 36.5**	**-0.6**
PAU	**Pauzhetka**	**1.97 245**	PN	**Pn**	**09 30 13.2**	**0.0**
PAU			S	**Sn**	**09 30 36.5**	**-0.6**
MKZ	**Mys Kozlova**	**2.56 28**	*e*P	**Pn**	**09 30 21.5**	**+0.4**
MKZ			*e*S	**Sn**	**09 30 50.5**	**-0.7**
MKZ	**Mys Kozlova**	**2.56 28**	PN	**Pn**	**09 30 21.5**	**+0.4**
MKZ			S	**Sn**	**09 30 50.5**	**-0.7**
SKR	**Severo-Kuril's**	**2.76 235**	*e*P	**Pn**	**09 30 23.6**	**-0.3**
SKR			*e*S	**Sn**	**09 30 55.4**	**-0.8**
SKR	**Severo-Kuril's**	**2.76 235**	*e*PN	**Pn**	**09 30 23.6**	**-0.3**
SKR			*e*S	**Sn**	**09 30 54.4**	**-1.8**
SKR			pmax	pmax		
	comp=Z,85nm,0.4s					
SKR			smax	smax		
	comp=N,90nm,0.6s					
SKR			smax	smax		
	comp=E,180nm,0.9s					
KZV	**Kizimen**	**2.82 7**	*e*P	**Pn**	**09 30 24.8**	**-0.1**
KZV			*e*S	**Sn**	**09 30 56.8**	**-1.1**
KZV	**Kizimen**	**2.82 7**	PN	**Pn**	**09 30 24.8**	**-0.1**
KZV			S	**Sn**	**09 30 56.8**	**-1.1**
TUMD	**Tumrok D**	**2.92 8**	*e*P	**Pn**	**09 30 25.9**	**-0.2**
TUMD			*e*S	**Sn**	**09 30 58.5**	**-1.6**
TUMR	**Tumrok**	**2.98 5**	*e*P	**Pn**	**09 30 27.3**	**+0.3**
TUMR			*e*S	**Sn**	**09 31 01.2**	**-0.5**
TUMR	**Tumrok**	**2.98 5**	PN	**Pn**	**09 30 27.3**	**+0.3**
TUMR			S	**Sn**	**09 31 01.2**	**-0.5**
KMNR	**Kamenistaya**	**3.46 5**	*e*P	**Pn**	**09 30 34.2**	**+0.7**
KMNR	**Kamenistaya**	**3.46 5**	PN	**Pn**	**09 30 34.2**	**+0.7**
ESO	**Esso**	**3.66 351**	*e*P	**Pn**	**09 30 35.5**	**-0.6**
ESO	**Esso**	**3.66 351**	PN	**Pn**	**09 30 35.5**	**-0.6**
KPT	**Kopyto**	**3.67 5**	*e*P	**Pn**	**09 30 36.5**	**+0.2**
KPT	**Kopyto**	**3.67 5**	PN	**Pn**	**09 30 36.5**	**+0.2**
KOZ	**Kozyrevsk**	**3.75 2**	*e*P	**Pn**	**09 30 37.6**	**+0.3**
KOZ	**Kozyrevsk**	**3.75 2**	PN	**Pn**	**09 30 37.6**	**+0.3**
ZLN	**Zelenaya**	**3.77 10**	*e*P	**Pn**	**09 30 38.7**	**+1.1**
ZLN	**Zelenaya**	**3.77 10**	PN	**Pn**	**09 30 38.7**	**+1.1**
SRDR	**Sredinnyy**	**4.01 0**	*e*P	**Pn**	**09 30 41.3**	**+0.4**
SRDR	**Sredinnyy**	**4.01 0**	PN	**Pn**	**09 30 41.3**	**+0.4**
KLY	**Klyuchi**	**4.04 8**	*e*P	**Pn**	**09 30 42.0**	**+0.7**
KLY	**Klyuchi**	**4.04 8**	PN	**Pn**	**09 30 42.0**	**+0.7**
KBTR	**Krutoberegovo**	**4.31 24**	*e*P	**Pn**	**09 30 44.8**	**-0.1**
KBTR	**Krutoberegovo**	**4.31 24**	PN	**Pn**	**09 30 44.8**	**-0.1**
KBG	**Krutoberegovo**	**4.33 23**	*e*P	**Pn**	**09 30 44.5**	**-0.6**
KBG	**Krutoberegovo**	**4.33 23**	PN	**Pn**	**09 30 44.5**	**-0.6**
BDR	**Baidarnaya**	**4.35 11**	*e*P	**Pn**	**09 30 46.4**	**+0.8**
BDR	**Baidarnaya**	**4.35 11**	PN	**Pn**	**09 30 46.4**	**+0.8**
SRKR	**Sorokina**	**4.43 11**	*e*P	**Pn**	**09 30 46.9**	**+0.3**
SRKR	**Sorokina**	**4.43 11**	PN	**Pn**	**09 30 46.9**	**+0.3**
BKI	**Bering**	**4.72 50**	*e*P	**Pn**	**09 30 50.6**	**+0.1**
BKI			*e*S	**Sn**	**09 31 39.4**	**-4.5**
BKI	**Bering**	**4.72 50**	PN	**Pn**	**09 30 50.6**	**+0.1**
BKI			S	**Sn**	**09 31 39.4**	**-4.5**
MJAR	**Matsushiro Arr**	**21.87 232**	P	**P**	**09 34 30.4**	**+2.1**
	comp=E,1.2nm,0.6s,baz=26,slow=13,SNR=7.3					
JHJ	**Hachijo jima 2**	**23.98 225**	LR	LR	09 45 09.9	
	comp=E,108nm,21.1s,baz=59,slow=38					
H11N2	**WAKE ISLAND Hy 33.01 167**		T	T	10 12 11.0	
	baz=352,slow=76,SNR=12					
H11N3	**WAKE ISLAND Hy 33.02 167**		T	T	10 11 56.8	
	baz=352,slow=76,SNR=5.3					
H11N1	**WAKE ISLAND Hy 33.02 167**		T	T	10 12 12.1	
	baz=352,slow=76,SNR=5.7					
SONM	**Songino Array**	**33.84 284**	P	P	09 36 13.2	-3.6
	comp=E,0.3nm,0.3s,baz=66,slow=8.3,SNR=3.2					
H11S1	**WAKE ISLAND Hy 34.19 168**		T	T	10 12 55.4	
	baz=351,slow=76,SNR=5.4					
H11S3	**WAKE ISLAND Hy 34.20 168**		T	T	10 12 57.8	
	baz=351,slow=76,SNR=9.4					
H11S2	**WAKE ISLAND Hy 34.20 168**		T	T	10 12 55.0	
	baz=351,slow=76,SNR=5.1					
KURK	**Kurchatov**	**47.93 302**	P	P	09 38 08.1	-4.2
KURBB	**Kurchatov Arra**	**48.03 302**	P	P	09 38 08.1	-5.0
	comp=E,0.4nm,0.4s,baz=63,slow=7.0,SNR=3.2					
MKAR	**Makanchi Array**	**48.27 296**	P	P	09 38 10.2	-4.8
	comp=E,0.6nm,0.5s,baz=48,slow=7.1,SNR=4.4					
ARCES	**ARCESS Array B**	**53.95 342**	P	P	09 38 53.3	-3.9
	comp=E,4.0nm,1.0s,baz=32,slow=8.7,SNR=5.2					
FINES	**FINESS Array B**	**60.73 336**	P	P	09 39 41.4	-3.5
	comp=E,5.9nm,1.2s,baz=28,slow=6.5,SNR=3.8					
AKASG	**Malin Array Be**	**69.15 329**	P	P	09 40 35.9	-3.8
	comp=E,0.6nm,0.4s,baz=30,slow=6.4,SNR=3.0					
TXAR	**Lajitas Array**	**71.18 66**	P	**P**	**09 40 53.3**	**+0.7**
	comp=E,0.1nm,0.8s,baz=330,slow=6.3,SNR=2.4					

NIED ***09*** *09:34:00,24.°00N×122.°50E,h26km,Mw4.2 Best double couple: M₀2.62000×10¹⁵ NP1:φs304.00000°,δ27.00000°, λ137.00000°. NP2:φs73.00000°,δ72.00000°,λ70.00000°.*
JMA ***09*** *09:34:47.4±0.2,23.°96N×122.°50E,h24km±4km,M4.2*
ISCJB ***09*** *09:34:47.4±0.3,23.°92N±0.°01×122.°56E±0.°01,h25km±2km, mb4.0/20,MS3.6/11,Error ellipse: s-maj=2.4km s-min=1.7km az=161.4*
TAP ***09*** *09:34:47.8,23.°98N×122.°54E,h30km,ML4.7,D*
NEIC ***09*** *09:34:47.7±2.2,24.°03N±0.°03×122.°55E±0.°04,h32km±5km, mb4.3/22*
IDC ***09*** *09:34:49.7±0.7,24.°18N×122.°61E,h40km±7km,mb3.9/20, mb1 4.0/20,mb1mx3.8/57,mbtmp4.1/20,ML2.7/1,MS3.5/16, Ms1 3.5/16,ms1mx3.2/48,Error ellipse: s-maj=13.7km s-min=12.5km az=58.0*

ISC 09 09:34:47.4±0.7,23.°97N±0.°02×122.°54E±0.°02,h30km±5km, n185,σ1°15/288,mb4.2/27,MS3.6/11,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.61**	**37**	P		**Pn**	**09 34 59.8**	**-0.2**
JYNG					*e*S	**Sn**	**09 35 07.7**	**-1.1**
YOJ	**Yonaguni jima**	**0.65**	**41**	P		**Pn**	**09 35 00.6**	**0.0**
YOJ					S	**Sn**	**09 35 09.1**	**-0.9**
YOJ	**Yonaguni jima**	**0.65**	**41**			**Pn**	**09 35 00.7**	**+0.1**
YOJ					Sg	**Sb**	**09 35 07.4**	**-1.8**
EOS1	**EOS1**	**0.69**	**327**	*i* P		**Pn**	**09 35 01.2**	**0.0**
	baz=326							
EOS1					S	**Sn**	**09 35 12.4**	**+1.6**
	baz=326							
HWA	**Hwalien**	**0.86**	**271**	P		**Pb**	**09 35 04.3**	**+0.5**
	baz=257							
HWA					S	**Sb**	**09 35 15.4**	**+0.5**
	baz=257							
NANB	**Nanao**	**0.86**	**303**	*i* P		**Pb**	**09 35 03.6**	**-0.2**
	baz=302							
NANB					S	**Sb**	**09 35 16.1**	**+1.1**
	baz=302							
ENLB	**Shoufeng**	**0.86**	**266**	P		**Pn**	**09 35 03.0**	**-0.5**
	baz=254							
ENLB					S	**Sn**	**09 35 14.6**	**-0.4**
	baz=254							
ENA	**Nanau**	**0.86**	**302**	P		**Pn**	**09 35 03.6**	**+0.1**
	baz=302							
ENA					*e*S	**Sb**	**09 35 15.4**	**+0.3**
	baz=302							
TWD	**Chiawan**	**0.87**	**278**	*i* P		**Pn**	**09 35 03.4**	**-0.2**
	baz=277							
TWD					S	**Sn**	**09 35 14.8**	**-0.5**
	baz=277							
NACB	**Ninganchiao**	**0.89**	**284**	*i* P		**Pn**	**09 35 03.7**	**-0.2**
	baz=269							
NACB					S	**Sn**	**09 35 15.5**	**-0.3**
	baz=269							
NACB	**Ninganchiao**	**0.89**	**284**			**Pn**	**09 35 03.7**	**-0.2**
NACB						**Sn**	**09 35 13.8**	**-2.0**
TWC	**Suao**	**0.90**	**316**	⇓*i* P		**Pn**	**09 35 04.0**	**0.0**
	baz=315							
TWC					S	**Sb**	**09 35 16.4**	**+0.2**
	baz=315							
ETLH	**Xiulin Townshi**	**1.00**	**284**	P		**Pn**	**09 35 05.5**	**+0.1**
	baz=271							
ETLH					S	**Sb**	**09 35 19.0**	**-0.1**
	baz=271							
ESL	**Shilin**	**1.02**	**262**	P		**Pn**	**09 35 05.6**	**-0.2**
	baz=251							
ESL					S	**Sn**	**09 35 18.1**	**-1.0**
	baz=251							
EGS		**1.04**	**328**	P		**Pb**	**09 35 06.8**	**-0.1**
	baz=314							
EGS					*e*S	**Sb**	**09 35 21.4**	**+1.4**
	baz=314							
EGFH	**Guangfu**	**1.06**	**254**	P		**Pn**	**09 35 06.3**	**+0.1**
	baz=253							
EGFH					S	**Sn**	**09 35 20.5**	**+0.5**
	baz=253							
ILA	**Ilan**	**1.08**	**318**	*i* P		**Pb**	**09 35 07.8**	**+0.3**
	baz=307							
ILA					S	**Sb**	**09 35 22.9**	**+1.7**
	baz=307							
TWE	**Neicheng**	**1.10**	**314**	*i* P		**Pb**	**09 35 07.6**	**-0.2**
	baz=313							
TWE					S	**Sb**	**09 35 23.0**	**+1.2**
	baz=313							
NTC	**Toucheng**	**1.10**	**324**	P		**Pb**	**09 35 07.8**	**-0.1**
	baz=323							
NTC					S	**Sb**	**09 35 22.2**	**+0.4**
	baz=323							
ENTT	**Nioudou**	**1.11**	**307**	*i* P		**Pb**	**09 35 07.8**	**-0.3**
	baz=293							
ENTT					S	**Sb**	**09 35 23.9**	**+1.6**
	baz=293							
HGSD	**Ruisui**	**1.13**	**246**	P		**Pn**	**09 35 06.9**	**-0.2**
	baz=245							
HGSD					S	**Sn**	**09 35 20.8**	**-0.8**
	baz=245							
NDT	**Datong Townshi**	**1.13**	**304**	*i* P		**Pb**	**09 35 08.1**	**-0.3**
	baz=290							
NDT					*e*S	**Sb**	**09 35 23.4**	**+0.5**
	baz=290							
SLBB	**Yuanshan**	**1.14**	**314**	*i* P		**Pb**	**09 35 07.8**	**-0.8**
	baz=303							
SLBB					*e*S	**Sb**	**09 35 23.3**	**+0.3**
	baz=303							
IRIF	**Iriomote-Funau**	**1.15**	**71**	P		**Pb**	**09 35 08.8**	**+0.1**
IRIF					S	**Sb**	**09 35 23.9**	**+0.7**
NNSB	**Datong**	**1.15**	**294**	*i* P		**Pn**	**09 35 08.1**	**+0.5**
	baz=282							
NNSB					*e*S	**Sn**	**09 35 22.8**	**+0.4**
	baz=282							
TWB1	**Santiao Chiao**	**1.15**	**334**	P		**Pb**	**09 35 08.0**	**-0.8**
	baz=350							
TWB1					S	**Sb**	**09 35 23.6**	**+0.2**
	baz=350							
HATJ	**Hateruma jima**	**1.16**	**85**	P		**Pb**	**09 35 09.3**	**+0.4**
HATJ					S	**Sb**	**09 35 24.9**	**+1.3**
NNS	**Nan Shan**	**1.17**	**294**	⇑*i* P		**Pn**	**09 35 08.3**	**+0.5**
	baz=282							
NNS					S	**Sb**	**09 35 23.6**	**-0.4**
	baz=282							
WHF	**Hehuan Shan**	**1.18**	**279**	*i* P		**Pn**	**09 35 08.3**	**+0.1**
	baz=278							
WHF					S	**Sn**	**09 35 24.1**	**+0.6**
	baz=278							
TIPB	**Shuangxi**	**1.20**	**327**	P		**Pb**	**09 35 09.2**	**-0.4**
	baz=327							
TIPB					S	**Sb**	**09 35 25.4**	**+0.8**
	baz=327							
EHY	**Hungye**	**1.21**	**248**	*i* P		**Pn**	**09 35 08.3**	**0.0**
	baz=247							
EHY					S	**Sn**	**09 35 22.9**	**-0.7**
	baz=247							
NWLT	**Wulai**	**1.25**	**311**	*i* P		**Pb**	**09 35 10.0**	**-0.3**
	baz=297							
NWLT					S	**Sb**	**09 35 27.2**	**+1.1**
	baz=297							
CHGB	**Renai**	**1.25**	**275**	P		**Pn**	**09 35 09.6**	**+0.5**
	baz=274							
CHGB					S	**Sn**	**09 35 25.8**	**+0.7**
	baz=274							
YHNB	**Yeheng**	**1.27**	**304**	⇑*i* P		**Pb**	**09 35 10.1**	**-0.7**
	baz=289							
YHNB					S	**Sb**	**09 35 26.1**	**-0.8**
	baz=289							
YHNB	**Yeheng**	**1.27**	**304**			**Pn**	**09 35 09.8**	**+0.5**
YULB	**Yu-li**	**1.27**	**244**	*i* P		**Pn**	**09 35 09.5**	**+0.3**
	baz=232							
YULB					S	**Sn**	**09 35 25.3**	**0.0**
	baz=232							
YULB	**Yu-li**	**1.27**	**244**			**Pn**	**09 35 09.5**	**+0.3**
YULB					Sn	**Sn**	**09 35 25.3**	**0.0**
TWT	**Tachien**	**1.28**	**283**	*e*P		**Pb**	**09 35 10.9**	**-0.2**
	baz=271							
TWT					*e*S	**Sb**	**09 35 27.5**	**+0.3**
	baz=271							
NSK	**Sanguang**	**1.29**	**303**	*i* P		**Pb**	**09 35 10.3**	**-0.8**
	baz=289							
NSK					S	**Sb**	**09 35 27.0**	**-0.4**
	baz=289							
TWF1	**Yuli**	**1.29**	**242**	*i* P		**Pn**	**09 35 09.7**	**+0.2**
	baz=241							
TWF1					S	**Sn**	**09 35 26.3**	**+0.5**
	baz=241							
TDCB	**Techi**	**1.30**	**283**	P		**Pn**	**09 35 10.4**	**+0.8**
	baz=271							
TDCB					S	**Sn**	**09 35 26.6**	**+0.6**
	baz=271							
VWDT	**VWDT**	**1.30**	**261**	P		**Pn**	**09 35 10.5**	**+1.0**
	baz=260							
VWDT					S	**Sn**	**09 35 25.9**	**0.0**
	baz=260							
NWF	**Wu-fen Shan**	**1.30**	**328**	*i* P		**Pb**	**09 35 10.3**	**-1.0**
	baz=327							
NWF					S	**Sb**	**09 35 27.9**	**+0.2**
	baz=327							
WFSB	**Wu-fen Shan**	**1.30**	**328**	P		**Pb**	**09 35 10.3**	**-1.0**
	baz=328							
WFSB					S	**Sb**	**09 35 28.3**	**+0.6**
	baz=328							
TWA	**Mucha**	**1.33**	**319**	*i* P		**Pb**	**09 35 11.7**	**-0.1**
	baz=319							
TWA					S	**Sb**	**09 35 29.4**	**+0.7**
	baz=319							
NHDH	**Xindian Distri**	**1.36**	**317**	P		**Pb**	**09 35 12.4**	**+0.1**
	baz=333							
NHDH					S	**Sb**	**09 35 29.7**	**+0.4**
	baz=333							
JKRS	**Kuro-shima**	**1.37**	**78**	P		**Pb**	**09 35 12.9**	**+0.5**
JKRS					S	**Sb**	**09 35 30.7**	**+1.2**
FULB	**Fuli**	**1.38**	**237**	*i* P		**Pn**	**09 35 10.6**	**0.0**
	baz=225							
FULB					*e*S	**Sn**	**09 35 27.3**	**-0.5**
	baz=225							
CHKT	**Chengkung**	**1.38**	**232**	P		**Pn**	**09 35 10.4**	**-0.2**
	baz=220							
CHKT					S	**Sn**	**09 35 25.8**	**-2.1**
	baz=220							
TATO	**Taipei**	**1.39**	**317**			**Pb**	**09 35 11.9**	**-0.9**
TAP	**Taipei**	**1.43**	**319**	*e*P		**Pb**	**09 35 12.7**	**-0.7**
	baz=318							
TAP					S	**Sb**	**09 35 32.0**	**+0.9**
	baz=318							
SSLB	**Suanglung**	**1.46**	**263**	*i* P		**Pn**	**09 35 12.9**	**+1.0**
	baz=263							
SSLB					S	**Sn**	**09 35 30.1**	**+0.1**
	baz=263							
SSLB	**Suanglung**	**1.46**	**263**			**Pn**	**09 35 12.9**	**+1.0**
WLTB	**Daxi**	**1.47**	**307**	P		**Pb**	**09 35 13.7**	**-0.5**
	baz=294							
WLTB					*e*S	**Sb**	**09 35 33.4**	**+0.9**
	baz=294							
YM01	**YM01**	**1.47**	**323**	*i* P		**Pn**	**09 35 12.6**	**+0.7**
	baz=323							
YM01					S	**Sb**	**09 35 31.9**	**-0.6**
	baz=323							
DPDB	**Guoxing**	**1.48**	**273**	P		**Pn**	**09 35 13.3**	**+1.3**
	baz=272							
DPDB					S	**Sb**	**09 35 32.1**	**-0.7**
	baz=272							
YM10	**YM10**	**1.48**	**323**	P		**Pn**	**09 35 12.9**	**+0.7**
	baz=323							
YM10					*e*S	**Sb**	**09 35 31.8**	**-1.1**
	baz=323							
YM11	**YM11**	**1.48**	**324**	P		**Pb**	**09 35 13.8**	**-0.6**
	baz=324							
YM11					*e*S	**Sb**	**09 35 31.6**	**-1.3**
	baz=324							
WHP	**Taichung City**	**1.49**	**282**	P		**Pb**	**09 35 13.7**	**-0.8**
	baz=271							
WHP					S	**Sb**	**09 35 32.2**	**-1.0**
	baz=271							
YM08	**YM08**	**1.49**	**325**	*e*P		**Pb**	**09 35 14.1**	**-0.5**
	baz=324							
YM08					*e*S	**Sb**	**09 35 32.2**	**-1.0**
	baz=324							
SMLT	**Sun Moon Lake**	**1.50**	**267**	*i* P		**Pn**	**09 35 13.6**	**+1.1**
	baz=266							
SMLT					S	**Sn**	**09 35 31.2**	**+0.1**
	baz=266							
JIJ	**Ishigaki jima**	**1.52**	**75**	P		**Pb**	**09 35 13.8**	**-1.1**
JIJ					*e*S	**Sb**	**09 35 33.5**	**-0.3**
TWS1	**Kuangyinshan**	**1.52**	**318**	*i* P		**Pb**	**09 35 13.9**	**-1.2**
	baz=335							
TWS1					S	**Sb**	**09 35 34.4**	**+0.3**
	baz=335							
ANP	**Anpu**	**1.53**	**323**	*e*P		**Pb**	**09 35 14.5**	**-0.7**
	baz=322							
YUS	**Yu-Shan**	**1.53**	**252**	*i* P		**Pn**	**09 35 13.9**	**+0.7**
	baz=251							
YUS					S	**Sn**	**09 35 32.4**	**+0.1**
	baz=251							
TYC	**Yuchr**	**1.54**	**268**	*i* P		**Pn**	**09 35 13.7**	**+0.8**
	baz=267							
TYC					S	**Sn**	**09 35 32.5**	**+0.7**
	baz=267							
LIOB	**Emei**	**1.55**	**296**	*i* P		**Pb**	**09 35 15.0**	**-0.5**
	baz=295							
LIOB					S	**Sb**	**09 35 34.4**	**-0.3**
	baz=295							
NSTT	**Nanjuang**	**1.55**	**296**	*i* P		**Pb**	**09 35 14.8**	**-0.7**
	baz=295							
NSTT					S	**Sb**	**09 35 34.7**	**-0.1**
	baz=295							
NTST	**Danshui**	**1.55**	**320**	*e*P		**Pb**	**09 35 14.4**	**-1.2**
	baz=336							
NTST					S	**Sb**	**09 35 34.3**	**-0.6**
	baz=336							
TWY	**Chenhua**	**1.56**	**327**	P		**Pb**	**09 35 14.9**	**-0.7**
	baz=327							
TWY					S	**Sb**	**09 35 33.8**	**-1.2**
	baz=327							
WHYT	**Xinyi Township**	**1.57**	**261**	P		**Pn**	**09 35 14.8**	**+1.5**
	baz=248							
WHYT					S	**Sn**	**09 35 33.4**	**+0.8**
	baz=248							
NCU	**National Centr**	**1.59**	**309**	P		**Pb**	**09 35 14.8**	**-1.4**
	baz=309							
NCU					S	**Sb**	**09 35 36.8**	**+0.9**
	baz=309							
NCUH	**Zhongli**	**1.59**	**309**	*i* P		**Pn**	**09 35 14.6**	**+1.1**
	baz=308							
ELDTW	**Lidau**	**1.60**	**241**	*i* P		**Pn**	**09 35 13.9**	**+0.1**
	baz=240							
ELDTW					S	**Sn**	**09 35 31.7**	**-1.7**
	baz=240							
SBCB	**Hsinchu**	**1.64**	**300**	P		**Pb**	**09 35 16.4**	**-0.6**
	baz=299							
SBCB					*e*S	**Sb**	**09 35 38.2**	**+0.9**
	baz=299							
ALS	**Alishan**	**1.65**	**254**	P		**Pn**	**09 35 16.0**	**+1.3**
	baz=253							
ALS					S	**Sn**	**09 35 36.0**	**+0.9**
	baz=253							
HSN	**Hsinchu**	**1.66**	**301**	*e*P		**Pb**	**09 35 16.1**	**-1.2**
	baz=301							
HSN					S	**Sb**	**09 35 36.8**	**-1.1**
	baz=301							
TWQ1	**Liyutan**	**1.66**	**284**	*i* P		**Pb**	**09 35 16.9**	**-0.5**
	baz=282							
TWQ1					*e*S	**Sb**	**09 35 37.9**	**0.0**
	baz=282							
WJS	**Zhushan**	**1.67**	**265**	*e*P		**Pb**	**09 35 16.9**	**-0.6**
	baz=264							
WJS					S	**Sb**	**09 35 38.6**	**+0.5**
	baz=264							
NSY	**Sanyi**	**1.69**	**286**	*i* P		**Pb**	**09 35 17.3**	**-0.6**
	baz=285							
NSY					S	**Sb**	**09 35 38.7**	**0.0**
	baz=285							
NMLH	**Miaoli**	**1.70**	**290**	P		**Pb**	**09 35 17.5**	**-0.5**
	baz=289							
NMLH					S	**Sb**	**09 35 39.1**	**+0.1**
	baz=289							
WNT	**Mingjian**	**1.70**	**267**	*i* P		**Pb**	**09 35 17.6**	**-0.5**
	baz=266							
WNT					*i* S	**Sb**	**09 35 38.5**	**-0.6**
	baz=266							
PCYT	**Pengchaiyu**	**1.71**	**346**	P		**Pb**	**09 35 16.5**	**-1.8**
	baz=346							
TCU	**Taichung**	**1.71**	**276**	*i* P		**Pb**	**09 35 17.8**	**-0.5**
	baz=275							
TCU					S	**Sb**	**09 35 40.0**	**+0.5**
	baz=275							
JISG	**Ishigakijimahi**	**1.73**	**69**	P		**Pn**	**09 35 16.5**	**+1.1**
JISG					*e*S	**Sb**	**09 35 38.5**	**-1.4**
PTSB	**Yuanli**	**1.74**	**286**

CHN4 Tsaushan 1.89 251 *i* P **Pb 09 35 20.2 -1.0**
CHN4 baz=250 *i* S **Sb 09 35 43.9 -0.6**
baz=250
WTP Ta-pu 1.91 248 P **Pn 09 35 20.3 +2.3**
WTP baz=238 *e*S **Sn 09 35 43.2 +2.3**
baz=238
SLGT Liugui 1.99 241 P **Pn 09 35 20.3 +1.3**
SLGT baz=233 S **Sn 09 35 44.9 +1.9**
baz=233
CHY Chiayi 2.00 257 P **Pb 09 35 21.7 -1.3**
CHY baz=255 S **Sb 09 35 46.8 -0.7**
baz=255
ECL Taimali 2.00 227 *i* P **Pn 09 35 18.7 -0.4**
ECL baz=237 S **Sn 09 35 42.9 -0.2**
baz=237
RLNB Erlin 2.00 268 P **Pn 09 35 21.5 +2.4**
RLNB baz=281 S **Sb 09 35 46.7 -0.9**
baz=281
SGST Jiashian 2.00 244 *i* P **Pn 09 35 20.7 +1.5**
SGST baz=234 *i* S **Sn 09 35 46.3 +3.0**
baz=234
CHN1 Nanshi 2.00 248 P **Pb 09 35 22.1 -1.2**
CHN1 baz=247 S **Sb 09 35 46.9 -0.9**
baz=247
SNST Tainan City 2.02 249 P **Pb 09 35 22.3 -1.2**
SNST baz=247 S **Sb 09 35 47.5 -0.6**
baz=247
WTCT Ta-ch'eng 2.07 268 *e*P **Pn 09 35 22.2 +2.1**
WTCT baz=280 *i* S **Sb 09 35 48.4 -1.3**
baz=280
JTJ Tarama 2.08 71 P **Pb 09 35 22.5 -2.1**
JTJ *e*S **Sb 09 35 48.8 -1.2**
WLGB Puzi 2.11 257 S **Sb 09 35 49.5 -1.3**
baz=256
LAY Lan-yu 2.12 206 *i* P **Pn 09 35 20.3 -0.6**
LAY baz=204 *e*S **Sn 09 35 45.8 -0.4**
baz=204
WMLT Mailiao 2.13 266 *e*S **Sb 09 35 50.8 -0.5**
baz=280
SSD Sandimen 2.13 236 P **Pn 09 35 21.9 +0.9**
SSD baz=229 *e*S **Sn 09 35 47.0 +0.5**
baz=229
WSF Szhu 2.15 262 S **Sb 09 35 50.5 -1.4**
baz=260
CHN3 Shinhua 2.19 247 P **Pb 09 35 24.8 -1.5**
CHN3 baz=245 S **Sb 09 35 52.7 -0.3**
baz=245
JIRB Irabujima 2.55 70 P **Pn 09 35 29.4 +2.7**
JIRB *e*S **Sn 09 35 59.4 +2.7**
JIKM Ikemajima 2.65 68 P **Pn 09 35 30.2 +2.2**
JIKM S **Sb 09 36 02.3 -3.9**
JMJ2 Miyako jima3 2.66 73 P **Pn 09 35 30.7 +2.5**
JMJ2 *e*S **Sb 09 36 03.1 -3.4**
JOGS Gusukube 2.73 73 *e*S **Sn 09 36 04.5 +3.3**
KNMB Chin-men Tao 3.82 278 Pn **Pn 09 35 44.5 +0.3**
KNMB **Sn 09 36 25.5 -2.7**
JOW Kunigami 5.92 60 P **Pn 09 36 12.9 -0.1**
0.5nm,0.3s,baz=184,slow=13,SNR=9.4
JOW S **Sn 09 37 19.4 -0.5**
0.4nm,0.3s,baz=196,slow=14,SNR=2.5
TGY Tagaytay City 9.93 189 LR LR 09 40 58.9
comp=Z,151nm,19.2s,baz=110,slow=36
JNU Nakatsue 11.70 37 LR LR 09 42 22.6
comp=Z,160nm,18.9s,baz=212,slow=39
KSAR Wonju Array Be 14.19 18 Pn **Pn 09 38 06.5 +0.2**
KSRS Korea Array 14.21 18 P **P 09 38 10.4 -3.2**
1.6nm,0.3s,baz=198,slow=12,SNR=51
KSRS LR LR 09 44 06.5
comp=Z,148nm,19.0s,baz=194,slow=40
KS19 Wonju Array Si 14.24 17 **Pn 09 38 05.4 -1.6**
XAN Xi'an 15.56 313 **Pn 09 38 22.7 -2.1**
INU Inuyama 16.92 45 Pn **Pn 09 38 39.5 -2.4**
INU IAmb IAmb 09 38 42.8
comp=Z,28nm,1.5s
DAV Davao City (W) 17.05 170 LR LR 09 45 00.2
comp=Z,102nm,21.3s,baz=332,slow=35
MJAR Matsushiro Arr 18.42 44 LR LR 09 47 05.3
comp=Z,67nm,18.2s,baz=205,slow=40
USA0B Ussuriysk Arra 21.62 19 P **P 09 39 35.0 0.0**
USRK Ussuriysk Ar. 21.62 19 P **P 09 39 33.8 -1.2**
comp=Z,2.4nm,0.7s,baz=203,slow=10.0,SNR=5.0
USRK Ussuriysk Ar. 21.62 19 P **P 09 39 32.5 -2.4**
CMAR Chiang Mai Arr 22.66 261 P **P 09 39 49.0 +2.6**
comp=Z,0.8nm,0.4s,baz=62,slow=8.4,SNR=5.6
CMAR LR LR 09 49 56.1
comp=Z,66nm,18.2s,baz=30,slow=40
CMAR Chiang Mai Arr 22.66 261 P **P 09 39 48.2 +1.9**
KLR Kul'dur 26.24 14 LR LR 09 51 42.6
comp=Z,149nm,18.7s,baz=188,slow=39
SONM Songino Array 27.06 336 P **P 09 40 26.3 -1.0**
comp=Z,1.9nm,0.7s,baz=150,slow=9.3,SNR=9.0
SONM LR LR 09 52 20.7
comp=Z,150nm,21.3s,baz=166,slow=39
SONM Songino Array 27.06 336 P **P 09 40 26.1 -1.2**
KAPI Kappang 28.93 186 LR LR 09 53 23.8
comp=Z,28nm,18.4s,baz=4.5,slow=38
MK31 Makanchi Array 39.36 316 P **P 09 42 14.5 +0.3**
MK31 IAmb IAmb 09 42 20.8
comp=Z,3.6nm,0.9s
MKAR Makanchi Array 39.36 316 P **P 09 42 14.1 0.0**
comp=Z,2.4nm,0.6s,baz=110,slow=9.8,SNR=16
MKAR Makanchi Array 39.36 316 P **P 09 42 13.6 -0.5**
PETK Petropavlovsk- 39.36 33 LR LR 09 59 18.7
comp=Z,57nm,18.8s,baz=64,slow=38
ZAA0 Zalesovo Array 41.10 327 P **P 09 42 27.4 -1.0**
ZAA0 IAmb IAmb 09 42 28.0
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 41.10 327 P **P 09 42 27.1 -1.3**
comp=Z,2.6nm,0.7s,baz=117,slow=8.0,SNR=12
ZALV LR LR 10 00 48.9
comp=Z,94nm,19.0s,baz=114,slow=38
ZALV Zalesovo Beam 41.10 327 P **P 09 42 27.3 -1.1**
NRN Naryn 42.32 306 P **P 09 42 39.7 +0.7**
KURK Kurchatov 43.06 320 P **P 09 42 44.3 -0.1**
KURBB Kurchatov Arra 43.08 320 P **P 09 42 43.7 -0.8**
comp=Z,0.6nm,0.3s,baz=113,slow=8.7,SNR=4.3
AAK Ala-Archa 43.62 307 P **P 09 42 50.7 +1.4**
comp=Z,2.3nm,0.7s,baz=68,slow=1.7,SNR=6.5
AAK Ala-Archa 43.62 307 P **P 09 42 48.0 -1.4**
AAK IAmb IAmb 09 42 52.0
comp=Z,3.7nm,0.8s
NIL Nilore 43.91 294 P **P 09 42 51.1 -0.4**
NIL IAmb IAmb 09 42 54.8
comp=Z,5.3nm,1.0s
ARSB Arslanbob 44.55 305 P **P 09 42 57.0 +0.2**
ARSB IAmb IAmb 09 42 59.0
comp=Z,12nm,1.2s
WRA Warramunga Arr 45.13 164 P **P 09 43 02.5 +1.2**
comp=Z,2.5nm,0.9s,baz=345,slow=8.6,SNR=16
WRA pP **pwP 09 43 15.1 +1.0**
comp=Z,2.6nm,0.8s,baz=345,slow=8.3,SNR=9.2
WRA Warramunga Arr 45.13 164 P **P 09 43 02.2 +0.9**
WB2 Warramunga Arr 45.13 164 P **P 09 43 01.9 +0.5**
WB2 IAmb IAmb 09 43 04.9
comp=Z,5.2nm,1.1s
BTK Batken 46.06 303 P **P 09 43 08.9 +0.2**
KKAR Karatay Array 46.59 307 P **P 09 43 13.0 +0.3**
GIRL Giralia 47.03 191 P **P 09 43 16.2 0.0**
TIXI Tiksi 47.85 3 P **P 09 43 20.4 -1.6**
TIXI IAmb IAmb 09 43 20.4
comp=Z,2.4nm,0.8s
ASAR Alice Springs 48.62 166 P **P 09 43 30.9 +2.3**
comp=Z,0.8nm,0.7s,baz=354,slow=14,SNR=13
ASAR pP **pwP 09 43 42.9 +1.6**
comp=Z,2.4nm,0.8s,baz=343,slow=7.4,SNR=9.6
ASAR Alice Springs 48.62 166 P **P 09 43 31.2 +2.6**
BVAR Borovoye Array 48.63 321 P **P 09 43 28.1 -0.2**
comp=Z,1.1nm,0.5s,baz=115,slow=6.8,SNR=5.3
BVAR pP **pwP 09 43 39.2 -1.8**
comp=Z,0.8nm,0.5s,baz=114,slow=9.6,SNR=2.7
BVAR PcP **PcP 09 44 53.1 -0.4**
comp=Z,1.3nm,0.7s,baz=98,slow=4.4,SNR=5.5
ABKAR Akbulak array 54.48 314 P **P 09 44 11.7 -0.4**
ABKAR Akbulak array 54.48 314 P **P 09 44 11.8 -0.3**
ABKAR IAmb IAmb 09 44 13.4
comp=Z,2.3nm,0.6s
GEYT Alibeck 55.98 301 P **P 09 44 25.2 +2.0**
comp=Z,5.5nm,0.7s,baz=72,slow=4.7,SNR=9.4
GEYT LR LR 10 10 27.2
comp=Z,51nm,18.8s,baz=20,slow=38
GEYT Alibeck 55.98 301 P **P 09 44 25.0 +1.8**
GYA0B ALIBECK ARRAY 55.98 301 P **P 09 44 25.2 +2.0**
STKA Stephens Creek 58.44 161 P **P 09 44 43.8 +3.3**
comp=Z,2.0nm,0.8s,baz=346,slow=8.3,SNR=3.1
STKA Stephens Creek 58.44 161 P **P 09 44 40.2 -0.2**
KBZ Khabaz 66.58 309 P **P 09 45 36.0 +1.1**
comp=Z,2.2nm,0.8s,baz=104,slow=6.2,SNR=4.2
KDAK Kodiak Island 67.37 35 P **P 09 45 39.0 -0.6**
comp=Z,7.1nm,1.0s,baz=300,slow=8.1,SNR=2.9
BWN Browne 67.84 28 P **P 09 45 43.5 +1.0**
ILAR Eielson Array 68.84 27 P **P 09 45 47.4 -1.3**
comp=Z,0.2nm,0.4s,baz=293,slow=7.1,SNR=5.0
FINES FINESS Array B 72.26 330 P **P 09 46 09.7 +0.1**
comp=Z,2.5nm,0.9s,baz=55,slow=5.3,SNR=12
BR131 Keskin Array S 74.30 307 P **P 09 46 22.2 0.0**
BR131 IAmb IAmb 09 46 23.5
comp=Z,4.8nm,1.1s
BRTR Keskin Array B 74.30 307 P **P 09 46 22.7 +0.4**
comp=Z,2.3nm,0.8s,baz=72,slow=5.2,SNR=10
BRTR Keskin Array B 74.30 307 P **P 09 46 22.1 -0.2**
MMAI Mount Meron Ar 75.08 300 LR LR 10 27 08.4
comp=Z,20nm,18.9s,baz=355,slow=42
MLR Muntele Rosu 77.69 314 LR LR 10 23 30.6
comp=Z,79nm,18.3s,baz=238,slow=38
NB2 NORSAR Subarra 78.99 332 P **P 09 46 48.0 -0.2**
comp=Z,8.4nm,1.4s,baz=59,slow=5.6
NOA NORSAR Array B 78.99 332 P **P 09 46 47.2 -1.0**
comp=Z,1.3nm,0.8s,baz=63,slow=5.3,SNR=4.1
VRAC Vranov 81.90 321 LR LR 10 25 22.7
comp=Z,45nm,18.3s,baz=27,slow=37
GERES GERESS Array B 83.80 321 P **P 09 47 14.8 +0.8**
comp=Z,0.4nm,0.5s,baz=68,slow=6.5,SNR=4.6
GERES LR LR 10 28 00.9
comp=Z,48nm,19.9s,baz=302,slow=38
NVAR Mina Array Bea 95.74 44 P **P 09 48 11.3 +0.2**
comp=Z,0.4nm,0.8s,baz=289,slow=4.5,SNR=3.7

*IDC **09** 09:38:45.2±2.2,35°.30N×141°.39E,h0km,mb3.4/3,*
mb1 3.5/5,mb1mx3.3/57,mbtmp3.4/5,ML2.6/2,Error
ellipse: s-maj=49.7km s-min=24.1km az=70.0
*ISCJB **09** 09:38:47.0±1.3,35°.32N±0°.04×141°.39E±0°.10,h26km±6km,*
mb3.5/3,Error ellipse: s-maj=13.7km s-min=6.7km
az=168.0
*JMA **09** 09:38:47.6±0.3,35°.29N×141°.33E,h25km±4km,M2.7*
ISC 09 09:38:46.2±2.2,35°.33N±0°.05×141°.36E±0°.10,h9km±12km,
n19,σ0°74/21,mb3.5/3,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.55**	**313**	P	**Pb**	**09 38 58.7**	**+0.6**
CHOJ				*e*S	**Sb**	**09 39 06.1**	**-0.1**
BSO1	**Boso 1**	**0.74**	**205**	P	**Pb**	**09 39 00.8**	**-0.2**
BSO1				*e*X		09 39 09.4	
JSMT	**Sammumatsuo**	**0.81**	**293**	P	**Pn**	**09 39 03.9**	**+0.1**
BSO3	**Boso 3**	**0.87**	**233**	P	**Pg**	**09 39 02.7**	**-0.2**
KTR	**Katsuura**	**0.87**	**258**	P	**Pn**	**09 39 04.4**	**-0.3**
KTR				*e*S	**Sb**	**09 39 15.6**	**+0.3**
BSO4	**Boso 4**	**0.90**	**248**	P	**Pg**	**09 39 03.5**	**0.0**
BSO4				*e*X		09 39 14.3	
JCN	**Nagara**	**0.95**	**276**	P	**Pn**	**09 39 06.3**	**+0.6**
JKUC	**kamogawauchiur**	**0.96**	**260**	P	**Pg**	**09 39 04.5**	**-0.2**
JYT	**Yasato**	**1.30**	**314**	P	**Pn**	**09 39 10.6**	**0.0**
JYT				*e*S	**Sb**	**09 39 27.6**	**-0.2**
JHO	**Hitachi**	**1.43**	**334**	P	**Pn**	**09 39 12.1**	**-0.3**
JHJ	**Hachijo jima 2**	**2.56**	**211**	Pn	**Pn**	**09 39 27.8**	**-0.1**
	11nm,0.3s,baz=73,slow=19,SNR=2.7						
JHJ				Sn	**Sn**	**09 39 59.7**	**+0.5**
	17nm,0.3s,baz=253,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**2.83**	**296**	Pn	**Pn**	**09 39 32.6**	**+1.0**
	0.2nm,0.3s,baz=116,slow=7.6,SNR=11						
MAT	**Matsushiro**	**2.83**	**296**	P	**Pn**	**09 39 31.9**	**+0.2**
MAT				*e*S	**Sn**	**09 40 04.2**	**-1.7**
H11S1	**WAKE ISLAND Hy**	**28.01**	**120**	T	T	10 14 01.3	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.01**	**120**	T	T	10 13 55.2	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	10 14 05.4	
	baz=312,slow=74						
MKAR	**Makanchi Array**	**45.01**	**304**	P	**P**	**09 47 02.0**	**0.0**
	0.3nm,0.6s,baz=81,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**55.37**	**188**	P	**P**	**09 48 19.4**	**-1.2**
	0.3nm,0.4s,baz=4.0,slow=7.4,SNR=6.6						
ASAR	**Alice Springs**	**59.10**	**188**	P	**P**	**09 48 48.6**	**+1.6**
	0.2nm,0.5s,baz=12,slow=9.9,SNR=3.6						

*ISCJB **09** 10:17:58.1±0.3,43°.95N±0°.02×7°.50E±0°.02,h16km±3km,*
Error ellipse: s-maj=3.2km s-min=2.7km az=8.9
*ROM **09** 10:17:58.0±0.1,43°.998N±0°.010×7°.54E±0°.01,h8km,*
ML2.7/20,Error ellipse: s-maj=1.4km s-min=0.3km
az=219.0
*GEN **09** 10:17:58.7,43°.97N×7°.53E,h10km±1km,Ml2.6*
*LDG **09** 10:17:58.8±0.1,43°.98N×7°.53E,h3km,Md3.0/3,Ml3.2/17,*
Error ellipse: s-maj=1.3km s-min=1.1km az=5.0
ISC 09 10:17:57.5±0.8,43°.96N±0°.02×7°.53E±0°.02,h15km±5km,
n70,σ1°.9/12/107,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.04**	**37**	P	**Pg**	**10 18 00.3**	**+0.1**
SAOF				S	**Sg**	**10 18 01.4**	**-0.7**
SBF	**Sospel**	**0.11**	**215**	*e*Pg	**Pb**	**10 18 01.8**	**+0.4**
SBF				*e*Sg	**Sg**	**10 18 03.9**	**+0.6**
	9μm,0.2s						
NEGI	**Seborga**	**0.17**	**130**	P	**Pb**	**10 18 02.7**	**+0.4**
NEGI				S	**Sb**	**10 18 05.6**	**+0.1**
NEGI	**Seborga**	**0.17**	**130**	P	**Pb**	**10 18 02.7**	**+0.4**
NEGI				S	**Sb**	**10 18 05.6**	**+0.1**
NEGI				AML	AML		
	comp=E,15700μm,0.1s						
NEGI				AML	AML		
	comp=N,25650μm,0.1s						
NEGI				AML	AML		
	comp=E,15700μm,0.1s						
NEGI				AML	AML		
	comp=N,25650μm,0.1s						
IMI	**Imperia**	**0.27**	**100**	P	**Pb**	**10 18 04.2**	**+0.2**
IMI				S	**Sb**	**10 18 08.2**	**-0.3**
IMI	**Imperia**	**0.27**	**100**	P	**Pb**	**10 18 04.2**	**+0.2**
IMI				S	**Sb**	**10 18 08.3**	**-0.2**
IMI				AML	AML		
	comp=N,2815μm,0.2s						
IMI				AML	AML		
	comp=E,2405μm,1.5s						
ENR	**Entracque**	**0.28**	**344**	P	**Pb**	**10 18 04.2**	**0.0**
ENR				S	**Sg**	**10 18 08.0**	**+0.4**
ENR	**Entracque**	**0.28**	**344**	P	**Pb**	**10 18 04.3**	**0.0**
ENR				S	**Sg**	**10 18 08.0**	**+0.4**
ENR				AML	AML		
	comp=E,3375μm,0.3s						
ENR				AML	AML		
	comp=N,2985μm,0.7s						
STV	**Sant Anna di V**	**0.32**	**334**	P	**Pb**	**10 18 05.0**	**0.0**
STV				S	**Sg**	**10 18 08.9**	**+0.1**
STV	**Sant Anna di V**	**0.32**	**334**	P	**Pb**	**10 18 05.0**	**0.0**
STV				S	**Sg**	**10 18 09.0**	**+0.1**
STV				AML	AML		
	comp=N,3795μm,0.3s						
STV				AML	AML		
	comp=E,2285μm,0.5s						
STV				AML	AML		
	comp=N,3790μm,0.3s						
GBOS	**Grotte di Boss**	**0.36**	**38**	P	**Pb**	**10 18 05.8**	**+0.1**
GBOS				S	**Sg**	**10 18 10.6**	**+0.5**
GBOS	**Grotte di Boss**	**0.36**	**38**	P	**Pb**	**10 18 05.8**	**+0.1**
GBOS				S	**Sg**	**10 18 10.6**	**+0.5**
GBOS				AML	AML		
	comp=E,3080μm,0.5s						
GBOS				AML	AML		
	comp=N,1750μm,0.8s						
RORO	**Rocca Rossa**	**0.42**	**68**	P	**Pb**	**10 18 06.7**	**+0.2**
RORO				S	**Sg**	**10 18 12.4**	**+0.7**
RORO	**Rocca Rossa**	**0.42**	**68**	P	**Pb**	**10 18 06.8**	**+0.2**
RORO				S	**Sb**	**10 18 12.5**	**-0.3**
RORO				AML	AML		
	comp=E,1780μm,0.1s						
RORO				AML	AML		
	comp=N,2525μm,0.2s						
DOI	**San Damiano**	**0.58**	**340**	P	**Pb**	**10 18 09.7**	**+0.2**
DOI				S	**Sg**	**10 18 17.0**	**+0.2**
DOI				AML	AML		
	comp=N,1175μm,0.2s						
DOI				AML	AML		
	comp=E,1660μm,0.3s						
FINB	**Finale Ligure**	**0.62**	**69**	P	**Pb**	**10 18 10.3**	**+0.4**
FINB				AML	AML		
	comp=N,582μm,0.2s						
FINB				AML	AML		
	comp=E,542μm,1.6s						
PZZ	**Stroppo**	**0.62**	**332**	P	**Pb**	**10 18 10.5**	**+0.3**
PZZ				S	**Sg**	**10 18 18.3**	**+0.2**
PZZ	**Stroppo**	**0.62**	**332**	P	**Pb**	**10 18 10.3**	**+0.2**
PZZ				S	**Sg**	**10 18 18.3**	**+0.2**
PZZ				AML	AML		
	comp=N,1440μm,1.0s						
PZZ				AML	AML		
	comp=E,1160μm,0.1s						
QLNO	**Quiliano**	**0.70**	**58**	P	**Pb**	**10 18 11.8**	**+0.5**
QLNO				S	**Sg**	**10 18 20.6**	**+0.4**
QLNO				AML	AML		
	comp=E,626μm,0.4s						
QLNO				AML	AML		
	comp=N,766μm,0.3s						
FRF	**La Foret Royal**	**0.75**	**238**	*e*Pg	**Pb**	**10 18 13.0**	**+0.8**
FRF				*e*Sg	**Sb**	**10 18 22.8**	**+0.6**
	comp=N,329nm,0.2s						
BHB	**Bricherasio**	**0.90**	**348**	P	**Pb**	**10 18 14.1**	**-0.7**
BHB				S	**Sb**	**10 18 25.6**	**-1.1**
BHB	**Bricherasio**	**0.90**	**348**	P	**Pb**	**10 18 14.2**	**-0.7**
BHB				S	**Sb**	**10 18 26.0**	**-0.8**
BHB				AML	AML		
	comp=N,229μm,0.7s						
BHB				AML	AML		
	comp=E,204μm,1.2s						
PCP	**Piancastagn**	**0.94**	**51**	P	**Pg**	**10 18 16.1**	**+0.5**
PCP				S	**Sg**	**10 18 28.1**	**+0.2**
PCP	**Piancastagn**	**0.94**	**51**	P	**Pg**	**10 18 16.1**	**+0.5**
PCP				S	**Sg**	**10 18 28.6**	**+0.7**
PCP				AML	AML		
	comp=N,714μm,0.3s						
PCP				AML	AML		
	comp=E,601μm,0.9s						
MBDF	**Montbardon**	**0.94**	**325**	*e*Pg	**Pg**	**10 18 16.2**	**+0.5**
MBDF				*e*Sg	**Sb**	**10 18 28.0**	**+0.1**
	comp=E,116nm,0.2s						
LMR	**La Mourre**	**0.96**	**230**	*e*Pg	**Pn**	**10 18 16.8**	**+0.3**
LMR				*e*Sg	**Sg**	**10 18 29.3**	**+0.5**
	comp=E,366nm,0.2s						
ROTM	**Rocchetta Tana**	**1.07**	**33**	AML	AML		
	comp=E,1485μm,0.4s						
ROTM				AML	AML		
	comp=N,2320μm,1.5s						
RRL	**Rocca Remolon**	**1.10**	**332**	P	**Pb**	**10 18 18.5**	**+0.2**
RRL				AML	AML		
	comp=E,238μm,1.0s						
RRL				AML	AML		
	comp=N,182μm,1.2s						
MONC	**Moncucco Torin**	**1.15**	**14**	P	**Pg**	**10 18 20.8**	**+1.0**
MONC				AML	AML		
	comp=N,716μm,0.2s						
MONC				AML	AML		
	comp=E,678μm,0.2s						
RSP	**Reno Superiore**	**1.21**	**351**	P	**Pn**	**10 18 18.9**	**-1.0**
RSP				AML	AML		
	comp=E,116μm,0.3s						
RSP				AML	AML		
	comp=N,148μm,0.2s						
BNI	**Bardonecchia**	**1.25**	**331**	P	**Pn**	**10 18 20.7**	**+0.1**
BNI				S	**Sn**	**10 18 37.2**	**0.0**
BNI				AML	AML		
	comp=E,81μm,1.5s						
BNI				AML	AML		
	comp=N,65μm,0.7s						
SMRF	**Simiane la Rot**	**1.41**	**271**	*e*Pn	**Pg**	**10 18 24.8**	**+0.2**
SMRF				*e*Sg	**Sg**	**10 18 43.4**	**+0.5**
	comp=N,229nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.52**	**310**	*e*Pn	**Pb**	**10 18 25.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**1.52**	**310**	*e*Pg	**Pg**	**10 18 27.0**	**+0.3**
ORIF				*e*Sn	**Sb**	**10 18 44.4**	**-0.1**
ORIF				*e*Sg	**Sg**	**10 18 46.3**	**-0.2**
	comp=N,292nm,0.8s						
LSD	**Lago del Serru**	**1.53**	**350**	P	**Pn**	**10 18 24.4**	**-0.1**
LSD				AML	AML		
	comp=N,107μm,0.3s						
LSD				AML	AML		
	comp=E,155μm,0.3s						
TRAV	**Traversella**	**1.56**	**6**	AML	AML		
	comp=E,75μm,1.3s						
TRAV				AML	AML		
	comp=N,71μm,1.0s						
BOB	**Bobbio (Coli)**	**1.60**	**59**	P	**Pb**	**10 18 27.1**	**+0.3**
LPG	**La Plagne**	**1.64**	**341**	*e*Pn	**Pb**	**10 18 26.9**	**-0.6**
LPG				*e*Sn	**Sn**	**10 18 47.0**	**+0.1**
LPG				*e*Sg	**Sg**	**10 18 50.8**	**+0.6**
	comp=N,39nm,0.4s						
CIRO	**Champorcher**	**1.65**	**1**	AML	AML		
	comp=E,61μm,0.5s						
CIRO				AML	AML		
	comp=N,51μm,0.6s						
LPL	**La Plagne**	**1.66**	**340**	*e*Pn	**Pb**	**10 18 27.3**	**-0.6**
LPL				*e*Sn	**Sn**	**10 18 47.3**	**-0.1**
LPL				*e*Sg	**Sg**	**10 18 51.0**	**+0.1**
	comp=N,23nm,0.3s						
PGF	**Pioggiola**	**1.77**	**142**	*e*Pn	**Pn**	**10 18 27.3**	**-0.4**
PGF				*e*Sn	**Sn**	**10 18 48.2**	**-1.8**
	comp=N,15nm,0.2s						
EQUI	**Equi**	**1.91**	**83**	P	**Pb**	**10 18 31.2**	**-0.7**
MAIM	**Mastiano**	**2.14**	**90**	P	**Pn**	**10 18 34.0**	**+1.4**
SMPL	**Sampolo**	**2.27**	**145**	S	**Sn**	**10 19 01.0**	**-1.0**
LEOD	**Capriano del C**	**2.38**	**50**	P	**Pn**	**10 18 37.2**	**+1.2**
NDIM	**Novi di Modena**	**2.59**	**68**	S	**Sb**	**10 19 15.0**	**-0.2**
LASF	**Ste Croix**	**2.65**	**274**	*e*Pn	**Pn**	**10 18 40.3**	**+0.7**
LASF				*e*Sn	**Sn**	**10 19 11.5**	**0.0**
	comp=N,13nm,0.2s						
SBPO	**S.Benedetto Po**	**2.66**	**65**	S	**Sb**	**10 19 17.0**	**-0.3**
TUE	**Stuetta**	**2.83**	**26**	P	**Pb**	**10 18 45.3**	**-2.5**
CABF	**La Chapelle**	**2.84**	**340**	*e*Pn	**Pn**	**10 18 43.4**	**+1.0**
CPGN	**Carpegna, Ital**	**3.47**	**91**	S	**Sg**	**10 19 52.0**	**+3.1**
DAVA	**Damuels**	**3.72**	**26**	*i* Pn	**Pn**	**10 18 58.1**	**+3.6**
	comp=N,1.2nm,0.2s						
SMF	**Signal de Mont**	**3.74**	**317**	*e*Pn	**Pn**	**10 18 55.3**	**+0.7**
SMF				*e*Sn	**Sn**	**10 19 36.6**	**-1.8**
	comp=N,9.7nm,0.4s						
FETA	**Feichten**	**3.80**	**35**	*i* Pn	**Pn**	**10 18 56.3**	**+0.6**
	comp=N,0.1nm,0.1s						
HINF	**Hinteralfeld**	**3.89**	**353**	*e*Pn	**Pn**	**10 18 56.7**	**0.0**
HINF				*e*Sn	**Sn**	**10 19 40.7**	**-1.4**
	comp=N,2.5nm,0.3s						
MTLF	**Montolieu**	**3.90**	**263**	*e*Pn	**Pn**	**10 18 58.1**	**+1.3**
MTLF				*e*Sn	**Sn**	**10 19 41.4**	**-1.0**
	comp=N,6.9nm,0.2s						
MMUR	**Monte Murano**	**4.00**	**96**	P	**Pb**	**10 19 04.2**	**-3.4**
CAF	**Calviac**	**4.03**	**286**	*e*Pn	**Pn**	**10 19 00.3**	**+1.7**
CAF				*e*Sn	**Sn**	**10 19 44.5**	**-1.1**
	comp=N,3.5nm,0.2s						
AVF	**Avril sur Loir**	**4.08**	**315**	*e*Pn	**Pn**	**10 19 00.3**	**+1.0**
HAU	**Haudompre**	**4.13**	**349**	*e*Pn	**Pn**	**10 19 01.1**	**+1.1**
HAU				*e*Sn	**Sn**	**10 19 47.2**	**-0.9**
	comp=N,9.3nm,0.4s						
LOR	**Lormes**	**4.19**	**323**	*e*Pn	**Pn**	**10 19 01.6**	**+0.7**
	baz=141						
LOR				*e*Sn	**Sn**	**10 19 48.2**	**-1.4**
	comp=N,4.4nm,0.3s,baz=152						
RETA	**Reutte**	**4.20**	**32**	*i* Pn	**Pn**	**10 19 04.0**	**+3.0**
	comp=N,1.0nm,0.3s						
SSF	**Saint Saulge**	**4.20**	**319**	*e*Pn	**Pn**	**10 19 01.7**	**+0.8**
SSF				*e*Sn	**Sn**	**10 19 47.8**	**-1.9**
	comp=N,6.0nm,0.3s						
MOTA	**Moosalm**	**4.22**	**35**	*i* Pn	**Pn**	**10 19 05.5**	**+4.2**
	comp=N,0.3nm,0.2s						
WTTA	**Wattenberg**	**4.39**	**40**	*i* Pn	Pn	10 19 08.6	+4.9
	comp=N,1.1nm,0.3s						
WATA	**Walderalm**	**4.41**	**39**	*i* Pn	Pn	10 19 09.0	+5.0
	comp=N,1.1nm,0.2s						
ABTA	**Abfaltersbach**	**4.49**	**50**	*i* Pn	**Pn**	**10 19 08.4**	**+3.4**
	comp=N,0.9nm,0.3s						
FAGN	**Fagnano**	**4.75**	**109**	P	**Pg**	**10 19 26.5**	**-1.9**
KBA	**Koelnbreinsper**	**5.14**	**51**	*e*Pn	**Pn**	**10 19 14.7**	**+0.6**
	comp=N,1.7nm,0.3s						

EPF	Esparros	5.31 262	*e*Pn	Pn	10 19 16.0	-0.2

IDC 09 10:28:07.8±2.6, 15°51N×104°72W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/39, mbtmp3.6/3, ML3.1/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/27, Error ellipse: s-maj=123.3km s-min=30.3km az=60.0, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	6.76	300	T	T	10 36 34.5	
SNR=93							
H06N1	SOCORRO T-PHAS	6.85	300	T	T	10 36 38.5	
SNR=16							
LPIG	La Paz	10.04	329	LR	LR	10 33 36.3	
comp=Z,214nm,18.1s,baz=154,slow=33							
TXAR	Lajitas Array	13.80	4	Pn	Pn	10 31 26.6	+1.7
0.0nm,0.3s,baz=183,slow=14,SNR=9.5							
TXAR				LR	LR	10 35 59.9	
comp=Z,40nm,19.1s,baz=0.0,slow=34							
TEIG	Tepich	16.34	71	LR	LR	10 38 34.4	
comp=Z,58nm,20.7s,baz=47,slow=38							
JTS	Las Juntas de	19.95	103	LR	LR	10 38 36.8	
comp=Z,82nm,18.8s,baz=347,slow=32							
PFO	Pinyon Flats O	20.92	332	LR	LR	10 39 45.6	
comp=Z,88nm,19.8s,baz=156,slow=33							
NVAR	Mina Array Bea	25.78	335	LR	LR	10 42 36.5	
comp=Z,59nm,20.3s,baz=148,slow=34							
ULM	Lac du Bonnet	35.39	10	LR	LR	10 49 09.6	
comp=Z,53nm,19.8s,baz=167,slow=36							
LPAZ	La Paz	47.99	130	P	P	10 36 49.4	-0.1
1.4nm,0.8s,baz=292,slow=6.3,SNR=5.8							
LPAZ				LR	LR	10 54 20.4	
comp=Z,67nm,20.4s,baz=290,slow=33							
ILAR	Eielson Array	56.89	340	P	P	10 37 54.3	0.0
0.3nm,0.8s,baz=138,slow=8.4,SNR=3.4							
PLCA	Paso Flores	64.31	152	LR	LR	11 00 20.2	
comp=Z,21nm,19.6s,baz=51,slow=30							

IDC 09 10:37:27.3±2.1, 3°94S×151°90E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/32, mbtmp3.8/2, Error ellipse: s-maj=42.3km s-min=16.5km az=53.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.39	161	Pn	Pn	10 37 40.3	+0.1
73nm,0.3s,baz=42,slow=1.4,SNR=69							
KRVT				Sn	Sb	10 37 48.8	+5.1
341nm,0.3s,baz=38,slow=19,SNR=54							
WRA	Warramunga Arr	23.37	226	P	P	10 42 38.2	+0.5
2.2nm,0.5s,baz=51,slow=10,SNR=29							
ASAR	Alice Springs	26.20	220	P	P	10 43 04.9	+0.9
0.5nm,0.5s,baz=50,slow=8.9,SNR=8.6							
TORD	Torodi Ar. Bea	149.18	289	PKPbc	PKPbc	10 57 17.4	-1.5
0.3nm,0.5s,baz=99,slow=2.0,SNR=2.5							

IDC 09 10:47:27.5±22.0, 13°13S×166°97E, h220km±259km, mb2.8/3, mb1 3.2/4, mb1mx3.0/31, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=246.2km s-min=33.3km az=157.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.91	183	P	Pn	10 49 32.6	0.0
0.2nm,0.3s,baz=348,slow=20,SNR=2.5							
WRA	Warramunga Arr	31.97	253	P	P	10 53 33.2	0.0
0.1nm,0.5s,baz=84,slow=8.7,SNR=3.4							
ASAR	Alice Springs	33.00	247	P	P	10 53 42.1	-0.1
0.3nm,0.3s,baz=78,slow=9.6,SNR=4.7							
ILAR	Eielson Array	85.10	18	P	P	10 59 38.3	0.0
0.2nm,0.7s,baz=236,slow=5.3,SNR=4.4							

BJI ***09*** *10:58:15.5±0.0, 7°25S×129°30E, h139km, mb4.9/54, mB5.1/41*
NEIC ***09*** *10:58:20.4±1.6, 7°00S±0°06×129°26E±0°06, h153km±5km, mb5.0/86*
ISCJB ***09*** *10:58:20.8±0.2, 7°04S±0°02×129°27E±0°02, h170km±2km, mb5.1/78, Error ellipse: s-maj=3.2km s-min=2.6km az=147.9*
MOS ***09*** *10:58:20.7±1.0, 6°94S×129°24E, h165km, mb4.9/31, Error ellipse: s-maj=10.3km s-min=5.9km az=121.0*
DJA ***09*** *10:58:21.8±0.1, 7°S±1°×12°9E±°, h169km±2km, M5.1/47, mB5.5/36, mb5.4/47, MLv5.9/11, Mw(mB)5.0/36, Mwp5.2/1*
IDC ***09*** *10:58:21.9±0.7, 6°92S×129°27E, h161km±5km, mb4.4/19, mb1 4.5/23, mb1mx4.5/29, mbtmp5.0/23, MS3.7/13, Ms1 3.7/13, ms1mx3.5/30, Error ellipse: s-maj=12.0km s-min=8.2km az=71.0*
GCMT ***09*** *10:58:24.4±0.2, 7°05S±0°01×129°20E±0°02, h170km±2km, MW5.2/90, Moment Tension Solution. s45,c56; s90,c132; Duration: 1s0 Moment tensor: Scale 10^17^Nm; M_{rr}0.02±.02; $M_{\theta\theta}$-0.76±.02; $M_{\phi\phi}$0.74±.02; $M_{r\theta}$0.18±.02; $M_{\theta\phi}$0.05±.02; $M_{r\phi}$0.17±.02; Best double couple: $M_0$0.79200×10^17^ NP1ϕ_s47.00000°, δ90.00000°, λ18.00000°. NP2ϕ_s317.00000°, δ72.00000°, λ180.00000°. Principal axes: T 0.7830, Plg13.0000°, Azm273.0000°; N 0.0170, Plg72.0000°, Azm48.0000°; P -0.8000, Plg13.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***09*** *10:58:25.0, 7°08S×129°04E, h172km, mb5.1*

ISC 09 10:58:21.3±0.4, 7°03S±0°03×129°30E±0°04, h162km±3km, h163km:pP-P, n431, σ1s54/469, mb4.9/95, 14C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.20	116	P	Pn	10 59 01.3	+1.9
SAUI				S	Sn	10 59 29.6	+0.7
BNDI	Bandanaira	2.56	14	P	Pn	10 59 05.9	+2.1
BNDI				S	Sn	10 59 36.7	0.0
AAI	Ambon	3.50	342	P	Pn	10 59 17.4	+2.0
AAI				S	Sn	10 59 59.2	+1.6
MSAI	Masohi	3.68	354	P	Pn	10 59 19.9	+2.2
NLAI	Namlea	4.35	330	P	Pn	10 59 29.0	+2.5
FAKI	Fak Fak	5.03	36	P	Pn	10 59 33.9	-1.5
FAKI				S	Sn	11 00 27.5	-5.8
SOEI	Soe	5.67	241	P	Pn	10 59 44.9	+1.0
SOEI				S	Sn	11 00 47.4	-1.1
SANI	Sanana	5.94	326	P	Pn	10 59 49.4	+2.0
MTN	Manton Dam	6.05	163	P	Pn	10 59 49.5	+0.6
baz=6.1,SNR=1000							
MTN	Manton Dam	6.05	163		Pn	10 59 49.6	+0.7
MTN				Sn	Sn	11 00 54.7	-2.9
BATI	Baumata	6.40	240	P	Pn	10 59 54.5	+1.0
749nm,0.3s,baz=129,slow=3.7,SNR=148							
BATI				S	Sn	11 01 03.0	-3.0
1μm,0.3s,baz=83,slow=23,SNR=17							
BATI	Baumata	6.40	240	P	Pn	10 59 54.4	+0.9
SIJI	Sorong	6.42	18	P	Pn	10 59 52.2	-1.6
72nm,0.3s,baz=202,slow=11,SNR=85							
SIJI				S	Sn	11 01 01.6	-4.8
59nm,0.3s,baz=265,slow=20,SNR=16							
SIJI				LR	LR	11 02 35.2	
comp=Z,2μm,19.6s,baz=164,slow=40							
SWI	Sorong	6.43	18	P	Pn	10 59 52.4	-1.4
KDU	Kakadu	6.43	151	P	Pn	10 59 53.8	-0.1
baz=6.5,SNR=1000							
LBMI	Labuha	6.60	344	P	Pn	10 59 57.9	+1.8
BBSI	Bau Bau	6.86	283	P	Pn	11 00 02.8	+3.2
462nm,1.2s,5μm1.8nm							
MMRI	Maumere	7.17	257	P	Pn	11 00 04.5	+0.7
KDI	Kendari	7.31	294	P	Pn	11 00 06.3	+0.7
RKPI	Ransiki, Papua	7.33	42	P	Pn	11 00 04.9	-0.9
EDFI	Ende, Flores	7.73	257	P	Pn	11 00 11.9	+0.7
TNTI	Ternate	7.98	346	P	Pn	11 00 15.7	+1.2
SRPI	Serui, Papua	8.61	54	P	Pn	11 00 21.6	-1.2
KNRA	Kununurra	8.61	183	P	Pn	11 00 21.9	-0.9
baz=8.7,SNR=1000							
KNRA	Kununurra	8.61	183		Pn	11 00 22.1	-0.7
KNRA				Sn	Sn	11 01 52.1	-6.7
LUWI	Luwuk	8.81	312	P	Pn	11 00 28.2	+2.7
262nm,1.2s,3μm							
KMSI	Cibinong	9.23	325	P	Pn	11 00 32.5	+1.5
BKSI	Bulukumba	9.28	280	P	Pn	11 00 32.9	+1.2
WSI	Waingapu	9.28	253	P	Pn	11 00 30.2	-1.5
2μm,6.1s,30μm							
BNSI	Bone	9.51	285	P	Pn	11 00 35.9	+1.2
KAPI	Kappang	9.70	281	P	Pn	11 00 38.9	+1.6
SNR=22							
KAPI	Kappang	9.70	281	P	Pn	11 00 35.5	-1.8
KAPI	Kappang	9.70	281	P	Pn	11 00 38.7	+1.5
7.2nm,0.3s,baz=23,slow=4.2,SNR=36							
KAPI				LR	LR	11 04 23.6	
comp=Z,232nm,20.7s,baz=297,slow=38							
KAPI	Kappang	9.70	281		Pn	11 00 35.5	-1.8
APSI	Ampana	9.75	308	P	Pn	11 00 40.4	+2.5
SPSI	Sidrap Palu	9.96	287	P	Pn	11 00 41.8	+1.1
WBSI	Waikabubak, Su	10.14	254	P	Pn	11 00 41.3	-1.8
TTSI	Tana Toraja	10.24	292	P	Pn	11 00 46.1	+1.8
MRSI	Marisa	10.46	315	P	Pn	11 00 49.2	+1.9
SMPI	Sarmi	10.63	62	P	Pn	11 00 49.4	-0.1
MMPI	Merauke	11.08	98	P	Pn	11 00 55.8	+0.5
SGSI	Sangihe	11.29	340	P	Pn	11 00 58.8	+0.7
PLAI	Plampang	11.55	260	P	Pn	11 00 58.6	-2.9
FITZ	Fitzroy Crossi	11.57	198	P	Pn	11 00 59.0	-2.6
32nm,0.3s,baz=26,slow=10,SNR=617							
FITZ				S	Sn	11 02 59.0	-11
52nm,0.3s,baz=85,slow=18,SNR=5.5							
GENI	Genyem	11.69	68	P	Pn	11 01 03.8	+0.5
MPSI	Mapaga	11.89	308	P	Pn	11 01 07.0	+1.0
JAY	Jayapura	12.22	69	P	Pn	11 01 11.0	+0.8
JAY						11 03 25.0	
JAY	Jayapura	12.22	69	P	Pn	11 01 11.0	+0.8
12nm,0.3s,baz=216,slow=12,SNR=34							
JAY				S	Sn	11 03 25.0	-0.7
6.1nm,0.3s,baz=240,slow=20,SNR=5.4							
JAY	Jayapura	12.22	69	P	Pn	11 01 11.0	+0.8
TWSI	Taliwang, Sumb	12.42	261	P	Pn	11 01 10.3	-2.4
DDMP	Don Marcelino,	13.53	345	*e*P	Pn	11 01 24.9	-1.9
DDMP				*e*S	Sn	11 03 51.0	-6.0
KBKI	Kotabaru	13.59	285	P	Pn	11 01 29.4	+1.7
WB0	Warramunga Arr	13.60	159		P	11 01 29.6	-1.6
BKB	Balikpapan	13.63	294	P	P	11 01 32.0	+0.4
SMKI	Samarinda	13.72	298	P	P	11 01 32.9	+0.3
WRAB	Tennant Creek	13.73	160	*d*P	Pn	11 01 26.8	-2.7
WRAB	Tennant Creek	13.73	160		Pn	11 01 27.3	-2.2
WRA	Warramunga Arr	13.74	160	P	Pn	11 01 26.0	-3.5
WRA	Warramunga Arr	13.74	160	P	Pn	11 01 26.2	-3.3
17nm,0.3s,baz=336,slow=14,SNR=361							
WRA				S	Sn	11 03 49.7	-12
35nm,0.3s,baz=330,slow=25,SNR=11							
WRA				LR	LR	11 07 39.7	
comp=Z,1μm,18.4s,baz=335,slow=40							
WRA	Warramunga Arr	13.74	160	P	Pn	11 01 26.0	-3.5
WB2	Warramunga Arr	13.74	160		Pn	11 01 27.4	-2.2
WC3	Warramunga Arr	13.77	160	Pn	Pn	11 01 27.6	-2.2
WR0	Warramunga Arr	13.82	159		P	11 01 32.5	-1.2
SRBI	Singaraja	14.00	265	P	Pn	11 01 30.9	-2.0
DNP	Denpasar	14.05	262	P	P	11 01 35.4	-0.9
IGBI	Denpasar	14.13	262	P	Pn	11 01 33.3	-1.2
KCP	Kidapawan	14.56	343	⇑*i*P	Pn	11 01 40.4	+0.5
CTBH	Cotabato--PC H	15.02	340	⇓*i*P	Pn	11 01 45.7	+0.1
JAGI	Jajag, Banyuwa	15.08	264	P	Pn	11 01 44.8	-1.5
PALU	Palau	15.18	20	P	P	11 01 48.7	-0.1
baz=15,SNR=8.6							
KMMI	Kalianget	15.22	269	P	P	11 01 48.7	-0.5
COEN	Coen	15.28	118	P	Pn	11 01 48.1	-0.6
baz=15,SNR=65							
COEN	Coen	15.28	118		Pn	11 01 48.4	-0.3
BUKP	Musuan	15.40	344	*e*P	P	11 01 51.9	+0.6
BUKP				*e*S	Sn	11 04 40.5	-1.5
GMJI	Gumukmas	15.76	264	P	Pn	11 01 53.0	-1.7
CGP	Cagayan de Oro	16.05	343	‖*e*P	P	11 01 59.5	+1.1
GRJI	Gresik	16.70	269	P	Pn	11 02 05.9	-0.1
QIS	Mount Isa	16.75	144	P	Pn	11 02 07.0	+0.3
baz=17,SNR=172							
MBWA	Marble Bar	16.82	212	P	P	11 02 06.8	-0.1
SNR=11							
MBWA	Marble Bar	16.82	212	P	P	11 02 07.0	+0.1
PSAD1	Pilbara Seismi	17.01	212	P	P	11 02 08.8	-0.2
PSAC2	Pilbara Seismi	17.07	211	P	P	11 02 09.5	-0.1
PSAD2	Pilbara Seismi	17.08	211	P	P	11 02 10.1	+0.4
PSAB2	Pilbara Seismi	17.08	211	P	P	11 02 10.1	+0.4
PSAA2	Pilbara Seismi	17.09	211	P	P	11 02 10.3	+0.4
PSA00	Pilbara Seismi	17.10	211	P	P	11 02 10.2	+0.3
PSA00	Pilbara Seismi	17.10	211	P	P	11 02 10.1	+0.2
PSA00				IAmb	IAmb	11 02 12.2	
comp=Z,130nm,0.9s							
PSAA3	Pilbara Seismi	17.10	211	P	P	11 02 10.2	+0.2
AS31	Alice Springs	17.12	166	P	Pn	11 02 12.7	+1.5
ASAR	Alice Springs	17.13	166	P	Pn	11 02 12.5	+1.4
ASAR	Alice Springs	17.13	166	P	P	11 02 10.7	+0.4
comp=Z,72nm,0.3s,baz=345,slow=10,SNR=3729							
ASAR				S	S	11 05 14.7	-5.9
comp=Z,9.8nm,0.3s,baz=350,slow=26,SNR=4.2							
ASAR				LR	LR	11 09 32.2	
comp=Z,822nm,18.1s,baz=340,slow=39							
ASAR	Alice Springs	17.13	166	P	Pn	11 02 12.5	+1.4
SPMM	Sapulut	17.32	312	P	Pn	11 02 16.0	+2.5
PWJI	Pagerwojo	17.37	266	P	P	11 02 11.4	-1.6
NGJI	Ngawi	17.70	268	P	Pn	11 02 18.1	+0.1
PMG	Port Moresby	17.84	99	‖*e*P	P	11 02 18.2	+0.1
PMG	Port Moresby	17.84	99	P	P	11 02 18.5	+0.4
comp=Z,2.1nm,0.3s,baz=279,slow=9.8,SNR=7.2							
PMG				S	S	11 05 31.2	-3.6
comp=Z,2.6nm,0.3s,baz=187,slow=19,SNR=4.7							
PMG	Port Moresby	17.84	99	P	P	11 02 18.4	+0.4
WRKA	Warakurna	17.93	183	P	Pn	11 02 20.4	-0.4
baz=18,SNR=422							
PCJI	Pacitan	18.00	265	P	P	11 02 18.3	-1.6
PBKI	Pangkalan Bun	18.08	283	P	Pn	11 02 22.2	-0.3
MTSU	Mount Surprise	18.33	128	P	Pn	11 02 26.4	+0.9
baz=18,SNR=36							
KKM	Kota Kinabalu	18.41	315	P	P	11 02 23.6	-0.9
UGM	Wanagama	18.64	266	P	P	11 02 25.8	-1.1
MANU	Manus Island	18.68	75	P	Pn	11 02 31.3	+1.8
MANU				IAmb	IAmb	11 02 31.9	
comp=Z,110nm,0.8s							
SMRI	Semarang	18.72	269	P	P	11 02 26.3	-1.4
STKI	Sintang	19.12	291	P	P	11 02 33.0	+0.9
SBUM	Sibu	19.47	298	P	Pn	11 02 37.7	-1.2
SBUM	Sibu	19.47	298	P	Pn	11 02 38.0	-0.9
KPJI	Karang Pucung	20.21	268	P	P	11 02 41.9	-1.9
CMJI	Cimerak	20.69	267	P	P	11 02 44.8	-4.1
KSM	Kuching	20.75	293	P	P	11 02 49.3	-0.3
KSM	Kuching	20.75	293	P	P	11 02 49.0	-0.5
CTA	Charters Tower	20.95	130	P	P	11 02 54.1	+2.4
comp=Z,25nm,0.8s,baz=310,slow=11,SNR=24							
CTA				S	S	11 06 34.7	-1.6
comp=Z,9.0nm,0.5s,baz=267,slow=19,SNR=2.3							
CTAO	Charters Tower	20.95	130	P	P	11 02 54.0	+2.3
CTAO				pmax	pmax		
comp=Z,36nm,0.9s							
CTAO	Charters Tower	20.95	130	P	P	11 02 54.0	+2.3
CTAO				IAmb	IAmb	11 02 56.6	
comp=Z,36nm,0.9s							
GIRL	Giralia	21.25	221	P	P	11 02 56.6	+1.8
baz=21,SNR=13							
GIRL	Giralia	21.25	221	P	P	11 02 56.3	+1.5
CISI	Cisompet, Garu	21.32	267	P	P	11 02 52.7	-3.0
LEM	Lembang	21.52	269	P	P	11 02 57.8	-0.3
comp=Z,252nm,0.6s,baz=34,slow=9.0,SNR=24							
LEM	Lembang	21.52	269	P	P	11 02 57.1	-0.9
TPI	Tanjungpandan	21.97	280	P	P	11 03 02.5	0.0
comp=Z,185nm,1.4s,comp=Z,2μm							
MEEK	Meekatharra	21.99	206	P	P	11 03 02.9	+0.3
baz=22,SNR=62							
SKJI	Sukabumi	22.57	269	P	P	11 03 06.3	-2.0
TGY	Tagaytay City	22.57	338	P	P	11 03 08.4	+0.2
comp=Z,360nm,0.5s,baz=190,slow=3.9,SNR=12							
CGJI	Cibinong	23.44	270	P	P	11 03 13.0	-3.2
XMIS	Christmas Isla	23.62	260	P	P	11 03 15.7	-2.2
FORT	Forrest	23.66	183	P	P	11 03 19.4	+1.3
baz=24,SNR=325							
FORT	Forrest	23.66	183	P	P	11 03 19.3	+1.3
QLP	Quilpie	24.09	146	P	P	11 03 24.2	+2.2
baz=24,SNR=19							
KASI	Kota Agung	24.70	272	P	P	11 03 23.2	-4.5
KMBL	Kambalda	25.19	195	P	P	11 03 33.0	+1.0
baz=25,SNR=24							
MORW	Morawa	25.24	208	P	P	11 03 32.7	+0.3
baz=25,SNR=32							
MORW	Morawa	25.24	208	P	P	11 03 32.4	0.0
MORW				IAmb	IAmb	11 03 36.3	
comp=Z,65nm,0.7s							
DSRI	Dabo	25.50	284	P	P	11 03 29.6	-5.3
LHSI	Lahat	25.85	276	P	P	11 03 36.4	-1.7
BBOO	Buckleboo	26.41	167	P	P	11 03 44.0	+1.1
baz=27,SNR=108							
BBOO	Buckleboo	26.41	167	P	P	11 03 43.6	+0.7
RMQ	Roma	26.79	139	P	P	11 03 48.5	+2.1
baz=27,SNR=5.1							
MYKOM	Kota Tinggi	26.86	288	P	P	11 03 47.3	+0.1
MYKOM				IAmb	IAmb	11 03 52.1	
comp=Z,41nm,0.9s							
MYKOM	Kota Tinggi	26.86	288	P	P	11 03 48.0	+0.8
STKA	Stephens Creek	27.26	157	P	P	11 03 51.9	+1.4
baz=27,SNR=34							
STKA	Stephens Creek	27.26	157	P	P	11 03 51.4	+0.9
STKA				pmax	pmax		
comp=Z,8.0nm,1.1s							
STKA	Stephens Creek	27.26	157	P	P	11 03 51.5	+0.9
comp=Z,27nm,0.8s,baz=328,slow=9.2,SNR=43							
STKA	Stephens Creek	27.26	157	P	P	11 03 51.4	+0.9
MUN	Mundaring	27.66	204	P	P	11 03 54.9	+0.8
baz=28,SNR=8.6							
EIDS	Eidsvold	27.67	134	P	P	11 03 55.2	+1.0
HTT	Hallett	27.75	163	P	P	11 03 56.4	+1.5
baz=28,SNR=32							
NWAO	Narrogin (SRO)	28.10	202	P	P	11 03 59.1	+1.1
baz=28,SNR=15							
NWAO	Narrogin (SRO)	28.10	202	P	P	11 03 59.0	+1.1
comp=Z,18nm,0.5s,baz=45,slow=8.0,SNR=18							
NWAO	Narrogin (SRO)	28.10	202	P	P	11 03 57.5	-0.5
NWAO				IAmb	IAmb	11 04 00.2	
comp=Z,50nm,0.9s							
CMSA	Cobar Meteorol	28.80	150	P	P	11 04 06.0	+1.9
baz=29,SNR=26							
JRMM	Jerantut	28.88	291	P	P	11 04 07.0	+1.9
RKGY	Rocky Gully	29.71	201	P	P	11 04 13.3	+1.1
baz=30,SNR=7.4							
IPM	Ipoh	30.45	291	P	P	11 04 18.6	-0.4
IPM				IAmb	IAmb	11 04 21.8	
comp=Z,25nm,0.7s							
IPM	Ipoh	30.45	291	P	P	11 04 21.0	+2.0
KULM	Kulim	31.10	292	P	P	11 04 24.2	-0.5
KULM				IAmb	IAmb	11 04 28.8	
comp=Z,18nm,0.7s							
KULM	Kulim	31.10	292	P	P	11 04 25.0	+0.3
YULB	Yu-li	31.23	346	P	P	11 04 22.3	-3.4
YULB				IAmb	IAmb	11 04 36.6	
comp=Z,27nm,1.4s							
TPUB	Ta-pu	31.31	345	P	P	11 04 25.6	-0.8
ARMA	Armidale	31.31	141	P	P	11 04 27.4	+0.9
baz=32,SNR=4.1							
ARMA	Armidale	31.31	141	P	P	11 04 28.5	+2.0
SSLB	Suanglung	31.69	345	P	P	11 04 27.7	-2.1
ARPS	Mount Arapiles	31.74	161	P	P	11 04 32.3	+2.3
baz=32,SNR=124							
RPSI	Rantau Prapat	31.82	287	P	P	11 04 30.7	-0.3
PSI	Prapat	31.85	287	P	P	11 04 30.7	-0.7
PSI				pmax	pmax		
comp=Z,140nm,0.8s							
SKLT	Songkhla	31.89	296	P	P	11 04 34.4	+2.8
comp=Z,15nm,1.2s,comp=Z,308nm							
PATS	Pohnpei	32.05	65	P	P	11 04 33.0	-0.1
YNG	Young	32.36	150	P	P	11 04 38.1	+2.6
baz=32,SNR=12							
UBPT	Khong Chiam	32.39	313	P	P	11 04 36.8	+0.9
comp=Z,16nm,0.9s							
UBPT	Khong Chiam	32.39	313	P	P	11 04 36.4	+0.5
UBPT				IAmb	IAmb	11 04 37.1	
comp=Z,31nm,1.0s							
GSI	Gunungsitoli	32.72	283	P	P	11 04 37.4	-1.5
TRTT	Trang	33.01	296	P	P	11 04 42.4	+1.0
comp=Z,61nm,0.9s							
CAN	Canberra	33.47	150	P	P	11 04 46.6	+1.4
CAN				pmax	pmax		
comp=Z,36nm,1.1s							
CAN	Canberra	33.47	150	P	P	11 04 46.6	+1.4
CAN				IAmb	IAmb	11 04 48.6	
comp=Z,36nm,1.1s							
TPTI		33.65	287	P	P	11 04 46.7	-0.2
JOW	Kunigami	33.67	358	P	P	11 04 45.0	-1.9
JOW				IAmb	IAmb	11 04 57.2	
comp=Z,18nm,0.8s							
TOO	Toolangi	33.78	157	P	P	11 04 49.0	+1.2
baz=34,SNR=28							
TOO	Toolangi	33.78	157	P	P	11 04 48.5	+0.7
TOO				pmax	pmax		
comp=Z,16nm,0.6s							
TOO	Toolangi	33.78	157	P	P	11 04 48.5	+0.7
TOO				IAmb	IAmb	11 04 51.4	
comp=Z,16nm,0.6s							
PKDT	Phuket	34.25	295	P	P	11 04 53.8	+1.7
SURT	Suratani	34.30	297	P	P	11 04 54.7	+2.2
comp=Z,28nm,0.7s							
LHMI	Lhok Sumawe	34.51	290	P	P	11 04 53.4	-0.9
MLSI	Meulaboh, Aceh	34.70	288	P	P	11 04 53.0	-3.0
MILA	Mila	34.94	152	P	P	11 04 59.8	+2.0
baz=35,SNR=5.5							
CHAI	Chaiyaphum	35.36	310	P	P	11 05 01.6	0.0
comp=Z,64μm,0.8s							
PHET	Kaeng Krachan	35.52	304	P	P	11 05 03.3	+0.4
comp=Z,103μm,0.7s,comp=Z,989μm							
NONG	Nongkai	35.89	314	P	P	11 05 06.1	0.0
comp=Z,0.5nm,0.8s,comp=Z,59nm							
PBKT	Sadao Pong	36.54	310	P	P	11 05 12.4	+0.8
comp=Z,7.0nm,0.8s,comp=Z,1μm							
PBKT	Sadao Pong	36.54	310	P	P	11 05 11.0	-0.6
SRDT	SRDT	36.71	305	P	P	11 05 14.1	+1.1
comp=Z,32nm,0.7s							
UTHA	Uthaitani	37.12	307	P	P	11 05 16.9	+0.3
comp=Z,104μm,0.8s,comp=Z,742μm							
KHLT	Khaolaem Dam	37.38	306	P	P	11 05 16.2	-2.5
comp=Z,61nm,0.6s							
SLVN	Son La	37.62	319	P	P	11 05 20.9	+0.1
SLVN				IAmb	IAmb	11 05 22.4	
comp=Z,25nm,1.1s							
UMPA	Umpang

KMI Kunming 41.10 322 P **P 11 05 50.0 +0.2**
KMI IAmb IAmb 11 05 51.6
comp=Z,35nm,1.2s
ENH Enshi 41.68 334 P **P 11 05 53.2 -0.9**
TJN Taejon 43.21 358⇓*eP* **P 11 06 06.0 -0.3**
MJAR Matsushiro Arr 44.14 10 P **P 11 06 12.6 -1.2**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 44.14 10 P **P 11 06 12.6 -1.2**
comp=Z,6.5nm,0.8s,baz=188,slow=10.0,SNR=16
MJAR pP **pP 11 06 48.0 -0.2**
comp=Z,13nm,0.8s,baz=192,slow=10,SNR=7.7
MJAR ScP **ScP 11 11 31.8 -1.0**
comp=Z,0.7nm,0.5s,baz=189,slow=5.7,SNR=4.2
MJAR LR LR 11 22 39.1
comp=Z,71nm,21.1s,baz=225,slow=33
MJAR Matsushiro Arr 44.14 10 P **P 11 06 12.6 -1.2**
MAJO Matsushiro 44.14 10⇑*eP* **P 11 06 13.5 -0.3**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 44.14 10 P **P 11 06 13.5 -0.3**
MAT Matsushiro 44.14 10 P P 11 06 47.9 +34
MJB9 Matsu-Tunnel 44.14 10 P **P 11 06 13.6 -0.2**
KSAR Wonju Array Be 44.26 358 P **P 11 06 14.7 0.0**
KSAR Wonju Array Be 44.26 358 P **P 11 06 14.7 0.0**
KSRS Korea Array 44.27 358 P **P 11 06 15.3 +0.6**
comp=Z,2.1nm,0.7s,baz=175,slow=8.9,SNR=10.0
KSRS pP **pP 11 06 50.0 +0.8**
comp=Z,9.5nm,1.0s,baz=186,slow=9.0,SNR=6.5
KSRS LR LR 11 24 59.3
comp=Z,47nm,18.8s,baz=186,slow=36
XAN Xi'an 45.18 336 P **P 11 06 19.7 -2.4**
XAN pmax pmax
comp=Z,14nm,1.2s
XAN Xi'an 45.18 336 P **P 11 06 20.7 -1.4**
XAN pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 45.18 336 P **P 11 06 20.7 -1.4**
BJT Baijiatuau 48.36 346 P **P 11 06 46.3 -0.3**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT Baijiatuau 48.36 346 P **P 11 06 46.3 -0.3**
BJI Beijing 48.38 347 P **P 11 06 46.5 -0.2**
BJI sP **pwP 11 07 32.2 +4.4**
BJI pmax pmax
comp=Z,14nm,0.6s
SHL Shillong 48.71 313 P **P 11 06 49.1 -0.7**
SHL Shillong 48.71 313 P **P 11 06 49.1 -0.7**
LZH Lanzhou 49.10 333 ⇑P **P 11 06 52.6 0.0**
LZH pP pP 11 07 28.8 +1.2
LZH sP pwP 11 07 35.3 +1.4
LZH PP **PP 11 08 47.4 -0.6**
LZH pmax pmax
comp=Z,28nm,1.3s
HHC Hu-ho-hao-te 50.36 343 P **P 11 07 02.2 +0.3**
PALK Pallekele 50.51 285 P **P 11 07 02.8 -0.6**
PALK Pallekele 50.51 285 P **P 11 07 03.1 -0.4**
PALK pmax pmax
comp=Z,10.0nm,0.7s
PALK Pallekele 50.51 285 P **P 11 07 03.1 -0.4**
FOZ Fox Glacier 50.79 142 P **P 11 07 06.8 +1.8**
FOZ IAmb IAmb 11 07 08.0
comp=Z,28nm,0.8s
USRK Ussuriysk Ar. 51.05 2 P **P 11 07 06.5 -0.4**
USRK Ussuriysk Ar. 51.05 2 P **P 11 07 07.0 +0.2**
comp=Z,3.4nm,0.6s,baz=188,slow=7.8,SNR=7.1
USRK Ussuriysk Ar. 51.05 2 P **P 11 07 06.5 -0.4**
RPZ Rata Peaks 51.64 142 P **P 11 07 13.6 +2.2**
comp=Z,42nm,0.5s,baz=286,slow=2.5,SNR=47
RPZ Rata Peaks 51.64 142 P **P 11 07 13.9 +2.5**
LSA Lhasa 51.74 317 P **P 11 07 13.6 +0.8**
LSA Lhasa 51.74 317 P **P 11 07 12.8 -0.1**
LSA pmax pmax
comp=Z,32nm,0.6s
LSA Lhasa 51.74 317 P **P 11 07 12.8 -0.1**
LSA IAmb IAmb 11 07 17.2
comp=Z,32nm,0.6s
OXZ Oxford 52.04 141 P **P 11 07 13.9 -0.4**
OXZ IAmb IAmb 11 07 19.8
comp=Z,22nm,0.6s
TUWZ Tuamarina 52.33 138 P **P 11 07 16.9 +0.4**
BSWZ Blackbirch Sta 52.42 138 P **P 11 07 17.5 +0.4**
KHZ Kahutara 52.54 139 P **P 11 07 18.8 +0.8**
KHZ IAmb IAmb 11 07 21.0
comp=Z,30nm,0.9s
ODAN Odare 52.75 311 *eP* **P 11 07 20.2 +0.1**
comp=Z,114nm,0.5s
TAPN Taplejung 52.79 312 *eP* **P 11 07 20.5 0.0**
comp=Z,91nm,0.3s
BHW Baring Head 52.93 138 P **P 11 07 19.8 -1.1**
BKZ Black Stump Fm 53.07 134 P **P 11 07 23.6 +1.5**
BKZ IAmb IAmb 11 07 25.2
comp=Z,14nm,0.8s
URZ Urewera 53.15 133 P **P 11 07 23.5 +0.9**
comp=Z,4.2nm,0.5s,baz=254,slow=7.2,SNR=7.2
URZ Urewera 53.15 133 P **P 11 07 22.2 -0.4**
URZ IAmb IAmb 11 07 29.4
comp=Z,29nm,1.2s
RAMN Ramite 53.39 311 *eP* **P 11 07 25.2 +0.4**
comp=Z,143nm,0.4s
BFZ Birch Farm 53.54 136 P **P 11 07 24.7 -0.8**
BFZ IAmb IAmb 11 07 26.8
comp=Z,34nm,1.3s
GTA Gaotai 53.66 332 ⇑P **P 11 07 26.6 +0.2**
GTA pP pP 11 08 02.6 +0.6
GTA PcP **PcP 11 08 31.5 +0.8**
GTA ScP **ScP 11 12 13.8 +0.4**
GTA S **S 11 14 46.8 -1.0**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,51nm,8.4s
GTA LR LR
comp=Z,160nm,20.3s
GTA LR LR
comp=Z,190nm,20.3s
GTA LR LR
comp=Z,110nm,18.1s
JIRN Jiri 54.08 312 *eP* **P 11 07 30.0 0.0**
comp=Z,62nm,0.3s
GUN Gumba 54.45 312 *eP* **P 11 07 32.6 0.0**
comp=Z,123nm,0.5s
PKI Pulchoki 54.62 311 *eP* **P 11 07 33.5 -0.3**
comp=Z,46nm,0.4s
PKIN Phulchoki 54.63 311 *eP* **P 11 07 33.4 -0.4**
comp=Z,37nm,0.4s
KKN Kakani 54.83 311 *eP* **P 11 07 35.1 -0.1**
comp=Z,59nm,0.6s
DMN Daman 54.86 311 *eP* **P 11 07 35.5 0.0**
GKN Gorkha 55.42 311 *eP* **P 11 07 39.4 0.0**
comp=Z,178nm,0.3s
HYB Hyderabad 55.70 297 *i* P **P 11 07 40.0 -1.4**
KOLN Koldanda 56.08 310 *eP* **P 11 07 44.3 +0.1**
comp=Z,228nm,0.9s
DANN Dangsing 56.26 311 *eP* **P 11 07 45.3 -0.2**
comp=Z,132nm,0.7s
ULN Ulaanbaatar 58.08 343 P **P 11 07 58.5 +0.8**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 58.08 343 P **P 11 07 58.5 +0.8**
ULN IAmb IAmb 11 08 00.6
comp=Z,10nm,0.8s
SONM Songino Array 58.25 342 P **P 11 07 59.7 +0.8**
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 58.25 342 P **P 11 07 59.3 +0.5**
comp=Z,5.7nm,0.6s,baz=152,slow=6.8,SNR=33
SONM pP **pP 11 08 35.6 +0.5**
comp=Z,6.2nm,0.9s,baz=167,slow=7.4,SNR=5.1
SONM ScP **ScP 11 12 33.2 -0.1**
comp=Z,2.3nm,1.0s,baz=160,slow=5.3,SNR=4.7
SONM Songino Array 58.25 342 P **P 11 07 59.7 +0.8**
ZEA Zeya 60.56 359 *eP* **P 11 08 14.8 +0.4**
ZEA *e* 11 08 52.3
ZAK Zakamensk 61.47 341 *eP* **P 11 08 18.7 -2.0**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 62.49 342⇑*iP* **P 11 08 28.2 +0.8**
TLY pmax pmax
comp=Z,7.0nm,0.7s
SMLA Simla 62.61 310 *eP* **P 11 08 29.1 +0.4**
SMLA IAML 11 10 04.1
comp=N,244nm,0.5s
SMLA IAML 11 10 04.8
comp=E,177nm,0.2s

WMQ Urumqi 63.04 327 *eP* **P 11 08 32.6 +1.3**
WMQ sP pwP 11 09 16.5 +2.4
WMQ pmax pmax
comp=E,20nm,0.9s
WMQ pmax pmax
comp=E,65nm,3.6s
WMQ LR LR
comp=E,230nm,24.1s
WMQ LR LR
comp=E,990nm,29.5s
WMQ LR LR
comp=E,100nm,26.5s
MOY Mondy 63.31 341 *eP* **P 11 08 34.3 +1.3**
DHRM DHARAMSHALA 63.79 311 *eP* **P 11 08 36.5 -0.2**
DHRM IAML 11 09 15.6
comp=N,43nm,0.2s
DHRM IAML 11 09 16.5
PETK Petropavlovsk- 64.57 19 P **P 11 08 42.2 +1.2**
comp=N,6.6nm,0.8s,baz=168,slow=4.2,SNR=6.1
BOD Bodaibo 65.81 351 *eP* **P 11 08 48.0 -0.9**
BOD *e* 11 09 26.3
BOD pmax pmax
comp=Z,16nm,1.6s
NIL Nilore 66.71 311 P **P 11 08 55.4 +0.2**
NIL pmax pmax
comp=Z,50nm,0.7s
NIL Nilore 66.71 311 P **P 11 08 55.4 +0.2**
KSH Kashi 67.57 318 P **P 11 09 02.3 +1.7**
KSH sP pwP 11 09 47.1 +3.0
KSH PP **PP 11 11 36.0 +4.1**
KSH S **S 11 17 45.3 +0.8**
KSH SS **SS 11 22 08.9 +0.2**
KSH pmax pmax
comp=Z,79nm,1.1s
KSH pmax pmax
comp=Z,270nm,4.9s
KSH LR LR
comp=Z,690nm,14.3s
KSH LR LR
comp=Z,230nm,10.6s
KSH LR LR
comp=Z,210nm,16.6s
MK31 Makanchi Array 67.87 327 P **P 11 09 02.3 +0.1**
MK31 pmax pmax
comp=Z,24nm,1.2s
MK31 Makanchi Array 67.87 327 P **P 11 09 02.3 +0.1**
MK31 IAmb IAmb 11 09 04.7
comp=Z,24nm,1.1s
MKAR Makanchi Array 67.87 327 P **P 11 09 02.5 +0.3**
comp=Z,10nm,0.4s,baz=114,slow=9.0,SNR=91
MKAR Makanchi Array 67.87 327 P **P 11 09 02.0 -0.2**
MAKZ Makanchi 68.05 327 P **P 11 09 03.3 0.0**
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 68.05 327 P **P 11 09 03.2 0.0**
MAKZ IAmb IAmb 11 09 05.7
comp=Z,13nm,0.8s
MA2 Magadan 68.56 12⇓*eP* **P 11 09 03.9 -2.3**
MA2 pmax pmax
comp=Z,36nm,1.7s
MA2 Magadan 68.56 12 LR LR 11 37 14.7
comp=Z,41nm,21.6s,baz=204,slow=34
YAK Yakutsk 68.85 0 *eP* **P 11 09 07.4 -0.5**
YAK *e**PP **PcP 11 09 33.1 +1.9**
YAK *eS* **S 11 18 01.9 +3.4**
YAK *e**SS **SKiKP 11 18 46.6 +3.6**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,235nm,3.8s
YAK pmax pmax
comp=N,222nm,3.5s
YAK pmax pmax
comp=E,100nm,3.4s
YAK smax smax
comp=N,195nm,3.4s
YAK smax smax
comp=E,109nm,3.5s
YAK Yakutsk 68.85 0 P **P 11 09 07.8 -0.1**
YAK IAmb IAmb 11 09 09.8
comp=Z,15nm,0.9s
KZA Kyzart 69.35 320 P **P 11 09 14.5 +2.5**
SNR=6.4
TKM2 Tokmak 2 69.56 321 P **P 11 09 13.7 +0.7**
SNR=11
UCH Uchtor 69.89 320 P **P 11 09 16.8 +1.4**
SNR=9.7
AAK Ala-Archa 70.11 320 *i* P **P 11 09 16.1 -0.2**
SNR=13
AAK Ala-Archa 70.11 320 P **P 11 09 17.5 +1.2**
SNR=7.5
AAK Ala-Archa 70.11 320 *de*P **P 11 09 17.5 +1.2**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 70.11 320 P **P 11 09 17.1 +0.8**
SNR=11
AAK Ala-Archa 70.11 320 P **P 11 09 17.1 +0.8**
AAK IAmb IAmb 11 09 19.6
comp=Z,17nm,0.9s
KBL Kabul 70.25 310 P **P 11 09 17.3 -0.1**
KBL pmax pmax
comp=Z,23nm,1.1s
KBL Kabul 70.25 310 P **P 11 09 17.3 -0.1**
KBL IAmb IAmb 11 09 19.3
comp=Z,23nm,1.1s
USP Ospenovka 70.43 321 P **P 11 09 18.7 +0.6**
SNR=15
ARSB Arslanbob 70.45 318 P **P 11 09 18.4 0.0**
ARSB IAmb IAmb 11 09 21.4
comp=Z,51nm,1.2s
EKS2 Erkin-Say 70.58 320 P **P 11 09 20.3 +1.2**
SNR=11
ZAA0 Zalesovo Array 71.30 334 P **P 11 09 22.5 -0.5**
ZAA0 IAmb IAmb 11 09 24.3
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 71.30 334 P **P 11 09 22.3 -0.7**
comp=Z,18nm,0.5s,baz=134,slow=5.3,SNR=58
ZALV LR LR 11 42 54.0
comp=Z,15nm,21.5s,baz=152,slow=38
BTK Batken 71.31 316 P **P 11 09 22.6 -1.0**
BTK pmax pmax
comp=Z,11nm,0.8s
BTK Batken 71.31 316 P **P 11 09 22.6 -1.0**
SEY Seymchan 71.96 11⇑*eP* **P 11 09 27.8 +1.0**
KURK Kurchatov 72.18 329 P **P 11 09 28.5 +0.2**
SNR=12
KURK Kurchatov 72.18 329 *d iP* **P 11 09 28.8 +0.5**
KURK pmax pmax
comp=Z,41nm,0.8s
KURK Kurchatov 72.18 329 P **P 11 09 28.6 +0.2**
KURK IAmb IAmb 11 09 30.3
comp=Z,38nm,0.8s
KK31 Karatay Array 72.90 319 P **P 11 09 33.0 +0.1**
KK31 pmax pmax
comp=Z,14nm,0.8s
KK31 Karatay Array 72.90 319 P **P 11 09 33.0 +0.1**
KKAR Karatay Array 72.90 319 P **P 11 09 33.1 +0.3**
KKAR pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 72.90 319 P **P 11 09 33.1 +0.3**
SBA Scott Base 73.40 172 P **P 11 09 36.7 +1.6**
SBA pmax pmax
comp=Z,5.0nm,0.9s
SBA Scott Base 73.40 172 P **P 11 09 36.7 +1.6**
MAW Mawson 74.67 201 P **P 11 09 44.4 +1.8**
baz=75,SNR=18
MAW Mawson 74.67 201 P **P 11 09 43.2 +0.6**
MAW pmax pmax
comp=Z,6.0nm,1.4s
MAW Mawson 74.67 201 P **P 11 09 44.2 +1.6**
comp=Z,9.7nm,0.8s,baz=84,slow=5.7,SNR=27
MAW Mawson 74.67 201 P **P 11 09 43.1 +0.6**
WBK Wadi Bani Khal 74.79 296 P **P 11 09 45.3 +1.0**
WSAR Wadi Sarin 75.25 296 P **P 11 09 47.4 +0.5**
HRA Herat 75.42 308 P **P 11 09 47.7 -0.2**
HRA IAmb IAmb 11 09 50.8
comp=Z,37nm,0.8s
JMDO Jabal Madar 75.51 295 P **P 11 09 47.6 -0.7**
SMDO Samad 75.73 296 P **P 11 09 50.2 +0.5**
BIDO Bidbid 75.77 296 P **P 11 09 50.4 +0.6**
SNR=8.7
BSY Bisya 76.41 295 P **P 11 09 53.2 -0.3**

HOQ Hoqain 76.51 296 P **P 11 09 54.3 +0.3**
SNR=5.0
SHAO Shalim 76.81 290 P **P 11 09 56.1 +0.3**
ARQ Araqi 77.16 296 P **P 11 09 57.6 0.0**
BRVK Borovoye 77.79 328 P **P 11 10 00.5 0.0**
SNR=7.3
BRVK Borovoye 77.79 328 *c iP* **P 11 10 00.2 -0.3**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 77.79 328 P **P 11 10 00.2 -0.3**
BRVK IAmb IAmb 11 10 02.5
comp=Z,18nm,0.8s
MDH Madha 77.82 298 P **P 11 10 02.2 +0.9**
UOSS Minazif 77.82 297 P **P 11 10 03.1 +1.8**
UOSS Minazif 77.82 297 P **P 11 10 02.5 +1.3**
UOSS Minazif 77.82 297 P **P 11 10 01.0 -0.2**
UOSS IAmb IAmb 11 10 03.7
comp=Z,19nm,0.8s
HATD Hatta, Dubai 77.85 297 P **P 11 10 02.2 +0.7**
HATD Hatta, Dubai 77.85 297 P **P 11 10 03.5 +2.0**
ASHO Ashiyiah 77.88 297 *i* P **P 11 10 02.3 +0.6**
SNR=5.6
ASHO Ashiyiah 77.88 297 P **P 11 10 02.5 +0.8**
MSFE Esma-Masafi 77.95 298 *i* P **P 11 10 03.1 +1.0**
SNR=7.9
BANOM Banah 77.97 298 *i* P **P 11 10 02.7 +0.6**
SNR=9.2
BANOM Banah 77.97 298 P **P 11 10 02.7 +0.6**
SHME Shamm 78.13 298 *i* P **P 11 10 03.5 +0.5**
SNR=5.9
NAZ Nazwa, Dubai 78.30 297 P **P 11 10 05.8 +1.9**
FAQ Al Faqa, Dubai 78.31 297 P **P 11 10 05.5 +1.6**
ASUD Al Ashush, Dub 78.52 297 P **P 11 10 06.2 +1.2**
ASUD Al Ashush, Dub 78.52 297 P **P 11 10 05.8 +0.7**
TIXI Tiksi 78.52 360⇓*eP* **P 11 10 04.2 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.4s
TIXI Tiksi 78.52 360 P **P 11 10 03.8 -0.2**
TIXI IAmb IAmb 11 10 04.7
comp=Z,8.1nm,0.4s
WHFO Wadi Hawf 78.52 290 P **P 11 10 05.0 -0.3**
ABTO Aybut 78.86 289 P **P 11 10 07.4 +0.3**
PPT Papeete 79.48 107 LR LR 11 41 17.7
comp=Z,23nm,21.6s,baz=296,slow=32
GEYT Alibeck 79.70 310 P **P 11 10 11.1 -0.3**
comp=Z,6.5nm,0.7s,baz=160,slow=4.7,SNR=11
GEYT Alibeck 79.70 310 P **P 11 10 11.1 -0.3**
GYA0B ALIBECK ARRAY 79.70 310 P **P 11 10 10.6 -0.7**
NRIK Noril'sk 81.42 346 P **P 11 10 19.9 +0.2**
comp=Z,18nm,0.9s,baz=118,slow=4.3,SNR=13
NRIK LR LR 11 48 36.7
comp=Z,46nm,21.7s,baz=152,slow=37
ABKAR Akbulak array 82.10 322 P **P 11 10 23.4 -0.3**
ABKAR Akbulak array 82.10 322 P **P 11 10 23.5 -0.2**
ABKAR IAmb IAmb 11 10 25.5
comp=Z,15nm,0.6s
QSPA South Pole Qui 82.95 180 P **P 11 10 28.2 +0.2**
SYO Syowa Base 83.38 201⇑*eP* **P 11 10 29.8 -0.2**
SYO Syowa Base 83.38 201⇑*e*PcP **PcP 11 10 33.6 -0.4**
SVE Sverdlovsk 84.43 329⇑*eP* **P 11 10 36.0 +0.5**
SVE pmax pmax
comp=Z,42nm,1.2s
ARU Arti 85.36 328 *d iP* **P 11 10 39.4 -0.7**
ARU *PP **pwP 11 11 22.8 -1.3**
ARU S **S 11 20 49.8 -7.4**
ARU SS **SS 11 26 35.6 -0.3**
ARU pmax pmax
comp=Z,25nm,0.9s
ARU Arti 85.36 328 P **P 11 10 39.6 -0.5**
ARU IAmb IAmb 11 10 42.5
comp=Z,23nm,0.9s
RAYN Ar Rayn 87.12 294 *i* P **P 11 10 50.0 +0.4**
SNR=26
RAYN Ar Rayn 87.12 294 P **P 11 10 49.7 +0.1**
RAYN pmax pmax
comp=Z,32nm,0.8s
RAYN Ar Rayn 87.12 294 P **P 11 10 49.7 +0.1**
ZEI Tsey 91.35 313 *eP* **P 11 11 10.6 +1.4**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 91.89 269 P **P 11 11 15.9 +3.6**
KMBO Kilima Mbogo 91.89 269 P **P 11 11 15.3 +3.0**
comp=Z,3.0nm,0.7s,baz=49,slow=7.3,SNR=8.8
KMBO LR LR 11 52 34.1
comp=Z,38nm,18.4s,baz=87,slow=35
RND Reindeer 92.59 26 P **P 11 11 13.7 -0.5**
RND pmax pmax
comp=Z,5.0nm,0.7s
RND Reindeer 92.59 26 P **P 11 11 13.7 -0.5**
RND IAmb IAmb 11 11 14.2
comp=Z,4.7nm,0.7s
ILAR Eielson Array 93.67 25 P **P 11 11 17.7 -1.4**
comp=Z,0.6nm,0.8s,baz=244,slow=4.9,SNR=8.7
BMAR Burnt Mountain 94.94 23 P **P 11 11 25.5 +0.6**
BCAR Beaver Creek A 95.72 27 P **P 11 11 28.4 -0.2**
VNA2 Neumayer--Watz 97.05 193 P Pdif 11 11 35.5 +1.0
OBN Obninsk 97.28 325 *eP* **P 11 11 35.0 -0.6**
OBN pmax pmax
comp=Z,4.0nm,0.9s
VNA3 Neumayer Olymp 97.31 192 P Pdif 11 11 37.1 +1.4
BRTR Keskin Array B 98.79 309 P Pdif 11 11 44.1 +1.0
comp=Z,0.9nm,0.8s,baz=104,slow=6.1,SNR=3.9
ARCES ARCESS Array B 101.36 340 P **Pdif 11 11 52.7 -1.0**
comp=Z,5.1nm,0.8s,baz=74,slow=6.7,SNR=17
ARCES PKiKP **PKiKP 11 16 17.1 0.0**
comp=Z,2.8nm,0.9s,baz=93,slow=1.8,SNR=4.9
FINES FINESS Array B 102.45 331 *i* P **Pdif 11 11 58.2 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 102.45 331 P **Pdif 11 11 57.5 -1.1**
comp=Z,2.4nm,0.8s,baz=90,slow=3.8,SNR=5.0
FINES PKiKP **PKiKP 11 16 19.2 +0.1**
comp=Z,1.7nm,0.7s,baz=99,slow=3.5,SNR=4.4
FINES FINESS Array B 102.45 331 **Pdif 11 11 55.9 -2.7**
MLR Muntele Rosu 104.34 315 PP **PKiKP 11 16 26.1 +2.8**
comp=Z,4.9nm,0.8s,baz=136,slow=7.1,SNR=4.2
MLR Muntele Rosu 104.34 315 **PKiKP 11 16 30.3 +7.0**
VYHS Vyhne 108.76 319 *eP* **Pdif 11 12 29.6 +2.6**
VYHS Vyhne 108.76 319 *e*PDIFF **Pdif 11 12 29.6 +2.6**
GERES GERESS Array B 112.00 320 PKiKP **PKiKP 11 16 37.6 +0.1**
comp=Z,0.9nm,0.5s,baz=56,slow=2.5,SNR=8.2
DAVOX Davos/Dischmat 115.05 319 PKP **PKPdf 11 16 43.7 +0.1**
comp=Z,1.2nm,0.3s,baz=11,slow=10,SNR=3.8
SNOW Snow King Moun 116.37 45 **PKPdf 11 16 45.7 -0.6**
PDAR Pinedale Array 117.40 45 PKP **PKiKP 11 16 49.0 +0.7**
comp=Z,0.5nm,0.7s,baz=278,slow=3.5,SNR=3.4
PDAR Pinedale Array 117.40 45 **PKPdf 11 16 48.2 0.0**
EKA Eskdalemuir Ar 118.86 331 PKP **PKiKP 11 16 50.5 +0.1**
comp=Z,0.7nm,0.3s,baz=51,slow=3.4,SNR=7.8
TXAR Lajitas Array 125.54 59 PKP **PKiKP 11 17 05.5 +1.0**
comp=Z,0.2nm,0.4s,baz=180,slow=2.1,SNR=6.0
ESDC Sonseca Array 127.03 315 PP PP 11 19 07.6 +0.9
comp=Z,0.8nm,0.6s,baz=60,slow=8.0,SNR=5.2
ESDC Sonseca Array 127.03 315 PKPdf **PKPdf 11 17 06.0 -0.6**
TOA0 Torodi Ar. Sit 128.13 281 **PKPdf 11 17 08.7 -0.6**
TORD Torodi Ar. Bea 128.13 281 PKP **PKPdf 11 17 09.4 +0.1**
comp=Z,2.2nm,0.5s,baz=27,slow=3.3,SNR=12
TORD SKPbc SKiKP 11 20 13.8 -17
comp=Z,3.1nm,1.0s,baz=46,slow=4.2,SNR=6.3
TORD Torodi Ar. Bea 128.13 281 **PKPdf 11 17 08.7 -0.6**
TORD SKPdf 11 20 12.0 -18
JCT Junction City 128.49 56 PKIKP **PKiKP 11 17 10.2 -0.1**
JCT Junction City 128.49 56 **PKiKP 11 17 10.2 -0.1**
PTOM Tomar 130.12 317 *e*PP SKPdf 11 20 19.6 -13
MDT Midelt 130.18 307 PKP **PKiKP 11 17 13.6 -0.1**
comp=Z,1.3nm,0.7s,baz=158,slow=1.0,SNR=2.4
MDT SKPbc **SKPab 11 20 19.9 -1.0**
comp=Z,7.3nm,1.0s,baz=62,slow=4.4,SNR=5.9
PBEJ Beja 130.50 315 *e*PP **SKPbc 11 20 21.5 -0.3**
PVAQ Vaqueiros 130.67 314 *e*PP **SKPbc 11 20 23.2 +0.7**
PCVE Castro Verde 130.80 315 *e*PP **SKPbc 11 20 23.4 +0.4**
MESJ Messejana 130.83 315 *e*PP **SKPbc 11 20 24.2 +1.2**
PBDV Barranco-do-Ve 130.90 314 *e*PP **SKPbc 11 20 23.5 +0.1**
PTEO Sao Teotonio 131.32 315 *e*PP **SKPbc 11 20 25.5 +0.7**
DBIC Dimbokro 134.49 272 PKIKP **PKPdf 11 17 19.5 -1.9**
DBIC Dimbokro 134.49 272 PKP **PKiKP 11 17 22.2 -0.6**
comp=Z,2.6nm,0.4s,baz=84,slow=1.9,SNR=5.8
DBIC SKPbc **SKPbc 11 20 34.4 -2.0**
comp=Z,8.2nm,0.8s,baz=97,slow=3.0,SNR=7.6
DBIC Dimbokro 134.49 272 **PKPdf 11 17 19.5 -1.9**
CPUP Villa Florida 146.22 169 PKIKP **PKPdf 11 17 40.5 -1.7**
CPUP 11 17 45.0
CPUP 11 21 06.5
CPUP Villa Florida 146.22 169 PKPbc **PKPab 11 17 44.4 +0.1**

comp=Z,15nm,1.0s,baz=227,slow=2.7,SNR=18
CPUP SKPbc **SKPbc 11 21 06.5 -0.9**
comp=Z,1.8nm,0.6s,baz=118,slow=2.9,SNR=3.6
CPUP Villa Florida 146.22 169 PKPbc **PKPdf 11 17 40.5 -1.7**
CPUP PKPbc **PKPab 11 17 45.0 +0.6**
PB11 IPOC Station P 147.49 145 PKPbc **PKPdf 11 17 42.6 -2.1**
PB11 PKPbc **PKiKP 11 17 49.4 -0.1**
GO01 Chusmiza 147.82 146 **PKiKP 11 17 50.5 -0.1**
MNMC Minye Minye 148.03 145 PKPdf **PKPdf 11 17 43.7 -2.0**
MNMC **PKiKP 11 17 50.6 -0.2**
LPAZ La Paz 151.12 143 PKPbc **PKiKP 11 17 59.0 +1.4**
comp=Z,3.1nm,0.4s,baz=35,slow=4.6,SNR=13
SJG San Juan 161.35 52 PKIKP **PKPdf 11 18 03.6 +0.1**
SJG San Juan 161.35 52 **PKPdf 11 18 03.6 +0.1**

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*DRS **09** 11:02:04.2±0.0, 42°.25N×45°.26E, h18km*
*NORS **09** 11:02:04.0±0.0, 42°.13N×45°.58E, h23km, MPVA3.8*
*TIF **09** 11:02:05.6, 42°.21N×45°.60E, h13km±2km*
*DDA **09** 11:02:12.6, 41°.75N×45°.33E, h7km±3km, ML2.1*
ISC 09 11:02:06.1±1.0, **42°.20N**±0°.02×**45°.55E**±0°.02, **h11**km±9km,
n34, σ1§**18**/65, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.63**	**125**	P	**Pb**	**11 02 18.8**	**-0.2**
LGD				S	**Sb**	**11 02 26.8**	**-1.0**
LGD	**Lagodekhi**	**0.63**	**125**	*e*Pg	**Pg**	**11 02 18.4**	**+0.1**
LGD				*e*Sg	**Sg**	**11 02 26.3**	**-0.2**
BTNK	**Botanikuri**	**0.76**	**228**	P	**Pb**	**11 02 21.2**	**-0.1**
BTNK				S	**Sn**	**11 02 32.7**	**-1.6**
BTNK	**Botanikuri**	**0.76**	**228**	*i* P	**Pb**	**11 02 21.5**	**+0.2**
BTNK				IAML_P			
	comp=Z,6μm,0.1s						
TBLG	**Delisi**	**0.77**	**233**	P	**Pb**	**11 02 21.4**	**+0.1**
TBLG				S	**Sn**	**11 02 33.5**	**-0.8**
TBLG	**Delisi**	**0.77**	**233**	*i* P	**Pb**	**11 02 21.5**	**+0.1**
TBLG				*i* S	**Sn**	**11 02 34.0**	**-0.4**
TBLG				IAML_P			
	comp=Z,3μm,0.2s						
DDFL	**Dedoflistskaro**	**0.86**	**150**	P	**Pn**	**11 02 25.7**	**+1.5**
DDFL				S	**Sn**	**11 02 41.5**	**+4.7**
DDFL	**Dedoflistskaro**	**0.86**	**150**	*i* P	**Pn**	**11 02 26.5**	**+2.3**
KMGR	**Komgaron**	**1.00**	**330**	*e*Pg	**Pn**	**11 02 25.5**	**-0.6**
KMGR				*e*Sg	**Sn**	**11 02 41.9**	**+1.7**
GROC	**Groznyy**	**1.02**	**10**	*e*Pg	**Pg**	**11 02 26.5**	**+0.8**
GROC				*e*Sg	**Sn**	**11 02 41.8**	**+1.1**
GNBR	**Gunib**	**1.06**	**79**	*e*Pg	**Pb**	**11 02 25.4**	**-1.1**
GNBR				*e*Sg	**Sb**	**11 02 39.0**	**-1.4**
VLKR	**Vladikavkaz**	**1.07**	**323**	*e*Pg	**Pg**	**11 02 27.4**	**+0.7**
VLKR				*e*Sg	**Sn**	**11 02 42.9**	**+0.9**
LACR	**Lac**	**1.12**	**305**	*e*Pg	**Pb**	**11 02 26.6**	**-0.9**
LACR				*e*Sg	**Sb**	**11 02 42.0**	**-0.2**
KZRT	**Kazreti**	**1.18**	**227**	P	**Pn**	**11 02 28.1**	**-0.5**
KZRT				S	**Sg**	**11 02 44.3**	**+0.1**
DBC	**Dubki**	**1.25**	**48**	*e*Pg	**Pn**	**11 02 28.7**	**-0.9**
DBC				*e*Sg	**Sn**	**11 02 45.8**	**-0.7**
ARNR	**Ardon**	**1.36**	**317**	*e*Pg	**Pg**	**11 02 33.0**	**+0.9**
ARNR				*e*Sg	**Sg**	**11 02 52.9**	**+3.1**
ZEI	**Tsey**	**1.36**	**296**	*e*Pg	**Pg**	**11 02 32.0**	**-0.2**
ZEI				*e*Sg	**Sg**	**11 02 49.8**	**0.0**
KORR	**Kora**	**1.41**	**310**	*e*Pg	**Pn**	**11 02 31.6**	**-0.2**
KORR				*e*Sg	**Sg**	**11 02 53.2**	**+1.6**
URKR	**Urkarakh**	**1.55**	**90**	*e*Pg	**Pb**	**11 02 34.8**	**0.0**
URKR				*e*Sg	**Sg**	**11 02 55.1**	**-0.7**
ONI	**Oni**	**1.61**	**285**	P	**Pb**	**11 02 36.1**	**+0.4**
ONI				S	**Sg**	**11 02 58.0**	**+0.3**
ONI	**Oni**	**1.61**	**285**	*e*Pg	**Pb**	**11 02 36.0**	**+0.2**
ONI				*e*Sg	**Sg**	**11 02 58.5**	**+0.8**
STDR	**Stavd-Durt**	**1.61**	**317**	*e*Pg	**Pg**	**11 02 36.3**	**-0.6**
STDR				*e*Sg	**Sg**	**11 02 58.4**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.62**	**296**	*e*Pg	**Pb**	**11 02 36.1**	**+0.1**
DIGR				*e*Sg	**Sg**	**11 02 57.7**	**-0.4**
TRKR	**Terskaya**	**1.64**	**339**	*e*Pg	**Pb**	**11 02 36.2**	**-0.2**
TRKR				*e*Sg	**Sg**	**11 02 58.9**	**0.0**
AKH	**Akhalkalaki**	**1.73**	**244**	P	**Pb**	**11 02 37.4**	**-0.6**
AKH				S	**Sb**	**11 03 00.3**	**+0.6**
AKH	**Akhalkalaki**	**1.73**	**244**	*e*Pg	**Pb**	**11 02 37.2**	**-0.8**
AKH				*e*Sg	**Sb**	**11 03 00.0**	**+0.3**
AKT	**Akhty**	**1.78**	**113**	*e*Pg	**Pb**	**11 02 38.1**	**-0.6**
AKT				*e*Sg	**Sb**	**11 03 00.4**	**-0.7**
PRTR	**Priterechnaya**	**1.81**	**329**	*e*Pg	**Pg**	**11 02 40.0**	**-0.9**
PRTR				*e*Sg	**Sg**	**11 03 05.9**	**+1.5**
TKB	**Tkibuli**	**1.91**	**276**	P	**Pb**	**11 02 41.5**	**+0.6**
TKB				S	**Sg**	**11 03 06.8**	**-0.5**
EAK	**Akyaka**	**2.10**	**225**	*i* P	**Pb**	**11 02 43.6**	**-0.7**
EAK				*i* S	**Sg**	**11 03 11.9**	**-1.7**
GNI	**Garni**	**2.13**	**197**	*e*Pg	**Pb**	**11 02 44.2**	**-0.7**
GNI				*e*Sg	**Sg**	**11 03 13.5**	**-1.1**
KBZ	**Khabaz**	**2.48**	**309**	*e*Pn	**Pb**	**11 02 48.7**	**-1.9**
KBZ				*e*Sn	**Sb**	**11 03 21.9**	**+0.8**
SHA1	**Shidzhatmaz**	**2.63**	**307**	*e*Pn	**Pb**	**11 02 51.0**	**-2.2**
SHA1				*e*Sn	**Sb**	**11 03 24.1**	**-1.6**
DAGI	**Agillar**	**2.95**	**249**	*i* P	**Pb**	**11 02 58.1**	**-0.6**
DAGI				IAML_P			
	comp=Z,15nm,0.2s						

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*THE **09** 11:57:55.2, 34°.93N×24°.27E, h49km±3km, ML2.9/4, Error ellipse: s-maj=3.3km s-min=1.5km az=193.0*
*ATH **09** 11:57:56.7, 34°.98N×24°.35E, h26km±1km, ML2.8/4, Error ellipse: s-maj=2.1km s-min=1.3km az=197.0*
*ISCJB **09** 11:57:57.7±0.6, 34°.98N±0°.04×24°.34E±0°.04, h23km±6km, Error ellipse: s-maj=6.6km s-min=5.8km az=173.5*
ISC 09 11:57:56.4±1.1, **34°.98N**±0°.05×**24°.34E**±0°.03, **h31**km±8km,
n18, σ0§**82**/28, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVDS	**Gavdos**	**0.25**	**236**	P	**Pb**	**11 58 02.5**	**-0.3**
GVDS				S	**Sn**	**11 58 09.9**	**+1.1**
GVD	**Gavdhos**	**0.25**	**236**	P	**Pb**	**11 58 02.8**	**-0.5**
GVD				S	**Sn**	**11 58 08.7**	**-0.2**
	2μm,0.3s						
GVD	**Gavdhos**	**0.25**	**236**	P	**Pb**	**11 58 02.7**	**-0.5**
GVD				S	**Sn**	**11 58 08.7**	**-0.2**
GVD				AML	AML	11 58 11.2	
	comp=N,3819μm,0.4s						
GVD				AML	AML	11 58 14.1	
	comp=E,4208μm,0.3s						
SIVA	**Sivas**	**0.39**	**85**	P	**Pb**	**11 58 05.0**	**-0.2**
SIVA				S	**Sn**	**11 58 14.2**	**+1.9**
	comp=E,1μm,0.3s						
SIVA	**Sivas**	**0.39**	**85**	P	**Pb**	**11 58 05.0**	**-0.2**
SIVA				S	**Sn**	**11 58 11.9**	**-0.4**
SIVA				AML	AML	11 58 14.6	
	comp=N,2875μm,0.2s						
SIVA				AML	AML	11 58 14.7	
	comp=E,2435μm,0.5s						
PRNS	**Prines Rethymn**	**0.41**	**19**	P	**Pb**	**11 58 04.9**	**-0.5**
PRNS				S	**Sn**	**11 58 13.3**	**+0.6**
VAM	**Vamos**	**0.44**	**345**	P	**Pb**	**11 58 05.5**	**-0.4**
VAM				S	**Sn**	**11 58 13.7**	**+0.1**
	comp=E,2μm,0.3s						
VAM	**Vamos**	**0.44**	**345**	P	**Pb**	**11 58 05.6**	**-0.4**
VAM				S	**Sn**	**11 58 13.6**	**0.0**
VAM				AML	AML	11 58 15.8	
	comp=E,4722μm,0.3s						
VAM				AML	AML	11 58 15.8	
	comp=N,4130μm,0.3s						
IMMV	**Iera Moni Meta**	**0.56**	**329**	P	**Pb**	**11 58 07.4**	**-0.5**
IMMV				S	**Sn**	**11 58 16.3**	**-0.3**
	comp=N,790nm,0.4s						
IMMV	**Iera Moni Meta**	**0.56**	**329**	P	**Pn**	**11 58 08.1**	**-0.2**
IMMV				S	**Sb**	**11 58 16.1**	**+0.4**
IMMV				AML	AML	11 58 19.9	
	comp=N,1585μm,0.3s						
IMMV				AML	AML	11 58 20.7	
	comp=E,1895μm,0.4s						
KNDR	**Palaiochora Ch**	**0.59**	**295**	P	**Pb**	**11 58 08.1**	**-0.2**
LAST	**Lasithi**	**0.95**	**79**	P	**Pb**	**11 58 14.9**	**+0.5**
NPS	**Neapolis**	**1.08**	**75**	P	**Pb**	**11 58 17.8**	**+1.2**
ANKY	**Antikythira Is**	**1.22**	**316**	P	**Pb**	**11 58 20.1**	**+1.1**
ZKR	**Zakros**	**1.55**	**85**	P	**Pb**	**11 58 23.8**	**-0.6**
KTHA	**Kythira Island**	**1.64**	**321**	P	**Pb**	**11 58 26.4**	**+0.3**
VLI	**Veliai**	**2.07**	**327**	P	**Pb**	**11 58 32.7**	**-0.7**
KARP	**Karpathos**	**2.38**	**75**	P	**Pb**	**11 58 36.4**	**-2.2**

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*SOF **09** 12:11:56.8, 41°.78N×23°.49E, h3km*
*ATH **09** 12:11:57.6, 41°.72N×23°.50E, h16km±2km, ML2.2/7, Error ellipse: s-maj=3.9km s-min=1.2km az=174.0*
*SKO **09** 12:11:58.1, 41°.79N×23°.48E, h0km, M2.1, ML2.5*
*THE **09** 12:11:58.1, 41°.71N×23°.48E, h0km±1km, ML2.2/9, Error ellipse: s-maj=2.2km s-min=0.7km az=342.0*
*BEO **09** 12:11:58.7±0.8, 41°.80N×23°.42E, h6km±3km, ML2.2/5*
ISC 09 12:11:57.4±1.1, **41°.77N**±0°.02×**23°.45E**±0°.02, **h4**km±10km,
n47, σ1§**03**/74, **1C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.27**	**131**	⇑*i*Pg	**Pg**	**12 12 02.8**	**0.0**
MMB				*i* Sg	**Sg**	**12 12 07.0**	**+0.7**
MMB	**Musomiste**	**0.27**	**131**	*i* P	**Pg**	**12 12 02.7**	**0.0**
KKB	**Krupnik**	**0.29**	**290**	*i* Pg	**Pg**	**12 12 02.9**	**-0.2**
KKB				*i* Sg	**Sg**	**12 12 06.9**	**0.0**
KKB	**Krupnik**	**0.29**	**290**	P	**Pg**	**12 12 02.8**	**-0.2**
NVR	**Nevrokopi**	**0.52**	**143**	P	**Pg**	**12 12 06.6**	**-0.8**
NVR				S	**Sg**	**12 12 13.5**	**-0.6**
	225nm,0.1s						
NVR	**Nevrokopi**	**0.52**	**143**	P	**Pg**	**12 12 06.7**	**-0.7**
NVR				S	**Sg**	**12 12 13.4**	**-0.7**
NVR				AML	AML	12 12 21.2	
	comp=N,461μm,0.1s						
NVR				AML	AML	12 12 22.0	
	comp=E,508μm,0.2s						
KNT	**Kendrikon**	**0.73**	**215**	P	**Pg**	**12 12 11.2**	**-0.3**
KNT				S	**Sg**	**12 12 21.6**	**+0.6**
	comp=E,200nm,0.2s						
KNT	**Kendrikon**	**0.73**	**215**	*i* Pg	**Pg**	**12 12 11.3**	**-0.3**
KNT	**Kendrikon**	**0.73**	**215**	P	**Pg**	**12 12 11.5**	**0.0**
KNT				S	**Sg**	**12 12 21.3**	**+0.3**
KNT				AML	AML	12 12 22.3	
	comp=N,378μm,0.1s						
KNT				AML	AML	12 12 22.4	
	comp=E,409μm,0.3s						
VAY	**Valandovo**	**0.80**	**236**	*e*Pg	**Pg**	**12 12 12.6**	**-0.1**
VAY				*e*Sg	**Sg**	**12 12 24.4**	**+1.4**
VAY	**Valandovo**	**0.80**	**236**	*i* Pg	**Pg**	**12 12 13.3**	**+0.6**
VAY				*i* Sg	**Sg**	**12 12 24.7**	**+1.7**
VAY				*e*Lg	Lg	12 12 29.0	
	comp=E,112nm,0.4s						
VAY				*e*Lg	Lg	12 12 29.7	
	comp=N,113nm,0.5s						
VTS	**Vitosha**	**0.86**	**349**	*e*Pg	**Pg**	**12 12 13.5**	**-0.6**
VTS				*e*Sg	**Sg**	**12 12 24.4**	**-0.9**
VTS	**Vitosha**	**0.86**	**349**	*i* Pg	**Pg**	**12 12 13.4**	**-0.6**
VTS	**Vitosha**	**0.86**	**349**	P	**Pg**	**12 12 13.3**	**-0.7**
SOH	**Sokhos**	**0.95**	**184**	P	**Pg**	**12 12 14.9**	**-0.7**
SOH				S	**Sg**	**12 12 28.5**	**+0.6**
	comp=N,138nm,0.2s						
SOH	**Sokhos**	**0.95**	**184**	P	**Pg**	**12 12 14.9**	**-0.7**
SOH				S	**Sg**	**12 12 28.1**	**+0.2**
SOH				AML	AML	12 12 34.5	
	comp=N,486μm,0.3s						
SOH				AML	AML	12 12 35.0	
	comp=E,350μm,0.4s						
STIP	**Stip**	**0.95**	**266**	*i* Pg	**Pg**	**12 12 12.4**	**-3.2**
STIP				*i* Sg	**Sg**	**12 12 23.3**	**-4.7**
RZN	**Rozhen**	**0.95**	**94**	P	**Pg**	**12 12 15.0**	**-0.7**
PLD	**Plovdiv**	**0.99**	**70**	P	**Pb**	**12 12 18.0**	**+0.8**
BOSS	**Bosilegrad**	**1.02**	**316**	*e*Pg	**Pg**	**12 12 16.9**	**-0.2**
BOSS				*e*Sg	**Sg**	**12 12 30.9**	**+0.5**
KAVA	**Kavala**	**1.11**	**134**	P	**Pg**	**12 12 17.8**	**-0.9**
KAVA				S	**Sg**	**12 12 32.7**	**-0.4**
	comp=E,215nm,0.3s						
KAVA	**Kavala**	**1.11**	**134**	P	**Pg**	**12 12 18.2**	**-0.6**
KAVA				S	**Sg**	**12 12 31.7**	**-1.4**
KAVA				AML	AML	12 12 35.8	
	comp=E,328μm,0.3s						
KAVA				AML	AML	12 12 36.2	
	comp=N,526μm,0.4s						
GRG	**Griva**	**1.13**	**225**	P	**Pg**	**12 12 18.8**	**-0.3**
GRG				S	**Sg**	**12 12 34.5**	**+0.7**
	comp=N,62nm,0.2s						
GRG	**Griva**	**1.13**	**225**	P	**Pg**	**12 12 18.8**	**-0.3**
GRG				S	**Sg**	**12 12 34.7**	**+0.9**
GRG				AML	AML	12 12 39.0	
	comp=N,146μm,0.3s						
GRG				AML	AML	12 12 41.2	
	comp=E,173μm,0.2s						
THE	**Thessaloniki**	**1.19**	**198**	P	**Pg**	**12 12 19.5**	**-0.8**
THE	**Thessaloniki**	**1.19**	**198**	P	**Pg**	**12 12 19.5**	**-0.8**
THE				S	**Sg**	**12 12 35.6**	**-0.1**
THE				AML	AML	12 12 37.2	
	comp=E,183μm,0.4s						
THE				AML	AML	12 12 38.7	
	comp=N,208μm,0.4s						
HORT	**Hortiatis**	**1.20**	**193**	P	**Pg**	**12 12 19.9**	**-0.5**
HORT				S	**Sg**	**12 12 36.6**	**+0.7**
	comp=N,88nm,0.3s						
HORT	**Hortiatis**	**1.20**	**193**	P	**Pg**	**12 12 20.0**	**-0.5**
HORT				S	**Sg**	**12 12 36.0**	**+0.1**
HORT				AML	AML	12 12 39.0	
	comp=N,242μm,0.5s						
HORT				AML	AML	12 12 39.7	
	comp=E,194μm,0.4s						
PLG	**Polygyros**	**1.39**	**180**	P	**Pn**	**12 12 23.1**	**-0.6**
PLG				S	**Sg**	**12 12 43.2**	**+1.0**
PLG	**Polygyros**	**1.39**	**180**	P	**Pn**	**12 12 23.6**	**-0.1**
OUR	**Ouranopolis**	**1.49**	**164**	P	**Pn**	**12 12 23.9**	**-1.1**
OUR				S	**Sn**	**12 12 44.2**	**-0.6**
	comp=E,238nm,0.5s						
OUR	**Ouranopolis**	**1.49**	**164**	P	**Pn**	**12 12 24.3**	**-0.6**
THAS	**Thassos island**	**1.50**	**140**	P	**Pn**	**12 12 24.1**	**-1.1**
THAS				S	**Sn**	**12 12 44.9**	**-0.4**
	comp=E,85nm,0.5s						
THAS	**Thassos island**	**1.50**	**140**	P	**Pn**	**12 12 24.3**	**-0.9**
DIM	**Dimitrovgrad**	**1.58**	**79**	P	**Pn**	**12 12 26.7**	**+0.4**
BARS	**Barje**	**1.60**	**311**	*e*Pg	**Pn**	**12 12 26.7**	**+0.1**
BARS				*e*Sg	**Sn**	**12 12 47.5**	**-0.3**
RDO	**Rodhopi**	**1.69**	**111**	P	**Pn**	**12 12 27.8**	**+0.1**
RDO				S	**Sb**	**12 12 50.9**	**+0.3**
	comp=E,80nm,0.2s						
RDO	**Rodhopi**	**1.69**	**111**	P	**Pn**	**12 12 28.0**	**+0.2**
LIT	**Litokhoron**	**1.82**	**204**	P	**Pn**	**12 12 29.6**	**+0.1**
PAIG	**Paliouri**	**1.85**	**175**	P	**Pn**	**12 12 29.7**	**-0.2**
PAIG	**Paliouri**	**1.85**	**175**	P	**Pn**	**12 12 29.8**	**-0.1**
SMTH	**Samothraki Isl**	**2.04**	**129**	P	**Pn**	**12 12 32.1**	**-0.5**
ALN	**Alexandroupoli**	**2.14**	**113**	P	**Pn**	**12 12 34.8**	**+0.9**
ALN	**Alexandroupoli**	**2.14**	**113**	P	**Pn**	**12 12 34.9**	**+1.0**
ZAGS	**Zajecar**	**2.23**	**337**	*e*Pn	**Pn**	**12 12 35.9**	**+0.7**
ZAGS				*e*Sn	**Sn**	**12 13 02.5**	**-0.7**
BOVS	**Bovan**	**2.27**	**326**	*e*Pn	**Pn**	**12 12 35.8**	**+0.1**
BOVS				*e*Sn	**Sn**	**12 13 04.2**	**+0.1**
VYHS	**Vyhne**	**7.47**	**336**	*e*PN	**Pn**	**12 13 51.0**	**+3.8**

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*KRNET **09** 12:14:38.5±0.1, 41°.49N×78°.73E, h7km, mb2.8*
*SOME **09** 12:14:38.5, 41°.40N×78°.78E, h25km*
*NNC **09** 12:14:42.5±2.7, 41°.66N×78°.85E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.6km s-min=11.1km az=154.0*
ISC 09 12:14:39.3±1.9, **41°.49N**±0°.08×**78°.81E**±0°.06, **h10**km, **n33**,
σ1§**12**/58, **17C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.04**	**343**	⇑*i*P	**Pg**	**12 14 58.0**	**-1.4**
PRZ	baz=47			⇑*i*S	**Sg**	**12 15 12.5**	**-0.4**
	baz=47						
KDJ	**Kajisay**	**1.38**	**298**	⇑*i*P	**Pn**	**12 15 03.6**	**-1.2**
KDJ	baz=0.0			⇑*i*S	**Sn**	**12 15 21.9**	**-1.3**
	baz=0.0						
ANVS	**Anan'yevo**	**1.55**	**327**	⇓*i*P	**Pn**	**12 15 07.5**	**+0.3**
ANVS	baz=29			⇓*i*S	**Sn**	**12 15 28.2**	**+0.8**
	baz=29						
SATY	**Saty**	**1.60**	**349**	P	**Pn**	**12 15 08.0**	**+0.2**
SATY	22nm,0.3s			S	**Sn**	**12 15 29.3**	**+0.7**
	58nm,0.1s						
SATY	**Saty**	**1.60**	**349**	*e*P	**Pn**	**12 15 08.2**	**+0.4**
SATY	10nm,0.1s			*e*S	**Sn**	**12 15 29.3**	**+0.7**
	49nm,0.2s						
UZB	**Uzynbulak**	**1.66**	**5**	P	**Pn**	**12 15 09.0**	**+0.3**
UZB	7.0nm,0.5s			S	**Sn**	**12 15 30.8**	**+0.6**
	30nm,0.3s						
UZB	**Uzynbulak**	**1.66**	**5**	*e*P	**Pn**	**12 15 09.1**	**+0.3**
UZB	4.3nm,0.2s			*e*S	**Sn**	**12 15 30.8**	**+0.6**
	17nm,0.2s						

PDGK	**Podgornoye**	**1.91**	**15**	P	**Pb**	**12 15 13.5**	**-0.8**
	7.3nm,0.4s						
PDGK				S	**Sb**	**12 15 38.4**	**+0.2**
	44nm,0.5s						
PDGK	**Podgornoye**	**1.91**	**15**	⇓P	**Pb**	**12 15 13.6**	**-0.7**
	5.6nm,0.4s						
PDGK				⇓S	**Sb**	**12 15 39.1**	**+0.8**
	56nm,0.5s						
KURS	**Kuram**	**2.05**	**347**	Pg	**Pb**	**12 15 16.4**	**-0.4**
	11nm,0.5s						
KURS				Lg	Lg	12 15 43.7	
	20nm,0.4s						
KURS	**Kuram**	**2.05**	**347**	*e*P	**Pb**	**12 15 16.3**	**-0.4**
	9.8nm,0.3s						
KURS				*e*S	**Sb**	**12 15 43.2**	**+0.8**
	19nm,0.3s						
ULHL	**Ulahol**	**2.06**	**292**	⇑*i*P	**Pb**	**12 15 16.0**	**-1.0**
	baz=93						
ULHL				⇑*i*S	**Sb**	**12 15 43.2**	**+0.4**
	baz=93						
TNSS	**Tian-Shan**	**2.08**	**319**	Pg	**Pb**	**12 15 16.3**	**-1.0**
	12nm,0.2s						
TNSS				Lg	Lg	12 15 43.4	
	35nm,0.2s						
TNSS	**Tian-Shan**	**2.08**	**319**	*e*P	**Pb**	**12 15 16.3**	**-1.0**
	12nm,0.2s						
TNSS				*e*S	**Sb**	**12 15 43.4**	**+0.1**
	35nm,0.2s						
NRN	**Naryn**	**2.12**	**269**	⇓*i*P	**Pn**	**12 15 16.1**	**+1.0**
	baz=69						
NRN				⇓*i*S	**Sb**	**12 15 44.0**	**-0.4**
	baz=69						
MDOK	**Medeo**	**2.12**	**323**	⇑P	**Pb**	**12 15 17.1**	**-1.0**
	5.9nm,0.4s						
MDOK				⇑S	**Sb**	**12 15 45.3**	**+0.8**
	25nm,0.6s						
MDOK	**Medeo**	**2.12**	**323**	Pg	**Pb**	**12 15 17.0**	**-1.0**
	12nm,0.3s						
MDOK				Lg	Lg	12 15 44.9	
	52nm,0.5s						
MDOK	**Medeo**	**2.12**	**323**	*e*P	**Pb**	**12 15 17.0**	**-1.0**
	7.6nm,0.3s						
MDOK				*e*S	**Sb**	**12 15 44.3**	**-0.2**
	32nm,0.6s						
KOTS	**Kotyrbulak**	**2.15**	**325**	Pg	**Pb**	**12 15 17.7**	**-0.8**
	38nm,0.2s						
KOTS				Lg	Lg	12 15 46.1	
	76nm,0.3s						
KOTS	**Kotyrbulak**	**2.15**	**325**	*e*P	**Pb**	**12 15 17.6**	**-0.8**
	38nm,0.2s						
KOTS				*e*S	**Sb**	**12 15 45.6**	**+0.3**
	39nm,0.3s						
KNDC	**Almaty**	**2.20**	**322**	⇑P	**Pb**	**12 15 18.3**	**-1.0**
	10nm,0.5s						
KNDC				⇑S	**Sb**	**12 15 48.1**	**+1.4**
	50nm,0.5s						
IZV	**Izvestkoviy**	**2.25**	**314**	Pg	**Pb**	**12 15 19.3**	**-0.8**
	6.1nm,0.3s						
IZV				Lg	Lg	12 15 48.8	
	49nm,0.4s						
IZV	**Izvestkoviy**	**2.25**	**314**	*e*P	**Pb**	**12 15 19.3**	**-0.8**
	3.8nm,0.2s						
IZV				*e*S	**Sb**	**12 15 48.2**	**+0.1**
	38nm,0.3s						
BOOM	**Boomskoye usch**	**2.36**	**296**	⇑*i*P	**Pb**	**12 15 20.5**	**-1.6**
	baz=97						
BOOM				⇑*i*S	**Sb**	**12 15 50.2**	**-1.2**
	baz=97						
KTBS	**Karatobe**	**2.72**	**325**	Pg	**Pb**	**12 15 27.4**	**-0.8**
	6.1nm,0.4s						
KTBS				Lg	Lg	12 16 02.4	
	51nm,0.2s						
KTBS	**Karatobe**	**2.72**	**325**	*e*P	**Pb**	**12 15 27.3**	**-0.8**
	3.4nm,0.2s						
KTBS				*e*S	**Sb**	**12 16 01.9**	**+0.3**
	39nm,0.5s						
TKM2	**Tokmak 2**	**2.79**	**302**	⇓P	**Pb**	**12 15 27.4**	**-1.9**
	2.9nm,0.4s						
TKM2				⇑S	**Sb**	**12 16 05.8**	**+2.2**
	25nm,0.5s						
TKM2	**Tokmak 2**	**2.79**	**302**	⇑*i*P	**Pn**	**12 15 26.0**	**+1.8**
	baz=3.0						
TKM2				⇑*i*S	**Sn**	**12 16 00.8**	**+2.8**
	baz=3.0						
ARXS	**Arharly**	**2.82**	**345**	Pg	**Pb**	**12 15 29.7**	**-0.2**
	5.3nm,0.4s						
ARXS				Lg	Lg	12 16 06.4	
	38nm,0.5s						
ARXS	**Arharly**	**2.82**	**345**	*e*P	**Pb**	**12 15 29.6**	**-0.2**
	3.6nm,0.4s						
ARXS				*e*S	**Sb**	**12 16 06.0**	**+1.7**
	36nm,0.6s						
DGS	**Degeres**	**2.85**	**309**	Pg	**Pb**	**12 15 29.1**	**-1.4**
	8.1nm,0.6s						
DGS				Lg	Lg	12 16 05.2	
	23nm,0.5s						
DGS	**Degeres**	**2.85**	**309**	*e*P	**Pb**	**12 15 29.1**	**-1.4**
	8.8nm,0.7s						
DGS				*e*S	**Sb**	**12 16 05.2**	**-0.3**
	19nm,0.3s						
AAK	**Ala-Archa**	**3.41**	**291**	⇑P	**Pb**	**12 15 41.6**	**+1.6**
	1.5nm,0.6s						
AAK				⇑S	**Sb**	**12 16 24.7**	**+3.1**
	9.2nm,1.1s						

TAP 09 12:19:06.4, 24°.07N×121°.63E, h12km, ML2.1, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**283**	*i* P	Pg	12 19 09.1	+0.5
TWD	baz=290			S	Sg	12 19 10.4	+0.3
	baz=290						
HWA	**Hwalien**	**0.10**	**193**	*e*P	Pg	12 19 09.6	+0.4
	baz=188						
NACB	**Ninganchiao**	**0.10**	**342**	P	Pb	12 19 10.

TAP 09 12:19:07.0, 23.°51N×121.°41E, h9km, ML2.4, 4C-3D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.02**	**139**	*e*P	Pg	12 19 10.2	+1.4
	baz=142						
HGSD				*e*S	Sg	12 19 12.4	+2.5
	baz=142						
EHY	**Hungye**	**0.08**	**268**	⇑*i*P	Pg	12 19 09.6	+0.2
	baz=269						
EHY				*e*S	Sg	12 19 11.2	+0.3
	baz=269						
YULB	**Yu-li**	**0.15**	**221**	⇑*e*P	Pg	12 19 10.9	+0.5
	baz=232						
YULB				*e*S	Sg	12 19 13.4	+0.6
	baz=232						
EGFH	**Guangfu**	**0.16**	**6**	⇑*i*P	Pg	12 19 11.0	+0.5
	baz=356						
EGFH				*e*S	Sg	12 19 13.3	+0.4
	baz=356						
TWF1	**Yuli**	**0.19**	**213**	⇑*i*P	Pg	12 19 11.5	+0.6
	baz=222						
TWF1				*i*S	Sg	12 19 15.3	+1.6
	baz=222						
ESL	**Shilin**	**0.30**	**4**	P	Pg	12 19 13.4	+0.3
	baz=213						
ESL				*e*S	Sg	12 19 17.4	+0.2
	baz=213						
ESL	**Shilin**	**0.30**	**4**	P	Pg	12 19 13.4	+0.3
	baz=355						
ESL				*e*S	Sg	12 19 17.4	+0.2
	baz=355						
FULB	**Fuli**	**0.33**	**199**	*e*P	Pb	12 19 15.3	+0.2
	baz=205						
VWDT	**VWDT**	**0.34**	**315**	⇓*e*P	Pg	12 19 14.4	+0.5
	baz=314						
VWDT				*i*S	Sg	12 19 19.2	+0.7
	baz=314						
YUS	**Yu-Shan**	**0.42**	**267**	P	Pg	12 19 15.8	+0.4
	baz=270						
YUS				*e*S	Sg	12 19 21.6	+0.6
	baz=270						
ELDTW	**Lidau**	**0.48**	**229**	P	Pg	12 19 16.5	0.0
	baz=242						
ELDTW				*e*S	Sg	12 19 22.8	+0.1
	baz=242						
SSLB	**Suanglung**	**0.50**	**304**	⇓P	Pg	12 19 16.9	+0.1
	baz=303						
SSLB				*e*S	Sg	12 19 23.3	-0.1
	baz=303						
WHYT	**Xinyi Township**	**0.54**	**290**	*e*P	Pg	12 19 18.1	+0.5
	baz=291						
WHYT				*e*S	Sg	12 19 25.5	+0.8
	baz=291						
SMLT	**Sun Moon Lake**	**0.60**	**309**	*e*P	Pg	12 19 18.8	+0.1
	baz=316						
SMLT				*e*S	Sg	12 19 26.8	+0.3
	baz=316						
WHF	**Hehuan Shan**	**0.65**	**348**	*e*P	Pg	12 19 19.6	-0.1
	baz=346						
WHF				*e*S	Sg	12 19 28.8	+0.6
	baz=346						
WHF	**Hehuan Shan**	**0.65**	**348**	S	Pg	12 19 19.5	-0.2
	baz=282						
CHN5	**Tsauling**	**0.68**	**278**	⇓*e*P	Pb	12 19 21.1	0.0
	baz=278						
DPDB	**Guoxing**	**0.68**	**320**	*e*P	Pg	12 19 20.5	+0.2
	baz=266						
DPDB				*e*S	Sg	12 19 29.1	-0.1
	baz=266						
DPDB	**Guoxing**	**0.68**	**320**	*e*P	Pg	12 19 20.5	+0.2
	baz=318						
DPDB				*e*S	Sg	12 19 29.2	0.0
	baz=318						
STYT	**Tauyuan**	**0.69**	**240**	*e*P	Pb	12 19 21.0	-0.2
	baz=237						
WJS	**Zhushan**	**0.70**	**297**	*e*P	Pb	12 19 21.9	+0.6
	baz=304						
TPUB	**Ta-pu**	**0.74**	**254**	*e*P	Pb	12 19 22.3	+0.1
	baz=257						
TPUB				*e*S	Sb	12 19 32.4	0.0
	baz=257						
TWG	**Pinlang**	**0.75**	**204**	*e*P	Pb	12 19 22.1	-0.1
	baz=221						
TWG				*e*S	Sb	12 19 32.9	+0.3
	baz=221						
TWGBT	**Beinan**	**0.75**	**204**	*e*P	Pb	12 19 22.3	0.0
	baz=221						
TWGBT				*e*S	Sb	12 19 32.6	0.0
	baz=221						
WNT	**Mingjian**	**0.76**	**299**	*e*P	Pn	12 19 23.4	-0.5
	baz=304						
CHN4	**Tsaushan**	**0.77**	**258**	*e*P	Pb	12 19 22.9	+0.4
	baz=252						
WTP	**Ta-pu**	**0.78**	**250**	*e*P	Pb	12 19 22.8	+0.1
	baz=252						
WDLH	**Douliu**	**0.82**	**283**	*e*P	Pn	12 19 24.1	-0.6
	baz=283						
CHN1	**Nanshi**	**0.87**	**248**	*e*P	Pn	12 19 25.0	-0.5
	baz=252						
CHN1				*e*S	Sn	12 19 37.5	-0.8
	baz=252						
TWK	**Hsinying**	**0.88**	**254**	*e*P	Pb	12 19 24.8	+0.3
	baz=249						
TWK				*e*S	Sb	12 19 36.8	+0.5
	baz=249						
SNST	**Tainan City**	**0.89**	**251**	*e*P	Pb	12 19 24.9	+0.4
	baz=247						
SNST				*e*S	Sn	12 19 37.6	-1.0
	baz=247						
CHY	**Chiayi**	**0.90**	**269**	*e*P	Pb	12 19 25.3	+0.5
	baz=285						
CHY				*e*S	Sn	12 19 38.2	-0.8
	baz=285						
NNS	**Nan Shan**	**0.93**	**358**	*e*P	Pg	12 19 24.7	-0.2
	baz=2.0						
NNS				*e*S	Sb	12 19 37.5	-0.3
	baz=2.0						
MASBT	**Mashibuluo**	**1.14**	**219**	*e*P	Pb	12 19 28.9	-0.1
	baz=222						

*SOME **09** 12:35:10.0, 39.°37N×77.°15E, h5km*
*BJI **09** 12:35:14.4±0.0, 39.°47N×77.°18E, h10km, mb3.9/2, ML3.8/7, Ms3.5/1, Ms7 3.3/1*
*NNC **09** 12:35:14.0±1.7, 39.°54N×77.°20E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=12.2km s-min=9.8km az=139.0*
*ISCJB **09** 12:35:15.7±0.6, 39.°52N±0.°03×77.°07E±0.°04, h10km, mb3.6/2, MS2.9/1, Error ellipse: s-maj=4.9km s-min=4.4km az=162.3*
*KRNET **09** 12:35:17.5±0.1, 39.°70N×77.°02E, mb3.9*
*IDC **09** 12:35:31.3±6.9, 40.°31N×78.°99E, h0km, mb2.9/1, mb1 3.0/3, mb1mx2.9/30, mbtmp3.0/3, ML2.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/15, Error ellipse: s-maj=101.9km s-min=47.7km az=84.0*

ISC 09 12:35:15.5±0.8, 39.°61N±0.°04×77.°17E±0.°04, h10km, n81, σ2§06/111, 33C-22D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.93**	**265**	Pg	**Pn**	**12 35 37.3**	**+2.5**
KSH				Sg	**Sn**	**12 35 52.1**	**+3.8**
KSH				smax	smax		
	comp=N,2μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.8s						
NRN	**Naryn**	**2.03**	**334**	⇑*e*P	**Pb**	**12 35 52.1**	**-0.6**
	baz=35						
NRN				⇑*e*S	**Sb**	**12 36 18.0**	**-0.2**
	baz=35						
KDJ	**Kajisay**	**2.52**	**0**	⇑*i*P	**Pb**	**12 36 00.2**	**-0.8**
	baz=3.0						
KDJ				⇑*e*S	**Sb**	**12 36 30.7**	**-1.4**
	baz=3.0						
ULHL	**Ulahol**	**2.73**	**345**	⇓*i*P	**Pb**	**12 36 02.8**	**-1.7**
	baz=47						
ULHL				⇓*e*S	**Sn**	**12 36 35.2**	**+2.5**
	baz=47						
ULHL	**Ulahol**	**2.73**	**345**	P	**Pb**	**12 36 05.1**	**+0.5**
	SNR=9.7						
KZA	**Kyzart**	**2.87**	**330**	⇓*e*P	**Pb**	**12 36 04.5**	**-2.5**
	baz=31						
KZA				⇓*e*S	**Sn**	**12 36 38.0**	**+1.6**
	baz=31						
KZA	**Kyzart**	**2.87**	**330**	P	**Pb**	**12 36 04.4**	**-2.5**
	SNR=56						
PRZ	**Przheval'sk**	**3.02**	**18**	⇑*i*P	**Pb**	**12 36 07.1**	**-2.4**
	baz=20						
PRZ				⇑*e*S	**Sb**	**12 36 43.4**	**-3.1**
	baz=20						
BOOM	**Boomskoye usch**	**3.03**	**342**	⇓*e*P	**Pb**	**12 36 06.7**	**-2.9**
	baz=44						
BOOM				⇓*e*S	**Sn**	**12 36 42.7**	**+2.7**
	baz=44						
ARLS	**Aral**	**3.12**	**317**	⇑*e*P	**Pn**	**12 36 07.4**	**+2.4**
	baz=18						
ARLS				⇑*e*S	**Sn**	**12 36 43.6**	**+1.2**
	baz=18						
ANVS	**Anan'yevo**	**3.19**	**7**	⇑*e*P	**Pb**	**12 36 09.4**	**-3.1**
	baz=9.0						
ANVS				⇑*e*S	**Sn**	**12 36 47.8**	**+3.6**
	baz=9.0						
UCH	**Uchtor**	**3.30**	**323**	⇑*i*P	**Pn**	**12 36 09.8**	**+2.1**
	baz=24						
UCH				⇑*e*S	**Sn**	**12 36 48.4**	**+1.2**
	baz=24						
UCH	**Uchtor**	**3.30**	**323**	P	**Pn**	**12 36 10.5**	**+2.8**
	SNR=15						
TNSS	**Tian-Shan**	**3.43**	**357**	Pg	**Pb**	**12 36 16.8**	**+0.2**
	32nm,0.5s						
TNSS				Lg	Lg	12 37 05.0	
	156nm,0.6s						
TNSS	**Tian-Shan**	**3.43**	**357**	*e*P	**Pb**	**12 36 16.8**	**+0.2**
	32nm,0.5s						
TNSS				*e*S	**Sg**	**12 37 05.0**	**-0.7**
	156nm,0.6s						
IZV	**Izvestkoviy**	**3.45**	**353**	Pg	**Pb**	**12 36 17.8**	**+1.0**
	25nm,0.6s						
IZV				Lg	Lg	12 37 06.8	
	117nm,0.6s						
IZV	**Izvestkoviy**	**3.45**	**353**	*e*P	**Pb**	**12 36 17.8**	**+1.0**
	12nm,0.5s						
IZV				*e*S	**Sg**	**12 37 06.8**	**+0.5**
	98nm,0.7s						
KBK	**Karagaybulak**	**3.48**	**332**	⇓*e*P	**Pn**	**12 36 12.8**	**+2.9**
	baz=33						
KBK				⇓*e*S	**Sn**	**12 36 52.8**	**+1.6**
	baz=33						
KBK	**Karagaybulak**	**3.48**	**332**	P	**Pb**	**12 36 13.5**	**-3.8**
	SNR=8.0						
TKM2	**Tokmak 2**	**3.52**	**341**	⇓Pn	**Pn**	**12 36 13.7**	**+3.3**
	14nm,0.5s						
TKM2				⇑Lg	Lg	12 37 09.5	
	83nm,0.7s						
TKM2	**Tokmak 2**	**3.52**	**341**	⇑*i*P	**Pn**	**12 36 13.3**	**+2.9**
	baz=42						
TKM2				⇑*e*S	**Sn**	**12 36 54.1**	**+1.9**
	baz=42						
TKM2	**Tokmak 2**	**3.52**	**341**	P	**Pb**	**12 36 14.6**	**-3.4**
	SNR=20						
KST	**Kastek**	**3.55**	**346**	Pg	**Pb**	**12 36 20.1**	**+1.5**
	24nm,0.4s						
KST				Lg	Lg	12 37 10.8	
	56nm,0.5s						
KST	**Kastek**	**3.55**	**346**	*e*P	**Pb**	**12 36 19.9**	**+1.4**
	24nm,0.4s						
KST				*e*S	**Sg**	**12 37 10.4**	**+0.9**
	56nm,0.5s						
MDOK	**Medeo**	**3.55**	**359**	⇑Pg	**Pb**	**12 36 19.3**	**+0.8**
	29nm,0.6s						
MDOK				⇓Lg	Lg	12 37 09.4	
	287nm,0.9s						
MDOK	**Medeo**	**3.55**	**359**	Pg	**Pb**	**12 36 19.4**	**+0.8**
	32nm,0.6s						
MDOK				Lg	Lg	12 37 09.6	
	218nm,0.9s						
MDOK	**Medeo**	**3.55**	**359**	*e*P	**Pb**	**12 36 19.4**	**+0.8**
	32nm,0.6s						
MDOK				*e*S	**Sg**	**12 37 09.6**	**-0.1**
	218nm,0.9s						
SATY	**Saty**	**3.57**	**15**	Pg	**Pb**	**12 36 19.3**	**+0.5**
	42nm,0.6s						
SATY				Lg	Lg	12 37 09.4	
	210nm,0.6s						
SATY	**Saty**	**3.57**	**15**	*e*P	**Pb**	**12 36 19.4**	**+0.5**
	42nm,0.6s						
SATY				*e*S	**Sg**	**12 37 09.4**	**-0.8**
	210nm,0.6s						
AAA	**Alma-Ata**	**3.60**	**357**	Pg	**Pb**	**12 36 21.0**	**+1.7**
	34nm,0.2s						
AAA				Lg	Lg	12 37 12.7	
	151nm,0.6s						
AAA	**Alma-Ata**	**3.60**	**357**	*e*P	**Pb**	**12 36 21.2**	**+1.8**
	24nm,0.1s						
AAA				*e*S	**Sg**	**12 37 12.5**	**+1.3**
	127nm,0.5s						
KNDC	**Almaty**	**3.61**	**358**	⇑Pg	**Pb**	**12 36 21.4**	**+1.9**
	25nm,0.4s						
KNDC				⇑Lg	Lg	12 37 12.4	
	565nm,0.8s						
KOTS	**Kotyrbulak**	**3.62**	**359**	Pg	**Pb**	**12 36 20.7**	**+0.9**
	36nm,0.3s						
KOTS				Lg	Lg	12 37 12.5	
	456nm,0.5s						
KOTS	**Kotyrbulak**	**3.62**	**359**	*e*P	**Pb**	**12 36 21.0**	**+1.3**
	39nm,0.3s						
KOTS				*e*S	**Sg**	**12 37 12.3**	**+0.5**
	584nm,0.5s						
ARSB	**Arslanbob**	**3.63**	**300**	⇓*e*P	**Pn**	**12 36 14.4**	**+2.5**
	baz=99						
ARSB				⇓*i*S	**Sn**	**12 36 56.7**	**+1.9**
	baz=99						
AAK	**Ala-Archa**	**3.64**	**327**	⇓Pn	**Pn**	**12 36 14.8**	**+2.7**
	43nm,0.6s						
AAK				⇑Lg	Lg	12 37 10.5	
	160nm,0.7s						
AAK	**Ala-Archa**	**3.64**	**327**	⇓*e*P	**Pn**	**12 36 14.4**	**+2.3**
	baz=28						
AAK				⇓*i*S	**Sn**	**12 36 56.1**	**+0.9**
	baz=28						
AAK	**Ala-Archa**	**3.64**	**327**	P	**Pn**	**12 36 15.2**	**+3.1**
	SNR=7.4						
AML	**Almayashu**	**3.65**	**315**	⇓*i*P	**Pn**	**12 36 14.4**	**+2.0**
	baz=15						
AML				⇓*i*S	**Sn**	**12 36 56.0**	**+0.3**
	baz=15						
FRU1	**Bishkek**	**3.73**	**330**	⇓*i*P	**Pn**	**12 36 15.9**	**+2.7**
	baz=31						
FRU1				⇓*i*S	**Sn**	**12 36 58.6**	**+1.4**
	baz=31						
DGS	**Degeres**	**3.78**	**344**	Pg	**Pb**	**12 36 22.4**	**0.0**
	27nm,0.5s						
DGS				Lg	Lg	12 37 15.4	
	97nm,0.5s						
DGS	**Degeres**	**3.78**	**344**	*e*P	**Pb**	**12 36 23.1**	**+0.7**
	32nm,0.6s						
DGS				*e*S	**Sg**	**12 37 15.6**	**-1.3**
	78nm,0.8s						
UZB	**Uzynbulak**	**3.80**	**21**	Pg	**Pb**	**12 36 24.1**	**+1.3**
	13nm,0.6s						
UZB				Lg	Lg	12 37 17.4	
	49nm,0.6s						
UZB	**Uzynbulak**	**3.80**	**21**	*e*P	**Pb**	**12 36 24.6**	**+1.8**
	4.9nm,0.4s						
UZB				*e*S	**Sg**	**12 37 17.6**	**0.0**
	42nm,0.7s						
CHMS	**Chumysh**	**3.85**	**332**	⇑*e*P	**Pn**	**12 36 17.2**	**+2.4**
	baz=33						
CHMS				⇑*i*S	**Sn**	**12 37 01.7**	**+1.6**
	baz=33						
CHMS	**Chumysh**	**3.85**	**332**	P	**Pn**	**12 36 18.0**	**+3.2**
	SNR=12						
SHLS	**Shalkode**	**3.94**	**25**	Pg	**Pg**	**12 36 28.2**	**-2.8**
	5.0nm,0.7s						
SHLS				Lg	Lg	12 37 24.6	
	115nm,0.5s						
SHLS	**Shalkode**	**3.94**	**25**	*e*P	**Pg**	**12 36 28.2**	**-2.8**
	1.8nm,0.1s						
SHLS				*e*S	**Sg**	**12 37 24.4**	**+2.3**
	107nm,0.5s						
EKS2	**Erkin-Say**	**3.98**	**321**	⇑*e*P	**Pn**	**12 36 19.1**	**+2.3**
	baz=21						
EKS2				⇑*e*S	**Sn**	**12 37 04.7**	**+1.1**
	baz=21						
EKS2	**Erkin-Say**	**3.98**	**321**	P	**Pg**	**12 36 29.0**	**-2.9**
	SNR=15						
PDGK	**Podgornoye**	**4.11**	**24**	Pg	**Pb**	**12 36 28.2**	**+0.2**
	8.6nm,0.4s						
PDGK				Lg	Lg	12 37 24.9	
	60nm,0.6s						
PDGK	**Podgornoye**	**4.11**	**24**	⇓Pg	**Pg**	**12 36 32.6**	**-1.6**
	14nm,0.5s						
PDGK				⇓Lg	Lg	12 37 25.6	
	131nm,0.6s						
KTBS	**Karatobe**	**4.12**	**355**	Pg	**Pb**	**12 36 29.4**	**+1.3**
	19nm,0.5s						
KTBS				Lg	Lg	12 37 27.2	
	116nm,0.5s						
KTBS	**Karatobe**	**4.12**	**355**	*e*P	**Pb**	**12 36 29.2**	**+1.1**
	19nm,0.5s						
KTBS				*e*S	**Sg**	**12 37 26.2**	**-1.5**
	116nm,0.5s						
USP	**Ospenovka**	**4.17**	**332**	⇑*e*P	**Pn**	**12 36 21.8**	**+2.5**
	baz=33						
USP				⇑*i*S	**Sn**	**12 37 09.3**	**+1.2**
	baz=33						
MRKS	**Merke**	**4.32**	**318**	Pg	**Pb**	**12 36 32.8**	**+1.2**
	39nm,0.7s						
MRKS				Lg	Lg	12 37 32.6	
	44nm,0.5s						
MRKS	**Merke**	**4.32**	**318**	*e*P	**Pb**	**12 36 32.8**	**+1.2**
	39nm,0.7s						
MRKS				*e*S	**Sg**	**12 37 32.3**	**-2.0**
	44nm,0.5s						
KUU	**Kurty**	**4.33**	**352**	Pg	**Pg**	**12 36 35.0**	**-3.4**
	19nm,0.8s						
KUU				Lg	Lg	12 37 36.1	
	122nm,0.9s						
KUU	**Kurty**	**4.33**	**352**	*e*P	**Pg**	**12 36 35.0**	**-3.4**
	19nm,0.8s						
KUU				*e*S	**Sg**	**12 37 36.1**	**+1.7**
	122nm,0.9s						
ARK	**Arkit**	**4.52**	**301**	⇑*e*P	**Pn**	**12 36 27.0**	**+2.8**
	baz=0.0						
ARK				⇑*e*S	**Sn**	**12 37 16.9**	**0.0**
	baz=0.0						
ARXS	**Arharly**	**4.63**	**6**	Pg	**Pb**	**12 36 38.6**	**+1.8**
	18nm,0.5s						
ARXS				Lg	Lg	12 37 42.7	
	121nm,0.6s						
ARXS	**Arharly**	**4.63**	**6**	*e*P	**Pb**	**12 36 38.6**	**+1.8**
	18nm,0.5s						
ARXS				*e*S	**Sg**	**12 37 42.7**	**-1.3**
	121nm,0.6s						
BTK	**Batken**	**4.91**	**277**	⇑*e*P	**Pn**	**12 36 33.0**	**+3.5**
	baz=76						
BTK				⇑*e*S	**Sn**	**12 37 27.1**	**+0.7**
	baz=76						
KAPS	**Kapalarasan**	**5.90**	**15**	Pg	Pg	12 37 03.5	-4.9
	3.4nm,0.5s						
KAPS				Lg	Lg	12 38 25.4	
	33nm,0.6s						
KK31	**Karatay Array**	**6.11**	**307**	⇑Pg	**Pb**	**12 37 05.8**	**+3.9**
	4.9nm,0.7s,baz=124,slow=16,SNR=19						
KK31				⇑Lg	Lg	12 38 25.6	
	6.8nm,0.5s,baz=128,slow=29						
CHCP	**Chirah Chowk**	**6.72**	**209**	P	**Pn**	**12 36 54.1**	**-0.2**
CEP	**Cherat**	**7.15**	**218**	P	**Pn**	**12 36 59.3**	**-1.0**
CEP				S	**Sn**	**12 38 17.0**	**-4.7**
THW	**Thamme Wali**	**8.09**	**214**	P	**Pn**	**12 37 11.9**	**-1.2**
MK31	**Makanchi Array**	**8.10**	**26**	⇑Lg	Lg	12 39 31.2	
	7.5nm,0.8s,baz=205,slow=21,SNR=4.4						
MKAR	**Makanchi Array**	**8.10**	**26**	Pn	**Pn**	**12 37 14.8**	**+1.7**
	0.1nm,0.3s,baz=198,slow=13,SNR=5.3						
MKAR				Lg	Lg	12 39 10.6	
	0.3nm,0.3s,baz=205,slow=27,SNR=2.8						
WMQ	**Urumqi**	**8.92**	**58**	*e*P	**Pn**	**12 37 26.5**	**+2.0**
WMQ				S	**Sn**	**12 39 04.0**	**-1.1**
WMQ				smax	smax		
	comp=N,19nm,1.1s						
WMQ				smax	smax		
	comp=E,11nm,1.1s						
KURBB	**Kurchatov Arra**	**11.06**	**5**	⇑Lg	Lg	12 41 05.0	
	14nm,1.1s						
KURBB	**Kurchatov Arra**	**11.06**	**5**	Lg	Lg	12 41 04.3	
	0.1nm,0.3s,baz=190,slow=27,SNR=3.9						
KURK	**Kurchatov**	**11.15**	**5**	⇓Lg	Lg	12 41 07.8	
	13nm,0.9s						
GEYT	**Alibeck**	**14.96**	**270**	LR	LR	12 47 20.2	
	comp=Z,28nm,18.0s,baz=355,slow=43						
ZALV	**Zalesovo Beam**	**15.26**	**17**	Pn	**P**	**12 38 55.1**	**-0.7**
	0.1nm,0.3s,baz=206,slow=9.3,SNR=2.8						
GTA	**Gaotai**	**17.47**	**83**	*e*P	**P**	**12 39 19.3**	**-1.3**
GTA				pP	sP	12 39 23.6	-1.6
GTA				sP	pP	12 39 26.3	+2.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LZH	**Lanzhou**	**21.33**	**91**	*e*P	**P**	**12 40 00.3**	**-2.5**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
SONM	**Songino Array**	**22.56**	**59**	P	**P**	**12 40 16.1**	**+0.3**
	0.4nm,0.7s,baz=264,slow=10.0,SNR=2.7						
KIRV	**Kirov**	**25.97**	**326**	LR	LR	12 52 00.4	
	comp=Z,36nm,19.7s,baz=239,slow=38						
HHC	**Hu-ho-hao-te**	**26.19**	**76**	P	**P**	**12 40 53.6**	**+3.2**

*ISCJB **09** 12:42:01.2±0.9, 36.°69N±0.°05×70.°8E±0.°1, h250km, Error ellipse: s-maj=14.0km s-min=6.4km az=165.2*
*NNC **09** 12:42:03.6±5.9, 36.°93N×70.°53E, h193km±82km, mb3.1, mpv4.0, Error ellipse: s-maj=57.0km s-min=31.9km az=8.0*

ISC 09 12:42:02.4±1.4, 36.°80N±0.°09×70.°8E±0.°1, h250km, n22, σ1§42/23, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.78**	**22**	P	**Pn**	**12 43 28.3**	**+0.2**
	SNR=6.6						
UCH	**Uchtor**	**6.14**	**27**	P	**Pn**	**12 43 32.5**	**-0.1**
	SNR=23						
EKS2	**Erkin-Say**	**6.29**	**21**	P	**Pn**	**12 43 35.2**	**+1.0**
	SNR=8.3						
KZA	**Kyzart**	**6.30**	**32**	P	**Pn**	**12 43 36.8**	**+2.2**
	SNR=5.3						
KK31	**Karatay Array**	**6.30**	**358**	⇑P	**Pn**	**12 43 34.0**	**-0.2**
	1.0nm,0.3s,baz=183,slow=13,SNR=19						
KK31				⇑S	**S**	**12 44 44.7**	**-3.0**
	24nm,0.7s,baz=186,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.49**	**25**	⇓P	**Pn**	**12 43 37.1**	**+0.3**
	5.8nm,0.4s						
AAK				⇓S	**S**	**12 44 51.5**	**-0.8**
	15nm,0.5s						
AAK	**Ala-Archa**	**6.49**	**25**	P	**Pn**	**12 43 37.3**	**+0.5**
	SNR=12						
KBK	**Karagaybulak**	**6.67**	**27**	P	**Pn**	**12 43 39.6**	**+0.6**
	SNR=8.8						
CHMS	**Chumysh**	**6.90**	**25**	P	**Pn**	**12 43 42.2**	**+0.5**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.14**	**30**	⇑P	**Pn**	**12 43 45.5**	**+0.5**
	10nm,0.5s						
TKM2				⇓S	**S**	**12 45 05.8**	**-1.5**
	6.5nm,0.9s						
TKM2	**Tokmak 2**	**7.14**	**30**	P	**Pn**	**12 43 45.8**	**+0.8**
	SNR=9.4						
MDOK	**Medeo**	**7.97**	**35**	⇓P	**Pn**	**12 43 56.1**	**+0.8**
	12nm,0.8s						
MK31	**Makanchi Array**	**13.15**	**37**	P	**P**	**12 45 02.7**	**+1.1**
	1.7nm,0.7s,baz=223,slow=16,SNR=13						
DANN	**Dangsing**	**13.79**	**124**	*e*P	Pn	12 45 04.2	-4.1
	11nm,0.5s						
KOLN	**Koldanda**	**14.07**	**126**	*e*P	**Pn**	**12 45 09.8**	**-1.9**
	5.6nm,0.4s						
GKN	**Gorkha**	**14.60**	**123**	*e*P	P	12 45 14.5	-3.5
	12nm,0.4s						
AB31	**Akbulak array**	**14.74**	**331**	P	**Pn**	**12 45 20.1**	**+0.8**
	1.5nm,0.5s,baz=143,slow=14,SNR=21						
PKIN	**Phulchoki**	**15.39**	**123**	*e*P	**P**	**12 45 25.4**	**-1.4**
PKI	**Pulchoki**	**15.40**	**122**	*e*P	**P**	**12 45 25.5**	**-1.5**
	12nm,0.6s						
JIRN	**Jiri**	**15.88**	**121**	*e*P	**P**	**12 45 34.0**	**+1.7**
	19nm,0.4s						
AKTO	**Aktyubinsk**	**16.44**	**330**	⇑P	**Pn**	**12 45 41.1**	**+1.6**
	5.4nm,1.1s						
RAMN	**Ramite**	**16.61**	**122**	*e*P	**P**	**12 45 42.4**	**+2.2**
	9.7nm,0.5s						

*IDC **09** 13:05:23.6±1.9, 21.°89S×179.°35W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.9/25, mbtmp4.1/4, Error ellipse: s-maj=167.2km s-min=30.2km az=160.0*
*ISCJB **09** 13:06:21.7±0.5, 23.°55S±0.°09×179.°58E±0.°08, h550km, mb3.8/4, Error ellipse: s-maj=12.8km s-min=8.7km az=159.7*
*NEIC **09** 13:06:23.1±2.7, 23.

MSVF	**Nonsavu**	**5.87**	**346**	P	**P**	**13 07 58.4**	**-1.6**
NIUE	**Niue**	**10.71**	**68**	P	**P**	**13 08 49.1**	**+1.5**
AFI	**Afiamalu**	**12.53**	**42**	P	**P**	**13 09 07.7**	**+1.1**
BFZ	**Birch Farm**	**17.41**	**189**	P	**P**	**13 09 52.4**	**-2.1**
QRZ	**Quartz Range**	**18.31**	**197**	P	**P**	**13 10 02.1**	**-0.7**
QRZ				IAmb	IAmb	13 10 20.0	
	comp=Z,53nm,1.4s						
EIDS	**Eidsvold**	**26.00**	**260**	P	**P**	**13 11 14.4**	**+2.4**
EIDS				IAmb	IAmb	13 11 54.0	
	comp=Z,15nm,1.4s						
PPTF	**Pamatai, Papee**	**29.44**	**84**	P	**P**	**13 11 43.1**	**+0.8**
CTAO	**Charters Tower**	**31.09**	**270**	P	**P**	**13 11 57.9**	**+1.6**
CTAO				IAmb	IAmb	13 11 59.1	
	comp=Z,63nm,1.9s						
PMG	**Port Moresby**	**33.98**	**289**	P	**P**	**13 12 22.5**	**+1.6**
PMG				IAmb	IAmb	13 12 28.3	
	comp=Z,16nm,1.0s						
STKA	**Stephens Creek**	**34.53**	**247**	P	**P**	**13 12 25.8**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=113,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**34.53**	**247**	P	**P**	**13 12 25.6**	**+0.3**
MCQ	**Macquarie Isla**	**34.63**	**201**	P	**P**	**13 12 27.1**	**+1.4**
COEN	**Coen**	**35.66**	**279**	P	**P**	**13 12 35.6**	**+0.7**
COEN				IAmb	IAmb	13 13 33.3	
	comp=Z,42nm,1.9s						
COEN				PcP	**PcP**	**13 14 46.4**	**-1.6**
AS31	**Alice Springs**	**41.73**	**260**	P	**P**	**13 13 24.7**	**+0.8**
ASAR	**Alice Springs**	**41.73**	**260**	P	**P**	**13 13 24.8**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=100,slow=7.1,SNR=39						
ASAR	**Alice Springs**	**41.73**	**260**	P	**P**	**13 13 24.4**	**+0.5**
WB2	**Warramunga Arr**	**42.04**	**266**	P	**P**	**13 13 26.8**	**+0.4**
WB0	**Warramunga Arr**	**42.04**	**266**		P	13 13 32.1	+5.7
WRA	**Warramunga Arr**	**42.05**	**266**	P	**P**	**13 13 27.2**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=94,slow=8.4,SNR=56						
WRA	**Warramunga Arr**	**42.05**	**266**	P	**P**	**13 13 26.4**	**0.0**
FORT	**Forrest**	**46.11**	**249**	P	**P**	**13 13 56.9**	**-0.8**
FORT				IAmb	IAmb	13 14 05.4	
	comp=Z,14nm,0.8s						
MTN	**Manton Dam**	**47.04**	**274**	P	**P**	**13 14 05.3**	**+0.5**
MTN				IAmb	IAmb	13 15 12.0	
	comp=Z,22nm,1.3s						
KNRA	**Kununurra**	**48.30**	**270**	P	**P**	**13 14 15.2**	**+1.0**
KNRA				IAmb	IAmb	13 15 59.2	
	comp=Z,49nm,1.6s						
FITZ	**Fitzroy Crossi**	**50.48**	**265**	P	**P**	**13 14 31.7**	**+1.4**
FITZ				IAmb	IAmb	13 15 37.7	
	comp=Z,21nm,1.8s						
MORW	**Morawa**	**56.67**	**250**	P	**P**	**13 15 12.9**	**-1.1**
MORW				IAmb	IAmb	13 15 23.1	
	comp=Z,21nm,1.4s						
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**13 16 16.9**	**-1.4**
JNU	**Nakatsue**	**72.94**	**319**	P	**P**	**13 16 54.1**	**-2.2**
PAYG	**Puerto Ayora**	**89.86**	**91**	P	**P**	**13 18 22.8**	**-0.6**
TXAR	**Lajitas Array**	**90.52**	**58**	P	P	13 18 20.2	-6.1
	comp=Z,0.3nm,0.6s,baz=235,slow=7.6,SNR=2.8						
GCMT	**Greycliff**	**94.07**	**41**	P	**P**	**13 18 42.7**	**+0.5**

JMA 09 13:08:48.0±0.2, 37°.13N×144°.39E, h57km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.60**	**298**	P	Pn	13 09 28.8	+1.2
JIKH				S	Sn	13 09 58.9	+0.9
JIO	**Ouri**	**2.75**	**300**	P	Pn	13 09 31.0	+1.4
JIO				S	Sn	13 10 02.9	+1.3
JFK	**Kawauchi**	**2.81**	**276**	P	Pn	13 09 31.5	+0.9
JFK				*e*S	Sn	13 10 04.0	+0.7
JKMT	**Kesennumamotoy**	**2.85**	**307**	P	Pn	13 09 32.1	+1.1
JKMT				S	Sn	13 10 04.6	+0.5
JMST	**Minamisoumatoc**	**2.85**	**283**	P	Pn	13 09 31.9	+0.9
JMST				*e*S	Sn	13 10 04.9	+0.8
ONAJ	**Iwakimizuishiy**	**2.87**	**271**	P	Pn	13 09 32.3	+0.9
ONAJ				S	Sn	13 10 06.0	+1.3
JMK	**Ichinoseki**	**3.09**	**307**	P	Pn	13 09 35.7	+1.4
JMK				*e*S	Sn	13 10 12.0	+1.9
JFT	**Otama**	**3.25**	**278**	P	Pn	13 09 38.8	+2.2
JFT				S	Sn	13 10 16.9	+2.8
BSO1	**Boso 1**	**3.71**	**229**	P	Pn	13 09 41.5	-0.8
JRY	**Ryogami san**	**4.55**	**258**	P	Pn	13 09 55.1	+0.7
JRY				*e*S	Sn	13 10 46.1	0.0
JOD2	**Odawara 2**	**4.67**	**248**	P	Pn	13 09 56.9	+0.9
JOD2				*e*S	Sn	13 10 47.1	-1.9
JOT	**Ohata**	**4.97**	**330**	*e*S	Sn	13 10 54.5	-1.8
JKB	**Kayabe**	**5.41**	**332**	P	Pn	13 10 07.7	+1.6
JKB				*e*S	Sn	13 11 05.1	-1.9
JCH	**Churui**	**5.53**	**352**	P	Pn	13 10 06.7	-1.0
JCH				*e*S	Sn	13 11 06.0	-4.0
JTKR	**Abashiri--Toko**	**6.84**	**357**	P	Pn	13 10 24.8	-0.9
JTKR				*e*S	Sn	13 11 38.2	-3.9

ISCJB ***09*** *13:19:07.7±0.7, 13°.36N±0°.09×144°.4E±0°.1, h100km, mb3.5/7, Error ellipse: s-maj=14.5km s-min=12.7km az=35.1*
IDC ***09*** *13:19:08.8±0.8, 13°.39N×144°.39E, h92km±8km, mb3.2/7, mb1 3.5/7, mb1mx3.3/32, mbtmp3.5/7, Error ellipse: s-maj=26.3km s-min=18.8km az=104.0*
NEIC ***09*** *13:19:09.2±2.0, 13°.4N±0°.1×144°.5E±0°.2, h107km±8km, ML3.9/4*

ISC 09 13:19:09.1±0.8, 13°.4N±0°.1×144°.5E±0°.1, h100km, n12, σ0s89/12, mb3.7/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.44**	**67**	P	**Pn**	**13 19 25.5**	**+1.0**
	477nm,0.3s,baz=200,slow=3.1,SNR=136						
GUMO				S	**Sn**	**13 19 36.7**	**+0.6**
	530nm,0.3s,baz=162,slow=19,SNR=58						
GUMO	**Guam**	**0.44**	**67**	IAML		13 19 37.5	
	6μm,0.5s						
GUMO				IAML		13 19 37.6	
	4μm,0.4s						
SARN	**Sarigan**	**3.51**	**21**	Pn	**Pn**	**13 20 00.9**	**-0.9**
SARN				IAML		13 21 47.6	
	comp=N,171nm,2.5s						
PATS	**Pohnpei**	**15.13**	**114**	Pn	**Pn**	**13 22 36.5**	**-1.2**
MJAR	**Matsushiro Arr**	**23.70**	**347**	P	**P**	**13 24 12.2**	**+0.3**
	comp=N,1.3nm,0.7s,baz=180,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**34.61**	**197**	P	**P**	**13 25 48.2**	**-0.7**
	comp=N,0.8nm,0.7s,baz=22,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**38.27**	**196**	P	**P**	**13 26 19.9**	**-0.1**
	comp=N,0.3nm,0.6s,baz=18,slow=12,SNR=5.6						
CMAR	**Chiang Mai Arr**	**43.96**	**283**	P	**P**	**13 27 05.7**	**-1.0**
	comp=N,0.4nm,0.3s,baz=79,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**61.33**	**316**	P	**P**	**13 29 15.7**	**+1.4**
	comp=N,0.3nm,0.4s,baz=96,slow=8.6,SNR=7.0						
ILAR	**Eielson Array**	**68.89**	**25**	P	**P**	**13 30 02.8**	**-0.2**
	comp=N,0.2nm,0.7s,baz=244,slow=5.5,SNR=3.5						
NVAR	**Mina Array Bea**	**87.34**	**51**	P	**P**	**13 31 46.1**	**+0.6**
	comp=N,0.4nm,0.5s,baz=267,slow=5.9,SNR=5.2						
LPAZ	**La Paz**	**148.40**	**99**	PKPbc	**PKiKP**	**13 38 47.1**	**-0.2**
	comp=N,1.0nm,0.5s,baz=199,slow=16,SNR=4.6						

VAO ***09*** *13:25:45.5±0.9, 21°.62S×69°.87W, h10km, mb5.2*
ISCJB ***09*** *13:26:07.6±0.2, 21°.94S±0°.02×68°.32W±0°.03, h107km±2km, mb4.7/16, Error ellipse: s-maj=5.0km s-min=3.4km az=139.5*
BJI ***09*** *13:26:08.7±0.0, 22°.10S×68°.50W, h95km, mB5.1/2*
IDC ***09*** *13:26:08.6±0.6, 21°.96S×68°.30W, h101km±5km, mb4.5/15, mb1 4.6/19, mb1mx4.5/26, mbtmp4.8/19, MS3.6/8, Ms1 3.6/8, ms1mx3.3/21, Error ellipse: s-maj=13.3km s-min=10.6km az=91.0*
GUC ***09*** *13:26:09.9±0.6, 22°.00S×68°.64W, h115km±4km, ML4.6*
NEIC ***09*** *13:26:09.6±2.8, 22°.01S±0°.04×68°.42W±0°.08, h112km±1km, mb4.9/89, ML4.6(GUC)*
SJA ***09*** *13:26:09.2±0.5, 22°.02S×68°.52W, h118km±3km, ML4.3, MW4.0*
GCMT ***09*** *13:26:16.6±0.3, 21°.93S±0°.02×68°.48W±0°.03, h136km±2km, MW5.0/80, Moment Tensor Solution. s37,c40; s80,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.63±. 12; $M_{\theta\theta}$-0.43±. 13; $M_{\phi\phi}$4.06±. 16; $M_{r\theta}$1.27±.09; $M_{\theta\phi}$-1.05±. 14; $M_{r\phi}$-1.16±. 15; Best double couple: $M_0$4.34300×10^{16} NP1:ϕ_s333.00000°, δ57.00000°, λ-108.00000°. NP2: ϕ_s183.00000°, δ37.00000°, λ-65.00000°. Principal axes: T 4.5420, Plg10.0000°, Azm76.0000°; N -0.3960, Plg15.0000°, Azm343.0000°; P -4.1450, Plg72.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 13:26:09.2±0.6, 22°.00S±0°.03×68°.55W±0°.04, h113km±5km, n406, σ1s92/441, mb4.9/47, 15C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.68**	**287**	⇑*i*P	**Pn**	**13 26 28.9**	**+1.0**
PB09				*i* S	**Sn**	**13 26 42.9**	**+0.9**
PB09				IAML		13 26 48.4	
	comp=E,10μm,0.6s						
LVC	**Limon Verde**	**0.69**	**209**	‖*e*P	**Pn**	**13 26 28.9**	**+0.6**
LVC				*i* S	**Sn**	**13 26 43.2**	**+0.6**
LVC	**Limon Verde**	**0.69**	**209**	P	**Pn**	**13 26 28.8**	**+0.6**
	comp=E,1μm,0.3s,baz=35,slow=7.8,SNR=2905						
LVC				S	**Sn**	**13 26 43.0**	**+0.4**
	baz=24,slow=20						
LVC				LR	LR	13 27 00.2	
	comp=E,4μm,19.0s,baz=156,slow=60						
LVC	**Limon Verde**	**0.69**	**209**		**Pn**	**13 26 28.8**	**+0.6**
LVC				Sn	**Sn**	**13 26 43.6**	**+1.1**
LVC	**Limon Verde**	**0.69**	**209**	*i* P	**Pn**	**13 26 29.4**	**+1.1**
LVC				*e*S	**Sn**	**13 26 44.5**	**+1.9**
LVC				IAML		13 26 44.7	
	comp=E,10μm,0.2s						
PB03	**IPOC Station P**	**1.12**	**267**	⇑*i*P	**Pn**	**13 26 32.7**	**+0.6**
PB03				*i* S	**Sn**	**13 26 50.0**	**+0.6**
PB03				IAML		13 26 51.6	
	comp=N,12μm,0.3s						
PB06	**IPOC Station P**	**1.18**	**233**	⇑*i*P	**Pn**	**13 26 33.6**	**+0.9**
PB06				*i* S	**Sn**	**13 26 51.5**	**+1.0**
PB06				IAML		13 26 53.6	
	comp=N,17μm,0.1s						
PB07	**IPOC Station P**	**1.27**	**282**	⇑*i*P	**Pn**	**13 26 34.5**	**+0.8**
PB07				*i* S	**Sn**	**13 26 52.8**	**+0.4**
PB07				IAML		13 26 57.2	
	comp=E,17μm,0.4s						
PB01	**IPOC Station P**	**1.29**	**317**	⇑*i*P	**Pn**	**13 26 34.4**	**+0.5**
PB01				*i* S	**Sn**	**13 26 53.0**	**+0.4**
PB01				IAML		13 26 56.4	
	comp=N,11μm,0.4s						
PB01	**IPOC Station P**	**1.29**	**317**		**Pn**	**13 26 34.3**	**+0.4**
PB01				Sn	**Sn**	**13 26 53.7**	**+1.1**
PB02	**IPOC Station P**	**1.43**	**298**	⇑*i*P	**Pn**	**13 26 35.9**	**+0.4**
PB02				*i* S	**Sn**	**13 26 55.5**	**+0.2**
PB02				IAML		13 26 59.9	
	comp=E,19μm,0.1s						
PB15	**IPOC Station P**	**1.47**	**215**	⇑*i*P	**Pn**	**13 26 37.0**	**+0.9**
PB15				*i* S	**Sn**	**13 26 57.8**	**+1.3**
PB04	**IPOC Station P**	**1.52**	**257**	⇑*i*P	**Pn**	**13 26 37.0**	**+0.5**
PB04				*e*S	**Sn**	**13 26 58.1**	**+0.6**
PB04				IAML		13 27 01.9	
	comp=N,9μm,0.1s						
PB04	**IPOC Station P**	**1.52**	**257**		**Pn**	**13 26 37.1**	**+0.5**
PB04				Sn	**Sn**	**13 27 00.4**	**+3.0**
PB08	**IPOC Station P**	**1.94**	**343**	⇑*i*P	**Pn**	**13 26 43.6**	**+1.7**
PB08				*i* S	**Sn**	**13 27 08.9**	**+2.1**
PB08				IAML		13 27 10.9	
	comp=E,7μm,0.6s						
PB10	**IPOC Station P**	**2.39**	**231**	⇑*e*P	**Pn**	**13 26 46.7**	**-0.5**
PB10				*i* S	**Sn**	**13 27 15.0**	**-1.5**
PB10				IAML		13 27 29.4	
	comp=N,5μm,0.8s						
PB10	**IPOC Station P**	**2.39**	**231**		**Pn**	**13 26 46.9**	**-0.3**
PB10				Sn	**Sn**	**13 27 15.0**	**-1.5**
PB10	**IPOC Station P**	**2.39**	**231**	*i* P	**Pn**	**13 26 48.6**	**+1.4**
PB10				*e*S	**Sn**	**13 27 18.0**	**+1.5**
GO01	**Chusmiza**	**2.40**	**345**	⇑*e*P	**Pn**	**13 26 49.0**	**+1.1**
GO01				*i* S	**Sn**	**13 27 19.8**	**+2.3**
GO01	**Chusmiza**	**2.40**	**345**		**Pn**	**13 26 49.3**	**+1.4**
GO01				Sn	**Sn**	**13 27 21.5**	**+4.0**
PB11	**IPOC Station P**	**2.46**	**335**	⇑*i*P	**Pn**	**13 26 48.3**	**0.0**
PB11				*i* S	**Sn**	**13 27 18.5**	**+0.1**
PB11	**IPOC Station P**	**2.46**	**335**		**Pn**	**13 26 48.7**	**+0.3**
PB11				Sn	**Sn**	**13 27 19.2**	**+0.8**
PSGC	**Pisagua**	**2.81**	**328**	⇑*e*P	**Pn**	**13 26 51.7**	**-1.2**
PSGC				*i* S	**Sn**	**13 27 20.2**	**-6.3**
PSGC				IAML		13 27 36.0	
	comp=E,3μm,0.5s						
YJA	**Yavi**	**2.82**	**94**	*i* P	**Pn**	**13 26 55.0**	**+1.7**
YJA				IAML		13 26 56.6	
	comp=Z,645nm,0.8s						
YJA				*e*S	**Sn**	**13 27 29.0**	**+1.8**
MNMC	**Minye Minye**	**3.02**	**341**		**Pn**	**13 26 56.2**	**+0.4**
MNMC				Sn	**Sn**	**13 27 26.9**	**-4.8**
HJA	**Humahuaca**	**3.14**	**113**	*i* P	**Pn**	**13 26 59.0**	**+1.6**
HJA				IAML		13 27 01.5	
	comp=Z,860nm,0.6s						
GO02	**Mina Guanaco**	**3.29**	**197**		**Pn**	**13 26 59.5**	**+0.1**
GO02				Sn	**Sn**	**13 27 31.4**	**-6.7**
SLA	**San Lorenzo**	**3.89**	**135**	*i* P	**Pn**	**13 27 08.9**	**+1.6**
SLA				IAML		13 27 11.7	
	comp=Z,297nm,0.6s						
AZAP	**Zapla**	**3.90**	**125**	⇑*i*P	**Pn**	**13 27 08.6**	**+1.2**
AZAP				IAML		13 27 12.5	
	comp=Z,479nm,0.7s						
ASTB	**Santa Barbara**	**4.24**	**118**	⇑*i*P	**Pn**	**13 27 12.7**	**+0.7**
AHML	**Horco Molle**	**5.59**	**149**	*i* P	**Pn**	**13 27 31.0**	**+0.9**
AHML				IAML		13 27 32.2	
	comp=Z,123nm,0.6s						
LPAZ	**La Paz**	**5.70**	**4**	P	**Pn**	**13 27 32.5**	**+0.4**
	comp=Z,8.7nm,0.3s,baz=178,slow=1.5,SNR=82						
LPAZ				S	Sn	13 28 26.9	-10
	comp=Z,2.9nm,0.3s,baz=184,slow=10,SNR=7.4						
LPAZ	**La Paz**	**5.70**	**4**		**Pn**	**13 27 34.1**	**+2.0**
LPAZ	**La Paz**	**5.70**	**4**	*i* P	**Pn**	**13 27 33.7**	**+1.6**
GO03	**Copiap**	**5.78**	**195**		**Pn**	**13 27 30.3**	**-2.2**
CYA	**Choya**	**6.88**	**159**	*i* P	**Pn**	**13 27 47.9**	**+0.5**
CYA				IAML		13 28 02.9	
	comp=Z,40nm,0.7s						
GO04	**Tololo Observa**	**8.38**	**193**		**Pn**	**13 28 04.4**	**-3.7**
AMOG	**MOGNA**	**8.90**	**180**	*i* P	Pn	13 28 07.4	-7.5
SIV	**San Ignacio**	**9.26**	**51**	P	**Pn**	**13 28 16.2**	**-3.6**
	comp=Z,24nm,0.3s,baz=250,slow=9.8,SNR=528						
SIV				S	Sn	13 29 48.8	-13
	comp=Z,1.0nm,0.3s,baz=254,slow=20,SNR=2.4						
CFA	**Coronel Fontan**	**9.57**	**178**	P	**Pn**	**13 28 20.9**	**-3.0**
	comp=Z,9.2nm,0.3s,baz=354,slow=13,SNR=70						
CFA				S	**Sn**	**13 30 00.8**	**-8.8**
	baz=300,slow=20						
TCA	**Tanti**	**9.95**	**160**	*i* P	**Pn**	**13 28 26.3**	**-2.8**
CPUP	**Villa Florida**	**11.11**	**115**	P	**Pn**	**13 28 41.8**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=299,slow=12,SNR=19						
CPUP				LR	LR	13 33 52.9	
	comp=Z,368nm,19.4s,baz=292,slow=42						
CPUP	**Villa Florida**	**11.11**	**115**		**Pn**	**13 28 41.9**	**-2.8**
ROC1	**El Roble**	**11.15**	**191**		**Pn**	**13 28 44.0**	**-1.5**
NNA	**Nana**	**12.73**	**320**	P	**P**	**13 29 13.4**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=155,slow=10,SNR=6.7						
NNA				LR	LR	13 34 41.3	
	comp=Z,139nm,18.8s,baz=166,slow=40						
GO05	**Huala**	**13.30**	**192**		**Pn**	**13 29 09.0**	**-4.5**
SAML	**Samuel**	**13.97**	**23**		**Pn**	**13 29 18.6**	**-3.6**
TRCB	**Terra Rica**	**14.74**	**96**	*e*P	**Pn**	**13 29 30.6**	**-1.5**
TRCB	**Terra Rica**	**14.74**	**96**	*e*P	**Pn**	**13 29 30.6**	**-1.5**
PTGB	**Pitanga**	**15.38**	**103**	*e*P	**Pn**	**13 29 38.9**	**-1.3**
PTGB				*e*S	**S**	**13 32 46.4**	**+7.9**
PTGB	**Pitanga**	**15.38**	**103**	*e*P	**Pn**	**13 29 38.9**	**-1.3**
PTGB				*e*S	**S**	**13 32 46.4**	**+7.9**
ITAB	**Concordia**	**15.81**	**113**	*e*P	**Pn**	**13 29 44.3**	**-1.1**
ITAB	**Concordia**	**15.81**	**113**	*e*P	**Pn**	**13 29 44.3**	**-1.1**
PLTB	**Pedras Altas**	**16.48**	**129**	*e*P	**Pn**	**13 29 52.2**	**-1.5**
PLTB				*e*S	**S**	**13 33 10.6**	**+10**
PLTB	**Pedras Altas**	**16.48**	**129**	*e*P	**Pn**	**13 29 52.2**	**-1.5**
PLTB				*e*S	**S**	**13 33 10.6**	**+10**
TRQA	**Tornquist**	**16.97**	**162**	P	**Pn**	**13 29 58.4**	**-1.3**
TRQA				IAmb	IAmb	13 30 02.1	
	comp=Z,69nm,0.7s						
ARAG	**Araguaiana, MT**	**17.03**	**71**	*e*P	**Pn**	**13 29 58.4**	**-2.1**
ARAG	**Araguaiana, MT**	**17.03**	**71**	*e*P	**Pn**	**13 29 58.4**	**-2.1**
CNLB	**Canela**	**17.52**	**118**	*e*P	**P**	**13 30 04.9**	**-1.0**
CNLB	**Canela**	**17.52**	**118**	*e*P	**P**	**13 30 04.9**	**-1.0**
ATAH	**Atahualpa**	**17.57**	**326**	LR	LR	13 38 13.0	
	comp=Z,187nm,19.7s,baz=155,slow=41						
FRTB	**Fartura**	**17.57**	**98**	*e*P	**P**	**13 30 06.0**	**-0.6**
FRTB	**Fartura**	**17.57**	**98**	*e*P	**P**	**13 30 06.0**	**-0.6**
GO06	**Curarrehue**	**17.70**	**187**	P	**P**	**13 30 07.6**	**-0.3**
GO06				IAmb	IAmb	13 30 11.8	
	comp=Z,57nm,0.8s						
BB19B	**Bebedouro**	**18.65**	**91**	*e*P	**P**	**13 30 17.4**	**-1.0**
BB19B	**Bebedouro**	**18.65**	**91**	*e*P	**P**	**13 30 17.4**	**-1.0**
PLCA	**Paso Flores**	**18.75**	**185**	P	**P**	**13 30 19.7**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=34,slow=13,SNR=53						
PLCA				PcP	**PcP**	**13 34 43.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=304,slow=1.2,SNR=4.1						
PLCA	**Paso Flores**	**18.75**	**185**	P	**P**	**13 30 19.8**	**+0.4**
PLCA				IAmb	IAmb	13 30 26.1	
	comp=Z,70nm,0.8s						
RCLB	**Rio Claro- Sao**	**19.46**	**95**	*e*P	**P**	**13 30 25.9**	**-1.3**
RCLB	**Rio Claro- Sao**	**19.46**	**95**	*e*P	**P**	**13 30 25.9**	**-1.3**
SPB	**Sao Paulo**	**19.53**	**99**	P	**P**	**13 30 26.8**	**-1.0**
SPB				IAmb	IAmb	13 30 27.6	
	comp=Z,78nm,1.0s						
SPB	**Sao Paulo**	**19.53**	**99**	*e*P	**P**	**13 30 26.9**	**-1.0**
SPB	**Sao Paulo**	**19.53**	**99**	*e*P	**P**	**13 30 26.9**	**-1.0**
VAO	**Valinhos**	**19.97**	**97**	*e*P	**P**	**13 30 31.0**	**-1.6**
VAO	**Valinhos**	**19.97**	**97**	*e*P	**P**	**13 30 31.0**	**-1.6**
BDFB	**Brasilia**	**20.43**	**76**	P	**P**	**13 30 35.7**	**-2.0**
	comp=Z,14nm,0.5s,baz=240,slow=13,SNR=18						
BDFB	**Brasilia**	**20.43**	**76**	P	**P**	**13 30 36.1**	**-1.6**
BDFB				IAmb	IAmb	13 30 38.4	
	comp=Z,45nm,1.0s						
PMNB	**Patos De Minas**	**21.02**	**85**	*e*P	**P**	**13 30 41.7**	**-2.4**
PMNB	**Patos De Minas**	**21.02**	**85**	*e*P	**P**	**13 30 41.7**	**-2.4**
BSCB	**Bom Sucesso**	**22.14**	**92**	*e*P	**P**	**13 30 53.9**	**-2.0**
BSCB	**Bom Sucesso**	**22.14**	**92**	*e*P	**P**	**13 30 53.9**	**-2.0**
PTGA	**Pitinga**	**22.73**	**23**	P	**P**	**13 30 59.5**	**-2.4**
	comp=Z,9.6nm,0.3s,baz=211,slow=22,SNR=33						
VAS01	**Vassouras-RJ**	**23.25**	**95**	*e*P	**P**	**13 31 05.3**	**-1.4**
VAS01	**Vassouras-RJ**	**23.25**	**95**	*e*P	**P**	**13 31 05.3**	**-1.4**
DUB01	**Friburgo-RJ**	**24.25**	**95**	*e*P	**P**	**13 31 15.2**	**-0.7**
DUB01	**Friburgo-RJ**	**24.25**	**95**	*e*P	**P**	**13 31 15.2**	**-0.7**
BBAC	**Balboa, Cauca**	**25.34**	**339**	*e*P	**P**	**13 31 27.3**	**+1.3**
BBAC	**Balboa, Cauca**	**25.34**	**339**	*e*P	**P**	**13 31 27.3**	**+1.3**
POPC	**Popayan, Colom**	**25.65**	**341**	*e*P	**P**	**13 31 29.8**	**+1.0**
POPC	**Popayan, Colom**	**25.65**	**341**	*e*P	**P**	**13 31 29.8**	**+1.0**
ORTC	**Ortega, Tolima**	**26.57**	**345**	*e*P	**P**	**13 31 37.8**	**+0.9**
ORTC	**Ortega, Tolima**	**26.57**	**345**	*e*P	**P**	**13 31 37.8**	**+0.9**
ROSC	**El Rosal**	**27.27**	**347**	LR	LR	13 43 46.7	
	comp=Z,111nm,18.8s,baz=220,slow=39						
GUY2C	**Guyana, Caldas**	**27.87**	**345**	*e*P	**P**	**13 31 48.9**	**0.0**
GUY2C	**Guyana, Caldas**	**27.87**	**345**	*e*P	**P**	**13 31 48.9**	**0.0**
RUSC	**La Rusia**	**28.07**	**350**	*e*P	**P**	**13 31 51.1**	**+0.4**
RUSC	**La Rusia**	**28.07**	**350**	*e*P	**P**	**13 31 51.1**	**+0.4**
NORC	**Norcasia**	**28.09**	**347**	*e*P	**P**	**13 31 50.5**	**+0.1**
NORC	**Norcasia**	**28.09**	**347**	*e*P	**P**	**13 31 50.5**	**+0.1**
CBOC	**Ciudad Bolivar**	**28.64**	**344**	*e*P	**P**	**13 31 54.7**	**-0.8**
CBOC	**Ciudad Bolivar**	**28.64**	**344**	*e*P	**P**	**13 31 54.7**	**-0.8**
PTBC	**PUERTO BERRIO,**	**28.95**	**348**	*e*P	**P**	**13 31 55.6**	**-2.4**
PTBC	**PUERTO BERRIO,**	**28.95**	**348**	*e*P	**P**	**13 31 55.6**	**-2.4**
CAPV	**Capacho**	**29.91**	**353**	*e*P	P	13 31 56.9	-10
CAPV	**Capacho**	**29.91**	**353**	*e*P	P	13 31 56.9	-10
EFI	**East Falkland**	**30.72**	**167**	P	**P**	**13 32 10.4**	**-2.9**
SMLC	**San Martn de**	**31.09**	**349**	*e*P	**P**	**13 32 14.1**	**-2.7**
SMLC	**San Martn de**	**31.09**	**349**	*e*P	**P**	**13 32 14.1**	**-2.7**
SJCC	**San Jacinto, C**	**32.36**	**348**	*e*P	**P**	**13 32 25.2**	**-2.8**
SJCC	**San Jacinto, C**	**32.36**	**348**	*e*P	**P**	**13 32 25.2**	**-2.8**
USHA	**Ushuaia**	**32.78**	**180**	P	**P**	**13 32 31.6**	**+0.3**
	comp=Z,22nm,0.9s,baz=352,slow=7.0,SNR=8.1						
TOSP	**Speyside**	**34.01**	**14**	P	**P**	**13 32 42.5**	**+0.2**
RCBR	**Riachuelo**	**35.41**	**68**	P	**P**	**13 32 51.0**	**-3.6**
RCBR				PcP	**PcP**	**13 35 24.3**	**+2.1**
RCBR	**Riachuelo**	**35.41**	**68**	*e*P	**P**	**13 32 50.8**	**-3.8**
RCBR	**Riachuelo**	**35.41**	**68**	*e*P	**P**	**13 32 50.8**	**-3.8**
JTS	**Las Juntas de**	**35.90**	**332**	P	**P**	**13 33 01.7**	**+3.1**
	comp=Z,4.7nm,0.8s,baz=164,slow=20,SNR=2.6						
JTS	**Las Juntas de**	**35.90**	**332**	PcP

R58B	Mineral	60.29 352	P	P	13 36 06.9 +1.2
	baz=170				
T51A	Gray	60.42 346	P	P	13 36 06.8 +0.1
	baz=163				
U49A	Red Boiling Sp	60.43 344	P	P	13 36 06.4 -0.4
	baz=162				
S55A	Lewisburg	60.51 349	P	P	13 36 08.2 +0.9
	baz=167,SNR=6.8				
WVT	Waverly	60.62 342	P	P	13 36 07.1 -1.0
	baz=159				
WVT	Waverly	60.62 342	P	P	13 36 06.0 -2.1
WVT			IAmb	IAmb	13 36 08.5
	comp=Z,15nm,1.1s				
S54A	Dingess, Beckl	60.68 348	P	P	13 36 08.9 +0.4
	baz=166				
R57A	Stanardsville	60.71 351	P	P	13 36 09.7 +1.1
	baz=169				
T49A	Edmonton	60.93 345	P	P	13 36 10.1 -0.1
	baz=162				
R54A	Victor	60.99 349	P	P	13 36 11.4 +0.8
	baz=167				
MIAR	Mount Ida	61.06 336	P	P	13 36 11.3 +0.2
	baz=153				
MIAR	Mount Ida	61.06 336	P	P	13 36 10.9 -0.1
MIAR			IAmb	IAmb	13 36 12.5
	comp=Z,14nm,1.1s				
W41B	Gary Mavity, V	61.15 338	P	P	13 36 12.2 +0.6
	baz=155				
S50A	Richmond	61.21 346	P	P	13 36 11.7 -0.3
	baz=163				
T47A	Sharon Grove	61.23 343	P	P	13 36 12.1 0.0
	baz=160,SNR=5.1				
TXAR	Lajitas Array	61.23 325	P	P	13 36 13.3 +0.8
	comp=Z,1.9nm,0.9s,baz=140,slow=7.9,SNR=11				
TXAR	Lajitas Array	61.23 325	P	P	13 36 12.8 +0.4
Q57A	Strasburg	61.41 351	P	P	13 36 14.7 +1.4
	baz=169				
Q56A	Snyder Ridge,	61.53 351	P	P	13 36 15.7 +1.5
	baz=169				
Q55A	Buckhannon	61.63 350	P	P	13 36 16.3 +1.5
	baz=168				
SNAA	Sanae	61.70 161	P	P	13 36 15.8 +0.8
SNAA	Sanae	61.70 161	P	P	13 36 15.7 +0.7
W39A	Magazine	61.72 337	P	P	13 36 16.9 +1.4
	baz=153				
P59A	Jarrettsville	61.73 353	P	P	13 36 16.9 +1.5
	baz=172				
Q53A	Leroy	61.75 349	P	P	13 36 16.5 +0.9
	baz=166				
FCAR	Ozark Folk Cen	61.75 338	P	P	13 36 14.7 -1.0
ABTX	Abilene, Hawle	61.92 330	P	P	13 36 17.6 +0.7
	baz=147				
P55A	Reedsville	62.09 350	P	P	13 36 18.5 +0.6
	baz=168				
WCI	Wyandotte Cave	62.19 344	P	P	13 36 18.0 -0.5
	baz=161				
P54A	Burton	62.29 350	P	P	13 36 19.4 +0.2
	baz=167				
P53A	Whipple	62.33 349	P	P	13 36 19.9 +0.4
	baz=166				
U40A	Yellville	62.42 338	P	P	13 36 20.2 0.0
	baz=154				
O56A	Blue Knob Stat	62.65 351	P	P	13 36 23.1 +1.5
	baz=169				
O55A	Ligonier	62.69 351	P	P	13 36 22.8 +0.9
	baz=169				
N55A	Marion Center	63.21 351	P	P	13 36 26.4 +1.1
	baz=169				
CCM	Cathedral Cave	63.43 340	P	P	13 36 26.3 -0.5
	baz=156				
M58A	Price's Panora	63.48 353	P	P	13 36 27.9 +0.9
	baz=172				
MNTX	Cornudas Mount	64.00 325	P	P	13 36 30.9 +0.2
	baz=142				
MNTX	Cornudas Mount	64.00 325	P	P	13 36 30.6 -0.1
MNTX			IAmb	IAmb	13 36 32.7
	comp=Z,15nm,1.1s				
L59A	Walton	64.15 355	P	P	13 36 32.4 +0.9
	baz=173				
MSTX	Muleshoe	64.50 329	P	P	13 36 34.6 +0.6
	baz=145				
K58A	Earlville	64.77 354	P	P	13 36 36.2 +0.7
	baz=173				
121A	Cookes Peak, D	65.93 324	P	P	13 36 45.7 +2.3
	baz=140				
ANMO	Albuquerque	67.10 327	P	P	13 36 52.6 +1.8
	baz=142				
ANMO	Albuquerque	67.10 327	P	P	13 36 52.1 +1.3
ANMO			IAmb	IAmb	13 36 53.7
	comp=Z,14nm,0.9s				
TUC	Tucson	67.44 322	P	P	13 36 55.1 +2.2
	baz=138				
T25A	Trinidad	67.84 330	P	P	13 36 57.3 +1.9
	baz=144,SNR=5.5				
QSPA	South Pole Qui	68.19 180	P	P	13 36 58.8 +1.6
LIC	Lamto	68.21 73	eP	P	13 36 57.2 -0.8
	comp=Z,17nm,0.4s				
214A	Organ Pipe Nat	68.36 320	P	P	13 37 01.0 +2.4
	baz=136,SNR=20				
214A	Organ Pipe Nat	68.36 320	P	P	13 37 00.7 +2.1
214A			IAmb	IAmb	13 37 02.1
	comp=Z,26nm,1.1s				
TIC	Toumodi	68.40 73	eP	P	13 36 58.5 -0.7
KIC	Kosan Boka	68.52 73	eP	P	13 36 59.4 -0.5
	comp=Z,27nm,0.4s				
DBIC	Dimbokro	68.56 73	P	P	13 36 59.8 -0.3
	comp=Z,28nm,0.8s,baz=218,slow=7.0,SNR=40				
DBIC			LR	LR	14 05 55.8
	comp=Z,54nm,20.1s,baz=232,slow=35				
DBIC	Dimbokro	68.56 73	P	P	13 36 59.8 -0.3
KSCO	Kaye Shedlock'	68.57 332	P	P	13 37 01.5 +1.6
	baz=146				
SDCO	Great Sand Dun	68.85 329	P	P	13 37 03.6 +1.8
	baz=143,SNR=31				
SDCO	Great Sand Dun	68.85 329	P	P	13 37 02.9 +1.1
SDCO			IAmb	IAmb	13 37 04.6
	comp=Z,26nm,1.1s				
D58A	Chemin du LacG	68.88 357	P	P	13 37 02.0 +0.5
	baz=176				
W18A	Petrified Fore	68.95 325	P	P	13 37 04.6 +2.3
	baz=139,SNR=6.8				
D55A	Sainte-Anne-du	68.98 355	P	P	13 37 02.6 +0.6
	baz=173				
D52A	ZEK Kipawa Sen	69.23 353	P	P	13 37 04.0 +0.4
	baz=170				
D53A	Lac Vacive, Po	69.25 353	P	P	13 37 04.1 +0.3
	baz=171				
S22A	4UR Ranch, Cre	69.49 328	P	P	13 37 07.3 +1.5
	baz=142,SNR=6.7				
S22A	4UR Ranch, Cre	69.49 328	P	P	13 37 05.8 0.0
Q24A	Divide	69.66 330	P	P	13 37 08.9 +2.0
	baz=144,SNR=14				
Q24A	Divide	69.66 330	P	P	13 37 08.1 +1.3
Q24A			IAmb	IAmb	13 37 09.5
	comp=Z,24nm,1.1s				
Y14A	Wickenburg	69.90 322	P	P	13 37 09.8 +1.8
Y14A			IAmb	IAmb	13 37 11.3
	comp=Z,18nm,1.1s				
MVCO	Mesa Verde	69.90 327	P	P	13 37 10.3 +2.0
	baz=141,SNR=18				
MVCO	Mesa Verde	69.90 327	P	P	13 37 10.1 +1.9
MVCO			IAmb	IAmb	13 37 11.1
	comp=Z,29nm,1.1s				
WUAZ	Wupatki	70.13 324	P	P	13 37 12.2 +2.6
	baz=138,SNR=29				
WUAZ	Wupatki	70.13 324	P	P	13 37 11.6 +2.0
ECSD	EROS Data Cent	70.30 339	P	P	13 37 10.5 +0.2
	baz=152				
GLA	Glamis	70.34 320	P	P	13 37 13.1 +2.3
	baz=135				
ISCO	Idaho Springs	70.55 330	P	P	13 37 13.9 +1.7
	baz=144,SNR=11				
ISCO	Idaho Springs	70.55 330	P	P	13 37 12.7 +0.5
ISCO			IAmb	IAmb	13 37 15.0
	comp=Z,20nm,1.4s				
Y12C	Blythe	70.65 321	P	P	13 37 15.1 +2.6
	baz=135,SNR=15				
Y12C	Blythe	70.65 321	P	P	13 37 12.0 -0.5
Y12C			IAmb	IAmb	13 37 16.0
	comp=Z,27nm,1.1s				
SMCO	Snowmass	70.69 329	P	P	13 37 14.7 +1.6
SMCO			IAmb	IAmb	13 37 16.3
	comp=Z,22nm,1.2s				
PDMCI	Parker Dam,Lak	70.81 321	P	P	13 37 15.8 +2.3
	baz=135				
IKP	In-Ko-Pah, Jac	70.83 319	P	P	13 37 16.3 +2.5
	baz=134,SNR=6.8				
SWSC	Sam W. Stewart	70.85 319	P	P	13 37 16.8 +3.1
	baz=134				
BC3	Big Chuckawall	71.13 320	P	P	13 37 18.0 +2.3
	baz=134,SNR=20				
LSQQ	Lebel-sur-Quev	71.14 354	P	P	13 37 15.5 +0.4
	baz=172				
MONP2	Monument Peak	71.19 319	P	P	13 37 18.5 +2.4
	baz=133,SNR=7.2				
IRM	Iron Mountain	71.30 321	P	P	13 37 18.9 +2.4
	baz=135,SNR=16				
U15A	North Rim	71.31 324	P	P	13 37 19.5 +2.6
U15A			IAmb	IAmb	13 37 20.6
	comp=Z,28nm,1.1s				
N23A	Red Feather La	71.58 331	P	P	13 37 20.3 +2.0
	baz=144,SNR=8.1				
BELC	Belle Mtn. Jos	71.70 320	P	P	13 37 21.5 +2.4
	baz=134,SNR=9.9				
TPFO	Pinon Flats	71.70 319	P	P	13 37 21.7 +2.6
	baz=134,SNR=9.4				
PFO	Pinyon Flats O	71.71 319	P	P	13 37 21.6 +2.5
	baz=134,SNR=10				
KNB	Kanab	72.03 324	P	P	13 37 23.8 +2.7
GMRC	Granite Mounta	72.04 321	P	P	13 37 23.6 +2.5
	baz=134,SNR=23				
O20A	White River Ci	72.04 329	P	P	13 37 23.1 +2.0
	baz=141,SNR=14				
O20A	White River Ci	72.04 329	P	P	13 37 22.4 +1.4
LCMT	Little Creek M	72.25 324	P	P	13 37 24.2 +1.8
SRU	San Rafael Swe	72.38 327	P	P	13 37 25.1 +2.0
MTPU	Mount Pierson	72.44 325	P	P	13 37 26.0 +2.3
HEC	Hector,Ludlow	72.47 320	P	P	13 37 26.3 +2.7
	baz=134,SNR=8.2				
Q16A	Castle Valley	72.56 326	P	P	13 37 25.6 +1.4
TUQ	Turquoise Moun	72.65 321	P	P	13 37 27.3 +2.6
	baz=134				
CCUT	Cedar City	72.71 324	P	P	13 37 28.7 +2.7
P17A	Butcher Ranch,	72.76 327	P	P	13 37 27.3 +2.0
CIS	Catalina Islan	72.76 318	P	P	13 37 27.7 +2.4
	baz=132				
MSU	Marysvale	72.78 325	P	P	13 37 28.0 +2.5
RWWY	Rawlins	72.78 331	P	P	13 37 24.7 -0.8
RWWY			IAmb	IAmb	13 37 27.4
	comp=Z,15nm,0.9s				
BFSC	Mount Baldy Ra	72.86 319	P	P	13 37 28.2 +2.2
	baz=133,SNR=10				
SHPR	Sheep Range	72.96 322	P	P	13 37 27.6 +1.0
GSC	Goldstone, Bar	73.08 320	P	P	13 37 29.6 +2.4
	baz=134,SNR=9.3				
GSC	Goldstone, Bar	73.08 320	P	P	13 37 28.2 +1.1
GSC			IAmb	IAmb	13 37 30.7
	comp=Z,26nm,1.4s				
K22A	Casper	73.25 332	P	P	13 37 29.9 +1.8
	baz=143				
RSSD	Black Hills	73.39 334	P	P	13 37 30.5 +1.5
	baz=146				
EDW2	Edwards Air Fo	73.50 319	P	P	13 37 31.7 +2.1
	baz=133,SNR=8.7				
LRMC	Laurel Mtn Rad	73.72 320	P	P	13 37 33.1 +2.1
	baz=133,SNR=9.7				
TPNV	Topopah Spring	73.89 322	P	P	13 37 34.7 +2.7
	baz=134,SNR=20				
TPNV	Topopah Spring	73.89 322	P	P	13 37 33.9 +1.8
TPNV			IAmb	IAmb	13 37 35.7
	comp=Z,21nm,1.1s				
FURC	Furnace Creek,	73.91 321	P	P	13 37 34.6 +2.7
	baz=134,SNR=13				
JLU	Jordanelle	73.97 327	P	P	13 37 32.1 -0.4
MPMC	Manual Prospec	74.00 321	P	P	13 37 34.6 +1.9
	baz=133,SNR=11				
ISA	Isabella, Lake	74.32 320	P	P	13 37 36.6 +2.2
	baz=132,SNR=14				
ISA	Isabella, Lake	74.32 320	P	P	13 37 35.5 +1.1
DUG	Dugway, Tooele	74.36 326	P	P	13 37 36.8 +2.1
	baz=138,SNR=16				
R11A	Troy Canyon, C	74.50 323	P	P	13 37 38.0 +2.4
	baz=135,SNR=22				
R11A	Troy Canyon, C	74.50 323	P	P	13 37 38.0 +2.4
GRAC	Grapevine Rang	74.57 321	P	P	13 37 38.3 +2.5
	baz=134				
CWC	Cottonwood Cre	74.61 320	P	P	13 37 38.6 +2.4
	baz=133				
PKM	Mcpherson Peak	74.62 318	P	P	13 37 38.9 +2.6
	baz=131,SNR=8.3				
BW06	Boulder Array	74.71 330	P	P	13 37 38.1 +1.4
	baz=141				
PD31	Pinedale Array	74.71 330	P	P	13 37 38.1 +1.3
PDAR	Pinedale Array	74.71 330	P	P	13 37 37.8 +1.0
	comp=Z,1.2nm,0.5s,baz=149,slow=6.9,SNR=15				
PDAR			LR	LR	14 15 17.3
	comp=Z,31nm,18.3s,baz=315,slow=39				
PDAR	Pinedale Array	74.71 330	P	P	13 37 37.9 +1.1
VES	Vestal, Richgr	74.80 319	P	P	13 37 39.6 +2.5
	baz=132,SNR=5.1				
BGU	Big Grassy Mou	75.01 327	P	P	13 37 40.0 +1.6
SMMC	Simmler	75.01 319	P	P	13 37 41.0 +2.6
	baz=131,SNR=6.7				
TIN	Tinemaha, Big	75.11 321	P	P	13 37 41.9 +2.9
	baz=133				
SBA	Scott Base	75.40 190	P	P	13 37 42.4 +2.5
SBA			IAmb	IAmb	13 37 44.0
	comp=Z,29nm,1.2s				
AHID	Auburn Hatcher	75.44 329	P	P	13 37 42.5 +1.7
HVU	Hansel Valley	75.51 327	P	P	13 37 43.1 +1.9
REDW	Red Top Meadow	75.77 330	P	P	13 37 44.3 +1.5
REDW			IAmb	IAmb	13 37 45.6
	comp=Z,24nm,1.2s				
MLAC	Mammoth, Mammo	75.86 321	P	P	13 37 46.2 +2.8
	baz=133				
ULM	Lac du Bonnet	75.89 342	P	P	13 37 43.0 0.0
	comp=Z,4.2nm,0.6s,baz=153,slow=3.8,SNR=5.7				
ULM			LR	LR	14 13 27.7
	comp=Z,34nm,18.3s,baz=154,slow=37				
ULM	Lac du Bonnet	75.89 342	P	P	13 37 42.1 -0.9
SYO	Syowa Base	75.92 159	⇑iP	P	13 37 42.6 -0.4
SYO	Syowa Base	75.92 159	⇓iPcP	PcP	13 37 51.4 -3.5
SYO	Syowa Base	75.92 159	⇑epP	pP	13 38 07.6 -5.0
TPAW	Teton Pass	75.92 330	P	P	13 37 45.6 +1.9
TPAW			IAmb	IAmb	13 37 46.5
	comp=Z,15nm,0.9s				
OMMB	Old Mammoth Mi	75.94 321	P	P	13 37 46.1 +2.1
OMMB			IAmb	IAmb	13 37 47.1
	comp=Z,15nm,1.0s				
NV11	Mina Array Sit	76.01 322	P	P	13 37 46.2 +2.1
MOOW	Moose Ponds	76.02 330	P	P	13 37 44.8 +0.6
ELK	Elko	76.03 325	P	P	13 37 44.9 +0.6
FXWY	Fox Creek	76.07 330	P	P	13 37 45.1 +0.7
NVAR	Mina Array Bea	76.09 322	P	P	13 37 46.6 +1.9
	comp=Z,6.3nm,0.9s,baz=157,slow=6.9,SNR=36				
NVAR	Mina Array Bea	76.09 322	P	P	13 37 46.3 +1.6
IMW	Indian Meadow	76.22 330	P	P	13 37 46.9 +1.5
IMW			IAmb	IAmb	13 37 48.3
	comp=Z,19nm,1.1s				
FLWY	Flagg Ranch	76.25 330	P	P	13 37 47.5 +2.0
LAO	LASA Array	76.38 334	P	P	13 37 47.3 +1.4
	baz=144				
KVN	Kaiserville	76.40 322	P	P	13 37 46.5 +0.1
KVN			IAmb	IAmb	13 37 49.2
	comp=Z,18nm,1.0s				
RLMT	Red Lodge	76.41 332	P	P	13 37 48.2 +1.8
	baz=141,SNR=10.0				
RLMT	Red Lodge	76.41 332	P	P	13 37 48.0 +1.6
RLMT			IAmb	IAmb	13 37 49.2
	comp=Z,21nm,1.2s				
H17A	Grant Village	76.44 330	P	P	13 37 48.8 +2.3
	baz=140				
YHH	Holmes Hill	76.86 331	P	P	13 37 50.6 +1.6
YERR	Yerington	77.01 322	P	P	13 37 52.1 +2.3
DGMT	Dagmar	77.06 337	P	P	13 37 51.6 +1.9
	baz=146				
YHL	Hebgen Lake	77.06 330	P	P	13 37 52.5 +2.4
GCMT	Greycliff	77.11 332	P	P	13 37 50.9 +0.8
TORD	Torodi Ar. Bea	77.21 70	P	P	13 37 50.4 -0.8
	comp=Z,18nm,0.5s,baz=236,slow=6.9,SNR=74				
PAHR	Pah Rah Range	77.58 322	P	P	13 37 55.5 +2.6
MCMT	McKenzie Canyo	77.82 329	P	P	13 37 56.7 +2.4
BOZ	Bozeman (W)	77.84 331	P	P	13 37 55.6 +1.4
	baz=140				
DLMT	Dillon	78.11 330	P	P	13 37 56.7 +1.0
BEKR	Beckworth	78.24 322	P	P	13 37 58.9 +2.3
MFID	Camas Ranch	78.25 327	P	P	13 37 58.2 +1.7
MFID			IAmb	IAmb	13 37 59.8
	comp=Z,26nm,1.3s				
ORV	Oroville	78.69 321	P	P	13 37 59.0 +0.1
ORV			IAmb	IAmb	13 38 02.1
	comp=Z,32nm,1.2s				
EGMT	Eagleton	78.89 333	P	P	13 38 01.4 +1.5
	baz=141				
O03E	Paynes Creek	79.36 321	P	P	13 38 03.7 +1.1
	baz=131				
PLID	Pearl Lake	79.53 328	P	P	13 38 05.6 +1.9
PLID			IAmb	IAmb	13 38 06.4
	comp=Z,20nm,0.9s				
MOD	Modoc Plateau	79.57 323	P	P	13 38 03.4 -0.4
MOD			IAmb	IAmb	13 38 06.8
	comp=Z,20nm,1.1s				
TSUM	Tsumeb	79.58 107	P	P	13 38 04.4 0.0
MSO	Missoula	79.82 330	P	P	13 38 06.7 +1.7
	baz=138				
O02D	Mt. Diablo Mer	79.85 321	P	P	13 38 06.7 +1.4
	baz=130				
WDC	Whiskeytown Da	79.97 321	P	P	13 38 04.9 -0.9
BMO	Blue Mountains	80.02 327	P	P	13 38 07.8 +1.7
BMO			IAmb	IAmb	13 38 08.9
	comp=Z,20nm,1.0s				
N02D	Trinity Center	80.32 321	P	P	13 38 08.4 +0.6
	baz=130				
M04C	Macdoel	80.35 323	P	P	13 38 08.7 +0.7
	baz=131				
JTMT	Jette	80.66 331	P	P	13 38 09.5 0.0
M02C	Callahan	80.67 322	P	P	13 38 10.5 +0.8
	baz=130				
F10A	Beach Ranch, E	80.77 328	P	P	13 38 11.2 +1.1
K04D	Chiloquin, OR	80.86 323	P	P	13 38 12.3 +1.6
	baz=131				
L04D	Klamath Falls	80.90 323	P	P	13 38 12.2 +1.3
	baz=131				
J05D	Fort Rock, OR	81.00 324	P	P	13 38 13.5 +2.1
	baz=132				
PINE	Pine Mountain	81.18 325	P	P	13 38 14.4 +1.9
PINE			IAmb	IAmb	13 38 15.7
	comp=Z,27nm,1.0s				
L02E	Cave Junction	81.59 322	P	P	13 38 16.4 +2.0
	baz=130				
I05D	Terrebonne, OR	81.76 325	P	P	13 38 17.4 +2.1
	baz=132				
K02D	Willamette Mer	81.97 322	P	P	13 38 18.6 +2.1
	baz=130				
NEW	Newport	82.35 330	P	P	13 38 19.0 +0.8
	baz=135				
G05D	Wamic, OR	82.35 325	P	P	13 38 20.4 +2.0
	baz=132				
J01E	Myrtle Point	82.42 323	P	P	13 38 20.8 +2.1
	baz=130				
I03D	Drain, OR	82.44 323	P	P	13 38 21.0 +2.2
	baz=130				
BOSA	Boshof	82.92 118	P	P	13 38 21.9 0.0
	comp=Z,20nm,0.9s,baz=236,slow=3.8,SNR=16				
BOSA			LR	LR	14 13 52.8
	comp=Z,40nm,18.9s,baz=216,slow=35				
BOSA	Boshof	82.92 118	P	P	13 38 21.4 -0.5
MAW	Mawson	83.76 163	P	P	13 38 26.3 +1.0
	comp=Z,17nm,0.8s,baz=214,slow=6.3,SNR=34				
MAW	Mawson	83.76 163	P	P	13 38 26.2 +1.0
LBTB	Lobatse	84.50 115	P	P	13 38 28.6 -1.5
B05A	Bryant	84.76 327	P	P	13 38 31.3 +0.8
	baz=131				
YKA	Yellowknife Ar	91.77 340	P	P	13 39 04.0 +0.5
	comp=Z,5.3nm,0.7s,baz=131,slow=4.7,SNR=10.0				
BRTR	Keskin Array B	112.84 55	PKiKP	PKiKP	13 44 32.6 -0.4
	comp=Z,0.9nm,0.8s,baz=231,slow=7.8,SNR=3.7				
BRTR			PP	PP	13 45 20.2 -2.8
	comp=Z,0.3nm,0.3s,baz=214,slow=8.7,SNR=4.0				
KLMR	Klimovskoe	117.75 32	ePKPdf	PKPdf	13 44 41.4 -0.2
KLMR			AMP		13 44 43.5
	comp=Z,15nm,1.4s				
STKA	Stephens Creek	119.15 209	PKP	PKiKP	13 44 45.8 +0.4
	comp=Z,3.1nm,1.0s,baz=91,slow=6.4,SNR=3.4				
KBZ	Khabaz	120.17 51	PKP	PKiKP	13 44 47.3 +0.5
	comp=Z,3.7nm,0.8s,baz=150,slow=1.0,SNR=9.3				
ASAR	Alice Springs	129.62 207	PKP	PKPdf	13 45 06.0 +0.4
	comp=Z,2.8nm,0.9s,baz=131,slow=1.7,SNR=6.9				
WRA	Warramunga Arr	132.69 210	PKP	PKiKP	13 45 12.6 0.0
	comp=Z,5.3nm,0.9s,baz=167,slow=1.6,SNR=13				
PETK	Petropavlovsk-	133.16 323	PKP	PKiKP	13 45 12.4 -0.1
	comp=Z,7.6nm,1.0s,baz=80,slow=2.0,SNR=3.0				
ZALV	Zalesovo Beam	142.26 26	PKhKP	PKPpre	13 45 24.9
	comp=Z,6.2nm,0.9s,baz=334,slow=5.3,SNR=5.3				
ZALV			PKP	PKPdf	13 45 27.8 -0.2
	comp=Z,7.4nm,0.8s,baz=298,slow=2.3,SNR=20				
ZALV			SKPbc	SKiKP	13 48 56.9 +0.1
	comp=Z,1.9nm,0.8s,baz=289,slow=4.5,SNR=4.4				
ZALV	Zalesovo Beam	142.26 26		SKiKP	13 48 57.2 +0.4
KSH	Kashi	145.15 52	PKPbc	PKPdf	13 45 34.2 +0.5
KSH			sPKP		13 46 12.4
KSH			PP	PP	13 48 57.1 +3.4
KSH			SKS	SKSdf	13 52 31.4 -1.3
KSH			SS	SS	14 07 34.2 -1.2
KSH			LR	LR	
	comp=Z,170nm,12.0s				
KSH			LR	LR	
	comp=Z,220nm,10.0s				
KSH			LR	LR	
	comp=Z,130nm,12.6s				
BATI	Baumata	145.82 202	PKPbc	PKPab	13 45 37.6 +1.0
	comp=Z,36nm,1.0s,baz=80,slow=6.5,SNR=6.6				
MK31	Makanchi Array	145.84 37		PKPab	13 45 35.9 0.0
MKAR	Makanchi Array	145.84 37	PKPbc	PKPbc	13 45 35.5 +0.3
	comp=Z,8.5nm,0.8s,baz=323,slow=1.9,SNR=30				
MKAR	Makanchi Array	145.84 37		PKPab	13 45 35.8 -0.1
HYB	Hyderabad	148.73 92	i PKP	PKPdf	13 45 40.0 -0.2
SIJI	Sorong	150.16 223	PKPbc	PKiKP	13 45 48.8 +0.3
	comp=Z,26nm,0.8s,baz=31,slow=6.7,SNR=12				
WMQ	Urumqi	150.67 37	ePKPbc	PKPdf	13 45 42.9 +0.4
LEM	Lembang	151.10 172	PKPbc	PKiKP	13 45 51.1 +0.5
	comp=Z,64nm,0.8s,baz=60,slow=6.2,SNR=13				
KAPI	Kappang	151.95 198	PKPbc	PKiKP	13 45 53.1 +0.9
	comp=Z,9.9nm,0.3s,baz=182,slow=9.4,SNR=4.6				
USRK	Ussuriysk Ar.	152.11 327	PKPbc	PKiKP	13 45 52.4 +0.8
	comp=Z,7.7nm,1.0s,baz=95,slow=3.2,SNR=7.6				
MJAR	Matsushiro Arr	152.64 308	PKPbc	PKPbc	13 45 52.9 +0.1
	comp=Z,9.6nm,1.0s,baz=85,slow=1.2,SNR=14				
SONM	Songino Array	153.91 8	PKP	PKPdf	13 45 48.7 +1.4
	comp=Z,3.4nm,0.9s,baz=27,slow=0.5,SNR=12				
KSRS	Korea Array	159.03 321	PKP	PKPdf	13 45 54.8 +0.8
	comp=Z,3.9nm,0.9s,baz=122,slow=1.6,SNR=8.3				
GTA	Gaotai	160.00 27	ePKP	PKPdf	13 45 56.6 +1.3
GTA			pPKP	pPKPdf	13 46 17.7 -10
GTA			sPKP		13 46 29.4
GTA			PKPab	PKPab	13 46 36.0 +0.6
GTA			LR	LR	
	comp=Z,170nm,17.5s				
GTA			LR	LR	
	comp=Z,170nm,17.8s				
GTA			LR	LR	
	comp=Z,110nm,18.4s				
HHC	Hu-ho-hao-te	161.21 360	PKP	PKPdf	13 45 57.9 +1.3
LZH	Lanzhou	164.48 24	ePKP	PKPdf	13 46 02.5 +2.5
LZH			pPKP	pPKPdf	13 46 27.1 -4.9
LZH			sPKP		13 46 40.5
CMAR	Chiang Mai Arr	167.74 104	PKP	PKPdf	13 46 03.9 +1.1
	comp=Z,2.1nm,1.0s,baz=278,slow=2.0,SNR=13				
CMAR			PKPab	PKPab	13 47 10.1 +0.1
	comp=Z,0.5nm,0.3s,baz=254,slow=5.2,SNR=6.5				
CMAR			PP	PP	13 51 00.1 +1.0
	comp=Z,0.5nm,0.3s,baz=261,slow=6.0,SNR=6.1				
XAN	Xi'an	167.80 10	PKP	PKPdf	13 45 57.4 -5.1
NJ2	Nanjing	168.02 328	ePKP	PKPdf	13 46 02.7 +0.1
CD2	Chengdu	168.77 36	PKP	PKPdf	13 46 02.9 -0.3
WHN	Wuhan	171.10 344	PKP	PKPdf	13 46 16.8 +12

KRNET ***09*** *14:14:48.5±0.1, 39.°36N×72.°66E, mb3.2*
NNC ***09*** *14:14:55.0±3.9, 39.°70N×72.°45E, h0km, mb3.7, mpv3.2,*
Error ellipse: s-maj=30.4km s-min=15.8km az=176.0
SOME ***09*** *14:14:55.2, 39.°70N×72.°47E, h10km*

ISC 09 14:14:49.8±2.1, 39.°52N±0.°09×72.°70E±0.°03, h7km±14km, n32, σ2.9 19/50, 22C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.54	291	⇑iP	Pn	14 15 18.4	+0.5
BTK	baz=97			⇑iS	Sg	14 15 39.7	+0.2
ARSB	Arslanbob	1.82	7	⇑iP	Pg	14 15 24.8	+0.1
ARSB	baz=7.0			⇑iS	Sg	14 15

AML	**Almayashu**	**2.72**	**16**⇑	*e*P	**Pb**	**14 15 37.4**	**-1.6**
	baz=15						
AML			⇑	*i*S	**Sb**	**14 16 13.8**	**+1.1**
	baz=15						
AML	**Almayashu**	**2.72**	**16**	P	**Pb**	**14 15 39.1**	**+0.1**
	SNR=6.2						
UCH	**Uchtor**	**3.04**	**26**⇓	*e*P	**Pb**	**14 15 41.8**	**-2.7**
	baz=26						
UCH			⇓	*i*S	**Sb**	**14 16 20.7**	**-1.2**
	baz=26						
UCH	**Uchtor**	**3.04**	**26**	P	**Pb**	**14 15 43.2**	**-1.3**
	SNR=11						
NRN	**Naryn**	**3.16**	**52**⇑	*e*P	**Pn**	**14 15 42.6**	**+2.2**
	baz=50						
NRN			⇑	*i*S	**Sb**	**14 16 22.9**	**-2.6**
	baz=50						
TAS	**Tashkent**	**3.17**	**306**⇑	*i*P	**Pn**	**14 15 42.2**	**+2.1**
	baz=8.0						
TAS			⇑	*i*S	**Sb**	**14 16 21.8**	**-3.5**
	baz=8.0						
KZA	**Kyzart**	**3.21**	**36**⇑	*i*P	**Pb**	**14 15 44.3**	**-3.1**
	baz=35						
KZA			⇑	*i*S	**Sb**	**14 16 25.1**	**-1.7**
	baz=35						
KZA	**Kyzart**	**3.21**	**36**	P	**Pb**	**14 15 45.2**	**-2.2**
	SNR=7.1						
EKS2	**Erkin-Say**	**3.24**	**14**⇑	*i*P	**Pb**	**14 15 44.8**	**-3.0**
	baz=14						
EKS2			⇑	*i*S	**Sb**	**14 16 26.0**	**-1.6**
	baz=14						
EKS2	**Erkin-Say**	**3.24**	**14**	P	**Pb**	**14 15 47.2**	**-0.6**
	SNR=15						
MRKS	**Merke**	**3.25**	**7**	Pg	**Pg**	**14 15 51.0**	**-1.1**
	21nm,0.5s						
MRKS				Lg	Lg	14 16 31.3	
	12nm,0.2s						
MRKS	**Merke**	**3.25**	**7**	*e*P	**Pg**	**14 15 51.0**	**-1.1**
	21nm,0.5s						
MRKS				*e*S	**Sg**	**14 16 31.3**	**-2.9**
	12nm,0.2s						
IUG	**Iuzhnay**	**3.31**	**323**	Pg	**Pb**	**14 15 49.2**	**+0.2**
	0.4nm,0.2s						
IUG				Lg	Lg	14 16 28.3	
	55nm,0.4s						
IUG	**Iuzhnay**	**3.31**	**323**	*e*P	**Pb**	**14 15 49.2**	**+0.2**
	0.6nm,0.2s						
IUG				*e*S	**Sb**	**14 16 28.3**	**-1.2**
	35nm,0.3s						
AAK	**Ala-Archa**	**3.40**	**23**	⇑Pn	**Pb**	**14 15 47.8**	**-2.7**
	6.9nm,0.5s						
AAK				Sn	**Sb**	**14 16 32.8**	**+0.7**
	5.3nm,0.6s						
AAK	**Ala-Archa**	**3.40**	**23**⇑	*e*P	**Pn**	**14 15 46.9**	**+3.5**
	baz=22						
AAK			⇑	*i*S	**Sb**	**14 16 29.3**	**-2.8**
	baz=22						
AAK	**Ala-Archa**	**3.40**	**23**	P	**Pb**	**14 15 48.4**	**-2.1**
	SNR=11						
FRU1	**Bishkek**	**3.60**	**23**⇑	*i*P	**Pn**	**14 15 49.6**	**+3.5**
	baz=23						
FRU1			⇑	*i*S	**Sb**	**14 16 34.0**	**-3.7**
	baz=23						
CHMS	**Chumysh**	**3.81**	**23**	P	**Pb**	**14 15 53.6**	**-3.7**
	SNR=8.6						
KK31	**Karatay Array**	**3.94**	**336**	⇑Pn	**Pb**	**14 15 55.8**	**-3.8**
	0.4nm,0.2s,baz=144,slow=13,SNR=7.7						
KK31				⇓Sn	**Sb**	**14 16 43.7**	**-3.8**
	3.9nm,0.3s,baz=142,slow=26,SNR=3.5						
TKM2	**Tokmak 2**	**4.04**	**32**	⇑Pn	**Pn**	**14 15 55.8**	**+3.5**
	1.9nm,0.6s						
TKM2				⇑Lg	Lg	14 16 58.9	
	4.3nm,0.7s						
BRLS	**Borolday**	**4.12**	**329**	Pg	**Pb**	**14 16 03.5**	**+0.9**
	0.4nm,0.2s						
BRLS				Lg	Lg	14 16 53.7	
	8.4nm,0.3s						
BRLS	**Borolday**	**4.12**	**329**	*e*P	**Pb**	**14 16 04.2**	**+1.6**
	0.3nm,0.1s						
BRLS				*e*S	**Sb**	**14 16 53.7**	**+1.1**
	5.7nm,0.3s						
KST	**Kastek**	**4.29**	**34**	Pg	**Pg**	**14 16 12.7**	**+0.6**
	3.1nm,0.3s						
KST				Lg	Lg	14 17 08.7	
	5.5nm,0.4s						
KST	**Kastek**	**4.29**	**34**	*e*P	**Pg**	**14 16 12.7**	**+0.6**
	2.8nm,0.2s						
KST				*e*S	**Sg**	**14 17 08.7**	**+0.9**
	5.3nm,0.5s						
DGS	**Degeres**	**4.38**	**31**	Pg	**Pg**	**14 16 14.2**	**+0.5**
	4.3nm,0.6s						
DGS				Lg	Lg	14 17 10.8	
	4.0nm,0.8s						
DGS	**Degeres**	**4.38**	**31**	*e*P	**Pg**	**14 16 14.3**	**+0.6**
	4.3nm,0.6s						
DGS				*e*S	**Sg**	**14 17 10.8**	**+0.4**
	2.9nm,0.5s						
KOTS	**Kotyrbulak**	**4.98**	**40**	Pg	**Pg**	**14 16 24.8**	**-0.5**
	7.7nm,0.5s						
KOTS				Lg	Lg	14 17 29.6	
	20nm,0.5s						
KTBS	**Karatobe**	**5.14**	**34**	Pg	**Pg**	**14 16 29.3**	**+0.9**
	2.5nm,0.5s						
KTBS				Lg	Lg	14 17 36.4	
	9.7nm,0.4s						

ISCJB ***09*** *14:35:04.2±0.3,20°.97S±0°.07×178°.71W±0°.06,h579km, mb4.0/8,Error ellipse: s-maj=10.6km s-min=6.5km az=149.3*

NEIC ***09*** *14:35:05.8±1.8,20°.9S±0°.1×178°.71W±0°.08,h588km±6km, mb4.2/43*

IDC ***09*** *14:35:06.4±2.3,20°.86S×178°.74W,h598km±26km, mb3.5/8, mb1 3.8/9,mb1mx3.4/23,mbtmp4.4/9,Error ellipse: s-maj=43.5km s-min=11.2km az=159.0*

ISC 09 14:35:05.1±0.5,20°.9S±0°.1×178°.69W±0°.08,h579km,n71, σ0°81/61,mb4.1/28,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.41**	**315**	P	**P**	**14 36 32.8**	**+0.5**
DZM	**Mont Dzumac**	**13.88**	**263**	P	**P**	**14 38 02.5**	**-0.8**
	1.1nm,0.3s,baz=102,slow=20,SNR=10.0						
BFZ	**Birch Farm**	**20.17**	**191**	P	**P**	**14 39 01.2**	**0.0**
BFZ				IAmb	IAmb	14 39 02.2	
	comp=Z,18nm,1.4s						
BHW	**Baring Head**	**21.15**	**194**	P	**P**	**14 39 10.3**	**+0.4**
THZ	**Tophouse**	**21.97**	**197**	P	**P**	**14 39 16.2**	**-1.1**
THZ				IAmb	IAmb	14 39 21.1	
	comp=Z,15nm,1.3s						
LHI	**Lord Howe Isla**	**22.54**	**238**	P	**P**	**14 39 21.0**	**-1.5**
HNR	**Honiara**	**23.53**	**296**	P	**P**	**14 39 32.5**	**+0.9**
FOZ	**Fox Glacier**	**24.51**	**200**	P	**P**	**14 39 41.2**	**+1.4**
FOZ				IAmb	IAmb	14 40 00.4	
	comp=Z,14nm,1.2s						
EIDS	**Eidsvold**	**28.11**	**255**	P	**P**	**14 40 12.1**	**+0.3**
EIDS				IAmb	IAmb	14 40 15.8	
	comp=Z,11nm,1.2s						
ARMA	**Armidale**	**28.30**	**244**	P	**P**	**14 40 14.1**	**+0.7**
ARMA				IAmb	IAmb	14 40 32.6	
	comp=Z,19nm,1.3s						
CTAO	**Charters Tower**	**32.80**	**265**	P	**P**	**14 40 52.8**	**+0.8**
PMG	**Port Moresby**	**34.80**	**284**	P	**P**	**14 41 09.6**	**+0.8**
COEN	**Coen**	**36.96**	**274**	P	**P**	**14 41 27.6**	**+1.0**
COEN				IAmb	IAmb	14 41 28.5	
	comp=Z,8.2nm,0.8s						
STKA	**Stephens Creek**	**37.02**	**245**	P	**P**	**14 41 26.8**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=81,slow=12,SNR=10						
STKA	**Stephens Creek**	**37.02**	**245**	IAmb	IAmb	14 41 27.7	
	comp=Z,0.5nm,0.6s						
JOHN	**Johnston Islan**	**38.48**	**14**	P	**P**	**14 41 40.2**	**+1.5**
TAOE	**Nuku Hiva Isla**	**39.02**	**78**	P	**P**	**14 41 42.5**	**-0.9**
BBOO	**Buckleboo**	**41.78**	**244**	P	**P**	**14 42 04.9**	**-0.1**
BBOO				IAmb	IAmb	14 42 06.0	
	comp=Z,24nm,1.2s						
JAY	**Jayapura**	**43.56**	**289**	P	**P**	**14 42 19.4**	**+0.2**
	comp=Z,16nm,0.5s,baz=161,slow=2.9,SNR=18						
AS31	**Alice Springs**	**43.79**	**257**	P	**P**	**14 42 20.9**	**+0.1**
ASAR	**Alice Springs**	**43.79**	**257**	P	**P**	**14 42 20.6**	**-0.2**
	comp=Z,6.1nm,0.5s,baz=91,slow=8.3,SNR=166						
ASAR				PcP	**PcP**	**14 43 54.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=97,slow=4.4,SNR=6.4						
ASAR				S	**S**	**14 48 09.4**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=96,slow=15,SNR=6.6						
ASAR	**Alice Springs**	**43.79**	**257**	P	**P**	**14 42 20.8**	**-0.1**
WB0	**Warramunga Arr**	**43.88**	**263**	P	**P**	**14 42 21.6**	**0.0**
WB0				IAmb	IAmb	14 42 21.9	
	comp=Z,4.1nm,0.5s						
WB2	**Warramunga Arr**	**43.89**	**263**	P	**P**	**14 42 21.4**	**-0.2**
WRAB	**Tennant Creek**	**43.89**	**263**	P	**P**	**14 42 23.6**	**+1.9**
WRAB				IAmb	IAmb	14 42 26.0	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**43.90**	**263**	P	**P**	**14 42 20.9**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=96,slow=7.5,SNR=46						
WRA				S	**S**	**14 48 10.4**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=101,slow=8.4,SNR=2.3						
WRA	**Warramunga Arr**	**43.90**	**263**	P	**P**	**14 42 21.2**	**-0.5**
HMH	**Humu'ula Sheep**	**46.23**	**31**	P	**P**	**14 42 39.1**	**-0.7**
KNRA	**Kununurra**	**49.98**	**267**	P	**P**	**14 43 07.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.33**	**263**	P	**P**	**14 43 25.0**	**+0.7**
PSA00	**Pilbara Seismi**	**56.94**	**257**	P	**P**	**14 43 56.2**	**-0.3**
PSA00				IAmb	IAmb	14 44 00.6	
	comp=Z,14nm,1.4s						
PSA00	**Pilbara Seismi**	**56.94**	**257**	P	**P**	**14 43 57.0**	**+0.5**
PSA00				IAmb	IAmb	14 44 01.0	
	comp=Z,2.9nm,0.8s						
SBA	**Scott Base**	**57.42**	**184**	P	**P**	**14 44 00.5**	**+1.7**
QSPA	**South Pole Qui**	**69.16**	**180**	P	**P**	**14 45 14.0**	**-0.1**
QSPA				IAmb	IAmb	14 45 14.8	
	comp=Z,4.2nm,0.8s						
SPIA	**Saint Paul Isl**	**78.11**	**5**	P	P	14 45 59.2	-5.4
BEKR	**Beckworth**	**81.30**	**42**	P	**P**	**14 46 22.6**	**+0.5**
YERR	**Yerington**	**81.49**	**43**	P	**P**	**14 46 23.5**	**+0.5**
YERR				IAmb	IAmb	14 46 23.5	
	comp=Z,3.3nm,0.7s						
NVAR	**Mina Array Bea**	**81.77**	**44**	P	**P**	**14 46 24.3**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=224,slow=8.2,SNR=15						
PAHR	**Pah Rah Range**	**81.82**	**42**	P	**P**	**14 46 25.5**	**+0.9**
PAHR				IAmb	IAmb	14 46 25.7	
	comp=Z,5.7nm,1.1s						
NV11	**Mina Array Sit**	**81.87**	**44**	IAmb	IAmb	14 46 25.8	
	comp=Z,5.7nm,1.3s						
KVN	**Kaiserville**	**82.25**	**43**	IAmb	IAmb	14 46 27.7	
	comp=Z,6.3nm,1.3s						
MOD	**Modoc Plateau**	**82.55**	**40**	P	**P**	**14 46 28.8**	**+0.6**
TUC	**Tucson**	**83.74**	**52**	P	**P**	**14 46 35.5**	**+1.1**
U15A	**North Rim**	**84.72**	**48**	IAmb	IAmb	14 46 40.6	
	comp=Z,2.8nm,0.7s						
G08A	**Pilot Rock**	**85.34**	**38**	P	**P**	**14 46 42.8**	**+0.9**
F10A	**Beach Ranch, E**	**86.72**	**38**	P	**P**	**14 46 48.2**	**-0.1**
F10A				IAmb	IAmb	14 46 49.0	
	comp=Z,9.3nm,0.9s						
MNTX	**Cornudas Mount**	**87.52**	**55**	IAmb	IAmb	14 46 53.5	
	comp=Z,3.5nm,1.1s						
BWN	**Browne**	**87.80**	**12**		pwP	14 49 04.4	+4.7
TX31	**Lajitas Ar. Si**	**87.82**	**58**	IAmb	IAmb	14 46 55.4	
	comp=Z,4.9nm,1.1s						
TX32	**Lajitas Array**	**87.82**	**58**	IAmb	IAmb	14 46 55.4	
	comp=Z,4.9nm,1.1s						
TXAR	**Lajitas Array**	**87.82**	**58**	P	**P**	**14 46 54.0**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=223,slow=6.4,SNR=15						
TXAR	**Lajitas Array**	**87.82**	**58**	P	**P**	**14 46 54.5**	**+0.6**
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**	**14 46 56.0**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=222,slow=5.3,SNR=12						
IMW	**Indian Meadow**	**89.39**	**42**	IAmb	IAmb	14 47 02.3	
	comp=Z,2.9nm,0.9s						
PDAR	**Pinedale Array**	**89.71**	**43**	P	**P**	**14 47 01.5**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=205,slow=3.5,SNR=13						
PDAR	**Pinedale Array**	**89.71**	**43**	P	**P**	**14 47 01.8**	**-0.7**
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP	**PKPdf**	**14 53 06.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=39,slow=4.7,SNR=6.6						
KONO	**Kongsberg**	**140.85**	**353**	PKPdf	**PKPdf**	**14 53 29.4**	**+0.1**
AKASG	**Malin Array Be**	**143.05**	**330**	PKP	PKPab	14 53 30.7	-0.5
	comp=Z,5.0nm,0.6s,baz=42,slow=4.5,SNR=22						
AKASG	**Malin Array Be**	**143.05**	**330**		PKPab	14 53 30.2	-1.0
AKBB	**Malin Array Si**	**143.05**	**330**	PKPdf	PKPbc	14 53 31.1	-0.6
BR131	**Keskin Array S**	**146.63**	**311**	PKPbc	**PKPbc**	**14 53 42.9**	**0.0**
BRTR	**Keskin Array B**	**146.63**	**311**	PKPbc	**PKPbc**	**14 53 42.0**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=148,slow=4.7,SNR=7.0						
BRTR	**Keskin Array B**	**146.63**	**311**		**PKPbc**	**14 53 42.9**	**0.0**
BUR08	**Bucovina Ar. S**	**147.08**	**330**	PKPab	**PKiKP**	**14 53 45.7**	**+0.2**
BURAR	**Bucovina Array**	**147.09**	**330**	PKPab	**PKiKP**	**14 53 45.5**	**-0.1**
CLL	**Collm**	**148.31**	**346**	*i* PKPbc	**PKPbc**	**14 53 46.4**	**-0.2**
	comp=Z,6.0nm,0.8s						
KHC	**Kasperske Hory**	**150.18**	**344**	PKPbc	**PKiKP**	**14 53 51.7**	**-0.1**
GEC2	**GERESS Array S**	**150.41**	**343**	PKPbc	**PKiKP**	**14 53 52.0**	**-0.3**
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	**PKPbc**	**14 53 51.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=49,slow=2.5,SNR=12						
GERES	**GERESS Array B**	**150.41**	**343**		**PKPbc**	**14 53 51.4**	**-0.5**

IDC ***09*** *14:53:24.4±0.4,28°.25S×176°.66W,h0km,mb5.3/23, mb1 5.4/24,mb1mx5.3/28,mbtmp5.3/24,ML5.2/1,MS5.1/19, Ms1 5.1/19,ms1mx5.0/27,Error ellipse: s-maj=16.1km s-min=12.8km az=159.0*

BJI ***09*** *14:53:25.0±0.0,28°.50S×176°.80W,h10km,mb5.6/53, mB5.9/46,Ms5.4/47,Ms7 5.1/49*

NEIC ***09*** *14:53:26.6±2.0,28°.32S±0°.05×176°.77W±0°.10,h10km±1km, mb5.4/75,Ms_20 5.4/538,Mwb5.5,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.32; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$0.08; $M_{r\theta}$0.59; $M_{r\phi}$-1.05; $M_{\theta\phi}$0.58; Fault plane solution: $M_0$1.90000×10^17^ NP1:ϕ_s50.05000°, δ59.36000°,λ74.26000°. NP2:ϕ_s258.99000°,δ34.10000°, λ114.61000°. Principal axes: T 1.5619, Plg71.0000°, Azm284.0000°; N 0.5595, Plg13.0000°, Azm58.0000°; P -2.1214, Plg13.0000°, Azm151.0000°;*

ISCJB ***09*** *14:53:27.7±0.1,28°.76S±0°.02×176°.75W±0°.04,h29km, mb5.4/54,MS5.1/44 Error ellipse: s-maj=4.9km s-min=1.9km az=27.2*

GCMT ***09*** *14:53:29.6±0.1,28°.29S±0°.01×176°.27W±0°.01,h19km, MW5.5/118,Moment Tensor Solution. s96,c167; s118,c218; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; M_{rr}1.57±.03; $M_{\theta\theta}$-0.18±.02; $M_{\phi\phi}$-1.39±.02; $M_{r\theta}$0.23±.05; $M_{\theta\phi}$-0.51±.02; $M_{\phi r}$1.22±.05; Best double couple: $M_0$2.00400×10^17^ NP1:ϕ_s14.00000°,δ64.00000°, λ85.00000°. NP2:ϕ_s206.00000°,δ26.00000°,λ100.00000°. Principal axes: T 2.0090, Plg70.0000°, Azm273.0000°; N -0.0110, Plg5.0000°, Azm17.0000°; P -2.0000, Plg19.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***09*** *14:53:29.2±1.6,28°.29S×176°.84W,h33km,mb5.6/32, MS5.2/11 Error ellipse: s-maj=10.6km s-min=8.8km az=126.5*

ISC 09 14:53:28.7±0.3,28°.55S±0°.04×176°.47W±0°.04,h29km, n1185,σ1°98/669,mb5.5/78,MS5.4/562,75C-23D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.45**	**241**	Pn	**Pn**	**14 53 54.2**	**+1.3**
	2μm,0.3s,baz=127,slow=2.4,SNR=64						
RAO				Sn	**Sb**	**14 54 16.3**	**+3.3**
	5μm,0.3s,baz=107,slow=19,SNR=13						
RAO				LR	LR	14 54 23.0	
	comp=Z,14μm,19.4s,baz=44,slow=40						
RAO	**Raoul Island**	**1.45**	**241**		**Pb**	**14 53 56.0**	**+1.0**
RIZ	**Raoul Island**	**1.45**	**241**	P	**Pb**	**14 53 55.8**	**+0.7**
RIZ				S	**Sb**	**14 54 16.7**	**+3.6**
GLKZ	**Green Lake**	**1.45**	**240**	P	**Pb**	**14 53 55.6**	**+0.5**
GLKZ				S	**Sb**	**14 54 16.1**	**+2.9**
MXZ	**Matakaoa Point**	**9.99**	**205**	P	**Pn**	**14 55 47.1**	**-3.2**
MXZ				S	**Sn**	**14 57 39.2**	**-2.3**
MXZ	**Matakaoa Point**	**9.99**	**205**	Pn	**Pn**	**14 55 47.2**	**-3.2**
MXZ					**Sn**	**14 57 43.4**	**+1.9**
WMGZ	**Waiomatatini S**	**10.19**	**204**	P	**Pn**	**14 55 49.9**	**-3.0**
WMGZ				S	**Sn**	**14 57 44.6**	**-1.5**
GRZ	**Great Barrier**	**10.26**	**220**	P	**Pn**	**14 55 56.4**	**+2.4**
HAZ	**Te Kaha**	**10.36**	**206**	P	**Pn**	**14 55 51.6**	**-3.7**
HAZ				S	**Sn**	**14 57 50.9**	**+0.4**
PKGZ	**Pakihiroa**	**10.37**	**205**	P	Pn	14 55 51.0	-4.5
PKGZ				S	**Sn**	**14 57 48.0**	**-2.7**
PUZ	**Puketiti**	**10.47**	**204**	P	Pn	14 55 52.0	-4.8
PUZ				S	**Sn**	**14 57 50.9**	**-2.2**
KUZ	**Kuaotunu**	**10.49**	**217**	P	**Pn**	**14 55 58.2**	**+1.2**
RUGZ	**Raukumara Rang**	**10.59**	**206**	P	Pn	14 55 53.9	-4.7
RUGZ				S	**Sn**	**14 57 55.2**	**-1.0**
TWGZ	**Tauwhareparae**	**10.66**	**204**	P	**Pn**	**14 55 55.8**	**-3.7**
TWGZ				S	**Sn**	**14 57 56.9**	**-0.9**
OUZ	**Omahuta**	**10.74**	**229**		**Pn**	**14 56 05.1**	**+4.5**
CNGZ	**Carnagh Statio**	**10.85**	**203**	P	Pn	14 55 56.7	-5.4
CNGZ				S	**Sn**	**14 57 58.0**	**-4.5**
TKGZ	**Te Karaka**	**10.94**	**204**	P	Pn	14 55 58.9	-4.4
TKGZ				S	**Sn**	**14 58 01.2**	**-3.4**
OPRZ	**Ohinepanea**	**10.95**	**210**	P	**Pn**	**14 56 01.9**	**-1.5**
MWZ	**Matawai**	**10.96**	**206**	P	Pn	14 55 59.2	-4.5
MWZ				S	**Sn**	**14 58 03.7**	**-1.6**
TGRZ	**Tauranga**	**10.99**	**212**	P	**Pn**	**14 56 04.5**	**+0.5**
MARZ	**Manawahe**	**11.01**	**210**	P	**Pn**	**14 56 03.8**	**-0.5**
URZ	**Urewera**	**11.06**	**207**	Pn	Pn	14 56 00.6	-4.4
	2.5nm,0.3s,baz=271,slow=4.7,SNR=20						
URZ				Sn	**Sn**	**14 58 04.9**	**-2.7**
	5.8nm,0.3s,baz=158,slow=19,SNR=6.3						
URZ	**Urewera**	**11.06**	**207**	P	Pn	14 56 00.1	-4.8
URZ				S	**Sn**	**14 58 03.7**	**-3.9**
RAGZ	**Rawiri**	**11.15**	**206**	P	**Pn**	**14 56 02.1**	**-4.1**
RAGZ				S	**Sn**	**14 58 07.5**	**-2.4**
NIUE	**Niue**	**11.17**	**34**	P	Pn	14 55 58.6	-7.9
	baz=11,SNR=7.0						
NIUE	**Niue**	**11.17**	**34**		Pn	14 55 58.0	-8.5
NIUE					Sn	14 57 50.7	-20
RIGZ	**Rimuhau**	**11.21**	**204**	P	Pn	14 56 02.3	-4.6
RIGZ				S	**Sn**	**14 58 07.7**	**-3.5**
KARZ	**Kaharoa**	**11.23**	**211**	P	**Pn**	**14 56 08.6**	**+1.2**
TOZ	**Tahuroa Road**	**11.35**	**214**	P	**Pn**	**14 56 11.1**	**+2.2**
PRGZ	**Paritu Road**	**11.36**	**203**	P	Pn	14 56 04.1	-4.9
PRGZ				S	**Sn**	**14 58 10.0**	**-4.9**
MUGZ	**Murupara**	**11.39**	**208**	P	Pn	14 56 04.0	-5.5
RTZ	**Ruatahuna**	**11.42**	**207**	P	Pn	14 56 04.6	-5.3
SNGZ	**Shannon Statio**	**11.43**	**205**	P	Pn	14 56 05.4	-4.6
KNZ	**Kokohu**	**11.52**	**203**	P	Pn	14 56 06.6	-4.6
MHGZ	**Mahia Peninsul**	**11.56**	**202**	P	Pn	14 56 05.6	-6.1
PRRZ	**Plateau Road**	**11.56**	**209**	P	**Pn**	**14 56 10.5**	**-1.3**
ALRZ	**Allen Road**	**11.64**	**209**	P	**Pn**	**14 56 10.1**	**-2.7**
RAHZ	**Arahi**	**11.64**	**206**	P	Pn	14 56 08.4	-4.5
MTHZ	**Maungataniwha**	**11.68**	**207**	P	**Pn**	**14 56 09.3**	**-4.1**
WHHZ	**Waihua**	**11.73**	**205**	P	**Pn**	**14 56 11.1**	**-2.9**
TLZ	**Tolley Road**	**11.81**	**212**	P	**Pn**	**14 56 15.5**	**+0.3**
MRHZ	**Matea Rd**	**11.84**	**208**	P	Pn	14 56 11.1	-4.5
MSVF	**Nonsavu**	**11.88**	**334**	*de*P	**Pn**	**14 56 16.2**	**-0.1**
MSVF				pmax	pmax		
	comp=Z,278nm,1.1s						
MSVF	**Nonsavu**	**11.88**	**334**		**Pn**	**14 56 19.6**	**+3.3**
NMHZ	**Naumai**	**11.90**	**206**	P	**Pn**	**14 56 12.4**	**-4.1**
ARHZ	**Aropaoanui**	**11.98**	**205**	P	Pn	14 56 12.7	-4.7
BKZ	**Black Stump Fm**	**12.09**	**207**	P	Pn	14 56 12.6	-6.5
BKZ	**Black Stump Fm**	**12.09**	**207**		Pn	14 56 13.9	-5.1
RITZ	**Rihia Road**	**12.19**	**209**	P	**Pn**	**14 56 19.4**	**-1.1**
MCHZ	**McNeill Hill**	**12.25**	**206**	P	**Pn**	**14 56 18.3**	**-2.9**
HIZ	**Hauiti**	**12.28**	**214**	P	**Pn**	**14 56 21.2**	**-0.4**
HIZ	**Hauiti**	**12.28**	**214**	Pn	**Pn**	**14 56 21.4**	**-0.2**
CKHZ	**Cape Kidnapper**	**12.29**	**204**	P	Pn	14 56 17.1	-4.7
KWHZ	**Kaweka Forest**	**12.34**	**207**	P	Pn	14 56 16.5	-6.0
WTVZ	**West Tongariro**	**12.43**	**210**	P	**Pn**	**14 56 22.5**	**-1.2**
TWVZ	**Taurewa**	**12.46**	**211**	P	**Pn**	**14 56 25.0**	**+0.9**
NGZ	**Ngauruhoe**	**12.47**	**210**	P	**Pn**	**14 56 21.8**	**-2.5**
KAHZ	**Kahuranaki**	**12.49**	**204**	P	Pn	14 56 18.4	-6.1
TUVZ	**Tukino**	**12.52**	**209**	P	**Pn**	**14 56 24.0**	**-1.1**
BHHZ	**Black Hill Sta**	**12.54**	**208**	P	**Pn**	**14 56 21.5**	**-3.7**
KRHZ	**Kereru**	**12.55**	**206**	P	Pn	14 56 20.3	-4.9
FWVZ	**Far West T-bar**	**12.56**	**210**	P	**Pn**	**14 56 21.4**	**-4.2**
WHVZ	**Whangaehu Hut**	**12.56**	**210**	P	**Pn**	**14 56 26.8**	**+1.1**
TRVZ	**Turoa**	**12.60**	**210**	P	**Pn**	**14 56 23.1**	**-3.0**
MOVZ	**Moawhango**	**12.60**	**209**	P	**Pn**	**14 56 24.4**	**-1.6**
PKVZ	**Pokaka**	**12.68**	**210**	P	**Pn**	**14 56 28.0**	**+1.0**
PXZ	**Pawanui**	**12.70**	**204**	P	Pn	14 56 21.4	-5.9
VRZ	**Vera Road**	**12.81**	**212**	P	**Pn**	**14 56 30.8**	**+2.0**
PNHZ	**Pukenui**	**12.85**	**206**	P	Pn	14 56 24.0	-5.4
PRHZ	**Porangahau**	**12.99**	**204**	P	Pn	14 56 24.8	-6.5
TSZ	**Takapari Road**	**13.06**	**207**	P	Pn	14 56 26.7	-5.7
DVHZ	**Dannevirke**	**13.19**	**205**	P	**Pn**	**14 56 31.4**	**-2.7**
WAZ	**Wanganui**	**13.22**	**210**	P	**Pn**	**14 56 32.4**	**-2.0**
ANWZ	**Angora Road**	**13.22**	**204**	P	Pn	14 56 29.7	-4.7
PKE	**Pukeiti**	**13.24**	**214**	P	**Pn**	**14 56 37.8**	**+3.1**
LREZ	**Lake Rotokare**	**13.24**	**212**	P	**Pn**	**14 56 36.6**	**+1.8**
KHEZ	**Kahui Hut**	**13.30**	**214**	P	**Pn**	**14 56 37.6**	**+1.9**
POWZ	**Post Office Ro**	**13.43**	**206**	P	**Pn**	**14 56 34.1**	**-3.2**
PRWZ	**Pori Road**	**13.49**	**205**	P	**Pn**

PAE	**Paea**	**26.95**	**72**	*e*T	T	15 26 44.7	
	comp=Z,24nm,0.4s						
PPT2	**Papeete2**	**26.98**	**72**	*e*S	**S**	**15 03 37.9**	**-6.1**
	comp=Z,338nm,20.9s						
PPT2				*e*LQ	LQ	15 04 43.2	
	comp=Z,1µm,20.8s						
PPT2				*e*LR	LR	15 05 46.9	
	comp=Z,7µm,27.2s,baz=237						
PPT2	**Papeete2**	**26.98**	**72**	*e*T	T	15 26 48.2	
	comp=Z,14nm,0.4s						
PPT	**Papeete**	**26.99**	**72**	LR	LR	15 08 59.2	
	comp=Z,3µm,18.8s,baz=249,slow=35						
TVO	**Taravao**	**27.16**	**73**	*e*T	T	15 27 01.0	
	comp=Z,3.0nm,0.4s						
ARMA	**Armidale**	**27.78 258**		P	**P**	**14 59 15.7**	**+0.3**
	baz=28,SNR=10						
ARMA	**Armidale**	**27.78 258**		P	**P**	**14 59 15.7**	**+0.3**
ARMA				IAMs_20	IAMs_20	15 09 01.1	
	comp=Z,9µm,19.0s						
EIDS	**Eidsvold**	**29.04 269**		P	**P**	**14 59 26.6**	**+0.1**
	baz=29,SNR=15						
EIDS	**Eidsvold**	**29.04 269**		P	**P**	**14 59 26.1**	**-0.4**
EIDS				IAmb	IAmb	14 59 28.2	
	comp=Z,59nm,1.1s						
EIDS				IAMs_20	IAMs_20	15 09 05.0	
	comp=Z,5µm,20.0s						
HNR	**Honiara**	**29.20 306**		P	**P**	**14 59 23.7**	**-4.2**
	comp=Z,52nm,0.4s,baz=185,slow=3.0,SNR=6.1						
HNR				LR	LR	15 09 53.3	
	comp=Z,3µm,18.2s,baz=152,slow=34						
HNR	**Honiara**	**29.20 306**		P	**P**	**14 59 25.0**	**-2.9**
HNR	**Honiara**	**29.20 306**		IAMs_20	IAMs_20	15 09 32.9	
	comp=Z,3µm,20.0s						
CNB	**Canberra Magne**	**29.66 248**		P	**P**	**14 59 33.9**	**+1.9**
	baz=30,SNR=7.8						
PMOR	**Pomariorio Rege**	**29.68**	**69**	*e*T	T	15 30 09.6	
	comp=Z,5.5nm,0.4s						
VAH	**Vaihoa**	**29.77**	**70**	*e*T	T	15 30 16.3	
	comp=Z,19nm,0.2s						
CAN	**Canberra**	**29.96 248**		P	**P**	**14 59 34.9**	**+0.3**
CAN				pmax	pmax		
	comp=Z,51nm,1.0s						
CAN				MLR	MLR		
	comp=Z,6µm,19.0s						
CAN	**Canberra**	**29.96 248**		P	**P**	**14 59 34.9**	**+0.3**
CAN				IAmb	IAmb	14 59 48.0	
	comp=Z,51nm,1.0s						
CAN				IAMs_20	IAMs_20	15 10 02.2	
	comp=Z,6µm,19.0s						
MILA	**Mila**	**29.98 245**		P	**P**	**14 59 36.7**	**+1.9**
	baz=30,SNR=3.4						
RMQ	**Roma**	**30.84 266**		P	**P**	**14 59 43.4**	**+1.0**
	baz=31,SNR=23						
TARA	**Tarawa**	**31.43 339**		IAMs_20	IAMs_20	15 11 14.0	
	comp=Z,3µm,18.0s						
TAU	**Tasmania Unive**	**32.43 234**		IAMs_20	IAMs_20	15 14 27.0	
	comp=Z,5µm,18.0s						
CMSA	**Cobar Meteorol**	**32.78 255**		P	**P**	**14 59 59.4**	**0.0**
	baz=33,SNR=27						
TOO	**Toolangi**	**32.94 244**		P	**P**	**15 00 02.1**	**+1.3**
	baz=33,SNR=8.3						
TOO	**Toolangi**	**32.94 244**		P	**P**	**15 00 00.8**	**0.0**
TOO				pmax	pmax		
	comp=Z,54nm,1.2s						
TOO	**Toolangi**	**32.94 244**		P	**P**	**15 00 00.8**	**0.0**
TOO				IAmb	IAmb	15 00 03.8	
	comp=Z,54nm,1.1s						
TOO				IAMs_20	IAMs_20	15 10 54.6	
	comp=Z,3µm,21.0s						
QLP	**Quilpie**	**34.78 264**		P	**P**	**15 00 17.4**	**+0.6**
	baz=35,SNR=5.3						
CTA	**Charters Tower**	**34.88 276**		P	**P**	**15 00 17.4**	**-0.4**
	comp=Z,42nm,0.9s,baz=101,slow=11,SNR=48						
CTA				LR	LR	15 13 26.2	
	comp=Z,10µm,18.2s,baz=116,slow=35						
CTAO	**Charters Tower**	**34.88 276**		P	**P**	**15 00 17.5**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,51nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,11µm,19.0s						
CTAO	**Charters Tower**	**34.88 276**		P	**P**	**15 00 17.5**	**-0.3**
CTAO				IAmb	IAmb	15 00 20.1	
	comp=Z,51nm,1.0s						
CTAO	**Charters Tower**	**34.88 276**		IAMs_20	IAMs_20	15 13 05.8	
	comp=Z,11µm,19.0s						
XMAS	**Kiritimati**	**35.48**	**34**	IAMs_20	IAMs_20	15 14 03.5	
	comp=Z,3µm,19.0s						
ARPS	**Mount Arapiles**	**35.81 246**		P	**P**	**15 00 26.5**	**+0.9**
	baz=36,SNR=11						
STKA	**Stephens Creek**	**36.23 254**		P	**P**	**15 00 30.0**	**+0.8**
	baz=36,SNR=26						
STKA	**Stephens Creek**	**36.23 254**		P	**P**	**15 00 29.2**	**0.0**
	comp=Z,53nm,0.9s,baz=95,slow=9.2,SNR=65						
STKA	**Stephens Creek**	**36.23 254**		P	**P**	**15 00 30.1**	**+0.9**
STKA				IAMs_20	IAMs_20	15 14 27.2	
	comp=Z,1µm,18.0s						
MTSU	**Mount Surprise**	**37.31 277**		P	**P**	**15 00 37.7**	**-1.0**
	baz=37,SNR=38						
HTT	**Hallett**	**38.33 251**		P	**P**	**15 00 47.1**	**0.0**
	baz=38,SNR=29						
KRVT	**Keravat (AS076**	**38.42 303**		P	**P**	**15 00 44.8**	**-3.2**
	comp=Z,75nm,0.7s,baz=347,slow=14,SNR=4.6						
PMG	**Port Moresby**	**39.09 292**		*de*P	**P**	**15 00 50.9**	**-2.6**
PMG				pmax	pmax		
	comp=Z,243nm,1.0s						
PMG	**Port Moresby**	**39.09 292**		P	**P**	**15 00 50.8**	**-2.8**
	comp=Z,50nm,1.0s,baz=106,slow=4.7,SNR=10						
PMG	**Port Moresby**	**39.09 292**		IAMs_20	IAMs_20	15 14 44.0	
	comp=Z,4µm,20.0s						
TAOE	**Nuku Hiva Isla**	**39.36**	**67**	*e*S	**S**	**15 06 52.6**	**-3.2**
	comp=Z,382nm,24.7s						
TAOE				*e*LR	LR	15 11 39.2	
	comp=Z,3µm,24.4s,baz=244						
TAOE	**Nuku Hiva Isla**	**39.36**	**67**	IAMs_20	IAMs_20	15 12 44.5	
	comp=Z,2µm,19.0s						
COEN	**Coen**	**40.11 283**		P	**P**	**15 01 01.2**	**-0.8**
	baz=40,SNR=13						
COEN	**Coen**	**40.11 283**		P	**P**	**15 01 01.3**	**-0.7**
COEN				IAMs_20	IAMs_20	15 15 47.5	
	comp=Z,7µm,20.0s						
QIS	**Mount Isa**	**40.55 271**		P	**P**	**15 01 04.8**	**-0.9**
	baz=41,SNR=9.8						
BBOO	**Buckleboo**	**40.78 252**		P	**P**	**15 01 06.6**	**-0.9**
	baz=41,SNR=15						
BBOO	**Buckleboo**	**40.78 252**		P	**P**	**15 01 06.1**	**-1.4**
BBOO				IAmb	IAmb	15 01 07.5	
	comp=Z,83nm,1.1s						
BBOO				IAMs_20	IAMs_20	15 17 08.1	
	comp=Z,5µm,18.0s						
MANU	**Manus Island**	**43.39 301**		P	**P**	**15 01 26.5**	**-2.5**
MANU				IAmb	IAmb	15 01 29.4	
	comp=Z,124nm,1.0s						
MANU				IAMs_20	IAMs_20	15 17 57.6	
	comp=Z,3µm,21.0s						
AS31	**Alice Springs**	**44.57 264**		P	**P**	**15 01 37.3**	**-1.1**
AS31				IAMs_20	IAMs_20	15 19 28.7	
	comp=Z,96nm,19.0s						
ASAR	**Alice Springs**	**44.58 264**		P	**P**	**15 01 36.9**	**-1.6**
	comp=Z,28nm,0.9s,baz=114,slow=7.8,SNR=151						
ASAR				PcP	**PP**	**15 03 22.7**	**0.0**
	comp=Z,4.9nm,0.8s,baz=109,slow=4.6,SNR=3.1						
ASAR				S	**S**	**15 08 05.4**	**-7.2**
	comp=Z,1.7nm,1.0s,baz=93,slow=16,SNR=3.0						
ASAR				LR	LR	15 19 43.9	
	comp=Z,7µm,18.6s,baz=112,slow=36						
ASAR	**Alice Springs**	**44.58 264**		P	**P**	**15 01 37.1**	**-1.4**
WR9	**Warramunga Arr**	**45.24 270**		IAMs_20	IAMs_20	15 19 53.3	
	comp=Z,403nm,18.0s						
WR8	**Warramunga Arr**	**45.26 270**		IAMs_20	IAMs_20	15 19 47.4	
	comp=Z,441nm,18.0s						
WR7	**Warramunga Arr**	**45.28 270**		IAMs_20	IAMs_20	15 20 04.0	
	comp=Z,404nm,18.0s						
WR6	**Warramunga Arr**	**45.30 270**		IAMs_20	IAMs_20	15 20 04.9	
	comp=Z,400nm,18.0s						
WR5	**Warramunga Arr**	**45.32 270**		IAMs_20	IAMs_20	15 19 57.1	
	comp=Z,370nm,18.0s						
WR4	**Warramunga Arr**	**45.34 270**		IAMs_20	IAMs_20	15 20 05.7	
	comp=Z,422nm,18.0s						
WR3	**Warramunga Arr**	**45.36 270**		IAMs_20	IAMs_20	15 19 57.4	
	comp=Z,390nm,18.0s						
WC3	**Warramunga Arr**	**45.37 270**		IAMs_20	IAMs_20	15 20 06.6	
	comp=Z,451nm,18.0s						
WR2	**Warramunga Arr**	**45.38 270**		IAMs_20	IAMs_20	15 19 59.1	
	comp=Z,342nm,18.0s						
WB1	**Warramunga Ar.**	**45.39 270**		IAMs_20	IAMs_20	15 20 07.4	
	comp=Z,471nm,18.0s						
WB2	**Warramunga Arr**	**45.39 270**		P	**P**	**15 01 43.2**	**-1.7**
WB2				IAMs_20	IAMs_20	15 20 08.2	
	comp=Z,513nm,18.0s						
WB3	**Warramunga Arr**	**45.39 270**		IAMs_20	IAMs_20	15 19 58.3	
	comp=Z,420nm,18.0s						
WC4	**Warramunga Arr**	**45.39 269**		IAMs_20	IAMs_20	15 19 59.3	
	comp=Z,451nm,18.0s						
WRAB	**Tennant Creek**	**45.40 270**	*c*	*i*P	**P**	**15 01 43.1**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,94nm,1.1s						
WRAB				MLR	MLR		
	comp=Z,3µm,15.0s						
WRAB	**Tennant Creek**	**45.40 270**		P	**P**	**15 01 41.2**	**-3.7**
WRAB				IAmb	IAmb	15 01 44.6	
	comp=Z,95nm,1.1s						
WRAB	**Tennant Creek**	**45.40 270**		IAMs_20	IAMs_20	15 19 51.9	
	comp=Z,3µm,18.0s						
WB4	**Warramunga Arr**	**45.40 270**		IAMs_20	IAMs_20	15 20 07.2	
	comp=Z,446nm,18.0s						
WB5	**Warramunga Arr**	**45.40 270**		IAMs_20	IAMs_20	15 20 07.3	
	comp=Z,421nm,18.0s						
WB7	**Warramunga Arr**	**45.40 270**		IAMs_20	IAMs_20	15 20 07.3	
	comp=Z,332nm,18.0s						
WR1	**Warramunga Arr**	**45.40 270**		IAMs_20	IAMs_20	15 20 07.3	
	comp=Z,390nm,18.0s						
WRA	**Warramunga Arr**	**45.40 270**		P	**P**	**15 01 43.2**	**-1.8**
	comp=Z,51nm,0.9s,baz=106,slow=7.8,SNR=111						
WRA				PcP	**PcP**	**15 03 25.2**	**+1.1**
	comp=Z,21nm,1.1s,baz=117,slow=3.5,SNR=4.6						
WRA				ScP	**ScP**	**15 07 16.8**	**+2.0**
	comp=Z,3.5nm,1.0s,baz=111,slow=3.7,SNR=4.5						
WRA				S	**S**	**15 08 16.9**	**-7.7**
	comp=Z,3.7nm,0.8s,baz=108,slow=14,SNR=7.4						
WRA				LR	LR	15 19 37.1	
	comp=Z,2µm,18.2s,baz=100,slow=35						
WRA	**Warramunga Arr**	**45.40 270**		P	**P**	**15 01 43.3**	**-1.8**
WC1	**Warramunga Arr**	**45.41 270**		IAMs_20	IAMs_20	15 19 59.5	
	comp=Z,399nm,18.0s						
WB8	**Warramunga Arr**	**45.41 270**		IAMs_20	IAMs_20	15 20 07.5	
	comp=Z,357nm,18.0s						
WB9	**Warramunga Arr**	**45.41 270**		IAMs_20	IAMs_20	15 19 59.7	
	comp=Z,380nm,19.0s						
WB0	**Warramunga Arr**	**45.42 270**		P	**P**	**15 01 47.5**	**+2.3**
WB0				IAmb	IAmb	15 01 57.4	
	comp=Z,62nm,0.9s						
FORT	**Forrest**	**47.83 253**		P	**P**	**15 02 02.2**	**-1.7**
	baz=48,SNR=30						
FORT	**Forrest**	**47.83 253**		P	**P**	**15 02 02.5**	**-1.4**
FORT				IAMs_20	IAMs_20	15 21 34.7	
	comp=Z,4µm,18.0s						
JAY	**Jayapura**	**48.29 295**		P	**P**	**15 02 05.8**	**-1.9**
	comp=Z,52nm,1.0s,baz=122,slow=3.1,SNR=7.8						
JAY				LR	LR	15 20 19.4	
	comp=Z,2µm,21.3s,baz=124,slow=34						
WRKA	**Warakurna**	**49.06 261**		P	**P**	**15 02 11.7**	**-1.9**
	baz=49,SNR=32						
KDU	**Kakadu**	**49.95 277**		P	**P**	**15 02 18.2**	**-2.1**
	baz=50,SNR=13						
SBA	**Scott Base**	**49.98 185**		P	P	15 02 26.4	+6.7
SBA				pmax	pmax		
	comp=Z,54nm,0.9s						
SBA	**Scott Base**	**49.98 185**		P	P	15 02 26.4	+6.7
SBA				IAmb	IAmb	15 02 35.1	
	comp=Z,54nm,0.8s						
SBA				IAMs_20	IAMs_20	15 19 13.9	
	comp=Z,2µm,21.0s						
WAKE	**Wake Island**	**50.27 339**		IAMs_20	IAMs_20	15 20 39.5	
	comp=Z,4µm,18.0s						
MTN	**Manton Dam**	**51.05 277**		P	**P**	**15 02 27.7**	**-1.0**
	baz=51,SNR=5.6						
MTN	**Manton Dam**	**51.05 277**		P	**P**	**15 02 27.3**	**-1.3**
MTN				IAMs_20	IAMs_20	15 22 46.1	
	comp=Z,4µm,20.0s						
SDHHI	**Sand Hill**	**51.87**	**26**	P	**P**	**15 02 37.6**	**+2.9**
RIM	**Rim**	**51.88**	**26**	P	**P**	**15 02 37.6**	**+2.7**
WRMHI	**West Rim**	**51.88**	**26**	P	**P**	**15 02 36.5**	**+1.7**
KKO	**Keanakako`i**	**51.89**	**26**	P	**P**	**15 02 37.8**	**+2.9**
NPH	**North Pit**	**51.90**	**26**	P	**P**	**15 02 37.2**	**+2.3**
OBL	**Observatory Le**	**51.90**	**26**	P	**P**	**15 02 38.0**	**+3.1**
BYL	**Byron's Ledge**	**51.90**	**26**	P	**P**	**15 02 38.0**	**+3.0**
UWB	**Uwekahuna B**	**51.91**	**26**	P	**P**	**15 02 37.7**	**+2.7**
HATHI	**Halema'uma'u T**	**51.91**	**26**	P	**P**	**15 02 37.9**	**+2.9**
SBLHI	**Steaming Bluff**	**51.91**	**26**	P	**P**	**15 02 38.3**	**+3.3**
KNRA	**Kununurra**	**51.93 272**		P	**P**	**15 02 34.2**	**-1.0**
	baz=52,SNR=11						
KNRA	**Kununurra**	**51.93 272**		P	**P**	**15 02 34.0**	**-1.3**
KNRA				IAmb	IAmb	15 02 35.1	
	comp=Z,51nm,1.1s						
KNRA				IAMs_20	IAMs_20	15 24 14.2	
	comp=Z,5µm,18.0s						
KMBL	**Kambalda**	**52.87 251**		P	**P**	**15 02 40.4**	**-1.6**
	baz=53,SNR=11						
SAUI	**Saumlaki**	**53.18 282**		IAMs_20	IAMs_20	15 23 33.6	
	comp=Z,4µm,20.0s						
FITZ	**Fitzroy Crossi**	**53.73 268**		P	**P**	**15 02 46.9**	**-1.5**
	baz=54,SNR=39						
FITZ	**Fitzroy Crossi**	**53.73 268**		P	**P**	**15 02 46.3**	**-2.2**
	comp=Z,51nm,1.1s,baz=131,slow=7.9,SNR=32						
FITZ				LR	LR	15 24 00.8	
	comp=Z,347nm,21.8s,baz=98,slow=34						
FITZ	**Fitzroy Crossi**	**53.73 268**		P	**P**	**15 02 47.7**	**-0.8**
FITZ				IAmb	IAmb	15 02 49.1	
	comp=Z,54nm,1.1s						
FITZ				IAMs_20	IAMs_20	15 25 10.0	
	comp=Z,5µm,18.0s						
FAKI	**Fak Fak**	**54.99 288**		IAMs_20	IAMs_20	15 24 02.3	
	comp=Z,1µm,22.0s						
NWAO	**Narrogin (SRO)**	**56.31 248**		P	**P**	**15 03 04.8**	**-2.2**
NWAO				pmax	pmax		
	comp=Z,24nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,3µm,18.0s						
NWAO	**Narrogin (SRO)**	**56.31 248**		P	**P**	**15 03 05.4**	**-1.6**
	comp=Z,43nm,1.3s,baz=111,slow=6.5,SNR=4.0						
NWAO	**Narrogin (SRO)**	**56.31 248**		P	**P**	**15 03 04.8**	**-2.2**
NWAO				IAmb	IAmb	15 03 07.0	
	comp=Z,24nm,1.1s						
NWAO	**Narrogin (SRO)**	**56.31 248**		IAMs_20	IAMs_20	15 27 40.7	
	comp=Z,3µm,18.0s						
MEEK	**Meekatharra**	**56.91 255**		P	**P**	**15 03 10.1**	**-1.3**
	baz=57,SNR=11						
SIJI	**Sorong**	**56.94 289**		P	**P**	**15 03 08.8**	**-2.9**
	comp=Z,129nm,1.0s,baz=75,slow=5.6,SNR=21						
CASY	**Casey**	**57.39 207**		P	**P**	**15 03 15.7**	**+1.6**
CASY				IAmb	IAmb	15 03 27.7	
	comp=Z,57nm,0.8s						
CASY	**Casey**	**57.39 207**		IAMs_20	IAMs_20	15 26 57.2	
	comp=Z,2µm,18.0s						
MUN	**Mundaring**	**57.39 249**		P	**P**	**15 03 13.3**	**-1.4**
	baz=58,SNR=7.9						
PSAD2	**Pilbara Seismi**	**57.41 261**		IAMs_20	IAMs_20	15 28 17.0	
	comp=Z,7µm,18.0s						
PSAC2	**Pilbara Seismi**	**57.48 261**		IAMs_20	IAMs_20	15 28 09.9	
	comp=Z,7µm,19.0s						
PSAB3	**Pilbara Seismi**	**57.51 261**		IAMs_20	IAMs_20	15 28 19.7	
	comp=Z,7µm,19.0s						
PSAA3	**Pilbara Seismi**	**57.52 261**		IAMs_20	IAMs_20	15 28 01.8	
	comp=Z,8µm,19.0s						
PSAB2	**Pilbara Seismi**	**57.52 261**		IAMs_20	IAMs_20	15 28 01.9	
	comp=Z,7µm,19.0s						
PSAC3	**Pilbara Seismi**	**57.53 261**		IAMs_20	IAMs_20	15 28 02.0	
	comp=Z,7µm,18.0s						
PSA00	**Pilbara Seismi**	**57.53 261**		P	**P**	**15 03 13.7**	**-2.1**
PSA00	**Pilbara Seismi**	**57.53 261**		IAMs_20	IAMs_20	15 27 52.1	
	comp=Z,7µm,20.0s						
PSAA2	**Pilbara Seismi**	**57.53 261**		IAMs_20	IAMs_20	15 27 52.7	
	comp=Z,6µm,20.0s						
PSAA1	**Pilbara Seismi**	**57.54 261**		IAMs_20	IAMs_20	15 28 03.3	
	comp=Z,7µm,19.0s						
PSAD3	**Pilbara Seismi**	**57.56 261**		IAMs_20	IAMs_20	15 28 12.5	
	comp=Z,8µm,19.0s						
PSAC1	**Pilbara Seismi**	**57.58 261**		IAMs_20	IAMs_20	15 28 03.3	
	comp=Z,7µm,19.0s						
PSAD1	**Pilbara Seismi**	**57.59 262**		IAMs_20	IAMs_20	15 28 11.8	
	comp=Z,7µm,19.0s						
MBWA	**Marble Bar**	**57.78 262**		IAMs_20	IAMs_20	15 27 28.5	
	comp=Z,6µm,20.0s						
MORW	**Morawa**	**58.35 252**		P	**P**	**15 03 19.9**	**-1.6**
	baz=58,SNR=7.2						
MORW	**Morawa**	**58.35 252**		P	**P**	**15 03 19.5**	**-1.9**
MORW				IAmb	IAmb	15 03 20.9	
	comp=Z,33nm,1.0s						
MORW				IAMs_20	IAMs_20	15 27 57.8	
	comp=Z,2µm,18.0s						
SOEI	**Soe**	**58.45 276**		IAMs_20	IAMs_20	15 27 12.1	
	comp=Z,4µm,21.0s						
MMRI	**Maumere**	**60.74 276**		IAMs_20	IAMs_20	15 30 32.8	
	comp=Z,3µm,18.0s						
TNTI	**Ternate**	**61.09 288**		IAMs_20	IAMs_20	15 30 08.5	
	comp=Z,417nm,21.0s						
QSPA	**South Pole Qui**	**61.55 180**		P	**P**	**15 03 46.4**	**+3.3**
QSPA				IAmb	IAmb	15 03 56.5	
	comp=Z,38nm,0.9s						
QSPA	**South Pole Qui**	**61.55 180**		IAMs_20	IAMs_20	15 27 17.4	
	comp=Z,2µm,20.0s						
GIRL	**Giralia**	**62.01 258**		P	**P**	**15 03 45.8**	**-0.8**
GIRL				IAMs_20	IAMs_20	15 31 09.9	
	comp=Z,4µm,18.0s						
LUWI	**Luwuk**	**64.00 284**		IAMs_20	IAMs_20	15 31 21.3	
	comp=Z,979nm,20.0s						
KAPI	**Kappang**	**64.62 278**		IAMs_20	IAMs_20	15 33 34.6	
	comp=Z,2µm,18.0s						
KCP	**Kidapawan**	**66.45 293**	⇓	*i*P	**P**	**15 04 13.9**	**-2.0**
CTBH	**Cotabato--PC H**	**67.26 292**	⇑	*i*P	**P**	**15 04 19.1**	**-1.8**
JAGI	**Jajag, Banyuwa**	**67.91 272**		P	**P**	**15 04 22.7**	**-2.4**
JAGI				IAmb	IAmb	15 04 24.8	
	comp=Z,52nm,1.0s						
JAGI				IAMs_20	IAMs_20	15 32 41.5	
	comp=Z,2µm,21.0s						
BKB	**Balikpapan**	**68.94 280**		IAMs_20	IAMs_20	15 36 44.9	
	comp=Z,2µm,18.0s						
KKM	**Kota Kinabalu**	**73.28 287**		P	**P**	**15 04 56.7**	**-1.2**
KKM				IAmb	IAmb	15 05 11.6	
	comp=Z,60nm,1.0s						
PMSA	**Palmer Station**	**73.39 156**		P	**P**	**15 04 58.9**	**+1.3**
PMSA	**Palmer Station**	**73.39 156**		IAMs_20	IAMs_20	15 33 10.8	
	comp=Z,1µm,19.0s						
JHJ2	**Mitsune**	**74.03 323**		P	**P**	**15 04 57.9**	**-3.9**
XMIS	**Christmas Isla**	**74.47 266**		IAMs_20	IAMs_20	15 40 10.8	
	comp=Z,1µm,19.0s						
MAW	**Mawson**	**74.50 200**		P	**P**	**15 05 07.2**	**+3.2**
	baz=75,SNR=18						
MAW	**Mawson**	**74.50 200**		P	**P**	**15 05 06.1**	**+2.0**
	comp=Z,40nm,1.1s,baz=125,slow=6.4,SNR=26						
MAW				LR	LR	15 38 17.0	
	comp=Z,2µm,18.6s,baz=112,slow=36						
MAW	**Mawson**	**74.50 200**		IAMs_20	IAMs_20	15 37 56.5	
	comp=Z,483nm,19.0s						
SBUM	**Sibu**	**74.84 281**		IAMs_20	IAMs_20	15 40 57.4	
	comp=Z,402nm,20.0s						
SBUM	**Sibu**	**74.84 281**		P	**P**	**15 05 06.0**	**-0.9**
KSM	**Kuching**	**76.01 279**		P	**P**	**15 05 13.5**	**-0.2**
KSM				IAMs_20	IAMs_20	15 38 22.4	
	comp=Z,1µm,20.0s						
KSM	**Kuching**	**76.01 279**		P	**P**	**15 05 13.0**	**-0.7**
JOW	**Kunigami**	**76.43 311**		IAMs_20	IAMs_20	15 45 04.6	
	comp=Z,1µm,22.0s						
INU	**Inuyama**	**77.23 323**		IAMs_20	IAMs_20	15 39 03.9	
	comp=Z,809nm,20.0s						
MJAR	**Matsushiro Arr**	**77.51 324**		P	**P**	**15 05 19.9**	**-1.7**
	comp=Z,45nm,0.9s,baz=159,slow=5.5,SNR=86						
MJAR				PP	PP	15 08 04.7	-12
	comp=Z,6.9nm,0.8s,baz=153,slow=5.4,SNR=4.4						
MJAR				LR	LR	15 34 55.6	
	comp=Z,557nm,21.1s,baz=140,slow=32						
MJAR	**Matsushiro Arr**	**77.51 324**		P	**P**	**15 05 21.2**	**-0.4**
MAJO	**Matsushiro**	**77.51 324**	*i*	P	**P**	**15 05 20.3**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,82nm,1.0s						
MAJO	**Matsushiro**	**77.51 324**		P	**P**	**15 05 20.8**	**-0.8**
MAJO	**Matsushiro**	**77.51 324**		IAMs_20	IAMs_20	15 34 54.5	
	comp=Z,808nm,20.0s						
MAT	**Matsushiro**	**77.51 324**		P	**P**	**15 05 20.4**	**-1.2**
MAT				S	**S**	**15 15 09.6**	**-1.2**
MJB9	**Matsu-Tunnel**	**77.51 324**		P	**P**	**15 05 20.7**	**-0.9**
MJB9				IAMs_20	IAMs_20	15 34 54.6	
	comp=Z,875nm,20.0s						
PMBI	**Palembang**	**78.73 273**		IAMs_20	IAMs_20	15 44 11.3	
	comp=Z,2µm,18.0s						
JNU	**Nakatsue**	**79.08 317**		P	**P**	**15 05 29.8**	**-0.6**
JNU				IAmb	IAmb	15 05 30.7	
	comp=Z,90nm,1.1s						
SYO	**Syowa Base**	**79.21 192**	⇑	*e*P	**P**	**15 05 30.0**	**-0.6**
SYO	**Syowa Base**	**79.21 192**	⇓	*e*pP	**P**	**15 05 33.8**	**+3.2**
SYO	**Syowa Base**	**79.21 192**	⇓	*i*sP	sP	15 05 36.6	-4.6
ERM	**Erimo**	**79.49 331**	⇑	*e*P	**P**	**15 05 34.3**	**+2.0**
ERM				pmax	pmax		
	comp=Z,102nm,1.3s						
ERM	**Erimo**	**79.49 331**		IAMs_20	IAMs_20	15 36 49.8	
	comp=Z,2µm,20.0s						
SNAA	**Sanae**	**79.96 178**		P	**P**	**15 05 36.6**	**+1.8**
SNAA	**Sanae**	**79.96 178**	*c*	*i*P	**P**	**15 05 35.9**	**+1.2**
SNAA	**Sanae**	**79.96 178**		P	**P**	**15 05 36.6**	**+1.8**
SNAA				IAMs_20	IAMs_20	15 40 59.8	
	comp=Z,959nm,18.0s						
VNA3	**Neumayer Olymp**	**80.05 176**		P	**P**	**15 05 36.9**	**+1.8**
VNA2	**Neumayer--Watz**	**80.50 176**		P	**P**	**15 05 39.8**	**+2.2**
	baz=178,slow=5.6						
VNA1	**Neumayer--Stat**

YSS				MLR	MLR			
	comp=E,300nm,17.0s							
YSS	**Yuzh-Sakhalins**	**83.68**	**333**	P	**P**		**15 05 55.3**	**+0.9**
VES	**Vestal, Richgr**	**83.80**	**44**	P	**P**		**15 05 56.8**	**+1.6**
	baz=228							
HKPS	**Hong Kong Po S**	**83.82**	**299**	IAms_20	IAms_20		15 33 46.0	
	comp=Z,3μm,20.0s							
KSRS	**Korea Array**	**83.82**	**319**	P	**P**		**15 05 54.8**	**-0.5**
	comp=Z,23nm,0.9s,baz=141,slow=5.8,SNR=36							
KSRS				LR	LR		15 40 49.4	
	comp=Z,477nm,18.6s,baz=120,slow=34							
EDW2	**Edwards Air Fo**	**83.83**	**45**	P	**P**		**15 05 57.0**	**+1.5**
	baz=229,SNR=7.4							
KCPM	**Cahto Peak**	**83.85**	**38**	IAms_20	IAms_20		15 40 49.5	
	comp=Z,2μm,20.0s							
SWSC	**Sam W. Stewart**	**83.97**	**47**	P	**P**		**15 05 59.5**	**+3.2**
	baz=231							
TPFO	**Pinon Flats**	**83.97**	**47**	P	**P**		**15 05 58.1**	**+1.7**
	baz=230							
PFO	**Pinyon Flats O**	**83.98**	**47**	P	**P**		**15 05 58.2**	**+1.8**
	baz=230							
PFO	**Pinyon Flats O**	**83.98**	**47**	*i* P	**P**		**15 05 58.6**	**+2.2**
PFO	**Pinyon Flats O**	**83.98**	**47**	IAms_20	IAms_20		15 39 37.9	
	comp=Z,2μm,19.0s							
ISA	**Isabella, Lake**	**84.05**	**44**	P	**P**		**15 05 58.5**	**+1.8**
	baz=229,SNR=14							
ISA	**Isabella, Lake**	**84.05**	**44**	IAms_20	IAms_20		15 39 55.2	
	comp=Z,2μm,18.0s							
PET	**Petropavlovsk**	**84.08**	**345**	*e*P	P		15 06 01.4	+5.2
PET				*e*S	**S**		**15 16 22.1**	**+3.6**
PET				*e*PS	PnS		15 17 30.8	+16
PET				*e*PPS	PPS		15 17 37.5	
PET				MLR	MLR			
	comp=Z,2μm,17.0s							
PET				MLR	MLR			
	comp=Z,1μm,17.0s							
BBRC	**Big Bear Solar**	**84.10**	**46**	P	**P**		**15 06 00.6**	**+3.5**
	baz=230							
KMRM	**Mail Ridge**	**84.16**	**38**	IAms_20	IAms_20		15 42 15.3	
	comp=Z,2μm,18.0s							
PETK	**Petropavlovsk-**	**84.37**	**345**	P	**P**		**15 05 57.0**	**-0.8**
PETK	**Petropavlovsk-**	**84.37**	**345**	P	**P**		**15 05 57.0**	**-0.8**
	comp=Z,40nm,1.1s,baz=120,slow=8.8,SNR=9.1							
PETK				LR	LR		15 43 03.9	
	comp=Z,520nm,18.1s,baz=166,slow=36							
JCC	**Jacoby Creek,**	**84.41**	**37**	IAms_20	IAms_20		15 41 22.2	
	comp=Z,1μm,20.0s							
LRMC	**Laurel Mtn Rad**	**84.42**	**45**	P	**P**		**15 06 00.3**	**+1.6**
	baz=229,SNR=9.7							
CMB	**Columbia Colle**	**84.50**	**41**	IAms_20	IAms_20		15 41 00.5	
	comp=Z,2μm,18.0s							
BELC	**Belle Mtn. Jos**	**84.52**	**47**	P	**P**		**15 06 01.0**	**+1.8**
	baz=230,SNR=21							
KHMM	**Horse Mountain**	**84.61**	**37**	IAms_20	IAms_20		15 42 55.5	
	comp=Z,1μm,19.0s							
O02D	**Mt. Diablo Mer**	**84.63**	**38**	P	**P**		**15 06 01.0**	**+1.5**
	baz=226,SNR=24							
BC3	**Big Chuckawall**	**84.65**	**47**	P	**P**		**15 06 01.9**	**+2.1**
	baz=231,SNR=16							
GLA	**Glamis**	**84.68**	**48**	P	**P**		**15 06 02.6**	**+2.7**
	baz=231							
AFDM	**Forest Hills D**	**84.79**	**40**	IAms_20	IAms_20		15 41 36.8	
	comp=Z,3μm,18.0s							
CWC	**Cottonwood Cre**	**84.80**	**44**	P	**P**		**15 06 02.2**	**+1.6**
	baz=229							
GO05	**Huala**	**84.83**	**127**	IAms_20	IAms_20		15 43 45.6	
	comp=Z,773nm,18.0s							
HEC	**Hector,Ludlow**	**84.83**	**46**	P	**P**		**15 06 02.4**	**+1.7**
	baz=230,SNR=14							
GSC	**Goldstone, Bar**	**84.84**	**45**	P	**P**		**15 06 02.4**	**+1.7**
	baz=230							
GSC	**Goldstone, Bar**	**84.84**	**45**	IAms_20	IAms_20		15 40 45.5	
	comp=Z,2μm,18.0s							
HSIG		**84.85**	**53**	IAms_20	IAms_20		15 39 47.6	
	comp=Z,715nm,20.0s							
ORV	**Oroville**	**84.91**	**39**	IAms_20	IAms_20		15 41 24.8	
	comp=Z,1μm,18.0s							
MPMC	**Manual Prospec**	**84.91**	**44**	P	**P**		**15 06 02.8**	**+1.6**
	baz=230,SNR=31							
KRMB	**Red Mountain**	**84.98**	**37**	IAms_20	IAms_20		15 41 48.1	
	comp=Z,1μm,18.0s							
DAC	**Darwin (Calif)**	**84.99**	**44**	IAms_20	IAms_20		15 40 29.1	
	comp=Z,2μm,19.0s							
MDPB	**Devils Postpil**	**84.99**	**42**	IAms_20	IAms_20		15 40 49.8	
	comp=Z,3μm,18.0s							
OMMB	**Old Mammoth Mi**	**85.03**	**42**	IAms_20	IAms_20		15 40 59.7	
	comp=Z,3μm,18.0s							
WDC	**Whiskeytown Da**	**85.04**	**38**	IAms_20	IAms_20		15 41 56.2	
	comp=Z,1μm,18.0s							
TIN	**Tinemaha, Big**	**85.12**	**43**	P	**P**		**15 06 04.2**	**+2.1**
	baz=229							
MLAC	**Mammoth, Mammo**	**85.14**	**42**	P	**P**		**15 06 05.0**	**+2.7**
	baz=228							
IRM	**Iron Mountain**	**85.17**	**47**	P	**P**		**15 06 04.5**	**+2.2**
	baz=231,SNR=16							
N02D	**Trinity Center**	**85.23**	**38**	P	**P**		**15 06 04.2**	**+1.7**
	baz=226,SNR=8.0							
GMRC	**Granite Mounta**	**85.23**	**46**	P	**P**		**15 06 04.6**	**+1.9**
	baz=231							
O03E	**Paynes Creek**	**85.25**	**39**	P	**P**		**15 06 03.6**	**+1.0**
	baz=226,SNR=12							
Y12C	**Blythe**	**85.31**	**48**	P	**P**		**15 06 04.2**	**+1.3**
	baz=231							
Y12C	**Blythe**	**85.31**	**48**	IAms_20	IAms_20		15 34 18.5	
	comp=Z,917nm,21.0s							
RUBR	**Rubicon Trail**	**85.32**	**41**	IAms_20	IAms_20		15 41 28.1	
	comp=Z,3μm,18.0s							
214A	**Organ Pipe Nat**	**85.33**	**50**	P	P		15 06 08.0	+4.8
	baz=232							
214A	**Organ Pipe Nat**	**85.33**	**50**	IAms_20	IAms_20		15 41 14.6	
	comp=Z,1μm,18.0s							
WAKR	**Walker**	**85.37**	**41**	IAms_20	IAms_20		15 41 55.4	
	comp=Z,2μm,18.0s							
M02C	**Callahan**	**85.44**	**37**	P	**P**		**15 06 04.9**	**+1.4**
	baz=226,SNR=13							
TUQ	**Turquoise Moun**	**85.48**	**46**	P	**P**		**15 06 04.9**	**+0.9**
	baz=230,SNR=12							
IPM	**Ipoh**	**85.55**	**277**	IAms_20	IAms_20		15 45 38.6	
	comp=Z,946nm,21.0s							
IPM	**Ipoh**	**85.55**	**277**	P	**P**		**15 06 04.0**	**-0.7**
SHOC	**Shoshone, Teco**	**85.56**	**45**	P	**P**		**15 06 05.7**	**+1.5**
	baz=230,SNR=16							
FURC	**Furnace Creek,**	**85.56**	**44**	P	**P**		**15 06 05.7**	**+1.6**
	baz=230							
L02E	**Cave Junction**	**85.59**	**36**	P	P		15 06 09.2	+5.0
	baz=225							
GRAC	**Grapevine Rang**	**85.60**	**44**	P	**P**		**15 06 06.5**	**+2.1**
	baz=230,SNR=6.2							
MSHR	**Mys Shultsa**	**85.63**	**324**⇑	*e*P	**P**		**15 06 02.3**	**-2.0**
VLA	**Vladivostok**	**85.64**	**325**⇓	*e*P	**P**		**15 06 04.1**	**-0.3**
VLA				pmax	pmax			
	comp=Z,79nm,0.9s							
PNTR	**Pine Nut**	**85.67**	**41**	P	**P**		**15 06 05.7**	**+0.7**
PNTR				IAmb	IAmb		15 06 20.3	
	comp=Z,44nm,0.9s							
PNTR				IAms_20	IAms_20		15 41 57.3	
	comp=Z,3μm,18.0s							
BEKR	**Beckworth**	**85.76**	**40**	P	**P**		**15 06 06.6**	**+1.3**
BEKR				IAmb	IAmb		15 06 14.9	
	comp=Z,19nm,1.1s							
BEKR				IAms_20	IAms_20		15 42 51.5	
	comp=Z,2μm,18.0s							
YBH	**Yreka Blue Hor**	**85.76**	**37**	IAms_20	IAms_20		15 45 55.9	
	comp=Z,1μm,19.0s							
VCNR	**Virginia City**	**85.78**	**41**	IAms_20	IAms_20		15 42 01.1	
	comp=Z,3μm,18.0s							
YERR	**Yerington**	**85.80**	**41**	IAms_20	IAms_20		15 42 01.0	
	comp=Z,2μm,18.0s							
NEE2	**Needles Airpor**	**85.89**	**47**	P	P		15 06 10.6	+4.8
	baz=231							
PDMCI	**Parker Dam,Lak**	**85.90**	**47**	P	**P**		**15 06 08.3**	**+2.4**
	baz=232							
K02D	**Willamette Mer**	**85.94**	**36**	P	**P**		**15 06 07.6**	**+1.6**
	baz=225							
NVAR	**Mina Array Bea**	**85.98**	**42**	P	**P**		**15 06 06.8**	**+0.3**
	comp=Z,8.4nm,0.9s,baz=222,slow=6.6,SNR=46							
NVAR				LR	LR		15 41 11.6	
	comp=Z,2μm,18.1s,baz=239,slow=33							
NVAR	**Mina Array Bea**	**85.98**	**42**	P	**P**		**15 06 07.8**	**+1.3**
RYN	**Ryan**	**85.98**	**42**	IAms_20	IAms_20		15 41 50.9	
	comp=Z,2μm,18.0s							
NV11	**Mina Array Sit**	**86.07**	**42**	IAms_20	IAms_20		15 41 52.2	
	comp=Z,3μm,18.0s							
NJ2	**Nanjing**	**86.07**	**310**	*e*P	**P**		**15 06 07.1**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,60nm,1.0s							
J01E	**Myrtle Point**	**86.13**	**36**	P	**P**		**15 06 09.3**	**+2.5**
	baz=225							
PAHR	**Pah Rah Range**	**86.20**	**40**	IAms_20	IAms_20		15 42 23.5	
	comp=Z,3μm,18.0s							
HUMO	**Hull Mountain**	**86.25**	**37**	IAms_20	IAms_20		15 42 10.8	
	comp=Z,724nm,18.0s							
TPNV	**Topopah Spring**	**86.25**	**44**	P	**P**		**15 06 09.5**	**+1.7**
	baz=230,SNR=19							
TPNV	**Topopah Spring**	**86.25**	**44**	IAms_20	IAms_20		15 41 53.5	
	comp=Z,2μm,18.0s							
M04C	**Macdoel**	**86.26**	**38**	P	**P**		**15 06 09.1**	**+1.4**
	baz=226							
KULM	**Kulim**	**86.27**	**278**	P	**P**		**15 06 07.2**	**-1.0**
KULM				IAmb	IAmb		15 06 09.2	
	comp=Z,42nm,1.1s							
KULM				IAms_20	IAms_20		15 46 23.6	
	comp=Z,964nm,20.0s							
KULM	**Kulim**	**86.27**	**278**	P	**P**		**15 06 08.0**	**-0.2**
L04D	**Klamath Falls**	**86.32**	**37**	P	**P**		**15 06 09.6**	**+1.6**
	baz=226							
PAYG	**Puerto Ayora**	**86.33**	**89**	IAms_20	IAms_20		15 37 13.1	
	comp=Z,2μm,20.0s							
USA0B	**Ussuriysk Arra**	**86.37**	**326**	P	**P**		**15 06 08.7**	**+0.7**
USA0B				pmax	pmax			
	comp=Z,59nm,1.0s							
USA0B	**Ussuriysk Arra**	**86.37**	**326**	P	**P**		**15 06 08.7**	**+0.7**
USA0B				IAmb	IAmb		15 06 20.4	
	comp=Z,59nm,1.0s							
USRK	**Ussuriysk Ar.**	**86.37**	**326**	P	**P**		**15 06 08.0**	**0.0**
USRK	**Ussuriysk Ar.**	**86.37**	**326**	P	**P**		**15 06 08.0**	**0.0**
	comp=Z,19nm,0.8s,baz=129,slow=3.3,SNR=36							
USRK				LR	LR		15 40 06.5	
	comp=Z,511nm,20.9s,baz=124,slow=33							
USRK	**Ussuriysk Ar.**	**86.37**	**326**	P	**P**		**15 06 08.8**	**+0.8**
Y14A	**Wickenburg**	**86.42**	**48**	IAms_20	IAms_20		15 51 00.9	
	comp=Z,976nm,18.0s							
KVN	**Kaiserville**	**86.51**	**42**	P	**P**		**15 06 10.4**	**+1.3**
KVN				pmax	pmax			
	comp=Z,17nm,1.0s							
KVN	**Kaiserville**	**86.51**	**42**	P	**P**		**15 06 10.4**	**+1.3**
KVN				IAmb	IAmb		15 06 19.1	
	comp=Z,17nm,1.0s							
KVN				IAms_20	IAms_20		15 42 34.7	
	comp=Z,2μm,18.0s							
RPSI	**Rantau Prapat**	**86.53**	**275**	IAms_20	IAms_20		15 48 01.7	
	comp=Z,2μm,18.0s							
W13A	**Hualapai Mount**	**86.56**	**47**	IAms_20	IAms_20		15 41 21.5	
	comp=Z,1μm,19.0s							
SHPR	**Sheep Range**	**86.64**	**45**	IAms_20	IAms_20		15 41 53.1	
	comp=Z,2μm,18.0s							
PEL	**Peldehue**	**86.68**	**126**	IAms_20	IAms_20		15 37 56.0	
	comp=Z,269nm,18.0s							
I03D	**Drain, OR**	**86.81**	**36**	P	**P**		**15 06 13.4**	**+3.2**
	baz=225							
TYV	**Tymovskoe**	**86.92**	**335**	*e*P	P		15 06 05.1	-5.3
TYV				pmax	pmax			
	comp=Z,28nm,1.7s							
TYV				pmax	pmax			
	comp=Z,1μm,5.0s							
TUC	**Tucson**	**86.92**	**51**	P	**P**		**15 06 13.4**	**+2.3**
	baz=234							
TUC	**Tucson**	**86.92**	**51**	IAms_20	IAms_20		15 44 52.7	
	comp=Z,868nm,18.0s							
GSI	**Gunungsitoli**	**87.06**	**273**	IAms_20	IAms_20		15 49 45.1	
	comp=Z,3μm,18.0s							
UBPT	**Khong Chiam**	**87.06**	**289**	P	**P**		**15 06 13.6**	**+1.6**
J04D	**Umpqua Nationa**	**87.13**	**36**	P	**P**		**15 06 14.6**	**+2.6**
	baz=226							
MOD	**Modoc Plateau**	**87.18**	**38**	IAms_20	IAms_20		15 43 52.7	
	comp=Z,1μm,18.0s							
319A	**Douglas**	**87.40**	**52**	IAms_20	IAms_20		15 48 46.9	
	comp=Z,1μm,18.0s							
COR	**Corvallis**	**87.47**	**35**	IAms_20	IAms_20		15 44 51.5	
	comp=Z,2μm,18.0s							
HPIG		**87.48**	**58**	IAms_20	IAms_20		15 43 14.3	
	comp=Z,1μm,18.0s							
R11A	**Troy Canyon, C**	**87.55**	**43**	P	**P**		**15 06 15.7**	**+1.6**
	baz=231							
R11A	**Troy Canyon, C**	**87.55**	**43**	IAms_20	IAms_20		15 42 53.7	
	comp=Z,2μm,18.0s							
ZAIG	**Zacatecas**	**87.59**	**63**	IAms_20	IAms_20		15 41 21.7	
	comp=Z,1μm,18.0s							
J05D	**Fort Rock, OR**	**87.62**	**37**	P	**P**		**15 06 15.4**	**+1.1**
	baz=227,SNR=9.2							
OHAK	**Old Harbor**	**87.66**	**12**	IAms_20	IAms_20		15 43 44.7	
	comp=Z,2μm,20.0s							
H04D	**Lebanon**	**87.71**	**35**	P	P		15 06 20.6	+6.1
	baz=226							
MDJ	**Mudanjiang**	**87.88**	**325**	P	**P**		**15 06 15.4**	**+0.2**
MDJ				sP	pP		15 06 21.1	-2.2
MDJ				S	**S**		**15 17 03.5**	**+7.4**
MDJ				sS	sS		15 17 09.8	+0.4
MDJ				pmax	pmax			
	comp=Z,48nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,250nm,2.9s							
MDJ				LR	LR			
	comp=Z,300nm,9.0s							
MDJ				LR	LR			
	comp=Z,600nm,7.0s							
MDJ				LR	LR			
	comp=Z,1μm,14.0s							
MDJ	**Mudanjiang**	**87.88**	**325**	IAms_20	IAms_20		15 43 08.8	
	comp=Z,910nm,21.0s							
BMN	**Battle Mountai**	**87.93**	**41**	IAms_20	IAms_20		15 42 44.2	
	comp=Z,2μm,18.0s							
TLIG	**Tlapa**	**88.10**	**69**	IAms_20	IAms_20		15 40 01.2	
	comp=Z,1μm,18.0s							
H04A	**Detroit Lake**	**88.10**	**35**	IAms_20	IAms_20		15 45 05.4	
	comp=Z,1μm,18.0s							
PINE	**Pine Mountain**	**88.13**	**37**	IAms_20	IAms_20		15 47 22.4	
	comp=Z,895nm,19.0s							
GO04	**Tololo Observa**	**88.17**	**123**	IAms_20	IAms_20		15 40 14.2	
	comp=Z,1μm,19.0s							
I05D	**Terrebonne, OR**	**88.30**	**36**	P	**P**		**15 06 19.3**	**+1.9**
	baz=227							
KDAK	**Kodiak Island**	**88.31**	**13**	IAms_20	IAms_20		15 44 33.2	
	comp=Z,1μm,18.0s							
WHN	**Wuhan**	**88.31**	**306**⇓	*i*P	**P**		**15 06 18.2**	**+0.5**
WHN				pP	**sP**		**15 06 29.0**	**+0.4**
WHN				S	**S**		**15 16 59.0**	**-1.9**
WHN				pmax	pmax			
	comp=Z,210nm,1.3s							
WHN				pmax	pmax			
	comp=Z,1μm,5.8s							
WHN				LR	LR			
	comp=Z,1μm,4.2s							
WHN				LR	LR			
	comp=Z,540nm,8.8s							
WHN				LR	LR			
	comp=Z,1μm,16.2s							
TRTT	**Trang**	**88.33**	**280**	P	**P**		**15 06 18.6**	**+0.5**
U15A	**North Rim**	**88.40**	**47**	P	**P**		**15 06 20.7**	**+2.4**
U15A				IAmb	IAmb		15 06 29.6	
	comp=Z,26nm,1.0s							
U15A				IAms_20	IAms_20		15 42 40.1	
	comp=Z,817nm,19.0s							
WUAZ	**Wupatki**	**88.44**	**48**	P	**P**		**15 06 20.6**	**+2.2**
	baz=233							
WUAZ	**Wupatki**	**88.44**	**48**	IAms_20	IAms_20		15 47 49.4	
	comp=Z,767nm,18.0s							
DL2	**Dalian**	**88.51**	**316**	P	**P**		**15 06 18.0**	**-0.4**
DL2				*e*S	**S**		**15 17 01.5**	**-0.9**
DL2				pmax	pmax			
	comp=Z,57nm,1.0s							
DL2				pmax	pmax			
	comp=Z,350nm,6.6s							
DL2				LR	LR			
	comp=Z,1μm,17.2s							
DL2				LR	LR			
	comp=Z,750nm,18.0s							
DL2				LR	LR			
	comp=Z,750nm,18.8s							
E03A	**Lebam**	**88.73**	**33**	IAms_20	IAms_20		15 45 15.6	
	comp=Z,1μm,18.0s							
X18A	**Snowflake**	**88.79**	**49**	P	**P**		**15 06 21.8**	**+1.6**
X18A				IAmb	IAmb		15 06 35.6	
	comp=Z,13nm,1.1s							
F04A	**Amboy**	**88.86**	**34**	IAms_20	IAms_20		15 44 35.2	
	comp=Z,1μm,18.0s							
G05D	**Wamic, OR**	**88.93**	**35**	P	**P**		**15 06 21.8**	**+1.5**
	baz=227							
121A	**Cookes Peak, D**	**89.11**	**52**	P	**P**		**15 06 25.7**	**+4.1**
	baz=235							
121A	**Cookes Peak, D**	**89.11**	**52**	IAms_20	IAms_20		15 43 19.0	
	comp=Z,1μm,19.0s							
NLWA	**Neilton Lookou**	**89.19**	**33**	IAms_20	IAms_20		15 46 23.6	
	comp=Z,2μm,18.0s							
E04D	**Cinebar**	**89.22**	**34**	P	P		15 06 26.6	+5.1
	baz=226							
SNY	**Shenyang**	**89.23**	**320**	⇓P	**P**		**15 06 22.0**	**+0.3**
SNY				pmax	pmax			
	comp=Z,29nm,1.0s							
SNY				pmax	pmax			
	comp=Z,220nm,3.9s							
SNY				LR	LR			
	comp=Z,710nm,14.9s							
GRNR	**Gornyy**	**89.26**	**332**⇑	*e*P	**P**		**15 06 21.9**	**+0.3**
GRNR				*e*			15 06 33.1	
GRNR				pmax	pmax			
	comp=Z,30nm,0.9s							
GRNR				MLR	MLR			
	comp=N,200nm,18.0s							
GRNR				MLR	MLR			
	comp=E,300nm,15.0s							
GRNR				MLR	MLR			
	comp=Z,400nm,18.0s							
ELK	**Elko**	**89.28**	**42**	IAms_20	IAms_20		15 44 33.2	
	comp=Z,3μm,18.0s							
W18A	**Petrified Fore**	**89.28**	**49**	P	**P**		**15 06 24.4**	**+2.0**
	baz=234							
W18A	**Petrified Fore**	**89.28**	**49**	IAms_20	IAms_20		15 47 23.9	
	comp=Z,993nm,18.0s							
MTPU	**Mount Pierson**	**89.45**	**45**	P	**P**		**15 06 26.0**	**+2.7**
LHMI	**Lhok Sumawe**	**89.47**	**276**	IAms_20	IAms_20		15 51 03.3	
	comp=Z,2μm,19.0s							
CN2	**Changchun**	**89.49**	**322**	*e*P	**P**		**15 06 23.1**	**+0.2**
CN2				*e*S	**S**		**15 17 08.5**	**-2.9**
CN2				pmax	pmax			
	comp=Z,50nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,400nm,22.0s							
CN2				LR	LR			
	comp=Z,440nm,22.0s							
CN2				LR	LR			
	comp=Z,620nm,25.0s							
PKDT	**Phuket**	**89.53**	**279**	P	**P**		**15 06 24.8**	**+1.0**
D04E	**Lakebay**	**89.56**	**33**	P	P		15 06 29.1	+6.0
	baz=226							
EPT	**El Paso**	**89.57**	**53**	IAms_20	IAms_20		15 47 59.5	
	comp=Z,653nm,18.0s							
SURT	**Suratani**	**89.64**	**280**	P	**P**		**15 06 25.4**	**+1.1**
D03D	**Eldon**	**89.66**	**33**	P	P		15 06 28.5	+4.9
	baz=225							
TIA	**Tai'an**	**89.70**	**312**	P	**P**		**15 06 24.3**	**+0.2**
TIA				pmax	pmax			
	comp=Z,68nm,1.2s							
LON	**Longmire**	**89.73**	**34**	IAmb	IAmb		15 06 33.3	
	comp=Z,14nm,1.1s							
LON				IAms_20	IAms_20		15 39 05.3	
	comp=Z,723nm,21.0s							
PATY	**Pattaya**	**89.78**	**285**	P	**P**		**15 06 27.2**	**+2.3**
TRQA	**Tornquist**	**89.78**	**134**	P	**P**		**15 06 26.5**	**+1.8**
TRQA				pmax	pmax			
	comp=Z,18nm,1.1s							
TRQA	**Tornquist**	**89.78**	**134**	P	**P**		**15 06 26.5**	**+1.8**
TRQA				IAmb	IAmb		15 06 32.3	
	comp=Z,18nm,1.1s							
TRQA				IAms_20	IAms_20		15 37 38.5	
	comp=Z,920nm,21.0s							
D05A	**Enumclaw**	**89.95**	**34**	IAms_20	IAms_20		15 46 22.9	
	comp=Z,924nm,20.0s							
GO03	**Copiap**	**89.96**	**122**	IAms_20	IAms_20		15 46 36.6	
	comp=Z,1μm,19.0s							
F07A	**Phinny Hill Vi**	**90.09**	**36**	IAms_20	IAms_20		15 46 19.1	
	comp=Z,2μm,18.0s							
KLR	**Kul'dur**	**90.13**	**329**⇑	*i*P	**P**		**15 06 25.6**	**-0.1**
KLR				pmax	pmax			
	comp=Z,36nm,1.2s							
KLR				MLR	MLR			
	comp=Z,537nm,18.0s							
CNPM	**China Poot**	**90.20**	**13**	IAms_20	IAms_20		15 44 13.0	
	comp=Z,1μm,18.0s							
TXAR	**Lajitas Array**	**90.27**	**57**	P	**P**		**15 06 28.2**	**+1.2**
	comp=Z,7.9nm,1.1s,baz=216,slow=6.2,SNR=20							
TXAR				LR	LR		15 41 52.5	
	comp=Z,486nm,18.0s,baz=0.0,slow=32							
CHAI	**Chaiyaphum**	**90.28**	**288**	P	**P**		**15 06 27.9**	**+0.7**
PGC	**Sidney**	**90.28**	**32**	IAms_20	IAms_20		15 39 51.4	
	comp=Z,903nm,20.0s							
MNTX	**Cornudas Mount**	**90.32**	**54**	P	**P**		**15 06 28.7**	**+1.5**
	baz=237							
MNTX	**Cornudas Mount**	**90.32**	**54**	IAms_20	IAms_20		15 45 18.6	
	comp=Z,634nm,19.0s							
DUG	**Dugway, Tooele**	**90.38**	**43**	P	**P**		**15 06 29.9**	**+2.5**
	baz=232							
DUG	**Dugway, Tooele**	**90.38**	**43**	IAms_20	IAms_20		15 44 26.7	
	comp=Z,2μm,18.0s							
NONG	**Nongkai**	**90.38**	**290**	P	**P**		**15 06 28.5**	**+0.8**
BRLK	**Bradley Lake**	**90.49**	**13**	IAms_20	IAms_20		15 45 50.3	
	comp=Z,1μm,18.0s							
Y22D	**IRIS PASSCAL I**	**90.58**	**51**	IAms_20	IAms_20		15 44 25.7	
	comp=Z,1μm,18.0s							
E07A	**Sunnyside**	**90.58**	**35**	IAms_20	IAms_20		15 46 33.9	
	comp=Z,2μm,18.0s							
HAWA	**Hanford**	**90.63**	**35**	IAms_20	IAms_20		15 46 44.4	
	comp=Z,2μm,18.0s							
B05A	**Bryant**	**90.65**	**33**	P	**P**		**15 06 29.6**	**+1.4**
	baz=226							
MFID	**Camas Ranch**	**90.65**	**39**	IAms_20	IAms_20		15 45 18.8	
	comp=Z,1μm,19.0s							
A04D	**Lummi Island**	**90.68**	**32**	P	**P**		**15 06 30.6**	**+2.3**
	baz=226							
BMO	**Blue Mountains**	**90.77**	**38**	IAms_20	IAms_20		15 39 15.6	
	comp=Z,885nm,21.0s							
PHET	**Kaeng Krachan**	**90.82**	**284**	P	**P**		**15 06 31.7**	**+1.9**
E08A	**Dider Farm, El**	**90.94**	**36**	IAms_20	IAms_20	

PB10	IPOC Station P	91.89	118		IAMs_20	IAMs_20	15 42 43.0	
	comp=Z,1μm,19.0s							
RC01	Rabbit Creek A	91.93	13		IAMs_20	IAMs_20	15 51 13.9	
	comp=Z,672nm,20.0s							
SRDT	SRDT	91.95	285		P	P	15 06 37.8	+2.8
HIN	Hinchinbrook I	91.97	14		IAMs_20	IAMs_20	15 49 31.1	
	comp=Z,1μm,20.0s							
SUA	Susitna One	92.09	12		IAMs_20	IAMs_20	15 46 29.9	
	comp=Z,2μm,18.0s							
C09A	Chrisman Ranch	92.21	35		IAMs_20	IAMs_20	15 47 06.1	
	comp=Z,2μm,18.0s							
UTHA	Uthaitani	92.25	286		P	P	15 06 38.0	+1.6
GLI	Glacier Island	92.28	14		IAMs_20	IAMs_20	15 47 04.2	
	comp=Z,930nm,19.0s							
RAGM	Ragged Mountai	92.37	15		IAMs_20	IAMs_20	15 45 17.9	
	comp=Z,2μm,20.0s							
SKT	Skwentna	92.43	11		IAMs_20	IAMs_20	15 47 10.8	
	comp=Z,1μm,20.0s							
KNK	Knik Glacier	92.48	13		IAMs_20	IAMs_20	15 54 21.5	
	comp=Z,866nm,19.0s							
PMR	Palmer	92.51	13		IAMs_20	IAMs_20	15 55 03.3	
	comp=Z,776nm,19.0s							
BJT	Baijiatuau	92.55	315		IAMs_20	IAMs_20	15 50 19.9	
	comp=Z,420nm,19.0s							
BJI	Beijing	92.56	315	‖	*i*P	P	15 06 37.7	+0.5
BJI					pP	PcP	15 06 41.5	+3.6
BJI					S	S	15 17 43.0	+3.5
BJI					pmax	pmax		
	comp=Z,17nm,1.3s							
BJI					LR	LR		
	comp=Z,260nm,41.2s							
BJI					LR	LR		
	comp=Z,520nm,31.4s							
NNA	Nana	92.63	105		IAMs_20	IAMs_20	15 46 23.2	
	comp=Z,609nm,18.0s							
S22A	4UR Ranch, Cre	92.71	48		P	P	15 06 40.2	+1.8
	baz=236							
S22A	4UR Ranch, Cre	92.71	48		IAMs_20	IAMs_20	15 50 18.4	
	comp=Z,1μm,18.0s							
GHO	Glory Hole Cre	92.72	13		IAMs_20	IAMs_20	15 48 28.6	
	comp=Z,922nm,20.0s							
CCIG	Comitan	92.81	73		IAMs_20	IAMs_20	15 37 44.9	
	comp=Z,596nm,22.0s							
WAX	Waxell Ridge	92.86	16		IAMs_20	IAMs_20	15 44 34.8	
	comp=Z,1μm,21.0s							
SML	Sawmill	92.87	13		IAMs_20	IAMs_20	15 47 19.6	
	comp=Z,1μm,18.0s							
833A	Chaparral WMA,	92.92	59		IAMs_20	IAMs_20	15 45 25.9	
	comp=Z,678nm,19.0s							
AHID	Auburn Hatcher	92.96	42		IAMs_20	IAMs_20	15 46 32.7	
	comp=Z,2μm,18.0s							
CRQM	Cirque	93.06	16		IAMs_20	IAMs_20	15 45 08.3	
	comp=Z,990nm,19.0s							
UMPA	Umpang Tak	93.06	287		P	P	15 06 41.9	+1.8
SCM	Sheep Creek Mo	93.09	13		IAMs_20	IAMs_20	15 47 43.6	
	comp=Z,882nm,19.0s							
NEW	Newport	93.10	35		IAMs_20	IAMs_20	15 48 08.6	
	comp=Z,2μm,18.0s							
TGL	Tana Glacier	93.13	16		IAMs_20	IAMs_20	15 45 01.0	
	comp=Z,827nm,20.0s							
O20A	White River Ci	93.16	45		P	P	15 06 41.6	+1.3
	baz=235							
O20A	White River Ci	93.16	45		IAMs_20	IAMs_20	15 46 44.8	
	comp=Z,1μm,18.0s							
PPLA	Purkeypile	93.17	11		IAMs_20	IAMs_20	15 47 37.4	
	comp=Z,772nm,20.0s							
MSTX	Muleshoe	93.40	53		P	P	15 06 42.8	+1.4
	baz=238							
MSTX	Muleshoe	93.40	53		IAMs_20	IAMs_20	15 50 10.9	
	comp=Z,753nm,19.0s							
SMCO	Snowmass	93.42	47		P	P	15 06 42.6	+0.9
SMCO					IAmb	IAmb	15 06 59.1	
	comp=Z,10nm,1.1s							
REDW	Red Top Meadow	93.47	42		IAMs_20	IAMs_20	15 46 22.9	
	comp=Z,2μm,18.0s							
TPAW	Teton Pass	93.48	42		IAMs_20	IAMs_20	15 47 07.4	
	comp=Z,2μm,18.0s							
BALM	Baldy	93.49	16		P	P	15 06 42.3	+1.1
BALM					IAmb	IAmb	15 06 56.3	
	comp=Z,16nm,0.9s							
GLB	Gilahina Butte	93.50	15		IAMs_20	IAMs_20	15 46 40.8	
	comp=Z,730nm,19.0s							
LAMP	Lampang	93.52	289		P	P	15 06 44.7	+2.5
FXWY	Fox Creek	93.53	41		IAMs_20	IAMs_20	15 46 16.5	
	comp=Z,2μm,18.0s							
SDCO	Great Sand Dun	93.58	49		P	P	15 06 44.0	+1.5
	baz=237							
SDCO	Great Sand Dun	93.58	49		IAMs_20	IAMs_20	15 46 51.7	
	comp=Z,993nm,18.0s							
SNOW	Snow King Moun	93.58	42		IAMs_20	IAMs_20	15 46 27.0	
	comp=Z,2μm,18.0s							
TIY	Taiyuan	93.64	311		*e*P	P	15 06 43.5	+1.1
TIY					S	S	15 17 47.4	-2.0
TIY					pmax	pmax		
	comp=Z,280nm,6.0s							
TIY					LR	LR		
	comp=Z,320nm,4.3s							
TIY					LR	LR		
	comp=Z,220nm,5.0s							
TIY					LR	LR		
	comp=Z,570nm,22.2s							
KVTX	Kingsville	93.67	61		IAMs_20	IAMs_20	15 48 09.1	
	comp=Z,1μm,18.0s							
CAST	Castle Rocks	93.68	11		IAMs_20	IAMs_20	15 38 37.7	
	comp=Z,680nm,18.0s							
JCT	Junction City	93.72	57		P	P	15 06 46.8	+3.8
	baz=239							
JCT	Junction City	93.72	57		IAMs_20	IAMs_20	15 47 28.5	
	comp=Z,2μm,18.0s							
PAYA	Payao	93.72	290		P	P	15 06 44.6	+1.5
IMW	Indian Meadow	93.73	41		IAMs_20	IAMs_20	15 46 14.9	
	comp=Z,2μm,18.0s							
MOOW	Moose Ponds	93.76	41		IAMs_20	IAMs_20	15 47 08.6	
	comp=Z,2μm,18.0s							
MSO	Missoula	93.84	38		P	P	15 06 44.0	+0.8
	baz=232							
MSO	Missoula	93.84	38		IAMs_20	IAMs_20	15 55 42.9	
	comp=Z,2μm,18.0s							
BW06	Boulder Array	93.88	43		P	P	15 06 44.6	+1.0
	baz=234							
BW06	Boulder Array	93.88	43		IAMs_20	IAMs_20	15 46 58.1	
	comp=Z,2μm,18.0s							
PDAR	Pinedale Array	93.88	43		P	P	15 06 43.2	-0.4
	comp=Z,2.7nm,0.9s,baz=220,slow=3.9,SNR=16							
PDAR					PKKP	PKKPbc	15 23 53.1	+5.2
	comp=Z,0.4nm,0.6s,baz=86,slow=2.2,SNR=3.7							
PDAR					LR	LR	15 45 57.8	
	comp=Z,1μm,18.1s,baz=247,slow=34							
T25A	Trinidad	93.97	50		P	P	15 06 45.6	+1.5
	baz=237							
T25A	Trinidad	93.97	50		IAMs_20	IAMs_20	15 50 18.4	
	comp=Z,850nm,18.0s							
FLWY	Flagg Ranch	93.98	41		IAMs_20	IAMs_20	15 46 48.5	
	comp=Z,2μm,18.0s							
KTH	Kantishna Hill	94.00	11		IAMs_20	IAMs_20	15 48 50.2	
	comp=Z,1μm,20.0s							
TRF	Thorofare Moun	94.01	11		P	P	15 06 43.3	-0.3
TRF					IAmb	IAmb	15 07 02.1	
	comp=Z,16nm,0.9s							
TRF					IAMs_20	IAMs_20	15 46 33.6	
	comp=Z,2μm,19.0s							
SNET	Serv Nac Est T	94.05	77		IAMs_20	IAMs_20	15 42 12.1	
	comp=Z,874nm,19.0s							
CMAR	Chiang Mai Arr	94.06	289		P	P	15 06 45.6	+0.9
	comp=Z,11nm,1.0s,baz=139,slow=3.4,SNR=55							
CMAR					PP	PP	15 10 30.4	-1.0
	comp=Z,0.9nm,0.7s,baz=121,slow=5.8,SNR=5.9							
XAN	Xi'an	94.07	307		P	P	15 06 44.5	0.0
XAN					pP	pP	15 06 52.2	-0.3
XAN					PP	PP	15 10 29.6	-1.8
XAN					pmax	pmax		
	comp=Z,15nm,1.4s							
XAN					pmax	pmax		
	comp=Z,250nm,6.1s							
XAN					LR	LR		
	comp=Z,460nm,17.7s							
XAN					LR	LR		
	comp=Z,440nm,16.2s							
XAN					LR	LR		
	comp=Z,700nm,17.2s							
XAN	Xi'an	94.07	307		IAMs_20	IAMs_20	15 45 03.7	
	comp=Z,734nm,19.0s							
KMI	Kunming	94.19	296		P	P	15 06 46.7	+1.3
KMI					pP	sP	15 06 57.3	+1.0
KMI					SKS	SKSac	15 17 22.0	+3.1
KMI					S	ScS	15 17 56.3	-0.1
KMI					pmax	pmax		
	comp=Z,20nm,1.1s							
KMI					pmax	pmax		
	comp=Z,170nm,5.5s							
KMI					LR	LR		
	comp=Z,260nm,15.7s							
KMI					LR	LR		
	comp=Z,300nm,15.2s							
KMI					LR	LR		
	comp=Z,530nm,18.3s							
DHY	Denali Highway	94.21	13		IAMs_20	IAMs_20	15 47 52.1	
	comp=Z,850nm,18.0s							
CMMT	Chiang Mai	94.22	289		P	P	15 06 46.3	+0.8
CHTO	Chiang Mai	94.23	289		IAMs_20	IAMs_20	15 54 32.0	
	comp=Z,537nm,20.0s							
RND	Reindeer	94.23	12		IAMs_20	IAMs_20	15 47 46.5	
	comp=Z,1μm,19.0s							
JTMT	Jette	94.24	37		IAMs_20	IAMs_20	15 48 37.3	
	comp=Z,1μm,18.0s							
H17A	Grant Village	94.24	41		P	P	15 06 48.5	+3.3
	baz=234							
H17A	Grant Village	94.24	41		IAMs_20	IAMs_20	15 46 59.2	
	comp=Z,1μm,18.0s							
BOZ	Bozeman (W)	94.36	40		P	P	15 06 46.3	+0.7
	baz=233							
BOZ	Bozeman (W)	94.36	40		IAMs_20	IAMs_20	15 47 48.0	
	comp=Z,1μm,18.0s							
LKWY	Lake	94.44	41		IAMs_20	IAMs_20	15 46 48.6	
	comp=Z,3μm,19.0s							
Q24A	Divide	94.48	48		P	P	15 06 49.7	+3.1
	baz=237							
Q24A	Divide	94.48	48		IAMs_20	IAMs_20	15 47 16.3	
	comp=Z,1μm,18.0s							
SEY	Seymchan	94.49	346	‖	*e*P	P	15 06 45.5	-0.1
BPAW	Bear Paw Mtn.	94.50	11		IAMs_20	IAMs_20	15 54 45.3	
	comp=Z,931nm,19.0s							
PAX	Paxson	94.50	14		IAMs_20	IAMs_20	15 47 58.9	
	comp=Z,756nm,20.0s							
MCK	McKinley	94.51	12		IAMs_20	IAMs_20	15 48 32.0	
	comp=Z,1μm,19.0s							
ISCO	Idaho Springs	94.64	47		IAMs_20	IAMs_20	15 46 26.3	
	comp=Z,833nm,18.0s							
AMTX	Amarillo	94.64	53		IAMs_20	IAMs_20	15 51 01.9	
	comp=Z,813nm,18.0s							
RWWY	Rawlins	94.69	45		IAMs_20	IAMs_20	15 46 15.0	
	comp=Z,1μm,18.0s							
BWN	Browne	94.82	12		IAMs_20	IAMs_20	15 48 54.9	
	comp=Z,2μm,19.0s							
ABTX	Abilene, Hawle	94.93	56		IAMs_20	IAMs_20	15 46 45.2	
	comp=Z,966nm,18.0s							
MNMC	Minye Minye	94.97	115		IAMs_20	IAMs_20	15 44 51.6	
	comp=Z,1μm,19.0s							
N23A	Red Feather La	95.04	46		P	P	15 06 50.1	+1.0
	baz=237							
N23A	Red Feather La	95.04	46		IAMs_20	IAMs_20	15 47 03.5	
	comp=Z,1μm,18.0s							
WALA	Waterton Lakes	95.25	36		IAMs_20	IAMs_20	15 49 46.6	
	comp=Z,1μm,20.0s							
NEA	Nenana	95.26	12		IAMs_20	IAMs_20	15 48 50.1	
	comp=Z,2μm,19.0s							
ZEA	Zeya	95.30	330		*e*P	P	15 06 46.0	-3.5
ZEA					pmax	pmax		
	comp=Z,17nm,1.0s							
RIDG	Independent Ri	95.31	14		IAMs_20	IAMs_20	15 48 26.4	
	comp=Z,999nm,19.0s							
MLY	Manley	95.40	11		IAMs_20	IAMs_20	15 49 53.2	
	comp=Z,645nm,18.0s							
RLMT	Red Lodge	95.42	41		P	P	15 06 51.7	+1.1
	baz=235							
RLMT	Red Lodge	95.42	41		IAMs_20	IAMs_20	15 47 29.5	
	comp=Z,2μm,18.0s							
HDA	Harding Lake	95.50	12		P	P	15 06 49.3	-0.9
	baz=206							
HDA	Harding Lake	95.50	12		IAMs_20	IAMs_20	15 53 23.1	
	comp=Z,658nm,20.0s							
435B	Jarell	95.52	58		IAMs_20	IAMs_20	15 48 08.4	
	comp=Z,1μm,18.0s							
CCB	Clear Creek Bu	95.55	12		P	P	15 06 49.9	-0.5
CCB					IAmb	IAmb	15 07 04.2	
	comp=Z,11nm,1.0s							
CCB					IAMs_20	IAMs_20	15 48 07.5	
	comp=Z,695nm,18.0s							
K22A	Casper	95.65	44		P	P	15 06 52.8	+1.2
	baz=236							
K22A	Casper	95.65	44		IAMs_20	IAMs_20	15 48 08.3	
	comp=Z,3μm,18.0s							
SCRK	Sand Creek	95.70	14		IAMs_20	IAMs_20	15 51 54.7	
	comp=Z,791nm,19.0s							
TCOL	CIGO, UAF Yank	95.75	12		P	P	15 06 51.2	-0.1
	baz=205							
COLA	College	95.75	12	*de*	P	P	15 06 49.5	-1.8
COLA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
COLA	College	95.75	12		IAMs_20	IAMs_20	15 48 53.7	
	comp=Z,959nm,18.0s							
MDM	Murphy Dome	95.76	12		IAMs_20	IAMs_20	15 58 38.9	
	comp=Z,957nm,20.0s							
ILAR	Eielson Array	95.84	12		P	P	15 06 50.7	-1.0
	comp=Z,4.3nm,1.1s,baz=226,slow=5.4,SNR=18							
ILAR					PP	PP	15 10 39.0	-5.4
	comp=Z,1.1nm,1.0s,baz=220,slow=9.4,SNR=4.1							
TGUH	Tegucigalpa,Un	95.90	77		IAMs_20	IAMs_20	15 39 50.1	
	comp=Z,601nm,22.0s							
HHC	Hu-ho-hao-te	95.92	314		P	P	15 06 53.9	+1.1
HHC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
HIA	Hailar	96.01	324		IAMs_20	IAMs_20	15 45 48.1	
	comp=Z,695nm,20.0s							
JTS	Las Juntas de	96.16	82		IAMs_20	IAMs_20	15 43 40.4	
	comp=Z,1μm,18.0s							
KSCO	Kaye Shedlock'	96.17	49		IAMs_20	IAMs_20	15 48 35.1	
	comp=Z,823nm,19.0s							
WHTX	Lake Whitney,	96.22	57		IAMs_20	IAMs_20	15 48 06.9	
	comp=Z,923nm,18.0s							
ESTN	Estel	96.24	79		IAMs_20	IAMs_20	15 49 18.1	
	comp=Z,601nm,19.0s							
CD2	Chengdu	96.24	302		P	P	15 06 55.2	+0.7
CD2					sP	pP	15 06 59.8	-2.7
CD2					PP	PP	15 10 47.4	-0.9
CD2					SKS	SKSac	15 17 32.0	+2.8
CD2					S	ScS	15 18 13.4	+0.5
CD2					pmax	pmax		
	comp=Z,350nm,5.9s							
CD2					LR	LR		
	comp=Z,920nm,13.5s							
CD2					LR	LR		
	comp=Z,770nm,17.1s							
CD2					LR	LR		
	comp=Z,1μm,20.6s							
HKT	Hockley	96.43	60		IAMs_20	IAMs_20	15 48 10.9	
	comp=Z,651nm,20.0s							
WMOK	Wichita Mounta	96.62	54		IAMs_20	IAMs_20	15 50 31.5	
	comp=Z,694nm,18.0s							
HDC	Heredia	96.76	82		IAMs_20	IAMs_20	15 42 15.3	
	comp=Z,855nm,19.0s							
PRP	Porcupine Dome	96.77	12		IAMs_20	IAMs_20	15 53 03.6	
	comp=Z,655nm,19.0s							
EGMT	Eagleton	96.83	38		IAMs_20	IAMs_20	15 49 10.2	
	comp=Z,2μm,18.0s							
BILL	Bilibino	97.15	354		*e*P	P	15 06 57.5	-0.1
BILL					*e*		15 10 57.8	
BILL					*e*PPP	PPP	15 12 55.7	
BILL					pmax	pmax		
	comp=Z,29nm,2.8s							
BILL					MLR	MLR		
	comp=Z,698nm,18.0s							
OTAV	Otavalo	97.17	94		IAMs_20	IAMs_20	15 44 18.5	
	comp=Z,569nm,18.0s							
X34A	Smith Ranch, M	97.23	55		IAMs_20	IAMs_20	15 53 48.7	
	comp=Z,1μm,18.0s							
U32A	Winter Ranch,	97.28	53		IAMs_20	IAMs_20	15 56 24.7	
	comp=Z,838nm,20.0s							
OGNE	Ogallala	97.56	47		IAMs_20	IAMs_20	15 52 11.8	
	comp=Z,1μm,18.0s							
ESPN	Las Esperanzas	97.61	80		IAMs_20	IAMs_20	15 43 09.6	
	comp=Z,777nm,20.0s							
LPAZ	La Paz	97.66	113		P	Pdif	15 07 03.3	+1.3
	comp=Z,2.9nm,0.9s,baz=191,slow=5.9,SNR=4.0							
LPAZ					LR	LR	15 45 18.3	
	comp=Z,155nm,18.1s,baz=255,slow=32							
RSSD	Black Hills	97.97	44		P	Pdif	15 07 03.4	+1.2
	baz=238							
RSSD	Black Hills	97.97	44		IAMs_20	IAMs_20	15 49 23.7	
	comp=Z,3μm,18.0s							
CBKS	Cedar Bluff	98.00	50		IAMs_20	IAMs_20	15 49 02.9	
	comp=Z,1μm,18.0s							
LAO	LASA Array	98.06	41		IAMs_20	IAMs_20	15 50 21.3	
	comp=Z,1μm,18.0s							
NATX	Nacogdoches	98.18	58		IAMs_20	IAMs_20	15 49 27.9	
	comp=Z,1μm,18.0s							
LZH	Lanzhou	98.69	306	⇑	P	Pdif	15 07 06.1	+0.5
LZH					pP	pP	15 07 10.1	-3.5
LZH					sP	sP	15 07 14.2	-2.3
LZH					SKS	SKSac	15 17 39.8	-2.0
LZH					S	S	15 18 27.4	-5.9
LZH					pmax	pmax		
	comp=Z,9.0nm,1.3s							
LZH					LR	LR		
	comp=Z,460nm,19.0s							
LZH					LR	LR		
	comp=Z,700nm,17.4s							
LZH					LR	LR		
	comp=Z,780nm,19.0s							
TOLK	Toolik Lake Re	98.92	10		IAMs_20	IAMs_20	15 50 15.9	
	comp=Z,738nm,19.0s							
X37A	Clayton	99.00	56		IAMs_20	IAMs_20	15 52 23.9	
	comp=Z,1μm,18.0s							
TUL1	Leonard	99.32	54		IAMs_20	IAMs_20	15 54 01.1	
	comp=Z,1μm,19.0s							
YAK	Yakutsk	100.06	337		*e*P	Pdif	15 07 09.7	-1.0
YAK					pmax	pmax		
	comp=Z,12nm,1.4s							
YAK					pmax	pmax		
	comp=N,11nm,1.5s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.6s							
BCIP	Isla Barro Col	100.12	85		IAMs_20	IAMs_20	15 46 50.3	
	comp=Z,749nm,18.0s							
WLAR	White Oak Lake	100.24	57		IAMs_20	IAMs_20	15 50 53.0	
	comp=Z,1μm,18.0s							
KSU1	Kansas State U	100.26	51		IAMs_20	IAMs_20	15 49 49.2	
	comp=Z,1μm,19.0s							
MIAR	Mount Ida	100.29	56		IAMs_20	IAMs_20	15 57 15.2	
	comp=Z,842nm,18.0s							
BGNE	Belgrade	100.33	48		IAMs_20	IAMs_20	15 51 16.3	
	comp=Z,870nm,19.0s							
W39A	Magazine	100.44	56		IAMs_20	IAMs_20	15 52 52.9	
	comp=Z,2μm,18.0s							
X40A	Basin Creek Fa	100.81	57		IAMs_20	IAMs_20	15 52 10.0	
	comp=Z,1μm,18.0s							
HHAR	Hobbs	100.82	55		IAMs_20	IAMs_20	15 51 05.9	
	comp=Z,802nm,18.0s							
SUSD	Miller	101.28	45		IAMs_20	IAMs_20	15 51 44.6	
	comp=Z,1μm,19.0s							
UALR	University of	101.30	57		IAMs_20	IAMs_20	15 55 41.0	
	comp=Z,1μm,18.0s							
CCAR	Cane Creek	101.33	58		IAMs_20	IAMs_20	15 52 38.2	
	comp=Z,2μm,19.0s							
W41B	Gary Mavity, V	101.55	56		IAMs_20	IAMs_20	15 50 56.5	
	comp=Z,946nm,18.0s							
WHAR	Wooly Hollow	101.57	56		IAMs_20	IAMs_20	15 50 38.0	
	comp=Z,1μm,18.0s							
U40A	Yellville	101.64	55		IAMs_20	IAMs_20	15 51 12.5	
	comp=Z,560nm,19.0s							
INK	Inuvik	101.65	15		IAMs_20	IAMs_20	15 51 58.2	
	comp=Z,1μm,19.0s							
FCAR	Ozark Folk Cen	101.96	56		IAMs_20	IAMs_20	15 49 03.2	
	comp=Z,1μm,20.0s							
X43A	Marvell	102.26	57		IAMs_20	IAMs_20	15 52 48.7	
	comp=Z,2μm,18.0s							
ULN	Ulaanbaatar	102.30	318	‖	*e*P	Pdif	15 07 22.3	+1.0
ULN					pmax	pmax		
	comp=Z,9.0nm,2.6s							
ULN	Ulaanbaatar	102.30	318		IAMs_20	IAMs_20	15 53 14.7	
	comp=Z,896nm,20.0s							
MGMO	Mountain Grove	102.41	54		IAMs_20	IAMs_20	15 52 55.0	
	comp=Z,932nm,19.0s							
MDND	Maddock	102.52	42		IAMs_20	IAMs_20	15 51 52.6	
	comp=Z,2μm,19.0s							
SONM	Songino Array	102.67	318		P	Pdif	15 07 22.8	-0.1
	comp=Z,1.3nm,0.9s,baz=131,slow=5.1,SNR=5.5							
SONM					PP	PP	15 11 35.1	-1.9
	comp=Z,0.7nm,0.9s,baz=113,slow=5.1,SNR=2.4							
LCAR	Lake Charles	102.74	56		IAMs_20	IAMs_20	15 54 23.0	
	comp=Z,918nm,18.0s							
HBAR	Harrisburg	102.88	57		IAMs_20	IAMs_20	15 53 14.8	
	comp=Z,1μm,20.0s							
GTA	Gaotai	103.06	308		*e*P	Pdif	15 07 25.0	+0.1
GTA					pP	pPdif	15 07 29.8	-3.1
GTA					sP	sPdif	15 07 32.1	-3.7
GTA					PP	PP	15 11 41.0	+0.8
GTA					SKS	SKSac	15 18 03.4	+0.7
GTA					S	Sdif	15 19 08.4	-1.2
GTA					sS	SKKSac	15 19 14.1	+31
GTA					SS	SS	15 26 19.6	-1.2
GTA					pmax	pmax		
	comp=Z,3.0nm,1.0s							
GTA					pmax	pmax		
	comp=Z,80nm,8.1s							
GTA					LR	LR		
	comp=Z,280nm,18.1s							
GTA					LR	LR		
	comp=Z,400nm,20.3s							
GTA					LR	LR		
	comp=Z,620nm,19.0s							
HDBT	Hernando Brdge	103.15	57		IAMs_20	IAMs_20	15 59 21.1	
	comp=Z,2μm,18.0s							
MET	Memphis--Engin	103.23	57		IAMs_20	IAMs_20	15 53 36.2	
	comp=Z,972nm,18.0s							
OXF	Oxford	103.35	58		IAMs_20	IAMs_20	15 53 06.7	
	comp=Z,1μm,18.0s							
GNAR	Gosnell	103.53	56		IAMs_20	IAMs_20	15 52 22.9	
	comp=Z,1μm,19.0s							
CCM	Cathedral Cave	103.54	54		IAMs_20	IAMs_20	15 54 16.6	
	comp=Z,799nm,18.0s							
PBMO	Poplar Bluff	103.58	55		IAMs_20	IAMs_20	15 54 49.0	
	comp=Z,1μm,18.0s							
PEBM	Pemiscott Bayo	103.70	56		IAMs_20	IAMs_20	15 52 18.6	
	comp=Z,1μm,19.0s							
PVMO	Portageville	103.95	56		IAMs_20	IAMs_20	15 52 28.0	
	comp=Z,1μm,21.0s							
LNXT	Lenox	103.97	56		IAMs_20	IAMs_20	16 02 17.7	
	comp=Z,1μm,20.0s							
HALT	Halls	104.00	57		IAMs_20	IAMs_20	15 52 57.5	
	comp=Z,807nm,19.0s							
PARMO	Parma	104.02	56		IAMs_20	IAMs_20	15 55 02.8	
	comp=Z,983nm,18.0s							
PENMO	Penman	104.02	56		IAMs_20	IAMs_20	15 52 20.8	
	comp=Z,810nm,18.0s							
FVM

MTDJ Mount Denham 106.12 78 IAMs_20 IAMs_20 15 55 16.0
comp=Z,517nm,18.0s
SWET Sewanee 106.25 59 IAMs_20 IAMs_20 15 55 49.5
comp=Z,857nm,19.0s
JFWS Jewell Farm 106.26 50 IAMs_20 IAMs_20 15 57 49.6
comp=Z,1µm,18.0s
CLTN Cedars of Leba 106.30 58 IAMs_20 IAMs_20 15 55 04.6
comp=Z,720nm,19.0s
W50A Signal Mountai 106.71 59 IAMs_20 IAMs_20 15 55 56.7
comp=Z,779nm,19.0s
TIXI Tiksi 106.84 344 IAMs_20 IAMs_20 15 58 18.3
comp=Z,471nm,18.0s
E38A The Farm, Brul 106.90 46 IAMs_20 IAMs_20 15 55 11.4
comp=Z,2µm,19.0s
I41A Arkdale 106.97 49 IAMs_20 IAMs_20 15 54 42.1
comp=Z,1µm,19.0s
Y52A Lilburn 107.13 60 IAMs_20 IAMs_20 15 56 15.3
comp=Z,573nm,19.0s
WCI Wyandotte Cave 107.17 56 IAMs_20 IAMs_20 15 58 43.1
comp=Z,1µm,18.0s
G40A Rib Lake 107.23 48 IAMs_20 IAMs_20 15 55 06.7
comp=Z,1µm,19.0s
T49A Edmonton 107.29 57 IAMs_20 IAMs_20 15 54 50.6
comp=Z,856nm,20.0s
BLO Bloomington 107.37 55 IAMs_20 IAMs_20 15 57 18.2
comp=Z,1µm,18.0s
CPCT Cooper Cave 107.40 59 IAMs_20 IAMs_20 15 57 33.0
comp=Z,692nm,18.0s
GOGA Godfrey 107.41 61 IAMs_20 IAMs_20 15 59 40.9
comp=Z,707nm,18.0s
SFIN Lafayette 107.43 53 IAMs_20 IAMs_20 15 52 46.4
comp=Z,807nm,18.0s
EYMN Ely 107.47 45 IAMs_20 IAMs_20 15 54 39.1
comp=Z,1µm,19.0s
K43A Burlington 107.47 51 IAMs_20 IAMs_20 16 04 00.9
comp=Z,1µm,18.0s
L44A Lake County Fo 107.56 51 IAMs_20 IAMs_20 15 54 39.2
comp=Z,1µm,19.0s
V51A Loudon 107.66 58 IAMs_20 IAMs_20 15 57 39.9
comp=Z,950nm,18.0s
W52A Murphy 107.71 59 IAMs_20 IAMs_20 15 55 47.0
comp=Z,686nm,20.0s
SDV Santo Domingo 108.08 90 IAMs_20 IAMs_20 15 53 36.4
comp=Z,398nm,18.0s
KAAM Kaadhdhdhoo 108.22 260 IAMs_20 IAMs_20 15 52 14.3
comp=Z,2µm,22.0s
V52A Sevierville 108.24 59 IAMs_20 IAMs_20 15 58 15.4
comp=Z,966nm,18.0s
P48A Milroy 108.27 55 IAMs_20 IAMs_20 15 57 53.9
comp=Z,758nm,18.0s
BG3 Lake Jocassee 108.42 60 IAMs_20 IAMs_20 15 56 20.0
comp=Z,546nm,20.0s
TZTN Tazewell 108.54 58 IAMs_20 IAMs_20 15 56 25.2
comp=Z,1µm,18.0s
N47A Urbana 108.61 53 IAMs_20 IAMs_20 16 01 34.5
comp=Z,868nm,18.0s
L46A Eue Claire 108.61 52 IAMs_20 IAMs_20 16 05 10.2
comp=Z,1µm,18.0s
SPB Sao Paulo 108.61 131 IAMs_20 IAMs_20 16 00 13.5
comp=Z,753nm,18.0s
R50A Paris 108.62 56 IAMs_20 IAMs_20 15 50 51.6
comp=Z,731nm,18.0s
V53A Saluda 108.77 59 IAMs_20 IAMs_20 15 58 19.4
comp=Z,823nm,18.0s
GTBY Guantanamo Bay 108.92 77 IAMs_20 IAMs_20 15 54 29.9
comp=Z,509nm,19.0s
D41A Chassel 108.97 46 IAMs_20 IAMs_20 15 55 35.2
comp=Z,1µm,18.0s
Z56A Williston 109.00 62 IAMs_20 IAMs_20 15 56 41.2
comp=Z,675nm,20.0s
J45A Montague 109.07 50 IAMs_20 IAMs_20 15 55 27.0
comp=Z,845nm,18.0s
T52A Hallie 109.17 58 IAMs_20 IAMs_20 15 56 44.7
comp=Z,1µm,19.0s
PAULI Pauline 109.21 60 IAMs_20 IAMs_20 15 56 47.4
comp=Z,660nm,18.0s
O49A Covington 109.31 54 IAMs_20 IAMs_20 15 58 44.6
comp=Z,795nm,18.0s
JSC Jenkinsville 109.44 61 IAMs_20 IAMs_20 15 59 51.6
comp=Z,203nm,19.0s
M48A Edgerton 109.51 53 IAMs_20 IAMs_20 16 03 08.4
comp=Z,794nm,19.0s
Q51A Peebles 109.61 56 IAMs_20 IAMs_20 15 58 18.7
comp=Z,947nm,18.0s
N49A Columbus Grove 109.69 54 IAMs_20 IAMs_20 15 58 44.3
comp=Z,861nm,18.0s
KMSC Kings Mountain 109.70 60 IAMs_20 IAMs_20 16 01 46.2
comp=Z,707nm,18.0s
E43A Lone Tree Farm 109.73 47 IAMs_20 IAMs_20 15 56 30.6
comp=Z,2µm,19.0s
U54A Nelsons Funny 109.83 59 IAMs_20 IAMs_20 15 57 42.3
comp=Z,984nm,18.0s
P51A Williamsport 109.98 55 IAMs_20 IAMs_20 15 53 49.4
comp=Z,723nm,19.0s
V55A Taylorsville 110.05 59 IAMs_20 IAMs_20 15 57 46.3
comp=Z,674nm,19.0s
ACSO Alum Creek Sta 110.30 55 IAMs_20 IAMs_20 16 01 54.7
comp=Z,1µm,18.0s
E44A Grand Marais A 110.51 47 IAMs_20 IAMs_20 15 56 02.3
comp=Z,1µm,19.0s
AAM Ann Arbor 110.54 52 IAMs_20 IAMs_20 15 56 16.5
comp=Z,1µm,20.0s
I47A Gladwin 110.55 50 IAMs_20 IAMs_20 15 58 57.2
comp=Z,1µm,18.0s
V56A Mocksville 110.58 60 IAMs_20 IAMs_20 15 58 13.4
comp=Z,784nm,18.0s
M50A Fremont 110.66 53 IAMs_20 IAMs_20 15 57 53.0
comp=Z,704nm,19.0s
S54A Dingess, Beckl 110.66 57 IAMs_20 IAMs_20 15 56 11.1
comp=Z,939nm,18.0s
W57A Gilead 110.73 61 IAMs_20 IAMs_20 15 58 38.6
comp=Z,494nm,19.0s
GLMI Grayling 110.75 50 IAMs_20 IAMs_20 16 05 46.3
comp=Z,1µm,19.0s
N51A Ashland 110.97 54 IAMs_20 IAMs_20 16 01 37.3
comp=Z,1µm,18.0s
HMDM Hanimaadhoo 111.07 266 IAMs_20 IAMs_20 15 56 49.7
comp=Z,1µm,20.0s
O52A Adamsville 111.08 55 IAMs_20 IAMs_20 15 55 02.5
comp=Z,813nm,20.0s
BLA Blacksburg 111.12 58 IAMs_20 IAMs_20 15 59 44.5
comp=Z,822nm,18.0s
K50A Casco 111.42 52 IAMs_20 IAMs_20 15 58 10.7
comp=Z,1µm,18.0s
Q54A Coxs Mills 111.42 56 IAMs_20 IAMs_20 15 59 31.0
comp=Z,1µm,19.0s
H48A Harrisville 111.58 50 IAMs_20 IAMs_20 15 58 07.3
comp=Z,1µm,18.0s
V58A Windy Hill, Pi 111.62 60 IAMs_20 IAMs_20 16 00 12.2
comp=Z,810nm,18.0s
I49A Point Hope 111.67 51 IAMs_20 IAMs_20 16 07 18.9
comp=Z,985nm,18.0s
MNCI Minicoy 111.87 268 IAMs_20 IAMs_20 15 57 58.9
comp=Z,2µm,20.0s
M52A Chesterland 111.90 54 IAMs_20 IAMs_20 16 00 41.9
comp=Z,862nm,18.0s
T57A Hurt 111.93 59 IAMs_20 IAMs_20 16 00 46.6
comp=Z,962nm,18.0s
N53A Lisbon 112.03 55 IAMs_20 IAMs_20 16 00 33.5
comp=Z,1µm,18.0s
CNNC Cliffs of the 112.37 61 IAMs_20 IAMs_20 15 58 54.2
comp=Z,502nm,19.0s
MCWV Mont Chateau 112.37 56 IAMs_20 IAMs_20 16 00 11.0
comp=Z,469nm,18.0s
S57A Dark Hollow, R 112.41 58 IAMs_20 IAMs_20 16 00 43.5
comp=Z,1µm,20.0s
SC01 Santiago de lo 112.49 79 IAMs_20 IAMs_20 15 48 05.8
comp=Z,1µm,19.0s
Q56A Snyder Ridge, 112.65 57 IAMs_20 IAMs_20 16 00 21.6
comp=Z,779nm,19.0s
N54A Moraine State 112.69 55 IAMs_20 IAMs_20 15 55 43.0
comp=Z,904nm,20.0s
PTGA Pitinga 112.74 104 IAMs_20 IAMs_20 15 55 39.4
comp=Z,514nm,20.0s
ALLY Alegheny Colle 112.80 54 IAMs_20 IAMs_20 16 03 22.6
comp=Z,2µm,21.0s
U59A Littleton 112.82 60 IAMs_20 IAMs_20 15 59 39.8
comp=Z,840nm,18.0s
V60A Jim Taylor Roa 113.03 61 IAMs_20 IAMs_20 16 03 55.6
comp=Z,813nm,18.0s
S58A Poland Farm, P 113.03 59 IAMs_20 IAMs_20 16 01 20.2
comp=Z,953nm,18.0s
TRIS Tristan da Cun 113.05 166 IAMs_20 IAMs_20 15 47 41.6
comp=Z,6µm,22.0s
ERPA Erie 113.06 53 IAMs_20 IAMs_20 16 02 07.7
comp=Z,765nm,18.0s
M54A Oil Creek Stat 113.09 54 IAMs_20 IAMs_20 16 00 53.6
comp=Z,981nm,18.0s

WMQ Urumqi 113.13 308 *e*PKP **PKiKP 15 12 04.9 +1.7**
WMQ LR LR
comp=Z,200nm,18.7s
WMQ LR LR
comp=Z,240nm,20.9s
WMQ LR LR
comp=Z,640nm,27.1s
WMQ Urumqi 113.13 308 IAMs_20 IAMs_20 15 55 03.8
comp=Z,524nm,21.0s
T59A Dole "B" Far 113.20 59 IAMs_20 IAMs_20 15 59 05.8
comp=Z,820nm,18.0s
R58B Mineral 113.28 58 IAMs_20 IAMs_20 15 59 47.5
comp=Z,809nm,18.0s
N55A Marion Center 113.35 55 IAMs_20 IAMs_20 16 05 42.7
comp=Z,1µm,18.0s
O56A Blue Knob Stat 113.50 56 IAMs_20 IAMs_20 16 02 31.7
comp=Z,1µm,18.0s
V61A Roper 113.56 61 IAMs_20 IAMs_20 16 02 30.8
comp=Z,790nm,18.0s
BDFB Brasilia 113.56 125 IAMs_20 IAMs_20 15 55 09.9
comp=Z,958nm,20.0s
P57A Homestead Farm 113.66 57 IAMs_20 IAMs_20 16 00 51.2
comp=Z,1µm,19.0s
CBN Corbin Frederi 113.73 58 IAMs_20 IAMs_20 15 59 42.5
comp=Z,744nm,18.0s
U61A Possum Corner 113.84 60 IAMs_20 IAMs_20 16 00 23.9
comp=Z,809nm,18.0s
T60A Surry 113.88 59 IAMs_20 IAMs_20 15 59 53.7
comp=Z,968nm,19.0s
SSPA Standing Stone 114.10 56 IAMs_20 IAMs_20 16 01 06.7
comp=Z,829nm,19.0s
WVNY West Valley, N 114.12 53 IAMs_20 IAMs_20 15 59 15.6
comp=Z,1µm,18.0s
J54A Appleton 114.35 53 IAMs_20 IAMs_20 16 05 58.4
comp=Z,1µm,18.0s
MEDO Medina 114.45 53 IAMs_20 IAMs_20 16 02 43.1
comp=Z,1µm,18.0s
SDMD Soldier's Deli 114.50 57 IAMs_20 IAMs_20 15 59 33.6
comp=Z,484nm,19.0s
MMNY Mt. Morris Dam 114.71 53 IAMs_20 IAMs_20 16 00 40.1
comp=Z,1µm,18.0s
L56A Greenwood 114.78 54 IAMs_20 IAMs_20 16 05 48.3
comp=Z,1µm,19.0s
J55A Hilton 114.92 53 IAMs_20 IAMs_20 16 02 50.7
comp=Z,1µm,18.0s
N58A Sunbury 115.02 56 IAMs_20 IAMs_20 16 07 16.8
comp=Z,1µm,18.0s
Q60A Greensboro 115.12 58 IAMs_20 IAMs_20 15 59 18.1
comp=Z,873nm,18.0s
P60A Greenville 115.51 57 IAMs_20 IAMs_20 16 00 06.2
comp=Z,966nm,18.0s
J56A Wolcott 115.60 53 IAMs_20 IAMs_20 16 03 10.6
comp=Z,1µm,18.0s
PSUB Penn St. - Bra 115.68 57 IAMs_20 IAMs_20 16 00 19.7
comp=Z,935nm,19.0s
N59A State Game Lan 115.72 56 IAMs_20 IAMs_20 16 08 43.6
comp=Z,2µm,18.0s
PLVO Plevna 115.92 51 IAMs_20 IAMs_20 16 04 15.6
comp=Z,912nm,19.0s
BINY Binghamton 115.92 54 IAMs_20 IAMs_20 16 04 46.5
comp=Z,1µm,18.0s
D53A Lac Vacive, Po 116.03 49 IAMs_20 IAMs_20 16 00 16.7
comp=Z,2µm,19.0s
P61A Hammondn 116.09 57 IAMs_20 IAMs_20 16 01 23.8
comp=Z,756nm,18.0s
J57A Williamstown 116.24 53 IAMs_20 IAMs_20 16 01 29.6
comp=Z,1µm,19.0s
K58A Earlville 116.32 54 IAMs_20 IAMs_20 16 02 53.8
comp=Z,947nm,18.0s
VLDQ Val d'Or 116.44 48 IAMs_20 IAMs_20 16 02 11.7
comp=Z,2µm,19.0s
BRNJ Basking Ridge 116.54 56 IAMs_20 IAMs_20 16 05 13.3
comp=Z,1µm,18.0s
ABPO Aminhimpanom 116.60 227 IAMs_20 IAMs_20 15 57 50.0
comp=Z,923nm,19.0s
L59A Walton 116.60 55 IAMs_20 IAMs_20 16 05 25.4
comp=Z,1µm,18.0s
ODNJ Ogdensburg 116.62 56 IAMs_20 IAMs_20 16 04 42.3
comp=Z,1µm,18.0s
J58A Remsen 116.73 53 IAMs_20 IAMs_20 16 10 30.5
comp=Z,2µm,18.0s
PAL Palisades 117.11 56 IAMs_20 IAMs_20 16 04 35.2
comp=Z,1µm,18.0s
J59A Piesco 117.31 53 IAMs_20 IAMs_20 16 01 34.8
comp=Z,1µm,18.0s
ZAA0 Zalesovo Array 117.53 319 IAMs_20 IAMs_20 16 01 49.6
comp=Z,362nm,20.0s
ZALV Zalesovo Beam 117.53 319 PKP **PKPdf 15 12 09.3 -2.0**
comp=Z,5.3nm,1.0s,baz=220,slow=1.2,SNR=10.0
MKAR Makanchi Array 117.60 310 PKP **PKPdf 15 12 10.1 -1.6**
comp=Z,8.3nm,0.9s,baz=90,slow=1.2,SNR=18
NCB Newcomb 117.63 53 IAMs_20 IAMs_20 16 04 39.5
comp=Z,825nm,19.0s
TRY Troy 117.72 54 IAMs_20 IAMs_20 16 06 41.0
comp=Z,2µm,18.0s
MAKZ Makanchi 117.81 310 IAMs_20 IAMs_20 15 58 04.8
comp=Z,413nm,22.0s
ACCN Adirondack Com 117.88 54 IAMs_20 IAMs_20 16 07 14.0
comp=Z,2µm,19.0s
SABA Saba 118.29 84 IAMs_20 IAMs_20 15 55 38.0
comp=Z,659nm,20.0s
NRIK Noril'sk 118.49 336 PKP **PKPdf 15 12 11.6 -1.0**
comp=Z,0.8nm,0.3s,baz=73,slow=1.5,SNR=5.0
K62A Royalston 118.73 55 IAMs_20 IAMs_20 16 06 55.8
comp=Z,2µm,18.0s
VT1 Waterbury 118.74 53 IAMs_20 IAMs_20 16 01 41.6
comp=Z,1µm,18.0s
HRV Adam Dziewonsk 119.18 55 IAMs_20 IAMs_20 16 07 10.8
comp=Z,2µm,18.0s
WES Weston 119.32 55 IAMs_20 IAMs_20 16 06 09.6
comp=Z,1µm,18.0s
FFD Franklin Falls 119.33 54 IAMs_20 IAMs_20 16 08 51.4
comp=Z,1µm,18.0s
BOSA Boshof 119.47 202 PKP **PKPdf 15 12 16.1 0.0**
comp=Z,5.1nm,0.9s,baz=226,slow=4.4,SNR=5.6
I62A Tamworth 119.64 53 IAMs_20 IAMs_20 16 08 43.5
comp=Z,1µm,18.0s
H62A Milan 119.91 53 IAMs_20 IAMs_20 16 06 08.5
comp=Z,1µm,18.0s
MSEY Mahe Island 120.13 245 IAMs_20 IAMs_20 16 01 50.5
comp=Z,773nm,19.0s
KSH Kashi 120.44 301 PKP **PKiKP 15 12 18.6 +1.0**
KSH PP **PP 15 13 48.7 +4.0**
KSH PKS **PKSdf 15 15 51.7 -2.6**
KSH SKKS 15 20 38.6
KSH AMB AMB
comp=Z,390nm,5.3s
KSH LR LR
comp=Z,560nm,16.1s
KSH LR LR
comp=Z,330nm,12.2s
KSH LR LR
comp=Z,240nm,14.8s
KURK Kurchatov 120.72 314⇓ *i*PKIKP **PKPdf 15 12 16.7 -0.8**
KURK Kurchatov 120.72 314 IAMs_20 IAMs_20 16 06 31.4
comp=Z,631nm,19.0s
NRN Naryn 120.84 303 IAMs_20 IAMs_20 16 11 55.2
comp=Z,546nm,21.0s
NIL Nilore 121.10 294 IAMs_20 IAMs_20 16 11 52.4
comp=Z,433nm,19.0s
TULEG Thule 121.65 15 IAMs_20 IAMs_20 16 03 25.6
comp=Z,988nm,18.0s
F64A Sherman 122.10 52 IAMs_20 IAMs_20 16 04 00.1
comp=Z,1µm,18.0s
FRU1 Bishkek 122.11 305 IAMs_20 IAMs_20 16 09 43.4
comp=Z,446nm,19.0s
AAK Ala-Archa 122.18 304⇓ *i*PKIKP **PKiKP 15 12 21.2 +0.2**
AAK Ala-Archa 122.18 304 IAMs_20 IAMs_20 16 09 01.2
comp=Z,622nm,20.0s
EMMW East Machias 122.53 53 IAMs_20 IAMs_20 16 06 40.0
comp=Z,780nm,18.0s
GGN Saint George 123.03 53 IAMs_20 IAMs_20 16 10 07.4
comp=Z,1µm,18.0s
BTK Batken 124.43 301 IAMs_20 IAMs_20 16 17 59.3
comp=Z,387nm,19.0s
KBL Kabul 124.70 294 IAMs_20 IAMs_20 16 13 22.1
comp=Z,616nm,20.0s
KKAR Karatay Array 125.14 304⇑ *e*PKIKP **PKPdf 15 12 25.9 -0.4**
BVAR Borovoye Array 126.00 317 PKP **PKPdf 15 12 26.9 -0.7**
comp=Z,3.3nm,0.8s,baz=73,slow=5.1,SNR=20
BRVK Borovoye 126.06 317 *ce*PKIKP **PKPdf 15 12 26.8 -0.9**
BRVK Borovoye 126.06 317 IAMs_20 IAMs_20 16 10 45.1
comp=Z,381nm,21.0s
WIN Windhoek 127.52 196 IAMs_20 IAMs_20 16 14 53.9
comp=Z,1µm,20.0s
RCBR Riachuelo 128.91 126 IAMs_20 IAMs_20 16 11 30.6
comp=Z,1µm,18.0s
SPA0 Spitsbergen Ar 129.95 357 *e*PKPdf **PKiKP 15 12 35.1 -0.1**

HRA Herat 130.17 292 IAMs_20 IAMs_20 16 11 03.2
comp=Z,566nm,21.0s
LSZ Lusaka 130.32 212 IAMs_20 IAMs_20 16 04 40.4
comp=Z,847nm,20.0s
TSUM Tsumeb 130.62 198 IAMs_20 IAMs_20 16 10 46.9
comp=Z,2µm,18.0s
ARU Arti 132.49 322 *i* PKIKP **PKiKP 15 12 40.7 -0.2**
ARU 15 15 02.5
ARU MLR MLR
comp=Z,911nm,20.0s
ARU Arti 132.49 322 PKP **PKPdf 15 12 39.5 -0.3**
comp=Z,3.0nm,0.8s,baz=34,slow=1.8,SNR=7.3
ARU Arti 132.49 322 IAMs_20 IAMs_20 16 11 10.8
comp=Z,918nm,20.0s
UOSS Minazif 133.13 278 IAMs_20 IAMs_20 16 07 05.1
comp=Z,462nm,22.0s
ASHT Ashkhabad 133.75 296 IAMs_20 IAMs_20 16 15 18.5
comp=Z,470nm,21.0s
AKTO Aktyubinsk 133.81 314 PKP **PKPdf 15 12 42.3 -0.2**
comp=Z,6.3nm,1.0s,baz=31,slow=1.2,SNR=7.9
GEYT Alibeck 133.96 296 PKhKP PKPpre 15 12 33.1
comp=Z,1.8nm,0.8s,baz=341,slow=2.7,SNR=3.8
GEYT PKP **PKPdf 15 12 43.4 +0.2**
comp=Z,4.3nm,0.8s,baz=242,slow=2.9,SNR=8.7
GYA0B ALIBECK ARRAY 133.96 296 IAMs_20 IAMs_20 16 15 24.1
comp=Z,494nm,20.0s
KMBO Kilima Mbogo 136.24 233 PKhKP PKPpre 15 12 44.0
comp=Z,0.9nm,0.5s,baz=32,slow=1.9,SNR=4.0
KMBO Kilima Mbogo 136.24 233 IAMs_20 IAMs_20 16 08 25.9
comp=Z,460nm,21.0s
KIRV Kirov 136.53 327 PKP **PKPdf 15 12 47.0 -0.2**
comp=Z,13nm,0.8s,baz=36,slow=6.8,SNR=4.6
PRGR Permogore 136.84 332 *e*PKIKP **PKPdf 15 12 47.4 -0.4**
PRGR pmax pmax
comp=Z,16nm,1.0s
APA Apatity 137.04 344⇑ *i*PKHKP PKPpre 15 12 36.0
APA pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 137.05 349 PKP **PKPdf 15 12 47.4 -0.6**
comp=Z,6.5nm,0.9s,baz=32,slow=1.5,SNR=8.9
ARE0 ARCESS Array S 137.05 349 *e*PKPdf **PKPdf 15 12 48.6 +0.6**
KTK1 Kautokeino 137.89 350 *e*PKPdf **PKPdf 15 12 50.1 +0.6**
ATD Arta Tunnel 139.59 253 IAMs_20 IAMs_20 16 10 00.2
comp=Z,830nm,20.0s
KLMR Klimovskoe 139.73 334 *e*PKIKP **PKPdf 15 12 53.9 +0.8**
KLMR *e* 15 15 49.6
KLMR pmax pmax
comp=Z,29nm,1.2s
KLMR Klimovskoe 139.73 334 *e*PKPdf **PKPdf 15 12 53.9 +0.8**
KLMR AMP 15 13 11.2
comp=Z,29nm,1.2s
KLMR *e*PP **PP 15 15 49.6 +0.7**
KLMR LQ LQ 16 07 08.8
KLMR LQ LQ 16 07 08.8
KLMR LR LR 16 11 28.3
MBAR Mbarara 141.02 227 IAMs_20 IAMs_20 16 19 15.3
comp=Z,1µm,18.0s
FURI Furi 141.61 246 IAMs_20 IAMs_20 16 12 56.7
comp=Z,1µm,21.0s
AKT Akhty 141.96 302 *i* PKIKP **PKiKP 15 13 01.6 +0.7**
AKT pmax pmax
comp=Z,35nm,1.1s
RAYN Ar Rayn 142.09 272 IAMs_20 IAMs_20 16 12 53.5
comp=Z,760nm,20.0s
GROC Groznyy 143.16 305 *e*PKIKP **PKPdf 15 13 00.6 +0.8**
GROC *e* 15 16 10.8
GROC *e* 15 20 03.1
GROC pmax pmax
comp=Z,45nm,1.1s
MOS Moscow 143.53 328 *e*PKHKP PKPab 15 12 55.2 -1.3
MOS pmax pmax
comp=Z,48nm,1.3s
VRH Novokhopyorsk 143.57 319 *e*PKHKP PKPab 15 12 55.5 -1.3
VRH pmax pmax
comp=Z,20nm,1.9s
NSS Namsos 143.61 354 *e*PKPdf PKPab 15 12 55.6 -0.9
FINES FINESS Array B 143.84 342 PKhKP PKPab 15 12 57.0 -0.5
comp=Z,13nm,1.0s,baz=46,slow=4.3,SNR=33
GNI Garni 144.35 300 *ce*PKIKP **PKPab 15 13 00.1 -0.3**
GNI Garni 144.35 300 PKP **PKPab 15 13 00.3 -0.1**
comp=Z,13nm,0.9s,baz=106,slow=20,SNR=4.4
OBN Obninsk 144.38 327 *d i*PKIKP **PKPab 15 12 59.4 -0.3**
OBN *e* 15 16 11.7
OBN *e*PPP PPP 15 19 26.4
OBN pmax pmax
comp=Z,56nm,1.1s
OBN Obninsk 144.38 327 PKP **PKPab 15 12 59.5 -0.3**
comp=Z,5.9nm,0.8s,baz=335,slow=2.1,SNR=9.8
LPSR Galich'ya Gora 144.50 323 *e*PKIKP **PKPab 15 12 59.1 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 144.60 305 *i* PKIKP **PKPab 15 12 59.4 -1.9**
ZEI pmax pmax
comp=Z,44nm,1.3s
NCK Nalchik 144.69 306⇓ *e*PKIKP **PKPab 15 13 01.2 -0.1**
GOF Gofitskoye 144.73 309⇑ *e*PKIKP **PKPab 15 13 00.9 -0.5**
GOF pmax pmax
comp=Z,59nm,0.8s
VSR Storozhevoye 145.01 320 *e*PKIKP PKPbc 15 13 00.6 -1.6
VSR pmax pmax
comp=Z,50nm,1.1s
CLDR Caldiran 145.08 298 *i* P **PKPdf 15 13 04.9 +1.3**
CLDR IAML_P
comp=Z,5µm,0.9s
AKH Akhalkalaki 145.13 302⇑ P **PKPdf 15 13 03.8 +0.2**
AKH Akhalkalaki 145.13 302 IAMs_20 IAMs_20 16 16 45.9
comp=Z,365nm,21.0s
KBZ Khabaz 145.14 306 PKP **PKPbc 15 13 02.0 -0.8**
comp=Z,12nm,0.9s,baz=116,slow=0.8,SNR=20
EAK Akyaka 145.15 301 *i* P **PKPdf 15 13 04.9 +1.3**
EAK IAML_P
comp=Z,2µm,0.9s
DYDN Diyadin 145.22 299 *i* P **PKPdf 15 13 05.0 +1.1**
DYDN IAML_P
comp=Z,70nm,0.1s
KVAR Kislovodsk Arr 145.23 307 PKP **PKPbc 15 13 03.4 +0.1**
comp=Z,9.7nm,0.8s,baz=265,slow=23,SNR=9.1
KIV Kislovodsk 145.24 307 *i* PKIKP **PKPbc 15 13 02.6 -0.7**
KIV pmax pmax
comp=Z,118nm,1.1s
KIV Kislovodsk 145.24 307⇑ P **PKPab 15 13 03.6 +0.1**
KIV Kislovodsk 145.24 307 IAMs_20 IAMs_20 16 21 27.6
comp=Z,565nm,20.0s
HAKT HAKKARI 145.36 296 *i* P **PKPab 15 13 04.4 +0.1**
HAKT IAML_P
comp=Z,2µm,0.9s
VMUR Van-Muradiye 145.36 298 *i* P **PKPab 15 13 05.7 +1.5**
VMUR IAML_P
comp=Z,496nm,0.5s
CUKT Cukurca 145.46 295 *i* P **PKPdf 15 13 04.3 +0.1**
CUKT IAML_P
comp=Z,6µm,0.7s
TVAN Van 145.53 297 *i* P **PKPdf 15 13 04.1 -0.3**
TVAN IAML_P
comp=Z,1µm,0.7s
GEVA Gevas 145.82 297 *i* P **PKPbc 15 13 05.4 0.0**
GEVA IAML_P
comp=Z,3µm,0.9s
MOL Molde 145.87 357 *ep*PKPbc **PKiKP 15 13 07.9 -0.2**
TUTA Tutak 145.91 299 *i* P **PKPab 15 13 06.4 +0.1**
TUTA IAML_P
comp=Z,3µm,1.1s
VSU Vasula 146.04 338 *c i*PKP2 **PKPdf 15 13 04.1 -0.2**
VSU Vasula 146.04 338 *e*P **PKPbc 15 13 05.0 -0.2**
EATA Eleskirt 146.10 300 *i* P **PKPab 15 13 07.6 +0.5**
EATA IAML_P
comp=Z,754nm,0.7s
AKN Aaknes 146.29 357 *e*PKPdf **PKPdf 15 13 04.9 +0.2**
DOMB Dombas 146.31 355 *e*PKPbc **PKPbc 15 13 06.0 0.0**
ARTV Artvin 146.33 302 *i* P **PKPab 15 13 07.7 -0.1**
ARTV IAML_P
comp=Z,776nm,0.3s
DAGI Agillar 146.36 302 *i* P **PKPab 15 13 07.9 +0.1**
DAGI IAML_P
comp=Z,142nm,0.4s
BATM Batumi 146.43 303⇑ P **PKPab 15 13 07.7 -0.2**
DBOC Borcka 146.50 303 *i* P **PKPab 15 13 08.2 0.0**
DBOC IAML_P
comp=Z,583nm,0.7s
DDEM Demirkent 146.51 302 *i* P **PKPdf 15 12 59.9 -6.0**
DDEM IAML_P
comp=Z,8µm,0.2s
DBAD Bademkaya 146.53 302 *i* P **PKPbc 15 13 07.9 +0.5**
DBAD IAML_P
comp=Z,553nm,0.8s

NC303 NORSAR Array S 146.91 353 PKPbc 15 13 07.2 -0.5
AKDA Akdag 146.93 300 *i* PKiKP **15 13 15.8 +4.5**
FOO Floro 146.94 359 *e*PKPdf **PKPbc 15 13 06.9 -0.8**
NB201 NORSAR Array S 147.09 353 PKPdf 15 13 06.6 +0.5
NB2 NORSAR Subarra147.10 353 PKP **PKPdf 15 13 07.1 +1.0**
comp=Z,69nm,1.1s,baz=12,slow=2.9
NB2 NORSAR Subarra147.10 353 PKPab **PKPdf 15 13 07.1 +1.0**
baz=12,slow=2.9
NOA NORSAR Array B 147.10 353 PKPbc **PKPdf 15 13 06.5 +0.3**
comp=Z,29nm,1.0s,baz=16,slow=4.6,SNR=43
NBO00 NORSAR Array S 147.16 353 PKPbc 15 13 07.5 -1.0
BNGL BINGOL 147.25 298 *i* P **PKPab 15 13 11.2 -0.3**
SVAN Silvan-Diyarba 147.29 297 *i* P **PKPbc 15 13 10.1 +0.5**
SVAN IAML_P
comp=Z,870nm,0.9s
HYA Hoyanger 147.34 358 *e*PKPbc **PKPbc 15 13 09.0 +0.2**
NC602 NORSAR Array S 147.37 353 *e*PKPbc **PKPbc 15 13 08.4 -0.5**
NC602 NORSAR Array S 147.37 353 PKPbc 15 13 08.2 -0.7
SOC Sochi 147.41 307 *e*PKIKP **PKPdf 15 13 07.2 +0.1**
SOC *i* 15 13 11.5
SOC *e* 15 16 37.7
SOC *e*PPP PPP 15 19 53.5
SOC *e*SSS SSS 15 40 59.2
SOC pmax pmax
comp=Z,51nm,1.3s
SOC pmax pmax
comp=Z,45nm,1.0s
SOC MLR MLR
comp=Z,335nm,20.0s
SUE Sulen 147.49 359 *e*PKPbc **PKPbc 15 13 08.7 -0.6**
KOPT Kop Dagi 147.60 300 *i* P **PKPab 15 13 13.0 +0.1**
KOPT IAML_P
comp=Z,101nm,0.2s
BGOL Bingol 147.61 299 *i* P **PKiKP 15 13 12.1 -0.5**
BGOL IAML_P
comp=Z,92nm,0.3s
HFS Hagfors 147.67 350 PKPbc **PKPbc 15 13 08.5 -1.3**
comp=Z,38nm,0.9s,baz=5.7,slow=1.5,SNR=23
SKAR Skarslia 147.71 356 *e*PKPbc **PKPbc 15 13 09.8 -0.2**
ASK Askoy 148.05 358 *e*PKPdf **PKPbc 15 13 09.3 -1.4**
BER Bergen 148.15 358 *e*PKPbc **PKPbc 15 13 10.9 -0.1**
OSL Oslo 148.24 353 *e*PKPbc **PKPbc 15 13 11.0 -0.3**
EUZM Uzumlu 148.25 300 *i* P **PKPab 15 13 17.0 +1.7**
EUZM IAML_P
comp=Z,9μm,0.1s
IZAR Zarasai 148.32 335 *e*P **PKPbc 15 13 11.7 +0.1**
IZAR IAmb IAmb 15 13 16.3
comp=Z,39nm,1.0s
TNCL Tunceli-Merkez 148.46 299 *i* P **PKiKP 15 13 14.3 0.0**
KELT Kelkit 148.51 301 *i* P **PKiKP 15 13 14.1 -0.4**
KELT IAML_P
comp=Z,1μm,0.8s
ODD1 Odda 148.57 357 *e*pPKPdf **PKPbc 15 13 12.2 -0.1**
MICGM Minsk 148.61 332 *e* **PKPdf 15 13 10.0 +1.3**
MICGM *e* 15 13 28.0
MICGM *e*LR LR 16 30 30.0
MNK Minsk 148.61 332 *e*PKIKP **PKPdf 15 13 10.0 +1.3**
ANN Anapa 148.62 310 *i* PKIKP **PKPbc 15 13 11.0 -1.8**
ANN *e* 15 13 15.2
ANN pmax pmax
comp=Z,69nm,1.0s
IIGN Ignalina 148.63 335 *e*P **PKPbc 15 13 12.3 -0.1**
IIGN IAmb IAmb 15 13 19.7
comp=Z,27nm,0.9s
KONO Kongsberg 148.63 354 PKP2 **PKPbc 15 13 12.1 -0.3**
KONO Kongsberg 148.63 354 *e*pPKPdf **PKPbc 15 13 12.1 -0.3**
KONO Kongsberg 148.63 354 PKPbc 15 13 12.1 -0.3
NACGM Naroch 148.75 334 *e* **PKPbc 15 13 12.0 -0.8**
NACGM *e*LR LR 16 13 42.0
ELZG Elazig 148.98 298 *i* P **PKiKP 15 13 15.6 +0.1**
ELZG IAML_P
comp=Z,1μm,0.8s
BLS5 Blasjo 149.07 357 *e*PKPdf **PKPdf 15 13 10.5 +1.1**
KEMA Kemaliye 149.25 300 *i* P **PKPbc 15 13 15.3 +0.6**
KEMA IAML_P
comp=Z,651nm,0.8s
SUSE Susehri 149.29 301 *i* P **PKiKP 15 13 15.8 -0.3**
SUSE IAML_P
comp=Z,392nm,0.4s
PABE Paberze 149.32 337 *e*P **PKPbc 15 13 14.3 +0.2**
PABE IAmb IAmb 15 13 17.6
comp=Z,117nm,1.0s
KMY Karmoy 149.32 358 *e*PKPbc **PKPbc 15 13 14.4 +0.3**
PBUR Paburg 149.55 340 *e*P **PKiKP 15 13 17.1 +1.3**
RSC Scourie 149.60 9 *e*P **PKPbc 15 13 14.2 -0.6**
HEKM Malatya_Hekimh 149.72 299 *i* P **PKiKP 15 13 17.8 +0.7**
HEKM IAML_P
comp=Z,434nm,0.6s
HOMB Homborsund 150.09 355 *e*PKPbc **PKPbc 15 13 16.0 0.0**
SNART Snartemo 150.11 356 *e*pPKPbc **PKPab 15 13 20.1 -1.9**
KAC Achnashellach 150.41 10 *e*P **PKPbc 15 13 16.6 -0.2**
KPL Plockton 150.51 10 *e*P **PKPbc 15 13 16.7 -0.3**
AKASG Malin Array Be 150.58 326 PKPbc **PKPbc 15 13 15.8 -1.6**
comp=Z,32nm,0.8s,baz=46,slow=2.7,SNR=49
SIM Simferopol' 150.75 312 *ce*PKIKP **PKPbc 15 13 17.9 -0.2**
SIM pmax pmax
comp=Z,30nm,0.9s
SUW Suwalki 150.78 336 *e*PKIKP **PKPbc 15 13 17.2 -0.6**
SUW Suwalki 150.78 336 *e*PKP **PKPbc 15 13 17.2 -0.6**
SUW *e*PKP **PKPbc 15 13 17.2 -0.6**
AYKD Aykdinkavak 150.84 296 *i* P **PKPbc 15 13 18.7 +0.1**
AYKD IAML_P
comp=Z,121nm,0.2s
ASF Jabal al Asfar 151.05 286 PKPbc **PKPbc 15 13 19.7 +0.4**
comp=Z,20nm,0.8s,baz=66,slow=0.7,SNR=29
ASF Jabal al Asfar 151.05 286 P **PKiKP 15 13 20.0 +0.2**
DIKM Dikmen 151.11 305 ⇑P **PKPab 15 13 24.4 -2.4**
SEVA Sevastopol 151.21 312 ⇑P **PKiKP 15 13 19.7 +0.1**
KLNR Kaliningrad 151.28 340 ⇓*i*PKIKP **PKPab 15 13 18.8 -0.1**
DRUM Mains of Drumt 151.33 7 *e*P **PKPbc 15 13 18.8 -0.2**
LAWE Loch Awe, Argy 151.58 10 *e*P **PKPbc 15 13 18.4 -1.1**
INVG Invergeldie, C 151.62 9 *e*P **PKPbc 15 13 18.6 -1.1**
COAL Corum-Alaca 151.68 303 *i* P **PKPbc 15 13 20.4 -0.1**
COAL IAML_P
comp=Z,27nm,0.6s
SWQJ Swaqa 151.72 284 P **PKiKP 15 13 22.0 +0.7**
MUD Monsted U'grnd 151.82 353 *e*PKIKP **PKPbc 15 13 20.0 -0.1**
MUD Monsted U'grnd 151.82 353 *i* P **PKPbc 15 13 20.0 -0.1**
WALJ Wala 151.95 284 P **PKiKP 15 13 22.3 +0.7**
SHBL Chebaa 152.02 288 *e*P **PKiKP 15 13 22.2 +0.3**
BHL Bhannes 152.08 289 *e*P **PKiKP 15 13 22.0 0.0**
ESY Stoneypath 152.30 7 *e*P **PKPbc 15 13 20.8 -0.4**
MMAI Mount Meron Ar 152.31 287 PKPbc **PKPbc 15 13 22.6 +0.4**
comp=Z,56nm,0.9s,baz=66,slow=4.7,SNR=57
MMAI PKPab **PKPab 15 13 31.6 -0.6**
comp=Z,85nm,0.8s,baz=72,slow=4.7,SNR=18
ILGA Ilgaz 152.39 305 IAMs_20 IAMs_20 16 26 08.7
comp=Z,495nm,20.0s
GULE Gulek 152.46 297 *i* P **PKiKP 15 13 22.7 0.0**
GULE IAML_P
comp=Z,4μm,0.4s
AQBJ Aqaba 152.48 280 P **PKiKP 15 13 23.6 +0.9**
EIL Elat 152.56 280 PKPbc **PKiKP 15 13 23.1 +0.2**
comp=Z,30nm,0.9s,baz=44,slow=0.8,SNR=21
EIL PKPab **PKPab 15 13 33.6 +0.3**
comp=Z,80nm,0.9s,baz=11,slow=1.4,SNR=17
EIL Elat 152.56 280 P **PKiKP 15 13 23.6 +0.7**
SORM Soroca 152.61 322 ⇑PKIKP **PKiKP 15 13 22.7 +0.3**
SORM Soroca 152.61 322 ⇑P **PKiKP 15 13 22.7 +0.3**
EKA Eskdalemuir Ar 152.80 8 PKPbc **PKPbc 15 13 22.1 -0.2**
comp=Z,2.0nm,0.6s,baz=354,slow=1.7,SNR=7.1
EKA PKPab **PKPab 15 13 32.0 -1.3**
comp=Z,10.0nm,0.8s,baz=349,slow=3.8,SNR=9.1
ESK Eskdalemuir 152.81 8 *e*P **PKiKP 15 13 23.7 +1.1**
BRTR Keskin Array B 152.82 302 PKPbc **PKPbc 15 13 21.4 -1.7**
comp=Z,9.9nm,0.9s,baz=126,slow=3.2,SNR=33
BRTR PKPab **PKPab 15 13 33.1 -1.1**
comp=Z,11nm,0.8s,baz=130,slow=3.7,SNR=13
BRTR Keskin Array B 152.82 302 PKPbc 15 13 22.4 -0.8
AKSY AKSARAY - Alti 152.98 300 *i* P **PKPbc 15 13 22.9 -0.6**
AKSY IAML_P
comp=Z,290nm,0.9s
ANTO Ankara 153.41 303 IAMs_20 IAMs_20 16 23 50.9
comp=Z,457nm,20.0s
LVV L'vov 153.63 329 *e*PKIKP **PKPbc 15 13 23.6 -0.8**
CSS Mathiatis 153.92 292 IAMs_20 IAMs_20 16 29 34.1
comp=Z,882nm,19.0s
LEF Lefka 154.26 292 ⇑P **PKPab 15 13 38.6 -1.7**
KWP Kalwaria Pacla 154.35 330 *e*PKIKP **PKiKP 15 13 28.0 +2.0**
KWP Kalwaria Pacla 154.35 330 *e*PKP **PKiKP 15 13 28.0 +2.0**
KWP *e*PKP **PKiKP 15 13 28.0 +2.0**
CFR Carcaliu 154.40 317 ⇑PKIKP **PKPbc 15 13 25.7 -0.4**
CFR Carcaliu 154.40 317 ⇑P **PKPbc 15 13 25.7 -0.4**

TOPG Topolog 154.41 316 ⇑P **PKiKP 15 13 26.8 +0.6**
TESR Tescani 154.50 321 ⇑P **PKPab 15 13 40.9 0.0**
BIZ Bicaz 154.54 322 ⇑P **PKPbc 15 13 26.4 -0.1**
BURAR Bucovina Array 154.58 324 ⇑PKIKP **PKiKP 15 13 28.4 +1.7**
BURAR Bucovina Array 154.58 324 ⇑P **PKiKP 15 13 28.4 +1.7**
TIRR Tirgusor 154.60 315 ⇑PKIKP **PKiKP 15 13 29.4 +2.8**
TIRR Tirgusor 154.60 315 ⇑P **PKiKP 15 13 29.4 +2.8**
TIRR Tirgusor 154.60 315 IAMs_20 IAMs_20 16 27 15.6
comp=Z,1μm,19.0s
TLB Topalu 154.76 316 ⇑PKIKP **PKiKP 15 13 29.6 +2.7**
TLB Topalu 154.76 316 ⇑P **PKiKP 15 13 29.6 +2.7**
HARR Harsova 154.78 316 ⇑PKP2 **PKPab 15 13 38.9 -3.2**
HARR Harsova 154.78 316 ⇑P **PKPab 15 13 38.9 -3.2**
VRI Vrincioaia 154.84 320 ⇑PKP2 **PKPab 15 13 38.5 -3.9**
VRI Vrincioaia 154.84 320 ⇑P **PKPab 15 13 38.5 -3.9**
PLOR Plostina 154.89 320 ⇑PKP2 **PKPab 15 13 43.0 +0.4**
PLOR Plostina 154.89 320 ⇑P **PKPab 15 13 43.0 +0.4**
OZUR 155.23 321 ⇑P **PKPab 15 13 44.6 +0.6**
UZH Uzhgorod 155.28 329 *e*PKIKP PKPab 15 13 33.7 -10
UZH *i* 15 13 38.3
ARCR ARCALIA 155.37 324 ⇑P **PKPab 15 13 39.7 -4.8**
ISR Istrita 155.37 318 ⇑PKP2 **PKPab 15 13 45.4 +0.7**
ISR Istrita 155.37 318 ⇑P **PKPab 15 13 45.4 +0.7**
MLR Muntele Rosu 155.50 320 ⇑PKP2 **PKPab 15 13 46.5 +1.1**
MLR Muntele Rosu 155.50 320 PKPab **PKPab 15 13 43.9 -1.5**
comp=Z,11nm,0.9s,baz=160,slow=6.5,SNR=8.5
MLR Muntele Rosu 155.50 320 ⇑P **PKPab 15 13 46.5 +1.1**
MLR Muntele Rosu 155.50 320 IAMs_20 IAMs_20 16 25 23.9
comp=Z,606nm,21.0s
DOPR Dopca 155.53 321 ⇑P **PKPab 15 13 45.3 0.0**
TRPA Tarpa 155.53 328 ⇑P **PKPab 15 13 45.6 +0.5**
ISP Isparta 155.66 299 IAMs_20 IAMs_20 16 29 38.1
comp=Z,583nm,20.0s
SECR 155.70 319 ⇑P **PKPab 15 13 46.6 +0.5**
KSP Ksiaz 155.73 340 *e*PKIKP PKPdf 15 13 32.6 +13
KSP Ksiaz 155.73 340 *e*PKP PKPdf 15 13 32.6 +13
KSP *e*PKP PKPdf 15 13 32.6 +13
OKC Ostrava-Krasne 155.99 336 *e*PKP2 **PKPab 15 13 46.6 -0.5**
OKC Ostrava-Krasne 155.99 336 *e*PKPAB **PKPab 15 13 46.6 -0.5**
CHVC Chvalec 156.03 340 *e*PKPAB **PKPab 15 13 46.8 -0.5**
VOIR 156.04 320 ⇑PKP2 **PKPab 15 13 47.7 +0.1**
VOIR 156.04 320 ⇑P **PKPab 15 13 47.7 +0.1**
LANS Liptovska Anna 156.07 334 *e*PKP2 **PKPab 15 13 49.1 +1.6**
LANS Liptovska Anna 156.07 334 *e*PKP **PKPab 15 13 49.0 +1.6**
UPC Upice 156.12 340 *e*PKP2 **PKPab 15 13 47.0 -0.6**
UPC Upice 156.12 340 *e*PKPAB **PKPab 15 13 47.0 -0.6**
DPC Dobruska-Polom 156.16 339 *e*PKIKP **PKPdf 15 13 22.2 +2.1**
DPC *e* 15 13 47.9
DPC Dobruska-Polom 156.16 339 *e*PKPDF **PKPdf 15 13 22.2 +2.1**
DPC *e*PKPAB **PKPab 15 13 47.9 +0.1**
CLL Collm 156.18 345 ⇓*e*PKIKP **PKPdf 15 13 22.0 +2.0**
CLL *i* 15 13 46.8
CLL *e* 15 20 26.0
CLL pmax pmax
comp=Z,29nm,1.1s
CLL MLR MLR
comp=Z,500nm,19.4s
CLL Collm 156.18 345 *e*PKPdf **PKPdf 15 13 22.0 +2.0**
CLL *e* 15 13 29.0
CLL *e* 15 13 39.0
CLL ⇓*i*PKPab **PKPab 15 13 46.8 -1.0**
comp=Z,29nm,1.1s
CLL ⇓*i* 15 14 00.4
CLL *e*PP **PP 15 17 23.0 -1.8**
CLL *e*PPIp 15 17 37.0
CLL *e*SKSdf **SKSdf 15 20 26.0 +1.9**
CLL *e*PPP PPP 15 21 06.0
CLL *e*PSKS 15 27 42.0
CLL *e*SKKSdf **SKKSdf 15 28 57.0 -1.9**
CLL *e*PPS PPS 15 30 33.0
CLL *e* 15 32 43.0
CLL *e*SS **SS 15 37 16.0 +4.4**
CLL *e* 15 38 24.0
CLL *e* 15 39 06.0
CLL *e*SSS SSS 15 43 06.0
CLL *e*SSSS 15 47 18.0
CLL LmV 16 32 00.0
comp=Z,500nm,19.4s
CLL LmH 16 34 00.0
comp=N,400nm,19.1s
CLL LmH 16 34 00.0
comp=E,200nm,20.6s
KECS Kecovo 156.18 331 *e*PKP2 **PKPab 15 13 47.9 0.0**
KECS Kecovo 156.18 331 *e*PKP **PKPab 15 13 47.9 0.0**
MORC Moravsky Berou 156.26 337 ⇑PKIKP **PKPdf 15 13 24.0 +3.7**
MORC Moravsky Berou 156.26 337 ⇑P **PKPdf 15 13 24.0 +3.7**
MORC Moravsky Berou 156.26 337 *e*PKP **PKPab 15 13 47.7 -0.6**
ARR Arges 156.32 321 ⇑P **PKPab 15 13 49.8 +1.0**
BRG Berggiesshubel 156.35 343 *e*PKP PKPdf 15 13 28.5 +8.2
comp=E,16nm,1.5s
BRG Berggiesshubel 156.35 343 *e*PKP PKPab 15 13 56.9 +8.3
comp=E,25nm,1.0s
BRG PP **PP 15 17 32.0 +6.2**
BRG SS SS 15 37 20.0 +6.4
comp=N,445nm,15.6s
comp=E,314nm,23.3s
comp=Z,644nm,15.8s
LIC Lamto 156.36 158 *e*P **PKPdf 15 13 18.5 -3.0**
comp=Z,34nm,1.2s
ELL Elmali 156.38 297 IAMs_20 IAMs_20 16 32 19.7
comp=Z,2μm,20.0s
DRGR 156.40 326 ⇑PKIKP PKPdf 15 13 30.9 +10
DRGR 156.40 326 ⇑P PKPdf 15 13 30.9 +10
KIC Kosan Boka 156.58 159 *e*P **PKPdf 15 13 22.1 +0.3**
comp=Z,38nm,1.2s
LOT Lotru 156.74 322 ⇑P **PKPab 15 13 50.5 -0.1**
SZH Strazhica 156.75 315 *e*P **PKPab 15 13 50.4 -0.2**
TIC Toumodi 156.76 158 *e*P **PKPdf 15 13 23.0 +1.0**
VYHS Vyhne 156.84 333 *e*PKIKP PKPdf 15 13 30.2 +9.2
VYHS *e* 15 13 38.9
VYHS Vyhne 156.84 333 *e*PKP PKPdf 15 13 30.2 +9.2
VYHS *e* 15 13 38.9
VYHS *e* 15 13 50.6
PSZ Piszkesteto 156.87 331 ⇑PKP2 **PKPab 15 13 51.1 +0.1**
PSZ Piszkesteto 156.87 331 ⇑P **PKPab 15 13 51.1 +0.1**
PSZ Piszkesteto 156.87 331 IAMs_20 IAMs_20 16 30 29.9
comp=Z,758nm,20.0s
MANT Manisa 156.96 302 IAMs_20 IAMs_20 16 28 13.0
comp=Z,1μm,20.0s
PRA Prague 156.96 342 *e*PKP2 **PKPab 15 13 51.4 +0.2**
PRA Prague 156.96 342 *e*PKPAB **PKPab 15 13 51.4 +0.2**
PRA *ex* x 15 14 04.3
VRAC Vranov 156.98 338 PKPab **PKPab 15 13 49.8 -1.5**
comp=Z,18nm,1.1s,baz=20,slow=3.1,SNR=11
VRAC Vranov 156.98 338 ⇑P **PKPab 15 13 52.0 +0.7**
VRAC Vranov 156.98 338 *e*PKP **PKPab 15 13 51.3 -0.1**
JAVC Velka Javorina 156.98 336 *e*PKP **PKPab 15 13 52.0 +0.5**
PRU Pruhonice 157.00 342 *e*PKP2 **PKPab 15 13 51.2 -0.2**
PRU Pruhonice 157.00 342 *e*PKPAB **PKPab 15 13 51.2 -0.2**
PRU *ex* x 15 14 04.7
PVL Pavlikeni 157.15 316 *e*P **PKPab 15 13 53.4 +1.1**
KRUC Moravsky 157.26 338 *e*PKP **PKPab 15 13 52.1 -0.4**
GZR Gura Zlata 157.31 323 ⇑P PKPab 15 13 41.7 -11
TREC Trest 157.34 339 *e*PKP2 **PKPab 15 13 52.8 -0.1**
TREC Trest 157.34 339 *e*PKPAB **PKPab 15 13 52.8 -0.1**
TREC *ex* x 15 14 05.9
SMOL Smolenice 157.36 335 *e*PKP2 **PKPab 15 13 53.4 +0.4**
SMOL Smolenice 157.36 335 *e*PKP **PKPab 15 13 53.4 +0.4**
PLVB Pleven 157.49 317 ⇑P **PKPab 15 13 54.5 +0.7**
MODS Modra-Piesok 157.53 335 *e*PKP2 **PKPab 15 13 53.5 -0.3**
MODS Modra-Piesok 157.53 335 *e*PKP **PKPab 15 13 53.5 -0.3**
BZS Buzias 157.76 325 ⇑PKP2 **PKPab 15 13 53.6 -1.3**
BZS Buzias 157.76 325 ⇑P **PKPab 15 13 53.6 -1.3**
HERR Herculane 157.84 322 ⇑P PKPdf 15 13 36.1 +14
ALN Alexandroupoli 157.84 310 IAMs_20 IAMs_20 16 35 25.0
comp=Z,266nm,20.0s
KHC Kasperske Hory 158.05 342 *e*PKIKP **PKPdf 15 13 28.0 +5.4**
KHC *e* 15 13 55.5
KHC Kasperske Hory 158.05 342 *e*PKPDF **PKPdf 15 13 28.0 +5.4**
KHC *e*PKPAB **PKPab 15 13 55.5 -0.5**
GEC2 GERESS Array S 158.27 342 IAMs_20 IAMs_20 16 32 13.8
comp=Z,836nm,20.0s
GERES GERESS Array B 158.27 342 PKP **PKPdf 15 13 22.6 -0.3**
comp=Z,0.1nm,0.3s,baz=66,slow=2.5,SNR=2.6
GERES PKPab **PKPab 15 13 55.8 -1.3**
comp=Z,2.5nm,1.0s,baz=66,slow=4.5,SNR=6.2
MDVR Moldovita 158.28 323 ⇑P **PKPab 15 13 56.9 -0.3**
CONA Conrad Observa 158.41 337 *i* pPKPab **PKPab 15 13 58.3 +0.6**
comp=Z,27nm,1.1s
VTS Vitosha 158.76 317 *e*P **PKPab 15 14 00.4 +0.9**
VTS Vitosha 158.76 317 ⇑PKP2 **PKPab 15 14 00.4 +0.9**
VTS Vitosha 158.76 317 ⇑P **PKPab 15 14 00.4 +0.9**

VTS Vitosha 158.76 317 IAMs_20 IAMs_20 16 28 27.6
comp=Z,711nm,21.0s
KARP Karpathos 158.81 295 IAMs_20 IAMs_20 16 29 10.4
comp=Z,611nm,21.0s
MOA Molln 159.00 339 *i* PKPab **PKPab 15 13 59.8 -0.4**
comp=Z,22nm,1.2s
ARSA Arzberg 159.11 337 *i* PKPab **PKPab 15 14 00.2 -0.5**
comp=Z,11nm,1.0s
KKB Krupnik 159.28 315 *e*P **PKPab 15 14 01.6 0.0**
SOKA Soboth 159.78 337 *i* PKPab **PKPab 15 14 03.1 -0.6**
comp=Z,26nm,1.3s
KBA Koelnbreinsper 159.97 340 *i* PKPab **PKPab 15 14 04.6 0.0**
comp=Z,8.4nm,0.8s
OBKA Obir 160.09 337 *i* PKPab **PKPab 15 14 03.5 -1.6**
comp=Z,13nm,1.3s
WATA Walderalm 160.22 344 *i* PKPab **PKPab 15 14 05.1 -0.5**
comp=Z,23nm,1.4s
RETA Reutte 160.27 345 *i* PKPab **PKPab 15 14 05.5 -0.2**
comp=Z,21nm,1.7s
WTTA Wattenberg 160.27 343 *i* PKPab **PKPab 15 14 05.7 -0.2**
comp=Z,22nm,1.1s
MYKA Terra Mystica 160.28 339 *i* PKPab **PKPab 15 14 04.2 -1.6**
comp=Z,18nm,1.1s
MOTA Moosalm 160.33 345 *i* PKPab **PKPab 15 14 05.4 -0.7**
comp=Z,20nm,1.1s
SQTA Sankt Quirin 160.42 344 *i* PKPab **PKPab 15 14 06.5 +0.1**
comp=Z,11nm,1.3s
ABTA Abfaltersbach 160.51 341 *i* PKPab **PKPab 15 14 06.3 -0.5**
comp=Z,18nm,1.3s
DAVA Damuels 160.65 347 *i* PKPab **PKPab 15 14 06.7 -0.8**
comp=Z,13nm,1.0s
FETA Feichten 160.72 345 *i* PKPab **PKPab 15 14 07.3 -0.5**
comp=Z,7.2nm,1.1s
DAVOX Davos/Dischmat 161.13 346 PKP **PKPdf 15 13 26.2 -0.2**
comp=Z,1.6nm,0.7s,baz=299,slow=10,SNR=2.0
DAVOX PKPab **PKPab 15 14 07.4 -2.2**
comp=Z,3.1nm,0.6s,baz=350,slow=6.3,SNR=5.1
PDG Podgorica 161.18 322 ⇑P **PKPab 15 14 08.1 -1.7**
MATE Matera 163.79 322 ⇑P **PKPab 15 14 20.0 -1.3**
TORD Torodi Ar. Bea 164.58 173 PKP **PKPdf 15 13 30.1 -0.4**
comp=Z,3.7nm,1.0s,baz=333,slow=5.2,SNR=11
TORD PKPab **PKPab 15 14 26.1 +0.9**
comp=Z,5.5nm,0.9s,baz=256,slow=1.3,SNR=8.7
TIP Timpagrande 164.75 317 ⇑P **PKPab 15 14 25.3 -0.4**
ESDC Sonseca Array 167.29 27 PKP **PKPdf 15 13 32.1 +0.1**
comp=Z,0.4nm,0.6s,baz=15,slow=1.1,SNR=6.3
ESDC PKPab **PKPab 15 14 36.2 -0.6**
comp=Z,3.8nm,1.0s,baz=322,slow=4.7,SNR=5.8
KEST Kesra 171.31 327 PKPab **PKPab 15 14 54.5 -0.2**
comp=Z,6.9nm,0.9s,baz=262,slow=4.1,SNR=5.8
MDT Midelt 171.81 57 PKP **PKPdf 15 13 36.1 +1.2**
comp=Z,3.1nm,0.9s,baz=248,slow=2.7,SNR=3.6

NEIC ***09*** *15:02:55.8±2.8,28°.6S±0°.1×176°.25W±0°.07,h10km±1km, mb4.5/19*
BJI ***09*** *15:02:55.0±0.0,28°.81S×176°.44W,h5km,mb4.9/4, Ms4.9/2,Ms7 4.8/4*
ISCJB ***09*** *15:02:56.4±0.5,28°.85S±0°.03×175°.98W±0°.07,h29km, mb4.5/16,MS4.6/5,Error ellipse: s-maj=8.6km s-min=4.3km az=18.6*
IDC ***09*** *15:02:57.2±0.6,28°.16S×176°.69W,h0km,mb4.5/15, mb1 4.6/15,mb1mx4.5/29,mbtmp4.4/15,MS4.7/4, Ms1 4.7/4,ms1mx4.1/35,Error ellipse: s-maj=19.9km s-min=16.0km az=135.0*
GCMT ***09*** *15:03:03.8±0.4,28°.26S±0°.04×176°.26W±0°.03,h21km±1km, MW5.0/68,Moment Tensor Solution. s17,c19; s68,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.75±.42; Mθθ-0.15±.23; Mφφ-3.60±.25; Mrθ0.94±.42; Mrφ-1.39±.12; Mθφ2.05±.32; Best double couple: M0=4.52300×10^16 NP1:φs22.00000°,δ60.00000°,λ93.00000°. NP2: φs196.00000°,δ30.00000°,λ85.00000°. Principal axes: T 4.3570, Plg75.0000°, Azm300.0000°; N 0.3340, Plg3.0000°, Azm201.0000°; P -4.6880, Plg15.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 15:03:00.4±0.5,28°.60S±0°.06×176°.30W±0°.06,h29km, n118,σ2§44/117,mb4.5/17,MS4.4/5,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.56**	**245**	Pn	**Pn**	**15 03 27.4**	**+1.2**
581nm,0.3s,baz=128,slow=9.0,SNR=12							
RAO				Sn	**Sn**	**15 03 46.7**	**+1.2**
947nm,0.3s,baz=162,slow=20,SNR=7.7							
RAO	**Raoul Island**	**1.56**	**245**		**Pb**	**15 03 28.0**	**-0.7**
RIZ	**Raoul Island**	**1.57**	**245**	P	**Pb**	**15 03 28.1**	**-0.6**
RIZ				S	**Sb**	**15 03 50.5**	**+2.3**
GLKZ	**Green Lake**	**1.57**	**245**	P	**Pb**	**15 03 28.1**	**-0.6**
GLKZ				S	**Sb**	**15 03 48.9**	**+0.7**
HAZ	**Te Kaha**	**10.39**	**207**	P	**Pn**	**15 05 24.8**	**-2.5**
HAZ				S	**Sn**	**15 07 22.3**	**-0.4**
PKGZ	**Pakihiroa**	**10.39**	**205**	P	**Pn**	**15 05 26.8**	**-0.7**
PUZ	**Puketiti**	**10.48**	**204**	P	**Pn**	**15 05 25.8**	**-2.9**
PUZ				S	**Sn**	**15 07 22.8**	**-2.4**
RUGZ	**Raukumara Rang**	**10.61**	**207**	P	**Pn**	**15 05 29.0**	**-1.5**
RUGZ				S	**Sn**	**15 07 26.0**	**-2.4**
WCZ	**Waipu Caves**	**10.78**	**225**	P	**Pn**	**15 05 35.5**	**+2.8**
OUZ	**Omahuta**	**10.83**	**230**	P	Pn	15 05 40.6	+7.2
CNGZ	**Carnagh Statio**	**10.87**	**203**	P	**Pn**	**15 05 31.0**	**-3.0**
CNGZ				S	**Sn**	**15 07 33.0**	**-1.6**
TKGZ	**Te Karaka**	**10.96**	**205**	P	**Pn**	**15 05 32.1**	**-3.1**
OPRZ	**Ohinepanea**	**10.99**	**211**	P	**Pn**	**15 05 36.5**	**+1.0**
MWZ	**Matawai**	**10.99**	**206**	P	**Pn**	**15 05 31.8**	**-3.9**
MWZ				S	**Sn**	**15 07 33.9**	**-3.7**
URZ	**Urewera**	**11.09**	**208**	Pn	**Pn**	**15 05 34.4**	**-2.6**
0.9nm,0.3s,baz=54,slow=14,SNR=5.9							
URZ				Sn	**Sn**	**15 07 36.1**	**-3.9**
4.3nm,0.3s,baz=235,slow=22,SNR=9.2							
URZ	**Urewera**	**11.09**	**208**	P	**Pn**	**15 05 35.0**	**-2.0**
URZ				S	**Sn**	**15 07 36.4**	**-3.6**
MUGZ	**Murupara**	**11.42**	**209**	P	**Pn**	**15 05 37.0**	**-4.5**
RTZ	**Ruatahuna**	**11.45**	**208**	P	**Pn**	**15 05 37.8**	**-4.2**
SNGZ	**Shannon Statio**	**11.45**	**206**	P	**Pn**	**15 05 38.6**	**-3.3**
RAHZ	**Arahi**	**11.66**	**206**	P	**Pn**	**15 05 42.7**	**-2.2**
TLZ	**Tolley Road**	**11.85**	**213**	P	**Pn**	**15 05 50.3**	**+2.8**
NMHZ	**Naumai**	**11.93**	**207**	P	**Pn**	**15 05 45.6**	**-2.9**
BKZ	**Black Stump Fm**	**12.12**	**208**	P	Pn	15 05 46.3	-4.7
MCHZ	**McNeill Hill**	**12.27**	**206**	P	**Pn**	**15 05 51.2**	**-1.9**
HIZ	**Hauiti**	**12.33**	**214**	P	**Pn**	**15 05 54.6**	**+0.7**
KWHZ	**Kaweka Forest**	**12.37**	**207**	P	**Pn**	**15 05 53.9**	**-0.6**
KAHZ	**Kahuranaki**	**12.51**	**205**	P	**Pn**	**15 05 51.8**	**-4.6**
BHHZ	**Black Hill Sta**	**12.57**	**208**	P	**Pn**	**15 05 58.1**	**+0.8**
FWVZ	**Far West T-bar**	**12.59**	**210**	P	**Pn**	**15 06 00.2**	**+2.5**
PXZ	**Pawanui**	**12.72**	**205**	P	**Pn**	**15 05 56.1**	**-3.1**
VRZ	**Vera Road**	**12.85**	**213**	P	Pn	15 06 06.2	+5.1
PRHZ	**Porangahau**	**13.01**	**205**	P	**Pn**	**15 05 59.7**	**-3.5**
TSZ	**Takapari Road**	**13.09**	**207**	P	**Pn**	**15 06 02.1**	**-2.2**
BFZ	**Birch Farm**	**13.52**	**205**	P	Pn	15 06 04.9	-5.2
HOWZ	**Holdsworth Sta**	**13.98**	**207**	P	**Pn**	**15 06 14.5**	**-2.1**
KIW	**Kapiti Island**	**14.20**	**208**	P	**Pn**	**15 06 15.8**	**-3.7**
CAW	**Cannon Point**	**14.34**	**207**	P	**Pn**	**15 06 21.1**	**-0.3**
DUWZ	**D'Urville Isla**	**14.58**	**211**	P	**Pn**	**15 06 23.5**	**-1.1**
PLWZ	**Palliser**	**14.66**	**206**	P	**Pn**	**15 06 28.5**	**+2.7**
TUWZ	**Tuamarina**	**15.08**	**209**	P	**Pn**	**15 06 26.8**	**-4.5**
NNZ	**Nelson**	**15.15**	**211**	P	**Pn**	**15 06 28.4**	**-4.0**
QRZ	**Quartz Range**	**15.25**	**214**	P	**Pn**	**15 06 33

OXZ	Oxford	17.44	209	P	Pn	15 06 57.5 -3.9
OXZ				IAmb	IAmb	15 07 16.4
comp=Z,26nm,0.5s						
WVZ	Waitaha Valley	17.83	212	P	P	15 07 07.2 +0.4
RPZ	Rata Peaks	18.18	211	P	Pn	15 07 09.1 -1.5
comp=Z,1.4nm,0.3s,baz=45,slow=2.9,SNR=2.7						
RPZ	Rata Peaks	18.18	211	IAmb	IAmb	15 07 15.2
comp=Z,11nm,0.7s						
ODZ	Otahua Downs	19.42	209	P	Pn	15 07 25.3 -0.2
PPT	Papeete	26.86	72	LR	LR	15 19 23.4
comp=Z,748nm,18.0s,baz=250,slow=36						
HNR	Honiara	29.35	306	LR	LR	15 19 26.7
comp=Z,876nm,18.2s,baz=144,slow=34						
HNR	Honiara	29.35	306	P	P	15 08 59.2 -1.8
CTA	Charters Tower	35.04	276	P	P	15 09 48.5 -2.3
comp=Z,5.2nm,0.7s,baz=84,slow=14,SNR=6.5						
CTAO	Charters Tower	35.04	276	P	P	15 09 49.4 -1.4
CTAO				IAmb	IAmb	15 09 52.8
comp=Z,8.5nm,0.9s						
STKA	Stephens Creek	36.36	254	P	P	15 10 01.5 -0.6
comp=Z,6.8nm,0.9s,baz=87,slow=7.9,SNR=8.6						
STKA	Stephens Creek	36.36	254	P	P	15 10 01.4 -0.6
BBOO	Buckleboo	40.91	252	P	P	15 10 38.8 -1.4
AS31	Alice Springs	44.73	264	P	P	15 11 10.3 -1.0
ASAR	Alice Springs	44.73	264	P	P	15 11 08.8 -2.5
comp=Z,3.5nm,0.8s,baz=96,slow=6.7,SNR=23						
ASAR	Alice Springs	44.73	264	P	P	15 11 10.0 -1.3
WB2	Warramunga Arr	45.55	269	P	P	15 11 16.2 -1.7
WB2				IAmb	IAmb	15 11 29.1
comp=Z,16nm,1.1s						
WRAB	Tennant Creek	45.55	270	P	P	15 11 16.7 -1.2
WRA	Warramunga Arr	45.56	269	P	P	15 11 14.4 -3.5
comp=Z,8.9nm,1.0s,baz=109,slow=6.2,SNR=18						
WRA	Warramunga Arr	45.56	269	P	P	15 11 16.0 -1.9
FITZ	Fitzroy Crossi	53.88	268	P	P	15 12 17.7 -3.6
comp=Z,8.3nm,1.1s,baz=73,slow=7.5,SNR=5.3						
FITZ	Fitzroy Crossi	53.88	268	P	P	15 12 18.1 -3.1
FITZ				IAmb	IAmb	15 12 21.8
comp=Z,10nm,1.1s						
SIJI	Sorong	57.10	289	P	P	15 12 42.7 -1.8
comp=Z,14nm,0.7s,baz=19,slow=8.4,SNR=7.4						
MORW	Morawa	58.48	252	P	P	15 12 52.6 -1.5
BATI	Baumata	58.93	275	LR	LR	15 38 28.5
comp=Z,2μm,18.1s,baz=132,slow=36						
QSPA	South Pole Qui	61.51	180	P	P	15 13 18.5 +4.1
comp=Z,4.3nm,1.0s,baz=294,slow=0.6,SNR=8.6						
QSPA	South Pole Qui	61.51	180	P	P	15 13 17.0 +2.7
MAW	Mawson	74.50	200	P	P	15 14 40.2 +4.4
comp=Z,2.9nm,0.7s,baz=48,slow=7.2,SNR=4.8						
MAW	Mawson	74.50	200	P	P	15 14 38.0 +2.2
MJAR	Matsushiro Arr	77.64	324	P	P	15 14 52.7 -1.3
comp=Z,5.6nm,0.8s,baz=158,slow=5.5,SNR=15						
MJAR	Matsushiro Arr	77.64	324	P	P	15 14 56.4 +2.4
MAT	Matsushiro	77.64	324	P	P	15 14 53.0 -1.0
SYO	Syowa Base	79.19	192⇑	*e*pP	P	15 15 03.8 +1.7
SNAA	Sanae	79.90	178	P	P	15 15 09.6 +3.5
VNA3	Neumayer Olymp	79.99	176	P	P	15 15 08.9 +2.4
VNA2	Neumayer--Watz	80.44	176	P	P	15 15 11.9 +2.9
baz=175,slow=4.8						
VNA1	Neumayer--Stat	80.66	176	P	P	15 15 15.3 +5.2
PLCA	Paso Flores	82.63	132	P	P	15 15 25.2 +4.0
comp=Z,5.1nm,1.0s,baz=251,slow=4.9,SNR=7.7						
KSRS	Korea Array	83.96	319	P	P	15 15 27.4 -0.3
comp=Z,2.8nm,0.8s,baz=143,slow=6.5,SNR=7.0						
NVAR	Mina Array Bea	85.91	42	P	P	15 15 39.2 +1.4
comp=Z,1.5nm,0.7s,baz=224,slow=8.6,SNR=14						
NJ2	Nanjing	86.23	310	*e*P	P	15 15 40.5 +1.3
USRK	Ussuriysk Ar.	86.50	326	P	P	15 15 38.9 -1.4
comp=Z,4.2nm,0.9s,baz=158,slow=6.2,SNR=6.3						
PDAR	Pinedale Array	93.81	43	P	P	15 16 15.1 +0.2
comp=Z,0.5nm,0.7s,baz=226,slow=2.4,SNR=3.7						
CMAR	Chiang Mai Arr	94.22	289	P	P	15 16 17.5 +0.3
comp=Z,1.6nm,1.0s,baz=132,slow=4.2,SNR=7.6						
ILAR	Eielson Array	95.85	12	P	P	15 16 23.1 -0.4
comp=Z,0.7nm,0.9s,baz=212,slow=4.5,SNR=4.5						
HHC	Hu-ho-hao-te	96.07	313	P	P	15 16 23.7 -1.5
LZH	Lanzhou	98.85	306	*e*P	P	15 16 37.1 -0.8
LZH				pP	Pdif	15 16 41.4 +3.5
LZH				sP	pP	15 16 44.2 -1.7
LZH				PP	PP	15 20 42.5 +2.4
LZH				LR	LR	
comp=Z,96nm,18.5s						
LZH				LR	LR	
comp=Z,71nm,17.3s						
LZH				LR	LR	
comp=Z,120nm,19.0s						
WMQ	Urumqi	113.28	308	*e*PKP	PKiKP	15 21 34.1 -1.1
WMQ				LR	LR	
comp=Z,280nm,27.3s						
MKAR	Makanchi Array	117.75	310	PKP	PKiKP	15 21 44.3 +0.7
comp=Z,1.0nm,1.0s,baz=50,slow=4.9,SNR=2.3						
KSH	Kashi	120.59	301	*e*PKP	PKiKP	15 21 51.3 +1.7
ARCES	ARCESS Array B	137.13	349	PKhKP	PKPdf	15 22 17.2 -2.6
comp=Z,3.5nm,0.9s,baz=44,slow=2.7,SNR=3.1						
FINES	FINESS Array B	143.94	342	PKhKP	PKPab	15 22 28.4 -1.2
comp=Z,5.1nm,1.0s,baz=48,slow=2.8,SNR=8.2						
KBZ	Khabaz	145.29	306	PKP	PKPbc	15 22 34.9 -0.1
comp=Z,3.9nm,1.1s,baz=134,slow=3.1,SNR=2.9						
NB2	NORSAR Subarra	147.17	353	PKP	PKPbc	15 22 39.4 -0.8
comp=Z,2.1nm,0.8s,baz=10,slow=3.2						
NOA	NORSAR Array B	147.17	353	PKPbc	PKPbc	15 22 39.3 -0.8
comp=Z,2.1nm,0.6s,baz=14,slow=4.5,SNR=8.0						
HFS	Hagfors	147.75	351	PKPbc	PKPbc	15 22 41.2 -0.5
comp=Z,4.8nm,0.7s,baz=96,slow=7.4,SNR=7.3						
AKASG	Malin Array Be	150.71	326	PKPbc	PKPbc	15 22 49.1 -0.3
comp=Z,2.7nm,0.7s,baz=42,slow=2.9,SNR=8.7						
ASF	Jabal al Asfar	151.21	285	PKPbc	PKPbc	15 22 51.5 +0.1
comp=Z,2.6nm,0.8s,baz=163,slow=6.0,SNR=4.1						
MMAI	Mount Meron Ar	152.48	287	PKPbc	PKiKP	15 22 55.2 +0.8
comp=Z,5.2nm,0.9s,baz=62,slow=6.7,SNR=6.4						
EIL	Elat	152.72	280	PKPbc	PKiKP	15 22 56.0 +1.1
comp=Z,2.9nm,0.7s,baz=13,slow=8.6,SNR=3.7						
BRTR	Keskin Array B	152.98	302	PKPbc	PKPbc	15 22 55.3 +0.1
comp=Z,1.6nm,0.9s,baz=103,slow=2.7,SNR=6.6						
CLL	Collm	156.26	345	*e*PKPab	PKPab	15 23 19.0 -0.8
CLL				*e*		15 23 31.0
CLL				*e*PP	PP	15 26 57.0 0.0
KHC	Kasperske Hory	158.14	342	*e*PKP	PKPab	15 23 19.5 -8.6
KHC				*ex*	x	15 23 38.0
TORD	Torodi Ar. Bea	164.51	173	PKPab	PKPab	15 23 58.9 +2.3
comp=Z,1.5nm,0.9s,baz=180,slow=4.3,SNR=2.9						

NEIC ***09*** *15:04:09.3±2.8, 28°.0S±0°.1×176°.7W±0°.2, h10km±1km, mb4.3/11*
IDC ***09*** *15:04:09.2±1.5, 28°.04S×176°.78W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/30, mbtmp4.2/9, Error ellipse: s-maj=53.6km s-min=22.1km az=136.0*
ISCJB ***09*** *15:04:10.8±0.7, 28°.37S±0°.10×176°.7W±0°.1, h29km, mb4.2/9, Error ellipse: s-maj=18.4km s-min=10.7km az=35.2*

ISC 09 15:04:12.3±0.7, 28°.2S±0°.1×176°.5W±0°.1, h29km, n41, σ1§34/38, mb4.3/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.60	231	Pn	Pn	15 04 39.8	+1.2
baz=61,slow=22,SNR=1.6							
RAO				Sn	Sb	15 05 02.5	+1.6
baz=174,slow=23,SNR=1.5							
RAO	Raoul Island	1.60	231		Pn	15 04 39.8	+1.2
RAO					Sb	15 05 02.5	+1.6
BKZ	Black Stump Fm	12.35	206	Pn	Pn	15 07 04.9	-1.2
HIZ	Hauiti	12.52	213	Pn	Pn	15 07 07.0	-1.5
BHW	Baring Head	14.91	206	Pn	Pn	15 07 40.2	-0.8
STKA	Stephens Creek	36.28	254	P	P	15 11 12.8	-0.5
2.3nm,0.6s,baz=79,slow=13,SNR=3.1							
STKA	Stephens Creek	36.28	254	P	P	15 11 12.8	-0.5
TAOE	Nuku Hiva Isla	39.27	68	P	P	15 11 39.9	+1.1
BBOO	Buckleboo	40.85	251	P	P	15 11 48.5	-3.1
AS31	Alice Springs	44.58	264	P	P	15 12 20.2	-1.9
AS31				IAmb	IAmb	15 12 32.8	
comp=Z,1.4nm,1.1s							
ASAR	Alice Springs	44.58	264	P	P	15 12 21.0	-1.0
comp=Z,1.8nm,0.8s,baz=108,slow=7.9,SNR=4.8							
ASAR	Alice Springs	44.58	264	P	P	15 12 21.0	-1.0
WRAB	Tennant Creek	45.37	269	P	P	15 12 27.0	-1.3
WRAB				IAmb	IAmb	15 12 28.8	
comp=Z,5.9nm,0.7s							
WRA	Warramunga Arr	45.38	269	P	P	15 12 26.8	-1.5
comp=Z,3.0nm,0.7s,baz=106,slow=7.9,SNR=5.4							
WRA	Warramunga Arr	45.38	269	P	P	15 12 26.8	-1.5
WRA	Warramunga Arr	45.38	269	IAmb	IAmb	15 12 29.3	
comp=Z,0.5nm,1.1s							
FORT	Forrest	47.89	253	P	P	15 12 46.7	-1.3
MWH	Moku'aweowe	51.58	25	P	P	15 13 14.3	-2.2
KNRA	Kununurra	51.89	272	P	P	15 13 18.5	0.0
FITZ	Fitzroy Crossi	53.71	268	P	P	15 13 29.9	-2.0
comp=Z,1.6nm,0.7s,baz=90,slow=7.1,SNR=1.9							
FITZ	Fitzroy Crossi	53.71	268	P	P	15 13 29.9	-2.0
FITZ	Fitzroy Crossi	53.71	268	IAmb	IAmb	15 13 45.7	
comp=Z,7.0nm,1.1s							
MJAR	Matsushiro Arr	77.24	324	P	P	15 16 04.3	+0.7
comp=Z,3.7nm,0.8s,baz=154,slow=5.9,SNR=4.5							
MJAR	Matsushiro Arr	77.24	324	P	P	15 16 04.3	+0.7
MJAR	Matsushiro Arr	77.24	324	IAmb	IAmb	15 16 08.6	
comp=Z,1.3nm,0.8s							
KSRS	Korea Array	83.57	319	P	P	15 16 38.5	+0.9
comp=Z,2.1nm,0.9s,baz=156,slow=7.5,SNR=2.9							
KSRS	Korea Array	83.57	319	P	P	15 16 38.5	+0.9
NVAR	Mina Array Bea	85.77	42	P	P	15 16 49.9	+0.9
comp=Z,0.7nm,0.7s,baz=221,slow=8.0,SNR=2.6							
NVAR	Mina Array Bea	85.77	42	P	P	15 16 49.9	+0.9
USRK	Ussuriysk Ar.	86.10	326	P	P	15 16 51.9	+1.7
comp=Z,2.5nm,0.7s,baz=150,slow=6.7,SNR=3.4							
USRK	Ussuriysk Ar.	86.10	326	P	P	15 16 51.9	+1.7
ILAR	Eielson Array	95.54	12	P	P	15 17 34.6	+0.6
comp=Z,0.5nm,0.8s,baz=215,slow=4.9,SNR=3.5							
ILAR	Eielson Array	95.54	12	P	P	15 17 34.6	+0.6
FINES	FINESS Array B	143.54	342	PKhKP	PKPbc	15 23 41.2	+0.3
comp=Z,1.8nm,0.7s,baz=24,slow=4.9,SNR=3.9							
FINES	FINESS Array B	143.54	342		PKPbc	15 23 41.2	+0.3
NB2	NORSAR Subarra	146.79	353	PKP	PKPbc	15 23 51.4	+0.4
comp=Z,1.7nm,0.7s,baz=9.5,slow=2.9							
NOA	NORSAR Array B	146.79	353	PKPbc	PKPbc	15 23 51.5	+0.4
comp=Z,2.9nm,0.7s,baz=13,slow=4.4,SNR=4.5							
HFS	Hagfors	147.36	351	PKPbc	PKPbc	15 23 52.6	0.0
comp=Z,4.1nm,0.7s,baz=64,slow=6.6,SNR=2.8							
HFS	Hagfors	147.36	351		PKPbc	15 23 52.6	0.0
AKASG	Malin Array Be	150.31	326	PKPbc	PKPbc	15 23 59.6	-0.7
comp=Z,2.4nm,0.7s,baz=37,slow=2.7,SNR=3.0							
AKASG	Malin Array Be	150.31	326		PKPbc	15 23 59.6	-0.7

SKO 09 15:12:49.1, 41°.30N×22°.73E, h19km, M0.5, ML0.8, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.12	280	*e*Pg	Pg	15 12 53.2	+0.1
VAY				*i* Sg	Sg	15 12 55.2	-0.6
VAY				*e*Lg	Lg	15 12 55.4	
comp=N,80nm,0.3s							
VAY				*e*Lg	Lg	15 12 55.6	
comp=E,27nm,0.3s							
KNT	Kendrikon	0.19	137⇑	*i*Pg	Pg	15 12 54.0	+0.1
KNT				*i* Sg	Sg	15 12 56.8	-0.4
GRG	Griva	0.42	216	*i*Pg	Pb	15 12 58.1	0.0
GRG				*i* Sg	Sb	15 13 04.3	+0.1
STIP	Stip	0.57	314	*e*Pg	Pb	15 12 59.8	-0.7
STIP				*i* Sg	Sb	15 13 06.8	-1.3
KKB	Krupnik	0.62	25	*i* Pg	Pg	15 13 02.1	+0.6
KKB				*i* Sg	Sg	15 13 10.3	+0.3
SOH	Sokhos	0.67	135	*i* Pg	Pg	15 13 02.7	+0.3
SOH				*i* Sg	Sn	15 13 12.8	-0.9

IDC 09 15:32:44.3±2.8, 4°.30S×133°.47E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/37, mbtmp3.4/5, ML3.1/4, Error ellipse: s-maj=108.3km s-min=22.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.06	327	Pn	Pn	15 33 49.0	+1.3
0.5nm,0.3s,baz=162,slow=20,SNR=7.3							
SIJI				Sn	Sn	15 34 36.8	+0.8
1.0nm,0.3s,baz=185,slow=23,SNR=6.6							
WRA	Warramunga Arr	15.57	177	Pn	Pn	15 36 26.3	+1.0
0.1nm,0.3s,baz=356,slow=12,SNR=7.3							
FITZ	Fitzroy Crossi	15.71	209	Pn	Pn	15 36 26.1	-1.0
0.1nm,0.3s,baz=38,slow=12,SNR=3.2							
FITZ				Sn	Sn	15 39 16.3	-5.7
0.1nm,0.3s,baz=157,slow=15,SNR=2.6							
ASAR	Alice Springs	19.26	179	P	P	15 37 10.8	+0.3
0.1nm,0.3s,baz=4.9,slow=11,SNR=11							
MKAR	Makanchi Array	67.95	325	P	P	15 43 44.8	-0.3
0.4nm,0.8s,baz=112,slow=7.6,SNR=2.6							

ISCJB ***09*** *15:37:03.5±0.5, 52°.03N±0°.07×174°.54E±0°.07, h29km, mb3.9/18, MS3.3/1, Error ellipse: s-maj=9.5km s-min=6.3km az=176.8*
IDC ***09*** *15:37:06.2±6.3, 52°.14N×174°.59E, h33km±47km, mb3.7/18, mb1 3.9/21, mb1mx3.7/56, mbtmp3.9/21, ML3.2/3, MS3.4/1, Ms1 3.4/1, ms1mx3.0/47, Error ellipse: s-maj=21.7km s-min=13.7km az=165.0*
NEIC ***09*** *15:37:07.1±2.3, 52°.15N±0°.04×174°.4E±0°.1, h48km±6km, mb4.3/24*

ISC 09 15:37:05.6±0.6, 52°.12N±0°.09×174°.52E±0°.06, h29km, n67, σ1§45/60, mb4.0/28, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	0.66	337		Pn	15 37 19.8	+0.9
SMY				Sn	Sn	15 37 30.3	+2.0
KIWB	Kanaga Island	5.15	90	Pn	Pn	15 38 22.3	+1.6
PETK	Petropavlovsk-	10.28	282	Pn	Pn	15 39 31.2	+0.2
0.2nm,0.3s,baz=95,slow=16,SNR=4.8							
PETK				Sn	Sn	15 41 22.9	-2.3
0.7nm,0.3s,baz=78,slow=32,SNR=4.9							
SEY	Seymchan	15.98	321	Pn	Pn	15 40 47.4	-0.6
0.1nm,0.3s,baz=119,slow=19,SNR=1.9							
KDAK	Kodiak Island	19.58	60	P	P	15 41 30.0	-0.9
0.5nm,0.3s,baz=260,slow=2.4,SNR=21							
KDAK	Kodiak Island	19.58	60		Pn	15 41 33.5	+1.1
KDAK				IAmb	IAmb	15 41 48.1	
comp=Z,28nm,1.2s							
CNPM	China Poot	20.42	55	P	P	15 41 40.8	+0.7
CNPM				IAmb	IAmb	15 41 52.2	
comp=Z,21nm,0.9s							
BRLK	Bradley Lake	20.62	55	P	P	15 41 43.0	+0.7
BRLK				IAmb	IAmb	15 41 56.5	
comp=Z,13nm,1.0s							
IMAR	Indian Mountai	21.09	37	P	P	15 41 48.6	+1.3
RC01	Rabbit Creek A	21.36	51	P	P	15 41 49.4	-0.8
RC01				IAmb	IAmb	15 42 05.7	
comp=Z,26nm,1.4s							
BPAW	Bear Paw Mtn.	21.49	43	P	P	15 41 46.4	-5.2
BPAW				IAmb	IAmb	15 42 04.9	
comp=Z,26nm,1.4s							
PMR	Palmer	21.73	50	P	P	15 41 49.9	-4.2
BWN	Browne	22.15	43	P	P	15 41 58.6	0.0
NEA	Nenana	22.42	42	P	P	15 42 00.5	-1.0
COLD	Coldfoot	22.90	35	P	P	15 42 03.4	-3.2
CCB	Clear Creek Bu	22.97	42	P	P	15 42 06.3	-1.0
CCB				IAmb	IAmb	15 42 15.4	
comp=Z,6.4nm,1.1s							
IL31		23.38	42	P	P	15 42 11.3	-0.1
ILAR	Eielson Array	23.38	42	P	P	15 42 10.6	-0.8
comp=Z,1.5nm,0.6s,baz=244,slow=7.7,SNR=33							
ILAR	Eielson Array	23.38	42	P	P	15 42 11.6	+0.1
PAX	Paxson	23.64	47	P	P	15 42 15.0	+1.0
PAX				IAmb	IAmb	15 42 25.3	
comp=Z,13nm,1.3s							
TOLK	Toolik Lake Re	23.72	32	P	P	15 42 15.4	+0.7
HMT	Hamilton	23.98	54	P	P	15 42 16.3	-0.9
RIDG	Independent Ri	24.04	45	P	P	15 42 15.6	-2.2
RIDG				IAmb	IAmb	15 42 16.9	
comp=Z,21nm,1.4s							
MENT	Mentasta	24.43	47	P	P	15 42 20.6	-0.8
MENT				IAmb	IAmb	15 42 32.3	
comp=Z,4.9nm,0.6s							
SCRK	Sand Creek	24.45	45	P	P	15 42 21.5	-0.2
SCRK				IAmb	IAmb	15 42 23.6	
comp=Z,4.2nm,0.6s							
CRQM	Cirque	24.54	53	P	P	15 42 23.7	+1.2
CRQM				IAmb	IAmb	15 42 40.9	
comp=Z,18nm,1.3s							
BMAR	Burnt Mountain	25.02	37	P	P	15 42 27.3	+0.7
BCAR	Beaver Creek A	25.32	47	P	P	15 42 28.7	-0.7
YAK	Yakutsk	25.79	310	P	P	15 42 33.5	0.0
comp=Z,1.4nm,0.4s,baz=65,slow=1.5,SNR=3.5							
EGAK	Eagle	25.79	43	P	P	15 42 33.3	-0.3
EGAK				IAmb	IAmb	15 42 45.5	
comp=Z,5.3nm,1.0s							
DAWY	Dawson	26.47	45	P	P	15 42 40.6	+0.8
DAWY				IAmb	IAmb	15 42 52.9	
comp=Z,5.9nm,0.8s							
EPYK	Eagle Plains	27.83	40	P	P	15 42 53.9	+1.9
MJAR	Matsushiro Arr	29.91	253	LR	LR	16 01 50.1	
comp=Z,63nm,18.0s,baz=160,slow=50							
WRAK	Wrangell Islan	30.67	61	P	P	15 43 14.8	-2.3
H11N2	WAKE ISLAND Hy	32.87	193	T	T	16 18 27.2	
baz=9.1,slow=76							
H11N3	WAKE ISLAND Hy	32.88	193	T	T	16 18 22.2	
baz=9.1,slow=76							
H11N1	WAKE ISLAND Hy	32.89	193	T	T	16 18 26.3	
baz=9.1,slow=76							
H11S1	WAKE ISLAND Hy	34.10	193	T	T	16 19 54.2	
baz=8.9,slow=76							
H11S3	WAKE ISLAND Hy	34.12	193	T	T	16 20 09.3	
baz=8.9,slow=76							
H11S2	WAKE ISLAND Hy	34.12	193	T	T	16 20 00.9	
baz=8.9,slow=76,SNR=141							
BBB	Bella Bella	34.40	67	P	P	15 43 47.6	-2.3
KSRS	Korea Array	35.52	264	P	P	15 44 02.2	+2.5
comp=Z,1.0nm,0.7s,baz=47,slow=8.3,SNR=3.4							
YKA	Yellowknife Ar	37.71	46	P	P	15 44 18.5	+0.4
comp=Z,1.1nm,0.5s,baz=288,slow=7.7,SNR=4.1							
SONM	Songino Array	42.56	292	P	P	15 44 58.7	+0.1
comp=Z,0.5nm,0.6s,baz=70,slow=7.2,SNR=2.4							
NVAR	Mina Array Bea	47.53	79	P	P	15 45 39.6	+1.3
comp=Z,0.3nm,0.6s,baz=298,slow=7.9,SNR=2.9							
PDAR	Pinedale Array	49.98	69	P	P	15 45 56.2	-0.9
comp=Z,0.3nm,0.6s,baz=304,slow=2.1,SNR=3.4							
MKAR	Makanchi Array	56.25	304	P	P	15 46 42.5	-0.4
comp=Z,0.5nm,0.4s,baz=54,slow=6.8,SNR=12							
ARCES	ARCESS Array B	56.56	347	P	P	15 46 44.3	-0.4
comp=Z,1.7nm,0.8s,baz=2.3,slow=9.0,SNR=5.3							
TXAR	Lajitas Array	62.59	77	P	P	15 47 26.7	-0.2
comp=Z,0.4nm,0.5s,baz=316,slow=5.0,SNR=2.7							
TXAR	Lajitas Array	62.59	77	P	P	15 47 26.0	-1.0
FINES	FINESS Array B	64.02	344	P	P	15 47 34.8	-1.0
comp=Z,4.3nm,1.0s,baz=10,slow=8.5,SNR=4.5							
FINES	FINESS Array B	64.02	344	P	P	15 47 34.5	-1.3
NB2	NORSAR Subarra	66.40	351	P	P	15 47 51.4	+0.1
comp=Z,2.3nm,0.9s,baz=12,slow=6.5							
NOA	NORSAR Array B	66.40	351	P	P	15 47 51.3	-0.1
comp=Z,0.5nm,0.6s,baz=11,slow=6.4,SNR=4.0							
CMAR	Chiang Mai Arr	66.83	270	P	P	15 47 55.0	+0.3
comp=Z,0.9nm,0.6s,baz=29,slow=7.0,SNR=9.3							
CMAR	Chiang Mai Arr	66.83	270	P	P	15 47 53.0	-1.7
AKASG	Malin Array Be	73.42	338	P	P	15 48 35.7	+1.1
comp=Z,0.3nm,0.4s,baz=19,slow=7.7,SNR=2.8							
WRA	Warramunga Arr	79.85	218	P	P	15 49 10.6	-0.6
comp=Z,1.3nm,0.7s,baz=29,slow=5.9,SNR=14							
WRA	Warramunga Arr	79.85	218	P	P	15 49 10.2	-1.0
BRTR	Keskin Array B	82.40	331	P	P	15 49 25.4	+0.5
comp=Z,0.9nm,0.7s,baz=62,slow=4.5,SNR=6.5							
BRTR	Keskin Array B	82.40	331	P	P	15 49 25.2	+0.4
ASAR	Alice Springs	83.41	217	P	P	15 49 30.1	+0.2
comp=Z,0.8nm,0.7s,baz=25,slow=5.3,SNR=14							
ASAR	Alice Springs	83.41	217	P	P	15 49 30.4	+0.5
STKA	Stephens Creek	88.48	208	P	P	15 49 54.8	0.0
comp=Z,1.7nm,0.8s,baz=314,slow=7.5,SNR=3.5							
STKA	Stephens Creek	88.48	208	P	P	15 49 54.3	-0.4
MAW	Mawson	144.53	218	PKP	PKPbc	15 56 36.3	0.0
comp=Z,2.3nm,0.5s,baz=69,slow=5.4,SNR=4.9							
MAW	Mawson	144.53	218		PKPbc	15 56 36.7	+0.5

ISCJB ***09*** *16:38:24.1±1.1, 34°.10N±0°.03×26°.24E±0°.04, h14km±8km, Error ellipse: s-maj=5.3km s-min=4.7km az=155.7*
ATH ***09*** *16:38:27.5, 34°.32N×26°.14E, h24km±2km, ML2.7/3, Error ellipse: s-maj=5.0km s-min=1.6km az=355.0*
ISK ***09*** *16:38:27.2, 34°.32N×26°.19E, h24km, ML3.2/17*
HLW ***09*** *16:38:28.4, 33°.93N×26°.48E, h19km±10km, Md3.8, Ml3.3*
THE ***09*** *16:38:28.8, 34°.40N×26°.11E, h0km±2km, ML2.4/2, Error ellipse: s-maj=3.9km s-min=0.9km az=156.0*

ISC 09 16:38:26.4±1.5, 34°.18N±0°.04×26°.20E±0°.04, h25km±16km, n52, σ1§39/59, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	Ierapetra Chan	0.92	335	P	Pn	16 38 42.3	-1.4
ZKR	Zakros	0.93	1	P	Pn	16 38 43.0	-0.9
ZKR				S	Sn	16 38 54.8	-1.7
258nm,0.4s							
ZKR	Zakros	0.93	1	P	Pn	16 38 43.0	-0.9
ZKR				S	Sn	16 38 54.6	-1.9
ZKR

KRSC 09 16:49:16.9±1.4, 53°.81N×160°.54E, h110km±15km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.68**	**290**	*eP*	Pn	16 49 37.5	+2.2
KII				*eS*	Sn	16 49 50.9	+1.8
SPN	**Mys Shipunski**	**0.78**	**204**	*eP*	Pn	16 49 37.4	+1.4
SPN				*eS*	Sn	16 49 50.3	0.0
NLC	**Nalytchevo**	**0.96**	**229**	*eP*	Pn	16 49 39.4	+1.7
NLC				*eS*	Sn	16 49 54.2	+0.9
MKZ	**Mys Kozlova**	**1.02**	**43**	*eP*	Pn	16 49 41.2	+2.9
MKZ				*eS*	Sn	16 49 56.6	+2.1
SDLR	**Sedlovina**	**1.12**	**242**	*eP*	Pn	16 49 42.1	+2.5
SMAR	**Somma**	**1.18**	**243**	*eP*	Pn	16 49 42.8	+2.6
SMAR				*eS*	Sn	16 49 59.7	+1.9
KRER	**Koryakskii**	**1.18**	**245**	*eP*	Pn	16 49 42.0	+1.7
UGLR	**Uglovaya**	**1.19**	**240**	*eP*	Pn	16 49 42.5	+2.2
UGLR				*eS*	Sn	16 49 59.1	+1.2
AVH	**Avacha**	**1.21**	**244**	*eP*	Pn	16 49 43.3	+2.9
AVH				*eS*	Sn	16 50 01.3	+3.1
KRX	**Arik**	**1.22**	**249**	*eP*	Pn	16 49 43.4	+2.8
KRX				*eS*	Sn	16 50 00.7	+2.2
KOK	**Koryaka**	**1.25**	**246**	*eP*	Pn	16 49 43.4	+2.5
KZV	**Kizimen**	**1.31**	**354**	*eP*	Pn	16 49 43.3	+1.6
KZV				*eS*	Sn	16 50 00.4	-0.1
DALK	**Dalny**	**1.32**	**235**	*eP*	Pn	16 49 43.1	+1.4
DALK				*eS*	Sn	16 50 01.3	+0.9
TUMD	**Tumrok D**	**1.40**	**357**	*eP*	Pn	16 49 43.9	+1.4
TUMD				*eS*	Sn	16 50 02.5	+0.5
TUMR	**Tumrok**	**1.49**	**351**	*eP*	Pn	16 49 45.5	+1.7
TUMR				*eS*	Sn	16 50 04.3	+0.2
GNL	**Ganaly**	**1.55**	**267**	*eP*	Pn	16 49 46.4	+2.0
KRMR	**Karymshinskiy**	**1.75**	**237**	*eP*	Pn	16 49 48.2	+1.5
KRMR				*eS*	Sn	16 50 10.2	+0.8
RUS	**Russkaya**	**1.84**	**222**	*eP*	Pn	16 49 48.9	+1.0
RUS				*eS*	Sn	16 50 11.2	-0.3
MTVR	**Mutnovka**	**1.95**	**228**	*eP*	Pn	16 49 52.1	+2.7
MTVR				*eS*	Sn	16 50 16.0	+1.9
KMNR	**Kamenistaya**	**1.96**	**355**	*eP*	Pn	16 49 52.4	+3.0
ASAK	**Asacha**	**2.14**	**229**	*eS*	Sn	16 50 20.6	+2.2
ESO	**Esso**	**2.37**	**334**	*eP*	Pn	16 49 55.6	+1.0
KDTR	**Khodutka, Kamc**	**2.50**	**218**	*eP*	Pn	16 49 57.2	+0.9
KDTR				*eS*	Sn	16 50 25.3	-1.3
SRDR	**Sredinnyy**	**2.56**	**350**	*eP*	Pn	16 49 58.0	+0.9
KBTR	**Krutoberegovo**	**2.74**	**28**	*eP*	Pn	16 50 01.5	+2.1
KBTR				*eS*	Sn	16 50 32.7	+0.6

*ISCJB **09** 16:53:11.3±0.8, 19°.17N±0°.08×64°.78W±0°.05, h70km±12km, Error ellipse: s-maj=14.6km s-min=6.8km az=160.4*
*NEIC **09** 16:53:12.7±0.7, 19°.17N±0°.09×64°.85W±0°.03, h30km±13km*
*RSPR **09** 16:53:13.5, 19°.17N×64°.81W, h54km±3km, MD3.2/12*
ISC 09 16:53:12.1±1.4, 19°.20N±0°.10×64°.81W±0°.05, h53km±22km, n46, σ0°.74/63, 12C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.65**	**136**	*e*	**Pn**	**16 53 25.7**	**+0.3**
ABVI				*e*	**Sn**	**16 53 35.4**	**+0.5**
ABV	**Anegada**	**0.65**	**136**	*eP*	**Pn**	**16 53 25.7**	**+0.3**
ABV	**Anegada**	**0.65**	**136**	*eS*	**Sn**	**16 53 35.4**	**+0.5**
TBVI	**Tortola**	**0.80**	**167**	*eP*	**Pn**	**16 53 27.5**	**+0.2**
TBVI	**Tortola**	**0.80**	**167**	*eS*	**Sn**	**16 53 38.5**	**+0.2**
TBVI	**Tortola**	**0.80**	**167**		**Pn**	**16 53 27.5**	**+0.2**
TBVI					**Sn**	**16 53 38.5**	**+0.2**
STVI	**Saint Thomas**	**0.85**	**189**	*eP*	**Pn**	**16 53 27.8**	**-0.2**
STVI	**Saint Thomas**	**0.85**	**189**	*eP*	**Pn**	**16 53 27.9**	**-0.2**
STVI	**Saint Thomas**	**0.85**	**189**	*eS*	**Sn**	**16 53 39.2**	**-0.4**
STVI	**Saint Thomas**	**0.85**	**189**		**Sn**	**16 53 39.2**	**-0.4**
STVI	**Saint Thomas**	**0.85**	**189**	Pn	**Pn**	**16 53 27.8**	**-0.2**
MTP	**Monte Pirata**	**1.30**	**213**	*eP*	**Pn**	**16 53 34.4**	**+0.4**
MTP	**Monte Pirata**	**1.30**	**213**	*eS*	**Sn**	**16 53 50.6**	**+0.3**
MTP	**Monte Pirata**	**1.30**	**213**		**Pn**	**16 53 34.4**	**+0.4**
MTP					**Sn**	**16 53 50.6**	**+0.3**
CBYP	**Canovanas**	**1.35**	**227**	*eP*	**Pn**	**16 53 35.0**	**+0.2**
CBYP				*eS*	**Sn**	**16 53 51.8**	**+0.2**
CBYP	**Canovanas**	**1.35**	**227**	*eP*	**Pn**	**16 53 35.0**	**+0.2**
CBYP	**Canovanas**	**1.35**	**227**	*e*	**Pn**	**16 53 35.0**	**+0.2**
CBYP				*e*	**Sn**	**16 53 51.9**	**+0.2**
CDVI	**St. Croix**	**1.44**	**178**	*e*	**Pn**	**16 53 36.2**	**+0.3**
CDVI				*e*	**Sn**	**16 53 53.9**	**+0.2**
HUMP	**Col San Antoni**	**1.44**	**223**	*eP*	**Pn**	**16 53 36.2**	**+0.3**
HUMP				*eS*	**Sn**	**16 53 53.7**	**0.0**
HUMP	**Col San Antoni**	**1.44**	**223**	*eP*	**Pn**	**16 53 36.2**	**+0.3**
HUMP	**Col San Antoni**	**1.44**	**223**		**Pn**	**16 53 36.2**	**+0.3**
HUMP					**Sn**	**16 53 53.9**	**+0.2**
GCPR	**Guaynabo City**	**1.50**	**234**		**Pn**	**16 53 36.4**	**-0.2**
PDPR	**Patillas Dam,**	**1.64**	**225**	*eP*	**Pn**	**16 53 39.1**	**+0.5**
PDPR	**Patillas Dam,**	**1.64**	**225**	*eS*	**Sn**	**16 53 58.9**	**+0.3**
PDPR	**Patillas Dam,**	**1.64**	**225**		**Pn**	**16 53 39.1**	**+0.5**
PDPR					**Sn**	**16 53 58.9**	**+0.3**
SJG	**San Juan**	**1.67**	**230**		**Pn**	**16 53 39.8**	**+0.8**
IGPR	**InterUniversit**	**1.74**	**225**	*eP*	**Pn**	**16 53 40.2**	**+0.4**
IGPR				*eS*	**Sn**	**16 54 01.0**	**+0.1**
IGPR	**InterUniversit**	**1.74**	**225**	*eP*	**Pn**	**16 53 40.2**	**+0.4**
IGPR	**InterUniversit**	**1.74**	**225**	*eS*	**Sn**	**16 54 01.0**	**+0.1**
IGPR	**InterUniversit**	**1.74**	**225**		**Pn**	**16 53 40.2**	**+0.4**
IGPR					**Sn**	**16 54 01.0**	**+0.1**
EMPR	**Esperanza - Ma**	**1.78**	**246**	Pn	**Pn**	**16 53 37.0**	**-3.5**
CELP	**Cerrillos**	**2.02**	**237**	*eP*	**Pn**	**16 53 44.0**	**+0.3**
CELP				*eS*	**Sn**	**16 54 08.0**	**+0.2**
CELP	**Cerrillos**	**2.02**	**237**		**Pn**	**16 53 44.0**	**+0.3**
CELP					**Sn**	**16 54 08.0**	**+0.2**
AOPR	**Arecibo Observ**	**2.03**	**246**	*eP*	**Pn**	**16 53 44.5**	**+0.6**
AOPR	**Arecibo Observ**	**2.03**	**246**	*eS*	**Sn**	**16 54 08.3**	**+0.2**
AOPR	**Arecibo Observ**	**2.03**	**246**		**Pn**	**16 53 44.5**	**+0.6**
AOPR					**Sn**	**16 54 08.3**	**+0.2**
OBIP	**Obispado Ponce**	**2.06**	**236**	Pn	**Pn**	**16 53 44.5**	**+0.3**
GBPR	**Guanica, Bosqu**	**2.31**	**238**	*eP*	**Pn**	**16 53 48.5**	**+0.8**
GBPR	**Guanica, Bosqu**	**2.31**	**238**	*eS*	**Sn**	**16 54 17.1**	**+2.2**
GBPR	**Guanica, Bosqu**	**2.31**	**238**		**Pn**	**16 53 48.5**	**+0.8**
GBPR					**Sn**	**16 54 17.1**	**+2.2**
MLPR	**Magueyes Islan**	**2.45**	**240**	Pn	**Pn**	**16 53 50.1**	**+0.5**
MLPR				Sn	**Sn**	**16 54 18.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**	*eP*	**Pn**	**16 53 50.6**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**	*eS*	**Sn**	**16 54 19.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**		**Pn**	**16 53 50.6**	**+0.6**
CRPR					**Sn**	**16 54 19.7**	**+0.5**
ROSC	**El Rosal**	**17.02**	**214**	Pn	**Pn**	**16 57 05.5**	**-1.5**
Y60A	**Bolivia**	**18.97**	**324**	P	**P**	**16 57 29.3**	**+0.2**

*IDC **09** 16:53:35.9±0.8, 37°.32N×144°.83E, h0km, mb3.8/9, mb1 4.0/13, mb1mx3.7/50, mbtmp3.9/13, ML3.7/3, Error ellipse: s-maj=26.1km s-min=17.5km az=98.0*
*ISCJB **09** 16:53:38.9±0.5, 37°.40N±0°.03×144°.63E±0°.04, h33km, mb3.8/9, Error ellipse: s-maj=4.9km s-min=4.5km az=138.1*
*NEIC **09** 16:53:39.5±2.3, 37°.43N±0°.09×144°.8E±0°.2, h32km±7km, mb4.4/7*
*JMA **09** 16:53:41.3±0.2, 37°.46N×144°.53E, h56km, M4.3*
ISC 09 16:53:40.6±0.7, 37°.40N±0°.05×144°.66E±0°.07, h35km, n51, σ1.9/82/61, mb3.8/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.68**	**291**	P	**Pn**	**16 54 21.7**	**+0.5**
JIKH				S	**Sn**	**16 54 51.7**	**-0.8**
JIO	**Ouri**	**2.82**	**293**	P	**Pn**	**16 54 23.6**	**+0.5**
JIO				S	**Sn**	**16 54 55.4**	**-0.4**
JKMT	**Kesennumamotoy**	**2.88**	**300**	P	**Pn**	**16 54 24.3**	**+0.4**
JKMT				S	**Sn**	**16 54 56.4**	**-0.9**
OFUJ	**Ofunato**	**2.89**	**306**	P	**Pn**	**16 54 24.4**	**+0.4**
OFUJ				S	**Sn**	**16 54 56.4**	**-1.1**
JMK	**Ichinoseki**	**3.12**	**301**	P	**Pn**	**16 54 27.9**	**+0.7**
JMK				S	**Sn**	**16 55 02.8**	**-0.4**
JOM	**Ohasama**	**3.35**	**309**	P	**Pn**	**16 54 31.2**	**+0.7**
JOM				*eS*	**Sn**	**16 55 08.7**	**-0.3**
JFT	**Otama**	**3.44**	**273**	P	**Pn**	**16 54 33.0**	**+1.4**
JFT				*eS*	**Sn**	**16 55 11.5**	**+0.3**
BSO1	**Boso 1**	**4.05**	**228**	*eS*	**Sn**	**16 55 25.9**	**+0.4**
ERM	**Erimo**	**4.75**	**346**	Pn	**Pn**	**16 54 49.5**	**-0.1**
ERM				Sn	**Sn**	**16 55 40.6**	**-2.8**
JRY	**Ryogami san**	**4.83**	**255**	P	**Pn**	**16 54 50.9**	**+0.2**
JRY				*eS*	**Sn**	**16 55 43.7**	**-1.7**
JOT	**Ohata**	**4.86**	**326**	P	**Pn**	**16 54 52.4**	**+1.3**
JOT				*eS*	**Sn**	**16 55 46.1**	**0.0**
JOD2	**Odawara 2**	**4.97**	**246**	P	**Pn**	**16 54 53.7**	**+0.9**
MJAR	**Matsushiro Arr**	**5.23**	**262**	Pn	**Pn**	**16 54 57.6**	**+1.3**
	0.5nm,0.3s,baz=87,slow=14,SNR=45						
MJAR				Sn	**Sn**	**16 55 55.5**	**+0.1**
	0.5nm,0.3s,baz=96,slow=29,SNR=6.9						
MJAR	**Matsushiro Arr**	**5.23**	**262**		**Pn**	**16 54 57.8**	**+1.5**
MJAR				Sn	**Sn**	**16 55 55.3**	**-0.1**
MAJO	**Matsushiro**	**5.23**	**263**		**Pn**	**16 54 58.3**	**+1.9**
MAJO				Sn	**Sn**	**16 55 53.0**	**-2.4**
MAT	**Matsushiro**	**5.23**	**263**	P	**Pn**	**16 54 58.4**	**+2.1**
MAT				S	**Sn**	**16 55 56.3**	**+0.8**
MJB9	**Matsu-Tunnel**	**5.24**	**263**		**Pn**	**16 54 58.3**	**+2.0**
JKB	**Kayabe**	**5.28**	**329**	P	**Pn**	**16 54 58.1**	**+1.2**
JCH	**Churui**	**5.30**	**350**	P	**Pn**	**16 54 56.6**	**-0.6**
JHJ2	**Mitsune**	**5.83**	**224**	P	**Pn**	**16 55 03.6**	**-0.9**
JHJ2	**Mitsune**	**5.83**	**224**	Pn	**Pn**	**16 55 04.7**	**+0.2**
JHJ2				Sn	**Sn**	**16 56 05.5**	**-4.6**
JHJ	**Hachijo jima 2**	**5.84**	**224**	Pn	**Pn**	**16 55 03.7**	**-1.0**
	12nm,0.3s,baz=239,slow=22,SNR=9.1						
JHJ				Sn	**Sn**	**16 56 04.2**	**-6.2**
	60nm,0.3s,baz=260,slow=24,SNR=9.7						
NEM2	**Nemuro 2**	**6.01**	**8**	P	**Pn**	**16 55 04.2**	**-2.8**
JKA	**Kamikawa-asahi**	**6.89**	**348**		**Pn**	**16 55 18.8**	**-0.1**
ASAJ	**Asahikawa**	**6.89**	**348**	Pn	**Pn**	**16 55 18.8**	**-0.1**
	2.3nm,0.3s,baz=195,slow=17,SNR=31						
ASAJ				Sn	**Sn**	**16 56 31.1**	**-5.0**
	1.2nm,0.3s,baz=45,slow=20,SNR=2.5						
USRK	**Ussuriysk Ar.**	**11.75**	**309**	Pn	**Pn**	**16 56 26.7**	**+1.1**
	baz=112,slow=14,SNR=5.0						
KSAR	**Wonju Array Be**	**13.34**	**275**	Pn	**Pn**	**16 56 46.1**	**-1.2**
KS19	**Wonju Array Si**	**13.34**	**276**	Pn	**Pn**	**16 56 46.9**	**-0.6**
PETK	**Petropavlovsk-**	**18.14**	**26**	Pn	**Pn**	**16 57 46.4**	**-3.2**
SSE	**Sheshan**	**20.37**	**259**	P	**P**	**16 58 12.9**	**-1.2**
ANA2	**Anatahan**	**21.00**	**177**	P	**P**	**16 58 16.9**	**-4.1**
MA2	**Magadan**	**22.54**	**8**	P	**P**	**16 58 35.9**	**-1.3**
YHNB	**Yeheng**	**23.57**	**244**	P	**P**	**16 58 48.6**	**+0.6**
YHNB				IAmb	IAmb	16 59 05.4	
	comp=Z,12nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**26.19**	**126**	T	T	17 26 18.8	
	baz=317,slow=76,SNR=124						
H11N1	**WAKE ISLAND Hy**	**26.20**	**126**	T	T	17 26 21.2	
	baz=317,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**26.21**	**126**	T	T	17 26 11.2	
	baz=317,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**26.97**	**128**	T	T	17 27 05.9	
	baz=319,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**26.97**	**128**	T	T	17 27 02.8	
	baz=319,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**26.98**	**128**	T	T	17 27 08.8	
	baz=319,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**43.58**	**312**	PcP	**PcP**	**17 03 29.5**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=91,slow=3.9,SNR=3.6						
TTA	**Tatalina**	**43.64**	**35**	P	**P**	**17 01 39.7**	**-1.7**
MKAR	**Makanchi Array**	**46.11**	**302**	P	**P**	**17 02 02.8**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=80,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**57.86**	**191**	P	**P**	**17 03 28.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=9.1,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**61.58**	**191**	P	**P**	**17 03 54.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=8.8,slow=6.9,SNR=15						
RES	**Resolute Bay**	**61.59**	**15**	P	**P**	**17 03 54.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=109,slow=20,SNR=11						
RES	**Resolute Bay**	**61.59**	**15**	IAmb	IAmb	17 03 56.4	
	comp=Z,3.8nm,1.1s						
FINES	**FINESS Array B**	**69.67**	**333**	P	**P**	**17 04 47.9**	**+1.8**
	comp=Z,2.0nm,0.9s,baz=29,slow=9.8,SNR=3.5						
NOA	**NORSAR Array B**	**74.82**	**339**	P	**P**	**17 05 18.8**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=44,slow=9.2,SNR=2.9						
PDAR	**Pinedale Array**	**75.54**	**47**	P	**P**	**17 05 22.8**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=349,slow=3.7,SNR=2.0						
AKASG	**Malin Array Be**	**75.56**	**324**	P	**P**	**17 05 23.4**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=45,slow=6.9,SNR=4.7						
TXAR	**Lajitas Array**	**87.83**	**54**	P	**P**	**17 06 27.5**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=306,slow=3.2,SNR=3.4						

*KRSC **09** 17:00:13.7±0.9, 55°.15N×162°.27E, h80km±18km, ML4.3*
*MOS **09** 17:00:14.9±0.6, 55°.16N×162°.33E, h75km, mb4.6/4, Error ellipse: s-maj=7.9km s-min=4.3km az=76.7*
*ISCJB **09** 17:00:15.2±0.3, 55°.15N±0°.02×162°.25E±0°.05, h76km±3km, mb4.0/16, Error ellipse: s-maj=5.2km s-min=2.7km az=30.6*
*NEIC **09** 17:00:17.5±1.1, 55°.4N±0°.2×161°.8E±0°.2, h85km±4km, mb4.3/29*
*IDC **09** 17:00:17.1±2.1, 55°.44N×161°.78E, h84km±20km, mb3.5/10, mb1 3.8/11, mb1mx3.4/62, mbtmp3.8/11, MS3.1/2, Ms1 3.1/2, ms1mx2.6/48, Error ellipse: s-maj=28.3km s-min=12.7km az=138.0*
ISC 09 17:00:15.5±0.8, 55°.14N±0°.02×162°.29E±0°.03, h71km±7km, n164, σ1.9/27/207, mb4.3/27, 3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.67**	**209**	*i P*	**Pn**	**17 00 30.8**	**+0.7**
MKZ				*eS*	**Sn**	**17 00 41.6**	**+0.7**
MKZ	**Mys Kozlova**	**0.67**	**209**	PN	**Pn**	**17 00 30.8**	**+0.7**
MKZ				S	**Sn**	**17 00 41.6**	**+0.7**
TUMD	**Tumrok D**	**1.09**	**274**	*eP*	**Pn**	**17 00 34.7**	**-0.4**
TUMD				*eS*	**Sn**	**17 00 48.3**	**-1.4**
KBTR	**Krutoberegovo**	**1.11**	**16**	*eP*	**Pn**	**17 00 35.4**	**0.0**
KBTR				*eS*	**Sn**	**17 00 50.2**	**0.0**
KBTR	**Krutoberegovo**	**1.11**	**16**	PN	**Pn**	**17 00 35.4**	**0.0**
KBTR				S	**Sn**	**17 00 50.2**	**0.0**
KBG	**Krutoberegovo**	**1.14**	**12**	*eP*	**Pn**	**17 00 35.9**	**+0.2**
KBG				*eS*	**Sn**	**17 00 50.4**	**-0.4**
KBG	**Krutoberegovo**	**1.14**	**12**	PN	**Pn**	**17 00 35.9**	**+0.2**
KBG				S	**Sn**	**17 00 50.4**	**-0.4**
KZV	**Kizimen**	**1.15**	**269**	*i P*	**Pn**	**17 00 35.7**	**-0.3**
KZV				*eS*	**Sn**	**17 00 49.9**	**-1.4**
KZV	**Kizimen**	**1.15**	**269**	PN	**Pn**	**17 00 35.7**	**-0.3**
KZV				S	**Sn**	**17 00 49.9**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**1.21**	**312**	*eP*	**Pn**	**17 00 36.5**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.21**	**312**	PN	**Pn**	**17 00 36.5**	**-0.2**
ZLN	**Zelenaya**	**1.22**	**317**	*eP*	**Pn**	**17 00 37.1**	**+0.2**
ZLN	**Zelenaya**	**1.22**	**317**	PN	**Pn**	**17 00 37.1**	**+0.2**
TUMR	**Tumrok**	**1.24**	**277**	*eP*	**Pn**	**17 00 37.4**	**+0.3**
TUMR				*eS*	**Sn**	**17 00 53.1**	**-0.2**
TUMR	**Tumrok**	**1.24**	**277**	PN	**Pn**	**17 00 37.4**	**+0.3**
TUMR				S	**Sn**	**17 00 53.1**	**-0.2**
BZMR	**Bezymyannaya**	**1.29**	**309**	*eS*	**Sn**	**17 00 54.5**	**-0.2**
CIRR	**Tsirk**	**1.31**	**319**	*eP*	**Pn**	**17 00 38.2**	**+0.1**
CIRR	**Tsirk**	**1.31**	**319**	PN	**Pn**	**17 00 38.2**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.31**	**310**	*eP*	**Pn**	**17 00 38.2**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.31**	**310**	PN	**Pn**	**17 00 38.2**	**+0.1**
KMNR	**Kamenistaya**	**1.32**	**299**	*eP*	**Pn**	**17 00 38.5**	**+0.3**
KMNR				*eS*	**Sn**	**17 00 55.6**	**+0.4**
KMNR	**Kamenistaya**	**1.32**	**299**	PN	**Pn**	**17 00 38.5**	**+0.3**
KMNR				S	**Sn**	**17 00 55.6**	**+0.4**
KIRR	**Kirishev**	**1.37**	**307**	*eP*	**Pn**	**17 00 39.6**	**+0.7**
KIRR	**Kirishev**	**1.37**	**307**	PN	**Pn**	**17 00 39.6**	**+0.7**
KPT	**Kopyto**	**1.43**	**306**	*eP*	**Pn**	**17 00 39.8**	**+0.1**
KPT	**Kopyto**	**1.43**	**306**	PN	**Pn**	**17 00 39.8**	**+0.1**
KRSR	**Krestovskiy**	**1.45**	**318**	*eP*	**Pn**	**17 00 39.8**	**-0.1**
KRSR				*eS*	**Sn**	**17 00 57.7**	**-0.6**
KRSR	**Krestovskiy**	**1.45**	**318**	PN	**Pn**	**17 00 39.8**	**-0.1**
KRSR				S	**Sn**	**17 00 57.7**	**-0.6**
KLY	**Klyuchi**	**1.49**	**322**	*eP*	**Pn**	**17 00 39.7**	**-0.6**
KLY				*eS*	**Sn**	**17 00 57.5**	**-1.6**
KLY	**Klyuchi**	**1.49**	**322**	PN	**Pn**	**17 00 39.7**	**-0.6**
KLY				S	**Sn**	**17 00 57.5**	**-1.6**
SMKR	**Semkarok**	**1.51**	**343**	*eP*	**Pn**	**17 00 42.1**	**+1.4**
SMKR				*eS*	**Sn**	**17 01 00.9**	**+1.2**
SMKR	**Semkarok**	**1.51**	**343**	PN	**Pn**	**17 00 42.1**	**+1.4**
SMKR				S	**Sn**	**17 01 00.9**	**+1.2**
BDR	**Baidarnaya**	**1.55**	**337**	*eP*	**Pn**	**17 00 42.0**	**+0.8**
BDR				*eS*	**Sn**	**17 01 02.2**	**+1.6**
BDR	**Baidarnaya**	**1.55**	**337**	PN	**Pn**	**17 00 42.0**	**+0.8**
BDR				S	**Sn**	**17 01 02.2**	**+1.6**
SRKR	**Sorokina**	**1.64**	**338**	*eP*	**Pn**	**17 00 43.3**	**+0.9**
SRKR	**Sorokina**	**1.64**	**338**	PN	**Pn**	**17 00 43.3**	**+0.9**
KOZ	**Kozyrevsk**	**1.65**	**305**	*eP*	**Pn**	**17 00 42.6**	**+0.1**
KOZ	**Kozyrevsk**	**1.65**	**305**	PN	**Pn**	**17 00 42.6**	**+0.1**
SRDR	**Sredinnyy**	**1.87**	**310**	*eP*	**Pn**	**17 00 45.8**	**+0.4**
SRDR	**Sredinnyy**	**1.87**	**310**	PN	**Pn**	**17 00 45.8**	**+0.4**
KII	**Karymskiy**	**1.99**	**237**	*eP*	**Pn**	**17 00 48.6**	**+1.5**
KII				*eS*	**Sn**	**17 01 12.3**	**+1.2**
KII	**Karymskiy**	**1.99**	**237**	PN	**Pn**	**17 00 48.6**	**+1.5**
KII				S	**Sn**	**17 01 12.3**	**+1.2**
BKI	**Bering**	**2.11**	**87**	*eP*	**Pn**	**17 00 48.5**	**-0.1**
BKI				*eS*	**Sn**	**17 01 12.5**	**-1.4**
BKI	**Bering**	**2.11**	**87**	PN	**Pn**	**17 00 48.5**	**-0.1**
BKI				S	**Sn**	**17 01 12.5**	**-1.4**
ESO	**Esso**	**2.19**	**292**	*eP*	**Pn**	**17 00 49.4**	**-0.2**
ESO				*eS*	**Sn**	**17 01 14.6**	**-1.1**
ESO	**Esso**	**2.19**	**292**	PN	**Pn**	**17 00 49.4**	**-0.2**
ESO				S	**Sn**	**17 01 14.6**	**-1.1**
SPN	**Mys Shipunski**	**2.45**	**214**	*eP*	**Pn**	**17 00 52.3**	**-0.8**
SPN				*i S*	**Sn**	**17 01 19.5**	**-2.5**
SPN	**Mys Shipunski**	**2.45**	**214**	PN	**Pn**	**17 00 52.3**	**-0.8**
SPN				S	**Sn**	**17 01 19.5**	**-2.5**
NLC	**Nalytchevo**	**2.63**	**222**	*eP*	**Pn**	**17 00 56.1**	**+0.5**
NLC				*eS*	**Sn**	**17 01 26.0**	**-0.4**
NLC	**Nalytchevo**	**2.63**	**222**	PN	**Pn**	**17 00 56.1**	**+0.5**
NLC				S	**Sn**	**17 01 26.0**	**-0.4**
SDLR	**Sedlovina**	**2.74**	**228**	*eP*	**Pn**	**17 00 59.2**	**+2.0**
SDLR	**Sedlovina**	**2.74**	**228**	PN	**Pn**	**17 00 59.2**	**+2.0**
KRER	**Koryakskii**	**2.78**	**230**	*eP*	**Pn**	**17 00 58.9**	**+1.0**
KRER	**Koryakskii**	**2.78**	**230**	PN	**Pn**	**17 00 58.9**	**+1.0**
SMAR	**Somma**	**2.78**	**229**	*eP*	**Pn**	**17 00 59.8**	**+1.9**
SMAR				*eS*	**Sn**	**17 01 31.6**	**+1.1**
SMAR	**Somma**	**2.78**	**229**	PN	**Pn**	**17 00 59.8**	**+1.9**
SMAR				S	**Sn**	**17 01 31.6**	**+1.1**
KRX	**Arik**	**2.79**	**232**	*eP*	**Pn**	**17 01 00.0**	**+2.1**
KRX	**Arik**	**2.79**	**232**	PN	**Pn**	**17 01 00.0**	**+2.1**
AVH	**Avacha**	**2.81**	**229**	*eP*	**Pn**	**17 01 00.4**	**+2.2**
AVH	**Avacha**	**2.81**	**229**	PN	**Pn**	**17 01 00.4**	**+2.2**
UGLR	**Uglovaya**	**2.81**	**228**	*eP*	**Pn**	**17 01 00.0**	**+1.8**
UGLR				*eS*	**Sn**	**17 01 32.5**	**+1.4**
UGLR	**Uglovaya**	**2.81**	**228**	PN	**Pn**	**17 01 00.0**	**+1.8**
UGLR				S	**Sn**	**17 01 32.5**	**+1.4**
KOK	**Koryaka**	**2.84**	**231**	*eP*	**Pn**	**17 01 00.3**	**+1.8**
KOK	**Koryaka**	**2.84**	**231**	PN	**Pn**	**17 01 00.3**	**+1.8**
GNL	**Ganaly**	**2.93**	**242**	*eP*	**Pn**	**17 01 01.8**	**+2.0**
GNL	**Ganaly**	**2.93**	**242**	PN	**Pn**	**17 01 01.8**	**+2.0**
DALK	**Dalny**	**2.97**	**226**	*eP*	**Pn**	**17 01 00.7**	**+0.5**
DALK				*eS*	**Sn**	**17 01 34.3**	**-0.4**
DALK	**Dalny**	**2.97**	**226**	PN	**Pn**	**17 01 00.7**	**+0.5**
DALK				S	**Sn**	**17 01 34.3**	**-0.4**
PET	**Petropavlovsk**	**3.02**	**227**	*ePN*	**Pn**	**17 01 03.0**	**+2.1**
PET				*eS*	**Sn**	**17 01 36.0**	**+0.2**
PET				smax	smax		
	comp=E,580nm,0.5s						
PET				smax	smax		
	comp=N,705nm,0.

HYT				IAmb	IAmb	17 06 34.6	
	comp=Z,9.5nm,1.5s						
INK	**Inuvik**	**31.46**	**40**	P	**P**	**17 06 29.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
INK	**Inuvik**	**31.46**	**40**	P	**P**	**17 06 30.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=338,slow=8.1,SNR=4.0						
INK	**Inuvik**	**31.46**	**40**	P	**P**	**17 06 29.9**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**35.53**	**173**	T	T	17 44 32.7	
	baz=355,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**35.54**	**172**	T	T	17 44 30.8	
	baz=355,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**35.54**	**173**	T	T	17 44 28.1	
	baz=355,slow=76,SNR=25						
HHC	**Hu-ho-hao-te**	**35.98**	**268**	P	**P**	**17 07 06.5**	**-2.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,14nm,5.4s						
YKA	**Yellowknife Ar**	**40.78**	**45**	P	**P**	**17 07 49.9**	**+0.7**
YKA	**Yellowknife Ar**	**40.78**	**45**	P	**P**	**17 07 50.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=296,slow=7.8,SNR=3.4						
YKA	**Yellowknife Ar**	**40.78**	**45**	P	**P**	**17 07 49.9**	**+0.7**
MKAR	**Makanchi Array**	**48.44**	**295**	P	**P**	**17 08 48.3**	**-2.1**
MKAR	**Makanchi Array**	**48.44**	**295**	P	**P**	**17 08 47.6**	**-2.8**
	comp=Z,0.5nm,0.8s,baz=81,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**48.44**	**295**	P	**P**	**17 08 48.3**	**-2.1**
ARU	**Arti**	**52.76**	**317**‖	*eP*	**P**	**17 09 23.3**	**+0.6**
ARU				pmax	pmax		
	comp=Z,20nm,3.5s						
NVAR	**Mina Array Bea**	**53.86**	**73**	P	**P**	**17 09 33.8**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=289,slow=8.2,SNR=2.3						
NVAR	**Mina Array Bea**	**53.86**	**73**	P	**P**	**17 09 33.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**59.86**	**259**	P	**P**	**17 10 13.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=23,slow=7.4,SNR=5.1						
OBN	**Obninsk**	**61.47**	**328**	*eP*	**P**	**17 10 24.8**	**+0.7**
OBN				*e*		17 11 05.8	
OBN				*e*		17 12 44.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**61.92**	**345**	P	**P**	**17 10 24.3**	**-2.9**
	comp=Z,0.9nm,0.9s,baz=3.5,slow=7.4,SNR=3.8						
KBZ	**Khabaz**	**68.92**	**317**	*eP*	**P**	**17 11 15.2**	**+2.7**
WB2	**Warramunga Arr**	**78.49**	**207**	P	**P**	**17 12 08.8**	**+0.1**
WB2				IAmb	IAmb	17 12 09.5	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**78.49**	**207**	P	**P**	**17 12 08.3**	**-0.4**
WRA	**Warramunga Arr**	**78.49**	**207**	P	**P**	**17 12 08.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=9.6,slow=5.9,SNR=10.0						
WRA	**Warramunga Arr**	**78.49**	**207**	P	**P**	**17 12 08.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**79.32**	**215**	P	**P**	**17 12 14.1**	**+0.8**
AS31	**Alice Springs**	**82.17**	**206**	P	**P**	**17 12 29.6**	**+1.2**
ASAR	**Alice Springs**	**82.17**	**206**	P	**P**	**17 12 29.0**	**+0.7**
ASAR	**Alice Springs**	**82.17**	**206**	P	**P**	**17 12 29.2**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=16,slow=5.9,SNR=33						
ASAR	**Alice Springs**	**82.17**	**206**	P	**P**	**17 12 29.1**	**+0.7**
RAYN	**Ar Rayn**	**84.98**	**305**	P	**P**	**17 12 42.0**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
RAYN	**Ar Rayn**	**84.98**	**305**	P	**P**	**17 12 42.0**	**-1.1**
RAYN				IAmb	IAmb	17 13 03.9	
	comp=Z,6.3nm,1.4s						

PGC ***09*** *17:04:43.2±4.9,50˙.05N×130˙.10W,h10km,MLSn3.3/40, Mw3.9/40,Mw4.0/40,203km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
NEIC ***09*** *17:04:45.0±2.1,50˙.25N±0˙.06×130˙.0W±0˙.1,h11km±8km, mb4.1/71,Mwr4.0(OTT)*
IDC ***09*** *17:04:45.7±1.7,50˙.23N×129˙.83W,h0km,mb4.0/3, mb1 4.1/13,mb1mx3.8/60,mbtmp3.9/13,ML3.5/10, MS3.6/16,Ms1 3.6/16,ms1mx3.3/50,Error ellipse: s-maj=26.4km s-min=10.2km az=74.0*

ISC 09 17:04:46.0±3.4,50˙.13N±0˙.05×130˙.10W±0˙.05, h22km±28km,n284,σ1°72/282,mb4.5/18,MS3.5/8, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.50**	**88**	Pn	**Pn**	**17 05 07.9**	**-3.7**
PACB	**Port Alice, BC**	**1.70**	**79**	Pn	**Pn**	**17 05 11.2**	**-3.0**
PACB				Sn	**Sn**	**17 05 28.8**	**-6.5**
PHC	**Port Hardy**	**1.80**	**70**	Pn	**Pn**	**17 05 13.2**	**-2.4**
PHC				Sn	**Sn**	**17 05 35.4**	**-2.5**
MAYB	**Maynard**	**1.90**	**81**	Pn	**Pn**	**17 05 14.1**	**-3.1**
EDB	**Eliza Dome**	**1.94**	**96**	Pn	**Pn**	**17 05 13.9**	**-3.7**
WOSB	**Woss**	**2.27**	**88**	Pn	**Pn**	**17 05 19.7**	**-2.6**
NTKA	**Nootka**	**2.32**	**102**	Pn	**Pn**	**17 05 19.6**	**-3.2**
BBB	**Bella Bella**	**2.41**	**31**	Pn	**Pn**	**17 05 23.0**	**-1.0**
	55nm,0.3s,baz=226,slow=5.9,SNR=667						
BBB				Sn	**Sn**	**17 05 50.5**	**-2.2**
	226nm,0.3s,baz=319,slow=22,SNR=29						
BBB				LR	LR	17 06 24.2	
	comp=Z,372nm,20.1s,baz=204,slow=44						
BBB	**Bella Bella**	**2.41**	**31**	Pn	**Pn**	**17 05 22.9**	**-1.0**
BBB				Sn	**Sn**	**17 05 50.6**	**-2.2**
BBB	**Bella Bella**	**2.41**	**31**		**Pn**	**17 05 23.0**	**-1.0**
BBB				Sn	**Sn**	**17 05 50.8**	**-1.9**
HG3B	**Hotspring**	**2.59**	**342**	Pn	**Pn**	**17 05 23.1**	**-3.4**
HG3B				Sn	**Sn**	**17 05 53.6**	**-3.6**
NCRB	**Newcastle Ridg**	**2.61**	**82**	Pn	**Pn**	**17 05 24.9**	**-2.1**
GDR	**Gold River**	**2.65**	**96**	Pn	**Pn**	**17 05 23.8**	**-3.5**
BNB	**Barry Inlet**	**2.66**	**338**	Pn	**Pn**	**17 05 23.6**	**-3.9**
BNB				Sn	**Sn**	**17 05 54.4**	**-4.6**
SPLB	**Strathcona Par**	**2.88**	**93**	Pn	**Pn**	**17 05 26.3**	**-4.2**
TOFB	**Tofino**	**2.90**	**108**	Pn	**Pn**	**17 05 29.9**	**-0.8**
TOFB				Sn	**Sn**	**17 06 01.5**	**-3.3**
BTB	**Buttle Lake**	**3.04**	**101**	Pn	**Pn**	**17 05 29.9**	**-3.0**
CBB	**Campbell River**	**3.05**	**90**	Pn	**Pn**	**17 05 31.0**	**-1.9**
BCBC	**Bella Coola**	**3.08**	**42**	Pn	**Pn**	**17 05 33.3**	**+0.1**
BCBC				Sn	**Sn**	**17 06 10.0**	**+0.8**
MWAB	**Mount Washingt**	**3.12**	**95**	Pn	**Pn**	**17 05 32.0**	**-1.9**
OZB	**Mount Ozzard**	**3.22**	**110**	Pn	**Pn**	**17 05 34.3**	**-1.0**
OZB				Sn	**Sn**	**17 06 09.2**	**-3.8**
MOBC	**Moresby Island**	**3.23**	**340**	Pn	**Pn**	**17 05 31.9**	**-3.5**
DIB	**Dawson Inlet,**	**3.41**	**335**	Pn	**Pn**	**17 05 34.2**	**-3.6**
DIB	**Dawson Inlet,**	**3.41**	**335**		**Pn**	**17 05 33.9**	**-3.9**
B928	**Bamfield**	**3.49**	**110**	Pn	**Pn**	**17 05 35.6**	**-3.2**
B927	**Port Alberni**	**3.56**	**103**	Pn	**Pn**	**17 05 40.4**	**+0.7**
TXB	**Texada**	**3.69**	**95**	Pn	**Pn**	**17 05 40.1**	**-1.6**
MGB	**Mount Grey**	**3.70**	**106**	Pn	**Pn**	**17 05 40.0**	**-1.9**
GHNB	**Nanoose**	**3.90**	**100**	Pn	**Pn**	**17 05 43.9**	**-0.5**
YOUB	**Youbou, Lake C**	**4.00**	**106**	Pn	**Pn**	**17 05 43.9**	**-2.0**
PFB	**Port Renfrew**	**4.02**	**111**	Pn	**Pn**	**17 05 44.1**	**-2.1**
OCP	**Olym-Cheeka Pk**	**4.03**	**115**	Pn	**Pn**	**17 05 44.2**	**-2.1**
SHB	**Sechelt**	**4.06**	**95**	Pn	**Pn**	**17 05 45.7**	**-1.1**
NLLB	**Nanaimo Lost L**	**4.07**	**100**	Pn	**Pn**	**17 05 45.8**	**-1.1**
B926	**Mesachie Lake**	**4.11**	**106**	Pn	**Pn**	**17 05 46.2**	**-1.1**
RUBB	**Prince Rupert**	**4.20**	**359**	Pn	**Pn**	**17 05 46.4**	**-2.2**
NDB	**Naden**	**4.21**	**337**	Pn	**Pn**	**17 05 45.7**	**-3.1**
BPCB	**Bare Point**	**4.34**	**104**	Pn	**Pn**	**17 05 49.7**	**-0.9**
LZB	**Mount Lazard**	**4.38**	**108**	Pn	**Pn**	**17 05 50.1**	**-1.0**
GOBB	**Galiano Island**	**4.45**	**103**	Pn	**Pn**	**17 05 51.3**	**-0.8**
BIB	**Bowen Island**	**4.46**	**97**	Pn	**Pn**	**17 05 51.1**	**-1.1**
OBC	**Olympics--Boni**	**4.48**	**116**	Pn	**Pn**	**17 05 50.8**	**-1.7**
WPB	**Watts Point**	**4.48**	**93**	Pn	**Pn**	**17 05 50.6**	**-1.9**
B010	**North Saanich**	**4.59**	**106**	Pn	**Pn**	**17 05 53.7**	**-0.2**
PGC	**Sidney**	**4.59**	**106**	Pn	**Pn**	**17 05 53.6**	**-0.4**
PGC	**Sidney**	**4.59**	**106**		**Pn**	**17 05 53.9**	**0.0**
B009	**North Saanich**	**4.59**	**106**	Pn	**Pn**	**17 05 53.9**	**0.0**
B011	**North Saanich**	**4.59**	**106**	Pn	**Pn**	**17 05 54.2**	**+0.2**
PA01	**PA01 North**	**4.59**	**106**	Pn	**Pn**	**17 05 55.3**	**+1.4**
PA12	**PA12 Sannich**	**4.59**	**106**	Pn	**Pn**	**17 05 53.5**	**-0.4**
WSLR	**Whistler**	**4.62**	**87**	Pn	**Pn**	**17 05 53.5**	**-1.0**
UBRB	**Upper Baezaeko**	**4.67**	**51**	Pn	**Pn**	**17 05 55.6**	**+0.5**
UBRB				Sn	**Sn**	**17 06 49.8**	**+1.2**
SNB	**Saturna Island**	**4.72**	**104**	Pn	**Pn**	**17 05 56.3**	**+0.5**
VGZ	**Gonzales**	**4.76**	**109**	Pn	**Pn**	**17 05 57.3**	**+1.0**
OSD	**Olympics--Snow**	**4.81**	**116**	Pn	**Pn**	**17 05 56.5**	**-0.7**
NLWA	**Neilton Lookou**	**4.95**	**121**		**Pn**	**17 05 59.7**	**+0.8**
MCW	**Mount Constitu**	**4.96**	**104**	Pn	**Pn**	**17 05 58.5**	**-0.6**
BLN	**Blyn Mountain**	**5.15**	**112**	Pn	**Pn**	**17 06 00.8**	**-0.9**
WISH	**Wishkah**	**5.17**	**123**	Pn	**Pn**	**17 06 03.1**	**+1.2**
HDW	**Hoodsport**	**5.27**	**115**	Pn	**Pn**	**17 06 03.4**	**0.0**
SMW	**South Mountain**	**5.28**	**120**	Pn	**Pn**	**17 06 05.2**	**+1.6**
D03D	**Eldon**	**5.31**	**117**	P	**Pn**	**17 06 04.6**	**+0.7**
	baz=301						
VDB	**Vedder Mountai**	**5.32**	**99**	Pn	**Pn**	**17 06 03.9**	**-0.2**
GNW	**Green Mountain**	**5.45**	**115**	Pn	**Pn**	**17 06 06.6**	**+0.8**
CMW	**Cultus Mountai**	**5.50**	**105**	Pn	**Pn**	**17 06 06.6**	**0.0**
MBW	**Mount Baker**	**5.52**	**101**	Pn	**Pn**	**17 06 06.6**	**-0.3**
FSB	**Fort Saint Jam**	**5.61**	**37**	Pn	**Pn**	**17 06 08.3**	**+0.2**
FSB				Sn	**Sn**	**17 07 11.3**	**-0.5**
E03A	**Lebam**	**5.64**	**127**	Pn	**Pn**	**17 06 08.8**	**+0.4**
E03A	**Lebam**	**5.64**	**127**		**Pn**	**17 06 09.7**	**+1.3**
HOPB	**Hope**	**5.68**	**94**	Pn	**Pn**	**17 06 08.5**	**-0.4**
JCW	**Jim Creek**	**5.70**	**107**	Pn	**Pn**	**17 06 09.2**	**-0.1**
B06A	**Marblemount**	**5.86**	**103**	Pn	**Pn**	**17 06 12.5**	**+1.1**
B06A	**Marblemount**	**5.86**	**103**		**Pn**	**17 06 11.2**	**-0.2**
D05A	**Enumclaw**	**6.13**	**116**	Pn	**Pn**	**17 06 17.2**	**+2.1**
D05A	**Enumclaw**	**6.13**	**116**		**Pn**	**17 06 15.9**	**+0.8**
E04D	**Cinebar**	**6.17**	**123**	P	**Pn**	**17 06 17.2**	**+1.6**
	baz=308						
GPW	**Glacier Peak**	**6.22**	**105**	Pn	**Pn**	**17 06 17.6**	**+1.0**
WRAK	**Wrangell Islan**	**6.44**	**349**	Pn	**Pn**	**17 06 19.4**	**0.0**
FMW	**Mount Fremont**	**6.45**	**117**	Pn	**Pn**	**17 06 20.4**	**+0.7**
LON	**Longmire**	**6.47**	**118**	Pn	**Pn**	**17 06 20.6**	**+0.7**
LON	**Longmire**	**6.47**	**118**		**Pn**	**17 06 20.6**	**+0.7**
F04A	**Amboy**	**6.65**	**126**		**Pn**	**17 06 23.2**	**+1.0**
COR	**Corvallis**	**7.21**	**138**	Pn	**Pn**	**17 06 33.6**	**+3.6**
B08A	**Colville Reser**	**7.27**	**100**	Pn	**Pn**	**17 06 30.1**	**-0.7**
B08A	**Colville Reser**	**7.27**	**100**		**Pn**	**17 06 30.1**	**-0.7**
BMBC	**Bull Mountain**	**7.62**	**36**	P	**Pn**	**17 06 37.4**	**+1.7**
BMBC				S	**Sn**	**17 08 01.2**	**-0.1**
H04A	**Detroit Lake**	**7.65**	**132**		**Pn**	**17 06 38.9**	**+2.9**
SLEB	**Sale Mountain**	**7.68**	**78**	P	Pn	17 06 43.6	+7.0
G05D	**Wamic, OR**	**7.68**	**126**	P	**Pn**	**17 06 40.9**	**+4.4**
	baz=312						
E07A	**Sunnyside**	**7.71**	**114**		**Pn**	**17 06 37.8**	**+1.0**
NBC4	**NorthernBC 4**	**7.97**	**42**	P	**Pn**	**17 06 41.2**	**+0.9**
NBC4				S	**Sn**	**17 08 08.7**	**-1.0**
HAWA	**Hanford**	**7.98**	**114**		**Pn**	**17 06 41.9**	**+1.3**
C09A	**Chrisman Ranch**	**8.13**	**102**		**Pn**	**17 06 41.8**	**-0.8**
E08A	**Dider Farm, El**	**8.21**	**112**		**Pn**	**17 06 43.8**	**+0.1**
DLBC	**Dease Lake**	**8.32**	**0**	Pn	**Pn**	**17 06 45.6**	**+0.4**
	0.5nm,0.3s,baz=189,slow=13,SNR=7.0						
DLBC				LR	LR	17 10 24.1	
	comp=Z,202nm,19.3s,baz=306,slow=41						
DLBC	**Dease Lake**	**8.32**	**0**	P	**Pn**	**17 06 45.2**	**-0.1**
JIS	**Juneau Island**	**8.54**	**345**	Pn	**Pn**	**17 06 47.2**	**-0.8**
NBC5	**NorthernBC 5**	**8.61**	**28**	P	**Pn**	**17 06 49.9**	**+0.8**
NBC5				S	**Sn**	**17 08 26.4**	**+0.9**
NEW	**Newport**	**8.71**	**97**	P	**Pn**	**17 06 50.0**	**-0.5**
	baz=287						
NEW	**Newport**	**8.71**	**97**	Pn	**Pn**	**17 06 49.6**	**-0.9**
	0.7nm,0.3s,baz=283,slow=11,SNR=13						
NEW				LR	LR	17 10 09.8	
	comp=Z,764nm,19.3s,baz=290,slow=38						
NEW	**Newport**	**8.71**	**97**		**Pn**	**17 06 49.7**	**-0.8**
PINE	**Pine Mountain**	**8.91**	**132**	Pn	**Pn**	**17 06 56.2**	**+2.7**
G08A	**Pilot Rock**	**8.94**	**119**		**Pn**	**17 06 55.3**	**+1.6**
HUMO	**Hull Mountain**	**9.00**	**144**	Pn	**Pn**	**17 06 55.3**	**+0.8**
F10A	**Beach Ranch, E**	**9.57**	**111**		**Pn**	**17 07 03.3**	**+0.9**
KRMB	**Red Mountain**	**9.63**	**151**	Pn	**Pn**	**17 07 05.8**	**+2.6**
FNBB	**Fort Nelson**	**9.69**	**22**	P	**Pn**	**17 07 04.3**	**+0.3**
YBH	**Yreka Blue Hor**	**9.85**	**146**	Pn	**Pn**	**17 07 09.7**	**+3.5**
	0.1nm,0.3s,baz=318,slow=11,SNR=5.0						
YBH				LR	LR	17 10 38.4	
	comp=Z,113nm,19.3s,baz=322,slow=36						
YBH	**Yreka Blue Hor**	**9.85**	**146**		**Pn**	**17 07 10.0**	**+3.8**
NBC6	**NorthernBC 6**	**9.89**	**28**	P	**Pn**	**17 07 07.2**	**+0.6**
NBC6				S	**Sn**	**17 08 55.6**	**-1.2**
BMO	**Blue Mountains**	**10.14**	**116**		**Pn**	**17 07 11.0**	**+0.8**
BHMT	**Big Hole Peak**	**10.25**	**99**	P	**Pn**	**17 07 13.2**	**+1.4**
BSMT	**Bassoo Peak**	**10.32**	**97**	P	**Pn**	**17 07 12.6**	**-0.2**
WALA	**Waterton Lakes**	**10.57**	**90**	P	**Pn**	**17 07 16.2**	**+0.1**
MOD	**Modoc Plateau**	**10.68**	**137**		**Pn**	**17 07 21.4**	**+3.8**
JTMT	**Jette**	**10.68**	**97**	P	**Pn**	**17 07 17.0**	**-0.6**
JTMT	**Jette**	**10.68**	**97**		**Pn**	**17 07 17.3**	**-0.3**
FBMT	**Ferry Basin**	**10.70**	**99**	P	**Pn**	**17 07 17.7**	**-0.3**
PLID	**Pearl Lake**	**10.77**	**113**		**Pn**	**17 07 20.1**	**+1.1**
YBMT	**Yellow Bay**	**10.81**	**96**	P	**Pn**	**17 07 20.9**	**+1.5**
KMRM	**Mail Ridge**	**10.88**	**153**	Pn	**Pn**	**17 07 22.8**	**+2.4**
WHY	**Whitehorse**	**10.89**	**347**	P	**Pn**	**17 07 20.8**	**+0.3**
WHY	**Whitehorse**	**10.89**	**347**	Pn	**Pn**	**17 07 21.0**	**+0.6**
WDC	**Whiskeytown Da**	**10.93**	**148**		**Pn**	**17 07 23.4**	**+2.5**
SWMT	**Swartz Lake**	**10.94**	**98**	P	**Pn**	**17 07 20.7**	**-0.4**
O02D	**Mt. Diablo Mer**	**11.21**	**150**	P	**Pn**	**17 07 24.1**	**-0.7**
	baz=335						
SLMT	**Seeley Lake**	**11.35**	**98**	P	**Pn**	**17 07 26.1**	**-0.8**
BPMT	**Black Pine Rid**	**11.69**	**102**	P	**Pn**	**17 07 32.6**	**+1.0**
MFID	**Camas Ranch**	**11.86**	**119**	Pn	**Pn**	**17 07 34.8**	**+1.0**
MESA	**MESA**	**12.11**	**331**	Pn	**Pn**	**17 07 36.3**	**-0.9**
ORV	**Oroville**	**12.20**	**147**	Pn	**Pn**	**17 07 39.3**	**+1.0**
ELMT	**Elliston**	**12.26**	**100**	P	**Pn**	**17 07 39.3**	**0.0**
BEKR	**Beckworth**	**12.35**	**142**		**Pn**	**17 07 42.7**	**+2.2**
LRM	**Limekiln Ridge**	**12.58**	**103**	P	**Pn**	**17 07 43.1**	**-0.6**
LRM	**Limekiln Ridge**	**12.58**	**103**	Pn	Pn	17 07 38.6	-5.2
HRY	**Holter Researc**	**12.61**	**99**	Pn	**Pn**	**17 07 43.9**	**-0.1**
DLMT	**Dillon**	**12.70**	**105**		**Pn**	**17 07 44.6**	**-0.8**
MCMT	**McKenzie Canyo**	**12.81**	**108**		**Pn**	**17 07 46.5**	**-0.4**
PAHR	**Pah Rah Range**	**12.88**	**140**		**Pn**	**17 07 49.7**	**+1.9**
AFDM	**Forest Hills D**	**12.93**	**146**		**Pn**	**17 07 49.8**	**+1.5**
PNTR	**Pine Nut**	**13.32**	**142**		**Pn**	**17 07 56.9**	**+3.1**
EGMT	**Eagleton**	**13.50**	**91**	P	**Pn**	**17 07 57.9**	**+1.8**
	baz=286						
EGMT	**Eagleton**	**13.50**	**91**		**Pn**	**17 07 57.0**	**+0.9**
TPMT	**Tepee Creek**	**13.59**	**106**	P	**Pn**	**17 08 00.8**	**+3.3**
YHL	**Hebgen Lake**	**13.83**	**105**		**Pn**	**17 08 01.1**	**+0.3**
YHB	**Horse Butte**	**13.87**	**106**		**Pn**	**17 08 00.2**	**-1.1**
KVN	**Kaiserville**	**13.97**	**138**		**Pn**	**17 08 04.1**	**+1.4**
ELK	**Elko**	**14.01**	**126**	Pn	**P**	**17 08 07.5**	**-3.5**
	0.1nm,0.3s,baz=320,slow=8.9,SNR=2.4						
ELK				LR	LR	17 13 29.6	
	comp=Z,149nm,18.2s,baz=329,slow=38						
YMR	**Madison River**	**14.05**	**106**		**Pn**	**17 08 04.4**	**+0.7**
YHH	**Holmes Hill**	**14.06**	**105**		**Pn**	**17 08 03.9**	**-0.1**
RYN	**Ryan**	**14.15**	**140**		**Pn**	**17 08 05.6**	**+0.5**
YPP	**Pitchstone Pla**	**14.35**	**107**	P	**Pn**	**17 08 09.8**	**+1.9**
NVAR	**Mina Array Bea**	**14.41**	**140**	Pn	**P**	**17 08 12.9**	**-2.5**
	0.1nm,0.3s,baz=313,slow=12,SNR=7.1						
NVAR	**Mina Array Bea**	**14.41**	**140**		**Pn**	**17 08 08.6**	**-0.1**
H17A	**Grant Village**	**14.43**	**106**	P	**Pn**	**17 08 12.4**	**+3.4**
	baz=300						
H17A	**Grant Village**	**14.43**	**106**	P	**Pn**	**17 08 10.9**	**+2.0**
IMW	**Indian Meadow**	**14.46**	**108**		**Pn**	**17 08 10.2**	**+0.7**
NV11	**Mina Array Sit**	**14.47**	**139**		**Pn**	**17 08 11.9**	**+2.5**
FLWY	**Flagg Ranch**	**14.51**	**107**		**Pn**	**17 08 09.9**	**-0.2**
FXWY	**Fox Creek**	**14.55**	**109**		**Pn**	**17 08 12.1**	**+1.5**
HVU	**Hansel Valley**	**14.64**	**118**		**Pn**	**17 08 13.7**	**+1.9**
MOOW	**Moose Ponds**	**14.66**	**108**		**Pn**	**17 08 13.6**	**+1.5**
TPAW	**Teton Pass**	**14.68**	**110**	P	**Pn**	**17 08 15.7**	**+3.3**
REDW	**Red Top Meadow**	**14.81**	**110**	P	**Pn**	**17 08 17.3**	**+3.2**
SNOW	**Snow King Moun**	**14.81**	**109**	P	**Pn**	**17 08 16.6**	**+2.4**
OMMB	**Old Mammoth Mi**	**14.83**	**143**	P	**P**	**17 08 19.1**	**-1.2**
RLMT	**Red Lodge**	**14.90**	**102**	P	**P**	**17 08 20.3**	**-0.5**
	baz=297						
RLMT	**Red Lodge**	**14.90**	**102**		**P**	**17 08 18.5**	**-2.3**
AHID	**Auburn Hatcher**	**15.00**	**112**	P	**Pn**	**17 08 18.7**	**+2.0**
YKA	**Yellowknife Ar**	**15.02**	**29**	Pn	**Pn**	**17 08 14.5**	**-2.1**
	0.2nm,0.3s,baz=222,slow=12,SNR=2.7						
BGU	**Big Grassy Mou**	**15.06**	**121**		**Pn**	**17 08 20.1**	**+2.7**
BGU				IAmb	IAmb	17 08 30.8	
	comp=Z,7.3nm,1.3s						
KDAK	**Kodiak Island**	**15.23**	**309**	LR	LR	17 12 28.1	
	comp=Z,334nm,18.4s,baz=124,slow=30						
R11A	**Troy Canyon, C**	**15.68**	**133**	P	**P**	**17 08 29.1**	**-0.5**
	baz=323						
DUG	**Dugway, Tooele**	**15.69**	**123**	P	**P**	**17 08 29.8**	**+0.2**
DUG				IAmb	IAmb	17 08 34.3	
	comp=Z,11nm,1.2s						
SCRK	**Sand Creek**	**15.74**	**337**	P	**Pn**	**17 08 27.8**	**+1.7**
SCRK				IAmb	IAmb	17 08 43.1	
	comp=Z,6.8nm,1.1s						
BW06	**Boulder Array**	**15.93**	**110**	P	**P**	**17 08 31.8**	**-0.5**
	baz=304						
BW06	**Boulder Array**	**15.93**	**110**	P	**P**	**17 08 31.5**	**-0.8**
BW06				IAmb	IAmb	17 08 35.9	
	comp=Z,15nm,1.1s						
PD31	**Pinedale Array**	**15.93**	**110**	P	**P**	**17 08 31.2**	**-1.1**
PD31				IAmb	IAmb	17 08 35.9	
	comp=Z,13nm,1.1s						
PDAR	**Pinedale Array**	**15.93**	**110**	Pn	**P**	**17 08 31.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=304,slow=8.6,SNR=19						
PDAR	**Pinedale Array**	**15.93**	**110**		**Pn**	**17 08 30.8**	**+2.0**
DHY	**Denali Highway**	**16.00**	**331**	P	**P**	**17 08 33.6**	**+0.6**
DHY				IAmb	IAmb	17 08 46.8	
	comp=Z,33nm,1.7s						
JLU	**Jordanelle**	**16.16**	**119**	P	**Pn**	**17 08 33.2**	**+1.4**
JLU				IAmb	IAmb	17 08 45.0	
	comp=Z,22nm,1.6s						
LAO	**LASA Array**	**16.20**	**93**	P	**Pn**	**17 08 32.2**	**+0.1**
	baz=291						
LAO	**LASA Array**	**16.20**	**93**	P	**Pn**	**17 08 31.5**	**-0.7**
LAO				IAmb	IAmb	17 08 34.0	
	comp=Z,22nm,1.0s						
NLU	**North Lily Min**	**16.26**	**122**	P	**Pn**	**17 08 34.1**	**+1.0**
NLU				IAmb	IAmb	17 08 42.2	
	comp=Z,5.2nm,1.0s						
PSUT	**Pine Spring**	**16.38**	**129**	P	**Pn**	**17 08 34.8**	**+0.3**
PSUT				IAmb	IAmb	17 08 46.2	
	comp=Z,13nm,1.6s						
TPNV	**Topopah Spring**	**16.53**	**138**	P	**Pn**	**17 08 37.5**	**+1.1**
DAC	**Darwin (Calif)**	**16.55**	**142**	P	**Pn**	**17 08 37.7**	**+1.0**
DAC				IAmb	IAmb	17 08 49.4	
	comp=Z,9.8nm,1.2s						
EPYK	**Eagle Plains**	**16.64**	**351**	P	**Pn**	**17 08 35.9**	**-1.6**
EPYK				IAmb	IAmb	17 08 46.5	
	comp=Z,32nm,1.6s						
RND	**Reindeer**	**16.71**	**330**	P	**Pn**	**17 08 39.0**	**+0.5**
RND				IAmb	IAmb	17 08 46.6	
	comp=Z,16nm,1.3s						
ISA	**Isabella, Lake**	**16.75**	**145**	P	**Pn**	**17 08 40.1**	**+1.0**
ISA				IAmb	IAmb	17 08 49.0	
	comp=Z,7.1nm,1.1s						
MCK	**McKinley**	**16.97**	**331**	P	**P**	**17 08 43.4**	**0.0**
MCK				IAmb	IAmb	17 08 52.8	
	comp=Z,13nm,1.2s						
IL31		**17.14**	**335**	P	**P**	**17 08 46.5**	**+1.2**
IL31				IAmb	IAmb	17 08 58.9	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**17.14**	**335**	P	**P**	**17 08 46.6**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=151,slow=10,SNR=13						
ILAR				LR	LR	17 15 24.1	
	comp=Z,156nm,18.1s,baz=127,slow=37						
ILAR	**Eielson Array**	**17.14**	**335**	P	**P**	**17 08 47.5**	**+2.3**
CCB	**Clear Creek Bu**	**17.30**	**334**	P	**P**	**17 08 49.4**	**+2.4**
CCB				IAmb	IAmb	17 08 56.2	
	comp=Z,16nm,1.5s						

comp=Z,12nm,1.1s
X18A Snowflake 21.46 129 P P 17 09 33.7 +0.8
X18A IAmb IAmb 17 09 44.6
comp=Z,13nm,1.1s
SDCO Great Sand Dun 21.50 116 P P 17 09 34.7 +1.3
baz=313
SDCO Great Sand Dun 21.50 116 P P 17 09 34.5 +1.1
SDCO IAmb IAmb 17 09 43.4
comp=Z,9.1nm,1.1s
ULM Lac du Bonnet 21.81 76 P P 17 09 37.1 +0.8
comp=Z,25nm,0.7s,baz=284,slow=9.5,SNR=13
ULM LR LR 17 18 07.1
comp=Z,228nm,22.0s,baz=336,slow=37
ULM Lac du Bonnet 21.81 76 P P 17 09 36.8 +0.5
ULM Lac du Bonnet 21.81 76 P P 17 09 36.5 +0.2
ULM IAmb IAmb 17 09 43.6
comp=Z,60nm,0.9s
AGMN Agassiz Nation 22.33 81 P P 17 09 42.4 +0.5
AGMN IAmb IAmb 17 09 48.9
comp=Z,38nm,1.4s
KSCO Kaye Shedlock' 22.38 109 P P 17 09 42.9 +0.2
KSCO IAmb IAmb 17 09 49.9
comp=Z,80nm,1.4s
T25A Trinidad 22.55 115 P P 17 09 45.0 +0.4
T25A IAmb IAmb 17 09 54.0
comp=Z,16nm,1.1s
TUC Tucson 22.86 134 P P 17 09 48.1 +0.3
TUC IAmb IAmb 17 09 56.4
comp=Z,7.9nm,1.1s
ANMO Albuquerque 22.96 122 P P 17 09 52.3 +3.3
comp=Z,3.3nm,0.9s,baz=311,slow=9.8,SNR=6.3
ANMO LR LR 17 19 46.0
comp=Z,165nm,19.0s,baz=84,slow=39
ANMO Albuquerque 22.96 122 P P 17 09 49.9 +1.0
ANMO IAmb IAmb 17 09 59.3
comp=Z,5.5nm,1.1s
EPLO Experimental L 23.29 77 P P 17 09 52.2 +0.3
ECSD EROS Data Cent 23.61 93 P P 17 09 54.7 -0.4
ECSD IAmb IAmb 17 09 59.3
comp=Z,13nm,0.8s
AMTX Amarillo 25.70 116 P P 17 10 16.5 +2.0
baz=315
AMTX Amarillo 25.70 116 P P 17 10 15.6 +1.2
AMTX IAmb IAmb 17 10 21.5
comp=Z,19nm,0.8s
MNTX Cornudas Mount 26.04 126 P P 17 10 18.0 +0.5
MNTX IAmb IAmb 17 10 24.9
comp=Z,6.7nm,1.2s
SRIG Santa Rosalia 26.57 142 S 17 15 10.1 +15
WMOK Wichita Mounta 27.51 112 P 17 10 36.7 +6.0
TX31 Lajitas Ar. Si 28.81 126 P P 17 10 43.5 +1.1
TX31 IAmb IAmb 17 10 57.6
comp=Z,12nm,1.8s
TX32 Lajitas Array 28.81 126 P P 17 10 43.6 +1.3
TX32 IAmb IAmb 17 10 57.6
comp=Z,11nm,1.7s
TXAR Lajitas Array 28.81 126 P P 17 10 44.9 +2.5
comp=Z,0.7nm,0.9s,baz=332,slow=6.2,SNR=8.7
TXAR Lajitas Array 28.81 126 P P 17 10 42.6 +0.2
JCT Junction City 30.00 119 P P 17 10 52.3 -0.6
JCT IAmb IAmb 17 10 58.7
comp=Z,5.6nm,0.7s
LPIG La Paz 30.21 142 LR LR 17 21 25.9
comp=Z,92nm,18.6s,baz=11,slow=33
FCAR Ozark Folk Cen 30.84 103 P P 17 11 00.7 +0.6
FCAR IAmb IAmb 17 11 06.5
comp=Z,6.9nm,0.9s
SCHQ Schefferville 37.65 58 LR LR 17 27 52.9
comp=Z,218nm,21.8s,baz=338,slow=37
PETK Petropavlovsk- 43.17 303 LR LR 17 29 56.9
comp=Z,83nm,18.3s,baz=53,slow=35
TIXI Tiksi 46.61 335 LR LR 17 32 40.8
comp=Z,56nm,18.1s,baz=315,slow=36
H11N2 WAKE ISLAND Hy 57.85 262 T T 18 17 11.1
baz=42,slow=75
H11N3 WAKE ISLAND Hy 57.85 262 T T 18 17 13.4
baz=42,slow=75
H11N1 WAKE ISLAND Hy 57.87 262 T T 18 17 14.8
baz=42,slow=75
H11S1 WAKE ISLAND Hy 58.88 262 T T 18 18 34.7
baz=35,slow=76
H11S2 WAKE ISLAND Hy 58.89 262 T T 18 18 25.9
baz=35,slow=76
H11S3 WAKE ISLAND Hy 58.90 262 T T 18 18 32.7
baz=35,slow=76
FINES FINESS Array B 67.15 12 LR LR 17 45 29.8
comp=Z,62nm,18.1s,baz=222,slow=36
HHC Hu-ho-hao-te 74.52 316 P P 17 16 21.6 -1.1
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,10.0nm,5.0s
WMQ Urumqi 80.79 333 eP P 17 16 59.1 +1.5
LZH Lanzhou 81.83 319 eP P 17 17 04.0 +0.6
LZH pP PcP 17 17 08.0 -1.0
LZH sP pP 17 17 10.0 0.0
LZH PP **PP 17 20 12.2 +2.2**
LZH pmax pmax
comp=Z,26nm,1.0s
CMAR Chiang Mai Arr 99.18 313 LR LR 18 07 01.2
comp=Z,15nm,19.2s,baz=160,slow=38

*ISCJB **09** 17:32:01.9±0.5, 24°.86N±0°.03×122°.47E±0°.02, h6km±3km, Error ellipse: s-maj=5.2km s-min=3.1km az=26.1*
*JMA **09** 17:32:02.0±0.1, 24°.83N×122°.44E, h6km, M2.2*
*TAP **09** 17:32:02.4, 24°.89N×122°.41E, h10km, ML2.9, C*
ISC 09 17:32:01.9±1.2, 24°.86N±0°.04×122°.45E±0°.03, h8km±11km, n47, σ0°.44/68, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.43**	**223**	*eP*	**Pb**	**17 32 11.8**	**+0.1**
	baz=203						
EOS1				*eS*	**Sb**	**17 32 19.2**	**+0.9**
	baz=203						
TWB1	**Santiao Chiao**	**0.44**	**289**	*eP*	**Pg**	**17 32 11.0**	**+0.4**
	baz=287						
TWB1				*eS*	**Sb**	**17 32 17.3**	**-1.5**
	baz=287						
TIPB	**Shuangxi**	**0.58**	**281**	*eP*	**Pb**	**17 32 13.6**	**-0.7**
	baz=279						
TIPB				*eS*	**Sb**	**17 32 21.8**	**-0.9**
	baz=279						
TWC	**Suao**	**0.60**	**245**	P	**Pg**	**17 32 13.8**	**+0.2**
	baz=240						
TWC				*eS*	**Sb**	**17 32 22.7**	**-0.6**
	baz=240						
JYNG	**Yonagunijimaku**	**0.61**	**132**	P	**Pg**	**17 32 13.7**	**0.0**
JYNG				S	**Sg**	**17 32 21.7**	**+0.1**
NWF	**Wu-fen Shan**	**0.64**	**289**	*eP*	**Pb**	**17 32 15.3**	**-0.2**
	baz=288						
NWF				*eS*	**Sb**	**17 32 24.4**	**-0.1**
	baz=288						
WFSB	**Wu-fen Shan**	**0.64**	**289**	*eP*	**Pb**	**17 32 15.3**	**-0.1**
	baz=288						
WFSB				*eS*	**Sb**	**17 32 24.4**	**-0.1**
	baz=288						
YOJ	**Yonaguni jima**	**0.65**	**128**	P	**Pg**	**17 32 14.4**	**0.0**
YOJ				S	**Sg**	**17 32 22.6**	**-0.3**
TWE	**Neicheng**	**0.73**	**259**	*eP*	**Pb**	**17 32 16.4**	**-0.4**
	baz=255						
TWE				*eS*	**Sb**	**17 32 26.5**	**-0.4**
	baz=255						
SLBB	**Yuanshan**	**0.75**	**262**	*eP*	**Pg**	**17 32 16.6**	**+0.2**
	baz=248						
NANB	**Nanao**	**0.77**	**236**	*eP*	**Pb**	**17 32 17.1**	**-0.5**
	baz=232						
NANB				*eS*	**Sb**	**17 32 27.4**	**-0.8**
	baz=232						
ENA	**Nanau**	**0.78**	**236**	*eP*	**Pg**	**17 32 17.1**	**+0.2**
	baz=231						
ENA				*eS*	**Sb**	**17 32 28.1**	**-0.3**
	baz=231						
ENTT	**Nioudou**	**0.83**	**255**	P	**Pb**	**17 32 18.4**	**-0.3**
	baz=251						
ENTT				*eS*	**Sb**	**17 32 30.1**	**+0.1**
	baz=251						
YM08	**YM08**	**0.84**	**293**	*eP*	**Pb**	**17 32 18.8**	**-0.1**
	baz=292						
NHDH	**Xindian Distri**	**0.85**	**277**	*eP*	**Pb**	**17 32 18.6**	**-0.2**
	baz=275						
YM01	**YM01**	**0.85**	**290**	*eP*	**Pb**	**17 32 18.6**	**-0.3**
	baz=289						
YM11	**YM11**	**0.85**	**291**	*eP*	**Pb**	**17 32 19.1**	**+0.1**
	baz=290						
YM05	**YM05**	**0.86**	**291**	*eP*	**Pb**	**17 32 19.1**	**0.0**
	baz=290						
YM05				*eS*	**Sb**	**17 32 30.5**	**-0.2**
	baz=290						
YM10	**YM10**	**0.86**	**290**	*eP*	**Pb**	**17 32 19.2**	**+0.1**
	baz=289						
NWLT	**Wulai**	**0.87**	**265**	*eP*	**Pn**	**17 32 19.7**	**-0.7**
	baz=262						
TWY	**Chenhua**	**0.87**	**298**	*eP*	**Pb**	**17 32 19.6**	**+0.3**
	baz=298						
TWY				*eS*	**Sb**	**17 32 31.6**	**+0.4**
	baz=298						
TAP	**Taipei**	**0.88**	**282**	*eP*	**Pn**	**17 32 19.9**	**-0.6**
	baz=281						
YM04	**YM04**	**0.88**	**289**	*eP*	**Pb**	**17 32 19.6**	**+0.2**
	baz=289						
NDT	**Datong Townshi**	**0.89**	**253**	*eP*	**Pb**	**17 32 19.7**	**0.0**
	baz=250						
NDT				*eS*	**Sb**	**17 32 32.3**	**+0.6**
	baz=250						
ANP	**Anpu**	**0.90**	**291**	*eP*	**Pb**	**17 32 19.9**	**0.0**
	baz=290						
NTST	**Danshui**	**0.96**	**288**	*eP*	**Pn**	**17 32 21.8**	**+0.1**
	baz=288						
TWS1	**Kuangyinshan**	**0.97**	**284**	*eP*	**Pn**	**17 32 21.9**	**+0.2**
	baz=283						
YHNB	**Yeheng**	**1.00**	**259**	*eP*	**Pb**	**17 32 21.2**	**-0.2**
	baz=256						
YHNB				*eS*	**Sg**	**17 32 33.6**	**-0.4**
	baz=256						
NSK	**Sanguang**	**1.01**	**260**	*eP*	**Pb**	**17 32 21.4**	**-0.3**
	baz=250						
NSK				*eS*	**Sb**	**17 32 35.1**	**-0.1**
	baz=250						
NACB	**Ninganchiao**	**1.04**	**229**	*eP*	**Pg**	**17 32 21.4**	**-0.4**
	baz=237						
NACB				*eS*	**Sb**	**17 32 36.1**	**+0.2**
	baz=237						
NNSB	**Datong**	**1.06**	**246**	*eP*	**Pg**	**17 32 22.2**	**-0.2**
	baz=230						
NNSB				*eS*	**Sg**	**17 32 36.0**	**-0.2**
	baz=230						
NNS	**Nan Shan**	**1.07**	**247**	*eP*	**Pb**	**17 32 22.5**	**-0.2**
	baz=244						
ETLH	**Xiulin Townshi**	**1.10**	**234**	*eP*	**Pg**	**17 32 22.9**	**-0.1**
	baz=230						
IRIF	**Iriomote-Funau**	**1.28**	**114**	P	**Pn**	**17 32 26.1**	**0.0**
WHF	**Hehuan Shan**	**1.29**	**237**	*eP*	**Pb**	**17 32 26.8**	**+0.1**
	baz=234						
LIOB	**Emei**	**1.32**	**261**	*eP*	**Pg**	**17 32 27.8**	**+0.5**
	baz=259						
NSTT	**Nanjuang**	**1.34**	**260**	*eP*	**Pg**	**17 32 28.1**	**+0.5**
	baz=258						
NSTT				*eS*	**Sn**	**17 32 45.7**	**+0.8**
	baz=258						
ESL	**Shilin**	**1.40**	**222**	*eP*	**Pb**	**17 32 28.4**	**+0.1**
	baz=199						
CHGB	**Renai**	**1.41**	**236**	*eP*	**Pg**	**17 32 28.7**	**-0.3**
	baz=232						
CHGB				*eS*	**Sg**	**17 32 48.3**	**+0.9**
	baz=232						
DPDB	**Guoxing**	**1.62**	**240**	*eP*	**Pg**	**17 32 32.4**	**-0.5**
	baz=237						
VWDT	**VWDT**	**1.63**	**228**	*eP*	**Pb**	**17 32 32.3**	**+0.1**
	baz=225						
HGSD	**Ruisui**	**1.66**	**215**	*eP*	**Pn**	**17 32 30.8**	**-0.5**
	baz=197						
SMLT	**Sun Moon Lake**	**1.72**	**236**	*eP*	**Pb**	**17 32 34.1**	**+0.3**
	baz=217						
SSLB	**Suanglung**	**1.73**	**232**	*eP*	**Pn**	**17 32 33.0**	**+0.6**
	baz=230						
TYC	**Yuchr**	**1.74**	**237**	*eP*	**Pb**	**17 32 34.0**	**-0.1**
	baz=235						
YULB	**Yu-li**	**1.80**	**216**	*eP*	**Pn**	**17 32 32.8**	**-0.5**
	baz=213						
TWF1	**Yuli**	**1.84**	**215**	*eP*	**Pn**	**17 32 33.9**	**+0.1**
	baz=212						

*ISCJB **09** 17:37:07.6±0.6, 24°.87N±0°.04×122°.48E±0°.03, h3km±5km, MS4.4/1, Error ellipse: s-maj=6.5km s-min=3.4km az=21.0*
*TAP **09** 17:37:07.8, 24°.92N×122°.42E, h9km±1km, ML2.9, C*
*JMA **09** 17:37:08.8±0.1, 24°.78N×122°.45E, h10km, M2.2*
ISC 09 17:37:08.1±1.2, 24°.88N±0°.05×122°.48E±0°.03, h22km±4km, n24, σ0°.62/36, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.46**	**224**	P	**Pb**	**17 37 17.6**	**+0.2**
	baz=203						
EOS1				*eS*	**Sn**	**17 37 25.9**	**-1.0**
	baz=203						
TWB1	**Santiao Chiao**	**0.46**	**286**	P	**Pb**	**17 37 16.5**	**-1.0**
	baz=283						
TWB1				*eS*	**Sb**	**17 37 23.1**	**-0.7**
	baz=283						
EGS		**0.49**	**266**	*eP*	**Pb**	**17 37 17.8**	**-0.3**
	baz=260						
TIPB	**Shuangxi**	**0.60**	**279**	P	**Pb**	**17 37 19.9**	**-0.1**
	baz=276						
JYNG	**Yonagunijimaku**	**0.61**	**135**	P	**Pb**	**17 37 19.7**	**-0.4**
JYNG				*eS*	**Sb**	**17 37 27.1**	**-1.1**
TWC	**Suao**	**0.63**	**245**	P	**Pb**	**17 37 19.7**	**-0.8**
	baz=238						
TWC				*eS*	**Sb**	**17 37 28.4**	**-0.6**
	baz=238						
YOJ	**Yonaguni jima**	**0.64**	**131**	P	**Pb**	**17 37 20.3**	**-0.4**
YOJ				S	**Sb**	**17 37 28.5**	**-0.8**
NWF	**Wu-fen Shan**	**0.66**	**287**	P	**Pb**	**17 37 21.0**	**0.0**
	baz=285						
NWF				S	**Sb**	**17 37 30.1**	**+0.4**
	baz=285						
WFSB	**Wu-fen Shan**	**0.66**	**287**	P	**Pb**	**17 37 21.1**	**+0.2**
	baz=285						
TWE	**Neicheng**	**0.75**	**258**	P	**Pb**	**17 37 22.3**	**-0.2**
	baz=243						
NANB	**Nanao**	**0.80**	**236**	P	**Pb**	**17 37 23.0**	**-0.3**
	baz=231						
NANB				*eS*	**Sb**	**17 37 34.3**	**+0.6**
	baz=231						
ENA	**Nanau**	**0.81**	**236**	P	**Pb**	**17 37 23.2**	**-0.2**
	baz=231						
ENA				*eS*	**Sb**	**17 37 34.4**	**+0.5**
	baz=231						
ENTT	**Nioudou**	**0.86**	**254**	*eP*	**Pn**	**17 37 25.6**	**+0.7**
	baz=250						
YM01	**YM01**	**0.86**	**288**	*i* P	**Pb**	**17 37 24.4**	**0.0**
	baz=287						
YM05	**YM05**	**0.87**	**289**	P	**Pn**	**17 37 25.2**	**0.0**
	baz=288						
TWY	**Chenhua**	**0.89**	**296**	*eP*	**Pn**	**17 37 25.7**	**+0.5**
	baz=296						
TWY				*eS*	**Sn**	**17 37 38.5**	**+1.0**
	baz=296						
YM04	**YM04**	**0.89**	**288**	P	**Pn**	**17 37 25.1**	**-0.3**
	baz=287						
YHNB	**Yeheng**	**1.02**	**258**	P	**Pn**	**17 37 27.4**	**+0.2**
	baz=267						
NACB	**Ninganchiao**	**1.07**	**229**	P	**Pb**	**17 37 28.0**	**+0.1**
	baz=224						
NACB				*eS*	**Sn**	**17 37 42.8**	**+0.8**
	baz=224						
NNSB	**Datong**	**1.09**	**246**	P	**Pb**	**17 37 28.6**	**+0.2**
	baz=229						
NNSB				*eS*	**Sn**	**17 37 43.1**	**+0.4**
	baz=229						
IRIF	**Iriomote-Funau**	**1.27**	**115**	P	**Pb**	**17 37 32.1**	**+0.9**
IRIF				*eS*	**Sb**	**17 37 48.1**	**+1.0**
WHF	**Hehuan Shan**	**1.32**	**237**	*eP*	**Pb**	**17 37 32.9**	**+0.4**
	baz=233						
CHGB	**Renai**	**1.44**	**236**	P	**Pb**	**17 37 34.6**	**+0.3**
	baz=233						
PPT2	**Papeete2**	**95.43**	**107**	*eS*	**S**	**18 01 46.2**	**-1.0**
	63nm,24.0s						
PPT2				*e*LR	LR	18 10 09.3	
	comp=Z,162nm,26.8s						

*ISCJB **09** 17:40:41.7±0.4, 36°.85N±0°.03×34°.31E±0°.04, h3km±8km, Error ellipse: s-maj=6.5km s-min=3.5km az=141.5*
*ISK **09** 17:40:41.1, 36°.88N×34°.31E, h5km, ML2.2/12*
*DDA **09** 17:40:41.6, 36°.89N×34°.25E, h7km±6km, ML3.0*
ISC 09 17:40:41.5±1.2, 36°.90N±0°.05×34°.28E±0°.04, h4km±12km, n20, σ0°.57/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.20**	**98**	PG	**Pg**	**17 40 45.5**	**+0.1**
MERS				SG	**Sg**	**17 40 48.1**	**+0.1**
DED	**Mersin**	**0.42**	**81**	*i* P	**Pg**	**17 40 49.7**	**0.0**
DED				*i* S	**Sg**	**17 40 55.5**	**+0.3**
KIZK	**Mersin**	**0.43**	**195**	*i* P	**Pg**	**17 40 50.2**	**+0.4**
KIZK				IAML_P			
	comp=Z,5μm,0.1s						
KIZK	**Mersin**	**0.43**	**195**	PG	**Pg**	**17 40 50.2**	**+0.4**
KIZK				SG	**Sg**	**17 40 56.0**	**+0.6**
KERG	**Konya-Eregli**	**0.53**	**347**	*i* P	**Pb**	**17 40 53.8**	**+0.2**
KERG				*i* S	**Sb**	**17 41 02.2**	**+0.5**
KERG				IAML_P			
	comp=Z,954nm,0.1s						
GULE	**Gulek**	**0.55**	**46**	*i* P	**Pb**	**17 40 53.1**	**-0.8**
GULE				*i* S	**Sb**	**17 41 01.6**	**-0.8**
GULE				IAML_P			
	comp=Z,3μm,0.1s						
SILI	**Silifke-Mersin**	**0.60**	**209**	PG	**Pg**	**17 40 53.4**	**+0.3**
KEBE	**Keben-Mersin**	**0.64**	**226**	PG	**Pb**	**17 40 54.6**	**-0.7**
KARA	**Karaisali**	**0.72**	**59**	PG	**Pg**	**17 40 55.0**	**-0.3**
KARA				SG	**Sg**	**17 41 05.2**	**+0.5**
IKL	**Isikli**	**0.81**	**216**	PG	**Pg**	**17 40 56.9**	**-0.2**
TEVE	**Tevekalti-Mers**	**0.81**	**236**	PG	**Pb**	**17 40 57.6**	**-0.7**
TISA	**Tisan-Mersin**	**0.88**	**214**	PG	**Pg**	**17 40 58.2**	**-0.2**
KRTS	**Karatas**	**0.94**	**110**	PG	**Pg**	**17 40 59.3**	**-0.2**
AKKU	**Akkuyu-Mersin**	**0.94**	**219**	PG	**Pg**	**17 40 59.1**	**-0.5**
BERE	**Bereket-Mersin**	**1.01**	**238**	PG	**Pb**	**17 41 01.2**	**-0.5**
YURE	**YUREGIR**	**1.09**	**93**	*i* P	**Pn**	**17 41 04.1**	**+0.5**
YURE				*i* S	**Sn**	**17 41 20.2**	**+1.1**
YURE	**YUREGIR**	**1.09**	**93**	PG	**Pg**	**17 41 01.8**	**-0.6**
CEYT	**Ceyhan**	**1.18**	**84**	PN	**Pg**	**17 41 03.7**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.20**	**232**	PN	**Pn**	**17 41 04.9**	**-0.2**
GAZI	**Gazipasa**	**1.71**	**248**	PN	**Pb**	**17 41 12.8**	**-0.8**

*NEIC **09** 17:49:35.7±1.8, 24°.5S±0°.1×179°.9E±0°.2, h500km±4km, mb4.4/28*
*IDC **09** 17:49:35.7±2.9, 24°.47S×179°.97E, h507km±28km, mb3.2/8, mb1 3.5/9, mb1mx3.4/20, mbtmp4.1/9, Error ellipse: s-maj=30.9km s-min=20.0km az=150.0*
*ISCJB **09** 17:49:36.4±0.9, 24°.47S±0°.05×179°.88E±0°.09, h521km±11km, mb3.6/8, Error ellipse: s-maj=13.3km s-min=8.1km az=168.4*
ISC 09 17:49:37.5±1.0, 24°.46S±0°.07×179°.88E±0°.10, h524km±11km, n68, σ1°.48/74, mb4.2/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.91**	**345**	P	**P**	**17 51 23.0**	**-0.8**
DZM	**Mont Dzumac**	**12.58**	**278**	P	**P**	**17 52 23.3**	**+1.1**
	1.1nm,0.3s,baz=86,slow=17,SNR=12						
DZM	**Mont Dzumac**	**12.58**	**278**	P	**P**	**17 52 23.7**	**+1.4**
MXZ	**Matakaoa Point**	**13.13**	**186**	P	**P**	**17 52 30.8**	**+3.2**
HIZ	**Hauiti**	**14.65**	**196**		**P**	**17 52 45.1**	**+1.6**
BKZ	**Black Stump Fm**	**14.94**	**190**	P	**P**	**17 52 46.2**	**-0.4**
BKZ					**S**	**17 55 16.8**	**-5.8**
FUNA	**Funafuti**	**15.86**	**358**	P	**P**	**17 52 52.5**	**-3.8**
BFZ	**Birch Farm**	**16.46**	**190**		**P**	**17 52 59.2**	**-2.9**
MSWZ	**Moikau Station**	**17.35**	**192**	P	**P**	**17 53 09.1**	**-1.3**
SNZO	**South Karori**	**17.35**	**193**	P	**P**	**17 53 08.9**	**-1.5**
QRZ	**Quartz Range**	**17.45**	**199**	P	**P**	**17 53 10.6**	**-0.8**
PLWZ	**Palliser**	**17.50**	**192**	P	**P**	**17 53 10.3**	**-1.6**
NNZ	**Nelson**	**17.57**	**196**	P	**P**	**17 53 11.5**	**-1.0**
NNZ				IAmb	IAmb	17 53 36.0	
	comp=Z,26nm,1.4s						
TUWZ	**Tuamarina**	**17.64**	**195**	P	**P**	**17 53 11.3**	**-1.8**
THZ	**Tophouse**	**18.21**	**197**	P	**P**	**17 53 17.4**	**-0.9**
THZ				IAmb	IAmb	17 53 44.2	
	comp=Z,28nm,1.6s						
KHZ	**Kahutara**	**18.67**	**195**	P	**P**	**17 53 21.2**	**-1.2**
KHZ				IAmb	IAmb	17 53 37.3	
	comp=Z,29nm,1.4s						
CTAO	**Charters Tower**	**31.38**	**271**	P	**P**	**17 55 16.5**	**+1.1**
CTAO				IAmb	IAmb	17 55 17.1	
	comp=Z,12nm,1.4s						
TOO	**Toolangi**	**32.06**	**238**	P	**P**	**17 55 21.0**	**0.0**
STKA	**Stephens Creek**	**34.42**	**249**	P	**P**	**17 55 41.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=104,slow=10,SNR=8.9						
STKA	**Stephens Creek**	**34.42**	**249**	P	**P**	**17 55 41.1**	**+0.1**
PMG	**Port Moresby**	**34.58**	**290**	P	**P**	**17 55 42.7**	**+0.2**
PMG				IAmb	IAmb	17 55 53.0	
	comp=Z,12nm,1.0s						
BBOO	**Buckleboo**	**39.13**	**248**	P	**P**	**17 56 19.5**	**-0.3**
BBOO				IAmb	IAmb	17 56 35.3	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**41.84**	**261**	P	**P**	**17 56 41.8**	**+0.2**
ASAR	**Alice Springs**	**41.84**	**261**	P	**P**	**17 56 41.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=97,slow=6.6,SNR=25						
ASAR				PcP	**PcP**	**17 58 25.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=106,slow=4.7,SNR=4.2						
ASAR	**Alice Springs**	**41.84**	**261**	P	**P**	**17 56 41.0**	**-0.6**
ASAR					**PcP**	**17 58 25.4**	**0.0**
WR0	**Warramunga Arr**	**42.08**	**267**	P	**P**	**17 56 43.4**	**-0.1**
WB2	**Warramunga Arr**	**42.26**	**267**	P	**P**	**17 56 44.6**	**-0.2**
WB2				IAmb	IAmb	17 57 01.8	
	comp=Z,18nm,1.7s						
WB0	**Warramunga Arr**	**42.26**	**267**	P	**P**	**17 56 46.8**	**+1.9**
WB0				IAmb	IAmb	17 57 07.4	
	comp=Z,13nm,1.6s						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**17 56 44.5**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=102,slow=8.2,SNR=63						
WRA				PcP	**PcP**	**17 58 26.4**	**-0.4**
	comp=Z,1.5nm,1.2s,baz=93,slow=3.3,SNR=3.6						
WRA				ScP	**ScP**	**18 01 30.3**	**+2.8**
	comp=Z,1.6nm,1.1s,baz=95,slow=3.8,SNR=7.2						
WRA				S	**S**	**18 02 24.7**	**-3.0**
	comp=Z,1.5nm,1.1s,baz=101,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**17 56 44.6**	**-0.4**
WRA					**PcP**	**17 58 27.3**	**+0.5**
FORT	**Forrest**	**46.02**	**250**	P	**P**	**17 57 13.3**	**-0.5**
FORT				IAmb	IAmb	17 57 19.1	
	comp=Z,17nm,1.1s						
KNRA	**Kununurra**	**48.58**	**270**	P	**P**	**17 57 33.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.68**	**266**	P	**P**	**17 57 49.2**	**+0.4**
FITZ				IAmb	IAmb	17 57 53.1	
	comp=Z,30nm,1.6s						
SBA	**Scott Base**	**53.82**	**183**	P	**P**	**17 58 13.1**	**+2.8**
SBA				PcP	**PcP**	**17 59 09.2**	**+1.5**
PSA00	**Pilbara Seismi**	**54.96**	**260**	P	**P**	**17 58 18.9**	**-0.4**
MORW	**Morawa**	**56.59**	**250**	P	**P**	**17 58 30.3**	**-0.1**
CASY	**Casey**	**59.57**	**206**	P	**P**	**17 58 49.2**	**-0.7**
CASY				IAmb	IAmb	17 59 12.4	
	comp=Z,37nm,1.5s						
QSPA	**South Pole Qui**	**65.63**	**180**	P	**P**	**17 59 30.2**	**+0.9**
QSPA				IAmb	IAmb	17 59 31.0	
	comp=Z,5.1nm,0.8s						
MAW	**Mawson**	**77.19**	**200**	P	**P**	**18 00 36.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=127,slow=6.3,SNR=6.2						
MAW	**Mawson**	**77.19**	**200**	P	**P**	**18 00 37.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**81.17**	**327**	P	**P**	**18 00 59.3**	**+1.3**
IPM	**Ipoh**	**81.74**	**279**	P	**P**	**18 01 02.4**	**+0.6**
IPM				IAmb	IAmb	18 01 23.9	
	comp=Z,14nm,1.4s						
KULM	**Kulim**	**82.43**	**279**	P	**P**	**18 01 05.9**	**+0.7**
KULM				IAmb	IAmb	18 01 23.8	
	comp=Z,14nm,1.4s						
SNAA	**Sanae**	**84.11**	**179**	P	**P**	**18 01 12.0**	**-0.6**
VNA3	**Neumayer Olymp**	**84.33**	**177**	P	**P**	**18 01 13.2**	**-0.5**
VNA2	**Neumayer--Watz**	**84.74**	**178**	P	**P**	**18 01 15.4**	**-0.3**
	baz=191,slow=3.7						
VNA1	**Neumayer--Stat**	**84.98**	**177**	P	**P**	**18 01 17.0**	**+0.1**
NVAR	**Mina Array Bea**	**85.22**	**44**	P	**P**	**18 01 19.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=209,slow=6.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**18 01 39.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=145,slow=3.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**18 01 41.2**	**+1.6**
TXAR	**Lajitas Array**	**90.81**	**

comp=Z,1.1nm,0.8s,baz=37,slow=2.3,SNR=3.5
AKASG **Malin Array Be 145.38 327** PKPbc **PKPdf 18 08 15.8 +0.6**
comp=Z,1.5nm,0.5s,baz=44,slow=4.1,SNR=9.7
AKASG **Malin Array Be 145.38 327** **PKPdf 18 08 16.0 +0.7**
BR131 **Keskin Array S 147.82 306** **PKPbc 18 08 22.9 -0.8**
BRTR **Keskin Array B 147.82 306** PKPbc **PKPbc 18 08 22.9 -0.8**
comp=Z,1.3nm,0.7s,baz=136,slow=4.1,SNR=8.1
BRTR **Keskin Array B 147.82 306** **PKPbc 18 08 23.6 -0.1**
BURAR **Bucovina Array 149.37 325** **PKiKP 18 08 28.3 +0.4**
CLL **Collm 151.35 343** *i* PKPbc **PKPbc 18 08 31.7 +0.2**
comp=Z,5.0nm,0.7s
TORD **Torodi Ar. Bea 168.62 189** PKPab **PKPab 18 09 56.4 -1.7**
comp=Z,0.6nm,0.6s,baz=168,slow=4.3,SNR=3.9
TORD **Torodi Ar. Bea 168.62 189** **PKPab 18 09 58.6 +0.5**

*ISCJB **09** 18:32:25.9±0.8, 28°.40N±0°.05×50°.78E±0°.07, h10km, Error ellipse: s-maj=9.6km s-min=5.6km az=154.5*
*OMAN **09** 18:32:27.5±3.2, 29°.84N×52°.37E, h23km, Error ellipse: s-maj=224.6km s-min=29.4km az=54.0*
*THR **09** 18:32:28.4, 28°.72N×50°.77E, h10km, ML3.3*
*TEH **09** 18:32:32.4, 28°.96N×50°.97E, h5km, ML3.2*
ISC 09 18:32:27.9±1.9, 28°.48N±0°.07×50°.70E±0°.10, h10km, n28, σ1s05/30, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.64**	**37**	*e*Pg	**Pn**	**18 32 56.4**	**-0.7**
IKAZ				IAMB	IAmb	18 33 19.4	
comp=Z,16μm,0.5s							
SHI	**Shiraz**	**1.97**	**54**	*e*Pn	**Pn**	**18 33 02.3**	**+0.8**
SHI				*e*Sg	**Sb**	**18 33 27.4**	**-1.2**
SHI				IAMB	IAmb	18 33 29.0	
comp=Z,4μm,0.4s							
ISRV	**Sarvestan**	**2.30**	**66**	*e*Sg	**Sg**	**18 33 41.8**	**-0.1**
ISRV				*e*Pn	**Pn**	**18 33 08.0**	**+1.8**
ISRV				IAMB	IAmb	18 33 45.6	
comp=Z,2μm,0.4s							
LMD1	**Lamerd**	**2.46**	**117**	*e*Pn	**Pg**	**18 33 16.6**	**+1.5**
JHRM	**Jahrom**	**2.54**	**89**	*e*Pn	**Pb**	**18 33 14.5**	**+0.9**
KLNJ	**Kolanjah**	**2.64**	**17**	*e*Pn	**Pn**	**18 33 10.8**	**-0.1**
IBRJ	**Brojen**	**3.45**	**8**	*e*Pn	**Pn**	**18 33 21.3**	**-0.7**
IRAM	**Ramesheh**	**3.62**	**23**	*e*Pn	**Pn**	**18 33 24.3**	**0.0**
ZNGN	**Zangian**	**3.63**	**2**	*e*Pn	**Pn**	**18 33 24.4**	**0.0**
JHBN	**Jahan bin**	**3.74**	**360**	*e*Pn	**Pn**	**18 33 26.0**	**0.0**
ROKH	**ROKH**	**3.86**	**4**	*e*Pn	**Pn**	**18 33 27.7**	**+0.1**
IPIR	**Pirpir**	**4.19**	**2**	*e*Pn	**Pn**	**18 33 32.9**	**+0.7**
ISAD	**Sadrabad**	**4.29**	**36**	*e*Pn	**Pn**	**18 33 33.7**	**+0.2**
IMEH	**Mehriz**	**4.47**	**49**	*e*Pn	**Pn**	**18 33 36.2**	**+0.3**
IZEF	**Zefreh**	**4.62**	**17**	*e*Pn	**Pn**	**18 33 38.2**	**+0.2**
IKLH	**Kolahrood**	**4.88**	**9**	*e*Pn	**Pn**	**18 33 41.6**	**0.0**
ICHK	**Chekchek**	**4.93**	**40**	*e*Pn	**Pn**	**18 33 41.8**	**-0.5**
YZKH	**Yazd**	**5.15**	**40**	*e*Pn	**Pn**	**18 33 44.8**	**-0.3**
YZKH	**Yazd**	**5.15**	**40**	*e*Pn	**Pn**	**18 33 44.8**	**-0.3**
IBAF	**Bafgh**	**5.24**	**53**	*e*Pn	**Pn**	**18 33 45.6**	**-0.8**
ANAR	**Anarak**	**5.37**	**28**	*e*Pn	**Pn**	**18 33 47.8**	**-0.4**
KRBR	**Kerman**	**5.51**	**73**	*e*Pn	**Pn**	**18 33 51.1**	**+0.8**
KRBR	**Kerman**	**5.51**	**73**	*e*Pn	**Pn**	**18 33 51.1**	**+0.8**
KRBR				*e*AML	AML	18 34 59.9	
comp=Z,12nm,0.4s							
KRBR				*e*AML	AML	18 35 02.0	
comp=Z,14nm,0.6s							
UOSS	**Minazif**	**6.05**	**124**	P	Pn	18 33 52.5	-5.0
HATD	**Hatta, Dubai**	**6.08**	**126**	P	**Pn**	**18 33 55.1**	**-2.7**
HATD				S	**Sn**	**18 35 04.3**	**-3.1**
ASHO	**Ashiyiah**	**6.11**	**127**	P	**Pn**	**18 33 58.1**	**-0.3**
SNR=9.8							
ARQ	**Araqi**	**7.33**	**133**	P	**Pn**	**18 34 14.8**	**-0.3**
SNR=5.3							
BSY	**Bisya**	**8.19**	**133**	P	**Pn**	**18 34 26.5**	**-0.3**

*IDC **09** 18:36:26.0±55.0, 18°.92S×178°.12W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/20, mbtmp4.2/3, Error ellipse: s-maj=1004.0km s-min=154.1km az=81.0*
*NEIC **09** 18:37:14.8±1.6, 20°.05S±0°.3×177°.8W±0°.2, h542km±21km, mb4.3/17*
ISC 09 18:37:16.4±2.4, 20°.6S±0°.2×178°.1W±0°.3, h500km, n22, σ1s79/23, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.62**	**307**	P	**P**	**18 38 41.9**	**+1.8**
MSVF				S	**S**	**18 39 50.7**	**+2.4**
URZ	**Urewera**	**18.09**	**192**	P	**P**	**18 40 58.5**	**+1.1**
QRZ	**Quartz Range**	**21.69**	**200**		**P**	**18 41 32.4**	**+2.3**
NNZ	**Nelson**	**21.80**	**198**	P	**P**	**18 41 32.5**	**+1.4**
NNZ				IAmb	IAmb	18 41 46.8	
comp=Z,11nm,1.1s							
THZ	**Tophouse**	**22.44**	**198**	P	**P**	**18 41 38.9**	**+2.0**
THZ				IAmb	IAmb	18 41 57.9	
comp=Z,15nm,1.3s							
CTAO	**Charters Tower**	**33.39**	**264**	P	**P**	**18 43 12.9**	**-0.1**
CTAO				IAmb	IAmb	18 43 30.5	
comp=Z,9.0nm,1.2s							
TOO	**Toolangi**	**35.77**	**234**	P	**P**	**18 43 34.8**	**+2.1**
STKA	**Stephens Creek**	**37.67**	**244**	P	**P**	**18 43 49.6**	**+1.2**
comp=Z,1.8nm,0.5s,baz=83,slow=11,SNR=7.0							
STKA	**Stephens Creek**	**37.67**	**244**	P	**P**	**18 43 49.4**	**+1.0**
BBOO	**Buckleboo**	**42.42**	**244**	P	**P**	**18 44 27.1**	**+0.5**
BBOO				IAmb	IAmb	18 44 27.3	
comp=Z,9.3nm,0.6s							
ASAR	**Alice Springs**	**44.41**	**257**	P	**P**	**18 44 41.5**	**-0.8**
comp=Z,2.9nm,0.5s,baz=90,slow=8.0,SNR=50							
ASAR	**Alice Springs**	**44.41**	**257**	P	**P**	**18 44 40.9**	**-1.4**
WB0	**Warramunga Arr**	**44.48**	**262**	P	**P**	**18 44 41.4**	**-1.4**
WB0				IAmb	IAmb	18 44 42.0	
comp=Z,7.6nm,1.4s							
WB2	**Warramunga Arr**	**44.48**	**262**	P	**P**	**18 44 41.5**	**-1.4**
WB2				IAmb	IAmb	18 44 59.2	
comp=Z,19nm,1.6s							
WRA	**Warramunga Arr**	**44.50**	**262**	P	**P**	**18 44 41.2**	**-1.8**
comp=Z,1.2nm,0.5s,baz=98,slow=7.7,SNR=8.7							
WRA	**Warramunga Arr**	**44.50**	**262**	P	**P**	**18 44 41.3**	**-1.7**
MTN	**Manton Dam**	**49.07**	**271**	P	**P**	**18 45 14.8**	**-2.8**
FITZ	**Fitzroy Crossi**	**52.92**	**262**	P	**P**	**18 45 43.9**	**-1.8**
FITZ				IAmb	IAmb	18 45 52.3	
comp=Z,16nm,1.6s							
SOEI	**Soe**	**56.41**	**272**	P	**P**	**18 46 08.6**	**-1.9**
SOEI				IAmb	IAmb	18 46 12.9	
comp=Z,6.7nm,0.8s							
PSA00	**Pilbara Seismi**	**57.56**	**257**	P	**P**	**18 46 15.8**	**-2.3**
SBA	**Scott Base**	**57.77**	**184**	P	**P**	**18 46 19.7**	**+1.1**
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**18 47 32.4**	**-1.5**

*SOME **09** 19:02:24.1, 40°.73N×72°.43E, h5km*
*KRNET **09** 19:02:26.2±0.1, 40°.82N×72°.39E, h17km, mb2.2*
*NNC **09** 19:02:27.9±2.8, 40°.91N×72°.37E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=23.9km s-min=9.2km az=174.0*
ISC 09 19:02:26.2±1.6, 40°.84N±0°.06×72°.33E±0°.03, h3km±12km, n20, σ0s55/33, 12C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.69**	**45**	⇓*i*P	**Pg**	**19 02 39.0**	**-0.5**
baz=42							
ARSB				⇓*i*S	**Sg**	**19 02 48.0**	**-0.5**
baz=42							
ARK	**Arkit**	**1.00**	**344**	⇑*e*P	**Pg**	**19 02 45.0**	**-0.4**
baz=42							
ARK				⇑*i*S	**Sg**	**19 02 58.3**	**-0.1**
baz=42							
BTK	**Batken**	**1.39**	**237**	⇓*i*P	**Pn**	**19 02 52.2**	**-0.4**
baz=38							
BTK				⇓*i*S	**Sb**	**19 03 11.0**	**-0.1**
baz=38							
AML	**Almayashu**	**1.65**	**38**	⇑*i*P	**Pn**	**19 02 56.0**	**-0.5**
baz=37							
AML				⇑*i*S	**Sn**	**19 03 17.8**	**-0.6**
baz=37							
ARLS	**Aral**	**1.82**	**55**	⇓*i*P	**Pb**	**19 02 59.0**	**-1.2**
baz=54							
ARLS				⇓*i*S	**Sb**	**19 03 22.7**	**-0.7**
baz=54							
MRKS	**Merke**	**2.02**	**19**	Pg	**Pb**	**19 03 03.1**	**-0.5**
3.4nm,0.2s							
MRKS				Lg	Lg	19 03 31.1	
7.4nm,0.4s							
MRKS	**Merke**	**2.02**	**19**	*e*P	**Pb**	**19 03 03.1**	**-0.5**
1.4nm,0.1s							
MRKS				*e*S	**Sg**	**19 03 31.1**	**-0.1**
4.9nm,0.2s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**2.12**	**30**	⇑*e*P	**Pn**	**19 03 03.2**	**+0.5**
baz=29							
EKS2				⇑*i*S	**Sn**	**19 03 30.0**	**+0.4**
baz=29							
UCH	**Uchtor**	**2.15**	**49**	⇑*i*P	**Pn**	**19 03 03.7**	**+0.3**
baz=48							
UCH				⇑*i*S	**Sn**	**19 03 30.9**	**+0.2**
baz=48							
IUG	**Iuzhnay**	**2.17**	**308**	Pg	**Pb**	**19 03 06.5**	**+0.3**
0.9nm,0.2s							
IUG				Lg	Lg	19 03 36.5	
11nm,0.3s							
IUG	**Iuzhnay**	**2.17**	**308**	*e*P	**Pb**	**19 03 06.3**	**+0.1**
0.9nm,0.2s							
IUG				*e*S	**Sg**	**19 03 36.4**	**+0.5**
10nm,0.3s							
AAK	**Ala-Archa**	**2.42**	**41**	⇓Pg	**Pb**	**19 03 10.8**	**+0.3**
2.1nm,0.4s							
AAK				⇓Lg	Lg	19 03 41.7	
7.6nm,0.5s							
AAK	**Ala-Archa**	**2.42**	**41**	⇓*i*P	**Pn**	**19 03 07.3**	**+0.5**
baz=40							
AAK				⇓*i*S	**Sn**	**19 03 37.2**	**+0.2**
baz=40							
KZA	**Kyzart**	**2.52**	**60**	⇓*i*P	**Pn**	**19 03 09.1**	**+0.7**
baz=59							
KZA				⇓*i*S	**Sn**	**19 03 39.9**	**+0.1**
baz=59							
KK31	**Karatay Array**	**2.64**	**330**	Pg	**Pb**	**19 03 14.3**	**+0.1**
0.3nm,0.3s,baz=131,slow=16,SNR=4.4							
KK31				⇑Lg	Lg	19 03 50.8	
1.4nm,0.5s,baz=139,slow=29,SNR=2.9							
KBK	**Karagaybulak**	**2.67**	**46**	⇓*i*P	**Pn**	**19 03 10.6**	**+0.3**
baz=45							
KBK				⇓*i*S	**Sn**	**19 03 43.0**	**-0.3**
baz=45							
NRN	**Naryn**	**2.83**	**77**	⇑*i*P	**Pn**	**19 03 13.0**	**+0.3**
baz=76							
NRN				⇑*i*S	**Sn**	**19 03 47.1**	**-0.4**
baz=76							
TKM2	**Tokmak 2**	**3.21**	**48**	⇑Pg	**Pg**	**19 03 29.0**	**+1.3**
2.9nm,1.0s							
TKM2				⇓Lg	Lg	19 04 05.5	
3.8nm,0.8s							
KST	**Kastek**	**3.49**	**50**	Pg	**Pb**	**19 03 29.7**	**+1.0**
1.7nm,0.3s							
KST				Lg	Lg	19 04 16.2	
2.0nm,0.4s							
DGS	**Degeres**	**3.51**	**46**	Pg	**Pb**	**19 03 29.3**	**+0.2**
1.7nm,0.6s							
DGS				Lg	Lg	19 04 15.8	
2.2nm,0.6s							

*NEIC **09** 19:23:27.7±2.5, 25°.8S±0°.1×179°.8W±0°.2, h487km±12km, mb4.3/17*
*ISCJB **09** 19:23:28.0±0.7, 25°.79S±0°.06×179°.87W±0°.10, h500km, mb3.9/5, Error ellipse: s-maj=11.9km s-min=7.1km az=166.0*
*IDC **09** 19:23:30.1±2.2, 25°.92S×179°.97W, h496km±37km, mb3.5/5, mb1 3.6/7, mb1mx3.2/30, mbtmp4.4/7, Error ellipse: s-maj=64.7km s-min=34.3km az=78.0*
ISC 09 19:23:28.7±0.8, 25°.87S±0°.08×179°.77W±0°.10, h500km, n30, σ1s39/36, mb4.2/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.75**	**154**	P	**P**	**19 24 46.7**	**+1.7**
141nm,0.3s,baz=94,slow=5.0,SNR=18							
RAO				S	**S**	**19 25 49.2**	**+2.0**
102nm,0.3s,baz=18,slow=19,SNR=3.2							
RAO	**Raoul Island**	**3.75**	**154**	P	**P**	**19 24 46.4**	**+1.4**
RAO				S	**S**	**19 25 40.9**	**-6.4**
OUZ	**Omahuta**	**10.93**	**210**	P	**P**	**19 25 56.6**	**+0.9**
OUZ				S	**S**	**19 27 55.8**	**-1.0**
MXZ	**Matakaoa Point**	**11.77**	**188**	P	**P**	**19 26 05.5**	**+0.9**
MXZ				S	**S**	**19 28 12.0**	**-1.1**
URZ	**Urewera**	**12.63**	**191**	P	**P**	**19 26 12.7**	**-1.0**
1.2nm,0.3s,baz=76,slow=6.5,SNR=8.1							
URZ				S	**S**	**19 28 30.5**	**+0.7**
0.9nm,0.3s,baz=64,slow=24,SNR=11							
DZM	**Mont Dzumac**	**13.16**	**284**	P	**P**	**19 26 19.5**	**-0.2**
0.9nm,0.3s,baz=89,slow=16,SNR=10							
AFI	**Afiamalu**	**14.07**	**34**	P	**P**	**19 26 28.7**	**-0.6**
QRZ	**Quartz Range**	**16.23**	**201**	P	**P**	**19 26 50.5**	**-1.1**
LTZ	**Lake Taylor**	**18.09**	**199**	P	**P**	**19 27 09.2**	**-0.6**
LTZ				IAmb	IAmb	19 27 21.9	
comp=Z,19nm,1.4s							
FOZ	**Fox Glacier**	**19.56**	**203**	P	**P**	**19 27 22.6**	**-0.5**
EIDS	**Eidsvold**	**26.27**	**265**	P	**P**	**19 28 23.7**	**+0.2**
EIDS				IAmb	IAmb	19 28 24.8	
comp=Z,7.5nm,0.7s							
CTA	**Charters Tower**	**31.75**	**273**	P	**P**	**19 29 11.7**	**+0.4**
comp=Z,5.2nm,0.4s,baz=95,slow=9.5,SNR=12							
CTAO	**Charters Tower**	**31.75**	**273**	P	**P**	**19 29 11.8**	**+0.6**
CTAO				IAmb	IAmb	19 29 12.5	
comp=Z,7.0nm,1.0s							
STKA	**Stephens Creek**	**34.23**	**251**	P	**P**	**19 29 32.4**	**+0.2**
comp=Z,1.1nm,0.4s,baz=86,slow=12,SNR=6.8							
STKA	**Stephens Creek**	**34.23**	**251**	P	**P**	**19 29 32.1**	**0.0**
COEN	**Coen**	**36.67**	**282**	P	**P**	**19 29 53.2**	**+0.5**
COEN				IAmb	IAmb	19 30 03.0	
comp=Z,26nm,1.5s							
AS31	**Alice Springs**	**41.96**	**263**	P	**P**	**19 30 35.3**	**-0.1**
ASAR	**Alice Springs**	**41.96**	**263**	P	**P**	**19 30 35.5**	**+0.1**
comp=Z,3.0nm,0.4s,baz=91,slow=7.7,SNR=92							
ASAR				S	**S**	**19 36 17.2**	**-0.3**
comp=Z,0.6nm,0.9s,baz=101,slow=18,SNR=4.5							
ASAR	**Alice Springs**	**41.96**	**263**	P	**P**	**19 30 35.1**	**-0.3**
WB2	**Warramunga Arr**	**42.51**	**268**	P	**P**	**19 30 39.3**	**-0.5**
WRA	**Warramunga Arr**	**42.52**	**268**	P	**P**	**19 30 39.5**	**-0.3**
comp=Z,2.8nm,0.3s,baz=105,slow=7.9,SNR=94							
WRA	**Warramunga Arr**	**42.52**	**268**	P	**P**	**19 30 39.3**	**-0.6**
FORT	**Forrest**	**45.85**	**251**	P	**P**	**19 31 04.8**	**-0.7**
FORT				IAmb	IAmb	19 31 04.9	
comp=Z,13nm,1.0s							
MTN	**Manton Dam**	**47.84**	**276**	P	**P**	**19 31 20.7**	**-0.1**
MTN				IAmb	IAmb	19 31 29.7	
comp=Z,27nm,1.3s							
KNRA	**Kununurra**	**48.92**	**271**	P	**P**	**19 31 28.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.91**	**267**	P	**P**	**19 31 44.1**	**+0.7**
comp=Z,1.6nm,0.5s,baz=125,slow=7.1,SNR=14							
FITZ	**Fitzroy Crossi**	**50.91**	**267**	P	**P**	**19 31 43.6**	**+0.1**
FITZ				IAmb	IAmb	19 31 55.7	
comp=Z,11nm,1.4s							
MORW	**Morawa**	**56.42**	**251**	P	**P**	**19 32 22.0**	**-0.4**
MORW				IAmb	IAmb	19 32 34.3	
comp=Z,15nm,1.4s							
QSPA	**South Pole Qui**	**64.22**	**180**	P	**P**	**19 33 15.7**	**+2.0**
KKM	**Kota Kinabalu**	**69.69**	**288**	P	**P**	**19 33 47.7**	**-0.5**

*ISK **09** 19:24:19.9, 38°.73N×43°.26E, h20km, ML2.2/4*
*DDA **09** 19:24:20.6, 38°.76N×43°.23E, h7km±2km, ML2.7*
*ISCJB **09** 19:24:21.3±0.7, 38°.73N±0°.04×43°.23E±0°.06, h21km±10km, Error ellipse: s-maj=8.0km s-min=6.2km az=4.0*
ISC 09 19:24:20.3±1.1, 38°.83N±0°.06×43°.26E±0°.04, h17km±10km, n10, σ1s09/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**157**	PG	**Pg**	**19 24 26.2**	**+0.1**
VANB				SG	**Sg**	**19 24 30.3**	**+0.3**
VMUR	**Van-Muradiye**	**0.29**	**56**	*i* P	**Pn**	**19 24 29.0**	**-1.1**
VMUR				*i* S	**Sn**	**19 24 35.5**	**-0.6**
VMUR				IAML_P			
comp=Z,1μm,0.1s							
TVAN	**Van**	**0.32**	**159**	*i* P	**Pg**	**19 24 26.2**	**-1.0**
TVAN				*i* S	**Sg**	**19 24 31.1**	**-0.9**
GEVA	**Gevas**	**0.54**	**197**	*i* P	**Pg**	**19 24 30.5**	**-0.6**
GEVA				IAML_P			
comp=Z,2μm,0.2s							
CLDR	**Caldiran**	**0.60**	**58**	*i* P	**Pb**	**19 24 33.5**	**+1.0**
CLDR				*i* S	**Sn**	**19 24 43.7**	**-0.1**
CLDR	**Caldiran**	**0.60**	**58**	PG	**Pb**	**19 24 33.2**	**+0.7**
CLDR				SG	**Sn**	**19 24 43.1**	**-0.7**
MLAZ	**Malazgirt-MUS**	**0.64**	**300**	PG	**Pb**	**19 24 34.0**	**+0.9**
TUTA	**Tutak**	**0.67**	**329**	*i* P	**Pn**	**19 24 35.4**	**0.0**
TUTA				*i* S	**Sn**	**19 24 45.6**	**0.0**
GURO	**Guroymak-BITLI**	**1.00**	**254**	PG	**Pb**	**19 24 39.0**	**-0.3**
HAKT	**HAKKARI**	**1.31**	**164**	*i* P	**Pn**	**19 24 44.0**	**-0.2**
HAKT				*i* S	**Sg**	**19 25 05.9**	**+3.0**

IDC 09 19:28:43.0±1.9, 5°.67S×151°.44E, h86km±11km, mb3.5/5, mb1 3.8/6, mb1mx3.5/27, mbtmp3.9/6, Error ellipse: s-maj=61.6km s-min=9.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.47**	**23**	P	Pn	19 29 07.3	-1.0
161nm,0.3s,baz=17,slow=20,SNR=142							
KRVT				S	Sn	19 29 27.4	+0.1
372nm,0.3s,baz=24,slow=20,SNR=27							
PMG	**Port Moresby**	**5.64**	**229**	P	Pn	19 30 04.6	+0.3
19nm,0.3s,baz=57,slow=5.8,SNR=52							
PMG				S	Sn	19 31 08.0	+0.3
13nm,0.3s,baz=279,slow=23,SNR=10							
WRA	**Warramunga Arr**	**21.86**	**228**	P	P	19 33 28.4	-0.4
1.5nm,0.7s,baz=53,slow=10,SNR=11							
ASAR	**Alice Springs**	**24.60**	**222**	P	P	19 33 56.2	+0.8
2.3nm,0.8s,baz=58,slow=8.6,SNR=22							
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	P	19 34 26.3	-0.2
2.5nm,0.5s,baz=64,slow=8.5,SNR=16							
SONM	**Songino Array**	**66.34**	**329**	P	P	19 39 22.7	0.0
0.3nm,0.5s,baz=111,slow=4.2,SNR=2.6							
ILAR	**Eielson Array**	**83.47**	**22**	P	P	19 40 59.8	-1.1
0.3nm,0.6s,baz=253,slow=5.6,SNR=4.8							
GERES	**GERESS Array B**	**124.07**	**328**	PKP	PKPdf	19 47 31.7	0.0
0.3nm,0.5s,baz=42,slow=1.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**149.26**	**286**	PKPbc	PKPbc	19 48 22.7	-0.1
2.2nm,0.6s,baz=80,slow=3.1,SNR=17							

IDC 09 19:52:13.7±38.0, 25°.92S×71°.48E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/45, mbtmp3.4/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/13, Error ellipse: s-maj=903.8km s-min=53.3km az=70.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.20**	**3**	T	T	20 15 17.7	
baz=184,slow=74							
H08S2	**Diego Garcia H**	**18.20**	**3**	T	T	20 15 12.8	
baz=184,slow=74,SNR=18							
H08S3	**Diego Garcia H**	**18.22**	**3**	T	T	20 15 14.6	
baz=184,SNR=20							
PALK	**Pallekele**	**34.19**	**16**	LR	LR	20 09 28.7	
comp=Z,59nm,19.3s,baz=117,slow=30							
CMAR	**Chiang Mai Arr**	**51.56**	**34**	P	P	20 01 21.6	-0.2
0.3nm,0.6s,baz=216,slow=8.1,SNR=4.6							
ASAR	**Alice Springs**	**56.24**	**102**	P	P	20 01 56.1	0.0
0.3nm,0.9s,baz=253,slow=6.3,SNR=4.3							
WRA	**Warramunga Arr**	**57.74**	**98**	P	P	20 02 06.7	0.0
0.5nm,1.0s,baz=250,slow=7.6,SNR=3.8							
WRA				LR	LR	20 25 13.1	
comp=Z,34nm,18.0s,baz=335,slow=34							

*IDC **09** 19:52:14.0±4.9, 24°.15N×65°.65E, h0km, mb4.0/5, mb1 3.9/8, mb1mx3.5/52, mbtmp3.9/8, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/45, Error ellipse: s-maj=99.2km s-min=30.1km az=155.0*
*OMAN **09** 19:52:33.5±2.2, 24°.71N×64°.45E, h28km, ml4.1/1, Error ellipse: s-maj=25.2km s-min=16.0km az=130.0*
ISC 09 19:52:24.4±1.4, 24°.8N±0°.1×65°.0E±0°.1, h35km, n25, σ2s06/30, mb3.8/5, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**5.78**	**244**	P	**Pn**	**19 53 48.5**	**+0.8**
SNR=11							
JLN				S	**Sn**	**19 54 51.1**	**-1.7**
WBK	**Wadi Bani Khal**	**5.95**	**249**	P	**Pn**	**19 53 51.0**	**+0.9**
SNR=113							
WBK				S	**Sn**	**19 54 55.5**	**-1.6**
WSAR	**Wadi Sarin**	**6.04**	**256**	P	**Pn**	**19 53 52.6**	**+1.4**
SNR=33							
WSAR	**Wadi Sarin**	**6.04**	**256**	Pn	**Pn**	**19 53 52.1**	**+0.9**
2.3nm,0.3s,baz=119,slow=11,SNR=38							
WSAR				Sn	**Sn**	**19 54 56.5**	**-2.6**
1.4nm,0.3s,baz=258,slow=16,SNR=6.4							
BIDO	**Bidbid**	**6.41**	**260**	P	**Pn**	**19 53 59.1**	**+2.7**
BIDO				S	**Sn**	**19 55 06.6**	**-1.8**
SMDO	**Samad**	**6.60**	**256**	P	**Pn**	**19 54 00.7**	**+1.6**
SNR=8.0							
SMDO				S	**Sn**	**19 55 11.1**	**-2.1**
JMDO	**Jabal Madar**	**6.78**	**250**	P	**Pn**	**19 54 03.7**	**+2.3**
JMDO				S	**Sn**	**19 55 16.9**	**-0.6**
BSY	**Bisya**	**7.44**	**255**	P	**Pn**	**19 54 13.1**	**+2.6**
ARQ	**Araqi**	**7.89**	**261**	P	**Pn**	**19 54 21.0**	**+4.3**
SNR=13							
MDH	**Madha**	**7.91**	**275**	P	**Pn**	**19 54 18.0**	**+1.1**
MDH				S	**Sn**	**19 55 43.4**	**-1.7**
BANOM	**Banah**	**7.95**	**280**	P	**Pn**	**19 54 18.9**	**+1.4**
SNR=11							
BANOM				S	**Sn**	**19 55 44.6**	**-1.6**
UOSS	**Minazif**	**7.99**	**273**	P	**Pn**	**19 54 19.2**	**+1.2**
SNR=6.0							
UOSS				S	**Sn**	**19 55 45.0**	**-2.3**
HATD	**Hatta, Dubai**	**8.06**	**272**	P	**Pn**	**19 54 21.1**	**+2.1**
ASHO	**Ashiyiah**	**8.13**	**271**	P	**Pn**	**19 54 24.5**	**+4.5**
THW	**Thamme Wali**	**9.89**	**35**	P	Pn	19 54 39.3	-4.8
GEYT	**Alibeck**	**14.32**	**337**	Pn	**P**	**19 55 51.7**	**+0.4**
0.1nm,0.3s,baz=155,slow=10,SNR=3.5							
AAK	**Ala-Archa**	**19.42**	**21**	P	**P**	**19 56 47.5**	**-0.2**
0.2nm,0.3s,baz=193,slow=12,SNR=3.8							
AAK				LR	LR	20 06 53.8	
comp=Z

comp=Z,45nm,0.7s
HKT Hockley 3.35 152 Pn Pn 19 55 25.3 +0.5
TUL1 Leonard 3.36 27 Pn **Pn 19 55 25.2 +0.3**
TUL1 IAmb_Lg 19 56 20.5
comp=Z,49nm,1.2s
U32A Winter Ranch, 3.62 343 Pn 19 55 29.2 +0.5
U32A IAmb_Lg 19 56 24.2
comp=Z,48nm,0.9s
MIAR Mount Ida 3.77 63 Pn 19 55 30.4 -0.2
MIAR Sn **Sn 19 56 16.0 +0.6**
MIAR IAmb_Lg 19 56 35.5
comp=Z,31nm,0.7s
AMTX Amarillo 3.88 301 Pn 19 55 32.4 +0.2
WLAR White Oak Lake 3.88 77 Pn 19 55 31.8 -0.3
WLAR IAmb_Lg 19 56 39.1
comp=Z,31nm,0.7s
W39A Magazine 3.94 54 Pn 19 55 33.0 +0.1
W39A IAmb_Lg 19 56 47.1
comp=Z,44nm,0.9s
X40A Basin Creek Fa 4.31 67 Pn **Pn 19 55 37.4 -0.8**
MSTX Muleshoe 4.40 285 S **Sn 19 56 31.6 +0.4**
baz=102
MSTX Muleshoe 4.40 285 Pn 19 55 39.7 +0.2
MSTX IAmb_Lg 19 56 54.1
comp=Z,30nm,0.7s
HHAR Hobbs 4.54 41 Pn **Pn 19 55 40.6 -0.6**
UALR University of 4.79 66 Pn **Pn 19 55 43.4 -1.3**
833A Chaparral WMA, 4.82 199 Pn **Pn 19 55 46.0 +0.9**
833A IAmb_Lg 19 57 06.0
comp=Z,33nm,0.9s
CCAR Cane Creek 5.02 77 Pn **Pn 19 55 46.5 -1.3**
W41B Gary Mavity, V 5.02 62 Pn **Pn 19 55 46.9 -0.9**
WHAR Wooly Hollow 5.04 61 Pn **Pn 19 55 46.8 -1.3**
U40A Yellville 5.24 48 Pn **Pn 19 55 49.5 -1.3**
CLNB Carlsbad 5.29 265 Pn **Pn 19 55 52.4 +0.7**
CLNB **Pb 19 56 04.5 -0.4**
GDL2 Guadalupe Moun 5.71 265 Pn 19 55 55.5 -1.9
MGMO Mountain Grove 6.11 45 Pn **Pn 19 56 01.7 -1.2**
MGMO IAmb_Lg 19 57 43.2
comp=Z,16nm,0.8s
CBKS Cedar Bluff 6.12 345 Pn 19 56 03.4 +0.4
CBKS IAmb_Lg 19 57 54.9
comp=Z,20nm,0.7s
TX32 Lajitas Array 6.27 237 Pn 19 56 02.8 -2.3
MNTX Cornudas Mount 6.65 262 Pn **Pn 19 56 09.7 -0.6**
T25A Trinidad 6.96 309 Pn **Pn 19 56 13.8 -0.8**
KSCO Kaye Shedlock' 7.29 328 IAmb_Lg 19 58 34.0
comp=Z,21nm,0.7s
CCM Cathedral Cave 7.32 44 IAmb_Lg 19 58 31.0
comp=Z,20nm,0.9s
CCM Cathedral Cave 7.32 44 IAmb_Lg 19 58 31.0
comp=Z,20nm,0.9s
ANMO Albuquerque 7.59 288 Pn 19 56 21.5 -1.8
ANMO IAmb_Lg 19 58 34.9
comp=Z,12nm,0.7s
BNM Barren Site 7.59 282 Pn 19 56 22.7 -0.7
LPM Los Pinos Moun 7.61 283 Pn 19 56 21.7 -2.0
SDCO Great Sand Dun 8.01 309 Pn 19 56 29.1 -0.1
SDCO IAmb_Lg 19 58 55.4
comp=Z,14nm,1.1s
121A Cookes Peak, D 8.54 270 IAmb_Lg 19 59 16.1
comp=Z,13nm,0.8s
Q24A Divide 8.56 317 IAmb_Lg 19 59 16.6
comp=Z,18nm,0.8s
ISCO Idaho Springs 9.39 319 Pn **Pn 19 56 48.2 0.0**
ISCO IAmb_Lg 19 59 36.0
comp=Z,9.6nm,0.9s
319A Douglas 9.97 264 IAmb_Lg 20 00 01.3
comp=Z,8.3nm,0.7s

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*IDC **09** 20:01:56.2±8.2, 35°.96N×71°.08E, h100km±52km, mb3.5/1, mb1 3.4/7, mb1mx3.0/51, mbtmp3.8/7, MS3.2/1, Ms1 3.2/1, ms1mx2.3/41, Error ellipse: s-maj=118.4km s-min=31.2km az=159.0*
*ISCJB **09** 20:01:59.1±0.7, 36°.31N±0°.04×71°.21E±0°.09, h188km, Error ellipse: s-maj=10.4km s-min=5.1km az=156.6*
*NNC **09** 20:02:01.6±5.3, 36°.91N×70°.71E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=50.8km s-min=29.4km az=153.0*
ISC 09 20:02:00.3±1.0, 36°.33N±0°.08×71°.14E±0°.08, h188km, n31, σ2.933/35, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=9.0	**6.12**	**18**	P		**Pn**	**20 03 28.1**	**-1.1**
UCH	**Uchtor** SNR=8.8	**6.44**	**23**	P		**Pn**	**20 03 32.8**	**-0.7**
KZA	**Kyzart** SNR=8.2	**6.56**	**28**	P		**Pn**	**20 03 35.0**	**-0.1**
EKS2	**Erkin-Say** SNR=12	**6.64**	**17**	P		**Pn**	**20 03 35.6**	**-0.2**
KK31	**Karatay Array** 14nm,0.3s,baz=180,slow=13,SNR=525	**6.78**	**356**	⇑P		**Pn**	**20 03 36.5**	**-1.0**
KK31	6.5nm,0.4s,baz=183,slow=22,SNR=8.4			⇑S		**Sn**	**20 04 48.6**	**-5.9**
AAK	**Ala-Archa** 7.2nm,0.3s	**6.81**	**21**	⇓P		**Pn**	**20 03 37.7**	**-0.3**
AAK	6.8nm,0.5s			⇓S		**Sn**	**20 04 52.1**	**-3.3**
AAK	**Ala-Archa** 6.2nm,0.3s,baz=193,slow=16,SNR=82	**6.81**	**21**	P		**Pn**	**20 03 37.9**	**-0.2**
AAK	2.0nm,0.3s,baz=321,slow=19,SNR=7.4			S		**Sn**	**20 04 52.3**	**-3.0**
AAK	**Ala-Archa** SNR=16	**6.81**	**21**	P		**Pn**	**20 03 37.8**	**-0.3**
KBK	**Karagaybulak** SNR=6.8	**6.96**	**24**	P		**Pn**	**20 03 40.6**	**+0.5**
CHMS	**Chumysh** SNR=12	**7.21**	**22**	P		**Pn**	**20 03 43.2**	**-0.1**
USP	**Ospenovka** SNR=7.9	**7.39**	**19**	P		**Pn**	**20 03 45.7**	**+0.1**
TKM2	**Tokmak 2** 2.8nm,0.4s	**7.42**	**26**	⇓P		**Pn**	**20 03 45.9**	**-0.2**
TKM2	4.0nm,0.7s			⇑S		**Sn**	**20 05 07.9**	**-2.1**
TKM2	**Tokmak 2** SNR=9.3	**7.42**	**26**	P		**Pn**	**20 03 46.0**	**-0.2**
GEYT	**Alibeck** 0.8nm,0.3s,baz=98,slow=10,SNR=11	**10.52**	**283**	P		**Pn**	**20 04 24.6**	**-1.9**
GEYT	1.8nm,0.3s,baz=225,slow=22,SNR=12			S		Sn	20 06 15.2	-8.4
DANN	**Dangsing** 5.7nm,0.4s	**13.30**	**123**	*e*P		**Pn**	**20 05 00.8**	**-1.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=225,slow=14,SNR=6.0	**13.36**	**35**	P		**P**	**20 05 07.4**	**+1.7**
KOLN	**Koldanda** 3.9nm,0.5s	**13.57**	**125**	*e*P		**Pn**	**20 05 05.1**	**-0.6**
GKN	**Gorkha**	**14.12**	**122**	*e*P		**Pn**	**20 05 10.4**	**-2.0**
KKN	**Kakani** 4.0nm,0.4s	**14.69**	**121**	*e*P		**Pn**	**20 05 18.1**	**-1.5**
PKIN	**Phulchoki** 3.7nm,0.3s	**14.91**	**122**	*e*P		**Pn**	**20 05 21.1**	**-1.1**
PKI	**Pulchoki**	**14.92**	**122**	*e*P		**Pn**	**20 05 21.6**	**-0.9**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=205,slow=10,SNR=8.9	**15.24**	**18**	P		**P**	**20 05 31.5**	**+5.0**
AB31	**Akbulak array** 0.5nm,0.3s,baz=136,slow=12,SNR=45	**15.28**	**331**	⇑P		**P**	**20 05 28.1**	**+1.1**
JIRN	**Jiri** 11nm,0.4s	**15.41**	**120**	*e*P		**Pn**	**20 05 27.2**	**-1.2**
RAMN	**Ramite**	**16.13**	**121**	*e*P		**P**	**20 05 35.6**	**-1.2**
TAPN	**Taplejung** 3.7nm,0.3s	**16.67**	**118**	*e*P		**Pn**	**20 05 42.8**	**-0.8**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=170,slow=12,SNR=6.0	**16.70**	**358**	P		**Pn**	**20 05 47.8**	**+4.4**
AKTO	**Aktyubinsk** 1.0nm,0.6s	**16.98**	**330**	⇑P		**Pn**	**20 05 50.9**	**+4.2**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=128,slow=16,SNR=4.2	**16.98**	**330**	P		**Pn**	**20 05 51.0**	**+4.2**
AKTO	0.1nm,0.3s,baz=180,slow=19,SNR=3.5			S		**S**	**20 08 50.1**	**-2.7**
ZALV	**Zalesovo Beam** 1.6nm,0.3s,baz=205,slow=10,SNR=15	**20.02**	**24**	P		**Pn**	**20 06 24.4**	**+1.7**
VRAC	**Vranov** comp=Z,31nm,19.8s,baz=28,slow=41	**41.19**	**306**	LR		LR	20 30 26.6	

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*SJA **09** 20:30:10.3±0.8, 30°.50S×72°.31W, h40km, ML2.8, MW3.1*
*GUC **09** 20:30:15.6±0.6, 30°.38S×71°.53W, h24km±40km, ML3.1*
ISC 09 20:30:08.7±2.4, 30°.23S±0°.07×72°.1W±0°.1, h15km±12km, n17, σ2.990/26, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.78**	**66**	*e*P		**Pn**	**20 30 25.6**	**+0.5**
LSCH				*e*S		**Sg**	**20 30 33.6**	**-0.5**
GO04	**Tololo Observa**	**1.09**	**87**	*e*P		**Pb**	**20 30 28.7**	**-0.8**
GO04				*i* S		**Sb**	**20 30 37.7**	**-6.0**
GO04	comp=N,2μm,0.4s			IAML			20 30 41.0	
GO04	**Tololo Observa**	**1.09**	**87**	*e*P		**Pb**	**20 30 28.8**	**-0.6**
GO04				*e*S		**Sb**	**20 30 38.9**	**-4.8**
CO02	**Combarbal**	**1.34**	**137**	*e*P		**Pn**	**20 30 32.4**	**-0.5**
CO02				*i* S		**Sb**	**20 30 45.6**	**-4.8**
CO02	comp=N,962nm,0.2s			IAML			20 30 46.2	
AROD	**Rodeo**	**2.24**	**89**	*e*S		**Sn**	**20 31 12.5**	**-0.6**
ACCO	**Cerro Coronel**	**2.62**	**99**	*i* P		**Pn**	**20 30 53.8**	**+3.1**
ACCO				*e*S		**Sb**	**20 31 29.2**	**+1.7**
RTLS	**Leoncito**	**2.84**	**124**	*i* P		**Pn**	**20 30 57.0**	**+3.2**
RTLS	comp=Z,29nm,0.4s			IAML			20 31 07.0	
RTLS				*e*S		**Sn**	**20 31 30.5**	**+2.6**
ROC1	**El Roble**	**2.88**	**162**	*i* P		**Pb**	**20 30 59.2**	**-0.7**
ROC1				*e*S		**Sn**	**20 31 25.9**	**-2.9**
PEL	**Peldehue**	**3.13**	**158**	*e*P		**Pg**	**20 31 10.3**	**+1.5**
PEL				*e*S		Sn	20 31 18.4	-16
AGUA	**GUANDACOL**	**3.19**	**78**	*i* P		**Pb**	**20 31 04.4**	**-0.7**
ZON	**Zonda**	**3.19**	**115**	*e*S		**Sb**	**20 31 42.5**	**-1.3**
ZON	comp=Z,7.1nm,0.4s			IAML			20 31 53.1	
RTLL	**Cerro Villicun**	**3.28**	**110**	*i* P		**Pn**	**20 31 03.7**	**+4.2**
RTLL	comp=Z,18nm,0.5s			IAML			20 31 58.1	
RTCV	**Cerro Valdivia**	**3.43**	**119**	*i* P		**Pn**	**20 31 04.4**	**+2.7**
RTCV				*e*S		**Sn**	**20 31 45.5**	**+3.3**
CFA	**Coronel Fontan**	**3.56**	**114**	*i* P		**Pn**	**20 31 05.2**	**+1.8**
VCA	**Vinchina**	**3.68**	**67**	*i* P		**Pb**	**20 31 11.3**	**-2.2**
VCA	comp=Z,30nm,0.3s			IAML			20 31 14.1	
VCA				*e*S		**Sn**	**20 31 52.0**	**+3.7**
MRA	**San Martin**	**5.85**	**114**	*i* P		**Pn**	**20 31 35.6**	**+0.6**
MRA	comp=Z,5.3nm,0.5s			IAML			20 33 18.2	
TCA	**Tanti**	**6.52**	**102**	*i* P		**Pn**	**20 31 44.2**	**0.0**

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*ISCJB **09** 20:54:35.4±0.6, 23°.04S±0°.07×176°.31W±0°.09, h100km, mb3.9/5, Error ellipse: s-maj=12.9km s-min=9.0km az=29.9*
*NEIC **09** 20:54:35.2±1.7, 23°.0S±0°.1×176°.5W±0°.1, h68km±10km, mb4.3/21*
*IDC **09** 20:54:36.9±7.3, 23°.15S×176°.56W, h70km±71km, mb3.8/5, mb1 4.0/7, mb1mx3.7/28, mbtmp4.2/7, ML3.6/2, Error ellipse: s-maj=72.6km s-min=23.3km az=165.0*
ISC 09 20:54:37.9±0.6, 23°.07S±0°.09×176°.41W±0°.09, h100km, n36, σ1.962/36, mb4.3/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.31**	**192**	Pn		**Pn**	**20 56 06.8**	**-1.6**
NIUE	**Niue**	**7.24**	**58**	Pn		**Pn**	**20 56 17.6**	**-3.5**
MSVF	**Nonsavu**	**7.42**	**315**			Pn	20 56 29.6	+6.0
AFI	**Afiamalu**	**10.11**	**27**	Pn		**Pn**	**20 56 58.6**	**-1.6**
RAR	**Rarotonga** 0.9nm,0.3s,baz=265,slow=13,SNR=2.6	**15.53**	**86**	P		**Pn**	**20 58 12.6**	**+1.2**
RAR	0.9nm,0.3s,baz=85,slow=20,SNR=3.3			S		Sn	21 00 46.3	-17
RAR	**Rarotonga**	**15.53**	**86**	Pn		**Pn**	**20 58 11.9**	**+0.6**
RAR	comp=Z,28nm,1.1s			IAmb		IAmb	20 58 28.4	
URZ	**Urewera** comp=Z,0.6nm,0.3s,baz=27,slow=6.8,SNR=4.3	**16.13**	**199**	P		**P**	**20 58 18.6**	**-1.5**
URZ	comp=Z,0.3nm,0.3s,baz=311,slow=20,SNR=4.3			S		Sn	21 01 02.0	-15
URZ	**Urewera**	**16.13**	**199**			**P**	**20 58 17.3**	**-2.8**
URZ	comp=Z,7.8nm,1.1s			IAmb		IAmb	20 58 34.0	
BKZ	**Black Stump Fm**	**17.15**	**199**			**Pn**	**20 58 28.7**	**-2.7**
KHZ	**Kahutara**	**21.04**	**201**	P		**P**	**20 59 12.9**	**-0.7**
KHZ	comp=Z,11nm,1.0s			IAmb		IAmb	20 59 28.5	
FOZ	**Fox Glacier**	**23.37**	**206**	P		**P**	**20 59 37.3**	**-0.3**
FOZ	comp=Z,16nm,1.1s			IAmb		IAmb	20 59 55.6	
CTA	**Charters Tower** comp=Z,4.7nm,0.4s,baz=99,slow=13,SNR=13	**34.79**	**268**	P		**P**	**21 01 21.0**	**+1.8**
CTAO	**Charters Tower**	**34.79**	**268**	P		**P**	**21 01 20.9**	**+1.8**
CTAO	comp=Z,5.0nm,0.5s			IAmb		IAmb	21 01 21.6	
STKA	**Stephens Creek** comp=Z,0.6nm,0.4s,baz=79,slow=5.2,SNR=4.1	**38.09**	**247**	P		**P**	**21 01 47.3**	**+0.2**
STKA	**Stephens Creek**	**38.09**	**247**	P		**P**	**21 01 47.2**	**+0.1**
COEN	**Coen**	**39.27**	**276**	P		**P**	**21 01 58.5**	**+1.3**
COEN	comp=Z,5.2nm,1.1s			IAmb		IAmb	21 02 08.9	
BBOO	**Buckleboo**	**42.80**	**246**	P		**P**	**21 02 25.2**	**-0.7**
BBOO	comp=Z,6.6nm,0.9s			IAmb		IAmb	21 02 25.8	
AS31	**Alice Springs**	**45.42**	**259**	P		**P**	**21 02 46.7**	**-0.3**
ASAR	**Alice Springs** comp=Z,1.5nm,0.7s,baz=96,slow=8.3,SNR=24	**45.42**	**259**	P		**P**	**21 02 47.0**	**0.0**
ASAR	comp=Z,0.3nm,0.6s,baz=114,slow=3.7,SNR=5.6			PcP		**PcP**	**21 04 26.5**	**+1.8**
ASAR	**Alice Springs**	**45.42**	**259**	P		**P**	**21 02 46.6**	**-0.4**
WB2	**Warramunga Arr**	**45.75**	**264**	P		**P**	**21 02 49.3**	**-0.3**
WB2	comp=Z,3.0nm,0.5s			IAmb		IAmb	21 02 49.9	
WRA	**Warramunga Arr** comp=Z,2.1nm,0.4s,baz=103,slow=8.2,SNR=95	**45.76**	**264**	P		**P**	**21 02 49.7**	**-0.1**
WRA	**Warramunga Arr**	**45.76**	**264**	P		**P**	**21 02 49.6**	**-0.1**
FORT	**Forrest**	**49.69**	**249**	P		**P**	**21 03 18.5**	**-1.4**
MTN	**Manton Dam**	**50.70**	**272**	P		**P**	**21 03 27.5**	**-0.2**
KNRA	**Kununurra**	**52.00**	**268**	P		**P**	**21 03 37.6**	**+0.2**
SARN	**Sarigan**	**54.12**	**314**	P		**P**	**21 03 50.9**	**-2.1**
FITZ	**Fitzroy Crossi**	**54.19**	**264**	P		**P**	**21 03 53.4**	**0.0**
FITZ	comp=Z,0.8nm,0.9s			IAmb		IAmb	21 03 55.4	
SBA	**Scott Base**	**55.43**	**184**	P		**P**	**21 04 04.5**	**+3.0**
PSAC2	**Pilbara Seismi**	**58.51**	**258**	P		**P**	**21 04 23.7**	**-0.4**
MORW	**Morawa**	**60.25**	**249**	P		**P**	**21 04 35.3**	**-0.8**
MORW	comp=Z,6.0nm,0.9s			IAmb		IAmb	21 04 49.6	
QSPA	**South Pole Qui**	**67.02**	**180**	P		**P**	**21 05 21.8**	**+1.7**
QSPA	comp=Z,2.1nm,1.1s			IAmb		IAmb	21 05 29.7	
MAW	**Mawson**	**79.66**	**200**	P		**P**	**21 06 35.0**	**+1.0**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.8s,baz=218,slow=8.7,SNR=3.2	**87.21**	**57**	P		**P**	**21 07 17.1**	**+3.7**
AKASG	**Malin Array Be** comp=Z,0.9nm,0.4s,baz=41,slow=4.2,SNR=5.3	**145.96**	**331**	PKPbc		**PKiKP**	**21 14 07.3**	**-1.8**
CLL	**Collm**	**150.88**	**348**	*e*PKPbc		**PKiKP**	**21 14 19.0**	**-0.2**

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*DDA **09** 21:21:00.8, 38°.39N×45°.05E, h4km±4km, ML4.1*
*NSSP **09** 21:21:02.6, 38°.90N×44°.93E, h10km, Ms4.0*
*BJI **09** 21:21:02.5±0.0, 38°.30N×44°.90E, h5km, mb4.3/15, mB4.9/6, Ms4.4/1*
*TEH **09** 21:21:03.1, 38°.35N×44°.85E, h6km, ML4.0*
*ISCJB **09** 21:21:03.3±0.4, 38°.42N±0°.01×44°.89E±0°.01, h2km±2km, mb4.1/33, MS3.4/8, Error ellipse: s-maj=2.4km s-min=1.9km az=172.4*
*IDC **09** 21:21:04.0±0.9, 38°.33N×44°.96E, h0km, mb4.0/13, mb1 4.0/19, mb1mx3.9/39, mbtmp3.9/19, ML3.5/6, MS3.2/10, Ms1 3.2/10, ms1mx2.9/48, Error ellipse: s-maj=13.0km s-min=11.1km az=173.0*
*THR **09** 21:21:04.2, 38°.44N×44°.89E, h14km, ML3.7*
*MOS **09** 21:21:06.2±1.7, 38°.24N×44°.91E, h33km, mb4.4/11, Error ellipse: s-maj=7.4km s-min=3.7km az=102.8*
*ISK **09** 21:21:06.1, 38°.45N×44°.63E, h9km, ML4.0/21*
*AZER **09** 21:21:07.5±0.2, 38°.60N×44°.99E, h1km±1km, ml4.2/33, Error ellipse: s-maj=1.9km s-min=1.4km az=75.0*
*NEIC **09** 21:21:09.2±2.6, 38°.50N±0°.07×44°.77E±0°.09, h38km±9km*
ISC 09 21:21:05.0±1.1, 38°.48N±0°.02×44°.91E±0°.02, h7km±7km, n336, σ1.879/347, mb4.2/38, MS3.3/8, 22C-19D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.59**	**110**	*e*Pg		**Pg**	**21 21 14.9**	**-1.4**
NAX	**Nakhchivan**	**0.83**	**33**	*e*Pg		**Pg**	**21 21 20.9**	**+0.1**
NAX	**Nakhchivan** SNR=318	**0.83**	**33**	P		**Pg**	**21 21 20.9**	**+0.1**
NAX				S		**Sg**	**21 21 30.6**	**-1.0**
MAKU	**Maku**	**0.89**	**348**	*e*Pg		**Pg**	**21 21 21.7**	**-0.3**
MAKU	**Maku** comp=E,2μm,0.5s	**0.89**	**348**	*e*AML		AML	21 21 39.3	
MAKU	**Maku**	**0.89**	**348**	*e*Pg		**Pg**	**21 21 21.7**	**-0.3**
MAKU				*e*Sg		**Sb**	**21 21 34.4**	**-0.6**
ORD	**Ordubad**	**0.96**	**62**	*e*Pg		**Pg**	**21 21 23.8**	**+0.5**
ORD	**Ordubad** SNR=1332	**0.96**	**62**	P		**Pg**	**21 21 23.8**	**+0.5**
ORD				S		**Sb**	**21 21 35.7**	**-1.1**
ITBZ	**Tabriz**	**1.00**	**104**	*e*Pg		**Pg**	**21 21 22.1**	**-2.1**
CLDR	**Caldiran**	**1.02**	**311**	*i* P		**Pg**	**21 21 23.7**	**-0.8**
CLDR				*i* S		**Sg**	**21 21 39.4**	**+1.6**
CLDR	**Caldiran**	**1.02**	**311**	PG		**Pg**	**21 21 22.9**	**-1.6**
CLDR				SG		**Sg**	**21 21 36.6**	**-1.2**
SBZ	**Shahbuz**	**1.04**	**28**	*e*Pg		**Pg**	**21 21 25.0**	**+0.1**
SBZ	**Shahbuz** SNR=668	**1.04**	**28**	P		**Pg**	**21 21 25.1**	**+0.1**
SBZ				S		**Sb**	**21 21 37.9**	**-1.4**
IAZR	**Azarshahr** comp=Z,94μm,0.4s	**1.16**	**133**	*e*Pg		Pb	21 21 24.1	-3.5
IAZR				IAMB		IAmb	21 21 35.3	
VMUR	**Van-Muradiye**	**1.16**	**296**	*i* P		**Pb**	**21 21 26.7**	**-0.9**
VMUR				*i* S		**Sg**	**21 21 45.8**	**+3.3**
VMUR	**Van-Muradiye**	**1.16**	**296**	*e*Pg		**Pb**	**21 21 25.8**	**-1.7**
TVAN	**Van**	**1.18**	**273**	*i* P		**Pn**	**21 21 27.6**	**-0.6**
TVAN	**Van**	**1.18**	**273**	*e*Pg		**Pn**	**21 21 26.7**	**-1.5**
VANB	**Van**	**1.20**	**276**	*e*Pg		Pn	21 21 25.4	-2.9
VANB	**Van**	**1.20**	**276**	PG		Pn	21 21 25.3	-3.0
HYR	**Heyderabad**	**1.24**	**358**	*e*Pg		**Pg**	**21 21 29.1**	**+0.5**
HYR	**Heyderabad** SNR=64	**1.24**	**358**	P		**Pg**	**21 21 29.1**	**+0.5**
HYR				S		**Sn**	**21 21 44.7**	**-1.1**
HAKT	**HAKKARI**	**1.33**	**226**	*i* P		Pn	21 21 26.6	-3.6
HAKT	**HAKKARI**	**1.33**	**226**	*e*Pg		Pn	21 21 26.2	-4.0
DYDN	**Diyadin**	**1.43**	**318**	*i* P		**Pn**	**21 21 31.0**	**-0.5**
DYDN				*i* S		**Sg**	**21 21 56.4**	**+5.6**
DYDN	**Diyadin**	**1.43**	**318**	*e*Pn		**Pn**	**21 21 31.0**	**-0.5**
GEVA	**Gevas**	**1.47**	**264**	*i* P		**Pn**	**21 21 30.5**	**-1.6**
GEVA	**Gevas**	**1.47**	**264**	*e*Pn		Pn	21 21 29.7	-2.3
TASB	**TASBURUN-IGDIR**	**1.59**	**341**	*e*Pn		**Pn**	**21 21 34.8**	**+1.1**
TASB	**TASBURUN-IGDIR**	**1.59**	**341**	PN		**Pn**	**21 21 34.7**	**+1.1**
CUKT	**Cukurca**	**1.61**	**220**	*i* P		Pn	21 21 32.4	-1.5
CUKT	**Cukurca**	**1.61**	**220**	*e*Pn		Pn	21 21 31.3	-2.6
CUKT	**Cukurca**	**1.61**	**220**	PN		Pn	21 21 31.4	-2.5
GNI	**Garni**	**1.67**	**356**	*de*PN		**Pn**	**21 21 35.8**	**+1.0**
GNI	**Garni**	**1.67**	**356**	*e*Pn		**Pn**	**21 21 35.8**	**+1.0**
GNI	**Garni** comp=Z,20nm,0.3s,baz=201,slow=1.7,SNR=108	**1.67**	**356**	Pn		**Pg**	**21 21 37.6**	**+0.6**
GNI	comp=Z,121nm,0.3s,baz=347,slow=19,SNR=13			Lg		Lg	21 22 02.3	
GNI	**Garni**	**1.67**	**356**			**Pb**	**21 21 36.3**	**+0.2**
IBST	**Bostanabad**	**1.75**	**116**	*e*Pn		Pn	21 21 33.2	-2.7
IBST	comp=Z,15μm,0.4s			IAMB		IAmb	21 21 39.1	
MAHB	**Mahabad**	**1.82**	**160**	*e*Pn		Pn	21 21 33.2	-3.7
MAHB	comp=Z,0.0nm,0.7s			IAMB		IAmb	21 22 15.7	
TUTA	**Tutak**	**1.88**	**300**	*i* P		**Pn**	**21 21 38.4**	**+0.7**
TUTA				*i* S		**Sg**	**21 22 08.2**	**+3.0**
TUTA	comp=Z,14μm,0.5s			IAML_P				
TUTA	**Tutak**	**1.88**	**300**	*e*Pn		**Pn**	**21 21 38.2**	**+0.5**
MLAZ	**Malazgirt-MUS**	**1.96**	**290**	*e*Pn		**Pn**	**21 21 38.6**	**-0.2**
MLAZ	**Malazgirt-MUS**	**1.96**	**290**	PN		**Pn**	**21 21 37.6**	**-1.2**
QRD	**Qoradiz** SNR=92	**2.12**	**62**	P		**Pn**	**21 21 42.6**	**+1.8**
QRD				S		**Sb**	**21 22 09.1**	**-1.0**
SIRT	**Sirnak**	**2.19**	**244**	*e*Pn		Pn	21 21 40.3	-1.6
SIRT	**Sirnak**	**2.19**	**244**	PN		**Pn**	**21 21 40.9**	**-1.0**
SIRN	**Sırnak**	**2.21**	**244**	*i* P		**Pn**	**21 21 42.7**	**+0.6**
SIRN	comp=Z,16μm,0.6s			IAML_P				
SIRN	**Sırnak**	**2.21**	**244**	*e*Pn		**Pn**	**21 21 42.3**	**+0.2**
GURO	**Guroymak-BITLI**	**2.26**	**273**	*e*Pn		**Pn**	**21 21 41.9**	**-1.0**
GURO	**Guroymak-BITLI**	**2.26**	**273**	PN		**Pn**	**21 21 41.7**	**-1.2**
DIGO	**Kars**	**2.27**	**329**	*e*Pn		**Pn**	**21 21 45.4**	**+2.3**
GDB	**GEDABAY**	**2.33**	**16**	*e*Pn		**Pn**	**21 21 45.3**	**+1.4**
GDB	**GEDABAY** SNR=42	**2.33**	**16**	P		**Pn**	**21 21 45.4**	**+1.4**
GDB				S		**Sb**	**21 22 13.9**	**-2.5**
EATA	**Eleskirt**	**2.33**	**307**	*i* P		**Pb**	**21 21 47.8**	**+0.2**
EATA	**Eleskirt**	**2.33**	**307**	*e*Pn		**Pn**	**21 21 47.3**	**+3.2**
AGDM	**Agdam** SNR=213	**2.35**	**46**	P		**Pn**	**21 21 45.7**	**+1.6**
AGDM				S		**Sb**	**21 22 14.9**	**-2.2**
GRMI	**Germi**	**2.36**	**81**	*e*Sg		**Sb**	**21 22 18.9**	**+1.7**
GRMI	**Germi** comp=N,441nm,0.7s	**2.36**	**81**	*e*AML		AML	21 22 28.6	
GRMI				*e*Pn		**Pn**	**21 21 45.1**	**+0.8**
BLQ	**Beylaqan** SNR=156	**2.40**	**58**	P		**Pn**	**21 21 46.4**	**+1.7**
BLQ				S		**Sb**	**21 22 16.3**	**-2.1**
GANJ	**Ganja**	**2.42**	**26**	*e*Pn		**Pn**	**21 21 46.5**	**+1.5**
GANJ	**Ganja** SNR=75	**2.42**	**26**	P		**Pn**	**21 21 46.5**	**+1.5**
GANJ				S		**Sb**	**21 22 16.5**	**-2.5**
EAK	**Akyaka**	**2.42**	**336**	*i* P		**Pb**	**21 21 48.4**	**-0.6**
EAK				*i* S		**Sg**	**21 22 30.0**	**+7.3**
EAK	**Akyaka**	**2.42**	**336**	*e*Pn		**Pb**	**21 21 48.1**	**-0.9**
BRDA	**Brd**	**2.50**	**44**	*e*Pn		**Pn**	**21 21 47.5**	**+1.5**
BRDA	**Brd** SNR=92	**2.50**	**44**	P		**Pn**	**21 21 47.6**	**+1.5**
BRDA				S		**Sb**	**21 22 18.4**	**-2.8**
KARS	**Kars**	**2.57**	**327**	*e*Pn		**Pn**	**21 21 48.8**	**+1.6**
KARS	**Kars**	**2.57**	**327**	PN		**Pn**	**21 21 47.7**	**+0.5**
QZX	**Qazax, Azerbai**	**2.60**	**8**	*e*Pn		**Pn**	**21 21 48.8**	**+1.4**
QZX	**Qazax, Azerbai** SNR=31	**2.60**	**8**	P		**Pn**	**21 21 48.9**	**+1.4**
QZX				S		**Sn**	**21 22 20.4**	**+1.1**
YRD	**Yardimli** SNR=80	**2.64**	**80**	P		**Pn**	**21 21 50.2**	**+2.0**
YRD				S		**Sb**	**21 22 23.0**	**-2.4**
LRK	**Lerik**	**2.69**	**86**	*e*Pn		**Pn**	**21 21

QBL Gabala 3.34 42 *e*Pn **Pn 21 21 59.0 +1.4**
QBL Gabala 3.34 42 P **Pn 21 21 59.1 +1.4**
SNR=41
QBL S **Sn 21 22 39.3 +1.7**
BNGB Bingl 3.35 280 PN **Pn 21 21 57.2 -0.7**
ZKTA Zakatala 3.41 22 P **Pn 21 22 00.2 +1.5**
SNR=16
ZKTA S **Sn 21 22 41.0 +1.6**
IML Ismayilli 3.42 47 *e*Pn **Pn 21 22 00.2 +1.5**
IML Ismayilli 3.42 47 P **Pn 21 22 00.3 +1.5**
SNR=20
IML S **Sn 21 22 41.1 +1.5**
ZKT Zaqatala 3.44 22 *e*Pn **Pn 21 22 00.1 +1.0**
BINT Bingol 3.48 278 *e*Pn **Pn 21 21 58.0 -1.7**
LGD Lagodekhi 3.50 17⇓*e*PN **Pb 21 22 04.5 -2.8**
ZNJK Zanjan 3.50 120 *e*Pn **Pn 21 22 00.3 +0.2**
ZNJK Zanjan 3.50 120 *e*Pn **Pn 21 22 00.2 +0.2**
ALIB Äli-Bayra 3.50 64 *e*Pn **Pn 21 22 01.6 +1.8**
ALIB Äli-Bayra 3.50 64 P **Pn 21 22 01.7 +1.8**
SNR=5.1
ALIB S **Sn 21 22 43.3 +1.7**
PQL Pirkuli 3.66 50 *e*Pn **Pn 21 22 03.6 +1.5**
PQL Pirkuli 3.66 50 P **Pn 21 22 03.6 +1.5**
SNR=14
PQL S **Sn 21 22 46.8 +1.2**
XNQ Khinaliq 3.66 42 *e*Pn **Pn 21 22 03.6 +1.4**
XNQ Khinaliq 3.66 42 P **Pn 21 22 03.6 +1.4**
SNR=13
XNQ S **Sn 21 22 47.2 +1.4**
MAZI Mazidag 3.67 255 *e*Pn **Pn 21 22 01.1 -1.2**
MAZI Mazidag 3.67 255 PN **Pn 21 22 01.3 -1.0**
AKT Akhty 3.69 35 *e*PN **Pn 21 22 05.2 +2.6**
AKT *e* 21 22 17.0
AKT *eS* **Sb 21 22 51.3 -4.4**
AKT *e* 21 23 03.4
AKT *e* 21 23 13.7
AKT pmax pmax
comp=Z,61nm,0.7s
AKT smax smax
comp=E,134nm,1.1s
AKT smax smax
comp=N,78nm,0.4s
AKT smax smax
comp=E,111nm,0.6s
GBS Qobustan 3.73 55 *e*Pn **Pn 21 22 04.6 +1.6**
GBS Qobustan 3.73 55 P **Pn 21 22 04.7 +1.6**
SNR=8.1
GBS S **Sn 21 22 49.0 +1.7**
DYBB Diyarbakir 3.80 263 PN **Pn 21 22 03.3 -0.7**
ATGJ Altiaghaj 3.91 51 *e*Pn **Pn 21 22 07.0 +1.5**
ATGJ Altiaghaj 3.91 51 P **Pn 21 22 07.1 +1.5**
SNR=13
ATGJ S **Sn 21 22 53.2 +1.4**
QUB Quba 3.92 41 *e*Pn **Pn 21 22 07.9 +2.2**
IDHR Dehrash 3.96 162 *e*Pn **Pn 21 22 05.2 -1.1**
QSAR Qusar 3.97 39 *e*Pn **Pn 21 22 07.7 +1.4**
QSAR Qusar 3.97 39 P **Pn 21 22 07.8 +1.4**
SNR=9.5
QSAR S **Sn 21 22 54.8 +1.5**
QUBA Quba, Azerbaij 3.98 43 P **Pn 21 22 07.9 +1.5**
SNR=15
QUBA S **Sn 21 22 55.2 +1.9**
BATM Batumi 3.98 323 PN **Pn 21 22 07.8 +1.4**
SIZA Siyzn 4.02 49 *e*Pn **Pn 21 22 08.5 +1.5**
SIZA Siyzn 4.02 49 P **Pn 21 22 08.5 +1.5**
SNR=8.8
SIZA S **Sn 21 22 55.7 +1.3**
CHOM Cayeli-Rize 4.13 311 PN **Pn 21 22 09.2 +0.7**
BAYT Aydıntepe-Bayb 4.16 299 PN **Pn 21 22 09.1 +0.1**
GOBA Gobu 4.20 61 P **Pn 21 22 11.1 +1.7**
GOBA S **Sn 21 23 00.8 +2.2**
GNBR Gunib 4.20 21⇓*e*PN **Pn 21 22 13.4 +3.8**
ONI Oni 4.25 345⇑*e*PN Pb 21 22 15.9 -4.2
ONI Oni 4.25 345 PN **Pn 21 22 13.0 +2.8**
IGHG Ghaleghazi 4.36 162 *e*Pn **Pn 21 22 11.8 0.0**
LACR Lac 4.37 354⇑*e*PN Pn 21 22 17.2 +5.4
ZEI Tsey 4.37 350⇑*e*PN **Pb 21 22 18.8 -3.4**
NDR Nardaran 4.45 60 P **Pn 21 22 14.6 +1.8**
NDR S **Sn 21 23 06.6 +1.7**
KER Kermanshah 4.46 156 *e*Pn **Pn 21 22 12.2 -1.0**
DIGR Digorskoe uzhe 4.53 348⇓*e*PN Pb 21 22 20.5 -4.4
VLKR Vladikavkaz 4.56 358⇑*e*PN **Pb 21 22 25.7 +0.3**
QABG Abgarm-Qazvin 4.65 125 *e*Pn **Pn 21 22 16.3 +0.5**
QABG IAMB IAmb 21 22 38.0
comp=N,0.0nm,0.7s
IBZA Bozab 4.66 148 *e*Pn **Pn 21 22 15.0 -1.0**
IGZV Ghazvin 4.71 115 *e*Pn **Pn 21 22 16.5 -0.2**
IGZV IAMB IAmb 21 23 59.3
comp=Z,2μm,1.1s
GROC Groznyy 4.76 8 *e*PN **Pn 21 22 17.9 +0.7**
GROC *e* 21 22 34.4
GROC *e* 21 23 44.7
GROC pmax pmax
comp=Z,16nm,1.4s
GROC pmax pmax
comp=Z,46nm,1.1s
GROC smax smax
comp=N,84nm,1.2s
GROC smax smax
comp=N,225nm,1.6s
GROC smax smax
comp=E,131nm,1.2s
IKOM Komasi 4.78 153 *e*Pn **Pn 21 22 18.2 +0.6**
URFA Urfa 4.92 260 PN **Pn 21 22 19.4 -0.1**
QALM Alamut, Qazvin 5.00 112 *e*Pn **Pn 21 22 21.6 +0.9**
QALM IAMB IAmb 21 22 46.1
comp=Z,0.0nm,1.2s
IRAZ Razeghan 5.06 126 *e*Pn **Pn 21 22 21.8 +0.3**
IRAZ IAMB IAmb 21 22 53.5
comp=Z,1μm,0.7s
MALT Malatya 5.10 270 PN **Pn 21 22 21.8 -0.1**
NCK Nalchik 5.11 349⇓*e*PN Pb 21 22 29.0 -5.6
HSAM Samen 5.20 144 *e*Pn **Pn 21 22 24.0 +0.6**
IDOB Doab 5.38 150 *e*Pn **Pn 21 22 26.6 +0.7**
DOMR Dombai 5.41 334 *ce*P Pn 21 22 31.6 +5.3
DOMR pmax pmax
comp=Z,16nm,1.0s
KBZ Khabaz 5.46 344⇓*e*P Pn 21 22 33.3 +6.6
KBZ Khabaz 5.46 344 Pn Pn 21 22 33.5 +6.8
comp=Z,0.1nm,0.3s,baz=166,slow=10.0,SNR=7.4
KBZ LR LR 21 24 17.0
comp=Z,61nm,21.7s,baz=235,slow=34
IKFM Kafar-mosalman 5.49 153 *e*Pn **Pn 21 22 28.4 +1.2**
SHA1 Shidzhatmaz 5.52 343 *e*P Pn 21 22 34.5 +6.7
IKMR Kamar-syah 5.70 149 *e*Pn **Pn 21 22 30.9 +0.9**
KVAR Kislovodsk Arr 5.72 344 Pn Pb 21 22 38.8 -6.3
baz=119,slow=19,SNR=3.1
KIV Kislovodsk 5.72 344 *e*P Pn 21 22 35.9 +5.5
KIV *eS* **Sb 21 23 45.7 -8.2**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,92nm,8.0s
PYA1 Pyatigorsk 5.74 347⇑*e*P **Pn 21 22 35.4 +4.8**
SOC Sochi 6.43 324 *e*P **Pn 21 22 44.4 +4.3**
SOC *e* 21 24 01.9
SOC pmax pmax
comp=Z,22nm,0.8s
SOC MLR MLR
comp=Z,341nm,11.0s
ANN Anapa 8.44 321 *e*P **Pn 21 23 09.4 +1.9**
ANN *eS* **Sn 21 24 47.3 +4.3**
ANN pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 8.85 282⇑*e*P **Pn 21 23 17.9 +4.4**
BR131 Keskin Array S 8.85 282 Pn Pn 21 23 11.1 -2.4
BRTR Keskin Array B 8.85 282 Pn **Pn 21 23 16.8 +3.3**
comp=Z,0.1nm,0.3s,baz=107,slow=12,SNR=11
BRTR Keskin Array B 8.85 282 Pn **Pn 21 23 12.4 -1.1**
ASF Jabal al Asfar 9.08 229 Pn **Pn 21 23 20.1 +3.5**
comp=Z,0.1nm,0.3s,baz=33,slow=3.6,SNR=4.2
MMAI Mount Meron Ar 9.46 238 Pn **Pn 21 23 21.8 +0.1**
comp=Z,0.3nm,0.3s,baz=66,slow=18,SNR=4.6
MMAI LR LR 21 27 35.7
comp=Z,121nm,19.2s,baz=65,slow=42
GEYT Alibeck 10.41 89 Pn **Pn 21 23 37.0 +2.3**
comp=Z,0.4nm,0.3s,baz=275,slow=16,SNR=8.1
GEYT Alibeck 10.41 89 **Pn 21 23 37.2 +2.5**
GYA0B ALIBECK ARRAY 10.41 89 **Pn 21 23 36.9 +2.2**
EIL Elat 12.05 226 LR LR 21 28 41.8
comp=Z,56nm,19.4s,baz=93,slow=38
VRH Novokhopyorsk 12.92 351 *e*P **Pn 21 24 09.0 +0.1**
VRH pmax pmax
comp=Z,8.0nm,0.6s

VORD Divnogorie 13.10 344 *e*P **Pn 21 24 13.1 +1.7**
VORD pmax pmax
comp=Z,9.0nm,1.1s
VSR Storozhevoye 13.36 344 *e*P **Pn 21 24 15.0 +0.1**
VSR pmax pmax
comp=Z,20nm,1.8s
TLB Topalu 14.02 301⇓P **P 21 24 30.0 -2.0**
KARP Karpathos 14.48 264 Pn **Pn 21 24 29.7 -0.7**
LPSR Galich'ya Gora 14.72 346 *e*P **Pn 21 24 34.0 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 14.92 178 P **Pn 21 24 34.7 -1.7**
RAYN Ar Rayn 14.92 178 Pn **Pn 21 24 34.7 -1.7**
AKTO Aktyubinsk 15.15 34 Pn **Pn 21 24 38.6 -0.7**
comp=Z,0.3nm,0.3s,baz=227,slow=12,SNR=8.2
ABKAR Akbulak array 15.25 40 P **P 21 24 44.5 -1.2**
PLOR Plostina 15.39 304⇓P **P 21 24 47.3 0.0**
SORM Soroca 15.41 314⇓P **P 21 24 47.6 +0.2**
SECR 15.50 301⇑P **P 21 24 48.7 +0.3**
TESR Tescani 15.65 307⇑P **P 21 24 51.2 +1.0**
MLR Muntele Rosu 15.73 302 P **Pn 21 24 46.4 -0.6**
MLR pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 15.73 302 Pn **Pn 21 24 51.0 +4.0**
comp=Z,0.1nm,0.3s,baz=152,slow=5.3,SNR=6.3
MLR Muntele Rosu 15.73 302 P **Pn 21 24 46.4 -0.6**
PLVB Pleven 16.09 294⇑P **Pn 21 24 55.1 +3.5**
BIZ Bicaz 16.17 308⇑P **P 21 24 57.4 +1.5**
DOPR Dopca 16.26 304⇓P **P 21 24 58.6 +1.8**
PRAR RASCA 16.28 309⇑P **P 21 24 57.9 +0.8**
VOIR 16.30 302⇑P **P 21 24 59.4 +1.9**
AKASG Malin Array Be 16.51 323 Pn **Pn 21 24 57.4 +0.5**
comp=Z,0.4nm,0.3s,baz=130,slow=11,SNR=12
AKASG Malin Array Be 16.51 323 IAmb IAmb 21 25 04.0
comp=Z,4.0nm,1.1s
AKBB Malin Array Si 16.51 323⇑*e*P **P 21 25 02.2 +2.6**
AKBB Malin Array Si 16.51 323 P **Pn 21 24 57.9 +0.9**
AKBB IAmb IAmb 21 24 59.3
comp=Z,9.6nm,1.1s
UOSS Minazif 16.55 141 **Pn 21 24 57.4 -0.1**
UOSS IAmb IAmb 21 25 06.2
comp=Z,18nm,0.9s
ARR Arges 16.56 301⇓P **P 21 25 02.1 +1.8**
VTS Vitosha 16.98 291 P **Pn 21 25 01.9 -1.1**
VTS pmax pmax
comp=Z,7.0nm,1.1s
VTS Vitosha 16.98 291⇑P **Pn 21 25 05.6 +2.6**
VTS Vitosha 16.98 291 **Pn 21 25 01.9 -1.1**
BURAR Bucovina Array 17.01 309⇑P **Pn 21 25 04.9 +1.5**
BUR08 Bucovina Ar. S 17.03 309 P **Pn 21 25 06.2 +2.6**
LOT Lotru 17.17 301⇓P **P 21 25 09.6 +2.5**
OBN Obninsk 17.57 344 *e*P **P 21 25 12.5 +1.3**
OBN pmax pmax
comp=Z,69nm,3.1s
OBN MLR MLR
comp=Z,65nm,16.0s
OBN Obninsk 17.57 344 P **P 21 25 12.0 +0.7**
comp=Z,0.2nm,0.3s,baz=142,slow=18,SNR=3.5
OBN Obninsk 17.57 344⇓P **P 21 25 13.0 +1.8**
OBN Obninsk 17.57 344 **Pn 21 25 10.5 +0.4**
OBN IAmb IAmb 21 25 18.0
comp=Z,12nm,0.7s
GZR Gura Zlata 17.83 300⇑P **Pn 21 25 15.2 +1.7**
MOS Moscow 17.94 347 *e*P **Pn 21 25 14.1 -0.7**
HERR Herculane 17.95 298⇑P **Pn 21 25 16.7 +1.7**
ITM Ithomi 18.20 273 **Pn 21 25 15.8 -2.3**
ITM IAmb IAmb 21 25 20.4
comp=Z,7.2nm,0.7s
DRGR 18.28 304⇑P **Pn 21 25 21.0 +1.8**
BZS Buzias 18.67 300⇓P **P 21 25 23.8 +0.3**
LVV L'vov 18.72 314 *e*P **Pn 21 25 26.2 +1.9**
TRPA Tarpa 18.86 308⇑P **P 21 25 26.8 +1.2**
WSAR Wadi Sarin 19.19 138 P **Pn 21 25 32.6 +2.4**
comp=Z,0.2nm,0.3s,baz=261,slow=5.0,SNR=4.5
UZH Uzhgorod 19.21 309 *e*P P 21 25 19.0 -10
KOLS Kolonicke sedl 19.34 310 *e*P **P 21 25 32.9 +2.0**
KOLS pmax pmax
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 19.34 310 *e*P **P 21 25 32.9 +2.0**
KWP Kalwaria Pacla 19.39 312 P **P 21 25 32.0 +0.6**
KWP pmax pmax
comp=Z,271nm,1.1s
KWP Kalwaria Pacla 19.39 312 *e*P **Pn 21 25 33.9 +1.4**
KWP *e*P **Pn 21 25 33.9 +1.4**
KWP Kalwaria Pacla 19.39 312 P **P 21 25 32.0 +0.6**
KBL Kabul 19.77 94 P **P 21 25 36.7 +0.7**
KBL pmax pmax
comp=Z,4.0nm,0.9s
KBL Kabul 19.77 94 P **P 21 25 36.6 +0.7**
KK31 Karatay Array 19.89 68 P **Pn 21 25 39.0 +0.4**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 19.89 68 P **Pn 21 25 39.0 +0.4**
KK31 IAmb IAmb 21 25 44.5
comp=Z,8.1nm,0.8s
KKAR Karatay Array 19.89 68 P **Pn 21 25 39.0 +0.4**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 19.89 68 P **Pn 21 25 39.0 +0.4**
KKAR IAmb IAmb 21 25 44.5
comp=Z,8.1nm,0.8s
ARU Arti 20.12 22 *c i*P **P 21 25 39.5 +0.2**
ARU 21 25 52.7
ARU S **Sn 21 29 26.0 -1.5**
ARU SS **SnSn 21 29 40.3 -1.6**
ARU pmax pmax
comp=Z,16nm,1.4s
ARU Arti 20.12 22 P **P 21 25 39.9 +0.7**
comp=Z,1.7nm,0.7s,baz=205,slow=11,SNR=7.4
ARU Arti 20.12 22 P **P 21 25 39.7 +0.4**
ARU IAmb IAmb 21 25 47.0
comp=Z,12nm,0.9s
KIRV Kirov 20.33 7 P **P 21 25 41.8 +0.3**
comp=Z,13nm,0.7s,baz=150,slow=20,SNR=3.1
PSZ Piszkesteto 20.45 306 P **P 21 25 43.4 +0.3**
PSZ pmax pmax
comp=Z,13nm,1.1s
PSZ Piszkesteto 20.45 306⇓P **P 21 25 44.6 +1.6**
PSZ mb 21 25 57.5
PSZ Piszkesteto 20.45 306 P **P 21 25 43.4 +0.3**
PSZ IAmb IAmb 21 25 49.3
comp=Z,12nm,1.1s
NIE Niedzica 20.73 310 *e*P **P 21 25 47.0 +1.0**
NIE Niedzica 20.73 310 *e*P **P 21 25 47.0 +1.0**
NIE *e*P **P 21 25 47.0 +1.0**
VYHS Vyhne 21.31 306 *e*P **P 21 25 52.8 +0.6**
VYHS pmax pmax
comp=Z,14nm,1.3s
VYHS Vyhne 21.31 306 *e*P **P 21 25 52.8 +0.6**
OJC Ojcow 21.34 311 P **P 21 25 52.9 +0.3**
OJC pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 21.34 311 P **P 21 25 52.9 +0.3**
OJC IAmb IAmb 21 25 56.5
comp=Z,7.1nm,1.0s
SUW Suwalki 21.48 323 P **P 21 25 54.0 0.0**
SUW pmax pmax
comp=Z,28nm,0.8s
SUW Suwalki 21.48 323 P **P 21 25 54.0 0.0**
ARSB Arslanbob 21.68 74 P **P 21 25 57.5 +1.0**
ARSB IAmb IAmb 21 26 07.8
comp=Z,17nm,1.1s
KLMR Klimovskoe 22.65 353 *e*P **P 21 26 06.4 0.0**
KLMR pmax pmax
comp=Z,28nm,1.4s
KLMR Klimovskoe 22.65 353 *e*P **P 21 26 06.5 0.0**
KLMR AMP 21 26 22.1
comp=Z,28nm,1.4s
BRVK Borovoye 22.76 42⇓*e*P **P 21 26 06.7 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 22.76 42 P **P 21 26 07.6 -0.1**
BRVK IAmb IAmb 21 26 18.7
comp=Z,6.9nm,0.8s
AAK Ala-Archa 22.80 70 P **P 21 26 11.3 +2.9**
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 22.80 70 P **P 21 26 12.7 +4.4**
comp=Z,0.8nm,0.5s,baz=233,slow=15,SNR=3.6
AAK Ala-Archa 22.80 70 P **P 21 26 11.3 +2.9**
AAK IAmb IAmb 21 26 30.4
comp=Z,10nm,1.1s
BVAR Borovoye Array 22.80 42 P **P 21 26 08.9 +0.8**
comp=Z,0.9nm,0.7s,baz=243,slow=7.9,SNR=5.6

VRAC Vranov 22.97 307 P **P 21 26 11.6 +1.7**
comp=Z,2.7nm,0.4s,baz=107,slow=5.7,SNR=4.7
CONA Conrad Observa 23.07 304 *i* P **P 21 26 12.0 +1.0**
comp=Z,9.6nm,1.1s
ARSA Arzberg 23.14 302 *i* P **P 21 26 10.9 -0.9**
comp=Z,10nm,1.4s
PRGR Permogore 23.18 1 *e*P **P 21 26 10.2 -1.8**
PRGR pmax pmax
comp=Z,11nm,1.2s
DPC Dobruska-Polom 23.46 310 *e*P **P 21 26 15.3 +0.3**
DPC Dobruska-Polom 23.46 310 *e*P **P 21 26 15.3 +0.3**
MOA Molln 24.10 303 *i* P **P 21 26 21.1 -0.1**
comp=Z,9.9nm,1.1s
PRU Pruhonice 24.44 308 *e*P **P 21 26 23.1 -1.1**
PRU Pruhonice 24.44 308 *e*P **P 21 26 23.1 -1.1**
KBA Koelnbreinsper 24.58 301 *i* pP **P 21 26 25.9 +0.2**
comp=Z,8.3nm,0.8s
GERES GERESS Array B 24.68 305 *e*P **P 21 26 25.8 -0.7**
GERES GERESS Array B 24.68 305 P **P 21 26 26.9 +0.4**
comp=Z,3.9nm,0.9s,baz=106,slow=8.5,SNR=24
PBCC Pribram 24.70 307 *e*P **P 21 26 27.0 +0.4**
KHC Kasperske Hory 24.82 306⇓*e*P **P 21 26 27.7 0.0**
KHC pmax pmax
comp=Z,17nm,0.8s
KHC Kasperske Hory 24.82 306 *e*P **P 21 26 27.6 -0.2**
KHC *ex* x 21 26 31.5
KHC Kasperske Hory 24.82 306 P **P 21 26 27.8 0.0**
KHC IAmb IAmb 21 26 29.5
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 25.07 310 *e*P **P 21 26 34.0 +4.2**
comp=Z,12nm,1.4s
ABTA Abfaltersbach 25.09 300 *i* pP **P 21 26 31.4 +1.1**
comp=Z,10nm,1.2s
TEOL Teolo 25.54 296 P **P 21 26 34.0 -0.2**
WTTA Wattenberg 25.76 301 *i* P **P 21 26 39.7 +3.4**
comp=Z,11nm,1.1s
CLL Collm 25.76 310 *e*P **P 21 26 38.0 +1.8**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 25.76 310 *e*(P) **P 21 26 38.0 +1.8**
comp=Z,6.0nm,1.0s
FINES FINESS Array B 25.79 339 P **P 21 26 37.8 +1.6**
comp=Z,5.1nm,0.9s,baz=180,slow=7.1,SNR=3.6
FINES LR LR 21 37 52.5
comp=Z,65nm,18.7s,baz=234,slow=39
NKC Novy Kostel 25.80 308 *e*P **P 21 26 38.8 +2.2**
NKC Novy Kostel 25.80 308 *e*P **P 21 26 38.8 +2.2**
SQTA Sankt Quirin 26.04 301 *i* pP **P 21 26 40.9 +2.0**
comp=Z,4.9nm,0.7s
MOTA Moosalm 26.13 301 *i* pP **P 21 26 38.9 -0.8**
comp=Z,5.7nm,0.9s
KURBB Kurchatov Arra 26.62 52 P **P 21 26 45.1 +1.2**
comp=Z,1.2nm,0.2s,baz=263,slow=9.5,SNR=8.7
KURK Kurchatov 26.69 52⇑*e*P **P 21 26 45.3 +0.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 26.69 52 P **P 21 26 45.8 +1.2**
KURK IAmb IAmb 21 26 52.8
comp=Z,5.7nm,1.1s
MKAR Makanchi Array 28.50 61 P **P 21 27 01.2 +0.3**
MKAR Makanchi Array 28.50 61 P **P 21 27 01.9 +1.0**
comp=Z,1.6nm,0.7s,baz=264,slow=6.5,SNR=6.9
MKAR Makanchi Array 28.50 61 P **P 21 27 01.2 +0.3**
HFS Hagfors 29.26 328 P **P 21 27 09.5 +2.1**
comp=Z,4.1nm,0.9s,baz=126,slow=7.3,SNR=2.6
NOA NORSAR Array B 30.78 328 LR LR 21 40 45.5
comp=Z,33nm,21.6s,baz=115,slow=38
ZALV Zalesovo Beam 31.16 47 P **P 21 27 24.9 +0.6**
comp=Z,0.3nm,0.4s,baz=239,slow=9.9,SNR=2.8
WMQ Urumqi 32.38 67 *e*P **P 21 27 38.0 +2.8**
WMQ sP sP 21 27 45.3 +6.7
WMQ LR LR
comp=Z,210nm,28.8s
WMQ LR LR
comp=Z,760nm,28.1s
ARCES ARCESS Array B 32.81 348 LR LR 21 41 59.6
comp=Z,50nm,18.1s,baz=225,slow=38
DANN Dangsing 33.75 96 *e*P **P 21 27 48.3 +0.7**
comp=Z,45nm,0.8s
KOLN Koldanda 33.90 97 *e*P **P 21 27 48.6 -0.2**
GKN Gorkha 34.59 96 *e*P **P 21 27 54.4 -0.4**
comp=Z,15nm,0.8s
DMN Daman 35.15 96 *e*P **P 21 28 00.3 +0.6**
comp=Z,39nm,1.2s
PKIN Phulchoki 35.39 96 *e*P **P 21 28 02.1 +0.3**
PKI Pulchoki 35.40 96 *e*P **P 21 28 02.2 +0.2**
comp=Z,26nm,1.2s
GUN Gumba 35.61 95 *e*P **P 21 28 04.0 +0.2**
comp=Z,20nm,0.9s
JIRN Jiri 35.97 95 *e*P **P 21 28 07.5 +0.6**
comp=Z,25nm,0.8s
RAMN Ramite 36.63 96 *e*P **P 21 28 12.7 +0.3**
comp=Z,16nm,0.8s
ODAN Odare 37.29 95 *e*P **P 21 28 18.8 +0.8**
comp=Z,32nm,1.1s
TAPN Taplejung 37.30 94 *e*P **P 21 28 19.8 +1.6**
comp=Z,18nm,1.0s
ESDC Sonseca Array 37.59 288 P **P 21 28 18.2 -2.0**
comp=Z,0.7nm,0.7s,baz=72,slow=9.0,SNR=6.3
ESDC Sonseca Array 37.59 288 IAmb IAmb 21 28 27.1
comp=Z,0.8nm,1.1s
NRIK Noril'sk 38.35 23 LR LR 21 48 23.4
comp=Z,38nm,18.9s,baz=206,slow=43
GTA Gaotai 42.15 71 *e*P **P 21 28 56.5 -1.7**
GTA pP pP 21 29 01.4 +0.8
GTA sP sP 21 29 04.0 +2.4
GTA pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 44.73 57 P **P 21 29 19.4 +0.5**
comp=Z,0.5nm,0.8s,baz=280,slow=9.5,SNR=3.2
SONM Songino Array 44.73 57 IAmb IAmb 21 29 20.2
comp=Z,1.2nm,1.2s
ULN Ulaanbaatar 45.16 57⇓*i* P **P 21 29 23.2 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 45.16 57 P **P 21 29 23.4 +1.0**
TORD Torodi Ar. Bea 45.80 249 P **P 21 29 26.6 -1.0**
comp=Z,0.9nm,0.6s,baz=40,slow=7.7,SNR=6.3
TORD Torodi Ar. Bea 45.80 249 IAmb IAmb 21 29 31.6
comp=Z,0.8nm,0.9s
BORG Borgarnes 45.94 327 LR LR 21 52 01.6
comp=Z,29nm,18.4s,baz=80,slow=40
LZH Lanzhou 46.25 74 *e*P **P 21 29 31.8 +0.6**
LZH pP pP 21 29 35.4 +1.8
LZH sP sP 21 29 37.2 +2.6
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,59nm,5.4s
BOD Bodaibo 47.67 43 *e*P **P 21 29 40.5 -1.2**
BOD pmax pmax
comp=Z,10.0nm,1.9s
HHC Hu-ho-hao-te 50.23 65 P **P 21 30 00.8 -1.0**
HHC pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 50.76 97 P **P 21 30 05.5 -0.4**
comp=Z,1.9nm,0.8s,baz=300,slow=8.4,SNR=10
TIXI Tiksi 52.12 24 LR LR 21 57 30.4
comp=Z,52nm,18.2s,baz=176,slow=42
PBKT Sadao Pong 53.42 98 P **P 21 30 29.6 +3.9**
WHN Wuhan 56.55 75 P **P 21 30 49.4 +1.2**
BILL Bilibino 65.13 21 *e*P **P 21 31 44.8 -1.2**
BILL *e* 21 32 19.2
BILL *e* 21 34 08.7
BILL pmax pmax
comp=Z,3.0nm,1.1s
BATI Baumata 87.61 105 LR LR 22 17 05.2
comp=Z,29nm,21.7s,baz=301,slow=38

DDA ***09*** *21:38:31.5,38.°38N×45.°13E,h7km±1km,ML2.6*
ISK ***09*** *21:38:35.8,38.°42N×44.°80E,h9km,ML2.5/7*
ISC 09 21:38:31.8±2.3,38.°35N×0.°06×45.°2E±0.°1,h18km±7km,n13,
σ1§23/19,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**1.27**	**309**	*i* P	**Pb**	**21 38 55.5**	**+0.1**
CLDR				*i* S	**Sn**	**21 39 11.5**	**0.0**
CLDR				IAML_P			
	comp=Z,1μm,0.2s						
CLDR	**Caldiran**	**1.27**	**309**	PG	**Pn**	**21 38 54.9**	**+0.1**
CLDR				SG	**Sn**	**21 39 09.9**	**-1.6**
TVAN	**Van**	**1.40**	**278**	*i* P	**Pg**	**21 38 59.1**	**+0.2**
TVAN				IAML_P			
	comp=Z,478nm,0.3s						

HAKT	**HAKKARI**	**1.41**	**236**	*i* P	**Pg**	**21 38 58.0**	**-0.9**
HAKT				*i* S	**Sg**	**21 39 18.7**	**+1.3**
HAKT				IAML_P			
	comp=Z,391nm,0.2s						
VANB	**Van**	**1.43**	**281**	PN	**Pb**	**21 38 58.0**	**+0.1**
VANB				SN	**Sn**	**21 39 12.6**	**-2.7**
CUKT	**Cukurca**	**1.66**	**229**	*i* P	**Pg**	**21 39 03.4**	**-0.4**
CUKT				IAML_P			
	comp=Z,307nm,0.2s						
CUKT	**Cukurca**	**1.66**	**229**	PN	**Pg**	**21 39 03.3**	**-0.4**
CUKT				SN	**Sg**	**21 39 24.1**	**-1.3**
GEVA	**Gevas**	**1.67**	**269**	*i* P	**Pb**	**21 39 02.1**	**0.0**
GEVA				*i* S	**Sg**	**21 39 25.8**	**+0.2**
GEVA				IAML_P			
	comp=Z,412nm,0.3s						
TASB	**TASBURUN-IGDIR**	**1.79**	**336**	PN	**Pg**	**21 39 05.2**	**-1.1**
GNI	**Garni**	**1.83**	**349**	PN	**Pg**	**21 39 06.8**	**-0.3**
TUTA	**Tutak**	**2.13**	**300**	*i* P	**Pb**	**21 39 11.2**	**+1.2**
TUTA				IAML_P			
	comp=Z,567nm,0.3s						
MLAZ	**Malazgirt-MUS**	**2.20**	**292**	PN	**Pn**	**21 39 09.2**	**+1.6**
GURO	**Guroymak-BITLI**	**2.48**	**276**	PN	**Pn**	**21 39 13.2**	**+1.8**

*PGC **09** 21:42:24.3±12.0, 50°.00N×130°.06W, h10km, MLSn3.2/25, Mw3.8/25, Mw3.8/25, 202km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **09** 21:42:27.1±1.7, 50°.15N×129°.84W, h0km, mb3.7/3, mb1 3.9/13, mb1mx3.7/59, mbtmp3.7/13, ML3.4/8, MS3.4/16, Ms1 3.4/16, ms1mx3.2/49, Error ellipse: s-maj=27.7km s-min=10.7km az=73.0*

ISC 09 21:42:28.3±3.8, 50°.14N±0°.06×129°.66W±0°.06, h9km±26km, n93, σ1°79/93, MS3.5/6, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.22**	**88**	Pn	**Pn**	**21 42 48.8**	**-2.8**
BPBC				Sn	**Sb**	**21 43 05.1**	**-2.2**
PACB	**Port Alice, BC**	**1.42**	**77**	Pn	**Pn**	**21 42 51.9**	**-2.3**
PHC	**Port Hardy**	**1.53**	**67**	Pn	**Pn**	**21 42 54.4**	**-1.4**
PHC				Sn	**Sn**	**21 43 15.3**	**-0.6**
MAYB	**Maynard**	**1.62**	**80**	Pn	**Pn**	**21 42 54.9**	**-2.3**
EDB	**Eliza Dome**	**1.66**	**98**	Pn	**Pn**	**21 42 53.4**	**-4.2**
EDB				Sn	**Sn**	**21 43 16.8**	**-2.3**
BBB	**Bella Bella**	**2.27**	**25**	Pn	**Pn**	**21 43 04.6**	**-1.3**
	45nm,0.3s,baz=233,slow=6.0,SNR=459						
BBB				Sn	**Sn**	**21 43 33.5**	**-0.5**
	73nm,0.3s,baz=316,slow=23,SNR=12						
BBB				LR	LR	21 44 04.1	
	comp=Z,536nm,21.4s,baz=248,slow=42						
BBB	**Bella Bella**	**2.27**	**25**	Pn	**Pn**	**21 43 04.3**	**-1.6**
BBB				Sn	**Sn**	**21 43 32.4**	**-1.6**
GDR	**Gold River**	**2.37**	**97**	Pn	**Pn**	**21 43 04.8**	**-2.5**
BTB	**Buttle Lake**	**2.76**	**102**	Pn	**Pn**	**21 43 10.8**	**-2.1**
BTB				Sn	**Sn**	**21 43 45.7**	**-0.8**
CBB	**Campbell River**	**2.77**	**91**	Pn	**Pn**	**21 43 11.3**	**-1.5**
CBB				Sn	**Sn**	**21 43 45.5**	**-0.8**
BNB	**Barry Inlet**	**2.77**	**333**	Pn	Pn	21 43 06.3	-6.6
BNB				Sn	**Sn**	**21 43 38.3**	**-8.2**
BCBC	**Bella Coola**	**2.88**	**38**	Pn	**Pn**	**21 43 14.6**	**+0.2**
B927	**Port Alberni**	**3.28**	**104**	Pn	**Pn**	**21 43 18.1**	**-1.7**
MOBC	**Moresby Island**	**3.34**	**335**	Pn	**Pn**	**21 43 17.1**	**-3.6**
TXB	**Texada**	**3.40**	**95**	Pn	**Pn**	**21 43 20.6**	**-1.0**
TXB				Sn	**Sn**	**21 44 03.1**	**+1.0**
MGB	**Mount Grey**	**3.43**	**108**	Pn	**Pn**	**21 43 20.8**	**-1.2**
DIB	**Dawson Inlet,**	**3.53**	**331**	Pn	Pn	21 43 17.1	-6.2
YOUB	**Youbou, Lake C**	**3.73**	**107**	Pn	**Pn**	**21 43 24.1**	**-2.0**
PFB	**Port Renfrew**	**3.75**	**113**	Pn	**Pn**	**21 43 24.8**	**-1.7**
OCP	**Olym-Cheeka Pk**	**3.78**	**117**	Pn	**Pn**	**21 43 25.7**	**-1.1**
SHB	**Sechelt**	**3.78**	**96**	Pn	**Pn**	**21 43 26.5**	**-0.4**
SHB				Sn	**Sn**	**21 44 12.8**	**+1.3**
NLLB	**Nanaimo Lost L**	**3.79**	**102**	Pn	**Pn**	**21 43 27.2**	**+0.3**
NLLB				Sn	**Sn**	**21 44 12.6**	**+1.0**
B926	**Mesachie Lake**	**3.84**	**108**	Pn	**Pn**	**21 43 27.6**	**+0.1**
LZB	**Mount Lazard**	**4.11**	**110**	Pn	**Pn**	**21 43 30.2**	**-1.1**
GOBB	**Galiano Island**	**4.18**	**104**	Pn	**Pn**	**21 43 31.6**	**-0.6**
WPB	**Watts Point**	**4.20**	**94**	Pn	**Pn**	**21 43 31.0**	**-1.5**
RUBB	**Prince Rupert**	**4.21**	**355**	Pn	**Pn**	**21 43 29.3**	**-3.3**
OBC	**Olympics--Boni**	**4.23**	**118**	Pn	**Pn**	**21 43 32.3**	**-0.7**
B010	**North Saanich**	**4.32**	**108**	Pn	**Pn**	**21 43 32.9**	**-1.3**
PGC	**Sidney**	**4.32**	**108**	Pn	**Pn**	**21 43 32.3**	**-1.8**
WSLR	**Whistler**	**4.33**	**88**	Pn	**Pn**	**21 43 34.2**	**-0.2**
UBRB	**Upper Baezaeko**	**4.44**	**49**	Pn	**Pn**	**21 43 37.0**	**+1.1**
SNB	**Saturna Island**	**4.45**	**105**	Pn	**Pn**	**21 43 36.0**	**+0.1**
MCW	**Mount Constitu**	**4.69**	**106**	Pn	**Pn**	**21 43 39.6**	**+0.3**
BLN	**Blyn Mountain**	**4.88**	**113**	Pn	**Pn**	**21 43 39.4**	**-2.5**
WISH	**Wishkah**	**4.94**	**126**	Pn	**Pn**	**21 43 40.6**	**-2.0**
HDW	**Hoodsport**	**5.02**	**117**	Pn	**Pn**	**21 43 41.9**	**-2.0**
VDB	**Vedder Mountai**	**5.04**	**100**	Pn	**Pn**	**21 43 42.3**	**-1.8**
CMW	**Cultus Mountai**	**5.22**	**106**	Pn	**Pn**	**21 43 46.5**	**-0.2**
MBW	**Mount Baker**	**5.24**	**102**	Pn	**Pn**	**21 43 47.1**	**+0.2**
CPW	**Capitol Peak**	**5.37**	**124**	Pn	**Pn**	**21 43 49.3**	**+0.7**
E03A	**Lebam**	**5.43**	**129**	Pn	**Pn**	**21 43 49.2**	**-0.1**
JCW	**Jim Creek**	**5.43**	**108**	Pn	**Pn**	**21 43 49.8**	**+0.3**
FSB	**Fort Saint Jam**	**5.44**	**35**	Pn	**Pn**	**21 43 49.8**	**+0.3**
FSB				Sn	**Sn**	**21 44 53.3**	**+1.1**
GPW	**Glacier Peak**	**5.95**	**107**	Pn	**Pn**	**21 43 57.1**	**+0.4**
FMW	**Mount Fremont**	**6.20**	**118**	Pn	**Pn**	**21 44 00.6**	**+0.5**
LON	**Longmire**	**6.22**	**120**	Pn	**Pn**	**21 44 01.5**	**+1.1**
LTY	**Liberty**	**6.61**	**112**	Pn	**Pn**	**21 44 06.7**	**+1.0**
B08A	**Colville Reser**	**6.99**	**101**	Pn	**Pn**	**21 44 11.7**	**+0.8**
BMBC	**Bull Mountain**	**7.45**	**35**	Pn	**Pn**	**21 44 18.2**	**+1.0**
NBC4	**NorthernBC 4**	**7.77**	**41**	Pn	**Pn**	**21 44 22.6**	**+1.0**
DLBC	**Dease Lake**	**8.32**	**359**	Pn	**Pn**	**21 44 28.6**	**-0.4**
	0.6nm,0.3s,baz=183,slow=12,SNR=7.8						
DLBC				Sn	**Sn**	**21 46 05.2**	**+2.1**
	0.3nm,0.3s,baz=44,slow=24,SNR=2.8						
DLBC				LR	LR	21 47 38.2	
	comp=Z,419nm,18.1s,baz=278,slow=38						
DLBC	**Dease Lake**	**8.32**	**359**	Pn	Pn	21 44 22.5	-6.5
NEW	**Newport**	**8.42**	**98**	Pn	**Pn**	**21 44 31.3**	**+0.8**
	0.2nm,0.3s,baz=286,slow=13,SNR=6.2						
NEW				LR	LR	21 47 49.1	
	comp=Z,504nm,18.2s,baz=277,slow=38						
NBC5	**NorthernBC 5**	**8.47**	**26**	Pn	**Pn**	**21 44 32.1**	**+0.9**
NBC5				Sn	**Sn**	**21 46 07.5**	**+0.7**
FNBB	**Fort Nelson**	**9.58**	**21**	Pn	**Pn**	**21 44 44.6**	**-1.7**
YBH	**Yreka Blue Hor**	**9.70**	**147**	Pn	**Pn**	**21 44 49.9**	**+1.8**
	0.1nm,0.3s,baz=330,slow=10,SNR=4.9						
YBH				LR	LR	21 48 15.0	
	comp=Z,137nm,20.9s,baz=336,slow=36						
NBC6	**NorthernBC 6**	**9.75**	**27**	Pn	**Pn**	**21 44 51.5**	**+2.9**
BHMT	**Big Hole Peak**	**9.97**	**99**	Pn	**Pn**	**21 44 53.1**	**+1.2**
BSMT	**Bassoo Peak**	**10.04**	**97**	Pn	**Pn**	**21 44 53.0**	**+0.1**
WALA	**Waterton Lakes**	**10.28**	**90**	Pn	**Pn**	**21 44 57.1**	**+1.0**
JTMT	**Jette**	**10.40**	**97**	Pn	**Pn**	**21 44 57.0**	**-0.6**
FBMT	**Ferry Basin**	**10.42**	**99**	Pn	**Pn**	**21 44 57.5**	**-0.6**
YBMT	**Yellow Bay**	**10.53**	**96**	Pn	**Pn**	**21 45 01.2**	**+1.8**
WHY	**Whitehorse**	**10.95**	**346**	Pn	**Pn**	**21 45 02.3**	**-2.8**
ELMT	**Elliston**	**11.98**	**101**	Pn	**Pn**	**21 45 20.0**	**+0.7**
ELK	**Elko**	**13.79**	**127**	Pn	**P**	**21 45 50.8**	**-2.0**
	0.1nm,0.3s,baz=266,slow=13,SNR=2.7						
ELK				LR	LR	21 51 08.8	
	comp=Z,105nm,18.8s,baz=308,slow=38						
NVAR	**Mina Array Bea**	**14.23**	**141**	Pn	**Pn**	**21 45 52.9**	**+2.7**
	0.1nm,0.3s,baz=318,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**14.88**	**28**	Pn	**Pn**	**21 45 57.4**	**-1.2**
	0.1nm,0.3s,baz=218,slow=10,SNR=3.2						
KDAK	**Kodiak Island**	**15.45**	**308**	LR	LR	21 50 13.6	
	comp=Z,254nm,21.9s,baz=131,slow=30						
PDAR	**Pinedale Array**	**15.66**	**110**	Pn	**P**	**21 46 12.5**	**-1.0**
	baz=306,slow=8.8,SNR=8.9						
ILAR	**Eielson Array**	**17.25**	**335**	P	**P**	**21 46 30.2**	**-0.5**
	0.1nm,0.3s,baz=146,slow=12,SNR=8.6						
ILAR				LR	LR	21 51 58.1	
	comp=Z,75nm,19.4s,baz=205,slow=33						
INK	**Inuvik**	**18.32**	**355**	P	**P**	**21 46 41.8**	**-0.7**
	baz=174,slow=12,SNR=5.7						
INK				LR	LR	21 53 34.6	
	comp=Z,111nm,19.3s,baz=172,slow=36						
INK	**Inuvik**	**18.32**	**355**	Pn	**P**	**21 46 43.0**	**+0.6**
KUKN	**Kugluktuk,NWT**	**19.16**	**17**	Pn	**Pn**	**21 46 52.3**	**-0.2**
ULM	**Lac du Bonnet**	**21.53**	**77**	P	**P**	**21 47 20.3**	**+2.8**
	24nm,1.0s,baz=286,slow=12,SNR=9.8						
ULM				LR	LR	21 55 55.8	
	comp=Z,224nm,18.1s,baz=280,slow=37						
ULM	**Lac du Bonnet**	**21.53**	**77**	Pn	**P**	**21 47 18.1**	**+0.6**
ANMO	**Albuquerque**	**22.73**	**123**	P	**P**	**21 47 30.7**	**0.0**
	1.4nm,0.7s,baz=322,slow=10,SNR=4.2						
ANMO				LR	LR	21 57 05.7	
	comp=Z,63nm,19.0s,baz=315,slow=38						
TXAR	**Lajitas Array**	**28.58**	**127**	P	**P**	**21 48 25.4**	**+0.7**
	0.6nm,0.7s,baz=325,slow=6.1,SNR=4.8						
TXAR				LR	LR	22 00 30.2	
	comp=Z,80nm,20.3s,baz=0.0,slow=38						
LPIG	**La Paz**	**30.04**	**143**	LR	LR	22 00 07.9	
	comp=Z,47nm,18.0s,baz=44,slow=35						
SADO	**Sadowa**	**34.03**	**79**	LR	LR	22 03 38.3	
	comp=Z,102nm,19.5s,baz=339,slow=37						
TKL	**Tuckaleechee C**	**36.00**	**96**	LR	LR	22 04 47.3	
	comp=Z,140nm,19.4s,baz=304,slow=37						
H11N2	**WAKE ISLAND Hy**	**58.14**	**263**	T	T	22 54 57.8	
	baz=42,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**58.14**	**263**	T	T	22 54 55.6	
	baz=42,slow=75,SNR=79						
H11N1	**WAKE ISLAND Hy**	**58.15**	**263**	T	T	22 54 56.8	
	baz=42,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hy**	**59.16**	**262**	T	T	22 56 11.4	
	baz=40,slow=75,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**59.17**	**262**	T	T	22 56 14.1	
	baz=40,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**59.18**	**262**	T	T	22 56 11.6	
	baz=40,slow=75,SNR=6.2						
ARCES	**ARCESS Array B**	**59.26**	**10**	LR	LR	22 18 11.1	
	comp=Z,34nm,21.0s,baz=192,slow=36						
NOA	**NORSAR Array B**	**64.80**	**20**	LR	LR	22 19 33.3	
	comp=Z,16nm,20.1s,baz=285,slow=34						
HHC	**Hu-ho-hao-te**	**74.71**	**316**	P	**P**	**21 54 09.1**	**+0.8**
WMQ	**Urumqi**	**80.91**	**334**	*e*P	**P**	**21 54 45.4**	**+2.6**
WMQ				LR	LR		
	comp=N,590nm,29.1s						
WMQ				LR	LR		
	comp=E,1μm,28.5s						
WMQ				LR	LR		
	comp=Z,250nm,29.3s						
LZH	**Lanzhou**	**82.02**	**319**	*e*P	**P**	**21 54 49.5**	**+0.6**
LZH				pP	PcP	21 54 52.9	-1.5
LZH				sP	pwP	21 54 56.0	+1.5
LZH				PP	**PP**	**21 57 57.6**	**+1.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						

*IDC **09** 21:58:55.0±2.7, 2°.21S×98°.84E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/45, mbtmp3.7/6, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/41, Error ellipse: s-maj=106.1km s-min=19.8km az=59.0*
*ISCJB **09** 21:59:05.7±0.6, 1°.38S±0°.04×99°.78E±0°.04, h30km, mb3.9/5, MS4.1/1, Error ellipse: s-maj=6.7km s-min=4.9km az=136.2*
*DJA **09** 21:59:05.8±0.4, 1°.S±2°.×10°.0E±°, h15km±4km, M4.2/18, mb4.1/5, mB6.2/1, MLv4.2/18, Mw(mB)5.9/1*

ISC 09 21:59:05.5±0.8, 1°.37S±0°.05×99°.80E±0°.04, h30km, n30, σ2°09/29, mb4.1/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.71**	**274**	P	**Pn**	**21 59 21.2**	**+1.7**
SISI				S	**Sn**	**21 59 31.9**	**+2.5**
PDSI	**Padang**	**0.81**	**55**	P	**Pn**	**21 59 21.1**	**+0.2**
PDSI				S	**Sb**	**21 59 32.3**	**+0.7**
PPSI	**Pulau Pagai**	**1.40**	**171**	P	**Pn**	**21 59 29.7**	**+0.7**
SDSI	**Sungai Dareh**	**1.69**	**75**	P	**Pn**	**21 59 34.1**	**+1.1**
SDSI				S	**Sn**	**21 59 56.0**	**+2.4**
KRJI	**Kerinci**	**1.81**	**113**	P	**Pn**	**21 59 37.1**	**+2.4**
KRJI				S	**Sn**	**21 59 59.1**	**+2.4**
BKNI	**Bangkinang**	**2.10**	**36**	P	**Pn**	**21 59 38.5**	**-0.1**
RGRI	**Rengat**	**2.73**	**68**	P	**Pn**	**21 59 48.8**	**+1.5**
MASI	**Maura Aman, Be**	**3.01**	**126**	P	**Pn**	**21 59 52.7**	**+1.5**
MASI				S	**Sn**	**22 00 29.1**	**+2.9**
GSI	**Gunungsitoli**	**3.47**	**320**	P	**Pn**	**21 59 58.3**	**+0.8**
PSI	**Prapat**	**4.24**	**348**	Pn	**Pn**	**22 00 09.6**	**+1.4**
	2.9nm,0.3s,baz=153,slow=11,SNR=12						
PSI				Sn	**Sn**	**22 01 01.2**	**+4.5**
	1.7nm,0.3s,baz=64,slow=22,SNR=2.0						
PSI				LR	LR	22 02 07.3	
	comp=Z,139nm,18.0s,baz=166,slow=40						
MNAI	**Manna**	**4.33**	**133**	P	**Pn**	**22 00 09.9**	**+0.6**
LHSI	**Lahat**	**4.45**	**123**	P	**Pn**	**22 00 14.2**	**+3.2**
TPRI	**Tanjung Pinang**	**5.25**	**64**	P	**Pn**	**22 00 22.4**	**+0.4**
LWLI	**Liwa**	**5.58**	**130**	P	**Pn**	**22 00 28.9**	**+2.2**
KASI	**Kota Agung**	**6.24**	**131**	P	**Pn**	**22 00 35.5**	**-0.1**
CGJI	**Cibinong**	**7.85**	**132**	P	**Pn**	**22 00 58.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.73**	**358**	P	**Pn**	**22 03 35.6**	**+1.2**
	0.6nm,0.7s,baz=183,slow=8.4,SNR=5.7						
H08S2	**Diego Garcia H**	**27.91**	**256**	T	T	22 33 00.1	
	baz=77						
H08S3	**Diego Garcia H**	**27.92**	**256**	T	T	22 32 58.4	
	baz=77,slow=74						
H08S1	**Diego Carcia H**	**27.93**	**256**	T	T	22 32 57.8	
	baz=77,slow=74						
H01W3	**Cape Leeuwin H**	**35.92**	**160**	T	T	22 44 02.9	
	baz=335,slow=75,SNR=4.7						
H01W2	**Cape Leeuwin H**	**35.93**	**160**	T	T	22 44 01.6	
	baz=335,slow=75,SNR=4.4						
H01W1	**Cape Leeuwin H**	**35.94**	**160**	T	T	22 44 02.1	
	baz=335,slow=75,SNR=3.4						
WRA	**Warramunga Arr**	**38.48**	**121**	P	**P**	**22 06 22.1**	**-3.2**
	0.3nm,0.4s,baz=302,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**39.78**	**127**	P	**P**	**22 06 32.7**	**-3.4**
	0.4nm,0.5s,baz=301,slow=7.6,SNR=10						
HHC	**Hu-ho-hao-te**	**43.37**	**13**	P	**P**	**22 07 06.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,8.0nm,5.8s						
MKAR	**Makanchi Array**	**50.38**	**344**	P	**P**	**22 07 58.2**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=160,slow=8.7,SNR=22						
ZALV	**Zalesovo Beam**	**56.52**	**349**	P	**P**	**22 08 42.9**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=187,slow=7.9,SNR=8.6						
SPITS	**Spitsbergen Ar**	**89.98**	**348**	LR	LR	22 58 31.9	
	comp=Z,61nm,18.9s,baz=125,slow=40						
TXAR	**Lajitas Array**	**144.33**	**37**	PKPbc	**PKPab**	**22 18 35.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=191,slow=0.9,SNR=3.2						

IDC 09 22:02:39.5±2.1, 2°.33S×127°.63E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/40, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=187.0km s-min=25.1km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.69**	**160**	P	P	22 06 59.2	-0.4
	0.4nm,0.3s,baz=342,slow=13,SNR=17						
ASAR	**Alice Springs**	**22.06**	**165**	P	P	22 07 36.8	+0.6
	3.1nm,0.5s,baz=346,slow=12,SNR=75						
MKAR	**Makanchi Array**	**63.05**	**327**	P	P	22 13 08.5	-0.2
	0.8nm,0.6s,baz=118,slow=7.0,SNR=8.4						

*IDC **09** 22:03:12.2±0.9, 43°.31N×105°.18W, h0km, mb3.9/5, mb1 3.9/12, mb1mx3.7/48, mbtmp3.6/12, ML3.2/6, MS2.5/2, Ms1 2.4/2, ms1mx2.2/58, Error ellipse: s-maj=18.8km s-min=7.9km az=154.0*
*ISCJB **09** 22:03:14.4±0.3, 43°.71N±0°.02×105°.27W±0°.03, h10km, MS4.8/1, Error ellipse: s-maj=3.7km s-min=2.9km az=42.9*
*NEIC **09** 22:03:15.2±2.0, 43°.66N±0°.04×105°.28W±0°.04, h0km±1km, ML3.5/76*

ISC 09 22:03:14.7±0.6, 43°.59N±0°.03×105°.20W±0°.04, h10km, n83, σ1°86/88, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**58**		**Pn**	**22 03 34.3**	**-0.7**
RSSD					**Sn**	**22 03 50.3**	**+1.2**
K22A	**Casper**	**1.35**	**226**		**Pn**	**22 03 39.5**	**-0.2**
K22A				Sg	**Sg**	**22 03 59.8**	**+1.6**
K22A				IAML		22 04 02.0	
	comp=E,542nm,0.6s						
PHWY	**Pilot Hill**	**2.30**	**185**		**Pb**	**22 03 55.4**	**-1.1**
PHWY				Sn	**Sb**	**22 04 25.4**	**+0.4**
RWWY	**Rawlins**	**2.41**	**219**		**Pn**	**22 03 56.5**	**+2.0**
RWWY					**Sb**	**22 04 27.3**	**-1.0**
RWWY				IAML		22 04 30.2	
	comp=E,380nm,1.0s						
N23A	**Red Feather La**	**2.75**	**192**		**Pb**	**22 04 02.2**	**-2.0**
N23A					**Sb**	**22 04 40.7**	**+2.7**
N23A				IAML		22 04 43.5	
	comp=E,182nm,0.9s						
N23A				IAML		22 04 43.9	
	comp=N,151nm,0.7s						
LAO	**LASA Array**	**3.18**	**347**		**Pn**	**22 04 04.8**	**0.0**
PD31	**Pinedale Array**	**3.29**	**257**		**Pn**	**22 04 07.5**	**+0.9**
PD31					**Sb**	**22 04 51.8**	**-1.7**
PDAR	**Pinedale Array**	**3.29**	**257**	Pn	**Pn**	**22 04 07.5**	**+0.9**
	comp=N,7.9nm,0.3s,baz=70,slow=15,SNR=37						
PDAR				Lg	Lg	22 04 52.6	
	comp=N,24nm,0.3s,baz=72,slow=24,SNR=8.0						
PDAR				LR	LR	22 04 58.6	
	comp=N,20nm,18.0s,baz=130,slow=33						
PDAR	**Pinedale Array**	**3.29**	**257**		**Pn**	**22 04 07.9**	**+1.4**
PDAR					**Sb**	**22 04 52.6**	**-1.0**
RLMT	**Red Lodge**	**3.29**	**299**		**Pn**	**22 04 07.2**	**+0.6**
RLMT				IAML		22 05 01.6	
	comp=N,94nm,1.0s						
RLMT				IAML		22 05 04.8	
	comp=N,95nm,0.6s						
BW06	**Boulder Array**	**3.29**	**257**		**Pn**	**22 04 07.5**	**+1.0**
BW06				IAML		22 04 55.1	
	comp=N,107nm,0.8s						
BW06				IAML		22 05 01.9	
	comp=E,78nm,0.7s						
OGNE	**Ogallala**	**3.54**	**137**		**Pn**	**22 04 13.5**	**+3.7**
YMP	**Mirror Lake Pl**	**3.75**	**290**		**Pn**	**22 04 14.2**	**+1.4**
ISCO	**Idaho Springs**	**3.80**	**185**		**Pn**	**22 04 16.2**	**+2.6**
GCMT	**Greycliff**	**3.87**	**306**		**Pn**	**22 04 15.1**	**+0.7**
GCMT				Pg	**Pb**	**22 04 24.7**	**+1.6**
LKWY	**Lake**	**3.87**	**286**	Pn	**Pn**	**22 04 15.7**	**+1.2**
LKWY					**Pb**	**22 04 25.4**	**+2.2**
LKWY				IAML		22 05 26.7	
	comp=E,100nm,0.9s						
H17A	**Grant Village**	**3.96**	**284**		**Pn**	**22 04 18.4**	**+2.7**
H17A				IAML		22 05 19.1	
	comp=E,47nm,0.8s						
H17A				IAML		22 05 19.6	
	comp=N,60nm,0.6s						
YUF	**Upper Falls**	**3.98**	**288**	Pn	**Pn**	**22 04 16.0**	**0.0**
YUF					**Pg**	**22 04 28.2**	**-2.8**
FLWY	**Flagg Ranch**	**4.01**	**279**		**Pn**	**22 04 17.6**	**+1.2**
FLWY				IAML		22 05 28.0	
	comp=N,89nm,1.1s						
FLWY				IAML		22 05 33.1	
	comp=N,89nm,1.8s						
SNOW	**Snow King Moun**	**4.04**	**270**	IAML		22 05 31.7	
	comp=N,106nm,1.3s						
SNOW				IAML		22 05 34.0	
	comp=N,97nm,1.0s						
REDW	**Red Top Meadow**	**4.12**	**269**	IAML		22 05 32.3	
	comp=N,83nm,1.1s						
REDW				IAML		22 05 46.8	
	comp=N,104nm,1.0s						
O20A	**White River Ci**	**4.13**	**214**		**Pn**	**22 04 20.5**	**+2.4**
O20A				IAML		22 05 50.4	
	comp=N,70nm,1.4s						
O20A				IAML		22 06 08.0	
	comp=E,87nm,1.1s						
IMW	**Indian Meadow**	**4.17**	**276**	IAML		22 04 55.2	
	comp=E,47nm,0.5s						
IMW				IAML		22 05 29.0	
	comp=E,44nm,0.7s						
TPAW	**Teton Pass**	**4.18**	**271**	IAML		22 05 42.9	
	comp=E,89nm,0.9s						
YMR	**Madison River**	**4.29**	**287**		**Pn**	**22 04 20.5**	**+0.3**
AHID	**Auburn Hatcher**	**4.39**	**261**		**Pn**	**22 04 22.6**	**+1.0**
RDMU	**Red Mountain**	**4.44**	**229**	Pn	**Pn**	**22 04 24.6**	**+2.4**
RDMU				Pg	**Pg**	**22 04 37.3**	**-2.4**
YHB	**Horse Butte**	**4.46**	**287**		**Pn**	**22 04 23.2**	**+0.6**
YHL	**Hebgen Lake**	**4.48**	**288**		**Pn**	**22 04 23.1**	**+0.2**
SUSD	**Miller**	**4.58**	**77**	Pn	**Pn**	**22 04 27.0**	**+2.9**
SUSD					**Pg**	**22 04 44.5**	**+2.0**
SMCO	**Snowmass**	**4.61**	**197**		**Pn**	**22 04 27.9**	**+3.1**
SMCO				IAML		22 05 52.6	
	comp=E,38nm,1.3s						
SMCO				IAML		22 06 01.3	
	comp=E,34nm,0.9s						
Q24A	**Divide**	**4.63**	**180**	IAML		22 05 48.6	
	comp=E,37nm,0.8s						
Q24A				IAML		22 05 52.5	
	comp=N,29nm,1.0s						
DGMT	**Dagmar**	**4.93**	**8**		**Pn**	**22 04 30.7**	**+1.9**
KSCO	**Kaye Shedlock'**	**4.97**	**156**		**Pg**	**22 04 47.1**	**-2.8**
BOZ	**Bozeman (W)**	**5.01**	**296**	IAML		22 05 55.9	
	comp=N,24nm,1.1s						
BOZ				IAML		22 05 59.8	
	comp=N,25nm,0.8s						
EGMT	**Eagleton**	**5.46**	**326**		**Pn**	**22

NEIC **09** 22:37:49.6, 35.86N×140.38E, h80km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.13; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-1.89; $M_{r\theta}$0.10; $M_{r\phi}$-0.22; $M_{\theta\phi}$1.95; Fault plane solution: $M_0$2.82000×10^{17} NP1:ϕ_s4.00000°, δ67.00000°, λ88.00000°. NP2:ϕ_s190.00000°, δ23.00000°, λ95.00000°. Principal axes: T 2.9205, Plg68.0000°, Azm270.0000°; N -0.2164, Plg2.0000°, Azm5.0000°; P -2.7041, Plg22.0000°, Azm96.0000°;

MOS **09** 22:37:49.7±1.3, 36.11N×140.07E, h67km, mb5.8/46, MS4.9/29 Error ellipse: s-maj=6.2km s-min=3.6km az=107.0

NEIC **09** 22:37:50.4±2.1, 35.92N±0.04×139.97E±0.08, h64km±3km, mb5.4/422, Mwb5.6, Mwr5.5, Mww5.6, Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.41; $M_{\theta\theta}$-0.70; $M_{\phi\phi}$-0.71; $M_{r\theta}$0.05; $M_{\theta\phi}$-0.57; $M_{r\phi}$1.63; Fault plane solution: $M_0$2.11000×10^{17} NP1:ϕ_s14.91000°, δ71.07000°, λ73.50000°. NP2:ϕ_s237.31000°, δ24.91000°, λ129.63000°. Principal axes: T 2.3120, Plg61.0000°, Azm261.0000°; N -0.4748, Plg16.0000°, Azm20.0000°; P -1.8372, Plg24.0000°, Azm118.0000°;

ISCJB **09** 22:37:50.4±0.1, 35.91N±0.01×139.98E±0.02, h76km±1km, mb5.5/149 Error ellipse: s-maj=2.5km s-min=1.9km az=42.1

NEIC **09** 22:37:50.4, 35.92N×139.97E, h66km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.44; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-2.44; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.07; $M_{r\phi}$1.09; Fault plane solution: $M_0$2.68000×10^{17} NP1:ϕ_s1.80000°, δ57.06000°, λ90.07000°. NP2:ϕ_s181.66000°, δ32.94000°, λ89.88000°. Principal axes: T 2.6761, Plg78.0000°, Azm272.0000°; N 0.0000, Plg0.0000°, Azm182.0000°; P -2.6761, Plg12.0000°, Azm92.0000°;

JMA **09** 22:37:51.2±0.1, 36.00N×140.08E, h64km±1km, M5.5 Broadband half plane solution: P waves. NP1: ϕ_s5.00000°, δ71.00000°, λ86.00000°. NP2:ϕ_s197.00000°, δ19.00000°, λ102.00000°. Principal axes: T Plg64.0000°, Azm268.0000°; N Plg4.0000°, Azm6.0000°; P Plg26.0000°, Azm98.0000°;

IDC **09** 22:37:51.9±1.4, 35.93N×140.03E, h78km±12km, mb5.0/45, mb1 5.0/50, mb1mx5.0/57, mbtmp5.3/50, MS4.6/43, Ms1 4.6/43, ms1mx4.5/49 Error ellipse: s-maj=10.3km s-min=8.1km az=82.0

GCMT **09** 22:37:53.4±0.1, 35.95N±0.01×140.21E±0.01, h65km, MW5.6/133, Moment Tensor Solution. s128, c244; s133, c278; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}2.88±.04; $M_{\theta\theta}$0.24±.03; $M_{\phi\phi}$-3.12±.03; $M_{r\theta}$-0.27±.03; $M_{r\phi}$-0.56±.03; $M_{\theta\phi}$1.63±.03; Best double couple: $M_0$3.47000×10^{17} NP1:ϕ_s360.00000°, δ59.00000°, λ80.00000°. NP2:ϕ_s200.00000°, δ32.00000°, λ107.00000°. Principal axes: T 3.3460, Plg74.0000°, Azm243.0000°; N 0.2510, Plg9.0000°, Azm5.0000°; P -3.5950, Plg14.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **09** 22:37:54, 35.87N×140.30E, h69km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.85; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-3.37; $M_{r\theta}$-0.37; $M_{\theta\phi}$-0.57; $M_{r\phi}$1.63; Fault plane solution: $M_0$3.61000×10^{17} NP1:ϕ_s357.00000°, δ59.00000°, λ77.00000°. NP2:ϕ_s202.00000°, δ33.00000°, λ111.00000°. Principal axes: T 3.3387, Plg72.0000°, Azm234.0000°; N 0.4862, Plg11.0000°, Azm4.0000°; P -3.8249, Plg13.0000°, Azm96.0000°;

ISC 09 22:37:50.2±0.3, 35.94N±0.03×140.00E±0.02, h66km±2km, h66km:pP-P, n1304, σ1s55/1249, mb5.5/355, 152C-84D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
TOK	**Tokyo**	**0.32**	**218**	P	**Pn**	**22 38 04.1**		**+3.1**
JYT	**Yasato**	**0.33**	**29**	⇑P	**Pn**	**22 38 01.5**		**+0.4**
JYT				S	**Sn**	**22 38 08.9**		**-0.1**
JIHU	**Itakohorinouch**	**0.43**	**87**	⇑P	**Pn**	**22 38 02.6**		**+0.7**
JIHU				S	**Sn**	**22 38 11.8**		**+1.4**
JSMT	**Sammumatsuo**	**0.47**	**129**	⇑P	**Pn**	**22 38 03.8**		**+1.5**
JHYU	**Hitachinakayam**	**0.62**	**50**	⇑P	**Pn**	**22 38 03.7**		**-0.1**
JHYU				S	**Sn**	**22 38 12.7**		**-1.2**
JAG	**Ashikaga**	**0.65**	**318**	⇓P	**Pn**	**22 38 05.6**		**+1.3**
JAG				S	**Sn**	**22 38 16.3**		**+1.7**
I30JP	**ISUMI INFRASON**	**0.68**	**158**	P	**Pn**	**22 38 07.0**		**+2.4**
I30JP	baz=1.2,slow=12,SNR=3.1			*i*		22 44 00.0		
	baz=334,slow=319,SNR=1.7							
JSGW	**Sagamiharawaka**	**0.73**	**242**	⇓P	**Pn**	**22 38 06.9**		**+1.8**
JKUC	**kamogawauchiur**	**0.80**	**168**	⇑P	**Pn**	**22 38 07.2**		**+1.3**
JHO	**Hitachi**	**0.81**	**34**	⇑P	**Pn**	**22 38 06.0**		**-0.1**
JHO				S	**Sn**	**22 38 16.8**		**-1.0**
JRY	**Ryogami san**	**0.89**	**275**	⇓P	**Pn**	**22 38 09.1**		**+1.9**
BSO4	**Boso 4**	**0.99**	**164**	⇑P	**Pn**	**22 38 09.5**		**+1.3**
JOD2	**Odawara 2**	**1.01**	**228**	⇓P	**Pn**	**22 38 10.0**		**+1.4**
JOD2				S	**Sn**	**22 38 21.9**		**-0.3**
JKT	**Katashina**	**1.02**	**324**	⇓P	**Pn**	**22 38 10.0**		**+1.2**
JKT				S	**Sn**	**22 38 24.7**		**+2.0**
JSB	**Shiboa**	**1.03**	**356**	P	**Pn**	**22 38 09.6**		**+0.8**
JSB				S	**Sn**	**22 38 23.6**		**+0.9**
AJI	**Ajiro2**	**1.16**	**220**	⇓P	**Pn**	**22 38 11.8**		**+1.3**
BSO3	**Boso 3**	**1.21**	**160**	P	**Pn**	**22 38 11.5**		**+0.6**
JFFD	**Fukushimafurud**	**1.23**	**21**	⇑P	**Pn**	**22 38 11.6**		**+0.1**
JFFD				S	**Sn**	**22 38 26.9**		**-0.5**
JGK	**Kuni**	**1.26**	**300**	⇓P	**Pn**	**22 38 13.3**		**+1.4**
JYN	**Shimob**	**1.27**	**250**	⇓P	**Pn**	**22 38 14.1**		**+2.1**
JHTM	**Izuhatsuma**	**1.27**	**220**	⇓P	**Pn**	**22 38 13.2**		**+1.2**
JFNN	**Fujinakano**	**1.31**	**236**	⇓P	**Pn**	**22 38 14.1**		**+1.7**
JIM2	**Oshima 3**	**1.31**	**201**	P	**Pn**	**22 38 13.0**		**+0.5**
ONAJ	**Iwakimizuishiy**	**1.32**	**29**	⇑P	**Pn**	**22 38 12.8**		**+0.1**
JFY	**Yanaizu**	**1.48**	**351**	⇓P	**Pn**	**22 38 16.0**		**+1.2**
JNT	**Takato**	**1.51**	**268**	⇓P	**Pn**	**22 38 18.3**		**+3.0**
BSO1	**Boso 1**	**1.51**	**148**	P	**Pn**	**22 38 15.0**		**+0.3**
JHK	**Hiroka**	**1.52**	**329**	⇓P	**Pn**	**22 38 16.9**		**+1.6**
JIZS	**Izushimoda**	**1.53**	**217**	⇓P	**Pn**	**22 38 16.7**		**+1.3**
JTHY	**Toshimahigashi**	**1.53**	**203**	P	**Pn**	**22 38 16.5**		**+1.1**
MJAR	**Matsushiro Arr**	**1.57**	**293**	P	**Pn**	**22 38 17.9**		**+1.9**
MJAR	246nm,0.3s,baz=97,slow=11			LR	LR	22 39 08.6		
	comp=Z,32μm,20.1s,baz=110,slow=49							
MJAR	**Matsushiro Arr**	**1.57**	**293**		**Pn**	**22 38 16.7**		**+0.8**
MAJO	**Matsushiro**	**1.57**	**293**	*d* iP	**Pn**	**22 38 18.3**		**+2.4**
MAJO	**Matsushiro**	**1.57**	**293**		**Pn**	**22 38 17.4**		**+1.5**
MAT	**Matsushiro**	**1.57**	**293**	P	**Pn**	**22 38 17.7**		**+1.8**
MAT				*e*S	**Sn**	**22 38 37.6**		**+2.2**
MAT	**Matsushiro**	**1.57**	**293**	P	**Pn**	**22 38 17.7**		**+1.8**
MJB9	**Matsu-Tunnel**	**1.57**	**293**		**Pn**	**22 38 17.4**		**+1.4**
JFK	**Kawauchi**	**1.59**	**26**	⇑P	**Pn**	**22 38 16.3**		**+0.1**
JFT	**Otama**	**1.60**	**10**	⇑P	**Pn**	**22 38 17.1**		**+0.8**
JNG	**Nsakai**	**1.61**	**287**	⇓P	**Pn**	**22 38 18.7**		**+2.2**
SHZ3	**Shizuoka 3**	**1.70**	**240**	P	**Pn**	**22 38 20.2**		**+2.4**
JSKK	**Shikinejimakit**	**1.73**	**202**	P	**Pn**	**22 38 19.2**		**+1.1**
JNY	**Yasuok**	**1.84**	**252**	⇓P	**Pn**	**22 38 22.5**		**+2.9**
JJN	**Nakama**	**1.88**	**309**	⇓P	**Pn**	**22 38 22.6**		**+2.5**
JKO	**Kozu shima**	**1.89**	**202**	P	**Pn**	**22 38 21.7**		**+1.5**
JIZZ	**Izumozaki**	**1.90**	**327**	⇓P	**Pn**	**22 38 22.9**		**+2.6**
JMST	**Minamisoumatoc**	**1.92**	**22**	P	**Pn**	**22 38 21.1**		**+0.5**
JSG	**Sagara**	**1.95**	**230**	⇓P	**Pn**	**22 38 23.7**		**+2.7**
JNS	**Sasagawa**	**1.95**	**344**	⇓P	**Pn**	**22 38 22.2**		**+1.1**
JYAR	**Yonezawaarcadi**	**1.97**	**3**	⇓P	**Pn**	**22 38 23.0**		**+1.7**
JMM	**Marumori**	**2.02**	**18**	⇑P	**Pn**	**22 38 22.7**		**+0.7**
JKKS	**Kakegawashinom**	**2.03**	**235**	⇓P	**Pn**	**22 38 24.9**		**+2.8**
JMKN	**Mikurajimanish**	**2.07**	**189**	⇑P	**Pn**	**22 38 23.1**		**+0.4**
JYZW	**Yoshizawa**	**2.08**	**244**	P	**Pn**	**22 38 24.9**		**+2.1**
HMMJ	**Hamamatsu 2**	**2.15**	**240**	⇓P	**Pn**	**22 38 26.3**		**+2.5**
JGF	**Kuroka**	**2.18**	**262**	⇓P	**Pn**	**22 38 27.1**		**+2.9**
JGN	**Niukaw**	**2.19**	**278**	⇓P	**Pn**	**22 38 27.4**		**+3.0**
JTT	**Ttatey**	**2.25**	**288**	⇓P	**Pn**	**22 38 28.3**		**+3.1**
JYS	**Shirataka**	**2.27**	**1**	⇓P	**Pn**	**22 38 27.1**		**+1.6**
JSSY	**Shinshiroyabe**	**2.28**	**244**	⇓P	**Pn**	**22 38 27.9**		**+2.4**
JAO	**Obara**	**2.33**	**254**	⇓P	**Pn**	**22 38 28.9**		**+2.6**
JOU	**Okura**	**2.48**	**12**	⇑P	**Pn**	**22 38 29.7**		**+1.5**
INU	**Inuyama**	**2.50**	**257**		**Pn**	**22 38 30.3**		**+1.8**
JSD	**Sado**	**2.51**	**327**	⇓P	**Pn**	**22 38 30.2**		**+1.5**
JAW	**Awa shima**	**2.58**	**347**	⇓P	**Pn**	**22 38 31.0**		**+1.4**
JSZ	**Suzu**	**2.60**	**306**	⇓P	**Pn**	**22 38 31.8**		**+2.0**
JICN	**Ichinomiyachia**	**2.65**	**257**	P	**Pn**	**22 38 33.4**		**+2.9**
JYTA	**Yamagatataniai**	**2.68**	**263**	⇓P	**Pn**	**22 38 33.8**		**+2.9**
JIO	**Ouri**	**2.73**	**23**	⇑P	**Pn**	**22 38 31.8**		**+0.2**
JJH	**Hakui**	**2.77**	**292**	P	**Pn**	**22 38 34.9**		**+2.7**
JHJ	**Hachijo jima 2**	**2.82**	**184**	P	**Pn**	**22 38 33.7**		**+0.8**
	1μm,0.3s,baz=41,slow=2.2,SNR=101							
JHJ				S	**Sn**	**22 39 07.5**		**+1.7**
	2μm,0.3s,baz=67,slow=24,SNR=14							
JHJ2	**Mitsune**	**2.83**	**183**	P	**Pn**	**22 38 33.6**		**+0.6**
JHJ2	**Mitsune**	**2.83**	**183**		**Pn**	**22 38 33.7**		**+0.8**
JKG	**Kaga**	**2.99**	**277**	P	**Pn**	**22 38 38.3**		**+3.2**
JKMT	**Kesennumamotoy**	**3.09**	**22**	P	**Pn**	**22 38 37.0**		**+0.4**
JIE	**Ise**	**3.11**	**241**	P	**Pn**	**22 38 38.9**		**+2.1**
JHG	**Hegura jima**	**3.12**	**309**	⇓P	**Pn**	**22 38 39.2**		**+2.3**
JMK	**Ichinoseki**	**3.16**	**18**	⇓P	**Pn**	**22 38 38.4**		**+1.0**
TSUJ	**Tsu 2**	**3.18**	**248**	⇓P	**Pn**	**22 38 40.1**		**+2.4**
JFM	**Mihama**	**3.29**	**264**	P	**Pn**	**22 38 42.2**		**+2.9**
OFUJ	**Ofunato**	**3.40**	**22**	⇑P	**Pn**	**22 38 41.0**		**+0.2**
JRG	**Rokugo**	**3.48**	**8**	P	**Pn**	**22 38 44.3**		**+2.4**
JKN2	**Miekihoku**	**3.50**	**242**	⇓P	**Pn**	**22 38 44.3**		**+2.2**
JYW	**Yuwa**	**3.60**	**3**	P	**Pn**	**22 38 46.7**		**+3.3**
JWT	**Wachi**	**3.80**	**261**	⇓P	**Pn**	**22 38 48.8**		**+2.5**
JSZI	**Iwateshizukuis**	**3.87**	**11**	⇓P	**Pn**	**22 38 49.3**		**+2.1**
JMMH	**Miemihama**	**3.89**	**238**	⇓P	**Pn**	**22 38 49.4**		**+1.9**
MIYJ	**Miyakonagasawa**	**3.90**	**21**	⇓P	**Pn**	**22 38 47.9**		**+0.2**
JKZ	**Kuzumaki**	**4.17**	**14**	P	**Pn**	**22 38 52.6**		**+1.3**
JMIK	**Miki**	**4.20**	**256**	⇓P	**Pn**	**22 38 54.4**		**+2.7**
JTH	**Tanohata**	**4.25**	**20**	P	**Pn**	**22 38 53.0**		**+0.6**
JNTW	**Noshirotokiwa**	**4.32**	**2**	P	**Pn**	**22 38 56.2**		**+2.8**
JKEN	**Kujiedanarisaw**	**4.46**	**17**	P	**Pn**	**22 38 55.9**		**+0.6**
JIW	**Iwasaki**	**4.64**	**0**	⇓P	**Pn**	**22 39 00.3**		**+2.5**
JAHD	**Aomorihigashid**	**5.42**	**11**	P	**Pn**	**22 39 08.5**		**+0.2**
JHS	**Saijyo**	**5.70**	**262**	P	**Pn**	**22 39 15.4**		**+3.2**
JJG	**Jouge**	**5.75**	**259**	⇓P	**Pn**	**22 39 15.6**		**+2.7**
ERM	**Erimo**	**6.54**	**21**	P	**Pn**	**22 39 23.0**		**-0.7**
ERM	**Erimo**	**6.54**	**21**		**Pn**	**22 39 23.0**		**-0.7**
JHIK	**Hikimi**	**6.75**	**260**	P	**Pn**	**22 39 29.9**		**+3.2**
JNU	**Nakatsue**	**8.04**	**252**	P	**Pn**	**22 39 47.3**		**+3.1**
JNU	5.1nm,0.3s,baz=62,slow=4.9,SNR=40			LR	LR	22 43 16.9		
	comp=Z,16μm,19.5s,baz=65,slow=40							
JNU	**Nakatsue**	**8.04**	**252**		**Pn**	**22 39 46.5**		**+2.3**
ASAJ	**Asahikawa**	**8.40**	**13**	P	**Pn**	**22 39 47.6**		**-1.5**
ASAJ	32nm,0.3s,baz=211,slow=8.7,SNR=130			S	**Sn**	**22 41 21.7**		**-0.7**
	12nm,0.3s,baz=325,slow=19,SNR=3.6							
ASAJ				LR	LR	22 44 04.3		
	comp=Z,2μm,21.8s,baz=198,slow=44							
JKA	**Kamikawa-asahi**	**8.40**	**13**		**Pn**	**22 39 47.6**		**-1.5**
JKA					**Sn**	**22 41 21.7**		**-0.7**
NMR	**Nemuro--Hokkai**	**8.63**	**29**	⇑*i*P	**Pn**	**22 39 48.8**		**-3.4**
NMR				*i* S	Sn	22 41 17.7		-10
JCJ	**Chichijima**	**9.01**	**167**	P	**Pn**	**22 39 54.0**		**-3.6**
	175nm,0.3s,baz=346,slow=6.9,SNR=98							
JCJ				S	**Sn**	**22 41 30.9**		**-6.7**
	200nm,0.3s,baz=294,slow=22,SNR=6.8							
GRPR	**Tuman**	**9.18**	**27**	*e*P	**Pn**	**22 39 56.4**		**-3.3**
GRPR				*e*S	Sn	22 41 31.5		-10
LAGR	**Lagunnoye**	**9.24**	**27**	*e*P	**Pn**	**22 39 57.3**		**-3.2**
LAGR				*e*S	**Sn**	**22 41 34.2**		**-8.6**
LAGR				pmax	pmax			
	comp=Z,874nm,0.6s							
LAGR				pmax	pmax			
	comp=N,519nm,0.5s							
LAGR				MLR	MLR			
	comp=Z,6μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**9.25**	**27**	*e*P	**Pn**	**22 39 57.9**		**-2.8**
YUK				*e*S	Sn	22 41 33.4		-10
YUK				pmax	pmax			
	comp=N,539nm,0.6s							
YUK				pmax	pmax			
	comp=Z,508nm,0.6s							
YUK				MLR	MLR			
	comp=Z,1μm,10.0s							
YUK				MLR	MLR			
	comp=E,2μm,11.0s							
TEY	**Ternei**	**9.44**	**345**	⇓*e*P	**Pn**	**22 40 05.0**		**+1.7**
TEY				pmax	pmax			
	comp=Z,200nm,3.1s							
TEY				pmax	pmax			
	comp=N,20nm,1.3s							
TEY				pmax	pmax			
	comp=Z,30nm,1.3s							
TEY				MLR	MLR			
	comp=Z,200nm,16.0s							
VLA	**Vladivostok**	**9.52**	**321**	⇑*e*P	**Pn**	**22 40 08.1**		**+3.7**
VLA				pmax	pmax			
	comp=Z,791nm,1.4s							
MSHR	**Mys Shultsa**	**9.53**	**317**	⇑*e*P	**Pn**	**22 40 06.1**		**+1.5**
KSRS	**Korea Array**	**9.82**	**282**	P	**Pn**	**22 40 12.6**		**+4.2**
	comp=Z,3.5nm,0.3s,baz=97,slow=14,SNR=67							
KSRS				LR	LR	22 43 54.3		
	comp=Z,9μm,20.1s,baz=106,slow=37							
KSAR	**Wonju Array Be**	**9.85**	**282**	P	**Pn**	**22 40 11.7**		**+2.8**
KSAR	**Wonju Array Be**	**9.85**	**282**		**Pn**	**22 40 11.7**		**+2.8**
KS19	**Wonju Array Si**	**9.87**	**283**		**Pn**	**22 40 12.6**		**+3.5**
TJN	**Taejon**	**10.23**	**276**	⇑*e*P	**Pn**	**22 40 18.2**		**+4.1**
USA0B	**Ussuriysk Arra**	**10.28**	**326**	P	**Pn**	**22 40 17.9**		**+3.2**
USA0B	**Ussuriysk Arra**	**10.28**	**326**		**Pn**	**22 40 17.9**		**+3.2**
USRK	**Ussuriysk Ar.**	**10.28**	**326**	P	**Pn**	**22 40 18.0**		**+3.3**
USRK	**Ussuriysk Ar.**	**10.28**	**326**	P	**Pn**	**22 40 17.6**		**+2.9**
	baz=140,slow=12,SNR=207							
USRK				LR	LR	22 43 57.9		
	comp=Z,2μm,19.0s,baz=132,slow=36							
USRK	**Ussuriysk Ar.**	**10.28**	**326**		**Pn**	**22 40 18.0**		**+3.3**
KUR	**Kuril'sk**	**11.03**	**30**	*c iP*	**Pn**	**22 40 23.4**		**-1.6**
KUR				*i* S	Sn	22 42 17.4		-9.3
KUR				pmax	pmax			
	comp=Z,214nm,1.0s							
KUR				pmax	pmax			
	comp=N,78nm,0.8s							
KUR				pmax	pmax			
	comp=E,73nm,0.4s							
KUR				smax	smax			
	comp=N,555nm,0.7s							
KUR				smax	smax			
	comp=E,275nm,0.5s							
KUR				MLR	MLR			
	comp=Z,4μm,13.0s							
KUR				MLR	MLR			
	comp=E,5μm,12.0s							
KUR				MLR	MLR			
	comp=N,4μm,13.0s							
YSS	**Yuzh-Sakhalins**	**11.19**	**10**	*e*P	**Pn**	**22 40 25.9**		**-1.4**
YSS				*e*S	**Sn**	**22 42 26.4**		**-4.2**
YSS				pmax	pmax			
	comp=Z,100nm,0.7s							
YSS				MLR	MLR			
	comp=Z,4μm,13.0s							
YSS				MLR	MLR			
	comp=N,2μm,14.0s							
YSS	**Yuzh-Sakhalins**	**11.19**	**10**		**Pn**	**22 40 25.8**		**-1.4**
MDJ	**Mudanjiang**	**11.75**	**321**	P	**Pn**	**22 40 33.3**		**-1.5**
MDJ				sP		22 40 49.1		
MDJ				S	**Sn**	**22 42 51.0**		**+6.8**
MDJ				pmax	pmax			
	comp=N,23nm,2.0s							
MDJ				pmax	pmax			
	comp=N,680nm,3.7s							
MDJ				LR	LR			
	comp=N,5μm,19.4s							
MDJ				LR	LR			
	comp=N,3μm,20.6s							
MDJ				LR	LR			
	comp=N,8μm,26.9s							
MDJ	**Mudanjiang**	**11.75**	**321**		**Pn**	**22 40 35.5**		**+0.7**
JOW	**Kunigami**	**13.51**	**231**	P	**Pn**	**22 41 02.1**		**+3.3**
	comp=N,0.4nm,0.3s,baz=107,slow=13,SNR=14							
JOW	**Kunigami**	**13.51**	**231**	P	**P**	**22 41 06.3**		**+0.5**
CN2	**Changchun**	**13.64**	**310**	*e*P	**Pn**	**22 41 01.6**		**+1.1**
CN2				*e*sP	P	22 41 20.4		+13
CN2				*e*S	**Sn**	**22 43 31.7**		**+1.4**
CN2				pmax	pmax			
	comp=N,20nm,1.3s							
CN2				pmax	pmax			
	comp=N,200nm,4.0s							
CN2				LR	LR			
	comp=N,2μm,13.0s							
CN2				LR	LR			
	comp=N,2μm,13.0s							
SNY	**Shenyang**	**14.07**	**300**	⇑P	**Pn**	**22 41 08.6**		**+2.4**
SNY				pmax	pmax			
	comp=N,130nm,1.4s							
SNY				pmax	pmax			
	comp=N,740nm,3.6s							
SNY				LR	LR			
	comp=N,5μm,12.5s							
SNY				LR	LR			
	comp=N,8μm,15.5s							
KLR	**Kul'dur**	**14.59**	**338**	*de*P	**Pn**	**22 41 12.6**		**-0.3**
KLR				pmax	pmax			
	comp=Z,18nm,0.6s							
KLR	**Kul'dur**	**14.59**	**338**	P	**Pn**	**22 41 12.8**		**-0.2**
	comp=Z,2.1nm,0.3s,baz=129,slow=12,SNR=46							
KLR				LR	LR	22 46 22.5		
	comp=Z,2μm,21.9s,baz=150,slow=35							
DL2	**Dalian**	**14.90**	**287**	P	**P**	**22 41 20.3**		**-0.8**
DL2				sP	Pn	22 41 38.7		+22
DL2				S	**S**	**22 44 09.9**		**-5.3**
DL2				pmax	pmax			
	comp=Z,560nm,1.1s							
DL2				pmax	pmax			
	comp=Z,2μm,4.1s							
DL2				LR	LR			
	comp=Z,2μm,13.5s							
DL2				LR	LR			
	comp=Z,5μm,13.2s							
DL2				LR	LR			
	comp=Z,6μm,17.5s							
TYV	**Tymovskoe**	**15.04**	**6**	*e*P	**Pn**	**22 41 16.5**		**-2.2**
TYV				*e*S	**Sn**	**22 44 00.2**		**-3.8**
TYV				pmax	pmax			
	comp=Z,54nm,1.0s							
TYV				pmax	pmax			
	comp=Z,1μm,3.6s							
TYV				smax	smax			
	comp=E,25nm,1.4s							
TYV				MLR	MLR			
	comp=Z,4μm,13.0s							
GRNR	**Gornyy**	**15.04**	**351**	*e*P	**Pn**	**22 41 15.8**		**-3.0**
GRNR				*e*S	Sn	22 43 51.6		-13
GRNR				pmax	pmax			
	comp=Z,20nm,1.4s							
GRNR				MLR	MLR			
	comp=Z,1μm,14.0s							
GRNR				MLR	MLR			
	comp=N,1μm,16.0s							
SSE	**Sheshan**	**16.41**	**258**	P	**P**	**22 41 39.1**		**+1.1**
SSE				S	**Sn**	**22 44 40.2**		**+2.6**
SSE				pmax	pmax			
	comp=N,830nm,7.6s							
SSE				LR	LR			
	comp=N,2μm,19.1s							
SSE				LR	LR			
	comp=N,1μm,18.8s							
SSE	**Sheshan**	**16.41**	**258**		**P**	**22 41 38.9**		**+0.9**
OKH	**Okha**	**17.73**	**6**	*de*P	Pn	22 41 44.2		-8.1
OKH				*e*S	**Sn**	**22 45 04.6**		**-4.4**
OKH				pmax	pmax			
	comp=Z,300nm,13.5s							
OKH				smax	smax			
	comp=N,1μm,15.4s							
OKH				smax	smax			
	comp=E,1μm,16.1s							
OKH				MLR	MLR			
	comp=Z,1μm,15.0s							
NJ2	**Nanjing**	**17.95**	**264**	⇓*i*P	**Pn**	**22 41 56.0**		**+0.8**
NJ2				sP	**sP**	**22 42 14.0**		**-3.2**
NJ2				S	**S**	**22 45 17.4**		**+0.4**
NJ2				sS	**sS**	**22 45 35.2**		**-4.6**
NJ2				PcP	**PcP**	**22 46 28.8**		**+1.2**
NJ2				pmax	pmax			
	comp=Z,41nm,0.7s							
NJ2				pmax	pmax			
	comp=Z,1μm,5.7s							
NJ2				LR	LR			
	comp=Z,3μm,19.9s							
NJ2				LR	LR			
	comp=Z,3μm,23.2s							
NJ2				LR	LR			
	comp=Z,5μm,24.6s							
TIA	**Tai'an**	**18.49**	**278**	P	**P**	**22 42 01.3**		**+0.4**
TIA				pmax	pmax			
	comp=Z,69nm,1.4s							
TIA				LR	LR			
	comp=Z,1μm,13.3s							
TIA				LR	LR			
	comp=Z,4μm,13.7s							
TIA				LR	LR			
	comp=Z,6μm,13.7s							
YOJ	**Yonaguni jima**	**18.59**	**237**	P	**P**	**22 42 01.0**		**-1.0**
YOJ				pmax	pmax			
	comp=Z,303nm,1.1s							
YOJ	**Yonaguni jima**	**18.59**	**237**	P	**P**	**22 42 01.0**		**-1.0**
YOJ				IAmb	IAmb	22 42 06.0		
	comp=Z,303nm,1.1s							
SKR	**Severo-Kuril's**	**18.77**	**33**	*e*P	**Pn**	**22 42 08.0**		**+3.1**
SKR				*e*S	**Sn**	**22 45 34.5**		**+0.3**
SKR				pmax	pmax			
	comp=Z,131nm,0.9s							
SKR				MLR	MLR			
	comp=Z,2μm,17.0s							
SKR				MLR	MLR			
	comp=Z,2μm,17.0s							
BJI	**Beijing**	**19.20**	**289**	⇑*e*P	**P**	**22 42 07.8**		**-0.8**
BJI				S	**S**	**22 45 41.1**		**-1.6**
BJI				pmax	pmax			
	comp=Z,110nm,1.2s							
BJT	**Baijiatuau**	**19.21**	**289**	P	**P**	**22 42 08.2**		**-0.5**
BJT		

PET			MLR	MLR		
	comp=Z,2μm,16.0s					
PET	**Petropavlovsk**	**21.54 32**	P	**P**	**22 42 32.6**	**-1.1**
PET			IAmb	IAmb	22 42 49.6	
	comp=Z,141nm,0.9s					
KNMB	**Chin-men Tao**	**21.85 244**	P	**P**	**22 42 34.5**	**-2.8**
KNMB			IAmb	IAmb	22 42 38.0	
	comp=Z,103nm,0.9s					
WHN	**Wuhan**	**22.09 263** ⇓	*i*P	**P**	**22 42 39.7**	**-0.2**
WHN			PP	**PnPn**	**22 43 04.3**	**-0.2**
WHN			S	**S**	**22 46 34.1**	**-5.5**
WHN			pmax	pmax		
	comp=Z,510nm,0.7s					
WHN			pmax	pmax		
	comp=Z,2μm,5.3s					
WHN			LR	LR		
	comp=Z,2μm,6.7s					
WHN			LR	LR		
	comp=Z,10μm,12.1s					
WHN			LR	LR		
	comp=Z,14μm,15.2s					
TIY	**Taiyuan**	**22.11 283**	*e*P	**P**	**22 42 41.7**	**+1.6**
TIY			S	**S**	**22 46 35.3**	**-4.7**
TIY			sS	Sn	22 46 56.6	+1.9
TIY			SS	**SnSn**	**22 47 16.6**	**+5.5**
TIY			pmax	pmax		
	comp=Z,370nm,6.4s					
TIY			LR	LR		
	comp=Z,3μm,17.4s					
TIY			LR	LR		
	comp=Z,3μm,15.6s					
TIY			LR	LR		
	comp=Z,4μm,16.0s					
GUMO	**Guam**	**22.68 168**	P	**P**	**22 42 46.3**	**0.0**
GUMO			pmax	pmax		
	comp=Z,2μm,1.6s					
GUMO	**Guam**	**22.68 168**	P	**P**	**22 42 45.5**	**-0.8**
	comp=Z,272nm,1.1s,baz=201,slow=14,SNR=3.9					
GUMO	**Guam**	**22.68 168**	P	**P**	**22 42 46.3**	**0.0**
HHC	**Hu-ho-hao-te**	**22.77 291**	P	**P**	**22 42 46.2**	**-1.0**
HHC			S	**S**	**22 46 46.2**	**-5.0**
BTO	**Baotou**	**23.93 290**	*e*P	**P**	**22 42 56.4**	**-1.8**
BTO			S	**S**	**22 47 05.5**	**-4.5**
MA2	**Magadan**	**24.66 13** ⇓	*e*P	**P**	**22 43 05.2**	**+0.7**
MA2			pmax	pmax		
	comp=Z,88nm,0.8s					
MA2	**Magadan**	**24.66 13**	P	**P**	**22 43 04.6**	**+0.1**
	comp=Z,80nm,0.8s,baz=198,slow=8.0,SNR=28					
MA2			LR	LR	22 53 09.6	
	comp=Z,1μm,21.0s,baz=198,slow=37					
MA2	**Magadan**	**24.66 13**	P	**P**	**22 43 04.6**	**+0.1**
MA2			IAmb	IAmb	22 43 21.2	
	comp=Z,137nm,0.8s					
CIT	**Chita**	**24.71 319**	*e*P	**P**	**22 43 03.4**	**-1.7**
CIT			*e*		22 43 17.4	
CIT			*e*		22 43 37.9	
CIT			*e*		22 44 00.7	
CIT			pmax	pmax		
	comp=Z,214nm,1.5s					
XAN	**Xi'an**	**25.48 275**	P	**P**	**22 43 11.4**	**-0.9**
XAN			pP	pP	22 43 23.4	-4.5
XAN			S	**S**	**22 47 30.2**	**-4.6**
XAN			pmax	pmax		
	comp=Z,55nm,0.7s					
XAN			pmax	pmax		
	comp=Z,700nm,6.8s					
XAN			LR	LR		
	comp=Z,2μm,17.3s					
XAN			LR	LR		
	comp=Z,2μm,18.7s					
XAN			LR	LR		
	comp=Z,2μm,18.2s					
XAN	**Xi'an**	**25.48 275**	IAmb	IAmb	22 43 14.3	
	comp=Z,189nm,1.4s					
HKPS	**Hong Kong Po S**	**26.28 246**	P	**P**	**22 43 19.1**	**-0.4**
HKPS			IAmb	IAmb	22 43 22.9	
	comp=Z,265nm,1.5s					
YAK	**Yakutsk**	**26.91 349** ⇑	*i*P	**P**	**22 43 24.4**	**-0.3**
YAK			*e**PP	**pP**	**22 43 36.2**	**-4.3**
YAK			*e*		22 44 04.8	
YAK			*e*		22 46 42.6	
YAK			*e*S	**S**	**22 47 56.6**	**0.0**
YAK			*e**SS	**sS**	**22 48 27.2**	**+3.5**
YAK			*e*SS	SS	22 49 08.2	-43
YAK			*e*		22 54 04.0	
YAK			pmax	pmax		
	comp=Z,79nm,1.4s					
YAK			pmax	pmax		
	comp=N,81nm,1.4s					
YAK			pmax	pmax		
	comp=E,48nm,1.4s					
YAK			pmax	pmax		
	comp=Z,159nm,1.0s					
YAK			pmax	pmax		
	comp=N,106nm,1.0s					
YAK			pmax	pmax		
	comp=E,82nm,1.3s					
YAK			smax	smax		
	comp=N,469nm,3.8s					
YAK			smax	smax		
	comp=E,388nm,3.7s					
YAK	**Yakutsk**	**26.91 349**	P	**P**	**22 43 24.8**	**+0.1**
	comp=E,35nm,0.6s,baz=19,slow=1.2,SNR=32					
YAK			LR	LR	22 54 03.7	
	comp=E,1μm,19.1s,baz=154,slow=36					
YAK	**Yakutsk**	**26.91 349**	P	**P**	**22 43 23.9**	**-0.8**
YAK			IAmb	IAmb	22 43 52.7	
	comp=Z,128nm,0.7s					
ULN	**Ulaanbaatar**	**27.05 306**	P	**P**	**22 43 26.1**	**-0.4**
	SNR=34					
ULN	**Ulaanbaatar**	**27.05 306** *c*	*i*P	**P**	**22 43 26.2**	**-0.2**
ULN			pmax	pmax		
	comp=Z,107nm,1.3s					
ULN	**Ulaanbaatar**	**27.05 306**	P	**P**	**22 43 25.6**	**-0.8**
ULN			IAmb	IAmb	22 43 30.7	
	comp=Z,80nm,1.1s					
SONM	**Songino Array**	**27.48 306**	P	**P**	**22 43 30.4**	**+0.2**
	comp=Z,46nm,0.9s,baz=105,slow=8.9,SNR=72					
SONM			LR	LR	22 54 24.7	
	comp=Z,1μm,18.2s,baz=104,slow=36					
SONM	**Songino Array**	**27.48 306**	P	**P**	**22 43 29.3**	**-0.9**
BOD	**Bodaibo**	**27.87 330**	*e*P	**P**	**22 43 33.2**	**-0.2**
BOD			pmax	pmax		
	comp=Z,103nm,1.0s					
SEY	**Seymchan**	**28.09 12** ⇓	*e*P	**P**	**22 43 36.6**	**+1.3**
SEY	**Seymchan**	**28.09 12**	P	**P**	**22 43 35.9**	**+0.7**
	comp=Z,22nm,1.0s,baz=215,slow=7.2,SNR=18					
SEY			LR	LR	22 55 19.8	
	comp=Z,2μm,20.3s,baz=201,slow=37					
H11N2	**WAKE ISLAND Hy**	**28.62 117**	T	T	23 13 22.3	
	baz=309,slow=75,SNR=49					
H11N1	**WAKE ISLAND Hy**	**28.62 117**	T	T	23 13 17.2	
	baz=309,slow=75,SNR=64					
H11N3	**WAKE ISLAND Hy**	**28.63 117**	T	T	23 13 23.6	
	baz=309,slow=75,SNR=77					
LZH	**Lanzhou**	**29.14 281** ⇑	P	**P**	**22 43 44.8**	**-0.4**
LZH			pP	pP	22 44 01.8	+0.7
LZH			sP	sP	22 44 06.8	-2.0
LZH			S	**S**	**22 48 27.1**	**-5.6**
LZH			pmax	pmax		
	comp=Z,66nm,1.3s					
LZH			pmax	pmax		
	comp=Z,510nm,5.4s					
LZH			LR	LR		
	comp=Z,2μm,15.2s					
LZH			LR	LR		
	comp=Z,3μm,15.7s					
LZH			LR	LR		
	comp=Z,4μm,16.3s					
GYA	**Guiyang**	**29.92 261** ⇑	*i*P	**P**	**22 43 50.9**	**-1.2**
GYA			pP	pP	22 44 06.8	-1.2
GYA			sP	sP	22 44 13.0	-2.7
GYA			PP	**PnPn**	**22 44 46.9**	**-4.0**
GYA			S	**S**	**22 48 46.9**	**+1.9**
GYA			pmax	pmax		
	comp=Z,170nm,1.0s					
GYA			pmax	pmax		
	comp=Z,340nm,5.4s					
GYA			LR	LR		
	comp=Z,1μm,16.1s					
GYA			LR	LR		
	comp=Z,1μm,14.4s					
GYA			LR	LR		
	comp=Z,2μm,15.8s					
IRK	**Irkutsk**	**30.01 314**	*e*P	**P**	**22 43 51.1**	**-1.4**
IRK			*e*		22 45 05.8	
IRK			*e*		22 46 51.9	
IRK			pmax	pmax		
	comp=Z,50nm,1.1s					
ZAK	**Zakamensk**	**30.08 310**	*e*P	**P**	**22 43 52.3**	**-0.9**
ZAK			pmax	pmax		
	comp=Z,27nm,1.0s					
ZAK			pmax	pmax		
	comp=Z,12nm,1.2s					
TLY	**Talaya**	**30.21 313** *d*	*i*P	**P**	**22 43 54.9**	**+0.6**
TLY			pmax	pmax		
	comp=Z,30nm,0.8s					
TLY	**Talaya**	**30.21 313**	P	**P**	**22 43 54.1**	**-0.2**
	comp=Z,20nm,0.6s,baz=107,slow=2.1,SNR=12					
TLY			LR	LR	22 56 20.5	
	comp=Z,1μm,18.7s,baz=106,slow=37					
TLY	**Talaya**	**30.21 313**	P	**P**	**22 43 53.9**	**-0.4**
CD2	**Chengdu**	**30.55 271**	P	**P**	**22 43 56.6**	**-0.9**
CD2			pP	pP	22 44 11.0	-2.4
CD2			sP	sP	22 44 20.1	-1.0
CD2			S	**S**	**22 48 50.7**	**-3.9**
CD2			sS	sS	22 49 19.2	-2.6
CD2			pmax	pmax		
	comp=Z,120nm,0.7s					
CD2			pmax	pmax		
	comp=Z,730nm,6.4s					
CD2			LR	LR		
	comp=Z,3μm,15.7s					
CD2			LR	LR		
	comp=Z,4μm,18.5s					
CD2			LR	LR		
	comp=Z,6μm,17.1s					
QIZ	**Qiongzhong**	**31.44 246**	P	**P**	**22 44 05.3**	**-0.1**
QIZ			sP	**sP**	**22 44 27.8**	**-1.2**
QIZ			S	**S**	**22 49 10.4**	**+1.7**
QIZ			pmax	pmax		
	comp=Z,900nm,4.5s					
QIZ			LR	LR		
	comp=Z,2μm,14.5s					
QIZ			LR	LR		
	comp=Z,2μm,5.1s					
QIZ			LR	LR		
	comp=Z,2μm,20.6s					
DAV	**Davao City (W)**	**31.63 208**	LR	LR	22 57 33.4	
	comp=Z,821nm,19.6s,baz=72,slow=37					
MOY	**Mondy**	**31.80 312**	*e*P	**P**	**22 44 08.6**	**+0.2**
MOY			pmax	pmax		
	comp=Z,30nm,1.2s					
GTA	**Gaotai**	**31.81 288** ⇑	P	**P**	**22 44 08.3**	**-0.4**
GTA			pP	pP	22 44 24.2	-0.4
GTA			sP	sP	22 44 31.0	-1.3
GTA			PP	**PP**	**22 45 20.2**	**-1.2**
GTA			PcP	**PcP**	**22 46 59.4**	**+1.1**
GTA			S	**S**	**22 49 12.9**	**-1.5**
GTA			sS	sS	22 49 38.4	-3.2
GTA			ScP	**ScP**	**22 50 37.4**	**+1.5**
GTA			SS	**SnSn**	**22 51 07.1**	**-0.5**
GTA			ScS	**ScS**	**22 54 32.8**	**-1.6**
GTA			pmax	pmax		
	comp=Z,330nm,8.1s					
GTA			LR	LR		
	comp=Z,950nm,16.2s					
GTA			LR	LR		
	comp=Z,1μm,20.6s					
GTA			LR	LR		
	comp=Z,2μm,20.0s					
KCP	**Kidapawan**	**31.87 209** ⇓	*i*P	**P**	**22 44 07.5**	**-1.8**
KMI	**Kunming**	**33.67 262**	P	**P**	**22 44 24.7**	**-0.5**
KMI			pP	sP	22 44 45.9	-3.0
KMI			PcP	**PcP**	**22 47 04.5**	**+0.7**
KMI			S	**S**	**22 49 37.9**	**-5.8**
KMI			pmax	pmax		
	comp=Z,97nm,1.1s					
KMI			LR	LR		
	comp=Z,930nm,14.9s					
KMI			LR	LR		
	comp=Z,2μm,14.3s					
KMI			LR	LR		
	comp=Z,2μm,14.9s					
ADK	**Adak**	**34.46 49**	P	**P**	**22 44 30.9**	**-0.5**
ADK			pmax	pmax		
	comp=Z,419nm,2.0s					
ADK	**Adak**	**34.46 49**	P	**P**	**22 44 30.9**	**-0.5**
SLVN	**Son La**	**34.65 255**	P	**P**	**22 44 33.4**	**-0.1**
SLVN			IAmb	IAmb	22 44 37.3	
	comp=Z,35nm,1.0s					
BILL	**Bilibino**	**35.40 17**	*e*P	**P**	**22 44 38.9**	**-0.4**
BILL			*e**PP	**pP**	**22 44 54.2**	**-1.2**
BILL			*e**SP	**sP**	**22 45 02.6**	**-0.5**
BILL			*e*		22 45 55.0	
BILL			*e*		22 47 06.7	
BILL			*e*S	**S**	**22 50 08.3**	**-0.6**
BILL			pmax	pmax		
	comp=Z,36nm,1.3s					
BILL			MLR	MLR		
	comp=Z,2μm,23.0s					
BILL	**Bilibino**	**35.40 17**	P	**P**	**22 44 38.9**	**-0.4**
BILL			IAmb	IAmb	22 45 23.9	
	comp=Z,26nm,0.8s					
TIXI	**Tiksi**	**36.24 354** *c*	*i*P	**P**	**22 44 45.8**	**-0.7**
TIXI			pmax	pmax		
	comp=Z,20nm,1.0s					
TIXI	**Tiksi**	**36.24 354**	P	**P**	**22 44 46.5**	**0.0**
	comp=Z,16nm,0.7s,baz=180,slow=24,SNR=21					
TIXI	**Tiksi**	**36.24 354**	P	**P**	**22 44 45.1**	**-1.4**
TIXI			IAmb	IAmb	22 45 04.1	
	comp=Z,31nm,0.7s					
KKM	**Kota Kinabalu**	**36.91 222**	P	**P**	**22 44 52.1**	**-0.8**
KKM			IAmb	IAmb	22 45 46.7	
	comp=Z,41nm,1.1s					
TNTI	**Ternate**	**36.91 201**	P	**P**	**22 44 52.2**	**-0.5**
TNTI	**Ternate**	**36.91 201**	P	**P**	**22 44 51.5**	**-1.2**
TNTI			IAmb	IAmb	22 44 57.6	
	comp=Z,56nm,1.0s					
UBPT	**Khong Chiam**	**37.04 245**	P	**P**	**22 44 54.5**	**+0.7**
	comp=Z,66nm,2.3s					
UBPT	**Khong Chiam**	**37.04 245**	P	**P**	**22 44 54.2**	**+0.4**
NONG	**Nongkai**	**37.08 251**	P	**P**	**22 44 54.7**	**+0.5**
	comp=Z,3.6nm,1.1s,comp=Z,421nm					
DLV	**T Lat**	**37.14 238**	P	**P**	**22 44 54.8**	**-0.1**
SWI	**Sorong**	**37.51 194**	P	**P**	**22 44 57.1**	**-0.7**
SIJI	**Sorong**	**37.52 194**	LR	LR	22 57 00.6	
	comp=Z,1μm,20.9s,baz=339,slow=31					
RKPI	**Ransiki, Papua**	**37.66 190**	P	**P**	**22 44 59.0**	**0.0**
SMPI	**Sarmi**	**37.76 182**	P	**P**	**22 44 59.9**	**+0.1**
KMSI	**Cibinong**	**38.21 206**	P	**P**	**22 45 03.1**	**-0.6**
JAY	**Jayapura**	**38.26 179**	P	**P**	**22 45 05.0**	**+0.9**
	comp=Z,21nm,0.8s,baz=39,slow=4.6,SNR=6.5					
JAY	**Jayapura**	**38.26 179**	P	**P**	**22 45 05.7**	**+1.5**
PAYA	**Payao**	**38.89 256**	P	**P**	**22 45 11.0**	**+1.5**
	comp=Z,50μm,0.8s					
MRSI	**Marisa**	**39.08 209**	P	**P**	**22 45 09.3**	**-1.6**
CHAI	**Chaiyaphum**	**39.26 249**	P	**P**	**22 45 12.4**	**-0.1**
	comp=Z,321μm,1.1s					
FAKI	**Fak Fak**	**39.33 192**	P	**P**	**22 45 13.4**	**+0.4**
FAKI	**Fak Fak**	**39.33 192**	P	**P**	**22 45 13.5**	**+0.4**
FAKI			IAmb	IAmb	22 45 22.6	
	comp=Z,53nm,0.7s					
NIKH	**Nikolski High**	**39.35 48**	P	**P**	**22 45 14.1**	**+1.2**
LAMP	**Lampang**	**39.54 255**	P	**P**	**22 45 17.1**	**+2.2**
	comp=Z,76μm,0.9s					
PBKT	**Sadao Pong**	**39.63 251**	P	**P**	**22 45 15.8**	**+0.2**
	comp=Z,49nm,0.9s,comp=Z,714nm					
PBKT	**Sadao Pong**	**39.63 251**	P	**P**	**22 45 15.4**	**-0.2**
PBKT			IAmb	IAmb	22 45 44.9	
	comp=Z,56nm,0.8s					
JORH	**JORHAT**	**39.83 270**	*e*P	**P**	**22 45 18.1**	**+0.9**
JORH			IAmb	IAmb	22 45 19.7	
	comp=Z,570nm,1.1s					
CMMT	**Chiang Mai**	**39.92 256**	P	**P**	**22 45 18.0**	**0.0**
	comp=Z,21nm,0.9s					
CHTO	**Chiang Mai**	**39.92 256**	P	**P**	**22 45 18.0**	**0.0**
	SNR=6.5					
CHTO			P	**P**	**22 45 18.0**	**0.0**
	SNR=6.5					
CHTO	**Chiang Mai**	**39.92 256**	P	**P**	**22 45 17.8**	**-0.2**
CHTO			pmax	pmax		
	comp=Z,32nm,1.0s					
CHTO	**Chiang Mai**	**39.92 256**	P	**P**	**22 45 17.8**	**-0.2**
SANI	**Sanana**	**40.00 202**	P	**P**	**22 45 16.8**	**-1.8**
MPSI	**Mapaga**	**40.05 212**	P	**P**	**22 45 19.8**	**+0.7**
CM31	**Chiang Mai Arr**	**40.12 255**	P	**P**	**22 45 19.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.12 255**	P	**P**	**22 45 20.4**	**+0.7**
	comp=Z,19nm,0.9s,baz=50,slow=7.2,SNR=64					
CMAR			PcP	**PcP**	**22 47 24.9**	**+1.7**
	comp=Z,12nm,1.0s,baz=38,slow=2.3,SNR=8.8					
CMAR			LR	LR	23 03 46.8	
	comp=Z,1μm,18.6s,baz=58,slow=39					
CMAR	**Chiang Mai Arr**	**40.12 255**	P	**P**	**22 45 19.1**	**-0.6**
LUWI	**Luwuk**	**40.15 207**	P	**P**	**22 45 18.1**	**-1.7**
LUWI	**Luwuk**	**40.15 207**	P	**P**	**22 45 18.0**	**-1.9**
LUWI			IAmb	IAmb	22 45 31.6	
	comp=Z,114nm,1.1s					
WMQ	**Urumqi**	**40.33 298**	*e*P	**P**	**22 45 22.0**	**+0.8**
WMQ			pP	pP	22 45 33.4	-4.1
WMQ			sP	sP	22 45 46.1	+0.9
WMQ			S	**S**	**22 51 26.9**	**+2.7**
WMQ			pmax	pmax		
	comp=Z,67nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,540nm,3.7s					
WMQ			LR	LR		
	comp=Z,740nm,16.5s					
WMQ			LR	LR		
	comp=Z,370nm,15.3s					
WMQ			LR	LR		
	comp=Z,1μm,25.3s					
KOHI	**KOHIMA**	**40.38 269**	*e*P	**P**	**22 45 18.9**	**-3.0**
KOHI			IAmb	IAmb	22 45 28.8	
	comp=Z,137nm,1.1s					
MSAI	**Masohi**	**40.43 197**	P	**P**	**22 45 22.2**	**0.0**
APSI	**Ampana**	**40.46 209**	P	**P**	**22 45 20.6**	**-1.8**
NLAI	**Namlea**	**40.80 200**	P	**P**	**22 45 26.1**	**+0.9**
AAI	**Ambon**	**40.94 198**	P	**P**	**22 45 26.2**	**-0.2**
MHMT	**Maesarieng**	**41.07 256**	P	**P**	**22 45 28.4**	**+0.9**
	comp=Z,40nm,0.9s					
LSA	**Lhasa**	**41.18 276**	*i*P	**P**	**22 45 30.0**	**+1.2**
	SNR=67					
BNDI	**Bandanaira**	**41.35 195**	P	**P**	**22 45 30.2**	**+0.5**
UTHA	**Uthaitani**	**41.41 251**	P	**P**	**22 45 31.0**	**+0.7**
	comp=Z,34μm,1.1s,comp=Z,405μm					
UMPA	**Umpang Tak**	**41.48 253**	P	**P**	**22 45 32.6**	**+1.7**
	comp=Z,73μm,1.1s,comp=Z,674μm					
KRVT	**Keravat (AS076**	**41.59 162**	LR	LR	23 02 35.0	
	comp=Z,244nm,18.1s,baz=15,slow=36					
ZAA0	**Zalesovo Array**	**41.82 313**	P	**P**	**22 45 33.6**	**+0.4**
ZALV	**Zalesovo Beam**	**41.82 313**	P	**P**	**22 45 33.5**	**+0.3**
	comp=Z,81nm,0.6s,baz=98,slow=6.7,SNR=254					
ZALV			PcP	**PcP**	**22 47 28.7**	**+0.6**
	comp=Z,22nm,0.8s,baz=104,slow=3.7,SNR=3.9					
ZALV			LR	LR	23 03 51.2	
	comp=Z,551nm,20.7s,baz=86,slow=37					
ZALV	**Zalesovo Beam**	**41.82 313**	P	**P**	**22 45 33.3**	**+0.1**
SMKI	**Samarinda**	**41.96 215**	P	**P**	**22 45 35.7**	**+0.9**
PATY	**Pattaya**	**41.97 247**	P	**P**	**22 45 36.0**	**+1.2**
	comp=Z,99μm,0.8s					
SBUM	**Sibu**	**42.09 224**	P	**P**	**22 45 34.9**	**-1.0**
SBUM	**Sibu**	**42.09 224**	P	**P**	**22 45 35.0**	**-0.8**
SHL	**Shillong**	**42.26 270**	P	**P**	**22 45 36.9**	**-0.4**
	SNR=17					
SHL	**Shillong**	**42.26 270**	*i*P	**P**	**22 45 36.8**	**-0.5**
SHL			IAmb	IAmb	22 45 38.0	
	comp=Z,38nm,0.7s					
SHL		*i*x	x		22 51 47.1	
SHL	**Shillong**	**42.26 270**	IAmb	IAmb	22 45 37.9	
	comp=Z,50nm,0.7s					
SRDT	**SRDT**	**42.39 250**	P	**P**	**22 45 39.1**	**+0.8**
	comp=Z,32nm,1.4s,comp=Z,7μm					
KHLT	**Khaolaem Dam**	**42.52 251**	P	**P**	**22 45 37.1**	**-2.3**
FALS	**False Pass**	**42.68 45**		pP	22 45 54.6	-2.0
BKB	**Balikpapan**	**42.82 215**	P	**P**	**22 45 38.8**	**-3.0**
BKB	**Balikpapan**	**42.82 215**	P	**P**	**22 45 41.1**	**-0.7**
PHET	**Kaeng Krachan**	**42.90 248**	P	**P**	**22 45 43.8**	**+1.4**
	comp=Z,134μm,0.8s					
TTSI	**Tana Toraja**	**43.13 210**	P	**P**	**22 45 43.9**	**-0.4**
MK31	**Makanchi Array**	**43.74 303**	P	**P**	**22 45 49.9**	**+0.9**
MK31			pmax	pmax		
	comp=Z,135nm,1.0s					
MK31	**Makanchi Array**	**43.74 303**	P	**P**	**22 45 49.9**	**+0.9**
MKAR	**Makanchi Array**	**43.74 303**	P	**P**	**22 45 49.9**	**+1.0**
	comp=Z,120nm,0.9s,baz=90,slow=9.2,SNR=270					
MKAR			LR	LR	23 04 18.6	
	comp=Z,742nm,19.1s,baz=84,slow=36					
NRIK	**Noril'sk**	**43.79 336**	P	**P**	**22 45 49.5**	**+0.5**
	comp=Z,20nm,0.6s,baz=114,slow=7.5,SNR=33					
NRIK			LR	LR	23 05 36.0	
	comp=Z,1μm,18.4s,baz=108,slow=38					
MAKZ	**Makanchi**	**43.95 303**	P	**P**	**22 45 51.6**	**+1.0**
MAKZ			pmax	pmax		
	comp=Z,183nm,1.0s					
MAKZ	**Makanchi**	**43.95 303**	P	**P**	**22 45 51.6**	**+1.0**
KSM	**Kuching**	**43.98 225**	IAmb	IAmb	22 45 52.2	
	comp=Z,43nm,0.7s					
KSM	**Kuching**	**43.98 225**	P	**P**	**22 45 52.0**	**+0.9**
SPSI	**Sidrap Palu**	**43.99 210**	P	**P**	**22 45 49.4**	**-1.7**
SIMRM	**Sittwe**	**44.04 262**	IAmb	IAmb	22 45 53.6	
	comp=Z,53nm,0.8s					
GTK	**Tadong**	**44.17 274**	*e*P	**P**	**22 45 53.4**	**+0.6**
GTK			IAmb	IAmb	22 45 57.9	
	comp=Z,38nm,1.2s					
BNSI	**Bone**	**44.25 209**	P	**P**	**22 45 54.1**	**+0.9**
BBSI	**Bau Bau**	**44.34 205**	P	**P**	**22 45 53.4**	**-0.5**
SAUI	**Saumlaki**	**44.45 192**	P	**P**	**22 45 55.2**	**+0.4**
STKI	**Sintang**	**44.47 223**	P	**P**	**22 45 55.3**	**+0.3**
	comp=Z,48nm,0.8s					
TAPN	**Taplejung**	**44.88 274**	*e*P	**P**	**22 45 59.3**	**+0.7**
KAPI	**Kappang**	**44.95 209**	P	**P**	**22 45 58.2**	**-0.6**
	SNR=7.6					
KAPI			P	**P**	**22 45 58.2**	**-0.6**
	SNR=7.6					
KAPI	**Kappang**	**44.95 209**	P	**P**	**22 45 57.9**	**-0.9**
KAPI			pmax	pmax		
	comp=Z,63nm,0.9s					
KAPI	**Kappang**	**44.95 209**	P	**P**	**22 45 57.9**	**-0.9**
KAPI			IAmb	IAmb	22 46 20.4	
	comp=Z,63nm,0.9s					
KBKI	**Kotabaru**	**44.96 215**	P	**P**	**22 45 58.1**	**-0.7**
RDOG	**Red Dog Mine**	**44.99 27**	IAmb	IAmb	22 46 01.2	
	comp=Z,76nm,1.0s					
BKSI	**Bulukumba**	**45.09 209**	P	**P**	**22 45 59.3**	**-0.6**
ODAN	**Odare**	**45.35 274**	*e*P	**P**	**22 46 02.5**	**+0.3**
	comp=Z,69nm,0.6s					
PMG	**Port Moresby**	**45.61 170**	P	**P**	**22 46 04.5**	**+0.5**
	comp=Z,8.2nm,0.5s,baz=27,slow=12,SNR=2.9					
PMG			LR	LR	23 03 29.4	
	comp=Z,603nm,21.9s,baz=357,slow=34					
PMG	**Port Moresby**	**45.61 170**		**pP**	**22 46 21.1**	**+0.6**
PMG			IAmb	IAmb	22 46 38.5	
	comp=Z,85nm,1.1s					
KURK	**Kurchatov**	**45.72 309**	P	**P**	**22 46 05.2**	**+0.7**
	SNR=103					
KURK	**Kurchatov**	**45.72 309** *c*	*i*P	**P**	**22 46 04.8**	**+0.3**
KURK			pmax	pmax		
	comp=Z,417nm,1.3s					
KURK	**Kurchatov**	**45.72 309**	P	**P**	**22 46 04.8**	**+0.3**
KURBB	**Kurchatov Arra**	**45.78 309**	P	**P**	**22 46 05.4**	**+0.4**
	comp=Z,165nm,0.9s,baz=84,slow=7.8,SNR=695					
RAMN	**Ramite**	**45.95 274**	*e*P	**P**	**22 46 07.7**	**+0.7**
	comp=Z,362nm,0.7s					
JIRN	**Jiri**	**45.98 275**	*e*P	**P**	**22 46 08.6**	**+1.2**
	comp=Z,645nm,0.8s					
SKLT	**Songkhla**	**45.98 241**	P	**P**	**22 46 07.9**	**+0.9**
	comp=Z,74nm,0.9s,comp=Z,459nm					
SURT	**Suratani**	**46.09 245**	P	**P**	**22 46 08.8**	**+1.0**
	comp=Z,75nm,1.1s,comp=Z,929nm					
GUN	**Gumba**	**46.13 276**	*e*P	**P**	**22 46 09.4**	**+0.9**
	comp=Z,183nm,0.7s					
TRTT	**Trang**	**46.19 243**	P	**P**	**22 46 09.6**	**+0.9**
	comp=Z,96nm,1.1s,comp=Z,953nm					
PKI	**Pulchoki**	**46.65 276**	*e*P	**P**	**22 46 13.1**	**+0.5**
	comp=Z,182nm,0.8s					
PKIN	**Phulchoki**	**46.66 276**	*e*P	**P**	**22 46 13.1**	**+0.5**
	comp=Z,129nm,0.7s					
KKN	**Kakani**	**46.66 276**	*e*P	**P**	**22 46 13.4**	**+0.8**
	comp=Z,230nm,0.9s					
DMN	**Daman**	**46.88 276**	*e*P	**P**	**22 46 15.0**	**+0.7**
	comp=Z,124nm,0.9s					
JRMM	**Jerantut**	**47.04 236**	P	**P**	**22 46 15.0**	**-0.3**
GKN	**Gorkha**	**47.10 277**	*e*P	**P**	**22 46 16.8**	**+0.9**
	comp=Z,922nm,1.0s					
PKDT	**Phuket**	**47.14 244**	P	**P**

MYKOM **Kota Tinggi** 47.70 233 P **P** **22 46 20.0 -0.4**
SOEI **Soe** 47.81 201 P **P** **22 46 20.2 -1.1**
BOK **Bokaro** 47.92 271 *i* P **P** **22 46 23.0 +0.9**
BOK IAmb IAmb 22 46 24.3
comp=Z,53nm,0.8s
TPRI **Tanjung Pinang** 47.93 231 P **P** **22 46 22.6 +0.4**
KOLN **Koldanda** 48.03 277 *eP* **P** **22 46 23.9 +0.8**
comp=Z,498nm,1.2s
AAA **Alma-Ata** 48.15 299 *eP* **P** **22 46 25.1 +1.4**
AAA *eS* **S** **22 53 16.0 -1.8**
AAA pmax pmax
comp=Z,500nm,4.3s
AAA smax smax
comp=N,500nm,16.1s
AAA MLR MLR
comp=Z,900nm,16.0s
KDJ **Kajisay** 48.22 297 IAmb IAmb 22 46 35.5
comp=Z,53nm,0.8s
OHAK **Old Harbor** 48.33 42 IAmb IAmb 22 46 40.7
comp=Z,38nm,0.9s
BATI **Baumata** 48.42 202 P **P** **22 46 24.6 -1.3**
RSO **Redoubt South** 48.46 38 P **P** **22 46 27.6 +1.6**
KDAK **Kodiak Island** 48.67 41 P **P** **22 46 28.3 +0.9**
KDAK pmax pmax
comp=Z,80nm,1.0s
KDAK **Kodiak Island** 48.67 41 P **P** **22 46 28.2 +0.8**
comp=Z,41nm,0.8s,baz=278,slow=4.5,SNR=37
KDAK **Kodiak Island** 48.67 41 P **P** **22 46 28.3 +0.9**
PPLA **Purkeypile** 48.71 34 IAmb IAmb 22 47 07.2
comp=Z,59nm,1.0s
ULHL **Ulahol** 48.86 298 P **P** **22 46 31.1 +1.7**
SNR=5.7
TPI **Tanjungpandan** 48.94 225 P **P** **22 46 30.1 +0.2**
comp=Z,89nm,1.0s,comp=Z,994nm
SKT **Skwentna** 49.02 36 IAmb IAmb 22 47 04.2
comp=Z,25nm,1.0s
TKM2 **Tokmak 2** 49.15 299 P **P** **22 46 33.4 +1.8**
SNR=91
PLAI **Plampang** 49.21 210 P **P** **22 46 29.7 -2.2**
NRN **Naryn** 49.25 297 IAmb IAmb 22 46 42.0
comp=Z,51nm,0.8s
BPAW **Bear Paw Mtn.** 49.26 33 IAmb IAmb 22 46 35.7
comp=Z,19nm,0.6s
CNPM **China Poot** 49.26 39 IAmb IAmb 22 46 48.2
comp=Z,32nm,0.8s
KMMI **Kalianget** 49.27 215 P **P** **22 46 33.2 +0.8**
KTH **Kantishna Hill** 49.29 33 IAmb IAmb 22 46 59.3
comp=Z,71nm,1.0s
WBSI **Waikabubak, Su** 49.33 207 P **P** **22 46 32.0 -0.9**
MLY **Manley** 49.38 32 IAmb IAmb 22 46 35.6
comp=Z,44nm,0.8s
SUA **Susitna One** 49.41 36 IAmb IAmb 22 46 52.1
comp=Z,37nm,0.8s
BRLK **Bradley Lake** 49.42 38 IAmb IAmb 22 46 36.2
comp=Z,40nm,0.9s
TWSI **Taliwang, Sumb** 49.49 211 P **P** **22 46 31.6 -2.5**
TRF **Thorofare Moun** 49.57 34 IAmb IAmb 22 46 54.4
comp=Z,32nm,0.9s
KZA **Kyzart** 49.62 298 P **P** **22 46 37.6 +2.2**
SNR=27
SRBI **Singaraja** 49.62 213 P **P** **22 46 35.7 +0.6**
BWNR **Bhubaneshwar** 49.67 267 *eP* **P** **22 46 34.7 -0.8**
BWNR IAmb IAmb 22 46 36.5
comp=Z,53nm,1.8s
KBK **Karagaybulak** 49.68 299 P **P** **22 46 36.8 +1.2**
SNR=147
COEN **Coen** 49.72 176 IAmb IAmb 22 46 56.7
comp=Z,52nm,0.9s
CHMS **Chumysh** 49.73 299 P **P** **22 46 37.0 +1.2**
SNR=62
KSH **Kashi** 49.81 294 P **P** **22 46 41.1 +4.5**
KSH sP sP 22 47 04.4 +3.5
KSH PcP **PcP** **22 48 01.1 +4.7**
KSH S **S** **22 53 47.1 +5.7**
KSH sS sS 22 54 13.8 +3.9
KSH SS **SS** **22 57 17.6 +3.2**
KSH pmax pmax
comp=Z,140nm,1.1s
KSH pmax pmax
comp=Z,1μm,6.0s
KSH LR LR
comp=Z,1μm,16.2s
KSH LR LR
comp=Z,2μm,14.4s
KSH LR LR
comp=Z,2μm,17.1s
USP **Ospenovka** 49.84 300 P **P** **22 46 37.4 +0.8**
SNR=58
GRJI **Gresik** 49.87 217 P **P** **22 46 37.1 +0.2**
RC01 **Rabbit Creek A** 49.91 37 IAmb IAmb 22 47 02.2
comp=Z,52nm,0.9s
LHMI **Lhok Sumawe** 49.95 243 P **P** **22 46 37.5 -0.2**
TOLK **Toolik Lake Re** 49.96 27 P **P** **22 46 38.7 +1.6**
baz=267,SNR=12
TOLK **Toolik Lake Re** 49.96 27 IAmb IAmb 22 46 60.0
comp=Z,35nm,0.9s
AAK **Ala-Archa** 50.01 299 *i* P **P** **22 46 38.9 +0.8**
SNR=74
AAK **Ala-Archa** 50.01 299 P **P** **22 46 39.1 +1.0**
SNR=22
AAK P **P** **22 46 39.1 +1.0**
SNR=22
AAK **Ala-Archa** 50.01 299*c* *iP* **P** **22 46 38.9 +0.8**
AAK pmax pmax
comp=Z,71nm,1.3s
AAK **Ala-Archa** 50.01 299 P **P** **22 46 39.1 +1.0**
comp=Z,58nm,1.1s,baz=100,slow=6.0,SNR=8.8
AAK LR LR 23 10 56.0
comp=Z,491nm,19.0s,baz=58,slow=40
AAK **Ala-Archa** 50.01 299 P **P** **22 46 39.2 +1.1**
SNR=61
AAK **Ala-Archa** 50.01 299 IAmb IAmb 22 46 41.4
comp=Z,51nm,1.0s
UCH **Uchtor** 50.11 298 P **P** **22 46 40.4 +1.3**
SNR=23
MCK **McKinley** 50.17 33 IAmb IAmb 22 46 56.6
comp=Z,50nm,0.9s
PMR **Palmer** 50.18 36 IAmb IAmb 22 47 12.4
comp=Z,35nm,0.9s
RND **Reindeer** 50.22 34 IAmb IAmb 22 46 56.7
comp=Z,50nm,0.8s
RGRI **Rengat** 50.30 233 P **P** **22 46 40.8 +0.5**
RPSI **Rantau Prapat** 50.33 239 IAmb IAmb 22 46 44.1
comp=Z,55nm,1.0s
JAGI **Jajag, Banyuwa** 50.44 214 P **P** **22 46 40.3 -1.0**
JAGI **Jajag, Banyuwa** 50.44 214 IAmb IAmb 22 46 43.9
comp=Z,52nm,1.0s
BVAR **Borovoye Array** 50.47 313 P **P** **22 46 41.7 +0.6**
comp=Z,30nm,0.8s,baz=77,slow=7.6,SNR=63
KNK **Knik Glacier** 50.51 36 IAmb IAmb 22 46 58.8
comp=Z,44nm,0.8s
EKS2 **Erkin-Say** 50.51 299 P **P** **22 46 42.9 +1.1**
SNR=27
WRH **Wood River Hil** 50.52 32 IAmb IAmb 22 47 09.6
comp=Z,51nm,1.1s
BRVK **Borovoye** 50.53 313 P **P** **22 46 42.1 +0.5**
SNR=44
BRVK **Borovoye** 50.53 313*c* *iP* **P** **22 46 42.1 +0.5**
BRVK pmax pmax
comp=Z,100nm,1.0s
BRVK **Borovoye** 50.53 313 P **P** **22 46 41.2 -0.4**
TCOL **CIGO, UAF Yank** 50.60 32 P **P** **22 46 43.6 +1.7**
baz=272,SNR=12
COLA **College** 50.61 32⇑ *eP* **P** **22 46 42.5 +0.5**
COLA pmax pmax
comp=Z,33nm,0.6s
COLA **College** 50.61 32 P **P** **22 46 43.4 +1.5**
BKNI **Bangkinang** 50.63 234 P **P** **22 46 43.0 +0.2**
AML **Almayashu** 50.72 298 P **P** **22 46 45.4 +1.7**
SNR=51
NGJI **Ngawi** 50.76 218 P **P** **22 46 43.4 -0.3**
PMBI **Palembang** 50.77 228 P **P** **22 46 44.3 +0.4**
POKR **Poker Plat Res** 50.77 31 P **P** **22 46 45.1 +1.8**
baz=272,SNR=48
DHY **Denali Highway** 50.90 34 IAmb IAmb 22 47 20.0
comp=Z,67nm,1.4s
CMBY **CAMPBELL BAY** 50.98 247 *i* P **P** **22 46 46.9 +1.5**
CMBY IAmb IAmb 22 46 49.6
comp=Z,104nm,1.1s
SMRI **Semarang** 51.00 219 P **P** **22 46 45.6 +0.1**
MLSI **Meulaboh, Aceh** 51.00 242 P **P** **22 46 44.5 -1.1**
HDA **Harding Lake** 51.01 32 P **P** **22 46 45.7 +0.6**
baz=273,SNR=34
SCM **Sheep Creek Mo** 51.02 36 IAmb IAmb 22 47 13.2
comp=Z,45nm,0.7s
IL31 51.02 32 IAmb IAmb 22 46 50.0
comp=Z,52nm,0.8s
ILAR **Eielson Array** 51.02 32 P **P** **22 46 45.6 +0.5**
comp=Z,47nm,0.8s,baz=271,slow=6.2,SNR=296
ILAR LR LR 23 09 42.0
comp=Z,283nm,21.2s,baz=261,slow=37
PWJI **Pagerwojo** 51.15 217 P **P** **22 46 44.4 -2.2**
GLI **Glacier Island** 51.22 37 IAmb IAmb 22 46 58.8
comp=Z,43nm,0.9s
SDSI **Sungai Dareh** 51.33 233 P **P** **22 46 47.3 -0.7**
DDI **Dehra Dun** 51.42 283 *i* P **P** **22 46 49.7 +1.0**
DDI IAmb IAmb 22 46 54.9
comp=Z,158nm,1.0s
PRP **Porcupine Dome** 51.56 31 IAmb IAmb 22 47 16.1
comp=Z,36nm,0.8s
UGM **Wanagama** 51.69 218 P **P** **22 46 52.4 +1.7**
PAX **Paxson** 51.78 34 IAmb IAmb 22 47 26.7
comp=Z,30nm,1.0s
SMLA **Simla** 51.80 284 *eP* **P** **22 46 51.9 +0.5**
SMLA IAmb IAmb 22 46 53.3
comp=Z,182nm,0.9s
SMLA *eS* **S** **22 54 01.8 -7.1**
EYAK **Cordova Ski Ar** 51.91 37 IAmb IAmb 22 47 09.9
comp=Z,40nm,0.8s
RIDG **Independent Ri** 51.98 33 IAmb IAmb 22 47 34.3
comp=Z,43nm,1.0s
KPJI **Karang Pucung** 52.02 220 P **P** **22 46 51.8 -1.3**
DHRM **DHARAMSHALA** 52.05 286 *i* P **P** **22 46 53.8 +0.3**
DHRM IAmb IAmb 22 46 59.6
comp=Z,319nm,1.2s
KRJI **Kerinci** 52.18 232 P **P** **22 46 54.6 +0.1**
LHSI **Lahat** 52.24 229 P **P** **22 46 54.9 +0.1**
comp=Z,284nm,0.9s
GSI **Gunungsitoli** 52.26 239 P **P** **22 46 54.9 -0.1**
LEM **Lembang** 52.30 222 P **P** **22 46 55.7 +0.3**
DOT **Dot Lake** 52.34 33 IAmb IAmb 22 47 13.0
comp=Z,39nm,0.7s
SNSI **Sinabang, Aceh** 52.35 241 P **P** **22 46 55.5 -0.2**
BLSI **Bandar Lampung** 52.45 226 P **P** **22 46 55.6 -0.7**
comp=Z,231nm,0.4s
RAGM **Ragged Mountai** 52.46 37 IAmb IAmb 22 47 30.5
comp=Z,54nm,0.8s
MASI **Maura Aman, Be** 52.50 230 P **P** **22 46 57.0 +0.2**
NDI **New Delhi** 52.76 281 *eP* **P** **22 46 59.0 +0.4**
LWLI **Liwa** 52.86 227 P **P** **22 46 58.9 -0.6**
comp=Z,101nm,0.7s,comp=Z,13μm
VRDI **Verde Repeater** 52.93 36 IAmb IAmb 22 47 30.9
comp=Z,55nm,1.1s
KASI **Kota Agung** 53.01 226 P **P** **22 46 58.2 -2.3**
CGJI **Cibinong** 53.20 224 P **P** **22 46 59.3 -2.5**
TGL **Tana Glacier** 53.30 37 IAmb IAmb 22 47 37.8
comp=Z,39nm,0.9s
WAX **Waxell Ridge** 53.34 37 IAmb IAmb 22 47 27.8
comp=Z,61nm,1.0s
BTK **Batken** 53.42 297 IAmb IAmb 22 47 46.5
comp=Z,55nm,1.0s
EGAK **Eagle** 53.47 32 IAmb IAmb 22 47 20.9
comp=Z,29nm,0.8s
BALM **Baldy** 53.49 36 IAmb IAmb 22 47 29.6
comp=Z,45nm,1.0s
MESA **MESA** 53.83 37 IAmb IAmb 22 47 24.4
comp=Z,43nm,0.8s
NIL **Nilore** 53.88 288 P **P** **22 47 07.9 +1.1**
NIL pmax pmax
comp=Z,113nm,1.1s
NIL **Nilore** 53.88 288 P **P** **22 47 07.9 +1.1**
CTGM **Chitina Glacie** 53.99 36 IAmb IAmb 22 47 41.5
comp=Z,36nm,0.9s
NGP **Nagpur** 54.73 272 *eP* **P** **22 47 12.4 -0.7**
EPYK **Eagle Plains** 55.03 29 P **P** **22 47 16.4 +1.8**
baz=280,SNR=54
BHPL **Bhopal** 55.04 275⇑ *iP* **P** **22 47 14.2 -1.1**
BHPL IAmb IAmb 22 47 16.6
comp=Z,74nm,1.3s
SVE **Sverdlovsk** 55.22 319*d* *iP* **P** **22 47 16.9 +0.9**
SVE *eS* **S** **22 54 53.4 -0.9**
SVE pmax pmax
comp=Z,140nm,1.2s
SVE MLR MLR
comp=Z,867nm,16.0s
WRAB **Tennant Creek** 55.83 186*c* *iP* **P** **22 47 20.3 -0.4**
WRAB pmax pmax
comp=Z,83nm,1.4s
WRAB **Tennant Creek** 55.83 186 P **P** **22 47 20.4 -0.4**
WRA **Warramunga Arr** 55.84 186 P **P** **22 47 20.4 -0.5**
comp=Z,31nm,0.5s,baz=1.0,slow=7.4,SNR=367
WRA S **S** **22 55 02.5 -0.8**
comp=Z,2.6nm,1.1s,baz=359,slow=13,SNR=3.8
WRA LR LR 23 11 11.7
comp=Z,368nm,20.1s,baz=10.0,slow=36
HYT **Haines Junctio** 55.85 36 IAmb IAmb 22 47 53.1
comp=Z,64nm,1.0s
INK **Inuvik** 55.87 27 P **P** **22 47 21.7 +1.2**
comp=Z,35nm,0.6s,baz=293,slow=6.4,SNR=152
INK **Inuvik** 55.87 27 IAmb IAmb 22 47 22.6
comp=Z,37nm,0.7s
ARU **Arti** 56.43 319*c* *iP* **P** **22 47 25.2 +0.5**
ARU *PP **pP** **22 47 44.6 +2.8**
ARU 22 48 21.2
ARU 22 49 30.2
ARU PPP PPP 22 50 46.7
ARU S **S** **22 55 12.9 +2.5**
ARU SS **SS** **22 58 57.9 +0.1**
ARU pmax pmax
comp=Z,212nm,1.5s
ARU MLR MLR
comp=Z,992nm,17.0s
ARU **Arti** 56.43 319 P **P** **22 47 25.3 +0.5**
comp=Z,24nm,0.6s,baz=76,slow=3.6,SNR=135
ARU **Arti** 56.43 319 P **P** **22 47 25.0 +0.3**
KBL **Kabul** 56.74 291 P **P** **22 47 27.6 0.0**
KBL pmax pmax
comp=Z,47nm,1.0s
KBL **Kabul** 56.74 291 P **P** **22 47 27.6 0.0**
KBL IAmb IAmb 22 47 33.8
comp=Z,47nm,0.9s
HYB **Hyderabad** 57.03 268 *i* P **P** **22 47 30.0 +0.3**
comp=Z,100nm,1.0s
HYB *eS* **S** **22 55 20.0 +0.5**
HYB **Hyderabad** 57.03 268 *i* P **P** **22 47 29.9 +0.3**
HYB IAmb IAmb 22 47 30.5
comp=Z,55nm,0.8s
WHY **Whitehorse** 57.14 36 IAmb IAmb 22 48 01.8
comp=Z,45nm,1.0s
SKAG **Skagway** 57.25 37 IAmb IAmb 22 48 05.6
comp=Z,37nm,0.9s
A36M **Sachs Harbour** 57.69 22 P **P** **22 47 34.9 +1.5**
baz=287,SNR=23
MDRS **Chennai** 58.02 263 *eP* **P** **22 47 37.6 +1.1**
MDRS IAmb IAmb 22 47 38.6
comp=Z,37nm,0.7s
JIS **Juneau Island** 58.07 38 IAmb IAmb 22 47 56.0
comp=Z,60nm,1.1s
AKTO **Aktyubinsk** 58.56 312 P **P** **22 47 39.9 +0.1**
comp=Z,24nm,0.8s,baz=76,slow=7.5,SNR=40
C36M **Paulatuk** 58.89 24 P **P** **22 47 42.8 +1.0**
baz=290,SNR=34
ASAR **Alice Springs** 59.56 186 P **P** **22 47 46.8 -0.2**
comp=Z,14nm,0.8s,baz=12,slow=6.1,SNR=128
ASAR S **S** **22 55 52.0 0.0**
comp=Z,2.4nm,1.0s,baz=20,slow=19,SNR=4.0
ASAR LR LR 23 13 29.1
comp=Z,398nm,20.5s,baz=15,slow=36
MBWA **Marble Bar** 59.95 202 P **P** **22 47 49.8 +0.2**
SNR=14
MBWA P **P** **22 47 49.8 +0.2**
SNR=14
KIRV **Kirov** 60.43 323 P **P** **22 47 53.3 +0.8**
comp=Z,157nm,0.7s,baz=75,slow=3.3,SNR=64
KAD **Karad** 60.64 271 *eP* **P** **22 47 54.9 +0.3**
PALK **Pallekele** 61.02 257 *i* P **P** **22 47 58.0 +0.8**
SNR=9.8
PALK **Pallekele** 61.02 257*c* *iP* **P** **22 47 58.0 +0.8**
PALK pmax pmax
comp=Z,84nm,0.8s
PALK **Pallekele** 61.02 257 P **P** **22 47 58.6 +1.4**
PRGR **Permogore** 61.06 327⇑ *iP* **P** **22 47 57.2 +0.5**
PRGR *e* 22 50 12.1
PRGR pmax pmax
comp=Z,110nm,1.1s
SPA0 **Spitsbergen Ar** 61.37 349 *eP* **P** **22 47 59.5 +0.9**
SPITS **Spitsbergen Ar** 61.37 349 P **P** **22 47 59.1 +0.4**
comp=Z,6.3nm,0.6s,baz=84,slow=9.3,SNR=9.2
KBS **Kingsbay** 61.53 350*ce*P **P** **22 48 01.9 +2.2**
KBS pmax pmax
comp=Z,656nm,2.5s
EIDS **Eidsvold** 61.87 169 IAmb IAmb 22 48 03.8
comp=Z,30nm,0.8s
GOA **Goa** 61.89 269 *eP* **P** **22 48 03.3 +0.2**
GOA *i* P **P** **22 48 03.8 +0.7**
GOA IAmb IAmb 22 48 04.2
comp=Z,74nm,0.8s
HRA **Herat** 61.91 294 IAmb IAmb 22 48 35.3
comp=Z,35nm,0.9s
LVZ **Lovozero** 62.64 336⇓ *iP* **P** **22 48 07.7 +0.4**
LVZ pmax pmax
comp=Z,56nm,1.2s
LVZ **Lovozero** 62.64 336 P **P** **22 48 07.3 0.0**
LVZ IAmb IAmb 22 48 09.3
comp=Z,74nm,1.3s
DZM **Mont Dzumac** 62.89 152 *eP* **P** **22 48 11.0 +1.4**
comp=Z,245nm,1.4s
DZM **Mont Dzumac** 62.89 152 *e*LR LR 23 07 03.0
comp=Z,2μm,24.4s
DZM **Mont Dzumac** 62.89 152 LR LR 23 12 36.9
comp=Z,550nm,22.0s,baz=26,slow=33
TMCR **Tamitsa** 63.15 331 *eP* **P** **22 48 10.4 -0.3**
TMCR pmax pmax
comp=Z,155nm,1.3s
APA **Apatity** 63.21 336⇓ *iP* **P** **22 48 09.9 -1.2**
APA pmax pmax
comp=Z,40nm,0.9s
APA MLR MLR
comp=Z,2μm,17.0s
TRD **Trivandrum** 63.27 261 *eP* **P** **22 48 12.3 +0.1**
TRD IAmb IAmb 22 48 13.3
comp=Z,63nm,1.1s
GEYT **Alibeck** 63.36 299 P **P** **22 48 13.5 +0.9**
comp=Z,30nm,0.9s,baz=46,slow=4.3,SNR=79
GEYT LR LR 23 17 55.4
comp=Z,614nm,18.4s,baz=35,slow=38
GYA0B **ALIBECK ARRAY** 63.36 299 IAmb IAmb 22 48 41.2
comp=Z,54nm,1.1s
RES **Resolute Bay** 63.94 14 IAmb IAmb 22 48 40.5
comp=Z,29nm,0.9s
KEV **Kevo** 64.06 339 P **P** **22 48 17.2 +0.6**
KEV pmax pmax
comp=Z,191nm,1.8s
KEV **Kevo** 64.06 339 P **P** **22 48 17.2 +0.6**
KLMR **Klimovskoe** 64.07 328 *eP* **P** **22 48 14.7 -2.0**
KLMR *e* 22 50 36.4
KLMR pmax pmax
comp=Z,161nm,1.4s
KLMR **Klimovskoe** 64.07 328 *eP* **P** **22 48 14.8 -2.0**
KLMR AMP 22 48 18.3
comp=Z,161nm,1.4s
KLMR *e*PP **PP** **22 50 36.5 -1.4**
KLMR LQ LQ 23 10 01.8
KLMR LQ LQ 23 10 01.8
KLMR LR LR 23 14 35.7
MSVF **Nonsavu** 64.40 139 pP 22 48 39.7 +2.7
HAMF **Hammerfest** 64.47 341 *eP* **P** **22 48 19.7 +0.5**
ARCES **ARCESS Array B** 64.61 339 P **P** **22 48 20.9 +0.6**
comp=Z,29nm,0.8s,baz=46,slow=8.9,SNR=50
ARCES LR LR 23 22 09.4
comp=Z,845nm,18.0s,baz=30,slow=41
ARE0 **ARCESS Array S** 64.61 339 *eP* **P** **22 48 20.8 +0.6**
YKA **Yellowknife Ar** 65.32 30 P **P** **22 48 25.2 +0.3**
comp=Z,7.3nm,0.7s,baz=306,slow=6.8,SNR=14
KTK1 **Kautokeino** 65.58 339 *eP* **P** **22 48 27.1 +0.6**
TULEG **Thule** 66.33 7 IAmb IAmb 22 48 48.6
comp=Z,67nm,1.3s
TRO **Tromso** 66.37 341 *eP* **P** **22 48 31.9 +0.3**
DAG **Danmarks Havn** 66.76 355⇑ *iP* **P** **22 48 34.3 +0.4**
DAG pmax pmax
comp=Z,72nm,1.1s
DAG **Danmarks Havn** 66.76 355⇑ *iP* **P** **22 48 34.3 +0.4**
comp=Z,57nm,1.1s
FORT **Forrest** 67.31 191 P **P** **22 48 38.4 +0.5**
MOS **Moscow** 67.44 323 *eP* **P** **22 48 36.9 -1.7**
MOS *e*PP **pP** **22 48 56.1 -0.1**
MOS *e* 22 49 04.8
MOS *e* 22 51 06.0
MOS *e*PPP PPP 22 52 43.8
MOS *e*S **S** **22 57 23.1 -6.2**
MOS *e*SS **sS** **22 57 58.3 -1.1**
MOS *e* 22 58 28.9
MOS *e*SS **SS** **23 01 46.0 -3.7**
MOS pmax pmax
comp=Z,190nm,1.2s
MOS pmax pmax
comp=Z,300nm,1.4s
MOS MLR MLR
comp=Z,800nm,17.0s
MOS MLR MLR
comp=E,400nm,16.0s
MOS MLR MLR
comp=N,600nm,18.0s
STKA **Stephens Creek** 67.48 179 P **P** **22 48 39.3 +0.3**
comp=N,36nm,0.8s,baz=344,slow=7.6,SNR=57
STKA LR LR 23 17 21.5
comp=N,292nm,22.0s,baz=9.2,slow=35
VRH **Novokhopyorsk** 67.62 318 *eP* **P** **22 48 39.3 -0.5**
VRH pmax pmax
comp=Z,120nm,1.2s
VRH MLR MLR
comp=Z,890nm,16.0s
MAK **Makhachkala** 68.23 308 *eP* **P** **22 48 43.2 -0.6**
MAK *e*PP **pP** **22 49 00.9 -0.5**
MAK *e*SP **sP** **22 49 08.9 +0.2**
MAK *e*S **S** **22 57 38.6 -0.5**
MAK *e*SS **sS** **22 58 12.0 +2.7**
MAK pmax pmax
comp=Z,108nm,1.1s
MAK MLR MLR
comp=Z,889nm,16.0s
OBN **Obninsk** 68.28 323*c* *iP* **P** **22 48 43.9 0.0**
OBN *e*PP **pP** **22 49 04.4 +2.9**
OBN *e* 22 49 08.8
OBN *e* 22 51 14.2
OBN *e*PPP PPP 22 52 54.7
OBN *e*S **S** **22 57 32.4 -6.9**
OBN *e*SS **SS** **23 02 00.9 -1.8**
OBN pmax pmax
comp=Z,144nm,1.3s
OBN MLR MLR
comp=Z,762nm,16.0s
OBN **Obninsk** 68.28 323 P **P** **22 48 44.2 +0.4**
comp=Z,13nm,0.7s,baz=58,slow=2.2,SNR=21
OBN **Obninsk** 68.28 323 P **P** **22 48 44.1 +0.2**
NLWA **Neilton Lookou** 68.29 47 IAmb IAmb 22 49 11.1
comp=Z,42nm,0.8s
LPSR **Galich'ya Gora** 68.41 320 *eP* **P** **22 48 44.8 +0.1**
LPSR pmax pmax
comp=Z,110nm,0.8s
LPSR MLR MLR
comp=Z,1μm,16.0s
MORW **Morawa** 68.49 202 IAmb IAmb 22 48 46.7
comp=Z,41nm,0.9s
BBOO **Buckleboo** 68.49 184 IAmb IAmb 22 48 46.7
comp=Z,44nm,0.8s
STEI **Steigen** 68.52 341 *eP* **P** **22 48 45.7 +0.6**
PUL **Pulkovo** 68.54 329⇓ *iP* **P** **22 48 46.4 +1.0**
PUL pmax pmax
comp=Z,141nm,1.0s
D03D **Eldon** 68.68 46 P **P** **22 48 48.6 +2.1**
baz=300,SNR=8.1
VORR **Voronezh** 68.74 319 P **P** **22 48 45.0 -1.8**
VORR pmax pmax
comp=Z,250nm,1.2s
AKT **Akhty** 68.81 306 *eP* **P** **22 48 47.9 +0.3**
AKT *e* 22 49 11.4
AKT pmax pmax
comp=Z,47nm,0.8s
B05A **Bryant** 68.89 45 P **P** **22 48 49.2 +1.5**
baz=301,SNR=7.0
VSR **Storozhevoye** 69.00 319*c* *iP* **P** **22 48 48.4 0.0**
VSR pmax pmax
comp=Z,191nm,1.1s
D04E **Lakebay** 69.04 46 P **P** **22 48 51.4 +2.7**
baz=300
VORD **Divnogorie** 69.06 318 *eP* **P** **22 48 48.4 -0.4**
VORD pmax pmax
comp=Z,60nm,0.9s
GROC **Groznyy** 69.20 309 *eP* **P** **22 48 48.7 -1.1**
GROC *e*PP **pP** **22 49 05.0 -2.4**
GROC *e*SP **PcP** **22 49 11.2 -2.0**
GROC *e* 22 51 20.7
GROC *e*S **S** **22 57 49.5 -1.1**
GROC pmax pmax
comp=Z,43nm,1.2s
FINES **FINESS Array B** 69.24 332 P **P** **22 48 50.0 +0.3**

comp=Z,53nm,0.8s,baz=90,slow=5.9,SNR=109
FINES LR LR 23 22 40.9
comp=Z,500nm,18.4s,baz=52,slow=39
E04D Cinebar 69.48 47 P **P 22 48 53.4 +1.9**
baz=301,SNR=8.3
D05A Enumclaw 69.50 46 IAmb IAmb 22 49 12.0
comp=Z,52nm,1.0s
G03D McMinnville, O 69.75 48 P **P 22 48 55.1 +2.0**
baz=301
C06D Leavenworth 69.75 45 P **P 22 48 54.6 +1.4**
baz=301
F04A Amboy 69.89 47 IAmb IAmb 22 49 20.3
comp=Z,38nm,0.8s
I02D Swisshome 69.96 50 P **P 22 48 55.8 +1.3**
baz=301
MOR8 Moi Rana 69.99 339 *e*P **P 22 48 53.7 -0.5**
COR Corvallis 70.05 49 P **P 22 48 58.1 +3.1**
COR pmax pmax
comp=Z,57nm,1.1s
COR Corvallis 70.05 49 P **P 22 48 58.1 +3.1**
COR IAmb IAmb 22 49 28.8
comp=Z,57nm,1.1s
WBK Wadi Bani Khal 70.11 284 P **P 22 48 56.7 +1.0**
KONS Konsvik 70.12 340 *e*P **P 22 48 55.7 +0.6**
KEBM Edson Butte 70.29 51 IAmb IAmb 22 49 32.5
comp=Z,64nm,1.0s
J01E Myrtle Point 70.39 51 P **P 22 48 59.1 +2.0**
baz=301
H04D Lebanon 70.43 49 P **P 22 48 59.2 +1.9**
baz=301
NCK Nalchik 70.43 310 ⇓*i*P **P 22 48 58.2 +0.8**
BANOM Banah 70.47 288 *i* P **P 22 48 58.1 +0.2**
SNR=8.2
BANOM Banah 70.47 288 P **P 22 48 58.8 +0.8**
SNR=6.7
BANOM P **P 22 48 58.8 +0.8**
SNR=6.7
I03D Drain, OR 70.48 50 P **P 22 48 59.6 +2.0**
baz=301
F05D White Salmon 70.49 47 P **P 22 48 59.6 +1.9**
baz=302
SHME Shamm 70.53 288 *i* P **P 22 48 58.7 +0.4**
SNR=27
SMDO Samad 70.59 285 P **P 22 48 59.4 +0.6**
SNR=8.3
ZEI Tsey 70.61 309 *e*P **P 22 48 56.0 -2.7**
ZEI pmax pmax
comp=Z,35nm,1.0s
KBZ Khabaz 70.74 310 P **P 22 49 00.0 +0.8**
comp=Z,67nm,0.9s,baz=64,slow=5.2,SNR=139
KBZ LR LR 23 24 03.8
comp=Z,540nm,19.2s,baz=54,slow=39
KIV Kislovodsk 70.76 311 *i* P **P 22 49 00.1 +0.6**
SNR=86
KIV Kislovodsk 70.76 311 P **P 22 49 00.4 +1.0**
SNR=46
KIV P **P 22 49 00.4 +1.0**
SNR=46
KIV Kislovodsk 70.76 311 *e*P **P 22 49 00.1 +0.6**
KIV *e*S **S 22 58 10.5 +1.4**
KIV pmax pmax
comp=Z,502nm,1.1s
KIV pmax pmax
comp=Z,454nm,4.7s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 70.76 311 P **P 22 49 00.1 +0.6**
MDH Madha 70.80 288 P **P 22 48 59.5 -0.4**
MDH Madha 70.80 288 P **P 22 48 59.5 -0.4**
K02D Willamette Mer 70.80 51 P **P 22 49 01.5 +1.8**
baz=301
VSU Vasula 70.81 329 *c i*P **P 22 48 59.6 +0.2**
VSU pmax pmax
comp=Z,325nm,1.2s
VSU Vasula 70.81 329 *e*P **P 22 49 00.1 +0.7**
VSU IAmb IAmb 22 49 00.9
comp=Z,201nm,0.6s
MSFE Esma-Masafi 70.87 288 *i* P **P 22 49 00.8 +0.4**
SNR=11
HOQ Hoqain 70.90 286 P **P 22 49 01.0 +0.5**
SNR=10
G05D Wamic, OR 70.91 48 P **P 22 49 02.5 +2.2**
baz=302
UOSS Minazif 71.05 287 *i* P **P 22 49 01.5 +0.1**
SNR=8.5
UOSS Minazif 71.05 287 P **P 22 49 01.6 +0.1**
UOSS P **P 22 49 01.6 +0.1**
UOSS Minazif 71.05 287 P **P 22 49 02.2 +0.8**
UOSS IAmb IAmb 22 49 22.3
comp=Z,48nm,1.1s
L02E Cave Junction 71.12 51 P **P 22 49 03.6 +1.9**
baz=302
UMQ Umm Al-Quwin 71.17 288 P **P 22 49 03.7 +1.6**
UMQ P **P 22 49 03.7 +1.6**
HATD Hatta, Dubai 71.17 287 *i* P **P 22 49 02.7 +0.6**
SNR=20
HATD Hatta, Dubai 71.17 287 P **P 22 49 02.9 +0.7**
SNR=8.8
ASHO Ashiyiah 71.30 287 *i* P **P 22 49 03.4 +0.4**
SNR=17
ASHO Ashiyiah 71.30 287 P **P 22 49 03.7 +0.7**
SNR=12
I05D Terrebonne, OR 71.38 48 P **P 22 49 04.8 +1.6**
baz=302
F07A Phinny Hill Vi 71.39 47 IAmb IAmb 22 49 33.1
comp=Z,30nm,0.8s
CAN Canberra 71.39 172 IAmb IAmb 22 49 04.7
comp=Z,78nm,1.3s
CAN **PcP 22 49 22.9 +0.5**
BSY Bisya 71.43 285 P **P 22 49 04.4 +0.6**
SNR=6.6
GNI Garni 71.44 306 P **P 22 49 05.3 +1.5**
GNI Garni 71.44 306 P **P 22 49 05.2 +1.4**
SNR=5.8
GNI Garni 71.44 306 *c i*P **P 22 49 05.2 +1.4**
GNI pmax pmax
comp=Z,257nm,1.1s
GNI Garni 71.44 306 P **P 22 49 05.7 +2.0**
GNI IAmb IAmb 22 49 42.4
comp=Z,73nm,1.0s
NAZ Nazwa, Dubai 71.45 288 P **P 22 49 04.2 +0.3**
NAZ Nazwa, Dubai 71.45 288 P **P 22 49 04.2 +0.3**
SNR=6.0
NAZ P **P 22 49 04.2 +0.3**
SNR=6.0
J04D Umpqua Nationa 71.49 50 P **P 22 49 06.0 +1.9**
baz=302
AKH Akhalkalaki 71.58 308 ⇓P **P 22 49 06.5 +1.8**
AKH Akhalkalaki 71.58 308 IAmb IAmb 22 49 07.2
comp=Z,43nm,0.9s
ARQ Araqi 71.64 286 P **P 22 49 05.5 +0.4**
SNR=7.2
NEW Newport 71.70 43 P **P 22 49 06.0 +0.9**
baz=304,SNR=12
NEW Newport 71.70 43 IAmb IAmb 22 49 24.4
comp=Z,75nm,1.9s
NWAO Narrogin (SRO) 71.75 200 P **P 22 49 05.6 +0.4**
NWAO pmax pmax
comp=Z,70nm,0.8s
NWAO Narrogin (SRO) 71.75 200 P **P 22 49 05.6 +0.4**
NWAO IAmb IAmb 22 49 06.5
comp=Z,70nm,0.8s
SUMG Summit 71.77 360 *i* P **P 22 49 06.8 +1.3**
SUMG pmax pmax
comp=Z,110nm,0.8s
SUMG Summit 71.77 360 *i* P **P 22 49 06.8 +1.3**
comp=Z,111nm,0.8s
SUMG Summit 71.77 360 IAmb IAmb 22 49 08.8
comp=Z,87nm,1.2s
ALNE Al Ain 71.87 287 *i* P **P 22 49 06.8 +0.4**
SNR=14
ASUD Al Ashush, Dub 71.90 288 *i* P **P 22 49 07.2 +0.7**
SNR=11
ASUD Al Ashush, Dub 71.90 288 P **P 22 49 07.3 +0.7**
SNR=6.6
ASUD P **P 22 49 07.3 +0.7**
SNR=6.6
NSS Namsos 71.90 339 *e*P **P 22 49 06.2 +0.3**
L04D Klamath Falls 71.91 51 P **P 22 49 08.3 +1.8**
baz=302,SNR=13
PINE Pine Mountain 71.91 49 IAmb IAmb 22 49 28.6
comp=Z,52nm,0.9s
YBH Yreka Blue Hor 71.91 51 IAmb IAmb 22 49 40.0
comp=Z,54nm,1.6s
M02C Callahan 72.00 52 P **P 22 49 09.0 +2.0**
baz=302,SNR=9.7
J05D Fort Rock, OR 72.00 49 P **P 22 49 08.8 +1.7**
baz=303,SNR=9.9
N02D Trinity Center 72.32 52 P **P 22 49 10.9 +2.0**
baz=302,SNR=9.6
M04C Macdoel 72.44 51 P **P 22 49 11.3 +1.6**
baz=303,SNR=13
KCPM Cahto Peak 72.44 54 IAmb IAmb 22 49 32.2
comp=Z,67nm,1.4s
BATM Batumi 72.62 309 ⇓P **P 22 49 11.7 +1.1**
DQM DQM 72.65 282 P **P 22 49 11.2 +0.1**
O02D Mt. Diablo Mer 72.69 53 P **P 22 49 13.0 +1.9**
baz=303,SNR=15
IZAR Zarasai 72.71 327 *e*P **P 22 49 11.7 +0.8**
IZAR IAmb IAmb 22 49 12.5
comp=Z,29nm,0.6s
MICGM Minsk 72.75 326 ⇑*e*P **P 22 49 12.0 +0.9**
MICGM PM 22 49 13.0
comp=Z,0.4nm,1.0s
MICGM *e*pP **sP 22 49 33.0 -3.2**
MICGM *e*S **S 22 58 33.0 +1.6**
MICGM *e*sS **pS 22 58 52.0 -1.3**
MICGM *e*LR LR 23 21 48.0
MNK Minsk 72.75 326 ⇑*e*P **P 22 49 12.0 +0.9**
MNK *e**PP **sP 22 49 33.0 -3.2**
MNK *e*S **S 22 58 33.0 +1.6**
MNK pmax pmax
comp=Z,380nm,1.0s
SOC Sochi 72.77 312 *e*P **P 22 49 09.2 -2.2**
SOC *e* 22 51 51.9
SOC *e*S **S 22 58 29.7 -2.3**
SOC *e*SS **SS 23 03 07.4 -4.7**
SOC *e*SSS SSS 23 06 23.9
SOC pmax pmax
comp=Z,52nm,0.8s
SOC MLR MLR
comp=Z,672nm,19.0s
IIGN Ignalina 72.97 327 *e*P **P 22 49 13.4 +1.0**
IIGN IAmb IAmb 22 49 14.1
comp=Z,28nm,0.6s
NACGM Naroch 73.00 326 *e* **P 22 49 13.0 +0.4**
NACGM *e*LQ LQ 23 12 38.0
NACGM *e*LR LR 23 16 44.0
SCO Scoresbysund 73.08 354 *i* P **P 22 49 14.3 +1.6**
SCO pmax pmax
comp=Z,26nm,0.9s
SCO Scoresbysund 73.08 354 *i* P **P 22 49 14.3 +1.6**
comp=Z,26nm,0.9s
SCO Scoresbysund 73.08 354 IAmb IAmb 22 49 15.6
comp=Z,101nm,1.6s
O03E Paynes Creek 73.26 52 P **P 22 49 15.3 +0.8**
baz=303,SNR=10
TOO Toolangi 73.32 175 IAmb IAmb 22 49 36.1
comp=Z,34nm,0.9s
TBLU Trondheim 73.36 339 *e*P **P 22 49 14.1 -0.4**
ANN Anapa 73.46 314 *e*P **P 22 49 13.4 -2.0**
ANN *e**PP **PcP 22 49 26.9 -4.4**
ANN *e*S **S 22 58 37.6 -2.1**
ANN *e*SS **SS 23 03 21.1 -1.4**
ANN pmax pmax
comp=Z,141nm,1.3s
ANN MLR MLR
comp=Z,453nm,18.0s
ANN MLR MLR
comp=N,593nm,18.0s
ANN MLR MLR
comp=E,335nm,18.0s
JTMT Jette 73.57 43 IAmb IAmb 22 49 53.0
comp=Z,29nm,0.8s
PABE Paberze 73.86 328 *e*P **P 22 49 18.4 +0.8**
PABE IAmb IAmb 22 49 18.9
comp=Z,107nm,0.6s
MSO Missoula 74.29 43 P **P 22 49 21.2 +0.7**
baz=306,SNR=9.2
PBUR Paburg 74.38 329 *e*P **P 22 49 21.4 +0.8**
BEKR Beckworth 74.42 52 IAmb IAmb 22 49 42.6
comp=Z,34nm,1.1s
AKASG Malin Array Be 74.46 322 P **P 22 49 21.3 +0.1**
comp=Z,46nm,0.7s,baz=48,slow=6.2,SNR=203
AKASG LR LR 23 24 45.5
comp=Z,1μm,18.3s,baz=40,slow=38
HFS Hagfors 74.61 335 P **P 22 49 22.1 +0.2**
comp=Z,28nm,0.9s,baz=83,slow=4.6,SNR=42
DOMB Dombas 74.64 338 *e*P **P 22 49 22.7 +0.6**
MOL Molde 74.67 339 *e*P **P 22 49 23.3 +1.1**
NB2 NORSAR Subarra 74.75 337 P **P 22 49 22.9 +0.2**
comp=Z,91nm,1.1s,baz=41,slow=5.9
NB2 NORSAR Subarra 74.75 337 P **P 22 49 22.9 +0.2**
baz=41,slow=5.9
NOA NORSAR Array B 74.75 337 P **P 22 49 23.2 +0.5**
comp=Z,37nm,0.9s,baz=40,slow=5.8,SNR=83
NOA PP **PP 22 52 10.8 +0.9**
comp=Z,7.6nm,0.9s,baz=43,slow=8.4,SNR=3.4
NOA LR LR 23 25 23.1
comp=Z,698nm,19.0s,baz=35,slow=38
NAO01 NORSAR Array S 75.00 337 *e*P **P 22 49 24.3 +0.2**
NAO01 NORSAR Array S 75.00 337 IAmb IAmb 22 49 25.0
comp=Z,91nm,1.1s
AKN Aaknes 75.14 339 *e*P **P 22 49 26.4 +1.5**
SUW Suwalki 75.19 327 ⇑*e*P **P 22 49 25.4 +0.1**
SUW Suwalki 75.19 327 *e*P **P 22 49 25.4 +0.1**
SUW *e*P **P 22 49 25.4 +0.1**
FFC Flin Flon 75.23 32 *i* P **P 22 49 26.3 +0.7**
FFC Flin Flon 75.23 32 P **P 22 49 26.1 +0.5**
FFC IAmb IAmb 22 49 27.1
comp=Z,31nm,0.8s
SIM Simferopol' 75.30 315 *c e*P **P 22 49 26.6 +0.4**
SIM *e**PP **pP 22 49 45.0 +1.0**
SIM *e*S **S 22 58 58.0 -2.4**
SIM pmax pmax
comp=Z,80nm,0.8s
PNTR Pine Nut 75.35 52 IAmb IAmb 22 49 48.5
comp=Z,34nm,1.0s
YERR Yerington 75.64 52 IAmb IAmb 22 50 05.1
comp=Z,33nm,0.9s
OSL Oslo 75.74 336 *e*P **P 22 49 29.3 +0.9**
EGMT Eagleton 75.84 41 P **P 22 49 30.3 +0.9**
baz=308,SNR=12
EGMT Eagleton 75.84 41 IAmb IAmb 22 50 20.4
comp=Z,55nm,1.1s
DLMT Dillon 75.92 44 IAmb IAmb 22 49 57.0
comp=Z,30nm,0.8s
SKAR Skarslia 75.93 338 *e*P **P 22 49 30.7 +1.1**
FOO Floro 76.17 340 *e*P **P 22 49 31.0 +0.2**
HYA Hoyanger 76.19 339 *e*P **P 22 49 31.6 +0.7**
BOZ Bozeman (W) 76.31 43 P **P 22 49 33.3 +1.1**
baz=308,SNR=14
BOZ Bozeman (W) 76.31 43 IAmb IAmb 22 49 51.9
comp=Z,108nm,1.9s
KVN Kaiserville 76.33 52 IAmb IAmb 22 49 54.7
comp=Z,89nm,1.4s
KONO Kongsberg 76.33 337 *e*P **P 22 49 32.3 +0.6**
SORM Soroca 76.50 320 ⇑P **P 22 49 33.5 +0.5**
MDPB Devils Postpil 76.51 53 **PcP 22 49 41.5 -3.4**
MDPB IAmb IAmb 22 50 01.8
comp=Z,50nm,1.6s
NVAR Mina Array Bea 76.55 52 P **P 22 49 34.5 +0.8**
comp=Z,11nm,0.8s,baz=282,slow=6.0,SNR=51
NVAR LR LR 23 18 23.2
comp=Z,253nm,21.1s,baz=274,slow=32
DIKM Dikmen 76.58 312 ⇑P **P 22 49 35.7 +2.2**
MLAC Mammoth, Mammo 76.67 53 P **P 22 49 34.2 -0.2**
baz=305
PAGB Antelope Grade 76.82 55 IAmb IAmb 22 50 07.5
comp=Z,29nm,0.9s
KIS Kishinev 76.98 319 ⇑*i*P **P 22 49 35.0 -0.6**
comp=Z,80nm,1.0s
KIS LRM MLR 23 26 40.0
comp=Z,1μm,16.0s
ASK Askoy 77.03 339 *e*P **P 22 49 36.9 +1.2**
MILM Milestii Mici 77.03 319 ⇓P **P 22 49 36.1 +0.2**
CUALT Altinyayla-SIV 77.05 309 *i* P **P 22 49 38.6 +2.2**
ODD1 Odda 77.06 338 *e*P **P 22 49 36.9 +1.0**
SFJD Kangerlussuaq 77.06 4 *i* P **P 22 49 36.0 +0.3**
SFJD Kangerlussuaq 77.06 4 *i* P **P 22 49 36.0 +0.3**
BER Bergen 77.06 339 *e*P **P 22 49 37.1 +1.2**
BZK Bozkurt 77.14 313 ⇑P **P 22 49 38.3 +1.7**
TIN Tinemaha, Big 77.40 53 P **P 22 49 39.9 +1.5**
baz=306
BLS5 Blasjo 77.50 338 *e*P **P 22 49 39.3 +1.0**
IAS Iasi 77.52 320 ⇓P **P 22 49 39.4 +0.7**
VES Vestal, Richgr 77.54 55 P **P 22 49 40.0 +1.0**
baz=305
LVV L'vov 77.58 323 *e*P **P 22 49 39.5 +0.5**
LVV *e* 22 50 01.2
LVV *e* 22 52 34.4
LVV *e*S **S 22 59 26.0 +0.9**
LVV *e* 23 00 32.0
LVV *e* 23 04 31.7
LVV pmax pmax
comp=Z,150nm,1.6s
LVV MLR MLR
comp=E,410nm,17.0s
LVV MLR MLR
comp=N,460nm,17.0s
LVV MLR MLR
comp=Z,570nm,17.0s
PKM Mcpherson Peak 77.60 56 P **P 22 49 41.0 +1.4**
baz=305
LKWY Lake 77.64 44 IAmb IAmb 22 50 01.0
comp=Z,40nm,1.1s
H17A Grant Village 77.64 44 P **P 22 49 42.8 +3.0**
baz=308,SNR=17
H17A Grant Village 77.64 44 IAmb IAmb 22 50 03.3
comp=Z,56nm,1.2s
BEL Belsk 77.73 326 ⇑*e*P **P 22 49 41.0 +1.3**
BEL Belsk 77.73 326 *e*P **P 22 49 41.0 +1.3**
BEL *e*P **P 22 49 41.0 +1.3**
FLWY Flagg Ranch 77.77 44 IAmb IAmb 22 50 01.1
comp=Z,83nm,1.6s
CWC Cottonwood Cre 77.85 54 P **P 22 49 41.9 +1.0**
baz=306
BSD Bornholm Skovb 77.86 331 *i* P **P 22 49 40.4 0.0**
BSD pmax pmax
comp=Z,81nm,0.9s
BSD Bornholm Skovb 77.86 331 *i* P **P 22 49 40.4 0.0**
comp=Z,81nm,0.9s
RLMT Red Lodge 77.92 43 P **P 22 49 42.6 +1.3**
baz=309,SNR=14
GRAC Grapevine Rang 77.99 53 P **P 22 49 43.4 +1.9**
baz=306
ISA Isabella, Lake 78.04 55 P **P 22 49 42.4 +0.5**
baz=306
BIR Birlad 78.08 319 ⇑P **P 22 49 43.3 +1.6**
BIR mb 22 49 44.0
PRAR RASCA 78.10 321 ⇓P **P 22 49 42.7 +0.7**
PRAR mb 22 49 43.2
SNOW Snow King Moun 78.12 45 IAmb IAmb 22 50 05.3
comp=Z,62nm,1.6s
TLCR 78.12 318 ⇓P **P 22 49 42.9 +0.8**
TLCR mb 22 49 43.2
SNART Snartemo 78.13 337 *e*P **P 22 49 42.8 +1.0**
GKP Gorka Klasztor 78.26 329 *e*P **P 22 49 43.7 +1.1**
GKP Gorka Klasztor 78.26 329 *e*P **P 22 49 43.7 +1.1**
GKP *e*P **P 22 49 43.7 +1.1**
ANDN Andirin 78.31 308 *i* P **P 22 49 45.7 +2.4**
ANDN IAML_P
comp=Z,2μm,0.7s
CDAG Cicekdag 78.33 311 *i* P **P 22 49 44.8 +1.4**
CDAG IAML_P
comp=Z,1μm,0.5s
KAMA Osmaniye 78.33 307 *i* P **P 22 49 45.5 +2.0**
KAMA IAML_P
comp=Z,920nm,0.8s
R11A Troy Canyon, C 78.33 51 P **P 22 49 44.9 +1.3**
baz=307,SNR=24
KWP Kalwaria Pacla 78.34 324 ⇑*e*P **P 22 49 44.3 +1.1**
KWP Kalwaria Pacla 78.34 324 *e*P **P 22 49 44.3 +1.1**
KWP *e*P **P 22 49 44.3 +1.1**
DGMT Dagmar 78.40 38 P **P 22 49 44.6 +1.0**
baz=312
TESR Tescani 78.43 320 ⇑P **P 22 49 44.5 +0.8**
BIZ Bicaz 78.44 320 ⇑P **P 22 49 45.1 +1.3**
BUR08 Bucovina Ar. S 78.44 321 IAmb IAmb 22 49 45.9
comp=Z,35nm,0.8s
BURAR Bucovina Array 78.45 321 ⇑P **P 22 49 45.1 +1.1**
BURAR mb 22 49 45.5
MPMC Manual Prospec 78.46 54 P **P 22 49 45.4 +1.0**
baz=306,SNR=12
CFR Carcaliu 78.50 318 ⇑P **P 22 49 44.6 +0.5**
AVNS Nevsehir-Avano 78.52 310 *i* P **P 22 49 46.0 +1.5**
AVNS IAML_P
comp=Z,1μm,0.6s
LAO LASA Array 78.54 40 P **P 22 49 45.5 +1.1**
baz=311,SNR=12
LAO LASA Array 78.54 40 IAmb IAmb 22 50 04.1
comp=Z,91nm,1.5s
TOPG Topolog 78.56 318 ⇑P **P 22 49 45.4 +0.9**
YAHY KAYSERI_Yahyal 78.62 309 *i* P **P 22 49 46.4 +1.2**
YAHY IAML_P
comp=Z,408nm,0.8s
FURC Furnace Creek, 78.63 53 P **P 22 49 46.7 +1.7**
baz=306
PETR Petresti 78.64 319 ⇑P **P 22 49 47.0 +2.1**
LRMC Laurel Mtn Rad 78.67 54 P **P 22 49 46.6 +1.1**
baz=306
ODBI Odobesti 78.70 319 ⇓P **P 22 49 47.4 +2.2**
ODBI mb 22 49 48.8
BR131 Keskin Array S 78.71 311 P **P 22 49 46.3 +0.7**
SNR=20
BR131 P **P 22 49 46.3 +0.7**
SNR=20
BR131 Keskin Array S 78.71 311 IAmb IAmb 22 49 47.6
comp=Z,29nm,0.8s
BRTR Keskin Array B 78.71 311 P **P 22 49 46.3 +0.7**
comp=Z,39nm,1.0s,baz=103,slow=4.0,SNR=116
BRTR PP **PP 22 52 45.9 +1.9**
comp=Z,16nm,1.2s,baz=69,slow=6.8,SNR=5.0
BRTR LR LR 23 29 22.0
comp=Z,217nm,18.2s,baz=30,slow=39
SNCC San Nicolas Is 78.74 57 P **P 22 49 47.6 +1.9**
baz=306
TPNV Topopah Spring 78.74 53 P **P 22 49 47.1 +1.2**
baz=307,SNR=12
TIRR Tirgusor 78.81 317 ⇑P **P 22 49 46.2 +0.4**
TIRR Tirgusor 78.81 317 IAmb IAmb 22 49 47.5
comp=Z,70nm,0.9s
VRI Vrincioaia 78.81 319 ⇑P **P 22 49 47.0 +1.1**
EDW2 Edwards Air Fo 78.82 55 P **P 22 49 47.7 +1.6**
baz=306
PLOR Plostina 78.86 319 ⇑P **P 22 49 47.1 +0.9**
HARR Harsova 78.92 318 ⇑P **P 22 49 47.3 +0.8**
HARR mb 22 49 48.0
DUG Dugway, Tooele 78.93 48 P **P 22 49 48.3 +1.5**
baz=308,SNR=26
TLB Topalu 78.93 318 ⇓P **P 22 49 47.6 +1.1**
AKO Adana 78.95 308 *i* P **P 22 49 48.2 +1.4**
AKO IAML_P
comp=Z,100nm,0.3s
MUD Monsted U'grnd 78.96 335 *e*P **P 22 49 47.8 +1.4**
MUD Monsted U'grnd 78.96 335 *i* P **P 22 49 47.8 +1.4**
GRER 79.00 319 ⇓P **P 22 49 49.3 +2.5**
GRER mb 22 49 50.0
KOLS Kolonicke sedl 79.03 324 *e*P **P 22 49 47.8 +0.8**
KOLS pmax pmax
comp=Z,31nm,1.0s
KOLS Kolonicke sedl 79.03 324 *e*P **P 22 49 47.8 +0.8**
BISRR Bisoca 79.03 319 ⇓P **P 22 49 49.0 +1.9**
ANTO Ankara 79.14 312 P **P 22 49 49.1 +1.2**
ANTO pmax pmax
comp=Z,47nm,0.7s
ANTO Ankara 79.14 312 P **P 22 49 49.1 +1.2**
ANTO IAmb IAmb 22 49 49.5
comp=Z,47nm,0.7s
OZUR 79.16 320 ⇑P **P 22 49 49.3 +1.5**
BR231 Keskin MP Arra 79.17 312 IAmb IAmb 22 49 49.6
comp=Z,38nm,0.7s
YURE YUREGIR 79.21 308 *i* P **P 22 49 50.4 +2.2**
UZH Uzhgorod 79.22 323 *e*P **P 22 49 50.1 +2.1**
UZH *i* 22 49 57.9
UZH *e* 22 50 08.3
UZH *e*S **S 22 59 43.0 +0.3**
UZH MLR MLR
comp=N,150nm,17.6s
UZH MLR MLR
comp=E,140nm,17.6s
UZH MLR MLR
comp=Z,9.0nm,17.6s
BW06 Boulder Array 79.24 45 P **P 22 49 49.2 +0.7**
baz=309,SNR=14
PDAR Pinedale Array 79.24 45 P **P 22 49 49.2 +0.6**
comp=Z,7.3nm,0.6s,baz=267,slow=1.7,SNR=71
PDAR LR LR 23 19 12.9
comp=Z,151nm,21.0s,baz=329,slow=31
ARCR ARCALIA 79.24 321 ⇓P **P 22 49 50.1 +1.9**
BMR Baia Mare 79.28 322 ⇑P **P 22 49 49.6 +1.2**
AKSY AKSARAY - Alti 79.29 310 *i* P **P 22 49 50.4 +1.7**
AKSY IAML_P
comp=Z,502nm,0.6s
PGOR Pogoanele 79.30 318 ⇓P **P 22 49 50.1 +1.6**
PGOR mb 22 49 51.0
AMRR Amara 79.30 318 ⇑P **P 22 49 50.1 +1.6**

OJC Ojcow 79.30 326⇑eP P 22 49 49.1 +0.6
OJC Ojcow 79.30 326 eP P 22 49 49.1 +0.6
OJC eP P 22 49 49.1 +0.6
GSC Goldstone, Bar 79.36 54 P P 22 49 50.6 +1.5
baz=307,SNR=11
ICOR Ion Corvin 79.36 317 ⇑P P 22 49 50.0 +1.2
ISR Istrita 79.40 319 ⇑P P 22 49 50.7 +1.5
CIS Catalina Islan 79.40 56 P P 22 49 50.6 +1.2
baz=306
BFSC Mount Baldy Ra 79.42 55 P P 22 49 50.9 +1.4
baz=306,SNR=6.2
PSN Preselentsi 79.43 317 P P 22 49 50.5 +1.2
TRPA Tarpa 79.44 323 ⇓P P 22 49 50.1 +0.9
TRPA mb 22 49 51.6
DOPR Dopca 79.45 320 ⇑P P 22 49 50.9 +1.5
MLR Muntele Rosu 79.47 319 ⇑P P 22 49 50.1 +0.4
MLR Muntele Rosu 79.47 319 IAmb IAmb 22 49 51.7
comp=Z,48nm,1.3s
GULE Gulek 79.48 308 iP P 22 49 52.0 +2.1
GULE IAML_P
comp=Z,1μm,0.6s
SCI2 San Clemente I 79.56 57 P P 22 49 51.8 +1.6
baz=306
NIE Niedzica 79.63 325⇑eP P 22 49 51.7 +1.4
NIE Niedzica 79.63 325 eP P 22 49 51.7 +1.4
NIE eP P 22 49 51.7 +1.4
RASA Rasa 79.66 318 ⇓P P 22 49 51.8 +1.4
DED Mersin 79.66 308 iP P 22 49 51.6 +0.9
DED IAML_P
comp=Z,771nm,0.9s
LEHL Lehliu 79.67 318 ⇓P P 22 49 52.0 +1.5
SECR 79.71 319 ⇓P P 22 49 52.1 +1.4
SECR mb 22 49 57.7
PLAR PLOIESTI 79.81 319 mb 22 49 46.3
PLAR ⇓P P 22 49 53.0 +1.7
KERG Konya-Eregli 79.82 309 iP P 22 49 52.1 +0.4
KERG IAML_P
comp=Z,197nm,0.6s
SULR 79.84 318 ⇑P P 22 49 52.2 +0.8
TUQ Turquoise Moun 79.85 54 P P 22 49 53.1 +1.2
baz=307,SNR=9.8
CJR Cluj-Napoca 79.88 321 ⇓P P 22 49 53.5 +1.8
HEC Hector,Ludlow 79.95 54 P P 22 49 53.4 +1.1
baz=307,SNR=12
VOIR 79.98 320 ⇑P P 22 49 52.8 +0.5
RAYN Ar Rayn 80.01 292 iP P 22 49 53.4 +0.5
SNR=45
RAYN Ar Rayn 80.01 292 P P 22 49 53.3 +0.5
RAYN pmax pmax
comp=Z,47nm,0.9s
RAYN Ar Rayn 80.01 292 P P 22 49 53.3 +0.5
RAYN IAmb IAmb 22 49 54.5
comp=Z,47nm,0.9s
MURC Murrieta 80.11 56 P P 22 49 54.0 +0.8
baz=307
KECS Kecovo 80.19 324 eP P 22 49 54.5 +1.2
KECS pmax pmax
comp=Z,14nm,1.0s
KECS Kecovo 80.19 324 eP P 22 49 54.5 +1.2
LANS Liptovska Anna 80.21 325 eP P 22 49 55.1 +1.7
LANS pmax pmax
comp=Z,24nm,0.9s
LANS Liptovska Anna 80.21 325 eP P 22 49 55.1 +1.7
ARR Arges 80.25 320 ⇑P P 22 49 55.5 +1.7
DRGR 80.27 322 ⇑P P 22 49 54.9 +1.0
OKC Ostrava-Krasne 80.33 326⇑iP P 22 49 54.8 +0.8
OKC MLR MLR
comp=Z,800nm,15.5s
OKC Ostrava-Krasne 80.33 326⇑iP P 22 49 54.8 +0.8
OKC AMS AMS 23 29 20.0
comp=Z,800nm,15.5s
KIZK Mersin 80.37 308 iP P 22 49 55.8 +1.3
KIZK IAML_P
comp=Z,2μm,0.7s
GMRC Granite Mounta 80.42 54 P P 22 49 56.1 +1.2
baz=307,SNR=15
KSP Ksiaz 80.42 328⇑eP P 22 49 55.3 +0.8
KSP Ksiaz 80.42 328 eP P 22 49 55.2 +0.8
KSP eP P 22 49 55.2 +0.8
RAZG Razgrad 80.43 317 ⇑P P 22 49 55.8 +1.1
109C Camp Elliot, M 80.59 56 P P 22 49 57.2 +1.5
baz=307
109C Camp Elliot, M 80.59 56 PcP 22 50 02.6 +0.2
PFO Pinyon Flats O 80.59 55 P P 22 49 56.9 +1.0
baz=307,SNR=20
PFO Pinyon Flats O 80.59 55 iP P 22 49 57.1 +1.2
PFO Pinyon Flats O 80.59 55 P P 22 49 56.9 +1.0
PFO IAmb IAmb 22 50 17.4
comp=Z,51nm,1.3s
HUMR Humele 80.62 319 ⇑P P 22 49 55.8 +0.1
MORC Moravsky Berou 80.64 326 ⇑P P 22 49 57.0 +1.2
MORC mb 22 49 57.9
MORC Moravsky Berou 80.64 326⇑iP P 22 49 56.6 +0.8
MORC Moravsky Berou 80.64 326 IAmb IAmb 22 49 57.8
comp=Z,52nm,1.1s
LOT Lotru 80.64 320 ⇑P P 22 49 56.7 +0.8
BELC Belle Mtn. Jos 80.67 55 P P 22 49 57.0 +0.7
baz=307,SNR=14
YLV Yalova 80.75 314 ⇓P P 22 49 59.9 +3.4
YLV mb 22 50 00.1
COPA Copaceanca 80.76 319 ⇑P P 22 49 56.6 +0.2
KRLC Kraliky 80.77 327⇑iP P 22 49 57.1 +0.7
KRLC MLR MLR
comp=Z,2μm,15.0s
KRLC Kraliky 80.77 327⇑iP P 22 49 57.1 +0.7
KRLC AMS AMS 23 29 00.0
comp=Z,600nm,15.0s
DPC Dobruska-Polom 80.77 327⇑iP P 22 49 57.3 +0.9
DPC MLR MLR
comp=Z,700nm,13.1s
DPC Dobruska-Polom 80.77 327⇑iP P 22 49 57.3 +0.9
DPC AMS AMS 23 31 30.0
comp=Z,700nm,13.1s
UPC Upice 80.79 328⇑iP P 22 49 57.3 +0.8
UPC MLR MLR
comp=Z,800nm,13.7s
UPC Upice 80.79 328⇑iP P 22 49 57.3 +0.8
UPC AMS AMS 23 29 40.0
comp=Z,800nm,13.7s
HIZ Hauiti 80.79 153 IAmb IAmb 22 50 01.3
comp=Z,92nm,1.1s
DEV Deva 80.79 321 ⇑P P 22 49 57.8 +1.3
PSZ Piszkesteto 80.87 324 ⇑P P 22 49 58.4 +1.3
PSZ mb 22 49 59.5
PSZ Piszkesteto 80.87 324 IAmb IAmb 22 49 59.4
comp=Z,86nm,1.1s
SZH Strazhica 80.94 318 P P 22 49 57.0 -0.4
VYHS Vyhne 80.97 325 eP P 22 49 58.7 +1.2
VYHS pmax pmax
comp=Z,46nm,1.0s
VYHS Vyhne 80.97 325 eP P 22 49 58.7 +1.2
ZIMR 81.00 318 ⇑P P 22 49 58.7 +1.1
ZIMR mb 22 50 01.1
K22A Casper 81.03 43 P P 22 49 58.6 +0.5
baz=311
ULM Lac du Bonnet 81.04 33 P P 22 49 57.9 +0.1
comp=Z,14nm,0.8s,baz=300,slow=6.0,SNR=13
ULM LR LR 23 26 03.2
comp=Z,222nm,21.4s,baz=320,slow=36
MONP2 Monument Peak 81.05 56 P P 22 49 59.4 +0.9
baz=307,SNR=16
MDND Maddock 81.06 36 P P 22 49 58.7 +0.7
baz=315
KOLL Kolacno 81.11 325 eP P 22 49 59.5 +1.3
IRM Iron Mountain 81.14 54 P P 22 49 59.9 +1.2
baz=308,SNR=24
GZR Gura Zlata 81.19 321 ⇑P P 22 49 59.5 +0.7
ELND Elena 81.20 317 ⇑P P 22 49 59.6 +0.8
BC3 Big Chuckawall 81.24 55 P P 22 50 00.4 +1.1
baz=308,SNR=16
JAVC Velka Javorina 81.25 326⇑iP P 22 50 00.7 +1.7
VLAD Vladila 81.28 319 ⇓P P 22 50 00.1 +0.9
PVCC Panska Ves 81.39 328⇑iP P 22 50 00.6 +0.9
PVCC MLR MLR
comp=Z,500nm,16.2s
PVCC Panska Ves 81.39 328⇑iP P 22 50 00.6 +0.9
PVCC AMS AMS 23 32 00.0
comp=Z,500nm,16.2s
RSSD Black Hills 81.40 41 P P 22 50 00.5 +0.4
baz=313
RSSD Black Hills 81.40 41 P P 22 50 00.8 +0.7
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 81.40 41 P P 22 50 00.8 +0.7

BRG Berggiesshubel 81.40 329 iP P 22 50 00.2 +0.5
comp=Z,37nm,1.0s
BRG iP pP pP 22 50 20.0 +2.2
comp=Z,18nm,0.8s
BRG iS sP sP 22 50 27.1 +2.2
comp=Z,12nm,0.8s
BRG SKS S 23 00 07.0 +1.5
BRG S ScS 23 00 38.0 +15
BRG ePKPPKP P'P'df 23 16 09.1 -32
comp=Z,9.5nm,1.6s
comp=N,610nm,19.4s
comp=E,594nm,18.2s
comp=Z,594nm,18.2s
IKP In-Ko-Pah, Jac 81.41 56 P P 22 50 01.5 +1.3
baz=307,SNR=20
VRAC Vranov 81.41 326 ⇑P P 22 50 00.8 +0.9
VRAC mb 22 50 02.1
VRAC Vranov 81.41 326⇑iP P 22 50 00.7 +0.9
URZ Urewera 81.43 151 LR LR 23 23 14.1
comp=Z,166nm,19.4s,baz=1.0,slow=33
SWSC Sam W. Stewart 81.44 56 P P 22 50 01.1 +0.9
baz=307,SNR=8.4
CLL Collm 81.47 330⇑iP P 22 50 00.3 +0.3
CLL pmax pmax
comp=Z,65nm,1.0s
CLL MLR MLR
comp=Z,500nm,19.4s
CLL Collm 81.47 330⇑iP P 22 50 00.3 +0.3
comp=Z,65nm,1.0s
CLL e 22 50 40.0
CLL ePP PP 22 53 04.0 -2.1
CLL e 22 55 42.0
CLL eS S 23 00 04.0 -2.1
CLL ePS 23 01 06.0
CLL ePPS PPS 23 01 18.0
CLL e(SS) 23 06 06.0
CLL e 23 09 48.0
CLL LmH 23 23 00.0
comp=N,600nm,20.7s
CLL LmH 23 23 00.0
comp=E,800nm,20.5s
CLL LmV 23 29 00.0
comp=Z,500nm,19.4s
CLL Collm 81.47 330 IAmb IAmb 22 50 01.5
comp=Z,61nm,0.9s
SRE Strehaia 81.47 320 ⇑P P 22 50 01.7 +1.5
PLVB Pleven 81.58 318 ⇑P P 22 50 01.4 +0.6
SMOL Smolenice 81.61 325 eP P 22 50 02.7 +1.9
SMOL pmax pmax
comp=Z,42nm,0.8s
SMOL Smolenice 81.61 325 eP P 22 50 02.7 +1.9
BZS Buzias 81.63 321 ⇓P P 22 50 01.4 +0.4
KRUC Moravsky 81.68 326⇑iP P 22 50 01.9 +0.7
O20A White River Ci 81.69 46 P P 22 50 02.5 +0.8
baz=310,SNR=14
O20A White River Ci 81.69 46 IAmb IAmb 22 50 58.7
comp=Z,29nm,0.9s
PDMCI Parker Dam,Lak 81.70 54 P P 22 50 03.0 +1.4
baz=308,SNR=16
HERR Herculane 81.73 320 ⇑P P 22 50 02.2 +0.6
GOPC GO Pecny, Ondr 81.76 328⇑iP P 22 50 02.3 +0.7
GOPC e 22 53 07.3
GOPC MLR MLR
comp=Z,600nm,17.4s
GOPC GO Pecny, Ondr 81.76 328⇑iP P 22 50 02.3 +0.7
GOPC ePP PP 22 53 07.3 -1.3
GOPC AMS AMS 23 30 00.0
comp=Z,600nm,17.4s
MODS Modra-Piesok 81.78 325 eP P 22 50 02.1 +0.3
MODS pmax pmax
comp=Z,48nm,1.1s
MODS Modra-Piesok 81.78 325 eP P 22 50 02.1 +0.3
Y12C Blythe 81.79 54 P P 22 50 03.4 +1.3
baz=308,SNR=8.5
Y12C Blythe 81.79 54 PcP 22 50 14.2 +6.6
PRA Prague 81.79 328 ⇑AMS AMS 23 30 00.0
comp=Z,600nm,14.9s
ISP Isparta 81.80 311 P P 22 50 01.2 -1.0
ISP Isparta 81.80 311 IAmb IAmb 22 50 02.7
comp=Z,33nm,0.9s
PRU Pruhonice 81.81 328⇑iP P 22 50 02.4 +0.5
PRU e 22 53 06.1
PRU MLR MLR
comp=Z,700nm,15.0s
PRU Pruhonice 81.81 328⇑iP P 22 50 02.4 +0.5
PRU ePP PP 22 53 06.1 -2.9
PRU AMS AMS 23 30 50.0
comp=Z,700nm,15.0s
CSS Mathiatis 81.83 307 P P 22 50 02.4 +0.1
CSS Mathiatis 81.83 307 IAmb IAmb 22 50 03.8
comp=Z,39nm,0.7s
BAIL Bailesti 81.83 319 ⇑P P 22 50 03.9 +1.9
PUNG Punghina 81.88 320 ⇓P P 22 50 03.5 +1.2
TREC Trest 81.91 327⇑iP P 22 50 03.1 +0.6
TREC MLR MLR
comp=Z,700nm,19.6s
TREC Trest 81.91 327⇑iP P 22 50 03.1 +0.6
TREC AMS AMS 23 29 50.0
comp=Z,700nm,19.6s
LEF Lefka 82.01 308 ⇑P P 22 50 03.7 +0.5
LEF mb 22 50 05.2
GLA Glamis 82.02 55 P P 22 50 04.7 +1.3
baz=308,SNR=9.4
GLA Glamis 82.02 55 IAmb IAmb 22 50 05.7
comp=Z,30nm,0.8s
BANR Banloc 82.04 321 ⇓P P 22 50 04.6 +1.5
MDVR Moldovita 82.16 321 ⇑P P 22 50 04.6 +0.7
PBCC Pribram 82.27 328⇑iP P 22 50 04.6 +0.3
PV23 Carpenter Ridg 82.32 48 IAmb IAmb 22 50 28.9
comp=Z,58nm,0.9s
PV14 Lion Creek, Pa 82.36 48 IAmb IAmb 22 50 44.7
comp=Z,60nm,0.8s
PV22 Blue Mesa, Par 82.40 48 IAmb IAmb 22 50 35.7
comp=Z,34nm,0.9s
PV20 West Nyswonger 82.41 48 IAmb IAmb 22 50 45.0
comp=Z,36nm,0.9s
PV04 Paradox Valley 82.42 48 IAmb IAmb 22 50 55.3
comp=Z,67nm,1.3s
KAC Achnashellach 82.43 342 eP P 22 50 05.7 +0.8
ALN Alexanroupoli 82.45 316 P P 22 50 04.7 -0.7
PV17 East Wray Mesa 82.46 48 IAmb IAmb 22 50 34.6
comp=Z,76nm,1.1s
PV16 Nyswonger Mesa 82.46 48 IAmb IAmb 22 50 22.9
comp=Z,31nm,0.9s
AGMN Agassiz Nation 82.48 34 P P 22 50 05.4 0.0
baz=317
KULA Kula-Manisa 82.49 313 P P 22 50 04.2 -1.5
PV05 Paradox Valley 82.50 48 IAmb IAmb 22 50 08.6
comp=Z,48nm,0.7s
N23A Red Feather La 82.51 44 P P 22 50 07.5 +1.4
baz=312,SNR=16
N23A Red Feather La 82.51 44 IAmb IAmb 22 50 26.0
comp=Z,37nm,1.0s
PV18 Skein Mesa, Pa 82.51 48 IAmb IAmb 22 50 45.5
comp=Z,40nm,0.9s
PV12 Saucer Basin, 82.53 48 IAmb IAmb 22 50 46.3
comp=Z,37nm,0.9s
PV03 Paradox Valley 82.54 48 IAmb IAmb 22 50 37.8
comp=Z,49nm,1.1s
PV07 Paradox Valley 82.54 48 IAmb IAmb 22 50 39.7
comp=Z,68nm,1.7s
RDO Rodhopi 82.57 316 P P 22 50 06.5 +0.5
PV13 Radium Mtn., P 82.62 48 IAmb IAmb 22 50 30.5
comp=Z,42nm,0.9s
PV02 Paradox Valley 82.64 48 IAmb IAmb 22 50 50.7
comp=Z,39nm,1.1s
KPL Plockton 82.66 342 eP P 22 50 07.0 +0.9
KPL IAmb IAmb 22 50 08.0
comp=Z,69nm,1.1s
RZN Rozhen 82.67 317 P P 22 50 07.5 +0.7
MORH Mrgy, Hungar 82.69 323⇑iP P 22 50 06.5 0.0
WUAZ Wupatki 82.73 51 P P 22 50 08.6 +1.4
baz=309,SNR=21
WUAZ Wupatki 82.73 51 IAmb IAmb 22 50 09.8
comp=Z,24nm,0.8s
CONA Conrad Observa 82.75 326 iPcP P 22 50 08.1 +1.1
comp=Z,48nm,1.4s,SNR=17
VTS Vitosha 82.85 318 P P 22 50 07.8 +0.2
VTS Vitosha 82.85 318 P P 22 50 08.5 +0.9
VTS Vitosha 82.85 318 ⇑P P 22 50 08.8 +1.2
VTS mb 22 50 09.6
VTS Vitosha 82.85 318 IAmb IAmb 22 50 09.5
comp=Z,39nm,0.9s
FRGS Fruska Gora 82.86 322⇑iP P 22 50 08.0 +0.5
KHC Kasperske Hory 82.87 328c iP P 22 50 08.3 +0.8

KHC pmax pmax
comp=Z,90nm,1.1s
KHC Kasperske Hory 82.87 328⇑iP P 22 50 08.0 +0.5
KHC AMS AMS 23 31 10.0
comp=Z,700nm,16.0s
THZ Tophouse 83.00 156 P P 22 50 08.5 +0.6
THZ IAmb IAmb 22 50 27.4
comp=Z,66nm,1.2s
SMTH Samothraki Isl 83.03 316 P P 22 50 07.5 -0.9
GERES GERESS Array B 83.03 328 P P 22 50 08.6 +0.2
comp=Z,12nm,0.9s,baz=38,slow=5.3,SNR=70
GERES LR LR 23 29 49.3
comp=Z,323nm,18.5s,baz=47,slow=38
SMCO Snowmass 83.05 46 IAmb IAmb 22 50 39.9
comp=Z,58nm,1.6s
INVG Invergeldie, C 83.05 341 eP P 22 50 08.4 +0.2
KAVA Kavala 83.25 317 P P 22 50 09.6 +0.1
MMB Musomiste 83.28 317 P P 22 50 10.0 +0.3
NVR Nevrokopi 83.37 317 P P 22 50 10.4 +0.2
THAS Thassos island 83.39 316 P P 22 50 09.8 -0.5
ARSA Arzberg 83.40 326 iPcP P 22 50 11.0 +0.8
comp=Z,26nm,1.1s,SNR=7.7
PRK Paraskevi 83.42 314 P P 22 50 11.4 +1.0
ISCO Idaho Springs 83.43 45 P P 22 50 12.1 +1.2
baz=312,SNR=13
MVCO Mesa Verde 83.43 48 P P 22 50 12.0 +1.1
baz=311,SNR=15
GRA1 Grafenberg Arr 83.44 329 IAmb IAmb 22 50 12.5
comp=Z,73nm,1.0s
TEKS Tekeris 83.44 322⇑iP P 22 50 11.2 +0.7
FETY Fethiye 83.44 311 P P 22 50 09.8 -0.9
KKB Krupnik 83.44 318 P P 22 50 11.5 +1.0
DIVS Divibare 83.52 321⇑iP P 22 50 11.4 +0.4
MOA Molln 83.53 327 iPcP P 22 50 11.8 +1.0
comp=Z,33nm,1.1s,SNR=11
LAWE Loch Awe, Argy 83.56 341 eP P 22 50 11.4 +0.6
YER Yerkesik 83.61 312 P P 22 50 11.4 -0.1
PGBU Glenifferbraes 83.71 341 eP P 22 50 12.3 +0.8
PGBU IAmb IAmb 22 50 12.5
comp=Z,317nm,1.7s
ESK Eskdalemuir 83.80 340 iP P 22 50 13.2 +1.1
BBLS Lazići 83.98 321⇑iP P 22 50 14.2 +0.9
OUR Ouranopolis 83.99 316 P P 22 50 13.5 +0.2
GROS Grobnik 84.00 325 iP P 22 50 13.2 -0.1
W18A Petrified Fore 84.02 51 P P 22 50 15.2 +1.4
baz=310
DOB Doboj 84.02 323⇑iP P 22 50 13.3 -0.1
KNT Kendrikon 84.03 317 P P 22 50 13.9 +0.4
214A Organ Pipe Nat 84.03 55 P P 22 50 14.9 +1.1
baz=309,SNR=18
214A Organ Pipe Nat 84.03 55 IAmb IAmb 22 50 16.0
comp=Z,27nm,0.9s
PERS Pernice 84.05 325 iP P 22 50 14.0 +0.4
STIP Stip 84.05 318⇑iP P 22 50 13.4 -0.2
SOKA Soboth 84.05 325 iPcP P 22 50 14.3 +0.6
comp=Z,68nm,0.9s,SNR=17
HAPS Han Pijesak,Bl 84.06 322⇑iP P 22 50 14.0 +0.2
S22A 4UR Ranch, Cre 84.08 47 P P 22 50 15.9 +1.7
baz=312,SNR=13
VAY Valandovo 84.10 318⇑iP P 22 50 14.4 +0.6
CHOS Chios island 84.11 314 P P 22 50 14.1 0.0
RPZ Rata Peaks 84.17 158 LR LR 23 21 36.7
comp=Z,422nm,21.6s,baz=336,slow=31
RUDO Rudo 84.18 321⇑iP P 22 50 14.2 -0.1
BODT Bodrum 84.24 312 P P 22 50 14.9 +0.2
Q24A Divide 84.25 45 P P 22 50 16.2 +1.1
baz=312,SNR=8.5
SKO Skopje 84.26 319⇑iP P 22 50 15.9 +1.3
X18A Snowflake 84.26 51 IAmb IAmb 22 50 17.4
comp=Z,22nm,0.8s
PLG Polygyros 84.27 317 P P 22 50 13.9 -0.9
ARG Arkhangelos 84.30 311 P P 22 50 15.6 +0.6
HORT Hortiatis 84.30 317 P P 22 50 14.3 -0.7
THE Thessaloniki 84.36 317 P P 22 50 14.7 -0.5
OBKA Obir 84.40 326 iPcP P 22 50 16.0 +0.5
comp=Z,18nm,0.9s
PAIG Paliouri 84.44 316 P P 22 50 14.7 -0.9
GRG Griva 84.44 318 P P 22 50 16.0 +0.3
BLY Banja Luka 84.45 323⇑iP P 22 50 15.9 +0.3
BLY Banja Luka 84.45 323 ⇓P P 22 50 16.5 +0.8
BLY mb 22 50 16.9
BLY Banja Luka 84.45 323 IAmb IAmb 22 50 17.4
comp=Z,26nm,0.8s
CRES Cresnjev 84.49 325⇑iP P 22 50 16.0 +0.2
KBA Koelnbreinsper 84.52 327 iPcP P 22 50 16.5 +0.3
comp=Z,24nm,0.9s,SNR=5.8
HPK Haverah Park 84.52 338 eP P 22 50 16.4 +0.7
OGNE Ogallala 84.65 42 P P 22 50 17.6 +0.8
baz=314
HGN Heimansgroeve 84.66 333 eP P 22 50 16.6 +0.1
comp=Z,152nm,1.7s
EYMN Ely 84.67 32 P P 22 50 17.0 +0.3
baz=320
EYMN Ely 84.67 32 IAmb IAmb 22 50 53.4
comp=Z,125nm,2.0s
MYKA Terra Mystica 84.72 326 iP P 22 50 17.1 0.0
comp=Z,21nm,0.7s,SNR=5.7
MGRS Mrkonjic Grad 84.75 323⇑iP P 22 50 18.4 +1.3
LJU Ljubljana 84.76 325 iP P 22 50 17.1 -0.1
LJU Ljubljana 84.76 325⇑iP P 22 50 16.3 -0.8
CLGH Cloghs, Cushen 84.79 341 eP P 22 50 17.5 +0.4
CLGH IAmb IAmb 22 50 18.7
comp=Z,70nm,1.1s
PMOR Pomariorio Ree 84.80 113 eT T 00 22 53.5
comp=Z,19nm,0.2s
AOS Alonnisos 84.84 316 P P 22 50 16.4 -1.3
SDCO Great Sand Dun 84.87 46 P P 22 50 19.6 +1.4
baz=312,SNR=25
LIT Litokhoron 84.98 317 P P 22 50 17.0 -1.4
PHP Peshkopia 84.99 319 P P 22 50 17.2 -1.2
LBWR Ladybower, Pea 85.03 338 eP P 22 50 18.5 +0.1
LBWR IAmb IAmb 22 50 19.9
comp=Z,103nm,1.0s
CEY Cerknica 85.04 325⇑iP P 22 50 17.6 -1.0
PDG Podgorica 85.08 320⇑iP P 22 50 19.2 +0.4
PDG Podgorica 85.08 320 ⇑P P 22 50 19.5 +0.7
PDG mb 22 50 20.4
XOR Xorichti 85.10 316 P P 22 50 17.6 -1.4
WATA Walderalm 85.10 328 iPcP P 22 50 19.0 0.0
comp=Z,8.3nm,1.0s
BRY Bratogost 85.11 321⇑iP P 22 50 19.0 -0.2
FNA Florina 85.12 318 P P 22 50 18.2 -0.9
FNA Florina 85.12 318 IAmb IAmb 22 50 20.2
comp=Z,38nm,1.0s
NEO Neokhori 85.12 316 P P 22 50 18.4 -0.7
WTTA Wattenberg 85.13 328 iPcP P 22 50 19.6 +0.4
comp=Z,28nm,1.5s
TUC Tucson 85.14 53 P P 22 50 20.6 +1.2
baz=310
TUC Tucson 85.14 53 P P 22 50 20.9 +1.5
TUC pmax pmax
comp=Z,19nm,0.9s
TUC Tucson 85.14 53 P P 22 50 20.9 +1.5
TUC IAmb IAmb 22 50 21.6
comp=Z,19nm,0.8s
ABTA Abfaltersbach 85.14 327 iP P 22 50 18.6 -0.5
comp=Z,34nm,1.1s,SNR=7.0
PPT Papeete 85.18 116 LR LR 23 21 44.8
comp=Z,608nm,20.6s,baz=308,slow=31
PPT2 Papeete2 85.19 116 eS S 23 00 48.1 +3.4
comp=Z,322nm,27.0s
PPT2 Papeete2 85.19 116 eLR LR 23 17 00.9
comp=Z,5μm,32.2s,baz=314
OHR Ohrid 85.20 319 iP P 22 50 19.8 +0.3
KZN Kozani 85.24 317 P P 22 50 17.6 -2.1
AMGA Amorgos Island 85.25 313 P P 22 50 18.4 -1.4
DRME Dracevica, Mon 85.29 320⇑iP P 22 50 20.3 +0.4
MOTA Moosalm 85.30 328 iPcP P 22 50 19.9 -0.1
comp=Z,27nm,1.3s,SNR=6.0
APE Apeiranthos 85.30 313 ⇓P P 22 50 19.8 -0.3
APE mb 22 50 20.2
MRKA Markates 85.33 315 P P 22 50 18.6 -1.5
KARP Karpathos 85.33 311 P P 22 50 17.8 -2.4
KARP Karpathos 85.33 311 IAmb IAmb 22 50 21.5
comp=Z,49nm,0.8s
RETA Reutte 85.34 328 iPcP P 22 50 20.2 +0.1
comp=Z,26nm,0.9s,SNR=8.9
TREB Trebinje 85.34 321 eP P 22 50 19.7 -0.4
SQTA Sankt Quirin 85.35 328 iPcP P 22 50 20.6 +0.3
comp=Z,9.7nm,0.7s
STAL STALIGIAL 85.42 326 IAmb IAmb 22 50 20.6
comp=Z,39nm,0.9s
HCY Herceg Novi 85.46 321⇑iP P 22 50 20.3 -0.4
WLF Walferdange 85.47 332 IAmb IAmb 22 50 39.7

comp=Z,44nm,1.3s
ECSD **EROS Data Cent** **85.47 37** P **P** **22 50 20.9 +0.1**
baz=317,SNR=11
CWF **Charnwood Fore** **85.48 338** *e*P **P** **22 50 20.5 0.0**
CWF IAmb IAmb 22 50 21.2
comp=Z,31nm,0.8s
TIR **Tirane** **85.53 319** IAmb IAmb 22 50 51.2
comp=Z,47nm,0.8s
NEST **Nestorio** **85.56 318** P **P** **22 50 18.2 -3.1**
STON **Ston** **85.56 321⇑** *i*P **P** **22 50 20.5 -0.7**
PTL **Penteli** **85.61 315** P **P** **22 50 20.7 -0.9**
KSCO **Kaye Shedlock'** **85.66 44** P **P** **22 50 22.0 0.0**
baz=314
KSCO **Kaye Shedlock'** **85.66 44** **pP** **22 50 38.8 -1.3**
KSCO IAmb IAmb 22 51 07.6
comp=Z,56nm,1.4s
E38A **The Farm, Brul** **85.67 33** P **P** **22 50 21.7 0.0**
baz=320
BFO **Black Forest** **85.69 330** *i* P **P** **22 50 22.3 +0.5**
BFO **Black Forest** **85.69 330** P **P** **22 50 21.9 +0.2**
BFO IAmb IAmb 22 50 23.2
comp=Z,52nm,1.1s
FETA **Feichten** **85.71 328** *i* PcP **P** **22 50 22.0 0.0**
comp=Z,16nm,0.8s
AGG **Agios Georgios** **85.82 316** P **P** **22 50 21.1 -1.5**
AGG **Agios Georgios** **85.82 316** IAmb IAmb 22 50 43.8
comp=Z,21nm,0.9s
DAVA **Damuels** **85.87 329** *i* PcP **P** **22 50 23.2 +0.4**
comp=Z,46nm,1.2s,SNR=7.4
T25A **Trinidad** **85.92 46** P **P** **22 50 24.4 +1.0**
baz=313,SNR=23
T25A **Trinidad** **85.92 46** IAmb IAmb 22 50 25.6
comp=Z,28nm,0.8s
FOEL **Foel Wylfa** **85.92 339** *e*P **P** **22 50 22.8 +0.1**
FOEL IAmb IAmb 22 50 23.9
comp=Z,57nm,0.9s
CTI **Castel Tesino** **86.06 327** IAmb IAmb 22 50 24.0
comp=Z,38nm,1.3s
DSF **Desfina** **86.13 316** P **P** **22 50 21.7 -2.5**
ANMO **Albuquerque** **86.16 49** P **P** **22 50 25.7 +1.2**
baz=312
ANMO **Albuquerque** **86.16 49** P **P** **22 50 25.8 +1.2**
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO **Albuquerque** **86.16 49** P **P** **22 50 25.8 +1.2**
SPMN **Marine on St.** **86.17 34** P **P** **22 50 25.0 +0.9**
baz=320
ECH **Echery** **86.25 331** IAmb IAmb 22 50 25.6
comp=Z,28nm,0.9s
DID **Didima** **86.35 315** P **P** **22 50 21.3 -3.9**
BGNE **Belgrade** **86.39 40** P **P** **22 50 25.7 +0.3**
baz=316
SERG **Sergoula** **86.39 316** P **P** **22 50 23.0 -2.4**
EFP **Efpalio** **86.47 316** P **P** **22 50 22.3 -3.5**
MEH **Mehetia** **86.48 115** *e*T T 00 24 59.1
comp=Z,18nm,0.3s
PVO **Paravola** **86.55 316** P **P** **22 50 25.8 -0.4**
LAKA **Lakka** **86.56 316** P **P** **22 50 24.4 -1.9**
IGT **Igoumenitsa** **86.57 318** P **P** **22 50 24.0 -2.2**
STRD **Stroud** **86.58 338** *e*P **P** **22 50 26.6 +0.6**
STRD IAmb IAmb 22 50 27.4
comp=Z,120nm,1.0s
TEOL **Teolo** **86.58 326** IAmb IAmb 22 50 50.0
comp=Z,41nm,1.0s
KLV **Kalavryta, Ach** **86.60 316** P **P** **22 50 23.2 -3.3**
MCH1 **Michaelchurch** **86.64 338** *e*P **P** **22 50 26.8 +0.5**
MCH1 IAmb IAmb 22 50 27.1
comp=Z,59nm,1.0s
WOL **Wolverton** **86.68 337** *e*P **P** **22 50 26.3 -0.2**
SCHQ **Schefferville** **86.69 15** P **P** **22 50 27.6 +1.1**
comp=Z,26nm,0.8s,baz=355,slow=5.7,SNR=14
SCHQ LR LR 23 33 38.3
comp=Z,256nm,19.1s,baz=338,slow=39
SCHQ **Schefferville** **86.69 15** IAmb IAmb 22 50 28.3
comp=Z,25nm,0.8s
MONM **Monmouth** **86.72 338** *e*P **P** **22 50 27.2 +0.5**
MONM IAmb IAmb 22 50 28.7
comp=Z,61nm,0.9s
319A **Douglas** **86.72 53** IAmb IAmb 22 51 00.7
comp=Z,32nm,1.1s
TUE **Stuetta** **86.73 328** IAmb IAmb 22 50 28.7
comp=Z,72nm,1.7s
PDO **Prodromos** **86.76 317** P **P** **22 50 25.8 -1.4**
DRO **Drossia** **86.91 316** P **P** **22 50 24.2 -3.8**
121A **Cookes Peak, D** **86.93 52** P **P** **22 50 29.8 +1.5**
baz=311,SNR=7.9
121A **Cookes Peak, D** **86.93 52** IAmb IAmb 22 51 13.3
comp=Z,57nm,1.6s
VLX **Vlachokerasia** **86.94 315** P **P** **22 50 26.6 -1.6**
RLS **Riolos of Patr** **86.98 316** P **P** **22 50 28.3 +0.1**
TAOE **Nuku Hiva Isla** **87.02 103** *e*S **S** **23 01 05.2 +2.3**
comp=Z,423nm,26.3s
TAOE **Nuku Hiva Isla** **87.02 103** *e*LR LR 23 18 09.9
comp=Z,3μm,31.6s
RSBS **Rosebush, Pemb** **87.19 339** *e*P **P** **22 50 28.5 -0.5**
RSBS IAmb IAmb 22 50 30.5
comp=Z,18nm,0.9s
VAM **Vamos** **87.22 313** P **P** **22 50 27.5 -2.0**
G40A **Rib Lake** **87.31 33** P **P** **22 50 30.5 +0.7**
baz=322
ITM **Ithomi** **87.33 315** P **P** **22 50 27.9 -2.1**
VLS **Valsamata** **87.38 317** P **P** **22 50 28.5 -1.7**
CBKS **Cedar Bluff** **87.40 42** P **P** **22 50 30.6 +0.3**
baz=316
CBKS **Cedar Bluff** **87.40 42** IAmb IAmb 22 51 12.9
comp=Z,49nm,1.4s
MATE **Matera** **87.69 320** ⇑P **P** **22 50 31.7 +0.1**
MATE mb 22 50 34.8
AQU **L'Aquila** **88.07 323** *e*P **P** **22 50 33.6 +0.1**
INTR **Introdacqua** **88.09 323** IAmb IAmb 22 50 35.5
comp=Z,36nm,0.7s
MATQ **Matagami** **88.39 23** P **P** **22 50 34.9 +0.1**
baz=330
SCIA **State Center** **88.50 37** P **P** **22 50 36.6 +1.1**
baz=320
D46A **Sault St. Mari** **88.56 28** P **P** **22 50 35.9 +0.3**
baz=326
TIP **Timpagrande** **88.74 319** ⇑P **P** **22 50 36.8 0.0**
TIP mb 22 50 38.2
D47A **Chapleau** **88.78 28** P **P** **22 50 37.2 +0.6**
baz=326
KSU1 **Kansas State U** **88.88 41** P **P** **22 50 37.9 +0.6**
baz=318
E46A **Sault Ste Mari** **88.88 29** P **P** **22 50 37.8 +0.6**
baz=326
TBI **Tubuai** **88.96 120** *e*S **S** **23 01 23.9 +3.3**
comp=Z,406nm,27.0s
TBI **Tubuai** **88.96 120** *e*LR LR 23 18 53.0
comp=Z,2μm,27.0s,baz=311
TBI **Tubuai** **88.96 120** *e*T T 00 28 02.0
comp=Z,21nm,0.3s
I42A **Draeger Farm,** **88.96 33** P **P** **22 50 38.0 +0.4**
baz=322
MNTX **Cornudas Mount** **89.00 51** P **P** **22 50 38.8 +0.7**
baz=313,SNR=7.0
MSTX **Muleshoe** **89.06 48** P **P** **22 50 39.2 +0.8**
baz=314
AMTX **Amarillo** **89.07 46** P **P** **22 50 39.4 +1.0**
baz=314
AMTX **Amarillo** **89.07 46** IAmb IAmb 22 51 06.6
comp=Z,28nm,0.8s
JFWS **Jewell Farm** **89.12 34** P **P** **22 50 38.3 -0.1**
baz=322
E47A **Iron Bridge** **89.21 28** P **P** **22 50 38.9 +0.2**
baz=326
LSQQ **Lebel-sur-Quev** **89.21 23** P **P** **22 50 39.0 +0.4**
baz=331
CHGQ **Chibougamau** **89.27 21** P **P** **22 50 39.4 +0.5**
baz=333,SNR=9.9
L40A **Anamosa** **89.33 35** P **P** **22 50 39.4 0.0**
baz=321
G46A **Petoskey** **89.52 30** P **P** **22 50 41.1 +0.9**
baz=325
E48A **Lockeyer** **89.61 28** P **P** **22 50 41.2 +0.6**
baz=327
D50A **G1974 Best Tow** **89.88 26** P **P** **22 50 42.0 +0.2**
baz=329
VLDQ **Val d'Or** **89.88 24** IAmb IAmb 22 51 03.9
comp=Z,19nm,0.8s
H46A **Fife Lake** **90.02 30** P **P** **22 50 43.7 +1.1**
baz=325
GLMI **Grayling** **90.03 30** P **P** **22 50 43.5 +0.9**
baz=325
D51A **Lot 18 Range I** **90.11 26** P **P** **22 50 43.1 +0.2**
baz=329
H47A **Mio** **90.38 30** P **P** **22 50 45.7 +1.5**
baz=326
D52A **ZEK Kipawa Sen** **90.54 25** P **P** **22 50 45.2 +0.3**
baz=330
D53A **Lac Vacive, Po** **90.70 25** P **P** **22 50 46.0 +0.4**
baz=330
D53A **Lac Vacive, Po** **90.70 25** IAmb IAmb 22 51 19.0
comp=Z,27nm,1.2s
WMOK **Wichita Mounta** **90.85 45** P **P** **22 50 47.5 +0.8**
baz=316,SNR=9.0
I48A **Sherman Twp** **90.92 30** P **P** **22 50 48.3 +1.6**
baz=326
D54A **Lac Fusel, La** **90.98 24** P **P** **22 50 47.2 +0.2**
baz=331
J47A **Sunmer** **91.25 31** P **P** **22 50 49.6 +1.4**
baz=325
HDIL **Hopedale** **91.42 35** P **P** **22 50 49.6 +0.5**
baz=322
D55A **Sainte-Anne-du** **91.49 23** P **P** **22 50 49.8 +0.5**
baz=332
J48A **Bridge Port** **91.62 30** P **P** **22 50 51.4 +1.4**
baz=326
K47A **Vermontville** **91.64 31** P **P** **22 50 50.7 +0.7**
baz=325
TUL1 **Leonard** **91.67 42** P **P** **22 50 51.0 +0.7**
baz=318,SNR=6.1
TX31 **Lajitas Ar. Si** **91.69 52** IAmb IAmb 22 51 17.1
comp=Z,11nm,0.8s
TX32 **Lajitas Array** **91.69 52** IAmb IAmb 22 51 17.1
comp=Z,11nm,0.8s
TXAR **Lajitas Array** **91.69 52** P **P** **22 50 51.6 +0.9**
comp=Z,6.9nm,0.6s,baz=301,slow=2.9,SNR=72
TXAR LR LR 23 26 10.6
comp=Z,317nm,21.7s,baz=0.0,slow=32
D56A **ZEC Mazanza, M** **91.69 23** P **P** **22 50 51.1 +0.9**
baz=332
J49A **Marlette** **91.84 30** P **P** **22 50 51.9 +1.0**
baz=326
ABTX **Abilene, Hawle** **91.86 47** P **P** **22 50 52.5 +1.1**
baz=316,SNR=7.6
ABTX **Abilene, Hawle** **91.86 47** IAmb IAmb 22 50 53.3
comp=Z,31nm,1.1s
K48A **Perry** **91.90 31** P **P** **22 50 51.6 +0.4**
baz=326
D57A **Chemin Vers le** **91.99 22** P **P** **22 50 52.3 +0.7**
baz=333
HPIG **92.02 54** IAmb IAmb 22 51 21.3
comp=Z,10nm,0.8s
HHAR **Hobbs** **92.39 41** IAmb IAmb 22 50 54.6
comp=Z,13nm,0.9s
CCM **Cathedral Cave** **92.42 38** P **P** **22 50 53.9 +0.2**
baz=321
CCM **Cathedral Cave** **92.42 38** P **P** **22 50 54.3 +0.5**
CCM pmax pmax
comp=Z,14nm,0.8s
CCM **Cathedral Cave** **92.42 38** P **P** **22 50 54.3 +0.5**
CCM IAmb IAmb 22 50 55.1
comp=Z,14nm,0.8s
E57A **Chemin Saint G** **92.45 23** P **P** **22 50 54.1 +0.3**
baz=333
L48A **N Adams** **92.47 32** P **P** **22 50 54.6 +0.7**
baz=326
MGMO **Mountain Grove** **92.60 39** IAmb IAmb 22 50 55.5
comp=Z,14nm,0.8s
E58A **La Victoria** **92.76 22** P **P** **22 50 56.0 +0.9**
baz=334
N47A **Urbana** **92.80 33** P **P** **22 50 55.9 +0.5**
baz=325
U40A **Yellville** **92.90 40** P **P** **22 50 56.4 +0.4**
baz=320,SNR=19
ALFO **Alfred** **92.91 24** P **P** **22 50 56.4 +0.5**
baz=332
N48A **Decatur** **93.11 33** P **P** **22 50 57.2 +0.3**
baz=326
JCT **Junction City** **93.29 48** P **P** **22 50 58.7 +0.7**
baz=316,SNR=6.3
JCT **Junction City** **93.29 48** IAmb IAmb 22 51 26.2
comp=Z,34nm,1.4s
N49A **Columbus Grove** **93.42 32** P **P** **22 50 58.9 +0.6**
baz=326
OLIL **Olney** **93.42 36** IAmb IAmb 22 51 00.4
comp=Z,22nm,0.9s
WHTX **Lake Whitney,** **93.60 46** P **P** **22 51 00.7 +1.4**
baz=317
WHTX **Lake Whitney,** **93.60 46** **pP** **22 51 16.0 -1.7**
WHTX IAmb IAmb 22 51 29.3
comp=Z,20nm,0.9s
S44A **Carbondale** **93.69 37** P **P** **22 51 00.4 +0.8**
baz=322
SIUC **Southern Illin** **93.69 37** IAmb IAmb 22 51 01.0
comp=Z,23nm,0.8s
F61A **St Evariste** **93.80 21** P **P** **22 51 00.7 +0.8**
baz=335
PBMO **Poplar Bluff** **93.82 38** IAmb IAmb 22 51 01.6
comp=Z,13nm,0.9s
MIAR **Mount Ida** **93.89 42** P **P** **22 51 01.4 +0.8**
baz=319,SNR=7.5
MIAR **Mount Ida** **93.89 42** IAmb IAmb 22 51 30.4
comp=Z,20nm,1.1s
O49A **Covington** **93.96 32** P **P** **22 51 01.4 +0.6**
baz=326
J55A **Hilton** **93.97 27** P **P** **22 51 01.3 +0.6**
baz=330
N50A **Nevada** **93.98 31** P **P** **22 51 01.8 +0.8**
baz=326
WHAR **Wooly Hollow** **94.01 40** pP 22 51 24.4 +4.9
F62A **Pittston Farm,** **94.17 20** P **P** **22 51 02.9 +1.2**
baz=336
H58A **Gabriels** **94.21 24** P **P** **22 51 02.5 +0.6**
baz=333
G61A **St-Isidore-de-** **94.27 22** P **P** **22 51 03.4 +1.3**
baz=335
E64A **Bridgewater** **94.27 19** P **P** **22 51 02.9 +0.8**
baz=338
O50A **Cable** **94.30 32** P **P** **22 51 03.2 +0.8**
baz=326,SNR=5.4
P49A **Miami Univ. Ec** **94.33 33** P **P** **22 51 02.8 +0.3**
baz=325
X40A **Basin Creek Fa** **94.33 41** P **P** **22 51 03.7 +1.1**
baz=320
Q48A **North Vernon** **94.36 34** P **P** **22 51 03.0 +0.3**
baz=324
ACSO **Alum Creek Sta** **94.50 32** P **P** **22 51 04.0 +0.7**
baz=326,SNR=5.2
P50A **Jamestown** **94.67 32** P **P** **22 51 04.5 +0.5**
baz=326
WCI **Wyandotte Cave** **94.67 35** P **P** **22 51 04.7 +0.6**
baz=324
WCI **Wyandotte Cave** **94.67 35** P **P** **22 51 04.8 +0.6**
WCI pmax pmax
comp=Z,15nm,0.7s
WCI **Wyandotte Cave** **94.67 35** P **P** **22 51 04.8 +0.7**
WCI IAmb IAmb 22 51 05.4
comp=Z,15nm,0.7s
Q49A **Aurora** **94.68 33** P **P** **22 51 04.7 +0.6**
baz=325
H62A **Milan** **95.02 22** P **P** **22 51 06.1 +0.5**
baz=335
G64A **Maxfield** **95.10 20** P **P** **22 51 07.3 +1.4**
baz=337
N54A **Moraine State** **95.12 29** P **P** **22 51 06.8 +0.7**
baz=328
KEST **Kesra** **95.19 322** P **P** **22 51 06.9 +0.3**
comp=Z,3.1nm,0.7s,baz=350,slow=3.0,SNR=4.6
KEST LR LR 23 38 02.5
comp=Z,502nm,18.4s,baz=7.5,slow=38
KEST **Kesra** **95.19 322** IAmb IAmb 22 51 27.3
comp=Z,23nm,1.4s
Q50A **Georgetown** **95.22 33** P **P** **22 51 07.2 +0.6**
baz=326
O53A **New Philadelph** **95.23 30** P **P** **22 51 07.3 +0.6**
baz=328
T47A **Sharon Grove** **95.29 36** P **P** **22 51 07.4 +0.4**
baz=324,SNR=9.2
Q51A **Peebles** **95.35 32** P **P** **22 51 07.6 +0.4**
baz=326,SNR=7.2
P52A **Corning** **95.36 31** P **P** **22 51 07.0 -0.2**
baz=327
S49A **Springfield** **95.50 34** P **P** **22 51 08.2 +0.3**
baz=325,SNR=6.3
R50A **Paris** **95.53 34** P **P** **22 51 08.6 +0.6**
baz=325
WVT **Waverly** **95.62 37** P **P** **22 51 08.9 +0.5**
baz=323
O54A **Avella** **95.62 30** P **P** **22 51 09.0 +0.6**
baz=328
N55A **Marion Center** **95.67 29** P **P** **22 51 09.2 +0.5**
baz=329
L58A **Harry Jones Me** **95.74 26** P **P** **22 51 09.6 +0.7**
baz=332
R51A **Hillsboro** **95.84 33** P **P** **22 51 09.8 +0.3**
baz=326
M57A **Sunshine Farm,** **95.89 27** P **P** **22 51 10.5 +0.9**
baz=331
L59A **Walton** **95.89 25** P **P** **22 51 10.4 +0.7**
baz=332
T49A **Edmonton** **95.94 35** P **P** **22 51 10.6 +0.6**
baz=324,SNR=5.3
T49A **Edmonton** **95.94 35** IAmb IAmb 22 51 12.1
comp=Z,16nm,1.1s
S50A **Richmond** **95.99 34** P **P** **22 51 10.6 +0.4**
baz=325,SNR=7.3
P54A **Burton** **96.08 30** P **P** **22 51 11.2 +0.7**
baz=328
M58A **Price's Panora** **96.11 27** P **P** **22 51 10.1 -0.6**
baz=331
N57A **Milroy** **96.24 28** P **P** **22 51 11.8 +0.6**
baz=330
Q53A **Leroy** **96.27 31** P **P** **22 51 12.2 +0.8**
baz=327
O56A **Blue Knob Stat** **96.27 29** P **P** **22 51 12.0 +0.5**
baz=330
MCWV **Mont Chateau** **96.28 30** P **P** **22 51 12.4 +0.9**
baz=329
U49A **Red Boiling Sp** **96.30 36** P **P** **22 51 11.9 +0.4**
baz=324,SNR=5.6
T50A **Nancy** **96.33 35** P **P** **22 51 12.1 +0.4**
baz=325,SNR=8.3
S51A **Beattyville** **96.38 33** P **P** **22 51 12.0 +0.1**
baz=326
P55A **Reedsville** **96.42 30** P **P** **22 51 12.5 +0.4**
baz=329
V48A **Smith Brothers** **96.42 37** P **P** **22 51 12.5 +0.3**
baz=324
Q54A **Coxs Mills** **96.45 31** P **P** **22 51 12.9 +0.7**
baz=328
S52A **Salyersville** **96.58 33** P **P** **22 51 13.2 +0.3**
baz=326
T51A **Gray** **96.78 34** P **P** **22 51 13.9 +0.2**
baz=326
U50A **Jamestown** **96.82 35** P **P** **22 51 14.4 +0.4**
baz=325
P56A **Dayton Farm, R** **96.82 29** P **P** **22 51 14.6 +0.7**
baz=329
W49A **Belvidere** **97.19 37** P Pdif 22 51 15.8 +0.1
baz=324
U51A **La Follette** **97.23 34** P **P** **22 51 15.5 -0.4**
baz=326
SWET **Sewanee** **97.28 36** IAmb IAmb 22 51 17.3
comp=Z,12nm,1.0s
TZTN **Tazewell** **97.31 34** P Pdif 22 51 16.5 +0.3
baz=326
U52A **Thorn Hill** **97.51 34** P Pdif 22 51 17.5 +0.4
baz=326
V51A **Loudon** **97.55 35** P Pdif 22 51 17.5 +0.2
baz=325
ESDC **Sonseca Array** **97.75 333** P **P** **22 51 17.6 -0.6**
comp=Z,2.0nm,0.9s,baz=4.4,slow=3.3,SNR=7.2
ESDC PP **PP** **22 55 17.0 +1.2**
comp=Z,3.3nm,1.0s,baz=35,slow=8.8,SNR=4.5
ESDC LR LR 23 39 35.7
comp=Z,233nm,18.0s,baz=20,slow=38
ESDC **Sonseca Array** **97.75 333** P **P** **22 51 18.1 0.0**
T54A **Tazewell** **97.75 32** P Pdif 22 51 18.7 +0.4
baz=327
V52A **Sevierville** **97.86 34** P Pdif 22 51 19.2 +0.5
baz=326
U53A **Fall Branch** **97.89 33** P Pdif 22 51 19.2 +0.3
baz=326
O61A **Allentown** **97.92 26** P **P** **22 51 17.2 -1.5**
baz=332
T55A **Pulaski** **98.05 32** P Pdif 22 51 19.8 +0.3
baz=328
T57A **Hurt** **98.79 31** Pdiff Pdif 22 51 23.0 +0.2
baz=329
BG3 **Lake Jocassee** **98.87 34** IAmb IAmb 22 51 24.6
comp=Z,5.3nm,0.6s
X53A **Estanollee** **99.10 35** Pdiff **Pdif** **22 51 25.0 +0.8**
baz=326
W54A **Cherokee Point** **99.13 34** Pdiff **Pdif** **22 51 24.7 +0.4**
baz=327
U57A **Blanch** **99.24 31** Pdiff **Pdif** **22 51 25.1 +0.3**
baz=329
Y54A **Tignall** **99.92 35** Pdiff **Pdif** **22 51 28.7 +0.8**
baz=326
LSZ **Lusaka** **116.36 270** PKIKP **PKiKP** **22 56 27.8 +0.9**
LSZ **Lusaka** **116.36 270** **PKiKP** **22 56 27.8 +0.9**
TOA0 **Torodi Ar. Sit** **117.27 313** **PKPdf** **22 56 28.5 -0.1**
TORD **Torodi Ar. Bea** **117.27 313** PKP **PKPdf** **22 56 27.1 -1.4**
comp=Z,3.6nm,0.5s,baz=2.2,slow=2.8,SNR=30
TORD PKKPbc **PKKPbc** **23 06 52.1 +0.8**
comp=Z,1.0nm,0.7s,baz=196,slow=2.9,SNR=4.3
SJCC **San Jacinto, C** **123.62 43** *e*P **PKPdf** **22 56 39.6 -1.3**
SJCC **San Jacinto, C** **123.62 43** *e*P **PKPdf** **22 56 39.6 -1.3**
CODC **Agustn Codazz** **124.54 41** *e*P **PKiKP** **22 56 42.7 -0.2**
CODC **Agustn Codazz** **124.54 41** *e*P **PKiKP** **22 56 42.7 -0.2**
SMLC **San Martn de** **125.14 43** *e*P **PKPdf** **22 56 43.7 0.0**
SMLC **San Martn de** **125.14 43** *e*P **PKPdf** **22 56 43.7 0.0**
BOSA **Boshof** **125.24 258** PKP **PKiKP** **22 56 44.1 +0.1**
comp=Z,16nm,0.8s,baz=76,slow=2.7,SNR=20
QSPA **South Pole Qui** **125.69 180** **PKPdf** **22 56 43.0 -0.2**
ZARC **Zaragoza, Cauc** **125.77 44** *e*P **PKPdf** **22 56 45.1 +0.1**
ZARC **Zaragoza, Cauc** **125.77 44** *e*P **PKPdf** **22 56 45.1 +0.1**
OCAC **Ocana** **126.01 42** *e*P **PKiKP** **22 56 46.4 +0.4**
OCAC **Ocana** **126.01 42** *e*P **PKiKP** **22 56 46.4 +0.4**
DBIC **Dimbokro** **126.28 315** PKP **PKPdf** **22 56 46.1 +0.2**
comp=Z,6.8nm,0.7s,baz=34,slow=1.7,SNR=11
TIC **Toumodi** **126.39 315** *e*PKP1 **PKPdf** **22 56 45.8 -0.4**
KIC **Kosan Boka** **126.46 314** *e*PKP1 **PKPdf** **22 56 45.5 -0.8**
comp=Z,48nm,1.1s
SYO **Syowa Base** **126.72 206⇑** *e*PKPdf **PKPdf** **22 56 43.7 -1.3**
SYO **Syowa Base** **126.72 206⇑** *i*PKiKP **PKPdf** **22 56 44.6 -0.4**
SYO **Syowa Base** **126.72 206⇑** *es*PKPdf sPKPdf 22 57 12.6 +1.6
BRRC **Barranca, Sant** **126.73 43** *e*P **PKiKP** **22 56 47.4 +0.1**
BRRC **Barranca, Sant** **126.73 43** *e*P **PKiKP** **22 56 47.4 +0.1**
LIC **Lamto** **126.74 315** *e*PKP1 **PKPdf** **22 56 46.4 -0.4**
comp=Z,55nm,1.1s
PTBC **PUERTO BERRIO** **126.78 45** *e*P **PKPdf** **22 56 46.7 -0.2**
PTBC **PUERTO BERRIO** **126.78 45** *e*P **PKPdf** **22 56 46.7 -0.2**
SDV **Santo Domingo** **126.89 39** *e*P **PKiKP** **22 56 47.8 -0.1**
SDV **Santo Domingo** **126.89 39** *e*P **PKiKP** **22 56 47.8 -0.1**
SDV **Santo Domingo** **126.89 39** **PKiKP** **22 56 47.6 -0.2**
PLMC **San Jos del P** **127.02 48** *e*P **PKiKP** **22 56 48.5 +0.6**
PLMC **San Jos del P** **127.02 48** *e*P **PKiKP** **22 56 48.5 +0.6**
TSUM **Tsumeb** **127.03 272** **PKiKP** **22 56 48.1 +0.3**
GUY2C **Guyana, Caldas** **127.31 46** *e*P **PKPdf** **22 56 48.5 0.0**
GUY2C **Guyana, Caldas** **127.31 46** *e*P **PKPdf** **22 56 48.5 0.0**
NORC **Norcasia** **127.33 46** *e*P **PKPdf** **22 56 47.9 -0.1**
NORC **Norcasia** **127.33 46** *e*P **PKPdf** **22 56 47.9 -0.1**
YOTC **Yotoco, Valle** **127.71 48** *e*P **PKiKP** **22 56 49.4 0.0**
YOTC **Yotoco, Valle** **127.71 48** *e*P **PKiKP** **22 56 49.4 0.0**
SPBC **San Pablo de B** **127.72 45** *e*P **PKiKP** **22 56 49.3 -0.1**
SPBC **San Pablo de B** **127.72 45** *e*P **PKiKP** **22 56 49.3 -0.1**
RUSC **La Rusia** **128.08 44** *e*P **PKPdf** **22 56 50.0 0.0**
RUSC **La Rusia** **128.08 44** *e*P **PKPdf** **22 56 50.0 0.0**
ROSC **El Rosal** **128.23 46** *e*P **PKiKP** **22 56 51.3 +0.5**
ROSC **El Rosal** **128.23 46** *e*P **PKiKP** **22 56 51.3 +0.5**
ORTC **Ortega, Tolima** **128.43 47** *e*P **PKPdf** **22 56 49.9 -0.2**
ORTC **Ortega, Tolima** **128.43 47** *e*P **PKPdf** **22 56 49.9 -0.2**
POPC **Popayan, Colom** **128.64 50** *e*P **PKPdf** **22 56 50.4 -0.3**
POPC **Popayan, Colom** **128.64 50** *e*P **PKPdf** **22 56 50.4 -0.3**
PCON **Cinco Dias** **128.98 50** *e*P **PKiKP** **22 56 53.1 +0.6**
PCON **Cinco Dias** **128.98 50** *e*P **PKiKP** **22 56 53.1 +0.6**
OTAV **Otavalo** **129.28 53** PKIKP **PKiKP** **22 56 53.2 +0.3**
OTAV **Otavalo** **129.28 53** **PKiKP** **22 56 53.2 +0.3**
FLOC **Florencia** **130.02 50** *e*P **PKiKP** **22 56 53.7 -0.2**
FLOC **Florencia** **130.02 50** *e*P **PKiKP** **22 56 53.7 -0.2**
NNA **Nana** **139.12 64** *i*PKIKP **PKPdf** **22 57 10.1 +0.1**
SNAA **Sanae** **139.37 197** PKPdf PKPdf 22 56 58.2 -11
SNAA **Sanae** **139.37 197** PKiKP **PKiKP** **22 57 11.7 +0.5**
VNA2 **Neumayer--Watz** **140.95 196** PKPdf **PKPdf** **22 57 04.6 -7.0**
VNA2 **Neumayer--Watz** **140.95 196** PKiKP **PKiKP** **22 57 14.8 +0.5**
VNA3 **Neumayer Olymp** **141.22 195** PKPdf **PKPdf** **22 57 05.5 -6.6**
VNA3 **Neumayer Olymp** **141.22 195** PKiKP **PKiKP** **22 57 15.5 +0.7**
VNA1 **Neumayer--Stat** **141.35 196** PKPdf **PKPdf** **22 57 08.1 -4.2**
SAML **Samuel** **145.82 44** PKP2 **PKPbc** **22 57 22.4 -0.1**
SAML **Samuel** **145.82 44** **PKPbc** **22 57 22.4 -0.1**
PMSA **Palmer Station** **147.73 161** **PKPbc** **22 57 27.2 +0.8**
LPAZ **La Paz** **148.23 59** PKIKP **PKPdf** **22 57 28.0 +1.4**
LPAZ **La Paz** **148.23 59** PKPbc **PKPdf** **22 57 27.9 +1.4**
comp=Z,23nm,0.8s,baz=261,slow=1.9,SNR=35
RCBR **Riachuelo** **149.79 352** PKP2 **PKiKP** **22 57 34.0 -0.3**
RCBR **Riachuelo** **149.79 352** **PKiKP** **22 57 34.0 -0.3**
LVC **Limon Verde** **151.62 70** PKIKP **PKiKP** **22 57 39.2 +1.0**

LVC	Limon Verde	151.62	70		PKiKP	22 57 39.2	+1.0
PLCA	Paso Flores	155.63	111	PKP	PKPdf	22 57 36.0	-0.4
	comp=Z,3.5nm,1.0s,baz=226,slow=4.8,SNR=5.3						
PLCA				PKPab	PKPab	22 58 03.5	+0.6
	comp=Z,5.8nm,1.0s,baz=245,slow=2.5,SNR=6.6						
PLCA	Paso Flores	155.63	111		PKPab	22 58 04.0	+1.2
BDFB	Brasilia	158.55	22	PKP	PKPdf	22 57 40.5	-0.3
	comp=Z,2.8nm,0.9s,baz=129,slow=6.5,SNR=3.6						
BDFB				PKPab	PKPab	22 58 16.3	+0.5
	comp=Z,10nm,0.9s,baz=2.7,slow=3.7,SNR=9.0						
BDFB	Brasilia	158.55	22		PKPab	22 58 17.4	+1.6
CPUP	Villa Florida	162.36	62	PKP	PKPdf	22 57 44.7	+0.2
	comp=Z,3.9nm,1.0s,baz=352,slow=3.0,SNR=6.7						

*ISCJB **09** 22:58:45.8±0.2, 30°.04S±0°.04×178°.02W±0°.08, h100km, mb4.3/7, Error ellipse: s-maj=10.8km s-min=3.0km az=26.6*
*NEIC **09** 22:58:45.0±1.7, 30°.03S±0°.06×177°.8W±0°.1, h81km±3km, mb4.6/38*
*IDC **09** 22:58:47.6±0.9, 29°.56S×177°.79W, h92km±6km, mb4.1/7, mb1 4.4/8, mb1mx4.0/30, mbtmp4.4/8, Error ellipse: s-maj=26.0km s-min=16.8km az=158.0*

ISC 09 22:58:47.0±0.5, 29°.93S±0°.06×177°.86W±0°.08, h100km, n103, σ2°.56/115, mb4.5/16, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.67	355	P	Pn	22 59 02.0	-2.2
GLKZ				S	Sn	22 59 13.0	-4.0
RAO	Raoul Island	0.68	355	P	Pn	22 59 02.0	-2.2
	3μm,0.3s,baz=100,slow=3.8,SNR=143						
RAO				S	Sn	22 59 13.8	-3.4
	8μm,0.3s,baz=73,slow=19,SNR=49						
RAO	Raoul Island	0.68	355	Pn	Pn	22 59 02.1	-2.2
RAO				Sn	Sn	22 59 12.8	-4.3
RIZ	Raoul Island	0.69	355	P	Pn	22 59 02.3	-2.0
RIZ				S	Sn	22 59 13.0	-4.3
MXZ	Matakaoa Point	8.25	202	P	Pn	23 00 40.3	-3.6
MXZ				S	Sn	23 02 15.0	-0.4
MXZ	Matakaoa Point	8.25	202	Pn	Pn	23 00 40.6	-3.3
WMGZ	Waiomatatini S	8.46	201	P	Pn	23 00 44.6	-2.0
WMGZ				S	Sn	23 02 22.2	+1.9
HAZ	Te Kaha	8.61	204	P	Pn	23 00 46.4	-2.3
HAZ				S	Sn	23 02 27.3	+3.4
PKGZ	Pakihiroa	8.62	202	P	Pn	23 00 46.3	-2.7
PKGZ				S	Sn	23 02 25.1	+0.6
PUZ	Puketiti	8.74	201	P	Pn	23 00 47.6	-2.9
PUZ				S	Sn	23 02 27.7	+0.5
RUGZ	Raukumara Rang	8.83	204	P	Pn	23 00 49.2	-2.6
RUGZ				S	Sn	23 02 25.9	-3.7
TWGZ	Tauwhareparae	8.92	202	P	Pn	23 00 50.5	-2.5
TWGZ				S	Sn	23 02 32.9	+1.2
OUZ	Omahuta	8.93	232		Pn	23 00 52.4	-0.8
CNGZ	Carnagh Statio	9.13	200	P	Pn	23 00 53.2	-2.6
CNGZ				S	Sn	23 02 30.5	-6.3
URZ	Urewera	9.29	205	P	Pn	23 00 55.3	-2.8
	1.6nm,0.3s,baz=274,slow=4.3,SNR=27						
URZ				S	Sn	23 02 41.6	+0.9
	26nm,0.3s,baz=148,slow=21,SNR=7.1						
URZ	Urewera	9.29	205	Pn	Pn	23 00 55.6	-2.4
RTZ	Ruatahuna	9.66	205	P	Pn	23 00 59.5	-3.6
RTZ				S	Sn	23 02 48.7	-1.0
KNZ	Kokohu	9.79	201	P	Pn	23 01 01.1	-3.6
KNZ				S	Sn	23 02 50.7	-2.0
BKZ	Black Stump Fm	10.32	205	P	Pn	23 01 07.9	-4.2
BKZ				S	Sn	23 03 03.9	-1.9
BKZ	Black Stump Fm	10.32	205	Pn	Pn	23 01 11.5	-0.6
HIZ	Hauiti	10.47	213	Pn	Pn	23 01 09.4	-4.7
BFZ	Birch Farm	11.75	203	Pn	Pn	23 01 25.8	-5.5
MSWZ	Moikau Station	12.75	204	Pn	Pn	23 01 41.4	-3.2
SNZO	South Karori	12.86	206		Sn	23 03 59.5	-7.7
BHW	Baring Head	12.88	205	Pn	Pn	23 01 42.3	-3.9
PLWZ	Palliser	12.88	204	Pn	Pn	23 01 44.0	-2.4
PLWZ					Sn	23 04 00.6	-7.4
NIUE	Niue	12.99	35	Pn	Pn	23 01 46.0	-1.8
TUWZ	Tuamarina	13.26	208	Pn	Pn	23 01 48.5	-2.7
NNZ	Nelson	13.32	210	Pn	Pn	23 01 50.0	-2.0
NNZ					Sn	23 04 13.5	-5.0
QRZ	Quartz Range	13.39	213	Pn	Pn	23 01 50.8	-2.1
QRZ					Sn	23 04 16.8	-3.5
BSWZ	Blackbirch Sta	13.53	207	Pn	Pn	23 01 52.7	-2.0
THZ	Tophouse	13.97	210	Pn	Pn	23 01 58.1	-2.4
KHZ	Kahutara	14.26	207	Pn	Pn	23 01 59.0	-5.1
LTZ	Lake Taylor	15.07	209	Pn	Pn	23 02 12.4	-2.2
OXZ	Oxford	15.62	208	Pn	Pn	23 02 16.3	-5.1
OXZ				IAmb	IAmb	23 02 27.4	
	comp=Z,33nm,0.8s						
MQZ	McQueen's Vall	15.69	206	Pn	Pn	23 02 18.9	-3.4
DZM	Mont Dzumac	16.13	295	P	P	23 02 34.1	+4.7
	comp=Z,0.8nm,0.3s,baz=137,slow=16,SNR=11						
DZM	Mont Dzumac	16.13	295	Pn	Pn	23 02 26.3	-1.7
DZM				IAmb	IAmb	23 02 36.6	
	comp=Z,85nm,1.5s						
RPZ	Rata Peaks	16.35	210	P	P	23 02 32.4	+0.8
	comp=Z,2.3nm,0.3s,baz=139,slow=19,SNR=5.4						
RPZ				S	Sn	23 05 18.3	-13
	comp=Z,3.2nm,0.3s,baz=129,slow=21,SNR=9.0						
RPZ	Rata Peaks	16.35	210		Pn	23 02 28.0	-2.5
RPZ				IAmb	IAmb	23 02 39.5	
	comp=Z,41nm,1.3s						
FOZ	Fox Glacier	16.76	213	Pn	Pn	23 02 31.5	-4.0
LBZ	Lake Benmore	17.26	210		P	23 02 39.8	-1.9
LBZ				IAmb	IAmb	23 02 46.5	
	comp=Z,51nm,1.4s						
WKZ	Wanaka	18.13	211	P	P	23 02 48.9	-2.3
WKZ				IAmb	IAmb	23 02 51.0	
	comp=Z,63nm,1.4s						
RAR	Rarotonga	18.46	66	P	P	23 02 53.5	-1.5
	comp=Z,1.5nm,0.3s,baz=236,slow=18,SNR=3.6						
RAR				S	S	23 06 01.7	-19
	comp=Z,1.7nm,0.3s,baz=12,slow=18,SNR=3.5						
RAR	Rarotonga	18.46	66	IAmb	IAmb	23 03 09.7	
	comp=Z,79nm,1.4s						
MLZ	Mavora Lakes	18.95	212	P	P	23 02 58.5	-1.7
STKA	Stephens Creek	34.71	256	P	P	23 05 31.2	+3.8
	comp=Z,7.8nm,0.6s,baz=97,slow=11,SNR=20						
AS31	Alice Springs	43.26	266	P	P	23 06 40.4	+1.6
ASAR	Alice Springs	43.26	266	P	P	23 06 40.3	+1.5
	comp=Z,3.7nm,0.4s,baz=105,slow=7.7,SNR=79						
ASAR				ScP	ScP	23 12 10.8	+2.3
	comp=Z,0.6nm,0.7s,baz=114,slow=3.6,SNR=4.1						
ASAR				S	S	23 13 00.0	+1.2
	comp=Z,0.9nm,1.0s,baz=105,slow=16,SNR=6.5						
WB2	Warramunga Arr	44.20	272	P	P	23 06 46.3	0.0
WRA	Warramunga Arr	44.21	272	P	P	23 06 47.7	+1.3
	comp=Z,8.3nm,0.5s,baz=111,slow=7.7,SNR=93						
WRA				ScP	ScP	23 12 14.8	+2.5
	comp=Z,0.5nm,0.6s,baz=104,slow=3.9,SNR=4.1						
WRA				S	S	23 13 10.7	-1.9
	comp=Z,1.2nm,0.9s,baz=108,slow=14,SNR=5.1						
WRA	Warramunga Arr	44.21	272	P	P	23 06 46.7	+0.2
FORT	Forrest	46.29	255	P	P	23 07 02.9	+0.2
QSPA	South Pole Qui	60.18	180	P	P	23 08 48.2	+4.1
	comp=Z,0.8nm,0.5s,baz=283,slow=1.7,SNR=9.1						
SYO	Syowa Base	77.60	193	eP	P	23 10 36.4	+4.7
SNAA	Sanae	78.62	178	P	P	23 10 39.9	+2.5
VNA3	Neumayer Olymp	78.76	176	P	P	23 10 40.6	+2.4
VNA2	Neumayer--Watz	79.20	177	P	P	23 10 43.1	+2.5
	baz=184,slow=3.6						
VNA1	Neumayer--Stat	79.43	176	P	P	23 10 43.6	+1.8
KNMB	Chin-men Tao	81.64	304	P	P	23 10 53.8	-0.4
CMB	Columbia Colle	86.33	42	P	P	23 11 18.9	+1.0
CMB				IAmb	IAmb	23 11 19.6	
	comp=Z,4.1nm,0.8s						
PNTR	Pine Nut	87.50	41	P	P	23 11 24.4	+0.7
PNTR				IAmb	IAmb	23 11 25.5	
	comp=Z,5.1nm,0.8s						
YERR	Yerington	87.63	42	P	P	23 11 24.9	+0.5
YERR				IAmb	IAmb	23 11 26.0	
	comp=Z,3.8nm,0.8s						
NVAR	Mina Array Bea	87.81	43	P	P	23 11 26.4	+1.1
	comp=Z,2.7nm,0.7s,baz=223,slow=8.4,SNR=15						
NVAR	Mina Array Bea	87.81	43	P	P	23 11 25.9	+0.7
NV11	Mina Array Sit	87.90	43	P	P	23 11 26.1	+0.5
NV11				IAmb	IAmb	23 11 26.9	
	comp=Z,3.8nm,1.0s						
PAHR	Pah Rah Range	88.03	41	P	P	23 11 26.9	+0.7
TPNV	Topopah Spring	88.08	45	P	P	23 11 27.5	+1.0
TPNV				IAmb	IAmb	23 11 28.8	
	comp=Z,4.5nm,0.9s						
KVN	Kaiserville	88.34	42	IAmb	IAmb	23 11 29.2	
	comp=Z,3.5nm,0.8s						
W13A	Hualapai Mount	88.38	47	P	P	23 11 29.4	+1.4
W13A				IAmb	IAmb	23 11 30.6	
	comp=Z,2.9nm,0.9s						
TUC	Tucson	88.72	51	P	P	23 11 30.7	+1.2
TUC				IAmb	IAmb	23 11 32.1	
	comp=Z,3.4nm,0.8s						
MOD	Modoc Plateau	89.00	39	P	P	23 11 31.4	+0.7
MOD				IAmb	IAmb	23 11 33.3	
	comp=Z,3.7nm,1.0s						
U15A	North Rim	90.22	47	P	P	23 11 38.2	+1.5
CCUT	Cedar City	90.24	46	P	P	23 11 38.3	+1.6
KNB	Kanab	90.25	47	P	P	23 11 37.2	+0.5
WUAZ	Wupatki	90.26	48	P	P	23 11 38.2	+1.4
PSUT	Pine Spring	90.55	45	P	P	23 11 38.7	+0.6
X18A	Snowflake	90.60	50	P	P	23 11 40.0	+1.6
121A	Cookes Peak, D	90.90	53	P	P	23 11 40.2	+0.4
MTPU	Mount Pierson	91.28	46	P	P	23 11 42.7	+1.1
MSU	Marysvale	91.57	46	P	P	23 11 44.1	+1.3
G08A	Pilot Rock	92.01	37	P	P	23 11 45.8	+1.2
TXAR	Lajitas Array	92.03	57	P	P	23 11 45.0	0.0
	comp=Z,1.4nm,1.0s,baz=211,slow=6.2,SNR=7.3						
TXAR	Lajitas Array	92.03	57	P	P	23 11 46.0	+0.9
MNTX	Cornudas Mount	92.11	54	P	P	23 11 46.0	+0.8
SPUT	South Promonto	93.11	43	P	P	23 11 50.2	+0.4
HVU	Hansel Valley	93.21	43	P	P	23 11 50.5	+0.2
PLID	Pearl Lake	93.46	39	P	P	23 11 51.3	-0.1
PDAR	Pinedale Array	95.71	43	P	P	23 12 02.0	+0.3
	comp=Z,0.3nm,0.7s,baz=254,slow=3.3,SNR=3.1						
BVAR	Borovoye Array	126.16	316	PKP	PKiKP	23 17 37.5	-0.2
	comp=Z,0.3nm,0.4s,baz=153,slow=0.3,SNR=3.3						
H10S3	ASCENSION HYDR	138.09	155	T	T	01 53 37.8	
	baz=204,slow=74,SNR=15						
H10S2	ASCENSION HYDR	138.10	155	T	T	01 53 37.9	
	baz=16,slow=74,SNR=20						
ARCES	ARCESS Array B	138.16	348	PKP	PKPdf	23 17 59.1	-0.2
	comp=Z,2.3nm,0.7s,baz=1.9,slow=3.6,SNR=5.9						
H10N3	ASCENSION HYDR	139.18	154	T	T	01 54 58.9	
	baz=204,slow=75,SNR=19						
H10N1	ASCENSION HYDR	139.18	154	T	T	01 54 58.8	
	baz=204,slow=75,SNR=21						
H10N2	ASCENSION HYDR	139.20	154	T	T	01 54 58.7	
	baz=204,slow=75,SNR=21						
FINES	FINESS Array B	144.75	340	PKP	PKPbc	23 18 10.7	+0.2
	comp=Z,17nm,0.5s,baz=63,slow=3.4,SNR=160						
NB2	NORSAR Subarra	148.31	352	PKP	PKPbc	23 18 21.2	+0.2
	comp=Z,2.7nm,0.6s,baz=12,slow=2.8						
NOA	NORSAR Array B	148.31	352	PKPbc	PKPbc	23 18 21.2	+0.2
	comp=Z,4.3nm,0.7s,baz=16,slow=4.2,SNR=14						
AKASG	Malin Array Be	151.00	323	PKPbc	PKiKP	23 18 28.1	-0.2
	comp=Z,0.9nm,0.4s,baz=45,slow=2.8,SNR=11						
BRTR	Keskin Array B	152.48	299	PKPbc	PKiKP	23 18 31.8	-0.2
	comp=Z,0.6nm,0.8s,baz=43,slow=4.9,SNR=3.0						
CLL	Collm	157.16	342	ePKPab	PKPab	23 19 02.0	+0.3
TORD	Torodi Ar. Bea	163.29	178	PKPab	PKPab	23 19 31.7	+2.4
	comp=Z,0.6nm,0.5s,baz=175,slow=4.3,SNR=3.6						

ISC 09 23:07:06.1±2.0, 51°.43N±0°.09×16°.10E±0°.05, h0km, n11, σ0°.59/22, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.60	168	ePg	Pg	23 07 17.4	-0.2
KSP				ePg	Pg	23 07 17.4	-0.2
KSP				eSg	Sg	23 07 25.9	+0.6
KSP				eSg	Sg	23 07 25.9	+0.6
UPC	Upice	0.93	183	ePG	Pg	23 07 24.0	+0.1
UPC				eSG	Sg	23 07 36.4	+0.6
	comp=Z,4.8nm,0.4s						
DPC	Dobruska-Polom	1.09	173	ePG	Pg	23 07 26.2	-0.8
DPC				eSG	Sg	23 07 41.7	+0.6
PVCC	Panska Ves	1.32	228	ePG	Pg	23 07 31.0	-0.5
PVCC				eSG	Sb	23 07 49.7	+0.4
	comp=Z,17nm,0.2s						
KRLC	Kraliky	1.42	162	ePG	Pn	23 07 32.5	-0.8
KRLC				eSG	Sg	23 07 51.0	-0.8
BRG	Berggiesshubel	1.47	249	PG	Pn	23 07 33.5	-0.4
BRG				SG	Sg	23 07 53.2	-0.1
	7.7nm,0.3s						
PRU	Pruhonice	1.75	215	ePG	Pn	23 07 38.0	+0.3
PRU				eSG	Sb	23 08 01.7	+0.1
CLL	Collm	1.95	268	ePg	Pn	23 07 41.0	+0.6
CLL				eSg	Sb	23 08 08.0	+0.8
OKC	Ostrava-Krasne	2.06	140	eSG	Sb	23 08 11.1	+0.6
NKC	Novy Kostel	2.61	244	eSG	Sg	23 08 28.7	-1.2
KHC	Kasperske Hory	2.81	216	ePG	Pb	23 07 57.4	+0.1
KHC				eSG	Sg	23 08 36.4	-0.1

*SJA **09** 23:20:53.5±0.6, 31°.80S×72°.50W, h62km±9km, ML3.8, MW4.0*
*GUC **09** 23:20:57.4±0.7, 31°.77S×71°.94W, h41km±3km, ML3.5*

ISC 09 23:20:54.0±2.3, 31°.77S±0°.04×72°.12W±0°.09, h3km±14km, n20, σ1°.88/28, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	Combarbal	1.11	60⇓	iP	Pg	23 21 15.5	+0.3
CO02				iS	Sg	23 21 28.4	-1.2
CO02				IAML		23 21 32.4	
	comp=N,5μm,0.2s						
VA01	Torpederas	1.31	163	eP	Pb	23 21 19.8	+0.5
VA01				eS	Sb	23 21 36.1	-0.5
VA01				IAML		23 21 37.7	
	comp=E,1μm,0.3s						
ROCH	El Roble	1.52	142⇑	eP	Pn	23 21 22.6	+0.2
ROCH				eS	Sn	23 21 41.5	-1.3
ROCH				IAML		23 21 49.5	
	comp=E,1μm,0.6s						
PEL	Peldehue	1.83	139⇑	eP	Pn	23 21 26.8	+0.4
PEL				iS	Sn	23 21 48.6	-1.6
PEL				IAML		23 21 55.8	
	comp=E,727nm,0.4s						
GO04	Tololo Observa	1.95	36⇑	eP	Pn	23 21 28.2	0.0
GO04				iS	Sn	23 21 52.4	-1.0
GO04	Tololo Observa	1.95	36	iP	Pn	23 21 29.0	+0.8
GO04				eS	Sb	23 21 56.4	+1.3
RTLS	Leoncito	2.40	91	iP	Pb	23 21 37.8	-0.3
RTLS				eS	Sb	23 22 08.0	-0.3
RTLS				IAML		23 22 09.6	
	comp=Z,203nm,0.7s						
AROD	Rodeo	2.77	56	iP	Pb	23 21 42.6	-1.8
AROD				eS	Sb	23 22 18.9	0.0
ACCO	Cerro Coronel	2.87	67	iP	Pb	23 21 44.4	-1.7
ZON	Zonda	2.94	87	iP	Pn	23 21 45.0	+3.3
ZON				eS	Sb	23 22 22.2	-1.3
ZON				IAML		23 22 30.6	
	comp=Z,94nm,0.6s						
RTCV	Cerro Valdivia	3.05	93	iP	Pn	23 21 46.2	+3.0
RTLL	Cerro Villicun	3.14	83	iP	Pn	23 21 47.5	+3.1
RTLL				IAML		23 22 38.5	
	comp=Z,137nm,0.4s						
AMOG	MOGNA	3.21	76	iP	Pn	23 21 48.7	+3.3
CFA	Coronel Fontan	3.31	88	iP	Pn	23 21 49.8	+3.0
ACAN	Cantantal	4.22	98	iP	Pn	23 21 59.5	+0.2
VCA	Vinchina	4.54	49	iP	Pn	23 22 05.9	+2.2
VCA				IAML		23 23 26.9	
	comp=Z,188nm,0.8s						
MRA	San Martin	5.47	99	iP	Pn	23 22 18.8	+2.3
MRA				IAML		23 23 30.8	
	comp=Z,48nm,0.6s						
CYA	Choya	6.40	60⇓	iP	Pn	23 22 30.9	+1.7
CYA				IAML		23 22 35.8	
	comp=Z,23nm,0.6s						
TCA	Tanti	6.43	88	iP	Pn	23 22 31.9	+2.1
TCA				IAML		23 23 53.5	
	comp=Z,33nm,0.6s						
AHML	Horco Molle	7.73	52	iP	Pn	23 22 52.2	+4.7

IDC 09 23:21:02.2±1.9, 32°.96S×179°.02W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/34, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=47.6km s-min=33.2km az=62.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.16	210	Pn	Pn	23 22 33.9	-0.5
	2.0nm,0.3s,baz=279,slow=5.5,SNR=30						
URZ				Sn	Sn	23 23 36.6	-8.9
	0.6nm,0.3s,baz=195,slow=19,SNR=2.0						
ASAR	Alice Springs	42.18	270	P	P	23 28 57.4	+0.5
	0.7nm,0.6s,baz=106,slow=7.1,SNR=7.1						
WRA	Warramunga Arr	43.40	275	P	P	23 29 06.3	-0.5
	0.5nm,0.4s,baz=116,slow=7.9,SNR=8.8						
QSPA	South Pole Qui	57.16	180	P	P	23 30 50.6	0.0
	1.9nm,1.1s,baz=155,slow=2.7,SNR=4.2						
FINES	FINESS Array B	147.22	338	PKPbc	PKPbc	23 40 45.9	-0.8
	2.8nm,0.9s,baz=60,slow=3.4,SNR=7.4						

IDC 09 23:21:37.8±3.4, 6°.25S×150°.18E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/31, mbtmp3.8/4, ML2.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=108.3km s-min=42.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.33	223	Pn	Pn	23 22 46.0	+1.0
	5.8nm,0.3s,baz=14,slow=7.5,SNR=7.4						
PMG				Sn	Sn	23 23 32.8	-3.4
	9.3nm,0.3s,baz=237,slow=24,SNR=6.4						
WRA	Warramunga Arr	20.54	227	P	P	23 26 17.9	-0.2
	3.1nm,0.5s,baz=52,slow=11,SNR=46						
ASAR	Alice Springs	23.34	220	P	P	23 26 47.1	-0.8
	0.5nm,0.4s,baz=56,slow=8.7,SNR=7.2						
FITZ	Fitzroy Crossi	26.68	242	P	P	23 27 18.6	-0.2
	1.5nm,0.6s,baz=67,slow=10,SNR=6.0						
PETK	Petropavlovsk-	59.48	5	LR	LR	23 57 08.6	
	comp=Z,34nm,18.4s,baz=58,slow=36						
TORD	Torodi Ar. Bea	148.21	285	PKPbc	PKPbc	23 41 26.8	-0.1
	0.5nm,0.7s,baz=93,slow=3.9,SNR=6.3						

*ISCJB **09** 23:28:08.2±0.5, 36°.04S±0°.08×101°.93W±0°.10, h10km, mb4.0/7, Error ellipse: s-maj=11.5km s-min=11.3km az=40.2*
*IDC **09** 23:28:08.9±1.3, 36°.06S×101°.89W, h0km, mb4.0/7, mb1 4.3/7, mb1mx3.9/39, mbtmp4.0/7, Error ellipse: s-maj=42.4km s-min=29.3km az=67.0*
*NEIC **09** 23:28:10.4±1.4, 36°.05S±0°.07×101°.8W±0°.1, h10km±1km, mb4.3/19*

ISC 09 23:28:10.1±0.6, 36°.06S±0°.10×101°.9W±0°.1, h10km, n34, σ0°.99/30, mb4.1/11, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	10.94	322	Pn	Pn	23 30 47.4	+0.7
GO06	Curarrehue	24.22	108	P	P	23 33 27.1	0.0
ROC1	El Roble	25.56	92	P	P	23 33 39.5	0.0
LVC	Limon Verde	31.55	74	P	P	23 34 32.6	-0.6
LVC				IAmb	IAmb	23 34 33.9	
	comp=Z,2.3nm,0.9s						
LPAZ	La Paz	35.86	66	P	P	23 35 10.8	-0.2
	comp=Z,2.7nm,0.8s,baz=226,slow=7.0,SNR=9.0						
LPAZ	La Paz	35.86	66	P	P	23 35 10.8	-0.2
LPAZ				IAmb	IAmb	23 35 12.7	
	comp=Z,4.6nm,1.0s						
PAYG	Puerto Ayora	36.81	20	P	P	23 35 19.4	+1.0
OTAV	Otavalo	42.17	36	P	P	23 36 02.5	-1.2
OTAV				IAmb	IAmb	23 36 04.2	
	comp=Z,4.0nm,1.1s						
ROSC	El Rosal	48.18	38	P	P	23 36 52.8	+1.5
	comp=Z,4.5nm,0.4s,baz=296,slow=18,SNR=3.7						
ROSC	El Rosal	48.18	38	P	P	23 36 52.1	+0.8
ROSC				IAmb	IAmb	23 36 53.2	
	comp=Z,4.7nm,0.7s						
ESPN	Las Esperanzas	50.78	22	P	P	23 37 11.1	+0.5
ESPN				IAmb	IAmb	23 37 26.3	
	comp=Z,6.1nm,0.8s						
RAR	Rarotonga	52.22	270	P	P	23 37 22.2	+0.7
QSPA	South Pole Qui	54.16	180	P	P	23 37 36.0	+0.7
SBA	Scott Base	55.35	195	P	P	23 37 43.9	+0.3
SNAA	Sanae	58.96	159	P	P	23 38 09.8	+0.5
	comp=Z,1.1nm,0.9s,baz=306,slow=6.4,SNR=3.8						
SNAA	Sanae	58.96	159	IAmb	IAmb	23 38 25.5	
	comp=Z,2.7nm,1.1s						
EMPR	Esperanza - Ma	63.72	38	P	P	23 38 43.6	+1.5
NNZ	Nelson	63.86	237	P	P	23 38 41.8	-1.0
MTP	Monte Pirata	63.89	39	P	P	23 38 42.5	-0.7
833A	Chaparral WMA,	64.08	2	P	P	23 38 42.3	-1.9
XMAS	Kiritimati	64.08	294	P	P	23 38 42.9	-1.7
CUPR	Culebra, Puert	64.21	39	P	P	23 38 43.7	-1.6
SKI	Saint Kitts	64.73	42	P	P	23 38 48.4	-0.4
TXAR	Lajitas Array	65.06	358	P	P	23 38 51.1	+0.3
	comp=Z,0.3nm,0.8s,baz=163,slow=6.6,SNR=2.3						
ANWB	Willy Bob	65.53	42	P	P	23 38 51.9	-2.0
NVAR	Mina Array Bea	75.66	347	P	P	23 39 56.9	+1.4
	comp=Z,0.2nm,0.4s,baz=173,slow=6.3,SNR=6.0						
PDAR	Pinedale Array	78.76	354	P	P	23 40 13.0	+0.1
	comp=Z,1.1nm,0.7s,baz=164,slow=6.6,SNR=9.5						
PDAR	Pinedale Array	78.76	354	P	P	23 40 13.0	+0.1
TPAW	Teton Pass	79.60	353	P	P	23 40 18.0	+0.5
TPAW				IAmb	IAmb	23 40 22.7	
	comp=Z,4.4nm,1.1s						
NEW	Newport	85.04	350	P	P	23 40 45.3	-0.3
	comp=Z,0.8nm,0.4s,baz=45,slow=18,SNR=3.5						
H01W1	Cape Leeuwin H	101.83	210	T	T	01 36 40.1	
	baz=150,slow=76,SNR=5.5						
H01W2	Cape Leeuwin H	101.83	210	T	T	01 36 40.2	
	baz=150,slow=76,SNR=6.8						
H01W3	Cape Leeuwin H	101.84	210	T	T	01 36 41.3	
	baz=150,slow=76,SNR=5.9

comp=Z,713nm,22.0s,baz=220,slow=31
LPAZ La Paz 31.52 44 P **P 23 51 53.0 0.0**
ATAH Atahualpa 35.71 21 P **P 23 52 29.9 +0.7**
comp=Z,111nm,0.9s,baz=193,slow=11,SNR=5.8
SAML Samuel 40.27 44 P **P 23 53 06.4 -0.9**
OTAV Otavalo 42.78 18 P **P 23 53 28.0 -0.4**
BDFB Brasilia 44.62 68 LR LR 00 11 36.7
comp=Z,621nm,18.2s,baz=248,slow=35
ROSC El Rosal 48.26 22 P **P 23 54 12.6 +0.9**
comp=Z,5.3nm,0.4s,baz=179,slow=5.6,SNR=7.1
ROSC LR LR 00 11 52.6
comp=Z,192nm,20.4s,baz=159,slow=33
ROSC El Rosal 48.26 22 P **P 23 54 12.8 +1.2**
QSPA South Pole Qui 48.90 180 P **P 23 54 16.5 +0.7**
comp=Z,0.6nm,0.6s,baz=129,slow=2.6,SNR=5.4
PTGA Pitinga 48.91 42 P **P 23 54 16.8 +0.6**
SNAA Sanae 50.65 156 P **P 23 54 29.7 +0.8**
TBI Tubuai 52.01 271 *e*LR LR 00 09 39.6
comp=Z,917nm,28.2s,baz=125
TAOE Nuku Hiva Isla 54.41 292 *e*LR LR 00 10 51.1
comp=Z,412nm,25.2s
PPT2 Papeete2 55.52 277 *e*S S 00 03 03.9 +13
comp=Z,245nm,25.5s
PPT2 *e*LR LR 00 11 15.2
comp=Z,780nm,27.5s,baz=129
PPT Papeete 55.53 277 LR LR 00 13 27.9
comp=Z,97nm,19.1s,baz=137,slow=30
SYO Syowa Base 63.95 162‖ *e*pP **P 23 56 03.4 +0.7**
LTZ Lake Taylor 67.98 232 P **P 23 56 29.3 +0.1**
TX31 Lajitas Ar. Si 71.37 348 P **P 23 56 51.0 +0.9**
TX31 IAmb IAmb 23 56 59.2
comp=Z,7.0nm,1.1s
TXAR Lajitas Array 71.37 348 P **P 23 56 49.6 -0.5**
comp=Z,2.8nm,1.1s,baz=167,slow=7.5,SNR=15
TXAR Lajitas Array 71.37 348 P **P 23 56 49.9 -0.2**
MSTX Muleshoe 75.79 349 P **P 23 57 16.8 +0.8**
CPCT Cooper Cave 76.61 5 P **P 23 57 20.8 +0.3**
CPCT IAmb IAmb 23 57 28.9
comp=Z,4.3nm,0.8s
V53A Saluda 76.95 6 P **P 23 57 22.9 +0.4**
V53A IAmb IAmb 23 57 30.3
comp=Z,5.6nm,0.8s
TUL1 Leonard 77.03 356 P **P 23 57 22.9 +0.1**
TUL1 IAmb IAmb 23 57 25.2
comp=Z,9.1nm,1.0s
V56A Mocksville 77.31 8 P **P 23 57 24.3 -0.2**
V56A IAmb IAmb 23 57 24.5
comp=Z,9.9nm,1.1s
ANMO Albuquerque 77.32 347 P **P 23 57 25.7 +0.9**
ANMO IAmb IAmb 23 57 40.9
comp=Z,3.0nm,1.1s
S51A Beattyville 78.85 6 P **P 23 57 32.2 -0.7**
CCM Cathedral Cave 79.02 359 P **P 23 57 34.2 +0.3**
T60A Surry 79.10 11 P **P 23 57 35.4 +1.1**
PV01 Paradox Valley 80.81 346 P **P 23 57 44.1 +0.3**
PV01 IAmb IAmb 23 57 53.4
comp=Z,6.8nm,1.1s
P53A Whipple 80.86 7 P **P 23 57 44.6 +0.8**
P53A IAmb IAmb 23 57 52.0
comp=Z,9.1nm,0.9s
SMCO Snowmass 81.54 347 P **P 23 57 47.2 -0.7**
SMCO IAmb IAmb 23 58 00.0
comp=Z,4.7nm,1.1s
SUR Sutherland 83.13 127 P **P 23 57 55.0 -1.5**
SUR IAmb IAmb 23 58 04.3
comp=Z,5.9nm,0.9s
NVAR Mina Array Bea 83.36 338 P **P 23 57 57.4 +0.2**
comp=Z,1.0nm,0.9s,baz=174,slow=6.5,SNR=5.8
NVAR Mina Array Bea 83.36 338 P **P 23 57 58.5 +1.3**
KVN Kaiserville 83.88 339 P **P 23 58 00.5 +0.7**
KVN IAmb IAmb 23 58 09.3
comp=Z,3.9nm,1.1s
PNTR Pine Nut 84.34 338 P **P 23 58 01.8 -0.4**
PNTR IAmb IAmb 23 58 12.1
comp=Z,3.2nm,0.9s
K58A Earlville 84.77 11 P **P 23 58 03.9 -0.2**
ECSD EROS Data Cent 84.87 356 P **P 23 58 04.1 -0.4**
J55A Hilton 84.98 9 P **P 23 58 04.8 -0.2**
DZM Mont Dzumac 84.99 245 *e*LR LR 00 25 05.3
comp=Z,587nm,32.5s
PDAR Pinedale Array 85.48 346 P **P 23 58 08.2 +0.3**
comp=Z,0.5nm,0.8s,baz=172,slow=4.5,SNR=5.9
PDAR LR LR 00 30 02.4
comp=Z,54nm,19.2s,baz=38,slow=31
PDAR Pinedale Array 85.48 346 P **P 23 58 08.3 +0.5**
SADO Sadowa 86.32 8 P **P 23 58 12.8 +1.2**
CRZF Crozet Islands 86.39 155 P **P 23 58 11.4 -0.9**
STKA Stephens Creek 92.77 222 LR LR 00 33 10.9
comp=Z,51nm,20.6s,baz=201,slow=31
SCHQ Schefferville 97.90 14 LR LR 00 41 52.2
comp=Z,48nm,18.5s,baz=332,slow=35
KBZ Khabaz 145.88 70 PKPbc **PKPab 00 05 09.7 0.0**
comp=Z,1.4nm,0.9s,baz=333,slow=4.0,SNR=5.1
KSRS Korea Array 150.26 275 PKPbc **PKPbc 00 05 20.7 -0.4**
comp=Z,1.3nm,0.7s,baz=110,slow=3.0,SNR=4.1
BVAR Borovoye Array 162.56 41 PKP **PKPdf 00 05 29.8 -1.6**
comp=Z,0.2nm,0.4s,baz=329,slow=2.5,SNR=2.5
ZALV Zalesovo Beam 166.99 13 PKP **PKPdf 00 05 32.5 -2.7**
comp=Z,0.4nm,0.3s,baz=264,slow=2.6,SNR=3.9

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*ISCJB **09** 23:50:55.0±0.3, 0.°03N±0.°06×67.°15E±0.°05, h10km, mb4.1/20, MS3.8/15, Error ellipse: s-maj=9.3km s-min=6.9km az=154.1*
*IDC **09** 23:50:55.8±0.6, 0.°01N×67.°08E, h0km, mb4.0/16, mb1 4.1/17, mb1mx3.9/64, mbtmp4.0/17, ML4.6/1, MS3.8/15, Ms1 3.8/15, ms1mx3.6/35, Error ellipse: s-maj=18.9km s-min=15.1km az=163.0*
*BJI **09** 23:50:56.3±0.0, 0.°02N×67.°23E, h10km, mb4.4/12, mB4.9/5, Ms4.5/3, Ms7 4.1/2*
*NEIC **09** 23:50:56.8±1.5, 0.°06S±0.°10×67.°17E±0.°08, h10km±1km, mb4.6/21*
ISC 09 23:50:57.0±0.4, 0.°02S±0.°08×67.°13E±0.°06, h10km, n80, σ1§19/67, mb4.4/25, MS3.8/16, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.89**	**85**		**Pn**	**23 52 21.8**	**-2.7**
H08N2	**Diego Garcia H**	**7.36**	**148**	T	T	00 00 12.1	
baz=328,slow=76,SNR=1281							
H08N3	**Diego Garcia H**	**7.37**	**149**	T	T	00 00 03.3	
baz=328,slow=76,SNR=1423							
H08N1	**Diego Garcia H**	**7.38**	**148**	T	T	00 00 17.2	
baz=328,slow=76,SNR=1489							
HMDM	**Hanimaadhoo**	**9.06**	**42**		**Pn**	**23 53 07.0**	**-1.0**
MNCI	**Minicoy**	**10.15**	**36**	Pn	**Pn**	**23 53 21.3**	**-1.6**
MSEY	**Mahe Island**	**12.52**	**248**		**Pn**	**23 53 56.3**	**+0.9**
PALK	**Pallekele**	**15.36**	**62**	Pn	**Pn**	**23 54 34.1**	**0.0**
2.6nm,0.3s,baz=296,slow=7.8,SNR=19							
PALK				LR	LR	23 59 14.1	
comp=Z,762nm,19.9s,baz=297,slow=32							
PALK	**Pallekele**	**15.36**	**62**		**Pn**	**23 54 34.2**	**0.0**
PALK				IAmb	IAmb	23 54 49.7	
comp=Z,55nm,1.4s							
WSAR	**Wadi Sarin**	**24.55**	**341**	LR	LR	00 04 12.5	
comp=Z,117nm,19.6s,baz=168,slow=32							
ATD	**Arta Tunnel**	**26.70**	**296**	LR	LR	00 04 57.2	
comp=Z,67nm,18.1s,baz=12,slow=32							
ATD	**Arta Tunnel**	**26.70**	**296**	P	**P**	**23 56 32.8**	**-4.0**
ATD				IAmb	IAmb	23 56 34.4	
comp=Z,13nm,1.1s							
OPO	**Ambohidratompo**	**26.89**	**226**	LR	LR	00 04 43.6	
comp=Z,176nm,20.0s,baz=195,slow=31							
KMBO	**Kilima Mbogo**	**29.89**	**268**	P	**P**	**23 57 06.7**	**+1.1**
comp=Z,0.7nm,0.6s,baz=60,slow=20,SNR=3.2							
KMBO				LR	LR	00 08 22.1	
comp=Z,154nm,18.1s,baz=96,slow=35							
KMBO	**Kilima Mbogo**	**29.89**	**268**	P	**P**	**23 57 03.8**	**-1.8**
RPSI	**Rantau Prapat**	**31.90**	**85**		**PcP**	**00 00 14.8**	**+1.1**
PSI	**Prapat**	**31.91**	**85**	LR	LR	00 07 56.4	
comp=Z,250nm,20.9s,baz=210,slow=32							
MNAI	**Manna**	**36.05**	**97**	P	**P**	**23 57 58.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**36.25**	**58**	P	**P**	**23 58 02.7**	**+1.9**
comp=Z,0.3nm,0.3s,baz=244,slow=10,SNR=3.6							
CMAR				PcP	**PcP**	**00 00 27.1**	**+1.1**
comp=Z,0.3nm,0.4s,baz=252,slow=4.6,SNR=3.5							
CMAR				LR	LR	00 12 43.7	
comp=Z,144nm,18.6s,baz=191,slow=36							
CMAR	**Chiang Mai Arr**	**36.25**	**58**	P	**P**	**23 58 00.9**	**+0.2**
GEYT	**Alibeck**	**38.67**	**349**	LR	LR	00 13 50.6	
comp=Z,102nm,19.7s,baz=160,slow=36							
XMIS	**Christmas Isla**	**39.69**	**106**	P	**P**	**23 58 28.1**	**-1.8**
LSZ	**Lusaka**	**41.34**	**247**	P	**P**	**23 58 43.6**	**-0.1**
comp=Z,1.6nm,0.2s,baz=98,slow=9.1,SNR=4.0							
AAK	**Ala-Archa**	**42.98**	**8**	P	**P**	**23 58 56.0**	**-0.7**
comp=Z,0.5nm,0.4s,baz=189,slow=8.7,SNR=4.1							
LBTB	**Lobatse**	**47.20**	**235**	P	**P**	**23 59 31.4**	**+0.9**
comp=Z,2.8nm,0.8s,baz=88,slow=10,SNR=3.9							
LBTB	**Lobatse**	**47.20**	**235**	P	**P**	**23 59 30.8**	**+0.3**
WMQ	**Urumqi**	**47.36**	**20**	*e*P	**P**	**23 59 32.6**	**+1.2**
WMQ				pP	sP	23 59 35.5	+1.2
WMQ				pmax	pmax		
comp=Z,6.0nm,1.3s							
WMQ				pmax	pmax		
comp=Z,91nm,4.9s							
WMQ				LR	LR		
comp=Z,700nm,20.7s							
MKAR	**Makanchi Array**	**48.48**	**14**	P	**P**	**23 59 40.2**	**+0.3**
comp=Z,1.5nm,0.9s,baz=189,slow=7.1,SNR=4.2							
MKAR				LR	LR	00 19 40.3	
comp=Z,57nm,19.8s,baz=204,slow=36							
MKAR	**Makanchi Array**	**48.48**	**14**	P	**P**	**23 59 40.0**	**0.0**
KBZ	**Khabaz**	**48.64**	**337**	P	**P**	**23 59 41.6**	**+0.5**
comp=Z,2.9nm,1.0s,baz=116,slow=6.8,SNR=6.3							
BOSA	**Boshof**	**49.09**	**231**	P	**P**	**23 59 44.6**	**-0.4**
comp=Z,5.3nm,1.0s,baz=26,slow=8.0,SNR=4.5							
BOSA				LR	LR	00 17 28.6	
comp=Z,175nm,20.6s,baz=358,slow=32							
BOSA	**Boshof**	**49.09**	**231**	IAmb	IAmb	23 59 46.9	
comp=Z,9.8nm,1.1s							
GTA	**Gaotai**	**49.33**	**33**	*e*P	**P**	**23 59 47.4**	**+0.7**
GTA				pP	sP	23 59 51.2	+1.5
GTA				sP	pwP	23 59 53.8	+0.6
GTA				pmax	pmax		
comp=Z,2.0nm,0.8s							
GTA				LR	LR		
comp=Z,190nm,15.2s							
GTA				LR	LR		
comp=Z,190nm,15.2s							
GTA				LR	LR		
comp=Z,200nm,16.2s							
ABKAR	**Akbulak array**	**49.48**	**354**	P	**P**	**23 59 47.5**	**0.0**
BRTR	**Keskin Array B**	**49.98**	**326**	P	**P**	**23 59 50.9**	**-0.8**
comp=Z,1.9nm,0.9s,baz=141,slow=10,SNR=12							
BRTR	**Keskin Array B**	**49.98**	**326**	P	**P**	**23 59 51.7**	**-0.1**
BR131	**Keskin Array S**	**49.99**	**326**	P	**P**	**23 59 52.2**	**+0.4**
KARP	**Karpathos**	**51.33**	**318**	P	**P**	**23 59 59.9**	**-1.9**
WIN	**Windhoek**	**53.56**	**242**	P	**P**	**00 00 18.1**	**-0.7**
WIN				IAmb	IAmb	00 00 26.8	
comp=Z,11nm,1.2s							
WHN	**Wuhan**	**54.15**	**51**	P	P	00 00 31.4	+8.7
WHN				pmax	pmax		
comp=Z,30nm,0.5s							
ZALV	**Zalesovo Beam**	**55.75**	**13**	P	**P**	**00 00 33.6**	**-0.2**
comp=Z,1.7nm,0.8s,baz=224,slow=6.2,SNR=8.1							
ZALV				LR	LR	00 25 15.6	
comp=Z,72nm,18.5s,baz=214,slow=37							
ZALV	**Zalesovo Beam**	**55.75**	**13**	P	**P**	**00 00 33.2**	**-0.6**
AGG	**Agios Georgios**	**56.46**	**319**	P	**P**	**00 00 37.4**	**-1.9**
FNA	**Florina**	**58.02**	**320**	P	**P**	**00 00 49.5**	**-0.9**
FNA				IAmb	IAmb	00 00 50.3	
comp=Z,4.1nm,1.1s							
SONM	**Songino Array**	**58.58**	**30**	P	**P**	**00 00 55.2**	**+1.0**
comp=Z,2.2nm,1.1s,baz=210,slow=8.0,SNR=7.3							
SONM				LR	LR	00 26 16.0	
comp=Z,355nm,19.4s,baz=220,slow=36							
SONM	**Songino Array**	**58.58**	**30**	P	**P**	**00 00 54.5**	**+0.3**
BURAR	**Bucovina Array**	**59.78**	**328**	P	**P**	**00 01 02.7**	**+0.2**
BJI	**Beijing**	**59.81**	**42**	*e*P	**P**	**00 01 05.0**	**+2.3**
BJI				pmax	pmax		
comp=Z,13nm,2.2s							
TLY	**Talaya**	**59.99**	**25**	LR	LR	00 26 45.8	
comp=Z,132nm,19.6s,baz=254,slow=36							
TLY	**Talaya**	**59.99**	**25**	P	**P**	**00 01 03.8**	**-0.1**
TLY				IAmb	IAmb	00 01 12.8	
comp=Z,6.4nm,1.0s							
FITZ	**Fitzroy Crossi**	**60.21**	**111**	P	**P**	**00 01 04.7**	**-1.1**
FITZ				IAmb	IAmb	00 01 22.4	
comp=Z,5.7nm,1.2s							
KLMR	**Klimovskoe**	**64.31**	**345**	*e*P	**P**	**00 01 30.6**	**-1.9**
KLMR				AMP		00 01 42.7	
comp=Z,22nm,1.4s							
TORD	**Torodi Ar. Bea**	**66.11**	**284**	P	**P**	**00 01 45.5**	**+0.4**
comp=Z,0.4nm,0.5s,baz=75,slow=6.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**66.11**	**284**	IAmb	IAmb	00 01 53.5	
comp=Z,1.4nm,1.2s							
KSRS	**Korea Array**	**67.17**	**49**	LR	LR	00 33 28.5	
comp=Z,53nm,18.3s,baz=264,slow=38							
WRA	**Warramunga Arr**	**68.62**	**111**	P	**P**	**00 02 01.3**	**+0.3**
comp=Z,2.0nm,0.7s,baz=286,slow=6.0,SNR=15							
WRA	**Warramunga Arr**	**68.62**	**111**	P	**P**	**00 02 00.6**	**-0.4**
WB2	**Warramunga Arr**	**68.64**	**111**	P	**P**	**00 02 01.0**	**-0.1**
ASAR	**Alice Springs**	**68.80**	**115**	P	**P**	**00 02 02.1**	**+0.1**
comp=Z,1.2nm,0.7s,baz=286,slow=6.2,SNR=21							
ASAR	**Alice Springs**	**68.80**	**115**	P	**P**	**00 02 01.4**	**-0.6**
NRIK	**Noril'sk**	**70.59**	**8**	LR	LR	00 33 58.1	
comp=Z,69nm,18.8s,baz=216,slow=37							
HFS	**Hagfors**	**72.67**	**335**	P	**P**	**00 02 24.1**	**-0.8**
comp=Z,2.1nm,0.7s,baz=164,slow=5.8,SNR=3.3							
ESDC	**Sonseca Array**	**75.53**	**311**	P	**P**	**00 02 41.5**	**-0.6**
comp=Z,0.6nm,0.7s,baz=90,slow=5.9,SNR=4.4							
ESDC	**Sonseca Array**	**75.53**	**311**	P	**P**	**00 02 41.2**	**-0.9**
SPA0	**Spitsbergen Ar**	**82.53**	**351**	P	**P**	**00 03 20.2**	**+0.6**
TAU	**Tasmania Unive**	**82.80**	**133**	P	**P**	**00 03 21.2**	**-0.5**
SNAA	**Sanae**	**83.76**	**197**	P	**P**	**00 03 25.5**	**-0.6**
VNA2	**Neumayer--Watz**	**84.94**	**199**	P	**P**	**00 03 33.3**	**+1.2**
baz=35,slow=3.4							
VNA3	**Neumayer Olymp**	**85.74**	**198**	P	**P**	**00 03 37.0**	**+0.9**
NVAR	**Mina Array Bea**	**141.45**	**7**	PKP	**PKPdf**	**00 10 30.0**	**+0.8**
comp=Z,0.6nm,0.8s,baz=253,slow=1.5,SNR=4.5							
NVAR	**Mina Array Bea**	**141.45**	**7**	PKPdf	**PKPdf**	**00 10 29.9**	**+0.7**
WUAZ	**Wupatki**	**144.66**	**358**	PKPdf	**PKPab**	**00 10 34.8**	**+1.4**
OTAV	**Otavalo**	**145.57**	**270**	PKPdf	**PKPdf**	**00 10 36.9**	**-0.6**
LENM	**Lemitar**	**145.59**	**351**		**PKPdf**	**00 10 37.7**	**+1.2**
MNTX	**Cornudas Mount**	**147.71**	**348**		**PKPdf**	**00 10 42.9**	**+2.9**
TUC	**Tucson**	**147.82**	**357**		**PKPbc**	**00 10 44.4**	**+1.3**
214A	**Organ Pipe Nat**	**148.24**	**360**		**PKPbc**	**00 10 45.3**	**+1.2**
TXAR	**Lajitas Array**	**149.55**	**344**	PKPbc	**PKPbc**	**00 10 47.9**	**+0.2**
comp=Z,2.1nm,0.8s,baz=62,slow=3.0,SNR=16							
TXAR	**Lajitas Array**	**149.55**	**344**		**PKPbc**	**00 10 48.0**	**+0.3**
TGUH	**Tegucigalpa,Un**	**151.07**	**300**		**PKPbc**	**00 10 52.5**	**+0.8**

ROM 09 23:56:22.5±0.1, 40.°671N±0.°007×16.°267E±0.°009, h28km±1km, ML2.1/16, 4D, Error ellipse: s-maj=0.8km s-min=0.5km az=30.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIGL	**Miglionico**	**0.15**	**116**	P	Pb	23 56 28.0	+0.1
MIGL				S	Sb	23 56 32.2	+0.6
MIGL				AML	AML		
comp=E,3540μm,0.4s							
MIGL				AML	AML		
comp=N,6855μm,0.2s							
ACER	**Acerenza**	**0.27**	**295**	P	Pb	23 56 29.5	+0.1
ACER				S	Sb	23 56 34.8	+0.7
ACER				AML	AML		
comp=E,2375μm,0.4s							
ACER				AML	AML		
comp=N,2195μm,0.3s							
ACER				AML	AML		
comp=N,2300μm,0.3s							
ACER				AML	AML		
comp=E,2510μm,0.3s							
ACER				AML	AML		
comp=E,2370μm,0.4s							
CRAC	**Craco**	**0.33**	**157**	P	Pb	23 56 30.4	+0.2
CRAC				S	Sn	23 56 36.8	-0.6
CRAC				AML	AML		
comp=N,1044μm,0.3s							
CRAC				AML	AML		
comp=E,910μm,0.4s							
MATE	**Matera**	**0.33**	**93**	P	Pb	23 56 30.3	+0.2
MATE				S	Sb	23 56 35.9	+0.5
MATE				AML	AML		
comp=N,472μm,0.4s							
MATE				AML	AML		
comp=E,334μm,0.9s							
AMUR	**Altamura**	**0.35**	**47**	P	Pb	23 56 30.4	0.0
AMUR				S	Sb	23 56 36.3	+0.4
AMUR				AML	AML		
comp=E,354μm,1.4s							
AMUR				AML	AML		
comp=N,274μm,1.5s							
AMUR				AML	AML		
comp=E,355μm,1.4s							
PZUN	**Potenza**	**0.35**	**266**	P	Pb	23 56 30.8	+0.4
PZUN				S	Sn	23 56 37.1	-0.7
PZUN				AML	AML		
comp=E,182μm,0.3s							
PZUN				AML	AML		
comp=E,183μm,0.3s							
PZUN				AML	AML		
comp=N,232μm,0.6s							
SG1	**Sgolgore (BA)**	**0.36**	**61**‖	*i*Pg	Pb	23 56 30.6	0.0
SG1				Sg	Sb	23 56 36.6	+0.5
PALZ	**Palazzo San Ge**	**0.36**	**320**	P	Pb	23 56 30.8	+0.1
PALZ				S	Sb	23 56 36.4	+0.2
PALZ				AML	AML		
comp=N,462μm,1.1s							
PALZ				AML	AML		
comp=E,492μm,1.5s							
MRVN	**Minervino Murg**	**0.39**	**352**	P	Pb	23 56 31.1	-0.1
MRVN				S	Sb	23 56 37.1	0.0
MRVN				AML	AML		
comp=N,268μm,1.0s							
MRVN				AML	AML		
comp=E,262μm,0.2s							
SCHR	**S. Chirico Rap**	**0.49**	**197**	P	Pb	23 56 32.6	-0.1
SCHR				AML	AML		
comp=E,109μm,0.2s							
SCHR				AML	AML		
comp=N,114μm,0.3s							
SCHR				AML	AML		
comp=E,109μm,0.2s							
SCHR				AML	AML		
comp=N,114μm,0.3s							
MCEL	**Monticello**	**0.49**	**226**	P	Pb	23 56 32.4	-0.4
MCEL				S	Sn	23 56 40.7	-0.8
MCEL				AML	AML		
comp=E,392μm,0.3s							
MCEL				AML	AML		
comp=E,396μm,0.3s							
MCEL				AML	AML		
comp=N,198μm,0.3s							
MCEL				AML	AML		
comp=N,200μm,0.3s							
SLCN	**Sala Consilina**	**0.56**	**240**	P	Pb	23 56 33.5	-0.3
SLCN				AML	AML		
comp=N,278μm,1.6s							
SLCN				AML	AML		
comp=E,338μm,0.3s							
SLCN				AML	AML		
comp=N,278μm,1.6s							
MTSN	**Montesano sull**	**0.56**	**224**	P	Pb	23 56 33.5	-0.5
SIRI	**Monte Sirino -**	**0.57**	**212**	P	Pb	23 56 33.5	-0.6
SIRI				AML	AML		
comp=E,160μm,1.3s							
SIRI				AML	AML		
comp=N,154μm,1.3s							
MRLC	**Muro Lucano**	**0.60**	**279**	P	Pb	23 56 34.7	+0.2
MRLC				AML	AML		
comp=E,60μm,0.9s							
MRLC				AML	AML		
comp=E,60μm,0.9s							
MRLC				AML	AML		
comp=N,82μm,1.3s							
NOCI	**Noci**	**0.62**	**79**	P	Pb	23 56 35.1	+0.3
NOCI				AML	AML		
comp=N,688μm,1.1s							
NOCI				AML	AML		
comp=E,530μm,0.5s							
BAI	**Bari**	**0.64**	**47**‖	*i*Pg	Pn	23 56 36.1	+0.4
BAI				Sg	Sn	23 56 45.5	+0.6
MASS	**Massafra**	**0.67**	**93**‖	*i*Pg	Pn	23 56 36.9	+0.8
MASS				Sg	Sn	23 56 46.6	+0.9
TAR1	**Taranto**	**0.79**	**100**	*e*Pg	Pn	23 56 39.1	+1.4
TAR1				Sg	Sn	23 56 51.5	+2.9
SALB	**San Lorenzo Be**	**0.80**	**176**	P	Pb	23 56 37.2	-0.6
SALB				AML	AML		
comp=E,117μm,0.2s							
SALB				AML	AML		
comp=N,69μm,0.2s							
CMPR	**Campora**	**0.81**	**245**	P	Pb	23 56 37.7	-0.4
CMPR				AML	AML		
comp=E,71μm,1.6s							
CMPR				AML	AML		
comp=N,68μm,0.6s							
FASA	**Fasano**	**0.84**	**80**‖	*i*Pg	Pn	23 56 40.1	+1.7
FASA				Sg	Sn	23 56 51.9	+2.0
MSAG	**Monte S. Angel**	**1.07**	**346**	P	Pb	23 56 42.8	+0.3
SGRT	**San Giovanni R**	**1.15**	**340**	P	Pb	23 56 44.3	+0.5
MELA	**Melanico ??? S**	**1.34**	**321**	P	Pb	23 56 46.5	-0.6

NIC 09 23:59:26.7±0.0, 35.°44N×29.°59E, h32km±19km, Ml2.7/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.71**	**360**	P	Pn	23 59 40.5	-0.1
KSL				S	Sn	23 59 50.4	-0.1
AKMS	**Akamas**	**2.29**	**100**	P	Pn	00 00 02.0	-0.2
AKMS				AML	AML	00 00 12.1	
0.2nm,1.0s							
AKMS				AML	AML	00 00 12.1	
0.2nm,1.0s							
AKMS				S	Sn	00 00 28.8	-0.5
AKMS				AML	AML	00 00 31.9	
0.1nm,0.7s							
AKMS				AML	AML	00 00 31.9	
0.1nm,0.7s							
ALFC	**Alefka**	**2.48**	**96**	P	Pn	00 00 04.8	-0.1
ALFC				S	Sn	00 00 33.7	-0.3
ALFC				AML	AML	00 00 35.8	
ALFC				AML	AML	00 00 35.8	
ALFC				AML	AML	00 00 37.3	
0.1nm,0.3s							
ALFC				AML	AML	00 00 37.3	
0.1nm,0.3s							
NATA	**Nata**	**2.53**	**104**	P	Pn	00 00 05.7	+0.1
NATA				S	Sn	00 00 35.0	-0.3
NATA				AML	AML	00 00 38.7	
0.1nm,0.6s							
NATA				AML	AML	00 00 38.7	
0.1nm,0.6s							
SZAC	**Souni**	**2.78**	**103**	P	Pn	00 00 09.5	+0.4
SZAC				S	Sn	00 00 41.2	-0.4
ASGA	**Asgata**	**3.07**	**101**	P	Pn	00 00 13.8	+0.8
ASGA				AML	AML	00 00 52.2	
ASGA				AML	AML	00 00 52.6	
0.1nm,0.6s							
CSS	**Mathiatis**	**3.10**	**98**	P	Pn	00 00 13.9	+0.5
MVOU	**Mavrovouni**	**3.33**	**96**	P	Pn	00 00 16.6	-0.1

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*ISCJB **10** 00:17:21.4±0.4, 51.°38N±0.°02×16.°17E±0.°02, h0km, Error ellipse: s-maj=3.3km s-min=2.1km az=10.2*
*IDC **10** 00:17:22.9±0.8, 51.°49N×16.°02E, h0km, mb1 3.4/5, mb1mx3.2/49, mbtmp3.3/5, ML2.6/5, Error ellipse: s-maj=15.5km s-min=7.5km az=114.0*
*BGR **10** 00:17:23.2±0.4, 51.°40N×16.°19E, h1km, ML3.1/12, Error ellipse: s-maj=5.6km s-min=2.2km az=18.0*
*VIE **10** 00:17:24.3±1.4, 51.°33N×16.°25E, h0km, mb2.4/6, ml3.0/8, Error ellipse: s-maj=14.8km s-min=6.9km az=55.0 59 km WNW of Wroclaw Suspected Mining induced.*
*LJU **10** 00:17:35.0, 45.°80N×14.°81E, h4km, ML0.0*
ISC 10 00:17:20.3±0.7, 51.°51N±0.°03×16.°20E±0.°02, h0km, n52, σ1§63/129, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**175**	*e*Pg	**Pb**	**00 17 34.4**	**-0.5**
KSP				*e*Sg	**Sg**	**00 17 41.7**	**-0.2**
KSP	**Ksiaz**	**0.67**	**175**	*i* Pg	**Pb**	**00 17 34.4**	**-0.5**
KSP				*i* Pg	**Pb**	**00 17 34.4**	**-0.5**
KSP				*e*Sg	**Sg**	**00 17 42.2**	**+0.3**
KSP				*e*Sg	**Sg**	**00 17 42.2**	**+0.3**
CHVC	**Chvalec**	**0.93**	**186**	*e*PG	**Pb**	**00 17 39.3**	**0.0**
CHVC				*e*

PVCC	**Panska Ves**	**1.43 227**	*e*PG	**Pb**	**00 17 48.5**	**+0.8**
PVCC			*e*SG	**Sn**	**00 18 07.4**	**+0.6**
	comp=Z,210nm,0.4s					
KRLC	**Kraliky**	**1.49 165**	*e*PG	**Pg**	**00 17 48.8**	**+0.1**
KRLC			*e*SG	**Sg**	**00 18 07.1**	**-0.8**
	comp=Z,62nm,0.5s					
BRG	**Berggiesshubel**	**1.56 247**	PN	**Pg**	**00 17 50.8**	**+0.7**
BRG			PG	**Pg**	**00 17 51.6**	**+1.6**
BRG			SG	**Sg**	**00 18 11.8**	**+1.5**
	67nm,0.5s					
BRG	**Berggiesshubel**	**1.56 247**	*e*Pn	**Pb**	**00 17 50.0**	**0.0**
BRG			*e*Pg	**Pg**	**00 17 51.7**	**+1.6**
BRG			*e*Sg	**Sg**	**00 18 11.8**	**+1.5**
PRA	**Prague**	**1.83 219**	*e*PG	**Pb**	**00 17 54.8**	**+0.2**
PRA			*e*SG	**Sb**	**00 18 18.7**	**+0.7**
	comp=Z,32nm,0.4s					
GOPC	**GO Pecny, Ondr**	**1.83 210**	*e*PN	**Pb**	**00 17 54.2**	**-0.5**
GOPC			*e*PG	**Pg**	**00 17 55.5**	**+0.1**
GOPC			*e*SG	**Sb**	**00 18 18.5**	**+0.3**
	comp=Z,58nm,0.6s					
PRU	**Pruhonice**	**1.85 215**	*e*PN	**Pb**	**00 17 54.6**	**-0.4**
PRU			*e*PG	**Pg**	**00 17 55.8**	**0.0**
PRU			*e*SG	**Sb**	**00 18 18.9**	**+0.2**
	comp=Z,64nm,0.5s					
RAC	**Raciborz**	**1.91 138**	*e*Pg	**Pg**	**00 17 57.6**	**+0.8**
RAC			*e*Pg	**Pg**	**00 17 57.6**	**+0.8**
RAC			*e*Sg	**Sg**	**00 18 21.9**	**+0.3**
RAC			*e*Sg	**Sg**	**00 18 21.9**	**+0.3**
MORC	**Moravsky Berou**	**1.94 153**	*e*Pn	**Pn**	**00 17 55.2**	**+0.7**
MORC			*e*Sg	**Sb**	**00 18 21.6**	**+0.4**
MORC	**Moravsky Berou**	**1.94 153**	*e*PN	**Pn**	**00 17 55.1**	**+0.6**
MORC			*e*SG	**Sn**	**00 18 18.6**	**-0.9**
CLL	**Collm**	**2.01 265**	*e*Pn	**Pb**	**00 17 57.0**	**-0.7**
CLL			*i* Sg	**Sg**	**00 18 26.9**	**+2.0**
	comp=Z,32nm,0.7s					
CLL	**Collm**	**2.01 265**	*e*Pn	**Pn**	**00 17 56.5**	**+1.1**
CLL			*e*Sg	**Sg**	**00 18 26.4**	**+1.5**
OKC	**Ostrava-Krasne**	**2.08 143**	*e*Pn	**Pn**	**00 17 55.9**	**-0.6**
OKC			*e*Sg	**Sb**	**00 18 25.8**	**+0.5**
OKC	**Ostrava-Krasne**	**2.08 143**	*e*PN	**Pn**	**00 17 57.3**	**+0.8**
OKC			*e*PG	**Pg**	**00 17 59.8**	**-0.4**
OKC			*e*SG	**Sg**	**00 18 26.9**	**-0.3**
	comp=Z,48nm,0.6s					
VRAC	**Vranov**	**2.22 173**	*e*PN	**Pn**	**00 17 59.3**	**+0.9**
VRAC			*e*SG	**Sb**	**00 18 29.9**	**+0.6**
TREC	**Trest**	**2.27 192**	*e*PN	**Pn**	**00 18 00.1**	**+1.1**
TREC			*e*PG	**Pg**	**00 18 03.2**	**-0.5**
TREC			*e*SG	**Sb**	**00 18 31.5**	**+0.9**
	comp=Z,40nm,0.4s					
PBCC	**Pribram**	**2.31 218**	*e*PN	**Pn**	**00 18 00.8**	**+1.3**
PBCC			*e*PG	**Pg**	**00 18 04.1**	**-0.3**
PBCC			*e*SG	**Sg**	**00 18 33.8**	**-0.5**
	comp=Z,12nm,0.6s					
KRUC	**Moravsky**	**2.46 177**	*e*PN	**Pn**	**00 18 03.1**	**+1.5**
KRUC			*e*SG	**Sb**	**00 18 37.1**	**+1.0**
TANN	**Tannenbergstha**	**2.61 247**	*e*Pn	**Pn**	**00 18 05.5**	**+1.8**
TANN			*e*Sg	**Sg**	**00 18 42.8**	**-1.1**
OJC	**Ojcow**	**2.62 118**	*e*Pn	**Pn**	**00 18 03.9**	**+0.1**
OJC			*e*Sg	**Sg**	**00 18 45.9**	**+1.5**
OJC	**Ojcow**	**2.62 118**	*e*Pn	**Pn**	**00 18 03.7**	**-0.2**
OJC			*e*Pn	**Pn**	**00 18 03.7**	**-0.2**
OJC			*e*Pg	**Pg**	**00 18 11.8**	**+1.3**
OJC			*e*Pg	**Pg**	**00 18 11.8**	**+1.3**
OJC			*e*Sn	**Sn**	**00 18 36.7**	**+0.3**
OJC			*e*Sn	**Sn**	**00 18 36.7**	**+0.3**
OJC			*e*Sg	**Sg**	**00 18 46.6**	**+2.2**
OJC			*e*Sg	**Sg**	**00 18 46.6**	**+2.2**
NKC	**Novy Kostel**	**2.70 243**	*e*PN	**Pn**	**00 18 06.8**	**+1.9**
NKC			*e*PG	**Pg**	**00 18 12.0**	**0.0**
NKC			*e*SG	**Sg**	**00 18 47.7**	**+0.7**
	comp=Z,46nm,0.4s					
KHC	**Kasperske Hory**	**2.92 216**	*e*PN	**Pn**	**00 18 09.4**	**+1.5**
KHC			*e*PG	**Pg**	**00 18 15.1**	**-1.0**
KHC			*e*SN	**Sn**	**00 18 44.2**	**+0.5**
KHC			*e*SG	**Sg**	**00 18 52.5**	**-1.4**
	comp=Z,17nm,0.3s					
MOX	**Moxa**	**3.02 255**	*e*Pn	**Pn**	**00 18 11.2**	**+1.9**
MOX			*e*Sg	**Sg**	**00 18 58.6**	**+1.4**
SMOL	**Smolenice**	**3.10 165**	*e*PN	Pn	00 18 05.1	-5.4
SMOL			*e*PG	**Pg**	**00 18 21.4**	**+1.7**
SMOL			*e*SG	**Sg**	**00 19 00.3**	**+0.3**
SMOL			*e*LG	Lg	00 19 05.8	
GEC2	**GERESS Array S**	**3.12 212**	*e*Pn	**Pn**	**00 18 12.4**	**+1.6**
GEC2			*e*Pg	**Pg**	**00 18 18.7**	**-1.3**
GEC2			*e*Sg	**Sb**	**00 18 57.7**	**+2.6**
GERES	**GERESS Array B**	**3.12 212**	Pn	**Pn**	**00 18 12.1**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=14					
GERES			Pg	**Pb**	**00 18 18.4**	**+1.9**
	comp=Z,4.3nm,0.3s,baz=27,slow=24,SNR=65					
GERES			Lg	Lg	00 18 58.2	
	comp=Z,6.8nm,0.3s,baz=29,slow=28,SNR=13					
LANS	**Liptovska Anna**	**3.16 137**	*e*PN	**Pn**	**00 18 07.2**	**-4.1**
LANS			*e*PG	**Pg**	**00 18 22.1**	**+1.3**
LANS			*e*SG	**Sg**	**00 19 06.6**	**-1.1**
LANS			*e*LG	Lg	00 19 09.9	
WET	**Wettzell**	**3.19 223**	*e*Pn	**Pn**	**00 18 13.0**	**+1.4**
WET			*e*Sg	**Sg**	**00 19 00.7**	**-1.9**
MODS	**Modra-Piesok**	**3.22 167**	*e*PN	**Pn**	**00 18 09.2**	**-2.9**
MODS			*e*PG	**Pg**	**00 18 21.7**	**-0.2**
MODS			*e*SG	**Sg**	**00 19 03.3**	**-0.3**
MODS			*e*LG	Lg	00 19 08.7	
NIE	**Niedzica**	**3.35 127**	*e*Pn	**Pn**	**00 18 16.5**	**+2.5**
NIE			*e*Pn	**Pn**	**00 18 16.5**	**+2.5**
NIE			*e*Pg	**Pg**	**00 18 27.0**	**+2.5**
NIE			*e*Pg	**Pg**	**00 18 27.0**	**+2.5**
NIE			*e*Sg	**Sg**	**00 19 11.0**	**+3.0**
NIE			*e*Sg	**Sg**	**00 19 11.0**	**+3.0**
VYHS	**Vyhne**	**3.47 150**	*e*PN	**Pn**	**00 18 16.2**	**+0.7**
VYHS			*e*PG	**Pg**	**00 18 29.4**	**+2.7**
VYHS			*e*SG	**Sg**	**00 19 12.1**	**+0.5**
CONA	**Conrad Observa**	**3.59 184**	*e*Pn	**Pn**	**00 18 19.3**	**+2.0**
	comp=Z,0.4nm,0.2s					
CONA			Pg	**Pg**	**00 18 28.9**	**-0.2**
	comp=Z,1.1nm,0.2s					
CONA			*e*Sn	**Sn**	**00 19 00.3**	**-0.1**
	comp=Z,4.2nm,0.5s					
CONA			Sg	**Sg**	**00 19 15.1**	**-0.6**
	comp=Z,21nm,0.4s					
CLZ	**Clausthal**	**3.64 277**	*e*Sg	**Sg**	**00 19 18.9**	**+1.7**
GRF	**Grafenberg Arr**	**3.66 242**	*e*Sg	**Sg**	**00 19 18.8**	**+1.1**
BSD	**Bornholm Skovb**	**3.69 348**	*i* P	**Pn**	**00 18 19.9**	**+1.4**
BSD			*i* S	**Sn**	**00 19 01.7**	**-0.9**
MOA	**Molln**	**3.88 200**	*e*Pn	**Pn**	**00 18 22.7**	**+1.6**
	comp=Z,1.0nm,0.2s,SNR=8.0					
MOA			Pg	**Pg**	**00 18 34.8**	**+0.2**
	comp=Z,1.3nm,0.2s					
MOA			Sg	**Sg**	**00 19 24.2**	**-0.5**
	comp=Z,14nm,0.3s					
ARSA	**Arzberg**	**4.29 186**	*e*Pn	**Pn**	**00 18 29.2**	**+2.4**
	comp=Z,0.2nm,0.2s					
ARSA			Sg	**Sg**	**00 19 36.1**	**-1.9**
	comp=Z,8.9nm,0.7s					
KOLS	**Kolonicke sedl**	**4.68 121**	*e*PN	**Pn**	**00 18 32.8**	**+0.7**
KOLS			*e*PG	Pg	00 18 55.6	+5.8
WTTA	**Wattenberg**	**5.19 217**	*e*Pn	**Pn**	**00 18 42.2**	**+2.9**
	comp=Z,0.7nm,0.2s					
WTTA			Sg	**Sg**	**00 20 14.1**	**+7.2**
	comp=Z,9.1nm,0.5s					
SQTA	**Sankt Quirin**	**5.39 219**	*i* P	**Pn**	**00 18 44.8**	**+2.8**
	SNR=7.5					
AKASG	**Malin Array Be**	**8.24 91**	Pn	**Pn**	**00 19 20.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=3.2					
NOA	**NORSAR Array B**	**9.94 346**	Pn	**Pn**	**00 19 44.6**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=161,slow=15,SNR=2.9					
NOA			Sn	**Sn**	**00 21 29.8**	**-6.7**
	comp=Z,0.0nm,0.3s,baz=136,slow=16,SNR=2.7					
FINES	**FINESS Array B**	**11.34 25**	Pn	**Pn**	**00 20 03.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=4.7					
FINES			Sn	**Sn**	**00 22 06.2**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=211,slow=21,SNR=5.1					
ARCES	**ARCESS Array B**	**18.61 10**	Pn	**P**	**00 21 37.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=5.0					

*IDC **10** 00:25:01.3±3.2, 35°.74N×69°.99E, h58km±28km, mb3.7/16, mb1 3.7/22, mb1mx3.5/51, mbtmp4.0/22, ML3.7/6, Error ellipse: s-maj=22.1km s-min=15.0km az=159.0*
*ISCJB **10** 00:25:07.3±0.3, 36°.09N±0°.03×70°.04E±0°.04, h124km, mb3.8/14, Error ellipse: s-maj=4.8km s-min=3.8km az=142.8*
*NEIC **10** 00:25:08.8±2.4, 36°.10N±0°.07×70°.02E±0°.09, h129km±2km, mb4.1/17*

*NNC **10** 00:25:14.8±6.8, 36°.70N×69°.62E, h106km±189km, mb3.7, mpv4.4, Error ellipse: s-maj=66.5km s-min=32.6km az=154.0*

ISC 10 00:25:08.3±0.4, **36°.07N**±0°.05×**70°.12E**±0°.05, **h124**km, **n95,**
σ1°**43**/97, **mb3.9**/16, **6C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.76**	**210**		**Pn**	**00 25 40.5**	**+1.3**
NIL	**Nilore**	**3.53**	**132**	Pn	**Pn**	**00 26 03.6**	**+1.8**
BTK	**Batken**	**4.02**	**8**		**Pn**	**00 26 09.5**	**+1.3**
ARSB	**Arslanbob**	**5.71**	**22**		**Pn**	**00 26 30.4**	**-0.5**
DHRM	**DHARAMSHALA**	**6.38**	**125**	*e*P	**Pn**	**00 26 41.3**	**+1.1**
DHRM				*e*S	**Sn**	**00 27 50.3**	**-1.6**
DHRM				IAML		00 27 51.9	
	comp=N,106nm,0.3s						
DHRM				IAML		00 27 52.5	
	comp=Z,75nm,0.0s						
AML	**Almayashu**	**6.66**	**24**	P	**Pn**	**00 26 45.6**	**+1.7**
	SNR=14						
KK31	**Karatay Array**	**7.03**	**2**	⇑P	**Pn**	**00 26 48.1**	**-0.5**
	comp=Z,12nm,0.3s,baz=200,slow=14,SNR=279						
KK31				⇑S	**Sn**	**00 28 02.3**	**-4.8**
	comp=Z,6.7nm,0.3s,baz=194,slow=24,SNR=7.2						
KK31	**Karatay Array**	**7.03**	**2**		**Pn**	**00 26 48.6**	**0.0**
KKAR	**Karatay Array**	**7.03**	**2**		**Pn**	**00 26 48.5**	**-0.1**
KKAR	**Karatay Array**	**7.03**	**2**		**Pn**	**00 26 48.3**	**-0.3**
UCH	**Uchtor**	**7.04**	**28**	P	**Pn**	**00 26 49.0**	**-0.1**
	SNR=22						
NRN	**Naryn**	**7.06**	**39**		**Pn**	**00 26 48.1**	**-1.1**
EKS2	**Erkin-Say**	**7.17**	**22**	P	**Pn**	**00 26 51.2**	**+0.6**
	SNR=27						
KZA	**Kyzart**	**7.21**	**32**	P	**Pn**	**00 26 51.0**	**-0.3**
	SNR=41						
AAK	**Ala-Archa**	**7.38**	**26**	P	**Pn**	**00 26 53.6**	**+0.1**
	comp=Z,12nm,0.5s						
AAK				S	**Sn**	**00 28 13.8**	**-2.0**
	comp=Z,36nm,1.0s						
AAK	**Ala-Archa**	**7.38**	**26**	P	**Pn**	**00 26 53.3**	**-0.2**
	comp=Z,7.1nm,0.3s,baz=192,slow=7.2,SNR=80						
AAK				S	**Sn**	**00 28 13.3**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=307,slow=20,SNR=7.3						
AAK	**Ala-Archa**	**7.38**	**26**	P	**Pn**	**00 26 53.7**	**+0.2**
	SNR=30						
AAK	**Ala-Archa**	**7.38**	**26**		**Pn**	**00 26 54.0**	**+0.5**
AAK					**Sn**	**00 28 14.0**	**-1.8**
KBK	**Karagaybulak**	**7.57**	**28**	P	**Pn**	**00 26 56.4**	**+0.4**
	SNR=19						
FRU1	**Bishkek**	**7.58**	**26**		**Pn**	**00 26 57.1**	**+1.0**
SMLA	**Simla**	**7.67**	**128**	*e*P	**Pn**	**00 26 57.5**	**+0.2**
SMLA				*e*S	**Sn**	**00 28 18.7**	**-3.9**
SMLA				IAML		00 28 22.0	
	comp=E,63nm,0.7s						
SMLA				IAML		00 28 22.1	
	comp=N,38nm,0.2s						
ULHL	**Ulahol**	**7.79**	**36**	P	**Pn**	**00 26 59.4**	**+0.4**
	SNR=10.0						
CHMS	**Chumysh**	**7.79**	**26**	P	**Pn**	**00 26 59.0**	**+0.1**
	SNR=34						
USP	**Ospenovka**	**7.94**	**24**	P	**Pn**	**00 27 00.9**	**0.0**
	SNR=22						
TKM2	**Tokmak 2**	**8.05**	**30**	⇑P	**Pn**	**00 27 02.2**	**-0.3**
	comp=N,9.4nm,0.6s						
TKM2				⇓S	**Sn**	**00 28 28.2**	**-3.7**
	comp=N,11nm,0.7s						
TKM2	**Tokmak 2**	**8.05**	**30**	P	**Pn**	**00 27 02.1**	**-0.4**
	SNR=16						
KDJ	**Kajisay**	**8.17**	**40**	Pn	**Pn**	**00 27 04.4**	**+0.2**
TARG	**Taragay, Kyrgy**	**8.24**	**44**		**Pn**	**00 27 06.9**	**+1.6**
PRZ	**Przheval'sk**	**9.07**	**43**	Pn	**Pn**	**00 27 17.4**	**+1.1**
ASHT	**Ashkhabad**	**9.57**	**285**	Pn	**Pn**	**00 27 22.4**	**-0.5**
KUDL	**Kundal**	**9.57**	**144**	*e*P	Pn	00 27 14.3	-8.6
KUDL				*e*S	Sn	00 28 53.2	-15
JOSI	**Joshimath**	**9.62**	**122**	*e*P	**Pn**	**00 27 25.1**	**+1.2**
JOSI				*e*S	**Sn**	**00 29 04.8**	**-5.5**
JOSI				IAML		00 29 09.3	
	comp=N,48nm,0.5s						
GEYT	**Alibeck**	**9.78**	**285**	P	Pn	00 27 17.4	-8.3
	comp=N,0.2nm,0.3s,baz=120,slow=13,SNR=3.8						
GEYT				S	Sn	00 29 08.7	-4.9
	comp=N,0.6nm,0.3s,baz=109,slow=11,SNR=4.7						
GEYT	**Alibeck**	**9.78**	**285**		**Pn**	**00 27 24.7**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**9.78**	**285**	⇑P	**Pn**	**00 27 26.9**	**+1.3**
GYA0B				⇓S	Sn	00 29 07.7	-6.0
GYA0B	**ALIBECK ARRAY**	**9.78**	**285**		**Pn**	**00 27 24.7**	**-0.9**
GYA0B					**Sn**	**00 29 12.8**	**-0.8**
DANN	**Dangsing**	**13.87**	**120**	*e*P	**Pn**	**00 28 19.2**	**-0.7**
DANN				*e*S	Sn	00 30 43.6	-10
MK31	**Makanchi Array**	**14.06**	**37**	Pn	**Pn**	**00 28 23.2**	**+1.3**
MKAR	**Makanchi Array**	**14.06**	**37**	P	**Pn**	**00 28 21.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=211,slow=8.8,SNR=4.4						
KOLN	**Koldanda**	**14.12**	**122**	*e*P	**Pn**	**00 28 23.3**	**+0.3**
BHPL	**Bhopal**	**14.27**	**152**	*e*P	**Pn**	**00 28 23.9**	**-0.8**
BHPL				*e*S	Sn	00 30 50.0	-12
AB31	**Akbulak array**	**15.13**	**334**	⇑P	**Pn**	**00 28 34.3**	**-1.1**
	comp=N,0.7nm,0.3s,baz=150,slow=13,SNR=115						
AB31				⇑S	Sn	00 31 10.4	-12
	comp=N,1.7nm,0.6s,baz=168,slow=21,SNR=6.7						
ABKAR	**Akbulak array**	**15.13**	**334**		**Pn**	**00 28 34.8**	**-0.6**
ABKAR	**Akbulak array**	**15.13**	**334**		**Pn**	**00 28 34.9**	**-0.5**
ABKAR				IAmb	IAmb	00 28 36.0	
	comp=Z,3.4nm,0.7s						
KKN	**Kakani**	**15.28**	**118**	*e*P	**Pn**	**00 28 38.9**	**+1.3**
PKIN	**Phulchoki**	**15.49**	**119**	*e*P	**Pn**	**00 28 41.1**	**+0.8**
PKI	**Pulchoki**	**15.50**	**119**	*e*P	**Pn**	**00 28 41.1**	**+0.6**
WMQ	**Urumqi**	**15.53**	**55**		**PcP**	**00 33 33.6**	**-1.0**
GUN	**Gumba**	**15.64**	**117**	*e*P	**P**	**00 28 45.4**	**+1.6**
KURBB	**Kurchatov Arra**	**15.77**	**20**	P	**Pn**	**00 28 43.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=210,slow=10,SNR=13						
KURK	**Kurchatov**	**15.87**	**20**	P	**Pn**	**00 28 43.5**	**-1.1**
JIRN	**Jiri**	**16.01**	**117**	*e*P	**Pn**	**00 28 47.4**	**+0.6**
RAMN	**Ramite**	**16.72**	**118**	*e*P	**P**	**00 28 56.9**	**+1.3**
AKTO	**Aktyubinsk**	**16.82**	**332**	⇓P	**P**	**00 28 55.5**	**-0.7**
	comp=Z,3.8nm,0.8s						
AKTO				⇓S	Sn	00 31 52.0	-11
	comp=Z,6.1nm,1.3s						
AKTO	**Aktyubinsk**	**16.82**	**332**	P	**P**	**00 28 54.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=141,slow=11,SNR=13						
AKTO				S	Sn	00 31 50.0	-13
	comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=2.5						
BVAR	**Borovoye Array**	**16.95**	**1**	P	**P**	**00 28 57.2**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=170,slow=14,SNR=13						
BRVK	**Borovoye**	**16.99**	**0**	P	**P**	**00 28 59.0**	**+0.9**
TAPN	**Taplejung**	**17.29**	**115**	*e*P	**Pn**	**00 29 03.4**	**+1.0**
ODAN	**Odare**	**17.34**	**117**	*e*P	**Pn**	**00 29 04.2**	**+1.3**
GNI	**Garni**	**20.35**	**289**	P	**P**	**00 29 33.1**	**-1.9**
	comp=Z,16nm,1.2s,baz=279,slow=12,SNR=3.2						
GNI	**Garni**	**20.35**	**289**	IAmb	IAmb	00 29 39.9	
	comp=Z,18nm,0.9s						
ZAA0	**Zalesovo Array**	**20.61**	**25**	P	**P**	**00 29 39.0**	**+1.6**
ZAA0				IAmb	IAmb	00 29 41.2	
	comp=Z,5.2nm,0.5s						
ZALV	**Zalesovo Beam**	**20.61**	**25**	P	**P**	**00 29 39.0**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=221,slow=10,SNR=25						
ZALV	**Zalesovo Beam**	**20.61**	**25**	P	**P**	**00 29 38.5**	**+1.2**
ARU	**Arti**	**21.82**	**343**	P	**P**	**00 29 51.9**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=193,slow=8.1,SNR=7.4						
ARU	**Arti**	**21.82**	**343**	IAmb	IAmb	00 29 54.3	
	comp=Z,5.7nm,0.8s						
RAYN	**Ar Rayn**	**24.67**	**246**	P	**P**	**00 30 18.9**	**+1.2**
RAYN				IAmb	IAmb	00 30 31.2	
	comp=Z,4.3nm,1.3s						
KIRV	**Kirov**	**26.32**	**335**	P	**P**	**00 30 33.7**	**+1.5**
	comp=Z,4.6nm,0.6s,baz=101,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**28.89**	**288**	P	**P**	**00 30 55.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=119,slow=5.4,SNR=3.3						
NRIK	**Noril'sk**	**34.68**	**11**	P	**P**	**00 31 47.5**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=184,slow=4.6,SNR=4.7						
ATD	**Arta Tunnel**	**34.69**	**232**	P	P	00 31 42.9	-3.4
	comp=Z,6.6nm,0.8s,baz=99,slow=18,SNR=2.5						
ATD	**Arta Tunnel**	**34.69**	**232**	IAmb	IAmb	00 31 44.2	
	comp=Z,11nm,1.0s						
BURAR	**Buryatia Array**	**34.92**	**303**	P	**P**	**00 31 46.0**	**-2.0**
FINES	**FINESS Array B**	**37.45**	**327**	P	**P**	**00 32 10.4**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=134,slow=14,SNR=3.4						
FINES	**FINESS Array B**	**37.45**	**327**	P	**P**	**00 32 07.9**	**-1.3**
KEV	**Kevo**	**40.94**	**339**	P	**P**	**00 32 37.9**	**-0.2**
KEV				IAmb	IAmb	00 32 42.2	
	comp=Z,12nm,1.3s						
ARCES	**ARCESS Array B**	**41.27**	**338**	P	**P**	**00 32 42.6**	**+1.8**
	comp=Z,1.3nm,0.5s,baz=108,slow=8.3,SNR=13						
ARCES	**ARCESS Array B**	**41.27**	**338**	P	**P**	**00 32 42.0**	**+1.1**
NB2	**NORSAR Subarra**	**44.30**	**323**	P	**P**	**00 33 05.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**00 33 05.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.7,SNR=3.4						
MNAI	**Manna**	**50.62**	**136**	P	**P**	**00 33 54.4**	**-0.4**
ESDC	**Sonseca Array**	**57.03**	**298**	P	**P**	**00 34 41.8**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=52,slow=7.0,SNR=4.8						
ESDC	**Sonseca Array**	**57.03**	**298**	IAmb	IAmb	00 34 46.8	
	comp=Z,1.6nm,1.3s						
PETK	**Petropavlovsk-**	**60.77**	**44**	P	**P**	**00 35 10.2**	**+3.4**
	comp=Z,6.0nm,1.0s,baz=279,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**64.99**	**268**	P	**P**	**00 35 35.1**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=44,slow=5.7,SNR=9.9						
TORD	**Torodi Ar. Bea**	**64.99**	**268**	P	**P**	**00 35 34.3**	**-1.0**
IVI	**Ivigtut**	**70.91**	**333**	P	**P**	**00 36 12.1**	**+0.6**
IMAR	**Indian Mountai**	**72.80**	**17**	P	**P**	**00 36 22.5**	**-0.3**
ROSA	**Rosais**	**74.16**	**306**	P	**P**	**00 36 31.7**	**+0.5**
INK	**Inuvik**	**74.44**	**9**	P	**P**	**00 36 33.8**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=328,slow=3.1,SNR=6.3						
INK	**Inuvik**	**74.44**	**9**	P	**P**	**00 36 32.7**	**+0.4**
INK				IAmb	IAmb	00 36 49.2	
	comp=Z,9.1nm,1.5s						
AKUT	**Akutan**	**78.08**	**30**	P	**P**	**00 36 53.0**	**-0.1**
WRA	**Warramunga Arr**	**82.37**	**121**	P	**P**	**00 37 16.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=328,slow=4.7,SNR=3.4						
ASAR	**Alice Springs**	**84.60**	**124**	P	**P**	**00 37 28.0**	**0.0**
	comp=Z,0.3nm,0.8s,baz=303,slow=4.5,SNR=3.4						
SHEL	**Horse Pasture**	**88.27**	**249**	P	**P**	**00 37 45.0**	**-1.0**

*ISCJB **10** 00:30:27.3±0.5, 9°.77N±0°.04×85°.57W±0°.04, h22km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=5.6km s-min=5.1km az=156.9*
*UCR **10** 00:30:29.1±1.2, 9°.85N×85°.55W, h18km±6km, MW4.5*
*NEIC **10** 00:30:30.7±2.9, 9°.87N±0°.09×85°.38W±0°.07, h35km±1km*
*IDC **10** 00:30:33.5±2.2, 10°.74N×84°.95W, h35km±27km, mb3.5/7, mb1 3.8/9, mb1mx3.6/36, mbtmp3.7/9, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=48.8km s-min=18.9km az=40.0*

ISC 10 00:30:29.0±0.7, **9°.91N**±0°.06×**85°.40W**±0°.06, **h22**km, **n61,**
σ1°**50**/65, **mb4.2**/17, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.44**	**6**	*e*P	**Pb**	**00 30 39.3**	**+1.1**
PLVR				*e*S	**Sn**	**00 30 47.2**	**-0.5**
JTS	**Las Juntas de**	**0.58**	**49**	Pg	**Pn**	**00 30 42.3**	**+0.3**
	664nm,0.3s,baz=20,slow=17,SNR=1397						
JTS				Lg	Lg	00 30 52.9	
	825nm,0.3s,baz=12,slow=19,SNR=41						
JTS	**Las Juntas de**	**0.58**	**49**	*e*P	**Pn**	**00 30 42.0**	**0.0**
CUI	**Cuipilapa**	**0.78**	**17**	*e*P	**Pn**	**00 30 45.3**	**+0.5**
CUI				*e*S	**Sn**	**00 30 57.7**	**+1.8**
ARE1	**Arenal 1**	**0.87**	**51**	*e*P	**Pn**	**00 30 47.8**	**+1.8**
BUEV	**Buena Vista**	**0.89**	**360**	*e*P	**Pn**	**00 30 46.5**	**+0.2**
BUEV				*e*S	**Sn**	**00 30 59.5**	**+1.0**
CEDE	**Laguna Cedeo**	**0.90**	**50**	*e*P	**Pn**	**00 30 48.3**	**+1.9**
GB1A	**Borinquen Arri**	**0.91**	**0**	*e*P	**Pn**	**00 30 46.9**	**+0.3**
GB1A				*e*S	**Sn**	**00 31 00.0**	**+1.0**
SRA1	**San Ramn**	**0.93**	**79**	*e*P	**Pn**	**00 30 48.2**	**+1.4**
HDC	**Heredia**	**1.27**	**86**	*e*P	**Pb**	**00 30 53.6**	**+1.2**
HDC	**Heredia**	**1.27**	**86**		**Pb**	**00 30 53.8**	**+1.4**
LCR2	**La Lucha 2**	**1.39**	**97**	*e*P	**Pb**	**00 30 54.9**	**+0.5**
CVTR	**Volcan Turr

TWGZ	**Tauwhareparae**	**2.00 195**	P	Pn	00 32 45.5	+0.8
TWGZ			S	Sn	00 33 12.3	+1.5
WHRZ	**Whale Island**	**2.08 219**	P	Pn	00 32 45.9	+0.1
WHRZ			S	Sn	00 33 14.7	+2.0
CNGZ	**Carnagh Statio**	**2.26 189**	P	Pn	00 32 48.7	+0.8
MWZ	**Matawai**	**2.26 203**	P	Pn	00 32 48.4	+0.4
MWZ			S	Sn	00 33 17.0	+0.4
TKGZ	**Te Karaka**	**2.27 196**	P	Pn	00 32 48.7	+0.6
TKGZ			S	Sn	00 33 17.1	+0.3
OPRZ	**Ohinepanea**	**2.30 226**	P	Pn	00 32 48.4	-0.1
MARZ	**Manawahe**	**2.34 222**	P	Pn	00 32 49.1	+0.2
URZ	**Urewera**	**2.35 211**	P	Pn	00 32 48.7	-0.3
URZ			S	Sn	00 33 17.4	-1.1
EDRZ	**Edgecumbe**	**2.39 219**	P	Pn	00 32 50.1	+0.5
KUZ	**Kuaotunu**	**2.40 257**	P	Pn	00 32 48.6	-1.1
TGRZ	**Tauranga**	**2.41 231**	P	Pn	00 32 50.0	+0.2
RAGZ	**Rawiri**	**2.44 203**	P	Pn	00 32 51.0	+0.7
RAGZ			S	Sn	00 33 21.9	+1.0
RIGZ	**Rimuhau**	**2.55 196**	P	Pn	00 32 51.7	0.0
RIGZ			S	Sn	00 33 22.8	-0.4
GRZ	**Great Barrier**	**2.57 269**	P	Pn	00 32 50.7	-1.1
TARZ	**Mount Tarawera**	**2.61 220**	P	Pn	00 32 53.9	+1.5
MUGZ	**Murupara**	**2.67 213**	P	Pn	00 32 53.1	-0.1
MUGZ			S	Sn	00 33 26.3	+0.3
RRRZ	**Republican Roa**	**2.69 218**	P	Pn	00 32 53.4	+0.1
RTZ	**Ruatahuna**	**2.71 209**	P	Pn	00 32 53.0	-0.6
SNGZ	**Shannon Statio**	**2.73 202**	P	Pn	00 32 54.1	+0.2
SNGZ			S	Sn	00 33 27.7	+0.4
PRGZ	**Paritu Road**	**2.74 192**	P	Pn	00 32 53.6	-0.4
PRGZ			S	Sn	00 33 27.2	-0.2
KNZ	**Kokohu**	**2.87 195**	P	Pn	00 32 55.0	-0.6
KNZ			S	Sn	00 33 29.5	-0.9
TOZ	**Tahuroa Road**	**2.91 239**	P	Pn	00 32 56.5	+0.3
MKAZ	**Moumakai**	**2.92 252**	P	Pn	00 32 56.0	-0.3
RAHZ	**Arahi**	**2.93 204**	P	Pn	00 32 56.4	-0.1
MHGZ	**Mahia Peninsul**	**2.96 191**	P	Pn	00 32 56.5	-0.3
MTHZ	**Maungataniwha**	**2.96 208**	P	Pn	00 32 57.1	+0.1
WHHZ	**Waihua**	**3.03 201**	P	Pn	00 32 57.6	-0.2
MRHZ	**Matea Rd**	**3.12 214**	P	Pn	00 32 58.3	-0.7
NMHZ	**Naumai**	**3.19 206**	P	Pn	00 32 59.7	-0.2
ARHZ	**Aropaoanui**	**3.28 203**	P	Pn	00 33 00.4	-0.6
BKZ	**Black Stump Fm**	**3.37 210**	P	Pn	00 33 01.2	-1.0
WCZ	**Waipu Caves**	**3.49 274**	P	Pn	00 33 03.1	-0.6
RITZ	**Rihia Road**	**3.50 218**	P	Pn	00 33 04.0	0.0
MCHZ	**McNeill Hill**	**3.54 205**	P	Pn	00 33 03.4	-1.0
CKHZ	**Cape Kidnapper**	**3.62 199**	P	Pn	00 33 04.2	-1.2
KWHZ	**Kaweka Forest**	**3.62 208**	P	Pn	00 33 04.2	-1.4
NGZ	**Ngauruhoe**	**3.79 219**	P	Pn	00 33 07.4	-0.4
KAHZ	**Kahuranaki**	**3.80 201**	P	Pn	00 33 06.5	-1.4
BHHZ	**Black Hill Sta**	**3.82 211**	P	Pn	00 33 07.0	-1.2
FWVZ	**Far West T-bar**	**3.87 218**	P	Pn	00 33 08.2	-0.7
WHVZ	**Whangaehu Hut**	**3.87 218**	P	Pn	00 33 09.2	+0.2
MOVZ	**Moawhango**	**3.89 215**	P	Pn	00 33 08.4	-0.7
TRVZ	**Turoa**	**3.91 218**	P	Pn	00 33 09.7	+0.2
PXZ	**Pawanui**	**4.03 200**	P	Pn	00 33 08.5	-2.3
PNHZ	**Pukenui**	**4.13 207**	P	Pn	00 33 09.7	-2.5
OUZ	**Omahuta**	**4.22 283**	P	Pn	00 33 12.7	-0.8
PRHZ	**Porangahau**	**4.31 201**	P	Pn	00 33 12.2	-2.4
TSZ	**Takapari Road**	**4.35 208**	P	Pn	00 33 12.4	-2.7
DVHZ	**Dannevirke**	**4.49 205**	P	Pn	00 33 13.7	-3.3
PRWZ	**Pori Road**	**4.78 205**	P	Pn	00 33 19.0	-1.9
BFZ	**Birch Farm**	**4.81 202**	P	Pn	00 33 18.4	-2.8
MRZ	**Mangatainoka R**	**5.02 208**	P	Pn	00 33 20.3	-3.7
HOWZ	**Holdsworth Sta**	**5.25 207**	P	Pn	00 33 22.9	-4.2
TMWZ	**Te Maipa**	**5.30 203**	P	Pn	00 33 24.1	-3.8
OGWZ	**Otaki Gorge**	**5.31 210**	P	Pn	00 33 24.8	-3.1
KIW	**Kapiti Island**	**5.45 211**	P	Pn	00 33 26.4	-3.5
MTW	**Mount Morrison**	**5.48 206**	P	Pn	00 33 26.8	-3.9
CAW	**Cannon Point**	**5.60 209**	P	Pn	00 33 27.9	-3.9
PLWZ	**Palliser**	**5.93 205**	P	Pn	00 33 31.3	-5.0

IDC 10 00:46:36.5±1.4, 5°98S×149°58E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, ML2.1/2, Error ellipse: s-maj=75.1km s-min=19.6km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.94**	**56**	Pn	Pn	00 47 24.4	-0.2
	2.7nm,0.3s,baz=246,slow=20,SNR=2.6						
KRVT				Sn	Sn	00 48 03.5	+2.7
	3.9nm,0.3s,baz=255,slow=20,SNR=3.2						
PMG	**Port Moresby**	**4.17**	**215**	Pn	Pn	00 47 43.1	+1.6
	1.9nm,0.3s,baz=34,slow=11,SNR=3.4						
PMG				Sn	Sn	00 48 30.9	-0.1
	4.3nm,0.3s,baz=14,slow=4.2,SNR=4.3						
WRA	**Warramunga Arr**	**20.30**	**225**	P	P	00 51 13.5	-0.8
	1.1nm,0.7s,baz=53,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**23.17**	**219**	P	P	00 51 45.1	+0.1
	0.2nm,0.6s,baz=55,slow=9.6,SNR=4.0						
FITZ	**Fitzroy Crossi**	**26.29**	**241**	P	P	00 52 14.3	+0.3
	1.2nm,1.0s,baz=85,slow=12,SNR=2.5						
TORD	**Torodi Ar. Bea**	**147.57**	**285**	PKPbc	PKPbc	01 06 22.8	-1.2
	0.1nm,0.4s,baz=92,slow=3.3,SNR=5.1						

IDC 10 00:48:14.9±1.5, 6°25S×149°76E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/26, mbtmp3.6/5, ML1.6/1, Error ellipse: s-maj=79.4km s-min=19.4km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.97**	**50**	Pn	Pn	00 49 04.7	+1.3
	4.4nm,0.3s,baz=234,slow=14,SNR=3.2						
KRVT				Sn	Sn	00 49 39.8	+0.1
	7.5nm,0.3s,baz=211,slow=19,SNR=2.1						
PMG	**Port Moresby**	**4.06**	**219**	Pn	Pn	00 49 19.9	+1.6
	2.9nm,0.3s,baz=36,slow=16,SNR=2.8						
PMG				Sn	Sn	00 50 06.7	+0.1
	1.8nm,0.3s,baz=356,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**20.24**	**226**	P	P	00 52 51.7	-0.2
	1.6nm,0.5s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.07**	**220**	P	P	00 53 21.4	-1.0
	0.2nm,0.4s,baz=55,slow=9.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**26.31**	**241**	P	P	00 53 53.6	+1.1
	1.4nm,0.9s,baz=52,slow=12,SNR=6.1						
TORD	**Torodi Ar. Bea**	**147.81**	**285**	PKPbc	PKPdf	01 08 01.3	+1.2
	0.5nm,0.6s,baz=61,slow=3.3,SNR=6.0						

*ISCJB **10** 00:54:20.5±2.0, 31°5N±0°1×115°44W±0°09, h6km±36km, Error ellipse: s-maj=19.6km s-min=10.9km az=152.1*
*ECX **10** 00:54:22.2±0.7, 31°49N×115°50W, h6km, MD2.3, ML2.5*
*MEX **10** 00:54:23.4±0.6, 31°09N×115°93W, h10km, MD3.7*
ISC 10 00:54:20.6±1.2, 31°55N±0°04×115°44W±0°06, h6km±15km, n12, σ0°54/22, 2C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.50**	**182**	*eP*	**Pg**	**00 54 31.1**	**+0.8**
SPIG				*eS*	**Sg**	**00 54 37.6**	**+0.6**
SPIG	**San Pedro Mart**	**0.50**	**182**	*eP*	**Pg**	**00 54 30.7**	**+0.3**
SPIG				*eS*	**Sg**	**00 54 36.8**	**-0.2**
SPX	**San Pedro Mart**	**0.51**	**182**	*eP*	**Pg**	**00 54 30.1**	**-0.4**
SPX				*eS*	**Sg**	**00 54 36.6**	**-0.7**
SPX	**San Pedro Mart**	**0.51**	**182**	⇑*eP*	**Pg**	**00 54 30.2**	**-0.4**
SPX				*eS*	**Sg**	**00 54 36.5**	**-0.8**
SPX				IAML		00 54 37.4	
	comp=N,250nm,0.1s						
SPX			⇑*e*			00 54 39.4	
SPX				IAML		00 54 39.4	
	comp=E,186nm,0.2s						
SFX	**San Felipe**	**0.72**	**135**	*eP*	**Pg**	**00 54 34.5**	**+0.1**
SFX				*eS*	**Sg**	**00 54 44.2**	**+0.4**
ECNX	**Esteban Cantu**	**0.99**	**276**	*eP*	**Pg**	**00 54 40.3**	**+0.6**
RMX	**La Rumorosa**	**1.18**	**333**	*eP*	**Pg**	**00 54 42.8**	**-0.5**
RMX				*eS*	**Sg**	**00 54 57.7**	**-0.9**
RMX				IAML		00 54 59.2	
	comp=E,92nm,0.2s						
RMX			⇓*e*			00 54 59.2	
IKP	**In-Ko-Pah, Jac**	**1.23**	**333**	*eP*	**Pg**	**00 54 44.7**	**+0.4**
IKP				*eS*	**Sg**	**00 55 01.0**	**+0.7**
CBX	**Cerro Bola**	**1.29**	**307**	*eP*	**Pn**	**00 54 45.2**	**-0.1**
CBX				*eS*	**Sg**	**00 55 01.8**	**-0.2**
CBX	**Cerro Bola**	**1.29**	**307**	*eP*	**Pn**	**00 54 45.3**	**-0.1**
CBX				*eS*	**Sg**	**00 55 01.9**	**-0.1**
CBX				IAML		00 55 08.4	
	comp=E,127nm,0.9s						
CBX			⇓*e*			00 55 08.4	
TJIG	**Tijuana**	**1.37**	**310**	*eP*	**Pn**	**00 54 46.5**	**+0.2**
TJIG				*eS*	**Sb**	**00 55 03.9**	**-0.5**
BAR	**Barrett**	**1.54**	**318**	*eP*	**Pn**	**00 54 49.2**	**+0.5**

*ISCJB **10** 01:15:43.5±0.9, 20°84S±0°03×68°94W±0°08, h122km±9km, Error ellipse: s-maj=12.3km s-min=5.4km az=0.2*
*GUC **10** 01:15:43.7±0.6, 20°83S×68°92W, h107km±3km, ML3.0*
*SJA **10** 01:15:43.0±0.6, 20°91S×68°90W, h132km±6km, ML2.8, MW3.1*
ISC 10 01:15:44.1±1.7, 20°84S±0°04×68°93W±0°07, h116km±14km, n18, σ0°40/31, 7C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.56**	**248**	⇑*iP*	**Pn**	**01 16 01.4**	**-0.7**
PB01				*eS*	**Sn**	**01 16 15.3**	**-0.3**
PB01				IAML		01 16 16.6	
	comp=N,624nm,0.3s						
PB08	**IPOC Station P**	**0.72**	**343**	⇑*iP*	**Pn**	**01 16 03.4**	**-0.3**
PB08				*eS*	**Sn**	**01 16 18.1**	**-0.3**
PB08				IAML		01 16 19.6	
	comp=N,352nm,0.2s						
PB09	**IPOC Station P**	**1.00**	**197**	⇓*iP*	**Pn**	**01 16 06.1**	**+0.1**
PB09				*eS*	**Sn**	**01 16 22.9**	**+0.4**
PB09	**IPOC Station P**	**1.00**	**197**	*iP*	**Pn**	**01 16 06.3**	**+0.3**
PB09				*iS*	**Sn**	**01 16 23.5**	**+0.9**
PB09				IAML		01 16 25.0	
	comp=Z,111nm,0.4s						
PB02	**IPOC Station P**	**1.02**	**242**	⇑*iP*	**Pn**	**01 16 06.2**	**+0.1**
PB02				*eS*	**Sn**	**01 16 23.3**	**+0.6**
PB02				IAML		01 16 25.4	
	comp=E,623nm,0.3s						
GO01	**Chusmiza**	**1.19**	**348**	⇑*iP*	**Pn**	**01 16 08.2**	**-0.1**
GO01				*eS*	**Sn**	**01 16 26.8**	**+0.3**
GO01				IAML		01 16 29.4	
	comp=N,581nm,0.2s						
PB07	**IPOC Station P**	**1.25**	**225**	⇑*iP*	**Pn**	**01 16 08.7**	**0.0**
PB07				*eS*	**Sn**	**01 16 27.8**	**+0.5**
PB07				IAML		01 16 28.6	
	comp=N,583nm,0.3s						
PB11	**IPOC Station P**	**1.27**	**327**	⇑*iP*	**Pn**	**01 16 08.8**	**0.0**
PB11				*eS*	**Sn**	**01 16 27.8**	**+0.3**
PB11				IAML		01 16 29.8	
	comp=N,274nm,0.2s						
PB03	**IPOC Station P**	**1.43**	**212**	⇓*iP*	**Pn**	**01 16 10.5**	**-0.1**
PB03				*eS*	**Sn**	**01 16 30.3**	**-0.4**
PB03				IAML		01 16 33.3	
	comp=E,136nm,0.2s						
PSGC	**Pisagua**	**1.66**	**318**	⇑*eP*	**Pn**	**01 16 13.4**	**0.0**
PSGC				*eS*	**Sn**	**01 16 35.8**	**+0.2**
LVC	**Limon Verde**	**1.77**	**179**	⇓*iP*	**Pn**	**01 16 14.8**	**-0.1**
LVC				*eS*	**Sn**	**01 16 38.3**	**0.0**
LVC	**Limon Verde**	**1.77**	**179**	*iP*	**Pn**	**01 16 14.8**	**-0.1**
LVC				*iS*	**Sn**	**01 16 38.4**	**+0.2**
PB04	**IPOC Station P**	**1.87**	**217**	*iP*	**Pn**	**01 16 16.6**	**+0.6**
PB06	**IPOC Station P**	**1.95**	**198**	*iP*	**Pn**	**01 16 16.9**	**0.0**
PB06				*iS*	**Sn**	**01 16 41.6**	**-0.4**
PB06				IAML		01 16 48.8	
	comp=Z,52nm,0.3s						
PB15	**IPOC Station P**	**2.41**	**192**	*iP*	**Pn**	**01 16 22.6**	**-0.2**
YJA	**Yavi**	**3.45**	**113**	*iP*	**Pn**	**01 16 36.9**	**+0.2**
PB14	**IPOC Station P**	**4.01**	**199**	*iP*	**Pn**	**01 16 43.2**	**-0.8**
PB14				IAML		01 17 30.9	
	comp=Z,12nm,1.1s						
HJA	**Humahuaca**	**4.03**	**126**	*iP*	**Pn**	**01 16 44.2**	**-0.1**

*ISK **10** 01:19:22.7, 33°43N×27°65E, h4km, ML3.3/28*
*ISCJB **10** 01:19:26.7±0.3, 33°46N±0°03×27°69E±0°03, h33km, Error ellipse: s-maj=4.1km s-min=3.6km az=24.0*
*ATH **10** 01:19:26.4, 33°52N×27°64E, h30km±11km, ML2.4/2, Error ellipse: s-maj=12.7km s-min=2.6km az=171.0*
*HLW **10** 01:19:30.2, 33°25N×27°63E, h17km±7km, Md3.2, Ml3.3*
ISC 10 01:19:28.8±1.2, 33°47N±0°04×27°63E±0°06, h35km, n66, σ0°66/71, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**2.01**	**325**	P	**Pn**	**01 20 00.3**	**+0.1**
ZKR	**Zakros**	**2.01**	**325**	P	**Pn**	**01 20 00.5**	**+0.3**
ZKR				S	**Sn**	**01 20 24.4**	**+0.2**
ZKR				AML	AML	01 20 31.6	
	comp=N,74μm,0.7s						
ZKR				AML	AML	01 20 32.8	
	comp=E,150μm,0.5s						
ZKR	**Zakros**	**2.01**	**325**	PN	**Pn**	**01 20 00.8**	**+0.6**
ZKR				SN	**Sn**	**01 20 25.2**	**+1.0**
KARP	**Karpathos**	**2.10**	**349**	P	**Pn**	**01 20 01.8**	**+0.3**
KARP	**Karpathos**	**2.10**	**349**	P	**Pn**	**01 20 01.4**	**-0.1**
KARP				S	**Sn**	**01 20 26.7**	**+0.2**
KARP				AML	AML	01 20 33.1	
	comp=E,128μm,0.3s						
KARP				AML	AML	01 20 36.4	
	comp=N,148μm,0.5s						
KARP	**Karpathos**	**2.10**	**349**	PN	**Pn**	**01 20 00.9**	**-0.6**
KARP				SN	**Sn**	**01 20 27.7**	**+1.2**
MATC	**Matruh**	**2.15**	**189**	P	**Pn**	**01 20 02.5**	**+0.4**
	baz=191						
FRMA	**Ierapetra Chan**	**2.20**	**315**	P	**Pn**	**01 20 01.9**	**-0.9**
NPS	**Neapolis**	**2.44**	**317**	P	**Pn**	**01 20 06.8**	**+0.6**
NPS	**Neapolis**	**2.44**	**317**	P	**Pn**	**01 20 06.7**	**+0.6**
ARG	**Arkhangelos**	**2.77**	**8**	PN	**Pn**	**01 20 10.1**	**-0.5**
SIVA	**Sivas**	**2.80**	**304**	P	**Pn**	**01 20 11.4**	**+0.3**
SIVA	**Sivas**	**2.80**	**304**	P	**Pn**	**01 20 11.3**	**+0.3**
SLUM	**Salum**	**2.84**	**227**	P	**Pn**	**01 20 12.1**	**+0.5**
	baz=231						
SLUM				AMP		01 20 00.0	
	baz=231						
SLUM				S	**Sn**	**01 20 42.8**	**-1.9**
	baz=231						
KSL	**Kastellorizon**	**3.12**	**30**	P	**Pn**	**01 20 15.4**	**0.0**
AKAS	**Kas**	**3.19**	**30**	PN	**Pn**	**01 20 15.7**	**-0.9**
PRNS	**Prines Rethymn**	**3.20**	**307**	P	**Pn**	**01 20 18.0**	**+1.4**
GVDS	**Gavdos**	**3.24**	**296**	P	**Pn**	**01 20 17.6**	**+0.5**
GVD	**Gavdhos**	**3.24**	**296**	P	**Pn**	**01 20 17.5**	**+0.4**
GVD	**Gavdhos**	**3.24**	**296**	P	**Pn**	**01 20 17.5**	**+0.4**
GVD	**Gavdhos**	**3.24**	**296**	PN	**Pn**	**01 20 16.8**	**-0.3**
DAT	**Datca**	**3.25**	**359**	PN	**Pn**	**01 20 16.9**	**-0.4**
ANAF	**Anafi Island**	**3.26**	**333**	P	**Pn**	**01 20 17.3**	**-0.1**
ANAF	**Anafi Island**	**3.26**	**333**	P	**Pn**	**01 20 17.3**	**-0.1**
FETY	**Fethiye**	**3.37**	**20**	P	**Pn**	**01 20 18.1**	**-0.8**
FETY	**Fethiye**	**3.37**	**20**	PN	**Pn**	**01 20 18.2**	**-0.7**
SANT	**Santorini**	**3.40**	**329**	P	**Pn**	**01 20 19.0**	**-0.3**
SANT	**Santorini**	**3.40**	**329**	PN	**Pn**	**01 20 18.5**	**-0.8**
THR6	**Thira Island,**	**3.41**	**328**	P	**Pn**	**01 20 19.1**	**-0.3**
VAM	**Vamos**	**3.43**	**305**	P	**Pn**	**01 20 19.8**	**+0.1**
VAM	**Vamos**	**3.43**	**305**	P	**Pn**	**01 20 20.1**	**+0.4**
DALY	**Dalyan (Mula)**	**3.44**	**14**	PN	**Pn**	**01 20 18.9**	**-0.9**
TURN	**Turunc**	**3.48**	**13**	PN	**Pn**	**01 20 17.8**	**-2.6**
BODT	**Bodrum**	**3.59**	**356**	PN	**Pn**	**01 20 21.6**	**-0.3**
IMMV	**Iera Moni Meta**	**3.61**	**304**	P	**Pn**	**01 20 22.6**	**+0.4**
IMMV	**Iera Moni Meta**	**3.61**	**304**	P	**Pn**	**01 20 22.6**	**+0.4**
IMMV	**Iera Moni Meta**	**3.61**	**304**	PN	**Pn**	**01 20 22.2**	**0.0**
YER	**Yerkesik**	**3.69**	**8**	PN	**Pn**	**01 20 22.7**	**-0.7**
ELL	**Elmali**	**3.76**	**29**	PN	**Pn**	**01 20 24.1**	**-0.3**
MLSB	**Milas**	**3.81**	**2**	PN	**Pn**	**01 20 24.4**	**-0.6**
APE	**Apeiranthos**	**3.98**	**335**	P	**Pn**	**01 20 27.0**	**-0.3**
APE	**Apeiranthos**	**3.98**	**335**	PN	**Pn**	**01 20 26.7**	**-0.6**
MHLO	**Agia Marina, M**	**4.16**	**321**	P	**Pn**	**01 20 29.9**	**+0.2**
KORT	**Korkueli**	**4.16**	**32**	PN	**Pn**	**01 20 29.5**	**-0.4**
GCAM	**G?zelcaml?**	**4.23**	**356**	PN	**Pn**	**01 20 30.4**	**-0.3**
ANKY	**Antikythira Is**	**4.29**	**305**	P	**Pn**	**01 20 32.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**4.47**	**3**	PN	**Pn**	**01 20 33.1**	**-1.0**
SWA2		**4.61**	**204**	P	**Pn**	**01 20 36.1**	**+0.1**
	baz=206						
BCK	**Bucak**	**4.65**	**30**	PN	**Pn**	**01 20 36.4**	**-0.2**
KTHA	**Kythira Island**	**4.67**	**308**	PN	**Pn**	**01 20 35.8**	**-1.0**
GAZI	**Gazipasa**	**4.73**	**53**	PN	**Pn**	**01 20 37.4**	**-0.3**
CSS	**Mathiatis**	**4.95**	**71**	P	**Pn**	**01 20 41.5**	**+0.9**
CSS	**Mathiatis**	**4.95**	**71**	PN	**Pn**	**01 20 40.7**	**+0.1**
TEKE	**Tekeli-Mersin**	**5.24**	**58**	PN	**Pn**	**01 20 44.3**	**-0.2**
BERE	**Bereket-Mersin**	**5.41**	**56**	PN	**Pn**	**01 20 47.0**	**-0.1**
AKKU	**Akkuyu-Mersin**	**5.56**	**60**	PN	**Pn**	**01 20 49.1**	**+0.2**
TEVE	**Tevekalti-Mers**	**5.61**	**57**	PN	**Pn**	**01 20 49.9**	**+0.1**
IKL	**Isikli**	**5.69**	**59**	PN	**Pn**	**01 20 51.0**	**+0.3**
NBNS	**Bani Suef**	**5.77**	**146**	P	**Pn**	**01 20 52.2**	**+0.4**
	baz=144						
KEBE	**Keben-Mersin**	**5.81**	**58**	PN	**Pn**	**01 20 52.6**	**+0.2**
KONT	**Konya--Tatoy**	**5.89**	**39**	PN	**Pn**	**01 20 53.6**	**+0.1**
ITM	**Ithomi**	**5.95**	**310**	PN	**Pn**	**01 20 53.4**	**-1.0**
KZIT	**Kziot**	**6.28**	**112**	PN	**Pn**	**01 20 58.4**	**-0.5**
HFRF	**Wahat Farafira**	**6.33**	**175**	P	**Pn**	**01 20 59.5**	**-0.1**
	baz=174						
MERS	**Mersin**	**6.58**	**57**	PN	**Pn**	**01 21 03.1**	**+0.1**
HRFI	**Mount Harif**	**7.18**	**117**	PN	**Pn**	**01 21 11.2**	**0.0**

*NNC **10** 01:59:55.6±0.8, 44°88N×79°06E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=7.7km s-min=5.8km az=135.0*
*SOME **10** 01:59:56.3, 44°85N×79°07E, h15km*
*KRNET **10** 02:00:27.4±0.1, 41°70N×78°29E, h35km, mb1.8*
ISC 10 01:59:55.5±1.1, 44°89N±0°03×79°09E±0°02, h4km±11km, n33, σ0°67/55, 8C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.44**	**26**	P	**Pg**	**02 00 03.8**	**-0.1**
	12nm,0.1s						
KAPS				S	**Sg**	**02 00 09.4**	**-0.2**
	159nm,0.1s						
KAPS	**Kapalarasan**	**0.44**	**26**	⇓*iP*	**Pg**	**02 00 03.8**	**-0.1**
	5.5nm,0.1s						
KAPS				*eS*	**Sg**	**02 00 09.4**	**-0.2**
	159nm,0.1s						
TDK	**Taldyqorghan**	**0.49**	**283**	P	**Pg**	**02 00 05.1**	**+0.1**
	45nm,0.1s						
TDK				S	**Sg**	**02 00 11.7**	**+0.3**
	96nm,0.2s						
TDK	**Taldyqorghan**	**0.49**	**283**	*eP*	**Pg**	**02 00 05.1**	**+0.1**
	45nm,0.1s						
TDK				⇑*iS*	**Sg**	**02 00 11.7**	**+0.3**
	75nm,0.3s						
DJR	**Jarkent**	**0.75**	**138**	P	**Pg**	**02 00 09.6**	**-0.3**
	6.9nm,0.5s						
DJR				S	**Sg**	**02 00 19.5**	**-0.3**
	15nm,0.3s						
DJR	**Jarkent**	**0.75**	**138**	*eP*	**Pg**	**02 00 09.6**	**-0.3**
	5.8nm,0.2s						
DJR				⇓*iS*	**Sg**	**02 00 19.5**	**-0.3**
	16nm,0.3s						
ARXS	**Arharly**	**1.13**	**233**	P	**Pg**	**02 00 16.6**	**-0.5**
	4.9nm,0.1s						
ARXS				S	**Sg**	**02 00 31.4**	**-0.3**
	22nm,0.2s						
ARXS	**Arharly**	**1.13**	**233**	*eP*	**Pg**	**02 00 16.6**	**-0.5**
	4.9nm,0.1s						
ARXS				*eS*	**Sg**	**02 00 31.4**	**-0.3**
	22nm,0.2s						
KURS	**Kuram**	**1.55**	**205**	P	**Pn**	**02 00 23.8**	**-0.1**
	3.4nm,0.3s						
KURS				S	**Sn**	**02 00 43.8**	**-0.7**
	9.1nm,0.3s						
KURS	**Kuram**	**1.55**	**205**	*eP*	**Pn**	**02 00 23.8**	**-0.1**
	5.9nm,0.7s						
KURS				*eS*	**Sn**	**02 00 43.8**	**-0.7**
	7.7nm,0.4s						
SHLS	**Shalkode**	**1.76**	**171**	*eP*	**Pg**	**02 00 29.4**	**+0.2**
	0.8nm,0.1s						
SHLS				*eS*	**Sg**	**02 00 53.1**	**+1.1**
	22nm,0.5s						
ZHN	**Zhinishke**	**1.79**	**195**	*eP*	**Pb**	**02 00 28.7**	**-0.1**
	5.4nm,0.1s						
ZHN				*eS*	**Sg**	**02 00 52.0**	**-0.9**
	22nm,0.2s						
SATY	**Saty**	**1.90**	**195**	P	**Pg**	**02 00 31.0**	**-0.8**
	4.5nm,0.1s						
SATY				S	**Sg**	**02 00 56.1**	**-0.3**
	55nm,0.3s						
SATY	**Saty**	**1.90**	**195**	*eP*	**Pg**	**02 00 31.0**	**-0.8**
	3.0nm,0.1s						
SATY				*eS*	**Sg**	**02 00 56.1**	**-0.3**
	58nm,0.3s						
KTBS	**Karatobe**	**2.09**	**236**	Pg	**Pb**	**02 00 33.6**	**-0.4**
	2.8nm,0.3s						
KTBS				Lg	Lg	02 01 00.5	
	25nm,0.4s						
KTBS	**Karatobe**	**2.09**	**236**	*eP*	**Pb**	**02 00 33.6**	**-0.4**
	2.8nm,0.3s						
KTBS				*eS*	**Sb**	**02 01 00.5**	**+0.2**
	25nm,0.4s						
KOTS	**Kotyrbulak**	**2.19**	**221**	Pg	**Pb**	**02 00 36.0**	**+0.3**
	3.1nm,0.3s						
KOTS				Lg	Lg	02 01 04.7	
	16nm,0.4s						
KOTS	**Kotyrbulak**	**2.19**	**221**	*eP*	**Pb**	**02 00 36.0**	**+0.3**
	3.1nm,0.3s						
KOTS				*eS*	**Sg**	**

NP1:ϕ_s189.00000°,δ67.00000°,λ87.00000°. NP2: ϕ_s18.00000°,δ24.00000°,λ98.00000°. Principal axes: T 6.8230, Plg68.0000°, Azm93.0000°; N 0.5670, Plg3.0000°, Azm191.0000°; P -7.3890, Plg22.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

VAO ***10*** *02:02:05.8±0.5, 34°.04S×72°.01W, h142^{km}, mb4.6*

ISC 10 02:01:59.0±0.4,**33°.50S**±0°.04×**72°.00W**±0°.06,**h36**km±2km, **n233**,σ1**23**/202,**mb4.6**/51,**MS4.7**/15,**3C-7D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.56**	**32**	⇓*i*P	**Pn**	**02 02 09.6**	**-1.0**
VA01				*i* S	**Sn**	**02 02 19.1**	**+0.5**
ROC1	**El Roble**	**0.98**	**58**		**Pn**	**02 02 16.4**	**0.0**
ROCH	**El Roble**	**0.98**	**58**	⇓*i*P	**Pn**	**02 02 16.3**	**-0.1**
ROCH				*i* S	**Sn**	**02 02 31.9**	**+2.6**
ROCH				IAML		02 02 37.5	
	comp=N,23μm,0.4s						
RCDM	**Rinconada Map**	**0.99**	**90**	*i* P	**Pn**	**02 02 16.8**	**+0.3**
ANTU	**Antumapu**	**1.14**	**94**	*e*P	**Pn**	**02 02 19.5**	**+1.0**
ANTU				*i* S	**Sn**	**02 02 33.0**	**0.0**
PEL	**Peldehue**	**1.16**	**72**	*e*P	**Pn**	**02 02 18.9**	**+0.2**
PEL				*i* S	**Sn**	**02 02 36.3**	**+3.0**
PEL	**Peldehue**	**1.16**	**72**		**Pn**	**02 02 19.1**	**+0.4**
CLCH	**Cerro Calan**	**1.23**	**85**	⇓*i*P	**Pn**	**02 02 20.3**	**+0.6**
CLCH				*e*S	**Sn**	**02 02 38.3**	**+3.2**
CLCH				IAML		02 02 45.9	
	comp=E,27μm,0.6s						
FCH	**Farellones**	**1.44**	**83**	⇓*i*P	**Pn**	**02 02 23.8**	**+1.0**
FCH				*i* S	**Sn**	**02 02 45.7**	**+5.0**
FCH				IAML		02 02 50.8	
	comp=E,16μm,0.3s						
GO05	**Huala**	**1.50**	**178**	⇑*i*P	**Pn**	**02 02 22.0**	**-1.5**
GO05	**Huala**	**1.50**	**178**		**Pn**	**02 02 21.9**	**-1.5**
LMEL	**Las Melosas**	**1.54**	**103**	⇓*i*P	**Pn**	**02 02 24.4**	**+0.4**
CO02	**Combarbal**	**2.44**	**20**	⇑*i*P	**Pn**	**02 02 36.7**	**+0.2**
CO02				*i* S	**Sn**	**02 03 07.3**	**+2.2**
GO04	**Tololo Observa**	**3.47**	**17**		**Pn**	**02 02 50.7**	**0.0**
CFA	**Coronel Fontan**	**3.70**	**60**	Pn	**Pn**	**02 02 55.0**	**+1.4**
	comp=E,10.0nm,0.3s,baz=236,slow=15,SNR=64						
CFA				Pg		02 03 01.0	
	comp=E,53nm,0.3s,baz=240,slow=15,SNR=48						
CFA				Lg	Lg	02 03 49.8	
	comp=E,99nm,0.3s,baz=330,slow=20,SNR=6.5						
CFA				LR	LR	02 03 51.6	
	comp=E,2μm,20.1s,baz=244,slow=32						
GO03	**Copiap**	**6.08**	**15**		**Pn**	**02 03 25.6**	**-0.9**
GO06	**Curarrehue**	**6.08**	**176**		**Pn**	**02 03 25.4**	**-1.0**
PLCA	**Paso Flores**	**7.31**	**171**	Pn	**Pn**	**02 03 42.9**	**-0.3**
	comp=E,2.3nm,0.3s,baz=354,slow=13,SNR=72						
PLCA				Lg	Lg	02 05 45.9	
	comp=E,1.3nm,0.3s,baz=274,slow=7.8,SNR=3.4						
PLCA	**Paso Flores**	**7.31**	**171**		**Pn**	**02 03 42.6**	**-0.6**
PLCA	**Paso Flores**	**7.31**	**171**	*e*P	**Pn**	**02 03 43.1**	**-0.2**
PLCA	**Paso Flores**	**7.31**	**171**	*e*P	**Pn**	**02 03 43.1**	**-0.2**
GO02	**Mina Guanaco**	**8.57**	**15**		**Pn**	**02 03 58.2**	**-2.6**
TRQA	**Tornquist**	**9.32**	**122**		**Pn**	**02 04 10.9**	**+0.1**
TRQA	**Tornquist**	**9.32**	**122**	*e*P	**Pn**	**02 04 12.5**	**+1.7**
TRQA				*e*S	**Sn**	**02 05 54.8**	**+0.5**
TRQA	**Tornquist**	**9.32**	**122**	*e*P	**Pn**	**02 04 12.5**	**+1.7**
TRQA				*e*S	**Sn**	**02 05 54.8**	**+0.5**
PB10	**IPOC Station P**	**10.03**	**8**	Pn	**Pn**	**02 04 20.8**	**+0.2**
LVC	**Limon Verde**	**11.19**	**15**	Pn	**Pn**	**02 04 32.2**	**-4.5**
	comp=E,1.0nm,0.3s,baz=210,slow=13,SNR=8.5						
LVC				LR	LR	02 09 14.3	
	comp=E,5μm,19.2s,baz=209,slow=39						
LVC	**Limon Verde**	**11.19**	**15**		**Pn**	**02 04 33.6**	**-3.2**
LVC	**Limon Verde**	**11.19**	**15**	*e*P	Pn	02 04 49.4	+13
LVC	**Limon Verde**	**11.19**	**15**	*e*P	Pn	02 04 49.4	+13
PB04	**IPOC Station P**	**11.25**	**9**	Pn	**Pn**	**02 04 37.5**	**+0.1**
LPA	**La Plata**	**11.73**	**101**	*i* P	**Pn**	**02 04 42.1**	**-1.7**
LPA				S	**Sn**	**02 06 52.2**	**-1.2**
LPA				SS	SnSn	02 07 54.8	+50
LPA				SCS	**ScS**	**02 17 35.0**	**-2.2**
PB01	**IPOC Station P**	**12.61**	**11**	Pn	**Pn**	**02 04 53.3**	**-2.7**
PB11	**IPOC Station P**	**13.85**	**9**	Pn	**Pn**	**02 05 11.5**	**-1.5**
GO01	**Chusmiza**	**14.01**	**11**		**Pn**	**02 05 13.7**	**-1.7**
MNMC	**Minye Minye**	**14.47**	**9**		**Pn**	**02 05 22.5**	**+0.9**
CPUP	**Villa Florida**	**14.58**	**65**	Pn	**Pn**	**02 05 21.2**	**-1.5**
	comp=E,0.2nm,0.3s,baz=240,slow=8.1,SNR=5.4						
CPUP				Sn	**Sn**	**02 08 03.5**	**+0.4**
	comp=E,0.2nm,0.3s,baz=212,slow=9.5,SNR=1.8						
CPUP				LR	LR	02 11 26.3	
	comp=E,5μm,19.3s,baz=242,slow=39						
CPUP	**Villa Florida**	**14.58**	**65**	Pn	**Pn**	**02 05 23.7**	**+0.9**
PLTB	**Pedras Altas**	**15.60**	**89**	*e*P	**Pn**	**02 05 37.2**	**+1.0**
PLTB	**Pedras Altas**	**15.60**	**89**	*e*P	**Pn**	**02 05 37.2**	**+1.0**
LPAZ	**La Paz**	**17.49**	**12**	Pn	**Pn**	**02 06 00.9**	**+0.1**
	comp=E,1.2nm,0.3s,baz=177,slow=10,SNR=32						
LPAZ	**La Paz**	**17.49**	**12**	Pn	**Pn**	**02 05 59.5**	**-1.3**
ITAB	**Concordia**	**18.23**	**75**	*e*P	**Pn**	**02 06 10.3**	**+1.0**
ITAB	**Concordia**	**18.23**	**75**	*e*P	**Pn**	**02 06 10.3**	**+1.0**
CNLB	**Canela**	**18.52**	**83**	*e*P	**P**	**02 06 11.3**	**-1.1**
CNLB	**Canela**	**18.52**	**83**	*e*P	**P**	**02 06 11.3**	**-1.1**
PTGB	**Pitanga**	**19.47**	**68**	*e*P	**P**	**02 06 23.1**	**+0.2**
PTGB	**Pitanga**	**19.47**	**68**	*e*P	**P**	**02 06 23.1**	**+0.2**
SIV	**San Ignacio**	**20.04**	**32**	P	**P**	**02 06 27.0**	**-2.0**
	comp=E,8.7nm,0.5s,baz=207,slow=9.4,SNR=38						
SIV				LR	LR	02 15 41.3	
	comp=E,4μm,19.3s,baz=225,slow=41						
TRCB	**Terra Rica**	**20.10**	**63**	*e*P	**P**	**02 06 30.1**	**+0.4**
TRCB	**Terra Rica**	**20.10**	**63**	*e*P	**P**	**02 06 30.1**	**+0.4**
EFI	**East Falkland**	**20.79**	**155**	P	**P**	**02 06 36.1**	**-0.8**
USHA	**Ushuaia**	**21.47**	**174**	P	**P**	**02 06 43.3**	**-0.9**
	comp=E,9.9nm,0.9s,baz=0.0,slow=9.1,SNR=2.8						
NNA	**Nana**	**21.87**	**347**	P	**P**	**02 06 50.6**	**+1.8**
	comp=E,16nm,1.0s,baz=187,slow=16,SNR=3.9						
NNA	**Nana**	**21.87**	**347**	P	**P**	**02 06 49.9**	**+1.1**
NNA				IAmb	IAmb	02 07 06.9	
	comp=Z,18nm,0.9s						
FRTB	**Fartura**	**22.13**	**69**	*e*P	**P**	**02 06 52.4**	**+0.8**
FRTB				*e*S	**S**	**02 10 49.7**	**-3.9**
FRTB	**Fartura**	**22.13**	**69**	*e*P	**P**	**02 06 52.4**	**+0.8**
FRTB				*e*S	**S**	**02 10 49.7**	**-3.9**
SPB	**Sao Paulo**	**23.68**	**72**	P	**P**	**02 07 06.9**	**-0.5**
SPB	**Sao Paulo**	**23.68**	**72**	*e*P	**P**	**02 07 07.1**	**-0.3**
SPB	**Sao Paulo**	**23.68**	**72**	*e*P	**P**	**02 07 07.1**	**-0.3**
BB19B	**Bebedouro**	**24.20**	**65**	*e*P	**P**	**02 07 11.8**	**-0.5**
BB19B	**Bebedouro**	**24.20**	**65**	*e*P	**P**	**02 07 11.8**	**-0.5**
RCLB	**Rio Claro- Sao**	**24.21**	**69**	*e*P	**P**	**02 07 11.4**	**-1.0**
RCLB	**Rio Claro- Sao**	**24.21**	**69**	*e*P	**P**	**02 07 11.4**	**-1.0**
VAO	**Valinhos**	**24.35**	**71**	*e*P	**P**	**02 07 13.1**	**-0.7**
VAO	**Valinhos**	**24.35**	**71**	*e*P	**P**	**02 07 13.1**	**-0.7**
ARAG	**Araguaiana, MT**	**25.43**	**51**	*e*P	**P**	**02 07 22.9**	**-0.6**
ARAG				*ep*P	sP	02 07 52.8	+15
ARAG	**Araguaiana, MT**	**25.43**	**51**	*e*P	**P**	**02 07 22.9**	**-0.6**
ARAG				*ep*P	sP	02 07 52.8	+15
SAML	**Samuel**	**25.75**	**20**	P	**P**	**02 07 26.4**	**0.0**
SAML				IAmb	IAmb	02 07 29.3	
	comp=Z,18nm,0.7s						
SAML	**Samuel**	**25.75**	**20**	*e*P	**P**	**02 07 26.9**	**+0.5**
SAML	**Samuel**	**25.75**	**20**	*e*P	**P**	**02 07 26.9**	**+0.5**
CLDB	**Colider**	**26.98**	**37**	*e*P	**P**	**02 07 38.2**	**+0.7**
CLDB	**Colider**	**26.98**	**37**	*e*P	**P**	**02 07 38.2**	**+0.7**
BDFB	**Brasilia**	**28.03**	**56**	P	**P**	**02 07 46.1**	**-0.9**
	comp=Z,6.4nm,0.5s,baz=235,slow=7.6,SNR=17						
BDFB				LR	LR	02 20 39.6	
	comp=Z,3μm,20.1s,baz=234,slow=40						
BDFB	**Brasilia**	**28.03**	**56**	P	**P**	**02 07 46.4**	**-0.7**
BDFB				IAmb	IAmb	02 07 47.6	
	comp=Z,9.0nm,0.7s						
BSFB	**Barra de Sao F**	**31.40**	**70**	*e*P	**P**	**02 08 14.4**	**-2.4**
BSFB	**Barra de Sao F**	**31.40**	**70**	*e*P	**P**	**02 08 14.4**	**-2.4**
OTAV	**Otavalo**	**34.11**	**348**	P	**P**	**02 08 42.9**	**+2.0**
OTAV	**Otavalo**	**34.11**	**348**	*e*P	**P**	**02 08 42.4**	**+1.5**
OTAV	**Otavalo**	**34.11**	**348**	*e*P	**P**	**02 08 42.4**	**+1.5**
PTGA	**Pitinga**	**34.50**	**22**	P	**P**	**02 08 43.5**	**-0.3**
	comp=Z,11nm,0.6s,baz=193,slow=10.0,SNR=20						
PTGA	**Pitinga**	**34.50**	**22**	P	**P**	**02 08 42.9**	**-0.9**
PTGA	**Pitinga**	**34.50**	**22**	*e*P	**P**	**02 08 44.0**	**+0.1**
PTGA	**Pitinga**	**34.50**	**22**	*e*P	**P**	**02 08 44.0**	**+0.1**
MACC	**Macarena, Meta**	**35.50**	**357**	*e*P	**P**	**02 08 51.9**	**-0.5**
MACC	**Macarena, Meta**	**35.50**	**357**	*e*P	**P**	**02 08 51.9**	**-0.5**
ORTC	**Ortega, Tolima**	**37.34**	**355**	*e*P	**P**	**02 09 08.8**	**+0.7**
ORTC	**Ortega, Tolima**	**37.34**	**355**	*e*P	**P**	**02 09 08.8**	**+0.7**
ROSC	**El Rosal**	**38.20**	**356**	P	**P**	**02 09 15.8**	**0.0**
	comp=Z,2.7nm,0.4s,baz=180,slow=20,SNR=1.8						
GUY2C	**Guyana, Caldas**	**38.65**	**355**	*e*P	P	02 09 29.2	+9.5
GUY2C	**Guyana, Caldas**	**38.65**	**355**	*e*P	P	02 09 29.2	+9.5
SPBC	**San Pablo de B**	**38.99**	**357**	*e*P	**P**	**02 09 24.1**	**+2.0**
SPBC	**San Pablo de B**	**38.99**	**357**	*e*P	**P**	**02 09 24.1**	**+2.0**
RUSC	**La Rusia**	**39.19**	**358**	*e*P	**P**	**02 09 25.8**	**+1.5**
RUSC	**La Rusia**	**39.19**	**358**	*e*P	**P**	**02 09 25.8**	**+1.5**
PTBC	**PUERTO BERRIO,**	**39.89**	**356**	*e*P	**P**	**02 09 30.0**	**+0.5**
PTBC	**PUERTO BERRIO,**	**39.89**	**356**	*e*P	**P**	**02 09 30.0**	**+0.5**
SMLC	**San Martn de**	**42.12**	**357**	*e*P	**P**	**02 09 47.8**	**0.0**
SMLC	**San Martn de**	**42.12**	**357**	*e*P	**P**	**02 09 47.8**	**0.0**
SDV	**Santo Domingo**	**42.17**	**2**	P	**P**	**02 09 48.5**	**0.0**
SDV				IAmb	IAmb	02 10 04.9	
	comp=Z,7.8nm,0.9s						
SDV	**Santo Domingo**	**42.17**	**2**	*e*P	**P**	**02 09 48.9**	**+0.4**
SDV	**Santo Domingo**	**42.17**	**2**	*e*P	**P**	**02 09 48.9**	**+0.4**
MDP	**Montagnes des**	**42.55**	**29**	P	**P**	**02 09 51.2**	**-0.2**
	comp=Z,10.0nm,0.6s,baz=223,slow=7.8,SNR=12						
VNA3	**Neumayer Olymp**	**49.80**	**158**	P	**P**	**02 10 48.9**	**+1.1**
VNA1	**Neumayer--Stat**	**50.12**	**157**	P	**P**	**02 10 51.4**	**+1.3**
VNA2	**Neumayer--Watz**	**50.45**	**157**	P	**P**	**02 10 53.8**	**+1.1**
	baz=283,slow=8.2						
SNAA	**Sanae**	**52.03**	**158**	P	**P**	**02 11 05.4**	**+0.8**
SNAA	**Sanae**	**52.03**	**158**	P	**P**	**02 11 04.2**	**-0.5**
QSPA	**South Pole Qui**	**56.73**	**180**	P	**P**	**02 11 39.5**	**+0.5**
SYO	**Syowa Base**	**66.31**	**159**⇓	*e*P	P	02 12 36.4	-6.9
SYO	**Syowa Base**	**66.31**	**159**⇓	*ep*P	pP	02 12 50.0	-4.2
SYO	**Syowa Base**	**66.31**	**159**⇓	*es*P	sP	02 12 56.2	-2.3
833A	**Chaparral WMA,**	**66.75**	**334**	P	**P**	**02 12 47.9**	**+1.3**
TAOE	**Nuku Hiva Isla**	**66.96**	**275**	*e*S	**S**	**02 21 41.2**	**+1.5**
	comp=Z,369nm,26.0s						
TAOE	**Nuku Hiva Isla**	**66.96**	**275**	*e*LR	LR	02 32 58.0	
	comp=Z,497nm,21.7s						
TBI	**Tubuai**	**67.47**	**256**	*e*S	**S**	**02 21 43.4**	**-1.9**
	comp=Z,479nm,26.0s						
TBI	**Tubuai**	**67.47**	**256**	*e*LR	LR	02 33 19.2	
	comp=Z,1μm,26.5s,baz=113						
TBI	**Tubuai**	**67.47**	**256**	*e*T	T	03 26 09.8	
	comp=Z,7.8nm,0.3s						
HPIG		**68.08**	**328**	P	**P**	**02 12 55.3**	**-0.1**
HPIG				IAmb	IAmb	02 13 07.0	
	comp=Z,5.9nm,1.1s						
JCT	**Junction City**	**68.85**	**334**	IAmb	IAmb	02 13 04.9	
	comp=Z,8.9nm,1.0s						
MEH	**Mehetia**	**68.95**	**262**	*e*T	T	03 28 00.6	
	comp=Z,19nm,0.2s						
TXAR	**Lajitas Array**	**69.32**	**331**	P	**P**	**02 13 03.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=142,slow=4.7,SNR=12						
TXAR				LR	LR	02 39 21.3	
	comp=Z,487nm,18.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**69.32**	**331**	P	**P**	**02 13 03.7**	**+0.9**
CPCT	**Cooper Cave**	**69.59**	**349**	P	**P**	**02 13 04.2**	**0.0**
CPCT				IAmb	IAmb	02 13 15.7	
	comp=Z,8.0nm,0.9s						
PLAL	**Pickwick Lake**	**69.78**	**346**	IAmb	IAmb	02 13 06.2	
	comp=Z,7.9nm,0.8s						
PPT2	**Papeete2**	**70.34**	**262**	*e*S	**S**	**02 22 18.0**	**-1.6**
	comp=Z,292nm,23.8s						
PPT2	**Papeete2**	**70.34**	**262**	*e*LR	LR	02 34 37.8	
	comp=Z,675nm,28.2s,baz=102						
PPT	**Papeete**	**70.35**	**262**	LR	LR	02 36 37.0	
	comp=Z,378nm,18.6s,baz=139,slow=30						
ABTX	**Abilene, Hawle**	**70.74**	**335**	IAmb	IAmb	02 13 31.2	
	comp=Z,8.2nm,0.8s						
WVT	**Waverly**	**70.84**	**346**	P	**P**	**02 13 12.3**	**+0.4**
FCAR	**Ozark Folk Cen**	**71.56**	**343**	IAmb	IAmb	02 13 24.7	
	comp=Z,7.3nm,1.0s						
U40A	**Yellville**	**72.18**	**342**	IAmb	IAmb	02 13 21.0	
	comp=Z,7.3nm,0.7s						
HSIG		**72.31**	**325**	P	**P**	**02 13 21.7**	**+0.8**
HSIG				IAmb	IAmb	02 13 40.5	
	comp=Z,6.2nm,1.0s						
WMOK	**Wichita Mounta**	**72.38**	**337**	P	**P**	**02 13 21.1**	**-0.2**
TUL1	**Leonard**	**72.55**	**340**	IAmb	IAmb	02 13 41.6	
	comp=Z,6.4nm,0.8s						
MGMO	**Mountain Grove**	**72.79**	**343**	IAmb	IAmb	02 13 37.9	
	comp=Z,5.2nm,0.8s						
CCM	**Cathedral Cave**	**73.41**	**344**	P	**P**	**02 13 27.8**	**+0.6**
AMTX	**Amarillo**	**73.50**	**335**	IAmb	IAmb	02 13 38.3	
	comp=Z,7.9nm,0.9s						
MAW	**Mason**	**73.64**	**164**	P	**P**	**02 13 28.8**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=222,slow=7.1,SNR=8.5						
MAW				LR	LR	02 48 40.4	
	comp=Z,738nm,18.3s,baz=230,slow=38						
MAW	**Mawson**	**73.64**	**164**	P	**P**	**02 13 29.3**	**+1.0**
121A	**Cookes Peak, D**	**73.83**	**329**	IAmb	IAmb	02 13 48.3	
	comp=Z,5.5nm,0.8s						
LIC	**Lamto**	**74.58**	**72**	*e*P	**P**	**02 13 33.4**	**-1.3**
	comp=Z,42nm,1.2s						
TIC	**Toumodi**	**74.84**	**71**	*e*P	**P**	**02 13 36.4**	**+0.2**
KIC	**Kosan Boka**	**74.89**	**72**	*e*P	**P**	**02 13 36.3**	**-0.2**
	comp=Z,24nm,0.9s						
TUC	**Tucson**	**74.97**	**327**	P	**P**	**02 13 37.6**	**+1.0**
DBIC	**Dimbokro**	**74.99**	**71**	P	**P**	**02 13 37.5**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=202,slow=5.3,SNR=15						
DBIC				LR	LR	02 45 36.4	
	comp=Z,355nm,18.5s,baz=214,slow=35						
DBIC	**Dimbokro**	**74.99**	**71**	P	**P**	**02 13 37.3**	**+0.3**
DBIC				IAmb	IAmb	02 13 38.1	
	comp=Z,6.9nm,0.8s						
ANMO	**Albuquerque**	**75.36**	**331**	P	**P**	**02 13 40.3**	**+1.3**
Y14A	**Wickenburg**	**77.36**	**326**	P	**P**	**02 13 50.7**	**+0.6**
KSCO	**Kaye Sheblock'**	**77.54**	**336**	P	**P**	**02 13 52.1**	**+1.0**
WUAZ	**Wupatki**	**77.93**	**328**	IAmb	IAmb	02 14 11.3	
	comp=Z,4.5nm,0.9s						
Q24A	**Divide**	**78.39**	**334**	IAmb	IAmb	02 14 11.3	
	comp=Z,6.0nm,0.9s						
PFO	**Pinyon Flats O**	**78.76**	**323**	P	**P**	**02 13 58.9**	**+0.9**
PFO				IAmb	IAmb	02 14 08.8	
	comp=Z,6.4nm,1.1s						
SMCO	**Snowmass**	**79.25**	**333**	IAmb	IAmb	02 14 17.0	
	comp=Z,9.5nm,0.9s						
ISCO	**Idaho Springs**	**79.29**	**334**	P	**P**	**02 14 00.9**	**-0.1**
PV09	**Paradox Valley**	**79.51**	**331**	P	**P**	**02 14 01.0**	**-1.2**
ECSD	**EROS Data Cent**	**80.09**	**342**	IAmb	IAmb	02 14 21.0	
	comp=Z,7.6nm,0.9s						
BOSA	**Boshof**	**80.27**	**118**	P	**P**	**02 14 06.3**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=240,slow=4.0,SNR=6.1						
BOSA				LR	LR	02 44 47.5	
	comp=Z,240nm,21.8s,baz=242,slow=32						
BOSA	**Boshof**	**80.27**	**118**	P	**P**	**02 14 06.3**	**-0.2**
BOSA				IAmb	IAmb	02 14 18.1	
	comp=Z,6.9nm,0.9s						
SZCU	**Shurtz Canyon**	**80.42**	**328**	P	**P**	**02 14 07.8**	**+0.8**
SHPR	**Sheep Range**	**80.47**	**326**	IAmb	IAmb	02 14 28.6	
	comp=Z,4.7nm,0.9s						
Q16A	**Castle Valley**	**80.70**	**330**	P	**P**	**02 14 09.6**	**+1.1**
K22A	**Casper**	**82.13**	**335**	IAmb	IAmb	02 14 31.0	
	comp=Z,8.3nm,1.1s						
DUG	**Dugway, Tooele**	**82.46**	**330**	IAmb	IAmb	02 14 32.9	
	comp=Z,4.2nm,1.0s						
LBTB	**Lobatse**	**82.48**	**115**	P	**P**	**02 14 18.0**	**-0.3**
OMMB	**Old Mammoth Mi**	**83.19**	**324**	IAmb	IAmb	02 14 37.7	
	comp=Z,4.9nm,1.0s						
PD31	**Pinedale Array**	**83.34**	**333**	P	**P**	**02 14 22.2**	**-0.1**
PDAR	**Pinedale Array**	**83.34**	**333**	P	**P**	**02 14 22.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=134,slow=4.3,SNR=5.2						
NVAR	**Mina Array Bea**	**83.50**	**325**	P	**P**	**02 14 24.3**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=150,slow=5.5,SNR=13						
NVAR				LR	LR	02 47 32.5	
	comp=Z,49nm,20.1s,baz=116,slow=33						
NVAR	**Mina Array Bea**	**83.50**	**325**	P	**P**	**02 14 23.5**	**+0.3**
KVN	**Kaiserville**	**83.89**	**326**	IAmb	IAmb	02 14 40.9	
	comp=Z,4.8nm,1.1s						
ELK	**Elko**	**83.96**	**328**	IAmb	IAmb	02 14 40.9	
	comp=Z,4.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**84.01**	**70**	P	**P**	**02 14 26.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**84.01**	**70**	P	**P**	**02 14 25.7**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=291,slow=4.7,SNR=20						
TORD				LR	LR	02 49 03.5	
	comp=Z,291nm,21.8s,baz=280,slow=34						
TORD	**Torodi Ar. Bea**	**84.01**	**70**	P	**P**	**02 14 26.1**	**0.0**
YERR	**Yerington**	**84.38**	**325**	IAmb	IAmb	02 14 43.2	
	comp=Z,4.1nm,1.1s						
TPAW	**Teton Pass**	**84.48**	**333**	IAmb	IAmb	02 14 37.6	
	comp=Z,5.2nm,1.1s						
AFDM	**Forest Hills D**	**85.20**	**324**	P	**P**	**02 14 32.1**	**+0.6**
AFDM				IAmb	IAmb	02 14 48.0	
	comp=Z,4.4nm,1.1s						
RLMT	**Red Lodge**	**85.25**	**335**	IAmb	IAmb	02 14 46.5	
	comp=Z,6.3nm,1.1s						
LAO	**LASA Array**	**85.58**	**337**	IAmb	IAmb	02 14 47.7	
	comp=Z,6.4nm,0.9s						
BEKR	**Beckworth**	**85.61**	**325**	IAmb	IAmb	02 14 49.4	
	comp=Z,4.7nm,1.2s						
ORV	**Oroville**	**85.93**	**324**	P	**P**	**02 14 35.0**	**-0.1**
ULM	**Lac du Bonnet**	**86.03**	**345**	P	**P**	**02 14 35.4**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=153,slow=6.8,SNR=2.4						
ULM	**Lac du Bonnet**	**86.03**	**345**	IAmb	IAmb	02 14 47.5	
	comp=Z,6.8nm,1.1s						
DLMT	**Dillon**	**86.70**	**333**	IAmb	IAmb	02 14 54.1	
	comp=Z,6.6nm,1.1s						
MOD	**Modoc Plateau**	**87.17**	**326**	IAmb	IAmb	02 14 56.5	
	comp=Z,5.9nm,1.1s						
WDC	**Whiskeytown Da**	**87.22**	**324**	P	**P**	**02 14 41.5**	**+0.1**
YBH	**Yreka Blue Hor**	**88.19**	**325**	IAmb	IAmb	02 15 00.9	
	comp=Z,5.3nm,1.1s						
LSZ	**Lusaka**	**89.93**	**108**	P	**P**	**02 14 54.5**	**-0.6**
ESDC	**Sonseca Array**	**96.21**	**46**	P	**P**	**02 15 23.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=276,slow=6.4,SNR=3.2						
ESDC				LR	LR	02 57 50.1	
	comp=Z,211nm,19.1s,baz=210,slow=35						
ESDC	**Sonseca Array**	**96.21**	**46**	IAmb	IAmb	02 15 30.7	
	comp=Z,0.7nm,1.0s						
DZM	**Mont Dzumac**	**101.56**	**234**	*e*LR	LR	02 49 05.7	
	comp=Z,390nm,22.6s						
YKA	**Yellowknife Ar**	**101.60**	**341**	PKKPbc	PKKPbc	02 31 54.8	-1.0
	comp=Z,2.1nm,0.8s,baz=328,slow=10,SNR=3.6						
CLL	**Collm**	**112.46**	**43**	*e*PS	PS	02 30 52.0	+0.3
CLL				*e*PPS	PPS	02 32 06.0	
CLL				*e*SSS	SSS	02 41 30.0	
CLL				*e*SSSS		02 45 00.0	
CLL				LmV		03 06 00.0	
	comp=Z,300nm,20.5s						
ASAR	**Alice Springs**	**118.02**	**207**	PKP	**PKPdf**	**02 20 41.9**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=132,slow=1.9,SNR=6.0						
WRA	**Warramunga Arr**	**121.21**	**209**	PKP	**PKPdf**	**02 20 48.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=163,slow=1.6,SNR=17						
WRA	**Warramunga Arr**	**121.21**	**209**		**PKPdf**	**02 20 48.7**	**0.0**
BRTR	**Keskin Array B**	**121.56**	**61**	PKP	**PKiKP**	**02 20 49.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=214,slow=3.1,SNR=3.4						
AKASG	**Malin Array Be**	**121.83**	**47**	PKP	**PKPdf**	**02 20 48.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=278,slow=2.7,SNR=3.7						
ARCES	**ARCESS Array B**	**123.55**	**25**	PKP	**PKiKP**	**02 20 51.9**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=247,slow=2.5,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**125.81**	**269**	T	T	04 39 30.7	
	baz=118,slow=74,SNR=41						
H11S1	**WAKE ISLAND Hy**	**125.82**	**269**	T	T	04 39 30.7	
	baz=118,slow=74,SNR=36						
H11S3	**WAKE ISLAND Hy**	**125.83**	**269**	T	T	04 39 30.7	
	baz=118,slow=74,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**126.21**	**271**	T	T	04 40 05.

GULT	Gulveren	0.36	148	PG	Pg	02 09 31.8	+0.4
GULT				SG	Sb	02 09 37.2	-0.9
HRT	Hereke	0.46	281	PG	Pg	02 09 33.5	+0.3
HRT				SG	Sg	02 09 39.7	+0.4
SAHE	Sakarya_HENDEK	0.46	75	*i* P	Pg	02 09 33.0	-0.3
SAHE				*i* S	Sb	02 09 40.5	-0.6
ADVT	Abdulvahap	0.50	233	PG	Pg	02 09 34.2	+0.2
BTAS	Taskesti	0.59	106	*i* P	Pb	02 09 36.0	-0.3
BTAS				*i* S	Sb	02 09 44.1	-0.5
BTAS				IAML_P			
	comp=Z,10μm,0.1s						
CAVI	Cavuskoy	0.62	211	PG	Pb	02 09 36.6	-0.3
YLV	Yalova	0.70	256	PG	Pg	02 09 37.3	-0.4
IZI	Iznik	0.72	237	PG	Pg	02 09 38.1	-0.1
SRCK	Saricakaya, Es	0.75	158	*i* P	Pg	02 09 39.4	+0.4
SRCK				*i* S	Sb	02 09 50.1	+0.9
SRCK	Saricakaya, Es	0.75	158	PG	Pg	02 09 38.8	+0.2
BORA	Eskisehir	0.87	170	*i* P	Pb	02 09 41.0	-0.1
BORA	Eskisehir	0.87	170	PG	Pb	02 09 41.1	-0.1
GEMT	Gemlik	0.87	250	PG	Pg	02 09 40.4	-0.6
BUY	Buyukada	0.88	278	*i* P	Pg	02 09 41.1	0.0
BUY	Buyukada	0.88	278	PG	Pg	02 09 40.9	-0.2
IGD	Bursa	0.94	240	*i* P	Pn	02 09 42.8	-0.2
KAVV	Kandilli-Istan	0.97	290	PG	Pb	02 09 42.5	-0.3
ISK	Istanbul-Kandi	0.97	290	PG	Pb	02 09 42.4	-0.4
KLYT	Kilyos	1.06	300	PG	Pb	02 09 44.2	-0.1
KDZE	Karadeniz Ereo	1.06	57	PG	Pb	02 09 43.4	-1.0
ARMT	Armutlu	1.08	261	PN	Pb	02 09 44.1	-0.6
MDNY	Mudanya-Bursa	1.11	251	PN	Pb	02 09 44.9	-0.4
YUVA	Yuva-Kibriscik	1.14	107	PN	Pn	02 09 45.9	-0.1
BGKT	Bogazkoy	1.21	292	PN	Pn	02 09 46.7	-0.1
AUMIH	MIHALICIK	1.28	133	*i* P	Pb	02 09 48.1	-0.1
AUMIH	MIHALICIK	1.28	133	PN	Pn	02 09 47.7	-0.2
ESKT	Eskisehir	1.30	159	PN	Pn	02 09 47.9	-0.2
BCAM	Yenicaga	1.37	86	*i* P	Pn	02 09 49.3	+0.2
BCAM				IAML_P			
	comp=Z,4μm,0.2s						
CTKS	Kestanelik-??a	1.42	291	PN	Pn	02 09 49.8	+0.1
TVSB	Tavsanli	1.43	206	PN	Pb	02 09 50.3	-0.4
AUKIR	Kırka- Seyitga	1.47	172	*i* P	Pb	02 09 51.5	0.0
CIFT	Cifteler, Eski	1.51	156	*i* P	Pb	02 09 51.4	-0.6
CIFT				IAML_P			
	comp=Z,2μm,0.1s						
CIFT	Cifteler, Eski	1.51	156	PN	Pn	02 09 51.1	+0.1
KCTX	Karacabey (Bur	1.53	253	PN	Pn	02 09 51.4	+0.2
SVRH	Sivrihisar-ESK	1.61	143	PN	Pn	02 09 52.6	+0.2
AUSIV	SIVRIHISAR	1.62	142	*i* P	Pb	02 09 53.9	-0.2
AUSIV	SIVRIHISAR	1.62	142	PN	Pn	02 09 52.3	-0.3
SLVT	Silivri	1.63	288	PN	Pn	02 09 52.6	0.0
GDZ	Gediz	1.75	200	*i* P	Pb	02 09 55.7	-0.6
GDZ				IAML_P			
	comp=Z,2μm,0.2s						
GEDZ	Gediz	1.81	201	PN	Pn	02 09 55.5	+0.3
EDC	Edincik	1.87	259	PN	Pn	02 09 56.0	+0.1
SHAP	Saphane-Kutahy	1.89	205	PN	Pn	02 09 56.5	+0.2
SMAA	Simav-Kutahya	1.91	211	PN	Pn	02 09 56.9	+0.4
CRLT	Corlu	1.95	282	PN	Pn	02 09 57.3	+0.3
MRMT	Marmara Adasi	2.03	267	PN	Pn	02 09 58.3	+0.1
TKR	Tekirdag	2.08	278	PN	Pn	02 09 58.7	-0.1
GONE	Gonen-Balikesi	2.08	252	PN	Pn	02 09 58.9	+0.1
BALB	Balikesir	2.13	240	PN	Pn	02 09 59.9	+0.5
KURC	Kurucasile-Bar	2.17	59	PN	Pn	02 10 00.2	+0.2
SHUT	Suhut-Afyon	2.19	174	PN	Pn	02 10 01.1	+0.7
KIZT	Kizilcal	2.23	146	PN	Pn	02 10 01.2	+0.2
KRBG	Karabiga-Canak	2.28	262	PN	Pn	02 10 02.1	+0.5
RKY	Sarkoy-Tekirda	2.34	270	PN	Pn	02 10 02.7	+0.2
AFSR	Afar-Bala (An	2.51	120	PN	Pn	02 10 04.9	+0.1
KULA	Kula-Manisa	2.54	210	PN	Pn	02 10 05.6	+0.4
LPK	Lapseki	2.69	263	PN	Pn	02 10 07.4	+0.2
KULU	Kulu	2.70	128	PN	Pn	02 10 08.1	+0.6
GOMA	Golmarmara-Man	2.72	222	PN	Pn	02 10 08.0	+0.5
BRTR	Keskin Array B	2.78	110	PN	Pn	02 10 09.1	+0.6
UKOP	Uzunkopru-Edir	2.78	279	PN	Pn	02 10 08.8	+0.5
ERIK	Erikli-Kesan	2.85	270	PN	Pn	02 10 09.6	+0.3
EDRB	Edirne	2.87	294	PN	Pn	02 10 10.1	+0.4
GELI	Tayfur-Gelibol	2.91	265	PN	Pn	02 10 10.4	+0.3
CHBY	Cihanbeyli	2.96	136	PN	Pn	02 10 11.2	+0.3
LADK	Ladik-KONYA	3.01	147	PN	Pn	02 10 12.0	+0.3
BZK	Bozkurt	3.07	65	PN	Pn	02 10 12.9	+0.5
EZN	Ezine	3.15	254	⇑P	Pb	02 10 17.0	-2.9
EZN				⇑S	Sn	02 10 53.8	+2.9
EZN				AML	AML	02 11 08.0	
JMB	Yambol	3.25	303	P	Pn	02 10 17.0	+2.1
MFTR	Murfatlar	3.70	339	⇑P	Pn	02 10 22.6	+1.6
MFTR				⇓S	Sn	02 11 04.9	+0.5
MFTR				AML	AML	02 11 16.1	
ELND	Elena	3.94	305	⇑P	Pn	02 10 25.9	+1.5
ELND				⇑S	Sn	02 11 11.5	+1.0
ELND				AML	AML	02 11 12.3	
TIRR	Tirgusor	3.96	340	⇓P	Pn	02 10 26.5	+1.9
TIRR				⇑S	Sn	02 11 09.4	-1.6
TLB	Topalu	4.18	338	⇑P	Pn	02 10 28.8	+1.2
TLB				⇑S	Sn	02 11 14.4	-1.9
RZN	Rozhen	4.29	285	P	Pn	02 10 29.0	-0.3
TLCR		4.57	347	⇑P	Pn	02 10 34.4	+1.4
CFR	Carcaliu	4.70	341	⇑P	Pn	02 10 36.0	+1.2
CFR				⇓S	Sn	02 11 28.8	-0.4
VTS	Vitosha	5.59	292	⇑S	Sn	02 11 50.4	-0.9
MLR	Muntele Rosu	5.71	328	⇓P	Pn	02 10 50.3	+1.6
VRI	Vrincioaia	5.74	334	⇓P	Pn	02 10 50.3	+1.2
PLOR	Plostina	5.75	334	⇑P	Pn	02 10 51.7	+2.4
VOIR		6.05	323	⇑P	Pn	02 10 55.1	+1.7
ARR	Arges	6.20	320	⇑P	Pn	02 10 56.7	+1.3
MILM	Milestii Mici	6.27	351	⇑P	Pn	02 10 56.3	0.0
DOPR	Dopca	6.32	327	⇑P	Pn	02 10 58.5	+1.4
TESR	Tescani	6.34	337	⇑P	Pn	02 10 58.8	+1.5
SORM	Soroca	7.52	350	⇑P	Pn	02 11 13.6	+0.1
BURAR	Bucovina Array	7.77	334	⇑P	Pn	02 11 17.9	+0.9

SKO 10 02:10:09.4, 41°30N×22°70E, h23km, M0.2, ML0.5, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.10	282	*i* Pg	Pb	02 10 13.6	-0.2
VAY				*e* Lg	Lg	02 10 15.6	
	comp=E,7.5nm,0.2s						
VAY				*i* Sg	Sb	02 10 15.6	-1.1
VAY				*e* Lg	Lg	02 10 15.7	
	comp=N,42nm,0.2s						
KNT	Kendrikon	0.20	133	⇑*i* Pg	Pb	02 10 15.2	+0.3
KNT				*i* Sg	Sb	02 10 18.0	-0.6
GRG	Griva	0.41	213	*i* Pg	Pb	02 10 18.6	+0.6
GRG				*i* Sg	Sb	02 10 24.4	+0.5
STIP	Stip	0.55	316	*i* Pg	Pb	02 10 20.3	-0.1
STIP				*i* Sg	Sb	02 10 27.6	-0.3
KKB	Krupnik	0.64	27	*e*Pg	Pb	02 10 21.6	-0.3
KKB				*i* Sg	Sn	02 10 31.5	-0.9
KKB	Krupnik	0.64	27	P	Pn	02 10 31.0	+8.0
SOH	Sokhos	0.69	134	*i* Pg	Pb	02 10 23.1	+0.4
SOH				*i* Sg	Sn	02 10 33.4	-0.3
MMB	Musomiste	0.82	69	*i* Pg	Pn	02 10 27.0	+1.4
MMB				*e*Sg	Sn	02 10 37.5	+0.4
MMB	Musomiste	0.82	69	P	Pn	02 10 26.0	+0.4
VTS	Vitosha	1.38	17	*e*Pg	Pn	02 10 30.9	-2.4
VTS				*i* Sg	Sn	02 10 48.2	-2.7
VTS	Vitosha	1.38	17	⇓P	Sn	02 10 48.2	-2.7
BANR	Banloc	4.24	345	⇑P	Pn	02 11 08.3	-4.1

*NEIC **10** 02:10:28.0±0.6, 18°.30N±0°.09×67°.35W±0°.03, h77km±5km*

RSPR 10 02:10:28.7, 18°30N×67°36W, h74km, MD2.9/16, 10C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	0.29	116	⇑*e*P	Pn	02 10 39.7	-0.6
LSP	Las Mesas	0.29	116	*e*S	Sn	02 10 48.6	-0.2
LSP	Las Mesas	0.29	116	*e*	Pn	02 10 39.7	-0.6
LSP				*e*	Sn	02 10 48.6	-0.2
CRPR	Cabo Rojo, PR	0.38	141	⇑*e*P	Pn	02 10 40.2	-0.6
CRPR	Cabo Rojo, PR	0.38	141	*e*S	Sn	02 10 49.3	-0.5
CRPR	Cabo Rojo, PR	0.38	141		Sn	02 10 49.3	-0.5
CRPR	Cabo Rojo, PR	0.38	141	Pn	Pn	02 10 40.1	-0.8
MLPR	Magueyes Islan	0.45	138	⇓*e*P	Pn	02 10 40.6	-0.9
MLPR	Magueyes Islan	0.45	138	*e*S	Sn	02 10 50.1	-0.7
MLPR	Magueyes Islan	0.45	138		Pn	02 10 40.6	-0.9
MLPR					Sn	02 10 50.1	-0.7
GBPR	Guanica, Bosqu	0.56	126	⇓*e*P	Pn	02 10 42.0	-0.4
GBPR	Guanica, Bosqu	0.56	126	*e*S	Sn	02 10 52.7	+0.1
GBPR	Guanica, Bosqu	0.56	126		Pn	02 10 42.0	-0.4
GBPR					Sn	02 10 52.7	+0.1
AOPR	Arecibo Observ	0.57	86	⇓*e*P	Pn	02 10 41.9	-0.7
AOPR	Arecibo Observ	0.57	86	⇑*e*P	Pn	02 10 42.2	-0.5
AOPR				*e*S	Sn	02 10 52.4	-0.5
AOPR	Arecibo Observ	0.57	86		Sn	02 10 52.1	-0.8
OBIP	Obispado Ponce	0.76	110	⇑*e*P	Pn	02 10 43.9	-0.7
OBIP	Obispado Ponce	0.76	110	*e*S	Sn	02 10 56.0	-0.4
OBIP	Obispado Ponce	0.76	110	Pn	Pn	02 10 43.8	-0.8
OBIP	Obispado Ponce	0.76	110		Sn	02 10 56.0	-0.4
CELP	Cerrillos	0.77	107	⇓*e*P	Pn	02 10 44.2	-0.6
CELP				*e*S	Sn	02 10 56.2	-0.4
CELP	Cerrillos	0.77	107	*e*	Pn	02 10 44.2	-0.6
CELP				*e*	Sn	02 10 56.2	-0.4
EMPR	Esperanza - Ma	0.81	77	⇑*e*P	Pn	02 10 44.7	-0.4
EMPR	Esperanza - Ma	0.81	77	*e*S	Sn	02 10 56.8	-0.4
EMPR	Esperanza - Ma	0.81	77	*e*	Pn	02 10 44.7	-0.4
EMPR				*e*	Sn	02 10 56.8	-0.4
PCDR	Punta Cana, DR	0.99	282	Pn	Pn	02 10 47.0	-0.3
SJG	San Juan	1.16	99	Pn	Pn	02 10 48.9	-0.6
GCPR	Guaynabo City	1.21	90	Pn	Pn	02 10 49.3	-0.8
PDPR	Patillas Dam,	1.30	102	⇑*e*P	Pn	02 10 51.0	-0.2
PDPR	Patillas Dam,	1.30	102	*e*S	Sn	02 11 07.5	-0.6
PDPR	Patillas Dam,	1.30	102		Pn	02 10 51.0	-0.2
CBYP	Canovanas	1.43	91	⇑*e*P	Pn	02 10 52.0	-0.9
CBYP	Canovanas	1.43	91	⇓*e*P	Pn	02 10 52.2	-0.7
CBYP				*e*S	Sn	02 11 10.2	-1.0
CBYP	Canovanas	1.43	91	*e*S	Sn	02 11 09.9	-1.2
CBYP	Canovanas	1.43	91	*e*	Sn	02 11 10.2	-1.0
CBYP	Canovanas	1.43	91	Pn	Pn	02 10 51.8	-1.1
MTP	Monte Pirata	1.73	97	Pn	Pn	02 10 56.7	-0.1
CUPR	Culebra, Puert	1.97	90	⇑*e*P	Pn	02 10 59.1	-0.9
CUPR	Culebra, Puert	1.97	90	*e*S	Sn	02 11 21.9	-2.1
CUPR	Culebra, Puert	1.97	90		Pn	02 10 59.1	-0.9
CUPR					Sn	02 11 21.9	-2.1
STVI	Saint Thomas	2.28	88	*e*S	Sn	02 11 29.6	-1.8
STVI	Saint Thomas	2.28	88	⇓*e*P	Pn	02 11 03.6	-0.6
STVI	Saint Thomas	2.28	88		Pn	02 11 03.6	-0.6
STVI					Sn	02 11 29.6	-1.8
ABVI	Anegada Island	2.90	81	P	Pn	02 11 12.0	-0.6
ABVI	Anegada Island	2.90	81	*e*	Pn	02 11 12.0	-0.6
ABVI				*e*	Sn	02 11 44.6	-1.8
ABV	Anegada	2.90	81	⇑*e*P	Pn	02 11 12.0	-0.6
ABV	Anegada	2.90	81	*e*S	Sn	02 11 44.6	-1.8

IDC 10 02:51:20.9±1.3, 20°56S×178°83W, h0km, mb3.6/4, mb1 4.1/5, mb1mx3.7/37, mbtmp3.8/5, ML4.6/1, Error ellipse: s-maj=54.1km s-min=27.3km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.98	190	P	Pn	02 55 31.2	-1.1
	1.8nm,0.3s,baz=7.5,slow=19,SNR=17						
ASAR	Alice Springs	43.75	257	P	P	02 59 29.1	+0.8
	1.6nm,0.6s,baz=86,slow=8.6,SNR=26						
WRA	Warrarmunga Arr	43.82	262	P	P	02 59 27.9	-1.1
	0.4nm,0.7s,baz=93,slow=7.2,SNR=5.0						
NVAR	Mina Array Bea	81.61	44	P	P	03 03 40.8	-0.3
	0.1nm,0.4s,baz=236,slow=7.5,SNR=3.6						
TXAR	Lajitas Array	87.75	58	P	P	03 04 12.6	+0.5
	0.1nm,0.4s,baz=208,slow=5.1,SNR=3.4						

*JMA **10** 02:54:47.4±0.1, 38°.86N×142°.05E, h46km±1km, M3.6*
JMA Felt I J1.
*IDC **10** 02:54:50.1±2.9, 39°.38N×140°.82E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/52, mbtmp3.5/6, ML2.1/2, Error ellipse: s-maj=75.9km s-min=23.9km az=69.0*

ISC 10 02:54:47.0±2.5, 38°85N±0°.06×142°1E±0°2, h44km±12km, n15, σ0°67/19, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.39	305	P	Pn	02 54 56.9	+0.3
OFUJ				S	Sn	02 55 03.5	+0.1
JKMT	Kesennumamotoy	0.47	265	P	Pn	02 54 57.7	+0.1
JKMT				S	Sn	02 55 04.8	-0.3
JMK	Ichinoseki	0.68	279	P	Pn	02 55 00.4	+0.2
JMK				S	Sn	02 55 09.5	-0.2
JIO	Ouri	0.70	235	P	Pn	02 55 00.4	0.0
JIO				S	Sn	02 55 09.3	-0.9
JOM	Ohasama	0.87	316	P	Pn	02 55 03.1	+0.3
JOM				S	Sn	02 55 14.5	+0.1
JOU	Okura	1.21	247	P	Pn	02 55 07.6	+0.1
JOU				S	Sn	02 55 22.8	+0.1
JRG	Rokugo	1.25	296	P	Pn	02 55 08.3	+0.4
JYK	Kaneyama	1.34	273	P	Pn	02 55 09.6	+0.3
JMM	Marumori	1.41	226	P	Pn	02 55 10.1	-0.1
MJAR	Matsushiro Arr	3.84	234	Pn	Pn	02 55 45.6	+2.1
	0.3nm,0.3s,baz=34,slow=13,SNR=22						
USRK	Ussuriysk Ar.	9.26	308	Pn	Pn	02 56 50.5	-7.3
	baz=125,slow=14,SNR=3.1						
SONM	Songino Array	27.25	301	P	P	03 00 26.1	-0.9
	0.3nm,0.6s,baz=74,slow=6.2,SNR=2.6						
ZALV	Zalesovo Beam	41.10	311	P	P	03 02 25.9	-0.3
	0.5nm,0.3s,baz=99,slow=9.2,SNR=2.8						
MKAR	Makanchi Array	43.62	301	P	P	03 02 47.1	+0.3
	0.4nm,0.4s,baz=83,slow=12,SNR=8.5						
WRA	Warrarmunga Arr	58.94	189	P	P	03 04 53.9	+12
	0.6nm,1.0s,baz=3.8,slow=7.1,SNR=3.1						

*IDC **10** 02:58:00.2±0.7, 27°.62N×128°.64E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.8/41, mbtmp3.8/14, MS3.0/4, Ms1 3.0/4, ms1mx2.7/52, Error ellipse: s-maj=23.0km s-min=15.0km az=104.0*
*NIED **10** 02:58:00, 27°.40N×128°70E, h47km, Mw4.0 Best double couple: M0 1.22000×10^15 NP1: φ0=214.00000°, δ28.00000°, λ86.00000°. NP2: φ0=38.00000°, δ62.00000°, λ92.00000°.*
*ISCJB **10** 02:58:04.9±0.3, 27°.41N±0°.03×128°.74E±0°.04, h54km±3km, mb3.7/14, MS3.7/1, Error ellipse: s-maj=7.5km s-min=3.8km az=38.7*
*JMA **10** 02:58:06.3, 27°.44N×128°.67E, h43km±1km, M3.8*
JMA Felt II J1.
*NEIC **10** 02:58:06.2±1.4, 27°.48N±0°.06×128°.6E±0°.1, h44km±9km, mb4.3/3*

ISC 10 02:58:05.6±0.8, 27°40N±0°.04×128°73E±0°.05, h44km±6km, n52, σ1°01/59, mb3.7/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.15	255	P	Pn	02 58 13.3	+0.4
JOKE				S	Sn	02 58 18.1	+0.1
JTK	Tokunoshima	0.43	27	P	Pn	02 58 16.1	+0.5
JTK				S	Sn	02 58 22.7	0.0
JYRO	Yoronjima	0.45	214	P	Pn	02 58 16.6	+0.8
JYRO				S	Sn	02 58 23.5	+0.4
JOW	Kunigami	0.70	216	P	Pn	02 58 19.8	+0.8
JOW				S	Sn	02 58 29.6	+0.9
JOW	Kunigami	0.70	216	Pn	Pn	02 58 19.9	+0.8
	50nm,0.3s,baz=84,slow=17,SNR=1343						
JOW				Sn	Sn	02 58 29.6	+0.9
	168nm,0.3s,baz=93,slow=16,SNR=143						
JOW	Kunigami	0.70	216		Pn	02 58 19.3	+0.2
JIH	Iheya	0.77	242	P	Pn	02 58 20.4	+0.4
JIH				S	Sn	02 58 30.6	+0.1
JAMN	Amaminishikomi	0.93	25	P	Pn	02 58 22.6	+0.4
JAMN				S	Sn	02 58 34.6	+0.3
JNTH	Nagotoyohara	1.08	216	P	Pn	02 58 25.3	+1.0
JAM	Amami Oshima	1.27	37	P	Pn	02 58 28.1	+1.2
JAM				*e*S	Sn	02 58 44.4	+1.7
JZK	Kikaishima	1.43	50	P	Pn	02 58 31.2	+2.2
JAGN	Aguni-jima	1.55	239	P	Pn	02 58 31.3	+0.6
JAGN				*e*S	Sn	02 58 51.0	+1.3
JTAJ	Takarajima	1.80	13	P	Pn	02 58 34.2	+0.1
JTAJ				S	Sn	02 58 54.9	-0.7
JKE	Kume jima 2	2.04	239	P	Pn	02 58 38.2	+0.8
JKDJ	Kitadaitoujima	2.71	122	P	Pn	02 58 46.6	-0.1
JKDJ				S	Sn	02 59 16.6	-1.7
JMZ	Minamidaito 2	2.73	125	P	Pn	02 58 46.6	-0.3
JYAK	Yakushimahirau	3.23	28	*e*S	Sn	02 59 32.5	+1.5
JNU	Nakatsue	6.00	18	Pn	Pn	02 59 33.2	+1.4
	1.1nm,0.3s,baz=195,slow=20,SNR=8.4						
JNU				Sn	Sn	03 00 38.5	-0.6
	baz=229,slow=19,SNR=1.9						
YULB	Yu-li	7.81	241	Pn	Pn	02 59 54.0	-2.7
SSLB	Suanglung	7.89	245	Pn	Pn	02 59 55.7	-2.0
TPUB	Ta-pu	8.39	243	Pn	Pn	03 00 04.0	-0.6
KSRS	Korea Array	10.05	356	Pn	Pn	03 00 26.8	-0.4
	0.1nm,0.3s,baz=227,slow=25,SNR=3.3						
KSRS				LR	LR	03 04 34.6	
	comp=Z,39nm,18.2s,baz=120,slow=40						
JCJ	Chichijima	11.98	88	LR	LR	03 05 29.5	
	comp=Z,28nm,18.2s,baz=154,slow=37						
USRK	Ussuriysk Ar.	16.97	8	LR	LR	03 07 50.7	
	comp=Z,56nm,21.7s,baz=171,slow=35						
SONM	Songino Array	26.83	325	P	P	03 03 40.9	-1.0
	0.2nm,0.4s,baz=129,slow=11,SNR=4.2						
SONM	Songino Array	26.83	325	P	P	03 03 40.8	-1.1
CMAR	Chiang Mai Arr	28.78	258	P	P	03 04 00.2	+0.8
	0.6nm,0.3s,baz=57,slow=7.5,SNR=4.6						
ODAN	Odare	36.67	279	*e*P	P	03 05 09.1	+0.5
BATI	Baumata	37.70	188	LR	LR	03 20 33.5	
	comp=Z,132nm,21.2s,baz=246,slow=36						
GUN	Gumba	37.81	281	*e*P	P	03 05 19.1	+0.7
	7.9nm,0.4s						
PKI	Pulchoki	38.28	281	*e*P	P	03 05 22.2	-0.1
	8.2nm,0.5s						
PKIN	Phulchoki	38.29	281	*e*P	P	03 05 22.2	-0.1
	5.4nm,0.4s						
GKN	Gorkha	38.88	281	*e*P	P	03 05 27.2	+0.1
	10.0nm,0.3s						
DANN	Dangsing	39.59	282	*e*P	P	03 05 33.6	+0.4
	16nm,0.5s						
MKAR	Makanchi Array	41.10	311	P	P	03 05 44.9	-0.2
	0.3nm,0.4s,baz=83,slow=11,SNR=4.3						
ZALV	Zalesovo Beam	41.60	322	P	P	03 05 47.2	-1.8
	0.6nm,0.4s,baz=105,slow=11,SNR=2.2						
ASAR	Alice Springs	51.01	174	P	P	03 07 04.7	+1.4
	0.3nm,0.6s,baz=9.2,slow=13,SNR=9.2						
ASAR	Alice Springs	51.01	174	P	P	03 07 04.5	+1.2
ABKAR	Akbulak array	56.18	313	P	P	03 07 40.3	-0.6
KDAK	Kodiak Island	61.32	37	P	P	03 08 15.7	-0.7
	2.4nm,0.7s,baz=297,slow=9.0,SNR=3.3						
KDAK	Kodiak Island	61.32	37	IAmb	IAmb	03 08 32.0	
	comp=Z,2.6nm,0.8s						
ILAR	Eielson Array	63.20	29	P	P	03 08 29.6	+0.7
	comp=Z,0.3nm,0.9s,baz=240,slow=10,SNR=4.1						
INK	Inuvik	67.64	23	P	P	03 08 58.2	+0.7
	comp=Z,0.5nm,0.5s,baz=274,slow=6.7,SNR=3.3						
INK	Inuvik	67.64	23	IAmb	IAmb	03 09 10.1	
	comp=Z,2.1nm,1.0s						
ARCES	ARCESS Array B	69.08	338	P	P	03 09 05.8	-0.8
	comp=Z,2.2nm,0.9s,baz=56,slow=5.0,SNR=6.5						
FINES	FINESS Array B	72.07	330	P	P	03 09 24.5	-0.3
	comp=Z,0.9nm,0.3s,baz=66,slow=5.5,SNR=18						
BRTR	Keskin Array B	76.67	308	P	P	03 09 51.9	-0.3
	comp=Z,1.2nm,0.8s,baz=84,slow=4.6,SNR=7.1						
BRTR	Keskin Array B	76.67	308	P	P	03 09 52.2	0.0
NB2	NORSAR Subarra	78.46	334	P	P	03 10 00.5	-1.2
	comp=Z,1.0nm,0.6s,baz=52,slow=5.9						
NOA	NORSAR Array B	78.46	334	P	P	03 10 01.1	-0.6
	comp=Z,1.6nm,0.6s,baz=50,slow=5.5,SNR=7.5						
GERES	GERESS Array B	84.54	323	P	P	03 10 34.0	-0.1
	comp=Z,0.4nm,0.6s,baz=68,slow=7.4,SNR=4.1						
NVAR	Mina Array Bea	89.38	46	P	P	03 10 59.8	+1.8
	comp=Z,0.2nm,0.8s,baz=278,slow=7.2,SNR=2.4						

*MOS **10** 02:59:27.2±1.5, 36°.74N×21°.58E, h42km, mb4.5/7, Error ellipse: s-maj=11.3km s-min=5.9km az=59.5*
*THE **10** 02:59:27.5, 36°.51N×21°.49E, h13km, ML3.9/7, Error ellipse: s-maj=1.7km s-min=0.7km az=62.0*
*IDC **10** 02:59:27.9±2.1, 36°.61N×21°.60E, h45km±20km, mb3.8/13, mb1 3.8/21, mb1mx3.6/55, mbtmp3.9/21, ML3.4/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/44, Error ellipse: s-maj=20.4km s-min=14.6km az=165.0*
*ATH **10** 02:59:28.1, 36°.56N×21°.63E, h35km±1km, ML3.6/13, Error ellipse: s-maj=2.3km s-min=0.9km az=46.0*
*TIR **10** 02:59:32.0, 37°.30N×21°.19E, h7km, Md4.0/12*

ISC 10 02:59:26.7±0.8, 36°53N±0°.05×21°41E±0°.03, h37km±1km, n207, σ2°68/253, mb4.1/20, 15C-8D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.45	36	P	Pn

KLV AML AML 03 00 32.5
comp=N,2036μm,0.6s
KFL Anninata 1.65 343 P **Pn** **02 59 56.6 +3.5**
ANKY Antikythira Is 1.67 113 P **Pn** **02 59 55.1 +1.9**
ANKY Antikythira Is 1.67 113 P **Pn** **02 59 55.2 +1.9**
ANKY S **Sn** **03 00 14.8 +1.4**
ANKY AML AML 03 00 45.9
comp=N,2028μm,0.7s
ANKY AML AML 03 00 46.0
comp=E,2819μm,0.8s
DID Didima 1.75 56 P **Pn** **02 59 55.5 +1.0**
DID Didima 1.75 56 P **Pn** **02 59 55.5 +1.0**
DID S **Sn** **03 00 16.0 +0.5**
DID AML AML 03 00 28.0
comp=E,2929μm,0.9s
DID AML AML 03 00 31.0
comp=N,3319μm,0.7s
LAKA Lakka 1.76 15 P **Pn** **02 59 57.8 +3.1**
LAKA Lakka 1.76 15 P **Pn** **02 59 57.7 +3.1**
VLS Valsamata 1.77 338 P **Pn** **02 59 57.0 +2.3**
VLS Valsamata 1.77 338 P **Pn** **02 59 58.6 +3.9**
VLS S **Sn** **03 00 21.8 +5.8**
VLS AML AML 03 00 38.9
comp=E,1202μm,0.5s
VLS AML AML 03 00 44.5
comp=N,1719μm,0.7s
TRIZ Trizonia 1.90 16 P **Pn** **03 00 00.5 +4.0**
TRIZ Trizonia 1.90 16 P **Pn** **02 59 59.8 +3.3**
EFP Efpalio 1.93 12 P **Pn** **03 00 00.5 +3.6**
EFP Efpalio 1.93 12 P **Pn** **03 00 00.0 +3.1**
LTK Loutraki 1.93 39 P **Pn** **02 59 58.3 +1.3**
LTK Loutraki 1.93 39 P **Pn** **02 59 58.4 +1.3**
KALE Kalithea 1.94 17 P **Pn** **03 00 00.7 +3.6**
KALE Kalithea 1.94 17 P **Pn** **03 00 00.3 +3.2**
SERG Sergoula 1.94 15 P **Pn** **02 59 59.7 +2.6**
FSK Fiskardo 2.04 341 P **Pn** **03 00 01.8 +3.4**
FSK Fiskardo 2.04 341 P **Pn** **03 00 02.5 +4.1**
PDO Prodromos 2.07 355 P **Pn** **03 00 02.5 +3.7**
PDO Prodromos 2.07 355 P **Pn** **03 00 02.7 +3.9**
DSF Desfina 2.07 25 P **Pn** **03 00 00.7 +1.7**
DSF Desfina 2.07 25 P **Pn** **03 00 00.6 +1.7**
PVO Paravola 2.08 2 P **Pn** **03 00 03.0 +4.0**
PROD Prodromos 2.09 34 P **Pn** **03 00 00.4 +1.3**
PROD Prodromos 2.09 34 P **Pn** **03 00 00.4 +1.3**
RODP Rodopos 2.13 116 P **Pn** **03 00 01.6 +1.9**
EVGI Lefkada island 2.17 344 P **Pn** **03 00 04.2 +4.1**
VIL2 Platees 2.23 41 P **Pn** **03 00 01.6 +0.6**
ATH Athens Observa 2.33 51 P **Pn** **03 00 03.1 +0.7**
ATH Athens Observa 2.33 51 P **Pn** **03 00 03.2 +0.7**
IMMV Iera Moni Meta 2.34 116 P **Pn** **03 00 03.7 +1.1**
TSLK Tsoukalades, L 2.36 345 P **Pn** **03 00 06.9 +4.0**
ATHU Athens Univers 2.37 52 P **Pn** **03 00 03.5 +0.5**
EVR Evrytania 2.40 7 P **Pn** **03 00 08.1 +4.6**
MHLO Agia Marina, M 2.41 85 P **Pn** **03 00 04.0 +0.5**
LKR Lokris 2.46 30 P **Pn** **03 00 05.3 +1.1**
PTL Penteli 2.47 52 P **Pn** **03 00 05.0 +0.7**
VAM Vamos 2.52 116 P **Pn** **03 00 06.5 +1.4**
AGG Agios Georgios 2.59 16 P **Pn** **03 00 09.2 +3.2**
AGG Agios Georgios 2.59 16 P **Pn** **03 00 08.9 +2.9**
EREA Eretria 2.75 46 P **Pn** **03 00 08.6 +0.4**
THL Klokotos Trika 3.06 9 P **Pn** **03 00 15.6 +3.1**
IGT Igoumenitsa 3.11 344 P **Pn** **03 00 15.8 +2.6**
IGT Igoumenitsa 3.11 344 *i* PN **Pn** **03 00 15.8 +2.6**
IGT *i* SN **Sn** **03 00 46.0 -3.1**
JAN Janina 3.15 352 P **Pn** **03 00 17.1 +3.4**
SANT Santorini 3.27 92 ⇓P **Pn** **03 00 15.7 +0.4**
SANT AML AML 03 01 20.1
APE Apeiranthos 3.35 80 *i* P **Pn** **03 00 15.7 -0.7**
APE Apeiranthos 3.35 80 ⇑P **Pn** **03 00 16.5 +0.1**
APE AML AML 03 01 23.5
KPRO Kipourio 3.42 359 P **Pn** **03 00 21.5 +4.1**
SRN Sarande 3.52 342 *i* PN **Pn** **03 00 21.4 +2.6**
SRN *i* SN **Sn** **03 00 56.9 -2.2**
TPE Tepelena 3.91 344 *i* PN **Pn** **03 00 26.9 +2.8**
TPE *i* SN **Sn** **03 01 07.1 -1.7**
VLO Vlora 4.21 340 *i* PN **Pn** **03 00 29.9 +1.7**
VLO *i* SN **Sn** **03 01 14.5 -1.5**
SCTE Santa Cesarea 4.22 328 *i* PN **Pn** **03 00 31.4 +3.0**
SCTE *i* SN **Sn** **03 01 16.2 -0.2**
FNA Florina 4.24 360 P **Pn** **03 00 31.2 +2.4**
FNA Florina 4.24 360 *i* PN **Pn** **03 00 31.4 +2.6**
FNA *i* SN **Sn** **03 01 15.7 -1.3**
TIP Timpagrande 4.53 307 ⇑P **Pn** **03 00 35.8 +3.1**
TIP AML AML 03 01 28.6
OHR Ohrid 4.59 354 *e*Pn **Pn** **03 00 33.2 -0.4**
KNT Kendrikon 4.76 14 P **Pn** **03 00 38.4 +2.5**
VAY Valandovo 4.86 10 *e*Pn **Pn** **03 00 40.3 +3.1**
TIR Tirane 4.96 346 *i* PN **Pn** **03 00 41.3 +2.8**
TIR *i* SN **Sn** **03 01 33.5 -1.0**
TAR1 Taranto 5.13 322 *e*Pn **Pn** **03 03 43.4 +2.5**
TAR1 Sn **Sn** **03 01 37.1 -1.8**
STIP Stip 5.19 6 *e*Pn **Pn** **03 00 45.4 +3.7**
PHP Peshkopia 5.20 352 *i* PN **Pn** **03 00 45.2 +3.3**
PHP *i* SN **Sn** **03 01 40.5 0.0**
MASS Massafra 5.29 322 *e*Pn **Pn** **03 00 45.2 +2.2**
MASS Sn **Sn** **03 01 40.0 -2.6**
FASA Fasano 5.33 325 *e*Pn **Pn** **03 00 45.4 +1.8**
FASA Sn **Sn** **03 01 40.5 -3.1**
MMB Musomiste 5.36 19 P **Pn** **03 00 44.5 +0.4**
SKO Skopje 5.43 0 *e*Pn **Pn** **03 00 46.6 +1.6**
KKB Krupnik 5.48 13 P **Pn** **03 00 48.0 +2.3**
MATE Matera 5.52 320 ⇑P **Pn** **03 00 48.3 +2.1**
PUK Puka 5.63 348 *i* PN **Pn** **03 00 50.0 +2.2**
PUK *i* SN **Sn** **03 01 51.6 +0.5**
SG1 Sgolgore (BA) 5.67 321 *e*Pn **Pn** **03 00 50.8 +2.4**
SG1 Sg **Sn** **03 01 48.9 -3.4**
VAE Valguarnera 5.68 282 P **Pn** **03 00 52.4 +3.8**
comp=N,1.1nm,0.3s,baz=97,slow=2.6,SNR=12
VAE S **Sn** **03 01 54.5 +1.9**
comp=N,9.0nm,0.3s,baz=143,slow=20,SNR=8.3
BAI Bari 5.78 324 *e*Pn **Pn** **03 00 51.7 +2.0**
BAI Sn **Sn** **03 01 51.0 -3.7**
DRME Dracevica, Mon 5.90 344 ⇓*i*Pn **Pn** **03 00 52.8 +1.3**
BCI Bajram Curri 5.92 350 *i* PN **Pn** **03 00 54.8 +3.1**
BCI *i* SN **Sn** **03 02 00.0 +1.8**
PDG Podgorica 6.12 345 ⇓*i*Pn **Pn** **03 00 55.5 +1.0**
PDG Podgorica 6.12 345 ⇓P **Pn** **03 00 55.8 +1.4**
VTS Vitosha 6.24 12 P **Pn** **03 00 58.2 +2.0**
VTS Vitosha 6.24 12 ⇑P **Pn** **03 00 58.8 +2.6**
TREB Trebinje 6.61 340 *e*Pn **Pn** **03 01 01.2 0.0**
DBRK Dubrovnik 6.62 339 *e*Pn **Pn** **03 01 01.9 +0.5**
DBRK Sn **Sn** **03 02 11.1 -4.5**
STON Ston 6.95 337 *i* Pn **Pn** **03 01 05.9 +0.1**
STON Sn **Sn** **03 02 18.8 -4.7**
STON Ston 6.95 337 ⇓*i*Pn **Pn** **03 01 05.2 -0.6**
RUDO Rudo 7.25 348 *e*Pn **Pn** **03 01 10.0 +0.1**
ELND Elena 7.25 27 ⇑P **Pn** **03 01 12.8 +2.8**
PLVB Pleven 7.27 19 ⇑P **Pn** **03 01 13.0 +2.8**
BBLS Lazići 7.48 349 *e*Pn **Pn** **03 01 13.0 -0.2**
MAKA Makarska 7.54 335 *e*Pn **Pn** **03 01 15.0 +1.1**
MAKA Sn **Sn** **03 02 34.0 -4.1**
DIVS Divibare 7.63 352 *e*Pn **Pn** **03 01 15.4 +0.1**
HVAR Hvar 7.65 332 *e*Pn **Pn** **03 01 16.6 +1.1**
HVAR Sn **Sn** **03 02 35.4 -5.5**
HAPS Han Pijesak,BI 7.77 347 *e*Pn **Pn** **03 01 17.0 -0.3**
ZIRJ Zirje 8.37 330 *i* Pn **Pn** **03 01 26.3 +1.0**
ZIRJ Sn **Sn** **03 02 52.5 -6.0**
AQU L'Aquila 8.49 316 *e*Pn Pn 03 01 34.8 +7.7
MORI Morici 8.52 331 *e*Pn **Pn** **03 01 29.4 +2.0**
MORI Sn **Sn** **03 02 57.2 -5.0**
MGRS Mrkonjic Grad 8.54 339 *e*Pn **Pn** **03 01 28.3 +0.7**
FRGS Fruska Gora 8.70 352 *e*Pn **Pn** **03 01 29.1 -0.8**
BLY Banja Luka 8.81 340 *e*Pn **Pn** **03 01 31.9 +0.5**
BLY Banja Luka 8.81 340 ⇑P **Pn** **03 01 33.7 +2.3**
DUGI Dugi Otok 8.89 329 *e*Pn **Pn** **03 01 34.7 +2.2**
GZR Gura Zlata 8.91 6 ⇓P **Pn** **03 01 34.4 +1.6**
UDBI Udbina 9.07 333 *e*Pn **Pn** **03 01 36.8 +1.9**
BZS Buzias 9.07 1 ⇑P **Pn** **03 01 35.4 +0.4**
ARR Arges 9.15 14 ⇑P **Pn** **03 01 37.8 +1.6**
VOIR 9.31 16 ⇓P **Pn** **03 01 41.4 +3.1**
NVLJ Novalja 9.44 330 *e*Pn **Pn** **03 01 41.9 +2.0**
MLR Muntele Rosu 9.58 20 P **Pn** **03 01 42.1 +0.1**
comp=N,0.1nm,0.3s,baz=153,slow=21,SNR=3.9
MLR LR LR 03 06 13.5
comp=N,175nm,20.6s,baz=254,slow=43
MLR Muntele Rosu 9.58 20 ⇑P **Pn** **03 01 45.3 +3.3**
MOSL Moslavina 9.73 340 *i* Pn **Pn** **03 01 43.4 -0.6**
KEST Kesra 9.80 269 P **Pn** **03 01 48.5 +3.6**
comp=N,0.3nm,0.3s,baz=56,slow=7.3,SNR=3.6
KEST S **Sn** **03 03 32.5 -1.2**
comp=N,0.2nm,0.3s,baz=41,slow=19,SNR=2.9

MORH Mrgy, Hungar 9.89 349 *e*Pn **Pn** **03 01 44.6 -1.6**
VRI Vrincioaia 10.14 22 ⇓P **Pn** **03 01 51.9 +2.3**
BR131 Keskin Array S 10.14 68 *i* P **Pn** **03 01 50.4 +0.6**
BRTR Keskin Array B 10.14 68 P **Pn** **03 01 48.6 -1.2**
comp=N,0.0nm,0.3s,baz=248,slow=12,SNR=2.5
PTJ Puntijarka 10.22 338 *e*Pn **Pn** **03 01 49.4 -1.4**
KALN Kalnik 10.28 340 *e*Pn **Pn** **03 01 51.4 -0.2**
CRES Cresnjev 10.31 336 *e*Pn **Pn** **03 01 51.8 -0.1**
BEHE Becsehely 10.52 342 *e*Pn Pn 03 02 01.9 +7.2
CEY Cerknica 10.59 332 *e*Pn **Pn** **03 01 56.8 +1.0**
SOKA Soboth 11.20 337 *e*Pn **Pn** **03 02 04.1 0.0**
comp=N,1.4nm,0.4s
SOKA Sn **Sn** **03 04 00.2 -7.8**
comp=N,3.1nm,0.5s
OBKA Obir 11.21 335 Sn **Sn** **03 04 04.1 -4.2**
comp=N,9.8nm,0.4s
PSZ Piszkesteto 11.43 355 ⇑P **Pn** **03 02 07.9 +0.6**
MYKA Terra Mystica 11.64 332 Sn **Sn** **03 04 14.4 -4.3**
comp=N,3.3nm,0.4s
VYHS Vyhne 12.10 352 *e*P Pn 03 02 21.6 +5.2
VYHS *e* 03 04 30.7
VYHS Vyhne 12.10 352 *e*PN Pn 03 02 21.6 +5.2
VYHS *e*PG P 03 03 15.5 +47
VYHS *e*SN **Sn** **03 04 30.7 +0.7**
ABTA Abfaltersbach 12.17 330 Pn **Pn** **03 02 21.0 +3.6**
comp=N,1.0nm,0.4s
ABTA Sn **Sn** **03 04 25.0 -6.9**
comp=N,4.0nm,0.5s
MOA Molin 12.48 337 *e*Pn **Pn** **03 02 23.1 +1.5**
comp=N,1.4nm,0.3s
MOA Sn **Sn** **03 04 33.2 -6.0**
comp=N,3.1nm,0.6s
WTTA Wattenberg 12.95 329 Pn **Pn** **03 02 31.5 +3.4**
comp=N,0.7nm,0.2s
WTTA Sn **Sn** **03 04 46.1 -4.8**
comp=N,6.1nm,0.4s
WATA Walderalm 13.03 329 *e*Pn **Pn** **03 02 32.3 +3.1**
comp=N,0.4nm,0.2s
WATA Sn **Sn** **03 04 49.1 -3.8**
comp=N,4.9nm,0.5s
SQTA Sankt Quirin 13.09 328 Pn **P** **03 02 35.9 -3.9**
comp=N,1.2nm,0.3s
SQTA Sn **Sn** **03 04 50.4 -4.0**
comp=N,4.8nm,0.5s
FETA Feichten 13.15 326 Sn **Sn** **03 04 47.8 -8.0**
comp=N,1.5nm,0.4s
MOTA Moosalm 13.24 328 Pn **Pn** **03 02 35.9 +3.9**
comp=N,0.8nm,0.4s
MOTA Sn **Sn** **03 04 52.8 -5.1**
comp=N,3.6nm,0.6s
VRAC Vranov 13.24 346 P **Pn** **03 02 31.0 -1.0**
VRAC Vranov 13.24 346 P **Pn** **03 02 31.0 -1.0**
comp=N,0.1nm,0.3s,baz=188,slow=14,SNR=2.5
EIL Elat 13.25 117 P Pn 03 02 28.3 -3.8
comp=N,0.2nm,0.3s,baz=304,slow=3.6,SNR=3.2
EIL S Sn 03 04 42.8 -15
comp=N,0.3nm,0.3s,baz=5.5,slow=13,SNR=3.9
DAVOX Davos/Dischmat 13.37 324 S **Sn** **03 04 53.9 -7.3**
RETA Reutte 13.49 328 Sn **Sn** **03 04 58.9 -5.1**
comp=N,1.3nm,0.3s
GERES GERESS Array B 13.54 338 P **Pn** **03 02 36.2 +0.1**
comp=N,0.2nm,0.3s,baz=160,slow=14,SNR=5.5
GERES S **Sn** **03 04 58.7 -6.4**
comp=N,0.3nm,0.3s,baz=149,slow=24,SNR=5.5
DAVA Damuels 13.74 325 Pn **P** **03 02 48.4 +1.4**
comp=N,3.7nm,0.7s
DAVA Sn **Sn** **03 05 01.9 -8.2**
comp=N,3.7nm,0.3s
KHC Kasperske Hory 13.83 338 *e*P P 03 02 52.8 +5.0
PRU Pruhonice 14.34 342 *e*P P 03 03 04.4 +11
ANN Anapa 14.68 51 *e*P **Pn** **03 02 48.5 -3.0**
ANN pmax pmax
comp=Z,28nm,1.2s
AKASG Malin Array Be 15.23 19 P **Pn** **03 02 57.0 -1.8**
comp=Z,0.4nm,0.3s,baz=207,slow=12,SNR=3.5
SHA1 Shidzhatmaz 17.74 60 *i* P **P** **03 03 32.3 +0.9**
KIV Kislovodsk 17.82 59 *e*P **P** **03 03 32.9 +0.7**
KIV pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 17.90 60 P **P** **03 03 33.4 +0.4**
comp=Z,0.1nm,0.3s,baz=253,slow=8.0,SNR=6.4
ZEI Tsey 18.38 63 *e*P **P** **03 03 37.6 -0.9**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
GNI Garni 18.64 72 *i* P **P** **03 03 40.6 -0.7**
GNI pmax pmax
comp=Z,53nm,1.4s
PABE Paberze 19.05 4 *e*P **Pn** **03 03 46.1 -0.4**
IIGN Ignalina 19.11 8 *e*P **Pn** **03 03 46.9 -0.2**
VSR Storozhevoye 19.40 35 *i* P **P** **03 03 49.4 +0.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
PBUR Paburg 19.50 1 *e*P **Pn** **03 03 52.1 +0.4**
ESDC Sonseca Array 20.20 287 P Pn 03 03 59.9 -0.3
comp=Z,0.1nm,0.4s,baz=87,slow=12,SNR=3.0
LPSR Galich'ya Gora 20.25 32 *e*P Pn 03 04 00.3 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VRH Novokhopyorsk 20.62 38 *e*P **P** **03 04 02.0 -0.6**
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 21.29 24 *e*P **P** **03 04 09.3 -0.4**
OBN *e* 03 04 33.4
OBN pmax pmax
comp=Z,29nm,1.3s
MOS Moscow 22.15 25 *e*P **P** **03 04 15.5 -3.4**
VSU Vasula 22.22 7 *ce*P **P** **03 04 20.7 +1.1**
VSU pmax pmax
comp=Z,55nm,0.8s
HFS Hagfors 24.13 351 P **P** **03 04 38.9 +0.1**
comp=Z,2.7nm,0.4s,baz=156,slow=11,SNR=18
FINES FINESS Array B 25.11 5 P **P** **03 04 47.5 0.0**
comp=Z,2.6nm,0.6s,baz=169,slow=11,SNR=17
EKA Eskdalemuir Ar 25.18 326 P **P** **03 04 48.7 +0.3**
comp=Z,0.4nm,0.4s,baz=129,slow=8.7,SNR=4.5
NB2 NORSAR Subarra 25.37 348 P **P** **03 04 50.7 +0.6**
comp=Z,0.8nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 25.37 348 *e*P **P** **03 04 51.0 +0.9**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 25.37 348 P **P** **03 04 50.6 +0.5**
comp=Z,1.8nm,0.8s,baz=158,slow=9.1,SNR=5.9
KLMR Klimovskoe 26.93 20 *e*P **P** **03 05 02.5 -1.6**
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR Klimovskoe 26.93 20 *e*P **P** **03 05 02.5 -1.6**
KLMR AMP 03 05 07.9
comp=Z,11nm,0.8s
GEYT Alibeck 29.14 76 P **P** **03 05 23.9 -0.2**
comp=Z,1.9nm,0.6s,baz=273,slow=9.6,SNR=5.8
TORD Torodi Ar. Bea 29.25 222 P **P** **03 05 27.4 +2.2**
comp=Z,0.6nm,0.6s,baz=20,slow=12,SNR=4.5
AKTO Aktyubinsk 29.64 50 P **P** **03 05 26.5 -1.9**
comp=Z,0.8nm,0.5s,baz=247,slow=13,SNR=3.1
ARU Arti 31.84 39 *i* P **P** **03 05 48.5 +0.7**
ARU pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 33.13 3 P **P** **03 06 00.0 +1.1**
ARCES ARCESS Array B 33.13 3 P **P** **03 05 60.0 +1.1**
comp=Z,7.4nm,1.1s,baz=196,slow=8.8,SNR=9.7
BRVK Borovoye 37.59 48 *ce*P **P** **03 06 38.7 +1.3**
BRVK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 40.80 65 *ce*P **P** **03 07 05.5 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 45.57 57 *e*P **P** **03 07 43.5 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 45.57 57 P **P** **03 07 41.9 -1.0**
comp=Z,0.7nm,0.5s,baz=272,slow=7.7,SNR=7.3
ZALV Zalesovo Beam 46.27 47 *e*P **P** **03 07 47.5 -0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 46.27 47 P **P** **03 07 46.9 -1.4**
comp=Z,2.3nm,0.5s,baz=274,slow=9.6,SNR=8.4
SONM Songino Array 60.96 50 P **P** **03 09 34.3 -1.7**
comp=Z,0.2nm,0.3s,baz=289,slow=4.4,SNR=3.6
CMAR Chiang Mai Arr 69.41 82 P **P** **03 10 30.3 -0.9**
comp=Z,1.0nm,0.3s,baz=308,slow=4.4,SNR=3.5
KSRS Korea Array 79.82 51 P **P** **03 11 31.9 +0.7**
comp=Z,1.1nm,0.8s,baz=299,slow=5.6,SNR=4.3
PET Petropavlovsk 83.39 24 ⇓*e*P **P** **03 11 51.4 +1.7**
PET pmax pmax
comp=Z,69nm,2.5s
WRA Warramunga Arr 119.74 94 PKP **PKPdf** **03 18 10.8 -2.3**
comp=Z,0.6nm,1.1s,baz=19,slow=1.0,SNR=3.4
ASAR Alice Springs 121.27 98 PKP **PKiKP** **03 18 17.0 +0.9**
comp=Z,0.2nm,0.7s,baz=337,slow=2.1,SNR=3.1

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*IDC **10** 03:20:50.8±1.8, 9°.89S×118°.32E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.7/28, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=73.2km s-min=19.5km az=47.0*
*ISCJB **10** 03:20:55.5±0.6, 9°.86S±0°.07×118°.79E±0°.04, h33km, mb3.9/3, Error ellipse: s-maj=10.8km s-min=4.9km az=19.7*
*NEIC **10** 03:20:58.5±1.0, 9°.95S±0°.10×118°.6E±0°.1, h62km±12km, mb4.4/4*
ISC 10 03:20:56.4±0.7, 9°.85S±0°.08×118°.75E±0°.05, h33km, n21, σ2.8 70/23, mb4.0/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.66**	**72**	P	**Pn**	**03 21 07.6**	**-1.9**
WBSI				S	**Sb**	**03 21 16.0**	**-2.7**
PLAI	**Plampang**	**1.40**	**316**	P	**Pn**	**03 21 19.7**	**+0.1**
PLAI				S	**Sn**	**03 21 33.6**	**-3.4**
WSI	**Waingapu**	**1.53**	**83**	P	Pn	03 21 09.2	-12
TWSI	**Taliwang, Sumb**	**2.15**	**301**	P	**Pn**	**03 21 30.5**	**+0.5**
TWSI				S	**Sn**	**03 21 56.7**	**+1.2**
MMRI	**Maumere**	**3.65**	**71**	Pn	**Pn**	**03 21 54.1**	**+3.5**
IGBI	**Denpasar**	**3.70**	**286**	S	**Sn**	**03 22 38.7**	**+4.8**
BKSI	**Bulukumba**	**4.70**	**17**	P	**Pn**	**03 22 06.1**	**+1.1**
BATI	**Baumata**	**4.85**	**95**	Pn	**Pn**	**03 22 09.2**	**+2.0**
BATI	6.7nm,0.3s,baz=310,slow=1.9,SNR=5.2			Sn	**Sn**	**03 23 02.2**	**0.0**
BATI	**Baumata**	**4.85**	**95**	P	**Pn**	**03 22 09.5**	**+2.3**
KAPI	**Kappang**	**4.90**	**12**		**Pn**	**03 22 11.4**	**+3.6**
SOEI	**Soe**	**5.44**	**89**		**Pn**	**03 22 19.1**	**+3.8**
BNSI	**Bone**	**5.58**	**14**	P	Pn	03 22 22.8	+5.7
FITZ	**Fitzroy Crossi**	**10.58**	**142**	Pn	**Pn**	**03 23 26.5**	**+0.7**
FITZ	0.5nm,0.3s,baz=326,slow=18,SNR=21			Sn	**Sn**	**03 25 18.1**	**-5.0**
WRA	**Warramunga Arr**	**18.08**	**125**	Pn	**P**	**03 25 05.6**	**+0.2**
WRA	0.1nm,0.3s,baz=293,slow=13,SNR=4.8			Sn	Sn	03 28 14.4	-12
ASAR	**Alice Springs**	**19.95**	**135**	P	**Pn**	**03 25 27.7**	**-0.1**
CTA	**Charters Tower**	**28.41**	**114**	P	**P**	**03 26 52.0**	**+3.9**
SONM	**Songino Array**	**58.47**	**350**	P	**P**	**03 30 48.7**	**-0.5**
SONM	**Songino Array**	**58.47**	**350**	IAmb	IAmb	03 30 51.1	
KBL	**Kabul**	**64.52**	**316**	P	**P**	**03 31 29.3**	**-1.2**
KBL				IAmb	IAmb	03 31 42.5	
MKAR	**Makanchi Array**	**65.10**	**333**	P	**P**	**03 31 31.9**	**-1.9**
BTK	**Batken**	**66.56**	**322**	P	**P**	**03 31 42.1**	**-1.3**

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*IDC **10** 03:35:38.8±0.5, 52°.37N×168°.75W, h0km, mb4.8/51, mb1 4.8/52, mb1mx4.7/61, mbtmp4.7/52, ML3.9/1, MS4.2/23, Ms1 4.2/23, ms1mx3.9/44, Error ellipse: s-maj=14.0km s-min=8.9km az=178.0*
*AEIC **10** 03:35:40.4±2.2, 52°.22N±0°.05×168°.45W±0°.09, h6km±3km, ML4.2, mb4.7/223(NEIC)*
*BJI **10** 03:35:40.4±0.0, 52°.71N×168°.97W, h15km, mb5.1/51, mB5.3/30, Ms5.0/23, Ms7 4.7/19*
*ISCJB **10** 03:35:42.0±0.2, 52°.43N±0°.04×168°.59W±0°.03, h29km, mb4.9/132, MS4.3/35, Error ellipse: s-maj=5.7km s-min=2.8km az=170.5*
*MOS **10** 03:35:42.6±1.1, 52°.41N×168°.70W, h33km, mb5.2/65, MS4.3/4, Error ellipse: s-maj=8.5km s-min=4.7km az=101.7*
*NEIC **10** 03:35:43.1±1.6, 52°.38N±0°.09×168°.6W±0°.1, h28km±3km*
*GCMT **10** 03:35:43.4±0.2, 52°.15N±0°.02×168°.61W±0°.03, h19km, MW5.0/97, Moment Tensor Solution. s50,c61; s97,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.71±.17; $M_{\theta\theta}$-2.87±.12; $M_{\phi\phi}$-0.84±.10; $M_{r\theta}$2.70±.25; $M_{\theta\phi}$-1.51±.07; $M_{\phi r}$0.47±.22; Best double couple: $M_0$4.59700×10^{16} NP1:ϕ_s72.00000°, δ63.00000°, λ99.00000°. NP2: ϕ_s232.00000°, δ28.00000°, λ72.00000°. Principal axes: T 4.6770, Plg70.0000°, Azm2.0000°; N -0.1610, Plg8.0000°, Azm248.0000°; P -4.5170, Plg18.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 03:35:43.2±0.4, 52°.36N±0°.06×168°.49W±0°.04, h29km, n522, σ1.9 30/486, mb4.9/206, MS4.3/35, 33C-16D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.65**	**340**		**Pb**	**03 35 56.0**	**-0.1**
UNV	**Unalaska Valle**	**1.91**	**38**		**Pn**	**03 36 14.2**	**+0.5**
AKUT	**Akutan**	**2.41**	**41**		**Pn**	**03 36 21.6**	**+1.0**
FALS	**False Pass**	**3.92**	**48**	Pn	**Pn**	**03 36 42.0**	**+0.7**
GSTR	**Great Sitkin T**	**4.66**	**270**	Pn	**Pn**	**03 36 51.5**	**0.0**
SPIA	**Saint Paul Isl**	**4.93**	**349**		**Pn**	**03 36 55.2**	**0.0**
ADK	**Adak**	**5.08**	**268**	P	**Pn**	**03 36 56.5**	**-0.6**
ADK	**Adak**	**5.08**	**268**		**Pn**	**03 36 56.5**	**-0.6**
KIWB	**Kanaga Island**	**5.37**	**268**		**Pn**	**03 37 00.3**	**-0.9**
SDPT	**Sand Point**	**5.61**	**55**	Pn	**Pn**	**03 37 06.5**	**+2.0**
CNBA	**Chernabura Isl**	**5.84**	**62**	Pn	**Pn**	**03 37 07.8**	**+0.1**
CHGN	**Chignik**	**7.09**	**52**		**Pn**	**03 37 25.9**	**+1.1**
CHIR	**Chirikof Islan**	**8.32**	**60**	Pn	**Pn**	**03 37 42.2**	**+0.6**
SII	**Sitkinak Islan**	**9.33**	**58**		**Pn**	**03 37 55.6**	**+0.1**
OHAK	**Old Harbor**	**10.03**	**55**		**Pn**	**03 38 05.2**	**+0.2**
KDAK	**Kodiak Island**	**10.60**	**53**	P	**Pn**	**03 38 12.3**	**-0.6**
KDAK						03 40 06.8	
KDAK	**Kodiak Island**	**10.60**	**53**	Pn	**Pn**	**03 38 11.9**	**-1.0**
KDAK	4.4nm,0.3s,baz=256,slow=8.7,SNR=104 baz=213,slow=17,SNR=1.8			Sn	**Sn**	**03 40 06.8**	**-3.7**
KDAK	**Kodiak Island**	**10.60**	**53**		**Pn**	**03 38 12.3**	**-0.6**
RSO	**Redoubt South**	**11.88**	**41**		**Pn**	**03 38 32.0**	**+1.4**
CNPM	**China Poot**	**12.02**	**47**		**Pn**	**03 38 33.1**	**+0.8**
BRLK	**Bradley Lake**	**12.29**	**46**	Pn	**Pn**	**03 38 37.2**	**+1.3**
SEW	**Seward**	**13.08**	**46**		**Pn**	**03 38 46.5**	**-0.3**
RC01	**Rabbit Creek A**	**13.46**	**42**	Pn	**Pn**	**03 38 51.1**	**-0.8**
PMR	**Palmer**	**13.97**	**41**	P	**Pn**	**03 38 59.1**	**+0.2**
PMR	**Palmer**	**13.97**	**41**		**Pn**	**03 38 59.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**14.94**	**48**	IAmb	IAmb	03 39 27.3	
	comp=Z,14nm,0.6s						
RAGM	**Ragged Mountai**	**15.37**	**49**	IAmb	IAmb	03 39 27.8	
	comp=Z,40nm,0.6s						
HMT	**Hamilton**	**15.55**	**50**		**Pn**	**03 39 19.2**	**-0.8**
HMT				IAmb	IAmb	03 39 35.4	
	comp=Z,38nm,0.8s						
MLY	**Manley**	**15.61**	**29**	IAmb	IAmb	03 39 26.3	
	comp=Z,40nm,0.8s						
SUCK	**Suckling Hills**	**15.69**	**51**	IAmb	IAmb	03 39 30.5	
	comp=Z,32nm,0.6s						
WRH	**Wood River Hil**	**16.06**	**33**	Pn	**Pn**	**03 39 26.4**	**-0.3**
GLB	**Gilahina Butte**	**16.16**	**46**	Pn	**Pn**	**03 39 26.2**	**-1.7**
CRQM	**Cirque**	**16.21**	**49**	Pn	**Pn**	**03 39 27.4**	**-1.4**
CRQM				IAmb	IAmb	03 39 36.7	
	comp=Z,34nm,0.7s						
VRDI	**Verde Repeater**	**16.24**	**47**	Pn	**Pn**	**03 39 27.3**	**-1.7**
VRDI				IAmb	IAmb	03 39 35.7	
	comp=Z,18nm,0.6s						
MDM	**Murphy Dome**	**16.33**	**32**	Pn	**Pn**	**03 39 30.8**	**+0.7**
MDM				IAmb	IAmb	03 39 42.5	
	comp=Z,12nm,0.7s						
TGL	**Tana Glacier**	**16.35**	**49**	IAmb	IAmb	03 39 40.9	
	comp=Z,58nm,0.7s						
COLA	**College**	**16.40**	**32**	⇓*e*P	**Pn**	**03 39 30.6**	**-0.3**
COLA				pmax	pmax		
	comp=Z,16nm,0.9s						
COLA	**College**	**16.40**	**32**		**Pn**	**03 39 31.

BCAR Beaver Creek A 17.69 42 Pn **Pn 03 39 45.7 -1.4**
HYT Haines Junctio 18.88 51 IAmb IAmb 03 40 21.2
comp=Z,56nm,0.7s
BMAR Burnt Mountain 19.08 29 P **P 03 40 01.3 -1.7**
SKAG Skagway 19.73 56 IAmb IAmb 03 40 23.6
comp=Z,37nm,0.7s
PET Petropavlovsk 19.84 285 *e*P **P 03 40 10.7 -0.6**
PET *e*S **S 03 43 46.1 -6.9**
PET pmax pmax
comp=Z,71nm,1.1s
PET pmax pmax
comp=Z,300nm,16.6s
PET MLR MLR
comp=Z,600nm,17.0s
PET Petropavlovsk 19.84 285 P **P 03 40 10.8 -0.6**
BILL Biiibino 19.86 332⇑ *e*P **Pn 03 40 13.5 +0.3**
BILL pmax pmax
comp=Z,24nm,1.5s
BILL Biiibino 19.86 332 P **Pn 03 40 13.7 +0.4**
BILL IAmb IAmb 03 40 18.4
comp=Z,19nm,0.8s
WHY Whitehorse 20.12 52 IAmb IAmb 03 40 20.7
comp=Z,29nm,0.8s
JIS Juneau Island 20.13 59 IAmb IAmb 03 40 37.1
comp=Z,26nm,1.0s
PEA0B Petropavlovsk- 20.39 286 P **P 03 40 16.1 -1.2**
PEA0B pmax pmax
comp=Z,90nm,0.6s
PEA0B Petropavlovsk- 20.39 286 P **P 03 40 16.1 -1.2**
PETK Petropavlovsk- 20.39 286 P **P 03 40 16.2 -1.2**
comp=Z,76nm,0.5s,baz=83,slow=14,SNR=217
EPYK Eagle Plains 21.09 36 P **P 03 40 23.1 -1.7**
EPYK IAmb IAmb 03 40 25.7
comp=Z,57nm,0.7s
DLBC Dease Lake 22.43 59 P **P 03 40 41.9 +2.5**
comp=Z,4.3nm,0.7s,baz=287,slow=10,SNR=9.0
INK Inuvik 23.06 33 P **P 03 40 44.0 -1.7**
INK 03 44 34.7
INK pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 23.06 33 P **P 03 40 44.4 -1.3**
comp=Z,12nm,0.6s,baz=239,slow=7.2,SNR=56
INK PcP **PcP 03 44 34.6 +0.8**
comp=Z,1.8nm,0.6s,baz=286,slow=8.6,SNR=4.0
INK Inuvik 23.06 33 P **P 03 40 44.0 -1.7**
INK IAmb IAmb 03 40 58.7
comp=Z,17nm,0.9s
SEY Seymchan 23.07 313⇓ *e*P **P 03 40 45.7 -0.2**
SEY Seymchan 23.07 313 P **P 03 40 44.6 -1.3**
comp=Z,18nm,0.8s,baz=99,slow=9.1,SNR=42
SEY PcP **PcP 03 44 33.9 -0.1**
comp=Z,2.9nm,0.5s,baz=106,slow=6.8,SNR=6.2
SEY LR LR 03 50 01.5
comp=Z,876nm,19.3s,baz=106,slow=38
MA2 Magadan 23.60 304⇑ *e*P **P 03 40 49.7 -1.4**
MA2 pmax pmax
comp=Z,62nm,2.0s
MA2 Magadan 23.60 304 P **P 03 40 50.2 -1.0**
comp=Z,9.5nm,0.6s,baz=70,slow=10,SNR=6.5
MA2 LR LR 03 49 48.7
comp=Z,486nm,18.6s,baz=110,slow=36
MA2 Magadan 23.60 304 IAmb IAmb 03 41 05.7
comp=Z,13nm,0.8s
YKA Yellowknife Ar 29.84 49 P **P 03 41 48.5 +1.2**
comp=Z,1.9nm,0.6s,baz=277,slow=7.8,SNR=12
YKA PcP **PcP 03 44 50.3 +0.5**
comp=Z,1.1nm,0.7s,baz=284,slow=3.1,SNR=2.6
YKA LR LR 03 55 52.4
comp=Z,95nm,18.9s,baz=272,slow=40
F04A Amboy 30.38 84 IAmb IAmb 03 42 02.9
comp=Z,14nm,1.2s
B08A Colville Reser 31.12 77 IAmb IAmb 03 42 18.4
comp=Z,5.5nm,0.9s
HAWA Hanford 31.91 81 IAmb IAmb 03 42 26.1
comp=Z,14nm,1.1s
C09A Chrisman Ranch 32.01 78 IAmb IAmb 03 42 25.9
comp=Z,4.3nm,0.8s
E08A Dider Farm, El 32.15 80 P **P 03 42 09.6 +1.7**
E08A IAmb IAmb 03 42 17.4
comp=Z,6.5nm,1.1s
PINE Pine Mountain 32.38 86 P **P 03 42 10.5 +0.3**
YBH Yreka Blue Hor 32.44 91 P **P 03 42 13.4 +2.8**
comp=Z,4.3nm,0.9s,baz=293,slow=6.0,SNR=14
NEW Newport 32.49 76 P **P 03 42 11.6 +0.7**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 32.49 76 P **P 03 42 11.6 +0.7**
NEW IAmb IAmb 03 42 30.0
comp=Z,6.7nm,0.9s
KMRM Mail Ridge 32.71 94 IAmb IAmb 03 42 27.0
comp=Z,9.7nm,0.8s
TIXI Tiksi 33.02 329⇓ *i*P **P 03 42 15.1 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
TIXI Tiksi 33.02 329 P **P 03 42 14.5 -0.8**
comp=Z,6.3nm,0.6s,baz=69,slow=1.5,SNR=9.3
TIXI Tiksi 33.02 329 P **P 03 42 14.7 -0.5**
TIXI IAmb IAmb 03 42 15.8
comp=Z,7.2nm,0.6s
F10A Beach Ranch, E 33.51 80 IAmb IAmb 03 42 40.8
comp=Z,5.8nm,0.9s
YAK Yakutsk 33.59 311 *e*P **P 03 42 18.5 -1.7**
YAK *e**PP **pP 03 42 29.1 +1.3**
YAK *e* 03 43 26.7
YAK *e* 03 45 00.1
YAK *e*SS **S 03 47 36.0 -4.4**
YAK *e*SSS SSS 03 50 01.7
YAK *e* 03 52 42.7
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,97nm,2.9s
YAK pmax pmax
comp=N,118nm,3.2s
YAK pmax pmax
comp=E,82nm,3.3s
YAK smax smax
comp=N,150nm,3.8s
YAK smax smax
comp=E,162nm,3.5s
YAK Yakutsk 33.59 311 P **P 03 42 18.9 -1.3**
comp=E,9.4nm,0.4s,baz=96,slow=0.3,SNR=6.8
YAK PcP **PcP 03 45 00.3 +0.4**
comp=E,8.9nm,0.4s,baz=28,slow=0.4,SNR=2.5
YAK Yakutsk 33.59 311 P **P 03 42 18.9 -1.3**
GRNR Gornyy 33.59 290 *e*P **P 03 42 19.4 -1.0**
GRNR pmax pmax
comp=Z,40nm,0.7s
GRNR MLR MLR
comp=Z,700nm,14.0s
MOD Modoc Plateau 33.82 88 IAmb IAmb 03 42 32.3
comp=Z,4.7nm,0.9s
JTMT Jette 34.42 76 P **P 03 42 28.1 +0.3**
JTMT IAmb IAmb 03 42 31.8
comp=Z,3.8nm,0.7s
MSO Missoula 35.06 77 P **P 03 42 34.6 +1.2**
PAHR Pah Rah Range 35.67 91 IAmb IAmb 03 42 58.8
comp=Z,10nm,1.2s
VCNR Virginia City 35.76 92 IAmb IAmb 03 42 59.1
comp=Z,12nm,1.1s
PNTR Pine Nut 35.92 92 IAmb IAmb 03 43 00.6
comp=Z,14nm,1.0s
RES Resolute Bay 36.14 26 P **P 03 42 41.8 -0.4**
comp=Z,1.7nm,0.6s,baz=291,slow=8.7,SNR=11
RES Resolute Bay 36.14 26 P **P 03 42 42.1 0.0**
YERR Yerington 36.20 92 IAmb IAmb 03 43 03.4
comp=Z,11nm,1.2s
WAKR Walker 36.38 93 IAmb IAmb 03 43 04.4
comp=Z,8.4nm,1.1s
RYN Ryan 36.86 92 P **P 03 42 49.0 0.0**
EGMT Eagleton 36.95 73 IAmb IAmb 03 43 06.9
comp=Z,24nm,1.1s
KLR Kul'dur 36.97 290⇓ *i*P **P 03 42 47.5 -2.0**
KLR pmax pmax
comp=Z,31nm,1.3s
BOZ Bozeman (W) 37.07 77 IAmb IAmb 03 42 59.4
comp=Z,9.3nm,1.1s
NVAR Mina Array Bea 37.12 92 P **P 03 42 53.4 +2.2**
comp=Z,1.1nm,0.8s,baz=291,slow=8.5,SNR=7.1
NVAR LR LR 03 53 51.4
comp=Z,144nm,21.4s,baz=296,slow=29
NVAR Mina Array Bea 37.12 92 P **P 03 42 52.3 +1.1**

MDPB Devils Postpil 37.15 93 P **P 03 42 52.5 +1.0**
OMMB Old Mammoth Mi 37.21 93 P **P 03 42 53.2 +1.1**
ZEA Zeya 37.48 298 *e*P **P 03 42 51.9 -1.9**
ZEA pmax pmax
comp=Z,13nm,0.8s
QLMT Earthquake Lak 37.60 78 P **P 03 42 55.4 +0.2**
H11N2 WAKE ISLAND Hy 37.79 220 T T 04 23 39.0
baz=24,slow=74
H11N3 WAKE ISLAND Hy 37.80 220 T T 04 23 51.8
baz=24,slow=74
H11N1 WAKE ISLAND Hy 37.81 220 T T 04 23 29.2
baz=24
H17A Grant Village 38.35 78 IAmb IAmb 03 43 12.0
comp=Z,11nm,1.1s
RLMT Red Lodge 38.74 76 IAmb IAmb 03 43 25.5
comp=Z,17nm,1.1s
ISA Isabella, Lake 38.80 95 P **P 03 43 05.8 +0.6**
ISA pmax pmax
comp=Z,3.0nm,0.9s
ISA Isabella, Lake 38.80 95 P **P 03 43 05.8 +0.6**
H11S1 WAKE ISLAND Hy 38.97 219 T T 04 24 49.3
baz=23,slow=76,SNR=79
H11S2 WAKE ISLAND Hy 38.99 219 T T 04 24 52.8
baz=23,slow=76,SNR=69
H11S3 WAKE ISLAND Hy 38.99 219 T T 04 24 47.1
baz=23,slow=76,SNR=78
DUG Dugway, Tooele 39.40 85 P **P 03 43 12.9 +2.6**
DUG pmax pmax
comp=Z,7.0nm,1.2s
DUG Dugway, Tooele 39.40 85 P **P 03 43 12.9 +2.6**
USRK Ussuriysk Ar. 39.42 283 P **P 03 43 08.4 -1.8**
comp=Z,4.4nm,0.5s,baz=55,slow=9.2,SNR=14
USRK PcP **PcP 03 45 16.8 -1.0**
comp=Z,2.3nm,0.8s,baz=73,slow=2.0,SNR=3.4
USRK LR LR 04 01 37.3
comp=Z,348nm,18.6s,baz=51,slow=40
USRK Ussuriysk Ar. 39.42 283 P **P 03 43 08.6 -1.7**
PSUT Pine Spring 39.78 88 P **P 03 43 14.7 +1.1**
BW06 Boulder Array 39.87 80 IAmb IAmb 03 43 34.5
comp=Z,8.7nm,0.9s
PDAR Pinedale Array 39.87 80 P **P 03 43 15.2 +0.9**
comp=Z,2.8nm,0.5s,baz=302,slow=2.5,SNR=44
PDAR LR LR 03 59 16.2
comp=Z,112nm,18.0s,baz=328,slow=35
PDAR Pinedale Array 39.87 80 P **P 03 43 14.8 +0.6**
MJAR Matsushiro Arr 40.24 269 P **P 03 43 15.7 -1.4**
comp=Z,4.5nm,0.6s,baz=34,slow=6.9,SNR=12
MJAR LR LR 03 59 31.6
comp=Z,379nm,21.1s,baz=60,slow=36
MJAR Matsushiro Arr 40.24 269 P **P 03 43 17.1 0.0**
MAJO Matsushiro 40.24 269⇑ *e*P **P 03 43 17.4 +0.3**
MAJO pmax pmax
comp=Z,37nm,1.1s
MAT Matsushiro 40.24 269 P **P 03 43 16.7 -0.4**
MAT S **S 03 49 29.2 +6.9**
MSHR Mys Shultsa 40.84 281⇑ *e*P **P 03 43 21.6 -0.4**
P17A Butcher Ranch, 41.11 85 P **P 03 43 25.7 +1.2**
RDMU Red Mountain 41.16 82 P **P 03 43 26.8 +1.9**
Q16A Castle Valley 41.19 86 P **P 03 43 27.0 +1.9**
PFO Pinyon Flats O 41.40 96 P **P 03 43 29.1 +2.3**
comp=Z,0.5nm,0.4s,baz=299,slow=10,SNR=2.9
SRU San Rafael Swe 41.47 85 P **P 03 43 28.8 +1.4**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 41.47 85 P **P 03 43 28.8 +1.4**
TULEG Thule 41.95 20 P **P 03 43 30.3 -0.3**
TULEG IAmb IAmb 03 43 31.8
comp=Z,7.6nm,0.7s
O20A White River Ci 42.23 82 IAmb IAmb 03 43 42.2
comp=Z,24nm,0.9s
BOD Bodaibo 42.42 309 *e*P **P 03 43 32.9 -1.8**
BOD pmax pmax
comp=Z,22nm,0.7s
PV22 Blue Mesa, Par 42.88 84 P **P 03 43 40.9 +1.9**
PV22 IAmb IAmb 03 43 47.8
comp=Z,8.2nm,0.9s
MDND Maddock 42.89 67 IAmb IAmb 03 43 58.1
comp=Z,39nm,1.1s
CN2 Changchun 43.54 286 *e*P **P 03 43 46.7 +2.8**
ULM Lac du Bonnet 43.67 63 P **P 03 43 47.6 +2.7**
comp=Z,5.7nm,0.9s,baz=277,slow=3.1,SNR=4.2
ULM LR LR 04 03 13.1
comp=Z,301nm,18.6s,baz=302,slow=38
ULM Lac du Bonnet 43.67 63 IAmb IAmb 03 43 48.5
comp=Z,5.1nm,0.8s
HIA Hailar 43.74 296 P **P 03 43 44.9 -0.7**
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 43.74 296 P **P 03 43 44.9 -0.7**
HIA IAmb IAmb 03 43 45.4
comp=Z,14nm,0.7s
ISCO Idaho Springs 44.03 81 P **P 03 43 50.2 +1.9**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 44.03 81 P **P 03 43 50.2 +1.9**
SDCO Great Sand Dun 45.39 83 IAmb IAmb 03 44 12.2
comp=Z,7.0nm,1.1s
KSRS Korea Array 45.94 277 P **P 03 44 03.1 -0.1**
comp=Z,23nm,1.0s,baz=56,slow=7.3,SNR=32
KSRS PcP **PcP 03 45 37.8 -1.9**
comp=Z,1.3nm,0.8s,baz=55,slow=2.8,SNR=2.5
KSRS LR LR 04 01 47.8
comp=Z,233nm,20.8s,baz=48,slow=34
KS19 Wonju Array Si 45.95 277 P **P 03 44 03.6 +0.4**
KSAR Wonju Array Be 45.97 277 P **P 03 44 02.8 -0.6**
KSAR Wonju Array Be 45.97 277 P **P 03 44 02.8 -0.6**
T25A Trinidad 46.44 83 IAmb IAmb 03 44 20.5
comp=Z,19nm,1.1s
ANMO Albuquerque 46.63 86⇓ *e*P **P 03 44 11.1 +2.2**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
ANMO Albuquerque 46.63 86 P **P 03 44 10.1 +1.2**
NRIK Noril'sk 46.69 332 P **P 03 44 07.6 -1.0**
comp=Z,8.5nm,0.6s,baz=69,slow=7.2,SNR=8.8
NRIK LR LR 04 07 27.4
comp=Z,323nm,18.6s,baz=70,slow=41
ECSD EROS Data Cent 46.96 70 P **P 03 44 10.5 -0.7**
ECSD IAmb IAmb 03 44 14.2
comp=Z,5.6nm,0.9s
TJN Taejon 46.98 277 *de*P **P 03 44 11.5 +0.2**
JNU Nakatsue 47.01 271 P **P 03 44 11.0 -0.6**
comp=Z,14nm,0.7s,baz=29,slow=6.7,SNR=10
BNM Barren Site 47.06 87 P **P 03 44 12.8 +0.5**
KBS Kingsbay 48.97 360 *e*P **P 03 44 27.3 +1.1**
MNTX Cornudas Mount 49.50 89 IAmb IAmb 03 44 45.0
comp=Z,3.8nm,0.8s
MSTX Muleshoe 49.54 85 IAmb IAmb 03 44 44.2
comp=Z,13nm,1.1s
SPA0 Spitsbergen Ar 49.69 359 *e*P **P 03 44 31.4 -0.3**
SPITS Spitsbergen Ar 49.69 359 P **P 03 44 30.7 -1.1**
comp=Z,3.5nm,0.4s,baz=37,slow=5.7,SNR=20
DAG Danmarks Havn 49.72 9 *i*P **P 03 44 31.5 -0.4**
DAG pmax pmax
comp=Z,8.0nm,0.7s
DAG Danmarks Havn 49.72 9 *i*P **P 03 44 31.5 -0.4**
comp=Z,11nm,0.7s
SUMG Summit 50.63 17 P **P 03 44 39.8 +0.5**
SUMG pmax pmax
comp=Z,19nm,0.7s
SUMG Summit 50.63 17 *i*P **P 03 44 40.4 +1.1**
comp=Z,50nm,0.7s
SUMG Summit 50.63 17 P **P 03 44 39.8 +0.5**
TLY Talaya 50.78 307 *c i*P **P 03 44 39.6 -0.7**
TLY pmax pmax
comp=Z,12nm,0.8s
TLY Talaya 50.78 307 P **P 03 44 40.2 -0.1**
comp=Z,15nm,0.6s,baz=20,slow=3.4,SNR=15
TLY LR LR 04 07 24.4
comp=Z,316nm,21.0s,baz=42,slow=38
TLY Talaya 50.78 307 P **P 03 44 40.2 -0.1**
BJI Beijing 51.30 288 *e*P **P 03 44 43.1 -1.2**
BJI S **S 03 52 07.3 +6.1**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=Z,500nm,15.9s
BJI LR LR
comp=Z,430nm,15.9s
BJI LR LR
comp=Z,380nm,18.0s
ULN Ulaanbaatar 51.40 301 *de*P **P 03 44 44.7 -0.5**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 51.40 301 P **P 03 44 45.1 -0.1**
WMOK Wichita Mounta 51.45 81 IAmb IAmb 03 44 53.6
comp=Z,5.1nm,0.8s

ZAK Zakamensk 51.77 305 *e*P **P 03 44 47.8 0.0**
ZAK *e* 03 46 01.9
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 51.77 301 P **P 03 44 47.3 -0.6**
SONM 03 46 01.6
SONM pmax pmax
comp=Z,9.0nm,0.7s
SONM Songino Array 51.77 301 P **P 03 44 47.7 -0.2**
comp=Z,9.0nm,0.6s,baz=64,slow=6.0,SNR=43
SONM PcP **PcP 03 46 01.6 +0.8**
comp=Z,2.3nm,0.9s,baz=38,slow=2.6,SNR=2.5
SONM ScP **ScP 03 49 56.4 +1.1**
comp=Z,0.6nm,0.7s,baz=64,slow=4.0,SNR=3.7
SONM LR LR 04 09 33.3
comp=Z,369nm,18.5s,baz=36,slow=39
SONM Songino Array 51.77 301 P **P 03 44 47.4 -0.6**
MOY Mondy 52.08 308 *e*P **P 03 44 50.0 -0.2**
MOY pmax pmax
comp=Z,18nm,1.8s
TX31 Lajitas Ar. Si 52.20 90 IAmb IAmb 03 45 03.2
comp=Z,4.1nm,0.8s
TX32 Lajitas Array 52.20 90 IAmb IAmb 03 45 09.9
comp=Z,4.4nm,0.8s
TXAR Lajitas Array 52.21 90 P **P 03 44 51.6 +0.2**
comp=Z,3.5nm,0.9s,baz=301,slow=5.2,SNR=22
TXAR LR LR 04 05 43.8
comp=Z,137nm,19.2s,baz=0.0,slow=34
TIA Tai'an 53.27 284 P **P 03 44 59.0 0.0**
TIA pmax pmax
comp=Z,28nm,1.0s
HHC Hu-ho-hao-te 53.43 292 P **P 03 45 01.0 +0.7**
HHC pmax pmax
comp=Z,9.0nm,0.9s
JCT Junction City 53.76 86 P **P 03 45 02.9 +0.1**
JCT pmax pmax
comp=Z,15nm,1.1s
JCT Junction City 53.76 86 P **P 03 45 02.9 +0.1**
JCT IAmb IAmb 03 45 20.9
comp=Z,15nm,1.1s
U40A Yellville 53.91 75 IAmb IAmb 03 45 09.7
comp=Z,6.1nm,0.8s
WHTX Lake Whitney, 54.14 83 IAmb IAmb 03 45 09.8
comp=Z,12nm,0.8s
FCAR Ozark Folk Cen 54.66 75 IAmb IAmb 03 45 22.5
comp=Z,6.6nm,0.8s
MIAR Mount Ida 54.71 78 P **P 03 45 09.3 -0.3**
MIAR pmax pmax
comp=Z,8.0nm,1.1s
MIAR Mount Ida 54.71 78 P **P 03 45 09.3 -0.3**
MIAR IAmb IAmb 03 45 16.9
comp=Z,8.2nm,1.1s
SCHQ Schefferville 55.07 44 P **P 03 45 12.8 +1.0**
comp=Z,8.3nm,0.9s,baz=276,slow=9.2,SNR=3.1
SCHQ LR LR 04 11 15.2
comp=Z,330nm,18.6s,baz=324,slow=39
SCHQ Schefferville 55.07 44 IAmb IAmb 03 45 23.8
comp=Z,19nm,1.1s
NJ2 Nanjing 55.09 279 *e*P **P 03 45 11.0 -1.3**
NJ2 pmax pmax
comp=Z,22nm,0.5s
SCO Scoresbysund 55.11 13 P **P 03 45 11.6 -0.3**
SCO pmax pmax
comp=Z,5.0nm,0.7s
SCO Scoresbysund 55.11 13 *i*P **P 03 45 12.3 +0.4**
comp=Z,5.1nm,0.7s
SCO Scoresbysund 55.11 13 P **P 03 45 11.6 -0.3**
SCO IAmb IAmb 03 45 14.3
comp=Z,5.1nm,0.7s
Q51A Peebles 57.60 67 IAmb IAmb 03 45 45.7
comp=Z,7.3nm,0.8s
PLAL Pickwick Lake 57.68 73 IAmb IAmb 03 45 33.1
comp=Z,6.6nm,0.9s
ZAA0 Zalesovo Array 57.79 318 P **P 03 45 30.4 -0.9**
ZAA0 IAmb IAmb 03 45 32.1
comp=Z,4.2nm,0.9s
ZALV Zalesovo Beam 57.79 318⇓ *e*P **P 03 45 29.6 -1.6**
ZALV Zalesovo Beam 57.79 318 P **P 03 45 30.5 -0.7**
comp=Z,2.1nm,0.5s,baz=42,slow=5.2,SNR=10
ZALV PcP **PcP 03 46 24.0 +0.4**
comp=Z,2.0nm,0.4s,baz=356,slow=4.5,SNR=2.7
ZALV LR LR 04 11 56.2
comp=Z,243nm,19.0s,baz=57,slow=38
ARCES ARCESS Array B 57.98 354 P **P 03 45 31.4 -0.9**
comp=Z,8.0nm,0.7s,baz=2.0,slow=5.5,SNR=23
ARCES PcP **PcP 03 46 24.7 +0.6**
comp=Z,2.6nm,0.7s,baz=12,slow=4.9,SNR=3.0
ARCES LR LR 04 12 10.8
comp=Z,242nm,19.7s,baz=330,slow=38
ARCES ARCESS Array B 57.98 354 P **P 03 45 31.9 -0.5**
ARE0 ARCESS Array S 57.99 354 *e*P **P 03 45 32.5 +0.1**
TRO Tromso 58.20 357 *e*P **P 03 45 33.2 -0.6**
KTK1 Kautokeino 58.63 355 *e*P **P 03 45 36.9 0.0**
LVZ Lovozero 58.82 350 *ce*P **P 03 45 38.0 -0.3**
LVZ pmax pmax
comp=Z,39nm,0.7s
LVZ Lovozero 58.82 350 P **P 03 45 37.8 -0.5**
WHN Wuhan 58.87 281 P **P 03 45 36.9 -2.2**
FPAL Fort Paine 59.43 72 IAmb IAmb 03 45 45.1
comp=Z,4.4nm,0.8s
SSPA Standing Stone 59.50 62 P **P 03 45 43.3 0.0**
XAN Xi'an 59.62 287 P **P 03 45 44.1 -0.2**
XAN pP pP 03 45 50.1 -2.1
XAN pmax pmax
comp=Z,22nm,1.3s
XAN Xi'an 59.62 287 P **P 03 45 44.3 0.0**
XAN pmax pmax
comp=Z,31nm,1.2s
XAN Xi'an 59.62 287 P **P 03 45 44.3 0.0**
SSLB Suanglung 59.75 270 P **P 03 45 44.5 -0.8**
STEI Steigen 60.00 358 *e*P **P 03 45 46.3 0.0**
Z50A Ashland 60.16 73 P **P 03 45 47.1 -0.9**
Z50A IAmb IAmb 03 45 50.0
comp=Z,9.5nm,1.0s
BLA Blacksburg 60.52 66 P **P 03 45 50.8 +0.4**
BLA pmax pmax
comp=Z,14nm,0.8s
BLA Blacksburg 60.52 66 P **P 03 45 50.8 +0.4**
GTA Gaotai 60.96 298 *e*P **P 03 45 52.9 -0.6**
GTA pP pP 03 46 01.2 -0.3
GTA sP sP 03 46 05.1 +0.6
GTA S **S 03 54 09.8 -0.1**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,150nm,7.1s
GTA LR LR
comp=Z,400nm,18.1s
GTA LR LR
comp=Z,540nm,18.1s
GTA LR LR
comp=Z,600nm,18.4s
LZH Lanzhou 61.09 292 ⇓P **P 03 45 55.2 +0.7**
LZH pP pP 03 46 01.9 -0.5
LZH sP sP 03 46 05.8 +0.3
LZH PP **PP 03 48 11.7 +2.9**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,220nm,16.5s
LZH LR LR
comp=Z,230nm,16.7s
LZH LR LR
comp=Z,330nm,18.0s
T57A Hurt 61.32 66 IAmb IAmb 03 45 58.8
comp=Z,12nm,1.1s
KMSC Kings Mountain 61.47 69 P **P 03 45 56.7 -0.2**
KMSC IAmb IAmb 03 46 08.6
comp=Z,12nm,1.1s
MOR8 Moi Rana 61.77 359 *e*P **P 03 45 57.8 -0.7**
ENH Enshi 61.98 284 P **P 03 46 00.0 -0.4**
TMCR Tamitsa 61.99 347 *e*P **P 03 45 58.7 -1.2**
TMCR pmax pmax
comp=Z,26nm,1.2s
KURK Kurchatov 62.74 319 *c i*P **P 03 46 04.6 -0.5**
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 62.74 319 P **P 03 46 04.7 -0.5**
KURBB Kurchatov Arra 62.85 319 P **P 03 46 05.5 -0.3**
comp=Z,11nm,0.9s,baz=44,slow=7.4,SNR=47
PRGR Permogore 63.16 343 *e*P **P 03 46 06.9 -0.8**
PRGR pmax pmax

comp=Z,24nm,0.6s
NSS Namsos 63.45 360 *e*P **P 03 46 09.6 0.0**
SVE Sverdlovsk 63.95 332 *e*P **P 03 46 13.2 +0.2**
SVE pmax pmax
comp=Z,22nm,1.1s
WMQ Urumqi 63.96 309 *e*P **P 03 46 13.8 +0.4**
WMQ pP pP 03 46 16.3 -5.2
WMQ sP pwP 03 46 27.0 +1.7
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.8s
WMQ LR LR
comp=Z,300nm,19.9s
WMQ LR LR
comp=Z,210nm,24.1s
WMQ Urumqi 63.96 309 P **P 03 46 13.5 +0.1**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ Urumqi 63.96 309 P **P 03 46 13.5 +0.1**
WMQ **P 03 46 14.4 +1.0**
BVAR Borovoye Array 64.02 325 P **P 03 46 13.5 -0.1**
comp=Z,13nm,0.7s,baz=51,slow=7.8,SNR=67
BRVK Borovoye 64.03 325⇓*i*P **P 03 46 13.8 +0.1**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 64.03 325 P **P 03 46 13.7 +0.1**
MK31 Makanchi Array 64.20 314 *i*P **P 03 46 13.9 -1.0**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 64.20 314 P **P 03 46 14.0 -1.0**
MK31 IAmb IAmb 03 46 14.8
comp=Z,11nm,0.8s
MKAR Makanchi Array 64.20 314 P **P 03 46 13.5 -1.5**
comp=Z,9.3nm,0.7s,baz=48,slow=6.8,SNR=45
MKAR LR LR 04 15 11.3
comp=Z,380nm,18.4s,baz=34,slow=37
MKAR Makanchi Array 64.20 314 P **P 03 46 13.7 -1.2**
MAKZ Makanchi 64.33 314 P **P 03 46 14.2 -1.5**
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
MAKZ Makanchi 64.33 314 P **P 03 46 14.2 -1.5**
TBLU Trondheim 64.72 1 *e*P **P 03 46 17.6 -0.4**
ARU Arti 64.87 333*c i*P **P 03 46 18.8 -0.3**
ARU 03 46 53.9
ARU 03 48 40.2
ARU S **S 03 54 56.2 -1.8**
ARU pmax pmax
comp=Z,20nm,0.8s
ARU Arti 64.87 333 P **P 03 46 18.4 -0.6**
comp=Z,7.3nm,0.7s,baz=42,slow=4.0,SNR=28
ARU Arti 64.87 333 P **P 03 46 18.7 -0.4**
CD2 Chengdu 64.89 288 P **P 03 46 18.5 -1.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
KLMR Klimovskoe 64.93 345 *e*P **P 03 46 17.5 -1.9**
KLMR pmax pmax
comp=Z,31nm,1.2s
KLMR Klimovskoe 64.93 345 *e*P **P 03 46 17.5 -1.9**
KLMR AMP 03 46 20.4
comp=Z,31nm,1.2s
KIRV Kirov 65.20 339 P **P 03 46 21.1 -0.1**
comp=Z,24nm,0.6s,baz=61,slow=4.1,SNR=9.6
MOL Molde 65.37 2 *e*P **P 03 46 22.6 +0.4**
TAOE Nuku Hiva Isla 65.63 149 *e*LR LR 04 05 54.1
comp=Z,338nm,25.4s
AKN Aaknes 65.75 2 *e*P **P 03 46 25.4 +0.7**
DOMB Dombas 65.93 1 *e*P **P 03 46 25.7 -0.2**
FIA1 FINESS Array S 65.95 352 P **P 03 46 26.3 +0.4**
FINES FINESS Array B 65.95 352 P **P 03 46 25.1 -0.8**
comp=Z,20nm,0.5s,baz=21,slow=7.7,SNR=190
FINES LR LR 04 17 20.3
comp=Z,237nm,19.6s,baz=30,slow=38
NC303 NORSAR Array S 66.76 0 *e*P **P 03 46 31.2 0.0**
NB2 NORSAR Subarra 66.95 0 P **P 03 46 31.9 -0.5**
comp=Z,5.1nm,0.6s,baz=359,slow=6.2
NOA NORSAR Array B 66.95 0 P **P 03 46 31.8 -0.5**
comp=Z,6.2nm,0.6s,baz=360,slow=6.2,SNR=32
NOA LR LR 04 18 55.9
comp=Z,72nm,18.0s,baz=345,slow=39
SKAR Skarslia 67.28 2 *e*P **P 03 46 34.5 0.0**
ODD1 Odda 68.01 3 *e*P **P 03 46 39.3 +0.2**
PDGK Podgornoye 68.14 313 P **P 03 46 40.0 -0.4**
PDGK pmax pmax
comp=Z,22nm,0.7s
KONO Kongsberg 68.33 1 *e*P **P 03 46 41.8 +0.7**
BLS5 Blasjo 68.50 3 *e*P **P 03 46 41.9 -0.3**
VSU Vasula 68.84 351*c i*P **P 03 46 44.1 -0.2**
VSU pmax pmax
comp=Z,231nm,2.5s
VSU Vasula 68.84 351 *e*P **P 03 46 43.9 -0.4**
VSU IAmb IAmb 03 46 45.0
comp=Z,142nm,0.7s
KMI Kunming 69.79 285 P **P 03 46 51.5 +0.5**
KMI pmax pmax
comp=Z,30nm,0.6s
SLIT Slitere, Latvi 70.02 354 *e*P **P 03 46 51.3 -0.2**
SLIT IAmb IAmb 03 46 53.7
comp=Z,388nm,0.9s
MOS Moscow 70.12 345 *e*P **P 03 46 49.7 -2.5**
MOS pmax pmax
comp=Z,55nm,0.6s
AKTO Aktyubinsk 70.29 330 P **P 03 46 52.9 -0.5**
AKTO pmax pmax
comp=Z,25nm,0.8s
AKTO Aktyubinsk 70.29 330 P **P 03 46 53.0 -0.3**
comp=Z,19nm,0.7s,baz=41,slow=8.2,SNR=72
USP Ospenovka 70.37 316 P **P 03 46 54.0 0.0**
SNR=13
BOOM Boomskoye usch 70.38 315 P **P 03 46 54.4 +0.1**
BOOM pmax pmax
comp=Z,18nm,0.6s
BOOM Boomskoye usch 70.38 315 P **P 03 46 54.4 +0.1**
CHMS Chumysh 70.48 316 P **P 03 46 54.6 -0.1**
SNR=6.5
KBK Karagaybulak 70.67 316 P **P 03 46 56.3 +0.2**
SNR=9.7
FRU1 Bishkek 70.68 316 P **P 03 46 56.6 +0.6**
FRU1 pmax pmax
comp=Z,33nm,0.5s
FRU1 Bishkek 70.68 316 P **P 03 46 56.6 +0.6**
AB31 Akbulak array 70.72 329 *i*P **P 03 46 55.6 -0.4**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 70.72 329 P **P 03 46 55.5 -0.6**
AAK Ala-Archa 70.88 316*c i*P **P 03 46 57.6 +0.2**
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 70.88 316 P **P 03 46 57.2 -0.1**
comp=Z,14nm,0.6s,baz=97,slow=2.8,SNR=40
AAK Ala-Archa 70.88 316 P **P 03 46 57.5 +0.2**
SNR=15
AAK Ala-Archa 70.88 316 P **P 03 46 57.5 +0.2**
OBN Obninsk 70.89 345 *e*P **P 03 46 56.1 -0.8**
OBN *e* 03 47 19.9
OBN *e* 03 49 36.4
OBN *e*S **SKiKP 03 56 31.3 -5.1**
OBN pmax pmax
comp=Z,24nm,0.6s
OBN Obninsk 70.89 345 P **P 03 46 56.5 -0.3**
comp=Z,8.6nm,0.6s,baz=134,slow=11,SNR=12
OBN Obninsk 70.89 345 P **P 03 46 56.6 -0.3**
KZA Kyzart 71.01 315 P **P 03 46 58.7 +0.3**
SNR=6.2
EKS2 Erkin-Say 71.17 316 P **P 03 46 59.2 +0.2**
SNR=14
NRN Naryn 71.21 314 IAmb IAmb 03 47 01.8
comp=Z,11nm,0.9s
PPT Papeete 71.55 161 LR LR 04 10 19.2
comp=Z,118nm,20.2s,baz=322,slow=29
IZAR Zarasai 71.57 351 *e*P **P 03 47 01.6 +0.6**
IZAR IAmb IAmb 03 47 02.3
comp=Z,13nm,0.5s
PPT2 Papeete2 71.57 161 *e*S **S 03 56 16.2 -2.4**
comp=Z,64nm,24.2s
PPT2 Papeete2 71.57 161 *e*LR LR 04 08 30.7
comp=Z,399nm,31.0s
IIGN Ignalina 71.97 351 *e*P **P 03 47 03.4 0.0**
IIGN IAmb IAmb 03 47 04.7
comp=Z,14nm,0.6s
SLVN Son La 71.97 282 IAmb IAmb 03 47 06.1
comp=Z,6.8nm,0.9s
PABE Paberze 72.01 353 *e*P **P 03 47 03.8 +0.2**
PABE IAmb IAmb 03 47 04.9
comp=Z,94nm,0.5s

KK31 Karatay Array 72.15 319 *i*P **P 03 47 03.9 -0.9**
KK31 pmax pmax
comp=Z,11nm,0.8s
KK31 Karatay Array 72.15 319 P **P 03 47 04.5 -0.3**
KKAR Karatay Array 72.15 319 P **P 03 47 04.1 -0.7**
KKAR Karatay Array 72.15 319 P **P 03 47 04.1 -0.7**
ARSB Arslanbob 72.60 316 P **P 03 47 07.7 0.0**
ARSB IAmb IAmb 03 47 09.6
comp=Z,10nm,0.8s
KSH Kashi 72.78 313 P **P 03 47 12.2 +3.5**
KSH sP pwP 03 47 21.5 +0.8
KSH PP **PP 03 49 57.1 +6.9**
KSH S **SKiKP 03 56 36.8 -3.1**
KSH SS **SS 04 01 19.6 +8.1**
KSH pmax pmax
comp=Z,76nm,0.9s
KSH pmax pmax
comp=Z,270nm,5.4s
KSH LR LR
comp=Z,390nm,13.0s
KSH LR LR
comp=Z,320nm,14.0s
KSH LR LR
comp=Z,740nm,15.0s
LPSR Galich'ya Gora 72.91 343 *e*P **P 03 47 08.0 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 72.94 296 P **P 03 47 10.8 +0.6**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 72.94 296 P **P 03 47 10.8 +0.6**
LSA **P 03 47 11.5 +1.3**
SUW Suwalki 73.55 353 *e*P **P 03 47 12.7 -0.1**
SUW Suwalki 73.55 353 *e*P **P 03 47 12.7 -0.1**
SUW *e*P **P 03 47 12.7 -0.1**
VRH Novokhopyorsk 73.71 341 *e*P **P 03 47 13.0 -0.8**
VRH pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 74.19 342 *e*P **P 03 47 15.8 -0.8**
VSR pmax pmax
comp=Z,20nm,0.6s
BTK Batken 74.57 317 P **P 03 47 19.0 -0.1**
BTK pmax pmax
comp=Z,24nm,0.9s
BTK Batken 74.57 317 P **P 03 47 19.1 -0.1**
BEL Belsk 75.88 354 *e*P **P 03 47 28.0 +1.6**
BEL Belsk 75.88 354 *e*P **P 03 47 28.0 +1.6**
BEL *e*P **P 03 47 28.0 +1.6**
AKASG Malin Array Be 76.22 349 P **P 03 47 27.5 -0.9**
comp=Z,11nm,0.6s,baz=15,slow=6.0,SNR=26
AKASG Malin Array Be 76.22 349 P **P 03 47 27.7 -0.6**
AKBB Malin Array Si 76.22 349*c i*P **P 03 47 27.7 -0.6**
TAPN Taplejung 76.66 297 *e*P **P 03 47 31.5 -0.1**
comp=Z,29nm,0.7s
CLL Collm 76.70 359 *i*P **P 03 47 31.4 +0.4**
CLL *e* 03 47 39.0
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 76.70 359 *i*P **P 03 47 31.4 +0.4**
comp=Z,13nm,1.3s
CLL *e* 03 47 39.0
CHTO Chiang Mai 76.87 284 P **P 03 47 32.4 -0.1**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 76.87 284 P **P 03 47 32.4 -0.1**
CHTO IAmb IAmb 03 47 33.9
comp=Z,8.8nm,0.8s
ESPN Las Esperanzas 76.91 87 P **P 03 47 32.5 -0.2**
KSP Ksiaz 77.09 357 *e*P **P 03 47 34.3 +1.0**
KSP Ksiaz 77.09 357 *e*P **P 03 47 34.3 +1.0**
KSP *e*P **P 03 47 34.3 +1.0**
BRG Berggiesshubel 77.12 358 *i*P **P 03 47 34.3 +0.9**
comp=Z,20nm,1.3s
BRG *e* 03 47 46.0
comp=Z,15nm,1.3s
CM31 Chiang Mai Arr 77.15 283 P **P 03 47 34.3 +0.3**
CMAR Chiang Mai Arr 77.15 283 P **P 03 47 34.5 +0.4**
CMAR Chiang Mai Arr 77.15 283 P **P 03 47 34.1 0.0**
comp=Z,9.9nm,0.6s,baz=28,slow=6.3,SNR=36
CMAR LR LR 04 25 12.2
comp=Z,188nm,19.1s,baz=8.5,slow=39
CMAR Chiang Mai Arr 77.15 283 P **P 03 47 34.5 +0.4**
TBI Tubuai 77.20 162 *e*LR LR 04 10 55.4
comp=Z,188nm,35.5s
GUN Gumba 77.20 299 *e*P **P 03 47 34.4 -0.3**
comp=Z,53nm,0.6s
ODAN Odare 77.22 297 *e*P **P 03 47 33.7 -0.9**
JIRN Jiri 77.23 299 *e*P **P 03 47 34.6 -0.3**
comp=Z,59nm,0.5s
DZM Mont Dzumac 77.28 204 *e*LR LR 04 11 24.2
comp=Z,112nm,22.2s
MEM Membach 77.30 4 P **P 03 47 35.0 +0.6**
BSTI Sart Tilman 77.31 4 P **P 03 47 35.5 +1.1**
CHVC Chvalec 77.35 357 *e*P **P 03 47 34.6 -0.2**
PBKT Sadao Pong 77.39 281 IAmb IAmb 03 47 37.6
comp=Z,13nm,1.1s
UPC Upice 77.44 357 *e*P **P 03 47 36.6 +1.4**
UPC Upice 77.44 357 *e*P **P 03 47 36.6 +1.4**
PVCC Panska Ves 77.45 358 *e*P **P 03 47 36.2 +0.9**
PVCC Panska Ves 77.45 358 *e*P **P 03 47 36.2 +0.9**
OJC Ojcow 77.55 355 *e*P **P 03 47 36.9 +1.1**
OJC Ojcow 77.55 355 *e*P **P 03 47 36.9 +1.1**
OJC *e*P **P 03 47 36.9 +1.1**
OJC Ojcow 77.55 355 IAmb IAmb 03 47 37.7
comp=Z,10nm,0.8s
RAMN Ramite 77.57 298 *e*P **P 03 47 36.2 -0.5**
comp=Z,33nm,0.6s
DPC Dobruska-Polom 77.58 357 *e*P **P 03 47 37.1 +1.0**
DPC *e* 03 47 40.1
DPC Dobruska-Polom 77.58 357 *e*P **P 03 47 37.1 +1.0**
DPC *ex* x 03 47 40.1
KKN Kakani 77.62 299 *e*P **P 03 47 37.0 +1.1**
comp=Z,30nm,0.7s
LVV L'vov 77.64 352 *e*P **P 03 47 36.8 +0.4**
LVV MLR MLR
comp=Z,100nm,19.0s
LVV MLR MLR
comp=N,100nm,18.0s
LVV MLR MLR
comp=E,100nm,18.0s
PKI Pulchoki 77.72 299 *e*P **P 03 47 37.3 -0.3**
comp=E,82nm,1.3s
PKIN Phulchoki 77.72 299 *e*P **P 03 47 37.2 -0.3**
comp=E,24nm,0.8s
NKC Novy Kostel 77.78 359 *e*P **P 03 47 37.9 +0.8**
NKC *e* 03 47 44.1
NKC Novy Kostel 77.78 359 *e*P **P 03 47 37.9 +0.8**
NKC *e*pP **pP 03 47 44.1 -1.2**
GKN Gorkha 77.79 300 *e*P **P 03 47 37.6 -0.1**
comp=E,108nm,1.3s
KRLC Kraliky 77.84 357 *e*P **P 03 47 38.2 +0.7**
KRLC Kraliky 77.84 357 *e*P **P 03 47 38.2 +0.7**
DMN Daman 77.85 299 *e*P **P 03 47 38.4 +0.2**
PRA Prague 77.92 358 *e*P **P 03 47 39.4 +1.6**
PRA Prague 77.92 358 *e*P **P 03 47 39.4 +1.6**
KWP Kalwaria Pacla 77.94 353 *e*P **P 03 47 38.6 +0.6**
KWP Kalwaria Pacla 77.94 353 *e*P **P 03 47 38.6 +0.6**
KWP *e*P **P 03 47 38.6 +0.6**
DANN Dangsing 77.98 301 *e*P **P 03 47 38.6 -0.3**
comp=E,76nm,0.6s
PRU Pruhonice 77.99 358 *e*P **P 03 47 38.9 +0.6**
PRU Pruhonice 77.99 358 *e*P **P 03 47 38.9 +0.6**
OKC Ostrava-Krasne 78.02 356 *e*P **P 03 47 39.2 +0.7**
OKC *e* 03 47 54.5
OKC Ostrava-Krasne 78.02 356 *e*P **P 03 47 39.2 +0.7**
OKC *ex* x 03 47 54.5
GOPC GO Pecny, Ondr 78.06 358 *e*P **P 03 47 39.1 +0.4**
GOPC *e* 03 47 54.0
GOPC GO Pecny, Ondr 78.06 358 *e*P **P 03 47 39.1 +0.4**
GOPC *ex* x 03 47 54.0
MORC Moravsky Berou 78.11 356 P **P 03 47 39.3 +0.3**
MORC pmax pmax
comp=Z,16nm,1.1s
MORC Moravsky Berou 78.11 356⇑P **P 03 47 40.0 +1.0**
MORC mb 03 47 41.1
MORC Moravsky Berou 78.11 356 *e*P **P 03 47 39.8 +0.8**
MORC Moravsky Berou 78.11 356 P **P 03 47 39.3 +0.3**
MORC IAmb IAmb 03 47 41.0
comp=Z,16nm,1.1s
PBCC Pribram 78.31 358 *e*P **P 03 47 40.8 +0.7**
PBCC *ex* x 03 47 55.6
GRA1 Grafenberg Arr 78.32 0 P **P 03 47 41.5 +1.4**
GRF Grafenberg Arr 78.32 0 P **P 03 47 41.5 +1.4**

GRF pmax pmax
comp=Z,18nm,0.9s
NIE Niedzica 78.32 354 *e*P **P 03 47 41.7 +1.5**
NIE Niedzica 78.32 354 *e*P **P 03 47 41.7 +1.5**
NIE *e*P **P 03 47 41.7 +1.5**
KOLN Koldanda 78.53 301 *e*P **P 03 47 41.9 0.0**
comp=Z,62nm,1.1s
VRAC Vranov 78.61 357⇑P **P 03 47 43.1 +1.3**
VRAC mb 03 47 44.1
VRAC Vranov 78.61 357 *e*P **P 03 47 43.1 +1.3**
LANS Liptovska Anna 78.64 355 *e*P **P 03 47 42.2 +0.3**
LANS pmax pmax
comp=Z,22nm,1.4s
LANS Liptovska Anna 78.64 355 *e*P **P 03 47 42.2 +0.3**
TREC Trest 78.67 357 *e*P **P 03 47 43.2 +1.1**
TREC Trest 78.67 357 *e*P **P 03 47 43.2 +1.1**
KOLS Kolonicke sedl 78.67 353 *e*P **P 03 47 43.3 +1.2**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 78.67 353 *e*P **P 03 47 43.3 +1.2**
NIL Nilore 78.85 312 P **P 03 47 43.8 +0.4**
NIL pmax pmax
comp=Z,29nm,0.8s
NIL Nilore 78.85 312 P **P 03 47 43.8 +0.4**
SORM Soroca 78.86 349⇑P **P 03 47 43.0 -0.1**
KRUC Moravsky 78.87 357 *e*P **P 03 47 44.1 +0.9**
KHC Kasperske Hory 78.87 359 *e*P **P 03 47 44.3 +1.1**
KHC *e* 03 47 48.4
KHC *e* 03 47 59.5
KHC Kasperske Hory 78.87 359 *e*P **P 03 47 44.3 +1.1**
KHC *ex* x 03 47 48.4
KHC *ex* x 03 47 59.5
KHC Kasperske Hory 78.87 359 IAmb IAmb 03 47 45.7
comp=Z,6.7nm,1.1s
UZH Uzhgorod 78.97 353⇓*i*P **P 03 47 44.0 +0.3**
UZH *e* 03 47 50.7
JAVC Velka Javorina 79.02 356 *e*P **P 03 47 46.2 +2.1**
UTHA Uthaitani 79.09 281 P **P 03 47 46.2 +1.4**
GEC2 GERESS Array S 79.15 359 IAmb IAmb 03 47 46.7
comp=Z,11nm,1.1s
GERES GERESS Array B 79.15 359 P **P 03 47 45.4 +0.6**
comp=Z,3.9nm,0.9s,baz=15,slow=5.5,SNR=22
GERES GERESS Array B 79.15 359 P **P 03 47 45.8 +0.9**
STU Stuttgart 79.22 2 P **P 03 47 46.1 +1.0**
STU pmax pmax
comp=Z,8.0nm,0.7s
STU Stuttgart 79.22 2 P **P 03 47 46.1 +1.0**
STU IAmb IAmb 03 47 47.0
comp=Z,8.2nm,0.7s
GOF Gofitskoye 79.24 338⇓*i*P **P 03 47 46.5 +1.3**
GOF pmax pmax
comp=Z,121nm,1.3s
KECS Kecovo 79.24 354 *e*P **P 03 47 46.5 +1.3**
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 79.24 354 *e*P **P 03 47 46.5 +1.3**
VYHS Vyhne 79.33 355 *e*P **P 03 47 46.4 +0.7**
VYHS pmax pmax
comp=Z,26nm,1.2s
VYHS Vyhne 79.33 355 *e*P **P 03 47 46.4 +0.7**
SMOL Smolenice 79.38 356 *e*P **P 03 47 47.2 +1.3**
SMOL pmax pmax
comp=Z,13nm,0.9s
SMOL Smolenice 79.38 356 *e*P **P 03 47 47.2 +1.3**
TRPA Tarpa 79.44 353⇑P **P 03 47 47.3 +1.0**
TRPA mb 03 47 48.2
MODS Modra-Piesok 79.52 356 *e*P **P 03 47 47.7 +0.9**
MODS pmax pmax
comp=Z,36nm,1.3s
MODS Modra-Piesok 79.52 356 *e*P **P 03 47 47.7 +0.9**
BFO Black Forest 79.65 2 *i*P **P 03 47 49.5 +2.0**
BUR08 Bucovina Ar. S 79.69 351 P **P 03 47 48.0 +0.2**
BURAR Bucovina Array 79.72 351⇑P **P 03 47 48.2 +0.3**
BURAR mb 03 47 49.9
BURAR Bucovina Array 79.72 351 P **P 03 47 47.7 -0.3**
ECH Echery 79.73 3 P **P 03 47 48.7 +0.8**
ECH pmax pmax
comp=Z,15nm,0.9s
ECH Echery 79.73 3 P **P 03 47 48.7 +0.8**
ECH IAmb IAmb 03 47 49.9
comp=Z,15nm,0.9s
PSZ Piszkesteto 79.84 354 P **P 03 47 49.5 +0.9**
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 79.84 354⇓P **P 03 47 50.0 +1.4**
PSZ mb 03 47 51.8
PSZ Piszkesteto 79.84 354 P **P 03 47 49.5 +0.9**
PSZ IAmb IAmb 03 48 05.0
comp=Z,11nm,1.1s
KBL Kabul 79.98 315 P **P 03 47 49.4 -0.3**
KBL pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 79.98 315 P **P 03 47 49.4 -0.3**
KBL IAmb IAmb 03 47 49.9
comp=Z,17nm,0.9s
CONA Conrad Observa 80.02 357 *e*pP **P 03 47 50.9 +1.4**
comp=Z,23nm,1.1s,SNR=6.8
SRO Srobarova 80.03 355 *e*P **P 03 47 50.5 +1.0**
SRO Srobarova 80.03 355 *e*P **P 03 47 50.5 +1.0**
SRDT SRDT 80.23 281 P **P 03 47 53.8 +2.8**
BIZ Bicaz 80.29 350⇑P **P 03 47 51.4 +0.5**
ARCR ARCALIA 80.32 351⇑P **P 03 47 52.2 +1.1**
KIV Kislovodsk 80.36 338 *e*P **P 03 47 52.5 +1.0**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV Kislovodsk 80.36 338⇑P **P 03 47 52.5 +1.0**
KIV mb 03 47 53.5
KIV Kislovodsk 80.36 338 P **P 03 47 52.1 +0.6**
KIV IAmb IAmb 03 47 55.0
comp=Z,12nm,0.8s
RETA Reutte 80.53 1 *e*P **P 03 47 52.6 +0.4**
comp=Z,9.8nm,0.8s
KBZ Khabaz 80.53 337 P **P 03 47 53.1 +0.9**
comp=Z,10nm,0.9s,baz=48,slow=0.8,SNR=26
NCK Nalchik 80.58 337⇓*e*P **P 03 47 54.3 +1.7**
NCK pmax pmax
comp=Z,42nm,0.8s
MOTA Moosalm 80.67 0 *e*pP **P 03 47 54.3 +1.1**
comp=Z,11nm,0.8s,SNR=5.7
ANN Anapa 80.68 342 *e*P **P 03 47 52.5 -0.5**
ANN *e**PP **PcP 03 48 01.3 +1.6**
ANN *e*PPP PPP 03 52 45.3
ANN *e*S **S 03 57 58.9 +0.7**
ANN pmax pmax
comp=Z,52nm,1.9s
ANN MLR MLR
comp=Z,269nm,22.0s
WATA Walderalm 80.68 360 *i*pP **P 03 47 54.2 +1.0**
comp=Z,24nm,1.3s,SNR=5.6
ARSA Arzberg 80.71 357 *e*pP **P 03 47 54.7 +1.5**
comp=Z,18nm,1.4s,SNR=5.4
DAVA Damuels 80.72 1 *e*P **P 03 47 55.7 +2.3**
comp=Z,13nm,1.6s
WTTA Wattenberg 80.75 360 *e*pP **P 03 47 55.0 +1.3**
comp=Z,11nm,0.7s,SNR=7.4
DRGR 80.76 352⇑P **P 03 47 53.9 +0.3**
CJR Cluj-Napoca 80.76 352⇑P **P 03 47 54.1 +0.6**
SQTA Sankt Quirin 80.80 0 *e*pP **P 03 47 54.9 +1.1**
comp=Z,15nm,0.8s,SNR=6.4
KBA Koelnbreinsper 80.93 359 *e*pP **P 03 47 55.8 +1.2**
comp=Z,64nm,1.3s,SNR=15
FETA Feichten 80.99 1 *e*pP **P 03 47 56.3 +1.4**
comp=Z,23nm,1.2s,SNR=5.7
SIM Simferopol' 81.13 344 *e*P **P 03 47 57.3 +1.8**
SIM pmax pmax
comp=Z,13nm,0.9s
ZEI Tsey 81.18 336 *e*P **P 03 47 55.8 -0.2**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
DAVOX Davos/Dischmat 81.23 1 P **P 03 47 57.5 +1.3**
comp=Z,7.5nm,0.6s
ABTA Abfaltersbach 81.27 359 *i*pP **P 03 47 57.4 +1.1**
comp=Z,10nm,0.8s
VRI Vrincioaia 81.28 349⇑P **P 03 47 56.2 0.0**
SOKA Soboth 81.29 358 *e*pP **P 03 47 57.7 +1.3**
comp=Z,36nm,1.3s,SNR=8.4
DOPR Dopca 81.33 350⇑P **P 03 47 57.7 +1.2**
GEYT Alibeck 81.35 324 P **P 03 47 57.1 +0.3**
comp=Z,15nm,0.8s,baz=322,slow=4.1,SNR=30
GEYT LR LR 04 28 07.1
comp=Z,267nm,18.2s,baz=40,slow=39
GEYT Alibeck 81.35 324 P **P 03 47 57.2 +0.4**
MYKA Terra Mystica 81.37 359 *e*pP **P 03 47 58.6 +1.8**
comp=Z,6.7nm,0.9s

AKT	**Akhty**	**81.41**	**333**	*e*P	**P**	**03 47 57.4**	**+0.3**
AKT				*e*		03 48 03.4	
AKT				pmax	pmax		
	comp=Z,43nm,1.0s						
OBKA	**Obir**	**81.47**	**358**	*e*pP	**P**	**03 47 58.6**	**+1.2**
	comp=Z,16nm,0.8s						
TUE	**Stuetta**	**81.53**	**2**	P	**P**	**03 47 58.9**	**+1.1**
TUE				IAmb	IAmb	03 48 15.2	
	comp=Z,9.4nm,0.9s						
SENIN	**Lac Senin/Sane**	**81.59**	**3**	P	**P**	**03 47 59.1**	**+1.0**
SENIN				IAmb	IAmb	03 48 03.9	
	comp=Z,5.5nm,1.0s						
MLR	**Muntele Rosu**	**81.74**	**350**	P	**P**	**03 48 00.1**	**+1.3**
	comp=Z,3.3nm,0.7s,baz=295,slow=3.9,SNR=6.7						
MLR	**Muntele Rosu**	**81.74**	**350**	⇑P	**P**	**03 47 59.1**	**+0.2**
MLR	**Muntele Rosu**	**81.74**	**350**	IAmb	IAmb	03 48 01.3	
	comp=Z,9.3nm,1.1s						
CFR	**Carcaliu**	**81.79**	**348**	⇑P	**P**	**03 47 59.2**	**+0.3**
VOIR		**81.89**	**350**	⇑P	**P**	**03 48 00.8**	**+1.2**
CTI	**Castel Tesino**	**81.97**	**360**	IAmb	IAmb	03 48 15.5	
	comp=Z,14nm,1.1s						
ARR	**Arges**	**82.00**	**351**	⇑P	**P**	**03 48 01.5**	**+1.4**
BZS	**Buzias**	**82.02**	**353**	⇑P	**P**	**03 48 00.5**	**+0.4**
GZR	**Gura Zlata**	**82.14**	**352**	⇑P	**P**	**03 48 01.2**	**+0.4**
CTAO	**Charters Tower**	**82.18**	**222**	P	**P**	**03 48 01.0**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTAO	**Charters Tower**	**82.18**	**222**	P	**P**	**03 48 01.0**	**-0.2**
CTAO				IAmb	IAmb	03 48 01.5	
	comp=Z,4.5nm,0.9s						
AKH	**Akhalkalaki**	**82.58**	**336**	IAmb	IAmb	03 48 05.6	
	comp=Z,7.8nm,0.9s						
HERR	**Herculane**	**82.68**	**352**	⇑P	**P**	**03 48 03.0**	**-0.6**
BNI	**Bardonecchia**	**82.88**	**3**	P	**P**	**03 48 06.8**	**+2.0**
BNI				pmax	pmax		
	comp=Z,15nm,0.8s						
BNI	**Bardonecchia**	**82.88**	**3**	P	**P**	**03 48 06.8**	**+2.0**
HRA	**Herat**	**82.93**	**320**	P	**P**	**03 48 05.0**	**-0.3**
HRA				IAmb	IAmb	03 48 07.1	
	comp=Z,5.9nm,0.9s						
DAGI	**Agillar**	**83.27**	**337**	*i* P	**P**	**03 48 08.8**	**+1.9**
DAGI				IAML_P			
	comp=Z,122nm,0.7s						
DBAD	**Bademkaya**	**83.38**	**337**	*i* P	**P**	**03 48 08.4**	**+0.9**
DBAD				IAML_P			
	comp=Z,198nm,0.7s						
GNI	**Garni**	**83.45**	**335⇓**	*e*P	**P**	**03 48 09.7**	**+1.8**
GNI				pmax	pmax		
	comp=Z,70nm,1.2s						
GNI	**Garni**	**83.45**	**335**	P	**P**	**03 48 07.7**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=27,slow=9.0,SNR=2.3						
PLVB	**Pleven**	**83.96**	**350**	⇑P	**P**	**03 48 10.9**	**+0.7**
EATA	**Eleskirt**	**84.29**	**337**	*i* P	**P**	**03 48 14.3**	**+1.9**
EATA				IAML_P			
	comp=Z,14nm,0.4s						
VTS	**Vitosha**	**84.86**	**351**	⇑P	**P**	**03 48 15.1**	**+0.1**
VTS				mb		03 48 17.1	
VTS	**Vitosha**	**84.86**	**351**	IAmb	IAmb	03 48 30.6	
	comp=Z,3.1nm,0.9s						
SKLT	**Songkhla**	**84.93**	**275**	P	**P**	**03 48 18.2**	**+2.7**
PDG	**Podgorica**	**85.35**	**354**	⇑P	**P**	**03 48 17.2**	**0.0**
SKO	**Skopje**	**85.65**	**353**	*i* P	**P**	**03 48 20.0**	**+1.2**
STIP	**Stip**	**85.87**	**352**	*i* P	**P**	**03 48 19.3**	**-0.5**
VAY	**Valandovo**	**86.20**	**352**	*i* P	**P**	**03 48 22.4**	**+0.9**
ALN	**Alexandroupoli**	**86.27**	**349**	IAmb	IAmb	03 48 24.1	
	comp=Z,5.7nm,0.8s						
BR131	**Keskin Array S**	**86.29**	**343**	IAmb	IAmb	03 48 24.3	
	comp=Z,5.8nm,0.8s						
BRTR	**Keskin Array B**	**86.29**	**343**	*i* P	**P**	**03 48 22.8**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**86.29**	**343**	P	**P**	**03 48 22.9**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=7.2,slow=2.8,SNR=28						
ESDC	**Sonseca Array**	**87.36**	**12**	P	**P**	**03 48 27.6**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=346,slow=4.5,SNR=30						
ESDC				LR	LR	04 30 14.7	
	comp=Z,85nm,18.8s,baz=320,slow=38						
ESDC	**Sonseca Array**	**87.36**	**12**	P	**P**	**03 48 27.3**	**+0.1**
WRAB	**Tennant Creek**	**87.41**	**232⇓**	*e*P	**P**	**03 48 25.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**87.42**	**232**	*i* P	**P**	**03 48 25.1**	**-2.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**87.42**	**232**	P	**P**	**03 48 25.5**	**-2.0**
	comp=Z,1.8nm,0.7s,baz=36,slow=5.9,SNR=14						
AGG	**Agios Georgios**	**88.50**	**352**	IAmb	IAmb	03 48 32.9	
	comp=Z,7.1nm,0.7s						
PSI	**Prapat**	**89.39**	**274**	P	**P**	**03 48 37.1**	**-0.2**
PSI				pmax	pmax		
	comp=Z,18nm,0.9s						
RPSI	**Rantau Prapat**	**89.47**	**274**	P	**P**	**03 48 37.1**	**-0.4**
AS31	**Alice Springs**	**90.81**	**231**	P	**P**	**03 48 42.6**	**-0.8**
ASAR	**Alice Springs**	**90.81**	**231**	P	**P**	**03 48 42.4**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=30,slow=4.7,SNR=41						
KEST	**Kesra**	**92.25**	**2**	P	**P**	**03 48 50.0**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=20,slow=4.9,SNR=4.4						
KEST	**Kesra**	**92.25**	**2**	P	**P**	**03 48 50.7**	**+0.5**
KEST				IAmb	IAmb	03 48 59.7	
	comp=Z,5.5nm,0.9s						
MMAI	**Mount Meron Ar**	**92.45**	**340**	P	**P**	**03 48 51.2**	**0.0**
	comp=Z,2.2nm,0.6s,baz=2.0,slow=9.7,SNR=5.9						
ASF	**Jabal al Asfar**	**92.94**	**339**	P	**P**	**03 48 53.7**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=353,slow=5.4,SNR=6.1						
WSAR	**Wadi Sarin**	**94.24**	**317**	P	**P**	**03 48 59.7**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=26,slow=5.8,SNR=3.2						
TUWZ	**Tuamarina**	**94.65**	**193**	P	**P**	**03 49 01.0**	**+0.4**
PALK	**Pallekele**	**96.71**	**291**	P	**P**	**03 49 10.3**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=90,slow=1.0,SNR=2.9						
PALK	**Pallekele**	**96.71**	**291**	IAmb	IAmb	03 49 11.2	
	comp=Z,3.7nm,0.7s						
RAYN	**Ar Rayn**	**98.81**	**329**	P	**P**	**03 49 20.5**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RAYN	**Ar Rayn**	**98.81**	**329**	P	**P**	**03 49 20.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**114.21**	**10**	PKP	**PKiKP**	**03 54 18.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=316,slow=0.6,SNR=2.8						
MAW	**Mawson**	**151.20**	**218**	PKPbc	**PKPbc**	**03 55 30.8**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=94,slow=22,SNR=3.7						
MAW				PKPab	**sPKPdf**	**03 55 39.1**	**+1.6**
	comp=Z,3.3nm,0.6s,baz=156,slow=4.5,SNR=8.0						
BOSA	**Boshof**	**154.17**	**331**	PKPbc	**PKPbc**	**03 55 39.5**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=36,slow=2.3,SNR=4.3						
BOSA				PKPab	**sPKPbc**	**03 55 53.6**	**+2.2**
	comp=Z,2.7nm,0.6s,baz=9.4,slow=4.4,SNR=6.0						

JMA 10 03:58:32.7±0.2, 35°.62N×141°.05E, h13km±1km, M3.7, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.18**	**298**	⇑P	Pg	03 58 36.8	0.0
CHOJ				S	Sg	03 58 39.9	+0.3
JSMT	**Sammumatsuo**	**0.49**	**273**	⇑P	Pg	03 58 42.6	+0.2
JSMT				*e*S	Sb	03 58 50.1	-0.2
JIHU	**Itakohorinouch**	**0.55**	**309**	⇑P	Pb	03 58 43.9	-0.3
JIHU				*e*S	Sb	03 58 52.0	+0.1
JCN	**Nagara**	**0.72**	**254**	⇑P	Pb	03 58 47.4	+0.3
JCN				*e*S	Sb	03 58 57.3	+0.4
KTR	**Katsuura**	**0.76**	**232**	P	Pg	03 58 46.9	-0.6
KTR				*e*S	Sb	03 58 58.4	+0.3
JKUC	**kamogawauchiur**	**0.83**	**237**	⇑P	Pg	03 58 48.4	-0.4
JKUC				*e*S	Sg	03 58 59.1	-0.6
BSO4	**Boso 4**	**0.86**	**223**	P	Pb	03 58 49.7	+0.3
JYT	**Yasato**	**0.92**	**311**	⇑P	Pg	03 58 49.3	-1.2
JYT				*e*S	Sg	03 59 01.0	-1.6
BSO3	**Boso 3**	**0.93**	**209**	⇓P	Pb	03 58 50.5	0.0
BSO1	**Boso 1**	**0.97**	**184**	P	Pb	03 58 50.5	-0.5
JHO	**Hitachi**	**1.06**	**339**	⇓P	Pb	03 58 51.8	-1.2
JHO				*e*S	Sb	03 59 05.4	-1.4
MAT	**Matsushiro**	**2.48**	**293**	P	Pn	03 59 12.9	+0.1
MAT				S	Sn	03 59 43.3	+0.3

JMA 10 04:00:00.7±0.2, 35°.63N×141°.06E, h12km±2km, M3.7, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.18**	**294**	⇑P	Pg	04 00 04.8	+0.1
CHOJ				S	Sg	04 00 07.8	+0.3
JSMT	**Sammumatsuo**	**0.50**	**272**	P	Pg	04 00 10.6	+0.1
JSMT				*e*S	Sb	04 00 18.6	0.0
JIHU	**Itakohorinouch**	**0.55**	**308**	P	Pb	04 00 12.0	-0.3
JIHU				*e*S	Sb	04 00 20.4	+0.3
JCN	**Nagara**	**0.73**	**253**	P	Pb	04 00 15.5	+0.1
JCN				*e*S	Sb	04 00 26.4	+1.1
KTR	**Katsuura**	**0.78**	**232**	*e*S	Sb	04 00 26.4	-0.2
BSO4	**Boso 4**	**0.87**	**223**	P	Pb	04 00 17.9	+0.2
JYT	**Yasato**	**0.92**	**311**	P	Pg	04 00 17.5	-1.0
JYT				*e*S	Sg	04 00 29.1	-1.4
BSO3	**Boso 3**	**0.94**	**209**	P	Pb	04 00 18.5	-0.3
JHO	**Hitachi**	**1.06**	**338**	P	Pb	04 00 19.7	-1.2
JHO				*e*S	Sb	04 00 33.7	-1.0
MAT	**Matsushiro**	**2.48**	**292**	P	Pn	04 00 41.1	+0.1
MAT				S	Sn	04 01 07.2	-4.0

*DJA **10** 04:01:56.3±2.0, 6°.N±16°.×9°.5E±1°.4, h124km±26km, M4.4/9, mb4.4/6, mB4.5/1, MLv4.4/9, Mw(mB)3.6/1*
*ISCJB **10** 04:01:58.1±0.4, 6°.45N±0°.07×94°.80E±0°.06, h126km±4km, mb4.0/20, Error ellipse: s-maj=13.1km s-min=6.3km az=39.0*
*NEIC **10** 04:01:58.7±1.1, 6°.5N±0°.1×94°.8E±0°.1, h115km±2km, mb4.6/10*
*IDC **10** 04:01:59.0±2.9, 6°.58N×94°.95E, h115km±26km, mb3.8/20, mb1 3.9/21, mb1mx3.7/48, mbtmp4.1/21, MS2.8/1, Ms1 2.8/1, ms1mx2.5/39, Error ellipse: s-maj=20.4km s-min=11.8km az=54.0*

ISC 10 04:01:59.2±0.8, 6°.38N±0°.06×94°.76E±0°.06, h121km±7km, n53, σ1§04/52, mb4.0/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.04**	**307**	*e*P	**Pn**	**04 02 21.9**	**+0.2**
CMBY				*e*S	**Sn**	**04 02 38.2**	**-0.5**
CMBY				IAML		04 02 40.6	
	comp=E,5μm,0.5s						
CMBY				IAML		04 02 41.2	
	comp=N,7μm,0.3s						
LHMI	**Lhok Sumawe**	**2.46**	**118**	P	**Pn**	**04 02 37.9**	**-0.6**
LHMI				S	**Sn**	**04 03 10.4**	**+1.7**
LHMI	**Lhok Sumawe**	**2.46**	**118**		**Pn**	**04 02 38.4**	**-0.1**
MLSI	**Meulaboh, Aceh**	**2.66**	**142**	P	**Pn**	**04 02 41.1**	**-0.1**
PKDT	**Phuket**	**3.86**	**67**	P	**Pn**	**04 02 56.1**	**-0.7**
TPTI		**3.93**	**142**	P	**Pn**	**04 02 57.9**	**+0.1**
SNSI	**Sinabang, Aceh**	**4.24**	**158**	P	**Pn**	**04 02 59.3**	**-2.7**
TSI	**Tuntungan**	**4.75**	**127**	P	**Pn**	**04 03 09.9**	**+1.1**
SURT	**Suratani**	**4.75**	**57**	P	**Pn**	**04 03 08.6**	**-0.2**
	comp=N,40nm,0.7s						
PSI	**Prapat**	**5.47**	**130**	P	**Pn**	**04 03 19.5**	**+0.9**
	comp=N,9.7nm,0.3s,baz=309,slow=10,SNR=33						
PSI				LR	LR	04 05 39.9	
	comp=N,98nm,21.0s,baz=342,slow=40						
RPSI	**Rantau Prapat**	**5.54**	**131**		**Pn**	**04 03 18.4**	**-1.0**
RPSI	**Rantau Prapat**	**5.54**	**131**		**Pn**	**04 03 19.5**	**+0.1**
GSI	**Gunungsitoli**	**5.77**	**151**	P	**Pn**	**04 03 20.0**	**-2.6**
GSI	**Gunungsitoli**	**5.77**	**151**		**Pn**	**04 03 21.2**	**-1.4**
IPM	**Ipoh**	**6.52**	**107**		**Pn**	**04 03 31.4**	**-1.3**
MNCI	**Minicoy**	**21.60**	**276**	P	**P**	**04 06 38.6**	**-1.0**
H08S3	**Diego Garcia H**	**26.21**	**238**	T	T	04 34 37.9	
	baz=54,slow=75,SNR=32						
H08S2	**Diego Garcia H**	**26.21**	**238**	T	T	04 34 38.1	
	baz=54,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**26.23**	**238**	T	T	04 34 42.5	
	baz=54,slow=75,SNR=24						
MKAR	**Makanchi Array**	**41.67**	**347**	P	**P**	**04 09 35.2**	**-0.6**
	comp=N,0.6nm,0.6s,baz=166,slow=7.9,SNR=4.3						
KKAR	**Karatay Array**	**42.36**	**333**	P	**P**	**04 09 41.1**	**-0.4**
SONM	**Songino Array**	**42.49**	**12**	P	**P**	**04 09 41.3**	**-1.2**
	comp=N,1.7nm,0.6s,baz=199,slow=8.5,SNR=9.1						
SONM				PcP	**PcP**	**04 11 33.2**	**0.0**
	comp=N,1.0nm,0.4s,baz=197,slow=4.5,SNR=6.5						
SONM	**Songino Array**	**42.49**	**12**	IAmb	IAmb	04 09 43.0	
	comp=Z,1.8nm,0.8s						
GEYT	**Alibeck**	**45.72**	**319**	P	**P**	**04 10 08.9**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=142,slow=9.0,SNR=8.6						
GEYT	**Alibeck**	**45.72**	**319**	IAmb	IAmb	04 10 09.4	
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**46.14**	**346**	P	**P**	**04 10 11.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=172,slow=7.3,SNR=6.1						
KURBB				PcP	**PcP**	**04 11 45.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=159,slow=3.1,SNR=6.1						
KURK	**Kurchatov**	**46.20**	**346**	P	**P**	**04 10 11.4**	**-0.4**
KURK					**PcP**	**04 11 45.5**	**-0.1**
WRA	**Warramunga Arr**	**46.91**	**125**	P	**P**	**04 10 17.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=306,slow=8.4,SNR=24						
WRA				PcP	**PcP**	**04 11 48.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=313,slow=2.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**48.11**	**352**	P	**P**	**04 10 25.7**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=168,slow=7.6,SNR=3.5						
ZALV				PcP	**PcP**	**04 11 51.2**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=140,slow=4.1,SNR=2.6						
ASAR	**Alice Springs**	**48.50**	**129**	P	**P**	**04 10 30.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=301,slow=7,SNR=11						
ASAR				PcP	**PcP**	**04 11 54.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=314,slow=3.1,SNR=5.1						
BVAR	**Borovoye Array**	**50.59**	**341**	P	**P**	**04 10 43.9**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=98,slow=7.6,SNR=4.3						
BVAR				PcP	**PcP**	**04 12 01.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=151,slow=3.3,SNR=3.1						
ABKAR	**Akbulak array**	**51.83**	**332**	P	**P**	**04 10 54.8**	**+0.1**
AKTO	**Aktyubinsk**	**53.55**	**332**	P	**P**	**04 11 07.5**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=104,slow=4.2,SNR=8.7						
KMBO	**Kilima Mbogo**	**57.88**	**265**	P	**P**	**04 11 42.1**	**+2.8**
	comp=Z,1.4nm,0.5s,baz=48,slow=9.3,SNR=6.7						
KMBO	**Kilima Mbogo**	**57.88**	**265**	IAmb	IAmb	04 11 43.2	
	comp=Z,4.1nm,1.2s						
KBZ	**Khabaz**	**58.60**	**318**	P	**P**	**04 11 43.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=60,slow=18,SNR=2.4						
BR131	**Keskin Array S**	**63.87**	**311**	IAmb	IAmb	04 12 19.1	
	comp=Z,2.7nm,0.8s						
BRTR	**Keskin Array B**	**63.87**	**311**	P	**P**	**04 12 18.2**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=132,slow=8.1,SNR=16						
AKASG	**Malin Array Be**	**69.70**	**322**	P	**P**	**04 12 54.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=273,slow=26,SNR=4.0						
FINES	**FINESS Array B**	**74.31**	**332**	P	**P**	**04 13 22.8**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=100,slow=5.3,SNR=38						
BOSA	**Boshof**	**75.32**	**238**	P	**P**	**04 13 32.0**	**+2.2**
	comp=Z,4.4nm,1.1s,baz=96,slow=4.6,SNR=9.4						
BOSA	**Boshof**	**75.32**	**238**	IAmb	IAmb	04 14 25.4	
	comp=Z,30nm,1.6s						
ARCES	**ARCESS Array B**	**76.87**	**340**	P	**P**	**04 13 37.5**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=92,slow=6.0,SNR=30						
GERES	**GERESS Array B**	**79.34**	**318**	P	**P**	**04 13 52.2**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=81,slow=4.5,SNR=5.6						
SPITS	**Spitsbergen Ar**	**81.42**	**348**	P	**P**	**04 14 01.4**	**-0.8**
	comp=Z,9.1nm,0.9s,baz=111,slow=11,SNR=6.2						
KEST	**Kesra**	**82.60**	**305**	P	**P**	**04 14 10.1**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=225,slow=14,SNR=2.9						
KEST	**Kesra**	**82.60**	**305**	IAmb	IAmb	04 15 34.0	
	comp=Z,28nm,1.6s						
ESDC	**Sonseca Array**	**92.64**	**310**	P	**P**	**04 14 58.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=64,slow=4.5,SNR=3.0						
ESDC	**Sonseca Array**	**92.64**	**310**	IAmb	IAmb	04 14 59.0	
	comp=Z,1.7nm,1.2s						
NVAR	**Mina Array Bea**	**125.87**	**32**	PKP	**PKiKP**	**04 20 48.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=316,slow=3.8,SNR=6.5						
PDAR	**Pinedale Array**	**126.32**	**22**	PKP	**PKPdf**	**04 20 48.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=236,slow=0.3,SNR=4.3						
TXAR	**Lajitas Array**	**140.31**	**26**	PKP	**PKPdf**	**04 21 15.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=125,slow=0.6,SNR=7.6						
CPUP	**Villa Florida**	**146.81**	**230**	PKPbc	**PKPab**	**04 21 28.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=97,slow=7.0,SNR=4.1						

*IDC **10** 04:04:28.0±0.9, 52°.23N×168°.61W, h0km, mb3.9/20, mb1 4.0/21, mb1mx3.8/54, mbtmp3.9/21, ML3.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/51, Error ellipse: s-maj=23.3km s-min=16.7km az=170.0*
*NEIC **10** 04:04:29.3±2.1, 52°.15N±0°.05×168°.5W±0°.1, h12km±3km*
*ISCJB **10** 04:04:30.0±0.6, 52°.25N±0°.10×168°.47W±0°.09, h26km, mb4.0/20, MS3.4/2, Error ellipse: s-maj=15.1km s-min=6.3km az=159.3*
*AEIC **10** 04:04:30.2±2.0, 52°.06N±0°.10×168°.4W±0°.1, h25km±4km, ML3.3, mb3.6/11(NEIC)*

ISC 10 04:04:32.2±0.8, 52°.3N±0°.1×168°.44W±0°.07, h26km, n42, σ1§22/37, mb4.0/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.69**	**339**		**Pb**	**04 04 46.6**	**+0.9**
UNV	**Unalaska Valle**	**1.92**	**37**		**Pn**	**04 05 04.3**	**+1.2**
AKUT	**Akutan**	**2.42**	**40**	Pn	**Pn**	**04 05 12.5**	**+2.4**
GSTR	**Great Sitkin T**	**4.69**	**270**	Pn	**Pn**	**04 05 40.9**	**-0.4**
ADK	**Adak**	**5.10**	**268**	Pn	**Pn**	**04 05 45.7**	**-1.1**
OHAK	**Old Harbor**	**10.03**	**55**	Pn	**Pn**	**04 06 54.4**	**0.0**
KDAK	**Kodiak Island**	**10.60**	**53**	Pn	**Pn**	**04 07 02.7**	**+0.5**
	0.8nm,0.3s,baz=185,slow=4.3,SNR=30						
KDAK				Sn	**Sn**	**04 08 54.8**	**-5.1**
	baz=99,slow=18,SNR=1.8						
SCM	**Sheep Creek Mo**	**14.84**	**42**		**Pn**	**04 08 00.4**	**+0.3**
GLB	**Gilahina Butte**	**16.16**	**46**	Pn	**Pn**	**04 08 17.1**	**-0.2**
GLB				IAmb	IAmb	04 08 24.8	
	comp=Z,3.0nm,0.9s						
VRDI	**Verde Repeater**	**16.24**	**47**	Pn	**Pn**	**04 08 18.3**	**-0.2**
VRDI				IAmb	IAmb	04 08 28.7	
	comp=Z,5.5nm,1.2s						
WAX	**Waxell Ridge**	**16.24**	**50**	Pn	**Pn**	**04 08 18.0**	**-0.4**
ILAR	**Eielson Array**	**16.67**	**33**	Pn	**Pn**	**04 08 23.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=240,slow=12,SNR=6.6						
BMAR	**Burnt Mountain**	**19.09**	**29**	P	**P**	**04 08 53.3**	**+0.7**
PETK	**Petropavlovsk-**	**20.42**	**286**	P	**P**	**04 09 06.4**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=86,slow=15,SNR=4.6						
PETK				LR	LR	04 15 42.1	
	comp=Z,86nm,20.3s,baz=242,slow=33						
EPYK	**Eagle Plains**	**21.10**	**36**	P	**P**	**04 09 13.8**	**-0.6**
INK	**Inuvik**	**23.07**	**33**	P	**P**	**04 09 35.7**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=230,slow=9.3,SNR=5.1						
INK	**Inuvik**	**23.07**	**33**	IAmb	IAmb	04 09 36.8	
	comp=Z,1.8nm,0.8s						
SEY	**Seymchan**	**23.12**	**313**	P	**P**	**04 09 34.8**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=270,slow=20,SNR=4.0						
PDAR	**Pinedale Array**	**39.85**	**80**	P	**P**	**04 12 04.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=315,slow=3.2,SNR=5.5						
SPITS	**Spitsbergen Ar**	**49.73**	**359**	P	**P**	**04 13 21.4**	**0.0**
	comp=Z,12nm,1.0s,baz=47,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**51.81**	**301**	P	**P**	**04 13 37.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=55,slow=8.7,SNR=2.8						
TXAR	**Lajitas Array**	**52.18**	**90**	P	**P**	**04 13 41.8**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=302,slow=5.2,SNR=2.8						
ARCES	**ARCESS Array B**	**58.02**	**354**	P	**P**	**04 14 21.7**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=10,slow=5.5,SNR=3.6						
NRS	**Narsarsuaq**	**58.11**	**29**	*i* P	P	04 14 29.3	+6.5
KURK	**Kurchatov**	**62.78**	**319**	P	**P**	**04 14 56.0**	**+1.1**
KURBB	**Kurchatov Arra**	**62.89**	**319**	P	**P**	**04 14 56.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=47,slow=6.6,SNR=6.0						
BVAR	**Borovoye Array**	**64.07**	**325**	P	**P**	**04 15 03.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=39,slow=9.4,SNR=7.2						
MKAR	**Makanchi Array**	**64.25**	**314**	P	**P**	**04 15 04.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=59,slow=4.7,SNR=4.6						
FINES	**FINESS Array B**	**65.99**	**352**	P	**P**	**04 15 15.8**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=9.8,slow=7.1,SNR=16						
NOA	**NORSAR Array B**	**66.98**	**0**	P	**P**	**04 15 22.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=0.5,slow=4.0,SNR=3.2						
AKTO	**Aktyubinsk**	**70.33**	**331**	P	**P**	**04 15 43.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=37,slow=7.1,SNR=7.9						
AAK	**Ala-Archa**	**70.93**	**316**	P	**P**	**04 15 46.7**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=82,slow=8.0,SNR=4.1						
AAK	**Ala-Archa**	**70.93**	**316**	IAmb	IAmb	04 15 48.6	
	comp=Z,2.4nm,0.8s						
AKASG	**Malin Array Be**	**76.26**	**349**	P	**P**	**04 16 18.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=17,slow=5.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**77.18**	**283**	P	**P**	**04 16 24.3**	**+0.5**

comp=Z,1.6nm,0.3s,baz=166,slow=8.8,SNR=6.8
MA2 LR LR 04 19 03.8
comp=Z,92nm,18.7s,baz=179,slow=38
KLR Kul'dur 14.53 281 ⇓*i*P **P 04 15 19.1 -0.5**
KLR pmax pmax
comp=Z,81nm,4.3s
KLR Kul'dur 14.53 281 P **P 04 15 18.5 -1.0**
comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=5.3
KLR LR LR 04 21 01.2
comp=Z,97nm,18.2s,baz=8.5,slow=38
SEY Seymchan 14.53 357⇓*e*P **P 04 15 18.4 -1.0**
SEY Seymchan 14.53 357 P **Pn 04 15 16.6 +1.4**
comp=Z,0.2nm,0.3s,baz=71,slow=16,SNR=2.9
USRK Ussuriysk Ar. 15.63 262 P **P 04 15 32.0 +0.1**
USRK Ussuriysk Ar. 15.63 262 P **P 04 15 31.7 -0.2**
baz=61,slow=13,SNR=14
USRK Ussuriysk Ar. 15.63 262 **P 04 15 32.0 +0.1**
MAJO Matsushiro 16.51 230⇓*e*P **Pn 04 15 38.7 -1.8**
MAJO pmax pmax
comp=Z,52nm,1.9s
MAT Matsushiro 16.51 230 P **P 04 15 41.7 +0.1**
MJAR Matsushiro Arr 16.51 230 P **Pn 04 15 39.9 -0.6**
comp=Z,0.1nm,0.3s,baz=44,slow=6.8,SNR=9.4
MJAR LR LR 04 22 48.7
comp=Z,75nm,18.4s,baz=55,slow=40
YAK Yakutsk 19.16 324 *e*P **Pn 04 16 11.5 -0.8**
YAK *e*S **Sn 04 19 45.6 -1.0**
YAK pmax pmax
comp=N,2.0nm,0.6s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK pmax pmax
comp=Z,11nm,0.6s
YAK smax smax
comp=N,120nm,2.7s
YAK smax smax
comp=E,101nm,2.7s
YAK Yakutsk 19.16 324 P **Pn 04 16 11.9 -0.4**
comp=E,0.2nm,0.3s,baz=111,slow=1.7,SNR=13
YAK Yakutsk 19.16 324 *e*P **Pn 04 16 12.4 +0.1**
YAK Yakutsk 19.16 324 P **Pn 04 16 12.4 +0.1**
CN2 Changchun 20.13 267 *e*P **P 04 16 20.2 -1.0**
CN2 *es*P sP 04 16 52.0 +4.4
CN2 pmax pmax
comp=E,20nm,0.7s
KSRS Korea Array 21.79 249 P **P 04 16 39.7 +0.7**
comp=E,6.5nm,0.9s,baz=47,slow=11,SNR=9.1
TJN Taejon 22.82 248⇓*e*P **P 04 16 50.5 +0.6**
JNU Nakatsue 23.02 237 P **P 04 16 51.8 -0.1**
comp=E,12nm,1.1s,baz=256,slow=4.2,SNR=3.9
JNU Nakatsue 23.02 237 IAmb IAmb 04 16 52.7
comp=Z,7.0nm,0.8s
H11N2 WAKE ISLAND Hy 30.55 155 T T 04 50 11.8
baz=343,slow=76,SNR=100
H11N1 WAKE ISLAND Hy 30.57 155 T T 04 50 25.8
baz=343,slow=76,SNR=166
H11N3 WAKE ISLAND Hy 30.57 155 T T 04 50 09.3
baz=343,slow=76,SNR=64
HHC Hu-ho-hao-te 30.66 272 P **P 04 18 00.8 +0.2**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,13nm,4.9s
NJ2 Nanjing 30.96 251 *e*P **P 04 18 01.9 -1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SONM Songino Array 31.23 287 P **P 04 18 04.8 -0.7**
comp=Z,0.9nm,0.8s,baz=80,slow=9.2,SNR=2.7
SONM Songino Array 31.23 287 IAmb IAmb 04 18 09.7
comp=Z,1.6nm,1.2s
H11S1 WAKE ISLAND Hy 31.66 156 T T 04 51 23.9
baz=344,slow=76,SNR=931
H11S3 WAKE ISLAND Hy 31.68 156 T T 04 51 10.3
baz=344,slow=76,SNR=980
H11S2 WAKE ISLAND Hy 31.68 156 T T 04 51 41.4
baz=344,slow=76,SNR=724
KDAK Kodiak Island 32.69 53 *i*P **P 04 18 18.2 +0.2**
KDAK Kodiak Island 32.69 53 P **P 04 18 17.4 -0.5**
comp=Z,4.6nm,0.8s,baz=293,slow=7.3,SNR=4.7
KDAK Kodiak Island 32.69 53 IAmb IAmb 04 18 19.6
comp=Z,4.0nm,0.8s
SML Sawmill 34.43 45 P **P 04 18 33.4 +0.3**
COLA College 34.52 40⇓*e*P **P 04 18 34.0 +0.2**
COLA pmax pmax
comp=Z,16nm,2.4s
WHN Wuhan 34.83 254 P **P 04 18 38.1 +1.3**
ILAR Eielson Array 34.93 40 P **P 04 18 37.8 +0.4**
comp=Z,0.5nm,0.5s,baz=258,slow=5.0,SNR=13
BMAR Burnt Mountain 35.85 35 P **P 04 18 46.1 +0.8**
BCAR Beaver Creek A 37.32 43 P **P 04 18 58.2 +0.5**
LZH Lanzhou 38.32 270 *e*P **P 04 19 06.9 +0.3**
LZH pP pwP 04 19 27.8 -2.2
LZH sP sP 04 19 38.9 +3.5
LZH PP **PnPn 04 20 37.5 -0.8**
LZH pmax pmax
comp=Z,16nm,1.2s
GTA Gaotai 39.18 277 *e*P P 04 19 07.0 -6.8
GTA pP pP 04 19 26.6 -6.7
GTA sP pwP 04 19 36.0 -0.4
GTA pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 39.97 34 P **P 04 19 20.0 +0.3**
comp=Z,1.2nm,0.5s,baz=319,slow=12,SNR=5.7
INK pP **pP 04 19 40.2 +0.2**
comp=Z,3.8nm,0.7s,baz=294,slow=6.7,SNR=6.8
INK Inuvik 39.97 34 IAmb IAmb 04 19 23.0
comp=Z,1.8nm,0.7s
CD2 Chengdu 41.50 264 P **P 04 19 31.2 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ZALV Zalesovo Beam 42.00 304 P **P 04 19 36.1 -0.5**
comp=Z,0.9nm,0.6s,baz=83,slow=4.9,SNR=3.6
ZALV PcP **PcP 04 21 29.3 -0.8**
comp=Z,1.2nm,0.6s,baz=85,slow=3.4,SNR=4.4
DLBC Dease Lake 44.09 47 P **P 04 19 54.8 +1.3**
comp=Z,2.3nm,0.9s,baz=295,slow=11,SNR=3.6
DLBC Dease Lake 44.09 47 IAmb IAmb 04 20 00.7
comp=Z,2.2nm,0.8s
WMQ Urumqi 44.75 290 *e*P **P 04 20 00.4 +1.4**
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ pmax pmax
comp=Z,82nm,8.5s
WMQ LR LR
comp=Z,390nm,28.9s
MKAR Makanchi Array 46.58 296 P **P 04 20 13.2 -0.1**
comp=Z,1.8nm,0.6s,baz=71,slow=7.8,SNR=11
MKAR pP **pwP 04 20 35.6 -1.3**
comp=Z,1.4nm,0.8s,baz=61,slow=12,SNR=3.0
MKAR Makanchi Array 46.58 296 P **P 04 20 12.6 -0.7**
KURK Kurchatov 46.81 303*ce*P **P 04 20 13.9 -1.1**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURK Kurchatov 46.81 303 *e*P **P 04 20 13.9 -1.1**
KURK Kurchatov 46.81 303 P **P 04 20 14.4 -0.6**
KURK IAmb IAmb 04 20 14.6
comp=Z,4.3nm,0.8s
KURBB Kurchatov Arra 46.91 302 P **P 04 20 15.2 -0.5**
comp=Z,2.8nm,0.6s,baz=68,slow=8.3,SNR=12
RES Resolute Bay 49.07 19 P **P 04 20 31.8 -0.2**
comp=Z,2.7nm,0.9s,baz=274,slow=5.5,SNR=11
RES Resolute Bay 49.07 19 IAmb IAmb 04 20 35.3
comp=Z,1.8nm,0.7s
YKA Yellowknife Ar 49.28 38 P **P 04 20 33.2 -0.6**
comp=Z,2.6nm,1.0s,baz=298,slow=7.0,SNR=2.6
YKA pP **pP 04 20 55.4 +0.7**
comp=Z,1.5nm,0.7s,baz=299,slow=7.6,SNR=2.6
BVAR Borovoye Array 50.14 309 P **P 04 20 39.9 -0.6**
comp=Z,1.2nm,0.4s,baz=44,slow=8.8,SNR=7.5
BVAR PcP **PcP 04 21 58.5 -0.2**
comp=Z,0.8nm,0.5s,baz=49,slow=5.2,SNR=3.7
SHL Shillong 52.88 268 P **P 04 21 01.5 0.0**
SHL pmax pmax
comp=Z,6.0nm,0.5s
SHL Shillong 52.88 268 P **P 04 21 01.5 0.0**
CHTO Chiang Mai 52.97 256 P **P 04 21 02.2 +0.2**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 52.97 256 P **P 04 21 02.2 +0.2**
CMAR Chiang Mai Arr 53.23 256 P **P 04 21 04.5 +0.6**
comp=Z,2.0nm,0.7s,baz=32,slow=8.1,SNR=10.0
AAK Ala-Archa 53.49 296⇓*e*P **P 04 21 05.6 -0.2**
AAK pmax pmax
comp=Z,2.0nm,1.3s
AAK Ala-Archa 53.49 296 P **P 04 21 06.2 +0.5**
comp=Z,0.6nm,0.3s,baz=97,slow=8.0,SNR=4.2
AAK Ala-Archa 53.49 296 *e*P **P 04 21 05.6 -0.2**
AAK Ala-Archa 53.49 296 P **P 04 21 05.3 -0.5**
AAK IAmb IAmb 04 21 06.4
comp=Z,2.6nm,0.9s
ARU Arti 54.07 317⇑*e*P **P 04 21 07.8 -1.7**
ARU pmax pmax
comp=Z,2.0nm,0.7s
KSH Kashi 54.43 292 P **P 04 21 16.7 +4.1**
KSH sP sP 04 21 51.9 +9.4
KSH PcP **PcP 04 22 16.7 +1.5**
KSH S **S 04 28 47.6 +3.0**
KSH sS sS 04 29 28.7 +8.3
KSH SS **SS 04 32 32.4 +4.9**
KSH LR LR
comp=Z,91nm,9.6s
KSH LR LR
comp=Z,110nm,12.8s
KKAR Karatay Array 55.58 298 P **P 04 21 20.5 -0.2**
KKAR Karatay Array 55.58 298 P **P 04 21 20.5 -0.2**
PINE Pine Mountain 56.33 60 P **P 04 21 26.7 +0.5**
PINE IAmb IAmb 04 21 27.3
comp=Z,2.6nm,1.1s
ARCES ARCESS Array B 56.39 341 LR LR 04 49 56.5
comp=Z,41nm,18.4s,baz=200,slow=40
BTK Batken 57.25 295 P **P 04 21 32.7 0.0**
BTK pmax pmax
comp=Z,6.0nm,1.1s
BTK Batken 57.25 295 P **P 04 21 32.7 0.0**
WDC Whiskeytown Da 57.35 64 P **P 04 21 33.9 +0.6**
WDC pmax pmax
comp=Z,1.0nm,1.2s
WDC Whiskeytown Da 57.35 64 P **P 04 21 33.9 +0.6**
ABKAR Akbulak array 57.69 309 P **P 04 21 34.6 -0.8**
ABKAR IAmb IAmb 04 21 35.5
comp=Z,1.6nm,0.8s
PLID Pearl Lake 58.33 56 P **P 04 21 40.7 +0.3**
PNTR Pine Nut 60.05 64 P **P 04 21 52.7 +0.5**
KVN Kaiserville 60.97 63 P **P 04 21 58.4 -0.1**
KVN pmax pmax
comp=Z,2.0nm,0.8s
KVN Kaiserville 60.97 63 P **P 04 21 58.4 -0.1**
KVN IAmb IAmb 04 21 59.5
comp=Z,1.8nm,0.8s
QLMT Earthquake Lak 61.00 54 P **P 04 21 58.2 -0.4**
NVAR Mina Array Bea 61.25 64 P **P 04 22 00.0 -0.5**
comp=Z,0.9nm,0.7s,baz=287,slow=7.5,SNR=10
NVAR pP **pP 04 22 21.9 +0.2**
comp=Z,0.8nm,0.6s,baz=295,slow=5.1,SNR=5.0
NVAR Mina Array Bea 61.25 64 P **P 04 21 59.9 -0.5**
GCMT Greycliff 61.31 52 P **P 04 22 00.8 +0.2**
YHH Holmes Hill 61.34 54 P **P 04 22 02.4 +1.4**
TPAW Teton Pass 62.14 55 P **P 04 22 06.8 +0.4**
TPAW IAmb IAmb 04 22 08.3
comp=Z,2.1nm,0.8s
REDW Red Top Meadow 62.27 55 P **P 04 22 08.0 +0.7**
REDW IAmb IAmb 04 22 09.0
comp=Z,1.9nm,0.8s
FINES FINESS Array B 62.69 335 P **P 04 22 08.2 -1.2**
comp=Z,1.6nm,0.6s,baz=28,slow=8.6,SNR=11
FINES LR LR 04 52 24.1
comp=Z,38nm,18.3s,baz=101,slow=39
PD31 Pinedale Array 63.38 55 P **P 04 22 14.5 -0.1**
PD31 IAmb IAmb 04 22 15.4
comp=Z,1.1nm,0.7s
PDAR Pinedale Array 63.38 55 P **P 04 22 14.7 +0.1**
comp=Z,1.0nm,0.7s,baz=288,slow=1.5,SNR=11
PDAR pP **pP 04 22 36.3 +0.2**
comp=Z,2.6nm,0.9s,baz=324,slow=1.7,SNR=11
PDAR Pinedale Array 63.38 55 P **P 04 22 14.4 -0.1**
JLU Jordanelle 63.79 58 P **P 04 22 15.6 -1.8**
RDMU Red Mountain 64.86 57 P **P 04 22 25.0 +0.7**
RSSD Black Hills 65.38 51 P **P 04 22 27.6 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 65.38 51 P **P 04 22 27.6 0.0**
RSSD IAmb IAmb 04 22 28.4
comp=Z,3.5nm,0.8s
NOA NORSAR Array B 66.75 341 P **P 04 22 35.6 -0.3**
comp=Z,1.4nm,1.0s,baz=14,slow=11,SNR=2.6
S22A 4UR Ranch, Cre 68.35 57 P **P 04 22 46.3 -0.4**
WRAB Tennant Creek 70.27 199⇑*i*P **P 04 22 56.7 -1.4**
WRAB pmax pmax
comp=Z,19nm,1.7s
WRAB Tennant Creek 70.27 199 P **P 04 22 57.0 -1.1**
WB2 Warramunga Arr 70.28 199 P **P 04 22 57.0 -1.1**
WRA Warramunga Arr 70.28 199 P **P 04 22 56.9 -1.3**
comp=Z,9.7nm,0.7s,baz=15,slow=6.1,SNR=77
WRA pP **PcP 04 23 18.5 -0.9**
comp=Z,2.1nm,0.6s,baz=11,slow=5.0,SNR=4.8
WRA Warramunga Arr 70.28 199 IAmb IAmb 04 22 57.8
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 70.38 326 P **P 04 22 57.2 -1.3**
comp=Z,0.5nm,0.4s,baz=31,slow=6.5,SNR=2.5
AS31 Alice Springs 73.97 199 P **P 04 23 19.9 -0.4**
ASAR Alice Springs 73.98 199 P **P 04 23 19.8 -0.5**
comp=Z,2.5nm,0.7s,baz=16,slow=5.0,SNR=32
ASAR pP **pP 04 23 42.5 +0.5**
comp=Z,1.3nm,0.7s,baz=20,slow=5.9,SNR=4.3
TX31 Lajitas Ar. Si 76.26 61 P **P 04 23 33.5 -0.1**
TX32 Lajitas Array 76.26 61 P **P 04 23 33.5 -0.1**
TX32 **pP 04 23 56.3 +0.5**
TXAR Lajitas Array 76.26 61 P **P 04 23 33.3 -0.3**
comp=Z,0.8nm,0.6s,baz=298,slow=4.3,SNR=14
TXAR pP **pP 04 23 56.3 +0.6**
comp=Z,1.9nm,0.8s,baz=295,slow=4.3,SNR=8.9
TXAR Lajitas Array 76.26 61 P **P 04 23 33.1 -0.5**
BRTR Keskin Array B 77.45 317 P **P 04 23 40.1 -0.1**
comp=Z,0.6nm,0.8s,baz=35,slow=4.5,SNR=3.7
STKA Stephens Creek 80.72 190 P **P 04 23 56.0 -1.6**
STKA Stephens Creek 80.72 190 P **P 04 23 56.0 -1.6**
comp=Z,2.5nm,0.9s,baz=75,slow=1.4,SNR=3.9
STKA Stephens Creek 80.72 190 IAmb IAmb 04 23 57.2
comp=Z,0.7nm,1.0s
CPUP Villa Florida 147.21 59 PKPbc **PKPdf 04 31 25.5 +0.5**
comp=Z,1.0nm,0.6s,baz=307,slow=2.4,SNR=5.5
PLCA Paso Flores 147.87 93 PKPbc **PKPbc 04 31 28.1 -0.8**
comp=Z,2.8nm,0.7s,baz=253,slow=5.6,SNR=8.4
SNAA Sanae 154.32 197 PKPdf **PKPbc 04 31 40.2 -2.8**
VNA2 Neumayer--Watz 155.77 195 PKPdf **PKPdf 04 31 44.2 +7.6**
VNA3 Neumayer Olymp 155.86 193 PKPdf **PKPdf 04 31 44.4 +7.7**
VNA1 Neumayer--Stat 156.16 195 PKPdf **PKPdf 04 31 41.3 +4.2**

*JMA **10** 04:15:53.5±0.2, 24°.10N×121°.69E, h2km±2km, M3.2*
*ISCJB **10** 04:15:54.1±0.3, 24°.13N±0°.01×121°.72E±0°.02, h8km±1km,*
Error ellipse: s-maj=2.5km s-min=1.6km az=25.7
*TAP **10** 04:15:54.2, 24°.14N×121°.68E, h11km, ML3.7, B*
ISC 10 04:15:54.3±0.8, 24°.13N±0°.01×121°.70E±0°.02, h14km±5km, n109, ₙ0§62/165, 25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=229	**0.10**	**244**	⇓*i*P	**Pg**	**04 15 56.9**	**-0.5**
TWD				S	**Sg**	**04 15 59.0**	**-0.5**
NACB	**Ninganchiao** baz=293	**0.10**	**298**	⇓P	**Pg**	**04 15 57.0**	**-0.5**
NACB				S	**Sg**	**04 15 58.8**	**-0.8**
HWA	**Hwalien** baz=201	**0.17**	**209**	*e*P	**Pg**	**04 15 58.8**	**+0.5**
HWA				*e*S	**Sg**	**04 16 01.7**	**+0.7**
ETLH	**Xiulin Townshi** baz=290	**0.21**	**293**	⇓*i*P	**Pg**	**04 15 58.9**	**-0.2**
ETLH				S	**Sg**	**04 16 02.1**	**-0.2**
ENLB	**Shoufeng** baz=198	**0.24**	**201**	P	**Pg**	**04 15 59.9**	**+0.4**
ENLB				*e*S	**Sg**	**04 16 04.6**	**+1.7**
ENA	**Nanau** baz=12	**0.30**	**8**	⇓P	**Pg**	**04 16 00.2**	**-0.4**
ENA				S	**Sg**	**04 16 04.7**	**-0.3**
NANB	**Nanao** baz=12	**0.30**	**9**	⇓*i*P	**Pg**	**04 16 00.3**	**-0.4**
NANB				S	**Sg**	**04 16 04.5**	**-0.4**
ESL	**Shilin** baz=214	**0.39**	**218**	P	**Pg**	**04 16 01.9**	**-0.3**
WHF	**Hehuan Shan** baz=270	**0.39**	**273**	⇓*i*P	**Pg**	**04 16 02.2**	**-0.2**
WHF				S	**Sg**	**04 16 07.7**	**-0.2**
NNSB	**Datong** baz=316	**0.41**	**317**	⇓P	**Pg**	**04 16 02.6**	**0.0**
NNSB				S	**Sg**	**04 16 08.2**	**-0.2**
NNS	**Nan Shan** baz=317	**0.43**	**317**	⇓*i*P	**Pg**	**04 16 02.9**	**-0.1**
NNS				S	**Sg**	**04 16 08.6**	**-0.2**
CHGB	**Renai** baz=252	**0.48**	**262**	⇓P	**Pb**	**04 16 04.0**	**-0.7**
CHGB				S	**Sg**	**04 16 10.6**	**+0.2**
TWT	**Tachien** baz=283	**0.49**	**285**	⇓P	**Pb**	**04 16 04.5**	**-0.3**
TWT				S	**Sb**	**04 16 11.5**	**-0.5**
TWC	**Suao** baz=13	**0.50**	**16**	⇓P	**Pg**	**04 16 04.0**	**-0.3**
TWC				S	**Sg**	**04 16 10.8**	**-0.2**
NDT	**Datong Townshi** baz=341	**0.50**	**341**	⇓P	**Pg**	**04 16 04.3**	**+0.1**
NDT				S	**Sg**	**04 16 10.9**	**-0.1**
TDCB	**Techi** baz=283	**0.51**	**285**	⇓P	**Pb**	**04 16 04.6**	**-0.5**
TDCB				S	**Sb**	**04 16 11.4**	**-1.0**
EGFH	**Guangfu** baz=212	**0.52**	**208**	*e*P	**Pb**	**04 16 04.6**	**-0.6**
ENTT	**Nioudou** baz=348	**0.53**	**347**	⇓*i*P	**Pg**	**04 16 04.7**	**0.0**
ENTT				S	**Sg**	**04 16 11.8**	**0.0**
EOS1	**EOS1** baz=33	**0.58**	**43**	P	**Pb**	**04 16 06.3**	**+0.1**
TWE	**Neicheng** baz=360	**0.59**	**358**	⇓*i*P	**Pg**	**04 16 06.0**	**0.0**
TWE				S	**Sg**	**04 16 13.7**	**-0.2**
YHNB	**Yeheng** baz=332	**0.62**	**332**	⇓P	**Pb**	**04 16 06.5**	**-0.5**
YHNB				S	**Sg**	**04 16 14.1**	**-0.5**
VWDT	**VWDT** baz=232	**0.63**	**234**	⇓P	**Pb**	**04 16 06.6**	**-0.4**
VWDT				S	**Sg**	**04 16 14.8**	**-0.1**
NSK	**Sanguang** baz=331	**0.63**	**331**	⇓*i*P	**Pb**	**04 16 06.7**	**-0.4**
NSK				S	**Sg**	**04 16 14.9**	**-0.1**
SLBB	**Yuanshan** baz=356	**0.63**	**355**	⇓P	**Pg**	**04 16 05.8**	**-0.9**
SLBB				*e*S	**Sg**	**04 16 14.8**	**-0.2**
ILA	**Ilan** baz=359	**0.64**	**4**	P	**Pb**	**04 16 07.1**	**-0.2**
ILA				*e*S	**Sb**	**04 16 15.8**	**-0.3**
NWLT	**Wulai** baz=352	**0.67**	**345**	⇓P	**Pg**	**04 16 07.4**	**0.0**
NWLT				S	**Sg**	**04 16 15.9**	**-0.4**
HGSD	**Ruisui** baz=213	**0.68**	**202**	⇓*e*P	**Pb**	**04 16 07.9**	**0.0**
HGSD				*e*S	**Sb**	**04 16 18.6**	**+1.4**
WHP	**Taichung City** baz=282	**0.70**	**283**	*e*P	**Pb**	**04 16 08.4**	**0.0**
EHY	**Hungye** baz=207	**0.70**	**209**	*e*P	**Pg**	**04 16 07.4**	**-0.6**
DPDB	**Guoxing** baz=253	**0.71**	**263**	P	**Pb**	**04 16 08.3**	**-0.1**
DPDB				*e*S	**Sb**	**04 16 17.7**	**-0.5**
NTC	**Toucheng** baz=10.0	**0.74**	**10**	⇓*e*P	**Pg**	**04 16 08.5**	**-0.1**
EGS		**0.75**	**17**	*e*P	**Pb**	**04 16 08.9**	**-0.2**
SSLB	**Suanglung** baz=252	**0.76**	**244**	⇓P	**Pb**	**04 16 09.0**	**-0.3**
SSLB				S	**Sg**	**04 16 18.2**	**-0.8**
SMLT	**Sun Moon Lake** baz=250	**0.77**	**252**	P	**Pb**	**04 16 09.3**	**-0.2**
SMLT				S	**Sb**	**04 16 19.4**	**-0.4**
TYC	**Yuchr** baz=245	**0.80**	**254**	P	**Pb**	**04 16 09.7**	**-0.3**
TYC				S	**Sg**	**04 16 19.5**	**-0.7**
LIOB	**Emei** baz=309	**0.81**	**310**	P	**Pb**	**04 16 10.4**	**+0.3**
LIOB				*e*S	**Sg**	**04 16 20.2**	**-0.4**
NSTT	**Nanjuang** baz=308	**0.81**	**309**	⇓P	**Pb**	**04 16 10.4**	**+0.2**
NSTT				S	**Sb**	**04 16 20.7**	**-0.3**
YULB	**Yu-li** baz=215	**0.81**	**207**	*e*P	**Pg**	**04 16 09.2**	**-0.9**
YULB				*e*S	**Sg**	**04 16 20.4**	**-0.5**
WLTB	**Daxi** baz=339	**0.83**	**331**	*e*P	**Pb**	**04 16 10.6**	**+0.1**
NHDH	**Xindian Distri** baz=340	**0.85**	**350**	*e*P	**Pb**	**04 16 10.8**	**0.0**
NHDH				*e*S	**Sg**	**04 16 21.3**	**-0.7**
TWF1	**Yuli** baz=215	**0.85**	**205**	*e*P	**Pg**	**04 16 09.8**	**-1.0**
TWF1				*e*S	**Sb**	**04 16 22.7**	**+0.5**
TIPB	**Shuangxi** baz=359	**0.85**	**8**	⇓*i*P	**Pg**	**04 16 10.7**	**-0.1**
TIPB				S	**Sg**	**04 16 20.9**	**-1.1**
TWA	**Mucha** baz=354	**0.86**	**353**	P	**Pb**	**04 16 10.8**	**-0.2**
TWA				*e*S	**Sg**	**04 16 22.0**	**-0.2**
TATO	**Taipei** baz=339	**0.87**	**347**	P	**Pb**	**04 16 11.1**	**-0.1**
TATO				*e*S	**Sg**	**04 16 22.1**	**-0.4**
TWQ1	**Liyutan** baz=295	**0.87**	**285**	*e*P	**Pn**	**04 16 12.0**	**-0.2**
TWQ1				*e*S	**Sn**	**04 16 24.4**	**-0.3**
WHYT	**Xinyi Township** baz=247	**0.88**	**241**	*e*P	**Pb**	**04 16 11.4**	**0.0**
WHYT				*e*S	**Sb**	**04 16 23.2**	**+0.1**
NSY	**Sanyi** baz=288	**0.90**	**289**	*e*P	**Pn**	**04 16 13.6**	**+1.0**
NMLH	**Miaoli** baz=296	**0.92**	**297**	*e*P	**Pn**	**04 16 13.2**	**+0.4**
TAP	**Taipei** baz=342	**0.93**	**349**	*e*P	**Pb**	**04 16 12.4**	**+0.2**
TCU	**Taichung** baz=271	**0.93**	**272**	*e*P	**Pn**	**04 16 13.3**	**+0.3**
TCU				*e*S	**Sn**	**04 16 27.1**	**+0.9**
WJS	**Zhushan** baz=245	**0.94**	**251**	*e*P	**Pn**	**04 16 13.3**	**+0.3**
WJS				*e*S	**Sn**	**04 16 26.1**	**-0.1**
HSN	**Hsinchu** baz=318	**0.94**	**316**	*e*P	**Pn**	**04 16 13.5**	**+0.3**
NWF	**Wu-fen Shan** baz=357	**0.94**	**5**	P	**Pb**	**04 16 12.8**	**+0.3**
NWF				*e*S	**Sg**	**04 16 24.6**	**-0.4**
WFSB	**Wu-fen Shan** baz=357	**0.94**	**5**	P	**Pb**	**04 16 12.6**	**+0.1**
WFSB				*e*S	**Sg**	**04 16 24.0**	**-1.0**
WNT	**Mingjian** baz=246	**0.96**	**255**	*e*P	**Pn**	**04 16 13.4**	**+0.1**
NCUH	**Zhongli** baz=331	**0.96**	**331**	*e*P	**Pn**	**04 16 13.7**	**+0.3**
PTSB	**Yuanli** baz=289	**0.96**	**290**	*e*P	**Pn**	**04 16 13.9**	**+0.5**
PTSB				*e*S	**Sn**	**04 16 26.9**	**0.0**
NCU	**National Centr** baz=338	**0.96**	**331**	*e*P	**Pb**	**04 16 13.1**	**+0.4**

NCU			*e*S		**Sn**	**04 16 27.5 +0.6**
	baz=338					
WDJ	**Dajia District**	**0.99 283**	*e*P		**Pn**	**04 16 14.7 +0.9**
	baz=283					
WDJ			*e*S		**Sn**	**04 16 27.7 +0.1**
	baz=283					
FULB	**Fuli**	**0.99 202**	*e*P		**Pg**	**04 16 12.9 -0.6**
	baz=215					
TWS1	**Kuangyinshan**	**1.00 345**	*e*P		**Pb**	**04 16 14.1 +0.6**
	baz=346					
TWS1			*e*S		**Sb**	**04 16 28.0 +1.4**
	baz=346					
YM01	**YM01**	**1.02 354**	*e*P		**Pb**	**04 16 14.0 +0.2**
	baz=338					
YM01			*e*S		**Sb**	**04 16 27.5 +0.3**
	baz=338					
YM10	**YM10**	**1.03 353**	*e*P		**Pg**	**04 16 13.5 -0.8**
	baz=353					
WCHH	**Zhanghua**	**1.04 268**	*e*P		**Pb**	**04 16 14.4 +0.3**
	baz=267					
YM11	**YM11**	**1.04 354**	*e*P		**Pg**	**04 16 13.7 -0.8**
	baz=340					
NTST	**Danshui**	**1.06 348**	*e*P		**Pn**	**04 16 14.9 +0.2**
	baz=356					
NTST			*e*S		**Sn**	**04 16 29.6 +0.3**
	baz=356					
YM08	**YM08**	**1.06 355**	*e*P		**Pg**	**04 16 14.5 -0.3**
	baz=341					
CHKT	**Chengkung**	**1.06 197**	*e*P		**Pg**	**04 16 13.8 -1.1**
	baz=183					
CHN5	**Tsauling**	**1.07 241**	P		**Pn**	**04 16 15.5 +0.5**
	baz=240					
CHN5			*e*S		**Sn**	**04 16 30.5 +0.8**
	baz=240					
ELDTW	**Lidau**	**1.12 214**	*e*P		**Pg**	**04 16 14.8 -1.1**
	baz=213					
WDLH	**Douliu**	**1.14 248**	*e*P		**Pn**	**04 16 16.7 +0.8**
	baz=247					
TWY	**Chenhua**	**1.15 356**	*e*P		**Pg**	**04 16 15.9 -0.5**
	baz=343					
JYNG	**Yonagunijimaku**	**1.19 74**	P		**Pg**	**04 16 16.4 -0.8**
RLNB	**Erlin**	**1.24 259**	*e*P		**Pn**	**04 16 18.0 +0.8**
	baz=259					
RLNB			*e*S		**Sn**	**04 16 35.9 +2.0**
	baz=259					
YOJ	**Yonaguni jima**	**1.25 74**	*e*P		**Pn**	**04 16 16.3 -1.1**
	baz=71					
YOJ	**Yonaguni jima**	**1.25 74**	P		**Pn**	**04 16 17.0 -0.3**
YOJ			*e*S		**Sn**	**04 16 34.8 +0.9**
CHN2	**Minshiung**	**1.26 242**	*e*P		**Pg**	**04 16 18.8 +0.2**
	baz=242					
CHN4	**Tsaushan**	**1.27 233**	*e*P		**Pg**	**04 16 18.8 0.0**
	baz=233					
TPUB	**Ta-pu**	**1.27 230**	*e*P		**Pg**	**04 16 18.4 -0.4**
	baz=217					
TPUB			*e*S		**Sg**	**04 16 34.4 -1.1**
	baz=217					
STYT	**Tauyuan**	**1.29 222**	*e*P		**Pn**	**04 16 18.1 +0.1**
	baz=222					
WTCT	**Ta-ch'eng**	**1.32 259**	*e*P		**Pg**	**04 16 18.9 -0.8**
	baz=259					
WTP	**Ta-pu**	**1.32 229**	*e*P		**Pg**	**04 16 19.6 -0.2**
	baz=229					
TWK	**Hsinying**	**1.40 233**	*e*P		**Pg**	**04 16 20.5 -0.7**
	baz=233					
TWK			*e*S		**Sg**	**04 16 40.2 +0.8**
	baz=233					
TWGBT	**Beinan**	**1.42 204**	*e*P		**Pn**	**04 16 18.1 -1.7**
	baz=189					
TWG	**Pinlang**	**1.42 204**	*e*P		**Pn**	**04 16 18.2 -1.5**
	baz=189					
SNST	**Tainan City**	**1.42 231**	*e*P		**Pg**	**04 16 20.8 -0.9**
	baz=231					
CHN1	**Nanshi**	**1.42 229**	*e*P		**Pg**	**04 16 21.2 -0.4**
	baz=229					
WSF	**Szhu**	**1.43 251**	*e*P		**Pg**	**04 16 21.1 -0.7**
	baz=250					
SGST	**Jiashian**	**1.46 225**	*e*P		**Pb**	**04 16 20.9 -0.3**
	baz=225					
SSD	**Sandimen**	**1.68 216**	*e*P		**Pn**	**04 16 24.2 +0.8**
	baz=216					
MASBT	**Mashibuluo**	**1.79 213**	*e*P		**Pb**	**04 16 26.1 -0.8**
	baz=215					
IRIF	**Iriomote-Funau**	**1.87 83**	P		**Pn**	**04 16 25.7 -0.2**
IRIF			*e*S		**Sb**	**04 16 51.8 +0.3**
SCZT	**Fangliau**	**2.00 210**	*e*P		**Pn**	**04 16 28.7 +0.9**
	baz=211					
PHUB	**P'eng-hu**	**2.04 253**	*e*P		**Pn**	**04 16 28.7 +0.5**
	baz=254					
PNG	**Penghu**	**2.04 255**	*e*P		**Pn**	**04 16 28.8 +0.6**
	baz=256					
WDGT	**Dungji**	**2.05 246**	*e*P		**Pn**	**04 16 28.9 +0.5**
	baz=229					
JKRS	**Kuro-shima**	**2.12 86**	P		**Pn**	**04 16 29.5 +0.2**
JKRS			*e*S		**Sn**	**04 16 57.9 +2.5**
VWUC	**VWUC**	**2.22 293**	*e*P		**Pn**	**04 16 30.4 -0.3**
	baz=293					
PTTC	**Pingtan**	**2.22 308**	*e*P		**Pn**	**04 16 30.7 0.0**
	baz=308					
JIJ	**Ishigaki jima**	**2.25 83**	P		**Pn**	**04 16 30.7 -0.4**
JIJ			*e*S		**Sn**	**04 16 59.7 +1.0**
VCHM	**Qimei**	**2.27 247**	*e*P		**Pn**	**04 16 31.2 -0.2**
	baz=232					
JISG	**Ishigakijimahi**	**2.43 79**	P		**Pn**	**04 16 33.4 -0.2**
PTMZ	**Houxiangcun**	**2.52 292**	*e*P		**Pn**	**04 16 34.4 -0.4**
	baz=291					
MATB	**Ma-tsu**	**2.57 322**	*e*P		**Pn**	**04 16 35.5 0.0**
	baz=321					
LYJJ	**Jianjiangzhen**	**2.98 324**	*e*P		**Pn**	**04 16 41.2 0.0**
	baz=323					
XPSS	**Dashiqiu**	**3.11 334**	*e*P		**Pn**	**04 16 43.2 +0.3**
	baz=333					
MHZQ	**Yeshan**	**3.12 310**	*e*P		**Pn**	**04 16 43.4 +0.4**
	baz=309					
AXDP	**Jialang**	**3.48 284**	*e*P		**Pn**	**04 16 48.4 +0.4**
	baz=283					
ZPLA	**Ao Xicun**	**3.61 268**	*e*P		**Pn**	**04 16 50.4 +0.5**
	baz=268					

NNC 10 04:28:27.3±4.9, 40°.11N×54°.83E, h0km, mb3.5, 5C-1D, Error ellipse: s-maj=72.1km s-min=18.1km az=72.0, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**3.36**	**129**	⇑Pn	Pn	04 29 20.4	-0.7
GYA0B				⇑Lg	Lg	04 30 16.2	
AB31	**Akbulak array**	**9.84**	**20**	⇑Pn	Pn	04 30 52.5	+2.6
	0.5nm,0.7s,baz=205,slow=14,SNR=6.9						
AB31				⇑Sn	Sn	04 32 42.1	+1.0
	0.3nm,0.3s,baz=201,slow=23,SNR=4.0						
AKTO	**Aktyubinsk**	**10.57**	**11**	⇑Pn	Pn	04 30 59.8	0.0
	1.3nm,0.8s						
AKTO				⇓Sn	Sn	04 32 58.3	-0.6
	1.5nm,0.6s						

DJA 10 04:37:06.2±0.3, 1°.S±5°.×12°.3E±°, h48km±10km, M4.0/8, mB5.2/1, MLv4.0/8, Mw(mB)4.6/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.63**	**233**	P	Pn	04 37 19.8	+0.9
LUWI				S	Sn	04 37 30.5	+2.4
KMSI	**Cibinong**	**1.42**	**30**	P	Pn	04 37 30.7	+1.1
APSI	**Ampana**	**1.64**	**261**	P	Pn	04 37 33.3	+0.7
MRSI	**Marisa**	**1.74**	**310**	P	Pn	04 37 29.8	-4.2
MRSI				S	Sn	04 37 49.6	-5.5
SANI	**Sanana**	**3.05**	**117**	P	Pn	04 37 50.6	-1.3
MPSI	**Mapaga**	**3.51**	**286**	P	Pn	04 37 59.0	+0.7
TTSI	**Tana Toraja**	**4.18**	**235**	P	Pn	04 38 06.2	-1.3
SPSI	**Sidrap Palu**	**4.80**	**227**	P	Pn	04 38 16.8	+0.8
WSI	**Waingapu**	**9.43**	**198**	P	Pn	04 39 23.8	+4.3

*ISCJB **10** 04:45:27.0±0.6, 7°.15S±0°.05×129°.40E±0°.05, h139km, mb3.8/2, Error ellipse: s-maj=8.5km s-min=5.4km az=44.4*
*DJA **10** 04:45:28.4±0.9, 7°.S±7°.×13°.0E±°, h158km±47km, M4.3/6, mb4.3/4, mB4.7/4, MLv4.4/6, Mw(mB)4.0/4*
*IDC **10** 04:45:29.1±2.0, 7°.23S×129°.38E, h148km±20km, mb3.7/2, mb1 3.7/7, mb1mx3.4/31, mbtmp4.1/7, Error ellipse: s-maj=25.2km s-min=18.4km az=111.0*
ISC 10 04:45:28.4±0.8, **7°.11S**±0°.07×**129°.37E**±0°.06, **h139**km, **n12, σ1§69/17, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**115**	P	**Pn**	**04 46 07.0**	**+2.9**
SAUI				S	**Sn**	**04 46 31.3**	**-0.1**
FAKI	**Fak Fak**	**5.05**	**35**	P	**Pn**	**04 46 43.3**	**+0.9**
	18nm,0.8s,758nm						
FAKI				S	**Sn**	**04 47 38.9**	**-1.1**
	18nm,0.8s,758nm						
SOEI	**Soe**	**5.69**	**242**	P	**Pn**	**04 46 53.2**	**+2.2**
SOEI				S	**Sn**	**04 47 54.2**	**-1.3**
BATI	**Baumata**	**6.43**	**241**	P	**Pn**	**04 47 01.7**	**+0.9**
	19nm,0.3s,baz=13,slow=1.9,SNR=12						
BATI				S	**Sn**	**04 48 13.2**	**+0.1**
	13nm,0.3s,baz=274,slow=18,SNR=8.2						
BATI	**Baumata**	**6.43**	**241**	P	**Pn**	**04 47 02.1**	**+1.3**
SIJI	**Sorong**	**6.48**	**17**	P	**Pn**	**04 47 03.6**	**+2.1**
	1.1nm,0.3s,baz=27,slow=22,SNR=15						
SIJI				S	**Sn**	**04 48 12.0**	**-2.3**
	3.8nm,0.3s,baz=252,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**11.51**	**198**	P	**Pn**	**04 48 06.9**	**-1.8**
	0.6nm,0.3s,baz=29,slow=13,SNR=26						
FITZ				S	Sn	04 50 03.6	-12
	1.1nm,0.3s,baz=107,slow=22,SNR=7.9						
WRA	**Warramunga Arr**	**13.64**	**160**	P	**Pn**	**04 48 33.7**	**-2.6**
	0.5nm,0.3s,baz=337,slow=13,SNR=26						
WRA				S	Sn	04 50 55.8	-11
	1.7nm,0.3s,baz=331,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.03**	**166**	P	**Pn**	**04 49 18.6**	**+0.3**
	0.5nm,0.3s,baz=344,slow=9.5,SNR=29						
ASAR				S		04 52 16.7	-12
	0.3nm,0.3s,baz=334,slow=19,SNR=5.7						
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**04 56 13.2**	**+0.7**
	1.0nm,0.5s,baz=118,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	**P**	**04 56 33.2**	**0.0**
	0.7nm,0.3s,baz=137,slow=5.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**128.22**	**281**	PKP	**PKPdf**	**05 04 18.6**	**-0.7**
	0.6nm,1.0s,baz=130,slow=2.5,SNR=3.8						

*ISCJB **10** 04:54:10.5±0.2, 44°.47N±0°.02×7°.27E±0°.03, h22km±2km, Error ellipse: s-maj=3.5km s-min=2.2km az=153.1*
*ROM **10** 04:54:10.5±0.1, 44°.444N±0°.007×7°.26E±0°.02, h13km±2km, ML2.3/18, Error ellipse: s-maj=1.2km s-min=0.4km az=60.0*
*GEN **10** 04:54:11.0, 44°.45N×7°.27E, h11km±1km, Ml2.2*
*LDG **10** 04:54:11.2±0.1, 44°.45N×7°.28E, h11km, Md2.6/2, Ml2.5/21, Error ellipse: s-maj=2.0km s-min=1.4km az=50.0*
ISC 10 04:54:10.2±0.8, **44°.47N**±0°.02×**7°.30E**±0°.02, **h17**km±4km, **n56, σ0§76/101, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.05**	**315**	P	**Pg**	**04 54 13.6**	**+0.1**
DOI				S	**Sg**	**04 54 15.2**	**-0.5**
DOI				AML	AML		
	comp=E,3840μm,0.2s						
DOI				AML	AML		
	comp=N,2135μm,0.2s						
PZZ	**Stroppo**	**0.14**	**287**	P	**Pb**	**04 54 14.5**	**+0.1**
PZZ				S	**Sg**	**04 54 16.5**	**-0.5**
PZZ	**Stroppo**	**0.14**	**287**	P	**Pb**	**04 54 14.5**	**+0.1**
PZZ				S	**Sg**	**04 54 16.7**	**-0.4**
PZZ				AML	AML		
	comp=N,5865μm,0.1s						
PZZ				AML	AML		
	comp=E,5245μm,0.2s						
STV	**Sant Anna di V**	**0.22**	**175**	P	**Pb**	**04 54 15.6**	**-0.3**
STV				S	**Sg**	**04 54 18.2**	**-0.7**
STV	**Sant Anna di V**	**0.22**	**175**	P	**Pb**	**04 54 15.6**	**-0.3**
STV				S	**Sg**	**04 54 18.3**	**-0.7**
STV				AML	AML		
	comp=N,824μm,0.2s						
STV				AML	AML		
	comp=E,1083μm,0.4s						
ENR	**Entracque**	**0.26**	**160**	P	**Pb**	**04 54 16.2**	**-0.3**
ENR				S	**Sg**	**04 54 19.4**	**-0.5**
ENR	**Entracque**	**0.26**	**160**	P	**Pb**	**04 54 16.2**	**-0.3**
ENR				S	**Sg**	**04 54 19.5**	**-0.5**
ENR				AML	AML		
	comp=N,4665μm,0.3s						
ENR				AML	AML		
	comp=E,4490μm,0.2s						
BHB	**Bricherasio**	**0.38**	**356**	P	**Pg**	**04 54 18.3**	**+0.3**
BHB				S	**Sg**	**04 54 23.3**	**-0.1**
BHB	**Bricherasio**	**0.38**	**356**	P	**Pg**	**04 54 18.4**	**+0.3**
BHB				S	**Sg**	**04 54 23.4**	**+0.1**
BHB				AML	AML		
	comp=N,364μm,0.1s						
BHB				AML	AML		
	comp=E,276μm,1.0s						
GBOS	**Grotte di Boss**	**0.45**	**120**	P	**Pb**	**04 54 19.9**	**+0.1**
GBOS				S	**Sb**	**04 54 25.7**	**-0.5**
GBOS	**Grotte di Boss**	**0.45**	**120**	P	**Pb**	**04 54 19.9**	**+0.1**
GBOS				S	**Sb**	**04 54 25.8**	**-0.4**
GBOS				AML	AML		
	comp=N,587μm,1.0s						
GBOS				AML	AML		
	comp=E,682μm,0.7s						
MBDF	**Montbardon**	**0.46**	**305**	*e*Pg	**Pb**	**04 54 20.1**	**+0.1**
MBDF				*e*Sg	**Sg**	**04 54 26.3**	**+0.5**
	comp=E,114nm,0.3s,SNR=1.0						
SAOF	**Saorge**	**0.52**	**159**	P	**Pb**	**04 54 20.9**	**0.0**
SAOF				S	**Sg**	**04 54 27.2**	**-0.3**
SAOF				AML	AML		
	comp=E,564μm,0.8s						
SAOF				AML	AML		
	comp=N,372μm,0.7s						
RRL	**Rocca Remolon**	**0.58**	**322**	P	**Pb**	**04 54 22.3**	**+0.2**
RRL				S	**Sg**	**04 54 30.1**	**+0.4**
RRL	**Rocca Remolon**	**0.58**	**322**	P	**Pb**	**04 54 22.3**	**+0.2**
RRL				S	**Sg**	**04 54 30.2**	**+0.6**
RRL				AML	AML		
	comp=E,186μm,0.7s						
RRL				AML	AML		
	comp=N,138μm,1.1s						
SBF	**Sospel**	**0.61**	**171**	*e*Pg	**Pb**	**04 54 22.6**	**+0.1**
SBF				*e*Sg	**Sg**	**04 54 30.4**	**-0.1**
	comp=N,82nm,0.2s						
RORO	**Rocca Rossa**	**0.66**	**122**	P	**Pb**	**04 54 23.4**	**+0.1**
RORO				S	**Sb**	**04 54 32.3**	**+0.2**
RORO	**Rocca Rossa**	**0.66**	**122**	P	**Pb**	**04 54 23.4**	**+0.1**
RORO				S	**Sb**	**04 54 32.3**	**+0.2**
RORO				AML	AML		
	comp=E,521μm,1.5s						
RORO				AML	AML		
	comp=N,426μm,0.6s						
RSP	**Reno Superiore**	**0.68**	**358**	P	**Pg**	**04 54 23.3**	**-0.4**
RSP				S	**Sg**	**04 54 31.9**	**-0.8**
RSP	**Reno Superiore**	**0.68**	**358**	P	**Pg**	**04 54 23.3**	**-0.4**
RSP				AML	AML		
	comp=N,103μm,1.6s						
RSP				AML	AML		
	comp=E,92μm,1.6s						
NEGI	**Seborga**	**0.68**	**155**	P	**Pb**	**04 54 23.9**	**+0.1**
NEGI				S	**Sg**	**04 54 32.7**	**-0.1**
NEGI	**Seborga**	**0.68**	**155**	P	**Pb**	**04 54 24.0**	**+0.3**
NEGI				AML	AML		
	comp=E,476μm,1.4s						
NEGI				AML	AML		
	comp=N,412μm,1.5s						
IMI	**Imperia**	**0.70**	**142**	P	**Pb**	**04 54 24.3**	**+0.3**
IMI				S	**Sb**	**04 54 33.3**	**-0.1**
IMI	**Imperia**	**0.70**	**142**	P	**Pb**	**04 54 24.4**	**+0.3**
IMI				S	**Sb**	**04 54 33.4**	**-0.1**
IMI				AML	AML		
	comp=E,372μm,1.4s						
IMI				AML	AML		
	comp=N,576μm,0.2s						
BNI	**Bardonecchia**	**0.73**	**323**	P	**Pb**	**04 54 25.1**	**+0.5**
BNI				S	**Sg**	**04 54 34.5**	**+0.1**
MONC	**Moncucco Torin**	**0.75**	**36**	P	**Pn**	**04 54 26.2**	**0.0**
MONC				AML	AML		
	comp=E,236μm,1.1s						
MONC				AML	AML		
	comp=N,316μm,1.5s						
QLNO	**Quiliano**	**0.76**	**100**	P	**Pb**	**04 54 25.7**	**+0.6**
QLNO				AML	AML		
	comp=E,267μm,0.5s						
QLNO				AML	AML		
	comp=N,300μm,1.2s						
FINB	**Finale Ligure**	**0.79**	**111**	P	**Pb**	**04 54 26.0**	**+0.5**
FINB				AML	AML		
	comp=N,161μm,0.3s						
ROTM	**Rocchetta Tana**	**0.84**	**63**	P	**Pn**	**04 54 28.1**	**+0.7**
ROTM				S	**Sn**	**04 54 40.3**	**+0.9**
ROTM	**Rocchetta Tana**	**0.84**	**63**	P	**Pn**	**04 54 28.2**	**+0.9**
PCP	**Piancastagn**	**0.90**	**85**	P	**Pn**	**04 54 28.2**	**+0.2**
PCP				S	**Sb**	**04 54 39.8**	**+0.8**
PCP	**Piancastagn**	**0.90**	**85**	P	**Pn**	**04 54 28.3**	**+0.2**
PCP				S	**Sb**	**04 54 40.3**	**+1.2**
PCP				AML	AML		
	comp=E,201μm,0.2s						
PCP				AML	AML		
	comp=N,238μm,1.0s						
LSD	**Lago del Serru**	**1.00**	**353**	P	**Pg**	**04 54 28.7**	**-1.0**
LSD				AML	AML		
	comp=N,77μm,0.2s						
LSD				AML	AML		
	comp=E,120μm,1.2s						
FRF	**La Foret Royal**	**1.02**	**208**	*e*Pg	**Pg**	**04 54 29.9**	**-0.1**
FRF				*e*Sg	**Sb**	**04 54 42.4**	**-0.2**
	comp=E,58nm,0.2s						
LPG	**La Plagne**	**1.10**	**340**	*e*Pg	**Pb**	**04 54 31.3**	**+0.3**
LPG				*e*Sg	**Sb**	**04 54 45.4**	**+0.2**
	comp=E,19nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.11**	**295**	*e*Pg	**Pb**	**04 54 31.6**	**+0.6**
ORIF				*e*Sg	**Sb**	**04 54 45.2**	**0.0**
	comp=E,20nm,0.2s						
LPL	**La Plagne**	**1.12**	**339**	*e*Pn	**Pb**	**04 54 31.7**	**+0.4**
	SNR=1.0						
LPL	**La Plagne**	**1.12**	**339**	*e*Pg	**Pb**	**04 54 31.8**	**+0.4**
LPL				*e*Sg	**Sb**	**04 54 46.2**	**+0.4**
	comp=E,19nm,0.3s						
CIRO	**Champorcher**	**1.15**	**9**	P	**Pb**	**04 54 30.4**	**-1.5**
CIRO				AML	AML		
	comp=N,45μm,1.6s						
CIRO				AML	AML		
	comp=E,34μm,1.6s						
LMR	**La Mourre**	**1.27**	**207**	*e*Pg	**Pg**	**04 54 34.4**	**-0.3**
	SNR=1.0						
LMR				*e*Sg	**Sb**	**04 54 50.1**	**+0.4**
	comp=E,34nm,0.2s						
SMRF	**Simiane la Rot**	**1.33**	**249**	*e*Pn	**Pg**	**04 54 36.3**	**+0.4**
SMRF				*e*Sg	**Sn**	**04 54 52.9**	**+1.4**
	comp=E,39nm,0.4s						
PGF	**Pioggiola**	**2.28**	**147**	*e*Pn	**Pn**	**04 54 48.2**	**+1.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**04 55 14.5**	**-0.5**
	comp=E,3.3nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.31**	**339**	*e*P	**Pb**	**04 54 50.7**	**-0.7**
CABF	**La Chapelle**	**2.31**	**339**	*e*Pg	**Pg**	**04 54 54.5**	**0.0**
CABF				*e*Sg	**Sg**	**04 55 23.8**	**-0.6**
	comp=E,0.9nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.50**	**262**	*e*Pn	**Pn**	**04 54 50.4**	**+0.2**
LASF	**Ste Croix**	**2.50**	**262**	*e*Pg	**Pg**	**04 54 57.4**	**-0.8**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**04 55 20.1**	**-0.2**
	comp=E,1.6nm,0.2s						
HINF	**Hinteralfeld**	**3.37**	**355**	*e*Pn	**Pn**	**04 55 03.3**	**+1.2**
HINF				*e*Sn	**Sn**	**04 55 40.8**	**-0.8**
	comp=E,1.8nm,0.3s						
HAU	**Haudompre**	**3.60**	**350**	*e*Pn	**Pn**	**04 55 06.7**	**+1.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**04 55 47.2**	**-0.2**
	comp=E,2.7nm,0.3s						
AVF	**Avril sur Loir**	**3.61**	**311**	*e*Pn	**Pn**	**04 55 06.4**	**+1.0**
AVF				*e*Sn	**Sn**	**04 55 46.8**	**-0.9**
	comp=E,0.4nm,0.2s						
LOR	**Lormes**	**3.69**	**321**	*e*P	**Pn**	**04 55 09.6**	**+3.1**
LOR				*e*Sn	**Sn**	**04 55 48.0**	**-1.6**
	comp=E,1.4nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.71**	**316**	*e*Pn	**Pn**	**04 55 07.9**	**+1.1**
SSF				*e*Sg	**Sg**	**04 56 07.1**	**-2.3**
	comp=E,1.7nm,0.3s						
MTLF	**Montolieu**	**3.84**	**255**	*e*Pn	**Pn**	**04 55 08.9**	**+0.3**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**04 55 52.3**	**-1.0**
	comp=E,0.5nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.95**	**360**	*e*Pn	**Pn**	**04 55 11.3**	**+1.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**04 55 54.8**	**-1.2**
	comp=E,0.4nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**4.05**	**338**	*e*Pn	**Pn**	**04 55 12.6**	**+1.1**
SFTF				*e*Sn	**Sn**	**04 55 57.5**	**-1.0**
	comp=E,1.4nm,0.2s						
PAGF	**Fort de Pagny**	**4.23**	**346**	*e*Pn	**Pn**	**04 55 14.9**	**+1.0**
PAGF				*e*Sn	**Sn**	**04 56 01.6**	**-1.3**
	comp=E,0.7nm,0.2s						
MEZF	**Maizieres J'vi**	**4.32**	**340**	*e*Pn	**Pn**	**04 55 15.6**	**+0.4**
MEZF				*e*Sn	**Sn**	**04 56 03.7**	**-1.5**
	comp=E,1.5nm,0.3s						

*ISK **10** 05:02:22.1, 42°.18N×34°.31E, h8km, ML2.8/7*
*SIGU **10** 05:02:22.2, 42°.25N×34°.26E, h10km*
ISC 10 05:02:22.5±1.5, **42°.22N**±0°.06×**34°.28E**±0°.03, **h11**km±11km, **n19, σ0§68/26, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZK	**Bozkurt**	**0.33**	**219**	*e*Pg	**Pg**	**05 02 29.4**	**+0.3**
BZK				*e*Sg	**Sg**	**05 02 33.8**	**+0.2**
	baz=214						
BZK	**Bozkurt**	**0.33**	**219**	PG	**Pg**	**05 02 29.4**	**+0.3**
BZK				SG	**Sg**	**05 02 33.8**	**+0.2**
DIKM	**Dikmen**	**0.92**	**128**	*e*Pg	**Pg**	**05 02 39.7**	**-0.5**
	baz=129						
DIKM				*e*Sg	**Sg**	**05 02 52.1**	**-0.2**
	baz=129						
DIKM	**Dikmen**	**0.92**	**128**	PG	**Pg**	**05 02 39.7**	**-0.5**
DIKM				SG	**Sg**	**05 02 52.1**	**-0.2**
KMON	**Kastamonu**	**0.92**	**204**	PG	**Pg**	**05 02 39.2**	**-1.1**
KURC	**Kurucasile-Bar**	**1.21**	**253**	PN	**Pb**	**05 02 44.8**	**-0.5**
ILGA	**Ilgaz**	**1.24**	**200**	*i* P	**Pb**	**05 02 45.8**	**-0.3**
ILGA				*i* S	**Sb**	**05 03 01.7**	**-0.4**
ILGA				IAML_P			
	comp=Z,396nm,0.1s						
HAVZ	**Havza**	**1.57**	**136**	*i* P	**Pg**	**05 02 51.9**	**-0.7**
HAVZ				*i* S	**Sg**	**05 03 13.4**	**+0.5**
HAVZ				IAML_P			
	comp=Z,637nm,0.2s						
SAMS	**Samsun-Alacam**	**1.66**	**120**	*i* P	**Pg**	**05 02 53.8**	**-0.6**
SAMS				*i* S	**Sb**	**05 03 14.4**	**+0.4**
SAMS				IAML_P			
	comp=Z,650nm,0.1s						
KVT	**Kavak**	**1.74**	**130**	PN	**Pn**	**05 02 53.0**	**+0.3**
YAL	**Yalta**	**2.27**	**358**	*e*Sn	**Sn**	**05 03 28.3**	**+0.5**
	baz=358						
SEV	**Sevastopol'**	**2.37**	**349**	*e*Sn	**Sn**	**05 03 29.5**	**-0.8**
	baz=350						
SEV				Snm		05 03 30.1	
	baz=350						
ERBA	**Erbaa**	**2.41**	**129**	*i* P	**Pn**	**05 03 03.5**	**+1.6**
ERBA				IAML_P			
	comp=Z,354nm,0.2s						
BRTR	**Keskin Array B**	**2.54**	**191**	PN	**Pn**	**05 03 04.0**	**+0.3**
YUVA	**Yuva-Kibriscik**	**2.68**	**228**	PN	**Pn**	**05 03 06.2**	**+0.6**
YOZ	**Yozgat**	**2.69**	**163**	PN	**Pn**	**05 03 06.6**	**+0.7**
SUDU	**Sudak**	**2.72**	**11**	*e*Sn	**Sn**	**05 03 38.6**	**-0.4**

n132,σ1§53/231,3C-8D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REAL	**Reales**	**0.08**	**43⇑**	*iP*	**Pg**	**05 05 35.5**	**-0.6**
REAL				*i* S	**Sg**	**05 05 38.8**	**+0.6**
REAL	**Reales**	**0.08**	**43**	⇑Pg	**Pg**	**05 05 35.5**	**-0.6**
REAL				S	**Sg**	**05 05 38.8**	**+0.6**
EMIJ	**Mijas**	**0.43**	**71**	⇑Pg	**Pg**	**05 05 41.2**	**-0.4**
	134nm,0.2s,SNR=18						
EMIJ				Lg	Lg	05 05 47.4	
	2μm,0.3s,SNR=5.0						
LIJA	**Lijar**	**0.49**	**348**	*eP*	**Pg**	**05 05 43.0**	**+0.2**
LIJA				*i* S	**Sb**	**05 05 53.0**	**+2.2**
LIJA	**Lijar**	**0.49**	**348**	Pg	**Pg**	**05 05 43.0**	**+0.2**
LIJA				Lg	Lg	05 05 53.0	
CEU	**Ceuta**	**0.53**	**188**	⇓*iP*	**Pg**	**05 05 43.4**	**0.0**
CEU				*e*S	**Sg**	**05 05 49.2**	**-1.3**
CEU	**Ceuta**	**0.53**	**188**	Lg	Lg	05 05 49.2	
ECEU	**Ceuta**	**0.53**	**189**	⇓Pg	**Pb**	**05 05 43.7**	**-0.6**
	16nm,0.2s,SNR=18						
ECEU				Lg	Lg	05 05 51.4	
	250nm,0.3s,SNR=15						
CNIL	**Conil**	**0.63**	**265**	*eP*	**Pb**	**05 05 45.5**	**-0.4**
CNIL				*i* S	**Sb**	**05 05 54.0**	**-0.6**
CNIL	**Conil**	**0.63**	**265**	Pg	**Pb**	**05 05 45.5**	**-0.4**
CNIL				Lg	Lg	05 05 54.0	
ESPR	**Espera**	**0.64**	**314**	Pg	**Pb**	**05 05 46.5**	**+0.4**
	271nm,0.5s,SNR=351						
ESPR				Lg	Lg	05 05 53.4	
	770nm,0.4s,SNR=4.0						
GIBL	**Gibalbin**	**0.69**	**306**	*eP*	**Pb**	**05 05 47.7**	**+0.8**
GIBL				*i* S	**Sn**	**05 05 59.0**	**0.0**
GIBL	**Gibalbin**	**0.69**	**306**	Pg	**Pb**	**05 05 47.7**	**+0.8**
GIBL				Lg	Lg	05 05 59.0	
SMIR	**Smir Dam**	**0.75**	**187**	P	**Pb**	**05 05 48.7**	**+0.8**
SMIR				S	**Sb**	**05 05 58.3**	**+0.4**
SFS	**San Fernando**	**0.75**	**273**	⇓*iP*	**Pn**	**05 05 49.8**	**+0.5**
SFS				*e*S	**Sn**	**05 06 04.8**	**+4.3**
SFS	**San Fernando**	**0.75**	**273**	⇓Pg	**Pn**	**05 05 49.8**	**+0.5**
SFS				Lg	Lg	05 06 04.8	
EMAL	**Malaga-Limoner**	**0.76**	**63**	*eP*	**Pg**	**05 05 46.6**	**-1.2**
EMAL				*i* S	**Sg**	**05 05 55.4**	**-2.4**
EGOR	**Sierra Gorda,**	**1.16**	**54**	Pg	**Pg**	**05 05 55.1**	**-0.4**
	1.5nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	05 06 16.8	
	553nm,0.7s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.32**	**182**	P	**Pg**	**05 05 59.0**	**+0.6**
CHEFC				S	**Sn**	**05 06 16.6**	**+2.0**
ELGU	**Los Guajares,**	**1.40**	**71**	⇓Pn	**Pn**	**05 05 55.5**	**-2.8**
	6.7nm,0.2s,SNR=18						
ELGU				Pg	**Pb**	**05 05 59.3**	**+0.2**
	0.1nm,0.2s,SNR=7.9						
ELGU				Lg	Lg	05 06 12.9	
	331nm,0.4s,SNR=7.9						
HORN	**Hornachuelos**	**1.42**	**1**	P	**Pg**	**05 06 03.5**	**+3.2**
HORN				S	**Sg**	**05 06 22.8**	**+4.0**
PVLZ	**Peæn de**	**1.48**	**147**	*eP*	**Pn**	**05 05 57.3**	**-2.0**
PVLZ				*e*S	**Sn**	**05 06 14.2**	**-4.3**
PVLZ	**Peæn de**	**1.48**	**147**	Pn	**Pn**	**05 05 57.3**	**-2.0**
PVLZ				Sn	**Sn**	**05 06 14.2**	**-4.3**
PALE	**Palemas**	**1.62**	**138**	P	**Pn**	**05 06 00.9**	**-0.5**
PALE				S	**Sg**	**05 06 28.6**	**+3.3**
ECAB	**El Cabril**	**1.65**	**356**	Pn	**Pn**	**05 06 02.2**	**+0.4**
	5.7nm,0.3s,SNR=127						
ECAB				Pg	**Pb**	**05 06 04.0**	**+0.7**
	15nm,0.1s,SNR=16						
ECAB				Lg	Lg	05 06 25.3	
	421nm,0.5s,SNR=5.0						
EQUE	**Quentar**	**1.67**	**62**	Pn	**Pn**	**05 06 02.0**	**0.0**
	0.9nm,0.2s,SNR=66						
EQUE				Pg	**Pb**	**05 06 03.7**	**+0.1**
	2.5nm,0.2s,SNR=7.9						
EQUE				Lg	Lg	05 06 28.8	
	163nm,0.6s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.74**	**321**	Pn	**Pn**	**05 06 02.2**	**-0.8**
	1.1nm,0.3s,SNR=54						
EMIN				Pg	**Pb**	**05 06 04.5**	**-0.4**
	4.7nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**05 06 25.1**	**0.0**
	7.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.83**	**18**	Pn	**Pn**	**05 06 04.7**	**+0.5**
	1.8nm,0.2s,SNR=87						
EADA				Pg	**Pg**	**05 06 08.3**	**+0.1**
	12nm,0.1s,SNR=11						
EADA				Lg	Lg	05 06 32.2	
	65nm,0.2s,SNR=12						
EALB	**Alboran**	**1.88**	**104**	Pn	**Pn**	**05 06 03.9**	**-0.9**
	4.6nm,0.2s,SNR=6.8						
EALB				Pg	**Pg**	**05 06 09.3**	**+0.2**
	11nm,0.3s,SNR=5.5						
EALB				Sn	**Sn**	**05 06 28.3**	**-0.1**
	17nm,0.6s,SNR=6.1						
EBER	**Berja**	**1.98**	**75**	Pn	**Pn**	**05 06 04.6**	**-1.7**
	4.3nm,0.3s,SNR=26						
EBER				Sn	**Sn**	**05 06 31.1**	**0.0**
	44nm,0.3s,SNR=8.1						
EGRO	**El Granado**	**2.08**	**303**	Pn	**Pn**	**05 06 06.7**	**-1.0**
	12nm,0.1s,SNR=57						
EGRO				Sn	**Sn**	**05 06 34.5**	**+1.0**
	33nm,0.5s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.19**	**297**	*e*Pn	**Pn**	**05 06 07.8**	**-1.3**
PVAQ				*e*Sn	**Sn**	**05 06 36.1**	**+0.1**
PVAQ				A	A	05 06 46.7	
	34nm,0.5s						
PVAQ	**Vaqueiros**	**2.19**	**297**	P	**Pb**	**05 06 11.1**	**-1.4**
PVAQ	**Vaqueiros**	**2.19**	**297**	Pn	**Pn**	**05 06 07.8**	**-1.3**
PVAQ				Sn	**Sn**	**05 06 36.1**	**+0.1**
	34nm,0.5s						
EMEL	**Melilla**	**2.19**	**120**	Sn	**Sn**	**05 06 32.8**	**-3.3**
	17nm,0.4s,SNR=7.9						
GOG	**Mont Gurugu**	**2.21**	**122**	P	**Pn**	**05 06 09.4**	**-0.1**
GOG				S	**Sg**	**05 06 44.3**	**+0.2**
MELI	**Melilla**	**2.21**	**120**	Sn	**Sn**	**05 06 36.8**	**+0.2**
	23nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.24**	**51**	Pn	**Pn**	**05 06 11.4**	**+1.5**
	2.1nm,0.2s,SNR=57						
EQES				Pg	**Pb**	**05 06 14.2**	**+0.8**
	4.0nm,0.3s,SNR=7.9						
EQES				Lg	Lg	05 06 46.6	
	20nm,0.3s,SNR=5.7						
PBDV	**Barranco-do-Ve**	**2.28**	**292**	⇓*e*Pn	**Pn**	**05 06 09.4**	**-1.0**
PBDV				*e*Sn	**Sn**	**05 06 38.7**	**+0.3**
PBDV				A	A	05 06 52.5	
	24nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.28**	**292**	Pn	**Pn**	**05 06 09.4**	**-1.0**
PBDV				Sn	**Sn**	**05 06 38.7**	**+0.3**
	24nm,0.7s						
PCVE	**Castro Verde**	**2.52**	**299**	*e*Pn	**Pn**	**05 06 12.5**	**-1.1**
PCVE				*e*Sn	**Sn**	**05 06 44.5**	**+0.3**
PCVE				A	A	05 07 02.3	
	23nm,0.6s						
PCVE	**Castro Verde**	**2.52**	**299**	Pn	**Pn**	**05 06 12.5**	**-1.1**
PCVE				Sn	**Sn**	**05 06 44.5**	**+0.3**
	23nm,0.6s						
ENIJ	**Nijar**	**2.53**	**77**	Pn	**Pn**	**05 06 15.1**	**+1.3**
	2.5nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**05 06 45.0**	**+0.5**
	26nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**2.61**	**308**	*e*Pn	**Pn**	**05 06 14.0**	**-1.0**
PBEJ				*e*Sn	**Sn**	**05 06 47.8**	**+1.3**
PBEJ				A	A	05 07 04.6	
	20nm,0.3s						
PBEJ	**Beja**	**2.61**	**308**	Pn	**Pn**	**05 06 14.0**	**-1.0**
PBEJ				Sn	**Sn**	**05 06 47.8**	**+1.3**
	10nm,0.3s						
EBAD	**Badajoz**	**2.71**	**330**	Pn	**Pn**	**05 06 16.0**	**-0.2**
	0.4nm,0.3s,SNR=22						
EBAD				Pg	**Pb**	**05 06 22.0**	**+0.8**
	1.0nm,0.2s,SNR=17						
EBAD				Lg	Lg	05 06 58.3	
	40nm,0.2s,SNR=7.8						
MESJ	**Messejana**	**2.74**	**302**	*e*P	**Pn**	**05 06 15.5**	**-1.2**
MESJ	**Messejana**	**2.74**	**302**	*e*Pn	**Pn**	**05 06 15.6**	**-1.2**
MESJ				*e*Sn	**Sn**	**05 06 50.0**	**+0.3**
MESJ				A	A	05 07 15.5	
	25nm,0.4s						
MESJ	**Messejana**	**2.74**	**302**	Pn	**Pn**	**05 06 15.6**	**-1.2**
MESJ				Sn	**Sn**	**05 06 50.0**	**+0.3**
	25nm,0.4s						
SESP	**Santiago Espad**	**2.76**	**51**	P	**Pb**	**05 06 22.4**	**0.0**
SESP				S	**Sg**	**05 06 59.9**	**-1.8**
SESP	**Santiago Espad**	**2.76**	**51**	Pn	**Pn**	**05 06 18.0**	**+0.9**
	1.5nm,0.3s,SNR=7.9						
SESP				Pg	**Pb**	**05 06 24.4**	**+2.0**
	7.2nm,0.4s,SNR=7.9						
SESP				Lg	Lg	05 07 02.6	
	129nm,0.5s,SNR=7.9						
MORF	**Marmelete**	**2.84**	**289**	*e*P	**Pn**	**05 06 16.9**	**-1.3**
MORF	**Marmelete**	**2.84**	**289**	*e*Pn	**Pn**	**05 06 17.0**	**-1.2**
MORF				*e*Sn	**Sn**	**05 06 53.1**	**+0.8**
MORF				A	A	05 06 53.6	
	23nm,0.3s						
MORF	**Marmelete**	**2.84**	**289**	Pn	**Pn**	**05 06 17.0**	**-1.2**
MORF				Sn	**Sn**	**05 06 53.1**	**+0.8**
	23nm,0.3s						
PFVI	**Vila Bisbo**	**2.94**	**285**	*e*Pn	**Pn**	**05 06 18.6**	**-0.8**
PFVI				*e*Sn	**Sn**	**05 06 53.5**	**-1.0**
PFVI				A	A	05 07 12.9	
	20nm,0.6s						
PFVI	**Vila Bisbo**	**2.94**	**285**	P	**Pn**	**05 06 18.4**	**-1.0**
PFVI	**Vila Bisbo**	**2.94**	**285**	Pn	**Pn**	**05 06 18.4**	**-1.0**
	12nm,0.2s,SNR=5.6						
PFVI				Sn	**Sn**	**05 06 52.7**	**-1.8**
	18nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.98**	**293**	*e*Pn	**Pn**	**05 06 19.7**	**-0.3**
PTEO				*e*Sn	**Sn**	**05 06 55.0**	**-0.5**
PTEO				A	A	05 07 27.7	
	30nm,0.5s						
PTEO	**Sao Teotonio**	**2.98**	**293**	Pn	**Pn**	**05 06 19.7**	**-0.3**
PTEO				Sn	**Sn**	**05 06 55.0**	**-0.5**
	15nm,0.5s						
JBK	**JBK**	**3.04**	**132**	P	**Pn**	**05 06 23.9**	**+2.9**
JBK				S	**Sn**	**05 06 58.9**	**+1.5**
PESTR	**Estremoz**	**3.05**	**324**	*e*Pn	**Pn**	**05 06 21.9**	**+0.9**
PESTR	**Estremoz**	**3.05**	**324**	*e*Pg	**Pg**	**05 06 30.8**	**-0.7**
PESTR				*e*Sn	**Sn**	**05 06 58.9**	**+1.5**
PESTR				*e*Sg	**Sg**	**05 07 11.5**	**+0.4**
PESTR				A	A	05 07 25.7	
	36nm,0.5s						
PESTR	**Estremoz**	**3.05**	**324**	P	**Pn**	**05 06 23.7**	**+2.7**
PESTR				S	**Sb**	**05 07 01.9**	**-2.4**
PNCL	**Nicolau / Gran**	**3.09**	**304**	*e*Pn	**Pn**	**05 06 20.5**	**-1.0**
PNCL				*e*Sn	**Sn**	**05 06 58.4**	**+0.1**
PNCL				A	A	05 07 29.6	
	25nm,0.5s						
PNCL	**Nicolau / Gran**	**3.09**	**304**	Pn	**Pn**	**05 06 20.5**	**-1.0**
PNCL				Sn	**Sn**	**05 06 58.4**	**+0.1**
	25nm,0.5s						
PAB	**San Pablo**	**3.20**	**13**	Pn	**Pn**	**05 06 23.9**	**+0.7**
	3.0nm,0.3s,SNR=7.9						
PAB				Sn	**Sn**	**05 07 00.6**	**-0.6**
	3.2nm,0.3s,SNR=7.9						
PAB				Lg	Lg	05 07 16.0	
	42nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**3.39**	**177**	P	**Pn**	**05 06 27.9**	**+2.0**
CZD				S	**Sn**	**05 07 09.3**	**+3.2**
ESDC	**Sonseca Array**	**3.41**	**17**	Pn	**Pn**	**05 06 26.1**	**+0.2**
	1.2nm,0.4s,baz=196,slow=12,SNR=73						
ESDC				Sn	**Sn**	**05 07 08.7**	**+2.5**
	3.5nm,0.5s,baz=198,slow=23,SNR=7.3						
ESDC				Lg	Lg	05 07 22.3	
	20nm,0.3s,baz=206,slow=28,SNR=9.7						
PMRV	**Marv??o**	**3.43**	**331**	*e*Pn	**Pn**	**05 06 26.9**	**+0.6**
PMRV				*e*Sn	**Sn**	**05 07 07.2**	**+0.4**
PMRV				*e*Sg	**Sg**	**05 07 21.0**	**-2.3**
PMRV				A	A	05 07 27.9	
	40nm,0.4s						
PMRV	**Marv??o**	**3.43**	**331**	Pn	**Pn**	**05 06 26.9**	**+0.6**
PMRV				Sn	**Sn**	**05 07 07.2**	**+0.4**
PMRV				Lg	Lg	05 07 21.0	
	40nm,0.4s						
EMUR	**La Murta**	**3.52**	**65**	Pn	**Pn**	**05 06 29.4**	**+1.9**
	7.0nm,0.5s,SNR=5.3						
EMUR				Pg	**Pg**	**05 06 39.6**	**-0.9**
	11nm,0.4s,SNR=11						
EMUR				Lg	Lg	05 07 27.1	
	13nm,0.4s,SNR=5.0						
PMTG	**Montargil**	**3.52**	**319**	*e*Pn	**Pn**	**05 06 27.5**	**0.0**
PMTG				*e*Sg	**Sg**	**05 07 25.8**	**-0.5**
PMTG				A	A	05 07 29.8	
	26nm,0.4s						
PMTG	**Montargil**	**3.52**	**319**	Pn	**Pn**	**05 06 27.5**	**0.0**
PMTG				Lg	Lg	05 07 25.8	
	26nm,0.4s						
MD31	**MD31**	**3.58**	**173**	P	**Pn**	**05 06 30.9**	**+2.6**
MD31				S	**Sn**	**05 07 14.1**	**+3.7**
MDT	**Midelt**	**3.64**	**171**	P	**Pn**	**05 06 32.0**	**+2.8**
MDT				S	**Sn**	**05 07 16.6**	**+4.4**
EPLA	**Plasencia**	**3.69**	**350**	Pn	**Pn**	**05 06 30.7**	**+0.9**
	12nm,0.4s,SNR=56						
EPLA				Sn	**Sn**	**05 07 12.7**	**-0.4**
	12nm,0.5s,SNR=7.9						
EPLA				Lg	Lg	05 07 30.7	
	56nm,0.5s,SNR=14						
ETOB	**Tobarra**	**3.70**	**52**	Pn	**Pn**	**05 06 30.8**	**+0.8**
	4.0nm,0.2s,SNR=42						
ETOB				Lg	Lg	05 07 33.0	
	27nm,0.5s,SNR=5.0						
ALMR	**Almeirim**	**3.78**	**317**	*e*Pn	**Pn**	**05 06 30.8**	**-0.1**
ALMR				*e*Sn	**Sn**	**05 07 14.4**	**-0.8**
ALMR				A	A	05 07 44.5	
	50nm,0.5s						
ALMR	**Almeirim**	**3.78**	**317**	Pn	**Pn**	**05 06 30.8**	**-0.1**
ALMR				Sn	**Sn**	**05 07 14.4**	**-0.8**
	25nm,0.5s						
PCBR	**Castelo Branco**	**3.83**	**334**	*e*Pn	**Pn**	**05 06 32.2**	**+0.6**
PCBR				*e*Sn	**Sn**	**05 07 15.5**	**-0.9**
PCBR				*e*Sg	**Sg**	**05 07 35.4**	**-0.5**
PCBR				A	A	05 07 47.8	
	23nm,0.7s						
PCBR	**Castelo Branco**	**3.83**	**334**	Pn	**Pn**	**05 06 32.2**	**+0.6**
PCBR				Sn	**Sn**	**05 07 15.5**	**-0.9**
PCBR				Lg	Lg	05 07 35.4	
	11nm,0.7s						
PTOM	**Tomar**	**4.04**	**323**	*e*Pn	**Pn**	**05 06 34.6**	**+0.1**
PTOM				*e*Sn	**Sn**	**05 07 21.3**	**-0.3**
PTOM				*e*Sg	**Sg**	**05 07 41.5**	**-1.1**
PTOM				A	A	05 07 58.9	
	24nm,0.4s						
PTOM	**Tomar**	**4.04**	**323**	Pn	**Pn**	**05 06 34.6**	**+0.1**
PTOM				Sn	**Sn**	**05 07 21.3**	**-0.3**
PTOM				Lg	Lg	05 07 41.5	
	12nm,0.4s						
PMAFR	**Mafra**	**4.06**	**310**	*e*Pn	**Pn**	**05 06 34.7**	**-0.1**
PMAFR				*e*Sn	**Sn**	**05 07 22.1**	**-0.1**
PMAFR				A	A	05 07 42.1	
	26nm,0.6s						
PMAFR	**Mafra**	**4.06**	**310**	Pn	**Pn**	**05 06 34.4**	**-0.5**
	24nm,0.5s,SNR=10						
PMAFR				Sn	**Sn**	**05 07 21.0**	**-1.2**
	24nm,0.3s,SNR=7.8						
UCM	**Universidad Co**	**4.19**	**22**	⇓*i*P	**Pn**	**05 06 37.9**	**+1.2**
UCM				*e*S	**Sn**	**05 07 28.5**	**+2.9**
GUD	**Guadarrama**	**4.30**	**11**	Pn	**Pn**	**05 06 39.2**	**+0.9**
	3.9nm,0.3s,SNR=27						
GUD				Sn	**Sn**	**05 07 27.4**	**-1.0**
	2.0nm,0.6s,SNR=7.9						
GUD				Lg	Lg	05 07 48.2	
	22nm,0.5s,SNR=8.2						
TDRA	**Tendrara**	**4.31**	**141**	P	**Pn**	**05 06 41.0**	**+2.5**
TDRA				S	**Sn**	**05 07 32.5**	**+3.9**
MTE	**Manteigas**	**4.35**	**337**	*e*Pn	**Pn**	**05 06 39.3**	**+0.4**
MTE				*e*Sn	**Sn**	**05 07 28.6**	**-0.9**
MTE				*e*Sg	**Sg**	**05 07 51.2**	**-1.5**
MTE				A	A	05 08 00.3	
	56nm,0.6s						
MTE	**Manteigas**	**4.35**	**337**	Pn	**Pn**	**05 06 39.3**	**+0.4**
MTE				Sn	**Sn**	**05 07 28.6**	**-0.9**
MTE				Lg	Lg	05 07 51.2	
	28nm,0.6s						
PCAS	**Casmilo, Conde**	**4.42**	**326**	*e*Pn	**Pn**	**05 06 40.1**	**+0.3**
PCAS				*e*Sn	**Sn**	**05 07 31.0**	**-0.2**
PCAS				*e*Sg	**Sg**	**05 07 54.3**	**-0.7**
PCAS				A	A	05 08 16.1	
	30nm,0.5s						
PCAS	**Casmilo, Conde**	**4.42**	**326**	Pn	**Pn**	**05 06 40.1**	**+0.3**
PCAS				Sn	**Sn**	**05 07 31.0**	**-0.2**
PCAS				Lg	Lg	05 07 54.3	
	30nm,0.5s						
EBEN2	**Beniarda presa**	**4.62**	**59**	Pn	**Pn**	**05 06 43.9**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
ECHE	**Chera**	**4.64**	**46**	Pn	**Pn**	**05 06 43.6**	**+0.7**
	2.7nm,0.2s,SNR=7.9						
ECHE				Lg	Lg	05 08 02.8	
	6.7nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.75**	**335**	*e*Pn	**Pn**	**05 06 44.5**	**+0.1**
PVIS				*e*Sn	**Sn**	**05 07 38.0**	**-1.3**
PVIS				*e*Sg	**Sg**	**05 08 03.3**	**-2.2**
PVIS				A	A	05 08 09.2	
	18nm,0.6s						
PVIS	**Viseu**	**4.75**	**335**	Pn	**Pn**	**05 06 44.5**	**+0.1**
PVIS				Sn	**Sn**	**05 07 38.0**	**-1.3**
PVIS				Lg	Lg	05 08 03.3	
	9.1nm,0.6s						
MVO	**Moncorvo**	**4.93**	**344**	⇓*e*Pn	**Pn**	**05 06 47.2**	**+0.3**
MVO				*e*Sn	**Sn**	**05 07 41.9**	**-1.8**
MVO				*e*Sg	**Sg**	**05 08 08.4**	**-2.8**
MVO				A	A	05 08 16.4	
	26nm,0.4s						
MVO	**Moncorvo**	**4.93**	**344**	Pn	**Pn**	**05 06 47.1**	**+0.3**
	1.5nm,0.1s,SNR=20						
MVO				Sn	**Sn**	**05 07 41.8**	**-1.8**
	7.6nm,0.5s,SNR=7.9						
MVO				Lg	Lg	05 08 08.3	
	35nm,0.5s,SNR=5.0						
ETOR	**Torete**	**5.06**	**29**	Pn	**Pn**	**05 06 49.5**	**+0.8**
	18nm,0.4s,SNR=26						
ETOR				Sn	**Sn**	**05 07 43.9**	**-3.1**
	4.9nm,0.2s,SNR=5.5						
ETOR				Lg	Lg	05 08 16.6	
	38nm,0.6s,SNR=5.0						
PVRL	**Vila Real**	**5.20**	**339**	*e*Pn	**Pn**	**05 06 51.1**	**+0.5**
PVRL				*e*Sn	**Sn**	**05 07 49.1**	**-1.4**
PVRL				A	A	05 08 27.8	
	15nm,0.5s						
PVRL	**Vila Real**	**5.20**	**339**	Pn	**Pn**	**05 06 51.1**	**+0.5**
PVRL				Sn	**Sn**	**05 07 49.1**	**-1.4**
	7.3nm,0.5s						
POLO	**Lamas de Olo**	**5.32**	**339**	*e*Sg	**Sg**	**05 08 22.7**	**-1.0**
POLO				A	A	05 08 25.0	
	8.7nm,0.5s						
POLO	**Lamas de Olo**	**5.32**	**339**	Lg	Lg	05 08 22.7	
	8.7nm,0.5s						
EMOS	**Mosqueruela**	**5.45**	**42**	Pn	**Pn**	**05 06 55.1**	**+1.0**
	1.7nm,0.6s,SNR=7.9						
EMOS				Lg	Lg	05 08 28.1	
	3.6nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**5.49**	**348**	*e*Pn	**Pn**	**05 06 55.7**	**+1.1**
PBRG				*e*Sg	**Sg**	**05 08 28.4**	**-0.9**
PBRG				A	A	05 08 36.6	
	14nm,0.5s						
PBRG	**Braganca**	**5.49**	**348**	Pn	**Pn**	**05 06 55.7**	**+1.1**
PBRG				Lg	Lg	05 08 28.4	
	6.8nm,0.5s						
ECAL	**Calabor**	**5.62**	**349**	Pn	**Pn**	**05 06 57.4**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
ECAL				Lg	Lg	05 08 30.9	
	48nm,0.4s,SNR=7.9						
OUK	**Oukaimeden**	**5.63**	**203**	P	**Pn**	**05 06 58.2**	**+1.4**
OUK				S	**Sn**	**05 08 00.6**	**-0.9**
OUZM	**OUZ**	**5.64**	**193**	P	**Pn**	**05 07 00.1**	**+3.4**
OUZM				S	**Sn**	**05 08 07.5**	**+6.1**
ELOB	**Lobios**	**5.85**	**339**	Pn	**Pn**	**05 07 00.3**	**+0.8**
	3.7nm,0.4s,SNR=4.6						
ELOB				Sn	**Sn**	**05 08 03.7**	**-2.7**
	4.4nm,0.3s,SNR=7.9						
ELOB				Lg	Lg	05 08 38.1	
	56nm,1.0s,SNR=7.9						
EIBI	**Ibiza**	**5.86**	**62**	Pn	**Pn**	**05 07 00.5**	**+1.0**
	1.6nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**6.30**	**336**	Lg	Lg	05 08 54.0	
	3.5nm,0.4s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.73**	**342**	Pn	**Pn**	**05 07 12.2**	**+0.7**
	0.7nm,0.2s,SNR=7.9						
EAGO				Lg	Lg	05 09 10.5	
	25nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**6.87**	**0**	Pn	**Pn**	**05 07 14.3**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
EARI				Lg	Lg	05 09 14.1	
	2.8nm,0.6s,SNR=4.0						
ELAN	**Lanestosa**	**6.95**	**11**	Pn	**Pn**	**05 07 15.1**	**+0.6**
	0.6nm,0.4s,SNR=5.8						
ELAN				Sn	**Sn**	**05 08 32.1**	**-1.3**
	1.0nm,0.8s,SNR=7.9						
ELAN				Lg	Lg	05 09 16.9	
	2.2nm,0.4s,SNR=4.0						
EARA	**Aranguren**	**6.95**	**23**	Pn	**Pn**	**05 07 15.9**	**+1.3**
	2.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**6.98**	**43**	Pn	**Pn**	**05 07 16.0**	**+0.9**
	0.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.04**	**349**	Pn	**Pn**	**05 07 16.6**	**+0.7**
	1.5nm,0.2s,SNR=7.9						
EPON				Lg	Lg	05 09 18.3	
	3.7nm,0.4s,SNR=7.9						
IZUN	**Zunzarren**	**7.07**	**23**	Pn	**Pn**	**05 07 17.4**	**+1.1**
	2.5nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.15**	**24**	Pn	**Pn**	**05 07 18.2**	**+0.9**
	0.7nm,0.3s,SNR=7.5						
SJPF	**Ste Jean**	**7.37**	**24**	*e*Pn	**Pn**	**05 07 21.0**	**+0.7**
SJPF				*e*Sn	**Sn**	**05 08 41.3**	**-2.5**
	49nm,1.1s						
SJPF	**Ste Jean**	**7.37**	**24**	Pn	**Pn**	**05 07 21.0**	**+0.7**
SJPF				Sn	**Sn**	**05 08 41.3**	**-2.5**
	25nm,1.1s						
EALK	**Alkurruntz**	**7.38**	**22**	Pn	**Pn**	**05 07 21.9**	**+1.4**
	4.5nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**7.42**	**28**	*e*Pn	**Pn**	**05 07 21.6**	**+0.6**
ETSF				*e*Sn	**Sn**	**05 08 42.2**	**-2.9**
	128nm,2.0s						
ETSF	**

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KBL  Kabul                3.82 178          Pn   05 16 10.7 +2.6
ARSB Arslanbob            4.30  45          Pn   05 16 17.8 +3.1
ARSB                                Sn      Sn   05 17 02.9 -1.3
KK31 Karatay Array        4.88  14 ⇓Pn      Pn   05 16 23.3 +0.7
     413nm,0.9s,baz=207,slow=16,SNR=1687
KK31                            ⇑Pg         Pb   05 16 37.2 +1.8
     1μm,1.1s,baz=193,slow=15,SNR=12
KK31                            ⇑Lg         Lg   05 17 43.0
     2μm,0.8s,baz=195,slow=29,SNR=4.8
KK31 Karatay Array        4.88  14 PN        Pn   05 16 22.6  0.0
KK31 Karatay Array        4.88  14          Pn   05 16 22.6  0.0
KKAR Karatay Array        4.88  14 PN        Pn   05 16 21.7 -0.9
KKAR Karatay Array        4.88  14          Pn   05 16 21.7 -0.9
KKAR Karatay Array        4.88  14          Pn   05 16 22.5 -0.1
CEP  Cherat               5.14 151 P        Pn   05 16 28.1 +1.9
AML  Almayashu            5.24  43 P        Pn   05 16 29.4 +1.5
     SNR=37
EKS2 Erkin-Say            5.67  39 P        Pn   05 16 34.2 +0.8
     SNR=33
UCH  Uchtor               5.76  46 P        Pn   05 16 35.6 +0.6
     SNR=57
CHCP Chirah Chowk         5.87 142 P        Pn   05 16 37.5 +1.3
NIL  Nilore               5.87 142 PN       Pn   05 16 37.8 +1.6
NIL  Nilore               5.87 142          Pn   05 16 37.8 +1.6
THW  Thamme Wali          6.02 157 ⇑P       Pn   05 16 39.4 +1.2
AAK  Ala-Archa            6.02  43 ⇑Pn      Pn   05 16 42.3 +4.0
     849nm,1.0s
AAK                             ⇑Lg         Lg   05 18 21.1
     2μm,0.9s
AAK  Ala-Archa            6.02  43 i P       Pn   05 16 39.5 +1.2
     SNR=38
AAK  Ala-Archa            6.02  43 P         Pn   05 16 40.2 +1.9
     SNR=167
AAK  Ala-Archa            6.02  43d iPN      Pn   05 16 39.3 +1.0
AAK                             pmax        pmax
     comp=Z,431nm,1.0s
AAK  Ala-Archa            6.02  43 Pn        Pn   05 16 38.8 +0.5
     comp=Z,15nm,0.3s,baz=207,slow=6.1,SNR=92
AAK                             Sn          Sn   05 17 49.0 +2.4
     comp=Z,21nm,0.3s,baz=257,slow=18,SNR=1.6
AAK                             Lg          Lg   05 18 16.2
     comp=Z,37nm,0.3s,baz=54,slow=10,SNR=6.3
AAK  Ala-Archa            6.02  43 P         Pn   05 16 38.6 +0.3
     SNR=121
KZA  Kyzart               6.10  51 P         Pn   05 16 40.5 +0.8
     SNR=51
FRU1 Bishkek              6.21  43 PN        Pn   05 16 43.8 +3.0
FRU1 Bishkek              6.21  43          Pn   05 16 43.8 +3.0
NRN  Naryn                6.25  58 PN        Pn   05 16 41.4 -0.2
NRN  Naryn                6.25  58          Pn   05 16 41.4 -0.2
KBK  Karagaybulak         6.28  45 P         Pn   05 16 43.6 +1.7
     SNR=267
CHMS Chumysh              6.41  42 P         Pn   05 16 44.3 +0.8
     SNR=186
USP  Ospenovka            6.47  39 P         Pn   05 16 46.2 +1.8
     SNR=19
HRA  Herat                6.69 236            Pn   05 16 48.5 +0.9
BOOM Boomskoye usch       6.75  50 PN        Pn   05 16 50.5 +2.1
BOOM Boomskoye usch       6.75  50          Pn   05 16 50.5 +2.1
ULHL Ulahol               6.80  53 P         Pn   05 16 50.0 +0.8
     SNR=13
TKM2 Tokmak 2             6.82  46 ⇓Pn      Pn   05 16 49.8 +0.5
     comp=Z,259nm,0.8s
TKM2                            ⇓Pg         Pb   05 17 17.1 +8.7
     comp=Z,679nm,0.8s
TKM2                            ⇑Sn         Sn   05 18 11.2 +5.0
     comp=Z,732nm,0.8s
TKM2                            ⇓Lg         Lg   05 18 47.4
     comp=Z,1μm,1.2s
TKM2 Tokmak 2             6.82  46 i PN       Pn   05 16 49.7 +0.5
TKM2                            pmax        pmax
     comp=Z,259nm,0.7s
TKM2 Tokmak 2             6.82  46 P         Pn   05 16 49.9 +0.6
     SNR=11
SARP Sargodha             7.13 153 P         Pn   05 16 53.2 -0.2
KDJ  Kajisay              7.35  57 P         Pn   05 16 57.3 +0.7
KDJ  Kajisay              7.35  57          Pn   05 16 57.3 +0.7
TARG Taragay, Kyrgy       7.60  61          Pn   05 16 60.0 -0.2
KNDC Almaty               7.79  49 ⇑Pn      Pn   05 17 03.3 +0.8
     comp=Z,603nm,1.1s
KNDC                            ⇓Pg         Pb   05 17 33.2 +8.3
     comp=Z,1μm,0.9s
KNDC                            ⇑Lg         Lg   05 19 16.9
     comp=Z,3μm,1.4s
MDOK Medeo                7.81  50 ⇑Pn      Pn   05 17 04.2 +1.4
     comp=Z,411nm,1.1s
MDOK                            ⇓Lg         Lg   05 19 16.7
     comp=Z,842nm,1.1s
MDOK Medeo                7.81  50 i P       Pn   05 17 04.0 +1.1
PRZ  Przheval'sk          8.32  57 P         Pn   05 17 08.8 -1.1
PRZ  Przheval'sk          8.32  57          Pn   05 17 08.8 -1.1
GEYT Alibeck              8.52 270 Pn        Pn   05 17 11.2 -1.4
     comp=Z,1.8nm,0.3s,baz=106,slow=9.5,SNR=16
GEYT                            LR          LR   05 21 27.8
     comp=Z,4μm,19.1s,baz=85,slow=44
GEYT Alibeck              8.52 270            Pn   05 17 12.6  0.0
GYA0B ALIBECK ARRAY       8.52 270            Pn   05 17 13.5 +0.9
PDGK Podgornoye           9.42  55 ⇓Pn      Pn   05 17 23.7 -1.2
     comp=Z,190nm,1.1s
PDGK                            ⇓Lg         Lg   05 20 09.9
     comp=Z,640nm,1.2s
PDGK Podgornoye           9.42  55 P         Pn   05 17 23.7 -1.2
PDGK                            pmax        pmax
     comp=Z,191nm,1.1s
PDGK                            pmax        pmax
     comp=Z,640nm,1.2s
JASL Jaisalmer           11.53 171 eP         Pn   05 17 51.9 -1.9
JASL                            eS          Sn   05 19 57.0 -4.9
JOSI Joshimath           11.73 128 eP         Pn   05 17 55.9 -0.8
JOSI                            eS          Sn   05 19 50.6 -16
JOSI                            IAML        IAML 05 20 06.9
     comp=N,322nm,0.7s
JOSI                            IAML        IAML 05 20 19.9
     comp=E,742nm,0.8s
NDI  New Delhi           11.88 142 eP         Pn   05 17 57.0 -1.5
NDI                             ex          x    05 20 05.0
KUDL Kundal              12.00 146 eP         Pn   05 17 50.0 -10
KUDL                            eS          Sn   05 19 49.2 -24
KALG Kalgarh             12.03 134 eP         Pn   05 17 49.8 -11
KALG                            eS          Sn   05 19 49.2 -25
AB31 Akbulak array       12.66 332 ⇑Pn       Pn   05 18 06.1 -3.0
     comp=E,134nm,0.9s
AB31                            ⇑Sn         Sn   05 20 29.3 +0.1
     comp=E,180nm,0.9s,baz=145,slow=24,SNR=5.4
AB31 Akbulak array       12.66 332 P          Pn   05 18 06.6 -2.4
AB31                                                05 20 24.4
AB31                            pmax        pmax
     comp=Z,50nm,0.6s
AB31                            smax        smax
     comp=N,573nm,1.2s
ABKAR Akbulak array      12.66 332            Pn   05 18 05.7 -3.3
ABKAR Akbulak array      12.66 332 Pn         Pn   05 18 06.9 -2.1
MAKZ Makanchi            12.78  45 ⇑P         Pn   05 18 10.5 -0.4
     comp=N,99nm,1.2s
MAKZ Makanchi            12.78  45 P          Pn   05 18 10.4 -0.4
MAKZ                            pmax        pmax
     comp=Z,99nm,1.3s
MAKZ Makanchi            12.78  45            Pn   05 18 08.2 -2.6
AJM  Ajmer               12.80 156 eP         Pn   05 18 11.0 -0.1
AJM                             ex          x    05 20 31.0
MK31 Makanchi Array      12.95  45 ⇓P         Pn   05 18 12.5 -0.5
     comp=Z,106nm,0.9s,baz=231,slow=13,SNR=206
MK31 Makanchi Array      12.95  45 i P        Pn   05 18 11.9 -1.2
MK31                            pmax        pmax
     comp=Z,106nm,0.9s
MK31 Makanchi Array      12.95  45            Pn   05 18 12.1 -1.0
MKAR Makanchi Array      12.95  45 i P        Pn   05 18 11.6 -1.4
MKAR                            pmax        pmax
     comp=Z,88nm,0.9s
MKAR Makanchi Array      12.95  45 Pn         Pn   05 18 11.7 -1.4
     comp=Z,1.1nm,0.3s,baz=236,slow=10,SNR=156
MKAR                            Lg          Lg   05 21 58.3
     comp=Z,0.7nm,0.3s,baz=253,slow=27,SNR=4.9
MKAR                            LR          LR   05 23 44.7
     comp=Z,1μm,21.5s,baz=238,slow=40
KURBB Kurchatov Arra     14.03  26 ⇓P         Pn   05 18 24.5 -3.2
     comp=Z,102nm,1.4s
KURBB Kurchatov Arra     14.03  26 Pn         Pn   05 18 23.0 -4.7
     comp=Z,0.3nm,0.3s,baz=218,slow=12,SNR=78
KURBB                           Lg          Lg   05 22 28.8
     comp=Z,0.5nm,0.3s,baz=210,slow=30,SNR=6.1
KURK Kurchatov           14.13  26 ⇑P         Pn   05 18 25.9 -3.3
     comp=Z,82nm,1.3s
KURK Kurchatov           14.13  26deP         Pn   05 18 28.0 -1.2
KURK                            pmax        pmax
     comp=Z,38nm,1.0s
KURK Kurchatov           14.13  26           Pn   05 18 25.9 -3.3
AKTO Aktyubinsk          14.34 331 ⇓Pn       Pn   05 18 30.1 -2.0
     comp=Z,207nm,0.9s
AKTO                            ⇑Sn         Sn   05 21 07.6 -2.7
     comp=Z,332nm,1.4s
AKTO Aktyubinsk          14.34 331 P          Pn   05 18 30.0 -2.0
AKTO                                                05 21 07.5
AKTO                            pmax        pmax
     comp=Z,207nm,0.9s
AKTO                            smax        smax
     comp=N,332nm,1.4s
AKTO Aktyubinsk          14.34 331 Pn         Pn   05 18 29.1 -3.0
     comp=N,1.1nm,0.3s,baz=143,slow=14,SNR=35
AKTO                            Sn          Sn   05 21 03.3 -6.9
     comp=N,1.4nm,0.3s,baz=185,slow=16,SNR=2.7
AKTO                            Lg          Lg   05 22 45.7
     baz=234,slow=19,SNR=1.9
AKTO                            LR          LR   05 24 17.6
     comp=N,1μm,21.4s,baz=146,slow=38
BVAR Borovoye Array      14.70   4 Pn         Pn   05 18 33.3 -3.5
     comp=N,1.0nm,0.3s,baz=172,slow=12,SNR=22
BRVK Borovoye            14.72   3 ⇑Pn        Pn   05 18 37.0 -0.1
     comp=N,182nm,0.8s
BRVK                            ⇓Sn         Sn   05 21 18.8 -0.7
     comp=N,188nm,1.3s
BRVK Borovoye            14.72   3 P          Pn   05 18 37.1 -0.1
     SNR=71
BRVK Borovoye            14.72   3d iP        Pn   05 18 36.3 -0.9
BRVK                            pmax        pmax
     comp=Z,28nm,0.9s
BRVK Borovoye            14.72   3            Pn   05 18 36.7 -0.5
WMQ  Urumqi              15.16  63 eP         Pn   05 18 41.9 -1.2
WMQ                             pP          P    05 18 48.3 +0.2
WMQ                             sP          pP   05 18 52.1 -2.7
WMQ                             PP          sP   05 18 57.6 -0.2
WMQ                             S           Sn   05 21 30.4  0.0
WMQ                             SS          S    05 21 45.6 -1.5
WMQ                             pmax        pmax
     comp=Z,31nm,1.1s
WMQ                             pmax        pmax
     comp=Z,220nm,3.6s
WMQ                             LR          LR
     comp=Z,1μm,4.7s
WMQ                             LR          LR
     comp=Z,1μm,6.1s
WMQ  Urumqi              15.16  63 P          Pn   05 18 42.0 -1.2
WMQ                             pmax        pmax
     comp=Z,92nm,0.9s
WMQ  Urumqi              15.16  63            Pn   05 18 42.0 -1.1
WMQ                             IAmb        IAmb 05 18 58.8
     comp=Z,92nm,0.9s
DANN Dangsing            15.90 125 eP         Pn   05 18 47.7 -5.5
KOLN Koldanda            16.20 126 eP         Pn   05 18 52.3 -4.6
     comp=Z,296nm,0.8s
SHME Shamm               16.34 225 P          Pn   05 18 57.9 -0.6
BANOM Banah              16.35 224 i P        Pn   05 18 57.8 -0.9
     SNR=8.4
AKT  Akhty               16.55 288 eP         Pn   05 19 02.3 +1.2
AKT                             eS          Sn   05 22 08.7 +4.6
AKT                             pmax        pmax
     comp=Z,42nm,0.8s
AKT                             smax        smax
     comp=N,46nm,0.7s
AKT                             smax        smax
     comp=E,26nm,1.2s
GKN  Gorkha              16.71 124 eP         Pn   05 18 58.4 -4.9
     comp=E,1μm,1.2s
MAK  Makhachkala         16.87 293 eP         Pn   05 19 03.4 -1.7
MAK                             eS          Sn   05 22 10.8 -1.0
MAK                             pmax        pmax
     comp=Z,388nm,1.5s
MAK                             MLR         MLR
     comp=Z,3μm,14.0s
SEKA Sheki               16.93 286 P          P    05 19 09.5 +1.7
MNGR Mingechevir, A      17.00 285 P          P    05 19 11.1 +2.6
UOSS Minazif             17.19 223 P          Pn   05 19 07.6 -1.6
UOSS Minazif             17.19 223            Pn   05 19 07.4 -1.8
KKN  Kakani              17.27 123 eP         Pn   05 19 06.5 -3.9
     comp=Z,268nm,0.6s
DMN  Daman               17.28 124 eP         Pn   05 19 06.3 -4.3
     comp=Z,469nm,1.0s
WSAR Wadi Sarin          17.46 213 P          Pn   05 19 12.6 +0.1
     comp=Z,0.3nm,0.3s,baz=75,slow=9.1,SNR=6.7
ASHO Ashiyiah            17.47 222 i P        P    05 19 13.8  0.0
     SNR=14
PKIN Phulchoki           17.49 123 eP         Pn   05 19 08.8 -4.4
PKI  Pulchoki            17.50 123 eP         Pn   05 19 08.6 -4.8
     comp=Z,444nm,0.7s
GANJ Ganja               17.58 285 P          P    05 19 18.1 +3.2
GUN  Gumba               17.59 121 eP         Pn   05 19 10.1 -4.4
DDFL Dedoflistskaro      17.75 287 i P        P    05 19 21.8 +5.0
JBP  Jabalpur            17.86 145⇑eP         P    05 19 21.0 +3.0
JBP                             AMB         AMB  05 19 21.5
     comp=Z,122nm,1.0s
JBP                             ex          x    05 22 23.7
WBK  Wadi Bani Khal      17.87 211 P          Pn   05 19 17.4 -0.3
     SNR=12
ASUD Al Ashush, Dub      17.91 224 P          P    05 19 19.6 +0.9
JIRN Jiri                17.96 121 eP         Pn   05 19 15.3 -3.9
GROC Groznyy             18.14 293 eP         P    05 19 22.1 +1.0
GROC                            eS          Sn   05 22 42.5 -0.2
GROC                            pmax        pmax
     comp=Z,83nm,0.9s
ALNE Al Ain              18.15 222 P          Pn   05 19 20.3 -0.7
NAX  Nakhchivan          18.28 280 P          P    05 19 26.1 +3.4
ARQ  Araqi               18.35 219 P          Pn   05 19 23.8 +0.3
     SNR=8.4
JMDO Jabal Madar         18.45 213 P          Pn   05 19 25.2 +0.4
     SNR=12
BSY  Bisya               18.53 216 P          Pn   05 19 26.4 +0.7
     SNR=8.8
RAMN Ramite              18.70 122 eP         P    05 19 24.9 -2.7
BTNK Botanikuri          18.75 288 i P        Pn   05 19 30.4 +2.0
BTNK                            IAML_P
     comp=Z,513nm,0.2s
GNI  Garni               18.80 283 P          Pn   05 19 31.7 +2.6
     SNR=23
GNI  Garni               18.80 283d iP        Pn   05 19 31.6 +2.6
GNI                             pmax        pmax
     comp=Z,258nm,1.0s
GNI                             MLR         MLR
     comp=Z,2μm,18.0s
GNI  Garni               18.80 283 P          Pn   05 19 30.4 +1.3
     comp=Z,0.6nm,0.3s,baz=77,slow=6.6,SNR=12
GNI                             LR          LR   05 28 15.6
     comp=Z,1μm,19.6s,baz=105,slow=42
GNI  Garni               18.80 283 P          Pn   05 19 30.6 +1.6
GNI                             IAmb        IAmb 05 19 42.9
     comp=Z,151nm,1.1s
TBLG Delisi              18.80 288 P          Pn   05 19 28.8 -0.1
TBLG                            pmax        pmax
     comp=Z,150nm,1.1s
TBLG Delisi              18.80 288 P          Pn   05 19 28.8 -0.1
TBLG                            IAmb        IAmb 05 19 41.8
     comp=Z,150nm,1.1s
ZAA0 Zalesovo Array      19.01  30 ⇑P         P    05 19 28.3 -2.1
     comp=Z,51nm,1.1s
ZAA0 Zalesovo Array      19.01  30 P          P    05 19 28.4 -2.1
ZAA0                            IAmb        IAmb 05 19 31.4
     comp=Z,235nm,0.9s
ZALV Zalesovo Beam       19.01  30 P          P    05 19 28.4 -2.1
     comp=Z,5.6nm,0.3s,baz=226,slow=9.4,SNR=204
ZALV                            LR          LR   05 27 35.8
     comp=Z,565nm,20.6s,baz=226,slow=39
TAPN Taplejung           19.20 119 eP         P    05 19 31.4 -1.6
     comp=Z,130nm,0.6s
NGP  Nagpur              19.26 150 eP         Pn   05 19 36.4 +1.9
NGP                             ex          x    05 23 00.6
SVE  Sverdlovsk          19.27 346⇓eP         P    05 19 32.8 -0.5
SVE                             eS          Sn   05 23 04.3 -5.3
SVE                             pmax        pmax
     comp=Z,149nm,1.2s
SVE                             MLR         MLR
     comp=Z,2μm,10.0s
ODAN Odare               19.29 121 eP         P    05 19 32.3 -1.8
ARU  Arti                19.34 342deP         P    05 19 33.2 -0.9
ARU                             pmax        pmax
     comp=Z,125nm,1.3s
ARU                             MLR         MLR
     comp=Z,1μm,16.0s
ARU  Arti                19.34 342 P          P    05 19 33.3 -0.8
     comp=Z,0.0nm,0.3s,baz=162,slow=8.9,SNR=57
ARU                             S           S    05 23 03.0 -8.4
     comp=Z,0.0nm,0.3s,baz=143,slow=20,SNR=3.0
ARU                             Lg          Lg   05 25 24.1
     comp=Z,0.0nm,0.3s,baz=311,slow=19,SNR=2.2
ARU                             LR          LR   05 27 58.5
     comp=Z,954nm,18.6s,baz=150,slow=40
ARU  Arti                19.34 342 P          P    05 19 32.3 -1.8
ARU                             IAmb        IAmb 05 19 50.5
     comp=Z,86nm,0.9s
ZEI  Tsey                19.48 291 eP         P    05 19 35.9 -0.1
ZEI                             pmax        pmax
     comp=Z,25nm,0.6s
EAK  Akyaka              19.65 285 i P        Pn   05 19 41.6 +2.4
EAK                             IAML_P
     comp=Z,308nm,0.5s
BOM  Bombay              19.70 169 eP         Pn   05 19 42.1 +2.4
BOM                             AMP         AMP  05 19 46.4
     comp=Z,264nm,1.4s
BOM                             AMP         AMP  05 19 46.4
     comp=Z,264nm,1.4s
BOM                             eS          S    05 23 18.7 -0.4
AKH  Akhalkalaki         19.73 287 P          Pn   05 19 40.7 +0.5
AKH                             pmax        pmax
     comp=Z,91nm,1.1s
AKH  Akhalkalaki         19.73 287 P          Pn   05 19 40.7 +0.5
AKH                             IAmb        IAmb 05 19 47.7
     comp=Z,91nm,1.1s
NCK  Nalchik             19.77 293⇑eP         Pn   05 19 40.3 -0.3
NCK                             pmax        pmax
     comp=Z,73nm,0.6s
MZR  Muzera              20.22 225 i P        Pn   05 19 45.2 -0.8
     SNR=6.3
POO  Poona               20.23 166 eP         Pn   05 19 48.5 +2.4
     comp=Z,70nm,1.0s
KBZ  Khabaz              20.30 294d iP        P    05 19 45.5 +0.8
KBZ  Khabaz              20.30 294 P          P    05 19 44.8 +0.1
     comp=Z,11nm,0.7s,baz=130,slow=7.4,SNR=22
KBZ                             LR          LR   05 29 45.3
     comp=Z,2μm,18.2s,baz=84,slow=43
LSA  Lhasa               20.31 109 i P        Pn   05 19 46.6 -0.9
     SNR=17
LSA  Lhasa               20.31 109 P          P    05 19 46.2 +0.8
LSA                             pmax        pmax
     comp=Z,80nm,0.8s
LSA  Lhasa               20.31 109 P          P    05 19 46.2 +0.8
LSA                             IAmb        IAmb 05 19 54.5
     comp=Z,80nm,0.8s
TUTA Tutak               20.33 281 i P        Pn   05 19 49.9 +2.5
TUTA                            IAML_P
     comp=Z,331nm,0.3s
GOF  Gofitskoye          20.39 297⇓i P        Pn   05 19 47.3 -0.5
GOF                             eS          Sn   05 23 35.8 -1.0
GOF                             pmax        pmax
     comp=Z,127nm,0.9s
GOF                             smax        smax
     comp=E,194nm,1.2s
KVAR Kislovodsk Arr      20.48 294 P          P    05 19 47.1 +0.4
     comp=E,2.8nm,0.4s,baz=73,slow=19,SNR=3.7
KVAR                            S           S    05 23 35.0 +0.1
     comp=E,25nm,0.8s,baz=187,slow=15,SNR=4.4
KVAR                            LR          LR   05 29 53.8
     comp=E,1μm,19.1s,baz=270,slow=43
SHA1 Shidzhatmaz         20.48 294 i P        Pn   05 19 48.1 -1.0
KIV  Kislovodsk          20.48 294 i P        P    05 19 46.2 -0.5
     SNR=6.8
KIV  Kislovodsk          20.48 294 P          Pn   05 19 49.4 +0.4
     SNR=7.3
KIV  Kislovodsk          20.48 294 eP         Pn   05 19 48.5 -0.5
KIV                             eS          Sn   05 23 38.0 -1.2
KIV                             pmax        pmax
     comp=Z,202nm,1.0s
KIV                             pmax        pmax
     comp=Z,208nm,4.9s
KIV                             MLR         MLR
     comp=Z,4μm,14.0s
KIV  Kislovodsk          20.48 294 P          P    05 19 47.0 +0.3
EATA Eleskirt            20.54 282 i P        Pn   05 19 51.5 +1.6
EATA                            IAML_P
     comp=Z,30nm,0.1s
DAGI Agillar             20.92 286 i P        Pn   05 19 54.4 +0.3
DAGI                            IAML_P
     comp=Z,508nm,0.7s
AKDA Akdag               21.39 283 i P        P    05 20 05.6 +9.0
HYB  Hyderabad           22.51 155 i P        P    05 20 08.0 -0.7
     comp=Z,120nm,1.0s
HYB                             eS          S    05 24 15.0 +0.5
SOC  Sochi               22.59 293 eP         P    05 20 12.9 +3.6
VRH  Novokhopyorsk       23.02 313 eP         P    05 20 13.4 -0.4
VRH                             eS          S    05 24 22.9 -0.1
VRH                             pmax        pmax
     comp=Z,40nm,0.8s
VRH                             smax        smax
     comp=N,520nm,10.7s
VRH                             MLR         MLR
     comp=Z,2μm,13.0s
SHL  Shillong            23.22 117 P          P    05 20 14.9 -1.2
SHL                             pmax        pmax
     comp=Z,136nm,1.4s
SHL  Shillong            23.22 117 P          P    05 20 14.9 -1.2
SHL                             IAmb        IAmb 05 20 27.8
     comp=Z,136nm,1.4s
KIRV Kirov               23.84 334 P          P    05 20 22.5 +0.8
     comp=Z,47nm,0.7s,baz=110,slow=6.3,SNR=18
KIRV                            LR          LR   05 31 11.3
     comp=Z,414nm,21.5s,baz=172,slow=40
GTA  Gaotai              24.02  78 eP         P    05 20 24.0 +0.2
GTA                             pP          pP   05 20 29.6 -1.2
GTA                             sP          sP   05 20 32.2 -1.7
GTA                             S           S    05 24 38.9 -0.7
GTA                             sS          pS   05 24 46.4 -1.1
GTA                             pmax        pmax
     comp=Z,17nm,1.2s
GTA                             pmax        pmax
     comp=Z,260nm,7.5s
GTA                             LR          LR
     comp=Z,1μm,14.6s
GTA                             LR          LR
     comp=Z,2μm,15.9s
GTA                             LR          LR
     comp=Z,2μm,18.1s
ANN  Anapa               24.31 295 eP         P    05 20 29.6 +3.4
ANN                             ePPP        PPP  05 21 05.0
ANN                             pmax        pmax
     comp=Z,73nm,1.3s
ANN                             MLR         MLR
     comp=Z,2μm,17.0s
VORD Divnogorie          24.36 311 eP         P    05 20 28.3 +1.7
VORD                            pmax        pmax
     comp=Z,10.0nm,0.5s
VORD                            MLR         MLR
     comp=Z,2μm,13.0s
RBK  Rabkut              24.45 216 P          P    05 20 27.7  0.0
     SNR=6.3
VSR  Storozhevoye        24.52 311 eP         P    05 20 28.5 +0.4
VSR                             eS          S    05 24 51.4 +4.2
VSR                             pmax        pmax
     comp=Z,40nm,0.8s
VSR                             smax        smax
     comp=E,320nm,9.4s
VSR                             MLR         MLR
     comp=Z,2μm,14.0s
VORR Voronezh            24.66 312 P          P    05 20 29.0 -0.3
VORR                            pmax        pmax
     comp=Z,250nm,1.8s
RAYN Ar Rayn             24.85 240 i P        P    05 20 31.9 +0.6
     SNR=13
RAYN Ar Rayn             24.85 240 P          P    05 20 32.1 +0.7
RAYN                            pmax        pmax
     comp=Z,34nm,1.0s
RAYN Ar Rayn             24.85 240 P          P    05 20 32.1 +0.7
ABTO Aybut               25.01 217 P          P    05 20 32.9 +0.1
     SNR=5.9
LPSR Galich'ya Gora      25.16 314 eP         P    05 20 34.7 +0.8
LPSR                            pmax        pmax
     comp=Z,70nm,1.0s
LPSR                            MLR         MLR
     comp=Z,2μm,22.0s
MOY  Mondy               26.04  49 eP         P    05 20 43.4 +1.4
MOY                             pmax        pmax
     comp=Z,116nm,1.7s
SIM  Simferopol'         26.68 295c iP        P    05 20 49.2 +1.5
SIM                             pmax        pmax
     comp=Z,64nm,1.0s
ASF  Jabal al Asfar      26.78 266 P          P    05 20 49.6 +0.8
     comp=Z,9.4nm,1.1s,baz=326,slow=5.0,SNR=3.0
ASF                             LR          LR   05 33 58.5
     comp=Z,659nm,21.1s,baz=31,slow=42
ZAK  Zakamensk           27.09  53 eP         P    05 20 51.5  0.0
ZAK                             pmax        pmax
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comp=Z,77nm,1.0s
ILGA Ilgaz 27.10 287 P P 05 20 51.9 +0.1
MOS Moscow 27.17 320 *eP* **P 05 20 51.7 -0.2**
MOS *e*PPP PPP 05 21 41.5
MOS pmax pmax
comp=Z,122nm,1.2s
MOS MLR MLR
comp=Z,1μm,17.0s
BR131 Keskin Array S 27.33 284 P P 05 20 54.8 +1.0
SNR=21
BR131 Keskin Array S 27.33 284 P P 05 20 54.7 +1.0
BR131 pmax pmax
comp=Z,48nm,1.3s
BR131 Keskin Array S 27.33 284 P P 05 20 54.6 +0.9
BR131 IAmb IAmb 05 21 05.5
comp=Z,48nm,1.3s
BRTR Keskin Array B 27.33 284 P P 05 20 54.5 +0.7
BRTR Keskin Array B 27.33 284 P P 05 20 55.2 +1.5
comp=Z,27nm,1.1s,baz=96,slow=7.6,SNR=35
BRTR Keskin Array B 27.33 284 P P 05 20 54.5 +0.7
PRGR Permogore 27.39 336 *eP* **P 05 20 52.8 -1.1**
PRGR *e*S **S 05 25 31.2 -1.3**
PRGR pmax pmax
comp=Z,27nm,0.9s
OBN Obninsk 27.45 318 *eP* **P 05 20 55.6 +1.2**
OBN *i* 05 21 37.7
OBN pmax pmax
comp=Z,100nm,1.3s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 27.45 318 P P 05 20 55.2 +0.8
comp=Z,9.1nm,0.8s,baz=109,slow=18,SNR=12
OBN LR LR 05 34 20.5
comp=Z,304nm,19.9s,baz=121,slow=42
OBN Obninsk 27.45 318 P P 05 20 55.2 +0.8
TLY Talaya 27.63 50 *eP* **P 05 20 58.2 +2.0**
TLY pmax pmax
comp=Z,60nm,1.4s
TLY MLR MLR
comp=Z,2μm,8.0s
TLY Talaya 27.63 50 P P 05 20 57.1 +0.9
comp=Z,4.3nm,0.4s,baz=229,slow=10.0,SNR=3.5
TLY LR LR 05 32 42.9
comp=Z,808nm,19.4s,baz=256,slow=38
TLY Talaya 27.63 50 P P 05 20 56.8 +0.6
MMAI Mount Meron Ar 27.64 269 LR LR 05 34 59.2
comp=Z,389nm,19.9s,baz=50,slow=43
LZH Lanzhou 27.80 84 ⇑P **P 05 20 59.7 +1.6**
LZH pP pP 05 21 03.1 -2.2
LZH sP sP 05 21 06.6 -1.6
LZH sS sS 05 25 48.6 -3.2
LZH SS **SnSn 05 26 54.6 +1.4**
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,84nm,4.3s
LZH LR LR
comp=Z,4μm,14.1s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,2μm,15.2s
ANTO Ankara 27.95 285 P P 05 21 01.2 +1.9
ANTO pmax pmax
comp=Z,47nm,1.2s
ANTO Ankara 27.95 285 P P 05 21 01.2 +1.9
ANTO IAmb IAmb 05 21 05.6
comp=Z,47nm,1.2s
BR231 Keskin MP Arra 27.97 284 P P 05 21 00.9 +1.4
BR231 IAmb IAmb 05 21 09.0
comp=Z,46nm,1.3s
IRK Irkutsk 28.15 49 *eP* **P 05 20 58.7 -2.1**
IRK pmax pmax
comp=Z,65nm,1.5s
CSS Mathiatis 28.64 274 P P 05 21 06.0 +0.6
SONM Songino Array 28.71 59 P P 05 21 05.4 -0.6
comp=Z,12nm,0.9s,baz=265,slow=8.9,SNR=31
SONM LR LR 05 33 46.4
comp=Z,515nm,18.9s,baz=240,slow=39
SONM Songino Array 28.71 59 P P 05 21 05.9 -0.1
KLMR Klimovskoe 29.04 330 *eP* **P 05 21 07.4 -1.2**
KLMR pmax pmax
comp=Z,34nm,1.4s
KLMR Klimovskoe 29.04 330 *eP* **P 05 21 07.5 -1.2**
KLMR AMP 05 21 10.4
comp=Z,34nm,1.4s
KLMR LQ LQ 05 30 09.0
KLMR LQ LQ 05 30 09.0
KLMR LR LR 05 32 04.3
ULN Ulaanbaatar 29.15 59⇓*eP* **P 05 21 09.6 -0.3**
ULN pmax pmax
comp=Z,48nm,1.2s
ULN Ulaanbaatar 29.15 59 P P 05 21 09.7 -0.3
ULN IAmb IAmb 05 21 11.8
comp=Z,50nm,1.2s
EIL Elat 29.33 263 LR LR 05 35 21.4
comp=Z,845nm,19.0s,baz=72,slow=41
EIL Elat 29.33 263 P P 05 21 09.9 -1.6
comp=Z,12nm,1.2s
CD2 Chengdu 29.48 94 P P 05 21 14.9 +2.0
CD2 S **S 05 26 07.7 +1.6**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,1μm,5.9s
CD2 LR LR
comp=Z,2μm,14.3s
CD2 LR LR
comp=Z,1μm,9.8s
KIS Kishinev 30.44 300 *eP* **P 05 21 23.0 +1.9**
KIS *e*SS SS 05 28 19.0 -12
KIS *e*LQ LQ 05 31 16.0
comp=Z,1μm,16.0s
KIS *e*LR LR 05 34 06.0
comp=Z,1μm,14.0s
KIS Kishinev 30.44 300 *eP* **P 05 21 23.0 +1.9**
KIS *e*SS SS 05 28 19.0 -12
KIS MLR MLR
comp=Z,1μm,14.0s
AKASG Malin Array Be 30.49 307 P P 05 21 21.5 -0.1
comp=Z,4.3nm,0.8s,baz=85,slow=7.4,SNR=20
AKASG LR LR 05 36 54.5
comp=Z,424nm,18.9s,baz=90,slow=43
AKASG Malin Array Be 30.49 307 P P 05 21 22.1 +0.5
AKBB Malin Array Si 30.49 307 P P 05 21 21.1 -0.5
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 30.49 307 P P 05 21 21.1 -0.5
SORM Soroca 30.80 302 ⇑P **P 05 21 27.0 +2.7**
ELL Elmali 30.82 279 P P 05 21 25.2 +0.5
ELL pmax pmax
comp=Z,64nm,0.9s
ELL Elmali 30.82 279 P P 05 21 25.2 +0.5
CFR Carcaliu 30.91 296 ⇑P **P 05 21 26.7 +1.3**
MANT Manisa 31.44 283 P P 05 21 31.7 +1.3
KMI Kunming 31.46 105 P P 05 21 32.5 +1.8
KMI S **S 05 26 31.1 -6.5**
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,820nm,27.9s
KMI LR LR
comp=Z,900nm,15.5s
KMI LR LR
comp=Z,1μm,23.7s
KMI Kunming 31.46 105 P P 05 21 31.1 +0.5
KMI pmax pmax
comp=Z,18nm,0.8s
KMI Kunming 31.46 105 P P 05 21 31.1 +0.5
BTO Baotou 31.60 73 *eP* **P 05 21 30.8 -0.8**
ODBI Odobesti 31.66 297 ⇓P **P 05 21 34.7 +2.8**
TMCR Tamitsa 31.66 335 *eP* **P 05 21 32.7 +1.1**
TMCR pmax pmax
comp=Z,47nm,1.1s
HMDM Hanimaadhoo 31.69 172 P P 05 21 31.5 -0.9
VRI Vrincioaia 31.88 297 ⇑P **P 05 21 36.2 +2.3**
TESR Tescani 31.92 299 ⇑P **P 05 21 35.8 +1.5**
PLOR Plostina 31.94 297 ⇑P **P 05 21 36.8 +2.4**
MICGM Minsk 32.01 314 *eP* **P 05 21 37.0 +2.1**
MICGM *e*PP **PnPn 05 22 30.0 -10**
MICGM *e*PPP PPP 05 23 06.0
MICGM *e*S **S 05 26 48.0 +2.9**
MICGM *e*SS ScP 05 27 37.0 -29
MICGM *e*SSS SSS 05 29 30.0
MICGM *e*LQ LQ 05 31 32.0
MICGM *e*LR LR 05 34 26.0
MICGM LRM MLR 05 37 24.0
comp=Z,3.6nm,8.0s
MNK Minsk 32.01 314 *eP* **P 05 21 37.0 +2.1**
MNK *e*PPP PPP 05 23 06.0
MNK *e*S **S 05 26 48.0 +2.9**
MNK MLR MLR
comp=Z,4μm,8.0s
BIZ Bicaz 32.29 299 ⇑P **P 05 21 39.1 +1.6**
MHMT Maesarieng 32.30 120 P P 05 21 40.1 +2.3
comp=Z,33nm,0.7s
XAN Xi'an 32.39 85 P P 05 21 38.9 +0.3
XAN pP pP 05 21 43.2 -2.5
XAN pmax pmax
comp=Z,13nm,0.9s
XAN pmax pmax
comp=Z,440nm,6.8s
XAN LR LR
comp=Z,2μm,13.0s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,900nm,9.8s
XAN Xi'an 32.39 85 P P 05 21 38.8 +0.3
XAN pmax pmax
comp=Z,17nm,0.9s
XAN Xi'an 32.39 85 P P 05 21 38.8 +0.3
PUL Pulkovo 32.43 324⇓*eP* **P 05 21 40.3 +1.8**
PUL pmax pmax
comp=Z,144nm,1.1s
MLR Muntele Rosu 32.44 297 P P 05 21 41.2 +2.2
comp=Z,14nm,0.7s,baz=202,slow=0.4,SNR=21
MLR LR LR 05 38 28.2
comp=Z,761nm,19.4s,baz=96,slow=43
MLR Muntele Rosu 32.44 297 ⇑P **P 05 21 41.9 +2.9**
MLR Muntele Rosu 32.44 297 P P 05 21 41.5 +2.5
MLR IAmb IAmb 05 21 48.8
comp=Z,27nm,0.9s
CMMT Chiang Mai 32.56 118 P P 05 21 46.3 +6.2
comp=Z,5.3nm,1.1s
NRIK Noril'sk 32.62 12 P P 05 21 40.1 0.0
comp=Z,12nm,0.7s,baz=205,slow=5.4,SNR=17
NRIK LR LR 05 37 12.5
comp=Z,1μm,19.5s,baz=206,slow=41
HHC Hu-ho-hao-te 32.71 72 P P 05 21 43.3 +1.9
HHC S **S 05 27 00.9 +4.3**
HHC sS pS 05 27 04.8 +0.1
HHC pmax pmax
comp=Z,7.0nm,0.9s
NACGM Naroch 32.73 314 *e* P 05 21 48.0 +6.8
NACGM *e*LQ LQ 05 31 16.0
NACGM *e*LR LR 05 34 50.0
NACGM LRM MLR 05 37 24.0
comp=Z,2.2nm,14.0s
PALK Pallekele 32.74 158 P P 05 21 41.0 -0.6
PALK Pallekele 32.74 158 P P 05 21 41.0 -0.6
comp=Z,12nm,1.1s,baz=297,slow=4.5,SNR=3.4
PALK Pallekele 32.74 158 P P 05 21 41.1 -0.6
CM31 Chiang Mai Arr 32.80 119 P P 05 21 42.6 +0.4
CMAR Chiang Mai Arr 32.80 119 P P 05 21 41.5 -0.7
comp=Z,9.1nm,0.9s,baz=306,slow=7.7,SNR=31
CMAR PcP **PcP 05 24 28.2 +1.2**
comp=Z,1.8nm,0.3s,baz=290,slow=3.6,SNR=7.0
CMAR LR LR 05 37 18.6
comp=Z,307nm,19.0s,baz=306,slow=41
CMAR Chiang Mai Arr 32.80 119 P P 05 21 42.2 0.0
DOPR Dopca 32.81 298 ⇑P **P 05 21 44.1 +2.1**
ALN Alexandroupoli 32.88 288 P P 05 21 42.3 -0.3
ALN pmax pmax
comp=Z,12nm,1.1s
ALN Alexandroupoli 32.88 288 P P 05 21 42.3 -0.3
BURAR Bucovina Array 32.90 301 ⇑P **P 05 21 44.3 +1.4**
BURAR mb 05 21 51.0
BURAR Bucovina Array 32.90 301 P P 05 21 43.6 +0.8
BUR08 Bucovina Ar. S 32.91 301 P P 05 21 43.3 +0.3
VOIR 33.08 297 ⇑P **P 05 21 46.1 +1.7**
IIGN Ignalina 33.14 315 *eP* **P 05 21 45.0 +0.3**
IZAR Zarasai 33.22 316 *eP* **P 05 21 45.7 +0.3**
KARP Karpathos 33.28 278 P P 05 21 46.2 -0.1
ARR Arges 33.37 297 ⇑P **P 05 21 49.0 +2.0**
ARCR ARCALIA 33.49 300 ⇑P **P 05 21 50.5 +2.5**
VSU Vasula 33.69 320⇓*eP* **P 05 21 51.8 +2.3**
VSU pmax pmax
comp=Z,156nm,1.0s
VSU Vasula 33.69 320 *eP* **P 05 21 51.9 +2.3**
LVV L'vov 33.73 305 *eP* **P 05 21 51.8 +1.8**
LVV *e*S **S 05 27 13.4 +1.5**
LVV MLR MLR
comp=N,800nm,16.0s
LVV MLR MLR
comp=Z,800nm,16.0s
LVV MLR MLR
comp=E,700nm,15.0s
GYA Guiyang 33.78 99⇑*iP* **P 05 21 52.3 +1.4**
GYA pP pP 05 21 59.2 +1.1
GYA PP **PnPn 05 23 05.3 +1.9**
GYA S **S 05 27 18.6 +5.1**
GYA sS sS 05 27 26.7 +1.2
GYA pmax pmax
comp=E,30nm,1.0s
GYA pmax pmax
comp=E,140nm,4.5s
GYA LR LR
comp=E,480nm,16.9s
GYA LR LR
comp=E,420nm,17.0s
GYA LR LR
comp=E,450nm,16.8s
NANT Nan 33.80 116 P P 05 21 50.2 -0.7
comp=E,170μm,0.9s
LOT Lotru 33.98 297 ⇑P **P 05 21 54.2 +1.8**
CJR Cluj-Napoca 34.02 299 ⇑P **P 05 21 54.9 +2.2**
APE Apeiranthos 34.12 282 ⇑P **P 05 21 55.2 +1.7**
APE mb 05 21 59.1
ENH Enshi 34.25 91 P P 05 21 55.6 +0.9
ENH IAmb IAmb 05 22 02.1
comp=Z,23nm,0.9s
UMPA Umpang Tak 34.32 122 P P 05 22 01.2 +5.7
comp=Z,19μm,1.2s
PABE Paberze 34.43 315 *eP* **P 05 21 55.7 -0.2**
DEV Deva 34.55 298 ⇑P **P 05 21 59.7 +2.6**
KWP Kalwaria Pacla 34.58 304 P P 05 21 58.4 +1.0
KWP pmax pmax
comp=Z,297nm,1.2s
KWP Kalwaria Pacla 34.58 304 *eP* **P 05 21 58.8 +1.3**
KWP *eP* **P 05 21 58.8 +1.3**
KWP Kalwaria Pacla 34.58 304 P P 05 21 58.4 +1.0
DRGR 34.62 299 ⇑P **P 05 22 00.0 +2.1**
SUW Suwalki 34.63 312 P P 05 21 57.9 +0.1
SUW pmax pmax
comp=Z,62nm,1.1s
SUW Suwalki 34.63 312 *eP* **P 05 22 00.4 +2.6**
SUW *eP* **P 05 22 00.4 +2.6**
SUW Suwalki 34.63 312 P P 05 21 57.9 +0.1
GZR Gura Zlata 34.68 297 ⇑P **P 05 21 59.7 +1.3**
VTS Vitosha 34.68 292 P P 05 21 58.8 +0.3
VTS Vitosha 34.68 292 ⇑P **P 05 22 00.8 +2.3**
VTS mb 05 22 01.1
VTS Vitosha 34.68 292 P P 05 21 58.8 +0.3
TRPA Tarpa 34.69 302 ⇑P **P 05 22 00.2 +1.9**
TRPA mb 05 22 04.8
UZH Uzhgorod 34.85 302 *eP* **P 05 22 01.0 +1.3**
UZH *e*S **S 05 27 29.0 -0.2**
AOS Alonnisos 34.85 286 P P 05 22 00.8 +1.0
KOLS Kolonicke sedl 34.86 303 *eP* **P 05 22 01.5 +1.7**
KOLS pmax pmax
comp=Z,22nm,1.5s
KOLS Kolonicke sedl 34.86 303 *eP* **P 05 22 01.5 +1.7**
KOLS *e* 05 35 20.2
HERR Herculane 34.98 296 ⇑P **P 05 22 01.5 +0.6**
BOD Bodaibo 35.00 41 *eP* **P 05 21 59.4 -1.4**
BOD pmax pmax
comp=Z,51nm,1.0s
FIA1 FINESS Array S 35.01 325 P P 05 22 01.5 +0.6
FIA1 IAmb IAmb 05 22 07.5
comp=Z,30nm,0.8s
FINES FINESS Array B 35.01 325 P P 05 22 00.4 -0.5
FINES FINESS Array B 35.01 325 P P 05 22 00.7 -0.2
comp=Z,14nm,0.8s,baz=124,slow=8.6,SNR=37
FINES LR LR 05 36 35.3
comp=Z,1μm,18.3s,baz=106,slow=37
FINES FINESS Array B 35.01 325 P P 05 22 00.4 -0.5
LVZ Lovozero 35.12 338⇑*iP* **P 05 22 02.9 +1.1**
LVZ pmax pmax
comp=Z,32nm,0.8s
LVZ Lovozero 35.12 338 P P 05 22 03.0 +1.1
LVZ IAmb IAmb 05 22 07.8
comp=Z,28nm,0.8s
PTL Penteli 35.13 284 P P 05 22 03.2 +0.9
KHLT Khaolaem Dam 35.16 124 P P 05 22 01.0 -1.7
comp=Z,40nm,1.0s
KNT Kendrikon 35.17 289 P P 05 22 03.5 +0.9
UTHA Uthaitani 35.17 122 P P 05 22 04.4 +1.6
comp=Z,26μm,0.9s
APA Apatity 35.28 337⇓*iP* **P 05 22 06.8 +3.6**
APA pmax pmax
comp=Z,12nm,1.0s
APA MLR MLR
comp=Z,2μm,11.0s
XOR Xorichti 35.33 286 P P 05 22 05.0 +1.0
SIRR Siria 35.38 298 ⇑P **P 05 22 06.9 +2.5**
BZS Buzias 35.47 297 ⇑P **P 05 22 07.2 +2.1**
PBKT Sadao Pong 35.50 119 P P 05 22 06.3 +0.7
comp=Z,16nm,2.0s
PBKT Sadao Pong 35.50 119 P P 05 22 05.4 -0.1
PBKT IAmb IAmb 05 22 16.1
comp=Z,43nm,1.5s
VAM Vamos 35.63 279 P P 05 22 07.6 +1.0
LIT Litokhoron 35.69 288 P P 05 22 06.6 -0.5
LIT pmax pmax
comp=Z,19nm,0.9s
LIT Litokhoron 35.69 288 P P 05 22 06.6 -0.5
LIT IAmb IAmb 05 22 12.1
comp=Z,19nm,0.9s
IMMV Iera Moni Meta 35.78 280 P P 05 22 09.5 +1.6
SRDT SRDT 35.84 124 P P 05 22 10.2 +1.7
comp=Z,21nm,0.8s
NONG Nongkai 36.02 115 P P 05 22 11.2 +1.1
comp=Z,1.0nm,0.8s
KECS Kecovo 36.05 302 *eP* **P 05 22 11.3 +1.2**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 36.05 302 *eP* **P 05 22 11.3 +1.2**
AGG Agios Georgios 36.06 286 P P 05 22 08.5 -1.8
AGG Agios Georgios 36.06 286 P P 05 22 10.4 +0.1
AGG pmax pmax
comp=Z,24nm,1.0s
AGG Agios Georgios 36.06 286 P P 05 22 10.4 +0.1
AGG IAmb IAmb 05 22 15.8
comp=Z,24nm,1.0s
NIE Niedzica 36.15 304 *eP* **P 05 22 12.8 +1.9**
NIE Niedzica 36.15 304 *eP* **P 05 22 12.8 +1.9**
NIE *eP* **P 05 22 12.8 +1.9**
BJI Beijing 36.32 72⇑*iP* **P 05 22 14.1 +1.7**
BJI pmax pmax
comp=Z,16nm,0.7s
BJI LR LR
comp=Z,2μm,17.1s
BJI LR LR
comp=Z,720nm,16.1s
BJI LR LR
comp=Z,930nm,20.8s
FNA Florina 36.38 289 P P 05 22 13.9 +0.9
FNA pmax pmax
comp=Z,24nm,1.0s
FNA Florina 36.38 289 P P 05 22 13.9 +0.9
FNA IAmb IAmb 05 22 21.9
comp=Z,24nm,1.0s
SERG Sergoula 36.42 285 P P 05 22 12.7 -0.6
OJC Ojcow 36.47 305 P P 05 22 13.1 -0.5
OJC pmax pmax
comp=Z,25nm,0.9s
OJC Ojcow 36.47 305 *eP* **P 05 22 14.3 +0.8**
OJC *eP* **P 05 22 14.3 +0.8**
OJC Ojcow 36.47 305 P P 05 22 13.1 -0.5
OJC IAmb IAmb 05 22 20.8
comp=Z,25nm,0.9s
PSZ Piszkesteto 36.48 301 P P 05 22 14.6 +0.8
PSZ pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 36.48 301 ⇑P **P 05 22 15.8 +2.0**
PSZ mb 05 22 22.0
PSZ Piszkesteto 36.48 301 P P 05 22 14.6 +0.8
EVR Evrytania 36.48 286 P P 05 22 15.0 +1.1
CHAI Chaiyaphum 36.66 118 P P 05 22 17.7 +2.2
comp=Z,33μm,0.9s
LANS Liptovska Anna 36.70 303 *eP* **P 05 22 17.6 +1.9**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 36.70 303 *eP* **P 05 22 17.6 +1.9**
PVO Paravola 36.77 286 P P 05 22 16.9 +0.6
PDO Prodromos 37.03 286 P P 05 22 18.5 0.0
VYHS Vyhne 37.15 302 *eP* **P 05 22 20.9 +1.5**
VYHS pmax pmax
comp=Z,19nm,1.5s
VYHS Vyhne 37.15 302 *eP* **P 05 22 20.9 +1.5**
PHET Kaeng Krachan 37.23 125 P P 05 22 20.9 +0.5
comp=Z,53μm,0.9s,comp=Z,877μm
IGT Igoumenitsa 37.44 287 P P 05 22 19.0 -3.0
KFL Anninata 37.46 285 P P 05 22 19.9 -2.3
OKC Ostrava-Krasne 37.54 305 AMS AMS 05 38 50.0
comp=Z,600nm,12.3s
HIA Hailar 37.60 56⇓*eP* **P 05 22 24.1 +0.9**
HIA pmax pmax
comp=Z,91nm,1.0s
HIA Hailar 37.60 56 P P 05 22 25.1 +1.9
JAVC Velka Javorina 37.90 303 *eP* **P 05 22 27.5 +1.7**
MORC Moravsky Berou 37.93 305 P P 05 22 27.2 +1.1
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC Moravsky Berou 37.93 305 ⇑P **P 05 22 27.6 +1.5**
MORC mb 05 22 37.9
MORC Moravsky Berou 37.93 305 *eP* **P 05 22 26.5 +0.4**
MORC Moravsky Berou 37.93 305 P P 05 22 27.2 +1.1
WHN Wuhan 37.96 88 P P 05 22 33.6 +7.2
TIA Tai'an 38.07 78 P P 05 22 28.5 +1.2
TIA pmax pmax
comp=Z,13nm,1.1s
SMOL Smolenice 38.08 302 *eP* **P 05 22 28.6 +1.3**
SMOL pmax pmax
comp=Z,7.0nm,1.0s
SMOL Smolenice 38.08 302 *eP* **P 05 22 28.6 +1.3**
GKP Gorka Klasztor 38.10 310 *eP* P 05 22 34.2 +6.9
GKP Gorka Klasztor 38.10 310 *eP* P 05 22 34.2 +6.9
GKP *eP* P 05 22 34.2 +6.9
MODS Modra-Piesok 38.19 302 *eP* **P 05 22 29.2 +0.9**
MODS pmax pmax
comp=Z,11nm,1.1s
MODS Modra-Piesok 38.19 302 *eP* **P 05 22 29.2 +0.9**
KRLC Kraliky 38.41 305 *eP* **P 05 22 30.2 +0.1**
KRLC MLR MLR
comp=Z,2μm,13.4s
KRLC Kraliky 38.41 305 *eP* **P 05 22 30.2 +0.1**
KRLC *e*pP **pP 05 22 34.5 -2.8**
KRLC AMS AMS 05 40 50.0
comp=Z,900nm,13.4s
VRAC Vranov 38.58 304 P P 05 22 32.7 +1.3
comp=Z,7.5nm,0.8s,baz=94,slow=8.4,SNR=16
VRAC Vranov 38.58 304 ⇑P **P 05 22 33.5 +2.0**
VRAC mb 05 22 39.3
VRAC Vranov 38.58 304 *eP* **P 05 22 32.4 +0.9**
KSP Ksiaz 38.69 306 *eP* **P 05 22 33.4 +1.0**
KSP Ksiaz 38.69 306 *eP* **P 05 22 33.4 +1.0**
KSP *eP* **P 05 22 33.4 +1.0**
DPC Dobruska-Polom 38.69 306 *eP* **P 05 22 33.3 +0.8**
DPC MLR MLR
comp=Z,800nm,15.8s
DPC Dobruska-Polom 38.69 306 *eP* **P 05 22 33.3 +0.8**
DPC *ex* x 05 22 36.3
DPC AMS AMS 05 41 40.0
comp=Z,800nm,15.8s
ARCES ARCESS Array B 38.79 337 P P 05 22 33.0 0.0
ARCES ARCESS Array B 38.79 337 P P 05 22 33.0 0.0
comp=Z,13nm,0.6s,baz=120,slow=8.6,SNR=22
ARCES LR LR 05 40 17.5
comp=Z,370nm,19.9s,baz=122,slow=39
ARCES ARCESS Array B 38.79 337 P P 05 22 33.0 0.0
ARE0 ARCESS Array S 38.79 337 *eP* **P 05 22 33.5 +0.5**
ARE0 ARCESS Array S 38.79 337 P P 05 22 33.5 +0.5
CHVC Chvalec 38.85 306 *eP* **P 05 22 35.0 +1.2**
CHVC *ex* x 05 22 40.3
CHVC AMS AMS 05 41 30.0
comp=Z,1μm,19.3s
UPC Upice 38.88 306 *eP* **P 05 22 35.6 +1.6**
UPC MLR MLR
comp=Z,1μm,16.2s
UPC Upice 38.88 306 *eP* **P 05 22 35.6 +1.6**
UPC *ex* x 05 22 38.9

UPC AMS AMS 05 41 30.0
comp=Z,1µm,16.2s
CONA Conrad Observa 39.18 302 *e*P **P** **05 22 37.2 +0.6**
comp=Z,33nm,1.1s
KTK1 Kautokeino 39.24 336 *e*P **P** **05 22 36.1 -0.6**
TREC Trest 39.30 304 *e*P **P** **05 22 38.7 +1.2**
TREC MLR MLR
comp=Z,900nm,9.6s
TREC Trest 39.30 304 *e*P **P** **05 22 38.7 +1.2**
TREC *e*pP **pP** **05 22 45.0 +0.2**
TREC AMS AMS 05 41 40.0
comp=Z,900nm,9.6s
ARSA Arzberg 39.48 301 *e*P **P** **05 22 38.7 -0.4**
comp=Z,5.0nm,1.0s
GOPC GO Pecny, Ondr 39.70 305 AMS AMS 05 42 10.0
comp=Z,800nm,13.7s
SURT Suratani 39.73 130 P **P** **05 22 42.6 +1.2**
comp=Z,17nm,0.7s
PVCC Panska Ves 39.80 306 AMS AMS 05 41 50.0
comp=Z,800nm,12.9s
PRU Pruhonice 39.86 305 *e*P **P** **05 22 42.8 +0.7**
PRU *e* 05 22 59.4
PRU MLR MLR
comp=Z,800nm,14.2s
PRU Pruhonice 39.86 305 *e*P **P** **05 22 42.8 +0.7**
PRU *e*pP **pP** **05 22 46.5 -2.9**
PRU *e*x x 05 22 59.4
PRU AMS AMS 05 41 40.0
comp=Z,800nm,14.2s
HAMF Hammerfest 39.88 338 *e*P **P** **05 22 42.3 +0.3**
SOKA Soboth 39.89 300 *e*P **P** **05 22 42.9 +0.3**
comp=Z,11nm,0.9s,SNR=8.7
PRA Prague 39.92 305 AMS AMS 05 41 50.0
comp=Z,900nm,12.2s
BRG Berggiesshubel 40.18 306 *e*P **P** **05 22 45.6 +0.8**
comp=Z,7.2nm,0.7s
BRG *i* 05 22 51.2
comp=Z,20nm,0.8s
BRG *i* 05 23 02.2
comp=Z,35nm,1.2s
comp=N,545nm,9.8s
comp=E,738nm,15.1s
comp=Z,1µm,14.1s
PBCC Pribram 40.23 305 *e*P **P** **05 22 46.9 +1.6**
PBCC *e*x x 05 22 52.9
MOA Molln 40.25 302 *e*P **P** **05 22 46.0 +0.6**
comp=Z,9.3nm,1.1s
GEC2 GERESS Array S 40.51 303 P **P** **05 22 49.1 +1.5**
GERES GERESS Array B 40.51 303 P **P** **05 22 48.1 +0.4**
GERES GERESS Array B 40.51 303 P **P** **05 22 48.6 +1.0**
comp=Z,2.1nm,0.7s,baz=74,slow=7.3,SNR=14
GERES LR LR 05 41 02.5
comp=Z,460nm,20.1s,baz=80,slow=38
GERES GERESS Array B 40.51 303 P **P** **05 22 48.1 +0.4**
KHC Kasperske Hory 40.56 304⇓*e*P **P** **05 22 49.1 +1.1**
KHC pmax pmax
comp=Z,25nm,1.5s
KHC Kasperske Hory 40.56 304 *e*P **P** **05 22 49.3 +1.3**
KHC *e*pP **pP** **05 22 55.7 +0.4**
KHC *e*x x 05 23 04.6
KHC AMS AMS 05 41 40.0
comp=Z,700nm,11.1s
KHC Kasperske Hory 40.56 304 P **P** **05 22 49.7 +1.7**
HFS Hagfors 40.58 321 P **P** **05 22 47.6 -0.4**
comp=Z,16nm,0.7s,baz=96,slow=9.1,SNR=33
CLL Collm 40.74 307 *e*P **P** **05 22 50.0 +0.6**
CLL pmax pmax
comp=Z,25nm,1.1s
CLL MLR MLR
comp=Z,600nm,19.3s
CLL Collm 40.74 307 *e*P **P** **05 22 50.0 +0.6**
CLL *i*pP **pP** **05 22 56.0 -0.6**
comp=Z,25nm,1.1s
CLL *i* 05 23 06.4
CLL *e*PP **PP** **05 24 21.0 -2.3**
CLL *i* 05 24 43.3
CLL *e*PPP PPP 05 24 49.0
CLL *e*PPPP 05 24 57.0
CLL *e* 05 29 49.0
CLL LmV 05 42 00.0
comp=Z,600nm,19.3s
CLL Collm 40.74 307 P **P** **05 22 50.1 +0.6**
MYKA Terra Mystica 40.85 300 *i* P **P** **05 22 51.5 +1.0**
comp=Z,6.8nm,0.9s
NJ2 Nanjing 40.88 83 *e*P **P** **05 22 51.3 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 LR LR
comp=Z,2µm,16.6s
NJ2 LR LR
comp=Z,830nm,15.6s
NJ2 LR LR
comp=Z,1µm,16.6s
KBA Koelnbreinsper 40.98 301 *e*P **P** **05 22 51.8 +0.1**
comp=Z,24nm,1.1s,SNR=4.3
CEL Celeste 41.12 287 P **P** **05 22 56.6 +3.9**
NKC Novy Kostel 41.18 306 AMS AMS 05 42 40.0
comp=Z,800nm,17.3s
MOR8 Moi Rana 41.38 330 *e*P **P** **05 22 53.9 -0.6**
STAL STALIGIAL 41.54 300 P **P** **05 22 57.0 +0.8**
STEI Steigen 41.56 333 *e*P **P** **05 22 56.5 +0.6**
ABTA Abfaltersbach 41.59 300 pP **P** **05 22 59.3 +2.6**
comp=Z,13nm,1.4s
NC405 NORSAR Array S 41.66 322 P **P** **05 22 56.9 0.0**
NC602 NORSAR Array S 41.70 322 P **P** **05 22 58.9 +1.7**
NC602 IAmb IAmb 05 23 09.9
comp=Z,82nm,1.2s
NC303 NORSAR Array S 41.84 322 P **P** **05 22 58.4 +0.1**
NB201 NORSAR Array S 41.86 322 P **P** **05 23 00.2 +1.7**
NB2 NORSAR Subarra 41.89 322 P **P** **05 22 58.3 -0.5**
comp=Z,37nm,0.9s,baz=96,slow=8.6
NB2 NORSAR Subarra 41.89 322 P **P** **05 22 58.3 -0.5**
baz=96,slow=8.6
NOA NORSAR Array B 41.89 322 P **P** **05 22 58.2 -0.6**
comp=Z,6.4nm,0.7s,baz=97,slow=8.2,SNR=24
NOA LR LR 05 40 43.1
comp=Z,522nm,18.9s,baz=105,slow=37
NRCA Norcia 41.95 294 P **P** **05 23 00.7 +1.2**
GRA1 Grafenberg Arr 42.03 305 P **P** **05 23 02.1 +2.1**
GRF Grafenberg Arr 42.03 305 P **P** **05 23 02.1 +2.1**
GRF pmax pmax
comp=Z,30nm,1.0s
NSS Namsos 42.04 327 *e*P **P** **05 23 01.3 +1.4**
ZEA Zeya 42.06 49 *e*P **P** **05 23 00.5 +0.3**
ZEA pmax pmax
comp=Z,23nm,1.0s
WTTA Wattenberg 42.10 301 *e*P **P** **05 23 01.2 +0.3**
comp=Z,19nm,1.0s,SNR=4.4
NBO00 NORSAR Array S 42.10 322 *e*P **P** **05 22 59.8 -0.7**
NBO00 NORSAR Array S 42.10 322 P **P** **05 23 00.6 0.0**
NBO00 IAmb IAmb 05 23 06.1
comp=Z,73nm,1.0s
WATA Walderalm 42.13 301 *e*P **P** **05 23 00.6 -0.4**
comp=Z,15nm,1.2s
NC204 NORSAR Array S 42.13 322 P **P** **05 23 01.0 +0.2**
MLSI Meulaboh, Aceh 42.17 137 P **P** **05 22 59.0 -2.5**
comp=Z,40nm,0.8s
SKLT Songkhla 42.24 129 P **P** **05 23 06.1 +4.0**
comp=Z,8.3nm,1.0s
CN2 Changchun 42.25 64 *e*P P 05 22 53.3 -8.6
MURB Monte Urbino 42.27 295 P **P** **05 23 05.3 +3.1**
MURB IAmb IAmb 05 23 08.8
comp=Z,81nm,1.3s
CTI Castel Tesino 42.30 299 P **P** **05 23 03.5 +1.0**
CTI pmax pmax
comp=Z,12nm,0.9s
CTI Castel Tesino 42.30 299 P **P** **05 23 03.5 +1.0**
SQTA Sankt Quirin 42.40 301 *e*P **P** **05 23 01.8 -1.4**
comp=Z,9.1nm,1.2s
TEOL Teolo 42.42 298 P **P** **05 23 04.1 +0.8**
TEOL IAmb IAmb 05 23 08.3
comp=Z,49nm,1.2s
MOTA Moosalm 42.45 301 *e*P **P** **05 23 01.9 -1.7**
comp=Z,11nm,0.9s,SNR=6.6
VAE Valguarnera 42.47 286 P **P** **05 23 04.6 +0.8**
comp=Z,10.0nm,0.9s,baz=246,slow=20,SNR=2.6
RAFF Raffo Rosso 42.59 286 P **P** **05 23 07.1 +2.3**
RAFF IAmb IAmb 05 23 10.8
comp=Z,66nm,1.0s
KONO Kongsberg 42.59 320 *e*P **P** **05 23 04.3 -0.1**
FETA Feichten 42.75 301 *e*P **P** **05 23 05.7 -0.4**
comp=Z,21nm,1.4s
DOMB Dombas 43.01 323 *e*P **P** **05 23 07.4 -0.5**
DAVA Damuels 43.27 302 *e*P **P** **05 23 09.9 -0.4**
comp=Z,27nm,1.1s,SNR=5.0

CLTB Caltabellotta 43.34 287 P **P** **05 23 14.2 +3.2**
DAVOX Davos/Dischmat 43.37 301 P **P** **05 23 11.1 -0.1**
comp=Z,9.5nm,0.8s
TPTI 43.43 137 P **P** **05 23 10.9 -0.8**
YAK Yakutsk 43.44 37 *e*P **P** **05 23 10.1 -1.1**
YAK *e**PP **sP** **05 23 21.2 -0.3**
YAK *e* 05 24 49.7
YAK *e* 05 24 58.2
YAK *e*PPP PPP 05 25 26.8
YAK *e*S **S** **05 29 35.5 -2.4**
YAK *e**SS **sS** **05 29 55.1 +5.0**
YAK *e*SS **SS** **05 32 42.8 -9.2**
YAK *e* 05 33 09.0
YAK *e*SSS SSS 05 33 27.6
YAK pmax pmax
comp=Z,80nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,49nm,1.1s
YAK pmax pmax
comp=Z,151nm,2.7s
YAK pmax pmax
comp=N,140nm,2.3s
YAK pmax pmax
comp=E,70nm,2.2s
YAK smax smax
comp=N,46nm,2.0s
YAK smax smax
comp=E,49nm,2.0s
YAK Yakutsk 43.44 37 P **P** **05 23 10.3 -1.0**
comp=E,41nm,0.7s,baz=77,slow=1.2,SNR=25
YAK LR LR 05 42 23.4
comp=E,1µm,19.9s,baz=278,slow=38
YAK Yakutsk 43.44 37 P **P** **05 23 09.7 -1.5**
BFO Black Forest 44.11 303 P **P** **05 23 17.6 +0.7**
BFO pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 44.11 303 P **P** **05 23 17.6 +0.7**
BLS5 Blasjo 44.19 319 *e*P **P** **05 23 16.7 -0.7**
IPM Ipoh 44.62 131 P **P** **05 23 19.6 -1.7**
TIXI Tiksi 44.68 23⇑*i*P **P** **05 23 19.7 -1.4**
TIXI pmax pmax
comp=Z,165nm,0.8s
TIXI MLR MLR
comp=Z,648nm,20.0s
TIXI Tiksi 44.68 23 P **P** **05 23 20.1 -1.0**
comp=Z,157nm,0.9s,baz=290,slow=5.0,SNR=114
TIXI LR LR 05 43 23.4
comp=Z,522nm,18.2s,baz=177,slow=38
TIXI Tiksi 44.68 23 IAmb IAmb 05 23 23.2
comp=Z,164nm,0.9s
PSI Prapat 44.77 135 P **P** **05 23 21.6 -1.0**
comp=Z,5.9nm,0.8s,baz=318,slow=6.2,SNR=6.8
RPSI Rantau Prapat 44.86 135 P **P** **05 23 21.9 -1.3**
RPSI Rantau Prapat 44.86 135 P **P** **05 23 21.6 -1.6**
MDJ Mudanjiang 44.96 62 P **P** **05 23 24.4 +0.7**
MDJ pP pP 05 23 30.0 -1.0
MDJ sP sP 05 23 32.4 -1.6
MDJ PcP **PcP** **05 25 05.8 +1.1**
MDJ ScP **ScP** **05 28 57.2 +1.6**
MDJ PcS **PcS** **05 28 59.9 +1.7**
MDJ S **S** **05 30 01.7 +1.1**
MDJ sS sS 05 30 12.4 -0.3
MDJ ScS **ScS** **05 33 20.3 +0.9**
MDJ pmax pmax
comp=Z,30nm,1.7s
MDJ LR LR
comp=Z,940nm,7.8s
MDJ LR LR
comp=Z,1µm,4.7s
MDJ LR LR
comp=Z,1µm,4.9s
MDJ Mudanjiang 44.96 62 P **P** **05 23 26.4 +2.7**
SENIN Lac Senin/Sane 45.20 301 P **P** **05 23 26.2 +0.4**
SENIN IAmb IAmb 05 23 32.5
comp=Z,14nm,0.7s
MEM Membach 45.21 307 P **P** **05 23 26.8 +1.2**
comp=Z,20nm,1.1s
GSI Gunungsitoli 45.28 138 P **P** **05 23 25.8 -0.8**
comp=Z,71nm,0.5s,comp=Z,3µmcomp=Z,93µm
GSI Gunungsitoli 45.28 138 P **P** **05 23 28.1 +1.6**
WLF Walferdange 45.28 306 P **P** **05 23 28.2 +2.0**
WLF pmax pmax
comp=Z,36nm,1.0s
WLF Walferdange 45.28 306 P **P** **05 23 27.8 +1.6**
comp=Z,29nm,1.4s
WLF Walferdange 45.28 306 P **P** **05 23 28.2 +2.0**
WLF IAmb IAmb 05 23 34.9
comp=Z,36nm,1.0s
SPITS Spitsbergen Ar 45.30 347 P **P** **05 23 26.3 +0.4**
comp=Z,14nm,0.8s,baz=102,slow=12,SNR=8.3
KLR Kul'dur 45.41 55⇓*i*P **P** **05 23 27.8 +0.6**
KLR pmax pmax
comp=Z,44nm,1.4s
KLR Kul'dur 45.41 55 P **P** **05 23 26.9 -0.3**
comp=Z,21nm,1.1s,baz=280,slow=7.7,SNR=13
KLR LR LR 05 44 08.9
comp=Z,456nm,21.3s,baz=242,slow=38
KSRS Korea Array 45.86 72 P **P** **05 23 31.2 +0.4**
comp=Z,9.2nm,0.9s,baz=283,slow=5.9,SNR=14
KSRS PcP **PcP** **05 25 07.2 -0.6**
comp=Z,7.3nm,1.0s,baz=280,slow=4.3,SNR=5.7
KSRS LR LR 05 45 25.0
comp=Z,1µm,18.3s,baz=291,slow=40
BNI Bardonecchia 45.93 299 P **P** **05 23 33.1 +1.5**
BNI pmax pmax
comp=Z,44nm,1.3s
BNI Bardonecchia 45.93 299 P **P** **05 23 33.1 +1.5**
BNI IAmb IAmb 05 23 36.7
comp=Z,44nm,1.3s
BMRD Maredsous 46.05 307 P **P** **05 23 33.9 +1.7**
comp=Z,18nm,1.2s
KBS Kingsbay 46.43 347 *c*e P **P** **05 23 37.8 +3.0**
KBS pmax pmax
comp=Z,336nm,1.3s
KBS Kingsbay 46.43 347 *e*P **P** **05 23 36.8 +2.0**
KBS Kingsbay 46.43 347 P **P** **05 23 37.4 +2.6**
USRK Ussuriysk Ar. 46.72 62 P **P** **05 23 36.5 -1.1**
comp=Z,14nm,0.9s,baz=275,slow=6.2,SNR=19
USRK LR LR 05 45 14.0
comp=Z,589nm,18.5s,baz=275,slow=39
USRK Ussuriysk Ar. 46.72 62 P **P** **05 23 37.6 -0.1**
KEST Kesra 46.90 286 P **P** **05 23 39.2 0.0**
comp=Z,34nm,1.1s,baz=233,slow=2.8,SNR=10
KEST LR LR 05 47 33.8
comp=Z,211nm,18.3s,baz=337,slow=42
KEST Kesra 46.90 286 P **P** **05 23 39.5 +0.2**
KEST IAmb IAmb 05 23 44.1
comp=Z,45nm,1.1s
VLA Vladivostok 46.95 63⇓*e*P **P** **05 23 40.7 +1.3**
VLA pmax pmax
comp=Z,52nm,1.1s
WACR West Acre 48.13 311 *e*P **P** **05 23 48.4 0.0**
CLF Chambon-Foret 48.15 304 P **P** **05 23 49.6 +1.0**
MYKOM Kota Tinggi 48.45 130 P **P** **05 23 52.4 +1.1**
MYKOM IAmb IAmb 05 23 55.3
comp=Z,40nm,1.4s
PDSI Padang 48.69 136 P **P** **05 23 52.3 -0.9**
comp=Z,17nm,0.9s,comp=Z,5µm
KMBO Kilima Mbogo 48.94 224 P **P** **05 23 56.3 +0.9**
KMBO Kilima Mbogo 48.94 224 P **P** **05 23 55.6 +0.2**
comp=Z,9.0nm,1.1s,baz=336,slow=14,SNR=7.1
KMBO LR LR 05 48 38.6
comp=Z,200nm,18.0s,baz=56,slow=41
KMBO Kilima Mbogo 48.94 224 IAmb IAmb 05 24 00.1
comp=Z,11nm,1.1s
HPK Haverah Park 49.20 313 *e*P **P** **05 23 57.1 +0.5**
HPK IAmb IAmb 05 23 57.4
comp=Z,50nm,0.9s
EDMD Edmundbyers 49.22 314 *e*P **P** **05 23 56.3 -0.5**
EDMD IAmb IAmb 05 23 59.8
comp=Z,46nm,0.9s
CWF Charnwood Fore 49.27 311 *e*P **P** **05 23 57.2 0.0**
CWF IAmb IAmb 05 23 57.8
comp=Z,23nm,0.9s
JNU Nakatsue 49.74 76 P **P** **05 24 02.3 +1.2**
comp=Z,60nm,1.1s,baz=310,slow=4.3,SNR=4.1
JNU LR LR 05 47 15.0
comp=Z,563nm,18.2s,baz=284,slow=39
EKA Eskdalemuir Ar 49.80 315 P **P** **05 24 01.1 -0.1**
comp=Z,24nm,0.9s,baz=85,slow=7.8,SNR=21
ESK Eskdalemuir 49.83 315 *e*P **P** **05 24 00.4 -1.0**
ESK IAmb IAmb 05 24 03.4
comp=Z,92nm,1.5s

ESK Eskdalemuir 49.83 315 P **P** **05 24 01.8 +0.4**
ESK pmax pmax
comp=Z,68nm,1.4s
ESK Eskdalemuir 49.83 315 P **P** **05 24 01.8 +0.4**
STRD Stroud 50.01 310 *e*P **P** **05 24 03.0 +0.1**
STRD IAmb IAmb 05 24 09.0
comp=Z,67nm,0.9s
JMIC Jan Mayen 50.20 335 P **P** **05 24 04.8 +0.8**
comp=Z,41nm,0.3s,baz=192,slow=18,SNR=6.1
HLM1 Long Mynd 50.26 311 *e*P **P** **05 24 05.0 +0.2**
MONM Monmouth 50.38 310 *e*P **P** **05 24 06.2 +0.5**
MONM IAmb IAmb 05 24 11.2
comp=Z,66nm,0.9s
PGBU Glenifferbraes 50.43 315 *e*P **P** **05 24 05.9 -0.1**
PGBU IAmb IAmb 05 24 10.1
comp=Z,117nm,1.4s
MCH1 Michaelchurch 50.45 310 *e*P **P** **05 24 06.2 0.0**
MCH1 IAmb IAmb 05 24 09.6
comp=Z,159nm,1.5s
KPL Plockton 50.75 318 *e*P **P** **05 24 07.8 -0.5**
KPL IAmb IAmb 05 24 09.6
comp=Z,118nm,1.5s
TGY Tagaytay City 51.75 103 LR LR 05 49 37.0
comp=Z,325nm,18.4s,baz=55,slow=40
MBAR Mbarara 52.31 231 P **P** **05 24 21.5 +0.7**
comp=Z,4.0nm,0.5s,baz=52,slow=6.8,SNR=12
MBAR Mbarara 52.31 231 P **P** **05 24 22.2 +1.4**
DAG Danmarks Havn 52.47 343 *i* P **P** **05 24 21.2 +0.3**
DAG pmax pmax
comp=Z,130nm,1.3s
DAG Danmarks Havn 52.47 343 *i* P **P** **05 24 21.2 +0.3**
comp=Z,69nm,1.3s
PPBI Pangkal Pinang 52.96 131 P P 05 24 37.8 +12
YSS Yuzh-Sakhalins 53.11 55 *e*P **P** **05 24 27.4 +1.3**
YSS pmax pmax
comp=Z,60nm,1.0s
SBUM Sibu 53.29 121 P **P** **05 24 29.7 +1.9**
SEY Seymchan 53.80 34⇑*i*P **P** **05 24 32.1 +1.2**
SEY Seymchan 53.80 34 P **P** **05 24 30.7 -0.2**
comp=Z,7.2nm,0.8s,baz=12,slow=17
MJB9 Matsu-Tunnel 53.81 69 P **P** **05 24 31.8 +0.3**
MAJO Matsushiro 53.82 69 *d*e P **P** **05 24 32.3 +0.8**
MAJO pmax pmax
comp=Z,25nm,0.9s
MAJO Matsushiro 53.82 69 P **P** **05 24 31.7 +0.2**
MAT Matsushiro 53.82 69 P **P** **05 24 31.1 -0.4**
MJAR Matsushiro Arr 53.82 69 P **P** **05 24 31.6 +0.1**
comp=Z,23nm,1.0s,baz=286,slow=10,SNR=25
MJAR LR LR 05 49 32.7
comp=Z,262nm,18.2s,baz=295,slow=38
MJAR Matsushiro Arr 53.82 69 P **P** **05 24 32.3 +0.8**
MA2 Magadan 53.93 39 *d*e P **P** **05 24 32.5 +0.6**
MA2 pmax pmax
comp=Z,32nm,1.1s
MA2 Magadan 53.93 39 P **P** **05 24 32.3 +0.4**
comp=Z,20nm,0.9s,baz=287,slow=18,SNR=3.9
MA2 LR LR 05 51 15.8
comp=Z,192nm,19.6s,baz=283,slow=40
MA2 Magadan 53.93 39 IAmb IAmb 05 24 39.6
comp=Z,69nm,1.5s
ASAJ Asahikawa 53.99 59 P **P** **05 24 32.4 -0.2**
comp=Z,15nm,0.9s,baz=354,slow=11,SNR=4.6
ASAJ LR LR 05 47 22.5
comp=Z,258nm,22.0s,baz=280,slow=36
JKA Kamikawa-asahi 53.99 59 P **P** **05 24 32.4 -0.3**
SCO Scoresbysund 54.68 336 *i* P **P** **05 24 36.8 -0.4**
SCO pmax pmax
comp=Z,17nm,1.2s
SCO Scoresbysund 54.68 336 *i* P **P** **05 24 36.8 -0.4**
comp=Z,17nm,1.2s
SCO Scoresbysund 54.68 336 P **P** **05 24 37.5 +0.3**
ESBB Sonseca Array 55.13 296 P **P** **05 24 40.3 -0.7**
ESBB IAmb IAmb 05 24 45.8
comp=Z,18nm,0.9s
ESDC Sonseca Array 55.14 296 P **P** **05 24 41.1 0.0**
comp=Z,18nm,1.0s,baz=61,slow=7.5,SNR=31
ESDC LR LR 05 51 53.5
comp=Z,147nm,18.9s,baz=40,slow=40
ESDC Sonseca Array 55.14 296 P **P** **05 24 40.9 -0.2**
PAB San Pablo 55.46 296 P **P** **05 24 43.9 +0.5**
PAB pmax pmax
comp=Z,14nm,1.1s
PAB San Pablo 55.46 296 P **P** **05 24 43.9 +0.5**
TAM Tamanrasset 55.74 273 P **P** **05 24 45.6 -0.2**
TAM pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 55.74 273 P **P** **05 24 45.6 -0.2**
MVO Moncorvo 56.67 299 *e*P **P** **05 24 53.4 +1.3**
POLO Lamas de Olo 57.11 299 *e*P P 05 25 00.2 +5.0
comp=Z,13nm,1.3s
PCAB Cabril 57.13 300 *e*P **P** **05 24 57.0 +1.7**
comp=Z,68nm,1.2s
MTE Manteigas 57.35 298 *e*P **P** **05 24 58.7 +1.8**
comp=Z,54nm,1.5s
MTE Manteigas 57.35 298 P **P** **05 24 56.0 -0.9**
MTE IAmb IAmb 05 25 01.8
comp=Z,29nm,1.0s
PVIS Viseu 57.46 299 *e*P **P** **05 24 58.4 +0.8**
comp=Z,64nm,1.4s
PCBR Castelo Branco 57.53 298 *e*P **P** **05 24 58.6 +0.5**
comp=Z,26nm,1.5s
PMRV Marv??o 57.65 297 *e*P **P** **05 25 00.1 +1.1**
BILL Bilibino 57.66 26 *i* P **P** **05 24 58.1 -0.5**
BILL *i* 05 25 13.4
BILL *i* 05 25 54.2
BILL pmax pmax
comp=Z,48nm,1.1s
BILL MLR MLR
comp=Z,735nm,18.0s
BILL Bilibino 57.66 26 P **P** **05 24 58.3 -0.2**
COI Coimbra 58.03 298 *e*P **P** **05 25 03.5 +2.0**
comp=Z,79nm,1.0s
PCAS Casmilo, Conde 58.15 298 *e*P **P** **05 25 05.8 +3.3**
comp=Z,58nm,1.6s
PTOM Tomar 58.28 298 *e*P **P** **05 25 05.0 +1.7**
comp=Z,66nm,1.1s
PBEJ Beja 58.59 296 *e*P **P** **05 25 09.2 +3.6**
comp=Z,39nm,1.4s
SUMG Summit 58.76 340 *i* P **P** **05 25 07.0 +0.4**
SUMG pmax pmax
comp=Z,120nm,0.9s
SUMG Summit 58.76 340 *i* P **P** **05 25 07.0 +0.4**
comp=Z,122nm,0.9s
SUMG Summit 58.76 340 P **P** **05 25 07.0 +0.4**
PVAQ Vaqueiros 58.77 295 *e*P **P** **05 25 07.5 +0.8**
comp=Z,67nm,1.3s
PVAQ Vaqueiros 58.77 295 P **P** **05 25 07.0 +0.3**
MESJ Messejana 58.93 296 *e*P **P** **05 25 08.0 +0.2**
MESJ AMb AMB 05 25 10.8
comp=Z,39nm,1.2s
MESJ Messejana 58.93 296 *e*P **P** **05 25 09.0 +1.1**
comp=Z,40nm,1.4s
MESJ Messejana 58.93 296 *e*P **P** **05 25 08.0 +0.2**
PBDV Barranco-do-Ve 58.99 295 *e*P **P** **05 25 12.6 +4.3**
comp=Z,79nm,1.4s
KCP Kidapawan 59.38 107⇓*e*P **P** **05 25 12.1 +0.7**
PETK Petropavlovsk- 59.78 44 P P **05 25 13.3 -0.2**
PETK Petropavlovsk- 59.78 44 P **P** **05 25 12.3 -1.3**
comp=Z,7.2nm,0.9s,baz=326,slow=1.7,SNR=4.3
PETK LR LR 05 52 33.3
comp=Z,140nm,18.9s,baz=260,slow=38
PETK Petropavlovsk- 59.78 44 P **P** **05 25 13.3 -0.2**
MPSI Mapaga 60.10 116 P **P** **05 25 14.7 -1.5**
MPSI pP **pP** **05 25 21.0 -2.7**
KBKI Kotabaru 60.17 122 P **P** **05 25 15.0 -1.7**
PET Petropavlovsk 60.34 44 *e*P **P** **05 25 16.6 -0.7**
PET *e*S **S** **05 33 26.6 -3.8**
PET pmax pmax
comp=Z,41nm,1.1s
PET MLR MLR
comp=Z,300nm,16.0s
ABPO Ambohimpanom 60.60 204 P **P** **05 25 20.5 +0.8**
ABPO pmax pmax
comp=Z,17nm,1.0s
ABPO Ambohimpanom 60.60 204 P **P** **05 25 20.5 +0.8**
ABPO IAmb IAmb 05 25 23.7
comp=Z,17nm,0.9s
MRSI Marisa 61.45 115 P **P** **05 25 25.4 0.0**
KULLO Kullorsuaq 61.86 346 *i* P **P** **05 25 28.0 +0.7**
KULLO pmax pmax
comp=Z,82nm,1.1s
KULLO Kullorsuaq 61.86 346 *i* P **P** **05 25 28.0 +0.7**
comp=Z,82nm,1.1s
TULEG Thule 62.31 350 P **P** **05 25 30.5 +0.1**
JAGI Jajag, Banyuwa 62.80 128 P **P** **05 25 33.9 -0.5**

ILULI	Ilulissat	64.09	340	P	P	05 25 42.5	+0.3
ILULI				pmax	pmax		
comp=Z,59nm,0.8s							
ILULI	Ilulissat	64.09	340	P	P	05 25 42.5	+0.3
TOA0	Torodi Ar. Sit	64.14	266	P	P	05 25 42.7	-0.7
TOA0				IAmb	IAmb	05 25 47.1	
comp=Z,16nm,0.8s							
TORD	Torodi Ar. Bea	64.14	266	P	P	05 25 42.3	-1.1
comp=Z,16nm,0.9s,baz=40,slow=5.6,SNR=27							
TORD				LR	LR	05 56 16.7	
comp=Z,103nm,20.1s,baz=10.0,slow=38							
TORD	Torodi Ar. Bea	64.14	266	P	P	05 25 42.5	-0.8
TNTI	Ternate	65.19	110	P	P	05 25 49.8	-0.4
SFJD	Kangerlussuaq	65.41	338	*i* P	P	05 25 50.7	-0.1
SFJD	Kangerlussuaq	65.41	338	*i* P	P	05 25 50.7	-0.1
SFJD	Kangerlussuaq	65.41	338	P	P	05 25 51.3	+0.5
comp=Z,33nm,1.0s,baz=50,slow=9.5,SNR=6.2							
SFJD	Kangerlussuaq	65.41	338	P	P	05 25 51.3	+0.5
LSZ	Lusaka	65.60	224	P	P	05 25 53.1	+0.2
LSZ				pmax	pmax		
comp=Z,9.0nm,1.0s							
LSZ	Lusaka	65.60	224	P	P	05 25 53.1	+0.2
RES	Resolute Bay	66.72	355	P	P	05 25 59.0	-0.1
RES				pmax	pmax		
comp=Z,12nm,1.0s							
RES	Resolute Bay	66.72	355	P	P	05 25 59.7	+0.6
comp=Z,11nm,1.0s,baz=26,slow=9.9,SNR=12							
RES	Resolute Bay	66.72	355	P	P	05 25 59.0	-0.1
RES				IAmb	IAmb	05 26 09.7	
comp=Z,12nm,0.9s							
RDOG	Red Dog Mine	67.03	19	P	P	05 26 01.9	+0.6
A36M	Sachs Harbour	69.49	5	P	P	05 26 16.4	-0.1
baz=348							
TOLK	Toolik Lake Re	69.53	14	P	P	05 26 17.1	+0.2
baz=328							
TOLK	Toolik Lake Re	69.53	14	P	P	05 26 17.1	+0.2
COLD	Coldfoot	70.61	15	P	P	05 26 24.2	+0.6
IMAR	Indian Mountai	70.89	17	P	P	05 26 24.5	-0.8
FAKI	Fak Fak	71.27	110	P	P	05 26 26.8	-1.5
FAKI	Fak Fak	71.27	110	P	P	05 26 26.2	-2.1
FAKI				IAmb	IAmb	05 26 31.3	
comp=Z,43nm,1.3s							
BMAR	Burnt Mountain	71.51	13	P	P	05 26 29.6	+0.6
FYU	Fort Yukon	72.16	14	P	P	05 26 33.4	+0.5
INK	Inuvik	72.32	9	P	P	05 26 33.7	-0.1
comp=Z,46nm,1.0s,baz=348,slow=7.0,SNR=44							
INK	Inuvik	72.32	9	P	P	05 26 33.8	0.0
MLY	Manley	72.37	17	P	P	05 26 35.4	+1.1
MLY				IAmb	IAmb	05 26 36.8	
comp=Z,42nm,1.2s							
FRB	Frobisher Bay	72.78	342	P	P	05 26 36.2	-0.4
comp=Z,32nm,1.0s,baz=50,slow=6.1,SNR=4.5							
MDM	Murphy Dome	72.98	16	P	P	05 26 37.9	0.0
POKR	Poker Plat Res	73.01	15	P	P	05 26 38.4	+0.4
baz=331							
PRP	Porcupine Dome	73.04	14	P	P	05 26 38.2	-0.1
PRP				IAmb	IAmb	05 26 41.3	
comp=Z,33nm,1.2s							
BPAW	Bear Paw Mtn.	73.11	17	P	P	05 26 38.8	+0.1
BPAW				IAmb	IAmb	05 26 41.3	
comp=Z,37nm,1.0s							
NEA	Nenana	73.13	16	P	P	05 26 38.0	-0.7
TCOL	CIGO, UAF Yank	73.13	15	P	P	05 26 39.3	+0.7
baz=330							
COLA	College	73.14	15⇓	*e*P	P	05 26 38.4	-0.3
COLA				pmax	pmax		
comp=Z,78nm,1.1s							
COLA	College	73.14	15	P	P	05 26 38.5	-0.1
DBIC	Dimbokro	73.17	265	P	P	05 26 39.6	-0.1
comp=Z,6.5nm,0.8s,baz=12,slow=7.7,SNR=6.9							
DBIC				LR	LR	06 02 43.7	
comp=Z,191nm,19.1s,baz=28,slow=39							
KIC	Kosan Boka	73.27	265	*e*P	P	05 26 40.6	+0.3
comp=Z,29nm,1.1s							
TIC	Toumodi	73.32	265	*e*P	P	05 26 42.0	+1.4
CCB	Clear Creek Bu	73.34	16	P	P	05 26 39.6	-0.3
CCB				IAmb	IAmb	05 26 45.7	
comp=Z,36nm,1.3s							
IL31		73.43	15	P	P	05 26 40.0	-0.4
IL31				IAmb	IAmb	05 26 42.3	
comp=Z,33nm,1.1s							
ILAR	Eielson Array	73.43	15	P	P	05 26 39.3	-1.1
comp=Z,20nm,1.0s,baz=330,slow=2.8,SNR=73							
ILAR				LR	LR	06 03 10.3	
comp=Z,170nm,19.7s,baz=332,slow=39							
ILAR	Eielson Array	73.43	15	P	P	05 26 39.7	-0.7
WRH	Wood River Hil	73.44	16	P	P	05 26 39.8	-0.7
WRH				IAmb	IAmb	05 26 42.2	
comp=Z,18nm,1.1s							
LIC	Lamto	73.58	265	*e*P	P	05 26 37.0	-5.1
comp=Z,34nm,1.1s							
KTH	Kantishna Hill	73.59	17	P	P	05 26 41.6	+0.1
HDA	Harding Lake	73.73	15	P	P	05 26 41.5	-0.7
baz=331							
HDA	Harding Lake	73.73	15	P	P	05 26 41.2	-1.0
HDA				IAmb	IAmb	05 26 44.0	
comp=Z,21nm,1.1s							
EPYK	Eagle Plains	73.74	10	P	P	05 26 42.5	+0.2
baz=339							
EPYK	Eagle Plains	73.74	10	P	P	05 26 43.0	+0.7
EPYK				IAmb	IAmb	05 26 44.6	
comp=Z,40nm,1.2s							
TRF	Thorofare Moun	73.83	17	P	P	05 26 43.2	+0.1
MCK	McKinley	73.89	17	P	P	05 26 43.4	+0.2
MCK				pmax	pmax		
comp=Z,18nm,1.1s							
MCK	McKinley	73.89	17	P	P	05 26 43.4	+0.2
MCK				IAmb	IAmb	05 26 45.3	
comp=Z,18nm,1.1s							
RND	Reindeer	74.20	17	P	P	05 26 44.1	-1.0
RND				pmax	pmax		
comp=Z,38nm,1.2s							
RND	Reindeer	74.20	17	P	P	05 26 44.1	-1.0
RND				IAmb	IAmb	05 26 46.5	
comp=Z,38nm,1.2s							
EGAK	Eagle	74.51	13	P	P	05 26 47.1	+0.4
EGAK				IAmb	IAmb	05 26 49.3	
comp=Z,46nm,1.4s							
RIDG	Independent Ri	74.76	15	P	P	05 26 48.2	-0.1
SKT	Skwentna	74.79	19	P	P	05 26 48.0	-0.5
TSUM	Tsumeb	74.81	230	P	P	05 26 47.8	-1.5
DHY	Denali Highway	74.81	16	P	P	05 26 48.2	-0.5
DHY				IAmb	IAmb	05 26 50.6	
comp=Z,33nm,1.1s							
LBTB	Lobatse	74.99	220	P	P	05 26 50.7	+0.5
LBTB				pmax	pmax		
comp=Z,42nm,1.4s							
LBTB	Lobatse	74.99	220	P	P	05 26 50.7	+0.5
LBTB				IAmb	IAmb	05 26 54.7	
comp=Z,42nm,1.4s							
DOT	Dot Lake	75.00	15	P	P	05 26 49.7	+0.1
DOT				IAmb	IAmb	05 26 51.8	
comp=Z,27nm,1.1s							
PAX	Paxson	75.32	15	P	P	05 26 51.0	-0.6
PAX				pmax	pmax		
comp=Z,50nm,1.1s							
PAX	Paxson	75.32	15	P	P	05 26 51.0	-0.6
DAWY	Dawson	75.47	12	P	P	05 26 52.7	+0.3
SMPI	Sarmi	75.52	104	P	P	05 26 52.9	-0.4
GHO	Glory Hole Cre	75.60	18	P	P	05 26 52.6	-0.6
MENT	Mentasta	75.70	15	P	P	05 26 53.9	+0.2
PMR	Palmer	75.71	18	P	P	05 26 53.6	-0.1
PMR				pmax	pmax		
comp=Z,46nm,1.2s							
PMR	Palmer	75.71	18	P	P	05 26 53.6	-0.1
SML	Sawmill	75.71	17	P	P	05 26 53.2	-0.6
RSO	Redoubt South	75.76	20	P	P	05 26 55.9	+1.6
SCM	Sheep Creek Mo	75.92	17	P	P	05 26 54.8	-0.2
SCM				pmax	pmax		
comp=Z,53nm,0.9s							
SCM	Sheep Creek Mo	75.92	17	P	P	05 26 54.8	-0.2
BCAR	Beaver Creek A	75.96	14	P	P	05 26 55.8	+0.5
RC01	Rabbit Creek A	76.00	18	P	P	05 26 56.1	+0.7
KNK	Knik Glacier	76.03	18	P	P	05 26 56.0	+0.4
GLI	Glacier Island	76.81	17	P	P	05 26 59.9	-0.1
BRLK	Bradley Lake	76.85	19	P	P	05 27 00.2	-0.1
BRLK				IAmb	IAmb	05 27 02.4	
comp=Z,24nm,0.9s							
SEW	Seward	76.92	19	P	P	05 27 01.2	+0.6
SEW				IAmb	IAmb	05 27 02.6	
comp=Z,31nm,1.1s							
GLB	Gilahina Butte	77.04	15	P	P	05 27 01.9	+0.5
FID	Port Fidalgo	77.07	17	P	P	05 27 00.5	-1.0
FID				IAmb	IAmb	05 27 07.7	
comp=Z,22nm,0.8s							
MCARA	McCarthy VSAT	77.25	15	P	P	05 27 03.6	+1.1
MCARA				IAmb	IAmb	05 27 05.8	
comp=Z,34nm,1.0s							
VRDI	Verde Repeater	77.31	15	P	P	05 27 03.3	+0.3
VRDI				IAmb	IAmb	05 27 05.6	
comp=Z,35nm,1.2s							
FITZ	Fitzroy Crossi	77.33	125	P	P	05 27 03.2	-0.3
EYAK	Cordova Ski Ar	77.42	17	P	P	05 27 04.7	+1.3
EYAK				IAmb	IAmb	05 27 06.9	
comp=Z,27nm,1.0s							
KNRA	Kununurra	77.62	121	P	P	05 27 04.5	-0.6
KNRA				IAmb	IAmb	05 27 07.2	
comp=Z,34nm,1.4s							
BALM	Baldy	77.71	15	P	P	05 27 05.3	+0.1
BALM				IAmb	IAmb	05 27 08.6	
comp=Z,28nm,0.9s							
CRQM	Cirque	77.80	15	P	P	05 27 06.1	+0.3
CRQM				IAmb	IAmb	05 27 17.5	
comp=Z,35nm,1.0s							
RAGM	Ragged Mountai	77.80	16	P	P	05 27 08.0	+2.4
RAGM				IAmb	IAmb	05 27 12.4	
comp=Z,25nm,0.9s							
TGL	Tana Glacier	77.86	15	P	P	05 27 06.5	+0.5
TGL				IAmb	IAmb	05 27 10.7	
comp=Z,29nm,1.0s							
CTGM	Chitina Glacie	77.97	15	P	P	05 27 07.4	+0.7
KDAK	Kodiak Island	78.08	21	P	P	05 27 06.7	-0.4
comp=Z,30nm,1.0s,baz=322,slow=2.9,SNR=12							
KDAK	Kodiak Island	78.08	21	P	P	05 27 07.7	+0.6
WAX	Waxell Ridge	78.14	15	P	P	05 27 09.5	+2.0
WAX				IAmb	IAmb	05 27 16.2	
comp=Z,41nm,1.3s							
BOSA	Boshof	78.14	218	P	P	05 27 08.0	+0.1
comp=Z,17nm,1.0s,baz=46,slow=7.4,SNR=9.6							
BOSA				LR	LR	06 00 53.5	
comp=Z,39nm,21.2s,baz=18,slow=35							
BOSA	Boshof	78.14	218	P	P	05 27 08.3	+0.4
BOSA				IAmb	IAmb	05 27 11.8	
comp=Z,31nm,1.1s							
SUCK	Suckling Hills	78.28	16	P	P	05 27 10.2	+1.9
OHAK	Old Harbor	78.35	22	P	P	05 27 08.8	+0.2
HYT	Haines Junctio	78.82	13	P	P	05 27 11.7	+0.4
HYT				IAmb	IAmb	05 27 18.4	
comp=Z,23nm,0.8s							
YKW3	Yellowknife Ar	79.38	2	P	P	05 27 13.2	-0.9
YKW3				IAmb	IAmb	05 27 17.2	
comp=Z,39nm,1.0s							
WHY	Whitehorse	79.41	12	P	P	05 27 14.4	-0.2
WHY				IAmb	IAmb	05 27 17.1	
comp=Z,15nm,0.9s							
YKA	Yellowknife Ar	79.44	2	P	P	05 27 14.6	+0.1
comp=Z,23nm,0.9s,baz=353,slow=5.6,SNR=28							
SCHQ	Schefferville	79.72	336	P	P	05 27 16.7	+0.5
comp=Z,32nm,0.9s,baz=42,slow=6.3,SNR=13							
SCHQ				LR	LR	06 01 45.4	
comp=Z,165nm,21.9s,baz=18,slow=35							
SCHQ	Schefferville	79.72	336	P	P	05 27 16.8	+0.5
SKAG	Skagway	80.48	12	P	P	05 27 19.9	-0.2
SKAG				IAmb	IAmb	05 27 27.1	
comp=Z,18nm,1.0s							
BESE	Bessie Mountai	81.39	12	P	P	05 27 25.8	+0.6
BESE				IAmb	IAmb	05 27 28.5	
comp=Z,20nm,1.0s							
JIS	Juneau Island	81.76	12	P	P	05 27 27.0	0.0
JIS				IAmb	IAmb	05 27 31.2	
comp=Z,27nm,1.1s							
DLBC	Dease Lake	82.26	10	P	P	05 27 30.8	+1.1
comp=Z,12nm,0.9s,baz=334,slow=5.5,SNR=20							
DLBC	Dease Lake	82.26	10	P	P	05 27 31.3	+1.5
DLBC				IAmb	IAmb	05 27 33.0	
comp=Z,22nm,1.1s							
WRA	Warramunga Arr	84.37	121	P	P	05 27 39.4	-1.7
WRA				pmax	pmax		
comp=Z,1.0nm,1.0s							
WRA	Warramunga Arr	84.37	121	P	P	05 27 39.6	-1.5
comp=Z,5.7nm,0.7s,baz=324,slow=4.5,SNR=32							
WRA				LR	LR	06 12 32.5	
comp=Z,54nm,18.0s,baz=255,slow=41							
WRA	Warramunga Arr	84.37	121	P	P	05 27 39.4	-1.7
WRAB	Tennant Creek	84.38	121⇓	*e*P	P	05 27 39.7	-1.4
WRAB	Tennant Creek	84.38	121	P	P	05 27 39.7	-1.4
WRAB				IAmb	IAmb	05 27 47.8	
comp=Z,12nm,0.8s							
WB2	Warramunga Arr	84.38	121	P	P	05 27 39.1	-2.0
WB2				IAmb	IAmb	05 27 47.8	
comp=Z,8.8nm,0.8s							
CHGQ	Chibougamau	86.32	337	P	P	05 27 51.3	+0.8
baz=28							
ASAR	Alice Springs	86.67	124	P	P	05 27 50.5	-2.0
ASAR	Alice Springs	86.67	124	P	P	05 27 51.0	-1.5
comp=Z,2.7nm,0.7s,baz=318,slow=5.1,SNR=15							
ASAR				LR	LR	06 12 24.0	
comp=Z,68nm,19.9s,baz=305,slow=40							
ASAR	Alice Springs	86.67	124	P	P	05 27 50.5	-2.0
FFC	Flin Flon	86.95	355	*i* P	P	05 27 55.8	+2.4
MATQ	Matagami	87.41	339	P	P	05 27 56.5	+0.7
baz=26							
LSQQ	Lebel-sur-Quev	87.86	338	P	P	05 28 00.3	+2.4
baz=26							
D56A	ZEC Mazanza, M	88.97	336	P	P	05 28 05.7	+2.4
baz=28							
E57A	Chemin Saint G	89.34	335	P	P	05 28 07.4	+2.4
baz=28							
E55A	Montcerf-Lytto	89.91	337	P	P	05 28 09.8	+2.2
baz=27							
ULM	Lac du Bonnet	90.75	350	P	P	05 28 11.5	+0.1
ULM				pmax	pmax		
comp=Z,21nm,1.1s							
ULM	Lac du Bonnet	90.75	350	P	P	05 28 12.7	+1.2
comp=Z,15nm,1.0s,baz=246,slow=6.7,SNR=2.9							
ULM				LR	LR	06 11 48.4	
comp=Z,153nm,19.4s,baz=346,slow=38							
ULM	Lac du Bonnet	90.75	350	P	P	05 28 11.6	+0.1
ULM				IAmb	IAmb	05 28 14.7	
comp=Z,21nm,1.1s							
AGMN	Agassiz Nation	92.66	350	P	P	05 28 21.5	+1.2
baz=12							
AGMN	Agassiz Nation	92.66	350	P	P	05 28 20.4	0.0
WALA	Waterton Lakes	92.92	2	P	P	05 28 21.3	-0.4
WALA				IAmb	IAmb	05 28 24.3	
comp=Z,14nm,1.2s							
B05A	Bryant	93.19	7	P	P	05 28 23.5	+0.8
baz=351							
DGMT	Dagmar	93.33	355	P	P	05 28 25.6	+2.1
baz=5.4							
DGMT	Dagmar	93.33	355	P	P	05 28 24.4	+1.0
DGMT				IAmb	IAmb	05 28 27.6	
comp=Z,11nm,0.8s							
B08A	Colville Reser	93.34	6	P	P	05 28 24.8	+1.2
B08A				IAmb	IAmb	05 28 26.4	
comp=Z,8.5nm,1.1s							
NEW	Newport	93.58	4	P	P	05 28 25.5	+0.8
baz=355							
NEW	Newport	93.58	4	P	P	05 28 25.3	+0.6
comp=Z,4.8nm,0.9s,baz=337,slow=4.8,SNR=11							
NEW	Newport	93.58	4	P	P	05 28 26.9	+2.2
NEW				IAmb	IAmb	05 28 27.6	
comp=Z,8.6nm,1.1s							
C09A	Chrisman Ranch	93.97	5	P	P	05 28 26.6	+0.2
C09A				IAmb	IAmb	05 28 29.4	
comp=Z,6.9nm,0.9s							
EGMT	Eagleton	93.98	359	P	P	05 28 28.0	+1.4
EGMT				IAmb	IAmb	05 28 29.9	
comp=Z,14nm,1.2s							
DLMT	Dillon	96.64	1	P	P	05 28 39.7	+0.9
DLMT				IAmb	IAmb	05 28 41.9	
comp=Z,8.0nm,1.2s							
RLMT	Red Lodge	96.88	359	P	P	05 28 40.7	+0.7
RLMT				IAmb	IAmb	05 28 43.9	
comp=Z,8.2nm,1.4s							
STKA	Stephens Creek	97.22	125	LR	LR	06 16 37.0	
comp=Z,81nm,21.9s,baz=331,slow=38							
ECSD	EROS Data Cent	97.23	349	P	Pdif	05 28 42.7	+1.3
baz=11							
ECSD	EROS Data Cent	97.23	349	P	P	05 28 40.8	-0.6
ECSD				IAmb	IAmb	05 28 44.7	
comp=Z,10nm,1.1s							
PDAR	Pinedale Array	99.23	359	P	Pdif	05 28 52.2	+1.5
comp=Z,0.5nm,0.8s,baz=56,slow=3.7,SNR=4.2							
PDAR				LR	LR	06 16 46.6	
comp=Z,188nm,21.2s,baz=7.0,slow=37							
PDAR	Pinedale Array	99.23	359	P	Pdif	05 28 50.2	-0.5
NVAR	Mina Array Bea	103.29	6	Pdiff	Pdif	05 29 09.8	+1.0
comp=Z,0.4nm,0.8s,baz=305,slow=3.2,SNR=3.3							
NVAR				PP	PP	05 33 26.0	+3.2
comp=Z,0.7nm,0.8s,baz=346,slow=5.4,SNR=4.5							
TXAR	Lajitas Array	112.30	353	PKKPbc	PKKPbc	05 44 34.6	+0.2
comp=Z,0.4nm,0.8s,baz=182,slow=5.4,SNR=3.9							
SNAA	Sanae	120.56	200	PKPdf	PKiKP	05 33 59.2	0.0
VNA2	Neumayer--Watz	121.51	202	PKPdf	PKiKP	05 34 02.2	+1.1
baz=38,slow=3.6							
VNA1	Neumayer--Stat	121.64	202	PKPdf	PKiKP	05 34 02.3	+1.1
VNA3	Neumayer Olymp	122.31	202	PKPdf	PKPdf	05 34 01.1	-1.4
ROSC	El Rosal	125.15	313	PKP	PKiKP	05 34 10.5	0.0
comp=Z,5.6nm,0.6s,baz=134,slow=20,SNR=4.0							
ROSC	El Rosal	125.15	313		PKPdf	05 34 08.4	-1.8
QSPA	South Pole Qui	128.16	180		PKPdf	05 34 13.8	0.0
SBA	Scott Base	128.81	164	PKIKP	PKiKP	05 34 15.8	+0.4
SBA	Scott Base	128.81	164		PKiKP	05 34 15.8	+0.4
CPUP	Villa Florida	133.62	269	PKP	PKPdf	05 34 23.7	-1.6
comp=Z,2.8nm,1.0s,baz=348,slow=18,SNR=3.2							
CPUP	Villa Florida	133.62	269		PKPdf	05 34 24.3	-1.0
LPAZ	La Paz	136.46	288	PKIKP	PKPdf	05 34 32.2	+0.5
LPAZ	La Paz	136.46	288	PKP	PKiKP	05 34 33.5	+0.1
comp=Z,1.3nm,0.8s,baz=76,slow=8.4,SNR=4.7							
LPAZ	La Paz	136.46	288		PKPdf	05 34 32.2	+0.5
GO03	Copiap	144.35	275		PKPab	05 34 43.0	0.0
GO04	Tololo Observa	145.94	272		PKPdf	05 34 47.8	0.0
PEL	Peldehue	147.00	267	PKIKP	PKPdf	05 34 48.8	-0.5
PEL						05 34 52.5	
PEL	Peldehue	147.00	267		PKPdf	05 34 48.8	-0.5
PEL				PKPbc	PKPab	05 34 52.5	-0.4
PLCA	Paso Flores	148.85	253	PKIKP	PKPdf	05 34 52.7	+0.5
PLCA						05 34 55.9	
PLCA						05 35 07.1	
PLCA	Paso Flores	148.85	253	PKPbc	PKPbc	05 34 56.0	-0.1
comp=Z,12nm,1.2s,baz=94,slow=3.2,SNR=7.9							
PLCA	Paso Flores	148.85	253		PKPdf	05 34 52.7	+0.5
PLCA				PKPbc	PKPbc	05 34 55.9	-0.2
PLCA					sPKPbc	05 35 07.1	0.0
GO06	Curarrehue	149.35	255		PKPdf	05 34 53.6	+0.6
GO06				PKPbc	PKiKP	05 34 58.6	0.0
GO06					pPKPab	05 35 11.2	+0.9

BJI ***10*** *05:24:34.3±0.0, 37°.43N×145°.18E, h23km, mb4.7/39, mB5.1/8, Ms4.7/15, Ms7 4.4/12*
NEIC ***10*** *05:24:35.1±1.4, 37°.23N±0°.06×145°.0E±0°.1, h10km±2km, mb4.8/35*
IDC ***10*** *05:24:35.4±0.6, 37°.26N×144°.73E, h0km, mb4.3/27, mb1 4.5/36, mb1mx4.3/61, mbtmp4.4/36, ML4.0/6, MS3.4/8, Ms1 3.5/8, ms1mx3.1/39, Error ellipse: s-maj=15.2km s-min=12.1km az=132.0*
MOS ***10*** *05:24:38.1±1.1, 37°.28N×144°.76E, h33km, mb4.7/20, Error ellipse: s-maj=9.9km s-min=6.1km az=116.0*
ISCJB ***10*** *05:24:39.0±0.3, 37°.37N±0°.03×144°.61E±0°.03, h33km, mb4.5/55, MS4.2/6, Error ellipse: s-maj=4.1km s-min=3.3km az=155.9*
JMA ***10*** *05:24:42.1±0.2, 37°.43N×144°.39E, h49km, M4.8*
ISC 10 05:24:40.0±0.4, 37°.28N±0°.04×144°.85E±0°.05, h35km, n190, σ2s36/209, mb4.6/62, MS4.3/6, 9C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.87	292	P	Pn	05 25 21.4	-1.8
JIKH				*e*S	Sn	05 25 50.3	-6.2
JIO	Ouri	3.00	294	P	Pn	05 25 23.3	-1.8
JIO				S	Sn	05 25 53.8	-6.1
JKMT	Kesennumamotoy	3.07	301	P	Pn	05 25 24.1	-1.9
JKMT				S	Sn	05 25 55.2	-6.3
OFUJ	Ofunato	3.08	307	P	Pn	05 25 24.3	-1.9
OFUJ				*e*S	Sn	05 25 55.8	-6.0
JMK	Ichinoseki	3.31	301	P	Pn	05 25 27.7	-1.6
JMK				*e*S	Sn	05 26 01.6	-5.8
JOU	Okura	3.48	289	P	Pn	05 25 30.5	-1.2
JOM	Ohasama	3.55	309	P	Pn	05 25 31.3	-1.3
JOM				*e*S	Sn	05 26 07.8	-5.5
JFT	Otama	3.60	275	P	Pn	05 25 32.5	-0.8
JFT				S	Sn	05 26 09.4	-5.2
JYK	Kaneyama	3.90	296	P	Pn	05 25 36.6	-0.8
JYK				*e*S	Sn	05 26 17.2	-4.7
JRG	Rokugo	3.93	304	P	Pn	05 25 36.8	-1.0
JRG				*e*S	Sn	05 26 18.1	-4.6
BSO1	Boso 1	4.09	231	P	Pn	05 25 38.5	-1.0
BSO1				*e*S	Sn	05 26 24.3	-1.5
JTM	Tenmabayashi	4.57	321	P	Pn	05 25 45.4	-1.3
ERM	Erimo	4.91	345	P	Pn	05 25 50.0	-1.2
ERM						05 26 41.2	
ERM	Erimo	4.91	345		Pn	05 25 50.0	-1.2
ERM				Sn	Sn	05 26 41.2	-5.5
JRY	Ryogami san	4.94	257	P	Pn	05 25 50.3	-1.5
JRY				*e*S	Sn	05 26 41.0	-6.7
JOT	Ohata	5.04	325	P	Pn	05 25 51.7	-1.4
JOT				*e*S	Sn	05 26 44.5	-5.7
JOD2	Odawara 2	5.07	248	P	Pn	05 25 52.3	-1.2
JOD2				*e*S	Sn	05 26 45.5	-5.3
MJAR	Matsushiro Arr	5.37	264	P	Pn	05 25 56.8	-0.8
MJAR						05 26 58.0	
MJAR	Matsushiro Arr	5.37	264	Pn	Pn	05 25 57.1	-0.5
6.2nm,0.3s,baz=88,slow=14,SNR=363							
MJAR				Sn	Sn	05 26 55.2	-3.1
4.3nm,0.3s,baz=99,slow=23,SNR=8.2							
MJAR				LR	LR	05 28 09.7	
comp=Z,458nm,21.2s,baz=95,slow=41							
MJAR	Matsushiro Arr	5.37	264		Pn	05 25 56.8	-0.8
MJAR				Sn	Sn	05 26 58.0	-0.2
MAJO	Matsushiro	5.37	264	*c i* P	Pn	05 25 57.6	-0.1
MAJO	Matsushiro	5.37	264		Pn	05 25 57.8	+0.1
MAJO				Sn	Sn	05 26 55.9	-2.3
MAT	Matsushiro	5.37	264	P	Pn	05 25 57.7	0.0
MAT				S	Sn	05 26 55.9	-2.4
MJB9	Matsu-Tunnel	5.37	264		Pn	05 25 57.5	-0.2
MJB9				Sn	Sn	05 26 56.2	-2.1
JCH	Churui

MDJ	**Mudanjiang**	**13.65**	**307**		**Pn**	**05 27 50.3**	**-0.6**
KLR	**Kul'dur**	**15.26**	**326**	Pn	**Pn**	**05 28 12.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=140,slow=16,SNR=3.2						
KLR				LR	LR	05 33 43.5	
	comp=Z,108nm,21.1s,baz=192,slow=36						
CN2	**Changchun**	**16.10**	**300**	*e*P	**P**	**05 28 25.7**	**-0.9**
CN2				*es*P	pP	05 28 32.8	-1.3
CN2				*e*S	**Sn**	**05 31 26.1**	**+5.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,980nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
PETK	**Petropavlovsk-**	**18.19**	**25**	P	**P**	**05 28 49.0**	**-0.6**
PETK	**Petropavlovsk-**	**18.19**	**25**	P	**P**	**05 28 50.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=224,slow=7.7,SNR=3.6						
PETK				LR	LR	05 38 19.2	
	comp=Z,66nm,18.1s,baz=240,slow=45						
PETK	**Petropavlovsk-**	**18.19**	**25**	P	**P**	**05 28 49.0**	**-0.6**
ZEA	**Zeya**	**20.47**	**329**	*e*P	**P**	**05 29 13.0**	**-1.5**
ZEA				pmax	pmax		
	comp=N,33nm,0.9s						
ZEA				pmax	pmax		
	comp=E,33nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,35nm,0.9s						
SARN	**Sarigan**	**20.52**	**177**	P	**P**	**05 29 12.7**	**-2.6**
HIA	**Hailar**	**21.74**	**311**	P	**P**	**05 29 27.7**	**-0.6**
HIA				pmax	pmax		
	comp=Z,20nm,1.1s						
HIA	**Hailar**	**21.74**	**311**	P	**P**	**05 29 27.7**	**-0.6**
NJ2	**Nanjing**	**21.97**	**264**	*e*P	**P**	**05 29 31.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
BJI	**Beijing**	**22.52**	**286**	*e*P	**P**	**05 29 34.3**	**-2.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BJI				LR	LR		
	comp=Z,2μm,16.1s						
BJI				LR	LR		
	comp=Z,720nm,18.0s						
BJI				LR	LR		
	comp=Z,1μm,21.8s						
YOJ	**Yonaguni jima**	**22.62**	**242**	P	**P**	**05 29 36.5**	**-1.3**
YOJ				pmax	pmax		
	comp=Z,268nm,1.5s						
YOJ	**Yonaguni jima**	**22.62**	**242**	P	**P**	**05 29 36.5**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**26.00**	**126**	T	T	05 57 10.2	
	baz=317,slow=75,SNR=203						
HHC	**Hu-ho-hao-te**	**26.00**	**288**	P	**P**	**05 30 10.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**26.00**	**126**	T	T	05 57 14.5	
	baz=317,slow=75,SNR=74						
H11N3	**WAKE ISLAND Hy**	**26.01**	**126**	T	T	05 57 15.2	
	baz=317,slow=75,SNR=100						
SEY	**Seymchan**	**26.10**	**8**	*i* P	**P**	**05 30 11.3**	**+1.2**
SEY	**Seymchan**	**26.10**	**8**	P	**P**	**05 30 11.7**	**+1.5**
	comp=Z,9.2nm,0.8s,baz=179,slow=6.1,SNR=12						
WHN	**Wuhan**	**26.11**	**264**	P	P	05 30 19.8	+9.2
YAK	**Yakutsk**	**26.51**	**344**	*e*P	**P**	**05 30 12.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,19nm,1.4s						
YAK	**Yakutsk**	**26.51**	**344**	P	**P**	**05 30 13.5**	**-0.4**
	comp=N,8.5nm,0.5s,baz=0.2,slow=2.4,SNR=5.8						
YAK	**Yakutsk**	**26.51**	**344**	P	**P**	**05 30 13.2**	**-0.7**
YAK				IAmb	IAmb	05 30 15.2	
	comp=Z,17nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	05 58 07.8	
	baz=318,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	05 58 04.7	
	baz=318,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**26.79**	**128**	T	T	05 58 06.5	
	baz=318,slow=76,SNR=34						
ULN	**Ulaanbaatar**	**29.50**	**303**	*ce*P	**P**	**05 30 40.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,16nm,1.7s						
ULN	**Ulaanbaatar**	**29.50**	**303**	P	**P**	**05 30 39.7**	**-1.3**
ULN				IAmb	IAmb	05 30 58.6	
	comp=Z,30nm,1.8s						
SONM	**Songino Array**	**29.94**	**303**	P	**P**	**05 30 47.9**	**+3.1**
	comp=Z,2.3nm,0.8s,baz=104,slow=11,SNR=4.6						
ENH	**Enshi**	**30.08**	**267**	P	**P**	**05 30 45.8**	**-0.3**
LZH	**Lanzhou**	**32.72**	**281**	*e*P	**P**	**05 31 09.9**	**+0.4**
LZH				pP	pP	05 31 14.1	-3.8
LZH				sP	sP	05 31 17.5	-3.9
LZH				PP	**PnPn**	**05 32 17.8**	**-0.3**
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				pmax	pmax		
	comp=Z,63nm,4.9s						
LZH				LR	LR		
	comp=Z,330nm,15.2s						
LZH				LR	LR		
	comp=Z,340nm,13.6s						
BILL	**Bilibino**	**33.06**	**15**	*i* P	**P**	**05 31 13.9**	**+2.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	**Chengdu**	**34.41**	**272**	P	**P**	**05 31 23.1**	**-1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
GTA	**Gaotai**	**35.11**	**288**	*e*P	**P**	**05 31 32.7**	**+2.6**
GTA				pP	pP	05 31 36.8	-1.7
GTA				sP	sP	05 31 40.0	-2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**35.42**	**351**	*i* P	**P**	**05 31 34.4**	**+2.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.8s						
KMI	**Kunming**	**37.71**	**264**	P	**P**	**05 31 53.4**	**+0.8**
KMI				pmax	pmax		
	comp=Z,11nm,1.4s						
WMQ	**Urumqi**	**43.17**	**297**	*e*P	**P**	**05 32 38.7**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				LR	LR		
	comp=Z,340nm,29.3s						
WMQ				LR	LR		
	comp=Z,530nm,29.1s						
ZALV	**Zalesovo Beam**	**43.78**	**312**	P	**P**	**05 32 41.5**	**-0.5**
ZALV	**Zalesovo Beam**	**43.78**	**312**	P	**P**	**05 32 41.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=72,slow=7.6,SNR=4.8						
ZALV				PcP	**PcP**	**05 34 28.1**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=91,slow=2.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**43.78**	**312**	P	**P**	**05 32 41.5**	**-0.5**
NRIK	**Noril'sk**	**44.21**	**335**	LR	LR	05 52 20.6	
	comp=Z,170nm,19.6s,baz=240,slow=38						
CMAR	**Chiang Mai Arr**	**44.22**	**258**	P	**P**	**05 32 47.0**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=51,slow=7.1,SNR=5.4						
CMAR				LR	LR	05 52 09.9	
	comp=Z,38nm,20.4s,baz=75,slow=38						
KDAK	**Kodiak Island**	**45.08**	**42**	*ce*P	**P**	**05 32 54.1**	**+1.8**
KDAK	**Kodiak Island**	**45.08**	**42**	P	**P**	**05 32 52.7**	**+0.4**
	comp=Z,4.6nm,1.0s,baz=170,slow=17,SNR=4.0						
KDAK	**Kodiak Island**	**45.08**	**42**	P	**P**	**05 32 52.0**	**-0.3**
MK31	**Makanchi Array**	**46.30**	**303**	P	**P**	**05 33 02.2**	**0.0**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	**Makanchi Array**	**46.30**	**303**	P	**P**	**05 33 02.2**	**0.0**
MK31				IAmb	IAmb	05 33 03.1	
	comp=Z,5.2nm,0.8s						
MKAR	**Makanchi Array**	**46.30**	**303**	P	**P**	**05 33 01.8**	**-0.4**
MKAR	**Makanchi Array**	**46.30**	**303**	P	**P**	**05 33 02.5**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=81,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**46.30**	**303**	P	**P**	**05 33 01.8**	**-0.4**
ILAR	**Eielson Array**	**47.82**	**32**	P	**P**	**05 33 15.2**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=261,slow=6.1,SNR=10.0						
KURK	**Kurchatov**	**47.93**	**308**	P	**P**	**05 33 14.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,13nm,0.9s						
KURK	**Kurchatov**	**47.93**	**308**	P	**P**	**05 33 14.5**	**-0.3**
KURBB	**Kurchatov Arra**	**48.01**	**308**	P	**P**	**05 33 15.1**	**-0.2**
	comp=Z,12nm,0.6s,baz=82,slow=8.0,SNR=52						
TAPN	**Taplejung**	**48.65**	**276**	*e*P	**P**	**05 33 21.8**	**+0.8**
	comp=Z,7.3nm,0.5s						
ODAN	**Odare**	**49.13**	**275**	*e*P	**P**	**05 33 25.2**	**+0.6**
	comp=Z,6.5nm,0.4s						
RAMN	**Ramite**	**49.71**	**276**	*e*P	**P**	**05 33 29.5**	**+0.4**
	comp=Z,26nm,0.8s						
JIRN	**Jiri**	**49.72**	**277**	*e*P	**P**	**05 33 29.7**	**+0.4**
	comp=Z,14nm,0.6s						
GUN	**Gumba**	**49.85**	**277**	*e*P	**P**	**05 33 30.6**	**+0.3**
EGAK	**Eagle**	**50.27**	**32**	P	**P**	**05 33 31.0**	**-1.4**
EGAK				IAmb	IAmb	05 33 31.7	
	comp=Z,38nm,2.0s						
PKI	**Pulchoki**	**50.38**	**277**	*e*P	**P**	**05 33 34.0**	**-0.2**
	comp=Z,9.7nm,0.7s						
KKN	**Kakani**	**50.38**	**277**	*e*P	**P**	**05 33 34.3**	**+0.2**
DMN	**Daman**	**50.60**	**277**	*e*P	**P**	**05 33 35.8**	**0.0**
GKN	**Gorkha**	**50.79**	**278**	*e*P	**P**	**05 33 37.6**	**+0.4**
	comp=Z,14nm,0.4s						
DANN	**Dangsing**	**51.33**	**279**	*e*P	**P**	**05 33 42.0**	**+0.6**
	comp=Z,52nm,0.6s						
KIP	**Kipapa**	**51.52**	**91**	*ce*P	**P**	**05 33 41.5**	**-1.0**
KIP				pmax	pmax		
	comp=Z,175nm,1.7s						
KOLN	**Koldanda**	**51.72**	**278**	*e*P	**P**	**05 33 44.3**	**+0.1**
BOOM	**Boomskoye usch**	**51.81**	**299**	P	**P**	**05 33 44.2**	**-0.4**
BOOM				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BOOM	**Boomskoye usch**	**51.81**	**299**	P	**P**	**05 33 44.2**	**-0.4**
BOOM				IAmb	IAmb	05 33 45.9	
	comp=Z,8.8nm,0.7s						
BVAR	**Borovoye Array**	**52.43**	**313**	P	**P**	**05 33 49.2**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=87,slow=9.1,SNR=17						
BRVK	**Borovoye**	**52.48**	**313**	*ce*P	**P**	**05 33 50.5**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,18nm,2.5s						
BRVK	**Borovoye**	**52.48**	**313**	P	**P**	**05 33 49.4**	**+0.2**
KSH	**Kashi**	**52.80**	**295**	P	**P**	**05 33 55.8**	**+3.9**
KSH				PcP	**PcP**	**05 35 03.6**	**+2.6**
KSH				S	**S**	**05 41 25.6**	**+7.6**
KSH				pmax	pmax		
	comp=Z,30nm,0.8s						
KSH				LR	LR		
	comp=Z,600nm,15.9s						
KSH				LR	LR		
	comp=Z,300nm,10.9s						
KSH				LR	LR		
	comp=Z,270nm,13.8s						
INK	**Inuvik**	**52.91**	**27**	P	**P**	**05 33 53.4**	**+1.3**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**52.91**	**27**	P	**P**	**05 33 54.1**	**+2.0**
	comp=Z,1.4nm,0.9s,baz=265,slow=5.1,SNR=5.8						
INK	**Inuvik**	**52.91**	**27**	P	**P**	**05 33 53.4**	**+1.3**
ARSB	**Arslanbob**	**54.28**	**298**	P	**P**	**05 34 02.8**	**0.0**
ARSB				IAmb	IAmb	05 34 04.7	
	comp=Z,10nm,0.8s						
KK31	**Karatay Array**	**55.36**	**301**	P	**P**	**05 34 10.4**	**0.0**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KK31	**Karatay Array**	**55.36**	**301**	P	**P**	**05 34 10.4**	**0.0**
KK31				IAmb	IAmb	05 34 11.2	
	comp=Z,5.5nm,0.9s						
KKAR	**Karatay Array**	**55.36**	**301**	P	**P**	**05 34 10.3**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KKAR	**Karatay Array**	**55.36**	**301**	P	**P**	**05 34 10.3**	**-0.2**
KKAR	**Karatay Array**	**55.36**	**301**	P	**P**	**05 34 10.4**	**0.0**
KKAR				IAmb	IAmb	05 34 11.2	
	comp=Z,5.5nm,0.9s						
NIL	**Nilore**	**57.13**	**290**	P	**P**	**05 34 23.7**	**+0.5**
NIL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NIL	**Nilore**	**57.13**	**290**	P	**P**	**05 34 23.7**	**+0.5**
NIL				IAmb	IAmb	05 34 24.7	
	comp=Z,9.1nm,0.8s						
WRAB	**Tennant Creek**	**57.76**	**192**	*ce*P	**P**	**05 34 28.2**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.7s						
WB2	**Warramunga Arr**	**57.77**	**192**	P	**P**	**05 34 25.6**	**-2.0**
WB2				IAmb	IAmb	05 34 28.4	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**57.77**	**192**	P	**P**	**05 34 27.1**	**-0.5**
WRA	**Warramunga Arr**	**57.77**	**192**	P	**P**	**05 34 27.6**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=9.6,slow=7.0,SNR=66						
WRA	**Warramunga Arr**	**57.77**	**192**	P	**P**	**05 34 27.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**57.98**	**202**	P	**P**	**05 34 29.0**	**-0.1**
FITZ				IAmb	IAmb	05 35 36.8	
	comp=Z,14nm,1.6s						
ARU	**Arti**	**57.98**	**319**	*c i* P	**P**	**05 34 29.3**	**+0.5**
ARU						05 36 35.5	
ARU				S	**S**	**05 42 33.6**	**+7.1**
ARU				SS	**SS**	**05 46 18.2**	**+1.0**
ARU				pmax	pmax		
	comp=Z,17nm,1.3s						
ARU	**Arti**	**57.98**	**319**	P	**P**	**05 34 28.3**	**-0.4**
ARU				IAmb	IAmb	05 34 30.6	
	comp=Z,13nm,1.1s						
ABKAR	**Akbulak array**	**59.86**	**311**	P	**P**	**05 34 41.4**	**-0.6**
ABKAR	**Akbulak array**	**59.86**	**311**	P	**P**	**05 34 41.1**	**-0.8**
ABKAR				IAmb	IAmb	05 34 42.3	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**61.49**	**191**	P	**P**	**05 34 53.6**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=10,slow=7.9,SNR=15						
RES	**Resolute Bay**	**61.66**	**15**	P	**P**	**05 34 55.0**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=320,slow=7.0,SNR=10						
PSAD1	**Pilbara Seismi**	**63.00**	**206**	P	**P**	**05 35 01.2**	**-2.1**
PSAC2	**Pilbara Seismi**	**63.07**	**206**	P	P	05 34 59.3	-4.6
PSAC1	**Pilbara Seismi**	**63.08**	**206**	P	P	05 34 58.2	-5.7
PSAB2	**Pilbara Seismi**	**63.08**	**206**	P	P	05 34 58.5	-5.4
PSAA2	**Pilbara Seismi**	**63.09**	**206**	P	P	05 34 58.9	-5.1
ARCES	**ARCESS Array B**	**64.71**	**340**	P	**P**	**05 35 14.1**	**0.0**
	comp=Z,2.5nm,0.8s,baz=41,slow=9.7,SNR=2.7						
GEYT	**Alibeck**	**66.10**	**300**	P	**P**	**05 35 23.8**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=20,slow=4.7,SNR=6.3						
GEYT	**Alibeck**	**66.10**	**300**	P	**P**	**05 35 23.4**	**-0.2**
NEW	**Newport**	**68.02**	**46**	P	**P**	**05 35 37.4**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=326,slow=3.6,SNR=3.0						
FINES	**FINESS Array B**	**69.85**	**333**	*i* P	**P**	**05 35 44.9**	**-1.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**69.85**	**333**	P	**P**	**05 35 46.8**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=54,slow=9.7,SNR=7.7						
OMMB	**Old Mammoth Mi**	**72.62**	**56**	P	P	05 36 00.7	-3.7
NVAR	**Mina Array Bea**	**72.63**	**55**	P	**P**	**05 36 06.5**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=287,slow=5.8,SNR=5.3						
KIV	**Kislovodsk**	**72.79**	**312**	*e*P	**P**	**05 36 06.5**	**+1.5**
KIV				pmax	pmax		
	comp=Z,60nm,1.1s						
KIV	**Kislovodsk**	**72.79**	**312**	P	**P**	**05 36 04.6**	**-0.3**
KBZ	**Khabaz**	**72.80**	**312**	P	**P**	**05 36 06.0**	**+1.1**
KBZ	**Khabaz**	**72.80**	**312**	P	**P**	**05 36 06.0**	**+1.1**
	comp=Z,8.4nm,0.8s,baz=36,slow=2.7,SNR=18						
RAO	**Raoul Island**	**74.83**	**147**	P	**P**	**05 36 15.1**	**-1.6**
RAO				pmax	pmax		
	comp=Z,732nm,1.2s						
RAO	**Raoul Island**	**74.83**	**147**	P	**P**	**05 36 15.1**	**-1.6**
HFS	**Hagfors**	**74.96**	**337**	P	**P**	**05 36 17.0**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=74,slow=5.4,SNR=7.3						
NB2	**NORSAR Subarra**	**74.99**	**339**	P	**P**	**05 36 17.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=36,slow=5.9						
NOA	**NORSAR Array B**	**74.99**	**339**	P	**P**	**05 36 17.6**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=37,slow=5.8,SNR=7.3						
PDAR	**Pinedale Array**	**75.52**	**47**	P	**P**	**05 36 22.4**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=239,slow=1.6,SNR=3.3						
AKASG	**Malin Array Be**	**75.75**	**324**	P	**P**	**05 36 21.9**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=44,slow=6.2,SNR=16						
AKASG	**Malin Array Be**	**75.75**	**324**	P	**P**	**05 36 19.5**	**-2.4**
PV12	**Saucer Basin,**	**78.71**	**50**	P	**P**	**05 36 36.1**	**-3.0**
PV12				IAmb	IAmb	05 38 42.1	
	comp=Z,11nm,1.5s						
BURAR	**Bucovina Array**	**79.79**	**323**	P	**P**	**05 36 44.2**	**-0.4**
BR131	**Keskin Array S**	**80.71**	**313**	P	**P**	**05 36 49.8**	**0.0**
BR131				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BR131	**Keskin Array S**	**80.71**	**313**	P	**P**	**05 36 49.8**	**0.0**
BRTR	**Keskin Array B**	**80.71**	**313**	*ce*P	**P**	**05 36 50.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**80.71**	**313**	P	**P**	**05 36 49.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=101,slow=6.4,SNR=8.3						
BRTR	**Keskin Array B**	**80.71**	**313**	P	**P**	**05 36 49.7**	**-0.1**
MLR	**Muntele Rosu**	**80.94**	**321**	P	**P**	**05 36 51.3**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=250,slow=9.2,SNR=3.6						
VYHS	**Vyhne**	**82.05**	**327**	*e*P	**P**	**05 36 58.5**	**+2.0**
VYHS	**Vyhne**	**82.05**	**327**	*e*P	**P**	**05 36 58.5**	**+2.0**
BRG	**Berggiesshubel**	**82.20**	**331**	*e*P	P	05 37 08.7	+11
	comp=Z,17nm,1.8s						
CLL	**Collm**	**82.21**	**332**	*e*P	**P**	**05 36 58.0**	**+0.7**
CLL	**Collm**	**82.21**	**332**	*e*P	**P**	**05 36 58.0**	**+0.7**
KHC	**Kasperske Hory**	**83.73**	**330**	*e*P	**P**	**05 37 05.8**	**+0.5**
KHC	**Kasperske Hory**	**83.73**	**330**	*e*P	**P**	**05 37 05.8**	**+0.5**
GERES	**GERESS Array B**	**83.91**	**330**	P	**P**	**05 37 06.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=18,slow=4.6,SNR=3.7						
CSS	**Mathiatis**	**84.04**	**310**	P	**P**	**05 37 06.1**	**-1.0**
CSS				IAmb	IAmb	05 37 28.1	
	comp=Z,11nm,1.1s						
VTS	**Vitosha**	**84.36**	**321**	P	**P**	**05 37 07.5**	**-1.3**
VTS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VTS	**Vitosha**	**84.36**	**321**	P	**P**	**05 37 07.5**	**-1.3**
TXAR	**Lajitas Array**	**87.77**	**54**	P	**P**	**05 37 23.9**	**-1.9**
TXAR	**Lajitas Array**	**87.77**	**54**	P	**P**	**05 37 27.4**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=299,slow=3.9,SNR=4.5						
TXAR	**Lajitas Array**	**87.77**	**54**	P	**P**	**05 37 23.9**	**-1.9**

NNC 10 05:38:05.7±5.4, 38°.77N×68°.58E, h9km±22km, mb3.7, mpv3.3, 6C-6D, Error ellipse: s-maj=37.6km s-min=19.8km az=27.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.57**	**18**	⇓Pn	Pn	05 39 15.5	+0.5
	0.6nm,0.3s,baz=226,slow=23,SNR=5.1						
KK31				⇓Pg	Pb	05 39 28.8	+2.8
	1.7nm,0.5s,baz=194,slow=18,SNR=7.8						
KK31				⇑Lg	Lg	05 40 32.5	
	9.1nm,0.7s,baz=194,slow=28,SNR=4.8						
AAK	**Ala-Archa**	**5.92**	**47**	⇑Pn	Pn	05 39 35.8	+2.1
	1.7nm,0.5s						
AAK				⇓Pg	Pb	05 39 52.4	+3.3
	5.4nm,1.1s						
AAK				Lg	Lg	05 41 12.8	
	2.5nm,0.6s						
TKM2	**Tokmak 2**	**6.74**	**50**	⇓Pn	Pn	05 39 42.5	-2.5
	2.3nm,0.9s						
TKM2				⇓Pg	Pg	05 40 09.3	-5.5
	3.3nm,0.8s						
TKM2				⇑Lg	Lg	05 41 39.7	
	4.6nm,1.0s						
AB31	**Akbulak array**	**12.17**	**332**	⇑Pn	Pn	05 41 00.5	+1.4
	1.5nm,0.8s,baz=331,slow=4.5,SNR=11						
AB31				⇑Sn	Sn	05 43 15.3	+0.4
	1.1nm,0.6s,baz=145,slow=23,SNR=3.0						
AKTO	**Aktyubinsk**	**13.86**	**331**	⇓Pn	Pn	05 41 20.9	-1.3
	1.8nm,0.9s						
AKTO				⇑Sn	Sn	05 43 55.6	-0.4
	4.5nm,1.4s						

ISCJB ***10*** *06:16:07.3±1.4, 17°.47S±0°.09×69°.2W±0°.1, h152km, mb4.0/2, Error ellipse: s-maj=20.2km s-min=9.7km az=28.7*

IDC ***10*** *06:16:10.3±2.4, 17°.44S×69°.25W, h169km±9km, mb3.7/3, mb1 3.4/6, mb1mx3.2/29, mbtmp4.0/6, Error ellipse: s-maj=46.1km s-min=19.9km az=108.0*

ISC 10 06:16:09.7±1.5, 17°.57S±0°.07×69°.2W±0°.1, h152km, n7, σ2°.09/10, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.62**	**39**	P	**Pn**	**06 16 43.4**	**+2.0**
	52nm,0.3s,baz=230,slow=5.6,SNR=2009						
LPAZ				S	**Sn**	**06 17 07.5**	**+1.9**
	baz=41,slow=9.3						
LVC	**Limon Verde**	**5.03**	**177**	P	**Pn**	**06 17 25.7**	**+1.9**
	0.8nm,0.3s,baz=20,slow=8.0,SNR=14						
LVC				S	**Sn**	**06 18 20.7**	**-1.0**
	2.3nm,0.3s,baz=203,slow=23,SNR=19						
SIV	**San Ignacio**	**7.93**	**80**	P	**Pn**	**06 18 05.1**	**+2.9**
	0.6nm,0.3s,baz=266,slow=9.0,SNR=26						
SIV				S	**Sn**	**06 19 29.1**	**-1.6**
	0.3nm,0.3s,baz=335,slow=17,SNR=3.7						
PTGA	**Pitinga**	**19.03**	**29**	P	**P**	**06 20 18.1**	**-2.1**
	0.8nm,0.3s,baz=201,slow=15,SNR=9.3						
BDFB	**Brasilia**	**20.38**	**88**	P	**P**	**06 20 33.6**	**-1.3**
	1.0nm,0.3s,baz=254,slow=7.4,SNR=2.7						
DBIC	**Dimbokro**	**67.92**	**75**	P	**P**	**06 26 51.7**	**-0.8**
	2.1nm,0.5s,baz=240,slow=7.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**76.32**	**71**	P	**P**	**06 27 41.4**	**-1.0**
	1.7nm,0.6s,baz=253,slow=5.6,SNR=17						

IDC ***10*** *06:23:49.1±0.8, 52°.21N×170°.19E, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.9/37, mbtmp3.8/17, ML3.5/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/45, Error ellipse: s-maj=23.1km s-min=14.7km az=166.0*

MOS ***10*** *06:23:50.9±0.9, 52°.28N×170°.09E, h25km, mb4.3/6, Error ellipse: s-maj=11.1km s-min=6.5km az=30.7*

ISCJB ***10*** *06:23:52.7±0.4, 52°.31N±0°.07×169°.96E±0°.04, h33km, mb3.9/20, MS2.7/1, Error ellipse: s-maj=10.6km s-min=3.4km az=176.0*

NEIC ***10*** *06:23:52.6±1.4, 52°.2N±0°.1×170°.15E±0°.08, h21km±3km, mb4.3/29*

KRSC ***10*** *06:23:56.3±2.1, 52°.47N×169°.12E, h18km±35km, ML4.5*

ISC 10 06:23:54.6±0.6, 52°.29N±0°.09×169°.94E±0°.05, h35km, n123, σ2°.14/146, mb4.0/30, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.58**	**78**	P	**Pn**	**06 24 29.5**	**-4.3**
SMY						06 24 57.7	
SMY	**Shemya**	**2.58**	**78**		**Pn**	**06 24 29.5**	**-4.3**
SMY				Sn	**Sn**	**06 24 57

KDTR				*e*S		**Sn**	**06 26 56.9**	**-4.0**
KDTR	**Khodutka, Kamc**	**7.33**	**271**	P		**Pn**	**06 25 39.9**	**+0.9**
KDTR				S		**Sn**	**06 26 56.9**	**-4.0**
ASAK	**Asacha**	**7.38**	**276**	*e*P		**Pn**	**06 25 40.9**	**+1.1**
ASAK				*e*S		**Sn**	**06 26 59.1**	**-3.1**
ASAK	**Asacha**	**7.38**	**276**	P		**Pn**	**06 25 40.9**	**+1.1**
ASAK				S		**Sn**	**06 26 59.1**	**-3.1**
GNL	**Ganaly**	**7.38**	**286**	*e*P		**Pn**	**06 25 42.2**	**+2.4**
GNL				*e*S		**Sn**	**06 26 59.1**	**-3.1**
GNL	**Ganaly**	**7.38**	**286**	P		**Pn**	**06 25 42.2**	**+2.4**
GNL				S		**Sn**	**06 26 59.1**	**-3.1**
PEA0B	**Petropavlovsk-**	**7.48**	**281**	P		**Pn**	**06 25 42.6**	**+1.5**
PEA0B	**Petropavlovsk-**	**7.48**	**281**	Pn		**Pn**	**06 25 42.6**	**+1.5**
PETK	**Petropavlovsk-**	**7.48**	**281**	Pn		**Pn**	**06 25 42.6**	**+1.4**
	comp=E,3.9nm,0.3s,baz=84,slow=19,SNR=45							
PETK				Sn		**Sn**	**06 27 00.1**	**-4.6**
	comp=E,1.5nm,0.3s,baz=90,slow=37,SNR=3.3							
PETK				LR		LR	06 28 17.0	
	comp=E,29nm,20.1s,baz=141,slow=35							
PETK	**Petropavlovsk-**	**7.48**	**281**			**Pn**	**06 25 42.6**	**+1.4**
PETK				Sn		**Sn**	**06 27 03.1**	**-1.6**
SKR	**Severo-Kuril's**	**8.78**	**265**	*e*S		**Sn**	**06 27 34.6**	**-1.8**
SII	**Sitkinak Islan**	**21.14**	**64**	P		**P**	**06 28 36.1**	**-0.1**
OHAK	**Old Harbor**	**21.60**	**62**	P		**P**	**06 28 38.6**	**-2.4**
OHAK				IAmb		IAmb	06 28 43.7	
	comp=Z,11nm,0.8s							
KDAK	**Kodiak Island**	**21.96**	**61**	P		**P**	**06 28 42.2**	**-2.7**
KDAK				pmax		pmax		
	comp=Z,13nm,1.1s							
KDAK	**Kodiak Island**	**21.96**	**61**	P		**P**	**06 28 42.1**	**-2.8**
	comp=Z,2.3nm,0.3s,baz=272,slow=2.2,SNR=30							
KDAK	**Kodiak Island**	**21.96**	**61**	P		**P**	**06 28 42.2**	**-2.7**
KDAK				IAmb		IAmb	06 28 59.7	
	comp=Z,13nm,1.1s							
CNPM	**China Poot**	**22.66**	**56**	P		**P**	**06 28 51.3**	**-1.2**
IMAR	**Indian Mountai**	**22.70**	**39**	P		**P**	**06 28 51.3**	**-1.4**
SKT	**Skwentna**	**22.71**	**50**	P		**P**	**06 28 54.2**	**+1.2**
KTH	**Kantishna Hill**	**23.24**	**46**	P		**P**	**06 28 58.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**23.32**	**44**	P		**P**	**06 28 58.8**	**-0.3**
BPAW						**S**	**06 33 13.0**	**+4.1**
RC01	**Rabbit Creek A**	**23.48**	**52**	P		**P**	**06 29 00.0**	**-0.6**
RC01				IAmb		IAmb	06 29 02.4	
	comp=Z,10nm,1.0s							
TRF	**Thorofare Moun**	**23.50**	**46**	P		**P**	**06 29 00.6**	**-0.4**
TRF				IAmb		IAmb	06 29 04.8	
	comp=Z,7.9nm,0.8s							
PMR	**Palmer**	**23.80**	**51**	P		**P**	**06 29 05.4**	**+1.7**
PMR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PMR	**Palmer**	**23.80**	**51**	P		**P**	**06 29 05.4**	**+1.7**
SML	**Sawmill**	**24.20**	**50**	P		**P**	**06 29 06.8**	**-0.6**
WRH	**Wood River Hil**	**24.63**	**44**	P		**P**	**06 29 10.9**	**-0.4**
WRH				IAmb		IAmb	06 29 20.9	
	comp=Z,7.8nm,0.9s							
SCM	**Sheep Creek Mo**	**24.68**	**50**	P		**P**	**06 29 09.8**	**-2.1**
SCM				pmax		pmax		
	comp=Z,11nm,0.9s							
SCM	**Sheep Creek Mo**	**24.68**	**50**	P		**P**	**06 29 09.8**	**-2.1**
SCM				IAmb		IAmb	06 29 15.2	
	comp=Z,11nm,0.9s							
DHY	**Denali Highway**	**24.75**	**47**	P		**P**	**06 29 12.0**	**-0.7**
DHY				IAmb		IAmb	06 29 15.6	
	comp=Z,14nm,1.4s							
GLI	**Glacier Island**	**24.75**	**53**	P		**P**	**06 29 10.5**	**-2.0**
COLA	**College**	**24.80**	**43**	P		**P**	**06 29 12.6**	**-0.2**
COLA				pmax		pmax		
	comp=Z,16nm,0.8s							
COLA	**College**	**24.80**	**43**	P		**P**	**06 29 12.6**	**-0.2**
TOLK	**Toolik Lake Re**	**25.13**	**34**	P		**P**	**06 29 15.3**	**-0.5**
IL31		**25.19**	**44**	P		**P**	**06 29 15.1**	**-1.2**
IL31				IAmb		IAmb	06 29 26.6	
	comp=Z,7.7nm,1.2s							
ILAR	**Eielson Array**	**25.19**	**44**	P		**P**	**06 29 15.3**	**-1.0**
ILAR	**Eielson Array**	**25.19**	**44**	P		**P**	**06 29 15.1**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=258,slow=6.8,SNR=24							
ILAR	**Eielson Array**	**25.19**	**44**	P		**P**	**06 29 15.3**	**-1.0**
VRDI	**Verde Repeater**	**26.52**	**52**	P		**P**	**06 29 27.6**	**-1.1**
VRDI				IAmb		IAmb	06 29 45.1	
	comp=Z,5.1nm,0.8s							
TGL	**Tana Glacier**	**26.85**	**53**	P		**P**	**06 29 33.8**	**+2.3**
BCAR	**Beaver Creek A**	**27.29**	**48**	P		**P**	**06 29 34.9**	**-0.5**
HYT	**Haines Junctio**	**29.44**	**52**	P		**P**	**06 29 54.1**	**-0.6**
INK	**Inuvik**	**30.86**	**37**	P		**P**	**06 30 06.7**	**-0.2**
INK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**30.86**	**37**	P		**P**	**06 30 06.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=261,slow=7.2,SNR=4.7							
INK	**Inuvik**	**30.86**	**37**	P		**P**	**06 30 06.7**	**-0.2**
KSRS	**Korea Array**	**32.75**	**260**	LR		LR	06 42 06.8	
	comp=Z,14nm,19.6s,baz=26,slow=33							
H11S1	**WAKE ISLAND Hy**	**33.80**	**186**	T		T	07 06 15.9	
	baz=3.9,slow=76,SNR=10.0							
H11S3	**WAKE ISLAND Hy**	**33.82**	**186**	T		T	07 06 18.0	
	baz=3.9,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**33.82**	**186**	T		T	07 06 17.2	
	baz=3.9,slow=76,SNR=13							
YKA	**Yellowknife Ar**	**39.60**	**45**	P		**P**	**06 31 20.9**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=289,slow=7.9,SNR=2.6							
SONM	**Songino Array**	**39.87**	**290**	P		**P**	**06 31 26.4**	**+1.7**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**39.87**	**290**	P		**P**	**06 31 26.5**	**+1.8**
	comp=Z,1.3nm,0.5s,baz=64,slow=7.9,SNR=8.4							
SONM	**Songino Array**	**39.87**	**290**	P		**P**	**06 31 26.4**	**+1.7**
NVAR	**Mina Array Bea**	**50.25**	**76**	P		**P**	**06 32 46.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=306,slow=6.7,SNR=4.5							
NVAR	**Mina Array Bea**	**50.25**	**76**	P		**P**	**06 32 47.0**	**-0.3**
PDAR	**Pinedale Array**	**52.52**	**66**	P		**P**	**06 33 03.4**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=339,slow=4.8,SNR=2.8							
KURK	**Kurchatov**	**53.12**	**307**	P		**P**	**06 33 09.1**	**+0.8**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
KURK	**Kurchatov**	**53.12**	**307**	P		**P**	**06 33 09.1**	**+0.8**
KURK				IAmb		IAmb	06 33 09.3	
	comp=Z,6.5nm,1.2s							
MKAR	**Makanchi Array**	**53.80**	**302**	P		**P**	**06 33 13.5**	**+0.2**
MKAR	**Makanchi Array**	**53.80**	**302**	P		**P**	**06 33 13.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=57,slow=6.8,SNR=7.3							
MKAR	**Makanchi Array**	**53.80**	**302**	P		**P**	**06 33 13.5**	**+0.2**
ARCES	**ARCESS Array B**	**55.74**	**346**	P		**P**	**06 33 27.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=51,slow=10,SNR=3.5							
PV13	**Radium Mtn., P**	**56.00**	**70**	P		**P**	**06 33 29.5**	**-0.1**
ABKAR	**Akbulak array**	**62.71**	**316**	P		**P**	**06 34 16.5**	**+1.0**
ABKAR				IAmb		IAmb	06 34 16.8	
	comp=Z,2.5nm,1.2s							
ABKAR	**Akbulak array**	**62.71**	**316**	P		**P**	**06 34 16.4**	**+0.8**
TX31	**Lajitas Ar. Si**	**65.27**	**74**	P		**P**	**06 34 32.5**	**-0.3**
TX32	**Lajitas Array**	**65.27**	**74**	P		**P**	**06 34 32.6**	**-0.2**
TX32				IAmb		IAmb	06 34 43.8	
	comp=Z,3.8nm,1.4s							
TXAR	**Lajitas Array**	**65.27**	**74**	P		**P**	**06 34 32.5**	**-0.3**
TXAR	**Lajitas Array**	**65.27**	**74**	P		**P**	**06 34 32.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=307,slow=4.9,SNR=20							
TXAR	**Lajitas Array**	**65.27**	**74**	P		**P**	**06 34 32.5**	**-0.3**
NOA	**NORSAR Array B**	**65.75**	**349**	P		**P**	**06 34 35.4**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=3.5,slow=5.0,SNR=3.0							
AKASG	**Malin Array Be**	**72.14**	**335**	P		**P**	**06 35 15.6**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=24,slow=6.4,SNR=3.3							
CLL	**Collm**	**74.96**	**345**	*i* (P)		**P**	**06 35 35.9**	**+4.3**
BURAR	**Bucovina Array**	**76.01**	**336**	P		**P**	**06 35 39.5**	**+1.6**
GERES	**GERESS Array B**	**77.23**	**344**	P		**P**	**06 35 45.9**	**+1.1**
GERES	**GERESS Array B**	**77.23**	**344**	P		**P**	**06 35 45.7**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=345,slow=6.1,SNR=4.1							
GERES	**GERESS Array B**	**77.23**	**344**	P		**P**	**06 35 45.9**	**+1.1**
WB2	**Warramunga Arr**	**78.32**	**214**	P		**P**	**06 35 50.6**	**-0.3**
WB2				IAmb		IAmb	06 35 60.0	
	comp=Z,6.5nm,1.4s							
WRA	**Warramunga Arr**	**78.32**	**214**	P		**P**	**06 35 50.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=27,slow=6.0,SNR=9.4							
BRTR	**Keskin Array B**	**80.81**	**327**	P		**P**	**06 36 05.9**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=66,slow=1.7,SNR=2.9							
ASAR	**Alice Springs**	**81.92**	**213**	P		**P**	**06 36 10.7**	**+0.4**
ASAR	**Alice Springs**	**81.92**	**213**	P		**P**	**06 36 10.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=20,slow=4.7,SNR=6.4							
ASAR	**Alice Springs**	**81.92**	**213**	P		**P**	**06 36 10.7**	**+0.4**
CBCY	**The Bluff, Cay**	**86.33**	**62**	P		**P**	**06 36 32.6**	**-0.4**

*IDC **10** 06:35:53.3±0.7,52°.30N×168°.62W,h0km,mb4.1/24,*
mb1 4.3/25,mb1mx4.1/47,mbtmp4.1/25,ML3.2/1,MS3.4/7,
Ms1 3.4/7,ms1mx3.0/52,Error ellipse: s-maj=21.0km
s-min=13.1km az=1.0
*AEIC **10** 06:35:55.1±2.6,52°.23N±0°.05×168°.44W±0°.05,h5km±4km,*
ML3.5,mb4.1/36(NEIC)
*MOS **10** 06:35:55.3±1.0,52°.34N×168°.54W,h25km,mb4.5/9,Error*
ellipse: s-maj=12.2km s-min=8.3km az=92.7
*ISCJB **10** 06:35:56.5±0.3,52°.40N±0°.06×168°.55W±0°.05,h29km,*
mb4.2/34,MS3.5/8,Error ellipse: s-maj=8.6km
s-min=3.9km az=167.3
*NEIC **10** 06:35:59.2±1.8,52°.4N±0°.1×168°.60W±0°.05,h37km±8km*
ISC 10 06:35:58.2±0.6,52°.40N±0°.09×168°.44W±0°.05,h29km,
n138,σ1§24/129,mb4.2/42,MS3.5/8,4C-1D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.62**	**337**		**Pn**	**06 36 11.4**	**+0.3**
UNV	**Unalaska Valle**	**1.86**	**38**		**Pb**	**06 36 29.3**	**-2.2**
AKUT	**Akutan**	**2.37**	**42**	Pn	**Pn**	**06 36 35.9**	**+0.9**
GSTR	**Great Sitkin T**	**4.69**	**269**	Pn	**Pn**	**06 37 07.0**	**+0.1**
ADK	**Adak**	**5.10**	**267**	P	**Pn**	**06 37 11.9**	**-0.7**
ADK	**Adak**	**5.10**	**267**	Pn	**Pn**	**06 37 11.9**	**-0.7**
SDPT	**Sand Point**	**5.56**	**55**	Pn	**Pn**	**06 37 18.8**	**0.0**
CHGN	**Chignik**	**7.04**	**52**	Pn	**Pn**	**06 37 42.0**	**+2.8**
CHIR	**Chirikof Islan**	**8.28**	**60**	Pn	**Pn**	**06 37 56.4**	**+0.3**
SII	**Sitkinak Islan**	**9.28**	**58**	Pn	**Pn**	**06 38 10.7**	**+0.8**
OHAK	**Old Harbor**	**9.98**	**55**	Pn	**Pn**	**06 38 19.4**	**-0.1**
KDAK	**Kodiak Island**	**10.56**	**53**	*ce*P	**Pn**	**06 38 27.0**	**-0.3**
KDAK	**Kodiak Island**	**10.56**	**53**	Pn	**Pn**	**06 38 27.3**	**0.0**
	0.6nm,0.3s,baz=163,slow=4.5,SNR=24						
KDAK				Sn	**Sn**	**06 40 19.1**	**-5.2**
	baz=66,slow=16,SNR=2.3						
KDAK	**Kodiak Island**	**10.56**	**53**	Pn	**Pn**	**06 38 26.4**	**-0.9**
CNPM	**China Poot**	**11.97**	**47**	Pn	**Pn**	**06 38 47.9**	**+1.2**
BRLK	**Bradley Lake**	**12.24**	**46**	Pn	**Pn**	**06 38 51.7**	**+1.3**
SEW	**Seward**	**13.04**	**46**	Pn	**Pn**	**06 39 01.8**	**+0.6**
GLI	**Glacier Island**	**14.43**	**46**	Pn	**Pn**	**06 39 20.7**	**+0.5**
FID	**Port Fidalgo**	**14.65**	**47**	Pn	**Pn**	**06 39 23.8**	**+0.6**
SCM	**Sheep Creek Mo**	**14.79**	**42**	P	**Pn**	**06 39 24.5**	**-0.6**
SCM	**Sheep Creek Mo**	**14.79**	**42**	Pn	**Pn**	**06 39 24.5**	**-0.6**
IMAR	**Indian Mountai**	**15.49**	**23**	Pn	**Pn**	**06 39 33.5**	**-0.8**
GLB	**Gilahina Butte**	**16.11**	**46**	Pn	**Pn**	**06 39 41.7**	**-0.7**
CRQM	**Cirque**	**16.16**	**49**	Pn	**Pn**	**06 39 43.0**	**-0.2**
CRQM				IAmb	IAmb	06 39 50.8	
	comp=Z,10nm,0.8s						
VRDI	**Verde Repeater**	**16.19**	**47**	Pn	**Pn**	**06 39 43.1**	**-0.4**
WAX	**Waxell Ridge**	**16.20**	**50**	Pn	**Pn**	**06 39 44.0**	**+0.6**
TGL	**Tana Glacier**	**16.31**	**49**	Pn	**Pn**	**06 39 45.1**	**+0.2**
TGL				IAmb	IAmb	06 40 01.8	
	comp=Z,18nm,0.9s						
COLA	**College**	**16.35**	**32**	*i* P	**P**	**06 39 46.6**	**-1.4**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HDA	**Harding Lake**	**16.37**	**34**	Pn	**P**	**06 39 46.5**	**-1.6**
ILAR	**Eielson Array**	**16.61**	**33**	Pn	**Pn**	**06 39 48.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=236,slow=12,SNR=8.8						
ILAR	**Eielson Array**	**16.61**	**33**		**P**	**06 39 51.0**	**+0.2**
BALM	**Baldy**	**16.62**	**48**	Pn	**Pn**	**06 39 49.6**	**+0.7**
YAH	**Yahtse**	**16.70**	**51**	P	**P**	**06 39 54.2**	**+2.1**
CTGM	**Chitina Glacie**	**17.07**	**49**	P	**P**	**06 39 56.1**	**0.0**
CTGM				IAmb	IAmb	06 40 13.7	
	comp=Z,9.2nm,0.8s						
BCAR	**Beaver Creek A**	**17.64**	**42**		**P**	**06 40 02.3**	**0.0**
EGAK	**Eagle**	**18.66**	**38**	P	**Pn**	**06 40 15.0**	**+1.1**
HYT	**Haines Junctio**	**18.84**	**51**	P	**Pn**	**06 40 18.9**	**+2.7**
HYT				IAmb	IAmb	06 40 34.9	
	comp=Z,16nm,0.7s						
BMAR	**Burnt Mountain**	**19.03**	**29**	P	**Pn**	**06 40 20.0**	**+1.6**
DAWY	**Dawson**	**19.03**	**41**	P	**Pn**	**06 40 19.7**	**+1.2**
BILL	**Bilibino**	**19.84**	**332**	*i* P	**Pn**	**06 40 28.1**	**+0.1**
BILL				pmax	pmax		
	comp=Z,21nm,2.6s						
PET	**Petropavlovsk**	**19.85**	**285**	P	**P**	**06 40 26.1**	**-0.4**
PET				pmax	pmax		
	comp=Z,39nm,1.1s						
PET	**Petropavlovsk**	**19.85**	**285**	P	**P**	**06 40 26.1**	**-0.4**
WHY	**Whitehorse**	**20.07**	**53**	P	Pn	06 40 33.4	+2.5
WHY				IAmb	IAmb	06 40 41.5	
	comp=Z,5.3nm,0.8s						
PEA0B	**Petropavlovsk-**	**20.40**	**286**	*i* P	**P**	**06 40 31.6**	**-0.9**
PETK	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**06 40 31.4**	**-1.1**
	comp=Z,4.3nm,0.5s,baz=84,slow=14,SNR=15						
PETK	**Petropavlovsk-**	**20.40**	**286**	P	Pn	06 40 33.5	-1.2
EPYK	**Eagle Plains**	**21.04**	**36**	P	**P**	**06 40 38.7**	**-0.6**
EPYK				IAmb	IAmb	06 40 41.4	
	comp=Z,14nm,0.8s						
INK	**Inuvik**	**23.01**	**33**	P	**P**	**06 40 59.3**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=245,slow=9.9,SNR=11						
INK				LR	LR	06 51 29.9	
	comp=Z,68nm,18.2s,baz=87,slow=40						
INK	**Inuvik**	**23.01**	**33**	P	**P**	**06 40 59.5**	**-0.7**
INK				IAmb	IAmb	06 41 12.9	
	comp=Z,6.0nm,1.1s						
SEY	**Seymchan**	**23.07**	**312**	P	**P**	**06 40 59.3**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=54,slow=19,SNR=3.3						
MA2	**Magadan**	**23.59**	**304**	LR	LR	06 49 43.3	
	comp=Z,41nm,19.1s,baz=80,slow=35						
YKA	**Yellowknife Ar**	**29.79**	**49**	P	**P**	**06 42 03.0**	**+1.0**
YKA	**Yellowknife Ar**	**29.79**	**49**	P	**P**	**06 42 03.0**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=100,slow=16,SNR=6.5						
YKA	**Yellowknife Ar**	**29.79**	**49**	P	**P**	**06 42 03.4**	**+1.4**
YBH	**Yreka Blue Hor**	**32.41**	**91**	P	**P**	**06 42 27.2**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=307,slow=6.9,SNR=5.9						
NEW	**Newport**	**32.45**	**76**	P	**P**	**06 42 26.6**	**+1.0**
NEW				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NEW	**Newport**	**32.45**	**76**	P	**P**	**06 42 26.6**	**+1.0**
NEW				IAmb	IAmb	06 42 34.7	
	comp=Z,3.8nm,1.2s						
TIXI	**Tiksi**	**33.00**	**329**	*i* P	**P**	**06 42 29.4**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MCMT	**McKenzie Canyo**	**36.72**	**79**	P	**P**	**06 43 04.1**	**+1.3**
NVAR	**Mina Array Bea**	**37.10**	**92**	P	**P**	**06 43 06.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=314,slow=6.5,SNR=4.7						
NVAR	**Mina Array Bea**	**37.10**	**92**	P	**P**	**06 43 07.0**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**37.84**	**220**	T	T	07 24 04.2	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.84**	**220**	T	T	07 24 01.2	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.85**	**220**	T	T	07 23 52.8	
	baz=25						
YHH	**Holmes Hill**	**37.94**	**78**	P	**P**	**06 43 14.5**	**+1.3**
FXWY	**Fox Creek**	**38.46**	**80**	P	**P**	**06 43 19.4**	**+1.9**
FXWY				IAmb	IAmb	06 43 26.5	
	comp=Z,3.7nm,1.3s						
TPAW	**Teton Pass**	**38.59**	**80**	P	**P**	**06 43 20.3**	**+1.7**
H11S1	**WAKE ISLAND Hy**	**39.02**	**219**	T	T	07 25 22.1	
	baz=23,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**39.03**	**219**	T	T	07 25 19.5	
	baz=23,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.04**	**219**	T	T	07 25 29.5	
	baz=23,slow=76,SNR=13						
BW06	**Boulder Array**	**39.84**	**80**	P	**P**	**06 43 30.0**	**+0.9**
BW06				IAmb	IAmb	06 43 37.6	
	comp=Z,3.7nm,1.1s						
PD31	**Pinedale Array**	**39.84**	**80**	P	**P**	**06 43 30.1**	**+1.1**
PD31				IAmb	IAmb	06 43 37.6	
	comp=Z,4.3nm,1.1s						
PDAR	**Pinedale Array**	**39.84**	**80**	P	**P**	**06 43 29.4**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=302,slow=3.9,SNR=26						
PDAR	**Pinedale Array**	**39.84**	**80**	P	**P**	**06 43 29.8**	**+0.8**
O20A	**White River Ci**	**42.20**	**82**	P	**P**	**06 43 49.5**	**+1.0**
PV22	**Blue Mesa, Par**	**42.85**	**84**	P	**P**	**06 43 54.3**	**+0.6**
PV22				IAmb	IAmb	06 43 59.1	
	comp=Z,2.8nm,0.8s						
PV13	**Radium Mtn., P**	**43.07**	**85**	P	**P**	**06 43 55.5**	**0.0**
PV13				IAmb	IAmb	06 43 56.6	
	comp=Z,5.0nm,0.9s						
PV01	**Paradox Valley**	**43.24**	**85**	P	**P**	**06 43 57.0**	**+0.1**
PV01				IAmb	IAmb	06 44 01.1	
	comp=Z,3.9nm,0.9s						
HIA	**Hailar**	**43.75**	**296**	*i* P	**P**	**06 43 59.8**	**-0.8**
HIA				pmax	pmax		
	comp=Z,22nm,0.9s						
KSRS	**Korea Array**	**45.96**	**277**	P	**P**	**06 44 17.6**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=48,slow=6.9,SNR=6.2						
NRIK	**Noril'sk**	**46.67**	**332**	P	**P**	**06 44 23.5**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=76,slow=4.3,SNR=3.9						
ULN	**Ulaanbaatar**	**51.41**	**301**	*ce*P	**P**	**06 45 00.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,13nm,2.5s						
WMOK	**Wichita Mounta**	**51.42**	**81**	P	**P**	**06 45 00.7**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WMOK	**Wichita Mounta**	**51.42**	**81**	P	**P**	**06 45 00.7**	**+0.3**
WMOK				IAmb	IAmb	06 45 14.2	
	comp=Z,3.3nm,1.1s						
SONM	**Songino Array**	**51.77**	**301**	P	**P**	**06 45 02.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=61,slow=5.8,SNR=5.8						
SONM	**Songino Array**	**51.77**	**301**	P	**P**	**06 45 03.1**	**+0.2**
TX32	**Lajitas Array**	**52.18**	**90**	P	**P**	**06 45 06.7**	**+0.5**
TX32				IAmb	IAmb	06 45 23.6	
	comp=Z,2.5nm,1.4s						
TXAR	**Lajitas Array**	**52.18**	**90**	P	**P**	**06 45 06.0**	**-0.2**
TXAR	**Lajitas Array**	**52.18**	**90**	P	**P**	**06 45 06.0**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=303,slow=6.2,SNR=12						
TXAR	**Lajitas Array**	**52.18**	**90**	P	**P**	**06 45 06.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**53.44**	**292**	P	**P**	**06 45 15.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,16nm,5.0s						
WLAR	**White Oak Lake**	**55.55**	**78**	P	**P**	**06 45 30.8**	**+0.1**
ZALV	**Zalesovo Beam**	**57.78**	**318**	P	**P**	**06 45 45.7**	**-0.5**
ZALV	**Zalesovo Beam**	**57.78**	**318**	P	**P**	**06 45 45.7**	**-0.5**
ARCES	**ARCESS Array B**	**57.95**	**354**	P	**P**	**06 45 47.8**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=12,slow=4.6,SNR=4.1						
WHN	**Wuhan**	**58.89**	**281**	P	**P**	**06 45 55.8**	**+1.6**
LZH	**Lanzhou**	**61.10**	**292**	*e*P	**P**	**06 46 10.3**	**+0.7**
LZH				pP	sP	06 46 20.7	+0.1
LZH				sP	pwP	06 46 24.0	+2.5
LZH				PP	PP	06 48 08.7	-15
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
KURK	**Kurchatov**	**62.73**	**319**	*ce*P	**P**	**06 46 20.2**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
WMQ	**Urumqi**	**63.96**	**309**	*e*P	**P**	**06 46 29.6**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,60nm,4.7s						
WMQ				LR	LR		
	comp=N,850nm,28.9s						
WMQ				LR	LR		
	comp=E,1μm,28.8s						
WMQ				LR	LR		
	comp=Z,74nm,28.9s						
MKAR	**Makanchi Array**	**64.19**	**314**	P	**P**	**06 46 28.8**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=29,slow=5.5,SNR=5.9						
MKAR				LR	LR	07 15 08.2	
	comp=Z,28nm,20.7s,baz=26,slow=37						
MKAR	**Makanchi Array**	**64.19**	**314**	P	**P**	**06 46 28.9**	**-1.0**
ARU	**Arti**	**64.85**	**333**	*d i*P	**P**	**06 46 33.5**	**-0.4**
ARU				S	**S**	**06 55 17.2**	**+4.5**
ARU				SS	**SS**	**06 59 28.1**	**+4.8**
ARU				pmax	pmax		
	comp=Z,13nm,1.9s						
FINES	**FINESS Array B**	**65.92**	**352**	P	**P**	**06 46 40.4**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=20,slow=7.7,SNR=15						
NB2	**NORSAR Subarra**	**66.91**	**0**	P	**P**	**06 46 46.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=1.3,slow=6.9						
NOA	**NORSAR Array B**	**66.91**	**0**	P	**P**	**06 46 46.2**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=1.3,slow=6.3,SNR=4.1						
ABKAR	**Akbulak array**	**70.70**	**329**	P	**

baz=73
ARLS ⇓iS Sn 07 07 01.9 +2.7
baz=73
AAK Ala-Archa 3.76 62 ⇓Pg Pb 07 06 31.0 -1.5
3.0nm,1.1s
AAK ⇑Lg Lg 07 07 19.7
3.3nm,1.1s
TKM2 Tokmak 2 4.62 63 ⇓Pg Pb 07 06 46.2 -0.9
3.5nm,1.1s
TKM2 ⇑Lg Lg 07 07 47.0
1.7nm,0.6s

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*ISCJB **10** 07:17:01.4±0.4, 37.°07N±0.°04×71.°67E±0.°05, h109km, mb3.8/6, Error ellipse: s-maj=6.4km s-min=4.4km az=42.8*
*IDC **10** 07:17:02.7±4.4, 37.°04N×71.°85E, h116km±30km, mb3.6/6, mb1 3.7/12, mb1mx3.3/52, mbtmp4.0/12, MS3.2/2, Ms1 3.2/2, ms1mx2.3/51, Error ellipse: s-maj=49.5km s-min=21.8km az=161.0*
*NNC **10** 07:17:08.0±3.6, 37.°55N×71.°54E, h107km±95km, mb3.9, mpv4.5, Error ellipse: s-maj=32.8km s-min=21.4km az=151.0*
ISC 10 07:17:03.0±0.8, 37.°24N±0.°07×71.°71E±0.°06, h109km, n42, σ2=34/48, mb3.8/6, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=128	**5.12**	**17**	P	**Pn**	**07 18 20.7**	**+2.9**
UCH	**Uchtor** SNR=55	**5.43**	**23**	P	**Pn**	**07 18 24.5**	**+2.5**
KZA	**Kyzart** SNR=9.3	**5.55**	**28**	P	**Pn**	**07 18 25.4**	**+1.8**
EKS2	**Erkin-Say** SNR=37	**5.64**	**16**	P	**Pn**	**07 18 27.6**	**+3.0**
AAK	**Ala-Archa** 24nm,0.4s	**5.80**	**21**	P	**Pn**	**07 18 29.4**	**+2.7**
AAK	34nm,0.8s			S	**Sn**	**07 19 29.8**	**-2.2**
AAK	**Ala-Archa** 14nm,0.3s,baz=178,slow=6.5,SNR=98	**5.80**	**21**	P	**Pn**	**07 18 29.4**	**+2.7**
AAK	3.3nm,0.3s,baz=333,slow=23,SNR=2.8			S	**Sn**	**07 19 31.1**	**-0.9**
AAK	**Ala-Archa** SNR=59	**5.80**	**21**	P	**Pn**	**07 18 29.8**	**+3.0**
KK31	**Karatay Array** 50nm,0.5s,baz=178,slow=13,SNR=424	**5.93**	**351**	⇑P	**Pn**	**07 18 31.5**	**+3.2**
KK31	25nm,0.3s,baz=168,slow=21,SNR=21			⇓S	**Sn**	**07 19 33.6**	**-1.3**
KBK	**Karagaybulak** SNR=9.2	**5.96**	**24**	P	**Pn**	**07 18 32.4**	**+3.5**
ULHL	**Ulahol** SNR=12	**6.10**	**34**	P	**Pn**	**07 18 32.6**	**+1.8**
CHMS	**Chumysh** SNR=18	**6.21**	**21**	P	**Pn**	**07 18 34.8**	**+2.6**
USP	**Ospenovka** SNR=17	**6.39**	**19**	P	**Pn**	**07 18 36.7**	**+2.1**
TKM2	**Tokmak 2** 18nm,0.7s	**6.41**	**27**	⇑P	**Pn**	**07 18 36.4**	**+1.3**
TKM2	6.6nm,0.6s			⇑S	**Sn**	**07 19 46.6**	**-0.2**
TKM2	**Tokmak 2** SNR=21	**6.41**	**27**	P	**Pn**	**07 18 37.6**	**+2.6**
GEYT	**Alibeck** 0.9nm,0.3s,baz=101,slow=12,SNR=5.2	**10.81**	**278**	P	**Pn**	**07 19 36.3**	**+1.7**
GEYT	1.7nm,0.3s,baz=103,slow=17,SNR=6.1			S	**Sn**	**07 21 31.2**	**-2.3**
GYA0B	**ALIBECK ARRAY**	**10.81**	**278**	⇑P	**Pn**	**07 19 36.2**	**+1.6**
GYA0B				⇑S	**Sn**	**07 21 31.8**	**-1.8**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=212,slow=11,SNR=2.8	**12.36**	**36**	P	**Pn**	**07 19 54.3**	**-0.9**
DANN	**Dangsing** 19nm,0.4s	**13.46**	**128**	*e*P	**Pn**	**07 20 08.8**	**-1.1**
KOLN	**Koldanda**	**13.77**	**130**	*e*P	**Pn**	**07 20 11.8**	**-2.0**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=205,slow=11,SNR=2.6	**14.24**	**18**	P	Pn	07 20 15.6	-3.9
GKN	**Gorkha** 23nm,0.3s	**14.25**	**127**	*e*P	**Pn**	**07 20 18.6**	**-1.4**
AB31	**Akbulak array** 1.4nm,0.3s,baz=133,slow=15,SNR=97	**14.73**	**328**	⇑P	**Pn**	**07 20 27.6**	**+1.8**
AB31	2.6nm,0.5s,baz=154,slow=24,SNR=14			⇑S	**Sn**	**07 23 02.2**	**-6.0**
KKN	**Kakani** 15nm,0.5s	**14.81**	**126**	*e*P	**Pn**	**07 20 25.1**	**-2.1**
DMN	**Daman** 31nm,0.7s	**14.83**	**127**	*e*P	**Pn**	**07 20 25.2**	**-2.2**
PKIN	**Phulchoki**	**15.04**	**126**	*e*P	**Pn**	**07 20 28.0**	**-2.0**
PKI	**Pulchoki** 16nm,0.5s	**15.05**	**126**	*e*P	**Pn**	**07 20 28.3**	**-2.0**
GUN	**Gumba**	**15.13**	**124**	*e*P	**Pn**	**07 20 29.4**	**-1.9**
JIRN	**Jiri** 56nm,0.6s	**15.50**	**124**	*e*P	**Pn**	**07 20 34.3**	**-1.7**
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=167,slow=13,SNR=13	**15.81**	**357**	P	**Pn**	**07 20 39.2**	**-0.1**
RAMN	**Ramite**	**16.24**	**125**	*e*P	**Pn**	**07 20 44.1**	**-1.0**
AKTO	**Aktyubinsk** 10nm,0.7s	**16.44**	**328**	⇓P	**P**	**07 20 50.5**	**+2.7**
AKTO	3.3nm,0.7s			⇑S	**Sn**	**07 23 47.3**	**-2.1**
AKTO	**Aktyubinsk** 1.0nm,0.3s,baz=139,slow=12,SNR=23	**16.44**	**328**	P	**P**	**07 20 49.8**	**+1.9**
AKTO	0.3nm,0.3s,baz=347,slow=22,SNR=6.1			S	**Sn**	**07 23 43.3**	**-6.1**
TAPN	**Taplejung**	**16.72**	**122**	*e*P	**Pn**	**07 20 49.6**	**-1.4**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=213,slow=10,SNR=3.3	**19.01**	**24**	P	**P**	**07 21 16.4**	**+0.4**
SONM	**Songino Array** 0.3nm,0.5s,baz=251,slow=8.7,SNR=2.5	**27.45**	**56**	P	**P**	**07 22 38.4**	**-0.3**
FINES	**FINESS Array B** 5.4nm,1.0s,baz=105,slow=11,SNR=2.4	**37.19**	**325**	P	**P**	**07 24 04.7**	**+1.4**
ARCES	**ARCESS Array B** 3.0nm,0.9s,baz=95,slow=9.1,SNR=1.9	**40.68**	**337**	P	**P**	**07 24 32.9**	**+0.7**
KMBO	**Kilima Mbogo** comp=Z,24nm,18.2s,baz=84,slow=36	**49.75**	**228**	LR	LR	07 47 04.2	
KAPI	**Kappang** comp=Z,16nm,19.6s,baz=110,slow=38	**61.37**	**122**	LR	LR	07 56 08.9	
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=49,slow=6.3,SNR=1.4	**66.30**	**269**	P	**P**	**07 27 39.3**	**-0.8**
INK	**Inuvik** 0.8nm,0.7s,baz=348,slow=7.2,SNR=2.0	**73.08**	**10**	P	**P**	**07 28 20.7**	**-0.1**
YKA	**Yellowknife Ar** 2.4nm,1.0s,baz=355,slow=5.1,SNR=1.7	**80.48**	**3**	P	**P**	**07 29 02.5**	**0.0**

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*IDC **10** 07:26:14.4±1.1, 60.°32N×60.°07E, h0km, mb3.5/2, mb1 3.8/10, mb1mx3.5/42, mbtmp3.8/10, ML3.3/7, MS3.1/2, Ms1 3.2/2, ms1mx2.4/35, Error ellipse: s-maj=13.2km s-min=8.8km az=35.0*
*MIRAS **10** 07:26:14.7±0.0, 60.°21N×60.°01E, h1km, ML3.2/5*
*NNC **10** 07:26:22.1±12.0, 59.°73N×60.°54E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=101.4km s-min=65.1km az=156.0*
ISC 10 07:26:12.2±1.6, 60.°27N±0.°07×60.°09E±0.°05, h4km±9km, n21, σ2=34/33, 6C-6D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	**Severouralsk** 7926μm,0.7s	**0.09**	**217**	⇑*i*P	**Pg**	**07 26 14.3**	**+0.3**
SVUR				⇑*i*S	**Sg**	**07 26 15.6**	**+0.3**
PR1R	**Pomanovo** 194μm,1.2s	**2.01**	**239**	⇑*i*P	**Pb**	**07 26 49.3**	**-0.1**
PR1R				*e*S	**Sg**	**07 27 15.9**	**-0.9**
PR3R	**Kungur** 455μm,0.4s	**3.25**	**211**	*e*P	**Pn**	**07 27 05.8**	**+1.7**
PR3R				*e*S	**Sn**	**07 27 45.8**	**+2.6**
PR4R	**Vlasy** 907μm,0.6s	**3.28**	**226**	*e*P	**Pn**	**07 27 05.9**	**+1.5**
PR4R				*e*S	**Sn**	**07 27 46.1**	**+2.2**
KAUR	**Kamensk Uralsk** 714μm,0.5s	**3.92**	**168**	⇓*i*P	**Pn**	**07 27 15.1**	**+1.9**
KAUR				*e*S	**Sn**	**07 28 02.3**	**+2.7**
ARU	**Arti** 0.0nm,0.3s,baz=303,slow=21,SNR=3.5	**3.94**	**192**	Pn	**Pn**	**07 27 17.2**	**+3.8**
ARU	0.0nm,0.3s,baz=339,slow=14,SNR=10.0			Pg	**Pg**	**07 27 26.9**	**-0.7**
ARU	0.0nm,0.3s,baz=344,slow=19,SNR=2.6			Sn	**Sb**	**07 28 04.9**	**-5.2**
ARU	0.0nm,0.3s,baz=175,slow=23,SNR=3.8			Lg	Lg	07 28 15.5	
KIRV	**Kirov** 2.4nm,0.3s,baz=66,slow=20,SNR=2.5	**5.70**	**257**	Pn	**Pn**	**07 27 41.5**	**+3.9**
KIRV	3.3nm,0.3s,baz=234,slow=21,SNR=1.7			Sn	**Sn**	**07 28 43.7**	**+0.3**
KIRV				Lg	Lg	07 29 05.5	
	2.0nm,0.3s,baz=309,slow=22,SNR=2.1						
BRVK	**Borovoye** 4.3nm,0.7s	**9.14**	**138**	⇓Pn	**Pn**	**07 28 27.1**	**+2.2**
BRVK	2.1nm,0.4s			⇑Sn	**Sn**	**07 30 08.7**	**+0.6**
BVAR	**Borovoye Array** 1.9nm,0.3s,baz=322,slow=15,SNR=38	**9.21**	**138**	Pn	**Pn**	**07 28 28.1**	**+2.4**
BVAR	3.0nm,0.3s,baz=323,slow=25,SNR=11			Sn	**Sn**	**07 30 09.5**	**-0.2**
BVAR	baz=326,slow=25,SNR=1.7			Lg	Lg	07 31 06.8	
AKTO	**Aktyubinsk** 1.6nm,1.1s	**9.93**	**188**	⇓Pn	**Pn**	**07 28 39.8**	**+4.2**
AKTO	2.5nm,0.6s			⇓Sn	**Sn**	**07 30 27.9**	**+0.5**
AKTO	2.8nm,0.8s			⇓Lg	Lg	07 31 19.6	
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=10,slow=11,SNR=1.6	**9.93**	**188**	Pn	**Pn**	**07 28 36.0**	**+0.4**
AKTO	0.1nm,0.3s,baz=186,slow=23,SNR=1.9			Sn	**Sn**	**07 30 27.2**	**-0.2**
AKTO	0.2nm,0.3s,baz=125,slow=17,SNR=2.4			Lg	Lg	07 31 33.6	
AB31	**Akbulak array** 1.3nm,0.5s,baz=20,slow=12,SNR=28	**11.04**	**180**	⇑Pn	**Pn**	**07 28 52.0**	**+1.2**
AB31	0.5nm,0.5s,baz=22,slow=23,SNR=2.5			⇓Sn	**Sn**	**07 30 51.7**	**-2.9**
AB31	5.2nm,0.8s,baz=29,slow=33,SNR=4.6			⇑Lg	Lg	07 31 53.5	
KURBB	**Kurchatov Arra** 0.5nm,0.3s,baz=321,slow=14,SNR=7.2	**14.19**	**125**	Pn	**Pn**	**07 29 32.1**	**-1.7**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=309,slow=12,SNR=3.5	**14.79**	**104**	Pn	**P**	**07 29 46.5**	**-1.6**
ZALV	0.4nm,0.3s,baz=313,slow=23,SNR=3.0			Sn	**Sn**	**07 32 26.6**	**+0.4**
FINES	**FINESS Array B** 0.1nm,0.3s,baz=81,slow=12,SNR=1.6	**16.50**	**289**	Pn	**Pn**	**07 30 01.5**	**-2.7**
ARCES	**ARCESS Array B** 0.2nm,0.3s,baz=100,slow=13,SNR=2.6	**17.08**	**317**	Pn	**Pn**	**07 30 08.5**	**-3.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=322,slow=13,SNR=2.8	**18.74**	**126**	P	**Pn**	**07 30 34.6**	**+2.3**
HFS	**Hagfors** 4.3nm,0.9s,baz=68,slow=16,SNR=2.2	**22.69**	**290**	P	**P**	**07 31 15.9**	**+1.4**
NOA	**NORSAR Array B** 0.5nm,0.7s,baz=77,slow=10.0,SNR=1.7	**23.52**	**293**	P	**P**	**07 31 25.0**	**+1.9**
CMAR	**Chiang Mai Arr** comp=Z,11nm,19.1s,baz=140,slow=38	**50.12**	**129**	LR	LR	07 58 15.3	
PALK	**Pallekele** comp=Z,26nm,19.1s,baz=118,slow=36	**55.12**	**155**	LR	LR	07 59 32.9	

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*ISCJB **10** 07:39:57.4±0.3, 19.°89S±0.°02×70.°06W±0.°05, h75km±3km, mb3.7/3, Error ellipse: s-maj=7.4km s-min=3.5km az=2.9*
*NEIC **10** 07:39:58.2±2.2, 19.°92S±0.°02×70.°10W±0.°05, h61km±7km*
*GUC **10** 07:39:58.2±0.8, 19.°89S×70.°05W, h55km±3km, ML4.5*
*IDC **10** 07:40:02.7±2.1, 19.°94S×69.°74W, h96km±19km, mb3.5/4, mb1 3.8/8, mb1mx3.5/28, mbtmp4.0/8, MS2.6/5, Ms1 2.6/5, ms1mx2.6/18, Error ellipse: s-maj=30.3km s-min=12.5km az=102.0*
ISC 10 07:39:57.7±0.7, 19.°90S±0.°03×70.°10W±0.°05, h57km±6km, n64, σ1=35/77, mb4.2/7, 2C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.30**	**355**	⇓*i*P	**Pn**	**07 40 08.5**	**+0.8**
PSGC				*i* S	**Sn**	**07 40 15.1**	**+0.2**
PSGC	comp=E,48μm,0.1s			IAML		07 40 16.1	
PB11	**IPOC Station P**	**0.44**	**71**	⇑*i*P	**Pn**	**07 40 09.5**	**+0.5**
PB11				*i* S	**Sn**	**07 40 17.4**	**+0.3**
PB11	comp=E,44μm,0.2s			IAML		07 40 18.3	
PB11	**IPOC Station P**	**0.44**	**71**		**Pn**	**07 40 09.6**	**+0.7**
PB11				Sn	**Sn**	**07 40 17.4**	**+0.3**
GO01	**Chusmiza**	**0.88**	**75**	*e*P	**Pn**	**07 40 15.1**	**+0.5**
GO01				*i* S	**Sn**	**07 40 27.7**	**+0.9**
GO01	comp=N,47μm,0.1s			IAML		07 40 28.1	
GO01	**Chusmiza**	**0.88**	**75**		**Pn**	**07 40 15.5**	**+1.0**
GO01				Sn	**Sn**	**07 40 27.7**	**+0.9**
MNMC	**Minye Minye**	**0.90**	**32**	⇓*i*P	**Pn**	**07 40 15.6**	**+1.0**
MNMC				*i* S	**Sn**	**07 40 28.2**	**+1.2**
MNMC	**Minye Minye**	**0.90**	**32**		**Pn**	**07 40 15.8**	**+1.2**
MNMC				Sn	**Sn**	**07 40 27.2**	**+0.2**
PB08	**IPOC Station P**	**0.92**	**105**	⇑*i*P	**Pn**	**07 40 15.8**	**+0.9**
PB08				*i* S	**Sn**	**07 40 28.3**	**+0.8**
PB01	**IPOC Station P**	**1.27**	**153**	⇓*i*P	**Pn**	**07 40 20.1**	**+0.9**
PB01				*i* S	**Sn**	**07 40 36.4**	**+1.0**
PB01	comp=N,12μm,0.2s			IAML		07 40 37.9	
PB01	**IPOC Station P**	**1.27**	**153**		**Pn**	**07 40 20.2**	**+0.9**
PB01				Sn	**Sn**	**07 40 35.2**	**-0.3**
PB12	**IPOC Station P**	**1.30**	**350**	*e*P	**Pn**	**07 40 21.0**	**+1.3**
PB12				*i* S	**Sn**	**07 40 37.6**	**+1.4**
PB12	comp=E,12μm,0.3s			IAML		07 40 41.1	
PB02	**IPOC Station P**	**1.42**	**172**	⇓*i*P	**Pn**	**07 40 22.6**	**+1.3**
PB02				*i* S	**Sn**	**07 40 41.1**	**+1.9**
PB02	comp=E,12μm,0.2s			IAML		07 40 43.2	
PB16	**IPOC Station P**	**1.66**	**20**	⇓*i*P	**Pn**	**07 40 26.5**	**+1.5**
PB16				*i* S	**Sn**	**07 40 47.7**	**+2.2**
PB07	**IPOC Station P**	**1.82**	**174**	⇓*i*P	**Pn**	**07 40 28.5**	**+1.6**
PB07				*i* S	**Sn**	**07 40 51.6**	**+2.5**
PB07	comp=E,6μm,0.3s			IAML		07 40 53.2	
PB09	**IPOC Station P**	**2.05**	**157**	*e*P	**Pn**	**07 40 32.3**	**+2.3**
PB09				*i* S	**Sn**	**07 40 57.7**	**+3.3**
PB09	comp=N,5μm,0.5s			IAML		07 41 03.6	
PB03	**IPOC Station P**	**2.16**	**172**	*i* P	**Pn**	**07 40 32.9**	**+1.5**
PB03				*e*S	**Sn**	**07 40 58.7**	**+1.6**
PB03	comp=E,4μm,0.3s			IAML		07 41 06.2	
PB04	**IPOC Station P**	**2.42**	**181**	*e*P	**Pn**	**07 40 35.6**	**+0.6**
PB04	**IPOC Station P**	**2.42**	**181**		**Pn**	**07 40 36.2**	**+1.2**
PB06	**IPOC Station P**	**2.83**	**170**	*e*P	**Pn**	**07 40 41.5**	**+0.8**
LVC	**Limon Verde** baz=341,slow=12	**2.91**	**158**	P	**Pn**	**07 40 44.4**	**+2.5**
LVC				S	**Sn**	**07 41 19.1**	**+3.2**
LVC	comp=E,112nm,0.3s,baz=40,slow=21,SNR=20			LR	LR	07 42 16.4	
LVC	**Limon Verde**	**2.91**	**158**	Pn	**Pn**	**07 40 44.5**	**+2.6**
PB10	**IPOC Station P**	**3.62**	**187**		**Pn**	**07 40 51.2**	**-0.1**
PB10				Sn	**Sn**	**07 41 32.0**	**-0.8**
LPAZ	**La Paz** comp=E,17nm,0.3s,baz=232,slow=5.4,SNR=290	**4.05**	**28**	P	Pn	07 41 03.2	+5.5
LPAZ				LR	LR	07 42 51.1	
LPAZ	**La Paz**	**4.05**	**28**		**Pn**	**07 41 02.3**	**+4.6**
GO02	**Mina Guanaco**	**5.25**	**175**		**Pn**	**07 41 14.4**	**+0.4**
GO02				Sn	**Sn**	**07 42 14.1**	**+0.7**
GO03	**Copiap**	**7.66**	**181**	Pn	**Pn**	**07 41 47.0**	**+0.4**
GO03				Sn	**Sn**	**07 43 12.4**	**+0.3**
SIV	**San Ignacio** comp=E,2.1nm,0.3s,baz=276,slow=9.9,SNR=47	**9.43**	**67**	P	**Pn**	**07 42 10.6**	**-0.3**
SIV	baz=338,slow=22,SNR=1.1			S	**Sn**	**07 43 55.8**	**+0.3**
SIV	comp=E,57nm,21.5s,baz=311,slow=42			LR	LR	07 46 24.8	
NNA	**Nana** comp=E,0.6nm,0.3s,baz=69,slow=16,SNR=2.2	**10.20**	**320**	P	**Pn**	**07 42 22.3**	**+0.9**
NNA	comp=E,0.5nm,0.3s,baz=211,slow=14,SNR=1.7			S	Sn	07 44 05.6	-8.8
NNA	comp=E,26nm,18.2s,baz=142,slow=32			LR	LR	07 45 37.2	
NNA	**Nana**	**10.20**	**320**	Pn	**Pn**	**07 42 22.6**	**+1.2**
GO04	**Tololo Observa**	**10.24**	**183**	Pn	**Pn**	**07 42 22.1**	**-0.1**
CFA	**Coronel Fontan** comp=E,0.6nm,0.3s,baz=3.1,slow=13,SNR=12	**11.77**	**172**	P	**Pn**	**07 42 40.5**	**-2.4**
CFA	baz=329,slow=16,SNR=1.0			S	Sn	07 44 43.1	-10
SAML	**Samuel**	**12.78**	**33**	Pn	**Pn**	**07 42 56.3**	**-0.4**
ROC1	**El Roble**	**13.05**	**183**	Pn	**Pn**	**07 43 00.8**	**+0.4**
CPUP	**Villa Florida** comp=E,0.1nm,0.3s,baz=312,slow=16,SNR=4.9	**13.37**	**121**	P	**Pn**	**07 43 03.2**	**-1.5**
CPUP	comp=E,27nm,19.8s,baz=30,slow=38			LR	LR	07 48 14.8	
CPUP	**Villa Florida**	**13.37**	**121**	Pn	**Pn**	**07 43 03.8**	**-0.9**
TRQA	**Tornquist**	**19.42**	**160**	P	**Pn**	**07 44 20.0**	**-0.9**
TRQA	comp=Z,8.3nm,1.5s			IAmb	IAmb	07 44 38.8	
GO06	**Curarrehue**	**19.65**	**183**	P	**Pn**	**07 44 23.2**	**-0.6**
PLCA	**Paso Flores** comp=Z,1.8nm,0.6s,baz=25,slow=9.5,SNR=9.2	**20.77**	**181**	P	Pn	07 44 35.9	-1.0
PLCA	**Paso Flores**	**20.77**	**181**	P	Pn	07 44 36.3	-0.5
BDFB	**Brasilia**	**21.45**	**82**	P	**P**	**07 44 40.5**	**-0.9**
BDFB	comp=Z,7.3nm,1.2s			IAmb	IAmb	07 44 46.9	
PTGA	**Pitinga** comp=Z,2.8nm,0.3s,baz=208,slow=16,SNR=13	**21.48**	**29**	P	**P**	**07 44 40.8**	**-0.9**
PTGA	**Pitinga** comp=Z,9.5nm,1.4s	**21.48**	**29**	P	**P**	**07 44 41.2**	**-0.5**
PTGA				IAmb	IAmb	07 44 53.9	
TGUH	**Tegucigalpa,Un**	**37.74**	**332**	P	**P**	**07 47 07.8**	**-0.6**
TGUH	comp=Z,7.1nm,1.0s			IAmb	IAmb	07 47 25.0	
PDPR	**Patillas Dam,**	**37.90**	**6**	P	**P**	**07 47 08.8**	**-0.6**
HOPE	**Hope Point**	**42.81**	**151**	P	**P**	**07 47 49.7**	**0.0**
PTCN	**Pitcairn Islan**	**55.30**	**253**	P	**P**	**07 49 26.6**	**+0.9**
MSTX	**Muleshoe** comp=Z,8.5nm,1.4s	**61.96**	**329**	P	**P**	**07 50 11.6**	**-0.3**
MSTX				IAmb	IAmb	07 50 17.3	
PDAR	**Pinedale Array** comp=Z,0.3nm,0.8s,baz=116,slow=4.1,SNR=1.9	**72.18**	**331**	P	**P**	**07 51 19.1**	**+2.3**
AHID	**Auburn Hatcher** comp=Z,2.1nm,0.7s	**72.90**	**330**	P	**P**	**07 51 20.7**	**-0.3**
AHID				IAmb	IAmb	07 51 35.0	
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.5s,baz=246,slow=5.3,SNR=15	**77.88**	**71**	P	**P**	**07 51 49.0**	**-0.9**
H11S2	**WAKE ISLAND Hyl** baz=101,slow=75,SNR=298	**26.56**	**279**	T	T	10 18 18.6	
H11S1	**WAKE ISLAND Hyl** baz=101,slow=75,SNR=348	**26.57**	**279**	T	T	10 18 18.4	
H11S3	**WAKE ISLAND Hyl** baz=101,slow=75,SNR=282	**26.58**	**279**	T	T	10 18 19.2	
H11N3	**WAKE ISLAND Hyl** baz=100,slow=74,SNR=197	**26.60**	**280**	T	T	10 18 15.5	
H11N2	**WAKE ISLAND Hyl** baz=100,slow=74,SNR=212	**26.62**	**280**	T	T	10 18 17.9	
H11N1	**WAKE ISLAND Hyl** baz=100,slow=74,SNR=140	**26.62**	**280**	T	T	10 18 18.1	
WRA	**Warramunga Arr** comp=Z,0.2nm,0.4s,baz=155,slow=1.9,SNR=5.6	**133.73**	**213**	PKP	**PKPdf**	**07 59 09.0**	**+0.1**
WRA	**Warramunga Arr**	**133.73**	**213**		**PKPdf**	**07 59 07.9**	**-1.0**
KSH	**Kashi**	**144.93**	**49**	*e*PKP	**PKiKP**	**07 59 31.5**	**-1.1**
MKAR	**Makanchi Array** comp=Z,2.0nm,0.7s,baz=356,slow=3.3,SNR=8.3	**144.96**	**34**	PKP	**PKPdf**	**07 59 28.8**	**+0.3**
MKAR	**Makanchi Array**	**144.96**	**34**		**PKPdf**	**07 59 28.5**	**0.0**
SONM	**Songino Array** comp=Z,0.7nm,0.5s,baz=338,slow=3.7,SNR=3.8	**151.99**	**5**	PKPbc	**PKPbc**	**07 59 45.9**	**-0.7**
SONM	**Songino Array**	**151.99**	**5**		**PKPdf**	**07 59 40.2**	**+0.2**
SONM				PKPbc	**PKiKP**	**07 59 48.0**	**+1.1**
WHN	**Wuhan**	**168.67**	**340**	PKP	**PKPdf**	**07 59 59.7**	**+1.1**

IDC 10 07:48:19.0±4.0, 4.°43S×149.°14E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/47, mbtmp3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx2.5/27, Error ellipse: s-maj=125.8km s-min=51.8km az=113.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=47,slow=11,SNR=24	**21.11**	**222**	P	P	07 53 04.9	-0.6
ASAR	**Alice Springs** 0.4nm,0.5s,baz=51,slow=8.4,SNR=7.3	**24.12**	**216**	P	P	07 53 37.3	+0.6
FITZ	**Fitzroy Crossi** 1.0nm,0.7s,baz=41,slow=11,SNR=2.1	**26.70**	**238**	P	P	07 54 00.1	0.0
RAO	**Raoul Island** comp=Z,230nm,21.9s,baz=108,slow=31	**39.78**	**132**	LR	LR	08 08 41.7	
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=93,slow=4.1,SNR=2.5	**146.72**	**287**	PKPbc	PKPdf	08 08 03.0	+0.6

IDC 10 07:52:07.4±1.8, 16.°88S×167.°04E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/38, mbtmp4.0/4, ML3.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/26, Error ellipse: s-maj=50.6km s-min=30.9km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 4.1nm,0.3s,baz=13,slow=18,SNR=104	**5.19**	**186**	Pn	Pn	07 53 25.9	-0.5
DZM	3.0nm,0.3s,baz=319,slow=23,SNR=4.1			Sn	Sn	07 54 22.2	-4.9
DZM	comp=Z,176nm,18.4s,baz=32,slow=37			LR	LR	07 55 20.8	
HNR	**Honiara** comp=Z,41nm,18.1s,baz=62,slow=37	**10.12**	**316**	LR	LR	07 58 21.7	
STKA	**Stephens Creek** comp=Z,43nm,19.1s,baz=24,slow=35	**27.47**	**232**	LR	LR	08 08 13.6	
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=89,slow=9.1,SNR=8.3	**31.14**	**259**	P	P	07 58 28.1	-0.1
ASAR	**Alice Springs** 2.0nm,0.8s,baz=78,slow=9.0,SNR=20	**31.75**	**252**	P	P	07 58 33.6	+0.1
ILAR	**Eielson Array** 0.7nm,0.6s,baz=238,slow=5.1,SNR=16	**88.63**	**18**	P	P	08 05 02.0	0.0

IDC 10 08:07:18.5±2.3, 27.°77S×177.°05W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/37, mbtmp3.7/2, Error ellipse: s-maj=59.3km s-min=28.0km az=111.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 87nm,0.3s,baz=54,slow=18,SNR=3.4	**1.66**	**207**	Pn	Pn	08 07 49.1	+0.2
RAO	204nm,0.3s,baz=82,slow=20,SNR=5.2			Sn	Sn	08 08 11.1	+0.1
ASAR	**Alice Springs** 0.7nm,0.7s,baz=100,slow=6.9,SNR=17	**44.15**	**264**	P	P	08 15 28.9	-0.3
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=108,slow=7.9,SNR=11	**44.90**	**269**	P	P	08 15 35.3	+0.1
FINES	**FINESS Array B** 6.3nm,1.0s,baz=60,slow=4.6,SNR=4.1	**142.94**	**342**	PKhKP	PKPpre	08 26 49.3	
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.6s,baz=13,slow=2.9	**146.27**	**353**	PKP	PKPdf	08 26 59.6	+0.2
NOA	**NORSAR Array B** comp=Z,1.3nm,0.7s,baz=16,slow=4.5,SNR=3.5	**146.27**	**353**	PKPbc	PKPdf	08 26 59.7	+0.3
BRTR	**Keskin Array B** comp=Z,0.6nm,0.7s,baz=47,slow=2.6,SNR=2.3	**151.97**	**303**	PKPbc	PKPbc	08 27 15.5	-0.4

IDC 10 08:09:55.1±3.2, 27.°86S×177.°78W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/28, mbtmp3.4/2, Error ellipse: s-maj=72.2km s-min=26.8km az=76.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 138nm,0.3s,baz=45,slow=20,SNR=2.8	**1.40**	**185**

SIGR				SG	Sg	08 40 15.8	+0.2
GPNR	Gulpinar-Canak	0.23	64	PG	Pg	08 40 13.8	-0.7
PRK	Paraskevi	0.33	109	P	Pb	08 40 17.4	-0.3
PRK				S	Sb	08 40 22.4	-0.6
	comp=E,140nm,0.7s						
PRK	Paraskevi	0.33	109	P	Pb	08 40 17.3	-0.4
PRK				S	Sb	08 40 22.2	-0.8
PRK				AML	AML	08 40 24.8	
	comp=E,294μm,0.5s						
PRK				AML	AML	08 40 24.9	
	comp=N,212μm,0.6s						
BOZC	Bozcaada	0.51	16	*i* P	Pb	08 40 20.2	-0.4
BOZC				*i* S	Sb	08 40 27.6	-0.4
BOZC				IAML_P			
	comp=Z,1μm,0.2s						
BOZC	Bozcaada	0.51	16	PG	Pg	08 40 19.5	-0.2
BOZC				SG	Sg	08 40 26.9	+0.5
EZN	Ezine	0.59	37	P	Pg	08 40 21.0	-0.2
EZN				S	Sb	08 40 31.0	+0.6
EZN	Ezine	0.59	37	PG	Pg	08 40 20.9	-0.2
EZN				SG	Sb	08 40 29.4	-1.0
AYVA	Ayvalik	0.64	94	*i* P	Pn	08 40 25.3	+0.6
AYVA				IAML_P			
	comp=Z,359nm,0.2s						
LIA	Limnos Island	0.76	316	P	Pg	08 40 24.7	+0.3
LIA				S	Sb	08 40 36.0	+0.7
	comp=Z,30nm,0.4s						
LIA	Limnos Island	0.76	316	P	Pg	08 40 24.1	-0.3
LIA				S	Sg	08 40 34.3	0.0
LIA				AML	AML	08 40 38.8	
	comp=E,73μm,0.4s						
LIA				AML	AML	08 40 43.9	
	comp=N,63μm,0.4s						
PSRA	Psara	0.85	196	P	Pg	08 40 25.2	-1.0
CHOS	Chios island	0.98	171	P	Pg	08 40 28.4	-0.2
CHOS				S	Sn	08 40 43.2	-0.2
	comp=N,95nm,0.4s						
CHOS	Chios island	0.98	171	P	Pg	08 40 28.5	-0.2
CHOS				S	Sg	08 40 41.3	-0.1
CHOS				AML	AML	08 40 44.8	
	comp=E,183μm,0.2s						
CHOS				AML	AML	08 40 46.5	
	comp=N,188μm,0.6s						
CHOS	Chios island	0.98	171	PG	Pg	08 40 28.8	+0.2
GELI	Tayfur-Gelibol	1.14	24	PN	Pb	08 40 31.6	+0.1
SMTH	Samothraki Isl	1.14	347	P	Pg	08 40 31.2	-0.6
SMTH				S	Sn	08 40 47.9	+0.5
	comp=N,28nm,0.3s						
SMTH	Samothraki Isl	1.14	347	P	Pg	08 40 30.9	-0.9
SMTH				S	Sg	08 40 46.7	0.0
SMTH				AML	AML	08 40 48.4	
	comp=E,57μm,0.4s						
SMTH				AML	AML	08 40 49.0	
	comp=N,50μm,0.2s						
URLA	Izmir	1.15	150	*i* P	Pg	08 40 31.5	-0.3
URLA				*i* S	Sn	08 40 47.6	+0.2
URLA	Izmir	1.15	150	PN	Pg	08 40 31.5	-0.3
LPK	Lapseki	1.23	34	PN	Pg	08 40 32.7	-0.6
ERIK	Erikli-Kesan	1.40	20	PN	Pb	08 40 36.1	+0.1
BALY	Balya	1.41	74	*i* P	Pg	08 40 39.2	+2.4
BALY				*i* S	Sg	08 40 55.0	-0.1
KRBG	Karabiga-Canak	1.51	46	PN	Pn	08 40 36.6	-0.1
ALN	Alexandroupoli	1.54	5	P	Pn	08 40 37.6	+0.4
ALN				S	Sg	08 40 59.4	-0.1
	comp=N,12nm,0.3s						
ALN	Alexandroupoli	1.54	5	P	Pn	08 40 37.7	+0.4
ALN				S	Sg	08 40 59.4	-0.1
ALN	Alexandroupoli	1.54	5	PN	Pn	08 40 37.0	-0.2
AOS	Alonnisos	1.56	264	PN	Pb	08 40 39.1	+0.5
KESN	Edirne-Kesan	1.59	23	*i* P	Pn	08 40 37.3	-0.9
KESN				IAML_P			
	comp=Z,100nm,0.3s						
MRMT	Marmara Adasi	1.82	46	PN	Pn	08 40 41.6	+0.5

ISCJB ***10*** *08:54:13.0±0.5, 51°.50N±0°.03×16°.10E±0°.03, h0km, Error ellipse: s-maj=3.7km s-min=2.6km az=14.1*
VIE ***10*** *08:54:16.1±1.0, 51°.41N×16°.05E, h0km, mb2.4/5, ml2.6/6, Error ellipse: s-maj=10.3km s-min=8.2km az=48.0 75 km WNW of Wroclaw Suspected Mining induced.*

ISC 10 08:54:13.5±0.9, 51°.60N±0°.03×16.11E±0°.02, h0km, n31, σ1§29/74, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.76	171	*i* Pg	Pg	08 54 28.3	+0.2
KSP				*i* Pg	Pg	08 54 28.3	+0.2
KSP				*e*Sg	Sg	08 54 37.5	-0.5
KSP				*e*Sg	Sg	08 54 37.5	-0.5
CHVC	Chvalec	1.01	182	*e*PG	Pg	08 54 33.0	+0.2
CHVC				*e*SG	Sg	08 54 45.2	-0.7
	comp=Z,34nm,0.4s						
UPC	Upice	1.09	183	*e*PG	Pg	08 54 34.4	0.0
UPC				*e*SG	Sg	08 54 47.1	-1.4
	comp=Z,56nm,0.4s						
DPC	Dobruska-Polom	1.25	174	*e*PG	Pg	08 54 37.1	-0.4
DPC				*e*SG	Sg	08 54 53.1	-0.6
	comp=Z,25nm,0.3s						
PVCC	Panska Ves	1.44	223	*e*PG	Pn	08 54 41.0	+0.1
PVCC				*e*SG	Sn	08 55 00.7	+0.2
	comp=Z,141nm,0.4s						
BRG	Berggiesshubel	1.54	243	PG	Pg	08 54 43.5	+0.5
BRG				SG	Sg	08 55 04.3	+1.3
	148nm,0.4s						
KRLC	Kraliky	1.58	164	*e*PG	Pn	08 54 42.1	-0.7
KRLC				*e*SG	Sn	08 55 02.7	-1.3
	comp=Z,35nm,0.2s						
PRA	Prague	1.86	215	*e*SG	Sb	08 55 12.2	+0.1
	comp=Z,31nm,0.7s						
GOPC	GO Pecny, Ondr	1.88	207	*e*PN	Pn	08 54 46.9	0.0
GOPC				*e*PG	Pb	08 54 48.5	-0.2
GOPC				*e*SG	Sb	08 55 13.0	+0.2
	comp=Z,16nm,0.3s						
PRU	Pruhonice	1.89	212	*e*PG	Pb	08 54 48.5	-0.4
PRU				*e*SG	Sb	08 55 13.2	+0.2
	comp=Z,44nm,0.3s						
CLL	Collm	1.96	263	*e*Pn	Pn	08 54 48.0	0.0
CLL				*i* Pg	Pg	08 54 51.4	+0.3
CLL				*i*		08 54 55.8	
CLL				*i* Sg	Sg	08 55 17.5	+0.9
	comp=Z,33nm,0.5s						
MORC	Moravsky Berou	2.04	153	*e*PN	Pn	08 54 48.2	-0.9
MORC				*e*SG	Sb	08 55 16.2	-1.1
OKC	Ostrava-Krasne	2.19	143	*e*PG	Pb	08 54 53.5	-0.4
OKC				*e*SG	Sb	08 55 21.8	+0.3
	comp=Z,17nm,0.4s						
VRAC	Vranov	2.31	172	*e*PN	Pn	08 54 53.1	+0.3
VRAC				*e*SG	Sb	08 55 24.2	-0.9
PBCC	Pribram	2.34	216	*e*PN	Pn	08 54 53.2	0.0
PBCC				*e*PG	Pb	08 54 56.3	-0.2
PBCC				*e*SG	Sb	08 55 27.5	+1.6
	comp=Z,5.5nm,0.3s						
TREC	Trest	2.34	190	*e*PN	Pn	08 54 54.1	+0.9
TREC				*e*PG	Pb	08 54 56.9	+0.4
TREC				*e*SG	Sb	08 55 26.9	+1.0
	comp=Z,16nm,0.3s						
KRUC	Moravsky	2.54	176	*e*PN	Pn	08 54 55.8	-0.2
KRUC				*e*SG	Sb	08 55 31.7	-0.1
NKC	Novy Kostel	2.69	241	*e*PN	Pn	08 54 59.0	+1.0
NKC				*e*PG	Pb	08 55 03.7	+1.2
NKC				*e*SG	Sg	08 55 40.1	+0.3
	comp=Z,49nm,0.3s						
OJC	Ojcow	2.71	119	*e*Pn	Pn	08 54 57.7	-0.7
OJC				*e*Pn	Pn	08 54 57.7	-0.7
OJC				*e*Pg	Pg	08 55 05.0	-0.4
OJC				*e*Pg	Pg	08 55 05.0	-0.4
OJC				*e*Sg	Sg	08 55 40.0	-0.6
OJC				*e*Sg	Sg	08 55 40.0	-0.6
JAVC	Velka Javorina	2.92	159	*e*PN	Pn	08 55 01.5	+0.3
KHC	Kasperske Hory	2.95	214	*e*PN	Pn	08 55 01.9	+0.3
KHC				*e*PG	Pb	08 55 07.5	+0.5
KHC				*e*SN	Sn	08 55 36.0	-1.8
KHC				*e*SG	Sg	08 55 46.8	-1.5
	comp=Z,12nm,0.4s						
LANS	Liptovska Anna	3.26	137	*e*PG	Pg	08 55 17.3	+1.4
LANS				*e*SG	Sg	08 55 59.8	+1.7
LANS				*e*LG	Lg	08 56 06.1	
MODS	Modra-Piesok	3.31	166	*e*PG	Pg	08 55 15.6	-1.4
MODS				*e*SG	Sg	08 55 59.5	-0.4
NIE	Niedzica	3.45	128	*e*P	Pg	08 55 20.9	+1.3
NIE				*e*P	Pg	08 55 20.9	+1.3
NIE				*e*S	Sg	08 56 04.9	+0.6
NIE				*e*S	Sg	08 56 04.9	+0.6
VYHS	Vyhne	3.57	149	*e*PN	Pn	08 55 09.5	-0.6
VYHS				*e*PG	Pg	08 55 22.5	+0.7
VYHS				*e*SG	Sg	08 56 11.2	+3.1
BSD	Bornholm Skovb	3.60	349	*i* P	Pn	08 55 10.2	-0.2
BSD				*i* S	Sn	08 55 49.9	-3.7
CONA	Conrad Observa	3.67	183	*i* Pn	Pn	08 55 11.9	+0.3
	comp=Z,0.6nm,0.2s						
CONA				Sg	Sg	08 56 10.8	-0.7
	comp=Z,6.1nm,0.4s						
MOA	Molln	3.94	198	*e*Pn	Pn	08 55 15.6	+0.4
	comp=Z,2.4nm,0.3s						
MOA				Sg	Sg	08 56 18.6	-1.3
	comp=Z,7.0nm,0.5s						
ARSA	Arzberg	4.37	185	*e*Pn	Pn	08 55 21.6	+0.5
	comp=Z,0.9nm,0.3s						
ARSA				Sg	Sg	08 56 35.8	+2.1
	comp=Z,4.6nm,0.5s						
KOLS	Kolonicke sedl	4.77	122	*e*SG	Sg	08 56 53.6	+7.0
KBA	Koelnbreinsper	4.87	203	*e*Pn	Pn	08 55 28.8	+0.7
	comp=Z,1.7nm,0.5s						

IDC 10 09:00:36.9±5.2, 6°.67S×148°.45E, h144km±41km, mb3.1/1, mb1 3.3/3, mb1mx3.0/37, mbtmp3.6/3, Error ellipse: s-maj=111.4km s-min=51.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.01	205	P	Pn	09 01 24.2	+0.1
	2.6nm,0.3s,baz=27,slow=16,SNR=6.4						
PMG				S	Sn	09 02 04.3	+3.6
	4.3nm,0.3s,baz=4.5,slow=22,SNR=7.4						
WRA	Warramunga Arr	19.02	225	P	P	09 04 47.7	-0.2
	0.3nm,0.3s,baz=51,slow=11,SNR=20						
ASAR	Alice Springs	21.94	218	P	P	09 05 19.3	+0.1
	0.9nm,0.5s,baz=50,slow=8.9,SNR=29						
TORD	Torodi Ar. Bea	146.65	284	PKPbc	PKPbc	09 20 02.0	-0.8
	0.3nm,0.5s,baz=76,slow=6.1,SNR=3.4						

ISCJB ***10*** *09:03:03.1±0.4, 56°.79S±0°.08×150°.7W±0°.1, h10km, mb4.5/11, MS4.0/20, Error ellipse: s-maj=12.0km s-min=9.0km az=5.6*
IDC ***10*** *09:03:03.5±0.5, 56°.73S×150°.75W, h0km, mb4.5/11, mb1 4.7/11, mb1mx4.5/28, mbtmp4.5/11, MS3.9/14, Ms1 3.9/14, ms1mx3.8/18, Error ellipse: s-maj=29.1km s-min=14.6km az=15.0*
NEIC ***10*** *09:03:05.2±1.4, 56°.7S±0°.2×150°.7W±0°.2, h10km±1km, mb4.8/22*
GCMT ***10*** *09:03:11.2±0.3, 57°.06S±0°.02×151°.18W±0°.04, h13km±1km, MW4.9/59, Moment Tensor Solution. s29,c37; s59,c73; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.22±.15; $M_{\theta\theta}$1.66±.12; $M_{\phi\phi}$0.55±.09; $M_{r\theta}$1.64±.33; $M_{\theta\phi}$-1.57±.07; $M_{r\phi}$0.59±.24; Best double couple: $M_0$3.07800×10^{16} NP1:ϕ_s279.00000°, δ62.00000°, λ-121.00000°. NP2: ϕ_s151.00000°, δ40.00000°, λ-46.00000°. Principal axes: T 2.9880, Plg12.0000°, Azm30.0000°; N 0.1790, Plg27.0000°, Azm294.0000°; P -3.1690, Plg60.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 09:03:05.2±0.4, 56°.7S±0°.1×150°.53W±0°.09, h10km, n112, σ1§38/88, mb4.8/17, MS4.0/20, 2C-2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	25.68	199	P	P	09 08 36.6	+1.8
SBA				IAmb	IAmb	09 08 45.4	
	comp=Z,14nm,1.1s						
RPZ	Rata Peaks	27.41	282	LR	LR	09 17 26.0	
	comp=Z,319nm,18.4s,baz=144,slow=32						
URZ	Urewera	28.23	297	LR	LR	09 17 55.3	
	comp=Z,260nm,19.6s,baz=150,slow=32						
TBI	Tubuai	33.35	2	*e*LR	LR	09 18 23.2	
	comp=Z,476nm,30.5s,baz=185						
TBI	Tubuai	33.35	2	*e*T	T	09 44 44.2	
	comp=Z,78nm,0.4s						
QSPA	South Pole Qui	33.42	180	P	P	09 09 44.1	+0.3
	comp=Z,11nm,1.1s,baz=78,slow=4.2,SNR=15						
QSPA	South Pole Qui	33.42	180	P	P	09 09 43.7	0.0
QSPA				IAmb	IAmb	09 09 51.1	
	comp=Z,12nm,1.0s						
MEH	Mehetia	38.83	4	*e*T	T	09 51 35.5	
	comp=Z,21nm,0.3s						
TVO	Taravao	38.89	2	*e*T	T	09 51 39.7	
	comp=Z,1.7nm,0.3s						
PAE	Paea	39.01	1	*e*T	T	09 51 48.3	
	comp=Z,2.8nm,0.3s						
PPT2	Papeete2	39.08	1	*e*S	S	09 16 31.4	-0.3
	comp=Z,84nm,24.2s						
PPT2				*e*LR	LR	09 21 14.3	
	comp=Z,404nm,25.8s,baz=195						
PPT2	Papeete2	39.08	1	*e*T	T	09 51 53.7	
	comp=Z,4.2nm,0.4s						
PPT	Papeete	39.10	1	LR	LR	09 21 17.2	
	comp=Z,57nm,19.8s,baz=152,slow=28						
PMSA	Palmer Station	39.79	138	P	P	09 10 38.1	+0.4
	comp=Z,3.4nm,0.6s,baz=178,slow=23,SNR=5.7						
PMSA	Palmer Station	39.79	138	P	P	09 10 38.5	+0.7
VAH	Vaihoa	41.47	4	*e*T	T	09 54 52.4	
	comp=Z,146nm,0.3s						
PMOR	Pomariorio Ree	41.70	4	*e*T	T	09 55 10.0	
	comp=Z,6.1nm,0.4s						
DZM	Mont Dzumac	46.73	300	*e*LR	LR	09 24 47.5	
	comp=Z,84nm,25.4s						
TAOE	Nuku Hiva Isla	48.44	14	*e*LR	LR	09 25 28.2	
	comp=Z,290nm,28.1s						
VNA3	Neumayer Olymp	49.37	164	P	P	09 11 52.8	-1.3
SNAA	Sanae	49.90	167	P	P	09 11 56.8	-1.6
SNAA	Sanae	49.90	167	P	P	09 11 56.7	-1.6
VNA2	Neumayer--Watz	49.98	165	P	P	09 11 57.8	-1.0
	baz=203,slow=7.5						
VNA1	Neumayer--Stat	50.10	165	P	P	09 11 58.7	-1.0
PLCA	Paso Flores	52.03	108	P	P	09 12 15.4	+0.7
	comp=Z,13nm,1.1s,baz=239,slow=9.4,SNR=14						
PLCA				LR	LR	09 29 34.9	
	comp=Z,122nm,18.9s,baz=244,slow=30						
PLCA	Paso Flores	52.03	108	P	P	09 12 16.1	+1.4
PLCA				IAmb	IAmb	09 12 17.2	
	comp=Z,22nm,1.1s						
STKA	Stephens Creek	52.04	268	P	P	09 12 14.5	-0.3
	comp=Z,6.0nm,0.9s,baz=135,slow=6.2,SNR=7.8						
STKA				LR	LR	09 31 33.9	
	comp=Z,134nm,18.9s,baz=177,slow=33						
STKA	Stephens Creek	52.04	268	P	P	09 12 15.2	+0.3
GO06	Curarrehue	52.38	107	P	P	09 12 18.0	+0.6
GO06				IAmb	IAmb	09 12 19.5	
	comp=Z,15nm,1.1s						
MAW	Mawson	53.53	195	P	P	09 12 25.0	-0.3
	comp=Z,4.2nm,1.0s,baz=137,slow=7.9,SNR=3.9						
MAW				LR	LR	09 32 52.0	
	comp=Z,106nm,18.5s,baz=219,slow=33						
MAW	Mawson	53.53	195	P	P	09 12 25.4	+0.1
SYO	Syowa Base	54.35	184‖	*e*P	P	09 12 28.0	-3.3
SYO	Syowa Base	54.35	184‖	*e*X	P	09 12 29.2	-2.1
BBOO	Buckleboo	54.37	263	P	P	09 12 30.2	-1.7
HOPE	Hope Point	57.03	140	P	P	09 12 51.8	+1.2
HOPE				IAmb	IAmb	09 13 01.1	
	comp=Z,16nm,1.1s						
TRQA	Tornquist	58.45	112	P	P	09 13 01.3	+0.3
TRQA				IAmb	IAmb	09 13 02.5	
	comp=Z,16nm,1.3s						
CTA	Charters Tower	58.78	281	P	P	09 13 03.8	+0.3
	comp=Z,6.8nm,1.1s,baz=145,slow=8.4,SNR=4.7						
CTAO	Charters Tower	58.78	281	P	P	09 13 04.5	+1.1
CTAO				IAmb	IAmb	09 13 06.8	
	comp=Z,8.3nm,1.1s						
GO04	Tololo Observa	59.84	100	P	P	09 13 11.8	+0.7
AS31	Alice Springs	62.67	268	P	P	09 13 29.0	-1.0
ASAR	Alice Springs	62.67	268	P	P	09 13 28.6	-1.4
	comp=Z,6.3nm,0.8s,baz=140,slow=6.4,SNR=39						
ASAR				LR	LR	09 37 01.3	
	comp=Z,75nm,21.2s,baz=155,slow=33						
H01W1	Cape Leeuwin H	64.33	245	T	T	10 23 38.2	
	baz=141,slow=76,SNR=22						
H01W2	Cape Leeuwin H	64.33	245	T	T	10 23 42.1	
	baz=141,slow=76,SNR=25						
H01W3	Cape Leeuwin H	64.35	245	T	T	10 23 39.6	
	baz=141,slow=76,SNR=25						
GO02	Mina Guanaco	64.44	97	P	P	09 13 42.7	+0.7
WB2	Warramunga Arr	65.41	271	P	P	09 13 47.9	-0.1
WB2				IAmb	IAmb	09 13 56.4	
	comp=Z,5.9nm,1.2s						
WRA	Warramunga Arr	65.42	271	P	P	09 13 45.8	-2.3
	comp=Z,3.4nm,0.9s,baz=147,slow=5.6,SNR=18						
WRA				LR	LR	09 39 07.4	
	comp=Z,60nm,20.0s,baz=140,slow=33						
WRA	Warramunga Arr	65.42	271	P	P	09 13 48.7	+0.7
LVC	Limon Verde	66.85	96	P	P	09 13 57.7	+0.1
MNMC	Minye Minye	69.27	93	P	P	09 14 14.0	+1.2
CPUP	Villa Florida	70.09	108	P	P	09 14 17.3	-0.1
	comp=Z,9.7nm,0.9s,baz=233,slow=6.2,SNR=17						
CPUP				LR	LR	09 41 04.5	
	comp=Z,70nm,18.6s,baz=216,slow=32						
CPUP	Villa Florida	70.09	108	P	P	09 14 17.7	+0.3
FITZ	Fitzroy Crossi	71.70	265	P	P	09 14 26.1	-1.2
	comp=Z,2.4nm,0.9s,baz=107,slow=4.8,SNR=4.5						
FITZ				LR	LR	09 42 07.3	
	comp=Z,113nm,20.1s,baz=149,slow=33						
FITZ	Fitzroy Crossi	71.70	265	P	P	09 14 26.6	-0.7
FITZ				IAmb	IAmb	09 14 30.7	
	comp=Z,11nm,1.4s						
LPAZ	La Paz	72.39	93	P	P	09 14 33.6	+1.4
	comp=Z,10nm,1.0s,baz=194,slow=2.4,SNR=29						
LPAZ	La Paz	72.39	93	P	P	09 14 34.0	+1.8
LPAZ				IAmb	IAmb	09 14 34.7	
	comp=Z,16nm,1.1s						
SAML	Samuel	81.13	93	P	P	09 15 21.1	+0.2
SAML				IAmb	IAmb	09 15 22.3	
	comp=Z,9.9nm,1.1s						
PTLC	Puerto Leguiza	82.34	78‖	*e*P	P	09 15 25.5	-1.7
PTLC	Puerto Leguiza	82.34	78‖	*e*P	P	09 15 25.5	-1.7
MACC	Macarena, Meta	84.50	78	*e*P	P	09 15 37.5	-0.8
MACC	Macarena, Meta	84.50	78	*e*P	P	09 15 37.5	-0.8
GUY2C	Guyana, Caldas	86.27	75	*e*P	P	09 15 47.8	+0.2
GUY2C	Guyana, Caldas	86.27	75	*e*P	P	09 15 47.8	+0.2
CBOC	Ciudad Bolivar	86.47	74	*e*P	P	09 15 47.0	-1.3
CBOC	Ciudad Bolivar	86.47	74	*e*P	P	09 15 47.0	-1.3
NORC	Norcasia	86.82	75	*e*P	P	09 15 50.4	+0.6
NORC	Norcasia	86.82	75	*e*P	P	09 15 50.4	+0.6
LPIG	La Paz	87.38	36	LR	LR	09 46 22.6	
	comp=Z,72nm,19.1s,baz=206,slow=30						
PTBC	PUERTO BERRIO,	87.86	75	*e*P	P	09 15 52.1	-2.7
PTBC	PUERTO BERRIO,	87.86	75	*e*P	P	09 15 52.1	-2.7
TXAR	Lajitas Array	94.45	40	LR	LR	09 49 47.4	
	comp=Z,79nm,20.9s,baz=0.0,slow=30						
BOSA	Boshof	94.92	176	LR	LR	09 55 44.8	
	comp=Z,30nm,18.9s,baz=152,slow=33						
NVAR	Mina Array Bea	98.64	25	LR	LR	09 52 04.3	
	comp=Z,49nm,18.6s,baz=264,slow=30						
H10S3	ASCENSION HYDR	105.18	135	T	T	11 15 32.3	
	baz=204,slow=74						
H10S2	ASCENSION HYDR	105.18	135	T	T	11 15 31.7	
	baz=16,slow=74						
H10N3	ASCENSION HYDR	106.26	134	T	T	11 16 48.9	
	baz=204,slow=75,SNR=41						
H10N1	ASCENSION HYDR	106.26	134	T	T	11 16 47.3	
	baz=204,slow=75,SNR=39						
H10N2	ASCENSION HYDR	106.27	134	T	T	11 16 53.9	
	baz=204,slow=75,SNR=47						
NJ2	Nanjing	116.47	288	*e*PKP	PKiKP	09 21 49.6	+1.0
WHN	Wuhan	117.67	284	PKP	PKiKP	09 22 01.6	+11
CCB	Clear Creek Bu	121.07	1		PKPdf	09 21 55.7	-0.7
ILAR	Eielson Array	121.21	2	PKP	PKPdf	09 21 56.4	-0.3
	comp=Z,3.1nm,1.0s,baz=223,slow=1.9,SNR=22						
ILAR	Eielson Array	121.21	2		PKPdf	09 21 56.0	-0.7
CN2	Changchun	122.27	302	*e*PKP	PKiKP	09 22 00.9	+1.3
IMAR	Indian Mountai	122.42	358		PKPdf	09 21 58.8	-0.1
KLR	Kul'dur	123.59	310	PKP	PKiKP	09 22 01.6	-0.3
	comp=Z,1.0nm,0.5s,baz=139,slow=3.7,SNR=4.8						
CD2	Chengdu	123.69	276	PKP	PKiKP	09 22 02.8	-0.1
BMAR	Burnt Mountain	123.92	3		PKiKP	09 22 02.1	-0.1
HHC	Hu-ho-hao-te	126.95	290	*e*PKP	PKiKP	09 22 11.4	+2.3
LZH	Lanzhou	127.56	280	*e*PKP	PKPdf	09 22 07.3	-2.7
LZH				sPKP		09 22 23.6	
GTA	Gaotai	132.16	280	*e*PKP	PKiKP	09 22 22.1	+2.4
WMQ	Urumqi	141.79	276	*e*PKP	PKiKP	09 22 38.0	-1.1
WMQ				sPKP		09 22 55.6	
WMQ				LR	LR		
	comp=Z,130nm,29.0s						
RAYN	Ar Rayn	144.82	206		PKPab	09 22 40.5	-0.6
KSH	Kashi	145.31	260	PKPbc	PKiKP	09 22 45.3	-1.2
KSH				PP	PP	09 26 09.0	+6.3
KSH				PKS	PKSdf	09 26 19.6	+1.5
KSH				LR	LR		
	comp=Z,81nm,8.8s						
KSH				LR	LR		
	comp=Z,190nm,14.8s						
MKAR	Makanchi Array	146.63	276	PKPbc	PKPbc	09 22 45.4	-0.7
	comp=Z,6.3nm,0.8s,baz=104,slow=5.1,SNR=22						
MKAR	Makanchi Array	146.63	276		PKPdf	09 22 44.5	+0.1
AAK	Ala-Archa	148.28	263	PKPbc	PKPbc	09 22 50.5	-0.4
	comp=Z,1.3nm,0.6s,baz=112,slow=4.7,SNR=4.8						
AAK	Ala-Archa	148.28	263		PKPbc	09 22 50.7	-0.2
SUMG	Summit	149.10	33	*i* P	PKPbc	09 22 52.2	-0.2
	comp=Z,87nm,1.3s						
SUMG				*e*		09 22 54.1	
SUMG	Summit	149.10	33		PKPbc	09 22 51.9	-0.6
ZAA0	Zalesovo Array	149.12	289		PKPbc	09 22 50.6	-1.9
ZALV	Zalesovo Beam	149.12	289	PKPbc	PKPbc	09 22 51.3	-1.1
	comp=Z,3.4nm,0.7s,baz=116,slow=3.5,SNR=10						
ZALV	Zalesovo Beam	149.12	289		PKPbc	09 22 50.7	-1.7
KKAR	Karatay Array	150.76	260		PKPbc	09 22 55.6	-1.2
KURK	Kurchatov	150.84	279		PKPbc	09 22 55.7	-1.0
KURBB	Kurchatov Arra	150.84	279	PKPbc	PKPbc	09 22 55.5	-1.3
	comp=Z,5.9nm,0.8s,baz=119,slow=2.0,SNR=16						
NRIK	Noril'sk	152.07	320	PKPbc	PKPbc	09 22 58.8	-0.2
	comp=Z,2.7nm,0.5s,baz=123,slow=2.9,SNR=4.1						
ESDC	Sonseca Array	152.32	114	PKPb

JKMT	Kesennumamotoy	2.38	292	P	Pn	09 29 34.1	+1.3
JKMT				S	Sn	09 30 01.9	+1.2
JMK	Ichinoseki	2.61	293	P	Pn	09 29 37.6	+1.6
JOM	Ohasama	2.80	304	P	Pn	09 29 40.2	+1.7
JOM				S	Sn	09 30 13.2	+2.2
JFT	Otama	3.17	263	S	Sn	09 30 21.9	+1.6
JANG	Nango	3.24	319	P	Pn	09 29 45.9	+1.3
JYK	Kaneyama	3.24	288	P	Pn	09 29 46.8	+2.2
JYK				S	Sn	09 30 24.2	+2.3
BSO1	Boso 1	4.25	220	eS	Sn	09 30 46.3	+0.2
JKB	Kayabe	4.66	328	eS	Sn	09 30 56.0	-0.8
JCH	Churui	4.70	352	P	Pn	09 30 04.6	-0.1
JCH				eS	Sn	09 30 55.4	-2.5
JRY	Ryogami san	4.74	247	P	Pn	09 30 05.8	+0.6
JRY				S	Sn	09 30 57.5	-1.3
JOD2	Odawara 2	4.98	239	P	Pn	09 30 09.8	+1.2
JOD2				eS	Sn	09 31 03.3	-1.6
NEM2	Nemuro 2	5.51	11	eS	Sn	09 31 12.7	-5.0
JTKR	Abashiri--Toko	6.01	357	P	Pn	09 30 22.5	-0.1
JTKR				eS	Sn	09 31 27.3	-2.8

*ISCJB **10** 09:29:13.0±1.1, 1°.26N±0°.04×78°.99W±0°.04, h23km±8km, Error ellipse: s-maj=7.9km s-min=4.9km az=33.8*
*IGQ **10** 09:29:15.6±1.1, 1°.N±5°×7°.9W±°, h7km, Mjma3.9, ML4.4, MLv4.0*
*RSNC **10** 09:29:17.5±1.0, 1°.09N×78°.82W, h47km±51km, ML3.2, Mw3.4*

ISC 10 09:29:13.4±1.7, **1°.19N**±0°.05×**79°.01W**±0°.06, **h26**km±15km, **n40**, σ0°**89**/50, **1C-5D, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	Pacto, Paraso	0.94	167	P	Pn	09 29 32.3	+1.2
PAC1				S	Sn	09 29 44.4	+0.5
URCU	Urcuqui	1.06	135	P	Pb	09 29 33.8	+0.4
CUSE	Cuicocha Este	1.07	145	P	Pb	09 29 34.1	+0.5
OTAV	Otavalo	1.10	150	⇓iP	Pb	09 29 34.3	+0.3
OTAV				eS	Sb	09 29 46.5	-1.7
OTAV				i		09 29 48.3	
	comp=Z,1μm,0.2s						
OTAV	Otavalo	1.10	150	P	Pb	09 29 33.8	-0.2
CUSW	Cuicocha Oeste	1.11	144	P	Pb	09 29 34.8	+0.6
CUSW				S	Sn	09 29 48.9	+0.6
ACOT	Cotacachi (Cas	1.15	141	P	Pb	09 29 35.7	+0.8
IMBA	Imbabura, San	1.21	138	P	Pb	09 29 36.7	+0.7
AIB2	Ibarra (Univer	1.23	133	P	Pb	09 29 36.1	-0.2
AIB2				S	Sb	09 29 52.4	+0.5
YAHU	Yahuarcocha	1.24	131	P	Pb	09 29 36.2	-0.3
YAHU				S	Sb	09 29 52.4	+0.2
PULU	Pululahua	1.27	157	P	Pb	09 29 36.8	-0.1
PULU				S	Sb	09 29 52.8	-0.2
YANA	Yana	1.37	162	P	Pb	09 29 38.4	-0.3
TERV	Terraza Guagua	1.41	164	P	Pb	09 29 39.2	-0.3
GGP	Refugio Guagua	1.42	163	P	Pb	09 29 39.4	-0.2
GGPC	Guagua Pichinc	1.42	163	P	Pb	09 29 39.3	-0.4
ASDO	Santo Domingo	1.45	185	P	Pn	09 29 38.4	+0.4
CAYA	Cayambe	1.51	138	P	Pn	09 29 39.2	0.0
NINA	Atacazo Ninahu	1.62	166	P	Pb	09 29 42.0	-0.9
CPAS1	Pasto	1.68	90	eP	Pn	09 29 42.2	+0.6
CPAS1	Pasto	1.68	90	eS	Sn	09 30 01.0	-1.5
CPAS1	Pasto	1.68	90	i	Sn	09 30 04.4	+1.9
	comp=Z,106nm,0.3s						
CPAS2	Pasto	1.75	89	eP	Pn	09 29 43.1	+0.6
CPAS2	Pasto	1.75	89	eS	Sn	09 30 03.9	-0.3
BNAS	Cotopaxi Volca	1.92	164	P	Pn	09 29 46.3	+1.4
BVC2	Cotopaxi Volca	1.93	162	P	Pn	09 29 46.0	+0.8
BBAC	Balboa, Cauca	1.94	65	⇓iP	Pn	09 29 46.4	+1.4
BBAC				eS	Sn	09 30 07.5	-1.1
BBAC				i		09 30 10.1	
	comp=Z,427nm,0.5s						
BTAM	Cotopaxi Volca	1.95	162	P	Pn	09 29 46.3	+0.9
GRGC	Isla de Gorgon	1.99	25	eP	Pn	09 29 48.0	+2.7
GRGC				i		09 30 14.3	
	comp=Z,65nm,0.1s						
CRUC	La Cruz	2.09	80	⇓iP	Pn	09 29 47.9	+0.8
CRUC				eS	Sn	09 30 11.4	-1.0
CRUC				i		09 30 18.4	
	comp=Z,163nm,0.6s						
SOTA	Rioblanco	2.57	69	eP	Pn	09 29 54.6	+0.8
SOTA				eS	Sn	09 30 23.2	-1.4
SOTA				i		09 30 27.8	
	comp=Z,90nm,0.9s						
BULB	Ulba Tungurahu	2.68	167	P	Pn	09 29 56.0	+0.8
PCON	Cinco Dias	2.84	67	eP	Pn	09 29 58.8	+1.2
PCON				eS	Sn	09 30 31.4	+0.1
PCON				i		09 30 37.2	
	comp=Z,85nm,0.6s						
ISPT	Isla de la Pla	3.19	220	P	Pn	09 30 02.0	0.0
FLOC	Florencia	3.38	83	eP	Pn	09 30 04.5	0.0
FLOC				i		09 31 06.0	
	comp=Z,43nm,1.0s						
YOTC	Yotoco, Valle	3.84	44	⇓iP	Pn	09 30 10.4	-0.7
YOTC				i		09 30 56.6	
	comp=Z,31nm,0.6s						
SALI	Salinas	3.90	211	P	Pn	09 30 11.7	+0.1
PTLC	Puerto Leguiza	4.33	103	⇑iP	Pn	09 30 17.0	-0.7
PTLC				i		09 31 06.8	
	comp=Z,13nm,1.1s						
PLMC	San Jos del P	4.58	36	eP	Pn	09 30 20.3	-0.8
PLMC				i		09 31 19.9	
	comp=Z,74nm,0.1s						
ORTC	Ortega, Tolima	4.63	54	eP	Pn	09 30 21.8	+0.1
ORTC				i		09 30 28.8	
	comp=Z,22nm,0.2s						
MACC	Macarena, Meta	5.24	80	⇓iP	Pn	09 30 30.4	+0.2
MACC				i		09 30 32.1	
	comp=Z,37nm,0.6s						

*IDC **10** 09:37:60.0±1.2, 49°.80S×118°.14E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, ML2.7/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/25, Error ellipse: s-maj=84.8km s-min=18.8km az=105.0*
*ISCJB **10** 09:38:00.2±0.8, 49°.89S±0°.09×118°.5E±0°.3, h10km, mb3.6/5, MS3.3/4, Error ellipse: s-maj=29.0km s-min=12.7km az=5.7*
*NEIC **10** 09:38:02.0±1.9, 49°.89S±0°.10×118°.5E±0°.3, h10km±1km, mb4.1/10*

ISC 10 09:38:02.0±0.8, **49°.9S**±0°.1×**118°.5E**±0°.2, **h10**km, **n27**, σ0°**91**/21, **mb3.9/6, MS3.3**/4, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.99	356	Pn	Pn	09 41 58.3	-1.3
	1.5nm,0.3s,baz=175,slow=10,SNR=11						
NWAO				LR	LR	09 47 18.4	
	comp=Z,47nm,18.9s,baz=162,slow=33						
NWAO	Narrogin (SRO)	16.99	356	P	Pn	09 41 58.6	-1.0
NWAO				IAmb	IAmb	09 42 01.9	
	comp=Z,53nm,1.4s						
MORW	Morawa	20.89	354	P	Pn	09 42 49.6	+2.8
MORW				IAmb	IAmb	09 42 57.3	
	comp=Z,7.8nm,1.1s						
STKA	Stephens Creek	24.92	52	LR	LR	09 51 20.9	
	comp=Z,65nm,21.9s,baz=207,slow=32						
ASAR	Alice Springs	28.83	30	P	P	09 43 59.9	-0.5
	comp=Z,0.6nm,0.8s,baz=202,slow=8.4,SNR=7.8						
ASAR				LR	LR	09 54 42.2	
	comp=Z,78nm,19.4s,baz=216,slow=35						
ASAR	Alice Springs	28.83	30	P	P	09 44 00.7	+0.3
FITZ	Fitzroy Crossi	32.24	13	P	P	09 44 30.2	-0.3
	comp=Z,1.0nm,0.7s,baz=187,slow=8.1,SNR=3.1						
FITZ				LR	LR	09 56 00.5	
	comp=Z,70nm,18.6s,baz=202,slow=34						
FITZ	Fitzroy Crossi	32.24	13	P	P	09 44 29.7	-0.8
FITZ				IAmb	IAmb	09 44 46.2	
	comp=Z,2.2nm,1.1s						
MAW	Mawson	32.38	216	LR	LR	09 55 31.1	
	comp=Z,57nm,19.1s,baz=55,slow=32						
WRA	Warramunga Arr	32.45	29	P	P	09 44 31.3	-1.1
	comp=Z,1.0nm,0.8s,baz=202,slow=8.6,SNR=9.0						
WRA	Warramunga Arr	32.45	29	P	P	09 44 32.2	-0.1
WB2	Warramunga Arr	32.45	29	P	P	09 44 32.0	-0.4
WB0	Warramunga Arr	32.63	29	P	P	09 44 35.9	+2.0
WB0				IAmb	IAmb	09 44 51.1	
	comp=Z,3.9nm,1.3s						
ODZ	Otahua Downs	34.99	103	P	P	09 44 53.8	-0.4
QSPA	South Pole Qui	40.22	180	P	P	09 45 38.8	+0.4
	comp=Z,1.0nm,0.8s,baz=328,slow=3.0,SNR=7.7						
QSPA	South Pole Qui	40.22	180	P	P	09 45 39.1	+0.7
KAPI	Kappang	44.74	2	P	P	09 46 17.0	+1.5
SNAA	Sanae	51.89	200	P	P	09 47 09.5	-0.6
	comp=Z,1.1nm,0.8s,baz=134,slow=6.5,SNR=5.4						
SNAA	Sanae	51.89	200	P	P	09 47 09.5	-0.6
SNAA				IAmb	IAmb	09 47 10.2	
	comp=Z,3.2nm,1.1s						
H08S2	Diego Garcia H	56.90	302	T	T	10 48 21.1	
	baz=147,slow=76,SNR=6.7						
H08S1	Diego Garcia H	56.91	302	T	T	10 48 25.2	
	baz=147,slow=76,SNR=7.1						
H08S3	Diego Garcia H	56.92	302	T	T	10 48 24.5	
	baz=147,slow=76,SNR=7.8						
PV12	Saucer Basin,	144.68	91	PKPdf	PKPdf	09 57 39.7	+1.0
PV22	Blue Mesa, Par	144.81	90	PKPdf	PKPdf	09 57 39.3	+0.4
PDAR	Pinedale Array	146.55	84	PKPbc	PKPbc	09 57 43.1	-0.2
	comp=Z,0.5nm,0.9s,baz=164,slow=3.7,SNR=3.7						
YKA	Yellowknife Ar	148.85	46	PKPbc	PKPbc	09 57 47.9	-0.7
	comp=Z,1.7nm,0.7s,baz=288,slow=2.1,SNR=3.5						
YKA	Yellowknife Ar	148.85	46		PKPbc	09 57 47.5	-1.0

*SOME **10** 10:07:26.7, 44°.23N×82°.98E, h15km*
*NNC **10** 10:07:33.4±1.9, 44°.54N×82°.44E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=28.3km s-min=8.4km az=116.0*

ISC 10 10:07:26.0±3.3, **44°.3N**±0°.1×**83°.0E**±0°.1, **h10**km, **n5**, σ1**9**37/7, **4C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.33	271	eP	Pb	10 08 09.3	+1.2
DJR	7.7nm,0.2s						
				eS	Sg	10 08 40.1	-0.7
	4.7nm,0.3s						
MK31	Makanchi Array	2.53	348	Pn	Pb	10 08 12.3	+0.8
	0.7nm,0.5s,baz=174,slow=16,SNR=38						
MK31				⇑Lg	Lg	10 08 44.8	
	1.0nm,0.3s,baz=170,slow=28,SNR=11						
MAKZ	Makanchi	2.60	344	⇑Pn	Pb	10 08 12.2	-0.5
	2.3nm,0.7s						
MAKZ				⇑Lg	Lg	10 08 45.7	
	2.5nm,0.8s						
PDGK	Podgornoye	2.75	250	⇓Pn	Pb	10 08 14.9	-0.4
	0.5nm,0.3s						
PDGK				⇑Lg	Lg	10 08 50.3	
	5.2nm,0.5s						
KAPS	Kapalarasan	2.79	292	eP	Pb	10 08 17.6	+1.6
	1.7nm,0.2s						
KAPS				eS	Sg	10 08 54.1	-1.4
	3.0nm,0.4s						

*ISCJB **10** 10:47:31.5±0.4, 7°.66S±0°.04×128°.30E±0°.05, h151km, mb3.5/4, Error ellipse: s-maj=7.4km s-min=5.2km az=5.6*
*DJA **10** 10:47:31.4±0.4, 8°.S±3°×12°.8E±°, h148km±21km, M4.1/7, mb4.0/6, mB4.5/2, MLv4.2/7, Mw(mB)3.6/2*
*IDC **10** 10:47:31.9±1.5, 7°.67S×128°.35E, h156km±17km, mb3.3/4, mb1 3.7/9, mb1mx3.4/33, mbtmp4.1/9, Error ellipse: s-maj=18.1km s-min=13.1km az=105.0*
*NEIC **10** 10:47:33.1±2.9, 7°.65S±0°.04×128°.35E±0°.07, h163km±11km, mb4.3/2*

ISC 10 10:47:31.7±0.7, **7°.74S**±0°.05×**128°.36E**±0°.07, **h151**km, **n30**, σ2°**61**/37, **mb3.6/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.93	95	Pn	Pn	10 48 21.4	+3.2
BNDI	Bandanaira	3.55	26	P	Pn	10 48 27.0	+0.8
SOEI	Soe	4.51	243	P	Pn	10 48 40.5	+1.7
SOEI	Soe	4.51	243		Pn	10 48 41.3	+2.5
BATI	Baumata	5.24	242	P	Pn	10 48 51.0	+2.6
	27nm,0.3s,baz=89,slow=4.9,SNR=17						
BATI				S	Sn	10 49 48.7	+0.4
	32nm,0.3s,baz=15,slow=1.2,SNR=18						
BATI	Baumata	5.24	242	P	Pn	10 48 46.5	-1.9
MTN	Manton Dam	5.76	152		Pn	10 48 59.2	+3.9
SANI	Sanana	6.13	337	P	Pn	10 49 00.8	+0.6
FAKI	Fak Fak	6.16	39	P	Pn	10 49 01.6	+0.9
FAKI	Fak Fak	6.16	39	Pn	Pn	10 49 00.3	-0.4
EDFI	Ende, Flores	6.67	261	P	Pn	10 49 12.2	+4.6
SIJI	Sorong	7.42	23	P	Pn	10 49 17.9	+0.4
	6.1nm,0.3s,baz=208,slow=17,SNR=17						
SIJI				S	Sn	10 50 37.4	-3.1
	1.4nm,0.3s,baz=248,slow=23,SNR=1.6						
KNRA	Kununurra	7.90	177		Pn	10 49 26.7	+2.9
KNRA				Sn	Sn	10 50 51.5	-0.4
FITZ	Fitzroy Crossi	10.63	194	P	Pn	10 50 00.4	+0.4
	1.2nm,0.3s,baz=22,slow=13,SNR=23						
FITZ				S	Sn	10 51 51.8	-5.9
	2.2nm,0.3s,baz=107,slow=20,SNR=9.3						
FITZ	Fitzroy Crossi	10.63	194		Pn	10 50 00.6	+0.5
FITZ					Sn	10 51 53.1	-4.6
WRAB	Tennant Creek	13.44	155	P	Pn	10 50 37.7	+1.1
WRA	Warramunga Arr	13.44	155	P	Pn	10 50 37.6	+1.0
	1.7nm,0.3s,baz=323,slow=13,SNR=99						
WRA				S	Sn	10 53 00.2	-5.4
	1.5nm,0.3s,baz=328,slow=22,SNR=16						
WRA	Warramunga Arr	13.44	155	P	Pn	10 50 37.8	+1.2
WRA					Sn	10 53 01.7	-3.9
WB2	Warramunga Arr	13.45	155	P	Pn	10 50 37.6	+0.9
AS31	Alice Springs	16.70	162	P	Pn	10 51 21.5	+4.4
AS31				IAmb	IAmb	10 51 23.1	
	comp=Z,2.8nm,0.5s						
ASAR	Alice Springs	16.70	162	P	Pn	10 51 19.4	+2.3
	comp=Z,1.0nm,0.3s,baz=342,slow=11,SNR=126						
ASAR				S	S	10 54 20.4	-2.4
	comp=Z,0.7nm,0.3s,baz=246,slow=14,SNR=6.8						
ASAR	Alice Springs	16.70	162	P	Pn	10 51 21.5	+4.4
STKA	Stephens Creek	27.00	155	P	P	10 53 00.4	+0.8
	comp=Z,1.1nm,0.8s,baz=335,slow=14,SNR=1.5						
STKA	Stephens Creek	27.00	155	P	P	10 53 00.6	+1.0
CMAR	Chiang Mai Arr	38.99	312	P	P	10 54 43.8	+0.2
	comp=Z,0.7nm,0.5s,baz=140,slow=7.1,SNR=3.9						
MKAR	Makanchi Array	67.96	328	P	P	10 58 13.2	-1.3
	comp=Z,0.3nm,0.5s,baz=111,slow=7.9,SNR=2.7						
MKAR	Makanchi Array	67.96	328	P	P	10 58 14.0	-0.4
ZALV	Zalesovo Beam	71.54	335	P	P	10 58 34.5	-1.5
	comp=Z,0.7nm,0.5s,baz=142,slow=4.9,SNR=3.0						
ZALV	Zalesovo Beam	71.54	335	P	P	10 58 34.7	-1.3
MSEY	Mahe Island	72.44	268	P	P	10 58 44.4	+2.0
MSEY				IAmb	IAmb	10 58 54.6	
	comp=Z,18nm,1.0s						

IDC 10 11:13:40.2±1.6, **18°.63S×177°.14W, h0km, mb3.8**/5, **mb1 4.1**/5, **mb1mx3.7**/36, **mbtmp3.8**/5, **Error ellipse: s-maj=61.6km s-min=32.5km az=167.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.35	242	P	P	11 21 12.8	+1.3
	1.0nm,0.6s,baz=63,slow=11,SNR=2.8						
WRA	Warramunga Arr	45.69	260	P	P	11 22 02.5	-0.7
	0.6nm,0.4s,baz=96,slow=7.7,SNR=28						
ASAR	Alice Springs	45.76	255	P	P	11 22 03.5	-0.2
	2.0nm,0.6s,baz=93,slow=7.5,SNR=47						
QSPA	South Pole Qui	71.43	180	P	P	11 25 02.0	-0.3
	0.7nm,0.9s,baz=0.0,slow=7.1,SNR=1.4						
TXAR	Lajitas Array	85.37	57	P	P	11 26 20.1	+0.2
	0.2nm,0.8s,baz=218,slow=5.4,SNR=2.8						

*ISCJB **10** 11:18:21.6±1.2, 38°.0S±0°.1×48°.1E±0°.4, h10km, mb4.1/6, MS3.5/14, Error ellipse: s-maj=46.2km s-min=15.0km az=163.7*
*IDC **10** 11:18:21.8±1.4, 38°.12S×48°.19E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.8/30, mbtmp4.1/6, MS3.5/14, Ms1 3.5/14, ms1mx3.4/25, Error ellipse: s-maj=61.8km s-min=31.0km az=41.0*
*NEIC **10** 11:18:24.2±1.9, 37°.99S±0°.07×48°.2E±0°.3, h10km±1km, mb4.5/6*

ISC 10 11:18:23.8±0.9, **37°.9S**±0°.1×**48°.1E**±0°.3, **h10**km, **n41**, σ1°**28**/30, **mb4.2/9, MS3.5**/14, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	Crozet Islands	8.93	163	Pn	Pn	11 20 32.9	+0.1
BOSA	Boshof	21.22	289	LR	LR	11 29 25.7	
	comp=Z,126nm,21.0s,baz=130,slow=31						
LBTB	Lobatse	23.06	297	LR	LR	11 31 14.0	
	comp=Z,104nm,18.1s,baz=128,slow=33						
LSZ	Lusaka	28.64	317	LR	LR	11 34 20.3	
	comp=Z,214nm,19.3s,baz=142,slow=33						
MAW	Mawson	30.86	169	LR	LR	11 33 31.2	
	comp=Z,126nm,21.2s,baz=46,slow=30						
TSUM	Tsumeb	32.47	297	LR	LR	11 36 58.8	
	comp=Z,128nm,18.4s,baz=139,slow=34						
H01W2	Cape Leeuwin H	52.20	108	T	T	12 24 36.6	
	baz=245,slow=75,SNR=4.9						
H01W3	Cape Leeuwin H	52.20	108	T	T	12 24 38.3	
	baz=245,slow=75,SNR=7.6						
H01W1	Cape Leeuwin H	52.21	108	T	T	12 24 39.1	
	baz=245,slow=75,SNR=5.7						
DBIC	Dimbokro	66.28	300	LR	LR	11 56 17.3	
	comp=Z,32nm,18.0s,baz=114,slow=34						
TORD	Torodi Ar. Bea	66.89	310	LR	LR	11 56 56.7	
	comp=Z,21nm,20.2s,baz=300,slow=34						
ASAR	Alice Springs	72.68	107	P	P	11 29 50.7	-1.4
	1.5nm,0.8s,baz=233,slow=5.6,SNR=16						
ASAR	Alice Springs	72.68	107	P	P	11 29 50.9	-1.2
AS31	Alice Springs	72.68	107	P	P	11 29 51.8	-0.3
CMAR	Chiang Mai Arr	73.64	50	P	P	11 29 59.8	+2.1
	0.6nm,0.3s,baz=219,slow=7.0,SNR=6.5						
CMAR				LR	LR	11 57 37.9	
	comp=Z,38nm,18.6s,baz=185,slow=32						
CMAR	Chiang Mai Arr	73.64	50	P	P	11 29 59.9	+2.2
STKA	Stephens Creek	73.68	118	LR	LR	11 54 55.6	
	comp=Z,44nm,19.4s,baz=204,slow=30						
WRA	Warramunga Arr	75.12	104	P	P	11 30 05.3	-1.2
	3.3nm,1.0s,baz=228,slow=5.0,SNR=22						
WRA	Warramunga Arr	75.12	104	P	P	11 30 05.3	-1.2
WB2	Warramunga Arr	75.13	104	P	P	11 30 06.9	+0.3
WB2				IAmb	IAmb	11 30 07.3	
	comp=Z,2.0nm,0.8s						
WRAB	Tennant Creek	75.14	104	P	P	11 30 06.7	+0.1
GEYT	Alibeck	76.05	8	LR	LR	12 01 33.5	
	comp=Z,26nm,20.1s,baz=240,slow=34						
BRTR	Keskin Array B	78.42	349	P	P	11 30 25.0	+0.4
	comp=Z,0.3nm,0.5s,baz=159,slow=6.4,SNR=2.7						
BRTR				LR	LR	12 03 56.6	
	comp=Z,8.8nm,20.8s,baz=92,slow=35						
BRTR	Keskin Array B	78.42	349	P	P	11 30 25.6	+1.1
KBZ	Khabaz	81.42	356	LR	LR	12 08 25.8	
	comp=Z,22nm,18.1s,baz=184,slow=37						
KEST	Kesra	81.63	329	LR	LR	12 07 11.5	
	comp=Z,52nm,20.0s,baz=325,slow=36						
KK31	Karatay Array	83.18	16	P	P	11 30 48.8	-1.1
KK31				IAmb	IAmb	11 30 52.5	
	comp=Z,4.7nm,1.1s						
KKAR	Karatay Array	83.18	16	P	P	11 30 49.9	0.0
KKAR	Karatay Array	83.18	16	P	P	11 30 48.8	-1.1
KKAR				IAmb	IAmb	11 30 52.5	
	comp=Z,4.7nm,1.1s						
MKAR	Makanchi Array	89.73	23	P	P	11 31 21.9	+0.1
	comp=Z,1.6nm,1.1s,baz=224,slow=4.0,SNR=3.0						
MKAR				LR	LR	12 09 27.7	
	comp=Z,17nm,18.2s,baz=241,slow=34						
MKAR	Makanchi Array	89.73	23	P	P	11 31 21.2	-0.7
ZALV	Zalesovo Beam	96.83	21	P	P	11 31 53.3	-1.0
	comp=Z,0.6nm,0.4s,baz=228,slow=3.7,SNR=3.2						
ZALV	Zalesovo Beam	96.83	21	P	P	11 31 52.4	-1.9
INK	Inuvik	149.56	1	PKP	PKPdf	11 38 06.4	-1.4
	comp=Z,3.2nm,1.0s,baz=9.0,slow=4.7,SNR=5.2						
INK				PKPbc	PKPbc	11 38 10.7	-1.6
	comp=Z,1.5nm,0.8s,baz=334,slow=3.5,SNR=4.3						
INK	Inuvik	149.56	1		PKPdf	11 38 08.3	+0.6
ILAR	Eielson Array	151.69	14	PKP	PKPdf	11 38 12.1	+0.8
	comp=Z,0.5nm,0.9s,baz=312,slow=3.1,SNR=5.2						
ILAR				PKPbc	PKPbc	11 38 18.9	+1.4
	comp=Z,0.3nm,0.7s,baz=320,slow=2.8,SNR=4.7						
ILAR				PKPab	PKPab	11 38 24.4	-1.9
	comp=Z,0.3nm,0.6s,baz=319,slow=3.4,SNR=4.6						
ILAR	Eielson Array	151.69	14		PKPdf	11 38 13.7	+2.5
YKA	Yellowknife Ar	153.22	342	PKPbc	PKPbc	11 38 20.4	-0.6
	comp=Z,1.3nm,0.7s,baz=150,slow=37,SNR=3.1						
TXAR	Lajitas Array	155.07	258	PKP	PKPdf	11 38 18.3	+1.0
	comp=Z,1.4nm,0.9s,baz=124,slow=4.5,SNR=12						
TXAR	Lajitas Array	155.07	258		PKPdf	11 38 17.9	+0.6
TX31	Lajitas Ar. Si	155.07	258		PKPdf	11 38 18.4	+1.0

*SJA **10** 11:40:10.6±1.2, 34°.43S×72°.23W, h8km±8km, ML3.5, MW3.4*
*NEIC **10** 11:40:11.9±2.4, 34°.39S±0°.03×72°.1W±0°.1, h14km±2km, mb4.3/7, ML4.0(GUC)*
*ISCJB **10** 11:40:12.2±1.0, 34°.41S±0°.03×72°.14W±0°.06, h22km±8km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=9.6km s-min=4.3km az=24.1*
*GUC **10** 11:40:12.2±0.8, 34°.46S×72°.04W, h47km±63km, ML4.0*
*IDC **10** 11:40:17.2±2.2, 34°.43S×71°.95W, h49km±20km, mb3.6/10, mb1 3.8/14, mb1mx3.7/27, mbtmp3.9/14, ML3.8/4, MS3.1/4, Ms1 3.0/4, ms1mx2.9/19, Error ellipse: s-maj=26.7km s-min=14.9km az=83.0*

ISC 10 11:40:12.2±1.5, **34°.41S**±0°.04×**72°.11W**±0°.07, **h13**km±9km, **n68**, σ1°**38**/76, **mb4.2**/10, **3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.62	166	⇑iP	Pg	11 40 24.0	-0.3
GO05				i S	Sg	11 40 32.4	0.0
GO05	Huala	0.62	166		Pg	11 40 24.2	-0.1
GO05					Sg	11 40 32.0	-0.5
GO05	Huala	0.62	166	i P	Pg	11 40 24.0	-0.3
GO05				eS	Sg	11 40 32.2	-0.3
VA01	Torpederas	1.44	16	eP	Pn	11 40 35.9	-2.2
ANTU	Antumapu	1.49	56	eP	Pn	11 40 38.5	-0.3
CLCH	Cerro Calan	1.66	53	⇑iP	Pn	11 40 39.9	-1.2
CLCH				i S	Sn	11 41 01.0	-1.4
CLCH				IAML		11 41 06.0	
	comp=N,3μm,0.4s						
LMEL	Las

TRQA	**Tornquist**	**8.96**	**117**		**Pn**	**11 42 22.3**	**+0.9**
LVC	**Limon Verde**	**12.09**	**14**	P	**Pn**	**11 43 07.9**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=315,slow=6.2,SNR=2.6						
LVC				S	Sn	11 45 27.6	+8.1
	comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=1.7						
LVC				LR	LR	11 47 56.6	
	comp=Z,65nm,21.8s,baz=222,slow=38						
LVC	**Limon Verde**	**12.09**	**14**		**Pn**	**11 43 07.4**	**+2.8**
CPUP	**Villa Florida**	**15.08**	**62**	LR	LR	11 49 54.5	
	comp=Z,82nm,21.9s,baz=218,slow=39						
LPAZ	**La Paz**	**18.40**	**12**	P	**P**	**11 44 28.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=173,slow=5.7,SNR=6.2						
LPAZ	**La Paz**	**18.40**	**12**	P	**P**	**11 44 28.0**	**+0.3**
USHA	**Ushuaia**	**20.58**	**174**	P	**P**	**11 44 52.0**	**+1.4**
	comp=Z,8.4nm,1.0s,baz=340,slow=11,SNR=2.6						
SIV	**San Ignacio**	**20.86**	**31**	P	**P**	**11 44 52.7**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=225,slow=12,SNR=6.2						
NNA	**Nana**	**22.73**	**348**	P	**P**	**11 45 16.2**	**+2.0**
	comp=Z,3.0nm,0.4s,baz=136,slow=15,SNR=2.2						
BDFB	**Brasilia**	**28.62**	**55**	LR	LR	11 58 41.4	
	comp=Z,69nm,18.2s,baz=240,slow=39						
PTGA	**Pitinga**	**35.38**	**21**	P	**P**	**11 47 06.6**	**-1.2**
PTGA				IAmb	IAmb	11 47 07.2	
	comp=Z,3.6nm,0.8s						
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**11 49 15.1**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=291,slow=6.9,SNR=5.9						
SNAA	**Sanae**	**51.23**	**158**	P	**P**	**11 49 15.3**	**+0.1**
SNAA				IAmb	IAmb	11 49 16.1	
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**55.83**	**180**	P	**P**	**11 49 49.8**	**+0.7**
QSPA				IAmb	IAmb	11 49 53.0	
	comp=Z,3.0nm,1.1s						
TXAR	**Lajitas Array**	**70.06**	**331**	P	**P**	**11 51 24.5**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=156,slow=8.7,SNR=7.4						
TXAR	**Lajitas Array**	**70.06**	**331**	P	**P**	**11 51 24.3**	**+0.2**
DBIC	**Dimbokro**	**75.37**	**71**	P	**P**	**11 51 55.3**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=236,slow=11,SNR=3.2						
DBIC	**Dimbokro**	**75.37**	**71**	P	**P**	**11 51 54.9**	**-1.0**
DBIC				IAmb	IAmb	11 52 11.5	
	comp=Z,8.9nm,1.2s						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**11 52 21.0**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=228,slow=1.5,SNR=3.3						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**11 52 20.2**	**-1.3**
PDAR	**Pinedale Array**	**84.10**	**333**	P	**P**	**11 52 43.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=134,slow=5.2,SNR=2.7						
PDAR	**Pinedale Array**	**84.10**	**333**	P	**P**	**11 52 42.2**	**-0.7**
NVAR	**Mina Array Bea**	**84.19**	**325**	P	**P**	**11 52 43.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=150,slow=7.3,SNR=2.9						
NVAR	**Mina Array Bea**	**84.19**	**325**	P	**P**	**11 52 43.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**11 52 44.1**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=291,slow=4.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**11 52 43.4**	**-1.4**
ASAR	**Alice Springs**	**117.17**	**207**	PKP	**PKPdf**	**11 58 56.2**	**-1.5**
	comp=Z,1.0nm,1.2s,baz=116,slow=2.2,SNR=2.9						
WRA	**Warramunga Arr**	**120.37**	**209**	PKP	**PKPdf**	**11 59 02.6**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=160,slow=1.5,SNR=5.8						
WRA	**Warramunga Arr**	**120.37**	**209**		**PKPdf**	**11 59 03.2**	**-0.7**
H11S2	**WAKE ISLAND Hyl**	**25.70**	**269**	T	T	14 17 33.4	
	baz=120,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**25.71**	**269**	T	T	14 17 34.6	
	baz=120,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	14 17 33.9	
	baz=120,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**26.12**	**270**	T	T	14 18 04.9	
	baz=115,slow=78,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**26.14**	**270**	T	T	14 18 06.2	
	baz=115,slow=78,SNR=25						
H11N2	**WAKE ISLAND Hyl**	**26.14**	**270**	T	T	14 18 04.1	
	baz=115,slow=78,SNR=18						
ZALV	**Zalesovo Beam**	**154.61**	**33**	PKPab	**PKPab**	**12 00 26.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=299,slow=4.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**154.61**	**33**		**PKPab**	**12 00 26.1**	**-0.8**
MKAR	**Makanchi Array**	**157.08**	**50**	PKPab	**PKPab**	**12 00 37.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=291,slow=4.0,SNR=2.8						
MKAR	**Makanchi Array**	**157.08**	**50**		**PKPab**	**12 00 37.0**	**-0.9**
SONM	**Songino Array**	**166.54**	**4**	PKPab	**PKPab**	**12 01 20.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=341,slow=3.1,SNR=1.9						

*ISCJB **10** 11:45:47.4±0.6, 40°.95N±0°.04×21°.16E±0°.05, h9km±6km, Error ellipse: s-maj=8.1km s-min=5.2km az=136.6*
*ATH **10** 11:45:47.5, 40°.88N×21°.11E, h23km±3km, ML2.5/2, Error ellipse: s-maj=8.9km s-min=2.9km az=134.0*
*SKO **10** 11:45:47.4, 40°.96N×21°.17E, h17km, M1.7, ML2.1*
*THE **10** 11:45:47.1, 40°.95N×21°.10E, h0km±3km, ML2.3/4, Error ellipse: s-maj=3.2km s-min=0.8km az=335.0*

ISC 10 11:45:47.3±1.1, 40°.94N±0°.04×21°.10E±0°.04, h12km±9km, n19, σ0°74/27, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.26**	**125**	P	**Pg**	**11 45 52.9**	**+0.1**
FNA				S	**Sg**	**11 45 56.8**	**+0.3**
	2μm,0.3s						
FNA	**Florina**	**0.26**	**125**	⇑ *i* Pg	**Pg**	**11 45 52.9**	**+0.1**
FNA				*i* Sg	**Sg**	**11 45 56.8**	**+0.3**
FNA	**Florina**	**0.26**	**125**	P	**Pg**	**11 45 52.9**	**+0.1**
FNA				S	**Sg**	**11 45 56.9**	**+0.4**
FNA				AML	AML	11 45 57.8	
	comp=E,5824μm,0.2s						
FNA				AML	AML	11 45 57.9	
	comp=N,4379μm,0.3s						
OHR	**Ohrid**	**0.28**	**308**	⇑ *i* Pg	**Pb**	**11 45 54.2**	**-0.2**
OHR				*i* Sg	**Sb**	**11 45 59.8**	**+0.6**
OHR				*e*Lg	Lg	11 45 59.9	
	comp=N,159nm,0.5s						
OHR				*e*Lg	Lg	11 46 00.3	
	comp=E,270nm,0.4s						
NEST	**Nestorio**	**0.52**	**184**	P	**Pg**	**11 45 57.3**	**-0.3**
NEST				S	**Sg**	**11 46 05.3**	**+0.8**
	comp=E,398nm,0.4s						
NEST	**Nestorio**	**0.52**	**184**	P	**Pg**	**11 45 57.2**	**-0.4**
NEST				S	**Sg**	**11 46 04.6**	**+0.1**
NEST				AML	AML	11 46 07.3	
	comp=N,818μm,0.5s						
NEST				AML	AML	11 46 08.6	
	comp=E,870μm,0.4s						
KZN	**Kozani**	**0.81**	**140**	P	**Pb**	**11 46 02.2**	**-1.3**
KZN				S	**Sg**	**11 46 14.9**	**+1.2**
	comp=E,82nm,0.4s						
KZN	**Kozani**	**0.81**	**140**	P	**Pb**	**11 46 02.1**	**-1.3**
PHP	**Peshkopia**	**0.90**	**327**	P	**Pb**	**11 46 03.9**	**-0.9**
KTI	**Kastanea**	**0.95**	**125**	P	**Pb**	**11 46 04.8**	**-1.0**
GRG	**Griva**	**0.99**	**88**	*i* Pg	**Pb**	**11 46 05.9**	**-0.5**
GRG	**Griva**	**0.99**	**88**	P	**Pn**	**11 46 06.6**	**-0.5**
KPRO	**Kipourio**	**1.00**	**168**	P	**Pb**	**11 46 06.0**	**-0.6**
KPRO				S	**Sn**	**11 46 23.0**	**+1.7**
	comp=E,148nm,0.4s						
KPRO	**Kipourio**	**1.00**	**168**	P	**Pb**	**11 46 06.1**	**-0.5**
LIT	**Litokhoron**	**1.35**	**128**	P	**Pb**	**11 46 12.7**	**+0.1**
LIT	**Litokhoron**	**1.35**	**128**	*i* Pg	**Pg**	**11 46 13.2**	**-0.1**
LIT	**Litokhoron**	**1.35**	**128**	P	**Pg**	**11 46 13.2**	**-0.1**
KNT	**Kendrikon**	**1.38**	**80**	*i* Pg	**Pb**	**11 46 12.7**	**-0.4**
THL	**Klokotos Trika**	**1.54**	**152**	P	**Pn**	**11 46 14.0**	**-0.6**

TAP 10 11:49:14.5, 22°.85N×120°.73E, h14km±1km, ML1.5, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.14**	**221**	*i* P	Pb	11 49 19.3	+0.4
	baz=218						
SSD				*i* S	Sb	11 49 21.7	-0.1
	baz=218						
SLGT	**Liugui**	**0.16**	**331**	*i* P	Pb	11 49 19.4	+0.1
	baz=331						
SGLT	**Jiouru**	**0.26**	**240**	*e*P	Pb	11 49 20.6	-0.3
	baz=239						
MASBT	**Mashibuluo**	**0.26**	**201**	P	Pb	11 49 21.4	+0.5
	baz=200						
MASBT				S	Sb	11 49 24.9	-0.3
	baz=200						
SGST	**Jiashian**	**0.27**	**329**	*i* P	Pb	11 49 20.9	-0.2
	baz=330						
SGST				S	Sb	11 49 25.4	-0.2
	baz=330						
STYT	**Tauyuan**	**0.31**	**4**	*e*P	Pb	11 49 21.9	0.0
	baz=5.0						
STYT				S	Sb	11 49 26.9	0.0
	baz=5.0						
TWG	**Pinlang**	**0.32**	**96**	⇑ *i* P	Pb	11 49 22.2	+0.2
	baz=95						
TWG				S	Sb	11 49 27.4	+0.4
	baz=95						
TWGBT	**Beinan**	**0.32**	**96**	P	Pb	11 49 22.2	+0.1
	baz=96						
TWGBT				S	Sb	11 49 27.4	+0.2
	baz=96						
ECL	**Taimali**	**0.33**	**141**	P	Pb	11 49 22.1	0.0
	baz=140						
CHN1	**Nanshi**	**0.38**	**331**	P	Pb	11 49 23.5	+0.4
	baz=330						
CHN1				*e*S	Sb	11 49 29.3	+0.4
	baz=330						
TTN	**Taitung**	**0.40**	**104**	*e*P	Pb	11 49 23.8	+0.4
	baz=104						
TTN				*e*S	Sb	11 49 29.8	+0.5
	baz=104						
CHN3	**Shinhua**	**0.40**	**304**	*e*P	Pb	11 49 23.1	-0.4
	baz=303						
WTP	**Ta-pu**	**0.41**	**345**	P	Pb	11 49 23.9	+0.4
	baz=345						
WTP				S	Sb	11 49 29.4	-0.2
	baz=345						
SNST	**Tainan City**	**0.42**	**330**	*e*P	Pb	11 49 23.6	-0.3
	baz=329						
SNST				*e*S	Sb	11 49 30.4	+0.3
	baz=329						
ELDTW	**Lidau**	**0.43**	**38**	*e*S	Sb	11 49 31.1	+0.9
	baz=39						
TPUB	**Ta-pu**	**0.46**	**348**	*e*P	Pb	11 49 24.3	0.0
	baz=348						
TPUB				*e*S	Sb	11 49 31.4	+0.3
	baz=348						
EAST	**Anshuo**	**0.48**	**167**	P	Pg	11 49 24.0	0.0
	baz=166						
EAST				S	Sb	11 49 32.3	+0.6
	baz=166						
TAI1	**Yung-k'ang**	**0.50**	**292**	*e*P	Pb	11 49 25.2	+0.2
	baz=292						
TAW	**Tawu**	**0.52**	**163**	*e*P	Pb	11 49 25.6	+0.2
	baz=162						
TWP	**Hsiaoliuchiu**	**0.61**	**214**	*e*P	Pb	11 49 26.8	-0.2
	baz=213						
FULB	**Fuli**	**0.62**	**56**	*e*P	Pb	11 49 27.6	+0.4
	baz=56						
YUS	**Yu-Shan**	**0.67**	**18**	*e*S	Sb	11 49 37.6	+0.1
	baz=17						

TAP 10 11:49:17.5, 22°.85N×120°.63E, h14km, ML1.4, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.10**	**176**	*i* P	Pb	11 49 21.2	-0.1
	baz=172						
SSD				*i* S	Sb	11 49 23.9	+0.1
	baz=172						
SLGT	**Liugui**	**0.14**	**8**	*i* P	Pb	11 49 21.9	-0.1
	baz=7.0						
SLGT				*i* S	Sb	11 49 24.5	-0.4
	baz=7.0						
SLGT	**Liugui**	**0.14**	**8**	*i* S	Pb	11 49 21.9	0.0
	baz=331						
TWM1	**Shoushan**	**0.19**	**262**	*e*S	Sb	11 49 26.2	0.0
	baz=263						
TWM1	**Shoushan**	**0.19**	**262**	S	Sb	11 49 26.0	-0.2
	baz=260						
SGST	**Jiashian**	**0.23**	**350**	*i* P	Pb	11 49 23.5	0.0
	baz=352						
SGST				*i* S	Sb	11 49 27.7	+0.2
	baz=352						
MASBT	**Mashibuluo**	**0.24**	**178**	P	Pb	11 49 23.8	+0.3
	baz=178						
MASBT				S	Sb	11 49 27.3	-0.3
	baz=178						
SNJT	**Kaohsiung City**	**0.28**	**250**	*e*P	Pg	11 49 23.9	+0.4
	baz=249						
SNJT				*e*S	Sb	11 49 29.2	+0.3
	baz=249						
STYT	**Tauyuan**	**0.33**	**21**	*e*S	Sb	11 49 30.3	-0.2
	baz=22						
CHN1	**Nanshi**	**0.34**	**345**	*e*S	Sb	11 49 31.0	+0.2
	baz=344						
ECL	**Taimali**	**0.40**	**130**	⇑ *i* P	Pb	11 49 26.6	+0.3
	baz=129						
ECL				S	Sb	11 49 32.7	+0.6
	baz=129						
ECL	**Taimali**	**0.40**	**130**	*i* S	Pb	11 49 26.6	+0.3
	baz=140						
TWG	**Pinlang**	**0.41**	**94**	S	Sb	11 49 33.6	+1.0
	baz=94						
TWGBT	**Beinan**	**0.42**	**94**	S	Sb	11 49 33.2	+0.2
	baz=94						
TPUB	**Ta-pu**	**0.45**	**1**	*e*S	Sb	11 49 33.8	+0.1
SCZT	**Fangliau**	**0.48**	**181**	P	Pb	11 49 28.2	+0.5
	baz=179						
SCZT				S	Sb	11 49 34.8	+0.3
	baz=179						
ELDTW	**Lidau**	**0.49**	**47**	*e*P	Pb	11 49 28.2	+0.2
	baz=47						
CHN4	**Tsaushan**	**0.50**	**357**	P	Pg	11 49 27.4	0.0
	baz=356						
CHN4				*e*S	Sb	11 49 35.8	+0.6
	baz=356						
EAST	**Anshuo**	**0.51**	**156**	*i* P	Pb	11 49 28.2	0.0
	baz=155						
EAST				S	Sb	11 49 36.3	+0.8
	baz=155						
WLCH	**Liuqiu**	**0.55**	**205**	*e*P	Pb	11 49 28.7	-0.2
	baz=204						
WLCH				*e*S	Sb	11 49 37.4	+0.8
	baz=204						

*PGC **10** 12:01:52.0±15.0, 49°.88N×130°.14W, h10km, MLSn2.9/18, Mw3.6/18, Mw3.6/18, 213km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*ISCJB **10** 12:01:53.6±0.8, 50°.09N±0°.05×129°.79W±0°.08, h12km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=9.4km s-min=5.3km az=42.5*
*IDC **10** 12:01:57.3±1.4, 50°.29N×129°.42W, h0km, mb3.2/1, mb1 3.5/8, mb1mx3.3/47, mbtmp3.2/8, ML3.3/7, MS3.0/2, Ms1 3.0/2, ms1mx2.4/19, Error ellipse: s-maj=22.0km s-min=9.9km az=82.0*

ISC 10 12:01:56.9±1.1, 50°.11N±0°.06×129°.63W±0°.07, h12km, n34, σ1°77/33, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.20**	**87**	Pn	**Pn**	**12 02 17.3**	**-2.3**
PACB	**Port Alice, BC**	**1.41**	**76**	Pn	**Pn**	**12 02 20.7**	**-1.7**
PACB				Sn	**Sb**	**12 02 40.1**	**-0.9**
PHC	**Port Hardy**	**1.53**	**66**	Pn	**Pn**	**12 02 22.9**	**-1.1**
PHC				Sn	**Sg**	**12 02 45.2**	**-0.9**
MAYB	**Maynard**	**1.61**	**79**	Pn	**Pn**	**12 02 23.5**	**-1.7**
BBB	**Bella Bella**	**2.29**	**24**	Pn	**Pn**	**12 02 33.2**	**-1.2**
	13nm,0.3s,baz=225,slow=6.0,SNR=88						
BBB				Lg	Lg	12 03 00.9	
	14nm,0.3s,baz=323,slow=21,SNR=11						
BBB	**Bella Bella**	**2.29**	**24**	Pn	**Pn**	**12 02 33.2**	**-1.2**
BBB				Sn	**Sn**	**12 03 01.8**	**-0.7**
NCRB	**Newcastle Ridg**	**2.31**	**81**	Pn	**Pn**	**12 02 34.2**	**-0.7**
GDR	**Gold River**	**2.35**	**97**	Pn	**Pn**	**12 02 34.2**	**-1.1**
SPLB	**Strathcona Par**	**2.58**	**93**	Pn	**Pn**	**12 02 36.1**	**-2.3**
HG3B	**Hotspring**	**2.72**	**336**	Pn	Pn	12 02 34.9	-5.5
BTB	**Buttle Lake**	**2.74**	**102**	Pn	**Pn**	**12 02 39.2**	**-1.6**
CBB	**Campbell River**	**2.75**	**90**	Pn	**Pn**	**12 02 39.3**	**-1.6**
BNB	**Barry Inlet**	**2.80**	**333**	Pn	Pn	12 02 34.0	-7.7
BCBC	**Bella Coola**	**2.90**	**37**	Pn	**Pn**	**12 02 42.7**	**-0.1**
OZB	**Mount Ozzard**	**2.93**	**112**	Sn	**Sn**	**12 03 17.1**	**-1.4**
TXB	**Texada**	**3.38**	**95**	Pn	**Pn**	**12 02 49.1**	**-0.5**
MGB	**Mount Grey**	**3.40**	**107**	Pn	**Pn**	**12 02 48.7**	**-1.2**
DIB	**Dawson Inlet,**	**3.57**	**331**	Pn	**Pn**	**12 02 48.1**	**-3.9**
H02S1	**DAWSON INLET T**	**3.57**	**331**	Pn	**Pn**	**12 02 51.0**	**-1.1**
	SNR=6.3						
YOUB	**Youbou, Lake C**	**3.70**	**107**	Pn	**Pn**	**12 02 52.6**	**-1.4**
SHB	**Sechelt**	**3.76**	**96**	Pn	**Pn**	**12 02 54.9**	**+0.1**
SHB				Sn	**Sn**	**12 03 39.8**	**+0.8**
RUBB	**Prince Rupert**	**4.24**	**355**	Pn	**Pn**	**12 02 58.6**	**-2.7**
WSLR	**Whistler**	**4.32**	**87**	Pn	**Pn**	**12 03 02.7**	**+0.3**
DLBC	**Dease Lake**	**8.35**	**359**	Pn	**Pn**	**12 03 57.0**	**-0.7**
	0.3nm,0.3s,baz=170,slow=16,SNR=5.1						
NEW	**Newport**	**8.40**	**98**	Pn	**Pn**	**12 03 58.8**	**+0.4**
	0.2nm,0.3s,baz=307,slow=12,SNR=3.8						
NEW				LR	LR	12 07 25.6	
	comp=Z,66nm,20.8s,baz=276,slow=40						
YBH	**Yreka Blue Hor**	**9.66**	**147**	Pn	**Pn**	**12 04 17.8**	**+1.9**
	0.1nm,0.3s,baz=344,slow=18,SNR=6.3						
NVAR	**Mina Array Bea**	**14.20**	**141**	Pn	**P**	**12 05 22.5**	**-3.0**
	0.0nm,0.3s,baz=342,slow=11,SNR=2.7						
PDAR	**Pinedale Array**	**15.64**	**110**	Pn	**P**	**12 05 41.3**	**-0.1**
	0.0nm,0.3s,baz=320,slow=8.3,SNR=4.0						
ILAR	**Eielson Array**	**17.28**	**335**	P	**P**	**12 05 59.2**	**0.0**
	0.0nm,0.3s,baz=130,slow=9.6,SNR=3.9						
ULM	**Lac du Bonnet**	**21.52**	**77**	P	**P**	**12 06 49.2**	**+3.7**
	9.0nm,1.0s,baz=288,slow=9.5,SNR=6.9						
ULM				LR	LR	12 15 40.8	
	comp=Z,60nm,19.1s,baz=17,slow=39						
TXAR	**Lajitas Array**	**28.55**	**127**	P	**P**	**12 07 55.3**	**+2.7**
	0.2nm,0.7s,baz=318,slow=2.4,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**58.15**	**263**	T	T	13 14 23.0	
	baz=42,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**58.15**	**263**	T	T	13 14 24.7	
	baz=42,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**58.17**	**263**	T	T	13 14 25.9	
	baz=42,slow=76,SNR=9.5						

*ISCJB **10** 12:03:39.1±0.8, 35°.24N±0°.05×140°.94E±0°.09, h43km±11km, mb3.5/4, Error ellipse: s-maj=12.8km s-min=7.7km az=20.3*
*JMA **10** 12:03:39.1±0.1, 35°.29N×140°.96E, h37km±2km, M3.0*
*IDC **10** 12:03:49.7±1.4, 34°.83N×139°.22E, h83km±13km, mb3.2/4, mb1 3.4/4, mb1mx3.1/43, mbtmp3.5/4, Error ellipse: s-maj=38.0km s-min=11.6km az=80.0*

ISC 10 12:03:39.1±1.5, 35°.23N±0°.06×140°.89E±0°.09, h25km±17km, n21, σ1°01/18, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.47**	**357**	P	**Pb**	**12 03 48.6**	**-0.3**
CHOJ				S	**Sb**	**12 03 55.7**	**+0.2**
KTR	**Katsuura**	**0.48**	**260**	P	**Pn**	**12 03 50.5**	**+0.1**
KTR				S	**Sn**	**12 03 58.3**	**+0.3**
BSO4	**Boso 4**	**0.51**	**242**	P	**Pn**	**12 03 51.2**	**+0.4**
BSO4				X		12 04 00.4	
BSO3	**Boso 3**	**0.53**	**216**	P	**Pn**	**12 03 51.3**	**+0.4**
JKUC	**kamogawauchiur**	**0.57**	**263**	P	**Pn**	**12 03 51.6**	**-0.1**
JKUC				S	**Sn**	**12 04 00.7**	**+0.4**
BSO1	**Boso 1**	**0.58**	**173**	P	**Pn**	**12 03 51.2**	**-0.1**
JCN	**Nagara**	**0.59**	**289**	P	**Pn**	**12 03 52.2**	**+0.2**
JYT	**Yasato**	**1.15**	**331**	P	**Pn**	**12 03 59.1**	**-0.5**
JIM2	**Oshima 3**	**1.30**	**247**	P	**Pn**	**12 04 01.0**	**-0.8**
JIM2				S	**Sn**	**12 04 16.7**	**-1.7**
JHJ	**Hachijo jima 2**	**2.30**	**204**	P	**Pn**	**12 04 17.4**	**+2.0**
	14nm,0.3s,baz=60,slow=22,SNR=4.1						
JHJ				S	**Sn**	**12 04 41.2**	**-1.7**
	19nm,0.3s,baz=136,slow=21,SNR=8.0						
MJAR	**Matsushiro Arr**	**2.54**	**302**	P	**Pn**	**12 04 20.5**	**+1.7**
	0.3nm,0.3s,baz=158,slow=13,SNR=17						
H11N2	**WAKE ISLAND Hy**	**27.65**	**117**	T	T	12 38 20.2	
	baz=310,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**27.65**	**117**	T	T	12 38 20.7	
	baz=310,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**27.66**	**117**	T	T	12 38 21.5	
	baz=310,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy**	**28.29**	**119**	T	T	12 39 10.3	
	baz=312,slow=76,SNR=224						
H11S3	**WAKE ISLAND Hy**	**28.29**	**119**	T	T	12 39 14.1	
	baz=312,slow=76,SNR=180						
H11S2	**WAKE ISLAND Hy**	**28.31**	**119**	T	T	12 39 14.0	
	baz=312,slow=76,SNR=166						
SEY	**Seymchan**	**28.64**	**11**	P	P	12 09 43.0	+10
	0.8nm,0.5s,baz=198,slow=20,SNR=6.5						
ILAR	**Eielson Array**	**51.25**	**32**	P	P	12 12 53.0	+13
	0.3nm,0.9s,baz=266,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**55.22**	**188**	P	**P**	**12 13 10.2**	**+0.1**
	0.4nm,0.5s,baz=4.0,slow=7.4,SNR=8.6						
ASAR	**Alice Springs**	**58.95**	**187**	P	**P**	**12 13 36.6**	**+0.1**
	0.3nm,0.8s,baz=0.7,slow=6.8,SNR=4.1						

JMA 10 12:04:02.2, 34°.80N×137°.78E, h20km±1km, M0.4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	**Hamakita**	**0.02**	**313**	S	Sb	12 04 07.7	-0.2
HMMJ	**Hamamatsu 2**	**0.07**	**319**	P	Pb	12 04 06.0	0.0
HMMJ				S	Sb	12 04 08.6	+0.1
JKKG	**Kakegawa**	**0.16**	**95**	P	Pb	12 04 06.7	-0.1
JKKG				S	Sb	12 04 09.9	+0.1
JYZW	**Yoshizawa**	**0.20**	**349**	P	Pb	12 04 07.3	-0.1
JNY	**Yasuok**	**0.56**	**7**	P	Pb	12 04 13.0	-0.4

*ISCJB **10** 12:24:06.9±0.3, 14°.58S±0°.04×167°.32E±0°.05, h170km, mb4.3/23, Error ellipse: s-maj=7.5km s-min=5.5km az=167.3*
*BJI **10** 12:24:07.6±0.0, 14°.68S×167°.34E, h177km, mb4.5/10, mB4.9/2*
*NEIC **10** 12:24:08.8±2.0, 14°.57S±0°.06×167°.4E±0°.1, h176km±5km, mb4.5/39*
*GCMT **10** 12:24:09.8±0.3, 14°.47S±0°.02×167°.27E±0°.02, h185km±2km, MW5.0/96, Moment Tensor Solution. s31,c38; s96,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.84±.14; $M_{\theta\theta}$-0.58±.17; $M_{\phi\phi}$-3.26±.15; $M_{r\theta}$-1.47±.13; $M_{\theta\phi}$2.61±.15; $M_{\phi r}$-0.69±.13; Best double couple: $M_0$4.71700×10^{16} NP1:ϕ_s306.00000°, δ51.00000°, λ58.00000°. NP2: ϕ_s171.00000°, δ49.00000°, λ123.00000°. Principal axes: T 4.5750, Plg66.0000°, Azm151.0000°; N 0.2810, Plg24.0000°, Azm328.0000°; P -4.8580, Plg1.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **10** 12:24:09.2±0.6, 14°.55S×167°.32E

comp=Z,18nm,1.2s
NNZ Nelson 26.99 170 P **P 12 29 36.9 +2.4**
BFZ Birch Farm 27.08 165 P **P 12 29 36.5 +1.2**
THZ Tophouse 27.45 171 P **P 12 29 40.2 +1.5**
THZ IAmb IAmb 12 29 46.7
comp=Z,16nm,1.2s
LTZ Lake Taylor 28.36 172 P **P 12 29 46.6 -0.2**
JAY Jayapura 28.95 292 P **P 12 29 51.8 -0.5**
comp=Z,18nm,1.0s,baz=110,slow=9.5,SNR=1.9
STKA Stephens Creek 29.13 229 P **P 12 29 54.6 +0.9**
comp=Z,8.2nm,0.4s,baz=43,slow=7.6,SNR=12
STKA Stephens Creek 29.13 229 P **P 12 29 54.7 +1.0**
RPZ Rata Peaks 29.15 175 P **P 12 29 54.8 +1.1**
comp=Z,13nm,0.9s,baz=185,slow=1.4,SNR=3.5
RPZ Rata Peaks 29.15 175 P **P 12 29 54.5 +0.8**
TOO Toolangi 29.99 216 P **P 12 30 01.9 +0.7**
TOO IAmb IAmb 12 30 02.8
comp=Z,9.2nm,0.9s
WB2 Warramunga Arr 31.94 256 P **P 12 30 17.1 -1.5**
WRAB Tennant Creek 31.94 256 P **P 12 30 17.6 -1.0**
WRA Warramunga Arr 31.95 256 P **P 12 30 17.1 -1.5**
comp=Z,1.6nm,0.4s,baz=85,slow=9.2,SNR=34
WRA sP **sP 12 31 17.2 +5.7**
comp=Z,2.9nm,0.9s,baz=88,slow=9.2,SNR=3.1
WRA PcP **PcP 12 33 04.4 -0.5**
comp=Z,0.3nm,0.4s,baz=86,slow=3.3,SNR=3.1
WRA S **S 12 35 12.8 -4.8**
comp=Z,1.6nm,1.0s,baz=82,slow=15,SNR=3.8
WRA Warramunga Arr 31.95 256 P **P 12 30 16.3 -2.4**
AS31 Alice Springs 32.80 249 P **P 12 30 24.6 -1.5**
ASAR Alice Springs 32.80 249 P **P 12 30 24.9 -1.1**
comp=Z,3.1nm,0.5s,baz=68,slow=9.6,SNR=103
ASAR PcP **PcP 12 33 05.5 -1.8**
comp=Z,0.6nm,0.7s,baz=81,slow=3.4,SNR=2.5
ASAR S **S 12 35 26.3 -4.5**
comp=Z,0.4nm,1.0s,baz=81,slow=21,SNR=4.1
ASAR ScP **ScP 12 36 35.2 -0.2**
comp=Z,0.3nm,0.7s,baz=79,slow=3.6,SNR=3.4
ASAR LR LR 12 43 34.9
comp=Z,142nm,18.6s,baz=84,slow=36
ASAR Alice Springs 32.80 249 P **P 12 30 24.8 -1.3**
TAU Tasmania Unive 33.03 208 P **P 12 30 28.1 +0.4**
BBOO Buckleboo 33.72 232 P **P 12 30 34.4 +0.5**
BBOO IAmb IAmb 12 30 47.7
comp=Z,16nm,1.0s
MTN Manton Dam 35.23 268 P **P 12 30 47.4 +0.3**
MTN IAmb IAmb 12 31 04.3
comp=Z,8.7nm,0.9s
KNRA Kununurra 37.25 263 P **P 12 31 03.5 -0.7**
KNRA IAmb IAmb 12 31 16.1
comp=Z,9.1nm,0.9s
FORT Forrest 39.43 239 P **P 12 31 22.1 -0.1**
FITZ Fitzroy Crossi 40.13 259 P **P 12 31 28.1 0.0**
PPT2 Papeete2 41.40 100 *e*LQ LQ 12 41 38.7
comp=Z,436nm,24.5s
PPT Papeete 41.40 100 P **P 12 31 39.8 +1.3**
comp=Z,36nm,0.8s,baz=3.8,slow=3.4,SNR=3.9
TBI Tubuai 41.59 109 *e*LQ LQ 12 41 42.4
comp=Z,524nm,28.0s
PSA00 Pilbara Seismi 45.56 254 P **P 12 32 11.0 -0.9**
NWAO Narrogin (SRO) 48.89 239 P **P 12 32 36.8 -0.6**
NWAO IAmb IAmb 12 32 37.5
comp=Z,10nm,0.7s
MORW Morawa 49.40 244 P **P 12 32 40.8 -0.5**
MORW IAmb IAmb 12 32 41.2
comp=Z,9.0nm,0.8s
GIRL Giralia 50.77 253 P **P 12 32 52.2 +0.5**
MJAR Matsushiro Arr 57.87 332 P **P 12 33 40.8 -1.9**
comp=Z,0.9nm,0.5s,baz=162,slow=8.4,SNR=7.3
MJAR Matsushiro Arr 57.87 332 P **P 12 33 41.5 -1.2**
MAJO Matsushiro 57.87 332 P **P 12 33 41.3 -1.4**
MAJO IAmb IAmb 12 33 48.3
comp=Z,7.0nm,1.1s
MJB9 Matsu-Tunnel 57.88 332 P **P 12 33 41.3 -1.4**
MJB9 IAmb IAmb 12 33 48.3
comp=Z,7.6nm,1.1s
SBA Scott Base 63.23 180 P **P 12 34 19.4 +1.1**
CASY Casey 63.65 202 P **P 12 34 21.1 -0.2**
CASY IAmb IAmb 12 34 22.7
comp=Z,8.6nm,0.8s
KSRS Korea Array 63.72 326 P **P 12 34 20.1 -2.0**
comp=Z,1.3nm,0.9s,baz=123,slow=39,SNR=4.4
KSRS pP **pP 12 35 00.1 -1.3**
comp=Z,0.6nm,0.8s,baz=50,slow=52,SNR=2.5
KSRS LR LR 12 58 38.1
comp=Z,18nm,21.6s,baz=45,slow=32
NJ2 Nanjing 65.68 316 *e*P **P 12 34 36.1 +1.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
USRK Ussuriysk Ar. 66.85 333 P **P 12 34 42.2 +0.1**
comp=Z,3.0nm,0.8s,baz=116,slow=6.6,SNR=3.7
USRK Ussuriysk Ar. 66.85 333 P **P 12 34 41.9 -0.2**
PETK Petropavlovsk- 67.98 354 P **P 12 34 48.9 -0.1**
comp=Z,1.8nm,0.6s,baz=123,slow=5.5,SNR=6.5
PETK LR LR 12 59 33.6
comp=Z,16nm,19.2s,baz=246,slow=31
PETK Petropavlovsk- 67.98 354 P **P 12 34 49.1 +0.1**
CN2 Changchun 69.62 329 *e*P **P 12 35 00.6 +1.2**
RPSI Rantau Prapat 69.92 278 P **P 12 35 01.6 -0.3**
RPSI IAmb IAmb 12 35 02.1
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 75.01 294 P **P 12 35 31.1 -0.8**
comp=Z,0.7nm,0.3s,baz=126,slow=4.6,SNR=9.1
CMAR pP **pwP 12 36 14.8 -0.6**
comp=Z,3.7nm,1.0s,baz=119,slow=4.5,SNR=6.3
CMAR sP **sP 12 36 33.4 +3.2**
comp=Z,2.3nm,0.9s,baz=124,slow=4.3,SNR=3.6
CMAR Chiang Mai Arr 75.01 294 P **P 12 35 32.0 +0.1**
QSPA South Pole Qui 75.39 180 P **P 12 35 32.5 -0.9**
QSPA IAmb IAmb 12 35 33.4
comp=Z,8.2nm,1.0s
HHC Hu-ho-hao-te 75.58 320 P **P 12 35 35.6 +0.8**
HHC pmax pmax
comp=Z,8.0nm,1.1s
CD2 Chengdu 76.04 307 P **P 12 35 36.6 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 78.34 312 *e*P **P 12 35 49.3 -1.1**
LZH pP pwP 12 36 33.5 -0.1
LZH sP sP 12 36 50.0 +0.7
LZH PP **PP 12 38 53.5 +3.4**
LZH pmax pmax
comp=Z,12nm,1.4s
YAK Yakutsk 81.97 343 P **P 12 36 08.2 -0.8**
YAK IAmb IAmb 12 36 10.1
comp=Z,8.2nm,0.6s
MAW Mawson 82.01 202 P **P 12 36 09.2 -0.1**
comp=Z,3.6nm,0.6s,baz=123,slow=3.6,SNR=11
MAW LR LR 13 09 04.9
comp=Z,35nm,19.0s,baz=60,slow=33
MAW Mawson 82.01 202 P **P 12 36 09.3 0.0**
ULN Ulaanbaatar 82.12 324 P **P 12 36 11.0 +0.6**
ULN IAmb IAmb 12 36 11.5
comp=Z,11nm,1.2s
SONM Songino Array 82.48 324 P **P 12 36 11.5 -0.7**
comp=Z,1.2nm,0.4s,baz=138,slow=5.6,SNR=12
SONM pP **pP 12 36 54.6 +1.0**
comp=Z,0.9nm,0.9s,baz=108,slow=4.8,SNR=2.3
SONM LR LR 13 10 34.1
comp=Z,16nm,21.6s,baz=156,slow=34
SONM Songino Array 82.48 324 P **P 12 36 11.9 -0.3**
GTA Gaotai 82.68 314 *e*P **P 12 36 13.9 +0.5**
GTA pP pwP 12 36 56.7 -0.4
GTA sP sP 12 37 15.1 +2.5
TRF Thorofare Moun 84.42 18 P **P 12 36 20.3 -1.4**
YBH Yreka Blue Hor 85.28 45 P **P 12 36 27.3 +0.8**
ILAR Eielson Array 86.41 18 P **P 12 36 29.6 -1.8**
comp=Z,1.2nm,0.7s,baz=236,slow=4.5,SNR=22
ILAR Eielson Array 86.41 18 P **P 12 36 29.3 -2.0**
NVAR Mina Array Bea 87.13 49 pP **pP 12 37 21.1 +3.3**
comp=Z,0.8nm,0.8s,baz=230,slow=6.3,SNR=4.8
NVAR LR LR 13 07 01.6
comp=Z,43nm,20.9s,baz=267,slow=30
WMQ Urumqi 92.74 315 *e*P **P 12 37 02.2 +0.6**
WMQ pP pP 12 37 45.8 +1.9
WMQ pmax pmax
comp=Z,8.0nm,1.3s
WMQ LR LR
comp=Z,750nm,29.2s
WMQ LR LR
comp=Z,1μm,29.1s
WMQ LR LR
comp=Z,84nm,29.0s
SNAA Sanae 93.65 183 P **P 12 37 04.0 -1.4**
VNA3 Neumayer Olymp 94.31 181 P **P 12 37 06.6 -1.8**
VNA2 Neumayer--Watz 94.58 182 P **P 12 37 08.3 -1.3**
baz=192,slow=4.5
VNA1 Neumayer--Stat 94.87 181 P **P 12 37 08.7 -2.1**
TXAR Lajitas Array 96.14 61 P **P 12 37 17.7 +0.1**
comp=Z,0.1nm,0.5s,baz=221,slow=6.2,SNR=4.8
MKAR Makanchi Array 97.21 316 P **P 12 37 21.3 -0.6**
comp=Z,1.3nm,0.7s,baz=88,slow=6.3,SNR=9.9
MKAR pP **pP 12 38 05.0 +0.8**
comp=Z,2.0nm,0.8s,baz=102,slow=5.6,SNR=5.4
MKAR Makanchi Array 97.21 316 P **P 12 37 20.5 -1.4**
ZALV Zalesovo Beam 97.38 324 P **P 12 37 19.8 -2.6**
comp=Z,0.4nm,0.3s,baz=90,slow=6.2,SNR=3.9
ZALV pP **pP 12 38 05.2 +0.5**
comp=Z,0.4nm,0.2s,baz=101,slow=4.7,SNR=1.8
ZALV Zalesovo Beam 97.38 324 P **P 12 37 20.3 -2.1**
KSH Kashi 100.22 308 *e*P **Pdif 12 37 37.0 +1.3**
ARCES ARCESS Array B 120.19 345 PKP **PKPdf 12 42 37.5 -1.2**
comp=Z,1.4nm,0.4s,baz=75,slow=2.0,SNR=28
ARCES ARCESS Array B 120.19 345 **PKPdf 12 42 37.0 -1.7**
FINES FINESS Array B 125.68 338 PKP **PKPdf 12 42 49.1 -0.3**
comp=Z,0.8nm,0.3s,baz=80,slow=1.6,SNR=12
NB2 NORSAR Subarra 130.56 345 SKPa **SKPbc 12 46 07.1 +0.4**
comp=Z,6.9nm,0.8s,baz=32,slow=2.9
NB2 NORSAR Subarra 130.56 345 SKPa **SKPbc 12 46 07.1 +0.4**
baz=32,slow=2.9
NOA NORSAR Array B 130.56 345 PKP **PKPdf 12 42 58.4 -0.4**
comp=Z,0.8nm,0.8s,baz=26,slow=4.0,SNR=3.0
AKASG Malin Array Be 130.72 326 PKP **PKPdf 12 42 59.0 -0.3**
comp=Z,0.3nm,0.3s,baz=48,slow=1.4,SNR=5.3
AKASG Malin Array Be 130.72 326 **PKPdf 12 42 58.5 -0.9**
BRTR Keskin Array B 132.53 311 PKP **PKPdf 12 43 03.0 -0.4**
comp=Z,0.4nm,0.5s,baz=117,slow=4.4,SNR=3.2
BRTR Keskin Array B 132.53 311 **PKPdf 12 43 02.3 -1.1**
CONA Conrad Observa 139.29 331 *e*PKiKP **PKiKP 12 43 18.0 +0.1**
comp=Z,7.5nm,1.4s
KHC Kasperske Hory 139.45 334 *e*PKP **PKiKP 12 43 18.7 +0.6**
GERES GERESS Array B 139.61 333 PKP **PKPdf 12 43 17.0 +0.9**
comp=Z,0.4nm,0.6s,baz=32,slow=5.8,SNR=4.7
GERES GERESS Array B 139.61 333 **PKPdf 12 43 16.3 +0.1**
SOKA Soboth 140.57 330 *e*PKPdf **PKPdf 12 43 15.5 -2.5**
comp=Z,11nm,1.4s
MOTA Moosalm 141.88 334 PKiKP **PKPdf 12 43 21.0 +0.6**
comp=Z,5.4nm,1.2s
FETA Feichten 142.29 334 *e*PKiKP **PKPdf 12 43 20.8 -0.3**
comp=Z,8.2nm,1.2s
KEST Kesra 151.21 321 PKPbc **PKPbc 12 43 42.3 0.0**
comp=Z,2.9nm,0.3s,baz=160,slow=4.9,SNR=11
KEST Kesra 151.21 321 **PKPbc 12 43 41.3 -1.0**
TORD Torodi Ar. Bea 166.02 266 PKPab **PKPab 12 44 54.8 -0.6**
comp=Z,0.9nm,0.8s,baz=66,slow=5.0,SNR=6.1
TORD pPKPab **pPKPab 12 45 41.2 +3.3**
comp=Z,1.0nm,0.9s,baz=90,slow=4.4,SNR=2.2
TORD Torodi Ar. Bea 166.02 266 **PKPab 12 44 54.2 -1.2**

IDC 10 12:53:18.2±1.3, 26°22N×141°41E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/38, mbtmp3.3/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/28, Error ellipse: s-maj=58.4km s-min=26.8km az=95.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**46.01**	355	LR	LR	13 20 19.4	
comp=Z,20nm,18.2s,baz=238,slow=35							
WRA	**Warramunga Arr**	**46.40**	189	P	P	13 01 46.2	-0.4
0.7nm,0.6s,baz=9.3,slow=8.4,SNR=14							
ASAR	**Alice Springs**	**50.12**	189	P	P	13 02 15.6	+0.3
0.1nm,0.6s,baz=17,slow=7.2,SNR=4.5							
MKAR	**Makanchi Array**	**50.50**	310	P	P	13 02 18.0	-0.1
0.3nm,0.7s,baz=85,slow=3.3,SNR=2.8							
ILAR	**Eielson Array**	**58.81**	28	P	P	13 03 18.0	-0.1
0.3nm,0.9s,baz=260,slow=5.4,SNR=4.1							

*NEIC **10** 13:21:08.4±2.5, 9°.9N±0°.1×123°.9E±0°.1, h10km±1km, mb4.4/12*
*ISCJB **10** 13:21:09.2±0.8, 9°.93N±0°.03×124°.01E±0°.05, h23km±6km, mb3.7/8, MS3.0/6, Error ellipse: s-maj=8.8km s-min=4.7km az=177.4*
*IDC **10** 13:21:20.5±1.9, 9°.82N×124°.11E, h109km±20km, mb3.4/8, mb1 3.5/10, mb1mx3.4/51, mbtmp3.9/10, MS3.0/9, Ms1 3.0/9, ms1mx2.7/37, Error ellipse: s-maj=34.6km s-min=13.0km az=69.0*
ISC 10 13:21:09.2±1.2, 9°.89N±0°.03×123°.96E±0°.05, h11km±8km, n37, σ1°46/43, mb3.9/12, MS3.0/6, 5C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.42**	2	⇓*i*P	**Pg**	**13 21 16.4**	**-1.1**
LLP				*i* S	**Sg**	**13 21 22.9**	**-0.2**
SNPH	**Sibulan**	**0.90**	232	⇑*i*P	**Pb**	**13 21 26.7**	**0.0**
SNPH				*i* S	**Sg**	**13 21 39.2**	**+1.0**
DCPH	**Dipolog City**	**1.43**	205	⇑*i*P	**Pn**	**13 21 35.1**	**0.0**
DCPH				*i* S	**Sb**	**13 21 54.8**	**+0.7**
CGP	**Cagayan de Oro**	**1.60**	153	⇓*i*P	**Pn**	**13 21 37.7**	**+0.2**
CGP				*i* S	**Sn**	**13 21 56.2**	**-2.0**
RCP	**Roxas**	**2.04**	324	⇑*e*P	**Pn**	**13 21 43.4**	**-0.1**
RCP				*e*S	**Sn**	**13 22 10.2**	**+1.3**
CTBH	**Cotabato--PC H**	**2.67**	174	⇑*i*P	**Pn**	**13 21 52.3**	**+0.2**
CTBH				*i* S	**Sn**	**13 22 26.2**	**+1.7**
KCP	**Kidapawan**	**3.08**	159	⇑*e*P	**Pn**	**13 21 59.5**	**+1.7**
KCP				*i* S	**Sb**	**13 22 41.7**	**+0.1**
DAV	**Davao City (W)**	**3.23**	150	P	**Pb**	**13 22 09.1**	**+2.5**
80nm,0.3s,baz=349,slow=3.5,SNR=5.3							
DAV				S	**Sb**	**13 22 43.9**	**-2.1**
41nm,0.3s,baz=283,slow=21,SNR=3.5							
DAV				LR	LR	13 23 25.8	
comp=Z,280nm,21.3s,baz=329,slow=40							
DAV	**Davao City (W)**	**3.23**	150		**Pb**	**13 22 07.7**	**+1.1**
SIJI	**Sorong**	**12.93**	145	LR	LR	13 28 36.5	
comp=Z,43nm,20.9s,baz=71,slow=34							
KAPI	**Kappang**	**15.39**	196	LR	LR	13 30 36.2	
comp=Z,22nm,19.4s,baz=68,slow=36							
KAPI	**Kappang**	**15.39**	196		**P**	**13 24 49.1**	**-1.9**
JOW	**Kunigami**	**17.34**	13	P	**P**	**13 25 12.7**	**0.0**
JOW				IAmb	IAmb	13 25 17.4	
comp=Z,28nm,1.0s							
SOEI	**Soe**	**19.52**	179	P	**P**	**13 25 37.0**	**+0.2**
SOEI				IAmb	IAmb	13 25 59.9	
comp=Z,13nm,1.1s							
BATI	**Baumata**	**19.97**	181	P	**Pn**	**13 25 43.1**	**-0.2**
comp=Z,1.5nm,0.3s,baz=303,slow=3.0,SNR=6.2							
GUMO	**Guam**	**20.80**	78	LR	LR	13 35 33.1	
comp=Z,20nm,18.1s,baz=2.0,slow=41							
IPM	**Ipoh**	**23.37**	258	P	**P**	**13 26 18.0**	**-0.1**
IPM				IAmb	IAmb	13 26 23.5	
comp=Z,16nm,1.4s							
KULM	**Kulim**	**23.54**	261	P	**P**	**13 26 20.1**	**+0.3**
KULM				IAmb	IAmb	13 26 44.4	
comp=Z,12nm,1.3s							
MNAI	**Manna**	**25.26**	237	P	**P**	**13 26 34.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**25.67**	292	P	**P**	**13 26 43.8**	**+4.4**
comp=Z,1.5nm,0.9s,baz=111,slow=7.4,SNR=8.7							
CMAR				LR	LR	13 36 21.7	
comp=Z,45nm,18.0s,baz=222,slow=35							
CMAR	**Chiang Mai Arr**	**25.67**	292	P	**P**	**13 26 39.3**	**-0.1**
WRA	**Warramunga Arr**	**31.36**	161	P	**P**	**13 27 31.2**	**+1.1**
comp=Z,0.2nm,0.6s,baz=345,slow=9.0,SNR=3.0							
WRA				PcP	**PcP**	**13 30 22.0**	**-2.0**
comp=Z,0.4nm,0.9s,baz=346,slow=2.8,SNR=3.2							
WRA				LR	LR	13 41 50.6	
comp=Z,20nm,18.6s,baz=150,slow=39							
AS31	**Alice Springs**	**34.74**	164	P	**P**	**13 27 58.7**	**-0.9**
ASAR	**Alice Springs**	**34.74**	164	P	**P**	**13 27 58.9**	**-0.7**
comp=Z,0.3nm,0.5s,baz=338,slow=6.8,SNR=15							
ASAR				PcP	**PcP**	**13 30 31.0**	**-2.4**
comp=Z,0.4nm,0.9s,baz=349,slow=3.6,SNR=4.1							
USRK	**Ussuriysk Ar.**	**34.88**	10	P	**P**	**13 28 03.3**	**+2.7**
comp=Z,2.0nm,0.8s,baz=201,slow=7.7,SNR=4.1							
USRK	**Ussuriysk Ar.**	**34.88**	10	P	**P**	**13 28 02.8**	**+2.3**
SONM	**Songino Array**	**40.62**	342	P	**P**	**13 28 50.0**	**+0.8**
comp=Z,0.7nm,0.3s,baz=98,slow=10,SNR=4.6							
SONM				LR	LR	13 45 44.4	
comp=Z,21nm,18.9s,baz=198,slow=36							
WAKE	**Wake Island**	**42.27**	72	P	**P**	**13 29 02.7**	**-0.2**
NWAO	**Narrogin (SRO)**	**43.06**	188	P	**P**	**13 29 07.7**	**-1.4**
NWAO				IAmb	IAmb	13 29 57.7	
comp=Z,43nm,1.4s							
STKA	**Stephens Creek**	**44.83**	159	LR	LR	13 50 34.9	
comp=Z,24nm,18.2s,baz=24,slow=39							
MK31	**Makanchi Array**	**50.97**	324	P	**P**	**13 30 09.5**	**-1.4**
MK31				IAmb	IAmb	13 31 26.8	
comp=Z,13nm,1.8s							
MKAR	**Makanchi Array**	**50.97**	324	P	**P**	**13 30 11.2**	**+0.3**
comp=Z,1.3nm,0.8s,baz=117,slow=7.2,SNR=7.3							
MKAR				LR	LR	13 52 33.6	
comp=Z,37nm,18.6s,baz=204,slow=37							
MKAR	**Makanchi Array**	**50.97**	324	P	**P**	**13 30 09.4**	**-1.4**
ZALV	**Zalesovo Beam**	**53.88**	332	P	**P**	**13 30 32.1**	**-0.2**
comp=Z,1.0nm,0.7s,baz=119,slow=5.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**53.88**	332	P	**P**	**13 30 31.8**	**-0.6**
KURBB	**Kurchatov Arra**	**55.10**	326	P	**P**	**13 30 41.1**	**-0.2**
comp=Z,0.9nm,0.7s,baz=134,slow=6.0,SNR=7.6							
KKAR	**Karatay Array**	**56.90**	315	P	**P**	**13 30 53.7**	**-0.7**

IDC 10 13:22:53.4±17.0, 19°.07S×174°.07W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/42, mbtmp3.9/5, MS4.1/1, Ms1 4.1/1, ms1mx2.7/27, Error ellipse: s-maj=325.3km s-min=142.0km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.34**	262	P	P	13 00 08.8	+0.9
4.5nm,1.1s,baz=83,slow=11,SNR=5.8							
PMG	**Port Moresby**	**38.71**	279	LR	LR	13 43 04.8	
comp=Z,300nm,21.6s,baz=5.5,slow=31							
STKA	**Stephens Creek**	**41.73**	243	P	P	13 30 44.7	+0.3
1.5nm,0.7s,baz=58,slow=13,SNR=3.2							
ASAR	**Alice Springs**	**48.45**	255	P	P	13 31 37.5	-0.6
1.9nm,0.8s,baz=98,slow=7.7,SNR=27							
WRA	**Warramunga Arr**	**48.48**	260	P	P	13 31 37.6	-0.7
0.4nm,0.3s,baz=97,slow=7.7,SNR=21							
FITZ	**Fitzroy Crossi**	**56.90**	260	P	P	13 32 40.6	0.0
0.8nm,0.8s,baz=102,slow=9.3,SNR=2.9							

JMA 10 13:28:37.1, 32°20N×130°43E, h8km±1km, M1.4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.15**	113	P	Pg	13 28 40.7	+0.3
JZO				*e*S	Sg	13 28 43.3	+0.7
JHD	**Hondo**	**0.36**	317	P	Pg	13 28 44.4	+0.2
JHD				*e*S	Sg	13 28 49.8	+0.8
JIU3	**Izumi3**	**0.47**	43	P	Pg	13 28 46.4	+0.1
JSU	**Suzuyama**	**0.69**	178	S	Sg	13 28 59.3	-0.2

*ISCJB **10** 13:29:20.2±0.2, 31°.13N±0°.03×130°.28E±0°.04, h170km±1km, mb4.1/29, Error ellipse: s-maj=6.6km s-min=4.2km az=21.3*
*NEIC **10** 13:29:21.7±1.6, 31°.12N±0°.06×130°.2E±0°.1, h168km±6km, mb4.7/49*
*IDC **10** 13:29:21.2±0.9, 31°.18N×130°.26E, h164km±8km, mb3.8/24, mb1 3.9/30, mb1mx3.8/60, mbtmp4.3/30, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=12.1km s-min=7.9km az=83.0*
*BJI **10** 13:29:21.0±0.0, 31°.10N×130°.20E, h177km, mb4.4/4, mB4.8/4*
*JMA **10** 13:29:22.2±0.1, 31°.16N×130°.36E, h160km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs39.00000°, δ67.00000°, λ114.00000°. NP2: φs169.00000°, δ33.00000°, λ45.00000°. Principal axes: T Plg60.0000°, Azm345.0000°; N Plg22.0000°, Azm209.0000°; P Plg19.0000°, Azm111.0000°;*
JMA Felt I J1.
ISC 10 13:29:21.2±0.6, 31°.14N±0°.04×130°.24E±0°.06, h165km±5km, n131, σ1°12/146, mb4.4/56, 7C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.41**	27	⇑P	**Pn**	**13 29 44.3**	**+0.4**
JSU				*e*S	**Sn**	**13 30 01.4**	**0.0**
JTSR	**Tashiro 2**	**0.59**	87	⇑P	**Pn**	**13 29 44.7**	**0.0**
JTSR				*e*S	**Sn**	**13 30 01.3**	**-1.3**
JSJ	**Shimokoshiki**	**0.70**	321	⇓P	**Pn**	**13 29 45.6**	**+0.4**
JSJ				*e*S	**Sn**	**13 30 03.6**	**-0.2**
JTN	**Tanegashima 3**	**0.80**	127	⇑P	**Pn**	**13 29 46.2**	**+0.3**
JTN				*e*S	**Sn**	**13 30 04.3**	**-0.5**
JYAK	**Yakushimahirau**	**0.93**	165	⇑P	**Pn**	**13 29 47.3**	**+0.5**
JYAK				*e*S	**Sn**	**13 30 06.0**	**-0.5**
JMTN	**Minamitane**	**0.93**	142	⇑P	**Pn**	**13 29 47.2**	**+0.3**
JMTN				*e*S	**Sn**	**13 30 06.7**	**+0.2**
JTZ	**Takazaki**	**1.05**	43	⇑P	**Pn**	**13 29 47.9**	**+0.1**
JTZ				*e*S	**Sn**	**13 30 06.5**	**-1.8**
JNN	**Nakanoshima**	**1.33**	194	⇑P	**Pn**	**13 29 51.3**	**+1.1**
JNN				*e*S	**Sn**	**13 30 14.1**	**+1.5**
JIU3	**Izumi3**	**1.49**	19	⇓P	**Pn**	**13 29 52.2**	**+0.4**
JIU3				*e*S	**Sn**	**13 30 14.6**	**-0.9**
JNU	**Nakatsue**	**2.05**	15	P	**Pn**	**13 29 57.9**	**+0.1**
24nm,0.3s,baz=220,slow=5.4,SNR=164							
JNU				S	**Sn**	**13 30 25.3**	**-1.0**
11nm,0.3s,baz=44,slow=20,SNR=3.7							
JNU	**Nakatsue**	**2.05**	15		**Pn**	**13 29 57.8**	**0.0**
JTAJ	**Takarajima**	**2.17**	205	P	**Pn**	**13 30 00.7**	**+1.6**
JOW	**Kunigami**	**4.62**	202	P	**Pn**	**13 30 30.2**	**+0.3**
1.0nm,0.3s,baz=82,slow=21,SNR=15							
JOW				S	**Sn**	**13 31 21.0**	**-2.6**
7.0nm,0.3s,baz=237,slow=28,SNR=22							
JOW	**Kunigami**	**4.62**	202	Pn	**Pn**	**13 30 30.4**	**+0.6**
JOW					**Sn**	**13 31 20.9**	**-2.7**
KSAR	**Wonju Array Be**	**6.58**	343		**Pn**	**13 30 57.4**	**+1.8**
KSRS	**Korea Array**	**6.59**	344	P	**Pn**	**13 30 55.7**	**0.0**
0.6nm,0.3s,baz=169,slow=14,SNR=28							
KS19	**Wonju Array Si**	**6.64**	344	Pn	**Pn**	**13 30 58.2**	**+1.8**
INU	**Inuyama**	**7.07**	52		**Pn**	**13 31 03.5**	**+1.5**
JHJ	**Hachijo jima 2**	**8.34**	74	P	**Pn**	**13 31 20.4**	**+1.5**
17nm,0.3s,baz=90,slow=1.4,SNR=2.8							
MAJO	**Matsushiro**	**8.54**	49	Pn	**Pn**	**13 31 23.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**8.54**	49	Pn	**Pn**	**13 31 23.5**	**+1.8**
MJAR	**Matsushiro Arr**	**8.55**	49	P	**Pn**	**13 31 22.5**	**+0.8**
0.3nm,0.3s,baz=239,slow=13,SNR=19							
MJAR				S	**Sn**	**13 32 55.0**	**-1.9**
0.2nm,0.3s,baz=239,slow=22,SNR=9.3							
MJAR	**Matsushiro Arr**	**8.55**	49	Pn	**Pn**	**13 31 23.5**	**+1.8**
SSLB	**Suanglung**	**11.02**	231	Pn	**Pn**	**13 31 54.7**	**+0.4**
YULB	**Yu-li**	**11.07**	228	Pn	**Pn**	**13 31 52.5**	**-2.5**
USA0B	**Ussuriysk Arra**	**13.12**	6	P	**P**	**13 32 27.3**	**+2.1**
USRK	**Ussuriysk Ar.**	**13.12**	6	P	**P**	**13 32 23.4**	**-1.9**
baz=147,slow=40,SNR=3.1							
USRK	**Ussuriysk Ar.**	**13.12**	6	P	**P**	**13 32 27.6**	**+2.3**
WHN	**Wuhan**	**13.66**	272	P	**Pn**	**13 32 24.1**	**-4.1**
ASAJ	**Asahikawa**	**16.22**	34	P	**P**	**13 32 57.9**	**-1.7**
1.9nm,0.3s,baz=229,slow=12,SNR=15							
JKA	**Kamikawa-asahi**	**16.22**	34	P	**P**	**13 32 57.9**	**-1.7**
KLR	**Kul'dur**	**18.11**	3	P	**P**	**13 33 20.5**	**+0.2**
0.3nm,0.3s,baz=200,slow=8.8,SNR=9.1							
XAN	**Xi'an**	**18.19**	285	P	**Pn**	**13 33 23.3**	**-0.1**
ULN	**Ulaanbaatar**	**24.33**	320	P	**P**	**13 34 23.4**	**-0.3**
SONM	**Songino Array**	**24.68**	319	P	**P**	**13 34 26.7**	**-0.1**
1.8nm,0.6s,baz=138,slow=9.8,SNR=

FITZ	**Fitzroy Crossi**	**49.15 186**	P	**P**	**13 37 52.0**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=1.3,slow=7.6,SNR=12					
FITZ	**Fitzroy Crossi**	**49.15 186**	P	**P**	**13 37 53.2**	**+0.9**
WRA	**Warramunga Arr**	**50.94 175**	P	**P**	**13 38 06.0**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=354,slow=8.1,SNR=24					
WRA	**Warramunga Arr**	**50.94 175**	P	**P**	**13 38 05.3**	**-0.5**
WB2	**Warramunga Arr**	**50.94 175**	P	**P**	**13 38 05.8**	**+0.1**
CTA	**Charters Tower**	**53.20 161**	P	**P**	**13 38 23.1**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=334,slow=10.0,SNR=5.0					
CTAO	**Charters Tower**	**53.20 161**	P	**P**	**13 38 22.7**	**+0.1**
CTAO			IAmb	IAmb	13 38 26.7	
	comp=Z,29nm,1.6s					
PSA00	**Pilbara Seismi**	**53.35 192**	P	**P**	**13 38 21.8**	**-1.7**
AS31	**Alice Springs**	**54.60 176**	P	**P**	**13 38 33.0**	**+0.3**
ASAR	**Alice Springs**	**54.60 176**	P	**P**	**13 38 33.2**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=358,slow=6.2,SNR=83					
ASAR	**Alice Springs**	**54.60 176**	P	**P**	**13 38 32.8**	**+0.2**
ABKAR	**Akbulak array**	**54.68 311**	P	**P**	**13 38 33.6**	**+0.6**
ABKAR	**Akbulak array**	**54.68 311**	P	**P**	**13 38 33.8**	**+0.9**
ABKAR			IAmb	IAmb	13 38 36.0	
	comp=Z,1.7nm,0.7s					
ARU	**Arti**	**54.72 320**	P	**P**	**13 38 33.7**	**+0.6**
ARU			IAmb	IAmb	13 39 59.6	
	comp=Z,16nm,1.7s					
TTA	**Tatalina**	**55.44 32**	P	**P**	**13 38 39.6**	**+1.3**
TTA			IAmb	IAmb	13 40 42.9	
	comp=Z,20nm,1.0s					
SVW2	**Sparrevohn**	**55.72 34**	P	**P**	**13 38 41.1**	**+0.9**
IMAR	**Indian Mountai**	**56.34 28**	P	**P**	**13 38 44.7**	**+0.2**
SII	**Sitkinak Islan**	**56.86 40**	P	**P**	**13 38 49.2**	**+0.8**
PPLA	**Purkeypile**	**57.19 32**	P	**P**	**13 38 51.5**	**+0.8**
OHAK	**Old Harbor**	**57.26 39**	P	**P**	**13 38 50.6**	**-0.5**
KDAK	**Kodiak Island**	**57.56 38**	P	**P**	**13 38 53.0**	**-0.2**
SKT	**Skwentna**	**57.58 33**	P	**P**	**13 38 52.9**	**-0.4**
SKT			IAmb	IAmb	13 39 34.4	
	comp=Z,25nm,1.7s					
BPAW	**Bear Paw Mtn.**	**57.62 31**	P	**P**	**13 38 53.7**	**+0.1**
BPAW			IAmb	IAmb	13 40 46.6	
	comp=Z,38nm,2.0s					
MLY	**Manley**	**57.65 30**	P	**P**	**13 38 54.0**	**+0.2**
MLY			IAmb	IAmb	13 40 45.5	
	comp=Z,27nm,2.0s					
TOLK	**Toolik Lake Re**	**57.84 25**	P	**P**	**13 38 55.4**	**+0.3**
TOLK			IAmb	IAmb	13 41 04.6	
	comp=Z,23nm,1.6s					
TRF	**Thorofare Moun**	**57.99 31**	P	**P**	**13 38 57.7**	**+1.3**
TRF			IAmb	IAmb	13 39 39.7	
	comp=Z,23nm,1.6s					
SUA	**Susitna One**	**58.01 34**	P	**P**	**13 38 58.0**	**+1.5**
NEA	**Nenana**	**58.40 30**	P	**P**	**13 38 59.1**	**+0.1**
NEA			IAmb	IAmb	13 40 23.0	
	comp=Z,23nm,1.3s					
MCK	**McKinley**	**58.56 31**	P	**P**	**13 39 00.4**	**+0.3**
MCK			IAmb	IAmb	13 39 55.1	
	comp=Z,49nm,2.0s					
RND	**Reindeer**	**58.64 31**	P	**P**	**13 39 00.6**	**-0.2**
RND			IAmb	IAmb	13 39 02.4	
	comp=Z,37nm,1.8s					
PMR	**Palmer**	**58.76 33**	P	**P**	**13 39 02.5**	**+1.1**
PMR			IAmb	IAmb	13 40 59.7	
	comp=Z,25nm,1.6s					
SEW	**Seward**	**58.83 35**	P	**P**	**13 39 01.4**	**-0.6**
ILAR	**Eielson Array**	**59.31 30**	P	**P**	**13 39 04.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=277,slow=7.4,SNR=16					
ILAR			PcP	**PcP**	**13 39 50.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=284,slow=4.7,SNR=7.0					
ILAR	**Eielson Array**	**59.31 30**	P	**P**	**13 39 04.3**	**-0.9**
HDA	**Harding Lake**	**59.33 30**	P	**P**	**13 39 04.2**	**-1.2**
DHY	**Denali Highway**	**59.35 32**	P	**P**	**13 39 05.4**	**-0.4**
DHY			IAmb	IAmb	13 40 39.1	
	comp=Z,23nm,1.8s					
SCM	**Sheep Creek Mo**	**59.57 33**	P	**P**	**13 39 07.2**	**+0.1**
BMAR	**Burnt Mountain**	**59.84 26**	P	**P**	**13 39 09.7**	**+0.8**
BCAR	**Beaver Creek A**	**61.85 31**	P	**P**	**13 39 22.8**	**+0.3**
EPYK	**Eagle Plains**	**63.09 27**	P	**P**	**13 39 30.6**	**-0.1**
STKA	**Stephens Creek**	**63.59 169**	P	**P**	**13 39 34.9**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=349,slow=6.0,SNR=7.6					
ARCES	**ARCESS Array B**	**66.11 338**	P	**P**	**13 39 49.1**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=68,slow=8.0,SNR=12					
KBZ	**Khabaz**	**67.46 308**	P	**P**	**13 40 00.0**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=106,slow=2.8,SNR=14					
FINES	**FINESS Array B**	**69.48 330**	P	**P**	**13 40 11.1**	**-0.3**
	comp=Z,8.4nm,0.5s,baz=74,slow=6.0,SNR=56					
DAG	**Danmarks Havn**	**70.63 353**	*i* P	**P**	**13 40 15.0**	**-3.1**
	comp=Z,7.4nm,1.1s					
AKASG	**Malin Array Be**	**72.97 319**	P	**P**	**13 40 32.0**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=56,slow=6.1,SNR=10.0					
AKASG	**Malin Array Be**	**72.97 319**	P	**P**	**13 40 31.9**	**-0.5**
AKBB	**Malin Array Si**	**72.97 319**	P	**P**	**13 40 31.8**	**-0.6**
YKA	**Yellowknife Ar**	**73.36 26**	P	**P**	**13 40 35.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=338,slow=23,SNR=3.8					
BR131	**Keskin Array S**	**75.43 308**	P	**P**	**13 40 47.3**	**+0.2**
BR131			IAmb	IAmb	13 40 48.8	
	comp=Z,6.7nm,0.9s					
BRTR	**Keskin Array B**	**75.43 308**	P	**P**	**13 40 47.8**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=99,slow=5.5,SNR=22					
BRTR	**Keskin Array B**	**75.43 308**	P	**P**	**13 40 47.1**	**0.0**
NB2	**NORSAR Subarra**	**75.70 334**	P	**P**	**13 40 46.9**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=48,slow=5.9					
NOA	**NORSAR Array B**	**75.70 334**	P	**P**	**13 40 47.2**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=49,slow=5.7,SNR=7.7					
SUMG	**Summit**	**76.27 357**	*i* P	**P**	**13 40 51.4**	**-0.2**
	comp=Z,21nm,0.7s					
SUMG	**Summit**	**76.27 357**	P	**P**	**13 40 51.8**	**+0.2**
SUMG			IAmb	IAmb	13 40 52.5	
	comp=Z,12nm,1.0s					
ASF	**Jabal al Asfar**	**76.68 300**	P	**P**	**13 40 55.5**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=63,slow=2.3,SNR=3.1					
BUR08	**Bucovina Ar. S**	**76.78 318**	P	**P**	**13 40 54.7**	**+0.1**
BURAR	**Bucovina Array**	**76.79 318**	P	**P**	**13 40 54.5**	**-0.1**
KWP	**Kalwaria Pacla**	**77.11 321**	P	**P**	**13 40 56.5**	**+0.2**
KOLS	**Kolonicke sedl**	**77.73 320**	*e*P	**P**	**13 41 00.3**	**+0.6**
OJC	**Ojcow**	**78.35 322**	P	**P**	**13 41 03.3**	**+0.3**
OJC			IAmb	IAmb	13 41 04.4	
	comp=Z,12nm,0.8s					
ELL	**Elmali**	**79.45 307**	P	**P**	**13 41 09.1**	**-0.4**
ELL			IAmb	IAmb	13 41 10.2	
	comp=Z,20nm,0.7s					
VYHS	**Vyhne**	**79.86 321**	*e*P	**P**	**13 41 12.4**	**+1.1**
CLL	**Collm**	**81.13 326**	P	**P**	**13 41 17.9**	**-0.1**
CLL			IAmb	IAmb	13 41 18.9	
	comp=Z,8.2nm,0.7s					
CONA	**Conrad Observa**	**81.79 322**	*e*PcP	**P**	**13 41 22.8**	**+1.2**
	comp=Z,5.1nm,0.8s					
GERES	**GERESS Array B**	**82.34 323**	P	**P**	**13 41 24.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=46,slow=5.8,SNR=13					
ARSA	**Arzberg**	**82.39 321**	*e*PcP	**P**	**13 41 25.5**	**+0.8**
	comp=Z,2.4nm,0.8s					
MOA	**Molln**	**82.68 322**	*e*PcP	**P**	**13 41 27.3**	**+1.1**
	comp=Z,2.0nm,0.5s					
SOKA	**Soboth**	**83.01 321**	*e*PcP	**P**	**13 41 28.5**	**+0.5**
	comp=Z,11nm,1.3s					
OBKA	**Obir**	**83.37 321**	*e*PcP	**P**	**13 41 30.3**	**+0.4**
	comp=Z,5.0nm,0.7s					
KBA	**Koelnbreinsper**	**83.65 322**	*e*PcP	**P**	**13 41 31.5**	**+0.1**
	comp=Z,3.1nm,0.6s					
MYKA	**Terra Mystica**	**83.78 322**	*e*P	**P**	**13 41 31.8**	**-0.2**
	comp=Z,5.3nm,0.6s					
ABTA	**Abfaltersbach**	**84.30 322**	*e*PcP	**P**	**13 41 34.5**	**-0.1**
	comp=Z,6.3nm,0.7s					
ITM	**Ithomi**	**84.58 310**	P	**P**	**13 41 34.8**	**-1.3**
ITM			IAmb	IAmb	13 41 35.8	
	comp=Z,11nm,0.7s					
FETA	**Feichten**	**85.05 323**	*e*P	**P**	**13 41 34.4**	**-4.1**
	comp=Z,7.2nm,1.3s					
BMRD	**Maredsous**	**85.66 328**	PcP	**P**	**13 41 44.1**	**+2.9**
NVAR	**Mina Array Bea**	**85.87 47**	P	**P**	**13 41 43.6**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=296,slow=5.7,SNR=9.6					
NVAR	**Mina Array Bea**	**85.87 47**	P	**P**	**13 41 42.8**	**0.0**
PDAR	**Pinedale Array**	**88.26 40**	P	**P**	**13 41 54.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=186,slow=0.1,SNR=7.2					
ULM	**Lac du Bonnet**	**89.26 28**	P	**P**	**13 41 58.3**	**-0.1**
	comp=Z,6.1nm,0.9s,baz=310,slow=4.9,SNR=3.7					

*ISCJB **10** 13:31:51.4±0.9, 33°.79N±0°.04×35°.77E±0°.08, h11km±9km, Error ellipse: s-maj=12.4km s-min=5.8km az=154.5*
*GRAL **10** 13:31:52.1±0.3, 33°.79N×35°.77E, h7km±6km, MD2.8*
*NSSC **10** 13:31:53.3±0.5, 33°.70N×35°.81E, h16km±2km, ML1.5*
ISC 10 13:31:50.0±1.5,**33°.86N**±0°.09×**35°.81E**±0°.07,**h14**km±14km, **n7**,σ0°51/12,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.14**	**288**	*e*P	**Pb**	**13 31 54.9**	**+0.5**
BHL				*e*S	**Sb**	**13 31 57.2**	**-0.1**
DQRL	**Deir Qamar**	**0.25**	**232**	*e*P	**Pg**	**13 31 55.6**	**+0.2**
RCY	**Rachaya**	**0.37**	**177**	*e*P	**Pg**	**13 31 57.5**	**+0.1**
RCY				*e*S	**Sg**	**13 32 01.6**	**-0.9**
HWQ	**Hawqa**	**0.43**	**15**	*e*P	**Pn**	**13 32 01.3**	**-0.6**
BRBR	**Barbar**	**0.47**	**165**	*e*P	**Pg**	**13 31 59.7**	**+0.4**
BRBR				*e*S	**Sg**	**13 32 05.2**	**-0.4**
BRBR				AML	AML	13 32 08.3	
	comp=E,162nm,0.3s						
BRBR				AML	AML	13 32 12.5	
	comp=N,25nm,0.7s						
QASN	**Qassioun**	**0.51**	**130**	*e*P	**Pn**	**13 32 02.6**	**-0.4**
QASN				*e*S	**Sb**	**13 32 08.0**	**-0.1**
QASN				AML	AML	13 32 09.6	
	comp=E,80nm,0.5s						
QASN				AML	AML	13 32 11.7	
	comp=N,74nm,0.5s						
TOTH	**TOTAH**	**0.72**	**134**	*e*P	**Pn**	**13 32 05.7**	**-0.1**
TOTH				AML	AML	13 32 11.2	
	comp=E,5.7nm,0.4s						
TOTH				*e*S	**Sg**	**13 32 13.8**	**+0.4**
TOTH				AML	AML	13 32 21.4	
	comp=N,13nm,0.6s						

*ISCJB **10** 13:38:20.1±0.4, 24°.99N±0°.06×62°.86E±0°.04, h33km, mb3.7/13, MS3.1/6, Error ellipse: s-maj=8.8km s-min=4.0km az=153.1*
*IDC **10** 13:38:20.0±1.2, 25°.27N×62°.68E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.7/60, mbtmp3.9/14, ML3.6/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/41, Error ellipse: s-maj=26.2km s-min=19.4km az=154.0*
*NEIC **10** 13:38:22.2±1.5, 25°.04N±0°.08×62°.81E±0°.09, h31km±4km, mb4.2/19*
*OMAN **10** 13:38:27.2±1.2, 24°.73N×62°.47E, h30km, ml3.9/8, Error ellipse: s-maj=13.0km s-min=7.8km az=80.0*
*DSN **10** 13:38:32.7±2.0, 24°.93N×61°.90E, h15km, ML3.9/5, Error ellipse: s-maj=63.6km s-min=18.0km az=8.0*
ISC 10 13:38:22.4±0.5,**25°.00N**±0°.07×**62°.75E**±0°.05,**h35**km,**n76**, σ1°.64/68,**mb4.0**/18,**MS3.0**/6,**Off coast of Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**4.15**	**246**	P	**Pn**	**13 39 24.2**	**+1.0**
	SNR=44						
WSAR	**Wadi Sarin**	**4.15**	**246**	Pn	**Pn**	**13 39 24.7**	**+1.5**
	3.0nm,0.3s,baz=108,slow=8.2,SNR=40						
WSAR				Sn	**Sn**	**13 40 06.8**	**-3.7**
	11nm,0.3s,baz=27,slow=23,SNR=9.9						
WSAR				LR	LR	13 41 45.1	
	comp=Z,198nm,19.1s,baz=96,slow=49						
JLN	**Jalan Bani Buh**	**4.17**	**228**	P	**Pn**	**13 39 23.8**	**+0.3**
	SNR=12						
JLN				S	**Sn**	**13 40 09.6**	**-1.4**
	SNR=18						
WBK	**Wadi Bani Khal**	**4.19**	**236**	P	**Pn**	**13 39 24.3**	**+0.4**
	SNR=6.2						
WBK				S	**Sn**	**13 40 09.0**	**-2.7**
	SNR=9.4						
BIDO	**Bidbid**	**4.46**	**252**	P	**Pn**	**13 39 30.3**	**+2.8**
BIDO				S	**Sn**	**13 40 16.4**	**-1.9**
SMDO	**Samad**	**4.71**	**247**	P	**Pn**	**13 39 32.3**	**+1.3**
	SNR=20						
SMDO				S	**Sn**	**13 40 22.3**	**-2.1**
JMDO	**Jabal Madar**	**4.99**	**239**	P	**Pn**	**13 39 36.7**	**+1.8**
	SNR=12						
HOQ	**Hoqain**	**5.15**	**255**	P	**Pn**	**13 39 37.9**	**+0.8**
BSY	**Bisya**	**5.55**	**247**	P	**Pn**	**13 39 44.7**	**+2.2**
MDH	**Madha**	**5.85**	**274**	*i* P	**Pn**	**13 39 46.7**	**+0.1**
	SNR=10.0						
MDH				S	**Sn**	**13 40 47.7**	**-4.8**
MDH	**Madha**	**5.85**	**274**	P	**Pn**	**13 39 47.1**	**+0.4**
	SNR=10.0						
BANOM	**Banah**	**5.90**	**280**	*i* P	**Pn**	**13 39 50.0**	**+2.6**
	SNR=8.5						
BANOM	**Banah**	**5.90**	**280**	P	**Pn**	**13 39 48.2**	**+0.8**
	SNR=28						
UOSS	**Minazif**	**5.94**	**271**	*i* P	**Pn**	**13 39 47.5**	**-0.3**
	SNR=20						
UOSS	**Minazif**	**5.94**	**271**	P	**Pn**	**13 39 48.1**	**+0.3**
	SNR=6.8						
UOSS	**Minazif**	**5.94**	**271**		**Pn**	**13 39 47.7**	**-0.1**
HATD	**Hatta, Dubai**	**6.01**	**270**	P	**Pn**	**13 39 49.8**	**+1.1**
HATD	**Hatta, Dubai**	**6.01**	**270**	P	**Pn**	**13 39 50.5**	**+1.8**
SHME	**Shamm**	**6.06**	**281**	*i* P	**Pn**	**13 39 52.2**	**+2.7**
	SNR=32						
ASHO	**Ashiyiah**	**6.08**	**268**	P	**Pn**	**13 39 51.5**	**+1.6**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**6.50**	**269**	P	**Pn**	**13 39 57.5**	**+2.0**
FAQ	**Al Faqa, Dubai**	**6.50**	**269**	S	**Sn**	**13 41 08.7**	**+0.1**
	SNR=6.7						
BHUJ	**Bhuj**	**6.54**	**104**	*e*P	Pn	13 39 53.0	-3.2
BHUJ				*e*S	Sn	13 41 01.0	-8.6
ASUD	**Al Ashush, Dub**	**6.75**	**268**	P	**Pn**	**13 40 01.9**	**+2.9**
CEP	**Cherat**	**11.88**	**40**	P	Pn	13 41 04.7	-4.7
NIL	**Nilore**	**12.58**	**44**		**Pn**	**13 41 15.2**	**-3.7**
CHCP	**Chirah Chowk**	**12.59**	**44**	P	Pn	13 41 14.3	-4.7
DHRM	**DHARAMSHALA**	**13.92**	**56**	*e*P	**Pn**	**13 41 33.9**	**-3.5**
DHRM				*e*S	Sn	13 43 55.0	-16
SMLA	**Simla**	**14.12**	**61**	*e*P	Pn	13 41 35.2	-4.6
SMLA				IAmb	IAmb	13 41 37.0	
	comp=Z,9.2nm,0.6s						
SMLA				*e*S	Sn	13 43 59.4	-16
RAYN	**Ar Rayn**	**15.79**	**268**	Pn	**Pn**	**13 42 01.4**	**-0.8**
RAYN				IAmb	IAmb	13 42 10.7	
	comp=Z,14nm,1.6s						
JOSI	**Joshimath**	**15.87**	**66**	*e*P	**Pn**	**13 42 01.5**	**-1.9**
JOSI				IAmb	IAmb	13 42 01.8	
	comp=Z,28nm,1.0s						
JOSI				*e*S	Sn	13 44 39.5	-19
KK31	**Karatay Array**	**19.16**	**18**	P	**P**	**13 42 41.7**	**-1.0**
KKAR	**Karatay Array**	**19.16**	**18**	P	**P**	**13 42 42.0**	**-0.7**
KKAR	**Karatay Array**	**19.16**	**18**	P	**P**	**13 42 41.8**	**-1.0**
KKAR				IAmb	IAmb	13 42 44.7	
	comp=Z,3.0nm,0.8s						
NRN	**Naryn**	**19.75**	**31**	P	**P**	**13 42 48.4**	**-1.1**
AAK	**Ala-Archa**	**20.09**	**26**	P	**P**	**13 42 54.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=175,slow=3.3,SNR=10						
AAK	**Ala-Archa**	**20.09**	**26**		Pn	13 42 54.5	-0.5
AAK				IAmb	IAmb	13 42 55.8	
	comp=Z,18nm,1.7s						
BOOM	**Boomskoye usch**	**20.57**	**29**	P	**P**	**13 42 57.2**	**-1.0**
BOOM				IAmb	IAmb	13 43 08.3	
	comp=Z,14nm,1.2s						
KDJ	**Kajisay**	**20.85**	**31**	P	**P**	**13 43 00.9**	**-0.4**
KDJ				IAmb	IAmb	13 43 10.2	
	comp=Z,4.9nm,0.8s						
GNI	**Garni**	**21.35**	**319**	LR	LR	13 53 03.3	
	comp=Z,50nm,18.0s,baz=127,slow=42						
ABKAR	**Akbulak array**	**24.32**	**356**	P	**P**	**13 43 37.3**	**+0.8**
ABKAR				IAmb	IAmb	13 43 56.4	
	comp=Z,8.4nm,0.9s						
ABKAR	**Akbulak array**	**24.32**	**356**	P	**P**	**13 43 37.0**	**+0.5**
PALK	**Pallekele**	**24.60**	**133**	LR	LR	13 52 30.7	
	comp=Z,45nm,19.3s,baz=297,slow=34						
KBZ	**Khabaz**	**24.74**	**324**	P	**P**	**13 43 42.7**	**+2.2**
	comp=Z,4.5nm,0.9s,baz=126,slow=7.8,SNR=6.9						
EIL	**Elat**	**25.10**	**287**	LR	LR	13 56 14.9	
	comp=Z,53nm,18.8s,baz=100,slow=43						
LSA	**Lhasa**	**25.63**	**73**	P	**P**	**13 43 50.5**	**+1.3**
LSA				IAmb	IAmb	13 43 57.0	
	comp=Z,20nm,1.7s						
AKTO	**Aktyubinsk**	**25.66**	**353**	P	**P**	**13 43 49.1**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=156,slow=13,SNR=18						
AKTO				LR	LR	13 56 00.7	
	comp=Z,77nm,18.5s,baz=189,slow=42						
MK31	**Makanchi Array**	**26.77**	**31**	P	**P**	**13 43 58.8**	**-0.1**
MK31				IAmb	IAmb	13 44 40.3	
	comp=Z,6.6nm,1.4s						
MKAR	**Makanchi Array**	**26.77**	**31**	P	**P**	**13 43 58.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=211,slow=9.9,SNR=6.9						
MKAR	**Makanchi Array**	**26.77**	**31**	P	**P**	**13 43 58.4**	**-0.5**
KURBB	**Kurchatov Arra**	**28.34**	**21**	P	**P**	**13 44 12.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=217,slow=8.2,SNR=4.0						
BVAR	**Borovoye Array**	**28.58**	**10**	P	**P**	**13 44 16.0**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=218,slow=8.5,SNR=3.7						
H08N2	**Diego Garcia H**	**32.15**	**164**	T	T	14 18 17.7	
	baz=346,slow=75,SNR=120						
H08N3	**Diego Garcia H**	**32.17**	**164**	T	T	14 18 21.6	
	baz=346,slow=75,SNR=150						
H08N1	**Diego Carcia H**	**32.17**	**164**	T	T	14 18 21.8	
	baz=346,slow=75,SNR=133						
ZALV	**Zalesovo Beam**	**33.28**	**24**	P	**P**	**13 44 56.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=221,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**33.28**	**24**	P	**P**	**13 44 53.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**34.18**	**94**	LR	LR	14 02 55.3	
	comp=Z,20nm,19.0s,baz=280,slow=43						
AKASG	**Malin Array Be**	**36.35**	**324**	P	**P**	**13 45 23.6**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=124,slow=8.4,SNR=6.0						
AKASG	**Malin Array Be**	**36.35**	**324**	P	**P**	**13 45 23.7**	**+0.8**
AKBB	**Malin Array Si**	**36.35**	**324**	P	**P**	**13 45 23.4**	**+0.5**
AKBB				IAmb	IAmb	13 45 32.9	
	comp=Z,9.5nm,1.1s						
BURAR	**Bucovina Array**	**37.22**	**317**	P	**P**	**13 45 31.2**	**+0.7**
SLVN	**Son La**	**37.92**	**87**	P	**P**	**13 45 38.6**	**+2.0**
KLMR	**Klimovskoe**	**39.23**	**342**	*e*	P	13 45 54.4	+7.4
KLMR				AMP		13 45 56.1	
	comp=Z,9.0nm,0.8s						
GSI	**Gunungsitoli**	**41.05**	**120**	P	**P**	**13 46 02.7**	**0.0**
SONM	**Songino Array**	**41.16**	**45**	P	**P**	**13 46 04.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=260,slow=8.9,SNR=4.2						
SONM				LR	LR	14 06 43.0	
	comp=Z,44nm,19.0s,baz=230,slow=42						
SONM	**Songino Array**	**41.16**	**45**	P	**P**	**13 46 04.1**	**+0.7**
FINES	**FINESS Array B**	**44.09**	**336**	P	**P**	**13 46 27.0**	**+0.2**
	comp=Z,7.6nm,1.0s,baz=170,slow=12,SNR=4.0						
GERES	**GERESS Array B**	**44.90**	**315**	P	**P**	**13 46 34.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=106,slow=7.1,SNR=5.8						
GERES	**GERESS Array B**	**44.90**	**315**	P	**P**	**13 46 34.1**	**+0.5**
CASP	**Castiglione de**	**45.83**	**306**	P	**P**	**13 46 39.3**	**-1.7**
SBUM	**Sibu**	**52.63**	**107**	P	**P**	**13 47 32.9**	**-0.4**
SBUM				IAmb	IAmb	13 48 42.9	
	comp=Z,6.9nm,1.8s						
TORD	**Torodi Ar. Bea**	**58.48**	**270**	P	**P**	**13 48 16.8**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=50,slow=6.4,SNR=4.9						
WRA	**Warramunga Arr**	**82.70**	**116**	P	P	13 50 48.0	+5.1
	comp=Z,0.4nm,0.9s,baz=310,slow=4.7,SNR=2.8						
WRA	**Warramunga Arr**	**82.70**	**116**	P	**P**	**13 50 43.3**	**+0.4**
ILAR	**Eielson Array**	**87.61**	**12**	P	**P**	**13 51 06.4**	**-0.3**
	comp=Z,0.9nm,1.2s,baz=283,slow=4.5,SNR=2.9						

*ISCJB **10** 13:47:54.5±0.5, 26°.98N±0°.07×126°.94E±0°.07, h120km±6km, mb3.7/9, Error ellipse: s-maj=13.5km s-min=6.9km az=136.4*
*IDC **10** 13:47:54.6±1.8, 26°.96N×126°.85E, h104km±20km, mb3.5/9, mb1 3.5/10, mb1mx3.3/44, mbtmp3.8/10, MS3.5/2, Ms1 3.5/2, ms1mx2.6/24, Error ellipse: s-maj=32.6km s-min=14.3km az=67.0*
*JMA **10** 13:47:56.0±0.3, 27°.01N×126°.92E, h108km±3km, M3.1*
ISC 10 13:47:55.4±0.8,**27°.00N**±0°.08×**126°.91E**±0°.08,**h113**km±9km, **n24**,σ0°.74/31,**mb3.6**/9,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.50**	**144**	P	**Pn**	**13 48 12.8**	**+0.3**
JAGN				S	**Sn**	**13 48 25.5**	**+0.1**
JKE	**Kume jima 2**	**0.68**	**190**	P	**Pn**	**13 48 13.9**	**+0.1**
JIH	**Iheya**	**0.94**	**88**	P	**Pn**	**13 48 16.6**	**+0.4**
JIH				S	**Sn**	**13 48 31.8**	**-0.1**
JNTH	**Nagotoyohara**	**1.10**	**115**	P	**Pn**	**13 48 18.3**	**+0.5**
JNTH				S	**Sn**	**13 48 34.4**	**-0.4**
JJT3	**Tamagusuku3**	**1.16**	**137**	P	**Pn**	**13 48 19.4**	**+1.0**
JJT3				S	**Sn**	**13 48 36.7**	**+0.8**
JOW	**Kunigami**	**1.23**	**97**	P	**Pn**	**13 48 19.4**	**+0.2**
JOW				S	**Sn**	**13 48 36.1**	**-1.2**
JOW	**Kunigami**	**1.23**	**97**	P	**Pn**	**13 48 19.6**	**+0.4**
	10nm,0.3s,baz=142,slow=13,SNR=218						
JOW				S	**Sn**	**13 48 36.4**	**-0.9**
	51nm,0.3s,baz=87,slow=20,SNR=43						
JYRO	**Yoronjima**	**1.37**	**89**	P	**Pn**	**13 48 21.0**	**+0.2**
JYRO				S	**Sn**	**13 48 38.7**	**-1.5**
JOKE	**Okinoerabujima**	**1.52**	**76**	P	**Pn**	**13 48 22.8**	**+0.2**
JOKE				S	**Sn**	**13 48 42.5**	**-0.8**
JTK	**Tokunoshima**	**1.98**	**66**	S	**Sn**	**13 48 52.5**	**-0.7**
JAMN	**Amaminishikomi**	**2.36**	**58**	P	**Pn**	**13 48 33.7**	**+0.6**
JIKM	**Ikemajima**	**2.55**	**216**	P	**Pn**	**13 48 36.1**	**+0.5**
JIKM				S	**Sn**	**13 49 05.9**	**-0.5**
JNU	**Nakatsue**	**7.00**	**28**	P	**Pn**	**13 49 37.1**	**+1.8**
	0.2nm,0.3s,baz=209,slow=13,SNR=1.5						
JHJ	**Hachijo jima 2**	**12.70**	**58**	LR	LR	13 55 11.8	
	comp=Z,491nm,21.0s,baz=115,slow=34						
SONM	**Songino Array**	**26.27**	**328**	P	P	**13 53 20.7**	**+0.5**
	1.1nm,0.3s,baz=145,slow=11,SNR=13						
TLY	**Talaya**	**30.27**	**331**	LR	LR	14 06 10.7	
	comp=Z,41nm,19.4s,baz=245,slow=36						
MKAR	**Makanchi Array**	**40.

comp=Z,47nm,1.6s
NIUE Niue 20.72 101 P **P 14 27 28.3 +1.7**
ARMA Armidale 21.03 224 P **P 14 27 31.1 +1.3**
ARMA IAmb IAmb 14 27 57.5
comp=Z,103nm,1.9s
CTA Charters Tower 21.55 256 P **P 14 27 35.2 +0.7**
comp=Z,3.8nm,0.6s,baz=95,slow=10,SNR=7.9
CTAO Charters Tower 21.55 256 P **P 14 27 35.0 +0.5**
CTAO IAmb IAmb 14 27 38.7
comp=Z,46nm,1.9s
PMG Port Moresby 21.90 285 P **P 14 27 38.0 +0.4**
HIZ Hauiti 22.98 167 P **P 14 27 48.3 +1.1**
HIZ IAmb IAmb 14 27 53.5
comp=Z,99nm,1.4s
MXZ Matakaoa Point 23.03 160 P **P 14 27 47.7 +0.1**
MXZ IAmb IAmb 14 28 35.7
comp=Z,59nm,1.1s
URZ Urewera 23.30 163 P **P 14 27 49.9 -0.2**
comp=Z,5.1nm,0.3s,baz=271,slow=2.6,SNR=25
URZ Urewera 23.30 163 P **P 14 27 49.8 -0.3**
URZ IAmb IAmb 14 28 35.0
comp=Z,28nm,1.3s
BFZ Birch Farm 25.36 166 P **P 14 28 07.5 -1.2**
TUWZ Tuamarina 25.64 171 P **P 14 28 10.6 -0.5**
SNZO South Karori 25.65 169 P **P 14 28 10.5 -0.8**
SNZO IAmb IAmb 14 28 43.5
comp=Z,90nm,1.3s
BHW Baring Head 25.78 169 P **P 14 28 11.6 -0.8**
THZ Tophouse 25.82 173 P **P 14 28 12.5 -0.3**
THZ IAmb IAmb 14 28 54.3
comp=Z,73nm,1.6s
MSWZ Moikau Station 25.86 168 P **P 14 28 11.7 -1.4**
PLWZ Palliser 26.01 168 P **P 14 28 13.3 -1.1**
KHZ Kahutara 26.55 172 P **P 14 28 18.5 -0.7**
LTZ Lake Taylor 26.76 174 P **P 14 28 20.7 -0.4**
LTZ IAmb IAmb 14 28 30.1
comp=Z,105nm,1.7s
MQZ McQueen's Vall 27.71 174 P **P 14 28 28.4 -1.1**
LBZ Lake Benmore 28.20 178 P **P 14 28 32.8 -1.1**
LBZ IAmb IAmb 14 29 04.8
comp=Z,138nm,2.0s
STKA Stephens Creek 29.08 233 P **P 14 28 42.4 +0.6**
comp=Z,1.4nm,0.4s,baz=63,slow=10,SNR=8.6
STKA Stephens Creek 29.08 233 P **P 14 28 42.4 +0.6**
MLZ Mavora Lakes 29.15 181 P **P 14 28 43.1 +0.8**
WB2 Warramunga Arr 32.71 258 P **P 14 29 12.6 -1.0**
WRA Warramunga Arr 32.72 258 P **P 14 29 12.2 -1.5**
comp=Z,0.2nm,0.4s,baz=83,slow=7.7,SNR=8.7
WRA Warramunga Arr 32.72 258 P **P 14 29 12.3 -1.5**
AS31 Alice Springs 33.37 251 P **P 14 29 18.4 -0.9**
ASAR Alice Springs 33.37 251 P **P 14 29 18.6 -0.8**
comp=Z,3.9nm,0.7s,baz=76,slow=9.3,SNR=58
ASAR PcP **PcP 14 31 53.2 -0.2**
comp=Z,0.3nm,0.7s,baz=73,slow=3.2,SNR=3.3
ASAR Alice Springs 33.37 251 P **P 14 29 18.2 -1.2**
ASAR **PcP 14 31 53.4 -0.1**
BBOO Buckleboo 33.74 235 P **P 14 29 21.9 -0.5**
BBOO IAmb IAmb 14 29 25.6
comp=Z,68nm,1.9s
KNRA Kununurra 38.23 265 P **P 14 29 59.4 -1.0**
KNRA IAmb IAmb 14 31 13.4
comp=Z,21nm,1.4s
ANA2 Anatahan 39.35 324 P **P 14 30 09.9 +0.3**
FITZ Fitzroy Crossi 41.00 261 P **P 14 30 23.3 +0.3**
SBA Scott Base 61.75 180 P **P 14 32 56.3 +1.2**
PETK Petropavlovsk- 69.58 353 P **P 14 33 44.8 -0.3**
comp=Z,7.0nm,1.1s,baz=123,slow=5.3,SNR=3.4
CMAR Chiang Mai Arr 76.65 294 P **P 14 34 27.9 +1.0**
comp=Z,0.7nm,0.7s,baz=127,slow=5.1,SNR=6.7
MAW Mawson 81.06 202 P **P 14 34 49.7 -0.2**
comp=Z,1.3nm,0.6s,baz=90,slow=4.0,SNR=3.6
MAW Mawson 81.06 202 IAmb IAmb 14 37 21.8
comp=Z,12nm,1.9s
SONM Songino Array 84.35 323 P **P 14 35 07.9 +0.7**
comp=Z,0.7nm,0.8s,baz=123,slow=5.3,SNR=3.8
NVAR Mina Array Bea 87.25 49 P **P 14 35 21.6 -0.1**
comp=Z,0.5nm,0.7s,baz=224,slow=7.8,SNR=5.1
SYO Syowa Base 87.72 196⇑*eX* P 14 35 27.8 +4.7
TXAR Lajitas Array 95.86 61 P **P 14 36 01.5 -0.1**
comp=Z,0.1nm,0.4s,baz=280,slow=5.3,SNR=2.9
ARCES ARCESS Array B 121.91 346 PKP **PKPdf 14 41 24.9 -1.6**
comp=Z,4.8nm,1.0s,baz=151,slow=1.2,SNR=5.7
DAVOX Davos/Dischmat 144.67 334 PKP **PKPdf 14 42 09.4 -0.3**
comp=Z,5.6nm,0.6s,baz=207,slow=2.3,SNR=7.4

*TIR **10** 14:50:37.5, 40.°94N×21.°49E, h7km, Md3.2/6*
*BEO **10** 14:50:40.9±0.7, 40.°84N×21.°21E, h3km±3km, ML2.9/9*
*ATH **10** 14:50:41.7, 40.°93N×21.°17E, h19km±1km, ML3.0/13, Error ellipse: s-maj=2.1km s-min=1.2km az=144.0*
*SKO **10** 14:50:41.5, 40.°94N×21.°15E, h20km, M2.7, ML3.0*
*THE **10** 14:50:41.9, 40.°95N×21.°14E, h2km±1km, ML3.1/11, Error ellipse: s-maj=1.4km s-min=0.8km az=123.0*
*PDG **10** 14:50:42.0±0.3, 40.°96N×21.°12E, h1km, ML3.1/8, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
ISC 10 14:50:42.5±0.8, **40.°94N**±0.°01×**21.°17E**±0.°02, **h12**km±6km, **n135**, σ1°28/191, **20C-5D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.22**	**135**	P	**Pg**	**14 50 47.3**	**0.0**
FNA				S	**Sg**	**14 50 51.1**	**+0.5**
21μm,0.3s							
FNA	**Florina**	**0.22**	**135**	*i* Pg	**Pg**	**14 50 47.3**	**0.0**
FNA				*i* Sg	**Sg**	**14 50 51.2**	**+0.5**
FNA	**Florina**	**0.22**	**135**	P	**Pg**	**14 50 47.2**	**-0.1**
FNA				S	**Sg**	**14 50 51.1**	**+0.5**
FNA				AML	AML	14 50 51.3	
comp=N,38573μm,0.4s							
FNA				AML	AML	14 50 52.2	
comp=E,44853μm,0.3s							
OHR	**Ohrid**	**0.33**	**301**	⇑*i* Pg	**Pg**	**14 50 48.6**	**-0.6**
OHR				*i* Sg	**Sg**	**14 50 54.1**	**+0.4**
OHR				*e*Lg	Lg	14 50 54.2	
comp=N,3μm,0.5s							
OHR				*e*Lg	Lg	14 50 54.5	
comp=E,3μm,0.3s							
NEST	**Nestorio**	**0.54**	**190**	P	**Pg**	**14 50 51.5**	**-1.5**
NEST				S	**Sg**	**14 50 59.6**	**-0.6**
comp=E,3μm,0.4s							
NEST	**Nestorio**	**0.54**	**190**	P	**Pg**	**14 50 51.6**	**-1.5**
NEST				S	**Sg**	**14 50 59.7**	**-0.5**
NEST				AML	AML	14 51 01.7	
comp=N,6032μm,0.3s							
NEST				AML	AML	14 51 03.0	
comp=E,5873μm,0.3s							
PENT	**Pentalofos**	**0.75**	**182**	P	**Pg**	**14 50 55.5**	**-1.5**
PENT				S	**Sb**	**14 51 07.5**	**-0.2**
comp=E,1μm,0.6s							
PENT	**Pentalofos**	**0.75**	**182**	P	**Pg**	**14 50 55.6**	**-1.4**
PENT				S	**Sb**	**14 51 06.9**	**-0.8**
PENT				AML	AML	14 51 08.8	
comp=E,2836μm,0.6s							
PENT				AML	AML	14 51 10.6	
comp=N,2495μm,0.6s							
KZN	**Kozani**	**0.78**	**144**	P	**Pg**	**14 50 56.5**	**-1.2**
KZN				S	**Sb**	**14 51 09.3**	**+0.6**
comp=N,2μm,0.5s							
KZN	**Kozani**	**0.78**	**144**	P	**Pg**	**14 50 56.5**	**-1.2**
KZN				S	**Sb**	**14 51 07.8**	**-0.9**
KZN				AML	AML	14 51 09.7	
comp=N,2386μm,0.5s							
KZN				AML	AML	14 51 13.3	
comp=E,4254μm,0.4s							
KTI	**Kastanea**	**0.91**	**127**	P	**Pb**	**14 50 59.6**	**-0.6**
PHP	**Peshkopia**	**0.92**	**324**	P	**Pg**	**14 50 58.4**	**-1.9**
PHP	**Peshkopia**	**0.92**	**324**	*i* PN	**Pg**	**14 50 58.6**	**-1.8**
PHP				*i* SN	**Sn**	**14 51 15.3**	**+0.7**
GRG	**Griva**	**0.93**	**89**	P	**Pb**	**14 51 00.1**	**-0.5**
GRG				S	**Sb**	**14 51 13.2**	**+0.2**
comp=E,500nm,0.5s							
GRG	**Griva**	**0.93**	**89**	*i* Pg	**Pb**	**14 51 00.1**	**-0.5**
GRG				*i* Sg	**Sn**	**14 51 14.8**	**0.0**
GRG	**Griva**	**0.93**	**89**	P	**Pb**	**14 51 00.1**	**-0.5**
GRG				S	**Sb**	**14 51 12.7**	**-0.3**
GRG				AML	AML	14 51 19.4	
comp=E,801μm,0.5s							
GRG				AML	AML	14 51 23.2	
comp=N,1184μm,0.5s							
KPRO	**Kipourio**	**1.00**	**171**	P	**Pg**	**14 51 01.0**	**-0.8**
KPRO				S	**Sn**	**14 51 17.6**	**+1.2**
comp=N,2μm,0.4s							
KPRO	**Kipourio**	**1.00**	**171**	P	**Pg**	**14 50 59.7**	**-2.1**
KPRO				S	**Sb**	**14 51 14.6**	**-0.3**
KPRO				AML	AML	14 51 19.4	
comp=E,2982μm,0.5s							
KPRO				AML	AML	14 51 21.1	
comp=N,3044μm,0.4s							
SKO	**Skopje**	**1.05**	**11**	*e*Pg	**Pg**	**14 51 02.1**	**-0.6**
SKO				*e*Sg	**Sn**	**14 51 17.5**	**-0.1**
SKO	**Skopje**	**1.05**	**11**	*i* Pg	**Pb**	**14 51 02.2**	**-0.4**
TIR	**Tirane**	**1.06**	**293**	*e*Pg	**Pg**	**14 51 01.6**	**-1.4**
TIR				*e*Sg	**Sb**	**14 51 17.7**	**+0.9**
TIR	**Tirane**	**1.06**	**293**	P	**Pg**	**14 51 02.0**	**-1.0**
TIR	**Tirane**	**1.06**	**293**	*i* Pg	**Pg**	**14 51 02.2**	**-0.9**
TIR	**Tirane**	**1.06**	**293**	*i* PN	**Pg**	**14 51 02.7**	**-0.3**
TIR				*i* SN	**Sn**	**14 51 21.4**	**+3.5**
TIR	**Tirane**	**1.06**	**293**	P	**Pg**	**14 51 01.4**	**-1.6**
TIR	**Tirane**	**1.06**	**293**	⇓S	**Sn**	**14 51 19.4**	**+1.5**
TPE	**Tepelena**	**1.09**	**234**	*i* PN	**Pg**	**14 51 02.5**	**-1.1**
TPE				*i* SN	**Sn**	**14 51 22.3**	**+3.6**
VAY	**Valandovo**	**1.12**	**70**	*e*Pg	**Pg**	**14 51 02.2**	**-1.9**
VAY	**Valandovo**	**1.12**	**70**	*i* Pg	**Pn**	**14 51 04.1**	**+0.1**
VAY				*i* Sg	**Sn**	**14 51 20.5**	**+1.1**
VAY				*e*Lg	Lg	14 51 22.2	
comp=N,218nm,0.8s							
VAY				*e*Lg	Lg	14 51 23.5	
comp=E,216nm,0.6s							
JAN	**Janina**	**1.31**	**191**	P	**Pn**	**14 51 05.8**	**-0.8**
JAN				S	**Sn**	**14 51 26.2**	**+2.2**
comp=E,732nm,0.4s							
JAN	**Janina**	**1.31**	**191**	P	**Pn**	**14 51 05.8**	**-0.8**
JAN				S	**Sn**	**14 51 25.0**	**+1.0**
JAN				AML	AML	14 51 30.2	
comp=E,1476μm,0.4s							
JAN				AML	AML	14 51 30.8	
comp=N,1464μm,0.5s							
LIT	**Litokhoron**	**1.31**	**129**	P	**Pb**	**14 51 06.7**	**-0.4**
LIT				S	**Sn**	**14 51 25.6**	**+1.5**
comp=N,612nm,0.6s							
LIT	**Litokhoron**	**1.31**	**129**	*i* Pg	**Pb**	**14 51 06.7**	**-0.4**
LIT				*i* Sg	**Sn**	**14 51 27.6**	**+3.5**
LIT	**Litokhoron**	**1.31**	**129**	P	**Pb**	**14 51 06.8**	**-0.4**
LIT				AML	AML	14 51 28.3	
comp=E,1000μm,12.0s							
LIT				AML	AML	14 51 31.7	
comp=N,1523μm,0.7s							
KNT	**Kendrikon**	**1.32**	**80**	P	**Pb**	**14 51 07.2**	**-0.2**
KNT				S	**Sn**	**14 51 26.0**	**+1.6**
comp=N,162nm,0.8s							
KNT	**Kendrikon**	**1.32**	**80**	*i* Pg	**Pb**	**14 51 07.0**	**-0.3**
KNT	**Kendrikon**	**1.32**	**80**	P	**Pb**	**14 51 07.1**	**-0.2**
KNT				S	**Sn**	**14 51 25.0**	**+0.6**
KNT				AML	AML	14 51 30.6	
comp=N,394μm,0.9s							
KNT				AML	AML	14 51 35.0	
comp=E,265μm,0.7s							
SRN	**Sarande**	**1.39**	**220**	P	**Pn**	**14 51 07.4**	**-0.3**
SRN				S	**Sn**	**14 51 26.9**	**+1.0**
comp=E,455nm,0.6s							
SRN	**Sarande**	**1.39**	**220**	*i* PN	**Pn**	**14 51 07.7**	**0.0**
SRN				*i* SN	**Sn**	**14 51 29.6**	**+3.7**
PUK	**Puka**	**1.46**	**319**	*i* PN	**Pn**	**14 51 08.7**	**0.0**
PUK				*i* SN	**Sg**	**14 51 31.9**	**+2.3**
HORT	**Hortiatis**	**1.51**	**103**	P	**Pn**	**14 51 09.1**	**-0.3**
HORT				S	**Sg**	**14 51 30.5**	**-0.6**
HORT				AML	AML	14 51 36.3	
comp=E,120μm,0.5s							
HORT				AML	AML	14 51 38.3	
comp=N,359μm,0.6s							
THL	**Klokotos Trika**	**1.52**	**155**	P	**Pn**	**14 51 09.1**	**-0.4**
THL	**Klokotos Trika**	**1.52**	**155**	P	**Pn**	**14 51 08.7**	**-0.8**
THL				S	**Sb**	**14 51 30.0**	**+0.1**
THL				AML	AML	14 51 35.5	
comp=E,596μm,0.4s							
THL				AML	AML	14 51 38.7	
comp=N,869μm,0.6s							
IGT	**Igoumenitsa**	**1.55**	**205**	P	**Pb**	**14 51 10.7**	**-0.4**
IGT				S	**Sg**	**14 51 32.3**	**0.0**
comp=N,492nm,0.7s							
IGT	**Igoumenitsa**	**1.55**	**205**	P	**Pg**	**14 51 11.3**	**-1.0**
IGT				AML	AML	14 51 35.1	
comp=N,1103μm,0.5s							
IGT				AML	AML	14 51 37.2	
comp=E,873μm,1.0s							
KEK	**Kerkira**	**1.61**	**221**	P	**Pb**	**14 51 11.7**	**-0.6**
BCI	**Bajram Curri**	**1.65**	**330**	*i* PN	**Pn**	**14 51 11.6**	**+0.3**
BCI				*i* SN	**Sg**	**14 51 35.8**	**+0.3**
ULC	**Ulcinj**	**1.77**	**306**	⇑*i*Pn	**Pn**	**14 51 13.9**	**+0.9**
ULC				*e*Sn	**Sg**	**14 51 39.5**	**0.0**
PLG	**Polygyros**	**1.82**	**107**	P	**Pn**	**14 51 14.1**	**+0.4**
PLG				AML	AML	14 51 45.1	
comp=N,259μm,0.7s							
PLG				AML	AML	14 51 46.7	
comp=E,175μm,0.6s							
BOSS	**Bosilegrad**	**1.83**	**32**	*e*Pn	**Pn**	**14 51 14.6**	**+0.7**
BOSS				*e*Sn	**Sb**	**14 51 39.8**	**+0.8**
PVY	**Plav**	**1.88**	**332**	⇑*i*Pn	**Pn**	**14 51 15.9**	**+1.3**
PVY				*e*Sn	**Sg**	**14 51 42.5**	**-0.6**
BARS	**Barje**	**1.93**	**14**	*e*Pn	**Pn**	**14 51 16.0**	**+0.8**
BARS	**Barje**	**1.93**	**14**	*e*Pn	Pg	14 51 32.1	+12
DRME	**Dracevica, Mon**	**1.94**	**310**	*e*Pn	**Pb**	**14 51 17.5**	**-0.3**
DRME	**Dracevica, Mon**	**1.94**	**310**	⇓*i*Pn	**Pb**	**14 51 17.0**	**-0.8**
DRME				*e*Sn	**Sg**	**14 51 44.0**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.06**	**159**	P	**Pn**	**14 51 17.3**	**+0.3**
PDG	**Podgorica**	**2.06**	**317**	*e*Pn	**Pb**	**14 51 18.7**	**-1.2**
PDG				*e*Sn	**Sb**	**14 51 45.5**	**0.0**
PDG	**Podgorica**	**2.06**	**317**	*e*Pn	**Pb**	**14 51 18.8**	**-1.2**
PDG	**Podgorica**	**2.06**	**317**	⇑P	**Pn**	**14 51 18.5**	**+1.5**
PDG				⇑S	**Sg**	**14 51 48.0**	**-0.9**
TTG	**Podgorica**	**2.06**	**317**	⇑*i*Pn	**Pb**	**14 51 18.9**	**-1.0**
TTG				*e*Sn	**Sb**	**14 51 46.7**	**+1.2**
EVR	**Evrytania**	**2.08**	**166**	P	**Pn**	**14 51 18.0**	**+0.6**
AGG	**Agios Georgios**	**2.12**	**155**	P	**Pn**	**14 51 17.8**	**+0.1**
IVA	**Berane**	**2.15**	**334**	⇑*i*Pn	**Pn**	**14 51 19.6**	**+1.3**
IVA				*e*Sn	**Sb**	**14 51 49.0**	**+0.9**
TSLK	**Tsoukalades, L**	**2.15**	**191**	P	**Pn**	**14 51 19.4**	**+1.2**
PAIG	**Paliouri**	**2.17**	**117**	P	**Pn**	**14 51 18.2**	**-0.2**
BUM	**Brajici-Budva**	**2.18**	**309**	⇓*i*Pn	**Pn**	**14 51 20.2**	**+1.5**
BUM				*e*Sn	**Sb**	**14 51 49.6**	**+0.7**
XOR	**Xorichti**	**2.21**	**135**	P	**Pn**	**14 51 19.0**	**0.0**
XOR	**Xorichti**	**2.21**	**135**	P	**Pn**	**14 51 19.0**	**0.0**
KOME	**Kolasin**	**2.27**	**328**	⇓*i*Pn	**Pn**	**14 51 21.2**	**+1.3**
KOME				*e*Sn	**Sb**	**14 51 52.1**	**+0.5**
SELS	**Selova**	**2.27**	**359**	*e*Pn	**Pn**	**14 51 19.8**	**-0.1**
VTS	**Vitosha**	**2.28**	**42**	*e*Pn	**Pn**	**14 51 19.6**	**-0.5**
VTS	**Vitosha**	**2.28**	**42**	⇑P	**Pn**	**14 51 21.6**	**+1.5**
VTS				⇑S	**Sb**	**14 51 51.8**	**0.0**
CEME	**Cevo**	**2.33**	**314**	⇑*i*Pn	**Pn**	**14 51 22.1**	**+1.5**
CEME				*e*Sn	**Sb**	**14 51 53.0**	**-0.1**
PVO	**Paravola**	**2.34**	**173**	P	**Pb**	**14 51 22.7**	**-1.9**
PDO	**Prodromos**	**2.34**	**180**	P	**Pn**	**14 51 22.4**	**+1.6**
EVGI	**Lefkada island**	**2.35**	**190**	P	**Pn**	**14 51 22.1**	**+1.1**
NKME	**Niksic**	**2.46**	**318**	⇑*i*Pn	**Pn**	**14 51 24.2**	**+1.7**
NKME				*e*Sn	**Sb**	**14 51 56.3**	**-0.7**
NKY	**Niksic**	**2.48**	**320**	⇑*i*Pn	**Pn**	**14 51 24.1**	**+1.3**
NKY				*e*Sn	**Sb**	**14 51 57.0**	**-0.5**
SJES	**Sjenica**	**2.48**	**339**	*e*Pn	**Pn**	**14 51 23.8**	**+1.0**
HCY	**Herceg Novi**	**2.50**	**308**	*e*Pn	**Pn**	**14 51 23.7**	**+0.6**
HCY	**Herceg Novi**	**2.50**	**308**	⇑*i*Pn	**Pn**	**14 51 24.0**	**+0.9**
HCY				*e*Sn	**Sb**	**14 51 57.6**	**-0.6**
FSK	**Fiskardo**	**2.52**	**191**	P	**Pn**	**14 51 23.9**	**+0.6**
EFP	**Efpalio**	**2.58**	**167**	P	**Pn**	**14 51 25.1**	**+1.1**
SERG	**Sergoula**	**2.62**	**165**	P	**Pn**	**14 51 25.3**	**+0.7**
KALE	**Kalithea**	**2.66**	**163**	P	**Pn**	**14 51 25.3**	**+0.1**
BOVS	**Bovan**	**2.72**	**8**	*e*Pn	**Pn**	**14 51 26.3**	**+0.3**
DSF	**Desfina**	**2.74**	**157**	P	**Pn**	**14 51 27.7**	**+1.4**
IVAS	**Ivanjica**	**2.74**	**344**	*e*Pn	**Pn**	**14 51 26.3**	**0.0**
TREB	**Trebinje**	**2.75**	**311**	*e*Pn	**Pn**	**14 51 27.8**	**+1.3**
TREB	**Trebinje**	**2.75**	**311**	*e*Pn	**Pb**	**14 51 31.5**	**-0.2**
LAKA	**Lakka**	**2.77**	**167**	P	**Pn**	**14 51 28.5**	**+1.7**
BRY	**Bratogost**	**2.77**	**316**	*e*Pn	**Pn**	**14 51 27.5**	**+0.6**
BRY	**Bratogost**	**2.77**	**316**	⇑*i*Pn	**Pn**	**14 51 28.4**	**+1.5**
BRY				*e*Sn	**Sn**	**14 52 03.8**	**+3.5**
DBRK	**Dubrovnik**	**2.84**	**308**	*i* Pn	**Pn**	**14 51 28.6**	**+0.9**
BLKB	**Belogradchik**	**2.90**	**22**	⇑S	**Sn**	**14 52 04.2**	**+0.9**
GRUS	**Gruza**	**2.96**	**354**	*e*Pn	**Pn**	**14 51 30.2**	**+0.9**
ZAGS	**Zajecar**	**2.97**	**15**	*e*Pn	**Pn**	**14 51 29.5**	**0.0**
RUDO	**Rudo**	**2.99**	**334**	*e*Pn	**Pn**	**14 51 32.4**	**+2.7**
KLV	**Kalavryta, Ach**	**2.99**	**165**	P	**Pn**	**14 51 30.4**	**+0.5**
BBLS	**Lazići**	**3.20**	**336**	*e*Pn	**Pn**	**14 51 32.4**	**-0.3**
BBLS	**Lazići**	**3.20**	**336**	*e*Pn	**Pn**	**14 51 32.6**	**-0.1**
STON	**Ston**	**3.23**	**308**	*i* Pn	**Pn**	**14 51 34.7**	**+1.7**
STON				Sn	**Sn**	**14 52 11.4**	**+0.2**
STON	**Ston**	**3.23**	**308**	*e*Pn	**Pn**	**14 51 34.4**	**+1.4**
DIVS	**Divibare**	**3.27**	**345**	*e*Pn	**Pn**	**14 51 33.5**	**-0.2**
DIVS	**Divibare**	**3.27**	**345**	*e*Pn	**Pn**	**14 51 33.5**	**-0.2**
TRUS	**Trudelj**	**3.33**	**350**	*e*Pn	**Pn**	**14 51 34.6**	**+0.2**
MATE	**Matera**	**3.40**	**267**	⇑P	**Pn**	**14 51 37.0**	**+1.7**
HAPS	**Han Pijesak,Bl**	**3.54**	**333**	*e*Pn	**Pn**	**14 51 37.7**	**+0.3**
HAPS	**Han Pijesak,Bl**	**3.54**	**333**	*e*Pn	**Pn**	**14 51 37.2**	**-0.2**
TEKS	**Tekeris**	**3.80**	**342**	*e*Pn	**Pn**	**14 51 41.0**	**+0.1**
MDVR	**Moldovita**	**3.86**	**6**	⇑P	**Pn**	**14 51 42.8**	**+1.1**
MAKA	**Makarska**	**3.88**	**309**	*e*Pn	**Pn**	**14 51 42.4**	**+0.6**
MAKA				Sn	**Sn**	**14 52 26.8**	**-0.5**
HERR	**Herculane**	**4.04**	**13**	⇑P	**Pn**	**14 51 44.9**	**+0.7**
HVAR	**Hvar**	**4.16**	**304**	*e*Pn	**Pn**	**14 51 45.4**	**-0.5**
HVAR				Sn	**Sn**	**14 52 31.9**	**-2.5**
FRGS	**Fruska Gora**	**4.33**	**347**	*e*Pn	**Pn**	**14 51 48.2**	**+0.1**
GZR	**Gura Zlata**	**4.60**	**14**	⇑P	**Pn**	**14 51 53.5**	**+1.6**
BZS	**Buzias**	**4.68**	**4**	*e*Pn	**Pn**	**14 51 52.2**	**-0.8**
BZS	**Buzias**	**4.68**	**4**	⇓P	**Pn**	**14 51 54.3**	**+1.3**
BLY	**Banja Luka**	**4.80**	**324**	*e*Pn	**Pn**	**14 51 58.4**	**+3.8**
ZIRJ	**Zirje**	**4.91**	**305**	*e*Pn	**Pn**	**14 51 56.4**	**+0.3**
ZIRJ				Sn	**Sn**	**14 52 50.7**	**-2.1**
MORI	**Morici**	**4.99**	**308**	*e*Pn	**Pn**	**14 51 58.5**	**+1.3**
MORI				Sn	**Sn**	**14 52 55.8**	**+1.0**
VOIR		**5.31**	**31**	⇑P	**Pn**	**14 52 04.3**	**+2.6**
DUGI	**Dugi Otok**	**5.45**	**306**	*e*Pn	**Pn**	**14 52 03.7**	**+0.2**
DUGI				Sn	**Sn**	**14 53 04.8**	**-1.3**
MORH	**Mrgy, Hungar**	**5.58**	**342**	*e*Pn	**Pn**	**14 52 05.5**	**+0.2**
NVLJ	**Novalja**	**5.88**	**310**	*e*Pn	**Pn**	**14 52 09.5**	**+0.1**
CRES	**Cresnjev**	**6.41**	**321**	*e*Pn	**Pn**	**14 52 17.1**	**+0.3**
CEY	**Cerknica**	**6.86**	**317**	*e*Pn	**Pn**	**14 52 23.5**	**+0.5**
SOKA	**Soboth**	**7.25**	**324**	*e*Pn	**Pn**	**14 52 30.8**	**+2.5**
comp=E,1.5nm,0.4s							
ARSA	**Arzberg**	**7.50**	**329**	*e*Pn	**Pn**	**14 52 35.4**	**+3.7**
comp=E,1.0nm,0.3s							
VYHS	**Vyhne**	**7.73**	**348**	*e*PN	**Pn**	**14 52 37.0**	**+2.2**
VYHS				*e*SN	**Sn**	**14 54 03.5**	**+1.3**
MODS	**Modra-Piesok**	**7.93**	**341**	*e*SN	**Sn**	**14 54 03.2**	**-3.9**
ABTA	**Abfaltersbach**	**8.53**	**316**	Pn	**Pn**	**14 52 46.1**	**+0.3**
comp=E,2.0nm,0.5s							
WATA	**Walderalm**	**9.40**	**316**	Pn	**Pn**	**14 53 00.5**	**+2.7**
comp=E,0.8nm,0.3s							
SQTA	**Sankt Quirin**	**9.52**	**315**	Pn	**Pn**	**14 53 00.4**	**+0.9**
comp=E,1.0nm,0.3s							
MOTA	**Moosalm**	**9.65**	**315**	Pn	**Pn**	**14 53 04.0**	**+2.6**
comp=E,2.1nm,0.6s							

*IDC **10** 15:08:28.4±6.2, 44.°60N×150.°74E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/33, mbtmp3.6/4, ML2.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/31, Error ellipse: s-maj=147.0km s-min=32.0km az=161.0*
*JMA **10** 15:08:38.7±0.5, 45.°30N×150.°52E, h30km, M4.4*
*SKHL **10** 15:08:40.3±0.6, 44.°75N×150.°55E, h33km±2km, mb4.7/5*
ISC 10 15:08:34.8±1.2, **44.°7N**±0.°1×**150.°96E**±0.°09, **h35**km, **n27**, σ2°59/41, **mb3.5/3, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.26**	**285**	*e*P	**Pn**	**15 09 11.0**	**+1.4**
KUR				AMB	AMB	15 09 12.0	
82nm,0.3s							
KUR				AMB	AMB	15 09 12.0	
63nm,0.3s							
KUR				AMB	AMB	15 09 12.0	
117nm,0.3s							
KUR				*e*S	**Sn**	**15 09 34.0**	**-2.2**
KUR				A	A	15 09 36.0	
968nm,0.3s							
KUR				A	A	15 09 36.0	
457nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.72**	**261**	*e*P	**Pn**	**15 09 32.0**	**+2.4**
YUK				AMB	AMB	15 09 34.0	
173nm,0.4s							
YUK				*e*S	**Sn**	**15 10 11.0**	**-1.2**
YUK				A	A	15 10 15.0	
193nm,0.4s							
YUK				A	A	15 10 15.0	
344nm,0.4s							
LAGR	**Lagunnoye**	**3.77**	**262**	*e*P	**Pn**	**15 09 33.0**	**+2.7**
LAGR				AMB	AMB	15 09 33.0	
73nm,0.4s							
LAGR				*e*S	**Sn**	**15 10 12.0**	**-1.4**
LAGR				A	A	15 10 20.0	
325nm,0.4s							
LAGR				A	A	15 10 20.0	
382nm,0.4s							
GRPR	**Tuman**	**3.79**	**261**	*e*P	**Pn**	**15 09 33.0**	**+2.4**
GRPR				AMB	AMB	15 09 34.0	
106nm,0.3s							
GRPR				*e*S	**Sn**	**15 10 13.0**	**-1.0**
GRPR				A	A	15 10 18.0	
476nm,0.3s							
GRPR				A	A	15 10 18.0	
115nm,0.3s							
NEM2	**Nemuro 2**	**4.00**	**252**	P	**Pn**	**15 09 36.2**	**+2.8**
NEM2				*e

ESL				S	Sg	15 35 07.7	-0.2
	baz=18						
ENLB	**Shoufeng**	**0.24**	**46**	*e*P	Pb	15 35 09.0	+1.4
	baz=41						
HGSD	**Ruisui**	**0.24**	**178**	*e*P	Pb	15 35 08.1	+0.4
	baz=184						
HGSD				*e*S	Sg	15 35 13.0	+1.5
	baz=184						
EHY	**Hungye**	**0.25**	**200**	*i* P	Pg	15 35 07.5	-0.2
	baz=199						
EHY				*i* S	Sb	15 35 11.8	+0.3
	baz=199						
VWDT	**VWDT**	**0.25**	**274**	*e*P	Pb	15 35 08.2	+0.4
	baz=268						
VWDT				*e*S	Sb	15 35 12.3	+0.5
	baz=268						
YULB	**Yu-li**	**0.36**	**198**	P	Pg	15 35 09.4	-0.2
	baz=193						
YULB				*e*S	Sb	15 35 15.0	-0.2
	baz=193						
TWD	**Chiawan**	**0.38**	**26**	*e*P	Pb	15 35 10.8	+0.5
	baz=27						
TWD				*e*S	Sb	15 35 15.8	0.0
	baz=27						
CHGB	**Renai**	**0.39**	**325**	P	Pg	15 35 10.4	+0.2
	baz=332						
CHGB				*e*S	Sb	15 35 16.1	-0.2
	baz=332						
TWF1	**Yuli**	**0.40**	**196**	P	Pg	15 35 10.1	-0.1
	baz=198						
TWF1				S	Sg	15 35 16.0	+0.1
	baz=198						
SSLB	**Suanglung**	**0.43**	**277**	*e*P	Pg	15 35 10.7	0.0
	baz=284						
SSLB				*e*S	Sg	15 35 16.3	-0.4
	baz=284						
WHF	**Hehuan Shan**	**0.43**	**341**	*e*P	Pg	15 35 11.1	+0.1
	baz=342						
WHF				*e*S	Sb	15 35 17.5	-0.1
	baz=342						
NACB	**Ninganchiao**	**0.46**	**21**	*e*P	Pg	15 35 10.2	-1.2
	baz=20						
NACB				S	Sg	15 35 17.7	-0.1
	baz=20						
ETLH	**Xiulin Townshi**	**0.47**	**7**	P	Pb	15 35 11.8	0.0
	baz=15						
YUS	**Yu-Shan**	**0.49**	**240**	*e*P	Pb	15 35 12.5	+0.1
	baz=240						
YUS				S	Sb	15 35 19.3	-0.2
	baz=240						
WHYT	**Xinyi Township**	**0.52**	**265**	*e*P	Pb	15 35 12.9	+0.4
	baz=267						
WHYT				*e*S	Sb	15 35 19.9	+0.2
	baz=267						
DPDB	**Guoxing**	**0.54**	**303**	*e*P	Pb	15 35 12.8	0.0
	baz=309						
DPDB				*e*S	Sg	15 35 19.8	-0.2
	baz=309						
FULB	**Fuli**	**0.55**	**192**	*e*P	Pn	15 35 14.4	-0.5
	baz=201						
FULB				*e*S	Sn	15 35 23.0	-0.6
	baz=201						
TDCB	**Techi**	**0.56**	**335**	*e*P	Pb	15 35 13.6	+0.2
	baz=335						
TDCB				*e*S	Sb	15 35 21.6	+0.5
	baz=335						
ELDTW	**Lidau**	**0.66**	**214**	P	Pb	15 35 14.6	-0.4
	baz=206						
ELDTW				S	Sb	15 35 23.3	-0.5
	baz=206						
TPUB	**Ta-pu**	**0.84**	**239**	*e*S	Sn	15 35 31.2	+0.3
	baz=240						
CHN4	**Tsaushan**	**0.85**	**243**	*e*S	Sn	15 35 31.5	+0.6
	baz=233						

TAP 10 15:35:12.6, 24°.36N×121°.45E, h8km±1km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.09**	**318**	P	Pg	15 35 14.8	-0.2
	baz=317						
NNSB				S	Sg	15 35 16.3	-0.4
	baz=317						
NNS	**Nan Shan**	**0.10**	**318**	*i* P	Pg	15 35 14.9	-0.2
	baz=320						
NNS				S	Sg	15 35 16.6	-0.3
	baz=320						
ETLH	**Xiulin Townshi**	**0.16**	**169**	*e*P	Pg	15 35 16.2	+0.2
	baz=168						
ETLH				*e*S	Sg	15 35 18.8	+0.4
	baz=168						
ETLH	**Xiulin Townshi**	**0.16**	**169**	S	Sg	15 35 18.7	+0.4
	baz=15						
NACB	**Ninganchiao**	**0.23**	**145**	*e*P	Pg	15 35 16.8	-0.4
	baz=144						
NDT	**Datong Townshi**	**0.24**	**14**	*e*P	Pg	15 35 17.6	+0.1
	baz=14						
NDT				*e*S	Sg	15 35 21.3	+0.4
	baz=14						
ENA	**Nanau**	**0.28**	**77**	P	Pg	15 35 18.2	+0.2
	baz=77						
ENA				*e*S	Sg	15 35 22.4	+0.6
	baz=77						
NANB	**Nanao**	**0.28**	**77**	P	Pg	15 35 18.1	-0.1
	baz=77						
NANB				S	Sg	15 35 21.8	-0.2
	baz=77						
ENTT	**Nioudou**	**0.29**	**22**	*i* P	Pg	15 35 18.6	+0.1
	baz=22						
ENTT				S	Sg	15 35 23.3	+0.8
	baz=22						
YHNB	**Yeheng**	**0.31**	**348**	*e*P	Pg	15 35 19.1	+0.3
	baz=347						
YHNB				*e*S	Sg	15 35 22.9	-0.1
	baz=347						
NSK	**Sanguang**	**0.32**	**345**	*e*P	Pg	15 35 18.6	-0.4
	baz=346						
NSK				S	Sg	15 35 22.9	-0.4
	baz=346						
TWE	**Neicheng**	**0.41**	**29**	P	Pg	15 35 20.8	+0.3
	baz=31						
TWE				*e*S	Sg	15 35 26.4	+0.4
	baz=31						
NWLT	**Wulai**	**0.41**	**7**	*e*P	Pg	15 35 20.4	-0.3
	baz=6.0						
NWLT				*e*S	Sg	15 35 26.8	+0.6
	baz=6.0						
TWC	**Suao**	**0.44**	**56**	P	Pg	15 35 20.7	-0.5
	baz=57						

*NSSP **10** 15:42:32.7, 38°.40N×44°.93E, h10km, Ms3.5*
*ISK **10** 15:42:33.1, 38°.41N×44°.87E, h5km±1km, ML3.4/12*
*AZER **10** 15:42:33.9±0.6, 38°.38N×44°.87E, h2km, ml3.6/21, Error ellipse: s-maj=3.8km s-min=3.1km az=28.0*
*TEH **10** 15:42:33.3, 38°.37N×44°.90E, h10km, ML3.5*
*DDA **10** 15:42:33.6, 38°.37N×44°.83E, h5km±4km, ML3.4*
*THR **10** 15:42:34.7, 38°.46N×44°.87E, h17km, ML3.3*

ISC 10 15:42:33.4±1.1, 38°.37N±0°.02×44°.92E±0°.01, h8km±10km, n116, σ1§64/153, 3C-7D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.56**	**99**	*e*Pg	**Pg**	**15 42 44.7**	**+0.5**
ISHB				*e*Sg	**Sb**	**15 42 53.0**	**-0.8**
ISHB				IAMB	IAmb	15 43 01.3	
	comp=Z,50μm,0.4s						
NAX	**Nakhchivan**	**0.92**	**29**	*e*Pg	**Pg**	**15 42 51.2**	**+0.1**
NAX	**Nakhchivan**	**0.92**	**29**	P	**Pg**	**15 42 51.2**	**+0.1**
	SNR=94						
NAX				S	**Sb**	**15 43 04.5**	**+0.3**
ITBZ	**Tabriz**	**0.98**	**98**	*e*Pg	**Pg**	**15 42 52.1**	**-0.1**
ITBZ				IAMB	IAmb	15 43 13.5	
	comp=Z,10μm,0.4s						
MAKU	**Maku**	**1.00**	**350**	*e*Pg	**Pg**	**15 42 51.7**	**-0.9**
MAKU	**Maku**	**1.00**	**350**	*e*AML	AML	15 43 12.1	
	comp=N,837nm,0.4s						
MAKU	**Maku**	**1.00**	**350**	*e*Pg	**Pg**	**15 42 51.7**	**-0.9**
MAKU				*e*Sg	**Sg**	**15 43 04.5**	**-1.2**
ORD	**Ordubad**	**1.01**	**56**	*e*Pg	**Pb**	**15 42 53.1**	**-0.1**
ORD	**Ordubad**	**1.01**	**56**	P	**Pb**	**15 42 53.2**	**-0.1**
	SNR=390						
ORD				S	**Sn**	**15 43 07.5**	**-1.0**
IAZR	**Azarshahr**	**1.09**	**129**	*e*Pg	**Pg**	**15 42 53.8**	**-0.5**
IAZR				IAMB	IAmb	15 43 17.9	
	comp=Z,29μm,0.5s						
CLDR	**Caldiran**	**1.10**	**315**	*i* P	**Pg**	**15 42 53.0**	**-1.5**
CLDR				*i* S	**Sb**	**15 43 09.0**	**-0.4**
CLDR				IAML_P			
	comp=Z,19μm,0.4s						
CLDR	**Caldiran**	**1.10**	**315**	*e*Pg	**Pg**	**15 42 53.0**	**-1.5**
CLDR	**Caldiran**	**1.10**	**315**	PG	**Pg**	**15 42 52.5**	**-2.0**
CLDR				SG	**Sb**	**15 43 09.0**	**-0.4**
SBZ	**Shahbuz**	**1.14**	**26**	*e*Pg	**Pb**	**15 42 55.0**	**-0.5**
SBZ	**Shahbuz**	**1.14**	**26**	P	**Pb**	**15 42 55.0**	**-0.5**
	SNR=285						
SBZ				S	**Sn**	**15 43 13.2**	**+1.5**
TVAN	**Van**	**1.20**	**278**	*i* P	**Pn**	**15 42 56.8**	**+0.2**
TVAN				*i* S	**Sn**	**15 43 12.8**	**-0.4**
TVAN	**Van**	**1.20**	**278**	*e*Pg	**Pn**	**15 42 56.4**	**-0.2**
VANB	**Van**	**1.22**	**281**	*e*Pn	**Pg**	**15 42 58.5**	**+1.7**
VANB	**Van**	**1.22**	**281**	PN	**Pb**	**15 42 55.7**	**-1.1**
VANB				SN	**Sn**	**15 43 13.6**	**0.0**
VMUR	**Van-Muradiye**	**1.22**	**301**	*i* P	**Pg**	**15 42 57.2**	**+0.4**
VMUR				*i* S	**Sg**	**15 43 12.7**	**0.0**
VMUR				IAML_P			
	comp=Z,4μm,0.3s						
VMUR	**Van-Muradiye**	**1.22**	**301**	*e*Pn	**Pg**	**15 42 56.9**	**+0.1**
HAKT	**HAKKARI**	**1.25**	**230**	*i* P	**Pn**	**15 42 56.3**	**-1.1**
HAKT				*i* S	**Sn**	**15 43 14.1**	**-0.5**
HAKT				IAML_P			
	comp=Z,5μm,0.3s						
HAKT	**HAKKARI**	**1.25**	**230**	*e*Pn	**Pn**	**15 42 56.1**	**-1.3**
HYR	**Heyderabad**	**1.35**	**358**	*e*Pn	**Pn**	**15 42 58.1**	**-0.5**
HYR	**Heyderabad**	**1.35**	**358**	P	**Pn**	**15 42 58.1**	**-0.5**
	SNR=91						
HYR				S	**Sg**	**15 43 18.1**	**+1.3**
GEVA	**Gevas**	**1.46**	**268**	*i* P	**Pb**	**15 43 00.4**	**-0.5**
GEVA				*i* S	**Sb**	**15 43 19.4**	**-0.3**
GEVA	**Gevas**	**1.46**	**268**	*e*Pn	**Pn**	**15 42 59.7**	**-0.6**
DYDN	**Diyadin**	**1.51**	**321**	*i* P	**Pg**	**15 43 02.9**	**+0.5**
DYDN				*i* S	**Sg**	**15 43 24.4**	**+2.3**
DYDN				IAML_P			
	comp=Z,4μm,0.3s						
DYDN	**Diyadin**	**1.51**	**321**	*e*Pn	**Pg**	**15 43 01.9**	**-0.5**
CUKT	**Cukurca**	**1.52**	**223**	*i* P	**Pg**	**15 43 02.9**	**+0.3**
CUKT				IAML_P			
	comp=Z,6μm,0.4s						
CUKT	**Cukurca**	**1.52**	**223**	*e*Pn	**Pb**	**15 43 01.9**	**-0.1**
CUKT	**Cukurca**	**1.52**	**223**	PN	**Pb**	**15 43 01.8**	**-0.2**
IBST	**Bostanabad**	**1.70**	**113**	*e*Pn	**Pn**	**15 43 02.9**	**-0.6**
IBST				IAMB	IAmb	15 43 33.1	
	comp=Z,4μm,0.5s						
TASB	**TASBURUN-IGDIR**	**1.70**	**342**	*e*Pn	**Pg**	**15 43 05.2**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.70**	**342**	PN	**Pb**	**15 43 04.5**	**-0.4**
MAHB	**Mahabad**	**1.72**	**158**	*e*Pn	**Pb**	**15 43 04.4**	**-0.9**
MAHB				IAMB	IAmb	15 43 45.0	
	comp=Z,0.0nm,0.5s						
GNI	**Garni**	**1.78**	**356**	*e*Pn	**Pb**	**15 43 05.7**	**-0.7**
GNI	**Garni**	**1.78**	**356**	⇓*i*P	**Pb**	**15 43 05.8**	**-0.6**
GNI				⇑*i*S	**Sg**	**15 43 29.9**	**-0.8**
GNI	**Garni**	**1.78**	**356**	PN	**Pb**	**15 43 05.5**	**-0.9**
METS	**Metsamor**	**1.89**	**340**	⇑*i*P	**Pg**	**15 43 10.0**	**+0.3**
METS				⇑⇑S	**Sg**	**15 43 36.2**	**+2.0**
VADZ	**Vardenis**	**1.91**	**19**	*e*P	**Pb**	**15 43 09.0**	**+0.3**
VADZ				S	**Sg**	**15 43 34.8**	**-0.1**
VNNZ	**Vanand**	**1.93**	**334**	⇓*i*P	**Pb**	**15 43 09.3**	**+0.4**
VNNZ				⇓S	**Sg**	**15 43 35.8**	**+0.4**
TUTA	**Tutak**	**1.94**	**303**	*i* P	**Pb**	**15 43 08.2**	**-0.9**
TUTA				*i* S	**Sg**	**15 43 35.8**	**+0.1**
TUTA				IAML_P			
	comp=Z,12μm,0.6s						
TUTA	**Tutak**	**1.94**	**303**	*e*Pn	**Pb**	**15 43 08.2**	**-0.9**
KAPZ	**Kaputan**	**1.96**	**355**	⇓*i*P	**Pb**	**15 43 09.0**	**-0.4**
KAPZ				⇓S	**Sg**	**15 43 35.0**	**-1.4**
MLAZ	**Malazgirt-MUS**	**2.00**	**293**	*e*Pn	**Pb**	**15 43 09.6**	**-0.6**
MLAZ	**Malazgirt-MUS**	**2.00**	**293**	PN	**Pb**	**15 43 09.2**	**-1.0**
ARUZ	**Aruch**	**2.02**	**342**	⇓*i*P	**Pb**	**15 43 10.9**	**+0.5**
ARUZ				⇓S	**Sg**	**15 43 39.4**	**+1.3**
SIRN	**Sırnak**	**2.16**	**247**	*i* P	**Pb**	**15 43 12.8**	**0.0**
SIRN				IAML_P			
	comp=Z,5μm,0.5s						
SIRN	**Sırnak**	**2.16**	**247**	*e*Pn	**Pb**	**15 43 12.4**	**-0.4**
QRD	**Qoradiz**	**2.17**	**59**	P	**Pb**	**15 43 12.2**	**-0.7**
	SNR=19						
QRD				S	**Sg**	**15 43 43.1**	**-0.1**
ISRB	**Sarab**	**2.24**	**103**	*e*Pn	**Pb**	**15 43 12.5**	**-1.7**
ISRB				IAMB	IAmb	15 43 27.7	
	comp=Z,3μm,0.5s						
GURO	**Guroymak-BITLI**	**2.27**	**275**	*e*Pn	**Pb**	**15 43 13.3**	**-1.4**
GURO	**Guroymak-BITLI**	**2.27**	**275**	PN	**Pb**	**15 43 12.6**	**-2.1**
DIGO	**Kars**	**2.37**	**330**	*i* P	**Pg**	**15 43 19.1**	**+0.4**
GRMI	**Germi**	**2.38**	**78**	*e*Pn	**Pb**	**15 43 15.4**	**-1.1**
GRMI	**Germi**	**2.38**	**78**	*e*Sg	**Sg**	**15 43 49.8**	**+0.1**
GRMI	**Germi**	**2.38**	**78**	*e*Pn	**Pb**	**15 43 15.4**	**-1.1**
EATA	**Eleskirt**	**2.40**	**309**	*i* P	**Pb**	**15 43 17.8**	**+0.7**
EATA				IAML_P			
	comp=Z,1μm,0.6s						
EATA	**Eleskirt**	**2.40**	**309**	*e*Pn	**Pb**	**15 43 17.4**	**+0.3**
AGDM	**Agdam**	**2.43**	**44**	P	**Pb**	**15 43 16.2**	**-1.2**
	SNR=22						
AGDM				S	**Sb**	**15 43 48.5**	**+1.0**
GDB	**GEDABAY**	**2.44**	**15**	*e*Pn	**Pb**	**15 43 16.0**	**-1.5**
GDB	**GEDABAY**	**2.44**	**15**	P	**Pb**	**15 43 16.1**	**-1.5**
	SNR=48						
GDB				S	**Sb**	**15 43 48.3**	**+0.5**
GANJ	**Ganja**	**2.52**	**25**	*e*Pn	**Pb**	**15 43 17.2**	**-1.7**
GANJ	**Ganja**	**2.52**	**25**	P	**Pb**	**15 43 17.2**	**-1.7**
	SNR=48						
GANJ				S	**Sb**	**15 43 50.3**	**+0.2**
EAK	**Akyaka**	**2.53**	**337**	*i* P	**Pg**	**15 43 21.5**	**-0.3**
EAK				*i* S	**Sg**	**15 43 60.0**	**+5.4**
EAK				IAML_P			
	comp=Z,2μm,0.7s						
BRDA	**Brd**	**2.58**	**42**	*e*Pn	**Pb**	**15 43 18.3**	**-1.6**
BRDA	**Brd**	**2.58**	**42**	P	**Pb**	**15 43 18.3**	**-1.6**
	SNR=13						
BRDA				S	**Sb**	**15 43 53.4**	**+1.6**
YRD	**Yardimli**	**2.66**	**77**	P	**Pb**	**15 43 20.0**	**-1.4**
	SNR=17						
YRD				S	**Sb**	**15 43 54.7**	**+0.4**
LRK	**Lerik**	**2.70**	**83**	*e*Pn	**Pb**	**15 43 20.0**	**-2.0**
LRK	**Lerik**	**2.70**	**83**	P	**Pb**	**15 43 20.0**	**-2.0**
	SNR=24						
LRK				S	**Sb**	**15 43 55.1**	**-0.3**
QZX	**Qazax, Azerbai**	**2.71**	**7**	*e*Pn	**Pb**	**15 43 19.9**	**-2.2**
QZX	**Qazax, Azerbai**	**2.71**	**7**	P	**Pb**	**15 43 20.0**	**-2.2**
	SNR=32						
QZX				S	**Sb**	**15 43 56.1**	**+0.6**
VRTB	**Varto-Mus**	**2.82**	**287**	*e*Pn	**Pb**	**15 43 21.5**	**-2.6**
VRTB	**Varto-Mus**	**2.82**	**287**	PN	**Pn**	**15 43 20.2**	**+1.3**
GLBA	**Ciilabad**	**2.85**	**71**	*e*Pn	**Pb**	**15 43 22.5**	**-2.0**
GLBA	**Ciilabad**	**2.85**	**71**	P	**Pb**	**15 43 22.5**	**-2.0**
	SNR=7.9						
GLBA				S	**Sb**	**15 44 00.6**	**+1.0**
KOPR	**Koprukoy-ERZUR**	**2.88**	**305**	*e*Pn	**Pb**	**15 43 22.1**	**-3.0**
KOPR	**Koprukoy-ERZUR**	**2.88**	**305**	PN	**Pn**	**15 43 21.5**	**+1.7**
BTMN	**Batman**	**2.91**	**262**	*i* P	**Pn**	**15 43 22.1**	**+1.9**
BTMN				IAML_P			
	comp=Z,446nm,0.5s						
BTMN	**Batman**	**2.91**	**262**	*e*Pn	**Pn**	**15 43 22.0**	**+1.9**
SVAN	**Silvan-Diyarba**	**2.93**	**267**	*e*Pn	**Pb**	**15 43 23.9**	**-2.1**
SVAN	**Silvan-Diyarba**	**2.93**	**267**	PN	**Pn**	**15 43 22.4**	**+2.0**
SENK	**Senkaya-Erzuru**	**2.96**	**319**	*e*Pn	**Pn**	**15 43 22.6**	**+1.8**
SENK	**Senkaya-Erzuru**	**2.96**	**319**	PN	**Pn**	**15 43 22.7**	**+1.9**
BNGL	**BINGOL**	**3.00**	**282**	*i* P	**Pg**	**15 43 31.6**	**+0.6**
ASTR	**Astara**	**3.05**	**85**	*e*Pn	**Pn**	**15 43 24.4**	**+2.5**
ASTR	**Astara**	**3.05**	**85**	P	**Pn**	**15 43 24.5**	**+2.5**
	SNR=6.1						
ASTR				S	**Sb**	**15 44 03.6**	**-1.6**
LKRN	**Lenkeran, Azer**	**3.05**	**82**	*e*Pn	**Pn**	**15 43 24.6**	**+2.7**
LKRN	**Lenkeran, Azer**	**3.05**	**82**	P	**Pn**	**15 43 24.6**	**+2.7**
	SNR=5.5						
LKRN				S	**Sb**	**15 44 04.0**	**-1.2**
SEKA	**Sheki**	**3.34**	**31**	*e*Pn	**Pn**	**15 43 28.3**	**+2.4**
SEKA	**Sheki**	**3.34**	**31**	P	**Pn**	**15 43 28.4**	**+2.4**
SEKA				S	**Sb**	**15 44 11.8**	**-1.9**
BNGB	**Bingl**	**3.37**	**282**	PN	**Pn**	**15 43 28.9**	**+2.4**
BGOL	**Bingol**	**3.38**	**282**	*i* P	**Pg**	**15 43 37.5**	**-0.6**
QBL	**Gabala**	**3.42**	**40**	*e*Pn	**Pn**	**15 43 30.0**	**+2.9**
QBL	**Gabala**	**3.42**	**40**	P	**Pn**	**15 43 30.0**	**+2.9**
	SNR=9.8						
QBL				S	**Sb**	**15 44 12.4**	**-3.7**
ZNJK	**Zanjan**	**3.44**	**118**	*e*Pn	**Pn**	**15 43 30.8**	**+3.2**
ZNJK	**Zanjan**	**3.44**	**118**	*e*Pn	**Pn**	**15 43 30.8**	**+3.2**
ZNJK	**Zanjan**	**3.44**	**118**	*e*Sg	**Sg**	**15 44 24.5**	**+0.5**
IML	**Ismayilli**	**3.50**	**45**	S	**Sb**	**15 44 14.8**	**-3.5**
BINT	**Bingol**	**3.50**	**280**	*e*Pn	**Pn**	**15 43 29.6**	**+1.3**
DDEM	**Demirkent**	**3.51**	**317**	*i* P	**Pg**	**15 43 40.8**	**+0.2**
DAGI	**Agillar**	**3.56**	**320**	*i* P	**Pg**	**15 43 41.2**	**-0.3**
DBAD	**Bademkaya**	**3.63**	**318**	*i* P	**Pg**	**15 43 41.9**	**-1.1**
DBAD				IAML_P			
	comp=Z,284nm,0.6s						
PQL	**Pirkuli**	**3.73**	**48**	*e*Pn	**Pn**	**15 43 33.7**	**+2.3**
PQL	**Pirkuli**	**3.73**	**48**	P	**Pn**	**15 43 33.7**	**+2.3**
	SNR=6.6						
PQL				S	**Sb**	**15 44 21.3**	**-3.8**
XNQ	**Khinaliq**	**3.74**	**41**	*e*Pn	**Pn**	**15 43 34.1**	**+2.5**
XNQ	**Khinaliq**	**3.74**	**41**	P	**Pn**	**15 43 34.2**	**+2.5**
XNQ				S	**Sb**	**15 44 21.2**	**-4.2**
GBS	**Qobustan**	**3.79**	**54**	*e*Pn	**Pn**	**15 43 34.3**	**+2.1**
GBS	**Qobustan**	**3.79**	**54**	P	**Pn**	**15 43 34.3**	**+2.1**
GBS				S	**Sb**	**15 44 23.3**	**-3.5**
KOPT	**Kop Dagi**	**3.81**	**297**	*i* P	**Pg**	**15 43 45.2**	**-1.2**
KOPT				IAML_P			
	comp=Z,84nm,0.1s						
IDHR	**Dehrash**	**3.85**	**162**	*e*Pn	**Pn**	**15 43 35.5**	**+2.4**
IDHR				IAMB	IAmb	15 44 58.9	
	comp=Z,0.0nm,1.0s						
QABG	**Abgarm-Qazvin**	**4.58**	**124**	*e*Pn	**Pn**	**15 43 45.0**	**+1.8**
IGZV	**Ghazvin**	**4.66**	**113**	*e*Pn	**Pn**	**15 43 46.1**	**+1.8**
IGZV				IAMB	IAmb	15 44 08.4	
	comp=Z,239nm,0.4s						
QALM	**Alamut, Qazvin**	**4.96**	**111**	*e*Pn	**Pn**	**15 43 49.8**	**+1.4**
IRAZ	**Razeghan**	**4.99**	**125**	*e*Pn	**Pn**	**15 43 50.6**	**+1.8**
IRAZ				IAMB	IAmb	15 44 23.3	
	comp=Z,220nm,0.6s						

IDC 10 15:48:41.6±2.1, 6°.82S×128°.55E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/29, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=146.5km s-min=31.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.21**	**157**	Pn	Pn	15 52 03.0	-1.3
	0.1nm,0.3s,baz=335,slow=12,SNR=4.1						
WRA				Sn	Sn	15 54 28.4	-14
	0.4nm,0.3s,baz=334,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**17.53**	**163**	P	P	15 52 48.5	-0.3
	0.1nm,0.3s,baz=346,slow=10,SNR=21						
ASAR				S	Sn	15 55 54.9	-8.6
	0.1nm,0.3s,baz=347,slow=25,SNR=4.5						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	15 59 38.2	0.0
	0.4nm,0.4s,baz=116,slow=7.6,SNR=6.8						

*ISCJB **10** 15:58:24.7±0.8, 44°.8S±0°.1×35°.8E±0°.3, h10km, mb3.5/4, MS3.0/5, Error ellipse: s-maj=32.5km s-min=15.3km az=163.7*
*IDC **10** 15:58:24.7±1.9, 44°.83S×35°.89E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/39, mbtmp3.7/4, MS3.1/6, Ms1 3.1/6, ms1mx2.8/25, Error ellipse: s-maj=128.1km s-min=27.4km az=44.0*
*NEIC **10** 15:58:25.9±0.9, 44°.8S±0°.2×36°.0E±0°.3, h10km±1km, mb4.4/4*

ISC 10 15:58:26.2±0.9, 44°.8S±0°.1×35°.9E±0°.3, h10km, n16, σ0§88/10, mb3.9/6, MS3.0/5, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.23**	**329**	LR	LR	16 08 15.8	
	comp=Z,62nm,19.5s,baz=205,slow=32						
LBTB	**Lobatse**	**21.42**	**334**	P	**P**	**16 03 14.2**	**-0.3**
	4.1nm,0.7s,baz=160,slow=11,SNR=7.1						
LBTB				LR	LR	16 10 23.4	
	comp=Z,40nm,19.1s,baz=150,slow=34						
LBTB	**Lobatse**	**21.42**	**334**	P	**P**	**16 03 14.2**	**-0.3**
TSUM	**Tsumeb**	**29.72**	**323**	LR	LR	16 15 23.9	
	comp=Z,36nm,18.6s,baz=148,slow=34						
LSZ	**Lusaka**	**30.13**	**345**	LR	LR	16 14 29.0	
	comp=Z,38nm,18.9s,baz=210,slow=32						
LSZ	**Lusaka**	**30.13**	**345**	P	**P**	**16 04 36.1**	**-0.3**
LSZ				IAmb	IAmb	16 05 40.9	
	comp=Z,11nm,1.7s						
SNAA	**Sanae**	**32.66**	**202**	P	**P**	**16 04 58.7**	**+0.6**
SNAA				IAmb	IAmb	16 05 39.3	
	comp=Z,8.5nm,1.7s						
KMBO	**Kilima Mbogo**	**43.50**	**2**	LR	LR	16 22 59.3	
	comp=Z,40nm,18.6s,baz=96,slow=34						
QSPA	**South Pole Qui**	**45.43**	**180**	P	**P**	**16 06 44.3**	**-0.6**
H10S2	**ASCENSION HYDR**	**56.23**	**293**	T	T	17 09 00.5	
	baz=137,slow=74,SNR=47						
H10S3	**ASCENSION HYDR**	**56.24**	**293**	T	T	17 09 01.7	
	baz=83,slow=74,SNR=44						
TORD	**Torodi Ar. Bea**	**65.47**	**323**	P	**P**	**16 09 10.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=151,slow=7.5,SNR=3.9						
TORD				LR	LR	16 35 55.0	
	comp=Z,9.8nm,20.4s,baz=350,slow=34						
ASAR	**Alice Springs**	**79.10**	**112**	P	**P**	**16 10 30.5**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=223,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**81.98**	**110**	P	**P**	**16 10 47.9**	**+1.3**
	comp=Z,0.2nm,1.0s,baz=209,slow=3.4,SNR=2.1						
TXAR	**Lajitas Array**	**144.62**	**258**	PKP	**PKPdf**	**16 18 02.0**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=139,slow=4.3,SNR=5.3						
TXAR	**Lajitas Array**	**144.62**	**258**	PKPdf	**PKPdf**	**16 18 02.4**	**-0.7**

*IDC **10** 16:07:51.1±1.8, 5°.97S×152°.39E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/37, mbtmp3.8/5, ML1.7/1, Error ellipse: s-maj=48.2km s-min=18.3km az=110.0*
*ISCJB **10** 16

GRPR				A	A	16 45 17.0	
	123nm,0.3s						
GRPR				A	A	16 45 17.0	
	80nm,0.3s						
GLVR	**Golovnino**	**4.19**	**205**	*e*P	**Pn**	**16 44 21.9**	**+2.1**
GLVR				*e*S	**S**	**16 45 18.0**	**+1.0**
GLVR				A	A	16 45 24.0	
	137nm,0.5s						
GLVR				A	A	16 45 24.0	
	102nm,0.5s						
NMR	**Nemuro--Hokkai**	**4.48**	**202**	*e*P	**Pn**	**16 44 21.0**	**-1.8**
NMR				*e*S	**S**	**16 45 17.0**	**-5.5**
JKA	**Kamikawa-asahi**	**5.10**	**230**		**Pn**	**16 44 32.8**	**+3.2**
ASAJ	**Asahikawa**	**5.10**	**230**	P	**Pn**	**16 44 32.8**	**+3.2**
	0.4nm,0.3s,baz=31,slow=12,SNR=5.0						
ERM	**Erimo**	**6.52**	**214**	Pn	**Pn**	**16 44 46.9**	**+1.3**
KLR	**Kul'dur**	**10.94**	**285**	P	**P**	**16 45 40.2**	**+1.7**
	0.2nm,0.3s,baz=93,slow=9.2,SNR=7.4						
USA0B	**Ussuriysk Arra**	**11.65**	**259**	P	**Pn**	**16 45 46.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.65**	**259**	P	**P**	**16 45 46.9**	**+0.5**
	baz=60,slow=14,SNR=3.3						
USRK	**Ussuriysk Ar.**	**11.65**	**259**	P	**P**	**16 45 46.7**	**+0.2**
MJB9	**Matsu-Tunnel**	**13.17**	**217**	P	**Pn**	**16 46 05.2**	**+0.8**
MAJO	**Matsushiro**	**13.17**	**217**	P	**Pn**	**16 46 05.3**	**+0.9**
MJAR	**Matsushiro Arr**	**13.17**	**217**	P	**Pn**	**16 46 06.0**	**+1.6**
	0.1nm,0.3s,baz=15,slow=12,SNR=10						
MJAR	**Matsushiro Arr**	**13.17**	**217**	P	**Pn**	**16 46 05.0**	**+0.5**
KSRS	**Korea Array**	**17.86**	**243**	P	**P**	**16 46 54.9**	**+0.7**
	0.1nm,0.3s,baz=50,slow=11,SNR=3.8						
ADK	**Adak**	**23.10**	**66**	P	**P**	**16 47 44.7**	**0.0**
YOJ	**Yonaguni jima**	**30.41**	**230**	P	**P**	**16 48 49.7**	**-0.1**
IMAR	**Indian Mountai**	**35.21**	**37**	P	**P**	**16 49 31.8**	**+1.2**
KTH	**Kantishna Hill**	**36.45**	**41**	P	**P**	**16 49 40.8**	**-0.3**
KTH				IAmb	IAmb	16 50 37.4	
	comp=Z,15nm,0.9s						
NEA	**Nenana**	**37.19**	**39**	P	**P**	**16 49 49.0**	**+1.7**
ILAR	**Eielson Array**	**38.11**	**39**	P	**P**	**16 49 56.1**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=278,slow=9.4,SNR=6.8						
ILAR	**Eielson Array**	**38.11**	**39**	P	**P**	**16 49 56.4**	**+1.5**
HDA	**Harding Lake**	**38.12**	**40**	P	**P**	**16 49 56.2**	**+1.3**
HDA				IAmb	IAmb	16 50 57.2	
	comp=Z,22nm,1.7s						
GLI	**Glacier Island**	**38.55**	**45**	P	**P**	**16 50 00.8**	**+2.3**
YAH	**Yahtse**	**41.23**	**45**	P	**P**	**16 50 22.6**	**+1.9**
YAH				IAmb	IAmb	16 51 35.1	
	comp=Z,54nm,1.6s						
HYT	**Haines Junctio**	**43.12**	**44**	P	**P**	**16 50 38.2**	**+2.6**
HYT				IAmb	IAmb	16 51 14.2	
	comp=Z,18nm,1.5s						
MK31	**Makanchi Array**	**43.45**	**294**	P	**P**	**16 50 36.7**	**-1.6**
RES	**Resolute Bay**	**51.16**	**18**	P	**P**	**16 51 36.8**	**+0.2**
RES				IAmb	IAmb	16 51 40.7	
	comp=Z,9.6nm,1.4s						
ABKAR	**Akbulak array**	**55.19**	**307**	P	**P**	**16 52 05.5**	**-0.6**
LTY	**Liberty**	**58.14**	**53**	P	**P**	**16 52 25.6**	**-1.2**
LTY				IAmb	IAmb	16 54 39.8	
	comp=Z,5.3nm,0.5s						
HAWA	**Hanford**	**59.29**	**54**	P	**P**	**16 52 34.4**	**-0.1**
FINES	**FINESS Array B**	**61.77**	**332**	P	**P**	**16 52 49.7**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=48,slow=8.5,SNR=6.9						
FINES	**FINESS Array B**	**61.77**	**332**	P	**P**	**16 52 49.9**	**-0.8**
NOA	**NORSAR Array B**	**66.27**	**339**	P	**P**	**16 53 19.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=30,slow=6.7,SNR=5.8						
AKASG	**Malin Array Be**	**68.87**	**323**	P	**P**	**16 53 34.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=39,slow=6.0,SNR=3.1						
GERES	**GERESS Array B**	**76.13**	**331**	P	**P**	**16 54 17.9**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=21,slow=4.2,SNR=2.6						

*ISCJB **10** 17:15:50.3±1.3, 8°.59N±0°.04×84°.15W±0°.04, h10km±10km, Error ellipse: s-maj=7.7km s-min=4.2km az=40.9*
*UPA **10** 17:15:50.6±1.5, 8°.72N×84°.07W, h0km±6km, MW4.6*
*UCR **10** 17:15:52.5±1.3, 8°.68N×84°.12W, h19km±12km, MW4.0*

ISC 10 17:15:51.9±1.5, 8°.67N±0°.05×84°.07W±0°.04, h15km±10km, n33, σ1§05/53, 4C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.62**	**19**	*e*P	**Pb**	**17 16 04.5**	**0.0**
EDDO				*e*S	**Sb**	**17 16 14.2**	**+1.2**
EDPN	**Palmar Norte**	**0.67**	**64**	*e*P	**Pb**	**17 16 05.7**	**+0.3**
EDPN				*e*S	**Sb**	**17 16 15.9**	**+1.3**
PTJ1	**Puerto Jimnez**	**0.77**	**100**	*e*P	**Pg**	**17 16 07.2**	**+0.3**
PTJ1				*e*S	**Sn**	**17 16 19.6**	**0.0**
PTJ1	**Puerto Jimnez**	**0.77**	**100**	⇑*i*P	**Pg**	**17 16 06.6**	**-0.3**
PTJ1				*e*S	**Sn**	**17 16 19.3**	**-0.4**
EDLM	**Las Mercedes**	**0.77**	**38**	*e*P	**Pb**	**17 16 07.2**	**+0.1**
EDLM				*e*S	**Sn**	**17 16 18.9**	**-0.9**
EDBA	**Buenos Aires**	**0.93**	**58**	*e*P	**Pg**	**17 16 09.3**	**-0.6**
EDBA				*e*S	**Sb**	**17 16 22.9**	**+0.9**
DRK0	**Durika**	**1.01**	**54**	*e*P	**Pb**	**17 16 10.9**	**-0.3**
DRK0				*e*S	**Sb**	**17 16 25.1**	**+0.7**
DRK0	**Durika**	**1.01**	**54**	*e*P	**Pb**	**17 16 10.5**	**-0.7**
DRK0				*e*S	**Sb**	**17 16 24.8**	**+0.4**
LCR2	**La Lucha 2**	**1.07**	**4**	*e*P	**Pb**	**17 16 11.8**	**-0.5**
EDSV	**San Vito**	**1.10**	**82**	*e*P	**Pb**	**17 16 12.7**	**0.0**
EDSV				*e*S	**Sn**	**17 16 30.1**	**+2.1**
SBAR3	**San Bartolo, C**	**1.22**	**106**	*e*P	**Pn**	**17 16 14.9**	**+0.3**
HDC	**Heredia**	**1.33**	**358**	*e*P	**Pn**	**17 16 13.7**	**-2.4**
HDC	**Heredia**	**1.33**	**358**	*e*S	**Sn**	**17 16 33.5**	**-0.1**
BRU2	**Volcan**	**1.37**	**85**	*e*P	**Pn**	**17 16 16.4**	**-0.3**
BRU2	**Volcan**	**1.37**	**85**	⇑*i*P	**Pn**	**17 16 16.5**	**-0.3**
BRU2				*e*S	**Sg**	**17 16 36.1**	**-0.1**
CVTR	**Volcan Turrial**	**1.38**	**13**	*e*P	**Pn**	**17 16 16.8**	**-0.3**
CVTR				*e*S	**Sn**	**17 16 35.3**	**0.0**
BCO2	**Palmira**	**1.52**	**88**	⇑*i*P	**Pn**	**17 16 18.8**	**-0.1**
BCO2				*e*S	**Sg**	**17 16 40.7**	**-0.5**
BAGA3	**Bagala, Chiriq**	**1.54**	**97**	*e*P	**Pn**	**17 16 18.5**	**-0.4**
BAGA3				*e*S	**Sg**	**17 16 42.4**	**+0.8**
PTAR3	**Potrerillos Ar**	**1.56**	**89**	⇑*e*P	**Pn**	**17 16 19.4**	**+0.1**
PTAR3				*e*S	**Sn**	**17 16 37.5**	**-1.8**
DVD	**David**	**1.62**	**98**	*e*P	**Pn**	**17 16 18.7**	**-1.3**
DVD				*e*S	**Sg**	**17 16 46.0**	**+2.0**
CHIR3	**Chiriqui UPA,**	**1.74**	**99**	*e*P	**Pn**	**17 16 18.1**	**-3.6**
CHIR3				*e*S	**Sb**	**17 16 46.0**	**+0.7**
JTS	**Las Juntas de**	**1.83**	**332**	*e*P	**Pb**	**17 16 24.7**	**-0.5**
JTS	**Las Juntas de**	**1.83**	**332**	*e*P	**Pb**	**17 16 24.3**	**-1.0**
JTS				*e*S	**Sn**	**17 16 46.0**	**0.0**
ARE1	**Arenal 1**	**1.90**	**340**	*e*P	**Pg**	**17 16 27.6**	**-0.7**
CEDE	**Laguna Cedeo**	**1.91**	**341**	*e*P	**Pb**	**17 16 27.0**	**+0.4**
CHGR2	**Aguacate**	**1.92**	**82**	*e*P	**Pn**	**17 16 23.5**	**-0.7**
CHGR2				*e*S	**Sb**	**17 16 50.9**	**+0.3**
PLVR	**Palo Verde**	**2.10**	**323**	*e*P	**Pn**	**17 16 26.6**	**-0.2**
CUI	**Cuipilapa**	**2.25**	**331**	*e*P	**Pn**	**17 16 30.1**	**+1.3**
GB1A	**Borinquen Arri**	**2.51**	**329**	*e*P	**Pn**	**17 16 34.2**	**+1.8**
GMAL	**Guarumal, Vera**	**2.95**	**108**	*e*P	**Pn**	**17 16 36.3**	**-2.0**
GMAL				*e*S	**Sn**	**17 17 13.2**	**-0.4**
CACAO	**El Cacao, Vera**	**3.44**	**112**	*e*S	**Sb**	**17 17 34.3**	**0.0**
AZU	**Azuero**	**3.86**	**103**	*e*P	**Pn**	**17 16 51.5**	**+0.6**
AZU	**Azuero**	**3.86**	**103**	*e*P	**Pn**	**17 16 50.8**	**0.0**
AZU				*e*S	**Sn**	**17 17 36.9**	**+1.0**

TAP 10 17:29:28.3, 24°.13N×121°.66E, h11km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.07**	**305**	P	Pg	17 29 31.3	+0.6
	baz=304						
NACB				S	Sg	17 29 33.2	+0.7
	baz=304						
TWD	**Chiawan**	**0.08**	**230**	P	Pg	17 29 31.2	+0.5
	baz=226						
TWD				S	Sg	17 29 33.2	+0.7
	baz=226						
HWA	**Hwalien**	**0.16**	**199**	*e*P	Pb	17 29 32.8	-0.6
	baz=195						
ETLH	**Xiulin Townshi**	**0.18**	**295**	P	Pb	17 29 33.1	-0.6
	baz=294						
ENLB	**Shoufeng**	**0.23**	**194**	*e*P	Pb	17 29 34.1	-0.5
	baz=193						
ENLB				*e*S	Sg	17 29 38.4	+2.0
	baz=193						
ENA	**Nanau**	**0.30**	**14**	*e*P	Pg	17 29 35.0	+0.5
	baz=15						
ENA				*e*S	Sb	17 29 40.3	-0.5
	baz=15						
NANB	**Nanao**	**0.31**	**15**	*e*P	Pb	17 29 35.4	-0.4
	baz=15						
NANB				*e*S	Sb	17 29 40.5	-0.4
	baz=15						
ESL	**Shilin**	**0.38**	**214**	S	Sb	17 29 42.3	-0.7
	baz=212						
NNSB	**Datong**	**0.39**	**319**	P	Pb	17 29 37.1	-0.3
	baz=319						
NNSB				*e*S	Sb	17 29 43.5	0.0
	baz=319						
NNS	**Nan Shan**	**0.41**	**319**	*e*P	Pb	17 29 37.4	-0.2
	baz=320						
NNS				*e*S	Sb	17 29 43.5	-0.4
	baz=320						
TDCB	**Techi**	**0.48**	**285**	S	Sb	17 29 45.9	0.0
	baz=284						
NDT	**Datong Townshi**	**0.49**	**344**	*e*P	Pb	17 29 39.0	0.0
	baz=343						
NDT				*e*S	Sb	17 29 46.4	+0.2
	baz=343						
TWC	**Suao**	**0.51**	**20**	*e*S	Sb	17 29 46.8	+0.1
	baz=20						

IDC 10 17:29:29.9±1.1, 26°.61N×92°.69E, h38km±9km, mb3.2/4, mb1 3.3/5, mb1mx3.0/38, mbtmp3.3/5, ML2.1/1, MS2.8/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=48.1km s-min=17.2km az=69.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**4.03**	**194**	Pn	Pn	17 30 30.4	+1.4
	0.1nm,0.3s,baz=114,slow=24,SNR=1.5						
BRDH				Sn	Sn	17 31 12.8	-2.1
	0.1nm,0.3s,baz=186,slow=24,SNR=21						
CMAR	**Chiang Mai Arr**	**9.95**	**143**	LR	LR	17 35 49.7	
	comp=Z,15nm,21.2s,baz=186,slow=38						
MKAR	**Makanchi Array**	**21.77**	**340**	P	P	17 34 16.8	-1.4
	0.9nm,0.5s,baz=145,slow=12,SNR=22						
MKAR				pP	pP	17 34 29.1	+0.9
	0.6nm,0.7s,baz=158,slow=9.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**26.32**	**339**	P	P	17 35 02.6	+0.7
	0.3nm,0.5s,baz=149,slow=10,SNR=2.9						
JCJ	**Chichijima**	**43.93**	**78**	LR	LR	17 58 19.8	
	comp=Z,51nm,18.0s,baz=116,slow=39						
WRA	**Warramunga Arr**	**61.42**	**135**	P	P	17 39 42.8	+0.2
	0.2nm,0.6s,baz=323,slow=7.1,SNR=5.5						
WRA				pP	pP	17 39 54.2	+0.2
	0.5nm,0.7s,baz=322,slow=7.2,SNR=3.7						
ASAR	**Alice Springs**	**63.91**	**138**	P	P	17 39 59.1	0.0
	0.4nm,1.0s,baz=323,slow=6.9,SNR=4.0						
ASAR				pP	pP	17 40 09.9	-0.7
	0.5nm,0.8s,baz=320,slow=6.6,SNR=3.8						

TAP 10 17:29:32.4, 24°.13N×121°.62E, h9km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.05**	**329**	*e*P	Pg	17 29 34.5	+0.3
	baz=329						
NACB				*e*S	Sg	17 29 36.5	+0.8
	baz=329						
TWD	**Chiawan**	**0.06**	**206**	P	Pg	17 29 34.8	+0.4
	baz=197						
TWD				S	Sg	17 29 36.5	+0.8
	baz=197						
ETLH	**Xiulin Townshi**	**0.15**	**300**	P	Pg	17 29 36.5	+0.8
	baz=300						
ETLH				S	Sg	17 29 39.7	+1.6
	baz=300						
ETLH	**Xiulin Townshi**	**0.15**	**300**	S	Pg	17 29 36.5	+0.8
	baz=294						
HWA	**Hwalien**	**0.15**	**186**	*e*P	Pg	17 29 36.6	+0.8
	baz=183						
HWA	**Hwalien**	**0.15**	**186**	*e*S	Pg	17 29 36.1	+0.4
	baz=195						
ENLB	**Shoufeng**	**0.23**	**185**	*e*S	Sg	17 29 42.0	+1.8
	baz=184						
ENA	**Nanau**	**0.32**	**20**	*e*S	Sb	17 29 45.6	+0.1
	baz=21						
NANB	**Nanao**	**0.32**	**21**	*e*S	Sb	17 29 45.9	+0.5
	baz=21						
WHF	**Hehuan Shan**	**0.33**	**273**	*e*S	Sb	17 29 44.8	-1.3
	baz=272						
NNSB	**Datong**	**0.37**	**324**	S	Sb	17 29 46.4	-0.7
	baz=323						
NNS	**Nan Shan**	**0.38**	**323**	*e*S	Sb	17 29 46.9	-0.6
	baz=324						
CHGB	**Renai**	**0.42**	**260**	*e*P	Pb	17 29 41.7	-0.3
	baz=260						
CHGB				*e*S	Sb	17 29 48.8	+0.2
	baz=260						
TWT	**Tachien**	**0.43**	**287**	*e*S	Sb	17 29 48.9	+0.1
	baz=285						
TDCB	**Techi**	**0.44**	**286**	*e*S	Sb	17 29 49.4	+0.2
	baz=285						
NDT	**Datong Townshi**	**0.48**	**348**	*e*P	Pb	17 29 42.7	-0.3
	baz=347						
NDT				*e*S	Sb	17 29 49.6	-0.6
	baz=347						
ENTT	**Nioudou**	**0.51**	**354**	*e*S	Sb	17 29 50.7	-0.3
	baz=354						

*DDA **10** 17:34:27.1, 36°.13N×27°.46E, h7km±2km, ML2.5*
*ATH **10** 17:34:27.9, 36°.21N×27°.48E, h30km±1km, ML2.4/4, Error ellipse: s-maj=2.1km s-min=1.1km az=76.0*
*ISCJB **10** 17:34:28.6±0.5, 36°.20N±0°.02×27°.46E±0°.03, h11km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=27.6*
*ISK **10** 17:34:28.2, 36°.23N×27°.46E, h9km, ML2.3/12*
*THE **10** 17:34:28.9, 36°.20N×27°.49E, h13km±1km, ML2.4/4, Error ellipse: s-maj=1.7km s-min=0.6km az=114.0*

ISC 10 17:34:28.9±0.9, 36°.22N±0°.02×27°.51E±0°.02, h22km±9km, n35, σ1§97/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.49**	**322**	P	**Pb**	**17 34 38.2**	**-0.7**
NISR				S	**Sb**	**17 34 46.9**	**+1.2**
	262nm,0.2s						
NISR	**Nisiros**	**0.49**	**322**	P	**Pb**	**17 34 38.0**	**-0.9**
NISR				S	**Sb**	**17 34 46.5**	**+0.8**
NISR				AML	AML	17 34 49.2	
	comp=E,628μm,0.2s						
NISR				AML	AML	17 34 49.4	
	comp=N,405μm,0.2s						
ARG	**Arkhangelos**	**0.50**	**91**	P	**Pb**	**17 34 39.0**	**0.0**
ARG				S	**Sb**	**17 34 47.0**	**+1.1**
	comp=N,692nm,0.2s						
ARG	**Arkhangelos**	**0.50**	**91**	P	**Pb**	**17 34 39.2**	**+0.2**
ARG				S	**Sb**	**17 34 46.8**	**+0.9**
ARG				AML	AML	17 34 48.3	
	comp=E,1887μm,0.2s						
ARG				AML	AML	17 34 49.0	
	comp=N,892μm,0.2s						
DAT	**Datca**	**0.51**	**6**	*i*P	**Pb**	**17 34 39.1**	**-0.1**
DAT				*i*S	**Sn**	**17 34 48.8**	**-0.3**
DAT				IAML_P			
	comp=Z,614nm,0.1s						
DAT	**Datca**	**0.51**	**6**	PG	**Pb**	**17 34 38.5**	**-0.8**
DAT				SG	**Sb**	**17 34 46.4**	**+0.1**
KARP	**Karpathos**	**0.73**	**203**	P	**Pb**	**17 34 42.4**	**-0.5**
KARP				S	**Sb**	**17 34 53.0**	**+0.5**
	comp=Z,322nm,0.1s						
KARP	**Karpathos**	**0.73**	**203**	P	**Pb**	**17 34 42.4**	**-0.5**
KARP				S	**Sb**	**17 34 52.6**	**+0.1**
KARP				AML	AML	17 34 55.1	
	comp=E,551μm,0.1s						
KARP				AML	AML	17 34 55.6	
	comp=N,723μm,0.2s						
KARP	**Karpathos**	**0.73**	**203**	PG	**Pb**	**17 34 42.7**	**-0.2**
KARP				SG	**Sb**	**17 34 53.0**	**+0.5**
BODT	**Bodrum**	**0.85**	**349**	P	**Pb**	**17 34 44.8**	**-0.3**
BODT				S	**Sn**	**17 34 57.8**	**+0.3**
BODT	**Bodrum**	**0.85**	**349**	PG	**Pb**	**17 34 44.7**	**-0.3**
BODT				SG	**Sn**	**17 34 56.9**	**-0.6**
MLSB	**Milas**	**1.09**	**11**	PN	**Pb**	**17 34 50.3**	**+1.2**
MLSB				SN	**Sn**	**17 35 05.7**	**+2.3**
TURN	**Turunc**	**1.09**	**53**	*i*P	**Pn**	**17 34 45.2**	**-3.7**
TURN				*i*S	**Sb**	**17 34 57.6**	**-5.3**
TURN				IAML_P			
	comp=Z,790nm,0.1s						
TURN	**Turunc**	**1.09**	**53**	PG	**Pn**	**17 34 44.6**	**-4.3**
TURN				SG	**Sb**	**17 34 57.1**	**-5.9**
DALY	**Dalyan (Mula)**	**1.10**	**57**	*i*P	**Pb**	**17 34 49.7**	**+0.6**
DALY				IAML_P			
	comp=Z,210nm,0.2s						
DALY	**Dalyan (Mula)**	**1.10**	**57**	PN	**Pb**	**17 34 49.7**	**+0.6**
DALY				SN	**Sn**	**17 35 06.1**	**+2.7**
YER	**Yerkesik**	**1.10**	**34**	P	**Pn**	**17 34 48.6**	**-0.5**
YER	**Yerkesik**	**1.10**	**34**	PN	**Pb**	**17 34 49.9**	**+0.6**
YER				SN	**Sn**	**17 35 05.8**	**+2.1**
FETY	**Fethiye**	**1.33**	**72**	P	**Pb**	**17 34 53.9**	**+0.6**
FETY	**Fethiye**	**1.33**	**72**	*i*P	**Pb**	**17 34 54.9**	**+1.7**
FETY				*i*S	**Sb**	**17 35 14.9**	**+5.0**
FETY				IAML_P			
	comp=Z,538nm,0.2s						
FETY	**Fethiye**	**1.33**	**72**	PN	**Pb**	**17 34 53.9**	**+0.6**
ANAF	**Anafi Island**	**1.41**	**276**	P	**Pn**	**17 34 53.0**	**-0.2**
ANAF				S	**Sn**	**17 35 10.9**	**-0.2**
	comp=Z,152nm,0.5s						
ANAF	**Anafi Island**	**1.41**	**276**	P	**Pn**	**17 34 53.0**	**-0.2**
ANAF				S	**Sn**	**17 35 11.6**	**+0.4**
ANAF				AML	AML	17 35 17.4	
	comp=E,332μm,0.4s						
ANAF				AML	AML	17 35 19.2	
	comp=N,359μm,0.6s						
AYDN	**Tasoluk**	**1.47**	**12**	*i*P	**Pb**	**17 34 57.5**	**+2.0**
AYDN				*i*S	**Sb**	**17 35 18.9**	**+5.2**
AYDN				IAML_P			
	comp=Z,334nm,0.2s						
ZKR	**Zakros**	**1.53**	**224**	P	**Pn**	**17 34 54.9**	**+0.1**
SMG	**Samos**	**1.58**	**340**	P	**Pb**	**17 34 57.2**	**-0.2**
SANT	**Santorini**	**1.66**	**276**	P	**Pn**	**17 34 56.5**	**-0.2**
SANT	**Santorini**	**1.66**	**276**	PN	**Pn**	**17 34 57.4**	**+0.7**
AKAS	**Kas**	**1.69**	**89**	*i*P	**Pb**	**17 35 00.2**	**+0.8**
AKAS				IAML_P			
	comp=Z,338nm,0.2s						
AKAS	**Kas**	**1.69**	**89**	PN	**Pb**	**17 34 59.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**10**	PN	**Pb**	**17 35 00.0**	**-0.4**
APE	**Apeiranthos**	**1.80**	**299**	PN	**Pn**	**17 34 59.1**	**+0.4**
NPS	**Neapolis**	**1.81**	**239**	P	**Pn**	**17 34 58.1**	**-0.7**
GOLH	**Golhisar**	**1.94**	**58**	*i*P	**Pb**	**17 35 07.2**	**+3.7**
GOLH				IAML_P			
	comp=Z,69nm,0.1s						
LAST	**Lasithi**	**1.96**	**238**	P	**Pn**	**17 35 01.1**	**+0.2**

JMA 10 17:35:16.3±0.1, 24°.06N×123°.58E, h24km±2km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.21**	**91**	P	Pb	17 35 21.6	-0.3
HATJ				S	Sb	17 35 25.7	0.0
IRIF	**Iriomote-Funau**	**0.31**	**27**	P	Pb	17 35 23.0	-0.3
IRIF				*e*S	Sb	17 35 28.0	-0.1
JKRS	**Kuro-shima**	**0.43**	**66**	P	Pb	17 35 25.3	0.0
JKRS				S	Sb	17 35 32.0	+0.6
JIJ	**Ishigaki jima**	**0.60**	**59**	P	Pb	17 35 27.5	-0.6
JIJ				S	Sb	17 35 35.7	-0.5
JYNG	**Yonagunijimaku**	**0.70**	**304**	P	Pb	17 35 29.8	0.0
JYNG				*e*S	Sn	17 35 39.9	-0.8
JISG	**Ishigakijimahi**	**0.85**	**52**	P	Pb	17 35 31.6	-0.8
JISG				*e*S	Sb	17 35 43.5	+0.1

TAP 10 17:35:23.5, 24°.14N×121°.70E, h6km±1km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**290**	*i*P	Pg	17 35 25.6	-0.2
	baz=289						
NACB				S	Sg	17 35 27.4	+0.2
	baz=289						
TWD	**Chiawan**	**0.11**	**238**	P	Pg	17 35 25.6	-0.3
	baz=236						
TWD				S	Sg	17 35 27.5	0.0
	baz=236						
ETLH	**Xiulin Townshi**	**0.21**	**289**	P	Pg	17 35 27.4	-0.3
	baz=288						
ETLH				*e*S	Sg	17 35 30.6	+0.1
	baz=288						
ENA	**Nanau**	**0.29**	**7**	P	Pg	17 35 29.2	0.0
	baz=8.0						
ENA				*e*S	Sg	17 35 33.3	+0.2
	baz=8.0						
NANB	**Nanao**	**0.29**	**9**	P	Pg	17 35 29.2	-0.1
	baz=8.0						
NANB				S	Sg	17 35 33.4	+0.3
	baz=8.0						
WHF	**Hehuan Shan**	**0.40**	**271**	P	Pg	17 35 30.8	-0.5
	baz=270						
WHF				S	Sg	17 35 36.8	+0.1
	baz=270						
ESL	**Shilin**	**0.41**	**217**	*e*P	Pg	17 35 30.3	-1.1
	baz=215						
ESL				*e*S	Sg	17 35 38.0	+1.3
	baz=215						
NNSB	**Datong**	**0.41**	**315**	*e*P	Pg	17 35 31.3	-0.2
	baz=314						
NNSB				*e*S	Sg	17 35 37.1	+0.3
	baz=314						
NNS	**Nan Shan**	**0.42**	**315**	*e*P	Pg	17 35 31.2	-0.5
	baz=315						
NNS				*e*S	Sg	17 35 37.5	+0.2
	baz=315						
CHGB	**Renai**	**0.49**	**261**	P	Pg	17 35 32.6	-0.3
	baz=260						
CHGB				*e*S	Sg	17 35 40.1	+0.7
	baz=260						
TWC	**Suao**	**0.49**	**16**	P	Pg	17 35 33.5	+0.6
	baz=17						
TWC				S	Sg	17 35 39.8	+0.5
	baz=17						
NDT	**Datong Townshi**	**0.49**	**340**	*e*P	Pg	17 35 32.9	-0.1
	baz=339						
NDT				*e*S	Sg	17 35 40.1	+0.6
	baz=339						
TWT	**Tachien**	**0.49**	**283**	*e*P	Pg	17 35 33.8	+0.7
	baz=282						
TWT				S	Sg	17 35 40.6	+1.1
	baz=282						
TDCB	**Techi**	**0.51**	**283**	*e*P	Pg	17 35 33.3	-0.1
	baz=282						
TDCB				*e*S	Sg	17 35 40.4	+0.4
	baz=282						
ENTT	**Nioudou**	**0.51**	**346**	*e*P	Pg	17 35 33.5	0.0
	baz=346						
ENTT				*e*S	Sg	17 35 40.6	+0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=243	**0.14**	**256**	⇓*i*P	**Pb**	**17 58 35.0**	**-1.2**
TWD	baz=243			*i* S	**Sb**	**17 58 36.8**	**-2.3**
NACB	**Ninganchiao** baz=297	**0.15**	**292**	⇓P	**Pb**	**17 58 35.0**	**-1.3**
NACB	baz=297			S	**Sb**	**17 58 36.8**	**-2.6**
HWA	**Hwalien** baz=215	**0.19**	**224**	*e*P	**Pg**	**17 58 36.8**	**+0.9**
HWA	baz=215			*e*S	**Sb**	**17 58 39.8**	**-0.7**
ENLB	**Shoufeng** baz=213	**0.25**	**213**	P	**Pg**	**17 58 37.8**	**+0.8**
ENLB	baz=213			*e*S	**Sb**	**17 58 42.2**	**0.0**
ETLH	**Xiulin Townshi** baz=292	**0.26**	**290**	⇓P	**Pg**	**17 58 36.9**	**-0.3**
ETLH	baz=292			S	**Sg**	**17 58 40.2**	**-0.8**
NANB	**Nanao** baz=7.0	**0.31**	**360**	P	**Pg**	**17 58 38.5**	**+0.5**
NANB	baz=7.0			S	**Sg**	**17 58 42.7**	**+0.4**
ENA	**Nanau** baz=7.0	**0.31**	**358**	*e*P	**Pg**	**17 58 38.2**	**+0.2**
ENA	baz=7.0			S	**Sg**	**17 58 42.8**	**+0.4**
ESL	**Shilin** baz=226	**0.42**	**224**	P	**Pg**	**17 58 40.0**	**0.0**
ESL	baz=226			*e*S	**Sg**	**17 58 45.0**	**-0.6**
WHF	**Hehuan Shan** baz=273	**0.44**	**274**	P	**Pg**	**17 58 40.3**	**-0.3**
WHF	baz=273			S	**Sg**	**17 58 45.4**	**-1.2**
NNSB	**Datong** baz=316	**0.46**	**313**	⇓P	**Pg**	**17 58 40.8**	**0.0**
NNSB	baz=316			S	**Sg**	**17 58 46.6**	**-0.3**
NNS	**Nan Shan** baz=316	**0.47**	**313**	*i* P	**Pg**	**17 58 41.0**	**0.0**
NNS	baz=316			*i* S	**Sg**	**17 58 47.0**	**-0.3**
TWC	**Suao** baz=9.0	**0.50**	**10**	P	**Pb**	**17 58 42.6**	**+0.4**
TWC	baz=9.0			*e*S	**Sg**	**17 58 48.9**	**+0.8**
CHGB	**Renai** baz=255	**0.53**	**264**	P	**Pg**	**17 58 41.9**	**-0.2**
CHGB	baz=255			S	**Sg**	**17 58 48.4**	**-0.8**
NDT	**Datong Townshi** baz=339	**0.53**	**336**	P	**Pg**	**17 58 42.6**	**+0.5**
NDT	baz=339			S	**Sg**	**17 58 49.6**	**+0.4**
EGFH	**Guangfu** baz=218	**0.53**	**214**	*e*P	**Pg**	**17 58 42.7**	**+0.6**
TWT	**Tachien** baz=284	**0.54**	**285**	P	**Pg**	**17 58 42.7**	**+0.4**
TWT	baz=284			S	**Sg**	**17 58 49.7**	**+0.1**
ENTT	**Nioudou** baz=346	**0.55**	**342**	P	**Pg**	**17 58 43.0**	**+0.6**
ENTT	baz=346			*e*S	**Sg**	**17 58 50.0**	**+0.3**
EOS1	**EOS1** baz=30	**0.55**	**39**	*e*P	**Pn**	**17 58 44.5**	**-0.5**
TDCB	**Techi** baz=284	**0.56**	**284**	*e*P	**Pb**	**17 58 42.9**	**-0.4**
TDCB	baz=284			*e*S	**Sg**	**17 58 49.5**	**-0.5**
TWE	**Neicheng** baz=357	**0.61**	**353**	*e*P	**Pg**	**17 58 44.1**	**+0.6**
TWE	baz=357			*e*S	**Sb**	**17 58 51.8**	**-0.7**
SLBB	**Yuanshan** baz=353	**0.64**	**351**	P	**Pb**	**17 58 44.0**	**-0.7**
SLBB	baz=353			*e*S	**Sb**	**17 58 52.9**	**-0.7**
YHNB	**Yeheng** baz=330	**0.65**	**328**	P	**Pb**	**17 58 44.5**	**-0.3**
YHNB	baz=330			*e*S	**Sb**	**17 58 52.1**	**-1.7**
NSK	**Sanguang** baz=330	**0.66**	**327**	*e*P	**Pb**	**17 58 44.7**	**-0.3**
NSK	baz=330			*e*S	**Sb**	**17 58 52.9**	**-1.3**
VWDT	**VWDT** baz=243	**0.66**	**237**	*e*P	**Pg**	**17 58 45.3**	**+0.7**
HGSD	**Ruisui** baz=217	**0.69**	**206**	*e*P	**Pg**	**17 58 46.1**	**+1.1**
NWLT	**Wulai** baz=330	**0.70**	**341**	*e*P	**Pb**	**17 58 45.7**	**+0.1**
NWLT	baz=330			*e*S	**Sb**	**17 58 54.3**	**-0.8**
EHY	**Hungye** baz=211	**0.72**	**213**	*e*P	**Pb**	**17 58 46.1**	**+0.1**
NTC	**Toucheng** baz=6.0	**0.74**	**6**	*e*P	**Pb**	**17 58 46.4**	**+0.1**
WHP	**Taichung City** baz=283	**0.75**	**283**	*e*P	**Pb**	**17 58 46.4**	**-0.2**
DPDB	**Guoxing** baz=255	**0.76**	**264**	*e*P	**Pb**	**17 58 46.4**	**-0.3**
DPDB	baz=255			*e*S	**Sb**	**17 58 55.8**	**-1.1**
SSLB	**Suanglung** baz=254	**0.80**	**246**	P	**Pb**	**17 58 47.0**	**-0.3**
SSLB	baz=254			*e*S	**Sb**	**17 58 56.5**	**-1.5**
YULB	**Yu-li** baz=220	**0.83**	**210**	*e*P	**Pb**	**17 58 47.0**	**-0.8**
YULB	baz=220			*e*S	**Sb**	**17 58 58.5**	**-0.4**
LIOB	**Emei** baz=309	**0.85**	**308**	*e*P	**Pb**	**17 58 48.4**	**+0.1**
NSTT	**Nanjuang** baz=308	**0.85**	**307**	*e*P	**Pb**	**17 58 48.3**	**0.0**
NSTT	baz=308			*e*S	**Sb**	**17 58 58.8**	**-0.9**
TIPB	**Shuangxi** baz=356	**0.85**	**5**	P	**Pg**	**17 58 48.9**	**+0.7**
WLTB	**Daxi** baz=329	**0.86**	**328**	*e*P	**Pb**	**17 58 48.7**	**+0.3**
TWF1	**Yuli** baz=218	**0.87**	**209**	*e*P	**Pb**	**17 58 48.2**	**-0.2**
TWF1	baz=218			*e*S	**Sb**	**17 58 59.4**	**-0.5**
NHDH	**Xindian Distri** baz=338	**0.87**	**346**	*e*P	**Pn**	**17 58 49.2**	**-0.2**
NHDH	baz=338			*e*S	**Sb**	**17 58 59.9**	**-0.1**
TATO	**Taipei** baz=345	**0.89**	**344**	*e*P	**Pb**	**17 58 48.4**	**-0.4**
TWB1	**Santiao Chiao** baz=7.0	**0.92**	**14**	*e*P	**Pb**	**17 58 49.4**	**+0.1**
WHYT	**Xinyi Township** baz=249	**0.92**	**243**	*e*P	**Pb**	**17 58 49.4**	**-0.1**
WHYT	baz=249			*e*S	**Sb**	**17 59 01.3**	**-0.3**
NSY	**Sanyi** baz=289	**0.95**	**289**	*e*P	**Pg**	**17 58 51.1**	**+1.2**
NWF	**Wu-fen Shan** baz=354	**0.95**	**2**	*e*P	**Pg**	**17 58 50.7**	**+0.7**
NWF	baz=354			*e*S	**Sb**	**17 59 02.5**	**0.0**
WFSB	**Wu-fen Shan** baz=1.0	**0.95**	**2**	*e*P	**Pg**	**17 58 50.5**	**+0.5**
NMLH	**Miaoli** baz=296	**0.97**	**296**	*e*P	**Pg**	**17 58 52.1**	**+1.7**
WJS	**Zhushan** baz=246	**0.98**	**253**	*e*P	**Pg**	**17 58 51.2**	**+0.6**
TCU	**Taichung** baz=266	**0.98**	**272**	*e*P	**Pg**	**17 58 51.6**	**+1.1**
NCU	**National Centr** baz=330	**0.99**	**329**	*e*P	**Pg**	**17 58 51.7**	**+0.9**
FULB	**Fuli** baz=219	**1.00**	**205**	*e*P	**Pn**	**17 58 51.3**	**0.0**
WNT	**Mingjian** baz=251	**1.00**	**257**	*e*P	**Pg**	**17 58 51.9**	**+0.9**
WNT	baz=251			*e*S	**Sg**	**17 59 05.5**	**+1.4**
PTSB	**Yuanli** baz=290	**1.01**	**289**	*e*P	**Pg**	**17 58 52.1**	**+1.0**
TWS1	**Kuangyinshan** baz=343	**1.03**	**343**	*e*P	**Pg**	**17 58 52.6**	**+1.2**
WDJ	**Dajia District** baz=283	**1.04**	**283**	*e*P	**Pg**	**17 58 53.0**	**+1.3**
WDJ	baz=283			*e*S	**Sn**	**17 59 06.1**	**-0.1**
YM01	**YM01** baz=2.0	**1.04**	**351**	*e*P	**Pg**	**17 58 52.7**	**+1.1**
YM10	**YM10** baz=336	**1.05**	**351**	*e*P	**Pg**	**17 58 52.4**	**+0.5**
YM11	**YM11** baz=2.0	**1.06**	**351**	*e*P	**Pn**	**17 58 52.0**	**-0.1**
YM08	**YM08** baz=337	**1.08**	**352**	*e*P	**Pg**	**17 58 53.2**	**+0.8**
NTST	**Danshui** baz=345	**1.08**	**345**	*e*P	**Pg**	**17 58 53.8**	**+1.3**
ANP	**Anpu** baz=348	**1.09**	**349**	*e*P	**Pn**	**17 58 52.6**	**+0.1**
WCHH	**Zhanghua** baz=268	**1.09**	**268**	*e*P	**Pg**	**17 58 53.1**	**+0.5**
CHN5	**Tsauling** baz=242	**1.11**	**242**	*e*P	**Pg**	**17 58 53.4**	**+0.4**
CHN5	baz=242			*e*S	**Sg**	**17 59 09.1**	**+1.6**
ELDTW	**Lidau** baz=217	**1.14**	**216**	*e*P	**Pn**	**17 58 52.8**	**-0.5**
WGK	**Gukeng** baz=249	**1.17**	**249**	*e*P	**Pg**	**17 58 54.7**	**+0.6**
WGK	baz=249			*e*S	**Sg**	**17 59 10.8**	**+1.4**
WDLH	**Douliu** baz=249	**1.19**	**249**	*e*P	**Pg**	**17 58 54.7**	**+0.2**
YOJ	**Yonaguni jima** baz=69	**1.20**	**73**	*e*P	**Pg**	**17 58 54.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.20**	**73**	P	**Pg**	**17 58 55.4**	**+0.7**
YOJ				*e*S	**Sg**	**17 59 11.2**	**+0.8**
RLNB	**Erlin** baz=261	**1.29**	**260**	*e*P	**Pb**	**17 58 56.5**	**+0.8**
CHN4	**Tsaushan** baz=236	**1.31**	**235**	*e*P	**Pg**	**17 58 57.1**	**+0.4**
TPUB	**Ta-pu** baz=233	**1.31**	**232**	*e*P	**Pb**	**17 58 56.6**	**+0.5**
STYT	**Tauyuan** baz=225	**1.31**	**224**	*e*P	**Pb**	**17 58 56.5**	**+0.4**
WTP	**Ta-pu** baz=231	**1.35**	**230**	*e*P	**Pb**	**17 58 57.4**	**+0.6**
WTP	baz=231			*e*S	**Sg**	**17 59 16.6**	**+1.3**
CHY	**Chiayi** baz=244	**1.36**	**243**	*e*P	**Pb**	**17 58 57.5**	**+0.6**
WTCT	**Ta-ch'eng** baz=260	**1.37**	**260**	*e*P	**Pb**	**17 58 57.0**	**0.0**
TWGBT	**Beinan** baz=190	**1.43**	**206**	*e*P	**Pn**	**17 58 57.4**	**+0.1**
TWG	**Pinlang** baz=190	**1.43**	**206**	*e*P	**Pb**	**17 58 57.6**	**-0.5**
CHN1	**Nanshi** baz=233	**1.45**	**231**	*e*P	**Pb**	**17 58 59.2**	**+0.7**
CHN1	baz=233			*e*S	**Sg**	**17 59 19.0**	**+0.5**
SNST	**Tainan City** baz=234	**1.45**	**232**	*e*P	**Pb**	**17 58 58.8**	**+0.3**
WLGB	**Puzi** baz=246	**1.47**	**245**	*e*P	**Pn**	**17 58 57.7**	**-0.1**
WSF	**Szhu** baz=252	**1.48**	**252**	*e*P	**Pb**	**17 58 59.5**	**+0.6**
SGST	**Jiashian** baz=228	**1.48**	**226**	*e*P	**Pn**	**17 58 58.2**	**+0.3**
CHN8	**Yiju** baz=243	**1.60**	**242**	*e*P	**Pb**	**17 59 00.6**	**-0.4**
SSD	**Sandimen** baz=232	**1.71**	**217**	*e*P	**Pb**	**17 59 02.6**	**-0.2**
MASBT	**Mashibuluo** baz=217	**1.81**	**215**	*e*P	**Pb**	**17 59 04.9**	**+0.2**
IRIF	**Iriomote-Funau** baz=194	**1.82**	**83**	P	**Pb**	**17 59 03.9**	**-0.8**
EAST	**Anshuo** baz=278	**1.91**	**206**	*e*P	**Pb**	**17 59 05.5**	**-0.9**
SCZT	**Fangliau** baz=214	**2.02**	**211**	*e*P	**Pb**	**17 59 06.7**	**-1.5**
JKRS	**Kuro-shima**	**2.07**	**86**	P	**Pb**	**17 59 07.7**	**-1.2**
PHUB	**P'eng-hu** baz=256	**2.08**	**254**	*e*P	**Pn**	**17 59 07.5**	**+1.4**
PNG	**Penghu** baz=258	**2.08**	**255**	*e*P	**Pn**	**17 59 06.8**	**+0.6**
JIJ	**Ishigaki jima**	**2.20**	**83**	P	**Pn**	**17 59 09.0**	**+1.2**
JIJ				*e*S	**Sb**	**17 59 36.4**	**-1.9**
PTTC	**Pingtan** baz=306	**2.27**	**308**	*e*P	**Pn**	**17 59 09.7**	**+1.0**
PTTC	baz=306			*e*S	**Sn**	**17 59 36.1**	**-0.4**
VWUC	**VWUC** baz=294	**2.27**	**293**	*e*P	**Pn**	**17 59 09.1**	**+0.3**
JISG	**Ishigakijimahi**	**2.38**	**78**	P	**Pn**	**17 59 11.7**	**+1.4**
JISG				*e*S	**Sb**	**17 59 40.9**	**-2.7**
PTMZ	**Houxiangcun** baz=292	**2.56**	**292**	*e*P	**Pn**	**17 59 13.0**	**+0.2**
KNMB	**Chin-men Tao** baz=278	**3.09**	**277**	*e*P	**Pn**	**17 59 20.4**	**+0.4**
XPSS	**Dashiqiu** baz=332	**3.14**	**334**	*e*P	**Pn**	**17 59 21.2**	**+0.5**
MHZQ	**Yeshan** baz=309	**3.16**	**309**	*e*P	**Pn**	**17 59 21.8**	**+0.9**
AXDP	**Jialang** baz=284	**3.53**	**284**	*e*P	**Pn**	**17 59 26.5**	**+0.4**

*ISCJB **10** 17:59:32.4±0.3, 24°.12N±0°.01×121°.72E±0°.02, h3km±2km,*
Error ellipse: s-maj=2.9km s-min=1.7km az=24.0
*TAP **10** 17:59:32.5, 24°.12N×121°.70E, h11km, ML3.3, C*
*JMA **10** 17:59:32.7, 24°.14N×121°.72E, h0km, M2.5*
ISC 10 17:59:32.9±0.8, **24°.13N**±0°.02×**121°.71E**±0°.02, **h10**km±5km,
n99, σ0s**53**/139, **16D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=246	**0.11**	**245**	⇓*i*P	**Pg**	**17 59 35.4**	**-0.3**
TWD	baz=246			*i* S	**Sg**	**17 59 37.3**	**-0.3**
NACB	**Ninganchiao** baz=299	**0.11**	**295**	⇓P	**Pg**	**17 59 35.5**	**-0.3**
NACB	baz=299			S	**Sg**	**17 59 37.3**	**-0.4**
HWA	**Hwalien** baz=217	**0.17**	**211**	*e*P	**Pg**	**17 59 37.3**	**+0.6**
ETLH	**Xiulin Townshi** baz=293	**0.22**	**291**	⇓P	**Pg**	**17 59 37.3**	**-0.2**
ETLH	baz=293			*e*S	**Sg**	**17 59 40.6**	**-0.1**
ENLB	**Shoufeng** baz=214	**0.24**	**203**	P	**Pg**	**17 59 38.0**	**+0.1**
ENLB	baz=214			*e*S	**Sg**	**17 59 43.1**	**+1.9**
ENA	**Nanau** baz=7.0	**0.30**	**6**	⇓*i*P	**Pg**	**17 59 38.9**	**-0.1**
ENA	baz=7.0			S	**Sg**	**17 59 43.4**	**+0.3**
NANB	**Nanao** baz=7.0	**0.30**	**8**	⇓*i*P	**Pg**	**17 59 38.9**	**-0.1**
NANB	baz=7.0			*e*S	**Sg**	**17 59 43.1**	**0.0**
ESL	**Shilin** baz=226	**0.40**	**219**	⇓*i*P	**Pg**	**17 59 40.3**	**-0.5**
ESL	baz=226			*e*S	**Sg**	**17 59 45.4**	**-0.7**
WHF	**Hehuan Shan** baz=273	**0.40**	**273**	⇓*i*P	**Pg**	**17 59 40.6**	**-0.4**
WHF	baz=273			S	**Sg**	**17 59 46.0**	**-0.4**
NNSB	**Datong** baz=316	**0.42**	**316**	⇓P	**Pg**	**17 59 41.2**	**0.0**
NNSB	baz=316			S	**Sg**	**17 59 47.0**	**+0.2**
NNS	**Nan Shan** baz=316	**0.43**	**316**	⇓*i*P	**Pg**	**17 59 41.4**	**-0.1**
NNS	baz=316			S	**Sg**	**17 59 47.4**	**+0.1**
CHGB	**Renai** baz=255	**0.49**	**262**	P	**Pg**	**17 59 42.5**	**-0.1**
CHGB	baz=255			S	**Sg**	**17 59 48.9**	**-0.2**
TWC	**Suao** baz=8.0	**0.50**	**15**	P	**Pg**	**17 59 42.6**	**-0.1**
TWC	baz=8.0			S	**Sg**	**17 59 49.6**	**+0.3**
TWT	**Tachien** baz=284	**0.50**	**285**	P	**Pg**	**17 59 43.0**	**+0.3**
TWT	baz=284			S	**Sg**	**17 59 50.0**	**+0.6**
NDT	**Datong Townshi** baz=338	**0.51**	**340**	⇓P	**Pg**	**17 59 42.9**	**+0.1**
NDT	baz=338			*e*S	**Sg**	**17 59 49.6**	**+0.1**
TDCB	**Techi** baz=285	**0.52**	**284**	⇓P	**Pg**	**17 59 43.1**	**+0.1**
TDCB	baz=285			S	**Sg**	**17 59 49.9**	**0.0**
EGFH	**Guangfu** baz=219	**0.52**	**209**	*e*P	**Pg**	**17 59 42.9**	**-0.2**
EGFH	baz=219			*e*S	**Sg**	**17 59 50.4**	**+0.4**
ENTT	**Nioudou** baz=345	**0.53**	**346**	⇓P	**Pg**	**17 59 43.3**	**+0.1**
ENTT	baz=345			S	**Sg**	**17 59 50.5**	**+0.3**
EOS1	**EOS1** baz=30	**0.57**	**42**	*e*P	**Pb**	**17 59 44.4**	**-0.5**
TWE	**Neicheng** baz=357	**0.59**	**357**	⇓P	**Pg**	**17 59 44.5**	**+0.1**
TWE	baz=357			*e*S	**Sg**	**17 59 52.4**	**+0.1**
YHNB	**Yeheng** baz=330	**0.62**	**331**	⇓P	**Pg**	**17 59 44.9**	**0.0**
YHNB	baz=330			S	**Sg**	**17 59 52.9**	**-0.2**
SLBB	**Yuanshan** baz=353	**0.63**	**354**	⇓P	**Pg**	**17 59 44.4**	**-0.7**
NSK	**Sanguang** baz=329	**0.63**	**330**	⇓P	**Pg**	**17 59 45.3**	**+0.1**
NSK	baz=329			S	**Sg**	**17 59 53.5**	**0.0**
VWDT	**VWDT** baz=235	**0.64**	**234**	P	**Pg**	**17 59 45.2**	**-0.1**
VWDT	baz=235			S	**Sg**	**17 59 52.9**	**-0.8**
NWLT	**Wulai** baz=332	**0.67**	**344**	*e*P	**Pg**	**17 59 45.8**	**-0.2**
HGSD	**Ruisui** baz=217	**0.68**	**202**	*e*P	**Pg**	**17 59 46.4**	**+0.2**
HGSD	baz=217			*e*S	**Sb**	**17 59 55.9**	**-0.5**
WHP	**Taichung City** baz=283	**0.71**	**282**	*e*P	**Pb**	**17 59 47.0**	**-0.4**
EHY	**Hungye** baz=221	**0.71**	**210**	*e*P	**Pg**	**17 59 45.8**	**-0.9**
EHY	baz=221			*e*S	**Sg**	**17 59 56.5**	**+0.5**
DPDB	**Guoxing** baz=255	**0.72**	**263**	P	**Pg**	**17 59 46.9**	**0.0**
DPDB	baz=255			*e*S	**Sg**	**17 59 56.3**	**+0.1**
NTC	**Toucheng** baz=7.0	**0.73**	**9**	*e*P	**Pg**	**17 59 47.2**	**+0.1**
SSLB	**Suanglung** baz=255	**0.77**	**244**	P	**Pg**	**17 59 47.4**	**-0.3**
SSLB	baz=255			*e*S	**Sg**	**17 59 56.7**	**-1.1**
LIOB	**Emei** baz=309	**0.81**	**310**	*e*P	**Pb**	**17 59 49.0**	**-0.1**
NSTT	**Nanjuang** baz=308	**0.81**	**308**	*e*P	**Pb**	**17 59 49.0**	**-0.1**
NSTT	baz=308			*e*S	**Sb**	**17 59 59.7**	**-0.5**
YULB	**Yu-li** baz=220	**0.82**	**207**	*e*P	**Pg**	**17 59 47.7**	**-1.1**
WLTB	**Daxi** baz=329	**0.83**	**330**	*e*P	**Pb**	**17 59 50.0**	**+0.5**
NHDH	**Xindian Distri** baz=348	**0.85**	**349**	*e*P	**Pb**	**17 59 49.5**	**-0.2**
TIPB	**Shuangxi** baz=351	**0.85**	**7**	P	**Pg**	**17 59 49.0**	**-0.3**
TWF1	**Yuli** baz=218	**0.86**	**206**	*e*P	**Pg**	**17 59 48.9**	**-0.6**
TWF1	baz=218			*e*S	**Sg**	**18 00 00.8**	**+0.2**
TATO	**Taipei** baz=345	**0.87**	**347**	*e*P	**Pb**	**17 59 49.9**	**-0.1**
WHYT	**Xinyi Township** baz=243	**0.89**	**241**	*e*P	**Pg**	**17 59 50.0**	**-0.1**
NSY	**Sanyi** baz=289	**0.91**	**289**	*e*P	**Pn**	**17 59 51.8**	**+0.1**
TWB1	**Santiao Chiao** baz=7.0	**0.91**	**16**	*e*P	**Pb**	**17 59 50.6**	**-0.2**
NMLH	**Miaoli** baz=296	**0.93**	**296**	*e*P	**Pn**	**17 59 52.5**	**+0.5**
YUS	**Yu-Shan** baz=218	**0.94**	**228**	P	**Pg**	**17 59 50.6**	**-0.5**
YUS	baz=218			*e*S	**Sg**	**18 00 03.4**	**0.0**
TCU	**Taichung** baz=272	**0.94**	**271**	*e*P	**Pn**	**17 59 52.1**	**0.0**
NWF	**Wu-fen Shan** baz=1.0	**0.94**	**4**	*e*P	**Pb**	**17 59 51.4**	**0.0**
WFSB	**Wu-fen Shan** baz=1.0	**0.94**	**4**	*e*P	**Pb**	**17 59 51.2**	**-0.1**
WJS	**Zhushan** baz=247	**0.94**	**251**	*e*P	**Pn**	**17 59 52.1**	**-0.1**
NCU	**National Centr** baz=330	**0.96**	**331**	*e*P	**Pn**	**17 59 52.5**	**+0.1**
WNT	**Mingjian** baz=253	**0.97**	**255**	*e*P	**Pb**	**17 59 52.2**	**+0.5**
WNT	baz=253			*e*S	**Sb**	**18 00 05.8**	**+1.2**
PTSB	**Yuanli** baz=290	**0.97**	**289**	*e*P	**Pn**	**17 59 52.7**	**+0.2**
WDJ	**Dajia District** baz=283	**1.00**	**283**	*e*P	**Pn**	**17 59 53.3**	**+0.4**
FULB	**Fuli** baz=218	**1.00**	**202**	*e*P	**Pg**	**17 59 51.4**	**-0.7**
TWS1	**Kuangyinshan** baz=343	**1.00**	**345**	*e*P	**Pn**	**17 59 52.9**	**-0.1**
TWS1	baz=343			*e*S	**Sn**	**18 00 07.1**	**-0.1**
YM01	**YM01** baz=359	**1.02**	**353**	*e*P	**Pb**	**17 59 52.5**	**-0.2**
YM01	baz=359			*e*S	**Sb**	**18 00 06.3**	**+0.1**
YM10	**YM10** baz=337	**1.03**	**353**	*e*P	**Pb**	**17 59 53.0**	**+0.1**
YM10	baz=337			*e*S	**Sn**	**18 00 08.0**	**0.0**
YM04	**YM04** baz=349	**1.03**	**351**	*e*P	**Pb**	**17 59 52.8**	**-0.1**
YM05	**YM05** baz=337	**1.04**	**353**	*e*P	**Pb**	**17 59 53.0**	**0.0**
YM11	**YM11** baz=2.0	**1.04**	**353**	*e*P	**Pb**	**17 59 52.9**	**-0.1**
WCHH	**Zhanghua** baz=269	**1.05**	**268**	*e*P	**Pb**	**17 59 53.1**	**-0.1**
NTST	**Danshui** baz=345	**1.06**	**347**	*e*P	**Pb**	**17 59 53.4**	**0.0**
YM08	**YM08** baz=2.0	**1.06**	**354**	*e*P	**Pb**	**17 59 53.2**	**-0.2**
ANP	**Anpu** baz=348	**1.07**	**351**	*e*P	**Pb**	**17 59 53.3**	**-0.2**
CHKT	**Chengkung** baz=184	**1.07**	**197**	*e*P	**Pg**	**17 59 52.0**	**-1.5**
CHN5	**Tsauling** baz=243	**1.08**	**241**	*e*P	**Pb**	**17 59 54.1**	**+0.4**
CHN5	baz=243			*e*S	**Sn**	**18 00 09.6**	**+0.4**
ELDTW	**Lidau** baz=216	**1.13**	**214**	*e*P	**Pg**	**17 59 53.0**	**-1.6**
WGK	**Gukeng** baz=249	**1.13**	**247**	*e*P	**Pn**	**17 59 55.0**	**+0.2**
WDLH	**Douliu** baz=250	**1.15**	**248**	*e*P	**Pn**	**17 59 55.3**	**+0.2**
YOJ	**Yonaguni jima**	**1.24**	**74**	P	**Pn**	**17 59 56.4**	**+0.2**
YOJ				*e*S	**Sb**	**18 00 12.4**	**+0.1**
RLNB	**Erlin** baz=261	**1.25**	**259**	*e*P	**Pg**	**17 59 56.4**	**-0.6**
CHN4	**Tsaushan** baz=235	**1.28**	**233**	*e*P	**Pg**	**17 59 57.6**	**+0.1**
TPUB	**Ta-pu** baz=232	**1.28**	**230**	*e*P	**Pn**	**17 59 57.1**	**+0.2**
STYT	**Tauyuan** baz=224	**1.29**	**222**	*e*P	**Pn**	**17 59 56.8**	**-0.2**
STYT	baz=224			*e*S	**Sb**	**18 00 14.5**	**+0.5**
WTCT	**Ta-ch'eng** baz=260	**1.33**	**259**	*e*P	**Pn**	**17 59 57.7**	**+0.2**
CHY	**Chiayi** baz=244	**1.33**	**242**	*e*P	**Pn**	**17 59 57.3**	**-0.2**
WTP	**Ta-pu** baz=231	**1.33**	**229**	*e*P	**Pg**	**17 59 58.2**	**-0.3**
WTP	baz=231			*e*S	**Sn**	**18 00 16.7**	**+1.4**

TWG	Pinlang	1.42	204	*e*P		Pn	17 59 58.2 -0.6
	baz=189						
TWGBT	Beinan	1.42	204	*e*P		Pn	17 59 57.1 -1.7
	baz=189						
SNST	Tainan City	1.43	231	*e*P		Pn	17 59 58.8 -0.1
	baz=234						
CHN1	Nanshi	1.43	229	*e*P		Pb	17 59 59.7 0.0
	baz=232						
WLGB	Puzi	1.44	244	*e*P		Pb	17 59 59.7 -0.1
	baz=246						
WSF	Szhu	1.44	251	*e*P		Pb	17 59 59.8 -0.1
	baz=252						
SGST	Jiashian	1.46	225	*e*P		Pn	17 59 59.5 +0.1
	baz=227						
SGST				*e*S		Sg	18 00 19.8 -0.3
	baz=227						
CHN8	Yiju	1.57	241	*e*P		Pb	18 00 02.0 -0.1
	baz=243						
SSD	Sandimen	1.69	216	*e*P		Pn	18 00 03.4 +0.9
	baz=231						
MASBT	Mashibuluo	1.80	213	*e*P		Pn	18 00 04.2 +0.2
	baz=215						
IRIF	Iriomote-Funau	1.86	83	*e*S		Sb	18 00 29.9 -0.4
EAST	Anshuo	1.91	205	*e*P		Pn	18 00 06.2 +0.7
	baz=192						
SCZT	Fangliau	2.01	210	*e*P		Pn	18 00 08.2 +1.3
	baz=212						
PNG	Penghu	2.05	255	*e*P		Pn	18 00 07.7 +0.3
	baz=257						
PHUB	P'eng-hu	2.05	253	*e*P		Pn	18 00 07.6 +0.3
	baz=256						
JKRS	Kuro-shima	2.11	87	P		Pn	18 00 08.4 +0.2
JKRS				*e*S		Sn	18 00 35.6 +1.2
PTTC	Pingtan	2.23	308	*e*P		Pn	18 00 09.5 -0.3
	baz=307						
VWUC	VWUC	2.23	293	*e*P		Pn	18 00 09.3 -0.5
	baz=294						
JIJ	Ishigaki jima	2.24	83	P		Pn	18 00 09.3 -0.7
JIJ				*e*S		Sn	18 00 39.0 +1.3
JISG	Ishigakijimahi	2.42	79	P		Pn	18 00 12.1 -0.4
PTMZ	Houxiangcun	2.52	292	*e*P		Pn	18 00 13.5 -0.4
	baz=292						
PTMZ				*e*S		Sn	18 00 43.3 -1.4
	baz=292						
KNMB	Chin-men Tao	3.04	277	*e*P		Pn	18 00 21.4 +0.3
	baz=278						
AXDP	Jialang	3.49	284	*e*P		Pn	18 00 26.9 -0.2
	baz=284						

ISCJB ***10*** *18:18:53.4±0.8, 38°.21N±0°.04×141°.95E±0°.10, h69km±6km, mb3.6/5, Error ellipse: s-maj=13.6km s-min=5.5km az=24.1*
IDC ***10*** *18:18:54.3±2.8, 38°.27N×141°.98E, h63km±26km, mb3.3/5, mb1 3.5/8, mb1mx3.2/47, mbtmp3.6/8, ML2.7/3, Error ellipse: s-maj=32.2km s-min=12.1km az=116.0*
JMA ***10*** *18:18:55.1, 38°.22N×141°.85E, h63km±1km, M3.6*
JMA Felt I J1.
ISC 10 18:18:54.0±1.3**, 38°.21N**±0°.06×**142°.00E**±0°.10**, h60**km±10km**, n28**, σ0s92/35**, mb3.5/5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.43	284	P	Pn	18 19 05.7	+0.4
JIKH				S	Sn	18 19 13.1	-0.4
JIO	Ouri	0.57	296	P	Pn	18 19 07.0	+0.3
JIO				S	Sn	18 19 15.3	-0.6
JKMT	Kesennumamotoy	0.73	326	P	Pn	18 19 09.1	+0.5
JKMT				S	Sn	18 19 19.2	-0.1
OFUJ	Ofunato	0.91	344	P	Pn	18 19 11.6	+0.7
OFUJ				S	Sn	18 19 23.5	+0.2
JMK	Ichinoseki	0.96	321	P	Pn	18 19 12.1	+0.6
JMK				S	Sn	18 19 24.3	-0.2
JMM	Marumori	1.01	251	P	Pn	18 19 11.8	-0.4
JMM				S	Sn	18 19 24.3	-1.3
JOU	Okura	1.06	279	P	Pn	18 19 12.8	-0.1
JOU				S	Sn	18 19 26.1	-0.8
JFK	Kawauchi	1.23	227	P	Pn	18 19 15.1	+0.1
JFK				S	Sn	18 19 30.0	-0.7
JOM	Ohasama	1.38	337	P	Pn	18 19 17.7	+0.7
JOM				S	Sn	18 19 34.7	+0.4
JYK	Kaneyama	1.47	299	P	Pn	18 19 18.3	+0.1
JFT	Otama	1.48	243	P	Pn	18 19 18.9	+0.4
JFT				S	Sn	18 19 36.3	-0.6
JYS	Shirataka	1.52	271	P	Pn	18 19 19.1	+0.1
JYS				S	Sn	18 19 37.6	-0.2
JRG	Rokugo	1.59	318	P	Pn	18 19 20.5	+0.5
JYA	Atsumi	1.84	283	P	Pn	18 19 23.3	+0.1
MJAR	Matsushiro Arr	3.45	242	P	Pn	18 19 46.5	+1.3
	0.2nm,0.3s,baz=40,slow=13,SNR=13						
MJAR				S	Sn	18 20 25.8	+1.0
	0.1nm,0.3s,baz=337,slow=42,SNR=1.1						
ASAJ	Asahikawa	5.92	4	P	Pn	18 20 19.1	0.0
	0.4nm,0.3s,baz=180,slow=18,SNR=7.6						
ASAJ				S	Sn	18 21 21.8	-3.6
	0.3nm,0.3s,baz=318,slow=8.2,SNR=1.7						
USRK	Ussuriysk Ar.	9.63	312	P	Pn	18 21 10.5	+0.8
	baz=122,slow=14,SNR=9.3						
H11N2	WAKE ISLAND Hy	28.38	123	T	T	18 55 01.7	
	baz=316,slow=76,SNR=30						
H11N1	WAKE ISLAND Hy	28.39	123	T	T	18 55 02.3	
	baz=316,slow=76,SNR=36						
H11N3	WAKE ISLAND Hy	28.39	123	T	T	18 55 03.0	
	baz=316,slow=76,SNR=37						
H11S1	WAKE ISLAND Hy	29.13	125	T	T	18 56 01.8	
	baz=318,slow=76,SNR=46						
H11S3	WAKE ISLAND Hy	29.14	125	T	T	18 56 01.9	
	baz=318,slow=76,SNR=52						
H11S2	WAKE ISLAND Hy	29.15	125	T	T	18 56 03.0	
	baz=318,slow=76,SNR=27						
MKAR	Makanchi Array	43.90	301	P	P	18 26 53.6	-0.9
	0.3nm,0.5s,baz=100,slow=8.1,SNR=4.0						
ILAR	Eielson Array	48.26	33	P	P	18 27 29.8	+1.4
	0.3nm,0.7s,baz=277,slow=7.2,SNR=3.9						
WRA	Warramunga Arr	58.29	188	P	P	18 28 42.3	-0.2
	0.4nm,0.5s,baz=4.7,slow=7.2,SNR=7.6						
ASAR	Alice Springs	62.02	188	P	P	18 29 07.7	-0.3
	0.3nm,0.7s,baz=359,slow=4.1,SNR=5.5						
FINES	FINESS Array B	67.99	332	P	P	18 29 46.4	+0.1
	4.4nm,1.0s,baz=57,slow=14,SNR=1.8						

ISCJB ***10*** *18:22:17.1±0.6, 0°.7N±0°.1×27°.79W±0°.08, h10km, mb3.8/8, MS3.5/16, Error ellipse: s-maj=15.5km s-min=10.3km az=159.1*
IDC ***10*** *18:22:18.8±1.1, 0°.74N×27°.62W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/36, mbtmp3.8/8, MS3.5/16, Ms1 3.5/16, ms1mx3.3/33, Error ellipse: s-maj=47.0km s-min=22.5km az=149.0*
NEIC ***10*** *18:22:19.4±2.5, 0°.75N±0°.05×27°.78W±0°.09, h10km±1km, mb4.4/10*
ISC 10 18:22:19.4±0.7**, 0°.8N**±0°.1×**27°.77W**±0°.10**, h10**km**, n35, σ1s25/16, mb3.9**/11**, MS3.5**/16**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	10.43	231	Pn	Pn	18 24 48.1	-1.1
SACV	Santiago Islan	14.70	16	Pn	Pn	18 25 45.9	-1.7
H10N3	ASCENSION HYDR	15.75	123	T	T	18 42 16.2	
	baz=302,slow=74,SNR=32						
H10N2	ASCENSION HYDR	15.76	123	T	T	18 42 17.2	
	baz=302,slow=74,SNR=22						
H10N1	ASCENSION HYDR	15.77	123	T	T	18 42 19.1	
	baz=302,slow=74,SNR=21						
ASCN	Ascension	15.92	123	Pn	Pn	18 26 02.2	-1.4
H10S3	ASCENSION HYDR	16.24	127	T	T	18 42 52.4	
	baz=304,slow=74,SNR=39						
H10S2	ASCENSION HYDR	16.25	127	T	T	18 43 01.1	
	baz=276,slow=74,SNR=21						
DBIC	Dimbokro	23.59	75	P	P	18 27 30.4	-0.3
	3.6nm,0.9s,baz=222,slow=9.8,SNR=3.6						
DBIC				LR	LR	18 35 10.6	
	comp=Z,242nm,18.2s,baz=230,slow=33						
DBIC	Dimbokro	23.59	75	IAmb	IAmb	18 27 35.8	
	comp=Z,15nm,1.4s						
MDP	Montagnes des	25.21	280	LR	LR	18 35 42.3	
	comp=Z,87nm,19.4s,baz=48,slow=32						
BDFB	Brasilia	25.81	230	LR	LR	18 37 07.5	
	comp=Z,154nm,20.6s,baz=53,slow=34						
TOA0	Torodi Ar. Sit	31.67	66	P	P	18 28 43.5	+0.1
TOA0				IAmb	IAmb	18 29 01.3	
	comp=Z,2.9nm,1.1s						
TORD	Torodi Ar. Bea	31.67	66	P	P	18 28 42.4	-0.9
	comp=Z,0.5nm,0.6s,baz=269,slow=9.7,SNR=4.3						
TORD				LR	LR	18 39 33.0	
	comp=Z,138nm,21.9s,baz=295,slow=33						
GRGR	Grenville	35.46	290	P	P	18 29 15.4	-1.0
SAML	Samuel	36.58	254	P	P	18 29 25.9	-0.1
SAML				IAmb	IAmb	18 29 31.1	
	comp=Z,8.6nm,1.4s						
CPUP	Villa Florida	39.22	224	LR	LR	18 46 00.7	
	comp=Z,97nm,18.2s,baz=38,slow=36						
LPAZ	La Paz	43.28	245	P	P	18 30 25.1	+2.7
	comp=Z,1.3nm,0.8s,baz=61,slow=6.6,SNR=5.5						
LPAZ				LR	LR	18 48 11.9	
	comp=Z,168nm,18.6s,baz=100,slow=36						
LPAZ	La Paz	43.28	245	IAmb	IAmb	18 30 26.2	
	comp=Z,1.4nm,0.8s						
ESDC	Sonseca Array	44.40	26	P	P	18 30 31.3	+0.9
	comp=Z,0.4nm,0.6s,baz=219,slow=8.3,SNR=5.4						
ESDC	Sonseca Array	44.40	26	IAmb	IAmb	18 30 39.6	
	comp=Z,1.6nm,1.2s						
ROSC	El Rosal	46.66	276	LR	LR	18 49 54.8	
	comp=Z,160nm,18.7s,baz=66,slow=35						
DAVOX	Davos/Dischmat	56.38	30	LR	LR	18 54 23.0	
	comp=Z,25nm,18.1s,baz=266,slow=34						
PLCA	Paso Flores	56.70	218	LR	LR	18 55 46.9	
	comp=Z,29nm,19.4s,baz=68,slow=35						
BOSA	Boshof	58.50	125	LR	LR	18 52 18.8	
	comp=Z,44nm,21.2s,baz=304,slow=31						
GERES	GERESS Array B	59.67	30	P	P	18 32 24.2	+0.1
	comp=Z,0.7nm,0.8s,baz=213,slow=7.1,SNR=4.7						
GERES				LR	LR	18 55 52.5	
	comp=Z,15nm,19.6s,baz=326,slow=34						
JSC	Jenkinsville	60.00	310	P	P	18 32 26.2	-0.3
JSC				IAmb	IAmb	18 32 26.9	
	comp=Z,8.2nm,1.3s						
KMBO	Kilima Mbogo	65.04	92	LR	LR	18 58 23.0	
	comp=Z,29nm,18.7s,baz=92,slow=33						
NOA	NORSAR Array B	67.05	19	LR	LR	18 58 13.5	
	comp=Z,7.5nm,20.6s,baz=190,slow=32						
BRTR	Keskin Array B	67.82	47	P	P	18 33 19.7	+1.6
	comp=Z,0.6nm,0.8s,baz=222,slow=5.4,SNR=3.7						
AKASG	Malin Array Be	69.11	35	P	P	18 33 26.6	+0.9
	comp=Z,3.2nm,0.7s,baz=241,slow=6.3,SNR=6.2						
TXAR	Lajitas Array	77.34	300	LR	LR	19 13 25.6	
	comp=Z,8.9nm,18.1s,baz=0.0,slow=40						
PDAR	Pinedale Array	83.45	313	LR	LR	19 07 20.2	
	comp=Z,27nm,21.4s,baz=68,slow=32						
NVAR	Mina Array Bea	89.95	308	P	P	18 35 19.9	+0.3
	comp=Z,0.2nm,0.3s,baz=107,slow=5.0,SNR=3.9						
NVAR				LR	LR	19 15 52.2	
	comp=Z,18nm,19.2s,baz=91,slow=36						
ASAR	Alice Springs	151.12	143	PKPbc	PKPbc	18 42 13.9	+0.1
	comp=Z,0.8nm,0.8s,baz=199,slow=1.9,SNR=9.7						

NIED ***10*** *18:30:00, 43°.80N×147°.80E, h38km, Mw3.7 Best double couple: M0 3.79000×10^14 NP1:φ=238.00000°, δ=22.00000°, λ=103.00000°. NP2:φ=44.00000°, δ=69.00000°, λ=85.00000°.*
JMA ***10*** *18:30:03.4±0.3, 43°.77N×147°.82E, h0km, M4.2*
ISCJB ***10*** *18:30:04.4±1.0, 44°.01N±0°.06×147°.80E±0°.08, h10km, Error ellipse: s-maj=10.1km s-min=5.2km az=135.3*
SKHL ***10*** *18:30:06.6±0.6, 43°.96N×147°.94E, h39km±4km, mb4.9/5*
ISC 10 18:30:04.1±1.7**, 44°.03N**±0°.08×**147°.74E**±0°.09**, h10**km**, n19, σ1s52/33, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.20	4	*e*P	Pg	18 30 27.0	-0.2
KUR				AMB	AMB	18 30 28.0	
	223nm,0.3s						
KUR				*e*S	Sb	18 30 42.0	-0.6
KUR				A	A	18 30 44.0	
	820nm,0.4s						
KUR				A	A	18 30 44.0	
	1μm,0.4s						
YUK	Yuzh-Kuril'sk	1.36	271	*e*P	Pg	18 30 30.0	-0.2
YUK				AMB	AMB	18 30 31.0	
	50nm,0.2s						
YUK				AMB	AMB	18 30 31.0	
	93nm,0.2s						
YUK				AMB	AMB	18 30 31.0	
	321nm,0.2s						
YUK				*e*S	Sn	18 30 47.0	-0.2
YUK				A	A	18 30 52.0	
	387nm,0.2s						
YUK				A	A	18 30 52.0	
	2μm,0.2s						
LAGR	Lagunnoye	1.41	272	*e*P	Pb	18 30 30.0	-0.5
LAGR				AMB	AMB	18 30 33.0	
	346nm,0.2s						
LAGR				*e*S	Sg	18 30 49.0	-0.5
LAGR				A	A	18 30 55.0	
	1μm,0.2s						
LAGR				A	A	18 30 55.0	
	975nm,0.2s						
GRPR	Tuman	1.42	269	*i* P	Pg	18 30 31.0	-0.4
GRPR				AMB	AMB	18 30 32.0	
	135nm,0.2s						
GRPR				*i* S	Sb	18 30 49.0	+0.1
GRPR				A	A	18 30 54.0	
	628nm,0.3s						
GRPR				A	A	18 30 54.0	
	1μm,0.3s						
NEM2	Nemuro 2	1.60	246	P	Pn	18 30 32.4	0.0
NEM2				*e*S	Sb	18 30 53.4	-0.5
NMR	Nemuro--Hokkai	1.61	246	*e*P	Pg	18 30 34.0	-0.9
NMR				*e*S	Sg	18 30 55.0	-0.8
GLVR	Golovnino	1.64	260	*e*P	Pb	18 30 34.0	-0.3
GLVR				AMB	AMB	18 30 35.0	
	484nm,0.3s						
GLVR				*e*S	Sb	18 30 55.0	0.0
GLVR				A	A	18 30 59.0	
	2μm,0.3s						
GLVR				A	A	18 30 59.0	
	1μm,0.3s						
JRA	Rausu	1.90	268	P	Pb	18 30 38.4	-0.4
JRA				*e*S	Sg	18 31 04.2	-0.8
JNSB	Nemuroshibetsu	2.00	264	P	Pb	18 30 39.7	-0.8
JNSB				*e*S	Sb	18 31 06.3	+0.9
JKHN	Kushirohamanak	2.10	244	P	Pb	18 30 40.7	-1.7
JNK	Nakash	2.24	259	P	Pb	18 30 42.6	-2.0
JNK				*e*S	Sb	18 31 11.3	-1.0
JAK	Akkeshi	2.45	246	P	Pn	18 30 44.6	+0.5
JAK				*e*S	Sn	18 31 15.2	+1.2
JTKR	Abashiri--Toko	2.77	270	P	Pb	18 30 51.1	-2.6
JAR	Ashorobuto	2.98	257	P	Pn	18 30 53.4	+2.0
JAR				*e*S	Sn	18 31 29.9	+2.8
JOB	Onbets	3.06	250	P	Pn	18 30 54.0	+1.5
JOB				*e*S	Sn	18 31 31.9	+2.7
JMP	Maruseppu	3.16	271	P	Pb	18 30 57.2	-3.2
JCH	Churui	3.50	248	P	Pn	18 30 59.8	+1.3
JCH				*e*S	Sn	18 31 41.0	+1.0
JFR	Furan	3.84	259	P	Pn	18 31 06.7	+3.4
JNBK	Urakawa-nobuka	4.05	246	P	Pn	18 31 07.8	+1.7

ISK ***10*** *18:44:58.9, 42°.46N×43°.53E, h6km±1km, ML2.5/2*
NORS ***10*** *18:44:59.2±0.0, 42°.55N×43°.55E, h10km, MPVA3.6*
DDA ***10*** *18:44:59.5, 42°.52N×43°.41E, h7km±1km, ML3.3*
TIF ***10*** *18:44:59.3, 42°.53N×43°.49E, h15km*
ISCJB ***10*** *18:45:00.5±0.5, 42°.53N±0°.03×43°.52E±0°.03, h8km±5km, Error ellipse: s-maj=5.0km s-min=3.2km az=171.0*
ISC 10 18:45:00.4±0.9**, 42°.52N**±0°.02×**43°.54E**±0°.02**, h6**km±7km**, n33, σ0s97/64, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.10	319	P	Pg	18 45 02.6	-0.1
ONI				S	Sg	18 45 04.7	+0.5
ONI	Oni	0.10	319	PG	Pg	18 45 02.5	-0.1
ONI				SG	Sg	18 45 04.7	+0.5
ZEI	Tsey	0.38	44	*i* Pg	Pg	18 45 07.8	0.0
ZEI				*e*Sg	Sb	18 45 14.0	-2.0
DIGR	Digorskoe uzhe	0.39	4	*i* Pg	Pg	18 45 07.3	-0.6
DIGR				*e*Sg	Sg	18 45 13.1	+0.1
LACR	Lac	0.64	61	*i* Pg	Pg	18 45 12.2	-0.5
LACR				*e*Sg	Sg	18 45 21.4	+0.4
KORR	Kora	0.69	34	*i* Pg	Pb	18 45 13.8	-1.0
KORR				*e*Sg	Sb	18 45 24.9	+0.3
LSNR	Lesken	0.79	15	*e*Pg	Pg	18 45 15.4	-0.1
LSNR				*e*Sg	Sb	18 45 27.8	+0.2
ARNR	Ardon	0.86	39	*e*Pg	Pb	18 45 17.8	0.0
ARNR				*e*Sg	Sn	18 45 31.4	-0.5
STDR	Stavd-Durt	0.94	24	*e*Pg	Pb	18 45 18.3	-0.8
STDR				*e*Sg	Sn	18 45 33.2	-0.6
NCK	Nalchik	0.98	2	*e*Pg	Pb	18 45 19.1	-0.7
NCK				*e*Sg	Sn	18 45 33.8	-1.1
VLKR	Vladikavkaz	0.99	57	*e*Pg	Pn	18 45 20.7	-0.2
VLKR				*e*Sg	Sn	18 45 35.8	+0.5
AKH	Akhalkalaki	1.10	182	P	Pg	18 45 20.7	-0.9
AKH				S	Sg	18 45 36.3	+0.4
KMGR	Komgaron	1.12	61	*e*Pg	Pn	18 45 22.6	0.0
KMGR				*e*Sg	Sn	18 45 39.2	+0.9
BTKR	Batakoyurt	1.13	40	*e*Pg	Pn	18 45 23.0	+0.3
BTKR				*e*Sg	Sn	18 45 42.1	+3.5
TBLG	Delisi	1.19	131	P	Pb	18 45 22.9	-0.4
TBLG				S	Sb	18 45 39.6	+0.7
TBLG	Delisi	1.19	131	PN	Pb	18 45 21.8	-1.5
TBLG				SN	Sg	18 45 37.9	-0.6
BTNK	Botanikuri	1.25	131	P	Pn	18 45 23.9	-0.6
BTNK				S	Sn	18 45 42.2	+0.6
KBTC	Kuba-Taba	1.30	356	*e*Pg	Pg	18 45 24.9	-0.5
KBTC				*e*Sg	Sn	18 45 43.0	0.0
PRTR	Priterechnaya	1.35	23	*e*Pg	Pg	18 45 27.3	+1.1
PRTR				*e*Sg	Sn	18 45 45.0	+1.0
SHA1	Shidzhatmaz	1.38	332	*e*Pg	Pn	18 45 25.9	-0.6
SHA1				*e*Sg	Sb	18 45 43.5	-1.3
PYA1	Pyatigorsk	1.58	348	*e*Pg	Pg	18 45 34.0	+3.4
PYA1				*e*Sg	Sg	18 45 50.6	-0.5
BATM	Batumi	1.65	237	P	Pn	18 45 29.0	-0.9
BATM				S	Sn	18 45 51.6	+0.2
BATM	Batumi	1.65	237	*i* P	Pn	18 45 29.9	0.0
BATM				*i* S	Sn	18 45 51.9	+0.5
BATM	Batumi	1.65	237	PN	Pn	18 45 28.6	-1.3
BATM				SN	Sn	18 45 50.5	-0.9
ARTV	Artvin	1.79	223	*i* P	Pn	18 45 32.9	+0.8
ARTV				*i* S	Sb	18 45 56.7	+0.1
ARTV				IAML_P			
	comp=Z,3μm,0.1s						
DBOC	Borcka	1.82	231	*i* P	Pn	18 45 32.3	0.0
DBOC				IAML_P			
	comp=Z,1μm,0.1s						
DAGI	Agillar	1.88	221	*i* P	Pn	18 45 34.3	+1.1
DAGI				*i* S	Sb	18 45 59.5	+0.5
DAGI				IAML_P			
	comp=Z,550nm,0.2s						
DBAD	Bademkaya	2.04	223	*i* P	Pn	18 45 36.1	+0.8
DBAD				*i* S	Sb	18 46 03.0	-0.4
DBAD				IAML_P			
	comp=Z,1μm,0.2s						
DDEM	Demirkent	2.10	220	*i* P	Pn	18 45 37.5	+1.3
DDEM				*i* S	Sb	18 46 06.1	+0.7
DDEM				IAML_P			
	comp=Z,910nm,0.1s						
LGD	Lagodekhi	2.12	108	P	Pn	18 45 35.3	-1.1
LGD				S	Sn	18 46 03.0	0.0
DDFL	Dedoflistskaro	2.20	118	P	Pg	18 45 42.8	+0.3
DDFL				S	Sg	18 46 10.9	-0.1
CHOM	Cayeli-Rize	2.52	237	PN	Pn	18 45 41.0	-0.8
AKT	Akhty	3.29	107	*e*Pn	Pb	18 46 00.3	+1.1
AKT				*e*Sn	Sn	18 46 33.2	+1.2

SJA ***10*** *18:54:01.0±0.4, 33°.12S×70°.36W, h153km±8km, ML3.1, MW3.2*
ISCJB ***10*** *18:54:03.4±1.0, 33°.07S±0°.07×70°.36W±0°.07, h123km±8km, Error ellipse: s-maj=11.3km s-min=9.3km az=156.0*
GUC ***10*** *18:54:05.1±0.6, 32°.94S×70°.29W, h107km±3km, ML3.5*
ISC 10 18:54:03.9±2.2**, 33°.09S**±0°.07×**70°.35W**±0°.06**, h121**km±15km**, n17, σ1s10/27, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.24	168	⇓*i*P	Pn	18 54 20.7	-0.4
FCH				*i* S	Sn	18 54 32.7	-1.5
PEL	Peldehue	0.29	259	⇑*i*P	Pn	18 54 20.4	-0.5
PEL				*i* S	Sn	18 54 32.2	-1.5
PEL				IAML		18 54 33.5	
	comp=N,3μm,0.2s						
CLCH	Cerro Calan	0.34	207	⇓*i*P	Pn	18 54 21.2	0.0
CLCH				*i* S	Sn	18 54 33.7	-0.6
CLCH				IAML		18 54 35.2	
	comp=E,2μm,0.5s						
ANTU	Antumapu	0.54	206	*e*P	Pn	18 54 23.5	+1.3
ANTU				*i* S	Sn	18 54 36.8	+0.7
ANTU				IAML		18 54 37.5	
	comp=E,3μm,0.4s						
RCDM	Rinconada Maip	0.55	224	*e*P	Pn	18 54 23.3	+1.0
RCDM				*e*S	Sn	18 54 36.0	-0.2
ROCH	El Roble	0.57	282	⇑*i*P	Pn	18 54 22.4	-0.2
ROCH				*i* S	Sn	18 54 35.5	-1.2
ROCH				IAML		18 54 37.3	
	comp=N,4μm,0.3s						
LMEL	Las Melosas	0.77	171	⇑*i*P	Pn	18 54 24.9	+0.9
LMEL				*i* S	Sn	18 54 40.5	+1.2
VA01	Torpederas	1.09	273	*e*P	Pn	18 54 27.6	+0.7
VA01				*i* S	Sn	18 54 44.1	-0.1
VA01				IAML		18 54 45.6	
	comp=N,1μm,0.1s						
RTLS	Leoncito	1.56	35	*i* P	Pn	18 54 33.3	+0.9
RTLS				IAML		18 54 55.3	
	comp=Z,118nm,0.5s						
RTLS				*i* S	Sn	18 54 56.8	+2.7
RTCV	Cerro Valdivia	1.96	52	⇑*i*P	Pn	18 54 36.9	0.0
RTCV				*i* S	Sn	18 55 03.7	+1.6
ZON	Zonda	2.09	43	*i* P	Pn	18 54 38.5	-0.1
RTLL	Cerro Villicun	2.37	43	*i* P	Pn	18 54 41.8	-0.3
ACCO	Cerro Coronel	2.72	24	*i* P	Pn	18 54 47.3	+0.3
GO04	Tololo Observa	2.93	352	*i* P	Pn	18 54 49.2	-0.4
MRA	San Martin	3.96	82	⇑*i*P	Pn	18 55 02.0	-1.0
APLL	PUNTA DE LOS L	4.22	51	*i* P	Pn	18 55 05.2	-1.2
TCA	Tanti	5.18	72	*i* P	Pn	18 55 18.1	-1.3

IDC 10 19:03:49.2±4.9**, 7°.75S**×**129°.38E, h222**km±49km**, mb3.1**/1**, mb1 3.1**/5**, mb1mx2.8**/31**, mbtmp3.6**/5**, Error ellipse: s-maj=56.8km s-min=22.6km az=60.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.15	246	P	Pn	19 05 19.3	+0.5
	6.0nm,0.3s,baz=96,slow=2.8,SNR=17						
FITZ	Fitzroy Crossi	10.91	199	P	Pn	19 06 19.4	-0.4
	0.2nm,0.3s,baz=17,slow=8.4,SNR=28						
FITZ				S	S	19 08 20.1	-1.8
	1.2nm,0.3s,baz=183,slow=22,SNR=8.1						
WRA	Warramunga Arr	13.04	159	P	Pn	19 06

66nm,0.3s,baz=6.6,slow=17,SNR=7.1

KDAK	**Kodiak Island**	**1.45**	**210**		**Pn**	**19 19 12.1 +0.9**
RSO	**Redoubt South**	**1.62**	**332**		**Pb**	**19 19 15.1 -1.3**
OHAK	**Old Harbor**	**2.13**	**212**		**Pn**	**19 19 21.0 +0.5**
RC01	**Rabbit Creek A**	**2.18**	**19**		**Pn**	**19 19 22.9 +1.6**
SUA	**Susitna One**	**2.44**	**5**		**Pn**	**19 19 26.4 +1.6**
KNK	**Knik Glacier**	**2.75**	**29**		**Pn**	**19 19 30.1 +1.1**
HIN	**Hinchinbrook I**	**2.75**	**58**	Pn	**Pn**	**19 19 30.2 +1.1**
PMR	**Palmer**	**2.76**	**21**		**Pn**	**19 19 30.4 +1.3**
GLI	**Glacier Island**	**2.77**	**47**	Pn	**Pn**	**19 19 30.1 +0.7**
FID	**Port Fidalgo**	**2.94**	**52**	Pn	**Pn**	**19 19 31.9 +0.2**
SKT	**Skwentna**	**2.95**	**357**		**Pn**	**19 19 33.7 +2.0**
SII	**Sitkinak Islan**	**2.95**	**214**	Pn	**Pn**	**19 19 32.3 +0.5**
GHO	**Glory Hole Cre**	**2.96**	**22**		**Pn**	**19 19 33.6 +1.5**
SVW2	**Sparrevohn**	**3.00**	**315**		**Pn**	**19 19 33.3 +0.8**
SML	**Sawmill**	**3.12**	**26**		**Pn**	**19 19 36.2 +2.0**
EYAK	**Cordova Ski Ar**	**3.15**	**59**	Pn	**Pn**	**19 19 35.6 +1.1**
SCM	**Sheep Creek Mo**	**3.40**	**33**		**Pn**	**19 19 39.8 +1.7**
PPLA	**Purkeypile**	**3.89**	**354**		**Pn**	**19 19 47.2 +2.3**
GLB	**Gilahina Butte**	**4.41**	**54**		**Pn**	**19 19 53.0 +1.1**
CRQM	**Cirque**	**4.42**	**64**	Pn	**Pn**	**19 19 53.0 +0.9**
TRF	**Thorofare Moun**	**4.44**	**5**		**Pn**	**19 19 55.0 +2.6**
DHY	**Denali Highway**	**4.45**	**23**		**Pn**	**19 19 54.6 +2.0**
VRDI	**Verde Repeater**	**4.46**	**57**	Pn	**Pn**	**19 19 53.7 +1.0**
WAX	**Waxell Ridge**	**4.46**	**68**	Pn	**Pn**	**19 19 53.7 +1.1**
RND	**Reindeer**	**4.52**	**14**		**Pn**	**19 19 55.3 +1.9**
TTA	**Tatalina**	**4.54**	**331**		**Pn**	**19 19 55.3 +1.6**
TGL	**Tana Glacier**	**4.56**	**64**	Pn	**Pn**	**19 19 54.8 +0.7**
MCARA	**McCarthy VSAT**	**4.71**	**57**	Pn	**Pn**	**19 19 57.1 +1.1**
MCK	**McKinley**	**4.83**	**12**		**Pn**	**19 20 00.1 +2.4**
MESA	**MESA**	**4.85**	**72**	Pn	**Pn**	**19 19 59.8 +1.7**
BALM	**Baldy**	**4.88**	**62**		**Pn**	**19 19 59.1 +0.7**
YAH	**Yahtse**	**4.98**	**71**		**Pn**	**19 20 01.8 +1.9**
BPAW	**Bear Paw Mtn.**	**5.07**	**1**		**Pn**	**19 20 02.2 +1.2**
RIDG	**Independent Ri**	**5.62**	**30**		**Pn**	**19 20 10.6 +2.2**
NEA	**Nenana**	**5.64**	**9**	Pn	**Pn**	**19 20 10.2 +1.4**
WRH	**Wood River Hil**	**5.64**	**14**		**Pn**	**19 20 10.6 +1.8**
PCA	**Pinnacle**	**5.68**	**75**	Pn	**Pn**	**19 20 10.7 +1.4**
CCB	**Clear Creek Bu**	**5.85**	**15**		**Pn**	**19 20 12.6 +1.1**
BCPM	**Bancas Point**	**5.97**	**76**	Pn	**Pn**	**19 20 14.5 +1.1**
MLY	**Manley**	**6.01**	**2**		**Pn**	**19 20 15.7 +1.8**
SCRK	**Sand Creek**	**6.04**	**32**		**Pn**	**19 20 15.3 +1.1**
IL31		**6.10**	**18**		**Pn**	**19 20 16.2 +1.3**
ILAR	**Eielson Array**	**6.10**	**18**	P	**Pn**	**19 20 16.2 +1.2**
	2.7nm,0.3s,baz=202,slow=14,SNR=183					
ILAR				S	**Sn**	**19 21 21.2 -2.5**
	2.7nm,0.3s,baz=175,slow=11,SNR=3.7					
ILAR	**Eielson Array**	**6.10**	**18**		**Pn**	**19 20 16.1 +1.1**
MDM	**Murphy Dome**	**6.10**	**12**		**Pn**	**19 20 17.0 +1.9**
DHAK	**Deception Hill**	**6.71**	**84**	Pn	**Pn**	**19 20 24.4 +0.9**
PRP	**Porcupine Dome**	**7.01**	**20**	Pn	**Pn**	**19 20 28.8 +1.2**
IMAR	**Indian Mountai**	**7.06**	**352**		**Pn**	**19 20 29.5 +1.4**
HYT	**Haines Junctio**	**7.12**	**70**	Pn	**Pn**	**19 20 31.6 +2.4**
DAWY	**Dawson**	**7.56**	**43**	Pn	**Pn**	**19 20 37.6 +2.5**
FYU	**Fort Yukon**	**8.03**	**17**	Pn	**Pn**	**19 20 43.1 +1.8**
COLD	**Coldfoot**	**8.23**	**3**	Pn	**Pn**	**19 20 46.1 +2.0**
WHY	**Whitehorse**	**8.39**	**72**	Pn	**Pn**	**19 20 48.0 +1.5**
JIS	**Juneau Island**	**8.81**	**88**	Pn	**Pn**	**19 20 53.8 +1.6**
BMAR	**Burnt Mountain**	**8.93**	**17**		**Pn**	**19 20 55.6 +1.8**
UNV	**Unalaska Valle**	**9.92**	**245**	Pn	**Pn**	**19 21 07.7 +0.3**
DLBC	**Dease Lake**	**11.03**	**84**	P	**Pn**	**19 21 24.6 +2.0**
	0.3nm,0.3s,baz=267,slow=13,SNR=2.3					
BBB	**Bella Bella**	**14.70**	**108**	LR	LR	19 26 54.4
	comp=Z,56nm,20.1s,baz=5.0,slow=32					
PGC	**Sidney**	**19.26**	**110**	P	**P**	**19 23 04.2 -4.7**
PGC				IAmb	IAmb	19 23 08.6
	comp=Z,13nm,0.9s					
LTY	**Liberty**	**21.58**	**110**	P	**P**	**19 23 33.8 -0.2**
LTY				IAmb	IAmb	19 23 52.3
	comp=Z,1.7nm,1.0s					
NEW	**Newport**	**22.65**	**103**	LR	LR	19 31 35.1
	comp=Z,28nm,21.4s,baz=281,slow=34					
YBH	**Yreka Blue Hor**	**24.82**	**122**	P	**P**	**19 24 08.9 +2.5**
	comp=Z,0.7nm,0.6s,baz=319,slow=9.3,SNR=2.0					
YBH	**Yreka Blue Hor**	**24.82**	**122**	IAmb	IAmb	19 24 12.8
	comp=Z,7.0nm,1.4s					
NVAR	**Mina Array Bea**	**29.47**	**120**	P	**P**	**19 24 51.0 +2.7**
	comp=Z,0.3nm,0.6s,baz=315,slow=8.9,SNR=2.5					
TXAR	**Lajitas Array**	**43.80**	**111**	P	**P**	**19 26 52.0 +2.0**
	comp=Z,0.5nm,1.0s,baz=345,slow=9.3,SNR=4.6					
NRIK	**Noril'sk**	**45.15**	**335**	LR	LR	19 46 57.5
	comp=Z,13nm,19.9s,baz=28,slow=38					
ARCES	**ARCESS Array B**	**51.69**	**1**	P	**P**	**19 27 49.9 -0.6**
	comp=Z,1.8nm,0.6s,baz=7.8,slow=6.5,SNR=11					
ZALV	**Zalesovo Beam**	**58.68**	**325**	P	**P**	**19 28 38.9 -2.1**
	comp=Z,0.3nm,0.3s,baz=38,slow=7.3,SNR=1.9					
FINES	**FINESS Array B**	**59.82**	**1**	P	**P**	**19 28 48.5 -0.3**
	comp=Z,2.5nm,0.7s,baz=358,slow=9.5,SNR=13					
MKAR	**Makanchi Array**	**65.74**	**323**	P	**P**	**19 29 27.4 -1.1**
	comp=Z,0.1nm,0.4s,baz=36,slow=7.2,SNR=4.9					
AKASG	**Malin Array Be**	**70.61**	**360**	P	**P**	**19 29 57.5 -1.4**
	comp=Z,0.7nm,0.5s,baz=5.2,slow=6.3,SNR=4.4					
BRTR	**Keskin Array B**	**81.50**	**356**	P	**P**	**19 31 00.3 -1.0**
	comp=Z,0.2nm,0.3s,baz=12,slow=6.7,SNR=1.5					

TAP 10 20:03:26.3, 24.78N×121.90E, h74km, ML2.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**20**	*eP*	Pn	20 03 37.4	+0.3
	baz=30						
TWC	**Suao**	**0.17**	**197**	*eP*	Pn	20 03 37.5	+0.2
	baz=193						
TWC				*eS*	Sn	20 03 46.4	+1.0
	baz=193						
TIPB	**Shuangxi**	**0.21**	**340**	*eP*	Pn	20 03 37.6	+0.1
	baz=330						
TIPB				*eS*	Sn	20 03 45.3	-0.5
	baz=330						
TWE	**Neicheng**	**0.22**	**256**	*eP*	Pn	20 03 38.1	+0.6
	baz=254						
TWE				*eS*	Sn	20 03 46.7	+0.9
	baz=254						
SLBB	**Yuanshan**	**0.24**	**265**	*eP*	Pn	20 03 38.1	+0.4
	baz=265						
SLBB				*eS*	Sn	20 03 46.7	+0.6
	baz=265						
EOS1	**EOS1**	**0.30**	**138**	*eS*	Sn	20 03 47.7	+1.3
	baz=137						
ENTT	**Nioudou**	**0.34**	**246**	*eP*	Pn	20 03 39.0	+0.7
	baz=250						
ENTT				*eS*	Sn	20 03 48.2	+1.2
	baz=250						
TWA	**Mucha**	**0.35**	**305**	*eP*	Pn	20 03 38.6	+0.2
	baz=310						
TWA				*eS*	Sn	20 03 47.2	0.0
	baz=310						
NWLT	**Wulai**	**0.36**	**270**	*eP*	Pn	20 03 39.0	+0.5
	baz=279						
NWLT				*eS*	Sn	20 03 47.5	+0.1
	baz=279						
NANB	**Nanao**	**0.37**	**202**	*eP*	Pn	20 03 39.2	+0.7
	baz=202						
NANB				*eS*	Sn	20 03 48.7	+1.3
	baz=202						
ENA	**Nanau**	**0.38**	**203**	*eP*	Pn	20 03 39.2	+0.7
	baz=202						
ENA				*eS*	Sn	20 03 49.0	+1.5
	baz=202						
NDT	**Datong Townshi**	**0.40**	**244**	*eP*	Pn	20 03 39.5	+0.8
	baz=253						
NDT				*eS*	Sn	20 03 48.8	+1.0
	baz=253						
TATO	**Taipei**	**0.43**	**298**	*eS*	Sn	20 03 48.1	0.0
	baz=304						
YM01	**YM01**	**0.48**	**321**	*eP*	Pn	20 03 39.6	+0.2
	baz=327						
YM01				*eS*	Sn	20 03 48.7	-0.4
	baz=327						
YM10	**YM10**	**0.49**	**321**	*eS*	Sn	20 03 48.5	-0.8
	baz=326						
YHNB	**Yeheng**	**0.49**	**258**	*eP*	Pn	20 03 39.8	+0.3
	baz=258						
YHNB				*eS*	Sn	20 03 49.3	0.0
	baz=258						
YM05	**YM05**	**0.49**	**322**	*eP*	Pn	20 03 39.7	+0.1
	baz=327						
YM05				*eS*	Sn	20 03 49.4	0.0
	baz=327						
YM04	**YM04**	**0.50**	**318**	*eP*	Pn	20 03 39.4	-0.2
	baz=324						
YM04				*eS*	Sn	20 03 48.7	-0.7
	baz=324						
TWS1	**Kuangyinshan**	**0.55**	**306**	*eS*	Sn	20 03 51.2	+1.2
	baz=314						
NNSB	**Datong**	**0.59**	**234**	*eP*	Pn	20 03 41.3	+0.8
	baz=240						
NNSB				*eS*	Sn	20 03 51.9	+0.9
	baz=240						
NNS	**Nan Shan**	**0.59**	**235**	*eP*	Pn	20 03 41.3	+0.8
	baz=241						
NNS				*eS*	Sn	20 03 52.3	+1.3
	baz=241						
NACB	**Ninganchiao**	**0.66**	**205**	*eP*	Pn	20 03 41.0	-0.2
	baz=215						
NACB				*eS*	Sn	20 03 53.0	+0.9
	baz=215						
ETLH	**Xiulin Townshi**	**0.69**	**214**	*eP*	Pn	20 03 42.0	+0.5
	baz=214						
LIOB	**Emei**	**0.82**	**261**	*eP*	Pn	20 03 43.2	+0.3
	baz=261						
LIOB				*eS*	Sn	20 03 54.6	-0.6
	baz=261						
NSTT	**Nanjuang**	**0.83**	**260**	*eS*	Sn	20 03 55.6	+0.1
	baz=260						
TWT	**Tachien**	**0.84**	**232**	*eP*	Pn	20 03 44.4	+1.0
	baz=232						
TWT				*eS*	Sn	20 03 57.1	+1.1
	baz=232						
TWT	**Tachien**	**0.84**	**232**	*eP*	Pn	20 03 44.4	+1.1
	baz=336						
TDCB	**Techi**	**0.86**	**233**	*eP*	Pn	20 03 44.5	+1.1
	baz=232						
TDCB				*eS*	Sn	20 03 57.4	+1.2
	baz=232						
TDCB	**Techi**	**0.86**	**233**	*eP*	Pn	20 03 44.5	+1.0
	baz=336						

TAP 10 20:03:31.2, 23.67N×121.44E, h7km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.01**	**275**	*eP*	Pg	20 03 32.8	+0.4
	baz=274						
EGFH				*eS*	Sg	20 03 33.7	+0.5
	baz=274						
ESL	**Shilin**	**0.14**	**359**	*eP*	Pg	20 03 34.9	+0.7
	baz=1.0						
ESL				*eS*	Sg	20 03 37.4	+1.1
	baz=1.0						
HGSD	**Ruisui**	**0.18**	**184**	*eP*	Pg	20 03 35.6	+0.8
	baz=183						
HGSD				*eS*	Sg	20 03 39.3	+2.2
	baz=183						
EHY	**Hungye**	**0.19**	**213**	*eP*	Pg	20 03 35.9	+0.8
	baz=211						
EHY				*eS*	Sg	20 03 39.2	+1.6
	baz=211						
VWDT	**VWDT**	**0.28**	**288**	*eP*	Pb	20 03 38.3	-0.4
	baz=287						
VWDT				*eS*	Sb	20 03 42.9	-0.8
	baz=287						
YULB	**Yu-li**	**0.30**	**205**	*eP*	Pg	20 03 37.9	+0.8
	baz=205						
YULB				*eS*	Sb	20 03 43.2	-1.0
	baz=205						
TWF1	**Yuli**	**0.34**	**202**	*eP*	Pb	20 03 38.9	-0.7
	baz=200						
TWF1				*eS*	Sb	20 03 44.0	-1.3
	baz=200						
SSLB	**Suanglung**	**0.46**	**285**	*eP*	Pb	20 03 41.4	-0.3
	baz=285						
SSLB				*eS*	Sb	20 03 48.7	0.0
	baz=285						
CHGB	**Renai**	**0.46**	**328**	*eP*	Pb	20 03 41.5	-0.3
	baz=328						
FULB	**Fuli**	**0.48**	**196**	*eP*	Pb	20 03 42.2	+0.1
	baz=195						
WHF	**Hehuan Shan**	**0.50**	**342**	*eP*	Pg	20 03 41.7	+0.8
	baz=342						
NACB	**Ninganchiao**	**0.52**	**16**	*eP*	Pb	20 03 42.2	-0.6
	baz=15						
NACB				*eS*	Sb	20 03 50.9	+0.4
	baz=15						
WHYT	**Xinyi Township**	**0.54**	**273**	*eP*	Pb	20 03 43.2	+0.2
	baz=272						
WHYT				*eS*	Sb	20 03 51.1	+0.1
	baz=272						
SMLT	**Sun Moon Lake**	**0.54**	**294**	*eP*	Pb	20 03 43.1	0.0
	baz=293						
SMLT				*eS*	Sb	20 03 50.9	-0.1
	baz=293						
ETLH	**Xiulin Townshi**	**0.54**	**4**	*eP*	Pb	20 03 43.3	+0.3
	baz=4.0						
TYC	**Yuchr**	**0.58**	**294**	*eP*	Pb	20 03 43.7	0.0
	baz=294						
DPDB	**Guoxing**	**0.59**	**308**	*eP*	Pb	20 03 44.0	+0.1
	baz=307						
ALS	**Alishan**	**0.60**	**255**	*eP*	Pb	20 03 43.9	-0.4
	baz=254						
ALS				*eS*	Sb	20 03 52.8	-0.2
	baz=254						
ELDTW	**Lidau**	**0.61**	**219**	*eP*	Pb	20 03 44.5	+0.1
	baz=218						
TWT	**Tachien**	**0.63**	**338**	*eS*	Sb	20 03 53.5	-0.3
	baz=336						
TDCB	**Techi**	**0.64**	**336**	*eS*	Sb	20 03 54.3	+0.4
	baz=336						
CHN5	**Tsauling**	**0.70**	**264**	*eP*	Pb	20 03 45.7	-0.1
	baz=264						
NNSB	**Datong**	**0.76**	**356**	*eP*	Pb	20 03 46.5	-0.4
	baz=356						
NNSB				*eS*	Sb	20 03 58.2	+0.7
	baz=356						
NNS	**Nan Shan**	**0.77**	**356**	*eP*	Pb	20 03 47.2	+0.1
	baz=356						
NNS				*eS*	Sb	20 03 57.5	-0.3
	baz=356						
TPUB	**Ta-pu**	**0.83**	**244**	*eP*	Pb	20 03 48.4	+0.4
	baz=243						
CHN4	**Tsaushan**	**0.84**	**248**	*eP*	Pb	20 03 48.2	+0.1
	baz=247						
WTP	**Ta-pu**	**0.86**	**241**	*eP*	Pn	20 03 49.5	-0.3
	baz=240						

*ISCJB **10** 20:22:44.6±0.9, 12.99S±0.07×167.0E±0.2, h180km, mb4.0/11, Error ellipse: s-maj=26.1km s-min=9.5km az=0.8*
*IDC **10** 20:22:50.3±3.5, 13.24S×167.06E, h229km±32km, mb3.6/11, mb1 3.7/12, mb1mx3.6/36, mbtmp4.1/12, Error ellipse: s-maj=24.9km s-min=20.1km az=127.0*
ISC 10 20:22:45.2±0.9, 13.00S±0.08×167.1E±0.2, h180km, n18, σ1§40/21, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.04**	**184**	P	**Pn**	**20 24 55.2**	**+2.9**
	0.7nm,0.3s,baz=289,slow=20,SNR=7.3						
DZM				S	**Sn**	**20 26 32.0**	**-1.3**
	0.2nm,0.3s,baz=75,slow=24,SNR=1.3						
CTA	**Charters Tower**	**21.18**	**248**	P	**P**	**20 27 17.4**	**+0.7**
	2.3nm,0.7s,baz=96,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**30.01**	**227**	P	**P**	**20 28 36.7**	**-0.4**
	3.2nm,0.4s,baz=55,slow=8.8,SNR=16						
STKA				PcP	**PcP**	**20 31 34.2**	**-0.7**
	2.7nm,0.7s,baz=34,slow=3.6,SNR=5.5						
WRA	**Warramunga Arr**	**32.12**	**253**	P	**P**	**20 28 55.0**	**-0.8**
	1.1nm,0.5s,baz=85,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**33.17**	**247**	P	**P**	**20 29 03.8**	**-1.2**
	1.8nm,0.4s,baz=74,slow=9.2,SNR=58						
ASAR				PcP	**PcP**	**20 31 42.2**	**-1.5**
	0.6nm,0.6s,baz=79,slow=2.5,SNR=6.0						
MJAR	**Matsushiro Arr**	**56.31**	**332**	P	**P**	**20 32 07.9**	**+0.6**
	2.2nm,0.8s,baz=144,slow=8.6,SNR=4.7						
USRK	**Ussuriysk Ar.**	**65.28**	**333**	P	**P**	**20 33 10.2**	**+2.6**
	1.9nm,0.8s,baz=134,slow=3.8,SNR=5.2						
CMAR	**Chiang Mai Arr**	**74.11**	**294**	P	**P**	**20 34 03.2**	**+1.1**
	1.3nm,0.7s,baz=132,slow=4.5,SNR=6.2						
SONM	**Songino Array**	**81.02**	**323**	P	**P**	**20 34 40.6**	**+0.6**
	0.6nm,0.7s,baz=126,slow=4.8,SNR=4.2						
ILAR	**Eielson Array**	**84.94**	**18**	P	**P**	**20 34 59.1**	**-0.5**
	1.2nm,0.6s,baz=244,slow=5.0,SNR=34						
MKAR	**Makanchi Array**	**95.84**	**317**	P	**P**	**20 35 51.3**	**+0.1**
	1.0nm,0.6s,baz=94,slow=6.2,SNR=11						
ZALV	**Zalesovo Beam**	**95.91**	**324**	P	**P**	**20 35 50.9**	**-0.4**
	0.4nm,0.4s,baz=226,slow=40,SNR=2.9						
ARCES	**ARCESS Array B**	**118.55**	**346**	PKP	**PKiKP**	**20 41 10.4**	**-0.6**
	1.3nm,0.3s,baz=78,slow=2.0,SNR=30						
FINES	**FINESS Array B**	**124.06**	**339**	PKP	**PKiKP**	**20 41 21.3**	**-0.7**
	0.8nm,0.4s,baz=116,slow=3.5,SNR=6.1						
AKASG	**Malin Array Be**	**129.22**	**327**	PKP	**PKPdf**	**20 41 29.4**	**-2.5**
	0.7nm,0.5s,baz=57,slow=2.0,SNR=4.3						
KEST	**Kesra**	**149.76**	**322**	PKPbc	**PKiKP**	**20 42 14.7**	**-0.6**
	4.0nm,0.6s,baz=233,slow=0.4,SNR=6.1						
ESDC	**Sonseca Array**	**152.28**	**345**	PKPbc	**PKiKP**	**20 42 20.1**	**-0.2**
	0.9nm,0.6s,baz=3.8,slow=2.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**165.78**	**272**	PKPab	**PKPab**	**20 43 28.2**	**-1.7**
	0.4nm,0.7s,baz=57,slow=5.4,SNR=2.6						

*UCR **10** 20:26:31.6±0.3, 8.37N×82.89W, h38km±6km, MW3.5*
*ISCJB **10** 20:26:32.9±0.8, 8.37N±0.05×82.89W±0.03, h23km±6km, Error ellipse: s-maj=8.8km s-min=4.4km az=18.0*
*UPA **10** 20:26:32.5±0.8, 8.43N×82.91W, h19km±2km, MW3.3*
ISC 10 20:26:31.9±1.1, 8.40N±0.05×82.90W±0.03, h28km±7km, n22, σ0§54/32, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.11**	**87**	*eP*	**Pb**	**20 26 36.4**	**-0.6**
LESP3				*eS*	**Sb**	**20 26 40.0**	**-0.5**
BAGA3	**Bagala, Chiriq**	**0.38**	**80**	*eP*	**Pb**	**20 26 40.8**	**+0.5**
BAGA3				*eS*	**Sn**	**20 26 47.2**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.42**	**289**	*eP*	**Pb**	**20 26 41.5**	**+0.5**
PTJ1				*eS*	**Sn**	**20 26 49.6**	**+0.7**
PTJ1	**Puerto Jimnez**	**0.42**	**289**	*eS*	**Sb**	**20 26 47.6**	**+0.5**
EDSV	**San Vito**	**0.42**	**351**	*eP*	**Pb**	**20 26 41.7**	**+0.6**
EDSV				*eS*	**Sn**	**20 26 49.5**	**+0.3**
BRU2	**Volcan**	**0.44**	**28**	*eP*	**Pn**	**20 26 42.1**	**-0.5**
BRU2				*eS*	**Sn**	**20 26 49.8**	**0.0**
BRU2	**Volcan**	**0.44**	**28**	||*iP*	**Pn**	**20 26 42.2**	**-0.5**
BRU2				*eS*	**Sb**	**20 26 48.3**	**+0.4**
DVD	**David**	**0.45**	**86**	*eP*	**Pb**	**20 26 42.0**	**+0.6**
DVD				*eS*	**Sb**	**20 26 48.6**	**+0.7**
PEDE3	**Pedregal, Chir**	**0.47**	**92**	*eP*	**Pb**	**20 26 41.9**	**0.0**
PEDE3				*eS*	**Sn**	**20 26 49.6**	**-0.8**
LOCO3	**Loma Colorada,**	**0.48**	**89**	*eP*	**Pn**	**20 26 42.7**	**-0.2**
LOCO3				*eS*	**Sb**	**20 26 49.6**	**+0.9**
BCO2	**Palmira**	**0.48**	**49**	*eP*	**Pn**	**20 26 42.9**	**-0.3**
BCO2				*eS*	**Sb**	**20 26 49.9**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.49**	**54**	*eP*	**Pb**	**20 26 42.8**	**+0.5**
PTAR3				*eS*	**Sb**	**20 26 49.8**	**+0.4**
LOMA3	**Las Lomas, Chi**	**0.51**	**87**	*eP*	**Pb**	**20 26 42.9**	**+0.5**
CHIR3	**Chiriqui UPA,**	**0.57**	**91**	*eP*	**Pb**	**20 26 43.7**	**+0.4**
CHIR3				*eS*	**Sn**	**20 26 52.4**	**-0.1**
CHGR2	**Aguacate**	**0.92**	**54**	*eP*	**Pb**	**20 26 49.4**	**+0.1**
CHGR2				*eS*	**Sb**	**20 27 00.8**	**-0.4**
DRK0	**Durika**	**0.92**	**338**	*eS*	Sb	20 26 49.6	-12
REME3	**Remedios, Chir**	**1.07**	**99**	*eS*	**Sb**	**20 27 06.1**	**+0.6**
NANC3	**Nancito, Chiri**	**1.17**	**98**	*eS*	**Sb**	**20 27 08.3**	**+0.1**
LCR2	**La Lucha 2**	**1.72**	**321**	*eP*	**Pb**	**20 27 02.6**	**-0.4**
CVTR	**Volcan Turrial**	**1.82**	**332**	*eP*	**Pb**	**20 27 04.1**	**-0.7**
JTS	**Las Juntas de**	**2.76**	**313**	*eP*	Pn	20 26 55.1	-19
PLVR	**Palo Verde**	**3.10**	**309**	*eP*	Pn	20 26 57.8	-21

*IDC **10** 20:30:00.5±0.6, 11.11N×91.94E, h0km, mb4.1/19, mb1 4.1/21, mb1mx3.9/60, mbtmp4.1/21, ML3.7/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/35, Error ellipse: s-maj=23.7km s-min=14.4km az=52.0*
*NDI **10** 20:30:02.9±1.0, 11.09N×91.72E, h39km±999km, ML4.2, mb4.4(NEIC)*
*ISCJB **10** 20:30:03.2±0.4, 11.02N±0.05×91.86E±0.05, h35km, mb4.1/19, MS3.4/4, Error ellipse: s-maj=6.8km s-min=6.4km az=148.8*
*NEIC **10** 20:30:04.8±1.1, 11.06N±0.08×91.89E±0.06, h31km±4km, mb4.4/19*
ISC 10 20:30:05.3±0.5, 11.12N±0.07×91.96E±0.07, h35km, n69, σ1§24/64, mb4.3/27, MS3.1/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.93**	**55**	*eP*	**Pn**	20 30 23.1	+1.2
PBA				*eS*	Sn	20 30 36.7	+2.7
PBA				IAML		20 30 38.4	
	comp=N,18μm,0.3s						
PBA				IAML		20 30 39.0	
	comp=E,16μm,0.3s						
PBA	**Port Blair**	**0.93**	**55**		Pn	20 30 22.9	+1.0
PBA				Sg	Sn	20 30 37.0	+3.0
DGPR	**DIGLIPUR**	**2.25**	**25**	*eP*	**Pn**	**20 30 40.4**	**+0.3**
DGPR				*eS*	**Sn**	**20 31 08.8**	**+2.1**
DGPR				IAML		20 31 14.8	
	comp=E,1μm,0.5s						
DGPR				IAML		20 31 17.7	
	comp=N,662nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.94**	**42**	Pn	**Pn**	**20 32 25.1**	**-0.6**
	comp=N,0.2nm,0.3s,baz=238,slow=15,SNR=9.9						
CMAR				Sn	**Sn**	**20 34 11.6**	**-4.5**
	comp=N,0.2nm,0.3s,baz=235,slow=29,SNR=4.9						
PSI	**Prapat**	**10.77**	**140**	LR	LR	20 37 35.3	
	comp=N,164nm,18.8s,baz=342,slow=42						
BWNR	**Bhubaneshwar**	**10.88**	**328**	*eP*	**Pn**	**20 32 33.8**	**-4.8**
BWNR				*eS*	Sn	20 34 23.2	-16
BWNR				IAML		20 34 29.4	
	comp=E,66nm,0.3s						
BWNR				IAML		20 34 29.4	
	comp=N,73nm,0.3s						
IPM	**Ipoh**	**11.14**	**126**	Pn	**Pn**	**20 32 43.1**	**+0.9**
PALK	**Pallekele**	**11.76**	**252**	Pn	**Pn**	**20 32 49.4**	**-1.3**
	comp=N,0.5nm,0.

ABKAR	Abkulak array	46.37	331	P		P	20 38 29.4 +1.3
ABKAR	Abkulak array	46.37	331	P		P	20 38 29.6 +1.5
ABKAR				IAmb		IAmb	20 38 30.2
	comp=Z,4.4nm,0.8s						
AKTO	Aktyubinsk	48.09	331	P		P	20 38 41.9 +0.4
	comp=Z,2.0nm,0.5s,baz=148,slow=8.8,SNR=8.7						
GNI	Garni	50.66	313	P		P	20 39 01.4 0.0
	comp=Z,4.5nm,0.9s,baz=341,slow=6.9,SNR=4.9						
GNI	Garni	50.66	313	P		P	20 39 01.6 +0.1
WRA	Warramunga Arr	51.89	126	P		P	20 39 10.9 +0.1
	comp=Z,1.4nm,0.4s,baz=300,slow=10.0,SNR=46						
WRA	Warramunga Arr	51.89	126	P		P	20 39 10.8 +0.1
WB2	Warramunga Arr	51.90	126	P		P	20 39 11.0 +0.1
WB2				IAmb		IAmb	20 39 21.3
	comp=Z,3.7nm,0.6s						
ARU	Arti	52.08	337	P		P	20 39 11.9 +0.3
	comp=Z,0.4nm,0.5s,baz=109,slow=6.0,SNR=3.5						
ARU	Arti	52.08	337	P		P	20 39 09.9 -1.7
ARU				IAmb		IAmb	20 39 12.7
	comp=Z,3.3nm,1.0s						
ASAR	Alice Springs	53.64	130	P		P	20 39 23.8 +0.1
	comp=Z,0.8nm,0.5s,baz=311,slow=6.8,SNR=16						
ASAR	Alice Springs	53.64	130	P		P	20 39 24.0 +0.3
BRTR	Keskin Array B	58.70	310	P		P	20 39 59.2 -0.6
	comp=Z,1.3nm,0.7s,baz=124,slow=6.9,SNR=8.3						
STKA	Stephens Creek	63.89	134	P		P	20 40 35.9 +1.1
	comp=Z,1.9nm,0.8s,baz=348,slow=4.3,SNR=3.4						
STKA	Stephens Creek	63.89	134	P		P	20 40 32.7 -2.0
AKASG	Malin Array Be	64.29	321	LR		LR	21 11 00.6
	comp=Z,13nm,20.2s,baz=300,slow=38						
FINES	FINESS Array B	68.86	332	P		P	20 41 06.3 +0.2
	comp=Z,2.3nm,0.7s,baz=106,slow=7.5,SNR=10						
FINES	FINESS Array B	68.86	332	P		P	20 41 06.6 +0.6
ARCES	ARCESS Array B	71.50	340	P		P	20 41 23.0 +0.8
	comp=Z,4.9nm,0.9s,baz=98,slow=6.2,SNR=5.4						
ARCES	ARCESS Array B	71.50	340	P		P	20 41 23.4 +1.2
GERES	GERESS Array B	73.99	318	P		P	20 41 37.9 +0.4
	comp=Z,0.6nm,0.6s,baz=106,slow=7.3,SNR=2.4						
HFS	Hagfors	74.59	329	P		P	20 41 41.0 +0.4
	comp=Z,3.0nm,0.7s,baz=95,slow=8.9,SNR=6.8						
NB2	NORSAR Subarra	75.87	330	P		P	20 41 47.3 -0.7
	comp=Z,3.2nm,0.9s,baz=92,slow=5.9						
NOA	NORSAR Array B	75.87	330	P		P	20 41 47.3 -0.7
	comp=Z,0.8nm,0.6s,baz=97,slow=5.8,SNR=4.4						
EKA	Eskdalemuir Ar	83.85	325	P		P	20 42 31.6 +0.4
	comp=Z,0.6nm,0.5s,baz=86,slow=5.3,SNR=6.0						
TORD	Torodi Ar. Bea	87.78	283	P		P	20 42 51.6 +0.1
	comp=Z,0.5nm,0.7s,baz=91,slow=5.9,SNR=3.5						
ILAR	Eielson Array	92.55	22	P		P	20 43 12.3 -0.5
	comp=Z,0.4nm,0.7s,baz=313,slow=4.3,SNR=4.3						
RES	Resolute Bay	94.26	2	LR		LR	21 28 12.8
	comp=Z,263nm,21.5s,baz=96,slow=37						
PLCA	Paso Flores	146.71	205	PKPbc		PKPab	20 49 45.0 -0.1
	comp=Z,2.0nm,1.0s,baz=230,slow=4.6,SNR=2.9						
CPUP	Villa Florida	147.34	238	PKPbc		PKiKP	20 49 48.0 -0.3
	comp=Z,1.0nm,0.8s,baz=197,slow=15,SNR=2.9						

TIR ***10*** *20:35:26.5, 43°.41N×19°.22E, h7km, Md3.9/6*
LDG ***10*** *20:35:27.7±0.1, 43°.31N×19°.02E, h5km, Ml3.5/13, Error ellipse: s-maj=3.3km s-min=2.4km az=2.0*
RHSSO ***10*** *20:35:28.5±0.2, 43°.29N×19°.14E, h3km±1km, ML3.8/1*
PDG ***10*** *20:35:28.7±0.3, 43°.26N×19°.10E, h12km, MD3.8/1, ML3.8/11, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
BEO ***10*** *20:35:28.9±0.2, 43°.27N×19°.13E, h4km±2km, ML3.6/18*
IDC ***10*** *20:35:30.1±1.4, 43°.35N×18°.80E, h0km, mb3.5/2, mb1 3.7/7, mb1mx3.5/42, mbtmp3.5/7, ML3.4/5, MS2.6/2, Ms1 2.6/2, ms1mx2.1/42, Error ellipse: s-maj=20.9km s-min=13.5km az=28.0*
PRU ***10*** *20:35:31.9±0.0, 43°.24N×19°.11E, h25km*
ISC 10 20:35:28.7±0.9,**43°.28N**±0°.01×**19°.10E**±0°.01,**h6**km±7km, **n190**,σ1§**56**/267,**31C-29D**,**Northern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.16	240	⇓iPg		Pg	20 35 32.5	+0.4
UPM				eSg		Sg	20 35 35.2	+0.9
UPM	Unac-Piva	0.16	240	⇓iPg		Pg	20 35 32.5	+0.4
UPM				i Sg		Sg	20 35 35.1	+0.8
PLE	Pljevlja	0.22	78	⇓iPg		Pg	20 35 33.1	+0.1
PLE				eSg		Sg	20 35 36.2	+0.2
RUDO	Rudo	0.39	31	⇓iPg		Pg	20 35 35.2	-1.1
RUDO				eSg		Sg	20 35 40.5	-0.9
NKY	Niksic	0.48	189	⇓iPg		Pg	20 35 37.6	-0.3
NKME	Niksic	0.53	192	⇓iPg		Pg	20 35 38.3	-0.6
NKME				eSg		Sg	20 35 46.1	+0.4
KOME	Kolasin	0.53	145	⇑iPg		Pg	20 35 38.6	-0.3
KOME				eSg		Sb	20 35 46.4	-2.0
BRY	Bratogost	0.56	227	⇓iPg		Pg	20 35 38.9	-0.6
BRY				eSg		Sg	20 35 46.9	+0.1
BRY	Bratogost	0.56	227	⇓iPg		Pg	20 35 38.8	-0.7
BRY				i Sg		Sg	20 35 47.3	+0.5
BBLS	Lazići	0.62	21	ePg		Pg	20 35 40.4	-0.3
BBLS				eSg		Sg	20 35 50.3	+1.4
BBLS	Lazići	0.62	21	⇓iPg		Pg	20 35 40.3	-0.4
BBLS				eSg		Sg	20 35 48.0	-0.9
SJES	Sjenica	0.64	92	ePg		Pg	20 35 40.7	-0.3
SJES				eSg		Sg	20 35 48.3	-1.1
IVA	Berane	0.71	125	⇑iPg		Pg	20 35 41.9	-0.5
IVA				eSg		Sb	20 35 52.4	-1.3
CEME	Cevo	0.75	190	⇓iPg		Pg	20 35 41.8	-1.3
CEME				i Sg		Sb	20 35 53.3	-1.4
TREB	Trebinje	0.79	224	ePg		Pg	20 35 42.9	-1.0
TREB	Trebinje	0.79	224	⇓iPg		Pg	20 35 42.5	-1.4
TREB				eSg		Sb	20 35 54.9	-0.9
HAPS	Han Pijesak,BI	0.81	352	ePg		Pg	20 35 43.3	-1.0
HAPS				eSg		Sg	20 35 54.3	-0.6
HAPS	Han Pijesak,BI	0.81	352	⇓iPg		Pg	20 35 43.0	-1.3
HAPS				eSg		Sg	20 35 54.2	-0.6
IVAS	Ivanjica	0.82	69	ePg		Pg	20 35 43.4	-1.1
IVAS				eSg		Sg	20 35 53.2	-2.0
PDG	Podgorica	0.86	172	ePg		Pg	20 35 44.4	-0.8
PDG				eSg		Sg	20 35 56.1	-0.3
PDG	Podgorica	0.86	172	⇓iPg		Pg	20 35 43.6	-1.6
PDG				eSg		Sg	20 35 56.0	-0.3
PDG	Podgorica	0.86	172	⇑P		Pg	20 35 43.9	-1.4
PDG				⇓S		Sg	20 35 55.9	-0.4
PDG					AML	AML	20 36 01.6	
TTG	Podgorica	0.86	172	⇓iPg		Pg	20 35 44.1	-1.1
TTG				eSg		Sb	20 35 57.4	-0.4
DBRK	Dubrovnik	0.93	229	i Pg		Pg	20 35 45.2	-1.4
DBRK				Sg		Sn	20 35 59.6	-2.3
PVY	Plav	0.94	137	⇑iPg		Pg	20 35 45.8	-0.9
PVY				i Sg		Sn	20 36 00.1	-2.2
HCY	Herceg Novi	0.95	208	⇑iPg		Pg	20 35 45.8	-1.1
HCY				eSg		Sb	20 35 58.9	-1.4
HCY	Herceg Novi	0.95	208	⇑iPg		Pg	20 35 45.9	-1.0
HCY				i Sg		Sn	20 36 00.8	-1.6
BUM	Brajici-Budva	0.99	189	⇑iPg		Pg	20 35 46.5	-1.3
BUM				i Sg		Sn	20 36 02.0	-1.6
DIVS	Divibare	1.04	38	ePg		Pb	20 35 48.0	-1.2
DIVS	Divibare	1.04	38	⇓iPg		Pb	20 35 46.8	-2.4
DIVS				eSg		Sg	20 36 01.3	-0.9
DRME	Dracevica, Mon	1.10	177	⇓iPg		Pb	20 35 48.6	-1.5
DRME				eSg		Sn	20 36 04.1	-2.0
DRME	Dracevica, Mon	1.10	177	⇓iPg		Pb	20 35 49.2	-0.9
DRME				i Sg		Sn	20 36 04.9	-1.2
STON	Ston	1.10	249	ePg		Pb	20 35 48.6	-1.6
STON				eSg		Sn	20 36 05.1	-1.1
STON	Ston	1.10	249	i Pg		Pb	20 35 48.4	-1.8
STON				Sg		Sn	20 36 05.1	-1.1
STON	Ston	1.10	249	ePg		Pb	20 35 48.4	-1.8
STON				eSg		Sn	20 36 04.9	-1.3
BCI	Bajram Curri	1.16	142	i PN		Pb	20 35 50.0	-1.2
BCI				i SN		Sn	20 36 08.4	+0.7
TEKS	Tekeris	1.30	14	ePg		Pb	20 35 53.6	0.0
TEKS				eSg		Sg	20 36 11.3	+0.7
TEKS	Tekeris	1.30	14	ePg		Pn	20 35 52.2	-1.3
TEKS				eSg		Sb	20 36 09.7	-0.9
GRUS	Gruza	1.32	62	ePg		Pn	20 35 53.0	-0.7
GRUS				eSg		Sb	20 36 10.3	-0.8
ULC	Ulcinj	1.32	175	⇑iPg		Pb	20 35 53.1	-0.9
ULC				i Sg		Sg	20 36 13.2	+2.0
TRUS	Trudelj	1.33	45	ePg		Pn	20 35 53.4	-0.5
TRUS				eSg		Sn	20 36 11.7	-0.3
PUK	Puka	1.37	154	i PN		Pn	20 35 53.6	-0.9
PUK				i SN		Sg	20 36 16.1	+3.3
SELS	Selova	1.48	92	ePg		Pn	20 35 55.4	-0.5
SELS				eSg		Sn	20 36 14.4	-1.1
MAKA	Makarska	1.52	271	i Pn		Pb	20 35 56.6	-0.6
MAKA				Sn		Sg	20 36 19.5	+2.0
DOB	Doboj	1.62	334	ePn		Pn	20 35 57.0	-0.8
DOB				eSn		Sb	20 36 19.0	-0.7
BEO	Beograd	1.82	33	ePn		Pn	20 35 59.8	-0.7
SVIS	Svilajnac	1.82	57	ePn		Pb	20 36 02.2	-0.2
MGRS	Mrkonjic Grad	1.85	309	ePn		Pn	20 36 00.8	-0.2
MGRS				eSn		Sb	20 36 25.3	-1.0
PHP	Peshkopia	1.88	148	P		Pb	20 36 02.8	-0.7
PHP				S		Sg	20 36 30.6	+1.5
PHP	Peshkopia	1.88	148	i PN		Pb	20 36 02.8	-0.7
PHP				i SN		Sg	20 36 31.5	+2.4
BOVS	Bovan	1.93	79	ePn		Pn	20 36 01.8	-0.3
HVAR	Hvar	1.94	268	ePn		Pb	20 36 04.3	-0.2
FRGS	Fruska Gora	1.94	15	ePn		Pn	20 36 01.5	-0.8
FRGS	Fruska Gora	1.94	15	⇓iPn		Pn	20 36 01.4	-0.8
FRGS				eSn		Sn	20 36 26.4	-0.6
BLY	Banja Luka	2.01	317	ePn		Pn	20 36 04.0	+0.8
BLY	Banja Luka	2.01	317	⇓iPn		Pn	20 36 03.3	+0.1
BLY				eSn		Sb	20 36 29.5	-1.5
BLY	Banja Luka	2.01	317	⇑P		Pb	20 36 04.2	-1.5
BLY					AML	AML	20 36 42.0	
TIR	Tirane	2.02	163	P		Pg	20 36 06.3	-1.0
TIR				S		Sg	20 36 34.7	+1.2
TIR	Tirane	2.02	163	i PN		Pg	20 36 06.5	-0.9
TIR				i SN		Sg	20 36 35.4	+1.9
BARS	Barje	2.05	102	ePn		Pn	20 36 03.8	+0.1
BARS	Barje	2.05	102	ePn		Pb	20 36 05.8	-0.5
BARS				eSn		Sb	20 36 30.3	-1.7
SKO	Skopje	2.17	126	i Pn		Pn	20 36 06.0	+0.6
KUBS	Kucevo	2.18	58	ePn		Pn	20 36 04.7	-0.8
ZAGS	Zajecar	2.34	76	ePn		Pn	20 36 07.2	-0.5
MDVR	Moldovita	2.41	51	⇑P		Pn	20 36 08.3	-0.4
MDVR				⇑S		Sn	20 36 39.7	+1.1
MDVR					AML	AML	20 36 56.6	
OHR	Ohrid	2.51	149	i Pn		Pb	20 36 14.4	+0.2
MORI	Morici	2.53	284	ePn		Pb	20 36 13.0	-1.6
ZIRJ	Zirje	2.54	280	ePn		Pb	20 36 12.8	-1.9
BOSS	Bosilegrad	2.61	106	ePn		Pn	20 36 11.3	-0.1
UDBI	Udbina	2.71	298	ePn		Pn	20 36 14.7	+1.8
BAI	Bari	2.73	218	⇓iPn		Pn	20 36 13.7	+0.7
BAI				Sn		Sb	20 36 51.2	-0.4
STIP	Stip	2.78	124	i Pn		Pn	20 36 15.3	+1.5
FASA	Fasano	2.79	208	ePn		Pn	20 36 14.5	+0.7
DJES	Djerdap	2.83	60	ePn		Pn	20 36 16.0	+1.5
MOSL	Moslavina	2.87	325	i Pn		Pn	20 36 15.4	+0.3
HERR	Herculane	2.88	55	⇑P		Pn	20 36 15.6	+0.5
HERR					AML	AML	20 37 10.9	
CGL1	Ceglie Messapi	2.89	205	⇑iPn		Pn	20 36 15.9	+0.6
BZS	Buzias	2.95	37	ePn		Pn	20 36 15.0	-1.1
BZS	Buzias	2.95	37	⇑P		Pn	20 36 15.3	-0.8
BZS				⇓S		Sn	20 36 53.0	+1.2
BZS					AML	AML	20 37 07.6	
MORH	Mrgy, Hungar	2.95	354	ePn		Pn	20 36 15.6	-0.5
MORH				eSn		Sn	20 36 51.6	-0.2
DUGI	Dugi Otok	3.02	285	ePn		Pn	20 36 19.1	+2.1
FNA	Florina	3.02	145	P		Pb	20 36 19.2	-3.7
FNA				S		Sb	20 36 57.8	-2.2
MASS	Massafra	3.02	209	ePn		Pn	20 36 17.2	+0.1
SG1	Sgolgore (BA)	3.03	217	ePn		Pn	20 36 17.9	+0.6
SG1				Sn		Sn	20 36 54.5	+0.6
TPE	Tepelena	3.06	167	P		Pb	20 36 19.8	-3.8
TPE	Tepelena	3.06	167	i PN		Pb	20 36 22.1	-1.5
TPE				i SN		Sb	20 37 01.7	+0.5
TAR1	Taranto	3.07	207	ePn		Pb	20 36 24.6	+0.9
VTS	Vitosha	3.11	101	ePn		Pn	20 36 18.5	0.0
VTS	Vitosha	3.11	101	eP		Pn	20 36 18.4	0.0
VTS	Vitosha	3.11	101	⇑P		Pn	20 36 18.7	+0.2
VTS					AML	AML	20 37 10.2	
MATE	Matera	3.18	215	⇑P		Pn	20 36 19.6	+0.4
MATE					AML	AML	20 37 22.0	
NEST	Nestorio	3.22	152	P		Pb	20 36 22.8	-3.5
VAY	Valandovo	3.24	126	ePn		Pn	20 36 20.7	+0.7
VAY	Valandovo	3.24	126	i Pn		Pn	20 36 20.9	+0.8
KKB	Krupnik	3.27	114	eP		Pb	20 36 23.1	-4.0
NVLJ	Novalja	3.31	294	i Pn		Pn	20 36 22.8	+1.8
GZR	Gura Zlata	3.38	50	⇓P		Pn	20 36 21.5	-0.5
GZR					AML	AML	20 37 21.9	
ZAG	Zagreb	3.38	320	ePn		Pn	20 36 22.2	+0.2
GRG	Griva	3.38	132	P		Pn	20 36 22.9	+0.8
KALN	Kalnik	3.41	327	ePn		Pn	20 36 22.6	+0.1
PTJ	Puntijarka	3.45	321	ePn		Pn	20 36 23.3	+0.3
SRN	Sarande	3.47	168	i PN		Pn	20 36 25.6	+2.4
OZLJ	Ozalj	3.49	313	ePn		Pn	20 36 24.5	+1.0
SIRR	Siria	3.50	31	⇑P		Pn	20 36 22.7	-1.0
SIRR					AML	AML	20 37 04.0	
KNT	Kendrikon	3.53	126	P		Pn	20 36 24.4	+0.3
KZN	Kozani	3.58	145	P		Pn	20 36 27.4	+2.5
BEHE	Becsehely	3.59	333	ePn		Pn	20 36 24.8	-0.1
CRES	Cresnjev	3.64	316	⇑iPn		Pn	20 36 26.8	+1.2
CRES	Cresnjev	3.64	316	ePn		Pn	20 36 26.4	+0.8
CRES				eSn		Sn	20 37 08.8	0.0
KOGS	Kog	3.76	328	⇑iPn		Pn	20 36 27.6	+0.5
MMB	Musomiste	3.82	115	eP		Pb	20 36 38.0	+1.4
RIY	Rijeka	3.89	303	eSn		Sn	20 37 15.4	+0.4
VISS	Visnje	3.95	311	⇑iPn		Pn	20 36 31.5	+1.6
LOT	Lotru	3.99	56	⇓P		Pn	20 36 30.8	+0.4
LOT					AML	AML	20 37 39.3	
NVR	Nevrokopi	4.03	117	P		Pn	20 36 31.4	+0.5
PLVB	Pleven	4.03	87	⇑P		Pn	20 36 30.5	-0.4
PLVB					AML	AML	20 37 45.2	
LIT	Litokhoron	4.07	140	P		Pn	20 36 32.9	+1.4
CEY	Cerknica	4.15	308	ePn		Pn	20 36 32.3	-0.3
CEY				eSn		Sn	20 37 20.6	-0.8
LJU	Ljubljana	4.27	312	ePn		Pn	20 36 34.7	+0.4
LJU				eSn		Sn	20 37 23.6	-0.8
AQU	L'Aquila	4.29	259	ePn		Pn	20 36 35.1	+0.5
AQU				eSn		Sn	20 37 24.0	-1.0
DRGR		4.34	35	⇓P		Pn	20 36 35.8	+0.5
DRGR					AML	AML	20 37 57.6	
PERS	Pernice	4.38	321	⇑iPn		Pn	20 36 36.5	+0.6
HUMR	Humele	4.43	72	⇓P		Pn	20 36 37.0	+0.6
HUMR					AML	AML	20 37 58.5	
RZN	Rozhen	4.45	109	eP		Pb	20 36 45.3	-2.1
SOKA	Soboth	4.45	321	ePn		Pn	20 36 37.3	+0.4
	17nm,0.3s,SNR=53							
SOKA				Sn		Sn	20 37 28.1	-0.9
	12nm,0.4s							
TIP	Timpagrande	4.46	204	⇑P		Pn	20 36 37.7	+0.7
TIP					AML	AML	20 37 33.9	
MOZS	Mozjanca	4.48	314	i Pn		Pn	20 36 38.5	+1.4
ARR	Arges	4.49	60	⇓P		Pn	20 36 37.9	+0.7
ARR					AML	AML	20 37 58.8	
OBKA	Obir	4.57	317	ePn		Pn	20 36 39.3	+0.9
	25nm,0.3s,SNR=24							
PSZ	Piszkesteto	4.67	7	⇓P		Pn	20 36 39.4	-0.4
PSZ					AML	AML	20 37 32.1	
ARSA	Arzberg	4.70	329	i Pn		Pn	20 36 40.9	+0.7
	18nm,0.4s,SNR=33							
ARSA				Sn		Sn	20 37 32.9	-2.2
	7.3nm,0.4s							
VOIR		4.78	61	⇑P		Pn	20 36 42.2	+0.9
VOIR					AML	AML	20 38 21.9	
ELND	Elena	4.97	92	⇑P		Pn	20 36 44.6	+0.6
ELND					AML	AML	20 38 23.1	
MYKA	Terra Mystica	5.12	313	ePn		Pn	20 36 47.5	+1.6
	7.7nm,0.4s,SNR=12							
CONA	Conrad Observa	5.17	335	ePn		Pn	20 36 46.4	-0.3
	5.3nm,0.5s							
CONA				Sn		Sn	20 37 47.9	+1.2
	21nm,0.6s							
VYHS	Vyhne	5.21	358	ePN		Pn	20 36 47.3	+0.1
VYHS				eSN		Sn	20 37 44.6	-3.1
VYHS				eSG		Sg	20 38 18.6	+2.5
DOPR	Dopca	5.23	57	⇓P		Pn	20 36 47.7	+0.2
DOPR					AML	AML	20 38 30.8	
RDO	Rodhopi	5.24	112	P		Pn	20 36 48.0	+0.5
MODS	Modra-Piesok	5.25	347	ePN		Pn	20 36 47.9	+0.2
MODS				eSN		Sn	20 37 45.3	-3.2
MODS				eSG		Sg	20 38 19.4	+2.3
KECS	Kecovo	5.29	10	ePN		Pn	20 36 48.8	+0.6
KECS				eSN		Sn	20 37 46.7	-2.8
KECS				eSG		Sg	20 38 23.9	+5.4
KECS				eLG		Lg	20 38 32.6	
SMOL	Smolenice	5.36	348	ePN		Pn	20 36 50.5	+1.3
SMOL				eSN		Sn	20 37 47.8	-3.4
SMOL				eLG		Lg	20 38 23.5	
MLR	Muntele Rosu	5.38	63	Pn		Pn	20 36 55.1	+5.5
	0.6nm,0.3s,baz=266,slow=16,SNR=15							
MLR				Lg		Lg	20 38 15.0	
	0.7nm,0.3s,baz=132,slow=21,SNR=3.7							
MLR	Muntele Rosu	5.38	63	⇑P		Pn	20 36 51.4	+1.8
TRPA	Tarpa	5.41	25	⇑P		Pn	20 36 49.5	-0.4
KBA	Koelnbreinsper	5.56	315	Pn		Pn	20 36 53.9	+1.7
	21nm,0.7s							
JAVC	Velka Javorina	5.66	350	ePN		Pn	20 36 54.6	+1.2
MOA	Molln	5.69	325	ePn		Pn	20 36 55.1	+1.3
	8.2nm,0.3s,SNR=30							
MOA				eSn		Sn	20 37 58.0	-1.4
	13nm,0.4s							
ABTA	Abfaltersbach	5.81	309	ePn		Pn	20 36 56.8	+1.3
	5.9nm,0.3s,SNR=11							
VRI	Vrincioaia	6.03	62	⇑P		Pn	20 36 59.7	+1.3
KOLS	Kolonicke sedl	6.07	20	ePN		Pn	20 37 01.7	+2.8
KOLS				ePG		Pg	20 37 25.6	+0.7
KRUC	Moravsky	6.08	343	ePN		Pn	20 36 59.2	+0.2
BURAR	Bucovina Array	6.11	43	⇑P		Pn	20 37 00.1	+0.6
VRAC	Vranov	6.27	345	Pn		Pn	20 37 02.5	+0.8
	0.4nm,0.3s,baz=181,slow=14,SNR=3.1							
VRAC				Sn		Sn	20 38 08.7	-5.0
	0.2nm,0.3s,baz=64,slow=10.0,SNR=1.2							
VRAC	Vranov	6.27	345	⇑P		Pn	20 37 02.2	+0.5
VRAC	Vranov	6.27	345	ePN		Pn	20 37 02.9	+1.2
MORC	Moravsky Berou	6.58	351	⇑P		Pn	20 37 06.9	+0.9
MORC	Moravsky Berou	6.58	351	ePN		Pn	20 37 07.2	+1.2
WTTA	Wattenberg	6.60	310	ePn		Pn	20 37 08.1	+1.8
	8.5nm,0.2s,SNR=18							
WATA	Walderalm	6.67	310	ePn		Pn	20 37 09.8	+2.5
	24nm,0.5s,SNR=14							
GERES	GERESS Array B	6.71	328	Pn		Pn	20 37 09.0	+1.2
	1.2nm,0.3s,baz=153,slow=14,SNR=17							
GERES				Sn		Sn	20 38 21.2	-3.4
	0.9nm,0.3s,baz=145,slow=23,SNR=1.3							
SQTA	Sankt Quirin	6.82	308	ePn		Pn	20 37 11.3	+1.9
	6.7nm,0.3s,SNR=13							
MOTA	Moosalm	6.95	309	ePn		Pn	20 37 13.5	+2.3
	13nm,0.4s,SNR=16							
KRLC	Kraliky	6.98	348	ePN		Pn	20 37 12.1	+0.6
KRLC				eSN		Sn	20 38 28.7	-2.4
KHC	Kasperske Hory	6.99	329	ePN		Pn	20 37 12.6	+1.0
KHC				eSN		Sn	20 38 27.9	-3.5
FETA	Feichten	7.00	305	ePn		Pn	20 37 13.7	+1.9
	1.7nm,0.3s,SNR=7.1							
FETA				Pg		Pg	20 37 38.9	-3.7
	5.0nm,0.4s							
RETA	Reutte	7.22	308	ePn		Pn	20 37 16.6	+1.8
	3.6nm,0.3s							
DPC	Dobruska-Polom	7.32	346	ePN		Pn	20 37 17.8	+1.6
DAVOX	Davos/Dischmat	7.41	301	Pn		Pn	20 37 19.6	+2.1
	2.4nm,0.3s,baz=98,slow=18,SNR=18							
DAVOX				Sn		Sn	20 38 42.6	+0.7
	0.4nm,0.3s,baz=316,slow=20,SNR=1.7							
DAVOX				LR		LR	20 40 31.0	
	comp=Z,50nm,19.8s,baz=231,slow=42							
PGF	Pioggiola	7.45	268	eP		Pn	20 37 18.8	+0.8
PGF				eSn		Sn	20 38 33.0	-10
	1.0nm,0.2s							
DAVA	Damuels	7.63	305	Pn		Pn	20 37 20.2	-0.3
	3.0nm,0.3s							
SBF	Sospel	8.49	278	eP		Pn	20 37 33.4	+1.2
SBF				eSn		Sn	20 38 59.6	-8.8
	9.1nm,0.6s							
MBDF	Montbardon	9.00	283	ePn		Pn	20 37 36.1	-3.2
MBDF				eSn		Sn	20 39 10.9	-10
	1.9nm,0.3s							
FRF	La Foret Royal	9.07	276	eP		Pn	20 37 41.0	+0.9
FRF				eSn		Sn	20 39 11.3	-11
	6.9nm,0.5s			

2.1nm,0.5s
ARXS eS **Sg** **20 41 56.6 -0.1**
8.7nm,0.5s
MK31 Makanchi Array 3.33 0 ⇓Pg **Pg** **20 41 15.7 +1.1**
0.8nm,0.5s,baz=176,slow=15,SNR=12
MK31 ⇓Sn **Sb** **20 41 47.5 -2.6**
0.3nm,0.3s,baz=188,slow=28,SNR=5.0
MK31 ⇑Lg Lg 20 41 59.0
0.7nm,0.3s,baz=176,slow=25,SNR=4.7
MAKZ Makanchi 3.35 357 ⇓Pn **Pn** **20 41 03.3 +0.4**
7.7nm,1.4s
MAKZ ⇑Sn **Sb** **20 41 47.5 -3.3**
2.0nm,0.5s
MAKZ ⇑Lg Lg 20 42 02.0
2.1nm,0.6s
KOTS Kotyrbulak 3.77 268 Pg **Pb** **20 41 19.5 +2.3**
2.8nm,0.6s
KOTS Lg Lg 20 42 10.7
9.9nm,0.7s
KOTS Kotyrbulak 3.77 268 *e*P **Pb** **20 41 19.5 +2.3**
2.8nm,0.6s
KOTS *e*S **Sg** **20 42 10.7 -1.0**
9.9nm,0.7s
MDOK Medeo 3.82 267 *e*P **Pg** **20 41 21.9 -2.0**
2.2nm,0.7s
MDOK *e*S **Sg** **20 42 14.7 +1.3**
9.8nm,0.6s
CHKK Chushkaly 3.85 278 *e*P **Pb** **20 41 21.3 +2.8**
2.4nm,0.6s
CHKK *e*S **Sg** **20 42 13.5 -0.9**
14nm,0.3s
TNSS Tian-Shan 3.91 266 *e*P **Pg** **20 41 23.8 -1.9**
1.2nm,0.6s
KTBS Karatobe 4.07 275 Pg **Pg** **20 41 26.1 -2.5**
1.3nm,1.3s
KTBS Lg Lg 20 42 22.1
12nm,0.7s
KTBS Karatobe 4.07 275 *e*P **Pg** **20 41 26.1 -2.5**
1.3nm,1.3s
KTBS *e*S **Sg** **20 42 22.1 +0.7**
12nm,0.7s
MTBS Maitube 4.28 268 *e*P **Pg** **20 41 30.9 -1.8**
1.5nm,0.1s
MTBS *e*S **Sg** **20 42 30.0 +2.0**
8.9nm,0.4s
KUU Kurty 4.32 278 *e*P **Pg** **20 41 31.0 -2.5**
1.1nm,0.8s
KUU *e*S **Sg** **20 42 30.2 +0.7**
10.0nm,0.7s
DGS Degeres 4.74 270 Pg **Pb** **20 41 38.1 +4.4**
0.7nm,0.9s
DGS Degeres 4.74 270 *e*P **Pb** **20 41 38.1 +4.4**
0.7nm,0.9s

ATH 10 20:41:36.5, 40°.31N×24°.36E, h17km±7km, ML1.2/3, Error ellipse: s-maj=7.8km s-min=1.1km az=317.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.29**	**276**	P	Pg	20 41 43.0	+0.2
OUR				S	Sg	20 41 47.1	0.0
OUR				AML	AML	20 41 47.3	
	comp=N,246μm,0.2s						
OUR				AML	AML	20 41 47.8	
	comp=E,216μm,0.2s						
THAS	**Thassos island**	**0.41**	**42**	P	Pg	20 41 44.2	-0.6
THAS				S	Sb	20 41 51.6	+0.4
THAS				AML	AML	20 41 53.3	
	comp=E,82μm,0.1s						
THAS				AML	AML	20 41 53.3	
	comp=N,88μm,0.1s						
PAIG	**Paliouri**	**0.64**	**234**	P	Pg	20 41 48.9	-0.3
KAVA	**Kavala**	**0.70**	**10**	P	Pb	20 41 50.5	+0.2
KAVA				S	Sg	20 41 59.3	-0.3
KAVA				AML	AML	20 42 01.7	
	comp=E,42μm,0.1s						
KAVA				AML	AML	20 42 01.8	
	comp=N,35μm,0.1s						
PLG	**Polygyros**	**0.70**	**276**	P	Pb	20 41 50.6	+0.3
PLG				S	Sg	20 41 59.3	-0.3
LIA	**Limnos Island**	**0.75**	**122**	P	Pb	20 41 51.1	-0.1
SMTH	**Samothraki Isl**	**0.91**	**79**	P	Pb	20 41 53.4	-0.5
RDO	**Rodhopi**	**1.23**	**46**	P	Pg	20 41 59.9	-0.3
ALN	**Alexandroupoli**	**1.41**	**65**	P	Pg	20 42 03.3	-0.5

SOME 10 20:42:09.7, 43°.50N×77°.08E, h10km, 2C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTBS	**Karatobe**	**0.36**	**306**	*e*P	Pg	20 42 17.3	+0.4
KTBS				*e*S	Sg	20 42 22.8	+1.1
0.5nm,0.3s							
9.4nm,1.0s							
TNSS	**Tian-Shan**	**0.47**	**192**	⇑*i*P	Pg	20 42 17.8	-1.3
2.4nm,0.4s							
TNSS				⇑*i*S	Sg	20 42 23.7	-1.6
6.6nm,0.3s							
TNSS	**Tian-Shan**	**0.47**	**192**	*e*S	Pg	20 42 17.9	-1.1
7.0nm,0.4s							
DGS	**Degeres**	**0.99**	**255**	*e*P	Pg	20 42 28.9	+0.1
1.4nm,0.6s							
DGS				*e*S	Sb	20 42 42.7	+0.5
5.2nm,0.8s							
DGS	**Degeres**	**0.99**	**255**	*e*S	Sb	20 42 42.7	+0.6
5.3nm,0.8s							
DGS	**Degeres**	**0.99**	**255**	S	Sb	20 42 42.7	+0.5
5.2nm,0.8s							
DGS				Lg	Lg	20 42 42.7	
5.3nm,0.8s							

SKO 10 20:42:18.1, 41°.88N×23°.14E, h17km, M0.5, ML1.2, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.04**	**253**	⇑*i*Pg	Pg	20 42 18.4	-2.9
KKB				*i* Sg	Sg	20 42 21.6	-1.7
VAY	**Valandovo**	**0.70**	**218**	*i* Pg	Pg	20 42 31.8	-0.1
VAY				*i* Sg	Sg	20 42 40.8	-0.5
VAY				*e*Lg	Lg	20 42 42.3	
	comp=N,6.8nm,0.6s						
VAY				*e*Lg	Lg	20 42 48.6	
	comp=E,3.1nm,0.7s						
STIP	**Stip**	**0.74**	**256**	*i* Pg	Pb	20 42 29.5	-3.0
STIP				*i* Sg	Sg	20 42 34.8	-7.5
STIP				*e*Lg	Lg	20 42 34.8	
	comp=E,1.0nm,0.2s						
STIP				*e*Lg	Lg	20 42 35.5	
	comp=N,1.3nm,0.2s						
KNT	**Kendrikon**	**0.74**	**194**	*i* Pg	Pg	20 42 32.8	+0.2
KNT				*i* Sg	Sg	20 42 41.5	-0.9
VTS	**Vitosha**	**0.74**	**5**	*i* Pg	Pg	20 42 32.3	-0.4
VTS				*i* Sg	Sg	20 42 40.3	-2.2

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*IDC **10** 21:04:10.0±1.6, 43°.59N×105°.47W, h0km, mb4.1/2, mb1 4.1/7, mb1mx3.6/44, mbtmp4.0/7, ML3.6/5, Error ellipse: s-maj=49.5km s-min=8.8km az=153.0*
*ISCJB **10** 21:04:11.1±1.3, 43°.72N±0°.03×105°.28W±0°.05, h9km±10km, mb4.1/2, Error ellipse: s-maj=5.9km s-min=5.3km az=34.4*
*NEIC **10** 21:04:11.5±0.6, 43°.71N±0°.05×105°.29W±0°.04, h0km±1km, ML3.4/68*
ISC 10 21:04:11.8±1.6, **43°.71N**±0°.04×**105°.32W**±0°.05, **h7**km±12km, **n41**, σ0**°77**/39, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**66**		**Pg**	**21 04 30.5**	**-0.8**
RSSD					**Sg**	**21 04 45.3**	**+0.8**
K22A	**Casper**	**1.38**	**220**		**Pn**	**21 04 36.2**	**-1.4**
K22A				Sn	**Sg**	**21 04 56.7**	**+0.6**
PHWY	**Pilot Hill**	**2.41**	**182**		**Pn**	**21 04 52.2**	**+0.3**
PHWY				Sn	**Sn**	**21 05 21.5**	**-0.3**
PHWY				IAML		21 05 27.6	
	212nm,0.4s						
PHWY				IAML		21 05 28.7	
	288nm,0.4s						
RWWY	**Rawlins**	**2.45**	**215**		**Pn**	**21 04 53.0**	**+0.5**
RWWY				Sn	**Sn**	**21 05 22.7**	**-0.2**
N23A	**Red Feather La**	**2.85**	**190**		**Pn**	**21 04 58.7**	**+0.8**
N23A				Sn	**Sn**	**21 05 31.8**	**-0.9**
N23A				IAML		21 05 41.3	
	comp=N,184nm,0.3s						
N23A				IAML		21 05 42.2	
	comp=E,160nm,0.4s						
LAO	**LASA Array**	**3.05**	**348**		**Pn**	**21 05 01.1**	**+0.6**
LAO				IAML		21 05 53.5	
	comp=E,173nm,0.6s						
LAO				IAML		21 05 53.7	
	comp=E,145nm,0.4s						
RLMT	**Red Lodge**	**3.16**	**298**		**Pn**	**21 05 02.9**	**+0.7**
RLMT				IAML		21 05 49.8	
	comp=E,69nm,0.3s						
RLMT				IAML		21 06 05.8	
	comp=E,74nm,0.3s						
BW06	**Boulder Array**	**3.24**	**255**		**Pn**	**21 05 03.9**	**+0.7**
BW06				IAML		21 05 56.9	
	comp=N,72nm,0.4s						
PD31	**Pinedale Array**	**3.24**	**255**		**Pn**	**21 05 03.9**	**+0.6**
PDAR	**Pinedale Array**	**3.24**	**255**	Pn	**Pn**	**21 05 03.7**	**+0.5**
	comp=N,7.2nm,0.3s,baz=71,slow=16,SNR=73						
PDAR				Lg	Lg	21 05 46.1	
	comp=N,19nm,0.3s,baz=280,slow=33,SNR=2.8						
PDAR	**Pinedale Array**	**3.24**	**255**		**Pn**	**21 05 03.6**	**+0.3**
YMP	**Mirror Lake Pl**	**3.63**	**288**		**Pn**	**21 05 09.6**	**+0.9**
OGNE	**Ogallala**	**3.68**	**137**		**Pn**	**21 05 09.8**	**+0.6**
GCMT	**Greycliff**	**3.73**	**305**		**Pn**	**21 05 10.8**	**+0.8**
H17A	**Grant Village**	**3.85**	**282**		**Pn**	**21 05 12.6**	**+0.9**
H17A				IAML		21 06 18.6	
	comp=E,38nm,0.4s						
FLWY	**Flagg Ranch**	**3.91**	**277**		**Pn**	**21 05 13.3**	**+0.9**
FLWY				IAML		21 06 27.3	
	comp=E,40nm,2.3s						
FLWY				IAML		21 06 29.4	
	comp=E,45nm,1.9s						
SNOW	**Snow King Moun**	**3.96**	**268**		**Pn**	**21 05 13.3**	**+0.2**
SNOW				IAML		21 06 28.1	
	comp=E,66nm,1.4s						
SNOW				IAML		21 07 03.7	
	comp=E,45nm,2.0s						
YNR	**Norris Junctio**	**3.98**	**286**	Pn	**Pn**	**21 05 14.7**	**+1.2**
YPP	**Pitchstone Pla**	**4.00**	**280**		**Pn**	**21 05 14.4**	**+0.7**
REDW	**Red Top Meadow**	**4.04**	**267**	IAML		21 06 22.3	
	comp=E,64nm,1.8s						
REDW				IAML		21 06 31.5	
	comp=E,58nm,0.7s						
IMW	**Indian Meadow**	**4.07**	**275**	IAML		21 06 24.3	
	comp=E,35nm,0.5s						
TPAW	**Teton Pass**	**4.10**	**269**	IAML		21 06 44.2	
	comp=E,43nm,1.0s						
O20A	**White River Ci**	**4.18**	**212**		**Pn**	**21 05 16.7**	**+0.5**
O20A				IAML		21 06 40.7	
	comp=E,51nm,1.6s						
O20A				IAML		21 07 03.8	
	comp=N,66nm,2.4s						
AHID	**Auburn Hatcher**	**4.33**	**259**	IAML		21 06 32.2	
	comp=N,52nm,0.5s						
AHID				IAML		21 06 33.3	
	comp=E,50nm,1.4s						
SMCO	**Snowmass**	**4.70**	**196**	IAML		21 06 41.2	
	comp=E,35nm,0.3s						
SMCO				IAML		21 06 41.9	
	comp=E,37nm,0.3s						
Q24A	**Divide**	**4.74**	**178**	IAML		21 06 41.7	
	comp=N,30nm,0.3s						
DGMT	**Dagmar**	**4.83**	**9**		**Pn**	**21 05 25.4**	**+0.6**
BOZ	**Bozeman (W)**	**4.88**	**295**	IAML		21 06 45.6	
	comp=N,19nm,1.6s						
KSCO	**Kaye Shedlock'**	**5.11**	**156**	Pn	**Pn**	**21 05 29.3**	**+0.4**
EGMT	**Eagleton**	**5.31**	**326**		**Pn**	**21 05 31.8**	**+0.2**
CTU	**Camp Tracy**	**5.65**	**240**		**Pn**	**21 05 37.2**	**+0.9**
PV07	**Paradox Valley**	**5.83**	**207**		**Pn**	**21 05 39.6**	**+0.7**
SDCO	**Great Sand Dun**	**5.96**	**181**		**Pn**	**21 05 41.6**	**+0.9**
ECSD	**EROS Data Cent**	**6.31**	**87**		**Pn**	**21 05 45.6**	**+0.4**
ELK	**Elko**	**7.93**	**251**	Pn	**Pn**	**21 06 07.7**	**0.0**
	comp=N,0.3nm,0.3s,baz=257,slow=23,SNR=2.4						
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**21 06 23.5**	**-1.2**
	comp=N,3.7nm,0.3s,baz=228,slow=11,SNR=23						
ULM	**Lac du Bonnet**	**9.19**	**41**		**Pn**	**21 06 22.9**	**-1.7**
SADO	**Sadowa**	**18.77**	**78**	P	**Pn**	**21 08 32.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=278,slow=9.9,SNR=3.3						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**21 08 41.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=152,slow=11,SNR=1.2						
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**21 14 28.0**	**-0.4**
	comp=N,1.8nm,0.8s,baz=331,slow=6.7,SNR=6.9						
FINES	**FINESS Array B**	**68.07**	**23**	P	**P**	**21 15 12.0**	**+0.4**
	comp=N,1.2nm,0.8s,baz=352,slow=9.0,SNR=1.3						

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*MOS **10** 21:13:48.6±1.1, 54°.94S×130°.54W, h10km, MS5.1/20, Error ellipse: s-maj=18.5km s-min=14.7km az=61.8*
*IDC **10** 21:13:48.4±0.3, 54°.96S×130°.72W, h0km, mb5.0/21, mb1 5.1/21, mb1mx4.9/31, mbtmp5.0/21, MS4.9/21, Ms1 4.9/21, ms1mx4.8/39, Error ellipse: s-maj=17.1km s-min=11.3km az=179.0*
*ISCJB **10** 21:13:48.1±0.2, 54°.96S±0°.05×130°.55W±0°.06, h10km, mb5.2/40, MS5.1/43, Error ellipse: s-maj=6.7km s-min=4.9km az=19.8*
*NEIC **10** 21:13:49.5±1.5, 54°.9S±0°.1×130°.6W±0°.2, h10km±1km, mb5.4/91, Ms_20 5.3/322, Mwb5.6, Mwc5.8(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20; $M_{\theta\theta}$1.89; $M_{\phi\phi}$-1.69; $M_{r\theta}$0.21; $M_{\theta\phi}$3.04; $M_{\phi r}$0.32; Fault plane solution: $M_0$3.55000×10^{17} NP1: ϕ_s105.30000°, δ84.21000°, λ1.46000°. NP2:ϕ_s15.16000°, δ88.54000°, λ174.20000°. Principal axes: T 3.6556, Plg5.0000°, Azm330.0000°; N -0.2209, Plg84.0000°, Azm181.0000°; P -3.4347, Plg3.0000°, Azm60.0000°;*
*BJI **10** 21:13:50.0±0.0, 55°.00S×130°.50W, h10km, mB5.6/9, Ms5.6/7, Ms7 5.3/7*
*GCMT **10** 21:13:54.5±0.1, 54°.95S±0°.01×130°.63W±0°.01, h23km, MW5.7/126, Moment Tensor Solution. s109,c204; s126,c250; Duration: 1^{s}7 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.72±.05; $M_{\theta\theta}$3.15±.06; $M_{\phi\phi}$-2.43±.05; $M_{r\theta}$-0.12±.09; $M_{\theta\phi}$3.49±.04; $M_{\phi r}$0.29±.08; Best double couple: $M_0$4.48200×10^{17} NP1:ϕ_s199.00000°, δ87.00000°, λ-176.00000°. NP2:ϕ_s109.00000°, δ86.00000°, λ-4.00000°. Principal axes: T 4.8280, Plg0.0000°, Azm334.0000°; N -0.6880, Plg85.0000°, Azm242.0000°; P -4.1360, Plg5.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 21:13:55, 54°.94S×130°.62W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.61; $M_{\theta\theta}$3.26; $M_{\phi\phi}$-2.65; $M_{r\theta}$0.10; $M_{\theta\phi}$3.61; $M_{\phi r}$0.76; Fault plane solution: $M_0$4.76000×10^{17} NP1:ϕ_s200.00000°, δ86.00000°, λ-170.00000°. NP2:ϕ_s109.00000°, δ80.00000°, λ-4.00000°. Principal axes: T 5.0003, Plg4.0000°, Azm334.0000°; N -0.5312, Plg80.0000°, Azm221.0000°; P -4.4691, Plg10.0000°, Azm65.0000°;*
ISC 10 21:13:49.8±0.2, **54°.88S**±0°.07×**130°.62W**±0°.06, **h10**km, **n587**, σ1^{s}**54**/411, **mb5.4**/68, **MS5.3**/196, **2C-1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.36**	**201**	P	**P**	**21 20 09.5**	**-0.4**
SBA				pmax	pmax		
	comp=Z,77nm,1.7s						
SBA				MLR	MLR		
	comp=Z,2μm,18.0s						
SBA	**Scott Base**	**31.36**	**201**	P	**P**	**21 20 09.5**	**-0.4**
SBA				IAmb	IAmb	21 20 25.8	
	comp=Z,77nm,1.6s						
PMSA	**Palmer Station**	**33.30**	**134**	P	**P**	**21 20 26.5**	**-0.4**
	comp=Z,7.4nm,0.9s,baz=283,slow=10,SNR=4.9						
PMSA	**Palmer Station**	**33.30**	**134**	P	**P**	**21 20 25.5**	**-1.5**
PMSA	**Palmer Station**	**33.30**	**134**	IAms_20	IAms_20	21 29 42.3	
	comp=Z,6μm,22.0s						
PMSA	**Palmer Station**	**33.30**	**134**	*e*P	**P**	**21 20 28.6**	**+1.7**
PMSA	**Palmer Station**	**33.30**	**134**	*e*P	**P**	**21 20 28.6**	**+1.7**
TBI	**Tubuai**	**34.48**	**328**	*e*P	**P**	**21 20 38.5**	**+0.8**
	comp=Z,693nm,1.3s						
TBI				*e*S	**S**	**21 26 03.5**	**-2.5**
	comp=Z,820nm,27.5s						
TBI				*e*LQ	LQ	21 28 14.6	
	comp=Z,946nm,29.8s						
TBI				*e*LR	LR	21 29 33.5	
	comp=Z,9μm,29.2s,baz=164						
TBI	**Tubuai**	**34.48**	**328**	*e*T	T	21 56 28.5	
	comp=Z,354nm,0.4s						
USHA	**Ushuaia**	**34.75**	**116**	P	**P**	**21 20 39.9**	**+0.2**
	comp=Z,13nm,0.8s,baz=226,slow=5.1,SNR=5.6						
QSPA	**South Pole Qui**	**35.29**	**180**	P	**P**	**21 20 45.1**	**+0.6**
	comp=Z,24nm,1.0s,baz=95,slow=4.0,SNR=25						
QSPA	**South Pole Qui**	**35.29**	**180**	P	**P**	**21 20 44.8**	**+0.2**
QSPA				IAmb	IAmb	21 20 53.7	
	comp=Z,67nm,1.2s						
QSPA	**South Pole Qui**	**35.29**	**180**	IAms_20	IAms_20	21 33 04.6	
	comp=Z,5μm,20.0s						
BFZ	**Birch Farm**	**37.48**	**270**	IAms_20	IAms_20	21 33 45.0	
	comp=Z,4μm,18.0s						
ODZ	**Otahua Downs**	**37.98**	**260**	IAms_20	IAms_20	21 33 01.0	
	comp=Z,4μm,20.0s						
BKZ	**Black Stump Fm**	**38.33**	**272**	IAms_20	IAms_20	21 32 46.7	
	comp=Z,6μm,21.0s						
MXZ	**Matakaoa Point**	**38.37**	**275**	IAms_20	IAms_20	21 32 10.6	
	comp=Z,4μm,21.0s						
URZ	**Urewera**	**38.59**	**273**	LR	LR	21 33 33.0	
	comp=Z,2μm,21.3s,baz=233,slow=31						
LBZ	**Lake Benmore**	**38.64**	**260**	IAms_20	IAms_20	21 33 40.5	
	comp=Z,5μm,20.0s						
WKZ	**Wanaka**	**39.03**	**259**	IAms_20	IAms_20	21 33 02.9	
	comp=Z,6μm,21.0s						
MEH	**Mehetia**	**39.29**	**333**	*e*P	**P**	**21 21 19.2**	**+0.6**
	comp=Z,70nm,1.4s						
MEH	**Mehetia**	**39.29**	**333**	*e*T	T	22 02 28.2	
	comp=Z,43nm,0.3s						
FOZ	**Fox Glacier**	**39.37**	**261**	IAms_20	IAms_20	21 33 00.9	
	comp=Z,6μm,22.0s						
TVO	**Taravao**	**39.69**	**332**	*e*P	**P**	**21 21 22.9**	**+0.8**
	comp=Z,32nm,0.9s						
TVO	**Taravao**	**39.69**	**332**	*e*T	T	22 02 58.5	
	comp=Z,3.8nm,0.4s						
PAE	**Paea**	**39.90**	**331**	*e*P	**P**	**21 21 24.4**	**+0.7**
	comp=Z,27nm,1.2s						
PAE	**Paea**	**39.90**	**331**	*e*T	T	22 03 14.1	
	comp=Z,3.0nm,0.3s						
TIAR	**Tiarei**	**39.93**	**332**	*e*P	**P**	**21 21 24.4**	**+0.4**
	comp=Z,49nm,1.0s						
PPTF	**Pamatai, Papee**	**39.96**	**331**	P	**P**	**21 21 25.2**	**+0.8**
PPT2	**Papeete2**	**39.97**	**331**	*e*P	**P**	**21 21 24.8**	**+0.5**
	comp=Z,195nm,1.4s						
PPT2				*e*S	**S**	**21 27 27.3**	**-2.3**
	comp=Z,1μm,26.0s						
PPT2				*e*LQ	LQ	21 30 28.0	
	comp=Z,1μm,24.8s						
PPT2				*e*LR	LR	21 32 10.8	
	comp=Z,11μm,26.2s,baz=171						
PPT2	**Papeete2**	**39.97**	**331**	*e*T	T	22 03 19.2	
	comp=Z,6.9nm,0.4s						
PPT	**Papeete**	**39.99**	**331**	P	**P**	**21 21 25.3**	**+0.9**
	comp=Z,138nm,1.1s,baz=352,slow=8.0,SNR=3.9						
PPT				LR	LR	21 34 04.7	
	comp=Z,3μm,18.8s,baz=146,slow=30						
PLCA	**Paso Flores**	**41.45**	**96**	P	**P**	**21 21 37.2**	**+0.8**
	comp=Z,50nm,1.0s,baz=245,slow=9.0,SNR=46						
PLCA				LR	LR	21 35 00.5	
	comp=Z,2μm,18.3s,baz=252,slow=31						
PLCA	**Paso Flores**	**41.45**	**96**	P	**P**	**21 21 36.1**	**-0.3**
PLCA				IAmb	IAmb	21 21 38.6	
	comp=Z,141nm,1.3s						
PLCA	**Paso Flores**	**41.45**	**96**	*e*P	**P**	**21 21 37.5**	**+1.1**
PLCA	**Paso Flores**	**41.45**	**96**	*e*P	**P**	**21 21 37.5**	**+1.1**
GO06	**Curarrehue**	**41.67**	**94**	P	**P**	**21 21 38.0**	**-0.3**
GO06				IAmb	IAmb	21 21 40.3	
	comp=Z,112nm,1.2s						
VAH	**Vaihoa**	**41.71**	**335**	*e*P	**P**	**21 21 38.8**	**+0.2**
	comp=Z,226nm,1.0s						
VAH	**Vaihoa**	**41.71**	**335**	*e*T	T	22 05 29.9	
	comp=Z,264nm,0.4s						
EFI	**East Falkland**	**41.72**	**117**	IAMs_20	IAMs_20	21 35 52.2	
	comp=Z,4μm,19.0s						
PMOR	**Pomariorio Ree**	**42.00**	**335**	*e*P	**P**	**21 21 41.0**	**0.0**
	comp=Z,232nm,1.1s						
PMOR	**Pomariorio Ree**	**42.00**	**335**	*e*T	T	22 05 49.3	
	comp=Z,12nm,0.3s						
OUZ	**Omahuta**	**42.72**	**274**	P	**P**	**21 21 45.6**	**-1.2**
OUZ				IAmb	IAmb	21 22 00.4	
	comp=Z,51nm,1.0s						
GO05	**Huala**	**44.55**	**89**	P	**P**	**21 22 01.4**	**-0.2**
ROC1	**El Roble**	**46.54**	**87**	P	**P**	**21 22 17.3**	**-0.3**
PEL	**Peldehue**	**46.61**	**88**	P	**P**	**21 22 17.8**	**-0.1**
PEL				pmax	pmax		
	comp=Z,281nm,1.3s						
PEL				MLR	MLR		
	comp=Z,2μm,20.0s						
PEL	**Peldehue**	**46.61**	**88**	P	**P**	**21 22 17.8**	**-0.1**
VNA3	**Neumayer Olymp**	**47.46**	**158**	P	**P**	**21 22 24.4**	**+0.4**
TRQA	**Tornquist**	**48.15**	**99**	P	**P**	**21 22 29.9**	**0.0**
TRQA				pmax	pmax		
	comp=Z,176nm,1.4s						
TRQA				MLR	MLR		
	comp=Z,3μm,19.0s						
TRQA	**Tornquist**	**48.15**	**99**	P	**P**	**21 22 29.9**	**0.0**
TRQA				IAms_20	IAms_20	21 39 21.5	
	comp=Z,3μm,19.0s						
TRQA	**Tornquist**	**48.15**	**99**	*e*P	**P**	**21 22 30.2**	**+0.4**
TRQA	**Tornquist**	**48.15**	**99**	*e*P	**P**	**21 22 30.2**	**+0.4**
VNA2	**Neumayer--Watz**	**48.19**	**158**	P	**P**	**21 22 30.4**	**+0.7**
	baz=222,slow=8.3						
VNA1	**Neumayer--Stat**	**48.21**	**158**	P	**P**	**21 22 30.5**	**+0.7**
SNAA	**Sanae**	**48.53**	**161**	P	**P**	**21 22 32.6**	**+0.2**
SNAA	**Sanae**	**48.53**	**161**	P	**P**	**21 22 32.7**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,30nm,0.9s						
SNAA				MLR	MLR		
	comp=Z,4μm,21.0s						
SNAA	**Sanae**	**48.53**	**161**	P	**P**	**21 22 32.7**	**+0.3**
SNAA				IAmb	IAmb	21 22 44.6	
	comp=Z,30nm,0.9s						
SNAA				IAMs_20	IAMs_20	21 40 52.0	
	comp=Z,4μm,21.0s						
GO04	**Tololo Observa**	**48.72**	**85**	P	**P**	**21 22 33.9**	**-0.7**
GO03	**Copiap**	**50.99**	**83**	P	**P**	**21 22 51.4**	**-0.2**
GO03				IAmb	IAmb	21 22 52.6	
	comp=Z,90nm,1.3s						
AFI	**Afiamalu**	**51.87**	**306**	P	**P**	**21 22 59.0**	**+0.7**
AFI				pmax	pmax		
	comp=Z,80nm,1.1s						
AFI	**Afiamalu**	**51.87**	**306**	P	**P**	**21 22 59.0**	**+0.7**
AFI				IAmb	IAmb	21 22 60.0	
	comp=Z,80nm,1.1s						
GO02	**Mina Guanaco**	**53.22**	**82**	P	**P**	**21 23 08.0**	**-0.5**
GO02				IAmb	IAmb	21 23 08.8	
	comp=Z,54nm,1.0s						
PB10	**IPOC Station P**	**53.95**	**80**	P	**P**	**21 23 13.4**	**-0.1**
OGAUY	**Aigu**	**54.93**	**101**	*e*P	**P**	**21 23 20.9**	**+0.3**
OGAUY	**Aigu**	**54.93**	**101**	*e*P	**P**	**21 23 20.9**	**+0.3**
LVC	**Limon Verde**	**55.59**	**80**	P	**P**	**21 23 25.4**	**-0.5**
LVC				pmax	pmax		
	comp=Z,128nm,1.3s						
LVC				MLR	MLR		
	comp=Z,700nm,18.0s						
LVC	**Limon Verde**	**55.59**	**80**	P	**P**	**21 23 25.4**	**-0.5**
LVC	**Limon Verde**	**55.59**	**80**	*e*P	**P**	**21 23 26.6**	**+0.7**
LVC	**Limon Verde**	**55.59**	**80**	*e*P	**P**	**21 23 26.6**	**+0.7**
SYO	**Syowa Base**	**56.21**	**176**	⇑*i*P	**P**	**21 23 28.3**	**-0.9**
DZM	**Mont Dzumac**	**56.72**	**279**	*e*P	**P**	**21 23 36.6**	**+3.0**
	comp=Z,72nm,1.0s						
DZM	**Mont Dzumac**	**56.72**	**279**	P	**P**	**21 23 33.4**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=176,slow=12,SNR=3.2						
DZM				LR	LR	21 43 02.9	
	comp=Z,1μm,19.8s,baz=178,slow=31						
DZM	**Mont Dzumac**	**56.72**	**279**	IAmb	I

CPSB Cacapava Do Su 58.55 99 *eP* **P 21 23 46.5 +0.1**
CPSB Cacapava Do Su 58.55 99 *eP* **P 21 23 46.5 +0.1**
ARMA Armidale 58.86 260 IAMs_20 IAMs_20 21 43 49.9
comp=Z,2µm,20.0s
CPUP Villa Florida 59.39 93 P **P 21 23 51.6 -0.6**
comp=Z,33nm,1.1s,baz=235,slow=7.1,SNR=29
CPUP LR LR 21 46 06.9
comp=Z,3µm,18.2s,baz=223,slow=33
CPUP Villa Florida 59.39 93 P **P 21 23 51.3 -0.9**
CPUP Villa Florida 59.39 93 *eP* **P 21 23 51.2 -0.9**
CPUP Villa Florida 59.39 93 *eP* **P 21 23 51.2 -0.9**
NNA Nana 59.83 66 P **P 21 23 55.0 -0.4**
NNA pmax pmax
comp=Z,60nm,1.1s
NNA MLR MLR
comp=Z,2µm,21.0s
NNA Nana 59.83 66 P **P 21 23 55.0 -0.4**
NNA IAmb IAmb 21 23 57.1
comp=Z,60nm,1.1s
NNA Nana 59.83 66 IAMs_20 IAMs_20 21 42 55.2
comp=Z,2µm,21.0s
CNLB Canela 60.84 100 *eP* **P 21 24 02.3 +0.1**
CNLB Canela 60.84 100 *eP* **P 21 24 02.3 +0.1**
LPAZ La Paz 61.06 77 P **P 21 24 04.8 +0.4**
comp=Z,47nm,1.0s,baz=205,slow=3.9,SNR=117
LPAZ LR LR 21 44 34.9
comp=Z,604nm,19.3s,baz=273,slow=30
LPAZ La Paz 61.06 77 P **P 21 24 03.6 -0.8**
LPAZ La Paz 61.06 77 *eP* **P 21 24 04.9 +0.4**
LPAZ La Paz 61.06 77 *eP* **P 21 24 04.9 +0.4**
KNTN Kanton 61.69 312 P **P 21 24 08.7 +0.8**
ITAB Concordia 61.69 98 *eP* **P 21 24 07.9 0.0**
ITAB Concordia 61.69 98 *eP* **P 21 24 07.9 0.0**
EIDS Eidsvold 63.01 264 P **P 21 24 16.7 -0.1**
EIDS IAmb IAmb 21 24 28.8
comp=Z,35nm,0.9s
STKA Stephens Creek 63.39 252 P **P 21 24 19.6 +0.4**
STKA pmax pmax
comp=Z,7.0nm,1.0s
STKA MLR MLR
comp=Z,400nm,19.0s
STKA Stephens Creek 63.39 252 P **P 21 24 19.1 -0.1**
comp=Z,17nm,0.8s,baz=140,slow=6.5,SNR=22
STKA LR LR 21 47 22.2
comp=Z,2µm,19.1s,baz=139,slow=32
STKA Stephens Creek 63.39 252 P **P 21 24 19.6 +0.4**
PTGB Pitanga 63.66 96 *eP* **P 21 24 21.0 -0.2**
PTGB Pitanga 63.66 96 *eP* **P 21 24 21.0 -0.2**
TRCB Terra Rica 64.83 94 *eP* **P 21 24 27.7 -1.0**
TRCB Terra Rica 64.83 94 *eP* **P 21 24 27.7 -1.0**
AQDB Aquidauana 64.86 90 *eP* **P 21 24 28.1 -0.8**
AQDB Aquidauana 64.86 90 *eP* **P 21 24 28.1 -0.8**
SIV San Ignacio 65.31 83 LR LR 21 49 28.3
comp=Z,217nm,18.6s,baz=184,slow=33
BBOO Buckleboo 65.67 247 IAmb IAmb 21 24 37.7
comp=Z,60nm,1.3s
PCMB Pacaembu 66.54 94 *eP* **P 21 24 40.0 +0.2**
PCMB Pacaembu 66.54 94 *eP* **P 21 24 40.0 +0.2**
JUQB Juquia 66.64 99 *eP* **P 21 24 41.0 +0.6**
JUQB Juquia 66.64 99 *eP* **P 21 24 41.0 +0.6**
SPB Sao Paulo 67.19 99 P **P 21 24 43.5 -0.4**
SPB IAmb IAmb 21 24 45.4
comp=Z,39nm,1.3s
SPB IAMs_20 IAMs_20 21 50 50.7
comp=Z,2µm,19.0s
SPB Sao Paulo 67.19 99 *eP* **P 21 24 44.2 +0.3**
SPB Sao Paulo 67.19 99 *eP* **P 21 24 44.2 +0.3**
PP1B Ponte de Pedra 67.60 89 *eP* **P 21 24 46.0 -0.6**
PP1B Ponte de Pedra 67.60 89 *eP* **P 21 24 46.0 -0.6**
VAO Valinhos 67.92 99 *eP* **P 21 24 49.0 +0.3**
VAO Valinhos 67.92 99 *eP* **P 21 24 49.0 +0.3**
RCLB Rio Claro- Sao 68.05 98 *eP* **P 21 24 50.0 +0.5**
RCLB Rio Claro- Sao 68.05 98 *eP* **P 21 24 50.0 +0.5**
SALV Santo Antonio 68.48 87 *eP* **P 21 24 51.7 -0.4**
SALV Santo Antonio 68.48 87 *eP* **P 21 24 51.7 -0.4**
BB19B Bebedouro 68.54 96 *eP* **P 21 24 52.7 +0.2**
BB19B Bebedouro 68.54 96 *eP* **P 21 24 52.7 +0.2**
ITRB Iturama 68.55 94 *eP* **P 21 24 52.5 0.0**
ITRB Iturama 68.55 94 *eP* **P 21 24 52.5 0.0**
ESAR Angra dos Reis 69.34 101 *eP* **P 21 24 58.1 +0.7**
ESAR Angra dos Reis 69.34 101 *eP* **P 21 24 58.1 +0.7**
OTAV Otavalo 69.45 58 *eP* **P 21 24 56.8 -1.9**
OTAV Otavalo 69.45 58 *eP* **P 21 24 56.8 -1.9**
OTAV Otavalo 69.45 58 P **P 21 24 58.5 -0.1**
OTAV pmax pmax
comp=Z,95nm,1.5s
OTAV MLR MLR
comp=Z,2µm,20.0s
OTAV Otavalo 69.45 58 P **P 21 24 58.5 -0.1**
OTAV Otavalo 69.45 58 IAMs_20 IAMs_20 21 50 45.8
comp=Z,2µm,20.0s
OTAV Otavalo 69.45 58 *eP* **P 21 24 57.3 -1.3**
OTAV Otavalo 69.45 58 *eP* **P 21 24 57.3 -1.3**
SAML Samuel 69.81 76 P **P 21 24 59.4 -0.9**
SAML pmax pmax
comp=Z,69nm,1.3s
SAML MLR MLR
comp=Z,500nm,19.0s
SAML Samuel 69.81 76 P **P 21 24 59.4 -0.9**
SAML Samuel 69.81 76 *eP* **P 21 24 59.1 -1.3**
SAML Samuel 69.81 76 *eP* **P 21 24 59.1 -1.3**
CTA Charters Tower 69.90 264 P **P 21 25 00.9 0.0**
comp=Z,22nm,1.0s,baz=151,slow=8.1,SNR=17
CTAO Charters Tower 69.90 264 P **P 21 25 01.4 +0.5**
CTAO pmax pmax
comp=Z,43nm,0.9s
CTAO MLR MLR
comp=Z,700nm,21.0s
CTAO Charters Tower 69.90 264 P **P 21 25 01.4 +0.5**
CTAO IAmb IAmb 21 25 13.4
comp=Z,43nm,0.8s
VAS01 Vassouras-RJ 70.49 101 *eP* **P 21 25 04.8 +0.3**
VAS01 Vassouras-RJ 70.49 101 *eP* **P 21 25 04.8 +0.3**
HNR Honiara 70.54 282 LR LR 21 53 48.8
comp=Z,200nm,18.6s,baz=146,slow=34
BSCB Bom Sucesso 70.74 99 *eP* **P 21 25 06.2 +0.1**
BSCB Bom Sucesso 70.74 99 *eP* **P 21 25 06.2 +0.1**
ARAG Araguaiana, MT 70.88 90 *eP* **P 21 25 06.9 0.0**
ARAG Araguaiana, MT 70.88 90 *eP* **P 21 25 06.9 0.0**
BBAC Balboa, Cauca 71.58 58 *eP* **P 21 25 11.2 -0.2**
BBAC Balboa, Cauca 71.58 58 *eP* **P 21 25 11.2 -0.2**
PMNB Patos De Minas 71.73 96 *eP* **P 21 25 12.4 +0.3**
PMNB Patos De Minas 71.73 96 *eP* **P 21 25 12.4 +0.3**
SOTA Rioblanco 71.99 58 *eP* **P 21 25 14.2 0.0**
SOTA Rioblanco 71.99 58 *eP* **P 21 25 14.2 0.0**
PCON Cinco Dias 72.27 58 *eP* **P 21 25 15.9 0.0**
PCON Cinco Dias 72.27 58 *eP* **P 21 25 15.9 0.0**
POPC Popayan, Colom 72.31 58 *eP* **P 21 25 14.3 -1.5**
POPC Popayan, Colom 72.31 58 *eP* **P 21 25 14.3 -1.5**
CLDB Colider 72.45 84 *eP* **P 21 25 14.2 -2.2**
CLDB Colider 72.45 84 *eP* **P 21 25 14.2 -2.2**
BDFB Brasilia 73.12 93 P **P 21 25 20.1 -0.4**
comp=Z,14nm,0.9s,baz=188,slow=4.5,SNR=15
BDFB LR LR 21 54 24.6
comp=Z,2µm,18.9s,baz=213,slow=33
BDFB Brasilia 73.12 93 P **P 21 25 20.0 -0.5**
BDFB IAmb IAmb 21 25 21.5
comp=Z,39nm,1.2s
BDFB IAMs_20 IAMs_20 21 54 05.1
comp=Z,2µm,19.0s
MACC Macarena, Meta 73.38 61 *eP* **P 21 25 21.8 -0.1**
MACC Macarena, Meta 73.38 61 *eP* **P 21 25 21.8 -0.1**
YOTC Yotoco, Valle 73.72 58 *eP* **P 21 25 23.0 -1.0**
YOTC Yotoco, Valle 73.72 58 *eP* **P 21 25 23.0 -1.0**
ASAR Alice Springs 74.03 252 P **P 21 25 24.8 -0.9**
comp=Z,17nm,1.0s,baz=140,slow=5.8,SNR=40
ASAR LR LR 21 53 17.3
comp=Z,1µm,20.8s,baz=149,slow=32
AS31 Alice Springs 74.03 252 P **P 21 25 24.9 -0.7**
ORTC Ortega, Tolima 74.20 59 *eP* **P 21 25 26.8 +0.1**
ORTC Ortega, Tolima 74.20 59 *eP* **P 21 25 26.8 +0.1**
SJMB Sao Joao De Ma 74.60 101 *eP* **P 21 25 28.5 -0.5**
SJMB Sao Joao De Ma 74.60 101 *eP* **P 21 25 28.5 -0.5**
BSFB Barra de Sao F 74.69 101 *eP* **P 21 25 29.3 -0.2**
BSFB Barra de Sao F 74.69 101 *eP* **P 21 25 29.3 -0.2**
H01W1 Cape Leeuwin H 74.79 230 T T 22 48 23.1
baz=146,slow=76,SNR=69
H01W2 Cape Leeuwin H 74.80 230 T T 22 48 29.3
baz=146,slow=76,SNR=81
H01W3 Cape Leeuwin H 74.81 230 T T 22 48 23.1
baz=146,slow=76,SNR=71
GUY2C Guyana, Caldas 75.28 58 *eP* **P 21 25 33.6 +0.1**
GUY2C Guyana, Caldas 75.28 58 *eP* **P 21 25 33.6 +0.1**

JTS Las Juntas de 75.37 47 P **P 21 25 33.4 0.0**
JTS pmax pmax
comp=Z,72nm,1.6s
JTS Las Juntas de 75.37 47 P **P 21 25 33.4 0.0**
JTS IAmb IAmb 21 25 35.4
comp=Z,72nm,1.6s
ROSC El Rosal 75.46 59 *eP* **P 21 25 34.8 +0.4**
ROSC El Rosal 75.46 59 *eP* **P 21 25 34.8 +0.4**
ROSC El Rosal 75.46 59 P **P 21 25 35.4 +1.0**
comp=Z,36nm,0.8s,baz=176,slow=3.0,SNR=36
ROSC El Rosal 75.46 59 P **P 21 25 34.0 -0.4**
ROSC IAMs_20 IAMs_20 21 51 50.8
comp=Z,1µm,21.0s
CBOC Ciudad Bolivar 75.52 57 *eP* **P 21 25 34.4 0.0**
CBOC Ciudad Bolivar 75.52 57 *eP* **P 21 25 34.4 0.0**
PEXB Peixe 75.78 91 *eP* **P 21 25 35.4 -0.4**
PEXB Peixe 75.78 91 *eP* **P 21 25 35.4 -0.4**
NORC Norcasia 75.81 58 *eP* **P 21 25 35.9 -0.1**
NORC Norcasia 75.81 58 *eP* **P 21 25 35.9 -0.1**
PTGC Puerto Gaitan, 76.00 61 *eP* **P 21 25 35.6 -1.4**
PTGC Puerto Gaitan, 76.00 61 *eP* **P 21 25 35.6 -1.4**
HELC Santa Helena 76.03 57 *eP* **P 21 25 37.1 -0.5**
HELC Santa Helena 76.03 57 *eP* **P 21 25 37.1 -0.5**
SPBC San Pablo de B 76.28 59 *eP* **P 21 25 37.3 -1.4**
SPBC San Pablo de B 76.28 59 *eP* **P 21 25 37.3 -1.4**
COEN Coen 76.54 265 IAmb IAmb 21 25 45.0
comp=Z,30nm,1.4s
WR9 Warramunga Arr 76.65 254 IAMs_20 IAMs_20 21 55 58.7
comp=Z,2µm,21.0s
WR8 Warramunga Arr 76.66 254 IAMs_20 IAMs_20 21 55 49.0
comp=Z,2µm,20.0s
WR6 Warramunga Arr 76.69 254 IAMs_20 IAMs_20 21 55 40.7
comp=Z,2µm,19.0s
WR5 Warramunga Arr 76.71 254 IAMs_20 IAMs_20 21 55 41.1
comp=Z,2µm,20.0s
WR4 Warramunga Arr 76.72 254 IAMs_20 IAMs_20 21 55 50.5
comp=Z,2µm,19.0s
WC3 Warramunga Arr 76.73 254 IAMs_20 IAMs_20 21 55 42.4
comp=Z,2µm,19.0s
WR3 Warramunga Arr 76.73 254 IAMs_20 IAMs_20 21 55 51.4
comp=Z,2µm,20.0s
WR2 Warramunga Arr 76.75 254 IAMs_20 IAMs_20 21 55 42.2
comp=Z,1µm,19.0s
WB2 Warramunga Arr 76.76 254 IAMs_20 IAMs_20 21 55 42.5
comp=Z,2µm,19.0s
WR1 Warramunga Arr 76.76 254 IAMs_20 IAMs_20 21 55 42.6
comp=Z,1µm,20.0s
WRA Warramunga Arr 76.76 254 P **P 21 25 40.5 -0.9**
comp=Z,24nm,1.1s,baz=143,slow=5.2,SNR=28
WRA LR LR 21 56 13.5
comp=Z,2µm,19.1s,baz=160,slow=33
WRA Warramunga Arr 76.76 254 P **P 21 25 40.5 -0.9**
WRAB Tennant Creek 76.77 254 P **P 21 25 40.1 -1.3**
WRAB pmax pmax
comp=Z,30nm,1.0s
WRAB MLR MLR
comp=Z,2µm,20.0s
WRAB Tennant Creek 76.77 254 P **P 21 25 40.1 -1.3**
WRAB IAmb IAmb 21 25 52.9
comp=Z,30nm,0.9s
WRAB Tennant Creek 76.77 254 IAMs_20 IAMs_20 21 55 52.5
comp=Z,2µm,20.0s
WB4 Warramunga Arr 76.78 254 IAMs_20 IAMs_20 21 55 44.2
comp=Z,2µm,21.0s
WB5 Warramunga Arr 76.80 254 IAMs_20 IAMs_20 21 55 44.2
comp=Z,2µm,19.0s
WB7 Warramunga Arr 76.82 254 IAMs_20 IAMs_20 21 56 04.4
comp=Z,2µm,20.0s
WB8 Warramunga Arr 76.84 254 IAMs_20 IAMs_20 21 55 46.8
comp=Z,2µm,21.0s
PTBC PUERTO BERRIO, 76.86 58 *eP* **P 21 25 38.8 -3.1**
PTBC PUERTO BERRIO, 76.86 58 *eP* **P 21 25 38.8 -3.1**
RUSC La Rusia 76.98 59 *eP* **P 21 25 41.2 -2.0**
RUSC La Rusia 76.98 59 *eP* **P 21 25 41.2 -2.0**
TLIG Tlapa 77.15 31 IAmb IAmb 21 25 57.1
comp=Z,17nm,0.8s
ZARC Zaragoza, Cauc 77.49 57 *eP* **P 21 25 44.1 -1.3**
ZARC Zaragoza, Cauc 77.49 57 *eP* **P 21 25 44.1 -1.3**
TGUH Tegucigalpa,Un 77.83 43 IAmb IAmb 21 25 59.6
comp=Z,58nm,1.1s
PMG Port Moresby 77.89 271 P **P 21 25 49.0 +1.3**
comp=Z,9.3nm,0.6s,baz=172,slow=4.6,SNR=5.6
PMG Port Moresby 77.89 271 IAMs_20 IAMs_20 21 55 33.3
comp=Z,1µm,19.0s
PTGA Pitinga 78.36 74 P **P 21 25 49.6 -0.8**
PTGA IAmb IAmb 21 25 50.9
comp=Z,64nm,1.3s
PTGA Pitinga 78.36 74 *eP* **P 21 25 49.5 -0.8**
PTGA Pitinga 78.36 74 *eP* **P 21 25 49.5 -0.8**
NBIT Itapeh - BA 78.61 100 *eP* **P 21 25 51.9 +0.2**
NBIT Itapeh - BA 78.61 100 *eP* **P 21 25 51.9 +0.2**
MORW Morawa 78.81 235 P **P 21 25 52.9 +0.2**
MORW IAmb IAmb 21 26 04.3
comp=Z,20nm,0.8s
KRVT Keravat (AS076 79.22 278 P **P 21 25 55.4 +0.4**
comp=Z,23nm,0.5s,baz=70,slow=15,SNR=4.4
SJCC San Jacinto, C 79.42 56 *eP* **P 21 25 55.2 -0.9**
SJCC San Jacinto, C 79.42 56 *eP* **P 21 25 55.2 -0.9**
SDV Santo Domingo 80.77 60 P **P 21 26 01.3 -2.2**
SDV IAmb IAmb 21 26 02.8
comp=Z,66nm,1.6s
SDV Santo Domingo 80.77 60 *eP* **P 21 26 02.0 -1.6**
SDV Santo Domingo 80.77 60 *eP* **P 21 26 02.0 -1.6**
NBPN Ponto Novo - B 81.47 97 *eP* **P 21 26 07.0 -0.2**
NBPN Ponto Novo - B 81.47 97 *eP* **P 21 26 07.0 -0.2**
URIC Uribia, Colomb 82.52 58 *eP* **P 21 26 09.8 -2.7**
URIC Uribia, Colomb 82.52 58 *eP* **P 21 26 09.8 -2.7**
NBLA Lagarto - SE 82.73 99 *eP* **P 21 26 11.4 -2.4**
NBLA Lagarto - SE 82.73 99 *eP* **P 21 26 11.4 -2.4**
FITZ Fitzroy Crossi 83.02 249 P **P 21 26 15.3 +0.1**
comp=Z,15nm,0.8s,baz=153,slow=6.1,SNR=17
FITZ Fitzroy Crossi 83.02 249 IAmb IAmb 21 26 29.7
comp=Z,36nm,1.0s
TEIG Tepich 83.07 40 P **P 21 26 14.5 -0.8**
PSAB3 Pilbara Seismi 83.17 242 IAMs_20 IAMs_20 22 04 15.6
comp=Z,1µm,21.0s
PSA00 Pilbara Seismi 83.19 242 P **P 21 26 15.0 -1.1**
PSAA1 Pilbara Seismi 83.20 242 IAMs_20 IAMs_20 22 04 31.2
comp=Z,1µm,20.0s
PSAB2 Pilbara Seismi 83.20 242 IAMs_20 IAMs_20 22 01 13.8
comp=Z,1µm,21.0s
PSAA2 Pilbara Seismi 83.20 242 IAMs_20 IAMs_20 22 01 21.4
comp=Z,1µm,19.0s
PSAC1 Pilbara Seismi 83.25 242 IAMs_20 IAMs_20 22 04 49.5
comp=Z,1µm,21.0s
PSAD1 Pilbara Seismi 83.30 242 IAMs_20 IAMs_20 22 04 20.0
comp=Z,1µm,18.0s
KNRA Kununurra 83.30 252 IAmb IAmb 21 26 30.3
comp=Z,59nm,1.2s
KNRA IAMs_20 IAMs_20 21 59 10.8
comp=Z,2µm,19.0s
SRIG Santa Rosalia 83.38 16 IAMs_20 IAMs_20 22 01 40.5
comp=Z,1µm,21.0s
NBTA Tacaratu-PE 84.08 97 *eP* **P 21 26 20.5 -0.3**
NBTA Tacaratu-PE 84.08 97 *eP* **P 21 26 20.5 -0.3**
HPIG 84.26 22 IAmb IAmb 21 26 34.5
comp=Z,14nm,0.9s
MTN Manton Dam 84.29 256 IAmb IAmb 21 26 40.0
comp=Z,32nm,0.9s
MTN IAMs_20 IAMs_20 22 00 47.3
comp=Z,1µm,19.0s
NBAN Anadia - AL 84.66 99 *eP* **P 21 26 23.9 +0.1**
NBAN Anadia - AL 84.66 99 *eP* **P 21 26 23.9 +0.1**
NBMA Muriti-CE 85.10 96 *eP* **P 21 26 26.0 +0.1**
NBMA Muriti-CE 85.10 96 *eP* **P 21 26 26.0 +0.1**
HSIG 85.26 17 IAmb IAmb 21 26 39.1
comp=Z,7.5nm,0.6s
HSIG IAMs_20 IAMs_20 22 05 33.4
comp=Z,1µm,18.0s
NBPS Pedro II - PI 85.96 92 *eP* **P 21 26 30.0 -0.3**
NBPS Pedro II - PI 85.96 92 *eP* **P 21 26 30.0 -0.3**
NBPB Pedra_Branca-C 86.11 94 *eP* **P 21 26 31.6 +0.7**
NBPB Pedra_Branca-C 86.11 94 *eP* **P 21 26 31.6 +0.7**
NBRF Rio Formoso - 86.12 99 *eP* **P 21 26 31.4 +0.4**
NBRF Rio Formoso - 86.12 99 *eP* **P 21 26 31.4 +0.4**
TXAR Lajitas Array 87.02 23 P **P 21 26 35.7 +0.7**
TXAR Lajitas Array 87.02 23 P **P 21 26 36.5 +1.5**
comp=Z,1.3nm,0.8s,baz=195,slow=8.2,SNR=17
TXAR Lajitas Array 87.02 23 P **P 21 26 35.6 +0.7**
833A Chaparral WMA, 87.11 27 P **P 21 26 36.4 +1.1**
baz=197
JAY Jayapura 87.19 270 LR LR 22 05 12.6
comp=Z,533nm,18.1s,baz=158,slow=35
MDP Montagnes des 87.26 77 LR LR 21 59 56.3
comp=Z,340nm,19.2s,baz=212,slow=32

NBPA Parau_RN 87.36 96 *eP* **P 21 26 36.8 -0.3**
NBPA Parau_RN 87.36 96 *eP* **P 21 26 36.8 -0.3**
214A Organ Pipe Nat 87.83 15 P **P 21 26 39.8 +1.0**
baz=190
214A Organ Pipe Nat 87.83 15 IAmb IAmb 21 26 54.9
comp=Z,21nm,1.1s
319A Douglas 87.85 18 IAmb IAmb 21 26 52.8
comp=Z,13nm,0.9s
RCBR Riachuelo 87.99 97 IAMs_20 IAMs_20 22 01 53.0
comp=Z,1µm,22.0s
BAR Barrett 88.03 12 IAMs_20 IAMs_20 22 04 41.9
comp=Z,1µm,19.0s
IKP In-Ko-Pah, Jac 88.07 12 P **P 21 26 41.4 +1.5**
baz=188
GRGR Grenville 88.14 66 IAMs_20 IAMs_20 22 01 12.0
comp=Z,1µm,18.0s
MONP2 Monument Peak 88.27 12 P **P 21 26 42.5 +1.4**
baz=188
TUC Tucson 88.50 17 P **P 21 26 43.4 +1.4**
baz=191
TUC Tucson 88.50 17 P **P 21 26 42.0 0.0**
TUC pmax pmax
comp=Z,31nm,1.6s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC Tucson 88.50 17 P **P 21 26 42.0 0.0**
TUC IAmb IAmb 21 26 58.0
comp=Z,31nm,1.6s
TUC Tucson 88.50 17 IAMs_20 IAMs_20 22 05 42.3
comp=Z,1µm,19.0s
EPT El Paso 88.76 20 IAMs_20 IAMs_20 22 05 28.2
comp=Z,992nm,19.0s
MNTX Cornudas Mount 88.92 21 P **P 21 26 45.0 +1.0**
baz=194
TPFO Pinon Flats 88.97 12 P **P 21 26 45.5 +1.3**
baz=188
PFO Pinyon Flats O 88.97 12 P **P 21 26 44.2 0.0**
PFO pmax pmax
comp=Z,12nm,1.1s
PFO MLR MLR
comp=Z,1µm,20.0s
PFO Pinyon Flats O 88.97 12 P **P 21 26 44.2 0.0**
PFO IAmb IAmb 21 27 00.3
comp=Z,12nm,1.1s
PFO IAMs_20 IAMs_20 21 57 11.9
comp=Z,994nm,20.0s
JCT Junction City 89.05 26 P **P 21 26 46.1 +1.5**
baz=197
JCT Junction City 89.05 26 IAmb IAmb 21 26 52.9
comp=Z,39nm,1.5s
121A Cookes Peak, D 89.25 19 P **P 21 26 47.9 +2.2**
baz=193
SVB Belmont 89.31 66 IAMs_20 IAMs_20 22 01 38.1
comp=Z,2µm,20.0s
Y12C Blythe 89.36 13 IAMs_20 IAMs_20 22 05 01.0
comp=Z,2µm,21.0s
MWC Mount Wilson 89.40 10 IAMs_20 IAMs_20 22 05 47.3
comp=Z,1µm,21.0s
BELC Belle Mtn. Jos 89.41 12 P **P 21 26 47.9 +1.6**
baz=188
HKT Hockley 89.63 30 P **P 21 26 47.3 +0.2**
HKT pmax pmax
comp=Z,16nm,1.3s
HKT Hockley 89.63 30 P **P 21 26 47.3 +0.2**
HKT IAmb IAmb 21 26 54.5
comp=Z,16nm,1.2s
IRM Iron Mountain 89.67 13 P **P 21 26 49.1 +1.7**
baz=189
OSI Osito Audit: C 89.72 10 IAMs_20 IAMs_20 21 59 00.8
comp=Z,1µm,19.0s
PKM Mcpherson Peak 89.89 9 P **P 21 26 50.0 +1.4**
baz=186
EDW2 Edwards Air Fo 90.06 10 P **P 21 26 50.4 +1.2**
baz=187
H11S2 WAKE ISLAND Hy 90.32 303 T T 23 06 40.4
baz=148,slow=76,SNR=317
H11S3 WAKE ISLAND Hy 90.33 303 T T 23 06 42.3
baz=148,slow=76,SNR=161
H11S1 WAKE ISLAND Hy 90.33 303 T T 23 06 42.5
baz=148,slow=76,SNR=146
GSC Goldstone, Bar 90.60 11 IAMs_20 IAMs_20 22 08 24.1
comp=Z,1µm,18.0s
PAGB Antelope Grade 90.69 8 P **P 21 26 52.9 +0.8**
PAGB IAmb IAmb 21 27 03.4
comp=Z,23nm,1.3s
PAGB IAMs_20 IAMs_20 21 57 52.4
comp=Z,1µm,20.0s
W13A Hualapai Mount 90.77 14 P **P 21 26 53.3 +0.6**
ISA Isabella, Lake 90.78 10 P **P 21 26 54.2 +1.6**
baz=187
ISA Isabella, Lake 90.78 10 IAMs_20 IAMs_20 22 07 18.9
comp=Z,1µm,22.0s
TUQ Turquoise Moun 90.84 12 P **P 21 26 53.9 +0.9**
baz=188
WHTX Lake Whitney, 91.10 28 IAMs_20 IAMs_20 22 03 03.3
comp=Z,1µm,19.0s
PMPB Monarch Peak 91.12 8 IAMs_20 IAMs_20 21 57 44.0
comp=Z,1µm,20.0s
ABTX Abilene, Hawle 91.14 26 IAmb IAmb 21 27 08.4
comp=Z,18nm,0.9s
H11N3 WAKE ISLAND Hy 91.27 303 T T 23 07 50.7
baz=148,slow=76,SNR=74
H11N1 WAKE ISLAND Hy 91.27 303 T T 23 07 50.7
baz=148,slow=76,SNR=73
MPMC Manual Prospec 91.28 11 P **P 21 26 55.8 +0.8**
baz=187
H11N2 WAKE ISLAND Hy 91.28 303 T T 23 07 52.2
baz=148,slow=76,SNR=78
W18A Petrified Fore 91.42 17 IAMs_20 IAMs_20 22 06 34.6
comp=Z,910nm,18.0s
DAC Darwin (Calif) 91.48 10 IAMs_20 IAMs_20 22 09 20.4
comp=Z,1µm,18.0s
WUAZ Wupatki 91.55 16 IAmb IAmb 21 27 06.8
comp=Z,10nm,1.1s
WUAZ IAMs_20 IAMs_20 22 09 30.9
comp=Z,1µm,18.0s
SAO San Andreas Ge 91.62 7 IAMs_20 IAMs_20 21 59 29.1
comp=Z,1µm,19.0s
ANMO Albuquerque 91.85 20 P **P 21 26 59.6 +1.9**
baz=194
ANMO Albuquerque 91.85 20 P **P 21 26 58.4 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO MLR MLR
comp=Z,700nm,20.0s
ANMO Albuquerque 91.85 20 P **P 21 26 58.4 +0.7**
SHPR Sheep Range 91.99 12 IAmb IAmb 21 27 14.5
comp=Z,18nm,1.4s
SHPR IAMs_20 IAMs_20 22 08 34.7
comp=Z,1µm,19.0s
TPNV Topopah Spring 92.30 11 IAMs_20 IAMs_20 22 09 23.9
comp=Z,1µm,20.0s
U15A North Rim 92.30 15 IAmb IAmb 21 27 10.8
comp=Z,17nm,1.1s
U15A IAMs_20 IAMs_20 21 59 07.9
comp=Z,1µm,20.0s
OMMB Old Mammoth Mi 92.67 9 IAMs_20 IAMs_20 22 08 19.8
comp=Z,1µm,21.0s
MMRI Maumere 92.67 251 IAMs_20 IAMs_20 22 05 44.0
comp=Z,1µm,20.0s
MDPB Devils Postpil 92.68 9 IAMs_20 IAMs_20 22 08 58.1
comp=Z,971nm,21.0s
MCCM Marconi Confer 92.90 6 IAMs_20 IAMs_20 22 02 26.9
comp=Z,1µm,19.0s
NVAR Mina Array Bea 93.54 10 P **P 21 27 06.7 +1.2**
comp=Z,1.3nm,0.8s,baz=192,slow=8.5,SNR=7.1
NVAR LR LR 21 59 45.4
comp=Z,765nm,20.8s,baz=140,slow=29
NVAR Mina Array Bea 93.54 10 P **P 21 27 04.7 -0.8**
NV11 Mina Array Sit 93.56 10 IAMs_20 IAMs_20 22 00 12.4
comp=Z,1µm,20.0s
HOPS Hopland Field 93.73 6 IAMs_20 IAMs_20 21 58 40.9
comp=Z,2µm,22.0s
R11A Troy Canyon, C 93.75 12 P **P 21 27 07.3 +0.9**
baz=188
R11A Troy Canyon, C 93.75 12 IAMs_20 IAMs_20 22 12 02.5
comp=Z,1µm,18.0s
YERR Yerington 94.01 9 IAMs_20 IAMs_20 22 01 06.2
comp=Z,940nm,20.0s
PNTR Pine Nut 94.08 9 IAMs_20 IAMs_20 21 59 37.1
comp=Z,1µm,20.0s
VCNR Virginia City 94.28 9 IAMs_20 IAMs_20 21 58 59.4
comp=Z,1µm,21.0s
BOSA Boshof 94.29 159 LR LR 22 03 17.2
comp=Z,1µm,21.5s,baz=192,slow=32
PV20 West Nyswonger 94.70 17 IAMs_20 IAMs_20 22 13 55.3
comp=Z,1µm,19.0s
PAHR Pah Rah Range 94.71 9 IAMs_20 IAMs_20 21 59 38.9

comp=Z,1μm,21.0s
BEKR Beckworth 94.79 8 IAMs_20 IAMs_20 22 12 13.9
comp=Z,906nm,20.0s
PV22 Blue Mesa, Par 94.92 17 IAMs_20 IAMs_20 22 14 20.1
comp=Z,960nm,18.0s
456A Hilliard 94.92 40 IAMs_20 IAMs_20 21 56 51.9
comp=Z,1μm,18.0s
BMN Battle Mountai 95.63 10 IAMs_20 IAMs_20 22 01 51.2
comp=Z,1μm,19.0s
DUG Dugway, Tooele 95.93 14 IAMs_20 IAMs_20 22 09 56.9
comp=Z,1μm,19.0s
ELK Elko 96.16 12 IAMs_20 IAMs_20 22 10 39.2
comp=Z,1μm,18.0s
YBH Yreka Blue Hor 96.48 6 LR LR 22 01 13.0
comp=Z,1μm,20.4s,baz=176,slow=30
ISCO Idaho Springs 96.71 19 IAMs_20 IAMs_20 22 02 49.7
comp=Z,952nm,22.0s
MOD Modoc Plateau 96.81 8 IAMs_20 IAMs_20 22 13 30.5
comp=Z,1μm,18.0s
KAPI Kappang 97.04 251 IAMs_20 IAMs_20 22 08 19.7
comp=Z,1μm,20.0s
GUMO Guam 97.86 282 LR LR 22 05 45.2
comp=Z,98nm,21.4s,baz=126,slow=32
HODGE Hodges 97.98 39 IAMs_20 IAMs_20 21 58 55.1
comp=Z,1μm,18.0s
WIN Windhoek 98.06 150 IAMs_20 IAMs_20 22 04 05.6
comp=Z,1μm,19.0s
JSC Jenkinsville 98.39 39 IAMs_20 IAMs_20 21 59 20.6
comp=Z,766nm,18.0s
PAULI Pauline 98.67 39 IAMs_20 IAMs_20 21 59 15.1
comp=Z,1μm,19.0s
MFID Camas Ranch 98.73 11 IAMs_20 IAMs_20 22 02 19.2
comp=Z,1μm,20.0s
TKL Tuckaleechee C 98.73 37 LR LR 22 03 20.9
comp=Z,266nm,20.9s,baz=98,slow=30
BW06 Boulder Array 98.92 16 IAMs_20 IAMs_20 22 03 18.2
comp=Z,1μm,20.0s
PDAR Pinedale Array 98.92 16 P Pdif 21 27 31.2 +1.4
comp=Z,0.5nm,0.8s,baz=145,slow=5.4,SNR=4.1
PDAR LR LR 22 03 30.3
comp=Z,900nm,21.3s,baz=177,slow=30
PDAR Pinedale Array 98.92 16 P **P** **21 27 28.3 -1.6**
H04A Detroit Lake 99.45 6 IAMs_20 IAMs_20 22 15 32.6
comp=Z,1μm,19.0s
BMO Blue Mountains 100.00 10 IAMs_20 IAMs_20 22 13 19.9
comp=Z,848nm,20.0s
G08A Pilot Rock 100.29 8 IAMs_20 IAMs_20 22 13 58.5
comp=Z,894nm,19.0s
PLID Pearl Lake 100.37 10 IAMs_20 IAMs_20 22 01 38.5
comp=Z,1μm,22.0s
F04A Amboy 100.68 6 IAMs_20 IAMs_20 22 17 10.9
comp=Z,1μm,19.0s
TSUM Tsumeb 101.38 149 IAMs_20 IAMs_20 22 05 01.8
comp=Z,1μm,22.0s
E07A Sunnyside 101.48 8 IAMs_20 IAMs_20 22 06 54.9
comp=Z,1μm,20.0s
LTY Liberty 102.11 7 IAMs_20 IAMs_20 22 04 03.7
comp=Z,1μm,21.0s
MSO Missoula 102.31 12 IAMs_20 IAMs_20 22 06 26.0
comp=Z,1μm,20.0s
JTMT Jette 103.18 11 IAMs_20 IAMs_20 22 06 40.0
comp=Z,1μm,21.0s
B08A Colville Reser 103.31 8 IAMs_20 IAMs_20 22 05 05.4
comp=Z,869nm,21.0s
NEW Newport 103.40 9 IAMs_20 IAMs_20 22 07 34.8
comp=Z,863nm,19.0s
EGMT Eagleton 104.03 14 IAMs_20 IAMs_20 22 10 52.4
comp=Z,926nm,20.0s
F42A Maple Grove Fa 106.53 30 IAMs_20 IAMs_20 22 14 05.4
comp=Z,736nm,18.0s
KSPA Keystone Colle 106.84 40 IAMs_20 IAMs_20 22 02 14.2
comp=Z,1μm,21.0s
H02S1 DAWSON INLET T 107.73 359 T T 23 28 33.0
SNR=19
WRAK Wrangell Islan 110.95 359 IAMs_20 IAMs_20 22 06 45.7
comp=Z,1μm,22.0s
BESE Bessie Mountai 113.16 358 IAMs_20 IAMs_20 22 08 50.1
comp=Z,1μm,22.0s
DHAK Deception Hill 113.78 356 IAMs_20 IAMs_20 22 09 15.6
comp=Z,1μm,20.0s
SKAG Skagway 114.05 357 IAMs_20 IAMs_20 22 12 27.7
comp=Z,843nm,20.0s
BCPM Bancas Point 114.71 355 IAMs_20 IAMs_20 22 09 50.2
comp=Z,839nm,19.0s
PCA Pinnacle 114.89 355 IAMs_20 IAMs_20 22 09 16.8
comp=Z,976nm,21.0s
YAH Yahtse 115.24 354 IAMs_20 IAMs_20 22 20 13.0
comp=Z,924nm,19.0s
WHY Whitehorse 115.25 358 IAMs_20 IAMs_20 22 10 56.2
comp=Z,803nm,20.0s
TGL Tana Glacier 115.70 353 IAMs_20 IAMs_20 22 09 58.3
comp=Z,982nm,22.0s
CTGM Chitina Glacie 115.81 354 IAMs_20 IAMs_20 22 09 21.3
comp=Z,886nm,21.0s
BALM Baldy 115.95 354 IAMs_20 IAMs_20 22 08 47.8
comp=Z,1μm,22.0s
VRDI Verde Repeater 116.21 353 IAMs_20 IAMs_20 22 10 25.8
comp=Z,1μm,21.0s
MCARA McCarthy VSAT 116.34 353 IAMs_20 IAMs_20 22 24 30.1
comp=Z,753nm,20.0s
KNK Knik Glacier 116.81 350 IAMs_20 IAMs_20 22 10 15.6
comp=Z,1μm,22.0s
SCM Sheep Creek Mo 117.11 351 IAMs_20 IAMs_20 22 10 26.8
comp=Z,1μm,22.0s
GHO Glory Hole Cre 117.20 350 IAMs_20 IAMs_20 22 11 11.1
comp=Z,1μm,21.0s
MENT Mentasta 117.93 353 IAMs_20 IAMs_20 22 10 25.2
comp=Z,899nm,22.0s
BCAR Beaver Creek A 117.93 354 **PKiKP** **21 32 35.2 +0.1**
DOT Dot Lake 118.66 353 IAMs_20 IAMs_20 22 12 16.5
comp=Z,1μm,22.0s
RND Reindeer 118.80 351 IAMs_20 IAMs_20 22 13 03.4
comp=Z,1μm,21.0s
SCRK Sand Creek 118.98 353 IAMs_20 IAMs_20 22 12 36.9
comp=Z,777nm,20.0s
TRF Thorofare Moun 118.98 350 **PKiKP** **21 32 37.6 +0.3**
TRF IAMs_20 IAMs_20 22 11 22.2
comp=Z,1μm,22.0s
TTA Tatalina 119.14 347 IAMs_20 IAMs_20 22 17 31.3
comp=Z,817nm,18.0s
MJAR Matsushiro Arr 119.56 292 PKP **PKiKP** **21 32 39.9 +0.8**
comp=Z,4.6nm,1.2s,baz=157,slow=3.7,SNR=3.3
EGAK Eagle 119.60 355 IAMs_20 IAMs_20 22 14 44.5
comp=Z,832nm,21.0s
BWN Browne 119.61 351 IAMs_20 IAMs_20 22 13 48.4
comp=Z,984nm,20.0s
BPAW Bear Paw Mtn. 119.69 350 IAMs_20 IAMs_20 22 14 01.9
comp=Z,905nm,20.0s
NEA Nenana 119.97 351 IAMs_20 IAMs_20 22 11 55.7
comp=Z,744nm,20.0s
ILAR Eielson Array 119.98 352 PKP **PKPdf** **21 32 38.4 -0.5**
comp=Z,4.5nm,0.7s,baz=199,slow=1.9,SNR=52
COLA College 120.16 352 IAMs_20 IAMs_20 22 13 49.2
comp=Z,936nm,20.0s
MLY Manley 120.57 350 IAMs_20 IAMs_20 22 14 29.2
comp=Z,742nm,21.0s
EPYK Eagle Plains 121.02 357 P **PKPdf** **21 32 40.8 -0.1**
baz=176
EPYK Eagle Plains 121.02 357 IAMs_20 IAMs_20 22 17 55.8
comp=Z,928nm,20.0s
FYU Fort Yukon 121.63 353 IAMs_20 IAMs_20 22 14 39.0
comp=Z,1μm,22.0s
PETK Petropavlovsk- 122.80 317 PKP **PKPdf** **21 32 44.5 -0.2**
comp=Z,10nm,0.8s,baz=116,slow=3.3,SNR=6.5
PETK Petropavlovsk- 122.80 317 **PKiKP** **21 32 45.2 +0.3**
INK Inuvik 122.89 359 PKP **PKPdf** **21 32 43.9 -0.5**
comp=Z,0.9nm,0.5s,baz=216,slow=4.3,SNR=7.1
INK Inuvik 122.89 359 IAMs_20 IAMs_20 22 15 12.4
comp=Z,899nm,20.0s
TORD Torodi Ar. Bea 124.29 119 PKP **PKiKP** **21 32 50.6 +1.6**
comp=Z,1.5nm,0.9s,baz=236,slow=0.9,SNR=10
TORD Torodi Ar. Bea 124.29 119 **PKPdf** **21 32 48.4 -0.4**
PALK Pallekele 126.32 220 IAMs_20 IAMs_20 22 29 29.1
comp=Z,617nm,19.0s
A36M Sachs Harbour 126.63 2 P **PKPdf** **21 32 51.3 -0.2**
baz=184
NJ2 Nanjing 127.09 274 *e*PKP **PKiKP** **21 32 54.7 +0.6**
CMAR Chiang Mai Arr 127.78 246 PKIKP **PKPdf** **21 32 55.0 -0.3**
CMAR Chiang Mai Arr 127.78 246 PKP **PKiKP** **21 32 55.6 -0.2**
comp=Z,0.7nm,0.7s,baz=198,slow=2.3,SNR=4.9
CMAR Chiang Mai Arr 127.78 246 **PKPdf** **21 32 55.0 -0.3**
WHN Wuhan 128.58 270 PKP **PKiKP** **21 33 00.6 +3.5**
MDJ Mudanjiang 129.90 293 PKP **PKiKP** **21 33 00.0 +0.7**
MDJ PP **PP** **21 35 13.4 +2.3**
MDJ SKS **SKSdf** **21 40 12.0 +2.3**
MDJ AMB AMB
comp=Z,20nm,4.3s
GYA Guiyang 129.91 260 *e*PKP **PKiKP** **21 33 02.9 +2.8**
GYA PP PP 21 35 20.9 +10
GYA PKS **PKSdf** **21 36 37.8 +1.8**
GYA SKKS 21 42 12.0
GYA AMB AMB
comp=Z,130nm,7.8s
GYA LR LR
comp=Z,180nm,21.1s
GYA LR LR
comp=Z,220nm,21.4s
BILL Bilibino 131.14 334 IAMs_20 IAMs_20 22 21 18.6
comp=Z,773nm,20.0s
RES Resolute Bay 131.46 12 PKIKP **PKPdf** **21 33 00.9 +0.3**
RES MLR MLR
comp=Z,800nm,21.0s
RES Resolute Bay 131.46 12 PKP **PKiKP** **21 33 01.8 +0.2**
comp=Z,2.4nm,0.8s,baz=164,slow=4.5,SNR=4.1
RES Resolute Bay 131.46 12 **PKPdf** **21 33 00.9 +0.3**
RES IAMs_20 IAMs_20 22 23 03.7
comp=Z,848nm,21.0s
CN2 Changchun 131.58 290 *e*PKP **PKPdf** **21 33 00.2 -1.5**
KLR Kul'dur 131.81 299 PKP **PKiKP** **21 33 03.4 +0.4**
comp=Z,2.6nm,0.7s,baz=145,slow=3.4,SNR=5.0
BJI Beijing 134.25 280 *e*PKP **PKiKP** **21 33 07.6 -0.6**
TAM Tamanrasset 134.34 117 PKIKP **PKPdf** **21 33 06.9 -0.9**
TAM MLR MLR
comp=Z,600nm,20.0s
TAM Tamanrasset 134.34 117 **PKPdf** **21 33 06.9 -0.9**
TAM IAMs_20 IAMs_20 22 24 17.0
comp=Z,576nm,20.0s
CD2 Chengdu 134.95 261 PKP **PKPdf** **21 33 09.2 +0.6**
ATD Arta Tunnel 136.45 171 IAMs_20 IAMs_20 22 27 25.6
comp=Z,599nm,20.0s
HHC Hu-ho-hao-te 137.42 277 *e*PKP **PKiKP** **21 33 16.0 +1.2**
PCVE Castro Verde 138.01 90 *e*PKPdf **PKiKP** **21 33 15.1 -0.9**
PVAQ Vaqueiros 138.04 90 *e*LR LR 22 20 48.1
comp=Z,565nm,20.0s
LZH Lanzhou 138.65 266 *e*PKP **PKPdf** **21 33 10.5 -4.9**
LZH LR LR
comp=Z,230nm,18.1s
LZH LR LR
comp=Z,240nm,18.0s
LZH LR LR
comp=Z,310nm,20.2s
PCBR Castelo Branco 139.82 88 *e*PKPdf **PKiKP** **21 33 21.1 +1.5**
MTE Manteigas 140.15 87 *e*LR LR 22 22 22.3
comp=Z,810nm,20.0s
SUMG Summit 141.70 29 *e*PKIKP **PKPdf** **21 33 20.2 +0.1**
SUMG Summit 141.70 29 *i* P **PKPdf** **21 33 20.2 +0.1**
ESDC Sonseca Array 141.74 91 PKP **PKPdf** **21 33 20.2 -0.6**
comp=Z,1.8nm,0.8s,baz=242,slow=1.4,SNR=6.7
GTA Gaotai 143.25 266 ⇑PKP PKPbc 21 33 20.2 -0.4
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,410nm,17.1s
GTA LR LR
comp=Z,430nm,18.7s
TIXI Tiksi 143.85 328 PKP PKPbc 21 33 21.1 -0.1
comp=Z,38nm,0.9s,baz=180,slow=24,SNR=69
TIXI Tiksi 143.85 328 PKPab 21 33 19.2 -1.3
ULN Ulaanbaatar 144.24 283 PKIKP PKPbc 21 33 23.5 +0.2
ULN Ulaanbaatar 144.24 283 PKPbc 21 33 23.5 +0.2
SONM Songino Array 144.59 283 PKIKP PKPbc 21 33 24.6 +0.2
SONM Songino Array 144.59 283 PKP **PKPab** **21 33 23.8 -0.5**
comp=Z,19nm,0.9s,baz=146,slow=3.6,SNR=100
SONM Songino Array 144.59 283 PKPbc 21 33 24.6 +0.2
BOD Bodaibo 145.28 302 *e*PKP2 **PKPbc** **21 33 24.1 -2.0**
BOD pmax pmax
comp=Z,37nm,1.6s
SCO Scoresbysund 146.19 35 *i* PKP2 **PKPdf** **21 33 28.0 +0.5**
SCO pmax pmax
comp=Z,150nm,1.7s
SCO Scoresbysund 146.19 35 *i* P **PKPdf** **21 33 28.0 +0.5**
comp=Z,150nm,1.7s
SCO Scoresbysund 146.19 35 **PKPdf** **21 33 26.7 -0.8**
KEST Keesra 146.56 108 PKPbc **PKPab** **21 33 31.4 -0.5**
comp=Z,7.6nm,0.8s,baz=288,slow=4.4,SNR=4.6
DAG Danmarks Havn 147.56 23 *i* PKP2 **PKPab** **21 33 36.0 +1.4**
DAG pmax pmax
comp=Z,13nm,0.9s
DAG Danmarks Havn 147.56 23 *i* P **PKPab** **21 33 36.0 +1.4**
comp=Z,16nm,0.9s
ZAK Zakamensk 147.66 285 *e*PKP2 **PKPbc** **21 33 33.0 -0.5**
ZAK pmax pmax
comp=Z,27nm,1.5s
TLY Talaya 148.08 287 PKPbc **PKPbc** **21 33 33.9 -0.6**
comp=Z,4.2nm,0.6s,baz=218,slow=7.8,SNR=3.3
TLY Talaya 148.08 287 **PKPab** **21 33 37.5 +0.1**
RAYN Ar Rayn 148.55 173 PKIKP **PKPdf** **21 33 32.6 -0.4**
RAYN MLR MLR
comp=Z,900nm,21.0s
RAYN Ar Rayn 148.55 173 **PKPdf** **21 33 32.6 -0.4**
MOY Mondy 149.54 286 *e*PKP2 **PKPbc** **21 33 37.9 -0.4**
MOY pmax pmax
comp=Z,58nm,1.8s
UOSS Minazif 149.67 192 **PKPdf** **21 33 33.7 -1.0**
UOSS Minazif 149.67 192 IAMs_20 IAMs_20 22 34 46.1
comp=Z,547nm,20.0s
CEL Celeste 151.97 112 IAMs_20 IAMs_20 22 45 21.1
comp=Z,588nm,20.0s
NIL Nilore 152.99 228 PKIKP **PKPdf** **21 33 39.2 -0.3**
NIL MLR MLR
comp=Z,400nm,19.0s
NIL Nilore 152.99 228 **PKPdf** **21 33 39.2 -0.3**
NIL Nilore 152.99 228 IAMs_20 IAMs_20 22 39 32.6
comp=Z,393nm,19.0s
WMQ Urumqi 153.04 262 *e*PKPbc **PKPdf** **21 33 35.5 -3.8**
WMQ LR LR
comp=Z,790nm,29.1s
WMQ LR LR
comp=Z,310nm,27.7s
TIP Timpagrande 153.10 112 IAMs_20 IAMs_20 22 46 01.1
comp=Z,536nm,20.0s
MURB Monte Urbino 153.52 101 IAMs_20 IAMs_20 22 29 45.7
comp=Z,701nm,22.0s
ITM Ithomi 154.25 122 IAMs_20 IAMs_20 22 42 25.4
comp=Z,491nm,20.0s
DAVA Damuels 154.34 91 PKPdf **PKPdf** **21 33 39.8 -1.3**
comp=Z,13nm,1.6s
DAVA PKPab **PKPab** **21 34 04.3 +0.5**
comp=Z,30nm,1.1s
CTI Castel Tesino 154.68 95 IAMs_20 IAMs_20 22 40 21.6
comp=Z,605nm,20.0s
FETA Feichten 154.69 92 pPKPdf **PKPdf** **21 33 42.9 +1.3**
comp=Z,12nm,2.2s
RETA Reutte 154.95 91 PKPab **PKPab** **21 34 07.3 +1.1**
comp=Z,21nm,1.4s
SQTA Sankt Quirin 155.07 92 PKPab **PKPab** **21 34 06.8 0.0**
comp=Z,18nm,0.9s
MOTA Moosalm 155.08 92 PKPdf **PKPdf** **21 33 39.2 -3.0**
comp=Z,3.8nm,0.8s
MOTA PKPab **PKPab** **21 34 07.1 +0.2**
comp=Z,21nm,1.2s
SANT Santorini 155.26 129 IAMs_20 IAMs_20 22 44 22.9
comp=Z,417nm,19.0s
KARP Karpathos 155.31 132 IAMs_20 IAMs_20 22 52 18.3
comp=Z,691nm,22.0s
WTTA Wattenberg 155.34 92 PKPbc **PKPdf** **21 33 48.7 +6.1**
comp=Z,14nm,1.4s
WTTA PKPab **PKPab** **21 34 07.6 -0.4**
comp=Z,30nm,1.8s
WATA Walderalm 155.34 92 PKPab **PKPab** **21 34 07.4 -0.6**
comp=Z,11nm,1.5s
KBL Kabul 155.48 222 PKIKP **PKPdf** **21 33 43.6 +0.4**
KBL MLR MLR
comp=Z,300nm,20.0s
KBL Kabul 155.48 222 PKPdf **PKPdf** **21 33 43.6 +0.4**
KBL **PKPab** **21 34 09.2 +0.2**
ABTA Abfaltersbach 155.57 94 pPKPdf **PKPdf** **21 33 46.0 +3.2**
comp=Z,12nm,1.4s
ABTA PKPab **PKPab** **21 34 08.6 -0.2**
comp=Z,11nm,0.9s
MYKA Terra Mystica 156.15 95 PKPab **PKPab** **21 34 12.7 +1.3**
comp=Z,22nm,1.4s
KSH Kashi 156.48 240 *e*PKP **PKPdf** **21 33 47.7 +3.4**
OBKA Obir 156.61 96 pPKPdf **PKPdf** **21 33 46.5 +2.4**
comp=Z,12nm,1.1s
OBKA PKPab **PKPab** **21 34 14.7 +1.3**
comp=Z,33nm,1.9s
LIT Litokhoron 156.77 118 IAMs_20 IAMs_20 22 49 21.9
comp=Z,469nm,20.0s
SOKA Soboth 156.98 97 PKPdf **PKPdf** **21 33 44.1 -0.5**
comp=Z,4.9nm,1.1s
TARG Taragay, Kyrgy 157.16 247 IAMs_20 IAMs_20 22 51 50.1
comp=Z,460nm,22.0s
MOA Molin 157.16 93 pPKPdf **PKPdf** **21 33 46.4 +1.6**
comp=Z,7.1nm,1.2s
MOA PKPab **PKPab** **21 34 16.4 +0.8**
comp=Z,9.8nm,1.4s
CSS Mathiatis 157.17 144 IAMs_20 IAMs_20 22 43 08.3
comp=Z,569nm,20.0s
NKC Novy Kostel 157.26 86 *e*PKIKP **PKPdf** **21 33 50.6 +5.8**
NKC Novy Kostel 157.26 86 *e*PKPDF **PKPdf** **21 33 50.6 +5.8**
GERES GERESS Array B 157.34 91 PKIKP **PKPdf** **21 33 45.2 +0.2**
GERES GERESS Array B 157.34 91 PKP **PKPdf** **21 33 45.7 +0.7**
comp=Z,4.2nm,1.0s,baz=217,slow=1.3,SNR=5.2
GERES GERESS Array B 157.34 91 **PKPdf** **21 33 45.2 +0.2**
KHC Kasperske Hory 157.40 90 *e*PKIKP **PKPdf** **21 33 48.9 +3.9**
KHC Kasperske Hory 157.40 90 *e*PKPDF **PKPdf** **21 33 48.9 +3.9**
NRIK Noril'sk 157.55 325 PKPab **PKPab** **21 34 16.9 +0.2**
comp=Z,24nm,0.9s,baz=77,slow=4.1,SNR=25
ARSA Arzberg 157.57 96 PKPab **PKPab** **21 34 16.5 -0.9**
comp=Z,20nm,1.9s
HRA Herat 157.63 209 IAMs_20 IAMs_20 22 38 30.2
comp=Z,534nm,22.0s
MK31 Makanchi Array 157.87 262 PKIKP **PKPdf** **21 33 45.4 -0.3**
MK31 21 34 18.6
MK31 Makanchi Array 157.87 262 PKPdf **PKPdf** **21 33 45.4 -0.3**
MK31 **PKPab** **21 34 18.6 -0.1**
MKAR Makanchi Array 157.87 262 PKIKP **PKPdf** **21 33 46.2 +0.5**
MKAR 21 34 18.0
MKAR Makanchi Array 157.87 262 PKPab **PKPab** **21 34 17.2 -1.5**
comp=Z,8.7nm,0.8s,baz=153,slow=3.3,SNR=16
MKAR PP **PP** **21 37 56.0 -2.9**
comp=Z,2.7nm,0.9s,baz=108,slow=4.0,SNR=4.6
MKAR Makanchi Array 157.87 262 PKPdf **PKPdf** **21 33 46.2 +0.5**
MKAR **PKPab** **21 34 18.0 -0.8**
NRN Naryn 157.89 244 IAMs_20 IAMs_20 22 52 51.3
comp=Z,412nm,20.0s
PBCC Pribram 157.90 89 *e*PKPDF **PKPdf** **21 33 51.0 +5.4**
CLL Collm 158.03 84 *e*PKIKP **PKPdf** **21 33 51.0 +5.4**
CLL *i* 21 34 19.6
CLL pmax pmax
comp=Z,46nm,1.9s
CLL MLR MLR
comp=Z,500nm,18.7s
CLL Collm 158.03 84 *e*(PKPdf) **PKPdf** **21 33 51.0 +5.4**
CLL *i* PKPab **PKPab** **21 34 19.6 +0.4**
comp=Z,46nm,1.9s
CLL *e*PP PP 21 38 12.0 +12
CLL *e*PPP PPP 21 41 36.0
CLL *e*PSKS 21 48 25.0
CLL *e* 21 56 07.0
CLL *e*SS SS 21 57 58.0 -0.8
CLL *e*SSS SSS 22 04 00.0
CLL *e* 22 06 24.0
CLL *e*SSSS 22 08 06.0
CLL LmV 22 41 00.0
comp=Z,500nm,18.7s
CLL LmH 22 47 00.0
comp=N,200nm,19.2s
CLL LmH 22 47 00.0
comp=E,400nm,21.2s
CONA Conrad Observa 158.13 95 PKPab **PKPab** **21 34 20.9 +1.0**
comp=E,24nm,1.8s
PRU Pruhonice 158.36 89 *e*PKIKP **PKPdf** **21 33 51.9 +5.8**
PRU *e* 21 34 20.7
PRU Pruhonice 158.36 89 *e*PKPDF **PKPdf** **21 33 51.9 +5.8**
PRU *e*PKPAB **PKPab** **21 34 20.7 0.0**
BRG Berggiesshubel 158.39 86 *e*P **PKPdf** **21 33 49.3 +3.2**
comp=E,6.3nm,1.1s
BRG SS SS 21 58 09.0 +6.3
comp=N,376nm,20.4s
comp=E,454nm,18.6s
comp=Z,552nm,21.8s
ISP Isparta 158.66 135 IAMs_20 IAMs_20 22 48 55.9
comp=Z,409nm,20.0s
VTS Vitosha 158.99 115 PKIKP PKPdf 21 33 59.1 +12
VTS Vitosha 158.99 115 PKPdf 21 33 59.1 +12
KRUC Moravsky 159.00 92 *e*PKP **PKPdf** **21 33 50.2 +3.3**
NOA NORSAR Array B 159.08 57 PKPab **PKPab** **21 34 22.6 -0.9**
comp=Z,2.9nm,1.1s,baz=267,slow=4.4,SNR=2.9
MODS Modra-Piesok 159.17 95 *e*PKIKP **PKPdf** **21 33 49.1 +1.9**
MODS Modra-Piesok 159.17 95 *e*PKP **PKPdf** **21 33 49.1 +1.9**
MODS *e* 21 34 30.2
VRAC Vranov 159.23 92 *e*PKP **PKPdf** **21 33 51.5 +4.3**
BTK Batken 159.39 233 IAMs_20 IAMs_20 22 49 20.7
comp=Z,520nm,21.0s
ZALV Zalesovo Beam 159.49 282 PKIKP **PKPdf** **21 33 47.1 -0.2**
ZALV 21 34 24.5
ZALV Zalesovo Beam 159.49 282 PKP **PKPdf** **21 33 48.8 +1.5**
comp=Z,0.3nm,0.4s,baz=147,slow=2.9,SNR=2.3
ZALV PKPab **PKPab** **21 34 24.4 -1.0**
comp=Z,9.3nm,0.8s,baz=108,slow=4.8,SNR=3.6
ZALV Zalesovo Beam 159.49 282 **PKPdf** **21 33 47.1 -0.2**
ZALV **PKPab** **21 34 24.5 -1.0**
CHVC Chvalec 159.49 88 *e*PKP **PKPdf** **21 33 52.5 +5.0**
CHVC *ex* 21 33 57.8
AAK Ala-Archa 159.54 244 PKIKP **PKPdf** **21 33 46.2 -1.8**
AAK Ala-Archa 159.54 244 PKPdf **PKPdf** **21 33 46.2 -1.8**
AAK **PKPab** **21 34 26.4 +0.2**
DPC Dobruska-Polom 159.54 89 *e*PKIKP **PKPdf** **21 33 52.3 +4.7**
DPC Dobruska-Polom 159.54 89 *e*PKPDF **PKPdf** **21 33 52.3 +4.7**
DPC *ex* 21 34 01.2
FRU1 Bishkek 159.59 244 IAMs_20 IAMs_20 23 00 34.3
comp=Z,548nm,19.0s
KRLC Kraliky 159.69 90 *e*PKIKP **PKPdf** **21 33 47.8 +0.1**
KRLC Kraliky 159.69 90 *e*PKPDF **PKPdf** **21 33 47.8 +0.1**
KRLC *ex* 21 34 08.0
MORC Moravsky Berou 160.00 92 *e*PKP **PKPdf** **21 33 48.0 -0.1**
VYHS Vyhne 160.13 96 *e*PKIKP **PKPdf** **21 33 52.2 +4.0**
VYHS Vyhne 160.13 96 *e*PKP **PKPdf** **21 33 52.2 +4.0**
LANS Liptovska Anna 160.81 95 *e*PKIKP **PKPdf** **21 33 51.8 +2.8**
LANS Liptovska Anna 160.81 95 *e*PKP **PKPdf** **21 33 51.8 +2.8**
LANS *e* 21 34 32.5
BR131 Keskin Array S 161.53 139 PKP2 **PKPab** **21 34 35.1 +0.2**
BR131 Keskin Array S 161.53 139 **PKPab** **21 34 35.1 +0.2**
BRTR Keskin Array B 161.53 139 PKP2 **PKPab** **21 34 32.7 -2.2**
BRTR Keskin Array B 161.53 139 PKP **PKPdf** **21 33 51.9 +1.7**
comp=Z,0.9nm,0.8s,baz=172,slow=2.5,SNR=5.3
BRTR PKPab **PKPab** **21 34 34.8 -0.2**
comp=Z,4.0nm,0.8s,baz=181,slow=6.7,SNR=11
BRTR Keskin Array B 161.53 139 **PKPab** **21 34 32.7 -2.2**
ARCES ARCESS Array B 161.78 27 PKP2 **PKPab** **21 34 35.6 +0.5**
ARCES ARCESS Array B 161.78 27 PKPab **PKPab** **21 34 36.4 +1.3**
comp=Z,4.8nm,0.9s,baz=14,slow=15,SNR=1.9
ARCES ARCESS Array B 161.78 27 **PKPab** **21 34 35.6 +0.5**
KKAR Karatay Array 161.89 238 PKIKP **PKPdf** **21 33 49.9 -0.4**
KKAR 21 34 35.4
KKAR Karatay Array 161.89 238 PKPdf **PKPdf** **21 33 49.9 -0.4**
KKAR **PKPab** **21 34 35.4 -0.9**
KURK Kurchatov 161.90 269 PKIKP **PKPdf** **21 33 48.6 -1.4**
KURK 21 34 36.6
KURBB Kurchatov Arra 161.92 268 PKP **PKPdf** **21 33 48.6 -1.4**
comp=Z,0.2nm,0.3s,baz=206,slow=0.7,SNR=3.6
KURBB PKPab **PKPab** **21 34 36.5 +0.3**
comp=Z,1.3nm,0.8s,baz=106,slow=3.0,SNR=5.5
KURBB PP **PP** **21 38 17.6 -3.2**
comp=Z,0.6nm,0.3s,baz=124,slow=4.6,SNR=5.7
GEYT Alibeck 162.03 203 PKPab **PKPab** **21 34 35.5 -1.5**
comp=Z,1.3nm,0.8s,baz=302,slow=2.7,SNR=2.6
UZH Uzhgorod 162.18 99 *e*PKIKP **PKPdf** **21 33 57.8 +7.4**
UZH *e* 21 34 01.2
UZH *e* 21 34 35.3
MLR Muntele Rosu 162.37 113 PKP2 **PKPab** **21 34 37.5 -1.0**
MLR Muntele Rosu 162.37 113 **PKPab** **21 34 37.5 -1.0**
APA Apatity 165.21 24 ⇓*i*PKIKP PKPdf 21 34 02.6 +10
APA pmax pmax
comp=Z,8.0nm,1.0s
AKASG Malin Array Be 167.12 101 PKP **PKPdf** **21 33 53.4 -1.2**
comp=Z,1.1nm,0.7s,baz=254,slow=1.1,SNR=5.6
BVAR Borovoye Array 167.49 270 PKP **PKPdf** **21 33 54.3 -0.5**
comp=Z,0.4nm,0.5s,baz=280,slow=38,SNR=2.6
BVAR PKPab **PKPab** **21 34 58.3 -2.4**
comp=Z,1.4nm,0.7s,baz=120,slow=4.1,SNR=7.5
BRVK Borovoye 167.56 270 PKIKP **PKPdf** **21 33 55.4 +0.5**
BRVK 21 34 59.6
BRVK Borovoye 167.56 270 PKPdf **PKPdf** **21 33 55.4 +0.5**
BRVK **PKPab** **21 34 59.6 -1.4**
KBZ Khabaz 168.07 157 PKPab **PKPab** **21 35 04.8 +1.5**
comp=Z,1.8nm,0.9s,baz=233,slow=12,SNR=2.2

ISCJB ***10*** *21:16:40.4±0.5, 7°.07S±0°.04×129°.65E±0°.05, h139km, mb3.4/2, Error ellipse: s-maj=6.6km s-min=5.0km az=166.9*
DJA ***10*** *21:16:40.2±0.4, 7°S±2°×13°0E±°, h166km±8km, M4.0/10, mb4.0/6, mB4.6/3, MLv4.0/10, Mw(mB)3.9/3*
IDC ***10*** *21:16:40.2±2.3, 7°.09S×129°.67E, h108km±26km, mb3.3/2,*

mb1 3.6/7, mb1mx3.3/44, mbtmp3.9/7, Error ellipse: s-maj=24.0km s-min=18.9km az=97.0

ISC 10 21:16:40.9±0.8, 7°06S±0°05×129°66E±0°06, h139km, n14, σ2§46/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	1.87	120	P	Pn	21 17 14.7	+0.9
SAUI				S	Sn	21 17 40.6	+1.6
MSAI	**Masohi**	3.76	349	P	Pn	21 17 36.3	-1.5
MSAI				S	Sn	21 18 23.7	+1.8
NLAI	**Namlea**	4.57	326	P	Pn	21 17 46.7	-1.8
NLAI				S	Sn	21 18 43.3	+2.2
FAKI	**Fak Fak**	4.85	32	P	Pn	21 17 51.5	-0.8
SOEI	**Soe**	5.97	243	P	Pn	21 18 08.2	+0.9
SOEI				S	Sn	21 19 17.0	+2.2
SANI	**Sanana**	6.18	323	P	Pn	21 18 10.1	+0.1
SIJI	**Sorong**	6.35	15	P	Pn	21 18 11.9	-0.4
	1.1nm,0.3s,baz=48,slow=23,SNR=9.9						
SIJI				S	Sn	21 19 19.7	-4.1
	1.3nm,0.3s,baz=263,slow=23,SNR=2.0						
BATI	**Baumata**	6.71	242	P	Pn	21 18 17.4	+0.3
	7.7nm,0.3s,baz=140,slow=4.3,SNR=9.7						
BATI				S	Sn	21 19 31.1	-1.2
	3.8nm,0.3s,baz=39,slow=23,SNR=6.5						
BATI	**Baumata**	6.71	242	P	Pn	21 18 16.8	-0.3
	11nm,0.5s,0.1nm						
FITZ	**Fitzroy Crossi**	11.65	199	P	Pn	21 19 21.4	-1.7
	0.6nm,0.3s,baz=24,slow=8.6,SNR=21						
FITZ				S	Sn	21 21 21.5	-10
	1.3nm,0.3s,baz=70,slow=19,SNR=9.3						
WRA	**Warramunga Arr**	13.59	161	P	Pn	21 19 46.8	-1.4
	1.0nm,0.3s,baz=345,slow=12,SNR=34						
WRA				S	Sn	21 22 08.3	-10
	1.6nm,0.3s,baz=330,slow=22,SNR=16						
ASAR	**Alice Springs**	17.01	167	P	Pn	21 20 32.4	+1.7
	0.5nm,0.3s,baz=336,slow=8.8,SNR=27						
ASAR				S	S	21 23 33.7	-6.8
	0.5nm,0.3s,baz=347,slow=25,SNR=7.9						
STKA	**Stephens Creek**	27.09	157	P	P	21 22 13.0	+2.3
	0.5nm,0.3s,baz=331,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	68.09	327	P	P	21 27 28.5	+2.8
	0.2nm,0.4s,baz=115,slow=7.8,SNR=6.3						

*ISCJB **10** 21:16:49.3±0.4, 18°19S±0°08×178°10W±0°06, h590km, mb4.0/16, Error ellipse: s-maj=11.2km s-min=6.8km az=151.1*

*NEIC **10** 21:16:50.3±1.1, 18°1S±0°1×178°2W±0°1, h596km±10km, mb4.5/13*

*IDC **10** 21:16:55.1±2.2, 18°11S×178°30W, h640km±26km, mb3.4/16, mb1 3.6/17, mb1mx3.3/51, mbtmp4.4/17, Error ellipse: s-maj=32.3km s-min=10.8km az=154.0*

ISC 10 21:16:50.3±0.5, 18°13S±0°09×178°15W±0°07, h590km, n45, σ1§08/51, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	3.64	276	P	P	21 18 14.0	+1.3
MSVF				S	S	21 19 21.1	+1.2
AFI	**Afiamalu**	7.42	57	P	P	21 18 43.6	-0.4
NIUE	**Niue**	7.85	98	P	P	21 18 48.3	+0.4
FUNA	**Funafuti**	9.89	345	P	P	21 19 07.3	-0.6
DZM	**Mont Dzumac**	14.99	252	P	P	21 20 00.3	+1.5
	1.2nm,0.3s,baz=150,slow=20,SNR=7.4						
DZM	**Mont Dzumac**	14.99	252	P	P	21 19 58.5	-0.4
DZM				S	S	21 22 32.3	-0.7
KNTN	**Kanton**	16.51	23	P	P	21 20 11.7	-1.2
KNTN				IAmb	IAmb	21 20 24.8	
	comp=Z,22nm,0.9s						
URZ	**Urewera**	20.48	191	P	P	21 20 47.8	-0.9
URZ				IAmb	IAmb	21 21 05.2	
	comp=Z,29nm,1.4s						
PPT	**Papeete**	27.19	93	P	P	21 21 48.5	+0.1
EIDS	**Eidsvold**	29.43	250	P	P	21 22 07.0	-0.7
EIDS				IAmb	IAmb	21 22 08.9	
	comp=Z,4.6nm,0.8s						
WHZ	**Wether Hill Ro**	30.00	200	P	P	21 22 13.2	+0.8
WHZ				IAmb	IAmb	21 22 17.1	
	comp=Z,19nm,1.1s						
ARMA	**Armidale**	30.05	240	P	P	21 22 12.7	-0.4
CTA	**Charters Tower**	33.66	261	P	P	21 22 44.7	+0.9
	comp=Z,1.6nm,0.5s,baz=104,slow=8.3,SNR=2.7						
CAN	**Canberra**	33.77	233	P	P	21 22 44.2	-0.3
CAN				IAmb	IAmb	21 23 01.0	
	comp=Z,34nm,1.5s						
PMG	**Port Moresby**	34.74	280	P	P	21 22 54.1	+1.3
	comp=Z,9.3nm,0.6s,baz=259,slow=22,SNR=3.7						
TOO	**Toolangi**	37.23	231	P	P	21 23 12.6	-0.4
TOO				IAmb	IAmb	21 23 15.0	
	comp=Z,7.4nm,0.8s						
COEN	**Coen**	37.36	271	P	P	21 23 15.4	+1.0
COEN				IAmb	IAmb	21 23 16.3	
	comp=Z,4.6nm,0.7s						
STKA	**Stephens Creek**	38.74	241	P	P	21 23 26.4	+1.0
	comp=Z,2.4nm,0.5s,baz=93,slow=11,SNR=7.3						
STKA	**Stephens Creek**	38.74	241	P	P	21 23 26.4	+1.0
MCQ	**Macquarie Isla**	40.34	201	P	P	21 23 36.9	-0.8
JAY	**Jayapura**	43.21	286	P	P	21 24 02.2	+1.3
	comp=Z,26nm,1.0s,baz=99,slow=18,SNR=5.3						
WRA	**Warramunga Arr**	44.84	260	P	P	21 24 13.5	+0.1
	comp=Z,1.1nm,0.3s,baz=96,slow=7.0,SNR=4.8						
WRA				S	S	21 30 05.9	-3.3
	comp=Z,0.8nm,0.8s,baz=99,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	44.84	260	P	P	21 24 12.6	-0.8
WRA					S	21 30 06.2	-2.9
ASAR	**Alice Springs**	44.97	254	P	P	21 24 14.6	+0.1
	comp=Z,2.1nm,0.4s,baz=88,slow=8.5,SNR=12						
ASAR				S	S	21 30 08.9	-2.0
	comp=Z,2.1nm,0.8s,baz=89,slow=16,SNR=8.1						
ASAR	**Alice Springs**	44.97	254	P	P	21 24 14.4	0.0
ASAR					S	21 30 09.9	-1.0
SIJI	**Sorong**	52.53	283	P	P	21 25 10.9	+0.6
	comp=Z,25nm,0.7s,baz=64,slow=18,SNR=5.3						
PSAB2	**Pilbara Seismi**	58.08	256	P	P	21 25 48.0	-0.7
MJAR	**Matsushiro Arr**	68.23	323	P	P	21 26 53.1	0.0
	comp=Z,3.0nm,0.5s,baz=167,slow=8.7,SNR=5.0						
MJAR	**Matsushiro Arr**	68.23	323	P	P	21 26 52.6	-0.6
PETK	**Petropavlovsk-**	73.95	345	P	P	21 27 26.2	0.0
	comp=Z,8.8nm,1.0s,baz=114,slow=6.0,SNR=6.8						
PETK	**Petropavlovsk-**	73.95	345	P	P	21 27 25.5	-0.6
YBH	**Yreka Blue Hor**	78.54	39	P	P	21 27 52.8	+1.1
	comp=Z,1.3nm,0.6s,baz=182,slow=3.6,SNR=5.2						
NVAR	**Mina Array Bea**	79.41	44	P	P	21 27 57.4	+0.8
	comp=Z,1.7nm,0.7s,baz=226,slow=8.9,SNR=6.3						
NVAR	**Mina Array Bea**	79.41	44	P	P	21 27 56.0	-0.6
SEY	**Seymchan**	84.05	347	P	P	21 28 19.1	-0.1
	comp=Z,2.0nm,0.8s,baz=179,slow=6.2,SNR=6.8						
TXAR	**Lajitas Array**	85.90	58	P	P	21 28 30.8	+1.7
	comp=Z,2.4nm,0.7s,baz=214,slow=8.5,SNR=7.9						
TXAR	**Lajitas Array**	85.90	58	P	P	21 28 28.0	-1.1
ILAR	**Eielson Array**	86.05	13	P	P	21 28 28.4	-0.5
	comp=Z,0.3nm,0.4s,baz=224,slow=4.6,SNR=9.3						
PDAR	**Pinedale Array**	87.34	43	P	P	21 28 36.2	+0.4
	comp=Z,0.8nm,0.6s,baz=220,slow=3.0,SNR=5.4						
PDAR	**Pinedale Array**	87.34	43	P	P	21 28 35.7	-0.1
CMAR	**Chiang Mai Arr**	89.19	290	P	P	21 28 45.6	+1.0
	comp=Z,1.0nm,0.4s,baz=107,slow=2.8,SNR=4.9						
GEYT	**Alibeck**	127.37	304	PKP	PKPdf	21 34 47.2	-1.9
	comp=Z,2.1nm,0.8s,baz=236,slow=1.6,SNR=3.9						
BRTR	**Keskin Array B**	145.11	315	PKPbc	PKPbc	21 35 22.5	-0.3
	comp=Z,1.3nm,0.4s,baz=106,slow=3.0,SNR=7.4						
CLL	**Collm**	145.73	348	ePKPbc	PKPbc	21 35 24.0	0.0
GERES	**GERESS Array B**	147.89	345	PKPbc	PKPbc	21 35 30.1	+0.1
	comp=Z,0.8nm,0.6s,baz=32,slow=5.8,SNR=3.6						

*IDC **10** 21:24:17.3±1.1, 38°09N×144°82E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.6/53, mbtmp3.8/10, ML3.2/3, Error ellipse: s-maj=26.1km s-min=20.4km az=100.0*

*NEIC **10** 21:24:18.9±1.5, 38°23N±0°08×144°9E±0°2, h19km±8km, mb4.2/5*

*ISCJB **10** 21:24:19.1±0.5, 38°28N±0°04×144°72E±0°05, h29km, mb3.6/7, Error ellipse: s-maj=5.8km s-min=4.7km az=136.0*

*JMA **10** 21:24:21.4±0.2, 38°30N×144°59E, h45km, M3.9*

ISC 10 21:24:21.5±0.9, 38°28N±0°06×144°68E±0°08, h29km, n48, σ2§08/56, mb3.9/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibku**	2.53	272	eS	Sn	21 25 28.9	-1.6
JKMT	**Kesennumamotoy**	2.57	283	eS	Sn	21 25 30.2	-1.3
MIYJ	**Miyakonagasawa**	2.58	301	P	Pn	21 25 00.8	-0.5
MIYJ				S	Sn	21 25 29.7	-2.0
JMK	**Ichinoseki**	2.79	285	eS	Sn	21 25 36.1	-0.9
JOM	**Ohasama**	2.90	295	P	Pn	21 25 06.0	+0.3
JOM				eS	Sn	21 25 39.2	-0.4
JANG	**Nango**	3.22	311	P	Pn	21 25 09.3	-0.9
JYK	**Kaneyama**	3.45	282	eS	Sn	21 25 53.6	+0.5
JFT	**Otama**	3.52	259	P	Pn	21 25 15.1	+0.8
JFT				eS	Sn	21 25 54.2	-0.8
ERM	**Erimo**	3.91	343	Pn	Pn	21 25 18.7	-0.8
ERM				Sn	Sn	21 26 06.1	+1.7
JOT	**Ohata**	4.17	319	P	Pn	21 25 24.1	+0.9
JCH	**Churui**	4.44	347	P	Pn	21 25 25.1	-1.8
JCH				eS	Sn	21 26 14.8	-2.8
JKB	**Kayabe**	4.56	323	P	Pn	21 25 29.0	+0.5
NEM2	**Nemuro 2**	5.14	9	P	Pn	21 25 33.4	-3.1
NEM2				eS	Sn	21 26 28.3	-6.5
JRY	**Ryogami san**	5.14	246	P	Pn	21 25 36.3	-0.3
JRY				eS	Sn	21 26 31.2	-3.8
JOD2	**Odawara 2**	5.41	238	P	Pn	21 25 40.6	+0.4
JOD2				eS	Sn	21 26 37.9	-3.6
MJAR	**Matsushiro Arr**	5.44	253	Pn	Pn	21 25 40.4	-0.3
	0.4nm,0.3s,baz=9.6,slow=12,SNR=19						
MJAR				Sn	Sn	21 26 43.9	+1.7
	0.1nm,0.3s,baz=89,slow=28,SNR=1.3						
MJAR	**Matsushiro Arr**	5.44	253		Pn	21 25 40.9	+0.3
MJAR					Sn	21 26 45.4	+3.2
MAJO	**Matsushiro**	5.44	253		Pn	21 25 40.1	-0.6
MAT	**Matsushiro**	5.44	253	P	Pn	21 25 42.5	+1.8
MAT				eS	Sn	21 26 43.4	+1.1
MJB9	**Matsu-Tunnel**	5.44	253		Pn	21 25 40.0	-0.7
JOSM	**Okushiri--Mats**	5.50	315	P	Pn	21 25 42.8	+1.3
JTKR	**Abashiri--Toko**	5.71	354	P	Pn	21 25 42.3	-2.0
JTKR				eS	Sn	21 26 45.0	-3.9
JKA	**Kamikawa-asahi**	6.04	346		Pn	21 25 48.0	-0.7
ASAJ	**Asahikawa**	6.04	346	Pn	Pn	21 25 48.0	-0.7
	4.7nm,0.3s,baz=196,slow=11,SNR=37						
ASAJ				Sn	Sn	21 26 54.2	-2.6
	baz=285,slow=28,SNR=1.4						
JHJ	**Hachijo jima 2**	6.51	219	Pn	Pn	21 25 51.4	-4.0
	16nm,0.3s,baz=150,slow=23,SNR=7.8						
JHJ				Sn	Sn	21 27 03.1	-5.6
	9.9nm,0.3s,baz=133,slow=23,SNR=1.3						
USA0B	**Ussuriysk Arra**	11.23	306	Pn	Pn	21 27 01.5	+1.5
USRK	**Ussuriysk Ar.**	11.23	306	Pn	Pn	21 27 01.9	+1.8
	baz=107,slow=14,SNR=8.5						
USRK	**Ussuriysk Ar.**	11.23	306	Pn	Pn	21 27 01.5	+1.5
SEY	**Seymchan**	25.12	8	P	P	21 29 45.3	+1.7
SEY	**Seymchan**	25.12	8	P	P	21 29 45.3	+1.7
	3.0nm,0.6s,baz=101,slow=5.0,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	26.70	128	T	T	21 57 45.2	
	baz=319,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	26.71	128	T	T	21 57 48.7	
	baz=319,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	26.72	128	T	T	21 57 46.0	
	baz=319,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	27.50	130	T	T	21 58 47.5	
	baz=321,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	27.50	130	T	T	21 58 46.2	
	baz=321,slow=76,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	27.52	130	T	T	21 58 47.4	
	baz=321,slow=76,SNR=8.7						
MKAR	**Makanchi Array**	45.66	302	P	P	21 32 41.8	+2.3
	0.4nm,0.9s,baz=76,slow=11,SNR=1.5						
KURK	**Kurchatov**	47.22	308	P	P	21 32 52.5	+0.9
KURK				IAmb	IAmb	21 33 02.7	
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	47.29	308	P	P	21 32 53.4	+1.2
	comp=Z,0.5nm,0.4s,baz=81,slow=7.9,SNR=3.5						
BVAR	**Borovoye Array**	51.66	312	P	P	21 33 26.7	+1.3
	comp=Z,0.4nm,0.6s,baz=91,slow=8.6,SNR=2.1						
WB0	**Warramunga Arr**	58.55	191	P	P	21 34 14.1	-1.3
WB2	**Warramunga Arr**	58.72	191	P	P	21 34 15.4	-1.3
WB2				IAmb	IAmb	21 34 22.2	
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	58.73	191	P	P	21 34 16.1	-0.5
	comp=Z,0.6nm,0.4s,baz=9.2,slow=7.0,SNR=8.6						
WRA	**Warramunga Arr**	58.73	191	P	P	21 34 15.9	-0.7
ABKAR	**Abkulak array**	59.11	311	P	P	21 34 18.9	-0.2
ABKAR	**Abkulak array**	59.11	311	P	P	21 34 19.0	-0.1
ABKAR				IAmb	IAmb	21 34 28.3	
	comp=Z,2.8nm,1.1s						
ASAR	**Alice Springs**	62.45	191	P	P	21 34 41.1	-0.8
	comp=Z,0.4nm,0.8s,baz=11,slow=6.9,SNR=4.4						
PDAR	**Pinedale Array**	74.93	47	P	P	21 36 00.1	0.0
	comp=Z,0.2nm,0.5s,baz=322,slow=4.0,SNR=1.7						

IDC 10 21:35:38.9±3.5, 29°17S×177°98W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/39, mbtmp3.4/2, MS3.8/1, Ms1 3.8/1, ms1mx3.3/15, Error ellipse: s-maj=113.5km s-min=16.0km az=36.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.10	144	Pn	Pg	21 35 47.8	+7.0
	168nm,0.3s,baz=67,slow=21,SNR=6.8						
RAO				Sn	Sg	21 35 58.3	+16
	358nm,0.3s,baz=73,slow=15,SNR=16						
RPZ	**Rata Peaks**	16.96	208	LR	LR	21 45 53.1	
	comp=Z,323nm,18.8s,baz=36,slow=36						
ASAR	**Alice Springs**	43.20	266	P	P	21 43 42.2	+0.2
	0.3nm,0.8s,baz=97,slow=7.6,SNR=1.8						
WRA	**Warramunga Arr**	44.08	271	P	P	21 43 48.5	-0.5
	0.7nm,1.0s,baz=108,slow=7.7,SNR=4.4						
FINES	**FINESS Array B**	144.00	341	PKP	PKPdf	21 55 15.9	+0.1
	6.6nm,1.1s,baz=161,slow=30,SNR=1.6						

*IDC **10** 21:43:17.9±0.4, 11°85N×86°40W, h0km, mb4.4/21, mb1 4.6/24, mb1mx4.4/42, mbtmp4.4/24, ML3.6/4, MS4.6/10, Ms1 4.6/10, ms1mx4.2/35, Error ellipse: s-maj=24.9km s-min=9.2km az=54.0*

*UCR **10** 21:43:19.0±3.4, 11°22N×87°27W, h30km, MW5.2*

*ISCJB **10** 21:43:22.0±0.4, 11°31N±0°03×86°93W±0°03, h57km±3km, mb4.4/25, MS4.6/15, Error ellipse: s-maj=5.2km s-min=2.9km az=136.1*

*SNET **10** 21:43:23.8±6.9, 11°43N×86°85W, h35km, ML4.9*

*NEIC **10** 21:43:23.6±1.5, 11°37N±0°06×86°95W±0°06, h59km±5km, mb4.8/254*

*BJI **10** 21:43:24.5±0.0, 11°50N×86°90W, h40km, Ms5.3/3, Ms7 5.0/3*

*GCMT **10** 21:43:25.5±0.4, 11°00N±0°03×87°49W±0°03, h31km±1km, MW5.3/63, Moment Tension Solution. s37,c43; s63,c85; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.55±.06; Mθθ-0.80±.04; Mφφ0.25±.04; Mrθ0.36±.04; Mθφ0.16±.04; Mφr-0.86±.08; Best double couple: M0 1.16300×1017 NP1:φs137.00000°, δ74.00000°, λ121.00000°. NP2:φs251.00000°, δ34.00000°, λ28.00000°. Principal axes: T 1.2890, Plg51.0000°, Azm82.0000°; N -0.2530, Plg30.0000°, Azm308.0000°; P -1.0360, Plg23.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 21:43:22.6±0.9, 11°42N±0°05×86°88W±0°05, h40km±7km, n674, σ1§60/608, mb4.8/130, MS4.6/15, 8C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	0.91	52⇑	eP	Pn	21 43 40.4	+1.3
CRIN	**San Cristobal**	1.28	353⇑	iP	Pn	21 43 45.4	+1.2
BUEV	**Buena Vista**	1.57	113⇑	eP	Pn	21 43 47.4	-0.8
GB1A	**Borinquen Arri**	1.57	112⇑	eP	Pn	21 43 47.5	-0.7
GB1A				eS	Sn	21 44 15.7	+8.2
ESTN	**Estel**	1.74	17⇑	eP	Pn	21 43 52.9	+2.3
ESTN	**Estel**	1.74	17		Pn	21 43 51.8	+1.2
MATN	**Matagalpa**	1.77	32⇑	eP	Pn	21 43 52.6	+1.8
PLVR	**Palo Verde**	1.84	125	eP	Pn	21 43 51.9	-0.1
PLVR				eS	Sn	21 44 22.1	+7.9
CUI	**Cuipilapa**	1.85	114	eP	Pn	21 43 51.3	-0.6
CUI				eS	Sn	21 44 21.9	+7.7
CNCH	**Conchagua**	2.06	333⇑	iP	Pn	21 43 55.4	+0.4
CNCH				eS	Sn	21 44 29.4	+10
CNCH				IAML		21 44 32.1	
	comp=Z,8μm,0.6s						
RCON	**San Juan de Ri**	2.17	19⇑	iP	Pn	21 43 58.4	+2.0
JTS	**Las Juntas de**	2.20	120	Pn	Pn	21 43 55.7	-1.1
	comp=Z,23nm,0.3s,baz=190,slow=23,SNR=75						
JTS				Sn	Sn	21 44 21.7	-1.1
	comp=Z,140nm,0.3s,baz=128,slow=20,SNR=9.5						
JTS				Lg	Lg	21 44 30.1	
	comp=Z,191nm,0.3s,baz=102,slow=16,SNR=6.3						
JTS				LR	LR	21 44 56.4	
	comp=Z,8μm,18.4s,baz=360,slow=47						
JTS	**Las Juntas de**	2.20	120	Pn	Pn	21 43 56.6	-0.2
JTS					Sn	21 44 22.4	-0.4
ARE1	**Arenal 1**	2.33	114	eP	Pn	21 43 59.2	+0.7
CEDE	**Laguna Cedeo**	2.33	113	eP	Pn	21 43 59.5	+0.9
LCY	**Lacayo**	2.42	325	eP	Pn	21 44 00.4	+0.5
PACA	**Pacayal**	2.47	325	IAML		21 44 46.8	
	comp=Z,6μm,0.3s						
TGUH	**Tegucigalpa,Un**	2.65	352		Pn	21 44 04.1	+1.2
SRA1	**San Ramn**	2.71	119	eP	Pn	21 44 06.2	+2.4
HDC	**Heredia**	3.06	117	eP	Pn	21 44 09.4	+0.7
HDC	**Heredia**	3.06	117		Pn	21 44 11.3	+2.5
SJS	**Escuela Geolog**	3.15	118	eP	Pn	21 44 11.6	+1.8
SNET	**Serv Nac Est T**	3.21	315		Pn	21 44 11.3	+0.6
LCR2	**La Lucha 2**	3.29	120	eP	Pn	21 44 11.6	-0.3
CVTR	**Volcan Turrial**	3.37	114	eP	Pn	21 44 12.7	-0.5
EDDO	**Dominical**	3.67	126	eP	Pn	21 44 13.5	-3.4
MTO3	**Montecristo**	3.82	321	eP	Pn	21 44 21.1	+1.9
EDLM	**Las Mercedes**	3.88	123	eP	Pn	21 44 21.8	+1.9
EDPN	**Palmar Norte**	4.17	126	eP	Pn	21 44 24.3	+0.6
DRK0	**Durika**	4.17	121	eP	Pn	21 44 23.8	-0.2
EDBA	**Buenos Aires**	4.20	122	eP	Pn	21 44 24.9	+0.7
IXG	**Ixpaco**	4.42	309	eP	Pn	21 44 26.6	-0.7
PTJ1	**Puerto Jimnez**	4.54	129	eP	Pn	21 44 28.6	-0.4
BRU2	**Volcan**	4.88	122	eP	Pn	21 44 34.0	+0.2
APG	**El Apazote**	4.98	316	Pn	Pn	21 44 35.5	+0.3
	comp=Z,0.9nm,0.3s,baz=123,slow=4.9,SNR=5.5						
ICCO	**Coco Island**	5.84	182	eP	Pn	21 44 41.7	-5.1
CCIG	**Comitan**	7.03	314		Pn	21 45 04.9	+1.7
BCIP	**Isla Barro Col**	7.29	107		Pn	21 45 08.9	+2.3
TEIG	**Tepich**	8.86	351	Pn	Pn	21 45 22.0	-6.2
	comp=Z,0.2nm,0.3s,baz=140,slow=15,SNR=3.2						
TEIG	**Tepich**	8.86	351	Pn	Pn	21 45 29.1	+0.9
CMIG	**Matias Romero**	9.59	307	Pn	Pn	21 45 38.6	+0.4
	comp=Z,3.7nm,0.3s,baz=129,slow=8.4,SNR=31						
MTDJ	**Mount Denham**	11.29	52	Pn	Pn	21 46 01.0	-0.6
SJCC	**San Jacinto, C**	11.60	96	eP	Pn	21 46 05.7	-0.1
SJCC	**San Jacinto, C**	11.60	96	eP	Pn	21 46 05.7	-0.1
HELC	**Santa Helena**	12.36	114	eP	Pn	21 46 17.5	+1.0
HELC	**Santa Helena**	12.36	114	eP	Pn	21 46 17.5	+1.0
ZARC	**Zaragoza, Cauc**	12.49	107	eP	Pn	21 46 22.8	+4.9
ZARC	**Zaragoza, Cauc**	12.49	107	eP	Pn	21 46 22.8	+4.9
YOTC	**Yotoco, Valle**	12.79	124	eP	P	21 46 32.0	-0.3
YOTC	**Yotoco, Valle**	12.79	124	eP	P	21 46 32.0	-0.3
TLIG	**Tlapa**	12.85	300		Pn	21 46 21.4	-1.6
SMLC	**San Martn de**	12.88	100	eP	P	21 46 29.6	-3.7
SMLC	**San Martn de**	12.88	100	eP	P	21 46 29.6	-3.7
GUY2C	**Guyana, Caldas**	12.95	117	eP	Pn	21 46 26.3	+1.6
GUY2C	**Guyana, Caldas**	12.95	117	eP	Pn	21 46 26.3	+1.6
PTBC	**PUERTO BERRIO,**	13.20	111	eP	P	21 46 35.6	-1.2
PTBC	**PUERTO BERRIO,**	13.20	111	eP	P	21 46 35.6	-1.2
NORC	**Norcasia**	13.23	115	eP	P	21 46 38.5	+1.3
NORC	**Norcasia**	13.23	115	eP	P	21 46 38.5	+1.3
CODC	**Agustn Codazz**	13.29	95	eP	Pn	21 46 28.6	-0.3
CODC	**Agustn Codazz**	13.29	95	eP	Pn	21 46 28.6	-0.3
BBAC	**Balboa, Cauca**	13.36	134	eP	Pn	21 46 34.9	+4.8
BBAC	**Balboa, Cauca**	13.36	134	eP	Pn	21 46 34.9	+4.8
POPC	**Popayan, Colom**	13.43	130	eP	Pn	21 46 35.9	+5.0
POPC	**Popayan, Colom**	13.43	130	eP	Pn	21 46 35.9	+5.0
BRRC	**Barranca, Sant**	13.69	107	eP	P	21 46 42.3	0.0
BRRC	**Barranca, Sant**	13.69	107	eP	P	21 46 42.3	0.0
ORTC	**Ortega, Tolima**	13.73	122	eP	P	21 46 42.1	-0.7
ORTC	**Ortega, Tolima**	13.73	122	eP	P	21 46 42.1	-0.7
OCAC	**Ocana**	13.73	102‖	eP	P	21 46 40.9	-2.1
OCAC	**Ocana**	13.73	102‖	eP	P	21 46 40.9	-2.1
SOTA	**Rioblanco**	13.75	131	eP	Pn	21 46 40.1	+4.6
SOTA	**Rioblanco**	13.75	131	eP	Pn	21 46 40.1	+4.6
PCON	**Cinco Dias**	13.78	130	eP	Pn	21 46 37.5	+1.4
PCON	**Cinco Dias**	13.78	130	eP	Pn	21 46 37.5	+1.4
SPBC	**San Pablo de B**	13.90	113	eP	P	21 46 45.3	+0.6
SPBC	**San Pablo de B**	13.90	113	eP	P	21 46 45.3	+0.6
OTAV	**Otavalo**	13.91	142		Pn	21 46 38.2	+0.4
OT

baz=159
NATX Nacogdoches 21.48 342 P P 21 48 08.7 +0.9
NATX IAmb IAmb 21 48 15.5
comp=Z,40nm,0.8s
155A Kite 21.49 10 P P 21 48 11.3 +3.4
baz=192
LRAL Lakeview Retre 21.51 360 P P 21 48 10.6 +2.4
baz=180,SNR=22
LRAL Lakeview Retre 21.51 360 P P 21 48 08.5 +0.3
MTP Monte Pirata 21.66 70 P P 21 48 10.0 +0.1
435B Jarrell 21.67 334 P P 21 48 11.3 +1.3
baz=150
435B Jarrell 21.67 334 P P 21 48 09.2 -0.7
435B IAmb IAmb 21 48 25.8
comp=Z,35nm,1.1s
156A Sylvania 21.71 12 P P 21 48 14.1 +3.9
baz=194
Z50A Ashland 21.75 2 P P 21 48 12.7 +1.9
baz=183,SNR=30
Z50A Ashland 21.75 2 P P 21 48 09.2 -1.6
Z50A IAmb IAmb 21 48 14.9
comp=Z,51nm,0.9s
Z52A Williamson 21.78 6 P P 21 48 14.8 +3.6
baz=186,SNR=10
157A Early Branch 21.84 13 P P 21 48 16.3 +4.6
baz=196
Z51A Franklin 21.85 4 P P 21 48 14.4 +2.5
baz=184,SNR=10
PCRV Puerto La Cruz 21.89 91 P P 21 48 12.3 -0.1
comp=Z,19nm,0.7s,baz=221,slow=6.2,SNR=6.7
PLCV Puerto La Cruz 21.93 91 P P 21 48 12.3 -0.6
CUPR Culebra, Puert 21.96 69 P P 21 48 12.1 -1.0
CUPR IAmb IAmb 21 48 21.7
comp=Z,25nm,1.0s
Z53A Monticello 21.97 7 P P 21 48 16.2 +3.1
baz=189,SNR=15
Z54A Sparta 22.03 9 P P 21 48 17.0 +3.3
baz=191
GOGA Godfrey 22.11 8 P P 21 48 17.1 +2.5
baz=189,SNR=20
GOGA Godfrey 22.11 8 P P 21 48 14.4 -0.2
GOGA IAmb IAmb 21 48 18.6
comp=Z,34nm,0.9s
Y49A Blount Mountai 22.34 1 P P 21 48 18.5 +1.5
baz=181,SNR=20
Z41A Richland Creek 22.40 347 P P 21 48 18.3 +0.5
baz=165,SNR=6.6
Z41A Richland Creek 22.40 347 IAmb IAmb 21 48 21.0
comp=Z,38nm,0.8s
Y51A Rockmart 22.44 4 P P 21 48 19.6 +1.5
baz=185,SNR=32
JCT Junction City 22.44 330 P P 21 48 19.5 +1.2
baz=145
JCT Junction City 22.44 330 P P 21 48 16.2 -2.0
NHSC New Hope 22.44 15 P P 21 48 20.4 +2.2
baz=197
NHSC New Hope 22.44 15 P P 21 48 19.9 +1.7
Y52A Lilburn 22.49 6 P P 21 48 20.9 +2.2
baz=187,SNR=12
Y52A Lilburn 22.49 6 P P 21 48 18.6 0.0
Z57A Bowman 22.50 14 P P 21 48 21.5 +2.7
baz=196
Y53A Monroe 22.53 7 P P 21 48 21.7 +2.5
baz=188,SNR=14
Y54A Tignall 22.66 9 P P 21 48 22.6 +2.1
baz=191,SNR=12
WHTX Lake Whitney, 22.68 336 P P 21 48 21.4 +0.7
baz=152,SNR=12
WHTX Lake Whitney, 22.68 336 P P 21 48 20.4 -0.3
WHTX IAmb IAmb 21 48 38.8
comp=Z,41nm,0.8s
Z58A St. Stephen 22.75 15 P P 21 48 23.4 +2.0
baz=198
Y55A Saluda 22.88 11 P P 21 48 24.8 +2.1
baz=193,SNR=6.3
WLAR White Oak Lake 22.89 347 P P 21 48 21.7 -1.1
WLAR IAmb IAmb 21 48 25.1
comp=Z,46nm,1.1s
X48A Hartselle 22.93 360 P P 21 48 24.3 +1.1
baz=180,SNR=9.6
X48A Hartselle 22.93 360 IAmb IAmb 21 48 24.6
comp=Z,16nm,0.8s
ABVI Anegada Island 22.94 69 P P 21 48 23.8 +0.2
FPAL Fort Paine 23.04 3 P P 21 48 25.2 +0.7
HODGE Hodges 23.09 10 P P 21 48 24.8 -0.1
OXF Oxford 23.10 355 P P 21 48 25.0 0.0
baz=174,SNR=15
OXF Oxford 23.10 355 P P 21 48 24.8 -0.2
X51A Calhoun 23.11 4 P P 21 48 26.7 +1.5
baz=185,SNR=12
X51A Calhoun 23.11 4 P P 21 48 25.6 +0.5
X51A IAmb IAmb 21 48 28.0
comp=Z,42nm,0.9s
X53A Estanollee 23.21 8 P P 21 48 27.7 +1.6
baz=189,SNR=5.6
X52A Dahlonega 23.24 6 P P 21 48 27.9 +1.5
baz=187,SNR=12
JSC Jenkinsville 23.33 12 P P 21 48 27.6 +0.3
Y58A Scranton 23.33 15 P P 21 48 29.0 +1.6
baz=198
Y58A Scranton 23.33 15 P P 21 48 27.6 +0.3
Y58A IAmb IAmb 21 48 30.0
comp=Z,33nm,0.7s
X54A Belton 23.39 9 P P 21 48 29.7 +1.9
baz=191
PLAL Pickwick Lake 23.48 358 IAmb IAmb 21 48 30.3
comp=Z,42nm,1.1s
X56A White Oak 23.58 12 P P 21 48 31.1 +1.4
baz=194,SNR=5.6
X40A Basin Creek Fa 23.59 348 P P 21 48 29.9 0.0
baz=165,SNR=6.2
X40A Basin Creek Fa 23.59 348 IAmb IAmb 21 48 30.3
comp=Z,36nm,1.4s
W49A Belvidere 23.60 1 P P 21 48 30.6 +0.7
baz=182,SNR=34
Y59A Loris 23.63 17 P P 21 48 31.4 +1.2
baz=200
SWET Sewanee 23.70 2 IAmb IAmb 21 48 33.1
comp=Z,53nm,1.0s
W51A Cleveland 23.71 4 P P 21 48 32.5 +1.6
baz=185,SNR=18
W50A Signal Mountai 23.71 3 P P 21 48 31.8 +0.8
baz=184,SNR=18
W50A Signal Mountai 23.71 3 P P 21 48 30.3 -0.8
W50A IAmb IAmb 21 48 33.5
comp=Z,35nm,0.9s
W50A **PcP 21 52 14.9 +0.4**
TXAR Lajitas Array 23.72 321 P P 21 48 31.9 +0.8
comp=Z,10nm,0.8s,baz=134,slow=10,SNR=62
TXAR PcP **PcP 21 52 16.8 +2.2**
comp=Z,4.4nm,0.9s,baz=142,slow=4.6,SNR=9.5
TXAR ScP **ScP 21 55 57.3 +7.4**
comp=Z,0.7nm,0.9s,baz=113,slow=3.3,SNR=4.0
TXAR Lajitas Array 23.72 321 P P 21 48 31.6 +0.4
W52A Murphy 23.72 6 P P 21 48 32.9 +1.8
baz=187,SNR=6.0
W52A Murphy 23.72 6 IAmb IAmb 21 48 33.0
comp=Z,20nm,0.7s
PAULI Pauline 23.75 10 IAmb IAmb 21 48 34.0
comp=Z,26nm,1.1s
X57A Johnson Farm, 23.76 14 P P 21 48 33.7 +2.3
baz=197
UALR University of 23.77 349 IAmb IAmb 21 48 32.6
comp=Z,50nm,1.1s
MIAR Mount Ida 23.81 346 P P 21 48 31.8 -0.1
baz=164,SNR=22
MIAR Mount Ida 23.81 346 P P 21 48 31.6 -0.3
MIAR IAmb IAmb 21 48 34.5
comp=Z,29nm,0.9s
Y60A Bolivia 23.83 18 P P 21 48 33.8 +1.7
baz=201
BIRD Birdtown, Kers 23.85 13 P P 21 48 32.3 +0.1
BIRD IAmb IAmb 21 48 36.0
comp=Z,17nm,0.8s
W53A Cullowhee 23.88 8 P P 21 48 34.4 +1.8
baz=189
W54A Cherokee Point 23.94 10 P P 21 48 34.6 +1.6
baz=191,SNR=10
X58A Rowland 24.03 15 P P 21 48 35.1 +1.2
baz=198
X58A Rowland 24.03 15 IAmb IAmb 21 48 45.2
comp=Z,26nm,0.8s
W41B Gary Mavity, V 24.14 349 P P 21 48 34.7 -0.2
baz=167,SNR=10
W41B Gary Mavity, V 24.14 349 IAmb IAmb 21 48 36.0
comp=Z,28nm,1.2s
ABTX Abilene, Hawle 24.15 333 P P 21 48 35.2 +0.1
baz=148
ABTX Abilene, Hawle 24.15 333 IAmb IAmb 21 48 48.8
comp=Z,30nm,1.0s
KMSC Kings Mountain 24.15 11 P P 21 48 36.4 +1.4
baz=193,SNR=8.8
KMSC Kings Mountain 24.15 11 IAmb IAmb 21 48 38.3
comp=Z,21nm,1.0s
V50A Pikeville 24.20 4 P P 21 48 36.1 +0.7
baz=184,SNR=23
V48A Smith Brothers 24.21 0 P P 21 48 36.0 +0.4
baz=180,SNR=14
V48A Smith Brothers 24.21 0 IAmb IAmb 21 48 39.3
comp=Z,20nm,0.8s
V49A McMinnville 24.25 2 P P 21 48 36.1 +0.2
baz=182,SNR=15
WHAR Wooly Hollow 24.26 349 IAmb IAmb 21 48 38.0
comp=Z,28nm,1.0s
W56A Indian Trail 24.29 13 P P 21 48 37.3 +1.0
baz=195
TKL Tuckaleechee C 24.29 6 P P 21 48 35.7 -0.7
comp=Z,29nm,1.0s,baz=180,slow=12,SNR=18
H06E1 SOCORRO T-PHAS 24.32 290 T T 22 13 44.4
SNR=90
V51A Loudon 24.38 5 P P 21 48 38.2 +1.1
baz=186,SNR=8.0
V51A Loudon 24.38 5 IAmb IAmb 21 48 38.8
comp=Z,28nm,1.1s
V53A Saluda 24.42 8 P P 21 48 38.9 +1.4
baz=190,SNR=13
V53A Saluda 24.42 8 IAmb IAmb 21 48 42.0
comp=Z,24nm,0.8s
W57A Gilead 24.44 14 P P 21 48 38.6 +1.0
baz=196
W39A Magazine 24.48 346 P P 21 48 38.5 +0.4
baz=164,SNR=14
W39A Magazine 24.48 346 IAmb IAmb 21 48 39.9
comp=Z,20nm,0.9s
V52A Sevierville 24.49 6 P P 21 48 39.4 +1.3
baz=188
V52A Sevierville 24.49 6 IAmb IAmb 21 48 48.6
comp=Z,35nm,1.4s
W58A Raeford 24.50 15 P P 21 48 39.7 +1.5
baz=198
CLTN Cedars of Leba 24.57 1 IAmb IAmb 21 48 41.8
comp=Z,22nm,0.8s
WVT Waverly 24.61 358 P P 21 48 39.3 +0.1
baz=178
WVT Waverly 24.61 358 P P 21 48 38.8 -0.4
V54A Nebo 24.66 10 P P 21 48 41.3 +1.7
baz=192,SNR=11
FCAR Ozark Folk Cen 24.82 350 IAmb IAmb 21 48 42.3
comp=Z,21nm,0.8s
LCAR Lake Charles 24.84 352 IAmb IAmb 21 48 41.6
comp=Z,27nm,1.0s
V55A Taylorsville 24.86 11 P P 21 48 43.0 +1.5
baz=193
V55A Taylorsville 24.86 11 IAmb IAmb 21 49 01.5
comp=Z,25nm,1.0s
U50A Jamestown 24.95 4 P P 21 48 43.3 +0.9
baz=185,SNR=20
V56A Mocksville 24.96 12 P P 21 48 43.7 +1.3
baz=195,SNR=6.8
U51A La Follette 24.98 5 P P 21 48 43.7 +1.1
baz=187
U49A Red Boiling Sp 25.00 2 P P 21 48 43.4 +0.6
baz=183,SNR=7.6
U52A Thorn Hill 25.06 7 P P 21 48 44.8 +1.5
baz=188,SNR=5.8
U53A Fall Branch 25.14 8 P P 21 48 45.4 +1.4
baz=190,SNR=5.4
TZTN Tazewell 25.19 6 P P 21 48 45.7 +1.2
baz=188
V57A Coltrane Farms 25.19 14 P P 21 48 45.6 +1.1
baz=197,SNR=8.4
V58A Windy Hill, Pi 25.27 15 P P 21 48 46.1 +1.0
baz=198,SNR=9.2
V58A Windy Hill, Pi 25.27 15 IAmb IAmb 21 48 56.6
comp=Z,31nm,0.7s
HENM Henderson Moun 25.29 355 P P 21 48 45.5 +0.2
NNA Nana 25.30 156 LR LR 21 57 34.7
comp=Z,606nm,19.6s,baz=350,slow=34
W35A Tecumseh 25.31 341 P P 21 48 45.3 -0.3
U54A Nelsons Funny 25.40 10 P P 21 48 47.3 +0.8
baz=192
U54A Nelsons Funny 25.40 10 IAmb IAmb 21 48 51.1
comp=Z,42nm,1.1s
U40A Yellville 25.41 349 P P 21 48 46.1 -0.4
baz=166,SNR=24
U40A Yellville 25.41 349 IAmb IAmb 21 48 47.2
comp=Z,33nm,0.8s
PBMO Poplar Bluff 25.45 353 IAmb IAmb 21 48 47.3
comp=Z,31nm,1.1s
T47A Sharon Grove 25.46 360 P P 21 48 46.7 -0.2
baz=180,SNR=12
T47A Sharon Grove 25.46 360 IAmb IAmb 21 48 47.8
comp=Z,27nm,0.9s
V59A Middlesex 25.47 17 P P 21 48 47.7 +0.7
baz=200
U56A King 25.50 12 P P 21 48 49.2 +1.9
baz=195
U55A TA2, Sparta 25.52 11 P P 21 48 49.0 +1.5
baz=193,SNR=5.4
T50A Nancy 25.55 4 P P 21 48 48.5 +0.7
baz=185,SNR=5.7
T51A Gray 25.57 5 P P 21 48 48.8 +0.9
baz=187,SNR=7.8
T49A Edmonton 25.60 2 P P 21 48 48.8 +0.6
baz=183,SNR=9.5
T49A Edmonton 25.60 2 IAmb IAmb 21 48 52.4
comp=Z,57nm,1.5s
WMOK Wichita Mounta 25.62 337 P P 21 48 49.8 +1.5
baz=152,SNR=35
WMOK Wichita Mounta 25.62 337 IAmb IAmb 21 49 05.8
comp=Z,37nm,0.9s
TUL1 Leonard 25.68 343 P P 21 48 48.9 0.0
baz=160
TUL1 Leonard 25.68 343 P P 21 48 48.6 -0.3
TUL1 IAmb IAmb 21 48 52.7
comp=Z,35nm,0.9s
T53A Wise 25.75 8 P P 21 48 50.8 +1.1
baz=190
T52A Hallie 25.82 7 P P 21 48 51.1 +1.0
baz=189
T52A Hallie 25.82 7 IAmb IAmb 21 48 51.5
comp=Z,27nm,1.4s
U57A Blanch 25.82 14 P P 21 48 51.3 +1.2
baz=197,SNR=5.9
T54A Tazewell 25.97 10 P P 21 48 53.1 +1.5
baz=192,SNR=6.3
U58A Oxford 25.98 15 P P 21 48 53.0 +1.4
baz=199
MGMO Mountain Grove 26.08 350 P P 21 48 51.8 -0.7
MGMO IAmb IAmb 21 48 53.2
comp=Z,15nm,0.8s
T55A Pulaski 26.17 11 P P 21 48 54.6 +1.2
baz=194,SNR=7.4
T56A Rocky Mt 26.23 12 P P 21 48 55.7 +1.8
baz=195
S44A Carbondale 26.25 356 P P 21 48 53.7 -0.3
baz=175
SIUC Southern Illin 26.27 356 IAmb IAmb 21 48 55.0
comp=Z,31nm,0.8s
S51A Beattyville 26.27 6 P P 21 48 55.0 +0.8
baz=187
S49A Springfield 26.29 3 P P 21 48 55.6 +1.2
baz=184
BLA Blacksburg 26.33 12 P P 21 48 56.2 +1.3
baz=194
BLA Blacksburg 26.33 12 IAmb IAmb 21 48 57.3
comp=Z,31nm,1.1s
S52A Salyersville 26.37 7 P P 21 48 56.2 +1.0
baz=188
T57A Hurt 26.38 14 P P 21 48 57.0 +1.8
baz=197
T57A Hurt 26.38 14 IAmb IAmb 21 49 12.6
comp=Z,22nm,1.2s
MNTX Cornudas Mount 26.44 323 P P 21 48 56.2 +0.4
baz=136,SNR=16
MNTX Cornudas Mount 26.44 323 IAmb IAmb 21 49 08.0
comp=Z,27nm,1.3s
S53A Williamson 26.49 8 P P 21 48 57.1 +0.8
baz=190
T58A Grand View Acr 26.50 15 P P 21 48 57.4 +1.1
baz=199
FVM French Village 26.64 354 P P 21 48 57.7 +0.1
WCI Wyandotte Cave 26.70 1 P P 21 48 58.0 -0.1
baz=181
WCI Wyandotte Cave 26.70 1 P P 21 48 57.5 -0.6
WCI IAmb IAmb 21 48 59.1
comp=Z,20nm,0.9s
MSTX Muleshoe 26.73 330 P P 21 48 58.6 0.0
baz=143,SNR=10
MSTX Muleshoe 26.73 330 P P 21 48 58.8 +0.2
MSTX IAmb IAmb 21 49 12.7
comp=Z,31nm,0.9s
S54A Dingess, Beckl 26.74 10 P P 21 48 59.5 +1.0
baz=192
CCM Cathedral Cave 26.81 352 P P 21 48 58.2 -0.9
baz=170
CCM Cathedral Cave 26.81 352 P P 21 48 58.7 -0.3
CCM IAmb IAmb 21 48 59.5
comp=Z,37nm,1.1s
R50A Paris 26.84 4 P P 21 49 00.2 +0.8
baz=186,SNR=7.0
R50A Paris 26.84 4 IAmb IAmb 21 49 02.5
comp=Z,26nm,1.2s
S55A Lewisburg 26.86 11 P P 21 49 01.2 +1.6
baz=194,SNR=5.7
R51A Hillsboro 26.93 6 P P 21 49 00.7 +0.6
baz=187,SNR=9.7
S56A Natural Bridge 26.96 13 P P 21 49 01.7 +1.3
baz=196
AMTX Amarillo 26.96 332 P P 21 49 01.3 +0.7
baz=146
AMTX Amarillo 26.96 332 IAmb IAmb 21 49 19.2
comp=Z,45nm,1.3s
R53A Hurricane 27.16 9 P P 21 49 02.8 +0.6
baz=191,SNR=5.4
R53A Hurricane 27.16 9 IAmb IAmb 21 49 03.9
comp=Z,14nm,0.8s
R54A Victor 27.16 10 P P 21 49 03.2 +0.9
baz=193
OLIL Olney 27.22 358 IAmb IAmb 21 49 03.7
comp=Z,26nm,1.1s
S58A Poland Farm, P 27.26 15 P P 21 49 04.8 +1.7
baz=199
Q48A North Vernon 27.41 2 P P 21 49 05.0 +0.5
baz=182,SNR=6.3
Q50A Georgetown 27.43 5 P P 21 49 05.6 +0.9
baz=186
Q49A Aurora 27.53 3 P P 21 49 05.8 +0.2
baz=184,SNR=9.7
R58B Mineral 27.63 15 P P 21 49 07.7 +1.2
baz=199
BLO Bloomington 27.64 1 IAmb IAmb 21 49 07.4
comp=Z,17nm,0.8s
Q51A Peebles 27.67 6 P P 21 49 07.6 +0.7
baz=188,SNR=16
R56A Bull Pasture M 27.69 13 P P 21 49 08.9 +1.8
baz=196
Q52A Bidwell 27.73 8 P P 21 49 08.0 +0.7
baz=190,SNR=11
Q53A Leroy 27.74 9 P P 21 49 08.5 +1.1
baz=191,SNR=5.6
R57A Stanardsville 27.79 14 P P 21 49 09.2 +1.3
baz=198
R58A Rapidan 27.92 15 P P 21 49 10.4 +1.4
baz=199
P48A Milroy 27.95 2 P P 21 49 09.2 -0.2
baz=183,SNR=7.0
P48A Milroy 27.95 2 IAmb IAmb 21 49 10.0
comp=Z,31nm,0.9s
Q54A Coxs Mills 27.97 10 P P 21 49 10.6 +1.1
baz=193,SNR=8.4
Q54A Coxs Mills 27.97 10 IAmb IAmb 21 49 11.4
comp=Z,25nm,0.9s
P49A Miami Univ. Ec 28.06 4 P P 21 49 10.3 -0.1
baz=184,SNR=7.6
P46A Rosedale 28.08 359 P P 21 49 10.4 -0.1
baz=179
Q55A Buckhannon 28.12 11 P P 21 49 12.3 +1.5
baz=194,SNR=5.9
P51A Williamsport 28.15 6 P P 21 49 11.2 +0.1
baz=188
P51A Williamsport 28.15 6 IAmb IAmb 21 49 12.5
comp=Z,19nm,0.9s
P50A Jamestown 28.21 5 P P 21 49 12.0 +0.4
baz=186
Q56A Snyder Ridge, 28.35 13 P P 21 49 14.8 +1.9
baz=196,SNR=6.8
Q56A Snyder Ridge, 28.35 13 P P 21 49 13.2 +0.3
Q56A IAmb IAmb 21 49 15.7
comp=Z,28nm,0.9s
P53A Whipple 28.37 9 P P 21 49 14.4 +1.3
baz=191,SNR=10
P52A Corning 28.41 8 P P 21 49 13.6 +0.1
baz=190,SNR=15
121A Cookes Peak, D 28.48 321 P P 21 49 16.2 +1.8
baz=133
121A Cookes Peak, D 28.48 321 IAmb IAmb 21 49 30.4
comp=Z,19nm,1.1s
Q58A Fox Den Farm, 28.61 15 P P 21 49 16.6 +1.5
baz=199
P54A Burton 28.64 10 P P 21 49 16.3 +0.8
baz=193
P55A Reedsville 28.67 11 P P 21 49 16.7 +1.0
baz=194
Q49A Covington 28.74 4 P P 21 49 16.9 +0.5
baz=185,SNR=6.0
Q50A Cable 28.75 5 P P 21 49 16.9 +0.4
baz=187,SNR=9.3
MCWV Mont Chateau 28.81 11 P P 21 49 18.1 +1.1
baz=194
Q51A Pataskala 28.86 7 P P 21 49 18.0 +0.6
baz=189,SNR=7.3
P56A Dayton Farm, R 28.87 13 P P 21 49 19.4 +1.9
baz=196,SNR=6.9
KSU1 Kansas State U 28.89 344 P P 21 49 17.4 -0.3
baz=190,SNR=7.8
ACSO Alum Creek Sta 28.90 6 P P 21 49 18.5 +0.7
baz=188,SNR=10
Q52A Adamsville 28.93 8 P P 21 49 18.8 +0.8
baz=190,SNR=7.4
BNM Barren Site 28.93 325 P P 21 49 18.7 +0.4
P57A Homestead Farm 29.04 14 P P 21 49 20.9 +1.9
baz=198
P57A Homestead Farm 29.04 14 IAmb IAmb 21 49 21.8
comp=Z,33nm,1.1s
HDIL Hopedale 29.10 356 P P 21 49 19.2 -0.3
baz=175,SNR=5.4
Q53A New Philadelph 29.15 9 P P 21 49 20.5 +0.5
baz=192,SNR=9.9
Q54A Avella 29.22 10 P P 21 49 21.1 +0.5
baz=193
SDMD Soldier's Deli 29.27 16 P P 21 49 20.1 -1.0
PTGA Pitinga 29.35 113 P P 21 49 21.3 -0.7
comp=Z,3.7nm,0.8s,baz=296,slow=9.5,SNR=6.3
PTGA Pitinga 29.35 113 P P 21 49 22.4 +0.4
N48A Decatur 29.37 3 P P 21 49 21.9 0.0
baz=184
ANMO Albuquerque 29.42 326 P P 21 49 24.2 +1.6
baz=138
ANMO Albuquerque 29.42 326 P P 21 49 23.6 +1.0
comp=Z,2.1nm,0.8s,baz=166,slow=8.3,SNR=8.9
ANMO PcP **PcP 21 52 29.5 +1.5**
comp=Z,2.9nm,0.9s,baz=197,slow=7.8,SNR=5.2
ANMO Albuquerque 29.42 326 P P 21 49 22.2 -0.5
N50A Nevada 29.42 6 P P 21 49 22.4 +0.1
baz=188
N49A Columbus Grove 29.48 4 P P 21 49 22.8 -0.1
baz=185,SNR=14
P59A Jarrettsville 29.57 16 P P 21 49 25.3 +1.7
baz=201
O56A Blue Knob Stat 29.66 13 P P 21 49 26.1 +1.5
baz=197
O56A Blue Knob Stat 29.66 13 P P 21 49 26.2 +1.7
O56A IAmb IAmb 21 49 34.5
comp=Z,25nm,1.4s
N53A Lisbon 29.75 9 P P 21 49 26.0 +0.7
baz=192
O57A Amberson 29.82 14 P P 21 49 27.1 +1.1
baz=198
M47A Cromwell 29.84 2 P P 21 49 25.4 -0.7
baz=182
O58A Lewisberry 29.91 15 P P 21 49 28.2 +1.4
baz=200
M50A Fremont 30.05 6 P P 21 49 28.6 +0.7
baz=188
N55A Marion Center 30.06 12 P P 21 49 28.2 +0.1
T25A Trinidad 30.07 331 P P 21 49 30.1 +1.6
baz=144
SSPA Standing Stone 30.16 14 P P 21 49 29.8 +0.9
baz=198
SSPA Standing Stone 30.16 14 P P 21 49 29.3 +0.4
SSPA IAmb IAmb 21 49 30.9
comp=Z,25nm,0.9s

TUC	Tucson	30.27	317	P	P	21 49 33.1 +3.0
	baz=128					
O59A	Robesonia	30.29	16	P	P	21 49 31.9 +1.9
	baz=201					
N56A	West Decatur	30.34	13	P	P	21 49 31.9 +1.3
	baz=197,SNR=9.0					
N57A	Milroy	30.36	14	P	P	21 49 32.0 +1.4
	baz=198					
M53A	Wt Miller and	30.39	9	P	P	21 49 32.0 +1.0
	baz=192					
L46A	Eue Claire	30.48	1	P	P	21 49 31.0 -0.7
	baz=181					
L48A	N Adams	30.48	4	P	P	21 49 31.8 +0.1
	baz=185					
M54A	Oil Creek Stat	30.63	11	P	P	21 49 34.0 +0.9
	baz=194					
M54A	Oil Creek Stat	30.63	11	P	P	21 49 33.5 +0.3
N58A	Sunbury	30.64	15	P	P	21 49 34.6 +1.4
	baz=200					
N58A	Sunbury	30.64	15	IAmb	IAmb	21 49 35.8
	comp=Z,18nm,0.8s					
L49A	Milan	30.69	5	P	P	21 49 34.1 +0.6
	baz=186					
L40A	Anamosa	30.76	354	P	P	21 49 33.5 -0.7
	baz=172,SNR=8.9					
M55A	Ridgway	30.77	12	P	P	21 49 35.0 +0.7
	baz=196					
M55A	Ridgway	30.77	12	P	P	21 49 34.3 0.0
M55A				IAmb	IAmb	21 49 35.9
	comp=Z,14nm,0.9s					
AAM	Ann Arbor	30.89	5	P	P	21 49 35.5 +0.1
	baz=186					
M56A	Emporium	30.91	13	P	P	21 49 36.1 +0.6
	baz=197,SNR=6.5					
N59A	State Game Lan	30.97	16	P	P	21 49 36.7 +0.6
	baz=202					
N59A	State Game Lan	30.97	16	IAmb	IAmb	21 49 42.7
	comp=Z,29nm,1.1s					
M57A	Sunshine Farm,	31.01	14	P	P	21 49 37.8 +1.4
	baz=199,SNR=7.2					
SAML	Samuel	31.07	130	P	P	21 49 36.4 -0.8
SAML				IAmb	IAmb	21 49 37.2
	comp=Z,21nm,0.8s					
SAML	Samuel	31.07	130	eP	P	21 49 36.1 -1.0
SAML				epP	pP	21 49 40.0 -8.2
SAML	Samuel	31.07	130	eP	P	21 49 36.1 -1.0
SAML				epP	pP	21 49 40.0 -8.2
SDCO	Great Sand Dun	31.08	331	P	P	21 49 38.2 +0.8
	baz=143,SNR=6.0					
BRNJ	Basking Ridge	31.11	18	P	P	21 49 35.0 -2.2
K46A	Dorr	31.16	2	P	P	21 49 36.6 -1.1
	baz=182					
ERPA	Erie	31.17	10	P	P	21 49 38.1 +0.3
K47A	Vermontville	31.18	3	P	P	21 49 37.3 -0.5
	baz=184,SNR=7.7					
M58A	Price's Panora	31.21	15	P	P	21 49 38.9 +0.8
	baz=200					
K48A	Perry	31.36	4	P	P	21 49 39.4 -0.1
	baz=185,SNR=6.6					
K49A	Clarkson	31.39	5	P	P	21 49 39.5 -0.3
	baz=186					
BGNE	Belgrade	31.47	344	P	P	21 49 40.7 +0.2
	baz=158					
BGNE	Belgrade	31.47	344	P	P	21 49 39.9 -0.6
JFWS	Jewell Farm	31.51	355	P	P	21 49 40.0 -0.9
	baz=174,SNR=6.8					
L55A	Hinsdale	31.52	12	P	P	21 49 41.5 +0.6
	baz=196					
KSPA	Keystone Colle	31.56	16	P	P	21 49 40.9 -0.3
KSPA				IAmb	IAmb	21 49 59.5
	comp=Z,16nm,0.9s					
M59A	Waymart	31.64	17	P	P	21 49 43.4 +1.4
	baz=202					
L56A	Greenwood	31.67	13	P	P	21 49 43.0 +0.8
	baz=198					
M60A	Port Jervis	31.68	18	P	P	21 49 43.2 +0.9
	baz=203					
L57A	Andrews Acres	31.70	14	P	P	21 49 43.4 +0.9
	baz=199					
WVNY	West Valley, N	31.70	12	P	P	21 49 42.3 -0.2
S22A	4UR Ranch, Cre	31.73	329	P	P	21 49 44.3 +1.1
	baz=141					
S22A	4UR Ranch, Cre	31.73	329	P	P	21 49 40.5 -2.7
S22A					PcP	21 52 32.1 -2.1
J47A	Sunmer	31.75	3	P	P	21 49 42.6 -0.3
	baz=184					
J46A	Howard City	31.83	2	P	P	21 49 42.7 -0.9
	baz=182					
J48A	Bridge Port	31.87	4	P	P	21 49 43.7 -0.3
	baz=186					
L58A	Harry Jones Me	32.00	16	P	P	21 49 46.4 +1.3
	baz=201					
BINY	Binghamton	32.11	15	P	P	21 49 47.2 +1.2
	baz=200,SNR=6.8					
MVCO	Mesa Verde	32.20	327	P	P	21 49 48.3 +1.0
	baz=137					
MVCO	Mesa Verde	32.20	327	P	P	21 49 46.1 -1.1
MVCO				IAmb	IAmb	21 50 01.4
	comp=Z,10.0nm,0.8s					
MVCO					PcP	21 52 35.4 0.0
K56A	Middlesex	32.25	13	P	P	21 49 48.4 +1.0
	baz=198					
L59A	Walton	32.35	17	P	P	21 49 49.4 +1.2
	baz=202					
I42A	Draeger Farm,	32.40	357	P	P	21 49 48.0 -0.6
	baz=176,SNR=6.5					
L60A	Shokan	32.40	18	P	P	21 49 49.8 +1.1
	baz=204					
I46A	Reed City	32.42	2	P	P	21 49 47.7 -1.1
	baz=183					
I47A	Gladwin	32.54	3	P	P	21 49 49.3 -0.5
	baz=184,SNR=5.7					
WUAZ	Wupatki	32.68	321	P	P	21 49 53.0 +1.6
	baz=131					
WUAZ	Wupatki	32.68	321	P	P	21 49 50.0 -1.4
WUAZ				IAmb	IAmb	21 50 05.7
	comp=Z,11nm,1.0s					
WUAZ					PcP	21 52 35.5 -1.2
K58A	Earlville	32.72	15	P	P	21 49 52.3 +0.8
	baz=201					
K58A	Earlville	32.72	15	P	P	21 49 51.0 -0.5
Y14A	Wickenburg	32.73	317		PcP	21 52 34.7 -1.9
ISCO	Idaho Springs	32.78	333	P	P	21 49 52.8 +0.4
	baz=144					
I53A	Kortright Cn E	32.90	10	P	P	21 49 53.4 +0.5
	baz=193					
J56A	Wolcott	32.91	14	P	P	21 49 53.4 +0.4
	baz=198					
SMCO	Snowmass	32.91	331	P	P	21 49 53.0 -0.7
SMCO				IAmb	IAmb	21 50 11.3
	comp=Z,12nm,1.1s					
PV01	Paradox Valley	32.92	328	P	P	21 49 53.5 0.0
H43A	Windswept, Lux	32.94	359	P	P	21 49 53.0 -0.3
K59A	Cooperstown	32.95	16	P	P	21 49 54.3 +0.9
	baz=202					
I52A	Shelburne	33.04	9	P	P	21 49 54.6 +0.4
	baz=192					
PV13	Radium Mtn., P	33.07	327	P	P	21 49 54.6 -0.3
DRWO	Darlington Wes	33.09	11	P	P	21 49 55.0 +0.4
	baz=195					
H47A	Mio	33.14	3	P	P	21 49 54.8 -0.3
	baz=185					
PV03	Paradox Valley	33.16	327	IAmb	IAmb	21 50 13.7
	comp=Z,10.0nm,0.8s					
PV05	Paradox Valley	33.16	327	IAmb	IAmb	21 50 05.9
	comp=Z,9.8nm,0.7s					
PV18	Skein Mesa, Pa	33.18	327	IAmb	IAmb	21 50 09.1
	comp=Z,14nm,0.7s					
LPAZ	La Paz	33.20	146	P	P	21 49 59.6 +3.1
	comp=Z,0.9nm,0.6s,baz=347,slow=12,SNR=3.1					
LPAZ				LR	LR	22 03 38.3
	comp=Z,1μm,18.4s,baz=326,slow=37					
LPAZ	La Paz	33.20	146	P	P	21 49 54.6 -1.9
PV11	David Mesa, Pa	33.20	327	P	P	21 49 56.2 +0.2
PV16	Nyswonger Mesa	33.23	327	P	P	21 49 56.0 -0.3
PV16				IAmb	IAmb	21 50 06.6
	comp=Z,11nm,0.7s					
J57A	Williamstown	33.24	15	P	P	21 49 55.2 -0.7
PV19	Morning Glory	33.27	327	IAmb	IAmb	21 50 06.9
	comp=Z,11nm,0.7s					
ECSD	EROS Data Cent	33.28	347	P	P	21 49 55.4 -0.9
	baz=162,SNR=19					
ECSD	EROS Data Cent	33.28	347	P	P	21 49 55.4 -0.9
PV20	West Nyswonger	33.28	327	P	P	21 49 56.8 +0.1
PV20				IAmb	IAmb	21 50 07.0
	comp=Z,11nm,0.6s					
PV04	Paradox Valley	33.29	328	P	P	21 49 56.8 +0.1
PV04				IAmb	IAmb	21 50 14.9
	comp=Z,15nm,0.9s					
H48A	Harrisville	33.30	5	P	P	21 49 56.2 -0.2
	baz=186					
H48A	Harrisville	33.30	5	P	P	21 49 56.2 -0.2
PV14	Lion Creek, Pa	33.34	327		PcP	21 52 35.0 -3.5
GLMI	Grayling	33.34	3	P	P	21 49 56.4 -0.4
	baz=184					
J58A	Remsen	33.37	15	P	P	21 49 57.9 +0.8
	baz=201					
J58A	Remsen	33.37	15	P	P	21 49 57.3 +0.1
H52A	Wyevale	33.65	9	P	P	21 49 59.6 +0.1
	baz=192					
PDMCI	Parker Dam,Lak	33.71	317	P	P	21 50 02.7 +2.6
	baz=126					
I58A	Old Forge	33.76	16	P	P	21 50 01.0 +0.4
	baz=201					
H53A	Bobcaygeon	33.80	11	P	P	21 50 01.1 +0.3
	baz=195					
G40A	Rib Lake	33.85	356	P	P	21 50 00.4 -0.9
	baz=174,SNR=6.2					
SADO	Sadowa	33.89	10	P	P	21 49 60.0 -1.6
	comp=Z,15nm,0.8s,baz=223,slow=3.9,SNR=6.5					
SADO	Sadowa	33.89	10	P	P	21 50 00.9 -0.7
G39A	Holcombe	33.95	355	P	P	21 50 01.2 -0.9
	baz=172,SNR=13					
SPMN	Marine on St.	34.06	353	P	P	21 50 01.9 -1.2
	baz=170,SNR=14					
SWSC	Sam W. Stewart	34.09	314	P	P	21 50 06.0 +2.5
	baz=122					
IKP	In-Ko-Pah, Jac	34.16	313	P	P	21 50 06.7 +2.5
	baz=122,SNR=5.0					
I59A	Olmsteadville	34.16	17	P	P	21 50 04.1 +0.1
	baz=203					
F45A	CMU Biological	34.16	2	P	P	21 50 03.2 -0.7
	baz=182					
NCB	Newcomb	34.23	16	P	P	21 50 04.7 +0.2
NCB				IAmb	IAmb	21 50 16.4
	comp=Z,25nm,1.4s					
BC3	Big Chuckawall	34.23	315	P	P	21 50 07.1 +2.2
	baz=124,SNR=6.7					
O20A	White River Ci	34.27	330	P	P	21 50 07.0 +1.7
	baz=141					
O20A	White River Ci	34.27	330	IAmb	IAmb	21 50 16.1
	comp=Z,12nm,0.8s					
H56A	Elgin	34.29	14	P	P	21 50 05.6 +0.5
	baz=199					
KLBO	Killbear Provi	34.30	8	P	P	21 50 04.2 -0.9
	baz=192					
IRM	Iron Mountain	34.30	316	P	P	21 50 08.2 +2.8
	baz=125					
G53A	Haliburton	34.32	10	P	P	21 50 04.5 -0.8
	baz=194					
BUKO	Buck Lake	34.50	9	P	P	21 50 06.4 -0.5
	baz=193					
SUSD	Miller	34.51	345	P	P	21 50 07.1 +0.1
	baz=159					
MONP2	Monument Peak	34.51	313	P	P	21 50 09.1 +1.7
	baz=122,SNR=5.5					
PKCU	Pink Cliffs	34.52	323	P	P	21 50 07.0 -0.6
H58A	Gabriels	34.65	16	P	P	21 50 08.6 +0.4
	baz=202					
G54A	Lake Saint Pet	34.68	11	P	P	21 50 08.7 +0.2
	baz=195					
LONY	Lake Ozonia	34.73	15	P	P	21 50 09.2 +0.3
	baz=202					
BELC	Belle Mtn. Jos	34.80	315	P	P	21 50 11.7 +1.9
	baz=123					
MNMC	Minye Minye	34.81	151	P	P	21 50 11.0 +0.9
MNMC				IAmb	IAmb	21 50 23.7
	comp=Z,13nm,0.8s					
G55A	Calabogie	34.82	13	P	P	21 50 09.9 +0.3
	baz=198					
E43A	Lone Tree Farm	34.84	360	P	P	21 50 08.9 -0.8
	baz=180					
PFO	Pinyon Flats O	34.92	314	P	P	21 50 13.1 +2.3
	baz=122					
PFO	Pinyon Flats O	34.92	314	P	P	21 50 12.9 +2.1
	comp=Z,6.1nm,1.0s,baz=128,slow=5.6,SNR=6.7					
PFO				PcP	PcP	21 52 45.7 +2.7
	comp=Z,3.8nm,1.0s,baz=154,slow=2.3,SNR=4.7					
H59A	Cadyville	35.00	17	P	P	21 50 11.2 0.0
	baz=203					
E47A	Iron Bridge	35.05	4	P	P	21 50 11.3 -0.3
	baz=186,SNR=7.4					
G57A	Newington	35.08	15	P	P	21 50 11.6 -0.2
	baz=201					
E48A	Lockeyer	35.17	6	P	P	21 50 12.2 -0.5
	baz=188					
MSU	Marysvale	35.17	324	P	P	21 50 12.6 -0.5
TMUT	Trail Mountain	35.18	326	P	P	21 50 12.4 -0.8
ALGO	Algonquin Park	35.23	11	P	P	21 50 13.0 -0.1
	baz=195					
RDMU	Red Mountain	35.26	329	P	P	21 50 14.2 +0.4
E38A	The Farm, Brul	35.29	354	P	P	21 50 12.6 -1.1
	baz=172,SNR=6.5					
PB11	IPOC Station P	35.33	151	P	P	21 50 14.9 +0.5
G58A	Ormstown	35.36	16	P	P	21 50 14.1 -0.1
	baz=202					
MURC	Murrieta	35.43	313	P	P	21 50 17.8 +2.6
	baz=121					
GO01	Chusmiza	35.47	150	P	P	21 50 16.3 +0.3
GO01				IAmb	IAmb	21 50 35.4
	comp=Z,9.6nm,0.9s					
E51A	G1948 Merrick	35.55	9	P	P	21 50 15.8 -0.1
	baz=192					
ALFO	Alfred	35.60	15	P	P	21 50 16.4 +0.1
	baz=200					
RSSD	Black Hills	35.78	339	P	P	21 50 19.8 +1.5
	baz=150					
RSSD	Black Hills	35.78	339	P	P	21 50 16.9 -1.3
RSSD				IAmb	IAmb	21 50 31.8
	comp=Z,11nm,1.2s					
E54A	Lac Daplat, Po	35.85	11	P	P	21 50 18.6 +0.1
	baz=196					
D48A	Paudash Townsh	35.89	6	P	P	21 50 18.1 -0.7
	baz=188					
GSC	Goldstone, Bar	36.08	316		PcP	21 52 45.1 -1.2
BFSC	Mount Baldy Ra	36.09	314	P	P	21 50 22.7 +1.8
	baz=122					
D52A	ZEK Kipawa Sen	36.16	10	P	P	21 50 21.4 +0.3
	baz=194					
MWC	Mount Wilson	36.37	314	IAmb	IAmb	21 50 26.9
	comp=Z,14nm,1.1s					
D53A	Lac Vacive, Po	36.38	11	P	P	21 50 23.0 0.0
	baz=195					
G62A	West of Eustis	36.47	20	P	P	21 50 24.7 +0.9
	baz=208					
G62A	West of Eustis	36.47	20	P	P	21 50 23.7 -0.2
TCUT	Toone Canyon	36.60	328	P	P	21 50 25.1 -0.2
EYMN	Ely	36.61	355	P	P	21 50 23.4 -1.6
	baz=172					
D54A	Lac Fusel, La	36.65	12	P	P	21 50 23.9 -1.4
	baz=197					
TPNV	Topopah Spring	36.65	319	P	P	21 50 27.8 +2.1
	baz=126					
TPNV	Topopah Spring	36.65	319	P	P	21 50 22.9 -2.8
TPNV					PcP	21 52 45.6 -2.5
EDW2	Edwards Air Fo	36.66	315	P	P	21 50 27.7 +2.0
	baz=122					
DUG	Dugway, Tooele	36.69	326	P	P	21 50 27.3 +1.4
	baz=134					
DUG	Dugway, Tooele	36.69	326	IAmb	IAmb	21 50 34.1
	comp=Z,8.0nm,1.1s					
E58A	La Victoria	36.70	16	P	P	21 50 25.0 -0.8
	baz=203					
D55A	Sainte-Anne-du	36.77	13	P	P	21 50 26.1 -0.3
	baz=199,SNR=7.1					
LRMC	Laurel Mtn Rad	36.77	316	P	P	21 50 29.3 +2.6
	baz=123					
FURC	Furnace Creek,	36.77	318	P	P	21 50 28.4 +2.0
	baz=125					
BW06	Boulder Array	36.94	332	P	P	21 50 27.7 -0.4
	baz=141					
PDAR	Pinedale Array	36.94	332	P	P	21 50 27.9 -0.2
	comp=Z,2.6nm,0.6s,baz=129,slow=11,SNR=17					
PDAR				PcP	PcP	21 52 49.2 +0.3
	comp=Z,2.0nm,0.9s,baz=137,slow=4.2,SNR=5.7					
PDAR	Pinedale Array	36.94	332	P	P	21 50 27.3 -0.8
PDAR					PcP	21 52 47.5 -1.4
MPMC	Manual Prospec	36.96	317	P	P	21 50 29.8 +1.4
	baz=124					
R11A	Troy Canyon, C	37.09	321	P	P	21 50 30.7 +1.3
	baz=129					
SIV	San Ignacio	37.34	136	P	P	21 50 31.5 -0.1
	comp=Z,20nm,0.7s,baz=324,slow=8.7,SNR=85					
SIV				PcP	PcP	21 52 50.7 +0.4
	comp=Z,4.8nm,0.7s,baz=298,slow=2.0,SNR=4.7					
ISA	Isabella, Lake	37.41	315	P	P	21 50 30.7 -1.4
ISA					PcP	21 52 49.1 -1.2
D58A	Chemin du LacG	37.47	16	P	P	21 50 32.0 -0.3
	baz=203					
AGMN	Agassiz Nation	37.52	350	P	P	21 50 31.7 -1.0
	baz=166,SNR=12					
AHID	Auburn Hatcher	37.67	330	IAmb	IAmb	21 50 52.7
	comp=Z,14nm,1.1s					
LATQ	La Tuque	37.77	16	P	P	21 50 34.7 0.0
	baz=203					
MDND	Maddock	37.85	346	P	P	21 50 35.4 -0.1
	baz=159					
VES	Vestal, Richgr	37.93	315	P	P	21 50 38.8 +2.5
	baz=122					
PKM	Mcpherson Peak	37.95	313	P	P	21 50 39.4 +2.7
	baz=120,SNR=7.0					
CLDB	Colider	38.01	125	eP	P	21 50 34.2 -3.1
CLDB				eS	S	21 56 34.8 +7.7
CLDB	Colider	38.01	125	eP	P	21 50 34.2 -3.1
CLDB				eS	S	21 56 34.8 +7.7
LVC	Limon Verde	38.13	152	P	P	21 50 43.7 +5.1
	comp=Z,3.7nm,0.7s,baz=334,slow=7.8,SNR=4.0					
LVC	Limon Verde	38.13	152	P	P	21 50 37.8 -0.8
LVC				IAmb	IAmb	21 50 44.9
	comp=Z,15nm,1.3s					
TPAW	Teton Pass	38.14	331	IAmb	IAmb	21 50 56.5
	comp=Z,15nm,1.0s					
LSQQ	Lebel-sur-Quev	38.41	10	P	P	21 50 39.0 -1.2
	baz=196					
ELK	Elko	38.42	324	P	P	21 50 41.5 +0.8
	comp=Z,4.6nm,1.0s,baz=128,slow=7.0,SNR=14					
ELK				PcP	PcP	21 52 54.2 +0.6
	comp=Z,3.7nm,0.9s,baz=243,slow=0.7,SNR=6.7					
ELK	Elko	38.42	324		PcP	21 52 51.9 -1.6
FLWY	Flagg Ranch	38.48	332	IAmb	IAmb	21 50 54.7
	comp=Z,21nm,1.2s					
D62A	Allapoint, All	38.60	20	P	P	21 50 42.2 +0.4
	baz=209					
D62A	Allapoint, All	38.60	20	IAmb	IAmb	21 50 42.5
	comp=Z,20nm,1.1s					
H17A	Grant Village	38.67	333	P	P	21 50 41.6 -1.1
	baz=141					
NV11	Mina Array Sit	38.74	319	P	P	21 50 42.0 -1.3
NV11					PcP	21 52 52.7 -1.8
OMMB	Old Mammoth Mi	38.83	318	P	P	21 50 43.6 -0.7
OMMB					PcP	21 52 54.5 -0.5
NVAR	Mina Array Bea	38.84	319	P	P	21 50 45.1 +0.9
	comp=Z,2.2nm,0.7s,baz=126,slow=7.9,SNR=12					
NVAR				PcP	PcP	21 52 56.1 +1.2
	comp=Z,7.4nm,1.0s,baz=137,slow=3.6,SNR=12					
NVAR	Mina Array Bea	38.84	319	P	P	21 50 43.3 -1.0
MDPB	Devils Postpil	38.89	318	P	P	21 50 43.1 -1.6
MATQ	Matagami	38.98	10	P	P	21 50 44.1 -0.8
	baz=194					
KVN	Kaiserville	39.07	320	P	P	21 50 45.5 -0.6
KVN					PcP	21 52 54.9 -0.7
LMN	Caledonia Moun	39.13	25	P	P	21 50 45.5 -0.7
PMPB	Monarch Peak	39.31	315	P	P	21 50 47.0 -1.1
PMPB				IAmb	IAmb	21 50 51.0
	comp=Z,8.9nm,0.9s					
GCMT	Greycliff	39.37	335	P	P	21 50 47.7 -0.8
ULM	Lac du Bonnet	39.42	351	P	P	21 50 47.0 -1.6
	comp=Z,28nm,0.8s,baz=165,slow=8.6,SNR=17					
ULM				LR	LR	22 10 04.7
	comp=Z,460nm,18.6s,baz=161,slow=41					
WAKR	Walker	39.61	319	P	P	21 50 50.5 -0.2
DGMT	Dagmar	39.66	342	P	P	21 50 51.4 +0.7
	baz=153					
CHGQ	Chibougamau	39.74	13	P	P	21 50 50.9 -0.4
	baz=199					
PNTR	Pine Nut	40.05	319	P	P	21 50 53.8 -0.5
GO02	Mina Guanaco	40.08	155	P	P	21 50 53.1 -1.7
GO02				IAmb	IAmb	21 51 02.9
	comp=Z,11nm,0.8s					
DLMT	Dillon	40.33	332	IAmb	IAmb	21 51 10.4
	comp=Z,13nm,1.1s					
BEKR	Beckworth	40.97	320	P	P	21 51 01.3 -0.6
EGMT	Eagleton	41.21	337	P	P	21 51 03.6 0.0
	baz=145					
MSO	Missoula	42.05	332	P	P	21 51 11.5 +1.0
	baz=138					
MSO	Missoula	42.05	332	P	P	21 51 10.0 -0.5
ARAG	Araguaiana, MT	43.95	127	eP	P	21 51 23.3 -2.8
ARAG	Araguaiana, MT	43.95	127	eP	P	21 51 23.3 -2.8
AQDB	Aquidauana	44.11	136	eP	P	21 51 27.5 +0.2
AQDB	Aquidauana	44.11	136	eP	P	21 51 27.5 +0.2
NEW	Newport	44.57	331	P	P	21 51 30.0 -0.8
	comp=Z,0.9nm,0.5s,baz=134,slow=8.8,SNR=3.7					
NEW				PcP	PcP	21 53 13.3 0.0
	comp=Z,1.5nm,0.6s,baz=147,slow=4.5,SNR=4.5					
NEW	Newport	44.57	331	P	P	21 51 28.6 -2.2
NEW					PcP	21 53 11.6 -1.7
G05D	Wamic, OR	44.72	325	P	P	21 51 34.9 +2.9
	baz=128					
E07A	Sunnyside	44.77	328	IAmb	IAmb	21 51 45.5
	comp=Z,18nm,0.9s					
FFC	Flin Flon	44.81	348	P	P	21 51 32.0 -0.5
FFC				IAmb	IAmb	21 51 33.2
	comp=Z,11nm,1.1s					
H04A	Detroit Lake	44.87	324	P	P	21 51 32.3 -0.9
DRLN	Deer Lake	44.89	27	P	P	21 51 32.6 -0.6
LTY	Liberty	45.65	328	IAmb	IAmb	21 51 46.5
	comp=Z,10nm,1.4s					
SCHQ	Schefferville	46.10	16	P	P	21 51 39.7 -3.0
	comp=Z,3.5nm,0.4s,baz=222,slow=6.7,SNR=3.5					
SCHQ				LR	LR	22 10 53.5
	comp=Z,860nm,21.7s,baz=208,slow=36					
SCHQ	Schefferville	46.10	16	IAmb	IAmb	21 51 41.7
	comp=Z,10.0nm,0.9s					
BDFB	Brasilia	46.94	124	P	P	21 51 49.1 -0.8
	comp=Z,12nm,0.7s,baz=277,slow=8.8,SNR=24					
BDFB				LR	LR	22 12 16.0
	comp=Z,2μm,19.1s,baz=302,slow=37					
BDFB	Brasilia	46.94	124	P	P	21 51 48.7 -1.3
BDFB				IAmb	IAmb	21 51 50.4
	comp=Z,14nm,0.8s					
CPUP	Villa Florida	47.27	143	P	P	21 51 50.3 -1.8
	comp=Z,1.8nm,0.8s,baz=317,slow=9.5,SNR=4.1					
CPUP				LR	LR	22 13 12.1
	comp=Z,443nm,19.4s,baz=335,slow=38					
CPUP	Villa Florida	47.27	143	P	P	21 51 49.9 -2.3
TRCB	Terra Rica	47.77	135	eP	P	21 51 56.2 0.0
TRCB	Terra Rica	47.77	135	eP	P	21 51 56.2 0.0
BB19B	Bebedouro	49.63	130	eP	P	21 52 08.2 -2.3
BB19B	Bebedouro	49.63	130	eP	P	21 52 08.2 -2.3
VAO	Valinhos	51.94	131	eP	P	21 52 25.0 -2.9
VAO	Valinhos	51.94	131	eP	P	21 52 25.0 -2.9
PLCA	Paso Flores	54.05	165	P	P	21 52 46.2 +3.0
	comp=Z,3.8nm,0.7s,baz=355,slow=10,SNR=11					
PLCA				LR	LR	22 11 06.1
	comp=Z,332nm,19.1s,baz=40,slow=31					
PLCA	Paso Flores	54.05	165	P	P	21 52 41.7 -1.5
PLCA				IAmb	IAmb	21 52 48.9
	comp=Z,5.4nm,0.8s					
YKA	Yellowknife Ar	54.74	345	P	P	21 52 46.0 -1.9
	comp=Z,7.0nm,0.8s,baz=137,slow=7.1,SNR=7.5					
TAOE	Nuku Hiva Isla	56.67	251	eS	S	22 00 54.8 +2.1
	comp=Z,474nm,26.3s					
TAOE				eLR	LR	22 09 25.5
	comp=Z,526nm,25.6s					
TAOE	Nuku Hiva Isla	56.67	251	eT	T	22 53 48.0
	comp=Z,29nm,0.3s					
DLBC	Dease Lake	57.07	335	P	P	21 53 04.0 -0.7
	comp=Z,3.9nm,0.8s,baz=111,slow=5.1,SNR=8.5					
EPYK	Eagle Plains	64.22	340	P	P	21 53 53.4 +0.2
	baz=124					
INK	Inuvik	64.35	343	IAmb	IAmb	21 53 54.5
	comp=Z,12nm,1.1s					
DOT	Dot Lake	65.59	336	P	P	21 54 02.2 0.0
PMOR	Pomariorio Ree	65.89	248	eT	T	23 05 18.3
	comp=Z,3.8nm,0.2

comp=Z,222nm,24.8s
PPT2 Papeete2 68.29 246 *e*LR LR 22 14 55.0
comp=Z,479nm,24.8s,baz=62
BPAW Bear Paw Mtn. 68.60 335 P **P** **21 54 20.4 -0.9**
BPAW IAmb IAmb 21 54 21.3
comp=Z,19nm,1.4s
MLY Manley 68.81 336 P **P** **21 54 22.6 0.0**
MLY IAmb IAmb 21 54 24.0
comp=Z,5.3nm,0.7s
COLD Coldfoot 69.35 338 IAmb IAmb 21 54 27.6
comp=Z,7.7nm,1.1s
TBI Tubuai 70.28 240 *e*S **S** **22 03 45.6 +3.9**
comp=Z,443nm,27.2s
TBI Tubuai 70.28 240 *e*LR LR 22 16 04.6
comp=Z,486nm,26.8s,baz=69
TBI Tubuai 70.28 240 *e*T T 23 10 46.1
comp=Z,5.9nm,0.3s
ESDC Sonseca Array 77.39 52 P **P** **21 55 11.8 -2.0**
comp=Z,1.1nm,1.0s,baz=287,slow=6.5,SNR=5.0
ESDC Sonseca Array 77.39 52 P **P** **21 55 11.6 -2.2**
ARCES ARCESS Array B 86.97 19 P **P** **21 56 01.1 -2.2**
comp=Z,1.2nm,0.8s,baz=278,slow=9.0,SNR=2.8
NIUE Niue 87.23 250 P **P** **21 56 01.4 -4.1**
ZALV Zalesovo Beam 114.50 5 PKP **PKiKP** **22 01 57.4 -0.9**
comp=Z,0.6nm,0.6s,baz=294,slow=1.4,SNR=3.0
ZALV Zalesovo Beam 114.50 5 **PKiKP** **22 01 55.9 -2.4**
CN2 Changchun 117.66 334 *e*PKP **PKiKP** **22 02 08.1 +3.4**
SONM Songino Array 119.84 350 PKP **PKiKP** **22 02 09.1 0.0**
comp=Z,1.4nm,0.9s,baz=317,slow=0.3,SNR=9.3
SONM Songino Array 119.84 350 **PKPdf** **22 02 07.6 -1.4**
GEYT Alibeck 120.97 32 PKP **PKPdf** **22 02 10.6 -0.7**
comp=Z,2.9nm,1.0s,baz=355,slow=7.4,SNR=6.1
MKAR Makanchi Array 121.24 9 PKP **PKPdf** **22 02 10.1 -1.4**
comp=Z,0.5nm,0.6s,baz=318,slow=2.9,SNR=3.7
MKAR Makanchi Array 121.24 9 **PKPdf** **22 02 09.9 -1.7**
KSRS Korea Array 121.43 328 PKP **PKiKP** **22 02 12.3 0.0**
comp=Z,5.4nm,0.8s,baz=25,slow=0.6,SNR=12
KMBO Kilima Mbogo 123.64 84 PKP **PKiKP** **22 02 18.2 +0.6**
comp=Z,0.4nm,0.3s,baz=57,slow=17,SNR=3.9
KMBO Kilima Mbogo 123.64 84 **PKPdf** **22 02 15.5 -1.8**
WMQ Urumqi 124.80 5 *e*PKP **PKiKP** **22 02 19.2 +0.3**
WMQ LR LR
comp=Z,540nm,28.8s
WMQ LR LR
comp=Z,290nm,26.9s
HHC Hu-ho-hao-te 125.27 343 *e*PKP **PKiKP** **22 02 21.9 +2.0**
KSH Kashi 126.87 17 PKP **PKiKP** **22 02 24.4 +1.2**
KSH PP PP 22 04 26.4 +7.3
KSH PKS **PKSdf** **22 06 00.6 +1.2**
KSH SKS **SKSdf** **22 09 31.4 -0.3**
KSH LR LR
comp=Z,250nm,9.3s
KSH LR LR
comp=Z,270nm,11.0s
GTA Gaotai 129.05 353 *e*PKP **PKiKP** **22 02 27.6 0.0**
GTA sPKP 22 02 42.8
GTA LR LR
comp=Z,200nm,18.7s
GTA LR LR
comp=Z,280nm,20.3s
NJ2 Nanjing 130.25 331 *e*PKP **PKiKP** **22 02 30.3 +0.3**
LZH Lanzhou 131.68 348 *e*PKP **PKiKP** 22 02 35.2 +2.2
LZH sPKP 22 02 50.6
WHN Wuhan 133.55 334 PKP **PKiKP** **22 02 40.4 +3.7**
CD2 Chengdu 136.69 347 PKP **PKPdf** **22 02 40.7 -0.7**
ASAR Alice Springs 139.39 247 PKP **PKPdf** **22 02 46.8 +0.3**
comp=Z,1.9nm,0.8s,baz=95,slow=2.8,SNR=8.9
WRA Warramunga Arr 139.51 253 PKP **PKPdf** **22 02 47.1 +0.4**
comp=Z,1.8nm,0.8s,baz=93,slow=1.6,SNR=9.0
SHL Shillong 143.22 2 **PKPdf** **22 02 52.1 -1.4**
FITZ Fitzroy Crossi 147.89 254 PKP **PKPdf** **22 03 01.6 +0.2**
comp=Z,2.1nm,0.6s,baz=77,slow=11,SNR=2.9
FITZ PKPbc **PKPab** **22 03 07.7 +0.7**
comp=Z,2.4nm,0.5s,baz=84,slow=13,SNR=4.5
FITZ Fitzroy Crossi 147.89 254 **PKPdf** **22 03 00.0 -1.4**
LUWI Luwuk 148.81 287 **PKPdf** **22 02 59.2 -3.9**
NONG Nongkai 149.07 341 P **PKiKP** **22 03 08.3 -0.5**
CMMT Chiang Mai 149.41 349 P **PKPbc** **22 03 08.6 +0.2**
comp=Z,7.1nm,1.7s
CM31 Chiang Mai Arr 149.76 349 PKPdf **PKPdf** **22 03 01.4 -3.1**
CM31 **PKPbc** **22 03 06.3 -2.9**
CMAR Chiang Mai Arr 149.76 349 PKP **PKPdf** **22 03 05.1 +0.6**
comp=Z,11nm,1.0s,baz=313,slow=2.3,SNR=16
CMAR PKPbc **PKiKP** **22 03 09.9 -0.3**
comp=Z,8.3nm,0.9s,baz=336,slow=1.7,SNR=29
CMAR Chiang Mai Arr 149.76 349 PKPdf **PKPdf** **22 03 02.7 -1.8**
CMAR PKPbc **PKPbc** **22 03 08.8 -0.4**
PBKT Sadao Pong 151.12 344 P **PKiKP** **22 03 13.1 +0.1**
comp=Z,18nm,0.9s
PBKT Sadao Pong 151.12 344 PKPdf **PKPdf** **22 03 04.0 -2.6**
CHAI Chaiyaphum 151.47 342 P **PKiKP** **22 03 14.2 +0.4**
UMPA Umpang Tak 151.97 348 P **PKiKP** **22 03 16.5 +1.7**
comp=Z,23μm,0.9s,comp=Z,315μm

IDC 10 21:45:44.1±69.0, 18°37S×173°40W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/40, mbtmp3.6/3, Error ellipse: s-maj=1313.0km s-min=218.3km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.62**	**243**	P	P	21 53 41.6	-0.8
	1.7nm,0.7s,baz=101,slow=5.2,SNR=2.9						
WRA	**Warramunga Arr**	**49.23**	**259**	P	P	21 54 34.2	-0.6
	0.2nm,0.4s,baz=93,slow=7.0,SNR=1.5						
ASAR	**Alice Springs**	**49.25**	**254**	P	P	21 54 35.7	+0.7
	0.4nm,0.5s,baz=94,slow=7.4,SNR=5.3						

*ISCJB **10** 21:58:26.4±0.6, 7°31S±0°05×129°23E±0°04, h200km, Error ellipse: s-maj=7.1km s-min=5.9km az=15.1*
*NEIC **10** 21:58:26.4±2.0, 7°25S±0°05×129°32E±0°07, h189km±10km, mb4.0/4*
*IDC **10** 21:58:27.9±1.8, 7°21S×129°07E, h183km±23km, mb3.2/3, mb1 3.4/7, mb1mx3.2/38, mbtmp3.9/7, MS3.6/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=19.0km s-min=16.7km az=97.0*
ISC 10 21:58:26.6±0.7, 7°27S±0°05×129°30E±0°06, h200km, n24, σ3°03/32, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**110**	Pn	**Pn**	**21 59 05.5**	**-0.7**
SAUI				Sn	**Sn**	**21 59 34.9**	**-2.1**
FAKI	**Fak Fak**	**5.23**	**34**	Pn	**Pn**	**21 59 40.9**	**-3.0**
SOEI	**Soe**	**5.56**	**243**		**Pn**	**21 59 48.0**	**-0.3**
SOEI					**Sn**	**22 00 51.8**	**-1.0**
MTN	**Manton Dam**	**5.82**	**162**		**Pn**	**21 59 53.2**	**+1.6**
MTN					**Sn**	**22 00 58.2**	**-0.7**
BATI	**Baumata**	**6.29**	**242**	P	**Pn**	**21 59 58.2**	**+0.5**
	14nm,0.3s,baz=60,slow=4.3,SNR=9.0						
BATI				S	**Sn**	**22 01 05.9**	**-3.8**
	9.3nm,0.3s,baz=88,slow=22,SNR=7.4						
SIJI	**Sorong**	**6.66**	**17**	P	**Pn**	**22 00 02.8**	**+0.3**
	0.7nm,0.3s,baz=244,slow=23,SNR=6.5						
SIJI				S	**Sn**	**22 01 11.5**	**-6.9**
	3.0nm,0.3s,baz=224,slow=22,SNR=8.5						
KNRA	**Kununurra**	**8.37**	**184**	Pn	**Pn**	**22 00 24.7**	**0.0**
KNRA					**Sn**	**22 01 55.4**	**-3.5**
WB0	**Warramunga Arr**	**13.37**	**159**	Pn	**Pn**	**22 01 29.6**	**+0.8**
WRAB	**Tennant Creek**	**13.51**	**159**	Pn	**Pn**	**22 01 30.6**	**+0.2**
WRA	**Warramunga Arr**	**13.51**	**159**	P	**P**	**22 01 32.3**	**-0.8**
	0.4nm,0.3s,baz=342,slow=12,SNR=5.6						
WRA				S	**S**	**22 03 55.5**	**-5.7**
	0.7nm,0.3s,baz=324,slow=24,SNR=6.7						
WRA	**Warramunga Arr**	**13.51**	**159**	P	**Pn**	**22 01 27.4**	**-3.2**
WB2	**Warramunga Arr**	**13.52**	**159**	P	**Pn**	**22 01 26.8**	**-3.8**
COEN	**Coen**	**15.16**	**117**		**P**	**22 01 53.5**	**+2.1**
COEN				S	**S**	**22 04 37.0**	**-2.4**
AS31	**Alice Springs**	**16.89**	**165**	P	**Pn**	**22 02 11.2**	**-0.5**
AS31				IAmb	IAmb	22 02 17.0	
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**16.89**	**165**	P	**Pn**	**22 02 15.8**	**+4.2**
	comp=Z,1.8nm,0.3s,baz=341,slow=10,SNR=119						
ASAR				S	**Sn**	**22 05 19.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=350,slow=28,SNR=4.7						
ASAR	**Alice Springs**	**16.89**	**165**	P	**Pn**	**22 02 12.7**	**+1.1**
ASAR					**S**	**22 05 18.2**	**+1.7**
CTA	**Charters Tower**	**20.80**	**129**	P	Pn	22 02 56.8	-1.6
	comp=Z,1.2nm,0.4s,baz=134,slow=23,SNR=3.7						
KRVT	**Keravat (AS076**	**22.80**	**84**	P	**P**	**22 03 18.4**	**+6.0**
	comp=Z,29nm,0.5s,baz=222,slow=14,SNR=3.6						
TGY	**Tagaytay City**	**22.80**	**339**	LR	LR	22 13 17.1	
	comp=Z,170nm,20.1s,baz=132,slow=39						
BBOO	**Buckleboo**	**26.18**	**167**	P	**P**	**22 03 46.4**	**+3.7**
STKA	**Stephens Creek**	**27.03**	**157**	P	**P**	**22 03 55.0**	**+4.7**
	comp=Z,1.5nm,0.6s,baz=348,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**22 09 06.2**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=120,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**22 09 05.6**	**+0.9**
ARSB	**Arslanbob**	**70.63**	**318**	P	**P**	**22 09 21.5**	**+0.9**
ARSB				IAmb	IAmb	22 09 26.9	
	comp=Z,3.6nm,1.1s						

IDC 10 22:03:54.3±25.0, 17°97S×172°77W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/40, mbtmp4.1/4, Error ellipse: s-maj=474.1km s-min=166.9km az=72.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.73**	**260**	P	P	22 11 20.9	+0.4
	2.2nm,0.3s,baz=86,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**43.33**	**242**	P	P	22 11 58.5	+0.1
	0.7nm,0.4s,baz=63,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**49.89**	**259**	P	P	22 12 49.7	-0.3
	0.5nm,0.3s,baz=97,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**49.94**	**254**	P	P	22 12 50.0	-0.4
	1.4nm,0.5s,baz=88,slow=8.2,SNR=27						

*IDC **10** 22:13:11.9±1.1, 11°66N×86°54W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.7/34, mbtmp3.6/7, ML3.0/2, Error ellipse: s-maj=51.1km s-min=12.9km az=47.0*
*ISCJB **10** 22:13:12.2±0.7, 11°33N±0°06×87°05W±0°06, h10km, mb3.4/4, Error ellipse: s-maj=11.2km s-min=5.7km az=136.9*
*UCR **10** 22:13:15.4±3.0, 11°41N×86°88W, h19km, MW4.0*
ISC 10 22:13:13.9±0.9, 11°40N±0°06×86°95W±0°08, h10km, n22, σ1°56/24, mb3.4/4, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.98**	**53**	*e*P	**Pg**	**22 13 32.7**	**-0.1**
CNGN	**Cerro Negro**	**1.12**	**12**	*e*P	**Pb**	**22 13 35.3**	**-0.2**
CRIN	**San Cristobal**	**1.30**	**356**	*e*P	**Pn**	**22 13 38.2**	**-0.1**
BUEV	**Buena Vista**	**1.62**	**111**	*e*P	**Pn**	**22 13 40.7**	**-2.0**
GB1A	**Boringuen Arri**	**1.62**	**111**	*e*P	**Pn**	**22 13 40.1**	**-2.6**
ESTN	**Estel**	**1.79**	**18**	*e*P	**Pn**	**22 13 45.2**	**+0.2**
MATN	**Matagalpa**	**1.82**	**33**	*e*P	**Pn**	**22 13 46.4**	**+0.9**
PLVR	**Palo Verde**	**1.88**	**123**	*e*P	**Pn**	**22 13 47.3**	**+1.0**
PLVR				*e*S	**Sg**	**22 14 15.9**	**+1.3**
CUI	**Cuipilapa**	**1.90**	**113**	*e*P	**Pn**	**22 13 44.7**	**-1.8**
CUI				*e*S	**Sn**	**22 14 10.9**	**+0.4**
RCON	**San Juan de Ri**	**2.21**	**20**	*e*P	**Pn**	**22 13 50.5**	**-0.4**
JTS	**Las Juntas de**	**2.25**	**119**	Pn	**Pn**	**22 13 49.1**	**-2.2**
	1.6nm,0.3s,baz=12,slow=22,SNR=6.1						
JTS				Lg	Lg	22 14 16.2	
	11nm,0.3s,baz=315,slow=14,SNR=5.0						
JTS	**Las Juntas de**	**2.25**	**119**	*e*P	**Pn**	**22 13 49.7**	**-1.5**
ARE1	**Arenal 1**	**2.38**	**113**	*e*P	**Pn**	**22 13 54.9**	**+1.9**
CEDE	**Laguna Cedeo**	**2.38**	**112**	*e*P	**Pn**	**22 13 55.1**	**+1.9**
LCR2	**La Lucha 2**	**3.33**	**119**	*e*P	**Pn**	**22 14 06.1**	**-0.2**
CMIG	**Matias Romero**	**9.55**	**307**	Pn	**Pn**	**22 15 31.8**	**+0.1**
	0.4nm,0.3s,baz=147,slow=9.5,SNR=4.6						
ATAH	**Atahualpa**	**20.28**	**155**	P	**P**	**22 17 51.5**	**+1.1**
	5.9nm,0.6s,baz=0.0,slow=9.1,SNR=4.2						
TXAR	**Lajitas Array**	**23.70**	**321**	P	**P**	**22 18 25.5**	**-0.7**
	0.8nm,0.7s,baz=134,slow=9.7,SNR=14						
TKL	**Tuckaleechee C**	**24.32**	**6**	P	**P**	**22 18 29.2**	**-2.7**
	2.2nm,0.8s,baz=169,slow=11,SNR=3.1						
PDAR	**Pinedale Array**	**36.93**	**332**	P	**P**	**22 20 22.2**	**-1.2**
	0.4nm,0.6s,baz=126,slow=10,SNR=5.0						
NVAR	**Mina Array Bea**	**38.82**	**319**	P	**P**	**22 20 40.2**	**+0.8**
	0.3nm,0.6s,baz=138,slow=9.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**149.77**	**349**	PKPbc	**PKPdf**	**22 33 03.2**	**+2.7**
	0.5nm,0.6s,baz=335,slow=4.0,SNR=3.7						

TAP 10 22:32:34.1, 23°76N×120°90E, h8km, ML1.1, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.06**	**58**	*i*P	Pg	22 32 36.5	+0.5
	baz=58						
SSLB				*i* S	Sg	22 32 38.2	+0.8
	baz=58						
WHYT	**Xinyi Township**	**0.07**	**214**	P	Pg	22 32 36.6	+0.4
	baz=214						
WHYT				*i* S	Sg	22 32 38.5	+0.9
	baz=214						
TYC	**Yuchr**	**0.15**	**346**	*e*P	Pg	22 32 37.9	+0.5
	baz=350						
TYC				*e*S	Sg	22 32 41.2	+1.6
	baz=350						
VWDT	**VWDT**	**0.22**	**90**	P	Pg	22 32 39.7	+1.0
	baz=90						
VWDT				S	Sg	22 32 43.6	+1.9
	baz=90						
CHN5	**Tsauling**	**0.26**	**232**	*e*P	Pg	22 32 40.1	+0.8
	baz=232						
CHN5				S	Sb	22 32 44.7	-0.9
	baz=232						
CHN4	**Tsaushan**	**0.49**	**215**	P	Pb	22 32 44.7	-0.2
	baz=214						
HGSD	**Ruisui**	**0.55**	**118**	*e*P	Pb	22 32 45.5	-0.5
	baz=118						

TAP 10 22:32:46.2, 23°65N×121°42E, h10km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.02**	**13**	*e*P	Pg	22 32 48.6	+0.6
	baz=13						
EGFH				S	Sg	22 32 50.0	+0.7
	baz=13						
HGSD	**Ruisui**	**0.15**	**179**	*e*P	Pg	22 32 50.3	+0.6
	baz=179						
HGSD				*e*S	Sg	22 32 53.4	+1.4
	baz=179						
HGSD	**Ruisui**	**0.15**	**179**	*e*S	Sg	22 32 53.4	+1.5
	baz=118						
ESL	**Shilin**	**0.17**	**3**	P	Pg	22 32 50.7	+0.9
	baz=6.0						
ESL				*e*S	Sg	22 32 53.5	+1.2
	baz=6.0						
EHY	**Hungye**	**0.17**	**213**	*e*P	Pg	22 32 50.8	+0.9
	baz=210						
VWDT	**VWDT**	**0.28**	**292**	P	Pb	22 32 52.9	-0.5
	baz=292						
VWDT				S	Sb	22 32 57.6	-0.6
	baz=292						
SSLB	**Suanglung**	**0.45**	**288**	*e*P	Pb	22 32 55.9	-0.5
	baz=288						

IDC 10 23:07:44.6±13.0, 15°23S×165°93E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/27, mbtmp4.0/4, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/25, Error ellipse: s-maj=233.5km s-min=36.4km az=57.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.82**	**176**	Pn	Pn	23 09 26.4	+0.3
	1.4nm,0.3s,baz=340,slow=18,SNR=25						
DZM				Sn	Sn	23 10 44.5	-0.1
	2.2nm,0.3s,baz=123,slow=22,SNR=10.0						
STKA	**Stephens Creek**	**27.68**	**229**	P	P	23 13 34.5	-0.1
	1.3nm,0.4s,baz=48,slow=9.9,SNR=6.8						
WRA	**Warramunga Arr**	**30.45**	**257**	P	P	23 13 59.2	-0.1
	0.9nm,0.7s,baz=84,slow=8.8,SNR=7.0						
ASAR	**Alice Springs**	**31.28**	**249**	P	P	23 14 06.8	+0.1
	1.6nm,0.6s,baz=82,slow=9.0,SNR=19						
JCJ	**Chichijima**	**47.98**	**331**	LR	LR	23 35 01.9	
	comp=Z,63nm,19.4s,baz=152,slow=34						

*ISCJB **10** 23:15:38.8±0.2, 6°57S±0°04×71°51E±0°04, h10km, mb4.4/31, MS4.1/5, Error ellipse: s-maj=6.8km s-min=4.2km az=36.6*
*IDC **10** 23:15:39.5±0.6, 6°65S×71°45E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.1/46, mbtmp4.2/17, MS3.7/4, Ms1 3.8/4, ms1mx3.2/35, Error ellipse: s-maj=19.2km s-min=15.1km az=175.0*
*NEIC **10** 23:15:40.7±2.3, 6°63S±0°07×71°53E±0°06, h10km±1km, mb4.8/53*
*BJI **10** 23:15:42.1±0.0, 6°62S×71°85E, h21km, mb4.8/12, mB5.2/10, Ms5.0/5, Ms7 4.7/2*
ISC 10 23:15:40.3±0.3, 6°58S±0°05×71°49E±0°05, h10km, n141, σ1°74/144, mb4.7/51, MS4.1/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N1	**Diego Carcia H**	**0.53**	**297**	Pg	**Pg**	**23 15 48.9**	**-1.7**
	baz=140,slow=15						
H08N3	**Diego Carcia H**	**0.55**	**295**	Pg	**Pg**	**23 15 49.2**	**-1.8**
	baz=140,slow=15						
H08N2	**Diego Carcia H**	**0.55**	**298**	Pg	**Pg**	**23 15 49.3**	**-1.7**
	baz=140,slow=15						
DGAR	**Diego Garcia**	**1.26**	**131**		**Pg**	**23 16 04.1**	**-0.4**
DGAR				Sn	**Sn**	**23 16 19.9**	**-1.1**
H08S3	**Diego Garcia H**	**1.43**	**137**	Pn	**Pb**	**23 16 05.7**	**-1.2**
	baz=96,slow=23						
H08S1	**Diego Garcia H**	**1.44**	**137**	Pn	**Pb**	**23 16 05.9**	**-1.1**
	baz=96,slow=23						
H08S2	**Diego Garcia H**	**1.45**	**137**	Pn	**Pb**	**23 16 06.1**	**-1.1**
	baz=96,slow=23						
KAAM	**Kaadhehdhoo**	**7.19**	**12**	Pn	**Pn**	**23 17 26.2**	**+0.7**
MNCI	**Minicoy**	**14.85**	**6**	Pn	**Pn**	**23 19 12.2**	**+1.7**
MSEY	**Mahe Island**	**16.05**	**276**	Pn	**P**	**23 19 27.7**	**-2.1**
PALK	**Pallekele**	**16.55**	**34**	Pn	**P**	**23 19 36.7**	**+1.4**
	1.2nm,0.3s,baz=298,slow=4.9,SNR=8.3						
PALK				Sn	**Sn**	**23 22 30.3**	**-6.4**
	1.1nm,0.3s,baz=116,slow=21,SNR=6.0						
PALK				LR	LR	23 24 43.7	
	comp=Z,294nm,20.2s,baz=91,slow=33						
PBA	**Port Blair**	**27.84**	**49**	P	P	23 21 30.0	-0.2
BKNI	**Bangkinang**	**30.27**	**78**	P	**P**	**23 21 49.9**	**-2.0**
MNAI	**Manna**	**31.39**	**88**	P	**P**	**23 22 01.3**	**-0.5**
KULM	**Kulim**	**31.40**	**69**	P	**P**	**23 22 02.1**	**+0.2**
KULM				IAmb	IAmb	23 22 04.9	
	comp=Z,9.0nm,1.0s						
KMBO	**Kilima Mbogo**	**34.58**	**278**	P	**P**	**23 22 31.3**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=80,slow=11,SNR=6.2						
KMBO	**Kilima Mbogo**	**34.58**	**278**	P	**P**	**23 22 30.7**	**+0.8**
UOSS	**Minazif**	**34.70**	**335**	P	**P**	**23 22 31.2**	**+0.7**
UOSS				IAmb	IAmb	23 22 49.0	
	comp=Z,13nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.77**	**47**	P	**P**	**23 22 51.2**	**+2.8**
	comp=Z,0.8nm,0.3s,baz=238,slow=9.5,SNR=8.1						
CMAR				PcP	**PcP**	**23 25 12.3**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=231,slow=4.6,SNR=8.5						
CMAR				LR	LR	23 36 58.8	
	comp=Z,91nm,19.0s,baz=192,slow=35						
UGM	**Wanagama**	**38.73**	**94**	P	**P**	**23 23 02.6**	**-2.6**
RAYN	**Ar Rayn**	**39.24**	**321**	P	**P**	**23 23 09.0**	**-0.3**
HRA	**Herat**	**41.68**	**348**	P	**P**	**23 23 29.6**	**+0.2**
LSZ	**Lusaka**	**43.32**	**255**	P	**P**	**23 23 43.8**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=84,slow=8.1,SNR=8.5						
LSZ				PcP	**PcP**	**23 25 32.9**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=109,slow=1.9,SNR=4.2						
LSZ	**Lusaka**	**43.32**	**255**	P	**P**	**23 23 43.0**	**-0.1**
GIRL	**Giralia**	**44.14**	**116**	P	**P**	**23 23 48.8**	**-0.6**
QIZ	**Qiongzhong**	**45.56**	**55**	P	**P**	**23 24 00.1**	**-0.7**
GEYT	**Alibeck**	**46.01**	**345**	LR	LR	23 42 40.1	
	comp=Z,83nm,18.2s,baz=155,slow=35						
KSH	**Kashi**	**46.06**	**5**	P	**P**	**23 24 03.7**	**-0.8**
KSH				PcP	**PcP**	**23 25 39.9**	**-1.0**
KSH				S	**S**	**23 30 43.9**	**-6.2**
KSH				ScS	**ScS**	**23 33 51.0**	**-10**
KSH				pmax	pmax		
	comp=Z,230nm,6.4s						
KSH				LR	LR		
	comp=Z,310nm,8.6s						
KSH				LR	LR		
	comp=Z,220nm,11.1s						
BTK	**Batken**	**46.41**	**359**	P	**P**	**23 24 09.0**	**+1.8**
BTK				IAmb	IAmb	23 24 16.1	
	comp=Z,10nm,0.9s						
LBTB	**Lobatse**	**47.53**	**242**	P	**P**	**23 24 16.6**	**+0.3**
LBTB				IAmb	IAmb	23 24 17.8	
	comp=Z,13nm,1.1s						
ARSB	**Arslanbob**	**47.69**	**2**	P	**P**	**23 24 18.5**	**+1.2**
NRN	**Naryn**	**47.96**	**5**	P	**P**	**23 24 20.3**	**+0.7**
NRN				IAmb	IAmb	23 24 28.7	
	comp=Z,7.5nm,1.2s						
H01W3	**Cape Leeuwin H**	**48.27**	**132**	T	T	00 15 30.9	
	baz=295,slow=75,SNR=45						
H01W2	**Cape Leeuwin H**	**48.27**	**132**	T	T	00 15 31.3	
	baz=295,slow=75,SNR=65						
H01W1	**Cape Leeuwin H**	**48.28**	**132**	T	T	00 15 32.2	
	baz=295,slow=75,SNR=66						
CD2	**Chengdu**	**48.41**	**38**	P	**P**	**23 24 23.5**	**+0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
KDJ	**Kajisay**	**48.76**	**6**	P	**P**	**23 24 26.0**	**+0.4**
KDJ				IAmb	IAmb	23 24 29.0	
	comp=Z,6.3nm,0.8s						
BOSA	**Boshof**	**48.82**	**238**	P	**P**	**23 24 26.1**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=62,slow=10,SNR=5.8						
BOSA	**Boshof**	**48.82**	**238**	IAmb	IAmb	23 24 40.2	
	comp=Z,11nm,1.5s						
KKAR	**Karatay Array**	**49.46**	**359**	P	**P**	**23 24 31.9**	**+1.2**
LZH	**Lanzhou**	**52.19**	**33**	*e*P	**P**	**23 24 50.6**	**-1.0**
LZH				pP	sP	23 24 58.2	+2.2
LZH				sP	pP	23 25 02.6	+7.8
LZH				PP	**PP**	**23 26 55.6**	**+5.4**
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
WMQ	**Urumqi**	**52.27**	**15**	*e*P	**P**	**23 24 53.9**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.7s						
WMQ				LR	LR		
	comp=Z,380nm,28.9s						
WMQ				LR	LR		
	comp=Z,2μm,28.9s						
GTA	**Gaotai**	**52.73**	**28**	*e*P	**P**	**23 24 57.2**	**+1.6**
GTA				pP	sP	23 25 03.6	+3.6
GTA				sP	pP	23 25 06.8	+8.1
GTA				pmax	pmax		
	comp=Z,120nm,6.8s						
GTA				LR	LR		
	comp=Z,170nm,14.6s						
GTA				LR	LR		
	comp=Z,210nm,16.8s						
MAKZ	**Makanchi**	**53.97**	**9**	P	**P**	**23 25 04.4**	**0.0**
MAKZ				IAmb	IAmb	23 25 12.4	
	comp=Z,8.6nm,1.1s						
MK31	**Makanchi Array**	**54.00**	**9**	P	**P**	**23 25 04.6**	**0.0**
MKAR	**Makanchi Array**	**54.00**	**9**	P	**P**	**23 25 05.3**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=196,slow=6.5,SNR=23						
MKAR				PcP	**PcP**	**23 26 10.7**	**+0.9**
	comp=Z,1.8nm,0.

ASAR	**Alice Springs**	**62.14**	**113**	P	**P**	**23 26 01.7**	**-0.5**
WRA	**Warramunga Arr**	**62.28**	**109**	P	**P**	**23 26 03.9**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=282,slow=6.7,SNR=25						
WRA	**Warramunga Arr**	**62.28**	**109**	P	**P**	**23 26 03.5**	**+0.3**
WB2	**Warramunga Arr**	**62.29**	**109**	P	**P**	**23 26 02.5**	**-0.7**
WB2				IAmb	IAmb	23 26 04.5	
	comp=Z,5.3nm,0.8s						
SONM	**Songino Array**	**62.30**	**26**	P	**P**	**23 26 05.0**	**+2.1**
	comp=Z,3.7nm,0.8s,baz=215,slow=7.0,SNR=17						
ARU	**Arti**	**63.69**	**352**	P	**P**	**23 26 12.3**	**+0.6**
ARU				IAmb	IAmb	23 26 19.9	
	comp=Z,7.6nm,1.0s						
AGG	**Agios Georgios**	**64.24**	**319**	P	**P**	**23 26 15.8**	**+0.1**
AGG				IAmb	IAmb	23 26 26.8	
	comp=Z,14nm,1.5s						
TLY	**Talaya**	**64.24**	**22**	P	**P**	**23 26 14.2**	**-1.4**
TLY				IAmb	IAmb	23 26 18.6	
	comp=Z,12nm,1.3s						
LIT	**Litokhoron**	**64.73**	**320**	P	**P**	**23 26 19.2**	**+0.2**
BBOO	**Buckleboo**	**65.12**	**123**	P	**P**	**23 26 20.6**	**-1.0**
CASY	**Casey**	**65.40**	**164**	P	**P**	**23 26 22.1**	**-0.7**
VTS	**Vitosha**	**65.71**	**323**	P	**P**	**23 26 26.0**	**+0.6**
MLR	**Muntele Rosu**	**65.89**	**327**	P	**P**	**23 26 26.8**	**+0.3**
MLR				IAmb	IAmb	23 26 37.8	
	comp=Z,8.4nm,1.3s						
AKASG	**Malin Array Be**	**67.69**	**332**	P	**P**	**23 26 38.0**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=133,slow=5.4,SNR=6.5						
AKASG	**Malin Array Be**	**67.69**	**332**	P	**P**	**23 26 37.8**	**+0.2**
AKBB	**Malin Array Si**	**67.69**	**332**	P	**P**	**23 26 38.4**	**+0.7**
AKBB				IAmb	IAmb	23 26 38.7	
	comp=Z,11nm,1.4s						
WDD	**Wied Dalam**	**68.06**	**313**	P	**P**	**23 26 39.4**	**-0.9**
KSRS	**Korea Array**	**68.39**	**45**	LR	LR	23 56 17.6	
	comp=Z,70nm,20.9s,baz=250,slow=36						
KOLS	**Kolonicke sedl**	**69.98**	**328**	*e*P	**P**	**23 26 56.0**	**+3.9**
COEN	**Coen**	**70.70**	**102**	P	**P**	**23 26 56.1**	**-1.1**
COEN				IAmb	IAmb	23 27 15.1	
	comp=Z,9.1nm,1.2s						
VYHS	**Vyhne**	**71.59**	**326**	*e*P	**P**	**23 27 02.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.03**	**286**	P	**P**	**23 27 04.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=114,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**72.03**	**286**	IAmb	IAmb	23 27 06.7	
	comp=Z,1.0nm,1.1s						
ARSA	**Arzberg**	**72.82**	**324**	*e*P	**P**	**23 27 09.0**	**-0.3**
	comp=Z,6.9nm,1.2s						
MOA	**Molln**	**73.86**	**324**	P	**P**	**23 27 16.1**	**+0.8**
	comp=Z,5.5nm,1.1s						
ABTA	**Abfaltersbach**	**74.37**	**322**	*e*P	**P**	**23 27 19.7**	**+1.2**
	comp=Z,4.8nm,0.8s						
WTTA	**Wattenberg**	**75.14**	**322**	*e*P	**P**	**23 27 23.8**	**+0.8**
	comp=Z,7.9nm,0.7s						
WATA	**Walderalm**	**75.21**	**323**	*e*P	**P**	**23 27 24.8**	**+1.3**
	comp=Z,10nm,1.5s						
SQTA	**Sankt Quirin**	**75.38**	**322**	*e*P	**P**	**23 27 25.2**	**+0.9**
	comp=Z,12nm,0.8s,SNR=5.4						
MOTA	**Moosalm**	**75.50**	**322**	*e*P	**P**	**23 27 25.8**	**+0.7**
	comp=Z,6.6nm,0.7s,SNR=6.5						
RETA	**Reutte**	**75.78**	**322**	*e*P	**P**	**23 27 27.2**	**+0.6**
	comp=Z,5.5nm,0.8s						
DAVA	**Damuels**	**76.22**	**322**	*e*P	**P**	**23 27 30.5**	**+1.3**
	comp=Z,5.3nm,0.6s,SNR=5.9						
CLL	**Collm**	**76.28**	**327**	*e*P	**P**	**23 27 30.0**	**+0.8**
	comp=Z,10.0nm,1.2s						
CLL				*e*		23 27 38.0	
CLL				*e*PPS	PPS	23 38 02.0	
KLR	**Kul'dur**	**76.29**	**36**	P	**P**	**23 27 29.6**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=263,slow=6.6,SNR=4.6						
FINES	**FINESS Array B**	**76.40**	**339**	P	**P**	**23 27 29.3**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=108,slow=4.4,SNR=4.9						
FINES	**FINESS Array B**	**76.40**	**339**	P	**P**	**23 27 29.7**	**0.0**
DBIC	**Dimbokro**	**77.31**	**278**	P	**P**	**23 27 36.1**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=69,slow=2.5,SNR=3.8						
DBIC	**Dimbokro**	**77.31**	**278**	P	**P**	**23 27 35.5**	**-0.3**
DBIC				IAmb	IAmb	23 27 38.2	
	comp=Z,15nm,1.2s						
BNI	**Bardonecchia**	**77.33**	**319**	P	**P**	**23 27 35.9**	**+0.4**
BNI				IAmb	IAmb	23 27 38.7	
	comp=Z,15nm,1.3s						
SSB	**Saint Sauveur**	**78.82**	**319**	P	**P**	**23 27 43.7**	**+0.1**
SNAA	**Sanae**	**78.88**	**198**	P	**P**	**23 27 44.2**	**+0.7**
BCLA	**Clavier**	**80.27**	**324**	P	**P**	**23 27 51.1**	**-0.2**
KEV	**Kevo**	**81.96**	**346**	P	**P**	**23 28 01.2**	**+1.3**
NC303	**NORSAR Array S**	**81.97**	**335**	P	**P**	**23 28 00.5**	**+0.3**
ESDC	**Sonseca Array**	**83.10**	**311**	P	**P**	**23 28 08.0**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=89,slow=4.6,SNR=15						
ESDC	**Sonseca Array**	**83.10**	**311**	P	**P**	**23 28 07.7**	**+1.0**
PAB	**San Pablo**	**83.36**	**311**	P	**P**	**23 28 08.3**	**+0.3**
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**23 28 08.9**	**+1.0**
PDAR	**Pinedale Array**	**143.95**	**1**	PKP	**PKPdf**	**23 35 16.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=117,slow=1.0,SNR=2.1						
ORV	**Oroville**	**145.15**	**18**		**PKPdf**	**23 35 18.5**	**-0.1**
BMN	**Battle Mountai**	**145.41**	**12**		**PKiKP**	**23 35 20.8**	**-2.4**
BMN					sPKPab	23 35 28.2	+4.4
ELK	**Elko**	**145.46**	**9**	PKPbc	**PKiKP**	**23 35 21.1**	**-2.3**
	comp=Z,4.3nm,0.9s,baz=338,slow=2.9,SNR=14						
ELK	**Elko**	**145.46**	**9**		**PKiKP**	**23 35 20.9**	**-2.5**
ELK					sPKPab	23 35 27.6	+3.5
BGU	**Big Grassy Mou**	**145.57**	**6**	pPKPdf	**PKiKP**	**23 35 28.5**	**+5.0**
PAHR	**Pah Rah Range**	**145.60**	**15**		**PKiKP**	**23 35 21.4**	**-2.2**
PAHR				pPKPdf	sPKPab	23 35 28.2	+3.7
AFDM	**Forest Hills D**	**145.87**	**17**		**PKPab**	**23 35 21.2**	**+0.4**
AFDM					**pPKPdf**	**23 35 21.6**	**-1.7**
AFDM				pPKPdf	sPKPab	23 35 29.3	+3.9
VCNR	**Virginia City**	**145.92**	**16**		**PKiKP**	**23 35 22.3**	**-2.0**
VCNR				pPKPdf	sPKPab	23 35 29.9	+4.2
ROSC	**El Rosal**	**145.94**	**269**	PKPbc	**PKiKP**	**23 35 23.1**	**-2.3**
	comp=Z,16nm,0.7s,baz=64,slow=23,SNR=6.3						
ROSC	**El Rosal**	**145.94**	**269**		**PKiKP**	**23 35 23.3**	**-2.0**
RUBR	**Rubicon Trail**	**146.01**	**16**		**PKPab**	**23 35 21.6**	**0.0**
PNTR	**Pine Nut**	**146.12**	**16**	PKPdf	**PKPab**	**23 35 22.8**	**+0.7**
PNTR				pPKPdf	sPKPab	23 35 30.3	+3.7
DUG	**Dugway, Tooele**	**146.31**	**6**	PKPdf	**PKPab**	**23 35 23.1**	**+0.5**
DUG				pPKPdf	sPKPab	23 35 30.3	+3.2
NLU	**North Lily Min**	**146.62**	**5**		**PKiKP**	**23 35 24.8**	**-1.0**
WAKR	**Walker**	**146.72**	**16**		**PKiKP**	**23 35 25.1**	**-0.9**
RYN	**Ryan**	**146.84**	**14**		**PKiKP**	**23 35 25.4**	**-0.7**
CMB	**Columbia Colle**	**146.89**	**17**		**PKiKP**	**23 35 24.9**	**-1.2**
NVAR	**Mina Array Bea**	**147.08**	**14**	PKPbc	**PKPab**	**23 35 25.3**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=275,slow=2.3,SNR=23						
NVAR	**Mina Array Bea**	**147.08**	**14**		**PKiKP**	**23 35 25.9**	**-0.9**
NVAR					**sPKPab**	**23 35 33.8**	**+3.5**
NV11	**Mina Array Sit**	**147.11**	**14**		**PKiKP**	**23 35 25.7**	**-1.1**
NV11					**sPKPab**	**23 35 33.6**	**+3.3**
P17A	**Butcher Ranch,**	**147.19**	**3**		**PKPbc**	**23 35 24.3**	**-0.2**
SMCO	**Snowmass**	**147.52**	**358**		**PKPab**	**23 35 27.1**	**-0.5**
R11A	**Troy Canyon, C**	**147.73**	**10**		**PKiKP**	**23 35 27.3**	**-0.8**
PV22	**Blue Mesa, Par**	**148.19**	**0**		**PKiKP**	**23 35 28.7**	**-0.4**
PV18	**Skein Mesa, Pa**	**148.48**	**1**		**PKiKP**	**23 35 29.4**	**-0.3**
PKCU	**Pink Cliffs**	**149.09**	**6**		**PKiKP**	**23 35 31.3**	**+0.2**
OTAV	**Otavalo**	**149.36**	**259**		**PKiKP**	**23 35 33.1**	**+0.6**
U15A	**North Rim**	**150.09**	**6**		**PKiKP**	**23 35 34.0**	**+0.8**
W13A	**Hualapai Mount**	**151.19**	**9**		**PKiKP**	**23 35 36.9**	**+1.5**

NIED ***10*** *23:24:00,36°.90N×139°.50E,h11km,Mw4.2 Best double couple: M₀2.01000×10¹⁵ NP1:φ₅71.00000°,δ81.00000°, λ175.00000°. NP2:φ₅162.00000°,δ85.00000°,λ9.00000°.*
ISCJB ***10*** *23:24:39.5±0.5,36°.85N±0°.03×139°.46E±0°.04,h10km±4km, mb3.7/7,MS3.4/5,Error ellipse: s-maj=5.4km s-min=4.2km az=32.9*
JMA ***10*** *23:24:39.8,36°.86N×139°.46E,h5km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φ₅75.00000°,δ83.00000°,λ156.00000°. NP2: φ₅168.00000°,δ66.00000°,λ8.00000°. Principal axes: T Plg22.0000°, Azm29.0000°; N Plg65.0000°, Azm239.0000°; P Plg11.0000°, Azm124.0000°;*
JMA Felt III J1.
IDC ***10*** *23:24:39.6±1.0,36°.88N×139°.44E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.7/46,mbtmp3.8/7,MS3.4/8,Ms1 3.4/8, ms1mx3.0/39 Error ellipse: s-maj=20.3km s-min=11.8km az=150.0*

ISC 10 23:24:40.3±1.1,36°.87N±0°.03×139°.44E±0°.03,h4km±8km, n25,σ1§00/27,mb3.7/7,MS3.4/5,6C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.18**	**238**	⇑P	**Pg**	**23 24 43.9**	**0.0**
JKT				S	**Sg**	**23 24 46.7**	**+0.4**
JSB	**Shiboa**	**0.40**	**75**	⇑P	**Pg**	**23 24 47.9**	**-0.1**
JSB				S	**Sg**	**23 24 53.4**	**+0.2**
JAG	**Ashikaga**	**0.44**	**179**	⇑P	**Pg**	**23 24 48.4**	**-0.4**
JAG				S	**Sg**	**23 24 54.2**	**-0.3**
JHK	**Hiroka**	**0.51**	**319**	⇓P	**Pg**	**23 24 49.9**	**-0.3**
JHK				S	**Sg**	**23 24 57.0**	**+0.2**
JFY	**Yanaizu**	**0.58**	**21**	⇑P	**Pg**	**23 24 51.0**	**-0.5**
JFY				S	**Sg**	**23 24 58.5**	**-0.6**
JIZZ	**Izumozaki**	**0.89**	**319**	P	**Pb**	**23 24 58.1**	**-0.1**
JIZZ				S	**Sn**	**23 25 11.6**	**-1.2**
JRY	**Ryogami san**	**0.95**	**207**	⇑P	**Pg**	**23 24 57.8**	**-0.8**
JNS	**Sasagawa**	**0.96**	**354**	P	**Pg**	**23 24 57.9**	**-0.8**
JNS				S	**Sg**	**23 25 10.7**	**-0.4**
JFT	**Otama**	**0.97**	**47**	⇑P	**Pg**	**23 24 58.0**	**-0.9**
MJAR	**Matsushiro Arr**	**1.04**	**252**	Pg	**Pg**	**23 24 59.5**	**-0.8**
	32nm,0.3s,baz=73,slow=17,SNR=280						
MJAR				Lg	Lg	23 25 13.7	
	16nm,0.3s,baz=56,slow=30,SNR=20						
MAT	**Matsushiro**	**1.04**	**252**	P	**Pg**	**23 25 00.0**	**-0.3**
MAT				S	**Sg**	**23 25 12.8**	**-1.0**
KSRS	**Korea Array**	**9.21**	**277**	LR	LR	23 30 15.2	
	comp=Z,151nm,20.2s,baz=65,slow=36						
USRK	**Ussuriysk Ar.**	**9.26**	**325**	Pn	**Pn**	**23 26 58.0**	**+3.4**
	baz=138,slow=13,SNR=2.9						
USRK				LR	LR	23 29 49.9	
	comp=Z,170nm,21.1s,baz=70,slow=34						
KLR	**Kul'dur**	**13.57**	**338**	LR	LR	23 32 10.8	
	comp=Z,117nm,18.0s,baz=328,slow=33						
GUMO	**Guam**	**23.68**	**167**	LR	LR	23 38 36.7	
	comp=Z,90nm,21.4s,baz=328,slow=35						
MA2	**Magadan**	**23.88**	**14**	LR	LR	23 40 50.7	
	comp=Z,123nm,19.7s,baz=101,slow=41						
SONM	**Songino Array**	**26.58**	**305**	P	**P**	**23 30 18.1**	**-1.4**
	0.5nm,0.9s,baz=103,slow=10,SNR=2.5						
SONM				LR	LR	23 41 17.0	
	comp=Z,79nm,18.0s,baz=116,slow=38						
SEY	**Seymchan**	**27.29**	**13**	P	**P**	**23 30 26.8**	**+1.3**
	2.4nm,0.5s,baz=202,slow=19,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.86**	**313**	P	**P**	**23 32 23.2**	**+0.1**
	1.0nm,0.7s,baz=82,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**42.87**	**302**	P	**P**	**23 32 38.8**	**-0.9**
	0.5nm,0.8s,baz=106,slow=8.1,SNR=2.2						
ILAR	**Eielson Array**	**50.48**	**32**	P	**P**	**23 33 38.4**	**-0.6**
	0.6nm,0.9s,baz=281,slow=7.2,SNR=5.3						
WRA	**Warramunga Arr**	**56.70**	**186**	P	**P**	**23 34 24.6**	**-0.4**
	2.6nm,0.9s,baz=360,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**60.43**	**186**	P	**P**	**23 34 51.2**	**+0.2**
	1.3nm,0.9s,baz=22,slow=5.1,SNR=9.3						
AKASG	**Malin Array Be**	**73.45**	**322**	LR	LR	00 08 46.1	
	comp=Z,27nm,18.2s,baz=30,slow=36						
NOA	**NORSAR Array B**	**73.72**	**337**	LR	LR	00 11 18.7	
	comp=Z,36nm,18.7s,baz=340,slow=38						

ISCJB ***10*** *23:25:00.2±0.6,35°.70N±0°.04×97°.43W±0°.03,h8km±3km, Error ellipse: s-maj=6.2km s-min=3.7km az=166.7*
NEIC ***10*** *23:25:00.8±1.4,35°.72N±0°.02×97°.45W±0°.03,h5km±1km*
ANF ***10*** *23:25:01.8±1.4,35°.71N×97°.45W,h17km±10km,ML4.0/9, Error ellipse: s-maj=5.7km s-min=3.3km az=154.0*

ISC 10 23:25:00.8±1.0,35°.71N±0°.03×97°.42W±0°.03,h7km±7km, n34,σ0§89/45,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.07**	**142**		**Pg**	**23 25 02.5**	**-0.1**
ADOK				Sg	**Sg**	**23 25 03.8**	**-0.1**
OK009	**Oakdale Elemen**	**0.13**	**179**		**Pg**	**23 25 03.5**	**0.0**
OK005	**Luther M Schoo**	**0.20**	**106**		**Pg**	**23 25 05.1**	**+0.4**
OK005				Sg	**Sg**	**23 25 08.2**	**+0.8**
OKCSW	**OKLAHOMA CITY**	**0.30**	**182**		**Pg**	**23 25 06.7**	**0.0**
FNO	**Franklin**	**0.45**	**178**		**Pg**	**23 25 09.5**	**0.0**
W35A	**Tecumseh**	**0.71**	**141**		**Pg**	**23 25 14.2**	**-0.3**
W35A				Sg	**Sg**	**23 25 23.4**	**-0.4**
X34A	**Smith Ranch, M**	**1.16**	**197**		**Pb**	**23 25 22.5**	**-0.7**
X34A				Sg	**Sb**	**23 25 37.8**	**-0.6**
TUL1	**Leonard**	**1.34**	**81**	P	**Pn**	**23 25 24.6**	**-1.3**
	baz=262						
TUL1				S	**Sb**	**23 25 43.7**	**0.0**
	baz=262						
TUL1	**Leonard**	**1.34**	**81**	Pn	**Pn**	**23 25 24.7**	**-1.3**
TUL1				Sn	**Sn**	**23 25 44.6**	**+0.5**
U32A	**Winter Ranch,**	**1.44**	**298**		**Pn**	**23 25 26.8**	**-0.7**
U32A				Sn	**Sb**	**23 25 46.0**	**-0.7**
WMOK	**Wichita Mounta**	**1.47**	**229**	P	**Pn**	**23 25 27.1**	**-0.8**
	baz=48						
WMOK				S	**Sn**	**23 25 46.5**	**-0.8**
	baz=48						
WMOK	**Wichita Mounta**	**1.47**	**229**		**Pn**	**23 25 26.9**	**-0.9**
WMOK				Sn	**Sn**	**23 25 46.6**	**-0.8**
HHAR	**Hobbs**	**2.88**	**78**		**Pn**	**23 25 47.2**	**0.0**
W39A	**Magazine**	**3.02**	**99**	P	**Pn**	**23 25 49.1**	**+0.1**
	baz=281						
W39A				S	**Sn**	**23 26 25.8**	**+0.4**
	baz=281						
W39A	**Magazine**	**3.02**	**99**		**Pn**	**23 25 48.6**	**-0.4**
MIAR	**Mount Ida**	**3.36**	**109**	P	**Pn**	**23 25 54.2**	**+0.4**
	baz=291						
MIAR				S	**Sn**	**23 26 35.5**	**+1.6**
	baz=291						
MIAR	**Mount Ida**	**3.36**	**109**		**Pn**	**23 25 54.5**	**+0.7**
KSU1	**Kansas State U**	**3.45**	**11**	P	**Pn**	**23 25 55.1**	**+0.1**
	baz=191						
AMTX	**Amarillo**	**3.58**	**258**		**Pn**	**23 25 57.8**	**+0.9**
ABTX	**Abilene, Hawle**	**3.58**	**211**	P	**Pn**	**23 25 56.8**	**-0.1**
	baz=30						
ABTX	**Abilene, Hawle**	**3.58**	**211**		**Pn**	**23 26 00.4**	**+3.5**
CBKS	**Cedar Bluff**	**3.61**	**330**	P	**Pn**	**23 25 57.6**	**+0.3**
	baz=149						
CBKS	**Cedar Bluff**	**3.61**	**330**		**Pb**	**23 26 05.0**	**+0.1**
WHTX	**Lake Whitney,**	**3.71**	**180**	P	**Pn**	**23 25 58.8**	**+0.3**
	baz=0.1						
WHTX	**Lake Whitney,**	**3.71**	**180**		**Pn**	**23 25 59.1**	**+0.6**
U40A	**Yellville**	**3.76**	**79**		**Pn**	**23 25 58.8**	**-0.5**
WLAR	**White Oak Lake**	**4.08**	**118**		**Pb**	**23 26 12.4**	**-0.6**
W41B	**Gary Mavity, V**	**4.26**	**96**	P	**Pn**	**23 26 06.0**	**-0.1**
	baz=279						
MGMO	**Mountain Grove**	**4.40**	**69**		**Pn**	**23 26 10.2**	**+2.1**
Z41A	**Richland Creek**	**4.53**	**121**		**Pg**	**23 26 27.4**	**-0.3**
MSTX	**Muleshoe**	**4.73**	**250**		**Pb**	**23 26 24.7**	**+0.6**
435B	**Jarrell**	**4.92**	**182**		**Pb**	**23 26 27.6**	**+0.4**
OXF	**Oxford**	**6.68**	**98**	P	**Pn**	**23 26 39.2**	**-0.1**
	baz=283						
SDCO	**Great Sand Dun**	**6.80**	**290**	P	**Pn**	**23 26 42.0**	**+0.7**
	baz=105						

ATH ***10*** *23:54:21.3,40°.61N×20°.05E,h10km±3km,ML2.0/3,Error ellipse: s-maj=3.7km s-min=1.0km az=275.0*
ISCJB ***10*** *23:54:22.4±0.6,40°.61N±0°.02×20°.08E±0°.05,h11km±5km, Error ellipse: s-maj=5.9km s-min=3.7km az=0.9*
THE ***10*** *23:54:22.1,40°.62N×20°.06E,h16km±2km,ML2.1/3,Error ellipse: s-maj=2.5km s-min=0.9km az=246.0*
TIR ***10*** *23:54:22.6,40°.58N×20°.04E,h2km,Md2.5/3*

ISC 10 23:54:22.3±1.1,40°.58N±0°.02×20°.05E±0°.03,h8km±10km, n27,σ1§21/41,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.29**	**187**	P	**Pg**	**23 54 28.6**	**+0.6**
TPE				S	**Sb**	**23 54 33.8**	**-0.9**
	510nm,0.2s						
TPE	**Tepelena**	**0.29**	**187**	*i* PG	**Pg**	**23 54 28.3**	**+0.3**
TPE				*i* SG	**Sb**	**23 54 34.6**	**-0.2**
VLO	**Vlora**	**0.44**	**255**	P	**Pg**	**23 54 30.6**	**-0.2**
VLO				S	**Sb**	**23 54 38.2**	**-0.9**
	792nm,0.2s						
VLO	**Vlora**	**0.44**	**255**	*i* PG	**Pg**	**23 54 31.2**	**+0.4**
VLO				*i* SG	**Sb**	**23 54 39.4**	**+0.3**
SRN	**Sarande**	**0.70**	**183**	P	**Pg**	**23 54 35.6**	**-0.2**
SRN				S	**Sb**	**23 54 47.9**	**+1.3**
	90nm,0.5s						
SRN	**Sarande**	**0.70**	**183**	*i* PG	**Pg**	**23 54 36.2**	**+0.4**
SRN				*i* SG	**Sn**	**23 54 49.0**	**-0.6**
NEST	**Nestorio**	**0.78**	**102**	P	**Pg**	**23 54 37.2**	**0.0**
NEST	**Nestorio**	**0.78**	**102**	P	**Pg**	**23 54 35.8**	**-1.4**
TIR	**Tirane**	**0.78**	**349**	P	**Pg**	**23 54 35.6**	**-1.7**
TIR				S	**Sb**	**23 54 47.9**	**-0.9**
TIR	**Tirane**	**0.78**	**349**	*i* PG	**Pg**	**23 54 36.0**	**-1.3**
TIR				*i* SG	**Sb**	**23 54 49.6**	**+0.7**
TIR	**Tirane**	**0.78**	**349**	P	**Pg**	**23 54 35.8**	**-1.5**
TIR				S	**Sg**	**23 54 46.1**	**-1.2**
TIR				AML	AML	23 54 56.2	
	comp=E,331μm,0.4s						
TIR				AML	AML	23 54 56.4	
	comp=N,309μm,0.5s						
KASA	**Kassiopi**	**0.84**	**186**	P	**Pg**	**23 54 37.8**	**-0.7**
KEK	**Kerkira**	**0.89**	**193**	P	**Pg**	**23 54 38.9**	**-0.5**
KEK	**Kerkira**	**0.89**	**193**	P	**Pg**	**23 54 38.6**	**-0.8**
KEK				S	**Sg**	**23 54 51.0**	**0.0**
KEK				AML	AML	23 54 58.9	
	comp=N,246μm,0.3s						
KEK				AML	AML	23 55 00.5	
	comp=E,221μm,0.3s						
PENT	**Pentalofos**	**0.91**	**115**	P	**Pg**	**23 54 40.0**	**+0.1**
PENT	**Pentalofos**	**0.91**	**115**	P	**Pg**	**23 54 39.2**	**-0.7**
FNA	**Florina**	**1.02**	**78**	P	**Pg**	**23 54 40.5**	**-1.5**
FNA	**Florina**	**1.02**	**78**	P	**Pg**	**23 54 40.3**	**-1.7**
IGT	**Igoumenitsa**	**1.07**	**168**	P	**Pg**	**23 54 43.1**	**+0.3**
IGT	**Igoumenitsa**	**1.07**	**168**	P	**Pg**	**23 54 42.3**	**-0.5**
IGT				S	**Sb**	**23 54 57.6**	**+0.3**
IGT				AML	AML	23 55 02.9	
	comp=N,124μm,0.6s						
IGT				AML	AML	23 55 07.1	
	comp=E,102μm,0.5s						
JAN	**Janina**	**1.11**	**146**	P	**Pb**	**23 54 42.5**	**-1.2**
JAN	**Janina**	**1.11**	**146**	P	**Pb**	**23 54 43.1**	**-0.7**
PHP	**Peshkopia**	**1.14**	**15**	*i* PN	**Pn**	**23 54 45.5**	**+0.9**
PHP				*i* SN	**Sn**	**23 55 03.5**	**+3.0**
SCTE	**Santa Cesarea**	**1.32**	**248**	P	**Pn**	**23 54 46.0**	**-1.0**
SCTE				S	**Sn**	**23 55 04.4**	**-0.3**
PUK	**Puka**	**1.46**	**355**	*i* PN	**Pb**	**23 54 49.7**	**-0.1**
PUK				*i* SN	**Sg**	**23 55 13.4**	**+4.0**
TSLK	**Tsoukalades, L**	**1.82**	**165**	P	**Pb**	**23 54 55.2**	**-0.6**
KNT	**Kendrikon**	**2.23**	**74**	P	**Pn**	**23 55 00.5**	**+0.9**

SJA ***11*** *00:26:01.5±1.2,22°.26S×67°.53W,h194km±10km,ML3.3, MW3.1*
ISCJB ***11*** *00:26:02.2±0.7,22°.28S±0°.03×67°.57W±0°.04,h187km±8km, Error ellipse: s-maj=6.4km s-min=5.4km az=166.0*
GUC ***11*** *00:26:03.6±0.6,22°.21S×67°.76W,h186km±5km,ML3.8*

ISC 11 00:26:01.4±1.5,22°.27S±0°.04×67°.53W±0°.05, h194km±13km,n33,σ1§10/61,9C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.32**	**255**	*e*P	**Pn**	**00 26 34.2**	**+0.7**
LVC				*i* S	**Sn**	**00 26 57.1**	**-1.0**
LVC	**Limon Verde**	**1.32**	**255**	⇑*i* P	**Pn**	**00 26 34.2**	**+0.7**
LVC				*e*S	**Sn**	**00 26 58.2**	**0.0**
LVC				IAML		00 27 00.4	
	comp=Z,56nm,0.2s						
PB09	**IPOC Station P**	**1.66**	**286**	⇑*i* P	**Pn**	**00 26 37.4**	**+1.2**
PB09				*i* S	**Sn**	**00 27 02.8**	**-0.4**
PB09	**IPOC Station P**	**1.66**	**286**	*i* P	**Pn**	**00 26 37.4**	**+1.2**
PB09				*e*S	**Sn**	**00 27 03.6**	**+0.4**
PB09				IAML		00 27 04.1	
	comp=Z,171nm,0.8s						
YJA	**Yavi**	**1.87**	**87**	*i* P	**Pn**	**00 26 38.7**	**0.0**
YJA				IAML		00 26 39.6	
	comp=Z,88nm,0.3s						
YJA				*i* S	**Sn**	**00 27 06.3**	**-1.2**
PB06	**IPOC Station P**	**1.93**	**257**	*e*P	**Pn**	**00 26 39.7**	**+0.7**
PB06				*e*S	**Sn**	**00 27 07.3**	**-0.9**
PB06				IAML		00 27 09.9	
	comp=E,466nm,0.1s						
PB06	**IPOC Station P**	**1.93**	**257**	*i* P	**Pn**	**00 26 39.9**	**+0.9**
PB06				*e*P		00 26 40.0	
PB06				*e*S	**Sn**	**00 27 07.5**	**-0.7**
PB06				IAML		00 27 10.7	
	comp=N,293nm,0.4s						
PB15	**IPOC Station P**	**2.02**	**242**	*e*P	**Pn**	**00 26 41.0**	**+1.1**
PB15				*i* S	**Sn**	**00 27 09.8**	**0.0**
PB15	**IPOC Station P**	**2.02**	**242**	*i* P	**Pn**	**00 26 41.0**	**+1.1**
PB15				*e*S	**Sn**	**00 27 09.8**	**0.0**
PB03	**IPOC Station P**	**2.07**	**276**	⇑*i* P	**Pn**	**00 26 41.1**	**+0.7**
PB03				*i* S	**Sn**	**00 27 09.3**	**-1.4**
PB03				IAML		00 27 10

comp=Z,119nm,25.0s
PPT2 Papeete2 38.98 2 eT T 01 50 30.8
comp=Z,3.0nm,0.4s
PPT Papeete 39.00 2 LR LR 01 20 25.6
comp=Z,93nm,21.2s,baz=157,slow=29
VAH Vaihoa 41.37 4 eT T 01 53 37.0
comp=Z,50nm,0.3s
GO09 Cerro Castillo 44.02 118 P **P 01 09 43.0 +0.1**
STKA Stephens Creek 52.01 268 P **P 01 10 46.4 +1.5**
comp=Z,1.2nm,0.6s,baz=134,slow=7.8,SNR=2.3
STKA Stephens Creek 52.01 268 P **P 01 10 43.7 -1.2**
MAW Mawson 53.62 195 LR LR 01 30 52.5
comp=Z,27nm,20.7s,baz=227,slow=33
ASAR Alice Springs 62.64 268 P **P 01 11 59.8 -0.3**
comp=Z,1.7nm,0.7s,baz=140,slow=6.5,SNR=16
H01W1 Cape Leeuwin H 64.34 245 T T 02 22 12.9
baz=141,slow=76,SNR=11
H01W2 Cape Leeuwin H 64.34 245 T T 02 22 13.7
baz=141,slow=76,SNR=12
H01W3 Cape Leeuwin H 64.36 245 T T 02 22 14.2
baz=141,slow=76,SNR=10
WRA Warramunga Arr 65.38 271 P **P 01 12 17.7 -0.4**
comp=Z,0.7nm,0.8s,baz=150,slow=5.5,SNR=5.1
CPUP Villa Florida 70.16 108 P **P 01 12 47.9 -0.3**
comp=Z,3.6nm,1.0s,baz=206,slow=9.8,SNR=4.5
CPUP Villa Florida 70.16 108 IAmb IAmb 01 12 49.3
comp=Z,6.6nm,1.2s
LPAZ La Paz 72.43 93 P **P 01 13 04.8 +2.0**
comp=Z,2.4nm,0.8s,baz=241,slow=2.0,SNR=7.3
LPAZ La Paz 72.43 93 P **P 01 13 01.8 -1.0**
LPAZ IAmb IAmb 01 13 05.8
comp=Z,4.2nm,1.0s
H10N3 ASCENSION HYDR 106.35 134 T T 03 15 26.2
baz=204,slow=75,SNR=26
H10N1 ASCENSION HYDR 106.36 134 T T 03 15 26.4
baz=204,slow=75,SNR=24
H10N2 ASCENSION HYDR 106.37 134 T T 03 15 27.7
baz=204,slow=75,SNR=27
ILAR Eielson Array 121.11 2 PKP **PKiKP 01 20 27.9 +0.9**
comp=Z,1.2nm,0.8s,baz=244,slow=1.8,SNR=13
ILAR Eielson Array 121.11 2 **PKiKP 01 20 27.2 +0.2**
TORD Torodi Ar. Bea 131.68 143 PKP **PKPdf 01 20 48.1 -0.5**
comp=Z,0.7nm,1.0s,baz=197,slow=1.5,SNR=3.5
RAYN Ar Rayn 144.90 206 PKPbc 01 21 11.9 +0.2
MKAR Makanchi Array 146.58 276 PKPbc **PKPbc 01 21 16.4 +0.1**
comp=Z,2.5nm,0.7s,baz=111,slow=5.3,SNR=15
NRN Naryn 146.61 263 **PKPbc 01 21 17.6 +0.7**
ZALV Zalesovo Beam 149.05 289 PKPbc **PKPbc 01 21 22.4 -0.2**
comp=Z,1.4nm,0.7s,baz=109,slow=2.8,SNR=7.4
ZALV Zalesovo Beam 149.05 289 **PKPbc 01 21 21.9 -0.7**
KKAR Karatay Array 150.74 260 **PKPbc 01 21 27.2 0.0**
KURK Kurchatov 150.79 279 **PKPbc 01 21 27.3 +0.3**
KURBB Kurchatov Arra 150.79 279 PKPbc **PKPbc 01 21 26.8 -0.2**
comp=Z,2.6nm,0.8s,baz=119,slow=2.0,SNR=14
ESDC Sonseca Array 152.40 114 PKPbc **PKPbc 01 21 29.7 -1.4**
comp=Z,0.5nm,0.6s,baz=273,slow=3.3,SNR=3.7
MURB Monte Urbino 162.84 134 **PKPdf 01 21 37.0 -0.1**

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*NNC **11** 01:07:36.8±2.1, 33°.41N×77°.60E, h0km, mb4.2, Error ellipse: s-maj=27.4km s-min=15.6km az=110.0*
*IDC **11** 01:07:56.3±0.9, 35°.20N×77°.05E, h0km, mb3.8/10, mb1 3.8/14, mb1mx3.7/43, mbtmp3.7/14, ML3.5/3, MS3.0/9, Ms1 3.0/9, ms1mx2.8/32, Error ellipse: s-maj=23.6km s-min=16.0km az=48.0*
*BJI **11** 01:08:00.9±0.0, 35°.51N×77°.20E, h8km, mb4.1/4, ML4.1/5, Ms3.7/2, Ms7 3.5/2*
ISC 11 01:07:59.2±0.7, 35°.26N±0°.06×77°.18E±0°.08, h10km, n44, σ1°97/41, mb3.8/9, MS2.8/8, 9C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.61**	**245**	P	**Pn**	**01 08 58.5**	**+3.3**
KSH	**Kashi**	**4.36**	**348**	Pg	**Pn**	**01 09 07.9**	**+2.3**
KSH				Sg	**Sn**	**01 09 56.9**	**+0.4**
KSH				smax	smax		
comp=N,290nm,0.8s							
KSH				smax	smax		
comp=E,230nm,0.8s							
AAK	**Ala-Archa**	**7.66**	**345**	⇓P	Pn	01 09 55.3	+4.3
11nm,0.8s							
AAK				⇑S	**Sb**	**01 11 46.4**	**+2.9**
18nm,1.1s							
AAK	**Ala-Archa**	**7.66**	**345**	Pn	**Pn**	**01 09 54.1**	**+3.1**
0.3nm,0.3s,baz=150,slow=11,SNR=3.9							
AAK				Sn	**Sn**	**01 11 21.1**	**+3.2**
0.2nm,0.3s,baz=34,slow=22,SNR=3.1							
AAK				Lg	Lg	01 11 53.5	
0.7nm,0.3s,baz=42,slow=23,SNR=5.6							
TKM2	**Tokmak 2**	**7.75**	**351**	⇑P	**Pn**	**01 09 55.0**	**+2.8**
8.2nm,1.1s							
TKM2				⇑S	**Sb**	**01 11 46.8**	**+0.6**
40nm,1.2s							
MDOK	**Medeo**	**7.89**	**359**	P	Pn	01 09 58.6	+4.4
15nm,1.1s							
MDOK				⇑S	**Sb**	**01 11 49.0**	**-1.3**
133nm,1.4s							
PDGK	**Podgornoye**	**8.26**	**12**	⇑P	**Pn**	**01 10 01.0**	**+1.8**
13nm,0.8s							
PDGK				⇑S	Sb	01 11 58.6	-2.1
16nm,0.8s							
DANN	**Dangsing**	**8.87**	**139**	*eP*	**Pn**	**01 10 08.7**	**+0.9**
KOLN	**Koldanda**	**9.26**	**142**	*eP*	**Pn**	**01 10 14.0**	**+1.0**
KK31	**Karatay Array**	**9.39**	**329**	⇓P	**Pn**	**01 10 15.7**	**+1.2**
1.1nm,0.5s,baz=352,slow=40,SNR=10							
KK31				⇓S	Sn	01 12 23.7	+24
3.1nm,0.8s							
GKN	**Gorkha**	**9.63**	**137**	*eP*	**Pn**	**01 10 19.8**	**+1.8**
KKN	**Kakani**	**10.15**	**135**	*eP*	**Pn**	**01 10 26.1**	**+0.8**
18nm,0.6s							
DMN	**Daman**	**10.19**	**136**	*eP*	**Pn**	**01 10 26.8**	**+1.0**
PKIN	**Phulchoki**	**10.38**	**135**	*eP*	**Pn**	**01 10 29.0**	**+0.5**
PKI	**Pulchoki**	**10.39**	**135**	*eP*	**Pn**	**01 10 29.2**	**+0.5**
GUN	**Gumba**	**10.42**	**132**	*eP*	**Pn**	**01 10 29.8**	**+0.8**
JIRN	**Jiri**	**10.79**	**132**	*eP*	**Pn**	**01 10 34.6**	**+0.5**
RAMN	**Ramite**	**11.56**	**133**	*eP*	Pn	01 10 43.6	-0.9
WMQ	**Urumqi**	**11.78**	**40**	*eP*	**Pn**	**01 10 50.6**	**+3.2**
TAPN	**Taplejung**	**11.96**	**128**	*eP*	Pn	01 10 48.9	-1.2
MK31	**Makanchi Array**	**12.15**	**17**	⇑P	**Pn**	**01 10 53.9**	**+1.6**
4.5nm,0.8s,baz=200,slow=12,SNR=12							
MK31				⇑S	Sn	01 13 30.6	+23
9.4nm,1.0s,baz=196,slow=22,SNR=3.7							
MKAR	**Makanchi Array**	**12.15**	**17**	Pn	**Pn**	**01 10 53.3**	**+1.0**
0.3nm,0.3s,baz=204,slow=14,SNR=14							
MKAR				Sn	**Sn**	**01 13 04.1**	**-3.7**
0.2nm,0.3s,baz=196,slow=25,SNR=4.7							
KURBB	**Kurchatov Arra**	**15.39**	**3**	Pn	**Pn**	**01 11 37.0**	**+0.7**
0.0nm,0.3s,baz=189,slow=11,SNR=3.8							
KURBB				Lg	Lg	01 15 58.3	
0.1nm,0.3s,baz=191,slow=30,SNR=3.8							
GEYT	**Alibeck**	**15.54**	**285**	LR	LR	01 19 06.1	
comp=Z,69nm,18.6s,baz=180,slow=43							
BVAR	**Borovoye Array**	**18.40**	**347**	P	**P**	**01 12 13.3**	**-1.0**
0.3nm,0.3s,baz=152,slow=10.0,SNR=19							
GTA	**Gaotai**	**18.46**	**70**	*eP*	**P**	**01 12 18.8**	**+3.6**
GTA				pP	sP	01 12 22.0	+0.4
GTA				sP	pP	01 12 24.9	+5.4
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
AB31	**Akbulak array**	**18.87**	**323**	⇓P	**P**	**01 12 17.6**	**-1.8**
0.9nm,0.7s,baz=134,slow=11,SNR=9.1							
ZALV	**Zalesovo Beam**	**19.44**	**14**	P	**Pn**	**01 12 25.4**	**-1.4**
baz=206,slow=9.5,SNR=4.2							
AKTO	**Aktyubinsk**	**20.58**	**323**	⇑P	**P**	**01 12 36.1**	**-2.1**
2.8nm,0.7s							
AKTO	**Aktyubinsk**	**20.58**	**323**	P	**P**	**01 12 35.6**	**-2.5**
1.9nm,0.5s,baz=120,slow=11,SNR=3.1							
AKTO				LR	LR	01 21 15.8	
comp=Z,35nm,19.4s,baz=147,slow=39							
ARU	**Arti**	**24.68**	**335**	P	**P**	**01 13 18.1**	**-1.9**
0.5nm,0.4s,baz=181,slow=2.8,SNR=3.7							
SONM	**Songino Array**	**25.06**	**51**	P	**P**	**01 13 23.9**	**+0.1**
1.8nm,0.8s,baz=244,slow=8.8,SNR=13							
CMAR	**Chiang Mai Arr**	**25.54**	**125**	P	**P**	**01 13 28.6**	**+0.4**
0.7nm,0.4s,baz=306,slow=10.0,SNR=7.2							
CMAR				LR	LR	01 25 38.0	
comp=Z,23nm,18.7s,baz=310,slow=42							
GNI	**Garni**	**26.04**	**291**	LR	LR	01 24 21.2	
comp=Z,17nm,21.3s,baz=9.0,slow=38							
KBZ	**Khabaz**	**27.62**	**298**	LR	LR	01 26 45.8	
comp=Z,28nm,18.3s,baz=137,slow=41							
KIRV	**Kirov**	**29.68**	**330**	LR	LR	01 25 36.3	
comp=Z,62nm,18.0s,baz=41,slow=36							
BRTR	**Keskin Array B**	**34.58**	**291**	P	**P**	**01 14 47.1**	**-1.2**
0.7nm,0.7s,baz=94,slow=8.5,SNR=6.3							
BRTR				LR	LR	01 33 25.7	
comp=Z,14nm,18.2s,baz=354,slow=44							
AKASG	**Malin Array Be**	**37.62**	**309**	LR	LR	01 33 12.6	
comp=Z,28nm,19.5s,baz=285,slow=40							
FINES	**FINESS Array B**	**41.33**	**326**	P	**P**	**01 15 42.6**	**-2.1**
1.5nm,0.8s,baz=134,slow=8.2,SNR=10							
NB2	**NORSAR Subarra**	**48.38**	**324**	P	**P**	**01 16 41.1**	**+0.1**
comp=Z,0.6nm,0.6s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**48.38**	**324**	P	**P**	**01 16 41.3**	**+0.4**
comp=Z,1.0nm,0.7s,baz=91,slow=7.5,SNR=6.4							
NOA				LR	LR	01 38 27.8	
comp=Z,15nm,18.3s,baz=310,slow=38							
TORD	**Torodi Ar. Bea**	**70.75**	**273**	P	**P**	**01 19 13.4**	**-2.5**
comp=Z,0.8nm,0.7s,baz=37,slow=5.3,SNR=5.2							
ILAR	**Eielson Array**	**74.50**	**18**	P	**P**	**01 19 35.9**	**-1.7**
comp=Z,0.3nm,0.7s,baz=348,slow=3.9,SNR=3.4							
WRA	**Warramunga Arr**	**77.14**	**126**	P	**P**	**01 19 51.4**	**-1.7**
comp=Z,0.6nm,0.4s,baz=194,slow=24,SNR=11							

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*SOME **11** 01:50:47.1, 42°.57N×79°.55E, h5km*
*NNC **11** 01:50:47.0±1.7, 42°.59N×79°.63E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=11.6km s-min=5.5km az=122.0*
ISC 11 01:50:48.6±2.9, 42°.6N±0°.1×79°.57E±0°.10, h7km±14km, n11, σ0°60/19, 3C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.53**	**351**	*eP*	**Pb**	**01 50 59.7**	**-0.6**
10nm,0.3s							
SHLS				*eS*	**Sb**	**01 51 09.0**	**+0.7**
7.0nm,0.4s							
UZB	**Uzynbulak**	**0.66**	**322**	*eP*	**Pg**	**01 51 01.3**	**+0.1**
0.9nm,0.1s							
UZB				*eS*	**Sb**	**01 51 11.4**	**-0.4**
7.8nm,0.2s							
PDGK	**Podgornoye**	**0.70**	**355**	P	**Pg**	**01 51 01.8**	**-0.3**
0.9nm,0.1s							
PDGK				S	**Sg**	**01 51 12.3**	**+1.1**
1.5nm,0.2s							
PDGK	**Podgornoye**	**0.70**	**355**	⇓P	**Pg**	**01 51 01.4**	**-0.7**
0.4nm,0.2s							
PDGK				⇑S	**Sg**	**01 51 11.9**	**+0.6**
2.9nm,0.7s							
SATY	**Saty**	**0.96**	**297**	P	**Pg**	**01 51 06.5**	**-0.4**
4.4nm,0.1s							
SATY				S	**Sb**	**01 51 20.3**	**-0.3**
6.2nm,0.1s							
SATY	**Saty**	**0.96**	**297**	*eP*	**Pg**	**01 51 06.2**	**-0.8**
0.8nm,0.1s							
SATY				*eS*	**Sb**	**01 51 20.2**	**-0.3**
6.2nm,0.1s							
KPKS	**Kokpek**	**1.06**	**322**	*eP*	**Pg**	**01 51 08.1**	**-0.8**
1.8nm,0.1s							
KPKS				*eS*	**Sb**	**01 51 23.7**	**+0.3**
8.0nm,0.2s							
KOTS	**Kotyrbulak**	**1.90**	**289**	Pg	**Pg**	**01 51 25.2**	**+0.1**
3.3nm,0.5s							
KOTS				Lg	Lg	01 51 52.3	
3.4nm,0.3s							
KOTS	**Kotyrbulak**	**1.90**	**289**	*eP*	**Pb**	**01 51 23.3**	**-0.4**
1.3nm,0.2s							
KOTS				*eS*	**Sg**	**01 51 49.8**	**+0.1**
3.6nm,0.4s							
MDOK	**Medeo**	**1.93**	**287**	Pg	**Pn**	**01 51 22.2**	**+0.3**
3.5nm,1.2s							
MDOK				⇑Lg	Lg	01 51 49.4	
3.5nm,0.8s							
TKM2	**Tokmak 2**	**2.94**	**277**	⇓Pg	**Pb**	**01 51 41.9**	**+0.5**
3.0nm,1.2s							
TKM2				⇑Lg	Lg	01 52 19.8	
3.2nm,1.1s							

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*KRNET **11** 02:08:52.8±0.1, 41°.15N×72°.24E, h16km, mb2.4*
*SOME **11** 02:08:56.0, 41°.27N×72°.25E, h5km*
*NNC **11** 02:08:58.2±1.1, 41°.39N×72°.22E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=11.0km s-min=3.7km az=173.0*
ISC 11 02:08:53.2±1.3, 41°.21N±0°.05×72°.23E±0°.02, h8km±11km, n24, σ1°16/43, 22C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.58**	**79**	⇑*iP*	**Pg**	**02 09 03.9**	**-0.5**
baz=72							
ARSB				⇑*iS*	**Sg**	**02 09 12.2**	**+0.2**
baz=72							
ARK	**Arkit**	**0.62**	**341**	⇑*iP*	**Pg**	**02 09 05.6**	**+0.5**
baz=43							
ARK				⇑*iS*	**Sb**	**02 09 14.5**	**-0.7**
baz=43							
AML	**Almayashu**	**1.43**	**50**	⇑*iP*	**Pn**	**02 09 19.6**	**-0.3**
baz=47							
AML				⇑*iS*	**Sg**	**02 09 40.0**	**+0.7**
baz=47							
BTK	**Batken**	**1.57**	**223**	⇑*iP*	**Pn**	**02 09 20.9**	**-0.6**
baz=25							
BTK				⇑*iS*	**Sn**	**02 09 42.4**	**+0.3**
baz=25							
ARLS	**Aral**	**1.70**	**67**	⇓*iP*	**Pb**	**02 09 24.8**	**0.0**
baz=65							
ARLS				⇓*iS*	**Sg**	**02 09 48.0**	**+0.1**
baz=65							
MRKS	**Merke**	**1.70**	**26**	P	**Pg**	**02 09 27.3**	**+1.4**
3.7nm,0.2s							
MRKS				S	**Sg**	**02 09 48.5**	**+0.6**
7.7nm,0.4s							
MRKS	**Merke**	**1.70**	**26**	*eP*	**Pg**	**02 09 27.4**	**+1.5**
3.7nm,0.2s							
MRKS				*eS*	**Sg**	**02 09 48.8**	**+0.9**
7.7nm,0.4s							
EKS2	**Erkin-Say**	**1.85**	**38**	⇑*iP*	**Pb**	**02 09 27.0**	**-0.4**
baz=37							
EKS2				⇑*iS*	**Sg**	**02 09 52.4**	**-0.4**
baz=37							
IUG	**Iuzhnay**	**1.89**	**300**	P	**Pg**	**02 09 31.1**	**+1.7**
0.7nm,0.2s							
IUG				S	**Sg**	**02 09 55.0**	**+1.1**
30nm,0.3s							
IUG	**Iuzhnay**	**1.89**	**300**	*eP*	**Pg**	**02 09 31.2**	**+1.7**
0.7nm,0.2s							
IUG				*eS*	**Sg**	**02 09 55.0**	**+1.1**
31nm,0.4s							
UCH	**Uchtor**	**1.99**	**59**	⇑*iP*	**Pb**	**02 09 29.6**	**-0.3**
baz=57							
UCH				⇑*iS*	**Sg**	**02 09 56.9**	**-0.3**
baz=57							
AAK	**Ala-Archa**	**2.21**	**49**	⇑Pg	**Pg**	**02 09 36.5**	**+0.9**
2.2nm,0.6s							
AAK				⇑Lg	Lg	02 10 04.3	
6.0nm,0.6s							
AAK	**Ala-Archa**	**2.21**	**49**	⇑*iP*	**Pb**	**02 09 32.4**	**-1.1**
baz=48							
AAK				⇑*iS*	**Sb**	**02 10 01.7**	**+0.6**
baz=48							
KK31	**Karatay Array**	**2.28**	**327**	Pn	**Pb**	**02 09 34.5**	**-0.1**
1.1nm,0.3s,baz=131,slow=13,SNR=16							
KK31				⇓Lg	Lg	02 10 05.2	
1.3nm,0.2s,baz=140,slow=28,SNR=11							
KZA	**Kyzart**	**2.42**	**68**	⇓*iP*	**Pb**	**02 09 35.7**	**-1.6**
baz=67							
KZA				⇓*iS*	**Sb**	**02 10 07.4**	**-0.1**
baz=67							
KBK	**Karagaybulak**	**2.49**	**54**	⇑*iP*	**Pb**	**02 09 36.5**	**-1.8**
baz=52							
KBK				⇑*iS*	**Sb**	**02 10 09.0**	**-0.2**
baz=52							
BRLS	**Borolday**	**2.54**	**316**	Pg	**Pg**	**02 09 41.2**	**-0.7**
0.3nm,0.1s							
BRLS				Lg	Lg	02 10 12.2	
1.9nm,0.3s							
BRLS	**Borolday**	**2.54**	**316**	*eP*	**Pg**	**02 09 41.2**	**-0.7**
0.4nm,0.1s							
BRLS				*eS*	**Sg**	**02 10 12.6**	**-2.2**
12nm,0.4s							
CHMS	**Chumysh**	**2.59**	**46**	⇑*eP*	**Pb**	**02 09 37.5**	**-2.4**
baz=44							
CHMS				⇑*iS*	**Sb**	**02 10 11.2**	**-0.8**
baz=44							
USP	**Ospenovka**	**2.66**	**39**	⇓*iP*	**Pb**	**02 09 38.7**	**-2.4**
baz=38							
USP				⇓*iS*	**Sb**	**02 10 12.2**	**-1.7**
baz=38							
NRN	**Naryn**	**2.85**	**84**	⇓*iP*	**Pn**	**02 09 40.9**	**+1.6**
baz=83							
NRN				⇓*eS*	**Sn**	**02 10 15.9**	**+1.9**
baz=83							
TKM2	**Tokmak 2**	**3.04**	**55**	⇑Pg	**Pg**	**02 09 51.6**	**+0.3**
1.9nm,0.7s							
TKM2				⇑Lg	Lg	02 10 29.2	
3.2nm,0.6s							
DGS	**Degeres**	**3.32**	**51**	Pg	**Pg**	**02 09 57.3**	**+0.4**
1.4nm,0.5s							
DGS				Lg	Lg	02 10 39.8	
2.2nm,0.4s							
DGS	**Degeres**	**3.32**	**51**	*eP*	**Pg**	**02 09 57.3**	**+0.4**
1.4nm,0.5s							
DGS				*eS*	**Sg**	**02 10 40.2**	**+0.3**
3.6nm,0.7s							

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*NIED **11** 02:09:00, 26°.80N×130°.30E, h8km, Mw4.1 Best double couple: M0 1.40000×10^15 NP1:φ0=244.00000°, δ46.00000°, λ-47.00000°. NP2:φ0=10.00000°, δ59.00000°, λ-125.00000°.*
*IDC **11** 02:09:32.0±0.8, 26°.82N×130°.30E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/41, mbtmp3.9/14, ML3.4/1, MS3.0/6, Ms1 3.0/6, ms1mx2.7/37, Error ellipse: s-maj=22.2km s-min=18.9km az=74.0*
*NEIC **11** 02:09:33.8±2.3, 26°.9N±0°.1×130°.16E±0°.09, h10km±1km, mb4.4/3*
*JMA **11** 02:09:34.3, 26°.78N×130°.30E, h48km, M4.2*
ISC 11 02:09:31.8±1.4, 26°.82N±0°.03×130°.32E±0°.04, h3km±9km, n51, σ1°78/63, mb4.0/15, MS3.1/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKDJ	**Kitadaitoujima**	**1.23**	**135**	P	**Pg**	**02 09 55.2**	**-0.2**
JKDJ				S	**Sg**	**02 10 10.8**	**-0.6**
JMZ	**Minamidaito 2**	**1.28**	**141**	P	**Pn**	**02 09 56.0**	**-0.6**
JMZ				S	**Sg**	**02 10 11.5**	**-1.5**
JZK	**Kikaishima**	**1.52**	**348**	P	**Pg**	**02 10 01.0**	**+0.1**
JZK				S	**Sg**	**02 10 20.7**	**+0.1**
JTK	**Tokunoshima**	**1.55**	**308**	P	**Pn**	**02 10 00.5**	**+0.1**
JTK				*eS*	**Sn**	**02 10 19.0**	**-2.1**
JOKE	**Okinoerabujima**	**1.65**	**289**	P	**Pn**	**02 10 01.9**	**+0.2**
JOKE				*eS*	**Sn**	**02 10 21.7**	**-1.8**
JYRO	**Yoronjima**	**1.69**	**277**	P	**Pn**	**02 10 01.9**	**-0.3**
JYRO				*eS*	**Sn**	**02 10 22.5**	**-1.8**
JAM	**Amami Oshima**	**1.71**	**338**	P	**Pn**	**02 10 02.6**	**+0.1**
JAM				*eS*	**Sn**	**02 10 22.3**	**-2.5**
JAMN	**Amaminishikomi**	**1.74**	**324**	P	**Pn**	**02 10 02.9**	**-0.1**
JAMN				S	**Sn**	**02 10 22.9**	**-2.9**
JOW	**Kunigami**	**1.83**	**271**	P	**Pn**	**02 10 04.2**	**0.0**
JOW				S	**Sn**	**02 10 25.1**	**-2.8**
JOW	**Kunigami**	**1.83**	**271**	Pn	**Pn**	**02 10 04.3**	**0.0**
26nm,0.3s,baz=96,slow=18,SNR=466							
JOW				Sn	**Sn**	**02 10 24.9**	**-3.0**
68nm,0.3s,baz=127,slow=13,SNR=23							
JOW	**Kunigami**	**1.83**	**271**		**Pn**	**02 10 04.1**	**-0.1**
JNTH	**Nagotoyohara**	**2.08**	**262**	P	**Pn**	**02 10 07.1**	**-0.5**
JNTH				*eS*	**Sn**	**02 10 31.2**	**-2.9**
JIH	**Iheya**	**2.12**	**276**	P	**Pn**	**02 10 08.1**	**0.0**
JIH				S	**Sn**	**02 10 33.0**	**-1.9**
JJT3	**Tamagusuku3**	**2.38**	**254**	P	**Pn**	**02 10 11.8**	**+0.1**
JJT3				S	**Sn**	**02 10 39.2**	**-2.1**
JTAJ	**Takarajima**	**2.52**	**337**	P	**Pn**	**02 10 13.7**	**0.0**
JTAJ				S	**Sn**	**02 10 41.6**	**-3.4**
JAGN	**Aguni-jima**	**2.77**	**266**	P	**Pn**	**02 10 17.4**	**+0.4**
JAGN				S	**Sn**	**02 10 48.3**	**-2.7**
JNN	**Nakanoshima**	**3.03**	**353**	P	**Pn**	**02 10 18.9**	**-1.8**
JNN				S	**Sn**	**02 10 55.1**	**-2.5**
JKE	**Kume jima 2**	**3.21**	**262**	P	**Pn**	**02 10 22.4**	**-0.7**
JKE				*eS*	**Sn**	**02 10 58.8**	**-3.1**
JYAK	**Yakushimahirau**	**3.41**	**3**	S	**Sn**	**02 11 03.9**	**-2.9**
JMTN	**Minamitane**	**3.60**	**8**	*eS*	**Sn**	**02 11 10.3**	**-1.2**
JKC	**Kuchinoerabu**	**3.63**	**358**	*eS*	**Sn**	**02 11 08.7**	**-3.5**
JTN	**Tanegashima 3**	**3.86**	**8**	S	**Sn**	**02 11 14.6**	**-3.4**
JNU	**Nakatsue**	**6.30**	**4**	Pn	**Pn**	**02 11 07.2**	**+1.5**
0.9nm,0.3s,baz=203,slow=13,SNR=4.0							
JNU				Sn	**Sn**	**02 12 13.3**	**-4.8**
1.2nm,0.3s,baz=163,slow=19,SNR=3.7							
JNU	**Nakatsue**	**6.30**	**4**		**Pn**	**02 11 05.9**	**+0.3**
YHNB	**Yeheng**	**8.35**	**257**	Pn	**Pn**	**02 11 32.9**	**-1.0**
TPUB	**Ta-pu**	**9.46**	**250**	Pn	**Pn**	**02 11 48.3**	**-0.8**
KSRS	**Korea Array**	**10.79**	**350**	LR	LR	02 16 32.2	
comp=Z,46nm,19.3s,baz=170,slow=39							
GUMO	**Guam**	**18.94**	**131**	LR	LR	02 20 13.2	
comp=Z,19nm,20.5s,baz=120,slow=34							
KKM	**Kota Kinabalu**	**24.65**	**216**	P	**P**	**02 14 56.1**	**+2.1**
KKM				IAmb	IAmb	02 15 04.6	
comp=Z,10nm,1.1s							
SONM	**Songino Array**	**28.12**	**325**	LR	LR	02 28 09.2	
comp=Z,47nm,18.7s,baz=68,slow=40							
TLY	**Talaya**	**31.97**	**328**	LR	LR	02 31 02.8	
comp=Z,37nm,18.4s,baz=116,slow=40							
MKAR	**Makanchi Array**	**42.55**	**311**	P	**P**	**02 17 29.9**	**+1.1**
comp=Z,0.6nm,0.6s,baz=100,slow=10,SNR=4.1							
MKAR	**Makanchi Array**	**42.55**	**311**	P	**P**	**02 17 26.7**	**-2.2**
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**02 17 32.8**	**+1.1**
comp=Z,0.7nm,0.4s,baz=116,slow=6.6,SNR=2.9							
WRA	**Warramunga Arr**	**46.65**	**175**	P	**P**	**02 18 02.0**	**+0.3**
comp=Z,0.6nm,0.7s,baz=354,slow=8.3,SNR=6.3							
ASAR	**Alice Springs**	**50.31**	**176**	P	**P**	**02 18 30.6**	**+0.7**
comp=Z,0.7nm,0.8s,baz=0.8,slow=8.0,SNR=8.9							
BRVK	**Borovoye**	**51.16**	**318**	P	**P**	**02 18 37.6**	**+1.6**
BRVK				IAmb	IAmb	02 18 38.1	
comp=Z,4.5nm,0.7s							
ABKAR	**Akbulak array**	**57.61**	**313**	P	**P**	**02 19 23.9**	**+0.8**
STKA	**Stephens Creek**	**59.35**	**169**	LR	LR	02 47 24.6	
comp=Z,11nm,18.1s,baz=27,slow=38							
ILAR	**Eielson Array**	**63.03**	**28**	P	**P**	**02 19 60.0**	**+0.1**
comp=Z,0.8nm,0.8s,baz=258,slow=5.7,SNR=7.1							
INK	**Inuvik**	**67.60**	**24**	P	**P**	**02 20 29.9**	**+0.4**
comp=Z,1.6nm,0.9s,baz=301,slow=5.9,SNR=6.3					

CEP S Sg 02 23 50.0 +5.8
AML Almayashu 5.34 43 P Pn 02 22 22.8 +3.0
SNR=11
EKS2 Erkin-Say 5.76 39 P Pn 02 22 28.0 +2.7
SNR=11
UCH Uchtor 5.85 46 P Pn 02 22 28.8 +1.9
SNR=21
NIL Nilore 5.87 141 Pn 02 22 32.5 +5.8
NIL Sn 02 23 31.4 -2.7
AAK Ala-Archa 6.12 43 Pn Pn 02 22 31.4 +1.2
11nm,0.5s
AAK ⇑Pg Pb 02 22 50.1 +3.7
27nm,0.8s
AAK Lg Lg 02 24 15.4
50nm,1.0s
AAK Ala-Archa 6.12 43 Pn Pn 02 22 31.2 +1.0
6.0nm,0.3s,baz=122,slow=2.0,SNR=26
AAK Pg Pb 02 22 50.5 +4.2
5.5nm,0.3s,baz=220,slow=12,SNR=7.1
AAK Sn Sn 02 23 43.8 +3.5
baz=60,slow=20,SNR=2.2
AAK Lg Lg 02 24 11.1
1.3nm,0.3s,baz=154,slow=6.2,SNR=4.1
AAK LR LR 02 24 43.3
comp=Z,56nm,20.6s,baz=252,slow=37
AAK Ala-Archa 6.12 43 P Pn 02 22 31.9 +1.6
SNR=25
AAK Ala-Archa 6.12 43 Pn 02 22 31.4 +1.2
KZA Kyzart 6.20 51 P Pn 02 22 32.8 +1.3
SNR=9.5
FRU1 Bishkek 6.31 43 Pn 02 22 36.4 +3.6
NRN Naryn 6.34 58 Pn 02 22 32.6 -0.9
KBK Karagaybulak 6.38 45 P Pn 02 22 35.7 +1.9
SNR=8.1
CHMS Chumysh 6.50 42 P Pn 02 22 37.4 +2.0
SNR=12
USP Ospenovka 6.56 39 P Pn 02 22 37.4 +1.1
SNR=9.4
HRA Herat 6.59 236 Pn 02 22 40.0 +3.1
BOOM Boomskoye usch 6.85 50 Pn Pn 02 22 39.9 -0.5
TKM2 Tokmak 2 6.91 46 ⇑Pn Pn 02 22 40.1 -1.1
26nm,0.8s
TKM2 ⇑Sn Sn 02 24 02.7 +2.7
30nm,0.9s
TKM2 ⇓Lg Lg 02 24 39.4
66nm,1.4s
TKM2 Tokmak 2 6.91 46 P Pn 02 22 41.6 +0.4
SNR=19
TARG Taragay, Kyrgy 7.69 61 Pn 02 22 50.5 -1.6
MDOK Medeo 7.91 50 ⇑Pn Pn 02 22 54.6 -0.2
17nm,1.0s
MDOK ⇓Lg Lg 02 25 11.3
47nm,1.4s
GEYT Alibeck 8.45 271 Pn Pn 02 23 01.9 -0.2
0.3nm,0.3s,baz=99,slow=10,SNR=7.2
GEYT Sn Sn 02 24 36.8 -0.9
3.2nm,0.3s,baz=237,slow=23,SNR=5.6
GEYT LR LR 02 26 55.3
comp=Z,85nm,18.7s,baz=65,slow=42
GEYT Alibeck 8.45 271 Pn 02 23 04.2 +2.0
GEYT Sn 02 24 33.6 -4.0
GYA0B ALIBECK ARRAY 8.45 271 ⇑Pg Pb 02 23 29.4 +3.4
GYA0B ⇓Sn Sn 02 24 36.9 -0.8
GYA0B ⇓Lg Lg 02 25 24.3
GYA0B ALIBECK ARRAY 8.45 271 Pn 02 23 09.7 +7.5
DHRM DHARAMSHALA 8.59 132 *e*P **Pn 02 23 06.7 +2.4**
DHRM *e*S Sn 02 24 36.7 -4.6
DHRM IAML 02 24 40.5
comp=N,38nm,0.1s
DHRM IAML 02 24 44.0
comp=E,58nm,0.4s
PDGK Podgornoye 9.51 55 ⇑Pn Pn 02 23 15.7 -1.1
comp=E,8.5nm,1.0s
PDGK ⇓Lg Lg 02 26 04.1
comp=E,18nm,1.0s
SMLA Simla 9.91 134 *e*P **Pn 02 23 24.6 +2.4**
SMLA *e*S Sn 02 25 08.0 -5.6
SMLA IAML 02 25 14.4
comp=N,19nm,0.5s
SMLA IAML 02 25 19.8
comp=E,24nm,0.4s
AB31 Akbulak array 12.68 333 Pn Pn 02 23 57.3 -2.7
comp=E,2.9nm,0.5s,baz=152,slow=12,SNR=92
AB31 ⇑Sn Sn 02 26 21.5 +0.4
comp=E,3.6nm,0.5s,baz=148,slow=28,SNR=2.7
AB31 ⇑Lg Lg 02 27 39.7
comp=E,15nm,0.8s
ABKAR Akbulak array 12.68 333 Pn 02 23 58.9 -1.0
ABKAR Akbulak array 12.68 333 Pn 02 23 57.0 -2.9
ABKAR Sn Sn 02 26 14.4 -6.7
MKAR Makanchi Array 13.04 45 Pn Pn 02 24 03.5 -1.5
comp=E,0.1nm,0.3s,baz=241,slow=15,SNR=7.7
MKAR Lg Lg 02 27 46.0
comp=E,0.1nm,0.3s,baz=242,slow=26,SNR=3.1
MKAR LR LR 02 28 47.6
comp=E,39nm,19.7s,baz=222,slow=36
KURBB Kurchatov Arra 14.11 26 ⇑Pn Pn 02 24 19.0 -0.5
comp=E,4.4nm,0.9s
KURBB ⇓Lg Lg 02 28 25.0
comp=E,16nm,1.1s
KURBB Kurchatov Arra 14.11 26 Pn **Pn 02 24 16.6 -2.9**
comp=E,0.1nm,0.3s,baz=222,slow=12,SNR=5.1
KURBB Lg Lg 02 28 15.2
comp=E,0.0nm,0.3s,baz=225,slow=27,SNR=4.2
KURK Kurchatov 14.22 26 ⇓Lg Lg 02 28 29.1
comp=E,31nm,1.3s
KURK Kurchatov 14.22 26 Pn 02 24 16.6 -4.4
AKTO Aktyubinsk 14.36 331 ⇑Pn Pn 02 24 22.2 -0.8
comp=E,15nm,1.1s
AKTO ⇓Sn Sn 02 27 02.1 -0.1
comp=E,7.4nm,0.8s
AKTO ⇑Lg Lg 02 28 31.9
comp=E,30nm,1.3s
AKTO Aktyubinsk 14.36 331 Pn **Pn 02 24 21.2 -1.7**
comp=E,0.6nm,0.3s,baz=135,slow=15,SNR=25
AKTO Sn Sn 02 26 57.0 -5.1
comp=E,0.3nm,0.3s,baz=85,slow=12,SNR=3.5
BVAR Borovoye Array 14.76 4 Pn Pn 02 24 27.1 -1.3
comp=E,0.2nm,0.3s,baz=178,slow=12,SNR=4.5
BRVK Borovoye 14.79 3 ⇑Pn Pn 02 24 27.2 -1.6
comp=E,8.3nm,0.6s
BRVK Borovoye 14.79 3 P Pn 02 24 31.3 +2.5
DANN Dangsing 15.93 124 *e*P **P 02 24 47.9 0.0**
KOLN Koldanda 16.22 126 *e*P **P 02 24 52.5 +1.5**
GKN Gorkha 16.73 123 *e*P **Pn 02 24 55.5 +1.1**
comp=E,21nm,0.5s
KKN Kakani 17.30 122 *e*P **Pn 02 25 01.2 -0.4**
comp=E,14nm,0.6s
DMN Daman 17.31 123 *e*P **P 02 25 03.3 +0.2**
PKIN Phulchoki 17.52 123 *e*P **Pn 02 25 04.9 +0.6**
comp=E,15nm,0.5s
PKI Pulchoki 17.53 123 *e*P **Pn 02 25 04.5 0.0**
JIRN Jiri 18.00 121 *e*P **Pn 02 25 08.6 -1.7**
JIRN *e*S Sn 02 28 17.5 -14
RAMN Ramite 18.73 122 *e*P **Pn 02 25 19.1 -0.1**
comp=E,18nm,0.6s
GNI Garni 18.74 283 P Pn 02 25 21.8 +2.6
comp=E,0.1nm,0.3s,baz=155,slow=17,SNR=2.6
GNI LR LR 02 34 06.9
comp=E,34nm,20.4s,baz=76,slow=42
ZAA0 Zalesovo Array 19.10 30 P P 02 25 20.9 -1.4
ZAA0 IAmb IAmb 02 25 22.6
comp=Z,7.6nm,0.8s
ZALV Zalesovo Beam 19.10 30 P P 02 25 20.9 -1.5
comp=Z,0.9nm,0.3s,baz=226,slow=12,SNR=16
TAPN Taplejung 19.23 119 *e*P **P 02 25 21.7 -2.6**
ODAN Odare 19.32 121 *e*P **P 02 25 24.1 -1.2**
comp=Z,22nm,0.6s
ARU Arti 19.38 343 P P 02 25 24.4 -1.1
comp=Z,0.0nm,0.3s,baz=158,slow=11,SNR=5.5
ARU Arti 19.38 343 IAmb IAmb 02 25 28.7
comp=Z,16nm,1.5s
AKH Akhalkalaki 19.67 287 P Pn 02 25 30.4 +0.1
KBZ Khabaz 20.26 294 P Pn 02 25 37.4 +0.3
comp=Z,1.6nm,0.7s,baz=59,slow=12,SNR=2.9
KBZ LR LR 02 35 28.1
comp=Z,76nm,19.1s,baz=52,slow=43
RAYN Ar Rayn 24.76 240 P P 02 26 24.2 +2.6
RAYN IAmb IAmb 02 26 27.0
comp=Z,3.5nm,0.8s
BRTR Keskin Array B 27.27 284 P P 02 26 46.0 +1.6
comp=Z,0.7nm,0.6s,baz=100,slow=6.8,SNR=6.0
BRTR LR LR 02 41 03.8
comp=Z,16nm,18.4s,baz=92,slow=44
CMAR Chiang Mai Arr 32.84 119 LR LR 02 42 41.9
comp=Z,18nm,21.0s,baz=5.0,slow=40

FINES FINESS Array B 35.02 325 P P 02 27 51.8 -0.3
comp=Z,1.4nm,0.6s,baz=120,slow=8.2,SNR=14
ARCES ARCESS Array B 38.82 337 P P 02 28 23.0 -1.3
comp=Z,1.9nm,0.7s,baz=117,slow=7.3,SNR=4.4
NB2 NORSAR Subarra 41.90 322 P P 02 28 49.2 -0.8
comp=Z,1.5nm,0.9s,baz=97,slow=8.6
NOA NORSAR Array B 41.90 322 P P 02 28 49.2 -0.8
comp=Z,1.0nm,0.9s,baz=97,slow=8.2,SNR=3.2
NOA LR LR 02 49 05.2
comp=Z,38nm,18.1s,baz=20,slow=40
TIXI Tiksi 44.77 23 P P 02 29 11.7 -1.2
ESDC Sonseca Array 55.10 296 P P 02 30 32.2 +0.2
comp=Z,0.1nm,0.3s,baz=53,slow=6.9,SNR=2.9
TORD Torodi Ar. Bea 64.06 266 P P 02 31 33.5 -0.5
comp=Z,1.1nm,0.6s,baz=47,slow=6.1,SNR=17
TORD Torodi Ar. Bea 64.06 266 IAmb IAmb 02 31 34.5
comp=Z,0.8nm,0.8s
LSZ Lusaka 65.51 224 P P 02 31 44.1 +0.6
comp=Z,1.1nm,0.7s,baz=47,slow=9.9,SNR=4.0
INK Inuvik 72.39 9 P P 02 32 24.9 -0.6
comp=Z,1.1nm,0.7s,baz=330,slow=4.8,SNR=7.8
ILAR Eielson Array 73.50 15 P P 02 32 30.9 -1.2
comp=Z,0.6nm,1.0s,baz=318,slow=4.1,SNR=3.2
TSUM Tsumeb 74.71 230 P P 02 32 40.5 +0.6
comp=Z,1.5nm,0.5s,baz=16,slow=9.6,SNR=5.7
WRA Warramunga Arr 84.41 121 P P 02 33 31.2 -1.3
comp=Z,0.4nm,0.7s,baz=322,slow=5.1,SNR=4.4
ASAR Alice Springs 86.70 124 P P 02 33 42.0 -1.9
comp=Z,0.2nm,0.5s,baz=302,slow=5.6,SNR=3.4

NIED ***11*** *02:21:00,34.°20N×137.°20E,h400km,Mw4.1 Best double couple: M₀1.40000×1015 NP1:φs346.00000°, δ22.00000°,λ72.00000°. NP2:φs186.00000°,δ69.00000°, λ97.00000°.*
ISCJB ***11*** *02:21:44.0±0.5,34.°14N±0.°07×137.°36E±0.°07, h347km±3km,mb3.3/8,Error ellipse: s-maj=11.2km s-min=8.4km az=152.1*
IDC ***11*** *02:21:44.0±0.9,34.°05N×137.°38E,h331km±9km,mb3.2/8, mb1 3.3/11,mb1mx3.0/55,mbtmp3.9/11,Error ellipse: s-maj=18.7km s-min=14.0km az=84.0*
JMA ***11*** *02:21:44.6±0.2,34.°22N×137.°24E,h347km±2km,M3.7*
ISC 11 02:21:44.9±0.8,34.°15N±0.°08×137.°31E±0.°07,h341km±6km, n32,σ0s88/38,mb3.3/8,8C,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.24**	**126**	P	**Pn**	**02 22 28.5**	**+1.1**
TTO3	**TONANKAI O.B.S**	**0.29**	**165**	P	**Pn**	**02 22 28.8**	**+1.1**
TK02	**Tokai 2**	**0.42**	**118**	P	**Pn**	**02 22 28.9**	**+1.2**
TK01	**Tokai 1**	**0.45**	**148**	P	**Pn**	**02 22 28.6**	**+0.9**
TTO2	**TONANKAI O.B.S**	**0.47**	**210**	⇑P	**Pn**	**02 22 28.8**	**+1.0**
JIE	**Ise**	**0.56**	**296**	⇑P	**Pn**	**02 22 28.7**	**+0.5**
JIE				*e*S	**S**	**02 22 02.5**	**-0.3**
TTO1	**TONANKAI O.B.S**	**0.68**	**220**	⇑P	**Pn**	**02 22 29.1**	**+0.8**
JTNC	**Tanabenakahech**	**1.45**	**257**	⇑P	**Pn**	**02 22 31.8**	**-0.1**
JYTA	**Yamagatataniai**	**1.52**	**342**	⇑P	**Pn**	**02 22 32.5**	**+0.4**
JYN	**Shimob**	**1.69**	**37**	P	**Pn**	**02 22 34.2**	**+0.9**
JOD2	**Odawara 2**	**1.84**	**52**	P	**Pn**	**02 22 34.5**	**+0.3**
JWT	**Wachi**	**1.94**	**306**	⇑P	**Pn**	**02 22 34.9**	**+0.1**
JWT				*e*S	**S**	**02 23 14.0**	**-0.9**
JRY	**Ryogami san**	**2.28**	**35**	P	**Pn**	**02 22 37.9**	**+0.5**
JRY				*e*S	**S**	**02 23 18.6**	**-0.9**
JAI	**Aioi**	**2.40**	**262**	⇑P	**Pn**	**02 22 38.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.50**	**17**	P	**Pn**	**02 22 39.3**	**+0.2**
	0.7nm,0.3s,baz=194,slow=9.4,SNR=25						
MJAR				S	**S**	**02 23 21.4**	**-1.3**
	0.5nm,0.3s,baz=195,slow=15,SNR=16						
MAT	**Matsushiro**	**2.50**	**17**	P	**Pn**	**02 22 39.0**	**-0.2**
MAT				S	**S**	**02 23 21.1**	**-1.6**
MAT	**Matsushiro**	**2.50**	**17**	P	**Pn**	**02 22 39.4**	**+0.2**
MAT				*e*S	**S**	**02 23 21.5**	**-1.2**
JMN	**Monobe**	**2.88**	**263**	P	**Pn**	**02 22 42.4**	**-0.2**
BSO1	**Boso 1**	**3.08**	**80**	P	**Pn**	**02 22 42.6**	**-1.0**
BSO1				*e*S	**S**	**02 23 29.7**	**-1.2**
JHS	**Saijyo**	**3.56**	**285**	⇑P	**Pn**	**02 22 49.0**	**+0.1**
JTO	**Tosashimizu**	**3.98**	**252**	P	**Pn**	**02 22 52.8**	**-0.4**
JCJ	**Chichijima**	**8.19**	**148**	S	S	02 25 05.3	-11
	15nm,0.3s,baz=297,slow=23,SNR=4.9						
KSRS	**Korea Array**	**8.31**	**296**	P	**Pn**	**02 23 43.2**	**+0.7**
	0.6nm,0.3s,baz=113,slow=12,SNR=16						
USRK	**Uusuriysk Ar.**	**10.85**	**339**	P	**Pn**	**02 24 14.1**	**+1.2**
	baz=153,slow=13,SNR=3.1						
SONM	**Songino Array**	**26.84**	**310**	P	**P**	**02 26 56.1**	**+0.9**
	1.4nm,0.8s,baz=122,slow=8.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**37.53**	**255**	P	**P**	**02 28 28.2**	**+0.6**
	1.0nm,0.3s,baz=52,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**42.89**	**304**	P	**P**	**02 29 11.2**	**+0.3**
	1.0nm,0.7s,baz=95,slow=8.2,SNR=3.4						
ILAR	**Eielson Array**	**53.70**	**31**	P	**P**	**02 30 32.9**	**+0.5**
	0.6nm,0.9s,baz=273,slow=7.9,SNR=5.3						
WRA	**Warramunga Arr**	**53.86**	**183**	P	**P**	**02 30 33.2**	**-0.8**
	1.1nm,0.3s,baz=359,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**57.59**	**184**	P	**P**	**02 30 58.8**	**-1.4**
	0.4nm,0.4s,baz=0.9,slow=5.1,SNR=8.4						
INK	**Inuvik**	**58.45**	**26**	P	**P**	**02 31 06.5**	**+1.0**
	0.6nm,0.5s,baz=262,slow=5.2,SNR=4.2						
FINES	**FINESS Array B**	**69.78**	**331**	P	**P**	**02 32 17.7**	**-0.9**
	2.3nm,1.0s,baz=44,slow=6.2,SNR=3.9						

NEIC ***11*** *02:32:53.6±0.8,17.°24N±0.°03×100.°07W±0.°02,h34km±8km*
MEX 11 02:32:55.7±0.8,17.°23N×100.°07W,h32km±7km,MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**225**	*e*P	Pb	02 33 00.9	-2.1
CAIG				*e*S	Sb	02 33 06.6	-1.3
CAIG	**El Cayaco**	**0.26**	**225**		Pb	02 33 00.9	-2.1
CAIG					Sb	02 33 06.6	-1.3
ACP2	**Acapulco**	**0.40**	**154**	*e*P	Pb	02 33 02.5	-2.3
ACP2				*e*S	Sb	02 33 09.5	-1.5
ACP2	**Acapulco**	**0.40**	**154**		Pb	02 33 02.5	-2.3
ACP2					Sb	02 33 09.5	-1.5
MEIG	**Mezcala**	**0.81**	**32**	*e*P	Pn	02 33 08.3	-2.7
MEIG				*i* S	Sn	02 33 19.3	-2.7
MEIG	**Mezcala**	**0.81**	**32**		Pn	02 33 08.3	-2.7
MEIG					Sn	02 33 19.3	-2.7
ARIG	**Puente Sto Nin**	**1.07**	**346**	*e*P	Pn	02 33 12.2	-2.4
ARIG				*e*S	Sn	02 33 26.1	-2.2
ARIG	**Puente Sto Nin**	**1.07**	**346**		Pn	02 33 12.2	-2.4
ARIG					Sn	02 33 26.1	-2.2
PLIG	**Platanillo**	**1.27**	**25**	*e*P	Pn	02 33 15.7	-1.6
PLIG				*i* S	Sn	02 33 30.3	-3.1
PLIG	**Platanillo**	**1.27**	**25**		Pn	02 33 15.7	-1.6
PLIG					Sn	02 33 30.3	-3.1
ZIIG	**Zihuatanejo**	**1.38**	**286**	*e*P	Pn	02 33 16.3	-2.4
ZIIG				*e*S	Sn	02 33 33.8	-2.0
ZIIG	**Zihuatanejo**	**1.38**	**286**		Pn	02 33 16.3	-2.4
ZIIG					Sn	02 33 33.8	-2.0
TLIG	**Tlapa**	**1.47**	**77**	*e*P	Pn	02 33 18.7	-1.4
TLIG				*i* S	Sn	02 33 36.1	-2.3
TLIG	**Tlapa**	**1.47**	**77**		Pn	02 33 19.0	-1.1
TLIG	**Tlapa**	**1.47**	**77**		Sn	02 33 36.1	-2.3
YAIG	**Yautepec**	**1.88**	**30**	*e*P	Pn	02 33 23.3	-2.4
YAIG				*i* S	Sn	02 33 46.2	-2.2
YAIG	**Yautepec**	**1.88**	**30**		Pn	02 33 23.3	-2.4
YAIG					Sn	02 33 46.2	-2.2

IDC ***11*** *02:57:03.4±1.1,15.°04S×75.°97W,h0km,mb3.8/5, mb1 4.2/8,mb1mx4.0/28,mbtmp4.0/8,ML4.3/3,MS3.4/10, Ms1 3.4/10,ms1mx3.1/32,Error ellipse: s-maj=32.5km s-min=16.5km az=57.0*
ISCJB ***11*** *02:57:05.1±0.7,15.°23S±0.°07×76.°0W±0.°1,h29km,mb3.8/5, MS3.2/8,Error ellipse: s-maj=19.7km s-min=4.9km az=150.1*
NEIC ***11*** *02:57:08.8±2.0,15.°1S±0.°1×75.°7W±0.°1,h41km±4km, mb4.5/3*
ISC 11 02:57:07.7±0.7,15.°09S±0.°07×75.°8W±0.°1,h29km,n44, σ2s23/38,mb3.8/7,MS3.3/8,1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.26**	**341**	Pn	**Pn**	**02 57 55.8**	**-1.1**
	10nm,0.3s,baz=140,slow=11,SNR=22						
NNA				Sn	**Sn**	**02 58 35.6**	**+0.8**
	34nm,0.3s,baz=76,slow=8.6,SNR=6.3						
NNA				Lg	Lg	02 58 42.4
	92nm,0.3s,baz=219,slow=16,SNR=9.4						

NNA Nana 3.26 341 Pn 02 57 55.8 -1.1
NNA Sn 02 58 27.5 -7.3
MNMC Minye Minye 7.14 125 Pn 02 58 50.5 +0.1
MNMC Sn Sn 03 00 07.2 -3.6
LPAZ La Paz 7.45 100 Pn **Pn 02 58 58.8 +3.7**
3.2nm,0.3s,baz=269,slow=7.3,SNR=56
LPAZ Sn Sn 03 00 31.7 +13
baz=236,slow=14,SNR=2.2
LPAZ LR LR 03 02 33.1
comp=Z,103nm,21.1s,baz=276,slow=43
LPAZ La Paz 7.45 100 Pn 02 58 58.9 +3.8
PB11 IPOC Station P 7.46 129 Pn 02 58 55.3 +0.6
GO01 Chusmiza 7.75 127 Pn 02 59 00.0 +0.9
ATAH Atahualpa 8.32 342 Pn **Pn 02 59 07.7 +0.9**
0.4nm,0.3s,baz=164,slow=15,SNR=2.8
ATAH Sn **Sn 03 00 43.6 +3.7**
0.1nm,0.3s,baz=202,slow=19,SNR=1.5
PB01 IPOC Station P 8.41 136 Pn 02 59 09.2 +1.4
PB01 **Sn 03 00 39.4 -2.4**
PB04 IPOC Station P 8.96 144 Pn **Pn 02 59 15.4 +0.1**
PB04 Sn **Sn 03 00 52.1 -3.2**
PB10 IPOC Station P 9.71 150 Pn Pn 02 59 25.6 0.0
LVC Limon Verde 9.90 140 Pn **Pn 02 59 30.5 +2.1**
5.0nm,0.3s,baz=306,slow=9.2,SNR=25
LVC Sn **Sn 03 01 17.1 -1.7**
0.9nm,0.3s,baz=65,slow=19,SNR=3.1
LVC Lg Lg 03 02 17.6
0.8nm,0.3s,baz=125,slow=22,SNR=5.2
LVC Limon Verde 9.90 140 Pn 02 59 30.9 +2.4
GO02 Mina Guanaco 11.57 151 Pn **Pn 02 59 51.7 +0.4**
SAML Samuel 13.74 65 Pn 03 00 17.9 -2.7
SIV San Ignacio 14.19 96 Pn Pn 03 00 23.4 -3.5
0.3nm,0.3s,baz=279,slow=13,SNR=13
SIV LR LR 03 06 33.0
comp=Z,328nm,18.2s,baz=311,slow=40
CPUP Villa Florida 20.53 126 LR LR 03 09 42.4
comp=Z,66nm,18.6s,baz=305,slow=37
PTGA Pitinga 21.15 49 P P 03 01 52.4 +1.7
2.1nm,0.5s,baz=350,slow=23,SNR=6.1
PTGA LR LR 03 10 02.2
comp=Z,33nm,18.9s,baz=228,slow=37
PLCA Paso Flores 25.95 171 LR LR 03 11 02.7
comp=Z,30nm,18.9s,baz=11,slow=32
BDFB Brasilia 26.76 95 LR LR 03 14 15.4
comp=Z,231nm,18.7s,baz=264,slow=38
JTS Las Juntas de 26.81 340 LR LR 03 12 34.0
comp=Z,66nm,19.0s,baz=203,slow=35
APG El Apazote 33.24 333 LR LR 03 14 39.1
comp=Z,75nm,18.7s,baz=124,slow=32
CMIG Matias Romero 37.13 329 LR LR 03 17 15.9
comp=Z,53nm,18.5s,baz=254,slow=33
TXAR Lajitas Array 51.73 329 P P 03 06 11.8 -0.9
0.5nm,0.7s,baz=146,slow=10,SNR=5.1
PDAR Pinedale Array 65.41 333 P P 03 07 46.9 -1.1
0.4nm,0.8s,baz=134,slow=6.4,SNR=3.1
NVAR Mina Array Bea 66.49 325 P P 03 07 55.0 0.0
0.3nm,0.6s,baz=143,slow=5.8,SNR=3.6
SNAA Sanae 70.42 161 P P 03 08 20.8 +1.9
SNAA IAmb IAmb 03 08 21.5
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 81.62 74 P P 03 09 23.9 +0.2
TOA0 IAmb IAmb 03 09 24.4
comp=Z,5.5nm,0.8s
TORD Torodi Ar. Bea 81.62 74 P P 03 09 23.5 -0.1
comp=Z,4.8nm,0.7s,baz=292,slow=5.5,SNR=23
TORD Torodi Ar. Bea 81.62 74 P P 03 09 22.4 -1.3
SYO Syowa Base 84.70 161⇓*e*PcP P 03 09 39.0 +0.5
ILAR Eielson Array 95.73 336 LR LR 03 57 10.6
comp=Z,20nm,18.3s,baz=164,slow=38
H11N3 WAKE ISLAND Hyl 20.30 284 T T 05 27 31.6
baz=97,slow=74,SNR=8.2
H11N2 WAKE ISLAND Hyl 20.31 284 T T 05 27 37.0
baz=97,slow=74,SNR=8.0
H11N1 WAKE ISLAND Hyl 20.31 284 T T 05 27 31.3
baz=97,slow=74,SNR=6.5
H11S2 WAKE ISLAND Hyl 20.35 283 T T 05 27 34.5
baz=97,slow=75,SNR=5.9
H11S1 WAKE ISLAND Hyl 20.35 283 T T 05 27 38.7
baz=97,slow=75,SNR=9.8
H11S3 WAKE ISLAND Hyl 20.36 283 T T 05 27 33.7
baz=97,slow=75,SNR=8.8
ASAR Alice Springs 131.78 217 PKP **PKPdf 03 16 19.2 +0.3**
comp=Z,0.2nm,0.5s,baz=114,slow=1.8,SNR=5.0
WRA Warramunga Arr 134.30 221 PKP **PKPdf 03 16 23.9 +0.2**
comp=Z,0.7nm,0.7s,baz=130,slow=1.8,SNR=7.6
ZALV Zalesovo Beam 138.35 17 PKP **PKPdf 03 16 30.3 +0.1**
comp=Z,0.4nm,0.3s,baz=90,slow=1.5,SNR=4.1
KSH Kashi 145.30 40 *e*PKPbc **PKPbc 03 16 42.7 -0.3**
KSH PKS **PKSdf 03 20 16.8 -2.0**
SONM Songino Array 147.30 357 PKPbc **PKPdf 03 16 47.5 +1.1**
comp=Z,0.8nm,0.6s,baz=328,slow=1.8,SNR=5.7
SONM Songino Array 147.30 357 PKPdf 03 16 48.7 +2.3

ISK ***11*** *02:57:06.7,36.°94N×34.°65E,h49km±2km,ML2.6/15*
ISCJB ***11*** *02:57:07.5±0.6,36.°86N±0.°05×34.°70E±0.°05,h49km±7km, Error ellipse: s-maj=9.5km s-min=4.9km az=143.7*
ISC 11 02:57:08.3±1.4,36.°88N±0.°05×34.°69E±0.°04,h42km±9km, n25,σ0s71/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DED	**Mersin**	**0.12**	**47**	*i* P	**Pn**	**02 57 14.9**	**-0.3**
DED				*i* S	**Sn**	**02 57 20.4**	**+0.3**
DED				IAML_P			
	comp=Z,11μm,0.1s						
MERS	**Mersin**	**0.14**	**265**	PG	**Pn**	**02 57 14.9**	**-0.5**
GULE	**Gulek**	**0.41**	**9**	*i* P	**Pn**	**02 57 17.6**	**-0.5**
GULE				*i* S	**Sn**	**02 57 26.1**	**+1.1**
GULE				IAML_P			
	comp=Z,5μm,0.2s						
KARA	**Karaisali**	**0.48**	**37**	PG	**Pn**	**02 57 17.7**	**-1.1**
KARA				SG	**Sn**	**02 57 25.9**	**-0.4**
KIZK	**Mersin**	**0.59**	**228**	*i* P	**Pn**	**02 57 20.3**	**-0.1**
KIZK				*i* S	**Sn**	**02 57 30.2**	**+1.3**
KIZK				IAML_P			
	comp=Z,8μm,0.1s						
KIZK	**Mersin**	**0.59**	**228**	PG	**Pn**	**02 57 19.8**	**-0.5**
KIZK				SG	**Sn**	**02 57 29.2**	**+0.3**
KRTS	**Karatas**	**0.63**	**119**	PG	**Pn**	**02 57 21.1**	**+0.3**
KERG	**Konya-Eregli**	**0.70**	**320**	*i* P	**Pn**	**02 57 21.4**	**-0.5**
KERG				*i* S	**Sn**	**02 57 32.1**	**+0.4**
KERG				IAML_P			
	comp=Z,2μm,0.2s						
YURE	**YUREGIR**	**0.76**	**94**	*i* P	**Pn**	**02 57 22.5**	**0.0**
YURE	**YUREGIR**	**0.76**	**94**	PG	**Pn**	**02 57 22.4**	**-0.1**
SLFK	**Silifke-Mersin**	**0.77**	**231**	PG	**Pn**	**02 57 22.2**	**-0.5**
SILI	**Silifke-Mersin**	**0.80**	**231**	PG	**Pn**	**02 57 22.9**	**-0.2**
AKO	**Adana**	**0.84**	**46**	*i* P	**Pn**	**02 57 23.8**	**+0.1**
AKO				*i* S	**Sn**	**02 57 35.6**	**+0.8**
AKO				IAML_P			
	comp=Z,1μm,0.1s						
CEYT	**Ceyhan**	**0.86**	**81**	PG	**Pn**	**02 57 22.8**	**-1.1**
KEBE	**Keben-Mersin**	**0.90**	**242**	PG	**Pn**	**02 57 24.1**	**-0.4**
IKL	**Isikli**	**1.03**	**232**	PG	**Pn**	**02 57 25.5**	**-0.8**
KARG	**Kargicak-Mersi**	**1.04**	**230**	PG	**Pn**	**02 57 26.3**	**-0.1**
TISA	**Tisan-Mersin**	**1.09**	**229**	PN	**Pn**	**02 57 25.9**	**-1.1**
TEVE	**Tevekalti-Mers**	**1.10**	**247**	PN	**Pn**	**02 57 26.8**	**-0.5**
AKKU	**Akkuyu-Mersin**	**1.17**	**232**	PN	**Pn**	**02 57 27.2**	**-0.9**
BERE	**Bereket-Mersin**	**1.30**	**246**	PN	**Pn**	**02 57 29.5**	**-0.5**
YAHY	**KAYSERI_Yahyal**	**1.32**	**24**	*i* P	**Pn**	**02 57 30.8**	**+0.3**
YAHY				IAML_P			
	comp=Z,284nm,0.2s						
ERMK	**Ermenek**	**1.45**	**261**	*i* P	**Pn**	**02 57 32.5**	**+0.4**
ERMK				IAML_P			
	comp=Z,2μm,0.2s						
TEKE	**Tekeli-Mersin**	**1.47**	**240**	PN	**Pn**	**02 57 31.2**	**-1.1**
HCB	**Kahramanmara**	**1.83**	**75**	*i* P	**Pn**	**02 57 36.2**	**-1.0**
HCB				IAML_P			
	comp=Z,187nm,0.1s						

NNC ***11*** *03:02:06.2±9.9,35.°13N×81.°08E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=99.2km s-min=78.7km az=76.0*
ISCJB ***11*** *03:02:07.1±0.6,35.°34N±0.°05×77.°3E±0.°1,h10km,mb3.5/5, Error ellipse: s-maj=12.9km s-min=5.7km az=159.0*
IDC ***11*** *03:02:07.0±1.4,35.°43N×77.°40E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.5/39,mbtmp3.6/6,ML3.1/1,Error ellipse: s-maj=33.7km s-min=30.0km az=67.0*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.10**	**346**	Pg	Pn	03 03 17.4	+5.5
KSH				Sg	**Sb**	**03 04 12.0**	**+0.9**
KSH				smax	smax		
	comp=N,130nm,0.9s						
KSH				smax	smax		
	comp=E,110nm,0.9s						
AAK	**Ala-Archa**	**7.41**	**344**	⇑P	**Pb**	**03 04 16.0**	**-1.7**
	3.3nm,0.6s						
AAK				⇑S	**Sg**	**03 06 03.2**	**-3.6**
	10nm,0.8s						
TKM2	**Tokmak 2**	**7.49**	**351**	⇓P	Pb	03 04 14.3	-4.8
	6.1nm,1.2s						
MDOK	**Medeo**	**7.63**	**359**	P	Pb	03 04 12.9	-8.5
	6.4nm,0.9s						
MDOK				S	**Sb**	**03 05 51.5**	**-1.0**
	38nm,1.2s						
PDGK	**Podgornoye**	**7.99**	**12**	⇓P	**Pn**	**03 04 09.5**	**+4.3**
	3.3nm,0.6s						
PDGK				⇓S	**Sn**	**03 05 42.0**	**+6.3**
	8.9nm,0.9s						
DANN	**Dangsing**	**9.06**	**140**	*e*P	**Pn**	**03 04 20.2**	**0.0**
KOLN	**Koldanda**	**9.45**	**143**	*e*P	**Pn**	**03 04 26.5**	**+1.0**
GKN	**Gorkha**	**9.80**	**138**	*e*P	**Pn**	**03 04 28.9**	**-1.3**
KKN	**Kakani**	**10.33**	**136**	*e*P	**Pn**	**03 04 36.5**	**-0.9**
DMN	**Daman**	**10.37**	**137**	*e*P	**Pn**	**03 04 37.1**	**-1.0**
	12nm,0.7s						
PKIN	**Phulchoki**	**10.55**	**136**	*e*P	**Pn**	**03 04 39.6**	**-1.0**
PKI	**Pulchoki**	**10.57**	**136**	*e*P	**Pn**	**03 04 39.7**	**-1.1**
GUN	**Gumba**	**10.58**	**133**	*e*P	**Pn**	**03 04 40.0**	**-1.1**
JIRN	**Jiri**	**10.95**	**133**	*e*P	**Pn**	**03 04 44.7**	**-1.5**
	22nm,0.6s						
WMQ	**Urumqi**	**11.56**	**41**	*e*P	**Pn**	**03 04 57.9**	**+3.8**
RAMN	**Ramite**	**11.72**	**134**	*e*P	**Pn**	**03 04 53.9**	**-2.7**
	7.6nm,0.6s						
MK31	**Makanchi Array**	**11.88**	**17**	⇓P	**Pn**	**03 04 57.0**	**-1.6**
	6.0nm,1.1s,baz=170,slow=16,SNR=8.0						
MK31				⇑S	**Sn**	**03 07 06.9**	**-4.2**
	7.6nm,1.1s,baz=173,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**11.88**	**17**	Pn	**Pn**	**03 05 00.3**	**+1.8**
	0.1nm,0.3s,baz=194,slow=14,SNR=3.8						
MKAR				Sn	**Sn**	**03 07 11.2**	**+0.1**
	0.1nm,0.3s,baz=205,slow=20,SNR=3.3						
TAPN	**Taplejung**	**12.11**	**129**	*e*P	**Pn**	**03 04 59.2**	**-2.7**
	7.0nm,0.4s						
BRTR	**Keskin Array B**	**34.52**	**290**	P	**P**	**03 08 57.0**	**-0.6**
	0.3nm,0.6s,baz=93,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**41.13**	**325**	P	**P**	**03 09 52.8**	**-0.1**
	3.4nm,1.1s,baz=108,slow=8.9,SNR=6.0						
NOA	**NORSAR Array B**	**48.18**	**323**	P	**P**	**03 10 51.7**	**+2.5**
	0.4nm,0.5s,baz=94,slow=7.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**70.77**	**273**	P	**P**	**03 13 27.4**	**+1.4**
	0.4nm,0.8s,baz=43,slow=4.6,SNR=4.2						
WRA	**Warramunga Arr**	**77.27**	**126**	P	**P**	**03 14 02.1**	**-1.6**
	0.2nm,0.7s,baz=314,slow=3.7,SNR=3.4						

*ISCJB **11** 03:15:09.6±0.7, 12°.51N±0°.09×86°.7W±0°.1, h195km±7km, mb3.3/3, Error ellipse: s-maj=23.4km s-min=9.7km az=147.9*
*UCR **11** 03:15:11.8±1.0, 12°.44N×86°.71W, h170km±11km, MW3.6*
*IDC **11** 03:15:11.5±1.4, 12°.35N×86°.54W, h221km±24km, mb3.1/4, mb1 3.3/6, mb1mx3.0/39, mbtmp3.6/6, Error ellipse: s-maj=43.3km s-min=19.7km az=23.0*

ISC 11 03:15:10.1±0.9, **12°.51N**±0°.08×**86°.59W**±0°.09, **h187**km±8km, **n20**, σ1°**98**/23, **mb3.1**/3, **1C-1D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.10**	**267**	*e*P	**Pn**	**03 15 33.7**	**-1.0**
CRIN	**San Cristobal**	**0.49**	**293**	⇑*e*P	**Pn**	**03 15 35.5**	**-0.2**
ESTN	**Estel**	**0.63**	**20**	*e*P	**Pn**	**03 15 37.6**	**+1.2**
MATN	**Matagalpa**	**0.78**	**57**	⇓*e*P	**Pn**	**03 15 38.6**	**+1.4**
RCON	**San Juan de Ri**	**1.06**	**24**	*e*P	**Pn**	**03 15 40.4**	**+1.2**
ACON	**Acoyapa**	**1.49**	**111**	*e*P	**Pn**	**03 15 44.2**	**+1.7**
BUEV	**Buena Vista**	**2.06**	**145**	*e*P	**Pn**	**03 15 49.4**	**+1.0**
BUEV				*e*S	**Sn**	**03 16 18.9**	**+0.8**
ESPN	**Las Esperanzas**	**2.26**	**98**	*e*P	**Pn**	**03 15 52.5**	**+2.0**
CUI	**Cuipilapa**	**2.31**	**143**	*e*P	**Pn**	**03 15 52.8**	**+1.7**
CUI				*e*S	**Sn**	**03 16 25.0**	**+2.0**
PLVR	**Palo Verde**	**2.46**	**150**	*e*P	**Pn**	**03 15 54.8**	**+1.7**
JTS	**Las Juntas de**	**2.73**	**144**	P	**Pn**	**03 15 57.3**	**+1.5**
	3.0nm,0.3s,baz=0.0,slow=15,SNR=17						
JTS				S	**Sn**	**03 16 30.2**	**-1.4**
	9.0nm,0.3s,baz=166,slow=22,SNR=10						
JTS	**Las Juntas de**	**2.73**	**144**	*e*P	**Pn**	**03 15 57.6**	**+1.7**
LCR2	**La Lucha 2**	**3.74**	**137**	*e*P	**Pn**	**03 16 11.2**	**+2.7**
APG	**El Apazote**	**4.51**	**304**	P	**Pn**	**03 16 22.7**	**+4.6**
	0.7nm,0.3s,baz=90,slow=15,SNR=6.0						
SJG	**San Juan**	**20.48**	**72**	P	**P**	**03 19 32.8**	**-0.8**
	11nm,0.8s,baz=278,slow=7.6,SNR=3.2						
TXAR	**Lajitas Array**	**23.07**	**319**	P	**P**	**03 19 58.1**	**-1.3**
	0.3nm,0.6s,baz=137,slow=11,SNR=4.4						
TKL	**Tuckaleechee C**	**23.19**	**6**	P	**P**	**03 19 59.9**	**-0.4**
	2.6nm,0.7s,baz=162,slow=9.6,SNR=4.4						
PDAR	**Pinedale Array**	**36.13**	**331**	P	**P**	**03 21 54.8**	**+0.3**
	0.2nm,0.5s,baz=148,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**140.07**	**248**	PKP	**PKPdf**	**03 34 14.3**	**-2.8**
	0.2nm,0.7s,baz=83,slow=2.9,SNR=3.1						
WRA	**Warramunga Arr**	**140.09**	**254**	PKP	**PKPdf**	**03 34 15.1**	**-2.1**
	0.3nm,0.5s,baz=92,slow=2.6,SNR=7.7						

*IDC **11** 03:23:20.9±1.4, 14°.84S×75°.54W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.8/29, mbtmp3.9/8, ML3.7/3, MS3.4/11, Ms1 3.4/11, ms1mx3.2/28, Error ellipse: s-maj=39.2km s-min=14.1km az=53.0*
*ISCJB **11** 03:23:23.1±0.7, 14°.97S±0°.07×75°.5W±0°.1, h28km, mb3.9/3, MS3.5/6, Error ellipse: s-maj=16.9km s-min=5.4km az=150.3*
*NEIC **11** 03:23:26.2±2.8, 15°.1S±0°.1×75°.71W±0°.10, h41km±8km, mb4.1/3*

ISC 11 03:23:24.5±0.8, **14°.99S**±0°.09×**75°.6W**±0°.1, **h28**km, **n37**, σ2°**15**/31, **mb4.2**/4, **MS3.5**/6, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.21**	**338**	Pn	**Pn**	**03 24 12.1**	**-1.0**
	5.7nm,0.3s,baz=141,slow=9.6,SNR=14						
NNA				Sn	**Sn**	**03 24 49.4**	**-1.1**
	32nm,0.3s,baz=183,slow=8.6,SNR=6.8						
NNA				Lg	Lg	03 24 58.8	
	38nm,0.3s,baz=222,slow=22,SNR=7.0						
NNA				LR	LR	03 25 31.1	
	comp=Z,243nm,19.4s,baz=160,slow=42						
NNA	**Nana**	**3.21**	**338**	Pn	**Pn**	**03 24 12.9**	**-0.2**
NNA				Sn	**Sn**	**03 24 45.0**	**-5.5**
MNMC	**Minye Minye**	**7.09**	**126**	Pn	**Pn**	**03 25 09.1**	**+2.4**
LPAZ	**La Paz**	**7.33**	**101**	Pn	Pn	03 25 16.6	+6.2
	3.1nm,0.3s,baz=262,slow=7.5,SNR=54						
LPAZ	**La Paz**	**7.33**	**101**		Pn	03 25 16.1	+5.7
PB11	**IPOC Station P**	**7.42**	**131**		**Pn**	**03 25 12.3**	**+1.2**
GO01	**Chusmiza**	**7.71**	**128**		**Pn**	**03 25 17.6**	**+2.2**
ATAH	**Atahualpa**	**8.26**	**340**	Pn	**Pn**	**03 25 26.0**	**+3.0**
	0.5nm,0.3s,baz=141,slow=13,SNR=2.8						
ATAH				Sn	**Sn**	**03 27 02.4**	**+6.7**
	0.9nm,0.3s,baz=252,slow=20,SNR=2.1						
ATAH				LR	LR	03 28 58.6	
	comp=Z,61nm,19.7s,baz=194,slow=41						
PB01	**IPOC Station P**	**8.39**	**137**		**Sn**	**03 26 57.5**	**-0.8**
PB04	**IPOC Station P**	**8.96**	**145**	Pn	**Pn**	**03 25 33.0**	**+0.6**
PB10	**IPOC Station P**	**9.74**	**151**	Pn	**Pn**	**03 25 44.3**	**+1.4**
LVC	**Limon Verde**	**9.89**	**141**	Pn	**Pn**	**03 25 47.4**	**+2.1**
	1.8nm,0.3s,baz=306,slow=9.1,SNR=16						
LVC				Sn	**Sn**	**03 27 35.3**	**-0.3**
	0.9nm,0.3s,baz=99,slow=19,SNR=3.9						
LVC				Lg	Lg	03 28 35.0	
	0.3nm,0.3s,baz=172,slow=11,SNR=5.9						
LVC				LR	LR	03 29 20.4	
	comp=Z,67nm,21.5s,baz=303,slow=36						
LVC	**Limon Verde**	**9.89**	**141**		**Pn**	**03 25 47.8**	**+2.5**
GO02	**Mina Guanaco**	**11.60**	**152**	Pn	**Pn**	**03 26 08.8**	**+0.1**
SAML	**Samuel**	**13.56**	**65**		**Pn**	**03 26 34.4**	**-0.8**
SIV	**San Ignacio**	**14.06**	**96**	Pn	**Pn**	**03 26 41.0**	**-1.1**
	0.4nm,0.3s,baz=293,slow=14,SNR=13						
SIV				LR	LR	03 32 51.0	
	comp=Z,362nm,19.3s,baz=306,slow=41						
ROSC	**El Rosal**	**19.74**	**4**	LR	LR	03 37 02.3	
	comp=Z,102nm,18.7s,baz=203,slow=42						
CPUP	**Villa Florida**	**20.48**	**126**	P	**P**	**03 27 59.6**	**-0.6**
	1.2nm,0.8s,baz=294,slow=14,SNR=2.1						
CPUP				LR	LR	03 37 20.3	
	comp=Z,76nm,19.9s,baz=293,slow=41						
PTGA	**Pitinga**	**20.97**	**49**	P	**P**	**03 28 04.3**	**-1.4**
	1.6nm,0.8s,baz=245,slow=14,SNR=1.9						
PTGA				LR	LR	03 36 27.5	
	comp=Z,96nm,18.3s,baz=229,slow=38						
PTGA	**Pitinga**	**20.97**	**49**	P	**P**	**03 28 06.2**	**+0.5**
PTGA				IAmb	IAmb	03 28 10.1	
	comp=Z,11nm,1.4s						
BDFB	**Brasilia**	**26.63**	**95**	P	**P**	**03 29 00.3**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=66,slow=3.5,SNR=3.2						
BDFB				LR	LR	03 40 33.5	
	comp=Z,216nm,18.7s,baz=276,slow=39						
BDFB	**Brasilia**	**26.63**	**95**	P	**P**	**03 29 01.8**	**+0.6**
BDFB				IAmb	IAmb	03 29 14.9	
	comp=Z,4.8nm,1.1s						
JTS	**Las Juntas de**	**26.76**	**339**	LR	LR	03 38 42.1	
	comp=Z,66nm,18.8s,baz=208,slow=35						
TXAR	**Lajitas Array**	**51.72**	**328**	P	**P**	**03 32 29.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=162,slow=7.6,SNR=4.2						
DBIC	**Dimbokro**	**73.35**	**78**	LR	LR	04 04 44.5	
	comp=Z,47nm,21.3s,baz=240,slow=34						
TOA0	**Torodi Ar. Sit**	**81.45**	**74**	P	**P**	**03 35 41.0**	**+1.2**
TOA0				IAmb	IAmb	03 35 41.5	
	comp=Z,4.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.45**	**74**	P	**P**	**03 35 40.5**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=278,slow=5.1,SNR=18						
TORD				LR	LR	04 10 00.5	
	comp=Z,40nm,20.0s,baz=320,slow=34						
H11N3	**WAKE ISLAND Hyl**	**20.41**	**284**	T	T	05 53 48.5	
	baz=97,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hyl**	**20.42**	**284**	T	T	05 53 49.9	
	baz=97,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hyl**	**20.42**	**284**	T	T	05 53 49.7	
	baz=97,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**20.46**	**283**	T	T	05 53 51.0	
	baz=97						
H11S1	**WAKE ISLAND Hyl**	**20.47**	**283**	T	T	05 53 52.4	
	baz=97,slow=74						
H11S3	**WAKE ISLAND Hyl**	**20.48**	**283**	T	T	05 53 53.1	
	baz=97,slow=74						
WRA	**Warramunga Arr**	**134.47**	**221**	PKP	**PKPdf**	**03 42 41.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=152,slow=1.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**138.21**	**17**	PKP	**PKPdf**	**03 42 47.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=343,slow=3.0,SNR=3.3						
KSH	**Kashi**	**145.13**	**40**	*e*PKPbc	**PKPab**	**03 42 59.2**	**-0.3**
KSH				PKS	**PKSdf**	**03 46 32.7**	**-2.8**
SONM	**Songino Array**	**147.20**	**357**	PKPbc	**PKPab**	**03 43 06.0**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=302,slow=1.7,SNR=6.8						

*NIED **11** 03:44:00, 37°.20N×144°.60E, h8km, Mw3.6 Best double couple: M0:2.70000×10^14 NP1:φs=35.00000°, δ35.00000°, λ-74.00000°. NP2:φs=196.00000°, δ56.00000°, λ-101.00000°.*
*IDC **11** 03:44:41.3±0.9, 37°.00N×144°.91E, h0km, mb3.5/7, mb1 3.8/11, mb1mx3.6/39, mbtmp3.6/11, ML3.2/4, Error ellipse: s-maj=23.2km s-min=21.1km az=112.0*
*ISCJB **11** 03:44:45.8±0.7, 37°.28N±0°.05×144°.69E±0°.04, h33km, mb3.5/7, Error ellipse: s-maj=6.5km s-min=5.1km az=173.7*
*JMA **11** 03:44:46.7±0.2, 37°.18N×144°.57E, h43km, M4.4*

ISC 11 03:44:46.8±0.9, **37°.24N**±0°.06×**144°.78E**±0°.07, **h35**km, **n37**, σ1°**79**/52, **mb3.5**/7, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.83**	**293**	P	**Pn**	**03 45 29.3**	**-0.2**
JIKH				*e*S	**Sn**	**03 46 00.8**	**-1.6**
JIO	**Ouri**	**2.97**	**295**	P	**Pn**	**03 45 31.3**	**-0.1**
JIO				S	**Sn**	**03 46 04.3**	**-1.5**
JKMT	**Kesennumamotoy**	**3.04**	**302**	P	**Pn**	**03 45 32.3**	**-0.1**
JKMT				*e*S	**Sn**	**03 46 06.2**	**-1.3**
OFUJ	**Ofunato**	**3.06**	**308**	P	**Pn**	**03 45 32.5**	**-0.1**
OFUJ				*e*S	**Sn**	**03 46 07.2**	**-0.8**
JMST	**Minamisoumatoc**	**3.13**	**280**	P	**Pn**	**03 45 32.8**	**-0.8**
JMST				*e*S	**Sn**	**03 46 07.9**	**-1.8**
JMK	**Ichinoseki**	**3.28**	**302**	P	**Pn**	**03 45 35.9**	**+0.2**
JMK				*e*S	**Sn**	**03 46 13.0**	**-0.5**
JOU	**Okura**	**3.44**	**290**	P	**Pn**	**03 45 38.4**	**+0.5**
JOU				*e*S	**Sn**	**03 46 17.1**	**-0.4**
JFT	**Otama**	**3.55**	**276**	P	**Pn**	**03 45 39.5**	**+0.2**
JFT				*e*S	**Sn**	**03 46 18.3**	**-1.8**
JYK	**Kaneyama**	**3.87**	**297**	P	**Pn**	**03 45 44.6**	**+0.9**
JYK				*e*S	**Sn**	**03 46 27.1**	**-0.8**
JRG	**Rokugo**	**3.90**	**305**	P	**Pn**	**03 45 45.1**	**+0.9**
JRG				*e*S	**Sn**	**03 46 28.9**	**+0.1**
JAH	**Hinai**	**4.37**	**314**	P	**Pn**	**03 45 52.3**	**+1.6**
JTM	**Tenmabayashi**	**4.57**	**322**	P	**Pn**	**03 45 54.2**	**+0.9**
JTM				*e*S	**Sn**	**03 46 43.2**	**-1.9**
JRY	**Ryogami san**	**4.88**	**257**	P	**Pn**	**03 45 56.2**	**-1.5**
JRY				*e*S	**Sn**	**03 46 48.3**	**-4.7**
JOD2	**Odawara 2**	**5.00**	**248**	P	**Pn**	**03 45 58.0**	**-1.4**
JOD2				*e*S	**Sn**	**03 46 51.9**	**-4.1**
JOT	**Ohata**	**5.04**	**326**	P	**Pn**	**03 46 01.0**	**+1.1**
JOT				*e*S	**Sn**	**03 46 57.6**	**+0.7**
MJAR	**Matsushiro Arr**	**5.31**	**264**	Pn	**Pn**	**03 46 03.8**	**+0.2**
	0.7nm,0.3s,baz=211,slow=6.8,SNR=24						
MJAR				Sn	**Sn**	**03 47 02.8**	**-0.8**
	0.4nm,0.3s,baz=187,slow=25,SNR=5.4						
MAT	**Matsushiro**	**5.31**	**264**	P	**Pn**	**03 46 04.0**	**+0.4**
MAT				*e*S	**Sn**	**03 47 03.6**	**0.0**
JKB	**Kayabe**	**5.47**	**329**	P	**Pn**	**03 46 06.9**	**+1.2**
JKB				*e*S	**Sn**	**03 47 05.3**	**-2.0**
JCH	**Churui**	**5.47**	**349**	P	**Pn**	**03 46 05.5**	**-0.3**
JCH				*e*S	**Sn**	**03 47 04.7**	**-2.8**
NEM2	**Nemuro 2**	**6.16**	**7**	P	**Pn**	**03 46 13.5**	**-1.7**
NEM2				*e*S	**Sn**	**03 47 19.0**	**-5.3**
JTKR	**Abashiri--Toko**	**6.75**	**355**	P	**Pn**	**03 46 23.0**	**-0.3**
JTKR				*e*S	**Sn**	**03 47 35.4**	**-3.5**
ASAJ	**Asahikawa**	**7.06**	**347**	Pn	**Pn**	**03 46 28.0**	**+0.4**
	0.9nm,0.3s,baz=200,slow=15,SNR=6.7						
ASAJ				Sn	**Sn**	**03 47 43.5**	**-3.1**
	0.7nm,0.3s,baz=331,slow=19,SNR=2.3						
USRK	**Ussuriysk Ar.**	**11.93**	**310**	Pn	**Pn**	**03 47 36.4**	**+2.2**
	baz=119,slow=11,SNR=3.5						
KSRS	**Korea Array**	**13.41**	**276**	Pn	**Pn**	**03 47 56.1**	**+1.6**
	0.2nm,0.3s,baz=76,slow=16,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**26.02**	**126**	T	T	04 17 05.7	
	baz=317,slow=74,SNR=119						
H11N1	**WAKE ISLAND Hy**	**26.03**	**126**	T	T	04 17 05.9	
	baz=317,slow=74,SNR=47						
H11N3	**WAKE ISLAND Hy**	**26.04**	**126**	T	T	04 17 01.2	
	baz=317,slow=74,SNR=78						
H11S1	**WAKE ISLAND Hy**	**26.79**	**128**	T	T	04 18 04.4	
	baz=319,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**26.80**	**128**	T	T	04 18 00.8	
	baz=319,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**26.81**	**128**	T	T	04 18 02.8	
	baz=319,slow=76,SNR=27						
MKAR	**Makanchi Array**	**46.28**	**303**	P	**P**	**03 53 10.0**	**+1.2**
	0.5nm,0.8s,baz=82,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**47.88**	**32**	P	**P**	**03 53 21.7**	**+0.8**
	0.7nm,0.9s,baz=264,slow=6.8,SNR=5.1						
WRA	**Warramunga Arr**	**57.72**	**192**	P	**P**	**03 54 31.6**	**-2.4**
	0.4nm,0.8s,baz=9.5,slow=6.8,SNR=4.8						
ASAR	**Alice Springs**	**61.44**	**191**	P	**P**	**03 54 58.0**	**-1.7**
	0.2nm,0.5s,baz=11,slow=6.7,SNR=3.0						
PDAR	**Pinedale Array**	**75.58**	**47**	P	**P**	**03 56 29.0**	**+0.9**
	0.3nm,0.7s,baz=324,slow=2.8,SNR=3.6						
AKASG	**Malin Array Be**	**75.75**	**324**	P	**P**	**03 56 29.6**	**+1.0**
	0.5nm,0.5s,baz=45,slow=7.1,SNR=4.2						
TXAR	**Lajitas Array**	**87.84**	**54**	P	**P**	**03 57 33.6**	**+0.8**
	0.2nm,0.7s,baz=318,slow=2.6,SNR=2.6						

*ATH **11** 03:46:49.8, 39°.48N×26°.00E, h32km±1km, ML1.5/2, Error ellipse: s-maj=2.0km s-min=0.7km az=85.0*
*ISCJB **11** 03:46:50.7±0.5, 39°.52N±0°.02×26°.04E±0°.04, h10km±4km, Error ellipse: s-maj=5.2km s-min=3.7km az=178.2*
*ISK **11** 03:46:50.0, 39°.52N×26°.07E, h13km, ML1.9/8*
*DDA **11** 03:46:51.6, 39°.57N×26°.16E, h7km±4km, ML2.5*

ISC 11 03:46:50.3±0.9, **39°.52N**±0°.02×**26°.06E**±0°.03, **h17**km±9km, **n18**, σ0°**37**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**359**	*i* P	**Pb**	**03 46 57.5**	**0.0**
BOZC				*i* S	**Sb**	**03 47 02.0**	**-0.4**
BOZC				IAML_P			
	comp=Z,5μm,0.2s						
BOZC	**Bozcaada**	**0.32**	**359**	PG	**Pb**	**03 46 57.2**	**-0.3**
BOZC				SG	**Sg**	**03 47 01.9**	**+0.2**
PRK	**Paraskevi**	**0.32**	**149**	P	**Pb**	**03 46 58.1**	**+0.5**
PRK				S	**Sb**	**03 47 03.2**	**+0.6**
PRK				AML	AML	03 47 03.3	
	comp=E,303μm,0.2s						
PRK				AML	AML	03 47 04.9	
	comp=N,251μm,0.3s						
SIGR	**SIGRI**	**0.35**	**207**	P	**Pg**	**03 46 57.5**	**-0.1**
SIGR				S	**Sg**	**03 47 02.5**	**0.0**
SIGR				AML	AML	03 47 03.2	
	comp=N,166μm,0.4s						
SIGR				AML	AML	03 47 04.1	
	comp=E,221μm,0.2s						
SIGR	**SIGRI**	**0.35**	**207**	PG	**Pg**	**03 46 57.5**	**-0.1**
SIGR				SG	**Sb**	**03 47 02.9**	**-0.4**
EZN	**Ezine**	**0.36**	**34**	PG	**Pb**	**03 46 57.9**	**-0.4**
EZN				SG	**Sb**	**03 47 03.4**	**-0.3**
AYVA	**Ayvalik**	**0.54**	**114**	*i* P	**Pn**	**03 47 02.9**	**-0.2**
AYVA				*i* S	**Sb**	**03 47 08.7**	**+0.1**
AYVA				IAML_P			
	comp=Z,230nm,0.1s						
LIA	**Limnos Island**	**0.77**	**299**	P	**Pb**	**03 47 05.7**	**+0.4**
LIA				S	**Sb**	**03 47 16.1**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.93**	**20**	PG	**Pb**	**03 47 08.2**	**+0.3**
LPK	**Lapseki**	**1.00**	**32**	PG	**Pn**	**03 47 09.6**	**0.0**
SMTH	**Samothraki Isl**	**1.03**	**337**	P	**Pb**	**03 47 09.9**	**+0.3**
SMTH				S	**Sg**	**03 47 23.9**	**+0.2**
CHOS	**Chios island**	**1.14**	**180**	P	**Pb**	**03 47 10.8**	**-0.7**
CHOS				S	**Sb**	**03 47 25.7**	**-0.3**
ERIK	**Erikli-Kesan**	**1.20**	**17**	PN	**Pg**	**03 47 12.9**	**-0.5**
BALY	**Balya**	**1.23**	**79**	*i* P	**Pg**	**03 47 14.4**	**+0.5**
BALY				*i* S	**Sn**	**03 47 29.0**	**+0.2**
BALY				IAML_P			
	comp=Z,193nm,0.1s						
KRBG	**Karabiga-Canak**	**1.29**	**47**	PN	**Pb**	**03 47 13.9**	**-0.2**
ALN	**Alexandroupoli**	**1.37**	**360**	P	**Pb**	**03 47 15.7**	**+0.2**
ALN				S	**Sg**	**03 47 34.2**	**-0.4**
KESN	**Edirne-Kesan**	**1.39**	**20**	*i* P	**Pg**	**03 47 16.9**	**-0.1**
KESN				*i* S	**Sg**	**03 47 35.2**	**+0.1**
KESN				IAML_P			
	comp=Z,84nm,0.1s						
MRMT	**Marmara Adasi**	**1.60**	**47**	PN	**Pb**	**03 47 19.8**	**+0.4**

*IDC **11** 03:48:21.6±1.6, 30°.08S×177°.47W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/26, mbtmp4.0/4, Error ellipse: s-maj=35.6km s-min=27.5km az=122.0*
*ISCJB **11** 03:48:26.6±1.5, 30°.04S±0°.09×177°.7W±0°.2, h35km, mb3.9/4, Error ellipse: s-maj=30.0km s-min=13.0km az=4.4*

ISC 11 03:48:27.5±1.4, **30°.0S**±0°.1×**177°.6W**±0°.2, **h35**km, **n7**, σ1°**00**/8, **mb4.0**/4, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**336**	Pn	**Pn**	**03 48 41.4**	**-0.5**
	493nm,0.3s,baz=99,slow=7.9,SNR=40						
RAO				Sn	**Sn**	**03 48 52.9**	**+0.6**
	2μm,0.3s,baz=90,slow=20,SNR=26						
STKA	**Stephens Creek**	**34.95**	**256**	P	**P**	**03 55 17.4**	**+1.2**
	0.9nm,0.3s,baz=96,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**43.51**	**266**	P	**P**	**03 56 27.3**	**-0.6**
	1.3nm,0.7s,baz=102,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**44.46**	**271**	P	**P**	**03 56 34.9**	**-0.6**
	1.8nm,0.5s,baz=110,slow=8.1,SNR=53						
NVAR	**Mina Array Bea**	**87.66**	**43**	P	**P**	**04 01 13.4**	**+0.8**
	0.4nm,0.8s,baz=211,slow=6.3,SNR=3.5						
FINES	**FINESS Array B**	**144.86**	**340**	PKPbc	**PKPab**	**04 07 58.4**	**-0.8**
	5.3nm,0.7s,baz=32,slow=3.4,SNR=23						
BRTR	**Keskin Array B**	**152.72**	**299**	PKPbc	**PKPbc**	**04 08 19.8**	**-1.0**
	0.3nm,0.6s,baz=47,slow=6.3,SNR=3.8						

*IDC **11** 04:07:22.9±0.7, 19°.19S×174°.68W, h0km, mb4.3/12, mb1 4.6/13, mb1mx4.4/25, mbtmp4.4/13, ML3.9/1, MS3.0/4, Ms1 3.0/4, ms1mx2.8/31, Error ellipse: s-maj=28.3km s-min=16.3km az=143.0*
*NEIC **11** 04:07:27.9±2.3, 19°.4S±0°.1×174°.50W±0°.03, h36km±8km, mb4.7/14*
*ISCJB **11** 04:07:28.4±0.4, 19°.32S±0°.07×174°.45W±0°.07, h61km, mb4.2/12, Error ellipse:

PDAR	**Pinedale Array**	**85.85**	**42**	P	**P**	**04 20 05.1**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=220,slow=2.4,SNR=3.0						
ILAR	**Eielson Array**	**86.51**	**11**	P	**P**	**04 20 06.0**	**0.0**
	comp=Z,0.9nm,1.0s,baz=229,slow=6.3,SNR=7.8						
CMAR	**Chiang Mai Arr**	**92.95**	**288**	P	**P**	**04 20 37.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=103,slow=2.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**92.95**	**288**	P	**P**	**04 20 37.9**	**+0.5**
SONM	**Songino Array**	**97.15**	**318**	P	Pdif	04 20 58.5	+2.3
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=2.1						
BRTR	**Keskin Array B**	**148.49**	**316**	PKPbc	**PKPbc**	**04 27 11.3**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=108,slow=4.0,SNR=3.8						

*ISK **11** 04:28:43.7, 38.°59N×43.°55E, h4km, ML2.0/3*
*DDA **11** 04:28:43.9, 38.°68N×43.°40E, h8km±3km, ML3.0*
*ISCJB **11** 04:28:44.4±0.8, 38.°63N±0.°05×43.°4E±0.°1, h18km±6km,*
Error ellipse: s-maj=16.2km s-min=7.3km az=18.1
ISC 11 04:28:44.5±1.1, 38.°62N±0.°04×43.°48E±0.°07, h16km±7km, n9, σ0.°92/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.07**	**249**	PG	**Pg**	**04 28 47.2**	**-0.6**
VANB				SG	**Sg**	**04 28 49.8**	**-0.1**
TVAN	**Van**	**0.11**	**211**	*i* P	**Pg**	**04 28 47.8**	**-0.4**
TVAN				*i* S	**Sg**	**04 28 51.4**	**+0.7**
VMUR	**Van-Muradiye**	**0.37**	**11**	*i* P	**Pg**	**04 28 51.8**	**-0.5**
VMUR				IAML_P			
	comp=Z,3μm,0.2s						
GEVA	**Gevas**	**0.45**	**227**	*i* P	**Pg**	**04 28 53.0**	**-0.6**
CLDR	**Caldiran**	**0.62**	**33**	*i* P	**Pg**	**04 28 56.1**	**-0.7**
CLDR				*i* S	**Sb**	**04 29 06.9**	**+1.1**
CLDR	**Caldiran**	**0.62**	**33**	PG	**Pg**	**04 28 55.9**	**-0.9**
CLDR				SG	**Sb**	**04 29 05.9**	**+0.1**
TUTA	**Tutak**	**0.94**	**327**	*i* P	**Pg**	**04 29 01.6**	**-1.1**
HAKT	**HAKKARI**	**1.08**	**170**	*i* P	**Pg**	**04 29 04.1**	**-1.3**
CUKT	**Cukurca**	**1.38**	**176**	PN	**Pn**	**04 29 09.8**	**+0.6**

*TAP **11** 04:48:59.0, 24.°04N×122.°43E, h27km, ML3.0, D*
*JMA **11** 04:48:58.5±0.2, 23.°99N×122.°41E, h19km±4km, M2.4*
*ISCJB **11** 04:48:59.3±0.3, 24.°03N±0.°01×122.°42E±0.°02, h30km±2km,*
Error ellipse: s-maj=2.6km s-min=2.1km az=39.5
ISC 11 04:48:58.9±1.1, 24.°02N±0.°02×122.°41E±0.°02, h24km±13km, n84, σ0.°55/167, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.58**	**334**	P	**Pb**	**04 49 10.9**	**+0.4**
	baz=331						
EOS1				*e*S	**Sn**	**04 49 19.6**	**-0.8**
	baz=331						
JYNG	**Yonagunijimaku**	**0.65**	**49**	P	**Pb**	**04 49 11.4**	**-0.1**
JYNG				S	**Sb**	**04 49 19.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.70**	**51**	*e*P	**Pb**	**04 49 12.4**	**0.0**
	baz=50						
YOJ				*e*S	**Sn**	**04 49 22.6**	**-0.7**
	baz=50						
YOJ	**Yonaguni jima**	**0.70**	**51**	P	**Pb**	**04 49 12.4**	**0.0**
YOJ				*e*S	**Sb**	**04 49 21.5**	**-0.1**
NANB	**Nanao**	**0.73**	**304**	*e*P	**Pb**	**04 49 13.0**	**+0.1**
	baz=302						
NANB				*e*S	**Sn**	**04 49 23.6**	**-0.4**
	baz=302						
ENA	**Nanau**	**0.73**	**303**	*e*P	**Pb**	**04 49 13.2**	**+0.2**
	baz=301						
ENA				*e*S	**Sn**	**04 49 24.0**	**-0.2**
	baz=301						
HWA	**Hwalien**	**0.74**	**267**	*e*P	**Pb**	**04 49 13.3**	**+0.2**
	baz=265						
HWA				*e*S	**Sn**	**04 49 24.6**	**+0.2**
	baz=265						
TWD	**Chiawan**	**0.75**	**274**	*e*P	**Pn**	**04 49 14.1**	**+0.1**
	baz=273						
TWD				*e*S	**Sn**	**04 49 24.3**	**-0.3**
	baz=273						
NACB	**Ninganchiao**	**0.76**	**281**	*e*P	**Pn**	**04 49 14.0**	**-0.2**
	baz=279						
NACB				*e*S	**Sn**	**04 49 24.9**	**0.0**
	baz=279						
TWC	**Suao**	**0.78**	**319**	P	**Pb**	**04 49 13.7**	**-0.1**
	baz=317						
TWC				*e*S	**Sb**	**04 49 23.7**	**-0.2**
	baz=317						
ETLH	**Xiulin Townshi**	**0.87**	**282**	*e*P	**Pn**	**04 49 15.8**	**0.0**
	baz=280						
ETLH				*e*S	**Sn**	**04 49 27.7**	**0.0**
	baz=280						
ESL	**Shilin**	**0.92**	**257**	*e*P	**Pn**	**04 49 16.2**	**-0.1**
	baz=255						
ESL				*e*S	**Sn**	**04 49 29.4**	**+0.6**
	baz=255						
ILA	**Ilan**	**0.96**	**321**	*e*P	**Pn**	**04 49 17.1**	**+0.3**
	baz=319						
ILA				*e*S	**Sb**	**04 49 29.4**	**+0.3**
	baz=319						
EGFH	**Guangfu**	**0.97**	**249**	*e*P	**Pn**	**04 49 17.3**	**+0.3**
	baz=248						
EGFH				*e*S	**Sb**	**04 49 29.5**	**0.0**
	baz=248						
TWE	**Neicheng**	**0.97**	**316**	*e*P	**Pb**	**04 49 16.9**	**-0.2**
	baz=314						
TWE				*e*S	**Sb**	**04 49 29.8**	**+0.3**
	baz=314						
NTC	**Toucheng**	**0.98**	**327**	*e*P	**Pb**	**04 49 17.3**	**+0.1**
	baz=326						
NTC				*e*S	**Sn**	**04 49 30.5**	**+0.1**
	baz=326						
ENTT	**Nioudou**	**0.99**	**309**	*e*P	**Pb**	**04 49 17.4**	**+0.1**
	baz=307						
ENTT				*e*S	**Sn**	**04 49 30.8**	**+0.3**
	baz=307						
NDT	**Datong Townshi**	**1.00**	**305**	*e*P	**Pb**	**04 49 17.9**	**+0.3**
	baz=303						
NDT				*e*S	**Sn**	**04 49 31.2**	**+0.3**
	baz=303						
SLBB	**Yuanshan**	**1.02**	**316**	*e*P	**Pn**	**04 49 17.6**	**-0.1**
	baz=314						
SLBB				*e*S	**Sb**	**04 49 30.8**	**-0.1**
	baz=314						
NNSB	**Datong**	**1.02**	**293**	*e*P	**Pn**	**04 49 17.7**	**-0.2**
	baz=292						
NNSB				*e*S	**Sb**	**04 49 31.4**	**+0.3**
	baz=292						
NNS	**Nan Shan**	**1.04**	**294**	*e*P	**Pn**	**04 49 17.9**	**-0.2**
	baz=292						
NNS				*e*S	**Sb**	**04 49 31.5**	**+0.1**
	baz=292						
HGSD	**Ruisui**	**1.05**	**240**	*e*P	**Pn**	**04 49 17.4**	**-0.7**
	baz=239						
HGSD				*e*S	**Sn**	**04 49 32.5**	**+0.5**
	baz=239						
TWB1	**Santiao Chiao**	**1.05**	**338**	*e*P	**Pn**	**04 49 18.1**	**-0.1**
	baz=337						
TWB1				*e*S	**Sb**	**04 49 32.0**	**+0.2**
	baz=337						
WHF	**Hehuan Shan**	**1.06**	**277**	*e*P	**Pn**	**04 49 18.5**	**-0.2**
	baz=275						
WHF				*e*S	**Sb**	**04 49 32.3**	**-0.1**
	baz=275						
TIPB	**Shuangxi**	**1.09**	**331**	*e*P	**Pb**	**04 49 19.4**	**+0.4**
	baz=329						
TIPB				S	**Sb**	**04 49 32.9**	**+0.1**
	baz=329						
NWLT	**Wulai**	**1.12**	**312**	*e*P	**Pn**	**04 49 19.1**	**0.0**
	baz=311						
NWLT				*e*S	**Sn**	**04 49 33.9**	**+0.1**
	baz=311						
CHGB	**Renai**	**1.14**	**272**	*e*P	**Pn**	**04 49 19.6**	**+0.1**
	baz=271						
CHGB				*e*S	**Sn**	**04 49 34.8**	**+0.4**
	baz=271						
YHNB	**Yeheng**	**1.15**	**304**	*e*P	**Pn**	**04 49 19.6**	**+0.1**
	baz=303						
YHNB				*e*S	**Sn**	**04 49 34.7**	**+0.2**
	baz=303						
TDCB	**Techi**	**1.17**	**282**	*e*P	**Pn**	**04 49 20.1**	**+0.2**
	baz=280						
TDCB				*e*S	**Sb**	**04 49 35.5**	**+0.2**
	baz=280						
NWF	**Wu-fen Shan**	**1.19**	**331**	*e*P	**Pn**	**04 49 20.1**	**0.0**
	baz=330						
NWF				*e*S	**Sn**	**04 49 35.2**	**-0.5**
	baz=330						
WFSB	**Wu-fen Shan**	**1.19**	**331**	*e*P	**Pn**	**04 49 19.9**	**-0.2**
	baz=330						
WFSB				*e*S	**Sn**	**04 49 35.2**	**-0.4**
	baz=330						
VWDT	**VWDT**	**1.20**	**257**	*e*P	**Pb**	**04 49 20.4**	**-0.4**
	baz=256						
VWDT				*e*S	**Sb**	**04 49 35.8**	**-0.1**
	baz=256						
YULB	**Yu-li**	**1.20**	**239**	*e*P	**Pn**	**04 49 19.7**	**-0.6**
	baz=238						
YULB				*e*S	**Sn**	**04 49 34.6**	**-1.2**
	baz=238						
TWA	**Mucha**	**1.22**	**322**	*e*P	**Pn**	**04 49 20.1**	**-0.3**
	baz=320						
TWA				*e*S	**Sn**	**04 49 35.8**	**-0.4**
	baz=320						
TWF1	**Yuli**	**1.22**	**237**	*e*P	**Pn**	**04 49 19.6**	**-0.9**
	baz=236						
TWF1				*e*S	**Sn**	**04 49 36.0**	**-0.3**
	baz=236						
IRIF	**Iriomote-Funau**	**1.24**	**75**	P	**Pb**	**04 49 21.2**	**-0.4**
IRIF				S	**Sb**	**04 49 37.0**	**-0.2**
TATO	**Taipei**	**1.27**	**319**	*e*P	**Pn**	**04 49 21.5**	**+0.4**
	baz=317						
TATO				*e*S	**Sn**	**04 49 37.4**	**0.0**
	baz=317						
FULB	**Fuli**	**1.31**	**232**	*e*P	**Pb**	**04 49 22.2**	**-0.7**
	baz=231						
FULB				*e*S	**Sb**	**04 49 39.2**	**-0.1**
	baz=231						
WLTB	**Daxi**	**1.34**	**308**	*e*P	**Pn**	**04 49 22.2**	**+0.1**
	baz=307						
WLTB				*e*S	**Sn**	**04 49 39.7**	**+0.4**
	baz=307						
SSLB	**Suanglung**	**1.36**	**260**	*e*P	**Pn**	**04 49 22.9**	**+0.5**
	baz=259						
SSLB				*e*S	**Sn**	**04 49 39.8**	**+0.1**
	baz=259						
YM01	**YM01**	**1.36**	**326**	*e*P	**Pn**	**04 49 22.2**	**-0.1**
	baz=324						
YM01				*e*S	**Sn**	**04 49 39.5**	**-0.2**
	baz=324						
DPDB	**Guoxing**	**1.36**	**271**	*e*P	**Pn**	**04 49 21.7**	**-0.7**
	baz=269						
DPDB				*e*S	**Sb**	**04 49 40.4**	**-0.3**
	baz=269						
WHP	**Taichung City**	**1.36**	**281**	*e*P	**Pn**	**04 49 23.1**	**+0.6**
	baz=279						
WHP				*e*S	**Sn**	**04 49 40.1**	**+0.1**
	baz=279						
YM10	**YM10**	**1.37**	**326**	*e*P	**Pn**	**04 49 22.7**	**+0.1**
	baz=324						
YM10				*e*S	**Sn**	**04 49 40.0**	**0.0**
	baz=324						
YM11	**YM11**	**1.37**	**326**	*e*P	**Pn**	**04 49 22.8**	**+0.2**
	baz=325						
YM11				*e*S	**Sn**	**04 49 39.4**	**-0.7**
	baz=325						
YM05	**YM05**	**1.37**	**326**	*e*P	**Pn**	**04 49 22.9**	**+0.2**
	baz=325						
YM05				*e*S	**Sn**	**04 49 40.0**	**-0.2**
	baz=325						
YM04	**YM04**	**1.38**	**325**	*e*P	**Pn**	**04 49 22.9**	**+0.2**
	baz=323						
YM04				*e*S	**Sn**	**04 49 40.2**	**0.0**
	baz=323						
YM08	**YM08**	**1.38**	**327**	*e*P	**Pn**	**04 49 22.8**	**+0.1**
	baz=326						
YM08				*e*S	**Sn**	**04 49 40.6**	**+0.4**
	baz=326						
SMLT	**Sun Moon Lake**	**1.39**	**265**	*e*P	**Pn**	**04 49 23.2**	**+0.3**
	baz=263						
SMLT				*e*S	**Sn**	**04 49 40.4**	**-0.2**
	baz=263						
LIOB	**Emei**	**1.42**	**296**	*e*P	**Pn**	**04 49 23.8**	**+0.5**
	baz=295						
LIOB				*e*S	**Sn**	**04 49 41.1**	**-0.1**
	baz=295						
NSTT	**Nanjuang**	**1.42**	**295**	*e*P	**Pn**	**04 49 23.5**	**+0.3**
	baz=294						
NSTT				*e*S	**Sn**	**04 49 41.2**	**-0.1**
	baz=294						
TYC	**Yuchr**	**1.43**	**266**	*e*P	**Pn**	**04 49 23.6**	**+0.3**
	baz=264						
TYC				*e*S	**Sn**	**04 49 41.6**	**+0.2**
	baz=264						
YUS	**Yu-Shan**	**1.44**	**249**	*e*P	**Pn**	**04 49 24.2**	**+0.2**
	baz=247						
YUS				*e*S	**Sn**	**04 49 40.9**	**-1.5**
	baz=247						
NCU	**National Centr**	**1.46**	**310**	*e*P	**Pn**	**04 49 23.8**	**0.0**
	baz=309						
NCU				*e*S	**Sn**	**04 49 41.7**	**-0.5**
	baz=309						
WHYT	**Xinyi Township**	**1.47**	**257**	*e*P	**Pn**	**04 49 23.8**	**-0.1**
	baz=256						
WHYT				*e*S	**Sb**	**04 49 43.0**	**-0.7**
	baz=256						
JKRS	**Kuro-shima**	**1.47**	**81**	P	**Pb**	**04 49 25.4**	**-0.2**
JKRS				S	**Sb**	**04 49 44.5**	**+0.6**
ELDTW	**Lidau**	**1.53**	**237**	*e*P	**Pn**	**04 49 25.1**	**+0.2**
	baz=236						
ELDTW				*e*S	**Sn**	**04 49 42.2**	**-1.7**
	baz=236						
HSN	**Hsinchu**	**1.53**	**301**	*e*P	**Pn**	**04 49 24.7**	**0.0**
	baz=301						
HSN				*e*S	**Sn**	**04 49 42.4**	**-1.5**
	baz=301						
TWQ1	**Liyutan**	**1.53**	**282**	*e*P	**Pb**	**04 49 25.7**	**-0.9**
	baz=281						
TWQ1				*e*S	**Sn**	**04 49 44.8**	**+0.8**
	baz=281						
ALS	**Alishan**	**1.56**	**251**	*e*P	**Pn**	**04 49 25.7**	**+0.3**
	baz=250						
ALS				*e*S	**Sn**	**04 49 45.2**	**+0.1**
	baz=250						
JIJ	**Ishigaki jima**	**1.61**	**78**	P	**Pn**	**04 49 26.2**	**+0.3**
JIJ				*e*S	**Sn**	**04 49 45.8**	**-0.2**
PCYT	**Pengchaiyu**	**1.63**	**349**	*e*P	**Pn**	**04 49 26.0**	**-0.1**
	baz=348						
PCYT				*e*S	**Sn**	**04 49 46.5**	**+0.2**
	baz=348						
CHN5	**Tsauling**	**1.65**	**255**	*e*P	**Pn**	**04 49 26.7**	**+0.2**
	baz=254						
CHN5				*e*S	**Sn**	**04 49 47.4**	**+0.5**
	baz=254						
WDJ	**Dajia District**	**1.65**	**282**	*e*S	**Sn**	**04 49 47.2**	**+0.3**
	baz=280						
TWGBT	**Beinan**	**1.72**	**226**	*e*P	**Pn**	**04 49 28.2**	**+0.9**
	baz=225						
TWGBT				*e*S	**Sn**	**04 49 49.1**	**+0.7**
	baz=225						
TTN	**Taitung**	**1.72**	**223**	*e*P	**Pn**	**04 49 27.8**	**+0.5**
	baz=222						
TTN				*e*S	**Sb**	**04 49 49.7**	**-1.3**
	baz=222						
TWG	**Pinlang**	**1.72**	**226**	*e*P	**Pn**	**04 49 27.8**	**+0.5**
	baz=225						
TWG				*e*S	**Sn**	**04 49 48.5**	**-0.1**
	baz=225						
STYT	**Tauyuan**	**1.75**	**241**	*e*P	**Pn**	**04 49 28.4**	**+0.6**
	baz=240						
STYT				*e*S	**Sn**	**04 49 50.3**	**+1.0**
	baz=240						
TPUB	**Ta-pu**	**1.79**	**247**	*e*P	**Pn**	**04 49 28.8**	**+0.5**
	baz=245						
TPUB				*e*S	**Sn**	**04 49 51.0**	**+0.7**
	baz=245						
CHN4	**Tsaushan**	**1.80**	**249**	*e*P	**Pn**	**04 49 29.2**	**+0.8**
	baz=247						
CHN4				*e*S	**Sn**	**04 49 51.4**	**+0.8**
	baz=247						
JISG	**Ishigakijimahi**	**1.82**	**72**	P	**Pn**	**04 49 28.9**	**+0.2**
JISG				*e*S	**Sn**	**04 49 51.6**	**+0.6**
WTP	**Ta-pu**	**1.82**	**245**	*e*P	**Pn**	**04 49 29.8**	**+1.0**
	baz=244						
WTP				*e*S	**Sn**	**04 49 52.0**	**+0.8**
	baz=244						
RLNB	**Erlin**	**1.89**	**266**	*e*P	**Pn**	**04 49 29.8**	**+0.2**
	baz=265						
RLNB				*e*S	**Sn**	**04 49 52.8**	**+0.2**
	baz=265						
SLGT	**Liugui**	**1.92**	**238**	*e*P	**Pn**	**04 49 30.0**	**-0.1**
	baz=237						
SLGT				*e*S	**Sn**	**04 49 54.0**	**+0.4**
	baz=237						
TWK	**Hsinying**	**1.92**	**247**	*e*P	**Pn**	**04 49 30.8**	**+0.6**
	baz=246						
TWK				*e*S	**Sn**	**04 49 53.5**	**-0.1**
	baz=246						
CHN1	**Nanshi**	**1.92**	**245**	*e*P	**Pn**	**04 49 30.6**	**+0.5**
	baz=243						
CHN1				*e*S	**Sn**	**04 49 54.2**	**+0.6**
	baz=243						
SNST	**Tainan City**	**1.93**	**246**	*e*P	**Pn**	**04 49 31.4**	**+1.1**
	baz=245						
SNST				*e*S	**Sn**	**04 49 54.3**	**+0.5**
	baz=245						
ECL	**Taimali**	**1.95**	**224**	*e*P	**Pn**	**04 49 29.4**	**-1.2**
	baz=223						
ECL				*e*S	**Sn**	**04 49 53.0**	**-1.3**
	baz=223						
WLGB	**Puzi**	**2.01**	**255**	*e*P	**Pn**	**04 49 31.9**	**+0.6**
	baz=253						
WLGB				*e*S	**Sn**	**04 49 56.8**	**+1.0**
	baz=253						
MASBT	**Mashibuluo**	**2.16**	**230**	*e*P	**Pn**	**04 49 34.1**	**+0.7**
	baz=229						
MASBT				*e*S	**Sn**	**04 50 00.1**	**+0.7**
	baz=229						
TAW	**Tawu**	**2.17**	**220**	*e*P	**Pn**	**04 49 34.3**	**+0.8**
	baz=219						
TAW				*e*S	**Sn**	**04 50 00.4**	**+0.8**
	baz=219						
SCZT	**Fangliau**	**2.33**	**225**	*e*P	**Pn**	**04 49 36.7**	**+0.9**
	baz=224						
SCZT				*e*S	**Sn**	**04 50 04.5**	**+0.9**
	baz=224						
PHUB	**P'eng-hu**	**2.65**	**260**	*e*P	**Pn**	**04 49 40.6**	**+0.5**
	baz=258						
PHUB				*e*S	**Sn**	**04 50 12.1**	**+0.5**
	baz=258						
VWUC	**VWUC**	**2.87**	**290**	*e*P	**Pn**	**04 49 43.6**	**+0.5**
	baz=289						
VWUC				*e*S	**Sn**	**04 50 14.7**	**-2.2**
	baz=289						

*NIED **11** 04:55:00, 24.°90N×123.°10E, h101km, Mw4.5 Best*
double couple: M0 6.50000×10^15 NP1:φs 243.00000°,
δ10.00000°, λ48.00000°. NP2:φs 106.00000°, δ83.00000°,
λ96.00000°.
*MOS **11** 04:55:08.7±1.0, 24.°97N×123.°19E, h129km, mb4.9/32,*
Error ellipse: s-maj=11.1km s-min=5.6km az=106.6
*ISCJB **11** 04:55:09.3±0.1, 24.°80N±0.°01×123.°12E±0.°01,*
h134km±1km, mb4.8/89, Error ellipse: s-maj=2.4km
s-min=1.9km az=162.3
*BJI **11** 04:55:09.7±0.0, 24.°69N×122.°99E, h130km, mb4.8/56,*
mB5.0/34
*NEIC **11** 04:55:09.7±1.9, 24.°88N±0.°07×123.°16E±0.°06,*
h124km±5km, mb5.0/137
*JMA **11** 04:55:10.7±0.2, 24.°78N×123.°13E, h123km±3km, M4.6*
JMA Felt I J1.
*TAP **11** 04:55:10.6, 24.°77N×123.°14E, h121km, ML5.5, B*
*IDC **11** 04:55:10.6±0.5, 24.°90N×123.°17E, h132km±4km, mb4.4/28,*
mb1 4.5/32, mb1mx4.4/44, mbtmp4.8/32, MS3.4/11,
Ms1 3.4/11, ms1mx3.0/40, Error ellipse: s-maj=11.5km
s-min=6.8km az=78.0
*ASIES **11** 04:55:11.3, 24.°64N×123.°23E, h116km, MW4.4*
ISC 11 04:55:10.5±0.3, 24.°82N±0.°03×123.°14E±0.°02, h133km±2km, h133km:pP-P, n512, σ1.°50/588, mb4.9/190, 119C-10D,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.38**	**198**	⇑P	**Pn**	**04 55 28.3**	**-1.0**
	baz=207						
YOJ				S	**Sn**	**04 55 40.8**	**-2.8**
	baz=207						
YOJ	**Yonaguni jima**	**0.38**	**198**	P	**Pn**	**04 55 28.3**	**-1.0**
YOJ	**Yonaguni jima**	**0.38**	**198**	P	**Pn**	**04 55 28.3**	**-1.0**
YOJ				*e*S	**Sn**	**04 55 41.3**	**-2.3**
YOJ	**Yonaguni jima**	**0.38**	**198**		**Pn**	**04 55 28.3**	**-1.0**
JYNG	**Yonagunijimaku**	**0.41**	**206**	P	**Pn**	**04 55 28.5**	**-1.0**
JYNG				S	**Sn**	**04 55 41.9**	**-1.9**
IRIF	**Iriomote-Funau**	**0.72**	**132**	P	**Pn**	**04 55 30.4**	**-1.0**
IRIF				S	**Sn**	**04 55 45.0**	**-2.2**
EOS1	**EOS1**	**0.96**	**254**	⇑P	**Pn**	**04 55 33.0**	**-0.3**
	baz=248						
EOS1				S	**Sn**	**04 55 49.6**	**-0.9**
	baz=248						
HATJ	**Hateruma jima**	**0.97**	**141**	P	**Pn**	**04 55 33.0**	**-0.4**
HATJ				*e*S	**Sn**	**04 55 49.1**	**-1.7**
JKRS	**Kuro-shima**	**0.98**	**126**	P	**Pn**	**04 55 33.2**	**-0.3**
JKRS				S	**Sn**	**04 55 49.7**	**-1.3**
JIJ	**Ishigaki jima**	**1.02**	**116**	P	**Pn**	**04 55 33.1**	**-0.8**
JIJ				S	**Sn**	**04 55 49.0**	**-2.6**
TWB1	**Santiao Chiao**	**1.06**	**280**	⇑*i*P	**Pn**	**04 55 34.2**	**-0.1**
	baz=283						
TWB1				S	**Sn**	**04 55 50.0**	**-2.3**
	baz=283						
JISG	**Ishigakijimahi**	**1.09**	**102**	P	**Pn**	**04 55 33.8**	**-0.7**
JISG				S	**Sn**	**04 55 50.6**	**-2.1**
EGS		**1.10**	**272**	⇑*i*P	**Pn**	**04 55 34.5**	**-0.1**
	baz=268						
NTC	**Toucheng**	**1.19**	**272**	⇑P	**Pn**	**04 55 35.3**	**-0.2**
	baz=269						
NTC				*e*S	**Sn**	**04 55 53.8**	**-0.7**
	baz=269						
TWC	**Suao**	**1.19**	**260**	⇑*i*P	**Pn**	**04 55 34.9**	**-0.6**
	baz=266						
TWC				S	**Sn**	**04 55 52.1**	**-2.4**
	baz=266						
TIPB	**Shuangxi**	**1.20**	**277**	⇑*i*P	**Pn**	**04 55 35.9**	**+0.2**
	baz=272						
TIPB				*i* S	**Sn**	**04 55 53.8**	**-1.1**
	baz=272						
NWF	**Wu-fen Shan**	**1.26**	**282**	⇑*i*P	**Pn**	**04 55 36.5**	**+0.2**
	baz=277						
NWF				S	**Sn**	**04 55 55.1**	**-0.8**
	baz=277						
WFSB	**Wu-fen Shan**	**1.26**	**282**	⇑P	**Pn**	**04 55 36.5**	**+0.3**
	baz=277						
WFSB				S	**Sn**	**04 55 54.9**	**-0.9**
	baz=277						
PCYT	**Pengchaiyu**	**1.26**	**310**	⇓*i*P	**Pn**	**04 55 36.8**	**+0.5**
	baz=311						
PCYT				S	**Sn**	**04 55 55.9**	**+0.1**
	baz=311						
ILA	**Ilan**	**1.27**	**268**	P	**Pn**	**04 55 36.3**	**0.0**
	baz=270						
ILA				S	**Sn**	**04 55 55.0**	**-0.8**
	baz=270						
NANB	**Nanao**	**1.32**	**253**	⇑*i*P	**Pn**	**04 55 36.3**	**-0.6**
	baz=249						
NANB				S	**Sn**	**04 55 54.8**	**-2.2**
	baz=249						
ENA	**Nanau**	**1.33**	**253**	⇑P	**Pn**	**04 55 36.4**	**-0.6**
	baz=249						
ENA				S	**Sn**	**04 55 55.3**	**-1.9**
	baz=249						
TWE	**Neicheng**	**1.34**	**266**	⇑*i*P	**Pn**	**04 55 37.0**	**-0.1**
	baz=270						
TWE				S	**Sn**	**04 55 55.6**	**-1.7**
	baz=270						
SLBB	**Yuanshan**	**1.37**	**268**	⇑*i*P	**Pn**	**04 55 36.5**	**-0.9**
	baz=268						
TWA	**Mucha**	**1.42**	**277**	⇑*i*P	**Pn**	**04 55 38.3**	**+0.3**
	baz=273						
TWA				S	**Sn**	**04 55 58.2**	**-0.7**
	baz=273						
JTJ	**Tarama**	**1.43**	**97**	P	**Pn**	**04 55 37.7**	**-0.3**
JTJ				S	**Sn**	**04 55 57.4**	**-1.6**
ENTT	**Nioudou**	**1.44**	**263**	⇑*i*P	**Pn**	**04 55 38.2**	**0.0**
	baz=260						
ENTT				*e*S	**Sn**	**04 55 58.5**	**-0.8**
	baz=260						
YM08	**YM08**	**1.45**	**285**	⇑P	**Pn**	**04 55 38.5**	**+0.2**
	baz=280						
YM08				*e*S	**Sn**	**04 55 57.7**	**-1.8**
	baz=280						
YM01	**YM01**	**1.46**	**283**	⇑*i*P	**Pn**	**04 55 38.8**	**+0.3**
	baz=279						
YM01				S	**Sn**	**04 55 59.2**	**-0.5**
	baz=279						
YM11	**YM11**	**1.46**	**284**	P	**Pn**	**04 55 38.7**	**+0.2**
	baz=280						
YM11				*e*S	**Sn**	**04 55 59.2**	**-0.6**
	baz=280						
TWY	**Chenhua**	**1.47**

baz=280
YM05 S Sn 04 55 58.7 -1.2
baz=280
YM10 YM10 1.47 283⇑iP Pn 04 55 38.9 +0.3
baz=279
YM10 S Sn 04 55 59.3 -0.7
baz=279
NHDH Xindian Distri 1.47 276⇑iP Pn 04 55 38.8 +0.2
baz=274
NHDH eS Sn 04 55 58.8 -1.1
baz=274
TAP1 Taipei 1.48 279 P Pn 04 55 39.0 +0.4
baz=280
TAP1 S Sn 04 55 58.7 -1.3
baz=280
NWLT Wulai 1.49 269⇑iP Pn 04 55 38.7 -0.1
baz=271
NWLT eS Sn 04 55 59.1 -1.1
baz=271
YM04 YM04 1.49 283 ⇑P Pn 04 55 39.0 +0.3
baz=279
YM04 S Sn 04 55 59.6 -0.7
baz=279
NDT Datong Townshi 1.50 262⇑iP Pn 04 55 39.0 +0.3
baz=259
NDT eS Sn 04 55 59.4 -1.0
baz=259
TAP Taipei 1.50 279 ⇑P Pn 04 55 39.1 +0.3
baz=280
TAP S Sn 04 55 59.9 -0.4
baz=280
TATO Taipei 1.51 276 Pn 04 55 38.8 -0.1
ANP Anpu 1.52 284⇑iP Pn 04 55 39.3 +0.2
baz=286
NACB Ninganchiao 1.55 246 ⇑P Pn 04 55 38.1 -1.2
baz=241
NACB S Sn 04 55 58.6 -2.7
baz=241
NACB Ninganchiao 1.55 246 Pn 04 55 38.1 -1.2
NACB Sn 04 55 56.7 -4.7
NTST Danshui 1.57 283 ⇑P Pn 04 55 40.2 +0.6
baz=284
NTST S Sn 04 56 01.5 -0.3
baz=284
TWS1 Kuangyinshan 1.59 280⇑iP Pn 04 55 40.4 +0.6
baz=278
TWS1 S Sn 04 56 01.6 -0.5
baz=278
TWD Chiawan 1.59 243⇑iP Pn 04 55 38.7 -1.1
baz=244
TWD S Sn 04 55 59.6 -2.6
baz=244
YHNB Yeheng 1.61 265 ⇑P Pn 04 55 40.2 0.0
baz=267
YHNB S Sn 04 56 01.1 -1.7
baz=267
YHNB Yeheng 1.61 265 Pn 04 55 40.2 0.0
ETLH Xiulin Townshi 1.63 248⇑eP Pn 04 55 39.5 -0.8
baz=244
ETLH S Sn 04 56 01.1 -2.1
baz=244
HWA Hwalien 1.63 239⇑iP Pn 04 55 39.6 -0.7
baz=241
HWA S Sn 04 56 01.0 -2.0
baz=241
NNSB Datong 1.65 257 ⇑P Pn 04 55 40.2 -0.4
baz=251
NNSB S Sn 04 56 02.0 -1.6
baz=251
NNS Nan Shan 1.65 257⇑iP Pn 04 55 40.2 -0.4
baz=252
NNS S Sn 04 56 01.2 -2.5
baz=252
ENLB Shoufeng 1.67 237⇑iP Pn 04 55 39.0 -1.8
baz=239
ENLB S Sn 04 56 01.0 -2.9
baz=239
WLTB Daxi 1.72 271 P Pn 04 55 41.6 +0.4
baz=276
WLTB S Sn 04 56 04.2 -0.5
baz=276
NCU National Centr 1.78 275 P Pn 04 55 42.6 +0.5
baz=277
NCU S Sn 04 56 06.1 0.0
baz=277
NCUH Zhongli 1.78 275 eP Pn 04 55 42.6 +0.6
baz=277
NCUH eS Sn 04 56 06.6 +0.4
baz=277
WHF Hehuan Shan 1.84 249⇑iP Pn 04 55 42.7 -0.5
baz=250
WHF eS Sn 04 56 04.8 -3.3
baz=250
JIRB Irabujima 1.85 89 P Pn 04 55 42.7 -0.1
JIRB S Sn 04 56 05.8 -1.7
ESL Shilin 1.85 238⇑iP Pn 04 55 41.7 -1.2
baz=244
ESL S Sn 04 56 05.0 -2.6
baz=244
TWT Tachien 1.88 253 ⇑P Pn 04 55 43.6 +0.2
baz=251
TWT S Sn 04 56 06.9 -1.5
baz=251
TDCB Techi 1.89 253 ⇑P Pn 04 55 43.6 +0.1
baz=251
TDCB S Sn 04 56 06.3 -2.4
baz=251
JIKM Ikemajima 1.92 86 P Pn 04 55 43.7 +0.1
JIKM eS Sn 04 56 08.7 -0.3
EGFH Guangfu 1.94 234⇑eP Pn 04 55 42.9 -1.0
baz=233
EGFH eS Sn 04 56 06.9 -2.6
baz=233
LIOB Emei 1.94 265⇑iP Pn 04 55 44.1 +0.1
baz=262
LIOB S Sn 04 56 08.1 -1.4
baz=262
CHGB Renai 1.94 248 ⇑P Pn 04 55 44.0 -0.2
baz=243
CHGB S Sn 04 56 07.8 -2.2
baz=243
NSTT Nanjuang 1.96 265⇑iP Pn 04 55 44.1 0.0
baz=266
NSTT eS Sn 04 56 08.5 -1.3
baz=266
JMJ Miyako jima 2 1.96 90 P Pn 04 55 44.8 +0.7
baz=88
JMJ S Sn 04 56 09.2 -0.6
baz=88
HSN Hsinchu 1.97 270 ⇑P Pn 04 55 44.3 0.0
baz=265
HSN S Sn 04 56 08.6 -1.6
baz=265
JMJ2 Miyako jima3 1.99 92 P Pn 04 55 44.9 +0.4
JMJ2 S Sn 04 56 10.3 -0.2
HGSD Ruisui 2.05 230 ⇑P Pn 04 55 44.3 -1.0
baz=229
HGSD eS Sn 04 56 08.6 -3.3
baz=229
JOGS Gusukube 2.06 91 P Pn 04 55 46.0 +0.6
JOGS eS Sn 04 56 12.3 +0.2
WHP Taichung City 2.07 255⇑iP Pn 04 55 46.4 +0.8
baz=253
WHP eS Sn 04 56 11.3 -1.2
baz=253
VWDT VWDT 2.11 240 ⇑P Pn 04 55 45.8 -0.2
baz=242
VWDT S Sn 04 56 10.7 -2.4
baz=242
EHY Hungye 2.11 232⇑eP Pn 04 55 44.8 -1.3
baz=233
EHY eS Sn 04 56 10.3 -3.0
baz=233
NMLH Miaoli 2.16 263 ⇑P Pn 04 55 46.8 +0.3
baz=271
NMLH S Sn 04 56 13.0 -1.2
baz=271
DPDB Guoxing 2.17 249⇑iP Pn 04 55 47.2 +0.5
baz=249
DPDB S Sn 04 56 13.0 -1.5
baz=249
NSY Sanyi 2.20 260⇑iP Pn 04 55 47.6 +0.5
baz=261
NSY S Sn 04 56 14.3 -1.0
baz=261
YULB Yu-li 2.20 230 ⇑P Pn 04 55 46.1 -1.1
baz=239
YULB eS Sn 04 56 11.6 -3.7
baz=239
YULB Yu-li 2.20 230 Pn 04 55 46.0 -1.1
YULB Sn 04 56 09.9 -5.4
TWQ1 Liyutan 2.21 258 ⇑P Pn 04 55 47.4 +0.2
baz=266
TWQ1 eS Sn 04 56 13.2 -2.1
baz=266
TWF1 Yuli 2.23 229⇑iP Pn 04 55 46.6 -0.9
baz=229
TWF1 S Sn 04 56 12.7 -3.2
baz=229
SSLB Suanglung 2.24 243 ⇑P Pn 04 55 47.5 -0.3
baz=241
SSLB eS Sn 04 56 13.9 -2.3
baz=241
SSLB Suanglung 2.24 243 Pn 04 55 47.4 -0.3
SMLT Sun Moon Lake 2.25 246⇑iP Pn 04 55 47.9 +0.1
baz=243
SMLT eS Sn 04 56 15.9 -0.4
baz=243
PTSB Yuanli 2.25 261⇑iP Pn 04 55 48.0 +0.3
baz=262
PTSB S Sn 04 56 14.6 -1.6
baz=262
TYC Yuchr 2.27 247⇑iP Pn 04 55 48.3 +0.3
baz=244
TYC S Sn 04 56 15.6 -1.2
baz=244
WDJ Dajia District 2.32 259⇑iP Pn 04 55 49.1 +0.4
baz=260
WDJ S Sn 04 56 16.7 -1.2
baz=260
FULB Fuli 2.34 227⇑iP Pn 04 55 47.6 -1.3
baz=223
FULB S Sn 04 56 15.8 -2.4
baz=223
TCU Taichung 2.34 254 ⇑P Pn 04 55 49.1 +0.2
baz=264
TCU eS Sn 04 56 16.2 -2.1
baz=264
CHKT Chengkung 2.36 224⇑eP Pn 04 55 47.5 -1.6
baz=223
CHKT eS Sn 04 56 15.1 -3.6
baz=223
WHYT Xinyi Township 2.37 242 P Pn 04 55 49.8 +0.5
baz=242
WHYT S Sn 04 56 18.5 -0.4
baz=242
WJS Zhushan 2.42 246⇑iP Pn 04 55 50.5 +0.7
baz=242
WJS S Sn 04 56 20.1 +0.1
baz=242
WNT Mingjian 2.43 248⇑iP Pn 04 55 50.5 +0.6
baz=242
WNT S Sn 04 56 20.1 -0.1
baz=242
WCHH Zhanghua 2.47 253 ⇑P Pn 04 55 50.5 0.0
baz=261
WCHH eS Sn 04 56 19.8 -1.2
baz=261
ALS Alishan 2.50 239⇑iP Pn 04 55 51.5 +0.3
baz=235
ALS eS Sn 04 56 22.2 -0.1
baz=235
ELDTW Lidau 2.53 231⇑iP Pn 04 55 50.5 -0.9
baz=232
ELDTW S Sn 04 56 19.5 -3.3
baz=232
CHN5 Tsauling 2.56 242 P Pn 04 55 52.1 +0.5
baz=238
CHN5 S Sn 04 56 23.7 +0.4
baz=238
WGK Gukeng 2.61 245 ⇑P Pn 04 55 52.8 +0.6
baz=246
WGK eS Sn 04 56 22.8 -1.5
baz=246
WDLH Douliu 2.63 245 eP Pn 04 55 53.3 +0.8
baz=238
WDLH eS Sn 04 56 25.9 +1.1
baz=238
RLNB Erlin 2.70 251 ⇑P Pn 04 55 53.4 0.0
baz=260
RLNB S Sn 04 56 24.8 -1.5
baz=260
STYT Tauyuan 2.73 233⇑iP Pn 04 55 54.2 +0.3
baz=231
STYT eS Sn 04 56 24.9 -2.4
baz=231
TWGBT Beinan 2.75 224⇑iP Pn 04 55 52.6 -1.4
baz=231
TWGBT eS Sn 04 56 24.4 -3.0
baz=231
TWG Pinlang 2.75 224⇑iP Pn 04 55 52.7 -1.4
baz=231
TWG S Sn 04 56 24.4 -3.2
baz=231
TWG Pinlang 2.75 224 Pn 04 55 52.6 -1.4
TWG Sn 04 56 22.0 -5.5
CHN4 Tsaushan 2.75 238⇑iP Pn 04 55 54.5 +0.5
baz=234
CHN4 S Sn 04 56 27.4 -0.2
baz=234
TPUB Ta-pu 2.75 237 ⇑P Pn 04 55 54.3 +0.2
baz=232
TPUB S Sn 04 56 26.4 -1.2
baz=232
TPUB Ta-pu 2.75 237 Pn 04 55 54.3 +0.2
TPUB Sn 04 56 22.9 -4.7
TTN Taitung 2.75 222 eP Pn 04 55 53.5 -0.5
baz=223
TTN eS Sn 04 56 25.9 -1.7
baz=223
CHN2 Minshiung 2.75 243 ⇑P Pn 04 55 54.7 +0.7
baz=244
CHN2 eS Sn 04 56 27.5 -0.1
baz=244
WTCT Ta-ch'eng 2.78 251 ⇑P Pn 04 55 54.2 -0.2
baz=252
WTCT S Sn 04 56 26.5 -1.6
baz=252
WTP Ta-pu 2.79 236⇑eP Pn 04 55 54.8 +0.2
baz=232
WTP eS Sn 04 56 27.5 -1.0
baz=232
CHY Chiayi 2.81 243⇑eP Pn 04 55 55.0 +0.2
baz=244
CHY eS Sn 04 56 28.8 -0.1
baz=244
WMLT Mailiao 2.85 250 eP Pn 04 55 54.5 -0.7
baz=251
WMLT eS Sn 04 56 28.1 -1.7
baz=251
TWK Hsinying 2.88 238⇑iP Pn 04 55 55.8 0.0
baz=239
TWK eS Sn 04 56 29.8 -0.7
baz=239
CHN1 Nanshi 2.89 236 ⇑P Pn 04 55 56.0 +0.2
baz=246
CHN1 eS Sn 04 56 29.3 -1.5
baz=246
SNST Tainan City 2.90 237 eP Pn 04 55 55.5 -0.4
baz=238
SNST eS Sn 04 56 28.8 -2.0
baz=238
SGST Jiashian 2.91 234⇑eP Pn 04 55 55.7 -0.4
baz=235
SGST eS Sn 04 56 30.8 -0.5
baz=235
WSF Szhu 2.91 247 P Pn 04 55 55.9 -0.2
baz=248
WSF eS Sn 04 56 29.9 -1.4
baz=248
SLGT Liugui 2.92 232⇑eP Pn 04 55 57.1 +0.9
baz=227
SLGT eS Sn 04 56 31.0 -0.4
baz=227
WLGB Puzi 2.92 243 eP Pn 04 55 56.1 -0.1
baz=254
ECL Taimali 2.98 223 ⇑P Pn 04 55 55.2 -1.9
baz=229
ECL eS Sn 04 56 28.7 -4.3
baz=229
CHN8 Yiju 3.05 242 eP Pn 04 55 57.2 -0.7
baz=243
CHN8 eS Sn 04 56 33.7 -0.8
baz=243
CHN3 Shinhua 3.08 236 eP Pn 04 55 58.4 +0.2
baz=247
SSD Sandimen 3.09 229 eP Pn 04 55 58.5 +0.1
baz=236
PTTC Pingtan 3.13 283⇑eP Pn 04 55 58.4 -0.5
baz=275
PTTC eS Sn 04 56 33.3 -2.9
baz=275
LAY Lan-yu 3.13 208 eP Pn 04 55 57.1 -1.9
baz=210
LAY eS Sn 04 56 31.0 -5.3
baz=210
MATB Ma-tsu 3.18 295⇑eP Pn 04 55 59.4 -0.1
baz=296
MASBT Mashibuluo 3.18 227 eP Pn 04 55 59.6 0.0
baz=226
MASBT eS Sn 04 56 34.6 -2.9
baz=226
TWM1 Shoushan 3.19 232 eP Pn 04 56 00.4 +0.7
baz=234
SGLT Jiouru 3.20 230 eP Pn 04 56 00.1 +0.3
baz=231
TAW Tawu 3.20 220 eP Pn 04 55 58.7 -1.2
baz=226
EAST Anshuo 3.21 221⇑eP Pn 04 55 58.7 -1.3
baz=227
SNJT Kaohsiung City 3.29 232 eP Pn 04 56 00.3 -0.8
baz=234
VWUC VWUC 3.36 274 ⇑P Pn 04 56 01.4 -0.4
baz=283
SCZT Fangliau 3.36 224 eP Pn 04 56 01.8 -0.1
baz=225
SCZT eS Sn 04 56 40.2 -1.4
baz=225
XPSS Dashiqiu 3.39 309⇓eP Pn 04 56 02.0 -0.2
baz=309
LYJJ Jianjiangzhen 3.50 300 eP Pn 04 56 03.6 -0.2
baz=300
LYJJ eS Sn 04 56 43.2 -1.7
baz=300
PNG Penghu 3.50 250 P Pn 04 56 02.4 -1.4
baz=250
PNG S Sn 04 56 40.9 -4.1
baz=250
PHUB P'eng-hu 3.51 249 eP Pn 04 56 01.6 -2.2
baz=250
PHUB S Sn 04 56 42.1 -3.0
baz=250
WLCH Liuqiu 3.53 226 eP Pn 04 56 06.0 +1.8
baz=228
WDGT Dungji 3.54 245 P Pn 04 56 03.3 -1.0
baz=246
WDGT S Sn 04 56 42.5 -3.4
baz=246
TWP Hsiaoliuchiu 3.54 227 eP Pn 04 56 04.1 -0.3
baz=228
TSEB Hengchuen, Pin 3.56 216 eP Pn 04 56 04.0 -0.6
baz=223
TSEB eS Sn 04 56 45.1 -1.3
baz=223
HEN Hengchun 3.57 219 eP Pn 04 56 03.7 -1.0
baz=220
TWKBT Hengchun 3.58 217 eP Pn 04 56 03.9 -0.9
baz=218
TWKBT eS Sn 04 56 44.2 -2.6
baz=218
TWK1 Hengchun 3.58 217 eP Pn 04 56 04.4 -0.4
baz=218
TWK1 eS Sn 04 56 44.5 -2.3
baz=218
PTMZ Houxiangcun 3.66 274 eP Pn 04 56 05.3 -0.5
baz=283
VCHM Qimei 3.75 245 ⇑P Pn 04 56 06.3 -0.8
baz=239
VCHM S Sn 04 56 47.6 -3.3
baz=239
MHZQ Yeshan 3.93 290 eP Pn 04 56 09.1 -0.3
baz=291
QZH Quanzhou 4.13 273⇑iP Pn 04 56 11.6 -0.5
QZH S Sn 04 56 56.0 -3.9
QZH smax smax
comp=N,430nm,0.8s
QZH smax smax
comp=E,250nm,0.6s
KNM Kinmen 4.30 266⇑eP Pn 04 56 15.4 +1.0
baz=267
KNMB Chin-men Tao 4.34 266⇑eP Pn 04 56 14.0 -0.9
baz=268
KNMB Chin-men Tao 4.34 266 Pn 04 56 14.2 -0.6
AXDP Jialang 4.70 272 eP Pn 04 56 19.3 -0.3
baz=281
ZPLA Ao Xicun 4.99 261 ⇑P Pn 04 56 23.1 -0.5
baz=261
ZPLA eS Sn 04 57 16.0 -4.5
baz=261
ZZJH Jiuhuzhen 5.03 267⇑eP Pn 04 56 23.4 -0.6
baz=269
JOW Kunigami 5.04 65⇑eP Pn 04 56 22.2 -2.0
baz=65
JOW eS Sn 04 57 18.2 -3.4
baz=65
JOW Kunigami 5.04 65 P Pn 04 56 22.4 -1.8
15nm,0.3s,baz=107,slow=16,SNR=128
JOW S Sn 04 57 18.0 -3.6
16nm,0.3s,baz=145,slow=13,SNR=10
JOW Kunigami 5.04 65 Pn 04 56 22.1 -2.0
SSE Sheshan 6.49 345 Pn 04 56 43.3 -0.3
NJ2 Nanjing 8.13 333 eP Pn 04 57 05.8 +0.1
NJ2 sP 04 57 41.4
NJ2 S Sn 04 58 36.6 +0.6
NJ2 pmax pmax
comp=Z,69nm,0.6s
WHN Wuhan 9.65 308⇑iP Pn 04 57 27.1 +1.0
WHN S Sn 04 59 22.4 +10
WHN pmax pmax
comp=Z,100nm,0.9s
WHN LR LR
comp=N,1μm,3.6s
WHN LR LR
comp=E,2μm,6.2s
WHN LR LR
comp=Z,2μm,4.7s
JNU Nakatsue 10.69 38 P Pn 04 57 40.0 0.0
1.7nm,0.3s,baz=181,slow=6.5,SNR=20
JNU Nakatsue 10.69 38 Pn 04 57 39.0 -1.0
TGY Tagaytay City 10.86 191 P Pn 04 57 46.0 +3.6
69nm,0.3s,baz=45,slow=8.6,SNR=3.0
TJN Taejon 12.08 17ceP P 04 58 02.4 -2.9
TIA Tai'an 12.48 337 P P 04 58 06.7 -3.1
TIA pmax pmax
comp=Z,13nm,0.9s
KSRS Korea Array 13.24 17 P Pn 04 58 15.3 +2.0
2.9nm,0.3s,baz=201,slow=13,SNR=61
KS19 Wonju Array Si 13.27 17 P Pn 04 58 15.4 +1.7
DL2 Dalian 14.10 355 P P 04 58 28.8 +1.0
DL2 esP Pn 04 59 04.6 +40
DL2 S S 05 01 10.5 -1.1
DL2 pmax pmax
comp=Z,45nm,1.0s
GYA Guiyang 14.95 280 eP Pn 04 58 33.6 -1.7
GYA sP P 04 59 05.0 +27
GYA S Sn 05 01 15.2 -5.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.5s
XAN Xi'an 15.41 310 P P 04 58 44.5 +2.1
XAN pmax pmax
comp=Z,11nm,0.7s
BJT Baijiatuau 16.25 341 P Pn 04 58 50.9 -0.1
BJT pmax pmax
comp=Z,23nm,1.0s
BJT Baijiatuau 16.25 341 P Pn 04 58 50.9 -0.1
BJT IAmb IAmb 04 58 57.5
comp=Z,23nm,1.0s
JHJ Hachijo jima 2 16.73 57 P Pn 04 58 60.0 +2.9
comp=Z,36nm,0.3s,baz=238,slow=4.8,SNR=8.5
JCJ Chichijima 17.28 78 P Pn 04 59 04.4 +0.8
comp=Z,13nm,0.3s,baz=270,slow=8.4,SNR=5.3
MAT Matsushiro 17.42 44 P P 04 59 03.6 -1.0
MAT eS S 05 02 13.8 -5.4
MJAR Matsushiro Arr 17.42 44 P P 04 59 04.2 -0.4
comp=Z,0.2nm,0.3s,baz=239,slow=10,SNR=8.0
MJAR LR LR 05 06 04.3
comp=Z,50nm,18.2s,baz=215,slow=38
CTBH Cotabato--PC H 17.53 176⇑iP Pn 04 59 08.6 +1.8
KCP Kidapawan 17.81 174⇑iP Pn 04 59 11.2 +1.1
CD2 Chengdu 18.17 294 P P 04 59 12.8 -0.1
CD2 pmax pmax

comp=Z,20nm,0.6s
KMI Kunming 18.50 275 P Pn 04 59 19.3 +0.8
KMI pmax pmax
comp=Z,11nm,0.5s
KMI LR LR
comp=Z,310nm,4.8s
KMI LR LR
comp=Z,300nm,4.8s
KMI LR LR
comp=Z,290nm,6.2s
HHC Hu-ho-hao-te 18.68 332 eP Pn 04 59 21.4 +1.0
HHC pmax pmax
comp=Z,9.0nm,1.0s
DLV T Lat 18.88 230 P P 04 59 21.5 +0.6
DLV IAmb IAmb 04 59 34.4
comp=Z,21nm,0.9s
MSHR Mys Shultsa 18.91 19 iP Pn 04 59 22.8 -0.1
NONG Nongkai 19.78 254 P Pn 04 59 36.0 +2.8
comp=Z,0.6nm,1.2s
KKM Kota Kinabalu 19.82 201 P P 04 59 32.3 +1.4
KKM IAmb IAmb 04 59 33.3
comp=Z,97nm,0.7s
LZH Lanzhou 20.03 309 ⇑P P 04 59 34.7 +1.5
LZH pP pP 04 59 58.0 +0.9
LZH sP sP 05 00 16.0 +2.2
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,93nm,4.9s
MDJ Mudanjiang 20.44 13 P P 04 59 38.3 +1.1
MDJ pmax pmax
comp=Z,53nm,0.5s
MDJ pmax pmax
comp=Z,1μm,7.0s
MDJ Mudanjiang 20.44 13 IAmb IAmb 04 59 39.7
comp=Z,62nm,0.9s
USA0B Ussuriysk Arra 20.64 18 IAmb IAmb 04 59 40.4
comp=Z,28nm,0.7s
USRK Ussuriysk Ar. 20.64 18 P P 04 59 38.2 -1.2
USRK Ussuriysk Ar. 20.64 18 P P 04 59 38.6 -0.8
comp=Z,26nm,0.6s,baz=206,slow=9.5,SNR=56
USRK LR LR 05 07 45.6
comp=Z,76nm,20.2s,baz=196,slow=37
USRK Ussuriysk Ar. 20.64 18 P P 04 59 38.1 -1.2
CHAI Chaiyaphum 21.70 250 P P 04 59 53.1 +2.0
comp=Z,25μm,0.8s
CMMT Chiang Mai 23.23 260 P P 05 00 07.4 +1.4
comp=Z,6.7nm,0.7s,comp=Z,459nm
CHTO Chiang Mai 23.23 260 P P 05 00 06.5 +0.5
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 23.23 260 P P 05 00 06.5 +0.5
CHTO IAmb IAmb 05 00 09.2
comp=Z,12nm,1.0s
CM31 Chiang Mai Arr 23.35 259 P P 05 00 08.0 +0.9
CM31 IAmb IAmb 05 00 10.6
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 23.35 259 P P 05 00 08.5 +1.4
comp=Z,7.8nm,1.0s,baz=62,slow=8.6,SNR=27
CMAR ScP **ScP 05 07 17.1 +1.0**
comp=Z,0.9nm,0.4s,baz=51,slow=2.0,SNR=9.5
CMAR LR LR 05 10 21.8
comp=Z,70nm,18.8s,baz=178,slow=39
CMAR Chiang Mai Arr 23.35 259 ScP 05 07 16.2 +0.2
ERM Erimo 23.85 39 P P 05 00 09.5 -1.9
ERM pmax pmax
comp=Z,37nm,0.9s
ERM Erimo 23.85 39 P P 05 00 09.5 -1.9
ERM IAmb IAmb 05 00 10.0
comp=Z,36nm,0.8s
UTHA Uthaitani 24.04 252 P P 05 00 17.5 +4.1
comp=Z,10μm,1.0s
MRSI Marisa 24.23 183 P P 05 00 18.1 +3.0
comp=Z,66nm,0.7s
TNTI Ternate 24.25 170 P P 05 00 18.1 +2.8
comp=Z,158nm,1.1s,comp=Z,2μm
TNTI Ternate 24.25 170 P P 05 00 16.0 +0.7
TNTI IAmb IAmb 05 00 25.1
comp=Z,130nm,1.0s
UMPA Umpang Tak 24.27 254 P P 05 00 19.5 +4.0
comp=Z,16μm,1.0s
GTA Gaotai 24.44 312 P P 05 00 17.0 0.0
GTA pP pP 05 00 46.1 +1.5
GTA sP sP 05 01 01.5 +0.9
GTA pmax pmax
comp=Z,6.0nm,1.6s
MPSI Mapaga 24.54 188 P P 05 00 20.7 +2.8
comp=Z,20nm,1.1s
HIA Hailar 24.55 355 P P 05 00 16.0 -1.7
HIA pmax pmax
comp=Z,21nm,1.1s
HIA Hailar 24.55 355 P P 05 00 16.0 -1.7
HIA IAmb IAmb 05 00 20.2
comp=Z,21nm,1.1s
SBUM Sibu 24.61 207 IAmb IAmb 05 00 20.5
comp=Z,15nm,0.8s
SBUM Sibu 24.61 207 P P 05 00 20.0 +1.4
ASAJ Asahikawa 24.95 35 P P 05 00 19.9 -1.5
comp=Z,12nm,0.3s,baz=235,slow=9.8,SNR=14
KLR Kul'dur 25.28 13d iP P 05 00 24.2 -0.1
KLR pmax pmax
comp=Z,105nm,1.0s
KLR Kul'dur 25.28 13 P P 05 00 24.1 -0.2
comp=Z,56nm,0.7s,baz=215,slow=7.9,SNR=113
APSI Ampana 25.62 183 P P 05 00 30.7 +3.0
comp=Z,91nm,1.1s,comp=Z,801nm
LUWI Luwuk 25.71 181 P P 05 00 38.6 +10
LUWI Luwuk 25.71 181 P P 05 00 28.3 -0.2
LUWI IAmb IAmb 05 00 39.7
comp=Z,50nm,0.8s
ULN Ulaanbaatar 26.29 335 P P 05 00 33.6 -0.1
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 26.29 335 P P 05 00 33.6 -0.1
ULN IAmb IAmb 05 00 34.3
comp=Z,5.4nm,0.6s
KSM Kuching 26.31 210 P P 05 00 33.9 -0.1
KSM IAmb IAmb 05 00 37.7
comp=Z,40nm,1.0s
KSM Kuching 26.31 210 P P 05 00 35.0 +1.0
SONM Songino Array 26.52 334 P P 05 00 35.2 -0.5
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 26.52 334 P P 05 00 35.5 -0.2
comp=Z,5.6nm,0.7s,baz=154,slow=9.5,SNR=25
SONM pP **pP 05 01 01.4 -2.5**
comp=Z,5.2nm,0.8s,baz=153,slow=8.4,SNR=3.5
SONM ScP **ScP 05 07 23.9 -0.7**
comp=Z,2.7nm,1.0s,baz=141,slow=3.9,SNR=8.8
SONM Songino Array 26.52 334 P P 05 00 35.2 -0.5
SONM IAmb IAmb 05 00 36.4
comp=Z,4.7nm,0.8s
BKB Balikpapan 26.62 194 P P 05 00 33.1 -3.7
BKB IAmb IAmb 05 00 34.1
comp=Z,133nm,0.6s
SANI Sanana 26.85 174 P P 05 00 39.3 +0.5
comp=Z,81nm,1.1s,comp=Z,812nm
YSS Yuzh-Sakhalins 27.07 30 eP P 05 00 39.5 -0.9
YSS pmax pmax
comp=Z,40nm,0.8s
TTSI Tana Toraja 27.89 187 P P 05 00 49.3 +1.3
comp=Z,23nm,1.0s,comp=Z,1μm
SURT Suratani 28.05 240 P P 05 00 51.9 +2.4
comp=Z,32nm,1.2s
NLAI Namlea 28.16 172 P P 05 00 57.6 +7.2
SHL Shillong 28.26 278 P P 05 00 49.2 -2.3
SHL Shillong 28.26 278 P P 05 00 49.2 -2.3
SPSI Sidrap Palu 28.80 187 P P 05 00 57.1 +1.0
comp=Z,25nm,1.1s
FAKI Fak Fak 28.96 161 P P 05 00 57.9 +0.4
FAKI IAmb IAmb 05 00 59.8
comp=Z,56nm,1.1s
KULM Kulim 29.04 232 P P 05 00 59.1 +0.9
KULM IAmb IAmb 05 01 00.5
comp=Z,9.4nm,0.8s
KULM Kulim 29.04 232 P P 05 01 00.0 +1.7
ZEA Zeya 29.05 5 eP P 05 00 57.0 -0.9
ZEA pmax pmax
comp=Z,35nm,1.0s
PKDT Phuket 29.06 239 P P 05 01 02.3 +3.8
BNSI Bone 29.20 186 P P 05 01 03.3 +3.7
comp=Z,33nm,0.9s,comp=Z,997nm
IPM Ipoh 29.34 230 P P 05 01 01.2 +0.2
IPM IAmb IAmb 05 01 02.9
comp=Z,37nm,0.7s
MYKOM Kota Tinggi 29.52 222 P P 05 01 03.8 +1.3
MYKOM IAmb IAmb 05 01 04.9
comp=Z,32nm,0.8s
MYKOM Kota Tinggi 29.52 222 P P 05 01 04.0 +1.5
ZAK Zakamensk 29.79 334 eP P 05 01 03.6 -1.1
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KAPI Kappang 29.84 187 P P 05 01 06.1 +0.8
KAPI pmax pmax
comp=Z,28nm,0.9s
KAPI Kappang 29.84 187 P P 05 01 05.9 +0.7
comp=Z,20nm,0.7s,baz=18,slow=6.0,SNR=14
KAPI Kappang 29.84 187 P P 05 01 06.1 +0.8
KAPI IAmb IAmb 05 01 07.1
comp=Z,28nm,0.8s
BKSI Bulukumba 30.10 186 P P 05 01 08.9 +1.3
comp=Z,16nm,0.7s,comp=Z,398nm
TLY Talaya 30.68 336 eP P 05 01 11.9 -0.6
TLY pmax pmax
comp=Z,17nm,1.0s
TLY Talaya 30.68 336 P P 05 01 11.5 -0.9
TLY IAmb IAmb 05 01 13.1
comp=Z,6.3nm,0.9s
MOY Mondy 31.70 333 eP P 05 01 20.8 -0.7
PSI Prapat 32.00 231 LR LR 05 14 09.4
comp=Z,30nm,18.1s,baz=32,slow=35
RPSI Rantau Prapat 32.08 230 IAmb IAmb 05 01 27.1
comp=Z,27nm,0.9s
BKNI Bangkinang 32.41 225 P P 05 01 30.0 +2.1
comp=Z,140nm,0.9s,comp=Z,8μm
BKNI Bangkinang 32.41 225 P P 05 01 29.2 +1.3
BKNI IAmb IAmb 05 01 30.2
comp=Z,92nm,0.8s
MLSI Meulaboh, Aceh 32.84 236 P P 05 01 34.4 +2.7
comp=Z,34nm,0.5s
SDSI Sungai Dareh 33.14 223 P P 05 01 36.0 +1.7
comp=Z,17nm,0.5s,comp=Z,2μm
MMRI Maumere 33.26 182 P P 05 01 36.0 +0.7
MMRI IAmb IAmb 05 01 41.3
comp=Z,64nm,0.6s
SAUI Saumlaki 33.56 165 P P 05 01 38.0 +0.1
SAUI IAmb IAmb 05 01 39.0
comp=Z,96nm,0.7s
PDSI Padang 33.72 224 P P 05 01 40.0 +0.6
PLAI Plampang 33.85 190 P P 05 01 41.1 +0.7
comp=Z,66nm,1.0s,comp=Z,609nm
TWSI Taliwang, Sumb 33.91 191 P P 05 01 42.1 +1.2
comp=Z,40nm,0.9s
GSI Gunungsitoli 34.01 230 P P 05 01 41.5 -0.4
GSI IAmb IAmb 05 01 44.5
comp=Z,13nm,0.6s
SMRI Semarang 34.01 203 P P 05 01 41.8 0.0
SMRI IAmb IAmb 05 01 53.4
comp=Z,25nm,0.8s
KRJI Kerinci 34.03 221 pP pP 05 02 09.2 -1.1
IGBI Denpasar 34.33 194 P P 05 01 45.1 +0.6
SOEI Soe 34.38 178 P P 05 01 43.6 -1.5
SOEI Soe 34.38 178 IAmb IAmb 05 01 60.0
comp=Z,20nm,0.8s
WBSI Waikabubak, Su 34.45 187 P P 05 01 43.3 -2.3
WMQ Urumqi 34.52 312 eP P 05 01 46.9 +0.8
WMQ pP pP 05 02 16.1 +1.1
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,65nm,5.1s
WMQ LR LR
comp=Z,870nm,28.9s
WMQ LR LR
comp=Z,1μm,29.0s
WMQ LR LR
comp=Z,76nm,26.9s
WOJI Wonogiri, Jawa 34.58 202 P P 05 01 47.4 +0.7
BATI Baumata 34.82 179 P P 05 01 47.8 -1.0
comp=Z,24nm,0.4s,baz=109,slow=1.2,SNR=5.3
KPJI Karang Pucung 34.83 205 P P 05 01 51.1 +2.3
comp=Z,60nm,1.3s
YAK Yakutsk 37.46 5 eP P 05 02 09.7 -1.0
YAK *eS* **S 05 07 48.4 -0.7**
YAK pmax pmax
comp=Z,52nm,1.0s
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=Z,470nm,4.3s
YAK pmax pmax
comp=N,867nm,4.2s
YAK pmax pmax
comp=E,504nm,4.2s
YAK smax smax
comp=N,488nm,3.3s
YAK smax smax
comp=E,614nm,3.5s
YAK Yakutsk 37.46 5 P P 05 02 09.8 -0.9
YAK IAmb IAmb 05 02 10.3
comp=Z,50nm,0.8s
MTN Manton Dam 38.24 167 P P 05 02 17.5 -0.2
MTN IAmb IAmb 05 02 18.3
comp=Z,63nm,0.7s
PETK Petropavlovsk- 38.35 33 P P 05 02 16.9 -1.4
PETK Petropavlovsk- 38.35 33 P P 05 02 17.2 -1.2
comp=Z,8.6nm,0.8s,baz=204,slow=3.9,SNR=6.6
PETK LR LR 05 19 05.8
comp=Z,25nm,18.9s,baz=244,slow=38
PETK Petropavlovsk- 38.35 33 P P 05 02 16.9 -1.4
PET Petropavlovsk 38.79 34 iP P 05 02 19.4 -2.5
PET pmax pmax
comp=Z,212nm,2.1s
MK31 Makanchi Array 39.14 315 P P 05 02 25.0 -0.1
MK31 pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 39.14 315 P P 05 02 25.0 -0.1
MK31 IAmb IAmb 05 02 25.8
comp=Z,14nm,0.9s
MKAR Makanchi Array 39.14 315 P P 05 02 23.8 -1.3
MKAR 05 04 31.8
MKAR Makanchi Array 39.14 315 P P 05 02 24.9 -0.2
comp=Z,12nm,0.4s,baz=96,slow=8.8,SNR=100
MKAR PcP **PcP 05 04 31.8 -0.1**
comp=Z,2.8nm,0.8s,baz=91,slow=4.9,SNR=4.1
MKAR ScP **ScP 05 08 07.5 -0.5**
comp=Z,0.8nm,0.6s,baz=88,slow=4.1,SNR=4.1
MKAR Makanchi Array 39.14 315 P P 05 02 23.8 -1.3
MAKZ Makanchi 39.35 315 P P 05 02 26.4 -0.4
MAKZ pmax pmax
comp=Z,25nm,1.0s
MAKZ Makanchi 39.35 315 P P 05 02 26.9 +0.1
MAKZ IAmb IAmb 05 02 27.6
comp=Z,19nm,0.8s
PDGK Podgornoye 40.07 309 P P 05 02 33.1 +0.1
PDGK pmax pmax
comp=Z,15nm,0.7s
KNRA Kununurra 40.62 172 IAmb IAmb 05 02 38.9
comp=Z,95nm,1.0s
ZAA0 Zalesovo Array 40.70 326 P P 05 02 36.7 -1.1
ZAA0 IAmb IAmb 05 02 37.5
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 40.70 326 P P 05 02 36.6 -1.2
comp=Z,13nm,0.5s,baz=119,slow=8.5,SNR=48
ZALV pP **pP 05 03 08.1 +0.9**
comp=Z,3.9nm,0.6s,baz=117,slow=8.2,SNR=3.6
ZALV PcP **PcP 05 04 36.2 -0.6**
comp=Z,1.5nm,0.4s,baz=117,slow=4.1,SNR=3.6
ZALV ScP **ScP 05 08 12.6 -1.3**
comp=Z,1.5nm,0.7s,baz=116,slow=3.4,SNR=5.6
ZALV LR LR 05 19 47.1
comp=Z,57nm,19.2s,baz=94,slow=36
ZALV Zalesovo Beam 40.70 326 ScP 05 08 12.5 -1.4
KSH Kashi 42.06 302 P P 05 02 53.6 +4.3
KSH PP **PcP 05 04 37.7 -4.0**
KSH S **S 05 09 04.0 +5.3**
KSH LR LR
comp=Z,330nm,9.4s
NRN Naryn 42.27 305 IAmb IAmb 05 02 53.1
comp=Z,7.9nm,0.8s
FITZ Fitzroy Crossi 42.73 176 P P 05 02 54.9 +0.3
comp=Z,22nm,0.8s,baz=359,slow=7.6,SNR=37
FITZ Fitzroy Crossi 42.73 176 IAmb IAmb 05 02 55.9
comp=Z,25nm,0.8s
KURK Kurchatov 42.77 319 P P 05 02 54.1 -0.5
KURK pmax pmax
comp=Z,26nm,1.0s
KURK Kurchatov 42.77 319 P P 05 02 54.1 -0.5
KURK IAmb IAmb 05 02 55.1
comp=Z,26nm,1.0s
SEY Seymchan 42.78 19 iP P 05 02 53.9 -0.7
TKM2 Tokmak 2 42.79 307 P P 05 02 56.2 +1.0
TKM2 pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 43.55 306 P P 05 03 02.4 +1.1
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 43.55 306 P P 05 03 02.4 +1.1
AAK IAmb IAmb 05 03 02.9
comp=Z,3.1nm,0.8s
WRAB Tennant Creek 45.80 165 P P 05 03 20.2 +1.1
WRAB pmax pmax
comp=Z,63nm,0.8s
WRAB Tennant Creek 45.80 165 P P 05 03 20.2 +1.1
WRAB IAmb IAmb 05 03 21.2
comp=Z,62nm,0.8s
WRA Warramunga Arr 45.81 165 P P 05 03 20.2 +1.0
comp=Z,66nm,0.8s,baz=347,slow=8.5,SNR=222
WRA pP **pP 05 03 48.7 -0.5**
comp=Z,12nm,1.1s,baz=342,slow=8.5,SNR=2.4
WRA S **S 05 09 52.4 -0.6**
comp=Z,2.0nm,0.9s,baz=345,slow=14,SNR=9.8
WRA Warramunga Arr 45.81 165 IAmb IAmb 05 03 21.3
comp=Z,4.2nm,0.8s
WB2 Warramunga Arr 45.81 165 IAmb IAmb 05 03 21.2
comp=Z,11nm,0.8s
PSA00 Pilbara Seismi 46.23 184 IAmb IAmb 05 03 24.1
comp=Z,24nm,0.7s
KK31 Karatay Array 46.51 307 P P 05 03 25.0 +0.5
KK31 05 04 57.3
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KK31 Karatay Array 46.51 307 P P 05 03 25.0 +0.5
KK31 IAmb IAmb 05 03 26.2
comp=Z,3.0nm,0.5s
KK31 **PcP 05 04 57.3 +0.6**
KKAR Karatay Array 46.51 307 P P 05 03 24.7 +0.2
KKAR 05 04 57.3
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 46.51 307 P P 05 03 24.7 +0.2
KKAR IAmb IAmb 05 03 26.2
comp=Z,3.0nm,0.5s
KKAR **PcP 05 04 57.3 +0.6**
TIXI Tiksi 46.97 2ceP P 05 03 26.6 -1.0
TIXI *i* *PP **pP 05 04 00.2 +2.5**
TIXI pmax pmax
comp=Z,33nm,1.1s
TIXI Tiksi 46.97 2 P P 05 03 26.1 -1.5
TIXI IAmb IAmb 05 03 28.5
comp=Z,15nm,0.8s
BRVK Borovoye 48.39 320 P P 05 03 38.7 -0.1
BRVK pmax pmax
comp=Z,16nm,0.7s
BRVK Borovoye 48.39 320 P P 05 03 38.7 -0.1
BRVK IAmb IAmb 05 03 39.9
comp=Z,16nm,0.7s
NRIK Noril'sk 49.27 344 P P 05 03 44.2 -1.0
comp=Z,7.8nm,0.6s,baz=120,slow=8.5,SNR=9.4
NRIK PcP **PcP 05 05 06.6 +0.5**
comp=Z,8.4nm,0.5s,baz=105,slow=5.3,SNR=7.1
NRIK ScP **ScP 05 08 49.2 +0.3**
comp=Z,1.6nm,0.5s,baz=97,slow=4.3,SNR=4.0
NRIK LR LR 05 27 56.7
comp=Z,56nm,18.2s,baz=118,slow=40
AS31 Alice Springs 49.31 167 IAmb IAmb 05 03 48.4
comp=Z,7.1nm,0.8s
ASAR Alice Springs 49.32 167 P P 05 03 47.3 +1.1
ASAR Alice Springs 49.32 167 P P 05 03 47.5 +1.3
comp=Z,21nm,0.8s,baz=348,slow=8.3,SNR=195
ASAR ScP **ScP 05 08 50.2 +0.3**
comp=Z,0.6nm,0.9s,baz=353,slow=4.7,SNR=3.7
ASAR S **S 05 10 44.9 +2.3**
comp=Z,1.2nm,1.0s,baz=352,slow=13,SNR=6.3
ASAR Alice Springs 49.32 167 P P 05 03 47.3 +1.1
CTA Charters Tower 49.98 151 P P 05 03 52.8 +1.4
comp=Z,9.0nm,0.9s,baz=337,slow=11,SNR=8.6
BILL Bilibino 50.49 19 ‖eP P 05 03 53.6 -0.9
BILL *e**PP **pP 05 04 24.8 -0.2**
BILL *i* 05 05 10.4
BILL pmax pmax
comp=Z,18nm,0.9s
BILL Bilibino 50.49 19 P P 05 03 53.7 -0.8
BILL IAmb IAmb 05 03 54.4
comp=Z,14nm,0.8s
BILL **PcP 05 05 11.9 +1.3**
KIWB Kanaga Island 52.28 43 P P 05 04 07.1 -1.1
MORW Morawa 54.01 188 IAmb IAmb 05 04 22.3
comp=Z,24nm,1.0s
AB31 Akbulak array 54.28 314 P P 05 04 22.4 -0.4
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 54.28 314 P P 05 04 23.1 +0.3
ABKAR PcP **PcP 05 05 25.0 -0.2**
ABKAR Akbulak array 54.28 314 P P 05 04 23.2 +0.4
ABKAR IAmb IAmb 05 04 23.8
comp=Z,21nm,0.8s
ABKAR PcP **PcP 05 05 25.2 0.0**
SVE Sverdlovsk 54.59 323 eP P 05 04 24.7 -0.2
SVE pmax pmax
comp=Z,18nm,0.8s
FORT Forrest 55.48 175 IAmb IAmb 05 04 34.4
comp=Z,26nm,0.8s
ARU Arti 55.68 323deP P 05 04 32.2 -0.5
ARU pmax pmax
comp=Z,12nm,0.5s
ARU Arti 55.68 323 P P 05 04 32.1 -0.5
ARU IAmb IAmb 05 04 32.8
comp=Z,24nm,0.4s
GEYT Alibeck 56.02 300 P P 05 04 38.2 +2.7
comp=Z,1.8nm,0.4s,baz=48,slow=2.2,SNR=3.7
GEYT pP **pP 05 05 08.2 +1.6**
comp=Z,6.0nm,0.7s,baz=46,slow=8.5,SNR=5.9
GEYT LR LR 05 34 31.4
comp=Z,33nm,18.9s,baz=345,slow=42
GEYT Alibeck 56.02 300 P P 05 04 37.2 +1.7
GEYT IAmb IAmb 05 04 38.6
comp=Z,2.2nm,0.8s
EIDS Eidsvold 56.74 150 P P 05 04 41.6 +1.0
EIDS IAmb IAmb 05 04 41.9
comp=Z,4.1nm,0.8s
NWAO Narrogin (SRO) 57.70 186 P P 05 04 48.4 +1.2
NWAO pmax pmax
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 57.70 186 P P 05 04 48.4 +1.2
NWAO IAmb IAmb 05 04 49.1
comp=Z,34nm,0.9s
BBOO Buckleboo 58.62 167 IAmb IAmb 05 04 55.5
comp=Z,29nm,0.8s
STKA Stephens Creek 59.07 162 P P 05 04 57.7 +1.0
comp=Z,8.9nm,0.8s,baz=329,slow=5.9,SNR=15
STKA Stephens Creek 59.07 162 IAmb IAmb 05 04 58.6
comp=Z,3.7nm,1.1s
PRGR Permogore 62.57 328 eP P 05 05 18.7 -1.3
PRGR *e* 05 05 52.2
PRGR pmax pmax
comp=Z,17nm,0.8s
CNBA Chernabura Isl 62.85 39 P P 05 05 21.2 -0.8
CNBA IAmb IAmb 05 05 22.9
comp=Z,128nm,1.1s
TTA Tatalina 64.07 30 IAmb IAmb 05 05 31.1
comp=Z,6.4nm,0.5s
KLMR Klimovskoe 65.58 328 eP P 05 05 36.5 -3.1
KLMR *e**PP **PcP 05 06 09.6 -0.6**
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR Klimovskoe 65.58 328 eP P 05 05 36.6 -3.1
KLMR AMP 05 05 40.7
comp=Z,27nm,1.3s
KLMR *e*pP **PcP 05 06 09.7 -0.5**
VRH Novokhopyorsk 65.81 317 eP P 05 05 40.3 -1.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 65.96 308 eP P 05 05 41.9 -0.8
ZEI pmax pmax
comp=Z,4.0nm,0.7s
MLY Manley 66.17 28 IAmb IAmb 05 05 45.5
comp=Z,9.6nm,0.6s
BPAW Bear Paw Mtn. 66.19 29 IAmb IAmb 05 05 45.8
comp=Z,9.9nm,0.6s
KBZ Khabaz 66.47 309 P P 05 05 45.2 -0.5
comp=Z,4.9nm,0.8s,baz=224,slow=1.4,SNR=8.9
KIV Kislovodsk 66.57 309 eP P 05 05 46.1 -0.4
KIV pmax pmax
comp=Z,32nm,1.1s
SUA Susitna One 66.69 31 IAmb IAmb 05 05 48.7
comp=Z,25nm,0.8s
MCK McKinley 67.14 29 IAmb IAmb 05 05 50.3

comp=Z,10nm,1.0s
RND Reindeer 67.23 29 IAmb IAmb 05 05 51.7
comp=Z,26nm,0.7s
MDM Murphy Dome 67.23 27 IAmb IAmb 05 05 52.5
comp=Z,26nm,0.6s
LPSR Galich'ya Gora 67.25 319 *e*P **P 05 05 49.1 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 67.36 317 *e*P **P 05 05 50.4 -0.8**
VORD pmax pmax
comp=Z,9.0nm,0.6s
WRH Wood River Hil 67.38 28 P **P 05 05 51.5 +0.4**
WRH IAmb IAmb 05 05 54.0
comp=Z,10.0nm,0.6s
VSR Storozhevoye 67.38 317 *i* P **P 05 05 50.1 -1.3**
VSR pmax pmax
comp=Z,25nm,1.0s
CCB Clear Creek Bu 67.47 28 IAmb IAmb 05 05 53.9
comp=Z,4.0nm,0.6s
IL31 67.83 28 IAmb IAmb 05 05 56.1
comp=Z,5.5nm,0.5s
ILAR Eielson Array 67.83 28 P **P 05 05 53.0 -0.9**
comp=Z,2.6nm,0.4s,baz=270,slow=4.5,SNR=56
ILAR PcP **PcP 05 06 18.8 -0.8**
comp=Z,1.6nm,0.8s,baz=271,slow=5.3,SNR=5.5
OBN Obninsk 68.11 322⇑*e*P **P 05 05 54.7 -1.1**
OBN *e* 05 06 19.7
OBN *e**PP **pP 05 06 30.7 +2.8**
OBN *e* 05 08 29.6
OBN pmax pmax
comp=Z,6.0nm,1.0s
BMAR Burnt Mountain 68.21 25 P **P 05 05 57.6 +1.3**
SCM Sheep Creek Mo 68.22 31 IAmb IAmb 05 05 58.0
comp=Z,53nm,1.1s
SCRK Sand Creek 69.23 28 IAmb IAmb 05 06 05.2
comp=Z,10nm,0.6s
DOT Dot Lake 69.28 28 IAmb IAmb 05 06 04.4
comp=Z,9.6nm,0.7s
MENT Mentasta 69.61 29 IAmb IAmb 05 06 07.4
comp=Z,12nm,0.9s
ARCES ARCESS Array B 69.61 338 P **P 05 06 04.1 -0.8**
ARCES ARCESS Array B 69.61 338 P **P 05 06 04.7 -0.2**
comp=Z,1.4nm,0.4s,baz=64,slow=5.9,SNR=11
ARCES ARCESS Array B 69.61 338 P **P 05 06 04.1 -0.8**
GLB Gilahina Butte 69.95 31 IAmb IAmb 05 06 11.2
comp=Z,14nm,0.8s
EGAK Eagle 70.21 27 IAmb IAmb 05 06 10.4
comp=Z,9.7nm,0.8s
MCARA McCarthy VSAT 70.33 31 IAmb IAmb 05 06 11.6
comp=Z,14nm,0.7s
BCAR Beaver Creek A 70.42 29 P **P 05 06 11.3 +1.3**
CTGM Chitina Glacie 71.23 31 IAmb IAmb 05 06 17.6
comp=Z,24nm,0.6s
EPYK Eagle Plains 71.48 25 IAmb IAmb 05 06 17.3
comp=Z,18nm,0.6s
FINES FINESS Array B 71.80 330 P **P 05 06 18.0 -0.2**
FINES FINESS Array B 71.80 330 P **P 05 06 17.9 -0.2**
comp=Z,3.6nm,0.5s,baz=53,slow=5.9,SNR=45
FINES pP **pP 05 06 49.9 -0.7**
comp=Z,2.7nm,0.7s,baz=74,slow=8.5,SNR=2.6
FINES LR LR 05 40 47.3
comp=Z,67nm,18.7s,baz=330,slow=38
INK Inuvik 71.96 22 IAmb IAmb 05 06 20.1
comp=Z,11nm,0.7s
AKASG Malin Array Be 73.58 319 P **P 05 06 28.2 -0.8**
comp=Z,4.8nm,0.7s,baz=59,slow=5.9,SNR=14
AKASG Malin Array Be 73.58 319 IAmb IAmb 05 06 28.8
comp=Z,1.9nm,0.9s
AKBB Malin Array Si 73.58 319 P **P 05 06 28.4 -0.6**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 73.58 319 P **P 05 06 28.4 -0.6**
AKBB IAmb IAmb 05 06 28.5
comp=Z,5.8nm,0.7s
BR131 Keskin Array S 74.23 307 IAmb IAmb 05 06 34.2
comp=Z,3.6nm,0.7s
BRTR Keskin Array B 74.23 307 P **P 05 06 33.3 +0.1**
BRTR Keskin Array B 74.23 307 P **P 05 06 33.6 +0.5**
comp=Z,2.3nm,0.5s,baz=95,slow=4.4,SNR=20
BRTR pP **pP 05 07 07.0 +1.3**
comp=Z,2.7nm,0.8s,baz=100,slow=6.0,SNR=4.7
BRTR Keskin Array B 74.23 307 P **P 05 06 33.3 +0.1**
SKAG Skagway 74.56 31 IAmb IAmb 05 06 36.9
comp=Z,31nm,0.8s
JIS Juneau Island 75.48 32 IAmb IAmb 05 06 41.8
comp=Z,24nm,0.6s
TLCR 75.72 313⇑P **P 05 06 40.8 -0.6**
TOPG Topolog 76.12 313⇑P **P 05 06 44.1 +0.4**
CFR Carcaliu 76.17 313⇑P **P 05 06 43.8 -0.2**
TLB Topalu 76.45 313⇓P **P 05 06 45.5 0.0**
HARR Harsova 76.48 313⇑P **P 05 06 45.1 -0.6**
HARR mb 05 06 46.6
TESR Tescani 76.65 315⇑P **P 05 06 46.6 -0.1**
BIZ Bicaz 76.83 316⇓P **P 05 06 48.0 +0.3**
VRI Vrincioaia 76.84 315⇓P **P 05 06 48.2 +0.4**
PLOR Plostina 76.89 315⇑P **P 05 06 47.3 -0.8**
BURAR Bucovina Array 77.14 317⇓P **P 05 06 49.7 +0.2**
BURAR Bucovina Array 77.14 317 P **P 05 06 49.9 +0.4**
WRAK Wrangell Islan 77.26 33 IAmb IAmb 05 06 52.5
comp=Z,23nm,0.8s
MLR Muntele Rosu 77.49 314⇑P **P 05 06 52.1 +0.5**
MLR Muntele Rosu 77.49 314 IAmb IAmb 05 06 52.7
comp=Z,7.3nm,0.6s
DOPR Dopca 77.66 315⇑P **P 05 06 52.0 -0.4**
KWP Kalwaria Pacla 77.87 319 IAmb IAmb 05 06 54.4
comp=Z,102nm,0.7s
VOIR 78.09 315⇑P **P 05 06 54.8 0.0**
NC405 NORSAR Array S 78.24 333 IAmb IAmb 05 06 56.0
comp=Z,28nm,1.1s
ARR Arges 78.39 315⇑P **P 05 06 56.3 -0.1**
KOLS Kolonicke sedl 78.41 319 *e*P **P 05 06 55.4 -1.1**
KOLS Kolonicke sedl 78.41 319 *e*P **P 05 06 55.4 -1.1**
NB2 NORSAR Subarra 78.49 333 P **P 05 06 55.9 -0.8**
comp=Z,1.4nm,0.5s,baz=52,slow=5.9
NOA NORSAR Array B 78.49 333 P **P 05 06 56.1 -0.5**
comp=Z,1.9nm,0.5s,baz=54,slow=5.6,SNR=16
NOA pP **pP 05 07 30.4 +0.8**
comp=Z,2.9nm,0.9s,baz=58,slow=5.7,SNR=4.9
NOA LR LR 05 46 23.5
comp=Z,31nm,19.6s,baz=5.0,slow=39
HUMR Humele 78.49 314⇑P **P 05 06 56.2 -0.7**
LOT Lotru 78.91 315⇑P **P 05 06 59.5 +0.1**
DRGR 79.03 317⇑P **P 05 06 59.5 -0.5**
OJC Ojcow 79.33 321 P **P 05 07 01.5 +0.1**
OJC pmax pmax
comp=Z,10.0nm,0.7s
OJC Ojcow 79.33 321 P **P 05 07 01.4 +0.1**
OJC IAmb IAmb 05 07 02.5
comp=Z,9.7nm,0.7s
GZR Gura Zlata 79.57 315⇑P **P 05 07 01.9 -1.0**
PUNG Punghina 79.94 314⇑P **P 05 07 03.7 -1.0**
HERR Herculane 80.02 315⇑P **P 05 07 05.2 -0.1**
VTS Vitosha 80.43 312⇑P **P 05 07 07.7 0.0**
VTS mb 05 07 08.8
VTS Vitosha 80.43 312 IAmb IAmb 05 07 09.2
comp=Z,8.8nm,0.8s
VYHS Vyhne 80.66 319 *e*P **P 05 07 09.2 +0.6**
VYHS Vyhne 80.66 319 *e*P **P 05 07 09.1 +0.5**
MORC Moravsky Berou 80.83 321 *e*P **P 05 07 09.9 +0.4**
KRLC Kraliky 81.12 321 *e*P **P 05 07 11.1 0.0**
KRLC Kraliky 81.12 321 *e*P **P 05 07 11.1 0.0**
DPC Dobruska-Polom 81.25 322 *e*P **P 05 07 12.2 +0.4**
DPC Dobruska-Polom 81.25 322 *e*P **P 05 07 12.2 +0.4**
VRAC Vranov 81.59 321 *e*P **P 05 07 13.5 0.0**
YKA Yellowknife Ar 81.69 23 P **P 05 07 13.5 -0.2**
YKA Yellowknife Ar 81.69 23 P **P 05 07 13.8 +0.1**
comp=Z,18nm,0.8s,baz=305,slow=5.1,SNR=23
YKA Yellowknife Ar 81.69 23 P **P 05 07 13.5 -0.2**
BRG Berggiesshubel 82.32 323 *e*P **P 05 07 17.3 0.0**
comp=Z,7.7nm,1.4s
PRU Pruhonice 82.43 322 *e*P **P 05 07 18.7 +0.8**
PRU Pruhonice 82.43 322 *e*P **P 05 07 18.7 +0.8**
CLL Collm 82.61 324 *i* P **P 05 07 18.5 -0.3**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 82.61 324 *i* P **P 05 07 18.5 -0.3**
comp=Z,8.0nm,0.9s
KHC Kasperske Hory 83.40 321 *e*P **P 05 07 23.1 +0.1**
KHC Kasperske Hory 83.40 321 *e*P **P 05 07 23.1 +0.1**
GERES GERESS Array B 83.48 321 P **P 05 07 23.6 +0.2**
comp=Z,3.2nm,0.8s,baz=57,slow=4.9,SNR=18
D05A Enumclaw 87.44 38 IAmb IAmb 05 07 45.9
comp=Z,27nm,0.7s
LON Longmire 87.79 39 IAmb IAmb 05 07 47.0
comp=Z,12nm,1.0s
F04A Amboy 87.90 39 IAmb IAmb 05 07 47.5
comp=Z,32nm,0.8s
B08A Colville Reser 88.23 36 IAmb IAmb 05 07 49.0
comp=Z,33nm,0.8s
E07A Sunnyside 89.00 38 IAmb IAmb 05 07 53.2
comp=Z,29nm,0.7s
C09A Chrisman Ranch 89.13 36 IAmb IAmb 05 07 53.0
comp=Z,26nm,0.6s
HAWA Hanford 89.28 38 IAmb IAmb 05 07 54.3
comp=Z,24nm,0.9s
NEW Newport 89.46 35 IAmb IAmb 05 07 54.9
comp=Z,32nm,0.8s
E08A Dider Farm, El 89.48 38 IAmb IAmb 05 07 55.2
comp=Z,22nm,0.8s
PINE Pine Mountain 89.99 41 IAmb IAmb 05 07 58.4
comp=Z,29nm,0.9s
G08A Pilot Rock 90.26 39 IAmb IAmb 05 07 58.5
comp=Z,4.6nm,0.9s
WALA Waterton Lakes 90.61 34 IAmb IAmb 05 08 00.7
comp=Z,25nm,0.9s
F10A Beach Ranch, E 90.81 37 IAmb IAmb 05 08 02.6
comp=Z,13nm,0.7s
JTMT Jette 91.27 35 IAmb IAmb 05 08 03.6
comp=Z,25nm,0.8s
BMO Blue Mountains 91.45 38 IAmb IAmb 05 08 04.3
comp=Z,17nm,0.8s
MOD Modoc Plateau 91.46 42 IAmb IAmb 05 08 04.7
comp=Z,15nm,0.8s
FFC Flin Flon 91.83 24 P **P 05 08 03.9 +0.6**
FFC pmax pmax
comp=Z,12nm,0.8s
FFC Flin Flon 91.83 24 P **P 05 08 03.9 +0.6**
FFC IAmb IAmb 05 08 04.5
comp=Z,12nm,0.8s
PLID Pearl Lake 92.04 37 IAmb IAmb 05 08 08.6
comp=Z,9.4nm,0.6s
MSO Missoula 92.04 35 IAmb IAmb 05 08 06.5
comp=Z,11nm,0.7s
ORV Oroville 92.07 44 P **P 05 08 05.8 +1.0**
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV Oroville 92.07 44 P **P 05 08 05.8 +1.0**
ORV IAmb IAmb 05 08 06.4
comp=Z,9.1nm,1.1s
BEKR Beckworth 92.61 44 IAmb IAmb 05 08 10.1
comp=Z,11nm,1.0s
AFDM Forest Hills D 92.75 45 P **P 05 08 09.6 +1.6**
AFDM IAmb IAmb 05 08 10.6
comp=Z,3.8nm,1.0s
MFID Camas Ranch 93.18 39 IAmb IAmb 05 08 12.7
comp=Z,17nm,0.9s
KEST Kesra 93.19 312 P **P 05 08 10.6 +0.5**
comp=Z,5.7nm,0.7s,baz=129,slow=20,SNR=3.7
RUBR Rubicon Trail 93.21 44 IAmb IAmb 05 08 18.4
comp=Z,19nm,1.2s
PAHR Pah Rah Range 93.31 43 P **P 05 08 11.2 +0.5**
PAHR IAmb IAmb 05 08 12.9
comp=Z,12nm,1.0s
VCNR Virginia City 93.39 44 IAmb IAmb 05 08 13.5
comp=Z,7.3nm,1.0s
PNTR Pine Nut 93.54 44 IAmb IAmb 05 08 14.3
comp=Z,9.1nm,1.0s
CMB Columbia Colle 93.65 45 IAmb IAmb 05 08 14.7
comp=Z,7.1nm,1.1s
DLMT Dillon 93.70 36 IAmb IAmb 05 08 14.8
comp=Z,18nm,0.8s
YERR Yerington 93.83 44 IAmb IAmb 05 08 15.4
comp=Z,9.3nm,1.1s
WAKR Walker 93.99 44 IAmb IAmb 05 08 16.9
comp=Z,4.4nm,0.8s
BMN Battle Mountai 94.20 42 IAmb IAmb 05 08 17.6
comp=Z,8.3nm,1.0s
RYN Ryan 94.49 44 IAmb IAmb 05 08 18.6
comp=Z,11nm,1.1s
KVN Kaiserville 94.50 43 IAmb IAmb 05 08 19.1
comp=Z,11nm,1.0s
MDPB Devils Postpil 94.73 45 IAmb IAmb 05 08 19.5
comp=Z,4.9nm,1.1s
NVAR Mina Array Bea 94.75 44 P **P 05 08 18.9 +1.5**
comp=Z,1.4nm,0.8s,baz=292,slow=4.8,SNR=3.6
NVAR pP **pP 05 08 50.5 -0.3**
comp=Z,0.9nm,0.8s,baz=284,slow=5.5,SNR=1.7
NVAR PP **PP 05 12 04.0 -3.0**
comp=Z,0.3nm,0.6s,baz=305,slow=9.5,SNR=4.1
OMMB Old Mammoth Mi 94.79 45 IAmb IAmb 05 08 20.5
comp=Z,5.2nm,1.1s
YHL Hebgen Lake 94.79 35 IAmb IAmb 05 08 20.1
comp=Z,6.9nm,0.9s
NV11 Mina Array Sit 94.84 44 IAmb IAmb 05 08 19.4
comp=Z,2.9nm,0.9s
YHB Horse Butte 94.85 36 IAmb IAmb 05 08 20.4
comp=Z,10nm,0.9s
YMR Madison River 95.03 35 IAmb IAmb 05 08 21.3
comp=Z,7.0nm,0.8s
PAGB Antelope Grade 95.08 47 IAmb IAmb 05 08 23.5
comp=Z,4.8nm,0.7s
FLWY Flagg Ranch 95.57 36 IAmb IAmb 05 08 24.0
comp=Z,7.6nm,0.8s
RLMT Red Lodge 95.60 34 IAmb IAmb 05 08 22.8
comp=Z,2.9nm,0.7s
FXWY Fox Creek 95.69 36 IAmb IAmb 05 08 23.5
comp=Z,2.5nm,1.1s
HVU Hansel Valley 95.96 39 IAmb IAmb 05 08 25.3
comp=Z,4.4nm,1.1s
R11A Troy Canyon, C 96.49 43 IAmb IAmb 05 08 27.4
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 96.97 40 IAmb IAmb 05 08 30.0
comp=Z,4.3nm,1.1s
PDAR Pinedale Array 97.07 36 P Pdif 05 08 27.9 0.0
comp=Z,0.8nm,0.6s,baz=49,slow=1.1,SNR=7.9
PDAR PP **PP 05 12 21.3 -3.4**
comp=Z,0.2nm,0.6s,baz=2.7,slow=5.8,SNR=2.9
ULM Lac du Bonnet 97.65 24 LR LR 05 58 50.7
comp=Z,25nm,19.1s,baz=51,slow=39
TXAR Lajitas Array 109.85 43 PKiKP **PKiKP 05 13 26.9 +0.3**
comp=Z,0.2nm,0.5s,baz=228,slow=1.1,SNR=4.1
TORD Torodi Ar. Bea 111.56 297 PKiKP **PKiKP 05 13 29.4 -0.6**
comp=Z,0.6nm,1.0s,baz=40,slow=3.0,SNR=5.5
QSPA South Pole Qui 114.61 180 PKP **PKiKP 05 13 34.9 +0.6**
comp=Z,1.1nm,1.1s,baz=298,slow=5.9,SNR=2.2
DBIC Dimbokro 120.50 295 PKP **PKPdf 05 13 47.1 -0.1**
comp=Z,2.5nm,0.9s,baz=11,slow=5.2,SNR=3.2
VNA2 Neumayer--Watz 126.04 198 PKPdf **PKiKP 05 13 57.1 +0.5**
SDV Santo Domingo 143.91 24 PKP PKPbc 05 14 29.7 +0.5
comp=Z,38nm,0.6s,baz=339,slow=2.4,SNR=29
PCRV Puerto La Cruz 144.40 13 PKP **PKPab 05 14 29.7 -0.5**
comp=Z,46nm,0.6s,baz=343,slow=1.9,SNR=55
ROSC El Rosal 145.97 32 PKPbc **PKPab 05 14 37.6 +1.0**
comp=Z,42nm,0.7s,baz=336,slow=3.8,SNR=9.3
ROSC El Rosal 145.97 32 PKPab 05 14 37.3 +0.7
PTGA Pitinga 155.86 8 PKPab **PKPab 05 15 16.4 -0.4**
comp=Z,0.9nm,0.3s,baz=356,slow=5.5,SNR=4.1
PLCA Paso Flores 160.44 148 PKPab **PKPab 05 15 36.7 +0.5**
comp=Z,1.2nm,0.8s,baz=293,slow=2.0,SNR=3.6
LPAZ La Paz 166.46 53 PKIKP **PKPdf 05 15 02.7 +1.2**
LPAZ 05 16 02.9
LPAZ La Paz 166.46 53 PKP **PKPdf 05 15 02.7 +1.2**
comp=Z,1.3nm,0.9s,baz=303,slow=0.7,SNR=3.5
LPAZ PKPab **PKPab 05 16 03.4 -0.5**
comp=Z,3.6nm,1.0s,baz=343,slow=4.5,SNR=7.1
SIV San Ignacio 170.37 25 PKP **PKPdf 05 15 04.1 +0.8**
comp=Z,1.6nm,0.9s,baz=158,slow=0.5,SNR=7.0
SIV PKPab **PKPab 05 16 19.8 -0.5**
comp=Z,3.8nm,0.6s,baz=303,slow=3.3,SNR=21

NEIC 11 05:13:53.8±1.2,38°82N±0°01×122°81W±0°02,h4km±4km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**143**		Pg	05 13 54.0	-0.6
GDXM				Sg	Sg	05 13 54.5	-0.7
GACM	**Adobe Creek**	**0.07**	**321**		Pg	05 13 54.9	-0.3
GCRM	**Castle Rock Sp**	**0.09**	**124**		Pg	05 13 55.2	-0.4
GSGM	**Seigler Mounta**	**0.09**	**59**		Pg	05 13 56.0	+0.4
GBGM	**Boggs Mountain**	**0.10**	**94**		Pg	05 13 55.9	+0.1
GPMM	**Pine Mountain**	**0.11**	**284**		Pg	05 13 55.6	-0.4
GAXM	**Alexander Vall**	**0.12**	**159**		Pg	05 13 55.5	-0.6
GMKM	**Mount Konoctai**	**0.15**	**6**		Pg	05 13 57.2	+0.5
GCVM	**Cloverdale**	**0.17**	**252**		Pg	05 13 56.8	-0.3
GSSM	**Skaggs Springs**	**0.20**	**233**		Pg	05 13 57.4	-0.3
NHSM	**Mount Saint He**	**0.22**	**137**		Pg	05 13 58.0	-0.1
NMCNC	**Mill Creek, So**	**0.24**	**200**		Pg	05 13 58.1	-0.4
HOPS	**Hopland Field**	**0.27**	**310**	Pg	Pg	05 13 59.1	+0.1
HOPS				Sg	Sg	05 14 01.7	-0.8
GHLM	**Highland Sprin**	**0.27**	**323**		Pg	05 13 59.1	0.0
MAC	**Mark West Spri**	**0.28**	**166**		Pg	05 13 59.1	0.0
NMTM	**Middletown**	**0.28**	**93**		Pg	05 13 59.4	+0.1
GSNM	**Snow Mountain**	**0.32**	**292**		Pg	05 14 00.0	0.0
NSHM	**Saint Helena R**	**0.34**	**152**		Pg	05 14 00.1	-0.2
GDCM	**Dry Creek**	**0.34**	**261**		Pg	05 14 00.3	-0.1
GHCM	**House Creek**	**0.37**	**235**		Pg	05 14 00.8	-0.2
GBMM	**Baldy Mountain**	**0.40**	**37**		Pb	05 14 02.8	-0.8
FTR	**Fort Ross**	**0.41**	**223**		Pg	05 14 01.6	0.0
NTYM	**Taylor**	**0.45**	**165**		Pg	05 14 02.4	+0.1
NBPM	**Berryessa Peak**	**0.51**	**108**		Pg	05 14 04.3	+0.9
GTSM	**Trough Springs**	**0.52**	**18**		Pb	05 14 04.7	-0.8
GGUM	**Gualala**	**0.54**	**274**		Pg	05 14 04.1	0.0
CVS	**Carmenet Viney**	**0.55**	**150**		Pg	05 14 04.1	-0.2
GHOM	**Hamilton Openi**	**0.61**	**292**		Pg	05 14 05.7	+0.2
MCCM	**Marconi Confer**	**0.68**	**185**	Pg	Pg	05 14 07.0	+0.3
MCCM				Sg	Sg	05 14 15.2	-0.3
GHMM	**Hull Mountain**	**0.68**	**352**		Pb	05 14 07.9	-0.5
NDHM	**Dunnigan Hills**	**0.70**	**94**		Pb	05 14 08.9	+0.3
GNAM	**Navarro Ridge**	**0.74**	**301**		Pg	05 14 08.4	+0.4
NADM	**Allendale**	**0.75**	**119**		Pb	05 14 09.5	+0.1
NOLM	**Olema**	**0.78**	**179**		Pg	05 14 08.4	-0.3
KRKM	**Rackout Spring**	**0.80**	**339**		Pb	05 14 10.0	-0.3
GTC	**Three Chop Rid**	**0.82**	**315**		Pg	05 14 09.8	+0.3
GASB	**Alder Springs**	**0.83**	**5**		Pg	05 14 11.3	+0.3
NPRM	**Point Reyes**	**0.84**	**191**		Pg	05 14 09.8	-0.1
NLHM	**Lake Herman**	**0.87**	**143**		Pg	05 14 10.6	+0.1
SUTB	**Sutter Butte**	**0.89**	**63**		Pg	05 14 11.3	+0.4
KFPM	**Farley Peak**	**0.95**	**330**		Pb	05 14 13.0	+0.2
GVV	**Valley View**	**0.96**	**6**		Pn	05 14 13.9	-0.3
BRIB	**Briones**	**1.04**	**150**		Pg	05 14 13.1	-0.6
VAK	**Adit at Lawren**	**1.04**	**155**		Pg	05 14 13.4	-0.3
CVPM	**Vollmer Peak**	**1.04**	**154**		Pg	05 14 13.7	0.0
BKS	**Berkeley--Byer**	**1.05**	**154**		Pg	05 14 13.4	-0.4
KCPM	**Cahto Peak**	**1.05**	**325**		Pg	05 14 12.8	-1.1
KCPM				Sg	Sg	05 14 27.6	0.0
JPRM	**Presidio of Sa**	**1.06**	**166**		Pg	05 14 13.9	-0.1
FARB	**Farallon Islan**	**1.13**	**188**		Pb	05 14 15.7	-0.2
BDM	**Black Diamond**	**1.14**	**139**		Pg	05 14 15.3	-0.3
CRPB	**Russellman Par**	**1.15**	**142**		Pg	05 14 15.2	-0.6
OHCM	**Honcut**	**1.15**	**63**		Pg	05 14 14.9	-1.0
BGC	**Bolinger Road**	**1.16**	**149**		Pg	05 14 15.5	-0.6
JSBM	**San Bruno Moun**	**1.19**	**164**		Pg	05 14 15.7	-0.7
CLCB	**Lake Chabot**	**1.23**	**151**		Pg	05 14 17.1	-0.2
ORV	**Oroville**	**1.25**	**54**		Pg	05 14 16.1	-1.7
ORV	**Oroville**	**1.25**	**54**		Pg	05 14 16.4	-1.4
CMOB	**Morgan Territo**	**1.28**	**142**		Pg	05 14 17.2	-1.2
O02D	**Mt. Diablo Mer**	**1.35**	**1**		Pb	05 14 21.7	+1.9
AASM	**Arroyo Seco**	**1.39**	**106**		Pn	05 14 17.6	-2.4
AFDM	**Forest Hills D**	**1.44**	**84**	Pn	Pn	05 14 18.5	-2.2
AFDM				Sn	Sb	05 14 38.3	-1.6
LBPM	**Beegum Peak**	**1.50**	**358**		Pg	05 14 24.1	+1.7
KMRM	**Mail Ridge**	**1.56**	**334**	Pn	Pg	05 14 24.0	+0.3
WDC	**Whiskeytown Da**	**1.77**	**7**	Pn	Pn	05 14 24.4	-0.8
DONR	**Donner Summit**	**2.01**	**74**		Pn	05 14 28.9	+0.2
IND	**Independence**	**2.05**	**72**		Pn	05 14 30.4	+1.1
CMB	**Columbia Colle**	**2.06**	**112**		Pn	05 14 28.4	-0.8
CMB				Sn	Sn	05 14 54.5	-0.8
RUBR	**Rubicon Trail**	**2.08**	**83**		Pn	05 14 29.8	+0.1
RUBR				Sn	Sn	05 14 55.7	-0.6
TAHR	**Tahoe**	**2.09**	**80**		Pn	05 14 30.4	+0.6
EMB	**Emerald Bay**	**2.12**	**85**		Pn	05 14 30.7	+0.5
KBF	**Kyburz Flat**	**2.13**	**70**		Pn	05 14 30.6	+0.2
LOY	**Loyalton**	**2.17**	**66**		Pn	05 14 31.1	+0.3
BEKR	**Beckworth**	**2.17**	**60**		Pn	05 14 31.2	+0.4
MPK	**Martis Peak**	**2.21**	**77**		Pn	05 14 32.0	+0.4
GNO	**Genoa**	**2.31**	**86**		Pn	05 14 33.8	+1.0
SAO	**San Andreas Ge**	**2.32**	**152**		Pn	05 14 31.8	-1.0
SAO					Pg	05 14 42.2	+4.0
SAO				Sn	Sn	05 14 59.3	-2.5
BMRR	**Black Mountain**	**2.33**	**56**		Pn	05 14 31.1	-2.1
PEAR	**Peavine Mounta**	**2.35**	**70**		Pn	05 14 33.7	+0.4
BFC	**Buffalo Canyon**	**2.50**	**87**		Pn	05 14 36.3	+0.9
VCNR	**Virginia City**	**2.50**	**78**		Pn	05 14 36.0	+0.5
VCNR				Sn	Sn	05 15 03.7	-3.0
PNTR	**Pine Nut**	**2.52**	**83**		Pn	05 14 36.9	+1.2
WAKR	**Walker**	**2.66**	**96**		Pn	05 14 38.3	+0.7
YERR	**Yerington**	**2.79**	**86**		Pn	05 14 39.3	-0.1
PAHR	**Pah Rah Range**	**2.80**	**71**		Pn	05 14 37.2	-2.4
PMPB	**Monarch Peak**	**3.05**	**148**	Pn	Pn	05 14 39.9	-3.0
MDPB	**Devils Postpil**	**3.17**	**111**		Pn	05 14 44.8	+0.1
OMMB	**Old Mammoth Mi**	**3.23**	**111**		Pn	05 14 45.8	+0.2
RYN	**Ryan**	**3.36**	**92**		Pn	05 14 47.7	+0.5
NVAR	**Mina Array Bea**	**3.55**	**95**		Pn	05 14 49.4	-0.5
NV11	**Mina Array Sit**	**3.67**	**95**		Pn	05 14 52.1	+0.7
KVN	**Kaiserville**	**3.68**	**85**		Pn	05 14 51.1	-0.6
PAGB	**Antelope Grade**	**3.70**	**146**	Pn	Pn	05 14 50.6	-1.2

ISCJB ***11*** *05:15:47.5±0.2, 14°86S±0°04×75°55W±0°05, h28km, mb4.0/10, MS3.7/10, Error ellipse: s-maj=9.0km s-min=3.0km az=140.3*
NEIC ***11*** *05:15:50.9±2.3, 14°94S±0°07×75°59W±0°09, h43km±7km, mb4.7/69*
IDC ***11*** *05:15:51.4±1.9, 14°91S×75°58W, h42km±16km, mb3.9/12, mb1 4.1/15, mb1mx4.0/28, mbtmp4.1/15, ML3.9/3, MS3.7/16, Ms1 3.7/16, ms1mx3.6/25, Error ellipse: s-maj=26.3km s-min=10.5km az=56.0*
VAO ***11*** *05:15:57.4±1.1, 14°92S×74°59W, h10km, mb4.4*
ISC 11 05:15:49.2±0.5, 14°93S±0°06×75°60W±0°07, h28km, n146, σ1§52/143, mb4.7/37, MS3.7/10, 2C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.17**	**337**	P	**Pn**	**05 16 36.8**	**-0.4**
	10nm,0.3s,baz=146,slow=12,SNR=36						
NNA				S	**Sn**	**05 17 15.8**	**+1.6**
	188nm,0.3s,baz=221,slow=15,SNR=9.1						
NNA				LR	LR	05 17 56.4	
	comp=Z,707nm,20.0s,baz=160,slow=40						
NNA	**Nana**	**3.17**	**337**		**Pn**	**05 16 36.9**	**-0.4**
NNA					**Sn**	**05 17 13.1**	**-1.1**
MNMC	**Minye Minye**	**7.10**	**127**		**Pn**	**05 17 33.2**	**+1.7**
MNMC				Sn	**Sn**	**05 18 55.0**	**+3.5**
LPAZ	**La Paz**	**7.32**	**102**	P	Pn	05 17 41.4	+6.5
	1.6nm,0.3s,baz=291,slow=7.9,SNR=42						
LPAZ				S	Sb	05 19 12.8	-10
	baz=275,slow=12,SNR=2.5						
LPAZ				LR	LR	05 21 03.9	
	comp=Z,485nm,21.8s,baz=296,slow=43						
LPAZ	**La Paz**	**7.32**	**102**		Pn	05 17 39.8	+4.9
LPAZ				Sn	**Sn**	**05 18 54.7**	**-2.6**
PB11	**IPOC Station P**	**7.43**	**131**		**Pn**	**05 17 36.8**	**+0.8**
PB11				Sn	**Sn**	**05 18 57.5**	**-2.1**
GO01	**Chusmiza**	**7.72**	**129**		**Pn**	**05 17 41.8**	**+1.6**
GO01				Sn	**Sn**	**05 19 05.7**	**-1.3**
ATAH	**Atahualpa**	**8.22**	**340**	P	**Pn**	**05 17 49.8**	**+2.8**
	1.0nm,0.3s,baz=113,slow=1.6,SNR=8.3						
ATAH				S	**Sn**	**05 19 25.7**	**+6.5**
	2.1nm,0.3s,baz=193,slow=19,SNR=2.1						
ATAH				LR	LR	05 21 45.2	
	comp=Z,192nm,18.4s,baz=191,slow=43						
PB01	**IPOC Station P**	**8.41**	**137**		**Pn**	**05 17 50.7**	**+1.3**
PB01				Sn	**Sn**	**05 19 25.2**	**+1.8**
PB04	**IPOC Station P**	**8.99**	**146**		**Pn**	**05 17 57.0**	**-0.5**
LVC	**Limon Verde**	**9.92**	**141**	P	**Pn**	**05 18 11.7**	**+1.4**
	2.3nm,0.3s,baz=311,slow=8.8,SNR=26						
LVC				S	**Sn**	**05 20 01.6**	**+0.7**
	0.5nm,0.3s,baz=68,slow=19,SNR=3.9						
LVC				LR	LR	05 21 44.8	
	comp=Z,215nm,21.5s,baz=308,slow=36						
LVC	**Limon Verde**	**9.92**	**141**		**Pn**	**05 18 12.3**	**+2.0**
LVC					**Sn**	**05 20 01.2**	**+0.2**
LVC	**Limon Verde**	**9.92**	**141**	*

AQDB	Aquidauana	19.73	109	eP	P	05 20 17.1	+0.2
AQDB	Aquidauana	19.73	109	eP	P	05 20 17.1	+0.2
CPUP	Villa Florida	20.49	127	P	Pn	05 20 27.1	-0.2
	4.7nm,0.9s,baz=300,slow=11,SNR=6.4						
CPUP				LR	LR	05 29 33.7	
	comp=Z,148nm,19.1s,baz=294,slow=40						
PTGA	Pitinga	20.92	49	P	P	05 20 30.5	+0.7
	8.8nm,0.9s,baz=234,slow=16,SNR=4.3						
PTGA				LR	LR	05 28 52.5	
	comp=Z,228nm,19.6s,baz=236,slow=37						
PTGA	Pitinga	20.92	49	P	P	05 20 30.6	+0.7
PTGA				IAmb	IAmb	05 20 47.2	
	comp=Z,61nm,1.9s						
PTGA	Pitinga	20.92	49	eP	P	05 20 30.7	+0.9
PTGA	Pitinga	20.92	49	eP	P	05 20 30.7	+0.9
ARAG	Araguaiana, MT	22.95	95	eP	P	05 20 51.7	+0.2
ARAG	Araguaiana, MT	22.95	95	eP	P	05 20 51.7	+0.2
TRCB	Terra Rica	23.07	113	eP	P	05 20 54.5	+1.8
TRCB	Terra Rica	23.07	113	eP	P	05 20 54.5	+1.8
PTGB	Pitanga	24.15	117	eP	P	05 21 05.0	+1.8
PTGB	Pitanga	24.15	117	eP	P	05 21 05.0	+1.8
SDV	Santo Domingo	24.17	12	P	P	05 21 02.8	-0.7
	comp=Z,3.9nm,0.2s,baz=167,slow=8.1,SNR=2.2						
SDV	Santo Domingo	24.17	12	eP	P	05 21 12.9	+9.4
SDV	Santo Domingo	24.17	12	eP	P	05 21 12.9	+9.4
FRTB	Fartura	25.95	113	eP	P	05 21 22.0	+2.5
FRTB	Fartura	25.95	113	eP	P	05 21 22.0	+2.5
TRQA	Tornquist	26.00	155	P	P	05 21 21.4	+1.6
TRQA				IAmb	IAmb	05 21 53.8	
	comp=Z,24nm,1.7s						
PLCA	Paso Flores	26.08	171	P	P	05 21 21.3	+0.7
	comp=Z,2.1nm,0.8s,baz=346,slow=11,SNR=4.1						
PLCA				LR	LR	05 29 52.2	
	comp=Z,77nm,18.9s,baz=357,slow=32						
PLCA	Paso Flores	26.08	171	P	P	05 21 21.3	+0.7
BDFB	Brasilia	26.61	95	P	P	05 21 26.5	+0.8
	comp=Z,2.5nm,0.8s,baz=236,slow=7.3,SNR=4.0						
BDFB				LR	LR	05 33 07.3	
	comp=Z,480nm,19.4s,baz=286,slow=39						
JTS	Las Juntas de	26.72	339	LR	LR	05 31 54.8	
	comp=Z,177nm,18.7s,baz=210,slow=36						
RCLB	Rio Claro- Sao	27.58	110	eP	P	05 21 37.1	+2.9
RCLB	Rio Claro- Sao	27.58	110	eP	P	05 21 37.1	+2.9
BIRD	Birdtown, Kers	49.52	355	P	P	05 24 37.3	-0.1
BIRD				IAmb	IAmb	05 24 41.6	
	comp=Z,16nm,1.4s						
Y49A	Blount Mountai	49.60	348	P	P	05 24 37.3	-0.8
W57A	Gilead	49.98	355	P	P	05 24 40.3	-0.6
FPAL	Fort Paine	50.11	349	IAmb	IAmb	05 24 41.4	
	comp=Z,5.9nm,1.0s						
FPAL				P	P	05 24 41.4	-0.5
PMSA	Palmer Station	50.42	174	P	P	05 24 43.6	-0.3
PMSA				IAmb	IAmb	05 25 53.5	
	comp=Z,13nm,1.1s						
Z41A	Richland Creek	50.66	341	P	P	05 24 45.3	-0.7
Z41A				IAmb	IAmb	05 24 47.2	
	comp=Z,11nm,0.8s						
V56A	Mocksville	50.67	355	P	P	05 24 46.3	+0.1
W50A	Signal Mountai	50.70	350	P	P	05 24 45.7	-0.7
W50A				IAmb	IAmb	05 24 47.9	
	comp=Z,7.5nm,0.8s						
SWET	Sewanee	50.83	349	P	P	05 24 46.2	-1.1
SWET				IAmb	IAmb	05 24 48.1	
	comp=Z,15nm,1.2s						
V52A	Sevierville	51.06	352	P	P	05 24 48.3	-0.8
V51A	Loudon	51.13	351	P	P	05 24 49.2	-0.4
TXAR	Lajitas Array	51.68	328	P	P	05 24 54.0	-0.1
	comp=Z,1.1nm,0.7s,baz=150,slow=8.0,SNR=9.6						
TXAR				LR	LR	05 44 47.2	
	comp=Z,73nm,18.2s,baz=0.0,slow=34						
TXAR	Lajitas Array	51.68	328	P	P	05 24 53.4	-0.6
TX31	Lajitas Ar. Si	51.69	328	P	P	05 24 53.3	-0.8
TX32	Lajitas Array	51.69	328	P	P	05 24 54.0	0.0
T52A	Hallie	52.22	353	P	P	05 24 57.0	-0.8
T49A	Edmonton	52.60	350	P	P	05 24 59.5	-1.0
PARMO	Parma	53.03	346	P	P	05 25 02.8	-0.8
PBMO	Poplar Bluff	53.30	345	P	P	05 25 04.7	-1.0
PBMO				IAmb	IAmb	05 25 05.2	
	comp=Z,7.1nm,0.8s						
U40A	Yellville	53.55	343	P	P	05 25 07.1	-0.5
U40A				IAmb	IAmb	05 25 07.8	
	comp=Z,6.4nm,0.8s						
HHAR	Hobbs	53.80	342	P	P	05 25 08.8	-0.7
HHAR				IAmb	IAmb	05 25 09.2	
	comp=Z,14nm,1.6s						
WCI	Wyandotte Cave	53.82	350	P	P	05 25 08.6	-0.9
SIUC	Southern Illin	53.91	347	P	P	05 25 09.3	-0.8
TUL1	Leonard	54.06	340	P	P	05 25 11.1	-0.1
MGMO	Mountain Grove	54.13	344	P	P	05 25 10.8	-1.0
MGMO				IAmb	IAmb	05 25 11.9	
	comp=Z,10nm,1.1s						
FVM	French Village	54.45	346	P	P	05 25 12.7	-1.4
FVM				IAmb	IAmb	05 25 14.3	
	comp=Z,7.6nm,0.8s						
OLIL	Olney	54.65	348	P	P	05 25 14.3	-1.2
ANMO	Albuquerque	57.61	330	P	P	05 25 36.9	-0.2
TUC	Tucson	57.81	325	P	P	05 25 39.0	+0.7
MEDO	Medina	57.87	358	P	P	05 25 37.5	-0.9
SDCO	Great Sand Dun	59.46	333	P	P	05 25 49.9	-0.1
SDCO				IAmb	IAmb	05 25 53.2	
	comp=Z,11nm,1.4s						
S22A	4UR Ranch, Cre	60.06	332	P	P	05 25 53.0	-1.1
PV01	Paradox Valley	61.18	331	P	P	05 26 02.3	+0.6
ISCO	Idaho Springs	61.21	334	P	P	05 26 01.6	-0.4
ISCO				IAmb	IAmb	05 26 13.3	
	comp=Z,8.3nm,1.4s						
SMCO	Snowmass	61.29	333	P	P	05 26 02.8	+0.2
SMCO				IAmb	IAmb	05 26 14.4	
	comp=Z,22nm,2.0s						
PV02	Paradox Valley	61.32	331	P	P	05 26 02.6	-0.1
PV02				IAmb	IAmb	05 26 09.1	
	comp=Z,4.4nm,1.1s						
PV13	Radium Mtn., P	61.32	331	P	P	05 26 02.3	-0.3
PV13				IAmb	IAmb	05 28 05.4	
	comp=Z,15nm,1.7s						
ECSD	EROS Data Cent	61.46	343	P	P	05 26 02.1	-1.1
ECSD				IAmb	IAmb	05 26 09.0	
	comp=Z,16nm,1.6s						
O20A	White River Ci	62.64	332	P	P	05 26 11.6	+0.2
O20A				IAmb	IAmb	05 26 12.3	
	comp=Z,4.7nm,0.8s						
CCUT	Cedar City	63.13	327	P	P	05 26 15.4	+0.6
MSU	Marysvale	63.24	328	P	P	05 26 16.1	+0.6
P17A	Butcher Ranch,	63.27	330	P	P	05 26 15.4	-0.2
SHPR	Sheep Range	63.34	325	P	P	05 26 17.3	+1.2
SHPR				IAmb	IAmb	05 26 33.0	
	comp=Z,14nm,2.0s						
RDMU	Red Mountain	63.59	332	P	P	05 26 17.8	0.0
PSUT	Pine Spring	64.12	327	P	P	05 26 22.8	+1.4
TPNV	Topopah Spring	64.26	325	P	P	05 26 23.4	+1.2
TPNV				IAmb	IAmb	05 27 52.5	
	comp=Z,16nm,2.0s						
JLU	Jordanelle	64.50	330	P	P	05 26 24.8	+1.0
CTU	Camp Tracy	64.71	330	P	P	05 26 25.6	+0.6
DUG	Dugway, Tooele	64.84	329	P	P	05 26 26.7	+0.8
DUG				IAmb	IAmb	05 26 27.5	
	comp=Z,4.5nm,0.8s						
TCUT	Toone Canyon	64.88	331	P	P	05 26 27.0	+0.8
PDAR	Pinedale Array	65.34	333	P	P	05 26 28.6	-0.6
	comp=Z,0.5nm,0.6s,baz=133,slow=10,SNR=5.0						
PDAR				LR	LR	05 55 06.9	
	comp=Z,24nm,21.6s,baz=63,slow=36						
BW06	Boulder Array	65.34	333	P	P	05 26 29.1	-0.1
HVU	Hansel Valley	66.04	330	P	P	05 26 33.6	-0.1
OMMB	Old Mammoth Mi	66.29	323	P	P	05 26 36.4	+0.9
NVAR	Mina Array Bea	66.46	324	P	P	05 26 37.2	+0.7
	comp=Z,0.9nm,0.9s,baz=146,slow=5.6,SNR=6.0						
NVAR				LR	LR	05 54 13.1	
	comp=Z,40nm,18.4s,baz=81,slow=35						
NVAR	Mina Array Bea	66.46	324	P	P	05 26 36.2	-0.2
FLWY	Flagg Ranch	66.89	333	P	P	05 26 39.8	+0.7
FLWY				IAmb	IAmb	05 26 40.9	
	comp=Z,5.7nm,0.8s						
ULM	Lac du Bonnet	67.31	346	P	P	05 26 42.2	+0.9
	comp=Z,3.2nm,0.8s,baz=149,slow=11,SNR=2.8						
YHH	Holmes Hill	67.52	334	P	P	05 26 43.9	+0.7
YHB	Horse Butte	67.64	333	P	P	05 26 45.0	+1.2
YHL	Hebgen Lake	67.72	333	P	P	05 26 45.6	+1.2
GCMT	Greycliff	67.83	335	P	P	05 26 44.5	-0.5
PAHR	Pah Rah Range	67.95	325	P	P	05 26 45.9	+0.1
AFDM	Forest Hills D	68.33	323	P	P	05 26 48.8	+0.7
MCMT	McKenzie Canyo	68.43	332	P	P	05 26 49.1	+0.3
BOZ	Bozeman (W)	68.50	334	P	P	05 26 49.3	+0.2
BOZ				IAmb	IAmb	05 28 58.4	
	comp=Z,15nm,1.5s						
MFID	Camas Ranch	68.75	330	P	P	05 26 51.7	+1.0
LRM	Limekiln Ridge	69.03	333	P	P	05 26 56.7	+4.1
SNAA	Sanae	70.52	161	P	P	05 27 02.2	+1.0
SNAA				IAmb	IAmb	05 27 03.3	
	comp=Z,5.8nm,0.9s						
G08A	Pilot Rock	71.66	329	P	P	05 27 09.6	+1.1
G08A				IAmb	IAmb	05 27 41.4	
	comp=Z,13nm,1.9s						
DBIC	Dimbokro	73.31	78	P	P	05 27 19.1	+0.3
	comp=Z,1.8nm,0.7s,baz=242,slow=7.6,SNR=3.8						
DBIC				LR	LR	05 58 26.9	
	comp=Z,145nm,18.3s,baz=231,slow=35						
QSPA	South Pole Qui	75.22	180	P	P	05 27 30.5	+1.3
TOA0	Torodi Ar. Sit	81.41	74	P	P	05 28 05.1	+0.8
TOA0				IAmb	IAmb	05 28 08.0	
	comp=Z,11nm,0.9s						
TORD	Torodi Ar. Bea	81.41	74	P	P	05 28 03.9	-0.4
	comp=Z,9.2nm,0.8s,baz=292,slow=5.5,SNR=40						
TORD				LR	LR	06 02 25.0	
	comp=Z,115nm,20.4s,baz=300,slow=34						
TORD	Torodi Ar. Bea	81.41	74	P	P	05 28 04.5	+0.3
SYO	Syowa Base	84.80	161⇑	eP	P	05 28 17.0	-3.7
SYO	Syowa Base	84.80	161⇑	ePcP	P	05 28 20.0	-0.7
SYO	Syowa Base	84.80	161⇓	epP	pP	05 28 29.0	-0.8
ESDC	Sonseca Array	85.86	47	P	P	05 28 27.5	+1.0
	comp=Z,0.2nm,0.5s,baz=230,slow=5.5,SNR=3.4						
ESDC	Sonseca Array	85.86	47	P	P	05 28 27.2	+0.6
LATE	Laterza	98.07	48	P	P	05 29 20.6	-2.7
H11N3	WAKE ISLAND Hyl	20.42	284	T	T	07 45 53.3	
	baz=96,slow=74,SNR=32						
H11N2	WAKE ISLAND Hyl	20.43	284	T	T	07 46 05.8	
	baz=96,slow=74,SNR=34						
H11N1	WAKE ISLAND Hyl	20.43	284	T	T	07 46 11.7	
	baz=96,slow=74,SNR=16						
H11S2	WAKE ISLAND Hyl	20.47	283	T	T	07 46 15.0	
	baz=97,slow=75,SNR=24						
H11S1	WAKE ISLAND Hyl	20.48	283	T	T	07 46 15.3	
	baz=97,slow=75,SNR=49						
H11S3	WAKE ISLAND Hyl	20.49	283	T	T	07 46 16.1	
	baz=97,slow=75,SNR=34						
ASAR	Alice Springs	132.01	217	PKP	PKPdf	05 35 00.8	-0.2
	comp=Z,0.5nm,0.7s,baz=119,slow=2.1,SNR=4.5						
ASAR	Alice Springs	132.01	217		PKPdf	05 35 01.0	-0.1
WRA	Warramunga Arr	134.53	221	PKP	PKPdf	05 35 06.0	+0.1
	comp=Z,0.8nm,0.7s,baz=140,slow=1.9,SNR=11						
ZALV	Zalesovo Beam	138.15	17	PKP	PKPdf	05 35 11.8	+0.4
	comp=Z,3.0nm,0.8s,baz=305,slow=3.1,SNR=9.1						
MKAR	Makanchi Array	143.26	26	PKP	PKPbc	05 35 19.4	+1.4
	comp=Z,0.8nm,0.9s,baz=327,slow=2.4,SNR=2.9						
KSH	Kashi	145.07	40	PKP	PKPbc	05 35 20.4	-3.5
KSH				sPKP		05 35 34.2	
KSH				PP	PP	05 38 42.3	-0.3
KSH				PKS	PKSdf	05 38 54.4	-5.7
SONM	Songino Array	147.15	358	PKPbc	PKPbc	05 35 29.9	0.0
	comp=Z,2.8nm,0.9s,baz=309,slow=2.7,SNR=9.6						
LZH	Lanzhou	158.93	1	ePKP	PKPdf	05 35 39.8	-5.4
LZH				pPKP	pPKPdf	05 35 52.4	-2.2
LZH				sPKP		05 35 57.0	
CD2	Chengdu	164.08	2	PKP	PKPdf	05 35 48.6	-2.0

UPA 11 05:17:57.5±0.6, 9.°08N×82.°37W, h3km±1km, MW3.2
UCR 11 05:17:57.8±1.4, 9.°14N×82.°37W, h6km±12km, MW3.0
ISC 11 05:17:57.8±1.3, 9.°12N±0.°05×82.°38W±0.°04, h9km±10km, n16, σ0°81/25, 1C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR2	Aguacate	0.29	129	⇑eP	Pg	05 18 03.6	0.0
CHGR2				eS	Sg	05 18 07.6	0.0
BCO2	Palmira	0.43	201	⇓iP	Pg	05 18 06.7	+0.5
BCO2				eS	Sb	05 18 13.4	-0.9
PTAR3	Potrerillos Ar	0.44	195	⇓iP	Pg	05 18 06.9	+0.4
PTAR3				eS	Sb	05 18 14.2	-0.5
BRU2	Volcan	0.45	224	⇓eP	Pg	05 18 06.9	+0.3
BRU2	Volcan	0.45	224	⇓iP	Pg	05 18 07.0	+0.3
BRU2				eS	Sb	05 18 14.3	-0.7
EDSV	San Vito	0.66	243	eP	Pb	05 18 11.2	-0.4
DVD	David	0.69	186	eP	Pg	05 18 11.2	+0.1
DVD				eS	Sb	05 18 21.9	+0.3
CHIR3	Chiriqui UPA,	0.72	176	eS	Sb	05 18 21.9	-0.8
DRK0	Durika	0.87	279	eP	Pg	05 18 13.5	-1.1
DRK0				eS	Sg	05 18 26.1	+0.3
EDPN	Palmar Norte	1.08	262	eP	Pg	05 18 18.2	-0.3
EDLM	Las Mercedes	1.21	277	eP	Pb	05 18 21.2	+0.3
LCR2	La Lucha 2	1.72	291	eP	Pn	05 18 28.4	+0.2
LCR2				eS	Sn	05 18 51.7	+1.3
GMAL	Guarumal, Vera	1.76	140	eP	Pn	05 18 27.3	-1.3
GMAL				eS	Sn	05 18 49.9	-1.3
HDC	Heredia	1.92	297	eS	Sb	05 18 57.2	-0.1
CACAO	El Cacao, Vera	2.32	140	eP	Pn	05 18 37.2	+1.0
CACAO				eS	Sb	05 19 08.2	-0.4
AZU	Azuero	2.46	122	eS	Sn	05 19 10.2	+1.7

GCG 11 05:51:41.9±0.6, 15.°11N×89.°56W, h12km±10km, MD3.4
ISCJB 11 05:51:43.5±1.0, 14.°92N±0.°05×89.°63W±0.°06, h0km±15km, Error ellipse: s-maj=11.1km s-min=8.0km az=151.9
SNET 11 05:51:43.8±1.5, 14.°91N×89.°66W, h1km±10km, ML3.2
ISC 11 05:51:43.3±1.1, 14.°96N±0.°06×89.°61W±0.°06, h9km±13km, n17, σ0°46/18, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	Marmol	0.14	330	⇑eP	Pg	05 51 46.2	-0.5
MRL				eS	Sg	05 51 49.5	+0.5
MTO3	Montecristo	0.60	157	⇑eP	Pg	05 51 55.2	+0.1
NBG	Las Nubes	0.80	243	eP	Pg	05 51 59.3	+0.4
RTR	El Retiro	1.05	182	eP	Pg	05 52 03.5	-0.1
SNJE	San Jose	1.08	180	eP	Pg	05 52 03.9	-0.3
SBLS	San Blas	1.11	181	eP	Pg	05 52 04.2	-0.5
IXG	Ixpaco	1.12	226	eP	Pg	05 52 04.9	0.0
IXG	Ixpaco	1.12	226	eP	Pg	05 52 04.0	-1.0
UEES	Universidad Ev	1.28	164	eP	Pn	05 52 07.2	-0.4
LFU	La Fuente	1.29	158	eP	Pn	05 52 07.8	+0.1
FUG	Fuego 3	1.30	247	eP	Pn	05 52 08.0	+0.1
OPAM	Oficina de Pla	1.30	162	eP	Pn	05 52 07.6	-0.2
SNET	Serv Nac Est T	1.31	164	eP	Pn	05 52 07.8	-0.2
SNET				IAML		05 52 32.8	
	comp=Z,353nm,0.3s						
VICT	Victoria	1.36	136	eP	Pb	05 52 09.4	+0.2
PAVA	Las Pavas	1.40	152	eP	Pn	05 52 09.8	+0.7
PAVA				IAML		05 52 31.6	
	comp=Z,656nm,0.3s						
COEG	Centro de Oper	1.50	152	eP	Pb	05 52 11.8	+0.2
COEG				IAML		05 52 35.8	
	comp=Z,559nm,0.4s						
PACA	Pacayal	1.93	140	eP	Pb	05 52 18.4	-0.5

IDC 11 06:05:01.7±2.5, 1.°63S×143.°51E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/33, mbtmp3.3/5, ML2.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/21, Error ellipse: s-maj=70.5km s-min=26.8km az=98.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.94	252	Pn	Pn	06 05 49.9	+0.1
	0.7nm,0.3s,baz=315,slow=19,SNR=3.5						
JAY				Sn	Sn	06 06 08.6	-17
	2.0nm,0.3s,baz=120,slow=11,SNR=4.8						
WRA	Warramunga Arr	20.29	206	P	P	06 09 38.1	-1.2
	0.2nm,0.5s,baz=27,slow=10,SNR=5.8						
ASAR	Alice Springs	23.81	202	P	P	06 10 17.4	+0.9
	0.2nm,0.4s,baz=31,slow=10.0,SNR=2.4						
STKA	Stephens Creek	30.14	183	LR	LR	06 25 22.5	
	comp=Z,61nm,18.6s,baz=21,slow=40						
RPZ	Rata Peaks	48.54	153	LR	LR	06 31 12.6	
	comp=Z,28nm,21.0s,baz=275,slow=32						
SONM	Songino Array	58.92	332	P	P	06 15 01.5	-1.4
	0.2nm,0.5s,baz=138,slow=6.9,SNR=2.2						
MKAR	Makanchi Array	71.93	321	P	P	06 16 27.9	+0.8
	1.0nm,0.5s,baz=115,slow=7.1,SNR=8.2						

IDC 11 06:08:17.5±2.3, 7.°26S×154.°95E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/35, mbtmp3.6/5, MS2.6/1, Ms1 2.6/1, ms1mx2.3/32, Error ellipse: s-maj=89.4km s-min=29.6km az=123.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	14.95	288	LR	LR	06 16 34.4	
	comp=Z,23nm,20.8s,baz=334,slow=33						
WRA	Warramunga Arr	23.63	236	P	P	06 13 29.9	-0.7
	1.3nm,0.9s,baz=59,slow=9.1,SNR=6.3						
ASAR	Alice Springs	25.97	229	P	P	06 13 52.2	+0.2
	0.2nm,0.5s,baz=65,slow=9.1,SNR=2.6						
SONM	Songino Array	69.53	327	P	P	06 19 28.3	+0.1
	0.4nm,0.5s,baz=116,slow=6.6,SNR=2.6						
MKAR	Makanchi Array	83.57	319	P	P	06 20 47.8	0.0
	0.9nm,0.7s,baz=103,slow=5.2,SNR=6.3						
ILAR	Eielson Array	83.63	21	P	P	06 20 46.6	-1.0
	0.3nm,0.9s,baz=243,slow=6.0,SNR=2.1						
BRTR	Keskin Array B	118.52	311	PKP	PKiKP	06 27 09.6	+1.6
	0.3nm,0.6s,baz=45,slow=0.2,SNR=2.2						
TORD	Torodi Ar. Bea	153.05	285	PKPbc	PKPbc	06 28 17.8	-0.3
	0.4nm,1.0s,baz=67,slow=4.1,SNR=1.6						

TEH 11 06:34:52.8, 32.°92N×45.°66E, h8km, ML3.8
ISCJB 11 06:34:54.4±0.8, 32.°90N±0.°08×45.°71E±0.°05, h10km, Error ellipse: s-maj=11.4km s-min=5.3km az=13.7
ISN 11 06:34:55.1±0.3, 32.°99N×45.°56E, h0km, ML4.1
ISC 11 06:34:56.0±1.3, 32.°97N±0.°10×45.°73E±0.°07, h10km, n21, σ0°55/21, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHD	Baghdad	1.17	285	ePg	Pb	06 35 18.0	-0.3
	baz=106						
BHD				AML	AML	06 35 25.9	
	comp=Z,6μm,3.9s						
BHD				eSg	Sb	06 35 34.0	+0.5
IGHG	Ghaleghazi	1.53	27	ePg	Pn	06 35 23.6	0.0
IGHG				IAMB	IAmb	06 35 48.8	
	comp=Z,22μm,0.8s						
KCHF	Cheshme Sefid,	1.71	40	ePn	Pn	06 35 25.5	-0.5
KCHF				IAMB	IAmb	06 35 48.8	
	comp=Z,0.0nm,0.4s						
IDHR	Dehrash	1.82	17	ePn	Pn	06 35 27.2	-0.3
IDHR				IAMB	IAmb	06 35 59.0	
	comp=Z,0.0nm,0.7s						
KER	Kermanshah	1.84	39	ePn	Pn	06 35 27.6	-0.2
IKFM	Kafar-mosalman	1.86	72	ePn	Pn	06 35 28.1	+0.2
IKFM				IAMB	IAmb	06 36 01.4	
	comp=Z,0.0nm,0.6s						
IKOM	Komasi	1.92	51	IAMB	IAmb	06 36 02.5	
	comp=Z,0.0nm,0.7s						
ILIN	Lien	2.20	27	ePn	Pn	06 35 33.2	+0.3
IDOB	Doab	2.21	68	ePn	Pn	06 35 32.5	-0.4
IKMR	Kamar-syah	2.29	75	ePn	Pn	06 35 34.0	+0.2
BMDN	Meydan	2.69	74	ePn	Pn	06 35 40.7	+1.2
HSAM	Samen	2.70	62	ePn	Pn	06 35 39.5	-0.3
BDRS	Dareh Seyedi	2.82	69	ePn	Pn	06 35 40.7	-0.6
HAGD	Aghdareh	3.39	56	ePn	Pn	06 35 49.1	-0.1
IRAZ	Razeghan	4.25	54	ePn	Pn	06 36 00.8	-0.2
ROKH	ROKH	4.52	96	ePn	Pn	06 36 04.1	-0.6
QAM	Ghamsar	4.85	79	ePn	Pn	06 36 10.2	+1.0
IKLH	Kolahrood	4.92	84	ePn	Pn	06 36 10.7	+0.4
ISHB	Shabestar	5.31	359	ePn	Pn	06 36 15.6	+0.1
IKAZ	Kazeroun	6.12	120	ePn	Pn	06 36 25.9	-0.9
ISRV	Sarvestan	7.27	117	ePn	Pn	06 36 42.6	0.0

KRSC 11 06:35:34.7±1.1, 54.°80N×161.°83E, h28km±10km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.25	194	eP	Pn	06 35 42.5	+0.1
MKZ				eS	Sb	06 35 47.4	+1.8
TUMD	Tumrok D	0.92	297	eP	Pn	06 35 51.1	-0.7
TUMD				eS	Sn	06 36 04.6	+0.5
KZV	Kizimen	0.94	290	eP	Pn	06 35 51.5	-0.7
KZV				eS	Sb	06 36 03.9	-0.8
TUMR	Tumrok	1.09	297	eP	Pn	06 35 54.3	+0.2
TUMR				eS	Sb	06 36 09.9	+1.2
BZGR	Bezymyannyi-Gr	1.32	331	eP	Pb	06 35 58.4	-0.4
BZGR				eS	Sb	06 36 15.7	+0.3
KMNR	Kamenistaya	1.33	317	eP	Pb	06 35 58.3	-0.7
KMNR				eS	Sb	06 36 16.1	+0.5
BZMR	Bezymyannaya	1.38	327	eP	Pb	06 35 59.3	-0.5
BZWR	Bezymyannyi-We	1.40	327	eP	Pb	06 35 59.5	-0.7
KIRR	Kirishev	1.44	324	eP	Pb	06 36 00.4	-0.5
KIRR				eS	Sb	06 36 20.4	+1.6
KPT	Kopyto	1.49	323	eP	Pb	06 36 00.8	-0.9
KPT				eS	Sb	06 36 19.8	-0.5
KBTR	Krutoberegovo	1.52	21	eP	Pb	06 36 01.4	-0.8
KBTR				eS	Sb	06 36 22.1	+1.0
KBG	Krutoberegovo	1.54	18	eP	Pb	06 36 02.3	-0.3
KII	Karymskiy	1.59	242	eP	Pb	06 36 03.7	+0.4
KII				eS	Sb	06 36 23.8	+0.8
KRSR	Krestovskiy	1.60	334	eP	Pb	06 36 02.5	-1.0
KRSR				eS	Sb	06 36 23.2	-0.1
KLY	Klyuchi	1.66	337	eP	Pn	06 36 02.5	+0.6
KLY				eS	Sn	06 36 23.4	+1.1

JMTN	Minamitane	1.48 218	⇓P		Pb	06 36 24.4	-0.8
JMTN			eS		Sb	06 36 42.9	-0.6
JNU	Nakatsue	1.79 330	P		Pn	06 36 29.1	+1.3
	33nm,0.3s,baz=187,slow=8.1,SNR=143						
JNU			LR	LR		06 36 50.9	
	comp=Z,50nm,18.8s,baz=180,slow=28						
JNU			S		Sb	06 36 52.2	-0.5
	24nm,0.3s,baz=187,slow=20,SNR=6.4						
KSRS	Korea Array	6.75 332	LR	LR		06 40 31.2	
	comp=Z,95nm,20.1s,baz=142,slow=41						
SONM	Songino Array	25.34 317	P		P	06 41 21.8	-1.4
	0.5nm,0.6s,baz=125,slow=9.2,SNR=2.7						
SONM			LR	LR		06 52 36.2	
	comp=Z,96nm,18.7s,baz=47,slow=39						
MKAR	Makanchi Array	40.70 307	P		P	06 43 35.3	-1.5
	0.4nm,0.8s,baz=79,slow=10,SNR=2.1						
KURBB	Kurchatov Arra	43.48 312	P		P	06 43 57.7	-1.7
	0.2nm,0.3s,baz=97,slow=8.7,SNR=1.4						
WRA	Warramunga Arr	51.27 177	P		P	06 45 01.2	+1.0
	1.2nm,0.9s,baz=356,slow=7.7,SNR=5.9						
ASAR	Alice Springs	54.96 178	P		P	06 45 29.3	+1.9
	1.1nm,0.9s,baz=9.6,slow=6.1,SNR=9.6						
STKA	Stephens Creek	63.76 171	P		P	06 46 29.5	+1.5
	1.4nm,0.7s,baz=343,slow=11,SNR=3.6						

NEIC 11 06:55:36.5±1.4,27°.74N±0°.04×105°.67W±0°.07,h5km±1km, Md4.0(MEX)

MEX 11 06:55:38.6±1.1,27°.65N×105°.70W,h5km±29km,MD3.9, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPIG		0.71	177	eP	Pg	06 55 51.6	-0.7
HPIG				i S	Sg	06 56 00.9	-0.7
HPIG		0.71	177		Pg	06 55 51.8	-0.6
HPIG				Sg	Sg	06 56 01.9	+0.3
HPIG		0.71	177		Pg	06 55 51.6	-0.7
HPIG					Sg	06 56 00.9	-0.7
TX31	Lajitas Ar. Si	2.45	46		Pn	06 56 17.2	-2.2
TX31				Sn	Sn	06 56 45.1	-4.7
TX32	Lajitas Array	2.45	46		Pn	06 56 16.7	-2.7
TX32				Sn	Sn	06 56 45.0	-4.8
TXAR	Lajitas Array	2.45	46	Pn	Pn	06 56 16.3	-3.1
TXAR				Sn	Sn	06 56 44.9	-5.0
CGIG		3.36	324	i P	Pn	06 56 29.4	-2.5
CGIG				i S	Sn	06 57 09.2	-3.1
CGIG		3.36	324		Pn	06 56 29.4	-2.5
CGIG					Sn	06 57 09.2	-3.1
MNTX	Cornudas Mount	4.04	4	Pn	Pn	06 56 37.5	-3.7
MNTX				Sn	Sn	06 57 24.7	-4.3

SOME 11 06:58:17.8,41°.12N×70°.97E,h5km
NNC 11 06:58:21.0±2.9,41°.23N×71°.25E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=26.9km s-min=12.6km az=16.0

ISC 11 06:58:18.0±3.5,41°.2N±0°.2×70°.99E±0°.06,h15km,n6, σ0°.23/8,2C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	luzhnay	1.22	324	eP	Pg	06 58 41.6	+0.2
	0.6nm,0.5s						
IUG				eS	Sg	06 58 57.5	+0.2
	11nm,0.6s						
KK31	Karatay Array	1.97	350	⇑Pn	Pg	06 58 55.7	0.0
	2.9nm,0.5s,baz=156,slow=14,SNR=28						
KK31				⇓Lg	Lg	06 59 22.4	
	6.7nm,0.6s,baz=165,slow=31,SNR=18						
BRLS	Borolday	2.05	336	eP	Pb	06 58 54.6	-0.4
	0.4nm,0.1s						
BRLS				eS	Sb	06 59 20.3	0.0
	7.1nm,0.5s						
MRKS	Merke	2.29	46	eP	Pg	06 59 01.9	-0.1
	2.8nm,0.4s						
MRKS				eS	Sg	06 59 31.9	+0.2
	3.8nm,0.5s						
AAK	Ala-Archa	3.00	60	Pg	Pb	06 59 11.2	0.0
	3.4nm,1.2s						
AAK				⇓Lg	Lg	06 59 52.0	
	4.4nm,1.1s						
TKM2	Tokmak 2	3.85	61	⇑Lg	Lg	07 00 17.6	
	1.9nm,0.9s						

ISK 11 07:20:48.5,38°.72N×43°.21E,h5km,ML3.7/18
NSSP 11 07:20:49.0,38°.78N×43°.30E,h5km,Ms3.4
DDA 11 07:20:48.6,38°.74N×43°.16E,h1km±2km,ML3.7
TEH 11 07:20:49.2,38°.72N×43°.21E,h4km,ML3.5
AZER 11 07:20:50.7±1.6,38°.73N×43°.08E,h5km,ml3.2/8,Error ellipse: s-maj=13.0km s-min=11.8km az=167.0

ISC 11 07:20:50.7±0.9,38°.73N±0°.02×43°.20E±0°.02,h13km±8km, n84,σ1°.25/113,6C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	132	ePg	Pg	07 20 54.9	-0.3
VANB	Van	0.20	132	PG	Pg	07 20 54.9	-0.3
VANB				SG	Sb	07 20 59.5	-0.5
TVAN	Van	0.26	141	i P	Pg	07 20 55.0	-1.2
TVAN				i S	Sb	07 21 00.9	-0.9
TVAN	Van	0.26	141	ePg	Pg	07 20 55.0	-1.2
VMUR	Van-Muradiye	0.39	48	i P	Pg	07 20 57.8	-0.8
VMUR				i S	Sb	07 21 05.5	-0.2
VMUR				IAML_P			
	comp=Z,43μm,0.2s						
VMUR	Van-Muradiye	0.39	48	ePg	Pg	07 20 57.4	-1.2
GEVA	Gevas	0.43	195	i P	Pg	07 20 57.6	-1.7
GEVA	Gevas	0.43	195	ePg	Pg	07 20 57.2	-2.1
MLAZ	Malazgirt-MUS	0.65	309	ePg	Pg	07 21 01.8	-1.7
MLAZ	Malazgirt-MUS	0.65	309	PG	Pg	07 21 01.8	-1.7
MLAZ				SG	Sg	07 21 12.9	+0.7
CLDR	Caldiran	0.70	53	i P	Pg	07 21 02.9	-1.5
CLDR				i S	Sb	07 21 14.1	-0.4
CLDR				IAML_P			
	comp=Z,20μm,0.3s						
CLDR	Caldiran	0.70	53	ePg	Pg	07 21 02.4	-1.9
CLDR				ePg	Pg	07 21 02.4	-1.9
CLDR	Caldiran	0.70	53	PG	Pg	07 21 02.4	-1.9
CLDR				SG	Sb	07 21 13.9	-0.6
TUTA	Tutak	0.74	336	i P	Pg	07 21 03.3	-1.8
TUTA	Tutak	0.74	336	ePg	Pg	07 21 03.1	-2.0
DYDN	Diyadin	0.90	25	i P	Pg	07 21 06.0	-2.2
DYDN				i S	Sn	07 21 24.9	+2.5
DYDN				IAML_P			
	comp=Z,18μm,0.4s						
DYDN	Diyadin	0.90	25	ePg	Pg	07 21 06.0	-2.2
GURO	Guroymak-BITLI	0.93	259	ePg	Pg	07 21 06.2	-2.5
EKAR	Karacoban	1.03	301	i P	Pb	07 21 10.0	-0.6
EKAR	Karacoban	1.03	301	ePn	Pb	07 21 09.5	-1.1
HAKT	HAKKARI	1.23	161	i P	Pn	07 21 11.5	-2.5
HAKT				i S	Sg	07 21 32.4	+1.9
HAKT	HAKKARI	1.23	161	ePn	Pn	07 21 11.2	-2.7
SIRT	Sirnak	1.36	206	ePn	Pn	07 21 15.6	0.0
SIRT	Sirnak	1.36	206	PN	Pn	07 21 15.6	0.0
SIRT				SN	Sg	07 21 35.4	+0.7
SIRN	Sırnak	1.38	207	i P	Pb	07 21 16.8	+0.4
SIRN				i S	Sg	07 21 36.2	+1.1
SIRN				IAML_P			
	comp=Z,31μm,0.5s						
SIRN	Sırnak	1.38	207	ePn	Pn	07 21 15.8	+0.1
VRTB	Varto-Mus	1.43	288	ePn	Pn	07 21 16.9	+0.4
VRTB	Varto-Mus	1.43	288	PN	Pn	07 21 16.9	+0.4
VRTB				SN	Sg	07 21 37.7	+1.0
VNNZ	Vanand	1.46	19	⇑i P	Pn	07 21 16.8	-0.1
VNNZ				⇑i S	Sn	07 21 35.7	-0.2
TASB	TASBURUN-IGDIR	1.49	32	ePn	Pn	07 21 17.5	+0.2
TASB	TASBURUN-IGDIR	1.49	32	PN	Pn	07 21 17.5	+0.2
TASB				SN	Sg	07 21 38.8	0.0
CUKT	Cukurca	1.51	168	ePn	Pn	07 21 17.1	-0.5
CUKT	Cukurca	1.51	168	PN	Pn	07 21 17.1	-0.5
METS	Metsamor	1.58	25	i P	Pg	07 21 20.4	-0.6
METS				i S	Sg	07 21 42.1	+0.6
BNGL	BINGOL	1.62	279	i P	Pn	07 21 19.5	+0.3
HYR	Heyderabad	1.62	52	ePn	Pg	07 21 21.2	-0.7
HYR	Heyderabad	1.62	52	P	Pn	07 21 19.2	+0.1
HYR	SNR=18						
HYR				S	Sg	07 21 43.7	+0.8
KOPR	Koprukoy-ERZUR	1.64	321	ePn	Pn	07 21 19.9	+0.5
KOPR	Koprukoy-ERZUR	1.64	321	PN	Pn	07 21 19.9	+0.5
KOPR				SN	Sb	07 21 42.8	+1.2
SVAN	Silvan-Diyarba	1.67	251	i P	Pn	07 21 20.2	+0.4
SVAN				i S	Sb	07 21 43.2	+0.8
SVAN				IAML_P			
	comp=Z,3μm,0.2s						
SVAN	Silvan-Diyarba	1.67	251	ePn	Pn	07 21 20.1	+0.3
SVAN	Silvan-Diyarba	1.67	251	PN	Pn	07 21 20.2	+0.4
DIGO	Kars	1.69	5	i P	Pb	07 21 21.4	-0.4
DIGO				IAML_P			
	comp=Z,12μm,0.3s						
DIGO	Kars	1.69	5	ePn	Pb	07 21 21.2	-0.7
ARUZ	Aruch	1.70	24	i P	Pn	07 21 20.5	+0.3
ARUZ				i S	Sn	07 21 42.2	+0.3
BTMN	Batman	1.73	242	i P	Pn	07 21 21.8	+1.1
BTMN				i S	Sb	07 21 44.5	+0.3
BTMN				IAML_P			
	comp=Z,4μm,0.4s						
KARO	Karliova-Bingo	1.77	290	PN	Pn	07 21 21.8	+0.5
NAX	Nakhchivan	1.84	75	ePn	Pb	07 21 25.0	+0.6
NAX	Nakhchivan	1.84	75	P	Pb	07 21 23.6	-0.8
NAX	SNR=20						
NAX				S	Sg	07 21 51.5	+1.5
GNI	Garni	1.86	40	ePn	Pn	07 21 22.8	+0.4
GNI	Garni	1.86	40	⇑i P	Pb	07 21 23.7	-0.9
GNI				⇑i S	Sg	07 21 49.4	-1.0
GNI	Garni	1.86	40	PN	Pn	07 21 23.1	+0.7
KARS	Kars	1.90	357	ePn	Pn	07 21 23.7	+0.7
KARS	Kars	1.90	357	PN	Pn	07 21 23.8	+0.7
SENK	Senkaya-Erzuru	1.95	341	ePn	Pn	07 21 24.2	+0.6
SENK	Senkaya-Erzuru	1.95	341	PN	Pn	07 21 24.3	+0.6
ISHB	Shabestar	1.95	102	ePn	Pn	07 21 23.9	+0.2
ISHB				IAMB	IAmb	07 21 57.4	
	comp=Z,2μm,0.4s						
SBZ	Shahbuz	1.95	69	ePn	Pb	07 21 26.1	-0.1
SBZ	Shahbuz	1.95	69	P	Pb	07 21 25.4	-0.8
SBZ	SNR=53						
SBZ				S	Sb	07 21 51.3	+0.8
IMRD	Marand	1.96	90	ePn	Pn	07 21 23.5	-0.3
IMRD				IAMB	IAmb	07 21 32.9	
	comp=Z,5μm,0.7s						
KAPZ	Kaputan	1.97	36	⇑i P	Pn	07 21 24.4	+0.4
KAPZ				⇑i S	Sb	07 21 50.7	-0.4
EAK	Akyaka	1.98	9	i P	Pb	07 21 27.5	+0.7
EAK				IAML_P			
	comp=Z,8μm,0.5s						
EAK	Akyaka	1.98	9	ePn	Pb	07 21 27.2	+0.4
BNGB	Bingl	1.99	278	PN	Pn	07 21 24.8	+0.7
BINT	Bingol	2.12	275	ePn	Pn	07 21 24.7	-1.4
ORD	Ordubad	2.19	84	ePn	Pb	07 21 30.1	-0.2
ORD	Ordubad	2.19	84	P	Pn	07 21 28.3	+1.4
ORD	SNR=18						
ORD				S	Sb	07 21 58.4	+1.0
ITBZ	Tabriz	2.37	101	ePn	Pn	07 21 31.1	+1.7
IAZR	Azarshahr	2.43	115	ePn	Pn	07 21 32.0	+1.6
IAZR				IAMB	IAmb	07 21 47.0	
	comp=Z,3μm,0.4s						
DDEM	Demirkent	2.43	333	i P	Pb	07 21 34.3	-0.2
DDEM				IAML_P			
	comp=Z,2μm,0.5s						
STEZ	Stepenevan	2.45	22	eP	Pn	07 21 31.0	+0.4
STEZ				eS	Sb	07 22 04.0	-0.9
KOPT	Kop Dagi	2.46	302	i P	Pg	07 21 38.1	+0.2
MAZI	Mazidag	2.51	241	PN	Pn	07 21 31.4	0.0
DYBB	Diyarbakir	2.53	253	PN	Pn	07 21 32.4	+0.9
DAGI	Agillar	2.55	338	i P	Pb	07 21 36.9	+0.5
DAGI				IAML_P			
	comp=Z,2μm,0.4s						
DBAD	Bademkaya	2.56	334	i P	Pb	07 21 36.6	-0.1
DBAD				IAML_P			
	comp=Z,3μm,0.5s						
GDB	GEDABAY	2.80	44	P	Pn	07 21 37.1	+1.7
GDB	SNR=17						
GDB				S	Sb	07 22 13.6	-1.4
QZX	Qazax, Azerbai	2.87	35	P	Pn	07 21 38.3	+2.1
QZX	SNR=19						
QZX				S	Sb	07 22 16.2	-0.6
IHRS	Heris	3.04	97	IAMB	IAmb	07 21 53.5	
	comp=Z,1μm,0.6s						
SVRC	Sivrice-ELAZID	3.07	265	PN	Pn	07 21 40.8	+1.7
GANJ	Ganja	3.08	51	P	Pn	07 21 41.6	+2.5
GANJ	SNR=8.3						
GANJ				S	Sb	07 22 20.0	-2.9
YRD	Yardimli	3.94	86	P	Pn	07 21 53.3	+2.2
YRD	SNR=4.3						
YRD				S	Sb	07 22 43.5	-4.3
IDHR	Dehrash	4.76	147	IAMB	IAmb	07 22 22.3	
IDHR	comp=Z,0.0nm,0.6s						
IDHR				ePn	Pn	07 22 03.7	+1.3
IKOM	Komasi	5.72	141	ePn	Pn	07 22 17.1	+1.6
IKOM				IAMB	IAmb	07 22 46.7	
	comp=N,0.0nm,0.6s						

ISCJB 11 07:40:36.9±1.5,7°.94N±0°.04×82°.88W±0°.03,h6km±12km, Error ellipse: s-maj=7.3km s-min=4.7km az=36.8
UCR 11 07:40:36.2±1.1,7°.83N×82°.91W,h6km,MW3.3
UPA 11 07:40:39.0±1.4,7°.98N×82°.87W,h19km±4km,MW3.7

ISC 11 07:40:37.7±1.4,7°.95N±0°.06×82°.91W±0°.04,h20km±6km, n24,σ0°.70/41,4C-5D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	La Esperanza,	0.47	14	⇓i P	Pb	07 40 47.2	0.0
LESP3				eS	Sn	07 40 56.1	-0.8
BAGA3	Bagala, Chiriq	0.64	36	eP	Pb	07 40 50.2	0.0
BAGA3				eS	Sb	07 40 59.5	+0.8
PEDE3	Pedregal, Chir	0.65	48	eP	Pb	07 40 50.4	0.0
PEDE3				eS	Sb	07 40 59.9	+0.9
DVD	David	0.66	43	⇑i P	Pb	07 40 50.3	-0.3
DVD				eS	Sb	07 40 59.5	+0.1
LOCO3	Loma Colorada,	0.67	47	eP	Pb	07 40 50.7	0.0
LOCO3				eS	Sb	07 40 59.4	-0.1
LOMA3	Las Lomas, Chi	0.70	47	eP	Pb	07 40 51.0	-0.3
LOMA3				eS	Sb	07 41 00.3	-0.2
PTJ1	Puerto Jimnez	0.70	326	⇑eP	Pb	07 40 51.3	0.0
PTJ1				eS	Sn	07 41 02.6	-0.1
PTJ1	Puerto Jimnez	0.70	326	⇑i P	Pb	07 40 51.3	0.0
PTJ1				eS	Sn	07 41 02.6	-0.1
PTAR3	Potrerillos Ar	0.84	29	⇓i P	Pb	07 40 53.6	-0.1
PTAR3				eS	Sb	07 41 04.8	+0.1
BCO2	Palmira	0.85	26	⇓i P	Pb	07 40 53.7	-0.2
BCO2				eS	Sb	07 41 04.9	0.0
BRU2	Volcan	0.87	14	⇓eP	Pb	07 40 54.1	-0.1
BRU2	Volcan	0.87	14	⇓i P	Pb	07 40 54.0	-0.1
BRU2				eS	Sb	07 41 05.3	-0.1
EDPN	Palmar Norte	1.14	332	eP	Pn	07 40 58.2	-0.3
EDPN				eS	Sb	07 41 13.8	+0.6
NANC3	Nancito, Chiri	1.20	76	eS	Sn	07 41 14.9	-0.1
CHGR2	Aguacate	1.24	37	eP	Pn	07 40 59.2	-0.6
CHGR2				eS	Sb	07 41 14.8	-1.1
DRK0	Durika	1.35	346	eP	Pn	07 41 01.8	+0.3
DRK0	Durika	1.35	346	⇑i P	Pn	07 41 02.1	+0.6
DRK0				eS	Sb	07 41 19.8	+0.6
EDLM	Las Mercedes	1.48	333	eP	Pb	07 41 04.6	0.0
GMAL	Guarumal, Vera	1.67	96	eP	Pn	07 41 05.4	-0.3
GMAL				eS	Sn	07 41 26.5	0.0
LCR2	La Lucha 2	2.08	329	eP	Pb	07 41 14.0	-1.0
OCU3	Ocu, Herrera	2.11	90	eS	Sb	07 41 42.2	+1.2
CACAO	El Cacao, Vera	2.12	106	eP	Pb	07 41 13.6	-1.7
CACAO				eS	Sb	07 41 41.7	+0.6
AZU	Azuero	2.61	93	eP	Pn	07 41 21.0	+2.3
AZU				eS	Sn	07 41 49.2	-0.6
UPA	Univ. de Panam	3.49	73	eS	Sb	07 42 22.0	+1.2

IDC 11 07:52:49.2±6.9,17°.28S×172°.59W,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.7/44,mbtmp3.9/3,Error ellipse: s-maj=313.8km s-min=35.3km az=141.0
ISCJB 11 07:53:25.7±0.5,15°.13S±0°.08×174°.84W±0°.05,h250km, mb3.4/3,Error ellipse: s-maj=11.6km s-min=7.1km az=3.7
NEIC 11 07:53:26.0±2.0,15°.09S±0°.09×174°.9W±0°.1,h230km±9km, mb4.3/15

ISC 11 07:53:26.6±0.6,15°.11S±0°.09×174°.81W±0°.08,h250km, n24,σ1°.42/26,mb4.2/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.17	68	Pn	Pn	07 54 21.0	0.0
AFI				S	S	07 55 02.9	-1.1
NIUE	Niue	6.11	131	Pn	Pn	07 54 57.3	+1.2
NIUE					S	07 56 06.2	-1.6
BKZ	Black Stump Fm	25.16	196	P	P	07 58 29.3	+0.1
BKZ				IAmb	IAmb	07 58 42.4	
	comp=Z,9.1nm,1.1s						
HNR	Honiara	25.29	280	P	P	07 58 30.5	-0.1
WHZ	Wether Hill Ro	33.94	202	P	P	07 59 45.8	-0.5
CTAO	Charters Tower	37.38	257	P	P	08 00 13.2	-2.8
CTAO				IAmb	IAmb	08 00 23.2	
	comp=Z,17nm,1.5s						
PMG	Port Moresby	37.56	274	P	P	08 00 17.3	-0.1
PMG				IAmb	IAmb	08 00 22.7	
	comp=Z,9.4nm,0.8s						
STKA	Stephens Creek	43.01	239	P	P	08 00 59.4	-2.4
BBOO	Buckleboo	47.79	239	P	P	08 01 40.2	+1.1
BBOO				IAmb	IAmb	08 01 43.6	
	comp=Z,19nm,1.3s						
WB0	Warramunga Arr	48.55	257	P	P	08 01 46.5	+1.3
WB2	Warramunga Arr	48.58	257	P	P	08 01 47.0	+1.6
WB2				IAmb	IAmb	08 01 52.9	
	comp=Z,5.7nm,1.4s						
WRAB	Tennant Creek	48.58	257	P	P	08 01 45.0	-0.3
WRAB				IAmb	IAmb	08 01 53.0	
	comp=Z,7.5nm,0.6s						
WRA	Warramunga Arr	48.59	257	P	P	08 01 45.9	+0.4
	comp=Z,1.2nm,0.8s,baz=97,slow=6.6,SNR=13						
WRA	Warramunga Arr	48.59	257	P	P	08 01 46.7	+1.2
AS31	Alice Springs	48.91	252	P	P	08 01 48.9	+1.0
ASAR	Alice Springs	48.91	252	P	P	08 01 49.0	+1.1
	comp=Z,4.3nm,0.8s,baz=88,slow=7.9,SNR=38						
ASAR	Alice Springs	48.91	252	P	P	08 01 48.7	+0.9
PSA00	Pilbara Seismi	61.98	253	P	P	08 03 22.0	+1.2
PSA00				IAmb	IAmb	08 03 22.6	
	comp=Z,8.1nm,0.9s						
QSPA	South Pole Qui	74.93	180	P	P	08 04 41.6	+1.5
QSPA				IAmb	IAmb	08 04 42.6	
	comp=Z,12nm,1.5s						
KS19	Wonju Array Si	75.07	316	P	P	08 04 42.2	+1.1
ILAR	Eielson Array	82.43	12	P	P	08 05 21.8	+1.3
	comp=Z,0.2nm,0.6s,baz=216,slow=5.8,SNR=6.0						
ILAR	Eielson Array	82.43	12	P	P	08 05 21.3	+0.8
BRTR	Keskin Array B	145.07	320	PKPbc	PKiKP	08 12 36.5	-2.1
	comp=Z,0.9nm,0.7s,baz=91,slow=3.4,SNR=5.0						
BRTR	Keskin Array B	145.07	320		PKiKP	08 12 36.2	-2.4

SJA 11 08:09:28.8±1.0,20°.03S×69°.71W,h70km±4km,ML3.2, MW3.3
ISCJB 11 08:09:29.7±0.6,20°.05S±0°.03×69°.75W±0°.06,h72km±7km, Error ellipse: s-maj=9.0km s-min=4.3km az=175.0
GUC 11 08:09:20.0±0.7,20°.03S×69°.69W,h71km±3km,ML3.7

ISC 11 08:09:30.9±1.3,20°.04S±0°.03×69°.75W±0°.05,h61km±9km, n29,σ0°.84/45,2C-11D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	IPOC Station P	0.29	18	⇓i P	Pn	08 09 40.8	-0.4
PB11				i S	Sn	08 09 49.5	+0.9
PB11				IAML		08 09 50.3	
	comp=E,8μm,0.3s						
PB11	IPOC Station P	0.29	18	⇓eP	Pn	08 09 40.8	-0.4
PB11				eS	Sn	08 09 49.7	+1.0
PSGC	Pisagua	0.56	322	⇓i P	Pn	08 09 43.2	-0.5
PSGC				i S	Sn	08 09 54.0	+1.0
PSGCX	Pisagua	0.56	322	eP	Pn	08 09 43.3	-0.4
PB08	IPOC Station P	0.57	100	⇑i P	Pn	08 09 43.1	-0.9
PB08				i S	Sn	08 09 53.4	-0.2
PB08	IPOC Station P	0.57	100	eP	Pn	08 09 43.4	-0.7
PB08				eS	Sn	08 09 53.5	-0.2
GO01	Chusmiza	0.64	55	eP	Pn	08 09 43.5	-1.4
GO01				i S	Sn	08 09 54.8	-0.4
MNMC	Minye Minye	0.92	9	⇓i P	Pn	08 09 47.3	-0.8
MNMC				i S	Sn	08 10 00.9	0.0
MNMC				IAML		08 10 06.8	
	comp=E,3μm,0.2s						
MNMCX	Minye Minye	0.92	9	eP	Pn	08 09 47.2	-0.9
MNMCX				⇓eS	Sn	08 10 01.7	+0.8
PB01	IPOC Station P	1.03	166	eP	Pn	08 09 48.2	-1.2
PB01				i S	Sn	08 10 03.2	0.0
PB01				IAML		08 10 04.9	
	comp=N,2μm,0.3s						
PB02	IPOC Station P	1.28	186	⇑i P	Pn	08 09 51.8	-0.9
PB02				i S	Sn	08 10 09.8	+0.7
PB02				IAML		08 10 14.1	
	comp=N,3μm,0.6s						
PB02	IPOC Station P	1.28	186	eP	Pn	08 09 52.8	+0.1
PB02				⇓eS	Sn	08 10 10.1	+1.0
PB12	IPOC Station P	1.52	339	⇓i P	Pn	08 09 54.8	-1.2
PB12				i S	Sn	08 10 14.8	0.0
PB12				IAML		08 10 21.2	
	comp=E,1μm,0.2s						
PB12	IPOC Station P	1.52	339	⇓eP	Pn	08 09 55.1	-0.9
PB07	IPOC Station P	1.68	184	eP	Pn	08 09 57.3	-1.0
PB07				i S	Sn	08 10 19.4	+0.5
PB07	IPOC Station P	1.68	184	eP	Pn	08 09 58.2	0.0
PB07				eS	Sn	08 10 19.7	+0.8
PB16	IPOC Station P	1.71	8	⇓i P	Pn	08 09 58.7	-0.3
PB16				i S	Sn	08 10 20.9	+0.8
PB16	IPOC Station P	1.71	8	⇓eP	Pn	08 09 59.0	0.0
PB09	IPOC Station P	1.81	165	⇓i P	Pn	08 09 59.6	-0.3
PB09	IPOC Station P	1.81	165	i P	Pn	08 09 59.7	-0.3
PB09				IAML		08 10 26.4	
	comp=Z,321nm,0.2s						
PB03	IPOC Station P	2.00	180	eP	Pn	08 10 02.5	0.0
PB03				eS	Sn	08 10 27.9	+1.3
PB04	IPOC Station P	2.31	189	i P	Pn	08 10 05.1	-1.7
PB04				IAML		08 10 45.7	
	comp=Z,351nm,0.5s						
PB06	IPOC Station P	2.66	176	i P	Pn	08 10 09.7	-1.8
PB06				IAML		08 10 50.7	
	comp=Z,214nm,0.3s						
LVC	Limon Verde	2.67	163	i P	Pn	08 10 11.4	-0.5
LVC				IAML		08 10 50.8	
	comp=Z,152nm,0.2s						
PB15	IPOC Station P	3.16	175	i P	Pn	08 10 17.8	-0.7
PB10	IPOC Station P	3.54	192	i P	Pn	08 10 22.1	-1.2
PB10				IAML		08 11 22.5	
	comp=Z,60nm,0.4s						
YJA	Yavi	4.49	119	⇑i P	Pn	08 10

JKRS	**Kuro-shima**	**1.10 131**	P	Pn	08 12 50.5	+0.4
JKRS			S	Sn	08 13 07.8	-0.1
HATJ	**Hateruma jima**	**1.10 144**	P	Pn	08 12 50.6	+0.4
JIJ	**Ishigaki jima**	**1.12 122**	P	Pn	08 12 50.2	-0.1
JIJ			S	Sn	08 13 08.1	-0.2
JISG	**Ishigakijimahi**	**1.16 108**	P	Pn	08 12 50.7	0.0
JISG			S	Sn	08 13 09.0	-0.1
JTJ	**Tarama**	**1.49 102**	P	Pn	08 12 54.7	+0.5
JTJ			*e*S	Sn	08 13 15.8	+0.4

BJI ***11*** *08:21:32.9±0.0, 18°.40N×145°.97E, h213km, mb4.5/28, mB5.1/14*
ISCJB ***11*** *08:21:33.1±0.1, 18°.46N±0°.02×145°.69E±0°.03, h200km, mb4.4/35, Error ellipse: s-maj=4.3km s-min=3.0km az=17.8*
NEIC ***11*** *08:21:36.5±1.6, 18°.45N±0°.07×145°.7E±0°.1, h220km±5km, mb4.8/204*
IDC ***11*** *08:21:37.1±0.8, 18°.52N×145°.62E, h227km±7km, mb4.1/25, mb1 4.2/28, mb1mx4.1/42, mbtmp4.6/28, Error ellipse: s-maj=12.9km s-min=6.8km az=92.0*
ISC 11 08:21:34.6±0.3, 18°.45N±0°.04×145°.83E±0°.06, h200km, n294, σ19°32/301, mb4.8/122, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
SARN	**Sarigan**	**1.74 182**		P	**Pn**	**08 22 11.9**	**+1.3**
SARN				S	**Sn**	**08 22 41.9**	**+3.2**
ANA2	**Anatahan**	**2.10 183**		Pn	**Pn**	**08 22 15.7**	**+1.5**
ANA2				S	**Sn**	**08 22 47.8**	**+2.7**
GUMO	**Guam**	**4.92 191**		P	**Pn**	**08 22 51.0**	**+2.9**
	22nm,0.3s,baz=136,slow=6.9,SNR=9.3						
GUMO				S	**Sn**	**08 23 45.6**	**-0.4**
	38nm,0.3s,baz=7.7,slow=19,SNR=6.8						
GUMO	**Guam**	**4.92 191**			**Pn**	**08 22 50.5**	**+2.4**
GUMO					**Sn**	**08 23 46.5**	**+0.6**
JCJ	**Chichijima**	**9.24 339**		P	**Pn**	**08 23 41.2**	**-2.8**
	20nm,0.3s,baz=277,slow=18,SNR=5.9						
JCJ				S	Sn	08 25 18.6	-8.9
	18nm,0.3s,baz=270,slow=20,SNR=4.2						
JHJ2	**Mitsune**	**15.57 341**			**Pn**	**08 25 05.0**	**+1.3**
JHJ	**Hachijo jima 2**	**15.59 341**		P	**Pn**	**08 25 04.2**	**+0.3**
	11nm,0.3s,baz=73,slow=19,SNR=2.7						
PATS	**Pohnpei**	**16.76 132**			**P**	**08 25 18.0**	**+0.9**
JOW	**Kunigami**	**18.21 300**		P	**P**	**08 25 32.0**	**-0.9**
INU	**Inuyama**	**18.56 337**		P	**P**	**08 25 36.6**	**+0.1**
MJAR	**Matsushiro Arr**	**19.24 341**		P	**P**	**08 25 42.5**	**-1.3**
	0.6nm,0.3s,baz=164,slow=9.8,SNR=28						
MJAR	**Matsushiro Arr**	**19.24 341**		P	**P**	**08 25 44.1**	**+0.2**
MAJO	**Matsushiro**	**19.24 341**		P	**P**	**08 25 43.5**	**-0.3**
MAJO				IAmb	IAmb	08 26 10.6	
	comp=Z,23nm,1.0s						
MAT	**Matsushiro**	**19.24 341**		P	**P**	**08 25 44.4**	**+0.6**
MAT				S	**S**	**08 29 07.8**	**-3.1**
MJB9	**Matsu-Tunnel**	**19.24 341**		P	**P**	**08 25 43.5**	**-0.4**
MJB9				IAmb	IAmb	08 26 10.6	
	comp=Z,22nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**19.78**	**87**	T	T	08 47 10.5	
	baz=262,slow=74						
H11S1	**WAKE ISLAND Hy**	**19.79**	**87**	T	T	08 46 58.3	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**19.80**	**87**	T	T	08 47 14.4	
	baz=262,slow=74						
JNU	**Nakatsue**	**19.84 320**		P	**P**	**08 25 47.3**	**-3.0**
JNU				IAmb	IAmb	08 26 20.6	
	comp=Z,152nm,2.0s						
H11N1	**WAKE ISLAND Hy**	**19.94**	**83**	T	T	08 47 27.4	
	baz=266,slow=74,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**19.95**	**83**	T	T	08 47 25.8	
	baz=266,slow=74,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**19.96**	**83**	T	T	08 47 17.9	
	baz=266,slow=74,SNR=4.3						
MANU	**Manus Island**	**20.42 176**		P	**P**	**08 25 57.3**	**+0.6**
JAY	**Jayapura**	**21.43 194**		P	**P**	**08 26 07.3**	**0.0**
	comp=Z,41nm,0.8s,baz=41,slow=1.7,SNR=13						
KCP	**Kidapawan**	**23.18 243**		*i*P	**P**	**08 26 23.5**	**-0.3**
YULB	**Yu-li**	**23.43 286**		P	**P**	**08 26 24.3**	**-1.7**
TWG	**Pinlang**	**23.57 285**		P	**P**	**08 26 26.7**	**-0.6**
SSLB	**Suanglung**	**23.79 287**		P	**P**	**08 26 28.6**	**-0.7**
SSLB				IAmb	IAmb	08 26 36.5	
	comp=Z,46nm,1.4s						
SIJI	**Sorong**	**23.95 218**		P	**P**	**08 26 31.4**	**+0.6**
	comp=Z,17nm,0.6s,baz=134,slow=18,SNR=4.6						
KSRS	**Korea Array**	**24.60 324**		P	**P**	**08 26 34.4**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=149,slow=9.2,SNR=5.9						
KSRS				pP	**pP**	**08 27 18.0**	**+3.7**
	comp=Z,7.2nm,0.8s,baz=144,slow=8.9,SNR=6.3						
FAKI	**Fak Fak**	**25.09 214**		P	**P**	**08 26 39.8**	**-1.3**
FAKI				IAmb	IAmb	08 26 45.4	
	comp=Z,30nm,0.6s						
ASAJ	**Asahikawa**	**25.74 355**		P	**P**	**08 26 45.8**	**-0.8**
	comp=Z,11nm,0.6s,baz=223,slow=9.6,SNR=14						
JKA	**Kamikawa-asahi**	**25.74 355**		P	**P**	**08 26 45.8**	**-0.8**
PMG	**Port Moresby**	**27.71 177**		P	**P**	**08 27 04.6**	**+0.2**
	comp=Z,26nm,0.8s,baz=98,slow=6.3,SNR=6.3						
PMG	**Port Moresby**	**27.71 177**		P	**P**	**08 27 02.4**	**-2.1**
PMG				IAmb	IAmb	08 27 11.4	
	comp=Z,40nm,0.8s						
NJ2	**Nanjing**	**27.82 304**		*e*P	**P**	**08 27 07.1**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,17nm,0.8s						
USRK	**Ussuriysk Ar.**	**28.19 339**		P	**P**	**08 27 06.3**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=152,slow=9.5,SNR=3.2						
USRK				pP	**pwP**	**08 27 53.9**	**+2.1**
	comp=Z,2.5nm,0.8s,baz=164,slow=14,SNR=3.2						
USRK	**Ussuriysk Ar.**	**28.19 339**		P	**P**	**08 27 08.0**	**-0.5**
SAUI	**Saumlaki**	**29.92 210**		P	**P**	**08 27 24.0**	**-0.1**
CN2	**Changchun**	**30.55 330**		*e*P	**P**	**08 27 29.2**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KKM	**Kota Kinabalu**	**31.40 251**		P	**P**	**08 27 36.5**	**-0.8**
TARA	**Tarawa**	**31.54 120**		P	**P**	**08 27 38.1**	**-0.2**
COEN	**Coen**	**32.30 185**		P	**P**	**08 27 45.0**	**0.0**
COEN				IAmb	IAmb	08 27 47.2	
	comp=Z,23nm,0.5s						
KLR	**Kul'dur**	**32.75 343**		P	**P**	**08 27 46.6**	**-1.8**
	comp=Z,5.3nm,0.3s,baz=149,slow=8.8,SNR=24						
MTN	**Manton Dam**	**34.31 206**		P	**P**	**08 28 02.6**	**+0.3**
KAPI	**Kappang**	**34.71 230**		P	**P**	**08 28 05.2**	**-0.6**
KAPI				IAmb	IAmb	08 28 06.7	
	comp=Z,20nm,0.8s						
SOEI	**Soe**	**35.19 219**		P	**P**	**08 28 07.8**	**-2.2**
PEA0B	**Petropavlovsk-**	**35.81**	**12**	P	**P**	**08 28 16.0**	**+1.3**
PETK	**Petropavlovsk-**	**35.81**	**12**	P	**P**	**08 28 15.8**	**+1.1**
	comp=Z,8.9nm,0.7s,baz=181,slow=6.8,SNR=6.0						
PETK	**Petropavlovsk-**	**35.81**	**12**	P	**P**	**08 28 15.3**	**+0.6**
SBUM	**Sibu**	**36.57 248**		P	**P**	**08 28 21.3**	**-0.3**
SBUM				IAmb	IAmb	08 28 22.4	
	comp=Z,16nm,0.5s						
SBUM	**Sibu**	**36.57 248**		P	**P**	**08 28 22.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**36.87 315**		*e*P	**P**	**08 28 23.4**	**-0.6**
GYA	**Guiyang**	**36.95 290**		*e*P	**P**	**08 28 25.7**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HIA	**Hailar**	**37.24 332**		P	**P**	**08 28 26.4**	**-0.6**
HIA				IAmb	IAmb	08 29 08.2	
	comp=Z,32nm,1.9s						
KNRA	**Kununurra**	**37.85 207**		P	**P**	**08 28 32.2**	**-0.1**
CTAO	**Charters Tower**	**38.30 179**		P	**P**	**08 28 36.7**	**+0.6**
KSM	**Kuching**	**38.71 248**		P	**P**	**08 28 38.2**	**-1.4**
KSM				IAmb	IAmb	08 28 39.5	
	comp=Z,30nm,0.9s						
KSM	**Kuching**	**38.71 248**		P	**P**	**08 28 39.0**	**-0.6**
WRAB	**Tennant Creek**	**39.77 197**		P	**P**	**08 28 47.9**	**-0.3**
WRAB				IAmb	IAmb	08 28 50.1	
	comp=Z,30nm,0.5s						
WB2	**Warramunga Arr**	**39.78 197**		P	**P**	**08 28 48.8**	**+0.5**
WRA	**Warramunga Arr**	**39.78 197**		P	**P**	**08 28 48.5**	**+0.2**
	comp=Z,16nm,0.4s,baz=20,slow=9.1,SNR=30						
WRA				ScP	**ScP**	**08 34 16.9**	**-3.5**
	comp=Z,1.2nm,0.7s,baz=14,slow=4.5,SNR=5.8						
WRA	**Warramunga Arr**	**39.78 197**		P	**P**	**08 28 48.0**	**-0.3**
CD2	**Chengdu**	**39.97 296**		P	**P**	**08 28 48.9**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**40.43 287**		P	**P**	**08 28 53.9**	**-0.1**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.39 210**		P	**P**	**08 29 01.6**	**+0.2**
FITZ				IAmb	IAmb	08 29 02.7	
	comp=Z,19nm,0.7s						
PBKT	**Sadao Pong**	**42.75 275**		P	P	08 29 18.6	+6.0
	comp=Z,3.5nm,1.6s						
PBKT	**Sadao Pong**	**42.75 275**		P	**P**	**08 29 12.0**	**-0.5**
SONM	**Songino Array**	**43.42 321**		P	**P**	**08 29 15.8**	**-2.0**
	comp=Z,2.7nm,0.6s,baz=138,slow=9.4,SNR=12						
SONM				pP	**pwP**	**08 30 04.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=136,slow=7.7,SNR=1.9						
SONM				PcP	**PcP**	**08 31 01.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=141,slow=5.1,SNR=2.3						
SONM	**Songino Array**	**43.42 321**		P	**P**	**08 29 17.5**	**-0.3**
AS31	**Alice Springs**	**43.44 196**		P	**P**	**08 29 16.5**	**-1.6**
ASAR	**Alice Springs**	**43.45 196**		P	**P**	**08 29 18.2**	**+0.2**
	comp=Z,6.1nm,0.6s,baz=14,slow=6.8,SNR=29						
ASAR				PcP	**PcP**	**08 31 02.5**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=32,slow=2.3,SNR=4.9						
ASAR				ScP	**ScP**	**08 34 31.2**	**-3.8**
	comp=Z,0.8nm,0.7s,baz=18,slow=4.9,SNR=4.5						
ASAR	**Alice Springs**	**43.45 196**		P	**P**	**08 29 17.0**	**-1.0**
ASAR				ScP	**ScP**	**08 34 31.1**	**-4.0**
KIWB	**Kanaga Island**	**44.21**	**32**	P	**P**	**08 29 24.7**	**+0.9**
MYKOM	**Kota Tinggi**	**44.35 253**		P	**P**	**08 29 25.0**	**-0.5**
MYKOM				IAmb	IAmb	08 29 27.0	
	comp=Z,29nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.38 278**		P	**P**	**08 29 24.9**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=71,slow=6.7,SNR=10.0						
CMAR	**Chiang Mai Arr**	**44.38 278**		P	**P**	**08 29 25.2**	**-0.4**
SEY	**Seymchan**	**44.68**	**4**	P	**P**	**08 29 27.8**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=202,slow=10.0,SNR=6.3						
PHET	**Kaeng Krachan**	**44.73 270**		P	P	08 29 34.2	+5.8
	comp=Z,11μm,0.6s						
GTA	**Gaotai**	**44.80 308**		*e*P	**P**	**08 29 30.5**	**+1.7**
GTA				pP	pwP	08 30 16.8	+1.3
GTA				sP	sP	08 30 38.6	+5.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
YAK	**Yakutsk**	**44.99 349**		P	**P**	**08 29 28.6**	**-1.2**
	comp=Z,7.1nm,0.4s,baz=100,slow=3.4,SNR=5.3						
YAK	**Yakutsk**	**44.99 349**		P	**P**	**08 29 28.6**	**-1.2**
YAK				IAmb	IAmb	08 29 35.6	
	comp=Z,23nm,0.6s						
DZM	**Mont Dzumac**	**45.04 153**		P	**P**	**08 29 31.8**	**+1.1**
DZM				IAmb	IAmb	08 29 33.2	
	comp=Z,27nm,0.8s						
CISI	**Cisompet, Garu**	**45.55 239**		P	**P**	**08 29 32.2**	**-2.6**
CISI				IAmb	IAmb	08 29 34.5	
	comp=Z,38nm,0.6s						
IPM	**Ipoh**	**45.91 258**		P	**P**	**08 29 38.0**	**+0.3**
KULM	**Kulim**	**45.97 259**		P	**P**	**08 29 39.0**	**+0.8**
PSA00	**Pilbara Seismi**	**47.22 214**		P	**P**	**08 29 45.5**	**-2.1**
PSA00				IAmb	IAmb	08 29 47.8	
	comp=Z,44nm,1.8s						
PSA00	**Pilbara Seismi**	**47.22 214**		P	**P**	**08 29 47.2**	**-0.5**
PSA00				IAmb	IAmb	08 30 55.6	
	comp=Z,6.6nm,0.7s						
RPSI	**Rantau Prapat**	**48.51 257**		P	**P**	**08 29 57.6**	**-0.1**
ARMA	**Armidale**	**48.90 173**		P	**P**	**08 30 00.5**	**-0.1**
ARMA				IAmb	IAmb	08 30 39.2	
	comp=Z,92nm,1.6s						
XMIS	**Christmas Isla**	**48.97 237**		P	**P**	**08 29 59.4**	**-1.8**
XMIS				IAmb	IAmb	08 29 59.7	
	comp=Z,37nm,0.7s						
STKA	**Stephens Creek**	**50.20 185**		P	**P**	**08 30 09.9**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=12,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**50.20 185**		P	**P**	**08 30 10.2**	**0.0**
GSI	**Gunungsitoli**	**50.29 256**		P	**P**	**08 30 09.7**	**-1.5**
GSI				IAmb	IAmb	08 30 12.6	
	comp=Z,69nm,1.2s						
UNV	**Unalaska Valle**	**50.79**	**34**	P	**P**	**08 30 14.8**	**+0.5**
GIRL	**Giralia**	**51.20 218**		P	**P**	**08 30 18.7**	**+0.9**
BILL	**Bilibino**	**51.24**	**10**	P	**P**	**08 30 18.1**	**+0.5**
BILL				IAmb	IAmb	08 30 19.3	
	comp=Z,20nm,1.1s						
AKUT	**Akutan**	**51.30**	**34**	P	**P**	**08 30 18.8**	**+0.6**
BBOO	**Buckleboo**	**51.82 190**		P	P	08 30 17.9	-4.3
BBOO				IAmb	IAmb	08 30 26.5	
	comp=Z,16nm,0.6s						
FORT	**Forrest**	**51.84 200**		P	**P**	**08 30 22.8**	**+0.3**
FORT				IAmb	IAmb	08 30 24.7	
	comp=Z,22nm,0.8s						
FALS	**False Pass**	**52.85**	**34**	P	**P**	**08 30 30.1**	**+0.6**
WMQ	**Urumqi**	**54.57 311**		*e*P	**P**	**08 30 43.7**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,6.3s						
WMQ				LR	LR		
	comp=Z,600nm,29.2s						
WMQ				LR	LR		
	comp=Z,2μm,28.9s						
WMQ				LR	LR		
	comp=Z,87nm,24.3s						
SDPT	**Sand Point**	**54.60**	**34**	P	**P**	**08 30 42.6**	**+0.4**
CNBA	**Chernabura Isl**	**54.91**	**35**	P	**P**	**08 30 44.5**	**+0.1**
MORW	**Morawa**	**55.31 212**		P	**P**	**08 30 47.1**	**-0.6**
MORW				IAmb	IAmb	08 30 48.4	
	comp=Z,13nm,0.7s						
CHGN	**Chignik**	**56.02**	**34**	P	**P**	**08 30 52.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**57.94 208**		P	**P**	**08 31 06.5**	**+0.4**
NWAO				IAmb	IAmb	08 31 06.9	
	comp=Z,31nm,0.8s						
ZALV	**Zalesovo Beam**	**58.29 323**		P	**P**	**08 31 05.7**	**-2.6**
	comp=Z,2.2nm,0.6s,baz=101,slow=7.7,SNR=5.1						
ZALV				PcP	**pP**	**08 31 54.8**	**+2.2**
	comp=Z,2.0nm,0.5s,baz=112,slow=4.2,SNR=4.4						
SII	**Sitkinak Islan**	**58.34**	**34**	P	**P**	**08 31 08.6**	**0.0**
MK31	**Makanchi Array**	**58.73 314**		P	**P**	**08 31 09.2**	**-2.3**
MKAR	**Makanchi Array**	**58.73 314**		P	**P**	**08 31 10.3**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=90,slow=8.3,SNR=21						
MKAR	**Makanchi Array**	**58.73 314**		P	**P**	**08 31 10.0**	**-1.5**
MAKZ	**Makanchi**	**58.94 314**		P	**P**	**08 31 12.0**	**-1.0**
SVW2	**Sparrevohn**	**58.98**	**29**	P	**P**	**08 31 13.7**	**+0.7**
SVW2				IAmb	IAmb	08 31 55.9	
	comp=Z,34nm,1.6s						
OHAK	**Old Harbor**	**58.99**	**34**	P	**P**	**08 31 12.7**	**-0.4**
TTA	**Tatalina**	**59.42**	**27**	P	**P**	**08 31 16.2**	**+0.2**
TTA				IAmb	IAmb	08 31 37.5	
	comp=Z,47nm,1.8s						
KDAK	**Kodiak Island**	**59.50**	**33**	P	**P**	**08 31 17.1**	**+0.6**
	comp=Z,6.8nm,0.5s,baz=240,slow=2.4,SNR=23						
KDAK	**Kodiak Island**	**59.50**	**33**	P	**P**	**08 31 17.4**	**+0.9**
CNPM	**China Poot**	**60.61**	**31**	P	**P**	**08 31 24.3**	**+0.2**
BRLK	**Bradley Lake**	**60.84**	**31**	P	**P**	**08 31 25.6**	**-0.1**
PPLA	**Purkeypile**	**61.06**	**28**	P	**P**	**08 31 28.2**	**+1.0**
PPLA				IAmb	IAmb	08 32 32.2	
	comp=Z,57nm,1.8s						
TAU	**Tasmania Unive**	**61.06 179**		P	**P**	**08 31 26.9**	**-0.3**
TAU				IAmb	IAmb	08 33 18.4	
	comp=Z,58nm,1.4s						
SKT	**Skwentna**	**61.10**	**29**	P	**P**	**08 31 27.3**	**-0.1**
SKT				IAmb	IAmb	08 32 27.0	
	comp=Z,62nm,2.0s						
SUA	**Susitna One**	**61.33**	**29**	P	**P**	**08 31 29.0**	**0.0**
SUA				IAmb	IAmb	08 32 09.9	
	comp=Z,34nm,1.4s						
IMAR	**Indian Mountai**	**61.40**	**24**	P	**P**	**08 31 29.9**	**+0.6**
KURK	**Kurchatov**	**61.54 318**		P	**P**	**08 31 28.2**	**-2.2**
SEW	**Seward**	**61.62**	**31**	P	**P**	**08 31 30.8**	**0.0**
RC01	**Rabbit Creek A**	**61.71**	**30**	P	**P**	**08 31 31.6**	**+0.2**
RC01				IAmb	IAmb	08 32 57.3	
	comp=Z,88nm,1.9s						
KTH	**Kantishna Hill**	**61.80**	**27**	P	**P**	**08 31 32.7**	**+0.6**
KTH				IAmb	IAmb	08 32 11.0	
	comp=Z,66nm,1.9s						
NRIK	**Noril'sk**	**61.89 340**		P	**P**	**08 31 30.8**	**-1.6**
	comp=Z,3.9nm,0.3s,baz=106,slow=8.4,SNR=12						
BPAW	**Bear Paw Mtn.**	**61.92**	**26**	P	**P**	**08 31 33.6**	**+0.7**
BPAW				IAmb	IAmb	08 31 34.2	
	comp=Z,15nm,0.9s						
TRF	**Thorofare Moun**	**62.05**	**27**	P	**P**	**08 31 33.5**	**-0.4**
TRF				IAmb	IAmb	08 31 37.0	
	comp=Z,59nm,1.9s						
PMR	**Palmer**	**62.11**	**29**	P	**P**	**08 31 34.0**	**-0.1**
PMR				IAmb	IAmb	08 32 11.0	
	comp=Z,62nm,1.8s						
KDJ	**Kajisay**	**62.15 308**		P	**P**	**08 31 31.8**	**-3.2**
GHO	**Glory Hole Cre**	**62.24**	**29**	P	**P**	**08 31 35.3**	**+0.2**
MLY	**Manley**	**62.29**	**25**	P	**P**	**08 31 36.0**	**+0.7**
MLY				IAmb	IAmb	08 31 36.7	
	comp=Z,11nm,0.7s						
KNK	**Knik Glacier**	**62.38**	**30**	P	**P**	**08 31 36.3**	**+0.4**
SML	**Sawmill**	**62.53**	**29**	P	**P**	**08 31 36.8**	**-0.1**
SML				IAmb	IAmb	08 31 38.1	
	comp=Z,23nm,0.8s						
BWN	**Browne**	**62.59**	**26**	P	**P**	**08 31 38.4**	**+1.2**
BWN				IAmb	IAmb	08 32 30.9	
	comp=Z,24nm,1.1s						
RND	**Reindeer**	**62.66**	**27**	P	**P**	**08 31 37.6**	**-0.2**
RND				IAmb	IAmb	08 32 25.3	
	comp=Z,40nm,1.8s						
MCK	**McKinley**	**62.70**	**27**	P	**P**	**08 31 38.3**	**+0.3**
MCK				IAmb	IAmb	08 32 43.4	
	comp=Z,64nm,2.0s						
GLI	**Glacier Island**	**62.92**	**30**	P	**P**	**08 31 40.2**	**+0.7**
SCM	**Sheep Creek Mo**	**63.00**	**29**	P	**P**	**08 31 40.8**	**+0.7**
SCM				IAmb	IAmb	08 31 41.1	
	comp=Z,23nm,0.9s						
KSH	**Kashi**	**63.12 305**		P	P	08 31 47.1	+5.8
KSH				PP	**PP**	**08 34 09.7**	**+7.1**
KSH				S	**S**	**08 40 00.1**	**+3.6**
KSH				sS	ScS	08 41 23.0	+8.1
KSH				SS	**SS**	**08 44 13.0**	**+7.0**
KSH				pmax	pmax		
	comp=Z,410nm,5.3s						
KSH				LR	LR		
	comp=Z,190nm,9.6s						
KSH				LR	LR		
	comp=Z,250nm,9.8s						
KSH				LR	LR		
	comp=Z,420nm,10.4s						
FID	**Port Fidalgo**	**63.20**	**31**	P	**P**	**08 31 41.9**	**+0.6**
DHY	**Denali Highway**	**63.23**	**28**	P	**P**	**08 31 41.7**	**0.0**
DHY				IAmb	IAmb	08 31 43.7	
	comp=Z,26nm,1.6s						
WRH	**Wood River Hil**	**63.24**	**26**	P	**P**	**08 31 40.6**	**-0.9**
WRH				IAmb	IAmb	08 31 41.8	
	comp=Z,8.0nm,0.7s						
MDM	**Murphy Dome**	**63.30**	**26**	P	**P**	**08 31 42.9**	**+0.9**
MDM				IAmb	IAmb	08 31 43.4	
	comp=Z,8.4nm,0.6s						
CCB	**Clear Creek Bu**	**63.40**	**26**	P	**P**	**08 31 41.5**	**-1.0**
CCB				IAmb	IAmb	08 32 49.3	
	comp=Z,36nm,2.0s						
URZ	**Urewera**	**63.59 153**		P	**P**	**08 31 44.4**	**+0.3**
HDA	**Harding Lake**	**63.71**	**27**	P	**P**	**08 31 43.4**	**-1.2**
TOLK	**Toolik Lake Re**	**63.78**	**22**	P	**P**	**08 31 46.0**	**+0.9**
TOLK				IAmb	IAmb	08 31 46.4	
	comp=Z,8.8nm,0.6s						
IL31		**63.81**	**26**	P	**P**	**08 31 43.8**	**-1.4**
IL31				IAmb	IAmb	08 31 45.1	
	comp=Z,11nm,1.0s						
ILAR	**Eielson Array**	**63.81**	**26**	P	**P**	**08 31 44.1**	**-1.2**
	comp=Z,6.0nm,0.7s,baz=252,slow=5.1,SNR=80						
ILAR	**Eielson Array**	**63.81**	**26**	P	**P**	**08 31 44.3**	**-1.0**
QRZ	**Quartz Range**	**63.98 158**		P	**P**	**08 31 46.8**	**+0.2**
BKZ	**Black Stump Fm**	**64.09 154**		P	**P**	**08 31 44.6**	**-2.8**
AAK	**Ala-Archa**	**64.13 309**		P	**P**	**08 31 46.9**	**-1.0**
GLB	**Gilahina Butte**	**64.59**	**30**	P	**P**	**08 31 49.8**	**-0.6**
GLB				IAmb	IAmb	08 32 25.3	
	comp=Z,78nm,2.0s						
NNZ	**Nelson**	**64.63 157**		P	**P**	**08 31 49.5**	**-1.2**
VRDI	**Verde Repeater**	**64.73**	**30**	P	**P**	**08 31 50.2**	**-1.3**
VRDI				IAmb	IAmb	08 32 26.6	
	comp=Z,55nm,1.6s						
DOT	**Dot Lake**	**64.81**	**28**	P	**P**	**08 31 52.0**	**+0.2**
DOT				IAmb	IAmb	08 31 52.6	
	comp=Z,8.0nm,0.7s						
CRQM	**Cirque**	**64.82**	**31**	P	**P**	**08 31 53.0**	**+0.9**
MENT	**Mentasta**	**64.85**	**28**	P	**P**	**08 31 52.6**	**+0.6**
MENT				IAmb	IAmb	08 32 00.1	
	comp=Z,15nm,1.4s						
FYU	**Fort Yukon**	**64.87**	**24**	P	**P**	**08 31 52.7**	**+0.7**
FYU				IAmb	IAmb	08 31 53.7	
	comp=Z,54nm,1.6s						
SCRK	**Sand Creek**	**64.90**	**27**	P	**P**	**08 31 52.6**	**+0.2**
SCRK				IAmb	IAmb	08 31 55.6	
	comp=Z,10nm,1.1s						
WAX	**Waxell Ridge**	**64.92**	**31**	P	**P**	**08 31 53.5**	**+0.9**
THZ	**Tophouse**	**64.93 158**		P	**P**	**08 31 52.9**	**+0.1**
MCARA	**McCarthy VSAT**	**64.95**	**30**	P	**P**	**08 31 52.7**	**0.0**
TGL	**Tana Glacier**	**64.97**	**31**	P	**P**	**08 31 51.0**	**-1.9**
TUWZ	**Tuamarina**	**65.02 157**		P	**P**	**08 31 53.1**	**-0.2**
SNZO	**South Karori**	**65.20 156**		P	**P**	**08 31 54.0**	**-0.4**
BALM	**Baldy**	**65.24**	**31**	P	**P**	**08 31 55.0**	**+0.4**
BALM				IAmb	IAmb	08 33 46.0	
	comp=Z,69nm,2.0s						
BFZ	**Birch Farm**	**65.27 155**		P	**P**	**08 31 53.6**	**-1.3**
BMAR	**Burnt Mountain**	**65.30**	**23**	P	**P**	**08 31 56.1**	**+1.3**
MESA	**MESA**	**65.33**	**32**	P	**P**	**08 31 55.6**	**+0.2**
LTZ	**Lake Taylor**	**65.61 159**		P	**P**	**08 31 56.6**	**-0.5**
PLWZ	**Palliser**	**65.64 156**		P	**P**	**08

RYN	Ryan	82.97	52	P	P	08 33 39.0	+1.2
KVN	Kaiserville	83.15	51	P	P	08 33 39.5	+0.8
KVN				IAmb	IAmb	08 33 40.5	
comp=Z,9.2nm,0.8s							
NVAR	Mina Array Bea	83.19	52	P	P	08 33 40.3	+1.3
comp=Z,8.3nm,0.7s,baz=266,slow=5.9,SNR=94							
NVAR				pP	pwP	08 34 33.0	+1.6
comp=Z,4.0nm,0.8s,baz=261,slow=6.3,SNR=7.0							
NVAR	Mina Array Bea	83.19	52	P	P	08 33 39.6	+0.6
NV11	Mina Array Sit	83.30	52	P	P	08 33 40.0	+0.6
BMN	Battle Mountai	83.36	50	P	P	08 33 40.9	+1.1
MFID	Camas Ranch	83.39	47	P	P	08 33 40.3	+0.5
ELK	Elko	84.69	49	P	P	08 33 47.5	+0.9
DLMT	Dillon	84.90	44	P	P	08 33 47.5	+0.1
DLMT				IAmb	IAmb	08 33 49.3	
comp=Z,27nm,1.8s							
MCMT	McKenzie Canyo	84.93	44	P	P	08 33 48.0	+0.4
TPNV	Topopah Spring	85.21	53	P	P	08 33 49.3	+0.2
TPNV				IAmb	IAmb	08 33 50.7	
comp=Z,7.5nm,0.7s							
R11A	Troy Canyon, C	85.24	51	P	P	08 33 49.5	+0.2
BOZ	Bozeman (W)	85.45	43	P	P	08 33 50.6	+0.5
QLMT	Earthquake Lak	85.87	44	P	P	08 33 52.7	+0.5
YHL	Hebgen Lake	86.02	44	P	P	08 33 54.2	+1.1
YHB	Horse Butte	86.05	44	P	P	08 33 54.1	+0.9
HVU	Hansel Valley	86.07	47	P	P	08 33 54.2	+1.0
SHPR	Sheep Range	86.18	53	P	P	08 33 54.5	+0.6
YMR	Madison River	86.23	44	P	P	08 33 54.4	+0.4
YHH	Holmes Hill	86.27	44	P	P	08 33 53.6	-0.7
YNR	Norris Junctio	86.41	44	P	P	08 33 55.4	+0.5
PSUT	Pine Spring	86.45	51	P	P	08 33 54.9	-0.4
SPUT	South Promonto	86.47	48	P	P	08 33 55.7	+0.5
IMW	Indian Meadow	86.54	45	P	P	08 33 56.9	+1.2
FXWY	Fox Creek	86.58	45	P	P	08 33 56.9	+1.1
DUG	Dugway, Tooele	86.61	49	P	P	08 33 56.6	+0.7
DUG				IAmb	IAmb	08 33 57.5	
comp=Z,18nm,1.4s							
FLWY	Flagg Ranch	86.63	45	P	P	08 33 56.8	+0.8
FLWY				IAmb	IAmb	08 34 50.9	
comp=Z,9.0nm,0.9s							
TPAW	Teton Pass	86.69	45	P	P	08 33 57.6	+1.2
MOOW	Moose Ponds	86.73	45	P	P	08 33 57.6	+1.2
CCUT	Cedar City	87.17	51	P	P	08 34 00.0	+1.3
FINES	FINESS Array B	87.17	335	P	P	08 33 54.4	-3.5
comp=Z,2.1nm,0.5s,baz=61,slow=4.7,SNR=15							
RLMT	Red Lodge	87.17	43	P	P	08 34 01.0	+2.4
TCUT	Toone Canyon	87.27	48	P	P	08 33 59.0	-0.2
JLU	Jordanelle	87.43	48	P	P	08 34 00.1	+0.1
LCMT	Little Creek M	87.45	52	P	P	08 33 59.9	-0.1
PD31	Pinedale Array	87.91	45	P	P	08 34 02.0	-0.1
PDAR	Pinedale Array	87.91	45	P	P	08 34 02.1	-0.1
comp=Z,0.7nm,0.5s,baz=134,slow=0.6,SNR=17							
Q16A	Castle Valley	88.27	50	P	P	08 34 02.4	-1.5
P17A	Butcher Ranch,	88.36	49	P	P	08 34 03.1	-1.2
U15A	North Rim	88.37	52	P	P	08 34 04.0	-0.5
SRU	San Rafael Swe	88.66	49	P	P	08 34 05.2	-0.5
Y14A	Wickenburg	88.74	55	P	P	08 34 06.9	+0.9
Y14A				IAmb	IAmb	08 34 07.9	
comp=Z,7.4nm,0.6s							
WUAZ	Wupatki	89.40	53	P	P	08 34 10.7	+1.5
WUAZ				IAmb	IAmb	08 35 04.8	
comp=Z,8.4nm,1.0s							
PV09	Paradox Valley	89.90	49	P	P	08 34 12.0	+0.4
PV21	Cone Mtn., Par	89.99	49	P	P	08 34 12.9	+1.0
PV21				IAmb	IAmb	08 34 13.5	
comp=Z,6.8nm,0.6s							
PV23	Carpenter Ridg	90.00	49	P	P	08 34 13.2	+1.1
PV23				IAmb	IAmb	08 34 13.5	
comp=Z,9.1nm,0.7s							
PV14	Lion Creek, Pa	90.03	49	P	P	08 34 13.0	+0.8
PV14				IAmb	IAmb	08 34 13.5	
comp=Z,13nm,0.7s							
PV20	West Nyswonger	90.08	49	P	P	08 34 13.0	+0.6
PV20				IAmb	IAmb	08 34 13.7	
comp=Z,9.4nm,0.7s							
PV19	Morning Glory	90.08	49	P	P	08 34 12.5	+0.1
PV19				IAmb	IAmb	08 35 07.4	
comp=Z,26nm,1.3s							
PV17	East Wray Mesa	90.11	49	P	P	08 34 12.6	+0.1
PV17				IAmb	IAmb	08 34 13.8	
comp=Z,11nm,0.7s							
PV16	Nyswonger Mesa	90.13	49	P	P	08 34 12.9	+0.3
PV16				IAmb	IAmb	08 34 13.9	
comp=Z,8.3nm,0.7s							
PV18	Skein Mesa, Pa	90.16	49	P	P	08 34 12.8	+0.1
PV18				IAmb	IAmb	08 34 14.0	
comp=Z,7.1nm,0.6s							
PV11	David Mesa, Pa	90.17	49	P	P	08 34 12.8	+0.1
PV11				IAmb	IAmb	08 34 14.0	
comp=Z,13nm,0.6s							
PV03	Paradox Valley	90.20	49	P	P	08 34 13.3	+0.3
PV03				IAmb	IAmb	08 34 13.8	
comp=Z,6.0nm,0.6s							
PV12	Saucer Basin,	90.21	49	P	P	08 34 13.3	+0.3
PV12				IAmb	IAmb	08 35 08.9	
comp=Z,38nm,1.6s							
PV13	Radium Mtn., P	90.26	49	P	P	08 34 13.6	+0.3
PV13				IAmb	IAmb	08 34 14.4	
comp=Z,5.9nm,0.6s							
PV02	Paradox Valley	90.30	49	P	P	08 34 13.8	+0.3
PV02				IAmb	IAmb	08 34 14.6	
comp=Z,6.6nm,0.6s							
PV01	Paradox Valley	90.45	49	P	P	08 34 14.0	-0.1
PV01				IAmb	IAmb	08 34 15.2	
comp=Z,6.5nm,0.6s							
TUC	Tucson	91.07	55	P	P	08 34 15.5	-1.5
SMCO	Snowmass	91.16	48	P	P	08 34 16.9	-0.7
SNAA	Sanae	123.70	191	PKPdf	PKPdf	08 40 06.2	-1.7
VNA2	Neumayer--Watz	125.14	190	PKPdf	PKPdf	08 40 09.5	-1.1
baz=145,slow=0.4							
VNA3	Neumayer Olymp	125.24	189	PKPdf	PKPdf	08 40 09.5	-1.2
VNA1	Neumayer--Stat	125.53	190	PKPdf	PKPdf	08 40 08.9	-2.4
TORD	Torodi Ar. Bea	132.71	309	PKP	PKPdf	08 40 26.3	-0.3
comp=Z,0.8nm,1.1s,baz=357,slow=1.4,SNR=3.1							
PLCA	Paso Flores	141.74	133	PKhKP	PKPpre	08 40 37.7	
comp=Z,1.3nm,0.6s,baz=275,slow=3.7,SNR=6.3							
PEL	Peldehue	144.21	121		PKPab	08 40 46.0	+0.6
GO04	Tololo Observa	144.78	116		PKPbc	08 40 47.5	-0.5
LPAZ	La Paz	147.54	92	PKPbc	PKPdf	08 40 53.9	0.0
comp=Z,3.6nm,0.4s,baz=280,slow=2.7,SNR=11							
LPAZ	La Paz	147.54	92		PKPdf	08 40 54.4	+0.5
LPAZ					PKPbc	08 40 57.6	+0.7
SAML	Samuel	150.31	75		PKPbc	08 41 02.7	-0.4
SAML				PKPab	PKPab	08 41 08.9	-1.1
CPUP	Villa Florida	157.22	114	PKPab	PKPab	08 41 41.0	+1.9
comp=Z,2.8nm,0.9s,baz=287,slow=3.8,SNR=4.5							

*IDC **11** 08:23:13.8±2.2,2.2′.21N×125′.08E, h0km, mb4.5/3, mb1 4.8/3, mb1mx3.8/38, mbtmp4.5/3, Error ellipse: s-maj=258.4km s-min=23.8km az=64.0*
*ISCJB **11** 08:23:44.0±0.4, 1′.39N±0′.06×124′.12E±0′.04, h300km, Error ellipse: s-maj=7.8km s-min=5.8km az=18.0*
*NEIC **11** 08:23:44.0±1.2, 1′.41N±0′.09×124′.0E±0′.1, h282km±9km, mb4.6/18*
*DJA **11** 08:23:45.8±0.4, 1′.N±6′×12′.4E±′, h289km±3km, M4.2/12, mb4.4/8, mB4.7/2, MLv4.2/12, Mw(mB)3.9/2*
ISC 11 08:23:45.4±0.6,**1°27**N±0′.07×**124°08E**±0′.05,**h300**km,**n43,** σ1°**47**/**47**,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.70	188	P	Pn	08 24 23.9	-0.7
KMSI				S	S	08 24 55.1	-0.7
MRSI	Marisa	2.28	250	P	Pn	08 24 34.9	+0.4
MRSI				S	S	08 25 12.4	-1.3
LUWI	Luwuk	2.64	210	P	Pn	08 24 42.6	+4.8
LUWI				S	S	08 25 14.6	-5.0
LUWI	Luwuk	2.64	210	Pn	Pn	08 24 37.0	-0.8
LUWI				S	S	08 25 15.4	-4.1
TNTI	Ternate	3.32	99	P	Pn	08 24 44.8	+0.4
TNTI	Ternate	3.32	99		Pn	08 24 44.0	-0.4
TNTI				S	S	08 25 29.5	-2.0
SANI	Sanana	3.81	150	P	Pn	08 24 48.3	-1.3
LBMI	Labuha	3.91	119	P	Pn	08 24 50.7	0.0
MPSI	Mapaga	4.29	258	P	Pn	08 24 56.0	+1.2
TTSI	Tana Toraja	6.04	225	P	Pn	08 25 15.5	+0.2
SPSI	Sidrap Palu	6.75	220	P	Pn	08 25 24.4	+0.6
BNSI	Bone	6.89	215	P	Pn	08 25 27.3	+1.8
KAPI	Kappang	7.59	215	Pn	Pn	08 25 35.4	+1.3
WBSI	Waikabubak, Su	11.80	203	P	P	08 26 28.8	+1.5
SBUM	Sibu	11.91	276		P	08 26 28.4	0.0

TWSI	Taliwang, Sumb	12.26	216	P	Pn	08 26 30.8	-0.4
KSM	Kuching	13.77	271	P	Pn	08 26 50.6	+1.2
JAGI	Jajag, Banyuwa	13.84	225	P	Pn	08 26 50.2	-0.1
MTN	Manton Dam	15.67	154	P	Pn	08 27 13.0	+1.2
PCJI	Pacitan	15.94	234	P	Pn	08 27 15.2	+0.3
KNRA	Kununurra	17.46	165	P	Pn	08 27 30.9	-1.8
KNRA				IAmb	IAmb	08 27 32.8	
comp=Z,31nm,0.6s							
FITZ	Fitzroy Crossi	19.31	176	P	P	08 27 48.8	-0.3
FITZ				IAmb	IAmb	08 27 53.2	
comp=Z,6.9nm,0.3s							
WB0	Warramunga Arr	23.23	155	P	P	08 28 27.6	+0.9
WB0				IAmb	IAmb	08 28 48.0	
comp=Z,55nm,1.3s							
WRAB	Tennant Creek	23.35	155	P	P	08 28 29.0	+1.1
WRA	Warramunga Arr	23.36	155	P	P	08 28 28.8	+0.9
comp=Z,20nm,0.5s,baz=336,slow=9.7,SNR=334							
WRA	Warramunga Arr	23.36	155	P	P	08 28 27.9	0.0
WB2	Warramunga Arr	23.36	155	P	P	08 28 29.0	+1.0
WR0	Warramunga Arr	23.46	155	P	P	08 28 27.6	-1.2
WR0				IAmb	IAmb	08 28 53.2	
comp=Z,50nm,1.4s							
AS31	Alice Springs	26.56	160	P	P	08 28 58.2	+1.6
AS31				IAmb	IAmb	08 29 22.1	
comp=Z,4.7nm,0.5s							
ASAR	Alice Springs	26.56	160	P	P	08 28 58.0	+1.3
comp=Z,4.3nm,0.5s,baz=338,slow=7.2,SNR=104							
CMAR	Chiang Mai Arr	30.00	306	P	P	08 29 25.7	-1.4
FORT	Forrest	32.09	174	P	P	08 29 46.5	+1.4
CAN	Canberra	43.22	150	P	P	08 31 19.3	+1.6
CAN				IAmb	IAmb	08 31 41.8	
comp=Z,134nm,1.8s							
MK31	Makanchi Array	58.12	327	P	P	08 33 08.1	-0.1
MKAR	Makanchi Array	58.12	327	P	P	08 33 08.0	-0.2
comp=Z,0.7nm,0.3s,baz=122,slow=8.3,SNR=7.9							
MKAR	Makanchi Array	58.12	327	P	P	08 33 07.8	-0.4
MAKZ	Makanchi	58.30	327	P	P	08 33 08.7	-0.6
MAKZ				IAmb	IAmb	08 34 39.4	
comp=Z,9.4nm,1.4s							
KURK	Kurchatov	62.44	329	P	P	08 33 36.5	-0.5
BKZ	Black Stump Fm	62.60	136	P	P	08 33 39.4	+0.9
URZ	Urewera	62.63	135	P	P	08 33 39.8	+1.2
TIXI	Tiksi	70.34	2	P	P	08 34 26.9	+0.4
TIXI				IAmb	IAmb	08 35 35.3	
comp=Z,17nm,1.8s							
ABKAR	Abkulak array	72.40	322	P	P	08 34 37.2	-2.0
ABKAR	Abkulak array	72.40	322	P	P	08 34 36.8	-2.4

*ISCJB **11** 08:24:53.3±0.3, 5′.07N±0′.02×76′.53W±0′.03, h87km±7km, Error ellipse: s-maj=4.2km s-min=3.2km az=169.0*
*RSNC **11** 08:24:54.8±0.7, 5′.05N×76′.51W, h75km±4km, ML3.2, Mw3.3*
*UPA **11** 08:24:54.0±0.8, 5′.02N×76′.38W, h85km, MW4.0*
ISC 11 08:24:54.5±1.2,**5°07**N±0′.03×**76°52W**±0′.03,**h75**km±9km, **n32,** σ1°**53**/**62**,**1C-2D**,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	San Jos del P	0.29	124	⇓iP	Pn	08 25 06.2	0.0
PLMC				eS	Sn	08 25 15.1	+0.4
PLMC				i		08 25 15.9	
comp=Z,45μm,0.1s							
CBOC	Ciudad Bolivar	0.94	33	eP	Pn	08 25 13.4	+0.8
CBOC				eS	Sn	08 25 28.4	+2.2
CBOC				i		08 25 29.5	
comp=Z,578nm,0.2s							
YOTC	Yotoco, Valle	1.09	171	⇑iP	Pn	08 25 13.8	-0.7
YOTC				eS	Sn	08 25 28.8	-0.6
YOTC				i		08 25 36.3	
comp=Z,253nm,0.4s							
GUY2C	Guyana, Caldas	1.16	82	eP	Pn	08 25 15.6	0.0
GUY2C				eS	Sn	08 25 31.5	0.0
GUY2C				i		08 25 36.1	
comp=Z,298nm,0.7s							
HELC	Santa Helena	1.49	41	⇓iP	Pn	08 25 19.5	-0.3
HELC				eS	Sn	08 25 38.8	0.0
HELC				i		08 25 39.8	
comp=Z,173nm,0.5s							
HELC	Santa Helena	1.49	41	eP	Pn	08 25 19.3	-0.5
HELC				eS	Sn	08 25 37.5	-1.4
ORTC	Ortega, Tolima	1.71	132	eP	Pn	08 25 22.0	-0.4
ORTC				eS	Sn	08 25 43.2	-0.5
ORTC				i		08 25 48.5	
comp=Z,152nm,0.4s							
NORC	Norcasia	1.71	73	eP	Pn	08 25 22.8	+0.4
NORC				eS	Sn	08 25 44.0	+0.3
NORC				i		08 25 45.8	
comp=Z,174nm,0.3s							
DBBC	Dabeiba	1.96	9	eP	Pn	08 25 27.1	+1.3
DBBC				eS	Sn	08 25 52.0	+2.4
DBBC				i		08 25 55.9	
comp=Z,163nm,0.6s							
DBBC				i		08 25 57.0	
comp=Z,198nm,0.8s							
ROSC	El Rosal	2.20	96	eP	Pn	08 25 30.8	+1.5
ROSC				eS	Sn	08 25 57.8	+1.9
ROSC				i		08 26 08.4	
comp=Z,46nm,0.8s							
PTAC	Punta Ardita,	2.43	328	eP	Pn	08 25 32.1	0.0
PTAC				eS	Sn	08 25 59.3	-1.5
PTAC				i		08 26 00.4	
comp=Z,1μm,0.2s							
SPBC	San Pablo de B	2.50	76	eP	Pn	08 25 33.0	-0.1
SPBC				eS	Sn	08 26 02.1	-0.6
SPBC				i		08 26 07.1	
comp=Z,37nm,0.4s							
PTBC	PUERTO BERRIO,	2.52	54	eP	Pn	08 25 33.1	-0.2
PTBC				eS	Sn	08 26 01.2	-1.8
PTBC				i		08 26 04.4	
comp=Z,98nm,0.3s							
BETC	Betania	2.60	156	eP	Pn	08 25 34.0	-0.4
BETC				eS	Sn	08 26 04.5	-0.6
BETC				i		08 26 08.5	
comp=Z,14nm,0.5s							
PCON	Cinco Dias	2.73	177	eP	Pn	08 25 38.1	+1.6
PCON				eS	Sn	08 26 09.9	+1.2
PCON				i		08 26 20.4	
comp=Z,57nm,0.5s							
SOTA	Rioblanco	2.92	182	eP	Pn	08 25 39.9	+0.9
SOTA				eS	Sn	08 26 15.9	+2.6
SOTA				i		08 26 19.8	
comp=Z,80nm,0.7s							
ZARC	Zaragoza, Cauc	2.92	34	eP	Pn	08 25 38.9	+0.2
ZARC				eS	Sn	08 26 12.7	0.0
ZARC				i		08 26 19.3	
comp=Z,42nm,1.0s							
VILC	Villavicencio,	2.97	109	eP	Pn	08 25 41.3	+1.8
VILC				eS	Sn	08 26 18.4	+4.2
VILC				i		08 26 20.2	
comp=Z,66nm,0.4s							
VILC				i		08 26 20.6	
comp=Z,61nm,0.5s							
BBAC	Balboa, Cauca	3.11	194	eP	Pn	08 25 41.7	+0.2
BBAC				eS	Sn	08 26 19.4	+1.7
BBAC				i		08 26 25.3	
comp=Z,45nm,0.4s							
BRRC	Barranca, Sant	3.45	54	eP	Pn	08 25 45.8	-0.1
BRRC				eS	Sn	08 26 23.1	-2.5
BRRC				i		08 26 28.0	
comp=Z,33nm,1.0s							
CRUC	La Cruz	3.50	187	eP	Pn	08 25 47.3	+0.4
CRUC				eS	Sn	08 26 25.0	-2.5
CRUC				i		08 26 33.7	
comp=Z,32nm,0.6s							
CRUC				i		08 26 34.4	
comp=Z,28nm,0.6s							
RUSC	La Rusia	3.52	76	eP	Pn	08 25 47.5	+0.3
RUSC				eS	Sn	08 26 27.9	-0.1
RUSC				i		08 26 48.8	
comp=Z,21nm,0.9s							
FLOC	Florencia	3.57	166	eP	Pn	08 25 47.7	+0.2
FLOC				eS	Sn	08 26 27.3	-1.3
FLOC				i		08 26 56.4	
comp=Z,29nm,0.6s							
BARC	Barichara	3.65	65	eP	Pn	08 25 48.8	0.0
BARC				eS	Sn	08 26 21.4	-9.4
BARC				i		08 26 32.8	
comp=Z,59nm,0.4s							
BARC				i		08 26 49.8	
comp=Z,86nm,0.8s							
UPD2	Meteti	3.76	337	eP	Pn	08 25 51.2	+1.1
UPD2				eS	Sn	08 26 34.0	+0.7

MACC	Macarena, Meta	3.94	137	eP	Pn	08 25 51.6	-1.0
MACC				eS	Sn	08 26 35.3	-2.4
MACC				i		08 27 01.3	
comp=Z,34nm,0.5s							
AZU	Azuero	4.61	306	eP	Pn	08 26 02.2	+0.5
AZU				eS	Sn	08 26 54.4	+0.4
GUVC	San Jose del G	4.62	123	eP	Pn	08 26 01.1	-0.7
GUVC				eS	Sn	08 26 51.0	-3.3
GUVC				i		08 26 53.3	
comp=Z,23nm,0.3s							
GUVC				i		08 26 53.5	
comp=Z,23nm,0.2s							
CACAO	El Cacao, Vera	4.87	298	eS	Sn	08 26 58.5	-2.0
UPA	Univ. de Panam	4.91	323	eP	Pn	08 26 05.4	-0.3
UPA				eS	Sn	08 26 58.7	-2.5
PNME	Penonome	5.08	312	eP	Pn	08 26 08.8	+0.7
PNME				eS	Sn	08 27 00.5	-5.0
ZANG	Zanguenga, Cho	5.09	319	eP	Pn	08 26 08.7	+0.4
ZANG				eS	Sn	08 27 06.4	+0.6

*NNC **11** 08:34:18.9±2.5, 44′.25N×82′.98E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=24.0km s-min=7.5km az=120.0*
*SOME **11** 08:34:24.2, 44′.37N×82′.73E, h10km*
ISC 11 08:34:24.2±2.3,**44°44N**±0′.09×**82°8E**±0′.1,**h10**km,**n6,** σ2°**22**/**9**,**4C-2D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.12	268	eP	Pb	08 35 02.7	-0.2
DJR				eS	Sb	08 35 30.2	+0.9
3.6nm,0.1s							
MK31	Makanchi Array	2.38	352	⇓Pg	Pb	08 35 06.7	-0.4
0.9nm,0.6s,baz=167,slow=16,SNR=21							
MK31				⇑Lg	Lg	08 35 39.8	
0.5nm,0.2s,baz=168,slow=27,SNR=14							
MAKZ	Makanchi	2.43	347	⇓Pg	Pb	08 35 07.6	-0.4
2.6nm,1.2s							
MAKZ				⇑Lg	Lg	08 35 43.0	
4.5nm,1.2s							
KAPS	Kapalarasan	2.56	291	eP	Pb	08 35 11.9	+1.7
0.5nm,0.2s							
KAPS				eS	Sg	08 35 45.6	-0.7
1.7nm,0.2s							
PDGK	Podgornoye	2.60	246	⇑Pg	Pn	08 35 07.7	+1.2
0.9nm,0.5s							
PDGK				⇑Lg	Lg	08 35 44.3	
3.0nm,0.5s							
SATY	Saty	3.44	248	eP	Pb	08 35 26.1	+0.9
1.6nm,0.1s							
SATY				eS	Sg	08 36 09.8	-4.8
3.6nm,0.1s							

*ISCJB **11** 08:45:05.4±0.4, 43′.46N±0′.02×74′.81E±0′.02, h0km, Error ellipse: s-maj=3.4km s-min=2.2km az=153.6*
*KRNET **11** 08:45:05.7±0.1, 43′.46N×74′.81E, h16km, mb2.5*
*KNET **11** 08:45:06.3±0.5, 43′.42N×74′.80E, h12km±3km, ml1.4, Error ellipse: s-maj=4.1km s-min=2.7km az=35.0*
*SOME **11** 08:45:06.0, 43′.48N×74′.82E, h5km*
*NNC **11** 08:45:06.5±0.9, 43′.43N×74′.89E, h0km, mb2.9, mpv3.0, Error ellipse: s-maj=6.5km s-min=3.6km az=151.0, Suspected Mining explosion.*
ISC 11 08:45:05.3±0.8,**43°49N**±0′.02×**74°81E**±0′.02,**h0**km,**n60,** σ0°**58**/**111**,**42C-26D**,**Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	Ospenovka	0.32	226	⇑iP	Pg	08 45 11.7	+0.3
USP				⇑iS	Sg	08 45 15.9	+0.3
baz=29							
USP	Ospenovka	0.32	226	⇑P	Pg	08 45 11.8	+0.4
36nm,0.2s,SNR=84							
USP				⇑S	Sg	08 45 16.1	+0.5
285nm,0.2s							
CHMS	Chumysh	0.50	185	⇑iP	Pg	08 45 14.9	+0.2
baz=85							
CHMS				⇑iS	Sg	08 45 21.2	0.0
baz=85							
CHMS	Chumysh	0.50	185	⇓P	Pg	08 45 15.0	+0.2
4.8nm,0.1s,SNR=14							
CHMS				⇑S	Sg	08 45 21.5	+0.4
37nm,0.2s							
DGS	Degeres	0.74	109	P	Pg	08 45 19.8	+0.3
12nm,0.1s							
DGS				S	Sg	08 45 29.5	+0.4
26nm,0.2s							
DGS	Degeres	0.74	109	⇑iP	Pg	08 45 19.9	+0.4
baz=7.0							
DGS				⇓iS	Sg	08 45 29.8	+0.7
baz=7.0							
DGS	Degeres	0.74	109	⇑iP	Pg	08 45 19.9	+0.4
12nm,0.1s							
DGS				⇓iS	Sg	08 45 29.8	+0.7
26nm,0.2s							
TKM2	Tokmak 2	0.81	135	⇑P	Pg	08 45 20.3	-0.4
1.9nm,0.3s							
TKM2				⇓S	Sg	08 45 30.9	-0.3
3.4nm,0.3s							
TKM2	Tokmak 2	0.81	135	⇓iP	Pg	08 45 20.3	-0.4
baz=33							
TKM2				⇓iS	Sg	08 45 31.0	-0.3
baz=33							
TKM2	Tokmak 2	0.81	135	⇓P	Pg	08 45 20.5	-0.3
6.3nm,0.1s,SNR=33							
KBK	Karagaybulak	0.84	173	⇑iP	Pg	08 45 21.1	-0.3
baz=73							
KBK				⇑iS	Sg	08 45 32.2	-0.1
baz=73							
KBK	Karagaybulak	0.84	173	⇓P	Pg	08 45 21.7	+0.4
5.4nm,0.1s,SNR=17							
KBK				⇓S	Sg	08 45 33.2	+0.9
20nm,0.2s							
AAK	Ala-Archa	0.89	195	⇑P	Pn	08 45 25.6	+0.5
1.1nm,0.3s							
AAK				⇑S	Sg	08 45 33.9	+0.2
5.4nm,0.3s							
AAK	Ala-Archa	0.89	195	⇓iP	Pg	08 45 21.9	-0.3
baz=96							
AAK				⇓iS	Sg	08 45 33.8	+0.1
baz=96							
AAK	Ala-Archa	0.89	195	⇑P	Pg	08 45 22.6	+0.3
2.1nm,0.1s							
AAK				⇑S	Sg	08 45 34.0	+0.3
12nm,0.3s							
KST	Kastek	0.95	118	P	Pg	08 45 23.4	-0.1
11nm,0.3s							
KST				S	Sg	08 45 35.3	-0.5
20nm,0.4s							
KST	Kastek	0.95	118	⇓iP	Pg	08 45 23.6	+0.1
baz=16							

	baz=90							
UCH				⇓iS		Sg	08 45 46.0	-0.5
	baz=90							
UCH	**Uchtor**	**1.28**	**190**	⇓P		**Pg**	**08 45 29.6**	**-0.3**
	0.9nm,0.1s,SNR=8.4							
BOOM	**Boomskoye usch**	**1.30**	**140**	⇑iP		**Pg**	**08 45 29.2**	**-0.9**
	baz=39							
BOOM				⇑iS		**Sg**	**08 45 46.0**	**-1.0**
	baz=39							
KTBS	**Karatobe**	**1.37**	**80**	P		**Pg**	**08 45 31.1**	**-0.5**
KTBS	6.7nm,0.2s			S		**Sg**	**08 45 48.5**	**-0.9**
	15nm,0.4s							
KTBS	**Karatobe**	**1.37**	**80**	⇓eP		**Pg**	**08 45 31.5**	**-0.1**
KTBS	6.8nm,0.3s			⇓iS		**Sg**	**08 45 49.4**	**0.0**
	24nm,0.2s							
MRKS	**Merke**	**1.38**	**238**	P		**Pg**	**08 45 31.4**	**-0.4**
MRKS	1.1nm,0.1s			S		**Sg**	**08 45 49.0**	**-0.7**
	7.4nm,0.1s							
MRKS	**Merke**	**1.38**	**238**	eP		**Pg**	**08 45 31.0**	**-0.8**
MRKS	baz=39			eS		**Sg**	**08 45 49.0**	**-0.7**
	baz=39							
MRKS	**Merke**	**1.38**	**238**	eP		**Pg**	**08 45 31.0**	**-0.8**
MRKS	1.2nm,0.1s			eS		**Sg**	**08 45 49.0**	**-0.7**
	7.9nm,0.2s							
IZV	**Izvestkoviy**	**1.39**	**109**	P		**Pn**	**08 45 32.1**	**0.0**
IZV	9.3nm,0.2s			S		**Sb**	**08 45 50.4**	**-0.2**
	24nm,0.2s							
IZV	**Izvestkoviy**	**1.39**	**109**	⇑iP		**Pg**	**08 45 31.7**	**-0.2**
IZV	baz=7.0			⇓iS		**Sb**	**08 45 50.3**	**-0.3**
	baz=7.0							
IZV	**Izvestkoviy**	**1.39**	**109**	⇑iP		**Pg**	**08 45 31.7**	**-0.2**
IZV	9.1nm,0.1s			⇓iS		**Sb**	**08 45 50.2**	**-0.3**
	24nm,0.1s							
KZA	**Kyzart**	**1.45**	**167**	⇓P		**Pg**	**08 45 32.8**	**-0.2**
	2.8nm,0.1s,SNR=13							
AML	**Almayashu**	**1.59**	**212**	⇑iP		**Pn**	**08 45 34.8**	**-0.3**
AML	baz=12			⇑iS		**Sg**	**08 45 55.5**	**-0.9**
	baz=12							
CHKK	**Chushkaly**	**1.62**	**76**	P		**Pb**	**08 45 35.9**	**-0.2**
CHKK	2.6nm,0.3s			S		**Sb**	**08 45 57.0**	**0.0**
	20nm,0.2s							
CHKK	**Chushkaly**	**1.62**	**76**	⇑iP		**Pb**	**08 45 35.8**	**-0.2**
CHKK	baz=75			⇑iS		**Sg**	**08 45 57.1**	**-0.1**
	baz=75							
CHKK	**Chushkaly**	**1.62**	**76**	⇑iP		**Pb**	**08 45 35.8**	**-0.2**
CHKK	2.7nm,0.3s			⇑iS		**Sg**	**08 45 57.1**	**-0.1**
	20nm,0.2s							
TNSS	**Tian-Shan**	**1.62**	**106**	P		**Pn**	**08 45 35.6**	**+0.1**
TNSS	3.6nm,0.0s			S		**Sn**	**08 45 56.2**	**-1.1**
	14nm,0.0s							
BTLS	**Baital**	**1.64**	**341**	⇑iP		**Pb**	**08 45 36.4**	**-0.1**
BTLS	baz=41			⇑eS		**Sg**	**08 45 58.4**	**+0.3**
	baz=41							
BTLS	**Baital**	**1.64**	**341**	⇑iP		**Pb**	**08 45 36.4**	**-0.1**
BTLS	1.6nm,0.2s			eS		**Sg**	**08 45 58.4**	**+0.3**
	19nm,0.3s							
MDOK	**Medeo**	**1.66**	**101**	P		**Pn**	**08 45 35.9**	**+0.1**
MDOK	2.3nm,0.4s			S		**Sn**	**08 45 58.1**	**+0.1**
	5.8nm,0.6s							
MDOK	**Medeo**	**1.66**	**101**	eP		**Pb**	**08 45 36.5**	**-0.3**
MDOK	baz=0.0			eS		**Sb**	**08 45 58.5**	**+0.1**
	baz=0.0							
MDOK	**Medeo**	**1.66**	**101**	eP		**Pb**	**08 45 36.5**	**-0.3**
MDOK	2.8nm,0.2s			eS		**Sb**	**08 45 58.5**	**+0.1**
	8.1nm,0.3s							
ARLS	**Aral**	**1.67**	**193**	⇑iP		**Pn**	**08 45 35.0**	**-0.9**
ARLS	baz=93			⇑iS		**Sn**	**08 45 57.7**	**-0.4**
	baz=93							
KOTS	**Kotyrbulak**	**1.69**	**98**	eP		**Pb**	**08 45 37.3**	**-0.1**
KOTS	baz=97			eS		**Sg**	**08 45 59.6**	**-0.1**
	baz=97							
KOTS	**Kotyrbulak**	**1.69**	**98**	eP		**Pb**	**08 45 37.3**	**-0.1**
KOTS	9.2nm,0.3s			eS		**Sg**	**08 45 59.6**	**-0.1**
	30nm,0.4s							
ANVS	**Anan'yevo**	**2.21**	**108**	⇑iP		**Pn**	**08 45 43.9**	**+0.6**
ANVS	baz=7.0			⇑iS		**Sn**	**08 46 11.8**	**+0.4**
	baz=7.0							
KDJ	**Kajisay**	**2.21**	**127**	⇑iP		**Pn**	**08 45 43.9**	**+0.5**
KDJ	baz=26			⇑iS		**Sn**	**08 46 11.9**	**+0.4**
	baz=26							
NRN	**Naryn**	**2.24**	**157**	⇑iP		**Pn**	**08 45 44.6**	**+0.7**
NRN	baz=57			⇑iS		**Sn**	**08 46 12.9**	**+0.5**
	baz=57							
ARXS	**Arharly**	**2.29**	**71**	Pg		**Pb**	**08 45 47.6**	**0.0**
ARXS	1.0nm,0.2s			Lg		Lg	08 46 17.0	
	7.3nm,0.2s							
ARXS	**Arharly**	**2.29**	**71**	eP		**Pb**	**08 45 47.1**	**-0.5**
ARXS	1.0nm,0.2s			eS		**Sb**	**08 46 16.3**	**-0.3**
	7.3nm,0.2s							
KPKS	**Kokpek**	**2.82**	**89**	eP		**Pb**	**08 45 56.9**	**+0.4**
KPKS	4.4nm,0.2s			eS		**Sb**	**08 46 33.3**	**+1.8**
	11nm,0.2s							
KK31	**Karatay Array**	**3.17**	**264**	⇑Pg		**Pg**	**08 46 07.0**	**+1.1**
KK31	0.4nm,0.5s,baz=82,slow=16,SNR=5.0			⇓Lg		Lg	08 46 47.9	
	0.5nm,0.2s,baz=78,slow=29,SNR=10							
PDGK	**Podgornoye**	**3.41**	**91**	⇑Lg		Lg	08 46 53.4	
	2.2nm,0.6s							
KAPS	**Kapalarasan**	**3.72**	**60**	Pg		**Pb**	**08 46 11.8**	**0.0**
KAPS	1.1nm,0.2s			Lg		Lg	08 46 58.5	
	1.3nm,0.2s							
KAPS	**Kapalarasan**	**3.72**	**60**	eP		**Pb**	**08 46 13.3**	**+1.5**
KAPS	1.1nm,0.2s			eS		**Sg**	**08 47 01.4**	**-3.3**
	1.5nm,0.2s							

*NEIC **11** 08:47:44.3±1.1, 51°.26N±0°.02×174°.13W±0°.08, h9km±6km*

AEIC 11 08:47:44.3±1.1, 51°.31N±0°.06×174°.12W±0°.07, h2km±6km, mb3.8/11(NEIC), Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.97**	**1**		Pb	08 48 04.1	+0.2
KOKL	**Mount Kliuchef**	**1.02**	**357**		Pb	08 48 04.8	+0.1
KOKL					Sb	08 48 18.4	-0.2
KOSE	**Korovin Southe**	**1.04**	**2**		Pb	08 48 05.3	+0.2
GSMY	**Great Sitkin M**	**1.42**	**302**		Pn	08 48 10.2	-0.9
GSTR	**Great Sitkin T**	**1.44**	**304**	Pn	Pn	08 48 11.3	-0.2
GSTR				Sn	Sg	08 48 30.7	0.0
GSTD	**Great Sitkin T**	**1.47**	**301**		Pn	08 48 11.2	-0.8
GSTD					Sg	08 48 31.2	-0.3
ADAG	**Mount Adagdak**	**1.69**	**294**		Pb	08 48 15.6	-0.5
ADK	**Adak**	**1.70**	**291**	Pn	Pn	08 48 14.6	-0.4
ADK				Sn	Sn	08 48 37.1	-0.3
KIWB	**Kanaga Island**	**1.97**	**287**		Pn	08 48 18.5	-0.2
KIWB				Sn	Sn	08 48 43.4	-0.6
TAFP	**Tanaga Falls P**	**2.48**	**285**		Pn	08 48 27.2	+1.4
TAFP					Sb	08 48 59.3	-1.4
TASE	**Tanaga Southea**	**2.50**	**284**		Pn	08 48 27.8	+1.7
UNV	**Unalaska Valle**	**5.29**	**58**	Pn	Pn	08 49 05.0	+0.7
UNV				Sn	Sn	08 50 05.7	-0.2
GHO	**Glory Hole Cre**	**17.27**	**43**	Pn	Pn	08 51 45.7	-0.8
GHO				IAmb	IAmb	08 51 53.9	
	comp=Z,8.4nm,1.0s						
SCM	**Sheep Creek Mo**	**17.99**	**44**	Pn	Pn	08 51 53.2	-2.2
SCM				IAmb	IAmb	08 51 59.4	
	comp=Z,16nm,1.4s						
RND	**Reindeer**	**18.08**	**38**		Pn	08 51 56.0	-0.4
RND				IAmb	IAmb	08 52 06.4	
	comp=Z,6.6nm,1.2s						
MCK	**McKinley**	**18.21**	**37**		Pn	08 51 57.4	-0.6
MCK				IAmb	IAmb	08 52 10.7	
	comp=Z,7.1nm,1.3s						
MLY	**Manley**	**18.30**	**32**	P	P	08 51 59.4	0.0
WRH	**Wood River Hil**	**18.92**	**36**	P	P	08 52 05.3	-0.8
WRH				IAmb	IAmb	08 52 17.4	
	comp=Z,6.4nm,1.4s						
HDA	**Harding Lake**	**19.31**	**37**	P	P	08 52 08.9	-1.4
HDA				IAmb	IAmb	08 52 09.4	
	comp=Z,7.2nm,1.2s						
ILAR	**Eielson Array**	**19.52**	**36**	P	P	08 52 11.9	-0.7
DOT	**Dot Lake**	**20.10**	**41**	P	P	08 52 16.6	-2.4
DOT				IAmb	IAmb	08 52 25.3	
	comp=Z,6.5nm,1.3s						
SCRK	**Sand Creek**	**20.26**	**40**	P	P	08 52 18.8	-2.1
BCAR	**Beaver Creek A**	**20.84**	**43**	P	P	08 52 26.3	-0.8
BCPM	**Bancas Point**	**21.08**	**52**	P	P	08 52 30.6	+1.0
PGC	**Sidney**	**32.17**	**74**	P	P	08 54 12.0	-1.1
KURK	**Kurchatov**	**61.15**	**316**	P	P	08 57 58.8	-1.1
ABKAR	**Akbulak array**	**69.71**	**326**	P	P	08 58 54.4	-0.9

BUC 11 08:58:52.2±0.3, 45°.94N×22°.71E, h6km±4km, ml1.4/3, 16C-4D, Error ellipse: s-maj=3.8km s-min=1.9km az=93.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.55**	**175**	⇑P	Pg	08 59 02.4	-0.4
GZR				⇑S	Sg	08 59 10.0	+0.2
GZR	**Gura Zlata**	**0.55**	**175**	⇑P	Pg	08 59 02.4	-0.4
GZR				⇑S	Sg	08 59 10.0	+0.2
GZR				AML	AML	08 59 10.5	
BZS	**Buzias**	**0.83**	**248**	⇓P	Pg	08 59 07.8	-0.3
BZS				⇓S	Sg	08 59 18.7	-0.1
BZS	**Buzias**	**0.83**	**248**	⇓P	Pg	08 59 07.8	-0.3
BZS				⇓S	Sg	08 59 18.7	-0.1
DRGR		**0.86**	**0**	⇑P	Pb	08 59 09.5	-0.1
DRGR				⇑S	Sg	08 59 20.2	+0.4
DRGR		**0.86**	**0**	⇑P	Pb	08 59 09.5	-0.1
DRGR				⇑S	Sg	08 59 20.2	+0.4
HERR	**Herculane**	**1.07**	**191**	⇑P	Pn	08 59 13.8	0.0
HERR				⇑S	Sb	08 59 28.2	+0.7
HERR	**Herculane**	**1.07**	**191**	⇑P	Pn	08 59 13.8	0.0
HERR				⇑S	Sb	08 59 28.2	+0.7
HERR				AML	AML	08 59 32.8	
VOIR		**1.72**	**106**	⇑P	Pn	08 59 22.9	+0.2
VOIR				⇑S	Sb	08 59 45.6	-0.5
VOIR		**1.72**	**106**	⇑P	Pn	08 59 22.9	+0.2
VOIR				⇑S	Sb	08 59 45.6	-0.5
VOIR				AML	AML	08 59 54.6	

*KRAR **11** 09:01:38.2±0.1, 53°.46N×87°.22E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **11** 09:01:45.2±2.8, 53°.48N×87°.53E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=21.2km s-min=10.7km az=66.0, Suspected Mining explosion.*

IDC 11 09:01:43.6±2.9, 53°.55N×87°.82E, h0km, mb1 3.2/2, mb1mx3.0/43, mbtmp3.2/2, ML2.9/2, 8C-3D, Error ellipse: s-maj=24.8km s-min=16.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.82**	**284**	⇓Pg	Pn	09 02 15.0	-1.1
	0.6nm,0.5s						
ZAA0				⇑Lg	Lg	09 02 39.9	
	2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**1.82**	**284**	Pn	Pn	09 02 15.6	-0.6
	2.3nm,0.3s,baz=106,slow=15,SNR=19						
ZALV				Lg	Lg	09 02 41.9	
	3.7nm,0.3s,baz=106,slow=26,SNR=5.1						
KURK	**Kurchatov**	**6.33**	**247**	⇑Pn	Pn	09 03 18.0	-0.2
	4.4nm,1.4s						
KURK				⇑Sn	Sn	09 04 28.2	-2.9
	2.4nm,0.7s						
KURK				⇑Lg	Lg	09 05 00.5	
	8.4nm,1.3s						
KURBB	**Kurchatov Arra**	**6.43**	**247**	⇑Pn	Pn	09 03 19.6	+0.1
	4.2nm,0.7s,baz=63,slow=14						
KURBB				⇓Sn	Sn	09 04 31.7	-1.8
	6.3nm,0.6s						
KURBB				⇑Lg	Lg	09 05 05.0	
	7.4nm,0.7s,baz=58,slow=31						
KURBB	**Kurchatov Arra**	**6.43**	**247**	Pn	Pn	09 03 19.9	+0.5
	0.3nm,0.3s,baz=62,slow=14,SNR=11						
KURBB				Sn	Sn	09 04 32.4	-1.1
	0.1nm,0.3s,baz=54,slow=29,SNR=4.6						
KURBB				Lg	Lg	09 05 08.0	
	0.1nm,0.3s,baz=56,slow=31,SNR=8.1						
MK31	**Makanchi Array**	**7.64**	**210**	⇑Pn	Pn	09 03 37.2	+1.2
	2.7nm,1.0s,baz=274,slow=55,SNR=6.3						
MK31				⇑Sn	Sn	09 05 01.9	-1.3
	1.1nm,0.7s,baz=32,slow=26,SNR=3.6						
MK31				⇓Lg	Lg	09 05 41.4	
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	09 03 37.2	+1.1
	0.2nm,0.3s,baz=28,slow=13,SNR=5.7						
MKAR				Sn	Sn	09 05 04.2	+0.9
	0.2nm,0.3s,baz=30,slow=27,SNR=7.3						
MKAR				Lg	Lg	09 05 44.1	
	0.2nm,0.3s,baz=32,slow=28,SNR=5.5						
I34MN	**SONGINO INFRAS**	**13.10**	**109**	*i*		10 21 20.0	
	baz=303,slow=320,SNR=1.7						

*IDC **11** 09:07:23.6±4.1, 10°.50S×107°.32E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.7/4, Error ellipse: s-maj=166.4km s-min=28.5km az=46.0*
*DJA **11** 09:07:25.2±0.9, 10°.S±10°×10°.7E±°, h10km, M4.3/6, MLv4.3/6*
*ISCJB **11** 09:07:27.1±1.2, 10°.00S±0°.09×107°.73E±0°.08, h23km, mb3.7/4, Error ellipse: s-maj=14.5km s-min=10.5km az=29.1*

ISC 11 09:07:29.4±1.5, 10°.0S±0°.1×107°.71E±0°.10, h23km, n10, σ1°22/12, mb4.0/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**2.28**	**19**	P	**Pn**	**09 08 05.4**	**-0.2**
CISI	**Cisompet, Garu**	**2.38**	**2**	P	**Pn**	**09 08 06.6**	**-0.5**
LEM	**Lembang**	**3.11**	**358**	P	**Pn**	**09 08 18.6**	**+1.4**
SKJI	**Sukabumi**	**3.15**	**339**	P	**Pn**	**09 08 15.9**	**-1.6**
SKJI				S	**Sn**	**09 08 54.0**	**-0.4**
UGM	**Wanagama**	**3.44**	**54**	P	**Pn**	**09 08 22.1**	**+0.5**
UGM				S	**Sn**	**09 09 00.1**	**-1.6**
WRA	**Warramunga Arr**	**27.54**	**114**	P	**P**	**09 13 13.1**	**-1.6**
	0.5nm,0.8s,baz=282,slow=11,SNR=3.3						
SONM	**Songino Array**	**57.54**	**359**	P	**P**	**09 17 18.7**	**+1.5**
	0.8nm,0.6s,baz=184,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**60.89**	**340**	P	**P**	**09 17 40.8**	**+0.6**
	0.5nm,0.5s,baz=141,slow=8.7,SNR=5.1						
KURBB	**Kurchatov Arra**	**65.45**	**340**	P	**P**	**09 18 10.1**	**-0.3**
	0.4nm,0.3s,baz=157,slow=5.2,SNR=4.4						
TXAR	**Lajitas Array**	**144.89**	**52**	PKPbc	**PKPbc**	**09 27 05.2**	**+0.6**
	0.2nm,0.8s,baz=285,slow=2.5,SNR=4.6						

*NNC **11** 09:13:21.1±5.1, 36°.87N×71°.07E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=40.8km s-min=32.8km az=163.0*

ISC 11 09:13:20.4±1.3, 36°.47N±0°.09×71°.5E±0°.1, h200km, n13, σ2°25/17, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.59**	**20**	P	**Pn**	**09 14 56.2**	**+0.9**
	3.5nm,0.8s						
AAK				S	**Sn**	**09 16 08.3**	**-2.3**
	3.8nm,0.7s						
KK31	**Karatay Array**	**6.67**	**354**	P	**Pn**	**09 14 56.3**	**+0.1**
	3.5nm,0.3s,baz=179,slow=13,SNR=37						
KK31				⇑S	**Sn**	**09 16 08.0**	**-4.2**
	1.3nm,0.3s,baz=177,slow=22,SNR=5.2						
TKM2	**Tokmak 2**	**7.18**	**25**	⇑P	**Pn**	**09 15 02.6**	**-0.6**
	2.0nm,0.6s						
TKM2				⇓S	**Sn**	**09 16 27.8**	**+3.1**
	1.7nm,0.8s						
DANN	**Dangsing**	**13.16**	**124**	eP	**Pn**	**09 16 19.2**	**-1.0**
	7.3nm,0.3s						
KOLN	**Koldanda**	**13.44**	**127**	eP	**Pn**	**09 16 23.1**	**-0.6**
	6.8nm,0.4s						
GKN	**Gorkha**	**13.97**	**123**	eP	**P**	**09 16 30.3**	**-1.8**
	9.9nm,0.3s						
DMN	**Daman**	**14.54**	**124**	eP	**P**	**09 16 37.6**	**-0.9**
	3.2nm,0.3s						
KKN	**Kakani**	**14.54**	**123**	eP	**P**	**09 16 37.1**	**-1.4**
PKIN	**Phulchoki**	**14.76**	**123**	eP	**P**	**09 16 40.7**	**-0.2**
	4.2nm,0.4s						
PKI	**Pulchoki**	**14.77**	**123**	eP	**P**	**09 16 40.9**	**-0.2**
	4.3nm,0.4s						
JIRN	**Jiri**	**15.25**	**121**	eP	**P**	**09 16 46.4**	**-0.1**
	9.7nm,0.4s						
AB31	**Akbulak array**	**15.29**	**330**	P	**P**	**09 16 51.0**	**+4.7**
	0.6nm,0.3s,baz=138,slow=13,SNR=27						
AB31				⇑S	**S**	**09 19 33.8**	**-1.8**
	0.8nm,0.6s						
TAPN	**Taplejung**	**16.50**	**119**	eP	**Pn**	**09 17 03.2**	**+2.1**
	5.5nm,0.4s						

*ISCJB **11** 09:13:39.9±0.5, 42°.69N±0°.03×75°.70E±0°.03, h0km, Error ellipse: s-maj=4.3km s-min=3.0km az=159.2*
*NNC **11** 09:13:40.0±0.4, 42°.69N×75°.69E, h0km, mb2.7, mpv2.8, Error ellipse: s-maj=2.3km s-min=1.6km az=179.0, Suspected Mining explosion.*
*KNET **11** 09:13:40.3±0.2, 42°.68N×75°.68E, h0km, ml1.3, Error ellipse: s-maj=2.6km s-min=1.4km az=35.0*
*SOME **11** 09:13:40.7, 42°.73N×75°.68E*

ISC 11 09:13:40.3±0.9, 42°.70N±0°.03×75°.71E±0°.02, h0km, n19, σ0°56/31, 7C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**341**	⇑P	**Pg**	**09 13 45.1**	**+0.2**
	3.6nm,0.2s						
TKM2				⇑S	**Sg**	**09 13 48.4**	**+0.4**
	15nm,0.2s						
TKM2	**Tokmak 2**	**0.24**	**341**	⇑P	**Pg**	**09 13 45.2**	**+0.4**
	17nm,0.1s,SNR=21						
TKM2				⇓S	**Sg**	**09 13 49.9**	**+1.9**
	65nm,0.2s						
DGS	**Degeres**	**0.55**	**5**	P	**Pg**	**09 13 51.0**	**+0.2**
	2.7nm,0.2s						
DGS				S	**Sg**	**09 13 58.5**	**+0.6**
	7.7nm,0.2s						
KBK	**Karagaybulak**	**0.56**	**266**	⇓P	**Pg**	**09 13 51.2**	**+0.2**
	5.2nm,0.1s,SNR=10						
ULHL	**Ulahol**	**0.60**	**138**	⇓P	**Pg**	**09 13 52.1**	**+0.3**
	3.1nm,0.1s						
ULHL				⇓S	**Sg**	**09 14 00.6**	**+1.1**
	4.5nm,0.1s						
MTBS	**Maitube**	**0.69**	**51**	P	**Pg**	**09 13 53.7**	**+0.2**
	7.5nm,0.2s						
MTBS				S	**Sg**	**09 14 02.8**	**+0.4**
	9.5nm,0.3s						
KZA	**Kyzart**	**0.70**	**209**	⇑P	**Pg**	**09 13 54.0**	**+0.2**
	6.3nm,0.2s,SNR=12						
IZV	**Izvestkoviy**	**0.75**	**63**	P	**Pg**	**09 13 54.4**	**-0.3**
	7.3nm,0.1s						
IZV				S	**Sg**	**09 14 03.9**	**-0.4**
	12nm,0.3s						
AAK	**Ala-Archa**	**0.90**	**267**	P	**Pg**	**09 13 57.5**	**0.0**
	1.1nm,0.5s						
AAK				⇓S	**Sg**	**09 14 09.1**	**+0.1**
	1.1nm,0.3s						
AAK	**Ala-Archa**	**0.90**	**267**	⇓P	**Pg**	**09 13 56.9**	**-0.5**
	2.6nm,0.2s,SNR=5.8						
USP	**Ospenovka**	**1.05**	**303**	⇓P	**Pg**	**09 13 60.0**	**-0.5**
	1.4nm,0.1s,SNR=8.7						
KNDC	**Almaty**	**1.06**	**60**	⇑P	**Pg**	**09 14 00.3**	**-0.4**
	23nm,0.3s						
KNDC				⇑S	**Sg**	**09 14 14.8**	**+0.4**
	47nm,0.3s						
MDOK	**Medeo**	**1.09**	**64**	P	**Pg**	**09 14 01.1**	**-0.1**
	3.4nm,0.4s						
MDOK				S	**Sb**	**09 14 17.4**	**+0.4**
	1.9nm,0.2s						
KTBS	**Karatobe**	**1.24**	**35**	P	**Pg**	**09 14 03.9**	**-0.2**
	4.3nm,0.1s						
KTBS				S	**Sg**	**09 14 20.4**	**+0.2**
	1.7nm,0.2s						
EKS2	**Erkin-Say**	**1.42**	**269**	⇓P	**Pn**	**09 14 07.4**	**-0.1**
	5.9nm,0.2s,SNR=28						
CHKK	**Chushkaly**	**1.49**	**39**	P	**Pg**	**09 14 08.9**	**0.0**
	2.1nm,0.2s						
CHKK				S	**Sn**	**09 14 29.0**	**+0.4**
	5.6nm,0.2s						
MRKS	**Merke**	**1.83**	**272**	P	**Pn**	**09 14 13.2**	**+0.2**
	5.5nm,0.2s						
MRKS				S	**Sn**	**09 14 36.4**	**-0.6**
	5.3nm,0.2s						
ARXS	**Arharly**	**2.17**	**45**	Pg	**Pb**	**09 14 19.7**	**-0.7**
	1.6nm,0.1s						
ARXS				Lg	Lg	09 14 47.6	
	4.1nm,0.3s						
PDGK	**Podgornoye**	**2.85**	**76**	⇑Pg	**Pb**	**09 14 31.5**	**-0.6**
	1.0nm,0.5s						
PDGK				⇓Lg	Lg	09 15 11.7	
	1.4nm,0.5s						

IDC 11 09:21:56.3±2.1, 6°.12S×130°.59E, h160km±30km, mb3.4/1, mb1 3.4/5, mb1mx3.1/53, mbtmp3.8/5, Error ellipse: s-maj=64.0km s-min=16.1km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.25**	**7**	P	Pn	09 23 14.7	+1.4
	5.6nm,0.3s,baz=212,slow=22,SNR=58						
SIJI				S	Sn	09 24 13.3	-0.2
	6.0nm,0.3s,baz=203,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**12.86**	**202**	P	Pn	09 24 51.8	-1.5
	0.1nm,0.3s,baz=45,slow=11,SNR=7.1						
FITZ				S	Sn	09 27 03.5	-12
	0.5nm,0.3s,baz=132,slow=21,SNR=7.3						
WRA	**Warramunga Arr**	**14.22**	**166**	P	Pn	09 25 09.1	-1.5
	0.4nm,0.3s,baz=347,slow=12,SNR=21						
WRA				S	Sn	09 27 38.8	-10
	0.6nm,0.3s,baz=333,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**17.74**	**170**	P	Pn	09 25 53.6	+0.1
	0.5nm,0.3s,baz=352,slow=9.7,SNR=41						
ASAR				S	S	09 29 06.9	-1.2
	0.1nm,0.3s,baz=352,slow=27,SNR=5.2						
MKAR	**Makanchi Array**	**67.82**	**326**	P	P	09 32 37.0	0.0
	0.4nm,0.3s,baz=109,slow=7.9,SNR=5.4						

*DJA **11** 09:21:59.7±2.3, 6°N±7°×12°5E±°, h24km±27km, M4.7/7, mb4.8/4, mB5.3/4, MLv4.6/7, Mw(mB)4.7/4*
*MAN **11** 09:22:01.2, 5°.07N×125°.42E, h96km, mb4.7, ML3.5, MS3.4*
*ISCJB **11** 09:22:07.9±0.6, 5°.38N±0°.03×125°.15E±0°.07, h33km, Error ellipse: s-maj=9.8km s-min=4.9km az=176.4*

ISC 11 09:22:08.2±1.3, 5°.42N±0°.04×125°.25E±0°.06, h35km, n11, σ2°70/20, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.72**	**336**	⇑iP	**Pn**	**09 22 21.5**	**-0.6**
GSPH				*i* S	**Sn**	**09 22 30.8**	**-1.2**
DDMP	**Don Marcelino,**	**0.82**	**34**	eP	**Pn**	**09 22 23.4**	**+0.2**
DDMP			

*NEIC **11** 09:23:31.0±1.4, 14°.56N±0°.07×147°.14E±0°.08, h38km±7km, mb4.7/12*
*IDC **11** 09:23:31.8±0.5, 14°.54N×147°.11E, h51km±4km, mb3.9/16, mb1 4.0/17, mb1mx3.7/62, mbtmp4.1/17, MS3.3/6, Ms1 3.3/6, ms1mx2.9/34, Error ellipse: s-maj=12.5km s-min=9.5km az=118.0*
ISC 11 09:23:32.0±0.5, 14°.54N±0°.06×147°.09E±0°.09, h50km, n54, σ1§20/56, mb4.4/20, MS3.5/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.23**	**324**		**Pn**	**09 24 06.4**	**-0.2**
ANA2				Sn	**Sn**	**09 24 32.6**	**-0.3**
GUMO	**Guam**	**2.35**	**247**	P	**Pn**	**09 24 06.7**	**-1.5**
	54nm,0.3s,baz=120,slow=5.4,SNR=24						
GUMO				S	**Sn**	**09 24 36.5**	**+0.7**
	70nm,0.3s,baz=192,slow=22,SNR=4.4						
GUMO	**Guam**	**2.35**	**247**		**Pn**	**09 24 07.0**	**-1.2**
SARN	**Sarigan**	**2.49**	**330**		**Pn**	**09 24 09.3**	**-0.9**
KRVT	**Keravat (AS076**	**19.35**	**165**	LR	LR	09 34 26.7	
	comp=Z,53nm,19.2s,baz=351,slow=34						
H11N1	**WAKE ISLAND Hy**	**19.61**	**72**	T	T	09 47 17.8	
	baz=258,slow=73,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**19.62**	**72**	T	T	09 47 30.6	
	baz=258,slow=73,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**19.63**	**72**	T	T	09 47 26.2	
	baz=258,slow=73,SNR=7.3						
FAKI	**Fak Fak**	**22.74**	**221**	P	**P**	**09 28 31.1**	**+1.0**
MJAR	**Matsushiro Arr**	**23.31**	**342**	P	**P**	**09 28 33.5**	**-2.1**
	1.5nm,0.7s,baz=153,slow=8.2,SNR=4.8						
MJAR				pP	**pP**	**09 28 45.7**	**-0.4**
	1.6nm,0.6s,baz=139,slow=9.7,SNR=2.4						
JNU	**Nakatsue**	**23.65**	**324**	P	**P**	**09 28 37.6**	**-1.4**
	14nm,1.0s,baz=140,slow=7.9,SNR=3.7						
JNU				pP	**pP**	**09 28 51.0**	**+1.1**
	14nm,0.9s,baz=146,slow=6.0,SNR=3.4						
JNU				LR	LR	09 36 15.0	
	comp=Z,42nm,21.2s,baz=148,slow=32						
JNU	**Nakatsue**	**23.65**	**324**	P	**P**	**09 28 37.8**	**-1.2**
JNU				IAmb	IAmb	09 28 52.3	
	comp=Z,26nm,1.1s						
PMG	**Port Moresby**	**23.79**	**180**	P	**P**	**09 28 39.5**	**-0.8**
	comp=Z,34nm,1.2s,baz=340,slow=15,SNR=2.9						
PMG				pP	**pP**	**09 28 52.5**	**+2.3**
	comp=Z,24nm,0.8s,baz=349,slow=5.5,SNR=5.2						
KSRS	**Korea Array**	**28.48**	**327**	P	**P**	**09 29 21.2**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=148,slow=8.9,SNR=4.8						
WRA	**Warramunga Arr**	**36.49**	**200**	P	**P**	**09 30 31.8**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=23,slow=9.5,SNR=6.8						
WRA				pP	**sP**	**09 30 46.9**	**-1.7**
	comp=Z,2.0nm,0.5s,baz=26,slow=9.5,SNR=8.0						
KLR	**Kul'dur**	**36.81**	**343**	P	**P**	**09 30 33.9**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=312,slow=24,SNR=5.4						
KLR				pP	**pP**	**09 30 48.2**	**+1.9**
	comp=Z,2.1nm,0.6s,baz=150,slow=12,SNR=3.0						
PETK	**Petropavlovsk-**	**39.39**	**10**	LR	LR	09 45 34.5	
	comp=Z,68nm,19.9s,baz=240,slow=34						
ASAR	**Alice Springs**	**40.10**	**199**	P	**P**	**09 31 02.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=25,slow=7.9,SNR=5.4						
ASAR				pP	**pP**	**09 31 14.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=27,slow=8.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**46.22**	**282**	P	**P**	**09 31 53.6**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=80,slow=6.7,SNR=7.0						
CMAR				LR	LR	09 50 53.0	
	comp=Z,18nm,19.2s,baz=341,slow=36						
STKA	**Stephens Creek**	**46.45**	**186**	pP	pP	09 32 08.8	+3.6
	comp=Z,1.9nm,0.5s,baz=360,slow=12,SNR=1.8						
SONM	**Songino Array**	**47.23**	**323**	P	**P**	**09 31 59.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=129,slow=6.3,SNR=6.8						
SONM				pP	**pP**	**09 32 14.1**	**+2.4**
	comp=Z,2.9nm,0.7s,baz=143,slow=12,SNR=8.5						
SONM	**Songino Array**	**47.23**	**323**	P	**P**	**09 31 59.7**	**-0.5**
SEY	**Seymchan**	**48.48**	**3**	pP	pP	09 32 24.2	+3.2
	comp=Z,6.0nm,1.0s,baz=181,slow=9.9,SNR=2.0						
NIUE	**Niue**	**53.92**	**127**	P	**P**	**09 32 50.7**	**-0.1**
TAPN	**Taplejung**	**56.44**	**293**	*e*P	**P**	**09 33 11.1**	**+1.7**
RAMN	**Ramite**	**57.43**	**293**	*e*P	**P**	**09 33 15.8**	**-0.6**
JIRN	**Jiri**	**57.79**	**294**	*e*P	**P**	**09 33 20.0**	**+1.0**
GUN	**Gumba**	**58.07**	**294**	*e*P	**P**	**09 33 22.0**	**+1.1**
PKI	**Pulchoki**	**58.49**	**294**	*e*P	**P**	**09 33 24.3**	**+0.5**
PKIN	**Phulchoki**	**58.50**	**294**	*e*P	**P**	**09 33 24.6**	**+0.8**
	comp=Z,5.9nm,0.6s						
DMN	**Daman**	**58.76**	**294**	*e*P	**P**	**09 33 26.7**	**+1.1**
DANN	**Dangsing**	**59.93**	**294**	*e*P	**P**	**09 33 36.7**	**+2.9**
	comp=Z,31nm,0.8s						
KOLN	**Koldanda**	**60.09**	**294**	*e*P	**P**	**09 33 35.2**	**+0.4**
ZALV	**Zalesovo Beam**	**62.12**	**324**	P	**P**	**09 33 47.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=178,slow=5.5,SNR=2.9						
ZALV				pP	**sP**	**09 34 02.9**	**-2.0**
	comp=Z,1.6nm,0.5s,baz=96,slow=6.2,SNR=3.6						
MK31	**Makanchi Array**	**62.32**	**315**	P	**P**	**09 33 49.9**	**+0.5**
MK31				IAmb	IAmb	09 34 06.2	
	comp=Z,3.2nm,0.5s						
MKAR	**Makanchi Array**	**62.32**	**315**	P	**P**	**09 33 49.9**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=91,slow=8.3,SNR=32						
MKAR				pP	**sP**	**09 34 04.1**	**-2.2**
	comp=Z,3.4nm,0.4s,baz=90,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**62.32**	**315**	P	**P**	**09 33 49.7**	**+0.4**
PMR	**Palmer**	**64.94**	**28**	P	**P**	**09 34 06.2**	**0.0**
GHO	**Glory Hole Cre**	**65.08**	**28**	P	**P**	**09 34 07.7**	**+0.4**
KURK	**Kurchatov**	**65.26**	**319**	P	**P**	**09 34 08.8**	**+0.3**
KURK				IAmb	IAmb	09 34 25.3	
	comp=Z,8.2nm,1.0s						
KURBB	**Kurchatov Arra**	**65.30**	**319**	P	**P**	**09 34 09.1**	**+0.3**
	comp=Z,3.5nm,0.4s,baz=99,slow=6.8,SNR=18						
GLI	**Glacier Island**	**65.69**	**29**	P	**P**	**09 34 11.6**	**+0.4**
ILAR	**Eielson Array**	**66.80**	**25**	P	**P**	**09 34 16.9**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=269,slow=5.4,SNR=2.9						
ILAR	**Eielson Array**	**66.80**	**25**	P	**P**	**09 34 17.5**	**-0.6**
PPT	**Papeete**	**70.14**	**115**	LR	LR	09 59 46.8	
	comp=Z,50nm,21.3s,baz=331,slow=31						
BVAR	**Borovoye Array**	**70.53**	**321**	P	**P**	**09 34 41.5**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=54,slow=10,SNR=9.5						
NVAR	**Mina Array Bea**	**84.65**	**52**	P	**P**	**09 36 00.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=278,slow=6.3,SNR=3.2						
NVAR				pP	**pP**	**09 36 14.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=262,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**91.20**	**336**	P	**P**	**09 36 32.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=60,slow=8.2,SNR=2.4						
FINES				pP	**pP**	**09 36 45.5**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=40,slow=3.2,SNR=1.3						
BRTR	**Keskin Array B**	**97.95**	**314**	LR	LR	10 24 54.1	
	comp=Z,15nm,19.0s,baz=327,slow=38						
DBIC	**Dimbokro**	**145.09**	**305**	PKPbc	**PKPbc**	**09 43 03.7**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=135,slow=7.1,SNR=2.5						
DBIC				pPKPbc	**pPKPdf**	**09 43 19.4**	**+1.7**
	comp=Z,4.8nm,0.7s,baz=52,slow=5.4,SNR=3.3						
KIC	**Kosan Boka**	**145.19**	**305**	*e*PKP2	PKiKP	09 43 17.8	+8.7
	comp=Z,10nm,0.7s						
TIC	**Toumodi**	**145.24**	**305**	*e*PKP2	PKiKP	09 43 17.5	+8.3
LIC	**Lamto**	**145.50**	**305**	*e*PKP2	PKiKP	09 43 18.9	+9.2
	comp=Z,37nm,1.2s						
LPAZ	**La Paz**	**146.03**	**98**	PKPbc	**PKPab**	**09 43 08.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=313,slow=7.6,SNR=2.5						
LPAZ				pPKPbc	pPKPab	09 43 22.1	+1.2
	comp=Z,1.2nm,0.8s,baz=198,slow=3.2,SNR=3.6						

*ISK **11** 09:27:18.9, 37°.10N×28°.49E, h18km, ML2.1/10*
*DDA **11** 09:27:18.8, 37°.12N×28°.51E, h7km±4km, ML2.7*
*ISCJB **11** 09:27:20.0±0.5, 37°.14N±0°.03×28°.53E±0°.04, h18km±10km, Error ellipse: s-maj=6.4km s-min=4.8km az=143.5*
ISC 11 09:27:19.2±0.9, 37°.13N±0°.03×28°.52E±0°.03, h17km±7km, n16, σ0§48/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**273**	PG	**Pg**	**09 27 23.9**	**-0.1**
YER				SG	**Sg**	**09 27 27.3**	**+0.1**
TURN	**Turunc**	**0.26**	**166**	*i* P	**Pn**	**09 27 27.3**	**-0.8**
TURN				*i* S	**Sn**	**09 27 33.1**	**-0.6**
TURN				IAML_P			
	comp=Z,2μm,0.1s						
TURN	**Turunc**	**0.26**	**166**	PG	**Pn**	**09 27 27.1**	**-1.1**
TURN				SG	**Sn**	**09 27 33.4**	**-0.3**
DALY	**Dalyan (Mula)**	**0.33**	**161**	*i* P	**Pb**	**09 27 26.9**	**+0.4**
DALY				*i* S	**Sb**	**09 27 32.0**	**+0.6**
DALY				IAML_P			
	comp=Z,6μm,0.1s						
DALY	**Dalyan (Mula)**	**0.33**	**161**	PG	**Pg**	**09 27 26.1**	**0.0**
DALY				SG	**Sb**	**09 27 31.4**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.46**	**42**	*i* P	**Pb**	**09 27 29.2**	**+0.3**
TAVA				*i* S	**Sb**	**09 27 35.4**	**-0.1**
TAVA				IAML_P			
	comp=Z,1μm,0.1s						
FETY	**Fethiye**	**0.66**	**137**	*i* P	**Pb**	**09 27 32.5**	**+0.2**
FETY				*i* S	**Sg**	**09 27 40.9**	**-0.2**
FETY	**Fethiye**	**0.66**	**137**	PG	**Pb**	**09 27 32.5**	**+0.2**
FETY				SG	**Sb**	**09 27 42.3**	**+1.1**
AYDN	**Tasoluk**	**0.74**	**316**	*i* P	**Pn**	**09 27 34.6**	**-0.3**
AYDN				*i* S	**Sg**	**09 27 43.5**	**-0.1**
AYDN				IAML_P			
	comp=Z,2μm,0.2s						
DAT	**Datca**	**0.85**	**243**	*i* P	**Pn**	**09 27 36.4**	**-0.1**
DAT				*i* S	**Sn**	**09 27 49.4**	**+0.7**
DAT	**Datca**	**0.85**	**243**	PG	**Pb**	**09 27 35.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**329**	PG	**Pn**	**09 27 37.9**	**-0.1**
ARG	**Arkhangelos**	**0.96**	**200**	PG	**Pb**	**09 27 37.4**	**+0.1**
BODT	**Bodrum**	**0.97**	**267**	PG	**Pb**	**09 27 37.7**	**+0.2**
AKAS	**Kas**	**1.25**	**135**	PN	**Pn**	**09 27 42.0**	**+0.1**
KULA	**Kula-Manisa**	**1.39**	**4**	PN	**Pb**	**09 27 44.5**	**-0.2**

*ISCJB **11** 09:29:18.6±0.3, 34°.00N±0°.01×117°.23W±0°.02, h3km±3km, Error ellipse: s-maj=2.4km s-min=1.9km az=44.0*
*ANF **11** 09:29:19.7±0.2, 34°.01N×117°.23W, h17km±1km, ML2.9/37, ML2.9/37, Error ellipse: s-maj=1.3km s-min=1.1km az=40.0*
*NEIC **11** 09:29:19.7±1.8, 33°.98N±0°.03×117°.24W±0°.03, h9km±6km*
*SCEDC **11** 09:29:20.8, 34°.02N×117°.23W, h17km*
*MEX **11** 09:29:24.1±1.1, 33°.28N×118°.20W, h2km±387km, MD3.8*
ISC 11 09:29:19.7±0.9, 34°.02N±0°.02×117°.21W±0°.02, h14km±8km, n76, σ0§98/129, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.34**	**44**	P	**Pb**	**09 29 27.7**	**0.0**
	baz=227,SNR=115						
BBRC				S	**Sb**	**09 29 33.0**	**0.0**
	baz=227						
MURC	**Murrieta**	**0.42**	**179**	P	**Pg**	**09 29 28.7**	**+0.6**
	baz=356,SNR=210						
MURC				S	**Sg**	**09 29 34.7**	**+0.9**
	baz=356						
BFSC	**Mount Baldy Ra**	**0.44**	**301**	P	**Pg**	**09 29 28.4**	**-0.1**
	baz=122,SNR=185						
BFSC				S	**Sg**	**09 29 34.2**	**-0.2**
	baz=122						
MWC	**Mount Wilson**	**0.74**	**286**		**Pg**	**09 29 33.6**	**-0.5**
MWC				Sg	**Sg**	**09 29 43.6**	**-0.3**
PFO	**Pinyon Flats O**	**0.74**	**123**	P	**Pb**	**09 29 34.4**	**0.0**
	baz=303,SNR=146						
PFO				S	**Sb**	**09 29 44.4**	**-0.1**
	baz=303						
PFO	**Pinyon Flats O**	**0.74**	**123**		**Pb**	**09 29 34.5**	**+0.1**
PFO				Sg	**Sb**	**09 29 44.4**	**-0.1**
PASC	**Pasadena Art C**	**0.83**	**281**		**Pg**	**09 29 34.8**	**-0.9**
PASC				Sg	**Sg**	**09 29 45.8**	**-0.9**
RRX	**Edison Barstow**	**0.87**	**11**	P	**Pb**	**09 29 36.8**	**+0.2**
	baz=193,SNR=6.8						
RRX				S	**Sb**	**09 29 48.8**	**+0.6**
	baz=193						
FMP	**Fort Macarthur**	**0.95**	**252**	P	**Pb**	**09 29 37.7**	**-0.3**
	baz=70						
FMP				S	**Sg**	**09 29 49.7**	**-1.0**
	baz=70						
DECC	**Green Verdugo**	**0.96**	**284**	P	**Pb**	**09 29 37.7**	**-0.5**
	baz=104,SNR=24						
DECC				S	**Sg**	**09 29 50.3**	**-0.7**
	baz=104						
BELC	**Belle Mtn. Jos**	**1.00**	**91**	P	**Pn**	**09 29 39.4**	**-0.1**
	baz=272,SNR=156						
BELC				S	**Sn**	**09 29 53.0**	**-0.4**
	baz=272						
EDW2	**Edwards Air Fo**	**1.08**	**323**	P	**Pb**	**09 29 39.9**	**-0.3**
	baz=144,SNR=126						
EDW2				S	**Sb**	**09 29 54.3**	**+0.1**
	baz=144						
HEC	**Hector,Ludlow**	**1.08**	**41**	P	**Pn**	**09 29 40.5**	**0.0**
	baz=223,SNR=15						
HEC				S	**Sn**	**09 29 55.1**	**-0.2**
	baz=223						
109C	**Camp Elliot, M**	**1.13**	**176**	P	**Pb**	**09 29 40.2**	**-0.8**
	baz=355,SNR=40						
109C				S	**Sb**	**09 29 55.0**	**-0.5**
	baz=355						
109C	**Camp Elliot, M**	**1.13**	**176**		**Pb**	**09 29 40.1**	**-0.8**
109C				Sg	**Sb**	**09 29 54.5**	**-0.9**
CIS	**Catalina Islan**	**1.18**	**239**	P	**Pn**	**09 29 41.1**	**-0.7**
	baz=58,SNR=8.0						
CIS				S	**Sb**	**09 29 57.2**	**+0.2**
	baz=58						
MONP2	**Monument Peak**	**1.30**	**150**	P	**Pn**	**09 29 43.9**	**+0.3**
	baz=329,SNR=133						
MONP2				S	**Sn**	**09 30 01.2**	**+0.4**
	baz=329						
GSC	**Goldstone, Bar**	**1.32**	**14**	P	**Pn**	**09 29 44.0**	**+0.2**
	baz=195,SNR=80						
GSC				S	**Sg**	**09 30 02.2**	**-0.2**
	baz=195						
GSC	**Goldstone, Bar**	**1.32**	**14**		**Pn**	**09 29 43.6**	**-0.2**
GSC				Sn	**Sn**	**09 30 01.3**	**+0.1**
OSI	**Osito Audit: C**	**1.39**	**296**	P	**Pn**	**09 29 44.7**	**0.0**
	baz=115,SNR=8.3						
OSI				S	**Sn**	**09 30 02.9**	**0.0**
	baz=115						
OSI	**Osito Audit: C**	**1.39**	**296**		**Pn**	**09 29 44.5**	**-0.2**
OSI				Sn	**Sn**	**09 30 03.1**	**+0.2**
BAR	**Barrett**	**1.41**	**161**		**Pn**	**09 29 44.8**	**-0.1**
BAR				Sn	**Sn**	**09 30 02.7**	**-0.5**
GMRC	**Granite Mounta**	**1.49**	**59**	P	**Pn**	**09 29 45.9**	**-0.2**
	baz=240,SNR=23						
GMRC				S	**Sg**	**09 30 07.6**	**-0.2**
	baz=240						
BC3	**Big Chuckawall**	**1.50**	**103**	Pg	**Pg**	**09 29 48.5**	**-0.1**
	baz=284,SNR=88						
BC3				S	**Sg**	**09 30 07.9**	**-0.3**
	baz=284						
LRMC	**Laurel Mtn Rad**	**1.51**	**345**	Pn	**Pn**	**09 29 46.7**	**+0.3**
	baz=166,SNR=125						
LRMC				Pg	**Pg**	**09 29 48.9**	**+0.1**
	baz=166						
LRMC				S	**Sn**	**09 30 05.9**	**0.0**
	baz=166						
BLG	**Laguna Peak, P**	**1.55**	**274**	P	**Pn**	**09 29 46.8**	**0.0**
	baz=93						
BLG				S	**Sn**	**09 30 06.4**	**-0.3**
	baz=93						
SWSC	**Sam W. Stewart**	**1.59**	**132**	Pn	**Pn**	**09 29 46.6**	**-0.7**
	baz=312						
SWSC				Pg	**Pg**	**09 29 49.9**	**-0.3**
	baz=312,SNR=24						
SWSC				Sb	**Sg**	**09 30 10.7**	**-0.2**
	baz=312						
TJIG	**Tijuana**	**1.64**	**164**	*e*P	**Pn**	**09 29 48.1**	**0.0**
TJIG				*e*S	**Sn**	**09 30 08.8**	**-0.2**
TJIG	**Tijuana**	**1.64**	**164**		**Pn**	**09 29 48.1**	**0.0**
IKP	**In-Ko-Pah, Jac**	**1.64**	**146**	Pn	**Pn**	**09 29 48.5**	**+0.3**
	baz=326						
IKP				Pg	**Pb**	**09 29 50.3**	**+0.5**
	baz=326,SNR=85						
IKP				Sb	**Sb**	**09 30 11.7**	**+1.4**
	baz=326						
IRM	**Iron Mountain**	**1.72**	**85**	P	**Pn**	**09 29 49.0**	**-0.2**
	baz=266,SNR=25						
IRM				Pg	**Pg**	**09 29 53.0**	**+0.4**
	baz=266						
IRM				Sn	**Sn**	**09 30 09.6**	**-1.3**
	baz=266						
IRM				Sb	**Sg**	**09 30 15.4**	**+0.5**
	baz=266						
ARVC	**Arvin**	**1.74**	**310**	Pn	**Pn**	**09 29 49.7**	**+0.2**
	baz=130						
ARVC				Pg	**Pb**	**09 29 51.8**	**+0.5**
	baz=130,SNR=28						
ARVC				Sb	**Sb**	**09 30 13.8**	**+0.7**
	baz=130						
CBX	**Cerro Bola**	**1.76**	**165**	*e*P	**Pn**	**09 29 50.5**	**+0.7**
CBX				*i* S	**Sn**	**09 30 09.5**	**-2.6**
CBX	**Cerro Bola**	**1.76**	**165**		**Pn**	**09 29 50.5**	**+0.7**
TUQ	**Turquoise Moun**	**1.77**	**36**	P	**Pn**	**09 29 49.9**	**0.0**
	baz=218,SNR=8.6						
TUQ				Sb	**Sg**	**09 30 16.1**	**-0.5**
	baz=218						
ISA	**Isabella, Lake**	**1.94**	**328**	P	**Pn**	**09 29 52.8**	**+0.4**
	baz=148,SNR=65						
ISA				Pg	**Pb**	**09 29 55.8**	**+0.9**
	baz=148						
ISA	**Isabella, Lake**	**1.94**	**328**		**Pn**	**09 29 52.6**	**+0.3**
SHOC	**Shoshone, Teco**	**2.03**	**22**	P	**Pn**	**09 29 53.7**	**+0.3**
	baz=203,SNR=18						
SHOC				Sb	**Sg**	**09 30 24.1**	**-0.9**
	baz=203						
MPMC	**Manual Prospec**	**2.05**	**354**	Pn	**Pn**	**09 29 54.0**	**+0.1**
	baz=174,SNR=45						
MPMC				Pg	**Pg**	**09 29 58.4**	**-0.6**
	baz=174						
MPMC				Sb	**Sg**	**09 30 25.2**	**-0.4**
	baz=174						
SNCC	**San Nicolas Is**	**2.08**	**249**	Pn	**Pn**	**09 29 54.8**	**+0.6**
GLA	**Glamis**	**2.21**	**115**	Pg	**Pg**	**09 30 01.3**	**-0.8**
	baz=296,SNR=13						
GLA				Sb	**Sg**	**09 30 30.3**	**-0.4**
	baz=296						
GLA	**Glamis**	**2.21**	**115**	Pn	**Pb**	**09 29 57.9**	**-1.5**
Y12C	**Blythe**	**2.25**	**96**	Pn	**Pn**	**09 29 56.4**	**0.0**
	baz=278						
Y12C				Pg	**Pg**	**09 30 02.0**	**-0.8**
	baz=278,SNR=32						
Y12C				Sn	**Sn**	**09 30 22.1**	**-1.8**
	baz=278						
Y12C				Sb	**Sg**	**09 30 31.9**	**0.0**
	baz=278						
Y12C	**Blythe**	**2.25**	**96**	Pn	**Pb**	**09 29 59.1**	**-0.9**
NEE2	**Needles Airpor**	**2.27**	**70**	P	**Pn**	**09 29 56.8**	**+0.1**
	baz=252						
NEE2				Sn	**Sn**	**09 30 23.8**	**-0.6**
	baz=252						
NEE2				Sb	**Sg**	**09 30 32.0**	**-0.5**
	baz=252						
DAC	**Darwin (Calif)**	**2.28**	**352**	Pn	**Pb**	**09 29 59.8**	**-0.8**
PKM	**Mcpherson Peak**	**2.32**	**293**	P	**Pn**	**09 29 58.4**	**+0.7**
	baz=111,SNR=13						
VES	**Vestal, Richgr**	**2.39**	**320**	P	**Pn**	**09 29 59.5**	**+1.2**
	baz=140,SNR=18						
CWC	**Cottonwood Cre**	**2.52**	**344**	Pg	**Pg**	**09 30 06.8**	**-1.3**
	baz=164						
CWC				Sb	**Sg**	**09 30 38.9**	**-1.8**
	baz=164						
SMMC	**Simmler**	**2.64**	**300**	P	**Pn**	**09 30 04.1**	**+2.3**
	baz=119						
W13A	**Hualapai Mount**	**2.94**	**68**		**Pn**	**09 30 06.8**	**+0.6**
GRAC	**Grapevine Rang**	**2.98**	**358**	P	**Pn**	**09 30 08.3**	**+1.8**
	baz=178,SNR=5.2						
GRAC				Sb	**Sg**	**09 30 55.5**	**+0.3**
	baz=178						
SHPR	**Sheep Range**	**2.99**	**33**		**Pn**	**09 30 07.8**	**+0.9**
TPNV	**Topopah Spring**	**3.03**	**15**	P	**Pn**	**09 30 08.4**	**+1.1**
	baz=196,SNR=9.2						
TPNV				Sb	**Sg**	**09 30 55.9**	**-1.0**
	baz=196						
TPNV	**Topopah Spring**	**3.03**	**15**		**Pn**	**09 30 08.6**	**+1.3**
PAGB	**Antelope Grade**	**3.03**	**305**	Pn	**Pn**	**09 30 08.2**	**+1.0**
113A	**Mohawk Valley,**	**3.13**	**112**	Pn	**Pb**	**09 30 16.6**	**+1.5**
SPIG	**San Pedro Mart**	**3.31**	**153**	*i* P	**Pn**	**09 30 13.1**	**+1.8**
SPIG				*i* S	**Sn**	**09 30 51.8**	**+1.2**
SPIG	**San Pedro Mart**	**3.31**	**153**		**Pn**	**09 30 13.1**	**+1.8**
Y14A	**Wickenburg**	**3.49**	**90**		**Pn**	**09 30 14.1**	**+0.5**
PMPB	**Monarch Peak**	**3.67**	**308**	Pn	**Pn**	**09 30 16.9**	**+0.8**
MLAC	**Mammoth, Mammo**	**3.84**	**340**	Sg	**Sg**	**09 31 24.9**	**+1.8**
	baz=160						
OMMB	**Old Mammoth Mi**	**3.87**	**338**		**Pn**	**09 30 20.9**	**+1.9**
214A	**Organ Pipe Nat**	**4.23**	**118**	Pn	**Pn**	**09 30 26.9**	**+3.3**
LCMT	**Little Creek M**	**4.40**	**46**		**Pn**	**09 30 27.8**	**+1.7**
NV11	**Mina Array Sit**	**4.47**	**350**	Pn	**Pn**	**09 30 29.5**	**+2.4**
NVAR	**Mina Array Bea**	**4.49**	**349**	Pn	**Pn**	**09 30 30.2**	**+2.7**
R11A	**Troy Canyon, C**	**4.52**	**16**	Sg	**Sg**	**09 31 42.2**	**-2.5**
	baz=198						
R11A	**Troy Canyon, C**	**4.52**	**16**	Pn	**Pn**	**09 30 29.9**	**+2.1**
CCUT	**Cedar City**	**4.71**	**40**		**Pn**	**09 30 30.2**	**-0.3**
RYN	**Ryan**	**4.72**	**347**		**Pn**	**09 30 29.6**	**-1.0**
WUAZ	**Wupatki**	**5.03**	**71**	Pn	**Pn**	**09 30 36.4**	**+1.6**
KVN	**Kaiserville**	**5.08**	**352**	Pn	**Pn**	**09 30 37.1**	**+1.6**
PKCU	**Pink Cliffs**	**5.25**	**48**	Pn	**Pn**	**09 30 38.6**	**+0.6**
PSUT	**Pine Spring**	**5.26**	**30**	Pn	**Pn**	**09 30 38.9**	**+0.9**
X18A	**Snowflake**	**6.03**	**83**	Pn	**Pn**	**09 30 48.4**	**-0.2**

*IDC **11** 09:32:06.1±0.9, 19°.07S×173°.55W, h0km, mb4.2/8, mb1 4.5/9, mb1mx4.3/29, mbtmp4.2/9, ML3.6/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=41.1km s-min=19.0km az=146.0*
*ISCJB **11** 09:32:09.7±0.5, 18°.79S±0°.07×173°.73W±0°.09, h28km, mb4.2/8, MS3.8/8, Error ellipse: s-maj=14.0km s-min=8.6km az=29.5*
*NEIC **11** 09:32:10.1±2.7, 18°.9S±0°.2×173°.5W±0°.1, h24km±7km, mb4.6/18*
ISC 11 09:32:10.9±0.7, 18°.9S±0°.1×173°.6W±0°.1, h28km, n46, σ1§54/38, mb4.5/14, MS3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.24**	**19**	Pn	**Pn**	**09 33 26.0**	**-1.6**
MSVF	**Nonsavu**	**8.06**	**277**	Pn	**Pn**	**09

WRH				IAmb	IAmb	09 44 49.2	
	comp=Z,8.5nm,1.0s						
ILAR	**Eielson Array**	**85.88**	**11**	P	**P**	**09 44 48.6**	**+0.9**
	comp=Z,1.9nm,1.1s,baz=226,slow=6.0,SNR=7.7						
ILAR	**Eielson Array**	**85.88**	**11**	P	**P**	**09 44 50.4**	**+2.8**
PLCA	**Paso Flores**	**87.28**	**132**	LR	LR	10 18 12.5	
	comp=Z,39nm,19.3s,baz=248,slow=32						
LPAZ	**La Paz**	**98.75**	**110**	LR	LR	10 23 19.1	
	comp=Z,55nm,18.4s,baz=242,slow=31						
CLL	**Collm**	**147.24**	**352**	*e*PKPbc	**PKiKP**	**09 51 54.0**	**+0.2**
	comp=Z,18nm,1.3s						
CLL				*e*		09 52 08.0	
BR131	**Keskin Array S**	**148.69**	**317**	PKPbc	**PKiKP**	**09 51 57.2**	**-0.2**
BRTR	**Keskin Array B**	**148.69**	**317**	PKPbc	**PKPbc**	**09 51 55.2**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=135,slow=0.3,SNR=10						
BRTR	**Keskin Array B**	**148.69**	**317**		**PKiKP**	**09 51 57.4**	**0.0**
GERES	**GERESS Array B**	**149.55**	**351**	PKPbc	**PKPbc**	**09 51 57.0**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=48,slow=2.0,SNR=5.4						

ISCJB ***11*** *09:48:57.9±0.4, 21°.78N±0°.02×120°.36E±0°.02, h61km±3km,*
Error ellipse: s-maj=3.5km s-min=3.1km az=4.1
TAP ***11*** *09:48:57.9, 21°.76N×120°.36E, h37km, ML4.0, C*
JMA ***11*** *09:48:58.0±0.9, 21°.68N×120°.53E, h39km, M4.1*
ISC 11 09:48:57.2±1.4, 21°.69N±0°.05×120°.33E±0°.03, h47km±11km,
n132, σ0°92/256, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.49**	**50**	*e*P	**Pn**	**09 49 08.2**	**-0.1**
	baz=56						
HEN				*e*S	**Sn**	**09 49 15.5**	**-0.5**
TWK1	**Hengchun**	**0.51**	**60**	*i* P	**Pn**	**09 49 08.4**	**0.0**
	baz=67						
TWK1				*e*S	**Sn**	**09 49 16.2**	**-0.2**
TWKBT	**Hengchun**	**0.51**	**61**	*i* P	**Pn**	**09 49 08.6**	**+0.1**
	baz=67						
TWKBT				*e*S	**Sn**	**09 49 16.5**	**0.0**
TSEB	**Hengchuen, Pin**	**0.57**	**68**	*e*P	**Pn**	**09 49 08.9**	**-0.3**
	baz=73						
TSEB				*e*S	**Sn**	**09 49 16.6**	**-1.1**
TWP	**Hsiaoliuchiu**	**0.65**	**2**	*e*P	**Pn**	**09 49 11.0**	**+0.7**
	baz=1.0						
TWP				*e*S	**Sn**	**09 49 20.8**	**+1.1**
WLCH	**Liuqiu**	**0.66**	**4**	*e*P	**Pn**	**09 49 11.4**	**+1.0**
	baz=1.0						
WLCH				*e*S	**Sn**	**09 49 19.1**	**-0.7**
SCZT	**Fangliau**	**0.73**	**21**	P	**Pn**	**09 49 11.4**	**+0.2**
	baz=22						
SCZT				*e*S	**Sn**	**09 49 21.2**	**-0.3**
EAST	**Anshuo**	**0.84**	**35**	P	**Pn**	**09 49 12.9**	**+0.1**
	baz=36						
EAST				*e*S	**Sn**	**09 49 23.8**	**-0.3**
TAW	**Tawu**	**0.84**	**38**	*e*P	**Pn**	**09 49 13.1**	**+0.3**
	baz=40						
TAW				*e*S	**Sn**	**09 49 23.8**	**-0.4**
KAU	**Kaohsiung**	**0.87**	**358**	*e*P	**Pn**	**09 49 13.4**	**+0.1**
	baz=357						
KAU				*e*S	**Sn**	**09 49 25.1**	**+0.2**
MASBT	**Mashibuluo**	**0.96**	**17**	P	**Pn**	**09 49 14.4**	**+0.1**
	baz=16						
MASBT				*e*S	**Sn**	**09 49 26.3**	**-0.7**
SGLT	**Jiouru**	**1.04**	**8**	*e*P	**Pn**	**09 49 15.6**	**+0.2**
	baz=7.0						
SGLT				*e*S	**Sn**	**09 49 29.2**	**+0.3**
SNJT	**Kaohsiung City**	**1.06**	**0**	*e*P	**Pn**	**09 49 16.5**	**+0.8**
	baz=358						
SNJT				*e*S	**Sn**	**09 49 29.6**	**+0.2**
ECL	**Taimali**	**1.07**	**32**	*e*P	**Pn**	**09 49 16.2**	**+0.3**
	baz=34						
ECL				*e*S	**Sn**	**09 49 30.1**	**+0.5**
SSD	**Sandimen**	**1.09**	**15**	P	**Pn**	**09 49 16.4**	**+0.2**
	baz=14						
SSD				*e*S	**Sn**	**09 49 29.4**	**-0.6**
TWM1	**Shoushan**	**1.13**	**4**	*e*P	**Pn**	**09 49 17.5**	**+0.8**
	baz=3.0						
TWM1				*e*S	**Sn**	**09 49 31.1**	**-0.1**
LAY	**Lan-yu**	**1.18**	**73**	*e*P	**Pn**	**09 49 17.8**	**+0.4**
	baz=76						
LAY				*e*S	**Sn**	**09 49 32.8**	**+0.4**
TTN	**Taitung**	**1.30**	**35**	*e*P	**Pn**	**09 49 19.3**	**+0.3**
	baz=36						
TTN				*e*S	**Sn**	**09 49 35.2**	**0.0**
TWGBT	**Beinan**	**1.32**	**31**	P	**Pn**	**09 49 19.8**	**+0.6**
	baz=32						
TWGBT				*e*S	**Sn**	**09 49 35.6**	**-0.1**
SLGT	**Liugui**	**1.33**	**12**	*e*P	**Pn**	**09 49 20.1**	**+0.7**
	baz=12						
SLGT				*e*S	**Sn**	**09 49 35.7**	**-0.2**
TAI1	**Yung-k'ang**	**1.35**	**356**	*e*P	**Pn**	**09 49 20.3**	**+0.7**
	baz=354						
TAI1				*e*S	**Sn**	**09 49 37.3**	**+1.0**
CHN3	**Shinhua**	**1.38**	**1**	*e*P	**Pn**	**09 49 20.8**	**+0.7**
CHN3				*e*S	**Sn**	**09 49 37.6**	**+0.4**
SGST	**Jiashian**	**1.40**	**9**	*e*P	**Pn**	**09 49 20.3**	**-0.2**
	baz=9.0						
SGST				*e*S	**Sn**	**09 49 37.5**	**-0.3**
SCLT	**Jiali**	**1.48**	**355**	*e*P	**Pn**	**09 49 21.9**	**+0.4**
	baz=354						
SCLT				*e*S	**Sn**	**09 49 39.3**	**-0.4**
CHN1	**Nanshi**	**1.50**	**7**	*e*P	**Pn**	**09 49 22.4**	**+0.6**
	baz=6.0						
CHN1				*e*S	**Sn**	**09 49 40.3**	**+0.2**
STYT	**Tauyuan**	**1.52**	**15**	*e*P	**Pn**	**09 49 22.8**	**+0.7**
	baz=15						
STYT				*e*S	**Sn**	**09 49 40.8**	**+0.1**
STYT	**Tauyuan**	**1.52**	**15**	*e*S	**Sn**	**09 49 41.1**	**+0.5**
	baz=220						
SNST	**Tainan City**	**1.53**	**6**	*e*P	**Pn**	**09 49 23.1**	**+0.9**
	baz=5.0						
SNST				*e*S	**Sn**	**09 49 41.2**	**+0.3**
WTP	**Ta-pu**	**1.57**	**9**	P	**Pn**	**09 49 23.5**	**+0.8**
	baz=9.0						
WTP				*e*S	**Sn**	**09 49 42.0**	**0.0**
TWK	**Hsinying**	**1.57**	**5**	P	**Pn**	**09 49 23.3**	**+0.5**
	baz=5.0						
TWK				*e*S	**Sn**	**09 49 42.7**	**+0.6**
ELDTW	**Lidau**	**1.62**	**23**	P	**Pn**	**09 49 24.1**	**+0.6**
	baz=23						
ELDTW				*e*S	**Sn**	**09 49 43.4**	**+0.2**
TPUB	**Ta-pu**	**1.63**	**10**	*e*P	**Pn**	**09 49 23.9**	**+0.4**
	baz=9.0						
TPUB				*e*S	**Sn**	**09 49 43.3**	**0.0**
CHN8	**Yiju**	**1.65**	**356**	*e*P	**Pn**	**09 49 24.3**	**+0.5**
	baz=355						
CHN8				*e*S	**Sn**	**09 49 44.2**	**+0.3**
CHN4	**Tsaushan**	**1.67**	**8**	*e*P	**Pn**	**09 49 25.0**	**+0.9**
	baz=7.0						
CHN4				*e*S	**Sn**	**09 49 44.8**	**+0.4**
CHN4	**Tsaushan**	**1.67**	**8**	*e*P	**Pn**	**09 49 24.7**	**+0.6**
	baz=232						
WDGT	**Dungji**	**1.68**	**338**	*e*P	**Pn**	**09 49 24.7**	**+0.5**
	baz=336						
WDGT				*e*S	**Sn**	**09 49 44.2**	**-0.4**
CHKT	**Chengkung**	**1.70**	**34**	P	**Pn**	**09 49 25.3**	**+0.9**
	baz=35						
CHKT				*e*S	**Sn**	**09 49 45.3**	**+0.4**
VCHM	**Qimei**	**1.73**	**331**	*e*P	**Pn**	**09 49 24.6**	**-0.3**
	baz=329						
VCHM				*e*S	**Sn**	**09 49 44.6**	**-1.2**
FULB	**Fuli**	**1.74**	**30**	*e*P	**Pn**	**09 49 26.4**	**+1.3**
	baz=31						
FULB				*e*S	**Sn**	**09 49 46.4**	**+0.2**
WLGB	**Puzi**	**1.78**	**359**	*e*P	**Pn**	**09 49 26.1**	**+0.6**
	baz=358						
WLGB				*e*S	**Sn**	**09 49 47.0**	**0.0**
CHY	**Chiayi**	**1.80**	**3**	*e*P	**Pn**	**09 49 26.0**	**+0.2**
	baz=2.0						
CHY				*e*S	**Sn**	**09 49 48.5**	**+1.0**
CHY	**Chiayi**	**1.80**	**3**	*e*P	**Pn**	**09 49 26.0**	**+0.2**
	baz=241						
CHN2	**Minshiung**	**1.84**	**4**	*e*P	**Pn**	**09 49 27.1**	**+0.8**
	baz=3.0						
CHN2				*e*S	**Sn**	**09 49 48.8**	**+0.4**
TWF1	**Yuli**	**1.88**	**28**	P	**Pn**	**09 49 27.9**	**+1.0**
	baz=28						
TWF1				*e*S	**Sn**	**09 49 49.7**	**+0.3**
YUS	**Yu-Shan**	**1.88**	**18**	P	**Pn**	**09 49 27.6**	**+0.2**
	baz=17						
YUS				*e*S	**Sn**	**09 49 49.2**	**-0.9**
YULB	**Yu-li**	**1.91**	**28**	P	**Pn**	**09 49 28.3**	**+0.9**
	baz=28						
YULB				*e*S	**Sn**	**09 49 50.3**	**0.0**
CHN5	**Tsauling**	**1.92**	**9**	P	**Pn**	**09 49 28.1**	**+0.4**
	baz=9.0						
CHN5				*e*S	**Sn**	**09 49 50.3**	**-0.4**
WSF	**Szhu**	**1.94**	**357**	*e*P	**Pn**	**09 49 27.4**	**-0.3**
	baz=356						
WSF				*e*S	**Sn**	**09 49 50.6**	**-0.4**
WSF	**Szhu**	**1.94**	**357**	*e*P	**Pn**	**09 49 27.3**	**-0.5**
	baz=250						
PHUB	**P'eng-hu**	**1.95**	**339**	*e*P	**Pn**	**09 49 27.3**	**-0.5**
	baz=337						
PHUB				*e*S	**Sn**	**09 49 50.0**	**-1.1**
WDLH	**Douliu**	**2.00**	**5**	*e*P	**Pn**	**09 49 28.9**	**+0.3**
	baz=4.0						
WDLH				*e*S	**Sn**	**09 49 52.1**	**-0.2**
WGK	**Gukeng**	**2.00**	**6**	*e*P	**Pn**	**09 49 29.7**	**+1.1**
	baz=5.0						
WGK				*e*S	**Sn**	**09 49 52.9**	**+0.5**
PNG	**Penghu**	**2.00**	**339**	*e*P	**Pn**	**09 49 28.6**	**0.0**
	baz=337						
PNG				*e*S	**Sn**	**09 49 51.6**	**-0.8**
EHY	**Hungye**	**2.02**	**27**	*e*P	**Pn**	**09 49 29.2**	**+0.3**
	baz=27						
EHY				*e*S	**Sn**	**09 49 52.8**	**-0.3**
WHYT	**Xinyi Township**	**2.05**	**13**	P	**Pn**	**09 49 30.0**	**+0.6**
	baz=13						
WHYT				*e*S	**Sn**	**09 49 54.0**	**+0.1**
HGSD	**Ruisui**	**2.06**	**29**	*e*P	**Pn**	**09 49 30.0**	**+0.6**
	baz=29						
HGSD				*e*S	**Sn**	**09 49 53.4**	**-0.5**
WJS	**Zhushan**	**2.15**	**10**	*e*P	**Pn**	**09 49 30.7**	**+0.1**
	baz=9.0						
WJS				*e*S	**Sn**	**09 49 56.2**	**0.0**
SSLB	**Suanglung**	**2.16**	**15**	P	**Pn**	**09 49 31.7**	**+0.9**
	baz=15						
SSLB				*e*S	**Sn**	**09 49 56.1**	**-0.4**
WTCT	**Ta-ch'eng**	**2.16**	**359**	*e*P	**Pn**	**09 49 32.1**	**+1.3**
	baz=358						
WTCT				*e*S	**Sn**	**09 49 56.3**	**-0.1**
VWDT	**VWDT**	**2.19**	**20**	P	**Pn**	**09 49 32.4**	**+1.3**
	baz=20						
VWDT				*e*S	**Sn**	**09 49 57.2**	**+0.2**
RLNB	**Erlin**	**2.19**	**1**	*e*P	**Pn**	**09 49 31.8**	**+0.6**
RLNB				*e*S	**Sn**	**09 49 57.3**	**+0.2**
WNT	**Mingjian**	**2.20**	**8**	*e*P	**Pn**	**09 49 31.9**	**+0.5**
	baz=8.0						
WNT				*e*S	**Sn**	**09 49 57.1**	**-0.3**
EGFH	**Guangfu**	**2.21**	**27**	P	**Pn**	**09 49 32.4**	**+0.9**
	baz=27						
EGFH				*e*S	**Sn**	**09 49 57.4**	**-0.2**
SMLT	**Sun Moon Lake**	**2.24**	**13**	P	**Pn**	**09 49 32.8**	**+0.8**
	baz=13						
SMLT				*e*S	**Sn**	**09 49 58.2**	**-0.4**
TYC	**Yuchr**	**2.26**	**12**	P	**Pn**	**09 49 33.0**	**+0.9**
	baz=12						
TYC				*e*S	**Sn**	**09 49 59.0**	**+0.3**
ESL	**Shilin**	**2.34**	**25**	*e*P	**Pn**	**09 49 34.5**	**+1.2**
	baz=26						
ESL				*e*S	**Sn**	**09 50 00.7**	**-0.2**
WCHH	**Zhanghua**	**2.39**	**5**	*e*P	**Pn**	**09 49 34.8**	**+0.9**
	baz=4.0						
WCHH				*e*S	**Sn**	**09 50 01.6**	**-0.3**
DPDB	**Guoxing**	**2.40**	**13**	*e*P	**Pn**	**09 49 35.0**	**+0.9**
	baz=13						
DPDB				*e*S	**Sn**	**09 50 02.0**	**-0.3**
TCU	**Taichung**	**2.47**	**7**	*e*P	**Pn**	**09 49 36.0**	**+1.0**
	baz=7.0						
TCU				*e*S	**Sn**	**09 50 03.9**	**+0.1**
CHGB	**Renai**	**2.48**	**18**	*e*P	**Pn**	**09 49 36.4**	**+1.0**
	baz=18						
CHGB				*e*S	**Sn**	**09 50 03.9**	**-0.7**
ENLB	**Shoufeng**	**2.49**	**28**	*e*P	**Pn**	**09 49 36.2**	**+0.8**
	baz=28						
ENLB				*e*S	**Sn**	**09 50 04.3**	**-0.3**
WHF	**Hehuan Shan**	**2.59**	**19**	*e*P	**Pn**	**09 49 38.4**	**+1.3**
	baz=19						
WHF				*e*S	**Sn**	**09 50 06.8**	**-0.7**
WHP	**Taichung City**	**2.64**	**12**	*e*P	**Pn**	**09 49 38.3**	**+0.9**
	baz=12						
WHP				*e*S	**Sn**	**09 50 07.6**	**-0.6**
TWD	**Chiawan**	**2.65**	**26**	*e*P	**Pn**	**09 49 38.2**	**+0.8**
	baz=26						
TWD				*e*S	**Sn**	**09 50 08.1**	**-0.3**
WDJ	**Dajia District**	**2.66**	**6**	*e*P	**Pn**	**09 49 39.6**	**+2.0**
	baz=5.0						
WDJ				*e*S	**Sn**	**09 50 06.3**	**-2.3**
TDCB	**Techi**	**2.66**	**16**	P	**Pn**	**09 49 38.7**	**+0.9**
	baz=16						
TDCB				*e*S	**Sn**	**09 50 08.9**	**0.0**
TWQ1	**Liyutan**	**2.68**	**9**	*e*P	**Pn**	**09 49 38.5**	**+0.6**
	baz=8.0						
TWQ1				*e*S	**Sn**	**09 50 08.8**	**-0.3**
ETLH	**Xiulin Townshi**	**2.72**	**23**	P	**Pn**	**09 49 39.8**	**+1.2**
	baz=23						
ETLH				*e*S	**Sn**	**09 50 09.8**	**-0.4**
NACB	**Ninganchiao**	**2.73**	**25**	P	**Pn**	**09 49 39.5**	**+0.9**
	baz=25						
NACB				*e*S	**Sn**	**09 50 10.3**	**-0.2**
NSY	**Sanyi**	**2.74**	**8**	*e*P	**Pn**	**09 49 39.8**	**+1.1**
	baz=8.0						
NSY				*e*S	**Sn**	**09 50 11.8**	**+1.1**
PTSB	**Yuanli**	**2.77**	**7**	*e*P	**Pn**	**09 49 39.8**	**+0.7**
	baz=6.0						
PTSB				*e*S	**Sn**	**09 50 11.1**	**-0.2**
NNSB	**Datong**	**2.89**	**19**	P	**Pn**	**09 49 42.2**	**+1.2**
	baz=19						
NNSB				*e*S	**Sn**	**09 50 13.7**	**-0.8**
NNS	**Nan Shan**	**2.90**	**19**	*e*P	**Pn**	**09 49 42.8**	**+1.8**
	baz=19						
NNS				*e*S	**Sn**	**09 50 14.0**	**-0.8**
NSTT	**Nanjuang**	**2.99**	**12**	*e*P	**Pn**	**09 49 43.0**	**+0.8**
	baz=11						
NSTT				*e*S	**Sn**	**09 50 16.1**	**-0.7**
LIOB	**Emei**	**3.01**	**12**	*e*P	**Pn**	**09 49 43.4**	**+0.9**
	baz=11						
LIOB				*e*S	**Sn**	**09 50 16.3**	**-0.9**
ENA	**Nanau**	**3.02**	**25**	*e*P	**Pn**	**09 49 43.4**	**+0.9**
	baz=25						
ENA				*e*S	**Sn**	**09 50 17.4**	**-0.1**
NANB	**Nanao**	**3.02**	**25**	P	**Pn**	**09 49 43.5**	**+0.9**
	baz=25						
NANB				*e*S	**Sn**	**09 50 16.9**	**-0.6**
NDT	**Datong Townshi**	**3.10**	**20**	*e*P	**Pn**	**09 49 44.5**	**+0.9**
	baz=20						
NDT				*e*S	**Sn**	**09 50 18.6**	**-0.8**
YHNB	**Yeheng**	**3.12**	**18**	*e*P	**Pn**	**09 49 44.8**	**+0.9**
	baz=17						
YHNB				*e*S	**Sn**	**09 50 19.4**	**-0.7**
NSK	**Sanguang**	**3.12**	**17**	*e*P	**Pn**	**09 49 45.2**	**+1.2**
	baz=17						
NSK				*e*S	**Sn**	**09 50 19.4**	**-0.6**
ENTT	**Nioudou**	**3.15**	**21**	*e*P	**Pn**	**09 49 45.5**	**+1.2**
	baz=21						
ENTT				*e*S	**Sn**	**09 50 19.8**	**-0.9**
TWC	**Suao**	**3.22**	**25**	*e*P	**Pn**	**09 49 46.8**	**+1.5**
	baz=26						
TWC				*e*S	**Sn**	**09 50 21.7**	**-0.8**
KNM	**Kinmen**	**3.23**	**328**	*e*P	**Pn**	**09 49 46.9**	**+1.4**
	baz=324						
KNM				*e*S	**Sn**	**09 50 22.4**	**-0.3**
NWLT	**Wulai**	**3.25**	**19**	*e*P	**Pn**	**09 49 46.7**	**+0.9**
	baz=19						
NWLT				*e*S	**Sn**	**09 50 22.2**	**-1.2**
TWE	**Neicheng**	**3.26**	**22**	*e*P	**Pn**	**09 49 47.7**	**+1.8**
	baz=22						
TWE				*e*S	**Sn**	**09 50 22.1**	**-1.3**
WLTB	**Daxi**	**3.26**	**15**	*e*P	**Pn**	**09 49 46.5**	**+0.7**
	baz=14						
WLTB				*e*S	**Sn**	**09 50 22.7**	**-0.7**
ZPLA	**Ao Xicun**	**3.26**	**314**	*e*P	**Pn**	**09 49 47.6**	**+1.7**
	baz=311						
ZPLA				*e*S	**Sn**	**09 50 23.8**	**+0.3**
SLBB	**Yuanshan**	**3.28**	**21**	*e*P	**Pn**	**09 49 46.9**	**+0.8**
	baz=21						
SLBB				*e*S	**Sn**	**09 50 22.1**	**-1.8**
EOS1	**EOS1**	**3.29**	**30**	*e*P	**Pn**	**09 49 48.0**	**+1.8**
	baz=30						
EOS1				*e*S	**Sn**	**09 50 24.7**	**+0.6**
KNMB	**Chin-men Tao**	**3.29**	**327**	*e*P	**Pn**	**09 49 47.5**	**+1.2**
	baz=325						
KNMB				*e*S	**Sn**	**09 50 23.2**	**-1.0**
VWUC	**VWUC**	**3.38**	**346**	*e*P	**Pn**	**09 49 48.7**	**+1.1**
	baz=345						
VWUC				*e*S	**Sn**	**09 50 25.2**	**-1.2**
NHDH	**Xindian Distri**	**3.44**	**18**	*e*P	**Pn**	**09 49 49.5**	**+1.3**
	baz=18						
NHDH				*e*S	**Sn**	**09 50 27.6**	**-0.1**
NTC	**Toucheng**	**3.44**	**23**	*e*P	**Pn**	**09 49 49.3**	**+1.0**
	baz=23						
NTC				*e*S	**Sn**	**09 50 26.4**	**-1.4**
TATO	**Taipei**	**3.44**	**18**	*e*P	**Pn**	**09 49 49.4**	**+1.1**
	baz=18						
TATO				*e*S	**Sn**	**09 50 27.4**	**-0.4**
TWA	**Mucha**	**3.47**	**19**	*e*P	**Pn**	**09 49 49.8**	**+1.0**
	baz=19						
TWA				*e*S	**Sn**	**09 50 27.6**	**-1.0**
VDOS	**Pratas Island**	**3.50**	**254**	*e*P	**Pn**	**09 49 50.2**	**+1.0**
	baz=252						
VDOS				*e*S	**Sn**	**09 50 27.9**	**-1.6**
PTMZ	**Houxiangcun**	**3.52**	**342**	*e*P	**Pn**	**09 49 50.1**	**+0.7**
	baz=340						
PTMZ				*e*S	**Sn**	**09 50 27.8**	**-1.9**
TIPB	**Shuangxi**	**3.54**	**22**	*e*P	**Pn**	**09 49 51.6**	**+1.8**
	baz=22						
TIPB				*e*S	**Sn**	**09 50 29.4**	**-1.1**
YM04	**YM04**	**3.62**	**18**	*e*P	**Pn**	**09 49 51.9**	**+1.1**
	baz=17						
YM04				*e*S	**Sn**	**09 50 31.3**	**-1.0**
YM01	**YM01**	**3.62**	**18**	*e*P	**Pn**	**09 49 51.8**	**+0.9**
	baz=18						
YM01				*e*S	**Sn**	**09 50 30.7**	**-1.7**
YM10	**YM10**	**3.63**	**18**	*e*P	**Pn**	**09 49 51.8**	**+0.8**
	baz=18						
YM10				*e*S	**Sn**	**09 50 31.2**	**-1.4**
TWB1	**Santiao Chiao**	**3.64**	**24**	*e*P	**Pn**	**09 49 52.1**	**+1.1**
	baz=25						
TWB1				*e*S	**Sn**	**09 50 31.7**	**-1.0**
YM05	**YM05**	**3.64**	**18**	*e*P	**Pn**	**09 49 52.9**	**+1.7**
	baz=18						
YM05				*e*S	**Sn**	**09 50 31.9**	**-1.0**
ANP	**Anpu**	**3.65**	**17**	*e*P	**Pn**	**09 49 52.3**	**+1.0**
	baz=17						
ANP				*e*S	**Sn**	**09 50 31.4**	**-1.7**
JYNG	**Yonagunijimaku**	**3.65**	**41**	P	**Pn**	**09 49 52.5**	**+1.3**
YM08	**YM08**	**3.67**	**18**	*e*P	**Pn**	**09 49 53.1**	**+1.6**
	baz=18						
YM08				*e*S	**Sn**	**09 50 31.6**	**-1.9**
YOJ	**Yonaguni jima**	**3.70**	**41**	*e*P	**Pn**	**09 49 53.3**	**+1.4**
	baz=42						
YOJ				*e*S	**Sn**	**09 50 33.8**	**-0.5**
ZZJH	**Jiuhuzhen**	**3.72**	**319**	*e*P	**Pn**	**09 49 54.5**	**+2.3**
	baz=317						
ZZJH				*e*S	**Sn**	**09 50 34.2**	**-0.6**
PTTC	**Pingtan**	**3.83**	**352**	*e*P	**Pn**	**09 49 55.5**	**+1.8**
	baz=351						
PTTC				*e*S	**Sn**	**09 50 35.4**	**-1.9**
AXDP	**Jialang**	**3.86**	**326**	*e*P	**Pn**	**09 49 54.5**	**+0.4**
	baz=324						
AXDP				*e*S	**Sn**	**09 50 37.8**	**-0.5**
HATJ	**Hateruma jima**	**3.97**	**53**	P	**Pn**	**09 49 56.9**	**+1.2**
HATJ				S	**Sn**	**09 50 40.3**	**-0.7**
IRIF	**Iriomote-Funau**	**4.09**	**49**	P	**Pn**	**09 49 58.4**	**+1.2**
JKRS	**Kuro-shima**	**4.23**	**52**	P	**Pn**	**09 50 00.6**	**+1.4**
JKRS				*e*S	**Sn**	**09 50 47.5**	**+0.2**
JIJ	**Ishigaki jima**	**4.40**	**52**	P	**Pn**	**09 50 02.5**	**+0.9**
JIJ				*e*S	**Sn**	**09 50 50.9**	**-0.7**
MATB	**Ma-tsu**	**4.46**	**355**	*e*P	**Pn**	**09 50 01.9**	**-0.4**
	baz=354						
MATB				*e*S	**Sn**	**09 50 50.8**	**-2.1**

	baz=354					
MHZQ	**Yeshan**	**4.55 345**	*e*P	**Pn**	**09 50 04.9**	**+1.4**
	baz=344					
MHZQ			*e*S	**Sn**	**09 50 54.1**	**-1.0**
	baz=344					
JISG	**Ishigakijimahi**	**4.66 51**	P	**Pn**	**09 50 05.8**	**+0.7**
LYJJ	**Jianjiangzhen**	**4.87 354**	*e*P	**Pn**	**09 50 07.3**	**-0.6**
	baz=353					
LYJJ			S	**Sn**	**09 51 00.3**	**-2.7**
	baz=353					
JTJ	**Tarama**	**4.98 53**	*e*S	**Sn**	**09 51 05.5**	**-0.2**
XPSS	**Dashiqiu**	**5.22 359**	*e*P	**Pn**	**09 50 12.0**	**-0.7**
	baz=358					
XPSS			*e*S	**Sn**	**09 51 08.8**	**-2.8**
	baz=358					
JMJ2	**Miyako jima3**	**5.51 56**	P	**Pn**	**09 50 17.9**	**+1.2**
JMJ2			*e*S	**Sn**	**09 51 18.0**	**-0.7**
JMJ	**Miyako jima 2**	**5.52 55**	*e*P	**Pn**	**09 50 15.8**	**-1.1**
	baz=56					
JMJ			*e*S	**Sn**	**09 51 16.4**	**-2.7**
	baz=56					

TAP 11 09:49:02.1, 24°.09N×121°.63E, $h10^{km}$, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**253**	P	Pg	09 49 04.7	+0.6
	baz=250						
TWD				S	Sg	09 49 05.9	+0.6
	baz=250						
NACB	**Ninganchiao**	**0.09**	**340**	P	Pg	09 49 05.5	+0.8
	baz=339						
NACB				S	Sg	09 49 07.6	+1.1
	baz=339						
HWA	**Hwalien**	**0.11**	**191**	*e*P	Pg	09 49 05.6	+0.7
	baz=187						
HWA				*e*S	Sg	09 49 07.7	+0.8
	baz=187						
ETLH	**Xiulin Townshi**	**0.18**	**311**	P	Pb	09 49 07.2	-0.4
	baz=310						
ETLH				S	Sg	09 49 10.0	+1.3
	baz=310						
ENLB	**Shoufeng**	**0.19**	**188**	*e*P	Pb	09 49 07.0	-0.6
	baz=187						
ENLB				*e*S	Sg	09 49 10.8	+2.0
	baz=187						
ESL	**Shilin**	**0.33**	**213**	*e*P	Pg	09 49 08.7	0.0
	baz=211						
ESL				*e*S	Sg	09 49 12.8	-0.3
	baz=211						
WHF	**Hehuan Shan**	**0.34**	**280**	P	Pg	09 49 09.7	+0.7
	baz=279						
WHF				*e*S	Sb	09 49 15.1	-1.0
	baz=279						
ENA	**Nanau**	**0.35**	**17**	*e*P	Pb	09 49 10.2	-0.4
	baz=18						
ENA				*e*S	Sb	09 49 15.4	-0.7
	baz=18						
NANB	**Nanao**	**0.35**	**18**	*e*P	Pb	09 49 10.0	-0.5
	baz=18						
NANB				*e*S	Sb	09 49 15.2	-1.0
	baz=18						
NNSB	**Datong**	**0.41**	**326**	*e*P	Pb	09 49 10.9	-0.6
	baz=326						
NNSB				*e*S	Sb	09 49 17.5	-0.3
	baz=326						
CHGB	**Renai**	**0.42**	**266**	*e*P	Pb	09 49 11.3	-0.4
	baz=266						
CHGB				*e*S	Sb	09 49 18.0	-0.2
	baz=266						
NNS	**Nan Shan**	**0.42**	**326**	*e*P	Pb	09 49 11.3	-0.5
	baz=326						
NNS				*e*S	Sb	09 49 18.1	-0.1
	baz=326						
EGFH	**Guangfu**	**0.46**	**204**	*e*P	Pb	09 49 12.3	+0.1
	baz=203						
EGFH				*e*S	Sb	09 49 19.6	+0.5
	baz=203						
TDCB	**Techi**	**0.46**	**291**	*e*P	Pb	09 49 12.0	-0.4
	baz=290						
TDCB				*e*S	Sb	09 49 19.3	-0.1
	baz=290						
NDT	**Datong Townshi**	**0.52**	**348**	*e*P	Pb	09 49 13.5	+0.1
	baz=348						
NDT				*e*S	Sb	09 49 21.2	+0.2
	baz=348						
ENTT	**Nioudou**	**0.55**	**354**	*e*P	Pb	09 49 13.9	0.0
	baz=354						
ENTT				*e*S	Sb	09 49 22.0	+0.1
	baz=354						
TWC	**Suao**	**0.56**	**21**	*e*P	Pb	09 49 13.7	-0.3
	baz=22						
TWC				*e*S	Sb	09 49 21.9	0.0
	baz=22						
VWDT	**VWDT**	**0.56**	**233**	*e*P	Pb	09 49 14.0	0.0
	baz=233						
VWDT				*e*S	Sb	09 49 22.0	0.0
	baz=233						
YHNB	**Yeheng**	**0.62**	**338**	*e*P	Pb	09 49 14.9	-0.2
	baz=338						
YHNB				*e*S	Sb	09 49 24.5	+0.5
	baz=338						
NSK	**Sanguang**	**0.63**	**337**	*e*S	Sb	09 49 24.5	+0.2
	baz=337						
NWLT	**Wulai**	**0.69**	**350**	*e*P	Pb	09 49 16.5	+0.1
	baz=350						
NWLT				*e*S	Sb	09 49 26.3	+0.3
	baz=350						
LIOB	**Emei**	**0.79**	**315**	*e*P	Pb	09 49 17.9	0.0
	baz=314						
LIOB				*e*S	Sb	09 49 29.4	+0.7
	baz=314						
CHN5	**Tsauling**	**1.00**	**241**	*e*S	Sn	09 49 36.0	-0.5
	baz=240						
WDLH	**Douliu**	**1.07**	**248**	*e*S	Sn	09 49 38.3	+0.1
	baz=248						
CHN4	**Tsaushan**	**1.20**	**232**	*e*S	Sn	09 49 41.8	+0.5
	baz=232						
TPUB	**Ta-pu**	**1.21**	**230**	*e*P	Pb	09 49 25.1	+0.1
	baz=229						
TPUB				*e*S	Sn	09 49 42.8	+1.3
	baz=229						
STYT	**Tauyuan**	**1.22**	**221**	*e*P	Pn	09 49 23.5	-1.8
	baz=220						
CHY	**Chiayi**	**1.25**	**242**	*e*S	Sn	09 49 43.1	+0.5
	baz=241						
WTCT	**Ta-ch'eng**	**1.25**	**260**	*e*S	Sn	09 49 43.4	+0.8
	baz=259						
WTP	**Ta-pu**	**1.25**	**228**	*e*P	Pn	09 49 25.7	0.0
	baz=227						
WTP				*e*S	Sn	09 49 42.9	+0.2
	baz=227						
SNST	**Tainan City**	**1.35**	**230**	*e*S	Sg	09 49 45.8	+0.1
	baz=230						
CHN1	**Nanshi**	**1.35**	**229**	*e*S	Sg	09 49 45.4	-0.3
	baz=228						
JMJ	**Miyako jima 2**	**3.42**	**77**	*e*S	Sn	09 50 36.4	+0.4
	baz=77						
AXDP	**Jialang**	**3.43**	**284**	*e*S	Sn	09 50 36.4	+0.1
	baz=283						

*IDC **11** 10:49:35.5±1.1, 35°.17N×46°.16E, $h0^{km}$, mb3.6/6, mb1 3.7/11, mb1mx3.6/45, mbtmp3.7/11, ML3.6/5, MS2.9/6, Ms1 2.9/6, ms1mx2.7/49, Error ellipse: s-maj=19.2km s-min=17.5km az=4.0*
*ISN **11** 10:49:35.0±90.0, 35°.58N×46°.02E, $h14^{km}$±999^{km}, ML3.9*
*ISCJB **11** 10:49:37.0±0.3, 35°.23N±0°.02×46°.15E±0°.03, $h10^{km}$, mb3.5/6, MS3.0/1, Error ellipse: s-maj=3.9km s-min=2.6km az=151.4*
*TEH **11** 10:49:36.7, 35°.32N×46°.25E, $h10^{km}$, ML3.7*
*AZER **11** 10:49:42.8±3.1, 35°.40N×46°.43E, $h10^{km}$, ml3.8/9, Error ellipse: s-maj=24.7km s-min=12.2km az=163.0*
ISC 11 10:49:37.1±0.6, 35°.31N±0°.03×46°.21E±0°.03, $h10^{km}$, n71, σ2°.38/76, mb3.5/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.63**	**166**	*e*Pg	**Pg**	**10 49 48.6**	**-0.7**
IDHR				*e*Sg	**Sb**	**10 49 59.1**	**-0.1**
IDHR				IAMB	IAmb	10 50 06.0	
	comp=Z,0.0nm,0.3s						
ILIN	**Lien**	**0.73**	**122**	*e*Pg	**Pg**	**10 49 48.9**	**-2.3**
ILIN				*e*Sg	**Sb**	**10 50 01.2**	**-1.0**
ILIN				IAMB	IAmb	10 50 04.8	
	comp=Z,30μm,0.2s						
IGHG	**Ghaleghazi**	**1.02**	**163**	*e*Pg	**Pb**	**10 49 56.5**	**-0.5**
IGHG				IAMB	IAmb	10 50 22.2	
	comp=Z,19μm,0.7s						
KER	**Kermanshah**	**1.20**	**140**	*e*Pg	**Pb**	**10 49 58.3**	**-1.6**
KCHF	**Cheshme Sefid,**	**1.24**	**146**	*e*Pg	**Pn**	**10 49 59.9**	**-0.7**
KCHF				IAMB	IAmb	10 50 28.0	
	comp=Z,0.0nm,0.3s						
MAHB	**Mahabad**	**1.51**	**344**	*e*Pn	**Pn**	**10 50 02.0**	**-2.3**
MAHB				IAMB	IAmb	10 50 29.7	
	comp=Z,0.0nm,0.7s						
IKOM	**Komasi**	**1.56**	**136**	IAMB	IAmb	10 50 09.3	
	comp=Z,0.0nm,0.4s						
IKOM				*e*Pn	**Pn**	**10 50 04.4**	**-0.6**
IBZA	**Bozab**	**1.60**	**121**	*e*Pn	**Pn**	**10 50 04.7**	**-0.9**
IDOB	**Doab**	**2.23**	**133**	*e*Pn	**Pb**	**10 50 15.7**	**-1.8**
IKFM	**Kafar-mosalman**	**2.24**	**142**	*e*Pn	**Pb**	**10 50 16.8**	**-0.8**
IKFM				IAMB	IAmb	10 50 21.5	
	comp=Z,0.0nm,0.2s						
HSAM	**Samen**	**2.25**	**118**	*e*Pn	**Pb**	**10 50 16.4**	**-1.6**
IAZR	**Azarshahr**	**2.37**	**356**	*e*Pn	**Pn**	**10 50 17.2**	**+0.9**
IAZR				IAMB	IAmb	10 51 01.9	
	comp=Z,10μm,0.6s						
IBST	**Bostanabad**	**2.45**	**13**	*e*Pn	**Pn**	**10 50 17.4**	**+0.1**
IBST				IAMB	IAmb	10 50 59.3	
	comp=Z,3μm,0.8s						
HAGD	**Aghdareh**	**2.45**	**101**	*e*Pn	**Pb**	**10 50 19.1**	**-2.3**
IKMR	**Kamar-syah**	**2.53**	**134**	*e*Pn	**Pb**	**10 50 20.7**	**-1.9**
BHD	**Baghdad**	**2.54**	**217**	*e*Pn	**Pn**	**10 50 18.0**	**-0.3**
	baz=30						
BHD				*e*Sn	**Sn**	**10 50 50.0**	**+0.8**
BDRS	**Dareh Seyedi**	**2.59**	**121**	*e*Pn	**Pb**	**10 50 21.5**	**-2.2**
BMDN	**Meydan**	**2.71**	**126**	IAMB	IAmb	10 51 19.9	
	comp=Z,0.0nm,0.8s						
MSL	**Mosul**	**2.74**	**294**	*e*Pn	**Pn**	**10 50 19.0**	**-2.1**
	baz=108						
MSL				AML	AML	10 50 30.7	
	comp=Z,1μm,0.6s						
MSL				*e*Sn	**Sn**	**10 50 52.0**	**-2.3**
YOVA	**Hakkari_Yksek**	**2.75**	**326**	*i* P	**Pb**	**10 50 24.6**	**-1.8**
YOVA				IAML_P			
	comp=Z,600nm,0.2s						
ISRB	**Sarab**	**2.77**	**25**	*e*Pn	**Pn**	**10 50 23.3**	**+1.6**
ISRB				IAMB	IAmb	10 51 05.1	
	comp=Z,2μm,0.4s						
QABG	**Abgarm-Qazvin**	**2.78**	**81**	*e*Pn	**Pn**	**10 50 22.5**	**+0.6**
QABG				IAMB	IAmb	10 51 11.6	
	comp=Z,0.0nm,0.9s						
CUKT	**Cukurca**	**2.85**	**313**	*i* P	**Pn**	**10 50 24.7**	**+1.9**
CUKT				IAML_P			
	comp=Z,1μm,0.2s						
ITBZ	**Tabriz**	**2.92**	**359**	*e*Pn	**Pn**	**10 50 24.8**	**+1.1**
ITBZ				IAMB	IAmb	10 51 11.3	
	comp=N,2μm,0.3s						
ISHB	**Shabestar**	**3.00**	**351**	*e*Pn	**Pn**	**10 50 25.8**	**+0.8**
ISHB				IAMB	IAmb	10 51 23.5	
	comp=Z,4μm,0.9s						
HAKT	**HAKKARI**	**3.02**	**319**	*i* P	**Pn**	**10 50 27.7**	**+2.6**
HAKT				IAML_P			
	comp=Z,698nm,0.3s						
HAKT	**HAKKARI**	**3.02**	**319**	*e*Pn	**Pb**	**10 50 29.1**	**-1.9**
IRAZ	**Razeghan**	**3.04**	**87**	*e*Pn	**Pb**	**10 50 27.9**	**-3.5**
IRAZ				IAMB	IAmb	10 51 26.4	
	comp=Z,2μm,0.6s						
ORD	**Ordubad**	**3.62**	**357**	P	**Pb**	**10 50 37.2**	**-3.9**
ORD				S	**Sn**	**10 51 19.9**	**+3.9**
LRK	**Lerik**	**3.74**	**27**	P	**Pb**	**10 50 38.6**	**-4.6**
ASTR	**Astara**	**3.85**	**32**	P	**Pn**	**10 50 40.0**	**+3.7**
ASTR				S	**Sn**	**10 51 24.3**	**+2.8**
NAX	**Nakhchivan**	**3.90**	**352**	P	**Pb**	**10 50 41.3**	**-4.7**
NAX				S	**Sb**	**10 51 28.1**	**-5.1**
GEVA	**Gevas**	**3.92**	**321**	*i* P	**Pn**	**10 50 39.0**	**+1.5**
GEVA				IAML_P			
	comp=Z,580nm,0.1s						
YRD	**Yardimli**	**3.95**	**24**	P	**Pn**	**10 50 40.3**	**+2.4**
YRD				S	**Sn**	**10 51 27.9**	**+3.5**
LKRN	**Lenkeran, Azer**	**3.97**	**30**	P	**Pn**	**10 50 41.4**	**+3.4**
LKRN				S	**Sn**	**10 51 27.1**	**+2.5**
IQOM	**Qom**	**4.01**	**95**	*e*Pn	**Pn**	**10 50 39.3**	**+0.4**
IQOM				IAMB	IAmb	10 50 55.3	
	comp=Z,0.0nm,1.2s						
SBZ	**Shahbuz**	**4.11**	**353**	P	**Pb**	**10 50 45.4**	**-4.2**
SBZ				S	**Sn**	**10 51 32.6**	**+4.3**
SRTM	**Siirt_Merkez**	**4.36**	**309**	*i* P	**Pn**	**10 50 44.1**	**+0.6**
SRTM				IAML_P			
	comp=Z,639nm,0.2s						
BTMN	**Batman**	**4.74**	**304**	*i* P	**Pn**	**10 50 48.1**	**-0.5**
BTMN				IAML_P			
	comp=Z,167nm,0.2s						
MARD	**Mardin**	**4.82**	**296**	*i* P	**Pn**	**10 50 50.9**	**+1.1**
MARD				IAML_P			
	comp=Z,2μm,0.3s						
GNI	**Garni**	**4.97**	**347**	Pg	**Pb**	**10 51 07.5**	**+3.3**
	comp=Z,3.6nm,0.3s,baz=221,slow=6.7,SNR=10.0						
GNI				Lg	Lg	10 52 15.0	
	baz=46,slow=11,SNR=4.2						
GNI				LR	LR	10 53 15.6	
	comp=Z,59nm,18.2s,baz=130,slow=43						
GANJ	**Ganja**	**5.33**	**1**	P	Pn	10 51 02.0	+5.3
GDB	**GEDABAY**	**5.41**	**356**	P	Pn	10 51 03.8	+5.8
GDB				S	**Sn**	**10 52 04.5**	**+4.0**
DIGO	**Kars**	**5.57**	**337**	*e*Pn	**Pn**	**10 51 03.5**	**+3.3**
IZEF	**Zefreh**	**5.62**	**114**	*e*Pn	**Pn**	**10 51 03.3**	**+2.4**
IRAM	**Ramesheh**	**6.22**	**122**	*e*Pn	**Pn**	**10 51 10.4**	**+1.2**
KLNJ	**Kolanjah**	**6.23**	**132**	*e*Pn	**Pn**	**10 51 11.1**	**+1.7**
KEMA	**Kemaliye**	**7.31**	**305**	*e*Pn	**Pn**	**10 51 25.4**	**+1.5**
ISRV	**Sarvestan**	**8.31**	**133**	*e*Pn	**Pn**	**10 51 39.3**	**+1.4**
ASF	**Jabal al Asfar**	**8.36**	**251**	Pn	**Pn**	**10 51 38.1**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=14,slow=9.9,SNR=5.7						
MMAI	**Mount Meron Ar**	**9.24**	**259**	LR	LR	10 56 05.0	
	comp=Z,72nm,20.2s,baz=75,slow=42						
BRTR	**Keskin Array B**	**10.91**	**298**	Pn	**Pn**	**10 52 16.8**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=124,slow=12,SNR=13						
BRTR				LR	LR	10 56 09.0	
	comp=Z,28nm,18.9s,baz=102,slow=36						
EIL	**Elat**	**11.04**	**243**	LR	LR	10 57 24.2	
	comp=Z,63nm,19.8s,baz=103,slow=43						
BANOM	**Banah**	**12.76**	**134**	P	**Pn**	**10 52 36.9**	**-1.7**
UOSS	**Minazif**	**13.46**	**137**	P	**Pn**	**10 52 46.2**	**-2.0**
ASHO	**Ashiyiah**	**13.59**	**139**	P	**Pn**	**10 52 47.7**	**-2.3**
BSY	**Bisya**	**15.77**	**140**	P	**Pn**	**10 53 16.3**	**-3.1**
WSAR	**Wadi Sarin**	**16.17**	**135**	Pn	**Pn**	**10 53 21.2**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=320,slow=11,SNR=4.2						
WSAR				LR	LR	11 00 08.5	
	comp=Z,66nm,19.8s,baz=330,slow=39						
JMDO	**Jabal Madar**	**16.56**	**138**	P	**Pn**	**10 53 27.2**	**-2.2**
AKTO	**Aktyubinsk**	**17.38**	**26**	P	**P**	**10 53 42.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=201,slow=10,SNR=8.4						
AKASG	**Malin Array Be**	**19.70**	**327**	P	**P**	**10 54 06.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=11,SNR=3.3						
KOLS	**Kolonicke sedl**	**22.25**	**315**	*e*P	**P**	**10 54 35.4**	**+1.4**
ARU	**Arti**	**22.74**	**18**	P	**P**	**10 54 40.5**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=208,slow=17,SNR=3.4						
AAK	**Ala-Archa**	**23.10**	**63**	LR	LR	11 06 30.3	
	comp=Z,52nm,18.0s,baz=246,slow=44						
VYHS	**Vyhne**	**24.11**	**312**	*e*P	**P**	**10 54 56.0**	**+3.2**
BVAR	**Borovoye Array**	**24.60**	**36**	P	**P**	**10 54 59.3**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=243,slow=4.7,SNR=3.1						
MODS	**Modra-Piesok**	**25.03**	**310**	*e*P	**P**	**10 55 02.7**	**+1.5**
MKAR	**Makanchi Array**	**29.28**	**56**	P	**P**	**10 55 42.2**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=245,slow=10,SNR=3.9						
ESDC	**Sonseca Array**	**39.63**	**292**	P	**P**	**10 57 08.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=65,slow=7.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**45.72**	**253**	P	**P**	**10 57 58.4**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=40,slow=7.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**49.37**	**96**	P	**P**	**10 58 25.8**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=300,slow=7.9,SNR=10.0						

*ISCJB **11** 11:07:07.6±0.6, 35°.75N±0°.03×97°.44W±0°.03, $h7^{km}$±4^{km}, Error ellipse: s-maj=4.9km s-min=3.4km az=165.4*
*ANF **11** 11:07:09.6±1.6, 35°.72N×97°.46W, $h14^{km}$±11^{km}, ML3.8/8, Error ellipse: s-maj=6.2km s-min=3.7km az=143.0*
*NEIC **11** 11:07:09.0±1.0, 35°.71N±0°.02×97°.42W±0°.03, $h6^{km}$±5^{km}*
ISC 11 11:07:08.9±1.3, 35°.71N±0°.05×97°.43W±0°.04, $h5^{km}$±8^{km}, n44, σ0°.85/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.08**	**141**		**Pg**	**11 07 10.8**	**+0.1**
OK009	**Oakdale Elemen**	**0.13**	**177**		**Pg**	**11 07 11.7**	**+0.1**
OK009				Sg	**Sg**	**11 07 13.6**	**+0.2**
OK005	**Luther M Schoo**	**0.20**	**106**		**Pg**	**11 07 13.0**	**0.0**
OK005				Sg	**Sg**	**11 07 15.1**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**0.31**	**181**		**Pg**	**11 07 15.0**	**+0.1**
FNO	**Franklin**	**0.46**	**177**		**Pg**	**11 07 17.7**	**0.0**
FNO				Sg	**Sg**	**11 07 23.7**	**+0.1**
W35A	**Tecumseh**	**0.72**	**141**		**Pg**	**11 07 22.5**	**-0.3**
W35A				Sg	**Sg**	**11 07 32.2**	**+0.1**
X34A	**Smith Ranch, M**	**1.16**	**197**		**Pb**	**11 07 30.6**	**-0.8**
X34A				Sg	**Sn**	**11 07 47.0**	**-0.9**
TUL1	**Leonard**	**1.35**	**81**	P	**Pn**	**11 07 33.0**	**-1.4**
	baz=262						
TUL1				S	**Sn**	**11 07 52.4**	**-0.2**
	baz=262						
TUL1	**Leonard**	**1.35**	**81**		**Pn**	**11 07 32.9**	**-1.4**
TUL1				Sn	**Sb**	**11 07 51.8**	**-0.4**
WMOK	**Wichita Mounta**	**1.47**	**229**	P	**Pn**	**11 07 35.5**	**-0.6**
	baz=48						
WMOK				S	**Sn**	**11 07 54.8**	**-0.9**
	baz=48						
WMOK	**Wichita Mounta**	**1.47**	**229**		**Pn**	**11 07 35.5**	**-0.6**
WMOK				Sn	**Sn**	**11 07 55.0**	**-0.8**
HHAR	**Hobbs**	**2.89**	**78**		**Pn**	**11 07 55.6**	**0.0**
W39A	**Magazine**	**3.02**	**99**	P	**Pn**	**11 07 57.3**	**-0.1**
	baz=281						
W39A	**Magazine**	**3.02**	**99**		**Pn**	**11 07 57.4**	**-0.1**
MIAR	**Mount Ida**	**3.37**	**109**	P	**Pn**	**11 08 02.7**	**+0.5**
	baz=292						
MIAR				S	**Sn**	**11 08 44.1**	**+1.6**
	baz=292						
MIAR	**Mount Ida**	**3.37**	**109**		**Pn**	**11 08 02.8**	**+0.5**
KSU1	**Kansas State U**	**3.44**	**11**	P	**Pn**	**11 08 03.4**	**+0.2**
	baz=191						
AMTX	**Amarillo**	**3.57**	**258**		**Pn**	**11 08 06.3**	**+1.2**
ABTX	**Abilene, Hawle**	**3.59**	**211**		**Pn**	**11 08 05.1**	**-0.1**
CBKS	**Cedar Bluff**	**3.60**	**330**		**Pn**	**11 08 05.7**	**+0.3**
WHTX	**Lake Whitney,**	**3.71**	**180**	P	**Pn**	**11 08 07.2**	**+0.2**
	baz=0.3						
WHTX				Sb	**Sb**	**11 09 02.9**	**+2.6**
	baz=0.3						
WHTX	**Lake Whitney,**	**3.71**	**180**		**Pn**	**11 08 06.7**	**-0.2**
U40A	**Yellville**	**3.77**	**79**		**Pn**	**11 08 07.3**	**-0.4**
X40A	**Basin Creek Fa**	**3.96**	**107**	P	**Pn**	**11 08 10.9**	**+0.5**
	baz=290						
WLAR	**White Oak Lake**	**4.09**	**118**	Pn	**Pn**	**11 08 11.7**	**-0.4**
W41B	**Gary Mavity, V**	**4.27**	**96**	P	**Pn**	**11 08 14.4**	**-0.1**
	baz=279						
MGMO	**Mountain Grove**	**4.40**	**69**	Pn	**Pn**	**11 08 17.0**	**+0.6**
Z41A	**Richland Creek**	**4.54**	**121**	Pn	**Pn**	**11 08 18.1**	**-0.1**
MSTX	**Muleshoe**	**4.72**	**250**		**Pn**	**11 08 21.5**	**+0.6**
435B	**Jarrell**	**4.92**	**182**	Pn	**Pn**	**11 08 24.2**	**+0.6**
LCAR	**Lake Charles**	**5.11**	**84**	Pn	**Pn**	**11 08 24.9**	**-1.2**
LCAR				Sn	**Sn**	**11 09 25.3**	**-0.1**
KSCO	**Kaye Shedlock'**	**5.29**	**310**	Pn	**Pn**	**11 08 30.7**	**+2.0**
BGNE	**Belgrade**	**5.71**	**355**	Pn	**Pn**	**11 08 32.1**	**-2.3**
PBMO	**Poplar Bluff**	**5.76**	**77**		**Pn**	**11 08 35.1**	**+0.1**
T25A	**Trinidad**	**5.80**	**286**	Pn	**Pn**	**11 08 36.4**	**+0.5**
GDL2	**Guadalupe Moun**	**6.74**	**241**		**Pn**	**11 08 47.1**	**-1.5**
SDCO	**Great Sand Dun**	**6.79**	**290**		**Pn**	**11 08 50.0**	**+0.5**
ISCO	**Idaho Springs**	**7.66**	**305**	Pn	**Pn**	**11 09 01.2**	**-0.1**
S22A	**4UR Ranch, Cre**	**7.81**	**288**		**Pn**	**11 09 04.6**	**+1.0**
HDIL	**Hopedale**	**8.03**	**51**	Pn	**Pn**	**11 09 06.7**	**+0.5**
ECSD	**EROS Data Cent**	**8.04**	**4**	Pn	**Pn**	**11 09 06.7**	**+0.4**
TX31	**Lajitas Ar. Si**	**8.26**	**221**	Pn	**Pn**	**11 09 09.1**	**-0.3**
TXAR	**Lajitas Array**	**8.26**	**221**	Pn	**Pn**	**11 09 09.8**	**+0.4**
PHWY	**Pilot Hill**	**8.41**	**314**	Pn	**Pn**	**11 09 11.4**	**-0.3**

*ISCJB **11** 11:27:21.6±0.4, 58°.75N±0°.03×18°.48E±0°.05, $h0^{km}$, Error ellipse: s-maj=4.8km s-min=3.2km az=142.9*
*NAO **11** 11:27:22.4±1.0, 58°.61N×18°.65E, ML2.5*
*UPP **11** 11:27:22.6±0.2, 58°.75N×18°.58E, $h0^{km}$, ML2.3, Explosion*
*HEL **11** 11:27:23.6±0.1, 58°.75N×18°.56E, $h0^{km}$, ML2.4, ML2.3(UPP), Explosion*
*BER **11** 11:27:25.1±3.9, 58°.89N×18°.65E, $h0^{km}$, ML2.2, ML2.5(NAO), Suspected explosion*
*IDC **11** 11:27:28.4±2.0, 59°.21N×18°.36E, $h0^{km}$, mb1 3.2/4, mb1mx3.0/50, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=27.6km s-min=6.8km az=179.0*
ISC 11 11:27:22.3±0.7, 58°.73N±0°.03×18°.48E±0°.03, $h0^{km}$, n55, σ1°.62/80, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.37**	**318**	P	**Pg**	**11 27 30.2**	**+0.8**
NYNU				S	**Sg**	**11 27 35.1**	**+0.9**
NYNU	**Nynaeshamn**	**0.37**	**318**	*i* P	**Pg**	**11 27 30.2**	**+0.8**
NYNU				*i* S	**Sg**	**11 27 35.1**	**+0.9**
NRTU	**Norrtaelje**	**0.95**	**5**	P	**Pg**	**11 27 40.1**	**-0.4**
NRTU	**Norrtaelje**	**0.95**	**5**	*e*P	**Pg**	**11 27 40.1**	**-0.4**
VIKU	**Vikbolandet**	**0.96**	**257**	P	**Pb**	**11 27 41.6**	**-0.2**
VIKU				S	**Sb**	**11 27 55.0**	**+0.1**
VIKU	**Vikbolandet**	**0.96**	**257**	*e*P	**Pb**	**11 27 41.6**	**-0.2**
VIKU				*e*S	**Sb**	**11 27 55.0**	**+0.1**
GOTU	**Gotland**	**1.05**	**177**	P	**Pg**	**11 27 42.5**	**+0.2**
GOTU	**Gotland**	**1.05**	**177**	*e*P	**Pg**	**11 27 42.5**	**+0.2**
ESKU	**Eskilstuna**	**1.19**	**296**	P	**Pg**	**11 27 45.3**	**+0.2**
ESKU	**Eskilstuna**	**1.19**	**296**	*e*P	**Pg**	**11 27 45.3**	**+0.2**
UPP	**Uppsala**	**1.22**	**339**	P	**Pg**	**11 27 45.4**	**-0.2**
UPP	**Uppsala**	**1.22**	**339**	*e*P	**Pg**	**11 27 45.4**	**-0.2**
**B

FIA0 FINESS Array S 4.68 51 Pn **Pn 11 28 35.1 +1.1**
baz=245,slow=12
FIA0 Sg **Sb 11 29 45.3 +3.5**
baz=230,slow=22
FINES FINESS Array B 4.68 51 Pn **Pn 11 28 35.5 +1.5**
comp=Z,0.6nm,0.3s,baz=239,slow=11,SNR=14
FINES Pg **Pb 11 28 45.5 +0.4**
comp=Z,1.1nm,0.3s,baz=245,slow=14,SNR=15
FINES Lg Lg 11 29 46.1
comp=Z,3.6nm,0.3s,baz=240,slow=23,SNR=11
FIA1 FINESS Array S 4.68 51 *e*P **Pn 11 28 35.6 +1.5**
FIA1 *e*SG **Sb 11 29 44.3 +2.4**
KEF Keuruu 4.68 40 *e*P **Pn 11 28 35.3 +1.2**
KEF *e*SG **Sb 11 29 45.6 +3.6**
KEF MSG 11 29 50.7
comp=Z,4.0nm,0.2s
KAF Kangasniemi 5.15 45 *e*P **Pn 11 28 41.2 +0.7**
KAF *e*SB **Sb 11 29 56.6 +1.1**
HOMB Homborsund 5.25 269 *e*P **Pn 11 28 42.7 +0.8**
HOMB *e*S **Sn 11 29 42.1 -1.0**
HOMB IAML 11 30 13.8
comp=Z,6.6nm,0.4s
SUF Sumiainen 5.49 40 *e*P **Pn 11 28 45.4 +0.2**
SUF *e*SB **Sb 11 30 04.7 -0.6**
SUF MSG 11 30 16.6
comp=Z,3.8nm,0.1s
SKAR Skarslia 5.51 295 *e*P **Pn 11 28 46.5 +1.0**
SKAR *e*S **Sn 11 29 47.3 -2.3**
SKAR IAML 11 30 14.6
comp=Z,3.5nm,0.4s
DOMB Dombas 5.73 309 *e*P **Pn 11 28 49.1 +0.6**
DOMB *e*Sg **Sb 11 30 19.1 +6.9**
DOMB IAML 11 30 43.0
comp=Z,13nm,0.1s
SNART Snartemo 5.92 271 *e*P **Pn 11 28 52.2 +1.1**
SNART *e*S **Sn 11 29 57.3 -2.2**
SNART IAML 11 30 05.5
comp=Z,2.6nm,0.5s
BLS5 Blasjo 6.24 282 *e*P **Pn 11 28 56.0 +0.5**
BLS5 IAML 11 30 12.8
comp=Z,3.1nm,0.6s
APA0 Apatity Array 11.02 30 Pn **Pn 11 30 00.0 -1.0**
baz=219,slow=16
APA0 Apatity Array 11.02 30 Pn **Pn 11 30 00.0 -1.0**
baz=219,slow=16
ARA0 ARCESS Array S 11.26 13 Pn **Pn 11 30 02.2 -2.0**
baz=192,slow=16
ARA0 ARCESS Array S 11.26 13 Pn **Pn 11 30 02.2 -2.0**
baz=192,slow=16
ARCES ARCESS Array B 11.26 13 Pn **Pn 11 30 01.5 -2.7**
comp=Z,0.6nm,0.3s,baz=195,slow=14,SNR=14

*UPP **11** 11:27:49.0±0.3, 58.78N×18.47E, h0km, ML2.2, Explosion*
*IDC **11** 11:27:53.8±2.5, 59.18N×18.33E, h0km, mb1 3.2/4, mb1mx3.0/50, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=33.8km s-min=8.7km az=176.0*
ISC 11 11:27:44.2±1.8, 58.7N±0.1×19.00E±0.08, h0km, n7, σ2.9 09/8, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.59**	**299**	P	**Pg**	**11 27 55.5**	**0.0**
NYNU	baz=139			S	**Sg**	**11 28 00.3**	**-2.7**
NRTU	**Norrtaelje**	**0.97**	**349**	P	**Pn**	**11 28 06.0**	**+0.9**
VIKU	**Vikbolandet**	**1.22**	**260**	P	**Pg**	**11 28 07.0**	**-0.6**
HFS	**Hagfors**	**3.05**	**300**	Pn	**Pn**	**11 28 35.7**	**+1.9**
HFS	2.2nm,0.3s,baz=116,slow=15,SNR=10			Lg	Lg	11 29 12.2	
FINES	**FINESS Array B**	**4.47**	**49**	Pn	**Pb**	**11 29 01.4**	**-2.1**
FINES	6.7nm,0.3s,baz=116,slow=30,SNR=7.2			Lg	Lg	11 30 12.4	
NOA	**NORSAR Array B**	**4.55**	**304**	Pn	**Pn**	**11 28 55.6**	**+1.3**
ARCES	3.3nm,0.3s,baz=231,slow=24,SNR=6.0 **ARCESS Array B**	**11.21**	**12**	Pn	**Pn**	**11 30 27.3**	**+1.9**
	0.6nm,0.3s,baz=196,slow=14,SNR=8.2						

IDC 11 11:27:48.4±1.2, 9.47S×159.37E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/38, mbtmp3.9/3, Error ellipse: s-maj=56.6km s-min=12.8km az=170.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**86**	LR	LR	11 27 51.2	
HNR	comp=Z,59nm,20.1s,baz=358,slow=5.0			Pn	Pn	11 28 02.9	-0.9
HNR	145nm,0.3s,baz=176,slow=3.2,SNR=26			Sn	Sn	11 28 16.8	+2.9
HNR	**Honiara**	**0.57**	**86**	P	Pn	11 28 03.0	-0.8
HNR				*e*S	Sn	11 28 19.0	+5.1
WRA	**Warramunga Arr**	**26.31**	**244**	P	P	11 33 26.2	+0.1
ASAR	1.2nm,0.5s,baz=70,slow=9.4,SNR=18 **Alice Springs**	**28.12**	**237**	P	P	11 33 42.2	-0.2
MKAR	0.4nm,0.4s,baz=66,slow=10,SNR=22 **Makanchi Array**	**88.12**	**318**	P	P	11 40 41.9	+0.7
	0.6nm,0.7s,baz=106,slow=4.4,SNR=4.6						

*ISCJB **11** 11:27:58.4±1.5, 58.7N±0.1×18.6E±0.1, h0km, Error ellipse: s-maj=14.7km s-min=10.0km az=4.1*
*UPP **11** 11:28:00.1±0.4, 58.77N×18.56E, h0km, ML2.5, Explosion*
*IDC **11** 11:28:02.8±3.1, 58.95N×18.58E, h0km, mb1 3.4/3, mb1mx3.1/48, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=38.5km s-min=11.1km az=177.0*
ISC 11 11:27:59.5±1.7, 58.77N±0.09×18.57E±0.08, h0km, n8, σ1.8 10/8, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.37**	**309**	P	**Pg**	**11 28 07.3**	**+0.7**
NYNU				S	**Sg**	**11 28 12.0**	**+0.5**
NRTU	**Norrtaelje**	**0.91**	**2**	P	**Pg**	**11 28 17.0**	**+0.1**
NRTU	**Norrtaelje**	**0.91**	**2**	S	**Pg**	**11 28 16.9**	**0.0**
VIKU	**Vikbolandet**	**1.01**	**255**	P	**Pg**	**11 28 18.7**	**-0.3**
HFS	**Hagfors**	**2.84**	**301**	Lg	Lg	11 29 24.3	
NOA	8.4nm,0.3s,baz=112,slow=27,SNR=5.3 **NORSAR Array B**	**4.34**	**305**	Pn	**Pn**	**11 29 07.2**	**+0.4**
NOA	0.1nm,0.3s,baz=141,slow=10,SNR=5.4			Lg	Lg	11 30 14.9	
FINES	0.5nm,0.3s,baz=106,slow=18,SNR=3.8 **FINESS Array B**	**4.61**	**51**	Pn	**Pn**	**11 29 11.2**	**+0.9**
FINES	1.0nm,0.3s,baz=247,slow=14,SNR=6.6			Lg	Lg	11 30 23.3	
ARCES	3.4nm,0.3s,baz=275,slow=28,SNR=5.9 **ARCESS Array B**	**11.21**	**13**	Pn	**Pn**	**11 30 38.6**	**-2.1**
	0.7nm,0.3s,baz=196,slow=13,SNR=6.4						

*ISCJB **11** 11:28:07.4±0.8, 32.35S±0.03×70.62W±0.05, h4km±7km, Error ellipse: s-maj=7.0km s-min=4.1km az=16.8*
*GUC **11** 11:28:07.0±0.8, 32.32S×70.54W, h11km±7km, ML3.0*
*SJA **11** 11:28:07.5±0.6, 32.47S×70.79W, h68km±9km, ML2.8, MW3.1*
ISC 11 11:28:05.6±1.4, 32.39S±0.03×70.68W±0.04, h0km±13km, n21, σ1.9 33/29, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.65**	**205**	||*i*P	**Pn**	**11 28 21.5**	**-0.7**
ROCH				*i* S	**Sn**	**11 28 31.9**	**-1.4**
ROCH	comp=N,871nm,0.2s			IAML		11 28 33.5	
ROC1	**El Roble**	**0.65**	**206**	*e*P	**Pn**	**11 28 21.5**	**-0.8**
ROC1				*e*S	**Sn**	**11 28 32.2**	**-1.2**
PEL	**Peldehue**	**0.75**	**180**	*e*P	**Pn**	**11 28 22.5**	**-1.0**
PEL				*i* S	**Sn**	**11 28 33.6**	**-2.0**
PEL	comp=E,432nm,0.4s			IAML		11 28 34.7	
FCH	**Farellones**	**0.99**	**161**	||*i*P	**Pb**	**11 28 25.8**	**-0.1**
FCH				*i* S	**Sb**	**11 28 39.6**	**0.0**
FCH	comp=E,1μm,0.2s			IAML		11 28 40.1	
VA01	**Torpederas**	**1.03**	**232**	*e*P	**Pn**	**11 28 28.3**	**+1.0**
VA01				*e*S	**Sn**	**11 28 44.0**	**+1.6**
RCDM	**Rinconada Maip**	**1.10**	**185**	*e*P	**Pn**	**11 28 29.2**	**+0.9**
RCDM				*e*S	**Sn**	**11 28 45.3**	**+1.1**
RCDM	comp=E,914nm,0.2s			IAML		11 28 46.1	

CO02	**Combarbal**	**1.21**	**347**	||*i*P	**Pg**	**11 28 28.5**	**-0.4**
CO02				*i* S	**Sg**	**11 28 44.3**	**-0.2**
RTLS	**Leoncito**	**1.31**	**64**	*e*P	**Pg**	**11 28 29.1**	**-1.7**
LMEL	**Las Melosas**	**1.51**	**165**	*e*P	**Pg**	**11 28 35.3**	**+0.8**
LMEL				*i* S	**Sg**	**11 28 56.0**	**+1.9**
LMEL	comp=N,491nm,0.2s			IAML		11 28 58.7	
RTCV	**Cerro Valdivia**	**1.89**	**74**	*e*P	**Pg**	**11 28 42.0**	**+0.1**
ZON	**Zonda**	**1.90**	**64**	*e*P	**Pb**	**11 28 40.9**	**-0.3**
RTLL	**Cerro Villicun**	**2.15**	**61**	*e*P	**Pb**	**11 28 44.7**	**-0.8**
GO04	**Tololo Observa**	**2.21**	**357**	*e*P	**Pb**	**11 28 45.4**	**-1.2**
ACCO	**Cerro Coronel**	**2.27**	**38**	*e*P	**Pn**	**11 28 45.7**	**+1.2**
ACCO				IAML		11 29 25.6	
	comp=Z,44nm,0.4s						
AMOG	**MOGNA**	**2.36**	**53**	*e*P	**Pb**	**11 28 47.9**	**-1.2**
AMOG				IAML		11 29 21.9	
	comp=Z,60nm,0.4s						
AROD	**Rodeo**	**2.44**	**25**	*e*P	**Pb**	**11 28 51.3**	**+0.7**
ACDV	**Cuesta del Vie**	**2.58**	**32**	*e*P	**Pb**	**11 28 53.0**	**+0.1**
ACAN	**Cantantal**	**2.96**	**89**	*e*P	**Pb**	**11 28 56.3**	**-2.9**
ACAN				IAML		11 30 11.6	
	comp=Z,25nm,2.3s						
APLL	**PUNTA DE LOS L**	**4.07**	**62**	*e*P	**Pn**	**11 29 11.1**	**+1.9**
MRA	**San Martin**	**4.20**	**92**	*e*P	**Pn**	**11 29 12.4**	**+1.5**
MRA				IAML		11 30 17.4	
	comp=Z,12nm,0.4s						
TCA	**Tanti**	**5.28**	**80**	*e*P	**Pn**	**11 29 27.2**	**+1.3**

IDC 11 11:46:22.6±6.0, 56.17S×151.21W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/28, mbtmp3.7/2, MS3.6/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=525.9km s-min=50.4km az=165.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**53.97**	**195**	LR	LR	12 15 39.3	
	comp=Z,59nm,19.6s,baz=56,slow=33						
ASAR	**Alice Springs**	**62.31**	**268**	P	P	11 56 46.6	0.0
	1.3nm,0.8s,baz=138,slow=5.9,SNR=15						
H01W1	**Cape Leeuwin H**	**64.22**	**245**	T	T	13 06 57.8	
	baz=142,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**64.22**	**245**	T	T	13 06 57.2	
	baz=142,slow=76,SNR=3.9						
H01W3	**Cape Leeuwin H**	**64.23**	**245**	T	T	13 07 02.4	
	baz=142,slow=76,SNR=4.6						
WRA	**Warramunga Arr**	**65.03**	**271**	P	P	11 57 04.5	0.0
	0.6nm,0.5s,baz=152,slow=5.5,SNR=19						
H10S3	**ASCENSION HYDR**	**105.84**	**135**	T	T	13 58 50.2	
	baz=204,slow=74,SNR=5.1						
H10S2	**ASCENSION HYDR**	**105.84**	**135**	T	T	13 58 59.3	
	baz=16,slow=74,SNR=4.5						
H10N3	**ASCENSION HYDR**	**106.92**	**135**	T	T	14 00 20.9	
	baz=204,slow=75,SNR=7.1						
H10N1	**ASCENSION HYDR**	**106.92**	**135**	T	T	14 00 11.2	
	baz=204,slow=75,SNR=5.9						
H10N2	**ASCENSION HYDR**	**106.93**	**135**	T	T	14 00 21.8	
	baz=204,slow=75,SNR=7.5						
ILAR	**Eielson Array**	**120.66**	**2**	PKP	PKPdf	12 05 14.6	-0.1
	0.7nm,0.6s,baz=212,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**146.19**	**277**	PKPbc	PKPdf	12 06 03.1	+0.3
	1.5nm,0.7s,baz=121,slow=4.7,SNR=14						
ZALV	**Zalesovo Beam**	**148.58**	**290**	PKPbc	PKPbc	12 06 09.3	-0.9
	1.0nm,0.6s,baz=130,slow=2.2,SNR=5.0						

*ISCJB **11** 11:46:42.6±0.2, 47.53N±0.01×123.25W±0.03, h49km±4km, Error ellipse: s-maj=3.2km s-min=1.9km az=157.9*
*NEIC **11** 11:46:43.7±1.5, 47.52N±0.02×123.18W±0.04, h39km±12km*
*SEA **11** 11:46:43.5, 47.50N×123.16W, h43km, ML2.8, ML2.4/31, Washington*
*ANF **11** 11:46:43.4±0.3, 47.54N×123.26W, h38km±3km, ML2.8/9, Error ellipse: s-maj=4.4km s-min=1.8km az=99.0*
*PNSN **11** 11:46:43.6, 47.50N×123.16W, h43km, MD2.8, Fault plane solution: NP1:φ=25.00000°, δ=80.00000°, λ=-120.00000°.*
ISC 11 11:46:43.5±1.1, 47.53N±0.02×123.24W±0.02, h41km±6km, n162, σ0.9 74/257, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D03D	**Eldon**	**0.10**	**89**	P	**Pn**	**11 46 49.5**	**-0.8**
D03D	baz=231,SNR=1000			S	**Sn**	**11 46 55.2**	**+0.1**
HDW	**Hoodsport**	**0.17**	**48**	P	Pn	11 47 05.8	+15
HDW	**Hoodsport**	**0.17**	**48**	P	Pn	11 47 05.8	+15
SMW	**South Mountain**	**0.23**	**198**	P	**Pn**	**11 46 51.2**	**0.0**
SMW	**South Mountain**	**0.23**	**198**	P	**Pn**	**11 46 51.2**	**0.0**
GNW	**Green Mountain**	**0.28**	**84**	P	**Pn**	**11 46 50.7**	**-1.0**
GNW				S	**Sn**	**11 46 56.8**	**-0.6**
GNW	**Green Mountain**	**0.28**	**84**	P	**Pn**	**11 46 50.7**	**-1.0**
GNW				S	**Sn**	**11 46 56.8**	**-0.6**
OSD	**Olympics--Snow**	**0.42**	**313**	P	**Pn**	**11 46 54.1**	**+0.5**
OSD	**Olympics--Snow**	**0.42**	**313**	P	**Pn**	**11 46 54.1**	**+0.5**
NLWA	**Neilton Lookou**	**0.45**	**252**		**Pn**	**11 46 53.8**	**+0.1**
NLWA				Sn	**Sn**	**11 47 02.2**	**+1.4**
D04E	**Lakebay**	**0.48**	**138**	P	**Pn**	**11 46 53.6**	**-0.4**
D04E	baz=320,SNR=244			S	**Sn**	**11 47 02.3**	**+1.0**
BLN	**Blyn Mountain**	**0.51**	**21**	P	**Pn**	**11 46 54.7**	**+0.2**
BLN	**Blyn Mountain**	**0.51**	**21**	P	**Pn**	**11 46 54.7**	**+0.2**
WISH	**Wishkah**	**0.55**	**221**	P	**Pn**	**11 46 55.1**	**+0.1**
WISH	**Wishkah**	**0.55**	**221**	P	**Pn**	**11 46 55.1**	**+0.1**
CPW	**Capitol Peak**	**0.56**	**173**	P	**Pn**	**11 46 54.5**	**-0.7**
CPW				S	**Sn**	**11 47 02.9**	**-0.6**
CPW	**Capitol Peak**	**0.56**	**173**	P	**Pn**	**11 46 54.5**	**-0.7**
CPW				S	**Sn**	**11 47 02.9**	**-0.6**
STW	**Striped Peak**	**0.68**	**335**	P	**Pn**	**11 46 54.7**	**-2.0**
STW	**Striped Peak**	**0.68**	**335**	P	**Pn**	**11 46 54.7**	**-2.0**
OBC	**Olympics--Boni**	**0.76**	**312**	P	**Pn**	**11 46 58.1**	**+0.3**
OBC	**Olympics--Boni**	**0.76**	**312**	P	**Pn**	**11 46 58.1**	**+0.3**
SVOH	**Skagit Valley**	**0.86**	**28**	P	**Pn**	**11 46 59.4**	**+0.2**
SVOH	**Skagit Valley**	**0.86**	**28**	P	**Pn**	**11 46 59.4**	**+0.2**
VGZ	**Gonzales**	**0.88**	**356**	P	**Pn**	**11 46 59.1**	**-0.3**
VGZ				S	**Sn**	**11 47 10.4**	**-0.7**
VGZ	**Gonzales**	**0.88**	**356**	P	**Pn**	**11 46 59.1**	**-0.3**
VGZ				S	**Sn**	**11 47 10.4**	**-0.7**
SOKB	**Sooke**	**0.91**	**341**	P	**Pn**	**11 46 59.4**	**-0.4**
SOKB				S	**Sn**	**11 47 11.4**	**-0.3**
SOKB	**Sooke**	**0.91**	**341**	P	**Pn**	**11 46 59.4**	**-0.4**
SOKB				S	**Sn**	**11 47 11.4**	**-0.3**
D05A	**Enumclaw**	**0.92**	**112**	P	**Pn**	**11 46 59.4**	**-0.6**
D05A				S	**Sn**	**11 47 11.7**	**-0.2**
D05A	**Enumclaw**	**0.92**	**112**	P	**Pn**	**11 46 59.4**	**-0.6**
D05A				S	**Sn**	**11 47 11.7**	**-0.2**
D05A	**Enumclaw**	**0.92**	**112**	Pn	**Pn**	**11 46 59.3**	**-0.6**
D05A				Sn	**Sn**	**11 47 11.7**	**-0.2**
E03A	**Lebam**	**1.01**	**193**	P	**Pn**	**11 47 00.8**	**-0.5**
E03A				S	**Sn**	**11 47 13.8**	**-0.4**
E03A	**Lebam**	**1.01**	**193**	P	**Pn**	**11 47 00.8**	**-0.5**
E03A				S	**Sn**	**11 47 13.8**	**-0.4**
E03A	**Lebam**	**1.01**	**193**	P	**Pn**	**11 47 00.7**	**-0.5**
E03A				Sn	**Sn**	**11 47 14.2**	**0.0**
B05A	**Bryant**	**1.06**	**46**	P	**Pn**	**11 47 01.7**	**-0.2**
B05A	baz=223,SNR=51			S	**Sn**	**11 47 15.3**	**-0.2**
C05A	**Tolt Reservoir**	**1.06**	**81**	P	**Pn**	**11 47 01.0**	**-0.9**
C05A				S	**Sn**	**11 47 14.2**	**-1.3**
C05A	**Tolt Reservoir**	**1.06**	**81**	P	**Pn**	**11 47 01.0**	**-0.9**
C05A				S	**Sn**	**11 47 14.2**	**-1.3**
E04D	**Cinebar**	**1.08**	**155**	P	**Pn**	**11 47 01.7**	**-0.5**
E04D	baz=337,SNR=289			S	**Sn**	**11 47 16.4**	**+0.5**
JCW	**Jim Creek**	**1.10**	**53**	P	**Pn**	**11 47 02.4**	**-0.1**
JCW				S	**Sn**	**11 47 16.1**	**-0.4**
JCW	**Jim Creek**	**1.10**	**53**	P	**Pn**	**11 47 02.4**	**-0.1**
JCW				S	**Sn**	**11 47 16.1**	**-0.4**
PA12	**PA12 Sannich**	**1.12**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
PA12				S	**Sn**	**11 47 16.4**	**-0.5**
PA12	**PA12 Sannich**	**1.12**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
PA12				S	**Sn**	**11 47 16.4**	**-0.5**
B009	**North Saanich**	**1.12**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
B009				S	**Sn**	**11 47 16.3**	**-0.7**
B009	**North Saanich**	**1.12**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
B009				S	**Sn**	**11 47 16.3**	**-0.7**
B011	**North Saanich**	**1.12**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
B011				S	**Sn**	**11 47 16.5**	**-0.5**
B011	**North Saanich**	**1.12**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
B011				S	**Sn**	**11 47 16.5**	**-0.5**
B010	**North Saanich**	**1.13**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
B010				S	**Sn**	**11 47 16.4**	**-0.6**
B010	**North Saanich**	**1.13**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
B010				S	**Sn**	**11 47 16.4**	**-0.6**
PA04	**PA04 Cage**	**1.13**	**353**	P	**Pn**	**11 47 02.6**	**-0.2**
PA04				S	**Sn**	**11 47 16.6**	**-0.4**
PA04	**PA04 Cage**	**1.13**	**353**	P	**Pn**	**11 47 02.6**	**-0.2**
PA04				S	**Sn**	**11 47 16.6**	**-0.4**
PGC	**Sidney**	**1.13**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
PGC				S	**Sn**	**11 47 16.5**	**-0.6**
PGC	**Sidney**	**1.13**	**353**	P	**Pn**	**11 47 02.5**	**-0.2**
PGC				S	**Sn**	**11 47 16.5**	**-0.6**
PGC	**Sidney**	**1.13**	**353**	Pn	**Pn**	**11 47 02.5**	**-0.2**
PGC				Sn	**Sn**	**11 47 16.7**	**-0.3**
PA03	**PA03 Flamable**	**1.13**	**353**	P	**Pn**	**11 47 02.7**	**-0.1**
PA03				S	**Sn**	**11 47 16.7**	**-0.3**
PA03	**PA03 Flamable**	**1.13**	**353**	P	**Pn**	**11 47 02.7**	**-0.1**
PA03				S	**Sn**	**11 47 16.7**	**-0.3**
PA01	**PA01 North**	**1.13**	**353**	P	**Pn**	**11 47 02.6**	**-0.1**
PA01				S	**Sn**	**11 47 16.7**	**-0.4**
PA01	**PA01 North**	**1.13**	**353**	P	**Pn**	**11 47 02.6**	**-0.1**
PA01				S	**Sn**	**11 47 16.7**	**-0.4**
LZB	**Mount Lazard**	**1.15**	**340**	P	**Pn**	**11 47 02.8**	**-0.4**
LZB				S	**Sn**	**11 47 17.0**	**-0.7**
LZB	**Mount Lazard**	**1.15**	**340**	P	**Pn**	**11 47 02.8**	**-0.4**
LZB				S	**Sn**	**11 47 17.0**	**-0.7**
CMW	**Cultus Mountai**	**1.17**	**40**	P	**Pn**	**11 47 03.6**	**+0.1**
CMW	**Cultus Mountai**	**1.17**	**40**	P	**Pn**	**11 47 03.6**	**+0.1**
MCW	**Mount Constitu**	**1.18**	**13**	P	**Pn**	**11 47 03.7**	**+0.1**
MCW				S	**Sn**	**11 47 18.6**	**+0.1**
MCW	**Mount Constitu**	**1.18**	**13**	P	**Pn**	**11 47 03.7**	**+0.1**
MCW				S	**Sn**	**11 47 18.6**	**+0.1**
OCP	**Olym-Cheeka Pk**	**1.21**	**310**	P	**Pn**	**11 47 03.9**	**0.0**
OCP	**Olym-Cheeka Pk**	**1.21**	**310**	P	**Pn**	**11 47 03.9**	**0.0**
FMW	**Mount Fremont**	**1.23**	**119**	P	**Pn**	**11 47 03.4**	**-1.0**
FMW				S	**Sn**	**11 47 18.7**	**-1.1**
FMW	**Mount Fremont**	**1.23**	**119**	P	**Pn**	**11 47 03.4**	**-1.0**
FMW				S	**Sn**	**11 47 18.7**	**-1.1**
A04D	**Lummi Island**	**1.24**	**17**	P	**Pn**	**11 47 04.4**	**+0.1**
A04D	baz=194,SNR=36			S	**Sn**	**11 47 20.7**	**+0.9**
SNB	**Saturna Island**	**1.24**	**2**	P	**Pn**	**11 47 04.7**	**+0.3**
SNB	baz=194			S	**Sn**	**11 47 19.6**	**-0.4**
SNB	**Saturna Island**	**1.24**	**2**	P	**Pn**	**11 47 04.7**	**+0.3**
SNB				S	**Sn**	**11 47 19.6**	**-0.4**
LON	**Longmire**	**1.25**	**128**	P	**Pn**	**11 47 03.5**	**-1.1**
LON				S	**Sn**	**11 47 18.6**	**-1.7**
LON	**Longmire**	**1.25**	**128**	P	**Pn**	**11 47 03.5**	**-1.1**
LON				S	**Sn**	**11 47 18.6**	**-1.7**
LON	**Longmire**	**1.25**	**128**	Pn	**Pn**	**11 47 03.5**	**-1.1**
LON				Sn	**Sn**	**11 47 18.9**	**-1.3**
PFB	**Port Renfrew**	**1.31**	**323**	P	**Pn**	**11 47 05.0**	**-0.5**
PFB				S	**Sn**	**11 47 21.1**	**-0.6**
PFB	**Port Renfrew**	**1.31**	**323**	P	**Pn**	**11 47 05.0**	**-0.5**
PFB				S	**Sn**	**11 47 21.1**	**-0.6**
B926	**Mesachie Lake**	**1.42**	**335**	P	**Pn**	**11 47 06.4**	**-0.4**
B926				S	**Sn**	**11 47 23.2**	**-1.0**
B926	**Mesachie Lake**	**1.42**	**335**	P	**Pn**	**11 47 06.4**	**-0.4**
B926				S	**Sn**	**11 47 23.2**	**-1.0**
BPCB	**Bare Point**	**1.43**	**348**	P	**Pn**	**11 47 06.8**	**-0.1**
BPCB				S	**Sn**	**11 47 23.9**	**-0.5**
BPCB	**Bare Point**	**1.43**	**348**	P	**Pn**	**11 47 06.8**	**-0.1**
BPCB				S	**Sn**	**11 47 23.9**	**-0.5**
GOBB	**Galiano Island**	**1.43**	**353**	P	**Pn**	**11 47 07.1**	**+0.1**
GOBB				S	**Sn**	**11 47 25.2**	**+0.8**
GOBB	**Galiano Island**	**1.43**	**353**	P	**Pn**	**11 47 07.1**	**+0.1**
GOBB				S	**Sn**	**11 47 25.2**	**+0.8**
F04D	**Rainier, OR**	**1.46**	**174**	P	**Pn**	**11 47 07.1**	**-0.2**
RPW	baz=356,SNR=12 **Rockport**	**1.48**	**51**	P	**Pn**	**11 47 08.5**	**+0.8**
RPW	**Rockport**	**1.48**	**51**	P	**Pn**	**11 47 08.5**	**+0.8**
YOUB	**Youbou, Lake C**	**1.53**	**334**	P	**Pn**	**11 47 08.0**	**-0.3**
YOUB				S	**Sn**	**11 47 26.4**	**-0.7**
YOUB	**Youbou, Lake C**	**1.53**	**334**	P	**Pn**	**11 47 08.0**	**-0.3**
YOUB				S	**Sn**	**11 47 26.4**	**-0.7**
GPW	**Glacier Peak**	**1.53**	**67**	P	**Pn**	**11 47 09.0**	**+0.4**
GPW	**Glacier Peak**	**1.53**	**67**	P	**Pn**	**11 47 09.0**	**+0.4**
B06A	**Marblemount**	**1.54**	**49**	P	**Pn**	**11 47 09.0**	**+0.6**
B06A				S	**Sn**	**11 47 25.7**	**-1.4**
B06A	**Marblemount**	**1.54**	**49**	P	**Pn**	**11 47 09.0**	**+0.6**
B06A				S	**Sn**	**11 47 25.7**	**-1.4**
B06A	**Marblemount**	**1.54**	**49**	P	**Pn**	**11 47 07.8**	**-0.6**
B06A				Sn	**Sn**	**11 47 26.7**	**-0.4**
MBW	**Mount Baker**	**1.54**	**35**	P	**Pn**	**11 47 08.9**	**+0.3**
MBW	**Mount Baker**	**1.54**	**35**	P	**Pn**	**11 47 08.9**	**+0.3**
C06D	**Leavenworth**	**1.63**	**75**	P	**Pn**	**11 47 10.3**	**+0.6**
C06D	baz=255			S	**Sn**	**11 47 29.5**	**0.0**
VDB	**Vedder Mountai**	**1.68**	**27**	P	**Pn**	**11 47 10.7**	**+0.3**
VDB				S	**Sn**	**11 47 31.2**	**+0.6**
VDB	**Vedder Mountai**	**1.68**	**27**	P	**Pn**	**11 47 10.7**	**+0.3**
VDB				S	**Sn**	**11 47 31.2**	**+0.6**
F04A	**Amboy**	**1.70**	**160**	Pn	**Pn**	**11 47 10.2**	**-0.4**
MGB	**Mount Grey**	**1.76**	**327**	P	**Pn**	**11 47 11.3**	**-0.3**
MGB				S	**Sn**	**11 47 32.0**	**-0.9**
MGB	**Mount Grey**	**1.76**	**327**	P	**Pn**	**11 47 11.3**	**-0.3**
MGB				S	**Sn**	**11 47 32.0**	**-0.9**
LTY	**Liberty**	**1.77**	**98**	P	**Pn**	**11 47 12.1**	**+0.4**
LTY				S	**Sn**	**11 47 32.9**	**-0.1**
LTY	**Liberty**	**1.77**	**98**	P	**Pn**	**11 47 12.1**	**+0.4**
LTY				S	**Sn**	**11 47 32.9**	**-0.1**
LTY	**Liberty**	**1.77**	**98**	Pn	**Pn**	**11 47 11.5**	**-0.2**
LTY				Sn	**Sn**	**11 47 32.9**	**-0.1**
NLLB	**Nanaimo Lost L**	**1.77**	**344**	P	**Pn**	**11 47 11.5**	**-0.1**
NLLB				S	**Sn**	**11 47 32.2**	**-0.6**

G05D	Wamic, OR	2.65 149	P	Pn	11 47 24.9 +1.1
	baz=331				
HAWA	Hanford	2.78 113	Pn	Pn	11 47 26.5 +0.9
F07A	Phinny Hill Vi	2.81 125	Pn	Pn	11 47 25.8 -0.1
SPLB	Strathcona Par	2.85 327	P	Pn	11 47 26.9 +0.5
SPLB	Strathcona Par	2.85 327	P	Pn	11 47 26.9 +0.5
CBB	Campbell River	2.87 331	P	Pn	11 47 26.9 +0.1
CBB	Campbell River	2.87 331	P	Pn	11 47 26.9 +0.1
COR	Corvallis	2.95 181	Pn	Pn	11 47 28.0 +0.2
H04D	Lebanon	3.03 173	P	Pn	11 47 29.1 +0.1
	baz=354,SNR=16				
H04D			S	Sn	11 48 04.1 +0.1
	baz=354				
NTKA	Nootka	3.04 314	P	Pn	11 47 29.5 +0.4
NTKA	Nootka	3.04 314	P	Pn	11 47 29.5 +0.4
C09A	Chrisman Ranch	3.37 84	Pn	Pn	11 47 34.5 +1.0
NCRB	Newcastle Ridg	3.42 328	P	Pn	11 47 35.9 +1.5
NCRB	Newcastle Ridg	3.42 328	P	Pn	11 47 35.9 +1.5
I05D	Terrebonne, OR	3.46 157	P	Pn	11 47 35.1 +0.2
	baz=339				
I03D	Drain, OR	3.84 181	P	Pn	11 47 40.1 +0.1
	baz=1.9				
MAYB	Maynard	3.87 319	P	Pn	11 47 41.7 +1.2
MAYB	Maynard	3.87 319	P	Pn	11 47 41.7 +1.2
PACB	Port Alice, BC	4.03 318	P	Pn	11 47 44.1 +1.4
PACB	Port Alice, BC	4.03 318	P	Pn	11 47 44.1 +1.4
PINE	Pine Mountain	4.07 156	Pn	Pn	11 47 44.0 +0.6
PHC	Port Hardy	4.20 321	P	Pn	11 47 46.5 +1.6
PHC	Port Hardy	4.20 321	P	Pn	11 47 46.5 +1.6
F10A	Beach Ranch, E	4.42 108	Pn	Pn	11 47 49.3 +1.2
K02D	Willamette Mer	4.85 184	P	Pn	11 47 54.0 +0.1
	baz=4.0,SNR=22				
BMO	Blue Mountains	4.92 121	Pn	Pn	11 47 55.0 0.0
HUMO	Hull Mountain	4.93 178	Pn	Pn	11 47 55.0 -0.1
L04D	Klamath Falls	5.36 173	P	Pn	11 48 01.8 +0.7
	baz=354,SNR=6.2				
L02E	Cave Junction	5.38 183	P	Pn	11 48 01.5 +0.2
	baz=3.2,SNR=5.2				
UBRB	Upper Baezaeko	5.39 355	P	Pn	11 48 03.2 +1.7
UBRB	Upper Baezaeko	5.39 355	P	Pn	11 48 03.2 +1.7
BBB	Bella Bella	5.62 328	P	Pn	11 48 06.0 +1.5
BBB	Bella Bella	5.62 328	P	Pn	11 48 06.0 +1.5

*SJA **11** 11:47:58.8±1.4, 33°.27S×68°.72W, h10km±8km, ML3.7, MW3.6*
*NEIC **11** 11:48:01.6±1.6, 33°.26S±0°.04×68°.67W±0°.10, h16km±9km*
*IDC **11** 11:48:04.0±0.8, 33°.15S×68°.83W, h0km, mb3.9/5, mb1 4.0/10, mb1mx3.9/30, mbtmp3.8/10, ML3.6/5, MS3.0/3, Ms1 3.0/3, ms1mx2.8/23, Error ellipse: s-maj=29.2km s-min=16.5km az=99.0*
*GUC **11** 11:48:08.8±0.6, 33°.19S×68°.82W, h16km±13km, ML3.5*

ISC 11 11:48:04.8±1.1,**33°.16S**±0°.03×**68.72W**±0°.03,**h16**km±8km, **n48**,σ1°**91**/**68**,**mb3.7**/5,**Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	1.30	7	eP	Pn	11 48 26.5	-1.9
RTCV				eS	Sg	11 48 47.0	+0.2
FCH	Farellones	1.33	262	eP	Pg	11 48 31.4	+0.9
FCH				eS	Sg	11 48 48.6	+0.7
LMEL	Las Melosas	1.42	241	eP	Pg	11 48 33.0	+0.8
LMEL				eS	Sg	11 48 51.0	+0.3
LMEL				IAML		11 48 51.8	
	comp=N,2μm,0.3s						
RTLS	Leoncito	1.44	340	eP	Pn	11 48 29.1	-1.5
RTLS				eS	Sg	11 48 52.8	+1.5
RTLS				IAML		11 48 57.0	
	comp=Z,789nm,0.7s						
CLCH	Cerro Calan	1.54	261	eP	Pg	11 48 34.9	+0.4
CLCH				eS	Sg	11 48 54.6	0.0
CLCH				IAML		11 48 56.8	
	comp=E,1μm,0.3s						
ACAN	Cantantal	1.56	56	eP	Pn	11 48 31.1	-0.8
ACAN				eS	Sg	11 48 54.1	-1.0
ZON	Zonda	1.61	1	eP	Pn	11 48 31.0	-1.6
ZON				eS	Sb	11 48 54.3	+0.1
SJA	San Juan	1.63	5	eP	Pg	11 48 38.0	+1.8
SJA				IAML		11 48 38.7	
	comp=Z,550nm,0.3s						
SJA				eS	Sg	11 49 00.7	+3.3
PEL	Peldehue	1.65	270	eP	Pg	11 48 36.4	-0.2
PEL				eS	Sg	11 48 57.8	-0.2
PEL				IAML		11 48 58.6	
	comp=N,859nm,0.2s						
PEL	Peldehue	1.65	270		Pn	11 48 30.3	-2.9
RTLL	Cerro Villicun	1.83	6	eP	Pn	11 48 34.4	-1.3
RTLL				IAML		11 48 41.6	
	comp=Z,368nm,0.4s						
RTLL				eS	Sb	11 49 00.3	-0.5
ROCH	El Roble	1.94	275	eP	Pg	11 48 41.8	-0.2
ROCH				eS	Sg	11 49 07.1	-0.1
ROCH				IAML		11 49 09.0	
	comp=E,1μm,0.5s						
ROC1	El Roble	1.94	275		Pn	11 48 34.8	-2.6
ROC1	El Roble	1.94	275	eP	Pn	11 48 35.8	-1.5
ROC1				eS	Sn	11 49 01.8	+0.2
AMOG	MOGNA	2.22	5	eP	Pn	11 48 40.0	-1.0
AMOG				eS	Sb	11 49 12.5	+0.6
ACCO	Cerro Coronel	2.58	353	eP	Pn	11 48 46.6	+0.4
ACCO				eS	Sg	11 49 25.6	-2.1
MRA	San Martin	2.63	75	eP	Pn	11 48 45.2	-1.6
MRA				IAML		11 49 00.7	
	comp=Z,265nm,0.6s						
MRA				eS	Sg	11 49 31.7	+2.3
ACDV	Cuesta del Vie	3.00	353	eP	Pn	11 48 51.7	-0.1
ACDV				eS	Sg	11 49 41.8	+0.7
ACDV				IAML		11 49 44.3	
	comp=Z,202nm,0.5s						
AROD	Rodeo	3.05	348	eP	Pn	11 48 52.6	-0.1
AROD				eS	Sg	11 49 41.0	-1.9
GO05	Huala	3.25	234		Pn	11 48 53.0	-2.1
GO05	Huala	3.25	234	eP	Pn	11 48 58.1	+3.0
GO05				eS	Sb	11 49 42.3	+0.9
GO04	Tololo Observa	3.46	329		Pn	11 48 57.2	-1.1
GO04	Tololo Observa	3.46	329	eP	Pb	11 49 03.7	-2.3
GO04				eS	Sg	11 49 56.3	+0.2
TCA	Tanti	3.93	64	eP	Pn	11 49 03.4	-1.3
TCA				IAML		11 50 06.0	
	comp=Z,78nm,0.4s						
CYA	Choya	5.33	29	eP	Pn	11 49 21.5	-2.2
CYA				IAML		11 49 28.2	
	comp=Z,50nm,0.5s						
CYA				eS	Sg	11 50 54.9	-0.9
GO03	Copiap	5.70	346		Pn	11 49 26.6	-2.3
TRQA	Tornquist	7.35	134		Pn	11 49 47.1	-4.4
TRQA				Sn	Sn	11 51 08.2	-6.3
PLCA	Paso Flores	7.70	190	Pn	Pn	11 49 58.9	+2.5
	comp=Z,0.0nm,0.3s,baz=61,slow=19,SNR=2.4						
PLCA				Lg	Lg	11 52 08.2	
	comp=Z,0.6nm,0.3s,baz=311,slow=23,SNR=3.3						
PLCA				LR	LR	11 53 09.8	
	comp=Z,132nm,20.5s,baz=8.5,slow=40						
PLCA	Paso Flores	7.70	190		Pn	11 49 50.8	-5.6
GO02	Mina Guanaco	8.00	354	Pn	Pn	11 49 58.5	-2.3
LVC	Limon Verde	10.51	359	Pn	Pn	11 50 36.5	+1.4
	comp=Z,0.6nm,0.3s,baz=169,slow=5.2,SNR=4.2						
LVC				LR	LR	11 54 56.0	
	comp=Z,86nm,18.7s,baz=170,slow=39						
LVC	Limon Verde	10.51	359		Pn	11 50 33.1	-2.0
CPUP	Villa Florida	12.00	58	Pn	Pn	11 50 57.6	+2.4
	comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=2.4						
CPUP				Lg	Lg	11 54 29.2	
	comp=Z,0.5nm,0.3s,baz=294,slow=18,SNR=3.6						
CPUP				LR	LR	11 56 29.0	
	comp=Z,72nm,21.2s,baz=232,slow=42						
CPUP	Villa Florida	12.00	58		Pn	11 50 53.7	-1.6
PB11	IPOC Station P	13.37	356	Pn	Pn	11 51 12.8	-1.2
GO01	Chusmiza	13.44	358	Pn	Pn	11 51 14.7	-0.6
MNMC	Minye Minye	13.99	357	P	P	11 51 27.1	-3.6
LPAZ	La Paz	16.80	2	Pn	Pn	11 52 00.2	+0.1
	comp=Z,0.2nm,0.3s,baz=175,slow=5.5,SNR=3.8						
LPAZ	La Paz	16.80	2	P	Pn	11 51 58.1	-2.0
SIV	San Ignacio	18.44	24	P	Pn	11 52 22.3	+2.5
	comp=Z,0.5nm,0.3s,baz=215,slow=14,SNR=13						
SAML	Samuel	24.63	13	P	P	11 53 22.6	-2.0
ATAH	Atahualpa	27.41	339	P	P	11 53 49.9	-0.3
	comp=Z,7.8nm,0.7s,baz=67,slow=15,SNR=3.7						
QSPA	South Pole Qui	57.08	180	P	P	11 57 51.8	+1.7
	comp=Z,0.3nm,0.5s,baz=273,slow=3.9,SNR=5.1						
TXAR	Lajitas Array	70.42	328	P	P	11 59 20.5	+2.2
	comp=Z,0.3nm,0.7s,baz=149,slow=9.1,SNR=3.4						
TORD	Torodi Ar. Bea	81.32	68	P	P	12 00 22.7	+1.9
	comp=Z,0.9nm,0.7s,baz=271,slow=6.8,SNR=5.2						
NVAR	Mina Array Bea	84.83	323	P	P	12 00 41.2	+2.5
	comp=Z,0.4nm,0.8s,baz=123,slow=5.5,SNR=4.0						
WRA	Warramunga Arr	122.79	206	PKP	PKiKP	12 07 01.2	+0.4
	comp=Z,0.1nm,0.4s,baz=157,slow=1.7,SNR=4.0						
ZALV	Zalesovo Beam	152.00	34	PKPbc	PKiKP	12 08 00.5	+1.5
	comp=Z,2.1nm,0.5s,baz=301,slow=3.1,SNR=8.7						

*IDC **11** 11:54:54.4±1.2, 37°.15N×144°.78E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/58, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=36.2km s-min=25.2km az=78.0*
*ISCJB **11** 11:54:56.1±0.8, 37°.44N±0°.04×144°.68E±0°.06, h33km, mb3.6/4, Error ellipse: s-maj=6.9km s-min=6.0km az=22.4*
*JMA **11** 11:54:59.4±0.2, 37°.36N×144°.45E, h53km, M3.4*

ISC 11 11:54:59.2±1.1,**37°.45N**±0°.06×**144°.62E**±0°.08,**h35**km,**n26**, σ1°**85**/**30**,**mb3.6**/4,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.64	290	P	Pn	11 55 39.6	+0.3
JIKH				eS	Sn	11 56 09.4	-0.7
JIO	Ouri	2.77	292	P	Pn	11 55 41.5	+0.3
JKMT	Kesennumamotoy	2.83	300	P	Pn	11 55 42.3	+0.4
JKMT				S	Sn	11 56 14.4	-0.4
OFUJ	Ofunato	2.84	306	P	Pn	11 55 42.5	+0.4
OFUJ				S	Sn	11 56 14.6	-0.4
JFK	Kawauchi	2.98	270	eS	Sn	11 56 16.5	-2.2
JMK	Ichinoseki	3.07	300	P	Pn	11 55 45.9	+0.6
JMK				eS	Sn	11 56 20.9	+0.1
JFT	Otama	3.41	272	P	Pn	11 55 50.5	+0.6
JFT				eS	Sn	11 56 28.6	-0.5
JRG	Rokugo	3.69	303	eS	Sn	11 56 38.0	+2.1
BSO1	Boso 1	4.06	228	eS	Sn	11 56 42.0	-2.4
JTM	Tenmabayashi	4.33	321	S	Sn	11 56 50.7	-1.1
JRY	Ryogami san	4.81	254	P	Pn	11 56 07.9	-1.3
JRY				S	Sn	11 56 59.8	-3.9
MJAR	Matsushiro Arr	5.21	262	Pn	Pn	11 56 15.2	+0.5
	0.2nm,0.3s,baz=88,slow=14,SNR=9.8						
MJAR				Sn	Sn	11 57 13.5	-0.1
	0.1nm,0.3s,baz=62,slow=8.5,SNR=3.8						
JKB	Kayabe	5.23	329	eS	Sn	11 57 12.2	-1.7
JCH	Churui	5.25	350	P	Pn	11 56 15.5	+0.3
JCH				eS	Sn	11 57 12.4	-2.0
NEM2	Nemuro 2	5.97	8	P	Pn	11 56 23.1	-2.0
NEM2				eS	Sn	11 57 26.9	-5.3
ASAJ	Asahikawa	6.84	348	Pn	Pn	11 56 38.1	+1.2
	0.5nm,0.3s,baz=228,slow=14,SNR=5.7						
ASAJ				Sn	Sn	11 57 52.4	-1.1
	0.5nm,0.3s,baz=254,slow=18,SNR=2.7						
H11N2	WAKE ISLAND Hy	26.24	126	T	T	12 27 35.4	
	baz=317,slow=74,SNR=31						
H11N1	WAKE ISLAND Hy	26.25	126	T	T	12 27 23.8	
	baz=317,slow=74,SNR=14						
H11N3	WAKE ISLAND Hy	26.26	126	T	T	12 27 30.7	
	baz=317,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	27.02	128	T	T	12 28 23.1	
	baz=309						
H11S3	WAKE ISLAND Hy	27.02	128	T	T	12 28 37.3	
	baz=309						
H11S2	WAKE ISLAND Hy	27.03	128	T	T	12 28 28.5	
	baz=309						
MKAR	Makanchi Array	46.06	302	P	P	12 03 22.1	+2.5
	0.4nm,0.8s,baz=91,slow=12,SNR=2.5						
WRA	Warramunga Arr	57.90	191	P	P	12 04 45.9	-1.9
	0.6nm,0.5s,baz=9.5,slow=7.0,SNR=12						
ASAR	Alice Springs	61.62	191	P	P	12 05 11.9	-1.4
	0.4nm,0.7s,baz=9.1,slow=7.2,SNR=6.0						
TXAR	Lajitas Array	87.82	54	P	P	12 07 46.9	+1.7
	0.3nm,0.7s,baz=295,slow=3.5,SNR=4.3						

*ISCJB **11** 12:06:19.5±0.3, 40°.13S±0°.02×176°.84E±0°.04, h65km±2km, Error ellipse: s-maj=5.1km s-min=2.0km az=27.5*
*NEIC **11** 12:06:21.0±2.4, 40°.12S±0°.06×176°.7E±0°.1, h42km±16km*
*WEL **11** 12:06:21.6, 40°S±1°×17°7E±°, h46km±2km, M4.1/24, ML4.5/18, MLv4.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=76.2*

ISC 11 12:06:20.7±1.0,**40°.10S**±0°.03×**176°.84E**±0°.04,**h59**km±5km, **n165**,σ1°**11**/197,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.07	16	P	Pn	12 06 29.1	-0.5
PXZ				S	Sn	12 06 34.7	-1.2
PRHZ	Porangahau	0.23	223	P	Pn	12 06 30.5	+0.2
PRHZ				S	Sn	12 06 36.7	-0.4
WPHZ	Waipukurau	0.31	277	P	Pn	12 06 30.2	-0.5
WPHZ				S	Sn	12 06 36.6	-1.5
KAHZ	Kahuranaki	0.31	6	P	Pn	12 06 30.2	-0.7
KAHZ				S	Sn	12 06 37.0	-1.2
ANWZ	Angora Road	0.45	218	P	Pn	12 06 32.8	+0.8
ANWZ				S	Sn	12 06 41.5	+1.2
CKHZ	Cape Kidnapper	0.48	23	P	Pn	12 06 32.1	-0.3
CKHZ				S	Sn	12 06 40.1	-0.8
PNHZ	Pukenui	0.52	291	P	Pn	12 06 32.1	-0.8
PNHZ				S	Sn	12 06 39.8	-1.9
DVHZ	Dannevirke	0.55	249	P	Pn	12 06 33.2	+0.1
DVHZ				S	Sn	12 06 41.5	-0.7
KRHZ	Kereru	0.58	322	P	Pn	12 06 32.5	-1.0
KRHZ				S	Sn	12 06 40.2	-2.6
MCHZ	McNeill Hill	0.67	351	P	Pn	12 06 34.4	0.0
TSZ	Takapari Road	0.67	273	P	Pn	12 06 34.2	-0.4
TSZ				S	Sn	12 06 42.9	-1.8
BFZ	Birch Farm	0.73	218	P	Pn	12 06 36.2	+0.9
BFZ				S	Sn	12 06 47.4	+1.4
BFZ	Birch Farm	0.73	218		Pn	12 06 36.1	+0.9
KWHZ	Kaweka Forest	0.75	335	P	Pn	12 06 34.9	-0.7
KWHZ				S	Sn	12 06 44.4	-2.0
PRWZ	Pori Road	0.80	235	P	Pn	12 06 37.0	+0.9
PRWZ				S	Sn	12 06 48.6	+1.1
ARHZ	Aropaoanui	0.85	8	P	Pn	12 06 36.9	+0.2
ARHZ				S	Sn	12 06 48.7	+0.2
BHHZ	Black Hill Sta	0.85	316	P	Pn	12 06 36.4	-0.4
POWZ	Post Office Ro	0.87	250	P	Pn	12 06 37.4	+0.4
CPWZ	Castlepoint	0.94	211	P	Pn	12 06 39.2	+1.3
BKZ	Black Stump Fm	0.97	344	P	Pn	12 06 38.1	-0.3
BKZ	Black Stump Fm	0.97	344		Pn	12 06 38.1	-0.3
BKZ				Sn	Sn	12 06 49.4	-2.1
TIWZ	Tintock	0.99	227	P	Pn	12 06 39.3	+0.8
NMHZ	Naumai	1.00	359	P	Pn	12 06 39.1	+0.3
WHHZ	Waihua	1.07	17	P	Pn	12 06 39.7	+0.1
MOVZ	Moawhango	1.09	309	P	Pn	12 06 40.1	+0.2
MRZ	Mangatainoka R	1.11	239	P	Pn	12 06 40.6	+0.4
OHWZ	Ohakea	1.17	264	P	Pn	12 06 42.2	+1.3
RAHZ	Arahi	1.20	9	P	Pn	12 06 41.5	+0.1
TMWZ	Te Maipa	1.23	215	P	Pn	12 06 42.2	+0.4
TUVZ	Tukino	1.23	312	P	Pn	12 06 42.7	+0.8
MTHZ	Maungataniwha	1.25	0	P	Pn	12 06 42.0	0.0
KNZ	Kokohu	1.26	31	P	Pn	12 06 41.9	-0.1
MHGZ	Mahia Peninsul	1.26	41	P	Pn	12 06 42.4	+0.3
WHVZ	Whangaehu Hut	1.26	310	P	Pn	12 06 43.0	+0.6
MTVZ	Mangateitei	1.27	304	P	Pn	12 06 43.3	+0.9
TRVZ	Turoa	1.28	308	P	Pn	12 06 43.2	+0.6
DRZ	Dome Shelter	1.28	310	P	Pn	12 06 43.4	+0.7
HOWZ	Holdsworth Sta	1.28	231	P	Pn	12 06 42.6	+0.2
FWVZ	Far West T-bar	1.30	310	P	Pn	12 06 43.4	+0.5
MRHZ	Matea Rd	1.31	346	P	Pn	12 06 43.1	+0.3
NGZ	Ngauruhoe	1.33	314	P	Pn	12 06 43.8	+0.6
HATZ	Hinemaiaia	1.34	334	P	Pn	12 06 43.5	+0.3
RITZ	Rihia Road	1.35	326	P	Pn	12 06 44.2	+0.8
KRVZ	Karewarewa	1.36	317	P	Pn	12 06 44.1	+0.4
SNGZ	Shannon Statio	1.38	17	P	Pn	12 06 43.8	+0.1
WTVZ	West Tongariro	1.38	315	P	Pn	12 06 44.3	+0.4
PKVZ	Pokaka	1.41	305	P	Pn	12 06 44.8	+0.7
PRGZ	Paritu Road	1.43	35	P	Pn	12 06 44.4	0.0
KATZ	Kakaramea	1.43	322	P	Pn	12 06 45.2	+0.7
OGWZ	Otaki Gorge	1.46	240	P	Pn	12 06 45.1	+0.3
MTW	Mount Morrison	1.46	223	P	Pn	12 06 44.7	-0.2
RATZ	Rangitukua	1.48	326	P	Pn	12 06 46.0	+0.8
RTZ	Ruatahuna	1.49	4	P	Pn	12 06 45.3	0.0
TWVZ	Taurewa	1.49	313	P	Pn	12 06 45.6	+0.2
TRWZ	Traveller	1.56	214	P	Pn	12 06 46.1	-0.1
RIGZ	Rimuhau	1.57	28	P	Pn	12 06 46.5	+0.2
ALRZ	Allen Road	1.58	346	P	Pn	12 06 46.7	+0.2
MUGZ	Murupara	1.62	358	P	Pn	12 06 46.9	-0.1
WATZ	Wairara	1.63	328	P	Pn	12 06 47.3	+0.1
PRRZ	Plateau Road	1.64	348	P	Pn	12 06 47.3	0.0
KIW	Kapiti Island	1.65	242	P	Pn	12 06 47.7	+0.3
WPRZ	Whakapapatarin	1.66	341	P	Pn	12 06 47.5	-0.1
RAGZ	Rawiri	1.67	16	P	Pn	12 06 47.6	0.0
PAWZ	Paruwai Farm	1.67	219	P	Pn	12 06 47.4	-0.2
CAW	Cannon Point	1.68	233	P	Pn	12 06 47.6	-0.2
HRRZ	Handcock Road	1.76	346	P	Pn	12 06 49.0	+0.1
RRRZ	Republican Roa	1.78	352	P	Pn	12 06 49.0	-0.2
MSWZ	Moikau Station	1.78	222	P	Pn	12 06 48.5	-0.7
MSWZ	Moikau Station	1.78	222		Pn	12 06 48.5	-0.7
MSWZ				Sn	Sn	12 07 10.2	-0.6
KUTZ	Kaahu Road	1.79	334	P	Pn	12 06 49.4	+0.1
TKGZ	Te Karaka	1.84	26	P	Pn	12 06 49.6	-0.3
GRRZ	Galatos Road	1.84	342	P	Pn	12 06 50.4	+0.5
MWZ	Matawai	1.84	17	P	Pn	12 06 49.5	-0.5
HSRZ	Hossack Road	1.85	345	P	Pn	12 06 50.2	+0.1
URZ	Urewera	1.85	7	P	Pn	12 06 49.6	-0.5
URZ	Urewera	1.85	7		Pn	12 06 49.7	-0.5
URZ				Sn	Sn	12 07 11.0	-1.4
VRZ	Vera Road	1.88	301	P	Pn	12 06 50.0	-0.4
TARZ	Mount Tarawera	1.88	352	P	Pn	12 06 50.7	+0.1
HLRZ	Highlands Stat	1.89	348	P	Pn	12 06 51.1	+0.5
PLWZ	Palliser	1.89	219	P	Pn	12 06 50.0	-0.7
PLWZ	Palliser	1.89	219		Pn	12 06 50.2	-0.5
PLWZ				Sn	Sn	12 07 12.9	-0.7
CNGZ	Carnagh Statio	1.94	34	P	Pn	12 06 51.1	-0.2
MKRZ	Makatiti	1.98	352	P	Pn	12 06 52.5	+0.6
BHW	Baring Head	1.98	228	P	Pn	12 06 51.2	-0.6
BHW	Baring Head	1.98	228		Pn	12 06 51.2	-0.6
BHW				Sn	Sn	12 07 15.1	-0.5
UTU	Utuhina	1.99	345	P	Pn	12 06 52.3	+0.3
EDRZ	Edgecumbe	1.99	358	P	Pn	12 06 51.8	-0.3
SNZO	South Karori	2.02	233		Pn	12 06 51.8	-0.5
OMRZ	Omania	2.02	350	P	Pn	12 06 52.3	-0.2
TLZ	Tolley Road	2.04	330	P	Pn	12 06 52.7	0.0
MARZ	Manawahe	2.12	357	P	Pn	12 06 53.9	+0.1
TWGZ	Tauwhareparae	2.12	25	P	Pn	12 06 53.4	-0.4
KARZ	Kaharoa	2.13	347	P	Pn	12 06 54.1	+0.1
HIZ	Hauiti	2.21	315	P	Pn	12 06 55.1	+0.2
HIZ	Hauiti	2.21	315		Pn	12 06 55.1	+0.2
HIZ				Sn	Sn	12 07 18.8	-2.3
RUGZ	Raukumara Rang	2.23	17	P	Pn	12 06 55.1	-0.3
TCW	Tory Channel	2.24	240	P	Pn	12 06 55.0	-0.4
WHRZ	Whale Island	2.25	3	P	Pn	12 06 55.3	-0.2
OPRZ	Ohinepanea	2.27	354	P	Pn	12 06 55.0	-0.8
PUZ	Puketiti	2.31	29	P	Pn	12 06 55.4	-1.0
DUWZ	D'Urville Isla	2.33	252	P	Pn	12 06 56.5	-0.2
KMRZ	Kaimai	2.36	343	P	Pn	12 06 56.9	-0.2
TGRZ	Tauranga	2.41	349	P	Pn	12 06 57.2	-0.5
PKGZ	Pakihiroa	2.41	24	P	Pn	12 06 57.2	-0.6
HAZ	Te Kaha	2.46	18	P	Pn	12 06 57.5	-0.8
TUWZ	Tuamarina	2.57	238	P	Pn	12 06 58.9	-0.9
TUWZ	Tuamarina	2.57	238		Pn	12 06 59.0	-0.8
TUWZ				Sn	Sn	12 07 28.9	-1.0
CMWZ	Cape Campbell	2.58	230	Pn	Pn	12 07 00.0	0.0
CMWZ				Sn	Sn	12 07 31.7	+1.4
TOZ	Tahuroa Road	2.59	336	P	Pn	12 07 00.0	-0.1
WMGZ	Waiomatatini S	2.59	29	P	Pn	12 06 59.4	-0.8
BSWZ	Blackbirch Sta	2.76	233	P	Pn	12 07 01.6	-1.0
BSWZ	Blackbirch Sta	2.76	233		Pn	12 07 01.5	-1.0
BSWZ				Sn	Sn	12 07 35.5	+0.8
MXZ	Matakaoa Point	2.78	25	P	Pn	12 07 02.3	-0.5
MXZ	Matakaoa Point	2.78	25		Pn	12 07 02.3	-0.5
MXZ				Sn	Sn	12 07 35.3	+0.1
NNZ	Nelson	2.86	246	P	Pn	12 07 03.4	-0.3
NNZ	Nelson	2.86	246	Pn	Pn	12 07 03.6	-0.2
NNZ				Sn	Sn	12 07 36.3	-0.6
MKAZ	Moumakai	3.27	336	P	Pn	12 07 09.9	+0.4
QRZ	Quartz Range	3.36	256	P	Pn	12 07 10.0	-0.7
QRZ	Quartz Range	3.36	256	Pn	Pn	12 07 10.3	-0.5
QRZ				Sn	Sn	12 07 46.6	-2.9
KBAZ	Karaka Road Bo	3.37	332	P	Pn	12 07 11.3	+0.5
KHZ	Kahutara	3.39	226	P	Pn	12 07 09.2	-1.9
KHZ	Kahutara	3.39	226		Pn	12 07 09.6	-1.5
KHZ				Sn	Sn	12 07 48.4	-1.8
THZ	Tophouse	3.41	240	P	Pn	12 07 10.2	-1.2
THZ	Tophouse	3.41	240	Pn	Pn	12 07 10.5	-0.9
THZ				Sn	Sn	12 07 50.5	-0.1
KUZ	Kuaotunu	3.46	345	P	Pn	12 07 12.2	+0.1
ETAZ	East Tamaki Re	3.48	334	P	Pn	12 07 13.0	+0.6

mb1 3.4/8, mb1mx3.2/29, mbtmp4.2/8, Error ellipse: s-maj=28.3km s-min=24.5km az=153.0

ISC 11 12:29:07.3±1.2, 24.4S±0.1×179.9E±0.2, h500km, n10, σ0.91/11, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.17**	**158**	P	**P**	**12 30 35.6**	**-0.2**
	189nm,0.3s,baz=105,slow=22,SNR=6.6						
URZ	**Urewera**	**13.98**	**189**	P	**P**	**12 32 08.0**	**+1.4**
	1.1nm,0.3s,baz=173,slow=0.6,SNR=6.9						
URZ				S	**S**	**12 34 33.0**	**-1.5**
	0.7nm,0.3s,baz=64,slow=24,SNR=6.4						
RPZ	**Rata Peaks**	**20.55**	**199**	P	**P**	**12 33 11.6**	**+0.7**
	6.5nm,0.6s,baz=23,slow=3.4,SNR=4.0						
CTA	**Charters Tower**	**31.39**	**271**	P	**P**	**12 34 47.3**	**+0.4**
	6.3nm,0.6s,baz=88,slow=11,SNR=14						
ASAR	**Alice Springs**	**41.86**	**261**	P	**P**	**12 36 13.1**	**-0.3**
	0.3nm,0.5s,baz=93,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**12 36 15.7**	**-1.0**
	1.5nm,0.5s,baz=100,slow=8.2,SNR=31						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**	**12 37 20.7**	**+0.2**
	2.1nm,0.9s,baz=108,slow=6.4,SNR=4.0						
MJAR	**Matsushiro Arr**	**72.29**	**326**	P	**P**	**12 39 41.1**	**-0.5**
	1.2nm,0.6s,baz=132,slow=5.4,SNR=2.9						
PETK	**Petropavlovsk-**	**79.60**	**347**	P	**P**	**12 40 21.9**	**+0.2**
	5.7nm,1.0s,baz=148,slow=6.4,SNR=5.1						
BRTR	**Keskin Array B**	**147.83**	**306**	PKPbc	**PKPbc**	**12 47 55.5**	**-0.5**
	0.3nm,0.4s,baz=356,slow=4.3,SNR=3.0						

SNET 11 12:29:39.8±1.6, 13.73N×91.21W, h14km±10km, MD3.8, ML3.4
GCG 11 12:29:42.0±0.4, 13.86N×91.36W, h53km±34km, MD3.7

ISC 11 12:29:34.6±3.1, 13.4N±0.2×91.4W±0.1, h28km, n9, σ13/13, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.19**	**26**	*eP*	**Pb**	**12 29 57.3**	**+0.7**
IXG	**Ixpaco**	**1.20**	**49**	⇑*iP*	**Pb**	**12 29 57.6**	**+0.7**
STG3	**Santiaguito 3,**	**1.34**	**352**	*eP*	**Pn**	**12 29 58.6**	**+0.9**
STG3				*eS*	**Sn**	**12 30 11.9**	**-2.8**
NBG	**Las Nubes**	**1.56**	**39**	*eP*	**Pb**	**12 30 03.9**	**+0.8**
NBG				*eS*	**Sn**	**12 30 20.5**	**+0.2**
RTR	**El Retiro**	**1.76**	**73**	*eP*	**Pb**	**12 30 06.7**	**+0.3**
RTR				*eS*	**Sb**	**12 30 27.8**	**-0.2**
SBLS	**San Blas**	**1.76**	**75**	*eP*	**Pb**	**12 30 06.4**	**0.0**
SBLS				*eS*	**Sb**	**12 30 28.2**	**0.0**
SNJE	**San Jose**	**1.79**	**74**	*eP*	**Pb**	**12 30 06.7**	**-0.1**
MTO3	**Montecristo**	**2.21**	**62**	*eP*	**Pb**	**12 30 12.6**	**-1.4**
LFU	**La Fuente**	**2.23**	**80**	*eP*	**Pb**	**12 30 14.6**	**+0.3**

BJI 11 12:38:53.4±0.0, 7.36S×154.60E, h45km, mb4.9/10, mB5.1/10, Ms7 4.6/2
ISCJB 11 12:38:54.9±0.3, 6.74S±0.05×154.63E±0.05, h48km, mb4.4/14, MS3.6/7, Error ellipse: s-maj=7.5km s-min=5.3km az=135.1
NEIC 11 12:38:55.0±1.4, 6.64S±0.06×154.60E±0.06, h35km±1km, mb4.5/26
IDC 11 12:38:57.3±1.6, 6.77S×154.61E, h52km±15km, mb4.1/12, mb1 4.3/16, mb1mx4.1/33, mbtmp4.4/16, ML4.3/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/35, Error ellipse: s-maj=16.3km s-min=10.4km az=43.0

ISC 11 12:38:56.6±0.4, 6.70S±0.05×154.67E±0.05, h48km, n84, σ1.50/82, mb4.5/24, MS3.4/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.54**	**312**	P	**Pn**	**12 39 49.7**	**+0.6**
	18nm,0.3s,baz=115,slow=1.9,SNR=16						
KRVT				S	**Sn**	**12 40 30.7**	**+0.9**
	47nm,0.3s,baz=253,slow=17,SNR=5.9						
KRVT				LR	LR	12 40 46.5	
	comp=Z,148nm,18.4s,baz=133,slow=31						
HNR	**Honiara**	**5.89**	**118**	P	**Pn**	**12 40 22.8**	**+1.3**
	19nm,0.3s,baz=207,slow=4.0,SNR=10.0						
HNR				S	**Sn**	**12 41 29.2**	**+1.4**
	13nm,0.3s,baz=234,slow=11,SNR=3.5						
HNR				LR	LR	12 42 32.5	
	comp=Z,361nm,20.0s,baz=242,slow=36						
HNR	**Honiara**	**5.89**	**118**	P	Pn	12 40 35.0	+14
HNR	**Honiara**	**5.89**	**118**		**Pn**	**12 40 22.6**	**+1.1**
HNR				Sn	**Sn**	**12 41 30.8**	**+3.0**
PMG	**Port Moresby**	**7.91**	**250**	P	**Pn**	**12 40 49.4**	**+0.4**
	3.1nm,0.3s,baz=86,slow=6.5,SNR=15						
PMG				S	**Sn**	**12 42 21.5**	**+4.2**
	1.5nm,0.3s,baz=63,slow=21,SNR=5.5						
PMG	**Port Moresby**	**7.91**	**250**		**Pn**	**12 40 47.0**	**-2.1**
PMG				Sn	**Sn**	**12 42 16.2**	**-1.0**
MANU	**Manus Island**	**8.62**	**302**	Pn	**Pn**	**12 40 56.4**	**-2.5**
PATS	**Pohnpei**	**13.93**	**15**	Pn	**Pn**	**12 42 08.8**	**-2.6**
CTA	**Charters Tower**	**15.62**	**211**	P	**P**	**12 42 38.1**	**+0.9**
	0.5nm,0.3s,baz=39,slow=12,SNR=16						
CTAO	**Charters Tower**	**15.62**	**211**	P	**P**	**12 42 37.0**	**-0.1**
CTAO				IAmb	IAmb	12 42 39.4	
	comp=Z,14nm,0.8s						
EIDS	**Eidsvold**	**18.88**	**190**	P	**P**	**12 43 12.9**	**-0.2**
DZM	**Mont Dzumac**	**19.05**	**145**	P	**P**	**12 43 15.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=287,slow=11,SNR=3.2						
DZM	**Mont Dzumac**	**19.05**	**145**	P	**P**	**12 43 14.6**	**-0.5**
FAKI	**Fak Fak**	**22.65**	**278**	P	**P**	**12 43 53.9**	**-0.1**
FAKI				IAmb	IAmb	12 43 57.1	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**23.71**	**234**	P	**P**	**12 44 03.6**	**-0.8**
WB2	**Warramunga Arr**	**23.71**	**234**	P	**P**	**12 44 04.2**	**-0.2**
WRA	**Warramunga Arr**	**23.72**	**234**	P	**P**	**12 44 04.0**	**-0.5**
	comp=Z,17nm,0.8s,baz=56,slow=9.5,SNR=106						
WRA				PcP	**PcP**	**12 47 47.8**	**0.0**
	comp=Z,1.5nm,0.7s,baz=60,slow=2.2,SNR=5.5						
WRA				LR	LR	12 53 05.3	
	comp=Z,137nm,20.9s,baz=55,slow=36						
WRA	**Warramunga Arr**	**23.72**	**234**	P	**P**	**12 44 03.6**	**-0.9**
ARMA	**Armidale**	**23.77**	**187**	P	**P**	**12 44 04.1**	**-0.9**
ARMA				IAmb	IAmb	12 44 07.6	
	comp=Z,18nm,1.1s						
SIJI	**Sorong**	**24.04**	**283**	P	**P**	**12 44 07.5**	**-0.1**
	comp=Z,20nm,0.8s,baz=100,slow=11,SNR=5.0						
AS31	**Alice Springs**	**26.13**	**228**	P	**P**	**12 44 26.0**	**-0.4**
ASAR	**Alice Springs**	**26.13**	**228**	P	**P**	**12 44 25.9**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=58,slow=8.8,SNR=62						
ASAR				LR	LR	12 54 35.1	
	comp=Z,94nm,19.4s,baz=63,slow=36						
ASAR	**Alice Springs**	**26.13**	**228**	P	**P**	**12 44 25.6**	**-0.9**
KNRA	**Kununurra**	**26.90**	**248**	P	**P**	**12 44 32.3**	**-1.1**
H11S3	**WAKE ISLAND Hy**	**27.70**	**25**	T	T	13 13 13.6	
	baz=202,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**27.70**	**25**	T	T	13 13 13.8	
	baz=202,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**27.72**	**25**	T	T	13 13 14.9	
	baz=202,slow=75,SNR=19						
STKA	**Stephens Creek**	**27.87**	**204**	P	**P**	**12 44 41.5**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=8.0,slow=7.2,SNR=2.9						
STKA				LR	LR	12 55 43.2	
	comp=Z,93nm,19.5s,baz=25,slow=36						
STKA	**Stephens Creek**	**27.87**	**204**	P	**P**	**12 44 41.0**	**-1.0**
H11N1	**WAKE ISLAND Hy**	**28.87**	**24**	T	T	13 14 54.6	
	baz=211						
H11N3	**WAKE ISLAND Hy**	**28.88**	**24**	T	T	13 14 46.8	
	baz=211,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**28.89**	**24**	T	T	13 15 24.5	
	baz=211						
FITZ	**Fitzroy Crossi**	**30.48**	**245**	P	**P**	**12 45 05.2**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=88,slow=6.7,SNR=12						
FITZ	**Fitzroy Crossi**	**30.48**	**245**	P	**P**	**12 45 04.8**	**-0.4**
FITZ				IAmb	IAmb	12 45 06.2	
	comp=Z,8.2nm,0.8s						
BBOO	**Buckleboo**	**31.22**	**211**	P	**P**	**12 45 10.3**	**-1.3**
DAV	**Davao City (W)**	**32.08**	**295**	LR	LR	12 56 17.3	
	comp=Z,37nm,20.9s,baz=358,slow=32						
FORT	**Forrest**	**34.58**	**223**	P	**P**	**12 45 40.2**	**-0.9**
KAPI	**Kappang**	**34.77**	**271**	P	**P**	**12 45 42.9**	**+0.1**
KAPI				IAmb	IAmb	12 45 52.5	
	comp=Z,6.9nm,0.6s						
BKZ	**Black Stump Fm**	**37.85**	**152**	P	**P**	**12 46 07.7**	**-1.1**
JAGI	**Jajag, Banyuwa**	**40.19**	**265**	P	**P**	**12 46 27.0**	**-1.8**
YULB	**Yu-li**	**44.24**	**314**	P	**P**	**12 47 01.3**	**-0.3**
YULB				IAmb	IAmb	12 47 07.5	
	comp=Z,9.8nm,0.9s						
TPUB	**Ta-pu**	**44.66**	**313**	P	**P**	**12 47 04.1**	**-0.9**
TPUB				IAmb	IAmb	12 47 09.2	
	comp=Z,12nm,0.8s						
JNU	**Nakatsue**	**45.59**	**332**	P	**P**	**12 47 10.4**	**-1.8**
JNU				IAmb	IAmb	12 47 18.8	
	comp=Z,10.0nm,1.0s						
WHN	**Wuhan**	**53.50**	**316**	P	P	12 48 17.5	+5.0
USRK	**Ussuriysk Ar.**	**54.64**	**340**	P	**P**	**12 48 19.8**	**-0.8**
CN2	**Changchun**	**56.78**	**335**	*eP*	**P**	**12 48 38.4**	**+2.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NANT	**Nan**	**58.91**	**297**	P	**P**	**12 48 53.6**	**+2.3**
PETK	**Petropavlovsk-**	**59.63**	**2**	P	**P**	**12 48 57.9**	**+2.2**
	comp=Z,3.3nm,0.6s,baz=174,slow=5.7,SNR=8.7						
PETK	**Petropavlovsk-**	**59.63**	**2**	P	**P**	**12 48 55.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**60.36**	**296**	P	**P**	**12 49 03.0**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=118,slow=5.3,SNR=12						
CMAR	**Chiang Mai Arr**	**60.36**	**296**	P	**P**	**12 49 00.7**	**-0.7**
SHL	**Shillong**	**68.86**	**301**	P	**P**	**12 49 56.3**	**-0.6**
SONM	**Songino Array**	**68.91**	**327**	P	**P**	**12 49 56.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=130,slow=6.0,SNR=4.2						
SONM	**Songino Array**	**68.91**	**327**	P	**P**	**12 49 56.1**	**-0.6**
LSA	**Lhasa**	**70.83**	**304**	P	**P**	**12 50 09.3**	**0.0**
LSA				IAmb	IAmb	12 50 10.9	
	comp=Z,8.8nm,0.9s						
SBA	**Scott Base**	**71.40**	**177**	P	**P**	**12 50 12.1**	**+0.8**
SBA				IAmb	IAmb	12 50 15.1	
	comp=Z,2.2nm,1.1s						
TAPN	**Taplejung**	**72.97**	**301**	*eP*	**P**	**12 50 22.0**	**0.0**
	comp=Z,31nm,0.8s						
ODAN	**Odare**	**73.10**	**301**	*eP*	**P**	**12 50 23.0**	**+0.3**
	comp=Z,63nm,0.8s						
RAMN	**Ramite**	**73.80**	**300**	*eP*	**P**	**12 50 27.0**	**+0.2**
	comp=Z,8.8nm,0.5s						
JIRN	**Jiri**	**74.35**	**301**	*eP*	**P**	**12 50 30.3**	**+0.1**
GUN	**Gumba**	**74.68**	**301**	*eP*	**P**	**12 50 32.1**	**0.0**
PKI	**Pulchoki**	**74.99**	**301**	*eP*	**P**	**12 50 33.7**	**-0.1**
	comp=Z,29nm,0.9s						
PKIN	**Phulchoki**	**75.00**	**301**	*eP*	**P**	**12 50 33.6**	**-0.2**
	comp=Z,21nm,0.9s						
KKN	**Kakani**	**75.16**	**301**	*eP*	**P**	**12 50 34.5**	**-0.2**
	comp=Z,28nm,0.7s						
DMN	**Daman**	**75.26**	**301**	*eP*	**P**	**12 50 35.4**	**+0.1**
	comp=Z,47nm,0.7s						
GKN	**Gorkha**	**75.77**	**301**	*eP*	**P**	**12 50 38.0**	**-0.1**
	comp=Z,41nm,0.8s						
KOLN	**Koldanda**	**76.59**	**300**	*eP*	**P**	**12 50 42.7**	**-0.1**
	comp=Z,30nm,0.7s						
DANN	**Dangsing**	**76.60**	**301**	*eP*	**P**	**12 50 42.6**	**-0.4**
	comp=Z,32nm,0.8s						
MK31	**Makanchi Array**	**82.96**	**319**	P	**P**	**12 51 16.1**	**-0.6**
MK31				IAmb	IAmb	12 51 17.1	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**82.96**	**319**	P	**P**	**12 51 16.7**	**0.0**
	comp=Z,2.1nm,0.7s,baz=100,slow=5.3,SNR=20						
MKAR	**Makanchi Array**	**82.96**	**319**	P	**P**	**12 51 16.1**	**-0.7**
ILAR	**Eielson Array**	**83.22**	**22**	LR	LR	13 23 53.7	
	comp=Z,39nm,19.4s,baz=275,slow=32						
QSPA	**South Pole Qui**	**83.28**	**180**	P	**P**	**12 51 17.9**	**-0.3**
QSPA				IAmb	IAmb	12 51 19.0	
	comp=Z,5.4nm,0.9s						
ZALV	**Zalesovo Beam**	**83.75**	**326**	P	**P**	**12 51 19.7**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=140,slow=4.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**83.75**	**326**	P	**P**	**12 51 19.4**	**-1.1**
MAW	**Mawson**	**84.55**	**203**	P	**P**	**12 51 23.2**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=121,slow=7.5,SNR=9.7						
MAW	**Mawson**	**84.55**	**203**	P	**P**	**12 51 24.1**	**-0.2**
KSH	**Kashi**	**85.57**	**310**	P	**P**	**12 51 34.2**	**+4.0**
KSH				S	**S**	**13 02 01.2**	**+2.4**
KSH				sS	sS	13 02 23.7	+4.5
KSH				SS	**SS**	**13 07 43.0**	**+7.3**
KSH				pmax	pmax		
	comp=Z,31nm,1.1s						
KSH				pmax	pmax		
	comp=Z,530nm,5.8s						
KSH				LR	LR		
	comp=Z,140nm,14.6s						
NVAR	**Mina Array Bea**	**91.79**	**52**	P	**P**	**12 51 59.5**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=254,slow=6.5,SNR=4.3						
NVAR	**Mina Array Bea**	**91.79**	**52**	P	**P**	**12 51 59.2**	**-0.7**
PDAR	**Pinedale Array**	**98.74**	**48**	LR	LR	13 33 37.0	
	comp=Z,27nm,18.5s,baz=14,slow=33						
BDFB	**Brasilia**	**148.42**	**135**	PKPbc	**PKiKP**	**12 58 40.7**	**0.0**
	comp=Z,1.3nm,0.3s,baz=305,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**152.63**	**286**	PKPbc	**PKPbc**	**12 58 48.1**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=73,slow=2.7,SNR=16						
TORD	**Torodi Ar. Bea**	**152.63**	**286**	PKPdf	**PKPdf**	**12 58 40.4**	**-1.7**
TORD					**PKPbc**	**12 58 48.4**	**-0.7**

ISCJB 11 12:41:46.0±0.7, 58.73N±0.04×18.6E±0.1, h0km, Error ellipse: s-maj=8.0km s-min=6.1km az=178.4
UPP 11 12:41:46.4±0.2, 58.74N×18.64E, h0km, ML2.0, Explosion
IDC 11 12:41:51.3±3.0, 59.05N×18.70E, h0km, mb1 3.3/3, mb1mx3.0/40, mbtmp3.1/3, ML2.3/3, Error ellipse: s-maj=42.0km s-min=12.7km az=168.0

ISC 11 12:41:45.5±1.0, 58.74N±0.04×18.60E±0.05, h0km, n17, σ1.15/19, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.41**	**311**	P	**Pg**	**12 41 54.6**	**+1.3**
NYNU				S	**Sg**	**12 41 59.8**	**+1.2**
NRTU	**Norrtaelje**	**0.94**	**1**	P	**Pg**	**12 42 04.0**	**+0.5**
VIKU	**Vikbolandet**	**1.02**	**257**	P	**Pg**	**12 42 06.0**	**+0.9**
GOTU	**Gotland**	**1.06**	**181**	P	**Pb**	**12 42 06.3**	**-0.4**
UPP	**Uppsala**	**1.23**	**336**	P	**Pg**	**12 42 09.7**	**+0.7**
ESKU	**Eskilstuna**	**1.24**	**294**	P	**Pg**	**12 42 09.8**	**+0.5**
BACU	**Backbrunna**	**1.35**	**326**	P	**Pg**	**12 42 11.9**	**+0.5**
FLYU	**Flymyra**	**1.44**	**346**	P	**Pn**	**12 42 13.2**	**+0.4**
VSTU	**Vaestervik**	**1.54**	**226**	P	**Pb**	**12 42 14.9**	**0.0**
GRAU	**Graesoe**	**1.60**	**359**	P	**Pb**	**12 42 15.9**	**+0.1**
AAL	**Aland**	**1.61**	**26**	P	**Pb**	**12 42 15.8**	**-0.2**
FORU	**Forsmark**	**1.67**	**353**	P	**Pb**	**12 42 17.4**	**+0.3**
OSTU	**Oestervaala**	**1.67**	**334**	P	**Pb**	**12 42 17.3**	**+0.2**
BYXU	**Byxelkrok**	**1.68**	**211**	P	**Pb**	**12 42 17.0**	**-0.3**
NOA	**NORSAR Array B**	**4.38**	**305**	Pn	**Pn**	**12 42 54.4**	**+1.1**
	0.0nm,0.3s,baz=109,slow=15,SNR=4.4						
NOA				Lg	Lg	12 44 02.6	
	0.2nm,0.3s,baz=89,slow=12,SNR=14						
FINES	**FINESS Array B**	**4.62**	**51**	Pn	**Pn**	**12 42 59.4**	**+2.9**
	0.2nm,0.3s,baz=236,slow=9.9,SNR=8.2						
FINES				Sn	**Sn**	**12 43 48.7**	**-2.1**
	0.5nm,0.3s,baz=246,slow=21,SNR=6.9						
FINES				Lg	Lg	12 44 08.5	
	1.1nm,0.3s,baz=235,slow=26,SNR=15						
ARCES	**ARCESS Array B**	**11.24**	**13**	Pn	**Pn**	**12 44 26.1**	**-1.1**
	0.2nm,0.3s,baz=194,slow=11,SNR=6.3						

HEL 11 12:45:52.2±0.1, 61.78N×24.02E, h0km, ML1.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.56**	**46**	PG	Pg	12 46 02.0	-0.8
KEF				SG	Sg	12 46 09.8	-0.3
FIA0	**FINESS Array S**	**1.04**	**108**	PG	Pg	12 46 11.1	-1.1
	baz=288						
KAF	**Kangasniemi**	**1.13**	**72**	PG	Pg	12 46 12.6	-1.3
KAF				MSG		12 46 26.7	
	comp=Z,5.9nm,0.2s						
NUR	**Nurmijrvi**	**1.32**	**166**	SB	Sg	12 46 33.5	-0.9
SUF	**Sumiainen**	**1.37**	**46**	PG	Pg	12 46 16.8	-1.6
SUF				MSG		12 46 33.4	
	comp=Z,4.7nm,0.2s						
SUF				SN	Sb	12 46 36.5	-0.2
VAF	**Ylistaro**	**1.41**	**334**	PG	Pn	12 46 17.8	-1.2
VAF				MSG		12 46 34.7	
	comp=Z,2.8nm,0.2s						
VAF				SG	Sg	12 46 36.5	-0.9
PVF	**Pernaja**	**1.53**	**143**	PG	Pn	12 46 19.5	-1.2
PVF				MSG		12 46 38.1	
	comp=Z,6.6nm,0.2s						
VJF	**Virojoki**	**2.12**	**125**	MSG		12 46 55.2	
	comp=Z,3.3nm,0.2s						
VJF				SG	Sb	12 46 58.4	+0.1
AAL	**Aland**	**2.54**	**232**	PB	Pn	12 46 35.6	+1.1
AAL				SB	Sb	12 47 08.3	-1.9
ARBE	**Arbavere**	**2.55**	**157**	SG	Sb	12 47 10.5	0.0
UMAU	**Umeaa**	**2.60**	**325**	SG	Sb	12 47 10.8	-1.3
OUF	**Merijarvi**	**2.61**	**7**	PB	Pn	12 46 37.3	+1.7
OUF				MSG		12 47 09.2	
	comp=Z,1.8nm,0.2s						
OUF				SG	Sb	12 47 11.6	-0.9
OBF0	**Syolatti, Pyha**	**2.73**	**2**	PB	Pb	12 46 39.5	-2.3
OBF0				SG	Sb	12 47 15.5	-0.1
HEMU	**Hemsoen**	**2.94**	**290**	PB	Pn	12 46 42.0	+2.0
HEMU				SB	Sn	12 47 18.0	+2.0
TOF	**Tornio**	**4.32**	**2**	PN	Pn	12 47 00.2	+1.2

BER 11 12:46:37.9±0.8, 59.69N×10.46E, h0km, ML1.3, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSL	**Oslo**	**0.28**	**29**	*eS*	Sg	12 46 46.4	-0.6
OSL				IAML		12 46 51.6	
	comp=Z,53nm,0.7s						
KONO	**Kongsberg**	**0.44**	**265**	*eP*	Pg	12 46 45.6	-0.6
KONO				*eS*	Sg	12 46 51.8	-0.1
KONO				IAML		12 46 53.8	
	comp=Z,8.0nm,0.5s						
STRU	**Stroemstad**	**0.76**	**150**	*eP*	Pg	12 46 51.5	-0.9
STRU				*eS*	Sg	12 47 01.6	-0.6
NAO01	**NORSAR Array S**	**1.18**	**10**	*eP*	Pg	12 46 59.1	-1.3
NAO01				*eS*	Sg	12 47 14.6	-1.1
NAO01				IAML		12 47 16.2	
	comp=Z,7.4nm,0.4s						
NC602	**NORSAR Array S**	**1.18**	**27**	*eP*	Pg	12 46 58.7	-1.7
NC602				*eS*	Sg	12 47 15.0	-0.8
NBO00	**NORSAR Array S**	**1.35**	**7**	*eS*	Sg	12 47 19.6	-1.8
NBO00				IAML		12 47 23.6	
	comp=Z,12nm,0.7s						
NB201	**NORSAR Array S**	**1.43**	**17**	*eP*	Pn	12 47 03.1	-2.0
NB201				*eS*	Sg	12 47 21.1	-2.5
NB201				IAML		12 47 24.5	
	comp=Z,7.1nm,0.5s						
SKAR	**Skarslia**	**1.46**	**314**	*eP*	Pn	12 47 03.0	-2.6
SKAR				*eS*	Sg	12 47 22.7	-2.1
SKAR				IAML		12 47 26.7	
	comp=Z,17nm,0.4s						
NC204	**NORSAR Array S**	**1.60**	**5**	*eP*	Pn	12 47 05.8	-1.6
NC204				*eS*	Sn	12 47 26.9	-2.0
NC204				IAML		12 47 29.1	
	comp=Z,7.2nm,0.6s						
NC303	**NORSAR Array S**	**1.60**	**16**	*eP*	Pn	12 47 05.8	-1.7
NC303				*eS*	Sn	12 47 26.1	-2.7
NC303				IAML		12 47 28.3	
	comp=Z,6.3nm,0.7s						

IDC 11 12:50:18.9±1.0, 23.80N×121.53E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.6/44, mbtmp3.6/8, Error ellipse: s-maj=30.2km s-min=18.1km az=79.0
ASIES 11 12:50:22.0, 24.14N×121.67E, h21km, MW3.6
JMA 11 12:50:22.7, 24.08N×121.65E, h22km, M3.4
ISCJB 11 12:50:22.4±0.3, 24.16N±0.01×121.75E±0.01, h7km±1km, mb3.5/8, Error ellipse: s-maj=2.2km s-min=1.4km az=28.1
TAP 11 12:50:22.6, 24.12N×121.70E, h10km, ML4.1, B
BJI 11 12:50:22.0±0.0, 24.13N×121.78E, h12km, ML3.7/4

ISC 11 12:50:22.3±0.7, 24.11N±0.01×121.69E±0.02, h14km±4km, n140, σ1.07/218, mb3.5/8, 11C-26D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.09**	**249**	⇓*iP*	**Pg**	**12 50 25.5**	**+0.1**
	baz=248						
TWD				*i* S	**Sg**	**12 50 27.4**	**0.0**
	baz=248						
NACB	**Ninganchiao**	**0.10**	**306**	⇓P	**Pg**	**12 50 25.6**	**0.0**
	baz=299						
NACB				S	**Sg**	**12 50 27.5**	**-0.2**
	baz=299						
HWA	**Hwalien**	**0.15**	**209**	*eP*	**Pb**	**12 50 27.1**	**+0.1**
	baz=218						
HWA				*eS*	**Sg**	**12 50 30.4**	**+1.6**
	baz=218						
ETLH	**Xiulin Townshi**	**0.21**	**297**	⇓P	**Pb**	**12 50 27.4**	**-0.5**
	baz=293						
ETLH				S	**Sg**	**12 50 30.7**	**+0.3**
	baz=293						
ENLB	**Shoufeng**	**0.22**	**200**	P	**Pb**	**12 50 27.8**	**-0.3**
	baz=215						
ENLB				S	**Sg**	**12 50 32.8**	**+2.2**
	baz=215						
ENA	**Nanau**	**0.32**	**9**	⇓*iP*	**Pb**	**12 50 29.1**	**-0.7**
	baz=6.0						
ENA				*i* S	**Sg**	**12 50 33.4**	**0.0**
	baz=6.0						
NANB	**Nanao**	**0.32**	**10**	⇓P	**Pb**	**12 50 29.1**	**-0.7**
	baz=6.0						
NANB				S	**Sg**	**12 50 33.4**	**-0.1**
	baz=6.0						
ESL	**Shilin**	**0.38**	**218**	⇓*iP*	**Pb**	**12 50 30.4**	**-0.4**
	baz=227						
ESL				S	**Sb**	**12 50 35.5**	**-1.0**
	baz=227						
WHF	**Hehuan Shan**	**0.39**	**275**	⇓*iP*	**Pb**	**12 50 30.8**	**-0.5**
	baz=274						
WHF				S	**Sb**	**12 50 36.0**	**-1.1**
	baz=274						
NNSB	**Datong**	**0.42**	**319**	⇓P	**Pb**	**12 50 31.4**	**-0.2**
	baz=316						
NNSB				S	**Sb**	**12 50 37.1**	**-0.8**
	baz=316						
NNS	**Nan Shan**	**0.43**	**

baz=330
EHY Hungye 0.69 209 ⇓P Pb 12 50 35.9 -0.3
baz=211
WHP Taichung City 0.70 284 P Pn 12 50 37.1 -0.8
baz=283
WHP S Sn 12 50 46.8 -1.7
baz=283
DPDB Guoxing 0.70 264 ⇑iP Pn 12 50 36.9 -0.9
baz=255
DPDB S Sb 12 50 46.4 +0.5
baz=255
SSLB Suanglung 0.74 244 ⇑P Pb 12 50 37.3 +0.2
baz=255
SSLB S Sb 12 50 46.8 -0.4
baz=255
NTC Toucheng 0.75 10 eP Pb 12 50 37.4 +0.2
baz=6.0
SMLT Sun Moon Lake 0.76 253 P Pn 12 50 37.9 -0.8
baz=253
SMLT S Sb 12 50 47.8 +0.3
baz=253
EGS 0.76 17 eP Pb 12 50 37.7 +0.3
baz=22
TYC Yuchr 0.79 255 ⇑P Pn 12 50 38.2 -0.8
baz=255
TYC eS Sb 12 50 47.9 -0.4
baz=255
YULB Yu-li 0.80 207 eP Pg 12 50 37.7 -0.2
baz=220
YULB eS Sb 12 50 49.2 +0.5
baz=220
LIOB Emei 0.81 311 P Pn 12 50 39.2 -0.1
baz=309
LIOB S Sn 12 50 49.8 -1.3
baz=309
NSTT Nanjuang 0.81 310 P Pn 12 50 39.1 -0.3
baz=308
NSTT S Sn 12 50 49.8 -1.4
baz=308
TWF1 Yuli 0.84 205 eP Pg 12 50 37.9 -0.7
baz=218
TWF1 eS Sb 12 50 50.6 +0.9
baz=218
WLTB Daxi 0.84 332 eP Pn 12 50 39.8 +0.1
baz=329
WLTB eS Sn 12 50 51.0 -0.8
baz=329
NHDH Xindian Distri 0.86 350 eP Pn 12 50 39.7 -0.3
baz=338
NHDH eS Sb 12 50 50.6 +0.2
baz=338
TIPB Shuangxi 0.86 8 ⇓P Pn 12 50 39.6 -0.5
baz=356
TIPB S Sg 12 50 49.9 -0.6
baz=356
TWQ1 Liyutan 0.87 286 eP Pn 12 50 40.5 +0.4
baz=295
TWQ1 eS Sn 12 50 52.8 +0.3
baz=295
WHYT Xinyi Township 0.87 242 eP Pn 12 50 40.0 -0.1
baz=250
WHYT eS Sn 12 50 51.5 -1.1
baz=250
TWA Mucha 0.87 354 eP Pn 12 50 39.7 -0.4
baz=351
TWA S Sb 12 50 51.0 +0.2
baz=351
TATO Taipei 0.88 348 P Pn 12 50 39.9 -0.3
baz=336
TATO S Sb 12 50 50.6 -0.3
baz=336
NSY Sanyi 0.90 290 P Pn 12 50 41.5 +1.0
baz=289
NSY eS Sn 12 50 53.8 +0.5
baz=289
YUS Yu-Shan 0.92 227 ⇑iP Pn 12 50 40.8 -0.4
baz=218
YUS S Sn 12 50 53.4 -1.0
baz=218
NMLH Miaoli 0.92 298 eP Pn 12 50 42.2 +1.4
baz=296
WJS Zhushan 0.92 252 eP Pn 12 50 41.7 +0.8
baz=253
WJS eS Sn 12 50 54.7 +0.8
baz=253
TCU Taichung 0.92 272 eP Pn 12 50 42.1 +1.2
baz=264
TCU eS Sn 12 50 55.8 +1.8
baz=264
TWB1 Santiao Chiao 0.93 17 ⇑P Pn 12 50 40.9 -0.1
baz=7.0
TWB1 eS Sb 12 50 52.5 -0.1
baz=7.0
TAP Taipei 0.94 350 eP Pn 12 50 41.5 +0.5
baz=339
TAP eS Sn 12 50 53.7 -0.6
baz=339
WNT Mingjian 0.95 256 ⇑P Pn 12 50 42.2 +1.1
baz=251
WNT eS Sn 12 50 55.3 +0.9
baz=251
HSN Hsinchu 0.95 317 eP Pn 12 50 41.8 +0.6
baz=317
HSN eS Sn 12 50 55.6 +1.1
baz=317
PTSB Yuanli 0.96 291 ⇑P Pn 12 50 42.7 +1.4
baz=289
PTSB S Sn 12 50 56.0 +1.3
baz=289
NWF Wu-fen Shan 0.96 5 P Pn 12 50 41.6 +0.1
baz=353
NWF eS Sb 12 50 53.3 -0.1
baz=353
WFSB Wu-fen Shan 0.96 5 ⇓P Pn 12 50 41.4 0.0
baz=353
WFSB S Sb 12 50 53.6 +0.3
baz=353
NCUH Zhongli 0.97 332 eP Pn 12 50 42.3 +0.8
baz=328
NCU National Centr 0.97 332 eP Pn 12 50 42.5 +1.0
baz=336
NCU eS Sn 12 50 56.2 +1.2
baz=336
FULB Fuli 0.98 202 eP Pn 12 50 41.3 -0.3
baz=219
WDJ Dajia District 0.98 284 eP Pn 12 50 43.4 +1.7
baz=292
WDJ eS Sn 12 50 56.2 +0.8
baz=292
ALS Alishan 1.00 234 ⇑iP Pn 12 50 42.6 +0.3
baz=225
ALS S Sn 12 50 56.5 +0.1
baz=225
TWS1 Kuangyinshan 1.01 346 eP Pn 12 50 43.0 +0.9
baz=343
TWS1 eS Sn 12 50 56.9 +0.7
baz=343
WCHH Zhanghua 1.03 268 eP Pn 12 50 43.6 +1.3
baz=269
YM01 YM01 1.03 354 eP Pn 12 50 43.2 +0.7
baz=359
YM01 S Sn 12 50 56.6 -0.1
baz=359
YM10 YM10 1.04 354 ⇑P Pn 12 50 43.3 +0.7
YM11 YM11 1.05 354 P Pn 12 50 43.4 +0.7
baz=359
YM11 S Sn 12 50 57.6 +0.3
baz=359
NTST Danshui 1.07 348 eP Pn 12 50 43.8 +0.9
baz=353
NTST eS Sn 12 50 59.4 +1.8
baz=353
YM08 YM08 1.07 355 eP Pn 12 50 43.5 +0.5
baz=2.0
ANP Anpu 1.08 352 eP Pn 12 50 43.7 +0.6
baz=348
ELDTW Lidau 1.10 214 eP Pn 12 50 43.4 -0.1
baz=217
WGK Gukeng 1.11 248 eP Pn 12 50 44.9 +1.4
baz=249
WGK eS Sn 12 51 00.6 +2.0
baz=249
WDLH Douliu 1.13 248 eP Pg 12 50 45.1 +0.9
baz=250
TWY Chenhua 1.16 356 eP Pg 12 50 45.3 +0.6
baz=338
JYNG Yonagunijimaku 1.20 73 P Pb 12 50 44.8 0.0
RLNB Erlin 1.23 260 eP Pg 12 50 47.0 +0.9
baz=261
RLNB eS Sg 12 51 04.2 +2.1
baz=261
CHN2 Minshiung 1.25 243 eP Pg 12 50 47.4 +1.0
baz=245
CHN4 Tsaushan 1.26 233 eP Pg 12 50 47.5 +1.0
baz=223
CHN4 eS Sg 12 51 06.2 +3.3
baz=223
YOJ Yonaguni jima 1.26 74 P Pb 12 50 45.8 0.0
baz=83
YOJ Yonaguni jima 1.26 74 P Pb 12 50 45.8 0.0
TPUB Ta-pu 1.26 230 ⇑P Pg 12 50 47.0 +0.4
baz=221
TPUB eS Sg 12 51 04.3 +1.3
baz=221
STYT Tauyuan 1.27 222 eP Pg 12 50 46.3 -0.5
baz=225
STYT eS Sg 12 51 05.2 +1.8
baz=225
CHY Chiayi 1.31 242 eP Pg 12 50 48.4 +0.9
baz=244
CHY eS Sg 12 51 06.5 +1.9
baz=244
WTP Ta-pu 1.31 229 P Pg 12 50 47.9 +0.4
baz=232
WTP eS Sg 12 51 06.5 +2.0
baz=232
WTCT Ta-ch'eng 1.31 259 eP Pg 12 50 47.8 +0.3
baz=260
WTCT eS Sg 12 51 06.9 +2.3
baz=260
TWK Hsinying 1.38 233 eP Pg 12 50 49.3 +0.3
baz=236
TWK eS Sg 12 51 09.4 +2.4
baz=236
TWGBT Beinan 1.40 203 eP Pn 12 50 45.9 -1.6
baz=207
SNST Tainan City 1.41 231 eP Pg 12 50 49.5 +0.1
baz=234
SNST eS Sg 12 51 09.6 +1.8
baz=234
CHN1 Nanshi 1.41 229 eP Pg 12 50 49.6 +0.2
baz=233
CHN1 eS Sg 12 51 09.6 +1.8
baz=233
WSF Szhu 1.42 251 eP Pg 12 50 49.7 0.0
baz=253
WSF eS Sg 12 51 09.9 +1.7
baz=253
SGST Jiashian 1.44 225 eP Pg 12 50 49.3 -0.7
baz=228
SGST eS Sg 12 51 10.5 +1.7
baz=228
SLGT Liugui 1.47 221 eP Pg 12 50 50.1 -0.4
baz=224
CHN8 Yiju 1.55 241 eP Pg 12 50 51.9 -0.3
baz=244
CHN8 eS Sg 12 51 14.3 +1.9
baz=244
ECL Taimali 1.65 204 eP Pn 12 50 51.5 +0.6
baz=193
SCLT Jiali 1.66 236 eP Pb 12 50 52.7 +0.1
baz=239
SSD Sandimen 1.67 216 eP Pb 12 50 53.0 +0.2
baz=232
SSD eS Sg 12 51 15.6 -0.5
baz=232
TWM1 Shoushan 1.73 222 eP Pg 12 50 55.9 +0.3
baz=226
MASBT Mashibuluo 1.78 213 eP Pb 12 50 53.9 -0.9
baz=216
IRIF Iriomote-Funau 1.88 83 P Pn 12 50 54.4 +0.4
EAST Anshuo 1.89 204 eP Pn 12 50 53.6 -0.6
baz=193
HATJ Hateruma jima 1.94 91 P Pn 12 50 55.2 +0.4
SCZT Fangliau 1.99 210 eP Pb 12 50 57.6 -0.8
baz=201
PHUB P'eng-hu 2.03 253 eP Pn 12 50 56.5 +0.5
baz=256
PNG Penghu 2.03 255 eP Pb 12 50 57.5 -1.5
baz=258
WDGT Dungji 2.04 246 eP Pb 12 50 57.6 -1.5
baz=249
JKRS Kuro-shima 2.12 86 P Pn 12 50 58.3 +0.9
VWUC VWUC 2.22 294 P Pn 12 50 59.4 +0.7
baz=294
PTTC Pingtan 2.22 309 eP Pn 12 50 59.7 +0.9
baz=306
PTTC eS Sn 12 51 26.8 +0.8
baz=306
JIJ Ishigaki jima 2.26 83 P Pn 12 50 59.5 +0.3
JIJ eS Sn 12 51 27.3 +0.5
VCHM Qimei 2.26 247 eP Pb 12 51 00.8 -2.1
baz=234
TWKBT Hengchun 2.31 201 eP Pn 12 51 01.0 +1.1
baz=204
JISG Ishigakijimahi 2.44 78 P Pn 12 51 02.2 +0.5
JISG S Sn 12 51 32.3 +1.0
PTMZ Houxiangcun 2.51 292 ⇓eP Pn 12 51 03.5 +0.8
baz=292
PTMZ eS Sn 12 51 32.9 -0.2
baz=292
MATB Ma-tsu 2.57 323 eP Pn 12 51 04.2 +0.7
baz=319
JTJ Tarama 2.80 79 P Pn 12 51 07.3 +0.6
JTJ S Sn 12 51 41.3 +1.1
QZH Quanzhou 2.94 287 ⇑iPn Pn 12 51 09.4 +0.8
QZH Sn Sn 12 51 44.4 +0.8
QZH smax smax
comp=N,160nm,0.7s
QZH smax smax
comp=E,110nm,1.0s
KNM Kinmen 2.98 276 eP Pb 12 51 11.9 -3.4
baz=277
LYJJ Jianjiangzhen 2.99 325 eP Pn 12 51 10.0 +0.8
baz=323
KNMB Chin-men Tao 3.03 277 eP Pn 12 51 10.6 +0.7
baz=278
XPSS Dashiqiu 3.12 335 eP Pn 12 51 11.4 +0.4
baz=330
MHZQ Yeshan 3.12 310 eP Pn 12 51 12.0 +1.0
baz=309
JMJ Miyako jima 2 3.36 77 eP Pn 12 51 15.6 +1.2
baz=73
JMJ2 Miyako jima3 3.38 79 P Pn 12 51 15.7 +1.1
AXDP Jialang 3.48 284 eP Pn 12 51 17.1 +1.1
baz=284
ZPLA Ao Xicun 3.60 268 eP Pn 12 51 18.8 +1.1
baz=269
ZZJH Jiuhuzhen 3.72 276 eP Pn 12 51 20.9 +1.6
baz=277
KSRS Korea Array 14.33 20 Pn P 12 53 53.0 +1.1
0.3nm,0.3s,baz=200,slow=12,SNR=10
USRK Ussuriysk Ar. 21.74 20 P P 12 55 15.0 +1.8
1.5nm,0.8s,baz=219,slow=11,SNR=3.8
CMAR Chiang Mai Arr 21.91 259 P P 12 55 10.0 -5.3
0.3nm,0.4s,baz=68,slow=9.8,SNR=3.9
KLR Kul'dur 26.29 15 P P 12 55 58.4 +1.1
2.3nm,0.8s,baz=259,slow=5.2,SNR=3.6
SONM Songino Array 26.61 337 P P 12 56 01.3 +1.0
0.5nm,0.8s,baz=161,slow=9.2,SNR=3.3
WMQ Urumqi 34.04 314 eP P 12 57 09.0 +3.0
MKAR Makanchi Array 38.71 316 P P 12 57 46.7 +0.9
0.7nm,0.6s,baz=108,slow=8.5,SNR=7.6
ZALV Zalesovo Beam 40.55 327 P P 12 58 01.5 +0.5
0.6nm,0.5s,baz=123,slow=7.0,SNR=3.7
H11S3 WAKE ISLAND Hy 42.16 89 T T 13 44 09.5
baz=278,SNR=9.2
H11S1 WAKE ISLAND Hy 42.17 89 T T 13 44 14.6
baz=278
H11S2 WAKE ISLAND Hy 42.18 89 T T 13 44 07.9
baz=278
WRA Warramunga Arr 45.49 163 P P 12 58 37.2 -4.1
0.7nm,0.7s,baz=346,slow=8.7,SNR=3.8
ASAR Alice Springs 48.95 165 P P 12 59 06.2 -2.2
0.3nm,0.6s,baz=346,slow=6.7,SNR=5.5

*ISCJB **11** 13:13:03.8±0.5, 58.°75N±0.°03×18.°65E±0.°07, h0km, Error ellipse: s-maj=5.4km s-min=4.3km az=36.9*
*UPP **11** 13:13:04.4±0.2, 58.°74N×18.°64E, h0km, ML1.9, Explosion*
*HEL **11** 13:13:05.4±0.1, 58.°74N×18.°61E, h0km, ML1.9(UPP), Explosion*
*NAO **11** 13:13:08.9±2.2, 59.°05N×18.°58E, ML2.2*
*IDC **11** 13:13:09.6±2.1, 59.°16N×18.°38E, h0km, mb1 3.1/4, mb1mx2.9/55, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=28.8km s-min=7.8km az=1.0*
*BER **11** 13:13:09.5±5.4, 58.°99N×18.°57E, h0km, ML2.2(NAO), Suspected explosion*

ISC 11 13:13:04.4±0.9, 58.°74N±0.°03×18.°62E±0.°03, h0km, n47, σ19°24/61, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.42**	**310**	P	**Pg**	**13 13 12.6**	**+0.2**
NYNU				S	**Sg**	**13 13 17.7**	**0.0**
NYNU	**Nynaeshamn**	**0.42**	**310**	*i* P	**Pg**	**13 13 12.6**	**+0.2**
NYNU				*i* S	**Sg**	**13 13 17.7**	**0.0**
NRTU	**Norrtaelje**	**0.94**	**0**	P	**Pg**	**13 13 21.9**	**-0.4**
NRTU				S	**Sg**	**13 13 34.2**	**-0.4**
NRTU	**Norrtaelje**	**0.94**	**0**	*e*P	**Pg**	**13 13 21.9**	**-0.4**
NRTU				*e*S	**Sg**	**13 13 34.2**	**-0.4**
VIKU	**Vikbolandet**	**1.03**	**257**	P	**Pg**	**13 13 23.9**	**-0.2**
VIKU	**Vikbolandet**	**1.03**	**257**	*e*P	**Pg**	**13 13 23.9**	**-0.2**
GOTU	**Gotland**	**1.06**	**181**	P	**Pg**	**13 13 24.2**	**-0.4**
GOTU	**Gotland**	**1.06**	**181**	*e*P	**Pg**	**13 13 24.2**	**-0.4**
UPP	**Uppsala**	**1.23**	**336**	P	**Pg**	**13 13 27.6**	**-0.4**
UPP	**Uppsala**	**1.23**	**336**	*e*P	**Pg**	**13 13 27.6**	**-0.4**
ESKU	**Eskilstuna**	**1.25**	**294**	P	**Pg**	**13 13 27.8**	**-0.6**
ESKU	**Eskilstuna**	**1.25**	**294**	*e*P	**Pg**	**13 13 27.8**	**-0.6**
BACU	**Backbrunna**	**1.36**	**326**	P	**Pg**	**13 13 29.9**	**-0.6**
BACU	**Backbrunna**	**1.36**	**326**	*e*P	**Pg**	**13 13 29.9**	**-0.6**
FLYU	**Flymyra**	**1.44**	**345**	P	**Pn**	**13 13 31.1**	**-0.6**
FLYU	**Flymyra**	**1.44**	**345**	*e*P	**Pn**	**13 13 31.1**	**-0.6**
VSTU	**Vaestervik**	**1.55**	**226**	P	**Pn**	**13 13 32.8**	**-0.4**
VSTU	**Vaestervik**	**1.55**	**226**	*e*P	**Pn**	**13 13 32.8**	**-0.4**
GRAU	**Graesoe**	**1.60**	**359**	P	**Pn**	**13 13 33.9**	**0.0**
GRAU	**Graesoe**	**1.60**	**359**	*e*P	**Pn**	**13 13 33.9**	**0.0**
AAL	**Aland**	**1.60**	**25**	P	**Pn**	**13 13 33.8**	**-0.2**
AAL	**Aland**	**1.60**	**25**	*e*P	**Pn**	**13 13 33.7**	**-0.2**
AAL				*e*S	**Sn**	**13 13 54.3**	**-1.0**
FORU	**Forsmark**	**1.67**	**352**	P	**Pb**	**13 13 35.4**	**-0.5**
FORU	**Forsmark**	**1.67**	**352**	*e*P	**Pb**	**13 13 35.4**	**-0.5**
OSTU	**Oestervaala**	**1.68**	**334**	P	**Pn**	**13 13 35.3**	**+0.3**
OSTU	**Oestervaala**	**1.68**	**334**	*e*P	**Pn**	**13 13 35.3**	**+0.3**
BYXU	**Byxelkrok**	**1.69**	**211**	P	**Pn**	**13 13 35.2**	**+0.2**
BYXU	**Byxelkrok**	**1.69**	**211**	*e*P	**Pn**	**13 13 35.2**	**+0.2**
ASPU	**Aespoe**	**1.71**	**220**	P	**Pn**	**13 13 35.6**	**+0.3**
ASPU	**Aespoe**	**1.71**	**220**	*e*P	**Pn**	**13 13 35.6**	**+0.3**
HFS	**Hagfors**	**2.88**	**301**	Pn	**Pn**	**13 13 52.5**	**+1.1**
baz=135,slow=14							
HFS				Sn	**Sn**	**13 14 27.9**	**+1.1**
baz=107,slow=28							
HFS				Lg	Lg	13 14 33.6	
HFS	**Hagfors**	**2.88**	**301**	Pn	**Pn**	**13 13 52.4**	**+1.0**
0.6nm,0.3s,baz=111,slow=15,SNR=11							
HFS				Lg	Lg	13 14 27.9	
2.0nm,0.3s,baz=109,slow=26,SNR=12							
HFS	**Hagfors**	**2.88**	**301**	Pn	**Pn**	**13 13 52.5**	**+1.1**
baz=135,slow=14							
HFS				Sn	**Sn**	**13 14 27.9**	**+1.1**
baz=107,slow=28							
HFS				Sg	**Sb**	**13 14 33.6**	**+1.3**
HEMU	**Hemsoen**	**3.96**	**356**	*e*P	**Pn**	**13 14 06.8**	**+0.5**
NRA0	**NORESS Array S**	**4.10**	**302**	Pn	**Pn**	**13 14 09.0**	**+0.7**
baz=98,slow=7.4							
NRA0				Lg	Lg	13 15 10.4	
baz=127,slow=22							
NRA0	**NORESS Array S**	**4.10**	**302**	Pn	**Pn**	**13 14 09.0**	**+0.7**
baz=98,slow=7.4							
NRA0				Sg	**Sb**	**13 15 10.4**	**+2.9**
baz=127,slow=22							
NB2	**NORSAR Subarra**	**4.38**	**305**	Pn	**Pn**	**13 14 13.3**	**+1.1**
baz=135,slow=14							
NB2				Lg	Lg	13 15 21.2	
baz=118,slow=37							
NB2	**NORSAR Subarra**	**4.38**	**305**	Pn	**Pn**	**13 14 13.3**	**+1.1**
baz=135,slow=14							
NB2				Sg	**Sg**	**13 15 21.2**	**-3.9**
baz=118,slow=37							
NOA	**NORSAR Array B**	**4.38**	**305**	Pn	**Pn**	**13 14 12.2**	**0.0**
0.0nm,0.3s,baz=133,slow=13,SNR=4.2							
NOA				Lg	Lg	13 15 18.4	
0.2nm,0.3s,baz=132,slow=19,SNR=13							
FIA0	**FINESS Array S**	**4.61**	**51**	Pn	**Pn**	**13 14 17.5**	**+2.2**
baz=225,slow=11							
FIA0				Sn	**Sn**	**13 15 08.9**	**-0.5**
baz=248,slow=22							
FIA0				Lg	Lg	13 15 26.0	
baz=233,slow=28							
FIA0	**FINESS Array S**	**4.61**	**51**	Pn	**Pn**	**13 14 17.5**	**+2.2**
baz=225,slow=11							
FIA0				Sn	**Sn**	**13 15 08.9**	**-0.5**
baz=248,slow=22							
FIA0				Sg	**Sb**	**13 15 26.0**	**+3.8**
baz=233,slow=28							
FINES	**FINESS Array B**	**4.61**	**51**	Pn	**Pn**	**13 14 17.1**	**+1.8**
0.3nm,0.3s,baz=249,slow=13,SNR=9.0							
FINES				Sn	**Sn**	**13 15 09.0**	**-0.5**
0.6nm,0.3s,baz=240,slow=24,SNR=8.0							
FINES				Lg	Lg	13 15 25.4	
1.3nm,0.3s,baz=238,slow=32,SNR=16							
KEF	**Keuruu**	**4.62**	**39**	*e*P	**Pn**	**13 14 16.7**	**+1.3**
KAF	**Kangasniemi**	**5.09**	**45**	*e*P	**Pn**	**13 14 23.2**	**+1.3**
ARA0	**ARCESS Array S**	**11.24**	**12**	Pn	**Pn**	**13 15 43.7**	**-2.3**
baz=196,slow=12							
ARA0	**ARCESS Array S**	**11.24**	**12**	Pn	**Pn**	**13 15 43.7**	**-2.3**
baz=196,slow=12							
ARCES	**ARCESS Array B**	**11.24**	**12**	Pn	**Pn**	**13 15 43.4**	**-2.6**
0.3nm,0.3s,baz=196,slow=12,SNR=7.2							

*ISCJB **11** 13:19:20.4±0.5, 58.°75N±0.°04×18.°69E±0.°05, h0km, Error ellipse: s-maj=5.6km s-min=3.4km az=148.0*
*UPP **11** 13:19:21.2±0.2, 58.°74N×18.°63E, h0km, ML2.0, Explosion*
*HEL **11** 13:19:22.3±0.1, 58.°75N×18.°61E, h0km, ML1.5, ML2.0(UPP), Explosion*
*NAO **11** 13:19:23.1±1.1, 58.°80N×18.°52E, ML2.3*
*IDC **11** 13:19:26.2±2.0, 59.°07N×18.°30E, h0km, mb1 3.1/4, mb1mx3.0/60, mbtmp3.0/4, ML2.1/3, Error ellipse: s-maj=28.2km s-min=8.4km az=4.0*
*BER **11** 13:19:26.2±2.6, 59.°08N×18.°60E, h0km, ML2.3(NAO), Suspected explosion*

ISC 11 13:19:20.9±0.8, 58.°78N±0.°03×18.°44E±0.°03, h0km, n51, σ19°34/68, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.32**	**315**	P	**Pb**	**13 19 29.4**	**0.0**
NYNU				S	**Sb**	**13 19 34.6**	**-0.5**
NYNU	**Nynaeshamn**	**0.32**	**315**	*i* P	**Pb**	**13 19 29.4**	**0.0**
NYNU				*i* S	**Sb**	**13 19 34.6**	**-0.5**
NRTU	**Norrtaelje**	**0.90**	**6**	P	**Pg**	**13 19 38.8**	**+0.7**
NRTU	**Norrtaelje**	**0.90**	**6**	*e*P	**Pg**	**13 19 38.8**	**+0.7**
VIKU	**Vikbolandet**	**0.95**	**254**	P	**Pb**	**13 19 40.7**	**+0.5**
VIKU	**Vikbolandet**	**0.95**	**254**	*e*P	**Pb**	**13 19 40.7**	**+0.5**
GOTU	**Gotland**	**1.10**	**176**	P	**Pg**	**13 19 41.1**	**-0.9**
GOTU	**Gotland**	**1.10**	**176**	*e*P	**Pg**	**13 19 41.1**	**-0.9**
ESKU	**Eskilstuna**	**1.15**	**294**	P	**Pn**	**13 19 44.5**	**+0.3**
ESKU	**Eskilstuna**	**1.15**	**294**	*e*P	**Pn**	**13 19 44.5**	**+0.3**
UPP	**Uppsala**	**1.16**	**339**	P	**Pn**	**13 19 44.4**	**+0.1**
UPP	**Uppsala**	**1.16**	**339**	*e*P	**Pn**	**13 19 44.4**	**+0.1**
BACU	**Backbrunna**	**1.27**	**328**	P	**Pn**	**13 19 46.7**	**+0.8**
BACU	**Backbrunna**	**1.27**	**328**	*e*P	**Pn**	**13 19 46.7**	**+0.8**
FLYU	**Flymyra**	**1.38**	**348**	P	**Pb**	**13 19 48.0**	**+0.5**
FLYU	**Flymyra**	**1.38**	**348**	*e*P	**Pb**	**13 19 48.0**	**+0.5**
VSTU	**Vaestervik**	**1.51**	**223**	P	**Pb**	**13 19 49.6**	**-0.1**
VSTU				S	**Sn**	**13 20 10.5**	**+1.0**
VSTU	**Vaestervik**	**1.51**	**223**	*e*P	**Pb**	**13 19 49.6**	**-0.1**
VSTU				*e*S	**Sn**	**13 20 10.5**	**+1.0**
GRAU	**Graesoe**	**1.56**	**2**	P	**Pb**	**13 19 50.7**	**+0.1**
GRAU	**Graesoe**	**1.56**	**2**	*e*P	**Pb**	**13 19 50.7**	**+0.1**
OSTU	**Oestervaala**	**1.60**	**336**	P	**Pg**	**13 19 52.1**	**+0.6**
OSTU	**Oestervaala**	**1.60**	**336**	*e*P	**Pg**	**13 19 52.1**	**+0.6**
AAL	**Aland**	**1.61**	**29**	P	**Pn**	**13 19 50.6**	**+0.2**
AAL	**Aland**	**1.61**	**29**	*e*P	**Pn**	**13 19 50.2**	**-0.3**
AAL				*e*S	**Sn**	**13 20 11.1**	**-0.8**
FORU	**Forsmark**	**1.62**	**355**	P	**Pg**	**13 19 52.2**	**+0.4**
FORU	**Forsmark**	**1.62**	**355**	*e*P	**Pg**	**13 19 52.2**	**+0.4**
BYXU	**Byxelkrok**	**1.68**	**208**	P	**Pb**	**13 19 52.0**	**-0.5**
BYXU	**Byxelkrok**	**1.68**	**208**	*e*P	**Pb**	**13 19 52.0**	**-0.5**
HFS	**Hagfors**	**2.78**	**301**	Pn	**Pb**	**13 20 09.4**	**-1.9**
baz=119,slow=14							
HFS				Lg	Lg	13 20 50.0	
baz=119,slow=28							
HFS	**Hagfors**	**2.78**	**301**	Pn	**Pb**	**13 20 09.1**	**-2.2**
0.8nm,0.3s,baz=114,slow=14,SNR=13							

HFS Lg Lg 13 20 44.3
4.4nm,0.3s,baz=114,slow=27,SNR=17
HFS Hagfors 2.78 301 Pn **Pb 13 20 09.4 -1.9**
baz=119,slow=14
HFS Sg **Sg 13 20 50.0 +0.1**
baz=119,slow=28
NRA0 NORESS Array S 4.00 302 Pn **Pn 13 20 25.6 +2.2**
baz=105,slow=7.9
NRA0 Lg Lg 13 21 27.5
baz=117,slow=28
NRA0 NORESS Array S 4.00 302 Pn **Pn 13 20 25.6 +2.2**
baz=105,slow=7.9
NRA0 Sg **Sg 13 21 27.5 -1.8**
baz=117,slow=28
PVF Pernaja 4.16 62 *eS* **Sn 13 21 15.5 +0.7**
PVF MSG 13 21 18.7
comp=Z,0.5nm,0.1s
NB2 NORSAR Subarra 4.28 305 Pn **Pn 13 20 30.5 +3.2**
baz=109,slow=16
NB2 Lg Lg 13 21 38.0
baz=120,slow=28
NB2 NORSAR Subarra 4.28 305 Pn **Pn 13 20 30.5 +3.2**
baz=109,slow=16
NB2 Sg **Sg 13 21 38.0 -0.4**
baz=120,slow=28
NOA NORSAR Array B 4.28 305 Pn **Pn 13 20 29.8 +2.5**
comp=Z,0.0nm,0.3s,baz=122,slow=16,SNR=4.4
NOA Pg **Pb 13 20 37.7 +0.7**
comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=5.9
NOA Lg Lg 13 21 33.7
comp=Z,0.3nm,0.3s,baz=143,slow=20,SNR=14
KEF Keuruu 4.65 40 *eP* **Pn 13 20 32.5 +0.2**
KEF *eS* **Sn 13 21 25.8 -1.2**
KEF MSG 13 21 31.8
comp=Z,0.7nm,0.1s
FIA0 FINESS Array S 4.66 52 Pn **Pn 13 20 34.0 +1.6**
baz=237,slow=10
FIA0 Lg Lg 13 21 43.0
baz=233,slow=28
FIA0 FINESS Array S 4.66 52 *eP* **Pn 13 20 34.2 +1.8**
FIA0 *eS* **Sn 13 21 27.5 +0.4**
FIA0 FINESS Array S 4.66 52 Pn **Pn 13 20 34.0 +1.6**
baz=237,slow=10
FIA0 Sg **Sb 13 21 43.0 +3.0**
baz=233,slow=28
FINES FINESS Array B 4.66 52 Pn **Pn 13 20 33.9 +1.6**
comp=Z,0.5nm,0.3s,baz=238,slow=13,SNR=12
FINES Sn **Sn 13 21 25.2 -1.9**
comp=Z,0.8nm,0.3s,baz=246,slow=19,SNR=8.1
FINES Lg Lg 13 21 44.3
comp=Z,2.7nm,0.3s,baz=241,slow=25,SNR=21
FIA1 FINESS Array S 4.66 52 *eP* **Pn 13 20 34.2 +1.8**
FIA1 *eS* **Sn 13 21 27.5 +0.4**
KAF Kangasniemi 5.13 46 *eP* **Pn 13 20 40.2 +1.4**
KAF *eS* **Sn 13 21 37.7 -0.9**
SUF Sumiainen 5.47 40 *eP* **Pn 13 20 43.8 +0.4**
SUF *eS* **Sn 13 21 45.0 -2.0**
OUF Merijarvi 6.36 26 *eP* **Pn 13 20 55.3 -0.3**
OUF *eS* **Sn 13 22 05.5 -3.4**
APA0 Apatity Array 10.99 30 Pn **Pn 13 21 59.1 0.0**
APA0 Apatity Array 10.99 30 Pn **Pn 13 21 59.1 0.0**
ARA0 ARCESS Array S 11.21 13 Pn **Pn 13 22 00.5 -1.7**
baz=192,slow=14
ARA0 ARCESS Array S 11.21 13 Pn **Pn 13 22 00.5 -1.7**
baz=192,slow=14
ARCES ARCESS Array B 11.21 13 Pn **Pn 13 22 00.8 -1.5**
comp=Z,0.5nm,0.3s,baz=193,slow=12,SNR=14

*IDC **11** 13:21:25.8±0.8, 35°.13N×76°.97E, h0km, mb4.0/12, mb1 4.1/17, mb1mx3.9/72, mbtmp3.9/17, ML3.4/4, MS3.3/13, Ms1 3.3/13, ms1mx3.1/56, Error ellipse: s-maj=22.3km s-min=14.3km az=43.0*
*NDI **11** 13:21:27.0±1.5, 35°.75N×77°.70E, h15km, ML3.8, mb4.0(NEIC)*
*MOS **11** 13:21:28.9±1.2, 35°.32N×77°.12E, h28km, mb4.2/4, Error ellipse: s-maj=10.0km s-min=5.5km az=93.3*
*BJI **11** 13:21:28.7±0.0, 35°.49N×77°.24E, h6km, mb4.3/13, mB4.6/2, ML4.5/4, Ms4.0/12, Ms7 3.8/9*
*NNC **11** 13:21:31.2±3.7, 35°.63N×76°.91E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=36.4km s-min=24.6km az=139.0*
*NEIC **11** 13:21:32.7±1.6, 35°.35N±0°.07×77°.10E±0°.07, h57km±7km, mb4.0/7*
ISC 11 13:21:27.0±0.4, **35°.15N**±0°.03×**76°.98E**±0°.04, **h10**km, **n118**, σ1§**88**/118, **mb4.1**/18, **MS3.4**/10, **14C-14D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**2.95**	**191**	*eP*	**Pg**	**13 22 23.2**	**-0.3**
DHRM				*eS*	**Sg**	**13 23 04.7**	**+2.9**
DHRM				IAML		13 23 15.5	
	comp=E,831nm,0.6s						
DHRM				IAML		13 23 16.0	
	comp=N,457nm,0.5s						
JMU	**Jammu**	**2.98**	**216**	*eP*	**Pg**	**13 22 25.0**	**+0.9**
JMU				*eS*	**Sg**	**13 23 08.5**	**+5.7**
CHCP	**Chirah Chowk**	**3.42**	**245**	⇓P	**Pb**	**13 22 27.3**	**-0.3**
NIL	**Nilore**	**3.43**	**245**	P	**Pb**	**13 22 26.8**	**-1.1**
NIL	**Nilore**	**3.43**	**245**		**Pb**	**13 22 26.8**	**-1.1**
SMLA	**Simla**	**4.02**	**178**	*eP*	**Pb**	**13 22 36.3**	**-1.5**
SMLA				*eS*	**Sb**	**13 23 26.7**	**+0.3**
SMLA				IAML		13 23 44.6	
	comp=N,413nm,0.6s						
SMLA				IAML		13 23 45.8	
	comp=E,458nm,0.6s						
CEP	**Cherat**	**4.40**	**254**	P	Pb	13 22 38.4	-6.0
KSH	**Kashi**	**4.43**	**350**	Pn	**Pn**	**13 22 33.3**	**-1.0**
KSH				Sn	**Sn**	**13 23 18.7**	**-7.3**
KSH				smax	smax		
	comp=E,250nm,0.7s						
KSH				smax	smax		
	comp=E,480nm,0.8s						
DDI	**Dehra Dun**	**4.90**	**169**	*eP*	Pb	13 22 48.8	-4.2
DDI				*eS*	**Sb**	**13 23 46.3**	**-5.7**
DDI				IAML		13 24 15.8	
	comp=N,222nm,0.4s						
DDI				IAML		13 24 16.3	
	comp=E,164nm,0.5s						
JOSI	**Joshimath**	**5.07**	**154**	*eP*	Pb	13 22 49.5	-6.4
JOSI				*eS*	**Sn**	**13 23 48.0**	**+6.0**
KALG	**Kalgarh**	**5.83**	**165**	*eP*	Pn	13 22 43.5	-10
KALG				*eS*	Sn	13 23 50.7	-10
NRN	**Naryn**	**6.32**	**353**	P	**Pn**	**13 23 02.0**	**+1.6**
NRN	**Naryn**	**6.32**	**353**		**Pn**	**13 23 02.0**	**+1.6**
KBL	**Kabul**	**6.56**	**267**	P	Pn	13 23 08.4	+4.7
KBL	**Kabul**	**6.56**	**267**		Pn	13 23 08.4	+4.7
TARG	**Taragay, Kyrgy**	**6.60**	**5**	Pn	**Pn**	**13 23 04.9**	**+0.5**
ARSB	**Arslanbob**	**6.92**	**334**		**Pn**	**13 23 10.7**	**+2.2**
KDJ	**Kajisay**	**6.97**	**1**	P	**Pn**	**13 23 10.0**	**+0.7**
KDJ	**Kajisay**	**6.97**	**1**	Pn	**Pn**	**13 23 10.0**	**+0.7**
KUDL	**Kundal**	**7.00**	**184**	*eP*	**Pn**	**13 23 07.9**	**-1.6**
KUDL				*eS*	**Sn**	**13 24 28.4**	**-0.8**
KUDL				IAML		13 24 30.3	
	comp=E,19nm,0.6s						
KUDL				IAML		13 24 30.4	
	comp=N,14nm,0.6s						
AAK	**Ala-Archa**	**7.72**	**346**	⇑Pn	**Pn**	**13 23 20.2**	**+0.7**
	comp=N,12nm,0.9s						
AAK				Pg	**Pb**	**13 23 43.4**	**+2.4**
	comp=N,26nm,0.9s						
AAK				Lg	Lg	13 25 21.2	
	comp=N,75nm,1.2s						
AAK	**Ala-Archa**	**7.72**	**346**	⇓*eP*	Pn	13 23 24.3	+4.7
AAK				pmax	pmax		
	comp=Z,12nm,1.7s						
AAK	**Ala-Archa**	**7.72**	**346**	Pn	Pn	13 23 24.3	+4.7
	comp=Z,1.0nm,0.3s,baz=134,slow=5.8,SNR=12						
AAK				Lg	Lg	13 25 22.7	
	comp=Z,0.7nm,0.3s,baz=262,slow=19,SNR=4.6						
AAK				LR	LR	13 26 26.0	
	comp=Z,107nm,21.9s,baz=83,slow=39						
AAK	**Ala-Archa**	**7.72**	**346**		**Pn**	**13 23 21.4**	**+1.8**
TKM2	**Tokmak 2**	**7.83**	**353**	⇑Pn	**Pn**	**13 23 22.1**	**+1.0**
	comp=Z,4.7nm,0.7s						
TKM2				⇓Pg	**Pb**	**13 23 43.5**	**+0.6**
	comp=Z,13nm,0.7s						
TKM2				⇑Lg	Lg	13 25 24.1	
	comp=Z,60nm,1.1s						
TKM2	**Tokmak 2**	**7.83**	**353**	*eP*	**Pn**	**13 23 21.8**	**+0.7**
MDOK	**Medeo**	**8.00**	**0**	⇓Pn	**Pn**	**13 23 24.8**	**+1.4**
	comp=Z,23nm,1.0s						
MDOK				Pg	**Pb**	**13 23 45.9**	**+0.2**
	comp=Z,17nm,0.8s						
MDOK				Lg	Lg	13 25 28.6	
	comp=Z,268nm,1.5s						
PDGK	**Podgornoye**	**8.39**	**13**	⇑Pn	**Pn**	**13 23 28.7**	**-0.1**
	comp=Z,12nm,0.7s						
PDGK				⇑Sn	**Sn**	**13 24 59.6**	**-4.0**
	comp=Z,55nm,1.1s						
PDGK				⇓Lg	Lg	13 25 43.6	
	comp=Z,170nm,1.3s						
PDGK	**Podgornoye**	**8.39**	**13**	P	**Pn**	**13 23 28.7**	**-0.1**
DANN	**Dangsing**	**8.90**	**138**	*eP*	**Pn**	**13 23 37.6**	**+1.7**
	comp=Z,50nm,0.4s						
KOLN	**Koldanda**	**9.28**	**141**	*eP*	**Pn**	**13 23 43.5**	**+2.5**
KK31	**Karatay Array**	**9.39**	**330**	⇑Pn	**Pn**	**13 23 41.9**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=139,slow=13,SNR=23						
KK31				⇓Sn	**Sn**	**13 25 23.3**	**-4.8**
	comp=Z,7.0nm,0.7s,baz=176,slow=24,SNR=2.9						
KK31	**Karatay Array**	**9.39**	**330**	P	**Pn**	**13 23 42.5**	**+0.2**
KK31	**Karatay Array**	**9.39**	**330**		**Pn**	**13 23 42.5**	**+0.2**
KKAR	**Karatay Array**	**9.39**	**330**	P	**Pn**	**13 23 41.8**	**-0.6**
KKAR	**Karatay Array**	**9.39**	**330**		**Pn**	**13 23 41.8**	**-0.6**
KKAR	**Karatay Array**	**9.39**	**330**		**Pn**	**13 23 41.8**	**-0.6**
GKN	**Gorkha**	**9.66**	**135**	*eP*	**Pn**	**13 23 47.4**	**+1.2**
	comp=Z,67nm,0.3s						
KKN	**Kakani**	**10.20**	**134**	*eP*	**Pn**	**13 23 54.4**	**+0.8**
	comp=Z,50nm,0.5s						
DMN	**Daman**	**10.23**	**135**	*eP*	**Pn**	**13 23 54.9**	**+0.8**
	comp=Z,34nm,0.4s						
PKIN	**Phulchoki**	**10.42**	**134**	*eP*	**Pn**	**13 23 57.4**	**+0.6**
	comp=Z,20nm,0.4s						
PKI	**Pulchoki**	**10.44**	**134**	*eP*	**Pn**	**13 23 57.8**	**+0.8**
	comp=Z,35nm,0.6s						
GUN	**Gumba**	**10.47**	**131**	*eP*	**Pn**	**13 23 57.8**	**+0.3**
	comp=Z,25nm,0.3s						
JIRN	**Jiri**	**10.84**	**131**	*eP*	**Pn**	**13 24 02.3**	**-0.3**
	comp=Z,142nm,0.6s						
RAMN	**Ramite**	**11.61**	**132**	*eP*	**Pn**	**13 24 12.8**	**-0.1**
	comp=Z,23nm,0.4s						
BHPL	**Bhopal**	**11.88**	**178**	*eP*	Pn	13 24 22.0	+5.5
BHPL				*eS*	**Sn**	**13 26 30.5**	**+1.5**
WMQ	**Urumqi**	**11.97**	**40**	*eP*	**Pn**	**13 24 17.5**	**-0.1**
WMQ				pP		13 24 19.6	
WMQ				sP		13 24 23.3	
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				LR	LR		
	comp=Z,110nm,4.7s						
WMQ				LR	LR		
	comp=Z,280nm,5.7s						
WMQ				LR	LR		
	comp=Z,140nm,22.3s						
WMQ	**Urumqi**	**11.97**	**40**	P	**Pn**	**13 24 17.8**	**+0.2**
WMQ	**Urumqi**	**11.97**	**40**	Pn	**Pn**	**13 24 17.8**	**+0.2**
TAPN	**Taplejung**	**12.02**	**127**	*eP*	**Pn**	**13 24 17.8**	**-0.9**
	comp=Z,40nm,0.4s						
ODAN	**Odare**	**12.16**	**130**	*eP*	**Pn**	**13 24 19.3**	**-1.2**
	comp=Z,19nm,0.4s						
MAKZ	**Makanchi**	**12.24**	**16**	⇓Pn	**Pn**	**13 24 20.0**	**-1.2**
	comp=Z,7.4nm,0.8s						
MAKZ				⇓Sn	**Sn**	**13 26 34.4**	**-3.3**
	comp=Z,7.1nm,1.1s						
MAKZ	**Makanchi**	**12.24**	**16**	P	**Pn**	**13 24 21.4**	**+0.2**
MAKZ	**Makanchi**	**12.24**	**16**		**Pn**	**13 24 21.4**	**+0.2**
MK31	**Makanchi Array**	**12.30**	**17**	⇑Pn	**Pn**	**13 24 21.6**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=199,slow=13,SNR=32						
MK31				⇑Sn	**Sn**	**13 26 34.4**	**-4.8**
	comp=Z,37nm,1.4s,baz=192,slow=23,SNR=3.7						
MK31	**Makanchi Array**	**12.30**	**17**	P	**Pn**	**13 24 21.9**	**-0.2**
MK31	**Makanchi Array**	**12.30**	**17**		**Pn**	**13 24 21.9**	**-0.2**
MKAR	**Makanchi Array**	**12.30**	**17**	*i* P	**Pn**	**13 24 22.2**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**12.30**	**17**	Pn	**Pn**	**13 24 20.4**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=204,slow=12,SNR=15						
MKAR				Sn	Sn	13 26 29.4	-10
	comp=Z,0.3nm,0.3s,baz=199,slow=21,SNR=5.8						
MKAR	**Makanchi Array**	**12.30**	**17**		**Pn**	**13 24 20.8**	**-1.3**
LSA	**Lhasa**	**13.14**	**110**	P	**Pn**	**13 24 36.3**	**+2.2**
LSA	**Lhasa**	**13.14**	**110**	Pn	**Pn**	**13 24 36.3**	**+2.2**
GEYT	**Alibeck**	**15.42**	**286**	Pn	**Pn**	**13 25 03.2**	**-1.3**
	baz=116,slow=9.8,SNR=2.2						
GEYT				LR	LR	13 31 50.9	
	comp=Z,95nm,18.8s,baz=70,slow=41						
KURBB	**Kurchatov Arra**	**15.50**	**4**	⇑Pn	**P**	**13 25 07.0**	**-2.9**
	comp=Z,3.9nm,0.8s						
KURBB				⇓Lg	Lg	13 29 30.7	
	comp=Z,27nm,1.2s						
KURBB	**Kurchatov Arra**	**15.50**	**4**	Pn	**Pn**	**13 25 03.9**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=189,slow=12,SNR=5.2						
KURBB				Lg	Lg	13 29 25.6	
	baz=190,slow=27,SNR=4.3						
KURK	**Kurchatov**	**15.60**	**4**	⇑Pn	**Pn**	**13 25 07.3**	**+0.5**
	comp=Z,8.3nm,1.1s						
KURK				⇓Lg	Lg	13 29 34.5	
	comp=Z,14nm,1.2s						
KURK	**Kurchatov**	**15.60**	**4**	⇓*eP*	**Pn**	**13 25 06.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**15.60**	**4**		**Pn**	**13 25 05.8**	**-0.9**
KURK				P	**P**	**13 25 09.8**	**-1.3**
KURK				IAmb	IAmb	13 25 18.4	
	comp=Z,8.0nm,1.0s						
DGZ	**Jazzator, Alta**	**16.43**	**25**	⇓*eP*	**Pn**	**13 25 17.3**	**-0.4**
POO	**Poona**	**16.79**	**190**	*eP*	**S**	**13 28 43.0**	**+3.2**
BVAR	**Borovoye Array**	**18.47**	**347**	P	**P**	**13 25 41.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=152,slow=10,SNR=11						
BRVK	**Borovoye**	**18.52**	**347**	⇑*eP*	**P**	**13 25 42.4**	**-0.9**
BRVK	**Borovoye**	**18.52**	**347**	P	**P**	**13 25 42.0**	**-1.4**
BRVK				IAmb	IAmb	13 25 57.0	
	comp=Z,6.9nm,0.9s						
GTA	**Gaotai**	**18.64**	**70**	*eP*	**Pn**	**13 25 48.6**	**+3.3**
GTA				pP	sP	13 25 51.9	+0.6
GTA				sP	pP	13 25 54.7	+5.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AB31	**Akbulak array**	**18.86**	**324**	⇑Pn	**Pn**	**13 25 48.3**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=134,slow=12,SNR=38						
ABKAR	**Akbulak array**	**18.86**	**324**	P	**P**	**13 25 46.1**	**-1.0**
ABKAR	**Akbulak array**	**18.86**	**324**	P	**P**	**13 25 46.0**	**-1.0**
ABKAR				IAmb	IAmb	13 25 59.0	
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**19.58**	**14**	P	**Pn**	**13 25 55.2**	**-1.1**
ZALV	**Zalesovo Beam**	**19.58**	**14**	P	**Pn**	**13 25 55.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=196,slow=9.0,SNR=4.6						
ZALV				LR	LR	13 33 03.9	
	comp=Z,32nm,18.8s,baz=192,slow=36						
ZALV	**Zalesovo Beam**	**19.58**	**14**	Pn	**Pn**	**13 25 55.2**	**-1.1**
WSAR	**Wadi Sarin**	**19.90**	**238**	P	**Pn**	**13 26 03.2**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=76,slow=10,SNR=7.1						
WSAR				LR	LR	13 34 54.1	
	comp=Z,46nm,19.8s,baz=60,slow=41						
AKTO	**Aktyubinsk**	**20.57**	**324**	⇓Pn	Pn	13 26 06.6	-1.4
	comp=Z,14nm,1.4s						
AKTO	**Aktyubinsk**	**20.57**	**324**	P	Pn	13 26 06.3	-1.7
	comp=Z,2.6nm,0.4s,baz=119,slow=13,SNR=11						
AKTO				LR	LR	13 34 43.9	
	comp=Z,109nm,19.7s,baz=128,slow=39						
ARU	**Arti**	**24.70**	**335**	*d iP*	**P**	**13 26 48.0**	**0.0**
ARU				S	**S**	**13 31 10.8**	**+1.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**24.70**	**335**	P	**P**	**13 26 48.4**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=48,slow=3.3,SNR=5.1						
ARU	**Arti**	**24.70**	**335**	P	**P**	**13 26 47.3**	**-0.7**
MHMT	**Maesarieng**	**25.14**	**127**	P	**P**	**13 26 54.5**	**+2.2**
	comp=Z,9.5nm,0.8s						
SONM	**Songino Array**	**25.25**	**51**	P	**P**	**13 26 54.3**	**+1.1**
	comp=Z,3.7nm,0.9s,baz=248,slow=8.1,SNR=15						
SONM				LR	LR	13 38 14.1	
	comp=Z,122nm,19.4s,baz=310,slow=40						
TLY	**Talaya**	**25.25**	**41**	LR	LR	13 37 07.6	
	comp=Z,30nm,18.1s,baz=234,slow=37						
CHTO	**Chiang Mai**	**25.36**	**124**	P	**P**	**13 26 54.6**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,14nm,1.8s						
CHTO	**Chiang Mai**	**25.36**	**124**	P	**P**	**13 26 54.6**	**+0.3**
CHTO				IAmb	IAmb	13 27 20.4	
	comp=Z,14nm,1.8s						
CMMT	**Chiang Mai**	**25.37**	**124**	P	**P**	**13 26 56.4**	**+2.0**
	comp=Z,2.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.61**	**125**	P	**P**	**13 26 55.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**25.61**	**125**	P	**P**	**13 26 56.4**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=306,slow=11,SNR=27						
CMAR				LR	LR	13 37 35.4	
	comp=Z,40nm,18.9s,baz=354,slow=38						
CMAR	**Chiang Mai Arr**	**25.61**	**125**	P	**P**	**13 26 55.8**	**-0.8**
ULN	**Ulaanbaatar**	**25.67**	**51**	⇑*eP*	**P**	**13 26 57.7**	**+0.6**
ULN				pmax	pmax		
	comp=Z,10.0nm,2.5s						
KBZ	**Khabaz**	**27.53**	**298**	LR	LR	13 39 54.3	
	comp=Z,73nm,19.7s,baz=86,slow=40						
KIV	**Kislovodsk**	**27.70**	**299**	*eP*	**P**	**13 27 14.7**	**-0.7**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,176nm,15.0s						
WHN	**Wuhan**	**31.60**	**88**	P	P	13 27 57.2	+7.3
BRTR	**Keskin Array B**	**34.47**	**291**	P	**P**	**13 28 15.7**	**+0.6**
BRTR	**Keskin Array B**	**34.47**	**291**	P	**P**	**13 28 16.2**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=109,slow=9.7,SNR=6.5						
BRTR	**Keskin Array B**	**34.47**	**291**	P	**P**	**13 28 15.7**	**+0.6**
AKASG	**Malin Array Be**	**37.57**	**309**	LR	LR	13 44 34.0	
	comp=Z,48nm,19.1s,baz=310,slow=37						
MLR	**Muntele Rosu**	**39.66**	**301**	P	**P**	**13 29 01.4**	**+2.3**
	comp=Z,2.7nm,0.8s,baz=95,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**41.33**	**326**	P	**P**	**13 29 11.7**	**-0.8**
	comp=Z,2.8nm,0.4s,baz=106,slow=12,SNR=25						
FINES				LR	LR	13 46 47.9	
	comp=Z,154nm,18.3s,baz=32,slow=37						
ARCES	**ARCESS Array B**	**44.27**	**337**	P	**P**	**13 29 37.1**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=103,slow=7.7,SNR=14						
GERES	**GERESS Array B**	**47.65**	**307**	LR	LR	13 54 22.4	
	comp=Z,68nm,19.3s,baz=356,slow=42						
NB2	**NORSAR Subarra**	**48.37**	**324**	P	**P**	**13 30 09.8**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**48.37**	**324**	LR	LR	13 51 55.6	
	comp=Z,52nm,18.0s,baz=310,slow=38						
KMBO	**Kilima Mbogo**	**51.77**	**234**	*i* P	**P**	**13 30 38.2**	**+3.0**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Biiibino**	**57.66**	**26**	⇑*eP*	**P**	**13 31 17.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TORD	**Torodi Ar. Bea**	**70.59**	**273**	P	**P**	**13 32 42.5**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=42,slow=5.5,SNR=12						
TORD	**Torodi Ar. Bea**	**70.59**	**273**	P	**P**	**13 32 41.5**	**-1.3**
ILAR	**Eielson Array**	**74.65**	**18**	P	**P**	**13 33 04.1**	**-2.0**
ILAR	**Eielson Array**	**74.65**	**18**	P	**P**	**13 33 07.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=325,slow=5.5,SNR=4.6						
ILAR	**Eielson Array**	**74.65**	**18**	P	**P**	**13 33 04.1**	**-2.0**
WRA	**Warramunga Arr**	**77.20**	**126**	P	**P**	**13 33 21.7**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=313,slow=3.9,SNR=9.6						
ASAR	**Alice Springs**	**79.56**	**129**	P	**P**	**13 33 35.6**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=316,slow=4.7,SNR=5.0						

*ISCJB **11** 13:28:56.3±0.4, 58°.73N±0°.03×18°.58E±0°.06, h0km, Error ellipse: s-maj=4.6km s-min=4.3km az=176.7*
*UPP **11** 13:28:56.9±0.2, 58°.74N×18°.63E, h0km, ML1.8, Explosion*
*HEL **11** 13:28:57.7±0.1, 58°.74N×18°.63E, h0km, ML1.8(UPP), Explosion*
*NAO **11** 13:28:59.7±0.9, 58°.94N×18°.57E, ML2.4*
*BER **11** 13:29:00.0±3.6, 58°.93N×18°.59E, h0km, ML2.4(NAO), Suspected explosion*
*IDC **11** 13:29:02.2±2.1, 59°.22N×18°.44E, h0km, mb1 3.0/4, mb1mx2.9/49, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=27.4km s-min=7.3km az=177.0*
ISC 11 13:28:56.0±0.7, **58°.75N**±0°.02×**18°.48E**±0°.02, **h0**km, **n55**, σ1§**74**/70, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.36**	**316**	P	**Pb**	**13 29 05.0**	**-0.2**
NYNU				S	**Sb**	**13 29 10.2**	**-1.1**
NYNU	**Nynaeshamn**	**0.36**	**316**	*i* P	**Pb**	**13 29 05.0**	**-0.2**
NYNU				*i* S	**Sb**	**13 29 10.2**	**-1.1**
NRTU	**Norrtaelje**	**0.94**	**5**	P	**Pg**	**13 29 14.5**	**+0.6**
NRTU	**Norrtaelje**	**0.94**	**5**	*eP*	**Pg**	**13 29 14.5**	**+0.6**
VIKU	**Vikbolandet**	**0.96**	**256**	P	**Pb**	**13 29 16.3**	**+0.8**
VIKU	**Vikbolandet**	**0.96**	**256**	*eP*	**Pb**	**13 29 16.3**	**+0.8**
GOTU	**Gotland**	**1.07**	**177**	P	**Pg**	**13 29 16.6**	**+0.3**
GOTU	**Gotland**	**1.07**	**177**	*eP*	**Pg**	**13 29 16.6**	**+0.3**
ESKU	**Eskilstuna**	**1.18**	**295**	P	**Pb**	**13 29 20.1**	**+0.8**
ESKU	**Eskilstuna**	**1.18**	**295**	*eP*	**Pb**	**13 29 20.1**	**+0.8**
UPP	**Uppsala**	**1.20**	**339**	P	**Pb**	**13 29 20.1**	**+0.6**
UPP	**Uppsala**	**1.20**	**339**	*eP*	**Pb**	**13 29 20.1**	**+0.6**
BACU	**Backbrunna**	**1.31**	**328**	P	**Pn**	**13 29 22.4**	**+0.8**
BACU	**Backbrunna**	**1.31**	**328**	*eP*	**Pn**	**13 29 22.4**	**+0.8**
FLYU	**Flymyra**	**1.42**	**348**	P	**Pg**	**13 29 23.6**	**+0.5**
FLYU	**Flymyra**	**1.42**	**348**	*eP*	**Pg**	**13 29 23.6**	**+0.5**
VSTU	**Vaestervik**	**1.50**	**224**	P	**Pg**	**13 29 25.2**	**+0.6**
VSTU	**Vaestervik**	**1.50**	**224**	*eP*	**Pg**	**13 29 25.2**	**+0.6**
GRAU	**Graesoe**	**1.59**	**1**	P	**Pb**	**13 29 26.3**	**+0.1**
GRAU	**Graesoe**	**1.59**	**1**	*eP*	**Pb**	**13 29 26.3**	**+0.1**
AAL	**Aland**	**1.63**	**28**	P	**Pn**	**13 29 26.3**	**+0.4**
AAL	**Aland**	**1.63**	**28**	*eP*	**Pn**	**13 29 26.3**	**+0.4**
OSTU	**Oestervaala**	**1.64**	**336**	P	**Pb**	**13 29 27.8**	**+0.8**
OSTU	**Oestervaala**	**1.64**	**336**	*eP*	**Pb**	**13 29 27.8**	**+0.8**
FORU	**Forsmark**	**1.65**	**355**	P	**Pb**	**13 29 27.9**	**+0.6**
FORU	**Forsmark**	**1.65**	**355**	*eP*	**Pb**	**13 29 27.9**	**+0.6**
BYXU	**Byxelkrok**	**1.66**	**209**	P	**Pb**	**13 29 27.7**	**+0.4**
BYXU	**Byxelkrok**	**1.66**	**209**	*eP*	**Pb**	**13 29 27.7**	**+0.4**
ASPU	**Aespoe**	**1.67**	**218**	P

KAF	Kangasniemi	5.14	46	eP		Pn	13 30 16.0 +1.9
SUF	Sumiainen	5.48	40	eP		Pn	13 30 19.5 +0.8
ARCES	ARCESS Array B	11.24	13	Pn		Pn	13 31 35.1 -2.6
	0.2nm,0.3s,baz=194,slow=13,SNR=5.8						
ARA0	ARCESS Array S	11.24	13	Pn		Pn	13 31 34.4 -3.3
	baz=197,slow=16						
ARA0	ARCESS Array S	11.24	13	Pn		Pn	13 31 34.4 -3.3
	baz=197,slow=16						

*ISCJB **11** 13:30:48.9±0.7, 39°.78N±0°.03×41°.82E±0°.05, h6km±6km, Error ellipse: s-maj=6.6km s-min=4.2km az=12.1*
*ISK **11** 13:30:48.6, 39°.79N×41°.77E, h14km, ML2.7/6*
*DDA **11** 13:30:48.2, 39°.80N×41°.81E, h7km±4km, ML2.8*

ISC 11 13:30:49.0±1.0, 39°.78N±0°.03×41°.81E±0°.04, h12km±8km, n15, σ0°65/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPR	Koprukoy-ERZUR	0.21	9	PG		Pg	13 30 53.6 -0.2
KOPR				SG		Sb	13 30 57.5 +0.4
AKDA	Akdag	0.47	314	i P		Pn	13 31 03.8 +2.0
ECAT	Cat-ERZURUM	0.67	255	i P		Pg	13 31 01.1 -1.0
ECAT				i S		Sb	13 31 11.9 -0.1
VRTB	Varto-Mus	0.68	204	i P		Pb	13 31 03.0 +0.2
VRTB				i S		Sn	13 31 14.8 -0.2
VRTB				IAML_P			
	comp=Z,1μm,0.2s						
VRTB	Varto-Mus	0.68	204	PG		Pg	13 31 02.4 +0.2
VRTB				SG		Sb	13 31 12.5 +0.3
KARO	Karliova-Bingo	0.75	232	PG		Pg	13 31 02.9 -0.7
KARO				SG		Sg	13 31 14.1 +0.6
MLAZ	Malazgirt-MUS	0.86	138	PG		Pb	13 31 05.8 -0.1
KRIK	Erzurum-spir	0.88	310	i P		Pg	13 31 05.5 -0.5
KRIK				i S		Sb	13 31 18.4 +0.3
KRIK				IAML_P			
	comp=Z,1μm,0.3s						
MUSM	Mu-Merkez	1.08	192	i P		Pb	13 31 09.0 -0.7
MUSM				i S		Sn	13 31 25.6 +0.6
BNGB	Bingl	1.18	228	PN		Pn	13 31 11.1 -0.3
BAYB	BAYBURT	1.28	292	i P		Pg	13 31 13.3 -0.4
BAYB				i S		Sg	13 31 30.8 +0.3
BLIS	Bitlis-Merkez	1.38	170	i P		Pg	13 31 15.4 -0.2
ARTV	Artvin	1.41	4	i P		Pn	13 31 14.0 -0.6
ARTV				i S		Sg	13 31 34.4 0.0
ARTV				IAML_P			
	comp=Z,2μm,0.2s						
CHOM	Cayeli-Rize	1.54	329	PN		Pn	13 31 15.9 -0.4
BATM	Batumi	1.82	357	PN		Pn	13 31 20.2 0.0

*IDC **11** 13:31:39.1±0.7, 3°.49N×127°.05E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.8/40, mbtmp3.9/12, MS2.7/3, Ms1 2.7/3, ms1mx2.5/40, Error ellipse: s-maj=37.7km s-min=14.1km az=71.0*
*ISCJB **11** 13:31:43.6±0.3, 3°.50N±0°.03×127°.15E±0°.04, h48km, mb3.9/12, MS2.7/1, Error ellipse: s-maj=6.1km s-min=3.7km az=149.1*
*NEIC **11** 13:31:43.1±1.0, 3°.49N±0°.05×127°.08E±0°.09, h28km±5km, mb4.5/25*
*DJA **11** 13:31:44.8±0.6, 4°.N±9°×12°.7E±°, h26km±14km, M4.2/9, mb4.4/5, mB4.8/4, MLv4.2/9, Mw(mB)4.1/4*
*MAN **11** 13:31:45.6, 3°.36N×126°.28E, h1km, mb5.1, ML4.0, MS4.1*

ISC 11 13:31:45.5±0.5, 3°.46N±0°.04×127°.12E±0°.06, h48km, n65, σ1°15/70, mb4.1/20, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.60	278	P		Pn	13 32 11.6 +0.2
SGSI				S		Sn	13 32 31.4 +0.4
TNTI	Ternate	2.68	175	P		Pn	13 32 27.2 +1.0
TNTI	Ternate	2.68	175	Pn		Pn	13 32 24.4 -1.8
DDMP	Don Marcelino,	2.98	332	eP		Pn	13 32 30.9 +0.5
DDMP				eS		Sn	13 33 07.2 +2.2
GSPH	General Santos	3.39	320	⇑i P		Pn	13 32 36.5 +0.4
GSPH				i S		Sn	13 32 58.8 -16
SKMP	Bagumbayan, Su	3.98	320	eP		Pn	13 32 43.5 -0.5
SKMP				eS		Sn	13 33 26.8 -2.8
KCP	Kidapawan	4.07	330	⇓i P		Pn	13 32 47.3 +2.0
KCP				i S		Sn	13 33 36.8 +5.0
CTBH	Cotabato--PC H	4.71	323	⇑i P		Pn	13 32 54.5 +0.4
BUKP	Musuan	4.85	335	eP		Pn	13 32 58.5 +2.5
BUKP				eS		Sn	13 33 50.3 -0.7
SANI	Sanana	5.58	192	P		Pn	13 33 06.9 +0.8
MRSI	Marisa	5.96	240	P		Pn	13 33 12.8 +1.5
MRSI				S		Sn	13 34 19.7 +1.4
SIJI	Sorong	5.97	136	Pn		Pn	13 33 13.6 +2.2
	2.0nm,0.3s,baz=336,slow=20,SNR=4.8						
SIJI				Sn		Sn	13 34 19.0 +0.5
	0.7nm,0.3s,baz=198,slow=20,SNR=1.9						
LUWI	Luwuk	6.23	224	P		Pn	13 33 16.3 +1.3
KKM	Kota Kinabalu	11.17	284	Pn		Pn	13 34 21.7 -1.0
KAPI	Kappang	11.18	221	LR		LR	13 38 46.0
	comp=Z,19nm,20.6s,baz=116,slow=38						
JAY	Jayapura	14.82	113	LR		LR	13 39 52.3
	comp=Z,65nm,21.9s,baz=294,slow=33						
SBUM	Sibu	14.91	267	P		P	13 35 17.6 -0.6
MTN	Manton Dam	16.68	166	Pn		Pn	13 35 35.0 -0.9
MTN				IAmb		IAmb	13 36 08.4
	comp=Z,33nm,1.4s						
KSM	Kuching	16.91	264	P		Pn	13 35 38.9 -0.1
KNRA	Kununurra	19.08	175	P		P	13 36 04.5 +0.3
KNRA				IAmb		IAmb	13 36 11.7
	comp=Z,84nm,1.9s						
GUMO	Guam	20.22	59	P		P	13 36 14.9 -1.8
DLV	T Lat	20.28	296	Pn		P	13 36 18.1 +0.5
DLV				IAmb		IAmb	13 36 42.4
	comp=Z,54nm,2.0s						
YULB	Yu-li	20.61	345			P	13 36 20.6 -0.2
YULB				IAmb		IAmb	13 36 56.6
	comp=Z,148nm,2.0s						
TPUB	Ta-pu	20.70	343	P		P	13 36 20.3 -1.6
YOJ	Yonaguni jima	21.26	350	P		P	13 36 26.9 -0.8
FITZ	Fitzroy Crossi	21.47	184	P		P	13 36 31.2 +1.1
	comp=Z,1.1nm,0.5s,baz=12,slow=7.9,SNR=12						
FITZ	Fitzroy Crossi	21.47	184	P		P	13 36 30.1 0.0
FITZ				IAmb		IAmb	13 36 50.9
	comp=Z,30nm,1.9s						
HKPS	Hong Kong Po S	22.55	327	P		P	13 36 41.3 -0.4
MYKOM	Kota Tinggi	23.30	267	P		P	13 36 48.8 -0.7
MYKOM				IAmb		IAmb	13 36 49.6
	comp=Z,5.7nm,0.9s						
PMG	Port Moresby	23.71	123	P		P	13 36 54.3 +1.0
PMG				IAmb		IAmb	13 37 41.6
	comp=Z,13nm,1.0s						
WB0	Warramunga Arr	24.16	163	P		P	13 36 57.3 -0.1
WRAB	Tennant Creek	24.30	163	P		P	13 36 59.8 +1.0
WRAB				IAmb		IAmb	13 37 22.8
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	24.31	163	P		P	13 36 58.4 -0.3
	comp=Z,1.8nm,0.7s,baz=342,slow=10,SNR=14						
WRA	Warramunga Arr	24.31	163	P		P	13 36 58.8 0.0
WB2	Warramunga Arr	24.31	163	P		P	13 36 58.9 +0.1
ASAR	Alice Springs	27.76	167	P		P	13 37 30.1 +0.1
	comp=Z,0.4nm,0.5s,baz=348,slow=6.9,SNR=8.3						
ASAR				PcP		PcP	13 40 46.6 +0.8
	comp=Z,0.1nm,0.5s,baz=354,slow=3.3,SNR=3.5						
ASAR	Alice Springs	27.76	167	P		P	13 37 29.5 -0.5
PBKT	Sadao Pong	28.81	299	P		P	13 37 39.3 0.0
CMAR	Chiang Mai Arr	31.34	301	P		P	13 38 01.3 -0.5
	comp=Z,0.9nm,0.7s,baz=109,slow=7.2,SNR=8.8						
CHTO	Chiang Mai	31.50	301	P		P	13 38 02.4 -0.8
CHTO				IAmb		IAmb	13 38 03.7
	comp=Z,3.1nm,1.0s						
KSRS	Korea Array	33.84	1	LR		LR	13 50 45.1
	comp=Z,16nm,21.4s,baz=228,slow=34						
BBOO	Buckleboo	37.05	167	P		P	13 38 51.0 0.0
BBOO				IAmb		IAmb	13 39 56.5
	comp=Z,22nm,1.2s						
STKA	Stephens Creek	37.74	160	P		P	13 38 57.1 +0.2
	comp=Z,0.7nm,0.5s,baz=333,slow=11,SNR=2.3						
STKA	Stephens Creek	37.74	160	P		P	13 38 56.8 0.0
TAPN	Taplejung	44.49	306	eP		P	13 39 51.6 -1.2
ODAN	Odare	44.55	306	eP		P	13 39 52.5 -0.7
RAMN	Ramite	45.23	305	eP		P	13 39 58.0 -0.6
	comp=Z,6.6nm,0.6s						
JIRN	Jiri	45.85	306	eP		P	13 40 02.9 -0.8
GUN	Gumba	46.20	306	eP		P	13 40 05.5 -0.9
	comp=Z,15nm,0.7s						
SONM	Songino Array	47.68	341	P		P	13 40 17.9 +0.5
	comp=Z,1.3nm,0.9s,baz=167,slow=5.7,SNR=5.8						
SONM	Songino Array	47.68	341	P		P	13 40 17.3 -0.1
KOLN	Koldanda	48.00	305	eP		P	13 40 19.6 -0.7
	comp=Z,19nm,0.7s						
DANN	Dangsing	48.09	306	eP		P	13 40 21.0 -0.1
	comp=Z,22nm,0.7s						
PETK	Petropavlovsk-	55.54	22	P		P	13 41 16.8 +1.0
	comp=Z,2.2nm,0.8s,baz=214,slow=7.2,SNR=4.9						
PETK	Petropavlovsk-	55.54	22	P		P	13 41 16.9 +1.1
MK31	Makanchi Array	58.00	325	P		P	13 41 33.2 -0.3
MK31				IAmb		IAmb	13 42 49.2
	comp=Z,5.1nm,1.6s						
MKAR	Makanchi Array	58.00	325	P		P	13 41 33.0 -0.4
	comp=Z,1.2nm,0.4s,baz=119,slow=7.5,SNR=24						
MAKZ	Makanchi	58.19	325	P		P	13 41 34.1 -0.7
MAKZ				IAmb		IAmb	13 41 35.0
	comp=Z,5.3nm,1.2s						
KURK	Kurchatov	62.18	327	P		P	13 42 01.5 -0.5
KURK				IAmb		IAmb	13 42 02.4
	comp=Z,3.3nm,0.7s						
BVAR	Borovoye Array	67.76	327	P		P	13 42 38.0 -0.2
	comp=Z,0.6nm,0.3s,baz=153,slow=13,SNR=6.4						
AKTO	Aktyubinsk	74.11	322	P		P	13 43 16.6 -0.1
	comp=Z,1.6nm,0.6s,baz=89,slow=8.7,SNR=5.8						
ARU	Arti	75.38	328	P		P	13 43 23.6 -0.4
	comp=Z,1.7nm,0.6s,baz=120,slow=1.9,SNR=6.5						
ARU	Arti	75.38	328	P		P	13 43 23.5 -0.4
ILAR	Eielson Array	85.18	25	P		P	13 44 16.8 +0.3
	comp=Z,0.3nm,0.7s,baz=250,slow=5.3,SNR=4.8						
ILAR	Eielson Array	85.18	25	P		P	13 44 16.4 -0.1

RSNC 11 13:49:01.8±2.0, 5°.50N×75°.68W, h4km±6km, ML3.2, Mw3.6, 3C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUY2C	Guyana, Caldas	0.41	131	⇓i P		Pg	13 49 09.3 -0.6
GUY2C				eS		Sg	13 49 15.3 0.0
GUY2C				i			13 49 18.6
	comp=Z,2μm,0.4s						
CBOC	Ciudad Bolivar	0.49	318	⇓i P		Pg	13 49 10.6 -0.7
CBOC				eS		Sg	13 49 17.4 -0.3
CBOC				i			13 49 17.6
	comp=Z,4μm,0.7s						
HELC	Santa Helena	0.71	12	⇓i P		Pg	13 49 13.6 -1.8
HELC				eS		Sg	13 49 22.3 -2.3
HELC				i			13 49 22.7
	comp=Z,1μm,0.4s						
NORC	Norcasia	0.81	85	⇑i P		Pg	13 49 16.1 -1.2
NORC				eS		Sg	13 49 26.1 -1.8
NORC				i			13 49 26.9
	comp=Z,729nm,0.4s						
PLMC	San Jos del P	0.84	226	eP		Pg	13 49 17.7 -0.3
PLMC				eS		Sg	13 49 28.2 -0.7
PLMC				i			13 49 35.7
	comp=Z,816nm,0.3s						
CROSA	EL ROSAL, CUND	1.50	115	eP		Pn	13 49 29.5 -0.3
CROSA				eS		Sb	13 49 48.4 -1.6
CROSA				i			13 49 58.2
	comp=Z,275nm,1.3s						
ROSC	El Rosal	1.50	116	⇓i P		Pg	13 49 31.1 +0.4
ROSC				eS		Sb	13 49 48.9 -1.2
ROSC				i			13 49 58.1
	comp=Z,345nm,0.4s						
PTBC	PUERTO BERRIO,	1.60	49	⇑i P		Pn	13 49 29.1 -1.7
PTBC				eS		Sn	13 49 49.2 -2.8
PTBC				i			13 49 54.0
	comp=Z,361nm,0.6s						
DBBC	Dabeiba	1.60	341	eP		Pn	13 49 29.2 -1.8
DBBC				eS		Sn	13 49 50.8 -1.4
DBBC				i			13 49 58.7
	comp=Z,294nm,0.5s						
SPBC	San Pablo de B	1.61	84	⇑i P		Pn	13 49 30.9 -0.2
SPBC				eS		Sn	13 49 51.2 -1.1
SPBC				i			13 49 55.4
	comp=Z,198nm,0.5s						
ORTC	Ortega, Tolima	1.64	165	eP		Pn	13 49 31.3 -0.1
ORTC				eS		Sn	13 49 51.6 -1.4
ORTC				i			13 50 01.8
	comp=Z,162nm,0.7s						
YOTC	Yotoco, Valle	1.64	204	eP		Pn	13 49 30.0 -1.6
YOTC				eS		Sn	13 49 51.4 -1.9
YOTC				i			13 50 00.5
	comp=Z,116nm,0.8s						
ZARC	Zaragoza, Cauc	2.15	22	eP		Pn	13 49 38.0 -0.4
ZARC				eS		Sn	13 50 04.0 -1.5
ZARC				i			13 50 08.2
	comp=Z,222nm,1.0s						
BRRC	Barranca, Sant	2.53	51	eP		Pn	13 49 43.6 -0.1
BRRC				eS		Sn	13 50 14.0 -0.9
BRRC				i			13 50 26.9
	comp=Z,84nm,0.7s						
RUSC	La Rusia	2.61	81	eP		Pn	13 49 46.4 +1.1
RUSC				eS		Sn	13 50 16.7 -1.0
RUSC				i			13 50 29.6
	comp=Z,102nm,0.8s						
PTAC	Punta Ardita,	2.68	308	eP		Pn	13 49 45.7 0.0
PTAC				i			13 50 23.3
	comp=Z,204nm,0.3s						
BARC	Barichara	2.71	66	eP		Pn	13 49 46.5 +0.1
BARC				eS		Sn	13 50 19.6 -0.2
BARC				i			13 50 27.0
	comp=Z,215nm,1.2s						
BETC	Betania	2.81	175	eP		Pn	13 49 47.1 -0.5
BETC				eS		Sn	13 50 20.3 -1.6
BETC				i			13 50 37.0
	comp=Z,10nm,0.6s						
POPC	Popayan, Colom	3.10	199	eP		Pn	13 49 54.5 +2.7
POPC				eS		Sn	13 50 28.1 -1.4
POPC				i			13 50 39.1
	comp=Z,33nm,0.9s						
PCON	Cinco Dias	3.23	193	eP		Pb	13 49 58.3 -1.8
PCON				eS		Sn	13 50 32.0 -1.0
PCON				i			13 50 54.3
	comp=Z,66nm,0.6s						
PAMC	Pamplona, Colo	3.48	58	eP		Pn	13 49 57.4 +0.1
PAMC				eS		Sn	13 50 37.5 -1.7
PAMC				i			13 50 55.8
	comp=Z,52nm,0.9s						
SMLC	San Martn de	3.65	26	eP		Pn	13 49 59.4 +0.2
SMLC				eS		Sn	13 50 41.8 -0.8
SMLC				i			13 50 54.6
	comp=Z,62nm,0.5s						
BBAC	Balboa, Cauca	3.79	204	eP		Pn	13 50 04.3 +3.1
BBAC				eS		Sn	13 50 48.8 +2.4
BBAC				i			13 50 59.6
	comp=Z,34nm,0.9s						
AZU	Azuero	5.10	297	eS		Sn	13 51 15.8 -2.8

*ISCJB **11** 13:54:05.0±0.8, 24°.27S±0°.07×179°.8E±0°.1, h517km, mb3.7/5, Error ellipse: s-maj=15.7km s-min=8.7km az=162.2*
*NEIC **11** 13:54:06.9±1.1, 24°.4S±0°.1×179°.8E±0°.2, h537km±10km, mb4.9/14*
*IDC **11** 13:54:08.2±3.8, 24°.32S×179°.77E, h545km±41km, mb3.1/5, mb1 3.4/7, mb1mx3.1/36, mbtmp4.2/7, Error ellipse: s-maj=38.0km s-min=25.2km az=9.0*

ISC 11 13:54:05.8±0.7, 24°.38S±0°.08×179°.9E±0°.1, h517km, n38, σ1°18/37, mb3.9/7, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.25	158	P		P	13 55 37.8 +1.9
MSVF	Nonsavu	6.82	345	P		P	13 55 50.4 -0.7
OUZ	Omahuta	12.09	205	P		P	13 56 47.3 +2.2
DZM	Mont Dzumac	12.55	278	P		P	13 56 52.0 +1.7
	0.8nm,0.3s,baz=97,slow=19,SNR=9.3						
DZM	Mont Dzumac	12.55	278	P		P	13 56 52.0 +1.7
URZ	Urewera	14.04	189	P		P	13 57 06.9 +1.4
	0.6nm,0.3s,baz=15,slow=12,SNR=4.0						
URZ				S		S	13 59 33.1 -0.6
	0.4nm,0.3s,baz=73,slow=20,SNR=4.5						
BKZ	Black Stump Fm	15.02	190	P		P	13 57 13.7 -2.2
FUNA	Funafuti	15.78	358	P		P	13 57 26.2 +2.2
BFZ	Birch Farm	16.54	190	P		P	13 57 31.9 +0.4
QRZ	Quartz Range	17.52	199	P		P	13 57 40.6 -0.1
TUWZ	Tuamarina	17.71	195	P		P	13 57 41.5 -1.0
THZ	Tophouse	18.28	197	P		P	13 57 47.6 -0.2
THZ				IAmb		IAmb	13 58 26.5
	comp=Z,107nm,1.6s						
LTZ	Lake Taylor	19.40	197	P		P	13 57 57.2 -0.7
LTZ				IAmb		IAmb	13 58 23.4
	comp=Z,69nm,1.6s						
LHI	Lord Howe Isla	19.69	244	P		P	13 58 00.5 -0.2
LHI				IAmb		IAmb	13 58 05.6
	comp=Z,76nm,1.0s						
CTA	Charters Tower	31.35	271	P		P	13 59 44.4 +0.4
	comp=Z,4.8nm,0.4s,baz=91,slow=11,SNR=14						
CTAO	Charters Tower	31.35	271	P		P	13 59 43.1 -0.9
CTAO				IAmb		IAmb	14 01 19.6
	comp=Z,37nm,1.8s						
BBOO	Buckleboo	39.14	247	P		P	14 00 48.1 -0.7
BBOO				IAmb		IAmb	14 01 13.6
	comp=Z,73nm,2.0s						
AS31	Alice Springs	41.83	261	P		P	14 01 09.6 -0.9
ASAR	Alice Springs	41.83	261	P		P	14 01 10.0 -0.4
	comp=Z,0.3nm,0.4s,baz=96,slow=7.9,SNR=14						
ASAR	Alice Springs	41.83	261	P		P	14 01 09.6 -0.8
WR0	Warramunga Arr	42.06	267	P		P	14 01 12.0 -0.2
WB2	Warramunga Arr	42.24	267	P		P	14 01 12.7 -0.9
WRA	Warramunga Arr	42.25	267	P		P	14 01 12.9 -0.8
	comp=Z,1.0nm,0.3s,baz=104,slow=8.3,SNR=25						
WRA	Warramunga Arr	42.25	267	P		P	14 01 12.7 -1.0
KNRA	Kununurra	48.56	270	P		P	14 02 01.5 -0.6
KNRA				IAmb		IAmb	14 02 34.1
	comp=Z,38nm,1.4s						
FITZ	Fitzroy Crossi	50.67	266	P		P	14 02 17.6 +0.1
	comp=Z,1.4nm,0.8s,baz=100,slow=6.1,SNR=3.3						
FITZ	Fitzroy Crossi	50.67	266	IAmb		IAmb	14 02 32.9
	comp=Z,21nm,1.8s						
SYO	Syowa Base	82.52	193	⇓eP		P	14 05 31.4 -2.3
SYO	Syowa Base	82.52	193	⇓ePcP		P	14 05 35.0 +1.3
TXAR	Lajitas Array	90.79	58	P		P	14 06 14.3 +0.3
	comp=Z,0.6nm,0.7s,baz=213,slow=6.5,SNR=9.0						
TXAR	Lajitas Array	90.79	58	P		P	14 06 13.8 -0.2
ARCES	ARCESS Array B	132.32	348	PKP		PKPdf	14 12 19.6 -0.6
	comp=Z,5.2nm,1.0s,baz=32,slow=3.5,SNR=4.9						
FINES	FINESS Array B	138.85	341	PKhKP		PKPpre	14 12 23.5
	comp=Z,0.5nm,0.5s,baz=108,slow=4.5,SNR=3.1						
AKASG	Malin Array Be	145.30	327	PKPbc		PKPdf	14 12 42.7 -1.5
	comp=Z,0.4nm,0.3s,baz=41,slow=4.2,SNR=3.1						
AKASG	Malin Array Be	145.30	327	PKPbc		PKPdf	14 12 44.2 0.0
BRTR	Keskin Array B	147.76	307	PKPbc		PKPbc	14 12 51.4 -1.3
	comp=Z,0.6nm,0.6s,baz=107,slow=3.4,SNR=3.6						
TORD	Torodi Ar. Bea	168.70	189	PKPab		PKPab	14 14 27.4 -0.1
	comp=Z,0.3nm,0.6s,baz=191,slow=4.3,SNR=3.0						
TORD	Torodi Ar. Bea	168.70	189			PKPab	14 14 26.2 -1.3

*BJI **11** 14:00:00.1±0.0, 1°.37N×126°.82E, h10km, mb4.9/62, mB5.3/40, Ms4.7/17, Ms7 4.3/20*
*MOS **11** 14:00:05.8±0.9, 1°.88N×126°.53E, h20km, mb5.3/53, Error ellipse: s-maj=10.2km s-min=4.8km az=113.2*
*IDC **11** 14:00:07.8±2.9, 1°.83N×126°.53E, h20km±18km, mb4.7/29, mb1 4.8/31, mb1mx4.7/37, mbtmp4.8/31, ML4.5/2, MS3.9/21, Ms1 3.9/21, ms1mx3.6/47, Error ellipse: s-maj=14.8km s-min=9.0km az=65.0*
*NEIC **11** 14:00:07.9±1.6, 1°.85N±0°.07×126°.57E±0°.05, h24km±3km, mb5.0/99*
*ISCJB **11** 14:00:10.0±0.3, 1°.85N±0°.02×126°.69E±0°.02, h57km±3km, mb5.2/107, MS4.0/25, Error ellipse: s-maj=4.1km s-min=2.5km az=160.1*
*KLM **11** 14:00:10.0, 1°.95N×126°.86E, h48km, mb5.0*
*DJA **11** 14:00:11.0±0.2, 2°.N±2°×12°.7E±°, h49km±2km, M4.8/52, mB5.3/30, mb5.1/52, MLv5.1/18, Mw(mB)4.7/30*
*GCMT **11** 14:00:13.9±0.3, 2°.01N±0°.02×126°.42E±0°.02, h35km±1km, MW5.1/65, Moment Tensor Solution. s37,c49; s65,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.62±.31; $M_{\theta\theta}$0.96±.17; $M_{\phi\phi}$-4.58±.22; $M_{r\theta}$-1.20±.22; $M_{r\phi}$-1.57±.17; $M_{\theta\phi}$-2.11±.23; Best double couple: $M_0$4.96800×10^{16} NP1:ϕ_s205.00000°, δ60.00000°, λ102.00000°. NP2: ϕ_s1.00000°, δ32.00000°, λ69.00000°. Principal axes: T 4.3400, Plg72.0000°, Azm145.0000°; N 1.2540, Plg11.0000°, Azm19.0000°; P -5.5950, Plg14.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 14:00:08.6±0.9, 1°.82N±0°.03×126°.61E±0°.04, h27km±6km, n426, σ1°47/441, mb5.0/129, MS4.0/26, 25C-8D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28	144	P		Pb	14 00 31.3 -0.9
TNTI				S		Sb	14 00 47.7 -0.6
TNTI	Ternate	1.28	144			Pb	14 00 31.4 -0.7
SGSI	Sangihe	2.15	330	P		Pn	14 00 43.8 +1.1
SGSI				S		Sn	14 01 10.6 +2.1
LBMI	Labuha	2.59	160	P		Pn	14 00 50.4 +1.5
KMSI	Cibinong	2.90	245	P		Pb	14 00 57.3 -2.4
SANI	Sanana	3.89	189	P		Pn	14 01 08.4 +1.7
DDMP	Don Marcelino,	4.35	348	eP		Pn	14 01 16.2 +3.1
DDMP				eS		Sb	14 02 11.7 -4.9
GSPH	General Santos	4.55	339	⇑i P		Pn	14 01 17.8 +1.9
LUWI	Luwuk	4.77	234	P		Pn	14 01 22.5 +3.7
MRSI	Marisa	4.85	254	P		Pn	14 01 24.8 +4.9
	336nm,0.6s,4μm1.8nm						
NLAI	Namlea	5.04	174	P		Pn	14 01 25.0 +2.4
	242nm,0.6s,13μm1.6nm						
SKMP	Bagumbayan, Su	5.11	336	eP		Pn	14 01 25.7 +2.3
SKMP				eS		Sn	14 02 23.0 +1.4
MATI	Mati	5.11	356	eP		Pn	14 01 28.2 +4.7
MATI				eS		Sn	14 02 26.0 +4.4
SWI	Sorong	5.36	120	P		Pn	14 01 27.8 +0.9
SIJI	Sorong	5.37	120	Pn		Pn	14 01 27.9 +0.8
	7.0nm,0.3s,baz=324,slow=18,SNR=18						
SIJI				Sn		Sn	14 02 27.1 -0.9
	1.0nm,0.3s,baz=270,slow=20,SNR=3.6						
SIJI				LR		LR	14 03 50.9
	comp=Z,6μm,20.2s,baz=300,slow=41						
KCP	Kidapawan	5.38	344	⇓i P		Pn	14 01 31.7 +4.5
KCP				i S		Sn	14 02 36.1 +7.8
MSAI	Masohi	5.63	156	P		Pn	14 01 32.9 +2.3
APSI	Ampana	5.65	241	P		Pn	14 01 36.6 +5.7
AAI	Ambon	5.69	164	P		Pn	14 01 34.3 +2.8
CTBH	Cotabato--PC H	5.86	336	⇓i P		Pn	14 01 36.2 +2.3

MTN	**Manton Dam**	**15.24 163**	P	**Pn**	**14 03 42.7 +0.6**
	baz=15,SNR=41				
MTN	**Manton Dam**	**15.24 163**		**Pn**	**14 03 41.1 -1.0**
KMMI	**Kalianget**	**15.38 235**	P	**P**	**14 03 52.7 +4.3**
KDU	**Kakadu**	**15.54 158**	P	**P**	**14 03 48.2 -1.9**
	baz=16,SNR=69				
IGBI	**Denpasar**	**15.56 227**	P	**P**	**14 03 49.8 -0.5**
JAGI	**Jajag, Banyuwa**	**16.08 230**	P	**P**	**14 03 55.1 -1.1**
JAGI	**Jajag, Banyuwa**	**16.08 230**	P	**P**	**14 03 56.2 +0.1**
JAGI			IAmb	IAmb	14 04 14.2
	comp=Z,115nm,1.1s				
KSM	**Kuching**	**16.30 269**	P	**P**	**14 03 58.4 -0.2**
KSM	**Kuching**	**16.30 269**	P	**P**	**14 04 02.0 +3.4**
KNRA	**Kununurra**	**17.51 173**	P	**P**	**14 04 11.4 -0.5**
	baz=18,SNR=68				
KNRA	**Kununurra**	**17.51 173**	P	**P**	**14 04 11.5 -0.5**
KNRA			IAmb	IAmb	14 04 13.7
	comp=Z,66nm,0.7s				
NGJI	**Ngawi**	**17.65 239**	P	P	14 04 25.8 +12
PWJI	**Pagerwojo**	**17.70 236**	P	**P**	**14 04 15.6 +1.5**
PCJI	**Pacitan**	**18.32 237**	P	**Pn**	**14 04 23.5 +2.5**
WOJI	**Wonogiri, Jawa**	**18.35 238**	P	**Pn**	**14 04 22.4 +1.1**
FITZ	**Fitzroy Crossi**	**19.81 183**	P	**P**	**14 04 37.3 +0.1**
	baz=20,SNR=82				
FITZ	**Fitzroy Crossi**	**19.81 183**	P	**P**	**14 04 37.0 -0.2**
	comp=Z,2.2nm,0.3s,baz=13,slow=8.5,SNR=52				
FITZ			LR	LR	14 12 46.9
	comp=Z,139nm,21.9s,baz=20,slow=38				
FITZ	**Fitzroy Crossi**	**19.81 183**	P	**P**	**14 04 36.9 -0.4**
KPJI	**Karang Pucung**	**19.84 243**	P	**Pn**	**14 04 39.1 -0.2**
	comp=Z,129nm,0.8s				
DLV	**T Lat**	**20.59 300**	P	**P**	**14 04 44.0 -2.0**
LEM	**Lembang**	**20.81 245**	P	**P**	**14 04 48.5 +0.2**
	comp=Z,36nm,0.9s,baz=95,slow=9.1,SNR=8.0				
LEM			LR	LR	14 14 52.3
	comp=Z,281nm,18.3s,baz=65,slow=43				
CISI	**Cisompet, Garu**	**20.93 243**	P	**P**	**14 04 48.5 -1.1**
CISI	**Cisompet, Garu**	**20.93 243**	P	**P**	**14 04 48.4 -1.1**
CISI			IAmb	IAmb	14 05 07.1
	comp=Z,49nm,0.6s				
MANU	**Manus Island**	**21.11 100**	P	**P**	**14 04 50.1 -1.3**
TWG	**Pinlang**	**21.56 346**	P	**P**	**14 04 53.6 -2.5**
YULB	**Yu-li**	**22.06 347**	P	**P**	**14 04 57.7 -3.8**
TPUB	**Ta-pu**	**22.13 345**	P	**P**	**14 04 59.5 -2.8**
TPUB			IAmb	IAmb	14 05 05.5
	comp=Z,57nm,0.7s				
CGJI	**Cibinong**	**22.49 248**	P	**P**	**14 05 04.9 -1.4**
SSLB	**Suanglung**	**22.52 346**	P	**P**	**14 05 03.5 -3.0**
SSLB			IAmb	IAmb	14 05 11.9
	comp=Z,26nm,0.6s				
COEN	**Coen**	**22.70 134**	P	**P**	**14 05 06.3 -2.1**
	baz=23,SNR=13				
COEN	**Coen**	**22.70 134**	P	**P**	**14 05 07.4 -1.0**
MYKOM	**Kota Tinggi**	**22.75 270**	P	**P**	**14 05 07.7 -1.3**
MYKOM	**Kota Tinggi**	**22.75 270**	P	**P**	**14 05 10.0 +1.0**
WB0	**Warramunga Arr**	**22.77 161**	P	**P**	**14 05 08.2 -0.9**
YOJ	**Yonaguni jima**	**22.78 352**	P	**P**	**14 05 08.6 -0.6**
YOJ			pmax	pmax	
	comp=Z,127nm,1.0s				
YOJ	**Yonaguni jima**	**22.78 352**	P	**P**	**14 05 08.6 -0.6**
WRAB	**Tennant Creek**	**22.91 161**	*c iP*	**P**	**14 05 09.8 -0.8**
WRAB			pmax	pmax	
	comp=Z,67nm,0.8s				
WRAB	**Tennant Creek**	**22.91 161**	P	**P**	**14 05 09.7 -0.8**
WRA	**Warramunga Arr**	**22.91 161**	P	**P**	**14 05 09.7 -1.0**
	comp=Z,76nm,0.7s,baz=338,slow=11,SNR=146				
WRA			PcP	**PcP**	**14 09 00.7 -0.2**
	comp=Z,4.0nm,0.8s,baz=340,slow=2.4,SNR=5.0				
WRA			S	**S**	**14 09 14.6 -4.5**
	comp=Z,2.0nm,0.8s,baz=344,slow=18,SNR=4.3				
WRA			ScP	**ScP**	**14 12 37.4 +0.3**
	comp=Z,1.4nm,0.9s,baz=333,slow=2.9,SNR=4.6				
WRA	**Warramunga Arr**	**22.91 161**	P	**P**	**14 05 08.3 -2.3**
WRA				**PcP**	**14 09 00.1 -0.8**
WB2	**Warramunga Arr**	**22.92 161**	P	**P**	**14 05 09.8 -0.9**
WR0	**Warramunga Arr**	**23.00 161**	P	**P**	**14 05 10.6 -0.9**
WR0			IAmb	IAmb	14 05 13.9
	comp=Z,87nm,1.1s				
KASI	**Kota Agung**	**23.25 252**	P	**P**	**14 05 13.8 -0.4**
YHNB	**Yeheng**	**23.28 348**	P	**P**	**14 05 12.6 -1.8**
YHNB			IAmb	IAmb	14 05 14.2
	comp=Z,53nm,1.1s				
PMG	**Port Moresby**	**23.31 119**	P	**P**	**14 05 16.2 +1.5**
PMG			pmax	pmax	
	comp=Z,25nm,1.2s				
PMG	**Port Moresby**	**23.31 119**	P	**P**	**14 05 16.3 +1.5**
	comp=Z,8.9nm,0.6s,baz=337,slow=3.7,SNR=8.4				
PMG			LR	LR	14 16 50.3
	comp=Z,684nm,18.9s,baz=334,slow=43				
PMG	**Port Moresby**	**23.31 119**	P	**P**	**14 05 16.2 +1.5**
QIZ	**Qiongzhong**	**23.71 317**	P	**P**	**14 05 17.3 -1.3**
QIZ			IAmb	IAmb	14 05 18.9
	comp=Z,39nm,1.0s				
LHSI	**Lahat**	**23.74 256**	P	**P**	**14 05 21.9 +3.0**
PSA00	**Pilbara Seismi**	**24.17 196**	P	**P**	**14 05 22.8 0.0**
PSA00			IAmb	IAmb	14 05 25.5
	comp=Z,57nm,1.1s				
PSA00	**Pilbara Seismi**	**24.17 196**	P	**P**	**14 05 22.2 -0.6**
PSA00			IAmb	IAmb	14 05 25.7
	comp=Z,22nm,0.9s				
XMIS	**Christmas Isla**	**24.17 239**	P	**P**	**14 05 21.6 -1.3**
XMIS			IAmb	IAmb	14 05 26.9
	comp=Z,64nm,0.9s				
JRMM	**Jerantut**	**24.19 275**	P	**P**	**14 05 24.0 +0.9**
UBPT	**Khong Chiam**	**24.77 304**	P	**P**	**14 05 29.6 +1.2**
	comp=Z,16nm,0.7s				
UBPT	**Khong Chiam**	**24.77 304**	P	**P**	**14 05 29.8 +1.3**
MASI	**Maura Aman, Be**	**24.85 259**	P	**P**	**14 05 32.3 +3.1**
JOW	**Kunigami**	**24.93 4**	P	**P**	**14 05 30.7 +1.0**
	comp=Z,5.6nm,0.7s,baz=182,slow=14,SNR=6.9				
JOW	**Kunigami**	**24.93 4**	P	**P**	**14 05 29.9 +0.2**
JOW			IAmb	IAmb	14 05 32.8
	comp=Z,68nm,1.0s				
SDSI	**Sungai Dareh**	**25.32 264**	P	**P**	**14 05 34.7 +1.3**
KRJI	**Kerinci**	**25.44 261**	P	**P**	**14 05 37.7 +3.1**
QIS	**Mount Isa**	**25.62 151**	P	**P**	**14 05 35.9 -0.2**
	baz=26,SNR=68				
IPM	**Ipoh**	**25.68 277**	P	**P**	**14 05 35.6 -1.1**
IPM	**Ipoh**	**25.68 277**	P	**P**	**14 05 37.0 +0.3**
KRVT	**Keravat (AS076**	**26.12 104**	P	**P**	**14 05 43.0 +2.3**
	comp=Z,12nm,0.7s,baz=297,slow=2.3,SNR=3.7				
KRVT			LR	LR	14 14 14.5
	comp=Z,1μm,21.9s,baz=270,slow=32				
KULM	**Kulim**	**26.13 278**	P	**P**	**14 05 39.5 -1.3**
KULM	**Kulim**	**26.13 278**	P	**P**	**14 05 41.0 +0.2**
AS31	**Alice Springs**	**26.30 165**	P	**P**	**14 05 41.4 -0.9**
ASAR	**Alice Springs**	**26.30 165**	P	**P**	**14 05 41.7 -0.6**
ASAR					14 09 08.0
ASAR	**Alice Springs**	**26.30 165**	P	**P**	**14 05 41.4 -0.9**
	comp=Z,41nm,0.8s,baz=340,slow=7.2,SNR=181				
ASAR			PcP	**PcP**	**14 09 08.4 +0.2**
	comp=Z,7.3nm,0.7s,baz=341,slow=2.2,SNR=7.1				
ASAR			S	**S**	**14 10 12.2 -1.4**
	comp=Z,2.7nm,1.1s,baz=346,slow=18,SNR=3.3				
ASAR			ScP	**ScP**	**14 12 46.5 -0.1**
	comp=Z,2.1nm,0.7s,baz=356,slow=2.8,SNR=6.5				
ASAR			LR	LR	14 18 10.6
	comp=Z,210nm,19.5s,baz=348,slow=41				
ASAR	**Alice Springs**	**26.30 165**	P	**P**	**14 05 41.7 -0.6**
ASAR				**PcP**	**14 09 08.0 -0.3**
ASAR				**ScP**	**14 12 46.0 -0.5**
MTSU	**Mount Surprise**	**26.40 139**	P	**P**	**14 05 43.4 +0.2**
	baz=26,SNR=29				
WRKA	**Warakurna**	**26.74 177**	P	**P**	**14 05 46.9 +0.7**
	baz=27,SNR=146				
GIRL	**Giralia**	**27.14 206**	P	**P**	**14 05 52.0 +2.3**
	baz=27,SNR=6.1				
GIRL	**Giralia**	**27.14 206**	P	**P**	**14 05 52.0 +2.3**
TRTT	**Trang**	**27.47 283**	P	**P**	**14 05 54.2 +1.4**
	comp=Z,9.0nm,0.9s,comp=Z,1μm				
RPSI	**Rantau Prapat**	**27.68 272**	P	**P**	**14 05 53.2 -1.5**
RPSI			IAmb	IAmb	14 05 57.4
	comp=Z,23nm,0.7s				
RPSI	**Rantau Prapat**	**27.68 272**	P	**P**	**14 05 53.8 -0.9**
PSI	**Prapat**	**27.68 273**	P	**P**	**14 05 53.8 -1.0**
	comp=Z,22nm,0.7s,baz=85,slow=6.5,SNR=24				
CHAI	**Chaiyaphum**	**28.01 301**	P	**P**	**14 05 57.4 -0.2**
	comp=Z,44μm,0.8s,comp=Z,405μm				
NONG	**Nongkai**	**28.12 307**	P	**P**	**14 05 58.2 -0.4**
	comp=Z,0.8nm,1.0s				
SURT	**Suratani**	**28.57 285**	P	**P**	**14 06 03.1 +0.5**
	comp=Z,18nm,0.6s				
PKDT	**Phuket**	**28.80 283**	P	**P**	**14 06 04.6 -0.1**
	comp=Z,21nm,0.8s				
KCSI	**Kotacane, Aceh**	**28.85 274**	P	**P**	**14 06 06.1 +0.9**
	comp=Z,15nm,1.0s				
PHET	**Kaeng Krachan**	**28.89 294**	P	**P**	**14 06 08.3 +2.8**
	comp=Z,24μm,0.8s,comp=Z,337μm				
GSI	**Gunungsitoli**	**29.02 269**	P	**P**	**14 06 06.5 -0.2**
GSI	**Gunungsitoli**	**29.02 269**	P	**P**	**14 06 05.5 -1.2**
CTA	**Charters Tower**	**29.07 139**	P	**P**	**14 06 07.1 0.0**
	comp=Z,7.1nm,0.7s,baz=320,slow=9.4,SNR=9.3				
CTA			PcP	**PcP**	**14 09 16.2 +1.2**
	comp=Z,5.5nm,0.7s,baz=302,slow=3.4,SNR=5.0				
CTA			LR	LR	14 19 34.5
	comp=Z,546nm,20.4s,baz=320,slow=40				
CTAO	**Charters Tower**	**29.07 139**	P	**P**	**14 06 07.1 0.0**
CTAO			pmax	pmax	
	comp=Z,21nm,0.9s				
CTAO	**Charters Tower**	**29.07 139**	P	**P**	**14 06 07.1 0.0**
CTAO			IAmb	IAmb	14 06 16.6
	comp=Z,21nm,0.9s				
PBKT	**Sadao Pong**	**29.18 302**	P	**P**	**14 06 09.0 +0.9**
	comp=Z,5.8nm,0.8s				
PBKT	**Sadao Pong**	**29.18 302**	P	**P**	**14 06 07.4 -0.7**
MEEK	**Meekatharra**	**29.32 195**	P	**P**	**14 06 09.8 +0.6**
	baz=30,SNR=12				
UTHA	**Uthaitani**	**30.06 299**	P	**P**	**14 06 15.9 0.0**
	comp=Z,20μm,0.6s				
NANT	**Nan**	**30.48 305**	P	**P**	**14 06 20.1 +0.5**
	comp=Z,598μm,0.7s				
KHLT	**Khaolaem Dam**	**30.52 297**	P	**P**	**14 06 17.2 -2.7**
UMPA	**Umpang Tak**	**30.84 299**	P	**P**	**14 06 24.1 +1.3**
	comp=Z,20μm,0.7s				
WHN	**Wuhan**	**30.84 339⇑**	*iP*	**P**	**14 06 23.6 +1.0**
WHN			pmax	pmax	
	comp=Z,30nm,0.8s				
NJ2	**Nanjing**	**30.95 347**	*e*P	**P**	**14 06 24.7 +1.2**
NJ2			pmax	pmax	
	comp=Z,18nm,1.0s				
GYA	**Guiyang**	**31.11 324**	*e*P	P	14 06 30.1 +5.0
GYA			pmax	pmax	
	comp=Z,10.0nm,0.8s				
JNU	**Nakatsue**	**31.40 7**	P	**P**	**14 06 27.0 -0.5**
JNU			IAmb	IAmb	14 06 31.4
	comp=Z,25nm,1.0s				
PAYA	**Payao**	**31.45 305**	P	**P**	**14 06 28.6 +0.5**
	comp=Z,33μm,0.9s,comp=Z,585μm				
CMAR	**Chiang Mai Arr**	**31.77 303**	P	**P**	**14 06 31.2 +0.3**
	comp=Z,3.4nm,0.8s,baz=118,slow=7.1,SNR=26				
CMAR			PcP	**PcP**	**14 09 23.8 +1.7**
	comp=Z,1.5nm,0.8s,baz=101,slow=1.2,SNR=6.0				
CMAR			LR	LR	14 20 23.4
	comp=Z,145nm,21.0s,baz=161,slow=38				
CMAR	**Chiang Mai Arr**	**31.77 303**	P	**P**	**14 06 29.8 -1.2**
CMMT	**Chiang Mai**	**31.93 304**	P	**P**	**14 06 32.8 +0.4**
	comp=Z,9.7nm,1.2s				
CHTO	**Chiang Mai**	**31.94 304**	P	**P**	**14 06 32.2 -0.2**
CHTO			pmax	pmax	
	comp=Z,13nm,0.6s				
CHTO	**Chiang Mai**	**31.94 304**	P	**P**	**14 06 32.2 -0.2**
CHTO			IAmb	IAmb	14 06 33.5
	comp=Z,13nm,0.6s				
MORW	**Morawa**	**32.33 197**	P	**P**	**14 06 36.7 +1.0**
	baz=33,SNR=16				
MORW	**Morawa**	**32.33 197**	P	**P**	**14 06 36.4 +0.7**
FORT	**Forrest**	**32.44 178**	P	**P**	**14 06 37.1 +0.5**
	baz=33,SNR=80				
FORT	**Forrest**	**32.44 178**	P	**P**	**14 06 36.5 -0.2**
MHMT	**Maesarieng**	**32.49 302**	P	**P**	**14 06 37.9 +0.6**
	comp=Z,35nm,0.6s				
ENH	**Enshi**	**32.63 332**	P	**P**	**14 06 36.8 -1.6**
ENH			IAmb	IAmb	14 06 45.7
	comp=Z,17nm,0.7s				
KMI	**Kunming**	**32.66 317**	P	**P**	**14 06 39.6 +0.6**
KMI			pmax	pmax	
	comp=Z,22nm,0.7s				
KMI			LR	LR	
	comp=Z,670nm,5.5s				
KMI			LR	LR	
	comp=Z,360nm,9.8s				
QLP	**Quilpie**	**32.96 150**	P	**P**	**14 06 41.0 -0.3**
	baz=33,SNR=5.1				
KLBR	**Kellerberrin**	**34.27 193**	P	**P**	**14 06 53.7 +1.1**
	baz=35,SNR=40				
TJN	**Taejon**	**34.40 1**	*i P*	**P**	**14 06 51.4 -2.2**
INU	**Inuyama**	**34.74 15**	P	**P**	**14 06 56.8 +0.1**
INU			IAmb	IAmb	14 07 03.8
	comp=Z,25nm,0.9s				
MUN	**Mundaring**	**35.03 196**	P	**P**	**14 07 00.6 +1.5**
	baz=35,SNR=20				
RMQ	**Roma**	**35.34 144**	P	**P**	**14 07 01.5 -0.5**
	baz=35,SNR=13				
KSAR	**Wonju Array Be**	**35.47 2**	P	**P**	**14 07 03.8 +0.9**
KSAR	**Wonju Array Be**	**35.47 2**	P	**P**	**14 07 03.8 +0.9**
KSRS	**Korea Array**	**35.49 2**	P	**P**	**14 07 03.6 +0.6**
	comp=Z,7.8nm,0.6s,baz=180,slow=9.9,SNR=28				
KSRS			PcP	**PcP**	**14 09 32.9 +0.8**
	comp=Z,2.3nm,0.8s,baz=191,slow=2.5,SNR=5.4				
KSRS			LR	LR	14 22 08.8
	comp=Z,72nm,21.2s,baz=174,slow=37				
BBOO	**Buckleboo**	**35.58 166**	P	**P**	**14 07 03.9 0.0**
	baz=36,SNR=12				
BBOO	**Buckleboo**	**35.58 166**	P	**P**	**14 07 03.3 -0.6**
BBOO			IAmb	IAmb	14 07 04.6
	comp=Z,16nm,0.8s				
NWAO	**Narrogin (SRO)**	**35.67 194**	P	**P**	**14 07 06.0 +1.3**
	baz=36,SNR=36				
NWAO	**Narrogin (SRO)**	**35.67 194**	P	**P**	**14 07 05.5 +0.8**
NWAO			pmax	pmax	
	comp=Z,50nm,0.8s				
NWAO	**Narrogin (SRO)**	**35.67 194**	P	**P**	**14 07 05.5 +0.8**
EIDS	**Eidsvold**	**35.95 140**	P	**P**	**14 07 06.6 -0.6**
	baz=36,SNR=9.1				
EIDS	**Eidsvold**	**35.95 140**	P	**P**	**14 07 06.1 -1.1**
EIDS			IAmb	IAmb	14 07 11.5
	comp=Z,22nm,1.1s				
XAN	**Xi'an**	**36.07 335**	P	**P**	**14 07 08.1 -0.1**
XAN			pP	pwP	14 07 17.0 -1.2
XAN			pmax	pmax	
	comp=Z,11nm,0.7s				
XAN	**Xi'an**	**36.07 335**	P	**P**	**14 07 06.6 -1.6**
XAN			pmax	pmax	
	comp=Z,22nm,1.0s				
XAN	**Xi'an**	**36.07 335**	P	**P**	**14 07 06.6 -1.6**
XAN			IAmb	IAmb	14 07 10.9
	comp=Z,22nm,1.0s				
CD2	**Chengdu**	**36.12 326**	P	**P**	**14 07 08.4 -0.3**
CD2			pmax	pmax	
	comp=Z,20nm,0.7s				
MJAR	**Matsushiro Arr**	**36.18 16**	P	**P**	**14 07 08.1 -1.0**
	comp=Z,5.7nm,0.6s,baz=190,slow=9.2,SNR=20				
MJAR			LR	LR	14 21 12.2
	comp=Z,184nm,21.5s,baz=190,slow=35				
MJAR	**Matsushiro Arr**	**36.18 16**	P	**P**	**14 07 07.3 -1.8**
MAJO	**Matsushiro**	**36.18 16**	*i P*	**P**	**14 07 08.5 -0.6**
MAJO			pmax	pmax	
	comp=Z,18nm,1.0s				
MAJO	**Matsushiro**	**36.18 16**	P	**P**	**14 07 07.1 -2.0**
MAJO			IAmb	IAmb	14 07 13.5
	comp=Z,17nm,0.9s				
MAT	**Matsushiro**	**36.18 16**	P	**P**	**14 07 08.1 -1.0**
MAT			S	**S**	**14 12 45.6 -1.9**
MJB9	**Matsu-Tunnel**	**36.19 16**	P	**P**	**14 07 07.0 -2.1**
MJB9			IAmb	IAmb	14 07 13.5
	comp=Z,18nm,0.9s				
STKA	**Stephens Creek**	**36.40 158**	P	**P**	**14 07 10.7 -0.2**
	baz=37,SNR=38				
STKA	**Stephens Creek**	**36.40 158**	P	**P**	**14 07 10.5 -0.5**
STKA					14 09 35.3
STKA			pmax	pmax	
	comp=Z,4.0nm,0.7s				
STKA	**Stephens Creek**	**36.40 158**	P	**P**	**14 07 10.5 -0.5**
	comp=Z,19nm,0.7s,baz=335,slow=8.2,SNR=26				
STKA			PcP	**PcP**	**14 09 35.3 +0.3**
	comp=Z,14nm,0.6s,baz=312,slow=4.3,SNR=8.0				
STKA			LR	LR	14 23 35.9
	comp=Z,241nm,21.5s,baz=356,slow=39				
STKA	**Stephens Creek**	**36.40 158**	P	**P**	**14 07 10.4 -0.5**
HTT	**Hallett**	**36.93 163**	P	**P**	**14 07 16.3 +0.8**
	baz=37,SNR=8.0				
DL2	**Dalian**	**37.20 354**	P	**P**	**14 07 18.8 +1.2**
DL2			*e*S	**S**	**14 13 05.2 +2.4**
DL2			pmax	pmax	
	comp=Z,53nm,0.7s				
DL2			LR	LR	
	comp=Z,330nm,16.8s				
DL2			LR	LR	
	comp=Z,560nm,18.0s				
DL2			LR	LR	
	comp=Z,350nm,15.4s				
RKGY	**Rocky Gully**	**37.34 193**	P	**P**	**14 07 21.2 +2.3**
	baz=38,SNR=34				
CMSA	**Cobar Meteorol**	**37.80 153**	P	**P**	**14 07 22.9 +0.1**
	baz=38,SNR=19				
BJT	**Baijiatuau**	**39.19 347**	P	**P**	**14 07 33.9 -0.5**
BJT			pmax	pmax	
	comp=Z,18nm,0.8s				
BJT	**Baijiatuau**	**39.19 347**	P	**P**	**14 07 33.9 -0.5**
ARMA	**Armidale**	**39.96 145**	P	**P**	**14 07 40.7 -0.4**
	baz=40,SNR=33				
ARMA	**Armidale**	**39.96 145**	P	**P**	**14 07 41.5 +0.4**
ARMA			IAmb	IAmb	14 07 43.0
	comp=Z,30nm,0.8s				
LZH	**Lanzhou**	**40.09 331**	⇑P	**P**	**14 07 42.4 +0.2**
LZH			pP	pP	14 07 48.4 -1.2
LZH			sP	pwP	14 07 51.7 -0.7
LZH			PP	**PnPn**	**14 09 21.8 +3.5**
LZH			pmax	pmax	
	comp=Z,26nm,1.0s				
LZH			pmax	pmax	
	comp=Z,95nm,4.3s				
LZH			LR	LR	
	comp=Z,350nm,16.2s				
LZH			LR	LR	
	comp=Z,360nm,16.4s				
LZH			LR	LR	
	comp=Z,460nm,18.4s				
ARPS	**Mount Arapiles**	**40.92 161**	P	**P**	**14 07 49.2 +0.4**
	baz=41,SNR=9.0				
SHL	**Shillong**	**40.93 308**	P	**P**	**14 07 48.5 -0.8**
SHL			pmax	pmax	
	comp=Z,43nm,0.7s				
SHL	**Shillong**	**40.93 308**	P	**P**	**14 07 48.5 -0.8**
SHL			IAmb	IAmb	14 07 51.0
	comp=Z,43nm,0.7s				
HHC	**Hu-ho-hao-te**	**41.17 343**	*e*P	P	14 08 00.3 +9.3
HHC			pmax	pmax	
	comp=Z,10.0nm,0.8s				
HHC			pmax	pmax	
	comp=Z,13nm,5.1s				
CN2	**Changchun**	**41.82 359**	*e*P	**P**	**14 07 55.9 -0.2**
CN2			*es*P	pP	14 08 03.0 -0.5
CN2			*e*S	**S**	**14 14 12.2 +0.1**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
CN2			pmax	pmax	
	comp=Z,100nm,4.0s				
CAN	**Canberra**	**42.47 153**	P	**P**	**14 08 02.0 +0.4**
CAN			pmax	pmax	
	comp=Z,14nm,0.6s				
CAN	**Canberra**	**42.47 153**	P	**P**	**14 08 02.0 +0.4**
CAN			IAmb	IAmb	14 08 05.1
	comp=Z,14nm,0.6s				
USA0B	**Ussuriysk Arra**	**42.48 6**	P	**P**	**14 08 02.0 +0.6**
USA0B			pmax	pmax	
	comp=Z,27nm,1.0s				
USA0B	**Ussuriysk Arra**	**42.48 6**	P	**P**	**14 08 02.0 +0.6**
USA0B			IAmb	IAmb	14 08 03.0
	comp=Z,26nm,0.9s				
USRK	**Ussuriysk Ar.**	**42.48 6**	P	**P**	**14 08 01.7 +0.3**
USRK	**Ussuriysk Ar.**	**42.48 6**	P	**P**	**14 08 01.9 +0.5**
	comp=Z,24nm,0.9s,baz=192,slow=7.1,SNR=24				
USRK	**Ussuriysk Ar.**	**42.48 6**	P	**P**	**14 08 01.7 +0.3**
H11S3	**WAKE ISLAND Hy**	**42.64 64**	T	T	14 53 39.1
	baz=252,slow=75,SNR=21				
H11S2	**WAKE ISLAND Hy**	**42.65 64**	T	T	14 53 47.8
	baz=252,slow=75,SNR=13				
H11S1	**WAKE ISLAND Hy**	**42.65 64**	T	T	14 53 45.3
	baz=252,slow=75,SNR=10				
MDJ	**Mudanjiang**	**42.70 3**	P	**P**	**14 08 04.2 +0.9**
MDJ			pmax	pmax	
	comp=Z,10.0nm,0.4s				
MDJ			pmax	pmax	
	comp=Z,520nm,4.9s				
MDJ	**Mudanjiang**	**42.70 3**	P	**P**	**14 08 02.0 -1.2**
MDJ			IAmb	IAmb	14 08 14.9
	comp=Z,19nm,0.8s				
TOO	**Toolangi**	**42.92 158**	P	**P**	**14 08 05.3 +0.2**
	baz=43,SNR=6.3				
LSA	**Lhasa**	**43.63 313**	P	**P**	**14 08 11.0 -0.6**
LSA			pmax	pmax	
	comp=Z,20nm,0.6s				
LSA	**Lhasa**	**43.63 313**	P	**P**	**14 08 11.0 -0.6**
LSA			IAmb	IAmb	14 08 14.1
	comp=Z,20nm,0.6s				
TEY	**Ternei**	**43.94 10⇓**	*e*P	**P**	**14 08 13.8 +0.6**
TEY			pmax	pmax	
	comp=N,40nm,0.5s				
TEY			pmax	pmax	
	comp=Z,60nm,0.6s				
ASAJ	**Asahikawa**	**44.45 16**	LR	LR	14 26 05.9
	comp=Z,82nm,20.4s,baz=166,slow=35				
GTA	**Gaotai**	**44.68 330**	P	**P**	**14 08 18.7 -0.7**
GTA			pP	pwP	14 08 28.4 -0.8
GTA			sP	sP	14 08 32.8 +2.7
GTA			PcP	**PcP**	**14 10 02.6 +0.8**
GTA			pmax	pmax	
	comp=Z,7.0nm,1.0s				
GTA			pmax	pmax	
	comp=Z,210nm,5.4s				
GTA			LR	LR	
	comp=Z,190nm,16.8s				
GTA			LR	LR	
	comp=Z,190nm,17.5s				
GTA			LR	LR	
	comp=Z,420nm,17.9s				
TAPN	**Taplejung**	**45.07 308**	*e*P	**P**	**14 08 22.3 -0.6**
	comp=Z,22nm,0.5s				
ODAN	**Odare**	**45.10 307**	*e*P	**P**	**14 08 22.3 -0.8**
DZM	**Mont Dzumac**	**45.56 124**	*e*S	**S**	**14 15 05.0 -2.6**
	comp=Z,124nm,34.4s				
DZM			*e*LR	LR	14 21 22.8
	comp=Z,676nm,23.7s				
RAMN	**Ramite**	**45.77 307**	*e*P	**P**	**14 08 28.0 -0.5**
	comp=Z,31nm,0.6s				
PALK	**Pallekele**	**46.06 278**	LR	LR	14 29 11.6
	comp=Z,182nm,21.6s,baz=115,slow=38				
JIRN	**Jiri**	**46.41 307**	*e*P	**P**	**14 08 32.7 -0.9**
	comp=Z,50nm,0.7s				
GUN	**Gumba**	**46.77 308**	*e*P	**P**	**14 08 35.7 -0.7**
	comp=Z,50nm,0.6s				
PKI	**Pulchoki**	**46.99 307**	*e*P	**P**	**14 08 36.8 -1.4**
	comp=Z,8.8nm,0.4s				
PKIN	**Phulchoki**	**47.01 307**	*e*P	**P**	**14 08 36.9 -1.3**
	comp=Z,7.4nm,0.4s				
YSS	**Yuzh-Sakhalins**	**47.11 15**	*e*P	**P**	**14 08 38.2 -0.1**
YSS			pmax	pmax	
	comp=Z,20nm,0.9s				
YSS	**Yuzh-Sakhalins**	**47.11 15**	P	**P**	**14 08 38.6 +0.3**
YSS			IAmb	IAmb	14 08 48.1
	comp=Z,22nm,0.8s				
KKN	**Kakani**	**47.19 307**	*e*P	**P**	**14 08 38.3 -1.3**
	comp=Z,14nm,0.4s				
DMN	**Daman**	**47.25 307**	*e*P	**P**	**14 08 39.4 -0.7**
	comp=Z,29nm,1.0s				
KLR	**Kul'dur**	**47.44 5**	*i* P	**P**	**14 08 39.8 -1.1**
KLR			pmax	pmax	
	comp

comp=Z,6.0nm,0.9s
TLY Talaya 53.30 342 P **P 14 09 24.1 -1.1**
TLY pmax pmax
comp=Z,18nm,0.8s
TLY Talaya 53.30 342 P **P 14 09 24.1 -1.1**
TLY IAmb IAmb 14 09 29.7
comp=Z,18nm,0.8s
MOY Mondy 54.13 341 *e*P **P 14 09 31.9 +0.5**
MOY pmax pmax
comp=Z,32nm,2.3s
WMQ Urumqi 54.22 326 *e*P **P 14 09 32.2 0.0**
WMQ pP pP 14 09 37.6 -2.3
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,190nm,4.9s
WMQ LR LR
comp=Z,350nm,29.2s
WMQ LR LR
comp=Z,230nm,24.9s
WMQ Urumqi 54.22 326 P **P 14 09 32.0 -0.2**
WMQ pmax pmax
comp=Z,24nm,1.0s
WMQ Urumqi 54.22 326 P **P 14 09 32.0 -0.2**
WMQ IAmb IAmb 14 09 38.4
comp=Z,24nm,1.0s
BOD Bodaibo 56.73 352 *e*P **P 14 09 48.9 -0.9**
BOD pmax pmax
comp=Z,22nm,1.2s
PEA0B Petropavlovsk- 57.24 22 P **P 14 09 54.7 +1.1**
PEA0B pmax pmax
comp=Z,26nm,1.2s
PEA0B Petropavlovsk- 57.24 22 P **P 14 09 54.7 +1.1**
PEA0B IAmb IAmb 14 09 59.8
comp=Z,26nm,1.1s
PETK Petropavlovsk- 57.24 22 P **P 14 09 54.2 +0.7**
comp=Z,4.7nm,0.6s,baz=183,slow=4.1,SNR=13
PETK Petropavlovsk- 57.24 22 P **P 14 09 53.2 -0.4**
OUZ Omahuta 57.30 135 P **P 14 09 54.7 +0.4**
DGZ Jazzator, Alta 58.20 331 ⇓*i*P **P 14 10 00.0 -0.5**
PDGK Podgornoye 58.81 321 P **P 14 10 04.1 -0.9**
PDGK pmax pmax
comp=Z,15nm,0.7s
NIL Nilore 59.01 309 P **P 14 10 05.1 -1.2**
NIL pmax pmax
comp=Z,12nm,0.7s
NIL Nilore 59.01 309 P **P 14 10 05.1 -1.2**
NIL IAmb IAmb 14 10 20.7
comp=Z,12nm,0.7s
MK31 Makanchi Array 59.06 326 P **P 14 10 05.9 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 59.06 326 P **P 14 10 05.9 -0.5**
MK31 IAmb IAmb 14 10 09.4
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 59.06 326 P **P 14 10 06.0 -0.4**
comp=Z,18nm,0.5s,baz=120,slow=8.1,SNR=196
MKAR LR LR 14 37 26.7
comp=Z,94nm,20.8s,baz=109,slow=38
MKAR Makanchi Array 59.06 326 P **P 14 10 05.7 -0.8**
PRZ Przheval'sk 59.08 320 P **P 14 10 07.0 +0.1**
PRZ pmax pmax
comp=Z,28nm,0.7s
PRZ Przheval'sk 59.08 320 P **P 14 10 07.0 +0.1**
TARG Taragay, Kyrgy 59.09 319 P **P 14 10 07.2 -0.1**
TARG IAmb IAmb 14 10 15.9
comp=Z,12nm,0.7s
MAKZ Makanchi 59.24 326 P **P 14 10 07.1 -0.6**
MAKZ pmax pmax
comp=Z,15nm,0.7s
MAKZ Makanchi 59.24 326 P **P 14 10 07.1 -0.6**
MAKZ IAmb IAmb 14 10 09.5
comp=Z,15nm,0.7s
KSH Kashi 59.31 316 P **P 14 10 10.1 +1.6**
KSH PcP **PcP 14 10 58.8 +2.4**
KSH S **S 14 18 16.2 +0.6**
KSH ScS **ScS 14 19 55.5 -1.7**
KSH SS **SS 14 22 12.1 +1.5**
KSH LR LR
comp=Z,300nm,10.6s
KSH LR LR
comp=Z,96nm,8.2s
FOZ Fox Glacier 59.45 145 P **P 14 10 09.3 +0.2**
QRZ Quartz Range 59.53 141 P **P 14 10 09.5 -0.3**
KDJ Kajisay 59.70 319 P **P 14 10 11.1 0.0**
KDJ pmax pmax
comp=Z,24nm,0.6s
KDJ Kajisay 59.70 319 P **P 14 10 11.1 0.0**
YAK Yakutsk 60.11 2 *e*P **P 14 10 13.4 +0.1**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,19nm,1.1s
YAK Yakutsk 60.11 2 P **P 14 10 13.0 -0.4**
NRN Naryn 60.15 318 P **P 14 10 13.9 -0.6**
NRN pmax pmax
comp=Z,10.0nm,0.7s
NRN Naryn 60.15 318 P **P 14 10 13.9 -0.6**
NRN IAmb IAmb 14 10 15.8
comp=Z,9.6nm,0.7s
LBZ Lake Benmore 60.18 145 P **P 14 10 13.8 -0.4**
RPZ Rata Peaks 60.28 144 P **P 14 10 14.9 0.0**
comp=Z,9.9nm,0.7s,baz=9.8,slow=8.0,SNR=7.6
RPZ Rata Peaks 60.28 144 IAmb IAmb 14 10 20.3
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 61.10 319 P **P 14 10 19.5 -1.3**
TKM2 pmax pmax
comp=Z,7.0nm,0.5s
TKM2 Tokmak 2 61.10 319 P **P 14 10 20.6 -0.2**
SNR=21
BKZ Black Stump Fm 61.26 137 P **P 14 10 20.2 -1.5**
UCH Uchtor 61.50 318 P **P 14 10 23.9 +0.1**
SNR=19
AAK Ala-Archa 61.70 319 P **P 14 10 24.3 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 61.70 319 P **P 14 10 25.0 +0.3**
SNR=5.8
AAK Ala-Archa 61.70 319 P **P 14 10 24.1 -0.6**
USP Ospenovka 61.97 319 P **P 14 10 25.9 -0.5**
SNR=12
AML Almayashu 62.01 318 P **P 14 10 27.2 +0.1**
SNR=8.8
ARSB Arslanbob 62.15 317 P **P 14 10 26.6 -1.2**
ARSB IAmb IAmb 14 10 28.9
comp=Z,16nm,1.1s
EKS2 Erkin-Say 62.18 318 P **P 14 10 28.1 +0.1**
SNR=9.2
ZAA0 Zalesovo Array 62.23 334 P **P 14 10 26.8 -1.1**
ZAA0 IAmb IAmb 14 10 30.4
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 62.23 334 P **P 14 10 26.8 -1.1**
comp=Z,5.5nm,0.5s,baz=123,slow=5.9,SNR=25
ZALV LR LR 14 38 34.8
comp=Z,35nm,20.1s,baz=139,slow=37
ZALV PKP2bc 14 39 41.5
comp=Z,1.5nm,0.7s,baz=266,slow=2.3,SNR=5.5
ZALV Zalesovo Beam 62.23 334 P **P 14 10 26.4 -1.5**
KBL Kabul 62.59 308 P **P 14 10 29.8 -1.2**
KBL pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 62.59 308 P **P 14 10 29.8 -1.2**
KURK Kurchatov 63.28 328 *ce*P **P 14 10 34.4 -0.6**
KURK pmax pmax
comp=Z,51nm,0.7s
KURK Kurchatov 63.28 328 P **P 14 10 34.1 -0.9**
KK31 Karatay Array 64.55 318 P **P 14 10 42.6 -0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 64.55 318 P **P 14 10 42.6 -0.9**
KK31 IAmb IAmb 14 10 49.9
comp=Z,7.7nm,0.8s
KKAR Karatay Array 64.55 318 P **P 14 10 42.6 -0.9**
KKAR Karatay Array 64.55 318 P **P 14 10 42.5 -1.0**
KKAR IAmb IAmb 14 10 49.9
comp=Z,7.7nm,0.8s
KKAR Karatay Array 64.55 318 P **P 14 10 42.6 -0.9**
BVAR Borovoye Array 68.85 327 P **P 14 11 10.0 -0.7**
comp=Z,12nm,0.6s,baz=136,slow=8.4,SNR=68
BRVK Borovoye 68.92 327 P **P 14 11 10.5 -0.6**
BRVK pmax pmax
comp=Z,19nm,0.7s
BRVK Borovoye 68.92 327 P **P 14 11 10.5 -0.6**
TIXI Tiksi 69.75 1 *ce*P **P 14 11 14.6 -1.3**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 69.75 1 P **P 14 11 15.2 -0.6**
TIXI IAmb IAmb 14 11 28.9
comp=Z,10nm,0.9s
BILL Bilibino 71.42 15 *i*P **P 14 11 27.1 +0.9**
BILL *e* 14 11 46.2
BILL *e* 14 14 02.0
BILL pmax pmax
comp=Z,3.0nm,0.7s
BILL MLR MLR
comp=Z,90nm,13.0s
GEYT Alibeck 72.00 309 P **P 14 11 30.2 -0.1**
comp=Z,7.6nm,0.7s,baz=160,slow=4.7,SNR=12
ABKAR Akbulak array 73.55 321 P **P 14 11 38.5 -0.7**
ABKAR Akbulak array 73.55 321 P **P 14 11 38.7 -0.6**
ABKAR IAmb IAmb 14 11 40.6
comp=Z,10nm,0.7s
AKTO Aktyubinsk 75.08 322 P **P 14 11 47.8 -0.3**
comp=Z,18nm,0.7s,baz=95,slow=11
SVE Sverdlovsk 75.52 329 *de*P **P 14 11 50.9 +0.4**
SVE pmax pmax
comp=Z,85nm,0.9s
ARU Arti 76.48 328 *ce*P **P 14 11 55.1 -0.9**
ARU pmax pmax
comp=Z,63nm,1.0s
ARU Arti 76.48 328 P **P 14 11 55.4 -0.6**
AKT Akhty 80.47 312 *e*P **P 14 12 18.9 +0.4**
AKT *e* 14 12 26.2
AKT pmax pmax
comp=Z,30nm,0.9s
MAW Mawson 81.93 200 P **P 14 12 26.5 +1.0**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 81.93 200 P **P 14 12 26.6 +1.0**
comp=Z,11nm,0.8s,baz=76,slow=5.5,SNR=10
MAW Mawson 81.93 200 P **P 14 12 26.5 +1.0**
SBA Scott Base 82.47 172 P **P 14 12 29.4 +1.2**
SBA pmax pmax
comp=Z,9.0nm,0.8s
SBA Scott Base 82.47 172 P **P 14 12 29.4 +1.2**
SBA IAmb IAmb 14 12 31.6
comp=Z,9.0nm,0.8s
GNI Garni 82.61 310 *ce*P **P 14 12 28.5 -1.4**
GNI pmax pmax
comp=Z,53nm,1.7s
TTA Tatalina 82.65 27 P **P 14 12 30.4 +0.9**
TTA pmax pmax
comp=Z,9.0nm,0.9s
TTA Tatalina 82.65 27 P **P 14 12 30.4 +0.9**
ZEI Tsey 83.41 313 *e*P **P 14 12 32.4 -1.7**
ZEI pmax pmax
comp=Z,28nm,0.6s
AKH Akhalkalaki 83.64 311 ⇑P **P 14 12 36.5 +1.2**
PRGR Permogore 84.12 332 *e*P **P 14 12 36.2 -0.8**
PRGR pmax pmax
comp=Z,40nm,0.9s
IMAR Indian Mountai 84.13 24 P **P 14 12 37.6 +0.6**
GOF Gofitskoye 84.17 315 ⇑*e*P **P 14 12 39.6 +2.0**
KBZ Khabaz 84.20 314 P **P 14 12 37.2 -0.5**
comp=Z,11nm,1.0s,baz=150,slow=8.2,SNR=13
KIV Kislovodsk 84.36 314 *e*P **P 14 12 39.0 +0.2**
KIV pmax pmax
comp=Z,47nm,1.0s
PPT Papeete 84.65 108 LR LR 14 46 35.5
comp=Z,58nm,21.9s,baz=280,slow=33
PPT2 Papeete2 84.65 108 *e*LR LR 14 39 19.3
comp=Z,203nm,25.5s
BRLK Bradley Lake 84.66 30 P **P 14 12 39.0 -0.8**
VRH Novokhopyorsk 85.38 321 *e*P **P 14 12 43.0 -0.6**
VRH pmax pmax
comp=Z,60nm,0.7s
KNK Knik Glacier 85.98 29 P **P 14 12 46.3 -0.1**
TOLK Toolik Lake Re 86.06 21 P **P 14 12 46.5 -0.2**
TOLK IAmb IAmb 14 12 54.1
comp=Z,7.4nm,0.9s
SML Sawmill 86.07 28 P **P 14 12 47.2 +0.3**
SOC Sochi 86.50 313 *e*P **P 14 12 48.6 -0.7**
SOC *e* 14 16 07.9
SOC *e*S **SKSac 14 23 14.6 +0.3**
SOC *e*SS **SS 14 29 07.2 +2.4**
SOC *e*SSS SSS 14 32 34.4
SOC pmax pmax
comp=Z,24nm,0.7s
ILAR Eielson Array 86.88 25 P **P 14 12 49.5 -1.1**
comp=Z,0.5nm,0.5s,baz=253,slow=4.2,SNR=12
VORD Divnogorie 86.91 321 *e*P **P 14 12 50.7 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 86.99 321 *e*P **P 14 12 51.2 -0.3**
VSR pmax pmax
comp=Z,20nm,0.5s
KLMR Klimovskoe 87.00 331 *e*P **P 14 12 47.9 -3.5**
KLMR pmax pmax
comp=Z,35nm,1.2s
KLMR Klimovskoe 87.00 331 *e*P **P 14 12 47.9 -3.5**
KLMR AMP 14 12 55.3
comp=Z,35nm,1.2s
LPSR Galich'ya Gora 87.16 322 *e*P **P 14 12 51.2 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BMAR Burnt Mountain 87.88 23 P **P 14 12 56.0 +0.5**
MOS Moscow 87.94 326 *e*P **P 14 12 54.4 -1.6**
ANN Anapa 88.15 315 *e*P **P 14 12 56.4 -0.8**
ANN pmax pmax
comp=Z,72nm,0.9s
OBN Obninsk 88.55 325 *ce*P **P 14 12 58.0 -0.8**
OBN *e*S **SKKSac 14 23 34.4 -2.7**
OBN pmax pmax
comp=Z,14nm,1.0s
BCAR Beaver Creek A 89.13 27 P **P 14 13 01.2 -0.4**
KMBO Kilima Mbogo 89.39 269 P **P 14 13 05.4 +1.4**
comp=Z,1.3nm,0.3s,baz=56,slow=8.3,SNR=8.8
SYO Syowa Base 90.61 201 ⇑*i*P **P 14 13 08.0 -0.2**
SYO Syowa Base 90.61 201 ⇑*i*PcP **P 14 13 09.6 +1.4**
SYO Syowa Base 90.61 201 ⇑*e*pP pP 14 13 15.0 -1.1
BRTR Keskin Array B 91.14 310 P **P 14 13 10.5 -1.1**
comp=Z,2.6nm,0.7s,baz=97,slow=6.0,SNR=15
BRTR LR LR 15 00 03.8
comp=Z,21nm,19.8s,baz=63,slow=40
BRTR Keskin Array B 91.14 310 P **P 14 13 10.1 -1.4**
QSPA South Pole Qui 91.73 180 P **P 14 13 14.2 +0.5**
INK Inuvik 91.98 22 P **P 14 13 14.7 +0.1**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 91.98 22 P **P 14 13 14.7 +0.1**
ARCES ARCESS Array B 92.19 340 P **P 14 13 14.7 -0.9**
comp=Z,5.5nm,0.8s,baz=87,slow=4.3,SNR=6.7
ARCES PKKP **PKKPdf 14 30 31.1 0.0**
comp=Z,4.9nm,0.9s,baz=282,slow=1.8,SNR=3.7
ARCES LR LR 14 59 25.1
comp=Z,49nm,18.0s,baz=152,slow=39
AKASG Malin Array Be 93.29 321 *i*P **P 14 13 20.5 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 93.29 321 P **P 14 13 19.8 -1.3**
comp=Z,1.1nm,0.4s,baz=66,slow=4.8,SNR=4.2
AKASG Malin Array Be 93.29 321 IAmb IAmb 14 13 22.2
comp=Z,1.6nm,1.0s
FINES FINESS Array B 93.45 332 P **P 14 13 20.6 -0.9**
comp=Z,2.5nm,0.6s,baz=64,slow=4.9,SNR=13
TAOE Nuku Hiva Isla 93.48 99 *e*LR LR 14 43 08.0
comp=Z,268nm,24.8s
VSU Vasula 93.63 329 *i*P **P 14 13 23.1 +0.7**
VSU pmax pmax
comp=Z,42nm,1.1s
TOPG Topolog 94.56 315 ⇑P P 14 13 17.1 -10
TESR Tescani 95.55 317 ⇑P **P 14 13 31.0 -0.5**
VRI Vrincioaia 95.58 316 ⇑P **P 14 13 30.3 -1.4**
VRI Vrincioaia 95.58 316 ⇑P **P 14 13 30.3 -1.4**
PLOR Plostina 95.64 316 ⇑P **P 14 13 31.5 -0.5**
PLOR Plostina 95.64 316 ⇑P **P 14 13 31.5 -0.5**
MLR Muntele Rosu 96.18 316 ⇑P **P 14 13 34.4 -0.2**
MLR Muntele Rosu 96.18 316 ⇑P **P 14 13 34.4 -0.2**
BURAR Bucovina Array 96.34 318 ⇓P **P 14 13 35.5 +0.3**
BURAR Bucovina Array 96.34 318 ⇓P **P 14 13 35.5 +0.3**
BURAR Bucovina Array 96.34 318 P **P 14 13 34.7 -0.5**
BUR08 Bucovina Ar. S 96.34 318 P **P 14 13 34.9 -0.4**
BUR08 IAmb IAmb 14 13 40.7
comp=Z,8.4nm,0.8s
VOIR 96.81 316 ⇑P **P 14 13 36.0 -1.4**
VOIR 96.81 316 ⇑P **P 14 13 36.0 -1.4**
NB2 NORSAR Subarra 100.44 333 P **Pdif 14 13 51.6 -1.6**
comp=Z,0.7nm,0.5s,baz=72,slow=4.4
NOA NORSAR Array B 100.44 333 P **Pdif 14 13 51.4 -1.9**
comp=Z,0.9nm,0.6s,baz=69,slow=4.5,SNR=3.2
YKA Yellowknife Ar 101.28 25 P **Pdif 14 13 55.3 -1.6**
comp=Z,1.5nm,0.8s,baz=302,slow=4.4,SNR=3.3
NVAR Mina Array Bea 108.27 49 Pdiff **Pdif 14 14 29.1 +0.3**
comp=Z,0.3nm,0.6s,baz=268,slow=5.1,SNR=2.9
NVAR PKiKP **PKiKP 14 18 36.6 +1.5**
comp=Z,0.2nm,0.5s,baz=278,slow=2.5,SNR=2.8
NVAR PKKP **PKKPdf 14 30 01.0 -0.5**
comp=Z,0.2nm,0.5s,baz=108,slow=2.9,SNR=3.6
PDAR Pinedale Array 112.86 42 PKiKP **PKiKP 14 18 44.2 +0.4**
comp=Z,0.3nm,0.5s,baz=276,slow=1.8,SNR=3.4
PDAR PKKPbc **PKKPbc 14 29 31.5 -1.0**
comp=Z,0.6nm,0.6s,baz=110,slow=5.2,SNR=6.7
PDAR PKKPab **PKKPab 14 29 39.5 -0.3**
comp=Z,1.0nm,0.9s,baz=127,slow=5.8,SNR=4.3
ULM Lac du Bonnet 116.69 29 PKP **PKPdf 14 18 49.4 -1.1**
comp=Z,3.5nm,0.6s,baz=293,slow=4.5,SNR=3.9
ANMO Albuquerque 118.39 48 *c i*PKiKP **PKPdf 14 18 53.5 -1.1**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
TXAR Lajitas Array 122.85 53 PKP **PKPdf 14 19 02.9 -0.3**
comp=Z,0.8nm,0.7s,baz=256,slow=0.6,SNR=11
TOA0 Torodi Ar. Sit 123.38 287 **PKiKP 14 19 04.6 0.0**
TORD Torodi Ar. Bea 123.38 287 PKP **PKPdf 14 19 04.3 -0.1**
comp=Z,3.9nm,0.6s,baz=83,slow=1.8,SNR=28
TORD PKKPbc **PKKPbc 14 28 53.3 -0.3**
comp=Z,0.9nm,0.8s,baz=254,slow=2.8,SNR=4.1
TORD Torodi Ar. Bea 123.38 287 **PKPdf 14 19 02.8 -1.5**
KIC Kosan Boka 130.75 280 *e*PKiKP **PKiKP 14 19 19.8 +0.4**
comp=Z,12nm,0.6s
DBIC Dimbokro 130.83 280 PKP **PKiKP 14 19 19.4 -0.2**
comp=Z,5.5nm,0.6s,baz=134,slow=2.2,SNR=10
TIC Toumodi 130.99 280 *e*PKiKP **PKiKP 14 19 19.7 -0.2**
LIC Lamto 131.06 280 *e*PKiKP **PKiKP 14 19 20.3 +0.3**
comp=Z,51nm,1.4s
PLCA Paso Flores 138.26 160 PKP **PKPdf 14 19 32.0 +0.1**
comp=Z,4.7nm,0.9s,baz=255,slow=1.7,SNR=5.1
ROC1 El Roble 144.86 154 **PKPab 14 19 43.0 -0.2**
ROC1 El Roble 144.86 154 *e*P PKPbc 14 19 43.5 +0.2
RTLS Leoncito 146.61 155 *e*P **PKPab 14 19 49.6 -0.2**
RTCV Cerro Valdivia 146.87 156 *e*P **PKPbc 14 19 49.7 +0.5**
ACAN Cantantal 147.03 158 *e*P **PKPbc 14 19 50.2 +0.5**
ZON Zonda 147.09 156 *e*P **PKPbc 14 19 50.4 +0.5**
RTLL Cerro Villicun 147.37 156 *e*P **PKPbc 14 19 50.7 +0.1**
MRA San Martin 147.42 160 *e*P **PKPbc 14 19 51.1 +0.2**
AMOG MOGNA 147.70 155 *e*P **PKPbc 14 19 52.1 +0.5**
ACCO Cerro Coronel 147.76 154 *e*P **PKPbc 14 19 52.8 +0.7**
AROD Rodeo 147.94 153 *e*P **PKPbc 14 19 53.3 +0.7**
ACDV Cuesta del Vie 148.09 154 *e*P **PKPbc 14 19 53.7 +0.9**
TCA Tanti 148.78 161 *e*P **PKPbc 14 19 55.2 +0.7**
CYA Choya 150.99 157 *e*P **PKiKP 14 20 00.3 -0.2**
GO02 Mina Guanaco 152.02 147 **PKiKP 14 20 02.9 -0.1**
CPUP Villa Florida 155.33 172 PKPbc PKPbc 14 20 09.9
comp=Z,7.6nm,0.8s,baz=112,slow=0.8,SNR=10.0
CPUP PKPab **PKPab 14 20 26.0 +0.6**
comp=Z,12nm,0.8s,baz=185,slow=3.3,SNR=13
LPAZ La Paz 159.57 136 PKP **PKPdf 14 20 07.7 +1.0**
comp=Z,1.7nm,0.7s,baz=225,slow=3.4,SNR=6.3
BDFB Brasilia 165.27 201 PKP **PKPdf 14 20 12.9 +1.1**
comp=Z,2.3nm,0.4s,baz=76,slow=8.3,SNR=3.6
BDFB PKPab **PKPab 14 21 08.4 -0.6**
comp=Z,2.7nm,0.6s,baz=59,slow=7.1,SNR=3.3

IDC 11 14:16:22.9±1.2, 28°.10N×102°.01E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/59, mbtmp3.5/5, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/34, Error ellipse: s-maj=44.8km s-min=22.5km az=77.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.00**	**197**	Pn	Pn	Pn	14 18 48.4	+0.4
	0.1nm,0.3s,baz=15,slow=14,SNR=5.5							
CMAR				Pg			14 19 25.1	
	0.3nm,0.3s,baz=12,slow=18,SNR=8.1							
CMAR				Lg	Lg		14 21 33.4	
	0.2nm,0.3s,baz=15,slow=28,SNR=5.4							
MKAR	**Makanchi Array**	**24.24**	**326**	P	P		14 21 41.3	-0.3
	1.1nm,0.8s,baz=132,slow=9.4,SNR=5.6							
AAK	**Ala-Archa**	**26.57**	**310**	LR	LR		14 34 29.8	
	comp=Z,90nm,18.2s,baz=138,slow=41							
WRA	**Warramunga Arr**	**57.08**	**143**	P	P		14 26 11.0	-0.2
	0.7nm,0.7s,baz=331,slow=8.0,SNR=6.2							
ASAR	**Alice Springs**	**59.95**	**146**	P	P		14 26 31.3	+0.1
	0.3nm,0.7s,baz=327,slow=7.0,SNR=3.3							
ILAR	**Eielson Array**	**73.32**	**25**	P	P		14 27 56.2	+0.1
	0.5nm,1.0s,baz=298,slow=6.1,SNR=3.7							

*DDA **11** 14:41:25.4, 38°.55N×31°.52E, h7km±3km, ML2.7*
*ISK **11** 14:41:26.1, 38°.55N×31°.59E, h14km, ML2.0/6*
ISC 11 14:41:25.5±1.4, 38°.53N±0°.06×31°.58E±0°.04, h18km±5km, n14, σ1°.30/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.42**	**34**	P	PG	**Pg**	**14 41 33.8**	**-0.4**
KIZT					SG	**Sg**	**14 41 40.8**	**+0.7**
KDHN	**Kadinhani**	**0.42**	**91**	*i* P	**Pn**	**Pn**	**14 41 36.0**	**-0.7**
KDHN				*i* S	**Sn**	**Sn**	**14 41 42.1**	**-1.9**
KDHN				IAML_P				
	comp=Z,1μm,0.1s							
DOGA	**KONYA_Doganhis**	**0.43**	**171**	*i* P	**Pn**	**Pn**	**14 41 35.6**	**-1.3**
DOGA				*i* S	**Sn**	**Sn**	**14 41 42.2**	**-2.1**
DOGA				IAML_P				
	comp=Z,4μm,0.1s							
BOLV	**Bolvadin**	**0.53**	**291**	*i* P	**Pb**	**Pb**	**14 41 35.5**	**-0.7**
BOLV				*i* S	**Sg**	**Sg**	**14 41 42.3**	**-1.0**
BOLV				IAML_P				
	comp=Z,1μm,0.1s							
LADK	**Ladik-KONYA**	**0.70**	**118**	PG	**Pn**	**Pn**	**14 41 40.2**	**-0.3**
LADK				SG	**Sn**	**Sn**	**14 41 50.3**	**-0.6**
SHUT	**Suhut-Afyon**	**0.81**	**272**	PG	**Pn**	**Pn**	**14 41 42.3**	**+0.3**
BAGO	**Egridir - ISPA**	**0.82**	**229**	*i* P	**Pn**	**Pn**	**14 41 42.3**	**0.0**
BAGO				*i* S	**Sn**	**Sn**	**14 41 55.1**	**+1.1**
BAGO				IAML_P				
	comp=Z,490nm,0.2s							
KONT	**Konya--Tatoy**	**0.85**	**133**	*i* P	**Pn**	**Pn**	**14 41 43.3**	**+0.8**
KONT				*i* S	**Sn**	**Sn**	**14 41 56.0**	**+1.6**
KONT				IAML_P				
	comp=Z,1μm,0.2s							
KONT	**Konya--Tatoy**	**0.85**	**133**	PG	**Pn**	**Pn**	**14 41 42.9**	**+0.4**
KONT				SG	**Sn**	**Sn**	**14 41 55.1**	**+0.6**
AUSIV	**SIVRIHISAR**	**0.91**	**358**	PG	**Pg**	**Pg**	**14 41 43.9**	**+0.7**
SVRH	**Sivrihisar-ESK**	**0.92**	**357**	PG	**Pg**	**Pg**	**14 41 43.9**	**+0.6**
KMER	**Konya-Meram**	**0.98**	**141**	*i* P	**Pn**	**Pn**	**14 41 44.6**	**+0.1**
KMER				*i* S	**Sn**	**Sn**	**14 42 01.6**	**+3.7**
KMER				IAML_P				
	comp=Z,222nm,0.1s							
BORA	**Eskisehir**	**1.61**	**327**	PN	**Pb**	**Pb**	**14 41 54.8**	**+0.2**
SRCK	**Saricakaya, Es**	**1.68**	**334**	PN	**Pb**	**Pb**	**14 41 55.6**	**-0.2**

IDC 11 14:42:36.8±1.9, 9°.43S×113°.80E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/52, mbtmp3.2/3, MS3.9/1, Ms1 3.9/1, ms1mx2.5/17, Error ellipse: s-maj=119.1km s-min=24.6km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.43**	**120**	P	P	P	14 47 37.2	-0.2
	0.2nm,0.6s,baz=296,slow=11,SNR=3.0							
ASAR	**Alice Springs**	**23.87**	**129**	P	P	P	14 47 51.5	-0.6
	0.4nm,0.5s,baz=302,slow=8.5,SNR=18							
ASAR				PcP	PcP	PcP	14 51 35.3	-0.2
	0.5nm,1.0s,baz=299,slow=1.9,SNR=2.8							
CTA	**Charters Tower**	**33.06**	**112**	LR	LR	LR	15 04 16.9	
	comp=Z,191nm,20.4s,baz=84,slow=39							
MKAR	**Makanchi Array**	**62.63**	**336**	P	P	P	14 53 03.3	+0.3
	0.3nm,0.5s,baz=142,slow=7.2,SNR=1.8							

IDC 11 14:54:33.7±2.4, 28°.29N×142°.67E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/49, mbtmp3.5/4, ML2.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/37, Error ellipse: s-maj=114.4km s-min=21.8km az=88.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.26**	**200**	Pn	Pn	Pb	14 54 58.5	+0.1
	41nm,0.3s,baz=9.0,slow=19,SNR=13							
JCJ				Sn		Sg	14 55 10.8	-3.5
	63nm,0.3s,baz=288,slow=20,SNR=8.7							
MJAR	**Matsushiro Arr**	**9.05**	**337**	Pn	Pn	Pn	14 56 46.3	+0.7
	0.1nm,0.3s,baz=166,slow=11,SNR=3.7							
JNU	**Nakatsue**	**11.23**	**298**	LR	LR		15 01 06.1	

comp=Z,33nm,20.9s,baz=182,slow=35
H11N2 WAKE ISLAND Hy 23.68 106 T T 15 25 01.4
baz=297,slow=75,SNR=22
H11N1 WAKE ISLAND Hy 23.69 106 T T 15 24 55.8
baz=297,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 23.70 106 T T 15 24 56.5
baz=297,slow=75,SNR=24
H11S3 WAKE ISLAND Hy 24.07 109 T T 15 25 27.7
baz=297
H11S1 WAKE ISLAND Hy 24.07 109 T T 15 25 34.2
baz=297
H11S2 WAKE ISLAND Hy 24.09 109 T T 15 25 31.9
baz=297
WRA Warramunga Arr 48.62 190 P P 15 03 18.5 -0.9
0.6nm,0.6s,baz=11,slow=8.4,SNR=5.5
ASAR Alice Springs 52.34 190 P P 15 03 48.3 +0.8
0.2nm,0.9s,baz=13,slow=8.2,SNR=3.0
FINES FINESS Array B 77.07 334 P P 15 06 28.1 -0.4
0.4nm,0.4s,baz=68,slow=4.8,SNR=5.1

IDC 11 15:20:07.4±50.0, 18°.12S×177°.98W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/32, mbtmp4.1/3, Error ellipse: s-maj=922.9km s-min=151.4km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.88**	**241**	P	P	15 27 35.4	+0.6
	0.6nm,0.3s,baz=86,slow=9.4,SNR=6.0						
WRA	**Warramunga Arr**	**44.99**	**260**	P	P	15 28 24.8	-0.2
	1.5nm,0.4s,baz=97,slow=7.6,SNR=30						
ASAR	**Alice Springs**	**45.12**	**254**	P	P	15 28 25.3	-0.7
	1.7nm,0.5s,baz=88,slow=8.3,SNR=76						

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*ISCJB **11** 15:30:23.1±0.8, 36°.63N±0°.05×4°.53W±0°.03, h91km±6km, Error ellipse: s-maj=9.2km s-min=3.7km az=173.5*
*MDD **11** 15:30:24.5±0.9, 36°.54N×4°.47W, h85km±7km, mb2.5/5, Error ellipse: s-maj=9.0km s-min=4.2km az=166.0, PRXIMO*
*SFS **11** 15:30:25.0, 36°.57N×4°.46W, h80km, ML2.0, TORREMOLINOS (MALAGA)*

ISC 11 15:30:22.8±1.7, 36°.55N±0°.08×4°.48W±0°.03, h93km±9km, n35, σ1§25/52, 6D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.22**	**10**	⇓*iP*		**15 30 37.1**	**+0.8**
EMAL				*i* S		**15 30 46.2**	**-0.1**
EMIJ	**Mijas**	**0.24**	**274**	⇓P		**15 30 36.6**	**+0.3**
	3.5nm,0.1s,SNR=18						
EMIJ				S		**15 30 45.1**	**-1.4**
	4.9nm,0.2s,SNR=5.6						
EGOR	**Sierra Gorda,**	**0.63**	**28**	S		**15 30 52.8**	**+1.4**
	2.4nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**0.75**	**65**	P		**15 30 40.1**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
ELGU				S		**15 30 52.7**	**-0.6**
	2.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.06**	**51**	P		**15 30 43.9**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
EQUE				S		**15 30 58.4**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.16**	**287**	S		**15 31 00.2**	**-0.6**
	4.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.32**	**74**	P		**15 30 47.7**	**+1.0**
	0.4nm,0.2s,SNR=4.0						
EBER				S		**15 31 03.6**	**-1.1**
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.62**	**357**	⇓P		**15 30 51.2**	**+1.0**
	1.1nm,0.0s,SNR=18						
EADA				S		**15 31 10.6**	**-0.5**
	5.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.68**	**41**	P		**15 30 52.4**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
EQES				S		**15 31 10.8**	**-1.9**
	1.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**1.70**	**334**	⇓P		**15 30 52.0**	**+0.7**
	1.2nm,0.0s,SNR=18						
ECAB				S		**15 31 11.8**	**-1.1**
	2.4nm,0.1s						
EMIN	**Mina Concepcio**	**2.14**	**305**	⇓P		**15 30 57.8**	**+0.9**
	2.4nm,0.0s,SNR=18						
EMIN				S		**15 31 21.4**	**-1.6**
	3.0nm,0.2s,SNR=20						
SESP	**Santiago Espad**	**2.20**	**44**	P		**15 30 58.7**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
SESP				S		**15 31 23.5**	**-1.2**
	6.1nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.60**	**293**	P		**15 31 04.2**	**+1.2**
	0.7nm,0.1s,SNR=7.9						
EGRO				S		**15 31 32.3**	**-1.6**
	0.2nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.73**	**289**	*e*P		**15 31 06.0**	**+1.2**
PVAQ				*e*S		**15 31 35.5**	**-1.6**
PVAQ				A		15 31 35.8	
	4.0nm,0.3s						
PVAQ	**Vaqueiros**	**2.73**	**289**	P		**15 31 06.0**	**+1.2**
PVAQ				S		**15 31 35.5**	**-1.6**
	4.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.85**	**285**	*e*S		**15 31 40.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**2.85**	**285**	S		**15 31 40.0**	**-0.1**
EBAD	**Badajoz**	**2.99**	**318**	⇓P		**15 31 09.3**	**+1.1**
	2.4nm,0.1s,SNR=18						
EBAD				S		**15 31 42.2**	**-1.0**
	1.6nm,0.2s						
PAB	**San Pablo**	**3.00**	**2**	P		**15 31 08.9**	**+0.5**
	0.1nm,0.1s,SNR=4.0						
PAB				S		**15 31 41.9**	**-1.6**
	1.0nm,0.4s,SNR=7.9						
PCVE	**Castro Verde**	**3.05**	**292**	*e*S		**15 31 43.2**	**-1.4**
PCVE				A		15 31 45.8	
	2.9nm,0.6s						
PCVE	**Castro Verde**	**3.05**	**292**	S		**15 31 43.2**	**-1.4**
	2.9nm,0.6s						
ETOB	**Tobarra**	**3.13**	**47**	P		**15 31 11.8**	**+1.6**
	0.9nm,0.2s,SNR=7.9						
ETOB				S		**15 31 44.6**	**-2.1**
	1.0nm,0.3s,SNR=7.9						
MESJ	**Messejana**	**3.26**	**294**	*e*S		**15 31 48.1**	**-1.5**
MESJ				A		15 31 50.0	
	3.2nm,0.5s						
MESJ	**Messejana**	**3.26**	**294**	S		**15 31 48.1**	**-1.5**
	3.2nm,0.5s						
PESTR	**Estremoz**	**3.39**	**314**	*e*S		**15 31 51.9**	**-0.9**
MORF	**Marmelete**	**3.43**	**284**	*e*S		**15 31 52.4**	**-1.5**
MORF				A		15 31 58.2	
	2.9nm,0.4s						
MORF	**Marmelete**	**3.43**	**284**	S		**15 31 52.4**	**-1.5**
	2.9nm,0.4s						
PFVI	**Vila Bisbo**	**3.54**	**281**	*e*S		**15 31 54.7**	**-1.8**
PFVI				A		15 32 00.6	
	5.0nm,0.7s						
PFVI	**Vila Bisbo**	**3.54**	**281**	P		**15 31 17.1**	**+1.5**
	0.5nm,0.1s,SNR=7.9						
PFVI				S		**15 31 54.3**	**-2.1**
	17nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.54**	**288**	*e*S		**15 31 56.3**	**-0.2**
PTEO	**Sao Teotonio**	**3.54**	**288**	S		**15 31 56.3**	**-0.2**
PNCL	**Nicolau / Gran**	**3.59**	**297**	*e*S		**15 31 56.9**	**-0.7**
PNCL	**Nicolau / Gran**	**3.59**	**297**	S		**15 31 56.9**	**-0.7**
PMRV	**Marv??o**	**3.69**	**322**	*e*P		**15 31 19.1**	**+1.5**
PMRV	**Marv??o**	**3.69**	**322**	P		**15 31 19.1**	**+1.5**

IDC 11 15:48:00.2±1.6, 2°.88N×127°.74E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/33, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=95.4km s-min=22.2km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.12**	**137**	Pn	Pn	15 49 17.8	-0.5
	0.7nm,0.3s,baz=250,slow=23,SNR=6.7						
SIJI				Sn	Sn	15 50 11.9	-6.2
	baz=202,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**23.58**	**164**	P	P	15 53 12.9	+0.2
	0.5nm,0.4s,baz=343,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**27.05**	**168**	P	P	15 53 44.4	-0.2
	0.2nm,0.6s,baz=351,slow=7.7,SNR=7.7						
STKA	**Stephens Creek**	**36.98**	**160**	P	P	15 55 11.2	-0.3
	1.7nm,0.9s,baz=331,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**58.83**	**325**	P	P	15 58 00.8	+0.2
	0.2nm,0.5s,baz=130,slow=7.5,SNR=2.9						

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*IDC **11** 16:12:35.6±1.1, 37°.33N×144°.61E, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.5/39, mbtmp3.6/8, ML2.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/41, Error ellipse: s-maj=31.1km s-min=20.7km az=97.0*
*ISCJB **11** 16:12:38.5±0.5, 37°.50N±0°.04×144°.41E±0°.04, h33km, mb3.6/4, Error ellipse: s-maj=6.0km s-min=4.9km az=4.1*
*JMA **11** 16:12:39.7±0.2, 37°.56N×144°.34E, h45km, M3.5*
*NEIC **11** 16:12:40.8±1.2, 37°.46N±0°.08×144°.5E±0°.1, h41km±10km, mb4.8/8*

ISC 11 16:12:40.7±0.8, 37°.55N±0°.06×144°.43E±0°.07, h35km, n34, σ1§36/44, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.47**	**289**	P	**Pn**	**16 13 17.8**	**-0.6**
JIKH				*e*S	**Sn**	**16 13 45.6**	**-1.6**
JIO	**Ouri**	**2.60**	**291**	P	**Pn**	**16 13 19.6**	**-0.6**
JIO				*e*S	**Sn**	**16 13 49.4**	**-1.1**
JKMT	**Kesennumamotoy**	**2.65**	**299**	P	**Pn**	**16 13 20.3**	**-0.6**
JKMT				S	**Sn**	**16 13 50.5**	**-1.3**
OFUJ	**Ofunato**	**2.66**	**306**	P	**Pn**	**16 13 20.8**	**-0.2**
OFUJ				*e*S	**Sn**	**16 13 51.0**	**-0.9**
JMK	**Ichinoseki**	**2.89**	**300**	P	**Pn**	**16 13 24.0**	**-0.2**
JMK				*e*S	**Sn**	**16 13 56.5**	**-1.2**
JOM	**Ohasama**	**3.12**	**309**	P	**Pn**	**16 13 27.4**	**0.0**
JOM				S	**Sn**	**16 14 03.0**	**-0.4**
JFT	**Otama**	**3.26**	**271**	P	**Pn**	**16 13 29.3**	**0.0**
JFT				S	**Sn**	**16 14 06.2**	**-0.6**
JYK	**Kaneyama**	**3.49**	**294**	P	**Pn**	**16 13 32.9**	**+0.5**
JYK				S	**Sn**	**16 14 13.1**	**+0.7**
ERM	**Erimo**	**4.56**	**348**	Pn	**Pn**	**16 13 49.5**	**+2.3**
JRY	**Ryogami san**	**4.70**	**253**	P	**Pn**	**16 13 48.1**	**-1.0**
JRY				*e*S	**Sn**	**16 14 39.1**	**-3.3**
MJAR	**Matsushiro Arr**	**5.08**	**260**	Pn	**Pn**	**16 13 54.8**	**+0.4**
	0.4nm,0.3s,baz=89,slow=15,SNR=18						
MJAR				Sn	**Sn**	**16 14 51.5**	**-0.3**
	0.1nm,0.3s,baz=86,slow=24,SNR=4.0						
MJAR	**Matsushiro Arr**	**5.08**	**260**		**Pn**	**16 13 54.9**	**+0.6**
MAJO	**Matsushiro**	**5.08**	**260**	Pn	**Pn**	**16 13 55.4**	**+1.0**
MJB9	**Matsu-Tunnel**	**5.08**	**260**	Pn	**Pn**	**16 13 55.2**	**+0.8**
JCH	**Churui**	**5.12**	**351**	P	**Pn**	**16 13 53.9**	**-1.0**
JCH				S	**Sn**	**16 14 48.5**	**-4.2**
INU	**Inuyama**	**6.37**	**252**	Pn	**Pn**	**16 14 11.9**	**-0.1**
JKA	**Kamikawa-asahi**	**6.70**	**349**		**Pn**	**16 14 18.1**	**+1.5**
JKA					**Sn**	**16 15 29.8**	**-1.9**
ASAJ	**Asahikawa**	**6.70**	**349**	Pn	**Pn**	**16 14 18.1**	**+1.5**
	0.4nm,0.3s,baz=183,slow=17,SNR=4.4						
ASAJ				Sn	**Sn**	**16 15 29.8**	**-1.9**
	0.2nm,0.3s,baz=286,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**11.52**	**309**	Pn	**Pn**	**16 15 23.9**	**+1.3**
	baz=118,slow=15,SNR=2.3						
USRK				LR	LR	16 19 60.0	
	comp=Z,36nm,21.5s,baz=193,slow=38						
JOW	**Kunigami**	**17.33**	**237**		**Pn**	**16 16 39.9**	**+0.1**
JOW				IAmb	IAmb	16 17 30.6	
	comp=Z,142nm,1.9s						
PEA0B	**Petropavlovsk-**	**18.09**	**26**		**Pn**	**16 16 48.5**	**-0.5**
PETK	**Petropavlovsk-**	**18.09**	**26**	P	**P**	**16 16 51.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=226,slow=9.8,SNR=3.4						
PETK	**Petropavlovsk-**	**18.09**	**26**	P	**P**	**16 16 49.1**	**0.0**
YAK	**Yakutsk**	**26.16**	**344**	P	**P**	**16 18 11.4**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**26.42**	**126**	T	T	16 44 53.0	
	baz=317,slow=79						
H11N1	**WAKE ISLAND Hy**	**26.43**	**126**	T	T	16 44 53.9	
	baz=317,slow=79						
H11N3	**WAKE ISLAND Hy**	**26.44**	**126**	T	T	16 44 55.3	
	baz=317,slow=79						
CHGN	**Chignik**	**41.91**	**45**	P	**P**	**16 20 26.6**	**-0.8**
KURBB	**Kurchatov Arra**	**47.58**	**308**	P	**P**	**16 21 14.9**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=79,slow=7.5,SNR=4.2						
ILAR	**Eielson Array**	**47.76**	**33**	P	**P**	**16 21 14.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=271,slow=6.8,SNR=5.3						
WB0	**Warramunga Arr**	**57.79**	**191**	P	**P**	**16 22 27.9**	**-0.5**
WR0	**Warramunga Arr**	**57.96**	**191**	P	**P**	**16 22 29.6**	**0.0**
WR0				IAmb	IAmb	16 23 00.6	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**57.97**	**191**	P	**P**	**16 22 28.5**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=14,slow=7.2,SNR=6.3						
ASAR	**Alice Springs**	**61.69**	**191**	P	**P**	**16 22 54.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=9.2,slow=8.0,SNR=7.6						

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*IDC **11** 16:15:33.7±1.9, 39°.51N×112°.46E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.1/44, mbtmp3.3/3, ML3.2/1, MS2.8/6, Ms1 2.8/6, ms1mx2.7/35, Error ellipse: s-maj=59.8km s-min=25.6km az=71.0*
*ISCJB **11** 16:15:34.2±0.6, 39°.33N±0°.04×112°.48E±0°.04, h10km, mb3.3/2, MS2.6/2, Error ellipse: s-maj=6.0km s-min=4.9km az=16.4*
*BJI **11** 16:15:38.2±0.0, 39°.28N×112°.40E, h15km, mb4.0/5, ML3.8/18, Ms3.8/7, Ms7 3.7/6*

ISC 11 16:15:38.8±0.7, 39°.37N±0°.04×112°.36E±0°.04, h10km, n17, σ2§12/21, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**1.60**	**338**	*e*Pg	**Pn**	**16 16 08.5**	**+1.2**
HHC				Sg	**Sb**	**16 16 30.5**	**+1.6**
HHC				smax	smax		
	comp=N,830nm,0.6s						
HHC				smax	smax		
	comp=E,710nm,0.6s						
BTO	**Baotou**	**2.18**	**305**	*e*Pn	**Pb**	**16 16 18.0**	**-0.4**
BTO				*e*Pg	**Pg**	**16 16 21.2**	**+0.6**
BTO				Sg	**Sb**	**16 16 48.0**	**+2.5**
BJI	**Beijing**	**3.02**	**76**	Pg	**Pb**	**16 16 31.4**	**-1.3**
BJI				Sg	**Sb**	**16 17 11.8**	**+2.2**
BJI				smax	smax		
	comp=N,220nm,1.0s						
BJI				smax	smax		
	comp=E,170nm,0.8s						
TIA	**Tai'an**	**4.92**	**128**	Pg	**Pb**	**16 17 04.4**	**-0.6**
TIA				Sg	**Sb**	**16 18 07.2**	**+3.1**
TIA				smax	smax		
	comp=N,150nm,0.7s						
TIA				smax	smax		
	comp=E,66nm,0.4s						
XAN	**Xi'an**	**5.99**	**208**	Pn	**Pn**	**16 17 05.7**	**-1.8**
XAN				Sn	**Sn**	**16 18 20.7**	**+4.5**
XAN				Sg	**Sb**	**16 18 36.4**	**+1.4**
XAN				smax	smax		
	comp=N,71nm,1.0s						
XAN				smax	smax		
	comp=E,58nm,0.9s						
XAN				LR	LR		
	comp=N,270nm,4.8s						
XAN				LR	LR		
	comp=E,380nm,5.5s						
XAN				LR	LR		
	comp=Z,250nm,5.5s						
XAN	**Xi'an**	**5.99**	**208**	P	**Sb**	**16 18 36.1**	**+1.0**
LZH	**Lanzhou**	**7.50**	**247**	*e*Pn	**Pn**	**16 17 28.3**	**0.0**
LZH				Pg	**Pb**	**16 17 51.8**	**+2.8**
LZH				Sn	**Sn**	**16 18 51.8**	**-1.7**
LZH				Sg	Sg	16 19 29.7	-10
LZH				smax	smax		
	comp=N,130nm,1.1s						
LZH				smax	smax		
	comp=E,91nm,0.9s						
LZH				LR	LR		
	comp=E,230nm,4.9s						
LZH				LR	LR		
	comp=Z,140nm,6.0s						
WHN	**Wuhan**	**8.95**	**169**	P	**Pn**	**16 17 46.0**	**-2.1**
SONM	**Songino Array**	**9.50**	**335**	Pn	Pn	16 17 50.6	-5.2
	0.2nm,0.3s,baz=154,slow=14,SNR=3.2						
SONM				Lg	Lg	16 20 31.9	
	0.4nm,0.3s,baz=147,slow=33,SNR=4.1						
SONM				LR	LR	16 21 53.9	
	comp=Z,113nm,18.8s,baz=228,slow=40						
GTA	**Gaotai**	**9.71**	**274**	*e*P	**Pn**	**16 17 57.8**	**-0.9**
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GTA				smax	smax		
	comp=N,31nm,1.1s						
GTA				smax	smax		
	comp=E,31nm,1.3s						
KSRS	**Korea Array**	**12.36**	**94**	LR	LR	16 22 35.4	
	comp=Z,12nm,21.4s,baz=294,slow=34						
TLY	**Talaya**	**13.73**	**337**	LR	LR	16 24 52.1	
	comp=Z,53nm,19.5s,baz=144,slow=41						
KLR	**Kul'dur**	**16.98**	**48**	LR	LR	16 26 42.7	
	comp=Z,55nm,18.0s,baz=91,slow=40						
WMQ	**Urumqi**	**18.95**	**292**	*e*P	**P**	**16 19 59.6**	**-0.4**
MKAR	**Makanchi Array**	**23.08**	**299**	LR	LR	16 30 12.7	
	comp=Z,51nm,19.3s,baz=66,slow=38						
CMAR	**Chiang Mai Arr**	**23.86**	**213**	P	**P**	**16 20 50.5**	**-1.9**
	0.7nm,0.8s,baz=19,slow=10.0,SNR=8.1						
CMAR				LR	LR	16 31 30.9	
	comp=Z,10nm,21.9s,baz=155,slow=40						
ASAR	**Alice Springs**	**65.86**	**158**	P	**P**	**16 26 21.8**	**-2.8**
	0.3nm,0.6s,baz=345,slow=6.8,SNR=7.8						

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*ISCJB **11** 16:16:54.0±0.8, 31°.94S±0°.04×69°.52W±0°.04, h120km±7km, Error ellipse: s-maj=7.4km s-min=5.1km az=140.5*
*GUC **11** 16:16:54.6±0.6, 31°.84S×69°.64W, h14km±10km, ML3.5*
*SJA **11** 16:16:54.1±1.1, 31°.94S×69°.53W, h110km±5km, ML3.3, MW3.2*

ISC 11 16:16:53.6±1.5, 31°.95S±0°.04×69°.49W±0°.04, h125km±10km, n17, σ1§54/31, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.23**	**47**	*i* P	**Pn**	**16 17 11.0**	**-0.3**
RTLS				IAML		16 17 11.2	
	comp=Z,2μm,0.2s						
RTLS				*e*S	**Sn**	**16 17 23.2**	**-1.4**
ZON	**Zonda**	**0.80**	**60**	*i* P	**Pn**	**16 17 14.8**	**+0.5**
ZON				*e*S	**Sn**	**16 17 29.1**	**-0.9**
ZON				IAML		16 17 31.6	
	comp=Z,531nm,0.3s						
RTCV	**Cerro Valdivia**	**0.81**	**84**	*i* P	**Pn**	**16 17 15.1**	**+0.7**
RTCV				*e*S	**Sn**	**16 17 30.0**	**-0.2**
RTLL	**Cerro Villicun**	**1.07**	**55**	*e*P	**Pn**	**16 17 17.4**	**+0.6**
RTLL				*e*S	**Sn**	**16 17 34.3**	**+0.1**
RTLL				IAML		16 17 35.2	
	comp=Z,596nm,0.3s						
AMOG	**MOGNA**	**1.32**	**40**	*i* P	**Pn**	**16 17 20.4**	**+1.0**
AMOG				*e*S	**Sn**	**16 17 38.5**	**-0.6**
ACCO	**Cerro Coronel**	**1.41**	**15**	*i* P	**Pn**	**16 17 21.4**	**+0.7**
ACCO				*e*S	**Sn**	**16 17 41.8**	**+0.6**
PEL	**Peldehue**	**1.56**	**220**	*e*P	**Pn**	**16 17 22.2**	**+0.2**
PEL				*i* S	**Sn**	**16 17 43.7**	**0.0**
PEL				IAML		16 17 45.3	
	comp=N,529nm,0.2s						
PEL	**Peldehue**	**1.56**	**220**	*i* P	**Pn**	**16 17 22.9**	**+0.9**
PEL				*e*S	**Sn**	**16 17 44.8**	**+1.0**
ROCH	**El Roble**	**1.64**	**231**	*e*P	**Pn**	**16 17 23.5**	**+0.4**
ROCH				*i* S	**Sn**	**16 17 45.0**	**-0.7**
ROCH				IAML		16 17 47.0	
	comp=E,799nm,0.5s						
ROC1	**El Roble**	**1.64**	**231**	*e*P	**Pn**	**16 17 23.4**	**+0.2**
ROC1				*e*S	**Sn**	**16 17 45.3**	**-0.5**
AROD	**Rodeo**	**1.78**	**1**	*i* P	**Pn**	**16 17 26.4**	**+1.4**
AROD				*e*S	**Sn**	**16 17 49.8**	**+0.9**
ACAN	**Cantantal**	**1.98**	**100**	*i* P	**Pn**	**16 17 29.0**	**+1.9**
ACAN				*e*S	**Sn**	**16 17 53.4**	**+0.7**
GO04	**Tololo Observa**	**2.10**	**327**	⇑*i*P	**Pn**	**16 17 28.5**	**-0.3**
GO04				*i* S	**Sn**	**16 17 53.5**	**-2.1**
GO04				IAML		16 18 03.2	
	comp=N,1μm,0.4s						
MRA	**San Martin**	**3.23**	**99**	*i* P	**Pn**	**16 17 44.8**	**+1.6**
MRA				*e*S	**Sn**	**16 18 15.2**	**-6.3**
MRA				IAML		16 18 25.7	
	comp=Z,115nm,0.6s						
TCA	**Tanti**	**4.22**	**83**	*i* P	**Pn**	**16 17 57.3**	**+1.0**
TCA				IAML		16 17 58.6	
	comp=Z,23nm,0.2s						
CYA	**Choya**	**4.74**	**43**	*i* P	**Pn**	**16 18 03.4**	**+0.3**
CYA				IAML		16 19 01.6	
	comp=Z,9.9nm,0.3s						
AHML	**Horco Molle**	**6.30**	**36**	*i* P	**Pn**	**16 18 24.6**	**+0.5**
AHML				IAML		16 19 46.4	
	comp=Z,3.3nm,0.4s						

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*ISCJB **11** 16:27:17.8±0.7, 23°.7S±0°.1×178°.98W±0°.10, h600km, mb3.9/4, Error ellipse: s-maj=15.6km s-min=11.5km az=166.2*
*IDC **11** 16:27:17.7±12.0, 23°.73S×179°.01W, h566km±142km, mb3.2/4, mb1 3.3/5, mb1mx3.0/35, mbtmp4.2/5, Error ellipse: s-maj=221.5km s-min=75.4km az=66.0*
*NEIC **11** 16:27:19.1±1.1, 23°.7S±0°.2×178°.9W±0°.2, h605km±19km, mb4.7/16*

ISC 11 16:27:18.6±0.8, 23°.7S±0°.2×178°.9W±0°.1, h600km, n24, σ1§01/23, mb4.5/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**9.55**	**63**	P	**P**	**16 29 33.4**	**+0.4**
URZ	**Urewera**	**14.90**	**192**	P	**P**	**16 30 25.0**	**-0.7**
	0.6nm,0.3s,baz=322,slow=20,SNR=3.0						
URZ	**Urewera**	**14.90**	**192**	P	**P**	**16 30 24.8**	**-0.9**
QRZ	**Quartz Range**	**18.53**	**201**	P	**P**	**16 30 59.3**	**+0.5**
LTZ	**Lake Taylor**	**20.39**	**199**	P	**P**	**16 31 16.3**	**+0.6**
LTZ				IAmb	IAmb	16 32 01.2	
	comp=Z,39nm,1.5s						
OXZ	**Oxford**	**20.95**	**199**	P	**P**	**16 31 22.2**	**+1.6**
OXZ				IAmb	IAmb	16 32 12.8	
	comp=Z,87nm,1.9s						
ARMA	**Armidale**	**27.02**	**249**	P	**P**	**16 32 14.4**	**-0.4**
EIDS	**Eidsvold**	**27.32**	**260**	P	**P**	**16 32 16.0**	**-1.3**
EIDS				IAmb	IAmb	16 32 55.2	
	comp=Z,31nm,1.9s						
CTA	**Charters Tower**	**32.47**	**270**	P	**P**	**16 33 01.8**	**+0.3**
	comp=Z,3.6nm,0.4s,baz=88,slow=11,SNR=15						
CTAO	**Charters Tower**	**32.47**	**270**	P	**P**	**16 33 01.9**	**+0.3**
CTAO				IAmb	IAmb	16 33 25.3	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**35.72**	**248**	P	**P**	**16 33 28.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=79,slow=10,SNR=2.8						
TAOE	**Nuku Hiva Isla**	**39.87**	**75**	P	**P**	**16 34 02.1**	**-0.3**
BBOO	**Buckleboo**	**40.44**	**247**	P	**P**	**16 34 06.4**	**-0.2**
BBOO				IAmb	IAmb	16 35 45.2	
	comp=Z,80nm,1.9s						
AS31	**Alice Springs**	**43.05**	**260**	P	**P**	**16 34 27.7**	**+0.4**
ASAR	**Alice Springs**	**43.05**	**260**	P	**P**	**16 34 27.6**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=98,slow=7.4,SNR=51						
ASAR	**Alice Springs**	**43.05**	**260**	P	**P**	**16 34 27.2**	**-0.1**
WB2	**Warramunga Arr**	**43.40**	**266**	P	**P**	**16 34 30.3**	**+0.2**
WB2				IAmb	IAmb	16 35 12.9	
	comp=Z,14nm,1.7s						
WRA	**Warramunga Arr**	**43.42**	**266**	P	**P**	**16 34 30.4**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=103,slow=8.2,SNR=48						
WRA	**Warramunga Arr**	**43.42**	**266**	IAmb	IAmb	16 34 30.9	
	comp=Z,0.2nm,0.6s						
FORT	**Forrest**	**47.31**	**249**	P	**P**	**16 34 59.7**	**+0.1**
FOR

CHOJ Chosi 0.49 322 ⇑P Pb 16 38 38.8 -1.3
CHOJ S Sb 16 38 45.5 -1.4
BSO1 Boso 1 0.69 198 P Pb 16 38 42.7 -0.4
JSMT Sammumatsuo 0.72 297 P Pb 16 38 43.0 -0.9
KTR Katsuura 0.77 258 P Pb 16 38 43.9 -0.8
KTR eS Sb 16 38 54.3 -0.4
BSO3 Boso 3 0.78 229 P Pb 16 38 44.1 -0.7
BSO4 Boso 4 0.80 246 ⇑P Pb 16 38 44.6 -0.6
JCN Nagara 0.85 277 P Pb 16 38 45.6 -0.5
JYT Yasato 1.24 318 P Pn 16 38 50.7 -1.1
JYT S Sn 16 39 06.8 -1.0
JHO Hitachi 1.40 338 P Pn 16 38 52.7 -1.3
JHJ2 Mitsune 2.49 208 Pn Pn 16 39 08.7 -0.3
JHJ Hachijo jima 2 2.50 209 Pn Pn 16 39 09.2 +0.1
66nm,0.3s,baz=347,slow=22,SNR=14
JHJ Sn Sn 16 39 33.3 -5.5
117nm,0.3s,baz=41,slow=20,SNR=5.4
MJA0 Matsu Arr-Jizo 2.71 298 eP Pn 16 39 13.6 +1.5
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 2.74 297 P Pn 16 39 13.9 +1.4
MJAR Matsushiro Arr 2.74 297 Pn Pn 16 39 13.1 +0.7
comp=Z,1.3nm,0.3s,baz=96,slow=9.2,SNR=60
MJAR LR LR 16 39 51.0
comp=Z,116nm,19.4s,baz=105,slow=33
MJAR Matsushiro Arr 2.74 297 Pn 16 39 13.9 +1.4
MAJO Matsushiro 2.74 297 d iP Pn 16 39 13.8 +1.3
MAJO Matsushiro 2.74 297 Pn 16 39 13.7 +1.2
MAT Matsushiro 2.74 297 P Pn 16 39 13.8 +1.3
MAT S Sn 16 39 47.3 +2.4
MJB9 Matsu-Tunnel 2.75 297 Pn 16 39 13.5 +1.0
INU Inuyama 3.44 272 Pn 16 39 23.3 +1.2
ERM Erimo 6.86 12 P Pn 16 40 08.1 -0.9
ERM Erimo 6.86 12 Pn Pn 16 40 08.1 -0.9
JCJ Chichijima 8.23 174 Pn Pn 16 40 29.2 +1.3
comp=Z,17nm,0.3s,baz=282,slow=20,SNR=3.4
JCJ Sn Sn 16 41 56.2 -4.0
comp=Z,12nm,0.3s,baz=22,slow=19,SNR=2.6
NMR Nemuro--Hokkai 8.76 22 eP Pn 16 40 31.7 -3.4
JNU Nakatsue 8.85 259 LR LR 16 43 51.2
comp=Z,123nm,21.8s,baz=85,slow=37
JKA Kamikawa-asahi 8.85 6 Pn 16 40 34.5 -1.9
JKA Sn 16 42 13.2 -2.1
ASAJ Asahikawa 8.85 6 Pn Pn 16 40 34.5 -1.9
comp=Z,1.4nm,0.3s,baz=235,slow=13,SNR=11
ASAJ Sn Sn 16 42 13.2 -2.1
comp=Z,0.2nm,0.3s,baz=105,slow=20,SNR=1.9
GRPR Tuman 9.35 21 eP Pn 16 40 41.4 -1.7
GRPR eS Sn 16 42 21.0 -6.4
KSRS Korea Array 10.94 285 Pn Pn 16 41 07.8 +2.9
comp=Z,0.1nm,0.3s,baz=94,slow=15,SNR=3.1
KSRS LR LR 16 45 32.4
comp=Z,422nm,18.6s,baz=89,slow=39
KSAR Wonju Array Be 10.97 285 P Pn 16 41 06.9 +1.6
KSAR Wonju Array Be 10.97 285 Pn Pn 16 41 06.9 +1.6
USRK Ussuriysk Ar. 11.36 324 Pn Pn 16 41 14.0 +3.3
baz=144,slow=12,SNR=2.9
USRK LR LR 16 45 17.7
comp=Z,271nm,20.8s,baz=137,slow=36
YSS Yuzh-Sakhalins 11.69 5 eP Pn 16 41 15.3 +0.2
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=N,1μm,15.0s
ZEA Zeya 20.87 336 eP P 16 43 10.2 +0.1
PETK Petropavlovsk- 21.26 28 P P 16 43 16.9 +2.6
comp=N,5.9nm,0.9s,baz=219,slow=11,SNR=3.1
PETK LR LR 16 53 05.5
comp=N,89nm,18.2s,baz=240,slow=41
MA2 Magadan 25.06 11⇓eP P 16 43 53.7 +1.5
MA2 pmax pmax
comp=Z,56nm,1.2s
H11N2 WAKE ISLAND Hy 27.44 118 T T 17 13 00.0
baz=310,slow=75,SNR=201
H11N1 WAKE ISLAND Hy 27.45 118 T T 17 13 06.6
baz=310,slow=75,SNR=216
H11N3 WAKE ISLAND Hy 27.46 118 T T 17 13 00.9
baz=310,slow=75,SNR=207
YAK Yakutsk 27.72 348 P P 16 44 17.2 +1.1
YAK pmax pmax
comp=Z,15nm,1.0s
YAK Yakutsk 27.72 348 P P 16 44 17.1 +1.1
comp=Z,1.8nm,0.3s,baz=193,slow=0.9,SNR=6.4
YAK Yakutsk 27.72 348 IAmb IAmb 16 44 19.4
comp=Z,15nm,1.0s
H11S1 WAKE ISLAND Hy 28.09 120 T T 17 13 50.0
baz=312,slow=75,SNR=1553
H11S3 WAKE ISLAND Hy 28.09 120 T T 17 13 47.2
baz=312,slow=75,SNR=1558
H11S2 WAKE ISLAND Hy 28.11 120 T T 17 13 48.1
baz=312,slow=75,SNR=1554
ULN Ulaanbaatar 28.23 307 i P P 16 44 21.2 +0.1
ULN pmax pmax
comp=Z,13nm,2.7s
SEY Seymchan 28.50 11 i P P 16 44 27.3 +4.2
SONM Songino Array 28.66 307 P P 16 44 24.7 -0.1
SONM pmax pmax
comp=Z,3.0nm,1.4s
SONM Songino Array 28.66 307 P P 16 44 24.7 -0.1
comp=Z,1.0nm,0.6s,baz=120,slow=8.8,SNR=3.7
SONM LR LR 16 56 10.7
comp=Z,106nm,18.8s,baz=150,slow=37
BILL Bilibino 35.72 16⇓eP P 16 45 27.4 +1.2
BILL pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 36.98 354⇑eP P 16 45 37.6 +0.7
TIXI pmax pmax
comp=Z,16nm,2.5s
TIXI Tiksi 36.98 354 P P 16 45 37.0 0.0
TIXI IAmb IAmb 16 45 38.8
comp=Z,5.2nm,0.8s
PBKT Sadao Pong 40.39 253 P P 16 46 04.3 -1.9
CMAR Chiang Mai Arr 40.94 257 P P 16 46 10.2 -0.5
comp=Z,0.3nm,0.6s,baz=53,slow=4.6,SNR=3.3
CMAR PcP PcP 16 48 12.7 +1.8
comp=Z,0.5nm,0.8s,baz=30,slow=3.2,SNR=5.5
CMAR LR LR 17 05 58.5
comp=Z,75nm,19.0s,baz=21,slow=40
DGZ Jazzator, Alta 41.30 307⇑eP P 16 46 13.6 +0.1
ZALV Zalesovo Beam 42.98 314 P P 16 46 26.8 -0.2
ZALV Zalesovo Beam 42.98 314 P P 16 46 27.3 +0.3
comp=Z,1.1nm,0.5s,baz=90,slow=8.9,SNR=4.4
ZALV Zalesovo Beam 42.98 314 P P 16 46 26.8 -0.2
MK31 Makanchi Array 44.92 304 P P 16 46 42.1 -0.7
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 44.92 304 P P 16 46 42.1 -0.7
MKAR Makanchi Array 44.92 304 P P 16 46 41.1 -1.7
MKAR Makanchi Array 44.92 304 P P 16 46 42.8 0.0
comp=Z,2.0nm,0.9s,baz=92,slow=8.7,SNR=11
MKAR LR LR 17 06 14.5
comp=Z,92nm,19.2s,baz=76,slow=37
MKAR Makanchi Array 44.92 304 P P 16 46 41.1 -1.7
MAKZ Makanchi 45.14 304 P P 16 46 43.8 -0.7
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 45.14 304 P P 16 46 43.8 -0.7
KURK Kurchatov 46.89 309⇑eP P 16 46 58.0 -0.1
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 46.89 309 P P 16 46 57.8 -0.4
KURK IAmb IAmb 16 46 59.2
comp=Z,5.1nm,0.8s
TTA Tatalina 46.92 34 P P 16 46 57.3 -1.0
TTA pmax pmax
comp=Z,40nm,1.9s
TTA Tatalina 46.92 34 P P 16 46 57.4 -1.0
ILAR Eielson Array 51.03 32 P P 16 47 31.1 +1.4
comp=Z,1.0nm,0.8s,baz=266,slow=6.3,SNR=10
BRVK Borovoye 51.69 313⇑eP P 16 47 34.9 +0.1
BRVK pmax pmax
comp=Z,1.0nm,0.8s
MESA MESA 53.73 37 P P 16 47 50.1 +0.1
KKAR Karatay Array 53.87 301 P P 16 47 50.7 -0.4
KKAR pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 53.87 301 P P 16 47 50.6 -0.4
KKAR Karatay Array 53.87 301 P P 16 47 51.5 +0.4
KKAR IAmb IAmb 16 47 52.8
comp=Z,5.3nm,1.1s
NIL Nilore 55.03 289 P P 16 47 59.3 -0.4
NIL pmax pmax
comp=Z,8.0nm,1.0s
NIL Nilore 55.03 289 P P 16 47 59.3 -0.4
NIL IAmb IAmb 16 48 00.8
comp=Z,8.2nm,0.9s
EPYK Eagle Plains 55.09 29 P P 16 48 01.4 +1.7
FITZ Fitzroy Crossi 55.14 198 P P 16 48 00.7 +0.3
FITZ IAmb IAmb 16 48 11.8
comp=Z,17nm,1.6s
WB0 Warramunga Arr 55.16 188 P P 16 48 00.2 -0.4
WB0 IAmb IAmb 16 48 01.1
comp=Z,12nm,0.9s
WRAB Tennant Creek 55.33 188 c iP P 16 48 01.7 -0.1
WRAB pmax pmax
comp=Z,13nm,1.0s
WR0 Warramunga Arr 55.34 188 P P 16 48 01.3 -0.5
WB2 Warramunga Arr 55.34 188 P P 16 48 01.6 -0.2
WRA Warramunga Arr 55.34 188 P P 16 48 00.8 -1.0
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 55.34 188 P P 16 48 01.4 -0.5
comp=Z,12nm,0.9s,baz=4.7,slow=7.6,SNR=54
WRA Warramunga Arr 55.34 188 P P 16 48 00.8 -1.0
ARU Arti 57.56 319 c iP P 16 48 16.7 -0.6
ARU 16 50 23.6
ARU S S 16 56 11.2 -2.2
ARU SS SS 16 59 57.7 -5.2
ARU pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 58.94 311 P P 16 48 26.7 -0.4
ABKAR IAmb IAmb 16 49 01.9
comp=Z,9.3nm,1.7s
ASAR Alice Springs 59.07 188 P P 16 48 27.9 -0.3
comp=Z,4.2nm,1.2s,baz=22,slow=11,SNR=20
ASAR Alice Springs 59.07 188 P P 16 48 28.2 0.0
FINES FINESS Array B 70.27 332 P P 16 49 41.0 +0.2
FINES FINESS Array B 70.27 332 P P 16 49 41.2 +0.4
comp=Z,2.5nm,0.7s,baz=11,slow=3.9,SNR=4.3
FINES LR LR 17 20 51.9
comp=Z,25nm,21.8s,baz=305,slow=36
FINES FINESS Array B 70.27 332 P P 16 49 41.0 +0.2
WSAR Wadi Sarin 71.18 285 LR LR 17 23 16.6
comp=Z,21nm,20.9s,baz=25,slow=38
KBZ Khabaz 71.91 311 eP P 16 49 50.9 -0.2
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 71.91 311 P P 16 49 51.9 +0.9
comp=Z,3.6nm,0.9s,baz=0.5,slow=2.0,SNR=6.8
KIV Kislovodsk 71.92 311 eP P 16 49 51.0 -0.3
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,143nm,18.0s
GNI Garni 72.62 307⇓eP P 16 49 57.5 +1.9
GNI pmax pmax
comp=Z,15nm,0.9s
AKASG Malin Array Be 75.57 322 eP P 16 50 11.3 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 75.57 322 P P 16 50 11.7 -0.7
comp=Z,1.1nm,0.6s,baz=49,slow=5.7,SNR=6.7
AKASG Malin Array Be 75.57 322 P P 16 50 11.4 -0.9
NOA NORSAR Array B 75.71 337 P P 16 50 13.4 +0.3
comp=Z,2.0nm,0.9s,baz=39,slow=5.7,SNR=3.7
NVAR Mina Array Bea 76.14 53 P P 16 50 18.4 +2.1
comp=Z,0.7nm,0.7s,baz=291,slow=4.9,SNR=5.3
NVAR Mina Array Bea 76.14 53 P P 16 50 17.7 +1.5
PDAR Pinedale Array 78.98 45 P P 16 50 33.9 +1.9
comp=Z,0.4nm,0.6s,baz=300,slow=2.9,SNR=4.0
PDAR Pinedale Array 78.98 45 P P 16 50 33.1 +1.1
BRTR Keskin Array B 79.88 312 P P 16 50 37.5 +0.6
BRTR Keskin Array B 79.88 312 P P 16 50 37.9 +1.0
comp=Z,1.4nm,0.9s,baz=119,slow=4.4,SNR=6.6
BRTR Keskin Array B 79.88 312 P P 16 50 37.5 +0.6
PFO Pinyon Flats O 80.12 56 i P P 16 50 41.5 +3.2
CLL Collm 82.51 330 eP P 16 50 51.0 +0.6
CLL Collm 82.51 330 eP P 16 50 51.0 +0.6
GERES GERESS Array B 84.09 328 P P 16 50 57.6 -1.1
GERES GERESS Array B 84.09 328 P P 16 50 58.0 -0.8
comp=Z,0.8nm,0.7s,baz=59,slow=5.1,SNR=5.0
GERES GERESS Array B 84.09 328 P P 16 50 57.6 -1.1
ANMO Albuquerque 85.81 50⇓iP P 16 51 10.5 +2.7
ANMO pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 91.29 52 P P 16 51 35.3 +1.5
TXAR Lajitas Array 91.29 52 P P 16 51 35.6 +1.8
comp=Z,1.1nm,1.0s,baz=284,slow=4.7,SNR=7.4
TXAR Lajitas Array 91.29 52 P P 16 51 35.3 +1.5
LPAZ La Paz 147.66 62 PKPbc PKiKP 16 58 15.2 -0.6
comp=Z,2.3nm,0.8s,baz=347,slow=2.6,SNR=7.6

IDC 11 16:42:25.6±2.9, 6°.81S×155°.30E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/26, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=64.0km s-min=42.7km az=94.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.09**	**307**	Pn	Pn	16 43 30.8	+1.3
	1.6nm,0.3s,baz=184,slow=2.5,SNR=14						
KRVT				Sn	Sn	16 44 13.4	-4.8
	2.4nm,0.3s,baz=165,slow=20,SNR=5.0						
KRVT				Lg	Lg	16 44 29.8	
	5.1nm,0.3s,baz=180,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**24.17**	**235**	P	P	16 47 43.7	-0.2
	0.4nm,0.5s,baz=57,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**26.52**	**229**	P	P	16 48 05.2	0.0
	0.4nm,0.9s,baz=56,slow=9.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**153.27**	**286**	PKPbc	PKPbc	17 02 26.4	-0.3
	0.5nm,0.7s,baz=79,slow=3.7,SNR=2.7						

*SJA **11** 16:52:59.7±0.8, 33°.96S×70°.36W, h138km±12km, ML3.0, MW3.2*
*ISCJB **11** 16:53:00.5±0.9, 33°.97S±0°.06×70°.33W±0°.08, h129km±6km, Error ellipse: s-maj=12.2km s-min=8.9km az=38.7*
*GUC **11** 16:53:01.4±0.6, 33°.97S×70°.33W, h130km±2km, ML3.6*

ISC 11 16:53:01.1±1.7, 33°.98S±0°.06×70°.32W±0°.07, h125km±10km, n18, σ0°.88/29, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.16**	**35**	eP	Pn	16 53 18.4	-0.1
LMEL				i S	Sn	16 53 31.4	-0.1
LMEL				IAML		16 53 35.2	
	comp=N,2μm,0.4s						
ANTU	**Antumapu**	**0.49**	**327**	eP	Pn	16 53 21.0	+1.4
ANTU				i S	Sn	16 53 35.0	+1.4
ANTU				IAML		16 53 36.4	
	comp=E,2μm,0.6s						
FSR	**Penalolen**	**0.53**	**340**	eP	Pn	16 53 16.8	-3.1
FSR				eS	Sn	16 53 32.5	-1.5
CLCH	**Cerro Calan**	**0.61**	**342**⇑	iP	Pn	16 53 20.6	+0.2
CLCH				i S	Sn	16 53 34.9	-0.1
CLCH				IAML		16 53 37.9	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**0.65**	**2**	eP	Pn	16 53 21.5	+0.5
FCH				i S	Sn	16 53 36.6	+0.6
FCH				IAML		16 53 38.8	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**0.89**	**340**⇑	iP	Pn	16 53 22.9	+0.3
PEL				i S	Sn	16 53 38.8	-0.1
PEL				IAML		16 53 40.3	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**1.16**	**329**	eP	Pn	16 53 25.6	+0.1
ROC1				eS	Sn	16 53 44.3	+0.4
ROCH	**El Roble**	**1.16**	**330**⇓	iP	Pn	16 53 25.7	+0.2
ROCH				i S	Sn	16 53 43.9	0.0
ROCH				IAML		16 53 46.0	
	comp=N,1μm,0.5s						
VA01	**Torpederas**	**1.47**	**310**	eP	Pn	16 53 28.6	+0.1
VA01				i S	Sn	16 53 48.7	-0.6
VA01				IAML		16 53 53.2	
	comp=E,969nm,0.1s						
GO05	**Huala**	**1.68**	**232**⇑	iP	Pn	16 53 31.1	+0.1
GO05				i S	Sn	16 53 53.7	-0.1
GO05				IAML		16 53 55.3	
	comp=E,604nm,0.5s						
GO05	**Huala**	**1.68**	**232**	eP	Pn	16 53 31.1	+0.1
GO05				eS	Sn	16 53 54.0	+0.2
RTLS	**Leoncito**	**2.34**	**22**	eP	Pn	16 53 40.6	+1.2
ZON	**Zonda**	**2.79**	**30**	eP	Pn	16 53 45.0	+0.1
RTLL	**Cerro Villicun**	**3.06**	**31**	eP	Pn	16 53 48.4	-0.1
RTLL				IAML		16 54 31.4	
	comp=Z,26nm,0.3s						
ACAN	**Cantantal**	**3.13**	**58**	eP	Pn	16 53 49.1	-0.2
AMOG	**MOGNA**	**3.40**	**27**	eP	Pn	16 53 52.6	-0.3
AMOG				IAML		16 54 36.0
	comp=Z,39nm,0.4s						
ACCO	**Cerro Coronel**	**3.54**	**18**	eP	Pn	16 53 55.3	+0.2
ACCO				IAML		16 54 39.0
	comp=Z,32nm,0.3s						
GO04	**Tololo Observa**	**3.82**	**354**	eP	Pn	16 53 57.9	-0.7

IDC 11 17:06:29.3±1.0, 56°.36S×151°.11W, h0km, mb4.0/4, mb1 4.2/4, mb1mx4.0/24, mbtmp4.0/4, Error ellipse: s-maj=44.6km s-min=29.1km az=11.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.79**	**180**	P	P	17 13 12.7	+0.1
	3.1nm,1.0s,baz=54,slow=6.3,SNR=4.9						
ASAR	**Alice Springs**	**62.37**	**268**	P	P	17 16 53.5	-0.1
	1.2nm,0.8s,baz=140,slow=6.3,SNR=12						
H01W1	**Cape Leeuwin H**	**64.19**	**246**	T	T	18 27 08.8	
	baz=142,slow=76,SNR=7.0						
H01W2	**Cape Leeuwin H**	**64.20**	**245**	T	T	18 27 09.6	
	baz=142,slow=76,SNR=5.6						
H01W3	**Cape Leeuwin H**	**64.21**	**245**	T	T	18 27 09.9	
	baz=142,slow=76,SNR=6.3						
WRA	**Warramunga Arr**	**65.09**	**271**	P	P	17 17 12.0	+0.4
	0.5nm,0.8s,baz=150,slow=5.5,SNR=2.8						
LPAZ	**La Paz**	**72.73**	**93**	P	P	17 17 59.8	-0.1
	1.0nm,0.3s,baz=201,slow=4.9,SNR=4.7						
H10S3	**ASCENSION HYDR**	**105.67**	**135**	T	T	19 18 50.3	
	baz=204,slow=74,SNR=3.7						
H10S2	**ASCENSION HYDR**	**105.67**	**135**	T	T	19 18 58.1	
	baz=16,slow=74,SNR=5.2						
H10N3	**ASCENSION HYDR**	**106.75**	**135**	T	T	19 20 16.9	
	baz=204,slow=75,SNR=9.4						
H10N1	**ASCENSION HYDR**	**106.75**	**135**	T	T	19 20 17.9	
	baz=204,slow=75,SNR=8.3						
H10N2	**ASCENSION HYDR**	**106.76**	**135**	T	T	19 20 18.5	
	baz=204,slow=75,SNR=7.2						
ILAR	**Eielson Array**	**120.85**	**2**	PKP	PKiKP	17 25 22.9	+0.9
	0.7nm,0.9s,baz=281,slow=1.3,SNR=5.1						
MKAR	**Makanchi Array**	**146.27**	**277**	PKPbc	PKPbc	17 26 10.3	-0.5
	1.0nm,0.7s,baz=130,slow=3.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**148.69**	**290**	PKPbc	PKPdf	17 26 14.5	+1.1
	0.7nm,0.6s,baz=110,slow=5.6,SNR=4.2						

*NIED **11** 17:09:00, 30°.80N×130°.90E, h50km, Mw4.1 Best double couple: M0 1.52000×10^15 NP1:φs 339.00000°, δ58.00000°, λ155.00000°. NP2:φs 83.00000°, δ69.00000°, λ35.00000°.*
*ISCJB **11** 17:09:58.0±0.4, 30°.73N±0°.03×130°.95E±0°.06, h63km±2km, mb3.9/13, Error ellipse: s-maj=8.6km s-min=3.9km az=22.3*
*IDC **11** 17:09:60.0±1.3, 30°.76N×130°.86E, h62km±11km, mb3.6/12, mb1 3.6/17, mb1mx3.5/43, mbtmp3.8/17, MS3.3/4, Ms1 3.3/4, ms1mx2.8/31, Error ellipse: s-maj=20.8km s-min=8.3km az=101.0*
*JMA **11** 17:09:59.0±0.1, 30°.75N×130°.95E, h52km±1km, M3.9*
JMA Felt II J1.
*NEIC **11** 17:10:00.1±0.4, 30°.8N±0°.1×130°.97E±0°.07, h66km±9km, mb4.4/6*

ISC 11 17:09:59.0±0.7, 30°.74N±0°.04×130°.93E±0°.06, h53km±6km, n47, σ0°.91/57, mb4.1/15, 3C-9D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.10**	**152**⇑	P	Pn	17 10 06.8	-0.5
JTN				eS	Sn	17 10 13.0	-0.2
JMTN	**Minamitane**	**0.35**	**183**⇓	P	Pn	17 10 09.0	+0.1
JMTN				eS	Sn	17 10 16.8	+0.8
JTSR	**Tashiro 2**	**0.42**	**360**⇓	P	Pn	17 10 09.3	-0.4
JTSR				eS	Sn	17 10 17.6	+0.3
JYAK	**Yakushimahirau**	**0.62**	**215**⇓	P	Pn	17 10 12.1	+0.2
JYAK				eS	Sn	17 10 21.8	+0.6
JKC	**Kuchinoerabu**	**0.69**	**246**⇑	P	Pn	17 10 12.9	+0.1
JKC				S	Sn	17 10 23.3	+0.6
JNAR	**Kushima--Naru**	**0.83**	**21**⇓	P	Pn	17 10 14.9	+0.2
JNAR				eS	Sn	17 10 27.6	+1.5
JSU	**Suzuyama**	**0.86**	**332**⇓	P	Pn	17 10 14.8	-0.2
JSU				eS	Sn	17 10 26.8	+0.1
JNKG	**Nichinankitago**	**0.99**	**23**⇓	P	Pn	17 10 17.2	+0.5
JNKG				eS	Sn	17 10 31.4	+1.6
JTZ	**Takazaki**	**1.16**	**7**⇓	P	Pn	17 10 18.9	-0.1
JTZ				eS	Sn	17 10 34.3	+0.4
JNN	**Nakanoshima**	**1.28**	**226**⇓	P	Pn	17 10 20.9	+0.3
JNN				S	Sn	17 10 37.6	+0.9
JSJ	**Shimokoshiki**	**1.39**	**312**⇑	P	Pn	17 10 21.3	-0.8
JZO	**Okuchi**	**1.42**	**349**⇓	P	Pn	17 10 22.6	+0.1
JZO				S	Sn	17 10 40.7	+0.6
JTSN	**Tsuno**	**1.58**	**18**	P	Pn	17 10 24.4	-0.2
JNU	**Nakatsue**	**2.37**	**359**	P	Pn	17 10 36.7	+1.2
	25nm,0.3s,baz=165,slow=3.6,SNR=172						
JNU				S	Sn	17 11 04.8	+1.4
	28nm,0.3s,baz=194,slow=6.7,SNR=9.3						
JNU				LR	LR	17 11 52.0	
	comp=Z,226nm,19.5s,baz=214,slow=48						
JNU	**Nakatsue**	**2.37**	**359**		Pn	17 10 36.3	+0.8
JOW	**Kunigami**	**4.54**	**211**	P	Pn	17 11 07.0	+1.8
	0.6nm,0.3s,baz=123,slow=14,SNR=12						
JOW				S	Sn	17 11 56.5	-0.2
	0.3nm,0.3s,baz=231,slow=19,SNR=2.8						
INU	**Inuyama**	**6.87**	**46**		Pn	17 11 38.1	+1.0
KSRS	**Korea Array**	**7.14**	**340**	P	Pn	17 11 42.1	+1.3
	0.4nm,0.3s,baz=156,slow=14,SNR=4.7						
KSRS				LR	LR	17 14 42.3	
	comp=Z,78nm,18.6s,baz=165,slow=40						
MAT	**Matsushiro**	**8.38**	**44**	P	Pn	17 11 58.4	+0.5
MAT				S	Sn	17 13 28.1	-3.0
MJAR	**Matsushiro Arr**	**8.38**	**44**	P	Pn	17 11 58.2	+0.3
	0.2nm,0.3s,baz=241,slow=14,SNR=10						
MJAR	**Matsushiro Arr**	**8.38**	**44**		Pn	17 11 58.4	+0.5
KLR	**Kul'dur**	**18.48**	**2**	P	P	17 14 11.3	+0.9
	0.3nm,0.3s,baz=205,slow=8.1,SNR=4.9						
ENH	**Enshi**	**18.48**	**274**	P	Pn	17 14 11.6	+0.3
ENH				IAmb	IAmb	17 14 51.0	
	comp=Z,67nm,2.0s						
SONM	**Songino Array**	**25.36**	**319**	P	P	17 15 21.1	-0.1
	comp=Z,0.3nm,0.4s,baz=134,slow=10,SNR=3.9						
SONM				LR	LR	17 26 58.5	
	comp=Z,42nm,18.6s,baz=350,slow=40						
CMAR	**Chiang Mai Arr**	**31.43**	**255**	P	P	17 16 15.6	+0.2
	comp=Z,0.2nm,0.6s,baz=51,slow=7.1,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**34.20**	**100**	T	T	17 52 50.4	
	baz=296,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy**	**34.20**	**100**	T	T	17 52 50.8	
	baz=296,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**34.22**	**100**	T	T	17 52 51.2	
	baz=296,slow=75,SNR=22						
MKAR	**Makanchi Array**	**40.49**	**307**	P	P	17 17 32.8	+0.2
	comp=Z,0.4nm,0.5s,baz=92,slow=10,SNR=6.2						
KURK	**Kurchatov**	**43.34**	**313**	P	P	17 17 55.7	0.0
KURK				IAmb	IAmb	17 17 56.8	
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**43.38**	**313**	P	P	17 17 56.1	+0.1
	comp=Z,2.6nm,0.7s,baz=99,slow=9.0,SNR=12						
BVAR	**Borovoye Array**	**48.61**	**315**	P	P	17 18 37.2	0.0
	comp=Z,4.7nm,0.5s,baz=99,slow=9.5,SNR=40						
BRVK	**Borovoye**	**48.67**	**316**	P	P	17 18 37.7	+0.1
WRA	**Warramunga Arr**	**50.50**	**176**	P	P	17 18 51.7	-0.2
	comp=Z,0.2nm,0.5s,baz=354,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**50.50**	**176**	P	P	17 18 51.5	-0.3
ASAR	**Alice Springs**	**54.18**	**177**	P	P	17 19 20.6	+1.6
	comp=Z,0.3nm,0.6s,baz=10,slow=13,SNR=9.8						
ABKAR	**Akbulak array**	**55.38**	**311**	P	P	17 19 27.5	0.0
AKTO	**Aktyubinsk**	**56.44**	**313**	P	P	17 19 35.9	+0.8
	comp=Z,2.6nm,0.6s,baz=80,slow=11,SNR=10						
INK	**Inuvik**	**63.82**	**24**	P	P	17 20 25.6	+0.3
	comp=Z,0.5nm,0.6s,baz=45,slow=2.9,SNR=3.4						
KBZ	**Khabaz**	**68.17**	**309**	P	P	17 20 53.7	+0.1
	comp=Z,6.0nm,0.9s,baz=55,slow=2.2,SNR=10						
FINES	**FINESS Array B**	**70.12**	**330**	P	P	17 21 04.0	-1.4
	comp=Z,3.9nm,0.7s,baz=74,slow=5.9,SNR=18						
FINES	**FINESS Array B**	**70.12**	**330**	P	P	17 21 04.0	-1.4
RAYN	**Ar Rayn**	**74.64**	**288**	P	P	17 21 32.9	-0.2
RAYN				IAmb	IAmb	17 21 33.6	
	comp=Z,4.5nm,1.1s						
BR131	**Keskin Array S**	**76.14**	**308**	P	P	17 21 39.8	-1.7
BRTR	**Keskin Array B**	**76.14**	**308**	P	P	17 21 40.4	-1.2
	comp=Z,2.5nm,0.9s,baz=103,slow=5.6,SNR=12						
NOA	**NORSAR Array B**	**76.31**	**334**	P	P	17 21 40.3	-1.6
	comp=Z,0.5nm,0.6s,baz=49,slow=5.5,SNR=2.4						

GERES	GERESS Array B	83.01	324	LR		LR	18 01 37.0
	comp=Z,133nm,19.1s,baz=323,slow=37						

*ISCJB **11** 17:50:09.5±0.7, 37°.21N±0°.05×37°.28E±0°.04, h13km±5km, Error ellipse: s-maj=8.7km s-min=5.6km az=4.3*
*DDA **11** 17:50:09.1, 37°.17N×37°.29E, h7km±1km, ML2.8*
*ISK **11** 17:50:09.8, 37°.36N×37°.37E, h9km, ML2.2/6*
ISC 11 17:50:09.6±1.0, 37°.24N±0°.05×37°.29E±0°.03, h17km±8km, n16, σ0s57/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMN	Narli-Kahraman	0.19	325	PG	Pg	17 50 14.2	-0.1
KHMN				SG	Sg	17 50 17.3	-0.1
GZT	Gaziantep	0.25	61	*i* P	Pg	17 50 15.2	0.0
GZT				*i* S	Sb	17 50 19.5	-0.3
HCB	Kahramanmara	0.32	289	*i* P	Pg	17 50 16.6	+0.2
HCB				IAML_P			
	comp=Z,3μm,0.1s						
KMRS	Kahramanmaras	0.41	311	PG	Pg	17 50 18.1	+0.1
KMRS				SG	Sg	17 50 23.7	0.0
KUZU	Kuzuini	0.49	201	*i* P	Pb	17 50 20.0	+0.2
ANDN	Andirin	0.83	295	*i* P	Pg	17 50 26.0	+0.3
ATAB	Bozova	0.83	74	*i* P	Pn	17 50 26.5	-0.1
SURC	SANLIURFA_SURC	1.11	108	*i* P	Pb	17 50 30.1	-0.4
AKCD	Akcadag	1.17	25	*i* P	Pg	17 50 32.5	+0.3
AKCD				*i* S	Sg	17 50 48.9	+1.4
SAIM	ADANA	1.21	308	*i* P	Pn	17 50 31.0	-0.8
SAIM				IAML_P			
	comp=Z,544nm,0.2s						
URFA	Urfa	1.24	80	PN	Pn	17 50 32.2	0.0
URFA				SN	Sn	17 50 48.7	+0.2
DARE	Darende-Malaty	1.34	6	PN	Pn	17 50 33.8	+0.2
SANL	SANLIURFA_Merk	1.36	92	*i* P	Pg	17 50 35.3	-0.4
MALT	Malatya	1.40	40	PN	Pb	17 50 34.9	-0.5
SVRC	Sivrice-ELAZID	1.96	54	PN	Pn	17 50 41.4	-0.8
SVAN	Silvan-Diyarba	3.23	72	PN	Pn	17 51 00.7	+1.1

*SNET **11** 18:16:31.8±0.7, 13°.87N×90°.34W, h71km±5km, MD3.2, ML2.8*
*GCG **11** 18:16:31.6±0.4, 13°.61N×90°.36W, h61km±13km, MD3.4*
ISC 11 18:16:31.2±2.8, 13°.4N±0°.2×90°.41W±0°.07, h38km, n8, σ1s06/12, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.73	358	*e*P	Pn	18 16 45.1	-0.2
SBLS	San Blas	0.86	62	*e*P	Pn	18 16 47.3	+0.1
SBLS				*e*S	Sn	18 16 59.5	+0.8
RTR	El Retiro	0.87	58	*e*P	Pn	18 16 47.5	+0.3
SNJE	San Jose	0.89	61	*e*P	Pn	18 16 47.3	-0.1
FUG	Fuego 3	1.09	337	*e*P	Pn	18 16 49.5	-0.6
FUG				*e*S	Sn	18 17 03.7	-0.4
NBG	Las Nubes	1.15	3	*e*P	Pn	18 16 50.3	-0.7
NBG				*e*S	Sn	18 17 07.4	+1.8
MTO3	Montecristo	1.40	47	*i* P	Pn	18 16 52.3	-2.2
STG3	Santiaguito 3,	1.69	319	*e*P	Pn	18 16 58.4	-0.1
STG3				*e*S	Sn	18 17 19.6	+0.6

*ISCJB **11** 18:18:12.7±0.2, 60°.05N±0°.02×152°.62W±0°.03, h100km±1km, mb4.1/22, Error ellipse: s-maj=3.0km s-min=2.8km az=141.5*
*NEIC **11** 18:18:13.5±1.5, 60°.04N±0°.04×152°.68W±0°.09, h97km±1km*
*IDC **11** 18:18:13.9±1.5, 60°.06N×152°.73W, h95km±14km, mb3.9/18, mb1 4.1/23, mb1mx3.9/59, mbtmp4.3/23, MS2.9/4, Ms1 2.9/4, ms1mx2.6/58, Error ellipse: s-maj=16.2km s-min=10.1km az=12.0*
*AEIC **11** 18:18:14.8±1.7, 60°.02N±0°.04×152°.68W±0°.08, h90km±3km, ML4.0, Mwr4.1(NEIC)*
*NEIC **11** 18:18:14.8, 60°.02N×152°.68W, h85km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$-0.95; $M_{\phi\phi}$-0.03; $M_{r\theta}$-0.40; $M_{\theta\phi}$-0.19; $M_{\phi r}$1.37; Fault plane solution: $M_0$1.73000×10^{15} NP1:ϕ_s79.33000°, δ26.94000°, λ34.83000°. NP2:ϕ_s317.53000°, δ75.01000°, λ112.64000°. Principal axes: T 1.9975, Plg54.0000°, Azm255.0000°; N -0.9254, Plg22.0000°, Azm131.0000°; P -1.0721, Plg27.0000°, Azm30.0000°;*
ISC 11 18:18:14.0±0.6, 60°.04N±0°.03×152°.62W±0°.03, h96km±5km, n198, σ0s98/221, mb4.3/22, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	Iliamna Volcan	0.20	265		Pn	18 18 27.1	-0.7
IVE					Sn	18 18 37.4	-0.6
ILW	Iliamna West	0.26	275		Pn	18 18 27.3	-0.7
ILW					Sn	18 18 37.9	-0.7
RED	Redoubt Volcan	0.39	349		Pn	18 18 28.2	-0.5
RED					Sn	18 18 38.8	-0.9
RSO	Redoubt South	0.43	351		Pn	18 18 28.7	-0.4
RDWB	Redoubt West	0.47	346		Pn	18 18 28.3	-1.0
RDWB					Sn	18 18 39.6	-1.0
NCT	North Crescent	0.55	344		Pn	18 18 29.0	-0.8
NCT					Sn	18 18 40.6	-1.0
RDT	Redoubt	0.55	11		Pn	18 18 29.4	-0.4
DFR	Drift River	0.56	357		Pn	18 18 29.2	-0.6
DFR					Sn	18 18 41.1	-0.7
RDJH	Redoubt Jeurge	0.56	351		Pn	18 18 29.4	-0.5
HOM	Homer	0.62	127		Pn	18 18 30.6	+0.4
HOM				Sn	Sn	18 18 43.5	+1.1
AU22	Augustine Moun	0.77	210		Pn	18 18 31.1	-0.5
AU22					Sn	18 18 44.1	-0.6
AUP	Augustine Pinn	0.79	211		Pn	18 18 31.5	-0.4
AUQ	Augustine Qik'	0.79	211		Pn	18 18 31.5	-0.4
CNPM	China Poot	0.87	126		Pn	18 18 32.7	+0.1
CNPM				Sn	Sn	18 18 47.2	+0.5
BRLK	Bradley Lake	0.92	107		Pn	18 18 32.9	-0.3
BRSE	Bradley Lake S	0.99	107		Pn	18 18 33.8	-0.2
BRSE					Sn	18 18 49.3	+0.3
CAPN	Captain Cook N	1.03	44		Pn	18 18 36.2	+1.8
CKL	Chakachamna La	1.17	7		Pn	18 18 36.1	0.0
SPU	Mount Spurr	1.18	13	Pn	Pn	18 18 35.6	-0.6
CKT	Bend	1.19	10		Pn	18 18 36.2	-0.1
SPCR	Spurr Chakacha	1.19	10		Pn	18 18 36.2	-0.1
SPCR					Sn	18 18 53.0	0.0
SPBG	Spurr Blockage	1.23	6		Pn	18 18 36.9	+0.1
SPBG					Sn	18 18 54.1	+0.1
SPWE	Spurr West	1.24	1		Pn	18 18 37.2	+0.2
CRP	Crater Peak	1.26	10		Pn	18 18 37.3	+0.1
SLKM	Skilak Lake	1.29	67		Pn	18 18 37.1	-0.2
SLKM					Sn	18 18 55.1	+0.1
SPCG	Spurr Capps Gl	1.29	13		Pn	18 18 37.6	+0.1
SPCG					Sn	18 18 55.3	-0.1
CGLM	Capps Glacier	1.31	13		Pn	18 18 37.9	+0.2
SPNN	North Nagishla	1.34	358		Pn	18 18 38.1	0.0
SPNN					Sn	18 18 56.3	0.0
SEW	Seward	1.59	86		Pn	18 18 40.8	-0.3
SEW				Sn	Sn	18 19 01.1	-0.5
SUA	Susitna One	1.70	32	Pn	Pn	18 18 40.8	-1.8
SUA	Susitna One	1.70	32		Sn	18 19 05.4	+1.0
RC01	Rabbit Creek A	1.77	52		Pn	18 18 43.2	-0.1
RC01	Rabbit Creek A	1.77	52		Sn	18 19 06.9	+0.1
SVW2	Sparrevohn	1.81	307	Pn	Pn	18 18 43.0	-0.9
SKT	Skwentna	2.02	15		Pn	18 18 46.7	+0.1
KAKN	Katmai Knife C	2.15	217		Pn	18 18 48.0	-0.3
KABU	Katmai Buttres	2.24	219		Pn	18 18 49.5	-0.1
KDAK	Kodiak Island	2.26	180	P	Pn	18 18 48.5	-1.2
	84nm,0.3s,baz=30,slow=9.2,SNR=284						
KDAK				S	Sn	18 19 15.4	-1.6
	57nm,0.3s,baz=285,slow=20,SNR=23						
KDAK				LR	LR	18 19 20.3	
	comp=Z,26nm,20.2s,baz=302,slow=29						
PMR	Palmer	2.31	46		Pn	18 18 50.1	-0.3
ANCK	Angle Creek	2.37	220		Pn	18 18 51.1	-0.1
KNK	Knik Glacier	2.47	54		Pn	18 18 52.1	-0.3
KNK				Sn	Sn	18 19 20.5	-1.5
GHO	Glory Hole Cre	2.51	44		Pn	18 18 52.9	-0.2
GHO				Sn	Sn	18 19 22.0	-1.1
SML	Sawmill	2.75	48		Pn	18 18 56.0	-0.2
SML	Sawmill	2.75	48		Sn	18 19 26.8	-1.8
OHAK	Old Harbor	2.84	187		Pn	18 18 55.8	-1.6
GLI	Glacier Island	2.86	70		Pn	18 18 55.9	-1.8
PPLA	Purkeypile	2.88	4		Pn	18 18 59.2	+1.2
HIN	Hinchinbrook I	3.08	81		Pn	18 18 59.1	-1.5
FID	Port Fidalgo	3.13	74		Pn	18 18 59.3	-2.0
JPK	Jack Peak	3.15	68		Pn	18 19 00.4	-1.2
SCM	Sheep Creek Mo	3.15	53		Pn	18 19 01.3	-0.3
HUR	Hurricane	3.28	25		Pn	18 19 04.5	+1.3
TT01	Tatalina	3.31	332		Pn	18 19 03.1	-0.5
TTA	Tatalina	3.33	332		Pn	18 19 03.2	-0.8
CAST	Castle Rocks	3.41	4	Pn	Pn	18 19 04.9	-0.1
WAT1	Susitna Watana	3.42	33		Pn	18 19 05.0	-0.2
EYAK	Cordova Ski Ar	3.46	78		Pn	18 19 04.5	-1.2
WAT2	Susitna Watana	3.52	32		Pn	18 19 06.6	0.0
SII	Sitkinak Islan	3.58	194		Pn	18 19 05.9	-1.5
TRF	Thorofare Moun	3.60	17		Pn	18 19 07.6	-0.2
KTH	Kantishna Hill	3.62	12		Pn	18 19 07.9	0.0
RND	Reindeer	3.83	26	Pn	Pn	18 19 11.2	+0.5
CHUM	Lake Minchumin	3.86	2		Pn	18 19 11.4	+0.3
DHY	Denali Highway	3.95	37		Pn	18 19 12.4	0.0
RAGM	Ragged Mountai	3.98	81	Pn	Pn	18 19 12.9	+0.2
PS11	TAPS Pump St11	4.03	56		Pn	18 19 13.4	0.0
MCK	McKinley	4.10	24		Pn	18 19 14.7	+0.4
BPAW	Bear Paw Mtn.	4.15	10		Pn	18 19 14.3	-0.8
BWN	Browne	4.41	18		Pn	18 19 18.4	-0.1
PAX	Paxson	4.51	46		Pn	18 19 20.1	+0.1
CHIR	Chirikof Islan	4.52	202	Pn	Pn	18 19 18.3	-1.7
GLB	Gilahina Butte	4.55	68		Pn	18 19 19.4	-1.0
VRDI	Verde Repeater	4.67	71		Pn	18 19 21.0	-1.3
PS10	TAPS Pump St10	4.71	41		Pn	18 19 23.8	+1.2
CRQM	Cirque	4.76	77		Pn	18 19 23.6	+0.2
CHGN	Chignik	4.84	222	Pn	Pn	18 19 24.3	0.0
NEA	Nenana	4.85	18	Pn	Pn	18 19 24.5	+0.1
MCARA	McCarthy VSAT	4.90	70		Pn	18 19 24.6	-0.6
TGL	Tana Glacier	4.91	77		Pn	18 19 25.5	+0.1
WRH	Wood River Hil	4.93	23		Pn	18 19 24.6	-0.9
MLY	Manley	5.09	9		Pn	18 19 27.0	-0.7
HDA	Harding Lake	5.13	29	Pn	Pn	18 19 28.3	+0.1
PTPK	Patty Peak	5.13	73		Pn	18 19 27.9	-0.6
CCB	Clear Creek Bu	5.14	24		Pn	18 19 27.4	-1.0
KIAG	Kiagna River	5.15	76		Pn	18 19 27.4	-1.3
MENT	Mentasta	5.16	52		Pn	18 19 28.1	-0.6
BALM	Baldy	5.17	74		Pn	18 19 27.7	-1.2
PS08	TAPS Pump Stn8	5.27	28		Pn	18 19 30.0	-0.2
TCOL	CIGO, UAF Yank	5.33	22		Pn	18 19 31.2	+0.2
COLA	College	5.33	22		Pn	18 19 30.6	-0.4
MDM	Murphy Dome	5.34	20		Pn	18 19 31.1	-0.1
DOT	Dot Lake	5.43	45		Pn	18 19 32.1	-0.3
GRNC	Granite Creek	5.44	78		Pn	18 19 31.7	-1.0
IL31		5.45	27		Pn	18 19 32.0	-0.5
ILAR	Eielson Array	5.45	27	P	Pn	18 19 31.9	-0.6
	22nm,0.3s,baz=209,slow=13,SNR=640						
ILAR				S	Sn	18 20 31.5	-2.3
	11nm,0.3s,baz=205,slow=25,SNR=6.0						
ILAR	Eielson Array	5.45	27		Pn	18 19 31.6	-0.9
BARN	Barnard Glacie	5.51	75	Pn	Pn	18 19 33.9	+0.3
CTGM	Chitina Glacie	5.66	76		Pn	18 19 36.1	+0.6
SCRK	Sand Creek	5.67	42		Pn	18 19 35.0	-0.7
SAMH	Samovar Hills	5.93	84		Pn	18 19 39.6	+0.5
IM03		5.99	356		Pn	18 19 39.9	0.0
IMAR	Indian Mountai	5.99	356		Pn	18 19 39.9	-0.1
BC03		6.00	55		Pn	18 19 39.8	-0.3
BCAR	Beaver Creek A	6.00	55		Pn	18 19 38.9	-1.3
YUK2	White River	6.01	68		Pn	18 19 40.0	-0.2
BVCY	Beaver Creek	6.16	62		Pn	18 19 42.6	+0.3
YUK3	Moose Creek	6.18	68		Pn	18 19 42.4	-0.4
BCPM	Bancas Point	6.52	85		Pn	18 19 47.0	-0.2
YKU2	Yakutat	6.56	89	Pn	Pn	18 19 48.4	+0.7
PNL	Peninsula	6.67	87		Pn	18 19 47.8	-1.4
PS05	TAPS Pump Stn5	6.86	7		Pn	18 19 51.5	-0.2
YUK6	Outpost Mounta	7.10	76		Pn	18 19 55.0	-0.2
EGAK	Eagle	7.13	43		Pn	18 19 54.6	-0.9
COLD	Coldfoot	7.30	7		Pn	18 19 57.9	+0.2
DHAK	Deception Hill	7.38	91		Pn	18 19 59.0	+0.1
DAWY	Dawson	7.41	51		Pn	18 19 58.8	-0.5
HYT	Haines Junctio	7.52	77		Pn	18 20 01.0	+0.1
BM03	Burnt Mountain	8.21	22		Pn	18 20 08.5	-1.6
BMAR	Burnt Mountain	8.22	22		Pn	18 20 08.8	-1.5
TOLK	Toolik Lake Re	8.74	7		Pn	18 20 18.6	+1.3
SKAG	Skagway	8.75	86		Pn	18 20 17.7	+0.3
WHY	Whitehorse	8.82	78		Pn	18 20 18.1	-0.4
BESE	Bessie Mountai	9.20	91		Pn	18 20 23.8	+0.1
JIS	Juneau Island	9.53	93		Pn	18 20 28.4	+0.4
EPYK	Eagle Plains	9.56	42		Pn	18 20 29.0	+0.5
UNV	Unalaska Valle	9.79	237	Pn	Pn	18 20 30.8	-0.8
WRAK	Wrangell Islan	11.27	100		Pn	18 20 51.8	+0.2
DLBC	Dease Lake	11.66	88	P	Pn	18 20 57.7	+0.6
	5.0nm,0.3s,baz=290,slow=5.4,SNR=35						
DLBC				S	Sn	18 23 03.7	-1.5
	1.0nm,0.3s,baz=336,slow=20,SNR=6.0						
DLBC	Dease Lake	11.66	88		Pn	18 20 57.8	+0.7
INK	Inuvik	11.69	37	P	Pn	18 20 55.8	-1.4
	1.1nm,0.3s,baz=227,slow=16,SNR=18						
INK				S	Sn	18 23 03.9	-1.7
	0.2nm,0.3s,baz=330,slow=20,SNR=2.8						
DIB	Dawson Inlet,	13.00	113	Pn	Pn	18 21 14.6	0.0
ADK	Adak	15.68	249	P	P	18 21 51.4	+0.2
BBB	Bella Bella	15.69	109	S	Sn	18 24 40.5	-1.9
	0.2nm,0.3s,baz=119,slow=19,SNR=3.9						
YKW3	Yellowknife Ar	18.25	66	P	P	18 22 20.2	+0.8
YKA	Yellowknife Ar	18.26	66	P	P	18 22 20.2	+0.6
	1.5nm,0.3s,baz=277,slow=9.9,SNR=60						
YKA				ScP	ScP	18 30 11.4	-2.1
	0.1nm,0.3s,baz=282,slow=2.8,SNR=5.5						
YKA	Yellowknife Ar	18.26	66	P	P	18 22 18.7	-0.9
NEW	Newport	23.57	104	P	P	18 23 17.0	+1.4
	3.8nm,0.6s,baz=334,slow=10,SNR=4.0						
NEW				LR	LR	18 32 52.9	
	comp=Z,33nm,18.2s,baz=20,slow=37						
F10A	Beach Ranch, E	25.15	108	P	P	18 23 31.1	+1.1
RES	Resolute Bay	25.17	32	P	P	18 23 30.0	+0.2
	1.1nm,0.5s,baz=225,slow=8.8,SNR=5.9						
RES				LR	LR	18 34 43.5	
	comp=Z,70nm,18.7s,baz=358,slow=39						
RES	Resolute Bay	25.17	32	P	P	18 23 30.6	+0.8
SEY	Seymchan	25.74	300	P	P	18 23 35.8	+0.8
	2.4nm,0.7s,baz=90,slow=3.5,SNR=6.3						
PEA0B	Petropavlovsk-	27.64	278	P	P	18 23 52.1	-0.1
PETK	Petropavlovsk-	27.64	278	P	P	18 23 52.0	-0.2
	3.7nm,0.5s,baz=69,slow=14,SNR=9.2						
MA2	Magadan	27.74	294	P	P	18 23 54.0	+1.0
	10nm,0.5s,baz=133,slow=20,SNR=4.5						
MA2	Magadan	27.74	294	P	P	18 23 53.9	+1.0
DLMT	Dillon	27.82	104	P	P	18 23 53.8	-0.3
YHH	Holmes Hill	29.09	103	P	P	18 24 07.9	+2.4
RLMT	Red Lodge	29.63	101	P	P	18 24 10.9	+0.7
FLWY	Flagg Ranch	29.68	104	P	P	18 24 10.6	-0.1
IMW	Indian Meadow	29.70	104	P	P	18 24 12.3	+1.4
FXWY	Fox Creek	29.85	104	P	P	18 24 14.2	+2.0
TPAW	Teton Pass	30.00	105	P	P	18 24 16.4	+2.9
ELK	Elko	30.07	113	LR	LR	18 35 03.2	
	comp=Z,44nm,18.3s,baz=27,slow=34						
NVAR	Mina Array Bea	30.57	119	P	P	18 24 19.4	+0.9
	0.2nm,0.4s,baz=302,slow=7.2,SNR=5.0						
BW06	Boulder Array	31.22	104	P	P	18 24 26.1	+1.9
PDAR	Pinedale Array	31.22	104	P	P	18 24 26.1	+1.9
	1.2nm,0.6s,baz=312,slow=5.7,SNR=14						
PDAR	Pinedale Array	31.22	104	P	P	18 24 25.6	+1.4
ULM	Lac du Bonnet	32.88	81	P	P	18 24 39.4	+1.0
	2.1nm,0.4s,baz=286,slow=7.4,SNR=4.0						
EYMN	Ely	36.56	81	P	P	18 25 11.2	+1.1
ECSD	EROS Data Cent	36.94	90	P	P	18 25 14.7	+1.3
SDCO	Great Sand Dun	37.06	105	P	P	18 25 17.1	+2.3
SUMG	Summit	40.29	25	P	P	18 25 41.3	-0.2
KLR	Kul'dur	42.71	291	P	P	18 26 01.0	0.0
	3.7nm,0.7s,baz=294,slow=20,SNR=6.3						
WMOK	Wichita Mounta	42.73	102	P	P	18 26 03.2	+1.8
D53A	Lac Vacive, Po	43.89	72	P	P	18 26 11.1	+0.6
N47A	Urbana	44.52	84	P	P	18 26 15.8	+0.2
TXAR	Lajitas Array	44.82	111	P	P	18 26 18.5	+0.3
	0.7nm,0.7s,baz=320,slow=5.7,SNR=4.1						
USRK	Ussuriysk Ar.	46.22	285	P	P	18 26 27.7	-1.2
	2.8nm,0.8s,baz=64,slow=12,SNR=5.1						
M55A	Ridgway	47.51	78	P	P	18 26 38.7	-0.4
OXF	Oxford	47.58	93	P	P	18 26 40.8	+1.2
PLAL	Pickwick Lake	47.87	91	P	P	18 26 41.7	-0.2
MJB9	Matsu-Tunnel	48.97	274	P	P	18 26 49.9	-0.5
MAJO	Matsushiro	48.97	274	P	P	18 26 49.3	-1.1
MJAR	Matsushiro Arr	48.97	274	P	P	18 26 49.6	-0.7
	5.1nm,1.1s,baz=17,slow=7.0,SNR=3.8						
Y49A	Blount Mountai	49.60	91	P	P	18 26 55.7	+0.5
Z50A	Ashland	50.33	91	P	P	18 27 01.1	+0.4
LMN	Caledonia Moun	50.81	64	P	P	18 27 04.0	-0.1
KSRS	Korea Array	53.36	283	P	P	18 27 23.5	+0.4
	5.1nm,0.9s,baz=43,slow=6.9,SNR=9.5						
ULN	Ulaanbaatar	54.63	306	P	P	18 27 32.8	+0.3
SONM	Songino Array	54.92	306	P	P	18 27 35.4	+0.9
	9.3nm,0.7s,baz=48,slow=7.1,SNR=38						
SONM	Songino Array	54.92	306	P	P	18 27 34.9	+0.4
ZAA0	Zalesovo Array	57.46	324	P	P	18 27 52.0	-0.2
ZALV	Zalesovo Beam	57.46	324	P	P	18 27 51.6	-0.6
	2.6nm,0.4s,baz=32,slow=6.6,SNR=12						
HHC	Hu-ho-hao-te	58.34	298	*e*P	P	18 27 58.8	+0.1
FINES	FINESS Array B	58.84	1	P	P	18 28 01.4	-0.4
	2.9nm,1.0s,baz=350,slow=7.5,SNR=2.8						
KURK	Kurchatov	62.11	326	P	P	18 28 23.5	-0.6
BRVK	Borovoye	62.12	332	P	P	18 28 22.9	-1.3
MKAR	Makanchi Array	64.52	321	P	P	18 28 38.4	-1.8
	0.6nm,0.6s,baz=38,slow=6.1,SNR=4.1						
GTA	Gaotai	64.56	305	*e*P	P	18 28 40.8	+0.1
GTA				pP	pP	18 29 06.8	+1.9
GTA				sP	sP	18 29 15.6	+0.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
WMQ	Urumqi	65.37	316	*e*P	P	18 28 49.1	+3.3
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,280nm,4.5s						
WMQ				LR	LR		
	comp=N,950nm,29.0s						
WMQ				LR	LR		
	comp=E,1μm,29.2s						
WMQ				LR	LR		
	comp=Z,100nm,28.9s						
LZH	Lanzhou	65.67	300	*e*P	P	18 28 47.8	-0.1
LZH				pP	pP	18 29 11.5	-0.8
LZH				sP	sP	18 29 22.0	-0.9
LZH				PP	PP	18 31 17.1	+4.1
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,4.9s						
ABKAR	Akbulak array	67.90	338	P	P	18 29 00.8	-0.9
KKAR	Karatay Array	71.30	328	P	P	18 29 21.5	-1.2
KMI	Kunming	75.51	295	P	P	18 29 49.3	+1.4
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	Chiang Mai Arr	83.02	295	P	P	18 30 26.7	-1.8
	comp=Z,0.2nm,0.4s,baz=20,slow=6.4,SNR=5.8						
BOSA	Boshof	148.55	4	PKPbc	PKPbc	18 37 48.2	-1.0
	comp=Z,3.2nm,0.6s,baz=4.2,slow=3.4,SNR=11						
QSPA	South Pole Qui	149.84	180	PKPbc	PKPbc	18 37 50.3	-0.8
	comp=Z,3.0nm,0.7s,baz=332,slow=0.2,SNR=16						
QSPA	South Pole Qui	149.84	180		PKPbc	18 37 50.8	-0.3

*SOME **11** 18:24:47.1, 40°.40N×76°.82E, h10km*
*KRNET **11** 18:24:48.8±0.1, 40°.51N×76°.84E, h14km, mb3.5*
*NNC **11** 18:24:51.7±2.0, 40°.58N×76°.68E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=15.3km s-min=10.2km az=156.0*
ISC 11 18:24:50.9±1.9, 40°.58N±0°.07×76°.73E±0°.03, h1km±12km, n57, σ1s48/85, 26C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.01	327	⇓*i*P	Pg	18 25 09.7	-0.6
	baz=24						
NRN				⇓*i*S	Sn	18 25 26.1	-1.5
	baz=24						
TARG	Taragay, Kyrgy	1.40	35	⇑*i*P	Pn	18 25 15.2	-2.8
	baz=31						
TARG				⇑*i*S	Sb	18 25 35.8	-0.9
	baz=31						
KDJ	Kajisay	1.58	12	⇓*i*P	Pn	18 25 19.7	-0.6
	baz=9.0						
KDJ				⇓*i*S	Sg	18 25 42.2	+0.4
	baz=9.0						
ULHL	Ulahol	1.70	348	⇓*i*P	Pn	18 25 21.9	0.0
	baz=46						
ULHL				⇓*i*S	Sg	18 25 47.1	+1.5
	baz=46						
ULHL	Ulahol	1.70	348	P	Pb	18 25 22.4	-0.8
	SNR=5.7						
KZA	Kyzart	1.86	324	⇓*i*P	Pb	18 25 25.2	-0.8
	baz=23						
KZA				⇓*i*S	Sg	18 25 52.9	+2.1
	baz=23						
KZA	Kyzart	1.86	324	P	Pb	18 25 25.4	-0.6
	SNR=34						
BOOM	Boomskoye usch	2.00	343	⇑*i*P	Pn	18 25 26.5	+0.6
	baz=42						
BOOM				⇑*i*S	Sg	18 25 55.0	0.0
	baz=42						
ARLS	Aral	2.22	306	⇓*i*P	Pn	18 25 29.8	+0.8
	baz=6.0						
ARLS				⇓*i*S

SNR=8.8
KURS Kuram 3.10 20 Pg Pb 18 25 46.4 -0.3
7.9nm,0.5s
KURS Lg Lg 18 26 29.0
63nm,1.1s
KURS Kuram 3.10 20 eP Pb 18 25 46.7 0.0
14nm,0.5s
KURS eS Sg 18 26 29.0 -1.4
63nm,1.1s
KTBS Karatobe 3.13 359 Pg Pb 18 25 47.0 -0.3
14nm,0.6s
KTBS Lg Lg 18 26 30.7
224nm,0.5s
KTBS Karatobe 3.13 359 eP Pb 18 25 46.9 -0.4
14nm,0.5s
KTBS eS Sg 18 26 30.0 -1.3
224nm,0.5s
USP Ospenovka 3.16 329 P Pb 18 25 44.8 -3.0
SNR=17
KPKS Kokpek 3.23 26 eP Pb 18 25 48.5 -0.5
17nm,0.3s
KPKS eS Sg 18 26 33.0 -1.6
125nm,0.5s
SGDS Sogindy 3.27 332 Pg Pb 18 25 50.6 +0.9
12nm,0.4s
SGDS Lg Lg 18 26 36.2
18nm,0.5s
CHKK Chushkaly 3.27 3 Pg Pb 18 25 49.9 +0.1
11nm,0.3s
CHKK Lg Lg 18 26 34.9
104nm,0.4s
CHKK Chushkaly 3.27 3 eP Pb 18 25 49.9 +0.1
11nm,0.3s
CHKK eS Sg 18 26 34.9 -1.2
108nm,0.4s
SHLS Shalkode 3.28 38 Pg Pg 18 25 53.9 +0.1
8.9nm,0.7s
SHLS Lg Lg 18 26 42.4
50nm,0.6s
SHLS Shalkode 3.28 38 eP Pg 18 25 52.9 -0.9
9.5nm,0.6s
SHLS eS Sg 18 26 40.4 +4.1
68nm,0.7s
KUU Kurty 3.32 355 Pg Pb 18 25 50.6 0.0
6.0nm,0.5s
KUU Lg Lg 18 26 36.5
64nm,0.3s
KUU Kurty 3.32 355 eP Pb 18 25 50.6 0.0
10nm,0.5s
KUU eS Sg 18 26 36.5 -1.0
72nm,0.9s
MRKS Merke 3.40 311 Pg Pb 18 25 52.7 +0.8
11nm,0.4s
MRKS Lg Lg 18 26 40.1
33nm,0.5s
MRKS Merke 3.40 311 eP Pb 18 25 52.6 +0.6
16nm,0.4s
MRKS eS Sg 18 26 40.2 +0.1
32nm,0.4s
ARK Arkit 3.80 290 ⇑iP Pn 18 25 52.0 +1.4
baz=91
ARK ⇑iS Sn 18 26 38.7 +2.7
baz=91
TDK Taldyqorghan 4.59 15 Pg Pb 18 26 13.9 +1.7
TDK Lg Lg 18 27 15.6
TDK Taldyqorghan 4.59 15 eP Pb 18 26 13.9 +1.7
15nm,0.2s
TDK eS Sg 18 27 15.7 -2.5
85nm,0.8s
BTLS Baital 4.87 337 Pg Pb 18 26 19.7 +2.6
3.9nm,0.6s
BTLS Lg Lg 18 27 25.9
7.6nm,0.4s
BTLS Baital 4.87 337 eP Pb 18 26 19.8 +2.7
3.9nm,0.6s
BTLS eS Sg 18 27 25.9 -1.5
7.6nm,0.4s
IUG Iuzhnay 5.28 289 Pg Pb 18 26 25.3 +1.3
0.4nm,0.3s
IUG Lg Lg 18 27 35.6
19nm,0.8s
KK31 Karatay Array 5.28 301 ⇓Pn Pn 18 26 11.2 +0.3
0.4nm,0.3s,baz=129,slow=13,SNR=11
KK31 ⇑Pg Pb 18 26 26.1 +2.1
5.7nm,0.8s,baz=127,slow=17,SNR=12
KK31 ⇑Lg Lg 18 27 37.1
2.5nm,0.3s,baz=123,slow=29,SNR=8.4
MAKZ Makanchi 7.29 30 ⇑Pg Pg 18 27 06.7 -3.9
1.9nm,0.8s
MAKZ ⇑Lg Lg 18 28 40.3
7.7nm,1.5s
MK31 Makanchi Array 7.40 31 ⇓Pn Pn 18 26 43.0 +3.0
0.5nm,0.3s,baz=202,slow=12,SNR=14
MK31 ⇑Pg Pb 18 27 06.5 +6.5
0.7nm,0.6s
MK31 ⇑Lg Lg 18 28 51.1
3.0nm,0.8s
KURBB Kurchatov Arra 10.12 7 ⇓Lg Lg 18 30 09.3
16nm,1.4s

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*IDC **11** 18:26:43.3±7.0,20°.24S×177°.81W,h518km±78km,mb3.1/7, mb1 3.4/7,mb1mx3.0/48,mbtmp4.0/7,Error ellipse: s-maj=135.4km s-min=27.0km az=156.0*
*NEIC **11** 18:26:45.2±0.9,19°.9S±0°.5×178°.0W±0°.3,h539km±15km, mb4.1/2*
*ISCJB **11** 18:26:46.6±1.5,19°.7S±0°.4×178°.3W±0°.2,h550km,mb3.5/7, Error ellipse: s-maj=63.4km s-min=18.1km az=155.9*
ISC 11 18:26:47.5±1.6,19°.6S±0°.5×178°.2W±0°.2,h550km,n19, σ0s93/18,mb3.5/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.01**	**297**	P	**P**	**18 28 08.6**	**-1.0**
WRA	**Warramunga Arr**	**44.55**	**261**	P	**P**	**18 34 10.6**	**-0.5**
0.4nm,0.3s,baz=98,slow=7.7,SNR=16							
WRA	**Warramunga Arr**	**44.55**	**261**	P	**P**	**18 34 11.0**	**-0.1**
ASAR	**Alice Springs**	**44.55**	**256**	P	**P**	**18 34 10.5**	**-0.6**
1.8nm,0.5s,baz=93,slow=7.6,SNR=88							
ASAR	**Alice Springs**	**44.55**	**256**	P	**P**	**18 34 10.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.97**	**262**	P	**P**	**18 35 13.8**	**+0.4**
0.8nm,0.5s,baz=48,slow=2.0,SNR=7.1							
FITZ	**Fitzroy Crossi**	**52.97**	**262**	P	**P**	**18 35 13.8**	**+0.4**
FITZ				IAmb	IAmb	18 36 43.3	
comp=Z,17nm,1.9s							
NVAR	**Mina Array Bea**	**80.49**	**44**	P	**P**	**18 38 03.3**	**+0.5**
comp=Z,0.9nm,0.9s,baz=240,slow=9.0,SNR=4.5							
ILAR	**Eielson Array**	**87.47**	**13**	P	**P**	**18 38 36.6**	**+0.3**
comp=Z,0.5nm,0.7s,baz=216,slow=6.2,SNR=5.3							
PDAR	**Pinedale Array**	**88.43**	**43**	P	**P**	**18 38 41.5**	**-0.2**
comp=Z,0.4nm,0.6s,baz=230,slow=2.2,SNR=3.4							
PDAR	**Pinedale Array**	**88.43**	**43**	P	**P**	**18 38 41.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**89.64**	**290**	P	**P**	**18 38 50.0**	**+2.6**
comp=Z,1.0nm,0.8s,baz=104,slow=2.8,SNR=7.7							
MKAR	**Makanchi Array**	**110.44**	**314**	PKiKP	**PKiKP**	**18 44 17.1**	**-0.4**
comp=Z,0.3nm,0.7s,baz=132,slow=2.1,SNR=2.6							
BVAR	**Borovoye Array**	**118.26**	**320**	PKP	**PKiKP**	**18 44 32.1**	**-0.2**
comp=Z,0.6nm,0.5s,baz=143,slow=2.0,SNR=4.0							
AKASG	**Malin Array Be**	**142.13**	**332**	PKhKP	PKPpre	18 45 13.8	
comp=Z,1.7nm,0.6s,baz=42,slow=4.2,SNR=9.7							
BRTR	**Keskin Array B**	**146.09**	**313**	PKPbc	**PKPbc**	**18 45 26.4**	**-0.3**
comp=Z,0.5nm,0.7s,baz=104,slow=5.2,SNR=4.0							
BRTR	**Keskin Array B**	**146.09**	**313**		**PKPbc**	**18 45 26.2**	**-0.4**
CLL	**Collm**	**147.14**	**347**	ePKPbc	**PKiKP**	**18 45 29.0**	**-1.7**
GERES	**GERESS Array B**	**149.28**	**345**	PKPbc	**PKiKP**	**18 45 35.3**	**0.0**
comp=Z,0.1nm,0.3s,baz=132,slow=2.0,SNR=4.5							

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*NIED **11** 18:28:00,36°.70N×140°.70E,h5km,Mw3.7 Best double couple: M0=3.53000×10^14 NP1:φs=351.00000°,δ23.00000°, λ-58.00000°. NP2:φs=137.00000°,δ71.00000°, λ-103.00000°.*
*ISCJB **11** 18:28:07.4±0.7,36°.69N±0°.03×140°.76E±0°.05,h13km±3km, mb3.8/4,MS2.7/1,Error ellipse: s-maj=7.5km s-min=4.1km az=16.2*
*IDC **11** 18:28:07.2±1.5,36°.78N×140°.67E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/56,mbtmp3.9/5,ML3.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/48,Error ellipse: s-maj=30.9km s-min=22.6km az=68.0*
*JMA **11** 18:28:08.8,36°.70N×140°.63E,h6km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs=358.00000°,δ58.00000°,λ-72.00000°. NP2: φs=146.00000°,δ36.00000°,λ-116.00000°. Principal axes: T Plg11.0000°, Azm75.0000°; N Plg15.0000°, Azm168.0000°; P Plg71.0000°, Azm310.0000°;*
JMA Felt III J1.
*NEIC **11** 18:28:12.9±0.3,36°.9N±0°.1×140°.5E±0°.2,h35km±20km, mb4.3/2*
ISC 11 18:28:07.9±1.3,36°.75N±0°.05×140°.67E±0°.05,h5km±10km, n32,σ0s57/34,mb3.8/5,3C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.16**	**209**	P	**Pg**	**18 28 11.1**	**+0.1**
JHO				S	**Sg**	**18 28 12.8**	**-0.3**
JFFD	**Fukushimafurud**	**0.35**	**346**	⇓P	**Pb**	**18 28 16.4**	**-0.2**
JFFD				S	**Sb**	**18 28 22.1**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.37**	**17**	P	**Pb**	**18 28 17.0**	**0.0**
ONAJ				eS	**Sb**	**18 28 22.6**	**-0.4**
JHYU	**Hitachinakayam**	**0.41**	**189**	⇑P	**Pg**	**18 28 16.0**	**+0.2**
JHYU				S	**Sg**	**18 28 21.3**	**+0.1**
JSB	**Shiboa**	**0.64**	**290**	⇑P	**Pb**	**18 28 21.7**	**+0.2**
JSB				S	**Sb**	**18 28 30.8**	**0.0**
JFK	**Kawauchi**	**0.64**	**15**	S	**Sb**	**18 28 31.1**	**+0.3**
JYT	**Yasato**	**0.65**	**216**	P	**Pg**	**18 28 20.1**	**-0.1**
JFT	**Otama**	**0.81**	**341**	P	**Pb**	**18 28 24.9**	**+0.4**
JFT				S	**Sb**	**18 28 36.4**	**+0.6**
JFY	**Yanaizu**	**1.01**	**311**	P	**Pb**	**18 28 28.1**	**+0.2**
JFY				S	**Sb**	**18 28 42.0**	**+0.5**
JAG	**Ashikaga**	**1.03**	**252**	⇑P	**Pg**	**18 28 27.3**	**-0.3**
MJAR	**Matsushiro Arr**	**1.99**	**265**	Pn	**Pn**	**18 28 42.5**	**+0.3**
3.4nm,0.3s,baz=83,slow=10.0,SNR=228							
MJAR				Sn	**Sn**	**18 29 08.4**	**+0.9**
7.4nm,0.3s,baz=32,slow=26,SNR=16							
MJAR				LR	LR	18 29 44.4	
comp=Z,64nm,21.2s,baz=100,slow=50							
MJAR	**Matsushiro Arr**	**1.99**	**265**		**Pn**	**18 28 41.9**	**-0.3**
MAJO	**Matsushiro**	**1.99**	**265**		**Pn**	**18 28 43.0**	**+0.8**
MAT	**Matsushiro**	**1.99**	**265**	P	**Pn**	**18 28 42.9**	**+0.7**
MAT				S	**Sb**	**18 29 08.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**1.99**	**265**		**Pn**	**18 28 42.8**	**+0.6**
INU	**Inuyama**	**3.27**	**246**		**Pn**	**18 29 00.8**	**+1.0**
ASAJ	**Asahikawa**	**7.50**	**11**	Pn	**Pn**	**18 29 58.6**	**+0.7**
0.8nm,0.3s,baz=222,slow=10,SNR=5.2							
JKA	**Kamikawa-asahi**	**7.50**	**11**		**Pn**	**18 29 58.6**	**+0.7**
PETK	**Petropavlovsk-**	**20.23**	**31**	LR	LR	18 39 23.2	
comp=Z,38nm,20.9s,baz=249,slow=33							
SONM	**Songino Array**	**27.45**	**305**	P	**P**	**18 33 54.7**	**-0.1**
0.8nm,0.6s,baz=106,slow=7.6,SNR=4.7							
SONM	**Songino Array**	**27.45**	**305**	P	**P**	**18 33 54.0**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**28.53**	**119**	T	T	19 03 47.5	
baz=312,slow=75,SNR=236							
H11N1	**WAKE ISLAND Hy**	**28.53**	**119**	T	T	19 03 47.9	
baz=312,slow=75,SNR=275							
H11N3	**WAKE ISLAND Hy**	**28.54**	**119**	T	T	19 03 48.6	
baz=312,slow=75,SNR=174							
H11S1	**WAKE ISLAND Hy**	**29.22**	**121**	T	T	19 04 39.5	
baz=314,slow=76,SNR=1369							
H11S3	**WAKE ISLAND Hy**	**29.22**	**121**	T	T	19 04 38.7	
baz=314,slow=76,SNR=759							
H11S2	**WAKE ISLAND Hy**	**29.23**	**121**	T	T	19 04 40.0	
baz=314,slow=76,SNR=770							
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**18 35 56.4**	**-0.7**
1.9nm,0.5s,baz=102,slow=6.3,SNR=9.0							
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**18 35 56.0**	**-1.1**
KURK	**Kurchatov**	**45.63**	**308**	P	**P**	**18 36 28.7**	**-0.4**
KURK				IAmb	IAmb	18 36 29.4	
comp=Z,3.4nm,0.8s							
WRA	**Warramunga Arr**	**56.70**	**187**	P	**P**	**18 37 53.2**	**+0.6**
comp=Z,0.7nm,0.7s,baz=2.9,slow=7.2,SNR=3.1							
ASAR	**Alice Springs**	**60.43**	**187**	P	**P**	**18 38 18.3**	**-0.2**
comp=Z,0.6nm,0.8s,baz=16,slow=7.2,SNR=4.4							

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*ISCJB **11** 18:29:36.6±1.0,2°.6N±0°.2×127°.9E±0°.2,h33km,mb3.3/4, Error ellipse: s-maj=45.9km s-min=9.4km az=138.4*
*IDC **11** 18:29:38.7±4.2,2°.98N×128°.36E,h67km±51km,mb3.1/4, mb1 3.4/5,mb1mx3.1/52,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=84.1km s-min=22.4km az=60.0*
ISC 11 18:29:38.7±1.1,2°.5N±0°.3×127°.8E±0°.3,h35km,n6,σ0s68/6, mb3.4/4,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.82**	**134**	P	**Pn**	**18 30 49.1**	**+0.2**
1.1nm,0.3s,baz=118,slow=6.7,SNR=30							
SIJI				S	**Sn**	**18 31 43.0**	**-0.6**
0.6nm,0.3s,baz=206,slow=23,SNR=7.4							
KCP	**Kidapawan**	**5.22**	**329**	⇓iP	**Pn**	**18 30 54.7**	**+0.2**
WRA	**Warramunga Arr**	**23.22**	**164**	P	**P**	**18 34 43.7**	**+0.8**
1.2nm,0.6s,baz=344,slow=10,SNR=14							
ASAR	**Alice Springs**	**26.69**	**167**	P	**P**	**18 35 14.6**	**-0.2**
0.3nm,0.5s,baz=353,slow=8.2,SNR=6.1							
CMAR	**Chiang Mai Arr**	**32.42**	**301**	P	**P**	**18 36 05.2**	**-0.5**
0.1nm,0.4s,baz=111,slow=9.8,SNR=3.3							
MKAR	**Makanchi Array**	**59.16**	**325**	P	P	18 39 31.4	-4.7
0.5nm,0.7s,baz=113,slow=8.8,SNR=4.3							

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*IDC **11** 18:31:38.4±1.1,3°.14N×128°.29E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.5/58,mbtmp3.7/7,ML3.5/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/37,Error ellipse: s-maj=44.5km s-min=16.5km az=67.0*
*ISCJB **11** 18:31:40.9±0.6,3°.23N±0°.06×128°.46E±0°.08,h33km, mb3.6/6,MS2.8/2,Error ellipse: s-maj=13.3km s-min=7.2km az=150.2*
*NEIC **11** 18:31:44.4±0.8,3°.2N±0°.1×128°.5E±0°.1,h54km±11km, mb4.4/10*
ISC 11 18:31:43.2±0.8,3°.21N±0°.08×128°.44E±0°.10,h35km,n22, σ1s06/22,mb4.0/9,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.65**	**204**		**Pn**	**18 32 24.9**	**+1.4**
SIJI	**Sorong**	**4.94**	**145**	Pn	**Pn**	**18 32 55.9**	**+0.9**
1.8nm,0.3s,baz=136,slow=4.9,SNR=20							
SIJI				Sn	**Sn**	**18 33 51.2**	**+0.3**
1.0nm,0.3s,baz=197,slow=19,SNR=3.7							
LUWI	**Luwuk**	**7.07**	**233**		**Pn**	**18 33 26.1**	**+1.8**
FAKI	**Fak Fak**	**7.18**	**148**	Pn	**Pn**	**18 33 28.1**	**+2.3**
JAGI	**Jajag, Banyuwa**	**18.38**	**231**	P	**Pn**	**18 35 55.0**	**-0.4**
JAGI				IAmb	IAmb	18 36 09.9	
comp=Z,26nm,1.1s							
KNRA	**Kununurra**	**18.77**	**179**	P	**P**	**18 35 58.7**	**-0.7**
KNRA				IAmb	IAmb	18 36 17.5	
comp=Z,19nm,1.1s							
FITZ	**Fitzroy Crossi**	**21.35**	**187**	P	**P**	**18 36 27.7**	**+0.1**
comp=Z,1.3nm,0.8s,baz=45,slow=2.9,SNR=3.1							
FITZ				LR	LR	18 43 54.7	
comp=Z,28nm,20.2s,baz=12,slow=35							
FITZ	**Fitzroy Crossi**	**21.35**	**187**	P	**P**	**18 36 27.0**	**-0.6**
TPUB	**Ta-pu**	**21.36**	**340**	P	**P**	**18 36 27.5**	**-0.2**
WRA	**Warramunga Arr**	**23.72**	**166**	P	**P**	**18 36 51.5**	**-0.7**
comp=Z,1.4nm,0.4s,baz=344,slow=10,SNR=17							
WRA	**Warramunga Arr**	**23.72**	**166**	P	**P**	**18 36 50.8**	**-1.5**
WB2	**Warramunga Arr**	**23.73**	**166**	P	**P**	**18 36 51.7**	**-0.6**
JCJ	**Chichijima**	**27.15**	**28**	LR	LR	18 46 20.2	
comp=Z,43nm,20.0s,baz=46,slow=32							
ASAR	**Alice Springs**	**27.24**	**169**	P	**P**	**18 37 23.1**	**-1.1**
comp=Z,0.2nm,0.4s,baz=351,slow=7.4,SNR=5.5							
CMAR	**Chiang Mai Arr**	**32.61**	**300**	P	**P**	**18 38 12.1**	**+0.2**
comp=Z,0.6nm,0.8s,baz=111,slow=7.0,SNR=5.1							
BBOO	**Buckleboo**	**36.54**	**169**	P	**P**	**18 38 44.5**	**-1.2**
BBOO				IAmb	IAmb	18 38 47.8	
comp=Z,40nm,1.6s							
STKA	**Stephens Creek**	**37.06**	**161**	P	**P**	**18 38 49.2**	**-0.9**
STKA				IAmb	IAmb	18 38 51.3	
comp=Z,5.2nm,1.8s							
NWAO	**Narrogin (SRO)**	**37.48**	**196**	P	**P**	**18 38 53.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**40.94**	**4**	P	**P**	**18 39 23.5**	**+1.1**
comp=Z,3.6nm,0.9s,baz=177,slow=8.6,SNR=4.2							
MK31	**Makanchi Array**	**58.96**	**325**	P	**P**	**18 41 38.7**	**-0.5**
MK31				IAmb	IAmb	18 43 27.6	
comp=Z,4.9nm,1.6s							
MKAR	**Makanchi Array**	**58.96**	**325**	P	**P**	**18 41 39.1**	**-0.1**
comp=Z,0.6nm,0.5s,baz=111,slow=7.4,SNR=9.2							
MKAR	**Makanchi Array**	**58.96**	**325**	P	**P**	**18 41 38.5**	**-0.8**

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*ISCJB **11** 19:02:31.9±0.5,19°.19N±0°.05×60°.94E±0°.04,h10km, mb3.7/17,MS3.0/6,Error ellipse: s-maj=7.6km s-min=5.2km az=27.4*
*IDC **11** 19:02:31.2±0.8,19°.01N×60°.80E,h0km,mb3.8/17, mb1 3.9/18,mb1mx3.7/58,mbtmp3.8/18,ML3.7/1,MS3.0/8, Ms1 3.1/8,ms1mx2.8/49,Error ellipse: s-maj=23.3km s-min=14.2km az=23.0*
*NEIC **11** 19:02:32.6±1.3,19°.1N±0°.1×60°.8E±0°.1,h10km±1km, mb4.2/5*
*OMAN **11** 19:02:34.2±0.3,19°.28N×60°.89E,h3km,ml4.2/6,Error ellipse: s-maj=4.7km s-min=2.3km az=276.0*
ISC 11 19:02:33.6±0.6,19°.26N±0°.06×60°.92E±0°.06,h10km,n44, σ1s74/44,mb3.9/18,MS2.9/6,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**3.20**	**334**	P	**Pn**	**19 03 24.0**	**-0.1**
SNR=165							
DQM	**DQM**	**3.26**	**282**	P	**Pn**	**19 03 26.0**	**+1.2**
SNR=12							
DQM				S	**Sn**	**19 04 05.6**	**+2.0**
WBK	**Wadi Bani Khal**	**3.80**	**332**	P	**Pn**	**19 03 33.1**	**+0.9**
SNR=90							
WBK				S	**Sn**	**19 04 19.6**	**+2.6**
JMDO	**Jabal Madar**	**4.07**	**320**	P	**Pn**	**19 03 37.2**	**+1.3**
SNR=15							
JMDO				S	**Sn**	**19 04 25.4**	**+1.8**
WSAR	**Wadi Sarin**	**4.50**	**332**	Pn	**Pn**	**19 03 42.6**	**+0.8**
3.2nm,0.3s,baz=163,slow=8.0,SNR=38							
WSAR				Sn	**Sn**	**19 04 28.4**	**-5.9**
4.0nm,0.3s,baz=120,slow=6.6,SNR=4.1							
WSAR				LR	LR	19 05 24.2	
comp=Z,150nm,19.2s,baz=226,slow=37							
BSY	**Bisya**	**4.91**	**316**	P	**Pn**	**19 03 49.0**	**+1.4**
SNR=35							
BSY				S	**Sn**	**19 04 47.6**	**+3.1**
SHAO	**Shalim**	**5.17**	**257**	P	**Pn**	**19 03 52.0**	**+0.8**
SNR=24							
ARQ	**Araqi**	**5.77**	**315**	P	**Pn**	**19 04 01.0**	**+1.7**
SNR=44							
ARQ				S	**Sn**	**19 05 05.7**	**+0.1**
DMTO	**DMTO**	**5.88**	**256**	P	**Pn**	**19 04 01.5**	**+0.7**
SNR=28							
WHFO	**Wadi Hawf**	**6.91**	**260**	P	**Pn**	**19 04 16.4**	**+1.3**
SNR=37							
ABTO	**Aybut**	**7.49**	**257**	P	**Pn**	**19 04 25.0**	**+1.9**
SNR=13							
RAYN	**Ar Rayn**	**14.97**	**289**		**Pn**	**19 06 03.4**	**-2.1**
ATD	**Arta Tunnel**	**19.04**	**249**	LR	LR	19 12 37.9	
comp=Z,34nm,19.4s,baz=18,slow=32							
BTK	**Batken**	**22.41**	**20**	P	**P**	**19 07 33.8**	**+1.4**
BTK				IAmb	IAmb	19 07 50.0	
comp=Z,11nm,1.1s							
PALK	**Pallekele**	**22.61**	**119**	LR	LR	19 14 59.7	
comp=Z,42nm,21.4s,baz=295,slow=33							
ASF	**Jabal al Asfar**	**25.11**	**306**	P	**P**	**19 07 57.8**	**-1.0**
comp=Z,0.5nm,0.4s,baz=172,slow=18,SNR=2.0							
EIL	**Elat**	**25.76**	**299**	P	**P**	**19 08 04.9**	**+0.3**
comp=Z,1.1nm,0.4s,baz=264,slow=18,SNR=1.8							
EIL				LR	LR	19 18 33.5	
comp=Z,35nm,19.2s,baz=118,slow=37							
AAK	**Ala-Archa**	**25.98**	**23**	P	**P**	**19 08 10.1**	**+3.5**
comp=Z,0.6nm,0.4s,baz=158,slow=19,SNR=2.6							
AAK				LR	LR	19 20 49.2	
comp=Z,51nm,18.2s,baz=214,slow=42							
AAK	**Ala-Archa**	**25.98**	**23**	P	**P**	**19 08 07.5**	**+0.9**
AAK				IAmb	IAmb	19 08 24.3	
comp=Z,9.2nm,1.4s							
MMAI	**Mount Meron Ar**	**26.61**	**306**	LR	LR	19 19 28.7	
comp=Z,21nm,18.4s,baz=190,slow=38							
H08N2	**Diego Garcia H**	**27.30**	**158**	T	T	19 36 35.1	
baz=337							
H08N3	**Diego Garcia H**	**27.31**	**158**	T	T	19 36 34.2	
baz=337							
H08N1	**Diego Garcia H**	**27.32**	**158**	T	T	19 36 41.4	
baz=337							
BRTR	**Keskin Array B**	**31.10**	**317**	P	**P**	**19 08 52.8**	**+0.4**
comp=Z,1.0nm,0.8s,baz=130,slow=12,SNR=6.4							
BRTR	**Keskin Array B**	**31.10**	**317**	P	**P**	**19 08 51.1**	**-1.3**
MKAR	**Makanchi Array**	**32.57**	**28**	P	**P**	**19 09 07.8**	**+2.7**
comp=Z,0.8nm,0.8s,baz=215,slow=12,SNR=4.6							
MKAR	**Makanchi Array**	**32.57**	**28**	P	**P**	**19 09 06.3**	**+1.3**
KURBB	**Kurchatov Arra**	**34.27**	**20**	P	**P**	**19 09 20.5**	**+0.7**
comp=Z,0.6nm,0.3s,baz=215,slow=8.6,SNR=6.2							
CMAR	**Chiang Mai Arr**	**35.94**	**85**	P	**P**	**19 09 35.6**	**+1.0**
comp=Z,0.6nm,0.8s,baz=281,slow=9.8,SNR=7.4							
CMAR				LR	LR	19 25 09.3	
comp=Z,8.4nm,18.1s,baz=175,slow=38							
ZALV	**Zalesovo Beam**	**39.19**	**22**	P	**P**	**19 10 02.4**	**+0.7**
comp=Z,0.8nm,0.5s,baz=222,slow=11,SNR=3.9							
ZALV	**Zalesovo Beam**	**39.19**	**22**	P	**P**	**19 10 02.2**	**+0.5**
AKASG	**Malin Array Be**	**40.16**	**329**	P	**P**	**19 10 09.2**	**-0.6**
comp=Z,0.2nm,0.3s,baz=133,slow=7.1,SNR=3.3							
PSI	**Prapat**	**40.58**	**109**	P	**P**	**19 10 14.3**	**+0.5**
comp=Z,2.6nm,0.6s,baz=332,slow=14,SNR=3.3							
RPSI	**Rantau Prapat**	**40.63**	**109**	P	**P**	**19 10 14.3**	**+0.2**
SONM	**Songino Array**	**46.48**	**41**	P	**P**	**19 11 01.9**	**+0.8**
comp=Z,0.5nm,0.5s,baz=243,slow=6.8,SNR=5.0							
SONM	**Songino Array**	**46.48**	**41**	P	**P**	**19 11 01.8**	**+0.8**
SONM				IAmb	IAmb	19 11 11.4	
comp=Z,1.6nm,1.0s							
FINES	**FINESS Array B**	**48.69**	**339**	P	**P**	**19 11 18.4**	**+0.5**
comp=Z,0.8nm,0.3s,baz=141,slow=7.3,SNR=8.2							
NOA	**NORSAR Array B**	**54.28**	**333**	P	**P**	**19 11 59.2**	**-0.6**
comp=Z,1.2nm,0.9s,baz=123,slow=6.9,SNR=2.3							
NOA				LR	LR	19 39 49.0	
comp=Z,56nm,18.5s,baz=290,slow=41							
TORD	**Torodi Ar. Bea**	**56.98**	**273**	P	**P**	**19 12 19.4**	**-0.4**
comp=Z,1.6nm,0.8s,baz=70,slow=7.2,SNR=9.4							
TORD	**Torodi Ar. Bea**	**56.98**	**273**	P	**P**	**19 12 18.0**	**-1.9**
TORD				IAmb	IAmb	19 12 34.7	
comp=Z,1.1nm,0.9s							
ESDC	**Sonseca Array**	**58.80**	**305**	P	**P**	**19 12 31.5**	**-0.9**
comp=Z,0.2nm,0.4s,baz=70,slow=7.9,SNR=4.3							
ESDC	**Sonseca Array**	**58.80**	**305**	P	**P**	**19 12 30.6**	**-1.8**
ESDC				IAmb	IAmb	19 12 44.6	
comp=Z,4.5nm,1.9s							
WRA	**Warramunga Arr**	**81.81**	**114**	P	**P**	**19 14 52.0**	**-1.3**
comp=Z,0.4nm,0.7s,baz=307,slow=4.3,SNR=4.0							
ASAR	**Alice Springs**	**82.95**	**118**	P	**P**	**19 14 57.3**	**-2.0**
comp=Z,0.3nm,0.8s,baz=302,slow=5.6,SNR=4.9							

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*KRNET **11** 19:12:56.5±0.1,39°.66N×77°.23E,mb2.8*
*SOME **11** 19:13:25.0,40°.87N×77°.43E,h5km*
ISC 11 19:13:01.7±2.5,40°.0N±0°.1×77°.00E±0°.08,h10km,n11, σ2s25/19,11C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.67**	**333**	⇓eP	**Pn**	**19 13 28.6**	**-2.7**
baz=32							
NRN				⇓iS	**Sn**	**19 13 52.8**	**-0.1**
baz=32							
TARG	**Taragay, Kyrgy**	**1.88**	**19**	⇑eP	**Pn**	**19 13 30.5**	**-3.8**
baz=12							
TARG				⇑iS	**Sn**	**19 13 55.1**	**-3.1**
baz=12							
KDJ	**Kajisay**	**2.18**	**3**	⇑iP	**Pn**

7.0nm,0.6s

*ISCJB **11** 19:22:31.6±0.2,4˚.49S±0˚.02×153˚.53E±0˚.03,h85km, mb5.2/63,Error ellipse: s-maj=3.8km s-min=3.2km az=159.0*
*BJI **11** 19:22:31.8±0.0,4˚.28S×153˚.82E,h93km,mb4.9/53, mB5.2/34*
*IDC **11** 19:22:33.8±1.0,4˚.46S×153˚.52E,h91km±7km,mb4.5/25, mb1 4.5/30,mb1mx4.5/40,mbtmp4.8/30,MS3.4/19, Ms1 3.4/19,ms1mx3.3/33,Error ellipse: s-maj=10.8km s-min=9.0km az=57.0*
*NEIC **11** 19:22:33.1±1.8,4˚.48S±0˚.07×153˚.55E±0˚.09,h86km±4km, mb4.9/104*
*DJA **11** 19:22:35.4±0.6,4˚S±3˚×15˚4E±˚,h112km±5km,M5.1/56, mB5.5/18,mb5.2/56,MLv5.3/1,Mw(mB)5.0/18*

ISC 11 19:22:33.2±0.3,**4˚44S**±0˚04×**153˚55E**±0˚05,**h85**km,**n290**, σ1§18/301,**mb4.9**/110,**4C-1D**,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.53**	**275**	P	**Pn**	**19 22 59.9**	**+0.8**
	837nm,0.3s,baz=166,slow=1.5,SNR=547						
KRVT				S	**Sn**	**19 23 18.9**	**+0.2**
	1μm,0.3s,baz=258,slow=21,SNR=12						
MANU	**Manus Island**	**6.62**	**291**		**Pn**	**19 24 09.1**	**+1.2**
PMG	**Port Moresby**	**8.04**	**232**	P	**Pn**	**19 24 28.7**	**+1.4**
	11nm,0.3s,baz=65,slow=7.7,SNR=30						
PMG				S	**Sn**	**19 25 55.8**	**-0.9**
	53nm,0.3s,baz=164,slow=21,SNR=29						
PMG	**Port Moresby**	**8.04**	**232**		**Pn**	**19 24 27.9**	**+0.6**
HNR	**Honiara**	**8.05**	**128**	P	**Pn**	**19 24 30.2**	**+2.7**
	17nm,0.3s,baz=182,slow=2.5,SNR=23						
HNR				S	**Sn**	**19 25 58.3**	**+1.3**
	62nm,0.3s,baz=178,slow=22,SNR=9.6						
HNR				LR	LR	19 27 47.4	
	comp=Z,735nm,21.7s,baz=285,slow=39						
HNR	**Honiara**	**8.05**	**128**	P	**Pn**	**19 24 31.0**	**+3.5**
HNR	**Honiara**	**8.05**	**128**		**Pn**	**19 24 28.0**	**+0.5**
PATS	**Pohnpei**	**12.16**	**23**	Pn	**Pn**	**19 25 24.4**	**+0.9**
JAY	**Jayapura**	**12.97**	**278**	P	**Pn**	**19 25 35.8**	**+1.5**
	1.2nm,0.3s,baz=11,slow=3.6,SNR=3.5						
JAY				LR	LR	19 29 33.6	
	comp=Z,377nm,20.9s,baz=70,slow=32						
JAY	**Jayapura**	**12.97**	**278**	P	**Pn**	**19 25 37.0**	**+2.7**
GENI	**Genyem**	**13.48**	**277**	P	**Pn**	**19 25 43.3**	**+2.2**
	206nm,0.8s,2μm						
COEN	**Coen**	**13.94**	**227**	P	**Pn**	**19 25 47.4**	**+0.4**
	baz=14,SNR=6.8						
COEN	**Coen**	**13.94**	**227**		**Pn**	**19 25 47.9**	**+0.9**
SMPI	**Sarmi**	**15.02**	**279**	P	**Pn**	**19 26 01.5**	**+0.6**
	162nm,0.7s						
MTSU	**Mount Surprise**	**16.34**	**213**	P	**Pn**	**19 26 17.7**	**+0.2**
	baz=16,SNR=16						
CTA	**Charters Tower**	**17.11**	**204**	P	**P**	**19 26 27.8**	**+0.3**
	0.3nm,0.3s,baz=18,slow=14,SNR=7.2						
CTAO	**Charters Tower**	**17.11**	**204**		**Pn**	**19 26 25.4**	**-1.7**
GUMO	**Guam**	**19.88**	**334**	P	**P**	**19 26 57.6**	**-0.2**
	2.6nm,0.3s,baz=29,slow=19,SNR=2.0						
GUMO				LR	LR	19 33 23.4	
	comp=Z,52nm,21.6s,baz=163,slow=33						
GUMO	**Guam**	**19.88**	**334**	P	**P**	**19 26 55.8**	**-2.0**
EIDS	**Eidsvold**	**20.95**	**186**	P	**P**	**19 27 09.2**	**-0.1**
	baz=21,SNR=7.3						
EIDS	**Eidsvold**	**20.95**	**186**	P	**P**	**19 27 09.5**	**+0.2**
EIDS				IAmb	IAmb	19 27 13.4	
	comp=Z,28nm,0.7s						
QIS	**Mount Isa**	**21.00**	**219**	P	**P**	**19 27 09.8**	**-0.1**
	baz=21,SNR=39						
FAKI	**Fak Fak**	**21.31**	**273**	P	**P**	**19 27 12.7**	**-0.7**
FAKI	**Fak Fak**	**21.31**	**273**	P	**P**	**19 27 13.1**	**-0.3**
DZM	**Mont Dzumac**	**21.53**	**146**	*eP*	**P**	**19 27 17.8**	**+2.2**
	comp=Z,74nm,1.0s						
DZM				*e*LR	LR	19 32 25.2	
	comp=Z,576nm,30.2s						
DZM	**Mont Dzumac**	**21.53**	**146**	P	**P**	**19 27 15.8**	**+0.2**
	comp=Z,32nm,0.9s,baz=271,slow=8.7,SNR=19						
DZM				LR	LR	19 35 05.9	
	comp=Z,117nm,19.9s,baz=31,slow=35						
DZM	**Mont Dzumac**	**21.53**	**146**	P	**P**	**19 27 15.6**	**0.0**
DZM				IAmb	IAmb	19 27 19.3	
	comp=Z,33nm,0.9s						
PALU	**Palau**	**22.35**	**301**	P	**P**	**19 27 25.1**	**+0.7**
	baz=22,SNR=14						
KDU	**Kakadu**	**22.38**	**247**	P	**P**	**19 27 23.2**	**-1.5**
	baz=22,SNR=56						
SAUI	**Saumlaki**	**22.40**	**260**	P	**P**	**19 27 25.3**	**+0.4**
SAUI	**Saumlaki**	**22.40**	**260**	P	**P**	**19 27 24.1**	**-0.8**
RMQ	**Roma**	**22.40**	**191**	P	**P**	**19 27 25.1**	**+0.2**
	baz=22,SNR=14						
SIJI	**Sorong**	**22.54**	**278**	P	**P**	**19 27 26.0**	**-0.4**
	comp=Z,60nm,0.7s,baz=68,slow=6.4,SNR=45						
SWI	**Sorong**	**22.55**	**278**	P	**P**	**19 27 26.1**	**-0.4**
MTN	**Manton Dam**	**23.67**	**248**	P	**P**	**19 27 36.6**	**-0.7**
	baz=24,SNR=12						
MTN	**Manton Dam**	**23.67**	**248**	P	**P**	**19 27 36.6**	**-0.7**
MTN				IAmb	IAmb	19 27 37.6	
	comp=Z,51nm,0.9s						
MTN					**S**	**19 31 49.0**	**+3.0**
QLP	**Quilpie**	**23.76**	**201**	P	**P**	**19 27 38.0**	**0.0**
	baz=24,SNR=14						
WB0	**Warramunga Arr**	**24.10**	**229**		**P**	**19 27 40.8**	**-0.3**
WR0	**Warramunga Arr**	**24.11**	**229**		**P**	**19 27 41.4**	**+0.3**
WR0				IAmb	IAmb	19 27 42.9	
	comp=Z,61nm,0.9s						
WRAB	**Tennant Creek**	**24.23**	**229**	P	**P**	**19 27 42.4**	**+0.1**
WB2	**Warramunga Arr**	**24.24**	**229**	P	**P**	**19 27 42.0**	**-0.4**
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**19 27 42.0**	**-0.4**
	comp=Z,55nm,0.5s,baz=54,slow=9.9,SNR=276						
WRA				S	**S**	**19 31 57.3**	**+2.0**
	comp=Z,3.7nm,1.0s,baz=48,slow=15,SNR=5.7						
WRA				ScP	**ScP**	**19 34 50.4**	**-1.7**
	comp=Z,3.5nm,1.1s,baz=56,slow=3.1,SNR=4.9						
WRA				LR	LR	19 38 08.1	
	comp=Z,69nm,18.7s,baz=50,slow=39						
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**19 27 41.4**	**-1.0**
MSAI	**Masohi**	**24.59**	**272**	P	**P**	**19 27 45.9**	**+0.3**
AAI	**Ambon**	**25.31**	**271**	P	**P**	**19 27 50.8**	**-1.4**
ARMA	**Armidale**	**25.91**	**184**	P	**P**	**19 27 56.6**	**-0.9**
	baz=26,SNR=10						
ARMA	**Armidale**	**25.91**	**184**	P	**P**	**19 27 57.9**	**+0.4**
ARMA				IAmb	IAmb	19 28 01.4	
	comp=Z,13nm,0.7s						
NLAI	**Namlea**	**26.42**	**272**	P	**P**	**19 28 02.4**	**+0.2**
KNRA	**Kununurra**	**26.80**	**244**	P	**P**	**19 28 04.9**	**-0.7**
	baz=27,SNR=25						
KNRA	**Kununurra**	**26.80**	**244**	P	**P**	**19 28 04.8**	**-0.9**
KNRA				IAmb	IAmb	19 28 11.3	
	comp=Z,41nm,0.8s						
AS31	**Alice Springs**	**26.92**	**223**	P	**P**	**19 28 06.0**	**-0.6**
ASAR	**Alice Springs**	**26.92**	**223**	P	**P**	**19 28 05.8**	**-0.8**
	comp=Z,3.8nm,0.5s,baz=54,slow=8.5,SNR=58						
ASAR				PcP	**PcP**	**19 31 27.2**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=64,slow=2.3,SNR=4.5						
ASAR				ScP	**ScP**	**19 34 59.5**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=57,slow=3.5,SNR=7.5						
ASAR	**Alice Springs**	**26.92**	**223**	P	**P**	**19 28 05.4**	**-1.3**
MSVF	**Nonsavu**	**27.38**	**121**	P	**P**	**19 28 11.6**	**+0.7**
MSVF				IAmb	IAmb	19 28 14.3	
	comp=Z,23nm,0.7s						
LHI	**Lord Howe Isla**	**27.43**	**170**	P	**P**	**19 28 10.1**	**-1.0**
LHI				IAmb	IAmb	19 28 12.9	
	comp=Z,41nm,0.8s						
SANI	**Sanana**	**27.62**	**274**	P	**P**	**19 28 13.3**	**+0.3**
CMSA	**Cobar Meteorol**	**27.95**	**194**	P	**P**	**19 28 15.5**	**-0.3**
	baz=28,SNR=8.5						
STKA	**Stephens Creek**	**29.51**	**201**	P	**P**	**19 28 28.9**	**-0.7**
	baz=30,SNR=10						
STKA	**Stephens Creek**	**29.51**	**201**	P	**P**	**19 28 29.1**	**-0.5**
	comp=Z,5.7nm,0.5s,baz=44,slow=14,SNR=14						
STKA				LR	LR	19 41 55.6	
	comp=Z,44nm,18.4s,baz=21,slow=39						
STKA	**Stephens Creek**	**29.51**	**201**	P	**P**	**19 28 28.9**	**-0.7**
SOEI	**Soe**	**29.53**	**258**	P	**P**	**19 28 29.4**	**-0.6**
SOEI				IAmb	IAmb	19 28 39.1	
	comp=Z,14nm,0.8s						
KMSI	**Cibinong**	**29.96**	**279**	P	**P**	**19 28 34.1**	**+0.3**
	comp=Z,134nm,0.7s,comp=Z,1μm						
BATI	**Baumata**	**30.18**	**257**	P	**P**	**19 28 36.5**	**+0.7**
	comp=Z,36nm,0.7s,baz=161,slow=2.2,SNR=15						
BATI				ScP	**ScP**	**19 35 11.0**	**+0.9**
	comp=Z,5.3nm,0.4s,baz=144,slow=7.4,SNR=6.1						
BATI	**Baumata**	**30.18**	**257**	P	**P**	**19 28 35.7**	**0.0**
FITZ	**Fitzroy Crossi**	**30.49**	**241**	P	**P**	**19 28 37.3**	**-1.1**
	baz=30,SNR=61						
FITZ	**Fitzroy Crossi**	**30.49**	**241**	P	**P**	**19 28 37.3**	**-1.1**
	comp=Z,40nm,0.7s,baz=70,slow=7.3,SNR=92						
FITZ				ScP	**ScP**	**19 35 11.0**	**0.0**
	comp=Z,5.5nm,0.6s,baz=1.7,slow=2.6,SNR=8.2						
FITZ	**Fitzroy Crossi**	**30.49**	**241**	P	**P**	**19 28 37.6**	**-0.8**
BBSI	**Bau Bau**	**30.88**	**267**	P	**P**	**19 28 42.0**	**+0.1**
CNB	**Canberra Magne**	**30.97**	**187**	P	**P**	**19 28 44.0**	**+1.5**
	baz=31,SNR=4.2						
CAN	**Canberra**	**31.02**	**187**	P	**P**	**19 28 43.7**	**+0.8**
CAN				IAmb	IAmb	19 28 46.0	
	comp=Z,17nm,0.9s						
MMRI	**Maumere**	**31.38**	**261**	P	**P**	**19 28 46.3**	**0.0**
MMRI	**Maumere**	**31.38**	**261**	P	**P**	**19 28 45.8**	**-0.5**
WRKA	**Warakurna**	**31.75**	**227**	P	**P**	**19 28 48.0**	**-1.5**
	baz=32,SNR=11						
HTT	**Hallett**	**31.91**	**204**	P	**P**	**19 28 50.6**	**-0.2**
	baz=32,SNR=16						
EDFI	**Ende, Flores**	**31.93**	**261**	P	**P**	**19 28 49.2**	**-2.1**
	comp=Z,46nm,0.7s,comp=Z,1μm						
MRSI	**Marisa**	**31.96**	**278**	P	**P**	**19 28 51.2**	**-0.2**
	comp=Z,9.4nm,0.8s						
BBOO	**Buckleboo**	**32.62**	**208**	P	**P**	**19 28 56.2**	**-0.7**
	baz=33,SNR=5.0						
BBOO	**Buckleboo**	**32.62**	**208**	P	**P**	**19 28 56.1**	**-0.9**
BNSI	**Bone**	**33.35**	**269**	P	**P**	**19 29 03.6**	**+0.1**
WSI	**Waingapu**	**33.40**	**259**	P	**P**	**19 29 03.3**	**-0.6**
	comp=Z,333nm,0.9s,comp=Z,3μm						
KAPI	**Kappang**	**33.69**	**268**	P	**P**	**19 29 06.4**	**-0.1**
	comp=Z,11nm,0.6s,baz=110,slow=7.8,SNR=7.4						
TOO	**Toolangi**	**33.79**	**192**	P	**P**	**19 29 06.7**	**-0.4**
TOO				IAmb	IAmb	19 29 09.2	
	comp=Z,9.1nm,0.8s						
ARPS	**Mount Arapiles**	**33.93**	**197**	P	**P**	**19 29 08.6**	**+0.3**
	baz=34,SNR=5.2						
MPSI	**Mapaga**	**33.96**	**277**	P	**P**	**19 29 07.6**	**-1.2**
	comp=Z,21nm,0.9s						
WBSI	**Waikabubak, Su**	**34.28**	**259**	P	**P**	**19 29 10.6**	**-1.1**
	comp=Z,138nm,0.8s,comp=Z,1μm						
FORT	**Forrest**	**35.54**	**220**	P	**P**	**19 29 21.6**	**-0.7**
	baz=36,SNR=56						
FORT	**Forrest**	**35.54**	**220**	P	**P**	**19 29 21.5**	**-0.8**
PLAI	**Plampang**	**35.79**	**261**	P	**P**	**19 29 22.9**	**-1.7**
	comp=Z,83nm,0.6s						
TWSI	**Taliwang, Sumb**	**36.66**	**261**	P	**P**	**19 29 30.8**	**-1.3**
	comp=Z,29nm,0.8s						
PSA00	**Pilbara Seismi**	**36.86**	**239**	P	**P**	**19 29 32.5**	**-1.1**
PSA00	**Pilbara Seismi**	**36.86**	**239**		**P**	**19 29 31.8**	**-1.8**
PSA00				IAmb	IAmb	19 29 32.7	
	comp=Z,27nm,0.8s						
SPMM	**Sapulut**	**38.15**	**283**	P	**P**	**19 29 45.0**	**+0.4**
IGBI	**Denpasar**	**38.38**	**261**	P	**P**	**19 29 45.0**	**-1.6**
TAU	**Tasmania Unive**	**38.71**	**187**	P	**P**	**19 29 49.6**	**+0.7**
TAU				IAmb	IAmb	19 30 00.1	
	comp=Z,17nm,1.0s						
KKM	**Kota Kinabalu**	**38.71**	**285**	P	**P**	**19 29 49.0**	**-0.5**
KKM				IAmb	IAmb	19 29 50.0	
	comp=Z,21nm,0.9s						
JAGI	**Jajag, Banyuwa**	**39.34**	**262**	P	**P**	**19 29 52.8**	**-1.8**
	comp=Z,50nm,0.9s,comp=Z,660nm						
JAGI	**Jajag, Banyuwa**	**39.34**	**262**	P	**P**	**19 29 52.7**	**-1.9**
MEEK	**Meekatharra**	**40.02**	**233**	P	**P**	**19 29 59.1**	**-1.0**
	baz=40,SNR=14						
QRZ	**Quartz Range**	**40.04**	**157**	P	**P**	**19 30 00.7**	**+0.7**
BKZ	**Black Stump Fm**	**40.35**	**152**	P	**P**	**19 30 02.3**	**-0.4**
BKZ				IAmb	IAmb	19 30 06.3	
	comp=Z,20nm,1.0s						
THZ	**Tophouse**	**40.99**	**158**	P	**P**	**19 30 06.8**	**-1.1**
TUWZ	**Tuamarina**	**41.11**	**157**	P	**P**	**19 30 07.2**	**-1.6**
SNZO	**South Karori**	**41.32**	**156**	P	**P**	**19 30 08.9**	**-1.5**
BFZ	**Birch Farm**	**41.46**	**154**	P	**P**	**19 30 10.7**	**-1.0**
BFZ				IAmb	IAmb	19 30 12.8	
	comp=Z,37nm,1.0s						
FOZ	**Fox Glacier**	**41.51**	**162**	P	**P**	**19 30 11.9**	**-0.1**
FOZ				IAmb	IAmb	19 30 12.7	
	comp=Z,16nm,1.0s						
MSWZ	**Moikau Station**	**41.63**	**155**	P	**P**	**19 30 12.5**	**-0.6**
PWJI	**Pagerwojo**	**41.64**	**263**	P	**P**	**19 30 11.5**	**-2.1**
LTZ	**Lake Taylor**	**41.65**	**159**	P	**P**	**19 30 13.0**	**-0.3**
LTZ				IAmb	IAmb	19 30 29.8	
	comp=Z,15nm,1.0s						
PLWZ	**Palliser**	**41.76**	**155**	P	**P**	**19 30 13.5**	**-0.7**
KHZ	**Kahutara**	**41.80**	**158**	P	**P**	**19 30 13.7**	**-0.7**
KHZ				IAmb	IAmb	19 30 26.8	
	comp=Z,11nm,1.0s						
SBUM	**Sibu**	**41.87**	**279**	P	**P**	**19 30 14.4**	**-1.0**
SBUM	**Sibu**	**41.87**	**279**	P	**P**	**19 30 16.0**	**+0.6**
RPZ	**Rata Peaks**	**42.06**	**161**	P	**P**	**19 30 16.9**	**+0.3**
	comp=Z,29nm,0.7s,baz=304,slow=2.4,SNR=18						
RPZ	**Rata Peaks**	**42.06**	**161**	P	**P**	**19 30 16.5**	**-0.1**
NACB	**Ninganchiao**	**42.16**	**314**	P	**P**	**19 30 17.4**	**-0.2**
PCJI	**Pacitan**	**42.27**	**263**	P	**P**	**19 30 17.0**	**-1.7**
STKI	**Sintang**	**42.27**	**275**	P	**P**	**19 30 18.7**	**0.0**
TPUB	**Ta-pu**	**42.33**	**312**	P	**P**	**19 30 16.3**	**-2.7**
SSLB	**Suanglung**	**42.39**	**313**	P	**P**	**19 30 20.3**	**+0.8**
SSLB				IAmb	IAmb	19 30 26.7	
	comp=Z,18nm,0.9s						
LBZ	**Lake Benmore**	**42.39**	**162**	P	**P**	**19 30 18.2**	**-1.0**
WKZ	**Wanaka**	**42.45**	**164**	P	**P**	**19 30 18.1**	**-1.7**
DCZ	**Deep Cove**	**42.56**	**166**	P	**P**	**19 30 20.0**	**-0.5**
DCZ				IAmb	IAmb	19 30 20.8	
	comp=Z,27nm,1.0s						
MQZ	**McQueen's Vall**	**42.59**	**159**	P	**P**	**19 30 20.6**	**-0.2**
YHNB	**Yeheng**	**42.62**	**314**	P	**P**	**19 30 20.8**	**-0.6**
UGM	**Wanagama**	**42.91**	**263**	P	**P**	**19 30 25.4**	**+1.5**
UGM				IAmb	IAmb	19 30 28.8	
	comp=Z,25nm,0.9s						
JNU	**Nakatsue**	**43.09**	**332**	P	**P**	**19 30 25.3**	**+0.2**
KLBR	**Kellerberrin**	**43.10**	**227**	P	**P**	**19 30 23.5**	**-1.6**
	baz=43,SNR=18						
ODZ	**Otahua Downs**	**43.13**	**162**	P	**P**	**19 30 23.8**	**-1.4**
WHZ	**Wether Hill Ro**	**43.16**	**165**	P	**P**	**19 30 24.4**	**-1.0**
WHZ				IAmb	IAmb	19 30 27.7	
	comp=Z,18nm,0.9s						
MORW	**Morawa**	**43.16**	**231**	P	**P**	**19 30 24.6**	**-1.1**
	baz=43,SNR=15						
MORW	**Morawa**	**43.16**	**231**	P	**P**	**19 30 24.4**	**-1.3**
MORW				IAmb	IAmb	19 30 25.8	
	comp=Z,18nm,0.6s						
MJAR	**Matsushiro Arr**	**43.22**	**342**	P	**P**	**19 30 25.3**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=167,slow=9.0,SNR=4.9						
MJAR				LR	LR	19 46 40.1	
	comp=Z,20nm,21.6s,baz=290,slow=34						
MAJO	**Matsushiro**	**43.22**	**342**	P	**P**	**19 30 25.1**	**-0.9**
MAT	**Matsushiro**	**43.22**	**342**	P	**P**	**19 30 23.3**	**-2.7**
MAT				S	**S**	**19 36 41.8**	**-4.9**
MJB9	**Matsu-Tunnel**	**43.22**	**342**	P	**P**	**19 30 25.4**	**-0.7**
KSM	**Kuching**	**43.61**	**277**	P	**P**	**19 30 29.4**	**-0.2**
KSM				IAmb	IAmb	19 30 30.6	
	comp=Z,27nm,0.8s						
KSM	**Kuching**	**43.61**	**277**	P	**P**	**19 30 30.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**44.18**	**226**	P	**P**	**19 30 32.0**	**-1.8**
	comp=Z,7.1nm,0.7s,baz=102,slow=2.9,SNR=3.6						
NWAO	**Narrogin (SRO)**	**44.18**	**226**	P	**P**	**19 30 32.7**	**-1.1**
NWAO				IAmb	IAmb	19 30 32.9	
	comp=Z,22nm,0.9s						
KPJI	**Karang Pucung**	**44.47**	**264**	P	**P**	**19 30 36.0**	**-0.4**
RKGY	**Rocky Gully**	**45.26**	**224**	P	**P**	**19 30 42.0**	**-0.3**
	baz=45,SNR=15						
CISI	**Cisompet, Garu**	**45.58**	**264**	P	**P**	**19 30 43.4**	**-1.9**
CISI	**Cisompet, Garu**	**45.58**	**264**	P	**P**	**19 30 43.5**	**-1.7**
LEM	**Lembang**	**45.76**	**265**	P	**P**	**19 30 46.3**	**-0.6**
	comp=Z,8.9nm,0.4s,baz=294,slow=24,SNR=3.5						
LEM				LR	LR	19 54 26.2	
	comp=Z,47nm,18.1s,baz=115,slow=42						
DLV	**T Lat**	**47.67**	**290**	P	**P**	**19 31 01.2**	**-0.6**
XMIS	**Christmas Isla**	**47.83**	**260**	P	**P**	**19 31 03.0**	**+0.2**
KSRS	**Korea Array**	**48.02**	**332**	P	**P**	**19 31 04.5**	**+0.6**
	comp=Z,8.0nm,0.8s,baz=149,slow=8.2,SNR=17						
KSRS				LR	LR	19 50 51.6	
	comp=Z,24nm,18.0s,baz=154,slow=35						
KSAR	**Wonju Array Be**	**48.03**	**332**	P	**P**	**19 31 03.8**	**-0.1**
NJ2	**Nanjing**	**49.04**	**320**	*eP*	**P**	**19 31 11.4**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KRJI	**Kerinci**	**52.05**	**271**	P	**P**	**19 31 37.3**	**+2.4**
USRK	**Ussuriysk Ar.**	**52.15**	**340**	P	**P**	**19 31 35.8**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=196,slow=6.8,SNR=13						
USRK				LR	LR	19 50 39.4	
	comp=Z,28nm,21.3s,baz=235,slow=32						
USRK	**Ussuriysk Ar.**	**52.15**	**340**	P	**P**	**19 31 35.4**	**+0.4**
USA0B	**Ussuriysk Arra**	**52.16**	**340**	P	**P**	**19 31 34.7**	**-0.3**
USA0B				IAmb	IAmb	19 31 46.6	
	comp=Z,10nm,1.1s						
SDSI	**Sungai Dareh**	**52.17**	**272**	P	**P**	**19 31 34.8**	**-0.9**
	comp=Z,32nm,0.8s,comp=Z,2μm						
PDSI	**Padang**	**53.14**	**272**	P	**P**	**19 31 40.6**	**-2.3**
	comp=Z,28nm,0.7s						
IPM	**Ipoh**	**53.22**	**279**	P	**P**	**19 31 42.5**	**-1.0**
IPM				IAmb	IAmb	19 31 44.0	
	comp=Z,19nm,1.0s						
IPM	**Ipoh**	**53.22**	**279**	P	**P**	**19 31 43.0**	**-0.4**
KULM	**Kulim**	**53.72**	**280**	P	**P**	**19 31 46.4**	**-0.7**
KULM				IAmb	IAmb	19 31 47.4	
	comp=Z,15nm,0.8s						
KULM	**Kulim**	**53.72**	**280**	P	**P**	**19 31 47.0**	**0.0**
CN2	**Changchun**	**54.28**	**335**	*e*P	**P**	**19 31 52.4**	**+1.8**
CN2				*e*pP	sP	19 32 17.4	-2.6
CN2				*e*S	**S**	**19 39 20.8**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
ENH	**Enshi**	**54.46**	**312**	P	**P**	**19 31 52.2**	**-0.1**
ENH				IAmb	IAmb	19 31 56.6	
	comp=Z,21nm,1.1s						
NONG	**Nongkai**	**54.49**	**296**	P	**P**	**19 31 53.4**	**+0.8**
	comp=Z,0.6nm,0.9s,comp=Z,147nm						
GYA	**Guiyang**	**54.78**	**307⇑**	*i*P	**P**	**19 31 56.3**	**+1.6**
GYA				pP	pwP	19 32 18.9	+3.5
GYA				sP	sP	19 32 34.8	+10
GYA				PcP	**PcP**	**19 32 55.3**	**-1.0**
GYA				PP	**PP**	**19 34 04.3**	**+6.0**
GYA				S	**S**	**19 39 31.1**	**+1.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,170nm,4.5s						
GYA				LR	LR		
	comp=Z,290nm,17.9s						
GYA				LR	LR		
	comp=Z,350nm,18.0s						
GYA				LR	LR		
	comp=Z,400nm,18.5s						
RPSI	**Rantau Prapat**	**55.05**	**276**	P	**P**	**19 31 54.9**	**-1.8**
RPSI				IAmb	IAmb	19 31 55.8	
	comp=Z,8.7nm,0.9s						
RPSI	**Rantau Prapat**	**55.05**	**276**	P	**P**	**19 31 55.6**	**-1.1**
PSI	**Prapat**	**55.06**	**277**	P	**P**	**19 31 55.6**	**-1.3**
	comp=Z,5.2nm,0.6s,baz=126,slow=3.8,SNR=8.0						
PSI				LR	LR	19 57 42.7	
	comp=Z,90nm,18.7s,baz=151,slow=38						
PATY	**Pattaya**	**55.10**	**289**	P	**P**	**19 31 58.4**	**+1.4**
	comp=Z,24μm,0.9s						
TRTT	**Trang**	**55.10**	**283**	P	**P**	**19 31 57.1**	**0.0**
	comp=Z,30nm,1.0s						
PBKT	**Sadao Pong**	**56.00**	**293**	P	**P**	**19 32 04.7**	**+1.3**
	comp=Z,4.3nm,0.8s,comp=Z,525nm						
SURT	**Suratani**	**56.19**	**284**	P	**P**	**19 32 04.9**	**+0.1**
	comp=Z,38nm,0.9s,comp=Z,343nm						
PHET	**Kaeng Krachan**	**56.26**	**289**	P	**P**	**19 32 06.9**	**+1.5**
	comp=Z,32μm,1.0s,comp=Z,360μm						
PKDT	**Phuket**	**56.43**	**282**	P	**P**	**19 32 06.7**	**+0.1**
	comp=Z,49nm,0.9s						
XAN	**Xi'an**	**56.88**	**316**	P	**P**	**19 32 09.5**	**0.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NANT	**Nan**	**56.93**	**296**	P	**P**	**19 32 10.5**	**+0.5**
	comp=Z,326μm,1.0s						
SRDT	**SRDT**	**57.10**	**290**	P	**P**	**19 32 12.8**	**+1.5**
	comp=Z,12nm,1.2s,comp=Z,2μm						
PPT	**Papeete**	**57.12**	**108**	LR	LR	19 52 00.5	
	comp=Z,30nm,21.6s,baz=212,slow=31						
UTHA	**Uthaitani**	**57.12**	**292**	P	**P**	**19 32 12.4**	**+1.0**
	comp=Z,25μm,0.7s,comp=Z,292μm						
PPT2	**Papeete2**	**57.12**	**108**	*e*LR	LR	19 48 48.5	
	comp=Z,174nm,35.5s						
KMI	**Kunming**	**57.41**	**303**	P	**P**	**19 32 15.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,17nm,1.2s						
PEA0B	**Petropavlovsk-**	**57.44**	**3**	P	**P**	**19 32 13.3**	**+0.3**
PETK	**Petropavlovsk-**	**57.44**	**3**	P	**P**	**19 32 12.5**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=159,slow=6.0,SNR=13						
PETK	**Petropavlovsk-**	**57.44**	**3**	P	**P**	**19 32 14.2**	**+1.2**
KHLT	**Khaolaem Dam**	**57.71**	**290**	P	**P**

comp=Z,380nm,29.0s
WMQ LR LR
comp=Z,2μm,29.1s
WMQ LR LR
comp=Z,86nm,28.8s
CNPM China Poot 77.07 25 P **P** **19 34 18.3 +1.4**
CNPM IAmb IAmb 19 34 19.7
comp=Z,23nm,0.8s
TTA Tatalina 77.16 21 P **P** **19 34 18.2 +0.8**
BRLK Bradley Lake 77.34 25 P **P** **19 34 19.4 +0.9**
BRLK IAmb IAmb 19 34 31.1
comp=Z,9.7nm,1.0s
TIXI Tiksi 77.64 352 P **P** **19 34 20.8 +1.0**
SUA Susitna One 78.32 24 P **P** **19 34 24.6 +0.6**
PPLA Purkeypile 78.55 22 P **P** **19 34 25.4 +0.2**
KTH Kantishna Hill 79.40 22 P **P** **19 34 29.9 +0.1**
TRF Thorofare Moun 79.58 22 P **P** **19 34 30.9 0.0**
IMAR Indian Mountai 79.79 19 P **P** **19 34 32.8 +1.0**
SCM Sheep Creek Mo 79.91 24 P **P** **19 34 33.2 +0.6**
SCM IAmb IAmb 19 34 45.1
comp=Z,12nm,1.2s
MCK McKinley 80.24 22 P **P** **19 34 34.3 0.0**
MCK IAmb IAmb 19 34 49.7
comp=Z,10.0nm,1.1s
MLY Manley 80.28 21 P **P** **19 34 35.0 +0.5**
MK31 Makanchi Array 80.55 319 P **P** **19 34 37.0 +0.7**
MK31 IAmb IAmb 19 34 37.9
comp=Z,11nm,1.1s
MKAR Makanchi Array 80.55 319 P **P** **19 34 36.7 +0.4**
comp=Z,10nm,0.9s,baz=104,slow=7.1,SNR=43
MKAR Makanchi Array 80.55 319 P **P** **19 34 36.6 +0.2**
MAKZ Makanchi 80.76 319 P **P** **19 34 37.7 +0.3**
MAKZ IAmb IAmb 19 34 38.9
comp=Z,14nm,0.8s
CCB Clear Creek Bu 81.14 22 P **P** **19 34 38.8 -0.2**
WAX Waxell Ridge 81.20 27 P **P** **19 34 39.7 +0.2**
WAX IAmb IAmb 19 34 42.5
comp=Z,22nm,1.1s
GLB Gilahina Butte 81.21 26 P **P** **19 34 39.7 +0.1**
ZAA0 Zalesovo Array 81.27 326 P **P** **19 34 38.6 -1.3**
ZALV Zalesovo Beam 81.27 326 P **P** **19 34 39.3 -0.6**
comp=Z,4.2nm,0.7s,baz=108,slow=5.2,SNR=20
ZALV LR LR 20 09 52.9
comp=Z,16nm,21.2s,baz=70,slow=35
ZALV Zalesovo Beam 81.27 326 P **P** **19 34 39.0 -0.9**
IL31 81.54 22 P **P** **19 34 40.7 -0.4**
ILAR Eielson Array 81.54 22 P **P** **19 34 40.5 -0.6**
comp=Z,2.7nm,0.9s,baz=239,slow=5.1,SNR=18
ILAR Eielson Array 81.54 22 P **P** **19 34 40.9 -0.3**
CTGM Chitina Glacie 82.09 27 P **P** **19 34 44.7 +0.4**
BCAR Beaver Creek A 82.77 25 P **P** **19 34 48.4 +0.7**
KSH Kashi 83.27 310 P **P** **19 34 53.7 +2.8**
KSH PP **PP** **19 38 08.6 +5.0**
KSH S **S** **19 45 04.2 -0.7**
KSH sS sS 19 45 53.1 +11
KSH pmax pmax
comp=Z,74nm,1.2s
KSH LR LR
comp=Z,370nm,9.7s
KSH LR LR
comp=Z,370nm,11.2s
KSH LR LR
comp=Z,220nm,13.0s
NRN Naryn 83.63 312 P **P** **19 34 53.5 +0.5**
HYT Haines Junctio 83.77 27 P **P** **19 34 53.3 +0.4**
HYT IAmb IAmb 19 35 02.5
comp=Z,7.2nm,1.1s
DAWY Dawson 84.15 24 P **P** **19 34 56.1 +1.4**
TKM2 Tokmak 2 84.22 314 P **P** **19 34 56.7 +0.9**
SNR=15
KZA Kyzart 84.31 313 P **P** **19 34 56.6 +0.1**
SNR=12
NIL Nilore 84.39 304 P **P** **19 34 57.1 +0.5**
KBK Karagaybulak 84.64 313 P **P** **19 34 58.5 +0.7**
SNR=9.8
CHMS Chumysh 84.85 314 P **P** **19 34 59.6 +0.9**
SNR=15
UCH Uchtor 84.88 313 P **P** **19 35 01.0 +1.6**
SNR=15
AAK Ala-Archa 84.97 313 P **P** **19 35 00.5 +1.0**
SNR=11
AAK Ala-Archa 84.97 313 P **P** **19 35 00.3 +0.9**
AAK IAmb IAmb 19 35 01.4
comp=Z,19nm,0.8s
USP Ospenovka 85.08 314 P **P** **19 35 00.8 +0.9**
SNR=14
AML Almayashu 85.46 313 P **P** **19 35 03.6 +1.4**
SNR=14
EKS2 Erkin-Say 85.49 313 P **P** **19 35 03.2 +1.2**
SNR=7.3
QSPA South Pole Qui 85.52 180 P **P** **19 35 01.1 -0.6**
QSPA IAmb IAmb 19 35 02.0
comp=Z,9.4nm,0.5s
ARSB Arslanbob 85.84 312 P **P** **19 35 04.4 +0.5**
ARSB IAmb IAmb 19 35 07.8
comp=Z,12nm,0.8s
NRIK Noril'sk 85.87 341 P **P** **19 35 02.8 -0.3**
comp=Z,4.6nm,0.6s,baz=135,slow=4.5,SNR=3.6
NRIK LR LR 20 15 43.2
comp=Z,25nm,18.1s,baz=83,slow=37
MAW Mawson 86.19 203 P **P** **19 35 04.0 -0.8**
comp=Z,3.3nm,0.6s,baz=99,slow=9.3,SNR=6.1
MAW Mawson 86.19 203 P **P** **19 35 04.3 -0.5**
KKAR Karatay Array 87.93 313 P **P** **19 35 13.7 -0.1**
KBL Kabul 87.97 305 P **P** **19 35 13.1 -1.3**
KBL IAmb IAmb 19 35 14.4
comp=Z,5.3nm,0.6s
BRVK Borovoye 89.47 323 P **P** **19 35 19.6 -1.1**
BRVK IAmb IAmb 19 35 21.5
comp=Z,14nm,0.9s
CMB Columbia Colle 89.60 52 P **P** **19 35 20.3 -1.5**
CMB IAmb IAmb 19 35 21.1
comp=Z,11nm,1.1s
NVAR Mina Array Bea 91.27 52 LR LR 20 09 46.9
comp=Z,30nm,20.4s,baz=271,slow=31
SYO Syowa Base 94.26 199⇑ *e*P **P** **19 35 40.0 -2.6**
YKA Yellowknife Ar 94.76 28 P **P** **19 35 44.0 -1.0**
comp=Z,0.5nm,0.7s,baz=263,slow=4.3,SNR=4.1
ABKAR Akbulak array 95.69 319 P **P** **19 35 47.9 -1.7**
AKTO Aktyubinsk 96.93 320 LR LR 20 19 53.0
comp=Z,38nm,19.8s,baz=20,slow=36
GEYT Alibeck 96.99 308 P **P** **19 35 54.4 -1.4**
comp=Z,2.3nm,0.8s,baz=83,slow=3.4,SNR=4.5
GEYT Alibeck 96.99 308 P **P** **19 35 54.3 -1.4**
PDAR Pinedale Array 98.05 48 LR LR 20 14 07.7
comp=Z,35nm,18.7s,baz=324,slow=32
AKASG Malin Array Be 114.64 325 PKP **PKiKP** **19 41 02.8 -0.8**
comp=Z,0.1nm,0.3s,baz=54,slow=1.7,SNR=4.2
BOSA Boshof 120.44 233 PKP **PKPdf** **19 41 15.1 -0.6**
comp=Z,2.6nm,0.8s,baz=110,slow=1.1,SNR=4.9
LSZ Lusaka 122.47 249 **PKiKP** **19 41 19.8 -0.3**
BRG Berggiesshubel 122.72 331 *e*PKP **PKiKP** **19 41 20.1 +0.6**
comp=Z,1.6nm,0.7s
CLL Collm 122.89 332 *e*PKPdf **PKiKP** **19 41 20.0 +0.2**
KHC Kasperske Hory 124.02 329 *e*PKPDF **PKiKP** **19 41 22.5 +0.4**
GERES GERESS Array B 124.14 329 PKP **PKPdf** **19 41 21.7 -0.4**
comp=Z,1.4nm,0.6s,baz=80,slow=1.5,SNR=14
GERES GERESS Array B 124.14 329 **PKPdf** **19 41 22.1 -0.1**
PTGA Pitinga 146.12 98 **PKPdf** **19 42 03.5 -0.2**
BDFB Brasilia 150.78 133 PKPbc **PKiKP** **19 42 17.5 -0.1**
comp=Z,4.4nm,0.4s,baz=214,slow=5.9,SNR=8.1
TOA0 Torodi Ar. Sit 150.90 289 **PKPbc** **19 42 16.2 -1.0**
TORD Torodi Ar. Bea 150.90 289 PKPbc **PKPbc** **19 42 16.5 -0.6**
comp=Z,16nm,0.7s,baz=70,slow=2.5,SNR=78
TORD Torodi Ar. Bea 150.90 289 **PKPbc** **19 42 14.8 -2.3**

ISCJB ***11*** *19:44:16.5±0.4, 8°.95S±0°.04×127°.00E±0°.04, h100km, mb3.9/4, Error ellipse: s-maj=6.0km s-min=4.9km az=18.5*
IDC ***11*** *19:44:16.8±1.8, 8°.92S×127°.12E, h63km±20km, mb3.7/4, mb1 4.0/10, mb1mx3.7/33, mbtmp4.0/10, Error ellipse: s-maj=18.6km s-min=14.2km az=142.0*
DJA ***11*** *19:44:18.4±0.2, 9°S±3°×12°7E±°, h77km±16km, M4.2/14, mB5.2/2, mb4.2/12, MLv4.2/14, Mw(mB)4.5/2*
ISC 11 19:44:17.8±0.7, 8°.99S±0°.06×127°.00E±0°.05, h100km, n24, σ1°89/29, mb3.9/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.81**	**254**	P	**Pn**	**19 45 01.2**	**+0.1**
BATI	**Baumata**	**3.51**	**250**	P	**Pn**	**19 45 11.2**	**+0.8**
	8.3nm,0.3s,baz=114,slow=1.8,SNR=47						
BATI				S	**Sn**	**19 45 53.6**	**+2.5**
	33nm,0.3s,baz=133,slow=21,SNR=12						
BATI	**Baumata**	**3.51**	**250**	P	**Pn**	**19 45 11.1**	**+0.7**
BATI				S	**Sn**	**19 45 49.9**	**-1.2**
SAUI	**Saumlaki**	**4.37**	**77**	P	**Pn**	**19 45 23.6**	**+1.6**
SAUI				S	**Sn**	**19 46 16.0**	**+4.2**
MMRI	**Maumere**	**4.72**	**274**	P	**Pn**	**19 45 24.2**	**-2.6**
EDFI	**Ende, Flores**	**5.25**	**272**	P	**Pn**	**19 45 33.5**	**-0.6**
	17nm,0.9s						
BNDI	**Bandanaira**	**5.29**	**33**	P	**Pn**	**19 45 33.7**	**-0.8**
AAI	**Ambon**	**5.40**	**13**	P	**Pn**	**19 45 35.2**	**-0.8**
BBSI	**Bau Bau**	**5.61**	**308**	P	**Pn**	**19 45 38.7**	**-0.1**
NLAI	**Namlea**	**5.71**	**1**	P	**Pn**	**19 45 40.3**	**+0.1**
MSAI	**Masohi**	**5.92**	**19**	P	**Pn**	**19 45 42.7**	**-0.4**
SANI	**Sanana**	**6.97**	**352**	P	**Pn**	**19 45 57.3**	**0.0**
	10nm,0.8s						
BKSI	**Bulukumba**	**7.74**	**298**	P	**Pn**	**19 46 07.0**	**-0.8**
FAKI	**Fak Fak**	**7.97**	**41**	P	**Pn**	**19 46 10.4**	**-0.6**
KAPI	**Kappang**	**8.21**	**298**	P	**Pn**	**19 46 12.5**	**-1.7**
	1.9nm,0.3s,baz=117,slow=20,SNR=3.8						
SIJI	**Sorong**	**9.11**	**28**	P	**Pn**	**19 46 24.1**	**-2.4**
	0.5nm,0.3s,baz=127,slow=20,SNR=2.9						
SIJI				S	**Sn**	**19 48 04.8**	**-2.6**
	0.2nm,0.3s,baz=323,slow=20,SNR=3.0						
PLAI	**Plampang**	**9.12**	**270**	P	**Pn**	**19 46 26.6**	**0.0**
FITZ	**Fitzroy Crossi**	**9.15**	**188**	P	**Pn**	**19 46 27.9**	**+0.9**
	0.8nm,0.3s,baz=18,slow=13,SNR=9.8						
FITZ				S	**Sn**	**19 48 09.1**	**+0.8**
	1.9nm,0.3s,baz=121,slow=14,SNR=8.5						
WRA	**Warramunga Arr**	**13.00**	**148**	P	**Pn**	**19 47 18.1**	**-0.7**
	1.2nm,0.3s,baz=318,slow=13,SNR=29						
WRA				S	**Sn**	**19 49 38.0**	**-3.8**
	1.2nm,0.3s,baz=319,slow=23,SNR=15						
ASAR	**Alice Springs**	**16.02**	**156**	P	**P**	**19 47 59.1**	**+0.1**
	0.5nm,0.3s,baz=332,slow=10,SNR=31						
ASAR				S	**Sn**	**19 50 51.5**	**-3.5**
	0.3nm,0.3s,baz=320,slow=17,SNR=7.7						
CMAR	**Chiang Mai Arr**	**38.86**	**315**	P	**P**	**19 51 36.0**	**+2.3**
	0.5nm,0.4s,baz=140,slow=6.7,SNR=7.3						
USRK	**Ussuriysk Ar.**	**53.13**	**4**	P	P	19 53 28.4	+3.3
	1.1nm,0.6s,baz=178,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**68.31**	**329**	P	P	19 55 11.9	+3.6
	0.8nm,0.5s,baz=128,slow=7.3,SNR=9.8						
ZALV	**Zalesovo Beam**	**72.09**	**335**	P	**P**	**19 55 33.2**	**+2.1**
	0.8nm,0.4s,baz=129,slow=3.9,SNR=3.2						

SOME ***11*** *19:47:14.6, 40°.28N×72°.72E, h5km*
KRNET ***11*** *19:47:15.1±0.1, 40°.29N×72°.71E, h9km, mb3.4*
NNC ***11*** *19:47:19.6±1.5, 40°.54N×72°.78E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.2km s-min=4.6km az=177.0*
ISC 11 19:47:17.0±1.5, 40°.36N±0°.05×72°.53E±0°.03, h0km±12km, n57, σ1°51/93, 17C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.03**	**19⇑**	*e*P	**Pg**	**19 47 35.1**	**-1.6**
	baz=11						
ARSB				⇑*i*S	**Sg**	**19 47 49.4**	**-0.6**
	baz=11						
BTK	**Batken**	**1.34**	**258**	⇓*i*P	**Pg**	**19 47 42.8**	**+0.1**
	baz=61						
BTK				⇓*i*S	**Sg**	**19 48 02.4**	**+2.3**
	baz=61						
ARK	**Arkit**	**1.50**	**344**	⇓*i*P	**Pb**	**19 47 45.0**	**-0.9**
	baz=40						
ARK				⇓*i*S	**Sg**	**19 48 06.8**	**+1.5**
	baz=40						
AML	**Almayashu**	**1.98**	**26**	⇑*i*P	**Pn**	**19 47 52.1**	**-0.1**
	baz=22						
AML				⇑*i*S	**Sb**	**19 48 19.1**	**-0.4**
	baz=22						
AML	**Almayashu**	**1.98**	**26**	P	**Pn**	**19 47 52.0**	**-0.2**
	SNR=197						
ARLS	**Aral**	**2.03**	**41**	⇓*i*P	**Pn**	**19 47 51.8**	**-0.8**
	baz=37						
ARLS				⇓*i*S	**Sb**	**19 48 19.2**	**-1.4**
	baz=37						
UCH	**Uchtor**	**2.40**	**38**	⇓*i*P	**Pn**	**19 47 57.6**	**-0.3**
	baz=35						
UCH				⇓*i*S	**Sb**	**19 48 28.6**	**-2.9**
	baz=35						
UCH	**Uchtor**	**2.40**	**38**	P	**Pn**	**19 47 57.8**	**-0.1**
	SNR=34						
MRKS	**Merke**	**2.44**	**12**	*e*P	**Pb**	**19 48 00.3**	**-1.6**
	48nm,0.3s						
MRKS				*e*S	**Sb**	**19 48 31.3**	**-1.3**
	178nm,0.4s						
EKS2	**Erkin-Say**	**2.49**	**22**	⇓*i*P	**Pn**	**19 47 59.4**	**+0.5**
	baz=18						
EKS2				⇓*i*S	**Sb**	**19 48 31.2**	**-2.7**
	baz=18						
EKS2	**Erkin-Say**	**2.49**	**22**	P	**Pb**	**19 48 01.1**	**-1.6**
	SNR=27						
IUG	**Iuzhnay**	**2.60**	**314**	*e*P	**Pg**	**19 48 06.0**	**-0.8**
	3.8nm,0.3s						
IUG				*e*S	**Sg**	**19 48 41.4**	**+0.9**
	171nm,0.5s						
TAS	**Tashkent**	**2.64**	**293**	⇓*i*P	**Pb**	**19 48 03.0**	**-2.2**
	baz=93						
TAS				⇓*i*S	**Sb**	**19 48 37.8**	**-0.5**
	baz=93						
KZA	**Kyzart**	**2.68**	**49**	⇓*i*P	**Pn**	**19 48 01.6**	**-0.2**
	baz=46						
KZA				⇓*i*S	**Sn**	**19 48 34.6**	**-0.5**
	baz=46						
KZA	**Kyzart**	**2.68**	**49**	P	**Pn**	**19 48 02.7**	**+0.9**
	SNR=14						
DZA	**Taraz**	**2.69**	**341**	*e*P	**Pb**	**19 48 06.7**	**+0.7**
	26nm,0.2s						
DZA				*e*S	**Sg**	**19 48 42.6**	**-0.7**
	230nm,0.3s						
AAK	**Ala-Archa**	**2.72**	**32**	⇑*i*P	**Pn**	**19 48 02.5**	**+0.4**
	baz=29						
AAK				⇑*i*S	**Sn**	**19 48 36.0**	**+0.3**
	baz=29						
AAK	**Ala-Archa**	**2.72**	**32**	P	**Pn**	**19 48 02.3**	**+0.2**
	SNR=38						
NRN	**Naryn**	**2.84**	**67**	⇓*i*P	**Pn**	**19 48 02.9**	**-1.1**
	baz=64						
NRN				⇓*i*S	**Sn**	**19 48 37.3**	**-1.8**
	baz=64						
FRU1	**Bishkek**	**2.92**	**32**	⇓*i*P	**Pn**	**19 48 05.1**	**+0.4**
	baz=29						
FRU1				⇓*i*S	**Sn**	**19 48 40.8**	**+0.3**
	baz=29						
KBK	**Karagaybulak**	**2.93**	**38**	⇓*i*P	**Pn**	**19 48 04.9**	**-0.1**
	baz=35						
KBK				⇓*i*S	**Sn**	**19 48 41.3**	**+0.3**
	baz=35						
KBK	**Karagaybulak**	**2.93**	**38**	P	**Pn**	**19 48 05.8**	**+0.8**
	SNR=11						
CHMS	**Chumysh**	**3.12**	**32**	⇑*e*P	**Pn**	**19 48 07.7**	**+0.2**
	baz=29						
CHMS				⇑*i*S	**Sn**	**19 48 45.9**	**+0.4**
	baz=29						
CHMS	**Chumysh**	**3.12**	**32**	P	**Sb**	**19 48 52.9**	**+0.8**
	SNR=5.4						
KK31	**Karatay Array**	**3.13**	**332**	⇑Pn	**Pb**	**19 48 10.1**	**-3.4**
	1.1nm,0.3s,baz=114,slow=11,SNR=44						
KK31				Pg	**Pg**	**19 48 17.5**	**+0.5**
	2.8nm,0.3s,baz=147,slow=16,SNR=21						
KK31				⇓Lg	Lg	19 48 55.3	
	14nm,0.3s,baz=157,slow=30,SNR=8.1						
USP	**Ospenovka**	**3.26**	**26**	⇓*e*P	**Pn**	**19 48 09.5**	**+0.1**
	baz=24						
USP				⇓*i*S	**Sn**	**19 48 49.5**	**+0.5**
	baz=24						
USP	**Ospenovka**	**3.26**	**26**	P	**Pn**	**19 48 09.8**	**+0.4**
	SNR=8.2						
BOOM	**Boomskoye usch**	**3.34**	**49**	⇓*i*P	**Pn**	**19 48 10.1**	**-0.5**
	baz=47						
BOOM				⇓*i*S	**Sn**	**19 48 50.1**	**-0.9**
	baz=47						
BRLS	**Borolday**	**3.35**	**324**	Pg	**Pb**	**19 48 16.9**	**-0.3**
	0.3nm,0.1s						
BRLS				Lg	Lg	19 49 00.3	
	26nm,0.5s						
BRLS	**Borolday**	**3.35**	**324**	*e*P	**Pb**	**19 48 16.9**	**-0.3**
	0.3nm,0.1s						
BRLS				*e*S	**Sb**	**19 49 00.3**	**+1.8**
	6.5nm,0.5s						
ULHL	**Ulahol**	**3.38**	**55**	⇑*i*P	**Pn**	**19 48 10.5**	**-0.7**
	baz=53						
ULHL				⇑*e*S	**Sn**	**19 48 51.2**	**-0.9**
	baz=53						
ULHL	**Ulahol**	**3.38**	**55**	P	**Pn**	**19 48 10.8**	**-0.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**3.44**	**41**	⇑*e*P	**Pn**	**19 48 12.1**	**0.0**
	baz=39						
TKM2				⇑*i*S	**Sn**	**19 48 53.3**	**-0.4**
	baz=39						
KST	**Kastek**	**3.72**	**43**	Pg	**Pb**	**19 48 21.8**	**-1.8**
	10nm,0.5s						
KST				Lg	Lg	19 49 09.3	
	18nm,0.5s						
KST	**Kastek**	**3.72**	**43**	*e*P	**Pb**	**19 48 22.1**	**-1.6**
	10.0nm,0.3s						
KST				*e*S	**Sb**	**19 49 09.3**	**0.0**
	27nm,0.6s						
DGS	**Degeres**	**3.77**	**39**	Pg	**Pb**	**19 48 23.3**	**-1.2**
	7.9nm,0.9s						
DGS				Lg	Lg	19 49 11.9	
	23nm,0.9s						
DGS	**Degeres**	**3.77**	**39**	*e*P	**Pb**	**19 48 23.3**	**-1.2**
	7.9nm,0.7s						
DGS				*e*S	**Sb**	**19 49 11.9**	**+1.2**
	39nm,0.4s						
KDJ	**Kajisay**	**3.93**	**62**	⇓*i*P	**Pn**	**19 48 18.0**	**-0.8**
	baz=60						
KDJ				⇓*i*S	**Sn**	**19 49 04.0**	**-1.7**
	baz=60						
IZV	**Izvestkoviy**	**4.07**	**47**	Pg	**Pb**	**19 48 28.9**	**-0.7**
	6.6nm,0.7s						
IZV				Lg	Lg	19 49 21.7	
	14nm,0.5s						
IZV	**Izvestkoviy**	**4.07**	**47**	*e*P	**Pb**	**19 48 28.9**	**-0.7**
	7.0nm,0.4s						
IZV				*e*S	**Sb**	**19 49 21.7**	**+2.3**
	21nm,0.5s						
TNSS	**Tian-Shan**	**4.26**	**50**	Pg	**Pb**	**19 48 32.1**	**-0.8**
	4.4nm,0.3s						
TNSS				Lg	Lg	19 49 26.9	
	14nm,0.6s						
TNSS	**Tian-Shan**	**4.26**	**50**	*e*P	**Pb**	**19 48 32.1**	**-0.8**
	8.3nm,0.4s						
TNSS				*e*S	**Sb**	**19 49 26.9**	**+1.8**
	14nm,0.5s						
KNDC	**Almaty**	**4.38**	**48**	⇑Pg	**Pb**	**19 48 32.9**	**-2.0**
	15nm,0.7s						
KNDC				⇑Lg	Lg	19 49 30.2	
	59nm,1.1s						
MDOK	**Medeo**	**4.39**	**49**	Pg	**Pb**	**19 48 35.1**	**0.0**
	9.6nm,0.6s						
MDOK				Lg	Lg	19 49 31.3	
	15nm,0.7s						
MDOK	**Medeo**	**4.39**	**49**	*e*P	**Pb**	**19 48 35.1**	**0.0**
	9.8nm,0.7s						
MDOK				*e*S	**Sb**	**19 49 31.3**	**+2.5**
	15nm,0.7s						
KOTS	**Kotyrbulak**	**4.47**	**48**	Pg	**Pb**	**19 48 36.1**	**-0.4**
	16nm,0.5s						
KOTS				Lg	Lg	19 49 34.1	
	27nm,0.7s						
KOTS	**Kotyrbulak**	**4.47**	**48**	*e*P	**Pb**	**19 48 36.1**	**-0.4**
	22nm,0.5s						
KOTS				*e*S	**Sb**	**19 49 33.4**	**+2.3**
	59nm,0.6s						
ANVS	**Anan'yevo**	**4.55**	**56**	⇑*i*P	**Pn**	**19 48 27.1**	**-0.3**
	baz=55						
ANVS				⇑*i*S	**Sn**	**19 49 19.0**	**-2.1**
	baz=55						
KTBS	**Karatobe**	**4.56**	**41**	Pg	**Pb**	**19 48 37.8**	**-0.1**
	2.8nm,0.4s						
KTBS				Lg	Lg	19 49 36.2	
	28nm,0.8s						
KTBS	**Karatobe**	**4.56**	**41**	*e*P	**Pb**	**19 48 37.8**	**-0.1**
	5.5nm,0.7s						
KTBS				*e*S	**Sb**	**19 49 36.2**	**+2.7**
	42nm,0.5s						
BTLS	**Baital**	**4.81**	**13**	Pg	**Pb**	**19 48 43.2**	**+1.0**
	1.4nm,0.5s						
BTLS				Lg	Lg	19 49 45.2	
	36nm,0.7s						
BTLS	**Baital**	**4.81**	**13**	*e*P	**Pb**	**19 48 43.2**	**+1.0**
	1.5nm,0.5s						
BTLS				*e*S	**Sb**	**19 49 45.2**	**+4.6**
	36nm,0.6s						
CHKK	**Chushkaly**	**4.82**	**42**	Pg	**Pb**	**19 48 42.7**	**+0.4**
	0.5nm,0.1s						
CHKK				Lg	Lg	19 49 44.4	
	11nm,0.3s						
CHKK	**Chushkaly**	**4.82**	**42**	*e*P	**Pb**	**19 48 42.7**	**+0.4**
	5.4nm,0.8s						
CHKK				*e*S	**Sb**	**19 49 44.4**	**+3.6**
	14nm,0.4s						
ARXS	**Arharly**	**5.50**	**44**	Pg	**Pb**	**19 48 54.4**	**+0.3**
	3.6nm,0.7s						
ARXS				Lg	Lg	19 50 04.7	
	9.7nm,0.8s						
ARXS	**Arharly**	**5.50**	**44**	*e*P	**Pb**	**19 48 54.4**	**+0.3**
	3.6nm,0.7s						
ARXS				*e*S	**Sb**	**19 50 04.8**	**+4.1**
	15nm,0.5s						
KPKS	**Kokpek**	**5.55**	**54**	*e*P	**Pb**	**19 48 55.7**	**+1.0**
	5.4nm,0.5s						
KPKS				*e*S	**Sb**	**19 50 06.9**	**+5.1**
	19nm,0.8s						

ISCJB ***11*** *20:06:46.0±0.2, 44°.35N±0°.01×7°.27E±0°.02, h9km±3km, Error ellipse: s-maj=3.0km s-min=2.1km az=149.6*
ROM ***11*** *20:06:45.8±0.2, 44°.33N±0°.01×7°.26E±0°.03, h8km±1km, ML2.2/12, Error ellipse: s-maj=2.2km s-min=0.2km az=241.0*
GEN ***11*** *20:06:46.2, 44°.35N×7°.28E, h2km, MI1.9*
STR ***11*** *20:06:46.5±0.7, 44°N±3°×°±°, h0km, MLv2.1/6*
LDG ***11*** *20:06:46.6±0.0, 44°.35N×7°.29E, h2km, Md2.8/2, Ml2.8/10, Error ellipse: s-maj=0.9km s-min=0.6km az=55.0*
ISC 11 20:06:46.5±0.8, 44°.35N±0°.02×7°.30E±0°.02, h7km±6km, n46, σ0°69/82, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.11**	**169**	P	**Pg**	**20 06 48.7**	**-0.3**
STV				S	**Sg**	**20 06 50.1**	**-0.6**
STV	**Sant Anna di V**	**0.11**	**169**	P	**Pg**	**20 06 48.7**	**-0.3**
STV				S	**Sg**	**20 06 50.1**	**-0.6**
STV				AML	AML		
	comp=E,753μm,0.3s						
STV				AML	AML		
	comp=N,865μm,0.4s						
STV				AML	AML		
	comp=E,754μm,0.3s						
STV				AML	AML		
	comp=N,864μm,0.4s						
DOI	**San Damiano**	**0.15**	**346**	P	**Pg**	**20 06 50.0**	**+0.2**
DOI				S	**Sg**	**20 06 52.6**	**+0.5**
DOI				AML	AML		
	comp=N,2350μm,0.2s						
DOI				AML	AML		
	comp=E,2900μm,0.3s						
ENR	**Entracque**	**0.15**	**145**	P	**Pg**	**20 06 49.5**	**-0.3**
ENR				S	**Sg**	**20 06 51.6**	**-0.4**
ENR	**Entracque**	**0.15**	**145**	P	**Pg**	**20 06 49.5**	**-0.3**
ENR				S	**Sg**	**20 06 51.7**	**-0.3**
ENR				AML	AML		
	comp=E,1320μm,0.2s						
ENR				AML	AML		
	comp=N,1250μm,0.1s						
PZZ	**Stroppo**	**0.20**	**320**	P	**Pg**	**20 06 50.5**	**-0.1**
PZZ				S	**Sg**	**20 06 53.7**	**+0.3**
PZZ	**Stroppo**	**0.20**	**320**	P	**Pg**	**20 06 50.5**	**-0.1**
PZZ				S	**Sg**	**20 06 54.0**	**+0.6**
PZZ				AML	AML		
	comp=E,1730μm,1.6s						
PZZ				AML	AML		
	comp=N,1430μm,1.2s						
ISO	**Isola**	**0.25**	**226**	Pg	**Pg**	**20 06 51.4**	**0.0**
SURF	**Saint Ours**	**0.37**	**290**	Pg	**Pg**	**20 06 54.4**	**+0.6**
TURF	**col de Turini**	**0.39**	**170**	Pg	**Pg**	**20 06 53.2**	**-0.8**
TURF				Sg	**Sg**	**20 06 58.5**	**-0.7**
GBOS	**Grotte di Boss**	**0.41**	**106**	P	**Pg**	**20 06 54.4**	**0.0**
GBOS				S	**Sg**	**20 07 00.2**	**+0.4**
GBOS	**Grotte di Boss**	**0.41**	**106**	P	**Pg**	**20 06 54.5**	**0.0**
GBOS				S	**Sg**	**20 07 00.6**	**+0.9**
GBOS				AML	AML		
	comp=N,221μm,0.6s						
GBOS				AML	AML		
	comp=E,240μm,0.3s						
SAOF	**Saorge**	**0.41**	**153**	Pg	**Pg**	**20 06 54.5**	**0.0**
SAOF				Sg	**Sg**	**20 06 60.0**	**0.0**
SAOF	**Saorge**	**0.41**	**153

MGRO S Sg 20 07 02.0 -0.1
BHB Bricherasio 0.49 357 P Pg 20 06 55.8 -0.1
BHB S Sg 20 07 02.0 -0.3
BHB Bricherasio 0.49 357 P Pg 20 06 55.9 -0.1
BHB S Sg 20 07 02.3 -0.1
BHB AML AML
comp=E,275µm,0.4s
BHB AML AML
comp=N,202µm,0.3s
SBF Sospel 0.50 168 *e*Pg Pg 20 06 56.3 +0.1
SBF *e*Sg Sg 20 07 03.4 +0.7
ESCA l'Escarene 0.53 174 Pg Pg 20 06 56.7 +0.1
ESCA Sg Sg 20 07 04.2 +0.7
MBDF Montbardon 0.53 315 *e*Pg Pg 20 06 56.5 -0.3
MBDF *e*Sg Sg 20 07 04.1 +0.4
comp=N,85nm,0.2s
OGAG Argentiere 0.55 281 Pg Pn 20 07 01.0 +0.2
NEGI Seborga 0.58 150 P Pg 20 06 57.7 -0.1
NEGI S Sg 20 07 05.5 +0.1
NEGI Seborga 0.58 150 P Pg 20 06 57.9 +0.1
NEGI S Sg 20 07 05.7 +0.3
IMI Imperia 0.62 136 P Pg 20 06 58.3 -0.1
IMI S Sg 20 07 06.2 -0.3
CALF Calern 0.66 204 Pg Pg 20 06 59.5 +0.2
RRL Rocca Remolon 0.67 328 P Pg 20 06 59.7 +0.2
RRL S Sg 20 07 08.5 +0.2
RRL Rocca Remolon 0.67 328 P Pg 20 06 59.9 +0.4
RRL S Sb 20 07 09.8 -0.5
RRL AML AML
comp=E,158µm,0.3s
RRL AML AML
comp=N,164µm,1.4s
QLNO Quiliano 0.75 92 P Pg 20 07 01.7 +0.7
FINB Finale Ligure 0.76 103 P Pg 20 07 01.7 +0.6
FINB S Sg 20 07 11.8 +0.8
FINB AML AML
comp=N,172µm,0.3s
FINB AML AML
comp=E,179µm,0.2s
RSP Reno Superiore 0.80 358 P Pg 20 07 00.7 -1.1
RSP S Sg 20 07 10.7 -1.4
RSP Reno Superiore 0.80 358 P Pg 20 07 00.7 -1.1
RSP AML AML
comp=N,79µm,1.2s
RSP AML AML
comp=E,96µm,1.6s
MONC Moncucco Torin 0.85 32 P Pb 20 07 04.0 +0.4
MONC AML AML
comp=N,292µm,0.9s
MONC AML AML
comp=E,236µm,1.6s
ROTM Rocchetta Tana 0.90 56 P Pb 20 07 05.0 +0.6
ROTM S Sb 20 07 17.8 +1.2
ROTM Rocchetta Tana 0.90 56 P Pb 20 07 05.2 +0.7
ROTM AML AML
comp=E,703µm,0.5s
ROTM AML AML
comp=N,962µm,0.5s
PCP Piancastagn 0.91 78 P Pg 20 07 04.2 +0.2
PCP S Sg 20 07 16.3 +0.4
PCP Piancastagn 0.91 78 P Pg 20 07 04.5 +0.4
PCP AML AML
comp=E,108µm,0.9s
PCP AML AML
comp=N,139µm,1.6s
FRF La Foret Royal 0.92 211 *e*Pg Pg 20 07 03.8 -0.4
FRF *e*Sg Sg 20 07 16.3 +0.1
comp=N,61nm,0.2s
ORIF Oris-en-Rattie 1.16 300 *e*Pg Pg 20 07 08.1 -0.6
ORIF *e*Sg Sg 20 07 23.3 -0.5
comp=N,34nm,0.4s
LMR La Mourre 1.17 209 *e*Pg Pg 20 07 08.7 -0.2
LMR *e*Sg Sb 20 07 24.3 0.0
comp=N,50nm,0.2s
LPG La Plagne 1.21 341 *e*Pg Pg 20 07 09.3 -0.4
LPG *e*Sg Sg 20 07 25.0 -0.4
comp=N,31nm,0.3s
LPL La Plagne 1.23 341 *e*Pg Pg 20 07 09.6 -0.5
LPL *e*Sg Sg 20 07 25.5 -0.6
comp=N,45nm,0.3s
SMRF Simiane la Rot 1.30 254 *e*P Pn 20 07 11.8 +0.8
SMRF *e*Sg Sg 20 07 27.9 -0.3
comp=N,44nm,0.4s
ARTF Artigues 1.32 235 Pg Pb 20 07 12.3 +0.7
ARTF Sg Sn 20 07 30.5 +1.3
RUSF Rustrel 1.37 253 Pg Pb 20 07 13.5 +1.1
PGF Pioggiola 2.19 145 *e*Pn Pn 20 07 22.0 -1.4
PGF *e*Sn Sn 20 07 48.1 -2.6
comp=N,7.2nm,0.2s
LASF Ste Croix 2.49 265 *e*P Pn 20 07 28.6 +1.2
LASF *e*Sn Sn 20 07 55.6 -2.4
comp=N,1.0nm,0.3s

*IDC **11** 20:07:56.6±7.0, 34°.63N×22°.53E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.4/52, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=126.1km s-min=44.1km az=32.0*
*ISCJB **11** 20:08:08.0±1.3, 35°.15N±0°.05×22°.87E±0°.07, h16km±8km, mb3.7/4, Error ellipse: s-maj=11.6km s-min=5.2km az=140.1*
*ATH **11** 20:08:08.8, 35°.23N×23°.01E, h26km±1km, ML3.2/6, Error ellipse: s-maj=3.3km s-min=1.0km az=59.0*
*THE **11** 20:08:08.3, 35°.17N×22°.91E, h6km±1km, ML3.2/4, Error ellipse: s-maj=1.9km s-min=0.8km az=17.0*
ISC 11 20:08:07.5±1.8, **35°.17N**±0°.06×**22°.90E**±0°.07, **h11**km±10km, **n31**, σ1§**02**/39, **mb3.8**/4, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.65**	**84**	P	**Pg**	**20 08 20.0**	**-0.1**
ANKY	**Antikythira Is**	**0.77**	**25**	P	**Pg**	**20 08 22.3**	**-0.2**
ANKY				S	**Sg**	**20 08 32.5**	**-0.1**
ANKY	**Antikythira Is**	**0.77**	**25**	P	**Pg**	**20 08 22.2**	**-0.2**
ANKY				S	**Sg**	**20 08 32.0**	**-0.6**
RODP	**Rodopos**	**0.81**	**61**	P	**Pg**	**20 08 23.1**	**0.0**
RODP				S	**Sb**	**20 08 35.5**	**+1.1**
IMMV	**Iera Moni Meta**	**0.93**	**71**	P	**Pg**	**20 08 25.2**	**-0.3**
IMMV				S	**Sb**	**20 08 39.1**	**+1.0**
IMMV	**Iera Moni Meta**	**0.93**	**71**	P	**Pg**	**20 08 25.2**	**-0.3**
IMMV				S	**Sg**	**20 08 36.9**	**-0.8**
IMMV				AML	AML	20 08 44.9	
IMMV	comp=N,3832µm,0.5s			AML	AML	20 08 46.8	
CHAN	**Chania**	**1.00**	**69**	P	**Pg**	**20 08 26.6**	**-0.2**
GVD	**Gavdhos**	**1.03**	**108**	P	**Pg**	**20 08 27.3**	**0.0**
GVD	**Gavdhos**	**1.03**	**108**	P	**Pg**	**20 08 27.1**	**-0.2**
GVD				S	**Sg**	**20 08 40.6**	**-0.2**
GVD				AML	AML	20 08 55.8	
GVD	comp=N,2796µm,0.4s			AML	AML	20 08 56.2	
GVDS	**Gavdos**	**1.03**	**108**	P	**Pg**	**20 08 27.3**	**-0.1**
GVDS				S	**Sg**	**20 08 41.7**	**+0.9**
VAM	**Vamos**	**1.09**	**77**	P	**Pg**	**20 08 28.1**	**-0.4**
VAM				S	**Sb**	**20 08 44.2**	**+1.5**
VAM	**Vamos**	**1.09**	**77**	P	**Pg**	**20 08 28.1**	**-0.4**
VAM				S	**Sg**	**20 08 41.8**	**-0.9**
VAM				AML	AML	20 08 49.8	
VAM	comp=E,2233µm,0.4s			AML	AML	20 08 49.9	
KTHR	**Kythira**	**1.09**	**4**	P	**Pg**	**20 08 28.5**	**-0.1**
KTHA	**Kythira Island**	**1.10**	**7**	P	**Pg**	**20 08 28.7**	**+0.1**
KTHA	**Kythira Island**	**1.10**	**7**	P	**Pg**	**20 08 28.6**	**-0.1**
KTHA				S	**Sb**	**20 08 43.7**	**+0.9**
KTHA				AML	AML	20 08 50.4	
KTHA	comp=E,4547µm,0.6s			AML	AML	20 08 53.9	
PRNS	**Prines Rethymn**	**1.33**	**81**	P	**Pn**	**20 08 31.5**	**-0.5**
VLI	**Veliai**	**1.55**	**1**	P	**Pb**	**20 08 36.9**	**+0.7**
VLI	**Veliai**	**1.55**	**1**	P	**Pn**	**20 08 36.7**	**+1.6**
VLI				S	**Sn**	**20 08 55.1**	**0.0**
VLI				AML	AML	20 09 05.7	
VLI	comp=N,1193µm,0.7s			AML	AML	20 09 07.3	
SIVA	**Sivas**	**1.57**	**95**	P	**Pn**	**20 08 35.9**	**+0.5**
SIVA				S	**Sn**	**20 08 56.8**	**+1.0**
	comp=E,615nm,0.7s						
SIVA	**Sivas**	**1.57**	**95**	P	**Pn**	**20 08 36.1**	**+0.7**
SIVA				AML	AML	20 09 16.1	
SIVA	comp=E,1999µm,0.7s			AML	AML	20 09 20.2	
	comp=N,1387µm,0.8s						
MHLO	**Agia Marina, M**	**1.95**	**38**	P	**Pn**	**20 08 40.8**	**+0.2**
PYL	**PYLOS**	**1.96**	**332**	P	**Pn**	**20 08 42.1**	**+1.4**
LAST	**Lasithi**	**2.11**	**89**	P	**Pn**	**20 08 43.6**	**+0.7**
DID	**Didima**	**2.35**	**7**	P	**Pn**	**20 08 47.0**	**+0.9**
ZKR	**Zakros**	**2.72**	**90**	P	**Pn**	**20 08 52.0**	**+0.8**
BRTR	**Keskin Array B**	**9.68**	**59**	Pn	**Pn**	**20 10 27.2**	**+0.4**
	comp=N,0.1nm,0.3s,baz=240,slow=13,SNR=5.7						
MMAI	**Mount Meron Ar**	**10.59**	**98**	Pn	Pn	20 10 33.5	-5.7
	baz=278,slow=11						
FINES	**FINESS Array B**	**26.38**	**3**	P	**P**	**20 13 39.2**	**-4.3**
	comp=N,3.2nm,1.0s,baz=178,slow=9.7,SNR=3.9						
KURBB	**Kurchatov Arra**	**42.56**	**51**	P	P	20 15 59.2	-4.0
	comp=N,0.3nm,0.4s,baz=275,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**45.31**	**56**	P	P	20 16 19.6	-5.8
	comp=N,0.3nm,0.4s,baz=269,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**46.34**	**46**	P	P	20 16 28.7	-4.6
	comp=N,1.0nm,0.3s,baz=271,slow=8.1,SNR=6.0						

*IDC **11** 20:10:22.7±1.2, 8°.67S×127°.13E, h0km, mb3.7/4, mb1 4.1/8, mb1mx3.7/42, mbtmp3.9/8, ML4.3/4, Error ellipse: s-maj=34.5km s-min=22.6km az=81.0*
*ISCJB **11** 20:10:24.4±0.8, 8°.86S±0°.07×127°.31E±0°.07, h33km, mb3.7/4, Error ellipse: s-maj=11.9km s-min=7.6km az=135.3*
ISC 11 20:10:26.6±1.0, **8°.88S**±0°.09×**127°.26E**±0°.10, **h35**km, **n8**, σ1§**80**/13, **mb3.8**/4, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.78**	**249**	Pn	**Pn**	**20 11 23.2**	**+0.7**
	21nm,0.3s,baz=84,slow=3.6,SNR=35						
BATI				Sn	**Sn**	**20 12 06.8**	**+1.0**
	58nm,0.3s,baz=110,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**9.30**	**190**	Pn	**Pn**	**20 12 40.2**	**+1.9**
	1.5nm,0.3s,baz=14,slow=7.0,SNR=63						
FITZ				Sn	**Sn**	**20 14 19.1**	**-2.6**
	4.5nm,0.3s,baz=256,slow=17,SNR=8.0						
WRA	**Warramunga Arr**	**12.96**	**149**	Pn	**Pn**	**20 13 30.8**	**+2.3**
	2.1nm,0.3s,baz=323,slow=14,SNR=58						
WRA				Sn	**Sn**	**20 15 50.9**	**-0.6**
	1.7nm,0.3s,baz=317,slow=24,SNR=13						
ASAR	**Alice Springs**	**16.02**	**157**	Pn	**P**	**20 14 11.8**	**-0.8**
	0.7nm,0.3s,baz=338,slow=9.5,SNR=51						
ASAR				Sn	**Sn**	**20 17 04.6**	**-1.6**
	0.8nm,0.3s,baz=324,slow=22,SNR=12						
CMAR	**Chiang Mai Arr**	**38.97**	**314**	P	**P**	**20 17 47.0**	**-2.8**
	0.3nm,0.6s,baz=149,slow=6.2,SNR=4.2						
CMAR				PcP	**PcP**	**20 20 01.8**	**+1.9**
	0.3nm,0.4s,baz=154,slow=2.8,SNR=3.6						
MKAR	**Makanchi Array**	**68.35**	**329**	P	**P**	**20 21 24.7**	**+0.2**
	0.3nm,0.4s,baz=119,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**72.09**	**335**	P	**P**	**20 21 47.0**	**-0.3**
	0.6nm,0.4s,baz=123,slow=3.5,SNR=3.9						
KURBB	**Kurchatov Arra**	**72.72**	**330**	P	**P**	**20 21 51.5**	**+0.5**
	0.8nm,0.5s,baz=137,slow=4.9,SNR=8.3						

*ISCJB **11** 20:22:24.3±0.2, 47°.329N±0°.010×6°.47E±0°.01, h4km±1km, Error ellipse: s-maj=1.7km s-min=1.4km az=157.1*
*ZUR **11** 20:22:25.7, 47°.33N×6°.55E, h-0km, MLh3.0/32, Error ellipse: s-maj=1.5km s-min=0.7km az=341.0*
*BGR **11** 20:22:26.8±0.4, 47°.32N×6°.53E, h10km, ML3.1/16, Error ellipse: s-maj=4.4km s-min=2.2km az=51.0*
*LDG **11** 20:22:26.8±0.0, 47°.31N×6°.55E, h3km, Md3.2/1, Ml3.2/44, Error ellipse: s-maj=0.7km s-min=0.7km az=178.0*
*STR **11** 20:22:27.0±0.3, 47°N±2°×±°, h9km±2km, MLv2.8/6*
*PRU **11** 20:22:27.7±0.0, 47°.30N×6°.59E, h26km*
ISC 11 20:22:25.4±0.8, **47°.31N**±0°.01×**6°.52E**±0°.01, **h13**km±5km, **n160**, σ1§**14**/260, **17C-7D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMF	**Charmoille**	**0.10**	**124**	Pg	**Pg**	**20 22 28.7**	**+0.2**
CHMF				Sg	**Sg**	**20 22 30.3**	**-0.4**
CHMF	**Charmoille**	**0.10**	**124**	⇓Pg	**Pg**	**20 22 28.3**	**-0.2**
LOMF	**Lomont**	**0.21**	**78**	Pg	**Pg**	**20 22 30.6**	**+0.5**
BRANT	**Les Verrieres**	**0.37**	**185**	⇓Pg	**Pb**	**20 22 33.9**	**+0.1**
BRANT				Sg	**Sb**	**20 22 39.7**	**+0.1**
BOURR	**Bourrignon**	**0.49**	**79**	⇑Pg	**Pb**	**20 22 35.6**	**-0.2**
HINF	**Hinteralfeld**	**0.56**	**23**	*e*Pg	**Pb**	**20 22 37.0**	**0.0**
HINF	**Hinteralfeld**	**0.56**	**23**	*e*P	**Pn**	**20 22 38.5**	**-0.6**
HINF	SNR=1.0			*e*Sg	**Sg**	**20 22 44.2**	**+0.5**
HINF	215nm,0.3s			*e*Sn	**Sn**	**20 22 48.9**	**+0.7**
SCOU	**Cournillens**	**0.60**	**139**	⇓Pg	**Pb**	**20 22 38.0**	**+0.2**
SCOU				Sg	**Sb**	**20 22 46.6**	**+0.4**
TORNY	**Torny/Romont**	**0.61**	**151**	⇓Pg	**Pb**	**20 22 38.3**	**+0.4**
TORNY				Sg	**Sb**	**20 22 47.1**	**+0.6**
MOF	**Molkenrain**	**0.68**	**37**	Pg	**Pb**	**20 22 39.8**	**+0.6**
STAF	**Tafers**	**0.69**	**136**	Pg	**Pb**	**20 22 39.7**	**+0.4**
HAU	**Haudompre**	**0.71**	**350**	*e*Pg	**Pb**	**20 22 40.0**	**+0.4**
HAU	**Haudompre**	**0.71**	**350**	*e*P	**Pn**	**20 22 41.8**	**+0.6**
HAU	SNR=1.0			*e*Sg	**Sb**	**20 22 49.4**	**+0.1**
HAU	113nm,0.3s			*e*Sn	**Sn**	**20 22 52.8**	**+0.8**
CABF	**La Chapelle**	**0.76**	**203**	*e*Pg	**Pb**	**20 22 41.2**	**+0.7**
CABF	**La Chapelle**	**0.76**	**203**	*e*Pn	**Pn**	**20 22 43.0**	**+1.1**
CABF	SNR=1.0			*e*Sg	**Sb**	**20 22 51.5**	**+0.8**
CABF	178nm,0.2s			*e*Sn	**Sn**	**20 22 54.5**	**+1.3**
OTER2	**Otterbach 2 (B**	**0.78**	**69**	Pg	**Pg**	**20 22 40.7**	**+0.2**
GIMEL	**St. Georges /**	**0.79**	**193**	⇓Pg	**Pb**	**20 22 41.8**	**+0.8**
BALST	**Balsthal**	**0.80**	**87**	⇑Pg	**Pb**	**20 22 41.3**	**+0.2**
BALST				PmP		20 22 43.1	
BALST	**Balsthal**	**0.80**	**87**	*e*Pg	**Pb**	**20 22 41.4**	**+0.2**
BALST				*e*Sg	**Sb**	**20 22 52.3**	**+0.5**
ROTHE	**Rothenfluh**	**0.96**	**79**	⇑Pg	**Pn**	**20 22 44.6**	**-0.1**
WIMIS	**Wimmis**	**0.99**	**130**	Pg	**Pn**	**20 22 45.1**	**+0.1**
WIMIS				Sg	**Sn**	**20 22 58.3**	**-0.6**
THEF	**They Montfort**	**0.99**	**339**	Pg	**Pn**	**20 22 46.5**	**+1.5**
ECH	**Echery**	**1.01**	**25**	Pg	**Pn**	**20 22 46.1**	**+0.8**
ECH	**Echery**	**1.01**	**25**	Pg	**Pn**	**20 22 45.3**	**+0.1**
ECH	**Echery**	**1.01**	**25**	*e*Pg	**Pn**	**20 22 45.3**	**+0.1**
ECH				*e*Sg	**Sn**	**20 22 58.9**	**-0.4**
AIGLE	**Aigle**	**1.01**	**163**	Pg	**Pn**	**20 22 45.9**	**+0.6**
DAGMA	**Lutertal, Dagm**	**1.02**	**94**	⇑Pg	**Pn**	**20 22 45.5**	**+0.1**
EMMET	**Emmethof**	**1.02**	**82**	Pg	**Pn**	**20 22 45.7**	**+0.3**
SULZ	**Cheisacher**	**1.10**	**78**	⇑Pg	**Pg**	**20 22 46.9**	**+0.3**
SULZ	**Cheisacher**	**1.10**	**78**	*e*Pn	**Pg**	**20 22 46.9**	**+0.3**
SULZ				*e*Sg	**Sn**	**20 23 02.7**	**+1.1**
KIZ	**Kirchzarten**	**1.15**	**55**	Pn	**Pg**	**20 22 48.0**	**+0.6**
KIZ	**Kirchzarten**	**1.15**	**55**	⇑Pg	**Pb**	**20 22 47.1**	**+0.1**
OG02	**Monnetier-Morn**	**1.17**	**190**	Pg	**Pg**	**20 22 49.4**	**+1.5**
SALAN	**Lac Salanfe**	**1.20**	**165**	⇑Pn	**Pg**	**20 22 49.4**	**+0.9**
ACHB	**Acheberg**	**1.21**	**76**	Pn	**Pg**	**20 22 48.5**	**-0.1**
CDF	**Champ du Feu**	**1.22**	**24**	*e*Pn	**Pn**	**20 22 48.4**	**+0.2**
CDF	**Champ du Feu**	**1.22**	**24**	*e*Pg	**Pg**	**20 22 49.3**	**+0.5**
CDF	SNR=1.0			*e*Sn	**Sn**	**20 23 04.7**	**+0.1**
CDF	30nm,0.2s			*e*Sg	**Sg**	**20 23 05.2**	**+0.5**
METMA	**Mettma DE**	**1.24**	**70**	⇑Pn	**Pb**	**20 22 48.7**	**0.0**
METMA	**Mettma DE**	**1.24**	**70**	*e*Pn	**Pb**	**20 22 48.7**	**0.0**
METMA				*e*Pg	**Pg**	**20 22 49.8**	**+0.6**
METMA				*e*Sg	**Sb**	**20 23 04.6**	**0.0**
HASLI	**Hasliberg/Brie**	**1.24**	**116**	⇑Pn	**Pg**	**20 22 49.9**	**+0.6**
BERGE	**Lenzkirch (DE)**	**1.25**	**63**	⇑Pn	**Pn**	**20 22 48.7**	**0.0**
BERGE	**Lenzkirch (DE)**	**1.25**	**63**	*e*Pn	**Pn**	**20 22 48.7**	**0.0**
BERGE				*e*Pg	**Pg**	**20 22 50.1**	**+0.5**
BERGE				*e*Sn	**Sn**	**20 23 05.5**	**0.0**
BERGE				*e*Sg	**Sg**	**20 23 06.9**	**+1.1**
SFTF	**Sexfontaines**	**1.35**	**312**	*e*Pn	**Pb**	**20 22 51.1**	**+0.6**
	baz=130						
SFTF	**Sexfontaines**	**1.35**	**312**	*e*Pg	**Pg**	**20 22 52.1**	**+0.8**
SFTF	**Sexfontaines**	**1.35**	**312**	*e*P	**Pg**	**20 22 52.9**	**+1.6**
SFTF	baz=131			*e*Sn	**Sb**	**20 23 08.3**	**+0.7**
SFTF	16nm,0.1s			*e*Sg	**Sg**	**20 23 10.0**	**+1.2**
	84nm,0.2s						
PAGF	**Fort de Pagny**	**1.36**	**337**	*e*P	**Pg**	**20 22 52.8**	**+1.3**
	baz=155						
PAGF				*e*Sg	**Sg**	**20 23 10.0**	**+0.8**
	148nm,0.4s,baz=156						
DIX	**Grande Dixence**	**1.37**	**153**	Pn	**Pg**	**20 22 52.4**	**+0.7**
BNALP	**Bannalp**	**1.37**	**108**	⇑Pn	**Pg**	**20 22 51.6**	**-0.1**
FIESA	**Fiescheralp**	**1.39**	**128**	⇑Pn	**Pg**	**20 22 52.6**	**+0.5**
SLE	**Schleitheim**	**1.41**	**70**	⇑Pn	**Pn**	**20 22 51.0**	**+0.2**
SLE	**Schleitheim**	**1.41**	**70**	*e*Pn	**Pn**	**20 22 51.0**	**+0.2**
SLE				*e*Pg	**Pg**	**20 22 52.9**	**+0.4**
SLE				*e*Sg	**Sg**	**20 23 11.0**	**+0.2**
FLACH	**Flaach**	**1.41**	**78**	⇑Pn	**Pb**	**20 22 51.4**	**-0.1**
GRIMS	**Grimsel Gerste**	**1.43**	**120**	Pn	**Pg**	**20 22 52.9**	**0.0**
STIEG	**Stiegenhof Hun**	**1.46**	**82**	⇑Pn	**Pb**	**20 22 52.2**	**-0.2**
TRULL	**Truellikon**	**1.50**	**76**	Pn	**Pn**	**20 22 52.7**	**+0.6**
REMY	**Saint-Rhmy-en**	**1.53**	**163**	P	**Pg**	**20 22 54.7**	**-0.1**
REMY				S	**Sg**	**20 23 14.8**	**0.0**
REMY	**Saint-Rhmy-en**	**1.53**	**163**	⇓Pn	**Pg**	**20 22 54.7**	**-0.1**
MEZF	**Maizieres J'vi**	**1.55**	**321**	*e*Pn	**Pb**	**20 22 53.8**	**-0.2**
	baz=138,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.55**	**321**	*e*Pn	**Pg**	**20 22 56.0**	**+0.8**
	baz=141,SNR=1.0						
MEZF				*e*Sn	**Sn**	**20 23 13.1**	**+0.4**
	18nm,0.3s,SNR=1.0						
MEZF				*e*Sg	**Sg**	**20 23 16.6**	**+1.2**
	202nm,0.4s						
BFO	**Black Forest**	**1.59**	**49**	*e*Pn	**Pn**	**20 22 53.2**	**0.0**
BFO				*e*Sn	**Sn**	**20 23 13.3**	**-0.4**
RSL	**Roselend**	**1.62**	**177**	Pn	**Pb**	**20 22 55.4**	**+0.2**
WILA	**Wila**	**1.62**	**85**	*e*Pn	**Pb**	**20 22 54.8**	**-0.5**
WILA				*e*Pg	**Pg**	**20 22 57.0**	**+0.5**
WILA				*e*Sg	**Sg**	**20 23 18.2**	**+0.5**
EMING	**Emmingen-Lipti**	**1.68**	**69**	⇑Pn	**Pn**	**20 22 54.7**	**+0.2**
EMING	**Emmingen-Lipti**	**1.68**	**69**	*e*Pn	**Pn**	**20 22 54.7**	**+0.2**
EMING				*e*Pg	**Pg**	**20 22 57.7**	**+0.2**
EMING				*e*Sg	**Sg**	**20 23 20.0**	**+0.7**
OGSM	**Saint Maurice**	**1.79**	**199**	Pn	**Pb**	**20 22 58.9**	**+0.9**
LPL	**La Plagne**	**1.80**	**175**	*e*Pn	**Pb**	**20 22 58.2**	**-0.1**
LPL	**La Plagne**	**1.80**	**175**	*e*Pg	**Pg**	**20 23 00.5**	**+0.6**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**20 23 19.0**	**0.0**
LPL				*e*Sg	**Sg**	**20 23 24.2**	**+1.0**
	45nm,0.7s,SNR=1.0						
LOR	**Lormes**	**1.81**	**270**	*e*Pn	**Pn**	**20 22 57.0**	**+0.7**
	baz=90,SNR=1.0						
LOR	**Lormes**	**1.81**	**270**	*e*Pg	**Pg**	**20 23 00.8**	**+0.6**
	baz=90						
LOR				*e*Sn	**Sn**	**20 23 19.9**	**+0.7**
LOR				*e*Sg	**Sg**	**20 23 24.2**	**+0.5**
	72nm,0.2s						
LPG	**La Plagne**	**1.82**	**175**	*e*Pn	**Pb**	**20 22 58.6**	**0.0**
	SNR=1.0						
LPG	**La Plagne**	**1.82**	**175**	*e*Pg	**Pg**	**20 23 01.0**	**+0.8**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**20 23 19.6**	**0.0**
LPG				*e*Sg	**Sg**	**20 23 24.7**	**+0.9**
	36nm,0.3s,SNR=1.0						
WALHA	**Wallhausen, DE**	**1.82**	**75**	*e*Pn	**Pn**	**20 22 57.0**	**+0.6**
WALHA				*e*Pg	**Pg**	**20 23 00.5**	**+0.3**
WALHA				*e*Sg	**Sg**	**20 23 24.0**	**+0.2**
CIRO	**Champorcher**	**1.85**	**157**	P	**Pb**	**20 22 59.6**	**+0.4**
LSD	**Lago del Serru**	**1.90**	**167**	P	**Pb**	**20 22 59.8**	**-0.1**
LSD	**Lago del Serru**	**1.90**	**167**	⇓Pn	**Pb**	**20 22 60.0**	**0.0**
GUT	**Gutenstein**	**1.91**	**65**	Pn	**Pn**	**20 22 57.6**	**0.0**
SGT04	**Schlatt-Haslen**	**1.92**	**88**	⇑Pn	**Pb**	**20 22 59.3**	**-1.1**
SMF	**Signal de Mont**	**1.95**	**251**	*e*Pn	**Pn**	**20 22 58.8**	**+0.6**
	SNR=1.0						
SMF	**Signal de Mont**	**1.95**	**251**	*e*Pg	**Pg**	**20 23 03.4**	**+0.6**
SMF				*e*Sn	**Sn**	**20 23 23.2**	**+0.6**
SMF				*e*Sg	**Sg**	**20 23 29.0**	**+0.9**
	54nm,0.3s,SNR=1.0						
PLONS	**Plons/SG**	**1.97**	**96**	*e*Pg	**Pg**	**20 23 03.0**	**0.0**
PLONS				*e*Sn	**Sn**	**20 23 23.2**	**+0.2**
PLONS				*e*Sg	**Sg**	**20 23 28.7**	**+0.2**
TRAV	**Traversella**	**1.98**	**154**	P	**Pb**	**20 23 01.6**	**+0.3**
SSF	**Saint Saulge**	**2.07**	**264**	*e*Pn	**Pn**	**20 23 00.6**	**+0.7**
	SNR=1.0						
SSF	**Saint Saulge**	**2.07**	**264**	*e*Pg	**Pg**	**20 23 05.4**	**+0.3**
SSF				*e*Sn	**Sn**	**20 23 26.0**	**+0.5**
SSF				*e*Sg	**Sg**	**20 23 32.3**	**+0.3**
	47nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.23**	**258**	*e*Pn	**Pn**	**20 23 03.2**	**+1.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.23**	**258**	*e*Pg	**Pg**	**20 23 08.5**	**+0.4**
AVF				*e*Sn	**Sn**	**20 23 29.6**	**+0.2**
AVF				*e*Sg	**Sg**	**20 23 37.3**	**+0.3**
	12nm,0.3s,SNR=1.0						
KTD	**Kalmit**	**2.27**	**27**	*e*Pg	**Pg**	**20 23 09.2**	**+0.3**
KTD				*e*Sg	**Sg**	**20 23 39.0**	**+0.7**
DAVA	**Damuels**	**2.28**	**89**	*e*Pg	**Pg**	**20 23 09.1**	**-0.1**
DAVA				*e*Sg	**Sg**	**20 23 39.1**	**+0.3**
DAVA	**Damuels**	**2.28**	**89**	*e*Pn	**Pg**	**20 23 09.1**	**-0.1**
	7.9nm,0.3s,SNR=11						
WLF	**Walferdange**	**2.37**	**354**	*e*Pg	**Pg**	**20 23 10.8**	**0.0**
WLF				*e*Sg	**Sg**	**20 23 41.9**	**+0.3**
RIVT	**Riveris**	**2.41**	**4**	*e*Sg	**Sg**	**20 23 42.4**	**-0.3**
ORIF	**Oris-en-Rattie**	**2.43**	**191**	*e*Pn	**Pn**	**20 23 05.9**	**+1.0**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.43**	**191**	*e*Pg	**Pg**	**20 23 11.5**	**-0.5**
ORIF				*e*Sn	**Sn**	**20 23 33.8**	**-0.7**
ORIF				*e*Sg	**Sg**	**20 23 43.5**	**+0.1**
	54nm,0.5s,SNR=1.0						
UBR	**Ueberruh**	**2.46**	**80**	*e*Pg	**Pg**	**20 23 12.9**	**+0.4**
OBER	**Oberstdorf**	**2.56**	**86**	*e*Pg	**Pg**	**20 23 15.7**	**+1.2**
OBER				*e*Sg	**Sg**	**20 23 48.6**	**+0.9**
MBDF	**Montbardon**	**2.59**	**176**	*e*Pn	**Pn**	**20 23 08.6**	**+1.6**
MBDF	**Montbardon**	**2.59**	**176**	*e*Pg	**Pg**	**20 23 14.7**	**-0.2**
MBDF				*e*Sn	**Sn**	**20 23 37.6**	**-0.8**
MBDF				*e*Sg	**Sg**	**20 23 47.8**	**-0.6**
	17nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**2.63**	**255**	*e*Pn	**Pn**	**20 23 08.8**	**+1.3**
	SNR=1.0						
BGF

3.1nm,0.2s,SNR=8.6
SBF Sospel 3.50 169 *e*Pn **Pn 20 23 22.7 +3.1**
SBF *e*Sg **Sn 20 24 04.8 +3.9**
16nm,0.4s
LASF Ste Croix 3.73 211 *e*Pn **Pn 20 23 22.6 -0.1**
SNR=1.0
LASF Ste Croix 3.73 211 *e*Pg **Pg 20 23 36.8 0.0**
SNR=1.0
LASF *e*Sg **Sg 20 24 24.0 -1.2**
14nm,0.3s,SNR=1.0
FRF La Foret Royal 3.75 179 *e*Pn **Pn 20 23 23.9 +1.0**
SNR=1.0
FRF La Foret Royal 3.75 179 *e*Pg **Pg 20 23 36.6 -0.5**
SNR=1.0
FRF *e*Sn **Sn 20 24 05.1 -1.7**
5.4nm,0.3s,SNR=1.0
CAF Calviac 3.91 234 *e*Pn **Pn 20 23 25.8 +0.7**
SNR=1.0
CAF Calviac 3.91 234 *e*Pg **Pg 20 23 39.4 -0.8**
CAF *e*Sg **Sg 20 24 30.0 -0.9**
26nm,0.7s,SNR=1.0
GRF Grafenberg Arr 3.93 51 *e*Pg **Pg 20 23 39.9 -0.8**
GRF *e*Sg **Sg 20 24 30.1 -1.4**
LMR La Mourre 3.97 180 *e*Pn **Pn 20 23 26.4 +0.4**
SNR=1.0
LMR La Mourre 3.97 180 *e*Pg **Pg 20 23 39.9 -1.5**
SNR=1.0
LMR *e*Sn **Sn 20 24 10.0 -2.4**
3.5nm,0.2s,SNR=1.0
LMR *e*Sg **Sg 20 24 30.7 -2.2**
4.8nm,0.5s
RJF Les Rejaudoux 4.01 242 *e*Pn **Pn 20 23 26.8 +0.4**
RJF Les Rejaudoux 4.01 242 *e*Pg **Pg 20 23 41.0 -1.1**
RJF *e*Sn **Sn 20 24 12.0 -1.2**
SNR=1.0
RJF *e*Sg **Sg 20 24 32.4 -1.6**
20nm,0.5s,SNR=1.0
HROE Hohe Rhon--Fla 4.02 35 *e*Sg **Sg 20 24 34.2 -0.3**
ABTA Abfaltersbach 4.13 96 *i* Pn **Pn 20 23 30.2 +1.9**
1.7nm,0.2s
UBBA Unterbreizbach 4.19 32 *e*Sg **Sg 20 24 39.9 0.0**
ROTZ Rotzenmuhle 4.51 55 *e*Sn **Sn 20 24 23.7 -1.9**
MANZ Manzenberg 4.57 52 *e*Sn **Sn 20 24 25.8 -1.3**
MFF Saint Martin d 4.62 264 *e*Pn **Pn 20 23 35.2 +0.3**
SNR=1.0
MFF Saint Martin d 4.62 264 *e*Pg **Pg 20 23 52.0 -1.8**
SNR=1.0
MFF *e*Sn **Sn 20 24 26.7 -1.7**
MFF *e*Sg **Sg 20 24 52.1 -1.6**
9.2nm,0.4s
LDF La Druitiere 4.65 289 *e*Pn **Pn 20 23 36.2 +1.0**
SNR=1.0
LDF La Druitiere 4.65 289 *e*Pg **Pg 20 23 52.9 -1.5**
SNR=1.0
LDF *e*Sn **Sn 20 24 27.4 -1.6**
SNR=1.0
LDF *e*Sg **Sg 20 24 53.0 -1.5**
56nm,0.8s,SNR=1.0
KBA Koelnbreinsper 4.66 90 *i* Pn **Pn 20 23 38.4 +2.9**
2.5nm,0.3s
LFF La Frestale 4.67 242 *e*Pn **Pn 20 23 37.3 +1.8**
LFF La Frestale 4.67 242 *e*Pg **Pg 20 23 51.4 -3.3**
LFF *e*Sg **Sg 20 24 55.8 +0.7**
31nm,0.7s,SNR=1.0
NKC Novy Kostel 4.89 51 *e*SN **Sn 20 24 32.9 -2.1**
NKC *e*SG **Sg 20 25 01.5 -0.8**
FLN La Foliniere 4.92 290 *e*Pn **Pn 20 23 39.4 +0.4**
baz=109,SNR=1.0
FLN La Foliniere 4.92 290 *e*Pg **Pg 20 23 58.7 -0.9**
baz=110
FLN *e*Sn **Sn 20 24 34.2 -1.5**
6.0nm,0.4s,SNR=1.0
FLN *e*Sg **Sg 20 25 01.6 -1.7**
18nm,0.4s,baz=110
MTLF Montolieu 4.99 219 *e*Pn **Pn 20 23 40.7 +0.7**
MTLF Montolieu 4.99 219 *e*Pg **Pg 20 23 59.5 -1.5**
SNR=1.0
MTLF *e*Sn **Sn 20 24 36.3 -1.3**
SNR=1.0
MTLF *e*Sg **Sg 20 25 03.6 -2.0**
6.4nm,0.4s,SNR=1.0
KHC Kasperske Hory 5.06 66 *e*PN **Pn 20 23 41.4 +0.5**
KHC *e*PG **Pg 20 24 00.0 -2.2**
KHC *e*SG **Sg 20 25 07.3 -0.3**
GRR Gorron 5.09 285 *e*Pn **Pn 20 23 41.6 +0.3**
SNR=1.0
GRR Gorron 5.09 285 *e*Pg **Pg 20 24 01.0 -1.7**
GRR *e*Sn **Sn 20 24 37.0 -2.8**
SNR=1.0
GRR *e*Sg **Sg 20 25 07.2 -1.4**
7.7nm,0.3s,SNR=1.0
MOA Molln 5.27 81 *i* Pn **Pn 20 23 45.4 +1.6**
0.4nm,0.2s
CLL Collm 5.83 44 *e*Sg **Sg 20 25 33.0 +0.7**
comp=Z,20nm,1.3s
BRG Berggiesshubel 6.04 51 SG **Sg 20 25 37.6 -1.5**
comp=Z,4.5nm,0.9s
EPF Esparros 6.11 228 *e*Pg **Pg 20 24 20.1 -2.3**
EPF *e*Sg **Sg 20 25 39.1 -2.4**
comp=Z,2.7nm,0.3s
ARSA Arzberg 6.12 87 *i* Pn **Pn 20 23 56.5 +1.0**
comp=Z,0.6nm,0.3s
SGMF Saint Gilles 6.19 282 *e*Pn **Pn 20 23 57.1 +0.6**
SNR=1.0
SGMF Saint Gilles 6.19 282 *e*Pg **Pg 20 24 21.7 -2.2**
SGMF *e*Sn **Sn 20 25 04.0 -3.1**
comp=Z,4.4nm,0.4s,SNR=1.0
SGMF *e*Sg **Sg 20 25 42.0 -2.1**
comp=Z,5.1nm,0.4s
CONA Conrad Observa 6.34 81 *i* Pn **Pn 20 23 59.7 +1.1**
comp=Z,1.1nm,0.3s
ROSF Rostrenen 6.68 282 *e*Sn **Sn 20 25 15.6 -3.4**
ROSF *e*Sg **Sg 20 25 56.6 -3.0**
comp=Z,8.3nm,0.5s
DPC Dobruska-Polom 7.15 61 *e*SG **Sg 20 26 13.6 -1.0**

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*IPEC **11** 20:24:09.4±0.2, 49°.83N×18°.58E, h1km±1km, ML1.5/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
PRU 11 20:24:09.9±0.0, 49°.86N×18°.51E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**265**	*e*PG	Pg	20 24 14.8	+0.4
OKC				*e*SG	Sg	20 24 18.4	+0.9
comp=Z,12nm,0.5s							
MORC	**Moravsky Berou**	**0.63**	**263**	*e*PG	Pg	20 24 22.2	+0.2
MORC				*e*SG	Sg	20 24 30.7	+0.5
MORC	**Moravsky Berou**	**0.63**	**263**	*e*Pg	Pg	20 24 22.1	+0.1
baz=85							
MORC				*e*Sg	Sg	20 24 30.6	+0.4
8.5nm,0.4s,baz=85							
LANS	**Liptovska Anna**	**0.95**	**138**	*e*PG	Pg	20 24 27.6	-0.4
LANS				*e*SG	Sg	20 24 40.9	+0.7
LANS				*e*LG	Lg	20 24 43.2	
KRLC	**Kraliky**	**1.14**	**282**	*e*PG	Pg	20 24 30.4	-1.3
KRLC				*e*SG	Sg	20 24 46.3	-0.1
comp=Z,12nm,0.5s							
VRAC	**Vranov**	**1.36**	**247**	*e*PG	Pg	20 24 35.3	-0.7
VRAC				*e*SG	Sg	20 24 53.2	-0.5
VRAC	**Vranov**	**1.36**	**247**	*e*Pg	Pg	20 24 35.2	-0.8
baz=67							
VRAC				*e*Sg	Sg	20 24 53.1	-0.6
5.4nm,0.4s,baz=67							
VYHS	**Vyhne**	**1.38**	**171**	*e*PG	Pg	20 24 35.2	-1.2
VYHS				*e*SG	Sg	20 24 53.6	-0.7
DPC	**Dobruska-Polom**	**1.49**	**290**	*e*PG	Pn	20 24 37.2	-0.8
DPC				*e*SG	Sg	20 24 57.4	-0.4
comp=Z,4.8nm,0.3s							
KRUC	**Moravsky**	**1.59**	**241**	*e*PG	Pn	20 24 38.8	-0.6
KRUC				*e*SG	Sn	20 25 00.2	-0.4
KRUC	**Moravsky**	**1.59**	**241**	*e*Pg	Pn	20 24 38.7	-0.7
baz=61							
KRUC				*e*Sg	Sn	20 25 00.1	-0.5
5.0nm,0.2s,baz=61							
UPC	**Upice**	**1.73**	**293**	*e*SG	Sg	20 25 05.4	-0.1
CHVC	**Chvalec**	**1.74**	**296**	*e*PG	Pn	20 24 41.4	0.0
CHVC				*e*SG	Sb	20 25 04.9	-0.2
GOPC	**GO Pecny, Ondr**	**2.41**	**273**	*e*SG	Sg	20 25 25.9	-1.3
PRU	**Pruhonice**	**2.57**	**274**	*e*SG	Sg	20 25 31.2	-1.1
KHC	**Kasperske Hory**	**3.30**	**259**	*e*SG	Sg	20 25 56.0	+0.2

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*NEIC **11** 20:25:51.8±1.4, 6°.70S±0°.10×154°.85E±0°.08, h35km±1km, mb5.0/49, mb_Lg4.6/2*
*ISCJB **11** 20:25:52.8±0.2, 6°.74S±0°.04×154°.87E±0°.04, h56km, mb4.5/25, MS3.9/5, Error ellipse: s-maj=6.4km s-min=5.0km az=168.5*
*BJI **11** 20:25:52.9±0.0, 7°.10S×155°.27E, h90km, mb4.8/31, mB5.3/20*
*IDC **11** 20:25:55.1±1.8, 6°.76S×154°.85E, h67km±17km, mb4.1/16, mb1 4.2/21, mb1mx4.0/45, mbtmp4.3/21, MS3.4/7, Ms1 3.4/7, ms1mx3.2/30, Error ellipse: s-maj=15.3km s-min=12.0km az=9.0*
ISC 11 20:25:54.1±0.4, 6°.72S±0°.06×154°.85E±0°.06, h56km, n123, σ1°.28/126, mb4.8/48, MS3.7/5, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.70**	**310**	P	**Pn**	**20 26 49.8**	**+1.0**
38nm,0.3s,baz=126,slow=1.6,SNR=20							
KRVT				S	Sn	20 27 46.6	+16
45nm,0.3s,baz=86,slow=19,SNR=3.1							
KRVT				LR	LR	20 28 23.4	
comp=Z,269nm,18.8s,baz=123,slow=40							
HNR	**Honiara**	**5.72**	**118**	P	**Pn**	**20 27 17.2**	**+0.7**
5.5nm,0.3s,baz=225,slow=10.0,SNR=2.2							
HNR				S	**Sn**	**20 28 22.9**	**+2.0**
11nm,0.3s,baz=102,slow=20,SNR=2.1							
HNR				LR	LR	20 29 26.1	
comp=Z,781nm,19.8s,baz=262,slow=37							
HNR	**Honiara**	**5.72**	**118**	P	**Pn**	**20 27 21.0**	**+4.5**
HNR	**Honiara**	**5.72**	**118**		**Pn**	**20 27 16.0**	**-0.5**
HNR				IAmb_Lg		20 29 03.0	
comp=Z,893nm,1.2s							
PMG	**Port Moresby**	**8.07**	**250**	P	**Pn**	**20 27 48.9**	**+0.2**
comp=Z,1.2nm,0.3s,baz=32,slow=12,SNR=7.1							
PMG				S	**Sn**	**20 29 21.5**	**+2.9**
comp=Z,1.0nm,0.3s,baz=79,slow=19,SNR=7.6							
PMG	**Port Moresby**	**8.07**	**250**	Pn	**Pn**	**20 27 47.7**	**-1.0**
PATS	**Pohnpei**	**13.91**	**14**	Pn	**Pn**	**20 29 07.1**	**-1.4**
JAY	**Jayapura**	**14.70**	**286**	LR	LR	20 35 53.1	
comp=Z,199nm,18.6s,baz=87,slow=41							
CTA	**Charters Tower**	**15.69**	**211**	P	**Pn**	**20 29 31.7**	**0.0**
comp=Z,0.2nm,0.3s,baz=39,slow=12,SNR=1.9							
CTAO	**Charters Tower**	**15.69**	**211**	P	**P**	**20 29 33.5**	**-1.3**
DZM	**Mont Dzumac**	**18.93**	**145**	P	**P**	**20 30 10.3**	**-0.3**
comp=Z,0.4nm,0.3s,baz=55,slow=12,SNR=3.7							
DZM				LR	LR	20 36 20.1	
comp=Z,136nm,20.2s,baz=258,slow=33							
GUMO	**Guam**	**22.48**	**334**	LR	LR	20 38 33.0	
comp=Z,31nm,20.4s,baz=150,slow=34							
WC3	**Warramunga Arr**	**23.84**	**235**	P	**P**	**20 31 02.0**	**-0.3**
WB2	**Warramunga Arr**	**23.84**	**235**	P	**P**	**20 31 02.7**	**+0.3**
WRA	**Warramunga Arr**	**23.85**	**235**	P	**P**	**20 31 02.0**	**-0.5**
comp=Z,3.2nm,0.6s,baz=57,slow=9.4,SNR=32							
WRA				PcP	**PcP**	**20 34 44.5**	**0.0**
comp=Z,1.5nm,0.6s,baz=56,slow=2.2,SNR=11							
WRA	**Warramunga Arr**	**23.85**	**235**	P	**P**	**20 31 01.5**	**-1.0**
MTN	**Manton Dam**	**24.14**	**254**	P	**P**	**20 31 04.1**	**-1.0**
SIJI	**Sorong**	**24.23**	**283**	P	**P**	**20 31 06.3**	**+0.3**
comp=Z,4.9nm,0.6s,baz=48,slow=16,SNR=4.2							
MSVF	**Nonsavu**	**25.14**	**118**	P	**P**	**20 31 14.5**	**+0.2**
MSVF				IAmb	IAmb	20 31 29.4	
comp=Z,43nm,1.2s							
AS31	**Alice Springs**	**26.24**	**228**	P	**P**	**20 31 23.6**	**-0.6**
ASAR	**Alice Springs**	**26.25**	**228**	P	**P**	**20 31 23.6**	**-0.7**
comp=Z,2.4nm,0.7s,baz=61,slow=8.6,SNR=28							
ASAR				PcP	**PcP**	**20 34 50.1**	**+0.3**
comp=Z,0.6nm,0.6s,baz=60,slow=2.2,SNR=4.4							
ASAR				LR	LR	20 41 48.6	
comp=Z,100nm,18.6s,baz=54,slow=36							
ASAR	**Alice Springs**	**26.25**	**228**	P	**P**	**20 31 24.0**	**-0.2**
KNRA	**Kununurra**	**27.06**	**249**	P	**P**	**20 31 31.3**	**-0.3**
KNRA				IAmb	IAmb	20 31 49.7	
comp=Z,53nm,1.9s							
STKA	**Stephens Creek**	**27.92**	**205**	P	**P**	**20 31 37.1**	**-2.0**
comp=Z,1.4nm,0.7s,baz=41,slow=19,SNR=2.5							
STKA				LR	LR	20 43 02.7	
comp=Z,166nm,18.0s,baz=23,slow=37							
STKA	**Stephens Creek**	**27.92**	**205**	P	**P**	**20 31 37.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.63**	**246**	P	**P**	**20 32 03.5**	**+0.2**
TPUB	**Ta-pu**	**44.82**	**313**	P	**P**	**20 34 02.0**	**-0.9**
SSLB	**Suanglung**	**44.88**	**314**	P	**P**	**20 34 03.5**	**+0.1**
JNU	**Nakatsue**	**45.70**	**332**	P	**P**	**20 34 09.6**	**-0.2**
KSRS	**Korea Array**	**50.63**	**332**	P	**P**	**20 34 46.1**	**-1.5**
comp=Z,1.8nm,0.8s,baz=134,slow=8.6,SNR=5.1							
NJ2	**Nanjing**	**51.61**	**320**	*e*P	**P**	**20 34 57.1**	**+2.0**
NJ2				pmax	pmax		
comp=Z,16nm,0.9s							
WHN	**Wuhan**	**53.65**	**316**	||P	**P**	**20 35 12.2**	**+2.0**
WHN				pmax	pmax		
comp=Z,20nm,0.9s							
PETK	**Petropavlovsk-**	**59.65**	**2**	P	**P**	**20 35 52.8**	**+0.4**
comp=Z,3.1nm,0.7s,baz=191,slow=6.6,SNR=4.2							
PETK	**Petropavlovsk-**	**59.65**	**2**	P	**P**	**20 35 52.6**	**+0.2**
KMI	**Kunming**	**59.74**	**304**	P	**P**	**20 35 56.3**	**+2.4**
KMI				pP	sP	20 36 18.7	+5.6
KMI				sP	PcP	20 36 28.9	-11
KMI				pmax	pmax		
comp=Z,16nm,0.7s							
PAYA	**Payao**	**60.01**	**297**	P	**P**	**20 35 58.3**	**+2.7**
CM31	**Chiang Mai Arr**	**60.54**	**295**	P	**P**	**20 36 00.5**	**+1.4**
CM31				IAmb	IAmb	20 36 02.8	
comp=Z,8.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**60.54**	**295**	P	**P**	**20 36 01.0**	**+1.9**
comp=Z,5.3nm,0.8s,baz=119,slow=5.3,SNR=59							
CMAR	**Chiang Mai Arr**	**60.54**	**295**	P	**P**	**20 35 59.7**	**+0.6**
CMMT	**Chiang Mai**	**60.65**	**296**	P	**P**	**20 36 02.1**	**+2.2**
comp=Z,3.3nm,1.2s							
CHTO	**Chiang Mai**	**60.65**	**296**	P	**P**	**20 35 59.5**	**-0.4**
CHTO				IAmb	IAmb	20 36 02.6	
comp=Z,4.9nm,0.8s							
CD2	**Chengdu**	**61.53**	**310**	P	**P**	**20 36 05.7**	**0.0**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**61.79**	**324**	*e*P	P	20 36 12.2	+4.9
HHC				pmax	pmax		
comp=Z,6.0nm,0.9s							
LZH	**Lanzhou**	**64.02**	**316**	*e*P	**P**	**20 36 22.4**	**+0.1**
LZH				pP	sP	20 36 47.4	+4.3
LZH				sP	PcP	20 36 59.7	+2.4
LZH				PP	PP	20 38 51.9	+8.1
LZH				pmax	pmax		
comp=Z,15nm,1.2s							
GTA	**Gaotai**	**68.44**	**317**	*e*P	**P**	**20 36 52.4**	**+1.8**
GTA				pmax	pmax		
comp=Z,3.0nm,1.2s							
ULN	**Ulaanbaatar**	**68.70**	**328**	P	**P**	**20 36 52.1**	**+0.1**
SONM	**Songino Array**	**69.03**	**327**	P	**P**	**20 36 54.3**	**+0.3**
comp=Z,1.5nm,0.6s,baz=135,slow=5.6,SNR=15							
SONM	**Songino Array**	**69.03**	**327**	P	**P**	**20 36 54.1**	**+0.1**
SHL	**Shillong**	**69.03**	**301**	P	**P**	**20 36 55.4**	**+0.8**
LSA	**Lhasa**	**71.00**	**304**	P	**P**	**20 37 07.1**	**+0.2**
LSA				IAmb	IAmb	20 37 09.6	
comp=Z,6.5nm,0.8s							
TAPN	**Taplejung**	**73.14**	**301**	*e*P	**P**	**20 37 21.0**	**+1.4**
comp=Z,30nm,0.8s							
ODAN	**Odare**	**73.27**	**301**	*e*P	**P**	**20 37 21.6**	**+1.3**
comp=Z,70nm,0.7s							
CHGN	**Chignik**	**73.57**	**25**	P	**P**	**20 37 20.4**	**-0.6**
RAMN	**Ramite**	**73.97**	**300**	*e*P	**P**	**20 37 25.4**	**+1.0**
comp=Z,18nm,0.6s							
JIRN	**Jiri**	**74.52**	**301**	*e*P	**P**	**20 37 28.9**	**+1.2**
comp=Z,30nm,0.7s							
GUN	**Gumba**	**74.85**	**301**	*e*P	**P**	**20 37 30.9**	**+1.3**
comp=Z,47nm,0.6s							
PKI	**Pulchoki**	**75.16**	**301**	*e*P	**P**	**20 37 32.1**	**+0.7**
comp=Z,14nm,0.7s							
PKIN	**Phulchoki**	**75.17**	**301**	*e*P	**P**	**20 37 32.2**	**+0.8**
comp=Z,12nm,0.6s							
KKN	**Kakani**	**75.33**	**301**	*e*P	**P**	**20 37 33.2**	**+1.0**
comp=Z,29nm,0.7s							
DMN	**Daman**	**75.43**	**301**	*e*P	**P**	**20 37 33.9**	**+1.1**
comp=Z,42nm,0.7s							
GKN	**Gorkha**	**75.94**	**301**	*e*P	**P**	**20 37 36.6**	**+1.0**
comp=Z,36nm,0.8s							
KOLN	**Koldanda**	**76.76**	**300**	*e*P	**P**	**20 37 40.9**	**+0.6**
comp=Z,25nm,0.9s							
DANN	**Dangsing**	**76.78**	**301**	*e*P	**P**	**20 37 41.2**	**+0.7**
comp=Z,23nm,0.7s							
WMQ	**Urumqi**	**78.53**	**317**	*e*P	**P**	**20 37 51.5**	**+1.8**
WMQ				pmax	pmax		
comp=Z,7.0nm,0.7s							
WMQ				pmax	pmax		
comp=Z,140nm,4.7s							
WMQ				LR	LR		
comp=Z,420nm,29.1s							
WMQ				LR	LR		
comp=Z,2μm,29.0s							
WMQ				LR	LR		
comp=Z,150nm,29.7s							
CNPM	**China Poot**	**78.57**	**25**	P	**P**	**20 37 49.8**	**+0.2**
RC01	**Rabbit Creek A**	**80.08**	**24**	P	**P**	**20 37 58.0**	**+0.4**
GLI	**Glacier Island**	**81.05**	**25**	P	**P**	**20 38 02.9**	**+0.1**
HIN	**Hinchinbrook I**	**81.05**	**25**	P	**P**	**20 38 02.8**	**-0.1**
IMAR	**Indian Mountai**	**81.52**	**19**	P	**P**	**20 38 05.6**	**+0.3**
MLY	**Manley**	**81.95**	**20**	P	**P**	**20 38 07.5**	**-0.1**
MLY				IAmb	IAmb	20 38 31.6	
comp=Z,19nm,1.8s							
VRDI	**Verde Repeater**	**82.76**	**25**	P	**P**	**20 38 10.6**	**-1.5**
CCB	**Clear Creek Bu**	**82.78**	**21**	P	**P**	**20 38 11.3**	**-0.5**
CCB				IAmb	IAmb	20 39 48.0	
comp=Z,23nm,1.9s							
MDM	**Murphy Dome**	**82.79**	**21**	P	**P**	**20 38 11.8**	**-0.2**
MDM				IAmb	IAmb	20 38 12.8	
comp=Z,14nm,1.0s							
MESA	**MESA**	**82.93**	**27**	P	**P**	**20 38 13.4**	**+0.4**
HDA	**Harding Lake**	**82.96**	**22**	P	**P**	**20 38 11.7**	**-1.1**
HDA				IAmb	IAmb	20 40 36.2	
comp=Z,18nm,1.6s							
MK31	**Makanchi Array**	**83.11**	**319**	P	**P**	**20 38 13.9**	**-0.1**
MKAR	**Makanchi Array**	**83.11**	**319**	P	**P**	**20 38 14.0**	**0.0**
comp=Z,3.5nm,0.7s,baz=99,slow=5.5,SNR=30							
MKAR	**Makanchi Array**	**83.11**	**319**	P	**P**	**20 38 14.1**	**+0.1**
IL31		**83.18**	**22**	P	**P**	**20 38 12.9**	**-0.9**
IL31				IAmb	IAmb	20 38 18.2	
comp=Z,29nm,2.0s							
ILAR	**Eielson Array**	**83.18**	**22**	P	**P**	**20 38 12.3**	**-1.6**
comp=Z,0.8nm,0.6s,baz=241,slow=6.1,SNR=13							
ILAR	**Eielson Array**	**83.18**	**22**	P	**P**	**20 38 12.6**	**-1.4**
QSPA	**South Pole Qui**	**83.25**	**180**	P	**P**	**20 38 14.6**	**+0.1**
QSPA				IAmb	IAmb	20 38 21.7	
comp=Z,9.7nm,1.2s							
MAKZ	**Makanchi**	**83.32**	**319**	P	**P**	**20 38 15.6**	**+0.5**
BARN	**Barnard Glacie**	**83.45**	**26**	P	**P**	**20 38 16.6**	**+0.9**
BARN				IAmb	IAmb	20 39 15.4	
comp=Z,29nm,1.4s							
MENT	**Mentasta**	**83.47**	**24**	P	**P**	**20 38 16.1**	**+0.6**
MENT				IAmb	IAmb	20 40 18.5	
comp=Z,6.4nm,0.7s							
CTGM	**Chitina Glacie**	**83.55**	**26**	P	**P**	**20 38 16.7**	**+0.6**
CTGM				IAmb	IAmb	20 38 18.3	
comp=Z,17nm,1.0s							
DOT	**Dot Lake**	**83.67**	**23**	P	**P**	**20 38 14.3**	**-2.2**
DOT				IAmb	IAmb	20 39 45.7	
comp=Z,29nm,1.6s							
SCRK	**Sand Creek**	**83.86**	**23**	P	**P**	**20 38 17.3**	**-0.4**
SCRK				IAmb	IAmb	20 40 03.1	
comp=Z,30nm,2.0s							
ZALV	**Zalesovo Beam**	**83.88**	**326**	P	**P**	**20 38 16.2**	**-1.5**
comp=Z,1.3nm,0.7s,baz=126,slow=7.5,SNR=4.9							
ZALV	**Zalesovo Beam**	**83.88**	**326**	P	**P**	**20 38 16.5**	**-1.2**
BCAR	**Beaver Creek A**	**84.31**	**24**	P	**P**	**20 38 20.1**	**+0.3**
HYT	**Haines Junctio**	**85.20**	**27**	P	**P**	**20 38 25.1**	**+0.7**
HYT				IAmb	IAmb	20 38 26.3	
comp=Z,12nm,0.8s							
EGAK	**Eagle**	**85.32**	**23**	P	**P**	**20 38 25.3**	**+0.5**
EGAK				IAmb	IAmb	20 38 29.7	
comp=Z,8.0nm,1.1s							
BESE	**Bessie Mountai**	**85.62**	**30**	P	**P**	**20 38 27.8**	**+1.3**
BESE				IAmb	IAmb	20 38 46.2	
comp=Z,20nm,1.2s							
DAWY	**Dawson**	**85.71**	**24**	P	**P**	**20 38 27.6**	**+0.8**
DAWY				IAmb	IAmb	20 39 56.4	
comp=Z,16nm,1.6s							
KSH	**Kashi**	**85.73**	**310**	P	**P**	**20 38 28.1**	**+0.5**
KSH				PP	**PP**	**20 41 50.8**	**+3.4**
KSH				S	**S**	**20 48 49.7**	**-6.5**
KSH				pmax	pmax		
comp=Z,510nm,6.3s							
KSH				LR	LR		
comp=Z,480nm,10.5s							
KSH				LR	LR		
comp=Z,250nm,10.3s							
NIL	**Nilore**	**86.74**	**304**	P	**P**	**20 38 32.5**	**-0.1**
NIL				IAmb	IAmb	20 38 33.6	
comp=Z,4.5nm,0.6s							
DLBC	**Dease Lake**	**87.98**	**31**	P	**P**	**20 38 38.1**	**0.0**
comp=Z,3.4nm,1.1s,baz=263,slow=6.1,SNR=6.1							
DLBC	**Dease Lake**	**87.98**	**31**	P	**P**	**20 38 38.0**	**0.0**
DLBC				IAmb	IAmb	20 38 39.8	
comp=Z,7.3nm,1.1s							
INK	**Inuvik**	**89.52**	**21**	P	**P**	**20 38 46.3**	**+1.4**
comp=Z,1.9nm,0.4s,baz=212,slow=29,SNR=6.4							
INK	**Inuvik**	**89.52**	**21**	P	**P**	**20 38 46.2**	**+1.3**
INK				IAmb	IAmb	20 39 40.7	
comp=Z,3.8nm,0.6s							
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**20 38 56.4**	**+0.4**
comp=Z,1.8nm,0.8s,baz=250,slow=7.1,SNR=11							
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**20 38 56.0**	**+0.1**
NV11	**Mina Array Sit**	**91.78**	**52**	P	**P**	**20 38 56.8**	**+0.4**
NV11				IAmb	IAmb	20 41 53.9	
comp=Z,6.0nm,0.6s							
KVN	**Kaiserville**	**91.90**	**51**	P	**P**	**20 38 57.0**	**+0.1**
KVN				IAmb	IAmb	20 41 04.1	
comp=Z,4.2nm,0.4s							
BMN	**Battle Mountai**	**92.74**	**50**		**P**	**20 39 00.8**	**+0.1**
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**20 39 15.6**	**0.0**
comp=Z,2.6nm,0.8s,baz=266,slow=4.5,SNR=9.0							
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**20 39 15.5**	**-0.2**
PDAR	**Pinedale Array**	**98.62**	**48**	P	**P**	**20 39 26.7**	**-0.9**
comp=Z,0.6nm,0.8s,baz=248,slow=2.7,SNR=3.9							
AKASG	**Malin Array Be**	**117.23**	**324**	PKP	**PKPdf**	**20 44 31.2**	**-2.0**
comp=Z,0.7nm,0.5s,baz=47,slow=2.2,SNR=4.5							
AKASG	**Malin Array Be**	**117.23**	**324**		**PKPdf**	**20 44 32.6**	**-0.6**
BRTR	**Keskin Array B**	**118.10**	**312**	PKP	**PKPdf**	**20 44 34.5**	**-0.9**
comp=Z,0.6nm,0.7s,baz=110,slow=2.0,SNR=4.3							
BRTR	**Keskin Array B**	**118.10**	**312**		**PKPdf**	**20 44 34.8**	**-0.6**
L56A	**Greenwood**	**121.90**	**44**		**PKPdf**	**20 44 40.1**	**-2.4**
GERES	**GERESS Array B**	**126.75**	**329**	PKP	**PKPdf**	**20 44 51.6**	**-0.1**
comp=Z,1.2nm,0.7s,baz=76,slow=1.2,SNR=11							
GERES	**GERESS Array B**	**126.75**	**329**		**PKPdf**	**20 44 51.8**	**+0.1**
LPAZ	**La Paz**	**131.71**	**119**	PKP	**PKPdf**	**20 45 02.6**	**-0.1**
comp=Z,1.0nm,0.7s,baz=15,slow=4.0,SNR=4.2							
LPAZ	**La Paz**	**131.71**	**119**		**PKPdf**	**20 45 01.5**	**-1.2**
PTGA	**Pitinga**

1.1nm,0.7s,baz=99,slow=11,SNR=3.1
YKA Yellowknife Ar 21.95 78 P **P 20 33 32.5 +1.1**
0.6nm,0.7s,baz=304,slow=10,SNR=3.3
PDAR Pinedale Array 38.91 100 P **P 20 36 06.5 +2.7**
0.5nm,0.8s,baz=354,slow=7.6,SNR=3.0
NVAR Mina Array Bea 39.50 113 P P 20 36 14.4 +5.6
0.4nm,0.6s,baz=322,slow=5.7,SNR=3.6
ZALV Zalesovo Beam 47.68 311 P **P 20 37 12.4 -1.7**
1.2nm,0.7s,baz=38,slow=10,SNR=4.6
FINES FINESS Array B 50.89 352 P **P 20 37 38.7 +0.1**
3.1nm,1.0s,baz=7.8,slow=11,SNR=3.3
TXAR Lajitas Array 52.98 103 P **P 20 37 59.0 +4.3**
0.4nm,0.8s,baz=330,slow=5.2,SNR=4.6

NIED ***11*** *20:54:00,38°.70N×142°.20E,h44km,Mw4.5 Best double couple: M0:6.15000×10^15 NP1:φs=203.00000°,δ=20.00000°, λ=85.00000°. NP2:φs=28.00000°,δ=70.00000°,λ=92.00000°.*
BJI ***11*** *20:54:22.4±0.0,38°.62N×142°.57E,h45km,mb4.7/69, mB5.0/34,Ms4.5/23,Ms7 4.2/23*
MOS ***11*** *20:54:24.8±0.9,38°.81N×142°.13E,h36km,mb4.9/22,Error ellipse: s-maj=6.7km s-min=4.2km az=99.4*
ISCJB ***11*** *20:54:25.6±0.4,38°.72N±0°.02×142°.20E±0°.03,h46km±3km, mb4.8/105,MS3.9/21,Error ellipse: s-maj=4.9km s-min=2.9km az=35.7*
JMA ***11*** *20:54:26.6±0.1,38°.72N×142°.18E,h41km±1km,M4.5*
JMA Felt III J1.
NEIC ***11*** *20:54:27.6±1.3,38°.72N±0°.06×142°.2E±0°.1,h48km±4km, mb4.9/98*
IDC ***11*** *20:54:27.1±0.5,38°.74N×142°.15E,h47km±3km,mb4.3/27, mb1 4.4/34,mb1mx4.3/58,mbtmp4.5/34,MS3.7/23, Ms1 3.7/23,ms1mx3.4/50,Error ellipse: s-maj=11.2km s-min=7.8km az=121.0*
ISC 11 20:54:26.7±0.4,38°.71N±0°.04×142°.27E±0°.04,h48km±2km, h48km:pP-P,n399,σ1§47/452,mb4.8/141,MS3.9/21, 30C-21D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**309**	⇓P		**Pn**		**20 54 37.9**	**-1.1**
OFUJ				S		**Sn**		**20 54 45.7**	**-2.2**
JKMT	**Kesennumamotoy**	**0.63**	**279**	⇓P		**Pn**		**20 54 38.1**	**-1.3**
JKMT				S		**Sn**		**20 54 46.0**	**-2.6**
JIKH	**Ishinomakikobu**	**0.74**	**238**	⇓P		**Pn**		**20 54 39.8**	**-1.1**
JIKH				S		**Sn**		**20 54 48.9**	**-2.4**
JIO	**Ouri**	**0.76**	**251**	⇓P		**Pn**		**20 54 39.9**	**-1.3**
JIO				S		**Sn**		**20 54 49.1**	**-2.6**
JMK	**Ichinoseki**	**0.85**	**287**	⇓P		**Pn**		**20 54 41.4**	**-1.0**
JMK				S		**Sn**		**20 54 51.7**	**-2.1**
JOM	**Ohasama**	**1.07**	**315**	⇓P		**Pn**		**20 54 44.8**	**-0.6**
JOM				S		**Sn**		**20 54 58.3**	**-0.9**
JTH	**Tanohata**	**1.27**	**346**	⇓P		**Pn**		**20 54 47.2**	**-0.8**
JTH				S		**Sn**		**20 55 03.3**	**-0.6**
JOU	**Okura**	**1.30**	**255**	⇓P		**Pn**		**20 54 47.8**	**-0.7**
JOU				S		**Sn**		**20 55 03.6**	**-1.2**
JMM	**Marumori**	**1.43**	**234**	⇓P		**Pn**		**20 54 49.3**	**-1.0**
JMM				S		**Sn**		**20 55 05.9**	**-2.0**
JRG	**Rokugo**	**1.45**	**299**	⇓P		**Pn**		**20 54 49.9**	**-0.5**
JYK	**Kaneyama**	**1.51**	**279**	⇓P		**Pn**		**20 54 50.7**	**-0.6**
ERM	**Erimo**	**3.37**	**11**	*ce*P		**Pn**		**20 55 12.6**	**-4.2**
ERM				pmax		pmax			
	comp=Z,106nm,1.3s								
ERM	**Erimo**	**3.37**	**11**			**Pn**		**20 55 17.2**	**+0.4**
MAJO	**Matsushiro**	**3.88**	**237**	P		**Pn**		**20 55 24.8**	**+0.9**
MAJO	**Matsushiro**	**3.88**	**237**			**Pn**		**20 55 24.8**	**+0.9**
MAT	**Matsushiro**	**3.88**	**237**	P		**Pn**		**20 55 25.2**	**+1.3**
MAT				S		**Sn**		**20 56 09.5**	**+1.3**
MJAR	**Matsushiro Arr**	**3.88**	**237**	P		**Pn**		**20 55 25.0**	**+1.1**
	comp=Z,8.6nm,0.3s,baz=46,slow=13,SNR=155								
MJAR				S		**Sn**		**20 56 07.3**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=56,slow=7.7,SNR=4.4								
MJAR				LR		LR		20 57 04.3	
	comp=Z,792nm,19.1s,baz=55,slow=41								
MJAR	**Matsushiro Arr**	**3.88**	**237**			**Pn**		**20 55 24.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**3.88**	**237**			**Pn**		**20 55 24.4**	**+0.5**
NMR	**Nemuro--Hokkai**	**5.34**	**28**	*c* P		**Pn**		**20 55 42.7**	**-1.1**
NMR				*i* S		**Sn**		**20 56 38.6**	**-5.3**
INU	**Inuyama**	**5.38**	**233**			**Pn**		**20 55 45.8**	**+1.4**
ASAJ	**Asahikawa**	**5.41**	**3**	P		**Pn**		**20 55 44.9**	**+0.2**
	comp=Z,6.4nm,0.3s,baz=212,slow=11,SNR=12								
ASAJ				S		**Sn**		**20 56 45.9**	**+0.3**
	comp=Z,6.5nm,0.3s,baz=211,slow=32,SNR=5.9								
JKA	**Kamikawa-asahi**	**5.41**	**3**			**Pn**		**20 55 44.9**	**+0.2**
JKA						**Sn**		**20 56 45.9**	**+0.3**
GLVR	**Golovnino**	**5.59**	**25**	*e*P		**Pn**		**20 55 47.7**	**+0.5**
GLVR				*e*S		**Sn**		**20 56 46.6**	**-3.5**
GLVR				pmax		pmax			
	comp=N,231nm,0.7s								
GLVR				pmax		pmax			
	comp=E,184nm,0.7s								
GLVR				pmax		pmax			
	comp=Z,287nm,0.7s								
GLVR				smax		smax			
	comp=E,321nm,0.3s								
GRPR	**Tuman**	**5.90**	**25**	*e*P		**Pn**		**20 55 51.0**	**-0.5**
GRPR				*e*S		**Sn**		**20 56 52.6**	**-5.1**
GRPR				pmax		pmax			
	comp=Z,185nm,0.3s								
GRPR				pmax		pmax			
	comp=N,54nm,0.1s								
GRPR				pmax		pmax			
	comp=E,43nm,0.3s								
GRPR				smax		smax			
	comp=E,806nm,0.4s								
GRPR				smax		smax			
	comp=E,689nm,0.3s								
JHJ2	**Mitsune**	**5.93**	**200**	Pn		**Pn**		**20 55 51.7**	**-0.3**
JHJ	**Hachijo jima 2**	**5.93**	**201**	P		**Pn**		**20 55 52.0**	**0.0**
	comp=E,27nm,0.3s,baz=31,slow=20,SNR=7.0								
JHJ				S		**Sn**		**20 56 54.7**	**-3.9**
	comp=E,43nm,0.3s,baz=73,slow=19,SNR=4.1								
JHJ				LR		LR		20 58 12.0	
	comp=E,235nm,21.6s,baz=336,slow=38								
LAGR	**Lagunnoye**	**5.96**	**25**	*e*P		**Pn**		**20 55 51.3**	**-1.0**
LAGR				*e*S		**Sn**		**20 56 53.7**	**-5.5**
LAGR				pmax		pmax			
	comp=Z,404nm,0.5s								
LAGR				pmax		pmax			
	comp=N,237nm,0.4s								
LAGR				pmax		pmax			
	comp=E,205nm,0.1s								
LAGR				smax		smax			
	comp=N,1μm,0.3s								
LAGR				smax		smax			
	comp=E,566nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**5.97**	**26**	*e*P		**Pn**		**20 55 51.9**	**-0.5**
YUK				*e*S		**Sn**		**20 56 54.3**	**-5.1**
YUK				pmax		pmax			
	comp=N,44nm,0.2s								
YUK				pmax		pmax			
	comp=E,64nm,0.2s								
YUK				pmax		pmax			
	comp=Z,195nm,0.2s								
YUK				smax		smax			
	comp=N,188nm,0.4s								
YUK				smax		smax			
	comp=E,781nm,0.4s								
TEY	**Ternei**	**7.60**	**328**	⇓*e*P		**Pn**		**20 56 18.6**	**+3.8**
TEY				pmax		pmax			
	comp=N,40nm,0.7s								
TEY				pmax		pmax			
	comp=E,30nm,0.7s								
TEY				pmax		pmax			
	comp=Z,30nm,0.7s								
TEY				pmax		pmax			
	comp=N,90nm,0.8s								
TEY				pmax		pmax			
	comp=Z,100nm,0.8s								
KUR	**Kuril'sk**	**7.74**	**31**	*e*P		**Pn**		**20 56 18.3**	**+1.7**
KUR				*e*S		**Sn**		**20 57 38.4**	**-4.4**
KUR				pmax		pmax			
	comp=Z,58nm,0.9s								
KUR				smax		smax			
	comp=N,240nm,0.6s								
KUR				smax		smax			
	comp=E,161nm,0.5s								
YSS	**Yuzh-Sakhalins**	**8.25**	**2**	P		**Pn**		**20 56 23.2**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.25**	**2**			**Pn**		**20 56 23.2**	**-0.4**
USA0B	**Ussuriysk Arra**	**9.46**	**309**	P		**Pn**		**20 56 40.9**	**+0.6**
USA0B	**Ussuriysk Arra**	**9.46**	**309**			**Pn**		**20 56 40.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.46**	**309**	P		**Pn**		**20 56 41.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.46**	**309**	P		**Pn**		**20 56 40.2**	**-0.1**
	baz=118,slow=14,SNR=74								
USRK				LR		LR		21 00 08.5	
	comp=E,493nm,19.2s,baz=124,slow=36								
USRK	**Ussuriysk Ar.**	**9.46**	**309**			**Pn**		**20 56 41.4**	**+1.1**
JNU	**Nakatsue**	**10.79**	**242**	P		**Pn**		**20 56 59.2**	**+0.7**
	comp=E,1.4nm,0.3s,baz=79,slow=1.8,SNR=17								
JNU				LR		LR		21 01 24.8	
	comp=E,420nm,21.4s,baz=46,slow=39								
JNU	**Nakatsue**	**10.79**	**242**			**Pn**		**20 56 59.9**	**+1.4**
MDJ	**Mudanjiang**	**11.16**	**306**	P		Pn		20 57 08.8	+5.2
MDJ				pmax		pmax			
	comp=E,17nm,0.4s								
MDJ				pmax		pmax			
	comp=E,190nm,3.3s								
MDJ	**Mudanjiang**	**11.16**	**306**			**Pn**		**20 57 05.7**	**+2.2**
KSRS	**Korea Array**	**11.38**	**268**	P		**Pn**		**20 57 09.3**	**+2.8**
	comp=E,1.5nm,0.3s,baz=80,slow=14,SNR=30								
KSRS				LR		LR		21 01 05.9	
	comp=E,316nm,20.5s,baz=74,slow=35								
KSAR	**Wonju Array Be**	**11.41**	**268**	P		**Pn**		**20 57 09.6**	**+2.6**
KSAR	**Wonju Array Be**	**11.41**	**268**			**Pn**		**20 57 09.6**	**+2.6**
KS19	**Wonju Array Si**	**11.41**	**268**			**Pn**		**20 57 10.2**	**+3.2**
TYV	**Tymovskoe**	**12.15**	**1**	*e*P		**Pn**		**20 57 19.0**	**+2.0**
TYV				pmax		pmax			
	comp=Z,19nm,1.4s								
KLR	**Kul'dur**	**12.95**	**328**	P		**Pn**		**20 57 27.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=125,slow=13,SNR=9.9								
KLR				LR		LR		21 02 21.6	
	comp=Z,455nm,18.6s,baz=144,slow=37								
CN2	**Changchun**	**13.63**	**297**	*e*P		**Pn**		**20 57 39.2**	**+1.9**
CN2				*es*P		P		20 57 51.0	+6.1
CN2				*e*S		**Sn**		**21 00 11.2**	**+4.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
DL2	**Dalian**	**16.09**	**277**	P		**P**		**20 58 11.4**	**-0.8**
DL2				sP		**sP**		**20 58 29.5**	**+0.3**
DL2				S		**S**		**21 01 14.0**	**-4.4**
DL2				pmax		pmax			
	comp=Z,53nm,1.1s								
DL2				LR		LR			
	comp=Z,570nm,12.1s								
DL2				LR		LR			
	comp=Z,510nm,17.3s								
DL2				LR		LR			
	comp=Z,400nm,14.7s								
PETK	**Petropavlovsk-**	**17.90**	**31**	P		**Pn**		**20 58 31.6**	**-0.5**
	baz=223,slow=9.8,SNR=2.7								
PETK				LR		LR		21 05 38.5	
	comp=Z,67nm,20.8s,baz=240,slow=38								
ZEA	**Zeya**	**18.21**	**330**	*e*P		**P**		**20 58 33.4**	**-2.1**
ZEA				pmax		pmax			
	comp=N,47nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,58nm,1.0s								
TIA	**Tai'an**	**20.10**	**271**	P		**P**		**20 58 55.5**	**-0.8**
TIA				pmax		pmax			
	comp=Z,13nm,0.9s								
NJ2	**Nanjing**	**20.19**	**258**	*e*P		Pn		20 58 58.8	-0.7
NJ2				pmax		pmax			
	comp=Z,33nm,0.9s								
BJT	**Baijiatuau**	**20.20**	**282**	P		**P**		**20 58 55.4**	**-2.0**
BJT				pmax		pmax			
	comp=Z,12nm,0.7s								
BJT	**Baijiatuau**	**20.20**	**282**	P		**P**		**20 58 55.4**	**-2.0**
MA2	**Magadan**	**21.58**	**12**	*ce*P		**P**		**20 59 09.2**	**-2.8**
MA2				pmax		pmax			
	comp=Z,166nm,2.5s								
ANA2	**Anatahan**	**22.49**	**171**	P		**P**		**20 59 19.9**	**-2.2**
NACB	**Ninganchiao**	**22.75**	**236**	P		**P**		**20 59 22.0**	**-3.0**
TIY	**Taiyuan**	**23.42**	**277**	*e*P		**P**		**20 59 33.1**	**+1.5**
TIY				S		**S**		**21 03 37.3**	**-4.0**
TIY				pmax		pmax			
	comp=Z,27nm,1.1s								
TIY				pmax		pmax			
	comp=Z,180nm,3.5s								
TIY				LR		LR			
	comp=Z,280nm,5.0s								
TIY				LR		LR			
	comp=Z,450nm,15.2s								
SSLB	**Suanglung**	**23.44**	**237**	P		**P**		**20 59 28.8**	**-3.0**
SSLB				IAmb		IAmb		20 59 48.1	
	comp=Z,124nm,2.0s								
YULB	**Yu-li**	**23.50**	**236**	P		**P**		**20 59 28.8**	**-3.5**
YULB				IAmb		IAmb		20 59 41.0	
	comp=Z,40nm,1.2s								
HHC	**Hu-ho-hao-te**	**23.64**	**285**	*e*P		**P**		**20 59 32.3**	**-1.3**
HHC				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TPUB	**Ta-pu**	**24.00**	**236**	P		**P**		**20 59 34.1**	**-2.8**
TWG	**Pinlang**	**24.05**	**235**	P		**P**		**20 59 36.4**	**-1.0**
WHN	**Wuhan**	**24.31**	**259**	⇓P		**P**		**20 59 38.9**	**-0.8**
WHN				pmax		pmax			
	comp=Z,28nm,0.9s								
YAK	**Yakutsk**	**24.60**	**346**	*e*P		**P**		**20 59 41.0**	**-1.0**
YAK				*e**PP		**pP**		**20 59 52.5**	**-1.8**
YAK				*e*S		**S**		**21 03 59.3**	**-0.3**
YAK				*e*SS		**SnSn**		**21 04 47.4**	**-0.9**
YAK				pmax		pmax			
	comp=Z,25nm,0.8s								
YAK				pmax		pmax			
	comp=N,13nm,1.0s								
YAK				pmax		pmax			
	comp=Z,238nm,3.3s								
YAK				pmax		pmax			
	comp=N,544nm,3.8s								
YAK				pmax		pmax			
	comp=E,443nm,3.5s								
YAK				smax		smax			
	comp=N,1μm,3.5s								
YAK				smax		smax			
	comp=E,549nm,3.7s								
YAK	**Yakutsk**	**24.60**	**346**	P		**P**		**20 59 40.5**	**-1.5**
	comp=E,11nm,0.5s,baz=207,slow=9.7,SNR=10.0								
YAK	**Yakutsk**	**24.60**	**346**	P		**P**		**20 59 40.2**	**-1.8**
YAK				IAmb		IAmb		21 00 00.6	
	comp=Z,29nm,0.7s								
SEY	**Seymchan**	**25.02**	**11**	*i* P		**P**		**20 59 46.7**	**+0.8**
SEY	**Seymchan**	**25.02**	**11**	P		**P**		**20 59 47.3**	**+1.4**
	comp=Z,21nm,0.9s,baz=200,slow=6.6,SNR=15								
BOD	**Bodaibo**	**26.50**	**325**	*e*P		**P**		**20 59 58.6**	**-0.8**
BOD				pmax		pmax			
	comp=Z,13nm,1.4s								
ULN	**Ulaanbaatar**	**27.02**	**301**	*ce*P		**P**		**21 00 04.5**	**+0.2**
ULN				pmax		pmax			
	comp=Z,11nm,1.3s								
ULN	**Ulaanbaatar**	**27.02**	**301**	P		**P**		**21 00 04.1**	**-0.2**
XAN	**Xi'an**	**27.16**	**270**	P		**P**		**21 00 05.2**	**-0.4**
XAN				pP		pP		21 00 14.0	-3.9
XAN				pmax		pmax			
	comp=Z,5.0nm,0.6s								
XAN	**Xi'an**	**27.16**	**270**	P		**P**		**21 00 04.8**	**-0.8**
XAN				pmax		pmax			
	comp=Z,13nm,1.2s								
XAN	**Xi'an**	**27.16**	**270**	P		**P**		**21 00 04.8**	**-0.8**
SONM	**Songino Array**	**27.45**	**301**	P		**P**		**21 00 07.6**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=100,slow=9.7,SNR=24								
SONM				pP		**pP**		**21 00 22.0**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=92,slow=9.9,SNR=4.3								
SONM				PcP		**PcP**		**21 03 25.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=139,slow=2.2,SNR=4.0								
SONM				LR		LR		21 11 17.5	
	comp=Z,156nm,19.7s,baz=117,slow=37								
SONM	**Songino Array**	**27.45**	**301**	P		**P**		**21 00 08.2**	**0.0**
ENH	**Enshi**	**28.18**	**263**	P		**P**		**21 00 13.9**	**-0.9**
ENH				IAmb		IAmb		21 00 20.7	
	comp=Z,36nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.48**	**125**	T		T		21 30 49.2	
	baz=317,slow=75,SNR=1639								
H11N1	**WAKE ISLAND Hy**	**28.49**	**125**	T		T		21 30 49.8	
	baz=317,slow=75,SNR=4019								
H11N3	**WAKE ISLAND Hy**	**28.50**	**125**	T		T		21 30 50.5	
	baz=317,slow=75,SNR=3109								
H11S1	**WAKE ISLAND Hy**	**29.26**	**127**	T		T		21 31 43.4	
	baz=318,slow=76,SNR=810								
H11S3	**WAKE ISLAND Hy**	**29.26**	**127**	T		T		21 31 43.7	
	baz=318,slow=76,SNR=1610								
H11S2	**WAKE ISLAND Hy**	**29.27**	**127**	T		T		21 31 52.4	
	baz=318,slow=76,SNR=386								
TLY	**Talaya**	**29.78**	**309**	*i* P		**P**		**21 00 28.5**	**-0.2**
TLY				pmax		pmax			
	comp=Z,9.0nm,1.0s								
TLY	**Talaya**	**29.78**	**309**	P		**P**		**21 00 27.7**	**-1.0**
ZAK	**Zakamensk**	**29.80**	**306**	*e*P		**P**		**21 00 27.9**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,13nm,1.0s								
LZH	**Lanzhou**	**30.49**	**277**	⇑P		**P**		**21 00 35.9**	**+0.6**
LZH				pP		pP		21 00 49.0	+1.3
LZH				sP		sP		21 00 57.3	+3.9
LZH				pmax		pmax			
	comp=Z,17nm,1.2s								
LZH				pmax		pmax			
	comp=Z,63nm,5.4s								
LZH				LR		LR			
	comp=Z,280nm,13.2s								
LZH				LR		LR			
	comp=Z,260nm,13.5s								
LZH				LR		LR			
	comp=Z,310nm,14.1s								
MOY	**Mondy**	**31.41**	**308**	*e*P		**P**		**21 00 43.6**	**+0.4**
GYA	**Guiyang**	**32.20**	**258**	⇓*i*P		**P**		**21 00 49.8**	**-0.5**
GYA				pP		sP		21 01 05.6	-2.8
GYA				S		**S**		**21 05 55.5**	**-4.6**
GYA				sS		sS		21 06 19.8	-1.0
GYA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
GYA				pmax		pmax			
	comp=Z,110nm,4.8s								
GYA				LR		LR			
	comp=Z,150nm,16.2s								
GYA				LR		LR			
	comp=Z,300nm,16.7s								
GYA				LR		LR			
	comp=Z,260nm,17.5s								
BILL	**Bilibino**	**32.23**	**17**	*e*P		**P**		**21 00 50.4**	**+0.4**
BILL				*e*				21 03 38.4	
BILL				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CD2	**Chengdu**	**32.38**	**268**	P		**P**		**21 00 51.1**	**-0.7**
CD2				pmax		pmax			
	comp=Z,40nm,0.9s								
GTA	**Gaotai**	**32.75**	**285**	P		**P**		**21 00 54.1**	**-1.0**
GTA				pP		pP		21 01 08.6	+1.0
GTA				sP		sP		21 01 16.7	+3.5
GTA				PcP		**PcP**		**21 03 41.2**	**+1.7**
GTA				ScP		**ScP**		**21 07 21.2**	**+1.7**
GTA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,110nm,7.2s								
GTA				LR		LR			
	comp=Z,150nm,13.7s								
GTA				LR		LR			
	comp=Z,310nm,15.8s								
GTA				LR		LR			
	comp=Z,430nm,13.4s								
TIXI	**Tiksi**	**33.71**	**352**	*ce*P		**P**		**21 01 01.7**	**-1.2**
TIXI				pmax		pmax			
	comp=Z,17nm,2.5s								
TIXI	**Tiksi**	**33.71**	**352**	P		**P**		**21 01 02.0**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=360,slow=24,SNR=9.6								
TIXI	**Tiksi**	**33.71**	**352**	P		**P**		**21 01 02.6**	**-0.3**
KMI	**Kunming**	**35.91**	**260**	P		**P**		**21 01 22.9**	**+0.3**
KMI				pP		sP		21 01 38.5	-2.3
KMI				pmax		pmax			
	comp=Z,11nm,0.6s								
KMI	**Kunming**	**35.91**	**260**	P		**P**		**21 01 22.7**	**+0.1**
KMI				pmax		pmax			
	comp=Z,11nm,0.5s								
KMI	**Kunming**	**35.91**	**260**	P		**P**		**21 01 22.7**	**+0.1**
KMI				IAmb		IAmb		21 01 26.2	
	comp=Z,11nm,0.5s								
NONG	**Nongkai**	**39.70**	**250**	P		**P**		**21 01 56.1**	**+1.6**
	comp=Z,0.3nm,0.8s,comp=Z,151nm								
DGZ	**Jazzator, Alta**	**39.98**	**304**	*c* P		**P**		**21 01 55.9**	**-0.8**
BAKI	**Biak**	**40.11**	**190**	P		**P**		**21 01 57.8**	**0.0**
SIJI	**Sorong**	**40.67**	**197**	P		**P**		**21 02 02.3**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=308,slow=9.1,SNR=4.2								
WMQ	**Urumqi**	**40.71**	**295**	*e*P		**P**		**21 02 03.2**	**+0.5**
WMQ				pP		pP		21 02 15.5	+0.1
WMQ				pmax		pmax			
	comp=Z,22nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,96nm,5.1s								
WMQ				LR		LR			
	comp=Z,420nm,29.0s								
WMQ				LR		LR			
	comp=Z,2μm,29.2s								
WMQ				LR		LR			
	comp=Z,150nm,29.3s								
WMQ	**Urumqi**	**40.71**	**295**	P		**P**		**21 02 02.1**	**-0.5**
WMQ				pmax		pmax			
	comp=Z,21nm,0.7s								
WMQ	**Urumqi**	**40.71**	**295**	P		**P**		**21 02 02.1**	**-0.5**
WMQ				IAmb		IAmb		21 02 53.2	
	comp=Z,21nm,0.7s								
ZAA0	**Zalesovo Array**	**41.31**	**311**	P		**P**		**21 02 07.0**	**-0.3**
ZAA0				IAmb		IAmb		21 02 24.0	
	comp=Z,14nm,0.8s								
ZALV	**Zalesovo Beam**	**41.31**	**311**	P		**P**		**21 02 07.2**	**-0.1**
	comp=Z,9.5nm,0.5s,baz=91,slow=8.2,SNR=54								
ZALV				pP		**pP**		**21 02 19.8**	**-0.2**
	comp=Z,15nm,0.7s,baz=90,slow=7.5,SNR=9.9								
ZALV				PcP		**PcP**		**21 04 05.0**	**0.0**
	comp=Z,3.0nm,0.4s,baz=94,slow=3.5,SNR=4.3								
ZALV				LR		LR		21 19 59.5	
	comp=Z,146nm,19.1s,baz=103,slow=37								
ZALV	**Zalesovo Beam**	**41.31**	**311**	P		**P**		**21 02 06.9**	**-0.4**
ZALV	**Zalesovo Beam**	**41.31**	**311**			**PcP**		**21 04 05.5**	**+0.5**
CHAI	**Chaiyaphum**	**41.94**	**249**	P		**P**		**21 02 13.1**	**+0.2**
	comp=Z,24μm,1.0s								
NRIK	**Noril'sk**	**42.04**	**334**	P		**P**		**21 02 12.4**	**-0.7**
	comp=Z,5.1nm,0.5s,baz=97,slow=10,SNR=3.8								
NRIK				LR		LR		21 20 36.2	
	comp=Z,210nm,18.6s,baz=57,slow=37								
PBKT	**Sadao Pong**	**42.25**	**250**	P		**P**		**21 02 16.4**	**+1.0**
	comp=Z,4.7nm,1.1s,comp=Z,634nm								
PBKT	**Sadao Pong**	**42.25**	**250**	P		**P**		**21 02 15.6**	**+0.1**
CMMT	**Chiang Mai**	**42.37**	**255**	P		**P**		**21 02 16.7**	**+0.3**
	comp=Z,7.3nm,0.7s								
CHTO	**Chiang Mai**	**42.37**	**255**	P		**P**		**21 02 16.5**	**+0.1**
CHTO				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CHTO	**Chiang Mai**	**42.37**	**255**	P		**P**		**21 02 16.5**	**+0.1**
CHTO				IAmb		IAmb		21 02 27.9	
	comp=Z,9.8nm,0.7s

IMAR	Indian Mountai	44.87	31	P	P	21 02 37.9 +1.9
KHLT	Khaolaem Dam	45.14	250	P	P	21 02 36.4 -2.3
	comp=Z,13nm,1.1s					
KURK	Kurchatov	45.45	307	P	P	21 02 40.9 +0.2
KURK				*PP	pP	21 02 53.1 -0.5
KURK						21 04 19.6
KURK	Kurchatov	45.45	307	P	P	21 02 40.6 -0.1
KURBB	Kurchatov Arra	45.52	307	P	P	21 02 40.9 -0.4
	comp=Z,42nm,0.7s,baz=82,slow=8.3,SNR=169					
KURBB				pP	pP	21 02 53.0 -1.1
	comp=Z,22nm,0.7s,baz=81,slow=8.2,SNR=5.6					
KURBB				PcP	PcP	21 04 19.6 +0.3
	comp=Z,0.8nm,0.4s,baz=86,slow=3.5,SNR=4.5					
PHET	Kaeng Krachan	45.62	248	P	P	21 02 43.6 +1.2
	comp=Z,31µm,0.6s,comp=Z,382µm					
MLY	Manley	46.07	33	P	P	21 02 48.2 +2.7
TAPN	Taplejung	46.52	273	*eP*	P	21 02 50.3 +0.5
	comp=Z,17nm,0.6s					
ODAN	Odare	47.00	272	*eP*	P	21 02 54.0 +0.5
	comp=Z,27nm,0.7s					
KSM	Kuching	47.20	226	P	P	21 02 54.8 0.0
KSM				IAmb	IAmb	21 02 57.9
	comp=Z,14nm,0.9s					
CCB	Clear Creek Bu	47.33	33	P	P	21 02 57.5 +2.2
CCB				IAmb	IAmb	21 03 43.8
	comp=Z,21nm,1.8s					
JIRN	Jiri	47.55	274	*eP*	P	21 02 58.5 +0.5
	comp=Z,39nm,0.7s					
RAMN	Ramite	47.57	273	*eP*	P	21 02 58.3 +0.3
	comp=Z,41nm,0.6s					
GUN	Gumba	47.68	275	*eP*	P	21 02 59.2 +0.3
	comp=Z,29nm,0.5s					
IL31		47.72	33	P	P	21 02 59.6 +1.3
IL31				IAmb	IAmb	21 03 15.3
	comp=Z,23nm,1.6s					
ILAR	Eielson Array	47.72	33	P	P	21 02 59.2 +0.9
	comp=Z,3.6nm,0.7s,baz=266,slow=6.1,SNR=45					
ILAR				pP	pP	21 03 12.2 +1.2
	comp=Z,3.9nm,0.8s,baz=263,slow=6.1,SNR=9.4					
ILAR	Eielson Array	47.72	33	P	P	21 02 59.5 +1.1
KKN	Kakani	48.20	275	*eP*	P	21 03 03.0 +0.2
	comp=Z,30nm,0.6s					
PKI	Pulchoki	48.21	274	*eP*	P	21 03 02.8 -0.2
	comp=Z,8.2nm,0.4s					
PKIN	Phulchoki	48.21	274	*eP*	P	21 03 02.7 -0.3
	comp=Z,6.2nm,0.4s					
DMN	Daman	48.42	275	*eP*	P	21 03 04.7 +0.1
BMAR	Burnt Mountain	48.54	30	P	P	21 03 06.2 +1.6
GKN	Gorkha	48.60	275	*eP*	P	21 03 06.0 +0.2
SCRK	Sand Creek	49.04	34	P	P	21 03 09.9 +1.2
DANN	Dangsing	49.12	276	*eP*	P	21 03 10.6 +0.6
	comp=Z,114nm,0.6s					
RAGM	Ragged Mountai	49.17	39	P	P	21 03 12.1 +2.5
MENT	Mentasta	49.28	35	P	P	21 03 11.9 +1.5
MENT				IAmb	IAmb	21 03 40.5
	comp=Z,23nm,1.6s					
KOLN	Koldanda	49.52	276	*eP*	P	21 03 13.3 +0.4
	comp=Z,14nm,0.5s					
BRVK	Borovoye	50.01	311	P	P	21 03 16.3 +0.2
BRVK				pmax	pmax	
	comp=Z,11nm,0.6s					
BRVK	Borovoye	50.01	311	P	P	21 03 16.3 +0.2
BRVK				IAmb	IAmb	21 03 17.6
	comp=Z,11nm,0.6s					
BCAR	Beaver Creek A	50.13	35	P	P	21 03 18.4 +1.5
KULM	Kulim	50.25	239	P	P	21 03 18.8 +0.5
KULM				IAmb	IAmb	21 03 20.1
	comp=Z,11nm,0.9s					
AAK	Ala-Archa	50.30	297	P	P	21 03 18.8 +0.2
AAK				pmax	pmax	
	comp=Z,5.0nm,1.0s					
AAK	Ala-Archa	50.30	297	LR	LR	21 26 05.0
	comp=Z,70nm,18.2s,baz=75,slow=38					
AAK	Ala-Archa	50.30	297	P	P	21 03 18.8 +0.2
KSH	Kashi	50.36	293	P	P	21 03 23.8 +4.8
KSH				pP	sP	21 03 38.0 +0.5
KSH				PP	PP	21 05 19.8 +5.2
KSH				S	S	21 10 32.8 +4.1
KSH				ScS	ScS	21 13 07.0 +1.0
KSH				SS	SS	21 14 04.9 +2.4
KSH				pmax	pmax	
	comp=Z,16nm,0.7s					
KSH				pmax	pmax	
	comp=Z,630nm,5.0s					
KSH				LR	LR	
	comp=Z,360nm,8.7s					
KSH				LR	LR	
	comp=Z,450nm,9.0s					
KSH				LR	LR	
	comp=Z,330nm,8.7s					
IPM	Ipoh	50.59	238	P	P	21 03 21.1 +0.2
IPM				IAmb	IAmb	21 03 22.0
	comp=Z,15nm,0.8s					
HNR	Honiara	50.65	157	LR	LR	21 25 17.4
	comp=Z,76nm,19.4s,baz=316,slow=36					
EPYK	Eagle Plains	51.74	30	P	P	21 03 31.4 +2.6
EPYK				IAmb	IAmb	21 03 47.5
	comp=Z,11nm,0.8s					
ARSB	Arslanbob	51.82	296	P	P	21 03 30.6 +0.6
ARSB				IAmb	IAmb	21 03 35.6
	comp=Z,8.5nm,0.8s					
INK	Inuvik	52.59	28	P	P	21 03 37.1 +2.0
INK	Inuvik	52.59	28	P	P	21 03 37.1 +2.0
KK31	Karatay Array	52.88	299	P	P	21 03 37.6 -0.1
KK31				pmax	pmax	
	comp=Z,7.0nm,1.0s					
KK31	Karatay Array	52.88	299	P	P	21 03 37.6 -0.1
KK31				IAmb	IAmb	21 03 38.6
	comp=Z,7.2nm,0.9s					
KKAR	Karatay Array	52.88	299	P	P	21 03 37.2 -0.5
KKAR	Karatay Array	52.88	299	P	P	21 03 37.2 -0.5
PSI	Prapat	53.23	239	P	P	21 03 41.2 +0.5
PSI				pmax	pmax	
	comp=Z,11nm,0.9s					
RPSI	Rantau Prapat	53.31	239	P	P	21 03 41.2 +0.1
RPSI				IAmb	IAmb	21 03 42.4
	comp=Z,11nm,0.9s					
BKNI	Bangkinang	53.71	235	P	P	21 03 45.0 +1.0
SVE	Sverdlovsk	54.35	318	⇓*eP*	P	21 03 48.8 +0.6
SVE				pmax	pmax	
	comp=Z,27nm,0.9s					
PWJI	Pagerwojo	54.44	218	P	P	21 03 48.7 -0.6
PWJI				pP	sP	21 04 15.4 +7.6
GAR	Garm	54.60	295	P	P	21 03 50.6 +0.1
GAR				IAmb	IAmb	21 03 55.3
	comp=Z,8.5nm,0.6s					
NIL	Nilore	54.74	287	P	P	21 03 52.3 +0.8
NIL				pmax	pmax	
	comp=Z,24nm,0.8s					
NIL	Nilore	54.74	287	P	P	21 03 52.3 +0.8
ARU	Arti	55.56	318	*ceP*	P	21 03 55.8 -1.1
ARU				pmax	pmax	
	comp=Z,13nm,0.7s					
ARU	Arti	55.56	318	P	P	21 03 57.0 0.0
CHGR	Chuyangaron	55.57	295	P	P	21 03 57.4 0.0
ABKAR	Akbulak array	57.39	310	P	P	21 04 09.7 -0.3
KBL	Kabul	57.46	290	P	P	21 04 10.7 -0.3
KBL				pmax	pmax	
	comp=Z,7.0nm,0.8s					
KBL	Kabul	57.46	290	P	P	21 04 10.7 -0.3
KBL				IAmb	IAmb	21 04 19.6
	comp=Z,7.0nm,0.8s					
WRAB	Tennant Creek	58.80	189	*ceP*	P	21 04 19.7 -0.4
WRAB				pmax	pmax	
	comp=Z,5.0nm,1.3s					
WB2	Warramunga Arr	58.81	189	P	P	21 04 20.4 +0.2
WB2				IAmb	IAmb	21 04 35.1
	comp=Z,6.1nm,0.8s					
WRA	Warramunga Arr	58.81	189	*i* P	P	21 04 20.3 +0.1
WRA				pmax	pmax	
	comp=Z,4.0nm,0.7s					
WRA	Warramunga Arr	58.81	189	P	P	21 04 20.0 -0.3
	comp=Z,4.3nm,0.7s,baz=5.6,slow=7.1,SNR=37					
WRA	Warramunga Arr	58.81	189	P	P	21 04 20.2 -0.1
PRGR	Permogore	59.73	327	*eP*	P	21 04 25.9 -0.2
PRGR				*e*PP	pP	21 04 34.9 -4.5
PRGR				pmax	pmax	
	comp=Z,16nm,0.9s					
RES	Resolute Bay	60.81	15	P	P	21 04 34.1 +0.8
RES				*PP	sP	21 04 49.9 -2.0
RES				pmax	pmax	
	comp=Z,5.0nm,0.8s					
RES	Resolute Bay	60.81	15	P	P	21 04 34.1 +0.8
RES				pP	sP	21 04 49.9 -2.0
RES				IAmb	IAmb	21 04 51.3
	comp=Z,4.9nm,0.8s					
YKA	Yellowknife Ar	62.02	31	P	P	21 04 41.5 -0.2
	comp=Z,1.7nm,0.8s,baz=302,slow=6.6,SNR=4.7					
HRA	Herat	62.47	293	P	P	21 04 45.7 +0.3
HRA				IAmb	IAmb	21 04 47.0
	comp=Z,6.3nm,0.8s					
AS31	Alice Springs	62.54	189	P	P	21 04 46.3 +0.7
ASAR	Alice Springs	62.54	189	P	P	21 04 46.2 +0.6
	comp=Z,2.3nm,0.7s,baz=13,slow=6.5,SNR=29					
ASAR				pP	pP	21 04 59.8 +0.9
	comp=Z,2.1nm,0.7s,baz=14,slow=6.5,SNR=6.8					
ARCES	ARCESS Array B	62.67	339	P	P	21 04 46.0 +0.1
	comp=Z,3.5nm,0.7s,baz=50,slow=7.4,SNR=12					
ARCES				pP	pP	21 04 58.9 -0.3
	comp=Z,2.9nm,0.8s,baz=48,slow=7.3,SNR=1.4					
ARCES				sP	sP	21 05 06.3 +1.8
	comp=Z,1.4nm,0.5s,baz=64,slow=8.2,SNR=1.4					
ARCES				LR	LR	21 34 42.9
	comp=Z,55nm,20.0s,baz=320,slow=39					
ARCES	ARCESS Array B	62.67	339	P	P	21 04 46.0 +0.1
KLMR	Klimovskoe	62.70	328	*eP*	P	21 04 41.3 -4.9
KLMR				pmax	pmax	
	comp=Z,15nm,1.3s					
KLMR	Klimovskoe	62.70	328	*eP*	P	21 04 41.4 -4.8
KLMR				AMP		21 04 57.7
	comp=Z,15nm,1.3s					
GEYT	Alibeck	63.62	299	P	P	21 04 53.0 +0.2
	comp=Z,5.6nm,0.8s,baz=35,slow=5.4,SNR=12					
GEYT				LR	LR	21 34 31.9
	comp=Z,60nm,18.5s,baz=290,slow=38					
GEYT	Alibeck	63.62	299	P	P	21 04 53.0 +0.2
GYA0B	ALIBECK ARRAY	63.62	299	P	P	21 04 52.9 +0.1
GYA0B				IAmb	IAmb	21 04 53.8
	comp=Z,6.4nm,0.8s					
DAG	Danmarks Havn	64.16	355	*i* P	P	21 04 56.0 +0.4
DAG	Danmarks Havn	64.16	355	*i* P	P	21 04 56.0 +0.4
VRH	Novokhopyorsk	66.79	318	*eP*	P	21 05 12.0 -1.0
VRH				pmax	pmax	
	comp=Z,20nm,1.5s					
OBN	Obninsk	67.16	323	*eP*	P	21 05 14.9 -0.4
OBN				*i*		21 05 43.0
OBN				pmax	pmax	
	comp=Z,7.0nm,0.9s					
LPSR	Galich'ya Gora	67.45	320	*eP*	P	21 05 16.5 -0.7
LPSR				pmax	pmax	
	comp=Z,7.0nm,0.6s					
FIA1	FINESS Array S	67.65	332	P	P	21 05 18.3 0.0
FINES	FINESS Array B	67.65	332	P	P	21 05 18.5 +0.2
	comp=Z,11nm,0.7s,baz=37,slow=9.7,SNR=21					
FINES				pP	pP	21 05 31.9 +0.1
	comp=Z,3.0nm,0.6s,baz=42,slow=7.7,SNR=2.9					
FINES				sP	sP	21 05 37.7 +0.5
	comp=Z,2.5nm,0.5s,baz=53,slow=7.9,SNR=2.6					
FINES				LR	LR	21 36 05.9
	comp=Z,120nm,19.7s,baz=20,slow=37					
FINES	FINESS Array B	67.65	332	P	P	21 05 18.3 0.0
VSR	Storozhevoye	68.12	319	*eP*	P	21 05 20.3 -1.1
VSR				pmax	pmax	
	comp=Z,20nm,1.2s					
VORD	Divnogorie	68.20	318	*eP*	P	21 05 20.7 -1.2
VORD				pmax	pmax	
	comp=Z,6.0nm,0.5s					
SUMG	Summit	69.01	0	P	P	21 05 28.2 +1.1
SUMG				pmax	pmax	
	comp=Z,57nm,1.9s					
SUMG	Summit	69.01	0	*i* P	P	21 05 28.0 +0.9
SUMG	Summit	69.01	0	P	P	21 05 28.1 +1.1
VSU	Vasula	69.35	330	*ce*P	P	21 05 28.9 0.0
VSU				pmax	pmax	
	comp=Z,102nm,2.5s					
NCK	Nalchik	70.04	310	*i* P	P	21 05 33.5 0.0
NCK				pmax	pmax	
	comp=Z,7.0nm,1.0s					
ZEI	Tsey	70.26	309	*eP*	P	21 05 30.1 -5.0
ZEI				pmax	pmax	
	comp=Z,4.0nm,0.6s					
KIV	Kislovodsk	70.32	311	*eP*	P	21 05 34.3 -1.0
KIV				pmax	pmax	
	comp=Z,83nm,1.0s					
KIV	Kislovodsk	70.32	311	⇑P	P	21 05 36.2 +0.9
KIV				mb		21 05 37.9
KIV	Kislovodsk	70.32	311	P	P	21 05 35.8 +0.5
KBZ	Khabaz	70.33	311	P	P	21 05 35.6 +0.5
	comp=Z,11nm,0.9s,baz=74,slow=4.8,SNR=24					
KBZ				LR	LR	21 38 20.5
	comp=Z,73nm,18.0s,baz=56,slow=38					
TBLG	Delisi	70.35	308	P	P	21 05 36.0 +0.5
TBLG				pmax	pmax	
	comp=Z,55nm,2.0s					
TBLG	Delisi	70.35	308	P	P	21 05 36.0 +0.5
WSAR	Wadi Sarin	71.09	285	LR	LR	21 38 13.7
	comp=Z,19nm,21.7s,baz=128,slow=37					
AKH	Akhalkalaki	71.30	308	P	P	21 05 42.2 +0.8
AKH				pmax	pmax	
	comp=Z,7.0nm,0.8s					
AKH	Akhalkalaki	71.30	308	⇑P	P	21 05 42.6 +1.2
AKH	Akhalkalaki	71.30	308	P	P	21 05 42.1 +0.8
BEKR	Beckworth	71.31	54	P	P	21 05 43.4 +1.8
UOSS	Minazif	71.94	288	P	P	21 05 45.1 -0.2
UOSS				IAmb	IAmb	21 05 46.3
	comp=Z,6.7nm,0.8s					
HRY	Holter Researc	72.28	44	P	P	21 05 49.6 +2.5
SOC	Sochi	72.28	312	*eP*	P	21 05 46.2 -0.8
SOC				*e*		21 08 24.0
SOC				*e*PPP	PPP	21 10 10.5
SOC				*e*S	S	21 15 06.5 +0.1
SOC				*e*SS	SS	21 19 45.5 +1.3
SOC				pmax	pmax	
	comp=Z,11nm,0.7s					
NC204	NORSAR Array S	72.85	338	P	P	21 05 50.6 +0.4
NB2	NORSAR Subarra	72.90	337	P	P	21 05 50.8 +0.3
	comp=Z,1.7nm,0.6s,baz=37,slow=6.2					
NOA	NORSAR Array B	72.90	337	P	P	21 05 50.2 -0.2
	comp=Z,2.4nm,0.6s,baz=29,slow=6.7,SNR=9.2					
NOA				pP	pP	21 06 04.3 +0.3
	comp=Z,1.1nm,0.6s,baz=39,slow=6.0,SNR=2.8					
NOA				LR	LR	21 40 17.3
	comp=Z,90nm,22.0s,baz=40,slow=38					
BOZ	Bozeman (W)	73.07	45	P	P	21 05 53.5 +1.6
BOZ				pmax	pmax	
	comp=Z,15nm,1.1s					
BOZ	Bozeman (W)	73.07	45	P	P	21 05 53.5 +1.6
BOZ				IAmb	IAmb	21 08 35.3
	comp=Z,15nm,1.1s					
AKASG	Malin Array Be	73.39	322	P	P	21 05 53.2 -0.2
	comp=Z,6.7nm,0.6s,baz=45,slow=6.1,SNR=35					
AKASG				pP	pP	21 06 06.2 -0.8
	comp=Z,1.4nm,0.4s,baz=43,slow=6.2,SNR=4.7					
AKASG	Malin Array Be	73.39	322	P	P	21 05 53.5 +0.1
AKBB	Malin Array Si	73.39	322	P	P	21 05 53.3 -0.1
AKBB				pmax	pmax	
	comp=Z,13nm,0.9s					
AKBB	Malin Array Si	73.39	322	P	P	21 05 53.3 -0.1
AKBB				IAmb	IAmb	21 05 54.3
	comp=Z,13nm,0.9s					
NVAR	Mina Array Bea	73.45	54	P	P	21 05 56.1 +1.8
	comp=Z,2.0nm,0.8s,baz=284,slow=6.6,SNR=10.0					
NVAR				pP	pP	21 06 07.4 -0.4
	comp=Z,1.9nm,0.9s,baz=290,slow=5.6,SNR=4.6					
NVAR	Mina Array Bea	73.45	54	P	P	21 05 54.6 +0.3
SIM	Simferopol'	74.61	316	*eP*	P	21 06 01.0 +0.3
SIM						21 06 17.0
SIM				pmax	pmax	
	comp=Z,11nm,0.7s					
HVU	Hansel Valley	74.79	48	P	P	21 06 04.1 +2.1
HVU				pmax	pmax	
	comp=Z,10.0nm,1.1s					
HVU	Hansel Valley	74.79	48	P	P	21 06 04.1 +2.1
R11A	Troy Canyon, C	75.20	53	P	P	21 06 06.7 +2.2
SORM	Soroca	75.52	321	⇑P	P	21 06 06.2 +0.3
DUG	Dugway, Tooele	75.75	50	P	P	21 06 08.9 +1.3
DUG				pmax	pmax	
	comp=Z,4.0nm,0.8s					
DUG	Dugway, Tooele	75.75	50	P	P	21 06 08.9 +1.3
PD31	Pinedale Array	76.02	46	P	P	21 06 10.6 +1.4
PDAR	Pinedale Array	76.02	46	P	P	21 06 10.2 +1.1
	comp=Z,1.8nm,0.7s,baz=270,slow=1.5,SNR=19					
PDAR	Pinedale Array	76.02	46	P	P	21 06 10.4 +1.3
DIKM	Dikmen	76.06	312	⇑P	P	21 06 10.2 +1.1
DIKM				mb		21 06 11.1
BZK	Bozkurt	76.58	313	⇑P	P	21 06 12.4 +0.3
CCUT	Cedar City	77.08	52	P	P	21 06 15.7 +0.5
KWP	Kalwaria Pacla	77.16	325	P	P	21 06 15.8 +0.6
KWP				pmax	pmax	
	comp=Z,401nm,1.4s					
KWP	Kalwaria Pacla	77.16	325	P	P	21 06 15.8 +0.6
ILGA	Ilgaz	77.34	313	P	P	21 06 16.5 -0.1
ILGA				IAmb	IAmb	21 06 18.9
	comp=Z,15nm,0.9s					
BUR08	Bucovina Ar. S	77.40	322	P	P	21 06 17.3 +0.6
BUR08				IAmb	IAmb	21 06 18.4
	comp=Z,7.0nm,0.8s					
BURAR	Bucovina Array	77.41	322	⇑P	P	21 06 17.6 +0.8
BURAR				mb		21 06 18.1
BURAR	Bucovina Array	77.41	322	P	P	21 06 17.4 +0.6
RDMU	Red Mountain	77.42	48	P	P	21 06 19.2 +2.2
BIZ	Bicaz	77.45	321	⇑P	P	21 06 17.8 +1.0
CFR	Carcaliu	77.64	319	⇑P	P	21 06 18.5 +0.6
ULM	Lac du Bonnet	77.73	34	P	P	21 06 18.5 +0.1
	comp=Z,3.4nm,0.8s,baz=191,slow=2.3,SNR=3.0					
SRU	San Rafael Swe	77.81	49	P	P	21 06 21.3 +2.1
SRU				pmax	pmax	
	comp=Z,32nm,0.8s					
SRU	San Rafael Swe	77.81	49	P	P	21 06 21.2 +2.1
KOLS	Kolonicke sedl	77.86	324	*eP*	P	21 06 20.0 +0.9
KOLS	Kolonicke sedl	77.86	324	*eP*	P	21 06 20.0 +0.9
OJC	Ojcow	78.02	326	*eP*	P	21 06 20.9 +1.0
OJC	Ojcow	78.02	326	*eP*	P	21 06 20.9 +1.0
OJC				*eP*	P	21 06 20.9 +1.0
OJC	Ojcow	78.02	326	P	P	21 06 20.7 +0.7
OJC				IAmb	IAmb	21 06 21.9
	comp=Z,15nm,1.1s					
TLB	Topalu	78.09	318	⇓P	P	21 06 20.6 +0.2
BR131	Keskin Array S	78.25	312	P	P	21 06 21.8 +0.2
BR131				pmax	pmax	
	comp=Z,4.0nm,0.5s					
BR131	Keskin Array S	78.25	312	P	P	21 06 21.8 +0.2
BR131				IAmb	IAmb	21 06 23.1
	comp=Z,3.9nm,0.5s					
BRTR	Keskin Array B	78.25	312	P	P	21 06 21.8 +0.2
	comp=Z,2.9nm,0.4s,baz=109,slow=3.5,SNR=43					
BRTR				pP	pP	21 06 34.6 -0.6
	comp=Z,1.1nm,0.6s,baz=71,slow=3.9,SNR=4.3					
BRTR				PP	PP	21 09 14.7 -3.6
	comp=Z,0.6nm,0.8s,baz=64,slow=5.2,SNR=3.9					
BRTR				LR	LR	21 45 10.4
	comp=Z,26nm,18.4s,baz=4.5,slow=39					
TRPA	Tarpa	78.32	324	⇑P	P	21 06 22.9 +1.3
TRPA				mb		21 06 23.4
NIE	Niedzica	78.39	326	*eP*	P	21 06 23.5 +1.4
NIE	Niedzica	78.39	326	*eP*	P	21 06 23.5 +1.4
NIE				*eP*	P	21 06 23.5 +1.4
DOPR	Dopca	78.49	321	⇑P	P	21 06 23.5 +0.9
ICOR	Ion Corvin	78.54	318	⇓P	P	21 06 24.2 +1.3
ANTO	Ankara	78.64	312	⇓P	P	21 06 24.3 +0.6
ANTO				mb		21 06 25.4
LANS	Liptovska Anna	78.96	326	*eP*	P	21 06 27.1 +1.9
LANS				pmax	pmax	
	comp=Z,3.0nm,0.6s					
LANS	Liptovska Anna	78.96	326	*eP*	P	21 06 27.1 +1.9
VOIR		79.03	320	⇑P	P	21 06 27.1 +1.4
KSP	Ksiaz	79.03	328	*eP*	P	21 06 26.6 +1.1
KSP	Ksiaz	79.03	328	*eP*	P	21 06 26.6 +1.1
KSP				*eP*	P	21 06 26.6 +1.1
PV14	Lion Creek, Pa	79.18	49	P	P	21 06 28.6 +1.8
PV14				IAmb	IAmb	21 09 19.7
	comp=Z,17nm,0.9s					
DRGR		79.20	323	⇑P	P	21 06 27.4 +0.8
PV22	Blue Mesa, Par	79.21	49	P	P	21 06 28.9 +1.9
PV20	West Nyswonger	79.23	49	P	P	21 06 29.1 +2.0
PV19	Morning Glory	79.24	49	P	P	21 06 28.9 +1.7
PV19				IAmb	IAmb	21 09 25.2
	comp=Z,13nm,0.8s					
PV17	East Wray Mesa	79.28	49	P	P	21 06 29.5 +2.2
PV17				IAmb	IAmb	21 09 25.8
	comp=Z,18nm,0.8s					
PV16	Nyswonger Mesa	79.28	49	P	P	21 06 29.7 +2.3
ARR	Arges	79.28	321	⇓P	P	21 06 28.4 +1.4
MORC	Moravsky Berou	79.32	327	P	P	21 06 28.0 +0.8
MORC				pmax	pmax	
	comp=Z,9.0nm,1.0s					
MORC	Moravsky Berou	79.32	327	⇑P	P	21 06 27.9 +0.8
MORC				mb		21 06 28.7
MORC	Moravsky Berou	79.32	327	*eP*	P	21 06 28.0 +0.8
MORC	Moravsky Berou	79.32	327	P	P	21 06 28.0 +0.8
MORC				IAmb	IAmb	21 06 29.6
	comp=Z,9.3nm,1.0s					
CHVC	Chvalec	79.32	328	*eP*	P	21 06 27.8 +0.7
DPC	Dobruska-Polom	79.40	328	*eP*	P	21 06 28.6 +1.0
DPC	Dobruska-Polom	79.40	328	*eP*	P	21 06 28.6 +1.0
UPC	Upice	79.40	328	*eP*	P	21 06 28.5 +1.0
UPC	Upice	79.40	328	*eP*	P	21 06 28.5 +1.0
KRLC	Kraliky	79.42	328	*eP*	P	21 06 28.3 +0.6
KRLC				*e*		21 06 41.4
KRLC	Kraliky	79.42	328	*eP*	P	21 06 28.3 +0.6
KRLC				*ep*P	pP	21 06 41.4 -0.1
PV13	Radium Mtn., P	79.44	49	P	P	21 06 30.8 +2.6
PV13				IAmb	IAmb	21 09 16.6
	comp=Z,14nm,0.8s					
PSZ	Piszkesteto	79.68	325	⇑P	P	21 06 30.4 +1.2
PSZ				mb		21 06 31.5
VYHS	Vyhne	79.73	326	*eP*	P	21 06 30.7 +1.4
VYHS	Vyhne	79.73	326	*eP*	P	21 06 30.7 +1.4
BRG	Berggiesshubel	79.95	330	*eP*	P	21 06 29.7 -0.8
	comp=Z,13nm,1.3s					
JAVC	Velka Javorina	79.96	326	*eP*	P	21 06 32.4 +1.7
CLL	Collm	79.98	330	P	P	21 06 31.0 +0.4
CLL				pmax	pmax	
	comp=Z,12nm,0.8s					
CLL	Collm	79.98	330	⇑*i* P	P	21 06 31.0 +0.4
	comp=Z,16nm,1.0s					
CLL				*e*PcP	PcP	21 06 35.0 -3.0
CLL				*e*		21 06 47.0
CLL	Collm	79.98	330	P	P	21 06 31.0 +0.4
CLL				IAmb	IAmb	21 06 31.9
	comp=Z,12nm,0.8s					
VRAC	Vranov	80.08	327	⇓P	P	21 06 32.2 +0.9
VRAC				mb		21 06 33.5
VRAC	Vranov	80.08	327	*eP*	P	21 06 32.3 +1.1
GZR	Gura Zlata	80.18	322	⇑P	P	21 06 31.9 0.0
KRUC	Moravsky	80.35	327	*eP*	P	21 06 33.4 +0.7
GOPC	GO Pecny, Ondr	80.36	329	*eP*	P	21 06 33.2 +0.4
GOPC	GO Pecny, Ondr	80.36	329	*eP*	P	21 06 33.2 +0.4
PRU	Pruhonice	80.40	329	*eP*	P	21 06 33.9 +1.0
PRU	Pruhonice	80.40	329	*eP*	P	21 06 33.9 +1.0
MODS	Modra-Piesok	80.50	326	*eP*	P	21 06 34.6 +1.1
MODS	Modra-Piesok	80.50	326	*eP*	P	21 06 34.6 +1.1
TREC	Trest	80.55	328	*eP*	P	21 06 34.6 +0.8
TREC	Trest	80.55	328	*eP*	P	21 06 34.6 +0.8
BZS	Buzias	80.58	322	⇑P	P	21 06 34.3 +0.4
RAYN	Ar Rayn	80.64	293	P	P	21 06 34.7 -0.1
RAYN		

MOA	Molln	82.19	328	*i* P	P	21 06 43.1	+0.6
	comp=Z,9.1nm,1.4s						
ELL	Elmali	82.42	311	P	P	21 06 44.2	+0.2
ELL				pmax	pmax		
	comp=Z,52nm,1.3s						
ELL	Elmali	82.42	311	P	P	21 06 44.2	+0.2
SOKA	Soboth	82.78	326	*i* P	P	21 06 46.0	+0.4
	comp=Z,15nm,1.1s,SNR=5.6						
ANMO	Albuquerque	83.00	50	*i* P	P	21 06 47.0	-0.1
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KBA	Koelnbreinsper	83.18	328	*i* P	P	21 06 48.2	+0.3
	comp=Z,8.5nm,0.7s						
MYKA	Terra Mystica	83.41	327	*i* P	P	21 06 48.8	-0.1
	comp=Z,24nm,1.4s						
319A	Douglas	83.63	55	P	P	21 06 50.8	+0.4
WATA	Walderalm	83.71	329	*i* P	P	21 06 50.5	0.0
	comp=Z,2.2nm,0.6s						
WTTA	Wattenberg	83.74	329	*i* PcP	P	21 06 51.1	+0.4
	comp=Z,4.9nm,0.8s						
ABTA	Abfaltersbach	83.79	328	*i* PcP	P	21 06 53.5	+2.6
	comp=Z,6.8nm,1.0s						
MOTA	Moosalm	83.89	329	*i* PcP	P	21 06 51.8	+0.4
	comp=Z,11nm,1.0s						
RETA	Reutte	83.91	329	*i* PcP	P	21 06 52.1	+0.6
	comp=Z,14nm,1.1s						
SQTA	Sankt Quirin	83.95	329	*i* PcP	P	21 06 52.0	+0.3
	comp=Z,12nm,1.4s						
PDG	Podgorica	84.08	321	⇑P	P	21 06 52.1	-0.2
BFO	Black Forest	84.17	331	*i* P	P	21 06 54.1	+1.4
FETA	Feichten	84.30	329	*i* PcP	P	21 06 54.0	+0.5
	comp=Z,8.8nm,1.0s,SNR=4.5						
DAVA	Damuels	84.42	330	*i* PcP	P	21 06 54.7	+0.5
	comp=Z,15nm,0.9s,SNR=7.0						
ECH	Echery	84.70	332	P	P	21 06 55.9	+0.5
ECH				pmax	pmax		
	comp=Z,12nm,1.0s						
ECH	Echery	84.70	332	P	P	21 06 55.9	+0.5
ECH				IAmb	IAmb	21 06 56.8	
	comp=Z,12nm,1.0s						
PPT	Papeete	84.79	117	LR	LR	21 36 29.4	
	comp=Z,42nm,21.8s,baz=332,slow=30						
TUE	Stuetta	85.30	329	P	P	21 06 59.0	+0.4
TUE				IAmb	IAmb	21 07 00.1	
	comp=Z,9.9nm,0.8s						
TX32	Lajitas Array	88.57	53	P	P	21 07 16.3	+1.6
TX32				IAmb	IAmb	21 07 36.1	
	comp=Z,11nm,1.8s						
TXAR	Lajitas Array	88.57	53	P	P	21 07 16.1	+1.4
	comp=Z,1.3nm,0.7s,baz=298,slow=3.5,SNR=17						
TXAR				pP	pP	21 07 30.0	+1.5
	comp=Z,0.5nm,0.5s,baz=295,slow=3.6,SNR=4.5						
TXAR	Lajitas Array	88.57	53	P	P	21 07 16.3	+1.6
CCM	Cathedral Cave	89.14	39	P	P	21 07 18.4	+1.3
CCM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CCM	Cathedral Cave	89.14	39	P	P	21 07 18.4	+1.3
CCM				IAmb	IAmb	21 07 20.0	
	comp=Z,8.3nm,0.9s						
U40A	Yellville	89.63	41	P	P	21 07 20.5	+1.0
U40A				IAmb	IAmb	21 07 21.8	
	comp=Z,6.0nm,0.8s						
SWET	Sewanee	93.98	38	P	P	21 07 40.7	+1.0
ESDC	Sonseca Array	96.08	334	P	P	21 07 48.1	-1.1
	comp=Z,0.5nm,0.6s,baz=41,slow=3.4,SNR=3.3						
ESDC	Sonseca Array	96.08	334	P	P	21 07 48.1	-1.1
SNAA	Sanae	142.55	197	PKPdf	PKPdf	21 13 49.1	-4.1
VNA2	Neumayer--Watz	144.12	196	PKPdf	PKPbc	21 13 54.9	+0.9
VNA3	Neumayer Olymp	144.36	195	PKPdf	PKPbc	21 13 55.0	+0.1
VNA1	Neumayer--Stat	144.51	196	PKPdf	PKPbc	21 13 55.8	+0.5
LPAZ	La Paz	145.25	58	PKIKP	PKPbc	21 14 00.0	0.0
LPAZ	La Paz	145.25	58	PKPbc	PKPbc	21 13 60.0	0.0
	comp=Z,1.2nm,0.5s,baz=349,slow=4.1,SNR=5.6						
LPAZ	La Paz	145.25	58		PKPdf	21 14 01.2	+1.0

IDC ***11*** *20:57:12.9±7.7, 17°.37S×179°.10W, h519km±84km, mb3.2/6, mb1 3.4/6, mb1mx3.1/36, mbtmp4.1/6, Error ellipse: s-maj=55.5km s-min=32.6km az=153.0*
ISCJB ***11*** *20:57:13.7±1.0, 17°.4S±0°.4×179°.2W±0°.2, h539km, mb3.6/6, Error ellipse: s-maj=51.2km s-min=15.0km az=153.9*
NEIC ***11*** *20:57:15.4±1.5, 17°.5S±0°.3×179°.2W±0°.2, h555km±11km, mb4.5/4*
ISC 11 20:57:14.3±1.1, 17°.5S±0°.4×179°.1W±0°.2, h539km, n20, σ0°71/20, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.75	264	P	P	20 58 28.6	+1.6
STKA	Stephens Creek	38.29	240	P	P	21 03 48.3	-0.6
	1.8nm,0.6s,baz=101,slow=11,SNR=5.7						
STKA	Stephens Creek	38.29	240	P	P	21 03 47.6	-1.3
ASAR	Alice Springs	44.30	254	P	P	21 04 36.8	+0.1
	3.4nm,0.4s,baz=89,slow=8.1,SNR=79						
ASAR				PcP	PcP	21 06 09.2	0.0
	0.5nm,0.4s,baz=94,slow=4.6,SNR=4.6						
ASAR	Alice Springs	44.30	254	P	P	21 04 36.5	-0.1
SIJI	Sorong	51.51	283	P	P	21 05 30.7	0.0
	8.5nm,0.7s,baz=6.9,slow=3.6,SNR=5.2						
RND	Reindeer	83.98	13	P	P	21 08 47.4	-0.2
RND				IAmb	IAmb	21 10 45.6	
	comp=Z,13nm,1.1s						
ILAR	Eielson Array	85.60	13	P	P	21 08 54.0	-1.3
	comp=Z,0.3nm,0.4s,baz=227,slow=5.5,SNR=7.5						
ILAR	Eielson Array	85.60	13	P	P	21 08 54.5	-0.8
PV09	Paradox Valley	85.87	48	P	P	21 08 57.6	0.0
PV22	Blue Mesa, Par	86.13	48	P	P	21 08 59.3	+0.6
TXAR	Lajitas Array	86.30	58	P	P	21 09 00.5	+0.9
	comp=Z,0.3nm,0.7s,baz=225,slow=5.0,SNR=2.5						
TXAR	Lajitas Array	86.30	58	P	P	21 08 59.9	+0.3
CMAR	Chiang Mai Arr	88.13	290	P	P	21 09 08.4	+0.1
	comp=Z,0.4nm,0.7s,baz=117,slow=3.1,SNR=4.6						
SDCO	Great Sand Dun	88.16	50	P	P	21 09 07.8	-0.6
SDCO				IAmb	IAmb	21 09 18.7	
	comp=Z,7.9nm,1.0s						
BUR08	Bucovina Ar. S	143.90	332		PKPdf	21 15 48.6	+0.1
BRTR	Keskin Array B	144.01	315	PKP	PKPbc	21 15 48.3	-0.1
	comp=Z,0.7nm,0.5s,baz=88,slow=2.4,SNR=6.7						
CLL	Collm	144.88	347	*e*PKPbc	PKPdf	21 15 50.0	+0.1
GERES	GERESS Array B	147.01	344	PKPbc	PKPbc	21 15 56.8	+0.1
	comp=Z,1.0nm,0.6s,baz=15,slow=4.1,SNR=9.1						
GERES	GERESS Array B	147.01	344		PKPbc	21 15 56.3	-0.4

ISCJB ***11*** *21:04:57.8±0.3, 6°.66S±0°.04×154°.95E±0°.04, h56km, mb4.8/30, MS3.8/16, Error ellipse: s-maj=6.0km s-min=5.2km az=29.0*
NEIC ***11*** *21:04:57.1±2.4, 6°.50S±0°.08×154°.93E±0°.05, h35km±1km, mb4.6/22*
BJI ***11*** *21:04:58.3±0.0, 6°.81S×155°.08E, h77km, mb4.7/27, mB5.2/16, Ms7 4.6/3*
DJA ***11*** *21:04:59.8±0.9, 7°.5S±5°.×15°.5E±°., h54km±9km, M4.7/13, mB6.3/2, mb4.7/13, Mw(mB)6.0/2*
IDC ***11*** *21:05:00.7±1.4, 6°.65S×154°.95E, h74km±13km, mb4.0/15, mb1 4.2/20, mb1mx4.1/40, mbtmp4.3/20, MS3.8/17, Ms1 3.8/17, ms1mx3.6/48, Error ellipse: s-maj=13.4km s-min=9.5km az=40.0*
ISC 11 21:04:59.3±0.4, 6°.57S±0°.05×154°.91E±0°.05, h56km, n106, σ1°70/107, mb4.5/39, MS3.8/16, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.65	308	P	Pn	21 05 55.6	+2.3
	12nm,0.3s,baz=13,slow=1.4,SNR=7.4						
KRVT				S	Sn	21 06 39.2	+4.2
	43nm,0.3s,baz=234,slow=19,SNR=4.0						
KRVT				LR	LR	21 07 33.0	
	comp=Z,880nm,21.9s,baz=116,slow=41						
HNR	Honiara	5.74	120	P	Pn	21 06 23.2	+1.2
	6.0nm,0.3s,baz=144,slow=17,SNR=3.8						
HNR				S	Sn	21 07 26.9	+0.3
	9.2nm,0.3s,baz=198,slow=20,SNR=2.3						
HNR				LR	LR	21 08 32.5	
	comp=Z,2μm,18.9s,baz=284,slow=37						
HNR	Honiara	5.74	120	P	Pn	21 06 25.0	+3.0
HNR	Honiara	5.74	120		Pn	21 06 24.1	+2.0
HNR					Sn	21 07 25.8	-0.8
PMG	Port Moresby	8.18	249	P	Pn	21 06 57.2	+1.9
	2.8nm,0.3s,baz=50,slow=8.6,SNR=14						
PMG				S	Sn	21 08 28.7	+2.3
	3.8nm,0.3s,baz=75,slow=21,SNR=14						
PMG	Port Moresby	8.18	249		Pn	21 06 56.2	+0.8
PMG					Sn	21 08 25.5	-0.9
COEN	Coen	13.68	237	P	Pn	21 08 09.6	-1.0
	baz=13,SNR=4.5						
COEN	Coen	13.68	237		Pn	21 08 12.8	+2.2
PATS	Pohnpei	13.74	14	Pn	Pn	21 08 09.4	-2.1
MTSU	Mount Surprise	15.45	221	P	Pn	21 08 34.2	+0.2
	baz=15,SNR=5.2						
CTA	Charters Tower	15.85	211	P	Pn	21 08 38.0	-0.9
	0.2nm,0.3s,baz=33,slow=12,SNR=3.4						
CTA				LR	LR	21 14 07.2	
	comp=Z,538nm,18.6s,baz=56,slow=35						
CTAO	Charters Tower	15.85	211	Pn	Pn	21 08 38.6	-0.3
CTAO				IAmb	IAmb	21 08 53.9	
	comp=Z,38nm,1.4s						
DZM	Mont Dzumac	19.02	145	*e*P	Pn	21 09 21.9	+3.9
	comp=Z,1.4nm,0.3s						
DZM				*e*S	Sn	21 12 50.2	-0.2
	comp=Z,251nm,24.8s						
DZM				*e*LR	LR	21 13 54.4	
	comp=Z,662nm,25.6s						
DZM	Mont Dzumac	19.02	145	P	P	21 09 15.9	-0.9
	comp=Z,0.4nm,0.3s,baz=240,slow=14,SNR=3.4						
DZM				LR	LR	21 15 40.2	
	comp=Z,308nm,21.5s,baz=241,slow=34						
DZM	Mont Dzumac	19.02	145	IAmb	IAmb	21 09 23.7	
	comp=Z,23nm,1.2s						
EIDS	Eidsvold	19.05	191	P	P	21 09 17.2	+0.1
QIS	Mount Isa	20.33	225	P	P	21 09 31.3	+0.2
	baz=20,SNR=12						
RMQ	Roma	20.66	196	P	P	21 09 35.0	+0.5
	baz=20,SNR=17						
GUMO	Guam	22.37	334	LR	LR	21 17 11.3	
	comp=Z,106nm,20.8s,baz=137,slow=32						
FAKI	Fak Fak	22.87	278	P	P	21 09 57.8	-0.5
FAKI				IAmb	IAmb	21 10 00.1	
	comp=Z,24nm,1.2s						
KDU	Kakadu	22.93	253	P	P	21 09 59.2	+0.3
	baz=23,SNR=4.9						
WR0	Warramunga Arr	23.84	234	P	P	21 10 09.3	+1.8
WR0				IAmb	IAmb	21 10 17.5	
	comp=Z,15nm,0.9s						
WB2	Warramunga Arr	23.98	234	P	P	21 10 08.4	-0.5
WB2				IAmb	IAmb	21 10 27.2	
	comp=Z,9.6nm,0.8s						
WB2				PcP	PcP	21 13 50.6	+0.6
WRA	Warramunga Arr	23.99	234	P	P	21 10 08.3	-0.6
	comp=Z,9.2nm,1.0s,baz=58,slow=9.6,SNR=27						
WRA				PcP	PcP	21 13 50.3	+0.2
	comp=Z,0.7nm,0.6s,baz=63,slow=2.5,SNR=9.6						
WRA	Warramunga Arr	23.99	234	P	P	21 10 09.3	+0.3
SIJI	Sorong	24.25	283	P	P	21 10 11.6	+0.2
	comp=Z,14nm,0.4s,baz=73,slow=8.1,SNR=12						
SWI	Sorong	24.26	283	P	P	21 10 12.4	+0.9
	comp=Z,49nm,0.9s						
CMSA	Cobar Meteorol	26.29	198	P	P	21 10 29.0	-0.7
	baz=26,SNR=6.1						
AS31	Alice Springs	26.39	228	P	P	21 10 30.6	-0.2
ASAR	Alice Springs	26.39	228	P	P	21 10 29.9	-0.9
	comp=Z,3.9nm,0.9s,baz=60,slow=9.1,SNR=16						
ASAR				PcP	PcP	21 13 55.8	+0.4
	comp=Z,1.9nm,1.1s,baz=118,slow=2.3,SNR=4.6						
ASAR				LR	LR	21 20 57.2	
	comp=Z,238nm,19.4s,baz=84,slow=36						
ASAR	Alice Springs	26.39	228	P	P	21 10 29.4	-1.4
ASAR					PcP	21 13 55.2	-0.2
KNRA	Kununurra	27.17	248	P	P	21 10 38.7	+0.9
KNRA				IAmb	IAmb	21 10 51.8	
	comp=Z,28nm,1.4s						
H11S3	WAKE ISLAND Hy	27.48	25	T	T	21 39 16.3	
	baz=203,slow=75,SNR=29						
H11S2	WAKE ISLAND Hy	27.49	25	T	T	21 38 59.3	
	baz=203,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy	27.50	25	T	T	21 39 01.1	
	baz=203,slow=75,SNR=21						
STKA	Stephens Creek	28.08	205	P	P	21 10 43.7	-2.0
	comp=Z,2.5nm,0.8s,baz=5.7,slow=10,SNR=3.5						
STKA				LR	LR	21 22 02.1	
	comp=Z,381nm,18.9s,baz=21,slow=36						
H11N3	WAKE ISLAND Hy	28.67	24	T	T	21 40 14.2	
	SNR=3.4						
FITZ	Fitzroy Crossi	30.75	245	P	P	21 11 09.3	-0.3
	baz=30,SNR=3.5						
FITZ	Fitzroy Crossi	30.75	245	P	P	21 11 08.3	-1.3
	comp=Z,2.2nm,0.7s,baz=78,slow=6.1,SNR=6.0						
FITZ				LR	LR	21 24 10.3	
	comp=Z,304nm,18.4s,baz=76,slow=37						
FITZ	Fitzroy Crossi	30.75	245	IAmb	IAmb	21 11 19.8	
	comp=Z,4.8nm,0.8s						
WRKA	Warakurna	31.39	231	P	P	21 11 14.6	-0.6
	baz=31,SNR=5.2						
MMRI	Maumere	32.44	264	P	P	21 11 25.3	+0.8
LUWI	Luwuk	32.52	278	P	P	21 11 26.3	+1.1
AFI	Afiamalu	33.55	105	P	P	21 11 36.4	+2.1
NIUE	Niue	36.38	113	P	P	21 11 58.6	+0.1
	baz=36,SNR=3.9						
PLAI	Plampang	36.86	264	P	P	21 12 00.4	-2.3
TGY	Tagaytay City	39.48	301	LR	LR	21 27 31.6	
	comp=Z,129nm,19.3s,baz=114,slow=34						
RPZ	Rata Peaks	39.62	162	LR	LR	21 28 22.6	
	comp=Z,232nm,18.6s,baz=319,slow=36						
MJAR	Matsushiro Arr	45.66	341	LR	LR	21 30 10.6	
	comp=Z,37nm,21.9s,baz=235,slow=33						
KSRS	Korea Array	50.53	332	P	P	21 13 51.2	-0.8
	comp=Z,2.2nm,0.9s,baz=134,slow=8.7,SNR=5.1						
NJ2	Nanjing	51.53	320	*e*P	P	21 14 02.0	+2.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	Wuhan	53.58	316	⇓P	P	21 14 24.5	+10
WHN				pmax	pmax		
	comp=Z,36nm,1.3s						
PPT2	Papeete2	55.20	107	*e*S	S	21 22 12.8	+6.0
	comp=Z,50nm,25.0s						
PPT2				*e*LR	LR	21 30 43.0	
	comp=Z,82nm,23.0s						
TBI	Tubuai	55.92	114	*e*LR	LR	21 31 00.8	
	comp=Z,222nm,32.0s						
NONG	Nongkai	56.64	297	P	P	21 14 38.9	+1.7
	comp=Z,0.3nm,0.9s						
PBKT	Sadao Pong	58.09	294	P	P	21 14 52.8	+5.4
	comp=Z,32nm,2.2s						
NANT	Nan	59.07	296	P	P	21 14 55.5	+1.3
	comp=Z,313μm,0.8s						
UTHA	Uthaitani	59.16	292	P	P	21 14 57.4	+2.5
	comp=Z,12μm,0.8s						
PETK	Petropavlovsk-	59.50	2	P	P	21 14 57.1	+0.6
	comp=Z,2.0nm,0.6s,baz=149,slow=6.7,SNR=4.3						
PETK				LR	LR	21 36 51.4	
	comp=Z,84nm,21.8s,baz=237,slow=32						
KMI	Kunming	59.71	304	P	P	21 15 00.8	+2.0
KMI				pP	sP	21 15 20.8	+1.2
KMI				sP	pwP	21 15 30.0	+14
KMI				pmax	pmax		
	comp=Z,17nm,1.3s						
KHLT	Khaolaem Dam	59.73	291	P	P	21 14 57.7	-1.1
	comp=Z,14nm,1.5s						
PAYA	Payao	60.00	297	P	P	21 15 02.4	+1.7
	comp=Z,40μm,0.8s						
CMAR	Chiang Mai Arr	60.52	295	P	P	21 15 05.6	+1.3
	comp=Z,9.9nm,0.9s,baz=113,slow=5.2,SNR=80						
CMAR				LR	LR	21 42 21.3	
	comp=Z,31nm,19.0s,baz=184,slow=37						
CMAR	Chiang Mai Arr	60.52	295	P	P	21 15 05.4	+1.2
CM31	Chiang Mai Arr	60.53	295	P	P	21 15 05.8	+1.6
CHTO	Chiang Mai	60.64	296	P	P	21 15 06.3	+1.3
CD2	Chengdu	61.48	310	P	P	21 15 09.9	-0.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	61.70	324	*e*P	P	21 15 00.0	-12
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,10.0nm,5.3s						
LZH	Lanzhou	63.95	315	*e*P	P	21 15 29.3	+2.2
LZH				pP	sP	21 15 50.9	+2.8
LZH				sP	PcP	21 15 58.9	-3.4
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
GTA	Gaotai	68.37	317	P	P	21 15 56.7	+1.4
GTA				pP	sP	21 16 15.3	-1.7
GTA				sP	PcP	21 16 25.5	+5.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONM	Songino Array	68.94	327	P	P	21 15 58.6	0.0
	comp=Z,1.6nm,0.8s,baz=133,slow=5.0,SNR=9.7						
SONM				LR	LR	21 45 30.5	
	comp=Z,32nm,21.3s,baz=136,slow=35						
SONM	Songino Array	68.94	327	P	P	21 15 57.2	-1.4
LSA	Lhasa	70.96	304	P	P	21 16 12.3	+0.4
LSA				IAmb	IAmb	21 16 30.1	
	comp=Z,4.2nm,0.8s						
TAPN	Taplejung	73.11	301	*e*P	P	21 16 25.5	+0.9
	comp=Z,49nm,1.1s						
ODAN	Odare	73.24	300	*e*P	P	21 16 26.4	+1.1
	comp=Z,41nm,0.7s						
JIRN	Jiri	74.49	301	*e*P	P	21 16 33.7	+0.9
	comp=Z,23nm,0.7s						
GUN	Gumba	74.83	301	*e*P	P	21 16 35.6	+0.9
	comp=Z,33nm,0.7s						
PKI	Pulchoki	75.14	301	*e*P	P	21 16 36.9	+0.4
	comp=Z,63nm,1.5s						
PKIN	Phulchoki	75.15	301	*e*P	P	21 16 36.8	+0.4
	comp=Z,5.7nm,0.5s						
KKN	Kakani	75.31	301	*e*P	P	21 16 38.0	+0.7
	comp=Z,32nm,1.0s						
DMN	Daman	75.41	301	*e*P	P	21 16 38.8	+0.9
	comp=Z,25nm,0.7s						
GKN	Gorkha	75.91	301	*e*P	P	21 16 41.2	+0.5
	comp=Z,36nm,1.0s						
KOLN	Koldanda	76.74	300	*e*P	P	21 16 45.9	+0.5
	comp=Z,54nm,1.2s						
DANN	Dangsing	76.75	301	*e*P	P	21 16 45.9	+0.3
	comp=Z,20nm,0.9s						
WMQ	Urumqi	78.46	317	*e*P	P	21 16 55.6	+1.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,6.5s						
WMQ				LR	LR		
	comp=Z,83nm,29.3s						
ILAR	Eielson Array	83.01	22	P	P	21 17 16.6	-1.7
	comp=Z,0.3nm,0.3s,baz=242,slow=5.8,SNR=9.9						
ILAR				LR	LR	21 50 23.5	
	comp=Z,114nm,19.7s,baz=258,slow=33						
MK31	Makanchi Array	83.03	319	P	P	21 17 19.0	+0.2
MK31				IAmb	IAmb	21 17 28.4	
	comp=Z,4.4nm,1.0s						
MKAR	Makanchi Array	83.03	319	P	P	21 17 16.8	-2.0
	comp=Z,2.9nm,1.0s,baz=116,slow=5.5,SNR=12						
MKAR	Makanchi Array	83.03	319	P	P	21 17 17.7	-1.1
MAKZ	Makanchi	83.24	319	P	P	21 17 19.9	0.0
MAKZ				IAmb	IAmb	21 17 29.9	
	comp=Z,6.7nm,1.0s						
QSPA	South Pole Qui	83.40	180	P	P	21 17 18.7	-1.8
	comp=Z,5.9nm,0.9s,baz=352,slow=1.7,SNR=13						
QSPA	South Pole Qui	83.40	180	P	P	21 17 20.1	-0.4
ZALV	Zalesovo Beam	83.78	326	P	P	21 17 21.1	-1.3
	comp=Z,1.1nm,0.6s,baz=96,slow=4.3,SNR=3.9						
ZALV				LR	LR	21 54 16.5	
	comp=Z,30nm,20.4s,baz=96,slow=35						
ZALV	Zalesovo Beam	83.78	326	P	P	21 17 20.6	-1.8
BCAR	Beaver Creek A	84.14	24	P	P	21 17 24.1	-0.1
KSH	Kashi	85.67	310	P	P	21 17 33.8	+1.3
KSH				sP	sP	21 18 03.6	+9.2
KSH				S	S	21 27 58.6	-2.3
KSH				sS	sS	21 28 35.6	+8.4
KSH				SS	SS	21 33 41.7	+3.3
KSH				LR	LR		
	comp=Z,100nm,7.9s						
NVAR	Mina Array Bea	91.53	52	P	P	21 18 00.6	+0.1
	comp=Z,1.7nm,0.9s,baz=255,slow=6.6,SNR=7.5						
NVAR	Mina Array Bea	91.53	52	P	P	21 18 00.8	+0.3
NV11	Mina Array Sit	91.64	52	P	P	21 18 01.6	+0.7
NV11				IAmb	IAmb	21 18 01.9	
	comp=Z,5.3nm,1.2s						
NV11				pP	pP	21 18 10.3	-6.7
KVN	Kaiserville	91.76	51	P	P	21 18 01.3	-0.2
KVN				IAmb	IAmb	21 18 03.0	
	comp=Z,6.4nm,1.4s						
YKA	Yellowknife Ar	96.00	28	P	P	21 18 18.1	-2.1
	comp=Z,1.5nm,0.9s,baz=282,slow=5.5,SNR=4.8						
PDAR	Pinedale Array	98.48	48	LR	LR	22 00 02.0	
	comp=Z,49nm,18.1s,baz=354,slow=34						
VYHS	Vyhne	124.11	326	*e*PDIFF	Pdif	21 20 29.3	+3.5
BDFB	Brasilia	148.34	134	PKPbc	PKPbc	21 24 39.7	-0.9
	comp=Z,3.5nm,0.7s,baz=323,slow=15,SNR=5.6						
TORD	Torodi Ar. Bea	152.83	286	PKP	PKPdf	21 24 43.1	-0.9
	comp=Z,0.8nm,0.9s,baz=44,slow=1.8,SNR=3.1						
TORD				PKPbc	PKPbc	21 24 50.5	-0.7
	comp=Z,3.6nm,0.8s,baz=58,slow=2.2,SNR=16						
TORD	Torodi Ar. Bea	152.83	286		PKPdf	21 24 41.9	-2.1
TORD				PKPbc	PKPbc	21 24 50.5	-0.7
TORD				PKPab	PKPab	21 24 59.0	-3.3

VIE ***11*** *21:05:38.2±0.7, 46°.28N×15°.09E, h14km±6km, ml1.4/2, Error ellipse: s-maj=4.4km s-min=2.6km az=178.0 14 km WNW of Celje*
LJU 11 21:05:38.4, 46°.27N×15°.07E, h7km, ML1.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	Podkum	0.21	194	*i* Pg	Pg	21 05 42.5	-0.1
PDKS				*i* Sg	Sg	21 05 45.8	+0.2
	comp=Z,8.0nm,0.1s						
DOBS	Dobrina	0.30	113	*i* Pg	Pg	21 05 44.3	0.0
VNDS	Vrh nad Dolski	0.31	237	*i* Pg	Pg	21 05 44.4	-0.1
VNDS				*e*Sg	Sg	21 05 48.8	+0.2
	comp=Z,4.0nm,0.1s						
GROS	Grobnik	0.35	57	*e*Pg	Pg	21 05 45.5	+0.2
GROS				*i* Sg	Sg	21 05 50.5	+0.5
	comp=Z,12nm,0.1s						
LEGS	Legarje	0.36	152	*i* Pg	Pg	21 05 45.6	+0.1
PERS	Pernice	0.37	5	*i* Pg	Pg	21 05 45.8	+0.2
PERS				*i* Sg	Sg	21 05 51.0	+0.5
	comp=Z,5.0nm,0.1s						
BISS	Bistriski jare	0.38	6	*e*Pg	Pg	21 05 46.1	+0.2
BISS				*i* Sg	Sg	21 05 51.1	+0.2
	comp=Z,43nm,0.1s						
SOKA	Soboth	0.41	356	*e*Pg

PDAR Lg Lg 21 07 36.5
comp=E,7.0nm,0.3s,baz=72,slow=31,SNR=20
PDAR Pinedale Array 3.24 253 Pn 21 06 54.3 +2.7
YMP Mirror Lake Pl 3.59 287 Pn 21 06 59.4 +2.9
GCMT Greyclift 3.68 305 Pn 21 07 00.8 +3.3
LKWY Lake 3.73 284 Pn **Pb 21 07 02.6 -3.8**
LKWY IAML 21 07 33.4
comp=E,47nm,1.1s
LKWY IAML 21 09 01.8
comp=E,35nm,1.3s
OGNE Ogallala 3.74 138 Pn 21 06 57.6 -0.8
H17A Grant Village 3.82 281 Pn 21 07 03.4 +3.7
H17A IAML 21 08 06.8
comp=N,36nm,1.3s
FLWY Flagg Ranch 3.88 276 Pn 21 07 03.3 +2.9
FLWY IAML 21 08 07.8
comp=N,32nm,3.1s
FLWY IAML 21 08 12.0
comp=N,38nm,0.9s
MOOW Moose Ponds 3.92 271 Pn 21 07 04.2 +3.3
YPP Pitchstone Pla 3.97 279 Pg 21 07 15.0 -1.2
ISCO Idaho Springs 3.98 183 Pn 21 07 02.8 +1.0
REDW Red Top Meadow 4.03 266 IAML 21 08 17.8
comp=N,54nm,1.0s
TPAW Teton Pass 4.08 268 IAML 21 08 32.9
comp=N,23nm,0.9s
TPAW IAML 21 08 33.5
comp=N,49nm,1.0s
RDMU Red Mountain 4.49 226 Pg 21 07 24.0 -2.1
SMCO Snowmass 4.76 196 IAML 21 08 36.0
comp=N,24nm,0.8s
SMCO IAML 21 08 37.9
comp=N,32nm,1.2s
EGMT Eagleton 5.25 326 Pb 21 07 29.3 -2.9
DLMT Dillon 5.42 290 Pg 21 07 43.3 -0.6
P17A Butcher Ranch, 5.90 225 Pb 21 07 47.3 +3.9
SRU San Rafael Swe 6.07 222 Pb 21 07 49.3 +2.9
TMUT Trail Mountain 6.28 227 Pg 21 07 56.6 -3.8
I10CA LAC DU BONNET 9.04 41 *i* 22 05 00.0
baz=219,slow=335,SNR=3.2
ULM Lac du Bonnet 9.14 42 Pn **Pn 21 08 12.5 +0.1**
comp=N,0.4nm,0.3s,baz=224,slow=12,SNR=5.0
ULM Sn **Sn 21 09 52.1 -3.4**
comp=N,0.2nm,0.3s,baz=90,slow=8.1,SNR=2.2
ULM Lg Lg 21 10 43.0
comp=N,0.2nm,0.3s,baz=306,slow=19,SNR=2.5
NVAR Mina Array Bea 11.14 246 Pn **Pn 21 08 42.5 +2.5**
comp=N,0.1nm,0.3s,baz=63,slow=12,SNR=2.2
TXAR Lajitas Array 14.48 174 Pg P 21 10 29.2 +57
comp=N,0.0nm,0.3s,baz=357,slow=16,SNR=2.2
TXAR Lg Lg 21 13 35.2
comp=N,0.0nm,0.3s,baz=359,slow=22,SNR=4.6

IDC 11 21:09:40.6±4.0, 15°.74S×175°.65W, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.0/45, mbtmp4.4/5, Error ellipse: s-maj=173.1km s-min=30.1km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.99**	**240**	P	P	21 17 34.1	+0.4
	1.5nm,0.3s,baz=94,slow=10,SNR=8.5						
WRA	**Warramunga Arr**	**47.66**	**257**	P	P	21 18 18.7	-0.4
	6.2nm,0.5s,baz=93,slow=6.7,SNR=93						
ASAR	**Alice Springs**	**47.95**	**252**	P	P	21 18 21.2	-0.1
	15nm,0.4s,baz=88,slow=7.7,SNR=436						
FITZ	**Fitzroy Crossi**	**56.02**	**259**	P	P	21 19 21.2	-0.4
	0.7nm,0.4s,baz=108,slow=6.4,SNR=5.4						
ILAR	**Eielson Array**	**83.21**	**12**	P	P	21 22 08.4	+0.1
	0.4nm,0.4s,baz=218,slow=5.2,SNR=12						

*ISCJB **11** 21:15:05.0±0.7, 35°.74N±0°.04×97°.45W±0°.03, h6km±4km, Error ellipse: s-maj=6.4km s-min=3.9km az=164.4*
*NEIC **11** 21:15:06±0.8, 35°.721N±0°.009×97°.43W±0°.05, h5km±2km*
*ANF **11** 21:15:06.2±1.3, 35°.76N×97°.50W, h14km±9km, ML3.5/7, Error ellipse: s-maj=9.7km s-min=3.4km az=156.0*
ISC 11 21:15:05.0±1.3, 35°.75N±0°.03×97°.47W±0°.03, h1km±11km, n36, σ0§84/46, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.12**	**142**		**Pg**	**21 15 07.9**	**+0.5**
ADOK				Sg	**Sg**	21 15 09.0	0.0
OK009	**Oakdale Elemen**	**0.17**	**168**		**Pg**	**21 15 08.9**	**+0.6**
OK005	**Luther M Schoo**	**0.24**	**113**		**Pg**	**21 15 10.3**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**0.34**	**176**		**Pg**	**21 15 12.1**	**+0.5**
FNO	**Franklin**	**0.49**	**174**		**Pg**	**21 15 14.9**	**+0.4**
W35A	**Tecumseh**	**0.77**	**141**		**Pg**	**21 15 19.6**	**-0.2**
W35A					**Sg**	**21 15 28.1**	**-1.6**
X34A	**Smith Ranch, M**	**1.18**	**195**		**Pg**	**21 15 27.9**	**+0.2**
X34A					**Sn**	**21 15 43.7**	**-1.8**
TUL1	**Leonard**	**1.37**	**83**	P	**Pn**	**21 15 30.0**	**-1.3**
	baz=263						
TUL1				S	**Sg**	**21 15 49.8**	**+0.8**
	baz=263						
TUL1	**Leonard**	**1.37**	**83**		**Pn**	**21 15 30.0**	**-1.3**
U32A	**Winter Ranch,**	**1.40**	**297**		**Pg**	**21 15 31.8**	**0.0**
WMOK	**Wichita Mounta**	**1.48**	**227**	P	**Pb**	**21 15 32.6**	**-0.7**
	baz=47						
WMOK				S	**Sb**	**21 15 51.8**	**-0.7**
	baz=47						
WMOK	**Wichita Mounta**	**1.48**	**227**	Pn	**Pb**	**21 15 32.6**	**-0.7**
WMOK					**Sb**	**21 15 51.8**	**-0.7**
X37A	**Clayton**	**2.07**	**123**		**Pn**	**21 15 41.1**	**+0.2**
HHAR	**Hobbs**	**2.91**	**78**		**Pn**	**21 15 52.8**	**+0.3**
W39A	**Magazine**	**3.06**	**99**	P	**Pn**	**21 15 54.5**	**+0.1**
	baz=282						
W39A				S	**Sn**	**21 16 32.3**	**+0.7**
	baz=282						
W39A	**Magazine**	**3.06**	**99**		**Pn**	**21 15 54.6**	**+0.1**
MIAR	**Mount Ida**	**3.41**	**110**	P	**Pn**	**21 15 60.0**	**+0.7**
	baz=292						
MIAR				S	**Sn**	**21 16 40.8**	**+0.5**
	baz=292						
MIAR	**Mount Ida**	**3.41**	**110**		**Pn**	**21 16 00.0**	**+0.7**
AMTX	**Amarillo**	**3.55**	**257**		**Pn**	**21 16 03.0**	**+1.5**
CBKS	**Cedar Bluff**	**3.56**	**330**	Pn	**Pn**	**21 16 03.2**	**+1.8**
CBKS				Pg	**Pg**	**21 16 12.3**	**-0.9**
ABTX	**Abilene, Hawle**	**3.60**	**211**		**Pn**	**21 16 02.3**	**+0.2**
WHTX	**Lake Whitney,**	**3.75**	**180**	Sb	**Sb**	**21 16 59.6**	**+1.7**
	baz=0.4						
WHTX	**Lake Whitney,**	**3.75**	**180**		**Pn**	**21 16 04.1**	**+0.1**
U40A	**Yellville**	**3.79**	**79**		**Pn**	**21 16 04.4**	**-0.1**
X40A	**Basin Creek Fa**	**4.00**	**107**	P	**Pn**	**21 16 08.0**	**+0.6**
	baz=290						
X40A	**Basin Creek Fa**	**4.00**	**107**		**Pn**	**21 16 08.1**	**+0.6**
WHAR	**Wooly Hollow**	**4.25**	**95**		**Pn**	**21 16 10.8**	**-0.1**
W41B	**Gary Mavity, V**	**4.30**	**96**	P	**Pn**	**21 16 11.5**	**0.0**
	baz=279						
W41B				S	**Sn**	**21 17 02.7**	**+0.4**
	baz=279						
W41B	**Gary Mavity, V**	**4.30**	**96**		**Pn**	**21 16 11.5**	**0.0**
UALR	**University of**	**4.30**	**102**	Pn	**Pn**	**21 16 12.2**	**+0.6**
FCAR	**Ozark Folk Cen**	**4.34**	**87**		**Pn**	**21 16 10.9**	**-1.3**
MGMO	**Mountain Grove**	**4.42**	**70**	Pn	**Pn**	**21 16 14.2**	**+1.0**
Z41A	**Richland Creek**	**4.58**	**122**	Pn	**Pn**	**21 16 15.7**	**+0.3**
MSTX	**Muleshoe**	**4.71**	**249**	Pn	**Pn**	**21 16 17.6**	**+0.2**
435B	**Jarrell**	**4.95**	**181**	Pn	**Pn**	**21 16 20.9**	**+0.3**
SDCO	**Great Sand Dun**	**6.75**	**290**		**Pn**	**21 16 46.8**	**+1.2**

*ISCJB **11** 21:19:33.7±0.8, 28°.28N±0°.08×99°.26E±0°.08, h10km, mb3.5/6, MS3.9/1, Error ellipse: s-maj=11.7km s-min=9.5km az=151.8*
*IDC **11** 21:19:33.4±1.2, 28°.18N×99°.43E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/45, mbtmp3.6/7, MS4.0/1, Ms1 4.0/1, ms1mx2.7/41, Error ellipse: s-maj=72.3km s-min=20.3km az=61.0*
*NEIC **11** 21:19:39.7±1.6, 28°.5N±0°.1×99°.0E±0°.1, h15km±7km, mb4.1/2*
ISC 11 21:19:35.7±0.8, 28°.36N±0°.10×99°.4E±0°.1, h10km, n27, σ1§11/22, mb3.6/8, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.41**	**136**	Pn	**Pb**	**21 20 52.8**	**-0.7**
SHL	**Shillong**	**7.24**	**249**		**Pn**	**21 21 21.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**9.87**	**182**	Pn	**Pn**	**21 21 59.4**	**+1.6**
	0.1nm,0.3s,baz=356,slow=11,SNR=4.1						
CMAR				Lg	Lg	21 24 48.9	
	0.3nm,0.3s,baz=353,slow=30,SNR=7.5						
TAPN	**Taplejung**	**10.37**	**267**	*e*P	**Pn**	**21 22 04.8**	**-0.1**
	27nm,0.3s						
ODAN	**Odare**	**10.73**	**265**	*e*P	**Pn**	**21 22 09.3**	**-0.5**
	29nm,0.5s						
RAMN	**Ramite**	**11.41**	**266**	*e*P	**Pn**	**21 22 19.1**	**0.0**
	78nm,0.6s						
JIRN	**Jiri**	**11.67**	**270**	*e*P	**Pn**	**21 22 22.7**	**-0.1**
	29nm,0.4s						
GUN	**Gumba**	**11.92**	**271**	*e*P	**Pn**	**21 22 25.9**	**-0.2**
PKI	**Pulchoki**	**12.37**	**270**	*e*P	**Pn**	**21 22 30.8**	**-1.5**
	20nm,0.6s						
PKIN	**Phulchoki**	**12.38**	**270**	*e*P	**Pn**	**21 22 30.8**	**-1.6**
	9.3nm,0.3s						
KKN	**Kakani**	**12.46**	**271**	*e*P	**Pn**	**21 22 32.6**	**-0.8**
	20nm,0.4s						
DMN	**Daman**	**12.63**	**270**	*e*P	**Pn**	**21 22 34.7**	**-1.1**
	14nm,0.5s						
GKN	**Gorkha**	**13.01**	**272**	*e*P	**Pn**	**21 22 38.5**	**-2.3**
	16nm,0.4s						
DANN	**Dangsing**	**13.75**	**274**	*e*P	Pn	21 22 47.5	-3.6
KOLN	**Koldanda**	**13.94**	**271**	*e*P	Pn	21 22 50.6	-3.0
SONM	**Songino Array**	**20.19**	**14**	P	**P**	**21 24 11.4**	**+0.7**
	0.3nm,0.4s,baz=208,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**22.75**	**329**	P	**P**	**21 24 39.5**	**+1.4**
	0.8nm,0.5s,baz=136,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**22.75**	**329**	P	**P**	**21 24 37.5**	**-0.6**
CHGR	**Chuyangaron**	**27.10**	**300**	P	**P**	**21 25 19.1**	**+0.3**
CHGR				IAmb	IAmb	21 25 25.4	
	comp=Z,5.4nm,0.9s						
KURBB	**Kurchatov Arra**	**27.26**	**330**	P	**P**	**21 25 20.9**	**+0.9**
	comp=Z,0.3nm,0.2s,baz=131,slow=9.9,SNR=6.3						
KURK	**Kurchatov**	**27.29**	**331**	P	**P**	**21 25 20.9**	**+0.7**
KURK	**Kurchatov**	**27.29**	**331**	IAmb	IAmb	21 25 38.6	
	comp=Z,3.7nm,0.9s						
ZALV	**Zalesovo Beam**	**27.70**	**341**	P	**P**	**21 25 25.4**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=156,slow=11,SNR=3.6						
KLR	**Kul'dur**	**32.35**	**41**	LR	LR	21 41 20.7	
	comp=Z,233nm,18.1s,baz=161,slow=40						
WRA	**Warramunga Arr**	**58.72**	**141**	P		21 29 31.4	-2.6
	comp=Z,0.5nm,0.8s,baz=320,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**61.51**	**144**	P	**P**	**21 29 51.8**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=323,slow=5.8,SNR=3.0						
NOA	**NORSAR Array B**	**64.75**	**327**	P	**P**	**21 30 13.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=75,slow=8.5,SNR=2.2						

*THR **11** 21:33:38.9, 27°.87N×56°.65E, h18km, ML3.0*
*TEH **11** 21:33:39.8, 27°.82N×56°.72E, h10km, ML3.1*
*ISCJB **11** 21:33:41.2±0.4, 27°.74N±0°.03×56°.73E±0°.04, h28km, Error ellipse: s-maj=5.7km s-min=3.8km az=14.3*
*OMAN **11** 21:33:42.7±2.3, 27°.58N×56°.87E, h10km, ml3.1/6, Error ellipse: s-maj=26.8km s-min=11.0km az=168.0*
ISC 11 21:33:41.2±0.9, 27°.79N±0°.03×56°.74E±0°.04, h28km, n28, σ1§70/32, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.24**	**159**	*e*Pg	**Pb**	**21 33 45.3**	**-2.4**
NIAN				*e*Sg	**Sb**	**21 33 50.7**	**-1.5**
NIAN				IAMB	IAmb	21 33 55.4	
	comp=Z,0.0nm,0.5s						
GENO	**Geno**	**0.63**	**232**	*e*Pg	**Pb**	**21 33 52.8**	**-1.1**
GENO				IAMB	IAmb	21 34 07.9	
	comp=Z,0.0nm,0.4s						
BNDS	**Bandar-Abbas**	**0.63**	**232**	*e*Pg	**Pb**	**21 33 51.3**	**-2.6**
BNDS	**Bandar-Abbas**	**0.63**	**232**	*e*Pg	**Pb**	**21 33 51.3**	**-2.6**
KHNJ	**Kahnooj**	**0.87**	**79**	*e*Pg	**Pn**	**21 33 57.3**	**-0.4**
KHNJ				*e*Sg	**Sb**	**21 34 09.5**	**+0.4**
NGRK	**Negar Kerman**	**1.85**	**360**	*e*Pn	**Pb**	**21 34 13.1**	**-1.5**
NGRK				IAMB	IAmb	21 34 43.0	
	comp=Z,0.0nm,0.2s						
BANOM	**Banah**	**1.90**	**192**	P	**Pn**	**21 34 12.4**	**+0.6**
	SNR=35						
BANOM				S	**Sn**	**21 34 37.5**	**+2.7**
CHMN	**Cheshme madani**	**2.18**	**19**	*e*Pn	**Pb**	**21 34 18.5**	**-1.7**
CHMN				IAMB	IAmb	21 34 57.8	
	comp=Z,0.0nm,0.4s						
KRBR	**Kerman**	**2.19**	**1**	*e*Pn	**Pn**	**21 34 15.5**	**-0.5**
KRBR	**Kerman**	**2.19**	**1**	*e*Pn	**Pn**	**21 34 15.5**	**-0.5**
KRBR				*e*AML	AML	21 34 47.9	
	comp=N,107nm,0.4s						
KRBR	**Kerman**	**2.19**	**1**	*e*AML	AML	21 34 56.3	
	comp=E,94nm,0.5s						
KRBR				*e*Sg	**Sb**	**21 34 45.6**	**-1.4**
TVBK	**TV Kerman**	**2.19**	**1**	*e*Pn	**Pb**	**21 34 18.2**	**-2.2**
TVBK				IAMB	IAmb	21 34 21.6	
	comp=Z,0.0nm,0.3s						
MDH	**Madha**	**2.51**	**189**	P	**Pn**	**21 34 19.2**	**-0.9**
KHGB	**Koh Gabri**	**2.59**	**355**	*e*Pn	**Pn**	**21 34 24.0**	**+2.5**
KHGB				IAMB	IAmb	21 34 30.9	
	comp=Z,0.0nm,0.3s						
UOSS	**Minazif**	**2.87**	**190**	P	**Pn**	**21 34 26.0**	**+0.9**
ASHO	**Ashiyiah**	**3.15**	**191**	P	**Pn**	**21 34 30.5**	**+1.5**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**3.20**	**199**	P	**Pn**	**21 34 31.4**	**+1.7**
ASUD	**Al Ashush, Dub**	**3.39**	**202**	P	**Pn**	**21 34 34.2**	**+1.9**
	SNR=41						
ASUD				S	**Sn**	**21 35 13.8**	**+2.1**
ISRV	**Sarvestan**	**3.56**	**297**	*e*Pn	**Pn**	**21 34 36.1**	**+1.2**
ZHSF	**Zahedan**	**3.98**	**62**	*e*Pn	**Pn**	**21 34 42.0**	**+1.4**
ZHSF	**Zahedan**	**3.98**	**62**	*e*Pn	**Pn**	**21 34 42.0**	**+1.4**
SZD1	**Zahaedan-tmp**	**4.00**	**64**	*e*Pn	**Pn**	**21 34 42.6**	**+1.8**
IMEH	**Mehriz**	**4.04**	**333**	*e*Pn	**Pn**	**21 34 42.7**	**+1.3**
NHDN	**Nehbandan**	**4.61**	**38**	*e*Pn	**Pn**	**21 34 51.9**	**+2.8**
IKAZ	**Kazeroun**	**4.73**	**296**	*e*Pn	**Pn**	**21 34 51.7**	**+0.7**
WSAR	**Wadi Sarin**	**4.84**	**159**	P	**Pn**	**21 34 52.8**	**+0.5**
IRAM	**Ramesheh**	**5.51**	**318**	*e*Pn	**Pn**	**21 35 02.3**	**+0.7**
WBK	**Wadi Bani Khal**	**5.54**	**158**	P	**Pn**	**21 35 02.2**	**+0.3**
	SNR=9.7						

*IDC **11** 21:55:23.5±1.0, 6°.70S×147°.73E, h0km, mb4.2/15, mb1 4.3/19, mb1mx4.1/48, mbtmp4.2/19, ML3.8/3, MS3.6/14, Ms1 3.6/14, ms1mx3.2/43, Error ellipse: s-maj=37.3km s-min=13.9km az=96.0*
*ISCJB **11** 21:55:29.4±0.4, 6°.88S±0°.05×147°.68E±0°.06, h65km, mb4.5/19, Error ellipse: s-maj=9.0km s-min=6.0km az=21.8*
*DJA **11** 21:55:29.8±0.6, 7°.S±4°.×14°.7E±°., h10km, M4.9/7, mb4.2/7, MLv5.2/2*
*NEIC **11** 21:55:30.1±2.7, 6°.87S±0°.06×147°.6E±0°.1, h51km±9km, mb4.3/11*
ISC 11 21:55:31.0±0.5, 6°.92S±0°.05×147°.65E±0°.07, h65km, n54, σ1§84/49, mb4.1/22, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.52**	**191**	Pn	**Pn**	**21 56 10.8**	**+1.2**
	26nm,0.3s,baz=358,slow=6.0,SNR=24						
PMG				Sn	**Sn**	**21 56 42.7**	**+3.4**
	97nm,0.3s,baz=179,slow=21,SNR=8.4						
PMG	**Port Moresby**	**2.52**	**191**		**Pn**	**21 56 11.4**	**+1.8**
PMG					**Sn**	**21 56 33.7**	**-5.6**
KRVT	**Keravat (AS076**	**5.06**	**59**	Pn	**Pn**	**21 56 43.0**	**-1.4**
	0.8nm,0.3s,baz=229,slow=9.3,SNR=1.6						
JAY	**Jayapura**	**8.19**	**302**	Pn	**Pn**	**21 57 27.2**	**0.0**
	0.5nm,0.3s,baz=142,slow=19,SNR=2.1						
JAY				LR	LR	22 01 10.5	
	comp=Z,274nm,19.7s,baz=159,slow=43						
COEN	**Coen**	**8.27**	**212**	Pn	**Pn**	**21 57 27.5**	**-0.8**
COEN					**Sn**	**21 58 57.2**	**-3.0**
HNR	**Honiara**	**12.42**	**102**	Pn	**Pn**	**21 58 24.9**	**-0.2**
	4.6nm,0.3s,baz=210,slow=12,SNR=2.2						
CTA	**Charters Tower**	**13.17**	**186**	Pn	**Pn**	**21 58 35.1**	**-0.1**
	0.3nm,0.3s,baz=358,slow=15,SNR=2.2						
SIJI	**Sorong**	**17.41**	**289**	P	**Pn**	**21 59 27.2**	**-2.5**
	0.6nm,0.3s,baz=87,slow=14,SNR=3.9						
SIJI				LR	LR	22 06 55.6	
	comp=Z,183nm,21.7s,baz=144,slow=40						
SWI	**Sorong**	**17.42**	**289**	P	**P**	**21 59 31.3**	**+1.1**
	25nm,0.7s						
WB2	**Warramunga Arr**	**18.29**	**224**	P	**Pn**	**21 59 39.9**	**-0.5**
WB2				IAmb	IAmb	21 59 46.2	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**18.30**	**224**	P	**Pn**	**21 59 40.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=48,slow=12,SNR=5.9						
WRA				LR	LR	22 07 28.6	
	comp=Z,210nm,19.8s,baz=55,slow=39						
WRA	**Warramunga Arr**	**18.30**	**224**	P	**P**	**21 59 38.1**	**-1.7**
WRA				Sn	**Sn**	**22 02 59.9**	**-4.4**
KNRA	**Kununurra**	**20.45**	**243**	P	**P**	**22 00 03.8**	**+0.4**
GUMO	**Guam**	**20.56**	**352**	LR	LR	22 07 44.5	
	comp=Z,73nm,18.4s,baz=155,slow=36						
AS31	**Alice Springs**	**21.26**	**217**	P	**P**	**22 00 12.9**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=51,slow=8.9,SNR=24						
ASAR	**Alice Springs**	**21.26**	**217**	P	**P**	**22 00 13.4**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=51,slow=8.9,SNR=24						
ASAR				S	**S**	**22 04 03.4**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=49,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**23.57**	**132**	LR	LR	22 08 41.1	
	comp=Z,91nm,20.3s,baz=314,slow=34						
FITZ	**Fitzroy Crossi**	**24.16**	**241**	P	**P**	**22 00 39.8**	**-1.6**
	comp=Z,3.0nm,0.6s,baz=78,slow=6.1,SNR=8.6						
FITZ				LR	LR	22 11 14.2	
	comp=Z,157nm,19.3s,baz=68,slow=39						
STKA	**Stephens Creek**	**25.47**	**192**	P	**P**	**22 00 55.1**	**+2.0**
	comp=Z,3.2nm,0.5s,baz=360,slow=8.4,SNR=12						
STKA				LR	LR	22 11 31.1	
	comp=Z,151nm,18.2s,baz=21,slow=38						
STKA	**Stephens Creek**	**25.47**	**192**	P	**P**	**22 00 56.4**	**+3.3**
JNU	**Nakatsue**	**42.89**	**339**	P	**P**	**22 03 22.2**	**-1.0**
	comp=Z,9.7nm,0.8s,baz=198,slow=0.8,SNR=4.6						
JNU	**Nakatsue**	**42.89**	**339**	P	**P**	**22 03 23.4**	**+0.2**
MJAR	**Matsushiro Arr**	**44.13**	**349**	P	**P**	**22 03 32.3**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=172,slow=8.7,SNR=4.4						
MJAR	**Matsushiro Arr**	**44.13**	**349**	IAmb	IAmb	22 03 40.4	
	comp=Z,3.6nm,1.2s						
KSRS	**Korea Array**	**47.83**	**339**	P	**P**	**22 04 02.7**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=155,slow=8.9,SNR=13						
KSRS				LR	LR	22 21 39.0	
	comp=Z,33nm,21.6s,baz=168,slow=33						
USRK	**Ussuriysk Ar.**	**52.81**	**346**	P	**P**	**22 04 40.1**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=147,slow=7.5,SNR=6.9						
NANT	**Nan**	**52.87**	**300**	P	**P**	**22 04 43.0**	**+2.4**
	comp=Z,91μm,0.8s,comp=Z,415nm						
UMPA	**Umpang Tak**	**53.47**	**296**	P	**P**	**22 04 47.7**	**+2.6**
	comp=Z,9μm,0.9s,comp=Z,360μmcomp=Z,43nm						
CMAR	**Chiang Mai Arr**	**54.25**	**299**	P	**P**	**22 04 52.4**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=122,slow=5.9,SNR=18						
CMAR				LR	LR	22 30 30.1	
	comp=Z,12nm,18.3s,baz=275,slow=39						
CMAR	**Chiang Mai Arr**	**54.25**	**299**	P	**P**	**22 04 52.0**	**+1.2**
CMMT	**Chiang Mai**	**54.39**	**299**	P	**P**	**22 04 55.8**	**+4.0**
	comp=Z,1.7nm,1.1s,comp=Z,0.0nm						
PETK	**Petropavlovsk-**	**60.40**	**7**	LR	LR	22 26 36.0	
	comp=Z,43nm,21.8s,baz=241,slow=31						
LSA	**Lhasa**	**65.31**	**307**	P	**P**	**22 06 06.5**	**-0.6**
LSA				IAmb	IAmb	22 06 14.2	
	comp=Z,5.7nm,1.2s						
SONM	**Songino Array**	**65.52**	**331**	P	**P**	**22 06 08.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=137,slow=2.8,SNR=4.2						
SONM	**Songino Array**	**65.52**	**331**	IAmb	IAmb	22 06 13.3	
	comp=Z,1.9nm,1.4s						
TLY	**Talaya**	**69.45**	**332**	LR	LR	22 35 28.0	
	comp=Z,35nm,22.0s,baz=79,slow=35						
MKAR	**Makanchi Array**	**78.61**	**320**	P	**P**	**22 07 25.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=106,slow=7.7,SNR=4.6						
MKAR	**Makanchi Array**	**78.61**	**320**	P	**P**	**22 07 24.8**	**-1.1**
TIXI	**Tiksi**	**79.38**	**354**	P	**P**	**22 07 28.9**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=141,slow=1.8,SNR=2.9						
ZAA0	**Zalesovo Array**	**80.13**	**328**	P	**P**	**22 07 33.3**	**-0.6**
ZAA0				IAmb	IAmb	22 07 35.0	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**80.13**	**328**	P	**P**	**22 07 33.6**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=114,slow=5.4,SNR=12						
ZALV	**Zalesovo Beam**	**80.13**	**328**	P	**P**	**22 07 33.8**	**-0.1**
KURK	**Kurchatov**	**82.33**	**323**	P	**P**	**22 07 45.8**	**+0.2**
KURK	**Kurchatov**	**82.33**	**323**	IAmb	IAmb	22 07 47.4	
	comp=Z,3.6nm,1.4s						
KURBB	**Kurchatov Arra**	**82.35**	**323**	P	**P**	**22 07 45.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=117,slow=4.1,SNR=6.1						
AAK	**Ala-Archa**	**82.44**	**315**	LR	LR	22 45 34.3	
	comp=Z,33nm,21.6s,baz=93,slow=37						
ILAR	**Eielson Array**	**86.06**	**23**	P	**P**	**22 08 04.6**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=249,slow=4.3,SNR=5.5						
NRIK	**Noril'sk**	**86.34**	**342**	P	**P**	**22 08 06.0**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=132,slow=6.5,SNR=4.4						
BVAR	**Borovoye Array**	**87.89**	**324**	P	**P**	**22 08 13.9**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=122,slow=5.6,SNR=9.1						
PFO	**Pinyon Flats O**	**98.68**	**57**	LR	LR	22 46 12.0	
	comp=Z,84nm,20.2s,baz=44,slow=31						
ELK	**Elko**	**99.85**	**50**	LR	LR	22 46 52.0	
	comp=Z,217nm,21.9s,baz=352,slow=31						
GERES	**GERESS Array B**	**123.03**	**325**	PKP	**PKiKP**	**22 14 22.1**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=27,slow=2.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**145.94**	**283**	PKPbc	**PKPab**	**22 15 06.3**	**+1.4**
	comp=Z,5.0nm,0.7s,baz=70,slow=4.3,SNR=23						
TORD	**Torodi Ar. Bea**	**145.94**	**283**		**PKiKP**	**22 15 06.6**	**-1.1**

*IDC **11** 21:59:08.4±0.7, 50°.80N×174°.68E, h0km, mb4.0/22, mb1 4.2/23, mb1mx4.0/69, mbtmp4.0/23, ML3.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/61, Error ellipse: s-maj=20.9km s-min=13.6km az=176.0*
*ISCJB **11** 21:59:12.1±0.4, 50°.81N±0°.06×174°.68E±0°.05, h33km, mb4.0/21, MS3.0/2, Error ellipse: s-maj=

VRDI				IAmb	IAmb	22 04 43.9
	comp=Z,26nm,1.5s					
DOT	**Dot Lake**	**25.20**	**44**	P	**P**	**22 04 36.3 +0.3**
DOT				IAmb	IAmb	22 04 36.7
	comp=Z,7.5nm,0.5s					
CRQM	**Cirque**	**25.25**	**51**	P	**P**	**22 04 38.0 +1.3**
SCRK	**Sand Creek**	**25.29**	**43**	P	**P**	**22 04 36.7 -0.2**
SCRK				IAmb	IAmb	22 04 37.7
	comp=Z,7.0nm,0.8s					
TGL	**Tana Glacier**	**25.40**	**51**	P	**P**	**22 04 38.9 +1.0**
BALM	**Baldy**	**25.66**	**50**	P	**P**	**22 04 41.2 +1.0**
BALM				IAmb	IAmb	22 04 57.1
	comp=Z,8.1nm,1.2s					
MESA	**MESA**	**25.81**	**52**	P	**P**	**22 04 43.3 +1.6**
YAH	**Yahtse**	**25.92**	**52**	P	**P**	**22 04 43.6 +0.8**
BMAR	**Burnt Mountain**	**25.98**	**35**	P	**P**	**22 04 43.9 +0.9**
BARN	**Barnard Glacie**	**25.99**	**50**	P	**P**	**22 04 44.5 +1.1**
BARN				IAmb	IAmb	22 04 45.2
	comp=Z,16nm,1.0s					
BCAR	**Beaver Creek A**	**26.12**	**45**	P	**P**	**22 04 44.7 +0.4**
CTGM	**Chitina Glacie**	**26.15**	**50**	P	**P**	**22 04 45.6 +0.9**
CTGM				IAmb	IAmb	22 04 46.5
	comp=Z,17nm,1.2s					
EGAK	**Eagle**	**26.65**	**42**	IAmb	IAmb	22 04 50.2
	comp=Z,14nm,0.8s					
PCA	**Pinnacle**	**26.66**	**52**	P	**P**	**22 04 50.1 +0.8**
PCA				IAmb	IAmb	22 04 50.2
	comp=Z,16nm,0.9s					
HYT	**Haines Junctio**	**28.02**	**51**	P	**P**	**22 05 02.3 +0.8**
TIXI	**Tiksi**	**29.09**	**332**	P	**P**	**22 05 10.3 -0.4**
	comp=Z,0.6nm,0.3s,baz=180,slow=24,SNR=5.5					
INK	**Inuvik**	**30.25**	**35**	P	**P**	**22 05 22.2 +1.3**
INK				IAmb	IAmb	22 05 23.2
	comp=Z,3.3nm,0.7s					
H11N2	**WAKE ISLAND Hy**	**31.69**	**194**	T	T	22 38 46.4
	baz=9.3,slow=76					
H11N3	**WAKE ISLAND Hy**	**31.70**	**194**	T	T	22 38 43.9
	baz=9.3,slow=76					
H11N1	**WAKE ISLAND Hy**	**31.70**	**194**	T	T	22 38 47.7
	baz=9.3,slow=76					
H11S1	**WAKE ISLAND Hy**	**32.92**	**194**	T	T	22 40 16.8
	baz=8.8					
H11S3	**WAKE ISLAND Hy**	**32.93**	**194**	T	T	22 40 17.4
	baz=8.8					
H11S2	**WAKE ISLAND Hy**	**32.93**	**194**	T	T	22 40 18.9
	baz=8.8					
YKW3	**Yellowknife Ar**	**38.51**	**45**	P	**P**	**22 06 33.0 +0.7**
YKA	**Yellowknife Ar**	**38.53**	**45**	P	**P**	**22 06 33.0 +0.4**
	comp=Z,0.8nm,0.4s,baz=282,slow=9.5,SNR=14					
HAWA	**Hanford**	**42.44**	**69**	P	**P**	**22 07 06.0 +0.9**
HAWA				IAmb	IAmb	22 07 06.8
	comp=Z,6.6nm,0.8s					
SONM	**Songino Array**	**43.12**	**294**	P	**P**	**22 07 10.9 +0.1**
	comp=Z,0.5nm,0.5s,baz=62,slow=7.2,SNR=6.0					
GUMO	**Guam**	**44.33**	**224**	LR	LR	22 23 26.7
	comp=Z,33nm,20.7s,baz=68,slow=33					
BOZ	**Bozeman (W)**	**47.50**	**66**	IAmb	IAmb	22 07 46.4
	comp=Z,3.2nm,0.8s					
NVAR	**Mina Array Bea**	**47.71**	**78**	P	**P**	**22 07 48.2 +0.9**
	comp=Z,0.7nm,0.7s,baz=286,slow=7.1,SNR=4.2					
YHL	**Hebgen Lake**	**48.18**	**67**	P	**P**	**22 07 51.4 +0.3**
PDAR	**Pinedale Array**	**50.36**	**68**	P	**P**	**22 08 07.0 -0.6**
	comp=Z,1.7nm,0.6s,baz=313,slow=2.7,SNR=15					
PDAR	**Pinedale Array**	**50.36**	**68**	P	**P**	**22 08 07.1 -0.5**
ZALV	**Zalesovo Beam**	**51.30**	**311**	P	**P**	**22 08 13.9 -0.3**
	comp=Z,0.7nm,0.5s,baz=60,slow=5.7,SNR=2.5					
SUMG	**Summit**	**54.69**	**12**	*i* P	**P**	**22 08 40.8 +1.4**
KURK	**Kurchatov**	**56.28**	**311**	P	**P**	**22 08 51.2 +0.5**
KURBB	**Kurchatov Arra**	**56.39**	**310**	P	**P**	**22 08 52.0 +0.6**
	comp=Z,4.5nm,0.6s,baz=43,slow=6.9,SNR=31					
MKAR	**Makanchi Array**	**57.02**	**305**	P	**P**	**22 08 55.9 -0.1**
	comp=Z,1.5nm,0.7s,baz=57,slow=7.4,SNR=7.7					
ARCES	**ARCESS Array B**	**57.78**	**348**	P	**P**	**22 09 01.6 +0.6**
	comp=Z,2.8nm,0.8s,baz=32,slow=10.0,SNR=4.6					
BVAR	**Borovoye Array**	**58.50**	**317**	P	**P**	**22 09 07.3 +1.0**
	comp=Z,3.0nm,0.4s,baz=64,slow=6.8,SNR=19					
BRVK	**Borovoye**	**58.52**	**317**	P	**P**	**22 09 07.4 +1.0**
BRVK				IAmb	IAmb	22 09 08.2
	comp=Z,4.9nm,0.7s					
TX32	**Lajitas Array**	**62.80**	**76**	P	**P**	**22 09 37.0 +1.0**
TX32				IAmb	IAmb	22 09 37.8
	comp=Z,2.5nm,0.7s					
TXAR	**Lajitas Array**	**62.80**	**76**	P	**P**	**22 09 36.3 +0.3**
	comp=Z,2.5nm,0.8s,baz=299,slow=5.5,SNR=26					
TXAR	**Lajitas Array**	**62.80**	**76**	P	**P**	**22 09 36.6 +0.6**
FINES	**FINESS Array B**	**65.23**	**344**	P	**P**	**22 09 51.6 +0.2**
	comp=Z,2.7nm,0.8s,baz=37,slow=7.3,SNR=5.6					
KKAR	**Karatay Array**	**65.57**	**309**	P	**P**	**22 09 54.5 +0.6**
AKTO	**Aktyubinsk**	**65.58**	**321**	P	**P**	**22 09 54.5 +0.7**
	comp=Z,2.1nm,0.5s,baz=58,slow=8.1,SNR=5.9					
CMAR	**Chiang Mai Arr**	**66.92**	**271**	P	**P**	**22 10 03.2 +0.4**
	comp=Z,0.4nm,0.4s,baz=26,slow=7.0,SNR=6.5					
TAPN	**Taplejung**	**67.43**	**286**	*eP*	**P**	**22 10 06.8 +0.4**
NOA	**NORSAR Array B**	**67.64**	**351**	P	**P**	**22 10 06.6 -0.2**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.2,SNR=2.5					
BTK	**Batken**	**67.67**	**306**	P	**P**	**22 10 08.8 +1.4**
JIRN	**Jiri**	**68.13**	**287**	*eP*	**P**	**22 10 11.6 +0.8**
	comp=Z,16nm,0.7s					
GUN	**Gumba**	**68.14**	**288**	*eP*	**P**	**22 10 12.0 +1.2**
	comp=Z,22nm,1.0s					
KKN	**Kakani**	**68.58**	**288**	*eP*	**P**	**22 10 14.5 +1.0**
PKI	**Pulchoki**	**68.67**	**288**	*eP*	**P**	**22 10 14.7 +0.6**
	comp=Z,14nm,1.0s					
PKIN	**Phulchoki**	**68.67**	**288**	*eP*	**P**	**22 10 14.5 +0.4**
	comp=Z,11nm,1.0s					
DANN	**Dangsing**	**69.09**	**289**	*eP*	**P**	**22 10 17.2 +0.5**
	comp=Z,15nm,0.9s					
CHGR	**Chuyangaron**	**69.58**	**306**	P	**P**	**22 10 20.4 +1.1**
AKASG	**Malin Array Be**	**74.60**	**338**	P	**P**	**22 10 49.2 +0.2**
	comp=Z,0.5nm,0.4s,baz=25,slow=6.2,SNR=2.7					
WRA	**Warramunga Arr**	**78.92**	**218**	P	**P**	**22 11 12.7 -1.0**
	comp=Z,0.4nm,0.5s,baz=35,slow=6.5,SNR=3.2					
GERES	**GERESS Array B**	**79.31**	**347**	P	**P**	**22 11 16.2 +0.5**
	comp=Z,0.5nm,0.6s,baz=18,slow=5.6,SNR=5.6					
ASAR	**Alice Springs**	**82.46**	**217**	P	**P**	**22 11 31.5 -1.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=4.3,SNR=3.3					
BRTR	**Keskin Array B**	**83.52**	**331**	P	**P**	**22 11 38.1 -0.1**
	comp=Z,1.4nm,0.8s,baz=38,slow=1.7,SNR=9.6					
BRTR	**Keskin Array B**	**83.52**	**331**	P	**P**	**22 11 39.3 +1.1**
PLCA	**Paso Flores**	**134.82**	**103**	PKP	**PKPdf**	**22 18 29.1 +0.6**
	comp=Z,3.5nm,1.0s,baz=302,slow=4.1,SNR=3.1					

*IDC **11** 22:02:00.9±4.3, 36°.37N×70°.83E, h168km±27km, mb3.4/6, mb1 3.3/11, mb1mx3.0/67, mbtmp3.7/11, Error ellipse: s-maj=47.8km s-min=17.5km az=153.0*
*ISCJB **11** 22:02:02.3±0.5, 36°.45N±0°.05×70°.85E±0°.06, h200km, mb3.5/5, Error ellipse: s-maj=8.8km s-min=4.9km az=43.0*
*NNC **11** 22:02:06.7±8.7, 37°.10N×69°.76E, h0km, mb4.0, mpv3.4, Error ellipse: s-maj=88.5km s-min=58.4km az=120.0*

ISC 11 22:02:03.5±0.8, 36°.57N±0°.08×70°.84E±0°.07, h200km, n24, σ1§97/28, mb3.6/5, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.54**	**358**	⇑P	**Pn**	**22 03 37.7**	**+0.1**
	0.9nm,0.2s,baz=193,slow=16,SNR=39						
KK31				⇓S	**Sn**	22 04 47.3	-5.0
	7.1nm,0.3s,baz=189,slow=25,SNR=6.6						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**22 03 40.0**	**+0.2**
	0.9nm,0.3s,baz=169,slow=6.2,SNR=10						
AAK				S	**Sn**	**22 04 55.0**	**-1.1**
	0.8nm,0.3s,baz=126,slow=22,SNR=12						
GEYT	**Alibeck**	**10.23**	**281**	P	**Pn**	**22 04 25.6**	**-0.2**
	0.3nm,0.3s,baz=113,slow=8.1,SNR=5.2						
GEYT				S	**Sn**	**22 06 16.7**	**-3.4**
	0.3nm,0.3s,baz=104,slow=18,SNR=3.5						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**P**	**22 05 07.0**	**-0.7**
	0.1nm,0.3s,baz=222,slow=11,SNR=3.8						
DANN	**Dangsing**	**13.63**	**123**	*eP*	**Pn**	**22 05 07.5**	**-1.7**
	13nm,0.3s						
GKN	**Gorkha**	**14.45**	**122**	*eP*	**Pn**	**22 05 17.3**	**-1.9**
	16nm,0.3s						
AB31	**Akbulak array**	**14.96**	**331**	⇑P	**P**	**22 05 28.1**	**+2.3**
	1.8nm,0.7s,baz=142,slow=11,SNR=30						
AB31				⇓S	**S**	**22 08 08.6**	**-2.5**
	0.6nm,0.6s						
DMN	**Daman**	**15.02**	**122**	*eP*	**Pn**	**22 05 24.9**	**-1.4**
KKN	**Kakani**	**15.02**	**122**	*eP*	**Pn**	**22 05 24.9**	**-1.4**
	16nm,0.5s						
PKIN	**Phulchoki**	**15.24**	**122**	*eP*	**Pn**	**22 05 27.4**	**-1.5**
	28nm,0.8s						
PKI	**Pulchoki**	**15.25**	**122**	*eP*	**Pn**	**22 05 27.5**	**-1.7**
GUN	**Gumba**	**15.36**	**120**	*eP*	**Pn**	**22 05 28.1**	**-2.5**
JIRN	**Jiri**	**15.73**	**120**	*eP*	**P**	**22 05 33.4**	**-1.5**
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**22 05 44.5**	**+1.4**
	0.2nm,0.3s,baz=148,slow=10,SNR=4.7						
AKTO	**Aktyubinsk**	**16.66**	**330**	⇓P	**Pn**	**22 05 46.4**	**+0.9**
	8.4nm,1.4s						
AKTO	**Aktyubinsk**	**16.66**	**330**	P	**Pn**	**22 05 46.8**	**+1.2**
	0.5nm,0.3s,baz=141,slow=12,SNR=8.6						
TAPN	**Taplejung**	**16.99**	**118**	*eP*	**Pn**	**22 05 49.4**	**-0.6**
ODAN	**Odare**	**17.07**	**120**	*eP*	**Pn**	**22 05 52.1**	**+1.2**
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	**P**	**22 06 21.1**	**+1.4**
	1.0nm,0.5s,baz=221,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**22 08 58.4**	**+1.9**
	2.6nm,0.9s,baz=123,slow=10,SNR=4.8						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**22 09 28.9**	**+2.1**
	5.2nm,1.0s,baz=120,slow=8.4,SNR=4.0						
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**22 09 54.5**	**+1.7**
	2.0nm,1.0s,baz=97,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**65.59**	**269**	P	**P**	**22 12 26.0**	**-0.2**
	0.3nm,0.5s,baz=56,slow=5.1,SNR=4.5						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**22 13 58.4**	**+1.9**
	0.5nm,0.7s,baz=349,slow=5.8,SNR=2.7						

ANF 11 22:04:07.8±0.3, 36°.97N×83°.37W, ML2.5/20, ML2.4/33, Error ellipse: s-maj=3.2km s-min=2.8km az=50.0, Mining explosion., Tennessee

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T52A	**Hallie**	**0.34**	**66**	P	Pg	22 04 15.3	+1.1
	baz=246,SNR=13						
TZTN	**Tazewell**	**0.45**	**199**	P	Pg	22 04 15.1	-1.3
	baz=19,SNR=11						
T51A	**Gray**	**0.46**	**269**	P	Pg	22 04 16.2	-0.4
	baz=89						
T51A				S	Sg	22 04 21.6	-1.1
	baz=89						
U52A	**Thorn Hill**	**0.58**	**180**	P	Pg	22 04 18.0	-0.9
	baz=360						
T53A	**Wise**	**0.67**	**89**	P	Pg	22 04 20.1	-0.5
	baz=269						
T53A				S	Sg	22 04 30.5	+1.3
	baz=269						
S51A	**Beattyville**	**0.69**	**345**	P	Pg	22 04 20.3	-0.8
	baz=165						
S51A				S	Sg	22 04 31.1	+1.1
	baz=165						
S50A	**Richmond**	**1.08**	**311**	P	Pn	22 04 31.4	+1.1
	baz=130,SNR=5.1						
V52A	**Sevierville**	**1.14**	**189**	P	Pb	22 04 30.3	-0.1
	baz=9.2						
T50A	**Nancy**	**1.18**	**273**	P	Pb	22 04 31.3	+0.2
	baz=92						
S53A	**Williamson**	**1.22**	**54**	P	Pg	22 04 30.1	-1.1
	baz=235						
S53A				S	Sn	22 04 49.7	+0.4
	baz=235						
U54A	**Nelsons Funny**	**1.32**	**109**	P	Pg	22 04 33.2	+0.1
	baz=290,SNR=8.7						
U54A				S	Sn	22 04 54.0	+2.0
	baz=290						
R51A	**Hillsboro**	**1.34**	**353**	P	Pb	22 04 34.1	+0.3
	baz=173						
R51A				S	Sb	22 04 51.2	-0.2
	baz=173						
V53A	**Saluda**	**1.38**	**161**	P	Pg	22 04 33.8	-0.4
	baz=341,SNR=6.9						
V53A				S	Sn	22 04 53.8	+0.6
	baz=341						
V51A	**Loudon**	**1.41**	**215**	P	Pn	22 04 34.1	-0.7
	baz=34						
V51A				S	Sn	22 04 55.3	+1.3
	baz=34						
T54A	**Tazewell**	**1.44**	**86**	P	Pn	22 04 34.9	-0.3
	baz=267,SNR=8.0						
T54A				S	Sn	22 04 56.9	+2.1
	baz=267						
R50A	**Paris**	**1.51**	**330**	P	Pn	22 04 34.8	-1.4
	baz=150						
R50A				S	Sg	22 04 54.1	-2.3
	baz=150						
V54A	**Nebo**	**1.65**	**136**	P	Pn	22 04 37.6	-0.6
	baz=317,SNR=14						
V54A				S	Sg	22 05 01.3	+0.4
	baz=317						
S49A	**Springfield**	**1.73**	**299**	P	Pn	22 04 37.8	-1.4
	baz=118,SNR=8.1						
S49A				S	Sg	22 05 03.7	+0.2
	baz=118						
T49A	**Edmonton**	**1.74**	**275**	P	Pn	22 04 39.1	-0.2
	baz=94						
T49A				S	Sg	22 05 03.8	+0.1
	baz=94						
R53A	**Hurricane**	**1.76**	**39**	P	Pb	22 04 40.9	-0.1
	baz=220						
R53A				S	Sg	22 05 06.2	+1.8
	baz=220						
W53A	**Cullowhee**	**1.81**	**175**	P	Pn	22 04 40.3	0.0
	baz=355,SNR=9.0						
S54A	**Dingess, Beckl**	**1.83**	**63**	P	Pn	22 04 41.4	+0.8
	baz=244						
S54A				S	Sg	22 05 06.4	-0.3
	baz=244						
V50A	**Pikevile**	**1.91**	**228**	P	Pn	22 04 41.0	-0.6
	baz=46,SNR=8.4						
V50A				S	Sb	22 05 07.5	-0.4
	baz=46						
U55A	**TA2, Sparta**	**1.92**	**103**	P	Pn	22 04 42.4	+0.5
	baz=285						
U55A				S	Sb	22 05 08.6	+0.3
	baz=285						
W52A	**Murphy**	**1.93**	**194**	S	Sb	22 05 08.6	+0.1
	baz=13						
Q50A	**Georgetown**	**1.93**	**346**	S	Sn	22 05 07.5	+0.6
	baz=165						
Q51A	**Peebles**	**2.05**	**0**	P	Pn	22 04 44.4	+0.8
	baz=180						
Q51A				S	Sb	22 05 11.8	-0.2
	baz=180						
T55A	**Pulaski**	**2.07**	**85**	P	Pn	22 04 44.7	+0.8
	baz=267,SNR=6.6						
T55A				S	Sg	22 05 13.7	-0.7
	baz=267						
W51A	**Cleveland**	**2.13**	**212**	P	Pn	22 04 44.4	-0.3
	baz=31,SNR=7.1						
W51A				S	Sb	22 05 13.2	-1.1
	baz=31						
Q52A	**Bidwell**	**2.17**	**23**	S	Sb	22 05 16.4	+1.0
	baz=204						
R54A	**Victor**	**2.24**	**57**	P	Pn	22 04 47.2	+1.0
	baz=238,SNR=5.2						
R54A				S	Sb	22 05 18.4	+0.9
	baz=238						
Q49A	**Aurora**	**2.36**	**330**	S	Sb	22 05 20.1	-0.8
	baz=149						
V49A	**McMinnville**	**2.37**	**240**	S	Sb	22 05 20.1	-1.1
	baz=59						
Q53A	**Leroy**	**2.38**	**37**	S	Sb	22 05 22.7	+1.2
	baz=218						
X54A	**Belton**	**2.55**	**161**	S	Sb	22 05 24.5	-1.8
	baz=342						

ANF 11 22:05:07.5±0.2, 37°.77N×82°.08W, Error ellipse: s-maj=2.2km s-min=1.9km az=149.0, Mining explosion., West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S53A	**Williamson**	**0.10**	**204**	P	Pg	22 05 09.0	-0.3
	baz=24,SNR=145						
S54A	**Dingess, Beckl**	**0.61**	**87**	S	Sg	22 05 27.3	+0.3
	baz=267						
T53A	**Wise**	**0.86**	**205**	S	Sg	22 05 35.5	+0.2
	baz=25						
Q53A	**Leroy**	**1.17**	**22**	P	Pg	22 05 30.1	+0.1
	baz=202						
Q53A				S	Sb	22 05 46.7	+0.2
	baz=202						
Q52A	**Bidwell**	**1.20**	**353**	S	Sg	22 05 46.6	+0.4
	baz=173						
S51A	**Beattyville**	**1.21**	**264**	P	Pg	22 05 30.8	+0.1
	baz=83						
S51A				S	Sn	22 05 50.9	+2.1
	baz=83						
T55A	**Pulaski**	**1.22**	**122**	S	Sn	22 05 50.3	+1.2
	baz=303						
S55A	**Lewisburg**	**1.25**	**89**	P	Pb	22 05 31.8	-0.2
	baz=270						
U54A	**Nelsons Funny**	**1.26**	**171**	S	Sn	22 05 51.6	+1.4
	baz=351						
R51A	**Hillsboro**	**1.30**	**295**	S	Sb	22 05 50.6	+0.5
	baz=114						
BLA	**Blacksburg**	**1.43**	**112**	P	Pn	22 05 34.2	-0.6
	baz=293,SNR=5.6						
BLA				S	Sn	22 05 55.3	+1.0
	baz=293						
U53A	**Fall Branch**	**1.46**	**196**	P	Pn	22 05 34.4	-0.7
	baz=16						
U55A	**TA2, Sparta**	**1.51**	**147**	P	Pn	22 05 35.3	-0.6
	baz=327,SNR=6.9						
U55A				S	Sn	22 05 56.4	+0.2
	baz=327						
Q54A	**Coxs Mills**	**1.56**	**38**	P	Pn	22 05 36.5	-0.1
	baz=219						
Q54A				S	Sg	22 05 58.4	+0.8
	baz=219						
Q51A	**Peebles**	**1.60**	**322**	S	Sg	22 05 59.2	+0.1
	baz=141						
T51A	**Gray**	**1.69**	**242**	P	Pn	22 05 38.3	0.0
	baz=61,SNR=5.5						
T51A				S	Sg	22 06 01.6	-0.2
	baz=61						
TZTN	**Tazewell**	**1.70**	**224**	P	Pn	22 05 38.6	+0.2
	baz=43,SNR=9.7						
TZTN				S	Sb	22 06 01.6	+0.1
	baz=43						
U52A	**Thorn Hill**	**1.72**	**217**	P	Pn	22 05 38.9	+0.1
	baz=36,SNR=17						
U52A				S	Sg	22 06 02.6	-0.1
	baz=36						
T56A	**Rocky Mt**	**1.79**	**114**	P	Pn	22 05 40.2	+0.5
	baz=295						
P53A	**Whipple**	**1.80**	**17**	P	Pn	22 05 40.3	+0.5
	baz=198,SNR=10						
P53A				S	Sb	22 06 04.3	-0.2
	baz=198						
Q50A	**Georgetown**	**1.84**	**306**	P	Pn	22 05 40.7	+0.3
	baz=125						
Q50A				S	Sg	22 06 06.3	-0.4
	baz=125						
S50A	**Richmond**	**1.84**	**268**	P	Pn	22 05 40.8	+0.4
	baz=86						
S50A				S	Sb	22 06 06.0	+0.2
	baz=86						
P52A	**Corning**	**1.86**	**359**	P	Pn	22 05 40.7	0.0
	baz=179						
P52A				S	Sg	22 06 07.0	-0.4
	baz=179						
Q55A	**Buckhannon**	**1.99**	**51**	P	Pb	22 05 43.6	-1.1
	baz=232						
Q55A				S	Sb	22 06 09.3	-0.7
	baz=232						
V54A	**Nebo**	**1.99**	**177**	P	Pn	22 05 42.8	+0.3
	baz=357						
V54A				S	Sb	22 06 09.6	-0.4
	baz=357						
S56A	**Natural Bridge**	**1.99**	**92**	P	Pn	22 05 43.1	+0.6
	baz=273						
V55A	**Taylorsville**	**2.03**	**160**	S	Sb	22 06 10.2	-1.0
	baz=340						
U51A	**La Follette**	**2.08**	**229**	P	Pn	22 05 43.7	-0.1
	baz=48						
V53A	**Saluda**	**2.18**	**196**	P	Pn	22 05 45.4	+0.4
	baz=16						
V53A				S	Sn	22 06 13.7	+0.9
	baz=16						
R56A	**Bull Pasture M**	**2.20**	**72**	P	Pn	22 05 45.5	0.0
	baz=254						
R56A				S	Sb	22 06 15.6	-0.6
	baz=254						
P54A	**Burton**	**2.22**	**34**	P	Pn	22 05 47.0	+1.4
	baz=215						
P54A				S	Sb	22 06 16.5	0.0
	baz=215						
V52A	**Sevierville**	**2.28**	**213**	P	Pn	22 05 46.2	-0.2
	baz=32						
V52A				S	Sn	22 06 16.4	+1.2
	baz=32						
P50A	**Jamestown**	**2.28**	**324**	S	Sb	22 06 18.6	+0.3
	baz=143						
T50A	**Nancy**	**2.32**	**252**	P	Pn	22 05 47.5	+0.4
	baz=70						
T50A				S	Sb	22 06 18.4	-1.1
	baz=70						
V56A	**Mocksville**	**2.33**	**147**	S	Sn	22 06 18.1	+1.6
	baz=328						
O52A	**Adamsville**	**2.35**	**5**	P	Pn	22 05 48.7	+1.3
	baz=185,SNR=6.7						
O52A				S	Sb	22 06 20.5	+0.1
	baz=185						
T57A	**Hurt**	**2.38**	**108**	P	Pn	22 05 48.7	+1.0
	baz=290						
T57A				S	Sb	22 06 19.5	-1.6
	baz=290						
U57A	**Blanch**	**2.56**	**120**	S	Sn	22 06 23.4	+1.1
	baz=302						

IDC 11 22:10:32.8±1.9, 32°.03N×40°.50W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/48, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/60, Error ellipse: s-maj=69.0km s-min=28.2km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**42.93**	**106**	P		22 18 33.5	-0.1
	0.6nm,0.8s,baz=307,slow=7.7,SNR=2.7						
H10N2	**ASCENSION HYDR**	**46.78**	**143**	T	T	23 08 55.6	
	baz=329,slow=75,SNR=7.7						
H10N3	**ASCENSION HYDR**	**46.78**	**143**	T	T	23 08 56.0	
	baz=329,slow=75,SNR=8.9						
H10N1	**ASCENSION HYDR**	**46.80**	**143**	T	T	23 08 57.1	
	baz=329,slow=75,SNR=6.9						
FINES	**FINESS Array B**	**51.31**	**34**	P	P	22 19 38.4	-0.1
	1.9nm,0.8s,baz=285,slow=7.0,SNR=3.9						
ATAH	**Atahualpa**	**53.13**	**230**	LR	LR	22 42 17.5	
	comp=Z,22nm,20.5s,baz=27,slow=36						
PDAR	**Pinedale Array**	**54.50**	**302**	P	P	22 20 02.5	-0.1
	0.8nm,0.8s,baz=83,slow=7.4,SNR=5.7						
ILAR	**Eielson Array**	**68.02**	**334**	P	P	22 21 33.7	0.0
	0.6nm,1.0s,baz=48,slow=5.4,SNR=3.0						

*ISCJB **11** 22:12:46.9±0.8, 31°.9N±0°.2×40°.4W±0°.1, h14km, mb3.6/9, MS3.4/1, Error ellipse: s-maj=26.3km s-min=15.9km az=170.6*
*IDC **11** 22:12:46.6±1.0, 31°.86N×40°.43W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/48, mbtmp3.6/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/56, Error ellipse: s-maj=33.5km s-min=19.3km az=171.0*

ISC 11 22:12:48.7±0.9, 31°.9N±0°.2×40°.4W±0°.1, h14km, n13, σ0§48/9, mb3.6/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**30.43**	**65**	P	**P**	**22 19

mb1 4.3/13, mb1mx4.1/48, mbtmp4.0/13, ML3.6/3, MS3.2/8, Ms1 3.2/8, ms1mx3.0/30, Error ellipse: s-maj=26.9km s-min=17.3km az=53.0

*ISCJB **11** 22:28:37.8±1.6, 19°.38S±0°.03×72°.05W±0°.04, h32km±12km, mb4.0/11, Error ellipse: s-maj=6.2km s-min=4.7km az=142.8*

*GUC **11** 22:28:38.7±0.4, 19°.24S×71°.85W, h30km±1km, ML4.0*

ISC 11 22:28:38.4±2.4, 19°.32S±0°.04×72°.05W±0°.05, h27km±17km, n92, σ2.9±26/110, mb4.2/14, 6C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.77**	**67**	⇑*i*P	**Pn**	**22 29 05.8**	**-1.6**
PB12				*i* S	**Sn**	**22 29 26.2**	**-2.9**
PSGC	**Pisagua**	**1.84**	**99**	⇑*i*P	**Pn**	**22 29 07.6**	**-0.7**
PSGC				*i* S	**Sn**	**22 29 29.2**	**-1.6**
PB11	**IPOC Station P**	**2.30**	**101**	⇑*i*P	**Pn**	**22 29 14.7**	**0.0**
PB11				*i* S	**Sn**	**22 29 41.8**	**-0.4**
PB11	**IPOC Station P**	**2.30**	**101**		**Pn**	**22 29 14.7**	**0.0**
MNMC	**Minye Minye**	**2.32**	**86**	⇑*i*P	**Pn**	**22 29 15.1**	**-0.1**
MNMC				*i* S	**Sn**	**22 29 42.4**	**-0.7**
MNMC				IAML		22 29 44.7	
	comp=E,2μm,0.6s						
MNMC	**Minye Minye**	**2.32**	**86**	Pn	**Pn**	**22 29 15.0**	**-0.1**
MNMC					Sn	22 29 31.7	-11
PB16	**IPOC Station P**	**2.59**	**68**	⇑*i*P	**Pn**	**22 29 18.9**	**-0.3**
PB16				*i* S	**Sn**	**22 29 49.9**	**-0.2**
PB16				IAML		22 29 52.3	
	comp=N,704nm,0.5s						
GO01	**Chusmiza**	**2.71**	**98**	*e*P	**Pn**	**22 29 21.0**	**+0.3**
GO01				*i* S	**Sn**	**22 29 53.1**	**+0.2**
GO01	**Chusmiza**	**2.71**	**98**		**Pn**	**22 29 20.9**	**+0.1**
GO01				Sn	**Sn**	**22 29 45.5**	**-7.4**
PB08	**IPOC Station P**	**2.85**	**107**	⇓*i*P	**Pn**	**22 29 22.8**	**+0.4**
PB08				*i* S	**Sn**	**22 29 56.6**	**+0.5**
PB08				IAML		22 30 00.3	
	comp=N,511nm,0.4s						
PB01	**IPOC Station P**	**2.95**	**126**	⇑*i*P	**Pn**	**22 29 24.1**	**+0.4**
PB01				*i* S	**Sn**	**22 29 58.4**	**+0.1**
PB01				IAML		22 30 00.8	
	comp=N,727nm,0.6s						
PB01	**IPOC Station P**	**2.95**	**126**		**Pn**	**22 29 24.0**	**+0.3**
PB01					**Sn**	**22 29 53.3**	**-5.1**
PB07	**IPOC Station P**	**3.14**	**140**	*e*P	**Pn**	**22 29 25.9**	**-0.5**
PB04	**IPOC Station P**	**3.49**	**150**		**Pn**	**22 29 29.6**	**-1.5**
PB04					**Sn**	**22 30 09.8**	**-1.8**
LVC	**Limon Verde**	**4.40**	**139**	Pn	**Pn**	**22 29 44.8**	**+1.0**
	comp=N,4.5nm,0.3s,baz=301,slow=10.0,SNR=18						
LVC				Sn	**Sn**	**22 30 35.9**	**+1.6**
	comp=N,18nm,0.3s,baz=82,slow=16,SNR=23						
LVC				LR	LR	22 31 24.2	
	comp=N,116nm,20.3s,baz=270,slow=38						
LVC	**Limon Verde**	**4.40**	**139**		**Pn**	**22 29 45.1**	**+1.3**
LVC					**Sn**	**22 30 33.2**	**-1.1**
PB10	**IPOC Station P**	**4.40**	**162**		**Pn**	**22 29 42.5**	**-1.0**
PB10					**Sn**	**22 30 29.7**	**-4.3**
LPAZ	**La Paz**	**4.79**	**52**	Pn	**Pn**	**22 29 52.3**	**+2.8**
	comp=N,0.9nm,0.3s,baz=224,slow=8.8,SNR=67						
LPAZ				LR	LR	22 31 40.2	
	comp=N,162nm,18.6s,baz=304,slow=40						
GO02	**Mina Guanaco**	**6.25**	**159**		**Pn**	**22 30 09.7**	**+0.5**
GO02				Sn	**Sn**	**22 31 18.4**	**-1.5**
GO03	**Copiap**	**8.40**	**169**	Pn	**Pn**	**22 30 38.2**	**-0.4**
GO03					**Sn**	**22 32 10.3**	**-2.3**
NNA	**Nana**	**8.63**	**327**	Pn	**Pn**	**22 30 44.3**	**+2.7**
	comp=N,0.4nm,0.3s,baz=236,slow=18,SNR=2.3						
NNA				Sn	**Sn**	**22 32 15.1**	**-3.0**
	comp=N,1.9nm,0.3s,baz=228,slow=18,SNR=2.2						
NNA				LR	LR	22 33 22.6	
	comp=N,52nm,21.6s,baz=130,slow=33						
NNA	**Nana**	**8.63**	**327**		**Pn**	**22 30 39.7**	**-1.9**
SIV	**San Ignacio**	**10.97**	**74**	Pn	**Pn**	**22 31 12.8**	**-1.0**
	comp=N,0.7nm,0.3s,baz=267,slow=11,SNR=11						
SIV				LR	LR	22 36 00.8	
	comp=N,292nm,21.0s,baz=302,slow=41						
CPUP	**Villa Florida**	**15.25**	**120**	LR	LR	22 39 08.9	
	comp=N,90nm,20.4s,baz=236,slow=42						
TRQA	**Tornquist**	**20.63**	**157**	P	**P**	**22 33 15.0**	**-0.8**
TRQA				IAmb	IAmb	22 33 22.2	
	comp=Z,16nm,0.8s						
PLCA	**Paso Flores**	**21.38**	**177**	P	**P**	**22 33 26.2**	**+2.2**
	comp=Z,5.6nm,0.8s,baz=7.5,slow=14,SNR=8.8						
PLCA				LR	LR	22 42 28.8	
	comp=Z,39nm,18.1s,baz=312,slow=39						
PLCA	**Paso Flores**	**21.38**	**177**	P	**P**	**22 33 25.1**	**+1.1**
PLCA				IAmb	IAmb	22 33 39.8	
	comp=Z,11nm,1.1s						
PLCA	**Paso Flores**	**21.38**	**177**		**P**	**22 33 25.6**	**+1.6**
SOTA	**Rioblanco**	**21.78**	**348**	*e*P	**P**	**22 33 33.7**	**+4.8**
SOTA	**Rioblanco**	**21.78**	**348**	*e*P	**P**	**22 33 33.7**	**+4.8**
PTGA	**Pitinga**	**21.94**	**34**	P	**P**	**22 33 30.5**	**+0.4**
	comp=Z,4.8nm,0.4s,baz=204,slow=18,SNR=14						
PTGA				LR	LR	22 42 38.8	
	comp=Z,207nm,18.9s,baz=212,slow=39						
PTGA	**Pitinga**	**21.94**	**34**	P	**P**	**22 33 29.3**	**-0.8**
POPC	**Popayan, Colom**	**22.19**	**348**	*e*P	**P**	**22 33 36.5**	**+3.5**
POPC	**Popayan, Colom**	**22.19**	**348**	*e*P	**P**	**22 33 36.5**	**+3.5**
BDFB	**Brasilia**	**23.21**	**85**	P	**P**	**22 33 46.7**	**+3.1**
	comp=Z,2.2nm,0.4s,baz=274,slow=11,SNR=3.7						
BDFB	**Brasilia**	**23.21**	**85**	P	**P**	**22 33 38.9**	**-4.7**
ORTC	**Ortega, Tolima**	**23.29**	**352**	*e*P	**P**	**22 33 47.1**	**+2.7**
ORTC	**Ortega, Tolima**	**23.29**	**352**	*e*P	**P**	**22 33 47.1**	**+2.7**
ROSC	**El Rosal**	**24.11**	**354**	P	**P**	**22 33 50.4**	**-2.2**
GUY2C	**Guyana, Caldas**	**24.60**	**352**	*e*P	**P**	**22 33 58.5**	**+1.3**
GUY2C	**Guyana, Caldas**	**24.60**	**352**	*e*P	**P**	**22 33 58.5**	**+1.3**
NORC	**Norcasia**	**24.88**	**353**	*e*P	**P**	**22 33 59.1**	**-0.1**
NORC	**Norcasia**	**24.88**	**353**	*e*P	**P**	**22 33 59.1**	**-0.1**
RUSC	**La Rusia**	**25.07**	**358**	*e*P	**P**	**22 34 02.2**	**+0.8**
RUSC	**La Rusia**	**25.07**	**358**	*e*P	**P**	**22 34 02.2**	**+0.8**
CBOC	**Ciudad Bolivar**	**25.32**	**351**	*e*P	**P**	**22 34 04.5**	**+1.2**
CBOC	**Ciudad Bolivar**	**25.32**	**351**	*e*P	**P**	**22 34 04.5**	**+1.2**
SMLC	**San Martn de**	**28.01**	**356**	*e*P	**P**	**22 34 25.9**	**-1.5**
SMLC	**San Martn de**	**28.01**	**356**	*e*P	**P**	**22 34 25.9**	**-1.5**
MDP	**Montagnes des**	**30.88**	**40**	LR	LR	22 47 53.0	
	comp=Z,158nm,18.6s,baz=321,slow=38						
TXAR	**Lajitas Array**	**57.19**	**327**	P	**P**	**22 38 23.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=73,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**57.19**	**327**	P	**P**	**22 38 21.8**	**-1.6**
W39A	**Magazine**	**58.01**	**339**	P	**P**	**22 38 26.6**	**-2.3**
MNTX	**Cornudas Mount**	**59.96**	**327**	P	**P**	**22 38 39.7**	**-2.8**
VNA3	**Neumayer Olymp**	**63.08**	**161**	P	**P**	**22 39 06.0**	**+2.9**
ANMO	**Albuquerque**	**63.09**	**329**	P	**P**	**22 39 05.1**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=142,slow=7.0,SNR=5.1						
ANMO	**Albuquerque**	**63.09**	**329**	P	**P**	**22 39 01.5**	**-2.3**
ANMO				IAmb	IAmb	22 39 06.0	
	comp=Z,1.7nm,0.8s						
VNA1	**Neumayer--Stat**	**63.32**	**160**	P	**P**	**22 39 08.0**	**+3.3**
VNA2	**Neumayer--Watz**	**63.67**	**161**	P	**P**	**22 39 10.0**	**+3.0**
	baz=289,slow=7.5						
SDCO	**Great Sand Dun**	**64.90**	**331**	P	**P**	**22 39 14.8**	**-1.1**
SDCO				IAmb	IAmb	22 39 18.2	
	comp=Z,3.7nm,0.9s						
SNAA	**Sanae**	**65.29**	**161**	P	**P**	**22 39 20.5**	**+2.9**
SNAA	**Sanae**	**65.29**	**161**	P	**P**	**22 39 19.7**	**+2.0**
PFO	**Pinyon Flats O**	**67.56**	**321**	P	**P**	**22 39 34.7**	**+2.0**
	comp=Z,2.4nm,0.7s,baz=90,slow=6.2,SNR=3.0						
PFO	**Pinyon Flats O**	**67.56**	**321**	P	**P**	**22 39 30.6**	**-2.2**
PFO				IAmb	IAmb	22 39 42.9	
	comp=Z,4.7nm,1.2s						
TPNV	**Topopah Spring**	**69.78**	**323**	P	**P**	**22 39 49.5**	**+2.9**
TPNV				IAmb	IAmb	22 39 50.2	
	comp=Z,4.1nm,1.1s						
PDAR	**Pinedale Array**	**70.78**	**332**	P	**P**	**22 39 54.6**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.5,SNR=3.9						
PDAR	**Pinedale Array**	**70.78**	**332**	P	**P**	**22 39 54.2**	**+1.5**
OMMB	**Old Mammoth Mi**	**71.82**	**322**	P	**P**	**22 39 58.0**	**-1.2**
OMMB				IAmb	IAmb	22 40 02.3	
	comp=Z,4.1nm,0.9s						
ELK	**Elko**	**71.98**	**327**	P	**P**	**22 40 01.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=196,slow=7.4,SNR=3.9						
NVAR	**Mina Array Bea**	**71.98**	**323**	P	**P**	**22 40 02.0**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=148,slow=8.7,SNR=5.0						
NVAR	**Mina Array Bea**	**71.98**	**323**	P	**P**	**22 39 58.0**	**-2.0**
FLWY	**Flagg Ranch**	**72.33**	**332**	P	**P**	**22 40 00.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**79.44**	**72**	P	**P**	**22 40 43.1**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=243,slow=5.5,SNR=9.3						
TORD	**Torodi Ar. Bea**	**79.44**	**72**	P	**P**	**22 40 41.3**	**-1.6**
YKA	**Yellowknife Ar**	**88.18**	**342**	P	**P**	**22 41 27.7**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=137,slow=5.1,SNR=9.6						
ASAR	**Alice Springs**	**130.34**	**212**	PKP	**PKiKP**	**22 47 48.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=165,slow=2.3,SNR=6.3						
WRA	**Warramunga Arr**	**133.19**	**215**	PKP	**PKiKP**	**22 47 54.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=155,slow=1.7,SNR=4.9						
WRA	**Warramunga Arr**	**133.19**	**215**		**PKPdf**	**22 47 48.1**	**-4.5**
ZALV	**Zalesovo Beam**	**141.13**	**22**	PKP	**PKiKP**	**22 48 07.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=243,slow=1.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**141.13**	**22**		**PKPdf**	**22 48 03.6**	**-2.6**
MKAR	**Makanchi Array**	**145.46**	**32**	PKPbc	**PKPab**	**22 48 15.2**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=322,slow=4.1,SNR=10.0						
MKAR	**Makanchi Array**	**145.46**	**32**		**PKPab**	**22 48 15.8**	**+1.4**
KSH	**Kashi**	**145.90**	**47**	PKPbc	**PKiKP**	**22 48 18.0**	**-1.4**
KSH				PP	**PP**	**22 51 43.7**	**+6.5**
KSH				PKS	**PKSdf**	**22 51 53.1**	**+2.4**
KSH				SKS	**SKSdf**	**22 55 26.6**	**+3.9**
KSH				AMB	AMB		
	comp=Z,550nm,7.5s						
KSH				LR	LR		
	comp=N,390nm,11.1s						
KSH				LR	LR		
	comp=E,350nm,8.5s						
USRK	**Ussuriysk Ar.**	**148.08**	**326**	PKPbc	**PKiKP**	**22 48 23.4**	**-0.1**
	comp=E,3.7nm,0.8s,baz=26,slow=1.4,SNR=5.5						
USRK	**Ussuriysk Ar.**	**148.08**	**326**		**PKPbc**	**22 48 21.0**	**-0.8**
MJAR	**Matsushiro Arr**	**148.42**	**309**	PKPbc	**PKiKP**	**22 48 24.6**	**+0.1**
	comp=E,4.2nm,0.7s,baz=116,slow=0.9,SNR=9.0						
MJAR	**Matsushiro Arr**	**148.42**	**309**		**PKiKP**	**22 48 24.8**	**+0.3**
WMQ	**Urumqi**	**150.25**	**30**	*e*P	**PKPdf**	**22 48 22.5**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,92nm,5.7s						
WMQ				LR	LR		
	comp=N,660nm,29.0s						
WMQ				LR	LR		
	comp=E,1μm,28.9s						
WMQ				LR	LR		
	comp=Z,63nm,25.1s						
SONM	**Songino Array**	**151.53**	**2**	PKPbc	**PKiKP**	**22 48 31.9**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=344,slow=1.0,SNR=8.9						
SONM	**Songino Array**	**151.53**	**2**		**PKiKP**	**22 48 31.1**	**+0.4**
LZH	**Lanzhou**	**162.91**	**11**	*e*PKP	**PKPdf**	**22 48 33.7**	**-5.1**
LZH				pPKP	pPKPdf	22 48 45.5	-0.4
LZH				sPKP		22 48 49.4	
CD2	**Chengdu**	**167.85**	**17**	PKP	**PKPdf**	**22 48 42.4**	**-0.5**

*ISCJB **11** 22:33:43.9±0.6, 33°.90N±0°.02×5°.93W±0°.03, h20km±6km, Error ellipse: s-maj=4.6km s-min=3.1km az=176.9*

*CNRM **11** 22:33:45.0, 33°.61N×5°.91W, h0km, ml3.0*

*SFS **11** 22:33:45.0, 33°.94N×5°.99W, ML3.4, EL KANSERA (MARRUECOS)*

*INMG **11** 22:33:47.6±1.1, 33°.80N×5°.90W, h31km, ML2.1, Error ellipse: s-maj=4.2km s-min=3.0km az=64.0*

*MDD **11** 22:33:48.1±2.2, 34°.24N×5°.93W, h0km, mb3.4/13, Error ellipse: s-maj=15.9km s-min=7.6km az=4.0, PRXIMO*

ISC 11 22:33:44.7±1.2, 33°.82N±0°.02×5°.92W±0°.03, h19km±3km, n43, σ1.9±87/81, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SICH	**Sidi Chahed**	**0.58**	**60**	P	**Pb**	**22 33 57.4**	**+1.3**
SICH				S	**Sn**	**22 34 06.6**	**-0.3**
ZHG	**ZHG**	**0.70**	**239**	P	**Pg**	**22 33 56.7**	**-1.8**
ZHG				S	**Sg**	**22 34 06.6**	**-1.4**
IFR	**Ifrane**	**0.73**	**114**	*e*P	**Pg**	**22 33 57.6**	**-1.4**
IFR				*e*S	**Sg**	**22 34 07.0**	**-1.7**
CZD	**Col de Zad**	**1.07**	**136**	P	**Pb**	**22 34 03.9**	**-0.9**
CZD				S	**Sb**	**22 34 17.1**	**-1.5**
MD31	**MD31**	**1.36**	**134**	P	**Pn**	**22 34 08.6**	**0.0**
MD31				S	**Sn**	**22 34 22.3**	**-3.8**
MDT	**Midelt**	**1.49**	**132**	P	**Pn**	**22 34 10.1**	**-0.3**
MDT				S	**Sn**	**22 34 26.2**	**-3.1**
PVLZ	**Peæn de**	**1.90**	**44**	*e*Pn	**Pb**	**22 34 18.0**	**-0.8**
PVLZ	**Peæn de**	**1.90**	**44**	*e*Pg	**Pg**	**22 34 22.4**	**+1.1**
PVLZ				*e*S	**Sg**	**22 34 49.3**	**+3.2**
PVLZ	**Peæn de**	**1.90**	**44**	P	**Pg**	**22 34 22.4**	**+1.1**
PVLZ				S	**Sg**	**22 34 49.3**	**+3.2**
PALE	**Palemas**	**2.15**	**49**	P	**Pg**	**22 34 24.7**	**-1.4**
PALE				S	**Sg**	**22 34 55.1**	**+1.1**
GOLM	**Goulmima**	**2.26**	**159**	P	**Pn**	**22 34 20.8**	**-0.3**
GOLM				S	**Sn**	**22 34 50.3**	**+1.8**
ARF	**Arif**	**2.78**	**148**	P	**Pn**	**22 34 29.9**	**+1.7**
ARF				S	**Sn**	**22 35 03.3**	**+2.1**
GOG	**Mont Gurugu**	**2.79**	**59**	P	**Pb**	**22 34 33.5**	**-0.5**
GOG				S	**Sb**	**22 35 10.1**	**+2.2**
EMIJ	**Mijas**	**2.90**	**19**	P	**Pn**	**22 34 30.4**	**+0.5**
	0.5nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**22 35 03.9**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
OUZM	**OUZ**	**2.98**	**194**	P	**Pn**	**22 34 34.1**	**+3.1**
OUZM				S	**Sn**	**22 35 11.3**	**+4.9**
OUK	**Oukaimeden**	**3.08**	**213**	P	**Pn**	**22 34 34.2**	**+1.6**
OUK				S	**Sn**	**22 35 10.7**	**+1.8**
ELGU	**Los Guajares,**	**3.58**	**31**	P	**Pn**	**22 34 39.7**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**22 35 19.4**	**-1.5**
	0.9nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.79**	**335**	*e*Pn	**Pn**	**22 34 44.0**	**+1.9**
PBDV				*e*Sn	**Sn**	**22 35 25.2**	**-1.0**
PBDV				A	A	22 35 28.1	
	3.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.79**	**335**	P	**Pn**	**22 34 44.0**	**+1.9**
PBDV				S	**Sn**	**22 35 25.2**	**-1.0**
	3.6nm,0.5s						
PVAQ	**Vaqueiros**	**3.87**	**338**	*e*Pn	**Pn**	**22 34 45.0**	**+1.9**
PVAQ				*e*Sn	**Sn**	**22 35 27.4**	**-0.6**
PVAQ				A	A	22 35 30.7	
	3.1nm,0.7s						
PVAQ	**Vaqueiros**	**3.87**	**338**	P	**Pn**	**22 34 45.0**	**+1.9**
PVAQ				S	**Sn**	**22 35 27.4**	**-0.6**
	3.1nm,0.7s						
TTIG	**Tnine Tigouga,**	**3.90**	**214**	P	**Pn**	**22 34 45.1**	**+1.5**
TTIG				S	**Sn**	**22 35 31.0**	**+2.1**
EGRO	**El Granado**	**3.92**	**342**	P	**Pn**	**22 34 43.8**	**0.0**
	0.3nm,0.1s,SNR=4.0						
EGRO				S	**Sn**	**22 35 27.1**	**-2.2**
	0.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.95**	**38**	P	**Pn**	**22 34 45.7**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**22 35 29.7**	**-0.6**
	0.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.99**	**351**	P	**Pn**	**22 34 44.4**	**-0.4**
	0.5nm,0.1s,SNR=8.1						
EMIN				S	**Sn**	**22 35 28.5**	**-2.6**
	0.1nm,0.2s,SNR=5.9						
PFVI	**Vila Bisbo**	**4.07**	**325**	P	**Pn**	**22 34 47.1**	**+1.3**
	0.7nm,0.1s,SNR=4.0						
PFVI				S	**Sn**	**22 35 30.5**	**-2.5**
	4.6nm,0.3s,SNR=7.9						
PCVE	**Castro Verde**	**4.18**	**336**	*e*Pn	**Pn**	**22 34 49.5**	**+2.1**
PCVE				*e*Sn	**Sn**	**22 35 34.5**	**-1.2**
PCVE				A	A	22 35 38.5	
	3.1nm,0.6s						
PCVE	**Castro Verde**	**4.18**	**336**	P	**Pn**	**22 34 49.5**	**+2.1**
PCVE				S	**Sn**	**22 35 34.5**	**-1.2**
	3.1nm,0.6s						
ECAB	**El Cabril**	**4.27**	**5**	P	**Pn**	**22 34 49.7**	**+1.1**
	0.6nm,0.1s,SNR=15						
ECAB				S	**Sn**	**22 35 34.6**	**-3.4**
	0.2nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**4.43**	**336**	*e*Pn	**Pn**	**22 34 51.8**	**+1.0**
MESJ				*e*Sn	**Sn**	**22 35 41.4**	**-0.4**
MESJ				A	A	22 35 55.6	
	3.2nm,0.8s						
MESJ	**Messejana**	**4.43**	**336**	P	**Pn**	**22 34 51.8**	**+1.0**
MESJ				S	**Sn**	**22 35 41.4**	**-0.4**
	3.2nm,0.8s						
EADA	**Adamuz**	**4.48**	**14**	P	**Pn**	**22 34 52.6**	**+1.1**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**22 35 39.8**	**-3.3**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.60**	**29**	P	**Pn**	**22 34 54.7**	**+1.4**
	0.1nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**22 35 45.2**	**-1.1**
	0.1nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.78**	**334**	*e*Pn	**Pn**	**22 34 56.8**	**+1.2**
PNCL				*e*Sn	**Sn**	**22 35 49.2**	**-1.3**
PNCL				A	A	22 35 55.0	
	2.2nm,0.1s						
PNCL	**Nicolau / Gran**	**4.78**	**334**	P	**Pn**	**22 34 56.8**	**+1.2**
PNCL				S	**Sn**	**22 35 49.2**	**-1.3**
	2.2nm,0.1s						
EBAD	**Badajoz**	**5.01**	**350**	P	**Pn**	**22 34 59.5**	**+0.7**
	1.9nm,0.1s,SNR=16						
EBAD				S	**Sn**	**22 35 52.3**	**-3.8**
	1.8nm,0.2s,SNR=5.7						
PESTR	**Estremoz**	**5.22**	**346**	*e*Sn	**Sn**	**22 35 59.9**	**-1.4**
PMRV	**Marv??o**	**5.72**	**349**	*e*Pn	**Pn**	**22 35 09.3**	**+0.7**
PMRV				*e*Sn	**Sn**	**22 36 11.3**	**-2.5**
PMRV	**Marv??o**	**5.72**	**349**	P	**Pn**	**22 35 09.3**	**+0.7**
PMRV				S	**Sn**	**22 36 11.3**	**-2.5**
PAB	**San Pablo**	**5.86**	**12**	P	**Pn**	**22 35 10.3**	**-0.2**
	0.1nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**22 36 12.5**	**-4.6**
	0.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.05**	**14**	P	**Pn**	**22 35 12.9**	**-0.3**
	0.2nm,0.1s,baz=197,slow=13,SNR=9.7						
MVO	**Moncorvo**	**7.39**	**353**	P	**Pn**	**22 35 32.4**	**+0.9**
	0.5nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.64**	**23**	P	**Pn**	**22 35 34.9**	**-0.1**
	1.6nm,0.2s,SNR=7.9						

IDC 11 22:35:01.4±0.9, 31°.87N×40°.52W, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/71, mbtmp3.8/11, Error ellipse: s-maj=33.7km s-min=19.0km az=166.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**30.50**	**65**	P	P	22 41 15.9	-0.4
	0.7nm,0.8s,baz=249,slow=11,SNR=3.0						
DAVOX	**Davos/Dischmat**	**41.02**	**54**	P	P	22 42 46.7	+0.2
	2.1nm,0.7s,baz=278,slow=6.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**42.89**	**106**	P	P	22 43 01.2	-0.7
	2.4nm,1.0s,baz=303,slow=7.4,SNR=4.9						
GERES	**GERESS Array B**	**43.69**	**51**	P	P	22 43 08.0	-0.1
	0.3nm,0.6s,baz=267,slow=6.6,SNR=2.5						
H10N2	**ASCENSION HYDR**	**46.66**	**143**	T	T	23 33 21.6	
	baz=327						
H10N3	**ASCENSION HYDR**	**46.66**	**143**	T	T	23 33 20.6	
	baz=327						
H10N1	**ASCENSION HYDR**	**46.68**	**143**	T	T	23 33 23.5	
	baz=327						
FINES	**FINESS Array B**	**51.45**	**34**	P	P	22 44 07.8	-0.2
	1.1nm,0.7s,baz=262,slow=6.9,SNR=2.7						
AKASG	**Malin Array Be**	**53.64**	**48**	P	P	22 44 24.8	+0.3
	0.7nm,0.5s,baz=279,slow=6.5,SNR=3.5						
TXAR	**Lajitas Array**	**53.73**	**285**	P	P	22 44 25.4	-0.2
	0.5nm,0.8s,baz=87,slow=6.4,SNR=5.8						
PDAR	**Pinedale Array**	**54.58**	**302**	P	P	22 44 31.4	-0.4
	1.6nm,0.9s,baz=77,slow=9.3,SNR=8.8						
LPAZ	**La Paz**	**54.72**	**213**	P	P	22 44 33.8	+0.4
	0.8nm,0.6s,baz=352,slow=9.6,SNR=3.8						
BRTR	**Keskin Array B**	**59.09**	**60**	P	P	22 45 04.0	+0.2
	0.5nm,0.8s,baz=235,slow=4.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**82.36**	**29**	P	P	22 47 25.2	+0.2
	0.3nm,0.4s,baz=320,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**170.45**	**32**	PKP	PKPdf	22 55 11.3	-0.6
	0.2nm,0.3s,baz=288,slow=0.6,SNR=3.2						

*ISCJB **11** 22:35:47.2±0.5, 31°.90N±0°.09×40°.46W±0°.08, h14km, mb4.0/17, MS3.2/3, Error ellipse: s-maj=13.2km s-min=9.6km az=161.3*

*IDC **11** 22:35:47.2±0.6, 31°.97N×40°.47W, h0km, mb4.0/17, mb1 4.2/17, mb1mx4.0/68, mbtmp4.0/17, MS3.1/3, Ms1 3.1/3, ms1mx3.0/22, Error ellipse: s-maj=20.6km s-min=14.3km az=151.0*

*NEIC **11** 22:35:49.1±1.9, 31°.88N±0°.09×40°.4W±0°.1, h16km±4km, mb4.6/12*

ISC 11 22:35:49.1±0.6, 31°.9N±0°.1×40°.4W±0°.1, h14km, n40, σ1.9±01/35, mb4.1/20, MS3.2/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**21.56**	**328**	P	**P**	**22 40 37.5**	**-0.5**
DRLN				IAmb	IAmb	22 40 42.8	
	comp=Z,39nm,1.2s						
ESDC	**Sonseca Array**	**30.43**	**65**	P	**P**	**22 42 01.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=277,slow=10,SNR=2.8						

GLKZ			S	S	22 53 48.7	-1.5
MSVF	Nonsavu	7.39 342	P	P	22 53 07.6	-0.6
NIUE	Niue	10.61 59	P	P	22 53 41.3	-0.4
NIUE			S	S	22 55 43.4	+3.3
OUZ	Omahuta	11.94 208	P	P	22 53 57.2	+1.6
OUZ	Omahuta	11.94 208	P	P	22 53 56.3	+0.7
AFI	Afiamalu	13.10 35	P	P	22 54 07.2	-1.0
AFI			S	S	22 56 22.1	-6.5
HAZ	Te Kaha	13.10 189	P	P	22 54 05.1	-2.8
HAZ			S	S	22 56 26.4	-1.6
DZM	Mont Dzumac	13.14 279	P	P	22 54 08.9	+0.3
0.5nm,0.3s,baz=80,slow=20,SNR=6.0						
PUZ	Puketiti	13.35 187	P	P	22 54 10.0	-0.5
PUZ			S	S	22 56 34.7	+1.9
TOZ	Tahuroa Road	13.55 197	P	P	22 54 12.7	+0.1
URZ	Urewera	13.70 191	P	P	22 54 13.2	-1.0
2.6nm,0.3s,baz=79,slow=5.3,SNR=5.6						
URZ			S	S	22 56 40.8	+1.2
2.3nm,0.3s,baz=82,slow=20,SNR=9.6						
URZ	Urewera	13.70 191	P	P	22 54 12.2	-2.0
URZ			S	S	22 56 40.5	+0.9
URZ	Urewera	13.70 191		S	22 56 38.7	-0.9
MWZ	Matawai	13.70 190	P	P	22 54 14.5	+0.2
MWZ			S	S	22 56 41.6	+1.8
HIZ	Hauiti	14.45 198	P	P	22 54 24.8	+2.6
HIZ	Hauiti	14.45 198	P	P	22 54 22.7	+0.6
BKZ	Black Stump Fm	14.69 192	P	P	22 54 23.3	-1.4
BKZ			S	S	22 56 57.8	-1.0
TWVZ	Taurewa	14.83 195	P	P	22 54 26.6	+0.4
TUVZ	Tukino	14.96 195	P	P	22 54 28.6	+1.0
FWVZ	Far West T-bar	14.98 195	P	P	22 54 26.1	-1.8
BFZ	Birch Farm	16.21 191	P	P	22 54 38.5	-1.9
BFZ	Birch Farm	16.21 191	P	P	22 54 38.2	-2.2
MRZ	Mangatainoka R	16.32 193	P	P	22 54 38.7	-2.9
HOWZ	Holdsworth Sta	16.56 193	P	P	22 54 43.2	-1.0
HOWZ			S	S	22 57 30.4	-3.3
KIW	Kapiti Island	16.65 195	P	P	22 54 42.8	-2.4
DUWZ	D'Urville Isla	16.85 197	P	P	22 54 44.8	-2.4
CAW	Cannon Point	16.85 194	P	P	22 54 46.0	-1.2
TRWZ	Traveller	17.00 192	P	P	22 54 46.2	-2.5
MSWZ	Moikau Station	17.11 193	P	P	22 54 47.7	-2.0
SNZO	South Karori	17.13 195	P	P	22 54 48.1	-1.7
BHW	Baring Head	17.18 194	P	P	22 54 49.6	-0.8
PLWZ	Palliser	17.26 193	P	P	22 54 50.0	-1.2
PLWZ	Palliser	17.26 193	P	P	22 54 49.9	-1.2
QRZ	Quartz Range	17.28 201	P	P	22 54 50.1	-1.3
QRZ	Quartz Range	17.28 201	P	P	22 54 51.3	-0.1
NNZ	Nelson	17.38 198	P	P	22 54 50.6	-1.7
NNZ	Nelson	17.38 198	P	P	22 54 50.7	-1.6
THZ	Tophouse	18.02 198	P	P	22 54 58.0	-0.3
THZ	Tophouse	18.02 198	P	P	22 54 58.1	-0.1
DSZ	Denniston Nort	18.34 201	P	P	22 55 01.0	-0.2
KHZ	Kahutara	18.46 196	P	P	22 55 01.1	-1.1
KHZ			IAmb	IAmb	22 55 01.9	
comp=Z,23nm,1.0s						
LTZ	Lake Taylor	19.14 199	P	P	22 55 07.1	-1.5
OXZ	Oxford	19.71 198	P	P	22 55 12.1	-1.5
MQZ	McQueen's Vall	19.89 197	P	P	22 55 14.6	-0.6
MQZ			IAmb	IAmb	22 55 20.3	
comp=Z,22nm,1.0s						
RPZ	Rata Peaks	20.36 200	P	P	22 55 20.4	+0.9
comp=Z,17nm,0.6s,baz=344,slow=1.9,SNR=17						
RPZ	Rata Peaks	20.36 200	P	P	22 55 19.6	+0.1
FOZ	Fox Glacier	20.60 202	P	P	22 55 21.4	-0.4
FOZ			IAmb	IAmb	22 55 23.6	
comp=Z,16nm,0.7s						
LBZ	Lake Benmore	21.24 201	P	P	22 55 25.6	-2.0
LBZ			IAmb	IAmb	22 55 42.8	
comp=Z,8.0nm,0.8s						
ODZ	Otahua Downs	21.69 199	P	P	22 55 30.1	-1.4
WKZ	Wanaka	22.01 202	P	P	22 55 33.4	-1.1
MLZ	Mavora Lakes	22.80 203	P	P	22 55 41.1	-0.4
DCZ	Deep Cove	23.23 204	P	P	22 55 44.8	-0.6
STKA	Stephens Creek	34.77 249	P	P	22 57 25.6	-0.2
comp=Z,1.8nm,0.4s,baz=88,slow=11,SNR=7.9						
AS31	Alice Springs	42.29 262	P	P	22 58 26.9	-0.3
ASAR	Alice Springs	42.29 261	P	P	22 58 26.6	-0.6
comp=Z,2.2nm,0.5s,baz=103,slow=7.6,SNR=27						
ASAR			PcP	PcP	23 00 10.2	+0.6
comp=Z,0.5nm,0.7s,baz=94,slow=3.7,SNR=3.5						
ASAR			S	S	23 04 09.5	-2.0
comp=Z,0.2nm,0.3s,baz=97,slow=16,SNR=4.1						
ASAR	Alice Springs	42.29 261	P	P	22 58 26.2	-1.0
WB2	Warramunga Arr	42.74 267	P	P	22 58 29.8	-1.0
WB2			IAmb	IAmb	22 58 30.2	
comp=Z,8.7nm,0.6s						
WRA	Warramunga Arr	42.75 267	P	P	22 58 29.9	-1.0
comp=Z,8.8nm,0.5s,baz=104,slow=7.9,SNR=46						
WRA	Warramunga Arr	42.75 267	P	P	22 58 29.9	-1.0
KNRA	Kununurra	49.09 270	IAmb	IAmb	22 59 19.7	
comp=Z,32nm,1.1s						
FITZ	Fitzroy Crossi	51.16 266	P	P	22 59 34.3	-0.2
comp=Z,6.9nm,0.8s,baz=105,slow=7.4,SNR=18						
FITZ	Fitzroy Crossi	51.16 266	P	P	22 59 35.1	+0.6
FITZ			IAmb	IAmb	22 59 35.3	
comp=Z,5.5nm,0.7s						
SIJI	Sorong	53.11 289	P	P	22 59 48.0	-0.5
comp=Z,12nm,0.7s,baz=144,slow=14,SNR=7.8						
MJAR	Matsushiro Arr	72.88 326	P	P	23 01 55.7	+0.1
comp=Z,3.5nm,0.8s,baz=120,slow=7.1,SNR=6.1						
MJAR	Matsushiro Arr	72.88 326	IAmb	IAmb	23 01 59.2	
comp=Z,8.8nm,1.5s						
KSRS	Korea Array	79.20 320	P	P	23 02 32.0	+1.5
comp=Z,1.5nm,0.6s,baz=131,slow=6.3,SNR=3.8						
PETK	Petropavlovsk-	80.08 346	P	P	23 02 35.6	+0.8
comp=Z,4.1nm,0.7s,baz=117,slow=5.7,SNR=3.3						
USRK	Ussuriysk Ar.	81.75 327	P	P	23 02 44.8	+1.2
comp=Z,2.1nm,0.6s,baz=102,slow=1.8,SNR=5.3						
CMAR	Chiang Mai Arr	90.22 290	P	P	23 03 27.2	+2.1
comp=Z,2.2nm,0.9s,baz=122,slow=2.8,SNR=7.4						
TXAR	Lajitas Array	90.57 58	P	P	23 03 28.1	+1.5
comp=Z,0.3nm,0.7s,baz=205,slow=5.5,SNR=5.4						
ILAR	Eielson Array	92.83 13	P	P	23 03 36.9	+1.0
comp=Z,0.4nm,0.7s,baz=224,slow=5.9,SNR=4.2						
ARCES	ARCESS Array B	132.86 348	PKP	PKiKP	23 09 35.9	-0.3
comp=Z,3.7nm,0.9s,baz=52,slow=1.5,SNR=3.7						
FINES	FINESS Array B	139.44 341	PKhKP	PKPpre	23 09 39.5	
comp=Z,1.4nm,0.6s,baz=52,slow=3.1,SNR=7.5						
FINES	FINESS Array B	139.44 341		PKPpre	23 09 37.5	
NB2	NORSAR Subarra	143.04 351	PKP	PKPbc	23 09 51.8	0.0
comp=Z,0.8nm,0.6s,baz=14,slow=3.0						
NOA	NORSAR Array B	143.04 351	PKhKP	PKPbc	23 09 51.6	-0.2
comp=Z,1.3nm,0.7s,baz=8.1,slow=2.3,SNR=4.9						
AKASG	Malin Array Be	145.96 327	PKPbc	PKPbc	23 10 00.8	0.0
comp=Z,2.2nm,0.3s,baz=45,slow=4.4,SNR=18						
AKASG	Malin Array Be	145.96 327		PKPbc	23 10 00.7	-0.2
AKASG			PKPab	PKiKP	23 10 02.7	-0.8
BR131	Keskin Array S	148.44 306		PKiKP	23 10 08.4	-0.8
BR131				PKPab	23 10 13.3	0.0
BRTR	Keskin Array B	148.44 306	PKPbc	PKiKP	23 10 08.4	-0.8
comp=Z,1.3nm,0.7s,baz=137,slow=3.8,SNR=9.2						
BRTR	Keskin Array B	148.44 306		PKPbc	23 10 08.0	-0.1
BRTR				PKPab	23 10 13.7	+0.4
CFR	Carcaliu	149.79 319	⇑P	PKPbc	23 10 10.5	-0.4
BURAR	Bucovina Array	149.95 326	⇑P	PKiKP	23 10 13.3	+1.3
ARR	Arges	151.69 322	⇑P	PKiKP	23 10 17.2	+1.6
CLL	Collm	151.84 343	*e*PKPbc	PKiKP	23 10 16.0	+0.4
GERES	GERESS Array B	153.85 340	PKPab	PKPab	23 10 35.1	-0.5
comp=Z,0.6nm,0.7s,baz=46,slow=4.2,SNR=3.3						
TORD	Torodi Ar. Bea	168.33 186	PKPab	PKPab	23 11 40.3	+0.8
comp=Z,0.6nm,0.9s,baz=178,slow=4.3,SNR=3.0						
TORD	Torodi Ar. Bea	168.33 186	PKPdf	PKPdf	23 10 27.9	+0.4

ISCJB ***11*** *23:19:53.6±0.3,24°.075N±0°.009×121°.70E±0°.01, h2km±2km, Error ellipse: s-maj=2.2km s-min=1.3km az=25.7*
JMA ***11*** *23:19:53.1±0.1,24°.05N×121°.66E,h0km,M3.1*
ASIES ***11*** *23:19:54.3,24°.07N×121°.66E,h17km,MW3.4*
TAP ***11*** *23:19:54.0,24°.09N×121°.65E,h10km,ML3.8,C*
ISC 11 23:19:54.0±0.8,24°.07N±0°.01×121°.68E±0°.02,h11km±5km, n124,σ0.64/214,3C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.07 274		P	Pg	23 19 56.2	-0.2
baz=259							
TWD				*i* S	Sg	23 19 57.5	-0.5
baz=259							
HWA	Hwalien	0.12 214		*e*P	Pg	23 19 57.4	+0.5
baz=194							
HWA				S	Sg	23 19 59.9	+0.9
baz=194							
NACB	Ninganchiao	0.12 323		⇓P	Pg	23 19 56.7	-0.3
baz=331							
NACB				S	Sg	23 19 58.6	-0.6
baz=331							
ENLB	Shoufeng	0.18 202		⇑P	Pg	23 19 57.9	0.0
baz=192							
ENLB				*e*S	Sg	23 20 02.4	+1.7
baz=192							
ETLH	Xiulin Townshi	0.22 307		⇓P	Pg	23 19 58.5	-0.2
baz=308							
ETLH				S	Sg	23 20 01.5	-0.4
baz=308							
ESL	Shilin	0.34 221		P	Pg	23 20 00.6	-0.3
baz=222							
ESL				*e*S	Sg	23 20 04.8	-0.6
baz=222							
ENA	Nanau	0.36	9	⇓*i*P	Pg	23 20 01.2	+0.1
baz=16							
ENA				S	Sg	23 20 06.1	+0.2
baz=16							
NANB	Nanao	0.36	11	⇓*i*P	Pg	23 20 01.2	+0.1
baz=16							
NANB				*i* S	Sg	23 20 05.8	-0.1
baz=16							
WHF	Hehuan Shan	0.38 281		⇓*i*P	Pg	23 20 01.5	-0.3
baz=279							
WHF				*i* S	Sg	23 20 06.3	-0.6
baz=279							
NNSB	Datong	0.44 323		⇓P	Pg	23 20 02.8	+0.1
baz=324							
NNSB				S	Sg	23 20 08.2	-0.4
baz=324							
NNS	Nan Shan	0.46 323		P	Pg	23 20 02.8	-0.3
baz=325							
NNS				S	Sg	23 20 09.2	0.0
baz=325							
CHGB	Renai	0.46 268		⇓P	Pg	23 20 03.1	+0.1
baz=256							
CHGB				S	Sg	23 20 09.2	0.0
baz=256							
EGFH	Guangfu	0.46 210		*e*P	Pg	23 20 03.2	+0.1
baz=215							
EGFH				*e*S	Sb	23 20 10.1	-1.0
baz=215							
TWT	Tachien	0.49 291		P	Pg	23 20 04.0	+0.3
baz=289							
TWT				S	Sg	23 20 10.5	+0.4
baz=289							
TDCB	Techi	0.51 291		⇓P	Pg	23 20 04.1	+0.2
baz=290							
TDCB				S	Sg	23 20 10.4	-0.3
baz=290							
NDT	Datong Townshi	0.55 344		⇓P	Pg	23 20 04.9	+0.3
baz=346							
NDT				S	Sg	23 20 12.1	+0.2
baz=346							
TWC	Suao	0.56	16	P	Pg	23 20 05.0	+0.2
baz=12							
TWC				S	Sg	23 20 12.3	+0.2
baz=12							
ENTT	Nioudou	0.57 350		⇓*i*P	Pg	23 20 05.4	+0.2
baz=353							
ENTT				S	Sg	23 20 12.6	-0.2
baz=353							
VWDT	VWDT	0.58 237		⇓P	Pg	23 20 05.5	+0.1
baz=234							
VWDT				*e*S	Sg	23 20 12.4	-0.7
baz=234							
HGSD	Ruisui	0.62 202		*e*P	Pb	23 20 07.1	+0.2
baz=213							
HGSD				*e*S	Sb	23 20 16.9	+1.2
baz=213							
EOS1	EOS1	0.63	41	*e*P	Pb	23 20 07.4	+0.4
baz=34							
TWE	Neicheng	0.64 359		⇓*i*P	Pg	23 20 06.8	+0.3
baz=3.0							
TWE				S	Sg	23 20 15.1	+0.1
baz=3.0							
EHY	Hungye	0.65 210		⇓P	Pg	23 20 06.6	0.0
baz=213							
EHY				S	Sg	23 20 15.4	+0.2
baz=213							
YHNB	Yeheng	0.65 335		⇓P	Pg	23 20 07.1	+0.4
baz=337							
YHNB				S	Sg	23 20 15.3	0.0
baz=337							
NSK	Sanguang	0.67 334		*e*P	Pg	23 20 07.2	+0.3
baz=336							
NSK				S	Sg	23 20 15.5	-0.2
baz=336							
SLBB	Yuanshan	0.68 357		P	Pg	23 20 06.7	-0.5
baz=359							
DPDB	Guoxing	0.69 267		P	Pb	23 20 07.6	-0.5
baz=256							
DPDB				*e*S	Sb	23 20 16.8	-0.9
baz=256							
ILA	Ilan	0.69	5	*e*P	Pg	23 20 06.5	-0.9
baz=8.0							
WHP	Taichung City	0.70 287		P	Pb	23 20 08.3	0.0
baz=286							
WHP				S	Sb	23 20 17.1	-0.9
baz=286							
NWLT	Wulai	0.72 347		⇓P	Pg	23 20 08.0	+0.1
baz=336							
NWLT				S	Sg	23 20 17.1	-0.2
baz=336							
SSLB	Suanglung	0.72 247		⇓P	Pg	23 20 07.9	-0.1
baz=255							
SSLB				S	Sg	23 20 16.8	-0.6
baz=255							
SMLT	Sun Moon Lake	0.74 255		⇓P	Pb	23 20 08.5	-0.4
baz=253							
SMLT				S	Sg	23 20 17.9	0.0
baz=253							
YULB	Yu-li	0.76 207		*e*P	Pg	23 20 08.1	-0.6
baz=215							
YULB				*e*S	Sg	23 20 18.7	0.0
baz=215							
TYC	Yuchr	0.77 257		⇓*i*P	Pb	23 20 08.9	-0.5
baz=255							
TYC				S	Sg	23 20 18.2	-0.7
baz=255							
NTC	Toucheng	0.79	10	⇓P	Pg	23 20 09.4	+0.2
baz=2.0							
NTC				*e*S	Sb	23 20 21.7	+1.2
baz=2.0							
TWF1	Yuli	0.80 206		*e*P	Pg	23 20 08.8	-0.6
baz=214							
TWF1				*e*S	Sg	23 20 19.2	-0.6
baz=214							
EGS		0.80	17	*e*P	Pb	23 20 10.9	+0.9
baz=27							
LIOB	Emei	0.83 313		*e*P	Pb	23 20 10.7	+0.2
baz=314							
LIOB				*e*S	Sg	23 20 20.6	-0.3
baz=314							
NSTT	Nanjuang	0.83 312		*e*P	Pb	23 20 10.6	+0.1
baz=312							
NSTT				S	Sg	23 20 20.3	-0.5
baz=312							
WHYT	Xinyi Township	0.84 244		*e*P	Pb	23 20 10.6	-0.1
baz=249							
WHYT				*e*S	Sb	23 20 22.1	0.0
baz=249							
WLTB	Daxi	0.87 334		*e*P	Pb	23 20 11.1	0.0
baz=342							
TWQ1	Liyutan	0.87 288		*e*P	Pb	23 20 11.5	+0.4
baz=299							
TWQ1				*e*S	Sb	23 20 23.2	+0.4
baz=299							
YUS	Yu-Shan	0.88 229		⇑P	Pb	23 20 11.3	-0.4
baz=214							
YUS				S	Sb	23 20 23.3	-0.4
baz=214							
NHDH	Xindian Distri	0.90 351		*e*P	Pg	23 20 11.0	-0.2
baz=344							
NHDH				*e*S	Sg	23 20 22.7	-0.3
baz=344							
NSY	Sanyi	0.90 292		*e*P	Pn	23 20 12.4	-0.3
baz=302							
NSY				*e*S	Sb	23 20 23.9	+0.1
baz=302							
TIPB	Shuangxi	0.90	9	⇑P	Pb	23 20 11.8	0.0
baz=2.0							
TIPB				S	Sg	23 20 22.7	-0.6
baz=2.0							
WJS	Zhushan	0.90 254		*e*P	Pb	23 20 12.0	+0.2
baz=252							
WJS				*e*S	Sn	23 20 24.8	-1.0
baz=252							
TWA	Mucha	0.91 355		P	Pb	23 20 12.0	+0.2
baz=346							
TWA				*e*S	Sg	23 20 22.7	-0.7
baz=346							
TCU	Taichung	0.92 275		*e*P	Pn	23 20 13.0	+0.1
baz=270							
TCU				*e*S	Sn	23 20 26.2	+0.1
baz=270							
WNT	Mingjian	0.93 258		*e*P	Pn	23 20 13.1	0.0
baz=256							
WNT				*e*S	Sn	23 20 25.7	-0.7
baz=256							
NMLH	Miaoli	0.93 300		*e*P	Pn	23 20 13.1	0.0
baz=299							
NMLH				*e*S	Sn	23 20 25.7	-0.8
baz=299							
FULB	Fuli	0.94 202		*e*P	Pg	23 20 12.1	0.0
baz=216							
FULB				*e*S	Sn	23 20 26.3	-0.4
baz=216							
PTSB	Yuanli	0.96 293		*e*P	Pn	23 20 13.9	+0.4
baz=292							
PTSB				*e*S	Sb	23 20 25.9	+0.5
baz=292							
HSN	Hsinchu	0.97 318		*e*P	Pn	23 20 13.3	-0.3
baz=322							
HSN				*e*S	Sb	23 20 26.3	+0.6
baz=322							
TAP1	Taipei	0.97 352		*e*P	Pn	23 20 13.7	+0.1
baz=343							
TAP1				*e*S	Sg	23 20 25.7	+0.3
baz=343							
TWB1	Santiao Chiao	0.97	17	*e*P	Pg	23 20 12.8	+0.1
baz=11							
TWB1				*e*S	Sg	23 20 24.1	-1.3
baz=11							
TAP	Taipei	0.97 351		*e*P	Pn	23 20 13.6	-0.1
baz=343							
TAP				*e*S	Sg	23 20 25.5	0.0
baz=343							
WDJ	Dajia District	0.98 286		*e*P	Pn	23 20 14.1	+0.3
baz=295							
WDJ				*e*S	Sn	23 20 27.7	-0.1
baz=295							
NCUH	Zhongli	1.00 333		*e*P	Pn	23 20 13.9	-0.1
baz=334							
NCU	National Centr	1.00 334		*e*P	Pn	23 20 13.9	-0.1
baz=344							
NCU				*e*S	Sn	23 20 28.1	0.0
baz=344							
NWF	Wu-fen Shan	1.00	5	*e*P	Pb	23 20 13.7	+0.3
baz=7.0							
NWF				*e*S	Sb	23 20 26.7	+0.1
baz=7.0							
WFSB	Wu-fen Shan	1.00	5	*e*P	Pg	23 20 13.3	+0.1
baz=7.0							
WFSB				*e*S	Sg	23 20 25.9	-0.2
baz=7.0							
CHKT	Chengkung	1.01 196		*e*P	Pg	23 20 12.8	-0.7
baz=177							
CHKT				*e*S	Sn	23 20 28.8	+0.3
baz=177							
WCHH	Zhanghua	1.02 271		*e*P	Pn	23 20 14.0	-0.3
baz=269							
WCHH				*e*S	Sn	23 20 29.8	+1.1
baz=269							
CHN5	Tsauling	1.03 243		P	Pn	23 20 14.8	+0.3
baz=230							
CHN5				S	Sn	23 20 29.6	+0.5
baz=230							
TWS1	Kuangyinshan	1.05 347		*e*P	Pn	23 20 15.2	+0.5
baz=348							
TWS1				*e*S	Sn	23 20 29.5	+0.1
baz=348							
ELDTW	Lidau	1.07 215		*e*P	Pg	23 20 14.1	-0.5
baz=202							
ELDTW				*e*S	Sb	23 20 28.8	+0.1
baz=202							
YM01	YM01	1.07 355		P	Pn	23 20 15.2	+0.1
baz=6.0							
YM01				*e*S	Sn	23 20 30.4	+0.3
baz=6.0							
YM04	YM04	1.08 353		*e*P	Pn	23 20 15.4	+0.2
baz=345							
YM04				*e*S	Sg	23 20 28.9	0.0
baz=345							
YM10	YM10	1.08 354		*e*P	Pn	23 20 15.6	+0.3
baz=345							
YM10				*e*S	Sn	23 20 31.3	+1.0
baz=345							
YM05	YM05	1.09 355		*e*P	Pn	23 20 15.4	+0.1
baz=346							
YM05				*e*S	Sn	23 20 31.2	+0.7
baz=346							
WGK	Gukeng	1.09 249		*e*P	Pg	23 20 14.6	-0.4
baz=248							
WGK				*e*S	Sn	23 20 30.1	-0.3
baz=248							
YM11	YM11	1.09 355		*e*P	Pn	23 20 15.5	+0.1
baz=6.0							
YM11				*e*S	Sb	23 20 29.8	+0.5
baz=6.0							
NTST	Danshui	1.10 349		*e*P	Pn	23 20 15.8	+0.4
baz=350							
WDLH	Douliu	1.11 250		*e*P	Pn	23 20 16.1	+0.6
baz=249							
YM08	YM08	1.11 356		*e*P	Pn	23 20 15.8	+0.2
baz=343							
ANP	Anpu	1.12 353		*e*P	Pb	23 20 15.4	0.0
baz=353							
TWY	Chenhua	1.20 357		*e*P	Pg	23 20 17.2	+0.1
baz=344							
JYNG	Yonagunijimaku	1.22	72	P	Pn	23 20 17.3	+0.3
RLNB	Erlin	1.22 262		*e*P	Pb	23 20 16.9	-0.2
baz=261							
RLNB				S	Sn	23 20 34.8	+1.3
baz=261							
CHN2	Minshiung	1.23 244		*e*P	Pg	23 20 18.0	+0.4
baz=243							
CHN2				*e*S	Sn	23 20 34.5	+0.8
baz=243							
CHN4	Tsaushan	1.23 234		P	Pg	23 20 18.1	+0.6
baz=220							
CHN4				S	Sn	23 20 35.5	+1.7
baz=220							
TPUB	Ta-pu	1.23 231		P	Pg	23 20 18.0	+0.4
baz=218							
TPUB				S	Sn	23 20 34.3	+0.4
baz=218							
STYT	Tauyuan	1.24 223		P	Pg	23 20 17.5	-0.3
baz=221							
STYT				S	Sn	23 20 34.2	0.0
baz=221							
WTP	Ta-pu	1.28 230		P	Pg	23 20 18.7	+0.2
baz=216							
WTP				*e*S	Sn	23 20 36.0	+0.9
baz=216							
YOJ	Yonaguni jima	1.28	72	P	Pn	23 20 17.9	+0.1
YOJ				S	Sg	23 20 35.8	+0.7
CHY	Chiayi	1.28 244		*e*P	Pg	23 20 18.9	+0.2
baz=242							
CHY				*e*S	Sn	23 20 37.1	+2.0
baz=242							
TWK	Hsinying	1.35 234		P	Pg	23 20 20.0	0.0
baz=233							
TWK				*e*S	Sg	23 20 38.8	+1.1
baz=233							
TWGBT	Beinan	1.37 204		*e*P	Pn	23 20 16.9	-2.2
baz=204							
CHN1	Nanshi	1.38 230		P	Pg	23 20 20.7	+0.2
baz=219							
CHN1				*e*S	Sg	23 20 39.1	+0.8
baz=219							
SNST	Tainan City	1.38 232		*e*P	Pg	23 20 20.4	0.0
baz=232							
SNST				*e*S	Sg	23 20 39.0	+0.7
baz=232							
WSF	Szhu	1.40 252		*e*P	Pg	23 20 20.5	-0.4
baz=251							
WSF				*e*S	Sg	23 20 40.0	+0.9
baz=251							
SGST	Jiashian	1.41 226		*e*P	Pb	23 20 19.9	-0.4
baz=216							
SGST				*e*S	Sg	23 20 40.1	+0.8
baz=216							
SLGT	Liugui	1.43 222		*e*P	Pb	23 20 20.9	+0.2

	baz=212						
SLGT				eS	Sg	23 20 41.5	+1.4
	baz=212						
CHN8	**Yiju**	**1.53**	**242**	eP	Pb	23 20 22.5	+0.1
	baz=225						
CHN8				eS	Sg	23 20 43.8	+0.6
	baz=225						
ECL	**Taimali**	**1.61**	**204**	eP	Pn	23 20 22.0	-0.5
	baz=192						
SCLT	**Jiali**	**1.63**	**237**	eP	Pn	23 20 22.9	+0.2
	baz=237						
SCLT				eS	Sg	23 20 45.9	-0.5
	baz=237						
SSD	**Sandimen**	**1.63**	**216**	eP	Pb	23 20 24.5	+0.3
	baz=207						
TWM1	**Shoushan**	**1.70**	**223**	eP	Pb	23 20 25.5	+0.2
	baz=223						
MASBT	**Mashibuluo**	**1.74**	**214**	eP	Pn	23 20 24.8	+0.6
	baz=214						
MASBT				eS	Sb	23 20 47.3	-0.7
	baz=214						
EAST	**Anshuo**	**1.85**	**205**	eP	Pn	23 20 26.4	+0.7
	baz=190						
IRIF	**Iriomote-Funau**	**1.89**	**82**	P	Pn	23 20 26.4	+0.1
IRIF				S	Sn	23 20 51.3	+1.1
HATJ	**Hateruma jima**	**1.94**	**90**	eS	Sb	23 20 53.3	-0.5
SCZT	**Fangliau**	**1.95**	**210**	eP	Pn	23 20 27.8	+0.7
	baz=203						
PHUB	**P'eng-hu**	**2.01**	**254**	eP	Pn	23 20 28.5	+0.7
	baz=254						
PHUB				eS	Sn	23 20 54.0	+1.0
	baz=254						
PNG	**Penghu**	**2.01**	**256**	eP	Pn	23 20 27.8	-0.1
	baz=257						
WDGT	**Dungji**	**2.02**	**247**	eP	Pn	23 20 28.8	+0.8
	baz=246						
WDGT				eS	Sb	23 20 55.2	-0.7
	baz=246						
LAY	**Lan-yu**	**2.03**	**183**	eP	Pn	23 20 26.7	-1.5
	baz=182						
JKRS	**Kuro-shima**	**2.14**	**85**	P	Pn	23 20 30.0	+0.4
VWUC	**VWUC**	**2.23**	**295**	eP	Pn	23 20 29.3	-1.6
	baz=294						
VCHM	**Qimei**	**2.23**	**248**	eP	Pn	23 20 29.5	-1.5
	baz=232						
PTTC	**Pingtan**	**2.24**	**310**	eP	Pn	23 20 30.8	-0.3
	baz=310						
PTTC				eS	Sn	23 20 58.4	-0.4
	baz=310						
TWK1	**Hengchun**	**2.27**	**201**	eP	Pn	23 20 30.1	-1.4
	baz=202						
TWKBT	**Hengchun**	**2.27**	**201**	eP	Pn	23 20 31.8	+0.3
	baz=202						
JIJ	**Ishigaki jima**	**2.27**	**82**	P	Pn	23 20 31.2	-0.3
JIJ				S	Sn	23 20 59.5	0.0
JISG	**Ishigakijimahi**	**2.46**	**77**	P	Pn	23 20 30.8	-3.2
JISG				S	Sn	23 21 03.4	-0.7
PTMZ	**Houxiangcun**	**2.52**	**293**	eP	Pn	23 20 34.5	-0.4
	baz=292						
MATB	**Ma-tsu**	**2.60**	**323**	eP	Pn	23 20 35.5	-0.5
	baz=323						
KNM	**Kinmen**	**2.98**	**277**	eP	Pn	23 20 42.9	+1.7
	baz=276						
LYJJ	**Jianjiangzhen**	**3.02**	**325**	eP	Pn	23 20 40.5	-1.2
	baz=326						
KNMB	**Chin-men Tao**	**3.03**	**278**	eP	Pn	23 20 42.1	+0.2
	baz=278						
MHZQ	**Yeshan**	**3.13**	**311**	eP	Pn	23 20 43.2	-0.2
	baz=297						
XPSS	**Dashiqiu**	**3.15**	**335**	eP	Pn	23 20 42.8	-0.7
	baz=335						
AXDP	**Jialang**	**3.48**	**284**	eP	Pn	23 20 47.7	-0.4
	baz=283						

MAN 11 23:28:43.8, 10°.89N×122°.83E, h34km, mb4.3, ML3.1, MS2.8, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.35**	**222**	eP	Pn	23 28 54.0	+1.3
GUIM				eS	Sb	23 29 00.4	+2.2
RCP	**Roxas**	**0.67**	**353**	⇓eP	Pb	23 29 01.2	+3.9
RCP				eS	Sb	23 29 13.0	+6.5
LLP	**Lapu-Lapu**	**1.25**	**117**	⇓eP	Pn	23 29 05.9	+0.9
LLP				eS	Sn	23 29 20.5	-0.1
OCLP	**Ormoc**	**1.75**	**85**	eP	Pn	23 29 12.4	+0.6
OCLP				eS	Sn	23 29 32.9	-0.2
MSLP	**Maasin**	**2.13**	**110**	eP	Pn	23 29 18.6	+1.6
MSLP				eS	Sn	23 29 43.4	+1.0

*ISCJB **11** 23:31:19.2±0.6, 35°.27N±0°.04×23°.19E±0°.07, h52km±9km, Error ellipse: s-maj=10.6km s-min=4.4km az=143.3*
*HLW **11** 23:31:19.3, 35°.11N×23°.37E, h10km±41km, Ml3.8*
*THE **11** 23:31:20.8, 35°.33N×23°.19E, h20km±1km, ML3.0/7, Error ellipse: s-maj=1.5km s-min=0.5km az=29.0*
*ATH **11** 23:31:22.5, 35°.60N×23°.49E, h44km±1km, ML2.9/5, Error ellipse: s-maj=4.4km s-min=1.0km az=217.0*

ISC 11 23:31:17.9±1.1, 35°.22N±0°.05×23°.15E±0°.06, h41km±22km, n44, σ2°09/55, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.44**	**88**	P	Pn	23 31 28.8	+1.0
KNDR				S	Sn	23 31 36.2	+1.4
RODP	**Rodopos**	**0.60**	**56**	P	Pn	23 31 30.8	+0.8
RODP				S	Sn	23 31 38.8	+0.1
	2μm,0.4s						
ANKY	**Antikythira Is**	**0.66**	**11**	P	Pn	23 31 31.1	+0.3
ANKY				S	Sn	23 31 39.5	-0.5
	2μm,0.5s						
ANKY	**Antikythira Is**	**0.66**	**11**	P	Pn	23 31 31.3	+0.5
ANKY				S	Sn	23 31 38.8	-1.2
ANKY				AML	AML	23 31 42.4	
	comp=N,4064μm,0.6s						
ANKY				AML	AML	23 31 44.6	
	comp=E,4392μm,0.5s						
IMMV	**Iera Moni Meta**	**0.72**	**70**	P	Pn	23 31 32.9	+1.3
IMMV	**Iera Moni Meta**	**0.72**	**70**	P	Pn	23 31 33.0	+1.3
IMMV				S	Sn	23 31 41.3	-0.2
IMMV				AML	AML	23 31 44.7	
	comp=N,3419μm,0.4s						
IMMV				AML	AML	23 31 45.5	
	comp=E,2989μm,0.5s						
CHAN	**Chania**	**0.79**	**68**	P	Pn	23 31 33.9	+1.4
CHAN				S	Sn	23 31 45.1	+2.0
	comp=E,485nm,0.5s						
GVD	**Gavdhos**	**0.86**	**116**	P	Pn	23 31 36.7	+3.2
GVDS	**Gavdos**	**0.86**	**116**	P	Pn	23 31 36.3	+2.8
GVDS				S	Sn	23 31 48.9	+4.0
	comp=E,2μm,0.3s						
VAM	**Vamos**	**0.88**	**78**	P	Pn	23 31 35.6	+1.8
VAM				S	Sn	23 31 47.7	+2.3
	comp=E,2μm,0.6s						
VAM	**Vamos**	**0.88**	**78**	P	Pn	23 31 35.7	+1.9
VAM				AML	AML	23 31 49.0	
	comp=N,2835μm,0.6s						
VAM				AML	AML	23 31 49.1	
	comp=E,3524μm,0.6s						
KTHA	**Kythira Island**	**1.04**	**356**	P	Pn	23 31 37.9	+1.9
KTHA				S	Sn	23 31 50.5	+1.2
	comp=E,1μm,0.4s						
KTHA	**Kythira Island**	**1.04**	**356**	P	Pn	23 31 38.0	+2.1
KTHA				S	Sn	23 31 48.4	-0.9
KTHA				AML	AML	23 31 52.8	
	comp=N,1399μm,0.4s						
KTHA				AML	AML	23 31 56.9	
	comp=E,3620μm,0.4s						
KTHR	**Kythira**	**1.04**	**354**	P	Pn	23 31 37.8	+1.7
KTHR				S	Sn	23 31 50.8	+1.3
	comp=E,1μm,0.3s						
PRNS	**Prines Rethymn**	**1.12**	**82**	P	Pn	23 31 38.9	+1.9
PRNS				S	Sn	23 31 52.9	+1.7
SIVA	**Sivas**	**1.38**	**98**	P	Pn	23 31 43.8	+3.2
SIVA	**Sivas**	**1.38**	**98**	P	Pn	23 31 44.2	+3.6
MNVA	**Monemvasia**	**1.47**	**356**	P	Pn	23 31 43.5	+1.7
VLI	**Veliai**	**1.50**	**354**	P	Pn	23 31 44.6	+2.2
VLI	**Veliai**	**1.50**	**354**	P	Pn	23 31 44.5	+2.1
VLI				AML	AML	23 32 07.8	
	comp=N,768μm,0.5s						
VLI				AML	AML	23 32 09.1	
	comp=E,789μm,0.5s						
NPS	**Neapolis**	**2.02**	**88**	P	Pn	23 31 52.0	+2.6
NPS	**Neapolis**	**2.02**	**88**	P	Pn	23 31 52.0	+2.6

PYL	**PYLOS**	**2.02**	**326**	P	Pn	23 31 54.2	+4.7
ITM	**Ithomi**	**2.19**	**334**	P	Pn	23 31 56.3	+4.5
SERI	**Serifos**	**2.22**	**29**	P	Pn	23 31 52.4	+0.2
VLX	**Vlachokerasia**	**2.23**	**344**	P	Pn	23 31 54.5	+2.1
DID	**Didima**	**2.28**	**2**	P	Pn	23 31 54.6	+1.6
ANAF	**Anafi Island**	**2.42**	**61**	P	Pn	23 31 55.8	+0.9
ZKR	**Zakros**	**2.52**	**92**	P	Pn	23 31 59.5	+3.2
AMT	**Artemida-Makis**	**2.58**	**334**	P	Pn	23 32 00.6	+3.4
APE	**Apeiranthos**	**2.67**	**46**	P	Pn	23 31 58.0	-0.4
LTK	**Loutraki**	**2.80**	**357**	P	Pn	23 32 01.7	+1.5
KLV	**Kalavryta, Ach**	**2.93**	**344**	P	Pn	23 32 04.3	+2.3
DRO	**Drossia**	**2.96**	**337**	P	Pn	23 32 06.9	+4.5
VIL2	**Platees**	**2.99**	**2**	P	Pn	23 32 02.5	-0.3
PROD	**Prodromos**	**3.04**	**356**	P	Pn	23 32 04.8	+1.4
DSF	**Desfina**	**3.22**	**351**	P	Pn	23 32 07.4	+1.4
LKR	**Lokris**	**3.42**	**358**	P	Pn	23 32 09.8	+1.0
MRKA	**Markates**	**3.50**	**6**	P	Pn	23 32 10.0	+0.2
PDO	**Prodromos**	**3.72**	**336**	P	Pn	23 32 15.8	+3.0
SLUM	**Salum**	**4.10**	**155**	P	Pn	23 32 19.8	+1.8
	baz=156						
SLUM				S	Sn	23 33 04.9	+0.1
	baz=156						
SWA2		**6.27**	**161**	P	Pn	23 32 50.4	+2.5
	baz=162						
SWA2				S	Sn	23 33 55.1	-3.2
	baz=162						
SWA2				AMP		23 34 00.0	
	baz=162						
HFRF	**Wahat Farafira**	**9.18**	**150**	P	Pn	23 33 29.1	+1.3
	baz=150						
HFRF				AMP		23 35 00.0	
	baz=150						
HFRF				S	Sn	23 35 05.5	-4.2
	baz=150						
VYHS	**Vyhne**	**13.64**	**348**	ePN	Pn	23 34 24.7	-4.0

*NNC **11** 23:31:41.2±1.0, 37°.84N×70°.70E, h0km±1km, mb4.0, mpv3.9, Error ellipse: s-maj=1.0km s-min=1.0km az=1.0*

ISC 11 23:31:26.9±1.5, 37°.0N±0°.1×71°.2E±0°.2, h35km, n20, σ1°30/25, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.52**	**20**	P	Pn	23 32 49.3	+2.5
	SNR=133						
UCH	**Uchtor**	**5.86**	**25**	P	Pn	23 32 53.0	+1.5
	SNR=9.4						
KZA	**Kyzart**	**6.00**	**30**	P	Pn	23 32 53.5	0.0
	SNR=12						
EKS2	**Erkin-Say**	**6.03**	**19**	P	Pn	23 32 56.2	+2.5
	SNR=28						
KK31	**Karatay Array**	**6.16**	**355**	⇑P	Pn	23 33 01.6	+6.4
	7.5nm,0.5s,baz=164,slow=18,SNR=41						
KK31				⇑P	Pn	23 33 01.6	+6.4
	7.5nm,0.5s,baz=164,slow=18,SNR=41						
KK31				⇑S	Sn	23 34 03.3	-1.0
	3.1nm,0.3s,baz=170,slow=30,SNR=3.6						
KK31				⇑S	Sn	23 34 03.3	-1.0
	3.1nm,0.3s,baz=170,slow=30,SNR=3.6						
AAK	**Ala-Archa**	**6.22**	**23**	P	Pn	23 32 58.0	+1.8
	SNR=16						
KBK	**Karagaybulak**	**6.38**	**26**	P	Pn	23 33 00.4	+1.9
	SNR=5.6						
ULHL	**Ulahol**	**6.57**	**35**	P	Pn	23 33 00.5	-0.6
	SNR=7.6						
CHMS	**Chumysh**	**6.62**	**23**	P	Pn	23 33 02.8	+1.1
	SNR=6.9						
USP	**Ospenovka**	**6.79**	**21**	P	Pn	23 33 04.8	+0.7
	SNR=7.9						
TKM2	**Tokmak 2**	**6.85**	**28**	P	Pn	23 33 05.7	+0.7
	SNR=6.0						
DANN	**Dangsing**	**13.63**	**125**	eP	Pn	23 34 36.8	-1.2
KOLN	**Koldanda**	**13.93**	**128**	eP	Pn	23 34 41.5	-0.4
GKN	**Gorkha**	**14.44**	**124**	eP	Pn	23 34 48.5	-0.4
AB31	**Akbulak array**	**14.75**	**330**	⇑P	P	23 34 58.1	-0.3
	0.8nm,0.7s,baz=150,slow=11,SNR=5.8						
AB31				⇑P	P	23 34 58.1	-0.3
	0.8nm,0.7s,baz=150,slow=11,SNR=5.8						
AB31				⇓S	Sn	23 37 33.5	-1.4
	1.1nm,0.7s,baz=131,slow=25,SNR=5.2						
AB31				⇓S	Sn	23 37 33.5	-1.4
	1.1nm,0.7s,baz=131,slow=25,SNR=5.2						
PKIN	**Phulchoki**	**15.22**	**124**	eP	Pn	23 34 59.1	-0.4
PKI	**Pulchoki**	**15.24**	**124**	eP	Pn	23 34 59.7	0.0
GUN	**Gumba**	**15.33**	**122**	eP	Pn	23 35 01.7	+0.7
JIRN	**Jiri**	**15.70**	**122**	eP	Pn	23 35 05.5	-0.3
AKTO	**Aktyubinsk**	**16.45**	**329**	⇑P	P	23 35 18.8	+1.6
	6.4nm,1.4s						
AKTO				⇑P	P	23 35 18.8	+1.6
	6.4nm,1.4s						

IDC 11 23:32:47.5±1.1, 31°.79N×40°.50W, h0km, mb3.8/12, mb1 4.1/12, mb1mx3.7/55, mbtmp3.8/12, MS3.4/10, Ms1 3.4/10, ms1mx3.2/37, Error ellipse: s-maj=37.5km s-min=18.4km az=10.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**26.86**	**246**	LR	LR	23 46 49.3	
	comp=Z,34nm,20.3s,baz=80,slow=31						
MDP	**Montagnes des**	**28.89**	**206**	LR	LR	23 47 40.5	
	comp=Z,37nm,20.9s,baz=26,slow=31						
SCHQ	**Schefferville**	**29.64**	**329**	LR	LR	23 49 14.9	
	comp=Z,107nm,19.0s,baz=236,slow=33						
ROSC	**El Rosal**	**41.50**	**237**	LR	LR	23 57 07.1	
	comp=Z,44nm,21.6s,baz=68,slow=35						
DBIC	**Dimbokro**	**41.59**	**119**	P	P	23 40 37.7	+0.3
	6.4nm,1.0s,baz=242,slow=10.0,SNR=3.0						
DBIC				LR	LR	23 55 39.7	
	comp=Z,58nm,18.6s,baz=315,slow=33						
TORD	**Torodi Ar. Bea**	**42.86**	**106**	P	P	23 40 47.1	-0.6
	1.5nm,0.9s,baz=288,slow=7.6,SNR=5.7						
TORD				LR	LR	23 56 20.2	
	comp=Z,40nm,21.5s,baz=330,slow=33						
GERES	**GERESS Array B**	**43.73**	**51**	P	P	23 40 54.4	-0.1
	0.5nm,0.7s,baz=275,slow=7.6,SNR=4.1						
ULM	**Lac du Bonnet**	**44.55**	**311**	LR	LR	23 59 17.1	
	comp=Z,34nm,20.8s,baz=120,slow=36						
H10N2	**ASCENSION HYDR**	**46.59**	**143**	T	T	00 31 09.1	
	baz=329,slow=75,SNR=41						
H10N3	**ASCENSION HYDR**	**46.59**	**143**	T	T	00 31 09.4	
	baz=329,slow=75,SNR=45						
H10N1	**ASCENSION HYDR**	**46.60**	**143**	T	T	00 31 05.0	
	baz=329,slow=75,SNR=36						
BDFB	**Brasilia**	**47.71**	**190**	LR	LR	23 59 08.8	
	comp=Z,58nm,18.6s,baz=72,slow=33						
FINES	**FINESS Array B**	**51.51**	**34**	P	P	23 41 54.3	-0.3
	3.5nm,0.9s,baz=272,slow=11,SNR=3.2						
TXAR	**Lajitas Array**	**53.76**	**285**	P	P	23 42 11.8	-0.1
	0.2nm,0.7s,baz=99,slow=10,SNR=2.5						
PDAR	**Pinedale Array**	**54.63**	**302**	P	P	23 42 17.8	-0.5
	1.8nm,0.9s,baz=46,slow=6.4,SNR=6.6						
PDAR				LR	LR	00 05 17.5	
	comp=Z,84nm,18.2s,baz=62,slow=36						
BRTR	**Keskin Array B**	**59.12**	**60**	P	P	23 42 49.7	-0.4
	0.6nm,0.6s,baz=276,slow=3.6,SNR=4.5						
NVAR	**Mina Array Bea**	**62.23**	**300**	P	P	23 43 11.9	+0.4
	0.2nm,0.3s,baz=46,slow=4.3,SNR=3.8						
NVAR				LR	LR	00 10 24.0	
	comp=Z,58nm,18.3s,baz=79,slow=36						
KBZ	**Khabaz**	**64.40**	**53**	P	P	23 43 26.5	+1.1
	1.6nm,0.9s,baz=270,slow=3.5,SNR=4.0						
ILAR	**Eielson Array**	**68.24**	**334**	P	P	23 43 49.6	0.0
	1.0nm,1.0s,baz=44,slow=4.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**81.90**	**34**	P	P	23 45 08.4	-0.4
	0.2nm,0.4s,baz=316,slow=5.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**82.42**	**29**	P	P	23 45 11.7	+0.3
	0.6nm,0.5s,baz=292,slow=7.6,SNR=3.2						

*TRN **11** 23:37:59.4, 17°.78N×59°.71W, h41km, MD4.0*
*NEIC **11** 23:38:02.1±1.9, 17°.88N±0°.07×60°.0W±0°.1, h34km±9km, mb4.4/1, Md4.0(TRN)*

ISC 11 23:37:58.7±2.1, 17°.89N±0°.09×59°.7W±0°.1, h70km±41km, n72, σ1°39/96, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**2.02**	**264**	eP	Pn	23 38 31.3	+0.7
ANWB	**Willy Bob**	**2.02**	**264**	eS	Sn	23 38 55.4	+0.4
ANWB	**Willy Bob**	**2.02**	**264**		Pn	23 38 31.0	+0.4
ANWB					Sn	23 38 50.0	-5.0
DEG	**La Desirade**	**2.05**	**220**	eP	Pn	23 38 31.5	+0.4
DEG				eS	Sn	23 38 54.6	-1.2

DEG	**La Desirade**	**2.05**	**220**		Pn	23 38 31.5	+0.4
DEG					Sn	23 38 54.6	-1.2
ABD	**La Joyeuse, An**	**2.23**	**231**	eP	Pn	23 38 34.7	+1.2
BPA	**Boggy Peak**	**2.25**	**248**	eP	Pn	23 38 34.6	+0.9
BPA	**Boggy Peak**	**2.25**	**248**		Pn	23 38 34.6	+0.9
MAGL	**Barre de l'ile**	**2.47**	**219**	eP	Pn	23 38 37.1	+0.4
CBE	**Ff, Capester**	**2.59**	**226**	eP	Pn	23 38 39.6	+1.3
MLYT	**Lee's Yard**	**2.67**	**245**	eP	Pn	23 38 40.6	+1.1
MLYT	**Lee's Yard**	**2.67**	**245**	eS	Sn	23 39 11.3	+0.5
TDBA	**Terre de Bas,**	**2.77**	**223**	eP	Pn	23 38 41.9	+1.1
DWS	**Wesley**	**2.79**	**214**	eP	Pn	23 38 42.0	+1.0
DWS				eS	Sn	23 39 12.5	-1.1
DWS	**Wesley**	**2.79**	**214**		Pn	23 38 42.0	+1.0
DWS					Sn	23 39 12.5	-1.1
MDPO	**Dominica; Chan**	**2.86**	**217**	eP	Pn	23 38 43.1	+1.1
MDPO				eS	Sn	23 39 14.9	-0.5
BBL	**Barber's Block**	**2.91**	**216**	eP	Pn	23 38 44.0	+1.3
BBL				eS	Sn	23 39 16.2	-0.5
BBL	**Barber's Block**	**2.91**	**216**		Pn	23 38 44.0	+1.3
BBL					Sn	23 39 16.2	-0.5
SKI	**Saint Kitts**	**2.97**	**260**	eP	Pn	23 38 45.8	+2.2
SKI	**Saint Kitts**	**2.97**	**260**	eS	Sn	23 39 19.1	+1.0
SKI	**Saint Kitts**	**2.97**	**260**		Pn	23 38 45.4	+1.9
SKI					Sn	23 39 09.2	-9.0
SEUS	**St. Eustatius**	**3.18**	**263**	eP	Pn	23 38 47.8	+1.5
SEUS				eS	Sn	23 39 24.5	+1.5
SEUS	**St. Eustatius**	**3.18**	**263**		Pn	23 38 47.6	+1.4
SEUS					Sn	23 39 23.3	+0.2
SVN	**Savane Anatole**	**3.35**	**206**	eP	Pn	23 38 50.3	+1.5
BAMF	**Morne Balai**	**3.37**	**205**	eP	Pn	23 38 50.0	+1.0
CXM	**Morne La Croix**	**3.38**	**205**	eP	Pn	23 38 50.1	+0.9
GBMF	**Grand Be**	**3.39**	**205**	eP	Pn	23 38 50.1	+0.8
PCM	**Pelee Case Pet**	**3.40**	**206**	eP	Pn	23 38 50.6	+1.3
SABA	**Saba**	**3.41**	**266**	eP	Pn	23 38 51.7	+2.2
SABA				eS	Sn	23 39 28.7	-0.1
SABA	**Saba**	**3.41**	**266**		Pn	23 38 51.7	+2.2
SABA					Sn	23 39 28.7	-0.1
PML	**Morne Lenard**	**3.42**	**205**	eP	Pn	23 38 50.7	+1.1
FDF	**Fort de France**	**3.44**	**204**	eP	Pn	23 38 50.7	+0.7
FDF				eS	Sn	23 39 28.8	-0.9
FDF	**Fort de France**	**3.44**	**204**		Pn	23 38 50.7	+0.7
FDF					Sn	23 39 28.8	-0.9
LPMF	**Morne Lapointe**	**3.52**	**201**	eP	Pn	23 38 51.6	+0.6
ZAM	**Aeronautique**	**3.55**	**202**	eP	Pn	23 38 51.7	+0.3
TRMF	**Trois Ilets**	**3.59**	**202**	eP	Pn	23 38 52.8	+0.8
MPOM	**Morne Pois Mar**	**3.61**	**199**	eP	Pn	23 38 52.8	+0.6
BIM	**Bigot**	**3.61**	**202**	eP	Pn	23 38 53.5	+1.2
SLBI	**Saint Lucia, B**	**4.04**	**198**	eP	Pn	23 38 58.5	+0.3
SLBI				eS	Sn	23 39 42.2	-2.0
SLBI	**Saint Lucia, B**	**4.04**	**198**		Pn	23 38 58.5	+0.3
SLBI					Sn	23 39 42.2	-2.0
SLPA	**Patience**	**4.19**	**197**	eP	Pn	23 39 00.9	+0.7
SLPA	**Patience**	**4.19**	**197**		Pn	23 39 00.9	+0.7
SLB	**Belfond**	**4.25**	**198**	eP	Pn	23 39 02.8	+1.8
SLB	**Belfond**	**4.25**	**198**	eS	Sn	23 39 48.0	-1.4
SLB	**Belfond**	**4.25**	**198**		Pn	23 39 02.8	+1.8
SLB					Sn	23 39 48.0	-1.4
MCLT	**Moule a Chique**	**4.33**	**197**	eP	Pn	23 39 03.5	+1.4
MCLT	**Moule a Chique**	**4.33**	**197**	eS	Sn	23 39 49.3	-2.1
MCLT	**Moule a Chique**	**4.33**	**197**		Pn	23 39 03.5	+1.4
ABVI	**Anegada Island**	**4.50**	**281**	Pn	Pn	23 39 04.3	-0.1
ABVI				Sn	Sn	23 39 52.3	-3.2
BBGH	**Gun Hill**	**4.72**	**179**	eP	Pn	23 39 08.7	+1.3
BBGH	**Gun Hill**	**4.72**	**179**	eS	Sn	23 39 59.9	-1.0
SVCV	**St. Vincent, C**	**4.81**	**197**	eP	Pn	23 39 09.7	+1.1
SVCV	**St. Vincent, C**	**4.81**	**197**	eS	Sn	23 40 01.3	-1.7
SVCV	**St. Vincent, C**	**4.81**	**197**		Pn	23 39 09.7	+1.1
SVCV					Sn	23 40 01.3	-1.7
SVB	**Belmont**	**4.84**	**199**	eP	Pn	23 39 10.0	+1.0
SVB	**Belmont**	**4.84**	**199**	eS	Sn	23 40 01.7	-2.1
SVB	**Belmont**	**4.84**	**199**		Pn	23 39 10.0	+1.0
SVB					Sn	23 40 01.7	-2.1
FCV	**Fort Charlotte**	**4.94**	**198**	eP	Pn	23 39 11.6	+1.1
FCV	**Fort Charlotte**	**4.94**	**198**	eS	Sn	23 40 04.9	-1.4
FCV	**Fort Charlotte**	**4.94**	**198**		Pn	23 39 11.6	+1.1
FCV					Sn	23 40 04.9	-1.4
STVI	**Saint Thomas**	**5.04**	**276**	Pn	Pn	23 39 11.8	0.0
STVI				Sn	Sn	23 40 06.1	-2.6
CUPR	**Culebra, Puert**	**5.35**	**275**	Pn	Pn	23 39 16.0	+0.1
MTP	**Monte Pirata**	**5.60**	**273**	Pn	Pn	23 39 20.0	+0.7
MTP				Sn	Sn	23 40 20.2	-2.1
HUMP	**Col San Antoni**	**5.88**	**273**	Pn	Pn	23 39 23.9	+0.7
CBYP	**Canovanas**	**5.89**	**275**	Pn	Pn	23 39 23.0	-0.5
CBYP				Sn	Sn	23 40 27.0	-2.6
GRGR	**Grenville**	**6.04**	**199**	eP	Pn	23 39 26.6	+1.2
GRGR	**Grenville**	**6.04**	**199**		Pn	23 39 26.6	+1.2
PDPR	**Patillas Dam,**	**6.04**	**272**	Pn	Pn	23 39 26.4	+0.9
GCPR	**Guaynabo City**	**6.11**	**275**	Pn	Pn	23 39 26.4	+0.1
AOPR	**Arecibo Observ**	**6.75**	**275**	Pn	Pn	23 39 36.1	+1.0
CRPR	**Cabo Rojo, PR**	**7.08**	**272**	Pn	Pn	23 39 41.0	+1.4
BBSR	**BB Station**	**15.11**	**343**	Pn	Pn	23 41 29.0	+0.8
BBSR				IAmb	IAmb	23 42 04.1	
	comp=Z,21nm,1.0s						

*KRNET **11** 23:38:51.6±0.1, 41°.42N×79°.36E, h10km, mb2.6*
*SOME **11** 23:38:55.5, 41°.48N×79°.22E, h10km*

**ISC 11 23:38:52.8±2.5, 41°.45N±0°.09×79°.27E±0°.07, h5km±12km, n19, σ1°14/38, 4C-12D, Kyrgyzstan-

ARXS	Arharly	2.96	339	eP		Pg	23 39 48.8 -0.6
	3.1nm,0.7s						
ARXS				eS		Sg	23 40 26.9 -0.8
	4.7nm,0.3s						
KTBS	Karatobe	2.96	321	eP		Pg	23 39 48.8 -0.6
	1.4nm,0.4s						
KTBS				eS		Sg	23 40 26.7 -1.1
	22nm,0.3s						
TKM2	Tokmak 2	3.10	299	⇑eP		Pn	23 39 45.1 +2.5
	baz=99						
TKM2				⇑iS		Sb	23 40 23.5 -3.2
	baz=99						
DGS	Degeres	3.15	306	eP		Pg	23 39 52.7 -0.4
	1.8nm,0.5s						
DGS				eS		Sg	23 40 33.7 -0.2
	4.1nm,0.3s						

IDC 11 23:54:45.4±455.0, 46°.51N×64°.46E, h0km, Error ellipse: s-maj=197.6km s-min=143.5km az=172.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	5.78	315	i		00 27 20.0	
	baz=127,slow=328,SNR=4.5						
I46RU	ZALESOVO INFRA	14.97	53	i		01 26 50.0	
	baz=250,slow=329,SNR=2.5						
I34MN	SONGINO INFRAS	28.30	72	i		02 47 58.1	
	baz=280,slow=328,SNR=1.8						
I53US	FAIRBANKS INFR	66.12	14	i		06 47 20.0	
	baz=330,slow=328,SNR=1.3						

IDC 12 00:08:56.8±0.6, 31°.84N×40°.47W, h0km, mb4.0/21, mb1 4.2/21, mb1mx4.0/59, mbtmp4.0/21, MS3.6/17, Ms1 3.6/17, ms1mx3.4/44, Error ellipse: s-maj=19.5km s-min=14.0km az=166.0

ISCJB 12 00:08:57.4±0.4, 31°.88N±0°.08×40°.47W±0°.07, h14km, mb4.0/23, MS3.6/17, Error ellipse: s-maj=12.0km s-min=9.0km az=173.3

NEIC 12 00:08:58.0±1.3, 31°.8N±0°.1×40°.4W±0°.1, h10km±1km, mb4.7/12

ISC 12 00:08:59.1±0.5, 31°.9N±0°.1×40°.46W±0°.09, h14km, n65, σ0.97/53, mb4.1/31, MS3.7/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	Rosais	12.09	52	Pn	Pn	00 11 49.3	-1.6
DRLN	Deer Lake	21.59	329	P	P	00 13 49.3	+1.0
SJG	San Juan	26.93	246	LR	LR	00 23 11.2	
	comp=Z,52nm,20.3s,baz=74,slow=32						
MDP	Montagnes des	28.97	206	LR	LR	00 23 59.7	
	comp=Z,46nm,21.3s,baz=36,slow=31						
SCHQ	Schefferville	29.60	329	LR	LR	00 26 13.7	
	comp=Z,250nm,20.5s,baz=120,slow=35						
ESDC	Sonseca Array	30.46	65	P	P	00 15 11.4	0.0
	0.4nm,0.7s,baz=282,slow=4.4,SNR=3.4						
SDV	Santo Domingo	36.15	237	P	P	00 16 01.4	+0.1
SDV				IAmb	IAmb	00 16 10.1	
	comp=Z,8.9nm,0.9s						
PTGA	Pitinga	37.31	213	P	P	00 16 10.3	-0.7
	comp=Z,1.5nm,0.8s,baz=27,slow=16,SNR=2.5						
DAVOX	Davos/Dischmat	40.99	54	P	P	00 16 41.1	-0.6
	comp=Z,3.2nm,0.8s,baz=301,slow=5.9,SNR=4.1						
DAVOX				LR	LR	00 29 29.7	
	comp=Z,71nm,19.0s,baz=296,slow=30						
DAVA	Damuels	41.02	53	i pP	P	00 16 42.8	+0.9
	comp=Z,7.5nm,1.1s						
TIC	Toumodi	41.49	120	ePKP1	P	00 16 50.1	+4.2
ROSC	El Rosal	41.57	237	LR	LR	00 33 30.7	
	comp=Z,64nm,19.9s,baz=32,slow=36						
DBIC	Dimbokro	41.59	119	P	P	00 16 46.5	-0.3
DBIC				LR	LR	00 32 26.3	
	comp=Z,152nm,18.2s,baz=302,slow=34						
DBIC	Dimbokro	41.59	119	IAmb	IAmb	00 17 04.7	
	comp=Z,20nm,1.4s						
LIC	Lamto	41.76	120	ePKP1	P	00 16 49.4	+1.2
	comp=Z,54nm,1.4s						
MOTA	Moosalm	41.85	53	i pP	P	00 16 49.8	+1.1
KIC	Kosan Boka	41.88	120	ePKP1	P	00 16 50.4	+1.2
	comp=Z,30nm,1.0s						
SQTA	Sankt Quirin	41.92	53	i pP	P	00 16 49.4	+0.2
	comp=Z,3.4nm,0.9s						
WATA	Walderalm	42.17	53	i pP	P	00 16 52.1	+0.8
	comp=Z,8.8nm,1.1s						
WTTA	Wattenberg	42.21	53	i pP	P	00 16 53.0	+1.3
	comp=Z,8.1nm,1.0s						
ABTA	Abfaltersbach	42.80	54	i pP	P	00 16 57.2	+0.9
	comp=Z,2.3nm,0.7s						
TORD	Torodi Ar. Bea	42.84	106	P	P	00 16 57.0	+0.1
	comp=Z,3.4nm,0.9s,baz=310,slow=7.4,SNR=12						
TORD				LR	LR	00 32 29.3	
	comp=Z,63nm,21.4s,baz=315,slow=33						
TORD	Torodi Ar. Bea	42.84	106	P	P	00 16 54.5	-2.5
CLL	Collm	43.37	47	eP	P	00 17 02.0	+1.2
GERES	GERESS Array B	43.66	51	P	P	00 17 03.4	+0.1
	comp=Z,0.8nm,0.8s,baz=264,slow=3.9,SNR=5.6						
GERES	GERESS Array B	43.66	51	P	P	00 17 03.0	-0.3
OBKA	Obir	44.20	54	i pP	P	00 17 07.9	+0.2
	comp=Z,3.8nm,0.6s						
ULM	Lac du Bonnet	44.54	311	LR	LR	00 33 58.4	
	comp=Z,48nm,21.4s,baz=60,slow=34						
H10N2	ASCENSION HYDR	46.62	143	T	T	01 06 59.5	
	baz=329,slow=76,SNR=41						
H10N3	ASCENSION HYDR	46.62	143	T	T	01 06 59.8	
	baz=329,slow=76,SNR=39						
H10N1	ASCENSION HYDR	46.63	143	T	T	01 07 03.0	
	baz=329,slow=76,SNR=41						
H10S3	ASCENSION HYDR	47.49	144	T	T	01 08 04.5	
	baz=328,slow=74,SNR=28						
H10S2	ASCENSION HYDR	47.50	144	T	T	01 08 05.5	
	baz=252,slow=74,SNR=28						
FINES	FINESS Array B	51.43	34	P	P	00 18 03.8	+0.5
	comp=Z,2.8nm,0.8s,baz=297,slow=9.2,SNR=3.7						
AKASG	Malin Array Be	53.61	48	P	P	00 18 19.8	+0.1
	comp=Z,0.2nm,0.3s,baz=274,slow=6.5,SNR=4.6						
AKASG				LR	LR	00 38 44.2	
	comp=Z,60nm,18.4s,baz=300,slow=33						
AKASG	Malin Array Be	53.61	48	P	P	00 18 19.1	-0.6
TXAR	Lajitas Array	53.78	285	P	P	00 18 21.1	-0.3
	comp=Z,0.5nm,0.7s,baz=94,slow=8.0,SNR=6.4						
TXAR				LR	LR	00 39 59.6	
	comp=Z,39nm,20.1s,baz=0.0,slow=35						
TXAR	Lajitas Array	53.78	285	P	P	00 18 20.5	-0.9
BW06	Boulder Array	54.63	302	P	P	00 18 27.6	0.0
PD31	Pinedale Array	54.63	302	P	P	00 18 27.5	-0.1
PD31				IAmb	IAmb	00 18 29.8	
	comp=Z,9.0nm,1.3s						
PDAR	Pinedale Array	54.63	302	P	P	00 18 27.4	-0.2
	comp=Z,1.4nm,0.6s,baz=84,slow=7.5,SNR=16						
PDAR				LR	LR	00 40 11.9	
	comp=Z,169nm,19.9s,baz=72,slow=34						
PDAR	Pinedale Array	54.63	302	P	P	00 18 27.0	-0.6
LPAZ	La Paz	54.74	213	P	P	00 18 29.2	+0.3
	comp=Z,1.3nm,0.7s,baz=7.3,slow=5.4,SNR=5.7						
LPAZ				LR	LR	00 40 14.7	
	comp=Z,57nm,19.1s,baz=22,slow=34						
LPAZ	La Paz	54.74	213	P	P	00 18 28.6	-0.4
YKA	Yellowknife Ar	55.03	327	LR	LR	00 42 01.8	
	comp=Z,11nm,18.4s,baz=54,slow=36						
YMR	Madison River	55.21	305	P	P	00 18 32.4	+0.7
BRTR	Keskin Array B	59.05	60	P	P	00 18 59.1	+0.2
	comp=Z,1.0nm,0.9s,baz=293,slow=5.1,SNR=6.8						
BRTR	Keskin Array B	59.05	60	P	P	00 18 58.2	-0.7
INK	Inuvik	61.92	335	P	P	00 19 18.0	+0.2
	comp=Z,1.7nm,0.6s,baz=109,slow=5.7,SNR=3.8						
INK	Inuvik	61.92	335	P	P	00 19 17.1	-0.7
INK				IAmb	IAmb	00 19 20.8	
	comp=Z,5.5nm,1.2s						
NVAR	Mina Array Bea	62.23	300	P	P	00 19 20.6	-0.1
	comp=Z,0.9nm,0.8s,baz=80,slow=6.5,SNR=2.9						
NVAR				LR	LR	00 46 15.4	
	comp=Z,215nm,18.2s,baz=72,slow=36						
NVAR	Mina Array Bea	62.23	300	P	P	00 19 19.7	-1.0
KBZ	Khabaz	64.33	53	P	P	00 19 33.4	-0.8
	comp=Z,1.6nm,0.8s,baz=270,slow=1.0,SNR=3.4						
AKH	Akhalkalaki	65.57	55	P	P	00 19 41.8	-0.7
AKH				IAmb	IAmb	00 19 51.3	
	comp=Z,6.4nm,1.1s						
ILAR	Eielson Array	68.19	334	P	P	00 19 58.7	+0.1
	comp=Z,1.5nm,1.1s,baz=63,slow=4.8,SNR=7.9						
ILAR				LR	LR	00 47 49.4	
	comp=Z,72nm,20.6s,baz=58,slow=34						
ILAR	Eielson Array	68.19	334	P	P	00 19 59.2	+0.5
AKTO	Aktyubinsk	71.11	42	P	P	00 20 17.6	+0.7
	comp=Z,2.6nm,0.8s,baz=288,slow=8.5,SNR=10						
BVAR	Borovoye Array	76.36	36	P	P	00 20 48.1	+0.4
	comp=Z,0.7nm,0.7s,baz=302,slow=6.6,SNR=4.3						
KURBB	Kurchatov Arra	81.82	34	P	P	00 21 17.3	-0.3
	comp=Z,1.0nm,0.7s,baz=313,slow=4.7,SNR=6.4						
ZALV	Zalesovo Beam	82.34	29	P	P	00 21 20.7	+0.4
	comp=Z,0.9nm,0.6s,baz=306,slow=5.3,SNR=4.5						
CHGR	Chuyangaron	84.08	48	P	P	00 21 29.7	0.0
MKAR	Makanchi Array	86.25	35	P	P	00 21 40.3	0.0
	comp=Z,1.0nm,0.9s,baz=324,slow=6.0,SNR=4.0						
MKAR				LR	LR	00 59 41.4	
	comp=Z,45nm,18.2s,baz=300,slow=35						
MKAR	Makanchi Array	86.25	35	P	P	00 21 41.0	+0.7
BOSA	Boshof	86.71	127	LR	LR	00 54 37.3	
	comp=Z,31nm,19.7s,baz=326,slow=32						
ASAR	Alice Springs	170.43	33	PKP	PKPdf	00 29 06.8	-0.4
	comp=Z,0.6nm,0.8s,baz=351,slow=1.2,SNR=5.6						
ASAR				PKPab	PKPab	00 30 24.6	+0.9
	comp=Z,0.4nm,0.7s,baz=5.7,slow=2.8,SNR=3.2						

SOME 12 00:40:20.6, 39°.18N×73°.42E, h5km

NNC 12 00:40:23.9±1.0, 39°.24N×73°.48E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=7.7km s-min=3.9km az=174.0

BJI 12 00:40:25.1±0.0, 39°.14N×73°.43E, h11km, mb3.4/1, ML3.5/4

KRNET 12 00:40:26.0±0.1, 39°.16N×73°.50E, mb3.9

IDC 12 00:40:31.5±1.3, 39°.71N×72°.84E, h0km, mb3.6/5, mb1 3.6/12, mb1mx3.5/58, mbtmp3.5/12, ML3.2/6, MS3.3/4, Ms1 3.3/4, ms1mx2.8/42, Error ellipse: s-maj=23.9km s-min=13.5km az=136.0

ISC 12 00:40:28.0±1.8, 39°.49N±0°.06×73°.36E±0°.03, h1km±10km, n95, σ2.903/126, mb3.8/6, MS3.5/3, 33C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.86	351	⇓iP		Pg	00 41 05.6 +1.9
	baz=50						
ARSB				⇓iS		Sg	00 41 34.7 +6.9
	baz=50						
KSH	Kashi	2.02	88	Pg	Pn	00 40 54.4	-8.9
KSH				Sg	Sn	00 41 16.1	-13
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,770nm,0.6s						
BTK	Batken	2.04	287	⇑iP		Pn	00 41 06.5 +2.9
	baz=94						
BTK				⇑iS		Sg	00 41 36.1 +2.5
	baz=94						
ARLS	Aral	2.48	17	⇑iP		Pb	00 41 13.8 +0.3
	baz=13						
ARLS				⇑iS		Sg	00 41 47.9 0.0
	baz=13						
ARK	Arkit	2.54	336	⇑iP		Pb	00 41 14.5 0.0
	baz=37						
ARK				⇑iS		Sg	00 41 50.1 +0.3
	baz=37						
AML	Almayashu	2.66	5	⇑iP		Pb	00 41 16.6 0.0
	baz=3.0						
AML				⇑iS		Sg	00 41 53.9 +0.5
	baz=3.0						
AML	Almayashu	2.66	5	P		Pb	00 41 17.2 +0.6
	SNR=55						
NRN	Naryn	2.80	45	⇑eP		Pn	00 41 16.6 +2.4
	baz=39						
NRN				⇑iS		Sb	00 41 52.9 -1.0
	baz=39						
UCH	Uchtor	2.88	17	⇑eP		Pb	00 41 19.2 -1.2
	baz=14						
UCH				⇑iS		Sg	00 41 58.0 -2.5
	baz=14						
UCH	Uchtor	2.88	17	P		Pb	00 41 20.3 -0.1
	SNR=41						
KZA	Kyzart	2.96	28	⇑iP		Pn	00 41 19.7 +3.2
	baz=24						
KZA				⇑iS		Sb	00 41 59.4 +0.8
	baz=24						
KZA	Kyzart	2.96	28	P		Pb	00 41 20.5 -1.3
	SNR=11						
EKS2	Erkin-Say	3.19	6	⇑eP		Pb	00 41 23.8 -1.7
	baz=3.0						
EKS2				⇑iS		Sb	00 42 06.1 +1.2
	baz=3.0						
EKS2	Erkin-Say	3.19	6	P		Pb	00 41 24.9 -0.6
	SNR=17						
MRKS	Merke	3.26	358	Pg		Pb	00 41 26.5 -0.2
	38nm,0.3s						
MRKS				Lg		Lg	00 42 14.2
	78nm,0.6s						
MRKS	Merke	3.26	358	eP		Pb	00 41 26.5 -0.2
	38nm,0.3s						
MRKS				eS		Sg	00 42 14.2 +1.5
	78nm,0.6s						
AAK	Ala-Archa	3.26	15	⇓Pg		Pb	00 41 27.0 +0.1
	14nm,0.4s						
AAK				⇑Lg		Lg	00 42 15.3
	94nm,0.7s						
AAK	Ala-Archa	3.26	15	⇓iP		Pb	00 41 24.8 -2.0
	baz=12						
AAK				⇓iS		Sb	00 42 07.3 +0.2
	baz=12						
AAK	Ala-Archa	3.26	15	Pn		Pb	00 41 26.0 -0.8
	6.0nm,0.3s,baz=170,slow=6.2,SNR=63						
AAK				Lg		Lg	00 42 12.1
	9.9nm,0.3s,baz=137,slow=3.8,SNR=4.6						
AAK	Ala-Archa	3.26	15	P		Pb	00 41 26.2 -0.7
	SNR=23						
KBK	Karagaybulak	3.39	20	⇑iP		Pn	00 41 26.1 +3.9
	baz=17						
KBK				⇑iS		Sb	00 42 09.6 -1.1
	baz=17						
KBK	Karagaybulak	3.39	20	P		Pb	00 41 28.0 -1.0
	SNR=9.3						
FRU1	Bishkek	3.46	16	⇑iP		Pn	00 41 27.0 +4.0
	baz=13						
FRU1				⇑iS		Sb	00 42 11.4 -1.2
	baz=13						
ULHL	Ulahol	3.52	37	⇑eP		Pn	00 41 27.0 +3.0
	baz=33						
ULHL				⇑iS		Sb	00 42 11.7 -2.8
	baz=33						
ULHL	Ulahol	3.52	37	P		Pg	00 41 34.4 -1.0
	SNR=6.4						
BOOM	Boomskoye usch	3.58	32	⇑iP		Pn	00 41 28.1 +3.3
	baz=28						
BOOM				⇑iS		Sb	00 42 13.6 -2.6
	baz=28						
CHMS	Chumysh	3.66	16	P		Pb	00 41 31.3 -2.3
	SNR=14						
IUG	Iuzhnay	3.67	318	Pg		Pb	00 41 33.2 -0.5
	7.2nm,0.5s						
IUG				Lg		Lg	00 42 25.5
	192nm,0.7s						
IUG	Iuzhnay	3.67	318	eP		Pb	00 41 33.2 -0.5
	7.2nm,0.5s						
IUG				eS		Sg	00 42 25.5 -0.4
	192nm,0.7s						
DZA	Taraz	3.73	336	Pg		Pb	00 41 34.3 -0.5
	61nm,0.1s						
DZA				Lg		Lg	00 42 27.1
	124nm,0.3s						
DZA	Taraz	3.73	336	eP		Pb	00 41 34.3 -0.5
	61nm,0.1s						
DZA				eS		Sg	00 42 27.1 -0.9
	124nm,0.3s						
TKM2	Tokmak 2	3.82	25	⇑Pg		Pb	00 41 37.8 +1.4
	7.3nm,0.4s						
TKM2				⇑Lg		Lg	00 42 33.4
	50nm,0.8s						
USP	Ospenovka	3.87	12	P		Pb	00 41 34.3 -2.9
	SNR=8.6						
KDJ	Kajisay	3.92	46	⇑eP		Pn	00 41 31.1 +1.6
	baz=42						
KDJ				⇑eS		Sn	00 42 19.2 +2.9
	baz=42						
KST	Kastek	4.06	28	Pg		Pb	00 41 40.4 0.0
	6.6nm,0.5s						
KST				Lg		Lg	00 42 37.6
	43nm,0.9s						
KST	Kastek	4.06	28	eP		Pb	00 41 40.4 0.0
	6.6nm,0.5s						
KST				eS		Sg	00 42 37.6 -0.9
	43nm,0.9s						
SGDS	Sogindy	4.08	13	Pg		Pb	00 41 41.7 +1.1
	12nm,0.5s						
SGDS				Lg		Lg	00 42 40.2
	49nm,0.7s						
DGS	Degeres	4.17	25	Pg		Pb	00 41 42.8 +0.6
	15nm,0.6s						
DGS				Lg		Lg	00 42 42.0
	73nm,0.8s						
DGS	Degeres	4.17	25	eP		Pb	00 41 42.8 +0.6
	15nm,0.6s						
DGS				eS		Sg	00 42 42.0 +0.1
	73nm,0.8s						
KK31	Karatay Array	4.20	330	Pn		Pn	00 41 34.3 +1.1
	6.9nm,0.5s,baz=141,slow=12,SNR=66						
KK31				⇑Sn		Sb	00 42 28.6 -5.4
	23nm,0.7s,baz=143,slow=23,SNR=5.1						
IZV	Izvestkoviy	4.31	34	Pg		Pb	00 41 44.2 -0.5
	12nm,0.5s						
IZV				Lg		Lg	00 42 44.4
	64nm,0.4s						
IZV	Izvestkoviy	4.31	34	eP		Pb	00 41 44.2 -0.5
	12nm,0.5s						
IZV				eS		Sg	00 42 44.4 -2.1
	64nm,0.4s						
MTBS	Maitube	4.31	31	Pg		Pb	00 41 44.2 -0.5
	21nm,0.5s						
MTBS				Lg		Lg	00 42 44.4
	22nm,0.5s						
MTBS	Maitube	4.31	31	eP		Pb	00 41 44.2 -0.5
	21nm,0.5s						
MTBS				eS		Sg	00 42 44.4 -2.2
	22nm,0.5s						
BRLS	Borolday	4.43	324	Pg		Pb	00 41 45.7 -0.9
	2.6nm,0.4s						
BRLS				Lg		Lg	00 42 46.3
	15nm,0.9s						
BRLS	Borolday	4.43	324	eP		Pb	00 41 45.7 -0.9
	2.6nm,0.4s						
BRLS				eS		Sg	00 42 46.4 -3.9
	15nm,0.9s						
TNSS	Tian-Shan	4.46	36	Pg		Pb	00 41 47.4 +0.1
	25nm,0.6s						
TNSS				Lg		Lg	00 42 50.3
	25nm,0.7s						
TNSS	Tian-Shan	4.46	36	eP		Pb	00 41 47.5 +0.1
	25nm,0.6s						
TNSS				eS		Sg	00 42 50.3 -1.1
	25nm,0.7s						
AAA	Alma-Ata	4.58	35	Pg		Pb	00 41 50.2 +1.0
	16nm,0.1s						
AAA				Lg		Lg	00 42 55.0
	42nm,0.5s						
AAA	Alma-Ata	4.58	35	eP		Pb	00 41 50.2 +1.0
	16nm,0.1s						
AAA				eS		Sg	00 42 55.0 -0.2
	42nm,0.5s						
MDOK	Medeo	4.61	36	Pg		Pb	00 41 50.6 +1.0
	13nm,0.5s						
MDOK				Lg		Lg	00 42 55.8
	39nm,0.9s						
MDOK	Medeo	4.61	36	eP		Pb	00 41 50.6 +1.0
	13nm,0.5s						
MDOK				eS		Sg	00 42 55.8 -0.2
	39nm,0.9s						
KNDC	Almaty	4.61	35	⇓Pg		Pb	00 41 51.6 +1.9
KNDC				⇑Lg		Lg	00 42 55.4
KOTS	Kotyrbulak	4.69	36	Pg		Pb	00 41 51.9 +0.7
	39nm,0.5s						
KOTS				Lg		Lg	00 42 57.7
	55nm,0.8s						
KOTS	Kotyrbulak	4.69	36	eP		Pb	00 41 51.9 +0.7
	39nm,0.5s						
KOTS				eS		Sg	00 42 57.7 -1.0
	55nm,0.8s						
KTBS	Karatobe	4.90	29	Pg		Pb	00 41 56.9 +2.2
	12nm,0.5s						
KTBS				Lg		Lg	00 43 06.0
	56nm,0.4s						
KTBS	Karatobe	4.90	29	eP		Pb	00 41 56.9 +2.2
	12nm,0.5s						
KTBS				eS		Sg	00 43 06.0 +0.5
	56nm,0.4s						
KUU	Kurty	4.94	26	Pg		Pb	00 41 57.1 +1.9
	6.8nm,0.7s						
KUU				Lg		Lg	00 43 06.5
	49nm,1.1s						
KUU	Kurty	4.94	26	eP		Pb	00 41 57.1 +1.9
	6.8nm,0.7s						
KUU				eS		Sg	00 43 06.5 -0.1
	49nm,1.1s						
CHKK	Chushkaly	5.14	31	Pg		Pb	00 42 00.3 +1.6
	2.1nm,0.3s						
CHKK				Lg		Lg	00 43 12.2
	32nm,0.7s						
CHKK	Chushkaly	5.14	31	eP		Pb	00 42 00.3 +1.6
	2.1nm,0.3s						
CHKK				eS		Sg	00 43 12.2 -1.0
	32nm,0.7s						
SATY	Saty	5.21	45	Pg		Pb	00 42 01.1 +1.1
	22nm,0.6s						
SATY				Lg		Lg	00 43 13.7
	40nm,0.6s						
SATY	Saty	5.21	45	eP		Pb	00 42 01.1 +1.1
	22nm,0.6s						
SATY				eS		Sg	00 43 13.7 -1.8
	40nm,0.6s						
ZHN	Zhinishke	5.30	44	Pg		Pb	00 42 02.3 +0.8
	8.6nm,0.6s						
ZHN				Lg		Lg	00 43 15.2
	28nm,0.4s						
ZHN	Zhinishke	5.30	44	eP		Pb	00 42 02.3 +0.8
	8.6nm,0.6s						
ZHN				eS		Sg	00 43 15.2 -3.2
	28nm,0.4s						
BTLS	Baital	5.58	5	eP		Pb	00 42 10.0 +3.9
	1.6nm,0.3s						
BTLS				eS		Sg	00 43 29.0 +1.9
	9.6nm,0.4s						
UZB	Uzynbulak	5.62	48	Pg		Pb	00 42 08.1 +1.2
	8.1nm,0.7s						
UZB				Lg		Lg	00 43 25.2
	9.1nm,1.0s						
UZB	Uzynbulak	5.62	48	eP		Pb	00 42 08.1 +1.2
	8.1nm,0.7s						
UZB				eS		Sg	00 43 25.2 -3.2
	9.1nm,1.0s						
KPKS	Kokpek	5.64	43	eP		Pb	00 42 08.5 +1.2
	16nm,0.7s						
KPKS				eS		Sg	00 43 26.0 -3.2
	37nm,0.7s						
ARXS	Arharly	5.78	34	Pg		Pb	00 42 12.4 +2.8
	7.3nm,0.5s						
ARXS				Lg		Lg	00 43 33.0
	15nm,0.6s						
ARXS	Arharly	5.78	34	eP		Pb	00 42 12.4 +2.8
	7.3nm,0.5s						
ARXS				eS		Sg	00 43 33.0 -0.7
	15nm,0.6s						
SHLS	Shalkode	5.88	49	Pg		Pg	00 42 17.8 -2.9
	23nm,0.8s						
SHLS				Lg		Lg	00 43 42.0
	31nm,0.6s						
PDGK	Podgornoye	6.00	48	Pg		Pb	00 42 15.7 +2.3
	3.8nm,0.6s						
PDGK				Lg		Lg	00 43 38.0
	9.0nm,0.9s						
TDK	Taldyqorghan	6.66	33	Pg		Pb	00 42 29.0 +4.4
	20nm,0.3s						
TDK				Lg		Lg	00 44 01.5
	38nm,0.6s						
DJR	Jarkent	6.81	43	Pg		Pb	00 42 31.5 +4.3
	8.0nm,1.1s						
DJR				Lg		Lg	00 44 05.9
	11nm,0.9s						
KAPS	Kapalarasan	7.30	35	Pg		Pb	00 42 40.2 +4.7
	3.7nm,0.9s						
KAPS				Lg		Lg	00 44 20.5
	7.5nm,0.9s						
MKAR	Makanchi Array	9.79	39	Pn		Pn	00 42 56.0 +6.1
	0.1nm,0.3s,baz=224,slow=11,SNR=3.8						
MKAR				Lg		Lg	00 45 40.6
	0.1nm,0.3s,baz=232,slow=30,SNR=3.1						
MKAR				LR	LR	00 47 02.0	
	comp=Z,53nm,19.8s,baz=198,slow=40						
WMQ

GEYT Alibeck 12.01 267 Pn Pn 00 43 17.6 -2.8
0.3nm,0.3s,baz=80,slow=10,SNR=2.6
GEYT Sn Sn 00 45 27.5 -7.5
0.1nm,0.3s,baz=90,slow=22,SNR=1.9
AB31 Akbulak array 13.67 320 ⇑P **Pn 00 43 42.8 -0.1**
2.1nm,0.7s,baz=130,slow=13,SNR=19
BVAR Borovoye Array 13.70 352 Pn **Pn 00 43 40.5 -2.7**
0.2nm,0.3s,baz=167,slow=11,SNR=2.6
BVAR Lg Lg 00 47 45.3
0.1nm,0.3s,baz=161,slow=27,SNR=2.5
AKTO Aktyubinsk 15.39 320 ⇑P **Pn 00 44 06.4 +0.2**
1.8nm,0.5s
AKTO Aktyubinsk 15.39 320 Pn **Pn 00 44 02.6 -3.6**
0.1nm,0.3s,baz=118,slow=12,SNR=2.5
AKTO Sn **Sn 00 46 52.0 -5.2**
0.2nm,0.3s,baz=20,slow=17,SNR=1.8
ZALV Zalesovo Beam 16.43 25 Pn **P 00 44 22.6 0.0**
0.2nm,0.3s,baz=218,slow=9.1,SNR=4.6
GTA Gaotai 20.41 82 *eP* **P 00 45 06.1 -0.4**
GTA pP Pn 00 45 10.4 +1.8
GTA sP sP 00 45 13.1 +4.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
KVAR Kislovodsk Arr 23.25 291 LR LR 00 56 11.2
comp=Z,88nm,19.2s,baz=243,slow=41
BRTR Keskin Array B 30.43 283 P **P 00 46 42.3 +0.2**
0.2nm,0.7s,baz=99,slow=8.9,SNR=3.1
FINES FINESS Array B 36.13 323 P **P 00 47 31.1 -0.2**
2.7nm,0.9s,baz=116,slow=8.7,SNR=5.6
ARCES ARCESS Array B 39.15 336 P **P 00 47 56.7 -0.1**
14nm,1.2s,baz=108,slow=8.8,SNR=3.7
NOA NORSAR Array B 43.18 321 P **P 00 48 29.3 -0.8**
0.4nm,0.5s,baz=108,slow=7.5,SNR=3.3
DAV Davao City (W) 56.77 110 LR LR 01 16 24.7
comp=Z,32nm,18.4s,baz=156,slow=38
TORD Torodi Ar. Bea 67.65 269 P **P 00 51 28.3 +1.4**
0.5nm,0.6s,baz=49,slow=5.9,SNR=8.1
WRA Warramunga Arr 82.04 124 P P 00 52 55.9 +5.9
0.4nm,0.7s,baz=322,slow=4.8,SNR=3.2
STKA Stephens Creek 95.09 128 LR LR 01 43 43.4
comp=Z,39nm,20.9s,baz=26,slow=40

IDC 12 00:41:17.9±1.5, 32°.41N×40°.37W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/49, mbtmp3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=217.8km s-min=27.1km az=19.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKL	**Tuckaleechee C**	**35.91**	**287**	LR	LR	01 01 08.6	
	comp=Z,20nm,21.1s,baz=62,slow=33						
TORD	**Torodi Ar. Bea**	**42.92**	**107**	P	P	00 49 18.5	-0.1
	0.8nm,0.9s,baz=309,slow=9.3,SNR=4.2						
H10N2	**ASCENSION HYDR**	**47.01**	**144**	T	T	01 39 21.1	
	baz=328,slow=75						
H10N3	**ASCENSION HYDR**	**47.01**	**144**	T	T	01 39 21.4	
	baz=328						
H10N1	**ASCENSION HYDR**	**47.03**	**144**	T	T	01 39 22.5	
	baz=328,slow=75						
H10S3	**ASCENSION HYDR**	**47.89**	**145**	T	T	01 40 32.4	
	baz=328,slow=74,SNR=9.3						
H10S2	**ASCENSION HYDR**	**47.91**	**145**	T	T	01 40 35.8	
	baz=252,slow=74,SNR=9.3						
TXAR	**Lajitas Array**	**53.71**	**285**	P	P	00 50 41.8	-0.2
	0.2nm,0.6s,baz=74,slow=7.6,SNR=2.3						
PDAR	**Pinedale Array**	**54.40**	**302**	P	P	00 50 47.0	0.0
	0.5nm,0.7s,baz=78,slow=9.4,SNR=4.1						

IDC 12 01:02:06.2±1.5, 49°.41S×124°.64E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/37, mbtmp4.0/4, MS3.3/3, Ms1 3.2/3, ms1mx3.0/12, Error ellipse: s-maj=112.3km s-min=23.9km az=113.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.43**	**328**	T	T	01 23 16.1	
	baz=153,slow=74,SNR=5.4						
H01W2	**Cape Leeuwin H**	**16.43**	**328**	T	T	01 23 18.8	
	baz=153,slow=74,SNR=5.5						
H01W3	**Cape Leeuwin H**	**16.45**	**328**	T	T	01 23 17.3	
	baz=153,slow=74,SNR=4.5						
NWAO	**Narrogin (SRO)**	**17.37**	**339**	LR	LR	01 11 14.5	
	comp=Z,87nm,20.5s,baz=138,slow=32						
STKA	**Stephens Creek**	**21.65**	**42**	P	P	01 06 58.3	+0.1
	7.4nm,0.8s,baz=199,slow=10,SNR=11						
STKA				LR	LR	01 14 19.6	
	comp=Z,45nm,18.4s,baz=205,slow=34						
ASAR	**Alice Springs**	**26.71**	**19**	P	P	01 07 47.5	+0.3
	2.3nm,0.7s,baz=189,slow=9.7,SNR=18						
WRA	**Warramunga Arr**	**30.41**	**18**	P	P	01 08 19.7	-0.5
	1.4nm,1.0s,baz=199,slow=9.4,SNR=4.8						
WRA				LR	LR	01 20 19.9	
	comp=Z,85nm,18.6s,baz=225,slow=36						
SNAA	**Sanae**	**53.66**	**198**	P	P	01 11 28.9	-0.1
	1.8nm,0.9s,baz=136,slow=9.5,SNR=7.0						

*ISCJB **12** 01:07:31.8±0.2, 7°.57S±0°.02×128°.67E±0°.03, h151km, mb4.1/16, Error ellipse: s-maj=3.9km s-min=3.4km az=4.9*
*IDC **12** 01:07:32.3±1.6, 7°.50S×128°.58E, h129km±14km, mb4.0/14, mb1 4.0/19, mb1mx3.8/44, mbtmp4.4/19, Error ellipse: s-maj=16.8km s-min=12.1km az=108.0*
*NEIC **12** 01:07:33.1±1.8, 7°.58S±0°.02×128°.68E±0°.06, h152km±6km, mb4.3/26*
*DJA **12** 01:07:33.7±0.2, 8°.S±3°.×12°.9E±°., h152km±5km, M4.6/12, mB5.0/6, mb4.5/12, MLv4.8/8, Mw(mB)4.3/6*
ISC 12 01:07:33.1±0.4, 7°.62S±0°.04×128°.65E±0°.05, h151km, n95, σ1§52/108, mb4.3/24, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.65**	**98**	P	**Pn**	**01 08 18.2**	**+2.1**
SAUI	**Saumlaki**	**2.65**	**98**	Pn	**Pn**	**01 08 17.1**	**+0.9**
SAUI					**Sn**	01 08 47.6	**-1.7**
SOEI	**Soe**	**4.83**	**244**	P	**Pn**	**01 08 45.1**	**+0.7**
SOEI	**Soe**	**4.83**	**244**		**Pn**	**01 08 45.4**	**+0.9**
SOEI				Sn	**Sn**	**01 09 40.9**	**+1.0**
BATI	**Baumata**	**5.56**	**242**	P	**Pn**	**01 08 54.4**	**+0.3**
	110nm,0.3s,baz=119,slow=1.1,SNR=54						
BATI				S	**Sn**	**01 09 55.5**	**-1.7**
	67nm,0.3s,baz=123,slow=21,SNR=11						
BATI	**Baumata**	**5.56**	**242**	P	**Pn**	**01 08 54.7**	**+0.7**
	258nm,0.6s,3μm1.0nm						
MTN	**Manton Dam**	**5.74**	**155**		**Pn**	**01 08 57.8**	**+1.4**
MTN				Sn	**Sn**	**01 10 02.3**	**+0.8**
FAKI	**Fak Fak**	**5.88**	**38**		**Pn**	**01 08 57.0**	**-1.3**
FAKI				Sn	**Sn**	**01 10 03.0**	**-2.0**
MMRI	**Maumere**	**6.43**	**260**	Pn	**Pn**	**01 09 05.2**	**-0.5**
MMRI				Sn	**Sn**	**01 10 18.3**	**+0.3**
EDFI	**Ende, Flores**	**6.98**	**260**	P	**Pn**	**01 09 14.1**	**+1.0**
SIJI	**Sorong**	**7.19**	**21**	P	**Pn**	**01 09 14.8**	**-1.0**
	10.0nm,0.3s,baz=108,slow=4.6,SNR=36						
SIJI				S	**Sn**	**01 10 32.5**	**-3.9**
	2.1nm,0.3s,baz=181,slow=22,SNR=7.9						
SWI	**Sorong**	**7.19**	**21**	P	**Pn**	**01 09 13.0**	**-2.8**
KNRA	**Kununurra**	**8.01**	**179**		**Pn**	**01 09 28.4**	**+1.7**
KNRA				Sn	**Sn**	**01 10 55.2**	**-0.8**
BKSI	**Bulukumba**	**8.78**	**285**	P	**Pn**	**01 09 37.3**	**+0.4**
BNSI	**Bone**	**9.08**	**290**	P	Pn	01 09 46.7	+5.8
KAPI	**Kappang**	**9.21**	**286**	P	**Pn**	**01 09 40.4**	**-2.4**
	0.6nm,0.3s,baz=80,slow=18,SNR=1.6						
BAKI	**Biak**	**9.79**	**50**	P	**Pn**	**01 09 49.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.82**	**195**	P	**Pn**	**01 10 03.3**	**-0.7**
	1.1nm,0.3s,baz=7.7,slow=9.2,SNR=38						
FITZ				S	**Sn**	**01 11 56.0**	**-7.8**
	3.7nm,0.3s,baz=82,slow=19,SNR=8.3						
FITZ	**Fitzroy Crossi**	**10.82**	**195**		**Pn**	**01 10 03.4**	**-0.6**
FITZ					**Sn**	**01 12 02.8**	**-1.0**
PLAI	**Plampang**	**10.83**	**263**	P	**Pn**	**01 10 02.4**	**-1.8**
WRA	**Warramunga Arr**	**13.44**	**156**	P	**Pn**	**01 10 35.4**	**-2.5**
	1.6nm,0.3s,baz=343,slow=12,SNR=51						
WRA				S	Sn	01 12 57.5	-9.3
	7.2nm,0.3s,baz=337,slow=23,SNR=13						
WRA	**Warramunga Arr**	**13.44**	**156**	P	**Pn**	**01 10 37.9**	**-0.1**
WB2	**Warramunga Arr**	**13.44**	**156**		**Pn**	**01 10 37.9**	**-0.1**
WR0	**Warramunga Arr**	**13.53**	**156**	Pn	**Pn**	**01 10 38.8**	**-0.4**
COEN	**Coen**	**15.59**	**115**	P	**P**	**01 11 05.8**	**-0.2**
COEN				IAmb	IAmb	01 11 11.1	
	comp=Z,7.9nm,0.8s						
PSAD1	**Pilbara Seismi**	**16.18**	**211**		**Pn**	**01 11 12.0**	**-0.1**
PSAD1				IAmb	IAmb	01 11 15.1	
	comp=Z,9.0nm,0.8s						
PSAB2	**Pilbara Seismi**	**16.25**	**211**		**Pn**	**01 11 12.8**	**-0.1**
PSAB2				IAmb	IAmb	01 11 18.0	
	comp=Z,11nm,1.1s						
PSAC1	**Pilbara Seismi**	**16.26**	**211**		**Pn**	**01 11 13.1**	**+0.1**
AS31	**Alice Springs**	**16.74**	**163**	P	**P**	**01 11 18.0**	**-0.5**
ASAR	**Alice Springs**	**16.74**	**163**	P	**Pn**	**01 11 20.9**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=336,slow=9.6,SNR=31						
ASAR				S	**S**	**01 14 19.2**	**-5.8**
	comp=Z,1.4nm,0.3s,baz=320,slow=18,SNR=8.2						
ASAR	**Alice Springs**	**16.74**	**163**		**Pn**	**01 11 19.0**	**+0.1**
STKI	**Sintang**	**18.75**	**293**	P	Pn	01 11 50.3	+7.5
SBUM	**Sibu**	**19.20**	**301**	P	**P**	**01 11 45.5**	**-0.1**
MANU	**Manus Island**	**19.45**	**74**	P	**P**	**01 11 48.3**	**+0.1**
KSM	**Kuching**	**20.40**	**296**	P	**P**	**01 11 58.6**	**+0.1**
FORT	**Forrest**	**23.05**	**181**	P	**P**	**01 12 24.9**	**-0.3**
FORT				IAmb	IAmb	01 12 40.8	
	comp=Z,12nm,0.8s						
MORW	**Morawa**	**24.43**	**208**	P	**P**	**01 12 39.6**	**+1.8**
BBOO	**Buckleboo**	**26.00**	**166**	P	**P**	**01 12 52.4**	**+0.5**
BBOO				IAmb	IAmb	01 12 57.8	
	comp=Z,5.4nm,0.8s						
STKA	**Stephens Creek**	**26.98**	**155**	P	**P**	**01 13 04.2**	**+3.3**
	comp=Z,3.1nm,0.8s,baz=318,slow=10.0,SNR=5.4						
STKA	**Stephens Creek**	**26.98**	**155**	P	**P**	**01 13 00.1**	**-0.8**
RPSI	**Rantau Prapat**	**31.38**	**288**	P	**P**	**01 13 39.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.12**	**312**	P	**P**	**01 14 46.5**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=144,slow=7.6,SNR=18						
CMAR	**Chiang Mai Arr**	**39.12**	**312**	P	**P**	**01 14 46.2**	**+0.1**
CHTO	**Chiang Mai**	**39.34**	**312**	P	**P**	**01 14 47.8**	**-0.2**
CHTO				IAmb	IAmb	01 14 49.6	
	comp=Z,8.4nm,1.0s						
XAN	**Xi'an**	**45.45**	**337**	P	**P**	**01 15 37.1**	**0.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN	**Xi'an**	**45.45**	**337**	P	**P**	**01 15 37.1**	**0.0**
XAN				IAmb	IAmb	01 15 38.3	
	comp=Z,6.5nm,0.7s						
MSVF	**Nonsavu**	**49.10**	**107**		**PcP**	**01 17 27.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**51.66**	**3**	P	**P**	**01 16 25.1**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=198,slow=8.7,SNR=5.5						
USRK	**Ussuriysk Ar.**	**51.66**	**3**	P	**P**	**01 16 24.6**	**+0.2**
ODAN	**Odare**	**52.66**	**312**	*eP*	**P**	**01 16 32.8**	**+0.4**
	comp=Z,12nm,0.4s						
TAPN	**Taplejung**	**52.71**	**313**	*eP*	**P**	**01 16 33.2**	**+0.4**
	comp=Z,13nm,0.5s						
GTA	**Gaotai**	**53.88**	**332**	⇓P	**P**	**01 16 42.2**	**+1.3**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
JIRN	**Jiri**	**53.99**	**312**	*eP*	**P**	**01 16 42.7**	**+0.4**
GUN	**Gumba**	**54.36**	**312**	*eP*	**P**	**01 16 45.3**	**+0.4**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**54.52**	**312**	*eP*	**P**	**01 16 46.2**	**+0.2**
PKIN	**Phulchoki**	**54.53**	**312**	*eP*	**P**	**01 16 46.6**	**+0.6**
KKN	**Kakani**	**54.74**	**312**	*eP*	**P**	**01 16 47.6**	**+0.1**
DMN	**Daman**	**54.77**	**312**	*eP*	**P**	**01 16 48.0**	**+0.3**
GKN	**Gorkha**	**55.33**	**312**	*eP*	**P**	**01 16 51.9**	**+0.3**
KOLN	**Koldanda**	**55.98**	**311**	*eP*	**P**	**01 16 56.7**	**+0.4**
	comp=Z,31nm,0.9s						
DANN	**Dangsing**	**56.17**	**312**	*eP*	**P**	**01 16 58.0**	**+0.2**
	comp=Z,15nm,0.7s						
ULN	**Ulaanbaatar**	**58.45**	**343**	P	**P**	**01 17 13.5**	**+0.3**
ULN				IAmb	IAmb	01 17 15.3	
	comp=Z,6.8nm,1.1s						
SONM	**Songino Array**	**58.61**	**343**	P	**P**	**01 17 16.0**	**+1.7**
	comp=Z,5.8nm,0.9s,baz=159,slow=7.8,SNR=16						
SONM	**Songino Array**	**58.61**	**343**	P	**P**	**01 17 15.0**	**+0.7**
PETK	**Petropavlovsk-**	**65.33**	**19**	P	**P**	**01 18 00.4**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=184,slow=4.3,SNR=2.3						
PETK	**Petropavlovsk-**	**65.33**	**19**	P	**P**	**01 17 59.5**	**+0.6**
NIL	**Nilore**	**66.61**	**312**	P	**P**	**01 18 07.7**	**+0.2**
KSH	**Kashi**	**67.58**	**318**	P	**P**	**01 18 15.9**	**+2.3**
KSH				PcP	**PcP**	**01 18 41.9**	**+2.2**
KSH				sP	sP	01 19 04.5	-0.4
KSH				S	**S**	**01 26 55.9**	**-2.6**
KSH				ScS	**SKiKP**	**01 27 52.8**	**-3.5**
KSH				sS	SKSac	01 27 54.8	-2.5
KSH				pmax	pmax		
	comp=Z,550nm,5.4s						
KSH				LR	LR		
	comp=N,330nm,10.5s						
KSH				LR	LR		
	comp=E,240nm,9.6s						
KSH				LR	LR		
	comp=Z,160nm,11.4s						
MK31	**Makanchi Array**	**68.02**	**328**	P	**P**	**01 18 16.5**	**+0.4**
MK31				IAmb	IAmb	01 18 18.1	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**68.02**	**328**	P	**P**	**01 18 17.0**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=115,slow=8.4,SNR=41						
MKAR				pP	**PcP**	**01 18 42.7**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=121,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**68.02**	**328**	P	**P**	**01 18 16.6**	**+0.5**
MKAR				PcP	**PcP**	**01 18 39.5**	**-1.7**
AAK	**Ala-Archa**	**70.15**	**321**	P	**P**	**01 18 30.8**	**+1.3**
	comp=Z,4.0nm,0.9s,baz=115,slow=3.1,SNR=7.3						
AAK	**Ala-Archa**	**70.15**	**321**	P	**P**	**01 18 29.5**	**-0.1**
AAK				IAmb	IAmb	01 18 32.2	
	comp=Z,4.2nm,0.8s						
GAR	**Garm**	**71.16**	**316**	IAmb	IAmb	01 18 38.1	
	comp=Z,9.4nm,1.1s						
ZAA0	**Zalesovo Array**	**71.55**	**334**	IAmb	IAmb	01 18 39.3	
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**71.55**	**334**	P	**P**	**01 18 37.9**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=132,slow=5.2,SNR=14						
ZALV	**Zalesovo Beam**	**71.55**	**334**	P	**P**	**01 18 37.1**	**-0.4**
KURBB	**Kurchatov Arra**	**72.34**	**329**	P	**P**	**01 18 43.1**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=129,slow=5.0,SNR=39						
KURK	**Kurchatov**	**72.35**	**329**	P	**P**	**01 18 42.9**	**+0.6**
KK31	**Karatay Array**	**72.93**	**319**	P	**P**	**01 18 45.7**	**-0.3**
KKAR	**Karatay Array**	**72.93**	**319**	P	**P**	**01 18 46.8**	**+0.8**
KKAR	**Karatay Array**	**72.93**	**319**	P	**P**	**01 18 45.7**	**-0.3**
KKAR				IAmb	IAmb	01 18 48.1	
	comp=Z,3.2nm,1.0s						
BVAR	**Borovoye Array**	**77.87**	**328**	P	**P**	**01 19 14.3**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=124,slow=9.2,SNR=9.1						
NRIK	**Noril'sk**	**81.83**	**346**	P	**P**	**01 19 36.0**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=129,slow=7.3,SNR=5.0						
ABKAR	**Akbulak array**	**82.16**	**322**	P	**P**	**01 19 37.9**	**+0.8**
ABKAR	**Akbulak array**	**82.16**	**322**	P	**P**	**01 19 37.7**	**+0.6**
ABKAR				IAmb	IAmb	01 19 38.6	
	comp=Z,3.1nm,0.7s						
AKTO	**Aktyubinsk**	**83.74**	**323**	P	**P**	**01 19 46.2**	**+1.0**
	comp=Z,3.6nm,0.7s,baz=115,slow=7.3,SNR=11						
ARU	**Arti**	**85.52**	**328**	P	**P**	**01 19 54.6**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=44,slow=8.1,SNR=3.6						
ILAR	**Eielson Array**	**94.47**	**25**	P	**P**	**01 20 35.8**	**0.0**
	comp=Z,0.2nm,0.6s,baz=258,slow=2.7,SNR=3.2						
TXAR	**Lajitas Array**	**126.39**	**59**	PKP	**PKiKP**	**01 26 19.8**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=266,slow=1.4,SNR=3.4						
TXAR	**Lajitas Array**	**126.39**	**59**		**PKPdf**	**01 26 18.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**127.61**	**281**	PKP	**PKiKP**	**01 26 23.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=99,slow=2.1,SNR=8.8						
TORD	**Torodi Ar. Bea**	**127.61**	**281**		**PKiKP**	**01 26 22.8**	**+0.8**
LPAZ	**La Paz**	**151.02**	**145**	PKPbc	**PKiKP**	**01 27 11.8**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=252,slow=8.9,SNR=3.6						
LPAZ	**La Paz**	**151.02**	**145**	PKPdf	**PKPdf**	**01 27 03.2**	**-0.9**
LPAZ					**PKPbc**	**01 27 09.2**	**-0.7**

IDC 12 01:09:34.9±1.1, 5°.90S×150°.16E, h170km±19km, mb3.3/2, mb1 3.5/4, mb1mx3.2/33, mbtmp3.9/4, Error ellipse: s-maj=85.6km s-min=11.3km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.44**	**50**	P	Pn	01 10 15.8	-0.7
	10nm,0.3s,baz=199,slow=18,SNR=2.9						
KRVT				S	Sn	01 10 49.3	+0.7
	4.1nm,0.3s,baz=258,slow=14,SNR=1.9						
PMG	**Port Moresby**	**4.58**	**220**	P	Pn	01 10 43.9	+0.7
	10nm,0.3s,baz=44,slow=7.8,SNR=11						
PMG				S	Sn	01 11 36.8	+0.1
	7.7nm,0.3s,baz=271,slow=6.8,SNR=3.3						
SONM	**Songino Array**	**65.89**	**329**	P	P	01 20 02.4	0.0
	0.5nm,0.5s,baz=132,slow=5.9,SNR=2.5						
ILAR	**Eielson Array**	**84.17**	**23**	P	P	01 21 46.4	-0.3
	0.4nm,0.6s,baz=248,slow=5.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.10**	**285**	PKPbc	PKPbc	01 29 01.4	-0.2
	0.3nm,0.8s,baz=72,slow=2.7,SNR=1.6						

*ISCJB **12** 01:36:18.4±1.0, 17°.81S±0°.06×69°.7W±0°.1, h140km±7km, mb3.7/1, Error ellipse: s-maj=18.3km s-min=8.0km az=22.4*
*GUC **12** 01:36:19.9±0.6, 17°.89S×69°.66W, h124km±4km, ML3.2*
*IDC **12** 01:36:23.9±5.9, 17°.31S×69°.42W, h165km±33km, mb3.6/2, mb1 3.5/2, mb1mx3.2/30, mbtmp4.1/2, Error ellipse: s-maj=106.3km s-min=68.2km az=177.0*
ISC 12 01:36:18.6±1.4, 17°.80S±0°.07×69°.7W±0°.1, h137km±9km, n10, σ0§86/18, 4C-3D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.57**	**161**	⇑*iP*	**Pn**	**01 36 40.2**	**+0.6**
PB16				*i* S	**Sn**	**01 36 55.3**	**-0.3**
PB12	**IPOC Station P**	**1.01**	**216**	⇑*iP*	**Pn**	**01 36 42.9**	**+0.5**
PB12				*i* S	**Sn**	**01 37 00.4**	**-0.1**
PB12				IAML		01 37 01.1	
	comp=E,632nm,0.2s						
MNMC	**Minye Minye**	**1.33**	**176**	⇑*iP*	**Pn**	**01 36 46.1**	**+0.4**
MNMC				*e*S	**Sn**	**01 37 06.1**	**-0.4**
MNMC				IAML		01 37 13.5	
	comp=E,607nm,0.2s						
PSGC	**Pisagua**	**1.84**	**192**	⇓*iP*	**Pn**	**01 36 51.5**	**+0.4**
PSGC				*e*S	**Sn**	**01 37 14.7**	**-1.5**
PSGC				IAML		01 37 16.0	
	comp=N,251nm,0.3s						
GO01	**Chusmiza**	**1.93**	**165**	⇑*iP*	**Pn**	**01 36 53.4**	**+0.8**
GO01				*i* S	**Sn**	**01 37 19.2**	**+0.5**
GO01				IAML		01 37 23.4	
	comp=E,213nm,0.2s						
PB11	**IPOC Station P**	**1.96**	**179**	⇓*iP*	**Pn**	**01 36 53.0**	**+0.3**
PB11				*e*S	**Sn**	**01 37 17.7**	**-1.1**
PB11				IAML		01 37 19.6	
	comp=N,294nm,0.3s						
LPAZ	**La Paz**	**2.12**	**45**	P	**Pn**	**01 36 56.1**	**+1.0**
	comp=N,4.6nm,0.3s,baz=229,slow=9.2,SNR=131						
LPAZ				S	**Sn**	**01 37 21.3**	**-1.7**
	comp=N,1.6nm,0.3s,baz=342,slow=20,SNR=3.1						
PB08	**IPOC Station P**	**2.39**	**167**	⇓*iP*	**Pn**	**01 36 58.7**	**+0.5**
PB08				*e*S	**Sn**	**01 37 27.8**	**-0.8**
PB08				IAML		01 37 29.9	
	comp=E,122nm,0.2s						
BDFB	**Brasilia**	**20.89**	**87**	P	**P**	**01 40 50.4**	**+0.1**
	comp=E,2.5nm,0.4s,baz=263,slow=8.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.86**	**71**	P	**P**	**01 47 56.0**	**-0.1**
	comp=E,0.6nm,0.3s,baz=253,slow=5.4,SNR=5.5						

*ISCJB **12** 01:43:24.7±0.3, 11°.03N±0°.02×62°.26W±0°.03, h107km±3km, mb3.9/10, Error ellipse: s-maj=5.9km s-min=3.2km az=21.2*
*TRN **12** 01:43:25.7, 10°.95N×62°.21W, h103km, MD3.7*
TRN Felt in Trinidad, MMI II, III.
*IDC **12** 01:43:28.3±1.7, 11°.07N×62°.50W, h131km±20km, mb3.7/9, mb1 3.8/12, mb1mx3.5/53, mbtmp4.1/12, MS3.1/3, Ms1 3.1/3, ms1mx2.7/33, Error ellipse: s-maj=21.8km s-min=19.5km az=97.0*
ISC 12 01:43:25.0±0.6, 10°.98N±0°.04×62°.28W±0°.04, h104km±6km, n72, σ1§78/99, mb4.0/10, 4C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.34**	**170**	*i* P	**Pn**	**01 43 40.9**	**+0.6**
GUIV				*e*S	**Sn**	**01 43 51.1**	**-0.5**
TRN	**Trinidad (W)**	**0.93**	**111**	*e*P	**Pn**	**01 43 45.8**	**+0.9**
TRN				*e*S	**Sn**	**01 43 58.9**	**-1.1**
TBH	**Brigand Hill**	**1.29**	**112**	*e*P	**Pn**	**01 43 50.0**	**+1.0**
TBH				*e*S	**Sn**	**01 44 05.0**	**-2.2**
GRGR	**Grenville**	**1.30**	**28**	*e*P	**Pn**	**01 43 49.4**	**+0.2**
GRGR				*e*S	**Sn**	**01 44 07.2**	**-0.2**
GRHS	**Sauteurs**	**1.39**	**27**	*e*P	**Pn**	**01 43 51.2**	**+1.1**
GRHS				*e*S	**Sn**	**01 44 08.9**	**-0.3**
GRSS	**Sisters**	**1.47**	**27**	⇑*iP*	**Pn**	**01 43 52.6**	**+1.6**
GRSS				*e*S	**Sn**	**01 44 11.0**	**+0.1**
TOSP	**Speyside**	**1.75**	**79**	*e*P	**Pn**	**01 43 54.1**	**-0.3**
TOSP				*e*S	**Sn**	**01 44 15.2**	**-1.7**
ORIV	**Oritupano**	**2.20**	**210**	⇑*iP*	**Pn**	**01 44 01.9**	**+1.6**
ORIV				*e*S	**Sn**	**01 44 28.3**	**+0.9**
FCV	**Fort Charlotte**	**2.39**	**25**	*i* P	**Pn**	**01 44 04.7**	**+1.9**
FCV				*e*S	**Sn**	**01 44 31.7**	**-0.1**
PCRV	**Puerto La Cruz**	**2.45**	**251**	P	**Pn**	**01 44 05.5**	**+2.0**
	25nm,0.3s,baz=56,slow=4.3,SNR=128						
PCRV				S	**Sn**	**01 44 34.4**	**+1.2**
	27nm,0.3s,baz=71,slow=15,SNR=16						
SVB	**Belmont**	**2.49**	**24**	*e*P	**Pn**	**01 44 04.2**	**0.0**
SVB	**Belmont**	**2.49**	**24**	*e*	**Pn**	**01 44 05.9**	**+1.7**
SVB				*e*S	**Sn**	**01 44 34.4**	**+0.2**
SVCV	**St. Vincent, C**	**2.54**	**26**	*e*P	**Pn**	**01 44 04.5**	**-0.2**
SVCV	**St. Vincent, C**	**

0.7nm,0.8s,baz=3.4,slow=17,SNR=3.4
SIV pP **pP** **01 49 23.1 +4.4**
1.0nm,0.6s,baz=324,slow=12,SNR=5.4
SIV LR LR 02 00 32.3
comp=Z,58nm,20.3s,baz=140,slow=38
TXAR Lajitas Array 42.65 302 P **P** **01 51 10.7 -0.8**
0.1nm,0.4s,baz=122,slow=8.6,SNR=2.9
TXAR pP **pP** **01 51 38.0 +2.3**
0.7nm,1.0s,baz=126,slow=10,SNR=4.3
TXAR pP **PcP** **01 52 60.0 -1.9**
0.1nm,0.3s,baz=116,slow=5.0,SNR=3.6
MDT Midelt 57.03 58 P **P** **01 53 01.9 +1.4**
4.0nm,1.2s,baz=277,slow=2.0,SNR=3.5
ESDC Sonseca Array 58.78 50 P **P** **01 53 13.8 +1.3**
0.8nm,0.7s,baz=255,slow=8.3,SNR=5.1
TORD Torodi Ar. Bea 62.46 81 P **P** **01 53 39.2 +1.4**
1.6nm,0.5s,baz=292,slow=7.1,SNR=37
NOA NORSAR Array B 72.48 29 P **P** **01 54 40.4 +0.2**
2.0nm,0.9s,baz=263,slow=6.2,SNR=3.8
HFS Hagfors 73.57 30 P **P** **01 54 47.0 +0.5**
2.5nm,0.9s,baz=260,slow=0.9,SNR=5.5
ARCES ARCESS Array B 79.02 21 P **P** **01 55 16.9 -0.3**
2.5nm,0.8s,baz=268,slow=6.3,SNR=3.6
FINES FINESS Array B 79.66 29 P **P** **01 55 21.6 +0.7**
1.3nm,0.4s,baz=276,slow=4.5,SNR=12
BRTR Keskin Array B 87.58 50 P **P** **01 56 02.6 +0.7**
0.9nm,0.7s,baz=280,slow=6.6,SNR=6.3

*SJA **12** 02:00:47.9±0.8,24°.06S×66°.80W,h204km±13km,ML2.8, MW2.9*
*ISCJB **12** 02:00:49.5±1.3,23°.89S±0°.07×66°.93W±0°.07, h209km±17km, Error ellipse: s-maj=11.3km s-min=10.3km az=14.3*
*GUC **12** 02:00:49.8±0.6,23°.91S×67°.21W,h224km±11km,ML3.6*
ISC 12 02:00:47.9±2.9,23°.93S±0°.08×66°.85W±0°.08, h218km±24km,n19,σ1§05/33,6C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.50**	**62**	*i* P	**Pn**	**02 01 23.6**	**-0.1**
HJA				IAML		02 01 26.4	
comp=Z,28nm,0.6s							
YJA	**Yavi**	**2.13**	**35**	*i* P	**Pn**	**02 01 30.3**	**+0.7**
YJA				IAML		02 01 31.4	
comp=Z,3.5nm,0.3s							
LVC	**Limon Verde**	**2.30**	**304**	*e*P	**Pn**	**02 01 32.3**	**+0.9**
LVC				*i* S	**S**	**02 02 04.6**	**-0.3**
LVC	**Limon Verde**	**2.30**	**304**	*i* P	**Pn**	**02 01 32.2**	**+0.9**
LVC				IAML		02 01 33.1	
comp=Z,18nm,0.1s							
LVC				*e*S	**S**	**02 02 05.0**	**+0.1**
PB15	**IPOC Station P**	**2.51**	**286**	⇑*i*P	**Pn**	**02 01 34.2**	**+0.9**
PB15				*i* S	**S**	**02 02 07.8**	**-0.7**
PB15	**IPOC Station P**	**2.51**	**286**	*i* P	**Pn**	**02 01 34.2**	**+0.9**
PB15				*e*S	**S**	**02 02 07.8**	**-0.7**
PB06	**IPOC Station P**	**2.78**	**295**	⇑*i*P	**Pn**	**02 01 37.1**	**+0.9**
PB06				*i* S	**S**	**02 02 12.4**	**-1.4**
PB06				IAML		02 02 13.8	
comp=N,75nm,0.5s							
PB06	**IPOC Station P**	**2.78**	**295**	*i* P	**Pn**	**02 01 37.1**	**+0.9**
PB06				*e*S	**S**	**02 02 12.8**	**-1.0**
GO02	**Mina Guanaco**	**2.78**	**243**	⇑*i*P	**Pn**	**02 01 37.1**	**+0.7**
GO02				*i* S	**S**	**02 02 13.7**	**-0.3**
GO02				IAML		02 02 16.4	
comp=E,209nm,0.1s							
PB09	**IPOC Station P**	**3.06**	**313**	*e*P	**Pn**	**02 01 40.7**	**+1.3**
PB09				*e*S	**S**	**02 02 21.2**	**+1.7**
PB09	**IPOC Station P**	**3.06**	**313**	*i* P	**Pn**	**02 01 40.8**	**+1.3**
PB09				IAML		02 01 41.8	
comp=Z,34nm,0.1s							
PB09				*e*S	**S**	**02 02 20.1**	**+0.6**
PB03	**IPOC Station P**	**3.26**	**304**	⇑*i*P	**Pn**	**02 01 42.3**	**+0.5**
PB03				*i* S	**S**	**02 02 22.1**	**-1.7**
PB03				IAML		02 02 26.5	
comp=E,64nm,0.1s							
PB10	**IPOC Station P**	**3.42**	**276**	*i* P	**Pn**	**02 01 44.1**	**+0.8**
PB10				*i* S	**S**	**02 02 24.8**	**-1.9**
PB10	**IPOC Station P**	**3.42**	**276**	*i* P	**Pn**	**02 01 44.2**	**+0.8**
PB10				IAML		02 01 44.5	
comp=Z,44nm,0.3s							
PB04	**IPOC Station P**	**3.43**	**297**	⇓*i*P	**Pn**	**02 01 44.4**	**+0.7**
PB04	**IPOC Station P**	**3.43**	**297**	*i* P	**Pn**	**02 01 44.4**	**+0.7**
PB04				IAML		02 01 45.0	
comp=Z,62nm,0.1s							
PB07	**IPOC Station P**	**3.56**	**307**	⇑*i*P	**Pn**	**02 01 45.6**	**+0.3**
PB07				*i* S	**S**	**02 02 28.5**	**-1.5**
PB01	**IPOC Station P**	**3.77**	**319**	⇑*i*P	**Pn**	**02 01 48.1**	**+0.4**
PB01				*i* S	**S**	**02 02 33.5**	**-1.0**
PB02	**IPOC Station P**	**3.83**	**312**	*e*P	**Pn**	**02 01 48.6**	**+0.1**
PB02				*e*S	**S**	**02 02 34.1**	**-1.7**

*ISCJB **12** 02:23:11.7±0.6,21°.45S±0°.03×68°.75W±0°.08,h135km±7km, Error ellipse: s-maj=12.3km s-min=4.5km az=179.7*
*GUC **12** 02:23:12.6±0.5,21°.44S×68°.67W,h115km±4km,ML3.3*
*SJA **12** 02:23:12.3±0.6,21°.48S×68°.67W,h125km±4km,ML3.2, MW3.2*
ISC 12 02:23:12.4±1.3,21°.44S±0°.04×68°.72W±0°.07, h127km±11km,n28,σ1§00/47,7C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**234**	⇓*i*P	**Pn**	**02 23 32.3**	**+0.4**
PB09				*i* S	**Sn**	**02 23 46.9**	**+0.2**
PB09	**IPOC Station P**	**0.60**	**234**	*i* P	**Pn**	**02 23 32.3**	**+0.4**
PB09				*e*S	**Sn**	**02 23 47.0**	**+0.2**
PB09				IAML		02 23 47.9	
comp=Z,527nm,0.5s							
PB01	**IPOC Station P**	**0.82**	**299**	⇓*i*P	**Pn**	**02 23 33.4**	**-0.2**
PB01				*i* S	**Sn**	**02 23 49.1**	**-0.4**
PB01				IAML		02 23 50.2	
comp=N,1μm,0.3s							
PB02	**IPOC Station P**	**1.11**	**276**	*e*P	**Pn**	**02 23 36.6**	**+0.4**
PB02				*i* S	**Sn**	**02 23 54.4**	**+0.2**
PB02				IAML		02 23 56.9	
comp=E,979nm,0.2s							
PB07	**IPOC Station P**	**1.13**	**255**	⇓*i*P	**Pn**	**02 23 37.0**	**+0.5**
PB07				*i* S	**Sn**	**02 23 54.9**	**+0.3**
PB07				IAML		02 23 56.6	
comp=E,813nm,0.4s							
PB03	**IPOC Station P**	**1.14**	**238**	*e*P	**Pn**	**02 23 37.0**	**+0.4**
PB03				*i* S	**Sn**	**02 23 55.2**	**+0.3**
PB03				IAML		02 23 55.7	
comp=N,752nm,0.2s							
LVC	**Limon Verde**	**1.18**	**189**	⇑*i*P	**Pn**	**02 23 37.3**	**+0.2**
LVC				*i* S	**Sn**	**02 23 55.6**	**-0.4**
LVC	**Limon Verde**	**1.18**	**189**	⇑*i*P	**Pn**	**02 23 37.4**	**+0.2**
LVC				IAML		02 23 37.6	
comp=Z,106nm,0.2s							
LVC				*e*S	**Sn**	**02 23 55.9**	**-0.1**
PB08	**IPOC Station P**	**1.36**	**342**	⇑*i*P	**Pn**	**02 23 39.5**	**+0.4**
PB08				*i* S	**Sn**	**02 23 59.5**	**+0.2**
PB08				IAML		02 24 00.9	
comp=N,396nm,0.3s							
PB06	**IPOC Station P**	**1.49**	**212**	⇑*i*P	**Pn**	**02 23 40.9**	**+0.6**
PB06				*i* S	**Sn**	**02 24 02.2**	**+0.6**
PB06				IAML		02 24 02.9	
comp=E,421nm,0.1s							
PB06	**IPOC Station P**	**1.49**	**212**	*e*P	**Pn**	**02 23 40.9**	**+0.6**
PB06				*e*S	**Sn**	**02 24 02.3**	**+0.7**
PB06				IAML		02 24 03.2	
comp=Z,287nm,0.3s							
PB04	**IPOC Station P**	**1.60**	**236**	*e*P	**Pn**	**02 23 42.1**	**+0.5**
PB04				*i* S	**Sn**	**02 24 04.6**	**+0.8**
PB04	**IPOC Station P**	**1.60**	**236**	*i* P	**Pn**	**02 23 42.2**	**+0.6**
PB04				*e*S	**Sn**	**02 24 05.1**	**+1.2**
PB04				IAML		02 24 08.6	
comp=Z,380nm,0.1s							
GO01	**Chusmiza**	**1.82**	**346**	⇑*i*P	**Pn**	**02 23 44.7**	**+0.2**
GO01				*i* S	**Sn**	**02 24 10.0**	**+1.0**
GO01				IAML		02 24 13.4	
comp=E,525nm,0.1s							
PB11	**IPOC Station P**	**1.89**	**332**	⇑*i*P	**Pn**	**02 23 45.0**	**-0.1**
PB11				*i* S	**Sn**	**02 24 09.5**	**-0.4**
PB15	**IPOC Station P**	**1.89**	**202**	⇑*i*P	**Pn**	**02 23 45.8**	**+0.7**
PB15				*i* S	**Sn**	**02 24 11.1**	**+1.0**
PB15	**IPOC Station P**	**1.89**	**202**	*i* P	**Pn**	**02 23 45.8**	**+0.7**
PB15				*e*S	**Sn**	**02 24 11.9**	**+1.8**
PSGC	**Pisagua**	**2.26**	**324**	⇑*i*P	**Pn**	**02 23 49.0**	**-0.6**
PSGC				*i* S	**Sn**	**02 24 16.6**	**-1.5**
PSGC				IAML		02 24 24.1	
comp=E,126nm,0.5s							
MNMC	**Minye Minye**	**2.44**	**340**	*e*P	**Pn**	**02 23 52.2**	**+0.1**
MNMC				*e*S	**Sn**	**02 24 23.2**	**+0.8**
PB10	**IPOC Station P**	**2.67**	**219**	*i* P	**Pn**	**02 23 55.3**	**+0.6**
PB10				IAML		02 24 44.6	
comp=Z,30nm,0.2s							
HJA	**Humahuaca**	**3.53**	**120**	*i* P	**Pn**	**02 24 07.3**	**+1.1**
HJA				IAML		02 24 10.8	
comp=Z,7.1nm,0.4s							
PB14	**IPOC Station P**	**3.53**	**206**	⇓*i*P	**Pn**	**02 24 06.7**	**+0.6**
LPAZ	**La Paz**	**5.16**	**6**	*i* P	**Pn**	**02 24 29.7**	**+1.6**
AROD	**Rodeo**	**8.72**	**184**	*i* P	**Pn**	**02 25 16.0**	**+0.2**
ACCO	**Cerro Coronel**	**9.11**	**182**	*i* P	**Pn**	**02 25 19.4**	**-1.8**
AMOG	**MOGNA**	**9.46**	**179**	*i* P	**Pn**	**02 25 22.5**	**-3.0**
RTLL	**Cerro Villicun**	**9.85**	**179**	*i* P	**Pn**	**02 25 27.9**	**-2.8**
RTLL				IAML		02 25 32.2	
comp=Z,2.7nm,0.4s							
TCA	**Tanti**	**10.52**	**160**	*i* P	**Pn**	**02 25 38.3**	**-1.6**
TCA				IAML		02 25 40.6	
comp=Z,1.5nm,0.3s							

*TEH **12** 02:27:23.8,30°.50N×57°.14E,h10km,ML3.8*
*THR **12** 02:27:23.4,30°.42N×57°.11E,h14km,ML3.8*
*ISCJB **12** 02:27:24.8±0.3,30°.50N±0°.03×57°.12E±0°.04,h11km, mb3.6/8, Error ellipse: s-maj=4.7km s-min=3.5km az=25.6*
*IDC **12** 02:27:30.5±2.9,30°.57N×56°.81E,h42km±30km,mb3.5/8, mb1 3.6/11,mb1mx3.4/53,mbtmp3.7/11,ML3.4/3, Error ellipse: s-maj=23.3km s-min=18.6km az=140.0*
ISC 12 02:27:26.1±0.6,30°.52N±0°.04×57°.10E±0°.04,h11km,n49, σ1§42/49,mb3.6/8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHGB	**Koh Gabri**	**0.55**	**255**	*e*Pg	**Pg**	**02 27 35.3**	**-1.6**
KHGB				*e*Sg	**Sg**	**02 27 43.1**	**-1.2**
KHGB				IAMB	IAmb	02 27 45.1	
comp=Z,0.0nm,0.2s							
TVBK	**TV Kerman**	**0.60**	**209**	*e*Pg	**Pg**	**02 27 36.8**	**-1.1**
TVBK				IAMB	IAmb	02 27 48.8	
comp=Z,0.0nm,0.2s							
KRBR	**Kerman**	**0.61**	**209**	*e*Pg	Pg	02 27 34.1	-3.9
KRBR	**Kerman**	**0.61**	**209**	*e*Pg	Pg	02 27 34.0	-3.9
CHMN	**Cheshme madani**	**0.76**	**150**	*e*Pg	Pg	02 27 37.8	-3.0
NGRK	**Negar Kerman**	**0.93**	**200**	*e*Pg	**Pg**	**02 27 42.5**	**-1.5**
NGRK				*e*Sg	**Sg**	**02 27 55.6**	**-0.6**
NGRK				IAMB	IAmb	02 28 01.4	
comp=Z,0.0nm,0.2s							
IBAF	**Bafgh**	**1.69**	**310**	*e*Pn	**Pn**	**02 27 55.8**	**+0.1**
IBAF				IAMB	IAmb	02 28 25.6	
comp=Z,7μm,0.4s							
BSRN	**Basiran**	**2.26**	**50**	*e*Pn	**Pn**	**02 28 03.1**	**-0.4**
BSRN	**Basiran**	**2.26**	**50**	*e*Pn	**Pn**	**02 28 03.1**	**-0.4**
IMEH	**Mehriz**	**2.30**	**293**	*e*Pn	**Pn**	**02 28 04.9**	**+0.7**
IMEH				IAMB	IAmb	02 28 40.6	
comp=Z,5μm,0.4s							
IKOO	**Kooshah**	**2.50**	**40**	IAMB	IAmb	02 28 43.6	
comp=Z,8μm,0.3s							
IKOO				*e*Pn	**Pn**	**02 28 06.3**	**-0.7**
TPRV	**Parvadeh(Tabas**	**2.53**	**352**	IAMB	IAmb	02 28 50.2	
comp=Z,0.0nm,0.5s							
TPRV				*e*Pn	**Pn**	**02 28 07.1**	**-0.1**
NHDN	**Nehbandan**	**2.68**	**70**	IAMB	IAmb	02 28 57.8	
comp=Z,0.0nm,0.5s							
NHDN				*e*Pn	**Pn**	**02 28 08.4**	**-1.0**
ITEG	**Tejag**	**2.76**	**30**	IAMB	IAmb	02 28 59.4	
comp=Z,4μm,0.4s							
ITEG				*e*Pn	**Pn**	**02 28 09.5**	**-0.9**
YZKH	**Yazd**	**2.84**	**312**	*e*Pn	**Pn**	**02 28 11.8**	**+0.4**
YZKH	**Yazd**	**2.84**	**312**	*e*Pn	**Pn**	**02 28 11.8**	**+0.4**
ICHK	**Chekchek**	**2.87**	**307**	*e*Pn	**Pn**	**02 28 12.7**	**+0.7**
ICHK				IAMB	IAmb	02 29 06.8	
comp=Z,3μm,0.6s							
NIAN	**Nian**	**2.96**	**184**	IAMB	IAmb	02 29 12.1	
comp=Z,0.0nm,0.8s							
TABS	**Tabas**	**3.12**	**0**	*e*AML	AML	02 29 10.4	
comp=N,226nm,0.6s							
TABS				*e*Pn	**Pn**	**02 28 15.1**	**-0.3**
GENO	**Geno**	**3.21**	**195**	*e*Pn	**Pn**	**02 28 17.7**	**+1.0**
GENO				IAMB	IAmb	02 29 21.6	
comp=Z,0.0nm,0.9s							
ISAD	**Sadrabad**	**3.24**	**296**	*e*Pn	**Pn**	**02 28 18.6**	**+1.5**
ISAD				IAMB	IAmb	02 29 22.9	
comp=Z,2μm,0.7s							
IDAH	**Dahanechah**	**3.24**	**46**	*e*Pn	**Pn**	**02 28 16.9**	**-0.2**
IDAH				IAMB	IAmb	02 29 15.6	
comp=Z,1μm,0.5s							
AFRZ	**Afriz**	**3.33**	**29**	*e*Pn	**Pn**	**02 28 17.6**	**-0.6**
AFRZ				IAMB	IAmb	02 29 27.1	
comp=Z,0.0nm,0.9s							
IMON	**Monand**	**3.45**	**39**	*e*Pn	**Pn**	**02 28 19.4**	**-0.6**
IMON				IAMB	IAmb	02 29 20.6	
comp=Z,2μm,0.3s							
TNSJ	**Nastanj**	**3.46**	**353**	*e*Pn	**Pn**	**02 28 20.1**	**+0.1**
TNSJ				IAMB	IAmb	02 29 19.7	
comp=Z,0.0nm,1.1s							
ISRV	**Sarvestan**	**3.64**	**253**	*e*Pn	**Pn**	**02 28 24.6**	**+2.0**
ISRV				IAMB	IAmb	02 29 36.5	
comp=Z,636nm,0.9s							
SHRT	**Shahrakht**	**4.13**	**40**	*e*Pn	**Pn**	**02 28 29.2**	**0.0**
SHRT	**Shahrakht**	**4.13**	**40**	*e*Sg	**Sb**	**02 29 33.5**	**+4.7**
SHRT	**Shahrakht**	**4.13**	**40**	*e*Pn	**Pn**	**02 28 29.2**	**0.0**
IRAM	**Ramesheh**	**4.24**	**289**	*e*Pn	**Pn**	**02 28 31.7**	**+0.8**
IRAM				IAMB	IAmb	02 29 59.1	
comp=Z,269nm,0.8s							
IZEF	**Zefreh**	**4.70**	**301**	*e*Pn	**Pn**	**02 28 39.5**	**+2.3**
KRSH	**Karshahi**	**5.43**	**311**	*e*Pn	**Pn**	**02 28 47.8**	**+0.6**
IANJ	**Anjilo**	**5.61**	**332**	*e*Pn	**Pn**	**02 28 49.1**	**-0.6**
IPAY	**Payeh**	**6.12**	**15**	*e*Pn	**Pn**	**02 28 57.4**	**+0.7**
ISHM	**Shahmirzad**	**6.16**	**330**	*e*Pn	**Pn**	**02 28 58.0**	**+0.7**
IKIA	**Kiasar**	**6.35**	**334**	*e*Pn	**Pn**	**02 29 00.5**	**+0.6**
IGLO	**Ghaloghah**	**6.56**	**336**	*e*Pn	**Pn**	**02 29 03.6**	**+0.9**
WSAR	**Wadi Sarin**	**7.38**	**169**	P	**Pn**	**02 29 16.7**	**+2.9**
comp=Z,0.7nm,0.3s,baz=16,slow=9.1,SNR=6.8							
WSAR				S	**Sn**	**02 30 38.4**	**+0.9**
comp=Z,0.4nm,0.3s,baz=292,slow=20,SNR=1.8							
GEYT	**Alibeck**	**7.44**	**6**	P	**Pn**	**02 29 16.2**	**+1.6**
comp=Z,0.6nm,0.3s,baz=199,slow=17,SNR=5.4							
GEYT				S	**Sn**	**02 30 36.0**	**-3.0**
comp=Z,0.2nm,0.3s,baz=188,slow=30,SNR=2.2							
GEYT				Lg	Lg	02 31 18.3	
comp=Z,0.1nm,0.3s,baz=196,slow=19,SNR=3.2							
AKTO	**Aktyubinsk**	**19.91**	**2**	P	**P**	**02 31 57.8**	**+0.3**
comp=Z,0.1nm,0.3s,baz=171,slow=7.0,SNR=2.2							
BRTR	**Keskin Array B**	**21.22**	**302**	P	**P**	**02 32 11.3**	**-0.7**
comp=Z,1.7nm,0.8s,baz=121,slow=12,SNR=12							
BVAR	**Borovoye Array**	**24.50**	**20**	P	**P**	**02 32 45.1**	**-0.2**
comp=Z,1.1nm,0.7s,baz=210,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**25.36**	**43**	P	**P**	**02 32 53.8**	**+0.7**
comp=Z,0.4nm,0.6s,baz=231,slow=9.1,SNR=2.2							
KURBB	**Kurchatov Arra**	**25.69**	**32**	P	**P**	**02 32 57.9**	**+1.9**
comp=Z,1.3nm,0.2s,baz=229,slow=10,SNR=4.0							
ZALV	**Zalesovo Beam**	**30.78**	**32**	P	**P**	**02 33 43.0**	**+1.5**
comp=Z,0.6nm,0.4s,baz=238,slow=8.5,SNR=4.1							
KOLS	**Kolonicke sedl**	**32.11**	**315**	*e*P	**P**	**02 33 54.7**	**+1.4**
ESDC	**Sonseca Array**	**49.94**	**298**	P	**P**	**02 36 17.7**	**-2.4**
comp=Z,0.4nm,0.7s,baz=92,slow=7.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**53.73**	**264**	P	**P**	**02 36 46.5**	**-2.1**
comp=Z,0.8nm,1.0s,baz=75,slow=6.6,SNR=3.9							
ASAR	**Alice Springs**	**91.21**	**117**	P	**P**	**02 40 33.2**	**+1.5**
comp=Z,0.3nm,0.5s,baz=293,slow=4.8,SNR=3.4							

IDC 12 02:32:44.2±1.8,31°.58N×40°.60W,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.4/47,mbtmp3.4/4,MS3.4/2,Ms1 3.4/2, ms1mx2.9/23,Error ellipse: s-maj=103.0km s-min=31.3km az=22.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**41.56**	**119**	LR	LR	02 55 04.7	
comp=Z,44nm,18.5s,baz=326,slow=32							
TORD	**Torodi Ar. Bea**	**42.88**	**106**	P	P	02 40 44.5	-0.2
0.8nm,0.9s,baz=310,slow=6.8,SNR=3.0							
TORD				LR	LR	02 58 19.2	
comp=Z,50nm,18.7s,baz=325,slow=36							
H10N2	**ASCENSION HYDR**	**46.47**	**143**	T	T	03 30 56.3	
baz=329,slow=75,SNR=6.9							
H10N3	**ASCENSION HYDR**	**46.47**	**143**	T	T	03 30 57.5	
baz=329,slow=75,SNR=8.5							
H10N1	**ASCENSION HYDR**	**46.48**	**143**	T	T	03 30 47.4	
baz=329,slow=75,SNR=6.9							
H10S3	**ASCENSION HYDR**	**47.34**	**144**	T	T	03 32 01.5	
baz=252,slow=74,SNR=7.0							
H10S2	**ASCENSION HYDR**	**47.35**	**144**	T	T	03 31 55.9	
baz=328,slow=74,SNR=6.6							
TXAR	**Lajitas Array**	**53.73**	**285**	P	P	02 42 09.0	+0.5
0.2nm,0.8s,baz=84,slow=9.2,SNR=1.7							
PDAR	**Pinedale Array**	**54.67**	**303**	P	P	02 42 14.5	-0.9
0.6nm,0.8s,baz=87,slow=9.1,SNR=3.3							
ILAR	**Eielson Array**	**68.39**	**334**	P	P	02 43 47.6	+0.3
0.5nm,1.0s,baz=77,slow=5.6,SNR=3.1							

IDC 12 03:07:29.3±1.5,31°.33N×40°.85W,h0km,mb3.7/11, mb1 3.9/11,mb1mx3.8/41,mbtmp3.7/11,MS3.6/10, Ms1 3.6/10,ms1mx3.2/46,Error ellipse: s-maj=48.1km s-min=20.1km az=5.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**26.41**	**246**	LR	LR	03 21 34.7	
comp=Z,36nm,19.0s,baz=80,slow=32							
MDP	**Montagnes des**	**28.35**	**205**	LR	LR	03 21 47.2	
comp=Z,47nm,19.9s,baz=17,slow=30							
EKA	**Eskdalemuir Ar**	**35.75**	**37**	LR	LR	03 25 49.4	
comp=Z,239nm,18.2s,baz=255,slow=31							
DAVOX	**Davos/Dischmat**	**41.57**	**53**	LR	LR	03 28 30.5	
comp=Z,100nm,19.7s,baz=310,slow=30							
DBIC	**Dimbokro**	**41.63**	**119**	LR	LR	03 31 36.4	
comp=Z,71nm,18.0s,baz=312,slow=35							
TORD	**Torodi Ar. Bea**	**43.02**	**105**	P	P	03 15 31.4	+0.5
1.2nm,0.8s,baz=302,slow=7.7,SNR=5.8							
TORD				LR	LR	03 31 02.0	
comp=Z,41nm,21.7s,baz=330,slow=33							
GERES	**GERESS Array B**	**44.24**	**50**	P	P	03 15 40.9	+0.5
0.7nm,0.7s,baz=256,slow=8.0,SNR=4.2							
ULM	**Lac du Bonnet**	**44.63**	**312**	LR	LR	03 34 17.9	
comp=Z,54nm,19.0s,baz=298,slow=36							
NOA	**NORSAR Array B**	**44.92**	**33**	P	P	03 15 46.4	+0.8
0.8nm,0.8s,baz=254,slow=7.8,SNR=2.7							
H10N2	**ASCENSION HYDR**	**46.40**	**143**	T	T	04 05 46.7	
baz=329,slow=75,SNR=42							
H10N3	**ASCENSION HYDR**	**46.40**	**143**	T	T	04 05 45.3	
baz=329,slow=75,SNR=43							
H10N1	**ASCENSION HYDR**	**46.41**	**143**	T	T	04 05 48.1	
baz=329,slow=75,SNR=35							
H10S3	**ASCENSION HYDR**	**47.26**	**144**	T	T	04 07 02.1	
baz=252,slow=74,SNR=27							
H10S2	**ASCENSION HYDR**	**47.28**	**144**	T	T	04 06 47.2	
baz=328,slow=74,SNR=26							
TXAR	**Lajitas Array**	**53.59**	**285**	P	P	03 16 52.6	+0.1
0.2nm,0.7s,baz=98,slow=6.8,SNR=2.2							
AKASG	**Malin Array Be**	**54.21**	**47**	P	P	03 16 56.6	+0.1
0.3nm,0.4s,baz=279,slow=6.5,SNR=4.8							
PDAR	**Pinedale Array**	**54.63**	**303**	P	P	03 17 00.3	+0.2
0.7nm,0.7s,baz=79,slow=7.7,SNR=7.1							
PDAR				LR	LR	03 39 06.3	
comp=Z,68nm,19.1s,baz=54,slow=35							
BRTR	**Keskin Array B**	**59.61**	**59**	P	P	03 17 33.2	-2.0
0.7nm,1.0s,baz=290,slow=6.0,SNR=3.4							
NVAR	**Mina Array Bea**	**62.21**	**300**	P	P	03 17 52.3	-0.7
0.2nm,0.3s,baz=78,slow=8.4,SNR=3.5							
NVAR				LR	LR	03 44 03.9	
comp=Z,96nm,18.8s,baz=86,slow=35							
INK	**Inuvik**	**62.26**	**335**	P	P	03 17 52.3	-0.3
1.3nm,0.5s,baz=72,slow=5.2,SNR=3.0							
BBB	**Bella Bella**	**64.35**	**317**	LR	LR	03 46 16.6	
comp=Z,69nm,18.1s,baz=150,slow=36							
ILAR	**Eielson Array**	**68.52**	**334**	P	P	03 18 33.7	+0.5
0.9nm,1.0s,baz=64,slow=8.1,SNR=4.5							
ZALV	**Zalesovo Beam**	**82.96**	**29**	P	P	03 19 55.5	-0.5
0.8nm,0.6s,baz=320,slow=6.2,SNR=2.9							

*IDC **12** 03:18:28.3±8.1,18°.49S×173°.52W,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.8/29,mbtmp3.9/3,Error ellipse: s-maj=353.0km s-min=36.7km az=141.0*
*ISCJB **12** 03:18:33.7±1.0,17°.8S±0°.2×174°.3W±0°.2,h35km,mb4.0/3, Error ellipse: s-maj=36.1km s-min=8.1km az=41.8*
*NEIC **12** 03:18:35.5±1.6,17°.8S±0°.2×174°.4W±0°.2,h35km±2km, mb4.1/5*
ISC 12 03:18:35.6±1.3,17°.9S±0°.2×174°.3W±0°.3,h35km,n13, σ1§29/14,mb3.9/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.64**	**32**	Pn	**Pn**	**03 19 44.0**	**+0.6**
AFI					**Sn**	**03 20 34.8**	**-1.2**
DZM	**Mont Dzumac**	**18.55**	**254**	P	**P**	**03 22 48.6**	**-1.0**
DZM				IAmb	IAmb	03 23 03.4	
comp=Z,16nm,1.0s							
LTZ	**Lake Taylor**	**27.32**	**202**	P	**P**	**03 24 17.1**	**-0.1**
CAN	**Canberra**	**36.85**	**235**	P	**P**	**03 25 40.1**	**-0.7**
WB0	**Warramunga Arr**	**48.42**	**259**	P	**P**	**03 27 15.8**	**+0.9**
WB2	**Warramunga Arr**	**48.44**	**259**	P	**P**	**03 27 14.5**	**-0.6**
WB2				IAmb	IAmb	03 27 22.5	
comp=

comp=Z,0.1nm,0.3s,baz=116,slow=13,SNR=3.6
AKTO Aktyubinsk 21.84 9 P P 03 31 08.6 -0.4
comp=Z,0.9nm,0.5s,baz=173,slow=10,SNR=2.3
FINES FINESS Array B 36.91 339 P P 03 33 24.3 -0.7
comp=Z,2.2nm,0.7s,baz=146,slow=11,SNR=12
HFS Hagfors 40.64 331 P P 03 33 55.2 -1.2
comp=Z,2.3nm,0.8s,baz=132,slow=8.2,SNR=5.2
ARCES ARCESS Array B 43.48 347 P P 03 34 19.0 -0.4
comp=Z,2.6nm,0.8s,baz=142,slow=7.8,SNR=2.3
TORD Torodi Ar. Bea 49.59 263 P P 03 35 07.2 -0.9
comp=Z,0.3nm,0.5s,baz=68,slow=7.8,SNR=7.2

*IDC **12** 03:36:14.4±2.0,51°.45N×179°.46W,h0km,mb3.5/6, mb1 3.9/7,mb1mx3.6/59,mbtmp3.7/7,ML3.6/1,Error ellipse: s-maj=57.5km s-min=22.5km az=176.0*
*ISCJB **12** 03:36:19.5±0.8,51°.4N±0°.1×179°.26W±0°.09,h45km, mb3.7/7,Error ellipse: s-maj=16.7km s-min=7.4km az=167.9*
*AEIC **12** 03:36:20.9±2.6,51°.2N±0°.1×178°.9W±0°.2,h9km±6km, ML3.4,mb3.7/13(NEIC)*
ISC 12 03:36:20.7±0.9,51°.3N±0°.1×179°.24W±0°.07,h45km,n38, σ1°.34/34,mb3.6/11,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.40**	**68**		**Pn**	**03 36 43.8**	**+0.1**
KIWB				Sn	**Sn**	**03 37 00.8**	**-0.1**
ADK	**Adak**	**1.68**	**70**		**Pn**	**03 36 47.4**	**-0.2**
ADK				Sn	**Sn**	**03 37 07.9**	**0.0**
GSTR	**Great Sitkin T**	**2.12**	**68**	Pn	**Pn**	**03 36 54.5**	**+0.9**
GSTR				Sn	**Sn**	**03 37 17.8**	**-0.8**
SPIA	**Saint Paul Isl**	**7.86**	**38**	Pn	**Pn**	**03 38 13.8**	**+1.5**
UNV	**Unalaska Valle**	**8.15**	**67**	Pn	**Pn**	**03 38 17.3**	**+1.1**
PETK	**Petropavlovsk-**	**14.23**	**286**	Pn	**P**	**03 39 43.3**	**-2.4**
KDAK	**Kodiak Island**	**16.67**	**57**	Pn	**Pn**	**03 40 07.7**	**-3.1**
KDAK	0.2nm,0.3s,baz=244,slow=18,SNR=9.0			Sn	**Sn**	**03 43 11.0**	**-3.8**
KTH	**Kantishna Hill**	**19.33**	**40**	P	**Pn**	**03 40 43.2**	**-0.1**
KTH				IAmb	IAmb	03 40 45.2	
TRF	**Thorofare Moun**	**19.54**	**41**	P	**Pn**	**03 40 45.5**	**-0.3**
TRF	comp=Z,6.9nm,1.0s			IAmb	IAmb	03 40 49.1	
IMAR	**Indian Mountai**	**19.55**	**32**	P	**P**	**03 40 44.7**	**+0.5**
MLY	**Manley**	**20.09**	**36**	P	**P**	**03 40 50.8**	**+0.7**
BWN	**Browne**	**20.18**	**39**	P	Pn	03 40 54.0	+0.8
SCM	**Sheep Creek Mo**	**20.25**	**46**	P	**P**	**03 40 52.0**	**+0.2**
SCM	comp=Z,2.9nm,0.8s			IAmb	IAmb	03 40 55.4	
WRH	**Wood River Hil**	**20.85**	**39**	P	Pn	03 41 00.0	-1.2
CCB	**Clear Creek Bu**	**21.03**	**39**	P	**P**	**03 41 00.4**	**+0.1**
HDA	**Harding Lake**	**21.28**	**40**	P	**P**	**03 41 03.4**	**+0.5**
HDA	comp=Z,3.7nm,1.2s			IAmb	IAmb	03 41 05.2	
ILAR	**Eielson Array**	**21.44**	**39**	P	**P**	**03 41 04.5**	**-0.2**
GLB	**Gilahina Butte**	**21.78**	**49**	P	**P**	**03 41 09.5**	**+1.1**
GLB	comp=Z,5.7nm,1.2s			IAmb	IAmb	03 41 24.7	
VRDI	**Verde Repeater**	**21.91**	**49**	P	**P**	**03 41 10.6**	**+0.7**
VRDI	comp=Z,4.6nm,1.1s			IAmb	IAmb	03 41 19.9	
RIDG	**Independent Ri**	**21.91**	**42**	P	**P**	**03 41 11.4**	**+1.7**
SCRK	**Sand Creek**	**22.34**	**42**	P	**P**	**03 41 13.7**	**-0.8**
SCRK	comp=Z,1.5nm,0.9s			IAmb	IAmb	03 41 27.6	
BCAR	**Beaver Creek A**	**23.05**	**45**	P	**P**	**03 41 21.2**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**33.38**	**204**	T	T	04 18 10.2	
	baz=16,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**33.39**	**204**	T	T	04 18 13.5	
	baz=16,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**33.40**	**204**	T	T	04 18 12.3	
	baz=16,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**34.60**	**204**	T	T	04 19 54.9	
	baz=16,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**34.62**	**204**	T	T	04 19 49.1	
	baz=16,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**34.62**	**204**	T	T	04 19 48.7	
	baz=16,slow=75,SNR=14						
YKA	**Yellowknife Ar**	**35.45**	**46**	P	**P**	**03 43 12.0**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=282,slow=9.4,SNR=4.3						
PD31	**Pinedale Array**	**46.58**	**72**	P	**P**	**03 44 44.6**	**+0.5**
PDAR	**Pinedale Array**	**46.58**	**72**	P	**P**	**03 44 44.2**	**0.0**
	comp=Z,1.4nm,0.5s,baz=305,slow=3.4,SNR=18						
PDAR	**Pinedale Array**	**46.58**	**72**	P	**P**	**03 44 44.5**	**+0.3**
SPITS	**Spitsbergen Ar**	**50.39**	**356**	P	**P**	**03 45 15.7**	**+3.0**
	comp=Z,2.6nm,0.4s,baz=29,slow=9.1,SNR=12						
TXAR	**Lajitas Array**	**58.93**	**81**	P	**P**	**03 46 17.0**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.5,SNR=4.3						
TXAR	**Lajitas Array**	**58.93**	**81**	P	**P**	**03 46 15.9**	**+0.6**
MKAR	**Makanchi Array**	**59.84**	**308**	P	**P**	**03 46 20.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=55,slow=6.1,SNR=4.1						
AFI	**Afiamalu**	**65.30**	**172**	P	**P**	**03 46 58.5**	**+0.6**
BRTR	**Keskin Array B**	**84.86**	**335**	P	**P**	**03 48 49.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=29,slow=3.3,SNR=3.2						

IDC 12 03:38:07.8±1.8,4°.15N×126°.76E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/51,mbtmp3.6/5,ML4.4/1,Error ellipse: s-maj=154.6km s-min=22.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.12**	**338**	Pn	Pn	03 38 58.4	0.0
	50nm,0.3s,baz=86,slow=16,SNR=1.6						
WRA	**Warramunga Arr**	**25.08**	**163**	P	P	03 43 34.3	+0.1
	0.6nm,0.7s,baz=343,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**28.52**	**166**	P	P	03 44 05.1	-0.1
	0.3nm,0.8s,baz=339,slow=7.3,SNR=1.9						
MKAR	**Makanchi Array**	**57.23**	**325**	P	P	03 47 56.5	-0.5
	0.2nm,0.5s,baz=128,slow=7.9,SNR=1.7						
KURBB	**Kurchatov Arra**	**61.40**	**327**	P	P	03 48 26.1	+0.4
	0.3nm,0.2s,baz=126,slow=6.5,SNR=1.7						

*ISCJB **12** 03:44:54.1±0.5, 19°.3S±0°.2×172°.39W±0°.07,h13km, mb3.9/6,MS3.2/2,Error ellipse: s-maj=26.7km s-min=7.4km az=168.8*
*IDC **12** 03:44:55.4±2.5, 18°.98S×172°.44W,h0km,mb3.8/6, mb1 4.2/6,mb1mx3.9/37,mbtmp3.8/6,MS3.2/3,Ms1 3.1/3, ms1mx2.8/33,Error ellipse: s-maj=157.7km s-min=24.1km az=152.0*
*NEIC **12** 03:44:58.5±1.0, 19°.3S±0°.2×172°.35W±0°.08,h35km±4km, mb4.3/8*
ISC 12 03:44:55.8±0.7,19°.3S±0°.2×172°.35W±0°.09,h13km,n23, σ0°.97/21,mb4.2/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.30**	**85**		**Pn**	**03 45 34.2**	**+0.7**
NIUE				Sn	**Sn**	**03 46 00.1**	**-1.6**
RAR	**Rarotonga**	**11.96**	**101**	LR	LR	03 50 53.9	
	comp=Z,75nm,21.0s,baz=266,slow=30						
DZM	**Mont Dzumac**	**20.03**	**258**	P	**P**	**03 49 28.8**	**+0.1**
DZM	comp=Z,16nm,1.1s			IAmb	IAmb	03 49 32.0	
PPT	**Papeete**	**21.68**	**89**	LR	LR	03 55 46.0	
	comp=Z,47nm,19.4s,baz=190,slow=30						
LTZ	**Lake Taylor**	**26.77**	**206**	P	**P**	**03 50 35.6**	**+0.2**
LTZ	comp=Z,4.7nm,0.7s			IAmb	IAmb	03 50 53.8	
COEN	**Coen**	**42.85**	**270**	P	**P**	**03 52 53.1**	**-1.0**
AS31	**Alice Springs**	**49.96**	**255**	P	**P**	**03 53 50.0**	**0.0**
ASAR	**Alice Springs**	**49.96**	**255**	P	**P**	**03 53 51.8**	**+1.8**
	comp=Z,6.0nm,0.8s,baz=88,slow=8.6,SNR=36						
ASAR	**Alice Springs**	**49.96**	**255**	P	**P**	**03 53 49.6**	**-0.4**
WB0	**Warramunga Arr**	**50.01**	**260**	P	**P**	**03 53 49.8**	**-0.5**
WB0	comp=Z,4.5nm,0.8s			IAmb	IAmb	03 53 51.9	
WB2	**Warramunga Arr**	**50.02**	**260**	P	**P**	**03 53 50.9**	**+0.4**
WB2	comp=Z,5.9nm,0.9s			IAmb	IAmb	03 53 52.0	
WRA	**Warramunga Arr**	**50.03**	**260**	P	**P**	**03 53 51.3**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=98,slow=6.9,SNR=15						
WRA	**Warramunga Arr**	**50.03**	**260**	P	**P**	**03 53 49.9**	**-0.6**
MTN	**Manton Dam**	**54.49**	**268**	P	**P**	**03 54 22.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**58.46**	**260**	P	**P**	**03 54 50.8**	**-1.1**
FITZ	comp=Z,1.4nm,0.8s			IAmb	IAmb	03 54 54.7	
NVAR	**Mina Array Bea**	**76.58**	**41**	P	**P**	**03 56 46.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=226,slow=9.9,SNR=2.7						
NVAR	**Mina Array Bea**	**76.58**	**41**	P	**P**	**03 56 45.5**	**-0.8**
TXAR	**Lajitas Array**	**81.97**	**55**	P	**P**	**03 57 16.6**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=201,slow=4.8,SNR=2.7						
TXAR	**Lajitas Array**	**81.97**	**55**	P	**P**	**03 57 15.4**	**-0.4**
MAW	**Mawson**	**84.43**	**198**	LR	LR	04 33 02.4	
	comp=Z,23nm,21.8s,baz=258,slow=34						
PDAR	**Pinedale Array**	**84.51**	**41**	P	**P**	**03 57 30.7**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=225,slow=7.5,SNR=2.3						
ILAR	**Eielson Array**	**86.07**	**11**	P	**P**	**03 57 35.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=217,slow=5.9,SNR=1.9						
BRTR	**Keskin Array B**	**149.76**	**318**	PKPbc	**PKiKP**	**04 04 47.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=31,slow=3.7,SNR=2.0						

*IDC **12** 03:51:04.9±0.7,8°.29S×75°.96W,h0km,mb4.1/13, mb1 4.3/21,mb1mx4.2/40,mbtmp4.2/21,ML3.9/7,MS3.6/8, Ms1 3.6/8,ms1mx3.3/38,Error ellipse: s-maj=21.1km s-min=12.3km az=51.0*
*ISCJB **12** 03:51:07.9±0.3,8°.32S±0°.03×75°.98W±0°.05,h33km, mb4.3/17,MS3.6/5,Error ellipse: s-maj=6.8km s-min=3.4km az=159.2*
*VAO **12** 03:51:07.6±0.4,8°.40S×75°.92W,h10km,mb4.6*
*NEIC **12** 03:51:10.6±1.1,8°.38S±0°.07×75°.95W±0°.09,h49km±7km, mb4.6/35*
ISC 12 03:51:09.9±0.4,8°.23S±0°.04×75°.90W±0°.07,h35km,n172, σ1°.84/173,mb4.5/31,MS3.6/5,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.70**	**294**	Pn	**Pn**	**03 51 51.5**	**+0.2**
	27nm,0.3s,baz=127,slow=4.0,SNR=90						
ATAH				Lg	Lg	03 52 27.2	
	43nm,0.3s,baz=263,slow=16,SNR=7.7						
NNA	**Nana**	**3.85**	**194**	Pn	**Pn**	**03 52 05.9**	**-0.8**
	20nm,0.3s,baz=358,slow=9.6,SNR=34						
NNA				Sn	**Sn**	**03 52 55.3**	**+4.5**
	25nm,0.3s,baz=276,slow=20,SNR=8.0						
NNA	**Nana**	**3.85**	**194**		**Pn**	**03 52 04.8**	**-1.9**
NNA					**Sn**	**03 52 48.7**	**-2.0**
PTLC	**Puerto Leguiza**	**8.42**	**8**	*eP*	**Pn**	**03 53 06.7**	**-2.8**
PTLC	**Puerto Leguiza**	**8.42**	**8**	*eP*	**Pn**	**03 53 06.7**	**-2.8**
OTAV	**Otavalo**	**8.79**	**343**		**Pn**	**03 53 17.2**	**+2.2**
OTAV	**Otavalo**	**8.79**	**343**	*eP*	**Pn**	**03 53 17.1**	**+2.1**
FLOC	**Florencia**	**9.75**	**1**	*eP*	**Pn**	**03 53 28.6**	**+0.9**
FLOC	**Florencia**	**9.75**	**1**	*eP*	**Pn**	**03 53 28.6**	**+0.9**
CRUC	**La Cruz**	**9.79**	**354**	*eP*	**Pn**	**03 53 30.6**	**+2.0**
CRUC	**La Cruz**	**9.79**	**354**	*eP*	**Pn**	**03 53 30.6**	**+2.0**
BBAC	**Balboa, Cauca**	**10.27**	**352**	*eP*	**Pn**	**03 53 37.3**	**+2.2**
BBAC	**Balboa, Cauca**	**10.27**	**352**	*eP*	**Pn**	**03 53 37.3**	**+2.2**
SOTA	**Rioblanco**	**10.32**	**356**	*eP*	**Pn**	**03 53 36.6**	**+0.6**
SOTA	**Rioblanco**	**10.32**	**356**	*eP*	**Pn**	**03 53 36.6**	**+0.6**
PCON	**Cinco Dias**	**10.50**	**357**	*eP*	**Pn**	**03 53 41.9**	**+3.4**
PCON	**Cinco Dias**	**10.50**	**357**	*eP*	**Pn**	**03 53 41.9**	**+3.4**
MACC	**Macarena, Meta**	**10.51**	**11**	*eP*	**Pn**	**03 53 39.9**	**+1.8**
MACC	**Macarena, Meta**	**10.51**	**11**	*eP*	**Pn**	**03 53 39.9**	**+1.8**
LPAZ	**La Paz**	**11.03**	**137**	Pn	**Pn**	**03 53 44.8**	**-1.1**
	0.2nm,0.3s,baz=307,slow=11,SNR=7.8						
LPAZ				Sn	**Sn**	**03 55 51.5**	**+3.0**
	0.1nm,0.3s,baz=314,slow=2.4,SNR=1.0						
LPAZ				Lg	Lg	03 56 48.6	
	0.1nm,0.3s,baz=262,slow=9.3,SNR=2.3						
LPAZ				LR	LR	03 58 31.3	
	comp=Z,192nm,20.7s,baz=316,slow=40						
LPAZ	**La Paz**	**11.03**	**137**		**Pn**	**03 53 45.5**	**-0.4**
LPAZ					**Sn**	**03 55 43.6**	**-4.8**
LPAZ	**La Paz**	**11.03**	**137**	*eP*	**Pn**	**03 53 43.5**	**-2.4**
ORTC	**Ortega, Tolima**	**12.07**	**3**	*eP*	**Pn**	**03 54 00.5**	**+0.9**
ORTC	**Ortega, Tolima**	**12.07**	**3**	*eP*	**Pn**	**03 54 00.5**	**+0.9**
YOTC	**Yotoco, Valle**	**12.14**	**358**	*eP*	**Pn**	**03 54 03.9**	**+3.3**
YOTC	**Yotoco, Valle**	**12.14**	**358**	*eP*	**Pn**	**03 54 03.9**	**+3.3**
MNMC	**Minye Minye**	**12.45**	**151**		**Pn**	**03 54 03.9**	**-1.0**
VILC	**Villavicencio,**	**12.46**	**10**	*eP*	**Pn**	**03 54 05.2**	**+0.3**
VILC	**Villavicencio,**	**12.46**	**10**	*eP*	**Pn**	**03 54 05.2**	**+0.3**
SAML	**Samuel**	**12.60**	**94**		**Pn**	**03 54 06.8**	**+0.1**
SAML	**Samuel**	**12.60**	**94**	*eP*	**Pn**	**03 54 06.0**	**-0.7**
PTGC	**Puerto Gaitan,**	**12.90**	**17**	*eP*	**Pn**	**03 54 09.8**	**-1.1**
PTGC	**Puerto Gaitan,**	**12.90**	**17**	*eP*	**Pn**	**03 54 09.8**	**-1.1**
ROSC	**El Rosal**	**13.08**	**7**	*eP*	**P**	**03 54 20.5**	**-3.0**
ROSC	**El Rosal**	**13.08**	**7**	*eP*	**P**	**03 54 20.5**	**-3.0**
ROSC	**El Rosal**	**13.08**	**7**	Pn	**Pn**	**03 54 13.5**	**-0.1**
	0.7nm,0.3s,baz=171,slow=19,SNR=1.7						
ROSC				Sn	**S**	**03 56 54.2**	**-8.4**
	0.6nm,0.3s,baz=31,slow=23,SNR=1.7						
ROSC				Lg	Lg	03 58 18.6	
	0.8nm,0.3s,baz=175,slow=21,SNR=1.3						
ROSC	**El Rosal**	**13.08**	**7**		**Pn**	**03 54 16.8**	**+3.2**
GO01	**Chusmiza**	**13.10**	**151**	Pn	**Pn**	**03 54 12.9**	**-1.1**
GUY2C	**Guyana, Caldas**	**13.37**	**2**	*eP*	**Pn**	**03 54 20.5**	**+2.7**
GUY2C	**Guyana, Caldas**	**13.37**	**2**	*eP*	**Pn**	**03 54 20.5**	**+2.7**
NORC	**Norcasia**	**13.74**	**4**	*eP*	**Pn**	**03 54 25.1**	**+2.7**
NORC	**Norcasia**	**13.74**	**4**	*eP*	**Pn**	**03 54 25.1**	**+2.7**
SPBC	**San Pablo de B**	**13.91**	**8**	*eP*	**Pn**	**03 54 27.1**	**+2.4**
SPBC	**San Pablo de B**	**13.91**	**8**	*eP*	**Pn**	**03 54 27.1**	**+2.4**
RUSC	**La Rusia**	**14.31**	**11**	*eP*	**Pn**	**03 54 31.8**	**+1.2**
RUSC	**La Rusia**	**14.31**	**11**	*eP*	**Pn**	**03 54 31.8**	**+1.2**
PTBC	**PUERTO BERRIO,**	**14.74**	**6**	*eP*	**Pn**	**03 54 37.7**	**+1.7**
PTBC	**PUERTO BERRIO,**	**14.74**	**6**	*eP*	**Pn**	**03 54 37.7**	**+1.7**
TAMC	**Tame, Arauca**	**15.13**	**16**	*eP*	**Pn**	**03 54 43.1**	**+1.8**
TAMC	**Tame, Arauca**	**15.13**	**16**	*eP*	**Pn**	**03 54 43.1**	**+1.8**
PAMC	**Pamplona, Colo**	**15.79**	**12**	*eP*	**Pn**	**03 54 51.0**	**+0.8**
PAMC	**Pamplona, Colo**	**15.79**	**12**	*eP*	**Pn**	**03 54 51.0**	**+0.8**
LVC	**Limon Verde**	**15.80**	**156**	Pn	**Pn**	**03 54 48.4**	**-1.8**
	0.1nm,0.3s,baz=299,slow=10,SNR=2.0						
LVC				LR	LR	04 01 25.5	
	comp=Z,143nm,18.9s,baz=342,slow=39						
LVC	**Limon Verde**	**15.80**	**156**	*eP*	**Pn**	**03 54 48.1**	**-2.1**
LVC	**Limon Verde**	**15.80**	**156**	*eP*	**Pn**	**03 54 48.1**	**-2.1**
SIV	**San Ignacio**	**16.41**	**119**	Pn	**Pn**	**03 54 57.0**	**-0.8**
	0.7nm,0.3s,baz=299,slow=12,SNR=36						
SIV				Lg	Lg	03 59 44.3	
	0.2nm,0.3s,baz=14,slow=21,SNR=3.9						
OCAC	**Ocana**	**16.56**	**9**	*eP*	**P**	**03 55 02.3**	**+0.4**
OCAC	**Ocana**	**16.56**	**9**	*eP*	**P**	**03 55 02.3**	**+0.4**
SMLC	**San Martn de**	**17.02**	**6**	*eP*	**P**	**03 55 07.6**	**+0.8**
SMLC	**San Martn de**	**17.02**	**6**	*eP*	**P**	**03 55 07.6**	**+0.8**
PTGA	**Pitinga**	**17.53**	**66**	P	**Pn**	**03 55 12.6**	**+0.8**
	1.4nm,0.3s,baz=244,slow=12,SNR=19						
PTGA				Lg	Lg	04 00 21.9	
	0.3nm,0.3s,baz=168,slow=23,SNR=1.6						
PTGA				LR	LR	04 02 47.1	
	comp=Z,256nm,18.9s,baz=244,slow=40						
PTGA	**Pitinga**	**17.53**	**66**	P	**P**	**03 55 13.8**	**+1.2**
PTGA	**Pitinga**	**17.53**	**66**	*eP*	**P**	**03 55 13.3**	**+0.7**
SDV	**Santo Domingo**	**17.79**	**17**	P	**Pn**	**03 55 15.2**	**+0.1**
	4.2nm,0.3s,baz=214,slow=17,SNR=4.3						
SDV	**Santo Domingo**	**17.79**	**17**		**P**	**03 55 16.9**	**+1.3**
SDV				IAmb	IAmb	03 55 23.5	
	comp=Z,28nm,0.8s						
SDV	**Santo Domingo**	**17.79**	**17**	*eP*	**P**	**03 55 17.7**	**+2.1**
SJCC	**San Jacinto, C**	**18.02**	**2**	*eP*	**P**	**03 55 20.9**	**+2.9**
SJCC	**San Jacinto, C**	**18.02**	**2**	*eP*	**P**	**03 55 20.9**	**+2.9**
CLDB	**Colider**	**20.00**	**99**	*eP*	**P**	**03 55 39.3**	**-0.4**
CLDB				eS	Sn	03 59 26.9	+1.2
CLDB	**Colider**	**20.00**	**99**	*eP*	**P**	**03 55 39.3**	**-0.4**
CLDB				eS	Sn	03 59 26.9	+1.2
URIC	**Uribia, Colomb**	**20.18**	**11**	*eP*	**P**	**03 55 38.2**	**-3.4**
URIC	**Uribia, Colomb**	**20.18**	**11**	*eP*	**P**	**03 55 38.2**	**-3.4**
PCRV	**Puerto La Cruz**	**21.45**	**32**	P	**P**	**03 55 59.2**	**+3.8**
	comp=Z,10nm,0.5s,baz=204,slow=6.0,SNR=7.5						
PP1B	**Ponte de Pedra**	**22.48**	**117**	*eP*	**P**	**03 56 07.6**	**+1.1**
PP1B	**Ponte de Pedra**	**22.48**	**117**	*eP*	**P**	**03 56 07.6**	**+1.1**
ARAG	**Araguaiana, MT**	**24.69**	**110**	*eP*	**P**	**03 56 28.9**	**+1.0**
ARAG	**Araguaiana, MT**	**24.69**	**110**	*eP*	**P**	**03 56 28.9**	**+1.0**
GRGR	**Grenville**	**24.69**	**35**	P	**P**	**03 56 28.2**	**+0.3**
CPUP	**Villa Florida**	**25.20**	**138**	P	**P**	**03 56 31.9**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=316,slow=11,SNR=9.7						
CPUP				LR	LR	04 09 01.6	
	comp=Z,176nm,18.5s,baz=315,slow=43						
CPUP	**Villa Florida**	**25.20**	**138**	P	**P**	**03 56 30.9**	**-1.5**
MDP	**Montagnes des**	**26.71**	**61**	LR	LR	04 08 05.7	
	comp=Z,101nm,21.7s,baz=229,slow=38						
MPR	**Mayaguez**	**27.66**	**18**	P	**P**	**03 56 55.7**	**+1.1**
PDPR	**Patillas Dam,**	**27.84**	**20**	P	**P**	**03 56 56.8**	**+0.6**
PDPR				IAmb	IAmb	03 56 59.8	
	comp=Z,30nm,1.0s						
SJG	**San Juan**	**27.89**	**20**	P	**P**	**03 56 58.3**	**+1.7**
	comp=Z,31nm,1.0s,baz=208,slow=4.8,SNR=5.8						
SJG	**San Juan**	**27.89**	**20**	P	**P**	**03 56 57.9**	**+1.3**
AOPR	**Arecibo Observ**	**27.91**	**19**	P	**P**	**03 56 56.3**	**-0.6**
PTGB	**Pitanga**	**28.05**	**129**	*eP*	**P**	**03 56 59.5**	**+1.3**
PTGB	**Pitanga**	**28.05**	**129**	*eP*	**P**	**03 56 59.5**	**+1.3**
GCPR	**Guaynabo City**	**28.09**	**20**	P	**P**	**03 56 59.5**	**+1.0**
GCPR				IAmb	IAmb	03 57 03.0	
	comp=Z,18nm,0.9s						
BDFB	**Brasilia**	**28.23**	**108**	P	**P**	**03 57 01.3**	**+1.2**
	comp=Z,3.1nm,0.7s,baz=250,slow=5.2,SNR=4.9						
BDFB				LR	LR	04 09 09.6	
	comp=Z,275nm,18.9s,baz=278,slow=38						
CUPR	**Culebra, Puert**	**28.37**	**22**	P	**P**	**03 57 01.7**	**+0.7**
STVI	**Saint Thomas**	**28.54**	**22**	P	**P**	**03 57 03.6**	**+1.1**
BB19B	**Bebedouro**	**29.33**	**119**	*eP*	**P**	**03 57 09.8**	**+0.2**
BB19B	**Bebedouro**	**29.33**	**119**	*eP*	**P**	**03 57 09.8**	**+0.2**
FRTB	**Fartura**	**29.38**	**124**	*eP*	**P**	**03 57 11.1**	**+1.0**
FRTB	**Fartura**	**29.38**	**124**	*eP*	**P**	**03 57 11.1**	**+1.0**
ITAB	**Concordia**	**29.39**	**133**	*eP*	**P**	**03 57 10.7**	**+0.7**
ITAB	**Concordia**	**29.39**	**133**	*eP*	**P**	**03 57 10.7**	**+0.7**
PMNB	**Patos De Minas**	**30.39**	**113**	*eP*	**P**	**03 57 20.0**	**+0.9**
PMNB	**Patos De Minas**	**30.39**	**113**	*eP*	**P**	**03 57 20.0**	**+0.9**
RCLB	**Rio Claro- Sao**	**30.70**	**121**	*eP*	**P**	**03 57 22.0**	**+0.2**
RCLB	**Rio Claro- Sao**	**30.70**	**121**	*eP*	**P**	**03 57 22.0**	**+0.2**
PLTB	**Pedras Altas**	**31.28**	**142**	*eP*	**P**	**03 57 27.1**	**+0.4**
PLTB	**Pedras Altas**	**31.28**	**142**	*eP*	**P**	**03 57 27.1**	**+0.4**
CMIG	**Matias Romero**	**31.39**	**323**	LR	LR	04 09 13.3	
	comp=Z,22nm,20.8s,baz=60,slow=35						
BSCB	**Bom Sucesso**	**32.61**	**116**	*eP*	**P**	**03 57 39.0**	**+0.4**
BSCB	**Bom Sucesso**	**32.61**	**116**	*eP*	**P**	**03 57 39.0**	**+0.4**
PLCA	**Paso Flores**	**32.72**	**172**	P	**P**	**03 57 38.8**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=354,slow=10.0,SNR=3.2						
PLCA	**Paso Flores**	**32.72**	**172**	P	**P**	**03 57 36.8**	**-2.5**
PLCA	**Paso Flores**	**32.72**	**172**	*eP*	**P**	**03 57 38.0**	**-1.2**
BSFB	**Barra de Sao F**	**35.60**	**111**	*eP*	**P**	**03 58 05.5**	**+1.0**
BSFB	**Barra de Sao F**	**35.60**	**111**	*eP*	**P**	**03 58 05.5**	**+1.0**
CAM01	**Campos-RJ**	**35.62**	**116**	*eP*	**P**	**03 58 05.7**	**+1.0**
CAM01	**Campos-RJ**	**35.62**	**116**	*eP*	**P**	**03 58 05.7**	**+1.0**
RIB01	**Linhares ES**	**36.12**	**112**	*eP*	**P**	**03 58 09.8**	**+0.8**
RIB01	**Linhares ES**	**36.12**	**112**	*eP*	**P**	**03 58 09.8**	**+0.8**
ALF01	**Guarapari-ES**	**36.13**	**114**	*eP*	**P**	**03 58 09.7**	**+0.8**
ALF01	**Guarapari-ES**	**36.13**	**114**	*eP*	**P**	**03 58 09.7**	**+0.8**
656A	**Willston**	**37.92**	**351**	P	**P**	**03 58 21.6**	**-2.4**
656A				IAmb	IAmb	03 58 35.3	
	comp=Z,18nm,1.1s						
RCBR	**Riachuelo**	**39.76**	**89**	*eP*	**P**	**03 58 41.2**	**+1.5**
RCBR	**Riachuelo**	**39.76**	**89**	*eP*	**P**	**03 58 41.2**	**+1.5**
WHTX	**Lake Whitney,**	**44.98**	**334**	P	**P**	**03 59 22.0**	**0.0**
LPAR	**Lepanto**	**45.66**	**344**	P	**P**	**03 59 25.4**	**-1.8**
TX32	**Lajitas Array**	**45.94**	**326**	P	**P**	**03 59 30.3**	**+0.6**
TXAR	**Lajitas Array**	**45.94**	**326**	P	**P**	**03 59 29.9**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=148,slow=8.2,SNR=11						
TXAR	**Lajitas Array**	**45.94**	**326**	P	**P**	**03 59 29.4**	**-0.2**
ABTX	**Abilene, Hawle**	**46.50**	**332**	P	**P**	**03 59 34.8**	**+0.8**
ABTX				IAmb	IAmb	03 59 35.9	
	comp=Z,10.0nm,1.1s						
319A	**Dougl

TUL1	**Leonard**	1.77 111		Pb	04 01 29.9	-0.3
TUL1			Sg	Sg	04 01 54.7	+0.4
TUL1			IAmb_Lg		04 01 56.7	
comp=Z,208nm,0.9s						
X34A	**Smith Ranch, M**	1.96 180		Pb	04 01 32.5	-0.9
X34A			Sg	Sg	04 02 00.1	-0.2
X34A			IAmb_Lg		04 02 03.3	
comp=Z,216nm,0.7s						
WMOK	**Wichita Mounta**	1.98 203	P	Pb	04 01 33.6	-0.2
baz=23						
WMOK			S	Sg	04 02 00.2	-0.8
baz=23						
WMOK	**Wichita Mounta**	1.98 203		Pb	04 01 32.6	-1.2
WMOK				Sb	04 01 58.0	-0.7
WMOK			IAmb_Lg		04 02 01.6	
comp=Z,183nm,0.8s						
CBKS	**Cedar Bluff**	2.71 327		Pn	04 01 42.1	+0.7
CBKS			Sn	Sn	04 02 13.0	-1.4
KSU1	**Kansas State U**	2.71 20	P	Pn	04 01 44.2	+2.8
baz=201						
KSU1			S	Sn	04 02 18.0	+3.6
baz=201						
KSU1	**Kansas State U**	2.71 20	IAmb_Lg		04 02 27.3	
comp=Z,123nm,0.8s						
HHAR	**Hobbs**	3.15 94	Pn	Pn	04 01 48.4	+1.0
HHAR			Sn	Sn	04 02 26.2	+1.0
AMTX	**Amarillo**	3.56 243	Pb	Pb	04 02 03.0	+2.3
baz=61						
AMTX			Sb	Sg	04 02 49.8	-1.8
baz=61						
AMTX	**Amarillo**	3.56 243	Pn	Pn	04 01 54.4	+1.3
AMTX			Sn	Sn	04 02 36.1	+0.8
AMTX			IAmb_Lg		04 03 00.0	
comp=Z,87nm,0.8s						
W39A	**Magazine**	3.56 111	Pn	Pn	04 01 54.5	+1.5
W39A			Sn	Sn	04 02 36.9	+1.7
W39A			IAmb_Lg		04 03 01.1	
comp=Z,130nm,0.8s						
MIAR	**Mount Ida**	4.01 119		Pn	04 02 00.8	+1.6
MIAR			Sn	Sn	04 02 46.7	+0.3
MIAR			IAmb_Lg		04 03 11.8	
comp=Z,62nm,0.7s						
U40A	**Yellville**	4.01 91		Pn	04 02 00.2	+0.8
U40A			Sn	Sn	04 02 47.6	+1.0
U40A			IAmb_Lg		04 03 11.4	
comp=Z,102nm,0.8s						
ABTX	**Abilene, Hawle**	4.21 201	Pn	Pn	04 02 00.5	-1.5
ABTX			Sn	Sn	04 02 51.1	-0.2
MGMO	**Mountain Grove**	4.50 81		Pn	04 02 07.1	+1.1
MGMO			Sn	Sn	04 02 59.5	+1.0
MGMO			IAmb_Lg		04 03 28.7	
comp=Z,71nm,0.9s						
KSCO	**Kaye Shedlock'**	4.52 304		Pn	04 02 07.0	+0.6
KSCO			Sn	Sn	04 03 00.3	+1.1
KSCO			IAmb_Lg		04 03 26.8	
comp=Z,97nm,0.8s						
X40A	**Basin Creek Fa**	4.57 116	Pn	Pn	04 02 09.6	+2.7
X40A			Sn	Sn	04 03 01.6	+1.3
X40A			IAmb_Lg		04 03 34.6	
comp=Z,81nm,0.7s						
WHTX	**Lake Whitney,**	4.57 176	P	Pn	04 02 09.0	+2.0
baz=356						
WHTX			S	Sn	04 03 00.9	+0.6
baz=356						
WHTX	**Lake Whitney,**	4.57 176		Pn	04 02 05.9	-1.1
FCAR	**Ozark Folk Cen**	4.66 97	Pn	Pn	04 02 10.1	+1.9
FCAR			Sn	Sn	04 03 04.1	+1.6
FCAR			IAmb_Lg		04 03 38.7	
comp=Z,56nm,0.8s						
WHAR	**Wooly Hollow**	4.67 104	Pn	Pn	04 02 09.6	+1.3
WHAR			Sn	Sn	04 03 04.1	+1.3
WHAR			IAmb_Lg		04 03 27.1	
comp=Z,95nm,0.7s						
W41B	**Gary Mavity, V**	4.74 105		Pn	04 02 10.3	+1.1
W41B			IAmb_Lg		04 03 31.9	
comp=Z,92nm,0.8s						
MSTX	**Muleshoe**	4.80 239	Pn	Pn	04 02 11.4	+1.1
MSTX			Sn	Sn	04 03 07.2	+1.0
MSTX			IAmb_Lg		04 03 34.7	
comp=Z,49nm,1.0s						
UALR	**University of**	4.81 110	Pn	Pn	04 02 10.4	+0.2
UALR			Sn	Sn	04 03 06.2	+0.1
UALR			IAmb_Lg		04 03 41.1	
comp=Z,69nm,0.9s						
WLAR	**White Oak Lake**	4.81 125	IAmb_Lg		04 03 39.9	
comp=Z,88nm,0.9s						
BGNE	**Belgrade**	4.84 357	P	Pn	04 02 12.6	+1.9
baz=177						
BGNE	**Belgrade**	4.84 357		Pn	04 02 11.6	+0.9
BGNE			IAmb_Lg		04 03 38.4	
comp=Z,84nm,0.7s						
Z41A	**Richland Creek**	5.28 127	IAmb_Lg		04 04 00.1	
comp=Z,76nm,0.9s						
LCAR	**Lake Charles**	5.41 93	Pn	Pn	04 02 19.6	+1.1
LCAR			Sn	Sn	04 03 18.3	-2.7
LCAR			IAmb_Lg		04 03 54.7	
comp=Z,69nm,0.9s						
CCM	**Cathedral Cave**	5.46 72	Pn	Pn	04 02 20.3	+1.2
CCM				Pg	04 02 39.5	-2.4
CCM			IAmb_Lg		04 03 56.4	
comp=Z,61nm,0.8s						
OGNE	**Ogallala**	5.47 324	Pn	Pn	04 02 19.6	+0.2
OGNE			IAmb_Lg		04 03 59.4	
comp=Z,80nm,0.8s						
CCAR	**Cane Creek**	5.62 116	IAmb_Lg		04 04 11.8	
comp=Z,55nm,0.8s						
435B	**Jarrell**	5.77 178	Pn	Pn	04 02 22.8	-0.6
435B			IAmb_Lg		04 04 10.6	
comp=Z,67nm,0.7s						
X43A	**Marvell**	6.02 108	IAmb_Lg		04 04 09.4	
comp=Z,78nm,0.7s						
SDCO	**Great Sand Dun**	6.24 283	Pn	Pn	04 02 29.8	-0.4
Q24A	**Divide**	6.28 295	Pn	Pn	04 02 30.0	-0.6
Q24A			Sn	Sn	04 03 40.5	-2.2
Q24A			IAmb_Lg		04 04 22.8	
comp=Z,53nm,0.8s						
JCT	**Junction City**	6.29 196	Pn	Pn	04 02 32.0	+1.4
SLM	**Saint Louis**	6.37 69	IAmb_Lg		04 04 30.2	
comp=Z,38nm,0.9s						
OXF	**Oxford**	7.16 104	Pn	Pn	04 02 43.9	+1.3
ANMO	**Albuquerque**	7.20 260	Pn	Pn	04 02 44.2	+0.9
S22A	**4UR Ranch, Cre**	7.29 282	Pn	Pn	04 02 44.7	+0.2
L40A	**Anamosa**	7.51 41	IAmb_Lg		04 05 03.6	
comp=Z,60nm,0.8s						
BNM	**Barren Site**	7.58 254	Pn	Pn	04 02 49.9	+1.4
PHWY	**Pilot Hill**	7.60 311	Pn	Pn	04 02 49.3	+0.5
PHWY			IAmb_Lg		04 05 14.4	
comp=Z,38nm,0.8s						
N23A	**Red Feather La**	7.68 307		Pn	04 02 49.3	-0.5
SMCO	**Snowmass**	7.69 293	Pn	Pn	04 02 50.3	+0.2
HDIL	**Hopedale**	7.78 57	Pn	Pn	04 02 51.1	+0.1
Y22D	**IRIS PASSCAL I**	7.84 254	IAmb_Lg		04 05 18.4	
comp=Z,42nm,0.9s						
SUSD	**Miller**	7.92 354	IAmb_Lg		04 05 27.1	
comp=Z,40nm,0.9s						
MNTX	**Cornudas Mount**	7.92 234		Pn	04 02 53.9	+0.9
OLIL	**Olney**	8.02 71	Pn	Pn	04 02 54.1	-0.1
WVT	**Waverly**	8.08 90	Pn	Pn	04 02 54.5	-0.7
WVT			IAmb_Lg		04 05 18.1	
comp=Z,25nm,1.1s						
PLAL	**Pickwick Lake**	8.08 98	IAmb_Lg		04 05 21.6	
comp=Z,29nm,0.9s						
USIN	**University of**	8.22 77	IAmb_Lg		04 05 27.9	
comp=Z,48nm,1.0s						
MVCO	**Mesa Verde**	8.57 277	IAmb_Lg		04 05 46.3	
comp=Z,22nm,1.1s						
T47A	**Sharon Grove**	8.62 84	IAmb_Lg		04 05 45.4	
comp=Z,33nm,0.9s						
RWWY	**Rawlins**	8.90 308	IAmb_Lg		04 06 05.1	
comp=Z,25nm,1.1s						
RSSD	**Black Hills**	8.91 330		Pn	04 03 07.7	+1.0
V48A	**Smith Brothers**	8.94 92	IAmb_Lg		04 05 47.8	
comp=Z,33nm,1.2s						
X48A	**Hartselle**	9.04 100	IAmb_Lg		04 05 48.2	
comp=Z,25nm,0.9s						
K22A	**Casper**	9.05 315		Pn	04 03 09.1	+0.5
K22A			Sn	Sn	04 04 49.6	-1.2
K22A			IAmb_Lg		04 05 55.9	
comp=Z,24nm,0.8s						
SFIN	**Lafayette**	9.24 62	IAmb_Lg		04 05 53.1	
comp=Z,27nm,0.8s						
WCI	**Wyandotte Cave**	9.33 76	IAmb_Lg		04 05 58.8	
comp=Z,24nm,0.8s						
SPMN	**Marine on St.**	9.45 22	IAmb_Lg		04 06 06.9	
comp=Z,31nm,1.1s						
I42A	**Draeger Farm,**	9.99 40	IAmb_Lg		04 06 29.9	
comp=Z,24nm,0.8s						

*ISCJB **12** 04:04:03.9±0.8, 31°.4N±0°.2×40°.7W±0°.1, h10km, mb3.7/8, MS3.6/16, Error ellipse: s-maj=27.5km s-min=11.9km az=166.2*
*IDC **12** 04:04:05.9±1.6, 31°.61N×40°.57W, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/49, mbtmp3.7/8, MS3.6/16, Ms1 3.6/16, ms1mx3.4/47, Error ellipse: s-maj=54.3km s-min=21.7km az=9.0*
*NEIC **12** 04:04:05.3±1.8, 31°.3N±0°.2×40°.6W±0°.1, h12km±4km, mb4.7/7*
ISC 12 04:04:05.4±0.9, **31°.3N**±0°.2×**40°.6W**±0°.1, **h10**km, **n40,** σ1§**42**/23, **mb3.9**/10, **MS3.6**/16, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	12.59	50	Pn	**Pn**	**04 07 03.7**	**-0.9**
CBYP	**Canovanas**	26.22	246	P	**P**	**04 09 40.5**	**-0.2**
CBYP				IAmb	IAmb	04 09 48.2	
comp=Z,24nm,1.1s							
SJG	**San Juan**	26.54	246	LR	LR	04 17 58.3	
comp=Z,53nm,21.1s,baz=82,slow=31							
MDP	**Montagnes des**	28.36	206	LR	LR	04 18 29.4	
comp=Z,75nm,22.0s,baz=350,slow=30							
SCHQ	**Schefferville**	30.03	329	LR	LR	04 21 23.6	
comp=Z,162nm,19.1s,baz=41,slow=35							
Z56A	**Williston**	34.34	284	P	**P**	**04 10 51.1**	**-1.2**
Z56A				IAmb	IAmb	04 11 03.1	
comp=Z,13nm,0.8s							
ROSC	**El Rosal**	41.12	237	LR	LR	04 27 37.6	
comp=Z,70nm,21.3s,baz=85,slow=34							
DBIC	**Dimbokro**	41.44	119	LR	LR	04 27 53.9	
comp=Z,84nm,18.0s,baz=288,slow=34							
TOA0	**Torodi Ar. Sit**	42.83	105	P	**P**	**04 12 00.1**	**-3.8**
TORD	**Torodi Ar. Bea**	42.83	105	P	**P**	**04 12 05.7**	**+1.9**
comp=Z,1.3nm,0.8s,baz=297,slow=7.5,SNR=5.4							
TORD				LR	LR	04 27 59.6	
comp=Z,52nm,20.0s,baz=330,slow=33							
TORD	**Torodi Ar. Bea**	42.83	105	P	**P**	**04 12 04.1**	**+0.3**
GERES	**GERESS Array B**	44.15	50	P	**P**	**04 12 15.6**	**+1.3**
comp=Z,0.9nm,0.7s,baz=283,slow=8.9,SNR=4.2							
GERES	**GERESS Array B**	44.15	50	P	**P**	**04 12 14.4**	**+0.1**
ULM	**Lac du Bonnet**	44.81	312	LR	LR	04 31 31.6	
comp=Z,61nm,18.4s,baz=7.0,slow=37							
NOA	**NORSAR Array B**	44.88	33	LR	LR	04 26 46.3	
comp=Z,45nm,19.4s,baz=265,slow=30							
H10N2	**ASCENSION HYDR**	46.23	143	T	T	05 02 06.4	
baz=329,slow=76,SNR=63							
H10N3	**ASCENSION HYDR**	46.23	143	T	T	05 02 06.7	
baz=329,slow=76,SNR=57							
H10N1	**ASCENSION HYDR**	46.25	143	T	T	05 02 07.9	
baz=329,slow=76,SNR=69							
H10S3	**ASCENSION HYDR**	47.10	144	T	T	05 03 12.2	
baz=329,slow=74,SNR=24							
H10S2	**ASCENSION HYDR**	47.11	144	T	T	05 03 13.5	
baz=251,slow=74,SNR=18							
SUW	**Suwalki**	50.22	44	P	**P**	**04 13 02.4**	**+1.1**
AKASG	**Malin Array Be**	54.12	47	P	**P**	**04 13 28.7**	**-1.8**
comp=Z,0.2nm,0.3s,baz=280,slow=6.5,SNR=3.5							
AKASG	**Malin Array Be**	54.12	47	P	**P**	**04 13 29.5**	**-1.0**
LPAZ	**La Paz**	54.16	213	LR	LR	04 34 30.6	
comp=Z,36nm,19.9s,baz=33,slow=34							
PD31	**Pinedale Array**	54.82	303	P	**P**	**04 13 36.6**	**+0.6**
PD31				IAmb	IAmb	04 13 38.4	
comp=Z,6.0nm,1.4s							
PDAR	**Pinedale Array**	54.82	303	P	**P**	**04 13 36.7**	**+0.8**
comp=Z,1.6nm,0.9s,baz=77,slow=8.4,SNR=8.7							
PDAR				LR	LR	04 35 21.8	
comp=Z,124nm,19.9s,baz=57,slow=34							
PDAR	**Pinedale Array**	54.82	303	P	**P**	**04 13 35.6**	**-0.4**
ELK	**Elko**	59.43	302	LR	LR	04 38 13.6	
comp=Z,111nm,19.3s,baz=66,slow=34							
BRTR	**Keskin Array B**	59.49	60	P	**P**	**04 14 09.2**	**+0.3**
comp=Z,0.5nm,0.8s,baz=308,slow=6.0,SNR=4.0							
BRTR				LR	LR	04 38 12.7	
comp=Z,38nm,18.0s,baz=293,slow=34							
NVAR	**Mina Array Bea**	62.40	300	P	**P**	**04 14 30.1**	**+1.3**
comp=Z,0.4nm,0.6s,baz=75,slow=3.8,SNR=3.8							
NVAR				LR	LR	04 41 06.9	
comp=Z,126nm,18.7s,baz=82,slow=36							
NVAR	**Mina Array Bea**	62.40	300	P	**P**	**04 14 28.6**	**-0.3**
PFO	**Pinyon Flats O**	62.64	294	LR	LR	04 40 41.8	
comp=Z,94nm,18.8s,baz=84,slow=35							
YBH	**Yreka Blue Hor**	64.48	305	LR	LR	04 42 25.3	
comp=Z,61nm,18.3s,baz=123,slow=36							
ILAR	**Eielson Array**	68.66	334	P	**P**	**04 15 08.8**	**+0.2**
comp=Z,1.0nm,1.0s,baz=54,slow=4.6,SNR=6.9							
ILAR	**Eielson Array**	68.66	334	P	**P**	**04 15 08.0**	**-0.6**
ZALV	**Zalesovo Beam**	82.94	29	P	**P**	**04 16 31.5**	**+1.1**
comp=Z,0.5nm,0.3s,baz=285,slow=5.7,SNR=3.5							
AAK	**Ala-Archa**	85.40	42	LR	LR	04 53 51.3	
comp=Z,28nm,19.5s,baz=328,slow=35							
WRAB	**Tennant Creek**	167.85	23		**PKPdf**	**04 24 13.6**	**+1.0**
ASAR	**Alice Springs**	171.02	34	PKP	**PKPdf**	**04 24 17.2**	**+2.7**
comp=Z,0.6nm,0.7s,baz=264,slow=0.9,SNR=5.0							
ASAR	**Alice Springs**	171.02	34		**PKPdf**	**04 24 13.6**	**-0.9**

*MEX **12** 04:10:51.7±0.6, 29°.92N×114°.71W, h19km±23km, MD3.9*
*ECX **12** 04:10:51.0±0.6, 30°.57N×114°.24W, h6km, MD3.4, ML3.6*
ISC 12 04:10:49.5±1.9, **30°.4N**±0°.1×**114°.3W**±0°.1, **h3**km±12km, **n9,** σ1§**06**/17, **3C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	0.75	324⇓	*e*P	**Pg**	**04 11 03.3**	**-0.6**
SFX				*e*S	**Sg**	**04 11 13.3**	**-0.3**
BAHB	**Baha de los**	0.83	125	*e*P	**Sn**	**04 11 20.6**	**-0.2**
SPX	**San Pedro Mart**	1.14	302	*e*P	**Pg**	**04 11 10.8**	**-0.6**
SPX				*e*S	**Sn**	**04 11 27.0**	**-2.0**
SPX			⇑	*e*		04 11 40.6	
SPX				IAML		04 11 40.6	
comp=N,615nm,0.9s							
SPIG	**San Pedro Mart**	1.15	303	*e*P	**Pg**	**04 11 11.7**	**+0.2**
SPIG				*i* S	**Sn**	**04 11 27.5**	**-1.7**
SPIG	**San Pedro Mart**	1.15	303	*e*P	**Pg**	**04 11 11.7**	**+0.2**
SPIG				*e*S	**Sg**	**04 11 27.2**	**+0.8**
RMX	**La Rumorosa**	2.62	326	*e*P	**Pb**	**04 11 38.2**	**+0.9**
RMX				*e*S	**Sb**	**04 12 10.2**	**+0.3**
RMX				IAML		04 12 21.4	
comp=E,170nm,0.7s							
RMX			⇑	*e*		04 12 21.4	
CBX	**Cerro Bola**	2.73	314	*e*P	**Pn**	**04 11 34.0**	**-0.4**
CBX				*i* S	**Sn**	**04 12 08.7**	**+0.7**
CBX	**Cerro Bola**	2.73	314	*e*P	**Pg**	**04 11 40.4**	**-1.5**
CBX				*e*S	**Sb**	**04 12 14.6**	**+1.6**
CBX				*e*		04 12 28.6	
CBX				IAML		04 12 28.6	
comp=N,542nm,0.6s							
CBX			⇑	*e*		04 12 29.1	
CBX				IAML		04 12 29.1	
comp=E,467nm,0.6s							
TJIG	**Tijuana**	2.82	316	*i* P	**Pn**	**04 11 35.4**	**-0.1**
TJIG				*i* S	**Sn**	**04 12 10.4**	**+0.3**

*IDC **12** 04:32:40.0±1.0, 0°.43S×122°.46E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/32, mbtmp3.8/5, ML4.8/1, MS3.6/4, Ms1 3.6/4, ms1mx2.9/40, Error ellipse: s-maj=52.8km s-min=19.4km az=70.0*
*ISCJB **12** 04:32:42.5±0.4, 0°.61S±0°.05×122°.23E±0°.05, h46km, mb3.8/5, MS3.9/2, Error ellipse: s-maj=7.5km s-min=6.3km az=139.8*
*NEIC **12** 04:32:43.7±1.1, 0°.59S±0°.09×122°.30E±0°.05, h43km±10km, mb4.4/13*
ISC 12 04:32:44.6±0.6, **0°.61S**±0°.06×**122°.26E**±0°.06, **h46**km, **n32,** σ1§**44**/33, **mb4.2**/11, **1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	0.67	130		**Pn**	**04 32 56.8**	**-1.0**
LUWI					**Sn**	**04 33 05.8**	**-1.5**
KAPI	**Kappang**	5.04	210	Pn	**Pn**	**04 33 59.5**	**+1.8**
35nm,0.3s,baz=29,slow=7.5,SNR=134							
KAPI				Sn	**Sn**	**04 34 55.2**	**+0.5**
baz=240,slow=20,SNR=3.1							
KAPI				LR	LR	04 36 18.8	
comp=Z,448nm,20.5s,baz=322,slow=41							
KAPI	**Kappang**	5.04	210		**Pn**	**04 33 58.8**	**+1.0**
KAPI					**Sn**	**04 34 54.6**	**-0.1**
BKB	**Balikpapan**	5.40	263	Pn	**Pn**	**04 34 01.3**	**-1.4**
KCP	**Kidapawan**	8.08	20⇑	*e*P	**Pn**	**04 34 42.6**	**+3.2**
DAV	**Davao City (W)**	8.31	23	LR	LR	04 39 01.5	
comp=Z,220nm,18.2s,baz=162,slow=47							
FAKI	**Fak Fak**	10.25	103		**Pn**	**04 35 08.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	11.23	226	Pn	**Pn**	**04 35 22.1**	**-0.5**
XMIS	**Christmas Isla**	19.20	239	P	**P**	**04 37 04.7**	**-0.2**
XMIS				IAmb	IAmb	04 37 20.1	
comp=Z,50nm,1.1s							
WB0	**Warramunga Arr**	22.45	149	P	**P**	**04 37 37.4**	**-2.4**
WB0				IAmb	IAmb	04 37 56.0	
comp=Z,12nm,1.1s							
WRAB	**Tennant Creek**	22.56	149	P	**P**	**04 37 39.1**	**-2.0**
WRAB				IAmb	IAmb	04 37 40.9	
comp=Z,17nm,0.5s							
WRA	**Warramunga Arr**	22.56	149	P	**P**	**04 37 41.9**	**+0.8**
comp=Z,5.2nm,0.7s,baz=331,slow=10,SNR=49							
WRA	**Warramunga Arr**	22.56	149	P	**P**	**04 37 40.4**	**-0.8**
WB2	**Warramunga Arr**	22.57	149	P	**P**	**04 37 42.3**	**+1.1**
WR0	**Warramunga Arr**	22.68	149	P	**P**	**04 37 43.6**	**+1.2**
WR0				IAmb	IAmb	04 37 53.2	
comp=Z,8.3nm,0.7s							
RPSI	**Rantau Prapat**	23.56	278	P	**P**	**04 37 51.2**	**0.0**
RPSI				IAmb	IAmb	04 37 57.1	
comp=Z,10nm,0.8s							
NACB	**Ninganchiao**	24.64	359	P	**P**	**04 38 00.4**	**-0.6**
ASAR	**Alice Springs**	25.56	155	P	**P**	**04 38 11.8**	**+2.4**
comp=Z,1.0nm,0.6s,baz=322,slow=7.1,SNR=18							
ASAR				PcP	**PcP**	**04 41 43.0**	**+3.1**
comp=Z,0.3nm,0.4s,baz=325,slow=1.5,SNR=5.1							
ASAR	**Alice Springs**	25.56	155	P	**P**	**04 38 09.0**	**-0.4**
CMAR	**Chiang Mai Arr**	29.74	311	P	**P**	**04 38 45.9**	**-0.9**
CTAO	**Charters Tower**	30.43	131	P	**P**	**04 38 51.7**	**-1.3**
ASAJ	**Asahikawa**	48.09	20	LR	LR	05 01 28.9	
comp=Z,86nm,21.4s,baz=122,slow=36							
SONM	**Songino Array**	50.19	346	P	**P**	**04 41 36.4**	**+0.5**
comp=Z,0.4nm,0.4s,baz=162,slow=9.2,SNR=2.7							
SONM	**Songino Array**	50.19	346	P	**P**	**04 41 36.1**	**+0.2**
MKAR	**Makanchi Array**	58.74	329	P	**P**	**04 42 40.1**	**+2.2**
comp=Z,0.2nm,0.3s,baz=126,slow=8.2,SNR=3.3							
MKAR	**Makanchi Array**	58.74	329	P	**P**	**04 42 37.4**	**-0.5**
MCQ	**Macquarie Isla**	61.56	157	P	**P**	**04 42 56.8**	**-0.2**
GAR	**Garm**	61.72	316	P	**P**	**04 42 57.5**	**-1.1**
GAR				IAmb	IAmb	04 43 10.1	
comp=Z,4.5nm,1.1s							
ZAA0	**Zalesovo Array**	62.56	336	P	**P**	**04 43 02.7**	**-1.0**
ZAA0				IAmb	IAmb	04 43 20.1	
comp=Z,1.6nm,0.7s							
ZALV	**Zalesovo Beam**	62.56	336	P	**P**	**04 43 04.6**	**+0.9**
comp=Z,0.5nm,0.3s,baz=148,slow=6.6,SNR=2.5							
ZALV	**Zalesovo Beam**	62.56	336	P	**P**	**04 43 03.2**	**-0.4**
FINES	**FINESS Array B**	93.50	331	LR	LR	05 29 35.6	
comp=Z,61nm,18.1s,baz=250,slow=37							

*ECX **12** 04:38:00.9±0.5, 30°.54N×114°.10W, h6km, MD3.6, ML3.8*
*MEX **12** 04:38:01.7±0.5, 30°.03N×114°.68W, h10km, MD3.9*
ISC 12 04:37:58.6±2.0, **30°.7N**±0°.1×**114°.2W**±0°.1, **h14**km±13km, **n10,** σ1§**37**/16, **3C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	0.69	303⇓	*e*P	**Pn**	**04 38 13.1**	**-0.9**
SFX				*e*S	**Sn**	**04 38 23.9**	**-0.6**
BAHB	**Baha de los**	0.89	143	*e*P	**Sn**	**04 38 29.3**	**0.0**
SPX	**San Pedro Mart**	1.17	289	*e*P	**Pg**	**04 38 20.4**	**-0.8**
SPX				*e*S	**Sb**	**04 38 36.0**	**0.0**
SPX	**San Pedro Mart**	1.17	289⇓	*e*	**Sn**	**04 38 38.2**	**+1.4**
SPX				IAML		04 38 38.2	
comp=N,876nm,0.3s							
SPIG	**San Pedro Mart**	1.17	290	*e*P	**Pg**	**04 38 21.5**	**+0.2**
SPIG				*e*S	**Sn**	**04 38 37.2**	**+0.3**
SPIG	**San Pedro Mart**	1.17	290	*e*P	**Pg**	**04 38 22.9**	**+1.6**
RMX	**La Rumorosa**	2.53	321	*e*P	**Pb**	**04 38 43.1**	**-0.7**
RMX				*e*S	**Sb**	**04 39 16.8**	**+2.0**
RMX				IAML		04 39 24.9	
comp=N,250nm,0.6s							
RMX			⇑	*e*		04 39 24.9	
CBX	**Cerro Bola**	2.69	309	*e*P	**Pn**	**04 38 43.5**	**+1.9**
CBX				*i* S	**Sb**	**04 39 18.2**	**-1.3**
CBX	**Cerro Bola**	2.69	309	*e*P	**Pb**	**04 38 46.4**	**-0.2**
CBX				*e*		04 39 38.3	
CBX				IAML		04 39 38.3	
comp=N,702nm,0.7s							
CBX				IAML		04 39 38.9	
comp=E,587nm,0.6s							
CBX			⇑	*e*		04 39 38.9	
TJIG	**Tijuana**	2.77	310⇑	*i*P	**Pb**	**04 38 46.5**	**-1.5**
TJIG				*i* S	**Sb**	**04 39 19.7**	**-2.0**

IDC 12 04:44:41.3±2.1, **3°.86N**×**122°.87E**, **h0**km, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.3**/44, **mbtmp3.5**/3, **Error ellipse: s-maj=330.0km s-min=26.0km az=62.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	26.20	155	P	P	04 50 17.9	-0.1
0.3nm,0.5s,baz=333,slow=9.7,SNR=6.1							
ASAR	**Alice Springs**	29.39	159	P	P	04 50 46.7	+0.1
0.2nm,0.5s,baz=342,slow=7.2,SNR=4.1							
MKAR	**Makanchi Array**	55.30	327	P	P	04 54 16.7	-0.1
0.3nm,0.4s,baz=131,slow=8.6,SNR=3.5							

*ISCJB **12** 04:45:02.2±0.3, 28

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**12.36**	**270**	*e*P	**Pn**	**04 48 00.3**	**-0.9**
	36nm,0.7s						
PKIN	**Phulchoki**	**12.37**	**270**	*e*P	**Pn**	**04 48 00.4**	**-0.9**
	27nm,0.6s						
KKN	**Kakani**	**12.45**	**271**	*e*P	**Pn**	**04 48 02.1**	**-0.3**
	29nm,0.6s						
DMN	**Daman**	**12.62**	**271**	*e*P	**Pn**	**04 48 03.9**	**-0.9**
	24nm,0.6s						
GKN	**Gorkha**	**13.00**	**272**	*e*P	**Pn**	**04 48 08.2**	**-1.6**
WHN	**Wuhan**	**13.27**	**76**	P	**P**	**04 48 21.4**	**-1.8**
DANN	**Dangsing**	**13.75**	**274**	*e*P	**Pn**	**04 48 17.9**	**-2.3**
	32nm,0.6s						
KOLN	**Koldanda**	**13.94**	**272**	*e*P	**Pn**	**04 48 20.2**	**-2.4**
KNMB	**Chin-men Tao**	**17.46**	**98**		**Pn**	**04 49 08.5**	**0.0**
WMQ	**Urumqi**	**18.17**	**332**	*e*P	**P**	**04 49 19.0**	**+1.5**
SONM	**Songino Array**	**20.33**	**14**	P	**P**	**04 49 42.1**	**+0.9**
	0.4nm,0.4s,baz=206,slow=13,SNR=4.7						
SONM	**Songino Array**	**20.33**	**14**	P	**P**	**04 49 40.1**	**-1.1**
TARG	**Taragay, Kyrgy**	**22.14**	**313**	P	**P**	**04 50 00.2**	**-0.8**
TARG				IAmb	IAmb	04 50 09.8	
	comp=Z,7.9nm,1.1s						
MK31	**Makanchi Array**	**22.87**	**329**	P	**P**	**04 50 08.2**	**-0.2**
MK31				IAmb	IAmb	04 50 11.2	
	comp=Z,5.9nm,1.1s						
MKAR	**Makanchi Array**	**22.87**	**329**	P	**P**	**04 50 09.8**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=141,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**22.87**	**329**	P	**P**	**04 50 09.1**	**+0.7**
AAK	**Ala-Archa**	**24.73**	**312**	P	**P**	**04 50 28.6**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=141,slow=12,SNR=4.0						
AAK	**Ala-Archa**	**24.73**	**312**	P	**P**	**04 50 26.2**	**-0.3**
KSRS	**Korea Array**	**25.62**	**62**	LR	LR	05 01 49.0	
	comp=Z,117nm,18.6s,baz=230,slow=40						
GAR	**Garm**	**26.37**	**302**	P	**P**	**04 50 42.7**	**+1.4**
GAR				IAmb	IAmb	04 50 46.5	
	comp=Z,10.0nm,1.0s						
CHGR	**Chuyangaron**	**27.16**	**300**	P	**P**	**04 50 48.2**	**-0.2**
KURBB	**Kurchatov Arra**	**27.38**	**330**	P	**P**	**04 50 49.9**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=134,slow=11,SNR=10						
KURK	**Kurchatov**	**27.41**	**331**	P	**P**	**04 50 49.5**	**-0.9**
MDJ	**Mudanjiang**	**29.09**	**48**	P	**P**	**04 51 02.6**	**-2.9**
MDJ				IAmb	IAmb	04 51 05.9	
	comp=Z,11nm,1.1s						
KLR	**Kul'dur**	**32.46**	**41**	LR	LR	05 06 21.6	
	comp=Z,59nm,20.6s,baz=266,slow=40						
BRTR	**Keskin Array B**	**54.60**	**300**	P	**P**	**04 54 33.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=98,slow=6.3,SNR=4.6						
BRTR	**Keskin Array B**	**54.60**	**300**	P	**P**	**04 54 31.8**	**-2.0**
ARCES	**ARCESS Array B**	**58.22**	**337**	P	**P**	**04 54 59.3**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=97,slow=7.5,SNR=4.1						
WB0	**Warramunga Arr**	**58.51**	**141**	P	**P**	**04 55 00.4**	**-1.1**
WB0				IAmb	IAmb	04 55 10.0	
	comp=Z,2.4nm,0.9s						
WRA	**Warramunga Arr**	**58.62**	**141**	P	**P**	**04 55 02.6**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=333,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	**58.62**	**141**	P	**P**	**04 55 01.3**	**-1.0**
WB2	**Warramunga Arr**	**58.63**	**141**	P	**P**	**04 55 01.1**	**-1.2**
WB2				IAmb	IAmb	04 55 12.7	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**61.40**	**144**	P	**P**	**04 55 22.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=321,slow=6.6,SNR=4.6						
ASAR	**Alice Springs**	**61.40**	**144**	P	**P**	**04 55 19.0**	**-2.3**
NOA	**NORSAR Array B**	**64.86**	**327**	P	**P**	**04 55 43.7**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=77,slow=6.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**90.48**	**285**	P	**P**	**04 58 07.9**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=82,slow=4.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**90.48**	**285**	P	**P**	**04 58 07.3**	**-0.1**

ISCJB ***12*** *04:57:15.7±0.3,31°.78N±0°.08×40°.55W±0°.04,h14km, mb4.2/26,MS3.8/26,Error ellipse: s-maj=11.0km s-min=4.6km az=173.2*
IDC ***12*** *04:57:16.5±0.7,31°.92N×40°.54W,h0km,mb4.2/19, mb1 4.4/19,mb1mx4.2/54,mbtmp4.2/19,MS3.8/26, Ms1 3.8/26,ms1mx3.7/37,Error ellipse: s-maj=22.1km s-min=14.1km az=160.0*
NEIC ***12*** *04:57:17.4±1.4,31°.8N±0°.1×40°.5W±0°.1,h16km±4km, mb4.7/71*
ISC 12 04:57:17.4±0.5,**31°.8N**±0°.1×**40°.53W**±0°.08,**h14**km,**n148,** σ1.9**17**/131,**mb4.6**/61,**MS3.8**/27,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMN	**Caledonia Moun**	**23.43**	**314**	P	**P**	**05 02 25.6**	**-0.4**
LMN				IAmb	IAmb	05 02 39.2	
	comp=Z,34nm,1.3s						
SJG	**San Juan**	**26.85**	**246**	LR	LR	05 11 29.5	
	comp=Z,98nm,20.9s,baz=65,slow=32						
MDP	**Montagnes des**	**28.90**	**206**	LR	LR	05 12 27.7	
	comp=Z,66nm,20.0s,baz=353,slow=31						
SCHQ	**Schefferville**	**29.61**	**329**	LR	LR	05 14 33.5	
	comp=Z,489nm,19.1s,baz=122,slow=35						
MDT	**Midelt**	**30.29**	**78**	LR	LR	05 12 52.2	
	comp=Z,321nm,20.5s,baz=296,slow=31						
ESDC	**Sonseca Array**	**30.54**	**65**	P	**P**	**05 03 29.6**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=261,slow=10,SNR=5.3						
ESDC				LR	LR	05 13 25.4	
	comp=Z,93nm,18.2s,baz=335,slow=32						
ESDC	**Sonseca Array**	**30.54**	**65**	P	**P**	**05 03 30.4**	**0.0**
PTGA	**Pitinga**	**37.24**	**213**	P	**P**	**05 04 31.6**	**+2.9**
	comp=Z,5.0nm,0.9s,baz=0.9,slow=11,SNR=5.1						
PTGA	**Pitinga**	**37.24**	**213**	P	**P**	**05 04 28.7**	**0.0**
CLTN	**Cedars of Leba**	**37.97**	**289**	P	**P**	**05 04 34.1**	**-0.7**
SENIN	**Lac Senin/Sane**	**39.26**	**54**	P	**P**	**05 04 45.9**	**+0.2**
SENIN				IAmb	IAmb	05 04 49.6	
	comp=Z,21nm,1.2s						
PLAL	**Pickwick Lake**	**39.53**	**288**	P	**P**	**05 04 48.9**	**+1.0**
BFO	**Black Forest**	**40.14**	**51**	P	**P**	**05 04 52.1**	**-0.7**
BFO				IAmb	IAmb	05 04 56.7	
	comp=Z,18nm,1.3s						
TUE	**Stuetta**	**40.68**	**54**	P	**P**	**05 04 57.1**	**-0.4**
TUE				IAmb	IAmb	05 05 05.8	
	comp=Z,22nm,1.1s						
OXF	**Oxford**	**40.70**	**287**	P	**P**	**05 04 56.4**	**-1.2**
OXF				IAmb	IAmb	05 05 01.2	
	comp=Z,22nm,1.1s						
DAVOX	**Davos/Dischmat**	**41.07**	**54**	P	**P**	**05 05 02.1**	**+1.4**
	comp=Z,7.6nm,0.9s,baz=282,slow=14,SNR=10						
DAVA	**Damuels**	**41.09**	**53**	*i* pP	**P**	**05 05 01.7**	**+0.8**
	comp=Z,12nm,0.9s						
KEST	**Kesra**	**41.29**	**71**	LR	LR	05 19 20.6	
	comp=Z,151nm,18.9s,baz=322,slow=32						
ROSC	**El Rosal**	**41.49**	**237**	LR	LR	05 20 47.6	
	comp=Z,184nm,21.9s,baz=43,slow=34						
DBIC	**Dimbokro**	**41.62**	**119**	LR	LR	05 21 12.0	
	comp=Z,276nm,18.1s,baz=298,slow=34						
FETA	**Feichten**	**41.66**	**53**	*i* P	**P**	**05 05 04.6**	**-0.9**
	comp=Z,9.0nm,1.2s						
RETA	**Reutte**	**41.70**	**53**	*i* pP	**P**	**05 05 07.2**	**+1.4**
	comp=Z,13nm,1.2s						
LCAR	**Lake Charles**	**41.84**	**290**	P	**P**	**05 05 06.7**	**-0.2**
LCAR				IAmb	IAmb	05 05 19.3	
	comp=Z,25nm,1.9s						
MOTA	**Moosalm**	**41.93**	**53**	*i* P	**P**	**05 05 07.4**	**-0.3**
	comp=Z,13nm,1.2s						
SQTA	**Sankt Quirin**	**41.99**	**53**	*i* pP	**P**	**05 05 09.7**	**+1.5**
	comp=Z,25nm,1.2s						
WATA	**Walderalm**	**42.25**	**53**	*i* pP	**P**	**05 05 11.7**	**+1.4**
	comp=Z,16nm,1.1s						
WTTA	**Wattenberg**	**42.29**	**53**	*i* pP	**P**	**05 05 11.8**	**+1.1**
	comp=Z,24nm,1.1s						
CCAR	**Cane Creek**	**42.73**	**287**	P	**P**	**05 05 12.3**	**-2.0**
CCAR				IAmb	IAmb	05 05 17.1	
	comp=Z,16nm,0.8s						
W41B	**Gary Mavity, V**	**42.87**	**289**	P	**P**	**05 05 14.4**	**-0.9**
W41B				IAmb	IAmb	05 05 18.1	
	comp=Z,16nm,1.2s						
ABTA	**Abfaltersbach**	**42.87**	**54**	*i* P	**P**	**05 05 15.8**	**+0.5**
	comp=Z,24nm,1.2s						
TOA0	**Torodi Ar. Sit**	**42.88**	**106**	P	**P**	**05 05 14.2**	**-1.5**
TOA0				IAmb	IAmb	05 05 22.7	
	comp=Z,26nm,1.6s						
TORD	**Torodi Ar. Bea**	**42.88**	**106**	P	**P**	**05 05 17.3**	**+1.6**
	comp=Z,5.1nm,0.9s,baz=308,slow=6.4,SNR=16						
TORD				LR	LR	05 20 59.1	
	comp=Z,116nm,22.0s,baz=320,slow=33						
TORD	**Torodi Ar. Bea**	**42.88**	**106**	P	**P**	**05 05 14.2**	**-1.5**
NKC	**Novy Kostel**	**43.00**	**49**	*e*P	**P**	**05 05 17.5**	**+1.3**
UALR	**University of**	**43.02**	**288**	P	**P**	**05 05 16.3**	**-0.3**
UALR				IAmb	IAmb	05 05 19.0	
	comp=Z,15nm,1.0s						
CLL	**Collm**	**43.45**	**47**	*e*P	**P**	**05 05 20.0**	**+0.2**
	comp=Z,11nm,1.3s						
CLL				*i* sP	**pwP**	**05 05 25.9**	**-1.0**
	comp=Z,11nm,1.0s						
MYKA	**Terra Mystica**	**43.65**	**54**	*i* pP	**P**	**05 05 23.5**	**+1.9**
	comp=Z,25nm,1.6s						
KHC	**Kasperske Hory**	**43.66**	**50**	*e*P	**P**	**05 05 22.5**	**+0.9**
KHC				*e*pP	**pwP**	**05 05 28.3**	**-0.5**
KHC	**Kasperske Hory**	**43.66**	**50**	P	**P**	**05 05 21.2**	**-0.4**
GERES	**GERESS Array B**	**43.73**	**51**	P	**P**	**05 05 22.6**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=260,slow=6.6,SNR=10						
GERES				LR	LR	05 20 56.9	
	comp=Z,79nm,18.1s,baz=286,slow=32						
BRG	**Berggiesshubel**	**44.00**	**48**	*e*P	**P**	**05 05 24.9**	**+0.6**
	comp=Z,6.0nm,1.2s						
MOA	**Molln**	**44.08**	**52**	*i* P	**P**	**05 05 24.7**	**-0.3**
	comp=Z,0.5nm,0.5s						
OBKA	**Obir**	**44.28**	**54**	*i* P	**P**	**05 05 26.9**	**+0.2**
	comp=Z,18nm,0.8s						
PRU	**Pruhonice**	**44.33**	**49**	*e*P	**P**	**05 05 28.7**	**+1.8**
NOA	**NORSAR Array B**	**44.37**	**33**	P	**P**	**05 05 27.8**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=254,slow=7.9,SNR=3.9						
NOA				LR	LR	05 20 20.8	
	comp=Z,102nm,19.2s,baz=255,slow=31						
GOPC	**GO Pecny, Ondr**	**44.49**	**49**	*e*P	**P**	**05 05 29.0**	**+0.8**
ULM	**Lac du Bonnet**	**44.52**	**311**	LR	LR	05 24 23.8	
	comp=Z,97nm,19.2s,baz=64,slow=37						
ARSA	**Arzberg**	**44.94**	**53**	*i* pP	P	05 05 37.6	+5.8
	comp=Z,19nm,1.6s						
ECSD	**EROS Data Cent**	**45.12**	**302**	P	**P**	**05 05 31.9**	**-1.5**
UPC	**Upice**	**45.30**	**49**	*e*P	**P**	**05 05 35.3**	**+0.7**
UPC				*e*pP	**pwP**	**05 05 40.9**	**-0.9**
CHVC	**Chvalec**	**45.33**	**48**	*e*P	**P**	**05 05 35.9**	**+1.0**
CHVC				*e*x	x	05 05 41.2	
DPC	**Dobruska-Polom**	**45.49**	**49**	*e*P	**P**	**05 05 37.0**	**+0.8**
KRLC	**Kraliky**	**45.78**	**49**	*e*P	**P**	**05 05 39.5**	**+1.0**
KRLC				*e*pP	**pwP**	**05 05 44.8**	**-0.8**
SAML	**Samuel**	**45.96**	**212**	P	**P**	**05 05 40.5**	**+0.4**
SAML				IAmb	IAmb	05 05 47.8	
	comp=Z,8.2nm,1.1s						
MODS	**Modra-Piesok**	**46.10**	**52**	*e*P	**P**	**05 05 45.4**	**+4.4**
H10N2	**ASCENSION HYDR**	**46.61**	**143**	T	T	05 55 15.8	
	baz=329,slow=75,SNR=53						
H10N3	**ASCENSION HYDR**	**46.61**	**143**	T	T	05 55 16.1	
	baz=329,slow=75,SNR=53						
H10N1	**ASCENSION HYDR**	**46.63**	**143**	T	T	05 55 17.2	
	baz=329,slow=75,SNR=57						
VYHS	**Vyhne**	**47.13**	**51**	*e*P	**P**	**05 05 53.0**	**+3.9**
H10S3	**ASCENSION HYDR**	**47.48**	**144**	T	T	05 56 24.6	
	baz=252,slow=74,SNR=27						
H10S2	**ASCENSION HYDR**	**47.50**	**144**	T	T	05 56 23.1	
	baz=328,slow=74,SNR=28						
BDFB	**Brasilia**	**47.72**	**190**	LR	LR	05 22 57.5	
	comp=Z,87nm,18.1s,baz=140,slow=32						
WHTX	**Lake Whitney,**	**47.83**	**286**	P	**P**	**05 05 56.5**	**+1.7**
ABTX	**Abilene, Hawle**	**49.44**	**288**	P	**P**	**05 06 07.8**	**+0.6**
JCT	**Junction City**	**50.19**	**285**	P	**P**	**05 06 13.4**	**+0.5**
JCT				IAmb	IAmb	05 06 16.2	
	comp=Z,11nm,1.1s						
BURAR	**Bucovina Array**	**51.47**	**52**	P	**P**	**05 06 22.1**	**-0.3**
FINES	**FINESS Array B**	**51.50**	**34**	P	**P**	**05 06 22.5**	**+0.2**
	comp=Z,4.9nm,1.0s,baz=288,slow=5.5,SNR=4.4						
FINES	**FINESS Array B**	**51.50**	**34**	P	**P**	**05 06 21.9**	**-0.3**
MSTX	**Muleshoe**	**51.59**	**290**	P	**P**	**05 06 24.0**	**+0.4**
MSTX				IAmb	IAmb	05 06 26.5	
	comp=Z,11nm,1.2s						
ARCES	**ARCESS Array B**	**52.22**	**24**	P	**P**	**05 06 27.4**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=250,slow=7.3,SNR=6.5						
ARCES	**ARCESS Array B**	**52.22**	**24**	P	**P**	**05 06 27.6**	**+0.1**
MLR	**Muntele Rosu**	**52.27**	**55**	P	**P**	**05 06 28.0**	**-0.5**
N23A	**Red Feather La**	**52.37**	**299**	P	**P**	**05 06 29.6**	**+0.2**
N23A				IAmb	IAmb	05 06 34.1	
	comp=Z,19nm,1.6s						
AKASG	**Malin Array Be**	**53.69**	**48**	P	**P**	**05 06 38.3**	**-0.3**
AKASG				LR	LR	05 26 45.6	
	comp=Z,70nm,19.4s,baz=310,slow=33						
AKASG	**Malin Array Be**	**53.69**	**48**	P	**P**	**05 06 38.2**	**-0.4**
AKBB	**Malin Array Si**	**53.69**	**48**	P	**P**	**05 06 38.5**	**-0.1**
AKBB				IAmb	IAmb	05 06 46.6	
	comp=Z,16nm,1.3s						
TXAR	**Lajitas Array**	**53.73**	**285**	P	**P**	**05 06 40.0**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=92,slow=9.0,SNR=8.8						
TXAR				LR	LR	05 28 00.4	
	comp=Z,66nm,20.6s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**53.73**	**285**	P	**P**	**05 06 39.4**	**0.0**
TX32	**Lajitas Array**	**53.73**	**285**	P	**P**	**05 06 38.8**	**-0.6**
MNTX	**Cornudas Mount**	**54.36**	**288**	P	**P**	**05 06 44.3**	**+0.4**
PD31	**Pinedale Array**	**54.60**	**302**	P	**P**	**05 06 46.0**	**+0.3**
PD31				IAmb	IAmb	05 06 48.2	
	comp=Z,15nm,1.3s						
PDAR	**Pinedale Array**	**54.60**	**302**	P	**P**	**05 06 46.4**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=81,slow=9.2,SNR=25						
PDAR				LR	LR	05 29 27.4	
	comp=Z,250nm,18.2s,baz=96,slow=35						
PDAR	**Pinedale Array**	**54.60**	**302**	P	**P**	**05 06 45.4**	**-0.3**
BW06	**Boulder Array**	**54.60**	**302**	P	**P**	**05 06 45.8**	**+0.1**
YMP	**Mirror Lake Pl**	**54.61**	**305**	P	**P**	**05 06 46.0**	**+0.2**
BNM	**Barren Site**	**54.61**	**292**	P	**P**	**05 06 46.4**	**+0.5**
LPAZ	**La Paz**	**54.66**	**213**	P	**P**	**05 06 47.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=18,slow=4.4,SNR=4.6						
LPAZ				LR	LR	05 28 52.0	
	comp=Z,87nm,19.1s,baz=6.5,slow=35						
LPAZ	**La Paz**	**54.66**	**213**	P	**P**	**05 06 47.6**	**+0.9**
LKWY	**Lake**	**54.81**	**305**	P	**P**	**05 06 47.9**	**+0.6**
LKWY				IAmb	IAmb	05 06 56.4	
	comp=Z,9.9nm,1.4s						
YHH	**Holmes Hill**	**55.08**	**305**	P	**P**	**05 06 49.5**	**+0.2**
RDMU	**Red Mountain**	**55.12**	**300**	P	**P**	**05 06 49.4**	**-0.1**
YMR	**Madison River**	**55.19**	**305**	P	**P**	**05 06 49.5**	**-0.4**
YHL	**Hebgen Lake**	**55.30**	**305**	P	**P**	**05 06 51.2**	**+0.4**
SNOW	**Snow King Moun**	**55.30**	**304**	P	**P**	**05 06 50.6**	**-0.3**
SNOW				IAmb	IAmb	05 06 53.4	
	comp=Z,9.0nm,1.0s						
YHB	**Horse Butte**	**55.33**	**305**	P	**P**	**05 06 50.8**	**-0.1**
IMW	**Indian Meadow**	**55.34**	**304**	P	**P**	**05 06 51.4**	**+0.3**
IMW				IAmb	IAmb	05 06 54.8	
	comp=Z,8.7nm,1.1s						
REDW	**Red Top Meadow**	**55.40**	**303**	P	**P**	**05 06 52.1**	**+0.6**
TPAW	**Teton Pass**	**55.44**	**304**	P	**P**	**05 06 52.2**	**+0.4**
FXWY	**Fox Creek**	**55.46**	**304**	P	**P**	**05 06 52.7**	**+0.8**
DLMT	**Dillon**	**56.17**	**306**	P	**P**	**05 06 57.6**	**+0.7**
DLMT				IAmb	IAmb	05 07 01.2	
	comp=Z,17nm,1.6s						
SRU	**San Rafael Swe**	**56.21**	**298**	P	**P**	**05 06 57.0**	**-0.3**
HPIG		**56.23**	**283**	P	**P**	**05 06 58.5**	**+0.9**
HPIG				IAmb	IAmb	05 07 00.9	
	comp=Z,6.9nm,1.0s						
NLU	**North Lily Min**	**57.14**	**300**	P	**P**	**05 07 03.5**	**-0.4**
BGU	**Big Grassy Mou**	**57.57**	**301**	P	**P**	**05 07 06.5**	**-0.4**
DUG	**Dugway, Tooele**	**57.61**	**300**	P	**P**	**05 07 08.3**	**+1.1**
DUG				IAmb	IAmb	05 07 11.2	
	comp=Z,11nm,1.4s						
GO01	**Chusmiza**	**58.10**	**212**	P	**P**	**05 07 10.4**	**-0.7**
GO01				IAmb	IAmb	05 07 12.8	
	comp=Z,8.9nm,0.9s						
NEW	**Newport**	**58.52**	**310**	P	**P**	**05 07 13.7**	**+0.4**
CCUT	**Cedar City**	**58.80**	**297**	P	**P**	**05 07 16.6**	**+0.9**
PSUT	**Pine Spring**	**58.87**	**299**	P	**P**	**05 07 17.4**	**+1.3**
MFID	**Camas Ranch**	**58.89**	**305**	P	**P**	**05 07 16.9**	**+0.8**
MFID				IAmb	IAmb	05 07 19.2	
	comp=Z,7.5nm,1.1s						
BRTR	**Keskin Array B**	**59.13**	**60**	P	**P**	**05 07 18.5**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=282,slow=6.2,SNR=9.4						
BRTR				LR	LR	05 32 09.2	
	comp=Z,41nm,18.3s,baz=280,slow=35						
CPUP	**Villa Florida**	**60.00**	**197**	LR	LR	05 30 12.1	
	comp=Z,22nm,20.4s,baz=18,slow=33						
HAWA	**Hanford**	**60.60**	**309**	P	**P**	**05 07 27.8**	**+0.2**
TPNV	**Topopah Spring**	**61.17**	**298**	P	**P**	**05 07 32.1**	**+0.3**
TPNV				IAmb	IAmb	05 07 35.6	
	comp=Z,6.7nm,1.2s						
KVN	**Kaiserville**	**61.85**	**300**	P	**P**	**05 07 35.2**	**-1.2**
KVN				IAmb	IAmb	05 07 38.7	
	comp=Z,5.5nm,1.0s						
INK	**Inuvik**	**61.94**	**335**	P	**P**	**05 07 36.5**	**+0.2**
NV11	**Mina Array Sit**	**62.10**	**300**	P	**P**	**05 07 37.0**	**-1.0**
NVAR	**Mina Array Bea**	**62.21**	**300**	P	**P**	**05 07 39.0**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=76,slow=6.6,SNR=9.6						
NVAR				LR	LR	05 33 09.0	
	comp=Z,354nm,20.5s,baz=76,slow=35						
OMMB	**Old Mammoth Mi**	**63.01**	**299**	P	**P**	**05 07 43.6**	**-0.7**
KBZ	**Khabaz**	**64.41**	**53**	P	**P**	**05 07 55.5**	**+2.5**
	comp=Z,3.6nm,0.9s,baz=270,slow=4.0,SNR=7.1						
DAWY	**Dawson**	**65.58**	**332**	P	**P**	**05 08 00.1**	**-0.4**
IL31		**68.21**	**334**	P	**P**	**05 08 16.8**	**-0.2**
IL31				IAmb	IAmb	05 08 21.3	
	comp=Z,9.2nm,1.2s						
ILAR	**Eielson Array**	**68.21**	**334**	P	**P**	**05 08 18.6**	**+1.4**
	comp=Z,3.3nm,1.0s,baz=48,slow=3.9,SNR=20						
ILAR				LR	LR	05 38 15.1	
	comp=Z,96nm,19.2s,baz=90,slow=36						
CCB	**Clear Creek Bu**	**68.62**	**334**	P	**P**	**05 08 19.8**	**+0.1**
CCB				IAmb	IAmb	05 08 22.0	
	comp=Z,7.3nm,0.9s						
WRH	**Wood River Hil**	**68.81**	**334**	P	**P**	**05 08 21.0**	**+0.1**
MCK	**McKinley**	**69.51**	**333**	P	**P**	**05 08 25.0**	**-0.2**
NRIK	**Norii'sk**	**72.30**	**17**	P	**P**	**05 08 43.7**	**+1.6**
	comp=Z,2.1nm,0.4s,baz=333,slow=11,SNR=4.2						
ABKAR	**Akbulak array**	**72.85**	**42**	P	**P**	**05 08 45.1**	**-0.5**
H09W1	**TRISTAN DA CUN**	**73.44**	**157**	T	T	06 28 52.8	
	SNR=7.3						
PLCA	**Paso Flores**	**77.34**	**203**	LR	LR	05 41 36.6	
	comp=Z,28nm,19.6s,baz=196,slow=34						
KMBO	**Kilima Mbogo**	**80.22**	**97**	LR	LR	05 43 58.6	
	comp=Z,155nm,21.0s,baz=281,slow=35						
LSZ	**Lusaka**	**80.74**	**114**	P	**P**	**05 09 29.2**	**-1.6**
LSZ				IAmb	IAmb	05 09 40.5	
	comp=Z,19nm,1.6s						
ZAA0	**Zalesovo Array**	**82.42**	**29**	P	**P**	**05 09 38.4**	**-0.5**
ZALV	**Zalesovo Beam**	**82.42**	**29**	P	**P**	**05 09 40.2**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=298,slow=7.2,SNR=10						
UOSS	**Minazif**	**82.56**	**65**	P	**P**	**05 09 38.9**	**-1.4**
CHGR	**Chuyangaron**	**84.16**	**48**	P	**P**	**05 09 46.7**	**-1.7**
GAR	**Garm**	**84.68**	**47**	P	**P**	**05 09 50.2**	**-0.9**
MKAR	**Makanchi Array**	**86.32**	**35**	P	**P**	**05 09 59.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=316,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**86.32**	**35**	P	**P**	**05 09 58.2**	**-0.8**
BOSA	**Boshof**	**86.72**	**127**	LR	LR	05 42 44.9	
	comp=Z,67nm,20.3s,baz=329,slow=31						
KSH	**Kashi**	**87.79**	**44**	P	**P**	**05 10 08.9**	**+2.5**
KSH				pP	pwP	05 10 19.1	+4.8
KSH				PP	**PP**	**05 13 34.8**	**+3.3**
KSH	**Kashi**	**87.79**	**44**	S	**S**	**05 20 44.4**	**-4.3**
KSH	**Kashi**	**87.79**	**44**	sS	sS	05 21 02.0	+7.0
KSH	**Kashi**	**87.79**	**44**	SS	SS	05 26 31.4	-3.0
KSH				pmax	pmax		
	comp=Z,170nm,5.3s						
KSH				LR	LR		
	comp=N,390nm,8.8s						
KSH				LR	LR		
	comp=E,390nm,10.0s						
KSH				LR	LR		
	comp=Z,220nm,17.8s						
PETK	**Petropavlovsk-**	**93.96**	**349**	LR	LR	05 53 22.9	
	comp=Z,46nm,19.6s,baz=60,slow=36						
PMSA	**Palmer Station**	**98.01**	**190**	LR	LR	05 49 56.2	
	comp=Z,39nm,21.6s,baz=46,slow=32						
ASAR	**Alice Springs**	**170.51**	**33**	PKP	**PKPdf**	**05 17 26.4**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=4.8,slow=1.5,SNR=7.2						
ASAR				PKPab	**PKPab**	**05 18 43.0**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=339,slow=4.4,SNR=5.4						
ASAR	**Alice Springs**	**170.51**	**33**	PKPdf	**PKPdf**	**05 17 23.0**	**-2.5**
ASAR					**PKPab**	**05 18 42.7**	**+0.3**

NIED ***12*** *05:05:00,36°.00N×140°.10E,h65km,Mw4.0 Best double couple: M0:1.2000×1015 NP1:φ0=190.00000°,δ28.00000°, λ108.00000°. NP2:φ0=350.00000°,δ63.00000°,λ81.00000°.*
ISCJB ***12*** *05:05:47.5±0.4,35°.93N±0°.03×140°.11E±0°.05,h78km±3km, mb4.0/7,Error ellipse: s-maj=6.5km s-min=4.4km az=176.9*
NEIC ***12*** *05:05:47.3±3.1,35°.97N±0°.06×140°.23E±0°.09,h63km±5km, mb4.4/5*
IDC ***12*** *05:05:49.3±2.0,35°.85N×140°.06E,h80km±17km,mb3.8/7, mb1 3.8/11,mb1mx3.6/50,mbtmp4.0/11,MS2.8/1, Ms1 2.8/1,ms1mx2.4/33,Error ellipse: s-maj=28.1km s-min=7.8km az=65.0*
JMA ***12*** *05:05:49.2±0.1,35°.99N×140°.09E,h63km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φ0=347.00000°,δ60.00000°,λ80.00000°. NP2: φ0=186.00000°,δ31.00000°,λ106.00000°. Principal axes: T Plg73.0000°, Azm233.0000°; N Plg8.0000°, Azm352.0000°; P Plg15.0000°, Azm84.0000°;*
JMA Felt II J1.
ISC 12 05:05:48.3±0.8,**35°.95N**±0°.03×**140°.11E**±0°.05,**h72**km±

WRA	**Warramunga Arr**	**55.86 187**	IAmb	IAmb	05 15 18.6
	comp=Z,0.2nm,0.8s				
ABKAR	**Abkulak array**	**57.83 310**	P	**P**	**05 15 32.5 +0.3**
ABKAR	**Abkulak array**	**57.83 310**	IAmb	IAmb	05 15 39.4
	comp=Z,2.2nm,1.1s				
ARCES	**ARCESS Array B**	**64.63 339**	P	**P**	**05 16 18.3 +0.5**
	comp=Z,2.8nm,0.9s,baz=52,slow=7.3,SNR=7.6				
FINES	**FINESS Array B**	**69.28 332**	P	**P**	**05 16 47.3 0.0**
	comp=Z,2.3nm,0.8s,baz=72,slow=6.2,SNR=4.7				
AKASG	**Malin Array Be**	**74.50 322**	P	**P**	**05 17 18.4 -0.3**
	comp=Z,0.7nm,0.5s,baz=50,slow=6.2,SNR=4.4				

*NEIC **12** 05:07:29.0±1.1, 18.°7N±0.°1×145.°8E±0.°2, h75km±11km, mb4.3/3*
*ISCJB **12** 05:07:29.8±0.6, 18.°56N±0.°05×146.°0E±0.°2, h100km, mb3.8/10, Error ellipse: s-maj=29.1km s-min=6.3km az=5.4*
*IDC **12** 05:07:29.3±3.4, 18.°66N×145.°97E, h80km±33km, mb3.7/10, mb1 3.9/11, mb1mx3.6/45, mbtmp4.1/11, MS2.4/1, Ms1 2.4/1, ms1mx2.2/35, Error ellipse: s-maj=33.5km s-min=16.5km az=98.0*

ISC 12 05:07:31.1±0.7, 18.°54N±0.°07×146.°0E±0.°2, h100km, n24, σ1§11/18, mb4.0/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**1.84 187**			**Pn**	**05 08 00.6**	**-1.2**
ANA2	**Anatahan**	**2.21 187**			**Pn**	**05 08 06.1**	**-0.3**
ANA2				Sn	**Sn**	**05 08 33.0**	**-0.4**
GUMO	**Guam**	**5.04 193**		P	**Pn**	**05 08 44.7**	**+0.3**
	20nm,0.3s,baz=286,slow=5.5,SNR=4.3						
GUMO				S	**Sn**	**05 09 41.7**	**+0.1**
	15nm,0.3s,baz=348,slow=20,SNR=3.7						
GUMO				LR	LR	05 09 51.1	
	comp=Z,38nm,19.1s,baz=70,slow=28						
GUMO	**Guam**	**5.04 193**			**Pn**	**05 08 43.0**	**-1.5**
MJAR	**Matsushiro Arr**	**19.20 341**		P	**Pn**	**05 11 50.3**	**+1.2**
	0.1nm,0.3s,baz=158,slow=10,SNR=4.0						
H11S3	**WAKE ISLAND Hy 19.61**	**87**		T	T	05 32 38.9	
	baz=275,slow=74,SNR=6.5						
H11S1	**WAKE ISLAND Hy 19.62**	**87**		T	T	05 32 43.6	
	baz=275,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy 19.63**	**87**		T	T	05 32 45.4	
	baz=275,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hy 19.77**	**83**		T	T	05 33 11.7	
	baz=267,slow=74,SNR=8.8						
H11N2	**WAKE ISLAND Hy 19.77**	**83**		T	T	05 33 06.0	
	baz=267,slow=74,SNR=7.0						
H11N3	**WAKE ISLAND Hy 19.79**	**83**		T	T	05 33 00.3	
	baz=267,slow=74,SNR=5.8						
KLR	**Kul'dur**	**32.70 343**		P	**P**	**05 13 54.2**	**+0.3**
	1.4nm,0.3s,baz=155,slow=12,SNR=6.4						
WB2	**Warramunga Arr**	**39.92 197**		P	**P**	**05 14 56.5**	**+1.0**
WRA	**Warramunga Arr**	**39.92 197**		P	**P**	**05 14 57.4**	**+1.8**
	1.9nm,0.8s,baz=20,slow=8.2,SNR=9.0						
WRA	**Warramunga Arr**	**39.92 197**		IAmb	IAmb	05 14 58.5	
	comp=Z,0.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.55 210**		P	**P**	**05 15 09.8**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=36,slow=14,SNR=11						
FITZ	**Fitzroy Crossi**	**41.55 210**		IAmb	IAmb	05 15 17.3	
	comp=Z,4.9nm,1.1s						
SONM	**Songino Array**	**43.45 321**		P	**P**	**05 15 23.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=127,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**43.58 196**		P	**P**	**05 15 26.4**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=10,slow=7.8,SNR=4.4						
ILAR	**Eielson Array**	**63.66 26**		P	**P**	**05 17 50.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=253,slow=6.0,SNR=9.8						
YKA	**Yellowknife Ar**	**77.99 28**		P	**P**	**05 19 18.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=288,slow=5.5,SNR=4.6						
ARCES	**ARCESS Array B**	**82.73 342**		P	**P**	**05 19 42.6**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=46,slow=6.9,SNR=3.6						
NVAR	**Mina Array Bea**	**83.00 52**		P	**P**	**05 19 47.0**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=270,slow=5.9,SNR=8.0						
FINES	**FINESS Array B**	**87.15 335**		P	**P**	**05 20 03.7**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=66,slow=4.6,SNR=6.5						

IDC 12 05:08:55.2±2.1, 2.°98N×127.°92E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/43, mbtmp3.6/3, 1D, Error ellipse: s-maj=146.9km s-min=25.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**4.89 325**		∥*i*p	Pb	05 10 19.2	-2.7
WRA	**Warramunga Arr**	**23.64 165**		P	P	05 14 08.3	-0.1
	1.1nm,0.4s,baz=344,slow=10,SNR=22						
ASAR	**Alice Springs**	**27.12 168**		P	P	05 14 40.0	-0.2
	0.2nm,0.3s,baz=355,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**58.84 325**		P	P	05 18 56.0	+0.2
	0.6nm,0.5s,baz=116,slow=8.5,SNR=5.3						

*NEIC **12** 05:21:22.1±2.1, 9.°89N×124.°08E±0.°1, h10km±1km, mb4.8/38*
*MAN **12** 05:21:22.6, 9.°88N×124.°07E, h6km, mb5.3, ML4.3, MS4.5*
MAN Intensity V - San Isidro Bohol; Mandaue City Intensity IV - Cebu City Intensity III - Lapu lapu City; Tagbilaran City; Calape and Loboc Bohol;; Intensity II - Talisayan Misamis Oriental; Dumaguete City.
*MOS **12** 05:21:22.8±1.0, 9.°84N×124.°23E, h33km, mb4.9/27, Error ellipse: s-maj=14.0km s-min=6.6km az=113.1*
*ISCJB **12** 05:21:25.0±0.3, 9.°88N±0.°02×124.°17E±0.°03, h47km±3km, mb4.8/71, MS3.6/13, Error ellipse: s-maj=4.7km s-min=4.0km az=177.2*
*BJI **12** 05:21:26.0±0.0, 9.°80N×124.°40E, h60km, mb4.7/50, mB5.1/34, Ms4.8/14, Ms7 4.6/2*
*IDC **12** 05:21:27.9±2.9, 9.°83N×124.°18E, h58km±26km, mb4.0/19, mb1 4.1/20, mb1mx4.1/33, mbtmp4.3/20, ML4.4/1, MS3.5/11, Ms1 3.5/11, ms1mx3.2/37, Error ellipse: s-maj=25.0km s-min=11.1km az=72.0*
*DJA **12** 05:21:32.6±0.8, 10.°N±5.°×12.°4E±.°, h95km±10km, M4.8/13, mB5.0/2, mb4.6/13, MLv4.9/1, Mw(mB)4.2/2*

ISC 12 05:21:24.7±0.9, 9.°85N±0.°02×124.°08E±0.°03, h30km±6km, n190, σ1§59/198, mb4.7/78, MS3.6/14, 10C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.48 346**		∥*i*P	**Pb**	**05 21 31.8**	**-3.0**
LLP				*i* S	**Sb**	**05 21 38.4**	**-3.3**
MSLP	**Maasin**	**0.81 70**		*e*P	**Pb**	**05 21 39.1**	**-1.2**
MSLP				*e*S	**Sn**	**05 21 51.6**	**+0.4**
SNPH	**Sibulan**	**0.97 239**		⇑*i*P	**Pn**	**05 21 41.2**	**-1.1**
SNPH				*i* S	**Sn**	**05 21 56.8**	**+1.6**
OCLP	**Ormoc**	**1.30 23**		*e*P	**Pn**	**05 21 46.7**	**-0.1**
OCLP				*e*S	**Sb**	**05 22 05.9**	**+1.0**
DCPH	**Dipolog City**	**1.45 210**		∥*i*P	**Pn**	**05 21 49.5**	**+0.7**
DCPH				*i* S	**Sb**	**05 22 09.9**	**+0.7**
CGP	**Cagayan de Oro**	**1.51 156**		⇑*i*P	**Pn**	**05 21 48.7**	**-1.0**
GUIM	**Jordan**	**1.66 298**		*e*P	**Pn**	**05 21 51.1**	**-0.6**
GUIM				*e*S	**Sb**	**05 22 13.2**	**-1.9**
BUTP	**Butuan**	**1.75 120**		*e*P	**Pn**	**05 21 53.6**	**+0.6**
BUTP				*e*S	**Sb**	**05 22 18.2**	**+0.4**
PAGZ	**Pagadian**	**2.11 199**		*e*P	**Pn**	**05 21 58.5**	**+0.6**
PAGZ				*e*S	**Sb**	**05 22 27.6**	**-0.4**
RCP	**Roxas**	**2.15 322**		∥*e*P	**Pn**	**05 21 58.6**	**+0.1**
BUKP	**Musuan**	**2.19 154**		*e*P	**Pn**	**05 21 59.7**	**+0.7**
BUKP				*e*S	**Sb**	**05 22 29.0**	**-1.3**
BESP	**Borongan**	**2.19 37**		*e*P	**Pn**	**05 21 59.7**	**+0.7**
BESP				*e*S	**Sb**	**05 22 31.7**	**+1.3**
JAP	**San Jose, Anti**	**2.28 293**		⇑*i*P	**Pn**	**05 22 02.2**	**+1.9**
CTBH	**Cotabato--PC H**	**2.62 176**		⇑*i*P	**Pn**	**05 22 06.1**	**+1.2**
CNP	**Cataman**	**2.71 12**		*e*P	**Pn**	**05 22 05.4**	**-0.7**
CNP				*e*S	**Sb**	**05 22 46.7**	**+1.6**
KCP	**Kidapawan**	**2.99 160**		⇑*i*p	**Pn**	**05 22 11.6**	**+1.4**
DMPH	**Davao City--Mi**	**3.09 153**		⇑*e*P	**Pb**	**05 22 17.2**	**-1.8**
DAV	**Davao City (W)**	**3.13 152**		P	**Pn**	**05 22 14.9**	**+2.9**
	48nm,0.3s,baz=85,slow=7.3,SNR=6.9						
DAV	**Davao City (W)**	**3.13 152**		⇑*e*P	**Pb**	**05 22 16.6**	**-3.1**
DAV	**Davao City (W)**	**3.13 152**		Pn	**Pn**	**05 22 13.6**	**+1.5**
OTRP	**Odiongan**	**3.21 321**		*e*P	**Pn**	**05 22 14.0**	**+0.9**
SKMP	**Bagumbayan, Su**	**3.34 172**		*e*P	**Pn**	**05 22 16.9**	**+2.0**
SJMP	**San Jose**	**3.90 312**		*e*P	**Pn**	**05 22 24.2**	**+1.7**
GQP	**Guinayangan**	**4.34 338**		∥*e*P	**Pn**	**05 22 29.4**	**+0.8**
LUWI	**Luwuk**	**10.90 187**		Pn	**Pn**	**05 24 00.8**	**+2.1**
SANI	**Sanana**	**11.97 171**		P	**Pn**	**05 24 11.3**	**-2.1**
SBUM	**Sibu**	**13.89 239**		Pn	**P**	**05 24 44.2**	**-3.3**
SSLB	**Suanglung**	**14.18 348**		P	**P**	**05 24 51.6**	**+1.0**
FAKI	**Fak Fak**	**15.07 147**		P	**P**	**05 24 59.5**	**-1.1**
FAKI	**Fak Fak**	**15.07 147**		Pn	**Pn**	**05 24 56.0**	**+0.4**
FAKI				IAmb	IAmb	05 25 07.2	
	comp=Z,43nm,1.2s						
JOW	**Kunigami**	**17.35 13**		P	**P**	**05 25 26.0**	**+0.2**
JOW				IAmb	IAmb	05 25 31.2	
	comp=Z,72nm,0.9s						
UBPT	**Khong Chiam**	**18.95 288**		P	**Pn**	**05 25 46.2**	**+1.9**
	comp=Z,73nm,1.0s,comp=Z,579nm						
UBPT	**Khong Chiam**	**18.95 288**		P	**Pn**	**05 25 46.1**	**+1.8**
SOEI	**Soe**	**19.48 179**		P	**Pn**	**05 25 55.2**	**+4.4**
PLAI	**Plampang**	**19.59 199**		P	**Pn**	**05 25 52.3**	**+0.3**
GUMO	**Guam**	**20.69 78**		LR	LR	05 32 20.2	
	comp=Z,34nm,21.7s,baz=278,slow=32						
JAGI	**Jajag, Banyuwa**	**20.71 209**		P	Pn	05 26 06.7	+1.5
JAGI	**Jajag, Banyuwa**	**20.71 209**		P	**P**	**05 26 00.7**	**-2.0**
JAGI				IAmb	IAmb	05 26 13.8	
	comp=Z,45nm,0.8s						
MYKOM	**Kota Tinggi**	**21.65 250**		P	**P**	**05 26 14.3**	**+1.5**
NONGK	**Nongkai**	**21.88 294**		P	**P**	**05 26 17.9**	**+2.6**
	comp=Z,0.3nm,0.7s						
UGM	**Wanagama**	**22.22 218**		P	**P**	**05 26 22.6**	**+3.6**
UGM	**Wanagama**	**22.22 218**		P	**P**	**05 26 20.4**	**+1.4**
CHAI	**Chaiyaphum**	**22.35 288**		P	**P**	**05 26 20.9**	**+0.5**
	comp=Z,35μm,0.8s						
WHN	**Wuhan**	**22.50 338**		P	**P**	**05 26 24.6**	**+2.8**
NJ2	**Nanjing**	**22.62 348**		*e*P	**P**	**05 26 25.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
SKLT	**Songkhla**	**23.35 265**		P	**P**	**05 26 37.4**	**+6.6**
	comp=Z,10.0nm,1.0s						
PBKT	**Sadao Pong**	**23.46 289**		P	**P**	**05 26 32.9**	**+1.1**
	comp=Z,9.6nm,1.1s						
PBKT	**Sadao Pong**	**23.46 289**		P	**P**	**05 26 32.1**	**+0.4**
IPM	**Ipoh**	**23.48 258**		P	**P**	**05 26 32.3**	**+0.2**
MTN	**Manton Dam**	**23.61 163**		P	**P**	**05 26 31.5**	**-1.7**
MTN				IAmb	IAmb	05 26 40.5	
	comp=Z,24nm,0.9s						
KULM	**Kulim**	**23.66 261**		P	**P**	**05 26 33.2**	**-0.6**
PHET	**Kaeng Krachan**	**24.16 280**		P	**P**	**05 26 39.6**	**+1.1**
	comp=Z,46μm,0.9s,comp=Z,562μm						
NANT	**Nan**	**24.31 294**		P	**P**	**05 26 41.1**	**+1.2**
	comp=Z,105μm,0.8s						
ENH	**Enshi**	**24.46 328**		P	**P**	**05 26 41.1**	**0.0**
ENH				IAmb	IAmb	05 26 59.2	
	comp=Z,30nm,1.3s						
UTHA	**Uthaitani**	**24.68 286**		P	**P**	**05 26 45.1**	**+1.9**
	comp=Z,34μm,0.7s,comp=Z,270μm						
SRDT	**SRDT**	**24.80 283**		P	**P**	**05 26 46.5**	**+2.2**
	comp=Z,8.1nm,1.4s						
SURT	**Suratani**	**24.96 270**		P	**P**	**05 26 47.5**	**+1.7**
	comp=Z,19nm,0.9s						
PAYA	**Payao**	**25.23 295**		P	**P**	**05 26 49.9**	**+1.7**
	comp=Z,48μm,0.8s						
KMI	**Kunming**	**25.34 310**		P	**P**	**05 26 51.8**	**+2.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
UMPA	**Umpang Tak**	**25.36 287**		P	**P**	**05 26 53.5**	**+4.2**
	comp=Z,11μm,0.9s						
KHLT	**Khaolaem Dam**	**25.38 284**		P	**P**	**05 26 50.1**	**+0.6**
	comp=Z,6.7nm,0.7s						
PKDT	**Phuket**	**25.51 268**		P	**P**	**05 26 53.6**	**+2.9**
	comp=Z,53nm,0.9s						
KNRA	**Kununurra**	**25.78 170**		P	**P**	**05 26 53.9**	**+0.8**
KNRA				IAmb	IAmb	05 27 02.3	
	comp=Z,40nm,1.5s						
CMAR	**Chiang Mai Arr**	**25.81 292**		P	**P**	**05 26 54.6**	**+1.2**
	comp=Z,4.6nm,0.7s,baz=102,slow=5.8,SNR=27						
CMAR				PcP	**PcP**	**05 30 24.1**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=116,slow=2.1,SNR=3.9						
CMAR				LR	LR	05 37 26.4	
	comp=Z,91nm,18.9s,baz=105,slow=37						
CMMT	**Chiang Mai**	**25.90 293**		P	**P**	**05 26 57.5**	**+3.2**
	comp=Z,3.9nm,1.0s						
CHTO	**Chiang Mai**	**25.91 293**		P	**P**	**05 26 54.8**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**25.91 293**		P	**P**	**05 26 54.8**	**+0.5**
MHMT	**Maesarieng**	**26.66 291**		P	**P**	**05 27 05.9**	**+4.8**
KSAR	**Wonju Array Be**	**27.68 7**		P	**P**	**05 27 09.8**	**-0.3**
KSAR	**Wonju Array Be**	**27.68 7**		P	**P**	**05 27 09.8**	**-0.3**
KSRS	**Korea Array**	**27.70 7**		P	**P**	**05 27 10.9**	**+0.7**
	comp=Z,5.9nm,0.6s,baz=185,slow=10,SNR=16						
KSRS				LR	LR	05 38 47.3	
	comp=Z,45nm,19.6s,baz=205,slow=38						
XAN	**Xi'an**	**27.81 332**		P	**P**	**05 27 11.7**	**+0.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**27.81 332**		P	**P**	**05 27 12.1**	**+0.8**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**27.81 332**		P	**P**	**05 27 12.1**	**+0.8**
XAN				IAmb	IAmb	05 27 20.2	
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.81 177**		P	**P**	**05 27 11.1**	**-0.3**
	comp=Z,4.5nm,0.9s,baz=14,slow=8.1,SNR=6.9						
CD2	**Chengdu**	**28.22 321**		∥*i*P	**P**	**05 27 15.4**	**+0.4**
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
MAJO	**Matsushiro**	**29.50 24**		*e*P	**P**	**05 27 25.4**	**-0.9**
BJI	**Beijing**	**30.88 348**		P	**P**	**05 27 38.4**	**0.0**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WRAB	**Tennant Creek**	**31.27 161**		*e*P	**P**	**05 27 40.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,5.0nm,3.6s						
WRA	**Warramunga Arr**	**31.28 161**		P	**P**	**05 27 40.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=342,slow=9.5,SNR=12						
WRA				PcP	**PcP**	**05 30 34.8**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=340,slow=3.1,SNR=9.9						
WRA				LR	LR	05 42 51.8	
	comp=Z,49nm,18.0s,baz=20,slow=41						
WB2	**Warramunga Arr**	**31.28 161**		P	**P**	**05 27 41.1**	**-1.1**
LZH	**Lanzhou**	**31.94 328**		*e*P	**P**	**05 27 49.9**	**+1.9**
LZH				pP	sP	05 28 08.9	+8.2
LZH				sP	pP	05 28 16.3	+19
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
HHC	**Hu-ho-hao-te**	**32.80 342**		*e*P	**P**	**05 27 59.1**	**+3.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SHL	**Shillong**	**34.30 301**		P	**P**	**05 28 09.8**	**+1.0**
SHL	**Shillong**	**34.30 301**		P	**P**	**05 28 09.8**	**+1.0**
ASAR	**Alice Springs**	**34.67 164**		P	**P**	**05 28 09.9**	**-1.9**
ASAR						05 30 44.7	
ASAR	**Alice Springs**	**34.67 164**		P	**P**	**05 28 11.7**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=344,slow=8.1,SNR=24						
ASAR				PcP	**PcP**	**05 30 44.6**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=353,slow=2.9,SNR=8.6						
ASAR	**Alice Springs**	**34.67 164**		P	**P**	**05 28 09.9**	**-1.9**
USRK	**Ussuriysk Ar.**	**34.90 10**		P	**P**	**05 28 14.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**34.90 10**		P	**P**	**05 28 14.4**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=193,slow=6.9,SNR=9.0						
USRK	**Ussuriysk Ar.**	**34.90 10**		P	**P**	**05 28 14.0**	**+0.5**
ERM	**Erimo**	**36.16 24**		*e*P	**P**	**05 28 22.7**	**-1.6**
ERM				pmax	pmax		
	comp=Z,14nm,1.1s						
GTA	**Gaotai**	**36.54 328**		P	**P**	**05 28 29.0**	**+1.2**
GTA				pP	sP	05 28 43.9	+3.4
GTA				sP	pP	05 28 50.8	+14
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,120nm,4.7s						
GTA				LR	LR		
	comp=Z,140nm,15.8s						
GTA				LR	LR		
	comp=Z,140nm,16.1s						
TAPN	**Taplejung**	**38.42 302**		*e*P	**P**	**05 28 45.1**	**+0.9**
	comp=Z,38nm,0.5s						
ODAN	**Odare**	**38.53 301**		*e*P	**P**	**05 28 45.7**	**+0.7**
	comp=Z,56nm,0.9s						
RAMN	**Ramite**	**39.23 301**		*e*P	**P**	**05 28 51.5**	**+0.7**
	comp=Z,47nm,0.7s						
KLR	**Kul'dur**	**39.77 8**		⇑*i*P	**P**	**05 28 54.8**	**+0.1**
KLR				pmax	pmax		
	comp=Z,18nm,1.5s						
JIRN	**Jiri**	**39.80 302**		*e*P	**P**	**05 28 56.7**	**+1.0**
	comp=Z,51nm,0.6s						
GUN	**Gumba**	**40.14 302**		*e*P	**P**	**05 28 59.3**	**+0.7**
	comp=Z,69nm,1.0s						
YSS	**Yuzh-Sakhalins**	**40.24 20**		*e*P	**P**	**05 28 57.6**	**-1.0**
YSS				pmax	pmax		
	comp=Z,53nm,1.8s						
PKI	**Pulchoki**	**40.43 301**		*e*P	**P**	**05 29 01.2**	**+0.3**
	comp=Z,20nm,0.8s						
PKIN	**Phulchoki**	**40.44 301**		*e*P	**P**	**05 29 01.1**	**+0.2**
ULN	**Ulaanbaatar**	**40.52 342**		*ce*P	**P**	**05 29 01.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.6s						
KKN	**Kakani**	**40.60 301**		*e*P	**P**	**05 29 02.6**	**+0.3**
DMN	**Daman**	**40.70 301**		*e*P	**P**	**05 29 03.3**	**+0.3**
	comp=Z,31nm,1.0s						
SONM	**Songino Array**	**40.70 342**		P	**P**	**05 29 03.7**	**+1.1**
SONM						05 31 03.3	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**40.70 342**		P	**P**	**05 29 03.3**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=145,slow=5.4,SNR=6.6						
SONM				PcP	**PcP**	**05 31 03.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=167,slow=2.5,SNR=2.8						
SONM				LR	LR	05 46 27.7	
	comp=Z,89nm,20.7s,baz=172,slow=37						
SONM	**Songino Array**	**40.70 342**		P	**P**	**05 29 03.7**	**+1.1**
GKN	**Gorkha**	**41.21 301**		*e*P	**P**	**05 29 07.3**	**+0.1**
KOLN	**Koldanda**	**42.02 301**		*e*P	**P**	**05 29 14.5**	**+0.7**
	comp=Z,55nm,1.1s						
DANN	**Dangsing**	**42.05 302**		*e*P	**P**	**05 29 14.6**	**+0.4**
	comp=Z,74nm,1.1s						
ZEA	**Zeya**	**43.84 3**		*e*P	**P**	**05 29 27.6**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**44.75 159**		P	**P**	**05 29 36.0**	**+0.6**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
STKA	**Stephens Creek**	**44.75 159**		P	**P**	**05 29 36.0**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=2.9,slow=7.4,SNR=5.7						
STKA	**Stephens Creek**	**44.75 159**		IAmb	IAmb	05 29 43.4	
	comp=Z,0.9nm,0.8s						
TLY	**Talaya**	**44.93 342**		*e*P	**P**	**05 29 34.4**	**-2.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TLY	**Talaya**	**44.93 342**		LR	LR	05 48 53.0	
	comp=Z,78nm,20.1s,baz=136,slow=37						
WMQ	**Urumqi**	**46.25 324**		*e*P	**P**	**05 29 49.4**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.7s						
WMQ				LR	LR		
	comp=Z,520nm,29.2s						
WMQ				LR	LR		
	comp=Z,2μm,29.3s						
DGZ	**Jazzator, Alta**	**50.01 330**		∥*i*P	**P**	**05 30 17.2**	**+0.8**
MK31	**Makanchi Array**	**51.08 324**		P	**P**	**05 30 25.3**	**+0.9**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**51.08 324**		P	**P**	**05 30 25.3**	**+0.9**
MK31				IAmb	IAmb	05 30 30.9	
	comp=Z,8.9nm,0.8s						
MKAR	**Makanchi Array**	**51.08 324**		P	**P**	**05 30 25.0**	**+0.6**
	comp=Z,7.5nm,0.8s,baz=127,slow=8.4,SNR=43						
MKAR				PcP	**PcP**	**05 31 39.8**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=122,slow=3.3,SNR=5.4						
MKAR	**Makanchi Array**	**51.08 324**		P	**P**	**05 30 24.9**	**+0.5**
MAKZ	**Makanchi**	**51.27 324**		P	**P**	**05 30 26.7**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAKZ	**Makanchi**	**51.27 324**		P	**P**	**05 30 26.7**	**+0.9**
KSH	**Kashi**	**51.92 313**		P	**P**	**05 30 34.1**	**+3.1**
KSH				ScP	**ScP**	**05 35 34.2**	**-4.1**
KSH				S	**S**	**05 37 51.7**	**-0.5**
KSH				sS	sS	05 38 23.0	+16
KSH				ScS	**ScS**	**05 40 13.2**	**-6.1**
KSH				pmax	pmax		
	comp=Z,160nm,2.1s						
KSH				LR	LR		
	comp=Z,390nm,8.9s						
KSH				LR	LR		
	comp=Z,390nm,10.0s						
KSH				LR	LR		
	comp=Z,320nm,8.9s						
DZM	**Mont Dzumac**	**52.27 128**		P	**P**	**05 30 34.4**	**+0.7**
DZM				IAmb	IAmb	05 30 40.5	
	comp=Z,9.9nm,0.9s						
NRN	**Naryn**	**52.62 315**		P	**P**	**05 30 36.0**	**-0.3**
NRN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NRN	**Naryn**	**52.62 315**		P	**P**	**05 30 36.0**	**-0.3**
ZAA0	**Zalesovo Array**	**53.98 332**		IAmb	IAmb	05 30 50.8	
	comp=Z,8.8nm,1.1s						
ZALV	**Zalesovo Beam**	**53.98 332**		P	**P**	**05 30 45.5**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=122,slow=7.2,SNR=13						
ZALV				LR	LR	05 55 37.1	
	comp=Z,36nm,18.6s,baz=56,slow=38						
ZALV	**Zalesovo Beam**	**53.98 332**		P	**P**	**05 30 45.4**	**-0.3**
AAK	**Ala-Archa**	**54.12 316**		∥*e*P	**P**	**05 30 47.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
AAK	**Ala

BPAW	**Bear Paw Mtn.**	**78.99**	**26**		pP	05 33 30.3	-4.8
VORD	**Divnogorie**	**79.15**	**320**	*e*P	**P**	**05 33 27.2**	**+0.7**
VORD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VSR	**Storozhevoye**	**79.22**	**320**	*e*P	**P**	**05 33 23.7**	**-3.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LPSR	**Galich'ya Gora**	**79.31**	**322**	*e*P	**P**	**05 33 26.2**	**-1.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN	**Obninsk**	**80.58**	**324**	*e*P	**P**	**05 33 33.2**	**-1.0**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ILAR	**Eielson Array**	**80.75**	**26**	P	**P**	**05 33 34.0**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=239,slow=4.0,SNR=6.2						
BMAR	**Burnt Mountain**	**81.49**	**23**	P	**P**	**05 33 38.0**	**-0.9**
ARCES	**ARCESS Array B**	**83.83**	**340**	P	**P**	**05 33 51.5**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=75,slow=7.6,SNR=9.6						
BRTR	**Keskin Array B**	**84.13**	**309**	P	**P**	**05 33 53.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=104,slow=6.1,SNR=3.0						
FINES	**FINESS Array B**	**85.23**	**331**	*i*P	**P**	**05 33 59.5**	**+1.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**85.23**	**331**	P	**P**	**05 33 58.2**	**0.0**
	comp=Z,3.8nm,0.9s,baz=46,slow=6.0,SNR=4.9						
INK	**Inuvik**	**85.46**	**21**		pP	05 34 03.9	-5.0
AKASG	**Malin Array Be**	**85.52**	**321**	*i*P	**P**	**05 34 00.2**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**85.52**	**321**	P	**P**	**05 33 59.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=67,slow=4.7,SNR=5.3						
AKASG	**Malin Array Be**	**85.52**	**321**	IAmb	IAmb	05 34 06.2	
	comp=Z,4.7nm,1.2s						
AKBB	**Malin Array Si**	**85.52**	**321**	IAmb	IAmb	05 34 06.0	
	comp=Z,9.9nm,1.2s						
HYT	**Haines Junctio**	**85.56**	**29**	P	**P**	**05 34 02.3**	**+2.4**
KMBO	**Kilima Mbogo**	**87.07**	**268**	P	**P**	**05 34 09.9**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**87.07**	**268**	P	**P**	**05 34 09.6**	**+1.1**
	comp=Z,4.9nm,0.9s,baz=54,slow=7.1,SNR=12						
KMBO	**Kilima Mbogo**	**87.07**	**268**	P	**P**	**05 34 09.9**	**+1.4**
NOA	**NORSAR Array B**	**92.17**	**333**	P	**P**	**05 34 32.0**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=62,slow=4.7,SNR=3.2						
NOA				LR	LR	06 21 11.4	
	comp=Z,52nm,18.8s,baz=280,slow=39						
VYHS	**Vyhne**	**92.61**	**320**	*e*P	**P**	**05 34 33.4**	**-0.1**
VYHS	**Vyhne**	**92.61**	**320**	*e*P	**P**	**05 34 33.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**118.41**	**291**	PKP	**PKPdf**	**05 40 09.5**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=77,slow=2.0,SNR=17						
TXAR	**Lajitas Array**	**119.72**	**48**	PKP	**PKPdf**	**05 40 12.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=207,slow=0.6,SNR=4.2						
PLCA	**Paso Flores**	**146.62**	**160**	PKPbc	**PKPdf**	**05 41 03.3**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=195,slow=3.5,SNR=5.9						

*ECX **12** 05:22:37.7±0.6,30.°57N×114.°21W,h6km,MD3.0,ML3.2*
*MEX **12** 05:22:38.9±0.3,30.°10N×114.°60W,h7km±2km,MD4.0*
*NEIC **12** 05:22:38.6±4.1,30.°4N±0.°1×114.°26W±0.°07,h31km±13km*
ISC 12 05:22:38.4±1.2,30.°94N±0.°08×114.°23W±0.°04,h10km,n19,
σ1§76/26,1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.54**	**281**	*e*P	**Pn**	**05 22 50.2**	**-0.7**
SFX				*e*S	**Sb**	**05 23 00.9**	**+5.7**
SPX	**San Pedro Mart**	**1.06**	**276**	*e*P	**Pg**	**05 22 57.6**	**-1.3**
SPX				⇓*e*		05 23 15.3	
SPX				IAML		05 23 15.3	
	comp=N,292nm,0.3s						
SPIG	**San Pedro Mart**	**1.06**	**276**	*e*P	**Pn**	**05 22 58.6**	**-1.1**
SPIG				*e*S	**Sn**	**05 23 14.0**	**-0.8**
SPIG	**San Pedro Mart**	**1.06**	**276**		**Pn**	**05 22 58.6**	**-1.1**
SPIG					**Sn**	**05 23 14.0**	**-0.8**
SPIG	**San Pedro Mart**	**1.06**	**276**	*e*P	**Pb**	**05 22 58.5**	**-0.6**
214A	**Organ Pipe Nat**	**1.58**	**50**	Pn	**Pg**	**05 23 08.7**	**-0.1**
113A	**Mohawk Valley,**	**1.87**	**12**	Pn	**Pg**	**05 23 14.0**	**-0.3**
GLA	**Glamis**	**2.17**	**347**	Pn	**Pg**	**05 23 21.0**	**+1.0**
CBX	**Cerro Bola**	**2.49**	**304**	*i*P	**Pb**	**05 23 22.1**	**-1.1**
CBX				*i*S	**Sb**	**05 23 55.8**	**+1.8**
CBX	**Cerro Bola**	**2.49**	**304**		**Pb**	**05 23 22.1**	**-1.1**
CBX					**Sb**	**05 23 55.8**	**+1.8**
CBX	**Cerro Bola**	**2.49**	**304**	*e*P	**Pb**	**05 23 22.0**	**-1.3**
CBX				*e*		05 24 15.4	
CBX				IAML		05 24 15.4	
	comp=N,148nm,0.6s						
TJIG	**Tijuana**	**2.56**	**306**	*i*P	**Pb**	**05 23 22.6**	**-1.9**
TJIG				*i*S	**Sb**	**05 23 57.7**	**+1.7**
TJIG	**Tijuana**	**2.56**	**306**		**Pb**	**05 23 22.6**	**-1.9**
TJIG					**Sb**	**05 23 57.7**	**+1.7**
BAR	**Barrett**	**2.71**	**311**	Pn	**Pg**	**05 23 30.8**	**+0.5**
109C	**Camp Elliot, M**	**3.12**	**309**	Pn	**Pb**	**05 23 34.8**	**+0.7**
Y14A	**Wickenburg**	**3.17**	**19**	Pn	**Pb**	**05 23 32.8**	**-2.1**
TUC	**Tucson**	**3.24**	**64**	Pn	**Pb**	**05 23 30.5**	**+1.0**
PFO	**Pinyon Flats O**	**3.27**	**325**	Pn	**Pb**	**05 23 35.2**	**-1.4**
319A	**Douglas**	**4.27**	**83**	Pn	**Pn**	**05 23 43.5**	**-0.1**

IDC 12 05:59:10.9±1.5,31.°74N×40.°43W,h0km,mb3.8/12,
mb1 4.0/12,mb1mx3.9/42,mbtmp3.8/12,MS3.5/10,
Ms1 3.5/10,ms1mx3.3/33,Error ellipse: s-maj=50.8km
s-min=18.2km az=3.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**26.90**	**246**	LR	LR	06 12 51.0	
	comp=Z,45nm,21.0s,baz=91,slow=30						
MDP	**Montagnes des**	**28.87**	**206**	LR	LR	06 14 52.3	
	comp=Z,27nm,20.5s,baz=16,slow=33						
SCHQ	**Schefferville**	**29.71**	**329**	LR	LR	06 16 08.2	
	comp=Z,220nm,19.4s,baz=94,slow=34						
ESDC	**Sonseca Array**	**30.49**	**65**	P	P	06 05 25.1	-0.5
	1.8nm,1.0s,baz=271,slow=11,SNR=4.5						
DAVOX	**Davos/Dischmat**	**41.04**	**54**	P	P	06 06 56.6	+0.5
	3.2nm,0.8s,baz=265,slow=11,SNR=4.5						
DBIC	**Dimbokro**	**41.52**	**119**	LR	LR	06 22 48.1	
	comp=Z,105nm,18.5s,baz=308,slow=34						
TORD	**Torodi Ar. Bea**	**42.79**	**106**	P	P	06 07 10.3	-0.2
	2.5nm,1.0s,baz=322,slow=6.6,SNR=6.9						
TORD				LR	LR	06 22 43.3	
	comp=Z,40nm,21.0s,baz=325,slow=33						
GERES	**GERESS Array B**	**43.71**	**51**	P	P	06 07 17.8	0.0
	0.2nm,0.4s,baz=270,slow=7.7,SNR=3.6						
ULM	**Lac du Bonnet**	**44.63**	**311**	LR	LR	06 26 18.7	
	comp=Z,54nm,18.4s,baz=37,slow=36						
H10N2	**ASCENSION HYDR**	**46.51**	**143**	T	T	06 57 10.5	
	baz=329,slow=75,SNR=41						
H10N3	**ASCENSION HYDR**	**46.51**	**143**	T	T	06 57 10.9	
	baz=329,slow=75,SNR=40						
H10N1	**ASCENSION HYDR**	**46.52**	**143**	T	T	06 57 12.0	
	baz=329,slow=75,SNR=39						
H10S3	**ASCENSION HYDR**	**47.38**	**144**	T	T	06 58 30.3	
	baz=329,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**47.39**	**144**	T	T	06 58 31.4	
	baz=251,slow=74,SNR=16						
AKASG	**Malin Array Be**	**53.67**	**48**	P	P	06 08 33.4	-0.8
	0.5nm,0.4s,baz=274,slow=7.2,SNR=3.1						
TXAR	**Lajitas Array**	**53.83**	**285**	P	P	06 08 36.2	+0.4
	0.5nm,0.8s,baz=64,slow=6.1,SNR=3.9						
LPAZ	**La Paz**	**54.65**	**213**	LR	LR	06 29 23.6	
	comp=Z,35nm,21.8s,baz=42,slow=33						
PDAR	**Pinedale Array**	**54.71**	**303**	P	P	06 08 41.5	-0.7
	1.6nm,0.8s,baz=81,slow=9.2,SNR=11						
PDAR				LR	LR	06 31 32.2	
	comp=Z,98nm,18.8s,baz=56,slow=36						
BRTR	**Keskin Array B**	**59.09**	**60**	P	P	06 09 13.4	+0.1
	0.7nm,0.8s,baz=316,slow=6.0,SNR=4.0						
NVAR	**Mina Array Bea**	**62.31**	**300**	P	P	06 09 35.5	+0.1
	0.4nm,0.6s,baz=69,slow=7.8,SNR=3.5						
NVAR				LR	LR	06 35 52.7	
	comp=Z,123nm,19.1s,baz=82,slow=35						
ILAR	**Eielson Array**	**68.31**	**334**	P	P	06 10 13.7	+0.1
	1.1nm,1.0s,baz=58,slow=4.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**82.44**	**29**	P	P	06 11 35.2	+0.3
	0.7nm,0.4s,baz=311,slow=7.1,SNR=2.9						
MKAR	**Makanchi Array**	**86.33**	**35**	P	P	06 11 55.1	+0.2
	0.7nm,0.9s,baz=319,slow=6.3,SNR=2.8						
BOSA	**Boshof**	**86.62**	**127**	LR	LR	06 51 17.6	
	comp=Z,23nm,18.1s,baz=212,slow=36						

*MEX **12** 06:16:28.3±0.4,14.°75N×93.°99W,h15km,MD4.0*
*NEIC **12** 06:16:29.2±1.7,14.°9N±0.°1×94.°01W±0.°08,h30km±19km*
ISC 12 06:16:23.5±3.1,14.°8N±0.°1×93.°99W±0.°07,h5km±13km,n10,
σ1§48/19,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.21**	**38**	*e*P	**Pg**	**06 16 46.9**	**+0.2**
PCIG				*i*S	**Sg**	**06 17 01.2**	**-1.2**
PCIG		**1.21**	**38**		**Pg**	**06 16 46.9**	**+0.2**
PCIG					**Sg**	**06 17 01.2**	**-1.2**
THIG		**1.67**	**84**	*e*P	**Pn**	**06 16 53.8**	**+0.3**
THIG				*i*S	**Sn**	**06 17 14.0**	**-1.4**
THIG		**1.67**	**84**		**Pn**	**06 16 53.8**	**+0.3**
THIG					**Sn**	**06 17 14.0**	**-1.4**
CCIG	**Comitan**	**2.35**	**49**	*e*P	**Pn**	**06 17 03.6**	**+0.7**
CCIG				*i*S	**Sn**	**06 17 31.1**	**-1.2**
CCIG	**Comitan**	**2.35**	**49**		**Pn**	**06 17 03.6**	**+0.7**
CCIG					**Sn**	**06 17 31.1**	**-1.2**
CCIG	**Comitan**	**2.35**	**49**	Pn	**Pn**	**06 17 06.0**	**+3.0**
CCIG				Sn	**Sn**	**06 17 34.0**	**+1.7**
CMIG	**Matias Romero**	**2.48**	**340**	*e*P	**Pn**	**06 17 05.6**	**+0.9**
CMIG				*i*S	**Sn**	**06 17 33.9**	**-1.5**
CMIG	**Matias Romero**	**2.48**	**340**		**Pn**	**06 17 05.6**	**+0.9**
CMIG					**Sn**	**06 17 33.9**	**-1.5**
TEIG	**Tepich**	**7.71**	**44**	Pn	**Pn**	**06 18 18.5**	**+2.0**

IDC 12 06:16:25.0±16.0,6.°19S×129.°83E,h132km±168km,
mb3.3/1,mb1 3.5/4,mb1mx3.2/34,mbtmp3.8/4,ML3.9/3,
MS3.1/1,Ms1 3.1/1,ms1mx2.4/14,Error ellipse:
s-maj=102.8km s-min=57.0km az=36.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.53**	**199**	P	Pn	06 19 20.7	+1.9
	0.2nm,0.3s,baz=22,slow=12,SNR=23						
FITZ				S	Sn	06 21 32.6	-4.3
	1.1nm,0.3s,baz=347,slow=19,SNR=8.8						
WRA	**Warramunga Arr**	**14.36**	**163**	P	Pn	06 19 41.8	-0.5
	1.0nm,0.3s,baz=348,slow=11,SNR=27						
WRA				S	Sn	06 22 09.3	-12
	1.3nm,0.3s,baz=344,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**17.82**	**168**	P	Pn	06 20 24.2	-0.5
	0.6nm,0.3s,baz=351,slow=10,SNR=35						
ASAR				S	S	06 23 33.6	-8.3
	0.4nm,0.3s,baz=2.2,slow=27,SNR=9.3						
KRVT	**Keravat (AS076**	**22.18**	**86**	LR	LR	06 31 31.5	
	comp=Z,49nm,19.0s,baz=162,slow=41						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	06 27 06.3	-0.2
	0.4nm,0.6s,baz=116,slow=6.6,SNR=3.8						

*ATH **12** 06:20:02.9,40.°36N×20.°54E,h12km±3km,ML2.5/4,Error ellipse: s-maj=3.3km s-min=1.0km az=50.0*
*TIR **12** 06:20:02.0,40.°36N×20.°53E,h1km,Md2.7/6*
*THE **12** 06:20:03.3,40.°36N×20.°54E,h0km±2km,ML2.5/5,Error ellipse: s-maj=3.0km s-min=0.6km az=324.0*
*SKO **12** 06:20:05.2,40.°38N×20.°53E,h6km,M1.7,ML2.2*
ISC 12 06:20:03.6±1.0,40.°34N±0.°02×20.°55E±0.°02,h7km±10km,
n41,σ0§73/66,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.39**	**79**	P	**Pg**	**06 20 11.0**	**-0.2**
NEST				S	**Sg**	**06 20 16.9**	**+0.6**
	790nm,0.2s						
NEST	**Nestorio**	**0.39**	**79**	P	**Pg**	**06 20 11.0**	**-0.2**
NEST				S	**Sg**	**06 20 16.9**	**+0.6**
NEST				AML	AML	06 20 19.0	
	comp=N,1652μm,0.3s						
NEST				AML	AML	06 20 19.3	
	comp=E,1517μm,0.3s						
TPE	**Tepelena**	**0.41**	**263**	P	**Pg**	**06 20 11.0**	**-0.5**
TPE	**Tepelena**	**0.41**	**263**	*i*PG	**Pg**	**06 20 11.1**	**-0.5**
TPE				*i*SG	**Sg**	**06 20 17.5**	**+0.6**
PENT	**Pentalofos**	**0.48**	**108**	P	**Pg**	**06 20 12.4**	**-0.4**
PENT				S	**Sg**	**06 20 19.7**	**+0.7**
	comp=E,850nm,0.3s						
PENT	**Pentalofos**	**0.48**	**108**	P	**Pg**	**06 20 12.4**	**-0.4**
PENT				S	**Sg**	**06 20 19.7**	**+0.7**
PENT				AML	AML	06 20 20.2	
	comp=N,2026μm,0.3s						
PENT				AML	AML	06 20 22.8	
	comp=E,1340μm,0.3s						
SRN	**Sarande**	**0.62**	**222**	P	**Pg**	**06 20 15.2**	**-0.4**
SRN				S	**Sb**	**06 20 25.0**	**-0.8**
SRN	**Sarande**	**0.62**	**222**	*i*PG	**Pg**	**06 20 15.1**	**-0.5**
SRN				*i*SG	**Sb**	**06 20 25.2**	**-0.5**
JAN	**Janina**	**0.73**	**161**	P	**Pg**	**06 20 16.6**	**-0.9**
KPRO	**Kipourio**	**0.74**	**122**	P	**Pg**	**06 20 17.2**	**-0.6**
KPRO				S	**Sg**	**06 20 28.3**	**+1.0**
	comp=E,395nm,0.3s						
KPRO	**Kipourio**	**0.74**	**122**	P	**Pg**	**06 20 17.2**	**-0.6**
KPRO				S	**Sg**	**06 20 27.9**	**+0.6**
KPRO				AML	AML	06 20 30.8	
	comp=N,652μm,0.3s						
KPRO				AML	AML	06 20 31.6	
	comp=E,916μm,0.3s						
KASA	**Kassiopi**	**0.76**	**218**	P	**Pg**	**06 20 17.6**	**-0.5**
MEV	**Metsovon**	**0.77**	**137**	P	**Pg**	**06 20 17.9**	**-0.4**
MEV	**Metsovon**	**0.77**	**137**	P	**Pg**	**06 20 17.4**	**-0.9**
FNA	**Florina**	**0.77**	**55**	P	**Pg**	**06 20 17.5**	**-0.8**
FNA				S	**Sb**	**06 20 29.4**	**-0.7**
	comp=E,750nm,0.4s						
FNA	**Florina**	**0.77**	**55**	*i*Pg	**Pg**	**06 20 17.6**	**-0.8**
FNA				*i*Sg	**Sb**	**06 20 30.1**	**0.0**
FNA	**Florina**	**0.77**	**55**	*i*PG	**Pg**	**06 20 18.2**	**-0.2**
FNA				*i*SG	**Sg**	**06 20 28.5**	**+0.1**
FNA	**Florina**	**0.77**	**55**	P	**Pg**	**06 20 17.4**	**-1.0**
FNA				S	**Sg**	**06 20 28.9**	**+0.5**
FNA				AML	AML	06 20 32.1	
	comp=N,1604μm,0.5s						
FNA				AML	AML	06 20 33.3	
	comp=E,1447μm,0.4s						
OHR	**Ohrid**	**0.79**	**14**	*i*Pg	**Pg**	**06 20 18.7**	**-0.1**
OHR				*i*Sg	**Sb**	**06 20 30.2**	**-0.5**
OHR				*e*Lg	Lg	06 20 30.5	
	comp=E,112nm,0.5s						
OHR				*e*Lg	Lg	06 20 32.6	
	comp=N,38nm,0.3s						
IGT	**Igoumenitsa**	**0.83**	**191**	P	**Pg**	**06 20 19.9**	**+0.4**
IGT				S	**Sb**	**06 20 32.5**	**+0.9**
	comp=N,332nm,0.4s						
IGT	**Igoumenitsa**	**0.83**	**191**	*i*Pg	**Pg**	**06 20 19.9**	**+0.4**
IGT				*i*Sg	**Sn**	**06 20 33.8**	**-0.4**
IGT	**Igoumenitsa**	**0.83**	**191**	*i*PG	**Pb**	**06 20 20.3**	**0.0**
IGT				*i*SG	**Sg**	**06 20 31.1**	**+0.9**
IGT	**Igoumenitsa**	**0.83**	**191**	P	**Pg**	**06 20 19.6**	**+0.2**
KEK	**Kerkira**	**0.85**	**223**	P	**Pg**	**06 20 19.1**	**-0.8**
KEK				S	**Sb**	**06 20 32.0**	**-0.4**
KEK	**Kerkira**	**0.85**	**223**	P	**Pg**	**06 20 19.1**	**-0.8**
KEK				S	**Sb**	**06 20 31.9**	**-0.4**
PHP	**Peshkopia**	**1.34**	**357**	*i*PN	**Pg**	**06 20 28.9**	**-0.4**
PHP				*i*SN	**Sn**	**06 20 48.8**	**+1.8**
THL	**Klokotos Trika**	**1.37**	**124**	P	**Pn**	**06 20 28.5**	**-0.6**
LIT	**Litokhoron**	**1.51**	**99**	P	**Pn**	**06 20 31.4**	**+0.3**
LIT	**Litokhoron**	**1.51**	**99**	*i*Pg	**Pb**	**06 20 31.6**	**-0.3**
LIT				*i*Sg	**Sg**	**06 20 54.4**	**+2.3**
LIT	**Litokhoron**	**1.51**	**99**	P	**Pn**	**06 20 31.3**	**+0.2**
GRG	**Griva**	**1.54**	**66**	P	**Pb**	**06 20 31.9**	**-0.6**
GRG	**Griva**	**1.54**	**66**	*i*Pg	**Pn**	**06 20 31.6**	**+0.1**
GRG				*i*Sg	**Sg**	**06 20 54.2**	**+1.2**
GRG	**Griva**	**1.54**	**66**	P	**Pb**	**06 20 31.8**	**-0.6**
EVGI	**Lefkada island**	**1.72**	**177**	P	**Pg**	**06 20 36.2**	**-0.4**
SKO	**Skopje**	**1.76**	**22**	*i*Pg	**Pg**	**06 20 36.9**	**-0.4**
SKO				*i*Sg	**Sg**	**06 21 00.3**	**+0.1**
SKO				*e*Lg	Lg	06 21 03.2	
	comp=E,3.2nm,0.4s						
SKO				*e*Lg	Lg	06 21 03.5	
	comp=N,5.0nm,0.6s						
PUK	**Puka**	**1.77**	**344**	*i*PN	**Pg**	**06 20 36.7**	**-0.8**
PUK				*i*SN	**Sg**	**06 21 02.4**	**+2.0**
MAKR	**Makrakomi, Fth**	**1.81**	**137**	P	**Pb**	**06 20 36.9**	**-0.1**
VAY	**Valandovo**	**1.82**	**57**	*i*Pn	**Pb**	**06 20 36.4**	**-0.8**
VAY				*i*Sn	**Sb**	**06 21 00.2**	**0.0**
VAY				*e*Lg	Lg	06 21 02.1	
	comp=E,22nm,0.6s						
VAY				*e*Lg	Lg	06 21 03.6	
	comp=N,25nm,0.5s						
AGG	**Agios Georgios**	**1.91**	**133**	P	**Pb**	**06 20 37.8**	**-1.0**
HORT	**Hortiatis**	**1.96**	**82**	P	**Pn**	**06 20 37.2**	**-0.2**
KNT	**Kendrikon**	**1.96**	**65**	*i*Pn	**Pb**	**06 20 39.5**	**-0.2**

IDC 12 06:58:14.2±1.1,12.°57N×143.°72E,h0km,mb3.7/4,
mb1 4.0/4,mb1mx3.6/46,mbtmp3.7/4,Error ellipse:
s-maj=42.7km s-min=17.9km az=124.0,South of
Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.51**	**48**	Pn	Pb	06 58 43.0	-0.2
	98nm,0.3s,baz=234,slow=2.7,SNR=38						
GUMO				Sn	Sg	06 59 02.2	-0.6
	149nm,0.3s,baz=52,slow=20,SNR=29						
WRA	**Warramunga Arr**	**33.60**	**196**	P	P	07 04 56.1	-0.3
	1.0nm,0.6s,baz=20,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**37.27**	**195**	P	P	07 05 27.9	0.0
	0.4nm,0.5s,baz=20,slow=12,SNR=9.7						
MKAR	**Makanchi Array**	**61.45**	**317**	P	P	07 08 32.2	-0.4
	0.3nm,0.6s,baz=89,slow=6.8,SNR=2.3						
NVAR	**Mina Array Bea**	**88.43**	**51**	P	P	07 11 09.5	+0.5
	0.6nm,0.6s,baz=260,slow=5.4,SNR=4.1						

*UCR **12** 07:01:40.3±1.1,8.°26N×82.°52W,h10km,MW3.7*
*ISCJB **12** 07:01:41.4±0.6,8.°21N±0.°04×82.°61W±0.°02,h24km±4km,Error ellipse: s-maj=7.8km s-min=3.1km az=16.7*
*UPA **12** 07:01:41.5±1.4,8.°27N×82.°63W,h28km±3km,MW3.8*
ISC 12 07:01:39.2±1.3,8.°18N±0.°04×82.°65W±0.°02,h8km±10km,
n38,σ1§24/61,1C-7D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.27**	**328**	⇓*i*P	**Pb**	**07 01 47.5**	**+1.2**
LESP3				*e*S	**Sb**	**07 01 52.0**	**+0.8**
SBAR3	**San Bartolo, C**	**0.27**	**301**	*e*P	**Pb**	**07 01 47.4**	**+0.9**
SBAR3				*e*S	**Sb**	**07 01 52.3**	**+1.0**
PEDE3	**Pedregal, Chir**	**0.30**	**47**	*i*P	**Pb**	**07 01 48.0**	**+1.0**
PEDE3				*e*S	**Sb**	**07 01 52.5**	**+0.4**
BAGA3	**Bagala, Chiriq**	**0.31**	**22**	⇓*i*P	**Pb**	**07 01 48.3**	**+1.2**
DVD	**David**	**0.32**	**37**	⇑*i*P	**Pb**	**07 01 48.1**	**+0.8**
DVD				*e*S	**Sb**	**07 01 53.1**	**+0.4**
LOCO3	**Loma Colorada,**	**0.32**	**44**	⇓*i*P	**Pb**	**07 01 48.2**	**+0.9**
LOCO3				*e*S	**Sb**	**07 01 53.6**	**+0.9**
LOMA3	**Las Lomas, Chi**	**0.36**	**45**	⇓*i*P	**Pb**	**07 01 48.7**	**+0.8**
LOMA3				*e*S	**Sb**	**07 01 54.1**	**+0.4**
CHIR3	**Chiriqui UPA,**	**0.38**	**55**	⇓*i*P	**Pb**	**07 01 49.0**	**+0.7**
CHIR3				*e*S	**Sb**	**07 01 54.6**	**+0.2**
PTAR3	**Potrerillos Ar**	**0.53**	**16**	*e*P	**Pb**	**07 01 51.8**	**+0.8**
PTAR3				*e*S	**Sb**	**07 01 58.5**	**-0.4**
BCO2	**Palmira**	**0.55**	**12**	*i*P	**Pb**	**07 01 51.3**	**+0.1**
BCO2				*e*S	**Sg**	**07 01 57.8**	**+0.6**
BRU2	**Volcan**	**0.61**	**356**	*e*P	**Pg**	**07 01 52.3**	**+1.2**
BRU2				*e*S	**Sb**	**07 02 00.9**	**-0.4**
BRU2	**Volcan**	**0.61**	**356**	⇓*i*P	**Pg**	**07 01 52.3**	**+1.2**
BRU2				*e*S	**Sb**	**07 02 00.9**	**-0.4**
EDSV	**San Vito**	**0.72**	**333**	*e*P	**Pb**	**07 01 54.4**	**+0.3**
EDSV				*e*S	**Sb**	**07 02 05.3**	**+1.1**
PTJ1	**Puerto Jimnez**	**0.74**	**299**	*e*P	**Pb**	**07 01 55.4**	**+1.0**
PTJ1				*e*S	**Sn**	**07 02 08.1**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.74**	**299**	⇓*i*P	**Pb**	**07 01 55.4**	**+1.0**
PTJ1				*e*S	**Sn**	**07 02 08.1**	**+0.6**
REME3	**Remedios, Chir**	**0.81**	**86**	*e*P	**Pg**	**07 01 55.0**	**+0.3**
REME3				*e*S	**Sb**	**07 02 06.7**	**+0.1**
NANC3	**Nancito, Chiri**	**0.91**	**86**	*e*P	**Pg**	**07 01 57.0**	**+0.4**
NANC3				*e*S	**Sg**	**07 02 07.8**	**-0.6**
EDPN	**Palmar Norte**	**1.12**	**314**	*e*P	**Pg**	**07 02 00.2**	**-0.5**
EDPN				*e*S	**Sg**	**07 02 14.7**	**-0.6**
EDBA	**Buenos Aires**	**1.16**	**328**	*e*P	**Pg**	**07 02 02.0**	**+0.5**
DRK0	**Durika**	**1.23**	**331**	*e*P	**Pb**	**07 02 01.9**	**-1.1**
DRK0	**Durika**	**1.23**	**331**	*e*P	**Pb**	**07 02 01.8**	**-1.1**
DRK0				*e*S	**Sg**	**07 02 13.4**	**-5.5**
EDLM	**Las Mercedes**	**1.44**	**320**	*e*P	**Pn**	**07 02 05.6**	**-0.2**
GMAL	**Guarumal, Vera**	**1.46**	**106**	*e*P	**Pn**	**07 02 05.4**	**-0.5**
GMAL				*e*S	**Sn**	**07 02 23.0**	**-2.3**
RSUS3	**Rio de Jesus,**	**1.48**	**97**	*e*P	**Pg**	**07 02 08.0**	**+0.3**
EDDO	**Dominical**	**1.61**	**312**	*e*P	**Pn**	**07 02 09.2**	**+1.1**
SFRA3	**San Francisco,**	**1.66**	**87**	*e*S	**Sn**	**07 02 27.3**	**-2.9**
**CALO

cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
NEIC **12** *07:04:02.1,54.51N×161.17E,h49km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.48; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-0.25; $M_{r\theta}$1.61; $M_{r\phi}$0.71; $M_{\theta\phi}$2.94; Fault plane solution: $M_0$3.38000×10^{18} NP1:ϕ_s121.84000°, δ7.75000°,λ6.11000°. NP2:ϕ_s25.79000°,δ89.18000°, λ97.71000°. Principal axes: T 3.7904, Plg45.0000°, Azm304.0000°; N -0.8143, Plg8.0000°, Azm206.0000°; P -2.9761, Plg44.0000°, Azm108.0000°;*

ISC 12 07:03:52.5±0.3,54.68N±0.02×162.14E±0.02,h61km±1km, h60km:pP-P,n2947,σ1964/2809,mb6.4/588,519C-49D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.27**	**243**	*i* P			**Pn**	**07 04 00.6**	**-1.8**
MKZ	**Mys Kozlova**	**0.27**	**243**	PN			**Pn**	**07 04 00.6**	**-1.8**
TUMD	**Tumrok D**	**1.14**	**298**	*i* P			**Pn**	**07 04 12.5**	**+0.2**
KZV	**Kizimen**	**1.15**	**293**	*i* P			**Pn**	**07 04 12.7**	**0.0**
KZV	**Kizimen**	**1.15**	**293**	PN			**Pn**	**07 04 12.7**	**0.0**
TUMR	**Tumrok**	**1.30**	**299**	*e*P			**Pn**	**07 04 15.3**	**+0.7**
TUMR	**Tumrok**	**1.30**	**299**	PN			**Pn**	**07 04 15.3**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.51**	**327**	*i* P			**Pn**	**07 04 18.0**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.51**	**327**	PN			**Pn**	**07 04 18.0**	**+0.6**
KMNR	**Kamenistaya**	**1.54**	**315**	*i* P			**Pn**	**07 04 18.5**	**+0.8**
KMNR	**Kamenistaya**	**1.54**	**315**	PN			**Pn**	**07 04 18.5**	**+0.8**
ZLN	**Zelenaya**	**1.55**	**331**	*e*P			**Pn**	**07 04 18.5**	**+0.6**
ZLN	**Zelenaya**	**1.55**	**331**	PN			**Pn**	**07 04 18.5**	**+0.6**
BZMR	**Bezymyannaya**	**1.58**	**324**	*i* P			**Pn**	**07 04 19.0**	**+0.7**
BZMR	**Bezymyannaya**	**1.58**	**324**	PN			**Pn**	**07 04 19.0**	**+0.7**
KBTR	**Krutoberegovo**	**1.58**	**14**	*i* P			**Pn**	**07 04 16.6**	**-1.6**
KBTR	**Krutoberegovo**	**1.58**	**14**	PN			**Pn**	**07 04 16.6**	**-1.6**
BZWR	**Bezymyannyi-We**	**1.60**	**325**	*i* P			**Pn**	**07 04 19.2**	**+0.6**
BZWR	**Bezymyannyi-We**	**1.60**	**325**	PN			**Pn**	**07 04 19.2**	**+0.6**
LGNR	**Loginova**	**1.64**	**330**	*i* P			**Pn**	**07 04 20.0**	**+0.8**
LGNR	**Loginova**	**1.64**	**330**	PN			**Pn**	**07 04 20.0**	**+0.8**
KIRR	**Kirishev**	**1.64**	**322**	*i* P			**Pn**	**07 04 19.8**	**+0.6**
KIRR	**Kirishev**	**1.64**	**322**	PN			**Pn**	**07 04 19.8**	**+0.6**
CIRR	**Tsirk**	**1.65**	**332**	*i* P			**Pn**	**07 04 19.9**	**+0.6**
CIRR	**Tsirk**	**1.65**	**332**	PN			**Pn**	**07 04 19.9**	**+0.6**
KPT	**Kopyto**	**1.70**	**320**	*i* P			**Pn**	**07 04 20.6**	**+0.7**
KPT	**Kopyto**	**1.70**	**320**	PN			**Pn**	**07 04 20.6**	**+0.7**
KII	**Karymskiy**	**1.70**	**249**	*i* P			**Pn**	**07 04 21.0**	**+1.1**
KII	**Karymskiy**	**1.70**	**249**	PN			**Pn**	**07 04 21.0**	**+1.1**
KRSR	**Krestovskiy**	**1.79**	**330**	*i* P			**Pn**	**07 04 21.3**	**+0.2**
KRSR	**Krestovskiy**	**1.79**	**330**	PN			**Pn**	**07 04 21.3**	**+0.2**
KLY	**Klyuchi**	**1.85**	**333**	*i* P			**Pn**	**07 04 21.3**	**-0.5**
KLY	**Klyuchi**	**1.85**	**333**	PN			**Pn**	**07 04 21.3**	**-0.5**
KOZ	**Kozyrevsk**	**1.90**	**318**	*i* P			**Pn**	**07 04 23.7**	**+1.2**
KOZ	**Kozyrevsk**	**1.90**	**318**	PN			**Pn**	**07 04 23.7**	**+1.2**
SMKR	**Semkarok**	**1.95**	**349**	*i* P			**Pn**	**07 04 23.4**	**+0.1**
SMKR	**Semkarok**	**1.95**	**349**	PN			**Pn**	**07 04 23.4**	**+0.1**
BDR	**Baidarnaya**	**1.97**	**345**	*i* P			**Pn**	**07 04 24.1**	**+0.6**
BDR	**Baidarnaya**	**1.97**	**345**	PN			**Pn**	**07 04 24.1**	**+0.6**
SPN	**Mys Shipunski**	**2.02**	**219**	*i* P			**Pn**	**07 04 23.5**	**-0.6**
SPN				*i* S			**Sn**	**07 04 47.7**	**-0.6**
SPN	**Mys Shipunski**	**2.02**	**219**	PN			**Pn**	**07 04 23.5**	**-0.6**
SPN				S			**Sn**	**07 04 47.7**	**-0.6**
SRKR	**Sorokina**	**2.06**	**345**	*e*P			**Pn**	**07 04 25.0**	**+0.3**
SRKR	**Sorokina**	**2.06**	**345**	PN			**Pn**	**07 04 25.0**	**+0.3**
SRDR	**Sredinnyy**	**2.15**	**321**	*i* P			**Pn**	**07 04 26.6**	**+0.7**
SRDR	**Sredinnyy**	**2.15**	**321**	PN			**Pn**	**07 04 26.6**	**+0.7**
NLC	**Nalytchevo**	**2.24**	**229**	*e*P			**Pn**	**07 04 27.4**	**+0.3**
NLC				*e*S			**Sn**	**07 04 55.0**	**+1.4**
NLC	**Nalytchevo**	**2.24**	**229**	PN			**Pn**	**07 04 27.4**	**+0.3**
NLC				S			**Sn**	**07 04 55.0**	**+1.4**
BKI	**Bering**	**2.27**	**75**	*i* P			**Pn**	**07 04 24.9**	**-2.6**
BKI				*i* S			**Sn**	**07 04 49.2**	**-5.2**
BKI	**Bering**	**2.27**	**75**	PN			**Pn**	**07 04 24.9**	**-2.6**
ESO	**Esso**	**2.33**	**304**	*e*P			**Pn**	**07 04 29.3**	**+0.9**
ESO	**Esso**	**2.33**	**304**	PN			**Pn**	**07 04 29.3**	**+0.9**
SDLR	**Sedlovina**	**2.38**	**235**	*i* P			**Pn**	**07 04 30.6**	**+1.4**
SDLR	**Sedlovina**	**2.38**	**235**	PN			**Pn**	**07 04 30.6**	**+1.4**
SMAR	**Somma**	**2.43**	**236**	*i* P			**Pn**	**07 04 31.3**	**+1.4**
SMAR	**Somma**	**2.43**	**236**	PN			**Pn**	**07 04 31.3**	**+1.4**
KRER	**Koryakskii**	**2.43**	**237**	*e*P			**Pn**	**07 04 31.4**	**+1.5**
KRER	**Koryakskii**	**2.43**	**237**	PN			**Pn**	**07 04 31.4**	**+1.5**
KRX	**Arik**	**2.45**	**239**	*i* P			**Pn**	**07 04 31.7**	**+1.6**
KRX	**Arik**	**2.45**	**239**	PN			**Pn**	**07 04 31.7**	**+1.6**
UGLR	**Uglovaya**	**2.45**	**234**	*e*P			**Pn**	**07 04 31.5**	**+1.3**
UGLR	**Uglovaya**	**2.45**	**234**	PN			**Pn**	**07 04 31.5**	**+1.3**
AVH	**Avacha**	**2.46**	**236**	*e*P			**Pn**	**07 04 32.0**	**+1.8**
AVH	**Avacha**	**2.46**	**236**	PN			**Pn**	**07 04 32.0**	**+1.8**
KOK	**Koryaka**	**2.49**	**238**	*e*P			**Pn**	**07 04 32.2**	**+1.5**
KOK	**Koryaka**	**2.49**	**238**	PN			**Pn**	**07 04 32.2**	**+1.5**
DALK	**Dalny**	**2.60**	**232**	*i* P			**Pn**	**07 04 33.3**	**+1.3**
DALK				*i* S			**Sn**	**07 05 03.9**	**+1.5**
DALK	**Dalny**	**2.60**	**232**	PN			**Pn**	**07 04 33.3**	**+1.3**
DALK				S			**Sn**	**07 05 03.9**	**+1.5**
PET	**Petropavlovsk**	**2.65**	**233**	*i* P			**Pn**	**07 04 33.9**	**+1.2**
PET	**Petropavlovsk**	**2.65**	**233**	⇑*i*PN			**Pn**	**07 04 33.7**	**+1.0**
PET				*e*S			**Sn**	**07 05 05.2**	**+1.6**
PET				pmax			pmax		
	comp=Z,26μm,1.2s								
PET				pmax			pmax		
	comp=Z,31μm,0.4s								
PET				pmax			pmax		
	comp=Z,12μm,3.0s								
PET				smax			smax		
	comp=N,208μm,0.7s								
PET				smax			smax		
	comp=N,624μm,2.1s								
PET				smax			smax		
	comp=N,340μm,4.8s								
PET				smax			smax		
	comp=E,528μm,1.9s								
PET				smax			smax		
	comp=E,199μm,1.0s								
PET				smax			smax		
	comp=E,165μm,3.5s								
PET				MLR			MLR		
	comp=Z,463μm,16.0s								
PET				MLR			MLR		
	comp=Z,527μm,14.0s								
PET	**Petropavlovsk**	**2.65**	**233**				**Pn**	**07 04 33.8**	**+1.2**
PET				Sn			**Sn**	**07 05 04.6**	**+1.0**
GNL	**Ganaly**	**2.66**	**250**	*e*P			**Pn**	**07 04 34.7**	**+1.7**
GNL	**Ganaly**	**2.66**	**250**	PN			**Pn**	**07 04 34.7**	**+1.7**
KRMR	**Karymshinskiy**	**3.02**	**234**	*i* P			**Pn**	**07 04 39.5**	**+1.8**
KRMR				*e*S			**Sn**	**07 05 15.4**	**+2.8**
KRMR	**Karymshinskiy**	**3.02**	**234**	PN			**Pn**	**07 04 39.5**	**+1.8**
KRMR				S			**Sn**	**07 05 15.4**	**+2.8**
I44RU	**PETROPAVLOVSK-**	**3.06**	**241**	Pn			**Pn**	**07 04 40.0**	**+1.7**
	baz=70,slow=28,SNR=0.6								
PEA0B	**Petropavlovsk-**	**3.06**	**241**	PN			**Pn**	**07 04 39.8**	**+1.4**
PEA0B								07 05 15.5	
PEA0B	**Petropavlovsk-**	**3.06**	**241**				**Pn**	**07 04 39.9**	**+1.4**
PEA0B				Sn			**Sn**	**07 05 15.5**	**+1.7**
PETK	**Petropavlovsk-**	**3.06**	**241**	PN			**Pn**	**07 04 39.0**	**+0.6**
PETK	**Petropavlovsk-**	**3.06**	**241**	Pn			**Pn**	**07 04 39.9**	**+1.5**
	comp=Z,2μm,0.3s,baz=72,slow=17,SNR=2867								
PETK				Sn			**Sn**	**07 05 19.3**	**+5.5**
	comp=Z,3μm,0.3s,baz=84,slow=39,SNR=10								
PETK				LR			LR	07 06 09.2	
	comp=Z,154μm,18.2s,baz=82,slow=46								
PETK	**Petropavlovsk-**	**3.06**	**241**				**Pn**	**07 04 39.0**	**+0.6**
RUS	**Russkaya**	**3.12**	**225**	*i* P			**Pn**	**07 04 39.5**	**+0.3**
RUS	**Russkaya**	**3.12**	**225**	PN			**Pn**	**07 04 39.5**	**+0.3**
MTVR	**Mutnovka**	**3.23**	**229**	*i* P			**Pn**	**07 04 41.8**	**+1.1**
MTVR	**Mutnovka**	**3.23**	**229**	PN			**Pn**	**07 04 41.8**	**+1.1**
GRL	**Gorelyy**	**3.23**	**230**	*e*P			**Pn**	**07 04 42.6**	**+1.9**
GRL	**Gorelyy**	**3.23**	**230**	PN			**Pn**	**07 04 42.6**	**+1.9**
ASAK	**Asacha**	**3.42**	**229**	*i* P			**Pn**	**07 04 45.3**	**+2.0**
ASAK	**Asacha**	**3.42**	**229**	PN			**Pn**	**07 04 45.3**	**+2.0**
APC	**Apacha**	**3.44**	**241**	*i* P			**Pn**	**07 04 45.7**	**+2.2**
APC				*i* S			**Sn**	**07 05 25.6**	**+2.7**
APC	**Apacha**	**3.44**	**241**	PN			**Pn**	**07 04 45.7**	**+2.2**
APC				S			**Sn**	**07 05 25.6**	**+2.7**
KDTR	**Khodutka, Kamc**	**3.77**	**222**	*e*P			**Pn**	**07 04 48.5**	**+0.5**
KDTR				*e*S			**Sn**	**07 05 30.9**	**-0.2**
KDTR	**Khodutka, Kamc**	**3.77**	**222**	PN			**Pn**	**07 04 48.5**	**+0.5**
KDTR				S			**Sn**	**07 05 30.9**	**-0.2**
PAU	**Pauzhetka**	**4.55**	**227**	*e*P			**Pn**	**07 05 00.6**	**+1.9**
PAU				*e*S			**Sn**	**07 05 52.7**	**+2.6**
PAU	**Pauzhetka**	**4.55**	**227**	PN			**Pn**	**07 05 00.6**	**+1.9**
PAU				S			**Sn**	**07 05 52.7**	**+2.6**
PALN	**Palana**	**4.58**	**346**	*e*P			**Pn**	**07 04 58.7**	**-0.4**
PALN	**Palana**	**4.58**	**346**	PN			**Pn**	**07 04 58.7**	**-0.4**
OSSR	**Ossora**	**4.61**	**6**	*e*P			**Pn**	**07 04 58.5**	**-1.0**
OSSR	**Ossora**	**4.61**	**6**	PN			**Pn**	**07 04 58.5**	**-1.0**
SKR	**Severo-Kuril's**	**5.42**	**225**	*i* P			**Pn**	**07 05 11.4**	**+0.8**
SKR				*e*S			**Sn**	**07 06 11.8**	**+0.1**
SKR	**Severo-Kuril's**	**5.42**	**225**	*e*PN			**Pn**	**07 05 11.5**	**+0.8**
SKR				*e*S			**Sn**	**07 06 12.0**	**+0.3**
SKR				pmax			pmax		
	comp=Z,5μm,0.7s								
SKR				pmax			pmax		
	comp=Z,10μm,6.2s								
SKR				pmax			pmax		
	comp=Z,8μm,10.0s								
SKR				smax			smax		
	comp=N,11μm,0.7s								
SKR				smax			smax		
	comp=E,13μm,0.7s								
SKR				MLR			MLR		
	comp=Z,51μm,19.0s								
TILK	**Tilichiki**	**6.17**	**19**	*e*P			**Pn**	**07 05 21.0**	**+0.2**
TILK	**Tilichiki**	**6.17**	**19**	PN			**Pn**	**07 05 21.0**	**+0.2**
SMY	**Shemya**	**7.36**	**100**	PN			**Pn**	**07 05 35.0**	**-2.2**
SMY	**Shemya**	**7.36**	**100**				**Pn**	**07 05 35.0**	**-2.2**
SMY				Sn			**Sn**	**07 06 54.5**	**-4.6**
MA2	**Magadan**	**7.89**	**313**	Pn			**Pn**	**07 05 45.9**	**+1.4**
	comp=Z,52nm,0.3s,baz=112,slow=10,SNR=176								
MA2				LR			LR	07 09 15.1	
	comp=Z,392μm,18.4s,baz=131,slow=42								
MA2	**Magadan**	**7.89**	**313**				**Pn**	**07 05 45.6**	**+1.2**
KMSK	**Kamenskaya**	**8.09**	**14**	*i* P			**Pn**	**07 05 47.3**	**+0.2**
KMSK	**Kamenskaya**	**8.09**	**14**	PN			**Pn**	**07 05 47.3**	**+0.2**
SEY	**Seymchan**	**9.69**	**333**	*c i*PN			**Pn**	**07 06 10.8**	**+1.8**
SEY	**Seymchan**	**9.69**	**333**	Pn			**Pn**	**07 06 09.8**	**+0.8**
	comp=Z,4.3nm,0.3s,baz=128,slow=11,SNR=40								
SEY				LR			LR	07 10 10.8	
	comp=Z,278μm,18.0s,baz=143,slow=40								
OKH	**Okha**	**11.33**	**272**	*c i*PN			**Pn**	**07 06 35.1**	**+3.8**
OKH				pmax			pmax		
	comp=Z,21μm,7.2s								
OKH				MLR			MLR		
	comp=Z,131μm,18.0s								
TYV	**Tymovskoe**	**12.39**	**260**	*e*PN			**Pn**	**07 06 49.9**	**+4.0**
TYV				*e*S			**Sn**	**07 09 10.7**	**+8.5**
TYV				pmax			pmax		
	comp=Z,2μm,1.2s								
TYV				pmax			pmax		
	comp=Z,42μm,4.7s								
TYV				smax			smax		
	comp=E,161nm,1.4s								
TYV				MLR			MLR		
	comp=E,105μm,20.0s								
TYV				MLR			MLR		
	comp=Z,99μm,20.0s								
KIWB	**Kanaga Island**	**12.71**	**94**				**Pn**	**07 06 47.8**	**-2.3**
NKL	**Nikolayevsk**	**12.74**	**272**	*c i*PN			**Pn**	**07 06 54.1**	**+3.6**
NKL				pmax			pmax		
	comp=N,360nm,1.3s								
NKL				pmax			pmax		
	comp=E,2μm,1.3s								
NKL				pmax			pmax		
	comp=Z,2μm,1.3s								
ADK	**Adak**	**12.96**	**94**	PN			**Pn**	**07 06 51.0**	**-2.6**
ADK	**Adak**	**12.96**	**94**				**Pn**	**07 06 51.0**	**-2.6**
KUR	**Kuril'sk**	**13.16**	**230**	*d i*PN			**Pn**	**07 06 56.0**	**-0.3**
KUR				pmax			pmax		
	comp=Z,763μm,0.5s								
KUR				pmax			pmax		
	comp=N,96μm,0.3s								
KUR				pmax			pmax		
	comp=E,297μm,0.3s								
GSTR	**Great Sitkin T**	**13.25**	**92**				**Pn**	**07 06 55.2**	**-2.4**
BILL	**Bilibino**	**13.55**	**7**	*c i*P			**Pn**	**07 07 03.4**	**+1.9**
BILL				*e*S			**Sn**	**07 09 35.4**	**+5.3**
BILL				pmax			pmax		
	comp=Z,8308μm,2.4s								
BILL				pmax			pmax		
	comp=Z,2μm,2.1s								
BILL				MLR			MLR		
	comp=Z,73μm,17.0s								
BILL	**Bilibino**	**13.55**	**7**				**Pn**	**07 07 03.1**	**+1.6**
UGL	**Uglegorsk**	**13.59**	**254**	*e*P			**Pn**	**07 07 04.2**	**+2.1**
UGL				*e*S			**Sn**	**07 09 36.5**	**+5.3**
UGL				pmax			pmax		
	comp=Z,1μm,2.0s								
UGL				pmax			pmax		
	comp=Z,36μm,4.0s								
UGL				pmax			pmax		
	comp=E,31μm,4.4s								
UGL				smax			smax		
	comp=E,45μm,9.2s								
UGL				MLR			MLR		
	comp=Z,100μm,19.0s								
UGL				MLR			MLR		
	comp=E,103μm,19.0s								
YSS	**Yuzh-Sakhalins**	**14.46**	**246**	*e*P			**Pn**	**07 07 14.8**	**+1.2**
YSS				*e*S			**Sn**	**07 09 54.1**	**+1.8**
YSS				pmax			pmax		
	comp=Z,640nm,1.0s								
YSS				pmax			pmax		
	comp=N,530nm,0.8s								
YSS				pmax			pmax		
	comp=E,750nm,1.0s								
YSS				pmax			pmax		
	comp=Z,18μm,9.9s								
YSS				pmax			pmax		
	comp=N,9μm,10.4s								
YSS				pmax			pmax		
	comp=E,12μm,9.7s								
YSS				smax			smax		
	comp=N,16μm,14.5s								
YSS				smax			smax		
	comp=E,6μm,7.5s								
YSS				MLR			MLR		
	comp=Z,94μm,17.0s								
YSS				MLR			MLR		
	comp=N,52μm,20.0s								
YSS				MLR			MLR		
	comp=E,61μm,18.0s								
YSS	**Yuzh-Sakhalins**	**14.46**	**246**				**Pn**	**07 07 14.8**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**14.99**	**231**	*e*P			**Pn**	**07 07 17.5**	**-3.0**
YUK				*e*S			**Sn**	**07 09 58.3**	**-7.0**
YUK				pmax			pmax		
	comp=E,2μm,0.5s								
YUK				pmax			pmax		
	comp=Z,4μm,0.5s								
YUK				pmax			pmax		
	comp=N,1μm,0.2s								
YUK				MLR			MLR		
	comp=N,29μm,16.0s								
YUK				MLR			MLR		
	comp=Z,27μm,16.0s								
LAGR	**Lagunnoye**	**15.01**	**232**	*e*P			**Pn**	**07 07 18.2**	**-2.6**
LAGR				*i* S			**Sn**	**07 09 59.6**	**-6.2**
LAGR				pmax			pmax		
	comp=N,4μm,0.6s								
LAGR				pmax			pmax		
	comp=Z,3μm,0.6s								
LAGR				pmax			pmax		
	comp=E,3μm,0.5s								
GRPR	**Tuman**	**15.06**	**232**	⇑*i*P			**Pn**	**07 07 18.6**	**-2.9**
GRPR				*i* S			**Sn**	**07 09 59.4**	**-7.7**
GRPR				pmax			pmax		
	comp=Z,458nm,0.3s								
GRPR				pmax			pmax		
	comp=N,2μm,0.4s								
GRPR				pmax			pmax		
	comp=E,2μm,0.4s								
NMR	**Nemuro--Hokkai**	**15.57**	**230**	*e*P			**Pn**	**07 07 21.7**	**-6.3**
SPIA	**Saint Paul Isl**	**15.63**	**70**	Pn			**Pn**	**07 07 27.4**	**-1.2**
SPIA				IAmb			IAmb	07 07 35.1	
	comp=Z,8μm,1.6s								
GRNR	**Gornyy**	**16.03**	**266**	⇑*i*P			**P**	**07 07 35.6**	**-0.6**
GRNR				*e*S			**Sn**	**07 10 32.5**	**+2.1**
GRNR				pmax			pmax		
	comp=Z,760nm,1.2s								
GRNR				smax			smax		
	comp=E,120nm,1.6s								
GRNR				MLR			MLR		
	comp=E,26μm,19.0s								
GRNR				MLR			MLR		
	comp=N,24μm,18.0s								
GRNR				MLR			MLR		
	comp=Z,49μm,19.0s								
GAMB	**Gambell**	**16.07**	**45**				**Pn**	**07 07 33.5**	**-0.7**
GAMB				IAmb			IAmb	07 07 40.5	
	comp=Z,7μm,1.6s								
JKA	**Kamikawa-asahi**	**16.48**	**238**				**P**	**07 07 39.7**	**-1.5**
ASAJ	**Asahikawa**	**16.48**	**238**	Pn			**P**	**07 07 39.7**	**-1.6**
	comp=Z,49nm,0.3s,baz=63,slow=10,SNR=90								
NIKH	**Nikolski High**	**17.16**	**84**	P			**Pn**	**07 07 46.4**	**-1.4**
NIKH				IAmb			IAmb	07 07 51.3	
	comp=Z,5μm,1.2s								
ERM	**Erimo**	**17.81**	**232**	*ce*P			**P**	**07 07 51.7**	**-4.2**
ERM				pmax			pmax		
	comp=Z,368nm,0.6s								
ERM	**Erimo**	**17.81**	**232**				**P**	**07 07 52.1**	**-3.7**
UNV	**Unalaska Valle**	**18.26**	**80**	P			**Pn**	**07 07 59.7**	**-1.6**
YAK	**Yakutsk**	**18.39**	**307**	*e*P			**P**	**07 08 00.0**	**-2.1**
YAK				*e*S			**Sn**	**07 11 22.1**	**-5.1**
YAK				pmax			pmax		
	comp=Z,2μm,1.1s								
YAK				pmax			pmax		
	comp=N,220nm,1.0s								
YAK				pmax			pmax		
	comp=E,1μm,1.5s								
YAK				smax			smax		
	comp=N,2μm,1.6s								
YAK				smax			smax		
	comp=E,2μm,2.2s								
YAK				MLR			MLR		
	comp=Z,113μm,16.0s								
YAK				MLR			MLR		
	comp=N,48μm,13.0s								
YAK				MLR			MLR		
	comp=E,35μm,14.0s								
YAK	**Yakutsk**	**18.39**	**307**	P			**P**	**07 08 00.1**	**-2.0**
	comp=E,9.4nm,0.3s,baz=50,slow=4.5,SNR=78								
YAK	**Yakutsk**	**18.39**	**307**	P			**P**	**07 08 00.0**	**-2.1**
YAK				IAmb			IAmb	07 08 23.8	
	comp=Z,2μm,0.9s								
AKUT	**Akutan**	**18.60**	**78**	P			**Pn**	**07 08 04.0**	**-1.3**
ANM	**Nome**	**18.95**	**46**	P			**Pn**	**07 08 09.1**	**-0.4**
ANM				pmax			pmax		
	comp=Z,3μm,1.8s								
ANM	**Nome**	**18.95**	**46**	P			**Pn**	**07 08 09.1**	**-0.4**
ANM				IAmb			IAmb	07 08 14.3	
	comp=Z,3μm,1.8s								
TEY	**Ternei**	**18.98**	**250**	⇑*i*P			**Pn**	**07 08 09.1**	**-0.9**
TEY				*e*S			**S**	**07 11 34.7**	**-6.2**
TEY				pmax			pmax		
	comp=Z,11μm,2.5s								
TEY				pmax			pmax		
	comp=N,920nm,2.3s								
TEY				pmax			pmax		
	comp=E,6μm,2.5s								
TEY				pmax			pmax		
	comp=N,4μm,2.6s								
TEY				MLR			MLR		
	comp=E,38μm,20.0s								
TEY				MLR			MLR		
	comp=N,52μm,18.0s								
TEY				MLR			MLR		
	comp=Z,61μm,17.0s								
KLR	**Kul'dur**	**19.41**	**266**	*c i*P			**P**	**07 08 12.9**	**-0.5**
KLR				pmax			pmax		
	comp=Z,858nm,1.7s								
KLR				MLR			MLR		
	comp=Z,102μm,22.0s								
KLR	**Kul'dur**	**19.41**	**266**	P			**P**	**07 08 12.4**	**-1.0**
	comp=Z,14nm,0.3s,baz=64,slow=9.6,SNR=140								
FALS	**False Pass**	**19.76**	**75**	P			**Pn**	**07 08 16.9**	**-2.2**
ZEA	**Zeya**	**20.31**	**282**	*ce*P			**P**	**07 08 20.2**	**-2.9**
ZEA				*e*				07 11 50.0	
ZEA				*e*SS			SS	07 12 53.0	
ZEA				pmax			pmax		
	comp=E,220nm,1.0s								
ZEA				pmax			pmax		
	comp=Z,290nm,1.0s								
ZEA				pmax			pmax		
	comp=Z,15μm,12.0s								
ZEA				pmax			pmax		
	comp=N,4μm,8.0s								
ZEA				pmax			pmax		
	comp=E,9μm,8.0s								
ZEA				smax			smax		
	comp=N,10μm,5.0s								
ZEA				smax			smax		
	comp=E,14μm,5.0s								
ZEA				MLR			MLR		
	comp=E,50μm,16.0s								
ZEA				MLR			MLR		
	comp=Z,77μm,16.0s								
RDOG	**Red Dog Mine**	**21.04**	**37**	P			**P**	**07 08 31.1**	**+0.1**
RDOG				IAmb			IAmb	07 08 37.7	
	comp=Z,2μm,1.0s								
SDPT	**Sand Point**	**21.28**	**73**	P			**P**	**07 08 32.0**	**-1.6**
SDPT				IAmb			IAmb	07 09 04.3	
	comp=Z,3μm,1.2s								
CNBA	**Chernabura Isl**	**21.91**	**74**	P			**P**	**07 08 38.3**	**-1.9**
CNBA				IAmb			IAmb	07 08 42.6	
	comp=Z,2μm,0.9s								
USA0B	**Ussuriysk Arra**	**22.06**	**254**	P			**P**	**07 08 41.1**	**-0.9**
USA0B				pmax			pmax		
	comp=Z,1μm,1.6s								
USA0B				MLR			MLR		
	comp=Z,67μm,22.0s								
USA0B	**Ussuriysk Arra**	**22.06**	**254**	P			**P**	**07 08 41.1**	**-0.9**
USRK	**Ussuriysk Ar.**	**22.06**	**254**	P			**P**	**07 08 40.1**	**-2.0**
	comp=Z,18nm,0.4s,baz=57,slow=10,SNR=43		

MAJO pmax pmax
comp=Z,5μm,1.9s
MAJO MLR MLR
comp=Z,53μm,21.0s
MAJO Matsushiro 24.48 232 P **P** **07 09 06.8 +1.0**
MAJO IAmb IAmb 07 09 09.8
comp=Z,1μm,0.8s
MAT Matsushiro 24.48 232 P **P** **07 09 06.8 +1.1**
MAT S **S** **07 13 23.4 +1.8**
MJAR Matsushiro Arr 24.48 232 P **P** **07 09 06.0 +0.3**
MJAR pmax pmax
comp=Z,567nm,1.2s
MJAR Matsushiro Arr 24.48 232 P **P** **07 09 06.9 +1.2**
comp=Z,499nm,0.7s,baz=30,slow=8.2,SNR=313
MJAR ScP **ScP** **07 16 18.8 +2.9**
comp=Z,22nm,1.1s,baz=333,slow=1.4,SNR=5.3
MJAR LR LR 07 20 37.4
comp=Z,31μm,21.1s,baz=65,slow=41
MJAR Matsushiro Arr 24.48 232 P **P** **07 09 06.0 +0.3**
PPLA Purkeypile 24.56 52 P **P** **07 09 06.5 +0.2**
CAST Castle Rocks 24.59 51 P **P** **07 09 07.2 +0.6**
OHAK Old Harbor 24.75 66 P **P** **07 09 07.2 -0.7**
OHAK IAMs_20 IAMs_20 07 18 20.3
comp=Z,55μm,21.0s
SKT Skwentna 24.91 54 P **P** **07 09 09.5 +0.1**
SKT IAmb IAmb 07 09 13.5
comp=Z,2μm,1.5s
KDAK Kodiak Island 25.00 64 *i* P **P** **07 09 09.2 -0.9**
KDAK Kodiak Island 25.00 64 P **P** **07 09 10.0 -0.1**
comp=Z,524nm,0.6s,baz=286,slow=7.0,SNR=171
KDAK PcP **PcP** **07 12 45.1 +1.6**
comp=Z,74nm,0.9s,baz=164,slow=3.1,SNR=4.7
KDAK Kodiak Island 25.00 64 P **P** **07 09 09.5 -0.7**
KDAK IAmb IAmb 07 09 12.0
comp=Z,772nm,0.8s
BPAW Bear Paw Mtn. 25.08 49 P **P** **07 09 11.0 +0.1**
BPAW IAmb IAmb 07 09 33.4
comp=Z,2μm,1.6s
KTH Kantishna Hill 25.11 50 P **P** **07 09 11.4 +0.1**
KTH IAmb IAmb 07 09 34.0
comp=Z,1μm,1.2s
HOM Homer 25.13 60 P **P** **07 09 11.1 -0.2**
HOM IAMs_20 IAMs_20 07 18 13.1
comp=Z,63μm,22.0s
MLY Manley 25.20 47 P **P** **07 09 12.3 +0.3**
MLY IAmb IAmb 07 09 38.2
comp=Z,1μm,1.3s
SUA Susitna One 25.33 55 P **P** **07 09 13.6 +0.3**
CNPM China Poot 25.35 60 P **P** **07 09 12.8 -0.6**
CNPM IAmb IAmb 07 09 28.8
comp=Z,2μm,1.3s
CNPM IAMs_20 IAMs_20 07 18 43.2
comp=Z,57μm,21.0s
TRF Thorofare Moun 25.40 51 P **P** **07 09 13.8 -0.2**
TRF IAmb IAmb 07 09 44.9
comp=Z,1μm,1.1s
BRLK Bradley Lake 25.49 59 P **P** **07 09 13.9 -0.8**
BRLK IAMs_20 IAMs_20 07 18 36.6
comp=Z,59μm,22.0s
COLD Coldfoot 25.56 42 P **P** **07 09 15.6 +0.4**
BWN Browne 25.74 49 P **P** **07 09 17.9 +1.0**
BWN IAmb IAmb 07 09 34.1
comp=Z,2μm,1.2s
RC01 Rabbit Creek A 25.86 56 P **P** **07 09 17.6 -0.3**
NEA Nenana 25.91 48 P **P** **07 09 18.4 +0.1**
TOLK Toolik Lake Re 25.97 39 P **P** **07 09 19.2 +0.3**
baz=262
TOLK Toolik Lake Re 25.97 39 P **P** **07 09 19.2 +0.3**
TOLK IAmb IAmb 07 09 59.9
comp=Z,1μm,1.1s
MCK McKinley 25.99 50 P **P** **07 09 19.1 -0.1**
MCK pmax pmax
comp=Z,3μm,1.9s
MCK MLR MLR
comp=Z,39μm,19.0s
MCK McKinley 25.99 50 P **P** **07 09 19.1 -0.1**
MCK IAmb IAmb 07 09 41.1
comp=Z,3μm,1.9s
INU Inuyama 26.01 232 P **P** **07 09 19.9 +0.3**
INU IAmb IAmb 07 09 24.0
comp=Z,3μm,1.7s
CN2 Changchun 26.02 261 ⇑P **P** **07 09 15.9 -3.6**
CN2 pmax pmax
comp=Z,4μm,8.0s
CN2 LR LR
comp=Z,46μm,16.0s
CN2 LR LR
comp=Z,46μm,16.0s
CN2 LR LR
comp=Z,68μm,16.0s
RND Reindeer 26.05 51 P **P** **07 09 19.4 -0.4**
RND pmax pmax
comp=Z,2μm,1.6s
RND MLR MLR
comp=Z,36μm,18.0s
RND Reindeer 26.05 51 P **P** **07 09 19.4 -0.4**
RND IAmb IAmb 07 09 41.1
comp=Z,2μm,1.6s
PMR Palmer 26.08 55 P **P** **07 09 19.9 -0.1**
PMR pmax pmax
comp=Z,867nm,1.7s
PMR MLR MLR
comp=Z,42μm,20.0s
PMR Palmer 26.08 55 P **P** **07 09 19.9 -0.1**
SEW Seward 26.14 58 P **P** **07 09 19.9 -0.7**
SEW IAmb IAmb 07 09 48.4
comp=Z,744nm,0.9s
SEW IAMs_20 IAMs_20 07 18 59.4
comp=Z,85μm,22.0s
GHO Glory Hole Cre 26.16 54 P **P** **07 09 20.5 -0.3**
MDM Murphy Dome 26.26 47 P **P** **07 09 21.6 -0.1**
WRH Wood River Hil 26.34 48 P **P** **07 09 22.1 -0.1**
WRH IAmb IAmb 07 09 42.8
comp=Z,2μm,1.2s
HIA Hailar 26.36 276 P **P** **07 09 20.8 -1.9**
HIA pmax pmax
comp=Z,200nm,0.8s
HIA MLR MLR
comp=Z,89μm,18.0s
HIA Hailar 26.36 276 P **P** **07 09 20.8 -1.9**
TCOL CIGO, UAF Yank 26.42 47 P **P** **07 09 23.3 +0.3**
baz=271,SNR=14
COLA College 26.43 47 *d i* P **P** **07 09 23.3 +0.3**
COLA MLR MLR
comp=Z,27μm,19.0s
COLA College 26.43 47 P **P** **07 09 23.2 +0.2**
COLA IAmb IAmb 07 09 43.7
comp=Z,1μm,1.5s
KNK Knik Glacier 26.43 55 P **P** **07 09 22.9 -0.3**
KNK IAmb IAmb 07 09 37.8
comp=Z,1μm,1.1s
SML Sawmill 26.43 54 P **P** **07 09 22.9 -0.3**
SML IAmb IAmb 07 09 43.3
comp=Z,753nm,0.8s
CCB Clear Creek Bu 26.45 48 P **P** **07 09 23.0 -0.3**
CCB IAmb IAmb 07 09 43.7
comp=Z,2μm,1.6s
BOD Bodaibo 26.48 297 *eP* **P** **07 09 20.1 -3.5**
BOD pmax pmax
comp=Z,981nm,1.7s
JHJ2 Mitsune 26.68 225 P **P** **07 09 26.1 +0.5**
JHJ2 IAmb IAmb 07 09 45.2
comp=Z,846nm,0.8s
JHJ Hachijo jima 2 26.69 225 P **P** **07 09 27.2 +1.4**
comp=Z,251nm,0.6s,baz=104,slow=10,SNR=4.5
JHJ LR LR 07 23 14.0
comp=Z,4μm,18.1s,baz=50,slow=44
DHY Denali Highway 26.74 51 P **P** **07 09 25.6 -0.5**
DHY IAmb IAmb 07 09 28.4
comp=Z,2μm,1.6s
HDA Harding Lake 26.83 48 P **P** **07 09 26.1 -0.6**
baz=273,SNR=149
HDA Harding Lake 26.83 48 P **P** **07 09 26.1 -0.6**
IL31 26.84 48 P **P** **07 09 26.2 -0.5**
ILAR Eielson Array 26.84 48 P **P** **07 09 26.1 -0.7**
ILAR Eielson Array 26.84 48 P **P** **07 09 26.2 -0.6**
comp=Z,147nm,0.8s,baz=264,slow=8.0,SNR=819
ILAR LR LR 07 20 57.3
comp=Z,23μm,18.9s,baz=270,slow=38
ILAR P3KPbc 07 42 04.8
comp=Z,1.2nm,0.8s,baz=112,slow=4.0,SNR=8.6
ILAR Eielson Array 26.84 48 P **P** **07 09 26.1 -0.7**
SCM Sheep Creek Mo 26.90 54 P **P** **07 09 27.0 -0.5**
SCM pmax pmax
comp=Z,5μm,1.8s
SCM MLR MLR
comp=Z,36μm,20.0s
SCM Sheep Creek Mo 26.90 54 P **P** **07 09 27.0 -0.5**
GLI Glacier Island 27.16 56 P **P** **07 09 29.1 -0.6**
GLI IAmb IAmb 07 10 09.1
comp=Z,654nm,1.1s
PRP Porcupine Dome 27.39 46 P **P** **07 09 31.9 +0.1**
FID Port Fidalgo 27.48 56 P **P** **07 09 32.1 -0.5**
FID IAMs_20 IAMs_20 07 20 14.4
comp=Z,51μm,20.0s
FYU Fort Yukon 27.49 44 P **P** **07 09 33.1 +0.6**
FYU IAmb IAmb 07 09 35.6
comp=Z,2μm,1.5s
HIN Hinchinbrook I 27.54 57 P **P** **07 09 32.8 -0.3**
HIN IAmb IAmb 07 10 09.4
comp=Z,556nm,1.0s
HIN IAMs_20 IAMs_20 07 19 55.2
comp=Z,67μm,22.0s
PAX Paxson 27.61 51 P **P** **07 09 33.3 -0.6**
PAX pmax pmax
comp=Z,582nm,1.3s
PAX MLR MLR
comp=Z,34μm,19.0s
PAX Paxson 27.61 51 P **P** **07 09 33.3 -0.6**
BMAR Burnt Mountain 27.75 42 P **P** **07 09 34.7 -0.2**
EYAK Cordova Ski Ar 27.87 57 P **P** **07 09 35.5 -0.5**
EYAK IAmb IAmb 07 09 38.1
comp=Z,1μm,1.9s
EYAK IAMs_20 IAMs_20 07 20 07.1
comp=Z,72μm,22.0s
SCRK Sand Creek 28.16 49 IAmb IAmb 07 09 58.2
comp=Z,1μm,1.4s
DOT Dot Lake 28.16 50 P **P** **07 09 37.5 -1.2**
SNY Shenyang 28.33 259 ⇑P **P** **07 09 37.7 -2.5**
SNY PP **PnPn** **07 10 33.5 +1.9**
SNY pmax pmax
comp=Z,160nm,1.4s
SNY pmax pmax
comp=Z,5μm,10.6s
SNY LR LR
comp=Z,54μm,17.7s
SNY LR LR
comp=Z,55μm,20.6s
SNY LR LR
comp=Z,88μm,19.6s
MENT Mentasta 28.41 51 P **P** **07 09 40.8 -0.1**
RAGM Ragged Mountai 28.43 57 P **P** **07 09 40.9 -0.2**
RAGM IAmb IAmb 07 10 05.7
comp=Z,620nm,1.1s
RAGM IAMs_20 IAMs_20 07 20 45.8
comp=Z,76μm,21.0s
GLB Gilahina Butte 28.62 54 P **P** **07 09 42.4 -0.5**
GLB IAmb IAmb 07 09 46.0
comp=Z,1μm,1.5s
HMT Hamilton 28.64 57 IAmb IAmb 07 09 45.3
comp=Z,2μm,1.9s
HMT IAMs_20 IAMs_20 07 20 52.4
comp=Z,60μm,21.0s
CIT Chita 28.67 285 *eP* **P** **07 09 39.8 -3.5**
CIT *e* 07 09 59.5
CIT *e* 07 10 33.6
CIT *e* 07 10 48.7
CIT *e* 07 12 50.2
VRDI Verde Repeater 28.84 55 P **P** **07 09 45.1 +0.2**
VRDI IAmb IAmb 07 09 47.3
comp=Z,1μm,1.9s
VRDI IAMs_20 IAMs_20 07 20 28.6
comp=Z,50μm,22.0s
SUCK Suckling Hills 28.93 57 IAMs_20 IAMs_20 07 20 49.9
comp=Z,47μm,22.0s
KS19 Wonju Array Si 28.93 248 P **P** **07 09 46.2 +0.5**
KSRS Korea Array 28.94 248 P **P** **07 09 46.0 +0.3**
comp=Z,61nm,0.7s,baz=40,slow=8.9,SNR=72
KSRS PcP **PcP** **07 12 56.4 +3.3**
comp=Z,55nm,0.8s,baz=7.8,slow=1.6,SNR=14
KSRS LR LR 07 21 12.1
comp=Z,43μm,21.1s,baz=62,slow=36
KSAR Wonju Array Be 28.97 248 P **P** **07 09 44.4 -1.6**
KSAR Wonju Array Be 28.97 248 P **P** **07 09 44.4 -1.6**
MCARA McCarthy VSAT 29.01 54 P **P** **07 09 46.7 +0.5**
CRQM Cirque 29.09 56 P **P** **07 09 47.3 +0.3**
CRQM IAmb IAmb 07 09 50.4
comp=Z,2μm,1.5s
CRQM IAMs_20 IAMs_20 07 20 57.9
comp=Z,73μm,22.0s
TGL Tana Glacier 29.23 55 P **P** **07 09 48.2 -0.1**
TGL IAmb IAmb 07 09 50.9
comp=Z,2μm,1.9s
TGL IAMs_20 IAMs_20 07 21 02.2
comp=Z,71μm,22.0s
BCAR Beaver Creek A 29.26 51 P **P** **07 09 48.1 -0.3**
EGAK Eagle 29.29 47 P **P** **07 09 47.7 -0.9**
WAX Waxell Ridge 29.29 56 IAMs_20 IAMs_20 07 21 14.5
comp=Z,64μm,21.0s
BALM Baldy 29.40 55 P **P** **07 09 50.1 +0.3**
BALM IAmb IAmb 07 10 40.6
comp=Z,1μm,2.0s
BALM IAMs_20 IAMs_20 07 21 08.6
comp=Z,43μm,22.0s
BARN Barnard Glacie 29.72 55 P **P** **07 09 53.3 +0.6**
BARN IAmb IAmb 07 09 55.6
comp=Z,2μm,1.8s
MESA MESA 29.80 56 IAmb IAmb 07 09 56.9
comp=Z,2μm,1.8s
MESA IAMs_20 IAMs_20 07 21 41.7
comp=Z,59μm,21.0s
YAH Yahtse 29.85 56 IAmb IAmb 07 09 56.6
comp=Z,3μm,1.8s
YAH IAMs_20 IAMs_20 07 21 42.1
comp=Z,64μm,21.0s
CTGM Chitina Glacie 29.90 55 P **P** **07 09 55.0 +0.8**
CTGM IAmb IAmb 07 09 57.0
comp=Z,1μm,1.7s
TJN Taejon 30.04 247 *i* P **P** **07 09 54.5 -1.0**
DAWY Dawson 30.15 48 P **P** **07 09 56.2 -0.1**
MIDW Midway 30.35 142 P **P** **07 09 58.5 +0.2**
MIDW IAmb IAmb 07 10 01.3
comp=Z,1μm,1.6s
MIDW IAMs_20 IAMs_20 07 18 50.3
comp=Z,84μm,22.0s
PCA Pinnacle 30.64 56 IAmb IAmb 07 10 04.3
comp=Z,1μm,1.2s
PCA IAMs_20 IAMs_20 07 22 08.0
comp=Z,61μm,21.0s
JNU Nakatsue 30.76 238 P **P** **07 10 03.0 +1.1**
comp=Z,330nm,0.8s,baz=35,slow=5.6,SNR=82
JNU Nakatsue 30.76 238 P **P** **07 10 02.3 +0.4**
JNU IAmb IAmb 07 10 05.8
comp=Z,514nm,1.1s
EPYK Eagle Plains 30.91 43 P **P** **07 10 03.3 +0.4**
baz=278
EPYK Eagle Plains 30.91 43 P **P** **07 10 02.9 0.0**
EPYK IAmb IAmb 07 10 05.9
comp=Z,713nm,1.4s
BCPM Bancas Point 30.98 56 P **P** **07 10 03.5 0.0**
BCPM IAmb IAmb 07 10 06.6
comp=Z,730nm,0.9s
BCPM IAMs_20 IAMs_20 07 22 27.9
comp=Z,62μm,21.0s
JCJ Chichijima 31.19 216 P **P** **07 10 07.3 +1.6**
comp=Z,663nm,1.0s,baz=15,slow=6.0,SNR=12
DL2 Dalian 31.39 257 ⇑*i* P **P** **07 10 04.2 -3.1**
DL2 PP **PnPn** **07 11 14.4 +2.6**
DL2 PcP **PcP** **07 13 00.5 +1.0**
DL2 *eS* **S** **07 15 09.4 -0.8**
DL2 sS sS 07 15 27.7 -8.0
DL2 PcS **PcS** **07 16 41.6 -2.2**
DL2 pmax pmax
comp=Z,380nm,0.7s
DL2 pmax pmax
comp=Z,2μm,7.8s
DL2 LR LR
comp=Z,42μm,18.7s
DL2 LR LR
comp=Z,50μm,17.9s
DL2 LR LR
comp=Z,86μm,19.8s
HYT Haines Junctio 31.74 54 P **P** **07 10 11.0 +0.6**
HYT IAmb IAmb 07 10 13.3
comp=Z,873nm,1.3s
HYT IAMs_20 IAMs_20 07 22 12.2
comp=Z,54μm,22.0s
INK Inuvik 31.87 39 P **P** **07 10 11.6 +0.4**
INK pmax pmax
comp=Z,259nm,0.9s
INK MLR MLR
comp=Z,20μm,22.0s
INK Inuvik 31.87 39 P **P** **07 10 11.9 +0.6**
comp=Z,190nm,0.7s,baz=281,slow=7.8,SNR=364
INK Inuvik 31.87 39 P **P** **07 10 11.6 +0.4**
SKAG Skagway 33.20 56 IAMs_20 IAMs_20 07 23 48.8
comp=Z,42μm,20.0s
IRK Irkutsk 33.70 290 *eP* **P** **07 10 24.8 -2.7**
IRK *e* 07 11 35.7
IRK pmax pmax
comp=Z,606nm,2.8s
BJI Beijing 33.74 264 P **P** **07 10 25.3 -2.6**
BJI pP **pP** **07 10 38.2 -4.8**
BJI sP sP 07 10 42.7 -7.5
BJI S **S** **07 15 51.6 +4.8**
BJI pmax pmax
comp=Z,82nm,0.5s
BJI LR LR
comp=Z,40μm,18.4s
BJI LR LR
comp=Z,42μm,17.3s
BJI LR LR
comp=Z,39μm,23.1s
BJT Baijiatuau 33.76 264 P **P** **07 10 25.0 -3.1**
BJT pmax pmax
comp=Z,66nm,0.6s
BJT MLR MLR
comp=Z,66μm,18.0s
BJT Baijiatuau 33.76 264 P **P** **07 10 25.0 -3.1**
A36M Sachs Harbour 34.14 32 P **P** **07 10 31.6 +0.6**
baz=279
TLY Talaya 34.31 290 P **P** **07 10 31.2 -1.6**
SNR=40
TLY P **P** **07 10 31.2 -1.6**
SNR=40
TLY Talaya 34.31 290 *c i* P **P** **07 10 31.1 -1.7**
TLY *e* 07 11 52.7
TLY *e* PPP PPP 07 12 06.5
TLY pmax pmax
comp=Z,508nm,1.4s
TLY MLR MLR
comp=Z,202μm,17.0s
TLY Talaya 34.31 290 LR LR 07 25 35.4
comp=Z,114μm,19.4s,baz=52,slow=38
TLY Talaya 34.31 290 P **P** **07 10 30.8 -2.0**
ULN Ulaanbaatar 34.34 282 P **P** **07 10 30.9 -2.4**
SNR=17
ULN P **P** **07 10 30.9 -2.4**
SNR=17
ULN Ulaanbaatar 34.34 282 *c i* P **P** **07 10 31.0 -2.3**
ULN pmax pmax
comp=Z,69nm,1.0s
ULN MLR MLR
comp=Z,59μm,15.0s
ULN Ulaanbaatar 34.34 282 P **P** **07 10 30.5 -2.7**
SONM Songino Array 34.73 282 P **P** **07 10 35.0 -1.6**
comp=Z,36nm,0.8s,baz=62,slow=8.0,SNR=65
SONM PcP **PcP** **07 13 10.0 +1.0**
comp=Z,231nm,0.8s,baz=64,slow=1.7,SNR=21
SONM ScP **ScP** **07 16 52.4 +3.6**
comp=Z,50nm,1.2s,baz=101,slow=3.0,SNR=5.9
SONM LR LR 07 26 15.2
comp=Z,54μm,19.1s,baz=61,slow=39
SONM P3KPbc 07 41 30.9
comp=Z,1.4nm,0.9s,baz=207,slow=5.0,SNR=6.0
SONM Songino Array 34.73 282 P **P** **07 10 34.4 -2.2**
SONM **PcP** **07 13 09.8 +0.8**
C36M Paulatuk 35.05 36 P **P** **07 10 39.6 +0.7**
baz=284
C36M S **S** **07 16 06.4 0.0**
baz=284
H11N2 WAKE ISLAND Hy 35.07 172 T T 07 47 58.4
baz=357
H11N3 WAKE ISLAND Hy 35.09 172 T T 07 48 02.1
baz=357
H11N1 WAKE ISLAND Hy 35.09 172 T T 07 47 59.5
baz=357
ZAK Zakamensk 35.15 288 *eP* **P** **07 10 37.7 -2.4**
ZAK pmax pmax
comp=Z,131nm,1.2s
NRIK Noril'sk 35.33 324 P **P** **07 10 39.5 -1.8**
comp=Z,87nm,0.9s,baz=83,slow=8.3,SNR=96
NRIK PcP **PcP** **07 13 11.7 +1.6**
comp=Z,62nm,0.6s,baz=99,slow=5.0,SNR=6.9
NRIK ScP **ScP** **07 16 53.5 +3.2**
comp=Z,45nm,0.8s,baz=59,slow=6.1,SNR=3.6
NRIK LR LR 07 26 17.7
comp=Z,87μm,20.7s,baz=69,slow=38
WAKE Wake Island 35.50 173 IAMs_20 IAMs_20 07 22 04.3
comp=Z,41μm,21.0s
MOY Mondy 35.76 291 *eP* **P** **07 10 42.9 -2.5**
MOY *e* 07 12 10.6
MOY pmax pmax
comp=Z,355nm,1.9s
TIA Tai'an 35.82 258 P **P** **07 10 43.2 -2.7**
TIA pmax pmax
comp=Z,100nm,1.1s
TIA pmax pmax
comp=Z,2μm,11.4s
TIA LR LR
comp=Z,36μm,20.0s
TIA LR LR
comp=Z,35μm,16.7s
TIA LR LR
comp=Z,71μm,19.6s
WRAK Wrangell Islan 35.85 60 IAMs_20 IAMs_20 07 23 58.7
comp=Z,32μm,22.0s
HHC Hu-ho-hao-te 35.89 269 *eP* **P** **07 10 44.9 -1.6**
HHC sP pP 07 11 03.2 +1.4
HHC PcP **PcP** **07 13 15.0 +2.6**
HHC ScP **ScP** **07 16 55.1 +2.1**
DLBC Dease Lake 36.13 56 IAMs_20 IAMs_20 07 25 17.3
comp=Z,47μm,22.0s
BTO Baotou 36.94 270 *eP* **P** **07 10 53.0 -2.5**
BTO S **S** **07 16 34.1 -2.0**
JOW Kunigami 37.21 235 P **P** **07 10 58.9 +1.0**
comp=Z,50nm,0.7s,baz=119,slow=14,SNR=52
JOW LR LR 07 25 39.1
comp=Z,1μm,21.2s,baz=43,slow=35
JOW Kunigami 37.21 235 P **P** **07 10 58.3 +0.5**
JOW IAmb IAmb 07 11 06.8
comp=Z,282nm,0.6s
SSE Sheshan 37.38 248 P **P** **07 11 00.2 +1.0**
SSE S **S** **07 16 43.6 +0.9**
SSE pmax pmax
comp=Z,2μm,8.4s
SSE LR LR
comp=Z,2μm,22.0s
SSE LR LR
comp=Z,3μm,16.3s
SSE Sheshan 37.38 248 P **P** **07 10 57.7 -1.5**
SSE IAmb IAmb 07 11 03.6
comp=Z,563nm,1.9s
SSE Sheshan 37.38 248 IAMs_20 IAMs_20 07 26 19.4
comp=Z,33μm,21.0s
TIY Taiyuan 37.47 264 *eP* **P** **07 10 58.0 -1.9**
TIY S **S** **07 16 48.4 +4.3**
TIY ScS **ScS** **07 21 08.5 +1.2**
TIY pmax pmax
comp=Z,58nm,0.6s
TIY LR LR
comp=Z,8μm,11.5s
TIY LR LR
comp=Z,32μm,16.7s
TIY LR LR
comp=Z,36μm,14.6s
NJ2 Nanjing 37.92 251 *eP* **P** **07 11 01.6 -2.1**
NJ2 pP **pP** **07 11 12.4 -6.5**
NJ2 sP sP 07 11 17.4 -8.5
NJ2 pmax pmax
comp=Z,110nm,1.0s
NJ2 pmax pmax
comp=Z,4μm,10.3s
NJ2 LR LR
comp=Z,39μm,18.6s
NJ2 LR LR
comp=Z,34μm,18.6s
NJ2 LR LR
comp=Z,45μm,17.7s
SARN Sarigan 39.96 205 P **P** **07 11 20.9 0.0**
SARN IAmb IAmb 07 11 22.4
comp=Z,419nm,0.9s
ANA2 Anatahan 40.32 205 P **P** **07 11 24.4 +0.6**
ANA2 IAmb IAmb 07 11 26.1
comp=Z,492nm,0.7s
YKA Yellowknife Ar 41.18 44 P **P** **07 11 30.4 -0.1**
YKA 07 13 30.3

YKA	**Yellowknife Ar**	**41.18**	**44**	P	**P**	**07 11 31.1**	**+0.7**
	comp=Z,221nm,0.7s,baz=299,slow=8.2,SNR=312						
YKA				PcP	**PcP**	**07 13 30.0**	**+1.7**
	comp=Z,47nm,0.9s,baz=298,slow=3.4,SNR=6.6						
YKA				ScP	**ScP**	**07 17 16.9**	**+4.2**
	comp=Z,3.7nm,0.9s,baz=339,slow=6.6,SNR=3.8						
YKA				LR	LR	07 29 55.3	
	comp=Z,2μm,20.9s,baz=300,slow=38						
YKA	**Yellowknife Ar**	**41.18**	**44**	P	**P**	**07 11 30.4**	**-0.1**
YKA					**PcP**	**07 13 30.3**	**+1.9**
RES	**Resolute Bay**	**41.39**	**23**	P	**P**	**07 11 32.0**	**-0.1**
RES				pmax	pmax		
	comp=Z,224nm,1.2s						
RES	**Resolute Bay**	**41.39**	**23**	P	**P**	**07 11 31.9**	**-0.1**
WHN	**Wuhan**	**41.56**	**254**	⇓P	**P**	**07 11 32.1**	**-1.8**
WHN				PP	**PP**	**07 13 12.4**	**+1.6**
WHN				pmax	pmax		
	comp=Z,310nm,1.1s						
WHN				pmax	pmax		
	comp=Z,5μm,5.2s						
WHN				LR	LR		
	comp=Z,59μm,17.4s						
WHN				LR	LR		
	comp=Z,54μm,14.8s						
WHN				LR	LR		
	comp=Z,92μm,16.8s						
YOJ	**Yonaguni jima**	**41.78**	**240**	P	**P**	**07 11 34.8**	**-0.9**
YOJ	**Yonaguni jima**	**41.78**	**240**	P	**P**	**07 11 34.8**	**-0.9**
YOJ				IAMs_20	IAMs_20	07 29 23.8	
	comp=Z,29μm,22.0s						
XAN	**Xi'an**	**42.07**	**263**	P	**P**	**07 11 35.2**	**-3.0**
XAN				pP	pP	07 11 44.6	-9.1
XAN				PP	**PP**	**07 13 18.7**	**+2.4**
XAN				PcS	**PcS**	**07 17 22.9**	**-0.9**
XAN				pmax	pmax		
	comp=Z,2μm,11.2s						
XAN				LR	LR		
	comp=Z,31μm,17.3s						
XAN				LR	LR		
	comp=Z,39μm,18.2s						
XAN				LR	LR		
	comp=Z,50μm,17.6s						
XAN	**Xi'an**	**42.07**	**263**	P	**P**	**07 11 35.0**	**-3.2**
XAN				pmax	pmax		
	comp=Z,228nm,1.6s						
XAN				MLR	MLR		
	comp=Z,53μm,18.0s						
XAN	**Xi'an**	**42.07**	**263**	P	**P**	**07 11 35.0**	**-3.2**
TATO	**Taipei**	**42.12**	**242**	P	**P**	**07 11 38.2**	**-0.4**
TATO				IAmb	IAmb	07 11 42.6	
	comp=Z,481nm,0.9s						
NACB	**Ninganchiao**	**42.73**	**241**	P	**P**	**07 11 41.9**	**-1.6**
NACB				IAMs_20	IAMs_20	07 30 45.2	
	comp=Z,25μm,21.0s						
ZAA0	**Zalesovo Array**	**42.95**	**302**	P	**P**	**07 11 42.1**	**-2.9**
ZALV	**Zalesovo Beam**	**42.95**	**302**	P	**P**	**07 11 42.4**	**-2.6**
	comp=Z,100nm,0.8s,baz=55,slow=6.1,SNR=82						
ZALV				PcP	**PcP**	**07 13 33.0**	**-1.4**
	comp=Z,148nm,0.8s,baz=26,slow=6.2,SNR=9.2						
ZALV				ScP	**ScP**	**07 17 22.8**	**+2.9**
	comp=Z,54nm,1.1s,baz=29,slow=6.8,SNR=7.1						
ZALV				LR	LR	07 31 20.4	
	comp=Z,108μm,18.5s,baz=58,slow=39						
ZALV	**Zalesovo Beam**	**42.95**	**302**	P	**P**	**07 11 41.2**	**-3.8**
ZALV					**ScP**	**07 17 22.4**	**+2.5**
GUMO	**Guam**	**43.17**	**205**	P	**P**	**07 11 44.9**	**-2.2**
GUMO				pmax	pmax		
	comp=Z,176nm,1.0s						
GUMO	**Guam**	**43.17**	**205**	LR	LR	07 28 50.0	
	comp=Z,4μm,20.4s,baz=29,slow=35						
GUMO	**Guam**	**43.17**	**205**	P	**P**	**07 11 44.9**	**-2.2**
KEKH	**Kekaha**	**43.37**	**123**	P	**P**	**07 11 47.0**	**-1.7**
KEKH				IAmb	IAmb	07 11 51.9	
	comp=Z,702nm,1.0s						
SSLB	**Suanglung**	**43.38**	**241**	P	**P**	**07 11 48.1**	**-0.7**
SSLB				IAmb	IAmb	07 11 55.3	
	comp=Z,543nm,1.1s						
YULB	**Yu-li**	**43.53**	**241**	P	**P**	**07 11 49.5**	**-0.5**
YULB				IAmb	IAmb	07 11 56.2	
	comp=Z,518nm,0.6s						
LZH	**Lanzhou**	**43.56**	**270**	⇑P	**P**	**07 11 48.5**	**-1.9**
LZH				sP	pP	07 12 06.9	+0.9
LZH				PP	**PP**	**07 13 31.9**	**-0.5**
LZH				PcP	**PcP**	**07 13 38.9**	**+1.9**
LZH				S	**S**	**07 18 08.0**	**-7.1**
LZH				sS	sS	07 18 31.0	-10
LZH				pmax	pmax		
	comp=Z,330nm,1.1s						
LZH				pmax	pmax		
	comp=Z,4μm,5.4s						
LZH				LR	LR		
	comp=Z,61μm,14.1s						
LZH				LR	LR		
	comp=Z,45μm,16.8s						
LZH				LR	LR		
	comp=Z,63μm,17.9s						
GTA	**Gaotai**	**43.64**	**276**	⇑P	**P**	**07 11 49.0**	**-1.9**
GTA				pP	pP	07 12 02.4	-4.1
GTA				sP	sP	07 12 07.4	-6.2
GTA				PP	**PP**	**07 13 32.6**	**-0.5**
GTA				PcS	**PcS**	**07 17 25.6**	**-4.5**
GTA				S	**S**	**07 18 16.2**	**+0.1**
GTA				ScS	**ScS**	**07 21 43.7**	**-0.7**
GTA				pmax	pmax		
	comp=Z,430nm,0.9s						
GTA				pmax	pmax		
	comp=Z,4μm,8.1s						
GTA				LR	LR		
	comp=Z,41μm,16.1s						
GTA				LR	LR		
	comp=Z,66μm,15.1s						
QZH	**Quanzhou**	**43.65**	**245**	⇑*i*P	**P**	**07 11 50.2**	**-0.8**
QZH				S	**S**	**07 18 14.2**	**-2.0**
QZH				pmax	pmax		
	comp=Z,170nm,1.1s						
QZH				pmax	pmax		
	comp=Z,5μm,5.2s						
QZH				LR	LR		
	comp=Z,11μm,14.7s						
QZH				LR	LR		
	comp=Z,6μm,19.4s						
QZH				LR	LR		
	comp=Z,19μm,16.5s						
JOHN	**Johnston Islan**	**43.72**	**139**	P	**P**	**07 11 50.8**	**-0.7**
JOHN	**Johnston Islan**	**43.72**	**139**	IAMs_20	IAMs_20	07 26 07.4	
	comp=Z,33μm,20.0s						
TPUB	**Ta-pu**	**43.94**	**241**	P	**P**	**07 11 52.8**	**-0.5**
TPUB				IAmb	IAmb	07 11 56.3	
	comp=Z,824nm,0.8s						
DGZ	**Jazzator, Alta**	**44.06**	**296***c*	*i*P	**P**	**07 11 52.7**	**-1.5**
DGZ				*i* *PP	**pP**	**07 12 08.6**	**-1.3**
OPA	**Opana**	**44.45**	**122**	P	**P**	**07 11 57.0**	**-0.4**
OPA				pmax	pmax		
	comp=Z,2μm,1.3s						
OPA	**Opana**	**44.45**	**122**	P	**P**	**07 11 57.0**	**-0.4**
OPA				IAmb	IAmb	07 12 01.3	
	comp=Z,2μm,1.3s						
ENH	**Enshi**	**44.51**	**259**	P	**P**	**07 11 55.5**	**-2.3**
ENH				IAmb	IAmb	07 13 44.0	
	comp=Z,382nm,0.8s						
PGC	**Sidney**	**44.53**	**66**	P	**P**	**07 11 57.6**	**-0.1**
KIP	**Kipapa**	**44.68**	**122**	P	**P**	**07 12 00.0**	**+0.8**
KIP				pmax	pmax		
	comp=Z,1μm,1.1s						
KIP	**Kipapa**	**44.68**	**122**	P	**P**	**07 11 60.0**	**+0.8**
HON	**Honolulu**	**44.77**	**122**	P	**P**	**07 12 00.2**	**+0.3**
HON				pmax	pmax		
	comp=Z,1μm,1.3s						
HON	**Honolulu**	**44.77**	**122**	P	**P**	**07 12 00.2**	**+0.3**
HON				IAmb	IAmb	07 12 03.7	
	comp=Z,1μm,1.3s						
A04D	**Lummi Island**	**44.88**	**65**	P	**P**	**07 12 02.3**	**+1.8**
	baz=307,SNR=50						
NLWA	**Neilton Lookou**	**45.08**	**67**	P	**P**	**07 12 01.5**	**-0.7**
NLWA				IAmb	IAmb	07 12 05.7	
	comp=Z,1μm,1.4s						
NLWA				IAMs_20	IAMs_20	07 27 59.9	
	comp=Z,32μm,22.0s						
TULEG	**Thule**	**45.11**	**15**	P	**P**	**07 12 01.6**	**-0.4**
TULEG				IAmb	IAmb	07 12 03.8	
	comp=Z,885nm,1.6s						
TULEG				IAMs_20	IAMs_20	07 34 24.4	
	comp=Z,20μm,18.0s						
D03D	**Eldon**	**45.41**	**67**	P	**P**	**07 12 06.5**	**+1.9**
	baz=308,SNR=113						
KBS	**Kingsbay**	**45.47**	**352**	P	**P**	**07 12 05.0**	**+0.2**
KBS				pmax	pmax		
	comp=Z,4μm,1.9s						
KBS				MLR	MLR		
	comp=Z,33μm,21.0s						
KBS	**Kingsbay**	**45.47**	**352**	⇑*i*P	**P**	**07 12 05.4**	**+0.5**
KBS				*e*PP	**PP**	**07 13 52.9**	**+1.1**
KBS				*e*ScP	**ScP**	**07 17 32.8**	**+2.9**
KBS				*e*S	**S**	**07 18 43.5**	**+2.0**
KBS				*e*ScS	**ScS**	**07 21 58.5**	**+3.9**
KBS				IVMs_BB	IVMs_BB	07 30 24.0	
	comp=Z,11μm,19.3s						
KBS	**Kingsbay**	**45.47**	**352**	P	**P**	**07 12 05.0**	**+0.2**
KBS	**Kingsbay**	**45.47**	**352**	IAMs_20	IAMs_20	07 30 35.1	
	comp=Z,33μm,21.0s						
B05A	**Bryant**	**45.48**	**65**	P	**P**	**07 12 06.7**	**+1.4**
	baz=308,SNR=162						
B06A	**Marblemount**	**45.65**	**65**	P	**P**	**07 12 07.1**	**+0.5**
B06A				IAmb	IAmb	07 12 09.3	
	comp=Z,947nm,1.4s						
B06A				IAMs_20	IAMs_20	07 29 38.0	
	comp=Z,28μm,20.0s						
BBP	**Basco**	**45.67**	**238**	*e*P	**P**	**07 12 07.9**	**+0.8**
E03A	**Lebam**	**45.77**	**68**	IAMs_20	IAMs_20	07 28 08.2	
	comp=Z,40μm,22.0s						
SPA0	**Spitsbergen Ar**	**45.77**	**351**	⇑*i*P	**P**	**07 12 07.0**	**-0.2**
SPA0				*e*PP	**PP**	**07 13 56.2**	**+1.3**
SPA0				*e*ScP	**ScP**	**07 17 33.4**	**+2.2**
SPA0				*e*S	**S**	**07 18 45.8**	**0.0**
SPA0				*e*ScS	**ScS**	**07 21 58.0**	**+1.5**
SPA0	**Spitsbergen Ar**	**45.77**	**351**	P	**P**	**07 12 06.9**	**-0.3**
D04E	**Lakebay**	**45.80**	**67**	P	**P**	**07 12 09.8**	**+2.0**
	baz=308,SNR=44						
KHLH	**Kahului Airpor**	**45.91**	**121**	P	**P**	**07 12 09.3**	**+0.4**
KHLH				IAmb	IAmb	07 12 13.0	
	comp=Z,1μm,1.2s						
KWAJ	**Kwajalein Atol**	**45.96**	**172**	P	**P**	**07 12 10.3**	**+0.9**
KWAJ				pmax	pmax		
	comp=Z,1μm,1.8s						
KWAJ	**Kwajalein Atol**	**45.96**	**172**	P	**P**	**07 12 10.2**	**+0.9**
KWAJ				IAmb	IAmb	07 13 27.5	
	comp=Z,1μm,1.8s						
KWAJ	**Kwajalein Atol**	**45.96**	**172**	IAMs_20	IAMs_20	07 27 27.2	
	comp=Z,21μm,21.0s						
HLK	**Haleakala**	**46.11**	**120**	P	**P**	**07 12 11.0**	**+0.1**
HOPEN	**Hopen**	**46.26**	**347**	⇑*i*P	**P**	**07 12 10.4**	**-0.6**
HOPEN				*e*S	**S**	**07 18 52.0**	**-0.8**
HOPEN				IVMs_BB	IVMs_BB	07 31 45.7	
	comp=Z,9μm,19.2s						
E04D	**Cinebar**	**46.30**	**67**	P	**P**	**07 12 13.3**	**+1.6**
	baz=309,SNR=80						
C06D	**Leavenworth**	**46.33**	**65**	P	**P**	**07 12 13.3**	**+1.3**
	baz=309,SNR=43						
C06D				S	**S**	**07 18 57.7**	**+3.2**
	baz=309						
F04D	**Rainier, OR**	**46.35**	**68**	P	**P**	**07 12 13.5**	**+1.3**
	baz=309,SNR=13						
F04A	**Amboy**	**46.77**	**68**	IAMs_20	IAMs_20	07 29 00.7	
	comp=Z,26μm,22.0s						
G03D	**McMinnville, O**	**46.77**	**69**	P	**P**	**07 12 16.7**	**+1.2**
	baz=310,SNR=20						
ZSN	**Zaisan**	**46.79**	**295**	⇑*i*P	**P**	**07 12 13.4**	**-2.3**
	comp=Z,1μm,5.2s						
ZSN				*e*LR	LR	07 34 10.5	
ZSN	**Zaisan**	**46.79**	**295***c*	*i*P	**P**	**07 12 13.3**	**-2.3**
LTY	**Liberty**	**46.86**	**66**	IAmb	IAmb	07 12 18.9	
	comp=Z,754nm,1.4s						
LTY				IAMs_20	IAMs_20	07 30 04.3	
	comp=Z,23μm,21.0s						
B08A	**Colville Reser**	**46.87**	**64**	IAmb	IAmb	07 12 18.9	
	comp=Z,864nm,1.2s						
B08A				IAMs_20	IAMs_20	07 29 22.4	
	comp=Z,20μm,21.0s						
HSPB	**Hornsund (broa**	**46.91**	**350**	*i* P	**P**	**07 12 15.7**	**-0.4**
	comp=Z,47μm,3.4s						
HSPB				*i* P	**P**	**07 12 15.7**	**-0.4**
	comp=Z,47μm,3.4s						
HSPB				*e*S	**S**	**07 19 01.4**	**-0.6**
HSPB				*e*S	**S**	**07 19 01.4**	**-0.6**
HSPB				*e*L	L	07 30 36.0	
	comp=Z,160μm,23.1s						
HSPB				*e*L	L	07 30 36.0	
	comp=Z,160μm,23.1s						
HSPB	**Hornsund (broa**	**46.91**	**350**	⇑*i*P	**P**	**07 12 16.1**	**0.0**
HSPB				*e*PP	**PP**	**07 14 06.7**	**+0.1**
HSPB				*e*S	**S**	**07 19 02.3**	**+0.3**
HSPB				IVMs_BB	IVMs_BB	07 32 31.3	
	comp=Z,10μm,18.0s						
COR	**Corvallis**	**47.15**	**70**	P	**P**	**07 12 18.7**	**+0.3**
COR				pmax	pmax		
	comp=Z,1μm,1.5s						
COR	**Corvallis**	**47.15**	**70**	P	**P**	**07 12 18.7**	**+0.3**
COR	**Corvallis**	**47.15**	**70**	IAMs_20	IAMs_20	07 28 50.9	
	comp=Z,25μm,21.0s						
KKH	**Kailua Kona**	**47.16**	**121**	P	**P**	**07 12 19.5**	**+0.8**
KKH	**Kailua Kona**	**47.16**	**121**	P	**P**	**07 12 19.6**	**+0.8**
I02D	**Swisshome**	**47.17**	**71**	P	**P**	**07 12 20.1**	**+1.6**
	baz=310,SNR=14						
HUH	**Hualalai**	**47.22**	**121**	P	**P**	**07 12 20.2**	**+0.6**
HUH				IAmb	IAmb	07 12 22.1	
	comp=Z,989nm,1.4s						
KHLU	**Kahalu`u**	**47.27**	**121**	IAmb	IAmb	07 12 22.8	
	comp=Z,707nm,1.2s						
SEM	**Semipalatinsk**	**47.31**	**300**	*i* P	**P**	**07 12 16.6**	**-3.3**
	comp=Z,616nm,2.8s						
SEM				*e*LR	LR	07 33 05.9	
	comp=Z,29μm,17.8s						
SEM	**Semipalatinsk**	**47.31**	**300**	*i* P	**P**	**07 12 16.6**	**-3.3**
SEM				pmax	pmax		
	comp=Z,616nm,2.8s						
SEM				MLR	MLR		
	comp=Z,29μm,18.0s						
POHA	**Pohakuloa**	**47.31**	**120**	P	**P**	**07 12 20.6**	**+0.4**
F05D	**White Salmon**	**47.31**	**67**	P	**P**	**07 12 21.1**	**+1.4**
	baz=310,SNR=51						
CD2	**Chengdu**	**47.33**	**265**	⇑*i*P	**P**	**07 12 17.9**	**-2.1**
CD2				pP	pP	07 12 33.6	-2.2
CD2				sP	sP	07 12 38.6	-4.2
CD2				S	**S**	**07 19 11.0**	**+1.8**
CD2				sS	sS	07 19 32.3	-3.3
CD2				ScS	**ScS**	**07 22 04.3**	**-3.9**
CD2				pmax	pmax		
	comp=Z,150nm,1.4s						
CD2				pmax	pmax		
	comp=Z,6μm,8.6s						
CD2				LR	LR		
	comp=Z,43μm,19.2s						
CD2				LR	LR		
	comp=Z,44μm,21.0s						
CD2				LR	LR		
	comp=Z,55μm,19.4s						
H04D	**Lebanon**	**47.50**	**70**	P	**P**	**07 12 22.7**	**+1.5**
	baz=310,SNR=50						
WMQ	**Urumqi**	**47.59**	**289**	P	**P**	**07 12 21.1**	**-0.9**
WMQ				pP	pP	07 12 29.1	-8.7
WMQ				sP	sP	07 12 40.3	-4.5
WMQ				PcP	**PcP**	**07 13 50.7**	**-0.1**
WMQ				PP	**PP**	**07 14 13.9**	**+0.3**
WMQ				ScP	**ScP**	**07 17 40.8**	**+1.4**
WMQ				S	**S**	**07 19 16.6**	**+3.9**
WMQ				pmax	pmax		
	comp=Z,510nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,5μm,8.1s						
WMQ				LR	LR		
	comp=Z,29μm,19.3s						
WMQ				LR	LR		
	comp=Z,29μm,16.7s						
WMQ				LR	LR		
	comp=Z,84μm,25.1s						
WMQ	**Urumqi**	**47.59**	**289**	P	**P**	**07 12 20.7**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,734nm,0.9s						
WMQ				MLR	MLR		
	comp=Z,105μm,19.0s						
WMQ	**Urumqi**	**47.59**	**289**	P	**P**	**07 12 20.7**	**-1.3**
WMQ				IAmb	IAmb	07 12 25.3	
	comp=Z,734nm,0.9s						
H04A	**Detroit Lake**	**47.70**	**69**	IAMs_20	IAMs_20	07 29 22.3	
	comp=Z,20μm,21.0s						
KEBM	**Edson Butte**	**47.70**	**72**	IAMs_20	IAMs_20	07 29 35.5	
	comp=Z,19μm,21.0s						
I03D	**Drain, OR**	**47.71**	**71**	P	**P**	**07 12 24.4**	**+1.7**
	baz=311,SNR=49						
J01E	**Myrtle Point**	**47.74**	**72**	P	**P**	**07 12 25.0**	**+2.0**
	baz=311,SNR=44						
E07A	**Sunnyside**	**47.74**	**66**	IAmb	IAmb	07 12 25.9	
	comp=Z,795nm,1.3s						
E07A				IAMs_20	IAMs_20	07 29 52.3	
	comp=Z,19μm,22.0s						
C09A	**Chrisman Ranch**	**47.78**	**64**	IAmb	IAmb	07 12 25.7	
	comp=Z,893nm,1.4s						
C09A				IAMs_20	IAMs_20	07 31 36.3	
	comp=Z,18μm,20.0s						
PATS	**Pohnpei**	**47.80**	**185**	P	**P**	**07 12 24.8**	**+1.1**
PATS				IAmb	IAmb	07 12 26.6	
	comp=Z,506nm,1.4s						
G05D	**Wamic, OR**	**47.81**	**68**	P	**P**	**07 12 24.8**	**+1.2**
	baz=310,SNR=56						
STCH	**Steam Cracks**	**47.83**	**120**	P	**P**	**07 12 24.4**	**+0.3**
STCH				IAmb	IAmb	07 12 29.3	
	comp=Z,698nm,0.9s						
KURK	**Kurchatov**	**47.93**	**302**	P	**P**	**07 12 22.2**	**-2.2**
KURK	SNR=272						
				P	**P**	**07 12 22.2**	**-2.2**
	SNR=272						
KURK	**Kurchatov**	**47.93**	**302***c*	*i*P	**P**	**07 12 22.4**	**-2.0**
KURK				pmax	pmax		
	comp=Z,817nm,0.7s						
KURK				MLR	MLR		
	comp=Z,136μm,16.0s						
KURK	**Kurchatov**	**47.93**	**302**	P	**P**	**07 12 22.1**	**-2.2**
KURK					**ScP**	**07 17 43.1**	**+2.4**
GZH	**Guangzhou**	**47.96**	**249**	P	P	07 12 18.8	-6.1
GZH				sP	pP	07 12 37.9	-2.6
GZH				S	S	07 19 08.4	-10
GZH				ScS	**ScS**	**07 22 08.4**	**-4.0**
GZH				pmax	pmax		
	comp=Z,5μm,8.0s						
GZH				LR	LR		
	comp=Z,22μm,18.3s						
GZH				LR	LR		
	comp=Z,12μm,16.3s						
HAWA	**Hanford**	**48.02**	**66**	IAmb	IAmb	07 12 27.9	
	comp=Z,786nm,1.4s						
KURBB	**Kurchatov Arra**	**48.03**	**302**	ScP	**ScP**	**07 17 42.2**	**+1.2**
	comp=Z,69nm,1.1s,baz=48,slow=3.6,SNR=14						
KURBB				S	S	07 19 08.4	-10
	comp=Z,17nm,1.0s,baz=50,slow=14,SNR=4.1						
KURBB				P4KPbc		07 50 03.6	
	comp=Z,8.1nm,1.0s,baz=49,slow=3.8,SNR=8.9						
NEW	**Newport**	**48.08**	**62**	P	**P**	**07 12 26.1**	**+0.5**
	baz=310,SNR=204						
NEW	**Newport**	**48.08**	**62**	IAmb	IAmb	07 12 28.1	
	comp=Z,501nm,1.2s						
NEW	**Newport**	**48.08**	**62**	IAMs_20	IAMs_20	07 30 15.2	
	comp=Z,30μm,22.0s						
F07A	**Phinny Hill Vi**	**48.13**	**67**	IAMs_20	IAMs_20	07 29 50.6	
	comp=Z,31μm,22.0s						
HKC	**Hong Kong Obse**	**48.14**	**247**	⇑P	**P**	**07 12 27.0**	**+0.7**
HKPS	**Hong Kong Po S**	**48.18**	**247**	IAMs_20	IAMs_20	07 33 11.5	
	comp=Z,20μm,20.0s						
K02D	**Willamette Mer**	**48.19**	**72**	P	**P**	**07 12 28.1**	**+1.5**
	baz=312,SNR=31						
KBO	**Bosley Butte**	**48.20**	**73**	IAMs_20	IAMs_20	07 29 46.6	
	comp=Z,21μm,20.0s						
E08A	**Dider Farm, El**	**48.20**	**65**	IAmb	IAmb	07 12 29.0	
	comp=Z,535nm,1.3s						
E08A				IAMs_20	IAMs_20	07 30 54.6	
	comp=Z,19μm,21.0s						
KULLO	**Kullorsuaq**	**48.38**	**13**	⇑*i*P	**P**	**07 12 27.7**	**+0.2**
KULLO				pmax	pmax		
	comp=Z,1μm,1.2s						
KULLO	**Kullorsuaq**	**48.38**	**13**	⇑*i*P	**P**	**07 12 27.7**	**+0.2**
	comp=Z,1μm,1.2s						
I05D	**Terrebonne, OR**	**48.38**	**69**	P	**P**	**07 12 29.0**	**+1.0**
	baz=311,SNR=83						
MK31	**Makanchi Array**	**48.56**	**296**	P	**P**	**07 12 26.7**	**-2.7**
MK31				pmax	pmax		
	comp=Z,282nm,0.8s						
MK31	**Makanchi Array**	**48.56**	**296**	P	**P**	**07 12 26.7**	**-2.7**
MK31				IAmb	IAmb	07 12 31.4	
	comp=Z,282nm,0.8s						
MKAR	**Makanchi Array**	**48.56**	**296**	P	**P**	**07 12 27.1**	**-2.2**
	comp=Z,438nm,0.8s,baz=56,slow=7.4,SNR=346						
MKAR				PcP	**PcP**	**07 13 55.1**	**+0.9**
	comp=Z,67nm,0.8s,baz=62,slow=3.0,SNR=3.0						
MKAR				ScP	**ScP**	**07 17 45.6**	**+2.1**
	comp=Z,22nm,1.0s,baz=54,slow=7.3,SNR=3.6						
MKAR				LR	LR	07 34 19.2	
	comp=Z,62μm,19.4s,baz=38,slow=38						
MKAR				P4KPbc		07 50 07.1	
	comp=Z,0.9nm,0.4s,baz=56,slow=5.1,SNR=14						
MKAR	**Makanchi Array**	**48.56**	**296**	P	**P**	**07 12 25.9**	**-3.4**
MKAR					**ScP**	**07 17 46.4**	**+2.9**
L02E	**Cave Junction**	**48.58**	**73**	P	**P**	**07 12 31.3**	**+1.8**
	baz=312,SNR=40						
HUMO	**Hull Mountain**	**48.64**	**72**	IAmb	IAmb	07 12 33.6	
	comp=Z,606nm,1.4s						
HUMO				IAMs_20	IAMs_20	07 29 50.3	
	comp=Z,18μm,21.0s						
J04D	**Umpqua Nationa**	**48.69**	**71**	P	**P**	**07 12 32.2**	**+1.6**
	baz=312,SNR=45						
MAKZ	**Makanchi**	**48.72**	**296**	P	**P**	**07 12 27.7**	**-2.8**
MAKZ				pmax	pmax		
	comp=Z,405nm,0.8s						
MAKZ				MLR	MLR		
	comp=Z,74μm,19.0s						
MAKZ	**Makanchi**	**48.72**	**296**	P	**P**	**07 12 27.7**	**-2.8**
MAKZ				IAmb	IAmb	07 12 31.0	
	comp=Z,405nm,0.8s						
BJO1	**Bjornoya**	**48.77**	**348**	⇑*i*P	**P**	**07 12 30.1**	**-0.3**
BJO1				*e*PP	**PP**	**07 14 24.0**	**+0.4**
BJO1				*e*S	**S**	**07 19 27.9**	**-0.4**
BJO1				IVMs_BB	IVMs_BB	07 33 03.0	
	comp=Z,6μm,23.8s						
DAG	**Danmarks Havn**	**48.82**	**0**	⇑*i*P	**P**	**07 12 30.7**	**-0.2**
DAG				pmax	pmax		
	comp=Z,2μm,1.2s						
DAG				MLR	MLR		
	comp=Z,17μm,22.0s						
DAG	**Danmarks Havn**	**48.82**	**0**	⇑*i*P	**P**	**07 12 30.7**	**-0.2**
	comp=Z,946nm,1.2s						
	comp=Z,16μm,22.0s						
KRMB	**Red Mountain**	**48.84**	**73**	IAMs_20	IAMs_20	07 30 13.5	
	comp=Z,20μm,20.0s						
PINE	**Pine Mountain**	**48.96**	**69**	IAMs_20	IAMs_20	07 30 33.9	
	comp=Z,27μm,21.0s						
GYA	**Guiyang**	**49.02**	**258**	⇑*i*P	**P**	**07 12 31.5**	**-1.7**
GYA				pP	pP	07 12 46.0	-3.0
GYA				PcP	**PcP**	**07 13 57.5**	**+1.2**
GYA				PP	**PP**	**07 14 25.4**	**-1.6**
GYA				S	**S**	**07 19 28.0**	**-5.3**
GYA				sS	sS	07 19 49.4	-10
GYA				ScS	**ScS**	**07 22 17.5**	**-2.2**
GYA				pmax	pmax		
	comp=Z,4μm,8.0s						
GYA				LR	LR		
	comp=Z,25μm,17.4s						
GYA				LR	LR		
	comp=Z,30μm,18.0s						
GYA				LR	LR		
	comp=Z,48μm,19.6s						
G08A	**Pilot Rock**	**49.04**	**67**	IAmb	IAmb	07 12 35.6	
	comp=Z,435nm,1.4s						
G08A				IAMs_20	IAMs_20	07 30 29.7	
	comp=Z,26μm,22.0s						
J05D	**Fort Rock, OR**	**49.13**	**70**	P	**P**	**07 12 35.7**	**+1.8**
	baz=312,SNR=225						
WALA	**Waterton Lakes**	**

comp=Z,560nm,1.2s
WDC Whiskeytown Da 50.23 73 IAmb IAmb 07 12 45.6
comp=Z,753nm,1.4s
KCPM Cahto Peak 50.26 75 IAMs_20 IAMs_20 07 31 27.3
comp=Z,19µm,20.0s
BVAR Borovoye Array 50.35 308 ScP **ScP** **07 17 53.2 +2.3**
comp=Z,75nm,1.1s,baz=48,slow=2.1,SNR=12
BVAR P4KPbc 07 50 14.3
comp=Z,2.7nm,0.6s,baz=57,slow=5.3,SNR=12
O02D Mt. Diablo Mer 50.37 74 P **P** **07 12 45.4 +2.1**
baz=313,SNR=148
BRVK Borovoye 50.38 308 P **P** **07 12 41.4 -1.7**
BRVK SNR=205 P **P** **07 12 41.4 -1.7**
SNR=205
BRVK Borovoye 50.38 308*c i*P **P** **07 12 41.7 -1.4**
BRVK pmax pmax
comp=Z,549nm,0.8s
BRVK MLR MLR
comp=Z,69µm,16.0s
BRVK Borovoye 50.38 308 P **P** **07 12 41.4 -1.7**
BRVK IAmb IAmb 07 12 44.2
comp=Z,610nm,0.9s
MOD Modoc Plateau 50.57 71 IAMs_20 IAMs_20 07 31 37.4
comp=Z,23µm,21.0s
MSO Missoula 50.65 62 P **P** **07 12 46.1 +0.8**
baz=312,SNR=404
MSO Missoula 50.65 62 IAmb IAmb 07 12 47.8
comp=Z,1µm,1.4s
PLID Pearl Lake 50.74 65 IAmb IAmb 07 12 48.8
PLID IAMs_20 IAMs_20 07 32 45.7
comp=Z,18µm,20.0s
O03E Paynes Creek 50.84 73 P **P** **07 12 48.0 +1.2**
baz=314,SNR=346
HOPS Hopland Field 51.03 75 IAmb IAmb 07 12 51.6
comp=Z,1µm,1.4s
HOPS IAMs_20 IAMs_20 07 32 06.5
comp=Z,24µm,20.0s
FFC Flin Flon 51.05 48 P **P** **07 12 48.0 -0.1**
FFC pmax pmax
comp=Z,317nm,1.0s
FFC MLR MLR
comp=Z,15µm,22.0s
FFC Flin Flon 51.05 48 P **P** **07 12 48.0 -0.1**
FFC IAmb IAmb 07 12 50.3
comp=Z,317nm,0.9s
CNP Catarman 51.30 230 *e*P **P** **07 12 51.6 +1.3**
BRZS Berezniki 51.30 304⇑ *i*P **P** **07 12 47.4 -2.6**
comp=Z,749nm,1.9s
BRZS *e*S **S** **07 20 00.1 -4.2**
BRZS *e*LR LR 07 36 01.2
comp=Z,22µm,15.6s
BRZS Berezniki 51.30 304*c i*P **P** **07 12 47.4 -2.6**
BRZS *e*S **S** **07 20 00.1 -4.2**
BRZS pmax pmax
comp=Z,749nm,2.0s
BRZS MLR MLR
comp=Z,22µm,16.0s
GDXM Geysers 51.31 75 IAMs_20 IAMs_20 07 32 25.1
comp=Z,29µm,20.0s
LQP Lukban 51.32 234 *e*P P 07 12 55.7 +5.0
FCC Fort Churchill 51.48 40 IAmb IAmb 07 12 53.8
comp=Z,490nm,1.0s
HAMF Hammerfest 51.50 344⇑ *i*P **P** **07 12 49.4 -1.8**
HAMF *e*S **S** **07 20 04.6 -1.8**
HAMF IVMs_BB IVMs_BB 07 35 52.8
comp=Z,6µm,21.5s
ORV Oroville 51.52 74 IAmb IAmb 07 12 54.4
comp=Z,730nm,1.4s
ORV IAMs_20 IAMs_20 07 32 07.5
comp=Z,17µm,21.0s
TGY Tagaytay City 51.61 235 P **P** **07 12 55.1 +2.4**
comp=Z,647nm,0.5s,baz=318,slow=1.9,SNR=25
TGY LR LR 07 36 15.9
comp=Z,4µm,20.7s,baz=358,slow=38
TGY Tagaytay City 51.61 235‖ *e*P **P** **07 12 55.2 +2.4**
KEV Kevo 51.69 342 P **P** **07 12 51.7 -0.9**
KEV pmax pmax
comp=Z,162nm,0.8s
KEV MLR MLR
comp=Z,15µm,21.0s
KEV Kevo 51.69 342 P **P** **07 12 51.7 -0.9**
LVZ Lovozero 51.70 338*c i*P **P** **07 12 51.3 -1.5**
LVZ pmax pmax
comp=Z,567nm,0.8s
LVZ MLR MLR
comp=Z,48µm,25.0s
LVZ Lovozero 51.70 338 P **P** **07 12 51.2 -1.5**
LVZ IAmb IAmb 07 12 53.0
comp=Z,525nm,0.9s
LVZ IAMs_20 IAMs_20 07 37 55.4
comp=Z,32µm,21.0s
MCCM Marconi Confer 51.73 76 IAmb IAmb 07 12 56.2
comp=Z,887nm,1.5s
MCCM IAMs_20 IAMs_20 07 30 06.0
comp=Z,31µm,22.0s
TDK Taldyqorghan 51.78 296 *i* P **P** **07 12 51.3 -2.4**
comp=Z,2µm,2.7s
TDK *e*S **S** **07 20 11.5 +0.5**
TDK *e*LR LR 07 33 43.1
comp=Z,77µm,23.3s
TDK Taldyqorghan 51.78 296 *i* P **P** **07 12 51.3 -2.4**
TDK *e*S **S** **07 20 11.5 +0.5**
TDK pmax pmax
comp=Z,2µm,2.7s
TDK MLR MLR
comp=Z,77µm,23.0s
BEKR Beckworth 51.94 73 IAmb IAmb 07 12 58.3
comp=Z,1µm,1.5s
SVE Sverdlovsk 51.95 317*d i*P **P** **07 12 53.7 -1.1**
SVE *e* 07 13 59.5
SVE *e* 07 14 52.7
SVE *e*PPP PPP 07 15 51.2
SVE *e*S **S** **07 20 11.1 -1.9**
SVE *e* 07 22 35.5
SVE *e*SS **SS** **07 23 46.1 -3.6**
SVE pmax pmax
comp=Z,630nm,1.1s
SVE pmax pmax
comp=Z,4µm,13.5s
SVE MLR MLR
comp=E,56µm,21.0s
SVE MLR MLR
comp=Z,100µm,19.0s
SVE MLR MLR
comp=N,44µm,17.0s
EGMT Eagleton 51.95 58 P **P** **07 12 55.7 +0.7**
baz=313,SNR=205
EGMT Eagleton 51.95 58 IAmb IAmb 07 12 57.3
comp=Z,701nm,1.1s
EGMT IAMs_20 IAMs_20 07 35 15.8
comp=Z,25µm,19.0s
MFID Camas Ranch 51.96 66 IAmb IAmb 07 12 58.0
comp=Z,704nm,1.4s
MFID IAMs_20 IAMs_20 07 31 47.1
comp=Z,26µm,22.0s
ARCES ARCESS Array B 52.15 342 P **P** **07 12 55.1 -1.0**
comp=Z,200nm,0.7s,baz=37,slow=6.3,SNR=314
ARCES PcP **PcP** **07 14 07.9 +0.9**
comp=Z,61nm,0.7s,baz=17,slow=3.8,SNR=4.0
ARCES LR LR 07 37 46.4
comp=Z,18µm,21.9s,baz=31,slow=39
ARE0 ARCESS Array S 52.15 342⇑ *i*P **P** **07 12 54.9 -1.2**
ARE0 *e*S **S** **07 20 14.7 -0.8**
ARE0 IVMs_BB IVMs_BB 07 36 09.8
comp=Z,6µm,15.6s
SUMG Summit 52.23 8⇑ *i*P **P** **07 12 57.8 +0.7**
SUMG Summit 52.23 8⇑ *i*P **P** **07 12 57.8 +0.7**
SUMG Summit 52.23 8 IAMs_20 IAMs_20 07 36 05.2
comp=Z,28µm,21.0s
AFDM Forest Hills D 52.24 74 IAmb IAmb 07 13 00.3
comp=Z,674nm,1.4s
AFDM IAMs_20 IAMs_20 07 32 56.5
comp=Z,22µm,21.0s
APA Apatity 52.25 338⇑ *i*P **P** **07 12 55.0 -1.8**
APA *i* 07 14 09.0
APA *i* 07 15 01.0
APA *i* S **S** **07 20 14.0 -2.7**
APA pmax pmax
comp=Z,174nm,0.8s
KMI Kunming 52.29 261 P **P** **07 12 56.6 -1.3**
KMI pP pP 07 13 08.8 -5.1
KMI sP sP 07 13 13.2 -7.6
KMI S **S** **07 20 14.5 -4.3**
KMI ScS **ScS** **07 22 39.5 -2.9**

KMI pmax pmax
comp=Z,200nm,0.9s
KMI pmax pmax
comp=Z,4µm,8.5s
KMI LR LR
comp=Z,28µm,20.1s
KMI LR LR
comp=Z,19µm,24.1s
KMI LR LR
comp=Z,33µm,22.8s
DLMT Dillon 52.33 63 IAmb IAmb 07 13 00.6
comp=Z,1µm,1.5s
OCLP Ormoc 52.62 229 *e*P **P** **07 13 02.5 +2.3**
RUBR Rubicon Trail 52.62 73 IAmb IAmb 07 13 03.7
comp=Z,1µm,1.7s
RUBR IAMs_20 IAMs_20 07 32 53.6
comp=Z,17µm,20.0s
OTRP Odiongan 52.62 232 *e*P **P** **07 13 02.4 +2.2**
BOZ Bozeman (W) 52.66 62 P **P** **07 13 01.6 +1.2**
baz=313,SNR=591
BOZ Bozeman (W) 52.66 62 IAmb IAmb 07 13 03.2
comp=Z,752nm,1.2s
KPKS Kokpek 52.69 295⇑ *i*P **P** **07 12 58.2 -2.3**
comp=Z,235nm,1.0s
KPKS *e*S **S** **07 20 19.5 -4.1**
KPKS *e*LR LR 07 36 24.4
comp=Z,26µm,16.3s
KPKS Kokpek 52.69 295*c i*P **P** **07 12 58.2 -2.3**
KPKS *e*S **S** **07 20 19.5 -4.1**
KPKS pmax pmax
comp=Z,235nm,1.0s
KPKS MLR MLR
comp=Z,26µm,16.0s
UZB Uzynbulak 52.73 294⇑ *i*P **P** **07 12 58.4 -2.5**
comp=Z,112nm,1.1s
UZB *e*S **S** **07 20 24.5 +0.3**
UZB *e*LR LR 07 36 30.6
comp=Z,11µm,15.3s
UZB Uzynbulak 52.73 294*c i*P **P** **07 12 58.4 -2.5**
UZB *e*S **S** **07 20 24.5 +0.3**
UZB pmax pmax
comp=Z,112nm,1.1s
UZB MLR MLR
comp=Z,11µm,15.0s
VCNR Virginia City 52.73 73 IAMs_20 IAMs_20 07 32 43.5
comp=Z,21µm,21.0s
PNTR Pine Nut 52.90 73 IAMs_20 IAMs_20 07 32 36.0
comp=Z,21µm,21.0s
SJMP San Jose 52.95 233 *e*P **P** **07 13 04.5 +1.9**
KTK1 Kautokeino 53.01 343 *e*P **P** **07 13 01.6 -0.8**
KTK1 IVMs_BB IVMs_BB 07 13 03.4
comp=Z,7µm,3.1s
KTK1 *e*S **S** **07 20 24.7 -2.4**
ZHN Zhinishke 53.02 294⇑ *i*P **P** **07 13 00.7 -2.3**
comp=Z,302nm,2.1s
ZHN *e*LR LR 07 36 33.8
comp=Z,11µm,15.4s
ZHN Zhinishke 53.02 294*c i*P **P** **07 13 00.7 -2.3**
ZHN pmax pmax
comp=Z,302nm,2.2s
ZHN MLR MLR
comp=Z,11µm,15.0s
ARU Arti 53.05 317*c i*P **P** **07 13 01.2 -1.7**
ARU *PP **pP** **07 13 20.8 +1.9**
ARU 07 14 07.9
ARU 07 15 01.0
ARU PPP PPP 07 16 10.3
ARU S **S** **07 20 26.2 -1.8**
ARU *SS **sS** **07 21 02.2 +7.1**
ARU 07 22 43.3
ARU pmax pmax
comp=Z,861nm,0.9s
ARU pmax pmax
comp=Z,4µm,10.3s
ARU MLR MLR
comp=Z,104µm,19.0s
ARU Arti 53.05 317 P4KPbc 07 50 25.6
comp=Z,2.1nm,0.2s,baz=165,slow=1.9,SNR=8.5
ARU Arti 53.05 317 P **P** **07 13 01.6 -1.3**
SATY Saty 53.11 294⇑ *i*P **P** **07 13 01.6 -2.2**
comp=Z,562nm,2.2s
SATY *e*LR LR 07 36 43.1
comp=Z,17µm,15.7s
SATY Saty 53.11 294*c i*P **P** **07 13 01.5 -2.2**
SATY pmax pmax
comp=Z,562nm,2.2s
SATY MLR MLR
comp=Z,17µm,16.0s
QIZ Qiongzhong 53.14 249 P **P** **07 13 05.1 +1.1**
QIZ pP **pP** **07 13 16.0 -3.9**
QIZ S **S** **07 20 32.5 +2.4**
QIZ sS **sS** **07 20 53.6 -3.5**
QIZ pmax pmax
comp=Z,310nm,1.0s
QIZ pmax pmax
comp=Z,5µm,6.8s
QIZ LR LR
comp=Z,12µm,21.2s
QIZ LR LR
comp=Z,15µm,18.0s
QIZ LR LR
comp=Z,17µm,24.3s
QIZ Qiongzhong 53.14 249 IAmb IAmb 07 13 07.6
comp=Z,452nm,1.0s
QIZ Qiongzhong 53.14 249 IAMs_20 IAMs_20 07 37 33.0
comp=Z,16µm,18.0s
TRO Tromso 53.15 345⇑ *i*P **P** **07 13 02.8 -0.6**
TRO *e*S **S** **07 20 28.0 -0.9**
TRO IVMs_BB IVMs_BB 07 31 20.2
comp=Z,5µm,39.6s
YERR Yerington 53.17 73 IAMs_20 IAMs_20 07 32 56.2
comp=Z,22µm,21.0s
CMB Columbia Colle 53.20 74 IAmb IAmb 07 13 07.9
comp=Z,1µm,1.5s
CMB IAMs_20 IAMs_20 07 31 50.1
comp=Z,17µm,22.0s
BMN Battle Mountai 53.27 70 IAmb IAmb 07 13 08.6
comp=Z,1µm,1.4s
BMN IAMs_20 IAMs_20 07 33 06.8
comp=Z,25µm,22.0s
CHKK Chushkaly 53.31 296⇑ *i*P **P** **07 13 01.9 -3.2**
CHKK Chushkaly 53.31 296⇑ *i*P **P** **07 13 01.8 -3.2**
MSLP Maasin 53.33 228 *e*P **P** **07 13 06.7 +1.3**
WAKR Walker 53.40 73 IAMs_20 IAMs_20 07 33 47.3
comp=Z,23µm,20.0s
SAO San Andreas Ge 53.51 76 IAmb IAmb 07 13 09.8
comp=Z,761nm,1.4s
SAO IAMs_20 IAMs_20 07 31 17.2
comp=Z,30µm,21.0s
PRZ Przheval'sk 53.52 294 IAmb IAmb 07 13 08.6
comp=Z,327nm,0.8s
LLP Lapu-Lapu 53.55 229‖ *e*P **P** **07 13 08.0 +1.0**
LLP *e*S **S** **07 20 40.1 +4.5**
KUU Kurty 53.62 296⇑ *i*P **P** **07 13 04.4 -3.0**
comp=Z,286nm,0.8s
KUU *e*S **S** **07 20 33.6 -2.6**
KUU *e*LR LR 07 36 33.8
comp=Z,52µm,18.6s
KUU Kurty 53.62 296*c i*P **P** **07 13 04.3 -3.0**
KUU *e*S **S** **07 20 33.5 -2.6**
KUU pmax pmax
comp=Z,286nm,0.8s
KUU MLR MLR
comp=Z,52µm,19.0s
PRGR Permogore 53.74 328⇑ *i*P **P** **07 13 06.8 -1.0**
PRGR *e* 07 14 10.7
PRGR *e*S **S** **07 20 33.8 -3.3**
PRGR pmax pmax
comp=Z,1µm,0.6s
MDOK Medeo 53.76 295 *i* P **P** **07 13 06.0 -2.5**
MDOK *e*S **S** **07 20 34.9 -3.4**
MDOK *e*LR LR 07 36 25.1
comp=Z,26µm,20.2s
MDOK Medeo 53.76 295 *i* P **P** **07 13 05.9 -2.5**
MDOK *e*S **S** **07 20 34.8 -3.4**
MDOK MLR MLR
comp=Z,26µm,20.0s
KVN Kaiserville 53.76 72 IAMs_20 IAMs_20 07 33 22.7
comp=Z,18µm,21.0s
AAA Alma-Ata 53.79 295 *e*P **P** **07 13 06.3 -2.4**
AAA *e*LR LR 07 36 22.9
comp=Z,28µm,18.6s
AAA Alma-Ata 53.79 295 *e*P **P** **07 13 06.7 -1.9**
AAA *e*S **S** **07 20 29.8 -8.8**
AAA pmax pmax
comp=Z,3µm,5.6s

AAA smax smax
comp=E,1µm,6.5s
AAA MLR MLR
comp=Z,33µm,18.0s
RYN Ryan 53.82 72 IAMs_20 IAMs_20 07 34 08.4
comp=Z,20µm,20.0s
TARA Tarawa 53.88 167 IAMs_20 IAMs_20 07 36 12.5
comp=Z,19µm,19.0s
GUIM Jordan 53.89 231 *e*P **P** **07 13 11.1 +1.6**
TNSS Tian-Shan 53.90 295 *i* P **P** **07 13 07.5 -2.3**
TNSS Tian-Shan 53.90 295 *i* P **P** **07 13 07.4 -2.3**
TMCR Tamitsa 53.91 333 *e*P **P** **07 13 08.5 -0.5**
TMCR *e*S **S** **07 20 38.4 -0.9**
TMCR pmax pmax
comp=Z,786nm,0.9s
BTLS Baital 54.00 299 *i* P **P** **07 13 07.5 -2.6**
BTLS *e*S **S** **07 20 39.2 -2.0**
BTLS *e*LR LR 07 36 55.5
BTLS Baital 54.00 299 *i* P **P** **07 13 07.4 -2.6**
BTLS *e*S **S** **07 20 39.1 -2.1**
LKWY Lake 54.01 62 IAMs_20 IAMs_20 07 38 13.3
comp=Z,17µm,20.0s
H17A Grant Village 54.03 62 P **P** **07 13 13.5 +2.9**
baz=314,SNR=684
H17A Grant Village 54.03 62 IAMs_20 IAMs_20 07 38 13.0
comp=Z,18µm,21.0s
BUTP Butuan 54.04 227 *e*P **P** **07 13 12.7 +2.1**
ILULI Ilulissat 54.05 14 *i* P **P** **07 13 09.6 -0.4**
ILULI Ilulissat 54.05 14 *i* P **P** **07 13 09.6 -0.4**
ILULI Ilulissat 54.05 14 IAMs_20 IAMs_20 07 37 22.3
comp=Z,18µm,22.0s
NVAR Mina Array Bea 54.08 72 P **P** **07 13 12.8 +1.8**
comp=Z,259nm,0.7s,baz=297,slow=6.8,SNR=668
NVAR LR LR 07 34 30.6
comp=Z,21µm,20.4s,baz=308,slow=34
NVAR P4KPbc 07 50 33.5
comp=Z,0.3nm,0.3s,baz=298,slow=4.8,SNR=3.8
NVAR Mina Array Bea 54.08 72 P **P** **07 13 12.1 +1.1**
MTBS Maitube 54.10 296⇑ *i*P **P** **07 13 08.6 -2.4**
MTBS Maitube 54.10 296⇑ *i*P **P** **07 13 08.5 -2.4**
ELK Elko 54.13 68 IAmb IAmb 07 13 14.9
comp=Z,496nm,1.1s
ELK IAMs_20 IAMs_20 07 33 32.4
comp=Z,29µm,22.0s
NV11 Mina Array Sit 54.16 72 IAMs_20 IAMs_20 07 34 18.5
comp=Z,22µm,20.0s
RLMT Red Lodge 54.19 61 P **P** **07 13 13.5 +1.8**
baz=314,SNR=988
MDPB Devils Postpil 54.22 74 IAMs_20 IAMs_20 07 32 01.9
comp=Z,25µm,22.0s
PMPB Monarch Peak 54.26 76 IAMs_20 IAMs_20 07 31 28.2
comp=Z,28µm,22.0s
OMMB Old Mammoth Mi 54.27 74 IAMs_20 IAMs_20 07 32 03.5
comp=Z,28µm,22.0s
FXWY Fox Creek 54.33 63 IAmb IAmb 07 13 16.1
comp=Z,382nm,0.9s
DGMT Dagmar 54.34 55 P **P** **07 13 13.5 +1.0**
baz=314,SNR=155
DGMT Dagmar 54.34 55 IAMs_20 IAMs_20 07 35 38.1
comp=Z,16µm,22.0s
MLAC Mammoth, Mammo 54.35 74 P **P** **07 13 15.6 +2.6**
baz=316,SNR=88
TARG Taragay, Kyrgy 54.36 294 IAmb IAmb 07 13 27.5
comp=Z,181nm,0.7s
MOOW Moose Ponds 54.40 63 IAmb IAmb 07 13 16.6
comp=Z,538nm,1.2s
KDJ Kajisay 54.41 294 P **P** **07 13 11.7 -1.5**
KDJ pmax pmax
comp=Z,563nm,0.8s
KDJ MLR MLR
comp=Z,64µm,18.0s
KDJ Kajisay 54.41 294 P **P** **07 13 11.7 -1.5**
KDJ IAmb IAmb 07 13 16.0
comp=Z,563nm,0.8s
TPAW Teton Pass 54.47 63 IAmb IAmb 07 13 17.4
comp=Z,541nm,1.1s
LKP Lekhapani 54.59 268⇑ *i*P **P** **07 13 10.3 -4.2**
SLVN Son La 54.59 257 IAmb IAmb 07 13 18.9
comp=Z,336nm,0.7s
SNOW Snow King Moun 54.59 63 IAmb IAmb 07 13 18.4
comp=Z,716nm,1.2s
REDW Red Top Meadow 54.61 63 IAmb IAmb 07 13 18.4
comp=Z,792nm,1.2s
LAO LASA Array 54.62 58 P **P** **07 13 16.0 +1.4**
baz=315,SNR=587
LAO LASA Array 54.62 58 IAMs_20 IAMs_20 07 37 37.7
comp=Z,22µm,19.0s
TKM2 Tokmak 2 54.69 296 P **P** **07 13 13.4 -1.9**
SNR=225
BOOM Boomskoye usch 54.81 295 IAmb IAmb 07 13 17.6
comp=Z,289nm,0.9s
SGDS Sogindy 54.81 297⇑ *i*P **P** **07 13 13.9 -2.2**
comp=Z,2µm,4.9s
SGDS *i* S **S** **07 20 53.5 +1.2**
comp=Z,389nm,4.1s
SGDS *e*LR LR 07 37 34.2
comp=Z,40µm,20.2s
ULHL Ulahol 54.82 295 P **P** **07 13 14.7 -1.6**
SNR=39
CGP Cagayan de Oro 54.90 227‖ *e*P **P** **07 13 20.1 +3.3**
AHID Auburn Hatcher 54.90 64 IAmb IAmb 07 13 20.1
comp=Z,638nm,1.1s
PAGB Antelope Grade 54.92 76 IAMs_20 IAMs_20 07 31 23.6
comp=Z,21µm,22.0s
VOG Valley Oaks Go 54.98 75 P **P** **07 13 18.8 +1.5**
baz=316,SNR=30
USP Ospenovka 55.01 297 P **P** **07 13 15.7 -1.7**
SNR=117
DIBR DIBRUGARH 55.03 269⇑ *i*P **P** **07 13 17.4 -0.3**
CHMS Chumysh 55.07 297 P **P** **07 13 16.2 -1.7**
SNR=128
TIN Tinemaha, Big 55.10 74 P **P** **07 13 20.7 +2.5**
baz=316,SNR=376
SCO Scoresbysund 55.11 2 *i* P **P** **07 13 18.2 +0.6**
SCO Scoresbysund 55.11 2 *i* P **P** **07 13 18.2 +0.6**
SCO Scoresbysund 55.11 2 IAmb IAmb 07 13 21.1
comp=Z,1µm,1.5s
SCO IAMs_20 IAMs_20 07 35 36.3
comp=Z,24µm,22.0s
KBK Karagaybulak 55.21 296 P **P** **07 13 17.3 -1.8**
SNR=334
BUKP Musuan 55.26 227 *e*P **P** **07 13 21.2 +1.7**
STEI Steigen 55.26 345⇑ *i*P **P** **07 13 18.0 -0.7**
STEI *e*S **S** **07 20 55.5 -1.8**
STEI IVMs_BB IVMs_BB 07 37 14.4
comp=Z,6µm,19.1s
LOF Lofoten 55.32 346⇑ *i*P **P** **07 13 18.4 -0.8**
LOF *e*S **S** **07 21 00.1 +2.0**
LOF IVMs_BB IVMs_BB 07 42 38.8
comp=Z,5µm,5.5s
SMMC Simmler 55.37 76 P **P** **07 13 22.2 +2.1**
baz=316,SNR=243
AAK Ala-Archa 55.46 296 *i* P **P** **07 13 19.1 -1.7**
SNR=517
AAK Ala-Archa 55.46 296 P **P** **07 13 19.3 -1.5**
SNR=160
AAK P **P** **07 13 19.3 -1.5**
SNR=160
AAK Ala-Archa 55.46 296*c i*P **P** **07 13 19.0 -1.8**
AAK pmax pmax
comp=Z,594nm,0.8s
AAK MLR MLR
comp=Z,53µm,17.0s
AAK Ala-Archa 55.46 296 LR LR 07 38 36.7
comp=Z,59µm,18.4s,baz=51,slow=38
AAK PKPPKP **P'P'df** **07 43 27.2 -0.6**
comp=Z,2.9nm,0.7s,baz=150,slow=6.4,SNR=5.2
AAK P4KPbc 07 50 36.0
comp=Z,2.5nm,0.9s,baz=194,slow=2.6,SNR=6.6
AAK Ala-Archa 55.46 296 P **P** **07 13 19.1 -1.7**
SNR=452
AAK Ala-Archa 55.46 296 P **P** **07 13 19.3 -1.5**
AAK IAmb IAmb 07 13 22.5
comp=Z,570nm,0.8s
KZA Kyzart 55.46 296 P **P** **07 13 19.7 -1.4**
SNR=102
VES Vestal, Richgr 55.50 75 P **P** **07 13 22.0 +1.1**
baz=316,SNR=412
NRN Naryn 55.52 294 IAmb IAmb 07 13 24.5
comp=Z,212nm,0.8s
LSA Lhasa 55.54 274 P **P** **07 13 20.8 -1.1**
LSA S S 07 20 51.0 -12
LSA pmax pmax
comp=Z,740nm,0.9s
LSA LR LR
comp=Z,56µm,16.4s
LSA LR LR

comp=Z,99μm,26.3s
LSA Lhasa 55.54 274 P P 07 13 20.6 -1.3
LSA Lhasa 55.54 274 IAmb IAmb 07 13 25.6
LSA comp=Z,253nm,0.8s IAMs_20 IAMs_20 07 39 22.2
comp=Z,26μm,22.0s
GRAC Grapevine Rang 55.63 73 P P 07 13 24.4 +2.4
baz=316,SNR=140
CWC Cottonwood Cre 55.63 74 P **P 07 13 24.2 +2.1**
baz=316
R11A Troy Canyon, C 55.64 71 P **P 07 13 23.8 +1.7**
baz=316,SNR=777
R11A Troy Canyon, C 55.64 71 IAmb IAmb 07 13 25.6
R11A comp=Z,980nm,1.4s IAMs_20 IAMs_20 07 34 18.5
comp=Z,17μm,21.0s
BW06 Boulder Array 55.70 63 P **P 07 13 24.2 +1.5**
baz=315,SNR=600
PDAR Pinedale Array 55.70 63 P **P 07 13 24.1 +1.4**
comp=Z,399nm,1.0s,baz=320,slow=2.5,SNR=950
PDAR LR LR 07 38 58.4
comp=Z,3μm,19.1s,baz=343,slow=38
PDAR PKPPKP P'P'df 07 43 13.5 -14
comp=Z,2.1nm,0.9s,baz=121,slow=4.7,SNR=5.0
PDAR Pinedale Array 55.70 63 P **P 07 13 22.8 +0.1**
UCH Uchtor 55.74 296 P **P 07 13 21.6 -1.6**
SNR=74
DAV Davao City (W) 55.77 226 P **P 07 13 25.1 +2.0**
SNR=8.6
DAV Davao City (W) 55.77 226 P **P 07 13 25.0 +1.9**
comp=Z,251nm,0.4s,baz=54,slow=2.7,SNR=11
DAV Davao City (W) 55.77 226 P **P 07 13 24.8 +1.7**
DAV IAmb IAmb 07 14 02.4
comp=Z,1μm,1.3s
PKM Mcpherson Peak 55.77 77 P **P 07 13 25.4 +2.2**
baz=317,SNR=264
EKS2 Erkin-Say 55.81 297 P **P 07 13 21.8 -1.5**
SNR=528
DUG Dugway, Tooele 55.82 67 P **P 07 13 25.5 +2.1**
baz=316,SNR=860
DUG Dugway, Tooele 55.82 67 IAMs_20 IAMs_20 07 34 19.3
comp=Z,14μm,21.0s
JORH JORHAT 55.96 269⇑ *iP* **P 07 13 22.9 -1.4**
ITAN ITANAGAR 55.96 270 *eP* **P 07 13 23.2 -1.2**
ISA Isabella, Lake 55.97 75 P **P 07 13 25.4 +1.0**
baz=317,SNR=428
ISA Isabella, Lake 55.97 75 IAmb IAmb 07 13 27.1
ISA comp=Z,722nm,1.2s IAMs_20 IAMs_20 07 32 47.3
comp=Z,25μm,21.0s
PAGZ Pagadian 56.01 228 *eP* **P 07 13 25.7 +0.9**
DAC Darwin (Calif) 56.02 74 IAMs_20 IAMs_20 07 32 53.6
comp=Z,22μm,22.0s
KCP Kidapawan 56.03 226⇑ *ip* **P 07 13 27.2 +2.2**
ARVC Arvin 56.16 76 P **P 07 13 26.8 +1.1**
baz=317,SNR=63
SBC Santa Barbara 56.16 77 P **P 07 13 27.7 +2.0**
baz=317,SNR=35
SFJD Kangerlussuaq 56.18 15 P **P 07 13 24.9 -0.4**
SFJD pmax pmax
comp=Z,1μm,1.5s
SFJD Kangerlussuaq 56.18 15 *i* P **P 07 13 25.0 -0.4**
SFJD Kangerlussuaq 56.18 15 P **P 07 13 24.9 -0.4**
SFJD IAmb IAmb 07 13 27.6
comp=Z,1μm,1.5s
KLMR Klimovskoe 56.18 330*c i*P **P 07 13 24.2 -1.2**
KLMR *e* 07 14 21.4
KLMR *e*S **S 07 21 07.4 -2.4**
KLMR *e*SS **SS 07 24 56.0 -0.1**
KLMR pmax pmax
comp=Z,1μm,0.9s
KLMR MLR MLR
comp=Z,36μm,16.0s
KLMR Klimovskoe 56.18 330⇑ *iP* **P 07 13 24.3 -1.2**
KLMR ⇓ *iP* **P 07 13 24.3 -1.2**
KLMR ⇓ *iP* **P 07 13 24.3 -1.2**
KLMR AMP 07 13 26.7
comp=Z,1μm,0.9s
KLMR *e*PcP **PcP 07 14 21.5 -1.0**
KLMR *e*S **S 07 21 07.4 -2.4**
KLMR *e*S **S 07 21 07.4 -2.4**
KLMR *e*SS **SS 07 24 56.0 -0.1**
KLMR *e*SS **SS 07 24 56.0 -0.1**
KLMR LQ LQ 07 34 02.9
KLMR LQ LQ 07 34 02.9
KLMR LR LR 07 36 57.5
KLMR AMP 07 41 09.8
comp=Z,36μm,16.2s
CTBH Cotabato--PC H 56.20 227⇑ *iP* **P 07 13 28.6 +2.5**
MPMC Manual Prospec 56.23 74 P **P 07 13 28.4 +1.9**
baz=317,SNR=795
AML Almayashu 56.24 297 P **P 07 13 25.3 -1.4**
SNR=235
TPNV Topopah Spring 56.28 72 P **P 07 13 28.8 +2.1**
baz=316,SNR=972
TPNV Topopah Spring 56.28 72 IAMs_20 IAMs_20 07 35 34.5
comp=Z,20μm,20.0s
FURC Furnace Creek, 56.29 73 P **P 07 13 28.8 +2.2**
baz=316,SNR=1000
SCZ2 Santa Cruz Isl 56.53 77 P **P 07 13 30.0 +1.6**
baz=317,SNR=39
LRMC Laurel Mtn Rad 56.55 75 P **P 07 13 30.2 +1.6**
baz=317,SNR=484
OSI Osito Audit: C 56.59 76 P **P 07 13 30.5 +1.7**
baz=317,SNR=40
SKMP Bagumbayan, Su 56.70 226 *eP* **P 07 13 31.5 +1.8**
BLG Laguna Peak, P 56.77 77 P **P 07 13 31.6 +1.5**
baz=317,SNR=63
EDW2 Edwards Air Fo 56.81 75 P **P 07 13 32.0 +1.6**
baz=317,SNR=623
KOHI KOHIMA 56.82 268⇑ *iP* **P 07 13 27.2 -3.4**
KOHI IAMs_20 IAMs_20 07 38 54.5
comp=Z,32μm,21.8s
ULM Lac du Bonnet 56.85 49 P **P 07 13 31.4 +0.9**
comp=Z,355nm,0.9s,baz=314,slow=7.1,SNR=172
ULM LR LR 07 39 11.8
comp=Z,16μm,20.3s,baz=319,slow=37
ULM PKPPKP 07 43 20.6
comp=Z,7.1nm,0.9s,baz=196,slow=1.5,SNR=3.9
ULM Lac du Bonnet 56.85 49 IAmb IAmb 07 13 32.9
ULM comp=Z,703nm,1.1s IAMs_20 IAMs_20 07 38 50.5
comp=Z,17μm,20.0s
KONS Konsvik 56.90 346⇑ *iP* **P 07 13 29.7 -0.8**
KONS *e*S **S 07 21 19.7 +0.5**
KSH Kashi 56.91 293 P **P 07 13 33.2 +2.0**
KSH sP sP 07 13 51.4 -3.0
KSH PP **PP 07 15 42.2 +4.4**
KSH S **S 07 21 20.7 +0.3**
KSH sS pS 07 21 42.3 +3.5
KSH pmax pmax
comp=Z,860nm,0.8s
MDND Maddock 56.94 53 P **P 07 13 32.8 +1.7**
baz=317,SNR=123
MDND Maddock 56.94 53 IAMs_20 IAMs_20 07 38 41.8
comp=Z,20μm,21.0s
MOR8 Moi Rana 57.02 345⇑ *iP* **P 07 13 29.4 -1.9**
MOR8 *e*S **S 07 21 18.1 -2.7**
MOR8 IVMs_BB IVMs_BB 07 36 59.3
comp=Z,6μm,22.4s
SHOC Shoshone, Teco 57.02 73 P **P 07 13 33.7 +1.8**
baz=317,SNR=411
DECC Green Verdugo 57.07 76 P **P 07 13 34.0 +1.7**
baz=317,SNR=96
STOK Stokkvaagen 57.07 346 *eP* **P 07 13 31.5 -0.2**
STOK *e*S **S 07 21 23.8 +2.4**
SNCC San Nicolas Is 57.14 78 P **P 07 13 34.4 +1.7**
baz=318,SNR=22
SNCC San Nicolas Is 57.14 78 IAMs_20 IAMs_20 07 32 42.3
comp=Z,28μm,22.0s
GSC Goldstone, Bar 57.16 74 P **P 07 13 34.8 +1.9**
baz=317,SNR=634
GSC Goldstone, Bar 57.16 74 IAMs_20 IAMs_20 07 33 52.0
comp=Z,15μm,22.0s
KK31 Karatay Array 57.17 299 IAmb IAmb 07 13 35.4
comp=Z,235nm,0.8s
KKAR Karatay Array 57.17 299 P **P 07 13 30.6 -2.2**
KKAR Karatay Array 57.17 299 P **P 07 13 30.6 -2.2**
ARSB Arslanbob 57.19 296 IAmb IAmb 07 13 35.6
comp=Z,348nm,0.8s
SHPR Sheep Range 57.20 72 IAmb IAmb 07 13 37.0
comp=Z,980nm,1.5s
SHPR IAMs_20 IAMs_20 07 34 11.0
comp=Z,22μm,22.0s
K22A Casper 57.34 61 P **P 07 13 35.5 +1.3**
baz=316,SNR=324

RRX Edison Barstow 57.37 75 P **P 07 13 36.3 +2.0**
baz=317,SNR=33
BFSC Mount Baldy Ra 57.46 76 P **P 07 13 36.7 +1.6**
baz=317,SNR=177
FMP Fort Macarthur 57.49 76 P **P 07 13 36.6 +1.5**
baz=318,SNR=29
RSSD Black Hills 57.53 58 P **P 07 13 37.0 +1.5**
baz=317
RSSD Black Hills 57.53 58 P **P 07 13 36.2 +0.6**
RSSD pmax pmax
comp=Z,1μm,1.0s
RSSD Black Hills 57.53 58 P **P 07 13 36.2 +0.6**
TUQ Turquoise Moun 57.56 73 P **P 07 13 37.7 +1.9**
baz=317,SNR=96
BRLS Borolday 57.56 300 *e*S **S 07 21 30.2 +1.6**
IMP Imphal 57.59 268 *eP* **P 07 13 34.1 -1.9**
NONG Nongkai 57.62 255 P **P 07 13 36.5 +0.3**
comp=Z,10nm,1.1s,comp=Z,212nm
AKTO Aktyubinsk 57.64 313 ScP **ScP 07 18 24.4 +1.6**
comp=Z,62nm,1.0s,baz=40,slow=4.6,SNR=5.3
AKTO LR LR 07 41 36.8
comp=Z,35μm,19.1s,baz=30,slow=39
AKTO PKPPKP 07 43 25.5
comp=Z,8.5nm,1.2s,baz=156,slow=6.5,SNR=4.6
AKTO P4KPbc 07 50 46.2
comp=Z,8.2nm,0.8s,baz=22,slow=4.3,SNR=22
CIS Catalina Islan 57.65 77 P **P 07 13 37.6 +1.3**
baz=318,SNR=56
ABKAR Akbulak array 57.69 311 P **P 07 13 33.9 -2.4**
ABKAR Akbulak array 57.69 311 IAmb IAmb 07 13 37.7
comp=Z,490nm,1.1s
RWWY Rawlins 57.69 62 IAMs_20 IAMs_20 07 40 18.8
comp=Z,13μm,20.0s
HEC Hector,Ludlow 57.77 74 P **P 07 13 39.0 +1.8**
baz=317,SNR=427
GUWA GUWAHATI 57.86 271⇑ *iP* **P 07 13 34.7 -3.1**
BBRC Big Bear Solar 57.86 75 P **P 07 13 39.8 +1.7**
baz=318,SNR=240
SCI2 San Clemente I 57.89 77 P **P 07 13 39.5 +1.6**
baz=318,SNR=40
IUG luzhnay 58.11 299⇑ *iP* **P 07 13 37.9 -1.7**
IUG *e*LR LR 07 39 15.1
IUG luzhnay 58.11 299*c iP* **P 07 13 37.8 -1.7**
GMRC Granite Mounta 58.18 74 P **P 07 13 42.0 +1.8**
baz=318,SNR=782
MURC Murrieta 58.19 76 P **P 07 13 41.4 +1.3**
baz=318,SNR=244
CHM Chimkent 58.20 299⇑ *iP* **P 07 13 37.9 -2.1**
comp=Z,693nm,3.6s
CHM *e*LR LR 07 39 05.8
CHM Chimkent 58.20 299*c iP* **P 07 13 37.9 -2.1**
CHM pmax pmax
comp=Z,693nm,3.6s
SHL Shillong 58.23 270 IAmb IAmb 07 13 44.4
comp=Z,82nm,0.8s
SHL *ex* **S 07 21 43.3 +5.3**
O20A White River Ci 58.29 64 P **P 07 13 42.5 +1.6**
baz=317,SNR=379
O20A White River Ci 58.29 64 IAMs_20 IAMs_20 07 36 11.4
comp=Z,18μm,21.0s
SILR SILCHAR 58.29 269 *eP* **P 07 13 38.8 -2.1**
AGMN Agassiz Nation 58.31 50 P **P 07 13 41.4 +0.7**
baz=318,SNR=86
AGMN Agassiz Nation 58.31 50 IAmb IAmb 07 13 42.9
comp=Z,299nm,0.9s
PAYA Payao 58.44 259 P **P 07 13 42.6 +0.6**
comp=Z,570μm,0.7s
BELC Belle Mtn. Jos 58.57 75 P **P 07 13 43.9 +1.0**
baz=318,SNR=390
UBPT Khong Chiam 58.59 251 P **P 07 13 44.2 +1.2**
comp=Z,589nm,1.6s,comp=Z,10μmcomp=Z,12μm
PFO Pinyon Flats O 58.60 75 P **P 07 13 44.1 +1.1**
baz=318,SNR=275
PFO Pinyon Flats O 58.60 75 P **P 07 13 43.5 +0.4**
PFO pmax pmax
comp=Z,542nm,1.2s
PFO Pinyon Flats O 58.60 75 P **P 07 13 43.5 +0.4**
PFO IAmb IAmb 07 13 46.0
comp=Z,542nm,1.2s
109C Camp Elliot, M 58.77 76 P **P 07 13 45.6 +1.5**
baz=318,SNR=90
109C Camp Elliot, M 58.77 76 IAMs_20 IAMs_20 07 33 14.5
comp=Z,20μm,22.0s
NEE2 Needles Airpor 58.77 73 P **P 07 13 45.6 +1.5**
baz=318,SNR=45
GTK Tadong 58.80 274 *i* P **P 07 13 42.9 -1.6**
GTK IAMs_20 IAMs_20 07 41 49.1
comp=Z,31μm,18.4s
U15A North Rim 58.83 70 IAmb IAmb 07 13 48.5
comp=Z,835nm,1.3s
U15A IAMs_20 IAMs_20 07 36 42.1
comp=Z,19μm,21.0s
PHWY Pilot Hill 58.87 62 IAmb IAmb 07 13 47.8
comp=Z,520nm,1.6s
N23A Red Feather La 58.92 62 P **P 07 13 47.1 +1.7**
baz=317,SNR=396
N23A Red Feather La 58.92 62 IAMs_20 IAMs_20 07 36 44.7
comp=Z,14μm,22.0s
NSS Namsos 58.92 345⇑ *iP* **P 07 13 43.9 -0.8**
NSS *e*S **S 07 21 47.3 +1.7**
IRM Iron Mountain 58.93 74 P **P 07 13 47.1 +1.9**
baz=318,SNR=763
W13A Hualapai Mount 58.94 72 IAmb IAmb 07 13 48.9
comp=Z,598nm,1.1s
W13A IAMs_20 IAMs_20 07 35 05.8
comp=Z,13μm,21.0s
PV21 Cone Mtn., Par 59.05 66 IAmb IAmb 07 13 49.6
comp=Z,451nm,1.0s
PV21 IAMs_20 IAMs_20 07 36 29.7
comp=Z,16μm,21.0s
TAS Tashkent 59.09 299 P **P 07 13 44.9 -1.3**
TAS pmax pmax
comp=Z,359nm,1.0s
TAS MLR MLR
comp=Z,46μm,18.0s
TAS Tashkent 59.09 299 P **P 07 13 44.9 -1.3**
TAS IAmb IAmb 07 13 48.0
comp=Z,359nm,1.0s
PV23 Carpenter Ridg 59.11 66 IAMs_20 IAMs_20 07 36 30.4
comp=Z,18μm,22.0s
BC3 Big Chuckawall 59.13 74 P **P 07 13 48.2 +1.4**
baz=318,SNR=250
FINES FINESS Array B 59.14 337 *i* P **P 07 13 45.7 -0.5**
FINES pmax pmax
comp=Z,878nm,0.6s
FINES FINESS Array B 59.14 337 P **P 07 13 45.8 -0.4**
comp=Z,878nm,0.6s,baz=29,slow=8.7,SNR=885
FINES S **S 07 21 48.5 0.0**
comp=Z,14nm,0.8s,baz=19,slow=13,SNR=5.4
FINES PKPPKP P'P'df 07 43 06.5 -17
comp=Z,1.5nm,0.6s,baz=180,slow=0.7,SNR=3.8
FINES LR LR 07 44 02.4
comp=Z,17μm,18.1s,baz=25,slow=41
FINES FINESS Array B 59.14 337 P **P 07 13 45.9 -0.2**
MONP2 Monument Peak 59.15 76 P **P 07 13 48.3 +1.3**
baz=318,SNR=235
AZL Aizawl 59.16 268 *i* P **P 07 13 44.8 -2.2**
AZL *i x* x 07 18 33.3
AZL IAMs_20 IAMs_20 07 37 56.9
comp=Z,31μm,28.3s
PV14 Lion Creek, Pa 59.17 66 IAMs_20 IAMs_20 07 36 30.7
comp=Z,15μm,20.0s
BAR Barrett 59.17 76 IAmb IAmb 07 13 50.0
comp=Z,704nm,1.2s
BAR IAMs_20 IAMs_20 07 33 28.1
comp=Z,21μm,22.0s
PV22 Blue Mesa, Par 59.17 66 IAMs_20 IAMs_20 07 36 44.9
comp=Z,14μm,21.0s
PV04 Paradox Valley 59.21 66 IAMs_20 IAMs_20 07 35 58.1
comp=Z,19μm,22.0s
LAMP Lampang 59.24 258 P **P 07 13 48.1 +0.6**
PV16 Nyswonger Mesa 59.27 66 IAMs_20 IAMs_20 07 36 54.4
comp=Z,13μm,21.0s
PV17 East Wray Mesa 59.27 66 IAMs_20 IAMs_20 07 36 33.4
comp=Z,16μm,21.0s
TAPN Taplejung 59.29 275 *eP* **P 07 13 46.5 -1.6**
comp=Z,1μm,0.7s
PV11 David Mesa, Pa 59.30 66 IAMs_20 IAMs_20 07 36 35.3
comp=Z,16μm,21.0s
PV07 Paradox Valley 59.32 66 P **P 07 13 49.5 +1.4**
PV07 IAMs_20 IAMs_20 07 36 38.9
comp=Z,19μm,22.0s
PV12 Saucer Basin, 59.32 66 IAMs_20 IAMs_20 07 36 36.9
comp=Z,18μm,21.0s
PV05 Paradox Valley 59.34 67 IAMs_20 IAMs_20 07 36 25.9
comp=Z,14μm,22.0s
PV03 Paradox Valley 59.35 66 IAMs_20 IAMs_20 07 37 07.7

comp=Z,14μm,22.0s
KRVT Keravat (AS076 59.38 192 P **P 07 13 50.1 +1.7**
comp=Z,298nm,1.0s,baz=163,slow=0.3,SNR=38
KRVT LR LR 07 34 08.3
comp=Z,4μm,21.8s,baz=357,slow=30
PDMCI Parker Dam,Lak 59.38 73 P **P 07 13 50.0 +1.7**
baz=318,SNR=285
CMMT Chiang Mai 59.40 259 P **P 07 13 48.4 -0.2**
comp=Z,206nm,0.7s,comp=Z,4μm
CHTO Chiang Mai 59.40 259 P **P 07 13 48.4 -0.2**
SNR=103
CHTO Chiang Mai 59.40 259 P **P 07 13 48.4 -0.2**
CHTO pmax pmax
comp=Z,510nm,1.2s
CHTO MLR MLR
comp=Z,30μm,19.0s
CHTO Chiang Mai 59.40 259 P **P 07 13 48.4 -0.2**
CHTO IAmb IAmb 07 13 51.0
comp=Z,510nm,1.2s
PV13 Radium Mtn., P 59.43 66 IAMs_20 IAMs_20 07 36 29.0
comp=Z,14μm,22.0s
PV02 Paradox Valley 59.44 66 IAMs_20 IAMs_20 07 36 05.0
comp=Z,17μm,22.0s
SWSC Sam W. Stewart 59.46 75 P **P 07 13 50.4 +1.5**
baz=318,SNR=157
IKP In-Ko-Pah, Jac 59.51 76 P **P 07 13 50.7 +1.4**
baz=318,SNR=206
Y12C Blythe 59.58 74 P **P 07 13 51.5 +1.8**
baz=318,SNR=244
PV01 Paradox Valley 59.58 66 IAMs_20 IAMs_20 07 36 45.8
comp=Z,14μm,22.0s
SMCO Snowmass 59.65 64 P **P 07 13 51.5 +0.9**
SMCO IAmb IAmb 07 13 53.8
comp=Z,408nm,1.0s
SMCO IAMs_20 IAMs_20 07 37 05.6
comp=Z,21μm,22.0s
BAKI Biak 59.67 211 P **P 07 13 52.5 +2.1**
comp=Z,757nm,0.9s,comp=Z,11μm
CM31 Chiang Mai Arr 59.69 259 P **P 07 13 50.9 +0.3**
SNR=133
CM31 P **P 07 13 50.9 +0.3**
SNR=133
CM31 Chiang Mai Arr 59.69 259 IAmb IAmb 07 13 54.5
comp=Z,311nm,0.8s
CMAR Chiang Mai Arr 59.69 259 P **P 07 13 50.4 -0.2**
CMAR 07 14 39.3
CMAR Chiang Mai Arr 59.69 259 P **P 07 13 51.1 +0.6**
comp=Z,234nm,0.7s,baz=23,slow=6.7,SNR=244
CMAR PcP **PcP 07 14 39.0 +2.0**
comp=Z,64nm,0.8s,baz=4.7,slow=3.2,SNR=6.3
CMAR ScP **ScP 07 18 36.6 +4.2**
comp=Z,20nm,1.1s,baz=23,slow=4.3,SNR=5.5
CMAR S **S 07 22 01.7 +5.1**
comp=Z,2.7nm,0.4s,baz=25,slow=13,SNR=5.5
CMAR LR LR 07 42 48.8
comp=Z,28μm,18.3s,baz=52,slow=39
CMAR PKPPKP 07 43 19.0
comp=Z,1.7nm,0.6s,baz=236,slow=4.9,SNR=5.9
CMAR P4KPbc 07 50 58.5
comp=Z,1.2nm,0.4s,baz=15,slow=4.5,SNR=11
CMAR Chiang Mai Arr 59.69 259 P **P 07 13 50.4 -0.2**
CMAR **PcP 07 14 39.3 +2.3**
CMAR **ScP 07 18 36.4 +4.0**
DLV T Lat 59.72 246 IAMs_20 IAMs_20 07 39 42.2
comp=Z,16μm,22.0s
SUSD Miller 59.76 55 P **P 07 13 51.3 +0.5**
baz=318,SNR=52
SUSD Miller 59.76 55 P **P 07 13 51.1 +0.3**
SUSD IAMs_20 IAMs_20 07 40 04.4
comp=Z,21μm,21.0s
ODAN Odare 59.85 275 *eP* **P 07 13 50.2 -1.7**
comp=Z,1μm,0.9s
AGT Agartala 59.88 269⇑ *iP* **P 07 13 51.8 0.0**
AGT IAmb IAmb 07 13 55.2
comp=Z,516nm,0.8s
ISCO Idaho Springs 59.90 63 P **P 07 13 54.4 +2.2**
baz=318,SNR=616
ISCO Idaho Springs 59.90 63 P **P 07 13 53.9 +1.7**
ISCO pmax pmax
comp=Z,824nm,1.2s
ISCO MLR MLR
comp=Z,18μm,21.0s
ISCO Idaho Springs 59.90 63 P **P 07 13 53.9 +1.7**
ISCO IAMs_20 IAMs_20 07 39 51.3
comp=Z,18μm,21.0s
GUN Gumba 59.93 277 *eP* **P 07 13 50.7 -1.9**
GLA Glamis 59.93 74 P **P 07 13 54.0 +1.9**
baz=318,SNR=232
JIRN Jiri 59.94 276 *eP* **P 07 13 50.8 -1.9**
comp=Z,592nm,0.7s
SAIH SAIHA 59.95 267⇑ *iP* **P 07 13 51.1 -1.4**
WUAZ Wupatki 60.01 70 P **P 07 13 55.0 +2.2**
baz=318,SNR=504
WUAZ Wupatki 60.01 70 IAMs_20 IAMs_20 07 38 08.1
comp=Z,17μm,20.0s
CHAI Chaiyaphum 60.02 254 P **P 07 13 53.2 +0.4**
PBKT Sadao Pong 60.05 256 P **P 07 13 53.3 +0.3**
comp=Z,358nm,0.9s,comp=Z,6μm
PBKT Sadao Pong 60.05 256 IAmb IAmb 07 13 55.6
comp=Z,718nm,1.1s
PBKT IAMs_20 IAMs_20 07 40 47.8
comp=Z,14μm,20.0s
RAMN Ramite 60.24 275 *eP* **P 07 13 52.7 -1.9**
comp=Z,933nm,0.5s
BELO BELONIA 60.26 269⇑ *iP* **P 07 13 55.9 +1.5**
GAR Garm 60.28 296 P **P 07 13 52.7 -1.9**
MVCO Mesa Verde 60.30 67 P **P 07 13 56.4 +1.5**
baz=318,SNR=205
MVCO Mesa Verde 60.30 67 P **P 07 13 55.7 +0.8**
MVCO IAmb IAmb 07 13 58.1
comp=Z,426nm,1.1s
MVCO IAMs_20 IAMs_20 07 37 23.9
comp=Z,17μm,22.0s
KKN Kakani 60.36 277 *eP* **P 07 13 53.8 -1.6**
comp=Z,1μm,0.7s
TBLU Trondheim 60.38 346⇑ *iP* **P 07 13 53.1 -1.6**
TBLU *e*S **S 07 22 05.0 +0.5**
TBLU IVMs_BB IVMs_BB 07 39 57.8
comp=Z,5μm,19.6s
PKI Pulchoki 60.45 277 *eP* **P 07 13 54.3 -1.9**
comp=Z,960nm,0.7s
PKIN Phulchoki 60.46 277 *eP* **P 07 13 54.3 -1.8**
comp=Z,633nm,0.5s
EYMN Ely 60.49 48 P **P 07 13 56.2 +0.5**
baz=320,SNR=52
EYMN Ely 60.49 48 P **P 07 13 56.0 +0.3**
EYMN IAmb IAmb 07 13 57.7
comp=Z,298nm,0.9s
MHMT Maesarieng 60.49 260 P **P 07 13 56.4 +0.4**
comp=Z,717nm,0.8s,comp=Z,11μm
GKN Gorkha 60.57 278 *eP* **P 07 13 54.9 -1.8**
comp=Z,794nm,0.6s
BRDH Bariadhala 60.59 268 LR LR 07 42 06.7
comp=Z,9744μm,18.9s,baz=186,slow=38
DMN Daman 60.60 277 *eP* **P 07 13 55.4 -1.7**
comp=Z,928nm,0.9s
113A Mohawk Valley, 60.73 74 IAmb IAmb 07 14 00.7
comp=Z,594nm,1.1s
113A IAMs_20 IAMs_20 07 35 27.4
comp=Z,20μm,22.0s
Q24A Divide 60.76 63 P **P 07 13 59.7 +1.6**
baz=318,SNR=115
Q24A Divide 60.76 63 P **P 07 13 59.4 +1.3**
Q24A IAmb IAmb 07 14 01.4
comp=Z,308nm,1.1s
Q24A IAMs_20 IAMs_20 07 40 08.9
comp=Z,15μm,22.0s
S22A 4UR Ranch, Cre 60.79 65 P **P 07 14 00.4 +2.1**
baz=318,SNR=566
S22A 4UR Ranch, Cre 60.79 65 IAmb IAmb 07 14 02.1
comp=Z,703nm,1.2s
S22A IAMs_20 IAMs_20 07 38 42.7
comp=Z,24μm,22.0s
TNTI Ternate 60.80 221 P **P 07 13 59.3 +1.2**
DANN Dangsing 60.81 279 *eP* **P 07 13 57.0 -1.6**
comp=Z,2μm,0.8s
KKM Kota Kinabalu 60.86 235 IAmb IAmb 07 14 04.9
comp=Z,729nm,1.5s
OGNE Ogallala 60.87 60 P **P 07 14 00.0 +1.5**
baz=319,SNR=156
BORG Borgarnes 60.88 2 P **P 07 13 59.4 +1.4**
BORG pmax pmax
comp=Z,3μm,1.9s
BORG Borgarnes 60.88 2 P **P 07 13 59.4 +1.4**
MOS Moscow 60.97 328α *iP* **P 07 13 56.9 -1.9**
MOS *e**PP **pP 07 14 16.9 +1.7**
MOS *e*S **S 07 22 11.1 -1.0**

MOS e*SS **sS** **07 22 43.8 +4.2**
MOS e 07 23 41.1
MOS pmax pmax
comp=Z,9μm,2.8s
MOS pmax pmax
comp=Z,2μm,1.2s
MOS smax smax
comp=E,3μm,4.4s
MOS MLR MLR
comp=Z,43μm,19.0s
MOS MLR MLR
comp=E,21μm,20.0s
MOS MLR MLR
comp=N,33μm,19.0s
W18A Petrified Fore 61.20 69 P **P** **07 14 03.0 +2.1**
baz=319,SNR=293
W18A Petrified Fore 61.20 69 IAmb IAmb 07 14 04.6
comp=Z,621nm,1.1s
W18A IAMs_20 IAMs_20 07 39 10.6
comp=Z,14μm,20.0s
KNTN Kanton 61.21 150 P **P** **07 14 01.7 +0.9**
KNTN IAmb IAmb 07 14 04.0
comp=Z,680nm,1.2s
KNTN IAMs_20 IAMs_20 07 34 24.3
comp=Z,25μm,22.0s
KOLN Koldanda 61.35 278 *e*P **P** **07 14 00.2 -1.8**
comp=Z,1μm,1.0s
ECSD EROS Data Cent 61.40 54 P **P** **07 14 02.5 +0.6**
baz=320,SNR=161
ECSD EROS Data Cent 61.40 54 IAmb IAmb 07 14 04.0
comp=Z,284nm,1.0s
ECSD EROS Data Cent 61.40 54 IAMs_20 IAMs_20 07 42 40.8
comp=Z,18μm,19.0s
MOL Molde 61.41 347⇑ *i*P **P** **07 14 01.6 -0.1**
MOL *e*S **S** **07 22 20.8 +3.3**
SDCO Great Sand Dun 61.49 64 P **P** **07 14 04.8 +1.8**
baz=319,SNR=434
SDCO Great Sand Dun 61.49 64 IAmb IAmb 07 14 06.4
comp=Z,451nm,1.2s
SDCO IAMs_20 IAMs_20 07 38 17.2
comp=Z,15μm,21.0s
E38A The Farm, Brul 61.49 49 P **P** **07 14 03.0 +0.5**
baz=321,SNR=44
X18A Snowflake 61.52 70 IAMs_20 IAMs_20 07 37 11.2
comp=Z,25μm,22.0s
UMPA Umpang Tak 61.53 257 P **P** **07 14 04.9 +1.7**
VSU Vasula 61.63 335 *e*P **P** **07 14 02.7 -0.5**
VSU *e*P **P** **07 14 02.7 -0.5**
VSU IAmb IAmb 07 14 04.7
comp=Z,4μm,1.0s
VSU IAmb IAmb 07 14 04.7
comp=Z,4μm,1.0s
VSU *e*S **S** **07 22 20.2 -0.2**
DOMB Dombas 61.71 346⇑ *i*P **P** **07 14 03.1 -0.7**
DOMB *e*S **S** **07 22 20.6 -0.8**
DOMB IVMs_BB IVMs_BB 07 47 41.8
comp=Z,9μm,17.2s
UTHA Uthaitani 61.72 257 P **P** **07 14 05.2 +0.8**
OBN Obninsk 61.82 328⇑P **P** **07 14 03.8 -0.8**
OBN Obninsk 61.82 328 LR LR 07 44 09.9
comp=Z,12μm,19.1s,baz=23,slow=39
OBN Obninsk 61.82 328⇑P **P** **07 14 03.8 -0.8**
OBN Obninsk 61.82 328 P **P** **07 14 03.7 -0.9**
SIMRM Sittwe 61.85 265 IAmb IAmb 07 14 51.0
comp=Z,431nm,2.0s
AKN Aaknes 61.86 347⇑ *i*P **P** **07 14 04.7 -0.1**
AKN *e*PP **PP** **07 16 22.3 +1.5**
AKN *e*S **S** **07 22 25.3 +2.0**
AKN IVMs_BB IVMs_BB 07 49 12.9
comp=Z,4μm,5.5s
214A Organ Pipe Nat 61.87 74 P **P** **07 14 07.2 +1.8**
baz=319,SNR=306
214A Organ Pipe Nat 61.87 74 IAMs_20 IAMs_20 07 36 00.6
comp=Z,23μm,22.0s
IVI Ivigtut 61.99 16 IAmb IAmb 07 14 08.2
comp=Z,544nm,1.1s
SPMN Marine on St. 62.01 51 P **P** **07 14 06.5 +0.5**
baz=321,SNR=84
SPMN Marine on St. 62.01 51 IAmb IAmb 07 14 08.1
comp=Z,298nm,0.9s
SPMN IAMs_20 IAMs_20 07 40 44.9
comp=Z,23μm,22.0s
KSCO Kaye Shedlock' 62.02 61 P **P** **07 14 07.7 +1.3**
baz=319,SNR=180
KSCO Kaye Shedlock' 62.02 61 IAmb IAmb 07 14 09.3
comp=Z,654nm,1.1s
KSCO IAMs_20 IAMs_20 07 41 17.5
comp=Z,16μm,22.0s
DHRM DHARAMSHALA 62.10 287⇑ *i*P **P** **07 14 05.0 -2.1**
NB2 NORSAR Subarra 62.35 345 P **P** **07 14 07.6 -0.5**
comp=Z,2μm,1.1s,baz=20,slow=6.9
NB2 NORSAR Subarra 62.35 345 P **P** **07 14 07.6 -0.5**
baz=20,slow=6.9
NOA NORSAR Array B 62.35 345 P **P** **07 14 08.0 0.0**
comp=Z,468nm,0.7s,baz=19,slow=6.8,SNR=1014
NOA PKPPKP **P'P'df** **07 43 14.0 -4.2**
comp=Z,2.9nm,0.9s,baz=169,slow=2.7,SNR=4.3
D41A Chassel 62.42 47 P **P** **07 14 09.3 +0.6**
baz=322,SNR=9.5
D41A Chassel 62.42 47 IAmb IAmb 07 14 10.6
comp=Z,338nm,1.1s
D41A IAMs_20 IAMs_20 07 42 43.8
comp=Z,15μm,20.0s
BGNE Belgrade 62.44 57 P **P** **07 14 09.8 +0.8**
baz=320,SNR=68
SMLA Simla 62.46 286⇑ *i*P **P** **07 14 07.1 -2.1**
NRS Narsarsuaq 62.46 15⇑ *i*P **P** **07 14 08.2 -0.5**
NRS pmax pmax
comp=Z,380nm,1.1s
NRS Narsarsuaq 62.46 15⇑ *i*P **P** **07 14 08.2 -0.5**
comp=Z,382nm,1.1s
NRS Narsarsuaq 62.46 15 IAmb IAmb 07 14 10.2
comp=Z,353nm,1.1s
FAKI Fak Fak 62.51 214 P **P** **07 14 11.3 +1.7**
comp=Z,443nm,1.0s,comp=Z,7μm
FAKI Fak Fak 62.51 214 IAmb IAmb 07 14 12.8
comp=Z,253nm,0.8s
T25A Trinidad 62.52 64 P **P** **07 14 11.2 +1.3**
baz=319,SNR=228
T25A Trinidad 62.52 64 IAmb IAmb 07 14 12.9
comp=Z,713nm,1.2s
T25A IAMs_20 IAMs_20 07 39 34.4
comp=Z,22μm,22.0s
JMU Jammu 62.52 288 *e*P **P** **07 14 10.0 +0.4**
DDI Dehra Dun 62.57 284⇑ *i*P **P** **07 14 07.7 -2.4**
NC602 NORSAR Array S 62.59 344⇑ *i*P **P** **07 14 08.8 -0.8**
NC602 *e*S **S** **07 22 32.5 +0.1**
NC602 IVMs_BB IVMs_BB 07 41 57.6
comp=Z,6μm,17.0s
TMDB BangkokBB_BH_I 62.60 254 P **P** **07 14 13.4 +3.1**
comp=Z,464nm,1.1s,comp=Z,5μm,comp=Z,287μm
FOO Floro 62.66 348⇑ *i*P **P** **07 14 10.1 0.0**
FOO *e*S **S** **07 22 35.2 +1.9**
FOO IVMs_BB IVMs_BB 07 40 05.0
comp=Z,9μm,17.5s
G39A Holcombe 62.69 50 P **P** **07 14 10.4 -0.1**
baz=321,SNR=54
NIL Nilore 62.72 290 P **P** **07 14 09.4 -1.6**
NIL pmax pmax
comp=Z,447nm,0.7s
NIL MLR MLR
comp=Z,41μm,21.0s
NIL Nilore 62.72 290 P **P** **07 14 09.4 -1.6**
TUC Tucson 62.73 72 P **P** **07 14 13.0 +1.9**
baz=319
TUC Tucson 62.73 72 P **P** **07 14 12.2 +1.1**
TUC pmax pmax
comp=Z,480nm,1.2s
TUC Tucson 62.73 72 P **P** **07 14 12.2 +1.1**
TUC IAmb IAmb 07 14 14.5
comp=Z,480nm,1.2s
KHLT Khaolaem Dam 62.82 257 P **P** **07 14 09.1 -2.7**
comp=Z,1μm,1.5s,comp=Z,16μm
SRDT SRDT 62.88 256 P **P** **07 14 13.1 +0.9**
comp=Z,368nm,1.9s
COWI Conover 62.94 48 IAmb IAmb 07 14 13.8
comp=Z,248nm,0.9s
COWI IAMs_20 IAMs_20 07 41 39.3
comp=Z,14μm,22.0s
HYA Hoyanger 62.94 347⇑ *i*P **P** **07 14 11.9 0.0**
PATY Pattaya 63.06 254 P **P** **07 14 15.0 +1.7**
BOK Bokaro 63.06 274⇑ *i*P **P** **07 14 11.0 -2.4**
BOK IAmb IAmb 07 14 14.5
comp=Z,1μm,1.6s
BOK IAMs_20 IAMs_20 07 43 56.9
comp=Z,38μm,20.0s

ANMO Albuquerque 63.09 67 P **P** **07 14 15.4 +1.8**
baz=320
ANMO Albuquerque 63.09 67 P **P** **07 14 14.4 +0.7**
ANMO pmax pmax
comp=Z,302nm,1.0s
ANMO Albuquerque 63.09 67 P **P** **07 14 14.4 +0.7**
ANMO IAmb IAmb 07 14 16.9
comp=Z,302nm,1.0s
ANMO Albuquerque 63.09 67 IAMs_20 IAMs_20 07 39 04.7
comp=Z,19μm,21.0s
SKAR Skarslia 63.12 346⇑ *i*P **P** **07 14 13.2 0.0**
SKAR *e*S **S** **07 22 39.5 +0.2**
SKAR IVMs_BB IVMs_BB 07 36 35.5
comp=Z,6μm,31.4s
G40A Rib Lake 63.13 49 P **P** **07 14 14.1 +0.6**
baz=322
G40A Rib Lake 63.13 49 IAMs_20 IAMs_20 07 42 52.2
comp=Z,19μm,20.0s
LPSR Galich'ya Gora 63.19 325 *e*P **P** **07 14 13.1 -0.6**
LPSR *e*PPP PPP 07 18 06.2
LPSR *e*S **S** **07 22 39.2 -0.9**
LPSR pmax pmax
comp=Z,2μm,1.0s
LPSR pmax pmax
comp=Z,3μm,1.8s
LPSR smax smax
comp=N,4μm,15.0s
LPSR MLR MLR
comp=Z,28μm,16.0s
SUE Sulen 63.23 348⇑ *i*P **P** **07 14 14.0 +0.2**
SUE *e*S **S** **07 22 42.4 +2.1**
SUE IVMs_BB IVMs_BB 07 49 12.1
comp=Z,6μm,4.1s
VRH Novokhopyorsk 63.40 323 *e*P **P** **07 14 13.8 -1.3**
VRH *e*PPP PPP 07 18 07.1
VRH *e*S **S** **07 22 37.3 -5.5**
VRH pmax pmax
comp=Z,790nm,0.9s
VRH pmax pmax
comp=Z,2μm,2.0s
VRH smax smax
comp=N,3μm,16.7s
VRH MLR MLR
comp=Z,31μm,17.0s
SLIT Slitere, Latvi 63.42 337 *e*P **P** **07 14 14.5 -0.6**
SLIT *e*P **P** **07 14 14.5 -0.6**
SLIT IAmb IAmb 07 14 18.4
comp=Z,9μm,0.6s
SLIT IAmb IAmb 07 14 18.4
comp=Z,9μm,0.6s
SLIT *e*S **S** **07 22 43.9 +1.0**
OSL Oslo 63.48 344⇑ *i*P **P** **07 14 15.3 -0.1**
OSL *e*S **S** **07 22 44.9 +1.4**
Y22D IRIS PASSCAL I 63.51 68 P **P** **07 14 18.9 +2.5**
baz=320,SNR=62
Y22D IRIS PASSCAL I 63.51 68 IAMs_20 IAMs_20 07 40 04.7
comp=Z,13μm,20.0s
E43A Lone Tree Farm 63.63 46 P **P** **07 14 16.9 +0.2**
baz=323,SNR=7.2
E43A Lone Tree Farm 63.63 46 IAMs_20 IAMs_20 07 43 29.6
comp=Z,16μm,20.0s
CBKS Cedar Bluff 63.63 60 P **P** **07 14 17.3 +0.3**
baz=320,SNR=90
CBKS Cedar Bluff 63.63 60 IAmb IAmb 07 14 18.8
comp=Z,492nm,0.9s
CBKS IAMs_20 IAMs_20 07 42 38.1
comp=Z,12μm,21.0s
F42A Maple Grove Fa 63.63 47 P **P** **07 14 17.1 +0.3**
baz=322,SNR=15
SCHQ Schefferville 63.68 29 P **P** **07 14 16.9 -0.1**
comp=Z,106nm,0.7s,baz=348,slow=7.0,SNR=59
SCHQ PKPPKP **P'P'df** **07 43 15.7 -0.2**
comp=Z,9.2nm,0.7s,baz=184,slow=6.9,SNR=4.0
SCHQ LR LR 07 44 44.9
comp=Z,10μm,20.3s,baz=322,slow=39
SCHQ Schefferville 63.68 29 IAmb IAmb 07 14 33.4
comp=Z,203nm,0.9s
SCHQ IAMs_20 IAMs_20 07 44 33.7
comp=Z,13μm,21.0s
ASK Askoy 63.73 348⇑ *i*P **P** **07 14 17.3 +0.2**
ASK *e*sP **pP** **07 14 35.8 +2.5**
ASK *e*S **S** **07 22 50.5 +3.9**
PHET Kaeng Krachan 63.76 255 P **P** **07 14 19.6 +1.6**
BER Bergen 63.81 347⇑ *i*P **P** **07 14 17.8 +0.1**
BER *e*S **S** **07 22 51.3 +3.7**
BER IVMs_BB IVMs_BB 07 38 55.4
comp=Z,6μm,4.5s
VORR Voronezh 63.88 324⇑ *i*P **P** **07 14 15.0 -3.3**
VORR pmax pmax
comp=Z,6μm,1.6s
E44A Grand Marais A 63.88 45 P **P** **07 14 18.4 0.0**
baz=323
E44A Grand Marais A 63.88 45 IAMs_20 IAMs_20 07 42 53.0
comp=Z,21μm,21.0s
HNR Honiara 63.89 182 P **P** **07 14 19.6 +0.9**
HNR pmax pmax
comp=Z,210nm,0.9s
HNR Honiara 63.89 182 P **P** **07 14 20.5 +1.8**
comp=Z,85nm,0.6s,baz=192,slow=19,SNR=7.8
HNR LR LR 07 43 08.5
comp=Z,5μm,18.0s,baz=18,slow=37
HNR Honiara 63.89 182 P **P** **07 14 21.0 +2.3**
HNR Honiara 63.89 182 P **P** **07 14 19.6 +0.9**
HNR IAmb IAmb 07 14 57.5
comp=Z,210nm,0.9s
SANI Sanana 63.91 221 P **P** **07 14 19.4 +0.5**
comp=Z,321nm,1.2s,comp=Z,7μm
KONO Kongsberg 63.92 345 P **P** **07 14 18.2 -0.3**
KONO pmax pmax
comp=Z,4μm,1.8s
KONO MLR MLR
comp=Z,9μm,19.0s
KONO Kongsberg 63.92 345⇑ *i*P **P** **07 14 18.5 0.0**
KONO *e*S **S** **07 22 50.2 +1.1**
KONO IVMs_BB IVMs_BB 07 49 09.2
comp=Z,6μm,14.8s
KONO Kongsberg 63.92 345 P **P** **07 14 18.2 -0.3**
ODD1 Odda 64.09 347⇑ *i*P **P** **07 14 19.6 0.0**
ODD1 *e*S **S** **07 22 53.8 +2.4**
IZAR Zarasai 64.17 334 *i* P **P** **07 14 20.4 +0.3**
IZAR *i* P **P** **07 14 20.4 +0.3**
IZAR IAmb IAmb 07 14 22.0
comp=Z,429nm,0.9s
IZAR IAmb IAmb 07 14 22.0
comp=Z,429nm,0.9s
IZAR *e*pP **pP** **07 14 33.7 -2.8**
IZAR *e*pP **pP** **07 14 33.7 -2.8**
121A Cookes Peak, D 64.21 70 P **P** **07 14 23.2 +2.2**
baz=320,SNR=216
121A Cookes Peak, D 64.21 70 IAMs_20 IAMs_20 07 41 01.4
comp=Z,14μm,20.0s
LUWI Luwuk 64.27 225 P **P** **07 14 21.1 -0.1**
LUWI Luwuk 64.27 225 IAmb IAmb 07 14 36.9
comp=Z,298nm,1.0s
VSR Storozhevoye 64.27 324 *e*P **P** **07 14 20.2 -0.7**
VSR *e*PPP PPP 07 18 18.5
VSR *e*S **S** **07 22 48.7 -5.0**
VSR pmax pmax
comp=Z,1μm,0.8s
VSR pmax pmax
comp=Z,3μm,2.1s
VSR smax smax
comp=N,3μm,11.5s
VSR MLR MLR
comp=Z,50μm,18.0s
KBL Kabul 64.31 294 P **P** **07 14 18.8 -2.9**
KBL pmax pmax
comp=Z,393nm,0.8s
KBL MLR MLR
comp=Z,22μm,20.0s
KBL Kabul 64.31 294 P **P** **07 14 18.8 -2.9**
KBL IAmb IAmb 07 14 22.1
comp=Z,393nm,0.8s
YEL1 Yell 64.34 351⇑ *i*P **P** **07 14 21.8 +0.6**
ISAL Salakas 64.36 334 *i* P **P** **07 14 21.7 +0.3**
ISAL *i* P **P** **07 14 21.7 +0.3**
ISAL IAmb IAmb 07 14 23.4
comp=Z,572nm,1.1s
ISAL IAmb IAmb 07 14 23.4
comp=Z,572nm,1.1s
ISAL *e*S **S** **07 22 55.8 +1.2**
SCIA State Center 64.40 53 P **P** **07 14 22.5 +0.7**
baz=322,SNR=60
SCIA State Center 64.40 53 IAMs_20 IAMs_20 07 42 55.2
comp=Z,22μm,22.0s
D46A Sault St. Mari 64.43 44 P **P** **07 14 21.6 -0.4**
baz=324,SNR=20
VORD Divnogorie 64.44 324 *e*P **P** **07 14 21.6 -0.4**
VORD *e*PPP PPP 07 18 13.8
VORD *e*S **S** **07 22 50.6 -5.1**
VORD pmax pmax
comp=Z,800nm,0.9s
VORD pmax pmax
comp=Z,1μm,1.0s
VORD smax smax
comp=N,60nm,2.6s
VORD MLR MLR
comp=Z,15μm,14.0s
MATQ Matagami 64.53 38 P **P** **07 14 22.3 -0.3**
baz=326,SNR=15
IIGN Ignalina 64.54 334 *i* P **P** **07 14 23.1 +0.5**
IIGN *i* P **P** **07 14 23.1 +0.5**
IIGN IAmb IAmb 07 14 24.5
comp=Z,814nm,0.9s
IIGN IAmb IAmb 07 14 24.5
comp=Z,814nm,0.9s
IIGN *e*pP **pP** **07 14 36.9 -2.0**
IIGN *e*pP **pP** **07 14 36.9 -2.0**
IIGN *e*S **S** **07 22 57.5 +0.7**
BLS5 Blasjo 64.59 347⇑ *i*P **P** **07 14 23.1 +0.2**
BLS5 *e*S **S** **07 22 59.0 +1.6**
BLS5 IVMs_BB IVMs_BB 07 50 15.9
comp=Z,7μm,13.2s
D47A Chapleau 64.67 43 P **P** **07 14 23.2 -0.4**
baz=324,SNR=17
WAL1 Walls 64.68 351⇑ *i*P **P** **07 14 23.8 +0.4**
E46A Sault Ste Mari 64.75 45 P **P** **07 14 23.8 -0.3**
baz=324,SNR=16
E46A Sault Ste Mari 64.75 45 IAMs_20 IAMs_20 07 42 34.9
comp=Z,17μm,22.0s
LRW Lerwick 64.76 351⇑ *e*P **P** **07 14 24.0 +0.1**
LRW IAmb IAmb 07 14 25.2
comp=Z,3μm,1.9s
I42A Draeger Farm, 64.78 49 P **P** **07 14 24.6 +0.3**
baz=323,SNR=15
BNDI Bandanaira 64.79 216 P **P** **07 14 26.2 +1.6**
NACGM Naroch 64.79 333 *e*P **P** **07 14 24.0 -0.2**
NACGM PM 07 14 25.0
comp=Z,2.1nm,1.0s
NACGM *e*PcP pP 07 14 32.0 -8.6
NACGM *e*PP PP 07 16 32.0 -15
NACGM *e*PPP PPP 07 18 30.0
NACGM *e*S **S** **07 22 59.0 -0.9**
NACGM *e*PS **PnS** **07 23 16.0 -10**
NACGM *e*SS SS 07 27 28.0 +17
NACGM *e*SSS SSS 07 30 18.0
NACGM *e*LQ LQ 07 36 02.0
NACGM *e*LR LR 07 38 42.0
NACGM LRM MLR 07 43 04.0
comp=Z,28nm,23.0s
F45A CMU Biological 64.80 46 P **P** **07 14 24.8 +0.4**
baz=324,SNR=12
H43A Windswept, Lux 64.82 48 P **P** **07 14 25.1 +0.5**
baz=323,SNR=16
H43A Windswept, Lux 64.82 48 IAmb IAmb 07 14 26.2
comp=Z,366nm,0.9s
H43A IAMs_20 IAMs_20 07 44 13.2
comp=Z,13μm,20.0s
MICGM Minsk 64.86 333⇑ *i*P **P** **07 14 24.0 -0.6**
MICGM ⇑ *i*P **P** **07 14 24.0 -0.6**
MICGM PM 07 14 25.0
comp=Z,21nm,2.0s
MICGM PM 07 14 26.0
comp=N,6.0nm,1.5s
MICGM PM 07 14 26.0
comp=Z,6.2nm,1.8s
MICGM PM 07 14 26.0
comp=E,6.3nm,1.2s
MICGM *e*pP **sP** **07 14 48.0 +0.1**
MICGM *e*sP PcP 07 15 08.0 +11
MICGM *e*PP **PP** **07 16 44.0 -3.2**
MICGM *e*PPP PPP 07 18 40.0
MICGM *e*S **S** **07 22 58.0 -2.8**
MICGM *e*sS pS 07 23 10.0 -10
MICGM *e*PS **PnS** **07 23 34.0 +7.6**
MICGM *e*SS **SS** **07 27 20.0 +8.0**
MICGM *e*SSS SSS 07 30 42.0
MICGM *e*LQ LQ 07 38 12.0
MICGM *e*LR LR 07 42 43.0
MICGM LRM MLR 07 46 32.0
comp=N,20nm,17.0s
MICGM LRM MLR 07 46 38.0
comp=Z,68nm,18.0s
MICGM LRM MLR 07 46 40.0
comp=Z,78nm,16.0s
MICGM LRM MLR 07 46 50.0
comp=E,17nm,14.0s
MNK Minsk 64.86 333 *c i*P **P** **07 14 24.0 -0.6**
SAN1 Sandwick 64.89 351⇑ *e*P **P** **07 14 25.2 +0.5**
KMY Karmoy 64.96 347⇑ *i*P **P** **07 14 25.5 +0.3**
KMY *e*S **S** **07 23 04.9 +3.1**
PABE Paberze 64.96 335 *e*P **P** **07 14 25.1 -0.1**
PABE *e*P **P** **07 14 25.1 -0.1**
PABE IAmb IAmb 07 14 27.1
comp=Z,4μm,0.9s
PABE IAmb IAmb 07 14 27.1
comp=Z,4μm,0.9s
PABE *e*S **S** **07 23 02.2 +0.3**
JFWS Jewell Farm 64.96 51 P **P** **07 14 24.9 -0.6**
baz=322,SNR=24
KSU1 Kansas State U 64.96 57 P **P** **07 14 25.3 -0.3**
baz=321,SNR=61
PBUR Paburg 64.97 337 *e*P **P** **07 14 25.2 -0.1**
PBUR *e*P **P** **07 14 25.2 -0.1**
PBUR IAmb IAmb 07 14 27.1
comp=Z,2μm,0.9s
PBUR IAmb IAmb 07 14 27.1
comp=Z,2μm,0.9s
PBUR *e*S **S** **07 23 03.1 +1.0**
PMG Port Moresby 65.08 196 P **P** **07 14 27.2 +0.7**
PMG pmax pmax
comp=Z,213nm,1.0s
PMG Port Moresby 65.08 196 P **P** **07 14 27.8 +1.4**
baz=19,slow=12
PMG Port Moresby 65.08 196 P **P** **07 14 27.2 +0.7**
PMG IAmb IAmb 07 14 29.1
comp=Z,213nm,0.9s
D48A Paudash Townsh 65.09 43 P **P** **07 14 25.4 -0.9**
baz=325,SNR=22
E47A Iron Bridge 65.09 44 P **P** **07 14 25.9 -0.4**
baz=324,SNR=20
HSIG 65.14 75 IAMs_20 IAMs_20 07 37 31.3
comp=Z,15μm,22.0s
L40A Anamosa 65.19 52 P **P** **07 14 27.0 0.0**
baz=322,SNR=55
L40A Anamosa 65.19 52 IAMs_20 IAMs_20 07 44 18.2
comp=Z,19μm,20.0s
G45A Suttons Bay 65.26 46 P **P** **07 14 27.6 +0.2**
baz=324
G45A Suttons Bay 65.26 46 IAMs_20 IAMs_20 07 44 30.7
comp=Z,14μm,20.0s
LSQQ Lebel-sur-Quev 65.35 38 P **P** **07 14 28.0 0.0**
baz=327
G46A Petoskey 65.37 46 P **P** **07 14 28.3 +0.2**
baz=324,SNR=32
HOMB Homborsund 65.41 345⇑ *i*P **P** **07 14 27.9 -0.2**
HOMB *e*S S **07 23 09.1 +1.7**
HOMB IVMs_BB IVMs_BB 07 37 28.2
comp=Z,5μm,24.2s
H45A Beulah 65.43 47 P **P** **07 14 28.8 +0.2**
baz=324
E48A Lockeyer 65.52 43 P **P** **07 14 28.5 -0.5**
baz=325,SNR=18
SNART Snartemo 65.53 346⇑ *i*P **P** **07 14 29.2 +0.3**
SNART *e*S **S** **07 23 12.3 +3.4**
CHGQ Chibougamau 65.55 36 P **P** **07 14 28.9 -0.3**
baz=328,SNR=26
AMTX Amarillo 65.66 64 P **P** **07 14 31.2 +0.9**
baz=321
AMTX Amarillo 65.66 64 IAmb IAmb 07 14 32.7
comp=Z,548nm,1.4s
AMTX IAMs_20 IAMs_20 07 40 44.7
comp=Z,20μm,22.0s
SRIG Santa Rosalia 65.72 77 IAmb IAmb 07 14 33.6
comp=Z,660nm,0.9s
MSTX Muleshoe 65.80 65 P **P** **07 14 32.2 +1.0**
baz=321,SNR=301
MSTX Muleshoe 65.80 65 IAmb IAmb 07 14 33.6
comp=Z,753nm,1.1s
MSTX IAMs_20 IAMs_20 07 44 45.2
comp=Z,11μm,20.0s

I45A	Fountain	65.82	47	P	P	07 14 31.6	+0.6
	baz=324,SNR=5.2						
I45A	Fountain	65.82	47	IAmb	IAmb	07 14 32.9	
	comp=Z,401nm,0.9s						
BWNR	Bhubaneshwar	65.83	271⇑	iP	P	07 14 30.9	-0.5
BWNR				IAMs_20	IAMs_20	07 41 36.4	
	comp=Z,16μm,30.8s						
H46A	Fife Lake	65.85	46	P	P	07 14 31.7	+0.4
	baz=324,SNR=28						
D50A	G1974 Best Tow	65.86	41	P	P	07 14 30.7	-0.5
	baz=326,SNR=19						
GLMI	Grayling	65.87	46	P	P	07 14 31.5	+0.2
	baz=324,SNR=13						
GLMI	Grayling	65.87	46	IAmb	IAmb	07 14 32.8	
	comp=Z,354nm,0.9s						
GLMI				IAMs_20	IAMs_20	07 44 22.6	
	comp=Z,17μm,20.0s						
F48A	Evansville	65.87	44	P	P	07 14 31.1	-0.3
	baz=325,SNR=13						
U32A	Winter Ranch,	65.88	61	IAmb	IAmb	07 14 33.3	
	comp=Z,356nm,0.9s						
G47A	Hillman	65.90	45	P	P	07 14 31.5	0.0
	baz=324,SNR=5.8						
SBUM	Sibu	65.91	237	P	P	07 14 35.0	+3.1
SBUM	Sibu	65.91	237	IAmb	IAmb	07 14 35.5	
	comp=Z,462nm,1.4s						
VLDQ	Val d'Or	65.97	39	IAmb	IAmb	07 14 32.3	
	comp=Z,285nm,1.0s						
VLDQ				IAMs_20	IAMs_20	07 45 33.3	
	comp=Z,14μm,20.0s						
K43A	Burlington	65.98	50	P	P	07 14 31.9	-0.2
	baz=323,SNR=14						
K43A	Burlington	65.98	50	IAmb	IAmb	07 14 33.2	
	comp=Z,309nm,0.9s						
JHNI	Jhansi	66.01	280	eP	P	07 14 28.0	-4.5
D51A	Lot 18 Range I	66.10	41	P	P	07 14 31.8	-1.0
	baz=326,SNR=21						
E50A	Wahnapitae	66.13	42	P	P	07 14 32.5	-0.5
	baz=326,SNR=18						
F49A	Sandfield	66.15	44	P	P	07 14 32.8	-0.4
	baz=325,SNR=15						
MNTX	Cornudas Mount	66.15	69	P	P	07 14 35.2	+1.8
	baz=321,SNR=1000						
MNTX	Cornudas Mount	66.15	69	IAmb	IAmb	07 14 36.7	
	comp=Z,826nm,1.1s						
MNTX				IAMs_20	IAMs_20	07 39 54.8	
	comp=Z,14μm,22.0s						
H47A	Mio	66.22	46	P	P	07 14 33.8	+0.2
	baz=324,SNR=14						
I46A	Reed City	66.23	47	P	P	07 14 34.1	+0.4
	baz=324,SNR=32						
J45A	Montague	66.24	48	P	P	07 14 33.8	+0.1
	baz=324,SNR=7.5						
J45A	Montague	66.24	48	IAmb	IAmb	07 14 35.1	
	comp=Z,359nm,0.8s						
J45A				IAMs_20	IAMs_20	07 45 04.8	
	comp=Z,12μm,19.0s						
H48A	Harrisville	66.50	45	P	P	07 14 35.5	+0.1
	baz=325,SNR=7.9						
H48A	Harrisville	66.50	45	IAmb	IAmb	07 14 36.7	
	comp=Z,361nm,1.1s						
SUW	Suwalki	66.51	335	i P	P	07 14 34.5	-0.7
SUW	comp=Z,9μm,3.2s						
SUW				i P	P	07 14 34.5	-0.7
	comp=Z,9μm,3.2s						
SUW				eS	S	07 23 20.2	-0.7
SUW				eS	S	07 23 20.2	-0.7
SUW				eL	L	07 42 28.7	
	comp=Z,39μm,27.2s						
SUW				eL	L	07 42 28.7	
	comp=Z,39μm,27.2s						
E51A	G1948 Merrick	66.52	41	P	P	07 14 34.9	-0.6
	baz=326,SNR=21						
D52A	ZEK Kipawa Sen	66.56	41	P	P	07 14 35.4	-0.4
	baz=327,SNR=20						
I47A	Gladwin	66.57	46	P	P	07 14 35.9	+0.1
	baz=324,SNR=9.8						
I47A	Gladwin	66.57	46	IAMs_20	IAMs_20	07 45 30.4	
	comp=Z,11μm,18.0s						
L44A	Lake County Fo	66.59	50	P	P	07 14 36.0	0.0
	baz=324,SNR=8.9						
L44A	Lake County Fo	66.59	50	IAmb	IAmb	07 14 37.9	
	comp=Z,564nm,1.2s						
L44A				IAMs_20	IAMs_20	07 43 26.1	
	comp=Z,22μm,22.0s						
BIGH	Upper Bighouse	66.62	352⇑	eP	P	07 14 35.6	-0.2
BIGH				IAMs_20	IAMs_20	07 39 11.8	
	comp=Z,14μm,26.9s						
J46A	Howard City	66.63	47	P	P	07 14 36.8	+0.6
	baz=324,SNR=26						
D53A	Lac Vacive, Po	66.74	40	P	P	07 14 36.6	-0.3
	baz=327						
D53A	Lac Vacive, Po	66.74	40	IAmb	IAmb	07 14 54.8	
	comp=Z,453nm,1.4s						
D53A				IAMs_20	IAMs_20	07 45 07.6	
	comp=Z,15μm,22.0s						
MLA1	Latheron	66.77	352⇑	iP	P	07 14 36.4	-0.4
I48A	Sherman Twp	66.77	46	P	P	07 14 37.2	+0.1
	baz=325,SNR=8.4						
TOBO	Tobermory, Bru	66.80	44	P	P	07 14 36.6	-0.7
	baz=326						
F51A	Arnstein	66.86	42	P	P	07 14 36.8	-0.9
	baz=326						
RSC	Scourie	66.86	353⇑	iP	P	07 14 37.7	+0.3
KDI	Kendari	66.98	224	P	P	07 14 40.6	+1.9
	comp=Z,121nm,0.9s						
BKB	Balikpapan	66.98	230	P	P	07 14 41.0	+2.2
	comp=Z,1μm,0.7s,comp=Z,20μmcomp=Z,23μm						
BKB	Balikpapan	66.98	230	P	P	07 14 39.8	+1.0
E52A	Mattawa	67.04	41	P	P	07 14 38.0	-0.8
	baz=327,SNR=18						
MUD	Monsted U'grnd	67.05	344⇑	iP	P	07 14 39.1	+0.4
MUD				pmax	pmax		
	comp=Z,1μm,1.3s						
MUD				MLR	MLR		
	comp=Z,15μm,18.0s						
MUD	Monsted U'grnd	67.05	344⇑	iP	P	07 14 39.1	+0.4
	comp=Z,1μm,1.3s						
	comp=Z,15μm,18.0s						
D54A	Lac Fusel, La	67.07	39	P	P	07 14 38.7	-0.3
	baz=327,SNR=37						
J47A	Sunmer	67.07	47	P	P	07 14 39.6	+0.6
	baz=325,SNR=28						
J47A	Sunmer	67.07	47	IAmb	IAmb	07 14 40.8	
	comp=Z,343nm,0.9s						
ASHT	Ashkhabad	67.09	304	P	P	07 14 40.9	+1.6
ASHT	Ashkhabad	67.09	304	IAmb	IAmb	07 14 41.7	
	comp=Z,532nm,1.0s						
K46A	Dorr	67.11	48	P	P	07 14 39.5	+0.2
	baz=324,SNR=16						
F52A	Sundridge	67.20	42	P	P	07 14 39.3	-0.5
	baz=326,SNR=20						
KLBO	Killbear Provi	67.21	43	P	P	07 14 39.4	-0.5
	baz=326,SNR=12						
GEYT	Alibeck	67.23	304	P	P	07 14 39.7	-0.5
	comp=Z,268nm,0.8s,baz=11,slow=3.0,SNR=157						
GEYT				PKPPKP		07 43 03.9	
	comp=Z,1.3nm,0.6s,baz=228,slow=46,SNR=4.4						
GEYT				LR	LR	07 46 51.5	
	comp=Z,83μm,18.3s,baz=40,slow=38						
GEYT	Alibeck	67.23	304	P	P	07 14 39.5	-0.7
GYA0B	ALIBECK ARRAY	67.23	304	IAmb	IAmb	07 14 42.0	
	comp=Z,340nm,0.8s						
COP	Copenhagen	67.24	342⇑	iP	P	07 14 40.1	+0.3
COP				pmax	pmax		
	comp=Z,720nm,1.1s						
COP				MLR	MLR		
	comp=Z,16μm,26.0s						
COP	Copenhagen	67.24	342⇑	iP	P	07 14 40.1	+0.3
	comp=Z,717nm,1.1s						
	comp=Z,16μm,26.0s						
HDIL	Hopedale	67.27	52	P	P	07 14 40.5	+0.1
	baz=323,SNR=87						
HDIL	Hopedale	67.27	52	IAmb	IAmb	07 14 41.8	
	comp=Z,591nm,0.8s						
WMOK	Wichita Mounta	67.27	62	P	P	07 14 41.2	+0.7
	baz=322,SNR=344						
WMOK	Wichita Mounta	67.27	62	IAmb	IAmb	07 14 42.8	
	comp=Z,613nm,0.9s						
WMOK	Wichita Mounta	67.27	62	IAMs_20	IAMs_20	07 42 14.5	
	comp=Z,14μm,22.0s						
BSD	Bornholm Skovb	67.31	340⇑	iP	P	07 14 40.1	-0.2
BSD				pmax	pmax		
	comp=Z,970nm,1.0s						
BSD				MLR	MLR		
	comp=Z,22μm,23.0s						
BSD	Bornholm Skovb	67.31	340⇑	iP	P	07 14 40.1	-0.2
	comp=Z,972nm,1.0s						
	comp=Z,22μm,23.0s						
I49A	Point Hope	67.33	45	P	P	07 14 40.8	+0.1
	baz=325,SNR=5.4						
E53A	Dumoine, Ponti	67.34	40	P	P	07 14 40.2	-0.5
	baz=327						
RRR	Rubha Reidh	67.40	353⇑	iP	P	07 14 41.0	+0.1
L46A	Eue Claire	67.43	49	P	P	07 14 41.2	-0.1
	baz=324,SNR=11						
L46A	Eue Claire	67.43	49	IAmb	IAmb	07 14 42.7	
	comp=Z,323nm,1.1s						
L46A				IAMs_20	IAMs_20	07 45 33.4	
	comp=Z,20μm,20.0s						
AJM	Ajmer	67.44	284	eP	P	07 14 39.0	-2.6
BMRO	Meriville Lake	67.45	44	P	P	07 14 41.1	-0.2
	baz=326,SNR=6.5						
K47A	Vermontville	67.46	47	P	P	07 14 41.8	+0.3
	baz=325,SNR=35						
J48A	Bridge Port	67.46	46	P	P	07 14 41.7	+0.2
	baz=325,SNR=7.3						
J48A	Bridge Port	67.46	46	IAMs_20	IAMs_20	07 46 07.0	
	comp=Z,11μm,20.0s						
BUKO	Buck Lake	67.46	42	P	P	07 14 41.0	-0.5
	baz=326,SNR=19						
SURT	Suratani	67.46	253	P	P	07 14 42.7	+0.9
	comp=Z,1μm,1.8s,comp=Z,17μm						
MCD	Coleburn Disti	67.47	352⇑	iP	P	07 14 41.3	0.0
E54A	Lac Daplat, Po	67.47	40	P	P	07 14 41.0	-0.6
	baz=327						
ALGO	Algonquin Park	67.55	41	P	P	07 14 41.3	-0.7
	baz=327,SNR=18						
SAUI	Saumlaki	67.57	213	P	P	07 14 45.4	+3.0
	comp=Z,508nm,1.2s,comp=Z,12μm						
SAUI	Saumlaki	67.57	213	P	P	07 14 44.6	+2.2
D55A	Sainte-Anne-du	67.61	39	P	P	07 14 42.4	0.0
	baz=328,SNR=33						
BRCO	Bruce Peninsul	67.65	44	P	P	07 14 42.5	-0.1
	baz=326,SNR=5.3						
J49A	Marlette	67.68	46	P	P	07 14 43.0	+0.1
	baz=325,SNR=5.8						
KSM	Kuching	67.69	238	IAmb	IAmb	07 14 46.9	
	comp=Z,745nm,1.1s						
MDO	Dochfour	67.70	352⇑	eP	P	07 14 42.8	0.0
KAC	Achnashellach	67.72	353⇑	eP	P	07 14 42.0	-0.9
K48A	Perry	67.72	47	P	P	07 14 43.8	+0.7
	baz=325,SNR=48						
BASO	Ashfield	67.75	44	P	P	07 14 43.5	+0.2
	baz=326,SNR=12						
D56A	ZEC Mazanza, M	67.85	38	P	P	07 14 44.0	+0.1
	baz=328,SNR=42						
TUL1	Leonard	67.86	59	P	P	07 14 44.5	+0.3
	baz=322,SNR=102						
TUL1	Leonard	67.86	59	IAmb	IAmb	07 14 46.0	
	comp=Z,482nm,1.1s						
TUL1				IAMs_20	IAMs_20	07 45 36.0	
	comp=Z,16μm,20.0s						
AKASG	Malin Array Be	67.87	330	P	P	07 14 42.5	-1.4
AKASG				pmax	pmax		
	comp=Z,504nm,1.1s						
AKASG	Malin Array Be	67.87	330	P	P	07 14 43.3	-0.6
	comp=Z,912nm,0.7s,baz=28,slow=6.3,SNR=1053						
AKASG				S	S	07 23 37.3	0.0
	comp=Z,20nm,1.1s,baz=26,slow=12,SNR=9.9						
AKASG				PKPPKP	P'P'df	07 43 02.0	-6.6
	comp=Z,0.8nm,0.5s,baz=208,slow=2.4,SNR=6.3						
AKASG				LR	LR	07 47 57.1	
	comp=Z,28μm,18.5s,baz=20,slow=39						
AKASG				P4KPbc		07 51 32.6	
	comp=Z,0.4nm,0.3s,baz=24,slow=4.5,SNR=6.2						
AKASG	Malin Array Be	67.87	330	P	P	07 14 42.5	-1.4
X34A	Smith Ranch, M	67.87	61	IAmb	IAmb	07 14 46.9	
	comp=Z,635nm,1.2s						
X34A				IAMs_20	IAMs_20	07 42 45.1	
	comp=Z,21μm,22.0s						
E55A	Montcerf-Lytto	67.88	39	P	P	07 14 43.6	-0.5
	baz=328,SNR=16						
KPL	Plockton	67.90	353	eP	P	07 14 42.9	-1.1
KPL				IAmb	IAmb	07 14 44.8	
	comp=Z,620nm,1.3s						
SKLT	Songkhla	67.93	250	P	P	07 14 46.1	+1.3
	comp=Z,709nm,0.8s,comp=Z,12μm						
CLWO	Collingwood	67.93	43	P	P	07 14 44.3	-0.2
	baz=326,SNR=16						
H52A	Wyevale	67.94	43	P	P	07 14 43.9	-0.6
	baz=326,SNR=22						
HRA	Herat	67.97	298	IAmb	IAmb	07 14 47.0	
	comp=Z,290nm,0.8s						
MAK	Makhachkala	67.97	314	d iP	P	07 14 44.8	+0.1
MAK				e*SP	pP	07 15 04.3	+3.1
MAK				e		07 17 12.7	
MAK				ePPP	PPP	07 18 49.9	
MAK				eS	S	07 23 38.7	-0.1
MAK				e*SS	pS	07 24 01.8	+3.0
MAK				eSS	SS	07 27 55.7	-5.0
MAK				pmax	pmax		
	comp=Z,4μm,1.7s						
MAK				pmax	pmax		
	comp=Z,1μm,1.4s						
MAK				MLR	MLR		
	comp=N,82μm,16.0s						
MAK				MLR	MLR		
	comp=Z,53μm,16.0s						
MAK				MLR	MLR		
	comp=E,39μm,13.0s						
G54A	Lake Saint Pet	68.00	41	P	P	07 14 44.2	-0.7
	baz=327,SNR=11						
K49A	Clarkson	68.02	46	P	P	07 14 45.8	+0.8
	baz=325,SNR=45						
G53A	Haliburton	68.03	42	P	P	07 14 44.7	-0.4
	baz=327,SNR=24						
GOF	Gofitskoye	68.03	318⇑	iP	P	07 14 45.1	0.0
GOF				i S	S	07 23 40.7	+1.2
GOF				pmax	pmax		
	comp=Z,6μm,1.6s						
GOF				smax	smax		
	comp=E,522nm,1.8s						
DRUM	Mains of Drumt	68.07	351⇑	eP	P	07 14 44.9	-0.1
DRUM				IAmb	IAmb	07 14 46.2	
	comp=Z,2μm,1.6s						
DRUM				IAMs_20	IAMs_20	07 39 52.7	
	comp=Z,13μm,22.4s						
PEMO	Pembroke	68.09	41	P	P	07 14 44.5	-0.9
	baz=327,SNR=17						
SADO	Sadowa	68.12	42	IAMs_20	IAMs_20	07 47 44.2	
	comp=Z,10μm,19.0s						
RGN	Rugen	68.15	341	eP	P	07 14 46.5	+0.8
RGN				eP	P	07 14 46.5	+0.8
RGN				IAmb	IAmb	07 14 47.9	
	comp=Z,2μm,0.9s						
RGN				IAmb	IAmb	07 14 47.9	
	comp=Z,2μm,0.9s						
RGN	Rugen	68.15	341	IAMs_20	IAMs_20	07 47 06.1	
	comp=Z,19μm,22.0s						
E56A	St. Veronique	68.18	39	P	P	07 14 45.8	-0.1
	baz=328,SNR=31						
I51A	Listowel	68.18	44	P	P	07 14 45.9	-0.1
	baz=326,SNR=10						
D57A	Chemin Vers le	68.18	38	P	P	07 14 46.0	0.0
	baz=329,SNR=62						
M47A	Cromwell	68.26	49	P	P	07 14 46.7	+0.1
	baz=325,SNR=23						
LATQ	La Tuque	68.26	37	P	P	07 14 46.8	+0.3
	baz=329,SNR=15						
L48A	N Adams	68.29	47	P	P	07 14 47.1	+0.3
	baz=325,SNR=29						
F55A	Otter Lake	68.29	40	P	P	07 14 46.2	-0.5
	baz=328,SNR=17						
I52A	Shelburne	68.30	43	P	P	07 14 46.6	-0.2
	baz=326						
AAM	Ann Arbor	68.33	47	P	P	07 14 47.4	+0.5
	baz=325,SNR=24						
CCM	Cathedral Cave	68.37	54	P	P	07 14 47.3	+0.1
	baz=323						
CCM	Cathedral Cave	68.37	54	P	P	07 14 46.8	-0.5
CCM				pmax	pmax		
	comp=Z,533nm,1.2s						
CCM				MLR	MLR		
	comp=Z,18μm,21.0s						
CCM	Cathedral Cave	68.37	54	P	P	07 14 46.8	-0.5
CCM				IAmb	IAmb	07 14 48.9	
	comp=Z,533nm,1.1s						
CCM	Cathedral Cave	68.37	54	IAMs_20	IAMs_20	07 44 35.9	
	comp=Z,18μm,21.0s						
BHPL	Bhopal	68.37	280	eP	P	07 14 46.2	-1.3
BHPL				IAmb	IAmb	07 14 49.6	
	comp=Z,556nm,0.5s						
BHPL				ex	x	07 19 06.8	
BHPL				eS	S	07 23 35.6	-8.6
BHPL				IAMs_20	IAMs_20	07 47 48.6	
	comp=Z,40μm,25.5s						
K50A	Casco	68.37	46	P	P	07 14 47.4	+0.1
	baz=326,SNR=5.9						
K50A	Casco	68.37	46	IAMs_20	IAMs_20	07 45 17.9	
	comp=Z,19μm,22.0s						
SLM	Saint Louis	68.38	53	IAmb	IAmb	07 14 49.0	
	comp=Z,475nm,0.8s						
SLM				IAMs_20	IAMs_20	07 45 17.5	
	comp=Z,20μm,22.0s						
BANO	Bancroft	68.38	41	P	P	07 14 46.8	-0.5
	baz=327,SNR=24						
SFIN	Lafayette	68.40	50	P	P	07 14 47.3	-0.2
	baz=324,SNR=17						
L49A	Milan	68.44	47	P	P	07 14 48.4	+0.7
	baz=325,SNR=46						
D58A	Chemin du LacG	68.47	37	P	P	07 14 47.6	-0.1
	baz=329,SNR=13						
EDU	Dundee	68.47	351⇑	iP	P	07 14 47.4	-0.2
GROC	Groznyy	68.48	315	eP	P	07 14 46.8	-1.1
GROC				e*PP	pP	07 15 07.4	+3.0
GROC				e		07 15 11.2	
GROC				e*SP	sP	07 15 16.9	+5.7
GROC				e		07 17 18.2	
GROC				eS	S	07 23 44.9	0.0
GROC				e		07 24 08.0	
GROC				e*SS	sS	07 24 18.5	+5.5
GROC				pmax	pmax		
	comp=Z,792nm,1.3s						
ABTX	Abilene, Hawle	68.48	64	P	P	07 14 48.7	+0.6
	baz=322,SNR=207						
ABTX	Abilene, Hawle	68.48	64	IAmb	IAmb	07 14 50.4	
	comp=Z,559nm,1.0s						
ABTX				IAMs_20	IAMs_20	07 45 14.4	
	comp=Z,16μm,21.0s						
H53A	Bobcaygeon	68.50	42	P	P	07 14 47.5	-0.6
	baz=327,SNR=14						
M48A	Edgerton	68.55	48	P	P	07 14 48.6	+0.3
	baz=325,SNR=17						
M48A	Edgerton	68.55	48	IAmb	IAmb	07 14 49.8	
	comp=Z,322nm,1.1s						
M48A				IAMs_20	IAMs_20	07 45 08.9	
	comp=Z,14μm,21.0s						
GKP	Gorka Klasztor	68.56	338	i P	P	07 14 48.5	+0.3
	comp=Z,10μm,3.5s						
GKP				i P	P	07 14 48.5	+0.3
	comp=Z,10μm,3.5s						
GKP				eS	S	07 23 46.4	+0.9
GKP				eS	S	07 23 46.4	+0.9
GKP				eL	L	07 40 48.8	
	comp=Z,40μm,32.2s						
GKP				eL	L	07 40 48.8	
	comp=Z,40μm,32.2s						
PKDT	Phuket	68.59	253	P	P	07 14 49.9	+1.0
	comp=Z,748nm,0.8s,comp=Z,18μm						
MGMO	Mountain Grove	68.60	56	IAmb	IAmb	07 14 49.9	
	comp=Z,228nm,0.8s						
N47A	Urbana	68.62	49	P	P	07 14 48.1	-0.6
	baz=325,SNR=22						
N47A	Urbana	68.62	49	IAmb	IAmb	07 14 49.6	
	comp=Z,249nm,0.9s						
G55A	Calabogie	68.65	40	P	P	07 14 48.2	-0.7
	baz=328,SNR=25						
PBA	Port Blair	68.68	260	P	P	07 14 49.5	0.0
	SNR=27						
PBA	Port Blair	68.68	260⇑	iP	P	07 14 48.8	-0.7
PBA	Port Blair	68.68	260	IAMs_20	IAMs_20	07 48 52.5	
	comp=Z,18μm,21.0s						
INVG	Invergeldie, C	68.68	352⇑	eP	P	07 14 48.7	-0.2
INVG				IAmb	IAmb	07 14 50.6	
	comp=Z,374nm,0.6s						
INVG				IAMs_20	IAMs_20	07 40 10.0	
	comp=Z,14μm,20.7s						
PLVO	Plevna	68.69	41	P	P	07 14 48.9	-0.3
	baz=328,SNR=11						
ACTO	Acton	68.73	44	P	P	07 14 49.6	+0.1
	baz=327,SNR=13						
I53A	Kortright Cn E	68.74	43	P	P	07 14 49.3	-0.2
	baz=327,SNR=12						
FVM	French Village	68.81	54	IAmb	IAmb	07 14 51.8	
	comp=Z,489nm,0.9s						
FVM				IAMs_20	IAMs_20	07 45 21.0	
	comp=Z,19μm,20.0s						
K51A	Iona Station	68.88	45	P	P	07 14 50.9	+0.5
	baz=326,SNR=12						
L50A	Kingsville	68.90	46	P	P	07 14 50.7	+0.2
	baz=326,SNR=12						
D59A	Saint-Raymond	68.91	36	P	P	07 14 50.7	+0.2
	baz=330,SNR=15						
TX32	Lajitas Array	68.92	69	IAmb	IAmb	07 14 53.9	
	comp=Z,563nm,0.8s						
TXAR	Lajitas Array	68.92	69	P	P	07 14 50.8	-0.1
TXAR	Lajitas Array	68.92	69	P	P	07 14 52.7	+1.8
	comp=Z,303nm,0.7s,baz=299,slow=4.2,SNR=1361						
TXAR				PKPPKP		07 43 00.2	
	comp=Z,4.1nm,0.9s,baz=147,slow=5.2,SNR=12						
TXAR	Lajitas Array	68.92	69	P	P	07 14 50.8	-0.1
F57A	Harrington	68.92	39	P	P	07 14 49.4	-1.2
	baz=329						
N48A	Decatur	68.92	49	P	P	07 14 50.6	-0.1
	baz=325,SNR=70						
DELO	Deloro Mine	68.92	41	P	P	07 14 50.3	-0.3
	baz=328,SNR=16						
ORIO	Orleans, Innes	68.93	40	P	P	07 14 50.0	-0.6
	baz=328,SNR=20						
EAB	Aberfoyle	68.94	352⇑	iP	P	07 14 50.6	+0.1
E58A	La Victoria	68.95	38	P	P	07 14 50.9	+0.1
	baz=329,SNR=46						
U40A	Yellville	68.95	57	P	P	07 14 50.8	-0.1
	baz=323,SNR=204						
U40A	Yellville	68.95	57	IAmb	IAmb	07 14 52.3	
	comp=Z,496nm,1.1s						
LAWE	Loch Awe, Argy	68.95	353⇑	iP	P	07 14 50.8	+0.2
LAWE				IAmb	IAmb	07 14 51.4	
	comp=Z,828nm,1.1s						
LAWE				IAMs_20	IAMs_20	07 40 01.8	
	comp=Z,18μm,35.8s						
P46A	Rosedale	68.97	51	P	P	07 14 51.0	0.0
	baz=324,SNR=66						
ALFO	Alfred	69.01	39	P	P	07 14 50.7	-0.4
	baz=329,SNR=28						
TORO	Toronto--Lesli	69.01	43	P	P	07 14 51.0	-0.2
	baz=327						
DRWO	Darlington Wes	69.04	43	P	P	07 14 51.2	-0.1
	baz=327,SNR=20						
ESY	Stoneypath	69.06	351⇑	iP	P	07 14 51.1	-0.2
H55A	Tweed	69.06	41	P	P	07 14 51.2	-0.3
	baz=328,SNR=22						
NGP	Nagpur	69.07	277	IAmb	IAmb	07 14 52.5	
	comp=Z,215nm,0.6s						
BEL	Belsk	69.09	335	i P	P	07 14 52.3	+0.8
	comp=Z,18μm,3.1s						
BEL				i P	P	07 14 52.3	+0.8
	comp=Z,18μm,3.1s						
BEL				eS	S	07 23 54.2	+2.5
BEL				eS	S	07 23 54.2	+2.5
BEL				eL	L	07 44 23.2	
	comp=Z,37μm,27.1s						
BEL				eL	L	07 44 23.2	
	comp=Z,37μm,27.1s						
KVAR	Kislovodsk Arr	69.09	318	LR	LR	07 48 48.1	
	comp=Z,48μm,20.7s,baz=266,slow=39						
AKT	Akhty	69.10	313⇑	iP	P	07 14 51.4	-0.5
AKT				e		07 15 13.1	
AKT				eS	S	07 23 53.3	+0.8
AKT				e		07 24 45.5	
AKT				pmax	pmax		
	comp=Z,1μm,1.4s						
KIV	Kislovodsk	69.10	318	i P	P	07 14 51.5	-0.4
	SNR=174						
KIV	Kislovodsk	69.10	318	P	P	07 14 52.0	+0.1
	SNR=255						
KIV				P	P	07 14 52.0	+0.1
	SNR=255						
KIV	Kislovodsk	69.10	318	eP	P	07 14 52.0	+0.1
KIV				ePPP

comp=Z,483nm,0.8s
KAPI Kappang 69.11 226 P P 07 14 53.7 +1.7
SNR=34
KAPI Kappang 69.11 226 P P 07 14 53.3 +1.3
KAPI pmax pmax
comp=Z,199nm,1.1s
KAPI MLR MLR
comp=Z,3μm,22.0s
KAPI Kappang 69.11 226 P P 07 14 53.3 +1.3
EDI Edinburgh 69.11 351⇑ iP P 07 14 51.4 -0.1
EDI IAmb IAmb 07 14 52.7
comp=Z,3μm,2.0s
NCK Nalchik 69.12 317c iP P 07 14 52.0 +0.1
NCK pmax pmax
comp=Z,1μm,1.0s
NCK MLR MLR
comp=Z,73μm,20.0s
E59A St. Maurice 69.13 37 P P 07 14 52.0 +0.1
baz=330
I55A Frankford 69.16 42 P P 07 14 51.6 -0.4
baz=328,SNR=10
K52A Tillsonburg 69.16 45 P P 07 14 52.0 -0.1
baz=326,SNR=16
F58A St-Lin Laurent 69.19 38 P P 07 14 51.8 -0.5
baz=329
KBZ Khabaz 69.20 317 P P 07 14 52.5 +0.1
comp=Z,965nm,0.8s,baz=45,slow=5.5,SNR=476
KBZ PKP2bc 07 42 59.3
comp=Z,3.4nm,0.9s,baz=215,slow=5.5,SNR=4.6
KBZ LR LR 07 49 00.0
comp=Z,64μm,21.0s,baz=14,slow=39
EAU Auchinoon 69.21 351⇑ iP P 07 14 52.4 +0.2
PLIO Pelee Island, 69.22 46 P P 07 14 52.6 +0.2
baz=326,SNR=7.9
N49A Columbus Grove 69.24 48 P P 07 14 52.7 0.0
baz=325,SNR=34
N49A Columbus Grove 69.24 48 IAmb IAmb 07 14 54.0
comp=Z,296nm,1.1s
N49A IAMs_20 IAMs_20 07 45 30.2
comp=Z,14μm,21.0s
EBL Broad Law 69.24 351⇑ iP P 07 14 52.4 0.0
OLIL Olney 69.28 52 IAmb IAmb 07 14 54.5
comp=Z,362nm,1.2s
OLIL IAMs_20 IAMs_20 07 46 53.5
comp=Z,14μm,20.0s
D61A St Aubert, Com 69.30 35 P P 07 14 53.5 +0.6
baz=331,SNR=7.4
D60A Saint Jean D'O 69.30 36 P P 07 14 53.1 +0.2
baz=330,SNR=13
M50A Fremont 69.33 47 P P 07 14 52.9 -0.3
baz=326,SNR=11
M50A Fremont 69.33 47 IAMs_20 IAMs_20 07 47 16.5
comp=Z,11μm,21.0s
PGBU Glenifferbraes 69.33 352⇑ iP P 07 14 53.2 +0.2
PGBU IAmb IAmb 07 14 54.5
comp=Z,1μm,0.9s
PGBU IAMs_20 IAMs_20 07 38 41.0
comp=Z,11μm,21.2s
H56A Elgin 69.38 41 P P 07 14 53.0 -0.4
baz=328,SNR=14
STCO Saint Catharin 69.42 43 P P 07 14 53.6 -0.1
baz=327,SNR=12
G57A Newington 69.42 39 P P 07 14 53.3 -0.4
baz=329,SNR=20
W39A Magazine 69.42 58 P P 07 14 54.1 +0.3
baz=323,SNR=103
W39A Magazine 69.42 58 IAmb IAmb 07 14 55.8
comp=Z,623nm,1.4s
KULM Kulim 69.48 249 P P 07 14 56.0 +1.6
SEKA Sheki 69.55 313 P P 07 14 54.4 -0.2
F59A Saint Guilaume 69.58 38 P P 07 14 55.0 +0.4
baz=330,SNR=31
J54A Appleton 69.58 43 P P 07 14 54.6 -0.1
baz=327,SNR=15
J54A Appleton 69.58 43 IAmb IAmb 07 14 56.4
comp=Z,263nm,0.9s
J54A IAMs_20 IAMs_20 07 51 06.0
comp=Z,10μm,20.0s
S44A Carbondale 69.59 53 P P 07 14 55.2 +0.3
baz=324,SNR=68
SIUC Southern Illin 69.59 53 IAmb IAmb 07 14 56.5
comp=Z,404nm,0.8s
SIUC IAMs_20 IAMs_20 07 46 05.5
comp=Z,17μm,21.0s
ZEI Tsey 69.59 316 eP P 07 14 47.2 -7.9
ZEI pmax pmax
comp=Z,687nm,0.9s
E60A Ste Agathe de 69.60 36 P P 07 14 54.9 +0.1
baz=330,SNR=20
JRMM Jerantut 69.67 247 P P 07 14 57.0 +1.4
FCAR Ozark Folk Cen 69.68 56 IAmb IAmb 07 14 56.7
comp=Z,395nm,0.9s
EKA Eskdalemuir Ar 69.69 351 LR LR 07 44 43.2
comp=Z,4μm,19.5s,baz=0.0,slow=35
HPIG 69.70 72 IAmb IAmb 07 14 58.9
comp=Z,1μm,1.8s
HPIG IAMs_20 IAMs_20 07 41 03.8
comp=Z,12μm,22.0s
ESK Eskdalemuir 69.71 351⇑ iP P 07 14 55.3 0.0
ESK IAmb IAmb 07 14 56.7
comp=Z,884nm,1.2s
ESK IAMs_20 IAMs_20 07 40 39.0
comp=Z,15μm,33.8s
ESK Eskdalemuir 69.71 351 P P 07 14 55.3 0.0
ESK pmax pmax
comp=Z,3μm,2.0s
ESK Eskdalemuir 69.71 351 P P 07 14 55.3 0.0
G58A Ormstown 69.72 39 P P 07 14 55.2 -0.3
baz=329,SNR=14
MEDO Medina 69.74 43 P P 07 14 55.6 -0.1
baz=327,SNR=24
MEDO Medina 69.74 43 IAmb IAmb 07 14 57.4
comp=Z,338nm,0.9s
MEDO IAMs_20 IAMs_20 07 51 20.0
comp=Z,10μm,21.0s
M51A Elyria 69.75 46 P P 07 14 55.8 0.0
baz=326,SNR=13
F60A Warwick 69.77 37 P P 07 14 55.7 -0.1
baz=330,SNR=8.0
O49A Covington 69.78 48 P P 07 14 56.3 +0.3
baz=326,SNR=38
O49A Covington 69.78 48 IAmb IAmb 07 14 57.3
comp=Z,343nm,1.1s
PBMO Poplar Bluff 69.78 55 IAmb IAmb 07 14 57.8
comp=Z,430nm,1.0s
D62A Allapoint, All 69.78 35 P P 07 14 56.1 +0.3
baz=331,SNR=22
D62A Allapoint, All 69.78 35 IAMs_20 IAMs_20 07 46 30.5
comp=Z,15μm,21.0s
DDFL Dedoflistskaro 69.80 314⇑ iP P 07 14 59.0 +2.8
N50A Nevada 69.81 47 P P 07 14 56.3 +0.2
baz=326,SNR=37
H57A Richville 69.82 40 P P 07 14 55.3 -0.9
baz=329,SNR=16
E61A Lac Etchemin 69.87 36 P P 07 14 56.0 -0.5
baz=331
P48A Milroy 69.89 50 P P 07 14 56.6 -0.2
baz=325,SNR=66
P48A Milroy 69.89 50 IAmb IAmb 07 14 57.7
comp=Z,328nm,0.9s
J55A Hilton 69.91 42 P P 07 14 56.1 -0.6
baz=328,SNR=10
M52A Chesterland 69.92 46 P P 07 14 57.0 +0.1
baz=326,SNR=5.9
M52A Chesterland 69.92 46 IAMs_20 IAMs_20 07 47 06.9
comp=Z,16μm,19.0s
ONI Oni 69.94 316 P P 07 14 57.4 +0.4
IPM Ipoh 69.95 248 P P 07 14 58.0 +0.7
IPM Ipoh 69.95 248 IAmb IAmb 07 14 59.8
comp=Z,1μm,1.3s
IPM IAMs_20 IAMs_20 07 45 43.4
comp=Z,14μm,22.0s
MNGR Mingechevir, A 69.95 313 P P 07 14 58.0 +1.0
ERPA Erie 70.00 44 P P 07 14 57.4 0.0
baz=327,SNR=22
ERPA Erie 70.00 44 IAmb IAmb 07 14 59.2
comp=Z,398nm,1.1s
ERPA IAMs_20 IAMs_20 07 45 47.0
comp=Z,17μm,22.0s
N51A Ashland 70.01 47 P P 07 14 57.2 -0.2
baz=326,SNR=42
N51A Ashland 70.01 47 IAmb IAmb 07 14 59.3
comp=Z,541nm,1.1s
N51A IAMs_20 IAMs_20 07 47 47.6
comp=Z,11μm,20.0s
RUE Ruedersdorf 70.02 340 i P P 07 14 57.8 +0.6
RUE i P P 07 14 57.8 +0.6

L53A Girard 70.03 45 P P 07 14 57.8 +0.3
baz=327,SNR=19
E62A Clayton Lake 70.03 35 P P 07 14 57.0 -0.5
baz=331,SNR=42
E62A Clayton Lake 70.03 35 IAmb IAmb 07 14 59.5
comp=Z,362nm,1.0s
E62A IAMs_20 IAMs_20 07 46 02.1
comp=Z,14μm,22.0s
MIAR Mount Ida 70.05 58 P P 07 14 58.1 +0.4
baz=323,SNR=214
MIAR Mount Ida 70.05 58 IAmb IAmb 07 14 59.8
comp=Z,429nm,1.1s
MIAR IAMs_20 IAMs_20 07 44 42.8
comp=Z,21μm,22.0s
EDMD Edmundbyers 70.07 350⇑ iP P 07 14 57.4 -0.1
EDMD IAmb IAmb 07 14 58.8
comp=Z,2μm,1.8s
EDMD IAMs_20 IAMs_20 07 38 51.4
comp=Z,10μm,28.2s
WHAR Wooly Hollow 70.08 57 IAmb IAmb 07 14 59.5
comp=Z,615nm,1.2s
JCT Junction City 70.09 65 P P 07 14 58.7 +0.7
baz=322,SNR=284
JCT Junction City 70.09 65 IAmb IAmb 07 15 00.3
comp=Z,757nm,1.0s
JCT IAMs_20 IAMs_20 07 46 47.8
comp=Z,11μm,20.0s
F61A St Evariste 70.10 36 P P 07 14 58.6 +0.8
baz=330,SNR=30
G59A Clarenceville 70.10 38 P P 07 14 57.0 -0.8
baz=330
USIN University of 70.11 52 IAmb IAmb 07 14 59.8
comp=Z,453nm,1.1s
USIN IAMs_20 IAMs_20 07 48 04.0
comp=Z,11μm,19.0s
K54A Basiliko Farm, 70.11 43 P P 07 14 57.8 -0.2
baz=327,SNR=39
LVV L'vov 70.11 333 eP P 07 14 58.0 +0.1
LVV e 07 17 33.3
LVV ePPP PPP 07 19 16.6
LVV eS S 07 24 03.3 -0.6
LVV ePS PnS 07 24 37.3 -0.1
LVV e 07 24 53.1
LVV eSS SS 07 28 30.5 -2.8
LVV pmax pmax
comp=Z,5μm,1.7s
LVV MLR MLR
comp=N,20μm,18.0s
LVV MLR MLR
comp=Z,24μm,18.0s
LVV MLR MLR
comp=E,10μm,16.0s
WHTX Lake Whitney, 70.12 63 P P 07 14 58.6 +0.5
baz=323,SNR=107
WHTX Lake Whitney, 70.12 63 IAmb IAmb 07 15 00.2
comp=Z,423nm,1.1s
WHTX IAMs_20 IAMs_20 07 43 38.6
comp=Z,14μm,21.0s
O50A Cable 70.12 48 P P 07 14 58.1 0.0
baz=326,SNR=46
D63A Stockholm 70.13 34 P P 07 14 58.3 +0.2
baz=332,SNR=13
TBLG Delisi 70.14 315 P P 07 14 58.4 +0.2
P49A Miami Univ. Ec 70.15 49 P P 07 14 58.1 -0.2
baz=325,SNR=86
BTNK Botanikuri 70.15 315⇑ iP P 07 14 58.3 0.0
I57A Carthage 70.16 41 P P 07 14 57.7 -0.5
baz=328,SNR=18
CLGH Cloghs, Cushen 70.18 353⇑ iP P 07 14 58.0 -0.2
CLGH IAmb IAmb 07 14 59.6
comp=Z,3μm,1.7s
CLGH IAMs_20 IAMs_20 07 44 07.0
comp=Z,11μm,19.5s
L54A Sinclairville 70.18 44 P P 07 14 58.3 -0.1
baz=327,SNR=17
Q48A North Vernon 70.19 50 P P 07 14 58.4 -0.1
baz=325,SNR=29
W41B Gary Mavity, V 70.19 57 P P 07 14 59.0 +0.4
baz=324,SNR=178
W41B Gary Mavity, V 70.19 57 IAmb IAmb 07 15 00.4
comp=Z,681nm,1.1s
K55A Perry 70.26 43 P P 07 14 58.6 -0.3
baz=328,SNR=40
J56A Wolcott 70.27 42 P P 07 14 58.2 -0.7
baz=328,SNR=6.2
IDGL Inch Island, C 70.28 354⇑ eP P 07 14 58.5 -0.3
IDGL IAmb IAmb 07 15 02.4
comp=Z,650nm,0.9s
GAL1 Galloway 70.28 352⇑ eP P 07 14 58.7 -0.1
GAL1 IAmb IAmb 07 15 00.1
comp=Z,2μm,1.7s
H59A Cadyville 70.29 39 P P 07 14 58.3 -0.8
baz=329,SNR=20
M53A WI Miller and 70.29 45 P P 07 14 59.3 +0.2
baz=327,SNR=36
H58A Gabriels 70.31 39 P P 07 14 58.6 -0.6
baz=329,SNR=15
WVNY West Valley, N 70.32 43 IAmb IAmb 07 15 01.0
comp=Z,349nm,1.1s
MMNY Mt. Morris Dam 70.32 43 IAmb IAmb 07 15 00.7
comp=Z,346nm,1.0s
ACSO Alum Creek Sta 70.32 48 P P 07 14 59.6 +0.3
baz=326,SNR=60
ACSO Alum Creek Sta 70.32 48 IAmb IAmb 07 15 01.4
comp=Z,471nm,1.1s
ACSO IAMs_20 IAMs_20 07 46 36.8
comp=Z,11μm,20.0s
ALLY Alegheny Colle 70.33 45 IAmb IAmb 07 15 01.4
comp=Z,459nm,1.1s
ANN Anapa 70.35 322c iP P 07 14 58.2 -1.2
ANN e*PP PcP 07 15 18.5 -2.1
ANN e 07 17 34.6
ANN ePPP PPP 07 19 17.0
ANN eS S 07 24 04.6 -2.2
ANN pmax pmax
comp=Z,2μm,1.6s
ANN pmax pmax
comp=N,258nm,1.6s
ANN pmax pmax
comp=E,458nm,1.6s
ANN pmax pmax
comp=E,775nm,4.9s
ANN pmax pmax
comp=N,3μm,9.9s
ANN pmax pmax
comp=Z,8μm,9.9s
ANN smax smax
comp=E,4μm,16.0s
ANN smax smax
comp=N,4μm,16.1s
ANN MLR MLR
comp=N,23μm,17.0s
ANN MLR MLR
comp=Z,18μm,17.0s
ANN MLR MLR
comp=E,8μm,17.0s
GDLE Glaisdale, N Y 70.36 350⇑ eP P 07 14 58.9 -0.4
GANJ Ganja 70.38 313 P P 07 15 00.1 +0.4
G60A Masonville 70.39 38 P P 07 14 59.9 +0.2
baz=330,SNR=14
N52A McGinn's Farm, 70.39 46 P P 07 14 59.8 +0.1
baz=326
SORM Soroca 70.42 329 ⇑P P 07 14 59.6 -0.1
SORM Soroca 70.42 329 ⇑P P 07 14 59.6 -0.1
KESW Keswick, Cumbr 70.42 351⇑ eP P 07 14 59.9 +0.2
KESW IAmb IAmb 07 15 01.3
comp=Z,908nm,0.9s
X40A Basin Creek Fa 70.46 58 P P 07 15 00.5 +0.3
baz=324,SNR=140
X40A Basin Creek Fa 70.46 58 IAmb IAmb 07 15 02.1
comp=Z,329nm,1.1s
UALR University of 70.47 57 IAmb IAmb 07 15 02.0
comp=Z,590nm,2.0s
PQI Presque Isle 70.48 34 IAMs_20 IAMs_20 07 49 05.0
comp=Z,11μm,21.0s
J57A Williamstown 70.48 41 P P 07 14 59.3 -1.0
baz=328,SNR=12
J57A Williamstown 70.48 41 IAMs_20 IAMs_20 07 49 10.6
comp=Z,10μm,19.0s
P50A Jamestown 70.49 48 P P 07 15 00.5 +0.2
baz=326,SNR=57
Q49A Aurora 70.50 50 P P 07 15 00.3 -0.1
baz=326,SNR=19
G61A St-Isidore-de- 70.51 37 P P 07 15 00.7 +0.3
baz=330,SNR=26
F62A Pittston Farm, 70.51 36 P P 07 15 00.4 0.0
baz=331,SNR=20

F62A Pittston Farm, 70.51 36 IAMs_20 IAMs_20 07 50 13.6
comp=Z,12μm,19.0s
WCI Wyandotte Cave 70.52 51 P P 07 15 00.8 +0.3
baz=325
WCI Wyandotte Cave 70.52 51 P P 07 15 00.6 +0.1
WCI pmax pmax
comp=Z,253nm,1.0s
WCI MLR MLR
comp=Z,26μm,20.0s
WCI Wyandotte Cave 70.52 51 P P 07 15 00.6 +0.1
WCI IAmb IAmb 07 15 02.1
comp=Z,253nm,0.9s
SOC Sochi 70.55 319c iP P 07 15 00.3 -0.3
SOC e*PP pP 07 15 17.4 +0.1
SOC e*SP sP 07 15 26.6 +2.5
SOC ePPP PPP 07 19 16.5
SOC eS S 07 24 09.7 +0.5
SOC e*SS sS 07 24 42.4 +5.0
SOC eSSS SSS 07 31 49.4
SOC pmax pmax
comp=Z,6μm,2.1s
SOC pmax pmax
comp=Z,1μm,1.1s
SOC MLR MLR
comp=Z,43μm,22.0s
O51A Pataskala 70.56 47 P P 07 15 00.9 +0.2
baz=326,SNR=58
KZRT Kazreti 70.56 315⇑ iP P 07 15 01.2 +0.3
E63A Oxbow 70.57 35 P P 07 15 00.1 -0.6
baz=332,SNR=18
E63A Oxbow 70.57 35 IAMs_20 IAMs_20 07 46 42.3
comp=Z,13μm,22.0s
BATG Bathurst New B 70.57 33 IAMs_20 IAMs_20 07 50 49.2
comp=Z,13μm,18.0s
L55A Hinsdale 70.57 43 P P 07 15 00.7 -0.1
baz=328,SNR=26
K56A Middlesex 70.58 42 P P 07 15 00.8 -0.1
baz=328,SNR=23
PEBM Pemiscott Bayo 70.58 55 IAMs_20 IAMs_20 07 45 32.0
comp=Z,18μm,21.0s
SLPK Sellapark 70.61 351⇑ eP P 07 15 00.7 -0.1
GNAR Gosnell 70.63 55 IAMs_20 IAMs_20 07 45 22.2
comp=Z,18μm,21.0s
I58A Old Forge 70.63 40 P P 07 15 00.2 -1.0
baz=329,SNR=11
KWP Kalwaria Pacla 70.63 333 i P P 07 15 01.7 +0.6
comp=Z,15μm,3.1s
KWP i P P 07 15 01.7 +0.6
comp=Z,15μm,3.1s
KWP eS S 07 24 11.2 +1.2
KWP eS S 07 24 11.2 +1.2
KWP eL L 07 42 36.8
comp=Z,16μm,31.9s
KWP eL L 07 42 36.8
comp=Z,16μm,31.9s
M54A Oil Creek Stat 70.65 45 P P 07 15 00.9 -0.4
baz=327,SNR=28
M54A Oil Creek Stat 70.65 45 IAmb IAmb 07 15 02.5
comp=Z,314nm,1.1s
M54A IAMs_20 IAMs_20 07 47 01.0
comp=Z,15μm,20.0s
MYKOM Kota Tinggi 70.71 244 P P 07 15 04.0 +2.1
MYKOM Kota Tinggi 70.71 244 IAmb IAmb 07 15 06.2
comp=Z,178nm,0.5s
MYKOM IAMs_20 IAMs_20 07 48 33.6
comp=Z,9μm,20.0s
H60A Morristown 70.72 38 P P 07 15 01.2 -0.5
baz=330,SNR=14
N53A Lisbon 70.75 46 P P 07 15 01.6 -0.3
baz=327,SNR=23
N53A Lisbon 70.75 46 IAMs_20 IAMs_20 07 46 29.8
comp=Z,13μm,22.0s
E64A Bridgewater 70.77 34 P P 07 15 01.7 -0.2
baz=332,SNR=19
LPAR Lepanto 70.79 55 IAMs_20 IAMs_20 07 45 03.4
comp=Z,21μm,22.0s
J58A Remsen 70.80 41 P P 07 15 01.9 -0.3
baz=329,SNR=36
J58A Remsen 70.80 41 IAMs_20 IAMs_20 07 47 19.8
comp=Z,10μm,22.0s
OJC Ojcow 70.82 335 i P P 07 15 02.7 +0.5
comp=Z,10μm,2.9s
OJC i P P 07 15 02.7 +0.5
comp=Z,10μm,2.9s
OJC eS S 07 24 13.2 +1.1
OJC eS S 07 24 13.2 +1.1
OJC eL L 07 46 36.8
comp=Z,36μm,26.0s
OJC eL L 07 46 36.8
comp=Z,36μm,26.0s
K57A Scipio Center 70.86 42 P P 07 15 01.6 -1.0
baz=328,SNR=14
IOMK Kirk Michael 70.87 352⇑ iP P 07 15 02.4 0.0
IOMK IAmb IAmb 07 15 03.6
comp=Z,4μm,1.7s
IOMK IAMs_20 IAMs_20 07 41 26.7
comp=Z,24μm,23.3s
HPK Haverah Park 70.90 350⇑ eP P 07 15 02.8 +0.2
HPK IAmb IAmb 07 15 04.5
comp=Z,850nm,0.9s
O52A Adamsville 70.91 47 P P 07 15 02.8 -0.1
baz=326,SNR=82
O52A Adamsville 70.91 47 IAmb IAmb 07 15 04.8
comp=Z,682nm,1.1s
O52A IAMs_20 IAMs_20 07 48 45.3
comp=Z,9μm,19.0s
P51A Williamsport 70.91 48 P P 07 15 02.7 -0.2
baz=326,SNR=22
P51A Williamsport 70.91 48 IAMs_20 IAMs_20 07 47 40.5
comp=Z,14μm,19.0s
G62A West of Eustis 70.91 36 P P 07 15 02.8 -0.1
baz=331,SNR=26
G62A West of Eustis 70.91 36 IAMs_20 IAMs_20 07 49 17.2
comp=Z,11μm,20.0s
AKH Akhalkalaki 70.92 316 P P 07 15 03.7 +0.6
AKH Akhalkalaki 70.92 316 IAmb IAmb 07 15 05.3
comp=Z,939nm,1.1s
LKRN Lenkeran, Azer 70.92 311 P P 07 15 02.9 -0.1
I59A Olmsteadville 70.95 39 P P 07 15 02.7 -0.4
baz=329,SNR=22
L56A Greenwood 70.96 43 P P 07 15 02.8 -0.5
baz=328,SNR=60
L56A Greenwood 70.96 43 IAmb IAmb 07 15 04.9
comp=Z,336nm,0.9s
WLAR White Oak Lake 70.96 59 IAmb IAmb 07 15 05.5
comp=Z,590nm,1.1s
WLAR IAMs_20 IAMs_20 07 46 51.1
comp=Z,13μm,20.0s
N54A Moraine State 70.97 45 P P 07 15 03.3 0.0
baz=327,SNR=31
F63A Nahmakanta, Br 70.98 35 P P 07 15 03.4 +0.2
baz=331,SNR=17
F63A Nahmakanta, Br 70.98 35 IAMs_20 IAMs_20 07 46 41.1
comp=Z,13μm,22.0s
HALT Halls 71.00 55 IAMs_20 IAMs_20 07 46 05.6
comp=Z,19μm,21.0s
WIM Isle of Man 71.00 352⇑ iP P 07 15 02.9 -0.3
J59A Piesco 71.00 40 P P 07 15 02.6 -0.8
baz=329,SNR=20
GMM Mts of Mourne 71.00 353⇑ eP P 07 15 02.9 -0.3
435B Jarrell 71.01 64 P P 07 15 04.2 +0.6
baz=323,SNR=56
435B Jarrell 71.01 64 IAmb IAmb 07 15 05.9
comp=Z,792nm,1.4s
H61A Lyndonville 71.02 38 P P 07 15 03.9 +0.3
baz=330,SNR=46
Q50A Georgetown 71.04 49 P P 07 15 03.9 +0.2
baz=326,SNR=60
M55A Ridgway 71.04 44 P P 07 15 03.7 0.0
baz=328,SNR=33
M55A Ridgway 71.04 44 IAmb IAmb 07 15 05.0
comp=Z,301nm,1.1s
M55A IAMs_20 IAMs_20 07 49 00.5
comp=Z,11μm,20.0s
KSP Ksiaz 71.05 338 i P P 07 15 03.9 +0.4
comp=Z,7μm,3.2s
KSP i P P 07 15 03.9 +0.4
comp=Z,7μm,3.2s
KSP eS S 07 24 15.9 +1.2
KSP eS S 07 24 15.9 +1.2
KSP eL L 07 42 13.4
comp=Z,31μm,33.0s
KSP eL L 07 42 13.4
comp=Z,31μm,33.0s
O53A New Philadelph 71.06 46 P P 07 15 03.8 -0.1
baz=327,SNR=34
F64A Sherman 71.09 35 P P 07 15 03.7 -0.1

baz=332,SNR=22
F64A Sherman 71.09 35 IAMs_20 IAMs_20 07 50 33.0
comp=Z,15μm,19.0s
I60A Shoreham 71.12 39 P **P** **07 15 04.0 -0.1**
baz=330,SNR=12
EPOS Posof 71.14 316⇑ *i*P **P** **07 15 05.2 +0.7**
T47A Sharon Grove 71.16 52 P **P** **07 15 05.1 +0.6**
baz=325,SNR=136
T47A Sharon Grove 71.16 52 IAmb IAmb 07 15 06.5
comp=Z,450nm,1.0s
T47A IAMs_20 IAMs_20 07 48 47.1
comp=Z,9μm,19.0s
Q51A Peebles 71.17 48 P **P** **07 15 04.5 +0.1**
baz=326,SNR=35
Q51A Peebles 71.17 48 IAMs_20 IAMs_20 07 46 28.2
comp=Z,14μm,21.0s
K58A Earlville 71.17 41 P **P** **07 15 04.2 -0.2**
baz=329,SNR=19
K58A Earlville 71.17 41 IAMs_20 IAMs_20 07 47 20.7
comp=Z,10μm,20.0s
P52A Corning 71.18 47 P **P** **07 15 04.5 -0.1**
baz=326,SNR=23
DRLN Deer Lake 71.22 26 IAMs_20 IAMs_20 07 50 32.8
comp=Z,18μm,21.0s
H62A Milan 71.26 37 P **P** **07 15 05.3 +0.4**
baz=331,SNR=45
H62A Milan 71.26 37 IAmb IAmb 07 15 07.3
comp=Z,430nm,1.1s
H62A IAMs_20 IAMs_20 07 47 51.4
comp=Z,12μm,22.0s
LMK Market Rasen 71.26 349⇑ *i*P **P** **07 15 04.6 -0.2**
LMK IAmb IAmb 07 15 05.8
comp=Z,3μm,1.9s
M56A Emporium 71.27 44 P **P** **07 15 04.9 -0.1**
baz=328,SNR=28
M56A Emporium 71.27 44 IAMs_20 IAMs_20 07 47 33.8
comp=Z,9μm,20.0s
LBNH Lisbon 71.28 38 P **P** **07 15 05.4 +0.4**
baz=330,SNR=20
CLL Collm 71.29 340⇑ *i*P **P** **07 15 05.0 0.0**
comp=Z,4μm,1.4s
CLL *i* Pmax 07 15 06.2
CLL *e*(sP) **sP** **07 15 27.0 -1.3**
CLL *e*PP **PP** **07 17 41.0 -1.9**
CLL *e*PPP PPP 07 19 30.0
CLL *e*S **S** **07 24 19.0 +1.5**
CLL *e*SKSac **ScS** **07 25 06.0 +2.1**
CLL *e*SS **SS** **07 28 48.0 -3.2**
CLL *e* 07 29 42.0
CLL *e*SSS SSS 07 32 12.0
CLL *e*PKPPKPd **P'P'df** **07 42 58.0 -4.9**
CLL Lmax 07 52 00.0
CLL Collm 71.29 340 IAMs_20 IAMs_20 07 49 10.8
comp=Z,16μm,21.0s
KIS Kishinev 71.29 328⇓ *i*P **P** **07 15 04.0 -1.1**
comp=Z,7μm,2.0s
KIS Kishinev 71.29 328 *i* PcP **PcP** **07 15 26.0 +1.4**
KIS Kishinev 71.29 328 *i* PP PP 07 17 44.0 +0.9
comp=Z,2μm,12.0s
KIS Kishinev 71.29 328 *i* PS **PnS** **07 24 52.0 -1.1**
KIS *i* SS SS 07 29 55.0 +63
KIS *e*SSS SSS 07 34 20.0
KIS *i* LQ LQ 07 41 26.0
comp=Z,24μm,23.0s
KIS LRM MLR 07 49 28.0
comp=Z,38μm,16.0s
KIS Kishinev 71.29 328⇓ *i*P **P** **07 15 04.0 -1.1**
KIS *i* 07 15 26.0
KIS *i* 07 17 44.0
KIS *i* S **S** **07 24 14.0 -3.7**
KIS *i* PS 07 24 52.0
KIS pmax pmax
comp=Z,7μm,2.0s
KIS pmax pmax
comp=Z,17μm,4.0s
KIS pmax pmax
comp=N,7μm,2.0s
KIS pmax pmax
comp=Z,2μm,12.0s
KIS smax smax
comp=N,2μm,7.0s
KIS MLR MLR
comp=Z,38μm,16.0s
KIS MLR MLR
comp=N,24μm,18.0s
KIS Kishinev 71.29 328⇑ P **P** **07 15 04.6 -0.5**
PKME Peaks-Kenny Pk 71.30 36 P **P** **07 15 05.2 +0.1**
baz=331,SNR=14
PKME Peaks-Kenny Pk 71.30 36 IAMs_20 IAMs_20 07 46 48.6
comp=Z,10μm,21.0s
G63A Kingsbury 71.32 36 P **P** **07 15 05.9 +0.6**
baz=331,SNR=14
S49A Springfield 71.33 51 P **P** **07 15 05.8 +0.3**
baz=326,SNR=111
CHVC Chvalec 71.34 338 *e*P **P** **07 15 05.7 +0.4**
CHVC *ex* x 07 15 08.8
CHVC *ex* x 07 19 24.8
CHVC *e*S **S** **07 24 16.7 -1.5**
CHVC AMS AMS 07 51 20.0
comp=Z,22μm,17.8s
R50A Paris 71.35 50 P **P** **07 15 06.0 +0.4**
baz=326,SNR=57
R50A Paris 71.35 50 IAMs_20 IAMs_20 07 46 23.9
comp=Z,20μm,22.0s
MET Memphis--Engin 71.35 55 IAMs_20 IAMs_20 07 45 21.3
comp=Z,20μm,22.0s
L57A Andrews Acres 71.36 42 P **P** **07 15 05.2 -0.4**
baz=328,SNR=36
MILM Milestii Mici 71.36 328⇑ P **P** **07 15 04.9 -0.6**
ACCN Adirondack Com 71.38 40 IAMs_20 IAMs_20 07 48 20.2
comp=Z,11μm,22.0s
X43A Marvell 71.39 56 P **P** **07 15 06.4 +0.5**
baz=324,SNR=68
X43A Marvell 71.39 56 IAmb IAmb 07 15 08.0
comp=Z,680nm,1.0s
KOLS Kolonicke sedl 71.39 333 *e*P **P** **07 15 06.1 +0.4**
KOLS pmax pmax
comp=Z,847nm,1.1s
KOLS Kolonicke sedl 71.39 333 *e*P **P** **07 15 06.1 +0.4**
KOLS *e*S **S** **07 24 15.9 -2.9**
KOLS *e*L L 07 50 13.1
SIM Simferopol' 71.39 324 *ce*P **P** **07 15 05.4 -0.3**
SIM 07 17 45.7
SIM PPP PPP 07 19 25.5
SIM *e*S **S** **07 24 18.8 -0.1**
SIM pmax pmax
comp=Z,814nm,1.0s
SIM pmax pmax
comp=Z,2μm,10.0s
SIM MLR MLR
comp=Z,22μm,15.0s
MMRI Maumere 71.39 222 P **P** **07 15 06.8 +0.8**
MMRI Maumere 71.39 222 IAmb IAmb 07 15 36.3
comp=Z,446nm,1.1s
UPC Upice 71.42 338 *e*P **P** **07 15 06.4 +0.6**
UPC *e* 07 17 39.2
UPC *e* 07 19 24.4
UPC *e*S **S** **07 24 14.8 -4.3**
UPC MLR MLR
comp=Z,23μm,17.0s
UPC Upice 71.42 338 *e*P **P** **07 15 06.4 +0.6**
UPC *ex* x 07 15 09.1
UPC *e*PP **PP** **07 17 39.2 -4.9**
UPC *ex* x 07 19 24.4
UPC *e*S **S** **07 24 14.8 -4.3**
UPC AMS AMS 07 51 20.0
comp=Z,23μm,17.0s
CCAR Cane Creek 71.44 57 IAmb IAmb 07 15 08.7
comp=Z,871nm,1.2s
I61A Oroboro, Fairl 71.44 38 P **P** **07 15 06.5 +0.5**
baz=330,SNR=19
NIE Niedzica 71.44 335 *i* P **P** **07 15 06.8 +0.8**
comp=Z,3μm,3.4s
NIE *i* P **P** **07 15 06.8 +0.8**
comp=Z,3μm,3.4s
NIE *e*S **S** **07 24 21.8 +2.4**
NIE *e*S **S** **07 24 21.8 +2.4**
NIE *e*L L 07 47 09.7
comp=Z,17μm,24.9s
NIE *e*L L 07 47 09.7
comp=Z,17μm,24.9s
GNI Garni 71.46 314 P **P** **07 15 07.8 +1.4**
GNI Garni 71.46 314 P **P** **07 15 07.2 +0.8**
GNI pmax pmax
comp=Z,2μm,1.1s
GNI MLR MLR
comp=Z,51μm,18.0s
GNI Garni 71.46 314 P **P** **07 15 07.2 +0.8**
Z41A Richland Creek 71.46 59 P **P** **07 15 06.9 +0.6**
baz=324,SNR=36
Z41A Richland Creek 71.46 59 IAmb IAmb 07 15 08.5
comp=Z,328nm,1.1s
Z41A IAMs_20 IAMs_20 07 45 27.3
comp=Z,18μm,22.0s
LBWR Ladybower, Pea 71.46 350⇑ *e*P **P** **07 15 05.6 -0.4**
LBWR IAmb IAmb 07 15 07.3
comp=Z,846nm,0.9s
K59A Cooperstown 71.46 41 P **P** **07 15 05.9 -0.3**
baz=329,SNR=36
O54A Avella 71.47 46 P **P** **07 15 06.2 -0.1**
baz=327,SNR=26
BATM Batumi 71.47 317⇑ *i*P **P** **07 15 05.7 -0.6**
BATM Batumi 71.47 317 ⇓P **P** **07 15 06.0 -0.3**
BATM Batumi 71.47 317 P **P** **07 15 06.1 -0.2**
EAK Akyaka 71.48 315⇑ *i*P **P** **07 15 07.3 +0.8**
G64A Maxfield 71.49 35 P **P** **07 15 06.7 +0.4**
baz=332,SNR=22
IAS Iasi 71.50 329 ⇑P **P** **07 15 05.9 -0.4**
IAS Iasi 71.50 329 ⇑P **P** **07 15 05.9 -0.4**
DPC Dobruska-Polom 71.50 338 *e*P **P** **07 15 07.0 +0.6**
DPC *e* 07 19 24.8
DPC *e*S **S** **07 24 17.3 -2.8**
DPC MLR MLR
comp=Z,18μm,17.0s
DPC Dobruska-Polom 71.50 338 *e*P **P** **07 15 07.0 +0.6**
DPC *ex* x 07 15 10.1
DPC *ex* x 07 19 24.8
DPC *e*S **S** **07 24 17.3 -2.8**
DPC AMS AMS 07 52 00.0
comp=Z,18μm,17.0s
BRG Berggiesshubel 71.51 339⇑ *i*P **P** **07 15 06.5 +0.2**
comp=Z,2μm,1.6s
BRG *i* PCP **PcP** **07 15 24.1 -1.4**
comp=Z,231nm,0.8s
BRG PP **PP** **07 17 39.0 -5.9**
BRG S **S** **07 24 21.0 +0.9**
BRG SS **SS** **07 28 50.0 -4.7**
BRG *e*PKPPKP **P'P'df** **07 42 55.1 -7.4**
comp=Z,12nm,1.8s
comp=N,14μm,17.6s
comp=E,6μm,16.8s
comp=Z,20μm,17.8s
BINY Binghamton 71.52 42 P **P** **07 15 06.4 -0.2**
baz=329,SNR=17
WVT Waverly 71.53 53 P **P** **07 15 07.3 +0.7**
baz=325
WVT Waverly 71.53 53 P **P** **07 15 06.9 +0.2**
WVT pmax pmax
comp=Z,334nm,1.0s
WVT MLR MLR
comp=Z,18μm,21.0s
WVT Waverly 71.53 53 P **P** **07 15 06.9 +0.2**
WVT IAmb IAmb 07 15 08.8
comp=Z,334nm,1.0s
WVT Waverly 71.53 53 IAMs_20 IAMs_20 07 47 14.9
comp=Z,18μm,21.0s
N55A Marion Center 71.53 45 P **P** **07 15 06.6 -0.1**
baz=328,SNR=51
LHMI Lhok Sumawe 71.56 252 P **P** **07 15 08.9 +1.8**
LHMI Lhok Sumawe 71.56 252 IAMs_20 IAMs_20 07 51 17.9
comp=Z,10μm,19.0s
OKC Ostrava-Krasne 71.57 336 *e*P **P** **07 15 07.4 +0.7**
OKC *e*S **S** **07 24 17.8 -3.0**
OKC Ostrava-Krasne 71.57 336 *e*P **P** **07 15 07.4 +0.7**
OKC *ex* x 07 15 10.1
OKC *e*PP PP 07 17 32.2 -13
OKC *ex* x 07 19 18.9
OKC *e*S **S** **07 24 17.8 -3.0**
OKC AMS AMS 07 45 20.0
comp=Z,24μm,27.4s
H63A New Sharon 71.57 36 P **P** **07 15 07.1 +0.3**
baz=331,SNR=17
J60A Lant Hill Farm 71.59 39 P **P** **07 15 06.6 -0.4**
baz=330,SNR=24
P53A Whipple 71.62 47 P **P** **07 15 07.2 0.0**
baz=327,SNR=37
P53A Whipple 71.62 47 IAMs_20 IAMs_20 07 50 55.2
comp=Z,10μm,18.0s
SOEI Soe 71.65 220 P **P** **07 15 08.5 +0.8**
SOEI Soe 71.65 220 IAmb IAmb 07 15 50.1
comp=Z,430nm,1.1s
KRLC Kraliky 71.66 337 *e*P **P** **07 15 08.0 +0.7**
KRLC *e* 07 19 25.5
KRLC *e*S **S** **07 24 22.4 +0.5**
KRLC MLR MLR
comp=Z,53μm,20.8s
KRLC Kraliky 71.66 337 *e*P **P** **07 15 08.0 +0.7**
KRLC *ex* x 07 15 10.6
KRLC *e*PP PP 07 17 34.0 -12
KRLC *ex* x 07 19 25.5
KRLC *e*S **S** **07 24 22.4 +0.5**
KRLC AMS AMS 07 49 20.0
comp=Z,21μm,20.8s
UZH Uzhgorod 71.66 333⇓ *i*P **P** **07 15 06.0 -1.3**
UZH *e* 07 15 19.7
UZH *e* 07 15 34.1
UZH *e* 07 17 45.3
UZH *e* 07 19 26.3
UZH *e*S **S** **07 24 17.8 -4.0**
UZH *i* 07 25 05.9
UZH MLR MLR
comp=N,5μm,18.0s
UZH MLR MLR
comp=E,2μm,18.0s
UZH MLR MLR
comp=Z,3μm,18.0s
R51A Hillsboro 71.66 49 P **P** **07 15 07.6 +0.1**
baz=326,SNR=93
Q52A Bidwell 71.69 48 P **P** **07 15 07.3 -0.2**
baz=327,SNR=43
N56A West Decatur 71.70 44 P **P** **07 15 07.5 -0.2**
baz=328,SNR=58
DBOC Borcka 71.70 317⇑ *i*P **P** **07 15 08.0 +0.3**
L58A Harry Jones Me 71.71 42 P **P** **07 15 07.2 -0.5**
baz=329,SNR=29
WME Myndd Eilian 71.71 352⇑ *e*P **P** **07 15 06.7 -0.8**
PVCC Panska Ves 71.71 339 *e*P **P** **07 15 08.1 +0.6**
PVCC *e* 07 15 22.5
PVCC *e* 07 17 45.0
PVCC *e*S **S** **07 24 19.7 -2.7**
PVCC MLR MLR
comp=Z,17μm,16.9s
PVCC Panska Ves 71.71 339 *e*P **P** **07 15 08.1 +0.6**
PVCC *ex* x 07 15 10.9
PVCC *e*pP **pP** **07 15 22.5 -1.6**
PVCC *e*PP **PP** **07 17 45.0 -1.6**
PVCC *ex* x 07 19 06.0
PVCC *e*S **S** **07 24 19.7 -2.7**
PVCC AMS AMS 07 51 30.0
comp=Z,17μm,16.9s
WPS Cemaes, Angles 71.72 352⇑ *i*P **P** **07 15 07.0 -0.5**
WPS IAmb IAmb 07 15 08.4
comp=Z,2μm,2.0s
WPS IAMs_20 IAMs_20 07 41 37.6
comp=Z,11μm,25.9s
NATX Nacogdoches 71.73 61 P **P** **07 15 08.8 +0.8**
baz=324,SNR=41
NATX Nacogdoches 71.73 61 IAmb IAmb 07 15 10.4
comp=Z,544nm,1.0s
ARTV Artvin 71.73 317⇑ *i*P **P** **07 15 08.9 +0.8**
PRAR RASCA 71.73 330 ⇓P **P** **07 15 07.6 -0.2**
KARS Kars 71.74 316 P **P** **07 15 07.5 -0.6**
WTSB Winterswijk 71.76 344 *e*P **P** **07 15 08.0 +0.3**
MORC Moravsky Berou 71.77 337 ⇑P **P** **07 15 08.9 +0.9**
MORC Moravsky Berou 71.77 337 ⇑P **P** **07 15 08.9 +0.9**
MORC Moravsky Berou 71.77 337⇑ *i*P **P** **07 15 08.7 +0.8**
MORC *e*S **S** **07 24 24.9 +1.7**
MORC Moravsky Berou 71.77 337 IAMs_20 IAMs_20 07 50 14.5
comp=Z,17μm,20.0s
T49A Edmonton 71.78 51 P **P** **07 15 08.3 +0.1**
baz=326,SNR=76
WVL Waterville 71.79 36 IAMs_20 IAMs_20 07 50 04.6
comp=Z,10μm,20.0s
BURAR Bucovina Array 71.80 331 ⇑P **P** **07 15 08.2 0.0**
BURAR Bucovina Array 71.80 331 P **P** **07 15 07.8 -0.4**
DIGO Kars 71.80 315⇑ *i*P **P** **07 15 09.1 +0.5**
I62A Tamworth 71.80 38 P **P** **07 15 08.8 +0.6**
baz=331,SNR=10
TASB TASBURUN-IGDIR 71.81 314 P **P** **07 15 09.1 +0.7**
M57A Sunshine Farm, 71.81 43 P **P** **07 15 08.1 -0.2**
baz=328,SNR=62
M57A Sunshine Farm, 71.81 43 IAmb IAmb 07 15 10.0
comp=Z,262nm,0.9s
M57A IAMs_20 IAMs_20 07 48 04.8
comp=Z,10μm,22.0s
AFI Afiamalu 71.81 153 P **P** **07 15 08.8 +0.2**
AFI pmax pmax
comp=Z,127nm,1.0s
AFI Afiamalu 71.81 153 P **P** **07 15 08.8 +0.2**
AFI Afiamalu 71.81 153 IAMs_20 IAMs_20 07 39 47.5
comp=Z,15μm,21.0s
S50A Richmond 71.82 50 P **P** **07 15 08.6 +0.2**
baz=326,SNR=53
STNC Stoke 71.82 350⇑ *i*P **P** **07 15 08.3 +0.2**
STNC IAmb IAmb 07 15 09.6
comp=Z,2μm,1.9s
WLF1 Llynfaes 71.82 352⇑ *i*P **P** **07 15 07.6 -0.5**
WLF1 IAmb IAmb 07 15 09.2
comp=Z,3μm,1.9s
WLF1 IAMs_20 IAMs_20 07 41 54.2
comp=Z,22μm,25.7s
J61A Chester 71.82 39 P **P** **07 15 08.5 +0.2**
baz=330,SNR=18
DAGI Agillar 71.83 317⇑ *i*P **P** **07 15 09.2 +0.7**
H64A Troy 71.87 36 P **P** **07 15 08.9 +0.3**
baz=332,SNR=15
WACR West Acre 71.87 348⇑ *i*P **P** **07 15 08.2 -0.2**
WACR IAmb IAmb 07 15 11.9
comp=Z,1μm,1.0s
WACR IAMs_20 IAMs_20 07 40 31.8
comp=Z,15μm,34.2s
YRC Rhoscolyn 71.88 352⇑ *i*P **P** **07 15 07.9 -0.6**
O55A Ligonier 71.89 45 P **P** **07 15 08.6 -0.2**
baz=328,SNR=37
L59A Walton 71.89 41 P **P** **07 15 08.5 -0.3**
baz=329,SNR=34
L59A Walton 71.89 41 IAMs_20 IAMs_20 07 52 27.8
comp=Z,11μm,19.0s
LANS Liptovska Anna 71.89 335 *e*P **P** **07 15 10.2 +1.5**
LANS pmax pmax
comp=Z,1μm,0.8s
LANS Liptovska Anna 71.89 335 *e*P **P** **07 15 10.2 +1.5**
SEVA Sevastopol 71.91 324 ⇑P **P** **07 15 08.7 -0.1**
P54A Burton 71.91 46 P **P** **07 15 09.3 +0.3**
baz=327,SNR=82
I63A Otisfield 71.92 37 P **P** **07 15 09.5 +0.6**
baz=331,SNR=25
I63A Otisfield 71.92 37 IAmb IAmb 07 15 11.7
comp=Z,274nm,1.1s
I63A IAMs_20 IAMs_20 07 48 22.1
comp=Z,12μm,22.0s
G65A Princeton 71.93 35 P **P** **07 15 09.3 +0.4**
baz=332,SNR=20
G65A Princeton 71.93 35 IAMs_20 IAMs_20 07 51 07.9
comp=Z,13μm,18.0s
YLL Llanberis 71.95 351⇑ *i*P **P** **07 15 08.5 -0.4**
NAX Nakhchivan 71.96 313 P **P** **07 15 09.4 +0.1**
K60A Five Rivers En 71.96 40 P **P** **07 15 08.8 -0.3**
baz=330,SNR=8.6
DBAD Bademkaya 71.97 317⇑ *i*P **P** **07 15 10.1 +0.7**
833A Chaparral WMA, 72.01 66 P **P** **07 15 10.8 +1.1**
baz=323,SNR=87
833A Chaparral WMA, 72.01 66 IAmb IAmb 07 15 12.5
comp=Z,315nm,1.0s
833A IAMs_20 IAMs_20 07 45 07.8
comp=Z,18μm,21.0s
DSB Dublin 72.02 353⇑ *e*P **P** **07 15 09.6 +0.2**
DSB Dublin 72.02 353 IAmb IAmb 07 15 11.2
comp=Z,586nm,1.1s
FFD Franklin Falls 72.04 38 IAMs_20 IAMs_20 07 50 46.5
comp=Z,9μm,19.0s
IGLA Glengowla, Co 72.04 355 *e*P **P** **07 15 08.2 -1.2**
M58A Price's Panora 72.04 42 P **P** **07 15 09.2 -0.5**
baz=329,SNR=27
R52A Catlettsburg 72.04 48 P **P** **07 15 09.8 +0.1**
baz=326,SNR=28
DDEM Demirkent 72.05 317⇑ *i*P **P** **07 15 10.2 +0.3**
TRPA Tarpa 72.06 333 ⇓P **P** **07 15 10.9 +1.3**
CWF Charnwood Fore 72.07 350⇑ *e*P **P** **07 15 09.5 -0.2**
CWF IAmb IAmb 07 15 11.6
comp=Z,696nm,1.1s
CWF IAMs_20 IAMs_20 07 40 05.8
comp=Z,12μm,36.0s
Q53A Leroy 72.09 47 P **P** **07 15 10.2 +0.2**
baz=327,SNR=71
SENK Senkaya-Erzuru 72.09 316 P **P** **07 15 11.0 +0.7**
OXF Oxford 72.10 55 P **P** **07 15 10.5 +0.4**
baz=325,SNR=128
OXF Oxford 72.10 55 IAMs_20 IAMs_20 07 47 31.9
comp=Z,19μm,21.0s
SSPA Standing Stone 72.10 44 P **P** **07 15 10.1 0.0**
baz=328
SSPA Standing Stone 72.10 44 P **P** **07 15 09.7 -0.4**
SSPA Standing Stone 72.10 44 IAMs_20 IAMs_20 07 48 00.5
comp=Z,10μm,20.0s
FOEL Foel Wylfa 72.11 351⇑ *i*P **P** **07 15 10.1 +0.1**
FOEL IAmb IAmb 07 15 11.4
comp=Z,5μm,2.1s
MCWV Mont Chateau 72.13 46 P **P** **07 15 10.5 +0.3**
baz=327,SNR=40
N57A Milroy 72.14 44 P **P** **07 15 10.1 -0.1**
baz=328,SNR=72
O56A Blue Knob Stat 72.14 45 P **P** **07 15 10.5 +0.2**
baz=328,SNR=44
K61A Williamstown 72.15 40 P **P** **07 15 10.2 -0.1**
baz=330,SNR=21
H65A Eastbrook 72.15 35 P **P** **07 15 10.3 +0.1**
baz=332,SNR=10
BIZ Bicaz 72.15 330 ⇑P **P** **07 15 10.8 +0.5**
KSPA Keystone Colle 72.16 42 IAMs_20 IAMs_20 07 50 17.9
comp=Z,10μm,19.0s
U49A Red Boiling Sp 72.16 52 P **P** **07 15 10.7 +0.3**
baz=326,SNR=66
T50A Nancy 72.16 51 P **P** **07 15 10.6 +0.1**
baz=326,SNR=92
PRA Prague 72.17 339 *e*P **P** **07 15 10.9 +0.6**
PRA *e*S **S** **07 24 29.6 +1.9**
PRA MLR MLR
comp=Z,17μm,15.2s
PRA Prague 72.17 339 *e*P **P** **07 15 10.9 +0.6**
PRA *ex* x 07 15 13.8
PRA *ex* x 07 17 42.5
PRA *ex* x 07 19 27.3
PRA *e*S **S** **07 24 29.6 +1.9**
PRA AMS AMS 07 51 50.0
comp=Z,17μm,15.2s
LLW Llanuwychllyn 72.19 351⇑ *e*P **P** **07 15 10.2 -0.2**
J62A Henniker 72.20 38 P **P** **07 15 11.3 +0.7**
baz=330,SNR=12
MTN Manton Dam 72.20 212 IAmb IAmb 07 15 13.6
comp=Z,273nm,0.9s
S51A Beattyville 72.21 49 P **P** **07 15 10.8 +0.1**
baz=326,SNR=35
S51A Beattyville 72.21 49 IAMs_20 IAMs_20 07 47 00.5
comp=Z,19μm,22.0s
BMR Baia Mare 72.22 332 ⇑P **P** **07 15 11.1 +0.5**
BMR Baia Mare 72.22 332 ⇑P **P** **07 15 11.1 +0.5**
PRU Pruhonice 72.23 339 *e*P **P** **07 15 11.1 +0.5**
PRU *e* 07 19 30.4
PRU *e*S **S** **07 24 21.5 -6.8**
PRU MLR MLR
comp=Z,15μm,17.4s
PRU Pruhonice 72.23 339 *e*P **P** **07 15 11.1 +0.5**
PRU *ex* x 07 15 13.7
PRU *e*PP PP 07 17 41.7 -9.3
PRU *ex* x 07 19 30.4
PRU *e*S **S** **07 24 21.5 -6.8**
PRU AMS AMS 07 51 20.0
comp=Z,15μm,17.4s
LMN Caledonia Moun 72.23 32 IAMs_20 IAMs_20 07 51 07.2
comp=Z,10μm,19.0s
GGN Saint George 72.24 34 IAMs_20 IAMs_20 07 47 45.7
comp=Z,12μm,22.0s
GOPC GO Pecny, Ondr 72.25 339 *e*P **P** **07 15 10.9 +0.1**
GOPC *e* 07 17 46.6
GOPC *e*S **S** **07 24 29.5 +0.9**
GOPC MLR MLR
comp=Z,14μm,18.9s
GOPC GO Pecny, Ondr 72.25 339 *e*P **P** **07 15 10.9 +0.1**
GOPC *ex* x 07 15 13.9
GOPC *e*PP **PP** **07 17 46.6 -4.6**
GOPC *ex* x 07 19 28.1
GOPC *e*S **S** **07 24 29.5 +0.9**
GOPC AMS AMS 07 51 10.0
comp=Z,14μm,18.9s
KECS Kecovo 72.26 334 *e*P **P** **07 15 11.6 +0.7**
KECS pmax pmax

comp=Z,375nm,1.0s
KECS Kecovo 72.26 334 *e*P **P 07 15 11.6 +0.7**
P55A Reedsville 72.26 46 P **P 07 15 11.6 +0.5**
baz=328,SNR=83
CHOM Cayeli-Rize 72.27 317 P **P 07 15 09.9 -1.2**
Q54A Coxs Mills 72.28 47 P **P 07 15 11.3 +0.2**
baz=327,SNR=52
Q54A Coxs Mills 72.28 47 IAms_20 IAms_20 07 49 36.5
comp=Z,11μm,19.0s
HYB Hyderabad 72.30 275 *i* P **P 07 15 09.0 -2.6**
HYB *e*PP **PP 07 17 50.0 -2.6**
HYB *e*S **S 07 24 27.0 -3.1**
HYB *e*SKS **ScS 07 25 11.0 -2.0**
HYB *e*LR LR
comp=Z,14nm,26.0s
HYB Hyderabad 72.30 275⇑ *i*P **P 07 15 08.9 -2.7**
HYB IAmb IAmb 07 15 13.8
comp=Z,354nm,0.7s
HYB *e*S S 07 24 19.2 -11
M59A Waymart 72.30 42 P **P 07 15 10.7 -0.5**
baz=329,SNR=18
BIR Birlad 72.31 329⇑P **P 07 15 12.4 +1.2**
BIR Birlad 72.31 329⇑P **P 07 15 12.4 +1.2**
V48A Smith Brothers 72.31 53 P **P 07 15 11.8 +0.4**
baz=325,SNR=150
V48A Smith Brothers 72.31 53 IAmb IAmb 07 15 13.3
comp=Z,342nm,1.0s
V48A IAms_20 IAms_20 07 47 48.9
comp=Z,14μm,22.0s
R53A Hurricane 72.35 48 P **P 07 15 11.9 +0.3**
baz=327,SNR=67
R53A Hurricane 72.35 48 IAmb IAmb 07 15 13.3
comp=Z,366nm,1.0s
R53A IAms_20 IAms_20 07 48 33.5
comp=Z,11μm,20.0s
PLAL Pickwick Lake 72.35 54 IAmb IAmb 07 15 13.3
comp=Z,462nm,0.9s
I64A Boothbay 72.36 37 P **P 07 15 11.8 +0.3**
baz=331,SNR=8.5
L60A Shokan 72.38 41 P **P 07 15 11.4 -0.3**
baz=330,SNR=24
H66A Whiting 72.38 35 P **P 07 15 11.8 +0.2**
baz=332,SNR=14
TESR Tescani 72.38 329⇑P **P 07 15 11.6 -0.1**
N58A Sunbury 72.40 43 P **P 07 15 11.5 -0.3**
baz=329,SNR=42
N58A Sunbury 72.40 43 IAms_20 IAms_20 07 48 32.3
comp=Z,10μm,22.0s
EMMW East Machias 72.40 35 IAms_20 IAms_20 07 50 19.8
comp=Z,12μm,19.0s
S52A Salyersville 72.40 49 P **P 07 15 11.9 0.0**
baz=326,SNR=9.5
DYDN Diyadin 72.41 315⇑ *i*P **P 07 15 13.1 +0.9**
J63A Strafford 72.41 38 P **P 07 15 11.6 -0.2**
baz=331,SNR=7.4
VRAC Vranov 72.42 337⇑P **P 07 15 13.0 +1.1**
VRAC Vranov 72.42 337 LR LR 07 50 22.7
comp=Z,24μm,21.8s,baz=24,slow=39
VRAC Vranov 72.42 337⇑P **P 07 15 13.0 +1.1**
VRAC Vranov 72.42 337⇑ *i*P **P 07 15 12.8 +1.0**
VRAC *e*S **S 07 24 33.3 +2.7**
NKC Novy Kostel 72.42 340 *e*P **P 07 15 12.2 +0.4**
NKC *e* 07 17 48.4
NKC *e*S **S 07 24 26.8 -3.8**
NKC MLR MLR
comp=Z,21μm,15.7s
NKC Novy Kostel 72.42 340 *e*P **P 07 15 12.2 +0.4**
NKC *e*PP **PP 07 17 48.4 -4.3**
NKC *e*S **S 07 24 26.8 -3.8**
NKC AMS AMS 07 52 30.0
comp=Z,21μm,15.7s
HLM1 Long Mynd 72.45 350⇑ *i*P **P 07 15 12.0 +0.1**
HLM1 IAmb IAmb 07 15 13.4
comp=Z,3μm,1.9s
HLM1 IAms_20 IAms_20 07 40 14.8
comp=Z,11μm,30.1s
L61A Hillsdale 1, H 72.45 40 P **P 07 15 11.8 -0.3**
baz=330,SNR=14
CEI Carei 72.49 333⇓P **P 07 15 14.1 +1.9**
CEI Carei 72.49 333⇓P **P 07 15 14.1 +1.9**
PSI Prapat 72.49 249 P **P 07 15 13.8 +1.0**
comp=Z,209nm,0.7s
ARCR ARCALIA 72.52 331⇑P **P 07 15 13.6 +1.1**
K62A Royalston 72.53 39 P **P 07 15 12.3 -0.2**
baz=330,SNR=10
L61B Northampton 72.55 39 P **P 07 15 12.3 -0.4**
baz=330,SNR=7.2
O57A Amberson 72.56 44 P **P 07 15 13.1 +0.3**
baz=328,SNR=55
RPSI Rantau Prapat 72.58 249 P **P 07 15 13.8 +0.7**
RPSI Rantau Prapat 72.58 249 IAms_20 IAms_20 07 47 20.0
comp=Z,11μm,22.0s
HKT Hockley 72.58 63 P **P 07 15 13.4 +0.4**
HKT pmax pmax
comp=Z,475nm,1.5s
HKT Hockley 72.58 63 P **P 07 15 13.4 +0.4**
HKT IAmb IAmb 07 15 15.6
comp=Z,475nm,1.4s
Q55A Buckhannon 72.59 46 P **P 07 15 13.5 +0.5**
baz=328,SNR=82
JAVC Velka Javorina 72.59 336⇑ *i*P **P 07 15 14.7 +1.8**
JAVC *e*S **SKiKP 07 24 37.1 -4.1**
T51A Gray 72.61 50 P **P 07 15 13.3 +0.1**
baz=326,SNR=37
PBCC Pribram 72.63 339 *e*P **P 07 15 13.1 0.0**
PBCC *e*x x 07 15 16.3
PBCC *e*x x 07 15 28.4
PBCC *e*x x 07 19 39.2
PBCC *e*S S 07 24 18.8 -14
PBCC AMS AMS 07 52 10.0
comp=Z,4μm,16.0s
EATA Eleskirt 72.63 316⇑ *i*P **P 07 15 15.3 +1.7**
TSSL Sulina 72.65 327⇑P **P 07 15 14.9 +1.7**
TPI Tanjungpandan 72.66 238 P **P 07 15 14.9 +1.3**
comp=Z,311nm,1.2s,comp=Z,7μm
VYHS Vyhne 72.66 335 *e*P **P 07 15 14.1 +0.8**
VYHS pmax pmax
comp=Z,3μm,1.7s
VYHS Vyhne 72.66 335 *e*P **P 07 15 14.1 +0.8**
VYHS *e*S **S 07 24 33.0 -0.3**
VYHS *e*L L 07 46 59.2
U50A Jamestown 72.66 51 P **P 07 15 13.7 +0.2**
baz=326,SNR=60
P56A Dayton Farm, R 72.67 45 P **P 07 15 13.9 +0.4**
baz=328,SNR=70
TREC Trest 72.68 338 *e*P **P 07 15 13.9 +0.5**
TREC *e* 07 15 30.1
TREC *e* 07 17 51.0
TREC *e* 07 19 34.7
TREC MLR MLR
comp=Z,19μm,17.4s
TREC Trest 72.68 338 *e*P **P 07 15 13.9 +0.5**
TREC *e*x x 07 15 16.8
TREC *e*pP **pP 07 15 30.1 0.0**
TREC *e*PP **PP 07 17 51.0 -3.9**
TREC *e*x x 07 19 34.7
TREC *e*S S 07 24 09.5 -24
TREC AMS AMS 07 52 00.0
comp=Z,19μm,17.4s
KOLL Kolacno 72.68 336 *e*P **P 07 15 14.5 +1.1**
KRUC Moravsky 72.70 337⇑ *i*P **P 07 15 14.3 +0.8**
KRUC *e*S **SKiKP 07 24 36.4 -4.9**
N59A State Game Lan 72.70 42 P **P 07 15 13.4 -0.3**
baz=329,SNR=31
HOMI Horasan 72.71 316⇑ *i*P **P 07 15 15.0 +1.0**
V49A McMinnville 72.72 52 P **P 07 15 13.9 +0.1**
baz=326,SNR=64
BHUJ Bhuj 72.76 286⇑ *i*P **P 07 15 13.3 -0.8**
BHUJ *e*S **S 07 24 30.4 -4.7**
BHUJ IAms_20 IAms_20 07 48 12.4
comp=Z,21μm,26.4s
K63A Dunstable 72.77 38 P **P 07 15 14.3 +0.3**
baz=331,SNR=13
KOPR Koprukoy-ERZUR 72.78 316 P **P 07 15 15.1 +0.8**
MACK Trabzon 72.79 318⇑ *i*P **P 07 15 14.0 -0.3**
M60A Port Jervis 72.79 41 P **P 07 15 13.9 -0.3**
baz=330,SNR=23
S53A Williamson 72.81 48 P **P 07 15 14.7 +0.3**
baz=327,SNR=18
GIUM Giurgiulesti 72.84 328⇓P **P 07 15 15.1 +0.8**
KRIK Erzurum-spir 72.85 317⇑ *i*P **P 07 15 16.4 +1.6**
SLCR Slobozia Conac 72.88 328 P **P 07 15 15.0 +0.5**
AKDA Akdag 72.88 316⇑ *i*P P 07 15 22.1 +7.1
KSCT Kent School, K 72.88 40 IAms_20 IAms_20 07 48 32.9
comp=Z,10μm,21.0s
R54A Victor 72.89 47 P **P 07 15 15.2 +0.4**
baz=327,SNR=75
TUDR 72.91 328⇑P **P 07 15 16.3 +1.6**
HRV Adam Dziewonsk 72.92 39 P **P 07 15 15.2 +0.4**
baz=331
HRV Adam Dziewonsk 72.92 39 P **P 07 15 14.8 -0.1**
HRV pmax pmax
comp=Z,205nm,1.3s
HRV MLR MLR
comp=Z,8μm,20.0s
HRV Adam Dziewonsk 72.92 39 P **P 07 15 14.8 -0.1**
T52A Hallie 72.92 49 P **P 07 15 15.8 +0.8**
baz=327,SNR=118
T52A Hallie 72.92 49 IAmb IAmb 07 15 17.8
comp=Z,604nm,1.2s
TLCR 72.92 327⇑P **P 07 15 14.9 +0.1**
TLCR 72.92 327⇑P **P 07 15 14.9 +0.1**
IWEX Carrickbyrne, 72.92 353⇑ *e*P **P 07 15 14.9 +0.3**
IWEX IAmb IAmb 07 15 16.2
comp=Z,2μm,1.8s
IZVR Izvoarele 72.92 328 P **P 07 15 15.4 +0.6**
PETR Petresti 72.92 329⇑P **P 07 15 15.9 +1.1**
Q56A Snyder Ridge, 72.92 46 P **P 07 15 15.3 +0.3**
baz=328,SNR=31
Q56A Snyder Ridge, 72.92 46 IAms_20 IAms_20 07 48 32.2
comp=Z,14μm,20.0s
L62A Suffield 72.92 40 P **P 07 15 14.8 -0.1**
baz=330,SNR=6.9
VMUR Van-Muradiye 72.92 314⇑ *i*P **P 07 15 16.7 +1.5**
PSZ Piszkesteto 72.93 334⇑P **P 07 15 16.0 +1.0**
PSZ Piszkesteto 72.93 334⇑P **P 07 15 16.0 +1.0**
VRI Vrincioaia 72.94 329⇑P **P 07 15 15.2 +0.3**
VRI Vrincioaia 72.94 329⇑P **P 07 15 15.2 +0.3**
VRI Vrincioaia 72.94 329 P **P 07 15 15.3 +0.3**
SMOL Smolenice 72.97 336 *e*P **P 07 15 16.3 +1.2**
SMOL pmax pmax
comp=Z,680nm,1.0s
SMOL Smolenice 72.97 336 *e*P **P 07 15 16.3 +1.2**
MCH1 Michaelchurch 72.98 350⇑ *e*P **P 07 15 14.9 -0.1**
MCH1 IAmb IAmb 07 15 17.0
comp=Z,354nm,0.8s
PLOR Plostina 72.98 329⇑P **P 07 15 15.5 +0.3**
PLOR Plostina 72.98 329⇑P **P 07 15 15.5 +0.3**
BRAG Branistea 72.99 328 P **P 07 15 15.6 +0.4**
N60A Cedar Hill Far 73.00 42 P **P 07 15 14.8 -0.6**
baz=329,SNR=17
ODNJ Ogdensburg 73.01 41 IAms_20 IAms_20 07 50 46.5
comp=Z,10μm,19.0s
OZUR 73.01 330⇑P **P 07 15 16.2 +0.8**
P57A Homestead Farm 73.03 45 P **P 07 15 15.6 0.0**
baz=328,SNR=19
P57A Homestead Farm 73.03 45 IAms_20 IAms_20 07 47 41.1
comp=Z,20μm,22.0s
TPTI 73.06 251 P **P 07 15 15.3 -0.7**
HGN Heimansgroeve 73.06 344 *e*P **P 07 15 15.7 +0.2**
HGN *e*S **SKiKP 07 24 40.4 -1.4**
U51A La Follette 73.06 50 P **P 07 15 16.2 +0.3**
baz=326,SNR=66
S54A Dingess, Beckl 73.07 48 P **P 07 15 16.0 +0.1**
baz=327,SNR=18
S54A Dingess, Beckl 73.07 48 IAms_20 IAms_20 07 49 15.4
comp=Z,9μm,19.0s
CJR Cluj-Napoca 73.07 332⇑P **P 07 15 16.5 +0.7**
CJR Cluj-Napoca 73.07 332⇑P **P 07 15 16.5 +0.7**
W49A Belvidere 73.08 53 P **P 07 15 16.2 +0.3**
baz=326,SNR=95
WES Weston 73.11 38 IAms_20 IAms_20 07 51 32.7
comp=Z,9μm,19.0s
STRD Stroud 73.11 350⇑ *e*P **P 07 15 15.8 0.0**
STRD IAmb IAmb 07 15 17.3
comp=Z,4μm,1.8s
MONM Monmouth 73.11 350 *i*P **P 07 15 16.1 +0.3**
BAYT Aydıntepe-Bayb 73.12 317 P **P 07 15 16.8 +0.5**
M61A Granite Spring 73.13 41 P **P 07 15 15.8 -0.4**
baz=330,SNR=9.5
CFR Carcaliu 73.14 328⇑P **P 07 15 16.1 0.0**
CFR Carcaliu 73.14 328⇑P **P 07 15 16.1 0.0**
TZTN Tazewell 73.14 50 P **P 07 15 16.4 +0.1**
baz=326,SNR=45
MODS Modra-Piesok 73.14 336 *e*P **P 07 15 16.4 +0.3**
MODS pmax pmax
comp=Z,2μm,1.4s
MODS Modra-Piesok 73.14 336 *e*P **P 07 15 16.4 +0.3**
MODS *e*S **S 07 24 36.1 -2.7**
MODS *e*L L 07 45 24.1
SWET Sewanee 73.16 53 IAmb IAmb 07 15 17.8
comp=Z,386nm,0.9s
SWET IAms_20 IAms_20 07 49 25.0
comp=Z,11μm,21.0s
V50A Pikeville 73.16 52 P **P 07 15 16.7 +0.3**
baz=326,SNR=72
GRA1 Grafenberg Arr 73.18 341 IAms_20 IAms_20 07 49 56.7
comp=Z,14μm,21.0s
RSBS Rosebush, Pemb 73.18 352⇑ *e*P **P 07 15 15.2 -1.0**
RSBS IAmb IAmb 07 15 17.3
comp=Z,655nm,1.7s
RSBS IAms_20 IAms_20 07 42 19.0
comp=Z,6μm,30.7s
BAYB BAYBURT 73.19 317⇑ *i*P **P 07 15 17.5 +0.7**
MLAZ Malazgirt-MUS 73.22 315 P **P 07 15 17.9 +1.0**
T53A Wise 73.22 49 P **P 07 15 17.5 +0.6**
baz=327,SNR=95
BISRR Bisoca 73.23 329⇓P **P 07 15 17.8 +1.0**
DRGR 73.24 332⇑P **P 07 15 17.1 +0.3**
DRGR 73.24 332⇑P **P 07 15 17.1 +0.3**
KHC Kasperske Hory 73.24 339 *e*P **P 07 15 17.2 +0.5**
KHC *e* 07 15 33.8
KHC *e* 07 17 57.7
KHC *e* 07 19 40.3
KHC *e*S **S 07 24 39.7 -0.3**
KHC MLR MLR
comp=Z,21μm,17.0s
KHC Kasperske Hory 73.24 339 *e*P **P 07 15 17.2 +0.5**
KHC *e*x x 07 15 20.4
KHC *e*x x 07 15 33.8
KHC *e*x x 07 16 34.5
KHC *e*PP **PP 07 17 57.7 -2.0**
KHC *e*x x 07 19 40.3
KHC *e*S **S 07 24 39.7 -0.3**
KHC AMS AMS 07 52 30.0
comp=Z,21μm,17.0s
KHC Kasperske Hory 73.24 339 IAmb IAmb 07 15 19.3
comp=Z,1μm,1.4s
KHC IAms_20 IAms_20 07 52 57.4
comp=Z,8μm,18.0s
DOPR Dopca 73.24 330⇑P **P 07 15 17.8 +1.0**
Q57A Strasburg 73.25 45 P **P 07 15 17.1 +0.2**
baz=328,SNR=40
OLDB Oldbury-Upon-S 73.27 350⇑ *e*P **P 07 15 16.7 -0.1**
OLDB IAmb IAmb 07 15 18.0
comp=Z,3μm,2.2s
UCC Uccle 73.27 345 IAmb IAmb 07 15 19.3
comp=Z,1μm,1.7s
UCC IAms_20 IAms_20 07 53 26.8
comp=Z,14μm,19.0s
X48A Hartselle 73.27 54 P **P 07 15 17.0 0.0**
baz=326,SNR=108
X48A Hartselle 73.27 54 IAmb IAmb 07 15 18.5
comp=Z,325nm,1.1s
X48A IAms_20 IAms_20 07 47 47.0
comp=Z,17μm,20.0s
KOPT Kop Dagi 73.30 317⇑ *i*P **P 07 15 18.7 +1.2**
GRER 73.31 329⇑P **P 07 15 18.7 +1.6**
P58A Pank, Wackersv 73.31 44 P **P 07 15 17.1 -0.1**
baz=329,SNR=44
TOPG Topolog 73.33 328⇓P **P 07 15 17.9 +0.7**
VANB Van 73.33 314 P **P 07 15 18.6 +1.1**
SWN1 Swindon 73.33 350⇑ *e*P **P 07 15 16.9 -0.3**
SWN1 IAmb IAmb 07 15 18.8
comp=Z,9μm,2.1s
U52A Thorn Hill 73.34 50 P **P 07 15 18.1 +0.6**
baz=327,SNR=112
PAL Palisades 73.34 41 P **P 07 15 17.2 -0.2**
baz=330,SNR=17
PAL Palisades 73.34 41 IAms_20 IAms_20 07 49 57.2
comp=Z,9μm,21.0s
M62A Handen 73.35 40 P **P 07 15 17.0 -0.4**
baz=330
ZST Bratislava 73.35 336 *e*P **P 07 15 17.8 +0.5**
ZST *e*S **SKiKP 07 24 40.5 -1.8**
ZST Bratislava 73.35 336 *e*P **P 07 15 17.8 +0.5**
ZST *e*S **SKiKP 07 24 40.5 -1.8**
ELSH Elham, Standar 73.36 348⇑ *e*P **P 07 15 17.0 -0.3**
ELSH IAmb IAmb 07 15 18.8
comp=Z,4μm,1.9s
ELSH IAms_20 IAms_20 07 43 23.2
comp=Z,16μm,32.3s
O60A Telford 73.36 42 P **P 07 15 17.1 -0.3**
baz=329,SNR=7.2
R56A Bull Pasture M 73.37 46 P **P 07 15 17.9 +0.2**
baz=328,SNR=48
PLAI Plampang 73.37 226 P **P 07 15 17.1 -0.7**
comp=Z,301nm,1.0s,comp=Z,5μm,comp=Z,12μm
BRNJ Basking Ridge 73.37 42 IAms_20 IAms_20 07 51 05.0
comp=Z,10μm,20.0s
MDB Medias 73.37 331⇑P **P 07 15 19.1 +1.6**
MDB Medias 73.37 331⇑P **P 07 15 19.1 +1.6**
BUW Bucklebury Wes 73.38 349⇑ *e*P **P 07 15 17.3 -0.1**
BUW IAmb IAmb 07 15 18.4
comp=Z,945nm,1.1s
TVAN Van 73.38 314⇑ *i*P **P 07 15 19.1 +1.1**
MSVF Nonsavu 73.39 164 P **P 07 15 19.0 +1.2**
MSVF Nonsavu 73.39 164 P **P 07 15 19.0 +1.2**
V51A Loudon 73.39 51 P **P 07 15 18.4 +0.6**
baz=326,SNR=65
N61A South Mountain 73.41 41 P **P 07 15 17.7 -0.1**
baz=330,SNR=9.0
SRO Srobarova 73.42 335 *e*P **P 07 15 19.4 +1.7**
SRO Srobarova 73.42 335 *e*P **P 07 15 19.4 +1.7**
KVTX Kingsville 73.43 66 IAms_20 IAms_20 07 47 05.3
comp=Z,9μm,18.0s
BKNI Bangkinang 73.43 246 P **P 07 15 19.5 +1.3**
comp=Z,986nm,0.9s,comp=Z,19μm
BKNI Bangkinang 73.43 246 IAmb IAmb 07 15 21.6
comp=Z,629nm,0.9s
BKNI IAms_20 IAms_20 07 51 42.6
comp=Z,11μm,19.0s
ADCV BITLIS_Adilcev 73.43 315⇑ *i*P **P 07 15 19.9 +1.7**
VBMS Vicksburg 73.43 58 P **P 07 15 19.0 +1.0**
baz=325,SNR=30
VBMS Vicksburg 73.43 58 IAmb IAmb 07 15 20.5
comp=Z,550nm,1.1s
VBMS IAms_20 IAms_20 07 46 48.3
comp=Z,19μm,22.0s
S55A Lewisburg 73.44 47 P **P 07 15 18.4 +0.3**
baz=328,SNR=40
YLE Yale 73.44 40 IAms_20 IAms_20 07 49 00.8
comp=Z,11μm,22.0s
W50A Signal Mountai 73.45 52 P **P 07 15 18.6 +0.3**
baz=326,SNR=80
W50A Signal Mountai 73.45 52 IAmb IAmb 07 15 19.9
comp=Z,304nm,1.1s
W50A IAms_20 IAms_20 07 51 48.9
comp=Z,8μm,18.0s
L63A North Scituate 73.46 39 P **P 07 15 17.7 -0.3**
baz=331,SNR=5.8
ECAT Cat-ERZURUM 73.46 316⇑ *i*P **P 07 15 19.1 +0.7**
WOL Wolverton 73.47 349⇑ *e*P **P 07 15 16.9 -1.0**
ORDU Ordu-Boztepe 73.48 319⇑ *i*P **P 07 15 18.7 +0.4**
GEC2 GERESS Array S 73.49 339 P **P 07 15 18.4 +0.1**
GEC2 IAms_20 IAms_20 07 52 30.9
comp=Z,16μm,18.0s
GERES GERESS Array B 73.49 339 P **P 07 15 18.2 0.0**
GERES GERESS Array B 73.49 339 P **P 07 15 18.4 +0.1**
comp=Z,269nm,0.8s,baz=35,slow=4.9,SNR=722
GERES S **S 07 24 45.2 +2.3**
comp=Z,0.5nm,0.2s,baz=32,slow=9.3,SNR=3.5
GERES LR LR 07 52 32.5
comp=Z,11μm,19.0s,baz=26,slow=40
GERES GERESS Array B 73.49 339 P **P 07 15 18.2 0.0**
CPNY Central Park 73.51 41 IAms_20 IAms_20 07 51 11.6
comp=Z,11μm,22.0s
MLR Muntele Rosu 73.51 329⇓P **P 07 15 18.9 +0.4**
MLR Muntele Rosu 73.51 329 LR LR 07 51 42.0
comp=Z,37μm,18.6s,baz=24,slow=39
MLR Muntele Rosu 73.51 329⇓P **P 07 15 18.9 +0.4**
BASK Baskale_VAN 73.53 313⇑ *i*P **P 07 15 19.7 +0.9**
P59A Jarrettsville 73.56 43 P **P 07 15 18.7 0.0**
baz=329,SNR=42
T54A Tazewell 73.57 48 P **P 07 15 19.5 +0.6**
baz=327,SNR=90
N62A Caumsett State 73.58 41 P **P 07 15 18.4 -0.3**
baz=330
Q58A Fox Den Farm, 73.62 45 P **P 07 15 19.3 +0.2**
baz=328,SNR=99
GBN Guysborough 73.63 30 IAmb IAmb 07 15 37.5
comp=Z,434nm,1.3s
GBN IAms_20 IAms_20 07 52 07.1
comp=Z,13μm,20.0s
HARR Harsova 73.64 328⇓P **P 07 15 19.2 +0.1**
HARR Harsova 73.64 328⇓P **P 07 15 19.2 +0.1**
VRTB Varto-Mus 73.65 316⇑ *i*P **P 07 15 21.3 +1.8**
VRTB Varto-Mus 73.65 316 P **P 07 15 21.7 +2.3**
L64A Middleborough 73.67 38 P **P 07 15 19.6 +0.4**
baz=331,SNR=9.6
ISR Istrita 73.67 329⇑P **P 07 15 19.8 +0.5**
ISR Istrita 73.67 329⇑P **P 07 15 19.8 +0.5**
KELT Kelkit 73.67 318⇑ *i*P **P 07 15 20.5 +0.8**
PSUB Penn St. - Bra 73.67 43 IAms_20 IAms_20 07 54 04.1
comp=Z,10μm,19.0s
KARO Karliova-Bingo 73.68 316 P **P 07 15 19.8 +0.1**
M63A Gales Ferry 73.70 39 P **P 07 15 19.2 -0.2**
baz=331,SNR=7.0
TLB Topalu 73.70 328⇑P **P 07 15 19.5 +0.1**
TLB Topalu 73.70 328⇑P **P 07 15 19.5 +0.1**
V52A Sevierville 73.70 51 P **P 07 15 20.0 +0.4**
baz=327,SNR=76
HAL Halifax 73.70 32 IAms_20 IAms_20 07 51 54.0
comp=Z,12μm,20.0s
P60A Greenville 73.70 43 P **P 07 15 19.3 -0.2**
baz=329,SNR=11
P60A Greenville 73.70 43 IAms_20 IAms_20 07 54 04.9
comp=Z,9μm,20.0s
GEVA Gevas 73.71 314⇑ *i*P **P 07 15 20.8 +0.9**
U53A Fall Branch 73.72 49 P **P 07 15 20.3 +0.6**
baz=327,SNR=82
HMNX Herstmonceux 73.73 348⇑ *e*P **P 07 15 19.7 +0.2**
HMNX IAmb IAmb 07 15 21.3
comp=Z,3μm,1.7s
HMNX IAms_20 IAms_20 07 43 21.5
comp=Z,15μm,30.4s
PGOR Pogoanele 73.73 329⇑P **P 07 15 20.9 +1.3**
W51A Cleveland 73.74 52 P **P 07 15 20.1 +0.3**
baz=326,SNR=50
SAMS Samsun-Alacam 73.79 321⇑ *i*P **P 07 15 20.6 +0.6**
YOVA Hakkari_Yksek 73.81 313⇑ *i*P **P 07 15 20.2 -0.2**
R57A Stanardsville 73.83 46 P **P 07 15 20.8 +0.5**
baz=328,SNR=72
FPAL Fort Paine 73.86 53 IAmb IAmb 07 15 22.3
comp=Z,271nm,1.0s
T55A Pulaski 73.87 48 P **P 07 15 21.3 +0.6**
baz=328,SNR=55
DIKM Dikmen 73.88 321 P **P 07 15 21.2 +0.7**
EUZM Uzumlu 73.88 317⇑ *i*P **P 07 15 21.2 +0.5**
O61A Allentown 73.88 42 P **P 07 15 20.2 -0.3**
baz=330,SNR=7.7
CONA Conrad Observa 73.88 337 *i* P **P 07 15 21.4 +0.9**
comp=Z,2μm,1.9s,SNR=462
CONA *i* S **SKiKP 07 24 43.5 +0.3**
comp=Z,24nm,1.5s
TSCT Constanta Port 73.89 327⇓P **P 07 15 22.0 +1.5**
SECR 73.89 329⇑P **P 07 15 20.7 +0.1**
AMRR Amara 73.89 328⇑P **P 07 15 21.1 +0.6**
AMRR Amara 73.89 328⇑P **P 07 15 21.1 +0.6**
S56A Natural Bridge 73.91 47 P **P 07 15 21.4 +0.6**
baz=328,SNR=47
U54A Nelsons Funny 73.92 49 P **P 07 15 21.3 +0.4**
baz=327,SNR=57
U54A Nelsons Funny 73.92 49 IAmb IAmb 07 15 22.7
comp=Z,253nm,0.9s
U54A IAms_20 IAms_20 07 49 34.7
comp=Z,12μm,20.0s
CVDA Cernavoda 73.93 328⇓P **P 07 15 21.8 +1.0**
GURO Guroymak-BITLI 73.93 315 P **P 07 15 22.0 +0.9**
BLA Blacksburg 73.94 48 P **P 07 15 21.5 +0.4**
baz=328,SNR=65
BLA Blacksburg 73.94 48 IAms_20 IAms_20 07 47 44.6
comp=Z,12μm,22.0s
MFTR Murfatlar 73.95 327⇓P **P 07 15 21.6 +0.7**
BNGL BINGOL 73.95 316⇑ *i*P **P 07 15 22.7 +1.4**
EFOR EFORIE 73.97 327⇑P **P 07 15 21.6 +0.6**
HEX Exmoor 73.97 351⇑ *e*P **P 07 15 20.6 -0.3**
ERZN Erzincan 73.97 317 P **P 07 15 22.4 +1.1**
MUSM Mu-Merkez 74.00 316⇑ *i*P **P 07 15 22.0 +0.5**
SIRR Siria 74.01 333⇑P **P 07 15 21.8 +0.6**
ARR Arges 74.01 330⇑P **P 07 15 22.5 +1.2**
BLIS Bitlis-Merkez 74.01 315⇑ *i*P **P 07 15 23.0 +1.4**
MTUR Matau 74.01 330⇑P **P 07 15 22.4 +1.0**
MTUR Matau 74.01 330⇑P **P 07 15 22.4 +1.0**
PLAR PLOIESTI 74.01 329⇑P **P 07 15 21.8 +0.5**

DEV	Deva	74.02	332	⇓P		P		07 15 21.8	+0.5
DEV	Deva	74.02	332	⇓P		P		07 15 21.8	+0.5
SUSE	Susehri	74.03	319	⇑iP		P		07 15 21.4	-0.2
R58A	Rapidan	74.04	45	P		P		07 15 21.9	+0.4
	baz=328,SNR=70								
BZK	Bozkurt	74.05	322	P		P		07 15 21.6	+0.1
Y49A	Blount Mountai	74.05	54	P		P		07 15 21.7	0.0
	baz=326,SNR=73								
Y49A	Blount Mountai	74.05	54	IAmb		IAmb		07 15 23.2	
	comp=Z,277nm,1.0s								
M65A	Busby, Falmout	74.07	38	IAms_20		IAms_20		07 50 34.2	
	comp=Z,9µm,21.0s								
HAKT	HAKKARI	74.08	313	⇑iP		P		07 15 22.2	+0.2
KVT	Kavak	74.08	321	P		P		07 15 22.7	+0.9
WLF	Walferdange	74.09	344	IAms_20		IAms_20		07 52 31.8	
	comp=Z,15µm,21.0s								
S57A	Dark Hollow, R	74.10	46	P		P		07 15 22.5	+0.6
	baz=328,SNR=114								
S57A	Dark Hollow, R	74.10	46	IAmb		IAmb		07 15 24.5	
S57A	comp=Z,422nm,1.1s			IAms_20		IAms_20		07 49 55.8	
	comp=Z,12µm,19.0s								
BNGB	Bingl	74.10	316	P		P		07 15 22.7	+0.7
Q59A	Harwood	74.11	44	P		P		07 15 22.4	+0.5
	baz=329,SNR=10								
BGOL	Bingol	74.11	316	⇑iP		P		07 15 23.5	+1.4
P61A	Hammonton	74.15	42	P		P		07 15 22.3	+0.1
	baz=330								
P61A	Hammonton	74.15	42	IAms_20		IAms_20		07 54 04.8	
	comp=Z,9µm,18.0s								
SULR		74.16	329	⇑P		P		07 15 22.3	+0.2
ERBA	Erbaa	74.17	320	⇑iP		P		07 15 23.9	+1.6
W52A	Murphy	74.17	51	P		P		07 15 22.7	+0.2
	baz=327,SNR=68								
LEHL	Lehliu	74.17	328	⇑P		P		07 15 22.8	+0.6
LOT	Lotru	74.18	331	⇓P		P		07 15 22.5	+0.1
LOT	Lotru	74.18	331	P		P		07 15 22.3	-0.1
X51A	Calhoun	74.19	52	P		P		07 15 22.9	+0.4
	baz=326,SNR=61								
X51A	Calhoun	74.19	52	IAmb		IAmb		07 15 24.2	
	comp=Z,353nm,1.1s								
V53A	Saluda	74.19	50	P		P		07 15 22.9	+0.3
	baz=327,SNR=70								
ICOR	Ion Corvin	74.20	328	⇑P		P		07 15 23.0	+0.6
RSDY	Resadiye-TOKAT	74.20	319	P		P		07 15 23.2	+0.7
HAVZ	Havza	74.21	321	⇑iP		P		07 15 23.1	+0.6
MANR	Mangalia	74.22	327	⇑P		P		07 15 23.0	+0.6
PMBI	Palembang	74.25	241	P		P		07 15 14.4	-8.6
PMBI	Palembang	74.25	241	P		P		07 15 24.2	+1.3
T56A	Rocky Mt	74.27	47	P		P		07 15 23.1	+0.2
	baz=328,SNR=28								
U55A	TA2, Sparta	74.27	48	P		P		07 15 23.5	+0.5
	baz=328,SNR=86								
RASA	Rasa	74.31	328	⇑P		P		07 15 23.2	+0.2
MOA	Molln	74.31	338	iP		P		07 15 23.5	+0.5
	comp=Z,1µm,1.7s,SNR=254								
MOA				iS		S		07 24 51.1	-0.9
	comp=Z,38nm,1.7s								
Q60A	Greensboro	74.31	43	P		P		07 15 23.0	0.0
	baz=329,SNR=5.3								
Q60A	Greensboro	74.31	43	P		P		07 15 23.1	0.0
Q60A				IAms_20		IAms_20		07 49 40.5	
	comp=Z,12µm,21.0s								
R58B	Mineral	74.38	45	P		P		07 15 24.0	+0.5
	baz=329,SNR=44								
CBN	Corbin Frederi	74.38	45	P		P		07 15 24.0	+0.5
	baz=329,SNR=9.7								
CBN	Corbin Frederi	74.38	45	IAmb		IAmb		07 15 25.9	
	comp=Z,304nm,1.1s								
CBN				IAms_20		IAms_20		07 48 20.8	
	comp=Z,16µm,22.0s								
CUKT	Cukurca	74.38	313	⇑iP		P		07 15 23.8	+0.1
CUKT	Cukurca	74.38	313	P		P		07 15 23.2	-0.5
GOLR		74.39	330	⇓P		P		07 15 23.6	+0.1
INCR	INCERC-Sediu C	74.40	329	⇓P		P		07 15 24.6	+1.1
STU	Stuttgart	74.44	342	IAms_20		IAms_20		07 51 22.0	
	comp=Z,16µm,21.0s								
TNCL	Tunceli-Merkez	74.45	317	⇑iP		P		07 15 25.6	+1.6
SRTM	Siirt_Merkez	74.45	315	⇑iP		P		07 15 24.3	+0.2
W53A	Cullowhee	74.45	51	P		P		07 15 24.6	+0.5
	baz=327,SNR=45								
LRAL	Lakeview Retre	74.46	55	P		P		07 15 24.0	0.0
	baz=326,SNR=82								
LRAL	Lakeview Retre	74.46	55	IAms_20		IAms_20		07 47 29.4	
	comp=Z,18µm,22.0s								
PSN	Preselentsi	74.47	327	P		P		07 15 24.3	+0.4
GSI	Gunungsitoli	74.47	250	P		P		07 15 25.1	+0.8
	comp=Z,971nm,2.0s,comp=Z,22µmcomp=Z,25µm								
GSI	Gunungsitoli	74.47	250	IAmb		IAmb		07 15 28.0	
	comp=Z,606nm,0.9s								
GSI				IAms_20		IAms_20		07 52 53.2	
	comp=Z,15µm,18.0s								
CUZAR	Zara_SIVAS	74.47	319	⇑iP		P		07 15 24.2	0.0
IGBI	Denpasar	74.48	229	P		P		07 15 22.6	-1.7
V54A	Nebo	74.49	49	P		P		07 15 24.6	+0.4
	baz=327,SNR=132								
R59A	King George, V	74.49	45	P		P		07 15 25.0	+0.8
	baz=329,SNR=28								
KAST	KASTAMONU	74.49	322	⇑iP		P		07 15 25.7	+1.5
GZR	Gura Zlata	74.51	332	⇑P		P		07 15 24.4	+0.2
GZR	Gura Zlata	74.51	332	⇑P		P		07 15 24.4	+0.2
REFA	Refahiye_ERZN	74.51	318	⇑iP		P		07 15 22.3	-2.2
ILIC	ilic-Erzincan	74.54	318	P		P		07 15 34.7	+10
TOKT	Tokat	74.56	320	P		P		07 15 25.4	+0.8
TOKA	Tokat	74.58	320	⇑iP		P		07 15 26.1	+1.4
KURC	Kurucasile-Bar	74.60	323	P		P		07 15 24.5	-0.2
X52A	Dahlonega	74.60	51	P		P		07 15 25.4	+0.5
	baz=327,SNR=90								
ARSA	Arzberg	74.60	337	iP		P		07 15 25.8	+1.1
	comp=Z,2µm,1.8s,SNR=244								
S58A	Poland Farm, P	74.60	46	P		P		07 15 25.0	+0.2
	baz=328,SNR=44								
S58A	Poland Farm, P	74.60	46	IAms_20		IAms_20		07 49 42.8	
	comp=Z,17µm,20.0s								
KAGI	orum-Kargı	74.61	322	⇑iP		P		07 15 26.5	+1.7
JAGI	Jajag, Banyuwa	74.61	230	P		P		07 15 23.3	-1.7
	comp=Z,104nm,1.1s,comp=Z,2µmcomp=Z,11µm								
JAGI	Jajag, Banyuwa	74.61	230	P		P		07 15 22.9	-2.1
SVAN	Silvan-Diyarba	74.61	315	⇑iP		P		07 15 26.2	+1.3
SVAN	Silvan-Diyarba	74.61	315	P		P		07 15 25.7	+0.8
TIM	Timisoara	74.61	333	⇑P		P		07 15 26.0	+1.3
TIM	Timisoara	74.61	333	⇑P		P		07 15 26.0	+1.3
BZS	Buzias	74.62	332	⇑P		P		07 15 24.9	+0.1
BZS	Buzias	74.62	332	⇑P		P		07 15 24.9	+0.1
T57A	Hurt	74.62	47	P		P		07 15 25.2	+0.3
	baz=328,SNR=56								
T57A	Hurt	74.62	47	IAms_20		IAms_20		07 49 39.5	
	comp=Z,14µm,20.0s								
Q61A	Milford	74.62	43	P		P		07 15 25.2	+0.3
	baz=330								
KALB	Balgarevo	74.64	327	⇑P		P		07 15 25.3	+0.4
Y51A	Rockmart	74.64	53	P		P		07 15 25.0	-0.2
	baz=326,SNR=146								
R60A	Leonardtown, M	74.65	44	P		P		07 15 25.8	+0.7
	baz=329,SNR=5.3								
SIRT	Sirnak	74.66	314	P		P		07 15 25.2	-0.1
SGRR	Singureni	74.66	329	⇓P		P		07 15 24.6	-0.4
HUMR	Humele	74.67	330	⇑P		P		07 15 24.3	-0.8
U56A	King	74.69	48	P		P		07 15 25.7	+0.4
	baz=328,SNR=51								
ZAIG	Zacatecas	74.70	72	IAmb		IAmb		07 15 29.2	
	comp=Z,372nm,1.0s								
HANI	Diyarbakir_Han	74.71	316	⇑iP		P		07 15 26.9	+1.3
KEMA	Kemaliye	74.73	318	⇑iP		P		07 15 26.0	+0.4
SCER	sogukcermik	74.74	319	⇑iP		P		07 15 26.7	+1.0
SVSK	Karacayir	74.74	319	P		P		07 15 26.5	+1.0
V55A	Taylorsville	74.75	49	P		P		07 15 26.1	+0.4
	baz=328,SNR=46								
V55A	Taylorsville	74.75	49	IAms_20		IAms_20		07 50 10.0	
	comp=Z,15µm,20.0s								
MDRS	Chennai	74.77	271	⇑iP		P		07 15 26.1	0.0
MDRS				IAmb		IAmb		07 15 29.5	
	comp=Z,3µm,1.8s								
Z50A	Ashland	74.78	54	P		P		07 15 26.0	+0.1
	baz=326,SNR=260								
Z50A	Ashland	74.78	54	IAmb		IAmb		07 15 27.4	
	comp=Z,478nm,1.0s								
S59A	Mechanicsville	74.79	45	P		P		07 15 26.5	+0.6
	baz=329,SNR=72								
BTMN	Batman	74.81	315	⇑iP		P		07 15 27.8	+1.7
MORH	Mrgy, Hungar	74.83	335	⇑iP		P		07 15 25.9	-0.1
KAD	Karad	74.90	279	ex		P		07 15 26.0	-0.9
CTAK	Corum_Osmancik	74.92	321	⇑iP		P		07 15 27.6	+0.7
X53A	Estanollee	74.95	51	P		P		07 15 27.4	+0.5
	baz=327,SNR=66								
ILGA	Ilgaz	74.95	322	⇑iP		P		07 15 28.1	+1.0
ILGA	Ilgaz	74.95	322	IAms_20		IAms_20		07 54 25.6	
	comp=Z,10µm,19.0s								
W54A	Cherokee Point	74.96	50	P		P		07 15 27.2	+0.3
	baz=327,SNR=46								
COPA	Copaceanca	74.96	329	⇑P		P		07 15 26.3	-0.5
BANR	Banloc	74.97	333	⇓P		P		07 15 27.5	+0.8
T58A	Grand View Acr	74.97	46	P		P		07 15 27.2	+0.3
	baz=328,SNR=56								
CCA1	Carnmenellis	74.97	352	⇑iP		P		07 15 26.6	-0.1
CCA1				IAmb		IAmb		07 15 28.1	
	comp=Z,3µm,2.1s								
CCA1				IAms_20		IAms_20		07 43 22.6	
	comp=Z,14µm,30.2s								
ANIG	Ahuacatlan	74.98	75	P		P		07 15 28.7	+1.3
BFO	Black Forest	75.02	342	P		P		07 15 27.0	-0.1
BFO				pmax		pmax			
	comp=Z,3µm,1.8s								
BFO				MLR		MLR			
	comp=Z,16µm,22.0s								
BFO	Black Forest	75.02	342	P		P		07 15 27.0	-0.1
BFO				IAms_20		IAms_20		07 49 43.7	
	comp=Z,16µm,22.0s								
SMRI	Semarang	75.05	234	IAmb		IAmb		07 15 32.1	
	comp=Z,674nm,1.2s								
SRE	Strehaia	75.06	331	⇑P		P		07 15 27.6	+0.3
SRE	Strehaia	75.06	331	⇑P		P		07 15 27.6	+0.3
U57A	Blanch	75.07	47	P		P		07 15 28.0	+0.5
	baz=328,SNR=128								
Z51A	Franklin	75.08	53	P		P		07 15 27.5	-0.1
	baz=326,SNR=70								
HERR	Herculane	75.08	332	⇓P		P		07 15 27.3	-0.1
CUKAN	kangal_SIVAS	75.08	319	⇑iP		P		07 15 28.6	+0.8
RAZG	Razgrad	75.09	328	⇓P		P		07 15 27.5	-0.1
R61A	Willards	75.09	43	P		P		07 15 28.5	+0.9
	baz=330								
R61A	Willards	75.09	43	IAms_20		IAms_20		07 50 03.7	
	comp=Z,15µm,21.0s								
V56A	Mocksville	75.09	48	P		P		07 15 27.9	+0.2
	baz=328,SNR=70								
V56A	Mocksville	75.09	48	IAms_20		IAms_20		07 48 19.2	
	comp=Z,12µm,22.0s								
S60A	Water View	75.10	45	P		P		07 15 28.5	+0.9
	baz=329,SNR=27								
Y52A	Lilburn	75.14	52	P		P		07 15 28.4	+0.4
	baz=327,SNR=42								
Y52A	Lilburn	75.14	52	IAms_20		IAms_20		07 48 25.4	
	comp=Z,14µm,22.0s								
SVRC	Sivrice-ELAZID	75.18	317	P		P		07 15 29.4	+1.0
COAL	Corum-Alaca	75.20	321	⇑iP		P		07 15 29.4	+1.1
ELZG	Elazig	75.20	317	⇑iP		P		07 15 29.7	+1.2
DYBB	Diyarbakir	75.21	316	P		P		07 15 29.1	+0.7
KBA	Koelnbreinsper	75.24	339	iP		P		07 15 29.8	+1.3
	comp=Z,3µm,1.4s,SNR=584								
KBA				iS		S		07 25 02.4	-0.4
	comp=Z,51nm,1.2s								
DIYA	Diyarbakir	75.24	316	⇑iP		P		07 15 29.2	+0.6
SOKA	Soboth	75.25	337	iP		P		07 15 29.4	+0.9
	comp=Z,2µm,1.8s,SNR=270								
SOKA				iS		S		07 25 01.1	-1.5
	comp=Z,21nm,1.4s								
ROIA	ROIAK	75.25	327	P		P		07 15 29.3	+0.8
PERS	Pernice	75.27	337	iP		P		07 15 29.4	+0.8
PERS				eS		S		07 25 01.2	-1.7
HEKM	Malatya_Hekimh	75.27	318	⇑iP		P		07 15 30.2	+1.3
KMSC	Kings Mountain	75.29	49	P		P		07 15 29.1	+0.3
	baz=328,SNR=70								
VLAD	Vladila	75.33	330	⇑P		P		07 15 29.0	+0.1
X54A	Belton	75.33	50	P		P		07 15 29.6	+0.5
	baz=327,SNR=56								
ECH	Echery	75.33	343	IAms_20		IAms_20		07 51 42.6	
	comp=Z,12µm,22.0s								
V57A	Coltrane Farms	75.34	48	P		P		07 15 29.3	+0.2
	baz=328,SNR=63								
ZIMR		75.35	329	⇓P		P		07 15 29.4	+0.4
ZIMR		75.35	329	⇓P		P		07 15 29.4	+0.4
T59A	Double "B" Far	75.36	46	P		P		07 15 29.8	+0.6
	baz=329,SNR=55								
WATA	Walderalm	75.36	340	iP		P		07 15 30.0	+0.8
	comp=Z,2µm,1.6s,SNR=316								
WATA				iS		S		07 25 04.5	+0.5
	comp=Z,21nm,1.4s								
Y53A	Monroe	75.36	52	P		P		07 15 29.7	+0.4
	baz=327,SNR=63								
MDVR	Moldovita	75.36	332	⇑P		P		07 15 29.1	0.0
RETA	Reutte	75.38	340	iP		P		07 15 29.7	+0.5
	comp=Z,1µm,1.6s,SNR=136								
RETA				iS		S		07 25 01.7	-2.4
	comp=Z,18nm,1.3s								
CORM	Corum	75.39	321	P		P		07 15 39.0	+10
CUALT	Altinyayla-SIV	75.39	319	⇑iP		P		07 15 30.8	+1.2
WTTA	Wattenberg	75.42	340	iP		P		07 15 30.6	+1.0
	comp=Z,3µm,1.4s,SNR=328								
WTTA				iS		S		07 25 04.4	-0.3
	comp=Z,27nm,1.1s								
U58A	Oxford	75.43	47	P		P		07 15 30.1	+0.5
	baz=328,SNR=73								
KALN	Kalnik	75.44	336	iP		P		07 15 29.8	+0.3
MOTA	Moosalm	75.45	340	iP		P		07 15 30.4	+0.7
	comp=Z,2µm,1.3s,SNR=324								
MOTA				iSKSac		SKSac		07 25 32.6	-1.4
	comp=Z,15nm,1.0s								
CUSAR	Sarkisla-SIVAS	75.46	320	⇑iP		P		07 15 31.0	+1.1
PUNG	Punghina	75.49	331	⇑iP		P		07 15 29.4	-0.4
MARD	Mardin	75.50	315	⇑iP		P		07 15 31.3	+1.1
MAZI	Mazidag	75.51	316	P		P		07 15 30.4	+0.2
KDZE	Karadeniz Ereo	75.52	324	P		P		07 15 28.5	-1.5
S61A	Accomac	75.52	44	P		P		07 15 31.3	+1.2
	baz=330,SNR=5.5								
S61A	Accomac	75.52	44	IAms_20		IAms_20		07 49 30.0	
	comp=Z,15µm,22.0s								
OBKA	Obir	75.52	338	iP		P		07 15 31.1	+1.0
	comp=Z,3µm,1.4s,SNR=275								
OBKA				iS		S		07 25 03.1	-2.5
	comp=Z,27nm,1.2s								
FRGS	Fruska Gora	75.52	333	⇑iP		P		07 15 30.0	0.0
Z52A	Williamson	75.53	53	P		P		07 15 30.5	+0.2
	baz=327,SNR=114								
SZH	Strazhica	75.54	329	P		P		07 15 29.7	-0.4
SQTA	Sankt Quirin	75.54	340	iP		P		07 15 31.2	+0.9
	comp=Z,3µm,1.7s,SNR=383								
SQTA				iS		S		07 25 06.2	+0.3
	comp=Z,29nm,2.5s								
T60A	Surry	75.55	45	P		P		07 15 30.8	+0.5
	baz=329,SNR=17								
T60A	Surry	75.55	45	IAmb		IAmb		07 15 32.7	
	comp=Z,543nm,1.0s								
T60A				IAms_20		IAms_20		07 48 55.8	
	comp=Z,16µm,22.0s								
ELDT	Eldivan	75.55	322	⇑iP		P		07 15 31.5	+1.0
MALT	Malatya	75.58	317	P		P		07 15 31.4	+0.8
MYKA	Terra Mystica	75.60	338	iP		P		07 15 31.1	+0.6
	comp=Z,1µm,1.8s,SNR=150								
MYKA				iS		S		07 25 07.0	+0.5
	comp=Z,36nm,1.5s								
JLP	Les Platons	75.61	349	eP		P		07 15 29.8	-0.6
BAIL	Bailesti	75.61	331	⇑P		P		07 15 30.6	+0.1
YOZ	Yozgat	75.61	320	P		P		07 15 29.5	-1.3
W56A	Indian Trail	75.62	49	P		P		07 15 30.8	+0.1
	baz=328,SNR=31								
JQE	Queens East	75.64	349	eP		P		07 15 29.9	-0.6
JVM	Valle D.L. Mar	75.64	349	eP		P		07 15 30.2	-0.4
JRS	Jersey	75.66	349	eP		P		07 15 29.4	-1.2
JSA	Saint Aubin	75.67	349	⇑eP		P		07 15 30.2	-0.5
JSA				IAms_20		IAms_20		07 42 02.3	
	comp=Z,13µm,32.7s								
250A	Grady	75.67	55	P		P		07 15 31.4	+0.4
	baz=326,SNR=21								
250A	Grady	75.67	55	IAmb		IAmb		07 15 32.9	
	comp=Z,558nm,1.4s								
250A				IAms_20		IAms_20		07 48 37.7	
	comp=Z,15µm,20.0s								
CUGUR	Gurin_SVAS	75.67	319	⇑iP		P		07 15 32.8	+1.6
CTA	Charters Tower	75.70	195	LR		LR		07 47 11.3	
	comp=Z,3µm,19.1s,baz=14,slow=34								
CTAO	Charters Tower	75.70	195	P		P		07 15 31.8	+0.7
CTAO				pmax		pmax			
	comp=Z,256nm,1.0s								
CTAO	Charters Tower	75.70	195	P		P		07 15 31.8	+0.7
V58A	Windy Hill, Pi	75.70	47	P		P		07 15 31.8	+0.7
	baz=328,SNR=94								
V58A	Windy Hill, Pi	75.70	47	IAmb		IAmb		07 15 33.0	
	comp=Z,331nm,1.1s								
V58A				IAms_20		IAms_20		07 49 42.1	
	comp=Z,12µm,20.0s								
DARE	Darende-Malaty	75.72	318	P		P		07 15 31.8	+0.4
ABTA	Abfaltersbach	75.73	339	iP		P		07 15 31.9	+0.6
	comp=Z,2µm,1.4s,SNR=248								
ABTA				iS		S		07 25 08.6	+0.6
	comp=Z,109nm,1.2s								
DAVA	Damuels	75.74	341	iP		P		07 15 31.9	+0.5
	comp=Z,1µm,1.6s,SNR=138								
BCAM	Yenicaga	75.74	323	⇑iP		P		07 15 32.9	+1.4
Y54A	Tignall	75.76	51	P		P		07 15 32.0	+0.5
	baz=327,SNR=121								
PVL	Pavlikeni	75.77	329	P		P		07 15 32.0	+0.6
PTJ	Puntijarka	75.77	336	iP		P		07 15 31.7	+0.3
UGM	Wanagama	75.77	233	P		P		07 15 31.2	-0.5
	comp=Z,567nm,1.9s,comp=Z,11µm								
GOGA	Godfrey	75.78	52	P		P		07 15 31.8	+0.1
	baz=327,SNR=35								
GOGA	Godfrey	75.78	52	IAms_20		IAms_20		07 49 57.6	
	comp=Z,15µm,21.0s								
U59A	Littleton	75.78	46	P		P		07 15 32.4	+0.8
	baz=329,SNR=67								
YOGI	Yogyakarta	75.79	233	P		P		07 15 31.3	-0.5
AKCD	Akcadag	75.79	318	⇑iP		P		07 15 32.5	+0.7
DELI	KIRIKKALE	75.81	322	⇑iP		P		07 15 32.8	+0.9
PLVB	Pleven	75.82	329	⇑P		P		07 15 31.9	+0.2
YIGI	Dzce	75.83	324	⇑iP		P		07 15 31.8	0.0
152A	Waverly Hall	75.83	53	P		P		07 15 31.9	0.0
	baz=327,SNR=65								
152A	Waverly Hall	75.83	53	IAms_20		IAms_20		07 49 47.7	
	comp=Z,16µm,20.0s								
FETA	Feichten	75.83	340	iP		P		07 15 32.7	+0.8
	comp=Z,1µm,1.0s,SNR=277								
FETA				iS		S		07 25 07.4	-1.8
	comp=Z,30nm,1.4s								
ZAG	Zagreb	75.84	336	iP		P		07 15 32.9	+1.1
ZAG	Zagreb	75.84	336	⇑iP		P		07 15 32.8	+1.1
Z53A	Monticello	75.85	52	P		P		07 15 32.3	+0.2
	baz=327,SNR=85								
ELND	Elena	75.86	328	⇑P		P		07 15 31.6	-0.3
W57A	Gilead	75.87	48	P		P		07 15 32.3	+0.2
	baz=328,SNR=44								
W57A	Gilead	75.87	48	IAms_20		IAms_20		07 50 44.7	
	comp=Z,10µm,19.0s								
CMDR	Camlidere-ANKA	75.89	323	⇑iP		P		07 15 33.7	+1.4
U60A	Pendleton	75.95	46	P		P		07 15 33.3	+0.8
	baz=329,SNR=39								
CRES	Cresnjev	75.96	337	⇑iP		P		07 15 32.9	+0.4
LJU	Ljubljana	75.97	337	iP		P		07 15 32.8	+0.2
LJU	Ljubljana	75.97	337	⇑iP		P		07 15 32.7	+0.2
BRAL	Brewton	75.97	56	P		P		07 15 33.7	+1.0
	baz=326,SNR=32								
BRAL	Brewton	75.97	56	IAmb		IAmb		07 15 35.5	
	comp=Z,630nm,1.1s								
X56A	White Oak	75.97	49	P		P		07 15 32.8	+0.1
	baz=328,SNR=22								
CDAG	Cicekdag	75.97	321	⇑iP		P		07 15 33.0	+0.2
JMB	Yambol	76.07	328	P		P		07 15 32.5	-0.6
Y55A	Saluda	76.07	50	P		P		07 15 33.9	+0.6
	baz=328,SNR=47								
ELBS	KAHRAMANMARAS	76.08	318	⇑iP		P		07 15 34.1	+0.7
BIRD	Birdtown, Kers	76.09	49	IAms_20		IAms_20		07 48 49.3	
	comp=Z,15µm,22.0s								
V59A	Middlesex	76.10	47	P		P		07 15 34.1	+0.7
	baz=329,SNR=68								
BNN	Bunyan	76.11	320	P		P		07 15 33.9	+0.3
MPEP	Malo Peshtene	76.11	330	P		P		07 15 33.4	0.0
SAHE	Sakarya_HENDEK	76.13	324	⇑iP		P		07 15 33.7	+0.2
KAND	Kocaeli-Kandir	76.14	325	⇑iP		P		07 15 33.7	+0.2
BR131	Keskin Array S	76.15	322	P		P		07 15 34.2	+0.3
	SNR=1013								
BR131	Keskin Array S	76.15	322	P		P		07 15 34.0	+0.2
BR131				pmax		pmax			
	comp=Z,989nm,1.0s								
BR131	Keskin Array S	76.15	322	P		P		07 15 34.0	+0.2
BRTR	Keskin Array B	76.15	322	P		P		07 15 33.9	0.0
	comp=Z,547nm,0.8s,baz=46,slow=3.6,SNR=1506								
BRTR				PKP2bc				07 42 21.6	
	comp=Z,0.8nm,0.8s,baz=190,slow=4.1,SNR=3.4								
BRTR	Keskin Array B	76.15	322	P		P		07 15 34.1	+0.3
STAL

253A Americus 76.61 53 P P 07 15 36.6 +0.3
baz=327,SNR=35
253A Americus 76.61 53 IAmb IAmb 07 15 37.9
comp=Z,437nm,1.1s
253A IAMs_20 IAMs_20 07 50 12.4
comp=Z,16µm,20.0s
154A Montrose 76.62 52 P P 07 15 37.0 +0.6
baz=327,SNR=50
154A Montrose 76.62 52 IAmb IAmb 07 15 38.9
comp=Z,768nm,1.2s
154A IAMs_20 IAMs_20 07 49 20.6
comp=Z,18µm,22.0s
GULT Gulveren 76.62 324 P P 07 15 36.7 +0.3
TUE Stuetta 76.62 341 IAMs_20 IAMs_20 07 51 29.2
comp=Z,15µm,22.0s
GEYV SAKARYA_Geyve 76.65 324⇑ i P P 07 15 37.3 +0.8
Y57A Sumter 76.65 49 P P 07 15 36.9 +0.4
baz=328,SNR=11
RIY Rijeka 76.66 337 i P P 07 15 36.3 0.0
RIY Rijeka 76.66 337⇑ i P P 07 15 36.4 0.0
X58A Rowland 76.66 48 P P 07 15 37.2 +0.6
baz=328,SNR=40
X58A Rowland 76.66 48 IAmb IAmb 07 15 38.5
comp=Z,281nm,1.1s
X58A IAMs_20 IAMs_20 07 55 20.3
comp=Z,12µm,20.0s
SLVT Silivri 76.67 326 P P 07 15 36.4 -0.1
CNNC Cliffs of the 76.69 47 P P 07 15 37.8 +1.0
baz=329,SNR=22
CNNC Cliffs of the 76.69 47 IAmb IAmb 07 15 38.8
comp=Z,291nm,1.1s
CNNC IAMs_20 IAMs_20 07 52 21.4
comp=Z,11µm,18.0s
BUY Buyukada 76.71 325⇑ i P P 07 15 36.7 0.0
BUY Buyukada 76.71 325 P P 07 15 36.6 -0.2
352A Blakely 76.72 54 P P 07 15 37.4 +0.4
baz=327,SNR=21
352A Blakely 76.72 54 IAmb IAmb 07 15 38.8
comp=Z,289nm,1.1s
PGB Panagyurishte 76.72 329 P P 07 15 37.2 +0.3
CISI Cisompet, Garu 76.74 236 P P 07 15 35.0 -2.2
CISI Cisompet, Garu 76.74 236 P P 07 15 35.4 -1.8
HAPS Han Pijesak,Bl 76.74 334⇓ i P P 07 15 36.4 -0.7
SURC SANLIURFA_SURC 76.75 317⇑ i P P 07 15 38.7 +1.5
GZT Gaziantep 76.75 318⇑ i P P 07 15 38.4 +1.1
V61A Roper 76.77 46 P P 07 15 37.8 +0.6
baz=329,SNR=14
V61A Roper 76.77 46 IAmb IAmb 07 15 39.9
comp=Z,540nm,1.2s
V61A IAMs_20 IAMs_20 07 51 07.2
comp=Z,14µm,20.0s
SAIM ADANA 76.78 319⇑ i P P 07 15 38.5 +1.1
YAYX Yaylak 76.78 321 P P 07 15 37.5 +0.1
AUMIH MIHALICIK 76.79 323⇑ i P P 07 15 38.6 +1.1
AUMIH MIHALICIK 76.79 323 P P 07 15 37.8 +0.3
Z56A Williston 76.81 50 P P 07 15 37.9 +0.5
baz=328,SNR=16
Z56A Williston 76.81 50 IAmb IAmb 07 15 53.5
comp=Z,782nm,1.8s
BBLS Lazići 76.83 333⇑ i P P 07 15 38.1 +0.6
SERE Sereflikochisa 76.87 321 P P 07 15 38.3 +0.4
KMRS Kahramanmaras 76.88 318 P P 07 15 38.5 +0.6
ADVT Abdulvahap 76.88 325 P P 07 15 37.1 -0.7
YLV Yalova 76.88 325 ⇓ P P 07 15 38.0 +0.1
YLV Yalova 76.88 325 ⇓ P P 07 15 38.0 +0.1
YLV Yalova 76.88 325 P P 07 15 37.9 +0.1
155A Kite 76.90 52 P P 07 15 38.7 +0.7
baz=328,SNR=60
MGRS Mrkonjic Grad 76.90 335⇑ i P P 07 15 39.0 +1.1
CRLT Corlu 76.91 326 P P 07 15 38.6 +0.7
W60A Pink Hill 76.93 47 P P 07 15 39.0 +0.9
baz=329,SNR=41
SRCK Saricakaya, Es 76.93 324⇑ i P P 07 15 38.6 +0.5
SRCK Saricakaya, Es 76.93 324 P P 07 15 38.0 -0.1
VTS Vitosha 76.93 330 P P 07 15 38.3 +0.1
VTS Vitosha 76.93 330 ⇑ P P 07 15 38.4 +0.1
VTS Vitosha 76.93 330 ⇑ i P P 07 15 38.4 +0.1
VTS Vitosha 76.93 330 IAmb IAmb 07 15 39.8
comp=Z,544nm,0.9s
YAHY KAYSERI_Yahyal 76.95 320⇑ i P P 07 15 39.3 +1.0
X59A McDuffie Farm, 76.96 48 P P 07 15 38.9 +0.6
baz=329,SNR=26
PLD Plovdiv 76.97 329 P P 07 15 37.9 -0.3
PLD Plovdiv 76.97 329 P P 07 15 38.4 +0.2
KULU Kulu 76.98 322 P P 07 15 39.5 +1.0
AYKD Aykdinkavak 76.99 318⇑ i P P 07 15 39.2 +0.7
IGIG Irapuato, Guan 77.00 73 P P 07 15 39.5 +0.5
HCB Kahramanmara 77.02 318⇑ i P P 07 15 39.4 +0.8
ANDN Andirin 77.03 319⇑ i P P 07 15 39.6 +0.8
451A Vernon 77.05 55 P P 07 15 40.2 +1.4
baz=327,SNR=14
451A Vernon 77.05 55 IAMs_20 IAMs_20 07 49 00.2
comp=Z,17µm,22.0s
CAVI Cavuskoy 77.05 324 P P 07 15 39.1 +0.3
ARMT Armutlu 77.06 325 P P 07 15 38.4 -0.4
AKSY AKSARAY - Alti 77.06 321⇑ i P P 07 15 39.2 +0.3
GEMT Gemlik 77.06 325 P P 07 15 39.0 +0.2
Y58A Scranton 77.07 49 P P 07 15 39.3 +0.4
baz=328,SNR=23
Y58A Scranton 77.07 49 IAmb IAmb 07 15 40.6
comp=Z,235nm,0.9s
Y58A IAMs_20 IAMs_20 07 51 29.4
comp=Z,13µm,20.0s
RUDO Rudo 77.07 333⇑ i P P 07 15 38.5 -0.3
254A Abbeville 77.09 52 P P 07 15 39.7 +0.6
baz=327,SNR=39
SENIN Lac Senin/Sane 77.10 342 IAmb IAmb 07 15 45.2
comp=Z,1µm,1.9s
UDBI Udbina 77.11 336 i P P 07 15 38.9 -0.2
Z57A Bowman 77.12 50 P P 07 15 39.8 +0.6
baz=328,SNR=21
W61A Ground Anchor 77.13 46 P P 07 15 39.6 +0.4
baz=329,SNR=11
BORA Eskisehir 77.13 324⇑ i P P 07 15 39.2 -0.1
BORA Eskisehir 77.13 324 P P 07 15 39.4 +0.1
AUSIV SIVRIHISAR 77.15 323⇑ i P P 07 15 39.1 -0.3
AUSIV SIVRIHISAR 77.15 323 P P 07 15 39.4 0.0
SVRH Sivrihisar-ESK 77.15 323 P P 07 15 39.3 -0.1
353A Camilla 77.16 54 P P 07 15 40.1 +0.7
baz=327,SNR=26
KDZ Kurdzhali 77.17 328 P P 07 15 40.1 +0.7
KDZ Kurdzhali 77.17 328 P P 07 15 37.9 -1.5
IGD Bursa 77.21 325⇑ i P P 07 15 39.8 +0.2
BRJN Brijuni 77.22 338 i P P 07 15 38.7 -0.9
X60A Albert Glenn T 77.22 47 P P 07 15 40.5 +0.7
baz=329,SNR=37
MDNY Mudanya-Bursa 77.22 325 P P 07 15 39.7 0.0
V62A Hyde County Ai 77.23 45 P P 07 15 40.8 +1.0
baz=330,SNR=9.1
V62A Hyde County Ai 77.23 45 IAmb IAmb 07 15 42.1
comp=Z,532nm,1.2s
TEOL Teolo 77.23 339 IAMs_20 IAMs_20 07 50 45.9
comp=Z,13µm,21.0s
NIUE Niue 77.24 153 IAmb IAmb 07 15 43.8
comp=Z,535nm,1.2s
NIUE IAMs_20 IAMs_20 07 42 07.2
comp=Z,17µm,22.0s
UKOP Uzunkopru-Edir 77.27 327 P P 07 15 40.6 +0.7
156A Sylvania 77.31 51 P P 07 15 41.4 +1.1
baz=328,SNR=22
PLE Pljevlja 77.33 333⇑ i P P 07 15 40.7 +0.3
Y59A Loris 77.34 48 P P 07 15 40.8 +0.4
baz=329,SNR=34
Y59A Loris 77.34 48 IAmb IAmb 07 15 42.1
comp=Z,327nm,1.1s
Y59A IAMs_20 IAMs_20 07 56 10.4
comp=Z,12µm,20.0s
ULDT Uludag 77.34 325⇑ i P P 07 15 41.1 +0.5
RZN Rozhen 77.35 329 P P 07 15 40.8 +0.2
TIGA Tifton 77.38 53 P P 07 15 41.6 +0.9
baz=327,SNR=54
TIGA Tifton 77.38 53 IAmb IAmb 07 15 42.9
comp=Z,577nm,1.1s
CIFT Cifteler, Eski 77.39 323⇑ i P P 07 15 41.0 +0.2
CIFT Cifteler, Eski 77.39 323 P P 07 15 40.7 0.0
CHBY Cihanbeyli 77.43 322 P P 07 15 41.3 +0.3
KUZU Kuzuini 77.45 316⇑ i P P 07 15 42.6 +1.5
AKO Adana 77.47 319⇑ i P P 07 15 42.5 +1.3
255A Hazlehurst 77.48 52 P P 07 15 42.2 +1.0
baz=328,SNR=39
255A Hazlehurst 77.48 52 IAmb IAmb 07 15 43.5
comp=Z,568nm,1.1s
255A IAMs_20 IAMs_20 07 50 08.2
comp=Z,16µm,21.0s
Z58A St. Stephen 77.49 49 P P 07 15 41.6 +0.4
baz=328,SNR=23
SART Tekirdag 77.49 327⇑ i P P 07 15 41.7 +0.4
KCTX Karacabey (Bur 77.49 326 P P 07 15 41.3 +0.1
RKY Sarkoy-Tekirda 77.49 327 P P 07 15 41.6 +0.3
157A Early Branch 77.52 50 P P 07 15 42.5 +1.1
baz=328,SNR=10.0
NHSC New Hope 77.52 50 P P 07 15 42.3 +0.9
baz=328,SNR=24
NHSC New Hope 77.52 50 IAmb IAmb 07 15 43.5
comp=Z,383nm,1.1s
NHSC IAMs_20 IAMs_20 07 54 51.4
comp=Z,14µm,20.0s
KESN Edirne-Kesan 77.53 327⇑ i P P 07 15 42.1 +0.3
453A Whigham 77.53 54 P P 07 15 42.7 +1.2
baz=327,SNR=57
453A Whigham 77.53 54 IAmb IAmb 07 15 44.1
comp=Z,565nm,1.1s
KIZT Kizilcal 77.53 322 P P 07 15 41.5 -0.1
UPM Unac-Piva 77.58 333⇑ i P P 07 15 41.6 -0.3
EDC Edincik 77.58 326 P P 07 15 42.0 +0.3
RDO Rodhopi 77.59 328 P P 07 15 42.0 +0.3
RDO Rodhopi 77.59 328 P P 07 15 41.5 -0.2
Y60A Bolivia 77.61 48 P P 07 15 42.3 +0.4
baz=329,SNR=19
Y60A Bolivia 77.61 48 IAmb IAmb 07 15 43.6
comp=Z,281nm,1.0s
Y60A IAMs_20 IAMs_20 07 50 38.7
comp=Z,12µm,21.0s
IVA Berane 77.63 333⇑ i P P 07 15 42.4 +0.4
AUKIR Kırka- Seyitga 77.65 324⇑ i P P 07 15 42.5 +0.3
ALN Alexandroupoli 77.66 327 P P 07 15 42.0 -0.1
ALN Alexandroupoli 77.66 327 P P 07 15 42.2 +0.1
ALN Alexandroupoli 77.66 327 IAMs_20 IAMs_20 07 54 52.0
comp=Z,13µm,20.0s
KKB Krupnik 77.67 330 P P 07 15 43.2 +1.0
256A Glennville 77.70 51 P P 07 15 43.2 +0.8
baz=328,SNR=12
ERIK Erikli-Kesan 77.72 327 P P 07 15 42.1 -0.3
KRBG Karabiga-Canak 77.72 326 P P 07 15 42.8 +0.4
MMB Musomiste 77.73 329 P P 07 15 43.1 +0.5
KOME Kolasin 77.75 333⇑ i P P 07 15 42.5 -0.2
MORI Morici 77.75 336 i P P 07 15 42.4 -0.1
CEYT Ceyhan 77.75 319 P P 07 15 42.8 +0.1
KDHN Kadinhani 77.77 322⇑ i P P 07 15 43.5 +0.6
DUGI Dugi Otok 77.79 336 i P P 07 15 42.6 -0.2
355A Pearson 77.80 52 P P 07 15 43.8 +0.8
baz=328,SNR=44
KARA Karaisali 77.80 319 P P 07 15 43.6 +0.6
Z59A Georgetown, SC 77.80 49 P P 07 15 43.7 +0.7
baz=329,SNR=9.9
BANOM Banah 77.81 298 i P P 07 15 42.2 -1.0
SNR=153
BANOM Banah 77.81 298 P P 07 15 42.2 -1.0
SNR=96
158A Hollywood 77.83 50 P P 07 15 43.8 +0.7
baz=328
TVSB Tavsanli 77.86 324 P P 07 15 43.4 0.0
PVY Plav 77.87 332⇓ i P P 07 15 43.3 -0.1
GULE Gulek 77.88 320⇑ i P P 07 15 44.3 +0.7
LPK Lapseki 77.91 327 P P 07 15 43.9 +0.4
NVR Nevrokopi 77.91 329 P P 07 15 43.6 0.0
NKY Niksic 77.92 333⇑ i P P 07 15 42.9 -0.8
BRY Bratogost 77.96 334⇑ i P P 07 15 43.4 -0.5
BRY Bratogost 77.96 334⇑ i P P 07 15 43.4 -0.5
LADK Ladik-KONYA 77.96 322 P P 07 15 43.9 -0.1
YURE YUREGIR 77.96 319⇑ i P P 07 15 45.8 +1.9
YURE YUREGIR 77.96 319 P P 07 15 45.1 +1.2
454A Quitman 77.97 53 P P 07 15 45.0 +1.0
baz=327,SNR=22
ZIRJ Zirje 77.97 336 i P P 07 15 43.4 -0.4
NKME Niksic 77.97 333⇑ i P P 07 15 43.5 -0.4
GELI Tayfur-Gelibol 77.98 327 P P 07 15 43.0 -0.9
MAKA Makarska 77.98 335 i P P 07 15 43.2 -0.6
BOLV Bolvadin 78.00 323⇑ i P P 07 15 44.7 +0.5
KERG Konya-Eregli 78.01 320⇑ i P P 07 15 44.7 +0.4
WRAB Tennant Creek 78.03 207 P P 07 15 45.0 +0.8
WRAB pmax pmax
comp=Z,225nm,1.0s
WRAB Tennant Creek 78.03 207 P P 07 15 45.0 +0.8
WRAB IAmb IAmb 07 15 46.7
comp=Z,225nm,0.9s
553A Crawfordville 78.03 54 P P 07 15 45.3 +1.0
baz=327,SNR=11
WB2 Warramunga Arr 78.03 207 P P 07 15 45.0 +0.8
WRA Warramunga Arr 78.04 207 P P 07 15 43.5 -0.8
WRA Warramunga Arr 78.04 207 P P 07 15 45.7 +1.4
comp=Z,122nm,0.8s,baz=19,slow=6.0,SNR=70
WRA S S 07 25 33.6 +0.4
comp=Z,5.8nm,1.3s,baz=19,slow=11,SNR=9.9
WRA PKKPbc PKKPbc 07 34 44.6 +1.8
comp=Z,4.3nm,0.9s,baz=211,slow=2.0,SNR=14
WRA PKPPKP P'P'df 07 42 44.8 +1.4
comp=Z,3.7nm,0.9s,baz=196,slow=2.3,SNR=11
WRA LR LR 07 50 34.7
comp=Z,4µm,20.0s,baz=10.0,slow=36
WRA Warramunga Arr 78.04 207 P P 07 15 43.5 -0.8
SKO Skopje 78.04 331 i P P 07 15 44.8 +0.6
KAVA Kavala 78.04 329 P P 07 15 43.6 -0.6
DURS Dursunbey 78.05 325⇑ i P P 07 15 44.9 +0.4
STIP Stip 78.08 330 i P P 07 15 43.5 -0.9
257A Skidaway Islan 78.10 51 P P 07 15 45.7 +1.1
baz=328
356A Blackshear 78.15 52 P P 07 15 45.7 +0.8
baz=328,SNR=10
DED Mersin 78.16 319⇑ i P P 07 15 45.8 +0.8
AFYO Afyonkarahisar 78.17 323⇑ i P P 07 15 45.5 +0.4
GDZ Gediz 78.17 324⇑ i P P 07 15 45.7 +0.5
TREB Trebinje 78.18 334⇑ i P P 07 15 44.0 -1.0
CEME Cevo 78.19 333⇑ i P P 07 15 44.6 -0.5
KONT Konya--Tatoy 78.19 322⇑ i P P 07 15 45.5 +0.3
KONT Konya--Tatoy 78.19 322 P P 07 15 45.7 +0.5
STON Ston 78.20 334 i P P 07 15 44.0 -1.0
STON Ston 78.20 334⇑ i P P 07 15 43.6 -1.4
BALY Balya 78.21 326⇑ i P P 07 15 45.2 0.0
PDG Podgorica 78.21 333⇑ i P P 07 15 44.8 -0.3
SMTH Samothraki Isl 78.21 328 P P 07 15 44.1 -1.1
TTG Podgorica 78.21 333⇑ i P P 07 15 45.0 -0.1
BALB Balikesir 78.21 326 P P 07 15 44.3 -0.9
HVAR Hvar 78.22 335 i P P 07 15 43.7 -1.4
455A Stateville 78.22 53 P P 07 15 46.4 +1.0
baz=328,SNR=24
GEDZ Gediz 78.24 324 P P 07 15 45.6 +0.1
KRTS Karatas 78.28 319 P P 07 15 46.7 +1.1
SHUT Suhut-Afyon 78.29 323 P P 07 15 46.2 +0.4
DOGA KONYA_Doganhis 78.29 322⇑ i P P 07 15 46.4 +0.5
VAY Valandovo 78.32 330 i P P 07 15 46.2 +0.5
MDH Madha 78.32 297 i P P 07 15 44.5 -1.5
SNR=71
MDH Madha 78.32 297 P P 07 15 44.3 -1.8
SNR=75
THAS Thassos island 78.33 328 P P 07 15 45.6 -0.2
KMER Konya-Meram 78.34 322⇑ i P P 07 15 46.9 +0.7
MERS Mersin 78.35 320 P P 07 15 45.9 -0.2
357A Townsend 78.36 51 P P 07 15 47.2 +1.1
baz=328
KNT Kendrikon 78.37 330 P P 07 15 45.8 -0.3
KNT Kendrikon 78.37 330 P P 07 15 46.6 +0.5
HCY Herceg Novi 78.39 333⇑ i P P 07 15 45.3 -0.9
HCY Herceg Novi 78.39 333⇑ i P P 07 15 45.3 -0.9
BUM Brajici-Budva 78.42 333⇑ i P P 07 15 46.0 -0.4
DRME Dracevica, Mon 78.45 333⇑ i P P 07 15 46.6 0.0
DRME Dracevica, Mon 78.45 333⇑ i P P 07 15 46.5 0.0
UMQ Umm Al-Quwin 78.46 298 i P P 07 15 46.7 -0.1
SNR=26
UMQ Umm Al-Quwin 78.46 298 P P 07 15 46.8 0.0
SNR=22
DEMI Demirci 78.47 325⇑ i P P 07 15 46.7 -0.1
STEP BALIKESIR_Sava 78.50 326⇑ i P P 07 15 47.0 +0.1
EZN Ezine 78.55 327 ⇓ P P 07 15 48.2 +1.2
EZN Ezine 78.55 327 ⇓ P P 07 15 48.2 +1.2
EZN Ezine 78.55 327 P P 07 15 46.1 -0.9
SOH Sokhos 78.55 329 P P 07 15 46.6 -0.5
PHP Peshkopia 78.58 332 P P 07 15 45.9 -1.4
SSB Saint Sauveur 78.61 344 IAMs_20 IAMs_20 07 54 42.4
comp=Z,11µm,21.0s
BOZC Bozcaada 78.62 327⇑ i P P 07 15 47.8 +0.4
BOZC Bozcaada 78.62 327 P P 07 15 46.9 -0.5
ULC Ulcinj 78.65 333⇑ i P P 07 15 47.2 -0.4
UOSS Minazif 78.66 297 i P P 07 15 46.4 -1.4
SNR=30
UOSS Minazif 78.66 297 P P 07 15 46.6 -1.3
SNR=177
UOSS Minazif 78.66 297 P P 07 15 46.5 -1.4
UOSS Minazif 78.66 297 IAMs_20 IAMs_20 07 54 39.2
comp=Z,16µm,22.0s
MSSA Maissana 78.67 340 IAmb IAmb 07 15 49.5
comp=Z,848nm,1.0s
USAK Uak-Merkez 78.67 324⇑ i P P 07 15 48.3 +0.4
KZIL AFYON_Kizioren 78.69 323⇑ i P P 07 15 48.0 0.0
456A Hilliard 78.70 52 P P 07 15 48.8 +0.8
baz=328,SNR=9.1
456A Hilliard 78.70 52 IAmb IAmb 07 15 50.5
comp=Z,369nm,1.2s
GRG Griva 78.70 330 P P 07 15 47.7 -0.2
GRG Griva 78.70 330 P P 07 15 47.9 0.0
BAGO Egridir - ISPA 78.71 323⇑ i P P 07 15 48.3 +0.2
WSAR Wadi Sarin 78.78 294 P P 07 15 48.5 -0.1
SNR=164
WSAR Wadi Sarin 78.78 294 P P 07 15 48.5 -0.1
comp=Z,562nm,0.8s,baz=80,slow=3.2,SNR=243
WSAR LR LR 07 54 36.4
comp=Z,10µm,22.0s,baz=94,slow=39
HATD Hatta, Dubai 78.79 297 i P P 07 15 47.6 -1.1
SNR=149
HATD Hatta, Dubai 78.79 297 P P 07 15 47.8 -0.8
SNR=205
OUR Ouranopolis 78.81 329 P P 07 15 47.9 -0.5
OUR Ouranopolis 78.81 329 P P 07 15 48.4 0.0
BIDO Bidbid 78.82 295 P P 07 15 48.3 -0.5
SNR=149
KHAL Karahalli 78.82 324⇑ i P P 07 15 48.9 +0.2
HORT Hortiatis 78.83 329 P P 07 15 47.8 -0.9
HORT Hortiatis 78.83 329 P P 07 15 48.4 -0.3
KIZK Mersin 78.83 320⇑ i P P 07 15 48.1 -0.6
KIZK Mersin 78.83 320 P P 07 15 48.5 -0.1
THE Thessaloniki 78.84 330 P P 07 15 48.0 -0.6
LIA Limnos Island 78.84 328 P P 07 15 48.1 -0.5
FITZ Fitzroy Crossi 78.89 215 PKKPbc PKKPbc 07 34 43.6 +2.9
comp=Z,4.4nm,1.0s,baz=170,slow=4.6,SNR=4.9
FITZ LR LR 07 49 50.5
comp=Z,1µm,22.0s,baz=17,slow=35
FITZ Fitzroy Crossi 78.89 215 P P 07 15 50.3 +1.3
AYVA Ayvalik 78.90 326⇑ i P P 07 15 48.8 -0.2
NAZ Nazwa, Dubai 78.90 298 i P P 07 15 48.0 -1.2
SNR=72
NAZ Nazwa, Dubai 78.90 298 P P 07 15 48.3 -0.9
SNR=86
AKHS Akhisar 78.92 325⇑ i P P 07 15 49.3 +0.2
PLG Polygyros 78.93 329 P P 07 15 48.1 -1.1
ASHO Ashiyiah 78.95 297 i P P 07 15 48.3 -1.2
SNR=258
ASHO Ashiyiah 78.95 297 P P 07 15 48.5 -1.0
SNR=264
ISP Isparta 78.95 323 P P 07 15 49.1 -0.3
KULA Kula-Manisa 78.97 325 P P 07 15 49.4 -0.1
SILI Silifke-Mersin 79.01 320 P P 07 15 49.2 -0.4
OHR Ohrid 79.02 331 i P P 07 15 49.6 -0.1
KEBE Keben-Mersin 79.02 320 P P 07 15 49.0 -0.8
MANT Manisa 79.03 325⇑ i P P 07 15 50.5 +0.5
DKL Dikili 79.05 326 P P 07 15 48.8 -1.0
TIR Tirane 79.05 332 P P 07 15 48.9 -0.9
ZEDA zmir-Bergama 79.09 326⇑ i P P 07 15 49.9 -0.1
PRK Paraskevi 79.09 327 P P 07 15 50.5 +0.5
WBK Wadi Bani Khal 79.11 294 P P 07 15 50.6 +0.2
SNR=174
TEVE Tevekalti-Mers 79.13 320 P P 07 15 49.4 -1.0
FAQ Al Faqa, Dubai 79.14 297 i P P 07 15 49.3 -1.2
SNR=26
FAQ Al Faqa, Dubai 79.14 297 P P 07 15 49.4 -1.2
SNR=31
ERMK Ermenek 79.14 321⇑ i P P 07 15 50.2 -0.4
PALK Pallekele 79.16 267 i P P 07 15 50.8 +0.1
SNR=236
PALK Pallekele 79.16 267 P P 07 15 50.8 +0.1
PALK pmax pmax
comp=Z,1µm,1.0s
PALK MLR MLR
comp=Z,15µm,22.0s
PALK Pallekele 79.16 267 P P 07 15 50.9 +0.1
comp=Z,889nm,0.7s,baz=114,slow=0.1,SNR=282
PALK Pallekele 79.16 267 P P 07 15 50.8 +0.1
PALK IAMs_20 IAMs_20 07 54 30.9
comp=Z,15µm,22.0s
FNA Florina 79.16 331 P P 07 15 49.9 -0.6
FNA Florina 79.16 331 P P 07 15 50.3 -0.2
HOQ Hoqain 79.20 295 P P 07 15 50.0 -0.8
SNR=245
IKL Isikli 79.22 320 P P 07 15 50.2 -0.5
BRDR BURDUR-Merkez 79.23 323⇑ i P P 07 15 51.0 +0.1
SMDO Samad 79.23 295 P P 07 15 50.6 -0.6
SNR=202
JLN Jalan Bani Buh 79.25 293 P P 07 15 51.2 +0.1
SNR=200
BCK Bucak 79.25 323 P P 07 15 50.5 -0.6
SIGR SIGRI 79.26 327 P P 07 15 50.0 -0.9
SIGR SIGRI 79.26 327 P P 07 15 50.1 -0.9
PAIG Paliouri 79.27 329 P P 07 15 49.7 -1.3
BERE Bereket-Mersin 79.29 320 P P 07 15 50.7 -0.7
KTI Kastanea 79.31 330 P P 07 15 49.2 -2.2
GULN MERSIN_Gulnar 79.32 320⇑ i P P 07 15 51.2 -0.1
AKKU Akkuyu-Mersin 79.34 320 P P 07 15 49.6 -1.8
ASUD Al Ashush, Dub 79.37 298 i P P 07 15 51.1 -0.7
SNR=66
ASUD Al Ashush, Dub 79.37 298 P P 07 15 51.2 -0.7
SNR=50
KEPZ Antalya-Kepez 79.39 322⇑ i P P 07 15 51.8 0.0
LIT Litokhoron 79.47 330 P P 07 15 50.8 -1.3
LIT Litokhoron 79.47 330 IAmb IAmb 07 15 52.9
comp=Z,444nm,0.9s
KZN Kozani 79.49 330 P P 07 15 51.0 -1.3
TAOE Nuku Hiva Isla 79.51 122 eP P 07 15 54.3 +1.7
comp=Z,327nm,1.2s
TAOE Nuku Hiva Isla 79.51 122 ePP PP 07 18 50.0 -3.9
comp=Z,1µm,28.7s
TAOE eS S 07 25 54.1 +4.7
comp=Z,5µm,28.0s
TAOE eSS SS 07 30 48.8 -10
comp=Z,2µm,28.4s
TAOE eLQ LQ 07 36 57.6
comp=Z,7µm,23.8s
TAOE eLR LR 07 40 36.5
comp=Z,60µm,30.2s
TAOE Nuku Hiva Isla 79.51 122 eT T 08 43 25.0
comp=Z,25nm,0.2s
TEKE Tekeli-Mersin 79.51 320 P P 07 15 51.4 -1.0
NEST Nestorio 79.59 331 P P 07 15 52.1 -0.8
656A Willston 79.61 53 P P 07 15 54.6 +1.6
baz=328,SNR=24
656A Willston 79.61 53 IAmb IAmb 07 15 55.8
comp=Z,446nm,1.1s
ALNE Al Ain 79.62 297 i P P 07 15 52.5 -0.7
SNR=136
EREN Erenkoy 79.66 319⇑ i P P 07 15 53.1 0.0
EREN Erenkoy 79.66 319 P P 07 15 53.3 +0.1
AMVM AMECAMECA 79.71 72 P P 07 15 53.9 -0.1
AQU L'Aquila 79.72 337⇑ i P P 07 15 54.6 +1.1
AQU L'Aquila 79.72 337 IAMs_20 IAMs_20 07 53 59.0
comp=Z,15µm,21.0s
GAZI Gazipasa 79.73 321⇑ i P P 07 15 52.1 -1.4
ANTB Antalya 79.73 322 P P 07 15 50.9 -2.6
AYDB Zeytinkoy-Aydi 79.74 325 P P 07 15 53.6 -0.2
KORT Korkueli 79.75 323⇑ i P P 07 15 53.9 +0.1
KORT Korkueli 79.75 323 P P 07 15 53.0 -0.8
JMDO Jabal Madar 79.77 294 P P 07 15 53.7 -0.3
SNR=333
PENT Pentalofos 79.77 331 P P 07 15 53.5 -0.4
YAIG Yautepec 79.77 72 P P 07 15 54.5 +0.3
URLA Izmir 79.79 326⇑ i P P 07 15 53.7 -0.2
URLA Izmir 79.79 326 P P 07 15 53.4 -0.5
ARQ Araqi 79.81 296 P P 07 15 53.6 -0.6
SNR=222
GOLH Golhisar 79.81 323⇑ i P P 07 15 54.4 +0.3
TAVA DENIZLI_Tavas 79.83 324⇑ i P P 07 15 54.3 +0.1
CASP Castiglione de 79.86 339 IAMs_20 IAMs_20 07 58 02.5
comp=Z,8µm,19.0s
AOS Alonnisos 79.91 328 P P 07 15 53.4 -1.1
AOS Alonnisos 79.91 328 P P 07 15 54.0 -0.5
PLIG Platanillo 79.91 73 P P 07 15 55.8 +0.9
KPRO Kipourio 79.93 330 P P 07 15 54.0 -0.7
INTR Introdacqua 79.93 337 IAmb IAmb 07 15 57.8
comp=Z,643nm,0.8s
ZEY zmir 79.93 326⇑ i P P 07 15 54.3 -0.3
XOR Xorichti 79.94 329 P P 07 15 53.0 -1.7
BSY Bisya 79.94 295 P P 07 15 54.6 -0.4
SNR=389
CHOS Chios island 79.94 326 P P 07 15 53.3 -1.5
CHOS Chios island 79.94 326 P P 07 15 54.5 -0.3

SKY Skiros Island 79.97 328 P P 07 15 54.1 -0.7
VLO Vlora 79.97 332 P P 07 15 55.2 +0.4
NEO Neokhori 79.98 329 P P 07 15 53.6 -1.3
TPE Tepelena 79.99 332 P P 07 15 54.9 0.0
AYDN Tasoluk 80.00 325⇑ iP P 07 15 55.7 +0.6
SKIA Skiathos 80.04 329 P P 07 15 54.2 -1.0
BAI Bari 80.07 334⇑ iP P 07 15 55.1 -0.2
HWQ Hawqa 80.07 317 eP P 07 15 55.3 -0.3
THL Klokotos Trika 80.10 330 P P 07 15 54.2 -1.3
ELL Elmali 80.13 323 P P 07 15 55.2 -0.7
658A Bunnell 80.15 52 P P 07 15 57.4 +1.5
baz=328
658A Bunnell 80.15 52 IAMs_20 IAMs_20 07 54 00.3
comp=Z,1µm,18.0s
GCAM G?zelcaml? 80.18 325⇑ iP P 07 15 55.8 -0.1
GCAM G?zelcaml? 80.18 325 P P 07 15 55.6 -0.4
FASA Fasano 80.22 334⇑ iP P 07 15 56.1 0.0
SMG Samos 80.31 326 P P 07 15 55.6 -1.1
TRD Trivandrum 80.34 271⇑ iP P 07 15 57.4 +0.3
CGL1 Ceglie Messapi 80.34 333⇑ iP P 07 15 56.9 +0.1
YER Yerkesik 80.34 324 P P 07 15 57.2 +0.3
JAN Janina 80.35 331 P P 07 15 57.0 +0.1
AKUM Antalya-Kumluc 80.36 322⇑ iP P 07 15 56.3 -0.6
SG1 Sgolgore (BA) 80.37 334⇑ iP P 07 15 57.0 0.0
MLSB Milas 80.37 325 P P 07 15 57.2 +0.2
SRN Sarande 80.38 331 P P 07 15 56.5 -0.5
MRKA Markates 80.42 328 P P 07 15 56.1 -1.2
MASS Massafra 80.44 334⇑ iP P 07 15 57.3 0.0
TURN Turunc 80.47 324⇑ iP P 07 15 59.3 +1.8
TURN Turunc 80.47 324 P P 07 15 58.7 +1.2
CSS Mathiatis 80.48 320 P P 07 15 56.9 -0.7
DALY Dalyan (Mula) 80.50 324⇑ iP P 07 15 57.9 +0.2
DALY Dalyan (Mula) 80.50 324 P P 07 15 57.7 0.0
LEF Lefka 80.50 320⇑ iP P 07 15 57.4 -0.3
LEF Lefka 80.50 320 ⇑P P 07 15 57.1 -0.7
LEF Lefka 80.50 320 P P 07 15 57.1 -0.7
TAR1 Taranto 80.51 334⇑ iP P 07 15 57.6 -0.1
AGG Agios Georgios 80.51 329 P P 07 15 56.9 -0.9
AGG Agios Georgios 80.51 329 P P 07 15 56.4 -1.4
AGG Agios Georgios 80.51 329 IAmb IAmb 07 15 57.9
comp=Z,349nm,1.0s
BHL Bhannes 80.52 317 eP P 07 15 57.8 -0.2
FETY Fethiye 80.52 323⇑ iP P 07 15 57.1 -0.8
FETY Fethiye P 07 15 57.5 -0.3
MATE Matera 80.54 334 ⇑P P 07 15 58.2 +0.4
MAKR Makrakomi, Fth 80.58 330 P P 07 15 57.0 -1.1
EREA Eretria 80.58 328 P P 07 15 57.2 -0.9
KEK Kerkira 80.59 331 P P 07 15 57.8 -0.4
BEYL Beirut 80.61 317 eP P 07 15 58.0 -0.4
IGT Igoumenitsa 80.61 331 P P 07 15 57.8 -0.5
LKR Lokris 80.65 329 P P 07 15 56.1 -2.4
AKAS Kas 80.70 323⇑ iP P 07 15 58.6 -0.4
AKAS Kas 80.70 323 P P 07 15 58.1 -0.9
BODT Bodrum 80.74 325 P P 07 15 58.3 -0.7
EVR Evrytania 80.76 330 P P 07 15 58.4 -0.8
KARY Karystos 80.78 327 P P 07 15 58.3 -0.9
KSL Kastellorizon 80.78 323 P P 07 15 58.2 -1.0
RCY Rachaya 80.80 317 eP P 07 15 59.7 +0.1
QRWL Qaraoun 80.82 317 eP P 07 15 59.8 +0.2
PTL Penteli 80.94 328 P P 07 15 58.6 -1.5
DAT Datca 80.95 325⇑ iP P 07 15 59.1 -1.2
DAT Datca 80.95 325 P P 07 15 59.1 -1.2
SHBL Chebaa 80.97 317 eP P 07 16 00.5 0.0
DSF Desfina 81.02 329 P P 07 15 58.6 -1.9
ATHU Athens Univers 81.04 328 P P 07 15 59.1 -1.5
PROD Prodromos 81.04 329 P P 07 15 58.0 -2.6
ATH Athens Observa 81.06 328 P P 07 15 59.3 -1.3
TPIG Tehuac#an 81.07 71 P P 07 16 03.1 +1.9
TLIG Tlapa 81.10 72 IAmb IAmb 07 16 18.2
comp=Z,1µm,1.7s
PVO Paravola 81.12 330 P P 07 16 00.5 -0.5
KOSK Kos Island 81.13 325 P P 07 15 59.0 -2.0
KALE Kalithea 81.15 329 P P 07 15 59.7 -1.5
SERG Sergoula 81.15 329 P P 07 15 59.7 -1.5
TSLK Tsoukalades, L 81.18 331 P P 07 16 00.9 -0.4
DWPF Disney Wildern 81.18 53 P P 07 16 02.9 +1.5
baz=328
DWPF Disney Wildern 81.18 53 P P 07 16 02.6 +1.2
DWPF IAmb IAmb 07 16 18.5
comp=Z,1µm,1.8s
EFP Efpalio 81.19 329 P P 07 16 00.8 -0.5
TRIZ Trizonia 81.19 329 P P 07 15 59.9 -1.4
NISR Nisiros 81.21 325 P P 07 16 00.3 -1.1
ARG Arkhangelos 81.23 324 P P 07 16 00.6 -1.0
ARG Arkhangelos 81.23 324 P P 07 15 59.3 -2.3
PDO Prodromos 81.24 330 P P 07 16 00.5 -1.1
LTK Loutraki 81.24 329 P P 07 15 58.4 -3.3
LOUT Loutraki 81.27 328 P P 07 15 59.6 -2.2
PMOR Pomariorio Ree 81.28 132 eP P 07 16 03.6 +1.7
comp=Z,646nm,1.3s
PMOR Pomariorio Ree 81.28 132 eT T 08 45 35.6
comp=Z,123nm,0.2s
APE Apeiranthos 81.31 326 P P 07 16 00.0 -2.1
APE Apeiranthos 81.31 326 P P 07 15 58.5 -3.6
LAKA Lakka 81.34 329 P P 07 16 00.4 -1.8
EVGI Lefkada island 81.37 330 P P 07 16 01.6 -0.7
AMGA Amorgos Island 81.41 326 P P 07 16 00.5 -2.1
KLV Kalavryta, Ach 81.47 329 P P 07 16 01.1 -1.8
ASF Jabal al Asfar 81.54 316 PKPPKP P'P'df 07 42 38.0 -6.1
comp=Z,0.9nm,0.4s,baz=41,slow=11,SNR=4.4
FSK Fiskardo 81.55 330 P P 07 16 01.3 -1.9
SERI Serifos 81.56 327 P P 07 16 00.3 -3.1
VAH Vaihoa 81.60 131 eP P 07 16 05.2 +1.6
comp=Z,442nm,1.2s
DID Didima 81.64 328 P P 07 16 01.1 -2.7
RLS Riolos of Patr 81.66 330 P P 07 16 03.1 -0.7
MZR Muzera 81.66 298 i P P 07 16 03.6 -0.4
SNR=187
MZR Muzera 81.66 298 P P 07 16 03.6 -0.4
SNR=268
DRO Drossia 81.68 329 P P 07 16 03.4 -0.6
ASAR Alice Springs 81.71 206 P P 07 16 05.3 +1.2
ASAR Alice Springs 81.71 206 P P 07 16 05.8 +1.7
comp=Z,152nm,0.8s,baz=18,slow=5.5,SNR=1067
ASAR S S 07 26 16.4 +4.5
comp=Z,2.1nm,1.1s,baz=10,slow=5.7,SNR=4.8
ASAR PKKPbc PKKPbc 07 34 36.6 +2.0
comp=Z,8.9nm,1.0s,baz=186,slow=1.8,SNR=15
ASAR PKPPKP 07 42 33.3
comp=Z,4.6nm,1.2s,baz=178,slow=0.9,SNR=4.6
ASAR LR LR 07 53 18.7
comp=Z,4µm,19.4s,baz=17,slow=36
ASAR Alice Springs 81.71 206 P P 07 16 05.3 +1.2
VLS Valsamata 81.80 330 P P 07 16 03.6 -1.0
KFL Anninata 81.81 330 P P 07 16 03.4 -1.2
ANAF Anafi Island 81.89 326 P P 07 16 02.3 -2.8
MMLI Mount Malkishu 81.90 317 P P 07 16 05.3 +0.1
CMBO Columbo, Santo 81.90 326 P P 07 16 03.2 -1.9
THR2 Thira island, 81.91 326 P P 07 16 03.0 -2.2
THR3 Thira Island, 81.96 326 P P 07 16 02.9 -2.5
SANT Santorini 81.97 326 P P 07 16 02.5 -3.1
SANT Santorini 81.97 326 P P 07 16 03.2 -2.4
SANT Santorini 81.97 326 P P 07 16 03.2 -2.4
SANT IAmb IAmb 07 16 05.4
comp=Z,679nm,1.3s
MHLO Agia Marina, M 82.02 327 P P 07 16 02.7 -3.1
VLX Vlachokerasia 82.02 329 P P 07 16 04.2 -1.7
DQM DQM 82.06 293 P P 07 16 05.5 -0.7
SNR=54
AMT Artemida-Makis 82.07 329 P P 07 16 05.3 -0.8
KARP Karpathos 82.16 324 P P 07 16 04.5 -2.1
KARP Karpathos 82.16 324 P P 07 16 05.1 -1.4
KARP Karpathos 82.16 324 P P 07 16 05.2 -1.4
KARP IAMs_20 IAMs_20 07 59 11.3
comp=Z,13µm,20.0s
RAR Rarotonga 82.32 144 P P 07 16 07.5 +0.3
RAR pmax pmax
comp=Z,412nm,1.8s
RAR Rarotonga 82.32 144 P P 07 16 07.5 +0.3
RAR IAmb IAmb 07 16 09.8
comp=Z,412nm,1.8s
ITM Ithomi 82.33 329 P P 07 16 06.3 -1.1
ITM Ithomi 82.33 329 P P 07 16 06.7 -0.7
VLI Veliai 82.45 328 P P 07 16 05.5 -2.5
060A Indiantown 82.59 53 P P 07 16 10.2 +1.3
baz=329
PYL PYLOS 82.65 329 P P 07 16 07.5 -1.6
STIA Sitia Lasithi 82.83 325 P P 07 16 08.1 -1.9
KTHA Kythira Island 82.84 328 P P 07 16 08.1 -2.0
KTHA Kythira Island 82.84 328 P P 07 16 07.5 -2.6
PPT Papeete 82.85 134 P P 07 16 12.8 +2.7
comp=Z,119nm,0.9s,baz=86,slow=14,SNR=3.9

PPT LR LR 07 45 10.6
comp=Z,15µm,21.8s,baz=288,slow=30
KTHR Kythira 82.86 328 P P 07 16 08.9 -1.2
PPT2 Papeete2 82.87 134 eP P 07 16 11.9 +1.6
comp=Z,303nm,1.5s
PPT2 Papeete2 82.87 134 ePP PP 07 19 16.9 -4.7
comp=Z,1µm,27.0s
PPT2 eS S 07 26 28.1 +4.1
comp=Z,4µm,26.2s
PPT2 Papeete2 82.87 134 eLQ LQ 07 38 38.4
comp=Z,5µm,26.2s
PPT2 eLR LR 07 42 03.5
comp=Z,85µm,29.0s,baz=334
PPT2 Papeete2 82.87 134 eT T 08 47 35.0
comp=Z,11nm,0.3s
ZKR Zakros 82.87 325 P P 07 16 08.9 -1.3
ZKR Zakros 82.87 325 P P 07 16 08.8 -1.4
PPTF Pamatai, Papee 82.87 134 IAmb IAmb 07 16 13.8
comp=Z,599nm,1.5s
PAE Paea 82.93 134 eP P 07 16 11.9 +1.4
comp=Z,51nm,1.3s
PAE Paea 82.93 134 eT T 08 47 39.3
comp=Z,3.5nm,0.4s
NPS Neapolis 82.94 325 P P 07 16 08.0 -2.6
TIAR Tiarei 82.94 134 eP P 07 16 12.2 +1.6
comp=Z,44nm,0.9s
TIAR Tiarei 82.94 134 eT T 08 47 39.7
comp=Z,4.9nm,0.3s
060Z West Palm Beac 83.04 53 P P 07 16 12.4 +1.2
baz=329,SNR=5.5
HRKL Herakleio 83.06 326 P P 07 16 09.0 -2.2
IACM Heraklion 83.08 326 P P 07 16 09.0 -2.2
FRMA Ierapetra Chan 83.12 325 P P 07 16 09.8 -1.7
ANKY Antikythira Is 83.12 327 P P 07 16 09.2 -2.3
TVO Taravao 83.18 134 eP P 07 16 13.6 +1.7
comp=Z,58nm,1.3s
TVO Taravao 83.18 134 eT T 08 47 57.7
comp=Z,1.4nm,0.4s
CHAN Chania 83.21 327 P P 07 16 09.3 -2.6
RODP Rodopos 83.26 327 P P 07 16 10.9 -1.4
VAM Vamos 83.26 327 P P 07 16 10.0 -2.2
IMMV Iera Moni Meta 83.28 327 P P 07 16 10.7 -1.6
IMMV Iera Moni Meta 83.28 327 P P 07 16 11.3 -1.0
061Z Ochoppi 83.33 54 P P 07 16 14.1 +1.4
baz=329
TMBK Timbaki Herakl 83.39 326 P P 07 16 11.0 -1.9
PBRG Braganca 83.42 352⇑ iP P 07 16 13.7 +0.7
comp=Z,727nm,1.8s
PBRG Braganca 83.42 352 ePP PP 07 19 26.3 +1.6
PBRG eS S 07 26 32.5 +3.2
SIVA Sivas 83.42 326 P P 07 16 12.0 -1.1
KNDR Palaiochora Ch 83.59 327 P P 07 16 12.3 -1.6
KZIT Kziot 83.66 317 P P 07 16 13.5 -0.8
MEH Mehetia 83.76 133 eP P 07 16 16.4 +1.6
comp=Z,138nm,1.2s
MBWA Marble Bar 83.79 219 P P 07 16 15.7 +0.8
SNR=9.6
MBWA Marble Bar 83.79 219 P P 07 16 15.3 +0.4
GVDS Gavdos 83.82 326 P P 07 16 13.9 -1.2
GVD Gavdhos 83.82 326 P P 07 16 13.9 -1.2
GVD Gavdhos 83.82 326 P P 07 16 14.3 -0.8
MAHO Mahon 83.91 343 Pdif P 07 16 18.3 +2.9
MAHO i SKS S 07 26 41.0 +6.9
HMDM Hanimaadhoo 83.92 273 P P 07 16 16.7 +0.8
SNR=24
HMDM Hanimaadhoo 83.92 273 IAMs_20 IAMs_20 07 56 06.1
comp=Z,14µm,22.0s
POLO Lamas de Olo 83.94 352⇑ iP P 07 16 16.4 +0.7
comp=Z,426nm,1.6s
POLO Lamas de Olo 83.94 352 eS S 07 26 37.7 +3.1
POLO eSS SS 07 32 11.1 +9.3
PVRL Vila Real 84.03 352⇑ iP P 07 16 16.9 +0.8
comp=Z,1µm,1.3s
PVRL Vila Real 84.03 352 ePP PP 07 19 31.2 +1.6
MVO Moncorvo 84.08 352⇑ iP P 07 16 17.1 +0.7
comp=Z,1µm,1.6s
MVO Moncorvo 84.08 352 ePP PP 07 19 32.1 +2.0
MVO eS S 07 26 36.3 +0.3
MVO eSS SS 07 32 07.0 +3.0
MVO Moncorvo 84.08 352 eLR LR 07 44 02.8
comp=Z,7µm,20.0s
PSA00 Pilbara Seismi 84.13 219 P P 07 16 17.0 +0.4
HRFI Mount Harif 84.17 316 P P 07 16 17.3 +0.3
062Z Marathon 84.23 55 P P 07 16 18.5 +1.2
baz=329
CLTB Caltabellotta 84.31 336 IAmb IAmb 07 16 21.4
comp=Z,210nm,0.8s
BBSR BB Station 84.40 38 P P 07 16 18.6 +0.6
TEIG Tepich 84.43 63 P P 07 16 18.7 +0.3
TEIG IAmb IAmb 07 16 21.5
comp=Z,460nm,1.4s
TEIG Tepich 84.43 63 IAMs_20 IAMs_20 07 58 37.8
comp=Z,9µm,21.0s
EIL Elat 84.53 316 P P 07 16 18.8 0.0
UCM Universidad Co 84.56 349 Pdif P 07 16 18.1 -0.7
UCM i SKS S 07 26 34.5 -6.2
PVIS Viseu 84.60 352⇑ iP P 07 16 19.7 +0.7
comp=Z,1µm,1.3s
PVIS eP P 07 16 33.8 -2.1
PVIS Viseu 84.60 352 ePP PP 07 19 39.0 +4.7
SHAO Shalim 84.65 294 i P P 07 16 19.0 -0.6
SNR=37
SHAO Shalim 84.65 294 P P 07 16 18.9 -0.6
SNR=37
MTE Manteigas 84.88 352⇑ iP P 07 16 21.4 +0.9
comp=Z,1µm,1.3s
MTE Manteigas 84.88 352 eS S 07 26 53.2 +9.2
MTE Manteigas 84.88 352 eLR LR 07 44 44.0
comp=Z,7µm,20.0s
MTE Manteigas 84.88 352 IAMs_20 IAMs_20 08 00 07.9
comp=Z,7µm,20.0s
COI Coimbra 85.14 353⇑ iP P 07 16 22.6 +0.9
comp=Z,2µm,1.3s
COI eP P 07 16 36.6 -2.0
COI Coimbra 85.14 353 ePP PP 07 19 41.0 +2.4
COI eS S 07 26 49.0 +2.7
COI Coimbra 85.14 353 IAMs_20 IAMs_20 07 54 04.7
comp=Z,8µm,22.0s
RAYN Ar Rayn 85.18 305 i P P 07 16 21.7 -0.4
SNR=1350
RAYN Ar Rayn 85.18 305 P P 07 16 21.8 -0.4
RAYN pmax pmax
comp=Z,2µm,1.0s
RAYN Ar Rayn 85.18 305 P P 07 16 21.8 -0.4
ARMA Armidale 85.23 189 IAmb IAmb 07 16 26.8
comp=Z,226nm,1.4s
ARMA IAMs_20 IAMs_20 07 50 18.6
comp=Z,11µm,21.0s
DMTO DMTO 85.26 294 P P 07 16 21.2 -1.4
SNR=37
ESBB Sonseca Array 85.27 349 IAMs_20 IAMs_20 08 01 55.2
comp=Z,10µm,19.0s
ESDC Sonseca Array 85.27 349 P P 07 16 23.2 +0.8
comp=Z,306nm,0.8s,baz=2.4,slow=4.8,SNR=571
ESDC PKKPbc PKKPbc 07 34 26.7 +1.9
comp=Z,0.2nm,0.3s,baz=158,slow=2.6,SNR=4.5
ESDC PKPPKP 07 42 25.2
comp=Z,0.2nm,0.3s,baz=218,slow=3.0,SNR=3.8
ESDC Sonseca Array 85.27 349 P P 07 16 22.7 +0.3
PCAS Casmilo, Conde 85.30 353⇑ iP P 07 16 23.2 +0.7
comp=Z,1µm,1.5s
PCAS eP P 07 16 37.4 -2.0
PCAS Casmilo, Conde 85.30 353 ePP PP 07 19 42.8 +2.8
PCAS eS S 07 26 48.8 +0.8
PCAS eSS SS 07 32 28.4 +6.6
H07N1 FLORES T-PHASE 85.32 10 eP P 07 16 23.9 +1.3
RAO Raoul Island 85.33 163 IAMs_20 IAMs_20 07 48 50.7
comp=Z,12µm,21.0s
PCBR Castelo Branco 85.43 352⇑ iP P 07 16 23.9 +0.8
comp=Z,1µm,1.3s
PCBR eP P 07 16 37.9 -2.2
PCBR Castelo Branco 85.43 352 ePP PP 07 19 43.2 +2.2
PAB San Pablo 85.43 350 P P 07 16 24.0 +0.8
PAB pmax pmax
comp=Z,625nm,1.3s
PAB San Pablo 85.43 350 P P 07 16 24.0 +0.8
PAB IAmb IAmb 07 16 26.8
comp=Z,625nm,1.3s
PAB San Pablo 85.43 350 IAMs_20 IAMs_20 08 02 10.7
comp=Z,10µm,18.0s
H07S1 FLORES T-PHASE 85.62 10 eP P 07 16 25.1 +1.0
WDD Wied Dalam 85.64 334 IAMs_20 IAMs_20 08 01 02.8
comp=Z,11µm,20.0s
CCIG Comitan 85.66 68 IAmb IAmb 07 16 28.6
comp=Z,531nm,1.3s

CCIG IAMs_20 IAMs_20 07 51 06.5
comp=Z,12µm,22.0s
WHFO Wadi Hawf 85.72 295 P P 07 16 24.1 -0.9
SNR=186
PTOM Tomar 85.73 353⇑ iP P 07 16 25.0 +0.4
comp=Z,1µm,1.2s
PTOM eP P 07 16 39.6 -1.9
PTOM Tomar 85.73 353 ePP PP 07 19 44.9 +1.5
RBK Rabkut 85.83 294 P P 07 16 24.1 -1.4
SNR=79
PMRV Marv??o 85.83 352⇑ iP P 07 16 25.5 +0.3
comp=Z,760nm,1.4s
PMRV eP P 07 16 39.8 -2.3
PMRV Marv??o 85.83 352 ePP PP 07 19 45.8 +1.5
PMRV eS S 07 26 52.5 -0.8
PMRV Marv??o 85.83 352 eLR LR 07 45 24.8
comp=Z,7µm,18.0s
ALMR Almeirim 86.20 353 eP P 07 16 26.9 -0.1
ALMR ePP PP 07 19 48.3 +1.1
ALMR eSKSac SKSac 07 26 48.6 +1.0
ALMR AMS AMS 07 56 10.6
comp=E,8µm,20.8s
ALMR Almeirim 86.20 353⇑ iP P 07 16 27.3 +0.4
comp=E,1µm,1.3s
ALMR eP P 07 16 41.2 -2.7
ALMR Almeirim 86.20 353 eP P 07 16 26.8 -0.1
ALMR e 07 19 48.3
ALMR e 07 26 48.6
SRBC Serra Branca 86.25 8 eP P 07 16 29.6 +2.4
comp=E,455nm,1.1s
PMTG Montargil 86.26 352⇑ iP P 07 16 28.7 +1.5
comp=E,656nm,1.5s
PMTG eP P 07 16 42.9 -1.3
PMTG Montargil 86.26 352 ePP PP 07 19 49.5 +1.8
PMTG eS S 07 26 58.7 +1.3
PMTG eSS SS 07 32 42.4 +6.6
PGRA Graciosa 86.26 8 eP P 07 16 28.3 +1.1
comp=E,486nm,1.6s
PESTR Estremoz 86.41 352 eS S 07 27 01.1 +2.2
PESTR Estremoz 86.41 352 IAmb IAmb 07 16 31.1
comp=Z,347nm,1.6s
ABTO Aybut 86.44 295 P P 07 16 27.7 -0.8
SNR=162
PMAFR Mafra 86.45 353⇑ iP P 07 16 28.4 +0.2
comp=Z,1µm,1.9s
PMAFR eP P 07 16 43.0 -2.1
PMAFR Mafra 86.45 353 ePP PP 07 19 51.8 +2.6
PMAFR eS S 07 27 02.4 +3.2
PMAFR eSS SS 07 32 44.8 +6.2
CMAH Djebel Manchou 86.50 340 P P 07 16 29.1 +0.5
ROSA Rosais 86.55 8 eP P 07 16 28.1 -0.6
comp=Z,459nm,1.7s
ROSA Rosais 86.55 8 IAMs_20 IAMs_20 07 52 22.5
comp=Z,10µm,21.0s
PCED Cedros 86.60 8 eP P 07 16 29.9 +1.0
comp=Z,62nm,0.7s
PMAN Manadas 86.64 8 eP P 07 16 18.3 -11
comp=Z,416nm,1.1s
PSCM Serra do Cume 86.65 7 eP P 07 16 30.2 +1.0
comp=Z,166nm,1.2s
LIS Lisbon 86.67 353 eP P 07 16 29.2 0.0
LIS eSKSac SKSac 07 26 51.7 +1.1
LIS AMS AMS 08 02 03.1
comp=Z,9µm,22.6s
LIS Lisbon 86.67 353 eP P 07 16 29.2 0.0
LIS e 07 26 51.7
ADH Angra Heroismo 86.69 7 eP P 07 16 32.5 +3.2
comp=Z,50nm,0.6s
PICO Pico 86.75 8 eP P 07 16 30.7 +1.0
comp=Z,284nm,1.2s
PCAN Candelaria 86.78 8 eP P 07 16 30.7 +0.9
comp=Z,202nm,0.9s
CKFL Kef-Lekhel 86.86 340 P P 07 16 30.7 +0.3
DFRA Djebel Bou Aff 86.88 341 P P 07 16 29.7 -0.8
KEST Kesra 86.96 338 P P 07 16 31.1 +0.3
comp=Z,116nm,0.8s,baz=111,slow=1.8,SNR=44
KEST LR LR 08 00 22.1
comp=Z,13µm,21.3s,baz=320,slow=39
KEST Kesra 86.96 338 IAmb IAmb 07 16 33.2
comp=Z,421nm,1.4s
KEST IAMs_20 IAMs_20 07 59 49.5
comp=Z,12µm,21.0s
CART Cartagena 86.97 347 Pdif P 07 16 30.9 +0.1
CART eSKS SKSac 07 26 52.0 -0.4
CART Cartagena 86.97 347 IAmb IAmb 07 16 33.9
comp=Z,398nm,1.4s
CART IAMs_20 IAMs_20 07 59 40.3
comp=Z,8µm,20.0s
CASM Ain Smara 87.03 341 P P 07 16 31.6 +0.4
PNCL Nicolau / Gran 87.23 353⇑ iP P 07 16 32.3 +0.3
comp=Z,267nm,1.9s
PNCL eP P 07 16 46.4 -2.6
PNCL Nicolau / Gran 87.23 353 ePP PP 07 19 55.6 +0.1
PNCL eS S 07 27 09.8 +3.0
CTEI Djebel Teioual 87.24 341 P P 07 16 32.9 +0.6
PBEJ Beja 87.27 352⇑ iP P 07 16 32.5 +0.3
comp=Z,313nm,1.5s
PBEJ eP P 07 16 46.9 -2.3
PBEJ Beja 87.27 352 ePP PP 07 19 56.5 +0.7
SET Setif 87.30 341 P P 07 16 37.0 +4.5
MESJ Messejana 87.48 352 eP P 07 16 33.2 0.0
MESJ ePP PP 07 19 58.6 +1.1
MESJ eSKSac SKSac 07 26 56.5 +1.0
MESJ AMS AMS 08 01 36.5
comp=Z,6µm,22.4s
MESJ Messejana 87.48 352⇑ iP P 07 16 33.5 +0.3
comp=Z,201nm,1.4s
MESJ eP P 07 16 47.8 -2.4
MESJ Messejana 87.48 352 ePP PP 07 19 59.0 +1.5
MESJ Messejana 87.48 352 eP P 07 16 33.2 0.0
MESJ e 07 19 58.6
MESJ e 07 26 56.5
PSET Sete Cidades 87.62 6 eP P 07 16 31.7 -2.2
PCVE Castro Verde 87.67 352⇑ iP P 07 16 34.5 +0.4
comp=Z,281nm,2.5s
PCVE eP P 07 16 48.6 -2.5
PCVE Castro Verde 87.67 352 ePP PP 07 20 00.2 +1.1
PCVE eS S 07 27 10.7 -0.3
PCVE eSS SS 07 33 07.5 +11
GRON Grota Negra 87.69 6 eP P 07 16 34.8 +0.6
comp=Z,135nm,0.9s
CMLA Cha da Macela 87.69 6 eP P 07 16 35.1 +0.9
comp=Z,178nm,0.9s
CMLA Cha da Macela 87.69 6 P P 07 16 34.7 +0.5
CMLA pmax pmax
comp=Z,327nm,0.9s
CMLA Cha da Macela 87.69 6 P P 07 16 34.7 +0.5
CMLA IAmb IAmb 07 16 38.6
comp=Z,327nm,0.9s
BART Pico Bartolome 87.70 6 eP P 07 16 35.1 +0.7
comp=Z,47nm,0.8s
PTEO Sao Teotonio 87.81 353⇑ iP P 07 16 35.0 +0.2
comp=Z,214nm,1.9s
EBNR Beni Rached 87.87 344 P P 07 16 37.1 +1.9
PVAQ Vaqueiros 87.87 352⇑ iP P 07 16 35.6 +0.5
comp=Z,242nm,1.2s
PVAQ eP P 07 16 50.2 -1.9
PVAQ Vaqueiros 87.87 352 ePP PP 07 20 02.4 +1.7
PVAQ eS S 07 27 17.2 +4.2
PVAQ eSS SS 07 33 15.7 +16
PVAQ Vaqueiros 87.87 352 eLR LR 07 46 01.8
comp=Z,5µm,20.0s
PVAQ Vaqueiros 87.87 352 IAmb IAmb 07 16 39.2
comp=Z,132nm,0.8s
PVAQ IAMs_20 IAMs_20 08 01 57.6
comp=Z,7µm,21.0s
STKA Stephens Creek 88.00 197 P P 07 16 36.7 +1.3
STKA pmax pmax
comp=Z,26nm,1.0s
STKA MLR MLR
comp=Z,2µm,20.0s
STKA Stephens Creek 88.00 197 P P 07 16 37.1 +1.7
comp=Z,55nm,0.8s,baz=349,slow=6.2,SNR=94
STKA LR LR 07 57 30.4
comp=Z,6µm,18.8s,baz=13,slow=36
STKA Stephens Creek 88.00 197 P P 07 16 36.7 +1.3
ECHA Ech Chlef 88.04 345 P P 07 16 37.0 +1.2
MORF Marmelete 88.04 353 eP P 07 16 35.9 -0.1
MORF ePP PP 07 20 03.0 +0.9
MORF eSKSac SKSac 07 27 00.0 +0.9
MORF AMS AMS 07 53 54.3
comp=Z,6µm,25.1s
MORF Marmelete 88.04 353⇑ iP P 07 16 36.4 +0.4
comp=Z,224nm,2.3s
MORF eP P 07 16 50.6 -2.4

MORF Marmelete 88.04 353 *e*PP PP 07 20 03.8 +1.7
MORF *e*S **S 07 27 19.3 +4.6**
MORF *e*SS SS 07 33 25.5 +23
MORF Marmelete 88.04 353 *e*P **P 07 16 35.9 -0.1**
MORF *e* 07 20 03.0
MORF *e* 07 27 00.0
PBDV Barranco-do-Ve 88.05 352 ⇑*i*P **P 07 16 36.7 +0.7**
comp=Z,249nm,1.5s
PBDV *e*pP **pP 07 16 51.2 -1.8**
PBDV Barranco-do-Ve 88.05 352 *e*PP PP 07 20 04.0 +1.8
PBDV *e*S **S 07 27 17.4 +2.7**
PBDV *e*SS SS 07 33 17.7 +16
TBI Tubuai 88.08 137 *e*P **P 07 16 37.6 +1.7**
comp=Z,424nm,1.2s
TBI Tubuai 88.08 137 *e*PP PP 07 20 03.1 -0.6
comp=Z,1μm,29.2s
TBI *e*S **S 07 27 17.6 +2.8**
comp=Z,13μm,33.2s
TBI Tubuai 88.08 137 *e*LQ LQ 07 40 17.2
comp=Z,5μm,39.8s
TBI *e*LR LR 07 44 29.1
comp=Z,42μm,31.5s,baz=331
TBI Tubuai 88.08 137 *e*T T 08 54 04.1
comp=Z,14nm,0.3s
LIJA Lijar 88.16 350 Pdif **P 07 16 37.5 +0.9**
EMAL Malaga-Limoner 88.20 349 Pdif **P 07 16 35.2 -1.4**
EMAL *i* SKS **SKSac 07 27 00.0 +0.2**
PFVI Vila Bisbo 88.23 353 ⇑*i*P **P 07 16 36.9 +0.1**
comp=Z,276nm,1.2s
PFVI *e*pP **pP 07 16 51.4 -2.4**
PFVI Vila Bisbo 88.23 353 *e*PP PP 07 20 05.8 +2.2
PFVI *e*S **S 07 27 19.6 +3.3**
PFVI *e*SS SS 07 33 16.7 +12
PFVI Vila Bisbo 88.23 353 IAmb IAmb 07 16 40.1
comp=Z,308nm,1.2s
PFVI IAMs_20 IAMs_20 07 55 50.4
comp=Z,8μm,20.0s
OKGL Djebel Kef Gue 88.26 345 P **P 07 16 37.0 0.0**
EANR 'Ain N'Sour 88.27 345 P **P 07 16 36.9 -0.2**
GIBL Gibalbin 88.29 350 Pdif **P 07 16 39.5 +2.4**
PSMN Pico do Norte, 88.48 6 *e*P **P 07 16 38.2 +0.2**
comp=Z,160nm,1.6s
PSMA Santa Maria 88.48 6 *e*P **P 07 16 38.5 +0.6**
comp=Z,110nm,1.1s
SFS San Fernando 88.67 351 Pdif **P 07 16 39.8 +1.0**
SFS *i* SKS **SKSac 07 27 06.6 +3.9**
SFS San Fernando 88.67 351 IAMs_20 IAMs_20 08 04 00.2
comp=Z,8μm,19.0s
OJBR Djebel Berber 88.75 345 P **P 07 16 38.0 -1.3**
CNIL Conil 88.75 350 Pdif **P 07 16 41.0 +1.8**
OJGS Djebel Guires 88.76 345 P **P 07 16 38.0 -1.4**
ETRT Tiaret 88.79 344 P **P 07 16 39.3 -0.3**
ODJA Bouhanifia 89.07 346 P **P 07 16 40.0 -0.8**
CEU Ceuta 89.15 350 Pdif **P 07 16 39.7 -1.4**
CEU *i* SKS **SKSac 07 27 04.3 -1.3**
OTSS Djebel Tessala 89.21 346 P **P 07 16 41.0 -0.5**
MELI Melilla 89.47 348 Pdif **P 07 16 41.5 -1.1**
MELI *e*SKS **SKSac 07 27 08.0 +0.5**
PVLZ Peæn de 89.75 349 Pdif **P 07 16 39.4 -4.6**
PVLZ *i* S **S 07 27 31.9 +1.3**
FORT Forrest 90.03 209 IAmb IAmb 07 17 03.4
comp=Z,225nm,0.8s
OUZ Omahuta 90.08 171 IAMs_20 IAMs_20 07 54 32.0
comp=Z,12μm,20.0s
CAN Canberra 90.35 191 IAMs_20 IAMs_20 07 53 52.5
comp=Z,11μm,21.0s
MTDJ Mount Denham 91.47 55 P **P 07 16 53.2 +0.9**
MTDJ IAmb IAmb 07 17 09.1
comp=Z,363nm,1.4s
MTDJ IAMs_20 IAMs_20 08 05 44.1
comp=Z,6μm,19.0s
IFR Ifrane 91.48 349 Pdif **P 07 16 52.4 +0.1**
IFR *e*SKS **SKSac 07 27 23.9 +4.3**
PMPST Porto Santo, M 92.59 359 ⇑*i*P **P 07 16 57.0 -0.2**
PMPST Porto Santo, M 92.59 359 *e*PP PP 07 20 39.1 +0.9
PMPS Porto Santo 92.61 359 ⇑*i*P **P 07 16 57.0 -0.2**
PMPS Porto Santo 92.61 359 *e*PP PP 07 20 38.4 +0.1
PMOZ Porto Moniz, M 92.86 359 ⇑*i*P **P 07 16 58.8 +0.3**
comp=Z,233nm,1.2s
PMOZ Porto Moniz, M 92.86 359 *e*S **S 07 28 05.0 +5.9**
PMOZ Porto Moniz, M 92.86 359 *e*LR LR 07 47 32.8
comp=Z,3μm,22.0s
MXZ Matakaoa Point 92.92 167 IAMs_20 IAMs_20 07 55 45.2
comp=Z,9μm,20.0s
ACON Acoyapa 92.95 65 IAmb IAmb 07 17 15.0
comp=Z,158nm,1.2s
ACON IAMs_20 IAMs_20 07 57 06.5
comp=Z,8μm,21.0s
PMAR Madeira 92.95 359 ⇑*i*P **P 07 16 59.5 +0.4**
comp=Z,298nm,1.3s
TOO Toolangi 92.99 193 IAMs_20 IAMs_20 07 55 41.1
comp=Z,12μm,21.0s
ESPN Las Esperanzas 93.22 64 IAmb IAmb 07 17 16.6
comp=Z,500nm,1.7s
URZ Urewera 93.46 168 IAMs_20 IAMs_20 07 53 52.4
comp=Z,6μm,22.0s
SDDR Presa de Saban 93.68 50 IAmb IAmb 07 17 19.2
comp=Z,142nm,1.5s
SDDR IAMs_20 IAMs_20 08 00 23.3
comp=Z,8μm,22.0s
BKZ Black Stump Fm 94.28 169 IAMs_20 IAMs_20 07 53 48.3
comp=Z,11μm,22.0s
JTS Las Juntas de 94.47 65 IAMs_20 IAMs_20 08 00 48.9
comp=Z,7μm,22.0s
BFZ Birch Farm 95.75 169 IAMs_20 IAMs_20 07 56 02.2
comp=Z,10μm,21.0s
DGAR Diego Garcia 95.81 265 IAMs_20 IAMs_20 08 01 36.2
comp=Z,12μm,21.0s
NNZ Nelson 96.00 172 IAMs_20 IAMs_20 07 56 15.0
comp=Z,11μm,21.0s
SNZO South Karori 96.22 171 IAMs_20 IAMs_20 07 52 30.5
comp=Z,12μm,22.0s
THZ Tophouse 96.51 172 IAMs_20 IAMs_20 08 01 07.3
comp=Z,11μm,20.0s
SJG San Juan 96.66 46 PP **PP 07 21 07.8 -2.6**
comp=Z,13nm,0.8s,baz=0.0,slow=16,SNR=3.0
ATD Arta Tunnel 96.71 301 P **P 07 17 16.7 +0.4**
SNR=14
ATD Arta Tunnel 96.71 301 P **P 07 17 16.8 +0.4**
comp=Z,64nm,0.8s,baz=12,slow=4.9,SNR=21
ATD Arta Tunnel 96.71 301 IAmb IAmb 07 17 17.9
comp=Z,295nm,1.3s
MTP Monte Pirata 96.92 45 IAmb IAmb 07 17 19.6
comp=Z,73nm,0.9s
MACI Morro de la Ar 97.41 359 P Pdif 07 17 19.5 0.0
MACI IAmb IAmb 07 17 23.5
comp=Z,138nm,0.8s
TAU Tasmania Unive 98.03 191 IAMs_20 IAMs_20 08 03 08.0
comp=Z,6μm,21.0s
PTCN Pitcairn Islan 98.26 122 IAMs_20 IAMs_20 07 50 11.5
comp=Z,11μm,22.0s
MQZ McQueen's Vall 98.42 172 IAMs_20 IAMs_20 07 52 55.9
comp=Z,11μm,22.0s
DESE Dese 98.65 303 *i* P **P 07 17 23.7 -1.7**
DESE *i* S **PP 07 21 21.7 -4.6**
DESE Dese 98.65 303 *i* P **P 07 17 22.7 -2.7**
ANWB Willy Bob 98.81 42 IAMs_20 IAMs_20 08 04 20.3
comp=Z,7μm,22.0s
SMRC Santa Marta, M 99.15 56 *e*P **PP 07 21 28.4 -1.4**
SMRC Santa Marta, M 99.15 56 *e*P **PP 07 21 28.4 -1.4**
URIC Uribia, Colomb 99.74 54 *e*P **PP 07 21 33.7 -0.5**
URIC Uribia, Colomb 99.74 54 *e*P **PP 07 21 33.7 -0.5**
SJCC San Jacinto, C 99.78 57 *e*P **PP 07 21 37.0 +2.4**
SJCC San Jacinto, C 99.78 57 *e*P **PP 07 21 37.0 +2.4**
TAM Tamanrasset 100.28 338 IAMs_20 IAMs_20 08 09 24.2
comp=Z,8μm,20.0s
CODC Agustn Codazz 100.59 56⇑*e*P **PP 07 21 40.3 -0.3**
CODC *e*P PKiKP 07 21 51.0 -8.8
CODC Agustn Codazz 100.59 56⇑*e*P **PP 07 21 40.3 -0.3**
CODC *e*P PKiKP 07 21 51.0 -8.8
PAYG Puerto Ayora 100.65 76 IAMs_20 IAMs_20 07 54 28.2
comp=Z,10μm,21.0s
SMLC San Martn de 101.27 57 *e*P **PP 07 21 45.0 -0.8**
SMLC San Martn de 101.27 57 *e*P **PP 07 21 45.0 -0.8**
FDF Fort de France 101.73 43 IAMs_20 IAMs_20 08 11 10.5
comp=Z,5μm,20.0s
ZARC Zaragoza, Cauc 102.02 58 *e*P **PP 07 21 47.0 -4.5**
ZARC *e*P PKiKP 07 21 51.0 -11
ZARC Zaragoza, Cauc 102.02 58 *e*P **PP 07 21 47.0 -4.5**
ZARC *e*P PKiKP 07 21 51.0 -11
OCAC Ocana 102.12 57 *e*P **PP 07 21 50.3 -2.1**
OCAC Ocana 102.12 57 *e*P **PP 07 21 50.3 -2.1**
HELC Santa Helena 102.80 59⇑*e*P **PP 07 21 53.6 -4.2**
HELC Santa Helena 102.80 59⇑*e*P **PP 07 21 53.6 -4.2**
SDV Santo Domingo 102.84 54 Pdiff **Pdif 07 17 45.7 +1.8**
comp=Z,5.5nm,0.2s,baz=16,slow=7.4,SNR=2.5
SDV PP **PP 07 21 57.1 -0.7**
comp=Z,9.6nm,0.3s,baz=43,slow=3.4,SNR=4.5
SDV Santo Domingo 102.84 54 IAMs_20 IAMs_20 08 05 42.2
comp=Z,9μm,22.0s
BRRC Barranca, Sant 102.91 57⇑*e*P **PP 07 21 56.3 -1.9**
BRRC Barranca, Sant 102.91 57⇑*e*P **PP 07 21 56.3 -1.9**
CAPV Capacho 102.93 56⇓*e*P **PP 07 21 58.3 -0.3**
CAPV Capacho 102.93 56⇓*e*P **PP 07 21 58.3 -0.3**
PTBC PUERTO BERRIO 103.03 58⇓*e*P PP 07 22 18.2 +19
PTBC PUERTO BERRIO 103.03 58⇓*e*P PP 07 22 18.2 +19
PAMC Pamplona, Colo 103.20 56 *e*P **PP 07 21 56.9 -4.0**
PAMC Pamplona, Colo 103.20 56 *e*P **PP 07 21 56.9 -4.0**
PLMC San Jos del P 103.52 61⇑*e*P **PP 07 22 02.9 0.0**
PLMC San Jos del P 103.52 61⇑*e*P **PP 07 22 02.9 0.0**
BARC Barichara 103.62 57 *e*P **PP 07 21 57.6 -6.1**
BARC Barichara 103.62 57 *e*P **PP 07 21 57.6 -6.1**
NORC Norcasia 103.67 59 *e*P PP 07 21 55.6 -8.3
NORC Norcasia 103.67 59 *e*P PP 07 21 55.6 -8.3
GUY2C Guyana, Caldas 103.71 60 *e*P **PP 07 21 58.9 -5.8**
GUY2C *e*P **PKiKP 07 22 04.2 -1.8**
GUY2C Guyana, Caldas 103.71 60 *e*P **PP 07 21 58.9 -5.8**
GUY2C *e*P **PKiKP 07 22 04.2 -1.8**
BBGH Gun Hill 103.80 42 IAMs_20 IAMs_20 08 12 30.3
comp=Z,9μm,21.0s
SPBC San Pablo de B 103.99 58 *e*P **PKiKP 07 22 05.6 -0.4**
SPBC San Pablo de B 103.99 58 *e*P **PKiKP 07 22 05.6 -0.4**
RUSC La Rusia 104.27 57 *e*P **PKiKP 07 22 08.2 +1.2**
RUSC La Rusia 104.27 57 *e*P **PKiKP 07 22 08.2 +1.2**
YOTC Yotoco, Valle 104.28 61 *e*P PKiKP 07 21 50.3 -16
YOTC *e*P PP 07 22 00.3 -8.3
YOTC Yotoco, Valle 104.28 61 *e*P PKiKP 07 21 50.3 -16
YOTC *e*P PP 07 22 00.3 -8.3
TAMC Tame, Arauca 104.43 56 *e*P **PKiKP 07 22 03.6 -3.2**
TAMC Tame, Arauca 104.43 56 *e*P **PKiKP 07 22 03.6 -3.2**
ROSC El Rosal 104.57 59⇑*e*P **PKiKP 07 22 12.9 +5.4**
ROSC El Rosal 104.57 59⇑*e*P **PKiKP 07 22 12.9 +5.4**
ROSC El Rosal 104.57 59 Pdiff **Pdif 07 17 56.0 +4.2**
comp=Z,4.9nm,0.7s,baz=163,slow=19,SNR=1.7
ROSC PP **PP 07 22 11.3 +0.3**
comp=Z,34nm,1.1s,baz=14,slow=6.1,SNR=8.1
ORTC Ortega, Tolima 104.90 60 *e*P **PP 07 22 13.6 +0.4**
ORTC Ortega, Tolima 104.90 60 *e*P **PP 07 22 13.6 +0.4**
ELOV Elorza 105.03 54 *e*P **PP 07 22 13.6 -0.3**
ELOV Elorza 105.03 54 *e*P **PP 07 22 13.6 -0.3**
BBAC Balboa, Cauca 105.49 63 *e*P **PP 07 22 13.6 -4.1**
BBAC Balboa, Cauca 105.49 63 *e*P **PP 07 22 13.6 -4.1**
VILC Villavicencio, 105.50 59 *e*P **PP 07 22 16.9 -0.8**
VILC Villavicencio, 105.50 59 *e*P **PP 07 22 16.9 -0.8**
SOTA Rioblanco 105.72 63 *e*P **PP 07 22 18.2 -1.5**
SOTA Rioblanco 105.72 63 *e*P **PP 07 22 18.2 -1.5**
CRUC La Cruz 106.03 63 *e*P PP 07 22 02.9 -19
CRUC La Cruz 106.03 63 *e*P PP 07 22 02.9 -19
FLOC Florencia 106.68 62⇓*e*P **PP 07 22 25.5 -0.8**
FLOC Florencia 106.68 62⇓*e*P **PP 07 22 25.5 -0.8**
MACC Macarena, Meta 107.12 60 *e*P PKiKP 07 21 55.0 -17
MACC Macarena, Meta 107.12 60 *e*P PKiKP 07 21 55.0 -17
GUVC San Jose del G 107.39 59 *e*P **PKiKP 07 22 17.5 +5.3**
GUVC *e*P **PP 07 22 26.2 -5.2**
GUVC San Jose del G 107.39 59 *e*P **PKiKP 07 22 17.5 +5.3**
GUVC *e*P **PP 07 22 26.2 -5.2**
LODK Lodwar 107.39 303 *i* P **Pdif 07 18 05.3 +1.4**
PTLC Puerto Leguiza 108.33 62 *e*P **PP 07 22 37.5 -0.8**
PTLC Puerto Leguiza 108.33 62 *e*P **PP 07 22 37.5 -0.8**
MCQ Macquarie Isla 108.84 182 IAMs_20 IAMs_20 07 59 48.3
comp=Z,8μm,22.0s
KMBO Kilima Mbogo 110.37 299 Pdiff **Pdif 07 18 17.5 +0.1**
comp=Z,1.1nm,0.4s,baz=17,slow=5.5,SNR=12
KMBO PKKPbc **PKKPbc 07 33 18.6 +2.8**
comp=Z,1.9nm,0.7s,baz=275,slow=0.8,SNR=5.0
KMBO Kilima Mbogo 110.37 299 *i* P **Pdif 07 18 19.1 +1.7**
TOC1 Torodi Ar. Sit 110.41 340 IAMs_20 IAMs_20 08 16 50.6
comp=Z,5μm,20.0s
TOC2 Torodi Ar. Sit 110.42 340 IAMs_20 IAMs_20 08 16 52.9
comp=Z,4μm,20.0s
TOC7 Torodi Ar. Sit 110.42 340 IAMs_20 IAMs_20 08 15 31.9
comp=Z,5μm,22.0s
TOB2 Torodi Ar. Sit 110.43 340 IAMs_20 IAMs_20 08 16 53.0
comp=Z,4μm,20.0s
TOA1 Torodi Ar. Sit 110.43 340 IAMs_20 IAMs_20 08 16 53.1
comp=Z,4μm,20.0s
TOB5 Torodi Ar. Sit 110.43 340 IAMs_20 IAMs_20 08 15 34.2
comp=Z,5μm,22.0s
TOA2 Torodi Ar. Sit 110.43 340 IAMs_20 IAMs_20 08 16 52.2
comp=Z,4μm,20.0s
TOA0 Torodi Ar. Sit 110.43 340 **Pdif 07 18 16.4 -1.1**
TOA0 IAMs_20 IAMs_20 08 16 52.3
comp=Z,4μm,20.0s
TORD Torodi Ar. Bea 110.43 340 Pdiff **Pdif 07 18 17.0 -0.4**
comp=Z,3.1nm,1.0s,baz=2.2,slow=2.8,SNR=8.0
TORD PKiKP **PKiKP 07 22 18.8 +0.9**
comp=Z,5.4nm,0.7s,baz=14,slow=2.6,SNR=11
TORD PP PP 07 22 42.7 -10
comp=Z,39nm,1.0s,baz=8.0,slow=5.5,SNR=12
TORD PKKPbc **PKKPbc 07 33 17.1 +1.7**
comp=Z,2.8nm,1.0s,baz=324,slow=2.2,SNR=4.5
TORD Torodi Ar. Bea 110.43 340 **Pdif 07 18 15.8 -1.6**
TOC3 Torodi Ar. Sit 110.44 340 IAMs_20 IAMs_20 08 16 52.4
comp=Z,4μm,20.0s
TOB3 Torodi Ar. Sit 110.44 340 IAMs_20 IAMs_20 08 16 52.5
comp=Z,4μm,20.0s
TOB4 Torodi Ar. Sit 110.44 340 IAMs_20 IAMs_20 08 16 52.5
comp=Z,4μm,20.0s
TOC5 Torodi Ar. Sit 110.46 340 IAMs_20 IAMs_20 08 15 34.9
comp=Z,6μm,22.0s
TOC4 Torodi Ar. Sit 110.46 340 IAMs_20 IAMs_20 08 15 45.9
comp=Z,5μm,21.0s
KIBK Kibwezi 111.00 298 *i* P **Pdif 07 18 21.8 +1.8**
ATAH Atahualpa 112.58 69 PP **PP 07 23 10.9 +1.4**
comp=Z,7.0nm,0.8s,baz=322,slow=8.2,SNR=6.8
MBAR Mbarara 113.11 305 Pdiff **Pdif 07 18 29.7 +0.2**
comp=Z,2.4nm,0.2s,baz=44,slow=3.1,SNR=6.2
PTGA Pitinga 116.18 48 PKP **PKiKP 07 22 29.4 +0.5**
comp=Z,5.3nm,1.0s,baz=214,slow=3.5,SNR=4.6
PTGA PP **PP 07 23 31.6 -2.5**
comp=Z,34nm,1.2s,baz=11,slow=4.8,SNR=4.4
PTGA PKKPbc **PKKPab 07 33 01.1 -3.6**
comp=Z,3.7nm,0.5s,baz=147,slow=5.7,SNR=9.8
PTGA Pitinga 116.18 48 **PKiKP 07 22 29.5 +0.7**
PTGA IAMs_20 IAMs_20 08 16 49.4
comp=Z,4μm,21.0s
RER Riviere de l'E 116.43 270 IAMs_20 IAMs_20 08 11 43.1
comp=Z,6μm,21.0s
NNA Nana 117.44 71 PKP **PKiKP 07 22 31.1 -0.1**
comp=Z,6.0nm,0.7s,baz=296,slow=2.5,SNR=3.8
NNA PKKPbc **PKKPab 07 32 55.0 -3.0**
comp=Z,6.6nm,0.7s,baz=102,slow=14,SNR=2.6
NNA Nana 117.44 71 IAMs_20 IAMs_20 08 03 39.9
comp=Z,6μm,21.0s
DBIC Dimbokro 117.92 345 PKP **PKiKP 07 22 32.5 +0.2**
comp=Z,25nm,0.8s,baz=1.7,slow=2.6,SNR=15
DBIC PKKPbc **PKKPbc 07 32 51.0 +0.9**
comp=Z,3.6nm,0.8s,baz=275,slow=8.6,SNR=2.7
TIC Toumodi 117.97 346 *e*PKIKP **PKiKP 07 22 32.5 +0.1**
KIC Kosan Boka 118.20 345 *e*PKIKP **PKiKP 07 22 32.6 -0.2**
comp=Z,81nm,0.9s
LIC Lamto 118.38 345 *e*PKIKP **PKiKP 07 22 33.1 -0.1**
comp=Z,101nm,0.9s
OPO Ambohidratompo 119.35 279 PKP **PKiKP 07 22 36.0 +1.0**
comp=Z,13nm,0.8s,baz=27,slow=0.7,SNR=17
ABPO Ambohimpanom 119.68 279 PKIKP **PKiKP 07 22 36.4 +0.7**
ABPO MLR MLR
comp=Z,10μm,20.0s
ABPO Ambohimpanom 119.68 279 **PKiKP 07 22 36.4 +0.7**
SAML Samuel 121.95 56 PKIKP **PKiKP 07 22 40.3 +0.2**
SAML Samuel 121.95 56 **PKiKP 07 22 40.3 +0.2**
SAML Samuel 121.95 56 IAMs_20 IAMs_20 08 20 39.8
comp=Z,6μm,19.0s
SAML Samuel 121.95 56 *e*P **PKiKP 07 22 40.3 +0.2**
SAML Samuel 121.95 56 *e*P **PKiKP 07 22 40.3 +0.2**
LPAZ La Paz 125.69 65 PKIKP **PKiKP 07 22 48.4 +0.3**
LPAZ La Paz 125.69 65 PKP **PKiKP 07 22 48.7 +0.6**
comp=Z,16nm,0.8s,baz=2.4,slow=6.3,SNR=31
LPAZ PP PP 07 24 42.5 +2.3
comp=Z,12nm,0.9s,baz=29,slow=1.1,SNR=3.5
LPAZ PKKPbc **PKKPab 07 32 26.0 +2.5**
comp=Z,3.0nm,0.7s,baz=21,slow=4.6,SNR=4.7
LPAZ La Paz 125.69 65 **PKiKP 07 22 48.4 +0.3**
LPAZ La Paz 125.69 65 *e*P **PKiKP 07 22 48.7 +0.6**
LPAZ La Paz 125.69 65 *e*P **PKiKP 07 22 48.7 +0.6**
CASY Casey 126.77 203 **PKiKP 07 22 48.4 +0.5**
CASY Casey 126.77 203 IAMs_20 IAMs_20 08 14 02.6
comp=Z,6μm,21.0s
LSZ Lusaka 127.03 300 PKIKP **PKiKP 07 22 50.4 +0.2**
LSZ Lusaka 127.03 300 PKP **PKiKP 07 22 50.9 +0.7**
comp=Z,34nm,0.7s,baz=38,slow=1.9,SNR=32
LSZ Lusaka 127.03 300 **PKiKP 07 22 50.4 +0.2**
MNMC Minye Minye 127.25 69 IAMs_20 IAMs_20 08 26 47.6
comp=Z,3μm,20.0s
PB11 IPOC Station P 127.72 69 IAMs_20 IAMs_20 08 26 55.4
comp=Z,3μm,20.0s
ITZ Itezhi-Tezhi 128.51 301⇑*i*P **PKiKP 07 22 53.9 +0.8**
PB01 IPOC Station P 128.85 70 **PKiKP 07 22 53.8 +0.1**
SIV San Ignacio 129.05 58 PKP **PKiKP 07 22 54.2 +0.1**
comp=Z,42nm,1.0s,baz=332,slow=0.7,SNR=52
RCBR Riachuelo 129.16 23 PKIKP **PKiKP 07 22 55.0 +0.5**
RCBR MLR MLR
comp=Z,4μm,22.0s
RCBR Riachuelo 129.16 23 **PKiKP 07 22 55.0 +0.5**
RCBR IAMs_20 IAMs_20 08 19 12.0
comp=Z,4μm,22.0s
PB04 IPOC Station P 129.53 72 IAMs_20 IAMs_20 08 24 02.2
comp=Z,3μm,20.0s
PB10 IPOC Station P 130.24 73 IAMs_20 IAMs_20 08 06 57.2
comp=Z,4μm,21.0s
LVC Limon Verde 130.43 71 PKIKP **PKiKP 07 22 57.8 +0.6**
LVC Limon Verde 130.43 71 PKP **PKiKP 07 22 57.9 +0.8**
comp=Z,38nm,1.0s,baz=272,slow=0.8,SNR=16
LVC Limon Verde 130.43 71 IAMs_20 IAMs_20 08 27 32.2
comp=Z,4μm,21.0s
MSNA Messina 131.94 293 *i* P **PKiKP 07 23 02.1 +2.3**
MSNA Messina 131.94 293 *i* P **PKiKP 07 23 02.1 +2.3**
GO02 Mina Guanaco 132.08 73 **PKiKP 07 23 00.3 0.0**
GO02 IAMs_20 IAMs_20 08 08 49.9
comp=Z,7μm,21.0s
SBA Scott Base 132.30 179 PKIKP **PKiKP 07 22 59.3 +0.5**
SBA Scott Base 132.30 179 **PKiKP 07 22 59.3 +0.5**
SBA IAMs_20 IAMs_20 08 10 01.9
comp=Z,5μm,22.0s
BDFB Brasilia 134.58 43 PKP **PKiKP 07 23 04.6 -0.8**
comp=Z,15nm,0.8s,baz=199,slow=5.7,SNR=12
BDFB Brasilia 134.58 43 IAMs_20 IAMs_20 08 23 18.2
comp=Z,5μm,22.0s
GO04 Tololo Observa 135.25 79 IAMs_20 IAMs_20 08 09 52.1
comp=Z,7μm,22.0s
TSUM Tsumeb 135.50 309 PKhKP PKPpre 07 22 59.8
comp=Z,9.8nm,0.7s,baz=17,slow=7.7,SNR=5.7
TSUM SKPbc **SKPab 07 26 35.0 -1.0**
comp=Z,45nm,1.1s,baz=41,slow=4.8,SNR=3.3
AROD Rodeo 136.00 78 *i* P PKPpre 07 22 57.0
ACDV Cuesta del Vie 136.20 77 *i* P PKPpre 07 22 56.8
LBTB Lobatse 136.46 295 PKhKP PKPpre 07 22 57.3
comp=Z,11nm,0.8s,baz=61,slow=2.4,SNR=7.4
LBTB PKP **PKiKP 07 23 08.4 -0.5**
comp=Z,52nm,0.9s,baz=33,slow=1.7,SNR=17
ACCO Cerro Coronel 136.55 78 *i* P PKPpre 07 22 57.9
CYA Choya 136.74 73 *e*P PKPpre 07 22 57.3
AMOG MOGNA 137.13 78 *i* P PKPpre 07 22 58.3
ROC1 El Roble 137.20 82 *e*P PKPpre 07 22 59.4
PEL Peldehue 137.51 82 PKIKP **PKiKP 07 23 09.4 -1.4**
PEL Peldehue 137.51 82 **PKiKP 07 23 09.4 -1.4**
RTCV Cerro Valdivia 137.80 79 *i* P PKPpre 07 22 59.5
GO05 Huala 138.13 85 IAMs_20 IAMs_20 08 23 35.5
comp=Z,4μm,21.0s
BOSA Boshof 139.52 292 *i* P PKPpre 07 23 05.4
BOSA Boshof 139.52 292 PKhKP PKPpre 07 23 04.3
comp=Z,20nm,0.8s,baz=47,slow=2.5,SNR=23
BOSA Boshof 139.52 292 *i* P PKPpre 07 23 05.4
CPUP Villa Florida 139.59 62 PKhKP PKPpre 07 23 05.2
comp=Z,8.6nm,0.9s,baz=322,slow=3.4,SNR=9.7
TCA Tanti 139.63 74 *e*P PKPpre 07 23 03.6
SHEL Horse Pasture 140.24 342 IAMs_20 IAMs_20 08 33 37.0
comp=Z,5μm,22.0s
SPB Sao Paulo 141.94 47 IAMs_20 IAMs_20 08 27 30.4
comp=Z,5μm,21.0s
MAW Mawson 141.98 218 PKIKP **PKiKP 07 23 18.1 -0.6**
MAW Mawson 141.98 218 PKhKP **PKPdf 07 23 13.5 -2.3**
comp=Z,11nm,0.9s,baz=59,slow=6.3,SNR=9.5
MAW Mawson 141.98 218 **PKiKP 07 23 18.1 -0.6**
PLCA Paso Flores 142.81 90 PKhKP **PKPdf 07 23 15.5 -2.8**
comp=Z,23nm,1.0s,baz=335,slow=4.1,SNR=29
PLCA PP **PP 07 26 29.4 +1.0**
comp=Z,37nm,1.1s,baz=329,slow=8.1,SNR=3.2
PLCA Paso Flores 142.81 90 *e*P **PKPdf 07 23 15.1 -3.2**
PLCA Paso Flores 142.81 90 *e*P **PKPdf 07 23 15.1 -3.2**
QSPA South Pole Qui 144.43 180 PKP **PKPdf 07 23 19.0 -1.3**
comp=Z,238nm,0.8s,baz=350,slow=1.2,SNR=605
QSPA South Pole Qui 144.43 180 **PKPdf 07 23 19.0 -1.3**
SUR Sutherland 144.84 293 PKP **PKPdf 07 23 22.4 +0.2**
comp=Z,233nm,0.9s,baz=18,slow=3.3,SNR=49
TRQA Tornquist 145.98 79 PKP2 **PKPab 07 23 24.8 -0.5**
TRQA MLR MLR
comp=Z,7μm,21.0s
TRQA Tornquist 145.98 79 **PKPab 07 23 24.8 -0.5**
TRQA Tornquist 145.98 79 *e*P **PKPdf 07 23 21.1 -2.6**
TRQA Tornquist 145.98 79 *e*P **PKPdf 07 23 21.1 -2.6**
LPA La Plata 146.00 71 PKIKP **PKPdf 07 23 20.3 -3.6**
LPA PP **PP 07 26 44.9 -2.2**
LPA PPP PPP 07 30 04.5
SYO Syowa Base 150.69 218⇑*e*PKPdf **PKPdf 07 23 30.4 0.0**
SYO Syowa Base 150.69 218⇓*i*PKPbc **PKiKP 07 23 37.0 +0.4**
PMSA Palmer Station 155.21 132 **PKPdf 07 23 38.3 +1.2**
PMSA PKPbc PKPbc 07 23 47.2
PMSA PKPab **PKPab 07 24 04.5 +2.0**
EFI East Falkland 155.95 100 PKP2 **PKPab 07 24 06.8 +0.8**
EFI East Falkland 155.95 100 **PKPab 07 24 06.8 +0.8**
SNAA Sanae 161.75 195 PKPab **PKPab 07 24 28.6 -2.2**
SNAA Sanae 161.75 195 PKPdf **PKPdf 07 23 45.5 +0.7**
SNAA Sanae 161.75 195 PKIKP **PKPdf 07 23 45.4 +0.5**
SNAA 07 24 31.4
SNAA Sanae 161.75 195 PKP **PKPdf 07 23 45.6 +0.7**
comp=Z,5.9nm,0.9s,baz=6.5,slow=1.0,SNR=18
SNAA PKPab **PKPab 07 24 30.3 -0.5**
comp=Z,24nm,1.0s,baz=261,slow=5.9,SNR=11
SNAA PP **PP 07 28 16.9 +1.8**
comp=Z,11nm,1.1s,baz=168,slow=3.1,SNR=6.5
SNAA Sanae 161.75 195 **PKPdf 07 23 45.4 +0.5**
SNAA PKPab **PKPab 07 24 31.4 +0.6**
VNA3 Neumayer Olymp 162.99 189 PKPab **PKPab 07 24 36.1 0.0**
VNA3 Neumayer Olymp 162.99 189 PKPdf **PKPdf 07 23 46.3 +0.3**
VNA2 Neumayer--Watz 163.05 192 PKPab **PKPab 07 24 36.8 +0.3**
baz=173,slow=2.8
VNA2 Neumayer--Watz 163.05 192 PKPdf **PKPdf 07 23 47.0 +0.9**
baz=85,slow=0.7
VNA1 Neumayer--Stat 163.41 191 PKPab **PKPab 07 24 38.1 +0.1**
VNA1 Neumayer--Stat 163.41 191 PKPdf **PKPdf 07 23 47.9 +1.5**
HOPE Hope Point 169.15 96 **PKPab 07 25 04.2 +0.4**

IDC 12 07:35:45.6±1.4, 31°.94N×40°.54W, h0km, mb3.9/12, mb1 4.2/12, mb1mx3.9/73, mbtmp3.9/12, Error ellipse: s-maj=49.9km s-min=18.2km az=2.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**42.93**	**106**	P	P	07 43 46.4	+0.1
1.7nm,0.9s,baz=307,slow=6.2,SNR=5.8							
GERES	**GERESS Array B**	**43.66**	**51**	P	P	07 43 51.5	-0.5
0.3nm,0.3s,baz=267,slow=8.8,SNR=4.0							
H10N2	**ASCENSION HYDR**	**46.72**	**143**	T	T	08 33 44.6	
baz=329,slow=76,SNR=219							
H10N3	**ASCENSION HYDR**	**46.73**	**143**	T	T	08 33 44.9	
baz=329,slow=76,SNR=236							
H10N1	**ASCENSION HYDR**	**46.74**	**143**	T	T	08 33 46.1	
baz=329,slow=76,SNR=236							
AKASG	**Malin Array Be**	**53.60**	**48**	P	P	07 45 07.4	-1.0
0.5nm,0.4s,baz=282,slow=6.9,SNR=7.5							
TXAR	**Lajitas Array**	**53.69**	**285**	P	P	07 45 09.2	-0.3
0.4nm,0.8s,baz=104,slow=7.5,SNR=2.5							
PDAR	**Pinedale Array**	**54.52**	**302**	P	P	07 45 14.9	-0.7
2.0nm,0.8s,baz=87,slow=7.9,SNR=3.8							
BRTR	**Keskin Array B**	**59.07**	**60**	P	P	07 45 47.7	-0.1
0.8nm,0.8s,baz=349,slow=1.5,SNR=3.4							
NVAR	**Mina Array Bea**	**62.14**	**300**	P	P	07 46 08.9	0.0
0.3nm,0.3s,baz=87,slow=5.5,SNR=3.9							
KBZ	**Khabaz**	**64.33**	**53**	P	P	07 46 24.2	+1.2
2.6nm,0.8s,baz=307,slow=8.6,SNR=3.6							
ILAR	**Eielson Array**	**

1.0nm,0.7s,baz=314,slow=5.3,SNR=8.8
ASAR Alice Springs 170.40 32 PKPab PKPab 07 57 11.3 -1.1
0.7nm,1.0s,baz=335,slow=4.1,SNR=3.7

IDC 12 07:43:53.5±3.4, 6°.53S×154°.75E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/35, mbtmp3.5/3, Error ellipse: s-maj=120.3km s-min=35.8km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**234**	P	P	07 49 09.2	+0.2
	1.5nm,0.9s,baz=58,slow=9.7,SNR=6.7						
ASAR	**Alice Springs**	**26.30**	**227**	P	P	07 49 31.0	-0.1
	0.4nm,0.7s,baz=57,slow=9.2,SNR=5.4						
MKAR	**Makanchi Array**	**82.89**	**319**	P	P	07 56 20.9	+0.7
	0.3nm,0.6s,baz=114,slow=3.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.66**	**286**	PKPbc	PKPbc	08 03 52.3	-1.0
	0.6nm,0.5s,baz=91,slow=2.5,SNR=3.5						

IDC 12 07:44:25.4±1.6, 6°.49S×154°.75E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/35, mbtmp3.8/7, Error ellipse: s-maj=68.2km s-min=24.6km az=114.0
ISCJB 12 07:44:30.5±1.5, 6°.6S±0°.2×154°.8E±0°.4, h48km, mb3.6/7, Error ellipse: s-maj=57.4km s-min=19.1km az=23.3
ISC 12 07:44:32.4±1.5, 6°.5S±0°.2×154°.7E±0°.4, h48km, n8, σ0s69/9, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.85**	**234**	P	**P**	**07 49 41.4**	**-0.1**
	1.1nm,0.5s,baz=58,slow=9.6,SNR=7.0						
WRA				PcP	**PcP**	**07 53 24.6**	**+0.8**
	0.3nm,0.5s,baz=61,slow=2.3,SNR=5.4						
ASAR	**Alice Springs**	**26.27**	**227**	P	**P**	**07 50 02.5**	**-1.0**
	0.9nm,0.9s,baz=55,slow=8.9,SNR=5.4						
STKA	**Stephens Creek**	**28.03**	**204**	P	**P**	**07 50 19.5**	**+0.4**
	1.1nm,0.5s,baz=25,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**82.88**	**319**	P	**P**	**07 56 52.5**	**+0.4**
	0.4nm,0.6s,baz=108,slow=5.1,SNR=4.2						
ILAR	**Eielson Array**	**83.05**	**22**	P	**P**	**07 56 52.1**	**-0.4**
	0.3nm,0.5s,baz=254,slow=5.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**83.65**	**326**	P	**P**	**07 56 56.3**	**+0.6**
	0.8nm,0.4s,baz=78,slow=6.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**86.33**	**322**	P	**P**	**07 57 09.2**	**-0.1**
	0.1nm,0.3s,baz=104,slow=4.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**152.64**	**286**	PKPbc	**PKPbc**	**08 04 24.2**	**-0.6**
	1.7nm,0.8s,baz=91,slow=1.6,SNR=6.2						

MAN 12 07:54:38.4, 9°.83N×123°.96E, h5km, mb4.3, ML3.2, MS2.9, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.48**	**0**	⇓*iP*	Pg	07 54 48.2	+0.5
LLP				*iS*	Sb	07 54 55.7	-1.0
SNPH	**Sibulan**	**0.87**	**236**	⇑*iP*	Pg	07 54 55.0	0.0
SNPH				*iS*	Sb	07 55 07.3	-0.6
MSLP	**Maasin**	**0.93**	**71**	*eP*	Pg	07 54 56.5	+0.2
MSLP				*eS*	Sb	07 55 10.3	+0.6
OCLP	**Ormoc**	**1.37**	**28**	*eP*	Pn	07 55 03.2	-1.0
OCLP				*eS*	Sn	07 55 23.9	+1.2
CGP	**Cagayan de Oro**	**1.55**	**152**	⇑*eP*	Pb	07 55 07.3	-0.2
CGP				*eS*	Sn	07 55 23.5	-3.5
GUIM	**Jordan**	**1.57**	**300**	*eP*	Pn	07 55 06.6	-0.3
GUIM				*eS*	Sn	07 55 27.3	-0.2
BUKP	**Musuan**	**2.22**	**151**	*eP*	Pn	07 55 16.6	+0.6
BUKP				*eS*	Sn	07 55 44.1	+0.3

ISN 12 08:00:30.7±1.1, 36°.75N×41°.89E, h0km±8km, ML3.0
ISCJB 12 08:00:32.1±1.2, 36°.59N±0°.03×41°.71E±0°.06, h9km±9km, Error ellipse: s-maj=9.0km s-min=4.3km az=151.8
DDA 12 08:00:32.2, 36°.69N×41°.71E, h7km±5km, ML3.0
ISK 12 08:00:34.0, 36°.79N×41°.57E, h2km, ML3.0/4
ISC 12 08:00:31.8±1.3, 36°.65N±0°.04×41°.69E±0°.04, h1km±11km, n17, σ1s42/28, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.99**	**313**	*iP*	**Pb**	**08 00 51.5**	**-0.3**
MARD				*iS*	**Sb**	**08 01 05.2**	**-0.2**
MARD				IAML_P			
	comp=Z,2μm,0.2s						
SIRT	**Sirnak**	**1.04**	**35**	PG	**Pn**	**08 00 54.0**	**+0.4**
SIRT				SG	**Sn**	**08 01 08.6**	**-0.3**
MSL	**Mosul**	**1.17**	**102**	*ePg*	**Pg**	**08 00 54.0**	**-0.2**
MSL				AML	AML	08 00 55.4	
	comp=Z,424nm,0.4s						
MSL				*eSg*	**Sg**	**08 01 09.5**	**+0.1**
MAZI	**Mazidag**	**1.28**	**309**	PN	**Pn**	**08 00 56.2**	**-0.8**
MAZI				SN	**Sg**	**08 01 12.6**	**-0.5**
BTMN	**Batman**	**1.29**	**345**	*iP*	**Pg**	**08 00 57.0**	**+0.5**
BTMN				*iS*	**Sn**	**08 01 17.0**	**+2.0**
SRTM	**Siirt_Merkez**	**1.35**	**8**	*iP*	**Pg**	**08 00 58.5**	**+0.7**
SRTM				*iS*	**Sn**	**08 01 19.8**	**+3.1**
SVAN	**Silvan-Diyarba**	**1.55**	**345**	*iP*	**Pb**	**08 01 00.5**	**-0.8**
SVAN				*iS*	**Sg**	**08 01 22.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.55**	**345**	PN	**Pg**	**08 01 01.2**	**-0.4**
SVAN				SN	**Sg**	**08 01 21.1**	**-0.6**
CUKT	**Cukurca**	**1.65**	**68**	*iP*	**Pg**	**08 01 03.1**	**-0.3**
CUKT	**Cukurca**	**1.65**	**68**	PN	**Pg**	**08 01 05.6**	**+2.2**
DIYA	**Diyarbakir**	**1.79**	**316**	*iP*	**Pn**	**08 01 02.3**	**-1.5**
DIYA				IAML_P			
	comp=Z,772nm,0.2s						
DYBB	**Diyarbakir**	**1.80**	**317**	PN	**Pb**	**08 01 04.6**	**-1.0**
HAKT	**HAKKARI**	**1.85**	**60**	*iP*	**Pn**	**08 01 04.5**	**-0.4**
HAKT				IAML_P			
	comp=Z,576nm,0.2s						
MUSM	**Mu-Merkez**	**2.08**	**356**	*iP*	**Pb**	**08 01 09.8**	**-0.6**
RTB	**Rutbah**	**3.79**	**198**	*ePn*	**Pn**	**08 01 34.0**	**+2.7**
RTB				AML	AML	08 01 41.8	
	comp=Z,72nm,0.5s						
RTB				*eSn*	**Sn**	**08 02 17.5**	**+1.0**
BHD	**Baghdad**	**4.03**	**146**	*ePn*	**Pn**	**08 01 35.0**	**+0.4**
BHD				*eSn*	**Sn**	**08 02 21.0**	**-1.4**
IBDR	**Badra**	**4.96**	**134**	*ePn*	**Pn**	**08 01 48.0**	**+0.6**
IBDR				*eSn*	**Sn**	**08 02 42.0**	**-3.4**

SOME 12 08:14:43.9, 39°.72N×74°.95E, h5km
NNC 12 08:14:45.7±1.7, 39°.75N×75°.05E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.1km s-min=10.5km az=146.0
KRNET 12 08:14:49.0±0.1, 39°.75N×75°.40E, mb3.1
ISC 12 08:14:50.3±2.7, 39°.9N±0°.1×75°.17E±0°.05, h2km±15km, n36, σ1s26/55, 21C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.64**	**22**	⇑*iP*	**Pb**	**08 15 20.9**	**-0.7**
	baz=14						
NRN				⇑*iS*	**Sg**	**08 15 44.8**	**+1.7**
	baz=14						
ARLS	**Aral**	**2.04**	**342**	⇓*iP*	**Pg**	**08 15 29.1**	**-0.4**
	baz=39						
ARLS				⇓*iS*	**Sg**	**08 15 59.1**	**+3.1**
	baz=39						
KZA	**Kyzart**	**2.16**	**2**	⇑*iP*	**Pb**	**08 15 30.3**	**-0.1**
	baz=57						
KZA				⇑*iS*	**Sg**	**08 16 00.5**	**+0.8**
	baz=57						
KZA	**Kyzart**	**2.16**	**2**	P	**Pb**	**08 15 30.5**	**0.0**
	SNR=12						
ARSB	**Arslanbob**	**2.18**	**311**	⇑*iP*	**Pg**	**08 15 32.0**	**-0.1**
	baz=11						
ARSB				⇑*iS*	**Sg**	**08 16 03.0**	**+2.7**
	baz=11						
UCH	**Uchtor**	**2.36**	**348**	⇑*iP*	**Pb**	**08 15 33.6**	**-0.3**
	baz=45						
UCH				⇑*iS*	**Sg**	**08 16 06.4**	**+0.2**
	baz=45						
UCH	**Uchtor**	**2.36**	**348**	P	**Pb**	**08 15 34.3**	**+0.4**
	SNR=18						
ULHL	**Ulahol**	**2.46**	**19**	⇑*iP*	**Pb**	**08 15 33.6**	**-1.9**
	baz=14						
ULHL				⇑*iS*	**Sb**	**08 16 06.4**	**0.0**
	baz=14						
AML	**Almayashu**	**2.48**	**334**	⇓*eP*	**Pb**	**08 15 35.7**	**-0.2**
	baz=32						
AML				⇓*iS*	**Sg**	**08 16 09.9**	**0.0**
	baz=32						
AML	**Almayashu**	**2.48**	**334**	P	**Pb**	**08 15 35.7**	**-0.2**
	SNR=7.1						
BOOM	**Boomskoye usch**	**2.64**	**13**	⇓*iP*	**Pb**	**08 15 36.7**	**-1.7**
	baz=8.0						
BOOM				⇓*iS*	**Sb**	**08 16 11.1**	**-0.2**
	baz=8.0						
KDJ	**Kajisay**	**2.68**	**34**	⇑*eP*	**Pn**	**08 15 35.8**	**+1.0**
	baz=29						
KDJ				⇑*iS*	**Sb**	**08 16 10.6**	**-2.1**
	baz=29						
TARG	**Taragay, Kyrgy**	**2.70**	**47**	⇑*iP*	**Pn**	**08 15 35.4**	**+0.2**
	baz=42						
TARG				⇑*iS*	**Sn**	**08 16 09.3**	**+0.6**
	baz=42						
KBK	**Karagaybulak**	**2.74**	**357**	⇑*iP*	**Pb**	**08 15 38.9**	**-1.3**
	baz=53						
KBK				⇑*iS*	**Sb**	**08 16 14.6**	**+0.2**
	baz=53						
KBK	**Karagaybulak**	**2.74**	**357**	P	**Pb**	**08 15 39.8**	**-0.4**
	SNR=22						
AAK	**Ala-Archa**	**2.77**	**350**	Pg	**Pb**	**08 15 39.7**	**-0.9**
	9.7nm,0.6s						
AAK				⇓Lg	Lg	08 16 17.3	
	14nm,0.6s						
AAK	**Ala-Archa**	**2.77**	**350**	⇑*eP*	**Pb**	**08 15 39.5**	**-1.1**
	baz=47						
AAK				⇑*iS*	**Sb**	**08 16 15.3**	**+0.3**
	baz=47						
AAK	**Ala-Archa**	**2.77**	**350**	P	**Pb**	**08 15 40.1**	**-0.5**
	SNR=12						
TKM2	**Tokmak 2**	**3.02**	**6**	⇑Pg	**Pb**	**08 15 42.4**	**-2.6**
	4.3nm,0.5s						
TKM2				⇓Lg	Lg	08 16 28.8	
	31nm,0.8s						
TKM2	**Tokmak 2**	**3.02**	**6**	P	**Pb**	**08 15 42.8**	**-2.2**
	SNR=9.0						
CHMS	**Chumysh**	**3.09**	**354**	P	**Pb**	**08 15 44.3**	**-1.9**
	SNR=5.6						
KST	**Kastek**	**3.18**	**11**	Pg	**Pb**	**08 15 48.0**	**+0.3**
	7.6nm,0.6s						
KST				Lg	Lg	08 16 34.3	
	68nm,0.9s						
KST	**Kastek**	**3.18**	**11**	*eP*	**Pb**	**08 15 48.0**	**+0.3**
	7.6nm,0.6s						
KST				*eS*	**Sg**	**08 16 34.3**	**+1.8**
	68nm,0.9s						
MRKS	**Merke**	**3.18**	**333**	Pg	**Pb**	**08 15 45.4**	**-2.3**
	2.8nm,0.4s						
MRKS				Lg	Lg	08 16 29.6	
	7.3nm,0.7s						
MRKS	**Merke**	**3.18**	**333**	*eP*	**Pb**	**08 15 45.3**	**-2.3**
	2.8nm,0.4s						
MRKS				*eS*	**Sg**	**08 16 29.6**	**-2.9**
	7.3nm,0.7s						
MTBS	**Maitube**	**3.35**	**16**	Pg	**Pb**	**08 15 50.5**	**0.0**
	3.5nm,0.2s						
MTBS				Lg	Lg	08 16 38.6	
	13nm,0.5s						
MTBS	**Maitube**	**3.35**	**16**	*eP*	**Pb**	**08 15 50.5**	**0.0**
	3.5nm,0.2s						
MTBS				⇑*iS*	**Sg**	**08 16 38.6**	**+0.7**
	13nm,0.5s						
TNSS	**Tian-Shan**	**3.39**	**23**	Pg	**Pb**	**08 15 50.9**	**-0.5**
	7.9nm,0.5s						
TNSS				Lg	Lg	08 16 39.2	
	22nm,0.6s						
TNSS	**Tian-Shan**	**3.39**	**23**	*eP*	**Pb**	**08 15 51.0**	**-0.5**
	7.9nm,0.5s						
TNSS				*eS*	**Sg**	**08 16 39.2**	**-0.1**
	22nm,0.6s						
MDOK	**Medeo**	**3.54**	**23**	⇑Pg	**Pb**	**08 15 53.7**	**-0.1**
	3.6nm,0.6s						
MDOK				Lg	Lg	08 16 42.9	
	34nm,0.9s						
MDOK	**Medeo**	**3.54**	**23**	Pg	**Pb**	**08 15 53.2**	**-0.6**
	4.3nm,0.6s						
MDOK				Lg	Lg	08 16 43.0	
	22nm,0.8s						
MDOK	**Medeo**	**3.54**	**23**	*eP*	**Pb**	**08 15 53.2**	**-0.6**
	4.3nm,0.6s						
MDOK				*eS*	**Sg**	**08 16 43.0**	**-1.0**
	22nm,0.8s						
KUU	**Kurty**	**4.07**	**12**	Pg	**Pb**	**08 16 03.5**	**+0.8**
	1.4nm,0.4s						
KUU				Lg	Lg	08 17 00.7	
	22nm,0.9s						
KUU	**Kurty**	**4.07**	**12**	*eP*	**Pb**	**08 16 03.5**	**+0.8**
	1.4nm,0.4s						
KUU				⇓*iS*	**Sg**	**08 17 00.7**	**-0.3**
	22nm,0.9s						
CHKK	**Chushkaly**	**4.16**	**18**	Pg	**Pb**	**08 16 05.2**	**+0.9**
	0.8nm,0.2s						
CHKK				Lg	Lg	08 17 03.6	
	28nm,0.9s						
CHKK	**Chushkaly**	**4.16**	**18**	*eP*	**Pb**	**08 16 04.9**	**+0.6**
	0.8nm,0.2s						
CHKK				*eS*	**Sg**	**08 17 03.3**	**-0.7**
	28nm,0.9s						

IDC 12 08:15:20.1±3.8, 36°.64N×69°.60E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/34, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=100.4km s-min=27.4km az=142.0
ISCJB 12 08:15:43.0±1.5, 36°.8N±0°.1×71°.0E±0°.1, h250km, mb3.6/2, Error ellipse: s-maj=18.4km s-min=12.1km az=141.9
NNC 12 08:15:44.8±2.8, 36°.91N×70°.99E, h214km±40km, mb2.8, mpv3.8, Error ellipse: s-maj=27.2km s-min=17.2km az=13.0
ISC 12 08:15:43.1±1.8, 36°.8N±0°.2×71°.0E±0°.1, h250km, n14, σ1s35/17, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.72**	**20**	P	**Pn**	**08 17 08.1**	**-0.1**
	SNR=14						
UCH	**Uchtor**	**6.07**	**25**	P	**Pn**	**08 17 12.6**	**+0.1**
	SNR=24						
KZA	**Kyzart**	**6.22**	**31**	P	**Pn**	**08 17 14.2**	**-0.1**
	SNR=5.9						
EKS2	**Erkin-Say**	**6.24**	**19**	P	**Pn**	**08 17 15.1**	**+0.8**
	SNR=7.2						
KK31	**Karatay Array**	**6.32**	**357**	P	**Pn**	**08 17 15.2**	**+0.1**
	8.7nm,0.5s,baz=169,slow=12,SNR=27						
KK31				⇓S	**S**	**08 18 26.4**	**-2.4**
	1.2nm,0.3s,baz=180,slow=18,SNR=5.2						
AAK	**Ala-Archa**	**6.43**	**24**	⇓P	**Pn**	**08 17 16.7**	**0.0**
	2.9nm,0.4s						
AAK				S	**S**	**08 18 30.7**	**-0.9**
	11nm,0.7s						
AAK	**Ala-Archa**	**6.43**	**24**	P	**Pn**	**08 17 17.7**	**+1.1**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.07**	**29**	⇓P	**Pn**	**08 17 24.1**	**-0.6**
	2.3nm,0.5s						
TKM2				⇑S	**S**	**08 18 44.5**	**-1.7**
	14nm,0.9s						
MKAR	**Makanchi Array**	**13.05**	**37**	Pn	**Pb**	**08 18 39.4**	**-0.1**
	0.1nm,0.3s,baz=224,slow=13,SNR=4.2						
AB31	**Akbulak array**	**14.83**	**331**	P	**Pn**	**08 19 02.0**	**+0.9**
	0.6nm,0.6s,baz=146,slow=13,SNR=9.2						
AKTO	**Aktyubinsk**	**16.53**	**330**	⇓P	**Pn**	**08 19 23.3**	**+2.0**
	2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**19.65**	**25**	P	**P**	**08 19 55.3**	**+2.2**
	0.7nm,0.3s,baz=218,slow=11,SNR=3.4						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**08 23 01.1**	**+0.6**
	3.9nm,1.0s,baz=102,slow=8.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**08 25 59.5**	**-2.0**
	0.6nm,0.5s,baz=56,slow=5.6,SNR=7.1						

IDC 12 08:31:21.5±1.5, 55°.13N×162°.03E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/51, mbtmp3.9/6, ML2.3/1, Error ellipse: s-maj=37.6km s-min=24.8km az=152.0
KRSC 12 08:31:24.8±1.2, 54°.64N×162°.33E, h60km±13km, ML4.0
ISCJB 12 08:31:26.3±0.5, 54°.65N±0°.02×162°.34E±0°.06, h69km±6km, mb3.8/6, Error ellipse: s-maj=5.9km s-min=2.7km az=21.3
ISC 12 08:31:26.3±1.0, 54°.65N±0°.03×162°.37E±0°.05, h50km±9km, n49, σ1s34/82, mb3.9/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.39**	**256**	P	**Pn**	**08 31 35.9**	**-0.3**
MKZ				S	**Sn**	**08 31 42.8**	**-0.5**
TUMD	**Tumrok D**	**1.27**	**297**	P	**Pn**	**08 31 47.4**	**-0.2**
TUMD				S	**Sn**	**08 32 03.4**	**-0.1**
KZV	**Kizimen**	**1.29**	**292**	P	**Pn**	**08 31 47.9**	**-0.1**
KZV				S	**Sn**	**08 32 04.1**	**-0.1**
TUMR	**Tumrok**	**1.43**	**297**	P	**Pn**	**08 31 50.5**	**+0.6**
TUMR				S	**Sn**	**08 32 08.5**	**+0.8**
KBTR	**Krutoberegovo**	**1.58**	**9**	P	**Pn**	**08 31 52.1**	**+0.2**
KBTR				S	**Sn**	**08 32 12.1**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.61**	**324**	P	**Pn**	**08 31 53.8**	**+1.4**
BZGR				S	**Sn**	**08 32 13.6**	**+1.6**
ZLN	**Zelenaya**	**1.64**	**327**	P	**Pn**	**08 31 54.1**	**+1.4**
ZLN				S	**Sn**	**08 32 14.4**	**+1.7**
KMNR	**Kamenistaya**	**1.65**	**313**	P	**Pn**	**08 31 53.9**	**+1.0**
KMNR				S	**Sn**	**08 32 14.0**	**+1.0**
BZMR	**Bezymyannaya**	**1.68**	**321**	S	**Sn**	**08 32 15.1**	**+1.3**
BZWR	**Bezymyannyi-We**	**1.70**	**322**	P	**Pn**	**08 31 55.2**	**+1.6**
BZWR				S	**Sn**	**08 32 15.6**	**+1.3**
KIRR	**Kirishev**	**1.75**	**319**	P	**Pn**	**08 31 55.7**	**+1.4**
KIRR				S	**Sn**	**08 32 16.9**	**+1.4**
KPT	**Kopyto**	**1.80**	**318**	P	**Pn**	**08 31 55.6**	**+0.6**
KPT				S	**Sn**	**08 32 16.3**	**-0.4**
KII	**Karymskiy**	**1.82**	**251**	P	**Pn**	**08 31 56.6**	**+1.4**
KII				S	**Sn**	**08 32 18.1**	**+1.0**
KRSR	**Krestovskiy**	**1.88**	**328**	P	**Pn**	**08 31 56.9**	**+0.9**
KRSR				S	**Sn**	**08 32 18.4**	**-0.2**
KLY	**Klyuchi**	**1.93**	**330**	P	**Pn**	**08 31 57.0**	**+0.3**
KLY				S	**Sn**	**08 32 19.8**	**+0.1**
SMKR	**Semkarok**	**2.00**	**346**	P	**Pn**	**08 31 59.1**	**+1.4**
SMKR				S	**Sn**	**08 32 23.7**	**+2.1**
KOZ	**Kozyrevsk**	**2.01**	**316**	P	**Pn**	**08 31 58.9**	**+1.2**
KOZ				S	**Sn**	**08 32 22.4**	**+0.8**
BDR	**Baidarnaya**	**2.03**	**342**	P	**Pn**	**08 31 59.7**	**+1.6**
BDR				S	**Sn**	**08 32 22.6**	**+0.3**
SPN	**Mys Shipunski**	**2.09**	**223**	P	**Pn**	**08 31 58.7**	**-0.1**
SPN				S	**Sn**	**08 32 22.0**	**-1.5**
SRKR	**Sorokina**	**2.12**	**342**	P	**Pn**	**08 32 01.2**	**+1.9**
SRKR				S	**Sn**	**08 32 27.1**	**+2.6**
BKI	**Bering**	**2.15**	**74**	S	**Sn**	**08 32 26.5**	**+1.4**
SRDR	**Sredinnyy**	**2.25**	**319**	P	**Pn**	**08 32 01.9**	**+0.8**
SRDR				S	**Sn**	**08 32 28.2**	**+0.5**
NLC	**Nalytchevo**	**2.32**	**232**	P	**Pn**	**08 32 02.9**	**+0.9**
NLC				S	**Sn**	**08 32 29.3**	**0.0**
ESO	**Esso**	**2.46**	**303**	P	**Pn**	**08 32 04.7**	**+0.8**
ESO				S	**Sn**	**08 32 32.3**	**-0.4**
SDLR	**Sedlovina**	**2.48**	**238**	P	**Pn**	**08 32 05.7**	**+1.5**
SDLR				S	**Sn**	**08 32 34.0**	**+0.7**
SMAR	**Somma**	**2.53**	**238**	P	**Pn**	**08 32 06.7**	**+1.7**
SMAR				S	**Sn**	**08 32 35.2**	**+0.6**
KRER	**Koryakskii**	**2.53**	**239**	P	**Pn**	**08 32 06.9**	**+1.9**
KRER				S	**Sn**	**08 32 35.9**	**+1.2**
UGLR	**Uglovaya**	**2.55**	**237**	P	**Pn**	**08 32 06.9**	**+1.7**
UGLR				S	**Sn**	**08 32 35.8**	**+0.8**
KRX	**Arik**	**2.55**	**241**	S	**Sn**	**08 32 35.7**	**+0.6**
AVH	**Avacha**	**2.56**	**239**	P	**Pn**	**08 32 07.5**	**+2.2**
AVH				S	**Sn**	**08 32 36.3**	**+1.1**
KOK	**Koryaka**	**2.59**	**240**	P	**Pn**	**08 32 07.8**	**+2.0**
KOK				S	**Sn**	**08 32 37.6**	**+1.5**
DALK	**Dalny**	**2.69**	**234**	P	**Pn**	**08 32 08.0**	**+1.0**
DALK				S	**Sn**	**08 32 38.2**	**-0.1**
GNL	**Ganaly**	**2.77**	**252**	P	**Pn**	**08 32 10.0**	**+1.7**
GNL				S	**Sn**	**08 32 41.4**	**+0.8**
PETK	**Petropavlovsk-**	**3.17**	**243**	Pn	**Pn**	**08 32 15.2**	**+1.7**
	1.8nm,0.3s,baz=61,slow=18,SNR=34						
PETK				Sn	**Sn**	**08 32 53.6**	**+3.5**
	6.9nm,0.3s,baz=78,slow=37,SNR=9.2						
RUS	**Russkaya**	**3.20**	**228**	P	**Pn**	**08 32 14.7**	**+0.7**
RUS				S	**Sn**	**08 32 50.1**	**-0.7**
MTVR	**Mutnovka**	**3.31**	**231**	P	**Pn**	**08 32 17.1**	**+1.4**
MTVR				S	**Sn**	**08 32 54.9**	**+1.1**
ASAK	**Asacha**	**3.50**	**231**	P	**Pn**	**08 32 21.0**	**+2.7**
ASAK				S	**Sn**	**08 33 00.2**	**+1.7**
APC	**Apacha**	**3.54**	**243**	P	**Pn**	**08 32 21.3**	**+2.6**
APC				S	**Sn**	**08 33 00.0**	**+0.7**
KDTR	**Khodutka, Kamc**	**3.84**	**224**	S	**Sn**	**08 33 05.6**	**-1.0**
OSSR	**Ossora**	**4.63**	**4**	P	**Pn**	**08 32 33.8**	**+0.3**
OSSR				S	**Sn**	**08 33 25.0**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**35.03**	**173**	T	T	09 15 30.9	
	baz=355,slow=76,SNR=44						
H11N3	**WAKE ISLAND Hy**	**35.04**	**173**	T	T	09 15 32.4	
	baz=355,slow=76,SNR=55						
H11N1	**WAKE ISLAND Hy**	**35.05**	**173**	T	T	09 15 32.4	
	baz=355,slow=76,SNR=67						
MKAR	**Makanchi Array**	**48.70**	**296**	P	**P**	**08 40 02.9**	**-2.3**
	0.2nm,0.4s,baz=54,slow=7.3,SNR=3.0						
ARCES	**ARCESS Array B**	**52.22**	**342**	P	**P**	**08 40 30.3**	**-1.2**
	3.9nm,1.0s,baz=36,slow=7.8,SNR=5.3						
FINES	**FINESS Array B**	**59.22**	**337**	P	**P**	**08 41 20.5**	**-1.1**
	2.8nm,0.5s,baz=28,slow=6.3,SNR=11						
AKASG	**Malin Array Be**	**67.96**	**330**	P	**P**	**08 42 18.5**	**-0.9**
	0.7nm,0.4s,baz=26,slow=5.8,SNR=3.1						
TXAR	**Lajitas Array**	**68.80**	**69**	P	**P**	**08 42 27.3**	**+2.1**
	0.4nm,0.7s,baz=303,slow=5.0,SNR=3.5						
BRTR	**Keskin Array B**	**76.26**	**322**	P	**P**	**08 43 08.9**	**-0.5**
	0.3nm,0.3s,baz=359,slow=2.5,SNR=2.8						

IDC 12 08:39:56.6±1.2, 25°.61N×126°.56E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/55, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=30.9km s-min=20.6km az=108.0
ISCJB 12 08:40:02.4±0.5, 25°.74N±0°.08×126°.69E±0°.08, h64km±8km, mb3.6/3, Error ellipse: s-maj=17.9km s-min=4.6km az=140.1
JMA 12 08:40:02.7, 25°.68N×126°.76E, h44km±2km, M3.5
ISC 12 08:40:03.2±1.0, 25°.74N±0°.09×126°.69E±0°.08, h54km±14km, n16, σ0s75/24, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.59**	**9**	P	**Pn**	**08 40 15.5**	**-0.3**
JKE				*eS*	**Sn**	**08 40 25.1**	**+0.2**
JAGN	**Aguni-jima**	**0.98**	**30**	P	**Pn**	**08 40 20.7**	**-0.1**
JAGN				*eS*	**

WHAR	Wooly Hollow	42.87	289	P	P	08 52 14.5 -0.3
TOA0	Torodi Ar. Sit	42.90	106	P	P	08 52 14.9 -0.4
TORD	Torodi Ar. Bea	42.90	106	P	P	08 52 14.3 -1.0
	comp=Z,1.6nm,0.8s,baz=312,slow=7.0,SNR=6.9					
TORD	Torodi Ar. Bea	42.90	106	P	P	08 52 14.5 -0.8
UALR	University of	43.01	289	P	P	08 52 16.0 0.0
UALR				IAmb	IAmb	08 52 16.7
	comp=Z,9.0nm,0.7s					
GERES	GERESS Array B	43.78	51	P	P	08 52 24.4 +2.2
	comp=Z,0.5nm,0.6s,baz=263,slow=7.8,SNR=4.5					
GERES	GERESS Array B	43.78	51	P	P	08 52 23.0 +0.9
H10N2	ASCENSION HYDR	46.59	143	T	T	09 42 14.5
	baz=328,slow=75,SNR=99					
H10N3	ASCENSION HYDR	46.60	143	T	T	09 42 14.8
	baz=328,slow=75,SNR=95					
H10N1	ASCENSION HYDR	46.61	143	T	T	09 42 15.9
	baz=328,slow=75,SNR=97					
H10S3	ASCENSION HYDR	47.47	144	T	T	09 43 20.0
	baz=329,slow=74,SNR=58					
H10S2	ASCENSION HYDR	47.48	144	T	T	09 43 20.9
	baz=251,slow=74,SNR=47					
WHTX	Lake Whitney,	47.81	286	P	P	08 52 54.6 +0.5
JCT	Junction City	50.17	285	P	P	08 53 12.3 0.0
JCT				IAmb	IAmb	08 53 13.7
	comp=Z,14nm,1.3s					
RES	Resolute Bay	50.43	344	P	P	08 53 13.5 0.0
	comp=Z,2.9nm,1.0s,baz=110,slow=13,SNR=2.7					
RES	Resolute Bay	50.43	344	P	P	08 53 13.4 0.0
RES				IAmb	IAmb	08 53 15.3
	comp=Z,7.0nm,1.2s					
N23A	Red Feather La	52.36	300	P	P	08 53 29.0 +0.1
N23A				IAmb	IAmb	08 53 30.9
	comp=Z,4.9nm,1.1s					
TX32	Lajitas Array	53.72	285	P	P	08 53 38.7 -0.1
TXAR	Lajitas Array	53.72	285	P	P	08 53 38.6 -0.1
	comp=Z,1.2nm,1.0s,baz=104,slow=9.4,SNR=6.5					
AKASG	Malin Array Be	53.74	48	P	P	08 53 37.4 -1.1
	comp=Z,0.5nm,0.4s,baz=279,slow=6.5,SNR=3.1					
GCMT	Greycliff	54.06	306	P	P	08 53 40.8 -0.3
PD31	Pinedale Array	54.60	303	P	P	08 53 44.6 -0.6
PD31				IAmb	IAmb	08 53 45.8
	comp=Z,7.4nm,1.1s					
PDAR	Pinedale Array	54.60	303	P	P	08 53 44.7 -0.6
	comp=Z,3.8nm,0.9s,baz=83,slow=7.1,SNR=20					
BW06	Boulder Array	54.60	303	P	P	08 53 44.2 -1.0
BW06				IAmb	IAmb	08 53 45.8
	comp=Z,8.3nm,1.1s					
LPAZ	La Paz	54.61	213	P	P	08 53 46.7 +0.8
	comp=Z,0.9nm,0.8s,baz=16,slow=7.8,SNR=3.6					
LPAZ	La Paz	54.61	213	P	P	08 53 46.0 0.0
YMR	Madison River	55.19	305	P	P	08 53 49.6 +0.2
SNOW	Snow King Moun	55.30	304	IAmb	IAmb	08 53 51.4
	comp=Z,6.2nm,0.9s					
IMW	Indian Meadow	55.33	304	IAmb	IAmb	08 53 51.8
	comp=Z,4.3nm,0.9s					
REDW	Red Top Meadow	55.39	303	IAmb	IAmb	08 53 51.8
	comp=Z,6.3nm,1.1s					
TPAW	Teton Pass	55.43	304	IAmb	IAmb	08 53 54.1
	comp=Z,11nm,1.5s					
KVN	Kaiserville	61.84	300	P	P	08 54 35.6 -0.3
KVN				IAmb	IAmb	08 54 36.7
	comp=Z,2.8nm,0.9s					
INK	Inuvik	61.97	335	P	P	08 54 35.8 -0.2
NVAR	Mina Array Bea	62.20	300	P	P	08 54 37.9 -0.5
	comp=Z,1.0nm,0.7s,baz=74,slow=6.7,SNR=7.5					
NVAR	Mina Array Bea	62.20	300	P	P	08 54 37.3 -1.1
HUMO	Hull Mountain	64.11	306	P	P	08 54 49.6 -1.2
HUMO				IAmb	IAmb	08 55 06.5
	comp=Z,7.4nm,1.3s					
DAWY	Dawson	65.60	332	P	P	08 54 59.8 -0.3
DAWY				IAmb	IAmb	08 55 02.1
	comp=Z,7.1nm,1.3s					
BMAR	Burnt Mountain	66.19	336	P	P	08 55 03.8 -0.1
BCAR	Beaver Creek A	66.99	331	P	P	08 55 09.1 +0.1
ILAR	Eielson Array	68.24	334	P	P	08 55 17.6 +0.7
	comp=Z,1.7nm,0.9s,baz=56,slow=4.4,SNR=11					
ILAR	Eielson Array	68.24	334	P	P	08 55 16.8 0.0
CCB	Clear Creek Bu	68.64	334	P	P	08 55 19.5 +0.1
CCB				IAmb	IAmb	08 55 20.6
	comp=Z,5.4nm,1.0s					
WRH	Wood River Hil	68.84	334	P	P	08 55 21.1 +0.5
PPLA	Purkeypile	71.22	333	P	P	08 55 35.2 -0.2
AKTO	Aktyubinsk	71.24	42	P	P	08 55 36.3 +0.7
	comp=Z,2.3nm,0.7s,baz=305,slow=4.5,SNR=8.4					
ABKAR	Akbulak array	72.90	42	P	P	08 55 45.3 -0.2
H09W1	TRISTAN DA CUN	73.42	157	T	T	10 15 55.3
	SNR=9.6					
BVAR	Borovoye Array	76.49	35	P	P	08 56 06.5 +0.2
	comp=Z,0.6nm,0.7s,baz=283,slow=7.0,SNR=3.6					
KURK	Kurchatov	81.93	34	P	P	08 56 36.2 +0.2
KURBB	Kurchatov Arra	81.95	34	P	P	08 56 36.1 0.0
	comp=Z,0.5nm,0.7s,baz=321,slow=5.1,SNR=4.4					

ISCJB ***12*** *08:46:45.0±0.7, 24°.95N±0°.10×122°.7E±0°.1, h16km, mb3.6/5, Error ellipse: s-maj=19.1km s-min=6.8km az=137.4*
JMA ***12*** *08:46:45.5±0.2, 24°.98N×122°.72E, h18km±2km, M2.8*
IDC ***12*** *08:47:11.7±16.0, 25°.12N×123°.09E, h276km±209km, mb3.1/5, mb1 3.2/6, mb1mx2.9/56, mbtmp3.8/6, Error ellipse: s-maj=169.6km s-min=20.4km az=61.0*
ISC 12 08:46:46.2±0.9, 24°.93N±0°.10×122°.8E±0°.1, h16km, n13, σ0s41/13, mb3.7/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.52	154	P	Pg	08 46 56.7	+0.1
YOJ				eS	Sg	08 47 04.5	+0.8
IRIF	Iriomote-Funau	1.06	124	P	Pb	08 47 06.0	-0.3
HATJ	Hateruma jima	1.29	132	P	Pn	08 47 09.5	-0.1
JKRS	Kuro-shima	1.33	121	P	Pn	08 47 09.8	-0.4
JIJ	Ishigaki jima	1.38	114	P	Pb	08 47 11.4	-0.3
JISG	Ishigakijimahi	1.45	103	P	Pn	08 47 11.7	-0.1
JTJ	Tarama	1.79	99	P	Pn	08 47 17.0	+0.5
KSRS	Korea Array	13.23	18	P	P	08 50 07.1	+3.8
	0.2nm,0.3s,baz=197,slow=12,SNR=10						
SONM	Songino Array	26.27	335	P	P	08 52 20.7	-0.2
	0.7nm,0.6s,baz=147,slow=8.1,SNR=4.1						
MKAR	Makanchi Array	38.82	315	P	P	08 54 10.5	+0.1
	1.8nm,1.0s,baz=113,slow=9.5,SNR=6.8						
KURBB	Kurchatov Arra	42.48	319	P	P	08 54 40.8	+0.3
	0.5nm,0.3s,baz=96,slow=7.4,SNR=4.3						
WRA	Warramunga Arr	46.01	165	P	P	08 55 08.7	-0.4
	0.4nm,0.8s,baz=346,slow=7.9,SNR=4.6						
BVAR	Borovoye Array	48.02	320	P	P	08 55 24.7	+0.2
	0.7nm,0.6s,baz=96,slow=9.3,SNR=3.7						

ISCJB ***12*** *08:58:20.1±0.8, 31°.28S±0°.05×138°.70E±0°.08, h10km, Error ellipse: s-maj=10.1km s-min=7.0km az=156.5*
AUST ***12*** *08:58:21.9±0.5, 31°.35S×138°.67E, h10km, Error ellipse: s-maj=6.9km s-min=3.4km az=74.0*
IDC ***12*** *08:58:22.1±3.8, 30°.98S×138°.74E, h0km, mb1 3.0/3, mb1mx3.0/35, mbtmp2.8/3, ML2.8/3, Error ellipse: s-maj=75.2km s-min=21.2km az=42.0*
ISC 12 08:58:19.8±0.9, 31°.30S±0°.06×138°.78E±0°.06, h10km, n11, σ2s22/18, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	Leigh Creek	0.98	330	P	Pn	08 58 41.0	+1.4
	baz=1.0,SNR=28						
LCRK				S	Sn	08 58 55.5	+2.0
	baz=1.0						
HTT	Hallett	2.13	177	P	Pn	08 58 57.1	+1.6
	baz=2.1,SNR=6.3						
STKA	Stephens Creek	2.47	104	P	Pb	08 59 03.4	-0.8
	baz=2.5,SNR=9.8						
STKA	Stephens Creek	2.47	104	Pn	Pb	08 59 04.6	+0.3
	1.1nm,0.3s,baz=285,slow=16,SNR=8.6						
STKA				Sn	Sg	08 59 40.5	+1.3
	5.4nm,0.3s,baz=348,slow=21,SNR=14						
BBOO	Buckleboo	2.76	236	P	Pn	08 59 05.2	+1.1
	baz=2.7,SNR=8.6						
BBOO				S	Sn	08 59 38.0	+0.5
	baz=2.7						
MULG	Mulgathing	4.19	283	P	Pn	08 59 25.2	+1.4
	baz=4.1,SNR=3.1						
OOD	Oodnadatta	4.41	322	P	Pn	08 59 29.6	+2.8
	baz=4.4						
OOD				S	Sn	09 00 19.9	+1.7
	baz=4.4						
ARPS	Mount Arapiles	6.02	156	P	Pn	08 59 50.4	+1.6
	baz=6.0						
ARPS				S	Sn	09 00 55.5	-2.3
	baz=6.0						
ASAR	Alice Springs	8.75	329	Pn	Pn	09 00 27.4	+0.9
	0.1nm,0.3s,baz=150,slow=12,SNR=5.5						
ASAR				Sn	Sn	09 02 01.3	-3.9
	0.2nm,0.3s,baz=150,slow=22,SNR=5.9						
WRKA	Warakurna	11.15	301	P	Pn	09 00 59.2	-0.2
	baz=11						
WRA	Warramunga Arr	12.00	339	Pn	Pn	09 01 10.9	0.0
	0.1nm,0.3s,baz=160,slow=13,SNR=6.0						
WRA				Sn	Sn	09 03 19.9	-4.9
	0.1nm,0.3s,baz=161,slow=24,SNR=2.7						

IDC ***12*** *09:02:58.0±1.0, 27°.11N×127°.85E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/53, mbtmp3.6/5, ML3.8/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/43, Error ellipse: s-maj=32.4km s-min=12.5km az=43.0*
ISCJB ***12*** *09:03:01.6±0.4, 27°.30N±0°.05×128°.47E±0°.07, h49km±4km, mb3.4/4, MS3.7/1, Error ellipse: s-maj=13.1km s-min=4.1km az=35.0*
JMA ***12*** *09:03:02.0±0.1, 27°.30N×128°.45E, h48km±1km, M3.8*
JMA Felt I J1.
ISC 12 09:03:02.5±0.8, 27°.29N±0°.05×128°.45E±0°.07, h42km±7km, n22, σ0s99/29, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.12	56	P	Pn	09 03 09.6	0.0
JOKE				S	Sn	09 03 14.8	+0.3
JYRO	Yoronjima	0.27	181	P	Pn	09 03 10.6	0.0
JYRO				S	Sn	09 03 16.4	+0.2
JOW	Kunigami	0.48	199	P	Pn	09 03 13.0	-0.2
JOW				S	Sn	09 03 20.8	+0.1
JOW	Kunigami	0.48	199	Pn	Pn	09 03 12.7	-0.5
	53nm,0.3s,baz=127,slow=13,SNR=1015						
JOW				Sn	Sn	09 03 20.8	+0.1
	279nm,0.3s,baz=81,slow=18,SNR=145						
JIH	Iheya	0.50	240	P	Pn	09 03 13.1	-0.3
JIH				S	Sn	09 03 20.9	-0.2
JTK	Tokunoshima	0.66	42	P	Pn	09 03 15.0	-0.5
JTK				S	Sn	09 03 24.1	-0.7
JNTH	Nagotoyohara	0.86	207	P	Pn	09 03 17.8	-0.4
JNTH				S	Sn	09 03 29.4	-0.2
JAMN	Amaminishikomi	1.14	34	P	Pn	09 03 21.2	-0.9
JAMN				eS	Sn	09 03 34.8	-1.7
JAGN	Aguni-jima	1.29	237	P	Pn	09 03 23.5	-0.5
JAGN				eS	Sn	09 03 39.2	-0.9
JJT3	Tamagusuku3	1.29	208	P	Pn	09 03 25.0	+0.9
JJT3				S	Sn	09 03 42.1	+1.9
JAM	Amami Oshima	1.51	42	P	Pn	09 03 26.9	-0.2
JAM				eS	Sn	09 03 44.9	-0.7
JNU	Nakatsue	6.18	19	Pn	Pn	09 04 33.4	+2.1
	2.0nm,0.3s,baz=246,slow=3.1,SNR=16						
JNU				Sn	Sn	09 05 43.2	+2.5
	baz=49,slow=19,SNR=1.5						
KSRS	Korea Array	10.14	358	Pn	Pn	09 05 30.1	+4.5
	0.1nm,0.3s,baz=182,slow=13,SNR=2.9						
MJAR	Matsushiro Arr	12.39	39	Pn	P	09 06 07.9	+0.4
	0.0nm,0.3s,baz=227,slow=11,SNR=4.3						
ASAJ	Asahikawa	20.29	30	LR	LR	09 15 54.4	
	comp=Z,356nm,21.2s,baz=358,slow=38						
SONM	Songino Array	26.78	326	P	P	09 08 38.5	-0.1
	0.6nm,0.4s,baz=127,slow=11,SNR=3.2						
H11N2	WAKE ISLAND Hy	35.94	94	T	T	09 47 47.3	
	baz=290,slow=74,SNR=4.3						
H11N1	WAKE ISLAND Hy	35.94	94	T	T	09 47 54.9	
	baz=290,slow=74,SNR=3.6						
H11N3	WAKE ISLAND Hy	35.95	94	T	T	09 47 49.6	
	baz=290,slow=74,SNR=3.6						
MKAR	Makanchi Array	40.99	311	P	P	09 10 40.6	-0.8
	0.2nm,0.5s,baz=103,slow=8.2,SNR=3.8						
WRA	Warramunga Arr	47.30	172	P	P	09 11 31.1	-1.0
	0.5nm,0.5s,baz=352,slow=8.5,SNR=6.4						
ASAR	Alice Springs	50.93	174	P	P	09 12 00.4	+0.6
	0.3nm,0.5s,baz=8.4,slow=13,SNR=7.4						

IDC 12 09:04:17.5±10.0, 25°.02N×122°.81E, h276km±117km, mb3.2/5, mb1 3.3/6, mb1mx3.0/53, mbtmp3.9/6, Error ellipse: s-maj=58.7km s-min=21.0km az=61.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	13.14	18	P	Pn	09 07 13.8	-0.5
	0.2nm,0.3s,baz=192,slow=12,SNR=12						
USRK	Ussuriysk Ar.	20.54	19	P	P	09 08 35.5	+0.1
	3.1nm,0.9s,baz=196,slow=8.3,SNR=5.1						
SONM	Songino Array	26.21	334	P	P	09 09 27.7	+0.3
	1.3nm,0.6s,baz=154,slow=9.0,SNR=5.7						
MKAR	Makanchi Array	38.78	315	P	P	09 11 15.9	0.0
	1.2nm,0.8s,baz=108,slow=10,SNR=7.9						
ZALV	Zalesovo Beam	40.36	326	P	P	09 11 28.0	-0.7
	1.1nm,0.4s,baz=111,slow=8.1,SNR=5.2						
WRA	Warramunga Arr	46.08	165	P	P	09 12 14.4	-0.1
	0.6nm,0.7s,baz=348,slow=8.5,SNR=4.5						

IDC ***12*** *09:11:35.7±1.6, 1°.99N×127°.08E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/38, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=55.7km s-min=21.8km az=71.0*
ISCJB ***12*** *09:11:39.5±0.5, 1°.85N±0°.05×126°.75E±0°.06, h35km, mb4.1/3, Error ellipse: s-maj=9.6km s-min=6.8km az=150.5*
NEIC ***12*** *09:11:41.4±1.1, 1°.82N±0°.09×126°.76E±0°.05, h35km±2km, mb4.1/12*
ISC 12 09:11:41.6±0.7, 1°.88N±0°.08×126°.80E±0°.08, h35km, n24, σ1s11/25, mb4.3/7, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.24	152		Pn	09 12 03.1	+0.8
TNTI				Sn	Sn	09 12 15.8	-2.1
LUWI	Luwuk	4.96	234	Pn	Pn	09 12 52.7	-0.9
LUWI				Sn	Sn	09 13 48.6	-1.2
KCP	Kidapawan	5.38	342	eP	Pn	09 13 09.5	+10
FAKI	Fak Fak	7.24	131	Pn	Pn	09 13 24.3	-0.6
KAPI	Kappang	9.82	226	Pn	Pn	09 14 03.7	+3.4
	1.5nm,0.3s,baz=141,slow=14,SNR=3.7						
MTN	Manton Dam	15.24	164	Pn	Pn	09 15 13.6	-0.7
MTN				IAmb	IAmb	09 15 23.7	
	comp=Z,5.1nm,0.8s						
KNRA	Kununurra	17.55	174	P	P	09 15 43.3	-1.0
KNRA				IAmb	IAmb	09 15 49.2	
	comp=Z,14nm,1.1s						
FITZ	Fitzroy Crossi	19.88	183	P	P	09 16 09.6	-0.4
	comp=Z,1.5nm,0.7s,baz=14,slow=12,SNR=4.2						
FITZ	Fitzroy Crossi	19.88	183	P	P	09 16 09.2	-0.8
FITZ				IAmb	IAmb	09 16 24.2	
	comp=Z,6.6nm,1.1s						
WRA	Warramunga Arr	22.91	162	P	P	09 16 41.6	-0.9
	comp=Z,5.4nm,0.5s,baz=339,slow=11,SNR=55						
WRA	Warramunga Arr	22.91	162	P	P	09 16 41.7	-0.9
WB2	Warramunga Arr	22.91	161	P	P	09 16 41.5	-1.1
WB2				IAmb	IAmb	09 16 50.1	
	comp=Z,10nm,0.7s						
AS31	Alice Springs	26.31	165	P	P	09 17 13.7	-0.5
ASAR	Alice Springs	26.31	165	P	P	09 17 13.8	-0.4
	comp=Z,3.5nm,0.8s,baz=346,slow=8.5,SNR=31						
ASAR	Alice Springs	26.31	165	P	P	09 17 14.1	-0.2
FORT	Forrest	32.49	178	P	P	09 18 08.7	-0.2
ENH	Enshi	32.67	332	P	P	09 18 11.2	+0.6
ENH				IAmb	IAmb	09 18 15.3	
	comp=Z,4.9nm,1.0s						
STKA	Stephens Creek	36.39	159	P	P	09 18 43.3	+0.6
MK31	Makanchi Array	59.11	326	P	P	09 21 38.4	-0.3
MK31				IAmb	IAmb	09 21 46.2	
	comp=Z,2.0nm,1.1s						
MKAR	Makanchi Array	59.11	326	P	P	09 21 38.4	-0.3
	comp=Z,1.2nm,0.4s,baz=118,slow=7.2,SNR=16						
KURK	Kurchatov	63.33	328	P	P	09 22 06.9	-0.1
KKAR	Karatay Array	64.63	318	P	P	09 22 16.6	+0.8
ABKAR	Akbulak array	73.62	321	P	P	09 23 11.0	-0.4
TTA	Tatalina	82.52	27	P	P	09 24 00.4	-0.2
TTA				IAmb	IAmb	09 24 08.7	
	comp=Z,3.2nm,1.2s						

KRNET ***12*** *09:13:54.5±0.1, 40°.96N×70°.45E, h13km, mb2.5*
ISC 12 09:13:53.9±1.5, 40°.99N±0°.05×70°.40E±0°.04, h14km±12km, n9, σ1s80/17, 14C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.91	292	⇓iP	Pb	09 14 12.4	+0.9
	baz=93						
TAS				⇓iS	Sn	09 14 26.3	+1.0
	baz=93						
BTK	Batken	0.98	161	⇑iP	Pg	09 14 12.4	-0.4
	baz=63						
BTK				⇑eS	Sn	09 14 26.3	-0.7
	baz=63						
ARK	Arkit	1.43	55	⇑iP	Pg	09 14 21.4	0.0
	baz=54						
ARK				⇑iS	Sg	09 14 40.8	+0.9
	baz=54						
ARSB	Arslanbob	1.98	79	⇑eP	Pb	09 14 30.7	+1.0
	baz=78						
ARSB				⇑iS	Sg	09 14 57.3	-0.2
	baz=78						
KK31	Karatay Array	2.12	2	Pn	Pn	09 14 25.6	-3.3
	2.2nm,0.6s,baz=189,slow=14,SNR=6.5						
KK31				Lg	Lg	09 14 55.4	
	2.1nm,0.5s,baz=188,slow=26,SNR=6.9						
AML	Almayashu	2.72	64	⇑eP	Pn	09 14 38.8	+1.3
	baz=63						
AML				⇑iS	Sb	09 15 17.1	+1.1
	baz=63						
EKS2	Erkin-Say	3.03	55	⇑iP	Pn	09 14 43.9	+2.4
	baz=55						
EKS2				⇑iS	Sb	09 15 25.8	+1.3
	baz=55						
ARLS	Aral	3.07	72	⇑iP	Pb	09 14 46.6	-1.9
	baz=71						
ARLS				⇑iS	Sb	09 15 23.6	-2.3
	baz=71						
UCH	Uchtor	3.32	67	⇑iP	Pn	09 14 47.4	+1.5
	baz=66						
UCH				⇑iS	Sb	09 15 30.9	-2.4
	baz=66						

IDC 12 09:22:49.8±2.1, 1°.23S×129°.93E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/34, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=119.1km s-min=25.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.09	167	P	P	09 27 12.9	-1.3
	0.2nm,0.3s,baz=347,slow=12,SNR=6.1						
ASAR	Alice Springs	22.64	171	P	P	09 27 53.3	+0.7
	2.8nm,0.5s,baz=349,slow=11,SNR=30						
MKAR	Makanchi Array	63.43	325	P	P	09 33 21.4	0.0
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.4						

IDC 12 09:28:39.9±2.7, 6°.70S×154°.93E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/28, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=49.1km s-min=23.5km az=63.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.74	309	Pn	Pn	09 29 40.5	+1.5
	5.2nm,0.3s,baz=90,slow=7.1,SNR=4.7						
KRVT				Sn	Sn	09 30 23.2	-0.6
	13nm,0.3s,baz=225,slow=9.9,SNR=3.6						
KRVT				Lg	Lg	09 30 38.8	
	20nm,0.3s,baz=285,slow=24,SNR=4.9						
WRA	Warramunga Arr	23.93	235	P	P	09 33 55.9	0.0
	2.0nm,0.9s,baz=58,slow=9.7,SNR=9.0						
ASAR	Alice Springs	26.32	228	P	P	09 34 17.6	-0.1
	0.9nm,0.9s,baz=61,slow=9.6,SNR=5.6						
MKAR	Makanchi Array	83.14	319	P	P	09 41 07.6	-0.3
	0.3nm,0.5s,baz=100,slow=7.1,SNR=3.7						

IDC 12 09:33:08.0±18.0, 6°.59N×88°.63E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.3/40, mbtmp3.5/3, ML4.3/1, Error ellipse: s-maj=400.2km s-min=59.6km az=99.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.50	39	Pn	Pn	09 36 49.1	+1.1
	0.4nm,0.3s,baz=232,slow=14,SNR=8.5						
WRA	Warramunga Arr	52.12	121	P	P	09 42 19.4	-1.1
	0.3nm,0.8s,baz=304,slow=8.3,SNR=4.4						
ASAR	Alice Springs	53.45	126	P	P	09 42 31.2	+0.9
	0.2nm,0.5s,baz=301,slow=7.5,SNR=4.6						

ISCJB ***12*** *09:37:29.6±0.5, 37°.70N±0°.03×38°.13E±0°.03, h6km±7km, Error ellipse: s-maj=5.8km s-min=4.4km az=163.2*
ISK ***12*** *09:37:29.4, 37°.68N×38°.13E, h12km, ML1.6/5*
DDA ***12*** *09:37:29.0, 37°.70N×38°.13E, h7km±2km, ML2.7*
ISC 12 09:37:29.5±1.3, 37°.70N±0°.04×38°.13E±0°.03, h11km±12km, n12, σ0s36/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	Bozova	0.27	149	i P	Pg	09 37 34.9	0.0
GZT	Gaziantep	0.56	233	i P	Pg	09 37 40.5	+0.1
GZT				i S	Sb	09 37 49.1	-0.4
GZT				IAML_P			
	comp=Z,860nm,0.1s						
URFA	Urfa	0.61	115	PG	Pg	09 37 41.6	+0.3
URFA				SG	Sb	09 37 50.5	-0.3
MALT	Malatya	0.66	21	PG	Pg	09 37 42.0	-0.3
MALT				SG	Sb	09 37 52.8	+0.5
KHMN	Narli-Kahraman	0.83	249	PG	Pg	09 37 45.5	+0.1
SANL	SANLIURFA_Merk	0.86	127	i P	Pg	09 37 45.5	-0.6
SANL				IAML_P			
	comp=Z,2μm,0.2s						
SURC	SANLIURFA_SURC	0.91	154	i P	Pb	09 37 47.2	0.0
SURC				i S	Sb	09 37 59.9	+0.6
SURC				IAML_P			
	comp=Z,215nm,0.1s						
KMRS	Kahramanmaras	0.99	259	PG	Pb	09 37 48.8	+0.1
KMRS				SG	Sn	09 38 03.2	-0.3
DARE	Darende-Malaty	1.01	330	PG	Pn	09 37 49.5	-0.2
HCB	Kahramanmara	1.03	250	i P	Pg	09 37 49.1	-0.1
HCB				i S	Sb	09 38 03.3	+0.4
ELZG	Elazig	1.05	40	i P	Pb	09 37 49.8	+0.1
ELZG				IAML_P			
	comp=Z,890nm,0.1s						
SVRC	Sivrice-ELAZID	1.15	54	PN	Pn	09 37 52.0	+0.2

IDC 12 09:40:18.3±2.0, 31°.49N×40°.75W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/35, mbtmp3.7/4, Error ellipse: s-maj=127.8km s-min=28.7km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	42.98	105	P	P	09 48 19.4	-0.1
	1.1nm,0.8s,baz=313,slow=7.

RIZ S **S** **09 45 51.3 -0.8**
RAO Raoul Island 4.96 157 P **P** **09 44 40.4 -0.4**
88nm,0.3s,baz=86,slow=22,SNR=4.6
RAO S **S** **09 45 52.1 -0.2**
100nm,0.3s,baz=73,slow=19,SNR=4.2
RAO Raoul Island 4.96 157 P **P** **09 44 41.1 +0.3**
RAO S **S** **09 45 49.6 -2.7**
GLKZ Green Lake 4.96 158 P **P** **09 44 41.7 +0.9**
GLKZ S **S** **09 45 52.6 +0.2**
MSVF Nonsavu 7.12 346 P **P** **09 45 00.9 -0.6**
NIUE Niue 10.95 61 P **P** **09 45 39.9 -1.1**
NIUE S **S** **09 47 40.5 -1.9**
OUZ Omahuta 11.85 206 P **P** **09 45 52.0 +1.9**
OUZ Omahuta 11.85 206 P **P** **09 45 52.2 +2.1**
GRZ Great Barrier 12.16 197 P **P** **09 45 54.1 +0.7**
WCZ Waipu Caves 12.21 202 P **P** **09 45 55.9 +2.0**
KUZ Kuaotunu 12.56 196 P **P** **09 45 58.3 +0.8**
DZM Mont Dzumac 12.64 279 P **P** **09 45 59.9 +1.1**
5.0nm,0.3s,baz=86,slow=16,SNR=21
DZM Mont Dzumac 12.64 279 P **P** **09 45 59.7 +0.9**
MXZ Matakaoa Point 12.92 186 P **P** **09 45 59.6 -1.8**
MXZ Matakaoa Point 12.92 186 P **P** **09 45 59.7 -1.7**
HAZ Te Kaha 13.17 187 P **P** **09 46 02.6 -1.4**
HAZ S **S** **09 48 25.0 +0.5**
WMGZ Waiomatatini S 13.17 185 P **P** **09 46 03.0 -0.9**
WMGZ S **S** **09 48 20.4 -4.2**
AFI Afiamalu 13.27 38 P **P** **09 46 01.8 -3.6**
RUGZ Raukumara Rang 13.39 188 P **P** **09 46 07.3 +0.9**
PUZ Puketiti 13.43 186 P **P** **09 46 07.5 +0.7**
PUZ S **S** **09 48 24.7 -5.0**
OPRZ Ohinepanea 13.44 192 P **P** **09 46 07.0 +0.2**
TOZ Tahuroa Road 13.55 195 P **P** **09 46 08.7 +0.7**
KMRZ Kaimai 13.56 194 P **P** **09 46 09.0 +0.9**
URZ Urewera 13.75 189 P **P** **09 46 07.8 -2.3**
12nm,0.3s,baz=24,slow=2.3,SNR=46
URZ S **S** **09 48 33.8 -2.0**
1.1nm,0.3s,baz=232,slow=20,SNR=6.3
URZ Urewera 13.75 189 P **P** **09 46 06.8 -3.2**
URZ S **S** **09 48 31.7 -4.0**
URZ Urewera 13.75 189 P **P** **09 46 06.7 -3.4**
URZ S **S** **09 48 34.2 -1.6**
MWZ Matawai 13.77 188 P **P** **09 46 08.2 -2.1**
MWZ S **S** **09 48 36.3 +0.1**
TKGZ Te Karaka 13.84 187 P **P** **09 46 09.2 -1.8**
MUGZ Murupara 14.02 190 P **P** **09 46 10.5 -2.4**
HIZ Hauiti 14.45 196 P **P** **09 46 17.7 +0.3**
BKZ Black Stump Fm 14.74 191 P **P** **09 46 17.1 -3.4**
BFZ Birch Farm 16.26 190 P **P** **09 46 32.6 -3.5**
MSWZ Moikau Station 17.14 192 P **P** **09 46 41.6 -3.2**
SNZO South Karori 17.15 193 P **P** **09 46 42.2 -2.6**
BHW Baring Head 17.21 193 P **P** **09 46 44.0 -1.4**
QRZ Quartz Range 17.25 199 P **P** **09 46 45.1 -0.8**
PLWZ Palliser 17.29 192 P **P** **09 46 42.6 -3.7**
NNZ Nelson 17.38 197 P **P** **09 46 44.3 -2.7**
BSWZ Blackbirch Sta 17.72 195 P **P** **09 46 48.5 -1.7**
THZ Tophouse 18.01 197 P **P** **09 46 51.2 -1.6**
KHZ Kahutara 18.47 195 P **P** **09 46 54.8 -2.1**
LTZ Lake Taylor 19.13 197 P **P** **09 47 01.1 -1.9**
LHI Lord Howe Isla 19.60 245 P **P** **09 47 07.1 -0.3**
LHI IAmb IAmb 09 47 13.5
comp=Z,33nm,1.0s
OXZ Oxford 19.70 197 P **P** **09 47 06.6 -1.6**
CRLZ Canterbury Las 19.78 196 P **P** **09 47 08.3 -0.5**
CRLZ IAmb IAmb 09 47 14.3
comp=Z,11nm,0.9s
MQZ McQueen's Vall 19.90 196 P **P** **09 47 08.0 -1.9**
RPZ Rata Peaks 20.34 199 P **P** **09 47 13.3 -0.6**
comp=Z,26nm,0.5s,baz=18,slow=1.0,SNR=30
RPZ Rata Peaks 20.34 199 P **P** **09 47 12.3 -1.6**
FOZ Fox Glacier 20.56 201 P **P** **09 47 14.5 -1.4**
FOZ IAmb IAmb 09 47 23.9
comp=Z,13nm,0.8s
LBZ Lake Benmore 21.20 200 P **P** **09 47 20.5 -1.3**
LBZ IAmb IAmb 09 47 27.2
comp=Z,26nm,1.0s
ODZ Otahua Downs 21.67 198 P **P** **09 47 25.4 -0.6**
WKZ Wanaka 21.97 201 P **P** **09 47 26.6 -2.1**
WKZ IAmb IAmb 09 47 28.0
comp=Z,13nm,1.2s
MLZ Mavora Lakes 22.75 202 P **P** **09 47 35.0 -0.7**
MLZ IAmb IAmb 09 47 37.6
comp=Z,12nm,0.9s
DCZ Deep Cove 23.17 203 P **P** **09 47 39.0 -0.4**
DCZ IAmb IAmb 09 47 43.5
comp=Z,7.6nm,0.8s
WHZ Wether Hill Ro 23.26 202 P **P** **09 47 39.2 -1.0**
WHZ IAmb IAmb 09 47 42.1
comp=Z,16nm,0.7s
HNR Honiara 24.32 305 P **P** **09 47 48.5 -1.5**
comp=Z,53nm,0.5s,baz=253,slow=5.6,SNR=3.8
ARMA Armidale 25.68 251 P **P** **09 48 00.2 -1.9**
EIDS Eidsvold 26.11 262 P **P** **09 48 06.2 +0.3**
EIDS IAmb IAmb 09 48 06.6
comp=Z,10nm,0.8s
CTAO Charters Tower 31.41 272 P **P** **09 48 52.6 +0.6**
TAU Tasmania Unive 32.35 228 P **P** **09 49 00.9 +1.2**
KRVT Keravat (AS076 33.61 303 P **P** **09 49 09.1 -1.6**
comp=Z,29nm,0.6s,baz=244,slow=3.8,SNR=4.5
STKA Stephens Creek 34.37 249 P **P** **09 49 16.8 -0.1**
comp=Z,2.8nm,0.4s,baz=96,slow=11,SNR=15
STKA Stephens Creek 34.37 249 P **P** **09 49 17.4 +0.4**
PMG Port Moresby 34.68 290 P **P** **09 49 19.6 -0.1**
PMG IAmb IAmb 09 49 20.3
comp=Z,34nm,0.9s
COEN Coen 36.16 280 P **P** **09 49 32.4 +0.3**
COEN IAmb IAmb 09 49 33.0
comp=Z,9.9nm,1.0s
BBOO Buckleboo 39.07 248 P **P** **09 49 55.2 -0.5**
AS31 Alice Springs 41.83 261 P **P** **09 50 17.7 -0.3**
ASAR Alice Springs 41.84 261 P **P** **09 50 17.6 -0.3**
comp=Z,5.9nm,0.4s,baz=99,slow=8.1,SNR=95
ASAR ScP **ScP** **09 55 06.4 +3.4**
comp=Z,0.6nm,0.8s,baz=111,slow=4.3,SNR=3.1
ASAR S **S** **09 55 55.7 -2.6**
comp=Z,1.2nm,0.8s,baz=96,slow=17,SNR=8.1
ASAR Alice Springs 41.84 261 P **P** **09 50 17.2 -0.8**
WC3 Warramunga Arr 42.25 267 P **P** **09 50 20.6 -0.6**
WB2 Warramunga Arr 42.27 267 P **P** **09 50 20.6 -0.8**
WRAB Tennant Creek 42.27 267 P **P** **09 50 20.7 -0.7**
WRA Warramunga Arr 42.28 267 P **P** **09 50 20.6 -0.9**
comp=Z,26nm,0.6s,baz=102,slow=8.0,SNR=343
WRA ScP **ScP** **09 55 08.3 +3.5**
comp=Z,4.3nm,1.0s,baz=103,slow=4.1,SNR=14
WRA S **S** **09 56 01.3 -3.5**
comp=Z,2.0nm,0.9s,baz=96,slow=15,SNR=7.1
WRA Warramunga Arr 42.28 267 P **P** **09 50 19.8 -1.7**
FORT Forrest 45.97 250 P **P** **09 50 48.8 -1.1**
FORT IAmb IAmb 09 50 49.5
comp=Z,22nm,0.6s
KNRA Kununurra 48.61 270 P **P** **09 51 09.9 0.0**
KNRA IAmb IAmb 09 51 10.5
comp=Z,55nm,1.1s
FITZ Fitzroy Crossi 50.69 266 P **P** **09 51 24.8 -0.5**
FITZ IAmb IAmb 09 51 26.6
comp=Z,17nm,0.8s
FAKI Fak Fak 50.73 288 P **P** **09 51 24.6 -1.0**
FAKI IAmb IAmb 09 51 25.5
comp=Z,20nm,1.0s
SBA Scott Base 53.60 183 P **P** **09 51 48.0 +2.8**
SOEI Soe 54.83 275 P **P** **09 51 56.0 +0.9**
SOEI IAmb IAmb 09 52 05.0
comp=Z,36nm,0.9s
QSPA South Pole Qui 65.41 180 P **P** **09 53 06.1 +1.6**
QSPA IAmb IAmb 09 53 07.0
comp=Z,13nm,0.8s
KSM Kuching 72.16 280 P **P** **09 53 45.1 -0.9**
KSM IAmb IAmb 09 53 46.7
comp=Z,14nm,0.6s
MJAR Matsushiro Arr 72.49 326 P **P** **09 53 47.5 +0.1**
comp=Z,5.5nm,0.8s,baz=151,slow=5.6,SNR=14
MJAR Matsushiro Arr 72.49 326 P **P** **09 53 46.5 -0.9**
MAJO Matsushiro 72.49 326 P **P** **09 53 47.4 +0.1**
MAJO IAmb IAmb 09 53 48.3
comp=Z,9.2nm,0.9s
MJB9 Matsu-Tunnel 72.49 326 P **P** **09 53 47.3 -0.1**
MJB9 IAmb IAmb 09 53 48.3
comp=Z,9.2nm,0.9s
MAW Mawson 77.00 201 P **P** **09 54 13.2 +1.0**
comp=Z,2.8nm,0.6s,baz=134,slow=7.3,SNR=6.6
MAW Mawson 77.00 201 P **P** **09 54 12.9 +0.7**
KSRS Korea Array 78.79 320 P **P** **09 54 23.6 +1.3**
comp=Z,2.7nm,0.7s,baz=127,slow=5.7,SNR=9.5
KSAR Wonju Array Be 78.80 320 P **P** **09 54 22.9 +0.5**
KS19 Wonju Array Si 78.85 320 P **P** **09 54 22.5 -0.1**
PETK Petropavlovsk- 79.83 347 P **P** **09 54 27.5 0.0**
comp=Z,1.0nm,0.3s,baz=134,slow=10,SNR=4.9
PETK Petropavlovsk- 79.83 347 P **P** **09 54 28.5 +1.0**
NJ2 Nanjing 81.11 311 *e*P **P** **09 54 35.0 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
USRK Ussuriysk Ar. 81.37 327 P **P** **09 54 36.8 +1.1**
comp=Z,1.8nm,0.4s,baz=120,slow=5.2,SNR=7.2
USRK Ussuriysk Ar. 81.37 327 P **P** **09 54 36.1 +0.5**
IPM Ipoh 81.80 279 P **P** **09 54 38.0 -0.6**
IPM IAmb IAmb 09 54 39.4
comp=Z,8.2nm,0.7s
SYO Syowa Base 82.24 193 *e*P **P** **09 54 38.6 -1.2**
SYO Syowa Base 82.24 193 *e*PcP **P** **09 54 41.4 +1.6**
SNAA Sanae 83.90 179 P **P** **09 54 48.2 0.0**
SNAA Sanae 83.90 179 P **P** **09 54 48.6 +0.4**
VNA3 Neumayer Olymp 84.11 177 P **P** **09 54 49.5 +0.3**
VNA2 Neumayer--Watz 84.53 178 P **P** **09 54 51.7 +0.5**
baz=187,slow=4.1
VNA1 Neumayer--Stat 84.77 177 P **P** **09 54 53.1 +0.8**
NVAR Mina Array Bea 85.36 44 P **P** **09 54 57.9 +1.9**
comp=Z,0.6nm,0.8s,baz=222,slow=9.3,SNR=4.3
NVAR Mina Array Bea 85.36 44 P **P** **09 54 57.4 +1.4**
PBKT Sadao Pong 87.15 290 P **P** **09 55 05.9 +1.2**
PBKT IAmb IAmb 09 55 06.8
comp=Z,4.2nm,0.7s
PLCA Paso Flores 87.79 134 P **P** **09 55 09.4 +2.0**
comp=Z,1.4nm,0.8s,baz=26,slow=10,SNR=3.2
PLCA Paso Flores 87.79 134 P **P** **09 55 09.6 +2.1**
KMI Kunming 89.55 298 P **P** **09 55 16.2 +0.2**
KMI pmax pmax
comp=Z,18nm,0.5s
CMAR Chiang Mai Arr 89.72 290 P **P** **09 55 18.8 +2.1**
comp=Z,3.6nm,0.8s,baz=139,slow=3.6,SNR=18
CMAR Chiang Mai Arr 89.72 290 P **P** **09 55 16.8 +0.1**
HHC Hu-ho-hao-te 90.91 315 *e*P **P** **09 55 20.3 -1.5**
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,9.0nm,4.2s
TXAR Lajitas Array 90.91 58 P **P** **09 55 24.3 +2.2**
comp=Z,0.9nm,0.8s,baz=217,slow=6.0,SNR=7.4
TXAR Lajitas Array 90.91 58 P **P** **09 55 22.7 +0.7**
CD2 Chengdu 91.44 303 *e*P **P** **09 55 24.2 -0.2**
KSH Kashi 115.63 304 *e*PKP **PKPdf** **10 00 53.7 -3.2**
ARCES ARCESS Array B 132.62 348 PKP **PKPdf** **10 01 28.5 +0.2**
comp=Z,3.1nm,1.0s,baz=76,slow=3.8,SNR=5.1
ARCES ARCESS Array B 132.62 348 **PKPdf** **10 01 28.8 +0.5**
FINES FINESS Array B 139.15 341 SKPbc **SKPbc** **10 04 28.7 +1.8**
comp=Z,3.8nm,0.8s,baz=73,slow=4.7,SNR=4.0
AKASG Malin Array Be 145.57 327 PKPbc **PKPdf** **10 01 52.8 +0.5**
comp=Z,0.7nm,0.3s,baz=45,slow=4.0,SNR=9.6
AKASG SKPbc **SKiKP** **10 04 45.1 +1.6**
comp=Z,0.4nm,0.3s,baz=48,slow=2.9,SNR=4.1
AKASG Malin Array Be 145.57 327 PKPbc **PKPbc** **10 01 53.6 0.0**
BR131 Keskin Array S 147.97 306 PKPdf **PKPdf** **10 01 55.8 -1.1**
BR131 **PKPbc** **10 01 59.7 -0.9**
BR131 PKPab **PKPab** **10 02 06.0 +0.7**
BRTR Keskin Array B 147.97 306 PKPbc **PKPbc** **10 02 00.3 -0.4**
comp=Z,1.3nm,0.7s,baz=112,slow=4.2,SNR=7.7
BRTR Keskin Array B 147.97 306 **PKPbc** **10 02 00.7 0.0**
BRTR PKPab **PKPab** **10 02 05.9 +0.7**
TORD Torodi Ar. Bea 168.41 189 **PKPab** **10 03 34.1 +0.3**
comp=Z,1.4nm,0.8s,baz=178,slow=4.5,SNR=6.7
TORD Torodi Ar. Bea 168.41 189 **PKPab** **10 03 34.4 +0.6**

*IDC **12** 09:54:59.3±0.8, 17°.55S×168°.19E, h0km, mb4.4/9, mb1 4.7/10, mb1mx4.4/29, mbtmp4.5/10, ML4.6/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/40, Error ellipse: s-maj=25.7km s-min=19.4km az=100.0*
*ISCJB **12** 09:55:02.6±0.3, 17°.65S±0°.04×168°.08E±0°.05, h32km, mb4.3/8, MS4.0/8, Error ellipse: s-maj=7.7km s-min=5.3km az=154.9*
*NEIC **12** 09:55:04.4±1.6, 17°.75S±0°.07×168°.11E±0°.08, h35km±1km, mb4.7/24*
ISC 12 09:55:04.1±0.4,**17°.76S**±0°.05×**168°.11E**±0°.07,**h32**km,**n92,**
σ1§**41**/**85**,**mb4.6**/**20**,**MS4.0**/**8**,**1C-2D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.56**	**200**	*e*Pn	**Pn**	**09 56 11.3**	**+0.3**
DZM	210nm,0.8s			*e*Sn	**Sn**	**09 57 01.4**	**-1.6**
DZM	354nm,0.8s			*e*LR	LR	09 57 17.5	
DZM	comp=Z,1μm,23.9s						
DZM	**Mont Dzumac**	**4.56**	**200**	Pn	**Pn**	**09 56 11.8**	**+0.8**
DZM	26nm,0.3s,baz=57,slow=7.8,SNR=257			Sn	**Sn**	**09 57 02.1**	**-0.9**
DZM	79nm,0.3s,baz=146,slow=19,SNR=16			LR	LR	09 57 46.6	
DZM	comp=Z,705nm,19.8s,baz=106,slow=35						
DZM	**Mont Dzumac**	**4.56**	**200**		**Pn**	**09 56 11.5**	**+0.5**
DZM				Sn	**Sn**	**09 57 01.7**	**-1.3**
MSVF	**Nonsavu**	**9.47**	**91**	Pn	**Pn**	**09 57 18.5**	**0.0**
HNR	**Honiara**	**11.46**	**315**	Pn	**Pn**	**09 57 47.5**	**+1.8**
HNR	19nm,0.3s,baz=350,slow=4.4,SNR=6.0			LR	LR	10 01 37.7	
HNR	comp=Z,573nm,19.2s,baz=132,slow=35						
HNR	**Honiara**	**11.46**	**315**	P	**Pn**	**09 57 49.0**	**+3.4**
HNR	**Honiara**	**11.46**	**315**		**Pn**	**09 57 45.9**	**+0.3**
HNR				Sn	**Sn**	**09 59 53.4**	**+0.8**
FUNA	**Funafuti**	**14.17**	**51**	Pn	**Pn**	**09 58 23.5**	**+0.9**
RAO	**Raoul Island**	**17.16**	**134**	LR	LR	10 04 15.3	
RAO	comp=Z,260nm,21.8s,baz=126,slow=32						
RAO	**Raoul Island**	**17.16**	**134**		**P**	**09 59 04.0**	**+1.1**
EIDS	**Eidsvold**	**17.54**	**242**	P	**P**	**09 59 07.3**	**+0.2**
OUZ	**Omahuta**	**18.06**	**165**		**P**	**09 59 14.0**	**+1.2**
ARMA	**Armidale**	**19.59**	**227**	P	**Pn**	**09 59 30.7**	**-0.5**
CTA	**Charters Tower**	**20.80**	**260**	P	Pn	09 59 44.9	-0.5
URZ	13nm,0.9s,baz=74,slow=11,SNR=10.0 **Urewera**	**21.89**	**161**	P	**P**	**09 59 57.5**	**+3.1**
URZ	22nm,0.9s,baz=297,slow=3.9,SNR=6.3			LR	LR	10 07 08.7	
URZ	comp=Z,398nm,19.4s,baz=344,slow=33						
URZ	**Urewera**	**21.89**	**161**	P	**P**	**09 59 55.0**	**+0.6**
URZ				IAmb	IAmb	10 00 02.8	
BKZ	comp=Z,28nm,1.0s **Black Stump Fm**	**22.54**	**163**	P	**P**	**10 00 04.7**	**+3.3**
BHHZ	**Black Hill Sta**	**22.73**	**164**	P	**P**	**10 00 05.8**	**+2.4**
KWHZ	**Kaweka Forest**	**22.76**	**163**	P	**P**	**10 00 06.9**	**+3.1**
PNHZ	**Pukenui**	**23.16**	**164**	P	**P**	**10 00 09.2**	**+1.3**
KAHZ	**Kahuranaki**	**23.23**	**163**	P	**P**	**10 00 12.3**	**+3.7**
TSZ	**Takapari Road**	**23.24**	**165**	P	**P**	**10 00 10.2**	**+1.6**
MRZ	**Mangatainoka R**	**23.71**	**166**	P	**P**	**10 00 14.0**	**+0.8**
NNZ	**Nelson**	**23.81**	**170**	P	**P**	**10 00 18.4**	**+4.3**
BFZ	**Birch Farm**	**23.89**	**165**	P	**P**	**10 00 15.8**	**+0.9**
BFZ	**Birch Farm**	**23.89**	**165**	P	**P**	**10 00 14.8**	**-0.1**
HOWZ	**Holdsworth Sta**	**23.92**	**166**	P	**P**	**10 00 16.2**	**+1.1**
CAW	**Cannon Point**	**24.02**	**167**	P	**P**	**10 00 17.2**	**+1.1**
TMWZ	**Te Maipa**	**24.21**	**166**	P	**P**	**10 00 18.3**	**+0.4**
THZ	**Tophouse**	**24.27**	**171**	P	**P**	**10 00 22.4**	**+4.0**
COEN	**Coen**	**24.27**	**275**	P	**P**	**10 00 19.5**	**+0.8**
MSWZ	**Moikau Station**	**24.36**	**167**	P	**P**	**10 00 19.8**	**+0.7**
OXZ	**Oxford**	**25.70**	**173**	P	**P**	**10 00 32.2**	**+0.9**
OXZ				IAmb	IAmb	10 00 39.0	
RPZ	comp=Z,16nm,1.0s **Rata Peaks**	**25.99**	**175**	P	**P**	**10 00 35.7**	**+1.8**
RPZ	comp=Z,6.6nm,0.8s,baz=284,slow=12,SNR=2.7 **Rata Peaks**	**25.99**	**175**	P	**P**	**10 00 34.0**	**+0.1**
STKA	**Stephens Creek**	**27.77**	**235**	LR	LR	10 11 22.7	
WRA	comp=Z,331nm,19.3s,baz=72,slow=35 **Warramunga Arr**	**32.00**	**261**	LR	LR	10 14 11.8	
ASAR	comp=Z,174nm,18.4s,baz=115,slow=36 **Alice Springs**	**32.47**	**254**	P	**P**	**10 01 31.9**	**0.0**
ASAR	comp=Z,5.8nm,0.5s,baz=80,slow=8.9,SNR=13			LR	LR	10 14 34.3	
ASAR	comp=Z,440nm,18.5s,baz=84,slow=36 **Alice Springs**	**32.47**	**254**	P	**P**	**10 01 31.7**	**-0.2**
GUMO	**Guam**	**38.68**	**322**	LR	LR	10 15 55.5	
TBI	comp=Z,215nm,21.4s,baz=35,slow=33 **Tubuai**	**40.01**	**105**	*e*LR	LR	10 14 17.0	
PPT2	comp=Z,264nm,26.2s **Papeete2**	**40.26**	**96**	*e*LR	LR	10 14 17.5	
TAOE	comp=Z,352nm,24.2s **Nuku Hiva Isla**	**50.99**	**87**	*e*LR	LR	10 19 16.4	
KSM	comp=Z,269nm,22.4s **Kuching**	**60.01**	**282**	P	**P**	**10 05 08.2**	**0.0**
SBA	**Scott Base**	**60.12**	**180**	P	**P**	**10 05 08.8**	**+0.9**
SBA				IAmb	IAmb	10 05 10.7	
	comp=Z,7.9nm,1.0s						
MAJO	**Matsushiro**	**60.95**	**333**	P	**P**	**10 05 14.2**	**0.0**
MAJO				IAmb	IAmb	10 05 17.5	
CASY	comp=Z,6.3nm,0.9s **Casey**	**61.05**	**203**	P	**P**	**10 05 15.0**	**+0.6**
CASY				IAmb	IAmb	10 05 17.5	
PET	comp=Z,10nm,1.3s **Petropavlovsk**	**70.96**	**354**	P	**P**	**10 06 17.0**	**-1.1**
PETK	**Petropavlovsk-**	**71.15**	**353**	P	**P**	**10 06 19.3**	**0.0**
	comp=Z,2.4nm,0.7s,baz=147,slow=8.2,SNR=4.1						
PETK	**Petropavlovsk-**	**71.15**	**353**	P	**P**	**10 06 19.5**	**+0.2**
QSPA	**South Pole Qui**	**72.28**	**180**	P	**P**	**10 06 26.3**	**0.0**
QSPA				IAmb	IAmb	10 06 27.7	
CMAR	comp=Z,13nm,0.9s **Chiang Mai Arr**	**76.92**	**294**	P	**P**	**10 06 55.3**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=115,slow=6.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**76.92**	**294**	P	**P**	**10 06 53.6**	**-0.2**
ULN	**Ulaanbaatar**	**85.05**	**324**	P	**P**	**10 07 35.9**	**-0.8**
ULN				IAmb	IAmb	10 07 38.3	
SONM	comp=Z,11nm,1.2s **Songino Array**	**85.40**	**323**	P	**P**	**10 07 38.4**	**0.0**
	comp=Z,1.8nm,0.9s,baz=323,slow=5.5,SNR=8.6						
SONM	**Songino Array**	**85.40**	**323**	P	**P**	**10 07 37.5**	**-0.9**
SYO	**Syowa Base**	**86.04**	**196**	‖ *e*P	**P**	**10 07 40.0**	**-1.1**
SYO	**Syowa Base**	**86.04**	**196**	‖ *e*pP	pP	10 07 51.0	+0.2
SYO	**Syowa Base**	**86.04**	**196**	‖ *e*X	**P**	**10 07 40.0**	**-1.1**
AFDM	**Forest Hills D**	**86.96**	**48**	P	**P**	**10 07 45.6**	**-0.6**
AFDM				IAmb	IAmb	10 07 46.8	
CMB	comp=Z,4.3nm,1.1s **Columbia Colle**	**86.98**	**49**	IAmb	IAmb	10 07 46.8	
	comp=Z,3.4nm,0.9s						
ISA	**Isabella, Lake**	**87.39**	**51**	P	**P**	**10 07 47.7**	**-0.7**
ISA				IAmb	IAmb	10 07 49.1	
MDPB	comp=Z,4.3nm,1.1s **Devils Postpil**	**87.75**	**49**	P	**P**	**10 07 50.2**	**-0.1**
WAKR	**Walker**	**87.86**	**48**	P	**P**	**10 07 50.4**	**-0.3**
WAKR				IAmb	IAmb	10 07 51.7	
IMAR	comp=Z,3.7nm,1.0s **Indian Mountai**	**88.28**	**15**	P	**P**	**10 07 52.3**	**+0.5**
NVAR	**Mina Array Bea**	**88.64**	**49**	P	**P**	**10 07 54.3**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=229,slow=8.0,SNR=10						
NVAR	**Mina Array Bea**	**88.64**	**49**	P	**P**	**10 07 54.5**	**0.0**
KVN	**Kaiserville**	**89.03**	**48**	IAmb	IAmb	10 07 56.9	
ILAR	comp=Z,7.3nm,1.4s **Eielson Array**	**89.15**	**18**	P	**P**	**10 07 53.6**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=238,slow=4.6,SNR=14						
SNAA	**Sanae**	**90.58**	**183**	P	**P**	**10 08 02.5**	**-0.3**
SNAA	**Sanae**	**90.58**	**183**	P	**P**	**10 08 01.5**	**-1.3**
G08A	**Pilot Rock**	**90.99**	**42**	P	**P**	**10 08 04.3**	**-0.9**
G08A				IAmb	IAmb	10 08 06.2	
	comp=Z,3.5nm,1.0s						
VNA3	**Neumayer Olymp**	**91.21**	**181**	P	**P**	**10 08 05.1**	**-0.6**
VNA2	**Neumayer--Watz**	**91.49**	**181**	P	**P**	**10 08 06.7**	**-0.3**
	baz=167,slow=3.6						
VNA1	**Neumayer--Stat**	**91.78**	**181**	P	**P**	**10 08 07.8**	**-0.5**
ARCES	**ARCESS Array B**	**123.37**	**345**	PKP	**PKPdf**	**10 13 56.9**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=352,slow=1.7,SNR=6.2						
ARCES	**ARCESS Array B**	**123.37**	**345**		**PKPdf**	**10 13 56.5**	**-0.8**
BRTR	**Keskin Array B**	**135.06**	**309**	PKP	**PKPdf**	**10 14 21.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=113,slow=3.0,SNR=3.7						
BRTR	**Keskin Array B**	**135.06**	**309**		**PKPdf**	**10 14 20.5**	**-0.1**
KHC	**Kasperske Hory**	**142.53**	**332**		**PKPdf**	**10 14 33.3**	**-0.5**
SOKA	**Soboth**	**143.60**	**328**	*i* PP	PKPab	10 14 20.4	-12
	comp=Z,18nm,1.4s						
OBKA	**Obir**	**143.96**	**328**	*i* PP	PKPab	10 14 28.4	-5.3
	comp=Z,3.0nm,0.5s						
ABTA	**Abfaltersbach**	**144.77**	**330**	*i* PP	**PKPab**	**10 14 35.8**	**-1.0**
	comp=Z,6.3nm,0.7s						
WTTA	**Wattenberg**	**144.79**	**332**	*i* PP	**PKPab**	**10 14 34.2**	**-2.7**
	comp=Z,13nm,1.1s						
MOTA	**Moosalm**	**144.97**	**332**	*i* PP	**PKPab**	**10 14 36.6**	**-1.0**
	comp=Z,10nm,0.8s						
RETA	**Reutte**	**145.01**	**333**	*i* PP	**PKiKP**	**10 14 43.9**	**+1.9**
	comp=Z,7.3nm,0.8s						
SQTA	**Sankt Quirin**	**145.02**	**332**	*i* PP	**PKPbc**	**10 14 37.5**	**-0.1**
	comp=Z,7.9nm,0.6s						
BFO	**Black Forest**	**145.34**	**336**		**PKPbc**	**10 14 37.9**	**-0.7**
FETA	**Feichten**	**145.38**	**332**	*i* PP	**PKPbc**	**10 14 38.7**	**-0.2**
	comp=Z,8.6nm,0.7s						
DAVA	**Damuels**	**145.54**	**333**	*i* PP	**PKiKP**	**10 14 41.6**	**-1.7**
	comp=Z,8.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**166.12**	**253**	PKP	**PKPdf**	**10 15 05.2**	**-1.7**
	comp=Z,1.7nm,0.9s,baz=72,slow=1.5,SNR=6.1						
TORD				PKPab	**PKPab**	**10 16 07.1**	**-0.5**
TORD	comp=Z,1.0nm,0.9s,baz=112,slow=3.9,SNR=3.2 **Torodi Ar. Bea**	**166.12**	**253**		**PKPdf**	**10 15 06.0**	**-0.9**
TORD					**PKPab**	**10 16 07.3**	**-0.3**

*BJI **12** 09:55:15.2±0.0, 7°.54S×129°.86E, h163km, mb4.5/22, mB5.1/5*
*IDC **12** 09:55:16.6±5.9, 6°.71S×129°.88E, h115km±53km, mb4.1/6, mb1 4.4/10, mb1mx4.1/34, mbtmp4.7/10, Error ellipse: s-maj=64.7km s-min=16.3km az=57.0*
*ISCJB **12** 09:55:18.4±0.2, 6°.87S±0°.02×129°.73E±0°.03, h150km, mb4.4/14, Error ellipse: s-maj=4.3km s-min=3.3km az=169.5*
*NEIC **12** 09:55:20.5±1.4, 6°.81S±0°.05×129°.71E±0°.05, h154km±8km, mb4.6/45*
*DJA **12** 09:55:20.3±0.2, 7°S±2°×13°0E±°, h169km±3km, M4.7/24, mB5.1/10, mb4.6/24, MLv5.0/9, Mw(mB)4.4/10*
ISC 12 09:55:19.7±0.4,**6°.92S**±0°.04×**129°.73E**±0°.04,**h150**km,**n120,**
σ1§**79**/139,**mb4.5**/**24**,**1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88**	**124**	P	**Pn**	**09 55 57.0**	**+3.6**
SAUI				S	**Sn**	**09 56 21.3**	**+1.9**
SAUI	**Saumlaki**	**1.88**	**124**		**Pn**	**09 55 57.0**	**+3.6**
SAUI				Sn	**Sn**	**09 56 20.2**	**+0.8**
BNDI	**Bandanaira**	**2.39**	**4**	P	**Pn**	**09 56 01.9**	**+2.4**
BNDI				S	**Sn**	**09 56 33.2**	**+3.1**
AAI	**Ambon**	**3.56**	**334**	P	**Pn**	**09 56 15.8**	**+1.6**
MSAI	**Masohi**	**3.64**	**347**	P	**Pn**	**09 56 17.9**	**+2.6**
FAKI	**Fak Fak**	**4.70**	**32**	P	**Pn**	**09 56 28.3**	**-0.9**
FAKI				S	**Sn**	**09 57 17.5**	**-5.8**
FAKI	**Fak Fak**	**4.70**	**32**		**Pn**	**09 56 27.8**	**-1.4**
FAKI				Sn	**Sn**	**09 57 19.3**	**-4.1**
MTN	**Manton Dam**	**6.05**	**167**		**Pn**	**09 56 47.9**	**+0.8**
MTN				Sn	**Sn**	**09 57 54.0**	**-1.5**
SOEI	**Soe**	**6.10**	**242**	P	**Pn**	**09 56 49.0**	**+1.1**
SOEI	306nm,0.9s,3μm2.8nm			S	**Sn**	**09 57 54.8**	**-2.0**
SOEI	306nm,0.9s,3μm2.8nm **Soe**	**6.10**	**242**	

KCP	Kidapawan	14.59 341	‖	eP	P	09 58 40.0	-1.5
COEN	Coen	14.95 119		Pn	Pn	09 58 44.4	+0.8
JAGI	Jajag, Banyuwa	15.52 263		P	Pn	09 58 49.8	-0.9
	42nm,0.7s						
JAGI	Jajag, Banyuwa	15.52 263		Pn	Pn	09 58 50.3	-0.4
AS31	Alice Springs	17.13 167			P	09 59 11.7	+2.2
AS31				IAmb	IAmb	09 59 13.9	
	comp=Z,27nm,1.2s						
ASAR	Alice Springs	17.13 167		P	P	09 59 11.6	+2.0
	comp=Z,5.7nm,0.3s,baz=340,slow=9.3,SNR=34						
ASAR				S	S	10 02 15.9	-4.7
	comp=Z,4.1nm,0.3s,baz=354,slow=27,SNR=9.2						
ASAR	Alice Springs	17.13 167		P	P	09 59 11.6	+2.0
ASAR					S	10 02 17.6	-2.9
PSAD1	Pilbara Seismi	17.33 213		P	P	09 59 13.2	+1.4
PSAC2	Pilbara Seismi	17.38 212		P	P	09 59 14.1	+1.8
PSAC2				IAmb	IAmb	09 59 31.1	
	comp=Z,20nm,0.7s						
PSAD2	Pilbara Seismi	17.40 212		P	P	09 59 13.3	+0.9
PSAD2				IAmb	IAmb	09 59 29.3	
	comp=Z,22nm,1.0s						
PSAB2	Pilbara Seismi	17.40 212		P	P	09 59 14.7	+2.2
PSAB2				IAmb	IAmb	09 59 31.3	
	comp=Z,27nm,0.8s						
PSAC1	Pilbara Seismi	17.41 212		P	P	09 59 14.4	+1.8
PSAA2	Pilbara Seismi	17.41 212		P	Pn	09 59 15.0	+1.3
PSAA2				IAmb	IAmb	09 59 31.0	
	comp=Z,40nm,1.1s						
PSAA3	Pilbara Seismi	17.42 212		P	P	09 59 14.5	+1.8
PSAA3				IAmb	IAmb	09 59 31.1	
	comp=Z,43nm,1.1s						
PSA00	Pilbara Seismi	17.42 212		P	P	09 59 13.8	+1.1
PSA00	Pilbara Seismi	17.42 212		P	P	09 59 14.5	+1.7
PSA00				IAmb	IAmb	09 59 31.1	
	comp=Z,38nm,1.1s						
PSAA1	Pilbara Seismi	17.43 212		P	P	09 59 14.4	+1.6
PSAA1				IAmb	IAmb	09 59 31.7	
	comp=Z,31nm,0.8s						
PSAB1	Pilbara Seismi	17.43 212		P	P	09 59 15.0	+2.2
PSAB3	Pilbara Seismi	17.43 212		P	P	09 59 15.1	+2.2
PSAB3				IAmb	IAmb	09 59 31.8	
	comp=Z,35nm,0.8s						
PSAC3	Pilbara Seismi	17.47 212		P	P	09 59 14.9	+1.6
PSAC3				IAmb	IAmb	09 59 32.2	
	comp=Z,31nm,0.8s						
PSAD3	Pilbara Seismi	17.52 212		P	P	09 59 15.8	+2.1
PSAD3				IAmb	IAmb	09 59 32.7	
	comp=Z,33nm,0.8s						
PWJI	Pagerwojo	17.81 265		P	P	09 59 17.4	+0.4
PBKI	Pangkalan Bun	18.48 282		P	P	09 59 24.6	+0.3
WOJI	Wonogiri, Jawa	18.68 266		P	P	09 59 27.3	+0.8
	comp=Z,43nm,1.4s						
STKI	Sintang	19.49 290		P	Pn	09 59 38.1	0.0
SBUM	Sibu	19.80 297		P	P	09 59 40.1	+1.4
SBUM				IAmb	IAmb	09 59 42.2	
	comp=Z,16nm,0.8s						
KPJI	Karang Pucung	20.64 268		P	P	09 59 48.6	+0.9
CTAO	Charters Tower	20.70 131		P	P	09 59 45.6	-2.6
KSM	Kuching	21.10 293		P	P	09 59 52.3	-0.3
KSM				IAmb	IAmb	09 59 55.2	
	comp=Z,24nm,1.0s						
CISI	Cisompet, Garu	21.75 267		P	P	09 59 58.6	-1.0
CISI	Cisompet, Garu	21.75 267		P	P	09 59 59.6	0.0
FORT	Forrest	23.79 184		P	P	10 00 20.6	+2.0
GUMO	Guam	25.32 36		P	P	10 00 32.3	-0.4
BBOO	Buckleboo	26.43 168		P	P	10 00 43.9	+1.3
BBOO				IAmb	IAmb	10 00 50.1	
	comp=Z,23nm,1.3s						
STKA	Stephens Creek	27.19 157		P	P	10 00 51.1	+1.8
	comp=Z,3.3nm,0.4s,baz=343,slow=7.5,SNR=14						
STKA	Stephens Creek	27.19 157		P	P	10 00 50.9	+1.6
NWAO	Narrogin (SRO)	28.37 203		P	P	10 01 01.4	+1.6
RPSI	Rantau Prapat	32.20 286		P	P	10 01 32.9	-1.0
RPSI				IAmb	IAmb	10 01 38.5	
	comp=Z,11nm,0.9s						
GSI	Gunungsitoli	33.11 283		P	P	10 01 41.3	-0.5
CMAR	Chiang Mai Arr	39.48 310		P	P	10 02 35.6	-0.2
	comp=Z,3.2nm,0.7s,baz=139,slow=8.0,SNR=16						
CMAR	Chiang Mai Arr	39.48 310		P	P	10 02 34.8	-0.9
CHTO	Chiang Mai	39.69 311		P	P	10 02 36.6	-1.0
GYA	Guiyang	40.02 327		P	P	10 02 37.8	-2.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2	Nanjing	40.12 346		eP	P	10 02 43.0	+2.2
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI	Kunming	41.29 321		P	P	10 02 53.8	+3.0
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
CD2	Chengdu	45.09 328		P	P	10 03 21.0	-0.1
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
LZH	Lanzhou	49.21 332		eP	P	10 03 53.7	+0.7
LZH				pP	pwP	10 04 35.1	+3.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC	Hu-ho-hao-te	50.38 342		eP	P	10 04 04.3	+2.6
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BKZ	Black Stump Fm	52.84 135		P	P	10 04 21.9	+1.9
ODAN	Odare	53.00 311		eP	P	10 04 21.1	-0.5
	comp=Z,8.9nm,0.5s						
TAPN	Taplejung	53.03 312		eP	P	10 04 20.2	-1.7
RAMN	Ramite	53.64 311		eP	P	10 04 25.4	-0.9
	comp=Z,16nm,0.6s						
GTA	Gaotai	53.77 331		eP	P	10 04 26.5	-0.4
GTA				pP	pP	10 05 02.8	+2.4
GTA				sP	sP	10 05 21.2	+4.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
JIRN	Jiri	54.33 311		eP	P	10 04 30.7	-0.7
	comp=Z,5.4nm,0.3s						
GUN	Gumba	54.70 311		eP	P	10 04 33.4	-0.6
	comp=Z,16nm,0.6s						
PKI	Pulchoki	54.87 311		eP	P	10 04 34.0	-1.3
PKIN	Phulchoki	54.88 311		eP	P	10 04 34.0	-1.3
KKN	Kakani	55.08 311		eP	P	10 04 36.6	-0.1
GKN	Gorkha	55.68 311		eP	P	10 04 40.1	-0.7
	comp=Z,9.6nm,0.2s						
KOLN	Koldanda	56.34 310		eP	P	10 04 45.5	-0.1
	comp=Z,15nm,0.6s						
DANN	Dangsing	56.52 311		eP	P	10 04 46.1	-0.9
	comp=Z,13nm,0.6s						
ULN	Ulaanbaatar	58.10 342		P	P	10 04 57.4	-0.1
ULN				IAmb	IAmb	10 04 58.5	
	comp=Z,4.0nm,0.6s						
SONM	Songino Array	58.28 342		P	P	10 04 59.0	+0.3
	comp=Z,0.8nm,0.4s,baz=163,slow=6.9,SNR=4.5						
SONM	Songino Array	58.28 342		P	P	10 04 58.8	+0.1
WMQ	Urumqi	63.18 327		eP	P	10 05 33.7	+1.8
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,250nm,5.7s						
WMQ				LR	LR		
	comp=Z,370nm,29.2s						
WMQ				LR	LR		
	comp=Z,2μm,29.1s						
WMQ				LR	LR		
	comp=Z,460nm,28.7s						
KSH	Kashi	67.78 318		P	P	10 06 03.1	+1.5
KSH				PcP	PcP	10 06 28.1	+0.8
KSH				S	S	10 14 43.8	-3.9
KSH				ScS	SKiKP	10 15 39.1	-4.3
KSH				SS	SS	10 19 11.0	-1.3
KSH				LR	LR		
	comp=Z,370nm,10.0s						
KSH				LR	LR		
	comp=Z,380nm,13.9s						
KSH				LR	LR		
	comp=Z,520nm,15.3s						
MK31	Makanchi Array	68.01 327		P	P	10 06 01.9	-0.9
MK31				IAmb	IAmb	10 06 04.0	
	comp=Z,7.0nm,0.9s						
MKAR	Makanchi Array	68.01 327		P	P	10 06 03.1	+0.3
	comp=Z,2.5nm,0.3s,baz=121,slow=8.5,SNR=36						
MKAR	Makanchi Array	68.01 327		P	P	10 06 02.5	-0.3
MAKZ	Makanchi	68.19 327		P	P	10 06 03.9	0.0
MAKZ				IAmb	IAmb	10 06 05.0	
	comp=Z,6.2nm,0.8s						
AAK	Ala-Archa	70.31 320		P	P	10 06 17.2	0.0
ARSB	Arslanbob	70.65 318		P	P	10 06 19.9	+0.6
ARSB				IAmb	IAmb	10 06 20.8	
	comp=Z,7.0nm,0.8s						
ZAA0	Zalesovo Array	71.39 334		P	P	10 06 22.3	-0.9
ZAA0				IAmb	IAmb	10 06 23.4	
	comp=Z,17nm,1.4s						
ZALV	Zalesovo Beam	71.39 334		P	P	10 06 22.6	-0.6
	comp=Z,2.8nm,0.5s,baz=126,slow=5.0,SNR=11						
GAR	Garm	71.42 315		P	P	10 06 23.7	-0.2
GAR				IAmb	IAmb	10 06 25.8	
	comp=Z,12nm,0.9s						
BTK	Batken	71.53 316		P	P	10 06 24.5	-0.1
CHGR	Chuyangaron	72.09 314		P	P	10 06 27.6	-0.3
KURK	Kurchatov	72.31 329		P	P	10 06 28.8	0.0
KURK				IAmb	IAmb	10 06 31.2	
	comp=Z,12nm,1.1s						
KK31	Karatay Array	73.10 319		P	P	10 06 32.9	-0.9
KKAR	Karatay Array	73.10 319		P	P	10 06 33.4	-0.3
KKAR	Karatay Array	73.10 319		P	P	10 06 33.0	-0.7
KKAR				IAmb	IAmb	10 06 34.8	
	comp=Z,6.9nm,1.1s						
BRVK	Borovoye	77.92 328		P	P	10 07 00.6	-0.4
GEYT	Alibeck	79.96 310		P	P	10 07 13.0	+0.5
	comp=Z,1.9nm,0.5s,baz=62,slow=4.2,SNR=3.7						
GEYT	Alibeck	79.96 310		P	P	10 07 12.7	+0.3
ABKAR	Akbulak array	82.28 322		P	P	10 07 24.3	-0.1
ABKAR	Akbulak array	82.28 322		P	P	10 07 24.0	-0.4
ABKAR				IAmb	IAmb	10 07 24.9	
	comp=Z,12nm,1.5s						
KOLS	Kolonicke sedl	106.64 319		eP	DIFF	Pdif	10 09 17.9	+0.5
TORD	Torodi Ar. Bea	128.53 281		PKP	PKPdf	10 14 10.3	+0.4
	comp=Z,0.9nm,0.7s,baz=90,slow=1.0,SNR=4.8						
TORD				PP	PP	10 16 19.7	+2.5
	comp=Z,1.1nm,0.8s,baz=87,slow=3.9,SNR=4.5						
LPAZ	La Paz	150.94 143		PKPbc	PKiKP	10 14 58.2	+1.1
	comp=Z,0.9nm,0.4s,baz=26,slow=4.8,SNR=4.7						

BJI ***12*** *09:59:15.0±0.0,31°.81N×40°.61W,h6km,mb5.0/6,mB5.4/4, Ms5.0/3,Ms7 4.7/4*
IDC ***12*** *09:59:16.3±0.5,31°.74N×40°.58W,h0km,mb4.5/31, mb1 4.7/31,mb1mx4.6/42,mbtmp4.5/31,MS4.3/25, Ms1 4.3/25,ms1mx4.1/45,Error ellipse: s-maj=13.3km s-min=11.4km az=156.0*
ISCJB ***12*** *09:59:16.1±0.1,31°.74N±0°.03×40°.51W±0°.02,h10km, mb4.8/112,MS4.3/26,Error ellipse: s-maj=4.3km s-min=2.3km az=177.0*
MOS ***12*** *09:59:16.4±0.8,31°.74N×40°.59W,h12km,mb5.2/63,Error ellipse: s-maj=6.5km s-min=5.6km az=51.0*
NEIC ***12*** *09:59:17.5±1.5,31°.75N±0°.10×40°.52W±0°.02,h10km±1km, mb5.1/282*
GCMT ***12*** *09:59:20.7±0.3,31°.85N±0°.05×40°.64W±0°.02,h12km±1km, MW5.0/76,Moment Tensor Solution. s10,c10; s76,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.15±.45; $M_{\theta\theta}$-0.11±.27; $M_{\phi\phi}$4.25±.28; $M_{r\theta}$-0.09±.99; $M_{r\phi}$1.07±.14; $M_{\theta\phi}$1.01±.55; Best double couple: $M_0$4.44300×10^{16} NP1:ϕ_s189.00000°,δ51.00000°,λ-96.00000°. NP2: ϕ_s18.00000°,δ39.00000°,λ-83.00000°. Principal axes: T 4.6050, Plg6.0000°, Azm283.0000°; N -0.3320, Plg5.0000°, Azm192.0000°; P -4.2810, Plg82.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 09:59:17.6±0.3,31°.73N±0°.06×40°.53W±0°.05,h10km,n938, σ0s92/926,mb5.0/217,MS4.3/27,6C-6D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GBN	Guysborough	21.26	316	P	P	P	10 04 04.0	+0.2
GBN				IAmb	IAmb	IAmb	10 04 06.4	
	comp=Z,135nm,1.3s							
DRLN	Deer Lake	21.66	329	P	P	P	10 04 07.4	-0.8
HAL	Halifax	22.15	312	P	P	P	10 04 13.5	+0.1
HAL				pmax	pmax			
	comp=Z,98nm,1.1s							
HAL	Halifax	22.15	312	P	P	P	10 04 13.5	+0.1
HAL				IAmb	IAmb	IAmb	10 04 15.9	
	comp=Z,98nm,1.1s							
SACV	Santiago Islan	22.74	133	P	P	P	10 04 20.3	+0.3
SACV				IAmb	IAmb	IAmb	10 04 37.7	
	comp=Z,64nm,1.1s							
LMN	Caledonia Moun	23.48	314	P	P	P	10 04 27.4	0.0
LMN				IAmb	IAmb	IAmb	10 04 28.2	
	comp=Z,51nm,1.1s							
H66A	Whiting	24.61	310	P	P	P	10 04 38.5	+0.6
	baz=113							
BATG	Bathurst New B	24.93	316	P	P	P	10 04 41.2	+0.4
BATG				IAmb	IAmb	IAmb	10 04 43.0	
	comp=Z,58nm,1.1s							
G65A	Princeton	24.94	310	P	P	P	10 04 41.5	+0.6
	baz=113							
H65A	Eastbrook	25.20	309	P	P	P	10 04 44.3	+1.1
	baz=111							
E64A	Bridgewater	25.61	313	P	P	P	10 04 47.1	+0.1
	baz=115							
F64A	Sherman	25.71	311	P	P	P	10 04 48.1	+0.2
	baz=113							
F64A	Sherman	25.71	311	P	P	P	10 04 47.9	0.0
F64A				IAmb	IAmb	IAmb	10 04 50.8	
	comp=Z,90nm,1.5s							
G64A	Maxfield	25.74	310	P	P	P	10 04 48.5	+0.3
	baz=112							
H64A	Troy	25.83	308	P	P	P	10 04 49.5	+0.6
	baz=110							
PQI	Presque Isle	25.84	313	P	P	P	10 04 49.1	+0.1
PQI				IAmb	IAmb	IAmb	10 04 51.8	
	comp=Z,56nm,1.3s							
E63A	Oxbow	25.98	312	P	P	P	10 04 50.1	-0.3
	baz=114							
E63A	Oxbow	25.98	312	P	P	P	10 04 50.1	-0.3
E63A				IAmb	IAmb	IAmb	10 04 54.9	
	comp=Z,84nm,1.4s							
D63A	Stockholm	26.05	314	P	P	P	10 04 50.5	-0.5
	baz=116							
F63A	Nahmakanta, Br	26.13	310	P	P	P	10 04 51.5	-0.3
	baz=112							
G63A	Kingsbury	26.26	309	P	P	P	10 04 53.3	+0.4
	baz=110							
M64A	Tiverton	26.38	300	P	P	P	10 04 54.6	+0.6
	baz=102							
I63A	Otisfield	26.56	306	P	P	P	10 04 56.1	+0.4
	baz=107							
D62A	Allapoint, All	26.65	313	P	P	P	10 04 56.6	+0.2
	baz=115							
D62A	Allapoint, All	26.65	313	P	P	P	10 04 56.8	+0.4
D62A				IAmb	IAmb	IAmb	10 04 57.1	
	comp=Z,36nm,1.3s							
J63A	Strafford	26.69	304	P	P	P	10 04 57.5	+0.7
	baz=105							
E62A	Clayton Lake	26.76	312	P	P	P	10 04 58.0	+0.6
	baz=113							
F62A	Pittston Farm,	26.77	310	P	P	P	10 04 57.9	+0.4
	baz=111							
PDPR	Patillas Dam,	26.77	245	P	P	P	10 04 58.1	+0.4
PDPR				IAmb	IAmb	IAmb	10 05 02.4	
	comp=Z,30nm,1.0s							
SJG	San Juan	26.81	246	LR	LR	LR	10 13 06.9	
	comp=Z,357nm,21.6s,baz=58,slow=31							
H62A	Milan	27.11	307	P	P	P	10 05 00.8	+0.2
	baz=108							
F61A	St Evariste	27.46	310	P	P	P	10 05 04.0	+0.3
	baz=110							
PVAQ	Vaqueiros	27.52	69	eLR	LR	LR	10 11 56.8	
	comp=Z,1μm,20.0s							
L62A	Suffield	27.54	301	P	P	P	10 05 05.2	+0.8
	baz=101							
LBNH	Lisbon	27.54	306	P	P	P	10 05 04.8	+0.3
	baz=106							
G61A	St-Isidore-de-	27.58	308	P	P	P	10 05 07.3	+2.4
	baz=108							
H61A	Lyndonville	27.63	307	P	P	P	10 05 06.1	+0.8
	baz=107							
L61B	Northampton	27.64	302	P	P	P	10 05 06.6	+1.3
	baz=102							
I61A	Oroboro, Fairl	27.65	305	P	P	P	10 05 06.3	+0.9
	baz=105							
PESTR	Estremoz	27.71	66	P	P	P	10 05 03.7	-2.4
J61A	Chester	27.75	304	P	P	P	10 05 06.8	+0.5
	baz=104							
PCAB	Cabril	27.75	60	eP	P	P	10 05 06.3	-0.1
PCAB				esP	pwP	pwP	10 05 11.3	-1.0
D60A	Saint Jean D'O	27.76	312	P	P	P	10 05 06.9	+0.5
	baz=112							
PCBR	Castelo Branco	27.89	64	eP	P	P	10 05 07.6	0.0
	comp=Z,32nm,1.9s							
PCBR				esP	pwP	pwP	10 05 13.2	-0.4
E60A	Ste Agathe de	27.90	311	P	P	P	10 05 08.0	+0.4
	baz=110							
MTE	Manteigas	27.91	63	eS	S	S	10 09 57.2	+5.7
MTE				eLR	LR	LR	10 12 19.8	
	comp=Z,503nm,18.0s							
PMRV	Marv??o	27.91	65	eP	P	P	10 05 07.7	-0.2
	comp=Z,28nm,1.7s							
PMRV				eLR	LR	LR	10 12 15.1	
	comp=Z,323nm,18.0s							
G60A	Masonville	28.07	308	P	P	P	10 05 09.8	+0.6
	baz=107							
F60A	Warwick	28.09	309	P	P	P	10 05 09.6	+0.3
	baz=109							
H60A	Morristown	28.16	306	P	P	P	10 05 11.0	+0.9
	baz=106							
L61A	Hillsdale 1, H	28.22	301	P	P	P	10 05 11.5	+1.0
	baz=101							
J60A	Lant Hill Farm	28.34	303	P	P	P	10 05 12.1	+0.5
	baz=103							
I60A	Shoreham	28.39	305	P	P	P	10 05 12.3	+0.3
	baz=104							
MVO	Moncorvo	28.40	61	eP	P	P	10 05 12.6	+0.3
	comp=Z,36nm,1.7s							
MVO				esP	pwP	pwP	10 05 18.0	-0.1
MVO				eLR	LR	LR	10 12 35.8	
	comp=Z,393nm,20.0s							
N61A	South Mountain	28.54	298	P	P	P	10 05 14.6	+1.2
	baz=97							
L60A	Shokan	28.67	300	P	P	P	10 05 15.4	+0.8
	baz=100							
I59A	Olmsteadville	28.79	304	P	P	P	10 05 16.4	+0.8
	baz=103							
MDP	Montagnes des	28.82	206	LR	LR	LR	10 14 06.6	
	comp=Z,510nm,21.5s,baz=26,slow=31							
M60A	Port Jervis	28.86	299	P	P	P	10 05 17.2	+0.9
	baz=98							
H59A	Cadyville	28.87	306	P	P	P	10 05 17.0	+0.7
	baz=105							
E58A	La Victoria	29.09	310	P	P	P	10 05 18.6	+0.4
	baz=108							
R61A	Willards	29.13	293	P	P	P	10 05 19.4	+0.7
	baz=92							
H58A	Gabriels	29.15	305	P	P	P	10 05 19.2	+0.3
	baz=104							
Q61A	Milford	29.15	294	P	P	P	10 05 19.4	+0.6
	baz=93							
N60A	Cedar Hill Far	29.16	298	P	P	P	10 05 19.4	+0.5
	baz=97							
G58A	Ormstown	29.25	307	P	P	P	10 05 19.6	-0.1
	baz=106							
K59A	Cooperstown	29.27	302	P	P	P	10 05 20.7	+0.8
	baz=100							
L59A	Walton	29.31	301	P	P	P	10 05 20.9	+0.6
	baz=99,SNR=5.6							
L59A	Walton	29.31	301	P	P	P	10 05 20.1	-0.2
L59A				IAmb	IAmb	IAmb	10 05 22.7	
	comp=Z,48nm,1.1s							
O60A	Telford	29.33	297	P	P	P	10 05 22.0	+1.6
	baz=96							
P60A	Greenville	29.46	296	P	P	P	10 05 22.7	+1.1
	baz=95							
M59A	Waymart	29.50	299	P	P	P	10 05 23.3	+1.4
	baz=98							
I58A	Old Forge	29.54	304	P	P	P	10 05 23.8	+1.5
	baz=102							
N59A	State Game Lan	29.67	298	P	P	P	10 05 24.6	+1.1
	baz=96							
SCHQ	Schefferville	29.68	329	LR	LR	LR	10 16 32.2	
	comp=Z,951nm,18.8s,baz=142,slow=35							
J58A	Remsen	29.70	303	P	P	P	10 05 24.9	+1.2
	baz=101							
D57A	Chemin Vers le	29.70	311	P	P	P	10 05 24.6	+1.0
	baz=109							
L58A	Harry Jones Me	29.88	300	P	P	P	10 05 26.4	+1.1
	baz=98							
BINY	Binghamton	30.00	300	P	P	P	10 05 27.3	+0.9
	baz=98,SNR=6.9							
U61A	Possum Corner	30.00	289	P	P	P	10 05 27.5	+1.1
	baz=88							
P59A	Jarrettsville	30.05	295	P	P	P	10 05 28.2	+1.3
	baz=94							
I57A	Carthage	30.08	304	P	P	P	10 05 27.9	+0.9
	baz=102							
R60A	Leonardtown, M	30.11	293	P	P	P	10 05 28.1	+0.8
	baz=91							
J57A	Williamstown	30.21	303	P	P	P	10 05 28.7	+0.5
	baz=101							
T60A	Surry	30.22	290	P	P	P	10 05 29.0	+0.7
	baz=89							
M58A	Price's Panora	30.24	299	P	P	P	10 05 29.5	+1.0
	baz=97							
D56A	ZEC Mazanza, M	30.27	310	P	P	P	10 05 29.0	+0.3
	baz=108							
E56A	St. Veronique	30.30	309	P	P	P	10 05 30.4	+1.5
	baz=107							
ORIO	Orleans, Innes	30.32	307	P	P	P	10 05 30.4	+1.3
	baz=104							
N58A	Sunbury	30.37	298	P	P	P	10 05 30.6	+0.9
	baz=96							
N58A	Sunbury	30.37	298	P	P	P	10 05 29.9	+0.2
N58A				IAmb	IAmb	IAmb	10 05 31.6	
	comp=Z,22nm,1.1s							
K57A	Scipio Center	30.47	301	P	P	P	10 05 31.3	+0.8
	baz=99							
R59A	King George, V	30.53	292	P	P	P	10 05 31.9	+0.9
	baz=91							
ESDC	Sonseca Array	30.57	65	P	P	P	10 05 31.4	-0.1
	comp=Z,1.1nm,0.5s,baz=262,slow=8.6,SNR=14							
ESDC				LR	LR	LR	10 15 29.1	
	comp=Z,204nm,18.5s,baz=10.0,slow=32							
ESDC	Sonseca Array	30.57	65	P	P	P	10 05 31.2	-0.3
ESBB	Sonseca Array	30.58	65	P	P	P	10 05 31.2	-0.3
L57A	Andrews Acres	30.61	300	P	P	P	10 05 32.8	+1.0
	baz=98							
H56A	Elgin	30.64	305	P	P	P	10 05 32.3	+0.4
	baz=102							
S59A	Mechanicsville	30.66	292	P	P	P	10 05 32.9	+0.7
	baz=90							
V60A	Jim Taylor Roa	30.69	288	P	P	P	10 05 33.5	+1.0
	baz=87							
P58A	Pank, Wackersv	30.72	295	P	P	P	10 05 33.3	+0.6
	baz=93							
D55A	Sainte-Anne-du	30.73	310	P	P	P	10 05 33.2	+0.4
	baz=107							
M57A	Sunshine Farm,	30.74	299	P	P	P	10 05 33.8	+0.9
	baz=96							
M57A	Sunshine Farm,	30.74	299	P	P	P	10 05 33.5	+0.7
M57A				IAmb	IAmb	IAmb	10 05 34.9	
	comp=Z,30nm,1.1s							
J56A	Wolcott	30.81	302	P	P	P	10 05 34.0	+0.6
	baz=100							
T59A	Double "B" Far	30.88	290	P	P	P	10 05 34.8	+0.7
	baz=88,SNR=5.6							
T59A	Double "B" Far	30.88	290	P	P	P	10 05 35.2	+1.1
T59A				IAmb	IAmb	IAmb	10 05 36.2	
	comp=Z,28nm,1.4s							
E55A	Montcerf-Lytto	30.95	309	P	P	P	10 05 35.6	+0.9
	baz=106							
Q58A	Fox Den Farm,	30.99	294	P	P	P	10 05 35.6	+0.5
	baz=92							
N57A	Milroy	31.00	297	P	P	P	10 05 35.4	+0.2
	baz=95							
O57A	Amberson	31.02	296	P	P	P	10 05 36.1	+0.7
	baz=94,SNR=6.2							
CHGQ	Chibougamau	31.04	316	P	P	P	10 05 35.9

comp=Z,32nm,1.4s
P57A **Homestead Farm** 31.27 295 P P 10 05 38.8 +1.3
baz=92
PLVO **Plevna** 31.30 306 P P 10 05 39.0 +1.2
baz=102
X60A **Albert Glenn T** 31.36 285 P P 10 05 39.6 +1.2
baz=84
V59A **Middlesex** 31.48 288 P P 10 05 40.2 +0.7
baz=86
J55A **Hilton** 31.50 302 P P 10 05 40.1 +0.6
baz=99
M56A **Emporium** 31.54 299 P P 10 05 40.8 +0.9
baz=96
D54A **Lac Fusel, La** 31.54 310 P P 10 05 40.1 +0.2
baz=106
Q57A **Strasburg** 31.56 294 P P 10 05 41.0 +0.8
baz=91
PEMO **Pembroke** 31.56 307 P P 10 05 40.5 +0.4
baz=103
I55A **Frankford** 31.56 304 P P 10 05 40.3 +0.2
baz=100
DELO **Deloro Mine** 31.57 305 P P 10 05 42.9 +2.7
baz=101
N56A **West Decatur** 31.57 298 P P 10 05 41.6 +1.3
baz=94
K55A **Perry** 31.60 301 P P 10 05 41.0 +0.5
baz=98
Y60A **Bolivia** 31.62 284 P P 10 05 41.4 +0.7
baz=83
Y60A **Bolivia** 31.62 284 P P 10 05 41.1 +0.4
R57A **Stanardsville** 31.64 293 P P 10 05 41.4 +0.6
baz=90
T58A **Grand View Acr** 31.66 290 P P 10 05 42.1 +1.1
baz=88
U58A **Oxford** 31.70 289 P P 10 05 42.2 +0.9
baz=87,SNR=6.5
E54A **Lac Daplat, Po** 31.70 308 P P 10 05 41.9 +0.6
baz=104
O56A **Blue Knob Stat** 31.73 296 P P 10 05 42.7 +0.9
baz=93
L55A **Hinsdale** 31.80 300 P P 10 05 43.0 +0.7
baz=96
X59A **McDuffie Farm,** 31.88 286 P P 10 05 44.1 +1.1
baz=84
BANO **Bancroft** 31.89 305 P P 10 05 43.6 +0.6
baz=101
P56A **Dayton Farm, R** 31.91 295 P P 10 05 43.9 +0.7
baz=92
M55A **Ridgway** 31.97 299 P P 10 05 44.5 +0.7
baz=95
S57A **Dark Hollow, R** 31.98 292 P P 10 05 44.3 +0.5
baz=89
E53A **Dumoine, Ponti** 32.01 308 P P 10 05 44.1 0.0
baz=104
G54A **Lake Saint Pet** 32.08 306 P P 10 05 45.0 +0.4
baz=102
N55A **Marion Center** 32.09 297 P P 10 05 45.9 +1.1
baz=94
J54A **Appleton** 32.09 302 P P 10 05 46.0 +1.2
baz=98
Y59A **Loris** 32.16 284 P P 10 05 46.6 +1.1
baz=83,SNR=6.4
Y59A **Loris** 32.16 284 P P 10 05 44.7 -0.8
Q56A **Snyder Ridge,** 32.16 294 P P 10 05 47.2 +1.7
baz=91
Q56A **Snyder Ridge,** 32.16 294 P P 10 05 45.6 +0.1
Q56A IAmb IAmb 10 05 52.2
comp=Z,44nm,1.3s
ALGO **Algonquin Park** 32.17 307 P P 10 05 46.1 +0.6
baz=103
V58A **Windy Hill, Pi** 32.19 288 P P 10 05 46.5 +0.7
baz=86
D53A **Lac Vacive, Po** 32.21 309 P P 10 05 46.4 +0.6
baz=105
T57A **Hurt** 32.24 290 P P 10 05 47.5 +1.4
baz=88
DRWO **Darlington Wes** 32.25 303 P P 10 05 47.2 +1.1
baz=99
LSQQ **Lebel-sur-Quev** 32.32 313 P P 10 05 47.1 +0.4
baz=109
R56A **Bull Pasture M** 32.33 293 P P 10 05 48.1 +1.1
baz=90
U57A **Blanch** 32.33 289 P P 10 05 47.7 +0.7
baz=87,SNR=6.0
W58A **Raeford** 32.35 286 P P 10 05 48.3 +1.2
baz=84,SNR=5.2
G53A **Haliburton** 32.39 305 P P 10 05 48.1 +0.7
baz=101
L54A **Sinclairville** 32.46 300 P P 10 05 48.6 +0.6
baz=96
S56A **Natural Bridge** 32.47 291 P P 10 05 49.5 +1.3
baz=88
STCO **Saint Catharin** 32.47 302 P P 10 05 49.4 +1.3
baz=98
X58A **Rowland** 32.48 286 P P 10 05 49.7 +1.4
baz=84
M54A **Oil Creek Stat** 32.65 299 P P 10 05 51.0 +1.3
baz=94
E52A **Mattawa** 32.66 307 P P 10 05 50.3 +0.6
baz=103
P55A **Reedsville** 32.67 295 P P 10 05 51.0 +1.1
baz=91,SNR=5.1
MCWV **Mont Chateau** 32.69 295 P P 10 05 51.6 +1.5
baz=91
V57A **Coltrane Farms** 32.72 288 P P 10 05 51.3 +0.9
baz=86,SNR=5.4
Y58A **Scranton** 32.83 284 P P 10 05 52.3 +1.0
baz=83,SNR=5.6
Y58A **Scranton** 32.83 284 P P 10 05 52.1 +0.8
N54A **Moraine State** 32.86 297 P P 10 05 51.8 +0.2
baz=93
T56A **Rocky Mt** 32.86 290 P P 10 05 52.8 +1.2
baz=87,SNR=8.1
Q55A **Buckhannon** 32.86 294 P P 10 05 53.0 +1.4
baz=90,SNR=5.7
W57A **Gilead** 32.96 287 P P 10 05 53.6 +1.1
baz=84,SNR=10.0
W57A **Gilead** 32.96 287 P P 10 05 53.4 +1.0
BUKO **Buck Lake** 32.99 306 P P 10 05 53.3 +0.7
baz=101
F52A **Sundridge** 33.01 306 P P 10 05 53.2 +0.4
baz=101
Z58A **St. Stephen** 33.02 283 P P 10 05 54.2 +1.1
baz=82
X57A **Johnson Farm,** 33.11 286 P P 10 05 54.9 +1.1
baz=83
O54A **Avella** 33.11 296 P P 10 05 55.0 +1.2
baz=92
L53A **Girard** 33.13 299 P P 10 05 55.1 +1.1
baz=95
BLA **Blacksburg** 33.16 291 P P 10 05 55.2 +0.9
baz=87
BLA **Blacksburg** 33.16 291 P P 10 05 54.5 +0.2
BLA pmax pmax
comp=Z,33nm,1.2s
BLA **Blacksburg** 33.16 291 P P 10 05 54.5 +0.2
BLA IAmb IAmb 10 05 56.8
comp=Z,33nm,1.1s
P54A **Burton** 33.18 295 P P 10 05 55.2 +0.8
baz=91
U56A **King** 33.18 289 P P 10 05 55.0 +0.7
baz=86
S55A **Lewisburg** 33.20 292 P P 10 05 54.8 +0.1
baz=88
E51A **G1948 Merrick** 33.27 308 P P 10 05 55.2 +0.1
baz=102
V56A **Mocksville** 33.31 288 P P 10 05 56.5 +0.9
baz=85,SNR=5.2
V56A **Mocksville** 33.31 288 P P 10 05 55.9 +0.4
D51A **Lot 18 Range I** 33.32 309 P P 10 05 56.0 +0.6
baz=103
BIRD **Birdtown, Kers** 33.39 286 P P 10 05 57.4 +1.2
BIRD IAmb IAmb 10 05 58.5
comp=Z,28nm,1.3s
Y57A **Sumter** 33.41 285 P P 10 05 57.5 +1.1
baz=82
Y57A **Sumter** 33.41 285 P P 10 05 56.6 +0.1
Y57A IAmb IAmb 10 05 58.6
comp=Z,40nm,1.1s
158A **Hollywood** 33.43 282 P P 10 05 58.0 +1.5
baz=81
F51A **Arnstein** 33.44 307 P P 10 05 57.2 +0.7
baz=101
W56A **Indian Trail** 33.44 287 P P 10 05 57.6 +1.0
baz=84,SNR=5.9
Q54A **Coxs Mills** 33.45 294 P P 10 05 58.0 +1.3
baz=90
Q54A **Coxs Mills** 33.45 294 P P 10 05 58.3 +1.6
Q54A IAmb IAmb 10 05 59.6
comp=Z,23nm,1.1s
CLWO **Collingwood** 33.45 304 P P 10 05 57.5 +0.8
baz=98
N53A **Lisbon** 33.49 297 P P 10 05 58.5 +1.4
baz=92,SNR=5.8
N53A **Lisbon** 33.49 297 P P 10 05 57.9 +0.8
R54A **Victor** 33.58 292 P P 10 05 58.8 +0.9
baz=88
D50A **G1974 Best Tow** 33.65 309 P P 10 05 58.1 -0.3
baz=103
U55A **TA2, Sparta** 33.70 289 P P 10 06 00.3 +1.2
baz=86
O53A **New Philadelph** 33.76 296 P P 10 06 00.5 +1.1
baz=91,SNR=5.3
Z57A **Bowman** 33.77 284 P P 10 06 00.4 +0.8
baz=81
S54A **Dingess, Beckl** 33.84 292 P P 10 06 00.9 +0.7
baz=88
P53A **Whipple** 33.88 295 P P 10 06 01.2 +0.7
baz=90,SNR=5.6
P53A **Whipple** 33.88 295 P P 10 06 01.8 +1.3
P53A IAmb IAmb 10 06 02.4
comp=Z,42nm,1.2s
X56A **White Oak** 33.88 286 P P 10 06 00.8 +0.4
baz=83
I51A **Listowel** 33.88 303 P P 10 06 01.4 +1.0
baz=97
V55A **Taylorsville** 33.89 288 P P 10 06 01.3 +0.8
baz=85
Q53A **Leroy** 33.99 294 P P 10 06 02.6 +1.2
baz=89
KMSC **Kings Mountain** 34.05 287 P P 10 06 03.3 +1.3
baz=84
KMSC **Kings Mountain** 34.05 287 P P 10 06 03.2 +1.2
T54A **Tazewell** 34.09 290 P P 10 06 03.5 +1.1
baz=86,SNR=6.2
JSC **Jenkinsville** 34.09 285 P P 10 06 03.2 +0.8
JSC pmax pmax
comp=Z,10.0nm,1.1s
JSC **Jenkinsville** 34.09 285 P P 10 06 03.1 +0.8
K51A **Iona Station** 34.12 301 P P 10 06 02.8 +0.3
baz=95
N52A **McGinn's Farm,** 34.13 297 P P 10 06 03.9 +1.2
baz=92
O52A **Adamsville** 34.23 296 P P 10 06 04.6 +1.1
baz=91,SNR=6.5
O52A **Adamsville** 34.23 296 P P 10 06 02.7 -0.8
BRCO **Bruce Peninsul** 34.24 303 P P 10 06 04.6 +1.1
baz=97
Z56A **Williston** 34.31 284 P P 10 06 05.8 +1.5
baz=81
Z56A **Williston** 34.31 284 P P 10 06 04.2 -0.1
U54A **Nelsons Funny** 34.32 289 P P 10 06 05.4 +0.9
baz=86,SNR=5.6
U54A **Nelsons Funny** 34.32 289 P P 10 06 03.6 -0.8
U54A IAmb IAmb 10 06 06.5
comp=Z,22nm,1.1s
R53A **Hurricane** 34.33 293 P P 10 06 05.7 +1.3
baz=88
P52A **Corning** 34.45 295 P P 10 06 06.7 +1.2
baz=90
PAULI **Pauline** 34.48 287 P P 10 06 06.0 +0.3
PAULI IAmb IAmb 10 06 08.1
comp=Z,20nm,1.1s
V54A **Nebo** 34.49 288 P P 10 06 07.0 +1.2
baz=84
S53A **Williamson** 34.49 292 P P 10 06 06.9 +1.0
baz=87
156A **Sylvania** 34.53 283 P P 10 06 07.4 +1.3
baz=80
M51A **Elyria** 34.53 298 P P 10 06 07.4 +1.3
baz=92
Q52A **Bidwell** 34.56 294 P P 10 06 07.3 +0.9
baz=89,SNR=7.0
Y55A **Saluda** 34.63 285 P P 10 06 07.9 +0.9
baz=82
W54A **Cherokee Point** 34.75 287 P P 10 06 08.7 +0.6
baz=83
O51A **Pataskala** 34.82 296 P P 10 06 09.3 +0.7
baz=90,SNR=6.1
T53A **Wise** 34.86 290 P P 10 06 09.6 +0.5
baz=86
R52A **Catlettsburg** 34.88 293 P P 10 06 09.7 +0.6
baz=88
PLIO **Pelee Island,** 34.88 299 P P 10 06 09.7 +0.5
baz=93
U53A **Fall Branch** 34.94 289 P P 10 06 10.5 +0.7
baz=85,SNR=6.4
D48A **Paudash Townsh** 34.96 308 P P 10 06 10.3 +0.6
baz=101
X54A **Belton** 34.97 286 P P 10 06 10.4 +0.4
baz=82
658A **Bunnell** 35.00 277 P P 10 06 11.4 +1.1
baz=76
L50A **Kingsville** 35.03 299 P P 10 06 10.9 +0.5
baz=93
E48A **Lockeyer** 35.08 307 P P 10 06 11.4 +0.7
baz=100
ACSO **Alum Creek Sta** 35.11 296 P P 10 06 11.9 +0.8
baz=90,SNR=5.8
ACSO **Alum Creek Sta** 35.11 296 P P 10 06 11.6 +0.5
P51A **Williamsport** 35.17 295 P P 10 06 12.4 +0.7
baz=89,SNR=5.9
P51A **Williamsport** 35.17 295 P P 10 06 11.8 +0.1
M50A **Fremont** 35.18 298 P P 10 06 12.3 +0.6
baz=92
V53A **Saluda** 35.20 288 P P 10 06 12.9 +1.0
baz=84,SNR=5.2
V53A **Saluda** 35.20 288 P P 10 06 12.8 +0.9
T52A **Hallie** 35.21 291 P P 10 06 12.5 +0.4
baz=86
N50A **Nevada** 35.24 297 P P 10 06 13.0 +0.7
baz=91
S52A **Salyersville** 35.25 292 P P 10 06 13.1 +0.8
baz=86
F48A **Evansville** 35.28 306 P P 10 06 12.9 +0.4
baz=98
Y54A **Tignall** 35.32 285 P P 10 06 14.0 +1.0
baz=81,SNR=6.4
155A **Kite** 35.34 283 P P 10 06 14.4 +1.3
baz=80,SNR=5.6
BG3 **Lake Jocassee** 35.37 287 P P 10 06 14.5 +1.0
Q51A **Peebles** 35.40 294 P P 10 06 14.9 +1.2
baz=88
Q51A **Peebles** 35.40 294 P P 10 06 13.2 -0.5
Q51A IAmb IAmb 10 06 15.6
comp=Z,27nm,1.1s
255A **Hazlehurst** 35.48 282 P P 10 06 15.7 +1.4
baz=79
W53A **Cullowhee** 35.54 287 P P 10 06 16.1 +1.1
baz=83,SNR=6.9
Z54A **Sparta** 35.55 284 P P 10 06 15.9 +1.0
baz=80,SNR=6.7
K49A **Clarkson** 35.55 300 P P 10 06 15.7 +0.8
baz=94
U52A **Thorn Hill** 35.58 289 P P 10 06 15.7 +0.5
baz=85
O50A **Cable** 35.60 296 P P 10 06 16.0 +0.7
baz=90
R51A **Hillsboro** 35.62 293 P P 10 06 16.5 +1.0
baz=87,SNR=8.9
S51A **Beattyville** 35.66 292 P P 10 06 16.5 +0.7
baz=86
S51A **Beattyville** 35.66 292 P P 10 06 16.6 +0.8
AAM **Ann Arbor** 35.68 300 P P 10 06 17.0 +1.1
baz=93
AAM **Ann Arbor** 35.68 300 P P 10 06 16.8 +0.8
AAM pmax pmax
comp=Z,66nm,1.4s
AAM **Ann Arbor** 35.68 300 P P 10 06 16.8 +0.8
TZTN **Tazewell** 35.71 290 P P 10 06 17.4 +1.1
baz=85,SNR=6.6
TZTN **Tazewell** 35.71 290 P P 10 06 16.5 +0.2
TZTN IAmb IAmb 10 06 18.4
comp=Z,38nm,1.2s
X53A **Estanollee** 35.74 286 P P 10 06 18.0 +1.4
baz=82
P50A **Jamestown** 35.74 295 P P 10 06 17.6 +1.0
baz=89,SNR=6.7
L49A **Milan** 35.75 299 P P 10 06 17.2 +0.6
baz=92
D47A **Chapleau** 35.81 308 P P 10 06 17.7 +0.6
baz=100
V52A **Sevierville** 35.81 289 P P 10 06 17.8 +0.6
baz=84
E47A **Iron Bridge** 35.83 307 P P 10 06 17.8 +0.6
baz=99
J48A **Bridge Port** 35.83 301 P P 10 06 18.0 +0.7
baz=94
154A **Montrose** 35.87 283 P P 10 06 18.4 +0.7
baz=80
Q50A **Georgetown** 35.90 294 P P 10 06 18.2 +0.3
baz=88
T51A **Gray** 35.99 290 P P 10 06 19.4 +0.6
baz=85,SNR=5.5
SDV **Santo Domingo** 36.02 237 eP P 10 06 21.4 +2.0
SDV **Santo Domingo** 36.02 237 eP P 10 06 21.4 +2.0
SDV **Santo Domingo** 36.02 237 P P 10 06 20.0 +0.6
SDV IAmb IAmb 10 06 29.6
comp=Z,45nm,1.1s
N49A **Columbus Grove** 36.03 297 P P 10 06 18.9 -0.1
baz=90
GOGA **Godfrey** 36.03 284 P P 10 06 20.3 +1.1
baz=80,SNR=9.6
GOGA **Godfrey** 36.03 284 P P 10 06 20.0 +0.9
GOGA pmax pmax
comp=Z,42nm,1.4s
GOGA **Godfrey** 36.03 284 P P 10 06 20.0 +0.9
GOGA IAmb IAmb 10 06 22.2
comp=Z,42nm,1.4s
K48A **Perry** 36.04 300 P P 10 06 19.7 +0.6
baz=93
G47A **Hillman** 36.06 304 P P 10 06 20.0 +0.8
baz=96
Y53A **Monroe** 36.06 285 P P 10 06 20.5 +1.2
baz=81,SNR=6.6
656A **Willston** 36.09 277 P P 10 06 20.8 +1.2
baz=75
U51A **La Follette** 36.10 290 P P 10 06 20.4 +0.7
baz=84
Z53A **Monticello** 36.14 284 P P 10 06 20.9 +0.9
baz=80,SNR=11
Q49A **Covington** 36.15 296 P P 10 06 19.4 -0.6
O49A IAmb IAmb 10 06 21.6
comp=Z,42nm,1.1s
254A **Abbeville** 36.15 282 P P 10 06 20.9 +0.8
baz=78
W52A **Murphy** 36.17 287 P P 10 06 20.7 +0.4
baz=82
W52A **Murphy** 36.17 287 P P 10 06 19.2 -1.1
455A **Stateville** 36.18 280 P P 10 06 21.7 +1.3
baz=77
R50A **Paris** 36.20 293 P P 10 06 21.5 +1.0
baz=87,SNR=8.1
R50A **Paris** 36.20 293 P P 10 06 21.4 +0.9
R50A IAmb IAmb 10 06 22.7
comp=Z,29nm,1.1s
X52A **Dahlonega** 36.21 287 P P 10 06 21.2 +0.5
baz=82
L48A **N Adams** 36.24 299 P P 10 06 21.7 +1.0
baz=92,SNR=5.3
H47A **Mio** 36.24 303 P P 10 06 20.9 +0.1
baz=95
S50A **Richmond** 36.30 292 P P 10 06 22.5 +1.2
baz=86,SNR=8.2
I47A **Gladwin** 36.41 302 P P 10 06 22.8 +0.6
baz=94
D46A **Sault St. Mari** 36.41 307 P P 10 06 22.5 +0.3
baz=99
V51A **Loudon** 36.43 289 P P 10 06 23.6 +1.1
baz=83,SNR=8.3
V51A **Loudon** 36.43 289 P P 10 06 23.1 +0.6
V51A IAmb IAmb 10 06 24.6
comp=Z,22nm,0.9s
M48A **Edgerton** 36.44 298 P P 10 06 22.8 +0.2
P49A **Miami Univ. Ec** 36.45 295 P P 10 06 23.5 +0.8
baz=88
Y52A **Lilburn** 36.45 285 P P 10 06 23.5 +0.8
baz=81
TIGA **Tifton** 36.50 281 P P 10 06 23.9 +0.8
baz=78
FRB **Frobisher Bay** 36.55 339 P P 10 06 22.7 -0.4
comp=Z,29nm,0.9s,baz=139,slow=8.7,SNR=7.3
J47A **Sunmer** 36.58 301 P P 10 06 24.3 +0.6
baz=93
SOCV **Socops** 36.59 237 eP P 10 06 23.8 -0.2
SOCV **Socops** 36.59 237 eP P 10 06 23.8 -0.2
Q49A **Aurora** 36.61 294 P P 10 06 24.8 +0.8
baz=87,SNR=9.6
N48A **Decatur** 36.67 297 P P 10 06 24.6 +0.1
baz=90
K47A **Vermontville** 36.69 300 P P 10 06 24.8 +0.2
baz=92
454A **Quitman** 36.69 280 P P 10 06 25.7 +0.9
baz=77
T50A **Nancy** 36.70 291 P P 10 06 25.8 +1.1
baz=85,SNR=9.8
U50A **Jamestown** 36.76 290 P P 10 06 26.2 +0.8
baz=84,SNR=6.5
W51A **Cleveland** 36.84 288 P P 10 06 26.7 +0.7
baz=82,SNR=6.0
Z52A **Williamson** 36.86 284 P P 10 06 27.7 +1.6
baz=80,SNR=9.7
S49A **Springfield** 36.99 292 P P 10 06 28.1 +0.8
baz=86
X51A **Calhoun** 37.00 287 P P 10 06 28.3 +0.9
baz=82
P48A **Milroy** 37.00 295 P P 10 06 27.5 +0.1
baz=88
353A **Camilla** 37.05 281 P P 10 06 28.9 +1.1
baz=78
V50A **Pikevile** 37.05 288 P P 10 06 28.9 +1.1
baz=83,SNR=6.7
PTGA **Pitinga** 37.17 213 P P 10 06 29.0 +0.1
comp=Z,7.5nm,0.8s,baz=29,slow=8.6,SNR=10.0
152A **Waverly Hall** 37.20 284 P P 10 06 30.0 +0.9
baz=79
453A **Whigham** 37.24 280 P P 10 06 30.2 +0.8
baz=77
T49A **Edmonton** 37.24 291 P P 10 06 30.3 +0.9
baz=84
T49A **Edmonton** 37.24 291 P P 10 06 30.1 +0.7
Q48A **North Vernon** 37.26 294 P P 10 06 30.4 +0.8
baz=87
Y51A **Rockmart** 37.27 286 P P 10 06 30.6 +0.9
baz=80
W50A **Signal Mountai** 37.28 288 P P 10 06 30.5 +0.7
baz=82
W50A **Signal Mountai** 37.28 288 P P 10 06 30.1 +0.3
252A **Lumpkin** 37.34 282 P P 10 06 31.7 +1.4
baz=78,SNR=6.4
Z51A **Franklin** 37.46 285 P P 10 06 32.1 +0.8
baz=80
U49A **Red Boiling Sp** 37.50 290 P P 10 06 32.5 +0.9
baz=84,SNR=7.3
352A **Blakely** 37.61 282 P P 10 06 33.9 +1.3
baz=77
FPAL **Fort Paine** 37.62 287 P P 10 06 30.8 -1.9
V49A **McMinnville** 37.69 289 P P 10 06 34.1 +0.9
baz=83,SNR=10.0
WCI **Wyandotte Cave** 37.75 293 P P 10 06 34.5 +0.8
baz=86
WCI **Wyandotte Cave** 37.75 293 P P 10 06 34.0 +0.3
WCI pmax pmax
comp=Z,22nm,1.1s
WCI **Wyandotte Cave** 37.75 293 P P 10 06 34.0 +0.3
SWET **Sewanee** 37.78 288 P P 10 06 34.5 +0.4
CLTN **Cedars of Leba** 37.99 289 P P 10 06 36.2 +0.5
CLTN IAmb IAmb 10 06 38.0
comp=Z,23nm,1.1s
W49A **Belvidere** 38.06 288 P P 10 06 37.2 +0.9
baz=82,SNR=10
Z50A **Ashland** 38.09 285 P P 10 06 36.9 +0.3
baz=79
SFIN **Lafayette** 38.25 296 P P 10 06 38.0 +0.1
baz=88
SFIN **Lafayette** 38.25 296 P P 10 06 36.5 -1.4
SFIN IAmb IAmb 10 06 39.7
comp=Z,34nm,0.9s
P46A **Rosedale** 38.37 295 P P 10 06 39.6 +0.7
baz=87
Y49A **Blount Mountai** 38.38 286 P P 10 06 40.3 +1.2
baz=80,SNR=5.8
V48A **Smith Brothers** 38.43 289 P P 10 06 40.7 +1.2
baz=82,SNR=8.1
T47A **Sharon Grove** 38.51 291 P P 10 06 40.6 +0.6
baz=84
PAMC **Pamplona, Colo** 38.56 238 eP P 10 06 42.6 +1.4
PAMC **Pamplona, Colo** 38.56 238 eP P 10 06 42.6 +1.4
SMLC **San Martn de** 38.60 241 eP P 10 06 40.9 -0.1
SMLC **San Martn de** 38.60 241 eP P 10 06 40.9 -0.1
250A **Grady** 38.62 283 P P 10 06 42.0 +0.9
baz=78,SNR=5.8

SJCC San Jacinto, C 38.73 244 *e*P **P 10 06 42.6 +0.4**
SJCC San Jacinto, C 38.73 244 *e*P **P 10 06 42.6 +0.4**
X48A Hartselle 38.80 287 P **P 10 06 43.5 +0.9**
baz=80,SNR=6.0
L44A Lake County Fo 38.83 299 P **P 10 06 43.2 +0.5**
baz=90
USIN University of 38.85 293 P **P 10 06 42.9 -0.1**
USIN IAmb IAmb 10 06 44.9
comp=Z,46nm,1.2s
LRAL Lakeview Retre 39.01 285 P **P 10 06 45.5 +1.1**
baz=79,SNR=7.0
LRAL Lakeview Retre 39.01 285 P **P 10 06 42.2 -2.1**
F42A Maple Grove Fa 39.11 305 P **P 10 06 45.5 +0.5**
baz=94
OLIL Olney 39.12 294 P **P 10 06 45.3 +0.1**
OLIL IAmb IAmb 10 06 47.2
comp=Z,36nm,1.2s
WVT Waverly 39.19 290 P **P 10 06 46.7 +0.9**
baz=82
WVT Waverly 39.19 290 P **P 10 06 45.0 -0.8**
WVT pmax pmax
comp=Z,21nm,1.1s
WVT Waverly 39.19 290 P **P 10 06 45.0 -0.8**
SENIN Lac Senin/Sane 39.31 54 P **P 10 06 47.0 0.0**
D41A Chassel 39.51 307 P **P 10 06 48.8 +0.5**
baz=95
PLAL Pickwick Lake 39.55 288 P **P 10 06 49.7 +0.9**
PLAL IAmb IAmb 10 06 51.1
comp=Z,35nm,1.1s
I42A Draeger Farm, 39.58 302 P **P 10 06 49.8 +0.8**
baz=91
RUSC La Rusia 39.83 237 *e*P **P 10 06 54.0 +2.1**
RUSC La Rusia 39.83 237 *e*P **P 10 06 54.0 +2.1**
HDIL Hopedale 39.92 297 P **P 10 06 52.6 +0.7**
baz=87
ZARC Zaragoza, Cauc 40.04 240 *e*P **P 10 06 54.0 +1.0**
ZARC Zaragoza, Cauc 40.04 240 *e*P **P 10 06 54.0 +1.0**
S44A Carbondale 40.13 292 P **P 10 06 54.7 +1.1**
baz=83
BFO Black Forest 40.20 51 *c*e**P P 10 06 54.8 +0.7**
BFO Black Forest 40.20 51 P **P 10 06 53.9 -0.2**
PTBC PUERTO BERRIO, 40.38 239 *e*P **P 10 06 54.9 -1.0**
PTBC PUERTO BERRIO, 40.38 239 *e*P **P 10 06 54.9 -1.0**
LNXT Lenox 40.52 290 P **P 10 06 55.9 -1.0**
G40A Rib Lake 40.53 304 P **P 10 06 57.8 +0.9**
baz=92
JFWS Jewell Farm 40.55 300 P **P 10 06 57.8 +0.8**
baz=89
JFWS Jewell Farm 40.55 300 P **P 10 06 57.8 +0.8**
JFWS pmax pmax
comp=Z,40nm,1.0s
JFWS Jewell Farm 40.55 300 P **P 10 06 57.8 +0.8**
JFWS IAmb IAmb 10 06 58.5
comp=Z,40nm,1.0s
OXF Oxford 40.72 288 P **P 10 06 59.2 +0.7**
baz=80
TUE Stuetta 40.74 54 P **P 10 06 59.2 +0.4**
SUMG Summit 40.92 1 *i*P **P 10 06 59.8 -0.4**
SUMG Summit 40.92 1 *i*P **P 10 06 59.8 -0.4**
SUMG Summit 40.92 1 P **P 10 06 59.2 -1.0**
SUMG IAmb IAmb 10 07 01.1
comp=Z,38nm,1.3s
GNAR Gosnell 40.97 290 P **P 10 06 59.4 -1.2**
FVM French Village 41.02 293 P **P 10 07 01.0 0.0**
FVM pmax pmax
comp=Z,41nm,1.2s
FVM French Village 41.02 293 P **P 10 07 01.0 0.0**
FVM IAmb IAmb 10 07 02.7
comp=Z,41nm,1.2s
DAVOX Davos/Dischmat 41.12 54 P **P 10 07 02.8 +0.9**
comp=Z,12nm,0.7s,baz=298,slow=11,SNR=16
DAVA Damuels 41.15 53 *i*pP **P 10 07 02.9 +0.8**
comp=Z,23nm,0.8s
PBMO Poplar Bluff 41.18 291 P **P 10 07 02.2 -0.1**
PBMO IAmb IAmb 10 07 03.9
comp=Z,45nm,1.4s
G39A Holcombe 41.22 304 P **P 10 07 03.2 +0.6**
baz=91
L40A Anamosa 41.30 299 P **P 10 07 03.7 +0.5**
baz=87,SNR=5.5
L40A Anamosa 41.30 299 P **P 10 07 01.6 -1.6**
L40A IAmb IAmb 10 07 04.9
comp=Z,52nm,1.1s
KEST Kesra 41.32 70 P **P 10 07 03.3 -0.3**
comp=Z,14nm,1.1s,baz=358,slow=1.9,SNR=3.7
KEST LR LR 10 21 24.0
comp=Z,284nm,20.7s,baz=184,slow=32
HELC Santa Helena 41.40 240 *e*P **P 10 07 05.5 +0.7**
HELC Santa Helena 41.40 240 *e*P **P 10 07 05.5 +0.7**
ROSC El Rosal 41.45 237 LR LR 10 22 56.4
comp=Z,447nm,21.1s,baz=20,slow=34
TIC Toumodi 41.48 119 *e*PKP1 **P 10 07 04.7 -0.3**
VILC Villavicencio, 41.51 235 *e*P **P 10 07 05.8 +0.4**
VILC Villavicencio, 41.51 235 *e*P **P 10 07 05.8 +0.4**
E38A The Farm, Brul 41.53 306 P **P 10 07 05.1 0.0**
baz=92
EYMN Ely 41.56 308 P **P 10 07 05.3 0.0**
baz=94
DBIC Dimbokro 41.59 119 P **P 10 07 05.9 +0.1**
comp=Z,9.8nm,1.0s,baz=285,slow=7.8,SNR=5.8
DBIC LR LR 10 21 48.1
comp=Z,681nm,21.6s,slow=32
DBIC Dimbokro 41.59 119 P **P 10 07 05.8 -0.1**
DBIC IAmb IAmb 10 07 06.7
comp=Z,36nm,1.4s
CCM Cathedral Cave 41.65 293 P **P 10 07 06.4 +0.3**
baz=83
CCM Cathedral Cave 41.65 293 P **P 10 07 06.0 -0.1**
CCM pmax pmax
comp=Z,28nm,1.4s
CCM Cathedral Cave 41.65 293 P **P 10 07 06.0 -0.1**
FETA Feichten 41.71 53 *i*P **P 10 07 03.8 -2.9**
comp=Z,15nm,1.0s
LIC Lamto 41.75 120 *e*PKP1 **P 10 07 06.8 -0.4**
comp=Z,146nm,1.5s
RETA Reutte 41.76 53 *i*P **P 10 07 06.4 -0.7**
comp=Z,22nm,1.1s
ZCCA Zocca 41.84 57 P **P 10 07 07.3 -0.3**
ZCCA IAmb IAmb 10 07 23.6
comp=Z,32nm,1.0s
LCAR Lake Charles 41.86 290 P **P 10 07 07.9 0.0**
LCAR IAmb IAmb 10 07 09.2
comp=Z,30nm,1.1s
KIC Kosan Boka 41.88 119 *e*PKP1 **P 10 07 07.9 -0.3**
comp=Z,61nm,1.1s
GUVC San Jose del G 41.90 233 *e*P **P 10 07 07.2 -1.2**
GUVC San Jose del G 41.90 233 *e*P **P 10 07 07.2 -1.2**
GUY2C Guyana, Caldas 41.93 238 *e*P **P 10 07 09.0 -0.3**
GUY2C *e*P **P 10 07 11.6 +2.4**
GUY2C Guyana, Caldas 41.93 238 *e*P **P 10 07 09.0 -0.3**
GUY2C *e*P **P 10 07 11.6 +2.4**
CBOC Ciudad Bolivar 41.97 240 *e*P **P 10 07 10.7 +1.5**
CBOC Ciudad Bolivar 41.97 240 *e*P **P 10 07 10.7 +1.5**
MOTA Moosalm 41.98 53 *i*P **P 10 07 08.5 -0.5**
comp=Z,19nm,1.0s
SQTA Sankt Quirin 42.05 53 *i*pP **P 10 07 10.1 +0.7**
comp=Z,25nm,1.0s
VBMS Vicksburg 42.09 284 P **P 10 07 10.7 +0.9**
baz=77,SNR=6.7
VBMS Vicksburg 42.09 284 P **P 10 07 10.7 +0.9**
VBMS IAmb IAmb 10 07 12.3
comp=Z,54nm,1.1s
WATA Walderalm 42.30 53 *i*pP **P 10 07 12.0 +0.4**
comp=Z,31nm,1.2s
CTI Castel Tesino 42.32 55 P **P 10 07 11.4 -0.3**
CTI pmax pmax
comp=Z,22nm,1.0s
CTI Castel Tesino 42.32 55 P **P 10 07 11.4 -0.3**
CTI IAmb IAmb 10 07 17.5
comp=Z,22nm,1.0s
WTTA Wattenberg 42.34 53 *i*pP **P 10 07 12.4 +0.5**
comp=Z,31nm,1.0s
SPMN Marine on St. 42.37 304 P **P 10 07 12.1 +0.1**
baz=90
SPMN Marine on St. 42.37 304 P **P 10 07 11.4 -0.6**
SPMN IAmb IAmb 10 07 13.4
comp=Z,30nm,1.1s
MGMO Mountain Grove 42.58 292 P **P 10 07 12.8 -0.9**
MGMO IAmb IAmb 10 07 15.3
comp=Z,42nm,1.4s
ORTC Ortega, Tolima 42.75 237 *e*P **P 10 07 14.2 -1.2**
ORTC Ortega, Tolima 42.75 237 *e*P **P 10 07 14.2 -1.2**
SCIA State Center 42.79 299 P **P 10 07 16.1 +0.7**
baz=86
SCIA State Center 42.79 299 P **P 10 07 15.7 +0.3**
SCIA IAmb IAmb 10 07 17.2
comp=Z,57nm,1.0s
PLMC San Jos del P 42.82 239 *e*P **P 10 07 17.8 +1.8**
PLMC San Jos del P 42.82 239 *e*P **P 10 07 17.8 +1.8**
TOA0 Torodi Ar. Sit 42.87 106 P **P 10 07 15.9 -0.4**
TOA0 IAmb IAmb 10 07 17.2
comp=Z,33nm,1.1s
TORD Torodi Ar. Bea 42.87 106 P **P 10 07 15.9 -0.4**
comp=Z,14nm,1.0s,baz=304,slow=5.2,SNR=46
TORD LR LR 10 23 01.3
comp=Z,252nm,22.0s,baz=315,slow=33
TORD Torodi Ar. Bea 42.87 106 P **P 10 07 15.5 -0.8**
W41B Gary Mavity, V 42.89 289 P **P 10 07 16.7 +0.4**
baz=79,SNR=17
W41B Gary Mavity, V 42.89 289 P **P 10 07 16.1 -0.2**
W41B IAmb IAmb 10 07 17.5
comp=Z,31nm,0.9s
WHAR Wooly Hollow 42.90 289 P **P 10 07 15.9 -0.5**
WHAR IAmb IAmb 10 07 17.4
comp=Z,26nm,0.9s
ABTA Abfaltersbach 42.93 54 *i*pP **P 10 07 16.9 +0.3**
comp=Z,31nm,1.0s
MACC Macarena, Meta 43.02 234 *e*P **P 10 07 17.6 0.0**
MACC Macarena, Meta 43.02 234 *e*P **P 10 07 17.6 0.0**
UALR University of 43.04 289 P **P 10 07 17.4 -0.1**
U40A Yellville 43.17 291 P **P 10 07 18.7 +0.1**
baz=80,SNR=8.8
U40A Yellville 43.17 291 P **P 10 07 18.2 -0.4**
U40A IAmb IAmb 10 07 19.9
comp=Z,46nm,1.4s
KONO Kongsberg 43.26 35 *i*P **P 10 07 20.3 +1.4**
KONO pmax pmax
comp=Z,58nm,1.6s
YOTC Yotoco, Valle 43.49 238 *e*P **P 10 07 22.1 +0.7**
YOTC Yotoco, Valle 43.49 238 *e*P **P 10 07 22.1 +0.7**
X40A Basin Creek Fa 43.50 288 P **P 10 07 21.4 +0.2**
baz=78,SNR=9.9
X40A Basin Creek Fa 43.50 288 P **P 10 07 21.0 -0.2**
X40A IAmb IAmb 10 07 22.4
comp=Z,22nm,1.0s
KBA Koelnbreinsper 43.50 53 *i*pP **P 10 07 23.0 +1.7**
comp=Z,28nm,1.7s
CLL Collm 43.51 47 P **P 10 07 21.3 +0.2**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 43.51 47 *e*P **P 10 07 22.0 +0.9**
comp=Z,13nm,0.9s
CLL *e*sP **pwP 10 07 27.0 +0.1**
CLL *e*SS SS 10 17 06.0 +2.2
CLL *e*SSSS 10 17 54.0
CLL Collm 43.51 47 P **P 10 07 21.3 +0.2**
MYKA Terra Mystica 43.70 54 *i*pP **P 10 07 23.2 +0.4**
comp=Z,16nm,1.1s
KHC Kasperske Hory 43.72 50 *d i*P **P 10 07 22.8 -0.1**
KHC pmax pmax
comp=Z,40nm,1.4s
KHC Kasperske Hory 43.72 50 *e*P **P 10 07 23.2 +0.3**
KHC *e*x x 10 07 34.5
KHC Kasperske Hory 43.72 50 P **P 10 07 22.6 -0.2**
Z41A Richland Creek 43.73 287 P **P 10 07 24.0 +0.9**
baz=77,SNR=5.6
Z41A Richland Creek 43.73 287 P **P 10 07 24.1 +1.0**
Z41A IAmb IAmb 10 07 26.2
comp=Z,54nm,1.2s
GEC2 GERESS Array S 43.79 51 P **P 10 07 23.2 -0.3**
GERES GERESS Array B 43.79 51 P **P 10 07 23.9 +0.3**
comp=Z,3.4nm,0.7s,baz=241,slow=4.4,SNR=13
GERES LR LR 10 22 53.2
comp=Z,156nm,19.6s,baz=286,slow=32
GERES GERESS Array B 43.79 51 P **P 10 07 22.9 -0.6**
WLAR White Oak Lake 43.89 287 P **P 10 07 24.8 +0.5**
HHAR Hobbs 44.05 291 P **P 10 07 25.6 0.0**
HHAR IAmb IAmb 10 07 27.8
comp=Z,32nm,1.3s
BRG Berggiesshubel 44.06 48 *e*P **P 10 07 26.5 +1.0**
comp=Z,24nm,1.6s
comp=N,784nm,22.0s
comp=E,480nm,14.1s
comp=Z,2µm,19.0s
MIAR Mount Ida 44.09 289 P **P 10 07 26.3 +0.3**
baz=78,SNR=9.2
MIAR Mount Ida 44.09 289 P **P 10 07 26.1 +0.2**
MIAR pmax pmax
comp=Z,31nm,1.2s
MIAR Mount Ida 44.09 289 P **P 10 07 26.1 +0.2**
MIAR IAmb IAmb 10 07 27.8
comp=Z,30nm,1.2s
W39A Magazine 44.12 290 P **P 10 07 26.4 +0.2**
baz=78,SNR=8.8
W39A Magazine 44.12 290 P **P 10 07 26.3 0.0**
W39A IAmb IAmb 10 07 27.8
comp=Z,45nm,1.2s
MOA Molln 44.14 52 *i*P **P 10 07 25.8 -0.4**
comp=Z,25nm,1.9s
OBKA Obir 44.33 54 *i*pP **P 10 07 27.7 -0.1**
comp=Z,33nm,0.8s
PRU Pruhonice 44.39 49 *e*P **P 10 07 29.4 +1.2**
PRU *e* 10 07 35.2
PRU Pruhonice 44.39 49 *e*P **P 10 07 29.4 +1.2**
PRU *e*x x 10 07 35.2
NOA NORSAR Array B 44.44 33 P **P 10 07 28.4 -0.1**
comp=Z,1.4nm,0.8s,baz=254,slow=7.9,SNR=2.7
AGMN Agassiz Nation 44.50 308 P **P 10 07 29.5 +0.4**
baz=91,SNR=5.9
AGMN Agassiz Nation 44.50 308 P **P 10 07 29.6 +0.5**
AGMN IAmb IAmb 10 07 30.5
comp=Z,23nm,1.1s
ULM Lac du Bonnet 44.57 311 P **P 10 07 28.8 -0.9**
comp=Z,12nm,0.9s,baz=83,slow=7.1,SNR=7.6
ULM LR LR 10 26 07.0
comp=Z,341nm,19.3s,baz=38,slow=36
ULM Lac du Bonnet 44.57 311 P **P 10 07 28.6 -1.1**
ULM IAmb IAmb 10 07 29.9
comp=Z,19nm,1.0s
SOKA Soboth 44.66 54 *i*pP **P 10 07 30.3 -0.2**
comp=Z,8.7nm,1.0s
ARSA Arzberg 44.99 53 *i*P **P 10 07 32.4 -0.7**
comp=Z,14nm,1.1s
ECSD EROS Data Cent 45.15 302 P **P 10 07 34.6 +0.2**
baz=86,SNR=14
ECSD EROS Data Cent 45.15 302 P **P 10 07 34.3 -0.1**
ECSD IAmb IAmb 10 07 35.4
comp=Z,24nm,1.1s
CONA Conrad Observa 45.21 52 *i*pP **P 10 07 34.7 -0.1**
comp=Z,12nm,1.1s
UPC Upice 45.35 48 *e*P **P 10 07 37.0 +1.1**
UPC Upice 45.35 48 *e*P **P 10 07 37.0 +1.1**
CHVC Chvalec 45.39 48 *e*P **P 10 07 35.1 -1.0**
BBAC Balboa, Cauca 45.49 237 *e*P **P 10 07 36.4 -1.1**
BBAC Balboa, Cauca 45.49 237 *e*P **P 10 07 36.4 -1.1**
DPC Dobruska-Polom 45.55 49 *e*P **P 10 07 38.0 +0.5**
DPC Dobruska-Polom 45.55 49 *e*P **P 10 07 38.0 +0.5**
KRUC Moravsky 45.57 51 *e*P **P 10 07 38.0 +0.4**
TUL1 Leonard 45.59 291 P **P 10 07 37.8 -0.1**
baz=78,SNR=12
TUL1 Leonard 45.59 291 P **P 10 07 37.0 -0.9**
CRUC La Cruz 45.60 236 *e*P **P 10 07 38.8 +0.2**
CRUC La Cruz 45.60 236 *e*P **P 10 07 38.8 +0.2**
NATX Nacogdoches 45.62 285 P **P 10 07 39.3 +1.1**
baz=75
NATX Nacogdoches 45.62 285 P **P 10 07 38.3 +0.1**
KSU1 Kansas State U 45.67 296 P **P 10 07 38.9 +0.4**
baz=81
VRAC Vranov 45.70 50 *e*P **P 10 07 39.5 +0.9**
KRLC Kraliky 45.84 49 *e*P **P 10 07 40.5 +0.8**
KRLC Kraliky 45.84 49 *e*P **P 10 07 40.5 +0.8**
SAML Samuel 45.89 212 P **P 10 07 40.7 +0.3**
SAML pmax pmax
comp=Z,12nm,1.0s
SAML Samuel 45.89 212 P **P 10 07 40.7 +0.3**
TGUH Tegucigalpa,Un 46.13 259 P **P 10 07 41.6 -1.0**
MODS Modra-Piesok 46.16 51 *e*P **P 10 07 42.1 -0.2**
MODS pmax pmax
comp=Z,27nm,1.4s
MODS Modra-Piesok 46.16 51 *e*P **P 10 07 42.1 -0.2**
MORC Moravsky Berou 46.32 50 P **P 10 07 44.0 +0.4**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 46.32 50 *e*P **P 10 07 44.4 +0.8**
MORC Moravsky Berou 46.32 50 P **P 10 07 44.0 +0.4**
JAVC Velka Javorina 46.41 51 *e*P **P 10 07 45.4 +1.1**
BGNE Belgrade 46.52 299 P **P 10 07 45.2 -0.1**
baz=82,SNR=6.3
BGNE Belgrade 46.52 299 P **P 10 07 45.1 -0.1**
H10N2 ASCENSION HYDR 46.55 143 T T 10 57 14.9
baz=329,slow=76,SNR=1499
H10N3 ASCENSION HYDR 46.55 143 T T 10 57 15.2
baz=329,slow=76,SNR=1364
H10N1 ASCENSION HYDR 46.57 143 T T 10 57 16.7
baz=329,slow=76,SNR=1311
SUSD Miller 46.78 303 P **P 10 07 46.9 -0.3**
baz=85
SUSD Miller 46.78 303 P **P 10 07 46.6 -0.6**
TULEG Thule 46.80 351 P **P 10 07 46.6 -0.2**
MDND Maddock 47.01 308 P **P 10 07 48.5 -0.5**
baz=88
MDND Maddock 47.01 308 P **P 10 07 48.1 -0.9**
HKT Hockley 47.08 283 P **P 10 07 48.8 -0.8**
HKT pmax pmax
comp=Z,27nm,1.3s
HKT Hockley 47.08 283 P **P 10 07 48.8 -0.8**
HKT IAmb IAmb 10 07 52.0
comp=Z,27nm,1.3s
VYHS Vyhne 47.19 51 *e*P **P 10 07 51.1 +0.7**
VYHS Vyhne 47.19 51 *e*P **P 10 07 51.1 +0.7**
X34A Smith Ranch, M 47.50 290 P **P 10 07 51.9 -1.1**
OTAV Otavalo 47.59 236 *e*P **P 10 07 55.0 +0.6**
OTAV Otavalo 47.59 236 *e*P **P 10 07 55.0 +0.6**
OTAV Otavalo 47.59 236 P **P 10 07 54.9 +0.6**
OTAV pmax pmax
comp=Z,20nm,1.3s
OTAV Otavalo 47.59 236 P **P 10 07 54.9 +0.6**
OTAV IAmb IAmb 10 08 04.0
comp=Z,20nm,1.2s
BDFB Brasilia 47.64 190 P **P 10 07 55.4 +1.2**
BDFB pmax pmax
comp=Z,9.0nm,1.1s
BDFB Brasilia 47.64 190 P **P 10 07 55.8 +1.6**
comp=Z,2.8nm,0.7s,baz=270,slow=3.0,SNR=2.1
BDFB LR LR 10 25 13.4
comp=Z,278nm,20.7s,baz=37,slow=33
BDFB Brasilia 47.64 190 P **P 10 07 55.4 +1.2**
OJC Ojcow 47.78 49 P **P 10 07 55.6 +0.7**
OJC pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 47.78 49 P **P 10 07 55.6 +0.7**
WHTX Lake Whitney, 47.85 286 P **P 10 07 56.7 +1.0**
baz=74,SNR=11
WHTX Lake Whitney, 47.85 286 P **P 10 07 56.5 +0.8**
U32A Winter Ranch, 48.03 292 P **P 10 07 57.6 +0.5**
KLNR Kaliningrad 48.09 43 ⇑ *i*P **P 10 07 57.1 -0.1**
KLNR pmax pmax
comp=Z,39nm,0.8s
CBKS Cedar Bluff 48.12 296 P **P 10 07 57.7 -0.1**
baz=79,SNR=7.2
CBKS Cedar Bluff 48.12 296 P **P 10 07 57.9 +0.1**
CBKS pmax pmax
comp=Z,15nm,1.0s
CBKS Cedar Bluff 48.12 296 P **P 10 07 57.9 +0.1**
CBKS IAmb IAmb 10 07 58.1
comp=Z,15nm,0.9s
WMOK Wichita Mounta 48.23 290 P **P 10 07 58.5 -0.1**
baz=76
435B Jarrell 48.29 285 P **P 10 08 00.2 +1.1**
baz=73
435B Jarrell 48.29 285 P **P 10 08 00.1 +0.9**
APG El Apazote 48.34 262 LR LR 10 25 07.2
comp=Z,256nm,21.9s,baz=46,slow=32
FFC Flin Flon 48.50 317 P **P 10 08 00.3 -0.1**
FFC pmax pmax
comp=Z,31nm,1.2s
FFC Flin Flon 48.50 317 P **P 10 08 00.3 -0.1**
FFC IAmb IAmb 10 08 01.9
comp=Z,31nm,1.2s
KOLS Kolonicke sedl 49.44 51 *e*P P 10 08 13.5 +5.8
KOLS Kolonicke sedl 49.44 51 *e*P P 10 08 13.5 +5.8
ABTX Abilene, Hawle 49.46 288 P **P 10 08 08.3 +0.1**
baz=74,SNR=8.8
ABTX Abilene, Hawle 49.46 288 P **P 10 08 08.2 +0.1**
UZH Uzhgorod 49.48 51 *e*P **P 10 08 08.5 +0.6**
UZH *e* 10 08 12.2
UZH *i* 10 10 09.1
DGMT Dagmar 50.04 309 P **P 10 08 12.4 0.0**
baz=85
DGMT Dagmar 50.04 309 P **P 10 08 11.4 -0.9**
DGMT IAmb IAmb 10 08 13.8
comp=Z,30nm,1.1s
JCT Junction City 50.20 285 P **P 10 08 14.1 +0.3**
baz=72,SNR=14
JCT Junction City 50.20 285 P **P 10 08 13.7 -0.1**
JCT pmax pmax
comp=Z,51nm,1.1s
JCT Junction City 50.20 285 P **P 10 08 13.7 -0.1**
KSCO Kaye Shedlock' 50.30 297 P **P 10 08 14.4 -0.1**
baz=78,SNR=5.6
KSCO Kaye Shedlock' 50.30 297 P **P 10 08 15.2 +0.6**
RSSD Black Hills 50.44 303 P **P 10 08 15.5 -0.2**
baz=81
RSSD Black Hills 50.44 303 P **P 10 08 15.0 -0.6**
RSSD pmax pmax
comp=Z,14nm,1.5s
RSSD Black Hills 50.44 303 P **P 10 08 15.0 -0.6**
RES Resolute Bay 50.47 344 P **P 10 08 15.5 +0.4**
comp=Z,21nm,1.1s,baz=85,slow=7.9,SNR=13
RES Resolute Bay 50.47 344 P **P 10 08 14.9 -0.2**
RES IAmb IAmb 10 08 16.3
comp=Z,32nm,1.1s
AMTX Amarillo 50.51 291 P **P 10 08 16.7 +0.6**
baz=75
AMTX Amarillo 50.51 291 P **P 10 08 16.1 0.0**
VTS Vitosha 50.87 59 P **P 10 08 18.5 -0.3**
VTS pmax pmax
comp=Z,4.0nm,0.7s
VTS Vitosha 50.87 59 P **P 10 08 18.6 -0.3**
BUR08 Bucovina Ar. S 51.51 52 P **P 10 08 24.3 +0.8**
BURAR Bucovina Array 51.53 52 P **P 10 08 24.1 +0.5**
FINES FINESS Array B 51.57 34 P **P 10 08 23.9 +0.3**
comp=Z,7.8nm,0.9s,baz=305,slow=4.9,SNR=6.6
FINES FINESS Array B 51.57 34 P **P 10 08 23.6 0.0**
FIA1 FINESS Array S 51.58 34 P **P 10 08 24.2 +0.6**
FIA1 IAmb IAmb 10 08 33.8
comp=Z,22nm,1.1s
LAO LASA Array 51.60 307 P **P 10 08 24.2 0.0**
baz=82,SNR=8.8
LAO LASA Array 51.60 307 P **P 10 08 24.2 0.0**
LAO IAmb IAmb 10 08 25.4
comp=Z,23nm,1.0s
MSTX Muleshoe 51.62 290 P **P 10 08 24.4 -0.1**
baz=74,SNR=18
MSTX Muleshoe 51.62 290 P **P 10 08 24.4 -0.1**
VSU Vasula 51.81 38 ⇑ *i*P **P 10 08 27.3 +1.9**
VSU pmax pmax
comp=Z,166nm,2.3s
PHWY Pilot Hill 51.96 300 P **P 10 08 27.0 -0.2**
T25A Trinidad 52.09 295 P **P 10 08 29.0 +0.9**
baz=76,SNR=9.3
T25A Trinidad 52.09 295 P **P 10 08 28.1 0.0**
T25A IAmb IAmb 10 08 30.2
comp=Z,18nm,1.1s
KBS Kingsbay 52.13 11 *i*P **P 10 08 28.9 +1.3**
KBS pmax pmax
comp=Z,56nm,1.2s
Q24A Divide 52.23 297 P **P 10 08 29.7 +0.4**
baz=77
Q24A Divide 52.23 297 P **P 10 08 29.1 -0.1**
Q24A IAmb IAmb 10 08 35.3
comp=Z,21nm,1.5s
ARCES ARCESS Array B 52.29 24 P **P 10 08 30.8 +1.9**
comp=Z,4.0nm,0.9s,baz=254,slow=6.5,SNR=4.9
ARCES ARCESS Array B 52.29 24 P **P 10 08 28.2 -0.7**
MLR Muntele Rosu 52.32 55 P **P 10 08 29.8 +0.1**
MLR pmax pmax
comp=Z,8.0nm,1.1s
MLR Muntele Rosu 52.32 55 P **P 10 08 29.8 +0.1**
ISCO Idaho Springs 52.39 298 P **P 10 08 31.1 +0.7**
baz=77,SNR=9.9
ISCO Idaho Springs 52.39 298 P **P 10 08 30.5 +0.1**
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO Idaho Springs 52.39 298 P **P 10 08 30.5 +0.1**
N23A Red Feather La 52.40 300 P **P 10 08 31.0 +0.5**
baz=78,SNR=14
N23A Red Feather La 52.40 300 P **P 10 08 30.7 +0.2**
N23A IAmb IAmb 10 08 32.9
comp=Z,32nm,1.1s
K22A Casper 52.48 302 P **P 10 08 30.3 -0.6**
baz=79,SNR=6.4
K22A Casper 52.48 302 P **P 10 08 30.0 -0.8**
K22A IAmb IAmb 10 08 31.2
comp=Z,16nm,1.1s

MICGM **Minsk** 52.56 43 *e* P 10 08 33.0 +2.0
MNK **Minsk** 52.56 43 *e*P P 10 08 16.0 -15
SDCO **Great Sand Dun** 52.78 296 P P 10 08 33.7 +0.4
baz=76,SNR=5.3
SDCO **Great Sand Dun** 52.78 296 P P 10 08 33.4 +0.1
RWWY **Rawlins** 53.17 301 P P 10 08 35.3 -0.8
RWWY IAmb IAmb 10 08 36.5
comp=Z,23nm,1.1s
SMCO **Snowmass** 53.56 298 P P 10 08 37.9 -1.3
AKASG **Malin Array Be** 53.74 48 P P 10 08 39.3 -0.5
comp=Z,3.5nm,0.7s,baz=276,slow=6.6,SNR=13
AKASG LR LR 10 30 12.4
comp=Z,257nm,18.0s,baz=290,slow=34
AKASG **Malin Array Be** 53.74 48 P P 10 08 39.1 -0.7
AKBB **Malin Array Si** 53.74 48 P P 10 08 40.0 +0.2
AKBB pmax pmax
comp=Z,30nm,1.4s
AKBB **Malin Array Si** 53.74 48 P P 10 08 40.0 +0.2
AKBB IAmb IAmb 10 08 47.8
comp=Z,30nm,1.4s
TXAR **Lajitas Array** 53.75 285 P P 10 08 40.6 +0.3
comp=Z,10.0nm,1.1s,baz=100,slow=6.6,SNR=35
TXAR LR LR 10 29 49.6
comp=Z,174nm,19.8s,baz=0.0,slow=34
TXAR **Lajitas Array** 53.75 285 P P 10 08 40.2 -0.1
TX32 **Lajitas Array** 53.75 285 P P 10 08 40.2 -0.1
EGMT **Eagleton** 53.78 309 P P 10 08 40.4 +0.1
baz=81,SNR=16
EGMT **Eagleton** 53.78 309 P P 10 08 39.8 -0.5
S22A **4UR Ranch, Cre** 53.80 296 P P 10 08 41.7 +0.9
baz=75,SNR=11
RLMT **Red Lodge** 53.96 305 P P 10 08 42.2 +0.4
baz=79,SNR=13
RLMT **Red Lodge** 53.96 305 P P 10 08 42.5 +0.7
RLMT IAmb IAmb 10 08 42.8
comp=Z,34nm,1.4s
TLIG **Tlapa** 54.03 269 P P 10 08 43.0 +0.4
TLIG IAmb IAmb 10 08 45.7
comp=Z,27nm,1.2s
GCMT **Greycliff** 54.11 306 P P 10 08 42.2 -0.5
ANMO **Albuquerque** 54.27 292 P P 10 08 44.9 +0.7
baz=73
ANMO **Albuquerque** 54.27 292 ⇓*i*P P 10 08 45.5 +1.3
ANMO pmax pmax
comp=Z,16nm,1.7s
ANMO **Albuquerque** 54.27 292 P P 10 08 43.5 -0.7
O20A **White River Ci** 54.28 299 P P 10 08 44.9 +0.7
baz=76,SNR=9.4
O20A **White River Ci** 54.28 299 P P 10 08 43.3 -0.9
O20A IAmb IAmb 10 08 46.0
comp=Z,24nm,1.1s
MNTX **Cornudas Mount** 54.38 288 P P 10 08 45.0 +0.2
baz=71,SNR=16
MNTX **Cornudas Mount** 54.38 288 P P 10 08 44.9 +0.1
LPAZ **La Paz** 54.59 213 P P 10 08 47.6 +0.5
comp=Z,2.1nm,0.7s,baz=44,slow=2.2,SNR=9.8
LPAZ LR LR 10 30 51.1
comp=Z,247nm,19.0s,baz=18,slow=35
LPAZ **La Paz** 54.59 213 P P 10 08 45.6 -1.5
BW06 **Boulder Array** 54.64 303 P P 10 08 46.8 -0.1
baz=77,SNR=40
BW06 **Boulder Array** 54.64 303 P P 10 08 45.9 -0.9
PDAR **Pinedale Array** 54.64 303 P P 10 08 46.5 -0.4
comp=Z,26nm,0.9s,baz=79,slow=7.7,SNR=94
PDAR LR LR 10 31 44.5
comp=Z,764nm,18.3s,baz=77,slow=36
PDAR **Pinedale Array** 54.64 303 P P 10 08 46.2 -0.7
YMP **Mirror Lake Pl** 54.65 305 P P 10 08 46.8 -0.2
LKWY **Lake** 54.86 305 P P 10 08 49.3 +0.9
LKWY pmax pmax
comp=Z,27nm,1.2s
LKWY **Lake** 54.86 305 P P 10 08 49.4 +0.9
LKWY IAmb IAmb 10 08 50.9
comp=Z,27nm,1.1s
Y22D **IRIS PASSCAL I** 54.89 292 P P 10 08 48.3 -0.3
H17A **Grant Village** 55.01 305 P P 10 08 50.4 +0.8
baz=78,SNR=8.0
H17A **Grant Village** 55.01 305 P P 10 08 50.7 +1.2
H17A IAmb IAmb 10 08 57.5
comp=Z,17nm,1.3s
YNR **Norris Junctio** 55.02 305 P P 10 08 49.3 -0.2
YKA **Yellowknife Ar** 55.10 327 P P 10 08 48.5 -1.1
comp=Z,8.9nm,1.1s,baz=90,slow=7.3,SNR=12
YKA LR LR 10 31 34.9
comp=Z,46nm,18.4s,baz=158,slow=35
YHH **Holmes Hill** 55.12 305 P P 10 08 48.4 -2.0
RDMU **Red Mountain** 55.16 300 P P 10 08 49.4 -1.2
FLWY **Flagg Ranch** 55.17 304 P P 10 08 49.9 -0.7
FLWY IAmb IAmb 10 08 57.9
comp=Z,18nm,1.1s
YPP **Pitchstone Pla** 55.20 305 P P 10 08 48.6 -2.4
MVCO **Mesa Verde** 55.22 296 P P 10 08 52.4 +1.3
baz=74,SNR=8.8
MVCO **Mesa Verde** 55.22 296 P P 10 08 48.9 -2.2
MVCO IAmb IAmb 10 08 53.7
comp=Z,32nm,1.4s
YMR **Madison River** 55.23 305 P P 10 08 51.5 +0.4
ZAIG **Zacatecas** 55.23 277 P P 10 08 51.0 -0.4
MOOW **Moose Ponds** 55.27 304 P P 10 08 51.0 -0.4
YHL **Hebgen Lake** 55.34 305 P P 10 08 52.8 +0.9
SNOW **Snow King Moun** 55.34 304 P P 10 08 51.5 -0.4
YHB **Horse Butte** 55.37 305 P P 10 08 51.2 -0.9
IMW **Indian Meadow** 55.38 304 P P 10 08 51.9 -0.3
REDW **Red Top Meadow** 55.43 303 P P 10 08 51.1 -1.5
TPAW **Teton Pass** 55.48 304 P P 10 08 52.9 0.0
TPAW IAmb IAmb 10 08 57.9
comp=Z,21nm,1.1s
BOZ **Bozeman (W)** 55.49 306 P P 10 08 52.6 -0.2
baz=78,SNR=10
QLMT **Earthquake Lak** 55.52 305 P P 10 08 53.3 +0.2
AHID **Auburn Hatcher** 55.75 303 P P 10 08 53.5 -1.3
LRM **Limekiln Ridge** 56.01 307 P P 10 08 52.9 -3.8
121A **Cookes Peak, D** 56.05 290 P P 10 08 58.1 +1.0
baz=71,SNR=9.8
DLMT **Dillon** 56.21 306 P P 10 08 58.2 +0.2
DLMT IAmb IAmb 10 08 59.5
comp=Z,28nm,1.1s
HPIG 56.24 283 P P 10 08 57.8 -0.7
SRU **San Rafael Swe** 56.24 298 P P 10 08 58.0 -0.4
SRU pmax pmax
comp=Z,23nm,1.1s
SRU **San Rafael Swe** 56.24 298 P P 10 08 58.0 -0.4
WALA **Waterton Lakes** 56.32 311 P P 10 08 57.3 -1.4
WALA IAmb IAmb 10 08 59.2
comp=Z,24nm,1.1s
TCUT **Toone Canyon** 56.37 301 P P 10 08 58.2 -1.1
MCMT **McKenzie Canyo** 56.50 306 P P 10 09 00.1 -0.1
JLU **Jordanelle** 56.54 300 P P 10 09 00.4 -0.1
CTU **Camp Tracy** 56.73 301 P P 10 08 60.0 -1.9
Q16A **Castle Valley** 56.78 298 P P 10 09 00.9 -1.3
W18A **Petrified Fore** 56.79 294 P P 10 09 02.9 +0.6
baz=72,SNR=6.0
W18A **Petrified Fore** 56.79 294 P P 10 09 00.7 -1.6
W18A IAmb IAmb 10 09 04.2
comp=Z,28nm,1.4s
MSO **Missoula** 56.80 308 P P 10 09 02.5 +0.4
baz=77,SNR=9.8
MSO **Missoula** 56.80 308 P P 10 08 59.1 -3.0
MSO IAmb IAmb 10 09 04.1
comp=Z,28nm,1.3s
SPUT **South Promonto** 57.08 301 P P 10 09 03.4 -0.9
X18A **Snowflake** 57.14 293 P P 10 09 03.8 -1.0
NLU **North Lily Min** 57.17 300 P P 10 09 04.7 -0.2
OBN **Obninsk** 57.48 42 *e*P P 10 09 07.2 +0.6
OBN *e* 10 10 01.8
OBN *e* 10 11 11.8
OBN pmax pmax
comp=Z,25nm,1.1s
OBN **Obninsk** 57.48 42 P P 10 09 07.1 +0.5
BGU **Big Grassy Mou** 57.61 301 P P 10 09 06.8 -1.2
319A **Douglas** 57.63 289 P P 10 09 08.3 +0.1
319A IAmb IAmb 10 09 10.7
comp=Z,17nm,1.1s
DUG **Dugway, Tooele** 57.65 300 P P 10 09 08.8 +0.5
baz=74,SNR=24
DUG **Dugway, Tooele** 57.65 300 P P 10 09 08.0 -0.3
DUG pmax pmax
comp=Z,31nm,1.1s
DUG **Dugway, Tooele** 57.65 300 P P 10 09 08.0 -0.3
DUG IAmb IAmb 10 09 10.1
comp=Z,31nm,1.1s
MSU **Marysvale** 57.65 298 P P 10 09 08.9 +0.5
MSU **Marysvale** 57.65 298 P P 10 09 08.9 +0.5
MNMC **Minye Minye** 57.74 213 P P 10 09 08.5 -0.6
MNMC IAmb IAmb 10 09 09.6
comp=Z,23nm,1.1s
WUAZ **Wupatki** 57.94 295 P P 10 09 11.5 +1.1
baz=72,SNR=13
WUAZ **Wupatki** 57.94 295 P P 10 09 10.4 0.0
WUAZ IAmb IAmb 10 09 12.9
comp=Z,27nm,1.2s
GO01 **Chusmiza** 58.03 212 P P 10 09 10.7 -0.7
KLMR **Klimovskoe** 58.10 35 *e*P P 10 09 09.7 -1.2
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR **Klimovskoe** 58.10 35 *e*P P 10 09 09.7 -1.2
KLMR AMP 10 09 19.1
comp=Z,19nm,1.4s
PB11 **IPOC Station P** 58.32 213 P P 10 09 11.5 -1.5
X16A **Lo Mia Camp, P** 58.34 293 P P 10 09 13.8 +0.5
X16A IAmb IAmb 10 09 15.9
comp=Z,15nm,1.2s
U15A **North Rim** 58.36 296 P P 10 09 13.2 -0.3
U15A IAmb IAmb 10 09 16.0
comp=Z,20nm,1.2s
C36M **Paulatuk** 58.45 336 P P 10 09 12.7 -0.4
baz=83
TUC **Tucson** 58.52 291 P P 10 09 14.6 +0.2
baz=70
TUC **Tucson** 58.52 291 P P 10 09 13.8 -0.6
TUC pmax pmax
comp=Z,13nm,1.3s
TUC **Tucson** 58.52 291 P P 10 09 13.8 -0.6
TUC IAmb IAmb 10 09 16.4
comp=Z,13nm,1.3s
A36M **Sachs Harbour** 58.55 339 P P 10 09 13.9 +0.1
baz=84
NEW **Newport** 58.57 310 P P 10 09 14.1 -0.4
baz=76,SNR=16
CCUT **Cedar City** 58.83 297 P P 10 09 16.9 +0.2
PSUT **Pine Spring** 58.90 299 P P 10 09 17.5 +0.4
MFID **Camas Ranch** 58.93 305 P P 10 09 15.7 -1.5
BR131 **Keskin Array S** 59.18 60 P P 10 09 18.5 -0.4
BR131 **Keskin Array S** 59.18 60 P P 10 09 18.5 -0.4
BRTR **Keskin Array B** 59.18 60 *i*P P 10 09 20.2 +1.3
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR **Keskin Array B** 59.18 60 P P 10 09 18.8 -0.1
comp=Z,3.1nm,1.0s,baz=288,slow=5.6,SNR=15
BRTR **Keskin Array B** 59.18 60 P P 10 09 18.1 -0.8
ELK **Elko** 59.27 302 P P 10 09 19.1 -0.6
ELK **Elko** 59.27 302 LR LR 10 34 27.6
comp=Z,516nm,18.1s,baz=65,slow=36
ELK **Elko** 59.27 302 P P 10 09 19.1 -0.6
LPSR **Galich'ya Gora** 59.35 44 *e*P P 10 09 21.5 +1.8
LPSR pmax pmax
comp=Z,30nm,0.8s
C09A **Chrisman Ranch** 59.44 310 P P 10 09 19.7 -0.7
C09A IAmb IAmb 10 09 21.1
comp=Z,26nm,1.4s
VSR **Storozhevoye** 59.82 46 *e*P P 10 09 23.8 +0.8
VSR pmax pmax
comp=Z,20nm,1.2s
CPUP **Villa Florida** 59.92 197 P P 10 09 23.2 -0.7
comp=Z,2.5nm,0.9s,baz=44,slow=11,SNR=3.3
CPUP LR LR 10 36 40.6
comp=Z,88nm,18.3s,baz=46,slow=38
CPUP **Villa Florida** 59.92 197 P P 10 09 23.1 -0.7
VORD **Divnogorie** 59.96 46 *e*P P 10 09 25.3 +1.4
VORD pmax pmax
comp=Z,20nm,1.2s
W13A **Hualapai Mount** 60.02 295 P P 10 09 25.8 +0.9
R11A **Troy Canyon, C** 60.25 299 P P 10 09 26.6 +0.2
baz=71,SNR=15
R11A **Troy Canyon, C** 60.25 299 P P 10 09 27.0 +0.6
214A **Organ Pipe Nat** 60.26 291 P P 10 09 27.0 +0.7
baz=69
214A **Organ Pipe Nat** 60.26 291 P P 10 09 25.9 -0.4
214A IAmb IAmb 10 09 29.4
comp=Z,13nm,1.2s
E08A **Dider Farm, El** 60.30 309 P P 10 09 26.1 -0.2
ANN **Anapa** 60.40 53 *e*P P 10 09 25.3 -1.7
ANN pmax pmax
comp=Z,90nm,1.7s
PDMCI **Parker Dam,Lak** 60.48 294 P P 10 09 28.9 +1.0
baz=70
SHPR **Sheep Range** 60.53 297 P P 10 09 28.2 -0.1
SHPR IAmb IAmb 10 09 30.6
comp=Z,12nm,1.3s
G08A **Pilot Rock** 60.57 307 P P 10 09 27.6 -0.8
HAWA **Hanford** 60.64 309 P P 10 09 28.1 -0.6
NEE2 **Needles Airpor** 60.70 295 P P 10 09 30.4 +1.1
baz=70
BMN **Battle Mountai** 60.80 302 P P 10 09 28.7 -1.4
BMN pmax pmax
comp=Z,13nm,1.0s
BMN **Battle Mountai** 60.80 302 P P 10 09 28.7 -1.4
BMN IAmb IAmb 10 09 31.4
comp=Z,13nm,1.0s
E07A **Sunnyside** 60.81 309 P P 10 09 28.6 -1.3
Y12C **Blythe** 60.97 294 P P 10 09 32.3 +1.2
baz=69
C06D **Leavenworth** 61.10 311 P P 10 09 31.6 -0.2
baz=74
LTY **Liberty** 61.15 310 IAmb IAmb 10 09 44.6
comp=Z,9.3nm,1.0s
TPNV **Topopah Spring** 61.21 298 P P 10 09 34.4 +1.4
baz=70,SNR=15
TPNV **Topopah Spring** 61.21 298 P P 10 09 33.0 +0.1
TPNV pmax pmax
comp=Z,26nm,1.2s
TPNV **Topopah Spring** 61.21 298 P P 10 09 33.0 +0.1
IRM **Iron Mountain** 61.31 294 P P 10 09 34.7 +1.2
baz=69,SNR=11
VRH **Novokhopyorsk** 61.38 45 *e*P P 10 09 34.6 +1.0
VRH pmax pmax
comp=Z,20nm,1.1s
GLA **Glamis** 61.46 293 P P 10 09 35.5 +1.0
baz=69
GLA **Glamis** 61.46 293 P P 10 09 35.5 +1.0
GLA pmax pmax
comp=Z,18nm,1.1s
GLA **Glamis** 61.46 293 P P 10 09 35.5 +1.0
GLA IAmb IAmb 10 09 36.8
comp=Z,18nm,1.1s
TUQ **Turquoise Moun** 61.47 296 P P 10 09 35.5 +0.8
baz=70
GMRC **Granite Mounta** 61.49 295 P P 10 09 35.9 +1.1
baz=69,SNR=11
SHOC **Shoshone, Teco** 61.58 297 P P 10 09 36.5 +1.2
baz=70,SNR=6.4
BC3 **Big Chuckawall** 61.73 294 P P 10 09 37.4 +1.0
baz=69
FURC **Furnace Creek,** 61.83 297 P P 10 09 38.1 +1.2
baz=70,SNR=20
INK **Inuvik** 62.01 335 P P 10 09 37.6 0.0
INK pmax pmax
comp=Z,61nm,1.2s
INK **Inuvik** 62.01 335 P P 10 09 37.6 0.0
BELC **Belle Mtn. Jos** 62.03 294 P P 10 09 39.3 +0.8
baz=69,SNR=7.8
F05D **White Salmon** 62.07 309 P P 10 09 38.9 +0.5
baz=72,SNR=12
NV11 **Mina Array Sit** 62.13 300 IAmb IAmb 10 09 40.2
comp=Z,13nm,1.1s
G05D **Wamic, OR** 62.17 308 P P 10 09 39.5 +0.3
baz=72
GSC **Goldstone, Bar** 62.19 296 P P 10 09 40.7 +1.2
baz=69,SNR=8.4
GSC **Goldstone, Bar** 62.19 296 P P 10 09 39.3 -0.2
GSC pmax pmax
comp=Z,14nm,1.2s
GSC **Goldstone, Bar** 62.19 296 P P 10 09 39.3 -0.2
GSC IAmb IAmb 10 09 42.0
comp=Z,14nm,1.1s
NVAR **Mina Array Bea** 62.24 300 P P 10 09 40.1 +0.1
comp=Z,6.6nm,0.9s,baz=76,slow=6.4,SNR=30
NVAR LR LR 10 34 47.2
comp=Z,936nm,21.5s,baz=54,slow=34
NVAR **Mina Array Bea** 62.24 300 P P 10 09 38.0 -1.9
SWSC **Sam W. Stewart** 62.26 293 P P 10 09 40.7 +0.8
baz=68
RYN **Ryan** 62.34 300 P P 10 09 40.1 -0.4
RYN IAmb IAmb 10 09 41.6
comp=Z,17nm,1.2s
MPMC **Manual Prospec** 62.45 297 P P 10 09 42.6 +1.3
baz=69,SNR=21
I05D **Terrebonne, OR** 62.47 307 P P 10 09 42.2 +1.1
baz=71,SNR=14
PFO **Pinyon Flats O** 62.53 294 P P 10 09 43.1 +1.2
baz=68,SNR=5.1
PFO **Pinyon Flats O** 62.53 294 ⇓*i*P P 10 09 42.9 +1.1
IKP **In-Ko-Pah, Jac** 62.61 293 P P 10 09 43.5 +1.2
baz=68,SNR=7.0
BBRC **Big Bear Solar** 62.65 295 P P 10 09 44.0 +1.2
baz=69,SNR=6.2
TIN **Tinemaha, Big** 62.66 298 P P 10 09 43.7 +1.1
baz=69,SNR=5.8
J05D **Fort Rock, OR** 62.74 306 P P 10 09 44.0 +1.0
baz=71,SNR=8.2
CWC **Cottonwood Cre** 62.76 298 P P 10 09 44.5 +1.1
baz=69
MONP2 **Monument Peak** 62.77 293 P P 10 09 44.5 +1.0
baz=68
LRMC **Laurel Mtn Rad** 62.80 297 P P 10 09 44.8 +1.2
baz=69,SNR=7.6
MLAC **Mammoth, Mammo** 62.91 299 P P 10 09 45.4 +1.0
baz=69
H04A **Detroit Lake** 62.94 308 IAmb IAmb 10 09 50.3
comp=Z,12nm,1.1s
VCNR **Virginia City** 62.94 301 P P 10 09 42.5 -2.1
VCNR IAmb IAmb 10 09 45.6
comp=Z,17nm,1.1s
PNTR **Pine Nut** 62.97 301 P P 10 09 43.2 -1.7
PNTR IAmb IAmb 10 09 45.8
comp=Z,15nm,1.2s
OMMB **Old Mammoth Mi** 63.04 299 P P 10 09 45.6 +0.1
OMMB IAmb IAmb 10 09 47.5
comp=Z,10nm,1.0s
MDPB **Devils Postpil** 63.09 299 P P 10 09 45.4 -0.3
MDPB IAmb IAmb 10 09 47.8
comp=Z,15nm,1.1s
MURC **Murrieta** 63.11 294 P P 10 09 46.8 +1.2
baz=68
NLWA **Neilton Lookou** 63.18 311 P P 10 09 45.0 -0.8
BFSC **Mount Baldy Ra** 63.23 295 P P 10 09 47.3 +0.8
baz=68
EDW2 **Edwards Air Fo** 63.25 296 P P 10 09 47.6 +1.0
baz=68,SNR=13
BEKR **Beckworth** 63.26 302 P P 10 09 46.1 -0.5
109C **Camp Elliot, M** 63.30 294 P P 10 09 47.7 +0.9
baz=68
K04D **Chiloquin, OR** 63.31 305 P P 10 09 47.3 +0.4
baz=70
ISA **Isabella, Lake** 63.34 297 P P 10 09 48.4 +1.3
baz=69,SNR=17
J04D **Umpqua Nationa** 63.35 306 P P 10 09 47.7 +0.5
baz=70
H04D **Lebanon** 63.36 308 P P 10 09 47.4 +0.4
baz=71
G03D **McMinnville, O** 63.49 308 P P 10 09 48.1 +0.3
baz=71
M04C **Macdoel** 63.66 304 P P 10 09 49.7 +0.5
baz=70,SNR=5.7
PASC **Pasadena Art C** 63.66 295 IAmb IAmb 10 09 53.2
comp=Z,12nm,1.1s
VES **Vestal, Richgr** 63.74 297 P P 10 09 50.1 +0.5
baz=68
DOMR **Dombai** 63.74 54 *d*i*P* P 10 09 52.4 +2.7
DOMR pmax pmax
comp=Z,10.0nm,1.1s
DECC **Green Verdugo** 63.74 295 P P 10 09 50.3 +0.5
baz=68
EPYK **Eagle Plains** 63.77 333 P P 10 09 49.6 +0.2
baz=71,SNR=9.9
EPYK **Eagle Plains** 63.77 333 IAmb IAmb 10 09 55.7
comp=Z,7.8nm,1.0s
L04D **Klamath Falls** 63.84 305 P P 10 09 50.5 +0.1
baz=70,SNR=6.0
CIS **Catalina Islan** 64.13 295 P P 10 09 52.9 +0.6
baz=68
O03E **Paynes Creek** 64.15 303 P P 10 09 52.2 -0.2
baz=69,SNR=6.1
ORV **Oroville** 64.19 302 P P 10 09 52.2 -0.4
ORV pmax pmax
comp=Z,22nm,1.3s
ORV **Oroville** 64.19 302 P P 10 09 52.2 -0.4
ORV IAmb IAmb 10 09 53.7
comp=Z,22nm,1.2s
KIV **Kislovodsk** 64.24 53 *e*P P 10 09 55.0 +2.1
KIV pmax pmax
comp=Z,34nm,1.1s
BBB **Bella Bella** 64.24 317 LR LR 10 38 09.9
comp=Z,341nm,18.1s,baz=132,slow=36
YBH **Yreka Blue Hor** 64.29 305 LR LR 10 36 28.5
comp=Z,325nm,21.1s,baz=36,slow=35
KBZ **Khabaz** 64.46 53 P P 10 09 56.3 +2.1
comp=Z,3.1nm,0.7s,baz=332,slow=6.4,SNR=8.1
M02C **Callahan** 64.51 304 P P 10 09 54.1 -0.6
baz=69
N02D **Trinity Center** 64.55 304 P P 10 09 55.1 +0.1
baz=69
K02D **Willamette Mer** 64.61 306 P P 10 09 55.9 +0.5
baz=69,SNR=5.8
PKM **Mcpherson Peak** 64.64 297 P P 10 09 57.0 +1.2
baz=68,SNR=5.9
PMPB **Monarch Peak** 64.89 298 P P 10 09 58.2 +1.0
PMPB IAmb IAmb 10 10 01.3
comp=Z,17nm,1.0s
ZEI **Tsey** 65.48 54 *e*P P 10 10 00.6 -0.6
ZEI pmax pmax
comp=Z,15nm,1.3s
DAWY **Dawson** 65.65 332 P P 10 10 01.8 +0.1
AKH **Akhalkalaki** 65.70 55 P P 10 10 03.0 +0.4
AKH pmax pmax
comp=Z,15nm,1.2s
AKH **Akhalkalaki** 65.70 55 P P 10 10 03.0 +0.4
AKH IAmb IAmb 10 10 11.7
comp=Z,15nm,1.2s
EGAK **Eagle** 66.08 333 P P 10 10 04.0 -0.3
BMAR **Burnt Mountain** 66.24 336 P P 10 10 05.6 +0.2
BCAR **Beaver Creek A** 67.03 331 P P 10 10 10.8 +0.2
TOLK **Toolik Lake Re** 67.35 338 P P 10 10 13.1 +0.6
baz=61,SNR=7.9
BARN **Barnard Glacie** 67.83 329 P P 10 10 16.7 +0.8
COLD **Coldfoot** 68.26 337 P P 10 10 19.0 +0.8
COLD IAmb IAmb 10 10 19.9
comp=Z,17nm,1.3s
IL31 68.28 334 P P 10 10 18.8 +0.5
ILAR **Eielson Array** 68.28 334 P P 10 10 19.2 +0.9
comp=Z,12nm,1.0s,baz=56,slow=4.3,SNR=54
ILAR **Eielson Array** 68.28 334 P 10 10 18.9 +0.5
HDA **Harding Lake** 68.48 333 P P 10 10 20.3 +0.7
baz=61,SNR=23
HDA **Harding Lake** 68.48 333 P 10 10 19.8 +0.2
PAX **Paxson** 68.58 332 P P 10 10 20.5 +0.1
PAX pmax pmax
comp=Z,29nm,1.4s
PAX **Paxson** 68.58 332 P P 10 10 20.5 +0.1
GLB **Gilahina Butte** 68.60 330 P P 10 10 20.4 0.0
GLB IAmb IAmb 10 10 22.5
comp=Z,19nm,1.1s
TCOL **CIGO, UAF Yank** 68.60 334 P P 10 10 20.8 +0.4
baz=61
AKT **Akhty** 68.61 54 *e*P P 10 10 21.8 +0.8
AKT *e* 10 10 47.6
AKT pmax pmax
comp=Z,19nm,1.3s
CCB **Clear Creek Bu** 68.69 334 P P 10 10 20.1 -0.9
MDM **Murphy Dome** 68.69 334 P P 10 10 21.2 +0.2
ARU **Arti** 68.88 36 *c*i*P* P 10 10 22.8 +0.6
ARU S S 10 19 27.8 +1.6
ARU SS SS 10 23 52.8 +2.1
ARU pmax pmax
comp=Z,23nm,1.9s
ARU **Arti** 68.88 36 P P 10 10 21.9 -0.3
WRH **Wood River Hil** 68.88 334 P P 10 10 22.2 +0.1
NEA **Nenana** 69.20 334 P 10 10 24.4 +0.3
DHY **Denali Highway** 69.30 332 P P 10 10 24.2 -0.7
BWN **Browne** 69.55 334 P P 10 10 25.4 -0.9
MCK **McKinley** 69.58 333 P P 10 10 26.9 +0.4
MCK pmax pmax
comp=Z,49nm,1.2s
MCK **McKinley** 69.58 333 P P 10 10 26.9 +0.4
MLY **Manley** 69.58 335 P P 10 10 27.1 +0.6
RND **Reindeer** 69.71 333 P P 10 10 28.3 +0.9
RND pmax pmax
comp=Z,19nm,1.1s
RND **Reindeer** 69.71 333 P P 10 10 28.3 +0.9
RND IAmb IAmb 10 10 28.4
comp=Z,19nm,1.1s
IMAR **Indian Mountai** 70.12 336 P P 10 10 29.9 +0.1
TRF **Thorofare Moun** 70.24 333 P P 10 10 30.6 -0.2
TRF IAmb IAmb 10 10 33.1
comp=Z,28nm,1.3s
KTH **Kantishna Hill** 70.43 334 P P 10 10 32.3 +0.5

PMR	**Palmer**	**70.75**	**331**	P	**P**		**10 10 34.8**	**+1.2**
PMR				pmax	pmax			
	comp=Z,24nm,1.0s							
PMR	**Palmer**	**70.75**	**331**	P	**P**		**10 10 34.8**	**+1.2**
SKT	**Skwentna**	**71.51**	**332**	P	**P**		**10 10 39.1**	**+0.8**
SKT				IAmb	IAmb		10 10 41.4	
	comp=Z,20nm,1.2s							
RDOG	**Red Dog Mine**	**71.73**	**340**	P	**P**		**10 10 39.4**	**-0.1**
ABKAR	**Abkulak array**	**72.91**	**42**	P	**P**		**10 10 47.0**	**+0.1**
ABKAR	**Abkulak array**	**72.91**	**42**	P	**P**		**10 10 46.9**	**0.0**
ABKAR				IAmb	IAmb		10 10 55.3	
	comp=Z,15nm,1.3s							
H09N1	**TRISTAN DA CUN**	**73.35**	**157**	T	T		11 31 10.2	
	SNR=90							
H09W1	**TRISTAN DA CUN**	**73.37**	**157**	T	T		11 30 52.9	
	SNR=71							
RAYN	**Ar Rayn**	**74.83**	**72**	P	**P**		**10 10 58.6**	**0.0**
RAYN				pmax	pmax			
	comp=Z,3.0nm,1.1s							
RAYN	**Ar Rayn**	**74.83**	**72**	P	**P**		**10 10 58.6**	**0.0**
TSUM	**Tsumeb**	**75.27**	**124**	P	**P**		**10 11 01.1**	**-0.1**
BRVK	**Borovoye**	**76.44**	**35**	⇓*iP*	**P**		**10 11 07.8**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**76.44**	**35**	P	**P**		**10 11 07.2**	**-0.1**
TIXI	**Tiksi**	**76.64**	**3**	⇓*iP*	**P**		**10 11 08.5**	**+0.5**
TIXI				pmax	pmax			
	comp=Z,24nm,1.3s							
TIXI	**Tiksi**	**76.64**	**3**	P	**P**		**10 11 07.0**	**-1.0**
TIXI				IAmb	IAmb		10 11 10.1	
	comp=Z,19nm,1.1s							
PLCA	**Paso Flores**	**77.26**	**203**	P	**P**		**10 11 12.1**	**+0.1**
PLCA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
PLCA	**Paso Flores**	**77.26**	**203**	P	**P**		**10 11 11.4**	**-0.5**
	comp=Z,5.2nm,1.1s,baz=53,slow=11,SNR=3.5							
PLCA	**Paso Flores**	**77.26**	**203**	P	**P**		**10 11 12.1**	**+0.1**
GEYT	**Alibeck**	**77.35**	**53**	P	**P**		**10 11 14.8**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=152,slow=6.7,SNR=3.7							
GEYT	**Alibeck**	**77.35**	**53**	P	**P**		**10 11 11.9**	**-0.8**
BILL	**Bilibino**	**78.53**	**350**	*eP*	**P**		**10 11 19.0**	**+0.3**
BILL				*e*			10 11 28.1	
BILL				pmax	pmax			
	comp=Z,28nm,1.2s							
BILL	**Bilibino**	**78.53**	**350**	P	**P**		**10 11 18.4**	**-0.3**
BILL				IAmb	IAmb		10 11 20.4	
	comp=Z,19nm,1.0s							
KMBO	**Kilima Mbogo**	**80.21**	**97**	P	**P**		**10 11 30.2**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=0.1,slow=8.4,SNR=4.0							
KMBO				LR	LR		10 46 10.6	
	comp=Z,412nm,20.4s,baz=277,slow=35							
KMBO	**Kilima Mbogo**	**80.21**	**97**	P	**P**		**10 11 29.2**	**+0.1**
LSZ	**Lusaka**	**80.71**	**114**	P	**P**		**10 11 32.2**	**+0.7**
LSZ				pmax	pmax			
	comp=Z,33nm,1.4s							
LSZ	**Lusaka**	**80.71**	**114**	P	**P**		**10 11 32.2**	**+0.7**
LSZ				IAmb	IAmb		10 11 35.8	
	comp=Z,33nm,1.4s							
KURK	**Kurchatov**	**81.95**	**34**	⇑*iP*	**P**		**10 11 37.9**	**+0.5**
KURK				pmax	pmax			
	comp=Z,12nm,1.4s							
KURK	**Kurchatov**	**81.95**	**34**	P	**P**		**10 11 37.1**	**-0.4**
KKAR	**Karatay Array**	**82.40**	**44**	P	**P**		**10 11 38.7**	**-1.3**
KKAR	**Karatay Array**	**82.40**	**44**	P	**P**		**10 11 38.7**	**-1.3**
ZAA0	**Zalesovo Array**	**82.49**	**29**	P	**P**		**10 11 40.0**	**-0.2**
ZALV	**Zalesovo Beam**	**82.49**	**29**	P	**P**		**10 11 40.5**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=302,slow=8.3,SNR=9.3							
ZALV	**Zalesovo Beam**	**82.49**	**29**	P	**P**		**10 11 40.1**	**-0.1**
UOSS	**Minazif**	**82.60**	**65**	P	**P**		**10 11 40.8**	**-0.6**
CHGR	**Chuyangaron**	**84.22**	**48**	P	**P**		**10 11 49.5**	**-0.1**
LBTB	**Lobatse**	**84.68**	**124**	P	**P**		**10 11 52.4**	**+0.5**
LBTB				pmax	pmax			
	comp=Z,17nm,1.3s							
LBTB	**Lobatse**	**84.68**	**124**	P	**P**		**10 11 52.4**	**+0.5**
LBTB				IAmb	IAmb		10 11 56.1	
	comp=Z,17nm,1.3s							
AAK	**Ala-Archa**	**85.00**	**42**	⇑*iP*	**P**		**10 11 54.9**	**+1.4**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MAKZ	**Makanchi**	**86.23**	**35**	P	**P**		**10 11 58.9**	**-0.5**
MAKZ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MAKZ	**Makanchi**	**86.23**	**35**	P	**P**		**10 11 58.9**	**-0.5**
YAK	**Yakutsk**	**86.24**	**5**	*eP*	**P**		**10 11 58.0**	**-1.0**
YAK				pmax	pmax			
	comp=Z,33nm,1.3s							
YAK				pmax	pmax			
	comp=N,27nm,1.5s							
YAK	**Yakutsk**	**86.24**	**5**	P	**P**		**10 11 58.8**	**-0.2**
MKAR	**Makanchi Array**	**86.39**	**35**	P	**P**		**10 11 59.7**	**-0.5**
MKAR	**Makanchi Array**	**86.39**	**35**	P	**P**		**10 12 00.2**	**0.0**
	comp=N,2.9nm,1.0s,baz=320,slow=4.7,SNR=9.4							
MKAR				LR	LR		10 50 21.7	
	comp=N,267nm,19.1s,baz=3.0,slow=36							
MKAR	**Makanchi Array**	**86.39**	**35**	P	**P**		**10 11 59.7**	**-0.5**
NRN	**Naryn**	**86.63**	**42**	P	**P**		**10 11 59.5**	**-2.4**
NRN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
NRN	**Naryn**	**86.63**	**42**	P	**P**		**10 11 59.5**	**-2.4**
NRN				IAmb	IAmb		10 12 11.9	
	comp=Z,8.6nm,1.1s							
BOSA	**Boshof**	**86.68**	**127**	LR	LR		10 44 47.1	
	comp=Z,182nm,21.2s,baz=7.5,slow=32							
KSH	**Kashi**	**87.85**	**44**	P	**P**		**10 12 06.4**	**-1.1**
KSH				S	**S**		**10 22 43.8**	**-6.8**
KSH				LR	LR			
	comp=Z,170nm,10.5s							
KSH				LR	LR			
	comp=Z,530nm,10.6s							
BOD	**Bodaibo**	**88.26**	**13**	*eP*	**P**		**10 12 08.9**	**0.0**
BOD				pmax	pmax			
	comp=Z,21nm,1.9s							
WMQ	**Urumqi**	**91.18**	**35**	*eP*	**P**		**10 12 24.1**	**+1.1**
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,100nm,5.3s							
WMQ				LR	LR			
	comp=Z,240nm,12.9s							
WMQ				LR	LR			
	comp=Z,310nm,8.1s							
WMQ				LR	LR			
	comp=Z,180nm,21.5s							
PETK	**Petropavlovsk-**	**94.04**	**349**	P	**P**		**10 12 35.2**	**-0.7**
PETK	**Petropavlovsk-**	**94.04**	**349**	P	**P**		**10 12 35.0**	**-0.9**
	comp=Z,9.8nm,1.1s,baz=349,slow=4.4,SNR=4.5							
PETK	**Petropavlovsk-**	**94.04**	**349**	P	**P**		**10 12 35.2**	**-0.7**
SONM	**Songino Array**	**95.42**	**22**	P	**P**		**10 12 42.6**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=42,slow=6.7,SNR=3.6							
CD2	**Chengdu**	**109.10**	**32**	Pdif	**Pdif**		**10 13 41.7**	**-2.1**
FAKI	**Fak Fak**	**150.55**	**15**	PKPdf	**PKPdf**		**10 19 02.9**	**-2.1**
FAKI					**PKPbc**		**10 19 09.7**	**-0.7**
WRA	**Warramunga Arr**	**167.39**	**23**	PKIKP	**PKPdf**		**10 19 23.3**	**-1.1**
WRA	**Warramunga Arr**	**167.39**	**23**	PKPab	**PKPab**		**10 20 29.3**	**-0.1**
	comp=Z,1.6nm,1.1s,baz=344,slow=5.1,SNR=3.9							
WRA	**Warramunga Arr**	**167.39**	**23**	PKPdf	**PKPdf**		**10 19 23.3**	**-1.1**
ASAR	**Alice Springs**	**170.58**	**33**	PKP	**PKPdf**		**10 19 26.4**	**0.0**
	comp=Z,1.7nm,0.9s,baz=1.2,slow=1.6,SNR=10.0							
ASAR				PKPab	**PKPab**		**10 20 43.9**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=336,slow=4.9,SNR=6.3							

NNC 12 10:09:09.8±1.4, 51°.78N×75°.94E, $h0^{km}$, mb3.0, mpv2.6, 1C-2D, Error ellipse: s-maj=19.2km s-min=9.7km az=27.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.00**	**124**	⇓Pg	Pb	10 09 46.5	-0.6
	2.1nm,0.5s,baz=307,slow=18						
KURBB				⇑Lg	Lg	10 10 13.2	
	9.2nm,0.5s						
MK31	**Makanchi Array**	**6.49**	**138**	⇓Lg	Lg	10 12 34.7	
	1.0nm,0.7s,baz=28,slow=1.9,SNR=10						

*SOME **12** 10:17:13.3, 43°.70N×69°.67E*
*NNC **12** 10:17:14.2±1.4, 43°.68N×69°.64E, $h0^{km}$, mb3.6, mpv3.1, Error ellipse: s-maj=10.9km s-min=3.5km az=125.0, Suspected Mining explosion.*
*KRNET **12** 10:17:21.6±0.1, 43°.66N×69°.72E, mb2.7*
ISC 12 10:17:11.9±1.9, 43°.90N±0°.07×69°.75E±0°.07, h0km, n24, σ1°.49/35, 16C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.87**	**176**	P	**Pb**	**10 17 30.6**	**+0.7**
	0.5nm,0.2s						
BRLS				S	**Sb**	**10 17 43.0**	**+1.0**
	2.0nm,0.5s						
IUG	**Iuzhnay**	**1.76**	**173**	P	**Pn**	**10 17 43.5**	**-0.2**
	1.3nm,0.4s						
IUG				S	**Sn**	**10 18 05.8**	**-1.1**
	34nm,0.4s						
ARK	**Arkit**	**2.66**	**141**	⇑*iP*	**Pg**	**10 18 06.1**	**+3.3**
	baz=38						
ARK				⇑*iS*	**Sg**	**10 18 37.9**	**+0.7**
	baz=38						
MRKS	**Merke**	**2.79**	**113**	Pg	**Pg**	**10 18 05.2**	**-0.1**
	3.9nm,0.5s						
MRKS				Lg	Lg	10 18 42.9	
	5.5nm,0.6s						
EKS2	**Erkin-Say**	**3.19**	**111**	⇑*iP*	**Pg**	**10 18 13.6**	**+0.6**
	baz=7.0						
EKS2				⇑*iS*	**Sg**	**10 18 53.5**	**-0.9**
	baz=7.0						
BTLS	**Baital**	**3.28**	**68**	Pg	**Pg**	**10 18 16.4**	**+1.6**
	6.9nm,0.5s						
BTLS				Lg	Lg	10 19 02.3	
	6.8nm,0.8s						
AML	**Almayashu**	**3.39**	**120**	⇑*iP*	**Pb**	**10 18 15.1**	**+2.1**
	baz=16						
AML				⇑*iS*	**Sb**	**10 18 57.7**	**+2.8**
	baz=16						
ARSB	**Arslanbob**	**3.51**	**136**	⇓*iP*	**Pg**	**10 18 17.3**	**-1.8**
	baz=33						
ARSB				⇓*iS*	**Sb**	**10 18 58.2**	**+0.1**
	baz=33						
USP	**Ospenovka**	**3.51**	**99**	⇑*eP*	**Pg**	**10 18 18.6**	**-0.5**
	baz=95						
USP				⇑*iS*	**Sg**	**10 19 03.5**	**-1.1**
	baz=95						
AAK	**Ala-Archa**	**3.69**	**108**	⇓Pg	**Pg**	**10 18 22.1**	**-0.4**
	2.4nm,0.7s						
AAK				⇑Lg	Lg	10 19 11.8	
	7.0nm,0.5s						
UCH	**Uchtor**	**3.87**	**114**	⇑*iP*	**Pb**	**10 18 22.6**	**+1.3**
	baz=10.0						
UCH				⇑*iS*	**Sb**	**10 19 10.4**	**+1.6**
	baz=10.0						
BTK	**Batken**	**3.92**	**168**	⇑*iP*	**Pb**	**10 18 21.8**	**-0.1**
	baz=67						
BTK				⇑*iS*	**Sb**	**10 19 06.7**	**-3.1**
	baz=67						
ARLS	**Aral**	**3.93**	**120**	⇑*iP*	**Pb**	**10 18 24.1**	**+2.0**
	baz=16						
ARLS				⇑*iS*	**Sb**	**10 19 09.9**	**-0.4**
	baz=16						
TKM2	**Tokmak 2**	**4.37**	**101**	⇓Pg	**Pg**	**10 18 35.1**	**-0.5**
	1.6nm,0.8s						
TKM2				⇑Lg	Lg	10 19 33.1	
	7.8nm,0.7s						
DGS	**Degeres**	**4.43**	**96**	Pg	**Pg**	**10 18 37.1**	**+0.4**
	2.3nm,0.2s						
DGS				Lg	Lg	10 19 37.1	
	6.8nm,0.6s						
KST	**Kastek**	**4.60**	**99**	Pg	**Pg**	**10 18 38.8**	**-1.3**
	3.8nm,0.3s						
KST				Lg	Lg	10 19 39.9	
	10.0nm,0.8s						
BOOM	**Boomskoye usch**	**4.74**	**105**	⇓*iP*	**Pb**	**10 18 36.5**	**+0.6**
	baz=2.0						
BOOM				⇓*iS*	**Sb**	**10 19 30.5**	**-3.1**
	baz=2.0						
KUU	**Kurty**	**4.76**	**88**	Pg	**Pg**	**10 18 42.1**	**-1.1**
	1.4nm,0.5s						
KUU				Lg	Lg	10 19 45.9	
	11nm,0.4s						
KTBS	**Karatobe**	**5.02**	**90**	Pg	**Pg**	**10 18 47.6**	**-0.5**
	1.6nm,0.5s						
KTBS				Lg	Lg	10 19 55.4	
	14nm,0.4s						
IZV	**Izvestkoviy**	**5.07**	**97**	Pg	**Pg**	**10 18 48.0**	**-1.0**
	3.2nm,0.3s						
IZV				Lg	Lg	10 19 56.1	
	12nm,0.4s						
CHKK	**Chushkaly**	**5.23**	**88**	Pg	**Pg**	**10 18 51.5**	**-0.7**
	2.3nm,0.3s						
CHKK				Lg	Lg	10 20 01.9	
	6.9nm,0.6s						
TNSS	**Tian-Shan**	**5.31**	**97**	Pg	**Pg**	**10 18 52.7**	**-1.0**
	2.4nm,0.3s						
TNSS				Lg	Lg	10 20 03.8	
	5.3nm,0.6s						
ARXS	**Arharly**	**5.83**	**84**	Pg	**Pg**	**10 19 02.2**	**-1.4**
	2.1nm,0.5s						
ARXS				Lg	Lg	10 20 20.3	
	4.4nm,0.4s						
KAPS	**Kapalarasan**	**7.00**	**75**	Pg	**Pg**	**10 19 26.1**	**+0.1**
	0.9nm,1.1s						
KAPS				Lg	Lg	10 21 01.4	
	2.5nm,0.6s						

*IDC **12** 10:35:48.7±1.3, 54°.83N×161°.75W, $h0^{km}$, mb3.9/10, mb1 4.1/13, mb1mx3.8/46, mbtmp3.9/13, ML3.4/3, Error ellipse: s-maj=39.7km s-min=18.1km az=176.0*
*ISCJB **12** 10:35:54.2±0.4, 54°.73N±0°.05×161°.45W±0°.05, $h56^{km}\pm5^{km}$, mb3.9/10, Error ellipse: s-maj=9.1km s-min=3.1km az=156.2*
*AEIC **12** 10:35:55±2.9, 54°.62N±0°.04×161°.41W±0°.08, $h14^{km}\pm4^{km}$, ML3.7, mb4.0/8(NEIC)*
*NEIC **12** 10:35:55.4±2.6, 54°.65N±0°.08×161°.41W±0°.07, $h47^{km}\pm8^{km}$*
ISC 12 10:35:55.9±1.0, 54°.74N±0°.08×161°.54W±0°.05, $h54^{km}\pm9^{km}$, n90, σ1°.57/101, mb4.0/11, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.87**	**44**		**Pn**	**10 36 11.1**	**-0.9**
SDPT				Sn	**Sn**	**10 36 21.8**	**-1.9**
FALS	**False Pass**	**1.09**	**277**		**Pn**	**10 36 14.7**	**-0.2**
FALS				Sn	**Sn**	**10 36 31.2**	**+2.2**
CNBA	**Chernabura Isl**	**1.13**	**85**		**Pn**	**10 36 13.0**	**-2.4**
CNBA				Sn	**Sn**	**10 36 27.6**	**-2.4**
CHGN	**Chignik**	**2.37**	**47**		**Pn**	**10 36 32.1**	**-0.1**
CHGN				Sn	**Sn**	**10 37 01.6**	**+1.5**
AKUT	**Akutan**	**2.54**	**258**	Pn	**Pn**	**10 36 35.3**	**+0.7**
AKUT				Sn	**Sn**	**10 37 07.3**	**+3.0**
UNV	**Unalaska Valle**	**3.04**	**255**	Pn	**Pn**	**10 36 41.7**	**+0.3**
UNV				Sn	**Sn**	**10 37 16.9**	**+0.3**
CHIR	**Chirikof Islan**	**3.56**	**70**	Pn	**Pn**	**10 36 47.6**	**-0.8**
CHIR				Sn	**Sn**	**10 37 28.8**	**-0.5**
SII	**Sitkinak Islan**	**4.55**	**63**	Pn	**Pn**	**10 37 02.4**	**+0.2**
SII				Sn	**Sn**	**10 37 51.8**	**-1.9**
NIKH	**Nikolski High**	**4.68**	**251**	Pn	**Pn**	**10 37 05.0**	**+1.2**
NIKH				Sn	**Sn**	**10 37 56.8**	**0.0**
OHAK	**Old Harbor**	**5.26**	**58**	Pn	**Pn**	**10 37 10.5**	**-1.3**
OHAK				Sn	**Sn**	**10 38 07.3**	**-3.8**
SPIA	**Saint Paul Isl**	**5.47**	**300**	Pn	**Pn**	**10 37 13.9**	**-0.7**
KDAK	**Kodiak Island**	**5.85**	**55**	Pn	**Pn**	**10 37 18.7**	**-1.2**
	1.1nm,0.3s,baz=170,slow=3.9,SNR=89						
KDAK				Sn	**Sn**	**10 38 21.4**	**-4.2**
	baz=335,slow=19,SNR=3.6						
KDAK				Lg	Lg	10 38 42.9	
	2.2nm,0.3s,baz=50,slow=20,SNR=3.8						
KDAK	**Kodiak Island**	**5.85**	**55**		**Pn**	**10 37 19.0**	**-0.9**
KDAK					**Sn**	**10 38 23.6**	**-1.9**
SVW2	**Sparrevohn**	**7.12**	**24**		**Pn**	**10 37 38.8**	**+1.5**
CNPM	**China Poot**	**7.38**	**45**	Pn	**Pn**	**10 37 41.9**	**+1.0**
CNPM				Sn	**Sn**	**10 39 07.2**	**+4.1**
RSO	**Redoubt South**	**7.43**	**36**	Pn	**Pn**	**10 37 41.8**	**+0.1**
BRLK	**Bradley Lake**	**7.66**	**45**	Pn	**Pn**	**10 37 45.3**	**+0.6**
BRLK				Sn	**Sn**	**10 39 11.6**	**+1.5**
SEW	**Seward**	**8.45**	**46**	Pn	**Pn**	**10 37 55.7**	**+0.3**
SEW				Sn	**Sn**	**10 39 30.3**	**+1.1**
TTA	**Tatalina**	**8.70**	**17**		**Pn**	**10 37 59.1**	**+0.1**
TTA				Sn	**Sn**	**10 39 38.2**	**+2.7**
RC01	**Rabbit Creek A**	**8.94**	**40**	Pn	**Pn**	**10 38 03.4**	**+1.2**
RC01				Sn	**Sn**	**10 39 45.1**	**+3.9**
SKT	**Skwentna**	**8.96**	**32**	Pn	**Pn**	**10 38 05.1**	**+2.6**
GSTR	**Great Sitkin T**	**9.06**	**259**	Pn	Pn	10 38 07.4	+3.4
PPLA	**Purkeypile**	**9.50**	**27**	Pn	**Pn**	**10 38 12.2**	**+2.2**
ADK	**Adak**	**9.50**	**259**	Pn	**Pn**	**10 38 10.2**	**+0.3**
KIWB	**Kanaga Island**	**9.78**	**259**	Pn	**Pn**	**10 38 15.3**	**+1.6**
HIN	**Hinchinbrook I**	**9.86**	**49**	Pn	**Pn**	**10 38 14.2**	**-0.5**
FID	**Port Fidalgo**	**10.04**	**47**	Pn	**Pn**	**10 38 16.6**	**-0.7**
SCM	**Sheep Creek Mo**	**10.31**	**41**	Pn	**Pn**	**10 38 20.2**	**-0.7**
KTH	**Kantishna Hill**	**10.37**	**27**	Pn	**Pn**	**10 38 22.9**	**+1.1**
TRF	**Thorofare Moun**	**10.46**	**29**	Pn	**Pn**	**10 38 23.5**	**+0.4**
RAGM	**Ragged Mountai**	**10.67**	**51**	Pn	**Pn**	**10 38 25.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**10.80**	**25**	Pn	**Pn**	**10 38 27.6**	**-0.1**
HMT	**Hamilton**	**10.83**	**52**	Pn	**Pn**	**10 38 27.4**	**-0.7**
MCK	**McKinley**	**11.07**	**30**	Pn	**Pn**	**10 38 32.0**	**+0.8**
DHY	**Denali Highway**	**11.09**	**35**	Pn	**Pn**	**10 38 31.1**	**-0.5**
CRQM	**Cirque**	**11.51**	**51**	Pn	**Pn**	**10 38 37.3**	**-0.1**
VRDI	**Verde Repeater**	**11.57**	**49**	Pn	**Pn**	**10 38 37.6**	**-0.7**
MLY	**Manley**	**11.64**	**23**	Pn	**Pn**	**10 38 39.9**	**+0.8**
TGL	**Tana Glacier**	**11.65**	**51**	Pn	**Pn**	**10 38 39.6**	**+0.3**
WRH	**Wood River Hil**	**11.87**	**29**		**Pn**	**10 38 40.0**	**-2.1**
IMAR	**Indian Mountai**	**11.91**	**16**	Pn	**Pn**	**10 38 43.1**	**+0.4**
BALM	**Baldy**	**11.98**	**50**	Pn	**Pn**	**10 38 43.3**	**-0.4**
YAH	**Yahtse**	**12.01**	**54**	Pn	**Pn**	**10 38 43.7**	**-0.6**
CCB	**Clear Creek Bu**	**12.09**	**29**	Pn	**Pn**	**10 38 42.1**	**-3.0**
HDA	**Harding Lake**	**12.16**	**31**	Pn	**Pn**	**10 38 43.5**	**-2.6**
BARN	**Barnard Glacie**	**12.29**	**51**	Pn	**Pn**	**10 38 48.6**	**+0.5**
MENT	**Mentasta**	**12.32**	**41**	Pn	**Pn**	**10 38 49.8**	**+1.5**
CTGM	**Chitina Glacie**	**12.41**	**52**	Pn	**Pn**	**10 38 47.0**	**-2.7**
IL31		**12.44**	**30**	Pn	**Pn**	**10 38 47.0**	**-2.9**
ILAR	**Eielson Array**	**12.44**	**30**	Pn	**Pn**	**10 38 46.9**	**-3.1**
	0.1nm,0.3s,baz=224,slow=13,SNR=5.7						
ILAR	**Eielson Array**	**12.44**	**30**	Pn	**Pn**	**10 38 47.9**	**-2.1**
DOT	**Dot Lake**	**12.61**	**38**	Pn	**Pn**	**10 38 51.0**	**-1.2**
PCA	**Pinnacle**	**12.64**	**56**	Pn	**Pn**	**10 38 52.0**	**-0.7**
BCAR	**Beaver Creek A**	**13.13**	**43**	Pn	**Pn**	**10 38 58.2**	**-1.3**
COLD	**Coldfoot**	**13.65**	**19**	Pn	**Pn**	**10 39 06.8**	**+0.3**
HYT	**Haines Junctio**	**14.14**	**55**	Pn	**Pn**	**10 39 15.7**	**+2.5**
EGAK	**Eagle**	**14.30**	**37**	Pn	**Pn**	**10 39 13.3**	**-1.8**
SKAG	**Skagway**	**14.96**	**61**	Pn	**Pn**	**10 39 24.8**	**+1.1**
TOLK	**Toolik Lake Re**	**15.02**	**17**	Pn	**P**	**10 39 27.7**	**-1.1**
TOLK				IAmb	IAmb	10 39 30.9	
	comp=Z,5.7nm,0.7s						
BMAR	**Burnt Mountain**	**15.06**	**26**	Pn	**P**	**10 39 27.5**	**-1.8**
JIS	**Juneau Island**	**15.36**	**66**	Pn	**Pn**	**10 39 30.6**	**+1.7**
JIS				IAmb	IAmb	10 39 35.4	
	comp=Z,6.7nm,0.9s						
EPYK	**Eagle Plains**	**16.72**	**36**	Pn	**P**	**10 39 48.8**	**+1.0**
EPYK				IAmb	IAmb	10 40 05.4	
	comp=Z,8.2nm,0.7s						
DLBC	**Dease Lake**	**17.65**	**65**	P	**Pn**	**10 39 57.4**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=239,slow=5.9,SNR=2.2						
DLBC	**Dease Lake**	**17.65**	**65**	P	**P**	**10 39 58.1**	**0.0**
INK	**Inuvik**	**18.81**	**33**	P	**P**	**10 40 09.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=247,slow=11,SNR=5.1						
INK	**Inuvik**	**18.81**	**33**	P	**P**	**10 40 09.8**	**-0.7**
PETK	**Petropavlovsk-**	**23.82**	**283**	P	**P**	**10 41 02.8**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=83,slow=14,SNR=16						
YKA	**Yellowknife Ar**	**25.12**	**53**	P	**P**	**10 41 15.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=274,slow=8.4,SNR=4.7						
YKA	**Yellowknife Ar**	**25.12**	**53**	P	**P**	**10 41 17.7**	**+2.3**
G08A	**Pilot Rock**	**28.54**	**92**	P	**P**	**10 41 47.7**	**+1.3**
G08A				IAmb	IAmb	10 41 53.7	
	comp=Z,4.5nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**42.36**	**227**	T	T	11 28 36.6	
	baz=27,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**42.37**	**227**	T	T	11 28 37.1	
	baz=27,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**42.38**	**227**	T	T	11 28 35.4	
	baz=27,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**43.53**	**226**	T	T	11 30 01.7	
	baz=26,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**43.55**	**226**	T	T	11 30 04.7	
	baz=26,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**43.55**	**226**	T	T	11 30 03.4	
	baz=26,slow=76,SNR=28						
TXAR	**Lajitas Array**	**48.21**	**97**	P	**P**	**10 44 31.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=328,slow=4.4,SNR=3.8						
TXAR				PcP	**PcP**	**10 45 57.6**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=276,slow=0.8,SNR=4.1						
SONM	**Songino Array**	**53.99**	**304**	P	**P**	**10 45 13.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=42,slow=7.4,SNR=4.1						
FINES	**FINESS Array B**	**64.01**	**356**	P	**P**	**10 46 21.9**	**-1.2**
	comp=Z,3.3nm,1.0s,baz=56,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**65.41**	**317**	P	**P**	**10 46 31.1**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=51,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**65.41**	**317**	P	**P**	**10 46 32.8**	**+0.3**
KK31	**Karatay Array**	**72.93**	**323**	P	**P**	**10 47 19.4**	**+0.2**
KKAR	**Karatay Array**	**72.93**	**323**	P	**P**	**10 47 19.3**	**+0.1**
KKAR	**Karatay Array**	**72.93**	**323**	P	**P**	**10 47 19.5**	**+0.4**
KKAR				IAmb	IAmb	10 47 20.1	
	comp=Z,1.8nm,0.9s						
AKASG	**

comp=Z,48nm,1.4s
GGN IAMs_20 IAMs_20 10 53 52.1
SKI Saint Kitts 24.69 240 P **P** **10 46 27.0 +0.5**
SKI pmax pmax
comp=Z,180nm,1.1s
SKI Saint Kitts 24.69 240 P **P** **10 46 27.0 +0.5**
BATG Bathurst New B 24.85 316 P **P** **10 46 28.3 +0.5**
BATG IAmb IAmb 10 46 30.1
comp=Z,33nm,0.9s
G65A Princeton 24.87 310 P **P** **10 46 28.2 +0.3**
G65A IAmb IAmb 10 46 32.1
comp=Z,19nm,0.9s
G65A IAMs_20 IAMs_20 10 54 28.7
comp=Z,5μm,20.0s
E64A Bridgewater 25.54 313 P **P** **10 46 34.4 +0.4**
baz=115
F64A Sherman 25.64 311 P **P** **10 46 35.4 +0.5**
baz=113
F64A Sherman 25.64 311 P **P** **10 46 35.1 +0.2**
F64A IAmb IAmb 10 46 37.4
comp=Z,19nm,0.9s
F64A IAMs_20 IAMs_20 10 55 15.1
comp=Z,4μm,20.0s
G64A Maxfield 25.67 310 P **P** **10 46 36.3 +1.2**
baz=112
PQI Presque Isle 25.76 313 P **P** **10 46 36.8 +0.8**
PQI IAMs_20 IAMs_20 10 55 09.4
comp=Z,4μm,20.0s
M65A Busby, Falmout 25.90 301 IAMs_20 IAMs_20 10 54 14.3
comp=Z,4μm,22.0s
E63A Oxbow 25.91 312 P **P** **10 46 37.6 +0.3**
baz=114
E63A Oxbow 25.91 312 P **P** **10 46 37.7 +0.3**
E63A IAmb IAmb 10 46 40.7
comp=Z,47nm,1.1s
E63A IAMs_20 IAMs_20 10 55 54.3
comp=Z,4μm,20.0s
D63A Stockholm 25.98 314 P **P** **10 46 38.2 +0.3**
baz=116
F63A Nahmakanta, Br 26.06 310 P **P** **10 46 39.1 +0.4**
baz=112
F63A Nahmakanta, Br 26.06 310 P **P** **10 46 39.2 +0.5**
F63A IAmb IAmb 10 46 44.4
comp=Z,31nm,1.2s
F63A IAMs_20 IAMs_20 10 54 53.3
comp=Z,5μm,22.0s
M64A Tiverton 26.31 300 P **P** **10 46 41.2 +0.2**
baz=102
MTP Monte Pirata 26.34 245 P **P** **10 46 42.1 +0.6**
MTP IAmb IAmb 10 46 48.9
comp=Z,31nm,1.0s
PMAFR Mafra 26.42 66 *e*S **S** **10 51 22.1 +6.9**
CBYP Canovanas 26.48 245 P **P** **10 46 43.0 +0.2**
I63A Otisfield 26.49 306 P **P** **10 46 42.8 +0.2**
baz=107
HUMP Col San Antoni 26.55 245 P **P** **10 46 44.4 +1.1**
HUMP IAmb IAmb 10 46 45.3
comp=Z,50nm,1.2s
D62A Allapoint, All 26.58 313 P **P** **10 46 44.1 +0.7**
baz=115
D62A Allapoint, All 26.58 313 IAMs_20 IAMs_20 10 55 44.0
comp=Z,5μm,21.0s
BRYW Bryant College 26.63 301 IAMs_20 IAMs_20 10 54 58.5
comp=Z,4μm,20.0s
GCPR Guaynabo City 26.63 246 P **P** **10 46 41.7 -2.4**
GCPR IAmb IAmb 10 46 45.3
comp=Z,42nm,1.1s
PFVI Vila Bisbo 26.65 70 IAMs_20 IAMs_20 10 54 13.1
comp=Z,4μm,19.0s
L63A North Scituate 26.67 301 P **P** **10 46 44.8 +0.6**
baz=102
E62A Clayton Lake 26.69 312 P **P** **10 46 45.2 +0.8**
baz=113
E62A Clayton Lake 26.69 312 IAMs_20 IAMs_20 10 56 16.8
comp=Z,5μm,20.0s
F62A Pittston Farm, 26.70 310 IAMs_20 IAMs_20 10 55 46.1
comp=Z,4μm,20.0s
PDPR Patillas Dam, 26.75 245 P **P** **10 46 45.4 +0.2**
HRV Adam Dziewonsk 26.77 302 P **P** **10 46 45.9 +0.7**
baz=103
SJG San Juan 26.80 246 P **P** **10 46 46.5 +0.9**
SJG pmax pmax
comp=Z,36nm,1.1s
SJG San Juan 26.80 246 LR LR 10 54 54.7
comp=Z,929nm,21.9s,baz=62,slow=31
SJG San Juan 26.80 246 P **P** **10 46 46.5 +0.9**
SJG IAmb IAmb 10 46 53.0
comp=Z,36nm,1.1s
G62A West of Eustis 26.83 309 P **P** **10 46 44.7 -1.0**
G62A IAmb IAmb 10 46 49.1
comp=Z,46nm,1.6s
H62A Milan 27.04 307 IAMs_20 IAMs_20 10 54 41.4
comp=Z,3μm,20.0s
FFD Franklin Falls 27.07 304 IAMs_20 IAMs_20 10 55 22.3
comp=Z,4μm,21.0s
PMTG Montargil 27.25 66 *e*S **S** **10 51 36.9 +8.6**
PCVE Castro Verde 27.30 69 *e*P **P** **10 46 49.6 -0.4**
comp=Z,40nm,1.4s
PBDV Barranco-do-Ve 27.37 69 *e*P **P** **10 46 50.7 +0.1**
comp=Z,57nm,1.5s
PBDV *e*S **S** **10 51 38.4 +8.2**
F61A St Evariste 27.39 310 P **P** **10 46 51.0 +0.3**
baz=110
PBEJ Beja 27.45 68 *e*P **P** **10 46 51.5 +0.1**
comp=Z,52nm,1.9s
M62A Hamden 27.53 300 P **P** **10 46 52.8 +0.9**
baz=100
YLE Yale 27.54 299 IAMs_20 IAMs_20 10 55 12.8
comp=Z,6μm,22.0s
PVAQ Vaqueiros 27.54 69 *e*P **P** **10 46 52.0 -0.2**
comp=Z,38nm,1.7s
PVAQ *e*S **S** **10 51 39.3 +6.4**
PVAQ *e*LR LR 10 53 43.0
comp=Z,3μm,20.0s
PVAQ Vaqueiros 27.54 69 IAMs_20 IAMs_20 10 54 39.8
comp=Z,4μm,20.0s
H61A Lyndonville 27.56 306 P **P** **10 46 53.0 +0.8**
baz=107
L61B Northampton 27.57 302 P **P** **10 46 53.0 +0.7**
baz=102
I61A Oroboro, Fairl 27.59 305 P **P** **10 46 52.9 +0.5**
baz=105
J61A Chester 27.68 304 P **P** **10 46 54.1 +0.8**
baz=104
PCBR Castelo Branco 27.91 64 *e*P **P** **10 46 54.9 -0.5**
comp=Z,28nm,1.6s
PVRL Vila Real 27.92 61 *e*P **P** **10 46 55.3 -0.2**
comp=Z,68nm,1.6s
MTE Manteigas 27.92 63 *e*P **P** **10 46 55.1 -0.5**
comp=Z,48nm,1.6s
MTE *e*S **S** **10 51 43.1 +4.1**
MTE *e*LR LR 10 54 01.1
comp=Z,1μm,22.0s
MTE Manteigas 27.92 63 P **P** **10 46 53.2 -2.4**
PMRV Marv??o 27.93 65 *e*P **P** **10 46 54.9 -0.7**
comp=Z,42nm,1.5s
PMRV *e*LR LR 10 53 55.1
comp=Z,832nm,22.0s
KSCT Kent School, K 28.02 300 IAMs_20 IAMs_20 10 55 28.3
comp=Z,4μm,22.0s
F60A Warwick 28.02 309 P **P** **10 46 56.8 +0.5**
baz=109
H60A Morristown 28.09 306 P **P** **10 46 58.5 +1.4**
baz=106
L61A Hillsdale 1, H 28.15 301 P **P** **10 46 58.4 +0.8**
baz=101
PAL Palisades 28.22 298 IAMs_20 IAMs_20 10 55 41.7
comp=Z,5μm,21.0s
CPNY Central Park 28.23 298 IAMs_20 IAMs_20 10 55 40.9
comp=Z,5μm,21.0s
J60A Lant Hill Farm 28.27 303 P **P** **10 46 59.7 +1.1**
baz=103
MVO Moncorvo 28.41 61 *e*P **P** **10 46 59.9 -0.1**
comp=Z,37nm,1.5s
MVO *e*S **S** **10 51 52.4 +5.7**
MVO *e*LR LR 10 54 08.8
comp=Z,1μm,18.0s
N61A South Mountain 28.47 298 P **P** **10 47 01.8 +1.4**
baz=97
BRNJ Basking Ridge 28.67 298 IAMs_20 IAMs_20 10 55 53.6
comp=Z,5μm,22.0s
PBRG Braganca 28.73 60 *e*P **P** **10 47 03.2 +0.5**
comp=Z,50nm,1.6s
P61A Hammonton 28.73 295 IAMs_20 IAMs_20 10 55 43.4
comp=Z,3μm,20.0s
ODNJ Ogdensburg 28.75 298 IAMs_20 IAMs_20 10 55 57.8
comp=Z,4μm,21.0s
H59A Cadyville 28.80 306 P **P** **10 47 03.6 +0.3**
baz=105
M60A Port Jervis 28.80 299 P **P** **10 47 04.3 +1.0**
baz=98
MDP Montagnes des 28.85 206 LR LR 10 56 04.3
comp=Z,674nm,20.5s,baz=5.0,slow=31
D58A Chemin du LacG 29.00 311 P **P** **10 47 06.0 +0.9**
baz=110
E58A La Victoria 29.02 310 P **P** **10 47 06.1 +0.9**
baz=108
LATQ La Tuque 29.04 312 P **P** **10 47 05.8 +0.4**
baz=111
R61A Willards 29.07 293 P **P** **10 47 07.3 +1.5**
baz=92
R61A Willards 29.07 293 IAMs_20 IAMs_20 10 55 39.4
comp=Z,4μm,22.0s
H58A Gabriels 29.08 305 P **P** **10 47 06.6 +0.7**
baz=104
Q61A Milford 29.09 294 P **P** **10 47 07.6 +1.8**
baz=93
J59A Piesco 29.09 303 P **P** **10 47 06.7 +0.7**
baz=102
N60A Cedar Hill Far 29.09 298 P **P** **10 47 06.6 +0.7**
baz=97
K59A Cooperstown 29.20 302 P **P** **10 47 08.1 +1.2**
baz=100
L59A Walton 29.24 301 P **P** **10 47 08.1 +0.8**
baz=99
L59A Walton 29.24 301 P **P** **10 47 07.3 0.0**
L59A IAmb IAmb 10 47 16.0
comp=Z,49nm,1.4s
L59A IAMs_20 IAMs_20 10 56 47.7
comp=Z,4μm,20.0s
PSUB Penn St. - Bra 29.26 296 IAMs_20 IAMs_20 10 56 20.4
comp=Z,4μm,21.0s
O60A Telford 29.26 297 P **P** **10 47 08.1 +0.7**
baz=96
S61A Accomac 29.31 291 IAMs_20 IAMs_20 10 55 54.9
comp=Z,3μm,20.0s
P60A Greenville 29.39 296 IAMs_20 IAMs_20 10 56 13.9
comp=Z,3μm,20.0s
M59A Waymart 29.43 299 P **P** **10 47 09.9 +1.0**
baz=98
Q60A Greensboro 29.50 294 P **P** **10 47 11.6 +2.1**
Q60A IAmb IAmb 10 47 17.9
comp=Z,30nm,0.9s
Q60A IAMs_20 IAMs_20 10 56 14.6
comp=Z,4μm,21.0s
V62A Hyde County Ai 29.58 287 IAMs_20 IAMs_20 10 55 51.0
comp=Z,4μm,22.0s
N59A State Game Lan 29.60 298 P **P** **10 47 11.5 +1.0**
baz=96
N59A State Game Lan 29.60 298 P **P** **10 47 11.8 +1.3**
N59A IAmb IAmb 10 47 17.7
comp=Z,20nm,1.1s
N59A IAMs_20 IAMs_20 10 56 12.4
comp=Z,5μm,22.0s
SCHQ Schefferville 29.61 329 LR LR 10 58 12.3
comp=Z,5μm,19.7s,baz=138,slow=35
J58A Remsen 29.63 303 P **P** **10 47 11.5 +0.8**
baz=101
J58A Remsen 29.63 303 P **P** **10 47 10.2 -0.5**
J58A IAMs_20 IAMs_20 10 56 28.9
comp=Z,3μm,21.0s
K58A Earlville 29.78 302 P **P** **10 47 12.8 +0.7**
baz=100
K58A Earlville 29.78 302 IAMs_20 IAMs_20 10 56 55.9
comp=Z,4μm,20.0s
L58A Harry Jones Me 29.81 300 P **P** **10 47 13.3 +1.0**
baz=98
IVI Ivigtut 29.85 353 P **P** **10 47 12.1 -0.3**
BINY Binghamton 29.93 300 P **P** **10 47 14.6 +1.2**
baz=98
BINY Binghamton 29.93 300 P **P** **10 47 14.9 +1.5**
BINY IAmb IAmb 10 47 16.8
comp=Z,20nm,1.1s
BINY IAMs_20 IAMs_20 10 56 58.1
comp=Z,4μm,20.0s
U61A Possum Corner 29.94 289 IAMs_20 IAMs_20 10 56 24.6
comp=Z,3μm,20.0s
P59A Jarrettsville 29.99 295 P **P** **10 47 14.9 +1.0**
baz=94
V61A Roper 30.07 288 IAMs_20 IAMs_20 10 56 06.0
comp=Z,4μm,22.0s
T60A Surry 30.16 290 IAMs_20 IAMs_20 10 56 21.2
comp=Z,4μm,21.0s
M58A Price's Panora 30.17 299 P **P** **10 47 16.4 +0.8**
baz=97
D56A ZEC Mazanza, M 30.20 310 P **P** **10 47 17.0 +1.3**
baz=108
PAGS Pennsylvania G 30.26 296 IAMs_20 IAMs_20 10 56 41.7
comp=Z,4μm,20.0s
PAB San Pablo 30.29 65 P **P** **10 47 15.7 -0.9**
PAB pmax pmax
comp=Z,10.0nm,1.0s
PAB San Pablo 30.29 65 P **P** **10 47 15.7 -0.9**
N58A Sunbury 30.31 298 P **P** **10 47 17.2 +0.5**
baz=96
N58A Sunbury 30.31 298 P **P** **10 47 17.6 +0.9**
N58A IAMs_20 IAMs_20 10 57 16.1
comp=Z,4μm,20.0s
K57A Scipio Center 30.40 301 P **P** **10 47 18.3 +0.7**
baz=99
SDDR Presa de Saban 30.41 253 P **P** **10 47 18.9 +1.0**
SDDR IAmb IAmb 10 47 29.0
comp=Z,31nm,1.1s
SDDR IAMs_20 IAMs_20 10 56 22.1
comp=Z,3μm,21.0s
R59A King George, V 30.46 292 P **P** **10 47 19.1 +1.0**
baz=91
U60A Pendleton 30.51 289 P **P** **10 47 19.6 +1.1**
baz=88
L57A Andrews Acres 30.54 300 P **P** **10 47 19.7 +0.9**
baz=97
H56A Elgin 30.57 305 P **P** **10 47 19.6 +0.6**
baz=102
ESDC Sonseca Array 30.59 65 P **P** **10 47 18.7 -0.6**
comp=Z,2.4nm,0.7s,baz=267,slow=8.9,SNR=12
ESDC LR LR 10 57 25.2
comp=Z,413nm,18.1s,baz=240,slow=32
ESDC Sonseca Array 30.59 65 P **P** **10 47 18.7 -0.6**
ESBB Sonseca Array 30.59 65 P **P** **10 47 18.9 -0.4**
ESBB IAmb IAmb 10 47 27.7
comp=Z,25nm,1.6s
V60A Jim Taylor Roa 30.63 288 P **P** **10 47 20.7 +1.1**
baz=87
V60A Jim Taylor Roa 30.63 288 IAMs_20 IAMs_20 10 56 33.8
comp=Z,4μm,21.0s
P58A Pank, Wackersv 30.65 295 P **P** **10 47 20.3 +0.6**
baz=93
D55A Sainte-Anne-du 30.66 310 P **P** **10 47 20.1 +0.4**
baz=107
CBN Corbin Frederi 30.67 292 IAMs_20 IAMs_20 10 56 37.7
comp=Z,3μm,22.0s
M57A Sunshine Farm, 30.67 298 P **P** **10 47 20.9 +1.0**
baz=96
M57A Sunshine Farm, 30.67 298 P **P** **10 47 20.5 +0.6**
M57A IAmb IAmb 10 47 22.0
comp=Z,18nm,0.9s
M57A IAMs_20 IAMs_20 10 56 55.6
comp=Z,5μm,21.0s
J56A Wolcott 30.74 302 IAMs_20 IAMs_20 10 57 34.4
comp=Z,3μm,20.0s
T59A Double "B" Far 30.82 290 P **P** **10 47 22.1 +0.9**
baz=88
T59A Double "B" Far 30.82 290 P **P** **10 47 22.0 +0.8**
T59A IAMs_20 IAMs_20 10 57 02.7
comp=Z,3μm,20.0s
Q58A Fox Den Farm, 30.93 294 P **P** **10 47 23.1 +0.9**
baz=92
N57A Milroy 30.93 297 P **P** **10 47 23.1 +0.8**
baz=95
O57A Amberson 30.95 296 P **P** **10 47 23.8 +1.4**
baz=94
CHGQ Chibougamau 30.97 316 P **P** **10 47 23.1 +0.7**
baz=113
K56A Middlesex 30.99 301 P **P** **10 47 23.6 +0.9**
baz=98
U59A Littleton 31.03 289 IAMs_20 IAMs_20 10 56 47.3
comp=Z,4μm,22.0s
R58B Mineral 31.06 292 P **P** **10 47 24.4 +1.0**
baz=90
R58B Mineral 31.06 292 P **P** **10 47 24.0 +0.6**
R58B IAmb IAmb 10 47 25.1
comp=Z,14nm,1.0s
R58B IAMs_20 IAMs_20 10 58 07.2
comp=Z,3μm,19.0s
L56A Greenwood 31.08 300 P **P** **10 47 24.5 +0.9**
baz=97
L56A Greenwood 31.08 300 IAMs_20 IAMs_20 10 57 22.5
comp=Z,4μm,21.0s
R58A Rapidan 31.16 293 P **P** **10 47 25.2 +0.9**
baz=90
CNNC Cliffs of the 31.18 287 IAMs_20 IAMs_20 10 56 37.3
comp=Z,3μm,22.0s
SSPA Standing Stone 31.18 297 P **P** **10 47 25.3 +1.0**
baz=94
SSPA Standing Stone 31.18 297 P **P** **10 47 25.4 +1.0**
SSPA IAmb IAmb 10 47 26.3
comp=Z,12nm,0.9s
SSPA Standing Stone 31.18 297 IAMs_20 IAMs_20 10 57 10.1
comp=Z,4μm,22.0s
P57A Homestead Farm 31.20 295 P **P** **10 47 25.8 +1.2**
baz=92
P57A Homestead Farm 31.20 295 IAMs_20 IAMs_20 10 57 17.8
comp=Z,4μm,21.0s
S58A Poland Farm, P 31.20 291 P **P** **10 47 25.7 +1.1**
baz=89
S58A Poland Farm, P 31.20 291 IAMs_20 IAMs_20 10 58 02.9
comp=Z,3μm,20.0s
H55A Tweed 31.20 305 P **P** **10 47 25.5 +0.9**
baz=101
X60A Albert Glenn T 31.30 285 P **P** **10 47 25.8 +0.3**
baz=84
MMNY Mt. Morris Dam 31.42 301 IAMs_20 IAMs_20 10 57 35.3
comp=Z,5μm,22.0s
V59A Middlesex 31.42 288 P **P** **10 47 27.7 +1.2**
baz=86
J55A Hilton 31.43 302 P **P** **10 47 26.8 +0.3**
baz=99
J55A Hilton 31.43 302 IAMs_20 IAMs_20 10 57 35.6
comp=Z,4μm,21.0s
D54A Lac Fusel, La 31.47 310 P **P** **10 47 27.5 +0.6**
baz=106
M56A Emporium 31.47 299 P **P** **10 47 28.2 +1.1**
baz=96
M56A Emporium 31.47 299 IAMs_20 IAMs_20 10 57 53.9
comp=Z,4μm,20.0s
PEMO Pembroke 31.49 307 P **P** **10 47 28.6 +1.5**
baz=103
I55A Frankford 31.49 304 P **P** **10 47 28.5 +1.4**
baz=100
Q57A Strasburg 31.50 294 P **P** **10 47 28.9 +1.6**
baz=91
N56A West Decatur 31.51 298 P **P** **10 47 28.8 +1.5**
baz=94
Y60A Bolivia 31.56 284 P **P** **10 47 28.8 +1.0**
baz=83
Y60A Bolivia 31.56 284 P **P** **10 47 28.7 +0.8**
R57A Stanardsville 31.57 292 P **P** **10 47 28.4 +0.5**
baz=90
U58A Oxford 31.64 289 P **P** **10 47 29.5 +1.0**
baz=87
O56A Blue Knob Stat 31.67 296 IAMs_20 IAMs_20 10 57 35.1
comp=Z,4μm,21.0s
L55A Hinsdale 31.74 300 P **P** **10 47 30.2 +0.9**
baz=96
P56A Dayton Farm, R 31.84 295 P **P** **10 47 31.6 +1.4**
baz=92
MEDO Medina 31.88 302 IAMs_20 IAMs_20 10 58 00.4
comp=Z,4μm,21.0s
WVNY West Valley, N 31.89 300 IAMs_20 IAMs_20 10 58 19.8
comp=Z,4μm,20.0s
M55A Ridgway 31.91 298 IAMs_20 IAMs_20 10 57 56.4
comp=Z,4μm,20.0s
S57A Dark Hollow, R 31.92 291 P **P** **10 47 32.2 +1.3**
baz=89
S57A Dark Hollow, R 31.92 291 IAMs_20 IAMs_20 10 57 25.7
comp=Z,3μm,21.0s
K54A Basiliko Farm, 31.98 301 P **P** **10 47 32.5 +1.1**
baz=97
N55A Marion Center 32.02 297 P **P** **10 47 32.7 +0.9**
baz=94
N55A Marion Center 32.02 297 IAMs_20 IAMs_20 10 57 47.4
comp=Z,4μm,21.0s
J54A Appleton 32.02 302 P **P** **10 47 32.8 +1.0**
baz=98
J54A Appleton 32.02 302 IAMs_20 IAMs_20 10 58 04.4
comp=Z,4μm,21.0s
Q56A Snyder Ridge, 32.10 294 IAMs_20 IAMs_20 10 58 15.6
comp=Z,3μm,21.0s
Y59A Loris 32.11 284 P **P** **10 47 33.6 +1.0**
V58A Windy Hill, Pi 32.13 288 P **P** **10 47 33.8 +1.0**
baz=86
V58A Windy Hill, Pi 32.13 288 P **P** **10 47 33.5 +0.7**
V58A IAmb IAmb 10 47 34.7
comp=Z,9.7nm,0.7s
V58A IAMs_20 IAMs_20 10 57 29.5
comp=Z,3μm,22.0s
D53A Lac Vacive, Po 32.14 309 P **P** **10 47 33.3 +0.5**
baz=105
T57A Hurt 32.18 290 P **P** **10 47 34.0 +0.7**
baz=88
T57A Hurt 32.18 290 P **P** **10 47 33.8 +0.6**
T57A IAmb IAmb 10 47 41.4
comp=Z,17nm,1.4s
T57A IAMs_20 IAMs_20 10 57 52.7
comp=Z,3μm,20.0s
H53A Bobcaygeon 32.19 304 P **P** **10 47 34.0 +0.8**
baz=100
O55A Ligonier 32.23 296 P **P** **10 47 34.3 +0.7**
baz=93
LSQQ Lebel-sur-Quev 32.25 313 P **P** **10 47 34.4 +0.7**
baz=109
VLDQ Val d'Or 32.26 311 P **P** **10 47 36.1 +2.3**
R56A Bull Pasture M 32.26 293 P **P** **10 47 35.0 +1.0**
baz=90
U57A Blanch 32.27 289 P **P** **10 47 34.7 +0.6**
baz=87
W58A Raeford 32.29 286 P **P** **10 47 34.8 +0.6**
baz=84
G53A Haliburton 32.32 305 P **P** **10 47 34.9 +0.5**
baz=101
L54A Sinclairville 32.39 300 P **P** **10 47 36.3 +1.2**
baz=96
M54A Oil Creek Stat 32.59 298 P **P** **10 47 38.0 +1.2**
baz=94
M54A Oil Creek Stat 32.59 298 IAMs_20 IAMs_20 10 58 05.3
comp=Z,3μm,21.0s
E52A Mattawa 32.59 307 P **P** **10 47 37.5 +0.8**
baz=103
P55A Reedsville 32.61 295 P **P** **10 47 38.2 +1.2**
baz=91
MCWV Mont Chateau 32.62 295 P **P** **10 47 38.4 +1.2**
baz=91
V57A Coltrane Farms 32.66 288 P **P** **10 47 38.5 +1.1**
baz=86
Y58A Scranton 32.77 284 P **P** **10 47 39.8 +1.4**
baz=82
N54A Moraine State 32.79 297 P **P** **10 47 39.2 +0.6**
baz=93
N54A Moraine State 32.79 297 IAMs_20 IAMs_20 10 58 31.8
comp=Z,4μm,20.0s
Q55A Buckhannon 32.80 294 P **P** **10 47 40.1 +1.4**
baz=90
T56A Rocky Mt 32.80 290 P **P** **10 47 40.2 +1.5**
baz=87
ERPA Erie 32.88 300 IAMs_20 IAMs_20 10 58 49.0
comp=Z,4μm,20.0s
CART Cartagena 32.88 69 P **P** **10 47 38.7 -0.7**
CART IAmb IAmb 10 47 46.2
comp=Z,25nm,1.1s
W57A Gilead 32.90 287 P **P** **10 47 40.8 +1.2**
baz=84,SNR=6.3
W57A Gilead 32.90 287 P **P** **10 47 40.7 +1.2**
W57A IAmb IAmb 10 47 42.0
comp=Z,37nm,1.2s
W57A IAMs_20 IAMs_20 10 57 40.9
comp=Z,3μm,22.0s
F52A Sundridge 32.94 306 P **P** **10 47 40.5 +0.7**
baz=101
ALLY Alegheny Colle 32.95 299 IAMs_20 IAMs_20 10 59 27.1
comp=Z,4μm,21.0s
Z58A St. Stephen 32.97 283 P **P** **10 47 41.8 +1.6**
baz=82
O54A Avella 33.05 296 P **P** **10 47 42.2 +1.3**
baz=92
L53A Girard 33.06 299 P **P** **10 47 42.4 +1.4**
baz=95
BLA Blacksburg 33.10 291 P **P** **10 47 42.7 +1.3**
baz=87
BLA Blacksburg 33.10 291 P **P** **10 47 42.1 +0.8**
BLA pmax pmax
comp=Z,16nm,1.1s
BLA Blacksburg 33.10 291 P **P** **10 47 42.1 +0.8**

BLA			IAmb	IAmb	10 47 43.4	
	comp=Z,16nm,1.1s					
BLA			IAMs_20	IAMs_20	10 59 11.1	
	comp=Z,3µm,18.0s					
P54A	**Burton**	**33.11 295**	P	**P**	**10 47 42.8 +1.4**	
	baz=91					
U56A	**King**	**33.12 289**	P	**P**	**10 47 43.1 +1.6**	
	baz=86					
S55A	**Lewisburg**	**33.14 292**	P	**P**	**10 47 42.5 +0.7**	
	baz=88					
D51A	**Lot 18 Range I**	**33.25 309**	P	**P**	**10 47 42.1 -0.4**	
	baz=103					
V56A	**Mocksville**	**33.25 288**	P	**P**	**10 47 43.5 +0.8**	
	baz=85					
V56A	**Mocksville**	**33.25 288**	P	**P**	**10 47 43.6 +1.0**	
V56A			IAMs_20	IAMs_20	10 58 34.1	
	comp=Z,3µm,20.0s					
NHSC	**New Hope**	**33.30 283**	P	**P**	**10 47 44.0 +0.9**	
	baz=81					
M53A	**WI Miller and**	**33.34 298**	P	**P**	**10 47 44.1 +0.7**	
	baz=94					
Y57A	**Sumter**	**33.35 285**	P	**P**	**10 47 44.8 +1.2**	
	baz=82					
Y57A	**Sumter**	**33.35 285**	P	**P**	**10 47 44.2 +0.7**	
Y57A			IAmb	IAmb	10 47 45.7	
	comp=Z,20nm,0.8s					
F51A	**Arnstein**	**33.37 306**	P	**P**	**10 47 44.0 +0.5**	
	baz=101					
W56A	**Indian Trail**	**33.38 287**	P	**P**	**10 47 44.7 +1.0**	
	baz=84					
Q54A	**Coxs Mills**	**33.38 294**	P	**P**	**10 47 45.0 +1.2**	
	baz=90					
Q54A	**Coxs Mills**	**33.38 294**	IAMs_20	IAMs_20	10 58 24.5	
	comp=Z,4µm,20.0s					
T55A	**Pulaski**	**33.39 290**	P	**P**	**10 47 44.9 +1.0**	
	baz=87					
N53A	**Lisbon**	**33.42 297**	P	**P**	**10 47 45.1 +1.0**	
	baz=92					
N53A	**Lisbon**	**33.42 297**	P	**P**	**10 47 45.2 +1.1**	
N53A			IAMs_20	IAMs_20	10 59 20.6	
	comp=Z,3µm,20.0s					
KLBO	**Killbear Provi**	**33.47 305**	P	**P**	**10 47 45.3 +0.8**	
	baz=100					
K52A	**Tillsonburg**	**33.48 301**	P	**P**	**10 47 45.4 +0.9**	
	baz=96					
R54A	**Victor**	**33.52 292**	P	**P**	**10 47 45.9 +1.0**	
	baz=88					
D50A	**G1974 Best Tow**	**33.58 309**	P	**P**	**10 47 46.4 +1.0**	
	baz=103					
U55A	**TA2, Sparta**	**33.64 289**	P	**P**	**10 47 47.2 +1.0**	
	baz=86					
O53A	**New Philadelph**	**33.69 296**	P	**P**	**10 47 47.5 +1.1**	
	baz=91					
Z57A	**Bowman**	**33.71 284**	P	**P**	**10 47 47.9 +1.2**	
	baz=81					
S54A	**Dingess, Beckl**	**33.78 292**	IAMs_20	IAMs_20	10 58 25.2	
	comp=Z,4µm,22.0s					
P53A	**Whipple**	**33.81 295**	P	**P**	**10 47 48.0 +0.5**	
	baz=90					
P53A	**Whipple**	**33.81 295**	P	**P**	**10 47 48.3 +0.8**	
P53A			IAmb	IAmb	10 47 49.6	
	comp=Z,30nm,1.2s					
P53A			IAMs_20	IAMs_20	10 58 38.9	
	comp=Z,3µm,22.0s					
X56A	**White Oak**	**33.82 286**	P	**P**	**10 47 48.6 +1.0**	
	baz=83					
V55A	**Taylorsville**	**33.83 288**	P	**P**	**10 47 48.8 +1.1**	
	baz=85					
V55A	**Taylorsville**	**33.83 288**	P	**P**	**10 47 48.6 +1.0**	
V55A			IAMs_20	IAMs_20	10 58 31.4	
	comp=Z,4µm,21.0s					
M52A	**Chesterland**	**33.85 298**	IAMs_20	IAMs_20	10 59 16.9	
	comp=Z,3µm,20.0s					
KMSC	**Kings Mountain**	**33.99 287**	P	**P**	**10 47 49.9 +0.8**	
	baz=84					
KMSC	**Kings Mountain**	**33.99 287**	IAMs_20	IAMs_20	10 58 44.8	
	comp=Z,3µm,20.0s					
T54A	**Tazewell**	**34.03 290**	P	**P**	**10 47 50.6 +1.1**	
	baz=86,SNR=8.1					
JSC	**Jenkinsville**	**34.03 285**	P	**P**	**10 47 50.3 +0.9**	
JSC			pmax	pmax		
	comp=Z,13nm,1.2s					
JSC	**Jenkinsville**	**34.03 285**	P	**P**	**10 47 50.3 +0.9**	
K51A	**Iona Station**	**34.05 300**	P	**P**	**10 47 50.5 +0.9**	
	baz=95					
N52A	**McGinn's Farm,**	**34.07 297**	P	**P**	**10 47 51.2 +1.5**	
	baz=92					
O52A	**Adamsville**	**34.16 296**	P	**P**	**10 47 52.0 +1.4**	
	baz=91					
O52A	**Adamsville**	**34.16 296**	P	**P**	**10 47 51.7 +1.1**	
O52A			IAmb	IAmb	10 47 53.0	
	comp=Z,28nm,1.0s					
O52A			IAMs_20	IAMs_20	10 59 03.2	
	comp=Z,3µm,21.0s					
Z56A	**Williston**	**34.26 284**	P	**P**	**10 47 52.7 +1.3**	
	baz=81					
Z56A	**Williston**	**34.26 284**	P	**P**	**10 47 53.0 +1.6**	
Z56A			IAmb	IAmb	10 47 53.6	
	comp=Z,20nm,0.8s					
U54A	**Nelsons Funny**	**34.26 289**	P	**P**	**10 47 52.6 +1.1**	
	baz=86					
U54A	**Nelsons Funny**	**34.26 289**	P	**P**	**10 47 52.3 +0.8**	
U54A			IAmb	IAmb	10 47 53.6	
	comp=Z,15nm,0.9s					
U54A			IAMs_20	IAMs_20	10 59 17.9	
	comp=Z,3µm,20.0s					
R53A	**Hurricane**	**34.27 293**	P	**P**	**10 47 52.7 +1.2**	
	baz=88					
R53A	**Hurricane**	**34.27 293**	P	**P**	**10 47 52.8 +1.4**	
R53A			IAmb	IAmb	10 47 59.3	
	comp=Z,16nm,1.0s					
R53A			IAMs_20	IAMs_20	10 59 23.0	
	comp=Z,4µm,20.0s					
BASO	**Ashfield**	**34.30 303**	P	**P**	**10 47 51.7 0.0**	
	baz=97					
P52A	**Corning**	**34.39 295**	P	**P**	**10 47 53.6 +1.1**	
	baz=90					
PAULI	**Pauline**	**34.42 286**	P	**P**	**10 47 54.0 +1.1**	
V54A	**Nebo**	**34.43 288**	P	**P**	**10 47 54.0 +1.1**	
	baz=84					
S53A	**Williamson**	**34.43 291**	P	**P**	**10 47 54.0 +1.0**	
	baz=87					
M51A	**Elyria**	**34.47 298**	P	**P**	**10 47 54.2 +1.0**	
	baz=92					
156A	**Sylvania**	**34.47 283**	P	**P**	**10 47 54.3 +1.1**	
	baz=80					
Q52A	**Bidwell**	**34.50 294**	P	**P**	**10 47 54.3 +0.8**	
	baz=89,SNR=7.7					
Y55A	**Saluda**	**34.57 285**	P	**P**	**10 47 54.7 +0.6**	
	baz=82					
N51A	**Ashland**	**34.59 297**	IAMs_20	IAMs_20	10 59 17.5	
	comp=Z,3µm,21.0s					
W54A	**Cherokee Point**	**34.69 287**	P	**P**	**10 47 56.6 +1.5**	
	baz=83					
O51A	**Pataskala**	**34.76 296**	P	**P**	**10 47 56.7 +1.0**	
	baz=90					
T53A	**Wise**	**34.80 290**	P	**P**	**10 47 57.4 +1.2**	
	baz=86					
R52A	**Catlettsburg**	**34.81 293**	P	**P**	**10 47 56.7 +0.5**	
	baz=88					
060A	**Indiantown**	**34.84 273**	P	**P**	**10 47 57.9 +1.4**	
060A			IAMs_20	IAMs_20	10 58 53.4	
	comp=Z,3µm,19.0s					
HODGE	**Hodges**	**34.86 285**	P	**P**	**10 47 57.9 +1.3**	
K50A	**Casco**	**34.88 300**	P	**P**	**10 47 56.6 0.0**	
U53A	**Fall Branch**	**34.88 289**	P	**P**	**10 47 58.1 +1.3**	
	baz=85					
D48A	**Paudash Townsh**	**34.89 308**	P	**P**	**10 47 57.3 +0.5**	
	baz=101					
X54A	**Belton**	**34.91 286**	P	**P**	**10 47 58.1 +1.0**	
	baz=82					
256A	**Glennville**	**34.92 282**	P	**P**	**10 47 58.7 +1.5**	
	baz=79					
658A	**Bunnell**	**34.95 277**	IAMs_20	IAMs_20	10 58 36.2	
	comp=Z,3µm,22.0s					
L50A	**Kingsville**	**34.97 299**	P	**P**	**10 47 58.8 +1.4**	
	baz=93					
E48A	**Lockeyer**	**35.01 307**	P	**P**	**10 47 59.0 +1.2**	
	baz=100					
ACSO	**Alum Creek Sta**	**35.05 296**	P	**P**	**10 47 59.1 +0.9**	
	baz=90					
ACSO	**Alum Creek Sta**	**35.05 296**	P	**P**	**10 47 59.6 +1.4**	
ACSO			IAmb	IAmb	10 48 00.3	
	comp=Z,24nm,0.8s					
ACSO			IAMs_20	IAMs_20	10 59 30.5	
	comp=Z,4µm,22.0s					
P51A	**Williamsport**	**35.11 295**	P	**P**	**10 47 59.9 +1.2**	
	baz=89					
P51A	**Williamsport**	**35.11 295**	P	**P**	**10 47 59.6 +0.9**	
P51A			IAmb	IAmb	10 48 00.6	
	comp=Z,26nm,1.1s					
P51A			IAMs_20	IAMs_20	11 00 01.2	
	comp=Z,3µm,20.0s					
M50A	**Fremont**	**35.11 298**	IAMs_20	IAMs_20	10 59 45.2	
	comp=Z,3µm,21.0s					
I49A	**Point Hope**	**35.12 302**	IAMs_20	IAMs_20	10 59 59.3	
	comp=Z,4µm,22.0s					
V53A	**Saluda**	**35.14 288**	P	**P**	**10 48 00.1 +1.0**	
	baz=84					
V53A	**Saluda**	**35.14 288**	P	**P**	**10 48 00.5 +1.4**	
V53A			IAMs_20	IAMs_20	10 59 33.1	
	comp=Z,3µm,20.0s					
T52A	**Hallie**	**35.15 291**	IAMs_20	IAMs_20	10 59 16.4	
	comp=Z,3µm,20.0s					
N50A	**Nevada**	**35.18 297**	P	**P**	**10 48 00.5 +1.2**	
	baz=91					
356A	**Blackshear**	**35.25 280**	P	**P**	**10 48 01.1 +1.1**	
	baz=78					
Y54A	**Tignall**	**35.27 285**	P	**P**	**10 48 01.3 +1.1**	
	baz=81,SNR=6.7					
155A	**Kite**	**35.28 283**	P	**P**	**10 48 01.6 +1.3**	
	baz=80					
456A	**Hilliard**	**35.29 279**	IAMs_20	IAMs_20	10 59 07.2	
	comp=Z,3µm,21.0s					
BG3	**Lake Jocassee**	**35.31 287**	P	**P**	**10 48 02.0 +1.5**	
Q51A	**Peebles**	**35.34 294**	P	**P**	**10 48 01.9 +1.1**	
	baz=88					
Q51A	**Peebles**	**35.34 294**	P	**P**	**10 48 02.0 +1.3**	
Q51A			IAmb	IAmb	10 48 02.7	
	comp=Z,23nm,1.1s					
Q51A			IAMs_20	IAMs_20	10 59 46.3	
	comp=Z,3µm,21.0s					
255A	**Hazlehurst**	**35.42 282**	P	**P**	**10 48 02.6 +1.2**	
	baz=79					
DWPF	**Disney Wildern**	**35.44 275**	IAMs_20	IAMs_20	10 59 11.2	
	comp=Z,3µm,21.0s					
W53A	**Cullowhee**	**35.48 287**	P	**P**	**10 48 03.2 +1.1**	
	baz=83,SNR=5.8					
K49A	**Clarkson**	**35.49 300**	P	**P**	**10 48 02.7 +0.8**	
	baz=94					
Z54A	**Sparta**	**35.49 284**	P	**P**	**10 48 03.0 +0.9**	
	baz=80,SNR=5.8					
U52A	**Thorn Hill**	**35.51 289**	P	**P**	**10 48 03.1 +0.8**	
	baz=84					
R51A	**Hillsboro**	**35.55 293**	P	**P**	**10 48 03.4 +0.8**	
	baz=87,SNR=6.8					
S51A	**Beattyville**	**35.60 292**	P	**P**	**10 48 04.1 +1.2**	
	baz=86					
S51A	**Beattyville**	**35.60 292**	P	**P**	**10 48 03.7 +0.7**	
S51A			IAmb	IAmb	10 48 05.0	
	comp=Z,10nm,0.7s					
S51A			IAMs_20	IAMs_20	10 59 42.2	
	comp=Z,3µm,20.0s					
TZTN	**Tazewell**	**35.65 290**	P	**P**	**10 48 04.7 +1.3**	
	baz=85					
TZTN	**Tazewell**	**35.65 290**	P	**P**	**10 48 04.5 +1.1**	
TZTN			IAmb	IAmb	10 48 11.8	
	comp=Z,20nm,1.1s					
TZTN			IAMs_20	IAMs_20	11 00 21.6	
	comp=Z,3µm,20.0s					
061Z	**Ochoppi**	**35.67 271**	IAMs_20	IAMs_20	10 58 57.3	
	comp=Z,3µm,22.0s					
P50A	**Jamestown**	**35.68 295**	P	**P**	**10 48 04.8 +1.2**	
	baz=89,SNR=5.9					
X53A	**Estanollee**	**35.68 286**	P	**P**	**10 48 05.2 +1.5**	
	baz=82					
L49A	**Milan**	**35.68 299**	P	**P**	**10 48 05.1 +1.5**	
	baz=92					
SFJD	**Kangerlussuaq**	**35.75 353**	P	**P**	**10 48 01.9 -1.9**	
	comp=Z,7.0nm,0.8s,baz=127,slow=5.1,SNR=2.7					
V52A	**Sevierville**	**35.75 288**	P	**P**	**10 48 05.3 +0.9**	
	baz=84					
V52A	**Sevierville**	**35.75 288**	IAMs_20	IAMs_20	10 59 53.4	
	comp=Z,4µm,21.0s					
E47A	**Iron Bridge**	**35.76 307**	P	**P**	**10 48 05.3 +1.1**	
	baz=99					
J48A	**Bridge Port**	**35.76 301**	P	**P**	**10 48 05.4 +1.1**	
	baz=94					
J48A	**Bridge Port**	**35.76 301**	P	**P**	**10 48 05.5 +1.1**	
154A	**Montrose**	**35.82 283**	P	**P**	**10 48 06.5 +1.6**	
	baz=79					
Q50A	**Georgetown**	**35.84 294**	P	**P**	**10 48 06.2 +1.2**	
	baz=88					
T51A	**Gray**	**35.93 290**	P	**P**	**10 48 06.6 +0.8**	
	baz=85,SNR=5.1					
N49A	**Columbus Grove**	**35.96 297**	IAMs_20	IAMs_20	11 00 20.8	
	comp=Z,4µm,21.0s					
K48A	**Perry**	**35.98 300**	P	**P**	**10 48 07.5 +1.3**	
	baz=93					
GOGA	**Godfrey**	**35.98 284**	P	**P**	**10 48 07.4 +1.1**	
	baz=80,SNR=6.0					
GOGA	**Godfrey**	**35.98 284**	P	**P**	**10 48 07.3 +1.1**	
GOGA			pmax	pmax		
	comp=Z,22nm,1.1s					
GOGA	**Godfrey**	**35.98 284**	P	**P**	**10 48 07.3 +1.1**	
GOGA			IAmb	IAmb	10 48 15.5	
	comp=Z,22nm,1.1s					
G47A	**Hillman**	**35.99 304**	P	**P**	**10 48 07.4 +1.2**	
	baz=96					
Y53A	**Monroe**	**36.00 285**	P	**P**	**10 48 07.8 +1.3**	
	baz=81,SNR=6.4					
SDV	**Santo Domingo**	**36.02 237**	P	**P**	**10 48 08.2 +1.3**	
SDV	**Santo Domingo**	**36.02 237**	eP	**P**	**10 48 08.5 +1.6**	
U51A	**La Follette**	**36.04 289**	P	**P**	**10 48 07.9 +1.1**	
	baz=84					
656A	**Willston**	**36.04 277**	P	**P**	**10 48 08.5 +1.7**	
	baz=75					
656A	**Willston**	**36.04 277**	IAMs_20	IAMs_20	10 59 20.1	
	comp=Z,3µm,22.0s					
O49A	**Covington**	**36.08 296**	P	**P**	**10 48 07.9 +0.9**	
	baz=89					
O49A	**Covington**	**36.08 296**	IAMs_20	IAMs_20	11 00 22.9	
	comp=Z,3µm,20.0s					
Z53A	**Monticello**	**36.09 284**	P	**P**	**10 48 08.4 +1.2**	
	baz=80,SNR=6.0					
254A	**Abbeville**	**36.10 282**	P	**P**	**10 48 08.8 +1.5**	
	baz=78					
W52A	**Murphy**	**36.11 287**	P	**P**	**10 48 08.6 +1.1**	
	baz=82					
W52A	**Murphy**	**36.11 287**	P	**P**	**10 48 08.3 +0.9**	
W52A			IAMs_20	IAMs_20	10 59 41.9	
	comp=Z,3µm,22.0s					
R50A	**Paris**	**36.14 293**	P	**P**	**10 48 08.9 +1.4**	
	baz=87,SNR=6.4					
R50A	**Paris**	**36.14 293**	P	**P**	**10 48 08.4 +0.8**	
R50A			IAmb	IAmb	10 48 16.7	
	comp=Z,18nm,1.0s					
R50A			IAMs_20	IAMs_20	11 00 20.5	
	comp=Z,4µm,21.0s					
X52A	**Dahlonega**	**36.15 286**	P	**P**	**10 48 09.1 +1.4**	
	baz=82					
L48A	**N Adams**	**36.17 299**	P	**P**	**10 48 09.1 +1.3**	
	baz=92					
S50A	**Richmond**	**36.23 292**	P	**P**	**10 48 10.0 +1.6**	
	baz=86					
I47A	**Gladwin**	**36.34 302**	IAMs_20	IAMs_20	11 00 47.6	
	comp=Z,4µm,22.0s					
D46A	**Sault St. Mari**	**36.34 307**	P	**P**	**10 48 10.3 +1.1**	
	baz=99					
V51A	**Loudon**	**36.37 289**	P	**P**	**10 48 10.6 +1.0**	
	baz=83,SNR=10					
V51A	**Loudon**	**36.37 289**	P	**P**	**10 48 10.9 +1.3**	
V51A			IAmb	IAmb	10 48 11.7	
	comp=Z,17nm,0.7s					
V51A			IAMs_20	IAMs_20	11 00 12.7	
	comp=Z,3µm,21.0s					
M48A	**Edgerton**	**36.37 298**	P	**P**	**10 48 10.1 +0.5**	
	baz=91					
M48A	**Edgerton**	**36.37 298**	IAMs_20	IAMs_20	11 00 34.6	
	comp=Z,3µm,21.0s					
P49A	**Miami Univ. Ec**	**36.39 295**	P	**P**	**10 48 10.5 +0.8**	
	baz=88					
Y52A	**Lilburn**	**36.40 285**	P	**P**	**10 48 10.6 +0.7**	
	baz=81					
153A	**Fort Valley**	**36.41 283**	P	**P**	**10 48 11.1 +1.1**	
	baz=79					
TIGA	**Tifton**	**36.45 281**	P	**P**	**10 48 11.8 +1.5**	
	baz=78					
E46A	**Sault Ste Mari**	**36.45 306**	IAMs_20	IAMs_20	11 01 09.4	
	comp=Z,2µm,22.0s					
FRB	**Frobisher Bay**	**36.48 339**	P	**P**	**10 48 09.7 -0.5**	
	comp=Z,23nm,0.9s,baz=131,slow=7.1,SNR=7.9					
GLMI	**Grayling**	**36.49 304**	IAMs_20	IAMs_20	11 00 42.5	
	comp=Z,2µm,22.0s					
J47A	**Sunmer**	**36.52 301**	P	**P**	**10 48 11.9 +1.2**	
	baz=93					
Q49A	**Aurora**	**36.55 294**	P	**P**	**10 48 12.0 +1.0**	
	baz=87,SNR=5.9					
CPCT	**Cooper Cave**	**36.55 288**	P	**P**	**10 48 11.9 +0.8**	
CPCT			IAMs_20	IAMs_20	11 00 07.5	
	comp=Z,3µm,21.0s					
N48A	**Decatur**	**36.60 297**	P	**P**	**10 48 11.8 +0.3**	
	baz=90					
K47A	**Vermontville**	**36.62 300**	P	**P**	**10 48 12.6 +1.0**	
	baz=92,SNR=6.3					
T50A	**Nancy**	**36.63 291**	P	**P**	**10 48 12.8 +1.0**	
	baz=85,SNR=9.0					
U50A	**Jamestown**	**36.70 290**	P	**P**	**10 48 13.4 +1.0**	
	baz=84,SNR=7.2					
253A	**Americus**	**36.77 282**	P	**P**	**10 48 14.0 +1.0**	
	baz=78					
W51A	**Cleveland**	**36.78 288**	P	**P**	**10 48 13.9 +0.8**	
	baz=82					
Z52A	**Williamson**	**36.80 284**	P	**P**	**10 48 14.6 +1.3**	
	baz=80,SNR=7.5					
S49A	**Springfield**	**36.93 292**	P	**P**	**10 48 15.7 +1.3**	
	baz=86					
P48A	**Milroy**	**36.94 295**	P	**P**	**10 48 15.1 +0.7**	
	baz=88					
P48A	**Milroy**	**36.94 295**	IAMs_20	IAMs_20	11 00 26.6	
	comp=Z,3µm,22.0s					
X51A	**Calhoun**	**36.94 287**	P	**P**	**10 48 15.3 +0.8**	
	baz=81					
X51A	**Calhoun**	**36.94 287**	P	**P**	**10 48 15.2 +0.8**	
V50A	**Pikevile**	**36.99 288**	P	**P**	**10 48 15.9 +1.0**	
	baz=83,SNR=6.6					
353A	**Camilla**	**36.99 281**	P	**P**	**10 48 16.5 +1.6**	
	baz=77					
N47A	**Urbana**	**37.11 297**	IAMs_20	IAMs_20	11 01 06.1	
	comp=Z,3µm,20.0s					
152A	**Waverly Hall**	**37.14 283**	P	**P**	**10 48 17.4 +1.2**	
	baz=79					
152A	**Waverly Hall**	**37.14 283**	P	**P**	**10 48 16.9 +0.7**	
T49A	**Edmonton**	**37.18 291**	P	**P**	**10 48 17.4 +0.9**	
	baz=84					
T49A	**Edmonton**	**37.18 291**	P	**P**	**10 48 17.4 +0.9**	
T49A			IAMs_20	IAMs_20	11 00 43.1	
	comp=Z,3µm,21.0s					
453A	**Whigham**	**37.19 280**	P	**P**	**10 48 17.7 +1.1**	
	baz=77					
453A	**Whigham**	**37.19 280**	IAMs_20	IAMs_20	11 01 16.5	
	comp=Z,2µm,21.0s					
K46A	**Dorr**	**37.20 300**	P	**P**	**10 48 17.2 +0.7**	
	baz=92					
Q48A	**North Vernon**	**37.20 294**	P	**P**	**10 48 17.6 +1.0**	
	baz=87					
F45A	**CMU Biological**	**37.21 305**	P	**P**	**10 48 17.5 +0.9**	
	baz=96					
Y51A	**Rockmart**	**37.21 286**	P	**P**	**10 48 18.0 +1.1**	
	baz=80					
W50A	**Signal Mountai**	**37.22 288**	P	**P**	**10 48 18.0 +1.1**	
	baz=82					
W50A	**Signal Mountai**	**37.22 288**	P	**P**	**10 48 17.8 +0.9**	
W50A			IAMs_20	IAMs_20	11 00 49.3	
	comp=Z,3µm,20.0s					
252A	**Lumpkin**	**37.29 282**	P	**P**	**10 48 18.7 +1.2**	
	baz=78,SNR=6.2					
U49A	**Red Boiling Sp**	**37.44 290**	P	**P**	**10 48 19.7 +1.0**	
	baz=84,SNR=8.9					
352A	**Blakely**	**37.56 282**	P	**P**	**10 48 20.9 +1.2**	
	baz=77					
FPAL	**Fort Paine**	**37.56 287**	P	**P**	**10 48 20.7 +0.9**	
L46A	**Eue Claire**	**37.56 299**	IAMs_20	IAMs_20	11 01 10.0	
	comp=Z,3µm,20.0s					
I45A	**Fountain**	**37.58 302**	IAMs_20	IAMs_20	11 01 25.5	
	comp=Z,3µm,20.0s					
E44A	**Grand Marais A**	**37.59 307**	IAMs_20	IAMs_20	11 02 07.5	
	comp=Z,2µm,20.0s					
V49A	**McMinnville**	**37.62 289**	P	**P**	**10 48 21.3 +1.0**	
	baz=82,SNR=13					
WCI	**Wyandotte Cave**	**37.69 293**	P	**P**	**10 48 21.7 +1.0**	
	baz=86					
WCI	**Wyandotte Cave**	**37.69 293**	P	**P**	**10 48 21.7 +1.0**	
WCI			pmax	pmax		
	comp=Z,11nm,1.0s					
WCI	**Wyandotte Cave**	**37.69 293**	P	**P**	**10 48 21.7 +1.0**	
WCI	**Wyandotte Cave**	**37.69 293**	IAMs_20	IAMs_20	11 01 48.5	
	comp=Z,3µm,20.0s					
SWET	**Sewanee**	**37.72 288**	P	**P**	**10 48 22.2 +1.0**	
SWET			IAMs_20	IAMs_20	11 01 04.5	
	comp=Z,3µm,20.0s					
BLO	**Bloomington**	**37.80 294**	IAMs_20	IAMs_20	11 01 14.5	
	comp=Z,3µm,21.0s					
CLTN	**Cedars of Leba**	**37.93 289**	P	**P**	**10 48 23.5 +0.7**	
W49A	**Belvidere**	**38.01 288**	P	**P**	**10 48 24.4 +0.9**	
	baz=82,SNR=7.7					
Z50A	**Ashland**	**38.03 285**	P	**P**	**10 48 24.9 +1.1**	
	baz=79					
Z50A	**Ashland**	**38.03 285**	P	**P**	**10 48 24.3 +0.5**	
UCC	**Uccle**	**38.04 47**	P	**P**	**10 48 23.0 -0.5**	
UCC			pmax	pmax		
	comp=Z,19nm,0.5s					
UCC	**Uccle**	**38.04 47**	P	**P**	**10 48 22.9 -0.5**	
UCC			IAmb	IAmb	10 48 31.0	
	comp=Z,19nm,0.5s					
UCC			IAMs_20	IAMs_20	11 00 17.0	
	comp=Z,2µm,20.0s					
SFIN	**Lafayette**	**38.19 296**	P	**P**	**10 48 25.8 +0.8**	
	baz=88					
SFIN	**Lafayette**	**38.19 296**	P	**P**	**10 48 25.7 +0.8**	
SFIN			IAmb	IAmb	10 48 26.8	
	comp=Z,25nm,0.7s					
SFIN			IAMs_20	IAMs_20	11 01 47.7	
	comp=Z,3µm,21.0s					
E43A	**Lone Tree Farm**	**38.30 306**	P	**P**	**10 48 26.6 +0.8**	
	baz=96					
P46A	**Rosedale**	**38.31 295**	P	**P**	**10 48 26.9 +0.9**	
	baz=87					
Y49A	**Blount Mountai**	**38.33 286**	P	**P**	**10 48 27.2 +1.0**	
	baz=80,SNR=6.3					
Y49A	**Blount Mountai**	**38.33 286**	P	**P**	**10 48 27.6 +1.4**	
V48A	**Smith Brothers**	**38.37 289**	P	**P**	**10 48 27.6 +1.1**	
	baz=82,SNR=8.1					
V48A	**Smith Brothers**	**38.37 289**	P	**P**	**10 48 27.8 +1.2**	
V48A			IAMs_20	IAMs_20	11 01 35.7	
	comp=Z,3µm,20.0s					
451A	**Vernon**	**38.44 280**	IAMs_20	IAMs_20	11 01 28.6	
	comp=Z,2µm,20.0s					
T47A	**Sharon Grove**	**38.44 291**	P	**P**	**10 48 28.5 +1.3**	
	baz=84					
T47A	**Sharon Grove**	**38.44 291**	P	**P**	**10 48 28.4 +1.3**	
T47A			IAMs_20	IAMs_20	11 01 20.6	
	comp=Z,3µm,22.0s					
250A	**Grady**	**38.57 283**	P	**P**	**10 48 29.6 +1.4**	
	baz=78					
250A	**Grady**	**38.57 283**	P	**P**	**10 48 29.5 +1.3**	
250A			IAmb	IAmb	10 48 31.5	
	comp=Z,29nm,1.1s					
H43A	**Windswept, Lux**	**38.71 303**	IAMs_20	IAMs_20	11 02 10.2	
	comp=Z,3µm,21.0s					
X48A	**Hartselle**	**38.74 287**	P	**P**	**10 48 30.9 +1.2**	
	baz=80					
X48A	**Hartselle**	**38.74 287**	P	**P**	**10 48 30.2 +0.6**	
L44A	**Lake County Fo**	**38.77 299**	P	**P**	**10 48 30.8 +1.0**	
	baz=90					
USIN	**University of**	**38.79 292**	IAMs_20	IAMs_20	11 01 32.6	
	comp=Z,3µm,21.0s					
BNI	**Bardonecchia**	**38.80 56**	P	**P**	**10 48 30.0 -0.2**	
BNI			pmax	pmax		
	comp=Z,54nm,1.3s					
BNI	**Bardonecchia**	**38.80 56**	P	**P**	**10 48 30.0 -0.2**	
BNI			IAmb	IAmb	10 48 39.2	
	comp=Z,54nm,1.3s					
WLF	**Walferdange**	**38.95 49**	P	**P**	**10 48 30.8 -0.5**	
WLF			pmax	pmax		
	comp=Z,23nm,1.0s					
WLF	**Walferdange**	**38.95 49**	P	**P**	**10 48 30.8

comp=Z,3μm,20.0s
SENIN Lac Senin/Sane 39.32 54 P P 10 48 34.5 -0.2
BRAL Brewton 39.40 282 P P 10 48 36.6 +1.4
baz=76
BRAL Brewton 39.40 282 P P 10 48 36.0 +0.8
BRAL IAmb IAmb 10 48 37.3
comp=Z,46nm,0.8s
ECH Echery 39.40 51 P P 10 48 34.5 -0.6
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 39.40 51 P P 10 48 34.5 -0.6
D41A Chassel 39.44 307 IAMs_20 IAMs_20 11 03 24.5
comp=Z,2μm,19.0s
PLAL Pickwick Lake 39.49 288 P P 10 48 36.9 +0.9
PLAL IAmb IAmb 10 48 38.2
comp=Z,21nm,0.8s
PLAL IAMs_20 IAMs_20 11 01 48.5
comp=Z,3μm,22.0s
I42A Draeger Farm, 39.51 302 P P 10 48 37.2 +1.2
baz=91
HDIL Hopedale 39.85 297 P P 10 48 39.8 +0.9
baz=87
HDIL Hopedale 39.85 297 IAMs_20 IAMs_20 11 02 59.8
comp=Z,2μm,20.0s
SIUC Southern Illin 40.03 292 P P 10 48 41.6 +1.2
SIUC IAmb IAmb 10 48 42.7
comp=Z,39nm,1.2s
S44A Carbondale 40.07 292 P P 10 48 41.7 +1.0
baz=83
HICK Hickman 40.19 290 IAMs_20 IAMs_20 11 02 23.8
comp=Z,3μm,22.0s
BFO Black Forest 40.19 51 *i* P **P 10 48 41.8 +0.1**
BFO Black Forest 40.19 51 P **P 10 48 41.3 -0.3**
BFO IAmb IAmb 10 48 49.4
comp=Z,32nm,1.1s
GLAT Glass 40.28 290 IAMs_20 IAMs_20 11 02 55.1
comp=Z,2μm,20.0s
HENM Henderson Moun 40.36 291 IAMs_20 IAMs_20 11 02 29.3
comp=Z,3μm,22.0s
HALT Halls 40.37 290 IAMs_20 IAMs_20 11 02 46.6
comp=Z,3μm,20.0s
LNXT Lenox 40.46 290 IAMs_20 IAMs_20 11 03 57.1
comp=Z,3μm,20.0s
JFWS Jewell Farm 40.48 300 P P 10 48 44.5 +0.4
baz=89,SNR=5.5
JFWS Jewell Farm 40.48 300 P P 10 48 44.5 +0.4
JFWS pmax pmax
comp=Z,30nm,0.8s
JFWS Jewell Farm 40.48 300 P P 10 48 44.5 +0.4
JFWS IAmb IAmb 10 48 45.7
comp=Z,30nm,0.8s
PENMO Penman 40.52 290 IAMs_20 IAMs_20 11 02 33.6
comp=Z,3μm,21.0s
PARMO Parma 40.59 291 IAMs_20 IAMs_20 11 02 36.4
comp=Z,3μm,22.0s
OXF Oxford 40.66 287 P P 10 48 46.0 +0.4
baz=80
OXF Oxford 40.66 287 IAMs_20 IAMs_20 11 02 34.2
comp=Z,3μm,22.0s
SLM Saint Louis 40.73 294 P P 10 48 46.7 +0.5
SLM pmax pmax
comp=Z,27nm,1.1s
SLM Saint Louis 40.73 294 P P 10 48 46.7 +0.5
SLM IAmb IAmb 10 48 48.0
comp=Z,26nm,1.1s
SLM IAMs_20 IAMs_20 11 03 35.1
comp=Z,2μm,19.0s
TUE Stuetta 40.74 54 P P 10 48 45.8 -0.6
TUE IAmb IAmb 10 48 54.9
comp=Z,37nm,0.9s
PEBM Pemiscott Bayo 40.76 290 P P 10 48 47.6 +1.1
PEBM IAMs_20 IAMs_20 11 03 09.9
comp=Z,3μm,21.0s
SUMG Summit 40.87 1 P P 10 48 46.1 -1.2
SUMG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 40.87 1 *i* P **P 10 48 45.7 -1.6**
SUMG Summit 40.87 1 P P 10 48 46.1 -1.2
GNAR Gosnell 40.91 290 P P 10 48 48.2 +0.5
GNAR IAMs_20 IAMs_20 11 04 00.8
comp=Z,3μm,19.0s
FVM French Village 40.95 293 P P 10 48 48.3 +0.2
FVM pmax pmax
comp=Z,20nm,1.1s
FVM French Village 40.95 293 P P 10 48 48.3 +0.2
FVM IAmb IAmb 10 48 49.9
comp=Z,20nm,1.1s
FVM IAMs_20 IAMs_20 11 02 40.0
comp=Z,3μm,22.0s
MET Memphis--Engin 40.98 288 IAMs_20 IAMs_20 11 03 03.6
comp=Z,3μm,20.0s
PBMO Poplar Bluff 41.11 291 P P 10 48 49.6 +0.3
PBMO IAMs_20 IAMs_20 11 03 24.3
comp=Z,3μm,20.0s
DAVA Damuels 41.15 53 *i* pP **P 10 48 49.8 +0.1**
comp=Z,42nm,0.9s
G39A Holcombe 41.15 304 P P 10 48 50.1 +0.6
baz=91
LPAR Lepanto 41.19 289 IAMs_20 IAMs_20 11 03 49.3
comp=Z,2μm,19.0s
L40A Anamosa 41.23 299 P P 10 48 50.7 +0.5
baz=87
L40A Anamosa 41.23 299 P P 10 48 50.8 +0.5
L40A IAmb IAmb 10 48 52.1
comp=Z,30nm,0.9s
KEST Kesra 41.34 70 P P 10 48 50.9 -0.5
comp=Z,4.5nm,0.7s,baz=288,slow=3.2,SNR=2.5
KEST LR LR 11 02 58.6
comp=Z,789nm,21.5s,baz=213,slow=32
KEST Kesra 41.34 70 P P 10 48 51.2 -0.2
ROSC El Rosal 41.44 237 LR LR 11 04 44.8
comp=Z,1μm,21.5s,baz=32,slow=34
ROSC El Rosal 41.44 237 P P 10 48 52.6 -0.1
E38A The Farm, Brul 41.46 306 P P 10 48 52.5 +0.4
baz=92
HBAR Harrisburg 41.48 289 IAMs_20 IAMs_20 11 03 00.1
comp=Z,3μm,21.0s
EYMN Ely 41.49 308 P P 10 48 52.8 +0.4
baz=94
EYMN Ely 41.49 308 P P 10 48 52.5 +0.2
EYMN Ely 41.49 308 IAMs_20 IAMs_20 11 03 36.7
comp=Z,2μm,22.0s
SALO Salr 41.53 55 P P 10 48 52.0 -0.7
TIC Toumodi 41.55 119 *e*PKP1 **P 10 48 53.1 -0.1**
CCM Cathedral Cave 41.59 293 P P 10 48 53.8 +0.5
baz=83
CCM Cathedral Cave 41.59 293 P P 10 48 53.8 +0.5
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 41.59 293 P P 10 48 53.8 +0.5
CCM Cathedral Cave 41.59 293 IAMs_20 IAMs_20 11 03 10.7
comp=Z,3μm,22.0s
DBIC Dimbokro 41.65 119 P P 10 48 53.2 -0.8
DBIC pmax pmax
comp=Z,17nm,1.0s
DBIC Dimbokro 41.65 119 P P 10 48 52.7 -1.3
comp=Z,6.8nm,0.8s,baz=278,slow=11,SNR=5.7
DBIC LR LR 11 04 41.6
comp=Z,3μm,18.5s,baz=299,slow=34
DBIC Dimbokro 41.65 119 P P 10 48 53.2 -0.8
TAM Tamanrasset 41.69 91 IAMs_20 IAMs_20 11 03 44.4
comp=Z,2μm,20.0s
FETA Feichten 41.71 53 *i* pP **P 10 48 53.8 -0.6**
comp=Z,20nm,1.4s
RETA Reutte 41.76 53 *i* pP **P 10 48 54.8 +0.2**
comp=Z,31nm,0.9s
LCAR Lake Charles 41.80 290 P P 10 48 55.7 +0.7
LCAR IAmb IAmb 10 49 03.2
comp=Z,17nm,0.9s
LCAR IAMs_20 IAMs_20 11 03 34.4
comp=Z,2μm,20.0s
LIC Lamto 41.82 120 *e*PKP1 **P 10 48 54.1 -1.3**
comp=Z,83nm,1.2s
ZCCA Zocca 41.84 57 P P 10 48 55.0 -0.4
X43A Marvell 41.85 288 P P 10 48 56.1 +0.7
X43A IAmb IAmb 10 49 00.1
comp=Z,42nm,0.9s
KIC Kosan Boka 41.94 119 *e*PKP1 **P 10 48 54.0 -2.4**
comp=Z,35nm,0.9s
MOTA Moosalm 41.98 53 *i* pP **P 10 48 55.9 -0.7**
comp=Z,19nm,0.9s
VBMS Vicksburg 42.03 284 P P 10 48 58.1 +1.2
baz=77
VBMS Vicksburg 42.03 284 P P 10 48 57.7 +0.8
VBMS IAmb IAmb 10 48 59.5
comp=Z,38nm,0.8s

SQTA Sankt Quirin 42.05 53 *i* pP **P 10 48 57.4 +0.4**
comp=Z,49nm,0.8s
SPMN Marine on St. 42.30 304 P P 10 48 59.9 +0.9
baz=90
SPMN Marine on St. 42.30 304 P P 10 48 59.6 +0.6
SPMN IAmb IAmb 10 49 00.0
comp=Z,22nm,1.1s
SPMN IAMs_20 IAMs_20 11 06 12.3
comp=Z,2μm,18.0s
WATA Walderalm 42.30 53 *i* pP **P 10 48 59.0 -0.1**
comp=Z,48nm,0.9s
CTI Castel Tesino 42.32 55 P P 10 48 57.8 -1.5
CTI pmax pmax
comp=Z,33nm,0.9s
CTI Castel Tesino 42.32 55 P P 10 48 57.8 -1.5
CTI IAmb IAmb 10 49 06.1
comp=Z,33nm,0.9s
WTTA Wattenberg 42.34 53 *i* pP **P 10 48 59.3 -0.2**
comp=Z,26nm,0.8s
MGMO Mountain Grove 42.52 292 P P 10 49 01.1 +0.2
FCAR Ozark Folk Cen 42.60 290 P P 10 49 01.8 +0.2
CCAR Cane Creek 42.69 287 IAMs_20 IAMs_20 11 03 33.1
comp=Z,2μm,21.0s
SCIA State Center 42.72 299 P P 10 49 03.4 +0.9
baz=86
SCIA State Center 42.72 299 P P 10 49 02.7 +0.2
W41B Gary Mavity, V 42.83 289 P P 10 49 04.0 +0.6
baz=79,SNR=13
W41B Gary Mavity, V 42.83 289 P P 10 49 03.7 +0.3
W41B IAmb IAmb 10 49 04.6
comp=Z,25nm,0.7s
W41B IAMs_20 IAMs_20 11 04 49.8
comp=Z,2μm,19.0s
WHAR Wooly Hollow 42.84 289 P P 10 49 03.8 +0.2
WHAR IAmb IAmb 10 49 04.6
comp=Z,27nm,0.6s
WHAR IAMs_20 IAMs_20 11 04 02.1
comp=Z,2μm,20.0s
TOB5 Torodi Ar. Sit 42.91 106 IAMs_20 IAMs_20 11 04 01.8
comp=Z,2μm,22.0s
TOC1 Torodi Ar. Sit 42.92 106 IAMs_20 IAMs_20 11 04 01.0
comp=Z,2μm,22.0s
TOC5 Torodi Ar. Sit 42.92 106 IAMs_20 IAMs_20 11 04 02.1
comp=Z,2μm,22.0s
TOA0 Torodi Ar. Sit 42.92 106 P P 10 49 04.1 -0.3
SNR=6.8
TOA0 Torodi Ar. Sit 42.92 106 P P 10 49 03.5 -0.9
TOA0 IAmb IAmb 10 49 09.9
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 42.92 106 P P 10 49 03.3 -1.1
comp=Z,15nm,1.0s,baz=303,slow=5.9,SNR=32
TORD LR LR 11 04 46.7
comp=Z,1μm,21.4s,baz=315,slow=33
TORD Torodi Ar. Bea 42.92 106 P P 10 49 03.0 -1.3
ABTA Abfaltersbach 42.93 54 *i* pP **P 10 49 03.5 -0.7**
comp=Z,41nm,0.9s
TOC3 Torodi Ar. Sit 42.95 106 IAMs_20 IAMs_20 11 04 03.9
comp=Z,2μm,22.0s
UALR University of 42.98 289 P P 10 49 04.9 +0.3
UALR IAMs_20 IAMs_20 11 04 24.8
comp=Z,3μm,20.0s
STAL STALIGIAL 43.06 55 P P 10 49 04.2 -1.0
U40A Yellville 43.11 291 P P 10 49 05.9 +0.3
baz=80,SNR=8.0
U40A Yellville 43.11 291 P P 10 49 06.0 +0.3
X40A Basin Creek Fa 43.44 288 P P 10 49 08.5 +0.2
baz=78,SNR=8.9
X40A Basin Creek Fa 43.44 288 P P 10 49 08.6 +0.2
X40A IAmb IAmb 10 49 09.6
comp=Z,15nm,0.7s
X40A IAMs_20 IAMs_20 11 04 39.9
comp=Z,3μm,20.0s
CLL Collm 43.50 47 P P 10 49 07.6 -1.0
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 43.50 47 ‖ *i* P **P 10 49 08.0 -0.6**
comp=Z,19nm,1.0s
CLL *i* (pP) **pP 10 49 12.4 +0.4**
CLL *e* 10 49 42.0
CLL *e*S **S 10 55 40.0 +3.2**
CLL *e*SS **SS 10 58 47.0 -4.0**
CLL *e*SSS SSS 10 59 36.0
CLL Collm 43.50 47 P P 10 49 07.6 -1.0
CLL IAmb IAmb 10 49 10.4
comp=Z,17nm,1.0s
KBA Koelnbreinsper 43.50 53 *i* P **P 10 49 07.6 -1.4**
comp=Z,8.6nm,0.7s
Z41A Richland Creek 43.67 286 P P 10 49 11.4 +1.1
baz=77
Z41A Richland Creek 43.67 286 P P 10 49 10.8 +0.5
Z41A IAmb IAmb 10 49 19.4
comp=Z,20nm,0.9s
MYKA Terra Mystica 43.70 54 *i* pP **P 10 49 10.0 -0.4**
comp=Z,14nm,1.2s
KHC Kasperske Hory 43.72 50 ‖ *e*P **P 10 49 09.3 -1.2**
KHC pmax pmax
comp=Z,18nm,1.1s
KHC Kasperske Hory 43.72 50 *e*P **P 10 49 11.3 +0.8**
KHC Kasperske Hory 43.72 50 P **P 10 49 10.1 -0.4**
GEC2 GERESS Array S 43.79 51 P **P 10 49 10.6 -0.5**
GERES GERESS Array B 43.79 51 P **P 10 49 10.0 -1.1**
comp=Z,5.1nm,0.7s,baz=262,slow=7.4,SNR=19
GERES LR LR 11 05 18.7
comp=Z,276nm,19.9s,baz=284,slow=33
WLAR White Oak Lake 43.83 287 P P 10 49 11.8 +0.3
WLAR IAMs_20 IAMs_20 11 04 53.3
comp=Z,2μm,21.0s
HHAR Hobbs 43.98 291 IAmb IAmb 10 49 22.3
comp=Z,15nm,1.1s
HHAR IAMs_20 IAMs_20 11 04 41.2
comp=Z,3μm,21.0s
MIAR Mount Ida 44.03 288 P P 10 49 13.6 +0.5
baz=78,SNR=8.1
MIAR Mount Ida 44.03 288 IAmb IAmb 10 49 16.0
comp=Z,18nm,0.9s
MIAR IAMs_20 IAMs_20 11 05 28.4
comp=Z,2μm,19.0s
BRG Berggiesshubel 44.06 48 *e*P **P 10 49 11.9 -1.2**
comp=Z,3.8nm,0.9s
BRG *e* 10 49 19.5
comp=Z,25nm,1.2s
BRG S **S 10 55 47.0 +2.1**
BRG SS **SS 10 59 03.0 +1.1**
comp=N,542nm,25.4s
comp=E,1μm,18.8s
comp=Z,1μm,17.8s
W39A Magazine 44.06 289 P P 10 49 13.8 +0.4
baz=78,SNR=6.7
W39A Magazine 44.06 289 IAmb IAmb 10 49 21.1
comp=Z,20nm,1.0s
TEIG Tepich 44.07 267 P P 10 49 14.4 +0.9
TEIG Tepich 44.07 267 IAMs_20 IAMs_20 11 04 37.0
comp=Z,2μm,20.0s
CLTB Caltabellotta 44.12 67 IAMs_20 IAMs_20 11 06 01.6
comp=Z,2μm,20.0s
MOA Molin 44.14 52 *i* P **P 10 49 11.3 -2.5**
comp=Z,13nm,1.1s
OBKA Obir 44.33 54 *i* pP **P 10 49 14.5 -1.0**
comp=Z,46nm,0.8s
PRU Pruhonice 44.38 49 *e*P **P 10 49 16.5 +0.8**
PRU *e* 10 49 22.6
PRU Pruhonice 44.38 49 *e*P **P 10 49 16.5 +0.8**
PRU *ex* x 10 49 22.6
NB2 NORSAR Subarra 44.42 33 P **P 10 49 15.1 -0.8**
comp=Z,130nm,2.5s,baz=253,slow=8.6
NB2 NORSAR Subarra 44.42 33 P **P 10 49 15.1 -0.8**
baz=253,slow=8.6
NOA NORSAR Array B 44.42 33 P **P 10 49 15.3 -0.6**
comp=Z,2.1nm,0.8s,baz=254,slow=8.0,SNR=5.6
NOA LR LR 11 04 10.8
comp=Z,595nm,21.4s,baz=270,slow=31
AGMN Agassiz Nation 44.43 308 P **P 10 49 16.7 +0.6**
baz=91
AGMN Agassiz Nation 44.43 308 IAmb IAmb 10 49 17.1
comp=Z,12nm,0.9s
AGMN IAMs_20 IAMs_20 11 05 26.4
comp=Z,2μm,22.0s
ULM Lac du Bonnet 44.50 311 P **P 10 49 16.4 -0.3**
comp=Z,9.9nm,0.7s,baz=83,slow=7.7,SNR=11
ULM LR LR 11 08 12.2
comp=Z,1μm,19.1s,baz=80,slow=37
NC303 NORSAR Array S 44.55 33 P **P 10 49 16.9 0.0**
NC303 IAmb IAmb 10 49 21.3
comp=Z,31nm,1.1s
ESPN Las Esperanzas 44.62 254 P **P 10 49 18.4 +0.4**
ESPN IAmb IAmb 10 49 22.6
comp=Z,11nm,0.8s

SOKA Soboth 44.66 54 *i* P **P 10 49 15.9 -2.2**
comp=Z,7.3nm,0.8s
CLDB Colider 44.85 201 *e*P **P 10 49 18.8 -0.9**
CLDB Colider 44.85 201 *e*P **P 10 49 18.8 -0.9**
ARSA Arzberg 44.99 53 *i* pP **P 10 49 19.8 -0.8**
comp=Z,12nm,0.7s
RAFF Raffo Rosso 45.08 67 IAMs_20 IAMs_20 11 03 14.0
comp=Z,2μm,20.0s
ECSD EROS Data Cent 45.09 302 P P 10 49 21.5 0.0
baz=86,SNR=10
ECSD EROS Data Cent 45.09 302 IAmb IAmb 10 49 22.0
comp=Z,17nm,1.1s
CONA Conrad Observa 45.21 52 *i* P **P 10 49 21.1 -1.3**
comp=Z,13nm,0.9s
UPC Upice 45.35 49 *e*P **P 10 49 23.2 -0.2**
UPC *e* 10 49 30.0
UPC Upice 45.35 49 *e*P **P 10 49 23.2 -0.2**
UPC *ex* x 10 49 30.0
CHVC Chvalec 45.38 48 *e*P **P 10 49 23.5 -0.2**
CHVC *ex* x 10 49 27.7
ACON Acoyapa 45.45 255 P **P 10 49 25.3 +0.7**
ACON IAmb IAmb 10 49 26.9
comp=Z,25nm,1.1s
TUL1 Leonard 45.53 291 P P 10 49 25.2 +0.1
baz=78,SNR=9.6
TUL1 Leonard 45.53 291 IAMs_20 IAMs_20 11 05 49.1
comp=Z,2μm,20.0s
KSP Ksiaz 45.54 48 *e*P **P 10 49 24.0 -0.9**
KSP *e*P **P 10 49 24.0 -0.9**
DPC Dobruska-Polom 45.54 49 *e*P **P 10 49 24.8 -0.2**
DPC *e* 10 49 26.8
DPC *e* 10 49 31.2
DPC Dobruska-Polom 45.54 49 *e*P **P 10 49 24.8 -0.2**
DPC *e*pP **pP 10 49 26.8 -1.7**
DPC *ex* x 10 49 31.2
NATX Nacogdoches 45.56 285 P **P 10 49 26.3 +1.0**
baz=75
KRUC Moravsky 45.57 51 *e*P **P 10 49 26.3 +1.1**
KSU1 Kansas State U 45.61 295 P **P 10 49 25.7 +0.1**
baz=81
VRAC Vranov 45.70 50 *e*P **P 10 49 25.6 -0.6**
KRLC Kraliky 45.83 49 *e*P **P 10 49 27.1 -0.2**
KRLC *e* 10 49 34.2
KRLC Kraliky 45.83 49 *e*P **P 10 49 27.1 -0.2**
KRLC *ex* x 10 49 34.2
ESTN Estel 45.84 257 P **P 10 49 28.6 +0.8**
SAML Samuel 45.91 212 P **P 10 49 27.9 -0.2**
SAML pmax pmax
comp=Z,19nm,1.0s
SAML Samuel 45.91 212 P **P 10 49 27.9 -0.2**
SAML IAmb IAmb 10 49 31.6
comp=Z,19nm,1.0s
SAML Samuel 45.91 212 *e*P **P 10 49 28.1 -0.1**
TGUH Tegucigalpa,Un 46.10 259 P **P 10 49 30.7 +0.8**
TGUH IAmb IAmb 10 49 32.6
comp=Z,15nm,0.9s
MODS Modra-Piesok 46.16 52 *e*P **P 10 49 29.4 -0.4**
MODS pmax pmax
comp=Z,18nm,1.0s
MODS Modra-Piesok 46.16 52 *e*P **P 10 49 29.4 -0.4**
DAG Danmarks Havn 46.21 7 *i* P **P 10 49 27.3 -2.5**
DAG Danmarks Havn 46.21 7 *i* P **P 10 49 27.3 -2.5**
MORC Moravsky Berou 46.32 50 P **P 10 49 30.5 -0.6**
MORC pmax pmax
comp=Z,12nm,1.2s
MORC Moravsky Berou 46.32 50 *e*P **P 10 49 30.6 -0.6**
MORC Moravsky Berou 46.32 50 P **P 10 49 30.5 -0.6**
MORC IAmb IAmb 10 49 38.4
comp=Z,12nm,1.2s
JAVC Velka Javorina 46.41 51 *e*P **P 10 49 30.9 -1.0**
BGNE Belgrade 46.45 299 P **P 10 49 32.4 +0.1**
baz=82
H10N2 ASCENSION HYDR 46.62 143 T T 11 39 02.8
baz=328,slow=75,SNR=2063
H10N3 ASCENSION HYDR 46.62 143 T T 11 39 06.9
baz=328,slow=75,SNR=2846
H10N1 ASCENSION HYDR 46.64 143 T T 11 39 08.1
baz=328,slow=75,SNR=6840
SUSD Miller 46.71 303 P P 10 49 34.2 0.0
baz=85
MDND Maddock 46.94 308 P P 10 49 36.5 +0.5
baz=88
MDND Maddock 46.94 308 IAMs_20 IAMs_20 11 09 21.9
comp=Z,2μm,19.0s
HKT Hockley 47.02 283 P P 10 49 37.6 +0.8
HKT pmax pmax
comp=Z,15nm,1.2s
HKT Hockley 47.02 283 P P 10 49 37.6 +0.8
HKT IAmb IAmb 10 49 38.6
comp=Z,15nm,1.1s
VYHS Vyhne 47.19 51 *e*P **P 10 49 38.4 +0.5**
VYHS pmax pmax
comp=Z,35nm,1.8s
VYHS Vyhne 47.19 51 *e*P **P 10 49 38.4 +0.5**
LANS Liptovska Anna 47.59 50 *e*P **P 10 49 43.9 +2.9**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 47.59 50 *e*P **P 10 49 43.9 +2.9**
OTAV Otavalo 47.59 236 P P 10 49 42.3 +0.4
OTAV pmax pmax
comp=Z,28nm,1.2s
OTAV MLR MLR
comp=Z,400nm,21.0s
OTAV Otavalo 47.59 236 P P 10 49 42.3 +0.4
OTAV Otavalo 47.59 236 *e*P **P 10 49 43.2 +1.3**
BDFB Brasilia 47.69 190 P P 10 49 42.2 0.0
comp=Z,1.7nm,0.3s,baz=17,slow=7.7,SNR=3.7
BDFB LR LR 11 06 25.2
comp=Z,666nm,21.8s,baz=336,slow=32
BDFB Brasilia 47.69 190 P P 10 49 42.0 -0.1
BDFB IAmb IAmb 10 49 46.8
comp=Z,9.8nm,1.2s
OJC Ojcow 47.77 49 *e*P **P 10 49 43.4 +0.9**
OJC *e*P **P 10 49 43.4 +0.9**
WHTX Lake Whitney, 47.79 286 P P 10 49 44.2 +1.4
baz=74,SNR=8.2
WHTX Lake Whitney, 47.79 286 IAMs_20 IAMs_20 11 07 07.2
comp=Z,2μm,22.0s
PSZ Piszkesteto 47.92 52 P P 10 49 42.6 -1.1
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 47.92 52 P P 10 49 42.6 -1.1
CBKS Cedar Bluff 48.06 296 P P 10 49 45.2 +0.3
baz=79
KLNR Kaliningrad 48.08 43 *i* P **P 10 49 44.1 -0.6**
NIE Niedzica 48.12 50 *e*P **P 10 49 46.6 +1.4**
NIE *e*P **P 10 49 46.6 +1.4**
WMOK Wichita Mounta 48.17 290 P P 10 49 46.5 +0.7
baz=76
WMOK Wichita Mounta 48.17 290 IAmb IAmb 10 49 48.0
comp=Z,13nm,0.9s
WMOK IAMs_20 IAMs_20 11 07 12.0
comp=Z,3μm,22.0s
435B Jarrell 48.23 285 P P 10 49 47.3 +1.1
baz=73
FFC Flin Flon 48.43 317 P P 10 49 47.5 +0.1
FFC pmax pmax
comp=Z,25nm,1.2s
FFC Flin Flon 48.43 317 P P 10 49 47.5 +0.1
FFC IAmb IAmb 10 49 55.8
comp=Z,25nm,1.1s
ARAG Araguaiana, MT 48.43 195 *e*P **P 10 49 48.1 +0.3**
ARAG Araguaiana, MT 48.43 195 *e*P **P 10 49 48.1 +0.3**
SIRR Siria 49.26 54 ⇑P **P 10 49 54.0 +0.1**
BZS Buzias 49.30 55 ⇑P **P 10 49 54.4 +0.2**
BZS Buzias 49.30 55 ⇑P **P 10 49 54.4 +0.2**
ABTX Abilene, Hawle 49.40 288 P P 10 49 55.9 +0.6
baz=74,SNR=6.9
ABTX Abilene, Hawle 49.40 288 IAmb IAmb 10 50 03.6
comp=Z,24nm,0.9s
ABTX IAMs_20 IAMs_20 11 09 19.8
comp=Z,1μm,19.0s
KOLS Kolonicke sedl 49.44 51 *e*P **P 10 49 56.4 +1.1**
KOLS Kolonicke sedl 49.44 51 *e*P **P 10 49 56.4 +1.1**
MDVR Moldovita 49.46 56 ⇑P **P 10 49 57.3 +1.7**
UZH Uzhgorod 49.48 51 *e*P **P 10 49 56.5 +1.0**
UZH *e* 10 49 59.9
UZH *i* 10 50 04.1
KWP Kalwaria Pacla 49.68 50 *e*P **P 10 49 58.7 +1.6**
KWP *e*P **P 10 49 58.7 +1.6**
HERR Herculane 49.95 56 ⇑P **P 10 49 58.9 -0.3**
DGMT Dagmar 49.97 309 P P 10 49 59.8 +0.4
baz=85
DGMT Dagmar 49.97 309 IAmb IAmb 10 50 00.3

comp=Z,24nm,1.1s
DGMT Dagmar 49.97 309 IAMs_20 IAMs_20 11 09 20.0
comp=Z,2µm,21.0s
GZR Gura Zlata 50.13 55 ⇑P **P 10 50 02.6 +1.9**
GZR Gura Zlata 50.13 55 ⇑P **P 10 50 02.6 +1.9**
JCT Junction City 50.15 285 P **P 10 50 01.2 +0.2**
baz=72,SNR=13
SJMB Sao Joao De Ma 50.20 181 *e*P **P 10 50 00.9 -0.4**
SJMB Sao Joao De Ma 50.20 181 *e*P **P 10 50 00.9 -0.4**
KSCO Kaye Shedlock' 50.23 296 P **P 10 50 02.1 +0.5**
baz=78,SNR=6.1
KSCO Kaye Shedlock' 50.23 296 IAmb IAmb 10 50 09.3
comp=Z,14nm,0.9s
KSCO IAMs_20 IAMs_20 11 09 42.4
comp=Z,2µm,20.0s
BSFB Barra de Sao F 50.33 180 *e*P **P 10 50 01.0 -1.2**
BSFB Barra de Sao F 50.33 180 *e*P **P 10 50 01.0 -1.2**
PMNB Patos De Minas 50.35 187 *e*P **P 10 50 03.0 +0.5**
PMNB Patos De Minas 50.35 187 *e*P **P 10 50 03.0 +0.5**
RSSD Black Hills 50.37 303 P **P 10 50 02.8 +0.1**
baz=81
RES Resolute Bay 50.41 344 P **P 10 50 02.1 -0.1**
comp=Z,15nm,1.0s,baz=107,slow=7.8,SNR=12
RES LR LR 11 07 28.2
comp=Z,534nm,21.8s,baz=126,slow=31
RES Resolute Bay 50.41 344 IAmb IAmb 10 50 05.8
comp=Z,21nm,1.1s
AMTX Amarillo 50.44 291 P **P 10 50 03.4 +0.2**
baz=75
AMTX Amarillo 50.44 291 IAMs_20 IAMs_20 11 08 46.3
comp=Z,2µm,20.0s
RIB01 Linhares ES 50.81 180 *e*P **P 10 50 05.2 -0.7**
RIB01 Linhares ES 50.81 180 *e*P **P 10 50 05.2 -0.7**
VTS Vitosha 50.88 59 ⇑P **P 10 50 06.3 -0.2**
VTS Vitosha 50.88 59 ⇑P **P 10 50 06.3 -0.2**
PP1B Ponte de Pedra 50.98 198 *e*P **P 10 50 07.8 +0.6**
PP1B Ponte de Pedra 50.98 198 *e*P **P 10 50 07.8 +0.6**
BUR08 Bucovina Ar. S 51.51 52 P **P 10 50 10.4 -0.7**
BURAR Bucovina Array 51.53 52 ⇑P **P 10 50 10.5 -0.7**
BURAR Bucovina Array 51.53 52 ⇑P **P 10 50 10.5 -0.7**
LAO LASA Array 51.53 307 P **P 10 50 11.4 +0.1**
baz=82,SNR=9.7
LAO LASA Array 51.53 307 IAmb IAmb 10 50 12.5
comp=Z,15nm,0.8s
LAO IAMs_20 IAMs_20 11 12 17.4
comp=Z,2µm,20.0s
FINES FINESS Array B 51.55 34 P **P 10 50 10.8 -0.2**
comp=Z,5.3nm,0.8s,baz=250,slow=5.5,SNR=7.4
FINES LR LR 11 11 20.2
comp=Z,325nm,18.1s,baz=246,slow=35
FINES FINESS Array B 51.55 34 P **P 10 50 10.6 -0.4**
FIA1 FINESS Array S 51.55 34 P **P 10 50 10.1 -0.9**
FIA1 IAmb IAmb 10 50 13.6
comp=Z,14nm,0.9s
MSTX Muleshoe 51.55 290 P **P 10 50 11.7 0.0**
baz=74
C2SB Chapadao do Su 51.62 195 *e*P **P 10 50 12.3 +0.4**
C2SB Chapadao do Su 51.62 195 *e*P **P 10 50 12.3 +0.4**
VOIR 51.71 55 ⇑P **P 10 50 11.1 -1.5**
VOIR 51.71 55 ⇑P **P 10 50 11.1 -1.5**
VSU Vasula 51.79 38 *ce*P **P 10 50 12.4 -0.4**
VSU pmax pmax
comp=Z,130nm,1.7s
T25A Trinidad 52.02 295 P **P 10 50 16.3 +1.1**
baz=76,SNR=6.8
T25A Trinidad 52.02 295 IAmb IAmb 10 50 18.3
comp=Z,14nm,1.1s
ALF01 Guarapari-ES 52.10 180 *e*P **P 10 50 13.6 -1.9**
ALF01 Guarapari-ES 52.10 180 *e*P **P 10 50 13.6 -1.9**
Q24A Divide 52.16 297 P **P 10 50 17.2 +0.8**
baz=77,SNR=6.2
Q24A Divide 52.16 297 IAmb IAmb 10 50 18.5
comp=Z,26nm,1.5s
ARCES ARCESS Array B 52.26 24 P **P 10 50 15.6 -0.6**
comp=Z,3.5nm,0.6s,baz=256,slow=4.9,SNR=15
ARCES PcP **PcP 10 51 26.0 -1.5**
comp=Z,1.6nm,0.6s,baz=260,slow=2.7,SNR=3.5
ARCES ARCESS Array B 52.26 24 P **P 10 50 15.7 -0.5**
ARE0 ARCESS Array S 52.26 24 P **P 10 50 15.6 -0.6**
ISCO Idaho Springs 52.33 298 P **P 10 50 18.1 +0.6**
baz=77,SNR=12
MLR Muntele Rosu 52.33 55 ⇑P **P 10 50 18.3 +1.1**
MLR Muntele Rosu 52.33 55 ⇑P **P 10 50 18.3 +1.1**
MLR Muntele Rosu 52.33 55 IAmb IAmb 10 50 26.6
comp=Z,39nm,1.4s
N23A Red Feather La 52.34 299 P **P 10 50 18.1 +0.5**
baz=78,SNR=12
N23A Red Feather La 52.34 299 IAmb IAmb 10 50 25.6
comp=Z,19nm,1.0s
K22A Casper 52.41 302 P **P 10 50 17.2 -0.8**
baz=79,SNR=5.0
SPA0 Spitsbergen Ar 52.51 13 P **P 10 50 18.1 +0.1**
SPA0 IAmb IAmb 10 50 19.3
comp=Z,16nm,0.9s
MICGM Minsk 52.55 43 *e* **P 10 50 16.0 -2.5**
MNK Minsk 52.55 43 *e*P **P 10 50 16.0 -2.5**
BSCB Bom Sucesso 52.64 185 *e*P **P 10 50 19.4 -0.1**
BSCB Bom Sucesso 52.64 185 *e*P **P 10 50 19.4 -0.1**
SDCO Great Sand Dun 52.72 296 P **P 10 50 21.0 +0.5**
baz=76
SDCO Great Sand Dun 52.72 296 IAMs_20 IAMs_20 11 11 13.3
comp=Z,2µm,20.0s
PLOR Plostina 52.76 54 ⇑P **P 10 50 23.0 +2.7**
PLOR Plostina 52.76 54 ⇑P **P 10 50 23.0 +2.7**
BB19B Bebedouro 53.10 189 *e*P **P 10 50 23.7 +0.7**
BB19B Bebedouro 53.10 189 *e*P **P 10 50 23.7 +0.7**
RWWY Rawlins 53.10 301 IAmb IAmb 10 50 29.7
comp=Z,39nm,1.4s
SMCO Snowmass 53.49 298 IAmb IAmb 10 50 33.9
comp=Z,13nm,1.1s
SORM Soroca 53.54 51 ⇑P **P 10 50 24.2 -1.8**
SORM Soroca 53.54 51 ⇑P **P 10 50 24.2 -1.8**
DUB01 Friburgo-RJ 53.59 182 *e*P **P 10 50 26.4 -0.1**
DUB01 Friburgo-RJ 53.59 182 *e*P **P 10 50 26.4 -0.1**
TX32 Lajitas Array 53.69 285 P **P 10 50 27.4 -0.1**
TX32 IAmb IAmb 10 50 35.1
comp=Z,15nm,1.1s
TXAR Lajitas Array 53.69 285 P **P 10 50 28.0 +0.5**
TXAR Lajitas Array 53.69 285 P **P 10 50 27.9 +0.5**
comp=Z,4.5nm,0.8s,baz=97,slow=7.4,SNR=35
TXAR LR LR 11 11 17.8
comp=Z,462nm,21.0s,baz=0.0,slow=34
EGMT Eagleton 53.71 309 P **P 10 50 27.2 -0.2**
baz=81,SNR=11
EGMT Eagleton 53.71 309 IAMs_20 IAMs_20 11 12 35.0
comp=Z,1µm,19.0s
S22A 4UR Ranch, Cre 53.74 296 P **P 10 50 28.8 +0.8**
baz=75,SNR=8.9
S22A 4UR Ranch, Cre 53.74 296 IAMs_20 IAMs_20 11 11 48.2
comp=Z,µm,20.0s
AKASG Malin Array Be 53.74 48 LR LR 11 11 33.8
comp=Z,511nm,18.2s,baz=275,slow=34
RLMT Red Lodge 53.89 305 P **P 10 50 29.6 +0.7**
baz=79,SNR=11
RLMT Red Lodge 53.89 305 IAmb IAmb 10 50 30.0
comp=Z,16nm,1.1s
TLIG Tlapa 53.99 269 P **P 10 50 30.8 +1.0**
TLIG IAmb IAmb 10 50 34.3
comp=Z,20nm,1.1s
TLIG IAMs_20 IAMs_20 11 12 04.7
comp=Z,1µm,19.0s
ANMO Albuquerque 54.21 292 P **P 10 50 32.5 +1.2**
baz=73
ANMO Albuquerque 54.21 292 *ce*P **P 10 50 32.3 +1.0**
ANMO pmax pmax
comp=Z,22nm,1.7s
ANMO Albuquerque 54.21 292 P **P 10 50 31.6 +0.3**
O20A White River Ci 54.21 299 P **P 10 50 32.0 +0.7**
baz=76,SNR=5.9
O20A White River Ci 54.21 299 IAmb IAmb 10 50 32.7
comp=Z,9.8nm,0.9s
MNTX Cornudas Mount 54.32 288 P **P 10 50 32.2 +0.3**
baz=71
MNTX Cornudas Mount 54.32 288 IAmb IAmb 10 50 35.2
comp=Z,14nm,1.1s
MNTX IAMs_20 IAMs_20 11 12 34.1
comp=Z,2µm,18.0s
BW06 Boulder Array 54.57 302 P **P 10 50 34.1 +0.1**
baz=77,SNR=29
PD31 Pinedale Array 54.57 302 P **P 10 50 33.7 -0.2**
PDAR Pinedale Array 54.57 302 P **P 10 50 33.7 -0.2**
comp=Z,15nm,0.8s,baz=83,slow=8.6,SNR=101
PDAR LR LR 11 13 24.2
comp=Z,3µm,18.1s,baz=104,slow=36
LPAZ La Paz 54.62 213 P **P 10 50 34.9 +0.1**
comp=Z,6.3nm,0.8s,baz=2.1,slow=6.3,SNR=21
LPAZ LR LR 11 12 28.7
comp=Z,765nm,19.9s,baz=6.5,slow=34
LPAZ La Paz 54.62 213 P **P 10 50 34.7 -0.1**
LPAZ IAmb IAmb 10 50 38.5
comp=Z,15nm,1.1s
LPAZ La Paz 54.62 213 *e*P **P 10 50 34.9 +0.1**
LKWY Lake 54.79 305 IAmb IAmb 10 50 39.1
comp=Z,14nm,1.0s
Y22D IRIS PASSCAL I 54.83 292 P **P 10 50 37.4 +1.6**
baz=72
H17A Grant Village 54.95 305 P **P 10 50 38.1 +1.5**
baz=78
YKA Yellowknife Ar 55.03 327 P **P 10 50 36.3 -0.3**
comp=Z,3.2nm,0.7s,baz=84,slow=7.6,SNR=9.3
YKA LR LR 11 14 01.5
comp=Z,188nm,18.5s,baz=76,slow=36
YKA Yellowknife Ar 55.03 327 P **P 10 50 36.0 -0.5**
FLWY Flagg Ranch 55.10 304 IAmb IAmb 10 50 38.9
comp=Z,17nm,1.1s
FLWY IAMs_20 IAMs_20 11 12 43.8
comp=Z,2µm,19.0s
PV13 Radium Mtn., P 55.15 297 IAMs_20 IAMs_20 11 12 08.6
comp=Z,2µm,21.0s
MVCO Mesa Verde 55.16 296 P **P 10 50 39.4 +1.1**
baz=74,SNR=7.7
MVCO Mesa Verde 55.16 296 IAmb IAmb 10 50 47.0
comp=Z,19nm,1.2s
MVCO IAMs_20 IAMs_20 11 11 46.9
comp=Z,2µm,20.0s
ZAIG Zacatecas 55.18 277 P **P 10 50 39.1 +0.4**
PV18 Skein Mesa, Pa 55.19 297 IAMs_20 IAMs_20 11 13 00.7
comp=Z,2µm,20.0s
MOOW Moose Ponds 55.20 304 IAMs_20 IAMs_20 11 12 37.6
comp=Z,2µm,21.0s
EPT El Paso 55.21 289 IAMs_20 IAMs_20 11 11 24.5
comp=Z,2µm,22.0s
SNOW Snow King Moun 55.27 304 IAMs_20 IAMs_20 11 12 52.5
comp=Z,2µm,20.0s
REDW Red Top Meadow 55.37 303 IAMs_20 IAMs_20 11 12 56.0
comp=Z,2µm,21.0s
TPAW Teton Pass 55.41 304 IAMs_20 IAMs_20 11 13 06.0
comp=Z,2µm,20.0s
BOZ Bozeman (W) 55.42 306 P **P 10 50 40.2 +0.2**
baz=78,SNR=8.7
BOZ Bozeman (W) 55.42 306 IAMs_20 IAMs_20 11 14 42.4
comp=Z,1µm,19.0s
FXWY Fox Creek 55.43 304 IAmb IAmb 10 50 47.6
comp=Z,14nm,1.1s
FXWY IAMs_20 IAMs_20 11 13 15.6
comp=Z,2µm,20.0s
TRCB Terra Rica 55.48 194 *e*P **P 10 50 40.5 +0.2**
TRCB Terra Rica 55.48 194 *e*P **P 10 50 40.5 +0.2**
NNA Nana 55.68 224 P **P 10 50 42.7 +0.8**
NNA pmax pmax
comp=Z,19nm,1.2s
NNA Nana 55.68 224 P **P 10 50 42.7 +0.8**
NNA IAmb IAmb 10 50 50.2
comp=Z,20nm,1.1s
MANT Manisa 55.75 63 P **P 10 50 41.5 -0.9**
121A Cookes Peak, D 55.99 290 P **P 10 50 45.2 +0.9**
baz=71,SNR=11
121A Cookes Peak, D 55.99 290 IAmb IAmb 10 50 46.2
comp=Z,14nm,1.1s
121A IAMs_20 IAMs_20 11 11 50.2
comp=Z,2µm,21.0s
DLMT Dillon 56.14 306 IAmb IAmb 10 50 52.3
comp=Z,20nm,1.1s
W18A Petrified Fore 56.73 294 P **P 10 50 50.2 +0.7**
baz=72
MSO Missoula 56.73 308 P **P 10 50 49.4 +0.2**
baz=77,SNR=8.6
MSO Missoula 56.73 308 IAmb IAmb 10 50 56.7
comp=Z,24nm,1.4s
JTMT Jette 56.76 309 IAmb IAmb 10 50 50.4
comp=Z,13nm,1.2s
JTMT IAMs_20 IAMs_20 11 15 14.5
comp=Z,1µm,18.0s
PAYG Puerto Ayora 57.00 245 P **P 10 50 51.6 +0.3**
X18A Snowflake 57.07 293 IAMs_20 IAMs_20 11 12 30.7
comp=Z,2µm,22.0s
OBN Obninsk 57.47 42 *e*P **P 10 50 52.2 -1.8**
OBN *e* 10 51 46.3
OBN *e* 10 52 57.8
OBN *e*PPP PPP 10 54 20.7
OBN pmax pmax
comp=Z,14nm,1.0s
OBN Obninsk 57.47 42 P **P 10 50 53.7 -0.4**
319A Douglas 57.57 289 IAmb IAmb 10 50 57.3
comp=Z,8.5nm,0.8s
319A IAMs_20 IAMs_20 11 12 50.1
comp=Z,1µm,22.0s
DUG Dugway, Tooele 57.58 300 P **P 10 50 56.1 +0.7**
baz=74,SNR=16
DUG Dugway, Tooele 57.58 300 IAmb IAmb 10 50 57.3
comp=Z,23nm,1.1s
MNMC Minye Minye 57.77 213 P **P 10 50 55.6 -1.3**
MNMC IAmb IAmb 10 50 59.4
comp=Z,21nm,0.9s
WUAZ Wupatki 57.88 295 P **P 10 50 58.8 +1.3**
baz=72,SNR=11
WUAZ Wupatki 57.88 295 IAmb IAmb 10 51 06.3
comp=Z,22nm,1.3s
GO01 Chusmiza 58.05 212 P **P 10 50 58.4 -0.7**
KLMR Klimovskoe 58.08 35 *e*P **P 10 50 55.8 -2.5**
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR Klimovskoe 58.08 35 *e*P **P 10 50 55.9 -2.4**
KLMR AMP 10 51 05.8
comp=Z,33nm,1.4s
KLMR LR LR 11 10 52.3
X16A Lo Mia Camp, P 58.28 293 IAmb IAmb 10 51 04.5
comp=Z,9.2nm,1.1s
U15A North Rim 58.30 296 IAmb IAmb 10 51 04.2
comp=Z,17nm,1.2s
U15A IAMs_20 IAMs_20 11 13 27.0
comp=Z,2µm,22.0s
TUC Tucson 58.46 291 P **P 10 51 02.5 +0.9**
baz=70
TUC Tucson 58.46 291 P **P 10 51 02.0 +0.5**
TUC Tucson 58.46 291 P **P 10 51 02.0 +0.5**
TUC Tucson 58.46 291 IAMs_20 IAMs_20 11 13 30.5
comp=Z,2µm,22.0s
A36M Sachs Harbour 58.48 339 P **P 10 51 01.9 +1.0**
baz=84
NEW Newport 58.50 310 P **P 10 51 01.6 0.0**
baz=76,SNR=14
NEW Newport 58.50 310 IAmb IAmb 10 51 02.6
comp=Z,18nm,0.8s
NEW Newport 58.50 310 IAMs_20 IAMs_20 11 13 58.5
comp=Z,2µm,21.0s
PLID Pearl Lake 58.54 307 IAmb IAmb 10 51 03.0
comp=Z,20nm,1.1s
MFID Camas Ranch 58.87 305 IAMs_20 IAMs_20 11 14 08.5
comp=Z,1µm,21.0s
F10A Beach Ranch, E 59.14 308 IAMs_20 IAMs_20 11 15 29.7
comp=Z,2µm,19.0s
BR131 Keskin Array S 59.19 60 P **P 10 51 05.4 -1.2**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 59.19 60 P **P 10 51 05.4 -1.2**
BRTR Keskin Array B 59.19 60 P **P 10 51 06.0 -0.5**
comp=Z,2.0nm,0.8s,baz=267,slow=6.1,SNR=10.0
ELK Elko 59.20 301 IAmb IAmb 10 51 14.3
comp=Z,10.0nm,1.3s
LPSR Galich'ya Gora 59.34 44 *e*P **P 10 51 06.4 -0.8**
LPSR pmax pmax
comp=Z,60nm,1.4s
C09A Chrisman Ranch 59.37 310 IAMs_20 IAMs_20 11 14 24.4
comp=Z,1µm,22.0s
BMO Blue Mountains 59.50 307 IAMs_20 IAMs_20 11 14 45.1
comp=Z,1µm,20.0s
HSIG 59.76 287 IAmb IAmb 10 51 13.5
comp=Z,17nm,1.1s
HSIG IAMs_20 IAMs_20 11 15 58.1
comp=Z,1µm,20.0s
VSR Storozhevoye 59.81 46 *e*P **P 10 51 08.4 -2.1**
VSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 59.95 46 *e*P **P 10 51 10.3 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.5s
W13A Hualapai Mount 59.95 295 IAmb IAmb 10 51 21.1
comp=Z,20nm,1.4s
CPUP Villa Florida 59.96 197 P **P 10 51 11.2 -0.5**
CPUP pmax pmax
comp=Z,10.0nm,1.1s
CPUP Villa Florida 59.96 197 P **P 10 51 10.9 -0.7**
comp=Z,5.9nm,1.0s,baz=353,slow=8.5,SNR=6.8
CPUP LR LR 11 17 52.3
comp=Z,204nm,18.1s,baz=18,slow=37
CPUP Villa Florida 59.96 197 P **P 10 51 11.2 -0.5**
CPUP IAmb IAmb 10 51 13.2
comp=Z,10nm,1.1s
CPUP Villa Florida 59.96 197 *e*P **P 10 51 11.3 -0.3**
R11A Troy Canyon, C 60.19 299 P **P 10 51 14.3 +0.8**
baz=71,SNR=11
R11A Troy Canyon, C 60.19 299 IAmb IAmb 10 51 14.7
comp=Z,9.1nm,1.1s
214A Organ Pipe Nat 60.19 291 P **P 10 51 14.2 +0.7**
baz=69
214A Organ Pipe Nat 60.19 291 IAmb IAmb 10 51 16.6
comp=Z,12nm,1.1s
214A IAMs_20 IAMs_20 11 14 45.4
comp=Z,1µm,21.0s
ANN Anapa 60.40 53 *e*P **P 10 51 13.1 -1.5**
ANN pmax pmax
comp=Z,63nm,1.5s
PDMCI Parker Dam,Lak 60.42 294 P **P 10 51 15.8 +0.9**
baz=70
SHPR Sheep Range 60.46 297 IAMs_20 IAMs_20 11 14 48.2
comp=Z,2µm,22.0s
G08A Pilot Rock 60.50 307 IAmb IAmb 10 51 17.3
comp=Z,18nm,1.1s
G08A IAMs_20 IAMs_20 11 16 35.6
comp=Z,1µm,22.0s
LVC Limon Verde 60.51 210 P **P 10 51 11.3 -4.6**
LVC pmax pmax
comp=Z,15nm,1.2s
LVC Limon Verde 60.51 210 P **P 10 51 11.3 -4.6**
LVC IAmb IAmb 10 51 19.0
comp=Z,15nm,1.1s
LVC Limon Verde 60.51 210 *e*P **P 10 51 15.2 -0.8**
HAWA Hanford 60.57 309 IAMs_20 IAMs_20 11 17 33.4
comp=Z,1µm,19.0s
113A Mohawk Valley, 60.66 292 IAmb IAmb 10 51 25.7
comp=Z,11nm,1.0s
BMN Battle Mountai 60.73 302 IAmb IAmb 10 51 18.1
comp=Z,11nm,1.0s
Y12C Blythe 60.91 294 P **P 10 51 19.3 +1.0**
baz=69
Y12C Blythe 60.91 294 IAmb IAmb 10 51 26.9
comp=Z,12nm,1.3s
C06D Leavenworth 61.03 311 P **P 10 51 19.1 +0.2**
baz=74
TPNV Topopah Spring 61.14 298 P **P 10 51 21.1 +1.0**
baz=70,SNR=18
IRM Iron Mountain 61.25 294 P **P 10 51 21.8 +1.1**
baz=69,SNR=11
VRH Novokhopyorsk 61.37 45 *e*P **P 10 51 20.0 -1.1**
VRH pmax pmax
comp=Z,20nm,0.6s
GLA Glamis 61.40 293 P **P 10 51 23.3 +1.6**
baz=69
GMRC Granite Mounta 61.43 295 P **P 10 51 22.9 +0.9**
baz=69,SNR=7.0
SHOC Shoshone, Teco 61.52 296 P **P 10 51 23.3 +0.9**
baz=70,SNR=6.1
BC3 Big Chuckawall 61.67 294 P **P 10 51 24.6 +1.0**
baz=69
B05A Bryant 61.71 311 P **P 10 51 22.1 -1.4**
baz=73
FURC Furnace Creek, 61.77 297 P **P 10 51 25.8 +1.7**
baz=70
BELC Belle Mtn. Jos 61.97 294 P **P 10 51 27.0 +1.3**
baz=69,SNR=7.0
LON Longmire 61.97 310 IAMs_20 IAMs_20 11 15 45.3
comp=Z,1µm,22.0s
F05D White Salmon 62.00 309 P **P 10 51 26.2 +0.6**
baz=72,SNR=5.9
PB10 IPOC Station P 62.01 211 P **P 10 51 25.1 -0.6**
NV11 Mina Array Sit 62.07 300 P **P 10 51 26.2 -0.1**
NV11 IAmb IAmb 10 51 26.8
comp=Z,8.2nm,0.9s
G05D Wamic, OR 62.10 308 P **P 10 51 27.3 +1.1**
baz=72
GSC Goldstone, Bar 62.13 296 P **P 10 51 28.0 +1.4**
baz=69,SNR=5.1
GSC Goldstone, Bar 62.13 296 IAmb IAmb 10 51 28.6
comp=Z,7.6nm,1.1s
NVAR Mina Array Bea 62.18 300 P **P 10 51 27.4 +0.3**
comp=Z,4.3nm,0.7s,baz=74,slow=6.4,SNR=38
NVAR LR LR 11 17 45.6
comp=Z,3µm,18.9s,baz=78,slow=36
SWSC Sam W. Stewart 62.20 293 P **P 10 51 28.4 +1.4**
baz=68
RYN Ryan 62.27 300 IAmb IAmb 10 51 28.9
comp=Z,19nm,1.4s
MPMC Manual Prospec 62.38 297 P **P 10 51 29.8 +1.3**
baz=69,SNR=19
I05D Terrebonne, OR 62.40 307 P **P 10 51 29.9 +1.6**
baz=71,SNR=11
MOD Modoc Plateau 62.47 304 IAMs_20 IAMs_20 11 17 51.9
comp=Z,1µm,19.0s
PFO Pinyon Flats O 62.47 294 P **P 10 51 30.0 +1.0**
baz=68
PFO Pinyon Flats O 62.47 294 P **P 10 51 29.9 +1.0**
PFO pmax pmax
comp=Z,3.0nm,1.0s
PFO Pinyon Flats O 62.47 294 P **P 10 51 29.9 +1.0**
IKP In-Ko-Pah, Jac 62.55 293 P **P 10 51 30.7 +1.2**
baz=68
BBRC Big Bear Solar 62.59 295 P **P 10 51 31.2 +1.3**
baz=69,SNR=5.3
TIN Tinemaha, Big 62.59 298 P **P 10 51 31.1 +1.3**
baz=69
J05D Fort Rock, OR 62.67 306 P **P 10 51 30.9 +0.7**
baz=71,SNR=6.9
CWC Cottonwood Cre 62.70 298 P **P 10 51 31.7 +1.1**
baz=69
MONP2 Monument Peak 62.70 293 P **P 10 51 31.9 +1.3**
baz=68
LRMC Laurel Mtn Rad 62.74 296 P **P 10 51 32.0 +1.2**
baz=69,SNR=6.7
MLAC Mammoth, Mammo 62.85 299 P **P 10 51 32.7 +1.1**
baz=69
VCNR Virginia City 62.87 301 IAmb IAmb 10 51 39.6
comp=Z,14nm,1.1s
VCNR IAMs_20 IAMs_20 11 17 36.7
comp=Z,1µm,20.0s
PNTR Pine Nut 62.91 301 IAmb IAmb 10 51 33.0
comp=Z,13nm,1.2s
OMMB Old Mammoth Mi 62.98 299 IAmb IAmb 10 51 34.1
comp=Z,8.2nm,1.0s
MDPB Devils Postpil 63.03 299 IAmb IAmb 10 51 35.0
comp=Z,9.9nm,1.0s
CPSB Cacapava Do Su 63.04 192 *e*P **P 10 51 32.7 +0.3**
CPSB Cacapava Do Su 63.04 192 *e*P **P 10 51 32.7 +0.3**
MURC Murrieta 63.04 294 P **P 10 51 34.4 +1.7**
baz=68
BFSC Mount Baldy Ra 63.17 295 P **P 10 51 35.0 +1.3**
baz=68
BEKR Beckworth 63.19 302 IAmb IAmb 10 51 34.1
comp=Z,7.7nm,1.2s
EDW2 Edwards Air Fo 63.19 296 P **P 10 51 34.9 +1.2**
baz=68,SNR=12
109C Camp Elliot, M 63.24 294 P **P 10 51 35.1 +1.2**
baz=68
K04D Chiloquin, OR 63.24 305 P **P 10 51 35.0 +1.0**
baz=70
ISA Isabella, Lake 63.27 297 P **P 10 51 35.9 +1.6**
baz=69,SNR=12
ISA Isabella, Lake 63.27 297 IAMs_20 IAMs_20 11 17 20.6
comp=Z,1µm,20.0s
J04D Umpqua Nationa 63.28 306 P **P 10 51 35.1 +0.8**
baz=70
H04D Lebanon 63.29 308 P **P 10 51 35.1 +1.0**
baz=71
G03D McMinnville, O 63.42 308 P **P 10 51 35.8 +0.9**
baz=71
MWC Mount Wilson 63.48 295 IAmb IAmb 10 51 41.6
comp=Z,6.7nm,1.1s
M04C Macdoel 63.59 304 P **P 10 51 36.7 +0.4**
baz=70,SNR=5.2
VES Vestal, Richgr 63.67 297 P **P 10 51 38.2 +1.5**
baz=68
EPYK Eagle Plains 63.70 333 P **P 10 51 36.7 +0.1**
baz=71,SNR=5.9
EPYK Eagle Plains 63.70 333 IAMs_20 IAMs_20 11 18 33.4
comp=Z,2µm,22.0s
ARVC Arvin 63.74 297 P **P 10 51 38.3 +1.0**
baz=68
DOMR Dombai 63.74 54 *i*P **P 10 51 37.1 -0.2**
DOMR pmax pmax
comp=Z,10.0nm,1.0s
L04D Klamath Falls 63.77 305 P **P 10 51 37.5 0.0**

baz=70,SNR=7.7
AFDM Forest Hills D 63.96 301 IAMs_20 IAMs_20 11 17 40.4
comp=Z,2μm,22.0s
O03E Paynes Creek 64.08 303 P P 10 51 39.5 0.0
baz=69,SNR=6.3
HUMO Hull Mountain 64.09 306 IAMs_20 IAMs_20 11 17 58.6
comp=Z,1μm,20.0s
ORV Oroville 64.12 302 IAmb IAmb 10 51 42.4
comp=Z,7.8nm,1.1s
ORV IAMs_20 IAMs_20 11 17 54.8
comp=Z,1μm,21.0s
I02D Swisshome 64.18 307 P P 10 51 40.9 +0.9
baz=70
KIV Kislovodsk 64.24 53 *e*P **P 10 51 39.6 -0.9**
KIV pmax pmax
comp=Z,56nm,1.1s
SHA1 Shidzhatmaz 64.29 53 *e*P **P 10 51 39.8 -1.2**
PLTB Pedras Altas 64.39 192 *e*P **P 10 51 42.9 +1.5**
PLTB Pedras Altas 64.39 192 *e*P **P 10 51 42.9 +1.5**
KBZ Khabaz 64.46 53 P **P 10 51 41.9 +0.1**
comp=Z,5.6nm,0.8s,baz=319,slow=8.6,SNR=9.1
K02D Willamette Mer 64.55 306 P **P 10 51 42.7 +0.2**
baz=69
PKM Mcpherson Peak 64.58 297 P **P 10 51 44.4 +1.5**
baz=68
L02E Cave Junction 64.69 305 P **P 10 51 45.0 +1.6**
baz=69
ZEI Tsey 65.48 54 *e*P **P 10 51 46.2 -2.6**
ZEI pmax pmax
comp=Z,22nm,1.1s
DAWY Dawson 65.58 331 P **P 10 51 48.9 +0.1**
MCCM Marconi Confer 65.64 301 IAMs_20 IAMs_20 11 21 04.1
comp=Z,1μm,21.0s
EGAK Eagle 66.00 333 P **P 10 51 51.4 -0.1**
EGAK IAMs_20 IAMs_20 11 20 12.3
comp=Z,1μm,20.0s
BMAR Burnt Mountain 66.17 336 P **P 10 51 53.5 +0.9**
BCAR Beaver Creek A 66.96 331 P **P 10 51 58.0 +0.3**
GNI Garni 67.06 56 P P 10 52 06.6 +7.7
SNR=5.4
TOLK Toolik Lake Re 67.28 338 P **P 10 52 00.1 +0.5**
baz=61,SNR=5.4
SCRK Sand Creek 67.46 332 IAMs_20 IAMs_20 11 20 57.8
comp=Z,1μm,18.0s
DOT Dot Lake 67.63 332 IAMs_20 IAMs_20 11 21 21.5
comp=Z,1μm,20.0s
GO04 Tololo Observa 67.97 208 P **P 10 52 04.3 -0.3**
BALM Baldy 68.07 329 IAmb IAmb 10 52 06.4
comp=Z,12nm,1.1s
COLD Coldfoot 68.19 337 IAmb IAmb 10 52 08.8
comp=Z,9.5nm,1.0s
COLD IAMs_20 IAMs_20 11 21 52.8
comp=Z,900nm,18.0s
IL31 68.21 334 P **P 10 52 06.0 +0.5**
IL31 IAmb IAmb 10 52 07.6
comp=Z,17nm,1.1s
ILAR Eielson Array 68.21 334 P **P 10 52 06.0 +0.5**
comp=Z,5.8nm,0.9s,baz=55,slow=4.9,SNR=41
ILAR LR LR 11 22 22.5
comp=Z,880nm,18.3s,baz=82,slow=36
HDA Harding Lake 68.41 333 P **P 10 52 07.3 +0.6**
baz=61,SNR=14
TGL Tana Glacier 68.41 329 IAmb IAmb 10 52 12.8
comp=Z,16nm,1.1s
VRDI Verde Repeater 68.47 330 IAMs_20 IAMs_20 11 21 32.8
comp=Z,1μm,21.0s
PAX Paxson 68.51 332 IAMs_20 IAMs_20 11 20 44.7
comp=Z,1μm,21.0s
COLA College 68.53 334 IAMs_20 IAMs_20 11 21 10.0
comp=Z,1μm,21.0s
GLB Gilahina Butte 68.53 330 IAmb IAmb 10 52 09.1
comp=Z,15nm,1.0s
TCOL CIGO, UAF Yank 68.53 334 P **P 10 52 08.2 +0.7**
baz=61
AKT Akhty 68.61 54 *e*P P 10 52 14.4 +5.8
AKT *e* 10 52 36.7
AKT pmax pmax
comp=Z,27nm,1.4s
WRH Wood River Hil 68.81 334 IAMs_20 IAMs_20 11 22 19.5
comp=Z,905nm,20.0s
ARU Arti 68.86 36*d i*P **P 10 52 08.3 -1.4**
ARU 10 52 35.7
ARU 10 54 38.2
ARU S **S 11 01 11.2 -1.9**
ARU SS **SS 11 05 31.1 -6.5**
ARU pmax pmax
comp=Z,25nm,1.8s
ARU Arti 68.86 36 P **P 10 52 09.2 -0.5**
NEA Nenana 69.13 334 IAMs_20 IAMs_20 11 22 09.6
comp=Z,1μm,21.0s
DHY Denali Highway 69.22 332 IAMs_20 IAMs_20 11 22 33.5
comp=Z,1μm,19.0s
MLY Manley 69.51 335 IAmb IAmb 10 52 14.6
comp=Z,8.9nm,1.2s
MLY IAMs_20 IAMs_20 11 22 44.8
comp=Z,1μm,19.0s
SVE Sverdlovsk 69.71 35 *e*P **P 10 52 15.2 +0.3**
SVE pmax pmax
comp=Z,46nm,1.8s
IMAR Indian Mountai 70.05 336 P **P 10 52 17.1 +0.2**
BPAW Bear Paw Mtn. 70.09 334 IAmb IAmb 10 52 18.9
comp=Z,16nm,1.2s
BPAW IAMs_20 IAMs_20 11 23 21.2
comp=Z,994nm,18.0s
TRF Thorofare Moun 70.17 333 IAmb IAmb 10 52 26.7
comp=Z,12nm,1.2s
TRF IAMs_20 IAMs_20 11 23 56.4
comp=Z,1μm,19.0s
KTH Kantishna Hill 70.36 334 IAMs_20 IAMs_20 11 24 00.3
comp=Z,994nm,18.0s
ROC1 El Roble 70.53 207 P **P 10 52 19.7 -0.8**
PEL Peldehue 70.56 206 P **P 10 52 20.1 -0.3**
PEL pmax pmax
comp=Z,6.0nm,0.9s
PEL Peldehue 70.56 206 P **P 10 52 20.1 -0.3**
SKT Skwentna 71.44 332 IAmb IAmb 10 52 28.7
comp=Z,19nm,1.1s
TRQA Tornquist 72.29 198 *e*P **P 10 52 30.5 -0.2**
TRQA Tornquist 72.29 198 *e*P **P 10 52 30.5 -0.2**
NRIK Noril'sk 72.34 17 P **P 10 52 31.6 +1.0**
comp=Z,13nm,1.1s,baz=316,slow=3.8,SNR=14
NRIK LR LR 11 22 35.6
comp=Z,283nm,20.2s,baz=325,slow=34
ABKAR Abkulak array 72.90 42 P **P 10 52 33.7 -0.7**
ABKAR IAmb IAmb 10 52 42.1
comp=Z,8.8nm,1.0s
H09N1 TRISTAN DA CUN 73.42 157 T T 12 12 41.2
SNR=33
H09W1 TRISTAN DA CUN 73.44 157 T T 12 12 35.3
SNR=83
SVW2 Sparrevohn 73.54 333 IAMs_20 IAMs_20 11 24 28.8
comp=Z,1μm,21.0s
RAYN Ar Rayn 74.85 72 IAMs_20 IAMs_20 11 25 22.4
comp=Z,607nm,19.0s
TSUM Tsumeb 75.34 124 IAMs_20 IAMs_20 11 21 39.7
comp=Z,875nm,20.0s
LODK Lodwar 76.26 95 P **P 10 52 57.7 +3.2**
SNR=7.2
BRVK Borovoye 76.42 35 P **P 10 52 54.7 0.0**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 76.42 35 P **P 10 52 54.7 0.0**
BRVK IAmb IAmb 10 53 02.7
comp=Z,10nm,1.0s
TIXI Tiksi 76.58 3*c e*P **P 10 52 54.9 -0.4**
TIXI pmax pmax
comp=Z,30nm,1.7s
TIXI Tiksi 76.58 3 P **P 10 52 55.7 +0.4**
GAMB Gambell 77.24 340 IAMs_20 IAMs_20 11 28 09.9
comp=Z,614nm,20.0s
PLCA Paso Flores 77.30 203 P **P 10 52 59.6 -0.1**
PLCA pmax pmax
comp=Z,24nm,1.4s
PLCA Paso Flores 77.30 203 P **P 10 52 58.6 -1.0**
comp=Z,3.7nm,0.9s,baz=347,slow=7.8,SNR=4.8
PLCA LR LR 11 26 12.5
comp=Z,229nm,19.6s,baz=39,slow=35
PLCA Paso Flores 77.30 203 P **P 10 52 59.6 -0.1**
PLCA IAmb IAmb 10 53 06.7
comp=Z,24nm,1.4s
PLCA Paso Flores 77.30 203 *e*P **P 10 53 00.3 +0.6**
GEYT Alibeck 77.35 53 P **P 10 53 00.8 +0.5**
comp=Z,0.9nm,0.4s,baz=288,slow=5.9,SNR=2.3
GEYT LR LR 11 28 29.1
comp=Z,90nm,18.4s,baz=15,slow=37
GEYT Alibeck 77.35 53 P **P 10 52 59.8 -0.5**

BILL Bilibino 78.47 350 *e*P **P 10 53 06.6 +0.7**
BILL *e* 10 53 13.7
BILL pmax pmax
comp=Z,17nm,1.3s
BILL Bilibino 78.47 350 P **P 10 53 05.5 -0.4**
BILL IAmb IAmb 10 53 07.7
comp=Z,22nm,1.2s
ATD Arta Tunnel 78.49 84 IAMs_20 IAMs_20 11 27 13.2
comp=Z,897nm,20.0s
KMBO Kilima Mbogo 80.26 97 LR LR 11 27 46.7
comp=Z,2μm,21.1s,baz=276,slow=35
LSZ Lusaka 80.77 114 P **P 10 53 22.3 +2.9**
SNR=6.3
LSZ Lusaka 80.77 114 P **P 10 53 18.8 -0.6**
LSZ pmax pmax
comp=Z,11nm,1.1s
LSZ Lusaka 80.77 114 P **P 10 53 18.8 -0.6**
LSZ IAmb IAmb 10 53 25.3
comp=Z,11nm,1.1s
LSZ Lusaka 80.77 114 IAMs_20 IAMs_20 11 24 55.5
comp=Z,857nm,22.0s
KURK Kurchatov 81.92 34*c e*P **P 10 53 24.0 -0.9**
KURK pmax pmax
comp=Z,22nm,1.7s
KURK Kurchatov 81.92 34 P **P 10 53 24.1 -0.7**
HRA Herat 82.05 55 P **P 10 53 25.2 -0.9**
KKAR Karatay Array 82.39 44 P **P 10 53 26.9 -0.6**
KKAR Karatay Array 82.39 44 P **P 10 53 26.9 -0.6**
ZAA0 Zalesovo Array 82.46 29 P **P 10 53 27.2 -0.4**
ZAA0 IAmb IAmb 10 53 35.9
comp=Z,22nm,1.4s
ZALV Zalesovo Beam 82.46 29 P **P 10 53 27.2 -0.4**
ZALV Zalesovo Beam 82.46 29 P **P 10 53 27.8 +0.2**
comp=Z,1.8nm,0.3s,baz=296,slow=5.8,SNR=11
ZALV LR LR 11 28 33.2
comp=Z,198nm,20.2s,baz=24,slow=35
ZALV Zalesovo Beam 82.46 29 P **P 10 53 27.2 -0.4**
UOSS Minazif 82.62 65 P **P 10 53 27.9 -1.1**
GAR Garm 84.73 47 P **P 10 53 39.3 -0.5**
LBTB Lobatse 84.75 124 P **P 10 53 39.2 -0.7**
LBTB pmax pmax
comp=Z,36nm,1.6s
LBTB Lobatse 84.75 124 P **P 10 53 39.1 -0.7**
AAK Ala-Archa 84.99 42 P **P 10 53 40.3 -0.7**
AAK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 84.99 42 P **P 10 53 40.3 -0.7**
YAK Yakutsk 86.18 5 *e*P **P 10 53 45.9 -0.4**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,37nm,1.4s
YAK Yakutsk 86.18 5 P **P 10 53 46.2 -0.1**
MAKZ Makanchi 86.21 35 P **P 10 53 46.3 -0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 86.21 35 P **P 10 53 46.3 -0.5**
MK31 Makanchi Array 86.37 35 P **P 10 53 47.0 -0.6**
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 86.37 35 P **P 10 53 47.0 -0.6**
MKAR Makanchi Array 86.37 35 P **P 10 53 46.8 -0.9**
MKAR Makanchi Array 86.37 35 P **P 10 53 47.3 -0.4**
comp=Z,1.0nm,0.8s,baz=316,slow=5.1,SNR=6.2
MKAR LR LR 11 31 50.6
comp=Z,419nm,19.0s,baz=302,slow=35
MKAR Makanchi Array 86.37 35 P **P 10 53 46.8 -0.9**
BOSA Boshof 86.75 127 LR LR 11 26 32.8
comp=Z,614nm,21.5s,baz=326,slow=32
KSH Kashi 87.84 44 P **P 10 53 56.2 +1.2**
KSH PP **PP 10 57 22.9 +2.6**
KSH S **S 11 04 37.7 +0.1**
KSH sS ScS 11 04 45.1 +0.9
KSH SS **SS 11 10 24.9 +1.3**
KSH pmax pmax
comp=Z,20nm,1.0s
KSH LR LR
comp=Z,470nm,11.0s
KSH LR LR
comp=Z,1μm,11.2s
BOD Bodaibo 88.22 13 *e*P **P 10 53 55.7 -0.6**
BOD pmax pmax
comp=Z,24nm,1.8s
NIL Nilore 89.88 50 P **P 10 54 04.0 -0.7**
NIL pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 89.88 50 P **P 10 54 04.0 -0.7**
NIL IAmb IAmb 10 54 06.0
comp=Z,5.7nm,0.9s
TLY Talaya 91.15 21 *e*P **P 10 54 12.4 +2.2**
TLY pmax pmax
comp=Z,45nm,1.6s
TLY MLR MLR
comp=Z,549nm,16.0s
WMQ Urumqi 91.16 35 *e*P **P 10 54 12.1 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,260nm,9.1s
WMQ LR LR
comp=Z,530nm,24.1s
PETK Petropavlovsk- 93.97 349 LR LR 11 34 30.5
comp=Z,368nm,20.1s,baz=53,slow=34
SONM Songino Array 95.38 22 P **P 10 54 29.1 -0.7**
comp=Z,0.5nm,0.4s,baz=289,slow=3.7,SNR=5.6
SONM LR LR 11 37 41.9
comp=Z,85nm,18.3s,baz=348,slow=36
ULN Ulaanbaatar 95.56 21*c e*P **P 10 54 31.3 +0.6**
ULN pmax pmax
comp=Z,16nm,2.5s
TAOE Nuku Hiva Isla 102.71 267 *e*LR LR 11 28 36.8
comp=Z,2μm,27.5s
CD2 Chengdu 109.07 32 Pdif **Pdif 10 55 28.7 -2.6**
PPT2 Papeete2 114.95 264 *e*LR LR 11 34 24.2
comp=Z,677nm,31.2s
CMAR Chiang Mai Arr 116.74 44 PKIKP **PKPdf 10 59 49.5 -0.8**
CMAR Chiang Mai Arr 116.74 44 PKP **PKPdf 10 59 49.7 -0.7**
comp=Z,0.4nm,0.3s,baz=324,slow=2.0,SNR=5.5
CMAR Chiang Mai Arr 116.74 44 **PKPdf 10 59 49.5 -0.8**
TBI Tubuai 117.37 258 *e*LR LR 11 35 34.6
comp=Z,313nm,24.8s
SBA Scott Base 132.26 188 PKIKP **PKPdf 11 00 18.2 -0.1**
SBA Scott Base 132.26 188 **PKPdf 11 00 18.1 -0.1**
KAPI Kappang 147.61 39 PKP2 **PKPbc 11 00 49.7 -0.8**
KAPI Kappang 147.61 39 PKPbc **PKPdf 11 00 48.8 +1.1**
comp=Z,5.9nm,0.3s,baz=30,slow=2.0,SNR=2.4
KAPI Kappang 147.61 39 **PKPbc 11 00 49.7 -0.8**
SIJI Sorong 148.30 16 PKPbc **PKPbc 11 00 51.0 -1.4**
comp=Z,5.2nm,0.7s,baz=338,slow=2.4,SNR=2.5
BKZ Black Stump Fm 149.08 246 **PKiKP 11 00 54.6 -0.3**
FAKI Fak Fak 150.50 15 PKPdf **PKPdf 11 00 51.9 -0.6**
FAKI **PKPbc 11 00 57.7 -0.1**
FAKI PKPab **PKPab 11 01 04.5 +0.3**
SOEI Soe 153.97 36 PKPdf **PKPdf 11 00 56.9 -0.8**
SOEI **PKPbc 11 01 04.7 -1.1**
DZM Mont Dzumac 154.09 285 *e*LR LR 11 52 37.3
comp=Z,678nm,22.9s
WRA Warramunga Arr 167.36 22 PKIKP **PKPdf 11 01 10.8 -1.1**
WRA Warramunga Arr 167.36 22 PKP **PKPdf 11 01 11.3 -0.7**
comp=Z,1.2nm,1.1s,baz=21,slow=1.4,SNR=8.8
WRA PKPab **PKPab 11 02 17.1 +0.3**
comp=Z,1.4nm,1.1s,baz=333,slow=3.8,SNR=4.8
WRA PP **PP 11 06 02.7 -1.3**
comp=Z,1.7nm,1.1s,baz=345,slow=5.4,SNR=5.6
WRA Warramunga Arr 167.36 22 PKPdf **PKPdf 11 01 10.8 -1.1**
WRA PKPab **PKPab 11 02 16.9 +0.1**
ASAR Alice Springs 170.56 32 PKP **PKPdf 11 01 13.0 -0.9**
comp=Z,1.9nm,0.9s,baz=5.2,slow=0.9,SNR=15
ASAR PKPab **PKPab 11 02 30.4 -0.6**
comp=Z,0.9nm,0.7s,baz=335,slow=4.1,SNR=7.2
ASAR PP **PP 11 06 19.3 -1.3**
comp=Z,0.6nm,0.9s,baz=334,slow=6.2,SNR=4.0

ISK ***12*** *10:46:23.2, 37°.14N×38°.66E, h3km, ML2.2/4*
ISCJB ***12*** *10:46:24.7±1.1, 37°.13N±0°.06×38°.68E±0°.04, h5km±8km,*
Error ellipse: s-maj=10.2km s-min=5.6km az=6.7
DDA ***12*** *10:46:24.8, 37°.17N×38°.68E, h7km±5km, ML2.9*
ISC 12 10:46:23.8±1.7, 37°.13N±0°.07×38°.65E±0°.04, h5km±11km,
n9, σ0s70/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SANL	**SANLIURFA_Merk**	**0.28**	**81**	*i* P	**Pg**		**10 46 29.7**	**+0.5**
SANL				*i* S	**Sb**		**10 46 35.2**	**-1.1**
SANL				IAML_P				
	comp=Z,10μm,0.2s							
URFA	**Urfa**	**0.34**	**24**	PG	**Pg**		**10 46 30.2**	**-0.3**
URFA				SG	**Sg**		**10 46 35.6**	**+0.6**
ATAB	**Bozova**	**0.44**	**321**	*i* P	**Pg**		**10 46 32.2**	**-0.1**
ATAB				*i* S	**Sb**		**10 46 40.5**	**-0.5**
ATAB				IAML_P				
	comp=Z,3μm,0.1s							
GZT	**Gaziantep**	**0.89**	**285**	*i* P	**Pn**		**10 46 43.4**	**+0.3**
GZT				*i* S	**Sn**		**10 46 56.5**	**0.0**
GZT				IAML_P				
	comp=Z,1μm,0.1s							
MALT	**Malatya**	**1.20**	**352**	PN	**Pb**		**10 46 46.7**	**-0.3**
AKCD	**Akcadag**	**1.30**	**334**	*i* P	**Pn**		**10 46 49.5**	**+0.7**
AKCD				*i* S	**Sn**		**10 47 06.7**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.35**	**23**	PN	**Pn**		**10 46 49.2**	**-0.3**
ELZG	**Elazig**	**1.39**	**11**	*i* P	**Pg**		**10 46 50.2**	**-0.3**
ELZG				*i* S	**Sn**		**10 47 10.5**	**+1.5**
ELZG				IAML_P				
	comp=Z,1μm,0.1s							
MAZI	**Mazidag**	**1.47**	**77**	PN	**Pb**		**10 46 51.4**	**-0.3**

ISCJB ***12*** *11:13:14.3±1.8, 1°.18S±0°.04×129°.46E±0°.03, h4km±11km,*
mb3.7/2, Error ellipse: s-maj=7.3km s-min=5.2km az=4.6
IDC ***12*** *11:13:16.3±1.3, 1°.54S×129°.66E, h0km, mb3.6/2,*
mb1 3.8/4, mb1mx3.5/38, mbtmp3.6/4, ML3.5/2, MS3.1/1,
Ms1 3.1/1, ms1mx2.6/32, Error ellipse: s-maj=26.0km
s-min=15.9km az=92.0
DJA ***12*** *11:13:17.5±1.0, 1°S±2°×12°9E±°, h24km±8km, M3.7/8,*
MLv3.7/8
ISC 12 11:13:15.5±2.1, 1°.11S±0°.05×129°.53E±0°.04, h18km±11km,
n14, σ1s27/22, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.75**	**82**	P	**Pb**		**11 13 47.4**	**+0.3**
SWI				S	**Sg**		**11 14 11.5**	**-0.5**
SIJI	**Sorong**	**1.76**	**82**	Pn	**Pb**		**11 13 47.5**	**+0.3**
	80nm,0.3s,baz=56,slow=2.6,SNR=308							
SIJI				Sn	**Sg**		**11 14 11.6**	**-0.6**
	57nm,0.3s,baz=131,slow=19,SNR=22							
LBMI	**Labuha**	**2.08**	**283**	P	**Pn**		**11 13 48.0**	**-1.5**
LBMI				S	**Sn**		**11 14 15.8**	**+0.8**
MSAI	**Masohi**	**2.30**	**195**	P	**Pb**		**11 13 56.3**	**-0.3**
MSAI				S	**Sb**		**11 14 24.4**	**-0.3**
TNTI	**Ternate**	**2.85**	**311**	P	**Pn**		**11 14 01.3**	**+1.1**
TNTI				S	**Sn**		**11 14 34.2**	**+0.1**
AAI	**Ambon**	**2.89**	**207**	P	**Pn**		**11 14 01.5**	**+0.8**
AAI				S	**Sn**		**11 14 35.9**	**+0.9**
FAKI	**Fak Fak**	**3.26**	**124**	P	**Pn**		**11 14 07.2**	**+1.4**
FAKI				S	**Sn**		**11 14 44.8**	**+0.5**
BNDI	**Bandanaira**	**3.41**	**174**	P	**Pn**		**11 14 08.3**	**+0.4**
BNDI				S	**Sn**		**11 14 48.5**	**+0.5**
SANI	**Sanana**	**3.66**	**255**	P	**Pn**		**11 14 12.2**	**+0.9**
SANI				S	**Sn**		**11 14 56.6**	**+2.6**
DAV	**Davao City (W)**	**9.03**	**334**	LR	LR		11 19 42.3	
	comp=Z,98nm,19.2s,baz=72,slow=41							
FITZ	**Fitzroy Crossi**	**17.31**	**193**	Pn	**Pn**		**11 17 16.7**	**+0.3**
	0.1nm,0.3s,baz=14,slow=13,SNR=2.9							
WRA	**Warramunga Arr**	**19.30**	**166**	P	**P**		**11 17 38.2**	**-1.6**
	0.3nm,0.3s,baz=345,slow=12,SNR=18							
WRA				S		Sn	11 21 02.6	-14
	0.1nm,0.3s,baz=351,slow=24,SNR=5.2							
ASAR	**Alice Springs**	**22.82**	**170**	P	**P**		**11 18 18.4**	**+0.6**
	3.1nm,0.6s,baz=349,slow=12,SNR=33							
ASAR				S	**S**		**11 22 23.4**	**-3.0**
	1.0nm,0.9s,baz=340,slow=19,SNR=6.2							
MKAR	**Makanchi Array**	**63.10**	**326**	P	P		11 23 48.2	+6.2
	0.2nm,0.5s,baz=115,slow=7.9,SNR=2.7							

IDC 12 11:18:59.1±4.9, 25°.03S×179°.51W, h0km, mb3.9/4,
mb1 4.1/4, mb1mx3.8/27, mbtmp3.9/4, MS3.5/2, Ms1 3.5/2,
ms1mx3.0/48, Error ellipse: s-maj=160.4km
s-min=77.3km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.50**	**191**	LR	LR		11 26 31.8	
	comp=Z,50nm,22.0s,baz=221,slow=34							
STKA	**Stephens Creek**	**34.74**	**250**	P	P		11 25 51.9	+0.8
	1.7nm,0.7s,baz=85,slow=12,SNR=4.5							
ASAR	**Alice Springs**	**42.31**	**262**	P	P		11 26 54.8	-0.2
	0.9nm,0.4s,baz=91,slow=7.6,SNR=38							
WRA	**Warramunga Arr**	**42.79**	**267**	P	P		11 26 58.6	-0.2
	0.5nm,0.4s,baz=108,slow=7.9,SNR=19							
FITZ	**Fitzroy Crossi**	**51.20**	**266**	P	P		11 28 03.6	-1.0
	1.5nm,1.0s,baz=90,slow=6.1,SNR=2.5							
KDAK	**Kodiak Island**	**85.52**	**14**	LR	LR		12 03 24.2	
	comp=Z,128nm,18.7s,baz=155,slow=31							
HFS	**Hagfors**	**143.73**	**349**	PKP	PKPdf		11 38 35.3	-0.3
	1.1nm,0.3s,baz=50,slow=2.3,SNR=8.8							

ISCJB ***12*** *11:24:20.9±0.4, 31°.70N±0°.10×40°.54W±0°.07, h10km,*
mb4.1/13, MS3.7/10, Error ellipse: s-maj=13.7km
s-min=8.1km az=178.9
IDC ***12*** *11:24:21.3±0.9, 31°.73N×40°.53W, h0km, mb4.1/13,*
mb1 4.3/13, mb1mx4.0/53, mbtmp4.1/13, MS3.8/10,
Ms1 3.8/10, ms1mx3.4/52, Error ellipse: s-maj=28.3km
s-min=16.9km az=178.0
NEIC ***12*** *11:24:22.3±0.4, 31°.6N±0°.1×40°.52W±0°.06, h10km±1km,*
mb4.6/35
ISC 12 11:24:22.3±0.6, 31°.6N±0°.1×40°.53W±0°.09, h10km, n68,
σ0s72/54, mb4.4/26, MS3.7/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**21.75**	**329**	P	**P**		**11 29 13.2**	**-0.5**
MCLT	**Moule a Chique**	**25.86**	**231**	P	**P**		**11 29 50.7**	**-3.6**
SJG	**San Juan**	**26.78**	**246**	LR	LR		11 38 31.6	
	comp=Z,56nm,20.8s,baz=85,slow=32							
SCHQ	**Schefferville**	**29.76**	**329**	LR	LR		11 40 33.6	
	comp=Z,196nm,20.3s,baz=334,slow=33							
SDV	**Santo Domingo**	**35.98**	**238**	P	**P**		**11 31 24.8**	**+1.1**
DAVOX	**Davos/Dischmat**	**41.17**	**54**	P	**P**		**11 32 08.0**	**+0.9**
	4.1nm,0.7s,baz=230,slow=4.8,SNR=6.5							
ROSC	**El Rosal**	**41.40**	**237**	LR	LR		11 48 02.6	
	comp=Z,93nm,21.0s,baz=74,slow=34							
DBIC	**Dimbokro**	**41.54**	**119**	LR	LR		11 47 49.8	
	comp=Z,80nm,19.1s,baz=286,slow=34							
LCAR	**Lake Charles**	**41.90**	**290**	P	**P**		**11 32 12.9**	**0.0**
FCAR	**Ozark Folk Cen**	**42.70**	**290**	P	**P**		**11 32 19.5**	**+0.1**
FCAR				IAmb	IAmb		11 32 21.9	
	comp=Z,8.5nm,0.9s							
SCIA	**State Center**	**42.84**	**299**	P	**P**		**11 32 20.7**	**+0.2**
SCIA				IAmb	IAmb		11 32 22.0	
	comp=Z,16nm,1.0s							
TOA0	**Torodi Ar. Sit**	**42.84**	**106**	P	**P**		**11 32 20.7**	**0.0**
TORD	**Torodi Ar. Bea**	**42.84**	**106**	P	**P**		**11 32 21.4**	**+0.6**
	comp=Z,3.2nm,1.1s,baz=312,slow=2.9,SNR=8.9							
TORD				LR	LR		11 47 28.7	
	comp=Z,114nm,20.8s,baz=335,slow=32							
TORD	**Torodi Ar. Bea**	**42.84**	**106**	P	**P**		**11 32 20.4**	**-0.4**
WHAR	**Wooly Hollow**	**42.94**	**289**	P	**P**		**11 32 21.9**	**+0.5**
WHAR				IAmb	IAmb		11 32 29.1	
	comp=Z,14nm,1.4s							
UALR	**University of**	**43.08**	**289**	P	**P**		**11 32 22.6**	**+0.1**
UALR				IAmb	IAmb		11 32 24.6	
	comp=Z,13nm,0.7s							
CLL	**Collm**	**43.57**	**47**	P	**P**		**11 32 26.9**	**+0.6**
CLL				IAmb	IAmb		11 32 28.8	
	comp=Z,5.4nm,1.0s							
Z41A	**Richland Creek**	**43.76**	**287**	P	**P**		**11 32 28.1**	**0.0**
GERES	**GERESS Array B**	**43.84**	**51**	P	**P**		**11 32 28.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=262,slow=6.6,SNR=6.0							
GERES	**GERESS Array B**	**43.84**	**51**	P	**P**		**11 32 27.8**	**-0.8**
SAML	**Samuel**	**45.81**	**212**	P	**P**		**11 32 45.5**	**+1.0**
H10N2	**ASCENSION HYDR**	**46.47**	**143**	T	T		12 22 20.4	
	baz=329,slow=75,SNR=404							
H10N3	**ASCENSION HYDR**	**46.48**	**143**	T	T		12 22 20.7	
	baz=329,slow=75,SNR=396							
H10N1	**ASCENSION HYDR**	**46.49**	**143**	T	T		12 22 21.9	
	baz=329,slow=75,SNR=410							
TXAR	**Lajitas Array**	**53.78**	**285**	P	**P**		**11 33 45.0**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=90,slow=7.5,SNR=7.1							
TXAR	**Lajitas Array**	**53.78**	**285**	P	**P**		**11 33 45.0**	**-0.2**
AKASG	**Malin Array Be**	**53.80**	**48**	P	**P**		**11 33 44.6**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=281,slow=6.6,SNR=5.6							
AKASG				LR	LR		11 53 51.2	
	comp=Z,89nm,18.3s,baz=330,slow=33							

AKASG	Malin Array Be	53.80	48	P	P	11 33 44.4	-0.5
LPAZ	La Paz	54.52	213	P	P	11 33 52.8	+1.5
	comp=Z,1.2nm,0.8s,baz=33,slow=9.9,SNR=4.6						
LPAZ	La Paz	54.52	213	P	P	11 33 51.2	0.0
BNM	Barren Site	54.67	292	P	P	11 33 52.0	+0.2
BW06	Boulder Array	54.70	303	P	P	11 33 51.8	-0.1
BW06				IAmb	IAmb	11 33 53.0	
	comp=Z,9.0nm,1.0s						
PD31	Pinedale Array	54.70	303	P	P	11 33 51.7	-0.2
PD31				IAmb	IAmb	11 33 53.0	
	comp=Z,8.2nm,1.0s						
PDAR	Pinedale Array	54.70	303	P	P	11 33 51.9	0.0
	comp=Z,4.4nm,0.8s,baz=82,slow=8.8,SNR=32						
PDAR				LR	LR	11 55 46.5	
	comp=Z,126nm,19.7s,baz=58,slow=34						
PDAR	Pinedale Array	54.70	303	P	P	11 33 51.6	-0.3
YHH	Holmes Hill	55.18	305	P	P	11 33 56.2	+0.8
SNOW	Snow King Moun	55.40	304	P	P	11 33 57.0	0.0
SNOW				IAmb	IAmb	11 33 58.7	
	comp=Z,6.1nm,0.8s						
YHB	Horse Butte	55.43	305	P	P	11 33 58.0	+0.8
IMW	Indian Meadow	55.43	304	P	P	11 33 57.4	+0.1
IMW				IAmb	IAmb	11 33 58.9	
	comp=Z,4.0nm,0.8s						
TPAW	Teton Pass	55.53	304	IAmb	IAmb	11 34 00.2	
	comp=Z,9.6nm,1.3s						
FXWY	Fox Creek	55.55	304	IAmb	IAmb	11 33 59.0	
	comp=Z,4.6nm,1.2s						
TCUT	Toone Canyon	56.42	301	P	P	11 34 04.4	0.0
PSUT	Pine Spring	58.95	299	P	P	11 34 22.3	+0.1
MFID	Camas Ranch	58.99	305	IAmb	IAmb	11 34 24.5	
	comp=Z,5.2nm,1.1s						
BRTR	Keskin Array B	59.22	60	P	P	11 34 23.2	-0.7
	comp=Z,0.8nm,0.8s,baz=305,slow=4.4,SNR=3.9						
BRTR	Keskin Array B	59.22	60	P	P	11 34 23.9	0.0
LVC	Limon Verde	60.40	210	LR	LR	11 57 50.6	
	comp=Z,52nm,19.3s,baz=78,slow=33						
SRIG	Santa Rosalia	61.55	286	P	P	11 34 39.7	-0.1
KVN	Kaiserville	61.94	300	P	P	11 34 42.6	0.0
KVN				IAmb	IAmb	11 34 44.0	
	comp=Z,4.1nm,1.0s						
INK	Inuvik	62.10	335	P	P	11 34 42.5	-0.4
	comp=Z,6.1nm,0.8s,baz=62,slow=9.6,SNR=8.1						
INK	Inuvik	62.10	335	P	P	11 34 42.6	-0.2
NV11	Mina Array Sit	62.18	300	P	P	11 34 44.4	+0.2
NVAR	Mina Array Bea	62.29	300	P	P	11 34 45.2	+0.2
	comp=Z,1.2nm,0.7s,baz=79,slow=6.7,SNR=8.9						
NVAR				LR	LR	12 00 53.6	
	comp=Z,118nm,19.3s,baz=78,slow=35						
NVAR	Mina Array Bea	62.29	300	P	P	11 34 44.9	-0.1
PFO	Pinyon Flats O	62.57	294	LR	LR	11 59 41.9	
	comp=Z,109nm,21.1s,baz=49,slow=34						
BCAR	Beaver Creek A	67.12	331	P	P	11 35 15.9	+0.1
ILAR	Eielson Array	68.37	334	P	P	11 35 24.6	+1.0
	comp=Z,2.4nm,0.9s,baz=62,slow=4.4,SNR=15						
ILAR	Eielson Array	68.37	334	P	P	11 35 23.6	0.0
HDA	Harding Lake	68.56	333	P	P	11 35 25.6	+0.8
CCB	Clear Creek Bu	68.78	334	IAmb	IAmb	11 35 27.8	
	comp=Z,6.2nm,0.9s						
ABKAR	Akbulak array	72.98	42	P	P	11 35 51.9	-0.1
ABKAR	Akbulak array	72.98	42	P	P	11 35 52.1	+0.1
ABKAR				IAmb	IAmb	11 35 53.5	
	comp=Z,1.7nm,0.8s						
H09W1	TRISTAN DA CUN	73.29	157	T	T	12 55 58.6	
	SNR=6.5						
ZALV	Zalesovo Beam	82.57	29	P	P	11 36 46.5	+1.2
	comp=Z,1.3nm,0.5s,baz=294,slow=7.3,SNR=5.2						
ZALV	Zalesovo Beam	82.57	29	P	P	11 36 45.5	+0.2
UOSS	Minazif	82.64	65	P	P	11 36 46.0	-0.2
MKAR	Makanchi Array	86.47	35	P	P	11 37 05.5	+0.2
	comp=Z,0.8nm,0.9s,baz=316,slow=3.3,SNR=4.2						
MKAR	Makanchi Array	86.47	35	P	P	11 37 05.2	-0.1

PRE **12** *11:26:53.4±1.2,21°.84S×33°.22E, h5km, ML2.8*
ISC 12 11:26:54.2±2.1, 21°.8S±0°.1×33°.2E±0°.1, h10km, n9, σ2§55/12, 2C, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	2.99	259	*i* P	Pg	11 27 58.9	+7.3
MSNA				*i* S	Sg	11 28 31.6	+1.2
MSNA	Messina	2.99	259	*e*P	Pn	11 27 43.0	+1.2
MSNA				*e*S	Sn	11 28 18.6	+0.9
MSNA				AML	AML	11 28 37.5	
	comp=Z,120nm,0.2s						
MSNA	Messina	2.99	259	*i* P	Pg	11 27 58.9	+7.3
MSNA				*i* S	Sg	11 28 31.6	+1.2
PRYS	Parys	7.38	225	*e*P	Pn	11 28 42.0	-0.2
PRYS				*e*S	Sn	11 30 03.0	-3.2
PRYS				AML	AML	11 30 11.1	
	comp=Z,4.2nm,0.3s						
LBTB	Lobatse	7.68	244	*e*P	Pn	11 28 47.0	+0.7
LBTB				*e*S	Sn	11 30 09.1	-4.5
LBTB				AML	AML	11 30 25.0	
	comp=Z,6.9nm,0.5s						
LSZ	Lusaka	8.02	323	*i* P	Pn	11 28 50.1	-0.9
LSZ				*i* S	Sn	11 30 04.2	-18
LSZ	Lusaka	8.02	323	*i* P	Pn	11 28 50.1	-0.9
LSZ				*i* S	Sn	11 30 04.2	-18
BOSA	Boshof	9.89	225	⇑*i*P	Pn	11 29 19.9	+3.3
BOSA				*i* S	Sn	11 30 54.4	-13
BOSA	Boshof	9.89	225	⇑*i*P	Pn	11 29 19.9	+3.3
BOSA				*i* S	Sn	11 30 54.4	-13

NEIC **12** *11:33:00.9±0.9, 15°.05N±0°.07×92°.62W±0°.07, h101km±6km*
ISCJB **12** *11:33:01.0±1.2, 15°.17N±0°.08×92°.63W±0°.07, h109km±11km, Error ellipse: s-maj=15.6km s-min=6.3km az=36.0*
GCG **12** *11:33:01.1±0.5, 14°.76N×92°.89W, h35km±999km, MD3.8*
MEX **12** *11:33:01.7±0.6, 15°.02N×92°.57W, h101km±5km, MD4.0*
ISC 12 11:33:02.8±1.6, 15°.14N±0°.06×92°.62W±0°.05, h87km±10km, n13, σ1§46/26, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.42	124	*e*P	Pn	11 33 15.6	-1.1
THIG				*i* S	Sn	11 33 25.8	-1.1
THIG		0.42	124		Pn	11 33 15.6	-1.1
THIG					Sn	11 33 25.8	-1.1
PCIG		0.80	314	*e*P	Pn	11 33 20.3	+0.1
PCIG				*e*S	Sn	11 33 34.5	+1.5
PCIG		0.80	314		Pn	11 33 20.3	+0.1
PCIG					Sn	11 33 34.5	+1.5
STG3	Santiaguito 3,	1.10	113	*e*P	Pn	11 33 23.0	-0.7
STG3				*e*S	Sn	11 33 40.4	+0.9
CCIG	Comitan	1.23	22	*e*P	Pn	11 33 25.2	0.0
CCIG				*e*S	Sn	11 33 42.9	+0.8
CCIG	Comitan	1.23	22		Pn	11 33 25.5	+0.2
CCIG				Sn	Sn	11 33 44.6	+2.5
CCIG	Comitan	1.23	22		Pn	11 33 25.2	0.0
CCIG					Sn	11 33 42.9	+0.8
FUG	Fuego 3	1.86	112	*e*P	Pn	11 33 33.4	+0.2
FUG				*e*S	Sn	11 33 59.8	+3.4
IXG	Ixpaco	2.32	114	*e*P	Pn	11 33 39.2	-0.2
IXG				*e*S	Sn	11 34 09.2	+1.8
CMIG	Matias Romero	2.91	312	*e*P	Pn	11 33 46.3	-0.9
CMIG				*i* S	Sn	11 34 21.6	+0.3
CMIG	Matias Romero	2.91	312		Pn	11 33 46.3	-0.9
CMIG					Sn	11 34 21.6	+0.3
TEIG	Tepich	6.54	39		Pn	11 34 35.5	-0.9
TEIG					Sn	11 35 46.3	-3.2

PGC **12** *11:33:24.1±0.5, 50°.09N×127°.73W, h37km, ML2.8/32, 71km Ssw of Pt. Hardy, Bc Vancouver Island, Canada Region*
ANF **12** *11:33:32.0±3.9, 49°.73N×126°.84W, ML3.5/1, Error ellipse: s-maj=42.2km s-min=24.4km az=125.0*
ISC 12 11:33:24.9±1.2, 50°.07N±0°.05×127°.60W±0°.06, h32km±8km, n60, σ1§42/70, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	0.14	307	P	Pb	11 33 30.0	-1.0
BPBC				S	Sb	11 33 34.4	-0.7
EDB	Eliza Dome	0.36	123	P	Pb	11 33 33.5	+0.1
EDB				S	Sb	11 33 40.3	+1.1
PACB	Port Alice, BC	0.37	10	P	Pb	11 33 32.8	-0.8
MAYB	Maynard	0.43	39	P	Pb	11 33 34.2	-0.3
MAYB				S	Sb	11 33 40.9	-0.2
PHC	Port Hardy	0.65	9	P	Pb	11 33 36.5	-1.2
PHC				S	Sb	11 33 45.4	-1.2
HOLB	Holberg	0.67	329	P	Pn	11 33 35.7	-2.4
HOLB				S	Sb	11 33 44.0	-3.2
NTKA	Nootka	0.80	127	S	Sn	11 33 50.3	-0.2
ETB	Estevan Point	0.98	135	P	Pb	11 33 42.3	-1.0
GDR	Gold River	1.05	105	P	Pn	11 33 43.5	+0.2
GDR				S	Sn	11 33 57.7	+0.8
TOFB	Tofino	1.43	129	P	Pn	11 33 48.6	0.0
TOFB				S	Sn	11 34 05.7	-0.6
CBB	Campbell River	1.44	91	P	Pn	11 33 49.5	+0.8
CBB				S	Sb	11 34 08.0	-1.1
BTB	Buttle Lake	1.47	113	P	Pn	11 33 49.8	+0.4
BTB				S	Sb	11 34 08.5	-1.7
NC89	ODP889	1.48	161	P	Pn	11 33 49.9	+0.8
NC89				S	Sn	11 34 08.0	+0.7
MWAB	Mount Washingt	1.52	102	S	Sb	11 34 10.0	-1.5
OZB	Mount Ozzard	1.77	128	P	Pn	11 33 53.4	+0.1
OZB				S	Sn	11 34 13.9	-0.7
NCBC	Barkley Canyon	1.89	150	S	Sn	11 34 17.3	-0.2
B927	Port Alberni	2.00	114	P	Pn	11 33 56.6	+0.3
B927				S	Sn	11 34 20.5	+0.2
B928	Bamfield	2.03	127	P	Pn	11 33 56.4	-0.3
B928				S	Sn	11 34 20.0	-0.9
TXB	Texada	2.08	99	P	Pn	11 33 58.3	+0.8
BBB	Bella Bella	2.14	351	P	Pn	11 33 56.8	-1.5
BBB				S	Sn	11 34 20.1	-3.7
MGB	Mount Grey	2.17	118	P	Pn	11 33 59.2	+0.3
MGB				S	Sn	11 34 23.7	-1.1
GHNB	Nanoose	2.31	108	P	Pn	11 34 01.4	+0.8
GHNB				S	Sn	11 34 27.9	-0.1
NC27	ODP1027	2.31	183	S	Sn	11 34 23.9	-3.6
BCBC	Bella Coola	2.36	13	P	Pn	11 33 59.4	-2.0
SHB	Sechelt	2.46	100	P	Pn	11 34 03.7	+0.9
YOUB	Youbou, Lake C	2.47	117	P	Pn	11 34 03.8	+0.9
NLLB	Nanaimo Lost L	2.49	108	P	Pn	11 34 04.1	+1.0
PFB	Port Renfrew	2.55	125	P	Pn	11 34 04.2	+0.2
PFB				S	Sn	11 34 32.9	-1.1
B926	Mesachie Lake	2.58	118	P	Pn	11 34 05.5	+1.1
OCP	Olym-Cheeka Pk	2.64	131	P	Pn	11 34 06.2	+1.0
BIB	Bowen Island	2.86	102	P	Pn	11 34 08.1	-0.1
LZB	Mount Lazard	2.87	119	P	Pn	11 34 09.2	+0.8
LZB				S	Sn	11 34 41.4	-0.4
WPB	Watts Point	2.87	97	P	Pn	11 34 09.6	+1.3
B010	North Saanich	3.06	116	P	Pn	11 34 12.0	+1.1
B009	North Saanich	3.06	116	P	Pn	11 34 11.9	+1.0
PGC	Sidney	3.06	116	P	Pn	11 34 12.1	+1.1
B011	North Saanich	3.06	116	P	Pn	11 34 12.0	+1.0
B011				S	Sn	11 34 45.6	-0.8
VGZ	Gonzales	3.25	119	P	Pn	11 34 14.3	+0.7
VGZ				S	Sn	11 34 50.3	-0.9
MCW	Mount Constitu	3.41	112	P	Pn	11 34 16.8	+0.9
A04D	Lummi Island	3.47	111	P	Pn	11 34 19.0	+2.4
	baz=295,SNR=15						
HG3B	Hotspring	3.48	318	P	Pn	11 34 14.3	-2.4
HG3B				S	Sn	11 34 51.2	-5.6
BNB	Barry Inlet	3.62	315	P	Pn	11 34 16.0	-2.7
BNB				S	Sn	11 34 55.1	-5.2
VDB	Vedder Mountai	3.73	104	P	Pn	11 34 22.3	+2.1
HDW	Hoodsport	3.86	127	P	Pn	11 34 23.8	+1.7
WISH	Wishkah	3.90	138	P	Pn	11 34 24.1	+1.7
D03D	Eldon	3.91	129	P	Pn	11 34 24.7	+2.0
	baz=312						
D03D				S	Sn	11 35 05.8	-1.7
	baz=312						
MBW	Mount Baker	3.93	107	P	Pn	11 34 25.0	+1.8
B05A	Bryant	4.04	115	P	Pn	11 34 26.9	+2.6
	baz=298,SNR=16						
MOBC	Moresby Island	4.11	320	S	Sn	11 35 07.2	-5.2
JCW	Jim Creek	4.17	115	P	Pn	11 34 28.1	+1.9
B06A	Marblemount	4.29	109	P	Pn	11 34 29.9	+2.0
DIB	Dawson Inlet,	4.37	318	P	Pn	11 34 26.8	-2.1
DIB				S	Sn	11 35 14.1	-4.5
E03A	Lebam	4.44	141	P	Pn	11 34 31.4	+1.5
E03A				S	Sn	11 35 19.7	-0.6
RUBB	Prince Rupert	4.56	340	S	Sn	11 35 19.6	-3.8
E04D	Cinebar	4.86	134	P	Pn	11 34 38.3	+2.6
	baz=318,SNR=13						
E04D				S	Sn	11 35 29.8	-1.0
	baz=318						
FMW	Mount Fremont	5.04	126	P	Pn	11 34 40.5	+2.2
LON	Longmire	5.09	129	P	Pn	11 34 41.3	+2.4
LTY	Liberty	5.38	119	P	Pn	11 34 45.4	+2.5
G03D	McMinnville, O	5.67	147	P	Pn	11 34 49.5	+2.6
	baz=330,SNR=14						
H04D	Lebanon	6.46	147	P	Pn	11 35 01.3	+3.6
	baz=330,SNR=5.6						

NEIC **12** *11:35:22.9±1.6, 6°.43S±0°.05×154°.46E±0°.07, h35km±2km, mb4.1/10*
ISCJB **12** *11:35:26.5±0.5, 6°.51S±0°.06×154°.55E±0°.05, h100km, mb3.8/8, Error ellipse: s-maj=9.5km s-min=6.5km az=30.3*
IDC **12** *11:35:29.3±1.7, 6°.47S×154°.40E, h102km±15km, mb3.7/8, mb1 3.8/13, mb1mx3.6/40, mbtmp4.1/13, Error ellipse: s-maj=17.3km s-min=12.5km az=80.0*
ISC 12 11:35:28.7±0.6, 6°.55S±0°.07×154°.43E±0°.06, h100km, n31, σ1§63/34, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.27	313	P	Pn	11 36 16.1	-2.0
	7.8nm,0.3s,baz=175,slow=1.9,SNR=11						
KRVT				S	Sn	11 36 56.2	0.0
	34nm,0.3s,baz=337,slow=6.0,SNR=4.5						
HNR	Honiara	6.17	118	P	Pn	11 37 00.2	+2.8
	6.9nm,0.3s,baz=190,slow=3.7,SNR=4.2						
HNR				S	Sn	11 38 03.3	-3.2
	8.2nm,0.3s,baz=221,slow=16,SNR=3.6						
HNR	Honiara	6.17	118		Pn	11 36 53.4	-3.9
HNR				Sn	Sn	11 38 03.6	-2.9
PMG	Port Moresby	7.74	248	P	Pn	11 37 18.3	-0.4
	2.3nm,0.3s,baz=110,slow=6.0,SNR=6.9						
PMG				S	Sn	11 38 46.9	+2.1
	0.5nm,0.3s,baz=54,slow=19,SNR=1.9						
PMG	Port Moresby	7.74	248		Pn	11 37 14.6	-4.1
PMG				Sn	Sn	11 38 43.5	-1.2
MANU	Manus Island	8.35	302	Pn	Pn	11 37 21.6	-5.4
COEN	Coen	13.29	236		Pn	11 38 30.7	-2.8
PATS	Pohnpei	13.85	16	Pn	Pn	11 38 34.3	-6.6
CTA	Charters Tower	15.62	210	P	Pn	11 39 04.8	+1.5
	0.2nm,0.3s,baz=40,slow=15,SNR=5.0						
CTAO	Charters Tower	15.62	210	Pn	Pn	11 39 02.2	-1.2
DZM	Mont Dzumac	19.30	144	P	P	11 39 47.6	+1.5
	0.6nm,0.3s,baz=304,slow=15,SNR=6.0						
DZM	Mont Dzumac	19.30	144	P	P	11 39 45.3	-0.7
DZM				IAmb	IAmb	11 39 52.0	
	comp=Z,11nm,1.0s						
WRAB	Tennant Creek	23.60	234	P	P	11 40 31.1	+0.3
WB2	Warramunga Arr	23.61	234	P	P	11 40 31.4	+0.6
WB2				IAmb	IAmb	11 40 32.8	
	comp=Z,9.3nm,1.1s						
WRA	Warramunga Arr	23.61	234	P	P	11 40 31.3	+0.4
	comp=Z,5.5nm,0.9s,baz=57,slow=9.3,SNR=28						
WRA				PcP	PcP	11 44 14.4	+1.2
	comp=Z,0.4nm,0.7s,baz=62,slow=2.5,SNR=6.5						
WRA	Warramunga Arr	23.61	234	P	P	11 40 31.0	+0.1
MTN	Manton Dam	23.79	253	P	P	11 40 33.2	+0.7
ASAR	Alice Springs	26.05	227	P	P	11 40 53.1	+0.1
	comp=Z,4.9nm,1.2s,baz=65,slow=8.8,SNR=11						
ASAR	Alice Springs	26.05	227	P	P	11 40 53.4	+0.4
KNRA	Kununurra	26.74	248	P	P	11 41 00.4	+1.2
KNRA				IAmb	IAmb	11 41 04.5	
	comp=Z,4.4nm,0.7s						
STKA	Stephens Creek	27.90	204	P	P	11 41 10.1	+0.7
	comp=Z,1.4nm,0.6s,baz=30,slow=14,SNR=5.4						
STKA	Stephens Creek	27.90	204	P	P	11 41 10.3	+0.9
FITZ	Fitzroy Crossi	30.32	245	P	P	11 41 32.0	+1.0
FITZ				IAmb	IAmb	11 41 33.0	
	comp=Z,3.3nm,1.1s						
PETK	Petropavlovsk-	59.50	2	P	P	11 45 21.2	0.0
	comp=Z,4.1nm,0.7s,baz=179,slow=5.8,SNR=3.9						
PETK	Petropavlovsk-	59.50	2	P	P	11 45 21.5	+0.3
SONM	Songino Array	68.66	327	P	P	11 46 21.6	+0.1
	comp=Z,0.5nm,0.6s,baz=131,slow=7.4,SNR=4.2						
SONM	Songino Array	68.66	327	P	P	11 46 22.3	+0.9
MKAR	Makanchi Array	82.70	319	P	P	11 47 43.1	+1.6
	comp=Z,0.7nm,0.6s,baz=104,slow=5.1,SNR=3.6						
ILAR	Eielson Array	83.17	22	P	P	11 47 41.7	-1.7
	comp=Z,0.3nm,0.6s,baz=247,slow=5.1,SNR=2.7						
ZALV	Zalesovo Beam	83.50	326	P	P	11 47 44.2	-1.1
	comp=Z,0.4nm,0.4s,baz=121,slow=6.9,SNR=2.0						
TORD	Torodi Ar. Bea	152.37	286	PKPbc	PKPbc	11 55 14.7	+0.5
	comp=Z,1.9nm,0.7s,baz=121,slow=3.1,SNR=6.1						

BJI **12** *11:35:58.8±0.0, 41°.52N×139°.74E, h190km, mb4.7/51, mB4.9/30*
NIED **12** *11:36:00, 41°.70N×139°.50E, h175km, Mw4.6 Best double couple: M=9.10000×10^15 NP1:φs335.00000°, δ35.00000°, λ95.00000°. NP2:φs149.00000°, δ56.00000°, λ87.00000°.*
ISCJB **12** *11:36:03.0±0.1, 41°.67N±0°.02×139°.36E±0°.02, h194km±1km, mb4.7/166, Error ellipse: s-maj=3.0km s-min=2.1km az=153.0*
MOS **12** *11:36:03.1±0.8, 41°.71N×139°.39E, h196km, mb4.8/77, Error ellipse: s-maj=5.3km s-min=4.1km az=89.5*
NEIC **12** *11:36:04.6±1.2, 41°.69N±0°.06×139°.36E±0°.08, h196km±4km, mb4.7/323*
JMA **12** *11:36:04.1±0.1, 41°.67N×139°.45E, h194km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs139.00000°, δ52.00000°, λ92.00000°. NP2: φs315.00000°, δ38.00000°, λ87.00000°. Principal axes: T Plg83.0000°, Azm63.0000°; N Plg2.0000°, Azm317.0000°; P Plg7.0000°, Azm227.0000°;*
JMA Felt I J1.
IDC **12** *11:36:05.3±0.6, 41°.70N×139°.37E, h204km±5km, mb4.4/42, mb1 4.5/49, mb1mx4.4/63, mbtmp4.9/49 Error ellipse: s-maj=7.4km s-min=6.6km az=112.0*
ISC 12 11:36:03.9±0.3, 41°.67N±0°.03×139°.44E±0°.03, h195km±3km, h195km:pP-P, n1032, σ1§00/1129, mb4.7/273, 37C-45D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.41	4	⇑P	Pn	11 36 30.1	+0.1
JOSM				*e*S	Sn	11 36 50.0	-0.5
JOMM	Oshimamatsumae	0.45	108	⇑P	Pn	11 36 30.4	+0.2
JOMM				*e*S	Sn	11 36 50.6	+0.2
JSR	Shiriuchi	0.75	100	⇑P	Pn	11 36 31.8	+0.3
JSR				*e*S	Sn	11 36 53.0	+0.2
JHST	Hiyamasetana	0.82	23	⇑P	Pn	11 36 32.3	+0.4
JHST				*e*S	Sn	11 36 53.8	+0.1
JYM2	Yakumo 2	0.83	57	⇑P	Pn	11 36 32.4	+0.5
JYM2				*e*S	Sn	11 36 54.3	+0.6
JSH	Shimam	1.07	25	⇑P	Pn	11 36 34.0	+0.5
JIW	Iwasaki	1.16	158	⇑P	Pn	11 36 34.7	+0.4
JIW				*e*S	Sn	11 36 58.0	+0.2
JKB	Kayabe	1.21	79	⇑P	Pn	11 36 34.9	+0.3
JKB				*e*S	Sn	11 36 58.0	-0.4
JOT	Ohata	1.24	103	⇑P	Pn	11 36 35.0	+0.1
JOT				*e*S	Sn	11 36 58.8	-0.1
JNB	Noboribetsu	1.43	56	⇓P	Pn	11 36 36.6	+0.1
JTM	Tenmabayashi	1.51	125	⇑P	Pn	11 36 37.4	+0.2
JTM				*e*S	Sn	11 37 02.9	-0.1
JSK	Shakotan	1.85	24	⇓P	Pn	11 36 41.1	+0.7
JSK				*e*S	Sn	11 37 08.9	0.0
JEW	Eniwo	1.90	51	⇓P	Pn	11 36 42.0	+1.1
JEW				*e*S	Sn	11 37 10.3	+0.5
JANG	Nango	2.04	129	⇑P	Pn	11 36 41.8	-0.6
JNBK	Urakawa-nobuka	2.54	75	⇓P	Pn	11 36 47.9	0.0
JNBK				*e*S	Sn	11 37 21.8	-0.4
JOM	Ohasama	2.61	147	P	Pn	11 36 47.9	-0.8
JOM				*e*S	Sn	11 37 22.2	-1.4
JHR	Hokuryu	2.67	38	⇓P	Pn	11 36 50.6	+1.3
JFR	Furan	2.77	56	⇓P	Pn	11 36 50.1	-0.4
ERM	Erimo	2.80	82	*ce*P	Pn	11 36 51.0	+0.2
ERM				pmax	pmax		
	comp=Z,1μm,1.0s						
ERM	Erimo	2.80	82		Pn	11 36 51.0	+0.2
ERM				Sn	Sn	11 37 25.6	-1.9
JYK	Kaneyama	2.84	165	⇑P	Pn	11 36 51.4	0.0
ASAJ	Asahikawa	3.37	42	P	Pn	11 36 58.2	+0.6
	comp=Z,558nm,0.3s,baz=240,slow=11,SNR=2791						
ASAJ				S	Sn	11 37 39.8	-0.1
	comp=Z,47nm,0.3s,baz=136,slow=33,SNR=4.4						
JKA	Kamikawa-asahi	3.37	42		Pn	11 36 58.2	+0.6
JKA					Sn	11 37 39.8	-0.1
TEY	Ternei	3.95	329	⇓*i*P	Pn	11 37 05.2	+0.5
TEY				*e*S	Sn	11 37 53.4	+0.8
TEY				pmax	pmax		
	comp=E,120nm,0.7s						
TEY				pmax	pmax		
	comp=N,190nm,0.6s						
TEY				pmax	pmax		
	comp=Z,270nm,0.6s						
TEY				smax	smax		
	comp=N,80nm,1.0s						
NMR	Nemuro--Hokkai	4.95	68	*e*P	Pn	11 37 14.9	-2.5
NMR				*e*S	Sn	11 38 09.0	-6.3
GRPR	Tuman	5.20	61	*e*P	Pn	11 37 20.0	-0.7
GRPR				*e*S	Sn	11 38 18.9	-2.4
GRPR				pmax	pmax		
	comp=N,550nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,2μm,0.4s						
GRPR				pmax	pmax		
	comp=E,2μm,0.3s						
GRPR				smax	smax		
	comp=N,3μm,0.3s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
MJB9	Matsu-Tunnel	5.21	191	Pn	Pn	11 37 21.4	+0.6
MJB9				Sn	Sn	11 38 20.1	-1.4
MAJO	Matsushiro	5.21	191	*d*iP	Pn	11 37 21.2	+0.3
MAJO	Matsushiro	5.21	191	Pn	Pn	11 37 21.7	+0.8
MAT	Matsushiro	5.21	191	P	Pn	11 37 21.4	+0.5
MAT				S	Sn	11 38 22.1	+0.6
MJAR	Matsushiro Arr	5.21	191	P	Pn	11 37 21.7	+0.8
	comp=E,3.2nm,0.3s,baz=360,slow=14,SNR=206						
MJAR	Matsush

KUR eS Sn 11 39 03.3 -2.2
KUR pmax pmax
comp=Z,834nm,0.4s
KUR pmax pmax
comp=N,198nm,0.3s
KUR pmax pmax
comp=E,190nm,0.3s
KUR smax smax
comp=N,210nm,0.3s
KUR smax smax
comp=E,76nm,0.3s
UGL Uglegorsk 7.64 13 eP **Pn 11 37 51.5 -0.7**
UGL S **Sn 11 39 10.9 -7.4**
UGL pmax pmax
comp=Z,97nm,1.1s
MDJ Mudanjiang 7.78 296 P **Pn 11 37 54.9 +0.7**
MDJ pmax pmax
comp=Z,49nm,1.0s
MDJ pmax pmax
comp=Z,330nm,3.3s
MDJ Mudanjiang 7.78 296 Pn 11 37 53.6 -0.6
MDJ Sn **Sn 11 39 17.6 -4.3**
JHJ Hachijo jima 2 8.54 178 P **Pn 11 38 00.4 -3.8**
comp=Z,22nm,0.3s,baz=107,slow=21,SNR=12
JHJ S **Sn 11 39 31.6 -8.4**
comp=Z,29nm,0.3s,baz=68,slow=19,SNR=5.3
JHJ2 Mitsune 8.55 178 Pn **Pn 11 38 01.8 -2.5**
KLR Kul'dur 9.29 327 *i* P **Pn 11 38 15.4 +1.6**
KLR pmax pmax
comp=Z,3.0nm,0.8s
KLR Kul'dur 9.29 327 P **Pn 11 38 14.0 +0.2**
comp=Z,0.4nm,0.3s,baz=148,slow=12,SNR=7.0
GRNR Gornyy 9.34 348⇑ *i*P **Pn 11 38 14.6 +0.2**
GRNR pmax pmax
comp=Z,10.0nm,0.6s
TYV Tymovskoe 9.46 12 eP **Pn 11 38 16.7 +0.7**
TYV eS **Sn 11 40 02.2 +0.5**
TYV pmax pmax
comp=Z,1μm,3.8s
TYV pmax pmax
comp=Z,116nm,0.9s
TYV smax smax
comp=N,24nm,1.7s
KSRS Korea Array 9.84 248 P **Pn 11 38 21.9 +0.9**
comp=N,1.3nm,0.3s,baz=60,slow=13,SNR=80
KS19 Wonju Array Si 9.85 249 Pn 11 38 21.6 +0.3
KSAR Wonju Array Be 9.87 248 P **Pn 11 38 21.0 -0.5**
KSAR Wonju Array Be 9.87 248 Pn 11 38 21.0 -0.5
CN2 Changchun 10.51 286 eP **Pn 11 38 29.5 -0.2**
CN2 pmax pmax
comp=N,10.0nm,0.8s
TJN Taejon 10.77 245 *ce*P **Pn 11 38 35.2 +2.0**
JNU Nakatsue 10.91 221 P **Pn 11 38 35.3 +0.3**
comp=N,2.4nm,0.3s,baz=48,slow=2.6,SNR=15
JNU Nakatsue 10.91 221 Pn **Pn 11 38 35.5 +0.5**
DL2 Dalian 13.87 264 P **Pn 11 39 13.0 +0.6**
DL2 pmax pmax
comp=N,62nm,0.7s
ZEA Zeya 14.57 330 eP **Pn 11 39 20.8 0.0**
ZEA pmax pmax
comp=Z,29nm,1.0s
SKR Severo-Kuril's 14.63 46 eP **Pn 11 39 20.7 -0.8**
SKR pmax pmax
comp=Z,62nm,0.8s
PETK Petropavlovsk- 16.79 41 P **P 11 39 46.6 0.0**
comp=Z,0.6nm,0.3s,baz=225,slow=9.3,SNR=14
PETK Petropavlovsk- 16.79 41 P **P 11 39 45.5 -1.1**
JOW Kunigami 17.42 215 P **Pn 11 39 54.7 -0.7**
comp=Z,0.4nm,0.3s,baz=107,slow=16,SNR=5.1
JOW Kunigami 17.42 215 P **P 11 39 54.0 +0.3**
JOW IAmb IAmb 11 39 59.8
comp=Z,27nm,1.0s
BJI Beijing 17.67 272 P **P 11 39 55.3 -1.0**
BJI pmax pmax
comp=Z,14nm,0.6s
BJT Baijiatuau 17.68 272 P **P 11 39 55.7 -0.7**
BJT pmax pmax
comp=Z,21nm,1.2s
BJT Baijiatuau 17.68 272 P **P 11 39 55.7 -0.7**
TIA Tai'an 18.18 260 P **P 11 40 00.6 -1.3**
TIA pmax pmax
comp=Z,17nm,0.8s
NJ2 Nanjing 19.02 246 eP **P 11 40 12.2 +1.1**
NJ2 pmax pmax
comp=Z,15nm,0.6s
MA2 Magadan 19.26 18 *ce*P **P 11 40 13.7 +0.3**
MA2 pmax pmax
comp=Z,222nm,2.5s
MA2 Magadan 19.26 18 P **P 11 40 13.6 +0.3**
comp=Z,6.8nm,0.3s,baz=198,slow=10,SNR=14
MA2 Magadan 19.26 18 P **P 11 40 14.3 +0.9**
HHC Hu-ho-hao-te 20.94 277 eP **P 11 40 30.9 -0.7**
HHC pmax pmax
comp=Z,7.0nm,1.0s
YAK Yakutsk 21.22 347 eP **P 11 40 29.9 -4.2**
YAK eS **S 11 44 13.4 -4.4**
YAK *e**SS Sn 11 44 26.8 -14
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,25nm,1.1s
YAK smax smax
comp=N,629nm,2.8s
YAK smax smax
comp=E,460nm,3.0s
YAK Yakutsk 21.22 347 P **P 11 40 31.5 -2.6**
comp=E,16nm,0.4s,baz=318,slow=0.4,SNR=14
YAK Yakutsk 21.22 347 P **P 11 40 31.6 -2.6**
SEY Seymchan 22.63 15 *i* P **P 11 40 48.1 +0.1**
SEY Seymchan 22.63 15 P **P 11 40 47.1 -0.9**
comp=E,16nm,0.8s,baz=225,slow=14,SNR=26
BOD Bodaibo 22.84 324 eP **P 11 40 48.1 -1.8**
BOD pmax pmax
comp=Z,24nm,0.8s
WHN Wuhan 23.03 249 eP **P 11 40 49.2 -2.7**
ULN Ulaanbaatar 23.70 296 *ce*P **P 11 40 58.5 +0.5**
ULN pmax pmax
comp=Z,13nm,2.5s
SONM Songino Array 24.14 296 P **P 11 41 01.2 -0.8**
comp=Z,1.6nm,0.4s,baz=94,slow=8.2,SNR=11
SONM PcP **PcP 11 44 37.6 +0.3**
comp=Z,3.5nm,0.6s,baz=127,slow=1.8,SNR=11
SONM ScP **ScP 11 47 55.9 -1.2**
comp=Z,1.2nm,1.0s,baz=164,slow=5.9,SNR=3.6
SONM Songino Array 24.14 296 P **P 11 41 01.2 -0.8**
SONM **PcP 11 44 37.7 +0.4**
SONM **ScP 11 47 57.1 -0.1**
TPUB Ta-pu 24.14 226 P **P 11 41 01.1 -1.0**
TWG Pinlang 24.29 225 P **P 11 41 03.8 +0.4**
XAN Xi'an 25.18 262 P **P 11 41 10.4 -1.0**
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN Xi'an 25.18 262 P **P 11 41 10.9 -0.5**
XAN pmax pmax
comp=Z,12nm,0.5s
XAN Xi'an 25.18 262 P **P 11 41 10.9 -0.5**
XAN IAmb IAmb 11 41 12.7
comp=Z,12nm,0.5s
ENH Enshi 26.64 254 P **P 11 41 22.2 -2.4**
LZH Lanzhou 28.13 270 eP **P 11 41 38.3 +0.4**
LZH pP pP 11 42 16.6 +0.2
LZH sP sP 11 42 35.2 -3.2
LZH pmax pmax
comp=Z,19nm,1.0s
GUMO Guam 28.37 169 P **P 11 41 38.8 -1.2**
GUMO pmax pmax
comp=Z,181nm,1.4s
GUMO Guam 28.37 169 P **P 11 41 38.8 -1.2**
GTA Gaotai 30.02 279 eP **P 11 41 54.5 0.0**
GTA pP pP 11 42 35.2 +2.0
GTA sP sP 11 42 57.6 +2.4
GTA PcP **PcP 11 44 52.4 +0.9**
GTA ScP **ScP 11 48 15.4 +0.3**
GTA PcS **PcS 11 48 35.6 +0.3**
GTA ScS **ScS 11 52 10.1 -0.9**
GTA pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 30.10 20 eP **P 11 41 55.6 +0.9**
BILL *e**PP **pP 11 42 37.6 +3.3**
BILL *e* 11 43 02.6
BILL pmax pmax
comp=Z,8.0nm,0.5s
BILL Bilibino 30.10 20 P **P 11 41 54.8 +0.1**
CD2 Chengdu 30.50 261 P **P 11 41 57.8 -1.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
TIXI Tiksi 30.51 353⇑ *i*P **P 11 41 56.9 -1.4**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 30.51 353 P **P 11 41 57.6 -0.7**
comp=Z,4.3nm,0.3s,baz=360,slow=24,SNR=22
TIXI PcP **PcP 11 44 51.7 -0.3**
comp=Z,2.7nm,0.4s,baz=144,slow=4.2,SNR=4.9
TIXI Tiksi 30.51 353 P **P 11 41 57.4 -0.9**
TIXI IAmb IAmb 11 42 00.2
comp=Z,7.5nm,0.5s
TIXI **PcP 11 44 51.9 -0.2**
GYA Guiyang 30.88 251⇑ *i*P **P 11 42 03.4 +1.2**
GYA pP pP 11 42 37.2 -3.8
GYA PP **PnPn 11 43 10.8 -1.0**
GYA PcP **PcP 11 44 56.7 +2.7**
GYA S **S 11 46 54.6 +2.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.6s
ADK Adak 31.30 56 P **P 11 42 05.5 +0.1**
ADK pmax pmax
comp=Z,31nm,1.1s
ADK Adak 31.30 56 P **P 11 42 05.5 +0.1**
GSTR Great Sitkin T 31.69 55 P **P 11 42 09.3 +0.4**
SLVN Son La 36.10 247 P **P 11 42 47.8 +0.5**
UNV Unalaska Valle 37.43 52 P **P 11 42 58.1 +0.2**
UNV IAmb IAmb 11 43 07.7
comp=Z,39nm,1.2s
WMQ Urumqi 37.55 291 eP **P 11 43 01.3 +2.0**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,250nm,8.3s
WMQ LR LR
comp=Z,700nm,29.1s
WMQ LR LR
comp=Z,2μm,29.1s
WMQ LR LR
comp=Z,67nm,23.5s
ZALV Zalesovo Beam 37.75 308 P **P 11 43 00.9 +0.2**
ZALV 11 45 13.5
ZALV 11 48 41.4
ZALV Zalesovo Beam 37.75 308 P **P 11 43 00.6 -0.1**
comp=Z,8.7nm,0.6s,baz=93,slow=7.7,SNR=29
ZALV PcP **PcP 11 45 13.4 +0.2**
comp=Z,31nm,0.5s,baz=97,slow=2.5,SNR=48
ZALV ScP **ScP 11 48 41.1 -0.9**
comp=Z,0.8nm,0.4s,baz=74,slow=4.9,SNR=2.8
ZALV Zalesovo Beam 37.75 308 P **P 11 43 00.9 +0.2**
ZALV **PcP 11 45 13.5 +0.2**
ZALV **ScP 11 48 41.4 -0.6**
NRIK Noril'sk 38.43 333 P **P 11 43 05.5 -0.7**
comp=Z,6.3nm,0.4s,baz=117,slow=8.4,SNR=9.9
NRIK PcP **PcP 11 45 15.4 +0.4**
comp=Z,15nm,0.5s,baz=95,slow=3.8,SNR=7.9
ANM Nome 38.55 35 P **P 11 43 08.1 +0.9**
ANM pmax pmax
comp=Z,62nm,1.1s
ANM Nome 38.55 35 P **P 11 43 08.1 +0.9**
NONG Nongkai 38.87 244 P **P 11 43 10.9 +0.5**
comp=Z,1.1nm,0.9s
PAYA Payao 40.22 249 P **P 11 43 22.7 +1.1**
comp=Z,28μm,0.6s,comp=Z,427μm
MK31 Makanchi Array 40.49 297 P **P 11 43 23.6 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 40.49 297 P **P 11 43 23.6 +0.1**
MKAR Makanchi Array 40.49 297 P **P 11 43 23.2 -0.4**
comp=Z,4.1nm,0.6s,baz=86,slow=11,SNR=39
MKAR PcP **PcP 11 45 20.8 -1.3**
comp=Z,8.5nm,1.1s,baz=74,slow=5.2,SNR=7.2
MKAR ScP **ScP 11 48 49.8 -3.0**
comp=Z,0.6nm,0.7s,baz=64,slow=3.4,SNR=3.4
MAKZ Makanchi 40.70 297 P **P 11 43 25.1 -0.1**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 40.70 297 P **P 11 43 25.1 -0.1**
SDPT Sand Point 40.79 49 P **P 11 43 25.7 -0.1**
KKM Kota Kinabalu 41.06 217 P **P 11 43 28.2 -0.3**
KKM IAmb IAmb 11 43 33.1
comp=Z,28nm,1.4s
CHAI Chaiyaphum 41.18 243 P **P 11 43 29.6 +0.2**
comp=Z,25μm,0.7s
CMMT Chiang Mai 41.23 249 P **P 11 43 30.1 +0.2**
comp=Z,5.8nm,0.6s
CHTO Chiang Mai 41.24 249 P **P 11 43 29.7 -0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 41.24 249 P **P 11 43 29.7 -0.2**
CNBA Chernabura Isl 41.36 50 P **P 11 43 29.9 -0.5**
PBKT Sadao Pong 41.39 244 P **P 11 43 32.5 +1.4**
comp=Z,5.2nm,0.8s
PBKT Sadao Pong 41.39 244 P **P 11 43 31.1 0.0**
CMAR Chiang Mai Arr 41.48 249 P **P 11 43 31.8 0.0**
comp=Z,2.5nm,0.4s,baz=43,slow=7.7,SNR=17
CMAR pP **pwP 11 44 17.0 -0.2**
comp=Z,1.6nm,0.6s,baz=54,slow=7.8,SNR=1.8
CMAR PcP **PcP 11 45 25.4 -0.3**
comp=Z,1.0nm,0.4s,baz=8.7,slow=1.9,SNR=5.7
CMAR ScP **ScP 11 48 56.1 -0.9**
comp=Z,1.9nm,0.4s,baz=12,slow=3.1,SNR=9.4
CHGN Chignik 41.84 48 P **P 11 43 33.4 -0.9**
KURK Kurchatov 41.97 304 *ce*P **P 11 43 35.1 -0.3**
KURK pmax pmax
comp=Z,36nm,1.3s
KURK Kurchatov 41.97 304 P **P 11 43 34.9 -0.6**
KURK IAmb IAmb 11 43 36.0
comp=Z,20nm,0.8s
TTA Tatalina 42.59 38 P **P 11 43 40.5 +0.1**
TTA pmax pmax
comp=Z,14nm,0.8s
TTA Tatalina 42.59 38 P **P 11 43 40.5 +0.1**
TTA IAmb IAmb 11 43 42.5
comp=Z,14nm,0.8s
SVW2 Sparrevohn 42.87 40 P **P 11 43 44.5 +1.9**
SVW2 IAmb IAmb 11 43 45.5
comp=Z,36nm,1.2s
UMPA Umpang Tak 43.08 246 P **P 11 43 47.4 +2.6**
comp=Z,24μm,1.0s
UTHA Uthaitani 43.13 245 P **P 11 43 46.2 +1.0**
comp=Z,19μm,0.8s,comp=Z,585μm
CHIR Chirikof Islan 43.46 48 P **P 11 43 47.8 +0.4**
IMAR Indian Mountai 43.53 33 P **P 11 43 48.9 +1.1**
KHLT Khaolaem Dam 44.25 245 P **P 11 43 52.8 -1.3**
comp=Z,9.0nm,0.8s
RSO Redoubt South 44.31 41 P **P 11 43 56.1 +1.8**
TAPN Taplejung 44.32 268 eP **P 11 43 54.9 0.0**
comp=Z,17nm,0.3s
PPLA Purkeypile 44.34 38 P **P 11 43 56.3 +1.9**
PPLA IAmb IAmb 11 43 57.4
comp=Z,22nm,0.9s
OHAK Old Harbor 44.50 46 P **P 11 43 56.1 +0.6**
OHAK IAmb IAmb 11 43 57.2
comp=Z,41nm,1.2s
BPAW Bear Paw Mtn. 44.78 36 P **P 11 43 59.2 +1.5**
BPAW IAmb IAmb 11 44 00.1
comp=Z,19nm,0.8s
KDAK Kodiak Island 44.78 45 *ce*P **P 11 43 58.0 +0.2**
KDAK Kodiak Island 44.78 45 P **P 11 43 58.2 +0.4**
comp=Z,18nm,0.5s,baz=273,slow=1.0,SNR=63
KDAK Kodiak Island 44.78 45 P **P 11 43 58.5 +0.7**
KDAK IAmb IAmb 11 44 11.9
comp=Z,50nm,1.4s
MLY Manley 44.81 34 P **P 11 43 59.1 +1.1**
MLY IAmb IAmb 11 44 00.4
comp=Z,17nm,0.8s
ODAN Odare 44.83 268 eP **P 11 43 59.5 +0.6**
comp=Z,25nm,0.5s
KTH Kantishna Hill 44.85 37 P **P 11 44 00.1 +1.7**
FAKI Fak Fak 44.86 190 P **P 11 43 59.0 +0.2**
FAKI IAmb IAmb 11 44 00.5
comp=Z,20nm,0.9s
PHET Kaeng Krachan 44.91 242 P **P 11 44 01.0 +1.7**
comp=Z,32μm,0.9s,comp=Z,472μm
COLD Coldfoot 44.92 31 P **P 11 43 59.9 +1.1**
TOLK Toolik Lake Re 45.12 29 P **P 11 44 01.0 +0.7**
baz=271,SNR=7.3
TOLK Toolik Lake Re 45.12 29 P **P 11 44 00.8 +0.5**
TARG Taragay, Kyrgy 45.12 292 P **P 11 44 01.1 -0.1**
TRF Thorofare Moun 45.14 37 P **P 11 44 01.8 +1.0**
TRF IAmb IAmb 11 44 03.8
comp=Z,22nm,0.8s
CNPM China Poot 45.20 42 P **P 11 44 01.8 +0.7**
CNPM IAmb IAmb 11 44 12.4
comp=Z,46nm,1.2s
JIRN Jiri 45.29 270 eP **P 11 44 02.7 0.0**
comp=Z,24nm,0.3s
BRLK Bradley Lake 45.34 42 P **P 11 44 02.5 +0.3**
BRLK IAmb IAmb 11 44 04.5
comp=Z,25nm,0.7s
RAMN Ramite 45.37 268 eP **P 11 44 03.3 +0.1**
comp=Z,30nm,0.6s
GUN Gumba 45.39 270 eP **P 11 44 02.9 -0.6**
comp=Z,48nm,0.3s
KDJ Kajisay 45.41 292 P **P 11 44 03.3 +0.1**
KDJ pmax pmax
comp=Z,18nm,1.5s
KDJ Kajisay 45.41 292 P **P 11 44 03.3 +0.1**
BWN Browne 45.43 36 P **P 11 44 04.8 +1.9**
NEA Nenana 45.56 35 P **P 11 44 05.3 +1.4**
MCK McKinley 45.72 36 P **P 11 44 05.5 +0.4**
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 45.72 36 P **P 11 44 05.5 +0.4**
MCK IAmb IAmb 11 44 07.5
comp=Z,41nm,1.0s
RND Reindeer 45.79 37 P **P 11 44 06.3 +0.6**
RND pmax pmax
comp=Z,19nm,0.8s
RND Reindeer 45.79 37 P **P 11 44 06.3 +0.6**
RND IAmb IAmb 11 44 07.3
comp=Z,19nm,0.8s
MDM Murphy Dome 45.88 34 P **P 11 44 06.9 +0.5**
MDM IAmb IAmb 11 44 08.6
comp=Z,39nm,0.8s
KKN Kakani 45.91 270 eP **P 11 44 07.5 +0.2**
comp=Z,16nm,0.4s
PMR Palmer 45.91 39 P **P 11 44 07.4 +0.8**
PMR pmax pmax
comp=Z,18nm,0.8s
PMR Palmer 45.91 39 P **P 11 44 07.4 +0.8**
PMR IAmb IAmb 11 44 08.1
comp=Z,18nm,0.8s
PKI Pulchoki 45.93 270 eP **P 11 44 07.7 +0.1**
comp=Z,20nm,0.6s
PKIN Phulchoki 45.93 270 eP **P 11 44 07.4 -0.2**
comp=Z,11nm,0.4s
GHO Glory Hole Cre 45.98 39 P **P 11 44 08.3 +1.0**
SEW Seward 45.99 41 P **P 11 44 07.8 +0.6**
SEW IAmb IAmb 11 44 11.4
comp=Z,51nm,1.2s
WRH Wood River Hil 46.00 35 P **P 11 44 08.2 +0.9**
TCOL CIGO, UAF Yank 46.05 34 P **P 11 44 09.0 +1.4**
baz=277,SNR=20
COLA College 46.05 34 P **P 11 44 09.1 +1.5**
COLA pmax pmax
comp=Z,79nm,0.8s
COLA College 46.05 34 P **P 11 44 09.1 +1.5**
CCB Clear Creek Bu 46.10 35 P **P 11 44 08.9 +0.9**
CCB IAmb IAmb 11 44 09.8
comp=Z,12nm,0.6s
BOOM Boomskoye usch 46.13 293 P **P 11 44 09.4 +0.6**
BOOM pmax pmax
comp=Z,15nm,0.8s
BOOM Boomskoye usch 46.13 293 P **P 11 44 09.4 +0.6**
BOOM IAmb IAmb 11 44 10.1
comp=Z,15nm,0.8s
DMN Daman 46.13 270 eP **P 11 44 09.2 +0.1**
comp=Z,8.9nm,0.4s
TKM2 Tokmak 2 46.21 294 P **P 11 44 09.5 0.0**
TKM2 pmax pmax
comp=Z,30nm,0.8s
TKM2 Tokmak 2 46.21 294 P **P 11 44 10.1 +0.6**
SNR=43
SML Sawmill 46.25 39 P **P 11 44 10.6 +1.2**
SML IAmb IAmb 11 44 11.3
comp=Z,18nm,0.7s
KNK Knik Glacier 46.26 39 P **P 11 44 10.3 +0.9**
KNK IAmb IAmb 11 44 10.8
comp=Z,15nm,0.7s
GKN Gorkha 46.27 271 eP **P 11 44 10.1 0.0**
comp=Z,23nm,0.4s
BVAR Borovoye Array 46.40 309 P **P 11 44 10.7 +0.2**
comp=Z,21nm,0.6s,baz=71,slow=7.9,SNR=68
BVAR PcP **PcP 11 45 42.3 +0.3**
comp=Z,10nm,0.5s,baz=79,slow=3.4,SNR=15
BRVK Borovoye 46.45 309⇑ *i*P **P 11 44 11.0 +0.1**
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 46.45 309 P 11 44 11.2 +0.2
IL31 46.48 35 P **P 11 44 11.9 +1.0**
IL31 IAmb IAmb 11 44 13.6
comp=Z,28nm,0.8s
ILAR Eielson Array 46.48 35 P **P 11 44 11.8 +0.8**
ILAR 11 45 41.2
ILAR Eielson Array 46.48 35 P **P 11 44 11.4 +0.5**
comp=Z,22nm,0.8s,baz=274,slow=7.0,SNR=150
ILAR PcP **PcP 11 45 41.1 -0.9**
comp=Z,1.6nm,0.8s,baz=300,slow=3.9,SNR=2.5
ILAR Eielson Array 46.48 35 P **P 11 44 11.8 +0.8**
ILAR **PcP 11 45 41.2 -0.9**
NRN Naryn 46.48 292 P **P 11 44 12.5 +0.7**
NRN pmax pmax
comp=Z,4.0nm,1.1s
NRN Naryn 46.48 292 P **P 11 44 12.6 +0.7**
HDA Harding Lake 46.50 35 P **P 11 44 11.5 +0.3**
baz=278,SNR=22
HDA Harding Lake 46.50 35 P **P 11 44 11.8 +0.6**
HDA IAmb IAmb 11 44 12.5
comp=Z,29nm,0.8s
DHY Denali Highway 46.50 37 P **P 11 44 12.5 +1.1**
DHY IAmb IAmb 11 44 13.0
comp=Z,40nm,0.9s
SCM Sheep Creek Mo 46.72 39 P **P 11 44 14.2 +1.2**
SCM pmax pmax
comp=Z,64nm,1.5s
SCM Sheep Creek Mo 46.72 39 P **P 11 44 14.2 +1.2**
SCM IAmb IAmb 11 44 20.9
comp=Z,64nm,1.5s
DANN Dangsing 46.75 272 eP **P 11 44 14.0 0.0**
comp=Z,110nm,0.6s
KBK Karagaybulak 46.75 294 P **P 11 44 14.2 +0.5**
SNR=20
KZA Kyzart 46.76 293 P **P 11 44 15.1 +1.1**
SNR=11
USP Ospenovka 46.83 295 P **P 11 44 14.2 +0.1**
SNR=10
FYU Fort Yukon 46.93 32 P **P 11 44 16.1 +1.7**
PRP Porcupine Dome 46.95 33 P **P 11 44 16.3 +1.5**
GLI Glacier Island 47.00 40 P **P 11 44 16.1 +1.0**
GLI IAmb IAmb 11 44 17.6
comp=Z,21nm,0.8s
AAK Ala-Archa 47.07 294 *i* P **P 11 44 16.1 0.0**
SNR=8.7
AAK Ala-Archa 47.07 294 *ce*P **P 11 44 16.1 0.0**
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 47.07 294 P **P 11 44 16.2 +0.2**
SNR=7.0
AAK Ala-Archa 47.07 294 P **P 11 44 16.3 +0.2**
BMAR Burnt Mountain 47.07 31 P **P 11 44 17.3 +1.7**
KOLN Koldanda 47.17 271 eP **P 11 44 17.3 +0.1**
comp=Z,21nm,0.5s
KSH Kashi 47.26 290 P **P 11 44 21.6 +4.0**
KSH PcP **PcP 11 45 48.8 +3.3**
KSH S **S 11 51 00.8 +5.0**
KSH sS sS 11 52 14.7 +5.2
KSH SS **SS 11 54 27.2 +1.8**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH pmax pmax
comp=Z,510nm,6.0s
KSH LR LR
comp=Z,290nm,11.5s
KSH LR LR
comp=Z,210nm,11.1s
KSH LR LR
comp=Z,350nm,15.3s
FID Port Fidalgo 47.32 40 P **P 11 44 18.5 +0.9**
FID IAmb IAmb 11 44 21.9
comp=Z,60nm,1.4s
HIN Hinchinbrook I 47.38 40 P **P 11 44 19.3 +1.2**
HIN IAmb IAmb 11 44 29.5
comp=Z,60nm,1.4s
EKS2 Erkin-Say 47.55 294 P **P 11 44 19.9 +0.2**
SNR=11
EYAK Cordova Ski Ar 47.72 40 P **P 11 44 22.4 +1.8**
AML Almayashu 47.81 294 P **P 11 44 22.4 +0.3**
SNR=11

KSM Kuching 47.84 221 P P 11 44 23.4 +1.2
SCRK Sand Creek 47.84 35 P P 11 44 22.4 +0.7
DOT Dot Lake 47.87 36 P P 11 44 22.5 +0.7
MENT Mentasta 48.16 37 P P 11 44 25.2 +1.2
MENT IAmb IAmb 11 44 26.6
comp=Z,20nm,0.8s
RAGM Ragged Mountai 48.27 40 P P 11 44 27.0 +2.1
RAGM IAmb IAmb 11 44 35.8
comp=Z,29nm,0.6s
GLB Gilahina Butte 48.44 39 P P 11 44 27.6 +1.3
ARSB Arslanbob 48.62 293 P P 11 44 28.8 +0.8
ARSB IAmb IAmb 11 44 29.4
comp=Z,24nm,0.8s
VRDI Verde Repeater 48.66 39 P P 11 44 29.3 +1.2
MCARA McCarthy VSAT 48.83 39 P P 11 44 30.7 +1.6
MCARA IAmb IAmb 11 44 31.7
comp=Z,15nm,0.8s
EGAK Eagle 48.89 34 P P 11 44 30.4 +0.9
EGAK IAmb IAmb 11 44 32.0
comp=Z,28nm,1.0s
CRQM Cirque 48.92 39 P P 11 44 31.0 +1.0
BCAR Beaver Creek A 49.00 36 P P 11 44 32.1 +1.7
BALM Baldy 49.23 39 P P 11 44 33.1 +0.8
BARN Barnard Glacie 49.55 39 P P 11 44 36.2 +1.4
BARN IAmb IAmb 11 44 37.0
comp=Z,14nm,0.6s
KK31 Karatay Array 49.59 296 P P 11 44 35.1 -0.1
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KK31 Karatay Array 49.59 296 P P 11 44 35.1 -0.1
KKAR Karatay Array 49.59 296 P P 11 44 34.9 -0.3
KKAR pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 49.59 296 P P 11 44 34.9 -0.3
KKAR Karatay Array 49.59 296 P P 11 44 35.0 -0.3
KKAR IAmb IAmb 11 44 35.3
comp=Z,8.3nm,0.7s
YAH Yahtse 49.69 40 P P 11 44 37.3 +1.4
YAH IAmb IAmb 11 44 40.4
comp=Z,33nm,1.4s
CTGM Chitina Glacie 49.72 39 P P 11 44 37.5 +1.5
CTGM IAmb IAmb 11 44 38.3
comp=Z,15nm,0.8s
KULM Kulim 50.05 234 P P 11 44 40.0 +1.1
EPYK Eagle Plains 50.32 31 P P 11 44 41.8 +1.5
baz=285
EPYK Eagle Plains 50.32 31 P P 11 44 41.9 +1.5
SVE Sverdlovsk 50.71 316 *de*P **P 11 44 43.9 +0.6**
SVE pmax pmax
comp=Z,69nm,0.8s
INK Inuvik 51.01 29 P P 11 44 46.3 +1.0
INK pmax pmax
comp=Z,17nm,0.8s
INK Inuvik 51.01 29 P P 11 44 46.2 +1.0
comp=Z,9.4nm,0.3s,baz=287,slow=7.1,SNR=75
INK Inuvik 51.01 29 P P 11 44 46.3 +1.0
INK IAmb IAmb 11 44 47.2
comp=Z,16nm,0.8s
GAR Garm 51.45 291 P P 11 44 49.0 -0.2
GAR IAmb IAmb 11 44 55.6
comp=Z,12nm,0.6s
HYT Haines Junctio 51.56 38 P P 11 44 51.9 +2.2
HYT IAmb IAmb 11 44 53.7
comp=Z,19nm,0.9s
NIL Nilore 51.86 284 P P 11 44 53.1 +0.9
NIL pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 51.86 284 P P 11 44 53.1 +0.9
NIL IAmb IAmb 11 44 53.8
comp=Z,20nm,0.8s
ARU Arti 51.92 316 *c i*P **P 11 44 52.5 +0.2**
ARU *PP **pP 11 45 35.0 +0.5**
ARU 11 46 01.7
ARU S **S 11 52 01.3 +1.6**
ARU SS **SS 11 55 36.8 -1.8**
ARU pmax pmax
comp=Z,56nm,0.8s
ARU Arti 51.92 316 P P 11 44 52.5 +0.2
comp=Z,15nm,0.6s,baz=72,slow=5.1,SNR=65
ARU Arti 51.92 316 P P 11 44 52.5 +0.2
CHGR Chuyangaron 52.41 292 P P 11 44 56.1 -0.2
CHGR IAmb IAmb 11 44 56.4
comp=Z,22nm,0.7s
A36M Sachs Harbour 52.56 23 P P 11 44 57.8 +1.0
baz=290,SNR=7.9
WHY Whitehorse 52.83 38 P P 11 45 00.9 +1.9
SOEI Soe 53.04 199 P P 11 45 00.6 -0.5
SOEI IAmb IAmb 11 45 10.8
comp=Z,16nm,0.9s
SKAG Skagway 53.04 40 P P 11 45 02.4 +1.9
PSI Prapat 53.05 234 P P 11 45 02.1 +0.8
PSI pmax pmax
comp=Z,6.0nm,0.6s
RPSI Rantau Prapat 53.14 234 P P 11 45 02.1 +0.4
AB31 Akbulak array 53.85 307 *i* P **P 11 45 06.4 -0.1**
AB31 pmax pmax
comp=Z,19nm,0.5s
ABKAR Akbulak array 53.85 307 P P 11 45 06.7 +0.2
ABKAR Akbulak array 53.85 307 P P 11 45 06.7 +0.2
ABKAR IAmb IAmb 11 45 07.3
comp=Z,29nm,0.6s
C36M Paulatuk 53.90 26 P P 11 45 07.3 +0.7
baz=293
KBL Kabul 54.45 287 P P 11 45 10.8 -0.6
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 54.45 287 P P 11 45 10.8 -0.6
KBL IAmb IAmb 11 45 11.8
comp=Z,9.3nm,0.6s
AKTO Aktyubinsk 54.50 309 P P 11 45 11.1 -0.2
comp=Z,7.4nm,0.3s,baz=80,slow=8.3,SNR=25
AKTO PcP **PcP 11 46 11.9 -0.1**
comp=Z,9.6nm,0.7s,baz=80,slow=5.5,SNR=6.9
MTN Manton Dam 54.78 190 P P 11 45 13.4 -0.1
COEN Coen 55.45 176 P P 11 45 19.1 +0.7
COEN IAmb IAmb 11 45 23.5
comp=Z,13nm,1.2s
KIRV Kirov 55.66 321 P P 11 45 19.5 +0.1
comp=Z,52nm,0.7s,baz=74,slow=1.3,SNR=9.2
SPA0 Spitsbergen Ar 55.68 348 *eP* **P 11 45 19.3 0.0**
SPA0 Spitsbergen Ar 55.68 348 P P 11 45 19.5 +0.2
SPITS Spitsbergen Ar 55.68 348 P P 11 45 19.0 -0.2
comp=Z,7.1nm,0.7s,baz=76,slow=7.8,SNR=12
KIP Kipapa 55.78 91 P P 11 45 21.3 +0.5
KIP pmax pmax
comp=Z,107nm,1.2s
KIP Kipapa 55.78 91 P P 11 45 21.3 +0.5
DLBC Dease Lake 55.97 39 P P 11 45 23.9 +2.2
DLBC IAmb IAmb 11 45 29.7
comp=Z,15nm,1.4s
PRGR Permogore 56.07 325 *eP* **P 11 45 20.6 -1.6**
PRGR pmax pmax
comp=Z,24nm,0.9s
KNRA Kununurra 57.90 192 P P 11 45 36.2 +0.7
KNRA IAmb IAmb 11 45 36.9
comp=Z,29nm,1.2s
RES Resolute Bay 58.50 15 P P 11 45 39.0 0.0
RES pmax pmax
comp=Z,17nm,0.9s
RES Resolute Bay 58.50 15 P P 11 45 39.0 0.0
RES IAmb IAmb 11 45 39.8
comp=Z,17nm,0.8s
HMH Humu'ula Sheep 58.77 91 P P 11 45 44.0 +2.0
KHU Kahuku 58.88 91 P P 11 45 44.3 +1.5
KHU pmax pmax
comp=Z,136nm,1.5s
KHU Kahuku 58.88 91 P P 11 45 44.3 +1.5
MLH Mauna Loa 58.91 91 P P 11 45 44.8 +1.9
KLMR Klimovskoe 59.05 326 *eP* **P 11 45 40.5 -2.4**
KLMR pmax pmax
comp=Z,50nm,1.4s
KLMR Klimovskoe 59.05 326 *eP* **P 11 45 40.5 -2.4**
KLMR AMP 11 45 43.8
comp=Z,50nm,1.4s
ARCES ARCESS Array B 59.13 338 P P 11 45 43.4 0.0
ARCES ARCESS Array B 59.13 338 P P 11 45 43.2 -0.2
comp=Z,3.0nm,0.4s,baz=62,slow=8.2,SNR=43
ARCES pP **PcP 11 46 30.0 +0.2**
comp=Z,1.6nm,0.4s,baz=58,slow=4.8,SNR=2.1
ARCES ARCESS Array B 59.13 338 P P 11 45 43.4 0.0
HRA Herat 59.36 290 P P 11 45 46.4 +0.6
HRA IAmb IAmb 11 45 47.0
comp=Z,7.6nm,0.8s
KTK1 Kautokeino 60.09 338 *eP* **P 11 45 49.9 0.0**

GEYT Alibeck 60.34 296 P P 11 45 52.2 -0.1
comp=Z,9.7nm,0.8s,baz=354,slow=3.0,SNR=14
GEYT pP **pwP 11 46 39.5 -1.0**
comp=Z,3.2nm,0.7s,baz=90,slow=1.4,SNR=3.2
GEYT Alibeck 60.34 296 P P 11 45 52.2 -0.1
GYA0B ALIBECK ARRAY 60.34 296 P P 11 45 52.4 +0.1
GYA0B IAmb IAmb 11 45 53.0
comp=Z,14nm,0.9s
YKA Yellowknife Ar 60.59 31 P P 11 45 53.8 +0.3
comp=Z,3.9nm,0.6s,baz=302,slow=6.7,SNR=24
YKA PcP **PcP 11 46 36.4 +0.6**
comp=Z,2.7nm,0.6s,baz=305,slow=3.8,SNR=8.1
YKA Yellowknife Ar 60.59 31 P P 11 45 53.4 -0.1
YKA PcP **PcP 11 46 36.2 +0.4**
TULEG Thule 60.71 7 P P 11 45 53.9 -0.1
TULEG IAmb IAmb 11 45 54.6
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 60.82 195 P P 11 45 55.9 +0.4
DAG Danmarks Havn 61.02 354 *i* P **P 11 45 55.9 -0.3**
DAG pmax pmax
comp=Z,11nm,0.6s
DAG Danmarks Havn 61.02 354 *i* P **P 11 45 55.9 -0.3**
comp=Z,16nm,0.6s
WB0 Warramunga Arr 61.30 185 P P 11 45 58.3 -0.4
WB0 IAmb IAmb 11 45 59.1
comp=Z,21nm,0.9s
WRAB Tennant Creek 61.47 185 *ce*P **P 11 45 58.7 -1.1**
WRAB pmax pmax
comp=Z,9.0nm,0.7s
WRAB Tennant Creek 61.47 185 P P 11 45 58.3 -1.5
WRAB IAmb IAmb 11 46 00.2
comp=Z,13nm,0.9s
WB2 Warramunga Arr 61.48 185 P P 11 45 59.5 -0.4
WRA Warramunga Arr 61.48 185 P P 11 45 59.5 -0.5
comp=Z,9.2nm,0.6s,baz=4.7,slow=7.0,SNR=166
WRA PcP **PcP 11 46 40.4 +0.5**
comp=Z,3.3nm,0.8s,baz=356,slow=4.1,SNR=6.3
WRA pP **pwP 11 46 47.0 -0.7**
comp=Z,3.0nm,0.6s,baz=1.2,slow=7.4,SNR=3.0
WRA Warramunga Arr 61.48 185 P P 11 45 58.6 -1.3
WR0 Warramunga Arr 61.48 185 P P 11 45 59.5 -0.4
WR0 IAmb IAmb 11 46 00.3
comp=Z,24nm,1.1s
CTA Charters Tower 61.77 173 P P 11 46 01.8 -0.1
comp=Z,3.5nm,0.5s,baz=19,slow=5.5,SNR=5.1
PALK Pallekele 62.03 254 P P 11 46 04.1 +0.2
VRH Novokhopyorsk 63.16 316 *eP* **P 11 46 09.7 -1.0**
VRH pmax pmax
comp=Z,30nm,0.5s
OBN Obninsk 63.50 321 *eP* **P 11 46 12.3 -0.6**
OBN *e* 11 46 46.1
OBN *e**PP **pP 11 46 58.1 +1.3**
OBN pmax pmax
comp=Z,14nm,0.4s
OBN Obninsk 63.50 321 P P 11 46 12.5 -0.4
comp=Z,6.2nm,0.4s,baz=43,slow=22,SNR=6.1
OBN Obninsk 63.50 321 P P 11 46 12.6 -0.2
LPSR Galich'ya Gora 63.80 318 *eP* **P 11 46 14.3 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
FIA1 FINESS Array S 64.02 331 P P 11 46 15.5 -0.7
FINES FINESS Array B 64.02 331 P P 11 46 15.8 -0.3
comp=Z,16nm,0.5s,baz=28,slow=11,SNR=80
FINES PcP **PcP 11 46 48.9 -0.8**
comp=Z,3.7nm,0.5s,baz=56,slow=4.7,SNR=5.1
FINES pP **pwP 11 47 04.5 -0.4**
comp=Z,5.3nm,0.7s,baz=58,slow=8.4,SNR=2.5
PGC Sidney 64.26 47 P P 11 46 19.4 +1.5
PGC IAmb IAmb 11 46 20.2
comp=Z,16nm,0.8s
VSR Storozhevoye 64.47 317 *eP* **P 11 46 18.4 -0.9**
VSR pmax pmax
comp=Z,50nm,0.7s
MOR8 Moi Rana 64.49 338 *eP* **P 11 46 17.6 -1.7**
VORD Divnogorie 64.56 316 *eP* **P 11 46 19.9 +0.1**
VORD pmax pmax
comp=Z,20nm,0.4s
D03D Eldon 65.10 48 P P 11 46 24.8 +1.4
baz=305
AKT Akhty 65.15 304 ⇑ *i*P **P 11 46 23.8 -0.2**
AKT *e* 11 46 55.9
AKT *e**PP **pwP 11 47 10.7 -2.3**
AKT *e**SP **sP 11 47 32.4 +3.6**
AKT pmax pmax
comp=Z,19nm,0.7s
AS31 Alice Springs 65.20 186 P P 11 46 24.4 +0.1
ASAR Alice Springs 65.20 186 P P 11 46 24.6 +0.3
comp=Z,9.2nm,0.7s,baz=7.7,slow=5.7,SNR=75
ASAR PcP **PcP 11 46 55.5 +0.4**
comp=Z,2.2nm,0.7s,baz=7.1,slow=4.2,SNR=5.1
B05A Bryant 65.22 47 P P 11 46 25.3 +1.0
baz=305
PSAC3 Pilbara Seismi 65.54 200 P P 11 46 26.4 0.0
D05A Enumclaw 65.91 48 P P 11 46 30.6 +2.0
D05A IAmb IAmb 11 46 30.9
comp=Z,12nm,0.7s
E04D Cinebar 65.95 48 P P 11 46 30.4 +1.5
baz=306
SUMG Summit 66.05 359 P P 11 46 30.2 +0.6
SUMG pmax pmax
comp=Z,26nm,1.0s
SUMG Summit 66.05 359 *i* P **P 11 46 29.9 +0.3**
comp=Z,71nm,0.9s
SUMG Summit 66.05 359 P P 11 46 30.2 +0.6
LON Longmire 66.27 48 P P 11 46 32.0 +1.0
LON pmax pmax
comp=Z,5.0nm,0.8s
LON Longmire 66.27 48 P P 11 46 32.0 +1.0
F04A Amboy 66.40 49 P P 11 46 32.8 +1.1
NSS Namsos 66.41 338 *eP* **P 11 46 31.0 -0.5**
LTY Liberty 66.59 47 P P 11 46 33.8 +0.7
B08A Colville Reser 66.66 45 P P 11 46 34.3 +0.9
ZEI Tsey 66.73 307 *eP* **P 11 46 30.8 -3.4**
ZEI pmax pmax
comp=Z,11nm,0.6s
KIV Kislovodsk 66.77 309 *i* P **P 11 46 35.4 +1.1**
SNR=8.4
KIV Kislovodsk 66.77 309 *eP* **P 11 46 34.8 +0.5**
KIV pmax pmax
comp=Z,217nm,1.1s
KIV Kislovodsk 66.77 309 P P 11 46 34.3 +0.1
KBZ Khabaz 66.78 308 P P 11 46 34.6 +0.5
comp=Z,15nm,0.7s,baz=30,slow=4.4,SNR=37
TBLG Delisi 66.84 306 P P 11 46 35.0 +0.3
TBLG pmax pmax
comp=Z,29nm,1.1s
TBLG Delisi 66.84 306 P P 11 46 35.0 +0.3
J01E Myrtle Point 67.16 52 P P 11 46 38.3 +1.7
baz=306
I03D Drain, OR 67.19 51 P P 11 46 38.4 +1.7
baz=306
H04A Detroit Lake 67.28 50 P P 11 46 38.0 +0.7
H04A IAmb IAmb 11 46 39.5
comp=Z,16nm,0.7s
G05D Wamic, OR 67.44 49 P P 11 46 39.5 +1.1
baz=307
C09A Chrisman Ranch 67.56 45 P P 11 46 39.9 +0.8
C09A IAmb IAmb 11 46 40.4
comp=Z,8.7nm,0.7s
K02D Willamette Mer 67.59 52 P P 11 46 41.0 +1.5
baz=307
IZAR Zarasai 67.70 326 *eP* **P 11 46 40.0 +0.2**
IZAR IAmb IAmb 11 46 40.9
comp=Z,23nm,0.6s
IZAR *e*PP **PP 11 49 11.2 +0.2**
HAWA Hanford 67.74 47 P P 11 46 41.1 +0.9
HAWA IAmb IAmb 11 46 42.3
comp=Z,9.6nm,0.8s
GNI Garni 67.77 304 P P 11 46 41.7 +1.0
GNI pmax pmax
comp=Z,12nm,0.7s
GNI Garni 67.77 304 P P 11 46 41.4 +0.7
comp=Z,7.5nm,0.3s,baz=202,slow=5.7,SNR=4.2
GNI Garni 67.77 304 P P 11 46 41.7 +1.0
GNI IAmb IAmb 11 46 48.7
comp=Z,12nm,0.7s
AKH Akhalkalaki 67.79 306 P P 11 46 41.7 +0.9
AKH pmax pmax
comp=Z,12nm,0.7s
AKH Akhalkalaki 67.79 306 ⇓ P **P 11 46 41.7 +0.9**
AKH Akhalkalaki 67.79 306 ⇓ P **P 11 46 41.7 +0.9**
AKH IAmb IAmb 11 46 42.6
comp=Z,12nm,0.7s
F07A Phinny Hill Vi 67.82 48 P P 11 46 42.1 +1.4
F07A IAmb IAmb 11 46 43.1

comp=Z,13nm,0.9s
ISAL Salakas 67.87 326 *eP* **P 11 46 41.3 +0.5**
ISAL IAmb IAmb 11 46 42.2
comp=Z,21nm,0.6s
ISAL *e*PP **PP 11 49 13.3 +0.8**
NEW Newport 67.89 45 P P 11 46 42.1 +0.9
baz=308
NEW Newport 67.89 45 P P 11 46 41.9 +0.7
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 67.89 45 P P 11 46 41.9 +0.7
E08A Dider Farm, El 67.94 47 P P 11 46 42.3 +0.9
E08A IAmb IAmb 11 46 43.4
comp=Z,10nm,0.9s
I05D Terrebonne, OR 67.97 50 P P 11 46 43.1 +1.3
baz=307
IIGN Ignalina 67.98 326 *eP* **P 11 46 42.0 +0.5**
IIGN IAmb IAmb 11 46 42.5
comp=Z,26nm,0.5s
J04D Umpqua Nationa 68.18 51 P P 11 46 44.4 +1.1
baz=307
BANOM Banah 68.37 286 P P 11 46 44.9 +0.3
PINE Pine Mountain 68.53 50 P P 11 46 47.1 +1.7
J05D Fort Rock, OR 68.67 51 P P 11 46 47.5 +1.3
baz=308,SNR=5.4
L04D Klamath Falls 68.69 52 P P 11 46 47.7 +1.4
baz=307
SOC Sochi 68.71 310 *eP* **P 11 46 45.1 -1.2**
SOC *e**PP **pwP 11 47 34.1 -1.6**
SOC *e* 11 49 17.7
SOC *e*PPP PPP 11 51 00.6
SOC *e*S **S 11 55 29.2 -4.2**
SOC *e*SS **SS 12 00 00.1 -1.1**
SOC pmax pmax
comp=Z,19nm,0.5s
M02C Callahan 68.86 53 P P 11 46 49.0 +1.7
baz=307
UOSS Minazif 69.03 285 P P 11 46 48.8 +0.2
UOSS Minazif 69.03 285 P P 11 46 48.4 -0.1
UOSS IAmb IAmb 11 46 49.5
comp=Z,13nm,0.7s
WALA Waterton Lakes 69.04 42 P P 11 46 48.9 +0.5
WALA IAmb IAmb 11 46 50.6
comp=Z,13nm,1.1s
NC405 NORSAR Array S 69.12 336 P P 11 46 48.6 +0.1
HATD Hatta, Dubai 69.15 285 *i* P **P 11 46 50.0 +0.7**
SNR=5.8
DOMB Dombas 69.18 337 *eP* **P 11 46 47.9 -1.0**
N02D Trinity Center 69.20 53 P P 11 46 51.0 +1.6
baz=308
M04C Macdoel 69.22 52 P P 11 46 51.0 +1.3
baz=308,SNR=5.2
NC204 NORSAR Array S 69.28 336 P P 11 46 49.5 0.0
ASHO Ashiyiah 69.29 285 *i* P **P 11 46 50.1 -0.1**
SNR=7.1
NB201 NORSAR Array S 69.30 336 *eP* **P 11 46 48.9 -0.8**
NB201 NORSAR Array S 69.30 336 P P 11 46 49.5 -0.1
NB2 NORSAR Subarra 69.33 336 P P 11 46 49.2 -0.6
comp=Z,5.6nm,0.6s,baz=37,slow=6.5
NB2 NORSAR Subarra 69.33 336 P P 11 46 49.2 -0.6
baz=37,slow=6.5
NOA NORSAR Array B 69.33 336 P P 11 46 49.5 -0.3
comp=Z,9.2nm,0.6s,baz=39,slow=6.2,SNR=27
NBO00 NORSAR Array S 69.47 336 P P 11 46 50.4 -0.3
O02D Mt. Diablo Mer 69.64 54 P P 11 46 53.6 +1.5
baz=308
AKN Aaknes 69.65 338 *eP* **P 11 46 51.8 0.0**
JTMT Jette 69.69 44 P P 11 46 53.7 +1.3
JTMT IAmb IAmb 11 46 54.5
comp=Z,20nm,1.1s
AKASG Malin Array Be 69.72 320 P P 11 46 51.8 -0.5
comp=Z,11nm,0.4s,baz=45,slow=6.6,SNR=44
ASUD Al Ashush, Dub 69.85 285 P P 11 46 53.8 +0.3
MOD Modoc Plateau 70.06 51 P P 11 46 55.8 +1.1
O03E Paynes Creek 70.16 53 P P 11 46 56.0 +0.7
baz=308
MSO Missoula 70.47 44 P P 11 46 57.3 +0.2
baz=310
MSO Missoula 70.47 44 P P 11 46 58.0 +0.8
MSO IAmb IAmb 11 46 59.3
comp=Z,14nm,1.4s
PLID Pearl Lake 70.49 47 P P 11 46 58.1 +0.7
SKAR Skarslia 70.49 337 *eP* **P 11 46 57.3 +0.4**
FFC Flin Flon 70.64 33 P P 11 46 58.4 +0.6
FFC pmax pmax
comp=Z,21nm,0.8s
FFC Flin Flon 70.64 33 P P 11 46 58.4 +0.6
FFC IAmb IAmb 11 46 59.2
comp=Z,20nm,0.8s
HYA Hoyanger 70.70 338 *eP* **P 11 46 58.2 +0.1**
ORV Oroville 70.80 54 P P 11 46 59.7 +0.6
ORV pmax pmax
comp=Z,6.0nm,0.8s
ORV Oroville 70.80 54 P P 11 46 59.7 +0.6
KONO Kongsberg 70.92 336 *eP* **P 11 46 59.4 -0.1**
BEKR Beckworth 71.29 53 P P 11 47 03.0 +0.8
BEKR IAmb IAmb 11 47 04.1
comp=Z,11nm,0.9s
AFDM Forest Hills D 71.50 54 P P 11 47 04.2 +0.8
ASK Askoy 71.55 338 *eP* **P 11 47 03.7 +0.5**
ODD1 Odda 71.61 337 *eP* **P 11 47 03.6 0.0**
MFID Camas Ranch 71.66 48 P P 11 47 05.1 +0.7
MFID IAmb IAmb 11 47 06.5
comp=Z,15nm,1.4s
EGMT Eagleton 71.81 41 P P 11 47 05.8 +0.7
baz=313,SNR=7.9
EGMT Eagleton 71.81 41 P P 11 47 06.0 +0.9
SORM Soroca 71.87 319 ⇓ P **P 11 47 05.3 0.0**
PAHR Pah Rah Range 71.98 53 P P 11 47 07.4 +1.0
PAHR IAmb IAmb 11 47 08.3
comp=Z,15nm,1.1s
VCNR Virginia City 72.08 53 P P 11 47 08.3 +1.3
DLMT Dillon 72.13 45 P P 11 47 08.3 +1.1
DLMT IAmb IAmb 11 47 09.1
comp=Z,20nm,0.8s
PNTR Pine Nut 72.24 53 P P 11 47 09.4 +1.4
MCMT McKenzie Canyo 72.35 45 P P 11 47 08.3 -0.4
CMB Columbia Colle 72.43 55 P P 11 47 09.7 +0.8
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB Columbia Colle 72.43 55 P P 11 47 09.7 +0.8
CMB IAmb IAmb 11 47 10.9
comp=Z,9.4nm,0.9s
BOZ Bozeman (W) 72.48 44 P P 11 47 10.1 +0.8
baz=312,SNR=16
BOZ Bozeman (W) 72.48 44 P P 11 47 10.1 +0.8
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ Bozeman (W) 72.48 44 P P 11 47 10.1 +0.8
BOZ IAmb IAmb 11 47 10.6
comp=Z,10nm,0.7s
DIKM Dikmen 72.48 310 ⇓ P **P 11 47 09.9 +0.8**
DIKM mb 11 47 10.9
YERR Yerington 72.52 53 P P 11 47 10.9 +1.3
YERR IAmb IAmb 11 47 11.8
comp=Z,19nm,1.1s
WAKR Walker 72.71 54 P P 11 47 11.9 +1.1
BEL Belsk 72.75 325 *eP* **P 11 47 11.2 +0.7**
BEL *eP* **P 11 47 11.2 +0.7**
LVV L'vov 72.76 322 *eP* **P 11 47 10.8 +0.2**
BMN Battle Mountai 72.79 51 P P 11 47 12.6 +1.5
BMN pmax pmax
comp=Z,11nm,1.0s
BMN Battle Mountai 72.79 51 P P 11 47 12.6 +1.5
BMN IAmb IAmb 11 47 13.4
comp=Z,11nm,0.9s
BZK Bozkurt 72.99 311 ⇓ P **P 11 47 12.3 +0.2**
BZK mb 11 47 13.0
QLMT Earthquake Lak 73.10 45 P P 11 47 13.9 +0.9
KVN Kaiserville 73.16 53 P P 11 47 14.7 +1.3
KVN pmax pmax
comp=Z,28nm,1.3s
KVN Kaiserville 73.16 53 P P 11 47 14.7 +1.3
KVN IAmb IAmb 11 47 15.6
comp=Z,28nm,1.3s
RYN Ryan 73.18 53 P P 11 47 14.6 +1.2
STKA Stephens Creek 73.21 178 P P 11 47 14.4 +1.1
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 73.21 178 P P 11 47 14.0 +0.8
comp=Z,5.4nm,0.6s,baz=5.4,slow=6.2,SNR=12
STKA Stephens Creek 73.21 178 P P 11 47 14.4 +1.1
YHL Hebgen Lake 73.22 44 P P 11 47 15.0 +1.2
YHB Horse Butte 73.28 45 P P 11 47 15.3 +1.3

GCMT Greycliff 73.37 43 P **P 11 47 13.8 -0.6**
YHH Holmes Hill 73.44 44 P **P 11 47 16.0 +0.9**
NVAR Mina Array Bea 73.44 53 P **P 11 47 15.9 +0.9**
comp=Z,5.6nm,0.8s,baz=287,slow=5.6,SNR=32
NVAR Mina Array Bea 73.44 53 P **P 11 47 16.2 +1.2**
YMR Madison River 73.46 45 P **P 11 47 16.2 +1.1**
MDPB Devils Postpil 73.48 54 P **P 11 47 16.6 +1.3**
KWP Kalwaria Pacla 73.50 323 P **P 11 47 15.6 +0.7**
KWP pmax pmax
comp=Z,736nm,1.3s
KWP Kalwaria Pacla 73.50 323 *e*P **P 11 47 15.7 +0.8**
KWP *e*P **P 11 47 15.7 +0.8**
KWP Kalwaria Pacla 73.50 323 P **P 11 47 15.6 +0.8**
NV11 Mina Array Sit 73.53 53 P **P 11 47 16.6 +1.1**
OMMB Old Mammoth Mi 73.54 54 P **P 11 47 17.5 +1.7**
YNR Norris Junctio 73.58 44 P **P 11 47 17.5 +1.7**
TLCR 73.64 316 ⇓P **P 11 47 16.0 +0.3**
ELK Elko 73.73 50 P **P 11 47 17.9 +1.2**
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 73.73 50 P **P 11 47 17.9 +1.2**
BUR08 Bucovina Ar. S 73.74 320 P **P 11 47 16.8 +0.3**
BUR08 IAmb IAmb 11 47 17.8
comp=Z,19nm,0.7s
ILGA Ilgaz 73.75 311 P **P 11 47 17.9 +1.1**
BURAR Bucovina Array 73.75 320 ⇓P **P 11 47 16.5 -0.1**
BURAR mb 11 47 17.9
BURAR Bucovina Array 73.75 320 P **P 11 47 16.5 -0.1**
BIZ Bicaz 73.80 319 ⇓P **P 11 47 17.2 +0.5**
YPP Pitchstone Pla 73.81 45 P **P 11 47 19.4 +2.2**
TESR Tescani 73.83 318 ⇓P **P 11 47 16.9 0.0**
YMP Mirror Lake Pl 73.83 44 P **P 11 47 18.8 +1.4**
H17A Grant Village 73.85 45 P **P 11 47 19.8 +2.5**
baz=313,SNR=13
H17A Grant Village 73.85 45 P **P 11 47 20.0 +2.6**
H17A IAmb IAmb 11 47 21.1
comp=Z,16nm,0.9s
PAGB Antelope Grade 73.98 56 P **P 11 47 19.0 +1.0**
PAGB IAmb IAmb 11 47 20.2
comp=Z,13nm,0.9s
FLWY Flagg Ranch 73.99 45 P **P 11 47 20.0 +1.8**
IMW Indian Meadow 73.99 45 P **P 11 47 19.9 +1.6**
IMW IAmb IAmb 11 47 21.0
comp=Z,11nm,0.8s
CFR Carcaliu 74.00 317 ⇓P **P 11 47 17.4 -0.4**
RLMT Red Lodge 74.03 43 P **P 11 47 19.1 +0.8**
baz=314,SNR=9.8
RLMT Red Lodge 74.03 43 P **P 11 47 19.5 +1.2**
RLMT IAmb IAmb 11 47 19.9
comp=Z,6.9nm,0.7s
TOPG Topolog 74.08 316 ⇓P **P 11 47 18.4 +0.1**
FXWY Fox Creek 74.12 45 P **P 11 47 20.4 +1.5**
DGMT Dagmar 74.16 38 P **P 11 47 19.3 +0.5**
baz=316
DGMT Dagmar 74.16 38 P **P 11 47 19.5 +0.6**
DGMT IAmb IAmb 11 47 19.9
comp=Z,17nm,0.7s
BBOO Buckleboo 74.18 183 P **P 11 47 19.8 +1.0**
BBOO IAmb IAmb 11 47 20.4
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 74.20 322 *e*P **P 11 47 19.5 +0.5**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 74.20 322 *e*P **P 11 47 19.5 +0.5**
MOOW Moose Ponds 74.20 45 P **P 11 47 20.4 +1.0**
MOOW IAmb IAmb 11 47 22.1
comp=Z,11nm,1.1s
VRI Vrincioaia 74.23 318 ⇓P **P 11 47 20.2 +0.9**
TPAW Teton Pass 74.26 45 P **P 11 47 21.6 +1.7**
PLOR Plostina 74.28 318 ⇓P **P 11 47 19.8 +0.2**
OJC Ojcow 74.36 325 P **P 11 47 20.3 +0.4**
OJC pmax pmax
comp=Z,40nm,0.9s
OJC Ojcow 74.36 325 *e*P **P 11 47 20.4 +0.5**
OJC *e*P **P 11 47 20.4 +0.5**
OJC Ojcow 74.36 325 P **P 11 47 20.3 +0.4**
SNOW Snow King Moun 74.39 45 P **P 11 47 22.1 +1.6**
SNOW IAmb IAmb 11 47 23.6
comp=Z,14nm,1.2s
REDW Red Top Meadow 74.40 45 P **P 11 47 22.0 +1.4**
REDW IAmb IAmb 11 47 22.6
comp=Z,9.8nm,1.0s
UZH Uzhgorod 74.41 322 *e*P **P 11 47 21.0 +0.8**
SMMC Simmler 74.41 57 P **P 11 47 22.0 +1.5**
baz=310
HVU Hansel Valley 74.43 48 P **P 11 47 21.7 +1.0**
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 74.43 48 P **P 11 47 21.7 +1.0**
HARR Harsova 74.44 316 ⇓P **P 11 47 20.4 0.0**
TLB Topalu 74.45 316 ⇓P **P 11 47 19.9 -0.6**
LAO LASA Array 74.46 41 P **P 11 47 21.4 +0.7**
baz=315,SNR=6.4
LAO LASA Array 74.46 41 P **P 11 47 21.5 +0.8**
LAO IAmb IAmb 11 47 22.6
comp=Z,21nm,1.1s
BISRR Bisoca 74.47 318 ⇓P **P 11 47 21.5 +0.8**
ARCR ARCALIA 74.54 320 ⇓P **P 11 47 22.3 +1.2**
VES Vestal, Richgr 74.63 56 P **P 11 47 22.2 +0.5**
baz=311
TRPA Tarpa 74.65 322 ⇓P **P 11 47 22.7 +1.1**
TRPA mb 11 47 23.4
BR131 Keskin Array S 74.67 310 P **P 11 47 22.2 +0.1**
BR131 pmax pmax
comp=Z,7.0nm,0.7s
BR131 Keskin Array S 74.67 310 P **P 11 47 22.2 +0.1**
BR131 IAmb IAmb 11 47 22.7
comp=Z,7.3nm,0.7s
BRTR Keskin Array B 74.67 310 P **P 11 47 22.2 +0.1**
comp=Z,6.2nm,0.6s,baz=65,slow=4.4,SNR=31
BRTR PP **PP 11 50 10.3 -1.0**
comp=Z,0.9nm,0.8s,baz=67,slow=7.4,SNR=4.0
AHID Auburn Hatcher 74.68 46 P **P 11 47 22.0 -0.1**
NIE Niedzica 74.73 324 *e*P **P 11 47 23.1 +1.0**
NIE *e*P **P 11 47 23.1 +1.0**
PKM Mcpherson Peak 74.80 57 P **P 11 47 24.0 +1.1**
baz=310
ISR Istrita 74.85 317 ⇑P **P 11 47 23.4 +0.5**
BGU Big Grassy Mou 74.86 48 P **P 11 47 24.4 +1.2**
CWC Cottonwood Cre 74.86 55 P **P 11 47 24.1 +0.8**
baz=311
MLR Muntele Rosu 74.89 318 P **P 11 47 23.7 +0.5**
comp=Z,6.5nm,0.4s,baz=340,slow=5.9,SNR=14
MLR Muntele Rosu 74.89 318 ⇓P **P 11 47 23.3 +0.1**
MLR Muntele Rosu 74.89 318 P **P 11 47 23.3 +0.1**
MLR IAmb IAmb 11 47 24.6
comp=Z,14nm,1.1s
ICOR Ion Corvin 74.90 316 ⇓P **P 11 47 23.7 +0.6**
SPUT South Promonto 74.92 48 P **P 11 47 24.7 +1.2**
GRAC Grapevine Rang 74.93 54 P **P 11 47 24.9 +1.4**
baz=311
R11A Troy Canyon, C 75.11 52 P **P 11 47 25.5 +0.8**
baz=312,SNR=11
R11A Troy Canyon, C 75.11 52 P **P 11 47 25.5 +0.8**
ISA Isabella, Lake 75.13 55 P **P 11 47 24.9 +0.2**
baz=311
ISA Isabella, Lake 75.13 55 P **P 11 47 24.9 +0.2**
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella, Lake 75.13 55 P **P 11 47 24.9 +0.2**
DAC Darwin (Calif) 75.27 55 P **P 11 47 27.0 +1.4**
DAC pmax pmax
comp=Z,13nm,1.2s
DAC Darwin (Calif) 75.27 55 P **P 11 47 27.1 +1.4**
DAC IAmb IAmb 11 47 29.6
comp=Z,13nm,1.2s
LANS Liptovska Anna 75.30 324 *e*P **P 11 47 26.8 +1.5**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 75.30 324 *e*P **P 11 47 26.8 +1.5**
VOIR 75.37 318 ⇓P **P 11 47 26.0 +0.1**
KSP Ksiaz 75.38 327 *e*P **P 11 47 26.3 +0.6**
KSP *e*P **P 11 47 26.3 +0.6**
DUG Dugway, Tooele 75.47 49 P **P 11 47 27.7 +1.0**
baz=313,SNR=9.5
DUG Dugway, Tooele 75.47 49 P **P 11 47 28.0 +1.4**
DUG pmax pmax
comp=Z,7.0nm,0.8s
DUG Dugway, Tooele 75.47 49 P **P 11 47 28.0 +1.4**
MPMC Manual Prospec 75.47 55 P **P 11 47 27.8 +1.0**
baz=311,SNR=14
BW06 Boulder Array 75.50 45 P **P 11 47 27.4 +0.5**
baz=314,SNR=17
BW06 Boulder Array 75.50 45 P **P 11 47 27.4 +0.5**
BW06 IAmb IAmb 11 47 28.3
comp=Z,15nm,0.8s
PD31 Pinedale Array 75.50 45 P **P 11 47 27.6 +0.6**
PD31 IAmb IAmb 11 47 28.4
comp=Z,14nm,0.8s
PDAR Pinedale Array 75.50 45 P **P 11 47 27.4 +0.6**
comp=Z,11nm,0.7s,baz=272,slow=1.5,SNR=120
FURC Furnace Creek, 75.59 54 P **P 11 47 28.5 +1.3**
baz=311,SNR=27
ARR Arges 75.63 319 ⇓P **P 11 47 28.5 +1.2**
TCUT Toone Canyon 75.63 47 P **P 11 47 28.7 +1.0**
TPNV Topopah Spring 75.64 53 P **P 11 47 28.7 +1.0**
baz=312,SNR=23
TPNV Topopah Spring 75.64 53 P **P 11 47 28.9 +1.2**
TPNV pmax pmax
comp=Z,19nm,0.8s
TPNV Topopah Spring 75.64 53 P **P 11 47 28.9 +1.2**
TPNV IAmb IAmb 11 47 29.8
comp=Z,19nm,0.8s
MORC Moravsky Berou 75.66 325 P **P 11 47 27.9 +0.5**
MORC pmax pmax
comp=Z,19nm,0.7s
MORC Moravsky Berou 75.66 325 ⇓P **P 11 47 27.5 +0.1**
MORC mb 11 47 28.6
MORC Moravsky Berou 75.66 325 *e*P **P 11 47 27.9 +0.5**
MORC Moravsky Berou 75.66 325 P **P 11 47 27.9 +0.5**
CHVC Chvalec 75.67 327 *e*P **P 11 47 27.7 +0.3**
CTU Camp Tracy 75.73 48 P **P 11 47 29.1 +1.0**
LRMC Laurel Mtn Rad 75.73 55 P **P 11 47 28.9 +0.7**
baz=311,SNR=6.6
DPC Dobruska-Polom 75.74 326 *e*P **P 11 47 28.6 +0.8**
DPC smax smax
comp=N,5.0nm,0.6s
DPC Dobruska-Polom 75.74 326 *e*P **P 11 47 28.6 +0.8**
UPC Upice 75.75 327 *e*P **P 11 47 28.5 +0.7**
UPC Upice 75.75 327 *e*P **P 11 47 28.5 +0.7**
KRLC Kraliky 75.76 326 *e*P **P 11 47 28.2 +0.3**
KRLC smax smax
comp=N,15nm,0.4s
KRLC Kraliky 75.76 326 *e*P **P 11 47 28.2 +0.3**
EDW2 Edwards Air Fo 75.94 56 P **P 11 47 30.3 +1.1**
baz=311,SNR=9.4
JLU Jordanelle 75.96 48 P **P 11 47 30.6 +1.0**
PSUT Pine Spring 76.00 51 P **P 11 47 30.1 +0.4**
PSZ Piszkesteto 76.02 323 P **P 11 47 30.0 +0.5**
PSZ pmax pmax
comp=Z,25nm,1.1s
PSZ Piszkesteto 76.02 323 ⇓P **P 11 47 30.2 +0.6**
PSZ mb 11 47 31.3
PSZ Piszkesteto 76.02 323 P **P 11 47 30.0 +0.5**
PSZ IAmb IAmb 11 47 31.3
comp=Z,25nm,1.1s
NLU North Lily Min 76.05 49 P **P 11 47 30.8 +0.8**
VYHS Vyhne 76.06 324 *e*P **P 11 47 30.5 +0.8**
VYHS pmax pmax
comp=Z,12nm,0.8s
VYHS Vyhne 76.06 324 *e*P **P 11 47 30.5 +0.8**
JAVC Velka Javorina 76.30 325 *e*P **P 11 47 32.7 +1.7**
SHOC Shoshone, Teco 76.32 54 P **P 11 47 32.4 +1.1**
baz=312,SNR=6.4
MWC Mount Wilson 76.33 56 P **P 11 47 32.1 +0.5**
MWC pmax pmax
comp=Z,7.0nm,0.9s
MWC Mount Wilson 76.33 56 P **P 11 47 32.1 +0.5**
CLL Collm 76.33 329 P **P 11 47 31.1 0.0**
CLL Collm 76.33 329 ⇑*i*P **P 11 47 31.0 0.0**
comp=Z,20nm,0.9s
CLL *e*pP **pwP 11 48 21.0 -0.4**
CLL Collm 76.33 329 P **P 11 47 31.1 0.0**
CLL IAmb IAmb 11 47 31.9
comp=Z,19nm,0.8s
GSC Goldstone, Bar 76.39 55 P **P 11 47 32.7 +0.8**
baz=312,SNR=8.7
GSC Goldstone, Bar 76.39 55 P **P 11 47 32.6 +0.8**
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone, Bar 76.39 55 P **P 11 47 32.6 +0.7**
GSC IAmb IAmb 11 47 33.7
comp=Z,12nm,1.1s
SIRR Siria 76.42 321 ⇓P **P 11 47 31.9 +0.2**
VRAC Vranov 76.42 326 P **P 11 47 32.4 +0.8**
comp=Z,14nm,0.9s,baz=56,slow=4.6,SNR=12
VRAC Vranov 76.42 326 ⇓P **P 11 47 32.8 +1.2**
VRAC mb 11 47 33.6
VRAC Vranov 76.42 326 *e*P **P 11 47 32.2 +0.5**
ULM Lac du Bonnet 76.46 33 P **P 11 47 32.0 +0.2**
ULM pmax pmax
comp=Z,15nm,0.7s
ULM Lac du Bonnet 76.46 33 P **P 11 47 31.7 -0.1**
comp=Z,15nm,0.6s,baz=328,slow=8.3,SNR=16
ULM Lac du Bonnet 76.46 33 P **P 11 47 32.0 +0.2**
ULM IAmb IAmb 11 47 32.6
comp=Z,15nm,0.7s
GZR Gura Zlata 76.52 320 ⇓P **P 11 47 32.3 -0.1**
BFSC Mount Baldy Ra 76.56 56 P **P 11 47 33.6 +0.7**
baz=312
SHPR Sheep Range 76.58 53 P **P 11 47 34.2 +1.2**
SHPR IAmb IAmb 11 47 35.4
comp=Z,10nm,0.9s
CIS Catalina Islan 76.64 57 P **P 11 47 34.3 +1.1**
baz=311
KRUC Moravsky 76.69 325 *e*P **P 11 47 33.7 +0.5**
GOPC GO Pecny, Ondr 76.71 327 *e*P **P 11 47 33.2 -0.1**
GOPC GO Pecny, Ondr 76.71 327 *e*P **P 11 47 33.2 -0.1**
MDND Maddock 76.71 36 P **P 11 47 34.0 +0.7**
baz=319
MDND Maddock 76.71 36 P **P 11 47 34.1 +0.7**
ELND Elena 76.73 316 ⇓P **P 11 47 33.8 +0.3**
PRU Pruhonice 76.75 327 *e*P **P 11 47 34.0 +0.5**
PRU Pruhonice 76.75 327 *e*P **P 11 47 34.0 +0.5**
TCRU Three Creeks R 76.76 50 P **P 11 47 35.3 +1.3**
PHSR Pinarhisar 76.78 314 ⇓P **P 11 47 34.3 +0.5**
PHSR mb 11 47 34.9
MODS Modra-Piesok 76.84 325 *e*P **P 11 47 34.4 +0.4**
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 76.84 325 *e*P **P 11 47 34.4 +0.4**
TUQ Turquoise Moun 76.84 54 P **P 11 47 35.5 +1.1**
baz=312
TREC Trest 76.90 326 *e*P **P 11 47 35.2 +0.9**
TREC Trest 76.90 326 *e*P **P 11 47 35.2 +0.9**
BZS Buzias 76.92 320 ⇑P **P 11 47 33.2 -1.3**
CCUT Cedar City 76.94 51 P **P 11 47 36.5 +1.4**
MSU Marysvale 76.98 50 P **P 11 47 37.0 +1.7**
MSU Marysvale 76.98 50 P **P 11 47 37.0 +1.7**
TMUT Trail Mountain 76.99 49 P **P 11 47 36.5 +1.1**
HEC Hector,Ludlow 76.99 55 P **P 11 47 36.2 +1.0**
baz=312
BBRC Big Bear Solar 77.01 56 P **P 11 47 36.1 +0.6**
baz=312,SNR=5.4
RDMU Red Mountain 77.02 47 P **P 11 47 36.4 +0.9**
PLVB Pleven 77.05 317 ⇓P **P 11 47 35.8 +0.6**
HERR Herculane 77.07 319 ⇓P **P 11 47 35.2 -0.1**
SZCU Shurtz Canyon 77.08 51 P **P 11 47 37.0 +1.2**
P17A Butcher Ranch, 77.13 48 P **P 11 47 37.3 +1.2**
K22A Casper 77.18 44 P **P 11 47 36.7 +0.5**
baz=316
K22A Casper 77.18 44 P **P 11 47 37.5 +1.3**
Q16A Castle Valley 77.27 49 P **P 11 47 37.9 +1.1**
MURC Murrieta 77.28 56 P **P 11 47 37.3 +0.6**
baz=312
MTPU Mount Pierson 77.29 50 P **P 11 47 39.0 +1.8**
RSSD Black Hills 77.38 41 P **P 11 47 37.5 +0.1**
baz=317
RSSD Black Hills 77.38 41 P **P 11 47 37.8 +0.4**
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 77.38 41 P **P 11 47 37.8 +0.4**
RSSD IAmb IAmb 11 47 38.7
comp=Z,12nm,0.8s
GMRC Granite Mounta 77.43 55 P **P 11 47 38.6 +0.8**
baz=312,SNR=13
MDVR Moldovita 77.48 320 ⇓P **P 11 47 36.6 -1.1**
RWWY Rawlins 77.50 45 P **P 11 47 37.8 -0.3**
RWWY IAmb IAmb 11 47 38.6
comp=Z,16nm,0.8s
SRU San Rafael Swe 77.50 48 P **P 11 47 38.9 +0.8**
SRU pmax pmax
comp=Z,14nm,1.1s
SRU San Rafael Swe 77.50 48 P **P 11 47 38.9 +0.8**
RAYN Ar Rayn 77.55 290 *i*P **P 11 47 38.2 -0.2**
SNR=15
RAYN Ar Rayn 77.55 290 P **P 11 47 38.3 -0.2**
RAYN pmax pmax
comp=Z,11nm,0.7s
RAYN Ar Rayn 77.55 290 P **P 11 47 38.3 -0.2**
RAYN IAmb IAmb 11 47 38.7
comp=Z,11nm,0.7s
KNB Kanab 77.62 51 P **P 11 47 40.1 +1.3**
KNB pmax pmax
comp=Z,6.0nm,0.9s
KNB Kanab 77.62 51 P **P 11 47 40.1 +1.3**
PKCU Pink Cliffs 77.63 51 P **P 11 47 41.0 +2.0**
ASF Jabal al Asfar 77.70 302 P **P 11 47 39.2 0.0**
comp=Z,5.4nm,0.8s,baz=118,slow=4.9,SNR=9.2
PFO Pinyon Flats O 77.73 56 P **P 11 47 39.8 +0.5**
baz=312,SNR=5.4
PFO Pinyon Flats O 77.73 56 P **P 11 47 40.4 +1.0**
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO Pinyon Flats O 77.73 56 P **P 11 47 40.4 +1.0**
BELC Belle Mtn. Jos 77.75 55 P **P 11 47 39.9 +0.3**
baz=312,SNR=5.1
CONA Conrad Observa 77.79 325 *i*P **P 11 47 40.5 +1.1**
comp=Z,12nm,0.8s
KHC Kasperske Hory 77.81 327 *e*P **P 11 47 39.9 +0.5**
KHC Kasperske Hory 77.81 327 *e*P **P 11 47 39.9 +0.5**
KHC Kasperske Hory 77.81 327 P **P 11 47 39.9 +0.5**
AGMN Agassiz Nation 77.98 34 P **P 11 47 39.7 -0.7**
baz=321
GEC2 GERESS Array S 77.98 327 P **P 11 47 40.6 +0.1**
GEC2 IAmb IAmb 11 47 41.0
comp=Z,5.4nm,0.6s
GERES GERESS Array B 77.98 327 P **P 11 47 40.6 +0.1**
comp=Z,4.6nm,0.5s,baz=36,slow=5.9,SNR=29
GERES GERESS Array B 77.98 327 P **P 11 47 40.4 -0.1**
O20A White River Ci 78.05 46 P **P 11 47 41.7 +0.5**
baz=315,SNR=6.4
O20A White River Ci 78.05 46 P **P 11 47 41.8 +0.7**
O20A IAmb IAmb 11 47 42.2
comp=Z,7.4nm,0.8s
MMAI Mount Meron Ar 78.08 304 P **P 11 47 42.0 +0.7**
comp=Z,4.7nm,0.4s,baz=31,slow=14,SNR=5.1
ALN Alexandroupoli 78.08 315 P **P 11 47 41.5 +0.5**
ALN pmax pmax
comp=Z,10.0nm,0.8s
ALN Alexandroupoli 78.08 315 P **P 11 47 41.5 +0.5**
ALN IAmb IAmb 11 47 42.2
comp=Z,9.6nm,0.8s
FRGS Fruska Gora 78.11 321 ⇑*i*P **P 11 47 41.2 +0.1**
IRM Iron Mountain 78.17 55 P **P 11 47 42.7 +1.0**
baz=313,SNR=7.1
LEF Lefka 78.21 307 ⇓P **P 11 47 41.3 -0.5**
MONP2 Monument Peak 78.23 56 P **P 11 47 42.8 +0.6**
baz=312
EKA Eskdalemuir Ar 78.26 339 P **P 11 47 41.8 0.0**
comp=Z,7.5nm,0.6s,baz=24,slow=5.1,SNR=24
W13A Hualapai Mount 78.30 53 P **P 11 47 43.6 +1.0**
GRA1 Grafenberg Arr 78.31 329 P **P 11 47 42.9 +0.8**
GRF Grafenberg Arr 78.31 329 P **P 11 47 42.9 +0.8**
GRF pmax pmax
comp=Z,24nm,0.8s
VTS Vitosha 78.31 317 ⇑P **P 11 47 43.3 +0.9**
VTS mb 11 47 44.1
BC3 Big Chuckawall 78.32 55 P **P 11 47 43.3 +0.7**
baz=313
U15A North Rim 78.34 51 P **P 11 47 43.8 +0.9**
U15A IAmb IAmb 11 47 45.4
comp=Z,13nm,0.8s
MANT Manisa 78.41 312 P **P 11 47 43.2 +0.1**
ARSA Arzberg 78.46 325 *i*P **P 11 47 43.9 +0.9**
comp=Z,7.2nm,1.2s
MOA Molln 78.53 326 *i*P **P 11 47 44.4 +1.0**
comp=Z,3.8nm,0.6s
SWSC Sam W. Stewart 78.58 56 P **P 11 47 44.4 +0.5**
baz=312
IKP In-Ko-Pah, Jac 78.59 56 P **P 11 47 44.4 +0.3**
baz=312
PDMCI Parker Dam,Lak 78.68 54 P **P 11 47 45.5 +1.1**
baz=313
PHWY Pilot Hill 78.70 44 P **P 11 47 45.2 +0.4**
PV09 Paradox Valley 78.71 48 P **P 11 47 45.9 +1.0**
N23A Red Feather La 78.73 45 P **P 11 47 45.7 +0.8**
baz=316
N23A Red Feather La 78.73 45 P **P 11 47 46.1 +1.1**
PV21 Cone Mtn., Par 78.75 48 P **P 11 47 46.0 +0.9**
PV21 IAmb IAmb 11 47 47.0
comp=Z,14nm,0.9s
PV23 Carpenter Ridg 78.81 48 P **P 11 47 46.3 +0.9**
PV23 IAmb IAmb 11 47 47.5
comp=Z,32nm,1.2s
DIVS Divibare 78.82 320 ⇑*i*P **P 11 47 45.0 -0.1**
Y12C Blythe 78.83 55 P **P 11 47 46.2 +1.0**
baz=313
Y12C Blythe 78.83 55 P **P 11 47 46.3 +1.1**
Y12C IAmb IAmb 11 47 47.4
comp=Z,12nm,0.9s
ELL Elmali 78.85 310 P **P 11 47 45.0 -0.5**
ELL pmax pmax
comp=Z,37nm,0.7s
ELL Elmali 78.85 310 P **P 11 47 45.0 -0.5**
PV22 Blue Mesa, Par 78.87 48 P **P 11 47 46.6 +0.9**
PV22 IAmb IAmb 11 47 47.6
comp=Z,21nm,1.2s
PV19 Morning Glory 78.92 48 P **P 11 47 46.3 +0.3**
PV19 IAmb IAmb 11 47 48.0
comp=Z,13nm,0.8s
PV18 Skein Mesa, Pa 79.01 48 P **P 11 47 46.8 +0.4**
PV05 Paradox Valley 79.02 48 P **P 11 47 47.6 +1.1**
PV05 IAmb IAmb 11 47 49.5
comp=Z,33nm,1.4s
GLA Glamis 79.11 55 P **P 11 47 48.2 +1.4**
baz=313
GLA Glamis 79.11 55 P **P 11 47 47.7 +0.9**
GLA pmax pmax
comp=Z,13nm,0.9s
GLA Glamis 79.11 55 P **P 11 47 47.7 +0.9**
GLA IAmb IAmb 11 47 48.9
comp=Z,13nm,0.9s
SOKA Soboth 79.11 325 *i*P **P 11 47 47.2 +0.5**
comp=Z,17nm,0.7s,SNR=5.6
PV13 Radium Mtn., P 79.12 48 P **P 11 47 47.8 +0.7**
PV13 IAmb IAmb 11 47 49.8
comp=Z,13nm,1.0s
BBLS Lazići 79.27 320 ⇑*i*P **P 11 47 48.1 +0.5**
HAPS Han Pijesak,Bl 79.32 321 ⇑*i*P **P 11 47 47.5 -0.4**
SMCO Snowmass 79.42 46 P **P 11 47 49.7 +0.9**
SMCO IAmb IAmb 11 47 50.7
comp=Z,11nm,0.7s
OBKA Obir 79.46 325 *i*P **P 11 47 48.9 +0.4**
comp=Z,4.7nm,0.7s
MEM Membach 79.50 332 P **P 11 47 48.2 -0.3**
comp=Z,9.4nm,1.0s
WUAZ Wupatki 79.50 52 P **P 11 47 50.1 +1.0**
baz=314,SNR=8.1
WUAZ Wupatki 79.50 52 P **P 11 47 50.5 +1.4**
WUAZ IAmb IAmb 11 47 51.5
comp=Z,14nm,1.1s
STIP Stip 79.52 317 *i*P **P 11 47 48.2 -0.6**
KBA Koelnbreinsper 79.52 326 *i*P **P 11 47 49.9 +1.0**
comp=Z,23nm,1.3s
KBA P **P 11 47 50.0 +1.0**
SNR=5.4
SUSD Miller 79.58 38 P **P 11 47 49.3 +0.1**
baz=320
SUSD Miller 79.58 38 P **P 11 47 49.6 +0.5**
VAY Valandovo 79.59 317 *i*P **P 11 47 49.8 +0.5**
Y14A Wickenburg 79.62 54 P **P 11 47 50.8 +1.2**
SKO Skopje 79.69 318 *i*P **P 11 47 50.6 +0.8**
ISCO Idaho Springs 79.70 45 P **P 11 47 51.0 +0.7**
baz=316
ISCO Idaho Springs 79.70 45 P **P 11 47 51.3 +1.1**
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 79.70 45 P **P 11 47 51.4 +1.1**
MYKA Terra Mystica 79.75 325 *i*P **P 11 47 49.9 -0.1**
comp=Z,15nm,1.0s
MGRS Mrkonjic Grad 79.94 322 *e*P **P 11 47 52.1 +1.0**
113A Mohawk Valley, 79.96 55 P **P 11 47 52.1 +0.8**
MVCO Mesa Verde 79.97 49 P **P 11 47 52.4 +0.7**
baz=315,SNR=9.0
MVCO Mesa Verde 79.97 49 P **P 11 47 52.8 +1.2**
MVCO IAmb IAmb 11 47 53.7
comp=Z,17nm,1.2s
EYMN Ely 80.05 32 P **P 11 47 51.5 0.0**
baz=324
EYMN Ely 80.05 32 P **P 11 47 51.4 -0.2**
EYMN IAmb IAmb 11 47 52.2
comp=Z,16nm,0.9s

WATA	Walderalm	80.05	327	*i* P	P	11 47 52.1	+0.3
	comp=Z,15nm,0.9s						
WTTA	Wattenberg	80.08	327	*i* P	P	11 47 52.4	+0.4
	comp=Z,16nm,0.8s						
WTTA				P	P	11 47 52.5	+0.5
	SNR=5.4						
CEY	Cerknica	80.11	324	⇑*i* P	P	11 47 51.1	-0.9
ABTA	Abfaltersbach	80.13	326	*i* P	P	11 47 51.4	-0.8
	comp=Z,8.8nm,1.1s						
SNF	Seneffe	80.18	333	P	P	11 47 52.2	0.0
BMRD	Maredsous	80.19	332	P	P	11 47 52.0	-0.3
	comp=Z,18nm,1.0s						
X16A	Lo Mia Camp, P	80.22	52	P	P	11 47 54.5	+1.5
X16A				IAmb	IAmb	11 47 55.6	
	comp=Z,11nm,1.0s						
MOTA	Moosalm	80.24	327	*i* P	P	11 47 53.1	+0.3
	comp=Z,27nm,1.0s,SNR=6.5						
RETA	Reutte	80.26	328	*i* P	P	11 47 53.3	+0.5
	comp=Z,16nm,0.7s						
SQTA	Sankt Quirin	80.29	327	*i* P	P	11 47 53.3	+0.2
	comp=Z,7.6nm,0.5s						
BRY	Bratogost	80.41	320	*e*P	P	11 47 53.3	-0.5
PDG	Podgorica	80.42	320	⇑*i* P	P	11 47 53.7	+0.1
PDG	Podgorica	80.42	320	⇓P	P	11 47 53.6	-0.1
PDG				mb		11 47 54.2	
PDG	Podgorica	80.42	320	P	P	11 47 53.7	+0.1
STAL	STALIGIAL	80.44	326	P	P	11 47 52.6	-1.1
S22A	4UR Ranch, Cre	80.52	47	P	P	11 47 55.6	+0.9
	baz=316,SNR=11						
S22A	4UR Ranch, Cre	80.52	47	P	P	11 47 55.8	+1.1
S22A				IAmb	IAmb	11 47 57.0	
	comp=Z,11nm,1.1s						
BFO	Black Forest	80.53	329	P	P	11 47 53.9	-0.2
BFO				pmax	pmax		
	comp=Z,36nm,1.5s						
BFO	Black Forest	80.53	329	P	P	11 47 53.9	-0.2
BFO				IAmb	IAmb	11 47 55.9	
	comp=Z,36nm,1.5s						
Q24A	Divide	80.55	46	P	P	11 47 55.5	+0.7
	baz=317						
Q24A	Divide	80.55	46	P	P	11 47 55.5	+0.7
DRME	Dracevica, Mon	80.64	319	⇑*i* P	P	11 47 55.0	+0.2
TREB	Trebinje	80.64	320	*e*P	P	11 47 49.6	-5.2
OHR	Ohrid	80.65	318	*i* P	P	11 47 54.9	-0.1
FETA	Feichten	80.65	327	*i* P	P	11 47 55.2	+0.2
	comp=Z,11nm,0.9s						
DAVA	Damuels	80.78	328	*i* P	P	11 47 55.7	+0.1
	comp=Z,25nm,0.8s,SNR=5.9						
DAVA				P	P	11 47 56.1	+0.5
	SNR=12						
STON	Ston	80.84	321	*e*P	P	11 47 54.5	-1.3
X18A	Snowflake	81.03	51	P	P	11 47 58.2	+0.9
CTI	Castel Tesino	81.05	326	P	P	11 47 56.4	-0.7
CTI				pmax	pmax		
	comp=Z,15nm,0.7s						
CTI	Castel Tesino	81.05	326	P	P	11 47 56.4	-0.7
CTI				IAmb	IAmb	11 47 57.0	
	comp=Z,16nm,0.7s						
ECH	Echery	81.07	330	P	P	11 47 56.6	-0.4
ECH				pmax	pmax		
	comp=Z,12nm,0.9s						
ECH	Echery	81.07	330	P	P	11 47 56.6	-0.4
ECH				IAmb	IAmb	11 47 57.8	
	comp=Z,12nm,0.9s						
214A	Organ Pipe Nat	81.10	55	P	P	11 47 58.3	+0.8
	baz=314						
214A	Organ Pipe Nat	81.10	55	P	P	11 47 58.3	+0.8
E38A	The Farm, Brul	81.11	33	P	P	11 47 57.1	-0.1
	baz=324						
DAVOX	Davos/Dischmat	81.19	328	P	P	11 47 58.1	+0.2
	comp=Z,6.9nm,0.7s,baz=37,slow=4.1,SNR=8.5						
ECSD	EROS Data Cent	81.20	37	P	P	11 47 58.0	+0.2
	baz=321						
ECSD	EROS Data Cent	81.20	37	P	P	11 47 57.9	+0.1
ECSD				IAmb	IAmb	11 47 58.7	
	comp=Z,15nm,0.8s						
SDCO	Great Sand Dun	81.25	47	P	P	11 47 59.2	+0.7
	baz=317,SNR=11						
SDCO	Great Sand Dun	81.25	47	P	P	11 47 59.2	+0.7
SCHQ	Schefferville	81.28	15	P	P	11 47 58.0	0.0
	comp=Z,5.2nm,0.7s,baz=359,slow=7.3,SNR=6.9						
TEOL	Teolo	81.59	326	P	P	11 47 59.1	-0.7
TUE	Stuetta	81.65	328	P	P	11 48 00.4	0.0
TUE				IAmb	IAmb	11 48 01.4	
	comp=Z,9.5nm,0.7s						
SPMN	Marine on St.	81.70	34	P	P	11 48 00.2	-0.1
	baz=323						
SPMN	Marine on St.	81.70	34	P	P	11 48 00.4	+0.1
SPMN				IAmb	IAmb	11 48 00.8	
	comp=Z,18nm,1.1s						
KSCO	Kaye Shedlock'	81.85	44	P	P	11 48 01.4	-0.1
	baz=318						
KSCO	Kaye Shedlock'	81.85	44	P	P	11 48 01.7	+0.2
SALO	Salr	81.86	327	P	P	11 48 00.9	-0.3
TUC	Tucson	82.09	54	P	P	11 48 03.7	+1.0
	baz=315						
TUC	Tucson	82.09	54	P	P	11 48 03.7	+1.0
TUC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TUC	Tucson	82.09	54	P	P	11 48 03.7	+1.0
BGNE	Belgrade	82.28	40	P	P	11 48 03.4	-0.1
	baz=320						
BGNE	Belgrade	82.28	40	P	P	11 48 03.3	-0.1
T25A	Trinidad	82.28	46	P	P	11 48 04.2	+0.6
	baz=317,SNR=7.1						
T25A	Trinidad	82.28	46	P	P	11 48 04.5	+0.6
T25A				IAmb	IAmb	11 48 05.3	
	comp=Z,11nm,0.8s						
G39A	Holcombe	82.33	33	P	P	11 48 03.7	+0.1
	baz=324						
G40A	Rib Lake	82.74	33	P	P	11 48 05.9	+0.1
	baz=325						
ANMO	Albuquerque	82.74	49	P	P	11 48 07.7	+1.5
	baz=317						
ANMO	Albuquerque	82.74	49	P	P	11 48 07.4	+1.2
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	Albuquerque	82.74	49	P	P	11 48 07.4	+1.2
ITM	Ithomi	82.98	314	P	P	11 48 06.2	-1.0
LENM	Lemitar	83.01	50	P	P	11 48 08.8	+1.2
LPM	Los Pinos Moun	83.10	50	P	P	11 48 09.5	+1.4
BNM	Barren Site	83.22	50	P	P	11 48 10.1	+1.3
CBKS	Cedar Bluff	83.48	42	P	P	11 48 09.3	-0.4
	baz=320						
CBKS	Cedar Bluff	83.48	42	P	P	11 48 09.5	-0.2
CBKS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CBKS	Cedar Bluff	83.48	42	P	P	11 48 09.5	-0.2
CBKS				IAmb	IAmb	11 48 10.2	
	comp=Z,9.5nm,0.7s						
319A	Douglas	83.65	53	P	P	11 48 11.6	+0.8
319A				IAmb	IAmb	11 48 12.8	
	comp=Z,15nm,0.8s						
121A	Cookes Peak, D	83.72	52	P	P	11 48 12.6	+1.4
	baz=316						
121A	Cookes Peak, D	83.72	52	P	P	11 48 12.3	+1.1
121A				IAmb	IAmb	11 48 13.6	
	comp=Z,19nm,0.8s						
D46A	Sault St. Mari	83.73	28	P	P	11 48 10.4	-0.4
	baz=329						
CHGQ	Chibougamau	84.10	21	P	P	11 48 11.8	-0.8
	baz=335						
TIP	Timpagrande	84.13	319	⇓P	P	11 48 13.2	+0.2
TIP	Timpagrande	84.13	319	P	P	11 48 13.3	+0.3
TIP				IAmb	IAmb	11 48 15.0	
	comp=Z,12nm,0.8s						
SCIA	State Center	84.18	37	P	P	11 48 13.4	+0.2
	baz=323						
SCIA	State Center	84.18	37	P	P	11 48 13.7	+0.6
H43A	Windswept, Lux	84.38	32	P	P	11 48 14.2	+0.1
	baz=327						
E47A	Iron Bridge	84.38	28	P	P	11 48 13.9	-0.2
	baz=329						
I42A	Draeger Farm,	84.40	33	P	P	11 48 14.2	0.0
	baz=326						
JFWS	Jewell Farm	84.65	34	P	P	11 48 15.1	-0.3
	baz=325						
JFWS	Jewell Farm	84.65	34	P	P	11 48 15.4	-0.1
JFWS				pmax	pmax		
	comp=Z,58nm,1.4s						
JFWS	Jewell Farm	84.65	34	P	P	11 48 15.4	-0.1
G46A	Petoskey	84.78	30	P	P	11 48 15.9	-0.1
	baz=328						
KSU1	Kansas State U	84.81	40	P	P	11 48 16.1	-0.2
	baz=322,SNR=5.1						
VLDQ	Val d'Or	84.83	24	P	P	11 48 15.3	-1.0
VLDQ				IAmb	IAmb	11 48 16.1	
	comp=Z,14nm,0.7s						
D50A	G1974 Best Tow	84.92	26	P	P	11 48 16.5	-0.3
	baz=332						
L40A	Anamosa	84.93	35	P	P	11 48 16.6	-0.3
	baz=325						
F48A	Evansville	85.15	28	P	P	11 48 17.6	-0.3
	baz=330						
G47A	Hillman	85.27	29	P	P	11 48 18.6	+0.1
	baz=329						
AMTX	Amarillo	85.44	46	P	P	11 48 20.1	+0.5
	baz=319						
AMTX	Amarillo	85.44	46	P	P	11 48 20.7	+1.1
AMTX				IAmb	IAmb	11 48 21.3	
	comp=Z,22nm,1.2s						
MSTX	Muleshoe	85.52	48	P	P	11 48 20.5	+0.4
	baz=318						
D52A	ZEK Kipawa Sen	85.55	25	P	P	11 48 19.6	-0.3
	baz=333						
D53A	Lac Vacive, Po	85.68	24	P	P	11 48 20.3	-0.2
	baz=333						
MNTX	Cornudas Mount	85.72	51	P	P	11 48 21.4	+0.4
	baz=317						
MNTX	Cornudas Mount	85.72	51	P	P	11 48 21.7	+0.6
D54A	Lac Fusel, La	85.94	24	P	P	11 48 21.4	-0.3
	baz=334						
J46A	Howard City	86.15	31	P	P	11 48 23.0	+0.1
	baz=328						
F52A	Sundridge	86.30	26	P	P	11 48 23.3	-0.3
	baz=332						
D55A	Sainte-Anne-du	86.41	23	P	P	11 48 24.0	-0.1
	baz=335						
J47A	Sunmer	86.56	31	P	P	11 48 25.1	+0.2
	baz=328						
BUKO	Buck Lake	86.59	26	P	P	11 48 25.0	0.0
	baz=332						
D56A	ZEC Mazanza, M	86.59	23	P	P	11 48 24.6	-0.3
	baz=335						
D57A	Chemin Vers le	86.86	22	P	P	11 48 26.1	-0.2
	baz=336						
E56A	St. Veronique	86.97	23	P	P	11 48 26.8	0.0
	baz=335						
HDIL	Hopedale	86.99	35	P	P	11 48 27.5	+0.5
	baz=326						
D58A	Chemin du LacG	87.07	21	P	P	11 48 26.7	-0.6
	baz=336						
PEMO	Pembroke	87.07	25	P	P	11 48 26.8	-0.5
	baz=334						
WMOK	Wichita Mounta	87.09	45	P	P	11 48 27.6	0.0
	baz=321,SNR=5.2						
WMOK	Wichita Mounta	87.09	45	P	P	11 48 28.0	+0.4
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMOK	Wichita Mounta	87.09	45	P	P	11 48 28.1	+0.4
WMOK				IAmb	IAmb	11 48 28.9	
	comp=Z,8.8nm,1.0s						
K48A	Perry	87.20	31	P	P	11 48 28.2	+0.2
	baz=329						
D59A	Saint-Raymond	87.44	21	P	P	11 48 28.8	-0.2
	baz=337						
BANO	Bancroft	87.44	26	P	P	11 48 28.8	-0.3
	baz=333						
G55A	Calabogie	87.62	25	P	P	11 48 30.2	+0.3
	baz=334						
E58A	La Victoria	87.63	22	P	P	11 48 29.7	-0.2
	baz=336						
TUL1	Leonard	87.71	42	P	P	11 48 31.1	+0.5
	baz=322						
TUL1	Leonard	87.71	42	P	P	11 48 30.9	+0.3
TUL1				IAmb	IAmb	11 48 31.8	
	comp=Z,10nm,0.7s						
D60A	Saint Jean D'O	87.76	20	P	P	11 48 30.1	-0.4
	baz=338						
ORIO	Orleans, Innes	87.81	24	P	P	11 48 30.3	-0.5
	baz=335						
L48A	N Adams	87.81	31	P	P	11 48 31.2	+0.3
	baz=329						
ALFO	Alfred	87.84	23	P	P	11 48 30.9	0.0
	baz=335						
L49A	Milan	87.93	31	P	P	11 48 32.1	+0.7
	baz=329						
SFIN	Lafayette	88.07	34	P	P	11 48 32.6	+0.5
	baz=327						
D62A	Allapoint, All	88.08	19	P	P	11 48 32.3	+0.3
	baz=339						
M48A	Edgerton	88.10	32	P	P	11 48 32.8	+0.6
	baz=329						
E60A	Ste Agathe de	88.13	21	P	P	11 48 32.4	+0.1
	baz=338						
CCM	Cathedral Cave	88.18	38	P	P	11 48 33.0	+0.3
	baz=325						
CCM	Cathedral Cave	88.18	38	P	P	11 48 32.6	-0.1
CCM				pmax	pmax		
	comp=Z,21nm,0.9s						
CCM	Cathedral Cave	88.18	38	P	P	11 48 32.6	-0.1
N47A	Urbana	88.22	33	P	P	11 48 32.6	-0.2
	baz=328						
F59A	Saint Guilaume	88.24	22	P	P	11 48 32.4	-0.4
	baz=337						
G57A	Newington	88.28	24	P	P	11 48 32.9	-0.2
	baz=335						
E61A	Lac Etchemin	88.32	20	P	P	11 48 33.3	+0.1
	baz=338						
HHAR	Hobbs	88.33	40	P	P	11 48 33.9	+0.4
HHAR				IAmb	IAmb	11 48 34.1	
	comp=Z,7.1nm,0.8s						
D63A	Stockholm	88.35	18	P	P	11 48 33.4	+0.1
	baz=340						
L50A	Kingsville	88.35	30	P	P	11 48 32.3	-1.2
	baz=330						
H56A	Elgin	88.36	25	P	P	11 48 33.4	+0.1
	baz=334						
E62A	Clayton Lake	88.39	20	P	P	11 48 33.7	+0.1
	baz=339						
MGMO	Mountain Grove	88.43	39	P	P	11 48 34.0	0.0
MGMO				IAmb	IAmb	11 48 34.7	
	comp=Z,12nm,0.7s						
TX32	Lajitas Array	88.46	51	P	P	11 48 35.1	+0.8
TX32				IAmb	IAmb	11 48 35.9	
	comp=Z,7.9nm,0.8s						
TXAR	Lajitas Array	88.46	51	P	P	11 48 35.0	+0.7
	comp=Z,6.3nm,0.6s,baz=296,slow=2.9,SNR=69						
N48A	Decatur	88.51	32	P	P	11 48 34.4	+0.2
	baz=328						
G58A	Ormstown	88.52	23	P	P	11 48 34.0	-0.2
	baz=336						
F61A	St Evariste	88.61	21	P	P	11 48 34.6	0.0
	baz=338						
P46A	Rosedale	88.66	34	P	P	11 48 35.2	+0.3
	baz=327,SNR=6.7						
PLIO	Pelee Island,	88.67	30	P	P	11 48 34.8	-0.1
	baz=330						
N49A	Columbus Grove	88.79	32	P	P	11 48 35.6	+0.1
	baz=329						
U40A	Yellville	88.80	40	P	P	11 48 35.7	0.0
	baz=324,SNR=13						
U40A	Yellville	88.80	40	P	P	11 48 35.8	+0.1
E64A	Bridgewater	89.00	18	P	P	11 48 35.9	-0.4
	baz=340						
OLIL	Olney	89.02	35	P	P	11 48 37.2	+0.6
HPIG		89.03	54	P	P	11 48 37.9	+0.7
HPIG				IAmb	IAmb	11 48 38.8	
	comp=Z,9.9nm,0.9s						
J55A	Hilton	89.04	26	P	P	11 48 36.5	-0.2
	baz=333						
H59A	Cadyville	89.08	23	P	P	11 48 36.4	-0.5
	baz=336						
G61A	St-Isidore-de-	89.11	21	P	P	11 48 36.7	-0.2
	baz=337						
H58A	Gabriels	89.15	23	P	P	11 48 36.8	-0.4
	baz=336						
N50A	Nevada	89.32	31	P	P	11 48 38.5	+0.5
	baz=330						
K54A	Basiliko Farm,	89.33	27	P	P	11 48 37.8	-0.2
	baz=333						
O49A	Covington	89.35	32	P	P	11 48 38.4	+0.2
	baz=329						
L53A	Girard	89.36	28	P	P	11 48 38.4	+0.3
	baz=332						
SIUC	Southern Illin	89.37	37	P	P	11 48 39.0	+0.7
S44A	Carbondale	89.37	37	P	P	11 48 38.9	+0.6
	baz=326,SNR=6.4						
K55A	Perry	89.44	27	P	P	11 48 38.8	+0.2
	baz=333						
H60A	Morristown	89.45	22	P	P	11 48 38.8	+0.2
	baz=337						
N51A	Ashland	89.49	30	P	P	11 48 39.2	+0.4
	baz=330						
PBMO	Poplar Bluff	89.59	38	P	P	11 48 40.1	+0.7
PBMO				IAmb	IAmb	11 48 40.6	
	comp=Z,14nm,0.8s						
M53A	WI Miller and	89.66	29	P	P	11 48 39.9	+0.3
	baz=331						
O50A	Cable	89.67	32	P	P	11 48 40.2	+0.5
	baz=329						
H61A	Lyndonville	89.69	22	P	P	11 48 40.7	+1.0
	baz=337						
K56A	Middlesex	89.71	26	P	P	11 48 39.8	0.0
	baz=334						
P49A	Miami Univ. Ec	89.76	33	P	P	11 48 40.2	+0.1
	baz=329						
J58A	Remsen	89.77	25	P	P	11 48 40.1	0.0
	baz=335						
L55A	Hinsdale	89.80	27	P	P	11 48 39.9	-0.4
	baz=333						
JCT	Junction City	89.80	48	P	P	11 48 40.7	+0.2
	baz=320						
JCT	Junction City	89.80	48	P	P	11 48 40.7	+0.2
JCT				pmax	pmax		
	comp=Z,13nm,0.7s						
JCT	Junction City	89.80	48	P	P	11 48 40.7	+0.2
LCAR	Lake Charles	89.83	39	P	P	11 48 40.5	0.0
ACSO	Alum Creek Sta	89.85	31	P	P	11 48 40.8	+0.3
	baz=330,SNR=5.2						
ACSO	Alum Creek Sta	89.85	31	P	P	11 48 40.7	+0.2
Q48A	North Vernon	89.86	34	P	P	11 48 40.9	+0.3
	baz=328						
H62A	Milan	89.87	21	P	P	11 48 40.7	+0.2
	baz=338						
MIAR	Mount Ida	89.90	41	P	P	11 48 41.2	+0.4
	baz=323,SNR=11						
MIAR	Mount Ida	89.90	41	P	P	11 48 41.4	+0.6
MIAR				pmax	pmax		
	comp=Z,16nm,0.8s						
MIAR	Mount Ida	89.90	41	P	P	11 48 41.4	+0.6
WHTX	Lake Whitney,	89.92	45	P	P	11 48 41.5	+0.6
	baz=321						
J59A	Piesco	89.92	24	P	P	11 48 40.5	-0.3
	baz=335						
WHAR	Wooly Hollow	89.93	40	P	P	11 48 41.1	+0.2
I60A	Shoreham	89.93	23	P	P	11 48 40.7	-0.1
	baz=336						
M54A	Oil Creek Stat	89.97	28	P	P	11 48 41.5	+0.5
	baz=332						
W41B	Gary Mavity, V	90.04	40	P	P	11 48 41.7	+0.3
	baz=324						
P50A	Jamestown	90.06	32	P	P	11 48 41.4	-0.1
	baz=329						
L56A	Greenwood	90.13	27	P	P	11 48 41.9	+0.1
	baz=333						
Q49A	Aurora	90.14	33	P	P	11 48 42.4	+0.5
	baz=329						
N53A	Lisbon	90.16	29	P	P	11 48 42.2	+0.3
	baz=331						
K58A	Earlville	90.20	25	P	P	11 48 42.3	+0.2
	baz=335						
WCI	Wyandotte Cave	90.21	34	P	P	11 48 42.3	+0.1
	baz=328						
X40A	Basin Creek Fa	90.31	41	P	P	11 48 43.3	+0.6
	baz=324						
X40A	Basin Creek Fa	90.31	41	P	P	11 48 43.5	+0.8
X40A				IAmb	IAmb	11 48 44.2	
	comp=Z,12nm,1.0s						
M55A	Ridgway	90.32	28	P	P	11 48 42.9	+0.2
	baz=332						
N54A	Moraine State	90.33	29	P	P	11 48 43.2	+0.5
	baz=332						
O52A	Adamsville	90.39	30	P	P	11 48 43.5	+0.5
	baz=330						
K59A	Cooperstown	90.44	25	P	P	11 48 43.6	+0.4
	baz=335						
P51A	Williamsport	90.46	32	P	P	11 48 44.0	+0.6
	baz=330						
M56A	Emporium	90.50	27	P	P	11 48 43.9	+0.3
	baz=333						
O53A	New Philadelph	90.50	30	P	P	11 48 43.7	+0.2
	baz=331						
I63A	Otisfield	90.51	21	P	P	11 48 43.9	+0.5
	baz=338						
H65A	Eastbrook	90.51	19	P	P	11 48 44.0	+0.6
	baz=340						
J61A	Chester	90.60	23	P	P	11 48 44.3	+0.3
	baz=337						
Q50A	Georgetown	90.64	32	P	P	11 48 44.5	+0.3
	baz=329						
P52A	Corning	90.69	31	P	P	11 48 44.7	+0.3
	baz=330						
Q51A	Peebles	90.74	32	P	P	11 48 45.2	+0.5
	baz=330						
Q51A	Peebles	90.74	32	P	P	11 48 45.5	+0.8
L58A	Harry Jones Me	90.78	25	P	P	11 48 44.5	-0.2
	baz=334						
N55A	Marion Center	90.85	28	P	P	11 48 45.5	+0.3
	baz=332						
O54A	Avella	90.87	29	P	P	11 48 45.2	-0.1
	baz=332						
L59A	Walton	90.91	25	P	P	11 48 45.3	-0.1
	baz=335						
T47A	Sharon Grove	90.91	36	P	P	11 48 45.9	+0.4
	baz=327						
R50A	Paris	90.98	33	P	P	11 48 45.9	+0.1
	baz=329						
M57A	Sunshine Farm,	90.99	27	P	P	11 48 46.0	+0.2
	baz=334						
S49A	Springfield	91.01	34	P	P	11 48 46.5	+0.5
	baz=328						
K61A	Williamstown	91.01	23	P	P	11 48 45.9	+0.1
	baz=336						
P53A	Whipple	91.10	30	P	P	11 48 46.7	+0.4
	baz=331						
M58A	Price's Panora	91.18	26	P	P	11 48 47.1	+0.4
	baz=334						
Q52A	Bidwell	91.22	31	P	P	11 48 47.1	+0.3
	baz=330						
O55A	Ligonier	91.24	29	P	P	11 48 47.6	+0.7
	baz=332						
R51A	Hillsboro	91.27	32	P	P	11 48 47.4	+0.3
	baz=329						
WVT	Waverly	91.31	36	P	P	11 48 47.8	+0.5
	baz=327						
P54A	Burton	91.34	30	P	P	11 48 47.9	+0.5
	baz=331						
SSPA	Standing Stone	91.36	27	P	P	11 48 47.9	+0.5
	baz=333						
N57A	Milroy	91.37	27	P	P	11 48 48.0	+0.5
	baz=333						
S50A	Richmond	91.47	33	P	P	11 48 48.5	+0.4
	baz=329						
T49A	Edmonton	91.48	34	P	P	11 48 48.3	+0.2
	baz=328						
T49A	Edmonton	91.48	34	P	P	11 48 48.5	+0.4
T49A				IAmb	IAmb	11 48 49.1	
	comp=Z,6.1nm,0.8s						
Q53A	Leroy	91.60	31	P	P	11 48 49.2	+0.6
	baz=331						
P55A	Reedsville	91.67	29	P	P	11 48 49.6	+0.7
	baz=332						
833A	Chaparral WMA,	91.67	49	P	P	11 48 49.8	+0.6
	baz=320						
Q54A	Coxs Mills	91.75	30	P	P	11 48 49.7	+0.4
	baz=331						
N59A	State Game Lan	91.82	26	P	P	11 48 49.9	+0.3
	baz=334						
S51A	Beattyville	91.83	33	P	P	11 48 49.7	-0.1
	baz=329						
T50A	Nancy	91.85	34	P	P	11 48 50.1	+0.3
	baz=329,SNR=6.8						
U49A	Red Boiling Sp	91.88	35	P	P	11 48 50.4	+0.4
	baz=328						
P56A	Dayton Farm, R	92.03	29	P	P	11 48 50.8	+0.2
	baz=332						
V48A	Smith Brothers	92.08	36	P	P	11 48 51.3	+0.4
	baz=327						
T51A	Gray	92.27	33	P	P	11 48 52.0	+0.3
	baz=329						
U50A	Jamestown	92.36	34	P	P	11 48 52.4	+0.1
	baz=329						
R54A	Victor	92.39	31	P	P	11 48 52.5	+0.2
	baz=331						
V49A	McMinnville	92.46	35	P	P	11 48 52.5	-0.2
	baz=328						
ESDC	Sonseca Array	92.47	333	P	P	11 48 52.1	-0.6
	comp=Z,1.6nm,0.7s,baz=21,slow=5.1,SNR=6.1						
ESDC	Sonseca Array	92.47	333	P	P	11 48 52.2	-0.6
T52A	Hallie	92.54	33	P	P	11 48 53.2	+0.2
	baz=330						

S54A	Dingess, Beckl	92.60	31	P		P	11 48 53.5	+0.2
	baz=331							
U51A	La Follette	92.74	34	P		P	11 48 54.2	+0.2
	baz=329							
T53A	Wise	92.83	32	P		P	11 48 54.6	+0.2
	baz=330							
W49A	Belvidere	92.84	36	P		P	11 48 54.3	-0.2
	baz=328							
V50A	Pikevile	92.88	35	P		P	11 48 54.5	-0.1
	baz=328							
S55A	Lewisburg	92.94	31	P		P	11 48 54.8	-0.1
	baz=331							
U52A	Thorn Hill	93.00	33	P		P	11 48 55.3	+0.1
	baz=330							
X48A	Hartselle	93.06	37	P		P	11 48 55.2	-0.3
	baz=327							
V51A	Loudon	93.09	34	P		P	11 48 55.7	+0.2
	baz=329							
T54A	Tazewell	93.14	32	P		P	11 48 56.0	+0.1
	baz=331							
W50A	Signal Mountai	93.19	35	P		P	11 48 56.5	+0.5
	baz=328							
R57A	Stanardsville	93.21	29	P		P	11 48 56.7	+0.7
	baz=333							
U53A	Fall Branch	93.34	33	P		P	11 48 57.0	+0.2
	baz=330							
V52A	Sevierville	93.37	34	P		P	11 48 57.2	+0.4
	baz=329							
T55A	Pulaski	93.40	31	P		P	11 48 57.1	+0.1
	baz=331							
BLA	Blacksburg	93.46	31	P		P	11 48 57.1	-0.2
	baz=331							
W51A	Cleveland	93.46	35	P		P	11 48 57.2	-0.1
	baz=329							
S57A	Dark Hollow, R	93.53	30	P		P	11 48 57.5	0.0
	baz=332							
T56A	Rocky Mt	93.77	31	P		P	11 48 59.1	+0.4
	baz=332							
Q61A	Milford	93.81	26	P		P	11 48 59.0	+0.2
	baz=335							
U55A	TA2, Sparta	93.83	32	P		P	11 48 59.5	+0.5
	baz=331							
Y49A	Blount Mountai	93.84	37	P		P	11 48 59.2	+0.2
	baz=328							
U56A	King	94.23	31	P		P	11 49 00.6	-0.1
	baz=331							
LRAL	Lakeview Retre	94.26	38	P		P	11 49 00.7	-0.3
	baz=327							
Y51A	Rockmart	94.40	36	P		P	11 49 01.5	-0.1
	baz=328							
Z50A	Ashland	94.57	37	P		P	11 49 02.4	0.0
	baz=328							
Z50A	Ashland	94.57	37	P		P	11 49 02.4	0.0
W54A	Cherokee Point	94.61	33	P		P	11 49 01.9	-0.6
	baz=330							
X53A	Estanollee	94.64	34	P		P	11 49 02.9	+0.2
	baz=330							
V56A	Mocksville	94.65	32	P		P	11 49 02.7	0.0
	baz=331							
Y52A	Lilburn	94.87	35	P		P	11 49 04.2	+0.5
U58A	Oxford	94.89	30	P		P	11 49 04.1	+0.3
	baz=333							
KMSC	Kings Mountain	94.90	32	P		P	11 49 03.6	-0.2
	baz=331							
Y53A	Monroe	95.08	35	P		P	11 49 04.8	+0.1
	baz=329							
W57A	Gilead	95.43	32	P		P	11 49 06.3	+0.1
	baz=332							
Y54A	Tignall	95.45	34	P		P	11 49 06.7	+0.3
	baz=330							
GOGA	Godfrey	95.51	35	P		P	11 49 06.5	-0.1
	baz=329							
Z53A	Monticello	95.58	35	P		P	11 49 07.2	+0.2
	baz=329							
Y55A	Saluda	95.73	33	P		P	11 49 07.9	+0.2
	baz=330							
TORD	Torodi Ar. Bea	112.98	315	PKiKP		PKiKP	11 54 17.0	-1.2
	comp=Z,0.6nm,0.4s,baz=2.8,slow=2.3,SNR=8.5							
TORD				PKKPbc		PKKPbc	12 05 05.6	+1.9
	comp=Z,0.8nm,0.5s,baz=234,slow=2.1,SNR=5.6							
TORD	Torodi Ar. Bea	112.98	315			PKiKP	11 54 16.8	-1.3
DBIC	Dimbokro	121.86	317	PKP		PKPdf	11 54 34.3	-1.0
	comp=Z,5.7nm,0.6s,baz=28,slow=2.0,SNR=9.2							
TIC	Toumodi	121.97	317	*e*PKiKP		PKPdf	11 54 34.5	-1.0
KIC	Kosan Boka	122.07	317	*e*PKiKP		PKPdf	11 54 34.7	-1.0
	comp=Z,66nm,1.7s							
LIC	Lamto	122.33	317	*e*PKiKP		PKPdf	11 54 35.1	-1.1
	comp=Z,52nm,1.3s							
MAW	Mawson	123.03	206	PKiKP		PKiKP	11 54 36.4	+0.4
MAW	Mawson	123.03	206	PKP		PKPdf	11 54 35.8	+0.1
	comp=Z,2.1nm,0.7s,baz=90,slow=2.0,SNR=6.0							
MAW	Mawson	123.03	206			PKiKP	11 54 36.4	+0.4
BOSA	Boshof	125.83	262	PKiKP		PKiKP	11 54 43.5	+0.6
BOSA	Boshof	125.83	262	PKP		PKPdf	11 54 42.5	0.0
	comp=Z,1.3nm,0.6s,baz=59,slow=5.9,SNR=3.0							
BOSA	Boshof	125.83	262			PKiKP	11 54 43.5	+0.6
LPAZ	La Paz	145.33	51	PKPbc		PKPbc	11 55 19.6	-0.1
	comp=Z,5.3nm,0.5s,baz=353,slow=3.7,SNR=29							
SIV	San Ignacio	148.90	41	PKPbc		PKPbc	11 55 28.8	0.0
	comp=Z,19nm,0.8s,baz=2.0,slow=2.5,SNR=8.7							
LVC	Limon Verde	149.59	60	PKPbc		PKPbc	11 55 31.0	+0.1
	comp=Z,8.8nm,0.6s,baz=330,slow=4.1,SNR=8.7							
LVC				PKPab		PKPab	11 55 37.3	+0.7
	comp=Z,5.4nm,0.6s,baz=252,slow=5.8,SNR=4.4							
LVC	Limon Verde	149.59	60			PKiKP	11 55 32.3	+0.4
BDFB	Brasilia	153.28	16	PKIKP		PKPdf	11 55 31.1	-0.4
BDFB							11 55 52.1	
BDFB	Brasilia	153.28	16	PKPbc		PKiKP	11 55 39.1	-0.1
	comp=Z,5.4nm,0.8s,baz=146,slow=7.3,SNR=4.8							
BDFB				PKPab		PKPab	11 55 51.9	+0.3
	comp=Z,5.3nm,0.5s,baz=0.0,slow=6.1,SNR=5.6							
BDFB	Brasilia	153.28	16	PKPdf		PKPdf	11 55 31.1	-0.4
BDFB				PKPbc		PKPbc	11 55 37.7	-1.4
BDFB						PKPab	11 55 52.1	+0.4
PLCA	Paso Flores	157.46	98	PKPab		PKPab	11 56 10.2	+1.0
	comp=Z,2.7nm,0.7s,baz=283,slow=6.4,SNR=5.6							
PLCA	Paso Flores	157.46	98			PKPab	11 56 11.2	+2.0
CPUP	Villa Florida	159.39	47	PKPab		PKPab	11 56 17.8	+0.1
	comp=Z,2.3nm,0.8s,baz=319,slow=9.3,SNR=4.0							
CPUP	Villa Florida	159.39	47	PKPab		PKPab	11 56 19.5	+1.8

JMA ***12*** *11:40:53.7, 23°.79N×121°.48E, h7km*
TAP ***12*** *11:40:53.5, 23°.82N×121°.48E, h17km, ML3.2, C*
ISCJB ***12*** *11:40:54.1±0.2, 23°.80N±0°.01×121°.51E±0°.01, h18km±2km,*
Error ellipse: s-maj=2.5km s-min=1.5km az=30.9
ISC 12 11:40:53.7±0.8, 23°.80N±0°.01×121°.47E±0°.02, h15km±5km, n101, σ0°49/170, 1C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	Shilin	0.03	288	⇑*i*P	Pg	11 40 56.7	+0.3
	baz=265						
ESL				*e*S	Sg	11 40 58.4	+0.2
	baz=265						
EGFH	Guangfu	0.14	194	P	Pb	11 40 57.8	-0.2
	baz=205						
EGFH				S	Sb	11 41 00.4	-0.4
	baz=205						
ENLB	Shoufeng	0.16	52	*i*P	Pg	11 40 57.6	-0.1
	baz=41						
ENLB				S	Sb	11 41 01.2	-0.2
	baz=41						
HWA	Hwalien	0.21	37	*e*P	Pb	11 40 59.5	+0.3
	baz=29						
HWA				*e*S	Sb	11 41 03.3	+0.2
	baz=29						
TWD	Chiawan	0.30	24	P	Pb	11 41 00.4	-0.3
	baz=20						
TWD				S	Sg	11 41 04.6	+0.2
	baz=20						
VWDT	VWDT	0.30	260	⇓P	Pb	11 41 00.6	-0.1
	baz=259						
VWDT				S	Sb	11 41 05.0	-0.5
	baz=259						
HGSD	Ruisui	0.31	187	P	Pb	11 41 00.9	-0.1
	baz=196						
HGSD				*e*S	Sb	11 41 05.9	+0.1
	baz=196						
EHY	Hungye	0.32	204	⇓*i*P	Pg	11 41 00.5	+0.1
	baz=203						
EHY				S	Sg	11 41 05.0	0.0
	baz=203						
CHGB	Renai	0.37	314	⇓P	Pb	11 41 01.7	-0.3
	baz=319						
CHGB				S	Sg	11 41 06.6	+0.1
	baz=319						
WHF	Hehuan Shan	0.39	332	⇓*i*P	Pg	11 41 01.7	0.0
	baz=331						
WHF				*e*S	Sg	11 41 06.6	-0.6
	baz=331						
NACB	Ninganchiao	0.39	18	P	Pg	11 41 01.4	-0.1
	baz=17						
NACB				S	Sg	11 41 06.1	-0.8
	baz=17						
ETLH	Xiulin Townshi	0.40	2	*e*P	Pg	11 41 02.1	+0.2
	baz=1.0						
ETLH				S	Sg	11 41 07.3	-0.1
	baz=1.0						
YULB	Yu-li	0.44	201	*e*P	Pg	11 41 02.5	0.0
	baz=201						
YULB				*e*S	Sg	11 41 08.6	+0.2
	baz=201						
YULB	Yu-li	0.44	201	P	Pg	11 41 02.3	-0.2
SSLB	Suanglung	0.47	268	⇓P	Pg	11 41 03.1	+0.1
	baz=267						
SSLB				S	Sg	11 41 09.1	-0.3
	baz=267						
TWF1	Yuli	0.48	199	*e*P	Pg	11 41 03.1	0.0
	baz=204						
TWF1				S	Sg	11 41 09.7	+0.1
	baz=204						
TWT	Tachien	0.52	329	P	Pb	11 41 04.5	-0.1
	baz=327						
TWT				S	Sg	11 41 11.0	0.0
	baz=327						
SMLT	Sun Moon Lake	0.52	279	⇓*i*P	Pb	11 41 04.3	-0.3
	baz=277						
SMLT				S	Sg	11 41 11.4	+0.3
	baz=277						
TDCB	Techi	0.53	328	P	Pb	11 41 04.6	-0.1
	baz=327						
TDCB				S	Sg	11 41 10.6	-0.7
	baz=327						
DPDB	Guoxing	0.54	295	P	Pb	11 41 04.8	-0.1
	baz=294						
DPDB				*e*S	Sg	11 41 11.8	+0.1
	baz=294						
TYC	Yuchr	0.56	280	⇓*i*P	Pg	11 41 04.9	+0.1
	baz=287						
TYC				S	Sb	11 41 12.7	-0.4
	baz=287						
YUS	Yu-Shan	0.56	236	P	Pb	11 41 05.5	0.0
	baz=235						
YUS				*e*S	Sg	11 41 12.4	-0.2
	baz=235						
WHYT	Xinyi Township	0.57	259	*e*P	Pb	11 41 05.5	+0.1
	baz=253						
WHYT				*e*S	Sg	11 41 12.8	+0.2
	baz=253						
FULB	Fuli	0.62	195	*e*P	Pb	11 41 06.3	0.0
	baz=206						
FULB				*e*S	Sn	11 41 16.6	-1.1
	baz=206						
NNSB	Datong	0.63	353	⇓P	Pb	11 41 06.3	-0.1
	baz=2.0						
NNSB				S	Sg	11 41 14.2	-0.1
	baz=2.0						
NNS	Nan Shan	0.64	352	⇓*i*P	Pb	11 41 06.5	-0.1
	baz=2.0						
NNS				S	Sg	11 41 14.8	+0.1
	baz=2.0						
WHP	Taichung City	0.67	315	*e*P	Pb	11 41 07.2	+0.1
	baz=314						
WHP				*e*S	Sb	11 41 16.1	-0.1
	baz=314						
ENA	Nanau	0.67	22	*e*P	Pg	11 41 06.3	-0.5
	baz=14						
ENA				*e*S	Sg	11 41 15.6	-0.2
	baz=14						
NANB	Nanao	0.67	23	P	Pg	11 41 06.3	-0.6
	baz=14						
NANB				*e*S	Sg	11 41 15.3	-0.5
	baz=14						
WJS	Zhushan	0.68	272	*e*P	Pn	11 41 08.3	-0.4
	baz=273						
WJS				*e*S	Sn	11 41 18.4	-0.5
	baz=273						
WNT	Mingjian	0.72	276	*e*P	Pn	11 41 09.1	-0.2
	baz=277						
WNT				*e*S	Sn	11 41 19.5	-0.5
	baz=277						
ELDTW	Lidau	0.74	214	*e*P	Pg	11 41 07.9	-0.2
	baz=205						
ELDTW				*e*S	Sg	11 41 17.0	-0.9
	baz=205						
CHN5	Tsauling	0.75	254	P	Pn	11 41 09.2	-0.6
	baz=245						
CHN5				S	Sn	11 41 20.1	-0.8
	baz=245						
NDT	Datong Townshi	0.80	3	*e*P	Pb	11 41 09.2	0.0
	baz=3.0						
NDT				*e*S	Sb	11 41 18.9	-0.9
	baz=3.0						
TCU	Taichung	0.80	296	*e*P	Pn	11 41 10.4	0.0
	baz=295						
TCU				*e*S	Sn	11 41 21.4	-0.6
	baz=295						
TWQ1	Liyutan	0.83	311	*e*P	Pn	11 41 10.7	-0.1
	baz=316						
TWQ1				*e*S	Sn	11 41 22.6	-0.2
	baz=316						
WGK	Gukeng	0.83	262	*e*P	Pn	11 41 10.9	+0.1
	baz=261						
WGK				S	Sn	11 41 22.8	-0.1
	baz=261						
ENTT	Nioudou	0.84	6	*e*P	Pb	11 41 09.7	-0.2
	baz=7.0						
ENTT				S	Sb	11 41 20.8	-0.2
	baz=7.0						
WDLH	Douliu	0.86	262	*e*P	Pn	11 41 10.9	-0.3
	baz=261						
WDLH				*e*S	Sn	11 41 23.7	+0.3
	baz=261						
YHNB	Yeheng	0.86	355	P	Pb	11 41 10.4	0.0
	baz=355						
YHNB				S	Sb	11 41 21.2	-0.7
	baz=355						
NSK	Sanguang	0.87	354	P	Pg	11 41 10.8	+0.1
	baz=354						
NSK				S	Sb	11 41 21.8	-0.3
	baz=354						
WCHH	Zhanghua	0.87	288	*e*P	Pn	11 41 11.1	-0.3
	baz=287						
TWC	Suao	0.88	24	*e*P	Pb	11 41 10.3	-0.2
	baz=18						
TWC				*e*S	Sb	11 41 22.0	0.0
	baz=18						
NSY	Sanyi	0.89	314	*e*P	Pn	11 41 12.3	+0.7
	baz=313						
NSY				*e*S	Sn	11 41 24.4	+0.3
	baz=313						
STYT	Tauyuan	0.91	226	*e*P	Pn	11 41 11.8	-0.2
	baz=225						
STYT				*e*S	Sg	11 41 23.7	+0.4
	baz=225						
TPUB	Ta-pu	0.92	237	P	Pn	11 41 12.0	0.0
	baz=236						
TPUB				S	Sn	11 41 24.3	-0.6
	baz=236						
CHN4	Tsaushan	0.92	241	P	Pn	11 41 12.2	+0.2
	baz=229						
CHN4				S	Sn	11 41 25.6	+0.6
	baz=229						
NSTT	Nanjuang	0.93	333	*e*P	Pn	11 41 11.9	-0.2
	baz=333						
NSTT				*e*S	Sg	11 41 23.8	0.0
	baz=333						
WDJ	Dajia District	0.93	306	*e*P	Pn	11 41 13.2	+1.1
	baz=305						
WDJ				*e*S	Sn	11 41 26.8	+1.6
	baz=305						
TWE	Neicheng	0.93	11	*e*P	Pb	11 41 11.2	-0.3
	baz=23						
TWE				*e*S	Sb	11 41 23.5	-0.2
	baz=23						
LIOB	Emei	0.93	334	*e*P	Pg	11 41 11.9	+0.1
	baz=334						
LIOB				*e*S	Sg	11 41 24.6	+0.6
	baz=334						
PTSB	Yuanli	0.94	313	*e*P	Pn	11 41 13.5	+1.1
	baz=313						
PTSB				*e*S	Sn	11 41 26.2	+0.6
	baz=313						
NMLH	Miaoli	0.95	320	*e*P	Pn	11 41 13.1	+0.6
	baz=329						
NMLH				*e*S	Sn	11 41 25.5	-0.3
	baz=329						
EOS1	EOS1	0.96	39	*e*P	Pn	11 41 12.4	-0.1
	baz=28						
SLBB	Yuanshan	0.96	9	*e*P	Pb	11 41 11.6	-0.4
	baz=21						
WTP	Ta-pu	0.96	235	P	Pn	11 41 12.5	-0.1
	baz=234						
WTP				*e*S	Sn	11 41 25.2	-0.8
	baz=234						
NWLT	Wulai	0.97	2	*e*P	Pb	11 41 12.2	0.0
	baz=3.0						
NWLT				*e*S	Sb	11 41 24.2	-0.7
	baz=3.0						
CHY	Chiayi	1.00	252	*e*P	Pg	11 41 13.3	+0.2
	baz=251						
CHY				*e*S	Sn	11 41 27.3	+0.3
	baz=251						
RLNB	Erlin	1.02	275	P	Pg	11 41 13.5	+0.1
	baz=274						
RLNB				S	Sn	11 41 28.2	+0.9
	baz=274						
TWGBT	Beinan	1.04	200	*e*P	Pb	11 41 13.3	-0.1
	baz=188						
TWK	Hsinying	1.04	239	P	Pg	11 41 14.2	+0.4
	baz=238						
TWK				S	Sn	11 41 28.9	+0.8
	baz=238						
WLTB	Daxi	1.06	350	*e*P	Pg	11 41 15.1	+0.9
	baz=358						
SNST	Tainan City	1.06	237	*e*P	Pg	11 41 14.8	+0.6
	baz=236						
SNST				*e*S	Sn	11 41 29.0	+0.5
	baz=236						
SGST	Jiashian	1.08	229	P	Pg	11 41 14.5	-0.1
	baz=222						
SGST				*e*S	Sn	11 41 29.3	+0.3
	baz=222						
WTCT	Ta-ch'eng	1.08	273	*e*P	Pg	11 41 14.7	+0.1
	baz=272						
SLGT	Liugui	1.10	223	*e*P	Pg	11 41 15.6	+0.6
	baz=223						
SLGT				*e*S	Sg	11 41 30.0	+0.6
	baz=223						
WSF	Szhu	1.15	262	*e*P	Pg	11 41 15.8	-0.1
	baz=261						
WSF				*e*S	Sg	11 41 31.9	+0.9
	baz=261						
NHDH	Xindian Distri	1.16	3	*e*P	Pg	11 41 16.2	+0.3
	baz=12						
TATO	Taipei	1.17	1	*e*P	Pb	11 41 15.6	+0.1
	baz=10.0						
TWA	Mucha	1.18	5	*e*P	Pb	11 41 15.7	0.0
	baz=16						
NCUH	Zhongli	1.19	348	*e*P	Pg	11 41 16.8	+0.2
	baz=2.0						
TIPB	Shuangxi	1.21	16	*e*P	Pn	11 41 15.9	-0.1
	baz=16						
CHN8	Yiju	1.24	249	*e*P	Pb	11 41 16.9	+0.1
	baz=248						
CHN8				*e*S	Sg	11 41 35.0	+1.3
	baz=248						
ECL	Taimali	1.29	201	*e*P	Pn	11 41 16.9	-0.2
	baz=189						
TWS1	Kuangyinshan	1.29	358	*e*P	Pg	11 41 19.4	+0.8
	baz=14						
TWS1				*e*S	Sg	11 41 36.0	+0.6
	baz=14						
SSD	Sandimen	1.30	216	*e*P	Pg	11 41 18.5	-0.3
	baz=215						
SSD				*e*S	Sg	11 41 36.5	+0.7
	baz=215						
YM01	YM01	1.34	4	*e*P	Pg	11 41 19.4	-0.1
	baz=5.0						
YM10	YM10	1.35	4	*e*P	Pb	11 41 18.9	+0.3
	baz=4.0						
YM11	YM11	1.36	4	*e*P	Pn	11 41 18.4	+0.3
	baz=5.0						
TWM1	Shoushan	1.37	225	*e*P	Pg	11 41 20.8	+0.8
	baz=237						
ANP	Anpu	1.38	2	*e*P	Pb	11 41 19.4	+0.2
	baz=22						
YM08	YM08	1.38	5	*e*P	Pn	11 41 18.6	+0.2
	baz=5.0						
MASBT	Mashibuluo	1.41	213	*e*P	Pb	11 41 19.7	0.0
	baz=203						
EAST	Anshuo	1.52	202	*e*P	Pb	11 41 21.2	-0.4
	baz=192						
SCZT	Fangliau	1.62	209	*e*P	Pb	11 41 23.1	-0.2
	baz=201						
WDGT	Dungji	1.74	252	*e*P	Pb	11 41 24.8	-0.5
	baz=249						
PHUB	P'eng-hu	1.76	261	*e*P	Pn	11 41 24.1	+0.5
	baz=243						
PHUB				*e*S	Sb	11 41 46.7	-0.8
	baz=243						
PNG	Penghu	1.77	263	*e*P	Pn	11 41 23.8	+0.1
	baz=260						
VCHM	Qimei	1.96	253	*e*P	Pn	11 41 26.3	0.0
	baz=250						
IRIF	Iriomote-Funau	2.14	75	*e*S	Sn	11 41 55.5	+0.5
VWUC	VWUC	2.18	303	*e*P	Pn	11 41 28.8	-0.7
	baz=303						
PTTC	Pingtan	2.29	318	*e*P	Pn	11 41 30.8	0.0
	baz=321						
PTTC				*e*S	Sn	11 41 57.2	-1.5
	baz=321						
JKRS	Kuro-shima	2.37	79	P	Pn	11 41 33.5	+1.6
JKRS				*e*S	Sn	11 42 02.1	+1.4
PTMZ	Houxiangcun	2.47	300	*e*P	Pn	11 41 33.9	+0.6
	baz=300						
PTMZ				*e*S	Sn	11 42 02.2	-0.9
	baz=300						
JIJ	Ishigaki jima	2.51	77	P	Pn	11 41 33.9	0.0
JIJ				*e*S	Sn	11 42 03.1	-1.1
JISG	Ishigakijimahi	2.71	73	P	Pn	11 41 36.9	+0.2
JISG				*e*S	Sn	11 42 09.5	+0.3
MATB	Ma-tsu	2.71	330	*e*P	Pn	11 41 37.0	+0.2
	baz=332						
KNMB	Chin-men Tao	2.89	284	*e*P	Pn	11 41 39.2	+0.1
	baz=282						
MHZQ	Yeshan	3.18	316	*e*P	Pn	11 41 43.5	+0.4
	baz=318						
XPSS	Dashiqiu	3.32	340	*e*P	Pn	11 41 45.3	+0.3
	baz=331						
AXDP	Jialang	3.37	290	*e*P	Pn	11 41 46.2	+0.5
	baz=288						

IDC 12 11:55:11.8±2.7, 6°.32S×129°.68E, h145km±38km, mb3.1/1, mb1 3.2/5, mb1mx3.0/44, mbtmp3.5/5, Error ellipse: s-maj=64.6km s-min=17.3km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.64	16	P	Pn	11 56 34.0	+0.2
	0.6nm,0.3s,baz=193,slow=15,SNR=4.9						
SIJI				S	Sn	11 57 37.5	-0.2
	0.6nm,0.3s,baz=239,slow=19,SNR=2.9						
FITZ	Fitzroy Crossi	12.35	198	P	Pn	11 58 01.2	-1.6
	0.1nm,0.3s,baz=26,slow=12,SNR=4.6						
FITZ				S	Sn	12 00 11.8	-7.5
	0.1nm,0.3s,baz=293,slow=13,SNR=2.6						
WRA	Warramunga Arr	14.28	162	P	P	11 58 29.1	-1.2
	0.1nm,0.3s,baz=340,slow=12,SNR=13						
WRA				S	Sn	12 01 03.3	-2.5
	0.1nm,0.3s,baz=333,slow=20,SNR=4.1						
ASAR	Alice Springs	17.72	167	P	P	11 59 07.8	-0.7
	0.3nm,0.3s,baz=348,slow=11,SNR=17						
MKAR	Makanchi Array	67.48	327	P	P	12 05 52.6	+0.5
	0.5nm,0.8s,baz=123,slow=5.3,SNR=3.5						

ISCJB ***12*** *11:56:53.0±0.5, 24°.60N±0°.03×122°.18E±0°.02, h12km±3km,*
Error ellipse: s-maj=5.3km s-min=3.5km az=5.6
TAP ***12*** *11:56:53.7, 24°.59N×122°.08E, h11km±1km, ML2.5, C*
JMA ***12*** *11:56:56.3±0.3, 24°.96N×122°.91E, h145km, M2.3*
ISC 12 11:56:52.9±0.9, 24°.59N±0°.04×122°.18E±0°.03, h17km±5km, n34, σ1°42/47, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.06	226	⇑*i*P	Pg	11 56 56.3	+0.2
	baz=132						
EOS1				S	Sg	11 56 58.7	+0.5
	baz=132						
TWC	Suao	0.30	273	⇓*i*P	Pg	11 56 58.7	-0.6

TWC	baz=275			eS	Sg	11 57 02.7	-1.0
NTC	**Toucheng** baz=275	**0.41**	**309**	eP	**Pg**	**11 57 01.3**	**0.0**
NTC	baz=319			eS	**Sb**	**11 57 07.7**	**+0.1**
NANB	**Nanao** baz=319	**0.42**	**247**	eP	**Pb**	**11 57 01.4**	**-0.5**
NANB	baz=242			eS	**Sg**	**11 57 06.0**	**-1.4**
ENA	**Nanau** baz=242	**0.43**	**248**	eP	**Pb**	**11 57 01.7**	**-0.3**
ENA	baz=242			eS	**Sb**	**11 57 06.5**	**-1.7**
TWE	**Neicheng** baz=289	**0.48**	**285**	eP	**Pb**	**11 57 02.2**	**-0.7**
TWE	baz=289			eS	**Sb**	**11 57 08.5**	**-1.2**
TIPB	**Shuangxi** baz=328	**0.49**	**320**	P	**Pg**	**11 57 02.8**	**-0.1**
TIPB	baz=328			eS	**Sg**	**11 57 08.5**	**-1.0**
SLBB	**Yuanshan** baz=292	**0.52**	**288**	eP	**Pg**	**11 57 02.5**	**-0.8**
ENTT	**Nioudou** baz=276	**0.56**	**275**	eP	**Pb**	**11 57 04.1**	**-0.1**
ENTT	baz=276			eS	**Sb**	**11 57 11.4**	**-0.5**
NDT	**Datong Townshi** baz=271	**0.61**	**271**	eP	**Pb**	**11 57 04.7**	**-0.3**
NWLT	**Wulai** baz=289	**0.64**	**287**	eP	**Pb**	**11 57 05.9**	**+0.2**
NWLT	baz=289			eS	**Sb**	**11 57 14.1**	**-0.3**
NACB	**Ninganchiao** baz=227	**0.68**	**232**	eP	**Pb**	**11 57 06.0**	**-0.2**
NACB	baz=227			eS	**Sb**	**11 57 14.7**	**-0.6**
NHDH	**Xindian Distri** baz=306	**0.70**	**302**	eP	**Pb**	**11 57 07.3**	**+0.7**
YHNB	**Yeheng** baz=277	**0.73**	**276**	P	**Pb**	**11 57 07.5**	**+0.2**
YHNB	baz=277			eS	**Sg**	**11 57 15.4**	**-1.6**
ETLH	**Xiulin Townshi** baz=235	**0.74**	**239**	eP	**Pb**	**11 57 07.8**	**+0.4**
NNSB	**Datong** baz=256	**0.74**	**257**	eS	**Sb**	**11 57 16.4**	**-1.0**
NSK	**Sanguang** baz=277	**0.75**	**276**	eP	**Pb**	**11 57 07.7**	**+0.2**
YM01	**YM01** baz=320	**0.78**	**315**	eP	**Pb**	**11 57 08.7**	**+0.7**
YM11	**YM11** baz=321	**0.79**	**316**	eP	**Pb**	**11 57 09.1**	**+0.9**
YM10	**YM10** baz=320	**0.79**	**315**	eP	**Pb**	**11 57 09.2**	**+1.0**
YM05	**YM05** baz=320	**0.80**	**316**	eP	**Pb**	**11 57 08.9**	**+0.6**
WHF	**Hehuan Shan** baz=239	**0.94**	**242**	P	**Pb**	**11 57 11.5**	**+0.5**
WHF	baz=239			eS	**Sb**	**11 57 23.0**	**-0.5**
ESL	**Shilin** baz=217	**1.03**	**221**	eS	**Sn**	**11 57 28.2**	**+1.6**
LIOB	**Emei** baz=273	**1.06**	**273**	eP	**Pn**	**11 57 14.9**	**+1.9**
NSTT	**Nanjuang** baz=272	**1.07**	**272**	eP	**Pn**	**11 57 14.8**	**+1.7**
NSTT	baz=272			eS	**Sn**	**11 57 28.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.44**	**100**	P	**Pn**	**11 57 20.6**	**+2.5**
IRIF				S	**Sn**	**11 57 39.0**	**+2.4**
HATJ	**Hateruma jima**	**1.58**	**109**	S	**Sn**	**11 57 43.4**	**+3.4**
JKRS	**Kuro-shima**	**1.71**	**102**	P	**Pn**	**11 57 23.6**	**+1.8**
JKRS				S	**Sn**	**11 57 43.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.80**	**97**	P	**Pn**	**11 57 23.3**	**+0.1**
JIJ				S	**Sn**	**11 57 43.0**	**-2.7**
JISG	**Ishigakijimahi**	**1.94**	**90**	P	**Pn**	**11 57 23.8**	**-1.2**
JISG				S	**Sn**	**11 57 44.2**	**-4.8**
JTJ	**Tarama**	**2.30**	**88**	P	Pn	11 57 27.4	-2.5
JTJ				S	Sn	11 57 50.7	-7.1
JIRB	**Irabujima**	**2.73**	**84**	eS	Sn	11 57 58.7	-10
JMJ2	**Miyako jima3**	**2.87**	**86**	P	Pn	11 57 34.0	-3.8
JMJ2				eS	Sn	11 58 01.5	-10
JOGS	**Gusukube**	**2.94**	**86**	eS	Sn	11 58 03.0	-11

ISC 12 12:06:15.0±1.2,**48°.77N**±0°.04×**18°.07E**±0°.04,**h11**km±11km,
n7,σ0°56/12,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.28**	**289**	ePG	**Pg**	**12 06 20.8**	**0.0**
KOLL	**Kolacno**	**0.29**	**131**	ePG	**Pg**	**12 06 20.9**	**0.0**
KOLL				eSG	**Sg**	**12 06 25.6**	**+0.8**
VYHS	**Vyhne**	**0.58**	**118**	ePG	**Pg**	**12 06 25.8**	**-0.4**
VYHS				eSG	**Sb**	**12 06 35.1**	**-0.2**
MODS	**Modra-Piesok**	**0.66**	**233**	ePG	**Pg**	**12 06 26.9**	**-0.9**
MODS				eSG	**Sb**	**12 06 37.8**	**+0.1**
MODS				eLG	Lg	12 06 41.1	
LANS	**Liptovska Anna**	**0.99**	**67**	ePG	**Pg**	**12 06 33.7**	**-0.5**
MORC	**Moravsky Berou**	**1.07**	**341**	ePG	**Pg**	**12 06 35.3**	**-0.2**
MORC				eSG	**Sg**	**12 06 49.0**	**-0.4**
VRAC	**Vranov**	**1.11**	**300**	ePG	**Pg**	**12 06 36.4**	**0.0**
VRAC				eSG	**Sn**	**12 06 52.5**	**+0.7**

*IDC **12** 12:08:18.4±0.8,23°.62N×121°.55E,h0km,mb3.6/9,*
mb1 3.7/11,mb1mx3.6/48,mbtmp3.6/11,ML2.7/2,Error
ellipse: s-maj=25.7km s-min=16.7km az=66.0
*JMA **12** 12:08:19.9,23°.77N×121°.50E,h10km±2km,M3.3*
*TAP **12** 12:08:20.4,23°.81N×121°.48E,h16km,ML4.3,C*
*ISCJB **12** 12:08:20.7±0.2,23°.79N±0°.01×121°.53E±0°.01,h19km±2km,*
mb3.6/9,Error ellipse: s-maj=2.2km s-min=1.4km az=38.0
*ASIES **12** 12:08:20.1,23°.81N×121°.42E,h19km,MW3.6*
*BJI **12** 12:08:21.0±0.0,23°.85N×121°.40E,h7km,mb3.8/3,ML4.1/6*
ISC 12 12:08:20.5±0.7,**23°.80N**±0°.01×**121°.49E**±0°.02,**h15**km±4km,
n148,σ0°68/229,**mb3.6**/9,**10C-21D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin** baz=278	**0.06**	**289**	⇑iP	**Pg**	**12 08 23.5**	**+0.2**
ESL	baz=278			i S	**Sg**	**12 08 25.3**	**+0.1**
EGFH	**Guangfu** baz=207	**0.14**	**205**	⇑iP	**Pg**	**12 08 24.6**	**+0.3**
EGFH	baz=207			S	**Sg**	**12 08 27.0**	**+0.3**
ENLB	**Shoufeng** baz=39	**0.15**	**43**	⇓iP	**Pg**	**12 08 24.5**	**+0.1**
ENLB	baz=39			S	**Sb**	**12 08 28.1**	**+0.1**
HWA	**Hwalien** baz=26	**0.21**	**30**	eP	**Pb**	**12 08 26.5**	**+0.4**
HWA	baz=26			S	**Sb**	**12 08 30.6**	**+0.8**
TWD	**Chiawan** baz=13	**0.30**	**19**	P	**Pg**	**12 08 27.2**	**+0.4**
TWD	baz=13			S	**Sg**	**12 08 31.5**	**+0.4**
HGSD	**Ruisui** baz=198	**0.31**	**192**	⇓P	**Pg**	**12 08 27.7**	**+0.7**
VWDT	**VWDT** baz=260	**0.32**	**263**	⇓P	**Pg**	**12 08 27.5**	**+0.3**
VWDT	baz=260			S	**Sg**	**12 08 31.8**	**+0.1**
EHY	**Hungye** baz=206	**0.33**	**208**	⇓P	**Pg**	**12 08 27.1**	**-0.2**
EHY	baz=206			S	**Sg**	**12 08 31.6**	**-0.3**
NACB	**Ninganchiao** baz=14	**0.39**	**14**	⇓P	**Pg**	**12 08 28.2**	**-0.2**
NACB	baz=14			S	**Sg**	**12 08 33.3**	**-0.4**
CHGB	**Renai** baz=320	**0.39**	**312**	⇓P	**Pg**	**12 08 28.5**	**0.0**
CHGB	baz=320			S	**Sg**	**12 08 33.7**	**-0.4**
ETLH	**Xiulin Townshi** baz=1.0	**0.41**	**359**	⇓P	**Pg**	**12 08 28.8**	**0.0**
ETLH	baz=1.0			S	**Sg**	**12 08 34.4**	**-0.1**
YULB	**Yu-li** baz=204	**0.44**	**204**	⇓eP	**Pg**	**12 08 28.6**	**-0.7**
YULB	baz=204			eS	**Sg**	**12 08 34.9**	**-0.3**
TWF1	**Yuli** baz=206	**0.48**	**202**	⇓eP	**Pg**	**12 08 29.3**	**-0.7**
TWF1	baz=206			S	**Sg**	**12 08 36.5**	**+0.1**
SSLB	**Suanglung** baz=268	**0.49**	**269**	⇓P	**Pg**	**12 08 29.9**	**-0.4**
SSLB	baz=268			S	**Sg**	**12 08 35.8**	**-1.1**
TDCB	**Techi** baz=328	**0.55**	**326**	⇓P	**Pg**	**12 08 31.4**	**0.0**
TDCB	baz=328			S	**Sg**	**12 08 37.8**	**-0.9**
DPDB	**Guoxing** baz=294	**0.57**	**295**	⇓iP	**Pg**	**12 08 31.6**	**-0.1**
DPDB	baz=294			S	**Sg**	**12 08 38.6**	**-0.8**
WHYT	**Xinyi Township** baz=254	**0.59**	**261**	⇓eP	**Pg**	**12 08 32.2**	**0.0**
WHYT	baz=254			S	**Sg**	**12 08 39.6**	**-0.5**
FULB	**Fuli** baz=205	**0.62**	**197**	eP	**Pg**	**12 08 32.9**	**+0.2**
NNSB	**Datong** baz=352	**0.64**	**351**	⇓P	**Pg**	**12 08 33.0**	**-0.1**
NNSB	baz=352			S	**Sg**	**12 08 41.2**	**-0.4**
NNS	**Nan Shan** baz=2.0	**0.65**	**350**	⇓iP	**Pg**	**12 08 33.3**	**-0.1**
NNS	baz=2.0			S	**Sg**	**12 08 41.7**	**-0.3**
ENA	**Nanau** baz=12	**0.67**	**20**	⇓P	**Pg**	**12 08 33.1**	**-0.5**
ENA	baz=12			eS	**Sg**	**12 08 42.5**	**0.0**
NANB	**Nanao** baz=12	**0.67**	**20**	⇓P	**Pg**	**12 08 33.0**	**-0.6**
NANB	baz=12			S	**Sg**	**12 08 42.2**	**-0.4**
WHP	**Taichung City** baz=314	**0.69**	**314**	eP	**Pg**	**12 08 34.1**	**0.0**
WHP	baz=314			eS	**Sg**	**12 08 42.4**	**-0.9**
WJS	**Zhushan** baz=274	**0.70**	**272**	eP	**Pg**	**12 08 34.6**	**+0.4**
WJS	baz=274			S	**Sb**	**12 08 44.8**	**+0.9**
CHKT	**Chengkung** baz=190	**0.70**	**190**	eP	**Pb**	**12 08 34.0**	**-0.5**
CHKT	baz=190			S	**Sg**	**12 08 44.2**	**+0.7**
ELDTW	**Lidau** baz=207	**0.74**	**216**	eP	**Pb**	**12 08 33.7**	**-1.6**
ELDTW	baz=207			eS	**Sb**	**12 08 43.9**	**-1.4**
WNT	**Mingjian** baz=278	**0.74**	**277**	eP	**Pg**	**12 08 35.7**	**+0.6**
WNT	baz=278			S	**Sn**	**12 08 46.3**	**-1.4**
CHN5	**Tsauling** baz=246	**0.77**	**255**	⇑P	**Pb**	**12 08 35.8**	**0.0**
CHN5	baz=246			eS	**Sg**	**12 08 46.7**	**+1.0**
NDT	**Datong Townshi** baz=3.0	**0.80**	**1**	eP	**Pb**	**12 08 35.8**	**-0.5**
NDT	baz=3.0			eS	**Sb**	**12 08 45.6**	**-1.3**
TCU	**Taichung** baz=295	**0.82**	**295**	eP	**Pn**	**12 08 37.2**	**-0.5**
TCU	baz=295			eS	**Sn**	**12 08 49.1**	**-0.5**
ENTT	**Nioudou** baz=7.0	**0.84**	**5**	eP	**Pb**	**12 08 36.2**	**-0.8**
ENTT	baz=7.0			S	**Sb**	**12 08 47.4**	**-0.8**
TWQ1	**Liyutan** baz=316	**0.86**	**310**	⇓eP	**Pg**	**12 08 37.4**	**+0.3**
TWQ1	baz=316			S	**Sn**	**12 08 49.6**	**-0.8**
WGK	**Gukeng** baz=262	**0.86**	**263**	P	**Pg**	**12 08 37.6**	**+0.4**
WGK	baz=262			S	**Sn**	**12 08 49.9**	**-0.6**
TWC	**Suao** baz=15	**0.87**	**22**	eP	**Pb**	**12 08 36.5**	**-0.9**
TWC	baz=15			eS	**Sb**	**12 08 48.2**	**-0.7**
YHNB	**Yeheng** baz=355	**0.88**	**353**	eP	**Pb**	**12 08 37.3**	**-0.3**
YHNB	baz=355			S	**Sb**	**12 08 48.1**	**-1.1**
WDLH	**Douliu** baz=262	**0.88**	**263**	eP	**Pg**	**12 08 37.9**	**+0.3**
WDLH	baz=262			eS	**Sn**	**12 08 50.5**	**-0.4**
NSK	**Sanguang** baz=354	**0.89**	**352**	⇑P	**Pb**	**12 08 37.4**	**-0.3**
NSK	baz=354			S	**Sb**	**12 08 48.6**	**-0.8**
WCHH	**Zhanghua** baz=288	**0.90**	**289**	eP	**Pg**	**12 08 38.4**	**+0.4**
WCHH	baz=288			eS	**Sn**	**12 08 51.1**	**-0.3**
STYT	**Tauyuan** baz=225	**0.92**	**227**	eP	**Pb**	**12 08 38.3**	**0.0**
STYT	baz=225			S	**Sb**	**12 08 50.6**	**+0.2**
TPUB	**Ta-pu** baz=237	**0.93**	**238**	⇑P	**Pb**	**12 08 38.6**	**+0.2**
TPUB	baz=237			S	**Sg**	**12 08 51.2**	**+0.4**
CHN4	**Tsaushan** baz=229	**0.94**	**242**	⇑iP	**Pg**	**12 08 39.0**	**+0.3**
CHN4	baz=229			S	**Sn**	**12 08 52.5**	**+0.1**
TWE	**Neicheng** baz=11	**0.94**	**10**	eP	**Pb**	**12 08 37.6**	**-0.9**
TWE	baz=11			eS	**Sb**	**12 08 50.2**	**-0.6**
NSTT	**Nanjuang** baz=333	**0.94**	**332**	⇓P	**Pg**	**12 08 38.9**	**+0.1**
NSTT	baz=333			S	**Sb**	**12 08 50.1**	**-0.9**
EOS1	**EOS1** baz=56	**0.95**	**38**	eP	**Pn**	**12 08 39.5**	**+0.1**
LIOB	**Emei** baz=334	**0.95**	**333**	P	**Pg**	**12 08 39.3**	**+0.3**
LIOB	baz=334			S	**Sb**	**12 08 50.6**	**-0.6**
WDJ	**Dajia District** baz=306	**0.95**	**305**	eP	**Pn**	**12 08 39.8**	**+0.3**
WDJ	baz=306			eS	**Sn**	**12 08 52.6**	**-0.2**
SLBB	**Yuanshan** baz=20	**0.96**	**8**	eP	**Pb**	**12 08 37.1**	**-1.9**
CHN2	**Minshiung** baz=253	**0.97**	**255**	eP	**Pg**	**12 08 39.9**	**+0.7**
CHN2	baz=253			S	**Sn**	**12 08 53.0**	**-0.1**
PTSB	**Yuanli** baz=313	**0.97**	**312**	eP	**Pn**	**12 08 40.0**	**+0.3**
PTSB	baz=313			eS	**Sn**	**12 08 53.1**	**-0.1**
WTP	**Ta-pu** baz=234	**0.97**	**236**	⇑iP	**Pb**	**12 08 39.3**	**+0.2**
WTP	baz=234			S	**Sg**	**12 08 52.6**	**+0.5**
NMLH	**Miaoli** baz=320	**0.98**	**319**	eP	**Pg**	**12 08 40.1**	**+0.7**
NMLH	baz=320			eS	**Sg**	**12 08 52.4**	**+0.1**
NWLT	**Wulai** baz=3.0	**0.98**	**1**	eP	**Pb**	**12 08 39.0**	**-0.2**
NWLT	baz=3.0			eS	**Sb**	**12 08 51.1**	**-0.9**
ILA	**Ilan** baz=15	**0.99**	**14**	eP	**Pb**	**12 08 39.0**	**-0.5**
CHY	**Chiayi** baz=252	**1.02**	**253**	⇑eP	**Pb**	**12 08 40.1**	**+0.1**
CHY	baz=252			eS	**Sg**	**12 08 54.1**	**+0.4**
RLNB	**Erlin** baz=275	**1.04**	**275**	P	**Pn**	**12 08 40.4**	**-0.2**
RLNB	baz=275			S	**Sn**	**12 08 55.1**	**+0.2**
TWGBT	**Beinan** baz=189	**1.04**	**201**	eP	**Pb**	**12 08 39.5**	**-0.8**
TWK	**Hsinying** baz=239	**1.06**	**240**	⇑P	**Pn**	**12 08 40.8**	**-0.1**
TWK	baz=239			i S	**Sn**	**12 08 55.4**	**-0.1**
WLTB	**Daxi** baz=357	**1.07**	**348**	eP	**Pg**	**12 08 41.8**	**+0.5**
SNST	**Tainan City** baz=237	**1.08**	**238**	⇓P	**Pg**	**12 08 41.4**	**+0.1**
SNST	baz=237			S	**Sg**	**12 08 55.7**	**+0.3**
SGST	**Jiashian** baz=228	**1.10**	**230**	⇓iP	**Pb**	**12 08 40.9**	**-0.3**
SGST	baz=228			S	**Sn**	**12 08 56.1**	**-0.2**
NTC	**Toucheng** baz=18	**1.10**	**16**	eP	**Pb**	**12 08 41.2**	**-0.1**
HSN	**Hsinchu** baz=321	**1.11**	**335**	eP	**Pg**	**12 08 42.0**	**0.0**
HSN	baz=321			eS	**Sg**	**12 08 57.6**	**+1.1**
WTCT	**Ta-ch'eng** baz=273	**1.11**	**274**	eP	**Pb**	**12 08 41.4**	**0.0**
WTCT	baz=273			S	**Sg**	**12 08 56.7**	**+0.2**
SLGT	**Liugui** baz=223	**1.11**	**224**	eP	**Pg**	**12 08 42.2**	**+0.1**
SLGT	baz=223			eS	**Sg**	**12 08 56.8**	**+0.2**
WLGB	**Puzi** baz=253	**1.14**	**254**	eP	**Pb**	**12 08 42.3**	**+0.4**
WLGB	baz=253			eS	**Sg**	**12 08 58.1**	**+0.7**
WMLT	**Mailiao** baz=270	**1.16**	**271**	eP	**Pn**	**12 08 41.7**	**-0.6**
WMLT	baz=270			eS	**Sn**	**12 08 58.0**	**0.0**
NHDH	**Xindian Distri** baz=4.0	**1.16**	**1**	eP	**Pb**	**12 08 42.3**	**-0.1**
NHDH	baz=4.0			eS	**Sn**	**12 08 57.9**	**-0.1**
WSF	**Szhu** baz=261	**1.17**	**263**	P	**Pb**	**12 08 42.5**	**0.0**
WSF	baz=261			eS	**Sn**	**12 08 58.2**	**0.0**
TATO	**Taipei** baz=14	**1.18**	**360**	eP	**Pb**	**12 08 42.7**	**+0.1**
TATO	baz=14			eS	**Sb**	**12 08 56.8**	**-0.8**
TWA	**Mucha** baz=15	**1.18**	**4**	eP	**Pn**	**12 08 42.5**	**-0.1**
TWA	baz=15			eS	**Sn**	**12 08 58.6**	**+0.1**
NCUH	**Zhongli** baz=349	**1.20**	**347**	eP	**Pg**	**12 08 43.9**	**+0.2**
NCUH	baz=349			eS	**Sg**	**12 09 00.7**	**+1.3**
NCU	**National Centr** baz=349	**1.20**	**347**	P	**Pg**	**12 08 44.3**	**+0.6**
NCU	baz=349			S	**Sg**	**12 09 00.9**	**+1.4**
TIPB	**Shuangxi** baz=14	**1.21**	**14**	eP	**Pn**	**12 08 42.6**	**-0.5**
TIPB	baz=14			eS	**Sb**	**12 08 57.4**	**-1.3**
TAP	**Taipei** baz=15	**1.24**	**1**	eP	**Pg**	**12 08 44.6**	**+0.2**
CHN8	**Yiju** baz=248	**1.26**	**249**	eP	**Pb**	**12 08 44.0**	**+0.1**
CHN8	baz=248			eS	**Sg**	**12 09 01.2**	**+0.1**
CHN3	**Shinhua** baz=232	**1.26**	**236**	eP	**Pg**	**12 08 45.2**	**+0.5**
TWB1	**Santiao Chiao** baz=12	**1.29**	**20**	eP	**Pb**	**12 08 44.5**	**-0.1**
ECL	**Taimali** baz=189	**1.29**	**203**	eP	**Pn**	**12 08 43.6**	**-0.5**
NWF	**Wu-fen Shan** baz=13	**1.30**	**12**	eP	**Pb**	**12 08 44.5**	**-0.2**
WFSB	**Wu-fen Shan** baz=13	**1.30**	**12**	eP	**Pn**	**12 08 43.9**	**-0.3**
TWS1	**Kuangyinshan** baz=13	**1.30**	**357**	eP	**Pb**	**12 08 45.0**	**+0.2**
TWS1	baz=13			eS	**Sg**	**12 09 03.2**	**+0.6**
SSD	**Sandimen** baz=216	**1.31**	**217**	eP	**Pb**	**12 08 44.6**	**-0.2**
SSD	baz=216			eS	**Sg**	**12 09 03.0**	**+0.2**
SCLT	**Jiali** baz=242	**1.34**	**243**	eP	**Pb**	**12 08 45.3**	**-0.1**
SCLT	baz=242			eS	**Sg**	**12 09 04.0**	**+0.1**
YM01	**YM01** baz=6.0	**1.35**	**3**	eP	**Pb**	**12 08 45.3**	**-0.2**
YM01	baz=6.0			eS	**Sb**	**12 09 03.2**	**+0.6**
YM10	**YM10** baz=5.0	**1.36**	**3**	eP	**Pn**	**12 08 45.3**	**+0.3**
YM10	baz=5.0			eS	**Sg**	**12 09 04.4**	**+0.1**
NTST	**Danshui** baz=18	**1.36**	**358**	eP	**Pb**	**12 08 46.3**	**+0.5**
YM11	**YM11** baz=5.0	**1.37**	**3**	eP	**Pn**	**12 08 44.8**	**-0.4**
TWM1	**Shoushan** baz=238	**1.38**	**226**	eP	**Pg**	**12 08 47.0**	**-0.1**
ANP	**Anpu** baz=19	**1.39**	**1**	eP	**Pb**	**12 08 45.9**	**-0.3**
YM08	**YM08** baz=5.0	**1.39**	**4**	eP	**Pb**	**12 08 46.1**	**-0.2**
SGLT	**Jiouru** baz=208	**1.41**	**221**	eP	**Pg**	**12 08 47.5**	**-0.1**
MASBT	**Mashibuluo** baz=204	**1.42**	**214**	eP	**Pn**	**12 08 46.0**	**+0.1**
TWY	**Chenhua** baz=6.0	**1.48**	**4**	eP	**Pb**	**12 08 47.3**	**-0.4**
JYNG	**Yonagunijimaku**	**1.48**	**64**	P	**Pn**	**12 08 46.8**	**+0.1**
JYNG				eS	**Sb**	**12 09 06.1**	**-0.3**
SNJT	**Kaohsiung City** baz=221	**1.48**	**226**	eP	**Pg**	**12 08 48.9**	**-0.2**
EAST	**Anshuo** baz=192	**1.52**	**203**	eP	**Pn**	**12 08 47.0**	**-0.3**
YOJ	**Yonaguni jima** baz=65	**1.54**	**64**	eP	**Pn**	**12 08 47.5**	**+0.1**
YOJ	**Yonaguni jima**	**1.54**	**64**	P	**Pn**	**12 08 47.6**	**+0.1**
YOJ				eS	**Sn**	**12 09 07.2**	**0.0**
SCZT	**Fangliau** baz=209	**1.63**	**210**	eP	**Pn**	**12 08 49.5**	**+0.8**
SCZT	baz=209			eS	**Sb**	**12 09 10.8**	**+0.1**
WDGT	**Dungji** baz=249	**1.76**	**253**	eP	**Pn**	**12 08 50.6**	**+0.1**
TWP	**Hsiaoliuchiu** baz=229	**1.78**	**216**	eP	**Pb**	**12 08 53.1**	**+0.3**
PHUB	**P'eng-hu** baz=243	**1.78**	**261**	eP	**Pn**	**12 08 51.0**	**+0.2**
PHUB	baz=243			eS	**Sn**	**12 09 13.9**	**+0.6**
PNG	**Penghu** baz=262	**1.79**	**263**	eP	**Pn**	**12 08 50.5**	**-0.5**
PNG	baz=262			eS	**Sn**	**12 09 13.4**	**-0.1**
PCYT	**Pengchaiyu** baz=18	**1.90**	**16**	eP	**Pn**	**12 08 52.9**	**+0.5**
TWK1	**Hengchun** baz=191	**1.95**	**199**	eP	**Pb**	**12 08 54.9**	**-0.9**
TWKBT	**Hengchun** baz=191	**1.95**	**199**	eP	**Pn**	**12 08 52.4**	**-0.7**
VCHM	**Qimei** baz=250	**1.98**	**253**	eP	**Pn**	**12 08 52.6**	**-0.9**
IRIF	**Iriomote-Funau**	**2.12**	**75**	P	**Pn**	**12 08 55.6**	**+0.2**
IRIF				eS	**Sn**	**12 09 21.6**	**+0.1**
HATJ	**Hateruma jima**	**2.13**	**83**	P	**Pn**	**12 08 55.7**	**+0.1**
HATJ				eS	**Sn**	**12 09 22.0**	**+0.1**
VWUC	**VWUC** baz=303	**2.21**	**303**	eP	**Pn**	**12 08 55.8**	**-0.9**
PTTC	**Pingtan** baz=319	**2.31**	**318**	eP	**Pn**	**12 08 57.0**	**-1.1**
JKRS	**Kuro-shima**	**2.34**	**79**	P	**Pn**	**12 08 59.2**	**+0.7**
JKRS				eS	**Sn**	**12 09 27.9**	**+0.8**
JIJ	**Ishigaki jima**	**2.49**	**76**	P	**Pn**	**12 09 00.1**	**-0.4**
JIJ				S	**Sn**	**12 09 29.9**	**-0.8**
PTMZ	**Houxiangcun** baz=300	**2.49**	**300**	eP	**Pn**	**12 08 59.8**	**-0.8**
JISG	**Ishigakijimahi**	**2.69**	**72**	P	**Pn**	**12 09 03.2**	**-0.1**
JISG				S	**Sn**	**12 09 34.8**	**-0.9**
MATB	**Ma-tsu** baz=332	**2.73**	**329**	eP	**Pn**	**12 09 03.7**	**-0.2**

KNM	Kinmen	2.86	283	eP		Pn	12 09 07.2 +1.5
	baz=280						
QZH	Quanzhou	2.88	294	⇑iPn		Pn	12 09 05.6 -0.3
QZH				Sn		Sn	12 09 38.2 -2.2
QZH				smax		smax	
	comp=N,350nm,0.8s						
QZH				smax		smax	
	comp=E,220nm,0.7s						
KNMB	Chin-men Tao	2.91	284	eP		Pn	12 09 06.1 -0.3
	baz=282						
JTJ	Tarama	3.05	73	P		Pn	12 09 08.8 +0.5
JTJ				S		Sn	12 09 44.8 +0.3
LYJJ	Jianjiangzhen	3.16	331	eP		Pn	12 09 09.6 -0.2
	baz=335						
MHZQ	Yeshan	3.20	316	eP		Pn	12 09 10.3 -0.1
	baz=318						
XPSS	Dashiqiu	3.34	340	eP		Pn	12 09 12.1 -0.1
	baz=331						
AXDP	Jialang	3.40	290	eP		Pn	12 09 12.8 -0.2
	baz=288						
ZPLA	Ao Xicun	3.43	273	eP		Pn	12 09 13.1 -0.4
	baz=270						
JIRB	Irabujima	3.51	72	P		Pn	12 09 15.1 +0.5
JIRB				eS		Sn	12 09 56.4 +0.4
ZZJH	Jiuhuzhen	3.59	282	eP		Pn	12 09 14.2 -1.5
	baz=279						
JIKM	Ikemajima	3.60	71	P		Pn	12 09 17.2 +1.3
JIKM				S		Sn	12 09 57.8 -0.4
JMJ2	Miyako jima3	3.62	74	P		Pn	12 09 16.9 +0.7
JMJ2				eS		Sn	12 09 58.4 -0.3
JOGS	Gusukube	3.70	74	P		Pn	12 09 16.7 -0.5
JOW	Kunigami	6.84	62	Pn		Pn	12 10 00.3 -0.1
	0.2nm,0.3s,baz=204,slow=16,SNR=7.8						
JOW				Sn		Sn	12 11 18.2 +0.1
	0.1nm,0.3s,baz=166,slow=14,SNR=1.8						
KSRS	Korea Array	14.69	21	Pn		P	12 11 51.3 -2.7
	0.1nm,0.3s,baz=343,slow=42,SNR=3.4						
CMAR	Chiang Mai Arr	21.68	260	P		P	12 13 12.5 +1.5
	1.3nm,0.7s,baz=62,slow=8.6,SNR=11						
SONM	Songino Array	26.83	337	P		P	12 14 02.4 +1.9
	0.8nm,0.7s,baz=158,slow=12,SNR=4.4						
WMQ	Urumqi	34.13	314	eP		P	12 15 07.5 +2.6
MKAR	Makanchi Array	38.81	316	P		P	12 15 45.5 +0.7
	1.5nm,0.8s,baz=107,slow=10,SNR=14						
ZALV	Zalesovo Beam	40.72	327	P		P	12 16 01.4 +0.8
	0.7nm,0.4s,baz=123,slow=5.5,SNR=4.9						
H11N1	WAKE ISLAND Hy 42.23	86		T		T	13 01 17.5
	baz=283,slow=74,SNR=8.4						
H11N2	WAKE ISLAND Hy 42.23	86		T		T	13 01 16.8
	baz=283,slow=74,SNR=12						
H11N3	WAKE ISLAND Hy 42.24	86		T		T	13 01 19.4
	baz=283,slow=74,SNR=9.6						
H11S3	WAKE ISLAND Hy 42.35	88		T		T	13 01 22.5
	baz=284,slow=75,SNR=62						
H11S1	WAKE ISLAND Hy 42.36	88		T		T	13 01 23.1
	baz=284,slow=75,SNR=30						
H11S2	WAKE ISLAND Hy 42.37	88		T		T	13 01 23.8
	baz=284,slow=75,SNR=17						
WRA	Warramunga Arr	45.24	163	P		P	12 16 35.1 -2.4
	0.4nm,0.5s,baz=345,slow=8.7,SNR=8.0						
ASAR	Alice Springs	48.69	165	P		P	12 17 03.1 -1.4
	0.2nm,0.3s,baz=340,slow=6.9,SNR=5.6						
STKA	Stephens Creek	58.60	160	P		P	12 18 16.4 -0.6
	1.7nm,0.8s,baz=342,slow=9.6,SNR=2.2						
ILAR	Eielson Array	69.43	27	P		P	12 19 29.2 +1.4
	0.4nm,0.8s,baz=283,slow=4.4,SNR=4.5						
BRTR	Keskin Array B	73.63	307	P		P	12 19 55.0 +1.2
	0.5nm,0.6s,baz=113,slow=3.3,SNR=2.6						

TAP ***12*** *12:11:23.8, 23°.81N×121°.51E, h15km, ML3.0, C*
JMA ***12*** *12:11:23.8, 23°.78N×121°.50E, h3km, M2.7*
ISCJB ***12*** *12:11:24.2±0.3, 23°.79N±0°.01×121°.52E±0°.02, h14km±2km, Error ellipse: s-maj=3.3km s-min=1.9km az=25.7*

ISC 12 12:11:24.2±0.8, 23°.79N±0°.02×121°.50E±0°.02, h18km±4km, n73, σ0s70/113, 3C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	Shilin	0.07	289	⇑iP	Pg	12 11 27.1	-0.4
	baz=271						
ESL				S	Sg	12 11 28.7	-1.0
	baz=271						
EGFH	Guangfu	0.14	210	⇑iP	Pg	12 11 28.1	-0.2
	baz=216						
EGFH				iS	Sg	12 11 30.6	-0.3
	baz=216						
ENLB	Shoufeng	0.14	39	⇑iP	Pg	12 11 28.1	-0.2
	baz=31						
ENLB				iS	Sg	12 11 31.4	+0.3
	baz=31						
HWA	Hwalien	0.21	27	eP	Pg	12 11 29.8	+0.6
	baz=24						
TWD	Chiawan	0.30	16	P	Pb	12 11 30.8	-0.2
	baz=6.0						
TWD				S	Sb	12 11 35.1	-0.6
	baz=6.0						
HGSD	Ruisui	0.31	194	P	Pb	12 11 31.2	+0.1
	baz=204						
HGSD				eS	Sb	12 11 36.3	+0.4
	baz=204						
EHY	Hungye	0.33	210	P	Pg	12 11 30.8	-0.4
	baz=218						
EHY				S	Sg	12 11 35.6	-0.3
	baz=218						
VWDT	VWDT	0.33	264	⇓P	Pg	12 11 31.0	-0.2
	baz=261						
VWDT				S	Sg	12 11 35.1	-1.0
	baz=261						
NACB	Ninganchiao	0.39	12	eP	Pg	12 11 32.1	-0.2
	baz=358						
NACB				S	Sg	12 11 36.7	-1.1
	baz=358						
CHGB	Renai	0.40	312	⇓P	Pg	12 11 32.1	-0.5
	baz=315						
CHGB				S	Sg	12 11 37.0	-1.3
	baz=315						
ETLH	Xiulin Townshi	0.41	357	eP	Pg	12 11 32.4	-0.3
	baz=353						
ETLH				S	Sg	12 11 37.6	-0.9
	baz=353						
YULB	Yu-li	0.44	205	eP	Pg	12 11 32.5	-0.7
	baz=214						
YULB				eS	Sg	12 11 38.7	-0.5
	baz=214						
TWF1	Yuli	0.48	203	eP	Pg	12 11 33.4	-0.4
	baz=214						
TWF1				S	Sg	12 11 39.9	-0.4
	baz=214						
SSLB	Suanglung	0.50	270	P	Pg	12 11 33.5	-0.8
	baz=268						
SSLB				eS	Sg	12 11 39.4	-1.8
	baz=268						
TDCB	Techi	0.56	326	P	Pg	12 11 34.8	-0.6
	baz=315						
TDCB				S	Sg	12 11 41.4	-1.5
	baz=315						
DPDB	Guoxing	0.58	295	P	Pg	12 11 35.3	-0.5
	baz=292						
DPDB				eS	Sg	12 11 42.2	-1.3
	baz=292						
YUS	Yu-Shan	0.59	239	P	Pg	12 11 35.7	-0.3
	baz=239						
YUS				eS	Sg	12 11 42.7	-1.4
	baz=239						
WHYT	Xinyi Township	0.60	261	eP	Pg	12 11 35.8	-0.4
	baz=260						
WHYT				eS	Sg	12 11 43.1	-1.2
	baz=260						
FULB	Fuli	0.62	198	eP	Pb	12 11 36.5	-0.1
	baz=211						
NNSB	Datong	0.64	350	⇓P	Pg	12 11 36.6	-0.4
	baz=347						
NNSB				eS	Sg	12 11 44.3	-1.2
	baz=347						
NNS	Nan Shan	0.66	350	P	Pg	12 11 36.9	-0.3
	baz=347						
NNS				S	Sg	12 11 45.5	-0.5
	baz=347						
ENA	Nanau	0.67	19	eP	Pg	12 11 36.6	-0.8
	baz=8.0						
NANB	Nanao	0.67	20	eP	Pg	12 11 36.6	-0.8
	baz=8.0						
CHKT	Chengkung	0.70	190	eP	Pb	12 11 37.9	0.0
	baz=190						
WHP	Taichung City	0.70	314	eP	Pg	12 11 37.5	-0.5
	baz=311						
WHP				eS	Sg	12 11 46.9	-0.5
	baz=311						
WJS	Zhushan	0.71	273	eP	Pb	12 11 38.4	+0.3
	baz=271						
WJS				eS	Sb	12 11 48.2	+0.7
	baz=271						
ELDTW	Lidau	0.75	217	eP	Pg	12 11 37.9	-0.9
	baz=211						
ELDTW				eS	Sb	12 11 48.9	+0.1
	baz=211						
WNT	Mingjian	0.76	277	eP	Pb	12 11 39.1	+0.3
	baz=277						
WNT				eS	Sb	12 11 49.8	+1.0
	baz=277						
CHN5	Tsauling	0.78	256	eP	Pb	12 11 39.4	+0.1
	baz=247						
CHN5				eS	Sb	12 11 50.4	+0.8
	baz=247						
NDT	Datong Townshi	0.81	1	eP	Pg	12 11 39.5	-0.5
TCU	Taichung	0.83	295	eP	Pb	12 11 40.5	+0.4
	baz=293						
ENTT	Nioudou	0.85	4	eP	Pg	12 11 40.0	-0.7
	baz=4.0						
TWQ1	Liyutan	0.87	310	eP	Pb	12 11 41.4	+0.6
	baz=315						
TWQ1				eS	Sb	12 11 53.7	+1.6
	baz=315						
WGK	Gukeng	0.87	263	eP	Pg	12 11 40.7	-0.4
	baz=261						
TWC	Suao	0.87	21	eP	Pg	12 11 40.5	-0.7
	baz=12						
YHNB	Yeheng	0.88	352	eP	Pg	12 11 41.0	-0.4
	baz=348						
YHNB				eS	Sg	12 11 51.8	-1.3
	baz=348						
NSK	Sanguang	0.89	351	eP	Pb	12 11 41.2	0.0
	baz=348						
NSK				eS	Sg	12 11 52.4	-0.9
	baz=348						
WDLH	Douliu	0.89	264	eP	Pb	12 11 41.5	+0.4
	baz=264						
WDLH				eS	Sb	12 11 54.0	+1.3
	baz=264						
WCHH	Zhanghua	0.91	289	eP	Pb	12 11 41.6	+0.2
	baz=286						
STYT	Tauyuan	0.93	228	eP	Pg	12 11 41.7	-0.6
	baz=229						
STYT				eS	Sg	12 11 53.9	-0.6
	baz=229						
TWE	Neicheng	0.94	9	eP	Pg	12 11 41.9	-0.5
	baz=10.0						
TPUB	Ta-pu	0.94	239	P	Pb	12 11 42.2	+0.3
	baz=240						
TPUB				eS	Sb	12 11 55.0	+0.8
	baz=240						
CHN4	Tsaushan	0.94	242	⇓P	Pb	12 11 42.6	+0.5
	baz=243						
CHN4				eS	Sn	12 11 56.3	+0.6
	baz=243						
EOS1	EOS1	0.95	37	eP	Pb	12 11 42.5	+0.5
	baz=26						
NSTT	Nanjuang	0.95	331	eP	Pb	12 11 42.5	+0.3
	baz=328						
NSTT				eS	Sg	12 11 54.3	-1.0
	baz=328						
LIOB	Emei	0.96	332	eP	Pb	12 11 42.5	+0.2
	baz=329						
LIOB				eS	Sb	12 11 55.1	+0.4
	baz=329						
WDJ	Dajia District	0.96	305	eP	Pn	12 11 43.1	+0.3
	baz=303						
WDJ				eS	Sn	12 11 56.6	+0.5
	baz=303						
SLBB	Yuanshan	0.97	7	eP	Pg	12 11 41.8	-1.2
	baz=7.0						
PTSB	Yuanli	0.98	312	eP	Pn	12 11 43.4	+0.3
	baz=310						
WTP	Ta-pu	0.98	237	P	Pb	12 11 43.0	+0.3
	baz=238						
WTP				eS	Sg	12 11 55.7	-0.5
	baz=238						
NWLT	Wulai	0.98	360	eP	Pb	12 11 42.9	+0.2
	baz=360						
NMLH	Miaoli	0.99	319	eP	Pn	12 11 43.7	+0.5
	baz=317						
CHY	Chiayi	1.03	254	eP	Pg	12 11 43.4	-0.8
	baz=252						
TWGBT	Beinan	1.04	202	eP	Pg	12 11 43.0	-1.4
	baz=190						
RLNB	Erlin	1.05	276	P	Pg	12 11 44.0	-0.5
	baz=275						
RLNB				eS	Sb	12 11 58.5	+1.2
	baz=275						
TWK	Hsinying	1.07	241	eP	Pb	12 11 44.5	+0.3
	baz=242						
TWK				eS	Sb	12 11 58.8	+0.9
	baz=242						
WLTB	Daxi	1.08	348	eP	Pb	12 11 44.6	+0.2
	baz=356						
TTN	Taitung	1.08	198	eP	Pg	12 11 43.9	-1.3
	baz=198						
SNST	Tainan City	1.08	239	eP	Pb	12 11 44.8	+0.3
	baz=237						
SGST	Jiashian	1.10	230	eP	Pg	12 11 44.6	-0.9
	baz=232						
SGST				eS	Sb	12 12 00.1	+1.3
	baz=232						
SLGT	Liugui	1.12	225	eP	Pg	12 11 45.4	-0.5
	baz=211						
TIPB	Shuangxi	1.21	14	eP	Pb	12 11 46.7	0.0
	baz=14						
ECL	Taimali	1.29	203	eP	Pn	12 11 47.4	0.0
	baz=190						
SSD	Sandimen	1.31	218	eP	Pg	12 11 49.0	-0.5
	baz=222						
SSD				eS	Sg	12 12 06.4	-0.3
	baz=222						
YM01	YM01	1.35	3	eP	Pg	12 11 49.8	-0.5
	baz=2.0						
YM10	YM10	1.36	2	eP	Pg	12 11 50.0	-0.5
	baz=2.0						
MASBT	Mashibuluo	1.42	214	eP	Pn	12 11 49.6	+0.4
	baz=206						
EAST	Anshuo	1.53	203	eP	Pb	12 11 52.0	0.0
	baz=193						
SCZT	Fangliau	1.63	210	eP	Pb	12 11 53.6	-0.1
	baz=205						
PHUB	P'eng-hu	1.79	261	eP	Pn	12 11 54.1	-0.1
	baz=259						
PNG	Penghu	1.80	263	eP	Pn	12 11 54.2	-0.2
	baz=260						
JIJ	Ishigaki jima	2.48	76	P	Pn	12 12 04.0	+0.3
JIJ				eS	Sn	12 12 34.2	+0.6
JISG	Ishigakijimahi	2.68	72	P	Pn	12 12 06.9	+0.4

ISCJB ***12*** *12:13:23.2±0.8, 56°.7S±0°.2×150°.7W±0°.2, h10km, mb4.3/3, MS3.7/2, Error ellipse: s-maj=25.2km s-min=15.4km az=33.3*
IDC ***12*** *12:13:23.9±0.9, 56°.75S×150°.76W, h0km, mb4.3/3, mb1 4.4/3, mb1mx4. 1/31, mbtmp4.3/3, Error ellipse: s-maj=40.7km s-min=28.6km az=34.0*
NEIC ***12*** *12:13:24.8±0.7, 56°.7S±0°.1×150°.6W±0°.3, h10km±1km, mb4.5/8*

ISC 12 12:13:25.0±0.7, 56°.7S±0°.2×150°.7W±0°.1, h10km, n34, σ0s69/23, mb4.4/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	25.67	199	P	P	12 18 55.6	+1.2
OXZ	Oxford	27.05	284	P	P	12 19 07.7	+0.4
OXZ				IAmb	IAmb	12 19 13.9	
	comp=Z,5.6nm,0.9s						
TBI	Tubuai	33.33	2	eLR	LR	12 28 42.4	
	comp=Z,198nm,30.2s						
QSPA	South Pole Qui	33.44	180	P	P	12 20 04.5	+0.8
	comp=Z,2.8nm,1.0s,baz=69,slow=6.0,SNR=5.4						
QSPA	South Pole Qui	33.44	180	P	P	12 20 03.9	+0.2
QSPA				IAmb	IAmb	12 20 09.2	
	comp=Z,6.5nm,1.2s						
TVO	Taravao	38.87	2	eT	T	13 02 05.9	
	comp=Z,0.6nm,0.3s						
PAE	Paea	38.98	2	eT	T	13 02 14.3	
	comp=Z,1.0nm,0.3s						
PPT2	Papeete2	39.06	2	eLR	LR	12 31 35.8	
	comp=Z,165nm,24.5s						
PPT2	Papeete2	39.06	2	eT	T	13 02 19.8	
	comp=Z,1.4nm,0.3s						
PMSA	Palmer Station	39.87	138	P	P	12 20 58.0	-0.2
	comp=Z,3.9nm,0.4s,baz=274,slow=8.0,SNR=13						
VAH	Vaihoa	41.45	4	eT	T	13 05 19.7	
	comp=Z,36nm,0.2s						
DZM	Mont Dzumac	46.64	300	P	P	12 21 53.5	+0.1
SNAA	Sanae	49.94	167	P	P	12 22 17.2	-1.1
H01W1	Cape Leeuwin H	64.26	245	T	T	13 34 03.8	
	baz=141,slow=76,SNR=17						
H01W2	Cape Leeuwin H	64.27	245	T	T	13 34 07.9	
	baz=141,slow=76,SNR=19						
H01W3	Cape Leeuwin H	64.28	245	T	T	13 34 05.3	
	baz=141,slow=76,SNR=18						
CPUP	Villa Florida	70.19	108	P	P	12 24 37.8	+0.1
	baz=195,slow=9.4,SNR=6.6						
CPUP	Villa Florida	70.19	108	P	P	12 24 37.4	-0.3
CPUP				IAmb	IAmb	12 24 38.3	
	comp=Z,9.4nm,1.1s						
PSA00	Pilbara Seismi	71.96	258	P	P	12 24 47.5	-1.0
LPAZ	La Paz	72.48	93	P	P	12 24 54.2	+1.7
	comp=Z,3.0nm,0.8s,baz=228,slow=3.8,SNR=8.8						
LPAZ	La Paz	72.48	93	P	P	12 24 51.6	-0.9
LPAZ				IAmb	IAmb	12 24 54.8	
	comp=Z,3.7nm,0.9s						
H10N3	ASCENSION HYDR	106.34	134	T	T	14 27 23.4	
	baz=204,slow=75,SNR=21						
H10N1	ASCENSION HYDR	106.34	134	T	T	14 27 24.2	
	baz=204,slow=75,SNR=22						
H10N2	ASCENSION HYDR	106.36	134	T	T	14 27 25.1	
	baz=204,slow=75,SNR=19						
CMAR	Chiang Mai Arr	116.40	263	PKP	PKiKP	12 32 09.2	+0.6
	comp=Z,0.4nm,0.5s,baz=163,slow=0.9,SNR=3.6						
ILAR	Eielson Array	121.19	2	PKP	PKiKP	12 32 16.9	+0.4
	comp=Z,1.1nm,0.7s,baz=216,slow=1.9,SNR=13						
ILAR	Eielson Array	121.19	2		PKPdf	12 32 16.3	-0.1
MK31	Makanchi Array	146.54	276		PKPdf	12 33 04.1	+0.1
MKAR	Makanchi Array	146.54	276	PKPbc	PKPbc	12 33 05.1	-0.4
	comp=Z,2.1nm,0.7s,baz=112,slow=4.7,SNR=22						
NRN	Naryn	146.55	263		PKPdf	12 33 04.8	+0.1
MAKZ	Makanchi	146.72	276		PKPbc	12 33 05.8	-0.3
ZALV	Zalesovo Beam	149.03	289	PKPbc	PKPbc	12 33 11.7	-0.3
	comp=Z,1.5nm,0.7s,baz=107,slow=5.7,SNR=5.1						
ZALV	Zalesovo Beam	149.03	289	PKPdf	PKPdf	12 33 07.8	-0.1
ZALV					PKPbc	12 33 11.7	-0.3
KURK	Kurchatov	150.75	279		PKPbc	12 33 15.7	-0.5

PDG ***12*** *12:15:18.2±0.2, 43°.29N×19°.10E, h9km±1km, MD2.6/4, ML2.6/10, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
RHSSO ***12*** *12:15:18.5±0.2, 43°.28N×19°.13E, h3km±2km, ML2.5/1*
BEO ***12*** *12:15:19.4±0.2, 43°.24N×19°.20E, h0km, ML2.4/11*

ISC 12 12:15:18.3±1.1, 43°.28N±0°.02×19°.13E±0°.02, h2km±9km, n57, σ0s83/103, 18C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.18	244	⇓iPg	Pg	12 15 22.1	+0.3
UPM				eSg	Sg	12 15 24.9	+0.7
UPM	Unac-Piva	0.18	244	⇓iPg	Pg	12 15 22.1	+0.3
UPM				eSg	Sg	12 15 24.7	+0.5
PLE	Pljevlja	0.20	76	⇑iPg	Pg	12 15 22.5	+0.4
PLE				eSg	Sg	12 15 25.7	+1.0
RUDO	Rudo	0.38	28	⇓iPg	Pg	12 15 24.6	-1.0
RUDO				eSg	Sg	12 15 30.1	-0.4
NKY	Niksic	0.48	192	⇑iPg	Pg	12 15 27.4	0.0
NKY				eSg	Sg	12 15 34.9	+1.2
KOME	Kolasin	0.52	146	⇑iPg	Pg	12 15 28.2	0.0
KOME				eSg	Sb	12 15 36.6	-1.5
NKME	Niksic	0.53	194	⇑iPg	Pg	12 15 28.1	-0.3
NKME				eSg	Sg	12 15 36.5	+1.2
BRY	Bratogost	0.57	229	⇑iPg	Pg	12 15 28.5	-0.8
BRY				eSg	Sg	12 15 37.0	+0.3
BRY	Bratogost	0.57	229	⇓iPg	Pg	12 15 28.5	-0.8
BRY				eSg	Sg	12 15 37.6	+0.9
BBLS	Lazići	0.62	19	ePg	Pg	12 15 30.0	-0.1
BBLS				eSg	Sg	12 15 39.3	+1.2
BBLS	Lazići	0.62	19	⇑iPg	Pg	12 15 29.8	-0.3
BBLS				eSg	Sg	12 15 38.8	+0.7
SJES	Sjenica	0.62	92	ePg	Pg	12 15 30.1	0.0
SJES				eSg	Sg	12 15 36.4	-1.7
IVA	Berane	0.69	126	⇑iPg	Pg	12 15 31.4	-0.2
IVA				eSg	Sb	12 15 43.1	-0.1
CEME	Cevo	0.75	192	⇑iPg	Pg	12 15 31.5	-1.1
CEME				eSg	Sb	12 15 44.1	-0.7
IVAS	Ivanjica	0.80	68	ePg	Pg	12 15 32.9	-0.8
IVAS				eSg	Sg	12 15 42.3	-1.8
TREB	Trebinje	0.80	226	ePg	Pg	12 15 32.5	-1.1
TREB				eSg	Sb	12 15 45.6	-0.6
TREB	Trebinje	0.80	226	⇑iPg	Pg	12 15 32.5	-1.1
TREB				eSg	Sg	12 15 44.9	+0.9
HAPS	Han Pijesak,Bl	0.81	351	ePg	Pg	12 15 34.6	+0.7
HAPS				eSg	Sb	12 15 47.6	+0.9
HAPS	Han Pijesak,Bl	0.81	351	⇑iPg	Pg	12 15 32.6	-1.3
HAPS				eSg	Sg	12 15 45.1	+0.6
PDG	Podgorica	0.86	174	ePg	Pg	12 15 33.9	-0.7
PDG				eSg	Sg	12 15 45.4	-0.3
PDG	Podgorica	0.86	174	⇑iPg	Pg	12 15 33.9	-0.7
PDG				eSg	Sg	12 15 45.5	-0.3
PDG	Podgorica	0.86	174	⇓P	Pg	12 15 35.0	+0.4
TTG	Podgorica	0.86	174	⇑iPg	Pg	12 15 34.0	-0.7
TTG				eSg	Sb	12 15 48.2	+0.4
PVY	Plav	0.92	138	⇓iPg	Pg	12 15 35.5	-0.4
PVY				eSg	Sb	12 15 50.6	+0.9
HCY	Herceg Novi	0.96	209	⇓iPg	Pg	12 15 35.5	-1.1
HCY				eSg	Sg	12 15 49.0	+0.1
HCY	Herceg Novi	0.96	209	⇑iPg	Pg	12 15 36.0	-0.6
HCY				eSg	Sb	12 15 51.0	+0.4
BUM	Brajici-Budva	1.00	190	⇑iPg	Pg	12 15 37.0	-0.3
BUM				eSg	Sb	12 15 52.6	+0.7
DIVS	Divibare	1.03	37	ePg	Pg	12 15 37.7	-0.3
DIVS				eSg	Sb	12 15 52.4	-0.5
DIVS	Divibare	1.03	37	⇓iPg	Pg	12 15 37.4	-0.6
DIVS				eSg	Sg	12 15 51.6	+0.3
DRME	Dracevica, Mon	1.09	178	⇑iPg	Pg	12 15 38.4	-0.8
DRME				eSg	Sg	12 15 52.7	-0.7
DRME	Dracevica, Mon	1.09	178	⇓iPg	Pg	12 15 39.0	-0.2
DRME				eSg	Sn	12 15 56.1	-0.3
STON	Ston	1.12	249	ePg	Pg	12 15 38.4	-1.4
STON				Sg	Sb	12 15 55.6	+0.2
STON	Ston	1.12	249	ePg	Pg	12 15 38.2	-1.6
STON				eSg	Sg	12 15 54.5	+0.2
TEKS	Tekeris	1.30	13	ePg	Pn	12 15 43.9	+0.4
TEKS				eSg	Sn	12 16 01.7	+0.2
TEKS	Tekeris	1.30	13	ePg	Pg	12 15 41.7	-1.5
TEKS				eSg	Sb	12 16 00.4	-0.2
GRUS	Gruza	1.30	62	ePg	Pg	12 15 43.0	-0.2
GRUS				eSg	Sb	12 16 01.1	+0.4
ULC	Ulcinj	1.32	176	⇓iPg	Pg	12 15 43.1	-0.5
ULC				eSg	Sn	12 16 03.9	+1.9
TRUS	Trudelj	1.32	44	ePg	Pb	12 15 44.1	+0.3
TRUS				eSg	Sn	12 16 01.8	-0.2
SELS	Selova	1.46	92	ePg	Pn	12 15 44.8	-0.8
SELS				eSg	Sg	12 16 04.4	-0.6
MAKA	Makarska	1.54	271	ePn	Pn	12 15 46.2	-0.5
MAKA				Sn	Sg	12 16 09.1	+1.4
MGRS	Mrkonjic Grad	1.86	308	ePn	Pn	12 15 51.7	+0.4
MGRS				eSn	Sn	12 16 15.1	-0.3
BOVS	Bovan	1.91	78	ePn	Pn	12 15 52.6	+0.8
FRGS	Fruska Gora	1.94	14	ePn	Pn	12 15 53.1	+0.8
FRGS	Fruska Gora	1.94	14	ePn	Pn	12 15 52.9	+0.6
FRGS				eSn	Sn	12 16 17.4	+0.2
HVAR	Hvar	1.96	268	ePn	Pb	12 15 54.7	0.0

*IDC **12** 12:16:41.1±1.6, 6°.50S×130°.04E, h136km±17km, mb3.5/3, mb1 4.0/8, mb1mx3.6/43, mbtmp4.4/8, Error ellipse: s-maj=20.7km s-min=12.2km az=99.0*
*ISCJB **12** 12:16:42.7±0.3, 6°.53S±0°.03×130°.08E±0°.05, h200km, mb3.5/3, Error ellipse: s-maj=6.4km s-min=4.2km az=3.1*
*NEIC **12** 12:16:42.9±3.0, 6°.50S±0°.07×130°.00E±0°.09, h173km±11km, mb4.4/18*
*DJA **12** 12:16:43.0±0.2, 7°.S±2°.×13°.0E±°, h110km±6km, M4.7/9, mb4.7/7, mB5.5/6, MLv4.5/9, Mw(mB)5.0/6*
ISC 12 12:16:43.2±0.6, **6°.53S**±0°.04×**130°.09E**±0°.06, **h200**km, **n50,** σ2°**84**/60, **mb3.7**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88**	**140**	P	**Pn**	**12 17 20.0**	**-0.5**
SAUI	**Saumlaki**	**1.88**	**140**		**Pn**	**12 17 19.3**	**-1.2**
SAUI				Sn	Sn	12 17 41.2	-8.4
BNDI	**Bandanaira**	**2.00**	**355**	P	**Pn**	**12 17 20.0**	**-1.8**
MSAI	**Masohi**	**3.37**	**340**	P	**Pn**	**12 17 37.1**	**-0.2**
AAI	**Ambon**	**3.40**	**326**	P	**Pn**	**12 17 38.6**	**+0.9**
FAKI	**Fak Fak**	**4.18**	**31**	P	**Pn**	**12 17 45.9**	**-1.4**
FAKI	**Fak Fak**	**4.18**	**31**		**Pn**	**12 17 45.9**	**-1.4**
FAKI				Sn	**Sn**	**12 18 30.0**	**-7.7**
NLAI	**Namlea**	**4.42**	**317**	P	Pn	12 17 56.1	+5.7
SIJI	**Sorong**	**5.74**	**12**	P	**Pn**	**12 18 05.8**	**-1.5**
	23nm,0.3s,baz=200,slow=15,SNR=78						
SIJI				S	**Sn**	**12 19 07.9**	**-5.9**
	23nm,0.3s,baz=225,slow=23,SNR=10						
SWI	**Sorong**	**5.75**	**12**	P	**Pn**	**12 18 06.1**	**-1.2**
SWI				S	**Sn**	**12 19 07.9**	**-5.9**
SANI	**Sanana**	**6.05**	**317**	P	**Pn**	**12 18 11.7**	**+0.5**
SANI				S	**Sn**	**12 19 20.4**	**-0.3**
MTN	**Manton Dam**	**6.36**	**171**		**Pn**	**12 18 14.8**	**-0.3**
MTN				Sn	**Sn**	**12 19 22.3**	**-5.8**
RKPI	**Ransiki, Papua**	**6.44**	**39**	P	**Pn**	**12 18 17.3**	**+1.1**
RKPI				S	**Sn**	**12 19 29.0**	**-0.9**
SOEI	**Soe**	**6.60**	**241**	P	**Pn**	**12 18 17.0**	**-1.4**
SOEI	**Soe**	**6.60**	**241**		**Pn**	**12 18 16.3**	**-2.1**
SOEI				Sn	**Sn**	**12 19 27.7**	**-6.1**
BATI	**Baumata**	**7.33**	**240**	P	**Pn**	**12 18 27.1**	**-0.8**
	19nm,0.3s,baz=48,slow=2.6,SNR=10						
BATI				S	**Sn**	**12 19 46.4**	**-4.7**
	22nm,0.3s,baz=202,slow=23,SNR=9.5						
KNRA	**Kununurra**	**9.18**	**188**		**Pn**	**12 18 50.2**	**-1.7**
KNRA				Sn	**Sn**	**12 20 27.1**	**-7.8**
FITZ	**Fitzroy Crossi**	**12.29**	**200**	P	**Pn**	**12 19 30.9**	**-1.0**
	5.2nm,0.3s,baz=34,slow=13,SNR=129						
FITZ				S	Sn	12 21 39.1	-10
	3.3nm,0.3s,baz=258,slow=14,SNR=6.7						
FITZ	**Fitzroy Crossi**	**12.29**	**200**		**Pn**	**12 19 30.7**	**-1.2**
FITZ					**Sn**	**12 21 42.1**	**-6.9**
WB0	**Warramunga Arr**	**13.81**	**163**	Pn	**Pn**	**12 19 50.4**	**-0.5**
WRAB	**Tennant Creek**	**13.95**	**163**		**Pn**	**12 19 53.9**	**+1.2**
WRA	**Warramunga Arr**	**13.96**	**163**	P	**Pn**	**12 19 51.9**	**-0.8**
	1.9nm,0.3s,baz=343,slow=13,SNR=41						
WRA				S	S	12 22 16.2	-12
	1.6nm,0.3s,baz=342,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**13.96**	**163**		**Pn**	**12 19 50.9**	**-1.8**
WRA				Sn	S	12 22 19.1	-9.1
WB2	**Warramunga Arr**	**13.96**	**163**		**Pn**	**12 19 51.4**	**-1.3**
WR0	**Warramunga Arr**	**14.03**	**162**	Pn	**Pn**	**12 19 53.7**	**+0.1**
COEN	**Coen**	**14.83**	**121**		**P**	**12 20 05.7**	**+1.3**
JAGI	**Jajag, Banyuwa**	**15.92**	**262**		**Pn**	**12 20 16.1**	**-0.6**
JAGI				IAmb	IAmb	12 20 24.3	
	comp=Z,17nm,0.9s						
AS31	**Alice Springs**	**17.43**	**168**	P	**Pn**	**12 20 36.5**	**+1.8**
ASAR	**Alice Springs**	**17.43**	**168**	P	**Pn**	**12 20 36.9**	**+2.3**
	comp=Z,2.0nm,0.3s,baz=343,slow=9.5,SNR=86						
ASAR				S	**S**	**12 23 44.8**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=358,slow=25,SNR=9.3						
ASAR	**Alice Springs**	**17.43**	**168**	P	**Pn**	**12 20 37.0**	**+2.3**
ASAR					**S**	**12 23 46.0**	**+2.1**
PSAD1	**Pilbara Seismi**	**17.85**	**213**	P	**Pn**	**12 20 40.0**	**+0.4**
PSAC2	**Pilbara Seismi**	**17.90**	**212**	P	**Pn**	**12 20 40.0**	**-0.2**
PSAC2				IAmb	IAmb	12 20 41.3	
	comp=Z,12nm,0.7s						
PSAD2	**Pilbara Seismi**	**17.91**	**212**	P	**Pn**	**12 20 40.9**	**+0.5**
PSAD2				IAmb	IAmb	12 20 54.9	
	comp=Z,9.3nm,0.8s						
PSAB2	**Pilbara Seismi**	**17.92**	**213**	P	**Pn**	**12 20 41.2**	**+0.8**
PSAB2				IAmb	IAmb	12 20 46.1	
	comp=Z,23nm,0.8s						
PSAC1	**Pilbara Seismi**	**17.93**	**213**	P	**Pn**	**12 20 40.7**	**+0.2**
PSAC1				IAmb	IAmb	12 20 50.8	
	comp=Z,12nm,0.9s						
PSAA2	**Pilbara Seismi**	**17.93**	**213**	P	**Pn**	**12 20 41.3**	**+0.7**
PSAA2				IAmb	IAmb	12 20 47.2	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**17.94**	**213**	P	**Pn**	**12 20 39.0**	**-1.7**
PSA00	**Pilbara Seismi**	**17.94**	**213**	P	**Pn**	**12 20 39.2**	**-1.5**
PSA00				IAmb	IAmb	12 20 41.0	
	comp=Z,7.7nm,0.7s						
PSAA3	**Pilbara Seismi**	**17.94**	**212**	P	**Pn**	**12 20 40.7**	**0.0**
PSAA3				IAmb	IAmb	12 20 54.6	
	comp=Z,21nm,0.8s						
PSAA1	**Pilbara Seismi**	**17.95**	**213**	P	**Pn**	**12 20 40.7**	**-0.1**
PSAB1	**Pilbara Seismi**	**17.95**	**213**	P	**Pn**	**12 20 39.9**	**-0.9**
PSAB1				IAmb	IAmb	12 20 41.9	
	comp=Z,20nm,0.9s						
PSAD3	**Pilbara Seismi**	**18.03**	**213**	P	**Pn**	**12 20 41.3**	**-0.4**
PSAD3				IAmb	IAmb	12 20 52.2	
	comp=Z,18nm,1.5s						
FORT	**Forrest**	**24.20**	**184**	P	**P**	**12 21 44.4**	**+2.9**
BBOO	**Buckleboo**	**26.73**	**169**	P	**P**	**12 22 07.1**	**+2.8**
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**12 22 14.4**	**+4.0**
	comp=Z,0.8nm,0.3s,baz=334,slow=8.2,SNR=7.8						
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**12 22 12.5**	**+2.1**
CMAR	**Chiang Mai Arr**	**39.50**	**309**	P	**P**	**12 23 58.2**	**+3.4**
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=3.6						
MK31	**Makanchi Array**	**67.89**	**327**	P	**P**	**12 27 22.4**	**+2.2**
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	12 27 24.6	+4.5
	comp=Z,0.8nm,0.5s,baz=110,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**12 27 23.6**	**+3.5**

*ISCJB **12** 12:24:23.2±0.7, 14°.8S±0°.1×174°.5E±0°.1, h650km, mb3.7/4, Error ellipse: s-maj=16.2km s-min=13.1km az=175.7*
*NEIC **12** 12:24:24.2±1.4, 14°.79S±0°.08×174°.5E±0°.2, h637km±9km, mb4.5/14*
*IDC **12** 12:24:30.6±40.0, 14°.54S×173°.95E, h700km±454km, mb2.9/4, mb1 3.2/4, mb1mx2.7/37, mbtmp4.1/4, Error ellipse: s-maj=313.1km s-min=87.3km az=48.0*
ISC 12 12:24:24.7±0.8, **14°.8S**±0°.2×**174°.5E**±0°.1, **h650**km, **n24,** σ0°**96**/23, **mb4.2**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.46**	**131**	P	**P**	**12 25 55.3**	**-1.7**
EIDS	**Eidsvold**	**24.35**	**241**	P	**P**	**12 28 55.2**	**+0.2**
EIDS				IAmb	IAmb	12 29 10.1	
	comp=Z,28nm,1.6s						
LTZ	**Lake Taylor**	**27.94**	**184**	P	**P**	**12 29 25.2**	**-0.8**
FOZ	**Fox Glacier**	**28.90**	**187**	P	**P**	**12 29 34.5**	**+0.3**
LBZ	**Lake Benmore**	**29.70**	**186**	P	**P**	**12 29 41.5**	**+0.4**
XMAS	**Kiritimati**	**32.41**	**61**	P	**P**	**12 30 06.7**	**+2.2**
STKA	**Stephens Creek**	**34.49**	**235**	P	**P**	**12 30 23.0**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=45,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**34.49**	**235**	P	**P**	**12 30 21.7**	**0.0**
WB0	**Warramunga Arr**	**38.57**	**257**		P	12 31 03.5	+8.5
WB0				IAmb	IAmb	12 31 14.0	
	comp=Z,7.1nm,1.2s						
WB2	**Warramunga Arr**	**38.61**	**257**	P	**P**	**12 30 54.8**	**-0.5**
WB2				IAmb	IAmb	12 30 55.9	
	comp=Z,22nm,1.7s						
WRA	**Warramunga Arr**	**38.62**	**257**	P	**P**	**12 30 54.9**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=90,slow=8.2,SNR=30						
WRA	**Warramunga Arr**	**38.62**	**257**	P	**P**	**12 30 54.6**	**-0.9**
BBOO	**Buckleboo**	**39.22**	**236**	P	**P**	**12 31 01.2**	**+1.2**
BBOO				IAmb	IAmb	12 32 28.3	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**39.24**	**251**	P	**P**	**12 31 00.2**	**-0.1**
ASAR	**Alice Springs**	**39.24**	**251**	P	**P**	**12 31 00.3**	**0.0**
	comp=Z,2.4nm,0.4s,baz=85,slow=8.5,SNR=34						
ASAR	**Alice Springs**	**39.24**	**251**	P	**P**	**12 31 00.1**	**-0.2**
MTN	**Manton Dam**	**42.13**	**267**	P	**P**	**12 31 23.5**	**+0.3**
MTN				IAmb	IAmb	12 31 26.2	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**44.10**	**263**	P	**P**	**12 31 38.5**	**+0.2**
KNRA				IAmb	IAmb	12 33 03.6	
	comp=Z,49nm,2.0s						
FITZ	**Fitzroy Crossi**	**46.89**	**259**	P	**P**	**12 32 00.0**	**+0.6**
PSA00	**Pilbara Seismi**	**52.17**	**254**	P	**P**	**12 32 38.6**	**+0.8**
PSA00				IAmb	IAmb	12 32 45.8	
	comp=Z,60nm,1.9s						
CMAR	**Chiang Mai Arr**	**81.45**	**292**	P	**P**	**12 35 35.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=130,slow=3.6,SNR=2.6						
IMAR	**Indian Mountai**	**83.98**	**12**	P	**P**	**12 35 46.8**	**-1.3**
ARCES	**ARCESS Array B**	**121.97**	**348**	PKP	**PKiKP**	**12 42 06.8**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=58,slow=2.2,SNR=5.9						
ARCES	**ARCESS Array B**	**121.97**	**348**	PKPdf	**PKiKP**	**12 42 07.0**	**+0.4**

*ISCJB **12** 12:24:31.1±0.6, 31°.6N±0°.1×40°.65W±0°.08, h10km, mb3.9/13, MS3.8/12, Error ellipse: s-maj=17.3km s-min=9.7km az=175.5*
*NEIC **12** 12:24:32.4±0.8, 31°.6N±0°.1×40°.56W±0°.10, h10km±1km, mb4.7/26*
*IDC **12** 12:24:32.0±0.9, 31°.64N×40°.64W, h0km, mb3.9/13, mb1 4.2/13, mb1mx4.0/53, mbtmp3.9/13, MS3.8/12, Ms1 3.7/12, ms1mx3.5/36, Error ellipse: s-maj=30.1km s-min=18.0km az=180.0*
ISC 12 12:24:32.7±0.7, **31°.6N**±0°.1×**40°.63W**±0°.10, **h10**km, **n56,** σ0°**86**/41, **mb4.2**/21, **MS3.8**/12, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GGN	**Saint George**	**24.46**	**311**	P	**P**	**12 29 49.8**	**-1.9**
SKI	**Saint Kitts**	**24.57**	**240**	P	**P**	**12 29 51.3**	**-1.7**
SCHQ	**Schefferville**	**29.74**	**329**	LR	LR	12 41 06.6	
	comp=Z,116nm,19.4s,baz=334,slow=34						
Q51A	**Peebles**	**35.38**	**294**	P	**P**	**12 31 29.5**	**+0.9**
DAVOX	**Davos/Dischmat**	**41.26**	**54**	P	**P**	**12 32 18.0**	**-0.2**
	1.2nm,0.3s,baz=277,slow=12,SNR=2.9						
DBIC	**Dimbokro**	**41.59**	**119**	LR	LR	12 48 10.8	
	comp=Z,106nm,18.7s,baz=284,slow=34						
TORD	**Torodi Ar. Bea**	**42.91**	**106**	P	**P**	**12 32 32.5**	**+0.7**
	3.3nm,1.1s,baz=300,slow=6.1,SNR=7.1						
TORD				LR	LR	12 49 36.6	
	comp=Z,58nm,18.6s,baz=335,slow=35						
TORD	**Torodi Ar. Bea**	**42.91**	**106**	P	**P**	**12 32 31.2**	**-0.6**
GERES	**GERESS Array B**	**43.93**	**51**	P	**P**	**12 32 41.7**	**+2.0**
	0.7nm,0.6s,baz=260,slow=6.4,SNR=3.8						
GERES	**GERESS Array B**	**43.93**	**51**	P	**P**	**12 32 39.1**	**-0.6**
ULM	**Lac du Bonnet**	**44.60**	**311**	LR	LR	12 51 49.7	
	comp=Z,53nm,18.2s,baz=16,slow=37						
H10N2	**ASCENSION HYDR**	**46.50**	**143**	T	T	13 22 31.7	
	baz=329,slow=75,SNR=278						
H10N3	**ASCENSION HYDR**	**46.50**	**143**	T	T	13 22 31.9	
	baz=329,slow=75,SNR=255						
H10N1	**ASCENSION HYDR**	**46.52**	**143**	T	T	13 22 33.1	
	baz=329,slow=75,SNR=269						
RES	**Resolute Bay**	**50.57**	**344**	P	**P**	**12 33 30.8**	**-0.2**
RES				IAmb	IAmb	12 33 31.7	
	comp=Z,15nm,1.3s						
TXAR	**Lajitas Array**	**53.70**	**285**	P	**P**	**12 33 55.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=61,slow=7.3,SNR=4.7						
TXAR	**Lajitas Array**	**53.70**	**285**	P	**P**	**12 33 54.5**	**-0.6**
EGMT	**Eagleton**	**53.80**	**309**	P	**P**	**12 33 55.9**	**+0.3**
EGMT				IAmb	IAmb	12 34 01.3	
	comp=Z,16nm,1.5s						
AKASG	**Malin Array Be**	**53.89**	**48**	P	**P**	**12 33 56.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=278,slow=6.3,SNR=4.0						
AKASG	**Malin Array Be**	**53.89**	**48**	IAmb	IAmb	12 34 04.5	
	comp=Z,0.9nm,0.9s						
LPAZ	**La Paz**	**54.45**	**213**	P	**P**	**12 34 02.2**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=22,slow=5.4,SNR=3.2						
LPAZ				LR	LR	12 56 06.4	
	comp=Z,57nm,18.9s,baz=1.0,slow=35						
LPAZ	**La Paz**	**54.45**	**213**	P	**P**	**12 34 01.0**	**-0.1**
BNM	**Barren Site**	**54.61**	**292**	P	**P**	**12 34 01.6**	**-0.2**
PD31	**Pinedale Array**	**54.64**	**303**	P	**P**	**12 34 02.0**	**0.0**
PD31				IAmb	IAmb	12 34 03.3	
	comp=Z,6.3nm,1.1s						
PDAR	**Pinedale Array**	**54.64**	**303**	P	**P**	**12 34 02.4**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=77,slow=7.8,SNR=18						
PDAR				LR	LR	12 57 35.1	
	comp=Z,106nm,18.0s,baz=36,slow=36						
PDAR	**Pinedale Array**	**54.64**	**303**	P	**P**	**12 34 02.3**	**+0.3**
BW06	**Boulder Array**	**54.64**	**303**	P	**P**	**12 34 01.9**	**-0.1**
BW06				IAmb	IAmb	12 34 03.3	
	comp=Z,7.4nm,1.1s						
YHH	**Holmes Hill**	**55.13**	**305**	P	**P**	**12 34 05.9**	**+0.3**
RDMU	**Red Mountain**	**55.15**	**300**	P	**P**	**12 34 06.0**	**+0.3**
SNOW	**Snow King Moun**	**55.35**	**304**	P	**P**	**12 34 07.7**	**+0.6**
SNOW				IAmb	IAmb	12 34 08.9	
	comp=Z,5.8nm,0.9s						
YHB	**Horse Butte**	**55.38**	**305**	P	**P**	**12 34 07.8**	**+0.6**
IMW	**Indian Meadow**	**55.38**	**304**	P	**P**	**12 34 07.6**	**+0.3**
IMW				IAmb	IAmb	12 34 09.7	
	comp=Z,7.1nm,1.2s						
AHID	**Auburn Hatcher**	**55.75**	**303**	IAmb	IAmb	12 34 12.1	
	comp=Z,7.8nm,1.4s						
HPIG		**56.19**	**283**	P	**P**	**12 34 14.2**	**+0.9**
NEW	**Newport**	**58.59**	**310**	LR	LR	13 00 54.2	
	comp=Z,67nm,18.2s,baz=40,slow=37						
MFID	**Camas Ranch**	**58.94**	**305**	IAmb	IAmb	12 34 34.9	
	comp=Z,5.0nm,1.0s						
ELK	**Elko**	**59.27**	**302**	LR	LR	12 59 42.4	
	comp=Z,85nm,18.7s,baz=88,slow=36						
BRTR	**Keskin Array B**	**59.31**	**60**	P	**P**	**12 34 36.7**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=284,slow=5.8,SNR=3.5						
BRTR	**Keskin Array B**	**59.31**	**60**	P	**P**	**12 34 33.3**	**-1.7**
INK	**Inuvik**	**62.09**	**335**	P	**P**	**12 34 53.7**	**+0.5**
	comp=Z,7.4nm,1.1s,baz=50,slow=6.8,SNR=7.9						
INK	**Inuvik**	**62.09**	**335**	P	**P**	**12 34 53.1**	**-0.1**
INK				IAmb	IAmb	12 34 54.4	
	comp=Z,12nm,1.2s						
NVAR	**Mina Array Bea**	**62.24**	**300**	P	**P**	**12 34 56.4**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=76,slow=6.5,SNR=5.1						
NVAR				LR	LR	13 01 03.0	
	comp=Z,116nm,19.2s,baz=86,slow=35						
NVAR	**Mina Array Bea**	**62.24**	**300**	P	**P**	**12 34 55.0**	**-0.1**
YBH	**Yreka Blue Hor**	**64.29**	**305**	LR	LR	13 02 14.7	
	comp=Z,56nm,19.7s,baz=86,slow=35						
KBZ	**Khabaz**	**64.60**	**53**	LR	LR	13 03 30.9	
	comp=Z,64nm,18.5s,baz=279,slow=36						
BCAR	**Beaver Creek A**	**67.10**	**331**	P	**P**	**12 35 26.4**	**+0.2**
ILAR	**Eielson Array**	**68.36**	**334**	P	**P**	**12 35 34.9**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=55,slow=4.0,SNR=11						
ILAR	**Eielson Array**	**68.36**	**334**	P	**P**	**12 35 33.9**	**-0.2**
ABKAR	**Akbulak array**	**73.06**	**42**	P	**P**	**12 36 02.6**	**-0.3**
H09W1	**TRISTAN DA CUN**	**73.29**	**157**	T	T	13 56 07.0	
	SNR=5.5						
KMBO	**Kilima Mbogo**	**80.27**	**97**	LR	LR	13 12 57.3	
	comp=Z,85nm,18.2s,baz=82,slow=36						
ZALV	**Zalesovo Beam**	**82.64**	**29**	P	**P**	**12 36 56.9**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=297,slow=6.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**82.64**	**29**	P	**P**	**12 36 55.3**	**-0.8**
CHGR	**Chuyangaron**	**84.36**	**48**	P	**P**	**12 37 04.8**	**-0.6**
CHGR				IAmb	IAmb	12 37 13.6	
	comp=Z,6.8nm,1.0s						
MKAR	**Makanchi Array**	**86.54**	**35**	P	**P**	**12 37 15.8**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=321,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**86.54**	**35**	P	**P**	**12 37 15.4**	**-0.7**

*ISCJB **12** 12:25:02.8±0.4, 14°.57S±0°.07×41°.16E±0°.05, h10km, mb3.8/6, Error ellipse: s-maj=10.8km s-min=6.8km az=0.6*
*IDC **12** 12:25:03.6±0.9, 14°.55S×41°.25E, h0km, mb3.9/7, mb1 4.2/10, mb1mx3.9/44, mbtmp4.1/10, ML4.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/30, Error ellipse: s-maj=29.9km s-min=19.5km az=159.0*
*NEIC **12** 12:25:04.8±1.0, 14°.6S±0°.1×41°.21E±0°.03, h10km±1km, mb4.4/9*
ISC 12 12:25:04.6±0.6, **14°.66S**±0°.09×**41°.24E**±0°.06, **h10**km, **n26,** σ1°**25**/29, **mb4.2**/10, **Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**6.90**	**125**	Pn	**Pn**	**12 26 48.0**	**+1.9**
	9.4nm,0.3s,baz=296,slow=15,SNR=47						
OPO				Sn	**Sn**	**12 28 00.7**	**-4.1**
	18nm,0.3s,baz=92,slow=23,SNR=7.6						
ABPO	**Ambohimpanom**	**7.19**	**128**		**Pn**	**12 26 51.5**	**+1.6**
ABPO				Sn	**Sn**	**12 28 10.1**	**-1.7**
VWZMW	**Thunduwike**	**8.23**	**294**	*i* P	**Pn**	**12 27 03.0**	**-1.2**
VWZMW				S	Sn	12 28 27.1	-10
LSZ	**Lusaka**	**12.62**	**266**	Pn	**Pn**	**12 28 04.6**	**+0.2**
	4.0nm,0.3s,baz=80,slow=10,SNR=17						
LSZ				Sn	**Sn**	**12 30 23.6**	**-1.7**
	0.4nm,0.3s,baz=22,slow=16,SNR=2.0						
LSZ				Lg	Lg	12 31 39.5	
	1.4nm,0.3s,baz=144,slow=19,SNR=4.6						
LSZ				LR	LR	12 32 51.8	
	comp=Z,146nm,21.4s,baz=157,slow=37						
LSZ	**Lusaka**	**12.62**	**266**		**Pn**	**12 28 04.4**	**0.0**
RER	**Riviere de l'E**	**15.24**	**117**	Pn	**Pn**	**12 28 40.3**	**+0.3**
LBTB	**Lobatse**	**17.94**	**233**	P	**P**	**12 29 14.8**	**-0.1**
	0.6nm,0.3s,baz=48,slow=13,SNR=6.5						
LBTB				LR	LR	12 36 11.3	
	comp=Z,104nm,18.6s,baz=16,slow=37						
LBTB	**Lobatse**	**17.94**	**233**	P	**Pn**	**12 29 14.2**	**-0.2**
BOSA	**Boshof**	**20.30**	**224**	P	**P**	**12 29 41.8**	**+0.9**
	5.3nm,0.5s,baz=43,slow=9.6,SNR=23						
BOSA	**Boshof**	**20.30**	**224**	P	**P**	**12 29 41.6**	**+0.8**
TSUM	**Tsumeb**	**23.07**	**255**	P	**P**	**12 30 10.5**	**0.0**
TSUM				IAmb	IAmb	12 30 13.2	
	comp=Z,6.3nm,0.8s						
SUR	**Sutherland**	**25.64**	**223**	P	**P**	**12 30 37.2**	**+2.5**
	comp=Z,4.8nm,0.8s,baz=66,slow=13,SNR=6.0						
SUR	**Sutherland**	**25.64**	**223**	P	**P**	**12 30 35.3**	**+0.6**
SUR				IAmb	IAmb	12 30 40.1	
	comp=Z,5.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**47.92**	**303**	P	**P**	**12 33 43.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=133,slow=8.1,SNR=2.2						
GAR	**Garm**	**59.90**	**26**	P	**P**	**12 35 11.4**	**+0.4**
BTK	**Batken**	**61.00**	**26**	P	**P**	**12 35 18.6**	**+0.2**
KK31	**Karatay Array**	**63.44**	**24**	P	**P**	**12 35 34.7**	**+0.1**
KK31				IAmb	IAmb	12 35 35.6	
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**63.44**	**24**	P	**P**	**12 35 34.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**65.69**	**62**	P	**P**	**12 35 50.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=253,slow=9.3,SNR=3.4						
ABKAR	**Akbulak array**	**65.75**	**13**	P	**P**	**12 35 49.0**	**-0.6**
ABKAR	**Akbulak array**	**65.75**	**13**	P	**P**	**12 35 49.1**	**-0.4**
ABKAR				IAmb	IAmb	12 35 50.0	
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**71.42**	**28**	P	**P**	**12 36 25.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=211,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**71.42**	**28**	P	**P**	**12 36 24.5**	**-0.5**
ARU	**Arti**	**72.29**	**10**	P	**P**	**12 36 30.1**	**+0.2**
ARU				IAmb	IAmb	12 36 30.6	
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**86.61**	**113**	P	**P**	**12 37 49.4**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=258,slow=4.7,SNR=29						
WRA	**Warramunga Arr**	**87.94**	**110**	P	**P**	**12 37 55.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=253,slow=3.0,SNR=9.9						

*ATH **12** 12:31:09.9, 36°.56N×26°.76E, h135km±6km, ML2.8/3, Error ellipse: s-maj=7.0km s-min=2.3km az=161.0*
*ISCJB **12** 12:31:10.6±0.7, 36°.57N±0°.05×26°.76E±0°.04, h125km±11km, Error ellipse: s-maj=9.6km s-min=4.4km az=154.7*
*ISK **12** 12:31:14.7, 36°.65N×27°.07E, h18km, ML2.5/8*
*DDA **12** 12:32:00.4, 36°.62N×27°.42E, h80km, ML3.2*
ISC 12 12:31:10.8±1.5, **36°.59N**±0°.05×**26°.76E**±0°.04, **h123**km±13km, **n30,** σ1°**41**/40, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGA	**Amorgos Island**	**0.73**	**289**	P	**Pn**	**12 31 32.1**	**+1.4**
ANAF	**Anafi Island**	**0.83**	**254**	P	**Pn**	**12 31 32.7**	**+1.2**
KARP	**Karpathos**	**1.09**	**163**	P	**Pn**	**12 31 34.9**	**+0.8**
KARP				AML	AML	12 31 56.0	
	comp=N,1094μm,0.2s						
KARP				AML	AML	12 31 56.8	
	comp=E,976μm,0.2s						
KARP	**Karpathos**	**1.09**	**163**	PN	**Pn**	**12 31 35.7**	**+1.6**
KARP				SN	**Sn**	**12 31 50.9**	**-0.8**
SMG	**Samos**	**1.11**	**3**	P	**Pn**	**12 31 35.0**	**+0.8**
ARG	**Arkhangelos**	**1.17**	**108**	P	**Pn**	**12 31 34.8**	**+0.1**
ARG	**Arkhangelos**	**1.17**	**108**	PG	**Pn**	**12 31 33.7**	**-1.0**
ARG				SG	**Sn**	**12 31 47.4**	**-5.5**
YER	**Yerkesik**	**1.34**	**66**	PN	**Pn**	**12 31 35.6**	**

	comp=N,1275μm,0.9s						
PIPA				AML	AML		
	comp=E,1380μm,0.5s						
PIPA				AML	AML		
	comp=E,1400μm,0.5s						
PIPA				AML	AML		
	comp=N,1270μm,0.9s						
PIPA				AML	AML		
	comp=N,1200μm,0.9s						
EVGI	**Lefkada island**	**1.58**	**113**	P	**Pn**	**12 31 56.9**	**0.0**
EVGI				S	**Sn**	**12 32 17.4**	**+0.2**
	comp=N,205nm,0.8s						
TIP	**Timpagrande**	**1.59**	**268**	⇑P	**Pn**	**12 31 57.7**	**+0.6**
TIP				⇓S	**Sg**	**12 32 19.9**	**-0.7**
TIP	**Timpagrande**	**1.59**	**268**	P	**Pn**	**12 31 57.7**	**+0.6**
TIP				AML	AML		
	comp=N,226μm,0.7s						
TIP				AML	AML		
	comp=E,275μm,1.0s						
TIP				AML	AML		
	comp=N,225μm,0.7s						
TIP				AML	AML		
	comp=N,293μm,0.7s						
TIP				AML	AML		
	comp=E,234μm,1.6s						
FSK	**Fiskardo**	**1.59**	**120**	P	**Pn**	**12 31 56.5**	**-0.6**
FSK				S	**Sb**	**12 32 18.3**	**-0.1**
	comp=E,632nm,0.6s						
JAN	**Janina**	**1.64**	**75**	P	**Pn**	**12 31 57.3**	**-0.5**
SERS	**Sersale**	**1.66**	**263**	P	**Pn**	**12 31 58.6**	**+0.5**
SERS				S	**Sg**	**12 32 21.8**	**-1.0**
TAR1	**Taranto**	**1.72**	**318**	*e*Pn	**Pb**	**12 32 00.6**	**-0.2**
TAR1				Sn	**Sg**	**12 32 29.7**	**+4.9**
CGL1	**Ceglie Messapi**	**1.73**	**324**	*e*Pn	**Pn**	**12 31 58.9**	**-0.1**
CGL1				Sn	**Sn**	**12 32 22.5**	**+1.7**
VLS	**Valsamata**	**1.77**	**127**	P	**Pn**	**12 31 58.8**	**-0.7**
CELI	**Celico**	**1.78**	**275**	P	**Pn**	**12 32 00.2**	**+0.4**
MASS	**Massafra**	**1.87**	**318**	*e*Pn	**Pn**	**12 32 01.0**	**0.0**
MASS				Sn	**Sg**	**12 32 30.0**	**+0.3**
GRI	**Girifalco**	**1.90**	**258**	P	**Pn**	**12 32 02.5**	**+1.1**
GRI				S	**Sb**	**12 32 27.6**	**+0.1**
GRI				AML	AML		
	comp=E,254μm,0.8s						
GRI				AML	AML		
	comp=N,282μm,0.9s						
FASA	**Fasano**	**1.91**	**325**	*e*Pn	**Pb**	**12 32 03.5**	**-0.5**
FASA				Sn	**Sg**	**12 32 34.6**	**+3.7**
KFL	**Anninata**	**1.93**	**126**	P	**Pn**	**12 31 01.7**	**-0.1**
PDO	**Prodromos**	**1.97**	**109**	P	**Pn**	**12 32 01.9**	**-0.4**
SALB	**San Lorenzo Be**	**2.00**	**289**	P	**Pn**	**12 32 03.4**	**+0.7**
PLAC	**Placanica**	**2.01**	**247**	P	**Pn**	**12 32 03.4**	**+0.5**
PLAC				S	**Sn**	**12 32 29.7**	**+1.8**
PLAC				AML	AML		
	comp=N,312μm,1.2s						
PLAC				AML	AML		
	comp=E,250μm,0.5s						
KPRO	**Kipourio**	**2.10**	**70**	P	**Pn**	**12 32 04.5**	**+0.3**
MATE	**Matera**	**2.13**	**311**	⇑P	**Pn**	**12 32 05.2**	**+0.8**
CET2	**Cetraro**	**2.22**	**278**	P	**Pn**	**12 32 07.2**	**+1.4**
CET2				S	**Sb**	**12 32 36.2**	**-0.4**
CET2				AML	AML		
	comp=E,669μm,0.7s						
CET2				AML	AML		
	comp=N,1048μm,0.7s						
PVO	**Paravola**	**2.22**	**106**	P	**Pn**	**12 32 05.7**	**0.0**
TIR	**Tirane**	**2.24**	**21**	*i* PN	**Pn**	**12 32 07.2**	**+1.2**
TIR				*i* SN	**Sn**	**12 32 35.8**	**+2.4**
SG1	**Sgolgore (BA)**	**2.27**	**315**	*e*Pn	**Pn**	**12 32 07.0**	**+0.6**
SG1				Sn	**Sg**	**12 32 44.4**	**+2.1**
BAI	**Bari**	**2.36**	**322**	*e*Pn	**Pn**	**12 32 09.9**	**+2.2**
BAI				Sn	**Sg**	**12 32 48.7**	**+3.4**
JOPP	**Joppolo**	**2.36**	**255**	P	**Pn**	**12 32 08.5**	**+0.7**
JOPP				S	**Sn**	**12 32 38.5**	**+1.9**
JOPP				AML	AML		
	comp=E,270μm,0.7s						
JOPP				AML	AML		
	comp=N,278μm,0.9s						
OHR	**Ohrid**	**2.40**	**39**	*i* Pn	**Pb**	**12 32 12.8**	**+0.4**
OHR				*i* Sn	**Sg**	**12 32 51.3**	**+4.6**
SOI	**Samo**	**2.45**	**242**	P	**Pn**	**12 32 09.4**	**+0.5**
SOI				S	**Sn**	**12 32 40.1**	**+1.4**
SOI				AML	AML		
	comp=N,211μm,0.8s						
SOI				AML	AML		
	comp=E,282μm,0.9s						
CEL	**Celeste**	**2.48**	**247**	P	**Pn**	**12 32 10.1**	**+0.7**
CEL				S	**Sn**	**12 32 40.8**	**+1.4**
FNA	**Florina**	**2.50**	**52**	P	**Pn**	**12 32 10.0**	**+0.4**
FNA	**Florina**	**2.50**	**52**	*i* PN	**Pn**	**12 32 10.1**	**+0.4**
FNA				*i* SN	**Sn**	**12 32 41.7**	**+1.8**
MPAZ	**Palizzi**	**2.55**	**240**	P	**Pn**	**12 32 10.4**	**+0.2**
GMB	**Gambarie**	**2.56**	**246**	P	**Pn**	**12 32 10.8**	**+0.2**
PZUN	**Potenza**	**2.69**	**302**	AML	AML		
	comp=E,388μm,1.2s						
PZUN				AML	AML		
	comp=N,550μm,1.6s						
PHP	**Peshkopia**	**2.73**	**27**	*i* PN	**Pn**	**12 32 13.2**	**+0.4**
PUK	**Puka**	**2.90**	**16**	*i* PN	**Pn**	**12 32 16.0**	**+0.8**
PUK				*i* SN	**Sn**	**12 32 52.7**	**+2.7**
PDG	**Podgorica**	**3.19**	**6**	⇑P	**Pn**	**12 32 18.3**	**-0.7**
PDG				⇓S	**Sn**	**12 32 55.9**	**-0.9**
BCI	**Bajram Curri**	**3.25**	**17**	*i* PN	**Pn**	**12 32 21.3**	**+1.3**
BCI				*i* SN	**Sn**	**12 33 01.3**	**+2.8**
SKO	**Skopje**	**3.38**	**36**	*i* Pn	**Pg**	**12 32 32.3**	**-1.7**
SGRT	**San Giovanni R**	**3.41**	**318**	*i* PN	**Pn**	**12 32 22.9**	**+0.7**
SGRT				*i* SN	**Sn**	**12 33 04.9**	**+2.4**
HAVL	**Avola**	**3.69**	**233**	P	**Pn**	**12 32 24.0**	**-2.0**
HAVL				AML	AML		
	comp=N,288μm,1.0s						
HAVL				AML	AML		
	comp=E,218μm,0.8s						
STON	**Ston**	**3.71**	**347**	*e*Pn	**Pn**	**12 32 25.3**	**-0.8**
STON				Sn	**Sn**	**12 33 07.6**	**-1.9**
MAKA	**Makarska**	**4.24**	**342**	*e*Pn	**Pn**	**12 32 34.5**	**+0.9**
MAKA				Sn	**Sn**	**12 33 20.3**	**-2.5**
HVAR	**Hvar**	**4.30**	**336**	*i* Pn	**Pn**	**12 32 33.9**	**-0.4**
HVAR				Sn	**Sn**	**12 33 21.7**	**-2.5**
ZIRJ	**Zirje**	**4.99**	**333**	*e*Pn	**Pn**	**12 32 43.4**	**-0.4**
ZIRJ				Sn	**Sn**	**12 33 37.7**	**-3.6**
MORI	**Morici**	**5.16**	**334**	*i* Pn	**Pn**	**12 32 45.9**	**-0.2**
MORI				Sn	**Sn**	**12 33 43.6**	**-1.7**
DUGI	**Dugi Otok**	**5.50**	**331**	Sn	**Sn**	**12 33 50.7**	**-3.1**
UDBI	**Udbina**	**5.73**	**338**	*e*Pn	**Pn**	**12 32 53.0**	**-1.0**
UDBI				Sn	**Sn**	**12 33 57.6**	**-2.0**
HERR	**Herculane**	**6.23**	**24**	⇑P	**Pn**	**12 33 01.7**	**+0.9**
BRJN	**Brijuni**	**6.78**	**328**	*i* Pn	**Pn**	**12 33 07.8**	**-0.6**
OBKA	**Obir**	**7.89**	**338**	*e*Pn	**Pn**	**12 33 24.7**	**+1.1**
	comp=E,2.9nm,0.3s						
OBKA				Sn	**Sn**	**12 34 49.6**	**-3.2**
	comp=E,22nm,0.7s						
SOKA	**Soboth**	**7.91**	**341**	*e*Pn	**Pn**	**12 33 24.1**	**+0.1**
	comp=E,1.8nm,0.2s						
SOKA				Sn	**Sn**	**12 34 47.9**	**-5.5**
	comp=E,1.5nm,0.2s						
KBA	**Koelnbreinsper**	**8.77**	**335**	Pn	**Pn**	**12 33 38.9**	**+3.0**
	comp=E,1.1nm,0.2s						
KBA				Sn	**Sn**	**12 35 10.3**	**-4.2**
	comp=E,4.6nm,0.7s						
MOA	**Molln**	**9.20**	**341**	*e*Pn	**Pn**	**12 33 42.6**	**+1.0**
	comp=E,3.2nm,0.3s						
MOA				Sn	**Sn**	**12 35 20.7**	**-4.0**
	comp=E,4.4nm,0.6s						

TAP 12 12:32:19.1,23°.79N×121°.45E,h13km,ML1.0,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.03**	**335**	*i* P	Pg	12 32 21.9	+0.5
	baz=31						
ESL				*i* S	Sg	12 32 23.6	+0.5
	baz=31						
ESL	**Shilin**	**0.03**	**335**	⇑*i* P	Pg	12 32 21.9	+0.5
	baz=351						
ESL				S	Sg	12 32 23.6	+0.6
	baz=351						
EGFH	**Guangfu**	**0.12**	**188**	P	Pg	12 32 22.8	+0.4
	baz=183						
EGFH	**Guangfu**	**0.12**	**188**	*e*P	Pb	12 32 22.9	-0.5
	baz=187						
EGFH				S	Sb	12 32 25.7	-0.4
	baz=187						
HWA	**Hwalien**	**0.24**	**38**	*e*P	Pb	12 32 25.2	-0.1
	baz=39						
VWDT	**VWDT**	**0.28**	**263**	S	Sb	12 32 29.9	-0.8
	baz=259						
VWDT	**VWDT**	**0.28**	**263**	*i* P	Pb	12 32 25.8	-0.3
	baz=262						
VWDT				*i* S	Sb	12 32 30.5	-0.2
	baz=262						
VWDT	**VWDT**	**0.28**	**263**	P	Pb	12 32 25.7	-0.3
	baz=259						
HGSD	**Ruisui**	**0.30**	**184**	*e*P	Pg	12 32 25.3	+0.1
	baz=181						
CHGB	**Renai**	**0.37**	**317**	S	Sg	12 32 32.1	+0.5
	baz=316						
CHGB	**Renai**	**0.37**	**317**	*e*P	Pg	12 32 26.9	+0.3
	baz=317						
CHGB	**Renai**	**0.37**	**317**	P	Pg	12 32 26.7	+0.1
	baz=316						
WHF	**Hehuan Shan**	**0.39**	**335**	*e*S	Sg	12 32 32.8	+0.3
	baz=336						
WHF	**Hehuan Shan**	**0.39**	**335**	*e*P	Pg	12 32 26.6	-0.5
	baz=335						
WHF	**Hehuan Shan**	**0.39**	**335**	P	Pg	12 32 26.5	-0.6
	baz=336						
NACB	**Ninganchiao**	**0.41**	**20**	*e*P	Pg	12 32 27.4	+0.1
	baz=21						
ETLH	**Xiulin Townshi**	**0.42**	**5**	*e*P	Pg	12 32 27.3	-0.2
	baz=6.0						
YULB	**Yu-li**	**0.42**	**199**	P	Pg	12 32 27.8	+0.3
	baz=197						
YULB				S	Sb	12 32 34.4	-0.3
	baz=197						
YULB	**Yu-li**	**0.42**	**199**	*e*P	Pb	12 32 28.1	-0.3
	baz=198						
YULB				*e*S	Sb	12 32 34.5	-0.2
	baz=198						
SSLB	**Suanglung**	**0.45**	**270**	P	Pg	12 32 28.0	-0.1
	baz=268						

ISCJB ***12*** *12:32:55.5±0.2,23°.79N±0°.01×121°.53E±0°.01,h19km±2km,*
Error ellipse: s-maj=2.2km s-min=1.4km az=35.4
JMA ***12*** *12:32:55.2,23°.78N×121°.55E,h14km±1km,M3.0*
TAP ***12*** *12:32:55.4,23°.81N×121°.47E,h16km,ML3.9,B*
ASIES ***12*** *12:32:55.3,23°.81N×121°.40E,h18km,MW3.1*
ISC 12 12:32:55.2±0.8,23.79N±0°.01×121°.49E±0°.02,h16km±5km, n134,σ0°56/218,9C-24D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.05**	**295**	⇑*i* P	Pg	12 32 58.5	+0.3
	baz=284						
ESL				*i* S	Sg	12 33 00.1	0.0
	baz=284						
EGFH	**Guangfu**	**0.13**	**204**	⇑*i* P	Pb	12 32 59.4	0.0
	baz=193						
EGFH				S	Sg	12 33 01.8	+0.3
	baz=193						
ENLB	**Shoufeng**	**0.15**	**43**	⇓P	Pg	12 32 59.4	+0.2
	baz=46						
ENLB				S	Sb	12 33 03.2	+0.5
	baz=46						
HWA	**Hwalien**	**0.21**	**30**	⇓P	Pb	12 33 01.3	+0.5
	baz=34						
HWA				*e*S	Sb	12 33 05.1	+0.6
	baz=34						
HGSD	**Ruisui**	**0.30**	**191**	P	Pb	12 33 02.5	+0.2
	baz=194						
HGSD				S	Sb	12 33 07.7	+0.6
	baz=194						
TWD	**Chiawan**	**0.30**	**19**	⇓P	Pb	12 33 02.0	-0.3
	baz=21						
TWD				S	Sg	12 33 06.3	+0.3
	baz=21						
VWDT	**VWDT**	**0.32**	**263**	⇓P	Pb	12 33 02.3	-0.2
	baz=260						
VWDT				S	Sg	12 33 06.5	+0.1
	baz=260						
EHY	**Hungye**	**0.32**	**208**	P	Pg	12 33 01.9	-0.1
	baz=202						
EHY				S	Sg	12 33 06.6	+0.1
	baz=202						
CHGB	**Renai**	**0.39**	**313**	⇓P	Pg	12 33 03.4	+0.1
	baz=321						
CHGB				S	Sg	12 33 08.5	-0.3
	baz=321						
NACB	**Ninganchiao**	**0.39**	**14**	⇑P	Pg	12 33 03.3	+0.1
	baz=19						
NACB				S	Sg	12 33 08.4	-0.3
	baz=19						
WHF	**Hehuan Shan**	**0.41**	**330**	⇓*i* P	Pg	12 33 03.4	-0.2
	baz=333						
WHF				*e*S	Sg	12 33 08.6	-0.8
	baz=333						
ETLH	**Xiulin Townshi**	**0.41**	**359**	⇓*e*P	Pg	12 33 03.6	0.0
	baz=3.0						
ETLH				*e*S	Sg	12 33 09.2	-0.2
	baz=3.0						
YULB	**Yu-li**	**0.43**	**204**	⇓*e*P	Pg	12 33 03.5	-0.5
	baz=200						
YULB				*e*S	Sg	12 33 10.4	+0.5
	baz=200						
TWF1	**Yuli**	**0.47**	**202**	⇓*e*P	Pg	12 33 04.1	-0.5
	baz=203						
TWF1				*e*S	Sg	12 33 11.3	+0.3
	baz=203						
SSLB	**Suanglung**	**0.49**	**270**	⇓P	Pg	12 33 04.8	-0.2
	baz=267						
SSLB				S	Sg	12 33 10.7	-0.9
	baz=267						
TWT	**Tachien**	**0.54**	**328**	⇓*i* P	Pb	12 33 06.3	-0.2
	baz=329						
TWT				*e*S	Sg	12 33 12.7	-0.6
	baz=329						
SMLT	**Sun Moon Lake**	**0.55**	**280**	⇓*i* P	Pg	12 33 06.0	0.0
	baz=278						
SMLT				S	Sg	12 33 13.1	-0.3
	baz=278						
TDCB	**Techi**	**0.55**	**327**	⇓P	Pb	12 33 06.3	-0.3
	baz=329						
TDCB				S	Sg	12 33 12.6	-0.9
	baz=329						
DPDB	**Guoxing**	**0.57**	**295**	⇓*i* P	Pg	12 33 06.5	+0.1
	baz=295						
DPDB				S	Sg	12 33 13.5	-0.6
	baz=295						
YUS	**Yu-Shan**	**0.57**	**239**	⇓*i* P	Pb	12 33 07.1	-0.1
	baz=235						
YUS				S	Sg	12 33 14.3	-0.2
	baz=235						
TYC	**Yuchr**	**0.59**	**281**	⇓*i* P	Pg	12 33 06.6	-0.2
	baz=288						
TYC				S	Sg	12 33 13.7	-0.9
	baz=288						
WHYT	**Xinyi Township**	**0.59**	**261**	P	Pb	12 33 07.0	-0.2
	baz=253						
WHYT				S	Sg	12 33 14.4	-0.3
	baz=253						
FULB	**Fuli**	**0.62**	**197**	*e*P	Pg	12 33 07.5	+0.2
	baz=205						
FULB				*e*S	Sb	12 33 17.0	+0.9
	baz=205						
NNSB	**Datong**	**0.64**	**351**	⇓P	Pg	12 33 07.9	+0.1
	baz=1.0						
NNSB				S	Sg	12 33 15.8	-0.6
	baz=1.0						
NNS	**Nan Shan**	**0.65**	**351**	⇓*i* P	Pb	12 33 08.2	-0.2
	baz=1.0						
NNS				S	Sg	12 33 16.3	-0.5
	baz=1.0						
ENA	**Nanau**	**0.68**	**20**	*i* P	Pg	12 33 08.1	-0.4
	baz=23						
NANB	**Nanao**	**0.68**	**21**	⇓*i* P	Pg	12 33 08.0	-0.6
	baz=24						
NANB				S	Sg	12 33 17.2	-0.3
	baz=24						
ALS	**Alishan**	**0.69**	**246**	⇑P	Pb	12 33 09.1	+0.1
	baz=243						
ALS				S	Sg	12 33 17.3	-0.5
	baz=243						
WHP	**Taichung City**	**0.69**	**314**	*e*P	Pg	12 33 08.8	0.0
	baz=314						
WJS	**Zhushan**	**0.70**	**273**	*e*P	Pb	12 33 09.4	+0.4
	baz=274						
WJS				S	Sn	12 33 19.8	-1.2
	baz=274						
CHKT	**Chengkung**	**0.70**	**189**	*e*P	Pg	12 33 08.8	-0.1
	baz=186						
CHKT				*e*S	Sb	12 33 18.5	+0.1
	baz=186						
ELDTW	**Lidau**	**0.74**	**216**	⇑P	Pg	12 33 08.5	-1.1
	baz=204						
ELDTW				S	Sg	12 33 19.2	-0.3
	baz=204						
WNT	**Mingjian**	**0.74**	**277**	P	Pn	12 33 10.6	-0.4
	baz=278						
WNT				*e*S	Sn	12 33 21.0	-1.0
	baz=278						
CHN5	**Tsauling**	**0.77**	**256**	⇑*i* P	Pb	12 33 10.7	+0.4
	baz=246						
CHN5				S	Sb	12 33 20.9	+0.4
	baz=246						
NDT	**Datong Townshi**	**0.81**	**2**	*e*P	Pb	12 33 10.8	-0.1
	baz=4.0						
NDT				*e*S	Sb	12 33 20.8	-0.9
	baz=4.0						
TCU	**Taichung**	**0.82**	**296**	*e*P	Pn	12 33 11.8	-0.4
	baz=295						
TCU				*e*S	Sn	12 33 23.9	-0.1
	baz=295						
ENTT	**Nioudou**	**0.85**	**5**	*e*P	Pb	12 33 11.0	-0.6
	baz=8.0						
ENTT				S	Sb	12 33 22.6	-0.2
	baz=8.0						
WGK	**Gukeng**	**0.85**	**263**	⇓P	Pn	12 33 12.5	-0.1
	baz=261						
WGK				S	Sn	12 33 24.7	-0.2
	baz=261						
WDLH	**Douliu**	**0.88**	**264**	*e*P	Pg	12 33 12.4	+0.2
	baz=262						
WDLH				*e*S	Sn	12 33 25.2	-0.1
	baz=262						
TWC	**Suao**	**0.88**	**22**	*e*P	Pb	12 33 11.3	-0.8
	baz=18						
TWC				*e*S	Sb	12 33 23.6	-0.1
	baz=18						
YHNB	**Yeheng**	**0.88**	**353**	⇓*e*P	Pb	12 33 11.9	-0.3
	baz=356						
YHNB				*e*S	Sb	12 33 23.2	-0.6
	baz=356						
NSK	**Sanguang**	**0.89**	**352**	⇑P	Pb	12 33 12.3	-0.1
	baz=355						
NSK				S	Sb	12 33 23.6	-0.4
	baz=355						
WCHH	**Zhanghua**	**0.90**	**289**	*e*P	Pg	12 33 12.8	+0.2
	baz=288						
WCHH				*e*S	Sn	12 33 25.9	0.0
	baz=288						
NSY	**Sanyi**	**0.91**	**313**	*e*P	Pn	12 33 13.8	+0.4
	baz=314						
NSY				*e*S	Sn	12 33 25.9	-0.3
	baz=314						
STYT	**Tauyuan**	**0.92**	**227**	P	Pg	12 33 13.2	+0.1
	baz=224						
STYT				S	Sg	12 33 25.1	0.0
	baz=224						
TPUB	**Ta-pu**	**0.93**	**238**	⇑P	Pn	12 33 13.5	-0.1
	baz=236						
TPUB				S	Sg	12 33 25.7	+0.4
	baz=236						
CHN4	**Tsaushan**	**0.93**	**242**	⇑*i* P	Pn	12 33 13.8	+0.1
	baz=229						
CHN4				S	Sn	12 33 27.1	+0.4
	baz=229						
TWE	**Neicheng**	**0.94**	**10**	*e*P	Pb	12 33 12.3	-0.8
	baz=13						
TWE				*e*S	Sb	12 33 25.1	-0.3
	baz=13						
NSTT	**Nanjuang**	**0.95**	**332**	⇓*i* P	Pn	12 33 13.7	-0.2
	baz=334						
NSTT				*e*S	Sb	12 33 25.1	-0.5
	baz=334						
WDJ	**Dajia District**	**0.95**	**306**	*e*P	Pn	12 33 14.7	+0.7
	baz=306						
WDJ				*e*S	Sn	12 33 28.1	+0.8
	baz=306						
LIOB	**Emei**	**0.95**	**333**	⇓*i* P	Pn	12 33 14.0	0.0
	baz=335						
LIOB				*e*S	Sg	12 33 26.2	-0.1
	baz=335						
EOS1	**EOS1**	**0.95**	**38**	*e*P	Pn	12 33 14.3	+0.3
	baz=29						
CHN2	**Minshiung**	**0.96**	**255**	*e*P	Pn	12 33 14.0	-0.1
	baz=253						
CHN2				*e*S	Sn	12 33 27.6	+0.1
	baz=253						
PTSB	**Yuanli**	**0.97**	**313**	*e*P	Pn	12 33 14.9	+0.7
	baz=313						
PTSB				*e*S	Sn	12 33 28.1	+0.5
	baz=313						
SLBB	**Yuanshan**	**0.97**	**8**	*e*P	Pb	12 33 12.0	-1.7
	baz=22						
WTP	**Ta-pu**	**0.97**	**236**	P	Pn	12 33 14.1	-0.1
	baz=234						
WTP				S	Sn	12 33 27.5	-0.2
	baz=234						
NMLH	**Miaoli**	**0.98**	**320**	*e*P	Pn	12 33 15.2	+0.9
	baz=320						
NMLH				*e*S	Sg	12 33 27.1	+0.1
	baz=320						
NWLT	**Wulai**	**0.98**	**1**	*e*P	Pb	12 33 13.8	-0.1
	baz=14						
CHY	**Chiayi**	**1.02**	**254**	*e*P	Pn	12 33 14.6	-0.2
	baz=252						
CHY				*e*S	Sn	12 33 29.2	+0.3
	baz=252						
RLNB	**Erlin**	**1.04**	**276**	P	Pg	12 33 15.2	-0.1
	baz=275						
RLNB				S	Sn	12 33 29.5	+0.2
	baz=275						
TWGBT	**Beinan**	**1.04**	**201**	*e*P	Pb	12 33 13.8	-1.1
	baz=186						
TWK	**Hsinying**	**1.05**	**241**	P	Pg	12 33 15.8	+0.1
	baz=238						
TWK				S	Sn	12 33 30.3	+0.4
	baz=238						
SNST	**Tainan City**	**1.07**	**238**	*e*P	Pg	12 33 16.1	+0.2
	baz=236						
SNST				S	Sn	12 33 30.8	+0.6
	baz=236						
WLTB	**Daxi**	**1.08**	**349**	*e*P	Pg	12 33 16.6	+0.5
	baz=358						
WLTB				*e*S	Sn	12 33 31.5	+1.1
	baz=358						
TTN	**Taitung**	**1.08**	**197**	*e*P	Pb	12 33 15.4	-0.1
	baz=194						
SGST	**Jiashian**	**1.09**	**230**	⇓*e*P	Pb	12 33 15.7	0.0
	baz=221						
SGST				S	Sn	12 33 30.8	+0.2
	baz=221						
NTC	**Toucheng**	**1.10**	**16**	*e*P	Pb	12 33 15.7	-0.2
	baz=18						
WTCT	**Ta-ch'eng**	**1.11**	**274**	*e*P	Pn	12 33 16.3	+0.2
	baz=273						
WTCT				*e*S	Sg	12 33 31.7	+0.6
	baz=273						
SLGT	**Liugui**	**1.11**	**224**	*e*P	Pg	12 33 16.6	0.0
	baz=222						
SLGT				*e*S	Sg	12 33 31.3	+0.2
	baz=222						
HSN	**Hsinchu**	**1.11**	**335**	*e*P	Pg	12 33 16.8	0.0
	baz=321						
HSN				*e*S	Sg	12 33 32.8	+1.5
	baz=321						
EGS		**1.12**	**21**	*e*P	Pg	12 33 17.4	+0.4
	baz=23						
WLGB	**Puzi**	**1.13**	**254**	*e*P	Pg	12 33 17.0	-0.1
	baz=253						
WLGB				*e*S	Sg	12 33 33.4	+1.5
	baz=253						
NHDH	**Xindian Distri**	**1.17**	**2**	*e*P	Pb	12 33 17.0	-0.1
	baz=12						
WSF	**Szhu**	**1.17**	**263**	*e*P	Pb	12 33 17.3	+0.2
	baz=261						
WSF				*e*S	Sg	12 33 33.3	+0.2
	baz=261						
TATO	**Taipei**	**1.18**	**0**	*e*P	Pb	12 33 17.1	-0.1
	baz=10.0						
TWA	**Mucha**	**1.19**	**4**	*e*P	Pn	12 33 17.1	-0.1
	baz=16						
NCUH	**Zhongli**	**1.20**	**347**	*e*P	Pg	12 33 18.3	-0.2
	baz=349						
NCUH				*e*S	Sg	12 33 36.2	+2.0
	baz=349						
NCU	**National Centr**	**1.21**	**347**	*e*P	Pg	12 33 18.4	-0.1
	baz=349						
NCU				*e*S	Sg	12 33 35.6	+1.3
	baz=349						

TIPB	Shuangxi	1.22	15	eP	Pn	12 33 17.0	-0.6
	baz=16						
TAP	Taipei	1.24	1	eP	Pg	12 33 19.2	0.0
	baz=16						
CHN8	Yiju	1.25	250	P	Pb	12 33 18.9	+0.4
	baz=248						
CHN8				S	Sg	12 33 36.2	+0.5
	baz=248						
ECL	Taimali	1.29	203	eP	Pn	12 33 18.0	-0.6
	baz=186						
TWB1	Santiao Chiao	1.29	21	eP	Pb	12 33 19.1	-0.2
	baz=23						
NWF	Wu-fen Shan	1.30	12	eP	Pb	12 33 19.1	-0.3
	baz=13						
WFSB	Wu-fen Shan	1.30	12	eP	Pb	12 33 19.4	0.0
	baz=14						
SSD	Sandimen	1.30	217	eP	Pb	12 33 19.5	+0.1
	baz=207						
TWS1	Kuangyinshan	1.30	357	eP	Pb	12 33 19.8	+0.4
	baz=14						
TWS1				eS	Sg	12 33 39.0	+1.6
	baz=14						
SCLT	Jiali	1.34	243	eP	Pb	12 33 20.4	+0.5
	baz=241						
SCLT				eS	Sg	12 33 39.0	+0.6
	baz=241						
YM01	YM01	1.35	3	eP	Pb	12 33 19.8	-0.4
	baz=5.0						
YM04	YM04	1.36	2	eP	Pn	12 33 19.9	+0.3
	baz=23						
YM10	YM10	1.36	3	eP	Pn	12 33 19.9	+0.3
	baz=5.0						
NTST	Danshui	1.37	359	eP	Pb	12 33 20.8	+0.3
	baz=20						
YM05	YM05	1.37	3	eP	Pn	12 33 19.4	-0.4
	baz=6.0						
YM05				eS	Sb	12 33 37.9	+0.1
	baz=6.0						
TWM1	Shoushan	1.37	226	eP	Pg	12 33 22.5	+0.8
	baz=238						
ANP	Anpu	1.39	1	eP	Pb	12 33 20.7	-0.2
	baz=22						
YM08	YM08	1.39	4	eP	Pn	12 33 19.7	-0.4
	baz=6.0						
MASBT	Mashibuluo	1.41	214	eP	Pn	12 33 20.3	0.0
	baz=212						
MASBT				eS	Sg	12 33 40.5	-0.3
	baz=212						
TWY	Chenhua	1.48	4	eP	Pg	12 33 23.8	+0.1
	baz=24						
JYNG	Yonagunijimaku	1.49	63	P	Pn	12 33 20.8	-0.5
JYNG				eS	Sn	12 33 39.2	-1.2
EAST	Anshuo	1.52	203	eP	Pn	12 33 20.7	-1.1
	baz=189						
TAW	Tawu	1.53	201	eP	Pb	12 33 23.7	+0.5
	baz=188						
YOJ	Yonaguni jima	1.54	64	eP	Pn	12 33 21.9	-0.1
	baz=61						
YOJ				eS	Sn	12 33 41.4	-0.5
	baz=61						
YOJ	Yonaguni jima	1.54	64	P	Pn	12 33 22.0	-0.1
YOJ				eS	Sn	12 33 41.8	-0.1
SCZT	Fangliau	1.62	210	eP	Pb	12 33 24.1	-0.8
	baz=205						
LAY	Lan-yu	1.75	178	eP	Pn	12 33 23.1	-1.9
	baz=168						
WDGT	Dungji	1.76	253	eP	Pn	12 33 25.0	0.0
	baz=250						
WLCH	Liuqiu	1.76	216	eP	Pn	12 33 25.5	+0.5
	baz=229						
PHUB	P'eng-hu	1.78	261	eP	Pn	12 33 25.5	+0.2
	baz=243						
PHUB				eS	Sb	12 33 48.6	-0.9
	baz=243						
PNG	Penghu	1.79	263	P	Pn	12 33 25.7	+0.3
	baz=261						
PNG				eS	Sb	12 33 49.2	-0.6
	baz=261						
HEN	Hengchun	1.91	201	eP	Pb	12 33 28.8	-0.8
	baz=190						
TWK1	Hengchun	1.94	199	eP	Pb	12 33 30.1	-0.2
	baz=189						
TWKBT	Hengchun	1.94	199	eP	Pn	12 33 27.9	+0.3
	baz=189						
VCHM	Qimei	1.98	253	eP	Pn	12 33 28.2	+0.1
	baz=251						
IRIF	Iriomote-Funau	2.12	75	P	Pn	12 33 30.4	+0.4
IRIF				S	Sn	12 33 55.5	-0.6
HATJ	Hateruma jima	2.14	82	P	Pn	12 33 30.4	+0.1
HATJ				eS	Sn	12 33 57.0	+0.5
VWUC	VWUC	2.21	303	eP	Pn	12 33 30.2	-1.1
	baz=303						
PTTC	Pingtan	2.31	318	eP	Pn	12 33 32.0	-0.6
	baz=320						
JKRS	Kuro-shima	2.35	79	P	Pn	12 33 33.6	+0.4
JKRS				eS	Sn	12 34 01.7	0.0
PTMZ	Houxiangcun	2.49	300	eP	Pn	12 33 35.2	0.0
	baz=300						
JIJ	Ishigaki jima	2.49	76	P	Pn	12 33 35.2	0.0
JIJ				eS	Sn	12 34 04.3	-1.0
JISG	Ishigakijimahi	2.70	72	P	Pn	12 33 38.2	+0.2
JISG				eS	Sn	12 34 09.6	-0.7
MATB	Ma-tsu	2.73	330	eP	Pn	12 33 37.8	-0.7
	baz=333						
KNM	Kinmen	2.86	283	eP	Pn	12 33 41.7	+1.5
	baz=267						
KNMB	Chin-men Tao	2.91	284	eP	Pn	12 33 40.6	-0.3
	baz=281						
JTJ	Tarama	3.06	73	P	Pn	12 33 43.6	+0.7
JTJ				eS	Sn	12 34 19.9	+0.7
LYJJ	Jianjiangzhen	3.16	331	eP	Pn	12 33 43.5	-0.9
	baz=335						
MHZQ	Yeshan	3.20	316	eP	Pn	12 33 44.9	0.0
	baz=320						
XPSS	Dashiqiu	3.34	340	eP	Pn	12 33 46.6	-0.2
	baz=330						
AXDP	Jialang	3.39	290	eP	Pn	12 33 47.6	0.0
	baz=287						
ZPLA	Ao Xicun	3.42	273	eP	Pn	12 33 48.0	0.0
	baz=269						
JIRB	Irabujima	3.52	72	P	Pn	12 33 50.0	+0.7
JIRB				eS	Sn	12 34 31.1	+0.5
ZZJH	Jiuhuzhen	3.59	282	eP	Pn	12 33 50.0	-0.2
	baz=266						
JMJ	Miyako jima 2	3.62	73	eP	Pn	12 33 51.5	+0.8
	baz=75						
JMJ2	Miyako jima3	3.63	74	P	Pn	12 33 51.8	+1.0
JMJ2				eS	Sn	12 34 33.9	+0.5

*ISCJB **12** 12:43:25.9±0.5, 37°.95S±0°.03×176°.45E±0°.05, h191km±3km, mb3.2/2, Error ellipse: s-maj=6.0km s-min=4.5km az=162.7*
*IDC **12** 12:43:26.7±1.3, 38°.18S×176°.60E, h177km±16km, mb3.0/2, mb1 3.4/3, mb1mx3.2/20, mbtmp3.7/3, Error ellipse: s-maj=56.7km s-min=34.1km az=127.0*
*WEL **12** 12:43:28.3, 38°.8±17°×17°.6E±1°.1, h172km±11km, M3.2/26, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=1.2*

ISC 12 12:43:26.5±1.2, 37°.98S±0°.06×176°.43E±0°.05, h189km±7km, n155, σ1§34/173, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIRZ	Lichensteins R	0.05	236	P	Pn	12 43 51.0	-0.3
LIRZ				S	Sn	12 44 09.4	-1.1
OMRZ	Omania	0.14	201	P	Pn	12 43 51.3	-0.1
KARZ	Kaharoa	0.16	254	P	Pn	12 43 51.1	-0.3
OPRZ	Ohinepanea	0.16	36	P	Pn	12 43 50.5	-0.9
OPRZ				S	Sn	12 44 08.1	-2.5
MARZ	Manawahe	0.19	93	P	Pn	12 43 51.1	-0.4
MARZ				S	Sn	12 44 09.4	-1.3
NGRZ	Ngongotaha	0.23	237	P	Pn	12 43 51.6	+0.1
TARZ	Mount Tarawera	0.27	168	P	Pn	12 43 52.1	+0.4
EDRZ	Edgecumbe	0.27	118	P	Pn	12 43 51.8	+0.1
UTU	Utuhina	0.28	223	P	Pn	12 43 51.9	+0.3
HLRZ	Highlands Stat	0.28	193	P	Pn	12 43 52.2	+0.5
TGRZ	Tauranga	0.28	331	P	Pn	12 43 50.2	-1.5
TGRZ				S	Sn	12 44 08.9	-2.1
HSRZ	Hossack Road	0.37	204	P	Pn	12 43 52.3	+0.5
RRRZ	Republican Roa	0.37	170	P	Pn	12 43 51.8	0.0
KMRZ	Kaimai	0.41	288	P	Pn	12 43 51.6	-0.4
KMRZ				S	Sn	12 44 10.4	-1.2
HRRZ	Handcock Road	0.43	196	P	Pn	12 43 52.4	+0.3
GRRZ	Galatos Road	0.45	214	P	Pn	12 43 52.5	+0.4
PRRZ	Plateau Road	0.52	184	P	Pn	12 43 52.8	+0.4
MUGZ	Murupara	0.57	152	P	Pn	12 43 52.5	0.0
MUGZ				S	Sn	12 44 10.5	-2.4
WPRZ	Whakapapatarin	0.58	201	P	Pn	12 43 53.2	+0.6
ALRZ	Allen Road	0.59	187	P	Pn	12 43 53.2	+0.5
URZ	Urewera	0.60	118	P	Pn	12 43 52.2	-0.5
	190nm,0.3s,baz=257,slow=4.5,SNR=7.0						
URZ				S	Sn	12 44 10.1	-2.9
	344nm,0.3s,baz=19,slow=23,SNR=9.6						
URZ	Urewera	0.60	118	P	Pn	12 43 52.1	-0.6
URZ				S	Sn	12 44 10.3	-2.6
KUTZ	Kaahu Road	0.70	223	P	Pn	12 43 54.0	+0.7
RTZ	Ruatahuna	0.77	146	P	Pn	12 43 53.9	+0.2
RTZ				S	Sn	12 44 13.2	-1.6
TOZ	Tahuroa Road	0.78	288	P	Pn	12 43 53.4	-0.2
WHTZ	Whakaora	0.78	208	P	Pn	12 43 55.1	+1.3
TLZ	Tolley Road	0.79	243	P	Pn	12 43 54.4	+0.6
MRHZ	Matea Rd	0.86	181	P	Pn	12 43 54.8	+0.6
MRHZ				S	Sn	12 44 14.5	-1.3
WATZ	Wairara	0.92	217	P	Pn	12 43 55.5	+0.9
MTHZ	Maungataniwha	0.93	160	P	Pn	12 43 55.2	+0.6
MTHZ				S	Sn	12 44 15.5	-1.1
RAGZ	Rawiri	0.93	124	P	Pn	12 43 55.1	+0.5
RAGZ				S	Sn	12 44 15.0	-1.5
MWZ	Matawai	0.93	113	P	Pn	12 43 54.3	-0.4
MWZ				S	Sn	12 44 14.1	-2.4
HATZ	Hinemaiaia	0.95	196	P	Pn	12 43 55.5	+0.7
RUGZ	Raukumara Rang	0.98	90	P	Pn	12 43 54.2	-0.9
RATZ	Rangitukua	1.03	210	P	Pn	12 43 56.4	+1.0
RAHZ	Arahi	1.07	152	P	Pn	12 43 56.8	+1.2
RAHZ				S	Sn	12 44 17.9	-0.4
SNGZ	Shannon Statio	1.07	139	P	Pn	12 43 56.5	+0.9
SNGZ				S	Sn	12 44 17.1	-1.2
HAZ	Te Kaha	1.09	79	P	Pn	12 43 54.5	-1.2
HAZ				S	Sn	12 44 14.7	-3.6
RITZ	Rihia Road	1.10	204	P	Pn	12 43 57.2	+1.4
RITZ				S	Sn	12 44 19.1	+0.4
KATZ	Kakaramea	1.15	210	P	Pn	12 43 57.8	+1.4
NMHZ	Naumai	1.16	165	P	Pn	12 43 58.0	+1.7
BKZ	Black Stump Fm	1.19	178	P	Pn	12 43 57.3	+0.7
TKGZ	Te Karaka	1.21	113	P	Pn	12 43 57.0	+0.4
TKGZ				S	Sn	12 44 18.5	-1.5
WHHZ	Waihua	1.27	150	P	Pn	12 43 58.5	+1.4
RIGZ	Rimuhau	1.27	125	P	Pn	12 43 58.1	+0.9
KRVZ	Karewarewa	1.28	209	P	Pn	12 43 58.6	+1.3
PKGZ	Pakihiroa	1.30	87	P	Pn	12 43 57.2	-0.3
WTVZ	West Tongariro	1.32	212	P	Pn	12 43 58.8	+1.1
MKAZ	Moumakai	1.33	310	P	Pn	12 43 57.3	-0.4
TWVZ	Taurewa	1.34	215	P	Pn	12 43 59.1	+1.2
HIZ	Hauiti	1.35	246	P	Pn	12 43 59.0	+1.2
KUZ	Kuaotunu	1.35	335	P	Pn	12 43 56.5	-1.4
ARHZ	Aropaoanui	1.36	161	P	Pn	12 43 59.4	+1.6
NGZ	Ngauruhoe	1.36	208	P	Pn	12 43 60.0	+1.9
TUVZ	Tukino	1.43	205	P	Pn	12 43 60.0	+1.3
KNZ	Kokohu	1.43	137	P	Pn	12 43 59.4	+1.0
PUZ	Puketiti	1.44	94	P	Pn	12 43 58.4	-0.2
KWHZ	Kaweka Forest	1.45	180	P	Pn	12 44 00.1	+1.4
FWVZ	Far West T-bar	1.45	208	P	Pn	12 44 00.0	+1.1
WHVZ	Whangaehu Hut	1.46	207	P	Pn	12 44 00.4	+1.3
DRZ	Dome Shelter	1.47	207	P	Pn	12 44 00.8	+1.6
PRGZ	Paritu Road	1.48	130	P	Pn	12 43 60.0	+1.0
MCHZ	McNeill Hill	1.48	172	P	Pn	12 44 00.8	+1.8
CNGZ	Carnagh Statio	1.49	110	P	Pn	12 44 00.1	+1.1
TRVZ	Turoa	1.49	207	P	Pn	12 44 00.8	+1.5
KBAZ	Karaka Road Bo	1.51	305	P	Pn	12 43 59.4	+0.1
MOVZ	Moawhango	1.52	200	P	Pn	12 44 00.3	+0.8
BHHZ	Black Hill Sta	1.54	191	P	Pn	12 44 00.5	+1.0
MXZ	Matakaoa Point	1.54	75	P	Pn	12 43 59.0	-0.5
PKVZ	Pokaka	1.56	213	P	Pn	12 44 01.4	+1.6
WIAZ	Waiheke Island	1.57	318	P	Pn	12 43 59.2	-0.7
ETAZ	East Tamaki Re	1.57	310	P	Pn	12 43 59.8	-0.1
WMGZ	Waiomatatini S	1.57	85	P	Pn	12 43 59.6	-0.3
MTVZ	Mangateitei	1.59	208	P	Pn	12 44 01.7	+1.5
MHGZ	Mahia Peninsul	1.65	136	P	Pn	12 44 01.9	+1.4
KRHZ	Kereru	1.67	182	P	Pn	12 44 02.1	+1.3
AWAZ	Awhitu Peninsu	1.69	302	P	Pn	12 44 00.9	-0.1
MBAZ	Motutapu North	1.72	314	P	Pn	12 44 01.2	-0.1
VRZ	Vera Road	1.74	228	P	Pn	12 44 03.5	+2.0
CKHZ	Cape Kidnapper	1.75	164	P	Pn	12 44 03.2	+1.7
HBAZ	Herne Bay Bore	1.76	309	P	Pn	12 44 01.8	+0.1
WTAZ	Waiatarua	1.81	305	P	Pn	12 44 02.2	0.0
KAHZ	Kahuranaki	1.85	169	P	Pn	12 44 04.2	+1.6
ABAZ	Army Bay	1.88	117	P	Pn	12 44 02.9	+0.1
GRZ	Great Barrier	1.89	335	P	Pn	12 44 02.3	-0.8
PNHZ	Pukenui	1.94	185	P	Pn	12 44 04.6	+1.1
MHEZ	Mangahewa	1.99	236	P	Pn	12 44 06.7	+2.8
PXZ	Pawanui	2.08	171	P	Pn	12 44 06.3	+1.3
WPHZ	Waipukurau	2.08	180	P	Pn	12 44 06.2	+1.1
WAZ	Wanganui	2.10	212	P	Pn	12 44 06.9	+1.6
TSZ	Takapari Road	2.11	190	P	Pn	12 44 06.3	+0.9
DREZ	Durham Road	2.13	235	P	Pn	12 44 08.1	+2.6
LREZ	Lake Rotokare	2.17	226	P	Pn	12 44 08.4	+2.5
PREZ	Palmer Road	2.24	232	P	Pn	12 44 09.3	+2.5
PKE	Pukeiti	2.27	237	P	Pn	12 44 09.4	+2.3
PRHZ	Porangahau	2.29	176	P	Pn	12 44 08.5	+1.2
KHEZ	Kahui Hut	2.31	234	P	Pn	12 44 09.9	+2.4
DVHZ	Dannevirke	2.33	185	P	Pn	12 44 08.5	+0.8
NBEZ	Newall Road No	2.39	237	P	Pn	12 44 11.6	+3.3
OHWZ	Ohakea	2.39	201	P	Pn	12 44 10.1	+1.7
NMEZ	Namu Road	2.46	234	P	Pn	12 44 11.2	+2.1
POWZ	Post Office Ro	2.47	192	P	Pn	12 44 10.1	+0.9
ANWZ	Angora Road	2.48	179	P	Pn	12 44 10.7	+1.4
PRWZ	Pori Road	2.60	188	P	Pn	12 44 11.9	+1.2
WCZ	Waipu Caves	2.63	320	P	Pn	12 44 10.9	-0.4
BFZ	Birch Farm	2.71	183	P	Pn	12 44 12.8	+0.8
MRZ	Mangatainoka R	2.76	194	P	Pn	12 44 13.1	+0.5
TIWZ	Tintock	2.83	188	P	Pn	12 44 14.2	+0.8
CPWZ	Castlepoint	2.94	183	P	Pn	12 44 16.1	+1.5
OGWZ	Otaki Gorge	3.00	199	P	Pn	12 44 16.0	+0.6
HOWZ	Holdsworth Sta	3.00	193	P	Pn	12 44 15.8	+0.3
KIW	Kapiti Island	3.11	202	P	Pn	12 44 17.0	+0.1
TMWZ	Te Maipa	3.15	187	P	Pn	12 44 17.9	+0.5
MTW	Mount Morrison	3.26	192	P	Pn	12 44 18.6	0.0
CAW	Cannon Point	3.30	198	P	Pn	12 44 19.3	+0.2
DUWZ	D'Urville Isla	3.43	214	P	Pn	12 44 20.6	-0.1
TRWZ	Traveller	3.46	189	P	Pn	12 44 21.4	+0.3
PAWZ	Paruwai Farm	3.49	193	P	Pn	12 44 21.5	0.0
MSWZ	Moikau Station	3.55	195	P	Pn	12 44 22.0	-0.2
OUZ	Omahuta	3.58	319	P	Pn	12 44 22.7	+0.2
BHW	Baring Head	3.63	199	P	Pn	12 44 23.0	-0.2
TCW	Tory Channel	3.63	207	P	Pn	12 44 23.2	0.0
PLWZ	Palliser	3.70	194	P	Pn	12 44 23.8	-0.3
NNZ	Nelson	4.00	215	P	Pn	12 44 27.2	-0.6
CMWZ	Cape Campbell	4.14	204	P	Pn	12 44 30.1	+0.6
QRZ	Quartz Range	4.15	226	P	Pn	12 44 28.6	-1.1
BSWZ	Blackbirch Sta	4.22	207	P	Pn	12 44 30.5	-0.1
THZ	Tophouse	4.65	215	P	Pn	12 44 35.1	-1.0
KHZ	Kahutara	4.96	206	P	Pn	12 44 39.5	-0.5
DSZ	Denniston Nort	5.18	222	P	Pn	12 44 41.3	-1.6
GVZ	Greta Valley S	5.62	206	P	Pn	12 44 47.6	-0.9
LTZ	Lake Taylor	5.76	212	P	Pn	12 44 48.4	-1.9
AMCZ	Amberley	5.94	208	P	Pn	12 44 51.6	-1.0
INZ	Inchbonnie	6.08	217	P	Pn	12 44 52.6	-1.9
OKCZ	Okains Bay	6.28	203	P	Pn	12 44 56.1	-1.1
OXZ	Oxford	6.30	211	P	Pn	12 44 55.3	-2.1
MQZ	McQueen's Vall	6.40	205	P	Pn	12 44 56.4	-2.2
AKCZ	Akaroa Harbour	6.46	203	P	Pn	12 44 58.4	-1.1
WVZ	Waitaha Valley	6.69	219	P	Pn	12 45 01.9	-0.5
RPZ	Rata Peaks	7.03	214	P	Pn	12 45 06.0	-1.0
	6.7nm,0.3s,baz=206,slow=0.5,SNR=30						
RPZ				S	Sn	12 46 21.4	-5.2
	37nm,0.3s,baz=30,slow=22,SNR=30						
RPZ	Rata Peaks	7.03	214	P	Pn	12 45 06.0	-1.0
FOZ	Fox Glacier	7.48	220	P	Pn	12 45 11.3	-1.5
LBZ	Lake Benmore	7.95	214	P	Pn	12 45 17.7	-1.2
ODZ	Otahua Downs	8.29	210	P	Pn	12 45 22.3	-1.1
JCZ	Jackson Bay	8.39	221	P	Pn	12 45 23.2	-1.7
WKZ	Wanaka	8.82	217	P	Pn	12 45 28.4	-2.0
MSZ	Milford Sound	9.25	221	P	Pn	12 45 35.7	-0.3
TUZ	Tuapeka	9.44	210	P	Pn	12 45 38.5	+0.1
MLZ	Mavora Lakes	9.65	217	P	Pn	12 45 40.5	-0.7
SYZ	Scrubby Hill	10.12	210	P	Pn	12 45 47.7	+0.6
WHZ	Wether Hill Ro	10.12	216	P	Pn	12 45 46.3	-1.0
APZ	The Paps	10.82	212	P	Pn	12 45 55.7	-0.7
ASAR	Alice Springs	38.87	279	P	P	12 50 36.3	+2.7
	0.5nm,0.6s,baz=120,slow=8.2,SNR=9.6						
WRA	Warramunga Arr	40.59	284	P	P	12 50 50.3	+2.6
	0.3nm,0.6s,baz=121,slow=8.6,SNR=7.9						
ARCES	ARCESS Array B	144.74	343	PKP	PKPbc	13 02 40.2	+1.3
	5.5nm,1.1s,baz=38,slow=3.4,SNR=3.3						

MAN 12 12:56:32.1, 9°.90N×124°.06E, h1km, mb4.4, ML3.2, MS3.0, 4C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.43	348	⇓iP	Pg	12 56 40.9	+0.5
LLP				i S	Sb	12 56 48.0	-1.5
MSLP	Maasin	0.82	73	eP	Pg	12 56 47.2	-0.7
MSLP				eS	Sn	12 57 23.0	+19
SNPH	Sibulan	0.98	236	⇑iP	Pg	12 56 50.6	-0.3
SNPH				i S	Sg	12 56 58.8	-4.9
OCLP	Ormoc	1.27	25	eP	Pg	12 56 56.5	0.0
OCLP				eS	Sn	12 57 34.9	+20
DCPH	Dipolog City	1.48	208	⇓iP	Pg	12 57 00.5	0.0
DCPH				i S	Sg	12 57 15.9	-3.8
CGP	Cagayan de Oro	1.56	156	⇓eP	Pg	12 57 12.5	+10
CGP				eS	Sg	12 57 43.4	+21
GUIM	Jordan	1.62	297	eP	Pn	12 57 01.8	-0.1
GUIM				eS	Sb	12 57 23.7	0.0
RCP	Roxas	2.10	322	⇑eP	Pg	12 57 15.4	+3.0
RCP				eS	Sg	12 57 42.7	+3.0
PAGZ	Pagadian	2.14	198	eP	Pb	12 57 11.2	-0.5
PAGZ				eS	Sn	12 57 36.8	+0.5
BUKP	Musuan	2.23	154	eP	Pb	12 57 13.2	-0.1
BUKP				eS	Sg	12 57 55.7	+12
JAP	San Jose, Anti	2.25	292	⇑eP	Pb	12 57 14.2	+0.7
CTBH	Cotabato--PC H	2.66	176	⇑iP	Pn	12 57 17.1	+0.9
KCP	Kidapawan	3.04	160	⇓ip	Pg	12 57 39.7	+9.2

*ISCJB **12** 12:59:51.4±0.8, 27°.64S±0°.06×69°.20W±0°.05, h99km, Error ellipse: s-maj=8.2km s-min=6.9km az=6.2*
*GUC **12** 12:59:52.7±0.8, 27°.79S×69°.55W, h113km±9km, ML4.0*
*SJA **12** 12:59:52.8±0.8, 27°.69S×68°.98W, h149km±14km, ML3.1, MW3.0*

ISC 12 12:59:51.7±1.5, 27°.57S±0°.07×69°.24W±0°.05, h99km, n12, σ1§88/19, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	Copiap	0.88	269	⇓iP	Pn	13 00 11.3	+0.5
GO03				i S	Sn	13 00 26.1	+0.8
GO03				IAML		13 00 26.8	
	comp=E,6μm,0.3s						
AROD	Rodeo	2.59	184	i P	Pn	13 00 35.4	+3.1
AROD				eS	Sn	13 01 07.6	+4.2
GO04	Tololo Observa	2.93	207	eP	Pn	13 00 36.6	-0.1
GO04				i S	Sn	13 01 07.5	-3.7
CYA	Choya	3.16	107	i P	Pn	13 00 39.8	+0.1
CYA				IAML		13 00 40.0	
	comp=Z,51nm,0.2s						
CYA				eS	Sn	13 01 14.5	-2.2
AMOG	MOGNA	3.42	169	i P	Pn	13 00 44.1	+1.0
AMOG				eS	Sn	13 01 22.5	-0.2
AHML	Horco Molle	3.57	78	i P	Pn	13 00 46.3	+1.1
AHML				IAML		13 00 59.5	
	comp=Z,9.0nm,0.6s						
RTLL	Cerro Villicun	3.80	170	⇑iP	Pn	13 00 49.3	+1.1
RTLL				eS	Sn	13 01 31.4	-0.7
RTLL				IAML		13 01 32.5	
	comp=Z,108nm,0.4s						
CO02	Combarbal	3.93	203	eP	Pn	13 00 49.0	-1.1
RTCV	Cerro Valdivia	4.32	172	⇓iP	Pn	13 00 56.3	+1.1
RTCV				eS	Sn	13 01 43.9	-0.6
ACAN	Cantantal	5.01	160	i P	Pn	13 01 05.2	+0.6
TCA	Tanti	5.52	134	⇓iP	Pn	13 01 10.7	-0.9
TCA				IAML		13 01 11.9	
	comp=Z,11nm,0.3s						
ROC1	El Roble	5.60	195	i P	Pn	13 01 11.2	-1.5

*MEX **12** 13:15:03.8±0.7, 14°.59N×92°.14W, h90km±6km, MD3.9*
*ISCJB **12** 13:15:04.3±1.2, 14°.7N±0°.1×92°.24W±0°.08, h87km±10km, Error ellipse: s-maj=20.9km s-min=6.1km az=35.3*
*GCG **12** 13:15:09.1±0.4, 15°.20N×91°.65W, h28km±15km, MD3.7*

ISC 12 13:15:05.7±1.7, 14°.7N±0°.1×92°.21W±0°.08, h76km±11km, n8, σ1§08/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.17	342	i P	Pn	13 15 15.7	-1.2
THIG				i S	Sn	13 15 26.2	+1.0
STG3	Santiaguito 3,	0.62	93	eP	Pn	13 15 19.9	-0.5
ERG	Entre ros, C	0.69	116	eP	Pn	13 15 20.3	-0.7
ERG				eS	Sn	13 15 34.5	+2.2
FUG	Fuego 3	1.36	102	eP	Pn	13 15 28.9	-0.3
FUG				eS	Sn	13 15 46.8	-0.1
PCIG		1.36	315	eP	Pn	13 15 28.4	-0.7
PCIG				i S	Sn	13 15 47.4	+0.6
CCIG	Comitan	1.53	3	i P	Pn	13 15 31.0	-0.5
CCIG				i S	Sn	13 15 51.6	+0.7
IXG	Ixpaco	1.81	108	eP	Pn	13 15 35.6	+0.5
IXG				eS	Sn	13 15 56.0	-1.4
CMIG	Matias Romero	3.47	313	i P	Pn	13 15 57.1	-0.4
CMIG				i S	Sn	13

CPUP	**Villa Florida**	**60.15 265**	P	**P**	**13 49 59.3**	**-0.1**
	baz=127,slow=10					
DBIC	**Dimbokro**	**61.55 335**	P	**P**	**13 50 09.2**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=135,slow=11,SNR=5.7					
DBIC			LR	LR	14 11 07.0	
	comp=Z,47nm,21.5s,baz=144,slow=30					
BDFB	**Brasilia**	**62.46 280**	P	**P**	**13 50 15.4**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=175,slow=9.1,SNR=4.7					
H08N3	**Diego Garcia H**	**63.58 64**	T	T	14 59 33.8	
	baz=216,slow=75,SNR=5.7					
H08N1	**Diego Carcia H**	**63.58 64**	T	T	14 59 38.4	
	baz=216,slow=75,SNR=5.8					
H08N2	**Diego Garcia H**	**63.58 64**	T	T	14 59 34.4	
	baz=216,slow=75,SNR=6.5					
TORD	**Torodi Ar. Bea**	**66.42 344**	P	**P**	**13 50 40.8**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=190,slow=7.7,SNR=7.0					
TORD			LR	LR	14 16 45.6	
	comp=Z,56nm,18.6s,baz=340,slow=33					
TORD	**Torodi Ar. Bea**	**66.42 344**	P	**P**	**13 50 41.1**	**+0.2**
H01W2	**Cape Leeuwin H**	**67.33 118**	T	T	15 04 43.2	
	baz=221,slow=75,SNR=7.8					
H01W3	**Cape Leeuwin H**	**67.34 118**	T	T	15 04 48.6	
	baz=221,slow=75,SNR=7.6					
H01W1	**Cape Leeuwin H**	**67.34 118**	T	T	15 04 50.6	
	baz=221,slow=75,SNR=8.6					
LPAZ	**La Paz**	**74.29 264**	P	**P**	**13 51 31.0**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=117,slow=4.5,SNR=4.1					
LPAZ			LR	LR	14 23 14.3	
	comp=Z,18nm,18.4s,baz=106,slow=35					
LPAZ	**La Paz**	**74.29 264**	IAmb	IAmb	13 51 31.2	
	comp=Z,7.1nm,1.4s					
SAML	**Samuel**	**76.92 272**	P	**P**	**13 51 43.8**	**-0.5**
SAML			IAmb	IAmb	13 51 45.3	
	comp=Z,7.3nm,1.0s					
RPZ	**Rata Peaks**	**81.86 161**	LR	LR	14 26 03.0	
	comp=Z,121nm,18.3s,baz=208,slow=34					
STKA	**Stephens Creek**	**82.31 135**	P	**P**	**13 52 19.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=221,slow=15,SNR=2.9					
ASAR	**Alice Springs**	**86.63 125**	P	**P**	**13 52 35.2**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=206,slow=4.3,SNR=20					
ASAR	**Alice Springs**	**86.63 125**	P	**P**	**13 52 34.8**	**-0.7**
WRA	**Warramunga Arr**	**89.95 123**	P	**P**	**13 52 50.9**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=204,slow=3.4,SNR=5.9					
WRA	**Warramunga Arr**	**89.95 123**	P	**P**	**13 52 50.8**	**-0.6**
BRTR	**Keskin Array B**	**92.73 13**	LR	LR	14 36 10.9	
	comp=Z,24nm,18.3s,baz=280,slow=36					
MKAR	**Makanchi Array**	**113.38 43**	PKKP	**PKKPdf**	**14 09 32.3**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=66,slow=2.9,SNR=3.9					
WMQ	**Urumqi**	**113.42 48**	*eP*	**PKiKP**	**13 58 29.4**	**+0.3**
WMQ			pmax	pmax		
	comp=Z,260nm,6.1s					
WMQ			LR	LR		
	comp=N,670nm,29.2s					
WMQ			LR	LR		
	comp=E,1μm,29.3s					
WMQ			LR	LR		
	comp=Z,170nm,17.9s					
HHC	**Hu-ho-hao-te**	**123.47 65**	*eP*	**PKiKP**	**13 58 49.9**	**+1.0**
PDAR	**Pinedale Array**	**143.38 277**	PKhKP	PKPab	13 59 22.1	+0.1
	comp=Z,1.1nm,0.8s,baz=124,slow=5.1,SNR=8.7					
PDAR	**Pinedale Array**	**143.38 277**		PKPab	13 59 20.8	-1.2
FXWY	**Fox Creek**	**144.76 277**		**PKPab**	**13 59 26.9**	**-0.3**
IMW	**Indian Meadow**	**144.85 278**		**PKPab**	**13 59 27.2**	**-0.4**
TIXI	**Tiksi**	**145.15 31**	PKPbc	**PKPbc**	**13 59 27.1**	**-0.2**
	comp=Z,7.7nm,0.8s,baz=318,slow=3.8,SNR=26					
TIXI	**Tiksi**	**145.15 31**		**PKPbc**	**13 59 28.2**	**+0.9**
RES	**Resolute Bay**	**145.17 334**		**PKPdf**	**13 59 28.8**	**+1.1**
YHH	**Holmes Hill**	**145.26 279**		**PKPbc**	**13 59 29.3**	**+0.4**
ELK	**Elko**	**145.72 270**		**PKPdf**	**13 59 30.4**	**+0.4**
OMMB	**Old Mammoth Mi**	**146.10 262**	PKPbc	**PKPdf**	**13 59 32.2**	**+1.3**
NV11	**Mina Array Sit**	**146.10 264**	PKPbc	**PKPdf**	**13 59 31.9**	**+1.2**
NVAR	**Mina Array Bea**	**146.19 264**	PKPbc	**PKPdf**	**13 59 32.3**	**+1.4**
	comp=Z,9.3nm,0.8s,baz=138,slow=4.4,SNR=48					
NVAR	**Mina Array Bea**	**146.19 264**		**PKPdf**	**13 59 32.1**	**+1.2**
RYN	**Ryan**	**146.45 264**	PKPbc	**PKPbc**	**13 59 33.1**	**+0.4**
KVN	**Kaiserville**	**146.46 265**		**PKPdf**	**13 59 32.7**	**+1.4**
YERR	**Yerington**	**147.11 264**		**PKPbc**	**13 59 35.0**	**+0.4**
AFDM	**Forest Hills D**	**148.15 262**		**PKPbc**	**13 59 37.4**	**+0.2**
MSO	**Missoula**	**148.15 280**		**PKPbc**	**13 59 37.1**	**+0.1**
WVOR	**Wild Horse Val**	**148.77 270**		**PKPbc**	**13 59 39.4**	**+0.6**
G08A	**Pilot Rock**	**150.47 274**		**PKPdf**	**13 59 37.6**	**+0.1**
G08A			PKPbc	**PKPbc**	**13 59 43.2**	**+0.4**
B08A	**Colville Reser**	**152.10 280**		**PKPbc**	**13 59 46.1**	**-0.3**
YKA	**Yellowknife Ar**	**152.57 311**	PKPbc	**PKPbc**	**13 59 46.5**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=101,slow=2.1,SNR=6.6					
INK	**Inuvik**	**158.57 330**	PKPab	**PKPab**	**14 00 24.5**	**+1.5**
	comp=Z,6.4nm,1.4s,baz=63,slow=4.5,SNR=3.4					
ILAR	**Eielson Array**	**164.91 333**	PKPab	**PKPab**	**14 00 52.0**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=42,slow=2.5,SNR=4.4					

*ISCJB **12** 13:46:11.7±0.6, 8°.32S±0°.09×158°.38E±0°.07, h150km, mb3.6/8, Error ellipse: s-maj=12.6km s-min=9.3km az=16.7*
*NEIC **12** 13:46:11.6±2.0, 8°.3S±0°.1×158°.3E±0°.2, h126km±10km, mb4.4/15*
*IDC **12** 13:46:13.6±2.2, 8°.43S×158°.54E, h153km±29km, mb3.5/7, mb1 3.7/8, mb1mx3.4/38, mbtmp4.0/8, MS4.0/1, Ms1 4.0/1, ms1mx2.6/20, Error ellipse: s-maj=42.1km s-min=15.7km az=130.0*
ISC 12 13:46:13.2±0.7, 8°.3S±0°.1×158°.45E±0°.09, h150km, n36, σ1911/31, mb4.0/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**127**	P		**Pn**	**13 46 45.8**	**-0.7**
	106nm,0.3s,baz=219,slow=3.9,SNR=42							
HNR				S		**Sn**	**13 47 10.4**	**-1.7**
	138nm,0.3s,baz=11,slow=22,SNR=22							
HNR	**Honiara**	**1.84**	**127**	*eP*		**Pn**	**13 46 46.0**	**-0.5**
HNR				*eS*		**Sn**	**13 47 12.0**	**-0.1**
HNR	**Honiara**	**1.84**	**127**			**Pn**	**13 46 45.6**	**-1.0**
CTA	**Charters Tower**	**16.62**	**224**	P		**Pn**	**13 49 59.1**	**+1.6**
	0.6nm,0.3s,baz=50,slow=13,SNR=8.1							
CTAO	**Charters Tower**	**16.62**	**224**	P		**Pn**	**13 50 00.1**	**+2.6**
CTAO				IAmb		IAmb	13 50 41.9	
	comp=Z,16nm,1.4s							
EIDS	**Eidsvold**	**18.35**	**202**	P		**Pn**	**13 50 18.7**	**+0.5**
EIDS				IAmb		IAmb	13 50 19.2	
	comp=Z,9.3nm,0.7s							
ARMA	**Armidale**	**22.89**	**195**	P		**P**	**13 51 05.6**	**+1.5**
ARMA				IAmb		IAmb	13 51 28.2	
	comp=Z,58nm,1.7s							
WR0	**Warramunga Arr**	**25.87**	**241**	P		**P**	**13 51 30.9**	**-0.3**
WB0	**Warramunga Arr**	**25.92**	**241**	P		**P**	**13 51 31.4**	**-0.3**
WB0				IAmb		IAmb	13 52 21.2	
	comp=Z,16nm,1.7s							
WB2	**Warramunga Arr**	**26.03**	**241**	P		**P**	**13 51 32.5**	**-0.2**
WB2				IAmb		IAmb	13 51 33.3	
	comp=Z,8.0nm,1.4s							
WRA	**Warramunga Arr**	**26.04**	**241**	P		**P**	**13 51 32.6**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=66,slow=9.1,SNR=39							
WRA				PcP		**PcP**	**13 54 57.2**	**+0.2**
	comp=Z,0.3nm,1.0s,baz=64,slow=3.2,SNR=3.3							
WRA	**Warramunga Arr**	**26.04**	**241**	P		**P**	**13 51 32.0**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**27.86**	**17**	T		T	14 20 26.0	
	baz=198,slow=76,SNR=154							
H11S2	**WAKE ISLAND Hy**	**27.88**	**17**	T		T	14 20 24.3	
	baz=198,slow=76,SNR=160							
H11S1	**WAKE ISLAND Hy**	**27.88**	**17**	T		T	14 20 27.1	
	baz=198,slow=76,SNR=125							
AS31	**Alice Springs**	**28.02**	**234**	P		**P**	**13 51 49.5**	**-1.0**
ASAR	**Alice Springs**	**28.02**	**234**	P		**P**	**13 51 49.7**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=62,slow=9.8,SNR=29							
ASAR	**Alice Springs**	**28.02**	**234**	P		**P**	**13 51 49.8**	**-0.7**
STKA	**Stephens Creek**	**28.20**	**211**	P		**P**	**13 51 51.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=49,slow=16,SNR=9.3							
STKA	**Stephens Creek**	**28.20**	**211**	P		**P**	**13 51 51.8**	**0.0**
H11N1	**WAKE ISLAND Hy**	**29.08**	**17**	T		T	14 22 31.0	
	baz=195,slow=76,SNR=71							
H11N3	**WAKE ISLAND Hy**	**29.09**	**17**	T		T	14 22 32.1	
	baz=195,slow=76,SNR=76							
H11N2	**WAKE ISLAND Hy**	**29.09**	**17**	T		T	14 22 27.6	
	baz=195,slow=76,SNR=73							
KNRA	**Kununurra**	**29.92**	**253**	P		**P**	**13 52 07.2**	**-0.1**
KNRA				IAmb		IAmb	13 52 19.2	
	comp=Z,35nm,1.8s							
BBOO	**Buckleboo**	**32.00**	**217**	P		**P**	**13 52 24.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.33**	**250**	P		**P**	**13 52 35.2**	**-2.0**
FITZ				IAmb		IAmb	13 53 41.3	
	comp=Z,25nm,1.9s							
BFZ	**Birch Farm**	**35.90**	**157**	P		**P**	**13 53 01.1**	**+2.1**
RAR	**Rarotonga**	**42.24**	**112**	LR		LR	14 07 37.8	
	comp=Z,205nm,21.5s,baz=264,slow=30							
JAGI	**Jajag, Banyuwa**	**43.81**	**266**	P		**P**	**13 54 02.9**	**-1.7**
SEY	**Seymchan**	**71.20**	**357**	P		**P**	**13 57 15.9**	**+0.5**
	comp=Z,3.1nm,1.0s,baz=167,slow=16,SNR=2.1							
SONM	**Songino Array**	**72.32**	**326**	P		**P**	**13 57 24.1**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=158,slow=5.5,SNR=3.8							
SONM	**Songino Array**	**72.32**	**326**	P		**P**	**13 57 23.7**	**+1.0**
ILAR	**Eielson Array**	**83.38**	**21**	P		**P**	**13 58 23.0**	**-0.3**
	comp=Z,0.9nm,1.1s,baz=225,slow=7.5,SNR=4.0							
MKAR	**Makanchi Array**	**86.67**	**318**	P		**P**	**13 58 40.7**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=107,slow=5.0,SNR=2.7							
MKAR	**Makanchi Array**	**86.67**	**318**	P		**P**	**13 58 39.8**	**-0.3**
NVAR	**Mina Array Bea**	**89.86**	**51**	P		P	13 59 01.1	+5.5
	comp=Z,0.1nm,0.3s,baz=238,slow=5.0,SNR=2.8							

*ISCJB **12** 13:52:08.5±0.7, 48°.16N±0°.07×155°.3E±0°.2, h35km, mb3.3/6, Error ellipse: s-maj=21.3km s-min=6.7km az=22.7*
*KRSC **12** 13:52:12.5±1.3, 48°.40N×156°.32E, h32km±24km, ML3.9*
*IDC **12** 13:52:17.2±2.6, 48°.88N×154°.08E, h126km±26km, mb3.0/6, mb1 3.3/8, mb1mx3.1/46, mbtmp3.5/8, Error ellipse: s-maj=41.7km s-min=15.8km az=135.0*
ISC 12 13:52:09.5±0.9, 48°.2N±0°.1×155°.3E±0°.1, h35km, n24, σ822/25, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.55**	**12**	*eP*		**Pn**	**13 52 49.9**	**+1.6**
SKR				*eS*		**Sn**	**13 53 17.7**	**-0.3**
PAU	**Pauzhetka**	**3.42**	**16**	*eP*		**Pn**	**13 53 02.5**	**+2.2**
PAU				*eS*		**Sn**	**13 53 39.3**	**-0.2**
KDTR	**Khodutka, Kamc**	**4.04**	**25**	*eS*		**Sn**	**13 53 52.6**	**-2.1**
ASAK	**Asacha**	**4.51**	**21**	*eP*		**Pn**	**13 53 17.7**	**+2.3**
MTVR	**Mutnovka**	**4.67**	**22**	*eP*		**Pn**	**13 53 20.1**	**+2.5**
MTVR				*eS*		**Sn**	**13 54 09.2**	**-1.4**
RUS	**Russkaya**	**4.71**	**25**	*eP*		**Pn**	**13 53 19.1**	**+1.0**
RUS				*eS*		**Sn**	**13 54 08.4**	**-3.0**
PETK	**Petropavlovsk-**	**5.15**	**16**	P		**Pn**	**13 53 26.4**	**+2.3**
	0.9nm,0.3s,baz=182,slow=11,SNR=6.6							
PETK				S		**Sn**	**13 54 22.8**	**+0.5**
	baz=167,slow=19,SNR=2.0							
AVH	**Avacha**	**5.52**	**22**	*eP*		**Pn**	**13 53 31.9**	**+2.6**
KOK	**Koryaka**	**5.52**	**21**	*eP*		**Pn**	**13 53 32.3**	**+3.0**
SMAR	**Somma**	**5.54**	**22**	*eP*		**Pn**	**13 53 32.1**	**+2.5**
SDLR	**Sedlovina**	**5.57**	**23**	*eP*		**Pn**	**13 53 31.7**	**+1.7**
KRX	**Arik**	**5.59**	**21**	*eP*		**Pn**	**13 53 32.9**	**+2.7**
GNL	**Ganaly**	**5.75**	**16**	*eP*		**Pn**	**13 53 35.3**	**+2.8**
ASAJ	**Asahikawa**	**9.72**	**250**	P		**Pn**	**13 54 29.0**	**+2.3**
	0.6nm,0.3s,baz=65,slow=13,SNR=7.4							
KLR	**Kul'dur**	**15.58**	**283**	P		**Pn**	**13 55 42.2**	**-4.1**
	0.2nm,0.3s,baz=82,slow=11,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**31.03**	**159**	T		T	14 31 43.4	
	baz=349							
H11S3	**WAKE ISLAND Hy**	**31.04**	**159**	T		T	14 31 45.5	
	baz=349,slow=74							
H11S2	**WAKE ISLAND Hy**	**31.05**	**159**	T		T	14 31 45.6	
	baz=349,slow=74							
ILAR	**Eielson Array**	**34.49**	**40**	P		**P**	**13 58 52.1**	**-1.6**
	0.2nm,0.4s,baz=267,slow=7.2,SNR=3.2							
MKAR	**Makanchi Array**	**47.61**	**297**	P		P	14 00 31.7	-10
	0.3nm,0.7s,baz=66,slow=7.5,SNR=2.8							
PDAR	**Pinedale Array**	**62.70**	**56**	P		**P**	**14 02 31.3**	**+0.4**
	0.2nm,0.4s,baz=13,slow=2.0,SNR=3.7							
WRA	**Warramunga Arr**	**70.38**	**201**	P		**P**	**14 03 18.5**	**-1.3**
	0.2nm,0.9s,baz=15,slow=6.6,SNR=4.4							
ASAR	**Alice Springs**	**74.07**	**200**	P		**P**	**14 03 41.5**	**-0.3**
	0.2nm,0.6s,baz=8.2,slow=5.3,SNR=4.8							
TXAR	**Lajitas Array**	**75.49**	**62**	P		**P**	**14 03 50.7**	**+0.4**
	0.2nm,0.5s,baz=309,slow=4.4,SNR=3.3							

*IDC **12** 13:55:34.5±1.3, 24°.26N×121°.18E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/41, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=44.6km s-min=24.3km az=79.0*
*ISCJB **12** 13:55:42.0±0.3, 24°.86N±0°.02×122°.00E±0°.01, h80km±2km, mb3.4/4, Error ellipse: s-maj=3.1km s-min=2.1km az=162.4*
*TAP **12** 13:55:42.8, 24°.81N×121°.98E, h75km, ML4.0, B*
*JMA **12** 13:55:42.3±0.1, 24°.79N×121°.98E, h77km±2km, M2.9*
ISC 12 13:55:42.6±0.8, 24°.83N±0°.03×121°.99E±0°.02, h75km±4km, n133, σ0°86/214, mb3.4/4, 29C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EGS		**0.06**	**287**	P		**Pn**	**13 55 53.8**	**+0.4**
	baz=318							
EGS				S		**Sn**	**13 56 01.5**	**+0.1**
	baz=318							
NTC	**Toucheng**	**0.15**	**280**	*eP*		**Pn**	**13 55 53.9**	**+0.3**
	baz=288							
TWB1	**Santiao Chiao**	**0.18**	**359**	P		**Pn**	**13 55 54.1**	**+0.4**
	baz=12							
TWB1				S		**Sn**	**13 56 01.8**	**-0.1**
	baz=12							
TIPB	**Shuangxi**	**0.21**	**313**	⇑*iP*		**Pn**	**13 55 54.2**	**+0.3**
	baz=310							
TIPB				S		**Sn**	**13 56 01.7**	**-0.5**
	baz=310							
ILA	**Ilan**	**0.23**	**254**	P		**Pn**	**13 55 54.4**	**+0.5**
	baz=263							
ILA				S		**Sn**	**13 56 02.9**	**+0.6**
	baz=263							
TWC	**Suao**	**0.25**	**211**	⇑P		**Pn**	**13 55 54.3**	**+0.2**
	baz=207							
TWC				S		**Sn**	**13 56 02.4**	**-0.1**
	baz=207							
EOS1	**EOS1**	**0.30**	**156**	⇓P		**Pn**	**13 55 54.9**	**+0.5**
	baz=151							
EOS1				*eS*		**Sn**	**13 56 04.1**	**+1.2**
	baz=151							
NWF	**Wu-fen Shan**	**0.31**	**322**	⇑*iP*		**Pn**	**13 55 54.8**	**+0.3**
	baz=321							
NWF				*i* S		**Sn**	**13 56 03.0**	**-0.2**
	baz=321							
WFSB	**Wu-fen Shan**	**0.31**	**322**	⇑P		**Pn**	**13 55 54.8**	**+0.4**
	baz=321							
WFSB				S		**Sn**	**13 56 03.2**	**+0.1**
	baz=321							
TWE	**Neicheng**	**0.32**	**250**	⇑P		**Pn**	**13 55 54.7**	**+0.3**
	baz=256							
SLBB	**Yuanshan**	**0.33**	**257**	*eP*		**Pn**	**13 55 53.9**	**-0.7**
	baz=264							
TWA	**Mucha**	**0.40**	**292**	⇑*iP*		**Pn**	**13 55 55.2**	**+0.2**
	baz=302							
TWA				S		**Sn**	**13 56 04.0**	**-0.3**
	baz=302							
ENTT	**Nioudou**	**0.43**	**244**	⇑*iP*		**Pn**	**13 55 55.8**	**+0.5**
	baz=244							
ENTT				*eS*		**Sn**	**13 56 06.3**	**+1.6**
	baz=244							
NHDH	**Xindian Distri**	**0.45**	**288**	⇑P		**Pn**	**13 55 55.7**	**+0.3**
	baz=296							
NHDH				S		**Sn**	**13 56 04.8**	**-0.1**
	baz=296							
NWLT	**Wulai**	**0.45**	**264**	*eP*		**Pn**	**13 55 55.6**	**+0.2**
	baz=272							
NWLT				S		**Sn**	**13 56 05.0**	**+0.1**
	baz=272							
NANB	**Nanao**	**0.46**	**209**	⇑*iP*		**Pn**	**13 55 56.1**	**+0.6**
	baz=208							
NANB				S		**Sn**	**13 56 06.1**	**+1.1**
	baz=208							
ENA	**Nanau**	**0.46**	**210**	⇑P		**Pn**	**13 55 56.2**	**+0.6**
	baz=208							
ENA				*eS*		**Sn**	**13 56 06.2**	**+1.2**
	baz=208							
TAP1	**Taipei**	**0.47**	**296**	P		**Pn**	**13 55 55.8**	**+0.2**
	baz=306							
TAP1				S		**Sn**	**13 56 05.2**	**0.0**
	baz=306							
TAP	**Taipei**	**0.49**	**296**	*eP*		**Pn**	**13 55 55.8**	**0.0**
	baz=306							
TAP				*eS*		**Sn**	**13 56 05.3**	**-0.1**
	baz=306							
NDT	**Datong Townshi**	**0.49**	**243**	⇑P		**Pn**	**13 55 56.4**	**+0.6**
	baz=249							
NDT				S		**Sn**	**13 56 06.7**	**+1.1**
	baz=249							
YM01	**YM01**	**0.50**	**310**	⇑*iP*		**Pn**	**13 55 56.1**	**+0.2**
	baz=312							
YM01				S		**Sn**	**13 56 05.5**	**-0.2**
	baz=312							
YM11	**YM11**	**0.51**	**312**	P		**Pn**	**13 55 56.2**	**+0.1**
	baz=314							
YM11				S		**Sn**	**13 56 05.6**	**-0.3**
	baz=314							
YM10	**YM10**	**0.51**	**310**	⇑P		**Pn**	**13 55 56.3**	**+0.2**
	baz=312							
YM10				S		**Sn**	**13 56 05.5**	**-0.4**
	baz=312							
YM08	**YM08**	**0.51**	**314**	⇑P		**Pn**	**13 55 56.0**	**0.0**
	baz=312							
YM08				S		**Sn**	**13 56 05.3**	**-0.7**
	baz=312							
ANP	**Anpu**	**0.56**	**310**	*eP*		**Pn**	**13 55 56.5**	**0.0**
	baz=305							
TWY	**Chenhua**	**0.57**	**321**	*eP*		**Pn**	**13 55 56.8**	**+0.3**
	baz=324							
TWY				*eS*		**Sn**	**13 56 06.7**	**-0.1**
	baz=324							
YHNB	**Yeheng**	**0.58**	**254**	⇑P		**Pn**	**13 55 57.2**	**+0.5**
	baz=262							
YHNB				S		**Sn**	**13 56 07.3**	**+0.1**
	baz=262							
TWS1	**Kuangyinshan**	**0.59**	**298**	⇑P		**Pn**	**13 55 57.1**	**+0.4**
	baz=307							
TWS1				*eS*		**Sn**	**13 56 07.5**	**+0.4**
	baz=307							
NSK	**Sanguang**	**0.60**	**255**	⇑*iP*		**Pn**	**13 55 57.3**	**+0.4**
	baz=263							
NSK				S		**Sn**	**13 56 07.7**	**+0.2**
	baz=263							
NTST	**Danshui**	**0.60**	**304**	*eP*		**Pn**	**13 55 57.3**	**+0.5**
	baz=313							
NTST				*eS*		**Sn**	**13 56 07.7**	**+0.4**
	baz=313							
WLTB	**Daxi**	**0.67**	**272**	P		**Pn**	**13 55 58.4**	**+0.8**
	baz=274							
WLTB				S		**Sn**	**13 56 09.3**	**+0.6**
	baz=274							
NNSB	**Datong**	**0.68**	**234**	⇑P		**Pn**	**13 55 58.6**	**+0.8**
	baz=241							
NNSB				S		**Sn**	**13 56 09.9**	**+0.8**
	baz=241							
NNS	**Nan Shan**	**0.68**	**236**	⇑*iP*		**Pn**	**13 55 58.6**	**+0.8**
	baz=241							
NNS				*eS*		**Sn**	**13 56 09.7**	**+0.6**
	baz=241							
NCU	**National Centr**	**0.74**	**281**	P		**Pn**	**13 55 59.0**	**+0.7**
	baz=291							
NCU				S		**Sn**	**13 56 11.2**	**+1.2**
	baz=291							
NACB	**Ninganchiao**	**0.75**	**209**	⇑P		**Pn**	**13 55 58.0**	**-0.3**
	baz=208							
NACB				*eS*		**Sn**	**13 56 10.7**	**+0.6**
	baz=208							
NCUH	**Zhongli**	**0.75**	**281**	*eP*		**Pn**	**13 55 59.1**	**+0.7**
	baz=291							
NCUH				*eS*		**Sn**	**13 56 11.3**	**+1.2**
	baz=291							
ETLH	**Xiulin Townshi**	**0.77**	**217**	*eP*		**Pn**	**13 55 58.8**	**0.0**
	baz=224							
ETLH				*eS*		**Sn**	**13 56 11.4**	**+0.5**
	baz=224							
TWD	**Chiawan**	**0.83**	**206**	⇑*eP*		**Pn**	**13 55 58.9**	**-0.4**
	baz=215							
TWD				*eS*		**Sn**	**13 56 11.6**	**-0.1**
	baz=215							
LIOB	**Emei**	**0.91**	**259**	⇑*iP*		**Pn**	**13 56 00.8**	**+0.6**
	baz=259							
LIOB				S		**Sn**	**13 56 13.7**	**+0.3**
	baz=259							
HWA	**Hwalien**	**0.92**	**203**	*eP*		**Pn**	**13 56 00.1**	**-0.2**
	baz=190							
NSTT	**Nanjuang**	**0.92**	**258**	⇑*iP*		**Pn**	**13 56 00.8**	**+0.4**
	baz=258							
NSTT				S		**Sn**	**13 56 13.9**	**+0.1**
	baz=258							
HSN	**Hsinchu**	**0.93**	**269**	P		**Pn**	**13 56 00.6**	**+0.1**
	baz=271							
HSN				*eS*		**Sn**	**13 56 13.8**	**0.0**
	baz=271							
TWT	**Tachien**	**0.94**	**233**	⇑P		**Pn**	**13 56 01.9**	**+1.1**
	baz=232							
TWT				*i* S		**Sn**	**13 56 16.1**	**+1.8**
	baz=232							
JYNG	**Yonagunijimaku**	**0.94**	**113**	P		**Pn**	**13 56 00.7**	**0.0**
JYNG				*eS*		**Sn**	**13 56 14.3**	**+0.1**
WHF	**Hehuan Shan**	**0.95**	**224**	*eP*		**Pn**	**13 56 01.4**	**+0.2**
	baz=217							
WHF				*eS*		**Sn**	**13 56 15.2**	**+0.2**
	baz=217							
TDCB	**Techi**	**0.95**	**233**	⇑P		**Pn**	**13 56 01.9**	**+1.0**
	baz=233							
TDCB				S		**Sn**	**13 56 15.2**	**+0.6**
	baz=233							
ENLB	**Shoufeng**	**0.99**	**201**	*eP*		**Pn**	**13 56 00.4**	**-0.9**
	baz=189							
ENLB				*eS*		**Sn**	**13 56 15.1**	**0.0**
	baz=189							
YOJ	**Yonaguni jima**	**1.00**	**111**	⇓P		**Pn**	**13 56 01.4**	**+0.1**
	baz=106							
YOJ	**Yonaguni jima**	**1.00**	**111**	P		**Pn**	**13 56 01.3**	**0.0**
YOJ				*eS*		**Sn**	**13 56 15.0**	**-0.3**
CHGB	**Renai**	**1.07**	**224**	⇑P		**Pn**	**13 56 02.9**	**+0.5**
	baz=224							

WHYT Xinyi Township 1.53 223 *eP* **Pn 13 56 09.4 +1.2**
baz=232
WHYT *eS* **Sn 13 56 29.4 +1.9**
baz=232
YULB Yu-li 1.56 204 *eP* **Pn 13 56 07.1 -1.5**
baz=203
TWF1 Yuli 1.60 204 *eP* **Pn 13 56 07.3 -1.7**
baz=207
YUS Yu-Shan 1.64 216 *eP* **Pn 13 56 10.3 +0.3**
baz=207
IRIF Iriomote-Funau 1.66 107 P **Pn 13 56 09.7 -0.1**
IRIF *eS* **Sn 13 56 30.0 -0.4**
CHN5 Tsauling 1.72 225 *eP* **Pn 13 56 11.3 +0.7**
baz=233
CHN5 *eS* **Sn 13 56 32.2 +0.3**
baz=233
FULB Fuli 1.74 202 *eP* **Pn 13 56 10.6 -0.4**
baz=207
FULB *eS* **Sn 13 56 32.3 -0.2**
baz=207
WDLH Douliu 1.75 230 *eP* **Pn 13 56 11.9 +1.0**
baz=237
RLNB Erlin 1.76 238 *eP* **Pn 13 56 11.6 +0.5**
baz=238
RLNB *eS* **Sn 13 56 32.9 +0.2**
baz=238
CHKT Chengkung 1.81 199 *eP* **Pn 13 56 10.6 -1.3**
baz=189
HATJ Hateruma jima 1.82 115 P **Pn 13 56 12.6 +0.6**
HATJ *eS* **Sn 13 56 34.8 +0.5**
WTCT Ta-ch'eng 1.83 239 *eP* **Pn 13 56 12.4 +0.3**
baz=238
WTCT *eS* **Sn 13 56 34.2 -0.4**
baz=238
ELDTW Lidau 1.86 209 *eP* **Pn 13 56 11.9 -0.7**
baz=201
CHN2 Minshiung 1.89 227 *eP* **Pn 13 56 13.7 +0.8**
baz=235
JKRS Kuro-shima 1.93 107 P **Pn 13 56 13.9 +0.5**
JKRS *eS* **Sn 13 56 37.1 +0.3**
CHN4 Tsaushan 1.95 221 *eP* **Pn 13 56 14.8 +1.1**
baz=220
CHN4 *eS* **Sn 13 56 38.8 +1.4**
baz=220
CHY Chiayi 1.95 228 *eP* **Pn 13 56 14.0 +0.3**
baz=226
TPUB Ta-pu 1.97 220 *eP* **Pn 13 56 14.7 +0.8**
baz=218
TPUB *eS* **Sn 13 56 39.5 +1.7**
baz=218
WSF Szhu 2.00 234 *eP* **Pn 13 56 15.6 +1.2**
baz=233
WSF *eS* **Sn 13 56 39.2 +0.6**
baz=233
STYT Tauyuan 2.01 215 *eP* **Pn 13 56 15.5 +0.9**
baz=202
STYT *eS* **Sn 13 56 41.0 +2.1**
baz=202
JIJ Ishigaki jima 2.01 103 P **Pn 13 56 14.6 +0.1**
JIJ S **Sn 13 56 39.2 +0.4**
WTP Ta-pu 2.02 219 *eP* **Pn 13 56 15.7 +1.0**
baz=228
WTP *eS* **Sn 13 56 40.1 +1.1**
baz=228
WLGB Puzi 2.05 229 *eP* **Pn 13 56 15.3 +0.3**
baz=237
WLGB *eS* **Sn 13 56 41.3 +1.6**
baz=237
TWK Hsinying 2.08 222 *eP* **Pn 13 56 16.0 +0.6**
baz=220
SNST Tainan City 2.11 221 *eP* **Pn 13 56 17.1 +1.3**
baz=219
CHN1 Nanshi 2.11 220 *eP* **Pn 13 56 16.7 +0.8**
baz=218
CHN1 *eS* **Sn 13 56 42.9 +1.5**
baz=218
JISG Ishigakijimahi 2.12 96 P **Pn 13 56 16.6 +0.6**
JISG *eS* **Sn 13 56 41.4 -0.1**
PTTC Pingtan 2.12 289⇓ *eP* **Pn 13 56 15.7 -0.3**
baz=290
PTTC *eS* **Sn 13 56 41.3 -0.2**
baz=290
SGST Jiashian 2.17 217 *eP* **Pn 13 56 17.1 +0.5**
baz=225
SGST *eS* **Sn 13 56 43.9 +1.4**
baz=225
TWGBT Beinan 2.17 203 *eP* **Pn 13 56 15.6 -1.1**
baz=191
TWGBT *eS* **Sn 13 56 40.3 -2.4**
baz=191
CHN8 Yiju 2.20 228 *eP* **Pn 13 56 17.9 +0.9**
baz=237
CHN8 *eS* **Sn 13 56 43.9 +0.6**
baz=237
SLGT Liugui 2.20 214 *eP* **Pn 13 56 18.9 +1.8**
baz=213
MATB Ma-tsu 2.27 306 *eP* **Pn 13 56 17.9 -0.1**
baz=306
VWUC VWUC 2.31 275⇓ *eP* **Pn 13 56 18.3 -0.2**
baz=275
SCLT Jiali 2.33 225 *eP* **Pn 13 56 20.7 +2.0**
baz=223
SCLT *eS* **Sn 13 56 47.7 +1.3**
baz=223
ECL Taimali 2.42 203 *eP* **Pn 13 56 18.9 -1.1**
baz=193
ECL *eS* **Sn 13 56 46.3 -2.3**
baz=193
SSD Sandimen 2.42 211 *eP* **Pn 13 56 21.5 +1.5**
baz=209
TWM1 Shoushan 2.46 216 *eP* **Pn 13 56 23.2 +2.7**
baz=223
JTJ Tarama 2.47 94 *eS* **Sn 13 56 49.6 -0.3**
MASBT Mashibuluo 2.53 210⇑ *eP* **Pn 13 56 22.7 +1.2**
baz=208
PNG Penghu 2.56 241 *eP* **Pn 13 56 21.5 -0.3**
baz=239
PHUB P'eng-hu 2.57 240 *eP* **Pn 13 56 21.6 -0.4**
baz=238
PTMZ Houxiangcun 2.62 275 *eP* **Pn 13 56 22.6 -0.1**
baz=275
LYJJ Jianjiangzhen 2.65 311 *eP* **Pn 13 56 22.7 -0.3**
baz=312
XPSS Dashiqiu 2.65 323 *eP* **Pn 13 56 23.1 0.0**
baz=323
EAST Anshuo 2.65 204 *eP* **Pn 13 56 22.5 -0.7**
baz=193
SCZT Fangliau 2.75 208 *eP* **Pn 13 56 25.4 +0.9**
baz=205
LAY Lan-yu 2.81 188 *eP* **Pn 13 56 24.7 -0.6**
baz=191
VCHM Qimei 2.84 236 *eP* **Pn 13 56 26.0 +0.2**
baz=234
JIRB Irabujima 2.89 89 *eS* **Sn 13 57 00.9 +0.9**
JIKM Ikemajima 2.96 87 *eS* **Sn 13 57 03.7 +2.0**
MHZQ Yeshan 2.96 296 *eP* **Pn 13 56 27.1 -0.3**
baz=297
JMJ Miyako jima 2 3.00 90 *eP* **Pn 13 56 30.0 +2.2**
baz=91
JMJ2 Miyako jima3 3.03 91 *eS* **Sn 13 57 04.1 +0.6**
KNM Kinmen 3.27 264 *eP* **Pn 13 56 32.6 +1.2**
baz=262
KNMB Chin-men Tao 3.30 264 *eP* **Pn 13 56 31.2 -0.7**
baz=263
AXDP Jialang 3.65 272 *eP* **Pn 13 56 36.7 -0.1**
baz=271
ZPLA Ao Xicun 3.97 258 *eP* **Pn 13 56 40.6 -0.4**
baz=255
ZZJH Jiuhuzhen 3.98 266 *eP* **Pn 13 56 41.1 -0.2**
baz=264
JOW Kunigami 6.00 69 Pn **Pn 13 57 10.3 +1.5**
0.1nm,0.3s,baz=107,slow=18,SNR=3.5
JOW Sn **Sn 13 58 18.3 +2.2**
0.2nm,0.3s,baz=105,slow=17,SNR=2.6
KSRS Korea Array 13.57 21 Pn **P 13 58 58.8 +0.7**
0.1nm,0.3s,baz=199,slow=11,SNR=10
MKAR Makanchi Array 38.40 315 P **P 14 02 56.4 -0.2**
0.3nm,0.5s,baz=102,slow=10,SNR=7.3
PETK Petropavlovsk- 38.92 34 P P 14 03 09.1 +8.2
3.2nm,0.9s,baz=249,slow=12,SNR=4.1
WRA Warramunga Arr 46.10 164 P **P 14 03 57.7 -1.6**
0.2nm,0.6s,baz=345,slow=8.6,SNR=4.5
ASAR Alice Springs 49.57 166 P **P 14 04 24.8 -1.4**
0.1nm,0.5s,baz=341,slow=6.6,SNR=3.4

DDA ***12*** *14:19:26.2,36°.49N×31°.93E,h7km±1km,ML2.6*

ISK ***12*** *14:19:27.6,36°.48N×32°.12E,h5km,ML2.2/6*
ISC 12 14:19:26.7±1.2,36°.48N±0°.05×31°.98E±0°.05,h12km±9km,
n12,σ0°.71/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.09**	**28**	PG	**Pg**	**14 19 30.0**	**+0.5**
GAZI	**Gazipasa**	**0.36**	**132**	*i* P	**Pb**	**14 19 34.8**	**-0.2**
GAZI				*i* S	**Sb**	**14 19 40.8**	**+0.1**
GAZI				IAML_P			
comp=Z,3μm,0.1s							
GAZI	**Gazipasa**	**0.36**	**132**	PG	**Pg**	**14 19 34.4**	**+0.4**
GAZI				SG	**Sb**	**14 19 40.0**	**-0.7**
KEPZ	**Antalya-Kepez**	**0.52**	**324**	*i* P	**Pg**	**14 19 36.9**	**0.0**
KEPZ				*i* S	**Sg**	**14 19 43.5**	**-0.4**
KEPZ				IAML_P			
comp=Z,2μm,0.2s							
ERMK	**Ermenek**	**0.77**	**78**	*i* P	**Pb**	**14 19 42.2**	**+0.2**
ERMK				*i* S	**Sb**	**14 19 53.9**	**+1.4**
ERMK				IAML_P			
comp=Z,1μm,0.1s							
TEKE	**Tekeli-Mersin**	**0.97**	**110**	PG	**Pg**	**14 19 45.1**	**-0.4**
TEKE				SG	**Sb**	**14 19 58.8**	**+0.5**
BERE	**Bereket-Mersin**	**1.01**	**97**	PG	**Pg**	**14 19 45.8**	**-0.4**
BERE				SG	**Sb**	**14 19 59.8**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.18**	**92**	PG	**Pb**	**14 19 49.0**	**0.0**
GULN	**MERSIN_Gulnar**	**1.29**	**103**	*i* P	**Pn**	**14 19 50.4**	**-0.1**
GULN				*i* S	**Sn**	**14 20 09.2**	**+1.4**
GULN				IAML_P			
comp=Z,157nm,0.2s							
IKL	**Isikli**	**1.40**	**99**	PN	**Pg**	**14 19 53.4**	**-0.1**
KEBE	**Keben-Mersin**	**1.40**	**91**	PN	**Pg**	**14 19 53.4**	**-0.1**
KERG	**Konya-Eregli**	**1.95**	**61**	*i* P	**Pb**	**14 20 01.3**	**-0.9**
KERG				*i* S	**Sg**	**14 20 28.4**	**-1.2**

HLW ***12*** *14:19:59.5,31°.17N×35°.14E,h10km±10km,Md3.1*
ISCJB ***12*** *14:20:02.2±0.5,30°.91N±0°.04×34°.97E±0°.06,h8km,Error ellipse: s-maj=8.0km s-min=5.1km az=24.8*
JSO ***12*** *14:20:02.4±0.3,31°.1N±2°.3×3°.5E±°.1,h10km,M3.0/13, Mjma2.9/13,ML3.0/7,MLv3.0/13*
ISC 12 14:20:01.4±1.0,30°.96N±0°.04×35°.04E±0°.05,h8km,n16,
σ1°.06/17,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LISJ	**El Lisan**	**0.47**	**54**	P	**Pn**	**14 20 12.8**	**-1.6**
KZIT	**Kziot**	**0.55**	**264**	P	**Pg**	**14 20 12.4**	**+0.3**
AMAZ	**Amatzia**	**0.58**	**350**	P	**Pn**	**14 20 14.6**	**-1.3**
JDRJ	**Daraweish**	**0.59**	**113**	P	**Pn**	**14 20 15.3**	**-0.9**
WALJ	**Wala**	**0.89**	**48**	P	**Pn**	**14 20 20.4**	**+0.2**
HSNJ	**Maan**	**0.90**	**141**	P	**Pb**	**14 20 19.4**	**+0.1**
SWQJ	**Swaqa**	**0.92**	**72**	P	**Pn**	**14 20 22.3**	**+1.6**
HRFI	**Mount Harif**	**0.92**	**180**	P	**Pg**	**14 20 18.2**	**-0.9**
AQBJ	**Aqaba**	**1.23**	**179**	P	**Pn**	**14 20 24.4**	**-0.5**
EIL	**Elat**	**1.29**	**183**	P	**Pn**	**14 20 25.4**	**-0.3**
MMLI	**Mount Malkishu**	**1.51**	**12**	P	**Pg**	**14 20 31.7**	**+1.4**
HBST	**Basata**	**1.76**	**189**	P	**Pn**	**14 20 32.4**	**+0.2**
baz=191							
HBST				S	**Sn**	**14 20 56.4**	**+1.6**
baz=191							
ASF	**Jabal al Asfar**	**1.99**	**52**	P	**Pb**	**14 20 36.5**	**-1.4**
SUZ	**Suez**	**2.21**	**240**	P	**Pn**	**14 20 38.3**	**-0.1**
baz=237							
HDHB	**Dhahab**	**2.26**	**189**	P	**Pn**	**14 20 39.1**	**0.0**
baz=191							
HKAT	**Jabal Katrina**	**2.59**	**201**	P	**Pn**	**14 20 43.5**	**-0.3**
baz=201							

ISCJB ***12*** *14:37:10.4±0.4,31°.85S±0°.03×68°.30W±0°.06,h111km±4km, mb3.5/5,Error ellipse: s-maj=8.3km s-min=5.3km az=10.4*
SJA ***12*** *14:37:10.2±1.1,31°.83S×68°.35W,h110km±4km,ML3.8, MW3.5*
IDC ***12*** *14:37:12.0±0.7,31°.74S×68°.45W,h109km±5km,mb3.3/5, mb1 3.6/8,mb1mx3.5/27,mbtmp3.7/8,Error ellipse: s-maj=29.2km s-min=17.5km az=83.0*
ISC 12 14:37:11.1±0.6,31°.84S±0°.05×68°.37W±0°.06,h108km±4km,
n37,σ1°.68/52,mb3.5/5,1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.14**	**262**	*i* P	**Pn**	**14 37 26.7**	**+0.5**
ZON	**Zonda**	**0.39**	**319**	*i* P	**Pn**	**14 37 27.4**	**+0.2**
ZON				*e*S	**Sn**	**14 37 39.2**	**-0.1**
ZON				IAML		14 37 39.8	
comp=Z,5μm,0.2s							
RTLL	**Cerro Villicun**	**0.52**	**350**	*i* P	**Pn**	**14 37 27.9**	**-0.1**
RTLL				*e*S	**Sn**	**14 37 40.8**	**+0.2**
RTLL				IAML		14 37 44.2	
comp=Z,2μm,0.3s							
ASAL	**Salagasta**	**0.84**	**208**	*i* P	**Pn**	**14 37 31.1**	**+0.3**
AMOG	**MOGNA**	**0.91**	**354**	*i* P	**Pn**	**14 37 31.7**	**+0.3**
AMOG				*e*S	**Sn**	**14 37 46.3**	**-0.3**
ARCO	**CERRO ARCO**	**1.10**	**205**	*i* P	**Pn**	**14 37 34.0**	**+0.6**
ARCO				IAML		14 37 52.0	
comp=Z,1μm,0.5s							
AAGR	**Agrelo**	**1.30**	**197**	*i* P	**Pn**	**14 37 36.4**	**+0.8**
AAGR				*e*S	**Sn**	**14 37 53.2**	**-0.8**
ACCO	**Cerro Coronel**	**1.38**	**334**	*i* P	**Pn**	**14 37 37.5**	**+0.7**
ACDV	**Cuesta del Vie**	**1.79**	**339**	*i* P	**Pn**	**14 37 42.3**	**+0.8**
AROD	**Rodeo**	**1.92**	**330**	*e*P	**Pn**	**14 37 44.7**	**+1.4**
AROD				*e*S	**Sn**	**14 38 09.0**	**+1.1**
PEL	**Peldehue**	**2.34**	**236**	*i* P	**Pn**	**14 37 49.2**	**+0.7**
PEL				*e*S	**Sn**	**14 38 17.5**	**+0.3**
ROC1	**El Roble**	**2.50**	**242**	*i* P	**Pn**	**14 37 50.5**	**-0.2**
GO04	**Tololo Observa**	**2.67**	**308**	*i* P	**Pn**	**14 37 53.4**	**+0.5**
GO04				⇓*e*S	**Sn**	**14 38 27.4**	**+2.5**
GO04				IAML		14 38 29.6	
TCA	**Tanti**	**3.26**	**82**	*i* P	**Pn**	**14 38 00.8**	**+0.1**
TCA				IAML		14 38 56.2	
comp=Z,239nm,0.6s							
COIS	**El Sosneado**	**3.41**	**197**	*e*P	**Pn**	**14 38 03.1**	**+0.5**
CYA	**Choya**	**4.06**	**34**	*i* P	**Pn**	**14 38 10.8**	**-0.4**
CYA				IAML		14 38 59.3	
comp=Z,60nm,0.4s							
GO05	**Huala**	**4.34**	**222**	*i* P	**Pn**	**14 38 12.8**	**-2.1**
GO03	**Copiap**	**4.53**	**339**	*i* P	**Pn**	**14 38 18.2**	**+0.5**
AHML	**Horco Molle**	**5.70**	**29**	*i* P	**Pn**	**14 38 32.5**	**-1.0**
AHML				IAML		14 39 38.5	
comp=Z,21nm,0.7s							
PB14	**IPOC Station P**	**7.41**	**346**	*i* P	**Pn**	**14 38 55.8**	**-1.1**
PB14				IAML		14 39 02.4	
comp=Z,9.0nm,0.5s							
TRQA	**Tornquist**	**8.12**	**142**	*i* P	**Pn**	**14 39 03.4**	**-2.8**
PB15	**IPOC Station P**	**8.66**	**353**	*i* P	**Pn**	**14 39 12.5**	**-1.2**
LVC	**Limon Verde**	**9.21**	**357**	P	**Pn**	**14 39 19.8**	**-1.6**
comp=Z,1.1nm,0.3s,baz=171,slow=12,SNR=9.3							
LVC				S	**Sn**	**14 40 55.9**	**-7.5**
comp=Z,0.2nm,0.3s,baz=265,slow=22,SNR=2.7							
PB09	**IPOC Station P**	**10.04**	**355**	*i* P	**Pn**	**14 39 30.4**	**-2.1**
CPUP	**Villa Florida**	**11.11**	**63**	P	**Pn**	**14 39 46.9**	**+0.1**
baz=238,slow=15							
CPUP				S	**Sn**	**14 41 53.1**	**+4.2**
LPAZ	**La Paz**	**15.49**	**1**	P	**P**	**14 40 45.0**	**-1.3**
comp=Z,0.2nm,0.3s,baz=186,slow=11,SNR=3.8							
SIV	**San Ignacio**	**17.12**	**25**	P	**P**	**14 41 04.1**	**+0.3**
comp=Z,0.3nm,0.3s,baz=309,slow=15,SNR=3.4							
SNAA	**Sanae**	**52.44**	**159**	P	**P**	**14 46 15.6**	**+3.4**
comp=Z,0.8nm,0.5s,baz=275,slow=9.7,SNR=23							
SNAA				pP	**pP**	**14 46 39.1**	**+0.9**
comp=Z,1.9nm,0.8s,baz=276,slow=5.9,SNR=4.8							
TXAR	**Lajitas Array**	**69.47**	**327**	P	**P**	**14 48 08.4**	**+0.5**
comp=Z,0.6nm,0.6s,baz=158,slow=9.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**80.56**	**68**	P	**P**	**14 49 12.4**	**+0.5**
comp=Z,0.4nm,0.7s,baz=260,slow=8.1,SNR=2.3							
TORD				pP	**pP**	**14 49 40.0**	**0.0**
comp=Z,0.5nm,0.6s,baz=270,slow=4.3,SNR=6.9							
PDAR	**Pinedale Array**	**83.31**	**331**	P	**P**	**14 49 26.5**	**+0.5**
comp=Z,0.3nm,0.5s,baz=163,slow=4.7,SNR=2.9							
NVAR	**Mina Array Bea**	**83.95**	**323**	P	**P**	**14 49 30.6**	**+1.3**
comp=Z,0.2nm,0.5s,baz=168,slow=6.0,SNR=2.9							
ASAR	**Alice Springs**	**120.83**	**204**	PKP	**PKPdf**	**14 55 49.8**	**-1.4**
comp=Z,0.3nm,0.9s,baz=142,slow=1.6,SNR=5.7							
WRA	**Warramunga Arr**	**124.09**	**206**	PKP	**PKPdf**	**14 55 56.3**	**-1.1**
comp=Z,0.6nm,0.5s,baz=160,slow=1.7,SNR=17							
WRA				pPKP	**pPKPdf**	**14 56 26.9**	**-0.3**
comp=Z,0.2nm,0.6s,baz=156,slow=1.8,SNR=1.7							
ZALV	**Zalesovo Beam**	**150.75**	**33**	PKPbc	**PKiKP**	**14 56 50.6**	**-0.1**
comp=Z,2.8nm,0.6s,baz=299,slow=3.5,SNR=14							
ZALV				pPKPbc	**pPKPbc**	**14 57 20.1**	**+0.4**
comp=Z,1.7nm,0.6s,baz=308,slow=3.5,SNR=3.8							
MKAR	**Makanchi Array**	**153.03**	**48**	PKPbc	**PKPbc**	**14 56 55.0**	**-0.6**
comp=Z,0.4nm,0.8s,baz=270,slow=2.4,SNR=3.7							
MKAR				PKPab	**PKPab**	**14 57 08.2**	**+0.8**
comp=Z,0.4nm,0.4s,baz=270,slow=2.9,SNR=5.3							
MKAR				pPKPbc	**sPKPdf**	**14 57 27.4**	**-1.8**
comp=Z,0.2nm,0.3s,baz=275,slow=2.3,SNR=1.5							
SONM	**Songino Array**	**163.54**	**13**	PKPab	**PKPab**	**14 57 53.7**	**+0.9**
comp=Z,0.8nm,1.0s,baz=5.4,slow=3.0,SNR=3.1							

IDC ***12*** *14:38:18.6±2.6,31°.43N×40°.88W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.5/45,mbtmp3.7/3,MS3.6/10, Ms1 3.6/10,ms1mx3.3/37,Error ellipse: s-maj=154.6km s-min=31.0km az=28.0*
ISCJB ***12*** *14:38:20.2±1.6,31°.7N±0°.5×40°.8W±0°.2,h14km,mb3.6/3, MS3.6/10,Error ellipse: s-maj=70.3km s-min=20.0km az=18.5*
NEIC ***12*** *14:38:22.2±0.3,31°.7N±0°.3×40°.8W±0°.2,h15km±8km, mb4.6/3*
ISC 12 14:38:22.9±1.9,31°.9N±0°.5×40°.8W±0°.2,h14km,n18,
σ0°.46/7,mb3.8/5,MS3.7/10,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**29.40**	**329**	LR	LR	14 55 36.6	
comp=Z,167nm,18.3s,baz=15,slow=35							
ROSC	**El Rosal**	**41.32**	**236**	LR	LR	15 03 18.6	
comp=Z,23nm,18.4s,baz=88,slow=37							
DBIC	**Dimbokro**	**41.89**	**119**	LR	LR	15 02 14.6	
comp=Z,86nm,18.4s,baz=308,slow=34							
TORD	**Torodi Ar. Bea**	**43.16**	**106**	P	P	14 46 20.4	-3.0
1.5nm,1.0s,baz=291,slow=8.5,SNR=4.8							
TORD				LR	LR	15 02 02.0	
comp=Z,52nm,20.2s,baz=340,slow=33							
TORD	**Torodi Ar. Bea**	**43.16**	**106**	P	**P**	**14 46 23.5**	**+0.2**
ULM	**Lac du Bonnet**	**44.27**	**311**	LR	LR	15 04 23.5	
comp=Z,38nm,18.6s,baz=56,slow=35							
H10N2	**ASCENSION HYDR**	**46.84**	**143**	T	T	15 36 29.1	
baz=329,slow=75,SNR=90							
H10N3	**ASCENSION HYDR**	**46.84**	**143**	T	T	15 36 29.4	
baz=329,slow=75,SNR=85							
H10N1	**ASCENSION HYDR**	**46.86**	**143**	T	T	15 36 29.9	
baz=329,slow=75,SNR=89							
PDAR	**Pinedale Array**	**54.33**	**302**	P	**P**	**14 47 48.7**	**-0.6**
0.8nm,0.8s,baz=81,slow=9.6,SNR=5.0							
PDAR				LR	LR	15 10 02.5	
comp=Z,72nm,18.1s,baz=46,slow=35							
PDAR	**Pinedale Array**	**54.33**	**302**	P	**P**	**14 47 49.0**	**-0.2**
BW06	**Boulder Array**	**54.34**	**302**	P	**P**	**14 47 49.3**	**0.0**
BW06				IAmb	IAmb	14 47 51.2	
comp=Z,15nm,1.9s							
BR131	**Keskin Array S**	**59.32**	**60**	P	**P**	**14 48 24.3**	**-0.3**
BR131				IAmb	IAmb	14 49 59.2	
comp=Z,8.1nm,1.7s							
BRTR	**Keskin Array B**	**59.32**	**60**	P	**P**	**14 48 24.3**	**-0.3**
NVAR	**Mina Array Bea**	**61.94**	**300**	LR	LR	15 15 20.1	
comp=Z,78nm,18.5s,baz=82,slow=36							
ILAR	**Eielson Array**	**68.02**	**334**	P	**P**	**14 49 21.9**	**+0.5**
comp=Z,0.6nm,0.9s,baz=64,slow=6.1,SNR=4.7							
ILAR				LR	LR	15 18 16.9	
comp=Z,45nm,19.0s,baz=90,slow=35							
KMBO	**Kilima Mbogo**	**80.49**	**97**	LR	LR	15 24 04.9	
comp=Z,49nm,20.4s,baz=94,slow=34							
BOSA	**Boshof**	**86.99**	**126**	LR	LR	15 29 58.7	
comp=Z,28nm,18.3s,baz=345,slow=36							

TAP 12 14:49:28.9,23°.64N×121°.37E,h18km±1km,ML1.3,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.06**	**58**	P	Pg	14 49 32.9	+0.6
baz=57							
EGFH				S	Sg	14 49 35.4	+0.9
baz=57							
EHY	**Hungye**	**0.14**	**198**	P	Pg	14 49 33.5	+0.5
baz=195							
EHY				S	Sg	14 49 36.4	+0.7
baz=195							
HGSD	**Ruisui**	**0.15**	**160**	*e*P	Pg	14 49 33.8	+0.6
baz=160							
HGSD				*e*S	Sg	14 49 37.5	+1.4
baz=160							
ESL	**Shilin**	**0.19**	**18**	P	Pb	14 49 34.3	+0.6
baz=20							
ESL				S	Sg	14 49 37.4	+0.5
baz=20							
VWDT	**VWDT**	**0.24**	**300**	P	Pb	14 49 35.6	+0.8
baz=299							
VWDT				S	Sb	14 49 39.6	+1.0
baz=299							
YULB	**Yu-li**	**0.25**	**195**	*e*P	Pb	14 49 35.0	+0.1
baz=195							
YULB				*e*S	Sb	14 49 38.9	0.0
baz=195							
TWF1	**Yuli**	**0.29**	**193**	*e*P	Pb	14 49 35.8	+0.2
baz=191							
TWF1				*e*S	Sb	14 49 40.5	+0.4
baz=191							
SSLB	**Suanglung**	**0.41**	**292**	*e*P	Pb	14 49 37.8	+0.1
baz=291							
SSLB				*e*S	Sb	14 49 43.5	-0.2
baz=291							
FULB	**Fuli**	**0.44**	**189**	*e*P	Pb	14 49 38.8	+0.5
baz=188							
FULB				*e*S	Sn	14 49 46.3	-1.7
baz=188							
CHGB	**Renai**	**0.46**	**337**	*e*P	Pb	14 49 38.7	0.0
baz=337							
CHGB				*e*S	Sb	14 49 45.8	+0.5
baz=337							
WHYT	**Xinyi Township**	**0.48**	**277**	*e*P	Pb	14 49 38.9	+0.1
baz=277							
WHYT				*e*S	Sb	14 49 46.4	+0.8
baz=277							
WHF	**Hehuan Shan**	**0.52**	**350**	*e*P	Pb	14 49 39.8	0.0
baz=350							
ELDTW	**Lidau**	**0.55**	**216**	*e*P	Pb	14 49 40.3	+0.1
baz=215							
ELDTW				*e*S	Sb	14 49 47.6	-0.1
baz=215							
CHN5	**Tsauling**	**0.63**	**267**	*e*P	Pb	14 49 41.9	+0.4
baz=266							
CHN5				*e*S	Sb	14 49 50.6	+0.5
baz=266							
TWT	**Tachien**	**0.64**	**344**	*e*P	Pb	14 49 42.1	+0.4
baz=342							
TWT				*e*S	Sb	14 49 51.3	+0.9
baz=342							
WHP	**Taichung City**	**0.75**	**329**	*e*S	Sn	14 49 54.9	-0.8
baz=328							
TPUB	**Ta-pu**	**0.76**	**244**	*e*S	Sg	14 49 54.6	+0.8
baz=243							

TAP 12 14:49:32.6,24°.27N×121°.70E,h11km±1km,ML1.3,C,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.13**	**227**	P	Pg	14 49 36.4	+0.6
baz=227							
NACB				*e*S	Sg	14 49 39.5	+1.5
baz=227							
ENA	**Nanau**	**0.17**	**12**	P	Pb	14 49 37.3	-0.4
baz=15							
ENA				S	Sg	14 49 40.1	+1.2
baz=15							
NANB	**Nanao**	**0.17**	**15**	P	Pb	14 49 37.2	-0.5
baz=15							
NANB				S	Sg	14 49 39.9	+1.0
baz=15							
TWD	**Chiawan**	**0.21**	**208**	P	Pb	14 49 37.9	-0.5
baz=205							
TWD				*e*S	Sg	14 49 41.2	+1.2
baz=205							
ETLH	**Xiulin Townshi**	**0.21**	**254**	*e*P	Pb	14 49 38.0	-0.5
baz=253							
ETLH				*e*S	Sg	14 49 42.0	+1.9
baz=253							
HWA	**Hwalien**	**0.30**	**197**	*e*P	Pb	14 49 39.5	-0.5
baz=195							
HWA				*e*S	Sb	14 49 45.0	+0.1
baz=195							
NNSB	**Datong**	**0.33**	**299**	*e*P	Pb	14 49 40.6	0.0
baz=299							
NNSB				*e*S	Sb	14 49 45.8	-0.3

baz=299
NNS Nan Shan 0.35 300 *e*P Pb 14 49 40.4 -0.5
baz=300
NNS *e*S Sb 14 49 45.7 -0.8
baz=300
TWC Suao 0.37 21 *e*P Pb 14 49 40.6 -0.5
baz=22
TWC *e*S Sb 14 49 46.9 0.0
baz=22
ENLB Shoufeng 0.37 194 *e*P Pb 14 49 40.8 -0.4
baz=194
ENLB *e*S Sb 14 49 47.2 +0.2
baz=194
NDT Datong Townshi 0.38 333 *e*P Pb 14 49 41.7 +0.3
baz=332
NDT S Sb 14 49 47.6 +0.4
baz=332
ENTT Nioudou 0.39 342 *e*P Pb 14 49 41.1 -0.5
baz=342
ENTT *e*S Sb 14 49 47.5 -0.2
baz=342
WHF Hehuan Shan 0.42 253 *e*P Pb 14 49 41.6 -0.6
baz=252
WHF *e*S Sb 14 49 47.7 -1.0
baz=252
WHF Hehuan Shan 0.42 253 *e*S Sb 14 49 47.7 -1.0
baz=350
TWE Neicheng 0.46 356 *e*P Pb 14 49 42.3 -0.3
baz=357
TWE *e*S Sb 14 49 49.2 -0.2
baz=357
TWT Tachien 0.48 269 *e*P Pb 14 49 43.1 0.0
baz=268
TWT *e*S Sb 14 49 50.6 +0.3
baz=268
TDCB Techi 0.50 269 *e*P Pg 14 49 42.1 -0.3
baz=342
TDCB *e*S Sb 14 49 50.9 +0.1
baz=342
TDCB Techi 0.50 269 *e*P Pg 14 49 42.4 0.0
baz=268
TDCB *e*S Sb 14 49 50.6 -0.1
baz=268
YHNB Yeheng 0.50 324 *e*P Pb 14 49 43.0 -0.5
baz=323
YHNB *e*S Sb 14 49 51.0 +0.1
baz=323
NSK Sanguang 0.52 323 *e*P Pb 14 49 43.4 -0.3
baz=323
NSK *e*S Sb 14 49 51.2 0.0
baz=323
NWLT Wulai 0.54 340 *e*S Sb 14 49 52.2 +0.2
baz=340

NEIC 12 15:17:23.3±0.7, 37°.783N±0°.005×122°.332W±0°.007, h10km±1km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYBM	**Yerba Buena Is**	**0.04 321**			Pg	15 17 24.9	-0.4
BRK	**Berkeley--Havi**	**0.11 32**			Pg	15 17 25.6	-0.4
BL67	**Building 67, L**	**0.11 34**			Pg	15 17 25.8	-0.3
BL88	**Building 88, L**	**0.11 33**			Pg	15 17 25.8	-0.4
JPRM	**Presidio of Sa**	**0.11 276**			Pg	15 17 26.4	+0.3
VAK	**Adit at Lawren**	**0.12 35**			Pg	15 17 25.8	-0.3
JSBM	**San Bruno Moun**	**0.12 206**			Pg	15 17 26.2	0.0
BKS	**Berkeley--Byer**	**0.12 39**			Pg	15 17 25.9	-0.3
CMCM	**Mills College**	**0.12 91**			Pg	15 17 25.8	-0.4
CVPM	**Vollmer Peak**	**0.13 41**			Pg	15 17 26.3	-0.2
RFSB	**Richmond Field**	**0.13 359**			Pg	15 17 26.2	-0.2
J061	**Lakeshore Driv**	**0.14 248**			Pg	15 17 26.7	+0.2
CSPM	**San Pablo Ridg**	**0.17 6**			Pg	15 17 27.2	+0.1
CPMM	**Point Molate**	**0.18 340**			Pg	15 17 27.1	-0.1
JMGM	**Milagra Ridge**	**0.18 218**			Pg	15 17 27.5	+0.2
JCPM	**Coyote Point**	**0.20 178**			Pg	15 17 27.5	+0.1
BRIB	**Briones**	**0.20 46**			Pg	15 17 27.5	0.0
SAC	**San Andreas**	**0.21 199**			Pg	15 17 28.0	+0.3
C055	**Cottonwood Ave**	**0.22 125**			Pg	15 17 27.6	-0.2
BGC	**Bolinger Road**	**0.22 81**			Pg	15 17 27.7	-0.2
CLCB	**Lake Chabot**	**0.22 102**			Pg	15 17 27.6	-0.2
CPIM	**Pinole Ridge**	**0.23 24**			Pg	15 17 28.4	+0.4
JCHM	**Cahill Ridge**	**0.27 187**			Pg	15 17 28.9	+0.2
CRHM	**Round Hill Res**	**0.28 74**			Pg	15 17 29.5	+0.5
OXMT	**Ox Mountain**	**0.29 194**			Pg	15 17 29.3	+0.1
JHPM	**Huddart Park**	**0.34 176**			Pg	15 17 30.3	+0.2
CNIC	**Niles Canyon**	**0.34 121**			Pg	15 17 29.9	-0.1
CRPB	**Russellman Par**	**0.36 69**			Pg	15 17 30.5	0.0
NLHM	**Lake Herman**	**0.37 23**			Pg	15 17 31.1	+0.5
JRSC	**Jasper Ridge**	**0.39 169**			Pg	15 17 30.9	0.0
JSFB	**Stanford Teles**	**0.40 162**			Pg	15 17 31.4	+0.2
BDM	**Black Diamond**	**0.41 65**			Pg	15 17 31.6	+0.3
CMOB	**Morgan Territo**	**0.42 86**			Pg	15 17 32.2	+0.6
CVLM	**Vallecito**	**0.42 112**			Pg	15 17 32.1	+0.4
JFP	**Foothills Park**	**0.44 165**			Pg	15 17 31.9	0.0
BGH	**Bear Gulch**	**0.44 181**			Pg	15 17 32.5	+0.5
NOLM	**Olema**	**0.45 305**			Pg	15 17 32.3	+0.2
CMJM	**Mission San Jo**	**0.45 126**			Pg	15 17 32.0	-0.1
JJRM	**Joaquin Road**	**0.45 167**			Pg	15 17 32.4	+0.3
JBMM	**Black Mountain**	**0.48 163**			Pg	15 17 32.8	0.0
JPC	**Peters Creek,**	**0.52 169**			Pb	15 17 34.0	-0.5
FARB	**Farallon Islan**	**0.54 261**			Pg	15 17 33.9	+0.2
CALM	**Calaveras Res.**	**0.54 128**			Pg	15 17 33.5	-0.2
JSGM	**Saratoga Golf**	**0.55 156**			Pg	15 17 34.3	+0.4
MCCM	**Marconi Confer**	**0.56 310**			Pg	15 17 34.2	0.0
CVS	**Carmenet Viney**	**0.57 350**			Pg	15 17 34.4	0.0
NPRM	**Point Reyes**	**0.58 292**			Pg	15 17 34.6	0.0
JHUM	**Huhtala Lane,**	**0.58 167**			Pg	15 17 35.0	+0.4
JPSM		**0.58 181**			Pg	15 17 35.0	+0.4
CMLM	**Mount Lewis**	**0.62 119**			Pg	15 17 35.4	0.0
JJOM	**Saint Joseph's**	**0.64 154**			Pg	15 17 35.6	-0.1
NTYM	**Taylor**	**0.66 337**			Pg	15 17 36.1	+0.1
JBNB	**Ben Lomond Mou**	**0.67 168**			Pg	15 17 36.2	-0.1
MHC	**Mount Hamilton**	**0.70 129**			Pg	15 17 36.7	-0.3
CCOB	**Coe Ranch Numb**	**0.74 135**			Pg	15 17 37.7	+0.1
CMMM	**Mount Mocho**	**0.74 116**			Pg	15 17 37.6	-0.1
NSHM	**Saint Helena R**	**0.77 344**			Pg	15 17 38.0	-0.1
ARN	**Arnold Ranch**	**0.77 124**			Pg	15 17 37.8	-0.3
JLAB	**Laurel Hill**	**0.79 143**			Pg	15 17 38.1	-0.3
CADM	**Anderson Res.**	**0.84 138**			Pg	15 17 39.0	-0.4
JTGM	**Trout Gulch Ro**	**0.84 154**			Pg	15 17 39.6	+0.2
JECB	**Eureka Canyon**	**0.84 150**			Pg	15 17 39.3	-0.2
NBPM	**Berryessa Peak**	**0.89 7**			Pb	15 17 40.9	+0.1
NHSM	**Mount Saint He**	**0.90 346**			Pg	15 17 40.5	-0.2
HLPM	**Lions Peak**	**0.93 143**			Pg	15 17 40.6	-0.5
NMCNC	**Mill Creek, So**	**0.93 331**			Pg	15 17 40.4	-0.8
GAXM	**Alexander Vall**	**0.98 340**			Pg	15 17 41.7	-0.6
FTR	**Fort Ross**	**0.99 319**			Pg	15 17 42.2	-0.1
CDC	**Canada Road**	**1.01 138**			Pg	15 17 42.8	0.0
NMTM	**Middletown**	**1.02 355**			Pg	15 17 42.3	-0.8
GCRM	**Castle Rock Sp**	**1.03 343**			Pg	15 17 42.3	-0.9
GSSM	**Skaggs Springs**	**1.06 330**			Pg	15 17 43.3	-0.4
GHCM	**House Creek**	**1.07 321**			Pg	15 17 43.0	-0.8
OCR	**O'Connell Ranc**	**1.09 143**			Pb	15 17 43.6	-0.5
HFEM	**San Felipe**	**1.09 137**			Pb	15 17 42.8	-1.4
HERM	**Elkhorn Road**	**1.10 153**			Pb	15 17 43.6	-0.7
HPCM	**Pacheco Lake**	**1.11 130**			Pb	15 17 43.6	-0.9
SLD	**San Luis Dam**	**1.13 128**			Pb	15 17 43.8	-1.1
HJGM	**San Juan Grade**	**1.15 148**			Pb	15 17 42.9	-2.4
GACM	**Adobe Creek**	**1.17 339**			Pg	15 17 45.7	0.0
SFJWR	**San Luis Fatjo**	**1.18 128**			Pb	15 17 44.6	-1.2
HMOM	**Monterey**	**1.23 164**			Pn	15 17 46.3	-0.2
FRP	**Fremont Peak**	**1.23 147**			Pn	15 17 43.6	-2.9
SAO	**San Andreas Ge**	**1.24 145**			Pn	15 17 43.8	-2.8
BVYM	**Vineyard**	**1.27 144**			Pn	15 17 44.8	-2.3
BSRM	**Salinas Radio**	**1.29 150**			Pn	15 17 44.6	-2.7
GGUM	**Gualala**	**1.41 320**			Pb	15 17 49.9	+0.2
BJCM	**Johnson Can.**	**1.45 148**			Pn	15 17 46.9	-2.6
BVL	**Bear Valley**	**1.51 143**			Pn	15 17 48.7	-1.7
HAST	**Hastings Reser**	**1.53 156**			Pn	15 17 48.2	-2.4
BSMM	**Soledad Missio**	**1.57 152**			Pn	15 17 49.5	-1.8
GHOM	**Hamilton Openi**	**1.58 323**			Pg	15 17 53.7	+0.1
AFDM	**Forest Hills D**	**1.58 42**			Pn	15 17 50.1	-1.3
BSGM	**Shirttail Gulc**	**1.62 147**			Pn	15 17 51.4	-0.4
PAPM	**Alder Peak**	**2.02 157**			Pn	15 17 55.7	-1.8

ISCJB ***12*** *15:25:06.4±0.7, 28°.17N±0°.07×99°.26E±0°.08, h10km, mb3.5/6, MS3.1/2, Error ellipse: s-maj=10.7km s-min=9.7km az=1.2*
IDC ***12*** *15:25:07.2±1.0, 28°.25N×99°.46E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/55, mbtmp3.5/8, ML3.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/35, Error ellipse: s-maj=41.3km s-min=15.2km az=70.0*
BJI ***12*** *15:25:07.9±0.0, 28°.23N×99°.33E, h20km, mb3.8/3, ML3.7/6*

ISC 12 15:25:08.5±1.1, 28°.3N±0°.1×99°.3E±0°.1, h10km, n23, σ1§22/20, mb3.6/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.79 182**		Pn	**Pn**	**15 27 29.9**	**+0.4**
	0.1nm,0.3s,baz=357,slow=13,SNR=3.1						
CMAR				Pg		15 28 06.6	
	0.1nm,0.3s,baz=356,slow=17,SNR=2.7						
CMAR				Lg	Lg	15 30 18.4	
	0.1nm,0.3s,baz=4.8,slow=23,SNR=4.0						
TAPN	**Taplejung**	**10.31 268**		*e*P	**Pn**	**15 27 37.4**	**+0.6**
	12nm,0.4s						
ODAN	**Odare**	**10.66 265**		*e*P	**Pn**	**15 27 42.5**	**+0.9**
	29nm,0.6s						
RAMN	**Ramite**	**11.34 266**		*e*P	**Pn**	**15 27 51.8**	**+0.8**
	71nm,0.6s						
JIRN	**Jiri**	**11.61 270**		*e*P	**Pn**	**15 27 55.8**	**+1.1**
	18nm,0.4s						
GUN	**Gumba**	**11.86 271**		*e*P	**Pn**	**15 27 58.6**	**+0.5**
	16nm,0.4s						
PKI	**Pulchoki**	**12.31 270**		*e*P	**Pn**	**15 28 03.5**	**-0.7**
	21nm,0.7s						
PKIN	**Phulchoki**	**12.32 270**		*e*P	**Pn**	**15 28 03.5**	**-0.8**
	12nm,0.4s						
KKN	**Kakani**	**12.40 271**		*e*P	**Pn**	**15 28 05.2**	**-0.1**
	10nm,0.3s						
DMN	**Daman**	**12.57 270**		*e*P	**Pn**	**15 28 06.9**	**-0.8**
	11nm,0.5s						
GKN	**Gorkha**	**12.95 272**		*e*P	**Pn**	**15 28 11.9**	**-0.9**
	12nm,0.5s						
DANN	**Dangsing**	**13.69 274**		*e*P	**Pn**	**15 28 19.9**	**-3.2**
WMQ	**Urumqi**	**18.09 332**		*e*P	**Pn**	**15 29 19.5**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NDI	**New Delhi**	**19.42 276**		*e*S	**Sn**	**15 33 13.5**	**-0.6**
SONM	**Songino Array**	**20.28 14**		P	Pn	15 29 45.7	-0.7
	0.4nm,0.8s,baz=199,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**22.79 329**		P	**P**	**15 30 11.1**	**-0.2**
	0.7nm,0.5s,baz=139,slow=8.8,SNR=11						
AAK	**Ala-Archa**	**24.65 312**		P	**P**	**15 30 31.1**	**+1.6**
	0.7nm,0.5s,baz=159,slow=7.7,SNR=4.7						
KSRS	**Korea Array**	**25.64 62**		LR	LR	15 42 00.0	
	comp=Z,59nm,18.5s,baz=288,slow=40						
KURBB	**Kurchatov Arra**	**27.30 330**		P	**P**	**15 30 54.3**	**+1.2**
	0.6nm,0.6s,baz=142,slow=9.4,SNR=8.0						
JNU	**Nakatsue**	**27.52 72**		LR	LR	15 43 18.0	
	comp=Z,41nm,18.6s,baz=140,slow=40						
ZALV	**Zalesovo Beam**	**27.75 341**		P	**P**	**15 30 58.8**	**+1.6**
	0.6nm,0.5s,baz=134,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**58.70 141**		P	**P**	**15 35 05.4**	**-1.2**
	0.7nm,0.9s,baz=332,slow=7.3,SNR=6.0						
ASAR	**Alice Springs**	**61.48 144**		P	**P**	**15 35 25.0**	**-0.6**
	0.2nm,0.6s,baz=326,slow=6.5,SNR=5.8						

IDC ***12*** *15:31:11.5±17.0, 20°.64S×173°.89W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/41, mbtmp4.2/5, Error ellipse: s-maj=319.1km s-min=145.5km az=83.0*
ISCJB ***12*** *15:31:17.8±0.5, 21°.0S±0°.1×174°.42W±0°.07, h26km, mb4.2/5, Error ellipse: s-maj=17.3km s-min=8.4km az=160.8*
NEIC ***12*** *15:31:21.2±1.7, 21°.0S±0°.1×174°.33W±0°.09, h41km±13km, mb4.7/14*

ISC 12 15:31:19.6±0.8, 21°.0S±0°.1×174°.35W±0°.09, h26km, n24, σ0§75/24, mb4.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.60 66**		Pn	**Pn**	**15 32 27.6**	**+0.1**
AFI	**Afiamalu**	**7.51 20**		Pn	**Pn**	**15 33 06.8**	**-0.7**
MSVF	**Nonsavu**	**7.89 293**		Pn	**Pn**	**15 33 13.4**	**+0.6**
PPT	**Papeete**	**23.63 86**		P	**P**	**15 36 29.4**	**+0.5**
PPTF	**Pamatai, Papee**	**23.64 86**		P	**P**	**15 36 29.4**	**+0.3**
MLZ	**Mavora Lakes**	**28.23 207**		P	**P**	**15 37 09.7**	**-0.7**
EIDS	**Eidsvold**	**32.00 256**		P	**P**	**15 37 44.2**	**+0.2**
EIDS				IAmb	IAmb	15 38 43.1	
	comp=Z,9.2nm,1.2s						
CTA	**Charters Tower**	**36.83 264**		P	**P**	**15 38 26.1**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=90,slow=10,SNR=5.2						
CTAO	**Charters Tower**	**36.83 264**		P	**P**	**15 38 26.4**	**+0.5**
CTAO				IAmb	IAmb	15 39 41.1	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**40.64 245**		P	**P**	**15 38 58.0**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=96,slow=10,SNR=6.8						
STKA	**Stephens Creek**	**40.64 245**		P	**P**	**15 38 58.1**	**+0.3**
BBOO	**Buckleboo**	**45.38 244**		P	**P**	**15 39 35.5**	**-0.5**
AS31	**Alice Springs**	**47.71 257**		P	**P**	**15 39 53.8**	**-0.8**
AS31				IAmb	IAmb	15 39 54.9	
	comp=Z,1.5nm,0.3s						
ASAR	**Alice Springs**	**47.72 257**		P	**P**	**15 39 53.8**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=97,slow=7.3,SNR=56						
ASAR	**Alice Springs**	**47.72 257**		P	**P**	**15 39 53.4**	**-1.2**
WB0	**Warramunga Arr**	**47.88 262**		P	**P**	**15 39 56.7**	**+0.8**
WB2	**Warramunga Arr**	**47.89 262**		P	**P**	**15 39 55.0**	**-0.9**
WB2				IAmb	IAmb	15 40 53.2	
	comp=Z,19nm,2.0s						
WRA	**Warramunga Arr**	**47.90 262**		P	**P**	**15 39 54.8**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=98,slow=7.0,SNR=102						
WRA	**Warramunga Arr**	**47.90 262**		P	**P**	**15 39 54.3**	**-1.8**
FORT	**Forrest**	**52.22 247**		P	**P**	**15 40 28.4**	**-0.2**
MTN	**Manton Dam**	**52.58 270**		P	**P**	**15 40 31.2**	**-0.3**
KNRA	**Kununurra**	**54.02 266**		P	**P**	**15 40 42.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**56.33 262**		P	**P**	**15 40 58.9**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=118,slow=6.4,SNR=14						
FITZ	**Fitzroy Crossi**	**56.33 262**		P	**P**	**15 40 59.3**	**+0.5**
FITZ				IAmb	IAmb	15 42 01.2	
	comp=Z,18nm,1.7s						

NIED ***12*** *15:57:00, 44°.00N×147°.80E, h47km, Mw3.7 Best double couple: M0 3.93000×10^14 NP1:φ=261.00000°, δ=25.00000°, λ=157.00000°. NP2:φ=12.00000°, δ=80.00000°, λ=66.00000°.*
ISCJB ***12*** *15:57:09.6±0.9, 44°.33N±0°.07×148°.09E±0°.10, h60km±7km, mb3.7/9, Error ellipse: s-maj=15.2km s-min=5.4km az=42.4*
JMA ***12*** *15:57:10.4±0.3, 43°.98N×147°.84E, h0km, M4.4*
MOS ***12*** *15:57:10.5±1.5, 44°.54N×147°.95E, h57km, mb3.9/5, Error ellipse: s-maj=11.9km s-min=10.0km az=64.6*
SKHL ***12*** *15:57:10.1±0.5, 44°.38N×148°.17E, h62km±6km, mb5.1/4*
IDC ***12*** *15:57:14.2±3.4, 44°.51N×148°.06E, h83km±23km, mb3.4/7, mb1 3.5/9, mb1mx3.3/65, mbtmp3.7/9, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=53.5km s-min=15.2km az=156.0*

ISC 12 15:57:09.3±1.5, 44°.27N±0°.07×148°.25E±0°.09, h43km±13km, n51, σ1§38/60, mb3.7/9, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.00 344**		*d* iPN	**Pn**	**15 57 26.5**	**-0.3**
KUR				*i* S	**Sn**	**15 57 38.5**	**-1.2**
KUR				pmax	pmax		
	comp=Z,879μm,0.2s						
KUR				pmax	pmax		
	comp=E,580μm,0.1s						
KUR				pmax	pmax		
	comp=N,495μm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
KUR	**Kuril'sk**	**1.00 344**		*i* P	**Pn**	**15 57 26.0**	**-0.8**
KUR				AMB	AMB	15 57 27.0	
	comp=E,879nm,0.2s						
KUR				*i* S	**Sn**	**15 57 38.0**	**-1.7**
KUR				A	A	15 57 39.0	
	comp=E,1μm,0.2s						
KUR				A	A	15 57 39.0	
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.73 263**		*c* iPN	**Pn**	**15 57 36.9**	**0.0**
YUK				*i* S	**Sn**	**15 57 57.0**	**-0.8**
YUK				pmax	pmax		
	comp=E,300μm,0.2s						
YUK				pmax	pmax		
	comp=Z,926μm,0.2s						
YUK				pmax	pmax		
	comp=N,124μm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.73 263**		*i* P	**Pn**	**15 57 37.1**	**+0.2**
YUK				AMB	AMB	15 57 38.0	
	comp=E,926nm,0.3s						
YUK				*i* S	**Sn**	**15 57 56.8**	**-1.0**
YUK				A	A	15 58 02.0	
	comp=E,2μm,0.3s						
YUK				A	A	15 58 02.0	
	comp=E,2μm,0.3s						
LAGR	**Lagunnoye**	**1.78 264**		*e*PN	**Pn**	**15 57 37.4**	**-0.2**
LAGR				*i* S	**Sn**	**15 57 57.8**	**-1.2**
LAGR				pmax	pmax		
	comp=N,167nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,659nm,0.1s						
LAGR				smax	smax		
	comp=N,3μm,0.2s						
LAGR				smax	smax		
	comp=E,2μm,0.2s						
LAGR	**Lagunnoye**	**1.78 264**		*e*P	**Pn**	**15 57 37.0**	**-0.6**
LAGR				AMB	AMB	15 57 39.0	
	comp=E,659nm,0.3s						
LAGR				*i* S	**Sn**	**15 57 57.0**	**-2.0**
LAGR				A	A	15 58 00.0	
	comp=E,3μm,0.3s						
LAGR				A	A	15 58 00.0	
	comp=E,2μm,0.3s						
GRPR	**Tuman**	**1.80 262**		*e*PN	**Pn**	**15 57 38.1**	**+0.2**
GRPR				*i* S	**Sn**	**15 57 58.5**	**-1.0**
GRPR				pmax	pmax		
	comp=Z,466nm,0.3s						
GRPR				pmax	pmax		
	comp=N,272nm,0.1s						
GRPR				pmax	pmax		
	comp=E,222nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR	**Tuman**	**1.80 262**		*e*P	**Pn**	**15 57 38.0**	**+0.2**
GRPR				AMB	AMB	15 57 41.0	
	comp=N,466nm,0.3s						
GRPR				*i* S	**Sn**	**15 57 58.9**	**-0.6**
GRPR				A	A	15 58 03.0	
	comp=N,2μm,0.3s						
GRPR				A	A	15 58 03.0	
	comp=N,1μm,0.3s						
NEM2	**Nemuro 2**	**2.03 244**		P	**Pn**	**15 57 40.7**	**-0.2**
NEM2				*e*S	**Sn**	**15 58 02.4**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.03 245**		*d* iPN	**Pn**	**15 57 40.8**	**-0.2**
NMR				*i* S	**Sn**	**15 58 03.5**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.03 245**		*i* P	**Pn**	**15 57 40.0**	**-1.0**
NMR				*i* S	**Sn**	**15 58 03.0**	**-2.2**
JRA	**Rausu**	**2.27 263**		P	**Pn**	**15 57 45.6**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.39 259**		P	**Pn**	**15 57 47.1**	**+1.2**
JKHN	**Kushirohamanak**	**2.54 243**		P	**Pn**	**15 57 48.2**	**+0.3**
JKHN				*e*S	**Sn**	**15 58 15.6**	**-1.9**
JNK	**Nakash**	**2.64 256**		P	**Pn**	**15 57 50.2**	**+0.9**
JNK				*e*S	**Sn**	**15 58 19.4**	**-0.7**
JAK	**Akkeshi**	**2.88 245**		P	**Pn**	**15 57 52.8**	**+0.2**
JAK				*e*S	**Sn**	**15 58 24.0**	**-1.9**
JTKR	**Abashiri--Toko**	**3.14 266**		P	**Pn**	**15 57 57.3**	**+1.1**
JAR	**Ashorobuto**	**3.38 255**		P	**Pn**	**15 58 01.2**	**+1.6**
JAR				*e*S	**Sn**	**15 58 39.3**	**+0.8**
JOB	**Onbets**	**3.48 248**		P	**Pn**	**15 58 01.9**	**+1.0**
JOB				*e*S	**Sn**	**15 58 40.8**	**-0.1**
JMP	**Maruseppu**	**3.53 267**		P	**Pn**	**15 58 02.9**	**+1.3**
JCH	**Churui**	**3.92 247**		P	**Pn**	**15 58 07.3**	**+0.3**
JCH				*e*S	**Sn**	**15 58 50.2**	**-1.5**
JKK2	**Kamakawa 2**	**3.98 266**		P	**Pn**	**15 58 09.7**	**+1.9**
ASAJ	**Asahikawa**	**4.07 270**		P	**Pn**	**15 58 10.8**	**+1.9**
	comp=N,2.5nm,0.3s,baz=52,slow=18,SNR=21						
ASAJ				S	**Sn**	**15 58 59.0**	**+3.8**
	comp=N,0.4nm,0.3s,baz=36,slow=19,SNR=1.9						
ASAJ				LR	LR	15 59 37.9	
	comp=N,74nm,18.2s,baz=142,slow=36						
ERM	**Erimo**	**4.35 241**		*c*e PN	**Pn**	**15 58 16.1**	**+3.2**
JNBK	**Urakawa-nobuka**	**4.48 245**		P	**Pn**	**15 58 15.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.69 307**		*e*PN	**Pn**	**15 58 18.4**	**+0.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.69 307**		*e*P	**Pn**	**15 58 18.4**	**+0.9**
YSS				AMB	AMB	15 58 19.0	
	comp=Z,20nm,0.5s						
UGL	**Uglegorsk**	**6.42 321**		PN	Pn	15 58 36.3	-4.8
UGL				pmax	pmax		
	comp=Z,84nm,1.1s						
PETK	**Petropavlovsk-**	**10.82 32**		P	**Pn**	**15 59 42.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=3.5						
KLR	**Kul'dur**	**12.35 299**		LR	LR	16 04 10.7	
	comp=Z,103nm,18.8s,baz=75,slow=34						
YAK	**Yakutsk**	**20.84 335**		*i* P	Pn	16 01 46.6	-3.3
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK	**Yakutsk**	**20.84 335**		*e*P	Pn	16 01 46.5	-3.3
BILL	**Biiibino**	**25.64 16**		*e*P	**P**	**16 02 36.8**	**+2.4**
BILL				*e*		16 03 12.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.00 142**		T	T	16 34 02.5	
	baz=332,slow=76,SNR=81						
SONM	**Songino Array**	**29.00 292**		P	**P**	**16 03 03.3**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=84,slow=7.9,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**29.01 142**		T	T	16 33 58.4	
	baz=332,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**29.02 142**		T	T	16 33 56.6	
	baz=332,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**29.99 143**		T	T	16 35 05.2	
	baz=333,slow=76,SNR=245						
H11S3	**WAKE ISLAND Hy**	**30.00 143**		T	T	16 35 05.3	
	baz=333,slow=76,SNR=187						
H11S2	**WAKE ISLAND Hy**	**30.01 143**		T	T	16 35 06.3	
	baz=333,slow=76,SNR=121						
ILAR	**Eielson Array**	**40.60 37**		P	**P**	**16 04 45.4**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=266,slow=8.9,SNR=6.9						
MKAR	**Makanchi Array**	**45.04 298**		P	**P**	**16 05 19.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=77,slow=8.4,SNR=7.5						
MKAR				PcP	**PcP**

5.1nm,0.3s,baz=125,slow=10,SNR=4.5
KRVT LR LR 16 02 18.8
comp=Z,108nm,19.9s,baz=243,slow=38
JAY Jayapura 6.55 302 P **Pn 16 00 06.8 -2.4**
baz=90,slow=20
COEN Coen 8.46 201 **Pn 16 00 37.2 +2.1**
HNR Honiara 13.97 105 P **Pn 16 01 50.9 +1.9**
1.5nm,0.3s,baz=210,slow=4.1,SNR=3.4
HNR Honiara 13.97 105 P **Pn 16 01 51.1 +2.0**
CTA Charters Tower 13.98 180 P **P 16 01 52.5 -1.4**
24nm,0.3s,baz=358,slow=14,SNR=419
CTA S **Sn 16 04 21.3 -2.0**
0.3nm,0.3s,baz=102,slow=12,SNR=3.5
CTAO Charters Tower 13.98 180 P **P 16 01 54.1 +0.2**
FAKI Fak Fak 14.31 282 P **P 16 01 57.7 +0.1**
FAKI Fak Fak 14.31 282 P **P 16 01 59.0 +1.4**
SAUI Saumlaki 14.98 262 P **P 16 02 06.7 +1.6**
SAUI IAmb IAmb 16 02 46.9
comp=Z,74nm,0.8s
SIJI Sorong 15.82 288 P **Pn 16 02 12.8 +0.3**
comp=Z,3.1nm,0.3s,baz=98,slow=8.2,SNR=14
SWI Sorong 15.83 288 P **Pn 16 02 13.2 +0.5**
BNDI Bandanaira 16.36 274 P **P 16 02 23.2 +2.8**
MTN Manton Dam 16.39 244 **Pn 16 02 20.4 +0.8**
PATS Pohnpei 17.54 43 P **Pn 16 02 34.1 +0.5**
PATS IAmb IAmb 16 02 56.4
comp=Z,399nm,2.0s
WB2 Warramunga Arr 18.05 219 P **P 16 02 39.1 +0.2**
WRA Warramunga Arr 18.05 219 P **P 16 02 39.0 -0.1**
comp=Z,1.6nm,0.3s,baz=39,slow=11,SNR=79
WRA S **S 16 05 53.7 -7.2**
comp=Z,0.0nm,0.3s,baz=42,slow=24,SNR=2.9
WRA PcP **PcP 16 07 10.2 +0.9**
comp=Z,0.1nm,0.3s,baz=26,slow=1.8,SNR=5.7
WRA ScP **ScP 16 10 36.4 +0.7**
baz=41,slow=2.5,SNR=5.7
WRA Warramunga Arr 18.05 219 P **P 16 02 38.1 -0.9**
AAI Ambon 18.16 277 P **Pn 16 02 42.1 +1.0**
NLAI Namlea 19.30 277 P **Pn 16 02 56.7 +2.0**
GUMO Guam 19.53 356 LR LR 16 08 34.5
comp=Z,67nm,20.9s,baz=188,slow=31
KNRA Kununurra 19.67 239 P **P 16 02 56.4 -0.2**
KNRA IAmb IAmb 16 03 47.4
comp=Z,77nm,1.6s
TNTI Ternate 20.04 289 P Pn 16 03 04.9 +1.6
TNTI Ternate 20.04 289 P **P 16 03 01.6 +0.9**
TNTI IAmb IAmb 16 03 07.6
comp=Z,38nm,1.0s
SANI Sanana 20.61 280 P Pn 16 03 09.8 -0.2
AS31 Alice Springs 21.20 213 P **P 16 03 13.8 +0.7**
ASAR Alice Springs 21.20 213 P **P 16 03 13.9 +0.8**
comp=Z,5.6nm,0.6s,baz=42,slow=7.9,SNR=128
ASAR S **S 16 07 01.6 -1.7**
comp=Z,1.9nm,0.7s,baz=26,slow=20,SNR=4.1
ASAR ScP **ScP 16 10 44.6 +1.6**
comp=Z,1.1nm,0.9s,baz=28,slow=2.9,SNR=3.5
ASAR LR LR 16 12 35.2
comp=Z,162nm,19.5s,baz=14,slow=39
ASAR Alice Springs 21.20 213 P **P 16 03 13.7 +0.6**
SOEI Soe 22.10 259 P **P** 16 03 37.5 +15
BATI Baumata 22.76 258 P **P 16 03 29.6 +0.1**
comp=Z,19nm,0.6s,baz=142,slow=3.2,SNR=9.3
BATI Baumata 22.76 258 P **P 16 03 28.9 -0.7**
FITZ Fitzroy Crossi 23.44 237 P **P 16 03 36.2 +0.3**
comp=Z,16nm,0.5s,baz=44,slow=9.3,SNR=73
FITZ Fitzroy Crossi 23.44 237 P **P 16 03 36.1 +0.1**
FITZ pP **pP 16 03 59.0 +1.8**
LUWI Luwuk 23.96 281 P **P 16 03 42.4 +1.7**
LUWI Luwuk 23.96 281 P **P 16 03 40.7 0.0**
MMRI Maumere 23.97 262 P **P 16 03 42.7 +1.9**
MRSI Marisa 25.13 284 P **P 16 03 52.2 +0.9**
STKA Stephens Creek 26.09 189 P **P 16 04 02.9 +3.0**
comp=Z,4.3nm,0.6s,baz=356,slow=9.8,SNR=7.5
STKA LR LR 16 16 36.0
comp=Z,40nm,18.1s,baz=20,slow=41
STKA Stephens Creek 26.09 189 P **P 16 03 59.4 -0.5**
KAPI Kappang 26.41 271 P **P 16 04 02.6 -0.4**
SPSI Sidrap Palu 26.48 273 P **P** 16 04 15.7 +12
TTSI Tana Toraja 26.53 275 P **P 16 04 06.3 +2.3**
PSA00 Pilbara Seismi 29.88 236 P **P 16 04 34.2 +0.5**
PSA00 IAmb IAmb 16 05 24.9
comp=Z,71nm,1.8s
FORT Forrest 29.99 213 P **P 16 04 34.7 +0.1**
FORT IAmb IAmb 16 05 37.7
comp=Z,19nm,0.8s
JAGI Jajag, Banyuwa 31.95 264 P **P 16 04 49.7 -2.3**
JAGI IAmb IAmb 16 04 57.0
comp=Z,41nm,1.5s
KKM Kota Kinabalu 32.30 291 P **P 16 04 54.6 -0.6**
KKM IAmb IAmb 16 04 55.9
comp=Z,11nm,0.7s
PWJI Pagerwojo 34.26 265 P P 16 05 18.4 +6.2
SBUM Sibu 35.03 283 P **P 16 05 19.4 +0.6**
WOJI Wonogiri, Jawa 35.13 265 P **P 16 05 19.5 -0.1**
MORW Morawa 36.62 228 P **P 16 05 30.8 -1.5**
KSM Kuching 36.67 281 P **P 16 05 35.0 +2.2**
KSM Kuching 36.67 281 P **P 16 05 33.9 +1.1**
KSM IAmb IAmb 16 05 35.0
comp=Z,56nm,2.0s
KPJI Karang Pucung 37.10 266 P P 16 05 49.7 +13
YULB Yu-li 38.07 321 P **P 16 05 43.5 -1.1**
CISI Cisompet, Garu 38.21 265 P **P 16 05 46.4 +0.5**
comp=Z,65nm,1.4s
CISI Cisompet, Garu 38.21 265 P **P 16 05 44.6 -1.2**
LEM Lembang 38.41 267 P **P 16 05 47.4 -0.3**
comp=Z,29nm,0.7s,baz=11,slow=4.8,SNR=8.7
LEM Lembang 38.41 267 P **P 16 05 48.9 +1.2**
TPUB Ta-pu 38.43 320 P **P 16 05 46.6 -1.0**
SSLB Suanglung 38.58 321 P **P 16 05 48.7 0.0**
TPI Tanjungpandan 38.63 273 P **P 16 05 51.6 +2.2**
comp=Z,32nm,1.1s
CGJI Cibinong 40.33 267 P **P 16 06 04.3 +0.8**
XMIS Christmas Isla 40.42 261 P **P 16 06 05.2 +0.9**
JNU Nakatsue 41.58 340 P **P 16 06 11.7 -1.8**
comp=Z,16nm,0.8s,baz=170,slow=1.0,SNR=7.9
JNU Nakatsue 41.58 340 P **P 16 06 12.9 -0.5**
JNU IAmb IAmb 16 06 59.9
comp=Z,41nm,1.3s
MJAR Matsushiro Arr 43.01 350 P **P 16 06 23.3 -1.7**
comp=Z,2.7nm,0.8s,baz=190,slow=12,SNR=5.5
MJAR Matsushiro Arr 43.01 350 P **P 16 06 24.7 -0.3**
MAJO Matsushiro 43.01 350 P **P 16 06 24.7 -0.3**
MAJO IAmb IAmb 16 07 10.9
comp=Z,55nm,1.7s
MJB9 Matsu-Tunnel 43.01 350 P **P 16 06 24.6 -0.4**
MJB9 IAmb IAmb 16 07 10.9
comp=Z,55nm,1.7s
MYKOM Kota Tinggi 43.06 279 P **P 16 06 27.0 +1.2**
MYKOM Kota Tinggi 43.06 279 P **P 16 06 26.7 +0.9**
MYKOM IAmb IAmb 16 06 28.0
comp=Z,14nm,0.8s
KHZ Kahutara 43.56 151 P **P 16 06 29.5 +0.2**
LBZ Lake Benmore 43.57 155 P **P 16 06 29.0 -0.5**
BFZ Birch Farm 43.71 147 P **P 16 06 31.6 +1.0**
JRMM Jerantut 44.82 282 P **P 16 06 40.0 +0.1**
UBPT Khong Chiam 45.63 298 P **P 16 06 47.1 +0.9**
UBPT IAmb IAmb 16 06 48.4
comp=Z,15nm,0.7s
NJ2 Nanjing 46.00 327 *eP* **P 16 06 50.1 +1.3**
NJ2 pmax pmax
comp=Z,15nm,0.6s
IPM Ipoh 46.36 282 P **P 16 06 52.6 +0.5**
IPM IAmb IAmb 16 06 53.9
comp=Z,14nm,0.9s
KSRS Korea Array 46.51 340 P **P 16 06 52.5 -0.3**
comp=Z,7.9nm,0.8s,baz=156,slow=8.9,SNR=22
KSRS LR LR 16 23 39.3
comp=Z,10nm,21.7s,baz=20,slow=32
KSAR Wonju Array Be 46.52 340 P **P 16 06 52.6 -0.2**
KS19 Wonju Array Si 46.58 340 P **P 16 06 52.7 -0.6**
KS19 IAmb IAmb 16 07 08.7
comp=Z,55nm,1.6s
WHN Wuhan 47.50 322 P **P 16 07 01.7 +1.2**
RPSI Rantau Prapat 48.06 279 P **P 16 07 05.0 -0.2**
RPSI IAmb IAmb 16 07 06.6
comp=Z,14nm,1.1s
RPSI Rantau Prapat 48.06 279 P **P 16 07 05.1 -0.2**
PSI Prapat 48.08 279 P **P 16 07 05.1 -0.4**
comp=Z,4.7nm,0.4s,baz=181,slow=7.6,SNR=6.9
NONG Nongkai 48.82 300 P **P 16 07 11.7 +0.8**
comp=Z,1.1nm,0.8s
PATY Pattaya 48.88 293 P **P 16 07 12.8 +1.4**
comp=Z,33μm,0.7s
CHAI Chaiyaphum 48.95 297 P **P 16 07 12.5 +0.5**
comp=Z,77μm,0.7s,comp=Z,585μm

GSI Gunungsitoli 49.16 277 P **P 16 07 13.4 -0.2**
GSI IAmb IAmb 16 07 14.2
comp=Z,15nm,0.6s
KCSI Kotacane, Aceh 49.35 280 P **P 16 07 13.9 -1.2**
SURT Suratani 49.60 287 P **P 16 07 18.4 +1.4**
comp=Z,25nm,1.0s
TPTI 49.88 279 P **P 16 07 22.2 +3.1**
PHET Kaeng Krachan 50.01 292 P **P 16 07 21.5 +1.5**
comp=Z,57μm,0.8s,comp=Z,427μm
ASAJ Asahikawa 50.01 357 P **P 16 07 19.2 -0.3**
comp=Z,6.1nm,0.6s,baz=130,slow=12,SNR=5.0
JKA Kamikawa-asahi 50.01 357 P **P 16 07 19.2 -0.3**
PBKT Sadao Pong 50.11 297 P **P 16 07 22.8 +2.1**
comp=Z,6.2nm,0.8s
PBKT Sadao Pong 50.11 297 P **P 16 07 21.6 +0.9**
PBKT IAmb IAmb 16 07 23.2
comp=Z,25nm,1.6s
MLSI Meulaboh, Aceh 50.83 280 P **P 16 07 27.5 +1.2**
SRDT SRDT 50.95 294 P **P 16 07 29.0 +1.8**
comp=Z,14nm,1.0s
UTHA Uthaitani 51.09 295 P **P 16 07 29.4 +1.3**
comp=Z,65μm,0.8s,comp=Z,517μm
NANT Nan 51.23 300 P **P 16 07 30.4 +1.2**
comp=Z,848μm,0.8s
KHLT Khaolaem Dam 51.59 294 P **P 16 07 29.9 -2.0**
comp=Z,42nm,0.9s,comp=Z,448nm
USA0B Ussuriysk Arra 51.62 347 P **P 16 07 31.3 -0.3**
USA0B IAmb IAmb 16 07 32.9
comp=Z,22nm,1.4s
USRK Ussuriysk Ar. 51.62 347 P **P 16 07 31.3 -0.3**
comp=Z,6.0nm,0.6s,baz=170,slow=7.5,SNR=24
USRK Ussuriysk Ar. 51.62 347 P **P 16 07 31.2 -0.4**
UMPA Umpang Tak 51.84 296 P **P 16 07 34.9 +1.1**
comp=Z,78μm,0.8s,comp=Z,719μm
LAMP Lampang 52.04 299 P **P 16 07 37.7 +2.5**
comp=Z,63μm,0.8s
PAYA Payao 52.18 300 P **P 16 07 37.6 +1.4**
comp=Z,122μm,0.7s,comp=Z,922μm
KMI Kunming 52.43 308 P **P 16 07 40.0 +1.7**
KMI pmax pmax
comp=Z,13nm,0.6s
CM31 Chiang Mai Arr 52.62 299 P **P 16 07 40.7 +1.1**
CMAR Chiang Mai Arr 52.62 299 P **P 16 07 40.5 +1.0**
comp=Z,25nm,0.7s,baz=122,slow=6.0,SNR=179
CMAR Chiang Mai Arr 52.62 299 P **P 16 07 40.8 +1.2**
CMMT Chiang Mai 52.75 299 P **P 16 07 41.7 +1.2**
comp=Z,12nm,0.9s
CHTO Chiang Mai 52.76 299 P **P 16 07 41.5 +1.0**
CHTO IAmb IAmb 16 07 42.8
comp=Z,18nm,0.9s
XAN Xi'an 53.24 321 P **P 16 07 43.4 -0.4**
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 53.24 321 P **P 16 07 42.9 -0.9**
XAN IAmb IAmb 16 07 44.4
comp=Z,10nm,0.9s
MHMT Maesarieng 53.40 298 P **P 16 07 46.9 +1.7**
comp=Z,52nm,0.7s
CD2 Chengdu 54.77 315 P **P 16 07 54.8 -0.3**
CD2 pmax pmax
comp=Z,20nm,0.7s
KLR Kul'dur 56.46 349 P **P 16 08 06.2 -0.5**
comp=Z,3.6nm,0.8s,baz=175,slow=4.2,SNR=7.5
KLR LR LR 16 31 15.5
comp=Z,56nm,18.3s,baz=36,slow=35
HHC Hu-ho-hao-te 56.47 329 *eP* **P 16 08 09.4 +2.3**
HHC pmax pmax
comp=Z,5.0nm,1.1s
PETK Petropavlovsk- 59.70 8 P **P 16 08 28.0 -1.2**
comp=Z,5.0nm,0.6s,baz=166,slow=5.5,SNR=8.1
PETK Petropavlovsk- 59.70 8 P **P 16 08 29.5 +0.2**
SHL Shillong 61.42 303 P **P 16 08 42.0 +0.2**
GTA Gaotai 62.29 321 P **P 16 08 47.4 +0.1**
GTA pP sP 16 09 20.0 -3.4
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.0s
GTA LR LR
comp=Z,170nm,16.5s
GTA LR LR
comp=Z,170nm,17.2s
GTA LR LR
comp=Z,150nm,16.8s
LSA Lhasa 63.67 307 P **P 16 08 57.6 +0.6**
LSA IAmb IAmb 16 08 59.8
comp=Z,5.3nm,0.6s
ULN Ulaanbaatar 63.78 332 P **P 16 08 57.0 +0.1**
SONM Songino Array 64.07 331 P **P 16 08 57.1 -1.7**
comp=Z,1.3nm,0.8s,baz=149,slow=5.7,SNR=7.6
SONM Songino Array 64.07 331 P **P 16 08 58.7 -0.1**
MA2 Magadan 65.48 3 P **P 16 09 06.8 -0.8**
comp=Z,9.5nm,0.7s,baz=201,slow=17,SNR=3.6
TAPN Taplejung 65.55 304 *eP* **P 16 09 09.7 +0.6**
comp=Z,10nm,0.5s
ODAN Odare 65.64 303 *eP* **P 16 09 10.4 +0.8**
comp=Z,7.1nm,0.4s
RAMN Ramite 66.34 303 *eP* **P 16 09 14.3 +0.2**
comp=Z,16nm,0.5s
JIRN Jiri 66.92 303 *eP* **P 16 09 18.7 +0.8**
comp=Z,12nm,0.5s
GUN Gumba 67.27 303 *eP* **P 16 09 20.5 +0.4**
comp=Z,18nm,0.4s
PKIN Phulchoki 67.56 303 *eP* **P 16 09 22.1 +0.3**
KKN Kakani 67.73 303 *eP* **P 16 09 22.8 0.0**
comp=Z,8.1nm,0.6s
DMN Daman 67.81 303 *eP* **P 16 09 23.6 +0.2**
comp=Z,7.9nm,0.5s
GKN Gorkha 68.33 303 *eP* **P 16 09 26.7 +0.1**
comp=Z,11nm,0.5s
SEY Seymchan 68.92 3 P **P 16 09 28.8 -0.4**
comp=Z,6.6nm,0.7s,baz=165,slow=5.8,SNR=12
KOLN Koldanda 69.12 303 *eP* **P 16 09 31.6 +0.1**
comp=Z,41nm,1.0s
DANN Dangsing 69.18 303 *eP* **P 16 09 31.6 -0.4**
comp=Z,16nm,0.7s
HYB Hyderabad 70.79 291 *i* P **P 16 09 41.5 -0.2**
WMQ Urumqi 72.33 320 *eP* **P 16 09 50.2 -0.3**
WMQ PcP **PcP 16 10 06.6 -1.4**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,170nm,3.6s
WMQ LR LR
comp=Z,760nm,9.1s
WMQ LR LR
comp=Z,470nm,7.7s
WMQ LR LR
comp=Z,420nm,13.7s
MK31 Makanchi Array 77.05 321 P **P 16 10 16.9 -0.7**
MKAR Makanchi Array 77.05 321 P **P 16 10 17.1 -0.5**
comp=Z,2.2nm,0.6s,baz=97,slow=9.1,SNR=20
MKAR Makanchi Array 77.05 321 P **P 16 10 16.8 -0.8**
MAKZ Makanchi 77.25 321 P **P 16 10 17.8 -1.0**
TIXI Tiksi 78.36 354 P **P 16 10 23.2 -1.1**
comp=Z,0.8nm,0.3s,baz=360,slow=24,SNR=7.1
ZALV Zalesovo Beam 78.64 328 P **P 16 10 24.3 -1.9**
comp=Z,3.1nm,0.5s,baz=118,slow=6.5,SNR=10
ZALV Zalesovo Beam 78.64 328 P **P 16 10 24.4 -1.8**
KSH Kashi 78.85 312 P **P 16 10 31.0 +3.1**
KSH PP **PP 16 13 33.9 +6.1**
KSH S **S 16 20 18.7 +0.5**
KSH ScS **SKKSac 16 20 38.7 +2.8**
KSH sS sS 16 21 08.3 +5.7
KSH pmax pmax
comp=Z,14nm,1.1s
KSH pmax pmax
comp=Z,440nm,5.6s
KSH LR LR
comp=Z,220nm,13.0s
KSH LR LR
comp=Z,460nm,11.3s
KSH LR LR
comp=Z,350nm,12.3s
NIL Nilore 79.35 306 P **P 16 10 30.0 -0.6**
NIL IAmb IAmb 16 10 31.9
comp=Z,13nm,0.8s
KURK Kurchatov 80.79 323 P **P 16 10 36.0 -1.9**
KURBB Kurchatov Arra 80.81 323 P **P 16 10 36.0 -2.0**
comp=Z,1.5nm,0.8s,baz=120,slow=3.9,SNR=5.6
AAK Ala-Archa 80.84 315 P **P 16 10 38.0 -0.6**
comp=Z,1.7nm,0.6s,baz=140,slow=7.7,SNR=7.6
AAK Ala-Archa 80.84 315 P **P 16 10 38.1 -0.5**
MAW Mawson 81.95 203 P **P 16 10 44.3 +0.6**
comp=Z,3.9nm,0.8s,baz=27,slow=8.8,SNR=4.2
MAW Mawson 81.95 203 IAmb IAmb 16 10 46.9
comp=Z,1.6nm,0.9s
CHGR Chuyangaron 83.75 310 P **P 16 10 52.1 -1.6**
CHGR IAmb IAmb 16 12 19.9
comp=Z,44nm,1.0s
KKAR Karatay Array 83.78 314 P **P 16 10 52.6 -1.1**
QSPA South Pole Qui 83.95 180 P **P 16 10 53.9 -0.3**
NRIK Noril'sk 85.07 342 P **P 16 10 58.5 -1.1**
comp=Z,4.5nm,0.5s,baz=122,slow=4.7,SNR=15
ILAR Eielson Array 85.78 23 P **P 16 11 01.0 -2.2**
comp=Z,2.6nm,0.6s,baz=252,slow=4.8,SNR=39
WAX Waxell Ridge 85.93 28 P **P 16 11 02.7 -1.4**
SYO Syowa Base 90.33 200 || *eP* **P 16 11 24.0 -0.8**
BRTR Keskin Array B 111.19 310 **Pdif 16 12 57.2 -2.3**
VYHS Vyhne 118.68 323 *e*PKP **PKiKP 16 17 13.2 +1.2**
MODS Modra-Piesok 119.66 323 *e*PDIFF **Pdif 16 13 37.3 +0.5**
PLCA Paso Flores 122.50 147 PKP **PKiKP 16 17 20.2 +0.4**
comp=Z,2.3nm,0.6s,baz=333,slow=3.2,SNR=7.3
LPAZ La Paz 139.38 124 PKP **PKPdf 16 17 53.6 +0.8**
comp=Z,2.1nm,0.6s,baz=278,slow=6.0,SNR=7.8
CPUP Villa Florida 140.53 146 PKP **PKPdf 16 17 54.9 +1.0**
comp=Z,1.5nm,0.7s,baz=280,slow=3.2,SNR=3.2
TOA0 Torodi Ar. Sit 144.39 284 **PKPab 16 17 59.8 +0.5**
TORD Torodi Ar. Bea 144.39 284 PKP **PKPab 16 17 59.9 +0.6**
comp=Z,29nm,0.8s,baz=76,slow=3.6,SNR=135
TORD Torodi Ar. Bea 144.39 284 **PKPab 16 17 58.4 -1.0**
SAML Samuel 147.09 117 **PKPdf 16 18 06.0 +0.3**
KIC Kosan Boka 151.18 272 *e*PKP1 **PKPbc 16 18 18.6 +0.4**
comp=Z,59nm,0.7s
DBIC Dimbokro 151.30 273 PKPbc **PKPbc 16 18 19.1 +0.7**
comp=Z,33nm,0.7s,baz=83,slow=2.4,SNR=45
DBIC Dimbokro 151.30 273 **PKPbc 16 18 18.6 +0.2**
TIC Toumodi 151.46 273 *e*PKP1 **PKPbc 16 18 19.2 +0.4**
LIC Lamto 151.46 272 *e*PKP1 **PKPbc 16 18 19.3 +0.5**
comp=Z,123nm,0.6s
BDFB Brasilia 154.25 147 PKPbc **PKiKP 16 18 25.4 +0.3**
comp=Z,5.8nm,0.7s,baz=220,slow=4.4,SNR=5.8

BJI ***12*** *15:59:41.7±0.0,31°.91N×40°.95W,h6km,mb5.2/5,mB5.5/7, Ms5.1/3,Ms7 5.0/2*
IDC ***12*** *15:59:42.8±0.4,31°.84N×40°.55W,h0km,mb4.5/38, mb1 4.6/38,mb1mx4.6/49,mbtmp4.5/38,MS4.3/29, Ms1 4.3/29,ms1mx4.2/38,Error ellipse: s-maj=12.5km s-min=10.8km az=173.0*
MOS ***12*** *15:59:43.3±0.9,31°.79N×40°.59W,h12km,mb5.2/73,Error ellipse: s-maj=6.7km s-min=4.8km az=135.7*
ISCJB ***12*** *15:59:43.9±0.1,31°.80N±0°.03×40°.56W±0°.02,h14km, mb4.9/124,MS4.4/36,Error ellipse: s-maj=4.3km s-min=2.1km az=175.4*
NEIC ***12*** *15:59:44.6±1.2,31°.75N±0°.09×40°.5W±0°.1,h10km±1km, mb5.1/242*
GCMT ***12*** *15:59:46.6±0.2,32°.00N±0°.02×40°.49W±0°.01,h12km, MW5.1/114,Moment Tensor Solution. s47,c57; s114,c181; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.43±.10; Mθθ1.27±.12; Mφφ4.16±.08; Mrθ3.34±.37; Mθφ2.59±.08; Mφr-1.71±.27; Best double couple: M0=6.54200×10^16 NP1:φs236.00000°,δ53.00000°, λ-54.00000°. NP2:φs6.00000°,δ50.00000°,λ-127.00000°. Principal axes: T 5.6860, Plg1.0000°, Azm301.0000°; N 1.7110, Plg28.0000°, Azm32.0000°; P -7.3970, Plg62.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 15:59:45.5±0.3,31°.78N±0°.06×40°.59W±0°.05,h14km,n778, σ1§08/779,mb5.0/209,MS4.5/37,30C-7D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACI	**Morro de la Ar**	**21.14**	**93**	P	**P**	**16 04 29.8**	**-0.4**
MACI				IAmb	IAmb	16 04 33.3	
comp=Z,131nm,1.0s							
DRLN	**Deer Lake**	**21.59**	**329**	P	**P**	**16 04 34.8**	**0.0**
DRLN				IAmb	IAmb	16 04 43.8	
comp=Z,81nm,1.0s							
SACV	**Santiago Islan**	**22.82**	**133**	P	**P**	**16 04 48.1**	**0.0**
LMN	**Caledonia Moun**	**23.41**	**314**	P	**P**	**16 04 54.1**	**+0.2**
LMN				IAmb	IAmb	16 05 01.5	
comp=Z,64nm,1.2s							
H66A	**Whiting**	**24.54**	**310**	P	**P**	**16 05 05.2**	**+0.7**
baz=113							
SKI	**Saint Kitts**	**24.69**	**240**	P	**P**	**16 05 07.3**	**+1.1**
SKI				pmax	pmax		
comp=Z,168nm,1.0s							
SKI	**Saint Kitts**	**24.69**	**240**	P	**P**	**16 05 07.3**	**+1.1**
BATG	**Bathurst New B**	**24.85**	**316**	P	**P**	**16 05 08.4**	**+1.0**
H65A	**Eastbrook**	**25.12**	**309**	P	**P**	**16 05 11.0**	**+1.1**
baz=112							
M66A	**Nantucket**	**25.46**	**300**	P	**P**	**16 05 13.7**	**+0.8**
baz=102							
F64A	**Sherman**	**25.64**	**311**	P	**P**	**16 05 15.1**	**+0.6**
G64A	**Maxfield**	**25.67**	**310**	P	**P**	**16 05 16.7**	**+1.9**
baz=112							
PQI	**Presque Isle**	**25.76**	**313**	P	**P**	**16 05 16.2**	**+0.5**
PQI				IAmb	IAmb	16 06 01.3	
comp=Z,62nm,1.5s							
M65A	**Busby, Falmout**	**25.90**	**301**	P	**P**	**16 05 18.7**	**+1.8**
E63A	**Oxbow**	**25.91**	**312**	P	**P**	**16 05 17.9**	**+0.9**
baz=115							
E63A	**Oxbow**	**25.91**	**312**	P	**P**	**16 05 18.2**	**+1.2**
PKME	**Peaks-Kenny Pk**	**26.02**	**309**	P	**P**	**16 05 19.4**	**+1.4**
PKME				IAmb	IAmb	16 06 00.7	
comp=Z,44nm,1.2s							
D62A	**Allapoint, All**	**26.58**	**313**	P	**P**	**16 05 23.8**	**+0.8**
baz=115							
D62A	**Allapoint, All**	**26.58**	**313**	P	**P**	**16 05 23.3**	**+0.3**
D62A				IAmb	IAmb	16 05 35.4	
comp=Z,81nm,1.7s							
J63A	**Strafford**	**26.62**	**304**	P	**P**	**16 05 23.7**	**+0.2**
baz=105							
L63A	**North Scituate**	**26.67**	**301**	P	**P**	**16 05 24.2**	**+0.3**
baz=102							
E62A	**Clayton Lake**	**26.69**	**312**	P	**P**	**16 05 24.3**	**+0.3**
baz=114							
E62A	**Clayton Lake**	**26.69**	**312**	P	**P**	**16 05 24.8**	**+0.8**
PDPR	**Patillas Dam,**	**26.75**	**245**	P	**P**	**16 05 25.7**	**+0.9**
HRV	**Adam Dziewonsk**	**26.77**	**302**	P	**P**	**16 05 26.3**	**+1.5**
HRV				pmax	pmax		
comp=Z,149nm,1.7s							
HRV	**Adam Dziewonsk**	**26.77**	**302**	P	**P**	**16 05 26.3**	**+1.5**
SJG	**San Juan**	**26.80**	**246**	LR	LR	16 13 56.5	
comp=Z,314nm,21.1s,baz=72,slow=32							
MORF	**Marmelete**	**26.80**	**69**	*e*P	**P**	**16 05 29.9**	**+4.7**
MORF				*e*S	S	16 10 13.4	+12
PNCL	**Nicolau / Gran**	**26.94**	**68**	*e*P	**P**	**16 05 30.4**	**+4.0**
comp=Z,60nm,1.7s							
MESJ	**Messejana**	**27.17**	**68**	*e*P	**P**	**16 05 28.9**	**+0.5**
MESJ				AMb	AMB	16 05 30.7	
comp=Z,28nm,1.1s							
MESJ	**Messejana**	**27.17**	**68**	*e*P	**P**	**16 05 29.4**	**+1.0**
comp=Z,50nm,1.6s							
MESJ	**Messejana**	**27.17**	**68**	*e*P	**P**	**16 05 28.9**	**+0.5**
PCVE	**Castro Verde**	**27.30**	**69**	*e*P	**P**	**16 05 31.2**	**+1.6**
PBDV	**Barranco-do-Ve**	**27.37**	**69**	*e*P	**P**	**16 05 32.0**	**+1.7**
comp=Z,58nm,1.4s							
F61A	**St Evariste**	**27.39**	**310**	P	**P**	**16 05 30.5**	**+0.1**
baz=110							
PBEJ	**Beja**	**27.45**	**68**	*e*P	**P**	**16 05 32.9**	**+1.9**
comp=Z,40nm,1.5s							
PVAQ	**Vaqueiros**	**27.55**	**69**	*e*S	**S**	**16 10 19.1**	**+6.5**
PVAQ				*e*LR	LR	16 12 19.1	
comp=Z,2μm,20.0s							
WSPT	**Westport, CT**	**27.81**	**299**	P	**P**	**16 05 33.8**	**-0.3**
PCBR	**Castelo Branco**	**27.91**	**64**	*e*P	**P**	**16 05 36.0**	**+1.0**
comp=Z,31nm,1.6s							
MTE	**Manteigas**	**27.92**	**63**	*e*S	**S**	**16 10 24.9**	**+6.2**
MTE				*e*LR	LR	16 12 40.3	
comp=Z,633nm,20.0s							
PMRV	**Marv??o**	**27.93**	**65**	*e*P	**P**	**16 05 35.0**	**-0.3**
comp=Z,44nm,1.6s							
PMRV				*e*S	S	16 10 40.5	+22
PMRV				*e*LR	LR	16 12 34.4	
comp=Z,414nm,20.0s							
F60A	**Warwick**	**28.02**	**309**	P	**P**	**16 05 36.1**	**+0.1**
baz=109							
MVO	**Moncorvo**	**28.42**	**61**	*e*P	**P**	**16 05 39.8**	**+0.1**
comp=Z,35nm,1.3s							
MVO				*e*LR	LR	16 12 45.7	
comp=Z,544nm,18.0s							
I59A	**Olmsteadville**	**28.72**	**304**	P	**P**	**16 05 42.7**	**+0.5**
baz=104							
PBRG	**Braganca**	**28.73**	**60**	*e*P	**P**	**16 05 44.0**	**+1.6**

comp=Z,47nm,1.7s
MDP Montagnes des 28.85 206 LR LR 16 14 44.2
comp=Z,302nm,20.3s,baz=352,slow=31
G58A Ormstown 29.18 307 P P 16 05 45.1 -1.1
baz=106
SCHQ Schefferville 29.61 329 P P 16 05 48.5 -1.5
comp=Z,2.5nm,0.5s,baz=256,slow=8.9,SNR=3.3
SCHQ LR LR 16 16 52.0
comp=Z,2µm,19.9s,baz=139,slow=35
H57A Richville 29.93 305 P P 16 05 53.7 +0.7
baz=103
PAB San Pablo 30.29 65 P P 16 05 55.8 -0.5
PAB pmax pmax
comp=Z,12nm,1.0s
PAB San Pablo 30.29 65 P P 16 05 55.8 -0.5
U60A Pendleton 30.51 289 P P 16 05 57.8 -0.4
baz=88
ESDC Sonseca Array 30.59 65 P P 16 05 57.1 -1.8
comp=Z,6.0nm,1.0s,baz=261,slow=8.8,SNR=14
ESDC PcP PcP 16 08 57.7 +0.3
comp=Z,0.4nm,0.3s,baz=291,slow=3.2,SNR=4.3
ESDC LR LR 16 16 13.6
comp=Z,202nm,18.9s,baz=240,slow=32
ESDC Sonseca Array 30.59 65 P P 16 05 58.6 -0.4
N57A Milroy 30.93 297 P P 16 06 02.7 +0.8
baz=95
CHGQ Chibougamau 30.96 316 P P 16 06 03.1 +1.0
baz=113
R58B Mineral 31.06 292 P P 16 06 03.9 +0.8
baz=90
SSPA Standing Stone 31.18 297 P P 16 06 05.2 +1.2
baz=94
P57A Homestead Farm 31.20 295 P P 16 06 05.3 +1.1
baz=92
J55A Hilton 31.43 302 P P 16 06 06.5 +0.3
baz=99
D54A Lac Fusel, La 31.47 310 P P 16 06 06.8 +0.2
baz=106
M56A Emporium 31.47 299 P P 16 06 07.4 +0.7
baz=96
PEMO Pembroke 31.49 307 P P 16 06 07.3 +0.6
baz=103
U58A Oxford 31.64 289 P P 16 06 08.9 +0.8
baz=87
L55A Hinsdale 31.74 300 P P 16 06 09.4 +0.4
baz=97
M55A Ridgway 31.91 298 P P 16 06 11.5 +1.0
baz=95
G54A Lake Saint Pet 32.01 306 P P 16 06 11.5 +0.2
baz=102
V58A Windy Hill, Pi 32.13 288 P P 16 06 13.5 +1.0
baz=86
D53A Lac Vacive, Po 32.14 309 P P 16 06 13.9 +1.5
baz=105
T57A Hurt 32.17 290 P P 16 06 14.1 +1.2
baz=88
R56A Bull Pasture M 32.26 293 P P 16 06 13.7 0.0
baz=90
U57A Blanch 32.27 289 P P 16 06 14.7 +1.0
baz=87
G53A Haliburton 32.32 305 P P 16 06 14.9 +0.9
baz=101
L54A Sinclairville 32.39 300 P P 16 06 15.2 +0.4
baz=96
E52A Mattawa 32.59 307 P P 16 06 17.2 +0.9
baz=103
T56A Rocky Mt 32.80 290 P P 16 06 18.6 +0.3
baz=87
W57A Gilead 32.90 287 P P 16 06 20.0 +0.9
baz=84
W57A Gilead 32.90 287 P P 16 06 20.4 +1.2
W57A IAmb IAmb 16 06 28.5
comp=Z,28nm,1.2s
ALLY Alegheny Colle 32.95 299 P P 16 06 18.0 -1.7
L53A Girard 33.06 299 P P 16 06 21.7 +1.1
baz=95
W56A Indian Trail 33.38 287 P P 16 06 23.5 0.0
baz=84
U55A TA2, Sparta 33.64 289 P P 16 06 26.8 +1.1
baz=86
V55A Taylorsville 33.83 288 P P 16 06 28.2 +0.9
baz=85
T54A Tazewell 34.03 290 P P 16 06 28.5 -0.6
baz=87
257A Skidaway Islan 34.20 281 P P 16 06 31.9 +1.4
baz=79
Q52A Bidwell 34.50 294 P P 16 06 33.9 +0.8
baz=89
Y55A Saluda 34.57 285 P P 16 06 33.3 -0.5
baz=82
W54A Cherokee Point 34.69 287 P P 16 06 35.5 +0.6
baz=83
O51A Pataskala 34.75 296 P P 16 06 35.7 +0.4
baz=90
U53A Fall Branch 34.88 289 P P 16 06 37.4 +0.9
baz=85
D48A Paudash Townsh 34.89 308 P P 16 06 37.5 +1.1
baz=101
ACSO Alum Creek Sta 35.04 296 P P 16 06 38.2 +0.4
baz=90
P51A Williamsport 35.11 295 P P 16 06 39.9 +1.5
baz=89
V53A Saluda 35.14 288 P P 16 06 39.2 +0.5
baz=84
V53A Saluda 35.14 288 P P 16 06 38.8 +0.1
T52A Hallie 35.15 291 P P 16 06 39.3 +0.5
baz=86
Y54A Tignall 35.26 285 P P 16 06 40.7 +0.9
baz=82
W53A Cullowhee 35.48 287 P P 16 06 42.5 +0.8
baz=83
Z54A Sparta 35.49 284 P P 16 06 42.6 +0.9
baz=80
U52A Thorn Hill 35.51 289 P P 16 06 42.6 +0.7
baz=85
O50A Cable 35.53 296 P P 16 06 42.0 0.0
baz=90
R51A Hillsboro 35.55 293 P P 16 06 42.9 +0.7
baz=87
S51A Beattyville 35.60 292 P P 16 06 42.9 +0.4
baz=86
TZTN Tazewell 35.65 290 P P 16 06 44.1 +1.1
baz=85
TZTN Tazewell 35.65 290 P P 16 06 43.9 +0.9
TZTN IAmb IAmb 16 06 50.4
comp=Z,30nm,1.4s
P50A Jamestown 35.68 295 P P 16 06 44.6 +1.3
baz=89
V52A Sevierville 35.75 288 P P 16 06 45.2 +1.3
baz=84
J48A Bridge Port 35.76 301 P P 16 06 44.5 +0.6
baz=94
TKL Tuckaleechee C 35.92 288 P P 16 06 45.3 -0.1
comp=Z,5.2nm,0.7s,baz=97,slow=11,SNR=7.6
T51A Gray 35.93 290 P P 16 06 46.5 +1.1
baz=85
GOGA Godfrey 35.98 284 P P 16 06 46.4 +0.5
baz=80
GOGA Godfrey 35.98 284 P P 16 06 47.0 +1.1
GOGA pmax pmax
comp=Z,15nm,1.1s
GOGA Godfrey 35.98 284 P P 16 06 47.0 +1.1
K48A Perry 35.98 300 P P 16 06 46.4 +0.6
baz=93
Y53A Monroe 36.00 285 P P 16 06 46.3 +0.2
baz=81
SDV Santo Domingo 36.01 237 P P 16 06 46.7 +0.2
SDV Santo Domingo 36.01 237 eP P 16 06 48.8 +2.3
O49A Covington 36.08 296 P P 16 06 47.4 +0.7
baz=89
254A Abbeville 36.09 282 P P 16 06 48.0 +1.1
baz=79
W52A Murphy 36.11 287 P P 16 06 47.2 +0.1
baz=83
R50A Paris 36.14 293 P P 16 06 47.4 +0.2
baz=87
R50A Paris 36.14 293 P P 16 06 45.4 -1.8
R50A IAmb IAmb 16 07 18.8
comp=Z,18nm,0.8s
L48A N Adams 36.17 299 P P 16 06 47.4 0.0
baz=92
062Z Marathon 36.17 269 P P 16 06 47.6 0.0
baz=69
V51A Loudon 36.37 289 P P 16 06 49.2 0.0
baz=83
V51A Loudon 36.37 289 P P 16 06 49.8 +0.6
M48A Edgerton 36.37 298 P P 16 06 49.6 +0.4
baz=91
P49A Miami Univ. Ec 36.39 295 P P 16 06 48.7 -0.6
baz=88
FRB Frobisher Bay 36.48 339 P P 16 06 48.4 -1.5
comp=Z,12nm,0.8s,baz=143,slow=8.6,SNR=7.2
K47A Vermontville 36.62 300 P P 16 06 52.2 +0.9
baz=92
T50A Nancy 36.63 291 P P 16 06 52.5 +1.1
baz=85
U50A Jamestown 36.70 290 P P 16 06 52.3 +0.3
baz=84
W51A Cleveland 36.78 288 P P 16 06 53.2 +0.5
baz=82
V50A Pikevile 36.99 288 P P 16 06 55.4 +0.9
baz=83
T49A Edmonton 37.18 291 P P 16 06 56.8 +0.7
baz=85
Q48A North Vernon 37.20 294 P P 16 06 55.8 -0.4
baz=87,SNR=6.9
Y51A Rockmart 37.21 286 P P 16 06 56.7 +0.3
baz=81
U49A Red Boiling Sp 37.44 290 P P 16 06 58.8 +0.5
baz=84
V49A McMinnville 37.62 289 P P 16 07 00.4 +0.4
baz=83,SNR=5.6
SWET Sewanee 37.72 288 P P 16 07 01.2 +0.4
CLTN Cedars of Leba 37.93 289 P P 16 07 03.5 +1.1
W49A Belvidere 38.00 288 P P 16 07 04.0 +0.8
baz=82
Z50A Ashland 38.03 285 P P 16 07 04.6 +1.2
baz=80
Z50A Ashland 38.03 285 P P 16 07 03.6 +0.2
SFIN Lafayette 38.19 296 P P 16 07 05.5 +0.9
baz=88
SFIN Lafayette 38.19 296 P P 16 07 04.7 +0.1
SFIN IAmb IAmb 16 07 29.6
comp=Z,96nm,1.8s
E43A Lone Tree Farm 38.30 306 P P 16 07 06.8 +1.3
P46A Rosedale 38.31 295 P P 16 07 06.3 +0.7
baz=87
Y49A Blount Mountai 38.32 286 P P 16 07 06.9 +1.0
baz=80
Y49A Blount Mountai 38.32 286 P P 16 07 07.2 +1.3
V48A Smith Brothers 38.37 289 P P 16 07 06.6 +0.5
baz=82
V48A Smith Brothers 38.37 289 P P 16 07 06.0 -0.2
V48A IAmb IAmb 16 07 10.0
comp=Z,65nm,1.9s
T47A Sharon Grove 38.44 291 P P 16 07 08.0 +1.2
TAMC Tame, Arauca 38.53 236 eP P 16 07 10.6 +2.8
TAMC Tame, Arauca 38.53 236 eP P 16 07 10.6 +2.8
PAMC Pamplona, Colo 38.55 238 eP P 16 07 08.9 +0.4
PAMC Pamplona, Colo 38.55 238 eP P 16 07 08.9 +0.4
SMLC San Martn de 38.58 241 eP P 16 07 07.1 -1.0
SMLC San Martn de 38.58 241 eP P 16 07 07.1 -1.0
SJCC San Jacinto, C 38.72 243 eP P 16 07 10.6 +1.3
SJCC San Jacinto, C 38.72 243 eP P 16 07 10.6 +1.3
X48A Hartselle 38.74 287 P P 16 07 09.4 +0.1
baz=80
X48A Hartselle 38.74 287 P P 16 07 10.7 +1.3
L44A Lake County Fo 38.77 299 P P 16 07 09.8 +0.4
baz=90
BNI Bardonecchia 38.80 56 P P 16 07 10.7 +0.9
BNI pmax pmax
comp=Z,37nm,1.2s
BNI Bardonecchia 38.80 56 P P 16 07 10.7 +0.9
BNI IAmb IAmb 16 07 13.7
comp=Z,37nm,1.2s
LRAL Lakeview Retre 38.96 285 P P 16 07 11.1 0.0
baz=79
WVT Waverly 39.13 290 P P 16 07 13.4 +0.8
baz=82
WVT Waverly 39.13 290 P P 16 07 12.7 +0.2
WVT pmax pmax
comp=Z,25nm,1.4s
WVT Waverly 39.13 290 P P 16 07 12.7 +0.2
SENIN Lac Senin/Sane 39.32 54 P P 16 07 14.6 +0.3
ECH Echery 39.41 51 P P 16 07 14.7 -0.1
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 39.41 51 P P 16 07 14.7 -0.1
PLAL Pickwick Lake 39.49 288 P P 16 07 16.0 +0.4
RUSC La Rusia 39.83 237 eP P 16 07 20.3 +1.2
RUSC La Rusia 39.83 237 eP P 16 07 20.3 +1.2
ZARC Zaragoza, Cauc 40.03 240 eP P 16 07 21.2 +0.9
ZARC Zaragoza, Cauc 40.03 240 eP P 16 07 21.2 +0.9
SIUC Southern Illin 40.03 292 P P 16 07 20.8 +0.7
SIUC IAmb IAmb 16 07 29.1
comp=Z,37nm,1.3s
S44A Carbondale 40.07 292 P P 16 07 21.9 +1.6
baz=84
BFO Black Forest 40.20 51 iP P 16 07 21.8 +0.5
BFO Black Forest 40.20 51 P P 16 07 20.5 -0.8
PTGC Puerto Gaitan, 40.36 234 eP P 16 07 24.7 +1.6
PTGC Puerto Gaitan, 40.36 234 eP P 16 07 24.7 +1.6
PTBC PUERTO BERRIO, 40.37 239 eP P 16 07 22.9 -0.2
PTBC PUERTO BERRIO, 40.37 239 eP P 16 07 22.9 -0.2
G40A Rib Lake 40.47 304 P P 16 07 24.2 +0.6
baz=92
JFWS Jewell Farm 40.48 300 P P 16 07 24.6 +0.8
baz=89
JFWS Jewell Farm 40.48 300 P P 16 07 24.2 +0.5
JFWS pmax pmax
comp=Z,28nm,1.1s
JFWS Jewell Farm 40.48 300 P P 16 07 24.2 +0.5
TUE Stuetta 40.74 54 P P 16 07 26.6 +0.5
TUE IAmb IAmb 16 07 29.4
comp=Z,28nm,0.8s
FVM French Village 40.95 293 P P 16 07 27.5 -0.2
FVM pmax pmax
comp=Z,31nm,1.3s
FVM French Village 40.95 293 P P 16 07 27.5 -0.2
G39A Holcombe 41.15 304 P P 16 07 27.9 -1.3
baz=91
DAVA Damuels 41.15 53 pP P 16 07 29.6 +0.2
comp=Z,26nm,0.8s,SNR=7.5
L40A Anamosa 41.23 299 P P 16 07 29.3 -0.6
baz=87
L40A Anamosa 41.23 299 P P 16 07 30.8 +0.9
L40A IAmb IAmb 16 07 37.9
comp=Z,46nm,1.3s
NORC Norcasia 41.33 238 eP P 16 07 36.9 +5.9
NORC Norcasia 41.33 238 eP P 16 07 36.9 +5.9
DBBC Dabeiba 41.34 241 eP P 16 07 32.6 +1.3
DBBC Dabeiba 41.34 241 eP P 16 07 32.6 +1.3
KEST Kesra 41.34 70 P P 16 07 30.2 -0.8
comp=Z,14nm,0.9s,baz=306,slow=1.6,SNR=6.4
KEST LR LR 16 21 27.2
comp=Z,374nm,19.0s,baz=280,slow=32
KEST Kesra 41.34 70 IAmb IAmb 16 08 10.6
comp=Z,71nm,1.6s
HELC Santa Helena 41.39 239 eP P 16 07 31.7 -0.2
HELC Santa Helena 41.39 239 eP P 16 07 31.7 -0.2
ROSC El Rosal 41.44 237 LR LR 16 23 24.7
comp=Z,584nm,21.6s,baz=48,slow=34
E38A The Farm, Brul 41.46 306 P P 16 07 32.2 +0.5
baz=92
EYMN Ely 41.49 308 P P 16 07 32.3 +0.3
baz=94
EYMN Ely 41.49 308 P P 16 07 32.1 +0.1
VILC Villavicencio, 41.51 235 eP P 16 07 32.6 0.0
VILC Villavicencio, 41.51 235 eP P 16 07 32.6 0.0
SALO Salr 41.53 55 P P 16 07 31.8 -0.6
SALO IAmb IAmb 16 07 34.5
comp=Z,47nm,0.9s
TIC Toumodi 41.55 119 eP P 16 07 32.2 -0.6
CCM Cathedral Cave 41.59 293 P P 16 07 33.5 +0.6
baz=83
DBIC Dimbokro 41.65 119 P P 16 07 33.3 -0.3
DBIC pmax pmax
comp=Z,17nm,0.9s
DBIC Dimbokro 41.65 119 P P 16 07 32.7 -0.9
comp=Z,12nm,0.9s,baz=297,slow=11,SNR=9.2
DBIC LR LR 16 23 21.1
comp=Z,1µm,18.5s,baz=300,slow=34
DBIC Dimbokro 41.65 119 P P 16 07 33.3 -0.3
FETA Feichten 41.72 53 epP P 16 07 34.2 +0.1
comp=Z,20nm,1.3s
RETA Reutte 41.76 53 epP P 16 07 34.5 +0.2
comp=Z,26nm,0.9s
LCAR Lake Charles 41.80 290 P P 16 07 33.8 -0.8
LIC Lamto 41.82 120 eP P 16 07 34.5 -0.5
comp=Z,81nm,1.1s
ZCCA Zocca 41.84 57 P P 16 07 35.0 0.0
GUVC San Jose del G 41.90 233 eP P 16 07 39.6 +3.9
GUVC eP P 16 07 42.2 +6.5
GUVC San Jose del G 41.90 233 eP P 16 07 39.6 +3.9
GUVC eP P 16 07 42.2 +6.5
GUY2C Guyana, Caldas 41.92 238 eP P 16 07 37.8 +1.4
GUY2C eP P 16 07 38.7 +2.3
GUY2C Guyana, Caldas 41.92 238 eP P 16 07 37.8 +1.4
GUY2C eP P 16 07 38.7 +2.3
KIC Kosan Boka 41.94 119 eP P 16 07 34.8 -1.2
comp=Z,52nm,1.0s
CBOC Ciudad Bolivar 41.96 240 eP P 16 07 37.8 +1.4
CBOC Ciudad Bolivar 41.96 240 eP P 16 07 37.8 +1.4
MOTA Moosalm 41.99 53 epP P 16 07 36.4 +0.1
comp=Z,17nm,0.9s
SQTA Sankt Quirin 42.05 53 epP P 16 07 36.9 +0.2
comp=Z,47nm,0.9s,SNR=9.0
OSSC Osservatorio P 42.06 59 P P 16 07 36.8 +0.1
SPMN Marine on St. 42.30 304 P P 16 07 39.2 +0.6
WATA Walderalm 42.31 53 epP P 16 07 38.9 0.0
comp=Z,24nm,0.7s,SNR=9.4
CTI Castel Tesino 42.32 55 P P 16 07 38.3 -0.6
CTI pmax pmax
comp=Z,26nm,0.9s
CTI Castel Tesino 42.32 55 P P 16 07 38.3 -0.6
CTI IAmb IAmb 16 07 41.0
comp=Z,26nm,0.9s
TEOL Teolo 42.33 56 P P 16 07 38.4 -0.5
TEOL IAmb IAmb 16 07 40.7
comp=Z,43nm,1.1s
WTTA Wattenberg 42.34 53 epP P 16 07 39.5 +0.3
comp=Z,19nm,0.7s,SNR=9.7
FCAR Ozark Folk Cen 42.60 290 P P 16 07 41.4 +0.2
FCAR IAmb IAmb 16 07 42.9
comp=Z,68nm,1.8s
SCIA State Center 42.72 299 P P 16 07 43.1 +0.9
baz=86
SCIA State Center 42.72 299 P P 16 07 43.0 +0.9
SCIA IAmb IAmb 16 07 51.2
comp=Z,52nm,1.2s
PLMC San Jos del P 42.81 239 eP P 16 07 45.1 +2.0
PLMC San Jos del P 42.81 239 eP P 16 07 45.1 +2.0
W41B Gary Mavity, V 42.83 289 P P 16 07 43.3 +0.2
baz=79,SNR=11
W41B Gary Mavity, V 42.83 289 P P 16 07 43.4 +0.4
WHAR Wooly Hollow 42.84 289 P P 16 07 43.5 +0.4
WHAR IAmb IAmb 16 07 44.9
comp=Z,19nm,0.7s
TOA0 Torodi Ar. Sit 42.93 106 P P 16 07 45.8 +1.8
SNR=5.9
TOA0 Torodi Ar. Sit 42.93 106 P P 16 07 43.5 -0.5
TOA0 IAmb IAmb 16 07 45.3
comp=Z,28nm,1.1s
TORD Torodi Ar. Bea 42.93 106 P P 16 07 42.7 -1.3
comp=Z,20nm,1.0s,baz=306,slow=8.6,SNR=55
TORD LR LR 16 23 26.2
comp=Z,526nm,21.0s,baz=310,slow=33
TORD Torodi Ar. Bea 42.93 106 P P 16 07 41.9 -2.1
ABTA Abfaltersbach 42.93 54 epP P 16 07 43.7 -0.2
comp=Z,27nm,0.8s,SNR=7.7
UALR University of 42.98 289 P P 16 07 44.5 +0.2
UALR IAmb IAmb 16 07 46.5
comp=Z,30nm,0.7s
MACC Macarena, Meta 43.02 233 eP P 16 07 45.5 +0.7
MACC Macarena, Meta 43.02 233 eP P 16 07 45.5 +0.7
U40A Yellville 43.11 291 P P 16 07 45.8 +0.5
baz=80
U40A Yellville 43.11 291 P P 16 07 45.1 -0.2
U40A IAmb IAmb 16 07 48.3
comp=Z,49nm,1.8s
KONO Kongsberg 43.24 35 iP P 16 07 46.2 +0.2
X40A Basin Creek Fa 43.44 288 P P 16 07 48.1 +0.1
baz=78,SNR=6.0
X40A Basin Creek Fa 43.44 288 P P 16 07 48.2 +0.3
YOTC Yotoco, Valle 43.48 238 eP P 16 07 47.5 -1.2
YOTC Yotoco, Valle 43.48 238 eP P 16 07 47.5 -1.2
CLL Collm 43.50 47 P P 16 07 48.0 -0.3
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 43.50 47 eP P 16 07 48.0 -0.3
comp=Z,26nm,1.4s
CLL eSSS SSS 16 18 12.0
CLL Lm MLR 16 22 00.0
comp=N,100nm,20.8s
CLL Lm MLR 16 22 00.0
comp=E,500nm,21.2s
CLL Collm 43.50 47 P P 16 07 48.0 -0.3
KBA Koelnbreinsper 43.51 53 eP P 16 07 48.0 -0.6
comp=E,31nm,1.9s
MYKA Terra Mystica 43.71 54 pP P 16 07 51.2 +1.1
comp=E,4.6nm,0.6s
KHC Kasperske Hory 43.72 50deP P 16 07 50.6 +0.5
KHC Kasperske Hory 43.72 50 eP P 16 07 49.9 -0.3
KHC ex x 16 07 59.2
KHC ex x 16 08 08.8
KHC Kasperske Hory 43.72 50 P P 16 07 49.8 -0.3
BETC Betania 43.74 236 eP P 16 07 55.4 +4.7
BETC Betania 43.74 236 eP P 16 07 55.4 +4.7
GEC2 GERESS Array S 43.79 51 P P 16 07 50.1 -0.7
GERES GERESS Array B 43.79 51 P P 16 07 49.7 -1.1
comp=E,6.1nm,0.8s,baz=263,slow=7.4,SNR=31
GERES LR LR 16 23 36.3
comp=E,92nm,19.3s,baz=260,slow=33
WLAR White Oak Lake 43.83 287 P P 16 07 51.9 +0.8
HHAR Hobbs 43.98 291 P P 16 07 53.4 +1.0
HHAR IAmb IAmb 16 07 55.3
comp=Z,48nm,1.7s
MIAR Mount Ida 44.02 288 P P 16 07 53.7 +1.0
baz=78,SNR=5.4
MIAR Mount Ida 44.02 288 P P 16 07 53.7 +1.0
MIAR pmax pmax
comp=Z,83nm,1.9s
MIAR Mount Ida 44.02 288 P P 16 07 53.7 +1.0
MIAR IAmb IAmb 16 08 12.4
comp=Z,83nm,1.9s
BRG Berggiesshubel 44.06 48 eP P 16 07 52.3 -0.4
comp=Z,24nm,1.3s
W39A Magazine 44.06 289 P P 16 07 53.9 +0.9
baz=79
W39A Magazine 44.06 289 P P 16 07 53.5 +0.5
MOA Molln 44.14 52 P P 16 07 52.8 -0.7
comp=Z,11nm,0.9s
OBKA Obir 44.33 54 eP P 16 07 54.5 -0.6
comp=Z,27nm,0.8s,SNR=6.8
PRU Pruhonice 44.39 49 eP P 16 07 56.3 +0.9
PRU Pruhonice 44.39 49 eP P 16 07 56.3 +0.9
NB2 NORSAR Subarra 44.42 33 P P 16 07 55.4 -0.2
comp=Z,2.2nm,0.7s,baz=254,slow=7.9
NOA NORSAR Array B 44.42 33 P P 16 07 53.7 -1.9
comp=Z,4.2nm,0.8s,baz=254,slow=8.0,SNR=9.1
NOA LR LR 16 22 38.3
comp=Z,312nm,21.2s,baz=255,slow=31
AGMN Agassiz Nation 44.43 308 P P 16 07 56.0 +0.2
baz=91
AGMN Agassiz Nation 44.43 308 P P 16 07 55.9 +0.1
PVCC Panska Ves 44.43 48 eP P 16 07 55.4 -0.4
PVCC Panska Ves 44.43 48 eP P 16 07 55.4 -0.4
ULM Lac du Bonnet 44.50 311 P P 16 07 55.3 -1.0
ULM pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 44.50 311 P P 16 07 55.0 -1.3
comp=Z,6.7nm,0.7s,baz=81,slow=4.8,SNR=6.3
ULM LR LR 16 26 52.0
comp=Z,449nm,19.1s,baz=82,slow=37
ULM Lac du Bonnet 44.50 311 P P 16 07 55.3 -1.0
GOPC GO Pecny, Ondr 44.54 49 eP P 16 07 57.2 +0.5
GOPC GO Pecny, Ondr 44.54 49 eP P 16 07 57.2 +0.5
SOKA Soboth 44.66 54 P P 16 07 56.4 -1.4
comp=Z,4.8nm,0.7s
CLDB Colider 44.85 201 eP P 16 07 58.8 -0.6
CLDB Colider 44.85 201 eP P 16 07 58.8 -0.6
ARSA Arzberg 44.99 53 eP P 16 07 59.2 -1.1
comp=Z,10nm,0.9s
ECSD EROS Data Cent 45.09 302 P P 16 08 01.3 +0.2
baz=86,SNR=6.6
ECSD EROS Data Cent 45.09 302 P P 16 08 00.9 -0.2
ECSD IAmb IAmb 16 08 03.7
comp=Z,48nm,1.8s
CONA Conrad Observa 45.21 52 eP P 16 08 01.2 -1.0
comp=Z,12nm,1.0s
UPC Upice 45.35 49 eP P 16 08 03.1 0.0
UPC e 16 08 12.4
UPC Upice 45.35 49 eP P 16 08 03.1 0.0
UPC ex x 16 08 12.4
CHVC Chvalec 45.38 48 eP P 16 08 02.9 -0.5
X37A Clayton 45.46 289 P P 16 08 04.7 +0.5
X37A IAmb IAmb 16 08 18.3
comp=Z,23nm,0.9s

BBAC Balboa, Cauca 45.48 237 *e*P **P 16 08 05.9 +1.1**
BBAC Balboa, Cauca 45.48 237 *e*P **P 16 08 05.9 +1.1**
TUL1 Leonard 45.52 291 P **P 16 08 04.4 -0.2**
baz=78
TUL1 Leonard 45.52 291 P **P 16 08 04.9 +0.3**
TUL1 IAmb IAmb 16 08 07.4
comp=Z,23nm,0.8s
KSP Ksiaz 45.54 48 *e*P **P 16 08 06.7 +2.1**
KSP *e*P **P 16 08 06.7 +2.1**
DPC Dobruska-Polom 45.55 49 *e*P **P 16 08 04.4 -0.3**
DPC *e* 16 08 09.4
DPC Dobruska-Polom 45.55 49 *e*P **P 16 08 04.4 -0.3**
DPC *e*pP **sP 16 08 09.4 -0.1**
KRUC Moravsky 45.57 51 *e*P **P 16 08 04.1 -0.7**
VRAC Vranov 45.70 50 ⇑P **P 16 08 05.6 -0.3**
VRAC Vranov 45.70 50 ⇑P **P 16 08 05.6 -0.3**
VRAC Vranov 45.70 50 *e*P **P 16 08 05.4 -0.5**
KRLC Kraliky 45.83 49 *e*P **P 16 08 07.2 +0.2**
KRLC *e* 16 08 15.6
KRLC Kraliky 45.83 49 *e*P **P 16 08 07.2 +0.2**
KRLC *ex* x 16 08 15.6
SAML Samuel 45.91 212 P **P 16 08 07.5 -0.3**
SAML pmax pmax
comp=Z,17nm,0.9s
SAML Samuel 45.91 212 P **P 16 08 07.5 -0.3**
SAML IAmb IAmb 16 08 09.5
comp=Z,17nm,0.9s
SAML Samuel 45.91 212 *e*P **P 16 08 07.8 0.0**
MODS Modra-Piesok 46.16 52 *e*P **P 16 08 08.6 -0.9**
MODS pmax pmax
comp=Z,32nm,1.5s
MODS Modra-Piesok 46.16 52 *e*P **P 16 08 08.6 -0.9**
BLY Banja Luka 46.26 57 ⇑P **P 16 08 10.5 +0.2**
BLY Banja Luka 46.26 57 P **P 16 08 10.3 -0.1**
MORC Moravsky Berou 46.32 50 ⇓P **P 16 08 11.2 +0.4**
MORC Moravsky Berou 46.32 50 ⇓P **P 16 08 11.2 +0.4**
MORC Moravsky Berou 46.32 50 *e*P **P 16 08 10.2 -0.6**
MORC Moravsky Berou 46.32 50 P **P 16 08 10.1 -0.7**
JAVC Velka Javorina 46.41 51 *e*P **P 16 08 10.6 -1.0**
TIP Timpagrande 46.61 64 P **P 16 08 12.7 -0.6**
H10N2 ASCENSION HYDR 46.62 143 T T 16 57 43.9
baz=328,slow=75,SNR=1455
H10N3 ASCENSION HYDR 46.62 143 T T 16 57 44.3
baz=328,slow=75,SNR=1312
H10N1 ASCENSION HYDR 46.64 143 T T 16 57 46.2
baz=328,slow=75,SNR=1219
TULEG Thule 46.74 351 P **P 16 08 13.8 +0.2**
TULEG IAmb IAmb 16 08 25.4
comp=Z,30nm,1.2s
MDND Maddock 46.94 308 P **P 16 08 15.9 +0.2**
baz=88
MDND Maddock 46.94 308 P **P 16 08 15.8 +0.2**
HKT Hockley 47.02 283 P **P 16 08 15.7 -0.8**
HKT pmax pmax
comp=Z,12nm,1.1s
HKT Hockley 47.02 283 P **P 16 08 15.7 -0.8**
HKT IAmb IAmb 16 08 19.6
comp=Z,12nm,1.1s
VYHS Vyhne 47.19 51 *e*P **P 16 08 17.1 -0.5**
VYHS pmax pmax
comp=Z,35nm,1.8s
VYHS Vyhne 47.19 51 *e*P **P 16 08 17.1 -0.5**
OTAV Otavalo 47.59 236 *e*P **P 16 08 22.1 +0.5**
OTAV Otavalo 47.59 236 *e*P **P 16 08 22.1 +0.5**
OTAV Otavalo 47.59 236 P **P 16 08 21.7 +0.1**
OTAV pmax pmax
comp=Z,50nm,1.3s
OTAV Otavalo 47.59 236 P **P 16 08 21.7 +0.1**
OTAV Otavalo 47.59 236 *e*P **P 16 08 23.1 +1.6**
LANS Liptovska Anna 47.59 50 *e*P **P 16 08 22.9 +2.2**
LANS pmax pmax
comp=Z,7.0nm,1.3s
LANS Liptovska Anna 47.59 50 *e*P **P 16 08 22.9 +2.2**
BDFB Brasilia 47.69 190 P **P 16 08 21.8 0.0**
comp=Z,4.6nm,0.7s,baz=8.0,slow=7.5,SNR=4.6
BDFB LR LR 16 25 36.0
comp=Z,276nm,19.4s,baz=315,slow=32
BDFB Brasilia 47.69 190 IAmb IAmb 16 08 40.4
comp=Z,21nm,1.3s
OJC Ojcow 47.77 49 P **P 16 08 21.9 -0.2**
OJC pmax pmax
comp=Z,17nm,1.2s
OJC Ojcow 47.77 49 *e*P **P 16 08 24.3 +2.2**
OJC *e*P **P 16 08 24.3 +2.2**
OJC Ojcow 47.77 49 P **P 16 08 21.9 -0.2**
OJC IAmb IAmb 16 08 24.9
comp=Z,18nm,1.2s
WHTX Lake Whitney, 47.79 286 P **P 16 08 23.2 +0.7**
baz=74
WHTX Lake Whitney, 47.79 286 P **P 16 08 23.0 +0.6**
PSZ Piszkesteto 47.92 52 P **P 16 08 22.9 -0.5**
PSZ pmax pmax
comp=Z,33nm,1.6s
PSZ Piszkesteto 47.92 52 P **P 16 08 22.9 -0.5**
PSZ IAmb IAmb 16 08 30.2
comp=Z,33nm,1.6s
CBKS Cedar Bluff 48.06 296 P **P 16 08 24.9 +0.4**
baz=79
CBKS Cedar Bluff 48.06 296 P **P 16 08 25.0 +0.4**
CBKS pmax pmax
comp=Z,47nm,1.6s
CBKS Cedar Bluff 48.06 296 P **P 16 08 25.0 +0.4**
NIE Niedzica 48.12 50 *e*P **P 16 08 25.9 +1.0**
NIE *e*P **P 16 08 25.9 +1.0**
WMOK Wichita Mounta 48.17 290 P **P 16 08 25.7 +0.4**
baz=76,SNR=7.5
WMOK Wichita Mounta 48.17 290 P **P 16 08 25.8 +0.4**
WMOK pmax pmax
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 48.17 290 P **P 16 08 25.8 +0.4**
435B Jarrell 48.23 285 P **P 16 08 26.4 +0.4**
ARAG Araguaiana, MT 48.43 195 *e*P **P 16 08 28.1 +0.7**
ARAG Araguaiana, MT 48.43 195 *e*P **P 16 08 28.1 +0.7**
FFC Flin Flon 48.43 317 P **P 16 08 26.5 -0.6**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 48.43 317 P **P 16 08 26.5 -0.6**
FFC IAmb IAmb 16 08 29.2
comp=Z,12nm,0.9s
SIRR Siria 49.26 54 ⇑P **P 16 08 33.7 +0.1**
BZS Buzias 49.30 55 ⇑P **P 16 08 34.4 +0.5**
BZS Buzias 49.30 55 ⇑P **P 16 08 34.4 +0.5**
ABTX Abilene, Hawle 49.40 288 P **P 16 08 35.5 +0.6**
baz=74
ABTX Abilene, Hawle 49.40 288 P **P 16 08 35.3 +0.4**
ABTX IAmb IAmb 16 08 38.0
comp=Z,20nm,0.9s
OGNE Ogallala 49.42 299 P **P 16 08 35.7 +0.7**
baz=80
OGNE Ogallala 49.42 299 P **P 16 08 35.2 +0.2**
OGNE IAmb IAmb 16 08 42.9
comp=Z,23nm,1.1s
KOLS Kolonicke sedl 49.44 51 *e*P **P 16 08 35.7 +0.7**
KOLS Kolonicke sedl 49.44 51 *e*P **P 16 08 35.7 +0.7**
UZH Uzhgorod 49.48 51 *e*P **P 16 08 35.4 +0.2**
UZH *e* 16 08 41.5
SKO Skopje 49.67 60 *i*P **P 16 08 38.4 +1.5**
TRPA Tarpa 49.68 52 ⇑P **P 16 08 37.4 +0.6**
HERR Herculane 49.95 56 ⇓P **P 16 08 38.4 -0.5**
DGMT Dagmar 49.97 309 P **P 16 08 39.3 +0.2**
baz=85
DGMT Dagmar 49.97 309 P **P 16 08 39.4 +0.4**
DGMT IAmb IAmb 16 08 47.3
comp=Z,17nm,1.0s
GZR Gura Zlata 50.14 55 ⇑P **P 16 08 40.6 +0.2**
GZR Gura Zlata 50.14 55 ⇑P **P 16 08 40.6 +0.2**
JCT Junction City 50.15 285 P **P 16 08 40.9 +0.2**
baz=72
JCT Junction City 50.15 285 P **P 16 08 40.3 -0.3**
JCT pmax pmax
comp=Z,28nm,1.0s
JCT Junction City 50.15 285 P **P 16 08 40.3 -0.3**
JCT IAmb IAmb 16 08 49.3
comp=Z,28nm,0.9s
KSCO Kaye Shedlock' 50.23 296 P **P 16 08 41.5 +0.3**
baz=78
KSCO Kaye Shedlock' 50.23 296 P **P 16 08 40.8 -0.4**
KSCO IAmb IAmb 16 08 43.3
comp=Z,22nm,1.1s
STIP Stip 50.27 60 *i*P **P 16 08 42.5 +1.1**
RES Resolute Bay 50.41 344 P **P 16 08 42.3 +0.4**
RES pmax pmax
comp=Z,18nm,1.2s
RES Resolute Bay 50.41 344 P **P 16 08 41.0 -0.8**
comp=Z,6.4nm,1.1s,baz=107,slow=8.5,SNR=7.6
RES Resolute Bay 50.41 344 P **P 16 08 42.3 +0.4**
RES IAmb IAmb 16 08 50.0
comp=Z,18nm,1.1s
AMTX Amarillo 50.44 291 P **P 16 08 43.6 +0.7**
baz=75
AMTX Amarillo 50.44 291 P **P 16 08 43.9 +1.1**
LVV L'vov 50.52 49 *e*P **P 16 08 42.9 -0.2**
VAY Valandovo 50.62 60 *i*P **P 16 08 45.1 +1.1**
VTS Vitosha 50.88 59 ⇓P **P 16 08 46.3 +0.2**
VTS Vitosha 50.88 59 ⇓P **P 16 08 46.3 +0.2**
VTS Vitosha 50.88 59 P **P 16 08 46.0 -0.1**
BUR08 Bucovina Ar. S 51.51 52 P **P 16 08 51.6 +0.9**
BUR08 IAmb IAmb 16 08 57.6
comp=Z,50nm,1.8s
BURAR Bucovina Array 51.53 52 ⇑P **P 16 08 51.9 +1.0**
BURAR Bucovina Array 51.53 52 ⇑P **P 16 08 51.9 +1.0**
BURAR Bucovina Array 51.53 52 P **P 16 08 50.7 -0.1**
LAO LASA Array 51.53 307 P **P 16 08 51.3 +0.4**
baz=82,SNR=5.9
LAO LASA Array 51.53 307 P **P 16 08 51.0 +0.1**
FINES FINESS Array B 51.55 34 P **P 16 08 50.2 -0.5**
comp=Z,6.3nm,0.8s,baz=243,slow=8.4,SNR=8.6
FINES LR LR 16 28 47.7
comp=Z,220nm,18.4s,baz=250,slow=34
MSTX Muleshoe 51.55 290 P **P 16 08 51.6 +0.3**
baz=74,SNR=10
MSTX Muleshoe 51.55 290 P **P 16 08 51.5 +0.3**
MSTX IAmb IAmb 16 08 59.6
comp=Z,26nm,1.1s
VOIR 51.72 55 ⇑P **P 16 08 51.8 -0.5**
VOIR 51.72 55 ⇑P **P 16 08 51.8 -0.5**
VSU Vasula 51.79 38 *i*P **P 16 08 53.3 +0.8**
VSU pmax pmax
comp=Z,54nm,0.9s
DOPR Dopca 51.87 54 ⇑P **P 16 08 53.1 -0.2**
PHWY Pilot Hill 51.89 300 P **P 16 08 53.3 -0.7**
OZUR 52.12 54 ⇑P **P 16 08 57.2 +2.0**
BIZ Bicaz 52.22 53 ⇑P **P 16 08 56.9 +1.0**
ARCES ARCESS Array B 52.26 24 P **P 16 08 55.7 -0.2**
ARCES ARCESS Array B 52.26 24 P **P 16 08 54.6 -1.3**
comp=Z,5.3nm,0.8s,baz=262,slow=6.9,SNR=8.9
ARCES ARCESS Array B 52.26 24 P **P 16 08 55.7 -0.2**
ISCO Idaho Springs 52.32 298 P **P 16 08 58.7 +1.5**
baz=77,SNR=7.1
ISCO Idaho Springs 52.32 298 P **P 16 08 58.1 +0.9**
ISCO pmax pmax
comp=Z,42nm,1.9s
ISCO Idaho Springs 52.32 298 P **P 16 08 58.1 +0.9**
ISCO IAmb IAmb 16 08 59.7
comp=Z,42nm,1.9s
MLR Muntele Rosu 52.33 55 ⇑P **P 16 08 57.2 +0.3**
MLR Muntele Rosu 52.33 55 ⇑P **P 16 08 57.2 +0.3**
MLR Muntele Rosu 52.33 55 P **P 16 08 56.0 -0.9**
N23A Red Feather La 52.34 299 P **P 16 08 57.8 +0.6**
baz=78
N23A Red Feather La 52.34 299 P **P 16 08 58.0 +0.8**
N23A IAmb IAmb 16 09 06.5
comp=Z,24nm,1.1s
K22A Casper 52.41 302 P **P 16 08 56.9 -0.7**
baz=79
K22A Casper 52.41 302 P **P 16 08 56.7 -0.9**
MICGM Minsk 52.55 43 *e* **P 16 08 57.0 -1.2**
MNK Minsk 52.55 43 *e*P **P 16 08 57.0 -1.2**
ELND Elena 52.73 58 ⇑P **P 16 08 59.6 -0.2**
PLOR Plostina 52.76 54 ⇑P **P 16 09 00.3 +0.3**
PLOR Plostina 52.76 54 ⇑P **P 16 09 00.3 +0.3**
VRI Vrincioaia 52.81 54 ⇑P **P 16 09 01.7 +1.4**
VRI Vrincioaia 52.81 54 ⇑P **P 16 09 01.7 +1.4**
BISRR Bisoca 52.85 54 ⇑P **P 16 09 01.7 +1.0**
RWWY Rawlins 53.10 301 P **P 16 09 02.4 -0.5**
RWWY IAmb IAmb 16 09 10.0
comp=Z,17nm,0.9s
GDL2 Guadalupe Moun 53.34 289 P **P 16 09 04.1 -0.5**
SMCO Snowmass 53.49 298 P **P 16 09 06.6 +0.7**
SMCO IAmb IAmb 16 09 08.6
comp=Z,60nm,2.0s
TXAR Lajitas Array 53.69 285 P **P 16 09 07.2 +0.1**
comp=Z,3.3nm,0.8s,baz=97,slow=8.2,SNR=14
TXAR LR LR 16 29 47.1
comp=Z,243nm,21.8s,baz=0.0,slow=34
TXAR Lajitas Array 53.69 285 P **P 16 09 07.0 -0.2**
TX32 Lajitas Array 53.69 285 P **P 16 09 06.7 -0.4**
EGMT Eagleton 53.71 309 P **P 16 09 07.2 +0.1**
baz=81
EGMT Eagleton 53.71 309 P **P 16 09 07.2 +0.1**
S22A 4UR Ranch, Cre 53.74 296 P **P 16 09 08.0 +0.4**
baz=75
S22A 4UR Ranch, Cre 53.74 296 P **P 16 09 08.2 +0.6**
AKASG Malin Array Be 53.74 48 *i*P **P 16 09 05.9 -1.1**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 53.74 48 P **P 16 09 05.5 -1.6**
comp=Z,6.2nm,0.7s,baz=276,slow=6.4,SNR=29
AKASG LR LR 16 30 02.8
comp=Z,263nm,18.2s,baz=280,slow=34
AKASG Malin Array Be 53.74 48 P **P 16 09 04.9 -2.1**
AKBB Malin Array Si 53.74 48 P **P 16 09 05.6 -1.4**
AKBB IAmb IAmb 16 09 08.6
comp=Z,31nm,1.4s
RLMT Red Lodge 53.89 305 P **P 16 09 09.9 +1.4**
baz=79,SNR=6.7
RLMT Red Lodge 53.89 305 P **P 16 09 09.1 +0.6**
AQDB Aquidauana 53.95 198 *e*P **P 16 09 09.1 +0.3**
AQDB Aquidauana 53.95 198 *e*P **P 16 09 09.1 +0.3**
GCMT Greycliff 54.04 306 P **P 16 09 09.8 +0.2**
ANMO Albuquerque 54.20 292 P **P 16 09 12.1 +1.1**
baz=73
ANMO Albuquerque 54.20 292 *ce*P **P 16 09 12.7 +1.7**
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 54.20 292 P **P 16 09 10.8 -0.2**
ANMO IAmb IAmb 16 09 14.2
comp=Z,36nm,1.8s
O20A White River Ci 54.21 299 P **P 16 09 12.0 +1.1**
baz=76
O20A White River Ci 54.21 299 P **P 16 09 11.6 +0.6**
MNTX Cornudas Mount 54.32 288 P **P 16 09 12.2 +0.6**
baz=72
MNTX Cornudas Mount 54.32 288 P **P 16 09 11.8 +0.1**
BNM Barren Site 54.57 292 P **P 16 09 14.1 +0.4**
BW06 Boulder Array 54.57 302 P **P 16 09 13.7 +0.1**
baz=77,SNR=30
BW06 Boulder Array 54.57 302 P **P 16 09 12.9 -0.7**
PD31 Pinedale Array 54.57 302 P **P 16 09 12.9 -0.6**
PD31 IAmb IAmb 16 09 21.4
comp=Z,28nm,1.0s
PDAR Pinedale Array 54.57 302 P **P 16 09 13.1 -0.6**
comp=Z,6.5nm,0.7s,baz=83,slow=7.8,SNR=43
PDAR LR LR 16 32 04.1
comp=Z,1μm,18.1s,baz=104,slow=36
PDAR Pinedale Array 54.57 302 P **P 16 09 13.0 -0.6**
YMP Mirror Lake Pl 54.58 305 P **P 16 09 14.3 +0.6**
LPAZ La Paz 54.62 213 P **P 16 09 14.4 0.0**
LPAZ pmax pmax
comp=Z,21nm,1.1s
LPAZ La Paz 54.62 213 P **P 16 09 14.5 0.0**
comp=Z,7.9nm,0.8s,baz=3.2,slow=6.1,SNR=34
LPAZ LR LR 16 31 09.0
comp=Z,366nm,19.8s,baz=8.0,slow=34
LPAZ La Paz 54.62 213 P **P 16 09 14.4 0.0**
LPAZ IAmb IAmb 16 09 18.7
comp=Z,21nm,1.1s
LPAZ La Paz 54.62 213 *e*P **P 16 09 15.1 +0.6**
LKWY Lake 54.79 305 P **P 16 09 15.9 +0.8**
LKWY pmax pmax
comp=Z,12nm,0.9s
LKWY Lake 54.79 305 P **P 16 09 15.9 +0.8**
LKWY IAmb IAmb 16 09 40.4
comp=Z,12nm,0.8s
H17A Grant Village 54.95 305 P **P 16 09 17.6 +1.4**
baz=78
H17A Grant Village 54.95 305 P **P 16 09 16.0 -0.3**
PV22 Blue Mesa, Par 55.02 297 P **P 16 09 16.5 -0.4**
PV22 IAmb IAmb 16 09 21.0
comp=Z,36nm,1.9s
YKA Yellowknife Ar 55.03 327 P **P 16 09 14.5 -1.8**
comp=Z,2.1nm,0.7s,baz=85,slow=7.7,SNR=7.4
YKA PcP **PcP 16 10 16.2 -1.5**
comp=Z,1.6nm,0.8s,baz=96,slow=4.9,SNR=4.0
YKA LR LR 16 32 41.0
comp=Z,82nm,18.4s,baz=80,slow=36
YHH Holmes Hill 55.05 305 P **P 16 09 17.6 +0.5**
RDMU Red Mountain 55.09 300 P **P 16 09 16.8 -0.5**
FLWY Flagg Ranch 55.10 304 P **P 16 09 17.5 +0.2**
FLWY IAmb IAmb 16 09 20.7
comp=Z,22nm,1.2s
MVCO Mesa Verde 55.16 296 P **P 16 09 18.7 +0.8**
baz=74,SNR=5.1
MVCO Mesa Verde 55.16 296 P **P 16 09 18.3 +0.4**
MVCO IAmb IAmb 16 09 47.5
comp=Z,18nm,1.4s
PV21 Cone Mtn., Par 55.16 297 P **P 16 09 17.4 -0.5**
PV21 IAmb IAmb 16 09 20.6
comp=Z,41nm,2.0s
YMR Madison River 55.16 305 P **P 16 09 17.9 +0.2**
MOOW Moose Ponds 55.20 304 P **P 16 09 17.3 -0.8**
YHL Hebgen Lake 55.27 305 P **P 16 09 19.7 +1.0**
SNOW Snow King Moun 55.27 304 P **P 16 09 19.1 +0.5**
SNOW IAmb IAmb 16 09 27.1
comp=Z,28nm,0.9s
YHB Horse Butte 55.30 305 P **P 16 09 18.7 -0.1**
IMW Indian Meadow 55.31 304 P **P 16 09 18.7 -0.2**
HRY Holter Researc 55.34 308 P **P 16 09 18.7 -0.2**
REDW Red Top Meadow 55.37 303 P **P 16 09 19.2 -0.1**
TPAW Teton Pass 55.41 304 P **P 16 09 19.6 0.0**
TPAW IAmb IAmb 16 09 28.7
comp=Z,15nm,0.9s
FXWY Fox Creek 55.43 304 P **P 16 09 19.8 +0.1**
FXWY IAmb IAmb 16 09 27.9
comp=Z,14nm,1.1s
QLMT Earthquake Lak 55.45 305 P **P 16 09 20.6 +0.7**
AHID Auburn Hatcher 55.68 303 P **P 16 09 21.1 -0.4**
LRM Limekiln Ridge 55.94 307 P **P 16 09 22.9 -0.5**
121A Cookes Peak, D 55.99 290 P **P 16 09 24.8 +0.9**
baz=71
121A Cookes Peak, D 55.99 290 P **P 16 09 24.0 +0.2**
121A IAmb IAmb 16 09 27.0
comp=Z,46nm,1.7s
DLMT Dillon 56.14 306 P **P 16 09 25.0 +0.3**
DLMT IAmb IAmb 16 09 32.7
comp=Z,20nm,1.1s
SRU San Rafael Swe 56.18 298 P **P 16 09 25.0 -0.1**
SRU pmax pmax
comp=Z,57nm,1.8s
SRU San Rafael Swe 56.18 298 P **P 16 09 25.0 -0.1**
HPIG 56.18 283 P **P 16 09 25.4 0.0**
HPIG IAmb IAmb 16 09 34.4
comp=Z,22nm,1.0s
WALA Waterton Lakes 56.25 311 P **P 16 09 24.6 -0.8**
WALA IAmb IAmb 16 09 31.2
comp=Z,12nm,0.9s
TCUT Toone Canyon 56.31 301 P **P 16 09 25.7 -0.4**
MCMT McKenzie Canyo 56.43 306 P **P 16 09 26.7 -0.3**
JLU Jordanelle 56.47 300 P **P 16 09 27.6 +0.4**
TMUT Trail Mountain 56.64 299 P **P 16 09 28.3 -0.3**
CTU Camp Tracy 56.67 301 P **P 16 09 28.5 -0.1**
Q16A Castle Valley 56.72 298 P **P 16 09 29.6 +0.6**
MSO Missoula 56.73 308 P **P 16 09 29.1 +0.2**
baz=77
MSO Missoula 56.73 308 P **P 16 09 28.8 0.0**
JTMT Jette 56.76 309 P **P 16 09 29.1 0.0**
JTMT IAmb IAmb 16 09 37.3
comp=Z,27nm,1.8s
SPUT South Promonto 57.02 301 P **P 16 09 30.7 -0.4**
NLU North Lily Min 57.10 300 P **P 16 09 31.9 +0.1**
HVU Hansel Valley 57.13 302 P **P 16 09 32.0 +0.2**
HVU pmax pmax
comp=Z,10.0nm,1.1s
HVU Hansel Valley 57.13 302 P **P 16 09 32.0 +0.2**
OBN Obninsk 57.47 42 *e*P **P 16 09 33.9 +0.2**
OBN *e* 16 10 28.2
OBN *e* 16 11 42.6
OBN *e*PPP PPP 16 12 57.0
OBN pmax pmax
comp=Z,18nm,0.9s
OBN Obninsk 57.47 42 P **P 16 09 33.5 -0.3**
BGU Big Grassy Mou 57.54 301 P **P 16 09 34.2 -0.5**
DUG Dugway, Tooele 57.58 300 P **P 16 09 35.7 +0.6**
baz=74,SNR=15
DUG Dugway, Tooele 57.58 300 P **P 16 09 35.2 +0.2**
DUG pmax pmax
comp=Z,24nm,1.2s
DUG Dugway, Tooele 57.58 300 P **P 16 09 35.2 +0.2**
DUG IAmb IAmb 16 09 43.2
comp=Z,24nm,1.2s
MSU Marysvale 57.59 298 P **P 16 09 36.0 +0.8**
MSU Marysvale 57.59 298 P **P 16 09 36.0 +0.8**
MTPU Mount Pierson 57.73 298 P **P 16 09 37.1 +0.7**
MNMC Minye Minye 57.77 213 P **P 16 09 35.4 -1.1**
WUAZ Wupatki 57.87 295 P **P 16 09 37.7 +0.5**
baz=72
WUAZ Wupatki 57.87 295 P **P 16 09 37.2 +0.1**
WUAZ IAmb IAmb 16 09 41.2
comp=Z,46nm,1.8s
MOS Moscow 57.95 41 *e*P **P 16 09 37.2 +0.1**
MOS pmax pmax
comp=Z,45nm,0.9s
MOS MLR MLR
comp=Z,600nm,19.0s
GO01 Chusmiza 58.05 212 P **P 16 09 37.8 -1.0**
KLMR Klimovskoe 58.08 35 *e*P **P 16 09 36.8 -1.2**
KLMR pmax pmax
comp=Z,30nm,1.5s
KLMR Klimovskoe 58.08 35 *e*P **P 16 09 36.8 -1.2**
KLMR AMP 16 09 40.6
comp=Z,30nm,1.5s
X16A Lo Mia Camp, P 58.28 293 P **P 16 09 40.7 +0.7**
PB11 IPOC Station P 58.34 213 P **P 16 09 39.1 -1.3**
TUC Tucson 58.46 291 P **P 16 09 40.7 -0.5**
TUC pmax pmax
comp=Z,18nm,1.7s
TUC Tucson 58.46 291 P **P 16 09 40.7 -0.5**
A36M Sachs Harbour 58.48 339 P **P 16 09 41.0 +0.4**
baz=84
NEW Newport 58.50 310 P **P 16 09 41.3 +0.1**
baz=76
NEW Newport 58.50 310 P **P 16 09 40.8 -0.4**
NEW pmax pmax
comp=Z,19nm,1.2s
NEW Newport 58.50 310 P **P 16 09 40.8 -0.4**
NEW IAmb IAmb 16 09 49.0
comp=Z,19nm,1.1s
KNB Kanab 58.52 297 P **P 16 09 41.9 +0.2**
KNB pmax pmax
comp=Z,44nm,1.9s
KNB Kanab 58.52 297 P **P 16 09 41.9 +0.2**
PLID Pearl Lake 58.54 307 P **P 16 09 41.9 +0.1**
PLID IAmb IAmb 16 09 50.1
comp=Z,20nm,1.1s
SZCU Shurtz Canyon 58.54 297 P **P 16 09 42.0 +0.1**
CCUT Cedar City 58.77 297 P **P 16 09 43.8 +0.3**
PSUT Pine Spring 58.84 299 P **P 16 09 44.7 +0.8**
MFID Camas Ranch 58.86 305 P **P 16 09 44.3 +0.4**
F10A Beach Ranch, E 59.14 308 P **P 16 09 45.4 -0.4**
F10A IAmb IAmb 16 09 53.6
comp=Z,14nm,1.2s
BR131 Keskin Array S 59.19 60 P **P 16 09 45.9 -0.4**
BR131 pmax pmax
comp=Z,7.0nm,1.1s
BR131 Keskin Array S 59.19 60 P **P 16 09 45.9 -0.4**
BRTR Keskin Array B 59.19 60 *i*P **P 16 09 46.5 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 59.19 60 P **P 16 09 45.5 -0.8**
comp=Z,3.3nm,0.8s,baz=263,slow=4.8,SNR=17
BRTR Keskin Array B 59.19 60 P **P 16 09 45.7 -0.6**
ELK Elko 59.20 301 P **P 16 09 46.0 -0.4**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 59.20 301 P **P 16 09 46.0 -0.4**
LPSR Galich'ya Gora 59.34 44 *e*P **P 16 09 46.3 -0.6**
LPSR pmax pmax
comp=Z,70nm,0.9s
Y14A Wickenburg 59.66 293 P **P 16 09 49.6 +0.1**
Y14A IAmb IAmb 16 09 52.6
comp=Z,22nm,1.5s
VSR Storozhevoye 59.81 46 *e*P **P 16 09 48.4 -1.8**
VSR pmax pmax
comp=Z,30nm,1.0s
CPUP Villa Florida 59.96 197 P **P 16 09 50.9 -0.4**
comp=Z,2.5nm,0.8s,baz=51,slow=9.4,SNR=5.2
CPUP LR LR 16 35 18.9
comp=Z,78nm,18.1s,baz=16,slow=36
CPUP Villa Florida 59.96 197 IAmb IAmb 16 09 52.3
comp=Z,18nm,1.3s
R11A Troy Canyon, C 60.19 299 P **P 16 09 54.1 +0.9**
baz=71,SNR=8.8

R11A Troy Canyon, C 60.19 299 P **P 16 09 52.5 -0.7**
214A Organ Pipe Nat 60.19 291 P **P 16 09 54.1 +0.9**
baz=69
E08A Dider Farm, El 60.23 309 P **P 16 09 51.9 -1.2**
ANN Anapa 60.40 53 *e*P **P 16 09 52.7 -1.6**
ANN pmax pmax
comp=Z,117nm,1.6s
PDMCI Parker Dam,Lak 60.42 294 P **P 16 09 55.4 +0.8**
baz=70
SHPR Sheep Range 60.46 297 P **P 16 09 54.3 -0.8**
SHPR IAmb IAmb 16 09 58.1
comp=Z,30nm,1.9s
G08A Pilot Rock 60.50 307 P **P 16 09 54.6 -0.5**
G08A IAmb IAmb 16 10 24.6
comp=Z,18nm,1.5s
LVC Limon Verde 60.50 210 P **P 16 09 54.7 -0.9**
LVC pmax pmax
comp=Z,49nm,2.0s
LVC Limon Verde 60.50 210 P **P 16 09 54.7 -0.9**
LVC Limon Verde 60.50 210 *e*P **P 16 09 54.9 -0.7**
HAWA Hanford 60.57 309 P **P 16 09 54.8 -0.6**
113A Mohawk Valley, 60.66 292 P **P 16 09 57.0 +0.7**
113A IAmb IAmb 16 09 59.1
comp=Z,19nm,1.4s
BMN Battle Mountai 60.73 302 P **P 16 09 57.1 +0.2**
BMN pmax pmax
comp=Z,33nm,1.8s
BMN Battle Mountai 60.73 302 P **P 16 09 57.1 +0.2**
BMN IAmb IAmb 16 09 58.9
comp=Z,33nm,1.8s
Y12C Blythe 60.91 294 P **P 16 09 59.3 +1.3**
baz=69
LTY Liberty 61.08 310 P **P 16 09 58.6 -0.3**
WVOR Wild Horse Val 61.12 304 P **P 16 09 58.0 -1.5**
WVOR pmax pmax
comp=Z,31nm,1.5s
WVOR Wild Horse Val 61.12 304 P **P 16 09 58.0 -1.5**
WVOR IAmb IAmb 16 10 02.6
comp=Z,31nm,1.5s
TPNV Topopah Spring 61.14 298 P **P 16 10 01.1 +1.4**
baz=70,SNR=11
TPNV Topopah Spring 61.14 298 P **P 16 09 58.4 -1.3**
TPNV pmax pmax
comp=Z,13nm,1.1s
TPNV Topopah Spring 61.14 298 P **P 16 09 58.4 -1.3**
TPNV IAmb IAmb 16 10 08.6
comp=Z,13nm,1.1s
IRM Iron Mountain 61.25 294 P **P 16 10 01.7 +1.3**
baz=69,SNR=5.7
VRH Novokhopyorsk 61.37 45 *e*P **P 16 10 00.2 -0.6**
VRH pmax pmax
comp=Z,30nm,0.7s
GLA Glamis 61.39 293 P **P 16 10 02.8 +1.4**
baz=69
GMRC Granite Mounta 61.43 295 P **P 16 10 03.1 +1.4**
baz=70,SNR=5.1
B05A Bryant 61.71 311 P **P 16 10 02.0 -1.1**
baz=73
FURC Furnace Creek, 61.77 297 P **P 16 10 05.0 +1.3**
baz=70
KVN Kaiserville 61.82 300 P **P 16 10 03.9 -0.4**
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 61.82 300 P **P 16 10 03.9 -0.4**
KVN IAmb IAmb 16 10 11.7
comp=Z,13nm,1.1s
HEC Hector,Ludlow 61.93 295 P **P 16 10 06.4 +1.4**
baz=69
INK Inuvik 61.94 335 P **P 16 10 04.5 +0.2**
INK pmax pmax
comp=Z,22nm,1.0s
INK Inuvik 61.94 335 P **P 16 10 04.1 -0.3**
comp=Z,9.2nm,0.8s,baz=43,slow=9.6,SNR=14
INK LR LR 16 36 41.1
comp=Z,661nm,18.9s,baz=74,slow=36
INK Inuvik 61.94 335 P **P 16 10 04.5 +0.2**
GRAC Grapevine Rang 61.97 298 P **P 16 10 05.8 +0.7**
baz=70
BELC Belle Mtn. Jos 61.97 294 P **P 16 10 06.6 +1.3**
baz=69
F05D White Salmon 62.00 309 P **P 16 10 05.7 +0.5**
baz=72
NV11 Mina Array Sit 62.07 300 P **P 16 10 05.9 0.0**
NV11 IAmb IAmb 16 10 33.5
comp=Z,16nm,1.4s
GSC Goldstone, Bar 62.13 296 P **P 16 10 07.5 +1.2**
baz=69
GSC Goldstone, Bar 62.13 296 P **P 16 10 07.2 +0.9**
GSC pmax pmax
comp=Z,31nm,1.7s
GSC Goldstone, Bar 62.13 296 P **P 16 10 07.2 +0.9**
GSC IAmb IAmb 16 10 09.5
comp=Z,31nm,1.7s
NVAR Mina Array Bea 62.18 300 P **P 16 10 06.5 -0.3**
comp=Z,3.3nm,0.7s,baz=72,slow=6.6,SNR=14
NVAR LR LR 16 36 25.4
comp=Z,1μm,18.9s,baz=79,slow=36
RYN Ryan 62.27 300 P **P 16 10 07.2 -0.1**
RYN IAmb IAmb 16 10 09.1
comp=Z,14nm,1.4s
MPMC Manual Prospec 62.38 297 P **P 16 10 09.6 +1.5**
baz=69,SNR=15
I05D Terrebonne, OR 62.40 307 P **P 16 10 09.1 +1.2**
baz=72
D04E Lakebay 62.47 310 P **P 16 10 08.8 +0.6**
baz=72
MOD Modoc Plateau 62.47 304 P **P 16 10 09.1 +0.5**
PFO Pinyon Flats O 62.47 294 P **P 16 10 09.4 +0.8**
baz=69
PFO Pinyon Flats O 62.47 294 *i*P **P 16 10 08.6 0.0**
PFO pmax pmax
comp=Z,6.0nm,1.1s
PAHR Pah Rah Range 62.54 301 P **P 16 10 09.3 +0.2**
PAHR IAmb IAmb 16 10 10.9
comp=Z,17nm,1.1s
IKP In-Ko-Pah, Jac 62.54 293 P **P 16 10 09.6 +0.5**
baz=68
J05D Fort Rock, OR 62.67 306 P **P 16 10 09.8 -0.1**
baz=71
CWC Cottonwood Cre 62.70 298 P **P 16 10 11.1 +0.9**
baz=69
MONP2 Monument Peak 62.70 293 P **P 16 10 11.2 +0.9**
baz=68
LRMC Laurel Mtn Rad 62.73 296 P **P 16 10 11.7 +1.3**
baz=69
MMAI Mount Meron Ar 62.78 66 LR LR 16 38 04.8
comp=Z,57nm,18.2s,baz=340,slow=37
BFSC Mount Baldy Ra 63.16 295 P **P 16 10 13.5 +0.2**
baz=68
EDW2 Edwards Air Fo 63.19 296 P **P 16 10 14.2 +0.8**
baz=69
BEKR Beckworth 63.19 302 P **P 16 10 12.9 -0.5**
BEKR IAmb IAmb 16 10 15.0
comp=Z,29nm,2.0s
K04D Chiloquin, OR 63.24 305 P **P 16 10 14.2 +0.5**
baz=70
DLBC Dease Lake 63.24 324 P **P 16 10 13.4 +0.1**
DLBC IAmb IAmb 16 10 15.9
comp=Z,11nm,1.0s
ISA Isabella, Lake 63.27 297 P **P 16 10 15.9 +2.0**
baz=69,SNR=6.7
ISA Isabella, Lake 63.27 297 P **P 16 10 13.3 -0.6**
ISA pmax pmax
comp=Z,40nm,1.7s
ISA Isabella, Lake 63.27 297 P **P 16 10 13.3 -0.6**
G03D McMinnville, O 63.42 308 P **P 16 10 14.5 0.0**
baz=71
KIRV Kirov 63.48 36 LR LR 16 34 44.6
comp=Z,322nm,21.2s,baz=271,slow=33
M04C Macdoel 63.59 304 P **P 16 10 16.3 +0.3**
baz=70
EPYK Eagle Plains 63.70 333 P **P 16 10 16.5 +0.3**
baz=71
EPYK Eagle Plains 63.70 333 P **P 16 10 16.5 +0.3**
O03E Paynes Creek 64.08 303 P **P 16 10 19.7 +0.6**
baz=69
GOF Gofitskoye 64.10 52⇑ *e*P **P 16 10 19.9 +0.8**
GOF pmax pmax
comp=Z,28nm,1.0s
ORV Oroville 64.12 302 P **P 16 10 19.0 -0.4**
ORV pmax pmax
comp=Z,16nm,1.4s
ORV Oroville 64.12 302 P **P 16 10 19.0 -0.4**
ORV IAmb IAmb 16 10 21.1
comp=Z,16nm,1.4s
I02D Swisshome 64.18 307 P **P 16 10 20.7 +1.1**
baz=70
KIV Kislovodsk 64.24 53 P **P 16 10 20.9 +0.7**
SNR=7.0
KIV Kislovodsk 64.24 53 *e*P **P 16 10 21.4 +1.2**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV Kislovodsk 64.24 53 P **P 16 10 19.7 -0.5**
KIV IAmb IAmb 16 10 36.6
comp=Z,17nm,1.0s
SHA1 Shidzhatmaz 64.30 53 *i*P **P 16 10 21.5 +0.8**
SCI2 San Clemente I 64.32 294 P **P 16 10 20.8 +0.1**
baz=68
M02C Callahan 64.44 304 P **P 16 10 20.7 -0.8**
baz=69
KBZ Khabaz 64.46 53 P **P 16 10 21.9 +0.4**
comp=Z,12nm,0.9s,baz=299,slow=5.6,SNR=26
PKM Mcpherson Peak 64.58 297 P **P 16 10 23.9 +1.2**
baz=68
PMPB Monarch Peak 64.82 298 P **P 16 10 24.1 0.0**
NCK Nalchik 65.02 53⇓ *e*P **P 16 10 25.1 -0.1**
NCK pmax pmax
comp=Z,15nm,1.0s
ZEI Tsey 65.48 54 *e*P **P 16 10 27.9 -0.5**
ZEI pmax pmax
comp=Z,22nm,1.3s
DAWY Dawson 65.58 331 P **P 16 10 28.6 +0.1**
DAWY IAmb IAmb 16 10 37.2
comp=Z,16nm,1.1s
AKH Akhalkalaki 65.70 55 P **P 16 10 29.6 -0.2**
AKH pmax pmax
comp=Z,18nm,0.9s
AKH Akhalkalaki 65.70 55 P **P 16 10 29.6 -0.2**
AKH IAmb IAmb 16 10 32.8
comp=Z,18nm,0.9s
EGAK Eagle 66.00 333 P **P 16 10 31.6 +0.5**
EGAK IAmb IAmb 16 10 33.4
comp=Z,12nm,0.9s
BMAR Burnt Mountain 66.17 336 P **P 16 10 33.4 +1.2**
BCAR Beaver Creek A 66.96 331 P **P 16 10 37.9 +0.5**
GNI Garni 67.06 56 P **P 16 10 38.4 -0.1**
GNI pmax pmax
comp=Z,26nm,1.0s
GNI Garni 67.06 56 P **P 16 10 38.4 -0.1**
TOLK Toolik Lake Re 67.28 338 P **P 16 10 40.2 +0.9**
baz=61
TOLK Toolik Lake Re 67.28 338 P **P 16 10 39.9 +0.6**
TOLK IAmb IAmb 16 11 09.9
comp=Z,10nm,0.8s
SCRK Sand Creek 67.46 332 P **P 16 10 41.3 +0.7**
BARN Barnard Glacie 67.76 329 P **P 16 10 42.9 +0.3**
BARN IAmb IAmb 16 10 51.2
comp=Z,16nm,1.1s
COLD Coldfoot 68.19 337 P **P 16 10 46.0 +1.0**
COLD IAmb IAmb 16 10 48.0
comp=Z,10nm,1.0s
IL31 68.21 334 P **P 16 10 45.8 +0.7**
IL31 IAmb IAmb 16 10 47.8
comp=Z,16nm,1.2s
ILAR Eielson Array 68.21 334 P **P 16 10 45.5 +0.4**
comp=Z,3.4nm,0.8s,baz=55,slow=6.0,SNR=39
ILAR Eielson Array 68.21 334 P **P 16 10 46.0 +0.8**
HDA Harding Lake 68.41 333 P **P 16 10 47.1 +0.7**
baz=61,SNR=13
AKT Akhty 68.61 54 *e*P **P 16 10 48.8 +0.6**
AKT *e* 16 11 12.6
AKT *e* 16 13 19.3
AKT pmax pmax
comp=Z,14nm,1.0s
CCB Clear Creek Bu 68.62 334 P **P 16 10 48.3 +0.6**
CCB IAmb IAmb 16 10 50.1
comp=Z,17nm,0.8s
WRH Wood River Hil 68.81 334 P **P 16 10 50.0 +1.1**
WRH IAmb IAmb 16 10 57.1
comp=Z,25nm,1.2s
ARU Arti 68.86 36 *c i*P **P 16 10 50.5 +1.1**
ARU 16 11 12.3
ARU 16 13 17.1
ARU S **S 16 19 55.4 +2.6**
ARU SS **SS 16 24 13.8 -3.4**
ARU pmax pmax
comp=Z,45nm,2.3s
ARU Arti 68.86 36 P **P 16 10 49.4 +0.1**
comp=Z,0.6nm,0.3s,baz=313,slow=4.8,SNR=10
ARU Arti 68.86 36 P **P 16 10 49.0 -0.3**
DHY Denali Highway 69.22 332 P **P 16 10 52.7 +1.0**
DHY IAmb IAmb 16 11 00.6
comp=Z,19nm,1.0s
BWN Browne 69.48 334 P **P 16 10 53.4 +0.3**
MCK McKinley 69.50 333 P **P 16 10 54.1 +0.9**
MCK pmax pmax
comp=Z,26nm,1.1s
MCK McKinley 69.50 333 P **P 16 10 54.1 +0.9**
MLY Manley 69.51 335 P **P 16 10 53.8 +0.5**
SVE Sverdlovsk 69.71 35 *e*P **P 16 10 56.1 +1.5**
SVE pmax pmax
comp=Z,47nm,1.8s
IMAR Indian Mountai 70.05 336 P **P 16 10 57.5 +0.9**
BPAW Bear Paw Mtn. 70.09 334 P **P 16 10 57.4 +0.5**
BPAW IAmb IAmb 16 11 10.6
comp=Z,26nm,1.6s
KTH Kantishna Hill 70.36 334 P **P 16 10 58.7 +0.2**
KTH IAmb IAmb 16 11 07.1
comp=Z,25nm,1.1s
ROC1 El Roble 70.53 207 P **P 16 11 00.2 +0.1**
PMR Palmer 70.68 331 P **P 16 11 01.3 +0.9**
PMR pmax pmax
comp=Z,20nm,1.0s
PMR Palmer 70.68 331 P **P 16 11 01.3 +0.9**
PMR IAmb IAmb 16 11 03.0
comp=Z,20nm,1.0s
AKTO Aktyubinsk 71.25 42 LR LR 16 41 22.5
comp=Z,249nm,18.6s,baz=316,slow=35
SUA Susitna One 71.41 332 **PcP 16 11 25.6 +1.0**
NRIK Noril'sk 72.34 17 P **P 16 11 09.0 -1.3**
comp=Z,4.3nm,0.8s,baz=341,slow=4.6,SNR=14
ABKAR Abkulak array 72.90 42 P **P 16 11 14.1 +0.1**
ABKAR Abkulak array 72.90 42 P **P 16 11 13.9 -0.1**
ABKAR IAmb IAmb 16 11 28.4
comp=Z,12nm,1.1s
MBAR Mbarara 74.50 101 P **P 16 11 23.3 -0.9**
MBAR pmax pmax
comp=Z,11nm,1.1s
MBAR Mbarara 74.50 101 P **P 16 11 23.3 -0.9**
TSUM Tsumeb 75.34 124 P **P 16 11 26.9 -1.8**
LODK Lodwar 76.26 95 P **P 16 11 36.9 +2.7**
SNR=5.6
BRVK Borovoye 76.42 35 P **P 16 11 35.6 +1.2**
SNR=5.9
BRVK Borovoye 76.42 35 P **P 16 11 34.5 +0.1**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 76.42 35 P **P 16 11 34.5 +0.1**
BRVK IAmb IAmb 16 11 37.6
comp=Z,13nm,0.9s
GO06 Curarrehue 76.58 204 P **P 16 11 35.3 -0.1**
GO06 IAmb IAmb 16 11 54.4
comp=Z,14nm,1.1s
TIXI Tiksi 76.59 3⇑ *e*P **P 16 11 35.3 +0.4**
TIXI pmax pmax
comp=Z,31nm,1.7s
TIXI Tiksi 76.59 3 P **P 16 11 34.9 0.0**
comp=Z,5.6nm,0.9s,baz=360,slow=24,SNR=13
TIXI Tiksi 76.59 3 P **P 16 11 35.4 +0.4**
TIXI IAmb IAmb 16 11 37.6
comp=Z,20nm,1.2s
PLCA Paso Flores 77.29 203 P **P 16 11 39.3 -0.1**
comp=Z,3.4nm,0.8s,baz=58,slow=4.4,SNR=5.8
PLCA PKKP **PKKPdf 16 30 40.2 +4.7**
comp=Z,1.4nm,0.7s,baz=300,slow=6.5,SNR=4.3
PLCA LR LR 16 45 40.1
comp=Z,117nm,19.5s,baz=40,slow=36
PLCA Paso Flores 77.29 203 P **P 16 11 40.1 +0.8**
GEYT Alibeck 77.35 53 P **P 16 11 40.2 +0.2**
comp=Z,2.3nm,0.8s,baz=288,slow=10,SNR=4.0
GEYT Alibeck 77.35 53 IAmb IAmb 16 11 42.2
comp=Z,2.0nm,0.9s
BILL Bilibino 78.47 350 *e*P **P 16 11 46.0 +0.4**
BILL *e**PP **pP 16 11 49.8 +0.8**
BILL *e* 16 11 55.3
BILL pmax pmax
comp=Z,30nm,1.7s
BILL Bilibino 78.47 350 P **P 16 11 45.7 +0.1**
KMBO Kilima Mbogo 80.26 97 P **P 16 11 57.3 +0.8**
comp=Z,0.8nm,0.5s,baz=349,slow=5.6,SNR=7.2
KMBO LR LR 16 46 25.9
comp=Z,660nm,21.0s,baz=276,slow=35
LSZ Lusaka 80.78 114 P **P 16 11 58.7 -0.4**
LSZ pmax pmax
comp=Z,24nm,1.3s
LSZ Lusaka 80.78 114 P **P 16 11 58.7 -0.4**
LSZ IAmb IAmb 16 12 08.1
comp=Z,24nm,1.2s
KIBK Kibwezi 81.58 98 P **P 16 12 06.5 +3.1**
SNR=7.9
KURK Kurchatov 81.93 34 P **P 16 12 04.8 +0.2**
SNR=6.5
KURK Kurchatov 81.93 34 *c e*P **P 16 12 04.4 -0.1**
KURK pmax pmax
comp=Z,23nm,1.7s
KURK Kurchatov 81.93 34 P **P 16 12 04.5 0.0**
KURK IAmb IAmb 16 12 07.3
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 81.95 34 P **P 16 12 03.6 -1.0**
comp=Z,4.5nm,0.8s,baz=311,slow=5.7,SNR=30
KKAR Karatay Array 82.39 44 P **P 16 12 07.2 0.0**
KKAR Karatay Array 82.39 44 P **P 16 12 07.2 0.0**
ZAA0 Zalesovo Array 82.46 29 P **P 16 12 07.2 -0.1**
ZAA0 IAmb IAmb 16 12 09.0
comp=Z,8.5nm,0.8s
ZALV Zalesovo Beam 82.46 29 P **P 16 12 06.9 -0.3**
comp=Z,5.9nm,0.7s,baz=286,slow=6.6,SNR=20
ZALV Zalesovo Beam 82.46 29 P **P 16 12 07.0 -0.3**
UOSS Minazif 82.62 65 P **P 16 12 08.4 -0.3**
SNR=6.2
UOSS P **P 16 12 08.4 -0.3**
SNR=6.2
UOSS Minazif 82.62 65 P **P 16 12 07.8 -0.8**
HATD Hatta, Dubai 82.63 65 P **P 16 12 08.8 0.0**
SNR=5.5
HOQ Hoqain 84.19 66 P **P 16 12 16.4 -0.4**
SNR=5.6
HOQ P **P 16 12 16.4 -0.4**
SNR=5.6
CHGR Chuyangaron 84.21 48 P **P 16 12 16.8 0.0**
BTK Batken 84.41 46 P **P 16 12 17.6 -0.1**
BTK pmax pmax
comp=Z,9.0nm,1.0s
BTK Batken 84.41 46 P **P 16 12 17.6 -0.1**
BTK IAmb IAmb 16 12 20.8
comp=Z,8.7nm,0.9s
GAR Garm 84.73 47 P **P 16 12 19.6 +0.2**
ARSB Arslanbob 84.93 44 P **P 16 12 19.1 -1.3**
AAK Ala-Archa 84.99 42 *c e*P **P 16 12 22.0 +1.3**
AAK pmax pmax
comp=Z,20nm,2.5s
AAK Ala-Archa 84.99 42 P **P 16 12 20.9 +0.3**
comp=Z,2.5nm,0.8s,baz=274,slow=4.8,SNR=7.1
SEY Seymchan 85.04 354 P **P 16 12 19.7 -0.6**
comp=Z,5.7nm,0.8s,baz=31,slow=2.3,SNR=6.0
YAK Yakutsk 86.19 5 *e*P P 16 12 21.0 -5.0
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=N,27nm,1.5s
YAK Yakutsk 86.19 5 P **P 16 12 25.8 -0.1**
comp=N,4.6nm,0.4s,baz=154,slow=6.5,SNR=8.9
YAK Yakutsk 86.19 5 P **P 16 12 26.1 +0.2**
MAKZ Makanchi 86.21 35 P **P 16 12 26.0 -0.5**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MAKZ Makanchi 86.21 35 P **P 16 12 25.9 -0.5**
MK31 Makanchi Array 86.38 35 P **P 16 12 26.9 -0.4**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 86.38 35 P **P 16 12 26.9 -0.4**
MKAR Makanchi Array 86.38 35 P **P 16 12 26.0 -1.3**
comp=Z,2.7nm,0.9s,baz=307,slow=3.6,SNR=13
MKAR LR LR 16 50 20.0
comp=Z,209nm,19.5s,baz=265,slow=35
MKAR Makanchi Array 86.38 35 P **P 16 12 26.9 -0.4**
NRN Naryn 86.62 42 P **P 16 12 27.7 -1.3**
NRN pmax pmax
comp=Z,10.0nm,0.9s
NRN Naryn 86.62 42 P **P 16 12 27.7 -1.3**
NRN IAmb IAmb 16 12 32.9
comp=Z,10nm,0.9s
DGZ Jazzator, Alta 86.67 31 *i*P **P 16 12 30.6 +1.7**
BOSA Boshof 86.75 127 LR LR 16 45 12.5
comp=Z,278nm,21.4s,baz=321,slow=32
KSH Kashi 87.84 44 P **P 16 12 34.6 -0.1**
KSH pP pP 16 12 39.1 +0.7
KSH S **S 16 23 13.2 -4.1**
KSH SS **SS 16 29 02.1 -1.2**
KSH pmax pmax
comp=Z,160nm,4.6s
KSH LR LR
comp=Z,190nm,12.4s
KSH LR LR
comp=Z,310nm,11.4s
BOD Bodaibo 88.22 13 *e*P **P 16 12 35.3 -0.6**
BOD pmax pmax
comp=Z,22nm,2.0s
MOY Mondy 90.31 23 *e*P **P 16 12 47.6 +1.5**
MOY pmax pmax
comp=Z,25nm,2.1s
TLY Talaya 91.15 21 *e*P **P 16 12 47.8 -2.0**
TLY pmax pmax
comp=Z,44nm,1.9s
TLY MLR MLR
comp=Z,203nm,11.0s
WMQ Urumqi 91.16 35 *e*P **P 16 12 51.5 +1.4**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,120nm,5.3s
WMQ LR LR
comp=Z,340nm,29.2s
WMQ LR LR
comp=Z,1μm,28.9s
PETK Petropavlovsk- 93.97 349 LR LR 16 53 20.6
comp=Z,154nm,20.4s,baz=61,slow=34
SONM Songjino Array 95.38 22 P **P 16 13 09.5 0.0**
comp=Z,0.9nm,0.9s,baz=299,slow=3.0,SNR=5.8
GTA Gaotai 100.19 30 *e*P **Pdif 16 13 38.8 +7.4**
GTA pP pwP 16 13 43.6 +4.7
GTA sP sP 16 13 45.9 +9.4
GTA pmax pmax
comp=Z,2.0nm,1.5s
HHC Hu-ho-hao-te 103.28 21 *e*P **Pdif 16 13 43.7 -1.3**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,10.0nm,4.6s
CD2 Chengdu 109.08 32 Pdif **Pdif 16 14 08.9 -2.0**
GYA Guiyang 114.19 32 *e*PKP **PKiKP 16 18 22.7 -2.4**
GYA PP **PP 16 19 25.8 +6.8**
GYA AMB AMB
comp=Z,120nm,7.8s
PPT2 Papeete2 114.94 264 *e*LR LR 16 53 06.0
comp=Z,291nm,32.0s
CMAR Chiang Mai Arr 116.74 44 PKP **PKPdf 16 18 28.4 -1.7**
comp=Z,1.1nm,0.8s,baz=302,slow=2.8,SNR=10
CMAR PP **PP 16 19 37.6 +0.4**
comp=Z,0.6nm,0.3s,baz=305,slow=6.3,SNR=4.5
CMAR Chiang Mai Arr 116.74 44 **PKPdf 16 18 29.5 -0.5**
TBI Tubuai 117.37 258 *e*LR LR 16 54 16.5
comp=Z,164nm,30.2s
TNTI Ternate 145.67 22 **PKPdf 16 19 22.9 -1.3**
JAGI Jajag, Banyuwa 146.99 51 **PKPdf 16 19 25.5 -0.9**
KAPI Kappang 147.61 39 PKIKP **PKPdf 16 19 26.1 -1.4**
KAPI Kappang 147.61 39 PKPdf **PKPdf 16 19 26.1 -1.4**
URZ Urewera 148.62 248 PKPbc **PKPbc 16 19 31.7 -0.3**
comp=Z,17nm,0.8s,baz=185,slow=0.5,SNR=6.5
FAKI Fak Fak 150.50 15 **PKPbc 16 19 37.2 -0.3**
RPZ Rata Peaks 152.46 235 PKPbc **PKPbc 16 19 40.7 -0.4**
comp=Z,13nm,0.8s,baz=126,slow=8.1,SNR=8.0
RPZ Rata Peaks 152.46 235 **PKPbc 16 19 41.1 +0.1**
DZM Mont Dzumac 154.09 285 *e*LR LR 17 11 12.8
comp=Z,271nm,22.4s
CTA Charters Tower 166.83 331 PKPab **PKPab 16 20 53.9 -0.3**
baz=16,slow=10
WRA Warramunga Arr 167.36 22 PKP **PKPdf 16 19 49.5 -2.1**
comp=Z,0.8nm,0.9s,baz=310,slow=2.0,SNR=6.8
WRA PKPab **PKPab 16 20 56.5 +0.1**
comp=Z,1.7nm,0.9s,baz=348,slow=4.4,SNR=6.0
WRA PP **PP 16 24 43.5 -0.3**
comp=Z,1.4nm,0.9s,baz=353,slow=4.7,SNR=7.0
WRA Warramunga Arr 167.36 22 **PKPdf 16 19 50.7 -0.9**
WRA Warramunga Arr 167.36 22 PP 16 24 43.0 -0.7
ASAR Alice Springs 170.56 32 PKIKP **PKPdf 16 19 52.8 -0.8**
ASAR 16 21 10.1

ASAR 16 24 58.4
ASAR Alice Springs 170.56 32 PKP PKPdf 16 19 53.1 -0.4
comp=Z,2.3nm,0.8s,baz=24,slow=0.6,SNR=22
ASAR PKPab **PKPab 16 21 09.2 -1.5**
comp=Z,2.2nm,0.8s,baz=326,slow=4.5,SNR=13
ASAR PP **PP 16 24 58.4 -1.8**
comp=Z,0.6nm,0.9s,baz=350,slow=4.7,SNR=4.0
ASAR Alice Springs 170.56 32 PKPdf 16 19 52.8 -0.8
ASAR **PKPab 16 21 10.1 -0.5**

NIED ***12*** *16:01:00,26°.00N×128°.70E,h20km,Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φ=211.00000°,δ=40.00000°, λ=77.00000°. NP2:φ=47.00000°,δ=51.00000°,λ=101.00000°.*
IDC ***12*** *16:01:00.4±0.9,26°.02N×128°.27E,h0km,mb3.9/12, mb1 4.0/14,mb1mx3.8/56,mbtmp3.9/14,ML3.2/2,MS3.4/3, Ms1 3.4/3,ms1mx2.8/50,Error ellipse: s-maj=27.4km s-min=15.4km az=93.0*
NEIC ***12*** *16:01:02.2±2.4,26°.09N±0°.03×128°.4E±0°.1,h13km±5km, mb4.6/13*
JMA ***12*** *16:01:02.4±0.3,26°.03N×128°.66E,h37km,M3.6*
ISC 12 16:01:00.6±2.4,26°.00N±0°.05×128°.62E±0°.04,h7km±15km, n62,σ1§39/70,mb4.1/17,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.75**	**314**	P	**Pb**	**16 01 16.2**	**+0.3**
JNTH				*e*S	**Sb**	**16 01 26.6**	**+0.3**
JJT3	**Tamagusuku3**	**0.77**	**281**	P	**Pn**	**16 01 17.6**	**-0.2**
JJT3				*e*S	**Sn**	**16 01 28.4**	**-1.2**
JOW	**Kunigami**	**0.89**	**339**	P	**Pb**	**16 01 18.5**	**+0.2**
JOW				*e*S	**Sb**	**16 01 29.9**	**-0.5**
JOW	**Kunigami**	**0.89**	**339**	Pn	**Pb**	**16 01 18.0**	**-0.3**
	46nm,0.3s,baz=144,slow=12,SNR=720						
JOW				Sn	**Sg**	**16 01 29.1**	**-0.2**
	61nm,0.3s,baz=87,slow=17,SNR=25						
JOW	**Kunigami**	**0.89**	**339**		**Pb**	**16 01 18.6**	**+0.2**
JYRO	**Yoronjima**	**1.03**	**351**	P	**Pb**	**16 01 20.5**	**-0.3**
JYRO				*e*S	**Sb**	**16 01 34.2**	**-0.4**
JIH	**Iheya**	**1.19**	**331**	P	**Pn**	**16 01 23.2**	**-0.4**
JOKE	**Okinoerabujima**	**1.36**	**358**	P	**Pn**	**16 01 25.5**	**-0.4**
JAGN	**Aguni-jima**	**1.37**	**296**	P	**Pb**	**16 01 26.2**	**-0.3**
JKE	**Kume jima 2**	**1.68**	**282**	P	**Pn**	**16 01 29.9**	**-0.5**
JKE				S	**Sn**	**16 01 50.0**	**-2.2**
JTK	**Tokunoshima**	**1.81**	**9**	P	**Pn**	**16 01 31.6**	**-0.5**
JTK				*e*S	**Sn**	**16 01 53.1**	**-2.1**
JMZ	**Minamidaito 2**	**2.35**	**94**	P	**Pn**	**16 01 38.8**	**-0.7**
JMZ				S	**Sn**	**16 02 04.9**	**-3.6**
JKDJ	**Kitadaitoujima**	**2.41**	**91**	P	**Pn**	**16 01 39.8**	**-0.5**
JKDJ				S	**Sn**	**16 02 07.0**	**-3.0**
NACB	**Ninganchiao**	**6.63**	**256**	Pn	**Pn**	**16 02 36.3**	**-2.1**
YHNB	**Yeheng**	**6.69**	**260**	Pn	**Pn**	**16 02 39.9**	**+0.6**
YULB	**Yu-li**	**7.15**	**250**	Pn	**Pn**	**16 02 42.0**	**-3.6**
SSLB	**Suanglung**	**7.30**	**254**	Pn	**Pn**	**16 02 45.4**	**-2.3**
JNU	**Nakatsue**	**7.37**	**15**	Pn	**Pn**	**16 02 49.0**	**+0.5**
	0.9nm,0.3s,baz=238,slow=4.8,SNR=9.6						
JNU				Sn	**Sn**	**16 04 09.4**	**-3.0**
	0.1nm,0.3s,baz=161,slow=18,SNR=2.5						
JNU				LR	LR	16 05 43.3	
	comp=Z,90nm,19.4s,baz=218,slow=38						
JNU	**Nakatsue**	**7.37**	**15**		**Pn**	**16 02 48.2**	**-0.3**
TWG	**Pinlang**	**7.57**	**247**	Pn	**Pn**	**16 02 47.6**	**-3.7**
TPUB	**Ta-pu**	**7.75**	**251**	Pn	**Pn**	**16 02 52.8**	**-1.1**
KSRS	**Korea Array**	**11.44**	**357**	LR	LR	16 08 28.1	
	comp=Z,68nm,18.3s,baz=124,slow=39						
USRK	**Ussuriysk Ar.**	**18.37**	**8**	P	**P**	**16 05 16.6**	**+0.9**
	baz=167,slow=9.7,SNR=4.5						
XAN	**Xi'an**	**18.83**	**300**	P	**Pn**	**16 05 21.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**23.73**	**25**	P	**P**	**16 06 14.3**	**+1.1**
ULN	**Ulaanbaatar**	**27.64**	**328**	P	**P**	**16 06 50.0**	**+1.1**
ULN				IAmb	IAmb	16 07 12.6	
	comp=Z,13nm,1.8s						
SONM	**Songino Array**	**27.94**	**327**	P	**P**	**16 06 52.7**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=142,slow=11,SNR=13						
SONM	**Songino Array**	**27.94**	**327**	P	**P**	**16 06 52.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**28.43**	**261**	P	**P**	**16 06 54.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=61,slow=9.4,SNR=3.0						
CMAR	**Chiang Mai Arr**	**28.43**	**261**	P	**P**	**16 06 56.9**	**+0.8**
SHL	**Shillong**	**33.02**	**277**	P	**P**	**16 07 36.6**	**-0.2**
SHL				IAmb	IAmb	16 08 43.2	
	comp=Z,10nm,1.0s						
ODAN	**Odare**	**36.82**	**281**	*e*P	**P**	**16 08 10.2**	**+0.6**
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**38.01**	**283**	*e*P	**P**	**16 08 21.1**	**+1.2**
	comp=Z,6.2nm,0.4s						
PKI	**Pulchoki**	**38.47**	**282**	*e*P	**P**	**16 08 23.7**	**0.0**
	comp=Z,5.8nm,0.4s						
PKIN	**Phulchoki**	**38.48**	**282**	*e*P	**P**	**16 08 23.6**	**-0.1**
	comp=Z,5.8nm,0.4s						
KKN	**Kakani**	**38.55**	**283**	*e*P	**P**	**16 08 24.4**	**+0.1**
	comp=Z,17nm,0.8s						
DMN	**Daman**	**38.73**	**282**	*e*P	**P**	**16 08 25.9**	**+0.1**
GKN	**Gorkha**	**39.09**	**283**	*e*P	**P**	**16 08 28.8**	**+0.1**
	comp=Z,7.4nm,0.5s						
DANN	**Dangsing**	**39.81**	**284**	*e*P	**P**	**16 08 35.5**	**+0.6**
	comp=Z,13nm,0.6s						
SEY	**Seymchan**	**40.14**	**17**	P	**P**	**16 08 39.2**	**+2.4**
	comp=Z,2.8nm,0.9s,baz=179,slow=10.0,SNR=4.3						
MK31	**Makanchi Array**	**41.95**	**312**	P	**P**	**16 08 51.2**	**-0.8**
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**16 08 51.0**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=98,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**16 08 51.1**	**-0.9**
ZALV	**Zalesovo Beam**	**42.65**	**323**	P	**P**	**16 08 56.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=110,slow=5.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**42.65**	**323**	P	**P**	**16 08 56.3**	**-1.2**
KDJ	**Kajisay**	**44.88**	**304**	P	**P**	**16 09 15.1**	**-0.8**
KDJ				IAmb	IAmb	16 10 28.5	
	comp=Z,7.7nm,0.8s						
KURK	**Kurchatov**	**45.23**	**317**	P	**P**	**16 09 17.4**	**-0.9**
KURK				IAmb	IAmb	16 10 38.0	
	comp=Z,2.8nm,0.9s						
TIXI	**Tiksi**	**45.69**	**0**	P	**P**	**16 09 21.4**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=159,slow=2.3,SNR=11						
TIXI	**Tiksi**	**45.69**	**0**	P	**P**	**16 09 21.5**	**-0.1**
TIXI				IAmb	IAmb	16 10 35.0	
	comp=Z,12nm,1.7s						
WRA	**Warramunga Arr**	**46.00**	**173**	P	**P**	**16 09 25.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=355,slow=8.3,SNR=3.8						
WRA	**Warramunga Arr**	**46.00**	**173**	P	**P**	**16 09 25.9**	**+1.2**
AAK	**Ala-Archa**	**46.89**	**305**	P	**P**	**16 09 30.9**	**-0.9**
AAK				IAmb	IAmb	16 10 44.1	
	comp=Z,7.8nm,1.6s						
ASAR	**Alice Springs**	**49.63**	**174**	P	**P**	**16 09 54.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=9.4,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**49.63**	**174**	P	**P**	**16 09 54.1**	**+1.2**
KKAR	**Karatay Array**	**49.83**	**306**	P	**P**	**16 09 54.7**	**+0.4**
FORT	**Forrest**	**56.46**	**181**	P	**P**	**16 10 44.7**	**+1.7**
ABKAR	**Akbulak array**	**57.06**	**313**	P	**P**	**16 10 47.8**	**+0.5**
FINES	**FINESS Array B**	**73.24**	**331**	P	**P**	**16 12 31.1**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=74,slow=5.9,SNR=4.0						
RES	**Resolute Bay**	**75.71**	**11**	P	**P**	**16 12 49.0**	**+2.8**
	comp=Z,1.3nm,0.6s,baz=274,slow=4.4,SNR=6.3						
AKASG	**Malin Array Be**	**75.94**	**320**	P	**P**	**16 12 46.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=60,slow=5.8,SNR=4.9						
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**16 12 56.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=79,slow=6.4,SNR=5.5						
RPZ	**Rata Peaks**	**79.55**	**150**	LR	LR	16 49 06.2	
	comp=Z,110nm,18.2s,baz=321,slow=36						

IDC ***12*** *16:20:05.7±1.4,22°.05S×175°.62W,h0km,mb4.7/4, mb1 4.7/5,mb1mx4.0/38,mbtmp4.7/5,ML4.6/1,Error ellipse: s-maj=47.1km s-min=25.3km az=177.0*
NEIC ***12*** *16:20:06.9±1.5,22°.3S±0°.3×175°.6W±0°.1,h10km±1km, mb4.6/5*
ISCJB ***12*** *16:20:09.1±0.8,22°.2S±0°.2×175°.6W±0°.1,h35km,mb4.6/4, Error ellipse: s-maj=23.8km s-min=13.8km az=171.3*
ISC 12 16:20:10.5±1.1,22°.2S±0°.2×175°.6W±0°.2,h35km,n13, σ1§62/13,mb4.7/6,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.23**	**200**	P	**Pn**	**16 24 07.5**	**-0.9**
	2.2nm,0.3s,baz=52,slow=19,SNR=15						
URZ	**Urewera**	**17.23**	**200**	P	**Pn**	**16 24 07.8**	**-0.6**
URZ				IAmb	IAmb	16 24 37.8	
	comp=Z,98nm,1.7s						
PPT	**Papeete**	**24.88**	**84**	P	**P**	**16 25 30.5**	**+0.4**
	comp=Z,32nm,0.9s,baz=233,slow=20,SNR=5.3						
PPT	**Papeete**	**24.88**	**84**	P	**P**	**16 25 30.8**	**+0.7**
PPTF	**Pamatai, Papee**	**24.89**	**84**	P	**P**	**16 25 30.6**	**+0.3**
HNR	**Honiara**	**26.66**	**294**	P	**P**	**16 25 46.4**	**+0.1**
	comp=Z,20nm,0.3s,baz=69,slow=21,SNR=8.1						
AS31	**Alice Springs**	**46.34**	**258**	P	**P**	**16 28 36.2**	**+2.8**
AS31				IAmb	IAmb	16 28 37.3	
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**46.34**	**258**	P	**P**	**16 28 35.5**	**+2.1**
	comp=Z,3.1nm,0.4s,baz=89,slow=7.6,SNR=154						
ASAR	**Alice Springs**	**46.34**	**258**	P	**P**	**16 28 36.0**	**+2.6**
WB2	**Warramunga Arr**	**46.59**	**263**	P	**P**	**16 28 34.4**	**-1.0**
WB2				IAmb	IAmb	16 29 36.8	
	comp=Z,20nm,1.8s						
WRA	**Warramunga Arr**	**46.60**	**263**	P	**P**	**16 28 34.2**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.8,SNR=23						
WRA	**Warramunga Arr**	**46.60**	**263**	P	**P**	**16 28 34.5**	**-1.1**
CLL	**Collm**	**150.14**	**349**	*e*PKPbc	**PKPab**	**16 40 02.0**	**-1.4**

NEIC ***12*** *16:23:36.5±1.8,37°.85N±0°.05×143°.9E±0°.2,h4km±6km, mb4.6/6*
IDC ***12*** *16:23:36.2±1.2,37°.77N×143°.78E,h0km,mb3.8/3, mb1 3.8/6,mb1mx3.4/57,mbtmp3.9/6,ML3.3/3,Error ellipse: s-maj=31.0km s-min=21.1km az=108.0*
ISCJB ***12*** *16:23:38.9±0.5,37°.91N±0°.03×143°.63E±0°.04,h33km, mb3.6/4,Error ellipse: s-maj=5.2km s-min=4.1km az=28.0*
JMA ***12*** *16:23:39.7±0.1,37°.92N×143°.57E,h46km,M3.3*
ISC 12 16:23:41.0±0.9,37°.88N±0°.05×143°.61E±0°.07,h35km,n32, σ1§51/50,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.75**	**285**	P	**Pn**	**16 24 07.8**	**-1.0**
JIKH				*e*S	**Sn**	**16 24 28.3**	**-1.5**
JIO	**Ouri**	**1.88**	**288**	P	**Pn**	**16 24 09.7**	**-0.8**
JIO				*e*S	**Sn**	**16 24 31.4**	**-1.6**
JKMT	**Kesennumamotoy**	**1.92**	**300**	P	**Pn**	**16 24 10.3**	**-0.9**
JKMT				*e*S	**Sn**	**16 24 32.7**	**-1.4**
OFUJ	**Ofunato**	**1.94**	**309**	P	**Pn**	**16 24 10.6**	**-0.8**
OFUJ				*e*S	**Sn**	**16 24 33.2**	**-1.4**
JMK	**Ichinoseki**	**2.16**	**300**	P	**Pn**	**16 24 13.9**	**-0.6**
JMK				*e*S	**Sn**	**16 24 39.3**	**-0.8**
JOM	**Ohasama**	**2.41**	**312**	P	**Pn**	**16 24 17.7**	**-0.3**
JOM				*e*S	**Sn**	**16 24 45.6**	**-0.7**
JFT	**Otama**	**2.62**	**263**	P	**Pn**	**16 24 20.8**	**-0.1**
JFT				*e*S	**Sn**	**16 24 50.9**	**-0.6**
JYK	**Kaneyama**	**2.76**	**293**	P	**Pn**	**16 24 22.8**	**+0.1**
JYK				*e*S	**Sn**	**16 24 55.0**	**+0.2**
JAG	**Ashikaga**	**3.63**	**248**	P	**Pn**	**16 24 34.0**	**-0.7**
JAG				*e*S	**Sn**	**16 25 15.6**	**-0.7**
BSO1	**Boso 1**	**3.86**	**214**	P	**Pn**	**16 24 35.8**	**-1.6**
BSO1				*e*S	**Sn**	**16 25 19.1**	**-2.2**
ERM	**Erimo**	**4.14**	**355**	Pn	**Pn**	**16 24 41.5**	**-0.2**
JRY	**Ryogami san**	**4.21**	**245**	P	**Pn**	**16 24 42.0**	**-0.7**
JRY				*e*S	**Sn**	**16 25 28.2**	**-2.4**
JNBK	**Urakawa-nobuka**	**4.44**	**352**	P	**Pn**	**16 24 46.0**	**+0.2**
JNBK				*e*S	**Sn**	**16 25 35.3**	**-1.0**
JOD2	**Odawara 2**	**4.48**	**236**	P	**Pn**	**16 24 46.6**	**+0.2**
JOD2				*e*S	**Sn**	**16 25 33.0**	**-4.4**
MJAR	**Matsushiro Arr**	**4.52**	**254**	Pn	**Pn**	**16 24 47.7**	**+0.8**
	0.4nm,0.3s,baz=89,slow=17,SNR=16						
MJAR				Sn	**Sn**	**16 25 40.1**	**+1.9**
	0.1nm,0.3s,baz=75,slow=21,SNR=3.3						
MJAR	**Matsushiro Arr**	**4.52**	**254**		**Pn**	**16 24 47.1**	**+0.2**
MAJO	**Matsushiro**	**4.52**	**254**	Pn	**Pn**	**16 24 48.1**	**+1.2**
MAT	**Matsushiro**	**4.52**	**254**	P	**Pn**	**16 24 48.1**	**+1.2**
MAT				*e*S	**Sn**	**16 25 34.3**	**-3.9**
MJB9	**Matsu-Tunnel**	**4.52**	**254**	Pn	**Pn**	**16 24 48.2**	**+1.2**
JCH	**Churui**	**4.73**	**358**	P	**Pn**	**16 24 49.0**	**-0.8**
JCH				*e*S	**Sn**	**16 25 39.7**	**-3.7**
JHJ	**Hachijo jima 2**	**5.69**	**214**	Pn	**Pn**	**16 25 01.8**	**-1.2**
	5.7nm,0.3s,baz=102,slow=22,SNR=3.3						
JHJ				Sn	Sn	16 25 56.5	-11
	9.4nm,0.3s,baz=165,slow=23,SNR=2.2						
JKA	**Kamikawa-asahi**	**6.28**	**353**		**Pn**	**16 25 10.4**	**-0.6**
JKA					**Sn**	**16 26 20.1**	**-1.4**
ASAJ	**Asahikawa**	**6.28**	**353**	Pn	**Pn**	**16 25 10.4**	**-0.6**
	0.7nm,0.3s,baz=189,slow=16,SNR=11						
ASAJ				Sn	**Sn**	**16 26 20.1**	**-1.4**
	0.1nm,0.3s,baz=120,slow=20,SNR=2.5						
JOW	**Kunigami**	**16.98**	**234**	P	**P**	**16 27 37.0**	**-0.4**
JOW				IAmb	IAmb	16 28 25.8	
	comp=Z,24nm,1.0s						
TPUB	**Ta-pu**	**24.46**	**240**	P	**P**	**16 28 57.8**	**+1.0**
PPLA	**Purkeypile**	**45.47**	**35**	P	**P**	**16 31 56.3**	**-0.2**
TRF	**Thorofare Moun**	**46.34**	**35**	P	**P**	**16 32 04.4**	**+1.0**
TRF				IAmb	IAmb	16 33 18.3	
	comp=Z,21nm,1.6s						
KURK	**Kurchatov**	**46.79**	**308**	P	**P**	**16 32 09.5**	**+2.6**
KURBB	**Kurchatov Arra**	**46.87**	**308**	P	**P**	**16 32 09.5**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=83,slow=8.3,SNR=2.5						
ILAR	**Eielson Array**	**47.84**	**33**	P	**P**	**16 32 15.6**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=249,slow=6.0,SNR=5.4						
WRA	**Warramunga Arr**	**58.17**	**190**	P	**P**	**16 33 30.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=10,slow=7.0,SNR=5.1						
ASAR	**Alice Springs**	**61.90**	**190**	P	**P**	**16 33 57.0**	**0.0**
	comp=Z,0.3nm,0.9s,baz=3.7,slow=6.3,SNR=3.8						

IDC ***12*** *16:30:26.0±0.5,37°.51N×68°.13E,h0km,mb4.4/30, mb1 4.4/38,mb1mx4.4/51,mbtmp4.4/38,ML3.9/7,MS3.7/17, Ms1 3.8/17,ms1mx3.5/44,Error ellipse: s-maj=11.5km s-min=7.7km az=159.0*
ISCJB ***12*** *16:30:28.0±0.2,37°.61N±0°.02×68°.24E±0°.02,h22km, mb4.7/70,MS4.0/17,Error ellipse: s-maj=3.3km s-min=2.4km az=2.1*
NEIC ***12*** *16:30:30.9±2.6,37°.68N±0°.05×68°.05E±0°.05,h29km±4km, mb4.9/56*
MOS ***12*** *16:30:30.1±1.1,37°.66N×68°.25E,h38km,mb5.0/17, MS4.4/4,Error ellipse: s-maj=4.7km s-min=4.1km az=81.8*
NNC ***12*** *16:30:30.5±0.9,37°.72N×68°.02E,h32km±8km,mb5.0, mpv4.8,Error ellipse: s-maj=8.1km s-min=4.1km az=156.0*
BJI ***12*** *16:30:32.0±0.0,37°.79N×68°.83E,h10km,mb4.6/48, mB5.0/34,ML4.7/3,Ms4.5/26,Ms7 4.2/25*
ISC 12 16:30:29.6±0.3,37°.65N±0°.04×68°.16E±0°.03,h22km,n312, σ1§95/321,mb4.7/79,MS3.9/17,48C-15D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**1.27**	**38**		**Pb**	**16 30 52.8**	**-0.2**
GAR	**Garm**	**2.16**	**51**		**Pn**	**16 31 05.8**	**+1.4**
BTK	**Batken**	**3.17**	**40**	PN	**Pn**	**16 31 21.5**	**+3.3**
BTK	**Batken**	**3.17**	**40**		**Pn**	**16 31 21.5**	**+3.3**
KBL	**Kabul**	**3.19**	**167**	PN	**Pn**	**16 31 21.2**	**+2.6**
KBL	**Kabul**	**3.19**	**167**		**Pn**	**16 31 21.1**	**+2.6**
TAS	**Tashkent**	**3.77**	**13**	PN	**Pn**	**16 31 27.5**	**+1.0**
TAS	**Tashkent**	**3.77**	**13**		**Pn**	**16 31 27.4**	**+1.0**
CEP	**Cherat**	**4.89**	**140**	P	**Pn**	**16 31 42.7**	**+0.8**
ARSB	**Arslanbob**	**5.23**	**44**		**Pn**	**16 31 47.5**	**+0.9**
THW	**Thamme Wali**	**5.66**	**148**	P	**Pn**	**16 31 53.1**	**+0.6**
KK31	**Karatay Array**	**5.73**	**17**	⇑Pn	**Pn**	**16 31 52.9**	**-0.5**
	14nm,0.5s,baz=208,slow=18,SNR=277						
KK31				⇓Pg	Pb	16 32 15.1	+6.2
	47nm,0.6s,baz=200,slow=17,SNR=6.7						
KK31				⇓Sn	**Sn**	**16 32 58.4**	**0.0**
	71nm,0.6s,baz=321,slow=62,SNR=6.3						
KK31				⇑Lg	Lg	16 33 31.2	
	406nm,0.8s,baz=195,slow=29,SNR=9.5						
KK31	**Karatay Array**	**5.73**	**17**	*i* PN	**Pn**	**16 31 54.7**	**+1.3**
KK31				pmax	pmax		
	comp=Z,14nm,0.5s						
KK31				pmax	pmax		
	comp=Z,407nm,0.8s						
KK31	**Karatay Array**	**5.73**	**17**		**Pn**	**16 31 54.9**	**+1.5**
KKAR	**Karatay Array**	**5.73**	**17**	PN	**Pn**	**16 31 54.5**	**+1.1**
KKAR	**Karatay Array**	**5.73**	**17**		**Pn**	**16 31 54.5**	**+1.1**
KKAR	**Karatay Array**	**5.73**	**17**		**Pn**	**16 31 54.9**	**+1.5**
NIL	**Nilore**	**5.75**	**132**	PN	**Pn**	**16 31 54.3**	**+0.6**
NIL	**Nilore**	**5.75**	**132**		**Pn**	**16 31 54.3**	**+0.6**
CHCP	**Chirah Chowk**	**5.75**	**132**	P	**Pn**	**16 31 54.1**	**+0.4**
HRA	**Herat**	**5.80**	**238**		**Pn**	**16 31 54.9**	**+0.4**
AML	**Almayashu**	**6.17**	**42**	P	**Pn**	**16 32 01.4**	**+1.7**
	SNR=41						
KSH	**Kashi**	**6.39**	**71**	Pn	**Pn**	**16 31 58.6**	**-4.0**
KSH				Sn	Sn	16 32 57.8	-17
KSH				smax	smax		
	comp=Z,3μm,1.6s						
KSH				smax	smax		
	comp=Z,380nm,0.9s						
EKS2	**Erkin-Say**	**6.59**	**39**	P	**Pn**	**16 32 07.5**	**+2.2**
	SNR=21						
UCH	**Uchtor**	**6.68**	**45**	P	**Pn**	**16 32 08.2**	**+1.4**
	SNR=90						
AAK	**Ala-Archa**	**6.95**	**42**	⇓Pn	**Pn**	**16 32 11.6**	**+1.4**
	comp=Z,35nm,0.6s						
AAK				⇑Pg	Pb	16 32 36.8	+7.1
	comp=Z,72nm,0.8s						
AAK				⇓Sn	**Sn**	**16 33 28.6**	**-0.1**
	comp=Z,124nm,0.8s						
AAK				⇓Lg	Lg	16 34 12.5	
	comp=Z,278nm,0.9s						
AAK	**Ala-Archa**	**6.95**	**42**	PN	**Pn**	**16 32 11.6**	**+1.4**
AAK						16 33 31.4	
AAK				pmax	pmax		
	comp=Z,35nm,0.6s						
AAK				smax	smax		
	comp=N,124nm,0.9s						
AAK				pmax	pmax		
	comp=Z,278nm,1.0s						
AAK	**Ala-Archa**	**6.95**	**42**	Pn	**Pn**	**16 32 11.5**	**+1.4**
	comp=Z,7.7nm,0.3s,baz=180,slow=9.0,SNR=71						
AAK				Sn	**Sn**	**16 33 30.3**	**+1.7**
	comp=Z,5.4nm,0.3s,baz=345,slow=20,SNR=1.8						
AAK				Lg	Lg	16 34 10.2	
	comp=Z,3.0nm,0.3s,baz=332,slow=14,SNR=3.8						
AAK				LR	LR	16 35 01.6	
	comp=Z,436nm,18.6s,baz=225,slow=39						
AAK	**Ala-Archa**	**6.95**	**42**	P	**Pn**	**16 32 11.9**	**+1.7**
	SNR=51						
AAK	**Ala-Archa**	**6.95**	**42**		**Pn**	**16 32 11.6**	**+1.4**
KZA	**Kyzart**	**7.01**	**49**	P	**Pn**	**16 32 12.9**	**+1.6**
	SNR=200						
NRN	**Naryn**	**7.13**	**56**	PN	**Pn**	**16 32 12.6**	**-0.3**
NRN	**Naryn**	**7.13**	**56**		**Pn**	**16 32 12.6**	**-0.3**
FRU1	**Bishkek**	**7.14**	**42**	PN	**Pn**	**16 32 14.9**	**+2.1**
FRU1	**Bishkek**	**7.14**	**42**		**Pn**	**16 32 14.9**	**+2.1**
KBK	**Karagaybulak**	**7.21**	**44**	P	**Pn**	**16 32 16.0**	**+2.3**
	SNR=124						
CHMS	**Chumysh**	**7.33**	**41**	P	**Pn**	**16 32 17.1**	**+1.7**
	SNR=41						
JMU	**Jammu**	**7.39**	**130**	*ex*	Pb	16 32 30.0	-7.1
JMU				*e*S	**Sn**	**16 33 36.5**	**-2.8**
USP	**Ospenovka**	**7.40**	**39**	P	**Pn**	**16 32 17.6**	**+1.4**
	SNR=28						
BOOM	**Boomskoye usch**	**7.67**	**49**	P	**Pn**	**16 32 21.5**	**+1.4**
BOOM	**Boomskoye usch**	**7.67**	**49**		**Pn**	**16 32 21.5**	**+1.4**
ULHL	**Ulahol**	**7.71**	**51**	P	**Pn**	**16 32 22.6**	**+1.8**
	SNR=13						
TKM2	**Tokmak 2**	**7.74**	**45**	⇓Pn	**Pn**	**16 32 21.0**	**-0.1**
	comp=Z,92nm,0.6s						
TKM2				⇑Sn	**Sn**	**16 33 49.4**	**+1.2**
	comp=Z,91nm,0.9s						
TKM2				⇓Lg	Lg	16 34 38.4	
	comp=Z,249nm,1.1s						
TKM2	**Tokmak 2**	**7.74**	**45**	P	**Pn**	**16 32 22.1**	**+1.0**
TKM2						16 33 50.9	
TKM2				pmax	pmax		
	comp=Z,93nm,0.6s						
TKM2				smax	smax		
	comp=N,91nm,1.0s						
TKM2				pmax	pmax		
	comp=Z,249nm,1.1s						
TKM2	**Tokmak 2**	**7.74**	**45**	P	**Pn**	**16 32 22.8**	**+1.7**
	SNR=38						
GEYT	**Alibeck**	**7.96**	**275**	Pn	**Pn**	**16 32 22.0**	**-1.9**
	comp=Z,5.4nm,0.3s,baz=103,slow=11,SNR=41						
GEYT				Sn	**Sn**	**16 33 50.5**	**-2.9**
	comp=Z,1.9nm,0.3s,baz=106,slow=41,SNR=4.5						
GEYT				LR	LR	16 36 38.1	
	comp=Z,460nm,21.2s,baz=105,slow=47						
GEYT	**Alibeck**	**7.96**	**275**		**Pn**	**16 32 21.2**	**-2.8**
GYA0B	**ALIBECK ARRAY**	**7.96**	**275**	⇓Pn	**Pn**	**16 32 22.2**	**-1.8**
GYA0B				⇓Pg	Pb	16 32 53.1	+6.3
GYA0B				⇑Lg	Lg	16 34 40.0	
GYA0B	**ALIBECK ARRAY**	**7.96**	**275**		**Pn**	**16 32 22.3**	**-1.6**
KDJ	**Kajisay**	**8.25**	**54**	P	**Pn**	**16 32 28.9**	**+0.9**
KDJ	**Kajisay**	**8.25**	**54**		**Pn**	**16 32 28.9**	**+0.9**
TARG	**Taragay, Kyrgy**	**8.47**	**58**		**Pn**	**16 32 31.5**	**+0.1**
DHRM	**DHARAMSHALA**	**8.58**	**127**	*e*P	**Pn**	**16 32 31.7**

comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=13
KURBB Lg Lg 16 38 21.6
baz=232,slow=28,SNR=4.6
KURK Kurchatov 15.04 26 *c*eP **Pn 16 34 00.6 0.0**
KURK pmax pmax
comp=Z,12nm,1.3s
KURK Kurchatov 15.04 26 Pn Pn 16 33 56.7 -3.9
BVAR Borovoye Array 15.45 5 Pn **Pn 16 34 03.3 -2.7**
comp=Z,1.1nm,0.3s,baz=172,slow=12,SNR=30
BVAR Sn **Sn 16 36 48.5 -7.9**
comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=4.1
BRVK Borovoye 15.48 5 ⇑Pn **Pn 16 34 06.8 +0.5**
comp=Z,66nm,1.0s
BRVK ⇑Lg Lg 16 38 41.4
comp=Z,70nm,1.1s
BRVK Borovoye 15.48 5⇑*e*P **Pn 16 34 05.4 -0.9**
BRVK pmax pmax
comp=Z,18nm,0.9s
BRVK Borovoye 15.48 5 Pn 16 34 05.1 -1.2
BRVK P **P 16 34 11.5 +0.8**
BRVK IAmb IAmb 16 34 12.6
comp=Z,62nm,0.9s
WMQ Urumqi 16.02 61 *e*P **Pn 16 34 15.0 +1.5**
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,160nm,5.7s
WMQ LR LR
comp=Z,770nm,8.7s
WMQ LR LR
comp=Z,270nm,6.3s
WMQ Urumqi 16.02 61 P **Pn 16 34 13.0 -0.5**
WMQ pmax pmax
comp=Z,21nm,0.5s
WMQ Urumqi 16.02 61 Pn **Pn 16 34 13.1 -0.5**
DANN Dangsing 16.02 121 *e*P **Pn 16 34 07.7 -6.1**
comp=Z,208nm,1.0s
AKT Akhty 16.21 290 *e*P **Pn 16 34 15.5 -0.5**
AKT *e*S **Sn 16 37 16.9 +1.8**
AKT pmax pmax
comp=Z,5.0nm,0.4s
UOSS Minazif 16.26 222 Pn **Pn 16 34 16.5 -0.1**
KOLN Koldanda 16.29 123 *e*P **Pn 16 34 13.5 -3.7**
comp=Z,196nm,1.1s
WSAR Wadi Sarin 16.54 212 LR LR 16 40 23.1
comp=Z,129nm,21.5s,baz=101,slow=36
GKN Gorkha 16.84 120 *e*P **Pn 16 34 18.9 -5.2**
comp=Z,167nm,0.6s
GNBR Gunib 16.90 293 *i*P **P 16 34 26.9 +0.3**
DMN Daman 17.41 120 *e*P **Pn 16 34 26.5 -4.9**
comp=Z,248nm,0.9s
KKN Kakani 17.42 119 *e*P **Pn 16 34 26.2 -5.2**
comp=Z,215nm,0.7s
PKIN Phulchoki 17.63 120 *e*P **Pn 16 34 29.1 -5.0**
comp=Z,553nm,1.2s
PKI Pulchoki 17.64 120 *e*P **Pn 16 34 29.2 -5.1**
comp=Z,717nm,1.1s
JBP Jabalpur 17.65 142 AMB AMB 16 34 36.7
comp=Z,39nm,1.3s
JBP ⇑*ex* **P 16 34 39.2 +4.4**
GUN Gumba 17.76 118 *e*P **Pn 16 34 31.0 -4.8**
comp=Z,671nm,1.0s
GROC Groznyy 17.89 295 *e*P **P 16 34 37.5 +0.1**
GROC S **Sn 16 37 56.4 +0.8**
GROC pmax pmax
comp=Z,108nm,1.3s
JIRN Jiri 18.13 118 *e*P **Pn 16 34 36.2 -4.1**
comp=Z,985nm,1.3s
DGZ Jazzator, Alta 18.36 43 *c i*P **Pn 16 34 43.1 +0.4**
GNI Garni 18.39 285 *c*e**P Pn 16 34 44.0 +0.7**
GNI pmax pmax
comp=Z,125nm,1.3s
GNI Garni 18.39 285 P **P 16 34 41.7 -1.5**
comp=Z,0.4nm,0.3s,baz=112,slow=8.3,SNR=2.7
GNI Garni 18.39 285 Pn 16 34 43.6 +0.3
GNI IAmb IAmb 16 35 01.9
comp=Z,65nm,1.2s
TBLG Delisi 18.47 290 P **P 16 34 43.1 -0.7**
TBLG pmax pmax
comp=Z,76nm,1.3s
TBLG Delisi 18.47 290 P **P 16 34 43.1 -0.7**
TBLG IAmb IAmb 16 34 58.4
comp=Z,76nm,1.3s
ZEI Tsey 19.20 293 *e*P **P 16 34 51.2 -0.9**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
AKH Akhalkalaki 19.38 289 P **P 16 34 53.2 -0.8**
AKH pmax pmax
comp=Z,25nm,0.9s
AKH Akhalkalaki 19.38 289 P **P 16 34 53.2 -0.8**
TAPN Taplejung 19.39 116 *e*P **P 16 34 52.6 -1.8**
ODAN Odare 19.46 118 *e*P **P 16 34 53.6 -1.5**
NCK Naichik 19.52 295⇑*e*P **Pn 16 34 58.0 +1.3**
NCK pmax pmax
comp=Z,49nm,1.1s
SVE Sverdlovsk 19.83 348 *e*P **Pn 16 34 59.6 -0.6**
SVE *e*S **S 16 38 33.5 -7.2**
SVE pmax pmax
comp=Z,55nm,1.2s
ARU Arti 19.85 344 *c i*P **Pn 16 35 00.0 -0.5**
ARU S **Sn 16 38 44.4 +1.5**
ARU pmax pmax
comp=Z,51nm,1.0s
ARU Arti 19.85 344 P **P 16 34 59.2 +0.4**
comp=Z,0.0nm,0.3s,baz=174,slow=7.8,SNR=27
ARU S **S 16 38 39.3 -1.9**
comp=Z,0.0nm,0.3s,baz=180,slow=20,SNR=3.4
ARU Arti 19.85 344 P **P 16 34 59.3 +0.4**
ARU IAmb IAmb 16 35 01.7
comp=Z,51nm,1.1s
ZAA0 Zalesovo Array 19.93 30 ⇑Pn **P 16 34 59.2 -0.5**
comp=Z,4.4nm,0.8s
ZAA0 Zalesovo Array 19.93 30 P **P 16 34 58.4 -1.3**
ZAA0 IAmb IAmb 16 35 03.7
comp=Z,31nm,0.8s
ZALV Zalesovo Beam 19.93 30 P **P 16 34 59.3 -0.3**
comp=Z,35nm,0.7s,baz=229,slow=11,SNR=42
ZALV S **S 16 38 38.6 -4.1**
comp=Z,0.4nm,0.3s,baz=85,slow=21,SNR=2.8
ZALV Zalesovo Beam 19.93 30 P **S 16 34 58.4 -1.3**
KBZ Khabaz 20.06 296 P **P 16 35 00.8 -0.4**
comp=Z,9.2nm,0.9s,baz=111,slow=6.6,SNR=15
KBZ S Sn 16 38 48.0 +0.1
comp=Z,4.5nm,1.0s,baz=72,slow=19,SNR=2.0
GOF Gofitskoye 20.20 299⇑*e*P Pn 16 35 04.4 -0.4
GOF pmax pmax
comp=Z,112nm,1.3s
SHA1 Shidzhatmaz 20.23 295 *i*P Pn 16 35 05.0 -0.3
KVAR Kislovodsk Arr 20.24 296 P **P 16 35 02.7 -0.6**
comp=Z,2.7nm,0.5s,baz=102,slow=19,SNR=4.2
KVAR S **S 16 38 44.7 -4.7**
comp=Z,5.6nm,0.8s,baz=205,slow=17,SNR=2.0
KIV Kislovodsk 20.24 296 *e*P Pn 16 35 04.8 -0.6
KIV *e*S Sn 16 38 51.5 -1.1
KIV pmax pmax
comp=Z,51nm,1.1s
KIV Kislovodsk 20.24 296 P **P 16 35 03.4 0.0**
LSA Lhasa 20.68 106 P **P 16 35 09.1 +0.6**
LSA pmax pmax
comp=Z,69nm,1.5s
LSA Lhasa 20.68 106 P **P 16 35 09.1 +0.6**
LSA IAmb IAmb 16 35 14.3
comp=Z,68nm,1.5s
DOMR Dombai 20.92 294 *i*P Pn 16 35 13.6 +0.3
DOMR pmax pmax
comp=Z,17nm,1.0s
HYB Hyderabad 22.13 153 *i*P **P 16 35 25.0 +1.2**
SOC Sochi 22.33 294 *c i*P **P 16 35 27.1 +1.4**
SOC *e* 16 35 48.6
SOC *e*S **S 16 39 31.5 +1.5**
SOC *e*SS **SnSn 16 40 01.8 +3.8**
SOC pmax pmax
comp=Z,53nm,1.3s
SOC MLR MLR
comp=Z,235nm,15.0s
VRH Novokhopyorsk 23.08 314 *e*P **P 16 35 38.7 +5.2**
VRH pmax pmax
comp=Z,140nm,0.9s
SHL Shillong 23.45 114 P **P 16 35 36.2 -1.5**
SHL pmax pmax
comp=Z,69nm,1.1s
SHL Shillong 23.45 114 P **P 16 35 36.1 -1.5**
SHL IAmb IAmb 16 35 41.0
comp=Z,69nm,1.1s
RAYN Ar Rayn 23.98 240 P **P 16 35 43.4 +0.8**
RAYN pmax pmax
comp=Z,26nm,1.3s
RAYN Ar Rayn 23.98 240 P **P 16 35 43.4 +0.8**
ANN Anapa 24.09 297 *e*P **P 16 35 47.9 +4.5**
ANN pmax pmax
comp=Z,85nm,1.5s
ANN MLR MLR
comp=Z,832nm,17.0s
KIRV Kirov 24.24 336 P **P 16 35 44.4 -0.2**
comp=Z,42nm,0.8s,baz=284,slow=3.7,SNR=11
VORD Divnogorie 24.39 312 *e*P **P 16 35 47.5 +1.4**
VORD pmax pmax
comp=Z,9.0nm,0.4s
VSR Storozhevoye 24.56 313 *e*P **P 16 35 47.7 +0.1**
VSR pmax pmax
comp=Z,30nm,1.2s
GTA Gaotai 24.76 76 *e*P **P 16 35 51.4 +1.7**
GTA pP pP 16 35 54.8 -1.8
GTA sP sP 16 35 57.2 -2.2
GTA S **S 16 40 14.4 +3.6**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,200nm,4.2s
GTA LR LR
comp=Z,410nm,13.7s
GTA LR LR
comp=Z,380nm,14.4s
GTA LR LR
comp=Z,500nm,15.8s
LPSR Galich'ya Gora 25.24 316 *e*P **P 16 35 54.5 +0.7**
LPSR pmax pmax
comp=Z,60nm,1.0s
ASF Jabal al Asfar 26.14 267 P **P 16 36 03.3 +1.0**
comp=Z,2.2nm,0.9s,baz=239,slow=7.1,SNR=5.3
SIM Simferopol' 26.45 297 P **P 16 36 05.0 +0.2**
SIM pmax pmax
comp=Z,46nm,1.2s
BZK Bozkurt 26.48 290 ⇑P **P 16 36 08.5 +3.4**
BR131 Keskin Array S 26.93 285 P **P 16 36 10.3 +0.9**
BR131 pmax pmax
comp=Z,7.0nm,1.0s
BR131 Keskin Array S 26.93 285 P **P 16 36 10.3 +0.9**
BRTR Keskin Array B 26.93 285 P **P 16 36 10.0 +0.6**
BRTR Keskin Array B 26.93 285 P **P 16 36 10.3 +0.9**
comp=Z,1.8nm,0.6s,baz=103,slow=9.7,SNR=14
BRTR Keskin Array B 26.93 285 P **P 16 36 10.1 +0.6**
MOS Moscow 27.34 321 *e*P **P 16 36 12.5 -0.2**
MOS *e* 16 37 03.9
MOS pmax pmax
comp=Z,41nm,1.0s
OBN Obninsk 27.59 319 *e*P **P 16 36 16.7 +1.8**
OBN *e* 16 37 01.4
OBN *e*PPP PPP 16 37 11.2
OBN pmax pmax
comp=Z,39nm,1.3s
OBN Obninsk 27.59 319 P **P 16 36 15.9 +1.1**
comp=Z,5.9nm,0.3s,baz=199,slow=17,SNR=5.0
OBN LR LR 16 47 59.9
comp=Z,32nm,21.4s,baz=169,slow=38
OBN Obninsk 27.59 319 P **P 16 36 16.4 +1.5**
OBN IAmb IAmb 16 37 03.7
comp=Z,44nm,1.2s
SIMRM Sittwe 27.68 122 P **P 16 36 17.5 +1.5**
SIMRM IAmb IAmb 16 36 23.5
comp=Z,27nm,1.5s
PRGR Permogore 27.80 337 *e*P **P 16 36 15.0 -1.8**
PRGR pmax pmax
comp=Z,12nm,0.7s
ZAK Zakamensk 28.00 52 *e*P **P 16 36 17.5 -1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 28.48 82 *e*P **P 16 36 27.0 +3.7**
LZH pP pP 16 36 30.8 +0.5
LZH sP sP 16 36 33.1 0.0
LZH pmax pmax
comp=Z,24nm,1.0s
TLY Talaya 28.55 49 *e*P P 16 36 16.7 -6.9
TLY pmax pmax
comp=Z,13nm,0.8s
TLY MLR MLR
comp=Z,751nm,11.0s
TLY Talaya 28.55 49 LR LR 16 48 10.5
comp=Z,113nm,19.8s,baz=274,slow=37
EIL Elat 28.66 264 P **P 16 36 25.6 +0.8**
comp=Z,6.2nm,0.9s,baz=350,slow=7.1,SNR=4.4
EIL LR LR 16 49 10.6
comp=Z,164nm,19.7s,baz=30,slow=39
KLMR Klimovskoe 29.38 331 *e*P **P 16 36 29.8 -0.9**
KLMR pmax pmax
comp=Z,22nm,1.3s
KLMR Klimovskoe 29.38 331 *e*P **P 16 36 29.9 -0.8**
KLMR AMP 16 36 36.3
comp=Z,22nm,1.3s
SONM Songino Array 29.59 58 P **P 16 36 33.7 +0.7**
comp=Z,2.2nm,0.7s,baz=268,slow=8.8,SNR=12
SONM Songino Array 29.59 58 P **P 16 36 34.1 +1.1**
ULN Ulaanbaatar 30.04 58 *c*e**P P 16 36 40.4 +3.4**
ULN pmax pmax
comp=Z,20nm,2.5s
ULN Ulaanbaatar 30.04 58 P **P 16 36 37.5 +0.6**
CD2 Chengdu 30.04 92 P **P 16 36 36.9 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.6s
AKASG Malin Array Be 30.45 308 P **P 16 36 39.6 -0.8**
comp=Z,1.0nm,0.4s,baz=86,slow=7.4,SNR=6.4
AKASG Malin Array Be 30.45 308 P **P 16 36 40.9 +0.5**
AKBB Malin Array Si 30.45 308 P **P 16 36 40.7 +0.3**
AKBB pmax pmax
comp=Z,31nm,1.8s
AKBB Malin Array Si 30.45 308 P **P 16 36 40.7 +0.3**
AKBB IAmb IAmb 16 37 25.1
comp=Z,31nm,1.8s
CFR Carcaliu 30.70 297 ⇑P **P 16 36 44.7 +2.1**
CFR Carcaliu 30.70 297 ⇑P **P 16 36 44.7 +2.1**
VRI Vrincioaia 31.68 298 ⇑P **P 16 36 54.3 +2.9**
VRI Vrincioaia 31.68 298 ⇑P **P 16 36 54.3 +2.9**
PLOR Plostina 31.74 298 ⇑P **P 16 36 53.9 +2.0**
PLOR Plostina 31.74 298 ⇑P **P 16 36 53.9 +2.0**
KMI Kunming 31.87 103 P **P 16 36 55.5 +2.1**
KMI pmax pmax
comp=Z,10.0nm,0.5s
MLR Muntele Rosu 32.24 298 ⇑P **P 16 36 59.0 +2.6**
MLR Muntele Rosu 32.24 298 ⇑P **P 16 36 59.0 +2.6**
ELND Elena 32.43 293 ⇑P **P 16 36 59.4 +1.5**
BURAR Bucovina Array 32.75 302 ⇑P **P 16 37 03.2 +2.4**
BURAR Bucovina Array 32.75 302 ⇑P **P 16 37 03.2 +2.4**
BURAR Bucovina Array 32.75 302 P **P 16 37 01.1 +0.3**
CHTO Chiang Mai 32.76 116 P **P 16 37 00.4 -0.7**
CHTO pmax pmax
comp=Z,17nm,1.6s
CHTO Chiang Mai 32.76 116 P **P 16 37 00.4 -0.7**
CHTO IAmb IAmb 16 37 05.4
comp=Z,17nm,1.6s
CMMT Chiang Mai 32.77 116 P **P 16 37 03.9 +2.8**
comp=Z,3.4nm,0.9s
VOIR 32.87 298 ⇑P **P 16 37 04.1 +2.3**
VOIR 32.87 298 ⇑P **P 16 37 04.1 +2.3**
CM31 Chiang Mai Arr 33.00 117 P **P 16 37 02.7 -0.4**
CM31 IAmb IAmb 16 37 06.6
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 33.00 117 P **P 16 37 02.0 -1.1**
comp=Z,8.5nm,0.8s,baz=300,slow=8.2,SNR=23
CMAR Chiang Mai Arr 33.00 117 P **P 16 37 02.5 -0.7**
XAN Xi'an 33.05 84 P **P 16 37 06.4 +2.9**
XAN pP sP 16 37 13.6 +0.3
XAN pmax pmax
comp=Z,13nm,1.1s
XAN Xi'an 33.05 84 P **P 16 37 03.4 -0.1**
XAN pmax pmax
comp=Z,14nm,1.1s
XAN Xi'an 33.05 84 P **P 16 37 03.4 -0.1**
XAN IAmb IAmb 16 37 07.1
comp=Z,14nm,1.1s
ARCR ARCALIA 33.33 301 ⇑P **P 16 37 08.4 +2.7**
NRIK Noril'sk 33.44 12 P **P 16 37 07.2 +0.8**
comp=Z,2.7nm,0.5s,baz=130,slow=3.4,SNR=4.9
NRIK LR LR 16 50 44.6
comp=Z,201nm,19.0s,baz=0.5,slow=36
HHC Hu-ho-hao-te 33.51 71 *e*P **P 16 37 08.5 +1.0**
HHC pmax pmax
comp=Z,8.0nm,1.1s
UMPA Umpang Tak 34.47 120 P **P 16 37 19.6 +3.7**
comp=Z,30μm,1.0s,comp=Z,270μm
GZR Gura Zlata 34.47 298 ⇑P **P 16 37 17.7 +2.0**
GZR Gura Zlata 34.47 298 ⇑P **P 16 37 17.7 +2.0**
TRPA Tarpa 34.56 302 ⇑P **P 16 37 19.4 +2.9**
UZH Uzhgorod 34.73 303 *e*P **P 16 37 18.6 +0.7**
UZH *i* 16 37 28.1
KOLS Kolonicke sedl 34.75 304 *e*P **P 16 37 20.5 +2.4**
KOLS *e* 16 38 36.7
KOLS Kolonicke sedl 34.75 304 *e*P **P 16 37 20.5 +2.4**
KOLS *e*PP **PP 16 38 36.7 -0.2**
FIA1 FINESS Array S 35.26 326 P **P 16 37 23.2 +0.9**
FINES FINESS Array B 35.26 326 P **P 16 37 23.1 +0.8**
comp=Z,4.7nm,0.7s,baz=120,slow=9.8,SNR=18
BZS Buzias 35.27 298 ⇑P **P 16 37 23.5 +1.0**
BZS Buzias 35.27 298 ⇑P **P 16 37 23.5 +1.0**
KHLT Khaolaem Dam 35.28 122 P **P 16 37 21.2 -1.7**
comp=Z,26nm,1.4s,comp=Z,547nm
UTHA Uthaitani 35.32 120 P **P 16 37 26.0 +2.7**
comp=Z,21μm,1.0s,comp=Z,202μm
LIT Litokhoron 35.34 288 P **P 16 37 23.3 0.0**
LIT pmax pmax
comp=Z,24nm,1.1s
LIT Litokhoron 35.34 288 P **P 16 37 23.2 0.0**
LIT IAmb IAmb 16 37 43.3
comp=Z,24nm,1.1s
LVZ Lovozero 35.56 339 P **P 16 37 25.2 +0.4**
LVZ pmax pmax
comp=Z,232nm,2.0s
LVZ Lovozero 35.56 339 P **P 16 37 25.2 +0.4**
PBKT Sadao Pong 35.69 117 P **P 16 37 28.7 +2.3**
comp=Z,7.7nm,0.9s,comp=Z,317nm
PBKT Sadao Pong 35.69 117 P **P 16 37 25.7 -0.7**
PBKT IAmb IAmb 16 37 29.7
comp=Z,36nm,1.5s
APA Apatity 35.71 338⇑*i*P P 16 37 13.1 -13
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,700nm,11.0s
BOD Bodaibo 35.92 41 *e*P **P 16 37 28.6 +0.6**
BOD pmax pmax
comp=Z,26nm,0.9s
SRDT SRDT 35.95 122 P **P 16 37 31.1 +2.4**
comp=Z,6.5nm,0.9s,comp=Z,5μm
NONG Nongkai 36.28 113 P **P 16 37 34.2 +2.7**
comp=Z,0.3nm,1.1s
CHAI Chaiyaphum 36.86 117 P **P 16 37 38.9 +2.5**
comp=Z,20μm,1.1s,comp=Z,427μm
VYHS Vyhne 37.03 303 *e*P **P 16 37 39.5 +1.9**
VYHS Vyhne 37.03 303 *e*P **P 16 37 39.5 +1.9**
JAVC Velka Javorina 37.79 304 *e*P **P 16 37 47.2 +3.1**
MORC Moravsky Berou 37.85 305 ⇑P **P 16 37 46.3 +1.7**
MORC Moravsky Berou 37.85 305 ⇑P **P 16 37 46.3 +1.7**
MORC Moravsky Berou 37.85 305 *e*P **P 16 37 46.3 +1.7**
MODS Modra-Piesok 38.07 303 *e*P **P 16 37 47.5 +1.1**
MODS Modra-Piesok 38.07 303 *e*P **P 16 37 47.5 +1.1**
KRLC Kraliky 38.34 306 *e*P **P 16 37 49.9 +1.2**
KRLC Kraliky 38.34 306 *e*P **P 16 37 49.9 +1.2**
VRAC Vranov 38.48 305 *e*P **P 16 37 51.7 +1.8**
WHN Wuhan 38.59 87 ⇓P **P 16 37 54.4 +3.5**
WHN pmax pmax
comp=Z,34nm,0.9s
KRUC Moravsky 38.62 304 *e*P **P 16 37 52.6 +1.6**
DPC Dobruska-Polom 38.62 306 *e*P **P 16 37 52.7 +1.6**
DPC Dobruska-Polom 38.62 306 *e*P **P 16 37 52.7 +1.6**
UPC Upice 38.82 306 *e*P **P 16 37 55.1 +2.4**
UPC Upice 38.82 306 *e*P **P 16 37 55.1 +2.4**
ARCES ARCESS Array B 39.22 338 P **P 16 37 56.2 +0.5**
comp=Z,7.1nm,0.8s,baz=119,slow=8.4,SNR=13
BRG Berggiesshubel 40.12 307 *e*P **P 16 38 05.0 +1.5**
comp=Z,10nm,0.7s
GERES GERESS Array B 40.41 304 P **P 16 38 06.3 +0.3**
comp=Z,0.7nm,0.6s,baz=82,slow=8.0,SNR=7.4
GERES LR LR 16 59 20.0
comp=Z,158nm,19.5s,baz=61,slow=43
KHC Kasperske Hory 40.47 304 *e*P **P 16 38 07.5 +1.1**
KHC Kasperske Hory 40.47 304 *e*P **P 16 38 07.5 +1.1**
CLL Collm 40.70 308 P **P 16 38 08.9 +0.7**
CLL pmax pmax
comp=Z,25nm,1.7s
CLL Collm 40.70 308 *e*P **P 16 38 09.0 +0.7**
CLL *e*PP **PP 16 39 41.0 -1.0**
CLL Collm 40.70 308 P **P 16 38 08.9 +0.7**
CLL IAmb IAmb 16 39 10.6
comp=Z,25nm,1.7s
NJ2 Nanjing 41.56 82 *e*P **P 16 38 16.2 +0.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NC602 NORSAR Array S 41.90 322 P **P 16 38 17.3 -0.7**
NC303 NORSAR Array S 42.04 323 P **P 16 38 19.8 +0.6**
NB201 NORSAR Array S 42.05 323 P **P 16 38 19.9 +0.6**
NB2 NORSAR Subarra 42.09 323 P **P 16 38 19.7 +0.1**
comp=Z,1.4nm,0.4s,baz=98,slow=8.6
NOA NORSAR Array B 42.09 323 P **P 16 38 19.8 +0.1**
comp=Z,2.0nm,0.5s,baz=98,slow=8.1,SNR=16
NOA LR LR 16 57 30.0
comp=Z,89nm,19.1s,baz=310,slow=38
NBO00 NORSAR Array S 42.30 322 P **P 16 38 21.7 +0.4**
NC204 NORSAR Array S 42.34 323 P **P 16 38 22.6 +0.9**
YAK Yakutsk 44.36 36 *e*P **P 16 38 37.3 -0.6**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK Yakutsk 44.36 36 P **P 16 38 38.3 +0.4**
comp=E,17nm,0.7s,baz=4.4,slow=0.9,SNR=6.0
YAK Yakutsk 44.36 36 P **P 16 38 38.7 +0.8**
GSI Gunungsitoli 45.17 136 P **P 16 38 45.8 +0.9**
GSI IAmb IAmb 16 38 53.2
comp=Z,33nm,1.2s
TIXI Tiksi 45.57 23 P **P 16 38 47.7 +0.3**
TIXI pmax pmax
comp=Z,14nm,1.1s
TIXI Tiksi 45.57 23 P **P 16 38 47.7 +0.3**
TIXI IAmb IAmb 16 38 59.4
comp=Z,14nm,1.1s
SPA0 Spitsbergen Ar 45.86 347 P **P 16 38 50.8 +1.2**
KLR Kul'dur 46.30 54 P **P 16 38 54.0 +0.5**
KLR Kul'dur 46.30 54 P **P 16 38 54.0 +0.5**
comp=Z,3.7nm,0.8s,baz=276,slow=5.1,SNR=8.5
KSAR Wonju Array Be 46.62 71 P **P 16 38 58.2 +2.1**
KSAR Wonju Array Be 46.62 71 P **P 16 38 58.2 +2.1**
KSRS Korea Array 46.65 71 P **P 16 38 57.0 +0.7**
KSRS Korea Array 46.65 71 P **P 16 38 57.0 +0.7**
comp=Z,1.8nm,0.6s,baz=274,slow=6.5,SNR=7.0
KSRS LR LR 17 00 54.7
comp=Z,152nm,19.2s,baz=323,slow=39
USRK Ussuriysk Ar. 47.59 61 P **P 16 39 03.9 +0.3**
comp=Z,2.9nm,0.8s,baz=251,slow=7.2,SNR=4.7
USRK LR LR 17 00 48.1
comp=Z,96nm,20.5s,baz=328,slow=38
KMBO Kilima Mbogo 48.01 224 P **P 16 39 06.8 -0.7**
comp=Z,0.9nm,0.4s,baz=40,slow=16,SNR=2.2
MBAR Mbarara 51.40 231 P **P 16 39 33.6 +0.5**
comp=Z,3.4nm,0.2s,baz=330,slow=3.1,SNR=3.6
MBAR Mbarara 51.40 231 IAmb IAmb 16 39 34.6
comp=Z,6.7nm,1.2s
DAG Danmarks Havn 52.98 343 *i*P **P 16 39 45.0 +1.1**
DAG Danmarks Havn 52.98 343 *i*P **P 16 39 45.0 +1.1**
MJAR Matsushiro Arr 54.64 68 P **P 16 39 57.9 +1.3**
comp=Z,4.1nm,1.0s,baz=284,slow=11,SNR=4.8
SEY Seymchan 54.73 34 P **P 16 39 58.6 +1.8**
comp=Z,3.5nm,0.9s,baz=245,slow=9.6,SNR=4.6
ESDC Sonseca Array 54.91 296 P **P 16 39 58.6 0.0**
comp=Z,0.9nm,0.6s,baz=61,slow=8.8,SNR=7.6
ESDC Sonseca Array 54.91 296 P **P 16 39 58.1 -0.5**
BILL Bilibino 58.56 26 *e*P **P 16 40 24.5 +0.4**
BILL *e* 16 42 35.8
BILL *e*PPP PPP 16 43 53.7
BILL pmax pmax
comp=Z,3.0nm,1.1s
SUMG Summit 59.23 340 *i*P **P 16 40 30.7 +1.6**
SUMG Summit 59.23 340 *i*P **P 16 40 30.7 +1.6**
TOA0 Torodi Ar. Sit 63.50 266 P **P 16 40 57.6 -0.8**
TOA0 IAmb IAmb 16 41 02.4
comp=Z,26nm,1.6s
TORD Torodi Ar. Bea 63.50 266 P **P 16 40 57.4 -1.0**
comp=Z,5.1nm,0.7s,baz=40,slow=6.8,SNR=29
TORD LR LR 17 12 31.2
comp=Z,52nm,18.4s,baz=340,slow=40
TORD Torodi Ar. Bea 63.50 266 P **P 16 40 56.9 -1.4**
TOLK Toolik Lake Re 70.36 14 P **P 16 41 42.3 +1.0**
TOLK IAmb IAmb 16 41 46.5
comp=Z,8.9nm,0.8s
COLD Coldfoot 71.45 15 P **P 16 41 49.0 +1.2**

COLD					IAmb	IAmb	16 41 50.7	
	comp=Z,6.7nm,1.1s							
IMAR	**Indian Mountai**	**71.74**	**17**		P	**P**	**16 41 49.8**	**+0.2**
BMAR	**Burnt Mountain**	**72.33**	**13**		P	**P**	**16 41 54.9**	**+1.7**
DBIC	**Dimbokro**	**72.52**	**265**		LR	LR	17 18 32.0	
	comp=Z,85nm,19.1s,baz=358,slow=40							
INK	**Inuvik**	**73.11**	**8**		P	**P**	**16 41 58.9**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=340,slow=6.7,SNR=7.5							
INK	**Inuvik**	**73.11**	**8**		P	**P**	**16 41 59.6**	**+1.9**
INK					IAmb	IAmb	16 42 03.5	
	comp=Z,10nm,1.1s							
MLY	**Manley**	**73.22**	**16**		P	**P**	**16 41 59.6**	**+1.1**
MLY					IAmb	IAmb	16 42 27.1	
	comp=Z,16nm,1.6s							
TSUM	**Tsumeb**	**73.89**	**229**		P	**P**	**16 42 03.1**	**-0.1**
IL31		**74.27**	**15**		P	**P**	**16 42 04.8**	**+0.3**
ILAR	**Eielson Array**	**74.27**	**15**		P	**P**	**16 42 04.0**	**-0.6**
ILAR	**Eielson Array**	**74.27**	**15**		P	**P**	**16 42 04.0**	**-0.6**
	comp=Z,5.8nm,0.3s,baz=320,slow=4.5,SNR=12							
SCRK	**Sand Creek**	**75.55**	**14**		P	**P**	**16 42 12.9**	**+0.7**
SCRK					IAmb	IAmb	16 42 12.9	
	comp=Z,33nm,2.0s							
DAWY	**Dawson**	**76.30**	**12**		P	**P**	**16 42 17.2**	**+0.9**
BCAR	**Beaver Creek A**	**76.80**	**14**		P	**P**	**16 42 20.3**	**+1.1**
BOSA	**Boshof**	**77.21**	**218**		P	**P**	**16 42 20.5**	**-1.5**
	comp=Z,4.3nm,0.8s,baz=77,slow=2.5,SNR=4.5							
HYT	**Haines Junctio**	**79.64**	**12**		P	**P**	**16 42 35.5**	**+0.5**
HYT					IAmb	IAmb	16 42 38.1	
	comp=Z,18nm,1.4s							
YKA	**Yellowknife Ar**	**80.17**	**1**		P	**P**	**16 42 37.8**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=354,slow=5.0,SNR=13							
WRA	**Warramunga Arr**	**84.53**	**120**		P	**P**	**16 42 59.8**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=320,slow=13,SNR=5.9							
ASAR	**Alice Springs**	**86.78**	**123**		P	**P**	**16 43 09.6**	**-2.7**
	comp=Z,0.5nm,1.0s,baz=316,slow=5.2,SNR=3.1							
SADO	**Sadowa**	**92.80**	**337**		LR	LR	17 26 49.4	
	comp=Z,39nm,18.2s,baz=150,slow=36							
CTA	**Charters Tower**	**93.08**	**113**		LR	LR	17 30 52.4	
	comp=Z,197nm,19.1s,baz=68,slow=39							
STKA	**Stephens Creek**	**97.30**	**125**		LR	LR	17 36 05.6	
	comp=Z,148nm,20.1s,baz=24,slow=40							
PLCA	**Paso Flores**	**148.06**	**251**		PKPbc	**PKPbc**	**16 50 12.5**	**-0.8**
	comp=Z,4.3nm,1.0s,baz=160,slow=6.1,SNR=5.1							

KRSC 12 16:52:30.5±1.8, 54°.94N×165°.40E, h46km±16km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.42**	**51**	*eP*	Pn	16 52 40.7	+0.1
BKI				*eS*	Sn	16 52 46.4	-1.4
KBTR	**Krutoberegovo**	**1.94**	**312**	*eP*	Pn	16 53 04.5	+3.5
KBTR				*eS*	Sn	16 53 24.1	0.0
MKZ	**Mys Kozlova**	**2.16**	**261**	*eP*	Pn	16 53 07.3	+3.3
MKZ				*eS*	Sn	16 53 33.6	+4.1
ZLN	**Zelenaya**	**2.83**	**294**	*eP*	Pn	16 53 16.5	+3.2
BDR	**Baidarnaya**	**2.88**	**306**	*eP*	Pn	16 53 17.1	+3.2
BDR				*eS*	Sn	16 53 50.8	+3.5
TUMD	**Tumrok D**	**2.89**	**277**	*eP*	Pn	16 53 17.9	+3.9
TUMD				*eS*	Sn	16 53 50.9	+3.5
SRKR	**Sorokina**	**2.94**	**307**	*eP*	Pn	16 53 19.1	+4.3
SRKR				*eS*	Sn	16 53 52.5	+3.6
KZV	**Kizimen**	**2.94**	**275**	*eP*	Pn	16 53 18.5	+3.6
KZV				*eS*	Sn	16 53 53.2	+4.2
BZMR	**Bezymyannaya**	**2.97**	**292**	*eP*	Pn	16 53 19.6	+4.4
BZWR	**Bezymyannyi-We**	**2.98**	**292**	*eP*	Pn	16 53 19.4	+4.1
KLY	**Klyuchi**	**3.02**	**299**	*eP*	Pn	16 53 17.5	+1.7
KLY				*eS*	Sn	16 53 51.4	+0.7
KRSR	**Krestovskiy**	**3.03**	**297**	*eP*	Pn	16 53 18.8	+2.8
KRSR				*eS*	Sn	16 53 52.8	+1.8
TUMR	**Tumrok**	**3.04**	**279**	*eP*	Pn	16 53 20.3	+4.2
TUMR				*eS*	Sn	16 53 56.1	+4.8
KIRR	**Kirishev**	**3.05**	**292**	*eP*	Pn	16 53 20.6	+4.2
KIRR				*eS*	Sn	16 53 56.6	+4.9
KMNR	**Kamenistaya**	**3.06**	**288**	*eP*	Pn	16 53 21.0	+4.6
KMNR				*eS*	Sn	16 53 58.5	+6.7
KPT	**Kopyto**	**3.12**	**291**	*eP*	Pn	16 53 21.1	+3.8
KPT				*eS*	Sn	16 53 58.8	+5.5
KOZ	**Kozyrevsk**	**3.34**	**292**	*eP*	Pn	16 53 24.9	+4.7
KOZ				*eS*	Sn	16 54 05.0	+6.5
KII	**Karymskiy**	**3.59**	**258**	*eP*	Pn	16 53 28.2	+4.6
SPN	**Mys Shipunski**	**3.67**	**242**	*eP*	Pn	16 53 28.3	+3.6
SPN				*eS*	Sn	16 54 08.2	+1.6
ESO	**Esso**	**3.94**	**287**	*eP*	Pn	16 53 32.9	+4.4
NLC	**Nalytchevo**	**3.98**	**246**	*eP*	Pn	16 53 32.9	+3.9
NLC				*eS*	Sn	16 54 17.5	+3.2
SDLR	**Sedlovina**	**4.18**	**249**	*eP*	Pn	16 53 36.2	+4.4
SDLR				*eS*	Sn	16 54 23.1	+3.7
SMAR	**Somma**	**4.23**	**249**	*eP*	Pn	16 53 37.2	+4.6
SMAR				*eS*	Sn	16 54 23.8	+3.0
KRER	**Koryakskii**	**4.24**	**250**	*eP*	Pn	16 53 37.7	+5.0
KRER				*eS*	Sn	16 54 24.6	+3.6
UGLR	**Uglovaya**	**4.24**	**249**	*eP*	Pn	16 53 37.5	+4.8
AVH	**Avacha**	**4.26**	**250**	*eP*	Pn	16 53 37.9	+5.0
AVH				*eS*	Sn	16 54 25.3	+3.9
KRX	**Arik**	**4.27**	**251**	*eP*	Pn	16 53 37.9	+4.8
KRX				*eS*	Sn	16 54 25.3	+3.6
KOK	**Koryaka**	**4.31**	**250**	*eP*	Pn	16 53 38.6	+5.1
DALK	**Dalny**	**4.36**	**247**	*eP*	Pn	16 53 38.4	+4.2
OSSR	**Ossora**	**4.51**	**345**	*eP*	Pn	16 53 38.3	+2.2
GNL	**Ganaly**	**4.54**	**257**	*eP*	Pn	16 53 41.9	+5.1
KRMR	**Karymshinskiy**	**4.79**	**247**	*eP*	Pn	16 53 45.5	+5.4
KRMR				*eS*	Sn	16 54 36.9	+2.7
RUS	**Russkaya**	**4.80**	**241**	*eP*	Pn	16 53 44.3	+4.1
MTVR	**Mutnovka**	**4.94**	**243**	*eP*	Pn	16 53 47.3	+5.0
MTVR				*eS*	Sn	16 54 41.7	+3.5
ASAK	**Asacha**	**5.14**	**243**	*eP*	Pn	16 53 50.2	+5.2
ASAK				*eS*	Sn	16 54 46.3	+3.3
SKR	**Severo-Kuril's**	**7.06**	**237**	*eP*	Pn	16 54 15.5	+4.4
SKR				*eS*	Sn	16 55 31.4	+1.5

*DDA **12** 16:59:39.5, 36°.18N×28°.05E, h7km±4km, ML3.6*
*ISCJB **12** 16:59:41.9±0.7, 36°.04N±0°.04×28°.23E±0°.04, h71km±7km, Error ellipse: s-maj=6.9km s-min=5.3km az=149.9*
*ISK **12** 16:59:41.1, 36°.03N×28°.23E, h76km±1km, ML2.6/15*
*ATH **12** 16:59:41.1, 36°.01N×28°.27E, h74km±5km, ML2.6/3, Error ellipse: s-maj=8.3km s-min=2.1km az=346.0*
*THE **12** 16:59:43.1, 36°.03N×28°.24E, h68km±2km, ML2.6/3, Error ellipse: s-maj=2.1km s-min=0.8km az=190.0*
ISC 12 16:59:42.2±1.4, 36°.03N±0°.04×28°.23E±0°.04, h71km±8km, n35, σ0§68/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.21**	**335**	P	**Pn**	**16 59 53.1**	**+0.2**
ARG				S	**Sn**	**17 00 00.8**	**0.0**
	438nm,0.2s						
ARG	**Arkhangelos**	**0.21**	**335**	P	**Pn**	**16 59 53.2**	**+0.2**
ARG				S	**Sn**	**17 00 01.1**	**+0.4**
ARG				AML	AML	17 00 01.7	
	comp=E,1117μm,0.2s						
ARG				AML	AML	17 00 02.4	
	comp=N,619μm,0.3s						
ARG	**Arkhangelos**	**0.21**	**335**	PG	**Pn**	**16 59 53.0**	**+0.2**
ARG				SG	**Sn**	**17 00 01.5**	**+0.7**
MRSB	**Marmaris-Mugla**	**0.69**	**358**	PG	**Pn**	**16 59 57.2**	**+0.1**
MRSB				SG	**Sn**	**17 00 08.6**	**+0.6**
DALY	**Dalyan (Mula)**	**0.86**	**23**	PG	**Pn**	**16 59 59.0**	**0.0**
DALY				SG	**Sn**	**17 00 11.5**	**+0.1**
DAT	**Datca**	**0.88**	**323**	PG	**Pn**	**16 59 59.4**	**+0.1**
TURN	**Turunc**	**0.90**	**19**	PG	**Pn**	**16 59 57.7**	**-1.7**
TURN				SG	**Sn**	**17 00 09.8**	**-2.4**
FETY	**Fethiye**	**0.92**	**48**	P	**Pn**	**16 59 59.5**	**-0.2**
FETY				S	**Sn**	**17 00 12.3**	**-0.4**
FETY	**Fethiye**	**0.92**	**48**	PG	**Pn**	**16 59 59.5**	**-0.2**
KARP	**Karpathos**	**0.99**	**242**	P	**Pn**	**17 00 00.9**	**+0.2**
KARP				S	**Sn**	**17 00 14.0**	**-0.4**
	comp=N,388nm,0.2s						
KARP	**Karpathos**	**0.99**	**242**	P	**Pn**	**17 00 01.0**	**+0.2**
KARP				S	**Sn**	**17 00 14.3**	**-0.1**
KARP				AML	AML	17 00 14.7	
	comp=N,1012μm,0.3s						
KARP				AML	AML	17 00 14.9	
	comp=E,545μm,0.1s						
KARP	**Karpathos**	**0.99**	**242**	PG	**Pn**	**17 00 00.5**	**-0.2**
KSL	**Kastellorizon**	**1.10**	**83**	P	**Pn**	**17 00 02.0**	**+0.1**
KSL				S	**Sn**	**17 00 16.4**	**-0.3**
	comp=E,202nm,0.4s						
KSL	**Kastellorizon**	**1.10**	**83**	P	**Pn**	**17 00 02.2**	**+0.2**
KSL				S	**Sn**	**17 00 15.5**	**-1.2**
KSL				AML	AML	17 00 17.5	
	comp=N,299μm,0.4s						
KSL				AML	AML	17 00 17.7	
	comp=E,506μm,0.4s						
YER	**Yerkesik**	**1.11**	**2**	P	**Pn**	**17 00 02.7**	**+0.6**
YER				S	**Sn**	**17 00 16.6**	**-0.4**
YER	**Yerkesik**	**1.11**	**2**	PN	**Pn**	**17 00 02.3**	**+0.2**
AKAS	**Kas**	**1.13**	**79**	PN	**Pn**	**17 00 02.5**	**0.0**
BODT	**Bodrum**	**1.27**	**325**	P	**Pn**	**17 00 04.2**	**0.0**
BODT				S	**Sn**	**17 00 20.3**	**-0.4**
BODT	**Bodrum**	**1.27**	**325**	PN	**Pn**	**17 00 04.3**	**0.0**
MLSB	**Milas**	**1.32**	**344**	PN	**Pn**	**17 00 04.9**	**+0.1**
ELL	**Elmali**	**1.53**	**61**	PN	**Pn**	**17 00 08.4**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.54**	**21**	*i* P	**Pn**	**17 00 08.2**	**+0.5**
TAVA				*i* S	**Sn**	**17 00 28.0**	**+1.0**
TAVA				IAML_P			
	comp=Z,3μm,0.1s						
GOLH	**Golhisar**	**1.61**	**41**	*i* P	**Pn**	**17 00 10.9**	**+2.2**
GOLH				IAML_P			
	comp=Z,4μm,0.2s						
AYDN	**Tasoluk**	**1.66**	**350**	*i* P	**Pn**	**17 00 10.4**	**+1.1**
AYDN				*i* S	**Sn**	**17 00 29.3**	**-0.5**
AYDN				IAML_P			
	comp=Z,5μm,0.2s						
GCAM	**G?zelcaml?**	**1.85**	**335**	*i* P	**Pn**	**17 00 12.4**	**+0.6**
GCAM				*i* S	**Sn**	**17 00 33.9**	**-0.5**
GCAM	**G?zelcaml?**	**1.85**	**335**	PN	**Pn**	**17 00 11.9**	**+0.1**
ZKR	**Zakros**	**1.88**	**242**	P	**Pn**	**17 00 12.6**	**+0.4**
ZKR	**Zakros**	**1.88**	**242**	PN	**Pn**	**17 00 12.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**352**	PN	**Pn**	**17 00 13.1**	**0.0**
SMG	**Samos**	**2.02**	**327**	P	**Pn**	**17 00 13.9**	**-0.2**
NPS	**Neapolis**	**2.27**	**251**	P	**Pn**	**17 00 17.3**	**-0.1**
SANT	**Santorini**	**2.27**	**280**	PN	**Pn**	**17 00 17.9**	**+0.4**
DGB	**zmir**	**2.29**	**332**	*i* P	**Pn**	**17 00 17.8**	**+0.1**
MANT	**Manisa**	**2.47**	**6**	*i* P	**Pn**	**17 00 20.9**	**+0.5**
KULA	**Kula-Manisa**	**2.51**	**8**	PN	**Pn**	**17 00 20.4**	**-0.4**

*IDC **12** 17:18:00.2±1.8, 5°.11S×151°.98E, h112km±11km, mb3.5/5, mb1 3.7/6, mb1mx3.4/33, mbtmp3.9/6, Error ellipse: s-maj=68.4km s-min=17.4km az=123.0*
*ISCJB **12** 17:18:01.5±0.9, 5°.05S±0°.2×151°.7E±0°.2, h129km, Error ellipse: s-maj=37.8km s-min=8.4km az=34.6*
*NEIC **12** 17:18:04.8±2.2, 4°.9S±0°.2×151°.5E±0°.2, h142km±14km, mb4.5/9*
ISC 12 17:18:02.8±0.9, 4°.9S±0°.2×151°.7E±0°.2, h129km, n20, σ1§54/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.69**	**33**	P	**Pn**	**17 18 19.8**	**-3.2**
	207nm,0.3s,baz=190,slow=1.4,SNR=1043						
KRVT				S	**Sn**	**17 18 39.5**	**+1.2**
	96nm,0.3s,baz=53,slow=23,SNR=7.3						
PMG	**Port Moresby**	**6.32**	**225**	P	**Pn**	**17 19 34.0**	**+0.3**
	1.2nm,0.3s,baz=58,slow=5.1,SNR=5.7						
PMG				S	**Sn**	**17 20 41.1**	**-3.5**
	3.0nm,0.3s,baz=308,slow=9.7,SNR=12						
PMG	**Port Moresby**	**6.32**	**225**		**Pn**	**17 19 33.9**	**+0.3**
PMG					**Sn**	**17 20 44.0**	**-0.7**
CTA	**Charters Tower**	**15.99**	**199**	P	**P**	**17 21 43.8**	**+2.3**
	0.2nm,0.3s,baz=24,slow=12,SNR=2.5						
WB0	**Warramunga Arr**	**22.39**	**227**	P	**P**	**17 22 51.8**	**+1.1**
WB2	**Warramunga Arr**	**22.53**	**227**	P	**P**	**17 22 51.2**	**-0.9**
WRA	**Warramunga Arr**	**22.54**	**227**	P	**P**	**17 22 51.4**	**-0.8**
	2.2nm,0.5s,baz=53,slow=9.8,SNR=42						
WRA	**Warramunga Arr**	**22.54**	**227**	P	**P**	**17 22 51.1**	**-1.1**
KNRA	**Kununurra**	**24.91**	**243**	P	**P**	**17 23 14.6**	**+0.6**
KNRA				IAmb	IAmb	17 23 21.8	
	comp=Z,38nm,1.4s						
AS31	**Alice Springs**	**25.32**	**221**	P	**P**	**17 23 17.7**	**0.0**
AS31				IAmb	IAmb	17 23 20.6	
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**25.32**	**221**	P	**P**	**17 23 17.6**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=55,slow=9.2,SNR=114						
ASAR	**Alice Springs**	**25.32**	**221**	P	**P**	**17 23 17.6**	**-0.2**
SOEI	**Soe**	**27.58**	**258**	P	**P**	**17 23 36.1**	**-2.0**
SOEI				IAmb	IAmb	17 23 55.5	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.61**	**241**	P	**P**	**17 23 46.9**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=62,slow=11,SNR=9.1						
BBOO	**Buckleboo**	**31.36**	**206**	P	**P**	**17 24 10.7**	**-0.6**
BBOO				IAmb	IAmb	17 24 12.2	
	comp=Z,17nm,1.2s						
FORT	**Forrest**	**34.00**	**218**	P	**P**	**17 24 33.9**	**-0.5**
AIN	**Ainahou**	**57.34**	**63**		P	17 27 29.4	-8.7
SONM	**Songino Array**	**65.79**	**328**	P	**P**	**17 28 36.4**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=156,slow=7.3,SNR=1.8						
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**	**17 30 11.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=249,slow=5.1,SNR=7.2						
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**	**17 30 12.8**	**+1.2**

*IDC **12** 17:21:08.9±0.7, 6°.65S×154°.99E, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.2/35, mbtmp4.2/17, ML3.5/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/38, Error ellipse: s-maj=16.8km s-min=15.5km az=70.0*
*ISCJB **12** 17:21:09.3±0.3, 6°.64S±0°.05×154°.90E±0°.05, h10km, mb4.0/15, MS2.8/2, Error ellipse: s-maj=7.9km s-min=6.5km az=33.1*
*NEIC **12** 17:21:13.4±2.3, 6°.74S±0°.09×154°.95E±0°.08, h31km±5km, mb4.7/29*
ISC 12 17:21:10.6±0.4, 6°.68S±0°.06×154°.96E±0°.05, h10km, n85, σ1§11/86, mb4.5/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.75**	**309**	Pn	**Pn**	**17 22 09.8**	**+1.2**
	20nm,0.3s,baz=178,slow=1.8,SNR=12						
KRVT				Pg	**Pb**	**17 22 16.6**	**-0.3**
	18nm,0.3s,baz=104,slow=1.5,SNR=7.3						
KRVT				Lg	Lg	17 23 09.2	
	32nm,0.3s,baz=91,slow=22,SNR=6.1						
KRVT				LR	LR	17 23 13.0	
	comp=Z,207nm,18.6s,baz=105,slow=33						
HNR	**Honiara**	**5.64**	**119**	Pn	**Pn**	**17 22 32.2**	**-2.4**
	3.5nm,0.3s,baz=158,slow=17,SNR=2.4						
HNR				Sn	**Sb**	**17 23 59.1**	**+2.1**
	7.1nm,0.3s,baz=180,slow=17,SNR=3.0						
HNR	**Honiara**	**5.64**	**119**	P	**Pb**	**17 22 48.0**	**-1.2**
HNR	**Honiara**	**5.64**	**119**		**Pn**	**17 22 32.5**	**-2.1**
PMG	**Port Moresby**	**8.19**	**250**	Pn	**Pn**	**17 23 11.5**	**+1.9**
	4.2nm,0.3s,baz=67,slow=7.0,SNR=10						
PMG				Sn	**Sn**	**17 24 43.3**	**+1.1**
	1.7nm,0.3s,baz=72,slow=21,SNR=5.4						
PMG	**Port Moresby**	**8.19**	**250**		**Pn**	**17 23 08.0**	**-1.6**
MANU	**Manus Island**	**8.86**	**301**	Pn	**Pn**	**17 23 20.7**	**+1.9**
PATS	**Pohnpei**	**13.83**	**14**	Pn	**Pn**	**17 24 28.5**	**+1.7**
CTA	**Charters Tower**	**15.79**	**212**	Pn	**P**	**17 24 56.8**	**-0.2**
	0.3nm,0.3s,baz=34,slow=13,SNR=4.9						
DZM	**Mont Dzumac**	**18.90**	**145**	P	**Pn**	**17 25 35.2**	**+3.1**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.9						
DZM	**Mont Dzumac**	**18.90**	**145**	P	**Pn**	**17 25 32.2**	**+0.1**
GUMO	**Guam**	**22.49**	**334**	LR	LR	17 33 53.6	
	comp=Z,41nm,18.5s,baz=145,slow=34						
FAKI	**Fak Fak**	**22.93**	**278**	P	**P**	**17 26 14.5**	**-0.7**
FAKI				IAmb	IAmb	17 26 22.0	
	comp=Z,29nm,1.5s						
WR0	**Warramunga Arr**	**23.82**	**234**	P	**P**	**17 26 24.7**	**+0.8**
WB0	**Warramunga Arr**	**23.84**	**235**	P	**P**	**17 26 22.5**	**-1.7**
WB2	**Warramunga Arr**	**23.96**	**235**	P	**P**	**17 26 25.4**	**0.0**
WB2				IAmb	IAmb	17 26 40.5	
	comp=Z,29nm,1.8s						
WRA	**Warramunga Arr**	**23.97**	**235**	P	**P**	**17 26 25.2**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=57,slow=9.9,SNR=19						
WRA				PcP	**PcP**	**17 30 08.3**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=62,slow=2.5,SNR=12						
WRA	**Warramunga Arr**	**23.97**	**235**	P	**P**	**17 26 24.4**	**-1.1**
WRA					**PcP**	**17 30 07.9**	**0.0**
MTN	**Manton Dam**	**24.26**	**254**	P	**P**	**17 26 27.9**	**-0.2**
MTN				IAmb	IAmb	17 26 42.1	
	comp=Z,17nm,1.1s						
SIJI	**Sorong**	**24.33**	**283**	P	**P**	**17 26 27.7**	**-1.1**
	comp=Z,8.6nm,0.8s,baz=72,slow=9.6,SNR=3.4						
AS31	**Alice Springs**	**26.36**	**228**	P	**P**	**17 26 46.0**	**-1.2**
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**17 26 46.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=61,slow=9.1,SNR=6.9						
ASAR				PcP	**PcP**	**17 30 13.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=42,slow=1.1,SNR=4.5						
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**17 26 45.8**	**-1.4**
ASAR					**PcP**	**17 30 13.2**	**+0.1**
KNRA	**Kununurra**	**27.18**	**249**	P	**P**	**17 26 51.9**	**-2.7**
KNRA				IAmb	IAmb	17 26 59.6	
	comp=Z,24nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**27.56**	**25**	T	T	17 55 27.4	
	baz=203,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**27.56**	**25**	T	T	17 55 27.6	
	baz=203,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.57**	**25**	T	T	17 55 32.4	
	baz=203,slow=75,SNR=7.0						
STKA	**Stephens Creek**	**28.01**	**205**	P	**P**	**17 27 02.8**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=37,slow=15,SNR=4.5						
STKA	**Stephens Creek**	**28.01**	**205**	P	**P**	**17 27 02.5**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**28.73**	**24**	T	T	17 57 04.5	
	baz=203						
H11N3	**WAKE ISLAND Hy**	**28.75**	**24**	T	T	17 56 49.4	
	baz=203						
H11N2	**WAKE ISLAND Hy**	**28.75**	**24**	T	T	17 56 44.5	
	baz=203						
FITZ	**Fitzroy Crossi**	**30.75**	**246**	P	**P**	**17 27 26.6**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=76,slow=12,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.75**	**246**	P	**P**	**17 27 26.6**	**+0.3**
LTZ	**Lake Taylor**	**39.07**	**160**	P	**P**	**17 28 38.3**	**+0.4**
KHZ	**Kahutara**	**39.21**	**158**	P	**P**	**17 28 39.8**	**+0.9**
YULB	**Yu-li**	**44.44**	**313**		**P**	**17 29 22.0**	**0.0**
YULB				IAmb	IAmb	17 29 29.0	
	comp=Z,12nm,1.0s						
TPUB	**Ta-pu**	**44.87**	**313**	P	**P**	**17 29 24.7**	**-0.8**
SSLB	**Suanglung**	**44.93**	**313**	P	**P**	**17 29 26.0**	**0.0**
SSLB				IAmb	IAmb	17 29 31.6	
	comp=Z,34nm,1.5s						
JNU	**Nakatsue**	**45.72**	**331**	P	**P**	**17 29 30.6**	**-1.5**
JNU				IAmb	IAmb	17 29 37.0	
	comp=Z,18nm,1.1s						
KSRS	**Korea Array**	**50.64**	**332**	P	**P**	**17 30 09.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=138,slow=7.0,SNR=4.2						
KSRS				LR	LR	17 50 00.3	
	comp=Z,8.9nm,19.1s,baz=130,slow=34						
PEA0B	**Petropavlovsk-**	**59.60**	**2**	P	**P**	**17 31 14.4**	**-0.1**
PETK	**Petropavlovsk-**	**59.60**	**2**	P	**P**	**17 31 14.7**	**+0.2**
	comp=Z,7.1nm,0.7s,baz=155,slow=8.5,SNR=6.0						
CMAR	**Chiang Mai Ar**	**60.62**	**295**	P	**P**	**17 31 22.6**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=118,slow=4.9,SNR=10						
CMAR				PcP	**PcP**	**17 32 07.0**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=108,slow=3.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**60.62**	**295**	P	**P**	**17 31 22.7**	**+0.6**
CMMT	**Chiang Mai**	**60.73**	**296**	P	**P**	**17 31 25.3**	**+2.4**
	comp=Z,1.5nm,2.7s						
CHTO	**Chiang Mai**	**60.73**	**296**	P	**P**	**17 31 22.5**	**-0.4**
CHTO				IAmb	IAmb	17 31 24.4	
	comp=Z,11nm,1.8s						
CASY	**Casey**	**66.88**	**198**	P	**P**	**17 32 05.3**	**+2.7**
CASY				IAmb	IAmb	17 32 07.1	
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	**69.05**	**327**	P	**P**	**17 32 16.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=144,slow=7.1,SNR=7.4						
SONM	**Songino Array**	**69.05**	**327**	P	**P**	**17 32 16.3**	**-0.4**
SHL	**Shillong**	**69.11**	**300**	P	**P**	**17 32 17.4**	**-0.2**
LSA	**Lhasa**	**71.07**	**304**	P	**P**	**17 32 30.8**	**+0.9**
LSA				IAmb	IAmb	17 32 31.2	
	comp=Z,6.0nm,0.7s						
TAPN	**Taplejung**	**73.21**	**301**	*eP*	**P**	**17 32 42.5**	**-0.1**
	comp=Z,28nm,0.8s						
ODAN	**Odare**	**73.34**	**300**	*eP*	**P**	**17 32 43.3**	**0.0**
	comp=Z,55nm,0.7s						
RAMN	**Ramite**	**74.05**	**300**	*eP*	**P**	**17 32 46.9**	**-0.6**
	comp=Z,16nm,0.6s						
JIRN	**Jiri**	**74.59**	**301**	*eP*	**P**	**17 32 50.7**	**-0.1**
	comp=Z,33nm,0.7s						
GUN	**Gumba**	**74.93**	**301**	*eP*	**P**	**17 32 52.5**	**-0.2**
	comp=Z,44nm,0.7s						
PKI	**Pulchoki**	**75.23**	**301**	*eP*	**P**	**17 32 54.1**	**-0.4**
PKIN	**Phulchoki**	**75.25**	**301**	*eP*	**P**

EIDS IAmb IAmb 17 58 28.5
comp=Z,20nm,1.4s
PMG Port Moresby 19.85 280 P **P 17 58 14.9 +0.8**
PMG IAmb IAmb 17 58 16.6
comp=Z,18nm,1.0s
CTA Charters Tower 20.88 249 P **P 17 58 26.2 +1.2**
comp=Z,3.2nm,0.7s,baz=81,slow=13,SNR=6.7
CTAO Charters Tower 20.88 249 P **P 17 58 24.9 -0.1**
CTAO IAmb IAmb 17 58 34.0
comp=Z,9.5nm,1.1s
ARMA Armidale 22.00 218 P **P 17 58 37.2 +0.8**
ARMA IAmb IAmb 17 58 41.7
comp=Z,17nm,1.2s
KWAJ Kwajalein Atol 22.18 2 P **P 17 58 36.9 -1.2**
COEN Coen 23.13 266 P **P 17 58 47.1 +0.2**
COEN IAmb IAmb 17 58 50.0
comp=Z,16nm,1.3s
STKA Stephens Creek 29.59 228 P **P 17 59 45.1 +0.6**
comp=Z,2.2nm,0.4s,baz=54,slow=8.3,SNR=13
STKA Stephens Creek 29.59 228 P **P 17 59 45.1 +0.6**
WB2 Warramunga Arr 31.86 254 P **P 18 00 04.0 -0.6**
WB2 IAmb IAmb 18 00 11.0
comp=Z,9.1nm,1.6s
WRA Warramunga Arr 31.87 254 P **P 18 00 03.7 -1.1**
comp=Z,0.9nm,0.6s,baz=86,slow=9.2,SNR=10.0
WRA Warramunga Arr 31.87 254 P **P 18 00 03.3 -1.5**
AS31 Alice Springs 32.86 247 P **P 18 00 12.4 -1.0**
ASAR Alice Springs 32.87 247 P **P 18 00 12.5 -0.9**
comp=Z,1.2nm,0.4s,baz=73,slow=9.4,SNR=55
BBOO Buckleboo 34.12 230 P **P 18 00 24.1 0.0**
BBOO IAmb IAmb 18 00 32.2
comp=Z,21nm,1.3s
KNRA Kununurra 37.02 262 P **P 18 00 49.0 +0.1**
FORT Forrest 39.69 238 P **P 18 01 10.8 -0.3**
FORT IAmb IAmb 18 01 36.0
comp=Z,20nm,0.9s
FITZ Fitzroy Crossi 39.98 258 P **P 18 01 13.7 +0.1**
comp=Z,1.3nm,0.8s,baz=76,slow=8.3,SNR=2.1
FITZ Fitzroy Crossi 39.98 258 P **P 18 01 13.8 +0.3**
SUA Susitna One 81.83 19 P **P 18 05 55.4 +0.7**

*MAN **12** 17:59:15.0,5.30N×126.33E,h112km,mb4.9,ML3.9, MS3.9*
*NEIC **12** 17:59:18.5±1.7,5.71N±0.06×126.28E±0.09,h98km±5km, mb4.6/57*
*ISCJB **12** 17:59:18.8±0.3,5.69N±0.02×126.33E±0.04,h119km±3km, mb4.4/25,Error ellipse: s-maj=6.4km s-min=3.4km az=160.3*
*KLM **12** 17:59:19.0,5.67N×126.45E,h106km,mb4.6*
*DJA **12** 17:59:19.3±0.4,6.1N±4.1×12.6E±.1,h100km±4km,M4.7/22, mB5.2/6,mb4.7/22,MLv4.9/8,Mw(mB)4.5/6*
*IDC **12** 17:59:20.8±0.8,5.63N×126.06E,h116km±6km,mb4.0/23, mb1 4.1/25,mb1mx3.8/61,mbtmp4.4/25,Error ellipse: s-maj=16.8km s-min=8.0km az=76.0*
ISC 12 17:59:20.4±0.7,5.65N±0.04×126.28E±0.06,h114km±5km, n156,σ1§45/176,mb4.5/43,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.39**	**288**	‖*eP*	**Pn**	**17 59 43.8**	**-2.6**
DAV	**Davao City (W)**	**1.57**	**334**	P	**Pn**	**17 59 47.5**	**-0.8**
	87nm,0.3s,baz=281,slow=3.9,SNR=12						
DAV	248nm,0.3s,baz=307,slow=20,SNR=14			S	**Sn**	**18 00 09.4**	**-0.2**
DAV	comp=Z,127nm,21.0s,baz=110,slow=42			LR	LR	18 00 25.1	
DAV	**Davao City (W)**	**1.57**	**334**		**Pn**	**17 59 45.0**	**-3.4**
DMPH	**Davao City--Mi**	**1.61**	**332**	‖*eP*	**Pn**	**17 59 47.7**	**-1.2**
DMPH				*eS*	**Sn**	**18 00 13.3**	**+2.7**
KCP	**Kidapawan**	**1.79**	**319**	‖*p*	**Pn**	**17 59 50.2**	**-0.8**
KCP				*i* S	**Sn**	**18 00 19.9**	**+5.4**
SKMP	**Bagumbayan, Su**	**1.93**	**297**	*eP*	**Pn**	**17 59 50.4**	**-2.3**
SKMP				*eS*	**Sn**	**18 00 16.5**	**-0.9**
SGSI	**Sangihe**	**2.09**	**201**	P	**Pn**	**17 59 53.7**	**-1.0**
BUKP	**Musuan**	**2.52**	**332**	*eP*	**Pn**	**17 59 59.8**	**-0.6**
BUKP				*eS*	**Sn**	**18 00 30.9**	**-0.1**
CTBH	**Cotabato--PC H**	**2.55**	**308**	‖*iP*	**Pn**	**17 59 58.9**	**-1.7**
CGP	**Cagayan de Oro**	**3.20**	**331**	‖*eP*	**Pn**	**18 00 10.3**	**+1.2**
CGP				*eS*	**Sn**	**18 00 48.2**	**+1.4**
BUTP	**Butuan**	**3.36**	**349**	*eP*	**Pn**	**18 00 14.7**	**+3.3**
BUTP				*eS*	Sn	18 01 03.1	+12
PAGZ	**Pagadian**	**3.61**	**307**	*eP*	**Pn**	**18 00 14.3**	**-0.4**
MSLP	**Maasin**	**4.67**	**343**	*eP*	**Pn**	**18 00 28.2**	**-0.7**
TNTI	**Ternate**	**4.97**	**167**	P	**Pn**	**18 00 31.8**	**-1.1**
TNTI	**Ternate**	**4.97**	**167**		**Pn**	**18 00 31.8**	**-1.1**
LLP	**Lapu-Lapu**	**5.17**	**334**	*eP*	**Pn**	**18 00 36.8**	**+1.2**
LLP				*eS*	**Sn**	**18 01 38.4**	**+4.2**
GUIM	**Jordan**	**6.14**	**324**	*eP*	Pn	18 01 02.6	+14
MRSI	**Marisa**	**6.72**	**220**	P	**Pn**	**18 00 56.1**	**-0.5**
LUWI	**Luwuk**	**7.51**	**208**	P	**Pn**	**18 01 08.5**	**+1.2**
LUWI	**Luwuk**	**7.51**	**208**		**Pn**	**18 01 08.1**	**+0.8**
SANI	**Sanana**	**7.65**	**182**	P	**Pn**	**18 01 05.2**	**-4.1**
APSI	**Ampana**	**7.99**	**215**	P	**Pn**	**18 01 16.1**	**+2.3**
SWI	**Sorong**	**8.16**	**142**	P	**Pn**	**18 01 15.4**	**-0.8**
SIJI	**Sorong**	**8.17**	**142**	P	**Pn**	**18 01 15.7**	**-0.6**
	3.8nm,0.3s,baz=163,slow=22,SNR=15						
SIJI	1.0nm,0.3s,baz=180,slow=20,SNR=4.1			S	**Sn**	**18 02 45.2**	**-1.8**
NLAI	**Namlea**	**8.87**	**175**	P	**Pn**	**18 01 22.7**	**-3.0**
AAI	**Ambon**	**9.47**	**168**	P	**Pn**	**18 01 32.9**	**-1.0**
KKM	**Kota Kinabalu**	**10.02**	**273**	Pn	**Pn**	**18 01 43.0**	**+1.6**
FAKI	**Fak Fak**	**10.39**	**145**	Pn	**Pn**	**18 01 45.9**	**-0.5**
TTSI	**Tana Toraja**	**10.78**	**217**	P	**Pn**	**18 01 53.9**	**+2.3**
SPSI	**Sidrap Palu**	**11.55**	**214**	P	**P**	**18 02 10.4**	**-0.4**
BKB	**Balikpapan**	**11.61**	**234**	Pn	**Pn**	**18 02 01.0**	**-1.8**
BNSI	**Bone**	**11.73**	**212**	P	**Pn**	**18 02 05.9**	**+1.6**
KAPI	**Kappang**	**12.44**	**212**	P	**Pn**	**18 02 12.6**	**-1.0**
	0.9nm,0.3s,baz=60,slow=18,SNR=8.1						
KAPI	0.7nm,0.3s,baz=66,slow=20,SNR=3.9			S	Sn	18 04 05.7	-25
KBKI	**Kotabaru**	**13.45**	**229**	P	**P**	**18 02 36.6**	**+4.5**
SBUM	**Sibu**	**14.37**	**258**	P	**P**	**18 02 44.2**	**+1.8**
SOEI	**Soe**	**15.43**	**187**	P	**P**	**18 02 55.2**	**+1.0**
SOEI	**Soe**	**15.43**	**187**	P	**P**	**18 02 53.5**	**-0.7**
SOEI				IAmb	IAmb	18 03 10.6	
	comp=Z,24nm,0.8s						
BATI	**Baumata**	**15.96**	**189**	P	**Pn**	**18 02 58.6**	**-0.1**
	comp=Z,6.5nm,0.3s,baz=350,slow=0.5,SNR=24						
BATI	**Baumata**	**15.96**	**189**	P	**P**	**18 03 01.0**	**+1.0**
KSM	**Kuching**	**16.46**	**256**	P	**P**	**18 03 07.0**	**+1.5**
KSM	**Kuching**	**16.46**	**256**	P	**P**	**18 03 06.6**	**+1.1**
KSM				IAmb	IAmb	18 03 07.7	
	comp=Z,15nm,0.9s						
PLAI	**Plampang**	**16.69**	**211**	P	**P**	**18 03 09.2**	**+1.2**
TWSI	**Taliwang, Sumb**	**17.09**	**213**	P	**Pn**	**18 03 13.1**	**+0.6**
YULB	**Yu-li**	**18.28**	**345**	P	**P**	**18 03 24.3**	**-1.2**
YULB				IAmb	IAmb	18 03 41.8	
	comp=Z,37nm,1.5s						
TPUB	**Ta-pu**	**18.37**	**343**	P	**P**	**18 03 25.7**	**-0.8**
TPUB				IAmb	IAmb	18 03 34.5	
	comp=Z,54nm,1.3s						
JAGI	**Jajag, Banyuwa**	**18.52**	**221**	P	**P**	**18 03 28.4**	**+0.2**
JAGI				IAmb	IAmb	18 03 43.0	
	comp=Z,29nm,1.2s						
SSLB	**Suanglung**	**18.75**	**345**	P	**P**	**18 03 29.7**	**-0.9**
MTN	**Manton Dam**	**19.00**	**165**	P	**P**	**18 03 34.0**	**+0.7**
MTN				IAmb	IAmb	18 03 43.8	
	comp=Z,17nm,1.1s						
YHNB	**Yeheng**	**19.49**	**347**	P	**P**	**18 03 39.0**	**+0.3**
YHNB				IAmb	IAmb	18 03 50.3	
	comp=Z,56nm,1.4s						
UGM	**Wanagama**	**20.70**	**230**	P	**P**	**18 03 51.3**	**-0.4**
UGM				IAmb	IAmb	18 04 17.0	
	comp=Z,82nm,1.4s						
KNRA	**Kununurra**	**21.33**	**173**	P	**P**	**18 03 58.7**	**+0.2**
KNRA				IAmb	IAmb	18 04 14.1	
	comp=Z,32nm,1.1s						
KPJI	**Karang Pucung**	**21.58**	**234**	P	**P**	**18 04 01.8**	**+0.6**
LEM	**Lembang**	**22.37**	**237**	P	**P**	**18 04 08.3**	**-1.2**
	comp=Z,13nm,0.6s,baz=162,slow=21,SNR=4.7						
UBPT	**Khong Chiam**	**22.56**	**297**	P	**P**	**18 04 09.5**	**-1.9**
UBPT				IAmb	IAmb	18 04 37.7	
	comp=Z,24nm,1.5s						
CISI	**Cisompet, Garu**	**22.61**	**235**	P	**P**	**18 04 09.6**	**-2.3**
CISI				IAmb	IAmb	18 04 29.4	
	comp=Z,67nm,1.5s						
MYKOM	**Kota Tinggi**	**22.70**	**261**	P	**P**	**18 04 13.0**	**+0.2**
MYKOM	**Kota Tinggi**	**22.70**	**261**	P	**P**	**18 04 12.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**23.61**	**182**	P	**P**	**18 04 21.3**	**+0.2**
	comp=Z,3.4nm,0.4s,baz=8.5,slow=8.1,SNR=50						
FITZ	**Fitzroy Crossi**	**23.61**	**182**	P	**P**	**18 04 21.2**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRMM	**Jerantut**	**23.78**	**267**	P	**P**	**18 04 24.0**	**+1.2**
IPM	**Ipoh**	**25.18**	**269**	P	**P**	**18 04 36.0**	**+0.5**
IPM	**Ipoh**	**25.18**	**269**	P	**P**	**18 04 35.3**	**-0.2**
MNAI	**Manna**	**25.32**	**247**	P	**P**	**18 04 37.1**	**+0.3**
PMG	**Port Moresby**	**25.63**	**126**	P	**P**	**18 04 38.2**	**-1.3**
PMG				IAmb	IAmb	18 04 50.1	
	comp=Z,30nm,1.4s						
COEN	**Coen**	**25.71**	**139**	P	**P**	**18 04 41.1**	**+0.8**
COEN				IAmb	IAmb	18 04 44.0	
	comp=Z,8.6nm,0.8s						
SSE	**Sheshan**	**25.76**	**350**	P	**P**	**18 04 38.2**	**-2.3**
SSE				IAmb	IAmb	18 04 42.5	
	comp=Z,32nm,0.7s						
WRA	**Warramunga Arr**	**26.64**	**163**	P	**P**	**18 04 48.5**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=341,slow=9.9,SNR=15						
WRA	**Warramunga Arr**	**26.64**	**163**	P	**P**	**18 04 48.3**	**-0.3**
WB2	**Warramunga Arr**	**26.64**	**163**	P	**P**	**18 04 48.0**	**-0.7**
PBKT	**Sadao Pong**	**27.06**	**296**	P	**P**	**18 04 49.8**	**-2.6**
PHET	**Kaeng Krachan**	**27.25**	**287**	P	**P**	**18 04 57.2**	**+3.1**
	comp=Z,17μm,0.7s						
KRVT	**Keravat (AS076**	**27.55**	**111**	P	**P**	**18 04 57.1**	**+0.2**
	comp=Z,9.2nm,0.6s,baz=337,slow=7.7,SNR=2.9						
PSA00	**Pilbara Seismi**	**27.78**	**193**	P	**P**	**18 04 57.5**	**-1.2**
PSA00				IAmb	IAmb	18 05 00.6	
	comp=Z,19nm,1.1s						
PSA00	**Pilbara Seismi**	**27.78**	**193**	P	**P**	**18 04 58.3**	**-0.4**
PSA00				IAmb	IAmb	18 05 00.1	
	comp=Z,8.6nm,1.3s						
SISI	**Saibi**	**28.02**	**256**	P	**P**	**18 05 00.4**	**-0.6**
NANT	**Nan**	**28.15**	**300**	P	**P**	**18 04 58.7**	**-3.5**
GSI	**Gunungsitoli**	**28.96**	**262**	P	**P**	**18 05 08.3**	**-1.2**
GSI				IAmb	IAmb	18 05 08.3	
	comp=Z,27nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.55**	**298**	P	**P**	**18 05 12.6**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=115,slow=7.1,SNR=11						
CMAR				PcP	**PcP**	**18 08 18.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=101,slow=1.6,SNR=4.9						
CMAR				ScP	**ScP**	**18 11 49.9**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=126,slow=2.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**29.55**	**298**	P	**P**	**18 05 14.2**	**-0.4**
CMAR					**PcP**	**18 08 17.8**	**+0.7**
CMAR					**ScP**	**18 11 49.2**	**+0.4**
CHTO	**Chiang Mai**	**29.68**	**299**	P	**P**	**18 05 15.5**	**-0.2**
AS31	**Alice Springs**	**30.07**	**166**	P	**P**	**18 05 18.7**	**-0.4**
ASAR	**Alice Springs**	**30.07**	**166**	P	**P**	**18 05 19.3**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=344,slow=7.1,SNR=32						
ASAR				ScP	**ScP**	**18 11 51.5**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=1.9,slow=3.8,SNR=5.3						
ASAR	**Alice Springs**	**30.07**	**166**	P	**P**	**18 05 19.3**	**+0.1**
ASAR					**ScP**	**18 11 52.0**	**+1.6**
JHJ2	**Mitsune**	**30.09**	**23**	P	**P**	**18 05 17.9**	**-1.2**
GIRL	**Giralia**	**30.49**	**202**	P	**P**	**18 05 23.3**	**+0.6**
CTA	**Charters Tower**	**32.25**	**143**	P	**P**	**18 05 39.9**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=313,slow=11,SNR=2.6						
CTAO	**Charters Tower**	**32.25**	**143**	P	**P**	**18 05 39.5**	**+1.2**
CTAO				IAmb	IAmb	18 05 55.4	
	comp=Z,16nm,1.3s						
MORW	**Morawa**	**35.90**	**195**	P	**P**	**18 06 09.3**	**-0.4**
FORT	**Forrest**	**36.26**	**177**	P	**P**	**18 06 13.0**	**+0.2**
SHL	**Shillong**	**38.40**	**305**	P	**P**	**18 06 30.4**	**-0.7**
SHL				IAmb	IAmb	18 06 32.1	
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.72**	**7**	P	**P**	**18 06 33.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=165,slow=6.8,SNR=5.1						
USRK	**Ussuriysk Ar.**	**38.72**	**7**	P	**P**	**18 06 33.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.31**	**192**	P	**P**	**18 06 38.5**	**+0.1**
	comp=Z,3.0nm,0.4s,baz=18,slow=7.3,SNR=3.9						
NWAO	**Narrogin (SRO)**	**39.31**	**192**	P	**P**	**18 06 38.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**39.31**	**192**	P	**P**	**18 06 38.5**	**+0.1**
NWAO				IAmb	IAmb	18 07 03.2	
	comp=Z,30nm,1.4s						
BBOO	**Buckleboo**	**39.36**	**167**	P	**P**	**18 06 39.4**	**+0.5**
BBOO				IAmb	IAmb	18 06 57.2	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**40.08**	**160**	P	**P**	**18 06 46.2**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=335,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**40.08**	**160**	P	**P**	**18 06 44.3**	**-0.4**
LSA	**Lhasa**	**40.85**	**310**	P	**P**	**18 06 53.1**	**+1.3**
ASAJ	**Asahikawa**	**40.91**	**18**	P	**P**	**18 06 54.2**	**+2.8**
	comp=Z,6.4nm,0.8s,baz=275,slow=12,SNR=3.5						
JKA	**Kamikawa-asahi**	**40.91**	**18**	P	**P**	**18 06 54.2**	**+2.8**
H11N1	**WAKE ISLAND Hy**	**41.88**	**67**	T	T	18 52 03.8	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**41.89**	**67**	T	T	18 52 07.8	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**41.90**	**67**	T	T	18 52 01.4	
	baz=255						
TAPN	**Taplejung**	**42.54**	**305**	*eP*	**P**	**18 07 05.2**	**-0.2**
	comp=Z,7.6nm,0.4s						
ODAN	**Odare**	**42.61**	**304**	*eP*	**P**	**18 07 05.5**	**-0.4**
	comp=Z,12nm,0.7s						
JIRN	**Jiri**	**43.90**	**305**	*eP*	**P**	**18 07 16.2**	**-0.2**
	comp=Z,26nm,0.5s						
GUN	**Gumba**	**44.25**	**305**	*eP*	**P**	**18 07 18.9**	**-0.3**
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**44.51**	**304**	*eP*	**P**	**18 07 20.1**	**-1.1**
	comp=Z,6.2nm,0.5s						
PKIN	**Phulchoki**	**44.52**	**304**	*eP*	**P**	**18 07 20.1**	**-1.2**
KKN	**Kakani**	**44.70**	**304**	*eP*	**P**	**18 07 21.8**	**-0.8**
	comp=Z,6.3nm,0.5s						
DMN	**Daman**	**44.77**	**304**	*eP*	**P**	**18 07 22.7**	**-0.6**
GKN	**Gorkha**	**45.30**	**304**	*eP*	**P**	**18 07 26.5**	**-0.8**
	comp=Z,4.7nm,0.4s						
SONM	**Songino Array**	**45.35**	**341**	P	**P**	**18 07 25.7**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=138,slow=5.0,SNR=4.0						
SONM				PcP	**PcP**	**18 09 05.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=141,slow=5.2,SNR=3.9						
SONM	**Songino Array**	**45.35**	**341**	P	**P**	**18 07 25.6**	**-1.6**
SONM					**PcP**	**18 09 05.5**	**+0.5**
CAN	**Canberra**	**46.02**	**154**	P	**P**	**18 07 35.2**	**+2.5**
KOLN	**Koldanda**	**46.08**	**303**	*eP*	**P**	**18 07 33.2**	**-0.3**
DANN	**Dangsing**	**46.15**	**304**	*eP*	**P**	**18 07 33.4**	**-0.8**
	comp=Z,34nm,0.5s						
PETK	**Petropavlovsk-**	**53.84**	**23**	P	**P**	**18 08 32.6**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=266,slow=8.7,SNR=2.6						
PETK	**Petropavlovsk-**	**53.84**	**23**	P	**P**	**18 08 32.4**	**+0.9**
MK31	**Makanchi Array**	**55.73**	**325**	P	**P**	**18 08 44.8**	**-0.5**
MK31				IAmb	IAmb	18 08 45.0	
	comp=Z,2.8nm,0.5s						
MK31				PcP	**PcP**	**18 09 42.4**	**-0.9**
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**18 08 44.8**	**-0.5**
	comp=Z,3.8nm,0.4s,baz=119,slow=7.6,SNR=91						
MKAR				PcP	**PcP**	**18 09 42.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=114,slow=5.9,SNR=4.1						
MKAR				ScP	**ScP**	**18 13 31.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=136,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**18 08 44.5**	**-0.7**
MKAR					**PcP**	**18 09 42.5**	**-0.7**
MAKZ	**Makanchi**	**55.92**	**325**	P	**P**	**18 08 46.1**	**-0.6**
MAKZ				IAmb	IAmb	18 08 46.3	
	comp=Z,3.3nm,0.6s						
MAKZ				PcP	**PcP**	**18 09 43.3**	**-0.7**
MSVF	**Nonsavu**	**56.13**	**116**	P	**P**	**18 08 49.2**	**+0.6**
KSH	**Kashi**	**56.38**	**314**	P	**P**	**18 08 51.1**	**+1.0**
KSH				PP	**PP**	**18 11 00.6**	**+3.7**
KSH				S	**S**	**18 16 31.3**	**-0.9**
KSH				sS	sS	18 17 17.7	-2.0
KSH				ScS	**ScS**	**18 18 25.2**	**-3.4**
KSH				pmax	pmax		
	comp=Z,16nm,1.2s						
KSH				pmax	pmax		
	comp=Z,630nm,6.3s						
KSH				LR	LR		
	comp=N,320nm,10.9s						
KSH				LR	LR		
	comp=E,490nm,12.0s						
KSH				LR	LR		
	comp=Z,320nm,18.3s						
NIL	**Nilore**	**56.41**	**307**	P	**P**	**18 08 50.7**	**+0.3**
NIL				IAmb	IAmb	18 08 50.9	
	comp=Z,5.9nm,0.6s						
KDJ	**Kajisay**	**56.62**	**318**	P	**P**	**18 08 51.8**	**-0.1**
KDJ				IAmb	IAmb	18 09 07.7	
	comp=Z,4.6nm,1.0s						
NRN	**Naryn**	**57.13**	**316**	P	**P**	**18 08 55.2**	**-0.5**
NRN				IAmb	IAmb	18 08 55.7	
	comp=Z,1.7nm,0.6s						
ZAA0	**Zalesovo Array**	**58.68**	**333**	P	**P**	**18 09 04.8**	**-1.1**
ZALV	**Zalesovo Beam**	**58.68**	**333**	P	**P**	**18 09 04.6**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=145,slow=5.9,SNR=4.9						
KURK	**Kurchatov**	**59.89**	**327**	P	**P**	**18 09 13.7**	**-0.5**
BTK	**Batken**	**60.28**	**313**	P	**P**	**18 09 16.1**	**-1.1**
BTK				IAmb	IAmb	18 09 16.8	
	comp=Z,2.1nm,0.6s						
GAR	**Garm**	**60.30**	**312**	P	**P**	**18 09 16.8**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**61.05**	**31**	P	**P**	**18 09 20.2**	**-1.8**
CHGR	**Chuyangaron**	**61.06**	**311**	P	**P**	**18 09 21.7**	**-0.9**
CHGR				IAmb	IAmb	18 09 23.3	
	comp=Z,4.9nm,0.9s						
KKAR	**Karatay Array**	**61.53**	**316**	P	**P**	**18 09 24.7**	**-0.9**
KHZ	**Kahutara**	**64.25**	**143**	P	**P**	**18 09 44.4**	**+0.9**
TIXI	**Tiksi**	**65.94**	**1**	P	**P**	**18 09 54.9**	**+1.0**
ABKAR	**Abkulak array**	**70.39**	**320**	P	**P**	**18 10 21.0**	**-1.1**
ABKAR	**Abkulak array**	**70.39**	**320**	P	**P**	**18 10 20.9**	**-1.2**
ABKAR				IAmb	IAmb	18 10 23.0	
	comp=Z,2.1nm,0.8s						
AKTO	**Aktyubinsk**	**71.88**	**321**	P	**P**	**18 10 29.9**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=98,slow=8.7,SNR=9.0						
CASY	**Casey**	**72.66**	**187**	P	**P**	**18 10 35.9**	**+0.6**
CASY				IAmb	IAmb	18 11 00.0	
	comp=Z,14nm,1.4s						
ARU	**Arti**	**73.08**	**328**	P	**P**	**18 10 37.0**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=104,slow=6.5,SNR=6.2						
ARU	**Arti**	**73.08**	**328**	P	**P**	**18 10 37.2**	**-0.9**
ARU				IAmb	IAmb	18 10 37.5	
	comp=Z,4.3nm,0.6s						
ILAR	**Eielson Array**	**83.58**	**26**	P	**P**	**18 11 36.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=252,slow=5.0,SNR=9.3						
ILAR	**Eielson Array**	**83.58**	**26**	P	**P**	**18 11 36.1**	**+0.5**
ARCES	**ARCESS Array B**	**88.50**	**340**	P	**P**	**18 11 59.4**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=84,slow=6.2,SNR=6.6						
ARCES	**ARCESS Array B**	**88.50**	**340**	P	**P**	**18 11 59.2**	**-0.6**
SPITS	**Spitsbergen Ar**	**88.52**	**349**	P	**P**	**18 12 00.7**	**+0.9**
	comp=Z,7.9nm,0.9s,baz=83,slow=12,SNR=5.3						
FINES	**FINESS Array B**	**89.94**	**332**	P	**P**	**18 12 05.8**	**-0.8**
	comp=Z,4.3nm,0.9s,baz=355,slow=6.3,SNR=8.4						
FINES	**FINESS Array B**	**89.94**	**332**	P	**P**	**18 12 05.5**	**-1.1**
HFS	**Hagfors**	**96.12**	**332**	P	**P**	**18 12 33.9**	**-1.2**
	comp=Z,8.0nm,1.2s,baz=79,slow=15,SNR=3.1						
NOA	**NORSAR Array B**	**96.88**	**334**	P	**P**	**18 12 37.4**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=65,slow=4.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**121.88**	**289**	PKP	**PKPdf**	**18 18 01.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=66,slow=1.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**121.88**	**289**		**PKPdf**	**18 18 01.8**	**-0.6**

*ISCJB **12** 18:02:22.6±0.3,67.04N±0.02×21.04E±0.06,h0km,Error ellipse: s-maj=3.5km s-min=2.9km az=167.9*
*IDC **12** 18:02:23.9±1.1,67.11N×21.38E,h0km,mb1 2.9/3, mb1mx2.8/62,mbtmp2.8/3,ML1.9/3,Error ellipse: s-maj=16.8km s-min=7.5km az=107.0*
*UPP **12** 18:02:23.3±0.1,67.04N×20.97E,h0km,ML2.2,Explosion*
*HEL **12** 18:02:24.0±0.1,67.04N×20.95E,h0km,ML2.2(UPP), Explosion*
*NAO **12** 18:02:24.1±0.7,67.03N×21.18E,ML2.5*
*BER **12** 18:02:26.3±3.9,67.04N×21.05E,h0km,ML1.6, ML2.5(NAO),Suspected explosion*
ISC 12 18:02:22.9±0.7,67.04N±0.03×21.02E±0.02,h0km,n58, σ1§18/83,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundrum**	**0.20**	**297**	P	**Pg**	**18 02 26.9**	**+0.3**
DUNU				S	**Sg**	**18 02 29.8**	**+0.6**
DUNU	**Dundrum**	**0.20**	**297**	*i* P	**Pg**	**18 02 26.9**	**+0.3**
DUNU				*i* S	**Sg**	**18 02 29.8**	**+0.6**
MASU	**Masugnsbyn**	**0.57**	**42**	P	**Pg**	**18 02 34.5**	**+0.6**
MASU	**Masugnsbyn**	**0.57**	**42**	*i* P	**Pg**	**18 02 34.5**	**+0.6**
PAJU	**Pajala**	**0.82**	**90**	P	**Pg**	**18 02 38.8**	**+0.1**
PAJU				S	**Sb**	**18 02 51.3**	**-0.5**
PAJU	**Pajala**	**0.82**	**90**	*i* P	**Pg**	**18 02 38.8**	**+0.1**
PAJU				*i* S	**Sb**	**18 02 51.3**	**-0.5**
KUA	**Kurravaara**	**0.96**	**345**	P	**Pg**	**18 02 40.7**	**-0.6**
KUA				S	**Sb**	**18 02 54.9**	**-0.8**
KUA	**Kurravaara**	**0.96**	**345**	*eP*	**Pg**	**18 02 40.7**	**-0.6**
KUA				*eS*	**Sb**	**18 02 54.9**	**-0.8**
RATU	**Laukkuluspa**	**0.96**	**326**	P	**Pg**	**18 02 40.7**	**-0.7**
RATU	**Laukkuluspa**	**0.96**	**326**

NRA0	**NORESS Array S**	**7.57 218**	Pn	**Pn**	**18 04 15.3**	**+0.9**
	baz=35,slow=10					
NRA0			Sn	**Sn**	**18 05 39.5**	**-1.3**
	baz=60,slow=28					
HFS	**Hagfors**	**7.65 209**	Pn	**Pn**	**18 04 15.1**	**-0.4**
	baz=23,slow=16					
HFS			Sn	**Sn**	**18 05 39.7**	**-3.1**
	baz=19,slow=28					
HFS	**Hagfors**	**7.65 209**	Pn	**Pn**	**18 04 15.1**	**-0.4**
	baz=23,slow=16					
HFS			Sn	**Sn**	**18 05 39.7**	**-3.1**
	baz=19,slow=28					
SPA0	**Spitsbergen Ar**	**11.28 355**	Pn	**Pn**	**18 05 05.1**	**0.0**
	baz=163,slow=16					
SPA0	**Spitsbergen Ar**	**11.28 355**	Pn	**Pn**	**18 05 05.1**	**0.0**
	baz=163,slow=16					

TIR **12** *18:09:22.9,39°.03N×23°.55E,h9km,Md4.8/13*
IDC **12** *18:09:26.6±0.5,38°.87N×23°.00E,h0km,mb4.4/31, mb1 4.4/44,mb1mx4.3/77,mbtmp4.4/44,ML3.7/12, MS4.1/37,Ms1 4.2/37,ms1mx4.1/48,Error ellipse: s-maj=9.8km s-min=8.8km az=134.0*
ISK **12** *18:09:26.9,38°.94N×23°.10E,h11km,ML4.9/35*
BJI **12** *18:09:26.2±0.0,39°.01N×22°.73E,h14km,mb4.7/36, mB5.2/26,Ms4.9/11,Ms7 4.6/8*
HLW **12** *18:09:26.3,39°.03N×23°.29E,h11km±25km,Ml4.9*
GII **12** *18:09:27.5±0.0,38°.94N×23°.06E,h18km*
MOS **12** *18:09:27.6±1.5,38°.93N×22°.98E,h18km,mb4.9/9, MS4.2/11,Error ellipse: s-maj=4.3km s-min=3.2km az=88.7*
PDG **12** *18:09:27.6±0.5,38°.93N×23°.08E,h11km,MD4.8/2, ML4.6/11,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
NEIC **12** *18:09:28.7±2.0,38°.94N±0°.03×23°.05E±0°.05,h15km±4km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.58; Mθθ=1.93; Mφφ=-2.51; Mrθ=-0.54; Mrφ=0.60; Mθr=-0.08; Fault plane solution: M0=2.42000×10^16^ NP1: φs=215.81000°,δ=76.95000°,λ=166.42000°. NP2: φs=308.93000°,δ=76.78000°,λ=13.41000°. Principal axes: T 2.1929, Plg=19.0000°, Azm=172.0000°; N 0.3973, Plg=71.0000°, Azm=353.0000°; P -2.5902, Plg=0.0000°, Azm=262.0000°;*
ATH **12** *18:09:28.1,38°.92N×23°.10E,h17km±4km,ML4.8/18 Error ellipse: s-maj=4.1km s-min=0.6km az=1.0*
ISCJB **12** *18:09:28.2±0.2,38°.956N±0°.009×23°.08E±0°.01, h21km±1km,mb4.7/88,MS4.3/33,Error ellipse: s-maj=1.5km s-min=1.3km az=27.2*
THE **12** *18:09:28.2,38°.92N×23°.10E,h2km±1km,ML4.8/17,Error ellipse: s-maj=1.3km s-min=0.4km az=213.0*
MED_RC **12** *18:09:28.0±0.2,38°.82N×23°.08E,h19km,MW4.9/30, Moment Tensor Solution.Mantle waves: s30,c59; Duration: 1§2 Moment tensor: Scale 10^16^Nm; Mrr=0.95±.15; Mθθ=3.62±.12; Mφφ=-2.66±.08; Mrθ=-0.50±.17; Mθφ=0.46±.08; Mφr=0.14±.15; Best double couple: M0=3.21000×10^16^ NP1:φs=311.00000°,δ=90.00000°, λ=8.00000°. NP2:φs=221.00000°,δ=82.00000°,λ=180.00000°. Principal axes: T 3.7000, Plg=6.0000°, Azm=176.0000°; N -0.9900, Plg=82.0000°, Azm=312.0000°; P -2.7100, Plg=6.0000°, Azm=85.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GCMT **12** *18:09:30.2±0.2,38°.80N±0°.01×23°.13E±0°.02,h19km±1km, MW5.0/91,Moment Tensor Solution. s23,c27; s91,c137; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=-1.20±.14; Mθθ=3.80±.12; Mφφ=-2.60±.09; Mrθ=0.22±.21; Mθφ=0.01±.08; Mφr=0.56±.22; Best double couple: M0=3.30400×10^16^ NP1:φs=227.00000°,δ=78.00000°,λ=-164.00000°. NP2: φs=133.00000°,δ=75.00000°,λ=-12.00000°. Principal axes: T 3.8100, Plg=3.0000°, Azm=360.0000°; N -1.0120, Plg=70.0000°, Azm=262.0000°; P -2.7980, Plg=19.0000°, Azm=91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 18:09:28.5±0.8,38°.92N±0°.01×23°.08E±0°.01,h12km±5km, n763,σ1§45/861,mb4.8/104,MS4.3/33,51C-27D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.28**	**193**	P	**Pg**	**18 09 33.7**	**-0.5**
LKR				S	**Sg**	**18 09 38.3**	**+0.3**
	181μm,0.5s						
LKR	**Lokris**	**0.28**	**193**	P	**Pg**	**18 09 33.9**	**-0.3**
LKR				S	**Sg**	**18 09 37.9**	**-0.2**
LKR				AML	AML	18 09 38.4	
LKR				AML	AML	18 09 39.0	
AXAR	**Agios Charalam**	**0.36**	**245**	P	**Pg**	**18 09 35.6**	**-0.2**
AXAR				S	**Sb**	**18 09 41.6**	**-0.9**
SKIA	**Skiathos**	**0.39**	**51**	P	**Pg**	**18 09 36.1**	**-0.2**
SKIA				S	**Sg**	**18 09 41.5**	**+0.1**
	258μm,0.5s						
SKIA	**Skiathos**	**0.39**	**51**	P	**Pg**	**18 09 36.1**	**-0.2**
SKIA				S	**Sg**	**18 09 41.5**	**+0.1**
NEO	**Neokhori**	**0.40**	**16**	P	**Pg**	**18 09 36.3**	**-0.2**
NEO				S	**Sg**	**18 09 41.8**	**0.0**
	157μm,0.4s						
NEO	**Neokhori**	**0.40**	**16**	P	**Pg**	**18 09 36.4**	**-0.2**
NEO				S	**Sg**	**18 09 41.9**	**0.0**
NEO				AML	AML	18 09 42.5	
NEO				AML	AML	18 09 44.2	
MRKA	**Markates**	**0.45**	**118**	P	**Pg**	**18 09 36.8**	**-0.6**
MRKA				S	**Sg**	**18 09 42.5**	**-0.9**
	248μm,0.4s						
MRKA	**Markates**	**0.45**	**118**	P	**Pg**	**18 09 36.9**	**-0.5**
MRKA				S	**Sg**	**18 09 42.6**	**-0.8**
MRKA				AML	AML	18 09 44.5	
MRKA				AML	AML	18 09 45.5	
XOR	**Xorichti**	**0.45**	**11**	P	**Pg**	**18 09 37.3**	**-0.1**
XOR				S	**Sg**	**18 09 43.5**	**0.0**
	123μm,0.9s						
XOR	**Xorichti**	**0.45**	**11**	P	**Pg**	**18 09 37.4**	**-0.1**
XOR				S	**Sg**	**18 09 43.7**	**+0.2**
XOR				AML	AML	18 09 44.3	
XOR				AML	AML	18 09 47.3	
AGG	**Agios Georgios**	**0.59**	**280**	P	**Pg**	**18 09 39.3**	**-0.8**
AGG				S	**Sg**	**18 09 47.8**	**-0.1**
	105μm,0.8s						
AGG	**Agios Georgios**	**0.59**	**280**	P	**Pg**	**18 09 39.2**	**-0.8**
AGG	**Agios Georgios**	**0.59**	**280**	P	**Pg**	**18 09 39.4**	**-0.6**
AGG				S	**Sb**	**18 09 49.0**	**-0.1**
AGG	**Agios Georgios**	**0.59**	**280**	PG	**Pg**	**18 09 39.1**	**-1.0**
AGG				SG	**Sg**	**18 09 48.0**	**+0.1**
AGG	**Agios Georgios**	**0.59**	**280**		**Pg**	**18 09 39.2**	**-0.8**
DLFA	**Delphi**	**0.64**	**226**	P	**Pg**	**18 09 40.2**	**-0.6**
DLFA				S	**Sg**	**18 09 49.5**	**+0.2**
ALNA	**Alonissos**	**0.65**	**70**	P	**Pg**	**18 09 40.6**	**-0.6**
ALNA				S	**Sg**	**18 09 49.6**	**-0.2**
ALNA				AML	AML	18 09 53.4	
ALNA				AML	AML	18 09 57.3	
DSF	**Desfina**	**0.67**	**220**	P	**Pg**	**18 09 40.5**	**-1.0**
DSF				S	**Sg**	**18 09 50.1**	**-0.2**
	106μm,0.9s						
DSF	**Desfina**	**0.67**	**220**	P	**Pg**	**18 09 40.8**	**-0.6**
DSF				S	**Sb**	**18 09 51.1**	**-0.2**
AOS	**Alonnisos**	**0.67**	**68**	P	**Pg**	**18 09 40.6**	**-1.0**
AOS				S	**Sg**	**18 09 49.3**	**-1.1**
	101μm,0.4s						
AOS	**Alonnisos**	**0.67**	**68**	P	**Pg**	**18 09 40.5**	**-1.0**
AOS	**Alonnisos**	**0.67**	**68**	PG	**Pg**	**18 09 39.8**	**-1.7**
AOS				SG	**Sg**	**18 09 49.1**	**-1.3**
PROD	**Prodromos**	**0.68**	**192**	P	**Pg**	**18 09 40.4**	**-1.2**
PROD				S	**Sb**	**18 09 51.1**	**-0.4**
PROD				AML	AML	18 09 54.1	
PROD				AML	AML	18 09 54.4	
VIL2	**Platees**	**0.72**	**168**	P	**Pg**	**18 09 42.7**	**+0.2**
VIL2				S	**Sn**	**18 09 54.4**	**-1.1**
VIL2				AML	AML	18 09 57.0	
VIL2				AML	AML	18 09 59.2	
MAKR	**Makrakomi, Fth**	**0.74**	**277**	P	**Pg**	**18 09 42.3**	**-0.6**
MAKR				S	**Sb**	**18 09 53.7**	**+0.2**
	90μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.74**	**277**	P	**Pg**	**18 09 42.3**	**-0.6**
MAKR				S	**Sb**	**18 09 54.1**	**+0.6**
MAKR				AML	AML	18 09 56.7	
MAKR				AML	AML	18 09 58.2	
VILL	**Villia**	**0.78**	**166**	P	**Pg**	**18 09 42.4**	**-1.1**
VILL				S	**Sg**	**18 09 54.0**	**+0.3**
	133μm,0.5s						
EREA	**Eretria**	**0.83**	**127**	P	**Pg**	**18 09 43.8**	**-0.8**
EREA				S	**Sg**	**18 09 55.2**	**-0.3**
	318μm,0.6s						
EREA	**Eretria**	**0.83**	**127**	P	**Pg**	**18 09 43.9**	**-0.8**
EREA				S	**Sg**	**18 09 55.3**	**-0.3**
LTK	**Loutraki**	**0.90**	**186**	P	**Pg**	**18 09 44.5**	**-1.4**
LTK				S	**Sb**	**18 09 59.0**	**+1.0**
	123μm,0.5s						
LTK	**Loutraki**	**0.90**	**186**	P	**Pg**	**18 09 45.1**	**-0.8**
LTK				S	**Sb**	**18 09 58.6**	**+0.7**
LTK				AML	AML	18 10 01.2	
LTK				AML	AML	18 10 02.6	
KALE	**Kalithea**	**0.91**	**235**	P	**Pg**	**18 09 45.0**	**-1.0**
KALE				S	**Sn**	**18 09 59.2**	**-0.9**
	107μm,0.9s						
KALE	**Kalithea**	**0.91**	**235**	P	**Pg**	**18 09 45.5**	**-0.5**
KALE				S	**Sn**	**18 09 59.3**	**-0.8**
KALE				AML	AML	18 10 01.0	
KALE				AML	AML	18 10 01.1	
LRSO	**Larissa Observ**	**0.92**	**325**	P	**Pg**	**18 09 45.6**	**-0.6**
LRSO				S	**Sb**	**18 09 59.0**	**+0.5**
	90μm,0.6s						
LOUT	**Loutraki**	**0.94**	**185**	P	**Pg**	**18 09 45.2**	**-1.3**
LOUT	**Loutraki**	**0.94**	**185**	P	**Pg**	**18 09 45.6**	**-0.9**
LOUT				S	**Sb**	**18 09 59.7**	**+0.8**
LOUT				AML	AML	18 10 01.9	
	comp=E,26980μm,0.7s						
LOUT				AML	AML	18 10 04.9	
	comp=N,19088μm,0.5s						
SERG	**Sergoula**	**0.95**	**238**	P	**Pg**	**18 09 45.6**	**-1.2**
SERG	**Sergoula**	**0.95**	**238**	P	**Pg**	**18 09 46.2**	**-0.6**
SERG				S	**Sg**	**18 09 59.1**	**0.0**
SERG				AML	AML	18 10 03.6	
SERG				AML	AML	18 10 05.5	
TRIZ	**Trizonia**	**0.96**	**235**	P	**Pg**	**18 09 46.2**	**-0.9**
TRIZ				S	**Sb**	**18 09 59.9**	**+0.1**
TRIZ	**Trizonia**	**0.96**	**235**	P	**Pg**	**18 09 46.6**	**-0.5**
TRIZ				S	**Sb**	**18 10 00.5**	**+0.7**
EVR	**Evrytania**	**0.99**	**270**	P	**Pg**	**18 09 46.4**	**-1.2**
ALIK	**Aliki, Aigiali**	**1.01**	**229**	P	**Pg**	**18 09 47.9**	**+0.1**
EFP	**Efpalio**	**1.04**	**242**	P	**Pb**	**18 09 47.2**	**-1.2**
EFP				S	**Sg**	**18 10 02.4**	**+0.2**
	comp=N,59μm,0.9s						
EFP	**Efpalio**	**1.04**	**242**	P	**Pb**	**18 09 48.1**	**-0.3**
THL	**Klokotos Trika**	**1.05**	**308**	P	**Pb**	**18 09 47.5**	**-1.0**
THL	**Klokotos Trika**	**1.05**	**308**	P	**Pb**	**18 09 47.9**	**-0.6**
THL				S	**Sn**	**18 10 02.9**	**-0.6**
THL				AML	AML	18 10 05.5	
	comp=N,46375μm,0.6s						
THL				AML	AML	18 10 06.0	
	comp=E,49938μm,0.6s						
PTL	**Penteli**	**1.07**	**144**	P	**Pb**	**18 09 48.0**	**-0.9**
PTL	**Penteli**	**1.07**	**144**	P	**Pb**	**18 09 48.4**	**-0.4**
PTL				S	**Sb**	**18 10 02.9**	**+0.1**
PTL				AML	AML	18 10 04.1	
PTL				AML	AML	18 10 04.1	
ATH	**Athens Observa**	**1.07**	**152**	P	**Pb**	**18 09 48.3**	**-0.6**
LAKA	**Lakka**	**1.10**	**232**	P	**Pb**	**18 09 48.9**	**-0.5**
LAKA	**Lakka**	**1.10**	**232**	P	**Pg**	**18 09 49.5**	**-0.1**
ATHU	**Athens Univers**	**1.10**	**150**	P	**Pb**	**18 09 48.6**	**-0.9**
ATHU	**Athens Univers**	**1.10**	**150**	P	**Pb**	**18 09 49.2**	**-0.2**
ATHU				S	**Sb**	**18 10 03.5**	**-0.2**
ATHU				AML	AML	18 10 05.1	
ATHU				AML	AML	18 10 05.8	
	comp=N,55316μm,0.6s						
PAIG	**Paliouri**	**1.11**	**25**	P	**Pb**	**18 09 48.7**	**-0.8**
PAIG	**Paliouri**	**1.11**	**25**	P	**Pn**	**18 09 49.9**	**+0.1**
PAIG				S	**Sg**	**18 10 04.2**	**0.0**
PAIG				AML	AML	18 10 05.9	
	comp=N,33356μm,0.4s						
PAIG				AML	AML	18 10 06.4	
	comp=E,72506μm,0.7s						
KLV	**Kalavryta, Ach**	**1.14**	**220**	P	**Pb**	**18 09 49.9**	**-0.2**
KLV				S	**Sn**	**18 10 06.0**	**+0.2**
	comp=E,34μm,0.8s						
KLV	**Kalavryta, Ach**	**1.14**	**220**	P	**Pg**	**18 09 50.4**	**0.0**
KLV				S	**Sn**	**18 10 06.5**	**+0.6**
KLV				AML	AML	18 10 09.5	
	comp=N,73508μm,0.8s						
KLV				AML	AML	18 10 10.2	
	comp=E,66548μm,0.9s						
SKY	**Skiros Island**	**1.15**	**92**	P	**Pb**	**18 09 49.5**	**-0.7**
SKY	**Skiros Island**	**1.15**	**92**	P	**Pb**	**18 09 49.5**	**-0.7**
UPR	**University Cam**	**1.20**	**238**	P	**Pg**	**18 09 51.5**	**0.0**
PVO	**Paravola**	**1.25**	**256**	P	**Pn**	**18 09 51.5**	**-0.2**
LIT	**Litokhoron**	**1.26**	**339**	P	**Pn**	**18 09 51.2**	**-0.7**
LIT	**Litokhoron**	**1.26**	**339**	P	**Pn**	**18 09 51.2**	**-0.7**
LIT	**Litokhoron**	**1.26**	**339**		**Pn**	**18 09 51.2**	**-0.7**
KARY	**Karystos**	**1.39**	**129**	P	**Pn**	**18 09 53.4**	**-0.2**
KARY				S	**Sg**	**18 10 12.7**	**-0.4**
	comp=E,22μm,0.8s						
KARY	**Karystos**	**1.39**	**129**	P	**Pn**	**18 09 53.3**	**-0.2**
KARY				S	**Sn**	**18 10 11.8**	**-0.1**
KARY				AML	AML	18 10 12.9	
	comp=N,31006μm,0.5s						
KARY				AML	AML	18 10 15.6	
	comp=E,33176μm,0.6s						
DID	**Didima**	**1.42**	**175**	P	**Pn**	**18 09 53.7**	**-0.4**
DID	**Didima**	**1.42**	**175**	P	**Pn**	**18 09 53.9**	**-0.2**
DRO	**Drossia**	**1.45**	**228**	P	**Pn**	**18 09 54.6**	**+0.1**
PLG	**Polygyros**	**1.48**	**11**	P	**Pn**	**18 09 54.0**	**-0.9**
PDO	**Prodromos**	**1.52**	**258**	P	**Pb**	**18 09 56.8**	**+0.3**
RLS	**Riolos of Patr**	**1.53**	**236**	P	**Pn**	**18 09 55.9**	**+0.3**
OUR	**Ouranopolis**	**1.57**	**26**	P	**Pn**	**18 09 55.2**	**-1.0**
OUR	**Ouranopolis**	**1.57**	**26**	PN	**Pn**	**18 09 55.1**	**-1.1**
VLX	**Vlachokerasia**	**1.64**	**200**	P	**Pn**	**18 09 57.5**	**+0.3**
HORT	**Hortiatis**	**1.67**	**1**	P	**Pn**	**18 09 56.9**	**-0.8**
HORT	**Hortiatis**	**1.67**	**1**	PN	**Pn**	**18 09 56.7**	**-1.0**
KPRO	**Kipourio**	**1.68**	**308**	P	**Pn**	**18 09 57.9**	**+0.1**
THE	**Thessaloniki**	**1.71**	**357**	P	**Pn**	**18 09 56.9**	**-1.2**
THE	**Thessaloniki**	**1.71**	**357**	*i* PN	**Pn**	**18 09 57.0**	**-1.0**
THE				*i* SN	**Sn**	**18 10 18.4**	**-1.4**
KZN	**Kozani**	**1.71**	**324**	P	**Pn**	**18 09 58.5**	**+0.3**
AMT	**Artemida-Makis**	**1.76**	**218**	P	**Pb**	**18 09 59.7**	**-0.9**
JAN	**Janina**	**1.88**	**294**	P	**Pb**	**18 10 01.9**	**-0.8**
TSLK	**Tsoukalades, L**	**1.90**	**268**	P	**Pb**	**18 10 03.4**	**+0.4**
LIA	**Limnos Island**	**1.90**	**58**	P	**Pn**	**18 09 59.9**	**-0.7**
SOH	**Sokhos**	**1.91**	**6**	P	**Pn**	**18 10 00.5**	**-0.4**
EVGI	**Lefkada island**	**1.92**	**262**	P	**Pb**	**18 10 03.1**	**-0.3**
ITM	**Ithomi**	**1.96**	**208**	P	**Pn**	**18 10 02.6**	**+1.1**
ITM	**Ithomi**	**1.96**	**208**	PN	**Pn**	**18 10 01.5**	**0.0**
ITM	**Ithomi**	**1.96**	**208**		**Pn**	**18 10 02.7**	**+1.2**
PENT	**Pentalofos**	**1.97**	**311**	P	**Pn**	**18 10 02.1**	**+0.4**
KFL	**Anninata**	**1.97**	**246**	P	**Pb**	**18 10 03.9**	**-0.4**
FSK	**Fiskardo**	**2.02**	**258**	P	**Pb**	**18 10 04.2**	**-0.9**
VLS	**Valsamata**	**2.09**	**250**	P	**Pb**	**18 10 05.0**	**-1.3**
GRG	**Griva**	**2.10**	**346**	P	**Pn**	**18 10 03.0**	**-0.5**
GRG	**Griva**	**2.10**	**346**	PN	**Pn**	**18 10 02.9**	**-0.5**
THAS	**Thassos island**	**2.10**	**36**	P	**Pn**	**18 10 02.0**	**-1.5**
NEST	**Nestorio**	**2.16**	**314**	P	**Pn**	**18 10 05.5**	**+1.1**
SIGR	**SIGRI**	**2.18**	**81**	P	**Pn**	**18 10 03.8**	**-0.7**
SIGR	**SIGRI**	**2.18**	**81**	PN	**Pn**	**18 10 03.9**	**-0.6**
VLI	**Veliai**	**2.20**	**183**	P	**Pn**	**18 10 05.0**	**+0.2**
IGT	**Igoumenitsa**	**2.22**	**287**	P	**Pb**	**18 10 07.2**	**-1.3**
IGT	**Igoumenitsa**	**2.22**	**287**	*i* PN	**Pb**	**18 10 08.3**	**-0.2**
IGT				*i* SN	**Sg**	**18 10 42.9**	**+3.1**
KNT	**Kendrikon**	**2.24**	**356**	P	**Pn**	**18 10 05.1**	**-0.3**
KNT	**Kendrikon**	**2.24**	**356**	PN	**Pn**	**18 10 05.3**	**-0.1**
FNA	**Florina**	**2.28**	**325**	P	**Pn**	**18 10 06.5**	**+0.5**
FNA	**Florina**	**2.28**	**325**	P	**Pn**	**18 10 06.4**	**+0.5**
FNA	**Florina**	**2.28**	**325**	*i* PN	**Pn**	**18 10 06.8**	**+0.9**
FNA				*i* SN	**Sb**	**18 10 39.2**	**+1.6**
FNA	**Florina**	**2.28**	**325**	PN	**Pn**	**18 10 05.3**	**-0.6**
FNA	**Florina**	**2.28**	**325**		**Pn**	**18 10 06.4**	**+0.5**
PYL	**PYLOS**	**2.28**	**208**	P	**Pn**	**18 10 07.5**	**+1.6**
KAVA	**Kavala**	**2.35**	**28**	P	**Pn**	**18 10 05.4**	**-1.4**
CHOS	**Chios island**	**2.39**	**102**	P	**Pn**	**18 10 07.2**	**-0.3**
CHOS	**Chios island**	**2.39**	**102**	PN	**Pn**	**18 10 07.1**	**-0.4**
VAY	**Valandovo**	**2.43**	**351**	*i* Pn	**Pn**	**18 10 07.9**	**-0.1**
GPNR	**Gulpinar-Canak**	**2.43**	**76**	PN	**Pn**	**18 10 07.4**	**-0.6**
SMTH	**Samothraki Isl**	**2.44**	**50**	P	**Pn**	**18 10 06.6**	**-1.6**
MHLO	**Agia Marina, M**	**2.46**	**154**	P	**Pn**	**18 10 08.5**	**+0.1**
BOZC	**Bozcaada**	**2.48**	**67**	*i* P	**Pn**	**18 10 08.3**	**-0.3**
BOZC				IAML_P			
	comp=Z,6μm,0.3s						
BOZC	**Bozcaada**	**2.48**	**67**	PN	**Pn**	**18 10 08.2**	**-0.5**
NVR	**Nevrokopi**	**2.50**	**14**	P	**Pn**	**18 10 08.3**	**-0.6**
PRK	**Paraskevi**	**2.50**	**82**	P	**Pn**	**18 10 09.5**	**+0.5**
GOKC	**Gokceada-Canak**	**2.54**	**59**	PN	**Pn**	**18 10 08.8**	**-0.6**
SRN	**Sarande**	**2.57**	**293**	P	**Pn**	**18 10 11.8**	**+1.9**
SRN	**Sarande**	**2.57**	**293**	*i* PN	**Pb**	**18 10 13.0**	**-1.5**
SRN				*i* SN	**Sg**	**18 10 50.9**	**-0.1**
CESE	**eme**	**2.59**	**102**	PN	**Pn**	**18 10 09.5**	**-0.6**
KTHR	**Kythira**	**2.66**	**181**	P	**Pn**	**18 10 11.7**	**+0.6**
KTHA	**Kythira Island**	**2.66**	**180**	P	**Pn**	**18 10 11.2**	**+0.1**
KTHA	**Kythira Island**	**2.66**	**180**	PN	**Pn**	**18 10 11.1**	**0.0**
EZN	**Ezine**	**2.67**	**69**	PN	**Pn**	**18 10 10.7**	**-0.6**
APE	**Apeiranthos**	**2.68**	**133**	P	**Pn**	**18 10 11.0**	**-0.4**
APE	**Apeiranthos**	**2.68**	**133**	*e*P	**Pn**	**18 10 11.0**	**-0.4**
APE	**Apeiranthos**	**2.68**	**133**	⇓P	**Pn**	**18 10 11.4**	**0.0**
APE				AML	AML	18 10 57.0	
APE	**Apeiranthos**	**2.68**	**133**	PN	**Pn**	**18 10 11.3**	**-0.1**
KRBN	**Karaburun**	**2.74**	**96**	PN	**Pn**	**18 10 11.7**	**-0.4**
TPE	**Tepelena**	**2.74**	**301**	*i* PN	**Pb**	**18 10 15.2**	**-2.1**
TPE				*i* SN	**Sg**	**18 10 54.1**	**-2.4**
ZEY	**zmir**	**2.77**	**103**	*i* P	**Pn**	**18 10 13.1**	**+0.5**
ZEY				IAML_P			
	comp=Z,8μm,0.3s						
OHR	**Ohrid**	**2.80**	**322**	*i* Pn	**Pn**	**18 10 14.5**	**+1.4**
URLA	**Izmir**	**2.81**	**100**	*i* P	**Pn**	**18 10 13.5**	**+0.3**
URLA				IAML_P			
	comp=Z,10μm,0.4s						
URLA	**Izmir**	**2.81**	**100**	PN	**Pn**	**18 10 13.1**	**-0.1**
AYVA	**Ayvalik**	**2.83**	**81**	*i* P	**Pn**	**18 10 13.7**	**+0.2**
AYVA				IAML_P			
	comp=Z,4μm,0.4s						
STIP	**Stip**	**2.85**	**346**	*i* Pn	**Pn**	**18 10 14.1**	**+0.3**
FOCM	**Foa**	**2.86**	**93**	PN	**Pn**	**18 10 13.6**	**-0.2**
RDO	**Rodhopi**	**2.92**	**40**	P	**Pn**	**18 10 13.3**	**-1.3**
RDO	**Rodhopi**	**2.92**	**40**	PN	**Pn**	**18 10 13.6**	**-1.0**
DKL	**Dikili**	**2.98**	**86**	PN	**Pn**	**18 10 15.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**3.01**	**60**	PN	**Pn**	**18 10 15.3**	**-0.6**
ALN	**Alexandroupoli**	**3.02**	**48**	P	**Pn**	**18 10 14.7**	**-1.3**
ALN	**Alexandroupoli**	**3.02**	**48**	P	**Pn**	**18 10 14.5**	**-1.5**
ALN	**Alexandroupoli**	**3.02**	**48**	PN	**Pn**	**18 10 15.0**	**-1.0**
ALN	**Alexandroupoli**	**3.02**	**48**		**Pn**	**18 10 14.5**	**-1.5**
DGB	**zmir**	**3.11**	**105**	*i* P	**Pn**	**18 10 17.8**	**+0.6**
DGB				IAML_P			
	comp=Z,1μm,0.2s						
ZEDA	**zmir-Bergama**	**3.12**	**88**	*i* P	**Pn**	**18 10 18.1**	**+0.6**
ZEDA				IAML_P			
	comp=Z,4μm,0.2s						
VLO	**Vlora**	**3.17**	**300**	*i* PN	**Pn**	**18 10 21.1**	**+3.0**
VLO				*i* SN	**Sb**	**18 11 05.5**	**+2.3**
ERIK	**Erikli-Kesan**	**3.17**	**55**	PN	**Pn**	**18 10 17.0**	**-1.1**
SANT	**Santorini**	**3.17**	**143**	⇑P	**Pn**	**18 10 18.1**	**-0.1**
SANT				AML	AML	18 11 17.2	
SANT	**Santorini**	**3.17**	**143**	PN	**Pn**	**18 10 18.1**	**-0.1**
SANT	**Santorini**	**3.17**	**143**		**Pn**	**18 10 17.6**	**-0.6**
LPK	**Lapseki**	**3.19**	**62**	PN	**Pn**	**18 10 18.2**	**-0.2**
KDZ	**Kurdzhali**	**3.26**	**33**	PN	**Pn**	**18 10 17.9**	**-1.5**
SKO	**Skopje**	**3.29**	**338**	*i* Pn	**Pn**	**18 10 20.6**	**+0.8**
PLD	**Plovdiv**	**3.41**	**21**	PN	**Pn**	**18 10 21.3**	**-0.2**
PHP	**Peshkopia**	**3.42**	**325**	*i* PN	**Pn**	**18 10 23.2**	**+1.6**
PHP				*i* SN	**Sb**	**18 11 09.3**	**-1.2**
TIR	**Tirane**	**3.46**	**316**	P	**Pn**	**18 10 22.8**	**+0.8**
TIR	**Tirane**	**3.46**	**316**	*i* PN	**Pn**	**18 10 24.9**	**+2.9**
TIR				*i* SN	**Sb**	**18 11 11.0**	**-0.5**
TIR	**Tirane**	**3.46**	**316**		**Pn**	**18 10 22.8**	**+0.8**
GCAM	**G?zelcaml?**	**3.49**	**109**	PN	**Pn**	**18 10 22.6**	**+0.1**
UKOP	**Uzunkopru-Edir**	**3.51**	**50**	PN	**Pn**	**18 10 22.5**	**-0.2**
IMMV	**Iera Moni Meta**	**3.53**	**168**	PN	**Pn**	**18 10 23.6**	**+0.5**
KRBG	**Karabiga-Canak**	**3.57**	**64**	PN	**Pn**	**18 10 23.7**	**+0.1**
BALY	**Balya**	**3.61**	**75**	*i* P	**Pn**	**18 10 25.6**	**+1.3**
BALY				IAML_P			
	comp=Z,1μm,0.4s						
RKY	**Sarkoy-Tekirda**	**3.62**	**60**	PN	**Pn**	**18 10 24.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**3.63**	**81**	*i* P	**Pn**	**18 10 25.8**	**+1.3**
STEP				IAML_P			
	comp=Z,3μm,0.3s						
AKHS	**Akhisar**	**3.69**	**89**	*i* P	**Pn**	**18 10 26.6**	**+1.2**
AKHS				IAML_P			
	comp=Z,3μm,0.3s						
VTS	**Vitosha**	**3.69**	**2**	P	**Pn**	**18 10 25.4**	**-0.1**
VTS	**Vitosha**	**3.69**	**2**	⇑P	**Pn**	**18 10 25.5**	**0.0**
VTS				AML	AML	18 11 28.1	
VTS	**Vitosha**	**3.69**	**2**		**Pn**	**18 10 25.4**	**-0.1**
GONE	**Gonen-Balikesi**	**3.74**	**71**	PN	**Pn**	**18 10 25.9**	**0.0**
SCTE	**Santa Cesarea**	**3.75**	**289**		**Pn**	**18 10 26.7**	**+0.6**
BALB	**Balikesir**	**3.79**	**78**	PN	**Pn**	**18

MATE			AML	AML	18 12 35.4	
PLE	**Pljevlja**	**5.21 329**	⇑*i*Pn	**Pn**	**18 10 47.0**	**+0.7**
PLE			*i* Sn	**Sn**	**18 11 46.8**	**+0.5**
TREB	**Trebinje**	**5.22 318**	*e*Pn	**Pn**	**18 10 47.2**	**+0.9**
BAI	**Bari**	**5.24 297**	*e*Pn	**Pn**	**18 10 47.5**	**+1.0**
BRY	**Bratogost**	**5.26 321**	*e*Pn	**Pn**	**18 10 47.9**	**+1.0**
BRY	**Bratogost**	**5.26 321**	⇑*i*Pn	**Pn**	**18 10 47.5**	**+0.6**
BRY			*i* Sn	**Sn**	**18 11 47.9**	**+0.4**
SG1	**Sgolgore (BA)**	**5.28 293**	*e*Pn	**Pn**	**18 10 48.4**	**+1.2**
UPM	**Unac-Piva**	**5.32 325**	*e*Pn	**Pn**	**18 10 50.5**	**+2.7**
UPM	**Unac-Piva**	**5.32 325**	⇑*i*Pn	**Pn**	**18 10 48.4**	**+0.6**
UPM			*i* Sn	**Sn**	**18 11 49.1**	**+0.1**
PUNG	**Punghina**	**5.35 359**	⇑P	**Pn**	**18 10 47.2**	**-0.9**
PUNG			AML	AML	18 12 51.5	
COPA	**Copaceanca**	**5.45 16**	⇑P	**Pn**	**18 10 49.8**	**+0.3**
RUDO	**Rudo**	**5.46 330**	*e*Pn	**Pn**	**18 10 49.9**	**+0.3**
SILT	**Sile**	**5.51 64**	⇑P	**Pn**	**18 10 50.1**	**-0.1**
BBLS	**Lazići**	**5.66 332**	*e*Pn	**Pn**	**18 10 53.2**	**+0.8**
DIVS	**Divibare**	**5.67 337**	*e*Pn	**Pn**	**18 10 53.0**	**+0.5**
CEL	**Celeste**	**5.67 266**		**Pn**	**18 10 51.9**	**-0.6**
STON	**Ston**	**5.67 316**	*i* Pn	**Pn**	**18 10 52.4**	**-0.1**
STON	**Ston**	**5.67 316**	*e*Pn	**Pn**	**18 10 52.2**	**-0.3**
MRVN	**Minervino Murg**	**5.70 294**	*i* PN	Pn	18 10 57.7	+4.8
SRE	**Strehaia**	**5.74 1**	⇑P	**Pn**	**18 10 52.9**	**-0.5**
HUMR	**Humele**	**5.78 14**	⇑P	**Pn**	**18 10 54.4**	**+0.4**
ACER	**Acerenza**	**5.80 291**		**Pn**	**18 10 54.2**	**-0.1**
ELL	**Elmali**	**5.82 110**	P	**Pn**	**18 10 56.9**	**+2.1**
ELL	**Elmali**	**5.82 110**		**Pn**	**18 10 56.9**	**+2.1**
MDVR	**Moldovita**	**5.94 351**	⇑P	**Pn**	**18 10 57.7**	**+1.4**
ISP	**Isparta**	**5.95 98**	P	**Pn**	**18 10 57.2**	**+0.8**
ISP	**Isparta**	**5.95 98**	⇑P	**Pn**	**18 10 58.1**	**+1.7**
ISP	**Isparta**	**5.95 98**		**Pn**	**18 10 57.2**	**+0.8**
HERR	**Herculane**	**5.98 355**	⇓P	**Pn**	**18 10 56.3**	**-0.4**
HAPS	**Han Pijesak,BI**	**6.02 330**	*e*Pn	**Pn**	**18 10 57.5**	**+0.1**
GOLR		**6.08 13**	⇑P	**Pn**	**18 10 59.3**	**+1.3**
TEKS	**Tekeris**	**6.22 336**	*e*Pn	**Pn**	**18 11 00.6**	**+0.6**
SULR		**6.22 21**	⇓P	**Pn**	**18 11 01.0**	**+1.0**
SGRT	**San Giovanni R**	**6.28 299**	*i* PN	**Pn**	**18 11 03.1**	**+2.2**
SGRT	**San Giovanni R**	**6.28 299**		**Pn**	**18 11 00.7**	**-0.2**
ICOR	**Ion Corvin**	**6.28 33**	⇑P	**Pn**	**18 11 01.3**	**+0.4**
MAKA	**Makarska**	**6.32 316**	*i* Pn	**Pn**	**18 11 01.2**	**-0.2**
MAKA			Sn	**Sn**	**18 12 10.8**	**-2.7**
MTUR	**Matau**	**6.47 13**	⇑P	**Pn**	**18 11 04.5**	**+0.9**
GZR	**Gura Zlata**	**6.47 358**	⇑P	**Pn**	**18 11 03.5**	**0.0**
LOT	**Lotru**	**6.54 4**	⇓P	**Pn**	**18 11 04.1**	**-0.5**
ARR	**Arges**	**6.54 10**	⇑P	**Pn**	**18 11 05.0**	**+0.5**
HVAR	**Hvar**	**6.57 312**	*e*Pn	**Pn**	**18 11 04.0**	**-0.8**
HVAR			Sn	**Sn**	**18 12 16.5**	**-3.2**
MFTR	**Murfatlar**	**6.61 36**	⇑P	**Pn**	**18 11 05.5**	**+0.2**
VOIR		**6.67 12**	⇓P	**Pn**	**18 11 06.3**	**0.0**
FRGS	**Fruska Gora**	**6.69 340**	*e*Pn	**Pn**	**18 11 06.8**	**+0.3**
TLB	**Topalu**	**6.77 32**	⇑P	**Pn**	**18 11 06.8**	**-0.7**
BZS	**Buzias**	**6.78 351**	⇑P	**Pn**	**18 11 07.2**	**-0.4**
HARR	**Harsova**	**6.81 31**	⇑P	**Pn**	**18 11 08.3**	**+0.2**
TIRR	**Tirgusor**	**6.82 34**	P	**Pn**	**18 11 07.0**	**-1.3**
TIRR	**Tirgusor**	**6.82 34**	⇓P	**Pn**	**18 11 07.8**	**-0.4**
TIRR	**Tirgusor**	**6.82 34**		**Pn**	**18 11 07.0**	**-1.3**
DOB	**Doboj**	**6.89 329**	*e*Pn	**Pn**	**18 11 11.3**	**+2.0**
MLR	**Muntele Rosu**	**6.90 17**	P	**Pn**	**18 11 09.5**	**0.0**
MLR					18 12 30.4	
MLR	**Muntele Rosu**	**6.90 17**	Pn	**Pn**	**18 11 09.9**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=215,slow=4.9,SNR=46					
MLR			Sn	**Sn**	**18 12 30.4**	**+2.4**
	comp=Z,3.5nm,0.3s,baz=308,slow=19,SNR=2.3					
MLR			Lg	Lg	18 13 13.6	
	baz=242,slow=18,SNR=1.9					
MLR			LR	LR	18 14 10.9	
	comp=Z,3µm,19.0s,baz=242,slow=41					
MLR	**Muntele Rosu**	**6.90 17**	⇓P	**Pn**	**18 11 10.4**	**+0.9**
MLR	**Muntele Rosu**	**6.90 17**		**Pn**	**18 11 09.5**	**0.0**
DEV	**Deva**	**6.96 359**	⇑P	**Pn**	**18 11 12.2**	**+2.0**
VAE	**Valguarnera**	**6.98 261**	Pn	**Pn**	**18 11 10.5**	**0.0**
	comp=Z,5.2nm,0.3s,baz=113,slow=1.5,SNR=5.6					
VAE			Sn	**Sn**	**18 12 29.7**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=13,slow=18,SNR=2.1					
RAFF	**Raffo Rosso**	**7.08 259**		**Pn**	**18 11 11.1**	**-0.8**
MGRS	**Mrkonjic Grad**	**7.09 323**	*e*Pn	**Pn**	**18 11 13.0**	**+1.0**
TOPG	**Topolog**	**7.14 32**	⇓P	**Pn**	**18 11 12.0**	**-0.6**
BISRR	**Bisoca**	**7.15 21**	⇑P	**Pn**	**18 11 15.3**	**+2.5**
DOPR	**Dopca**	**7.25 13**	⇑P	**Pn**	**18 11 15.1**	**+0.9**
CFR	**Carcaliu**	**7.29 29**	⇑P	**Pn**	**18 11 14.4**	**-0.3**
BLY	**Banja Luka**	**7.30 325**	*e*Pn	**Pn**	**18 11 15.1**	**+0.3**
BLY	**Banja Luka**	**7.30 325**	⇑P	**Pn**	**18 11 15.8**	**+1.0**
BLY	**Banja Luka**	**7.30 325**		**Pn**	**18 11 15.8**	**+1.0**
ZIRJ	**Zirje**	**7.33 313**	*e*Pn	**Pn**	**18 11 14.5**	**-0.7**
ZIRJ			Sn	**Sn**	**18 12 35.0**	**-3.3**
PLOR	**Plostina**	**7.41 20**	⇑P	**Pn**	**18 11 16.8**	**+0.4**
SIRR	**Siria**	**7.42 352**	⇑P	**Pn**	**18 11 16.6**	**+0.1**
MORI	**Morici**	**7.42 314**	*i* Pn	**Pn**	**18 11 16.2**	**-0.3**
ODBI	**Odobesti**	**7.44 22**	⇑P	**Pn**	**18 11 19.4**	**+2.6**
OZUR		**7.44 15**	⇑P	**Pn**	**18 11 18.1**	**+1.2**
VRI	**Vrincioaia**	**7.45 20**	⇓P	**Pn**	**18 11 17.2**	**+0.3**
WDD	**Wied Dalam**	**7.47 248**		**Pn**	**18 11 16.8**	**-0.5**
BR231	**Keskin MP Arra**	**7.57 80**	Pn	**Pn**	**18 11 20.3**	**+1.6**
TLCR		**7.57 32**	⇑P	**Pn**	**18 11 18.6**	**+0.1**
ANTO	**Ankara**	**7.58 80**	P	**Pn**	**18 11 20.2**	**+1.4**
ANTO	**Ankara**	**7.58 80**		**Pn**	**18 11 20.2**	**+1.4**
SLUM	**Salum**	**7.62 166**	P	**Pn**	**18 11 18.5**	**-0.7**
	baz=167					
SLUM			AMP		18 12 00.0	
	baz=167					
SLUM			S	**Sn**	**18 12 40.8**	**-4.7**
	baz=167					
INTR	**Introdacqua**	**7.64 297**		**Pn**	**18 11 20.3**	**+0.6**
CORL	**Corleone**	**7.74 265**		**Pn**	**18 11 25.0**	**+3.9**
UDBI	**Udbina**	**7.83 318**	*e*Pn	**Pn**	**18 11 22.9**	**+0.7**
DUGI	**Dugi Otok**	**7.87 313**	*e*Pn	**Pn**	**18 11 22.6**	**0.0**
CLTB	**Caltabellotta**	**7.88 263**		**Pn**	**18 11 24.8**	**+1.9**
TESR	**Tescani**	**8.03 18**	⇓P	**Pn**	**18 11 26.0**	**+1.1**
AQU	**L'Aquila**	**8.12 298**	P	**Pn**	**18 11 28.5**	**+2.4**
AQU	**L'Aquila**	**8.12 298**	*e*Pn	**Pn**	**18 11 30.4**	**+4.3**
AQU	**L'Aquila**	**8.12 298**		**Pn**	**18 11 28.5**	**+2.4**
ARCR	**ARCALIA**	**8.21 6**	⇓P	**Pn**	**18 11 28.0**	**+0.6**
BR131	**Keskin Array S**	**8.22 81**	P	**Pn**	**18 11 29.4**	**+1.7**
	SNR=13					
BR131	**Keskin Array S**	**8.22 81**	P	**Pn**	**18 11 28.3**	**+0.6**
BR131	**Keskin Array S**	**8.22 81**		**Pn**	**18 11 28.2**	**+0.6**
BRTR	**Keskin Array B**	**8.22 81**	P	**Pn**	**18 11 27.9**	**+0.2**
BRTR	**Keskin Array B**	**8.22 81**	Pn	**Pn**	**18 11 29.1**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=261,slow=13,SNR=35					
BRTR			Sn	**Sn**	**18 12 57.0**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=98,slow=12,SNR=5.9					
BRTR			Lg	Lg	18 13 54.2	
	baz=284,slow=29,SNR=2.6					
BRTR			LR	LR	18 14 42.4	
	comp=Z,926nm,20.0s,baz=236,slow=38					
BRTR	**Keskin Array B**	**8.22 81**		**Pn**	**18 11 27.9**	**+0.2**
BIZ	**Bicaz**	**8.31 14**	⇑P	**Pn**	**18 11 30.4**	**+1.6**
NVLJ	**Novalja**	**8.33 315**	*e*Pn	**Pn**	**18 11 28.3**	**-0.6**
ILGA	**Ilgaz**	**8.44 72**		**Pn**	**18 11 31.4**	**+0.7**
NRCA	**Norcia**	**8.50 301**		**Pn**	**18 11 32.5**	**+1.2**
NRCA			Sn	**Sn**	**18 13 05.0**	**-2.3**
BURAR	**Bucovina Array**	**8.83 9**	⇑P	**Pn**	**18 11 36.8**	**+0.9**
BURAR	**Bucovina Array**	**8.83 9**		**Pn**	**18 11 35.4**	**-0.5**
BUR08	**Bucovina Ar. S**	**8.85 9**		**Pn**	**18 11 36.1**	**-0.1**
CRES	**Cresnjev**	**8.91 323**	*e*Pn	**Pn**	**18 11 35.9**	**-1.0**
MILM	**Milestii Mici**	**9.03 26**	⇑P	**Pn**	**18 11 39.6**	**+1.0**
MURB	**Monte Urbino**	**9.07 302**		**Pn**	**18 11 41.2**	**+2.0**
KIS	**Kishinev**	**9.10 26**	*e*P	**Pn**	**18 11 39.0**	**-0.5**
KIS			*e*S	**Sn**	**18 13 20.0**	**-1.8**
KIS			*e*Li		18 14 12.0	
KIS			*e*LQ	LQ	18 14 34.0	
KIS			*e*LR	LR	18 14 48.0	
	comp=Z,3µm,12.0s					
KIS	**Kishinev**	**9.10 26**	*e*P	**Pn**	**18 11 39.0**	**-0.5**
KIS			*e*S	**Sn**	**18 13 20.0**	**-1.8**
KIS			MLR	MLR		
	comp=Z,3µm,12.0s					
KIS			MLR	MLR		
	comp=N,3µm,12.0s					
CSS	**Mathiatis**	**9.11 113**	P	Pn	18 11 47.1	+7.4
CSS	**Mathiatis**	**9.11 113**	Pn	**Pn**	**18 11 41.5**	**+1.8**
BRJN	**Brijuni**	**9.17 314**	*e*Pn	**Pn**	**18 11 39.2**	**-1.3**
BRJN			Sn	**Sn**	**18 13 20.1**	**-3.4**
TRPA	**Tarpa**	**9.21 358**	⇑P	**Pn**	**18 11 41.3**	**+0.2**
PSZ	**Piszkesteto**	**9.29 347**	P	**Pn**	**18 11 41.7**	**-0.5**
PSZ	**Piszkesteto**	**9.29 347**	⇓P	**Pn**	**18 11 43.3**	**+1.1**
PSZ	**Piszkesteto**	**9.29 347**		**Pn**	**18 11 41.7**	**-0.5**
LATE	**Laterza**	**9.31 297**	Pn	**Pn**	**18 11 42.9**	**+0.4**
CEY	**Cerknica**	**9.35 320**	*e*Pn	**Pn**	**18 11 41.7**	**-1.3**
TRI	**Trieste**	**9.67 318**	P	**Pn**	**18 11 46.1**	**-1.2**
TRI	**Trieste**	**9.67 318**	Pn	**Pn**	**18 11 46.1**	**-1.2**
UZH	**Uzhgorod**	**9.72 357**	*e*P	**Pn**	**18 11 49.2**	**+1.2**
UZH			*e*S	**Sn**	**18 13 39.2**	**+2.1**
UZH			MLR	MLR		
	comp=N,410nm,12.0s					
UZH			MLR	MLR		
	comp=E,370nm,12.0s					
UZH			MLR	MLR		
	comp=Z,130nm,12.0s					
SOKA	**Soboth**	**9.74 325**	*e*Pn	**Pn**	**18 11 47.7**	**-0.8**
	comp=Z,1.8nm,0.3s					
OBKA	**Obir**	**9.84 323**	Pn	**Pn**	**18 11 49.6**	**-0.1**
	comp=Z,6.7nm,0.5s					
OBKA			Sn	**Sn**	**18 13 40.3**	**+0.2**
	comp=Z,14nm,0.5s					
SWA2		**9.85 168**	P	**Pn**	**18 11 48.0**	**-1.9**
	baz=169					
SWA2			AMP		18 13 00.0	
	baz=169					
SWA2			S	**Sn**	**18 13 33.6**	**-6.8**
	baz=169					
SORM	**Soroca**	**9.97 21**	⇓P	**Pn**	**18 11 51.0**	**-0.5**
ARSA	**Arzberg**	**9.99 329**	Pn	**Pn**	**18 11 52.4**	**+0.7**
	comp=Z,6.8nm,0.5s					
KOLS	**Kolonicke sedl**	**10.03 357**	*e*P	**Pn**	**18 11 55.2**	**+3.0**
KOLS			*e*		18 13 39.0	
KOLS	**Kolonicke sedl**	**10.03 357**	*e*PN	**Pn**	**18 11 55.2**	**+3.0**
KOLS			*e*SN	**Sn**	**18 13 39.0**	**-5.6**
KOLS			*e*SG		18 14 51.0	
CASP	**Castiglione de**	**10.03 297**	Pn	**Pn**	**18 11 50.9**	**-1.4**
OSSC	**Osservatorio P**	**10.03 301**	Pn	**Pn**	**18 11 52.6**	**+0.4**
VYHS	**Vyhne**	**10.05 344**	*e*P	**Pn**	**18 11 57.0**	**+4.5**
VYHS	**Vyhne**	**10.05 344**	*e*PN	**Pn**	**18 11 57.0**	**+4.5**
SIM	**Simferopol'**	**10.19 50**	P	**Pn**	**18 11 55.2**	**+0.8**
SIM			S	**Sn**	**18 13 43.7**	**-4.8**
SIM			pmax	pmax		
	comp=Z,20nm,0.7s					
MODS	**Modra-Piesok**	**10.34 338**	*e*P	**Pn**	**18 11 58.7**	**+2.2**
MODS			*e*		18 13 45.0	
MODS	**Modra-Piesok**	**10.34 338**	*e*PN	**Pn**	**18 11 58.7**	**+2.2**
MODS			*e*SN	**Sn**	**18 13 45.0**	**-7.2**
MYKA	**Terra Mystica**	**10.36 321**	Pn	**Pn**	**18 11 59.4**	**+2.6**
	comp=Z,0.9nm,0.3s					
CONA	**Conrad Observa**	**10.42 332**	*e*Pn	**Pn**	**18 11 59.2**	**+1.5**
	comp=Z,3.7nm,0.6s					
SMOL	**Smolenice**	**10.42 339**	*e*P	**Pn**	**18 12 00.7**	**+3.1**
SMOL			*e*		18 13 47.1	
SMOL	**Smolenice**	**10.42 339**	*e*PN	**Pn**	**18 12 00.7**	**+3.1**
SMOL			*e*SN	**Sn**	**18 13 47.1**	**-7.1**
LANS	**Liptovska Anna**	**10.55 347**	*e*P	Pn	18 12 05.0	+5.6
LANS	**Liptovska Anna**	**10.55 347**	*e*PN	Pn	18 12 05.0	+5.6
ZCCA	**Zocca**	**10.55 305**	Pn	**Pn**	**18 11 58.8**	**-0.7**
STAL	**STALIGIAL**	**10.59 317**		**Pn**	**18 12 00.3**	**+0.4**
TEOL	**Teolo**	**10.63 311**		**Pn**	**18 11 59.3**	**-1.2**
JAVC	**Velka Javorina**	**10.67 340**	*e*PN	**Pn**	**18 12 03.7**	**+2.6**
NIE	**Niedzica**	**10.68 350**	*e*P	**Pn**	**18 12 04.8**	**+3.6**
NIE			*e*P	**Pn**	**18 12 04.8**	**+3.6**
KWP	**Kalwaria Pacla**	**10.71 359**	P	**Pn**	**18 12 01.6**	**0.0**
KWP	**Kalwaria Pacla**	**10.71 359**	*e*P	**Pn**	**18 12 05.3**	**+3.7**
KWP			*e*P	**Pn**	**18 12 05.3**	**+3.7**
KWP	**Kalwaria Pacla**	**10.71 359**		**Pn**	**18 12 01.6**	**0.0**
KBA	**Koelnbreinsper**	**10.82 322**	Pn	**Pn**	**18 12 03.3**	**0.0**
	comp=Z,16nm,0.9s,SNR=6.5					
KBA			Sn	**Sn**	**18 14 05.0**	**+0.7**
	comp=Z,9.7nm,0.8s					
LVV	**L'vov**	**10.92 3**	*e*P	**Pn**	**18 12 08.3**	**+3.9**
LVV			*e*S	**Sn**	**18 14 08.5**	**+2.1**
LVV			MLR	MLR		
	comp=E,400nm,11.0s					
LVV			MLR	MLR		
	comp=N,2µm,10.0s					
LVV			MLR	MLR		
	comp=Z,1µm,10.0s					
MOA	**Molln**	**10.98 327**	*e*Pn	**Pn**	**18 12 05.2**	**-0.2**
	comp=Z,14nm,0.8s					
MOA			Sn	**Sn**	**18 14 10.5**	**+2.5**
	comp=Z,5.1nm,0.6s					
ABTA	**Abfaltersbach**	**11.01 319**	*e*Pn	**Pn**	**18 12 04.9**	**-0.8**
	comp=Z,9.7nm,0.6s					
ABTA			Sn	**Sn**	**18 14 07.1**	**-1.6**
	comp=Z,17nm,0.8s					
CTI	**Castel Tesino**	**11.04 314**	P	**Pn**	**18 12 04.7**	**-1.4**
CTI	**Castel Tesino**	**11.04 314**		**Pn**	**18 12 04.7**	**-1.4**
PRMA	**PARMA**	**11.16 306**	Pn	**Pn**	**18 12 08.1**	**+0.3**
KRUC	**Moravsky**	**11.22 337**	*e*PN	**Pn**	**18 12 08.0**	**-0.5**
VRAC	**Vranov**	**11.38 338**	Pn	**Pn**	**18 12 11.5**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=160,slow=15,SNR=9.1					
VRAC			LR	LR	18 17 31.6	
	comp=Z,628nm,18.7s,baz=182,slow=42					
VRAC	**Vranov**	**11.38 338**	⇑P	**Pn**	**18 12 09.9**	**-0.8**
VRAC	**Vranov**	**11.38 338**	*e*PN	**Pn**	**18 12 10.7**	**0.0**
KEST	**Kesra**	**11.39 258**	Pn	**Pn**	**18 12 10.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=19,slow=8.1,SNR=9.4					
KEST			LR	LR	18 17 17.9	
	comp=Z,593nm,21.4s,baz=19,slow=42					
SALO	**Salr**	**11.45 310**	Pn	**Pn**	**18 12 10.5**	**-1.2**
OKC	**Ostrava-Krasne**	**11.47 344**	AMS	AMS	18 17 00.0	
	comp=Z,2µm,11.7s					
MSSA	**Maissana**	**11.49 302**	Pn	**Pn**	**18 12 13.2**	**+0.9**
OJC	**Ojcow**	**11.53 349**	P	**Pn**	**18 12 13.3**	**+0.5**
OJC	**Ojcow**	**11.53 349**	*e*P	**Pn**	**18 12 15.0**	**+2.1**
OJC			*e*P	**Pn**	**18 12 15.0**	**+2.1**
OJC	**Ojcow**	**11.53 349**		**Pn**	**18 12 13.3**	**+0.5**
MORC	**Moravsky Berou**	**11.55 342**	P	**Pn**	**18 12 13.4**	**+0.3**
MORC	**Moravsky Berou**	**11.55 342**	*e*PN	**Pn**	**18 12 13.4**	**+0.3**
MORC	**Moravsky Berou**	**11.55 342**		**Pn**	**18 12 13.4**	**+0.3**
MMAI	**Mount Meron Ar**	**11.59 117**	Pn	**Pn**	**18 12 13.4**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=302,slow=13,SNR=15					
KSDI	**Kefar Szold**	**11.67 115**	Pn	**Pn**	**18 12 15.3**	**+0.5**
NATI	**Neve Ativ**	**11.69 115**	Pn	**Pn**	**18 12 14.3**	**-0.7**
TREC	**Trest**	**11.71 335**	AMS	AMS	18 17 10.0	
	comp=Z,2µm,7.5s					
WTTA	**Wattenberg**	**11.80 319**	Pn	**Pn**	**18 12 16.7**	**0.0**
	comp=Z,2.9nm,0.3s					
WTTA			Sn	**Sn**	**18 14 28.9**	**+0.6**
	comp=Z,31nm,0.8s					
WATA	**Walderalm**	**11.88 319**	Pn	**Pn**	**18 12 17.1**	**-0.6**
	comp=Z,5.4nm,0.5s,SNR=5.9					
WATA			Sn	**Sn**	**18 14 27.5**	**-2.6**
	comp=Z,14nm,0.7s					
SQTA	**Sankt Quirin**	**11.99 318**	*e*Pn	**Pn**	**18 12 18.8**	**-0.5**
	comp=Z,5.2nm,0.3s					
SQTA			Sn	**Sn**	**18 14 30.0**	**-3.0**
	comp=Z,16nm,0.7s					
GEC2	**GERESS Array S**	**12.00 329**	Pn	**Pn**	**18 12 19.9**	**+0.6**
GERES	**GERESS Array B**	**12.00 329**	P	**Pn**	**18 12 18.3**	**-1.0**
GERES	**GERESS Array B**	**12.00 329**	Pn	**Pn**	**18 12 20.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=12					
GERES			LR	LR	18 17 34.4	
	comp=Z,725nm,21.7s,baz=156,slow=41					
GERES	**GERESS Array B**	**12.00 329**		**Pn**	**18 12 18.3**	**-1.0**
SHMJ	**Saham**	**12.00 117**	P	**Pn**	**18 12 21.8**	**+2.5**
	comp=Z,86nm,0.9s,comp=Z,1µm					
KRLC	**Kraliky**	**12.02 340**	*e*P	**Pn**	**18 12 21.4**	**+1.9**
KRLC			MLR	MLR		
	comp=Z,5µm,8.9s					
KRLC	**Kraliky**	**12.02 340**	*e*PN	**Pn**	**18 12 21.4**	**+1.9**
KRLC			AMS	AMS	18 19 20.0	
	comp=Z,2µm,8.9s					
SUZ	**Suez**	**12.11 135**	P	**Pn**	**18 12 20.0**	**-0.8**
	baz=136					
HMDT	**Nahal Hemdat**	**12.12 120**	Pn	**Pn**	**18 12 20.1**	**-0.7**
FETA	**Feichten**	**12.13 316**	Pn	**Pn**	**18 12 22.6**	**+1.5**
	comp=Z,5.0nm,0.7s					
FETA			Sn	**Sn**	**18 14 33.2**	**-3.1**
	comp=Z,6.1nm,0.6s					
MOTA	**Moosalm**	**12.13 318**	Pn	**Pn**	**18 12 21.1**	**-0.1**
	comp=Z,14nm,1.0s					
MOTA			Sn	**Sn**	**18 14 37.4**	**+1.1**
	comp=Z,15nm,0.6s					
AMAZ	**Amatzia**	**12.16 124**	Pn	**Pn**	**18 12 20.7**	**-0.8**
AMAZ	**Amatzia**	**12.16 124**	P	**Pn**	**18 12 21.6**	**+0.1**
	comp=Z,95nm,1.2s					
ANN	**Anapa**	**12.20 57**	*e*P	**Pn**	**18 12 23.3**	**+1.4**
ANN			pmax	pmax		
	comp=Z,55nm,1.0s					
KZIT	**Kziot**	**12.25 127**	Pn	**Pn**	**18 12 21.3**	**-1.4**
KZIT	**Kziot**	**12.25 127**	P	**Pn**	**18 12 21.1**	**-1.6**
	comp=Z,134nm,0.9s,comp=Z,1µm					
KHC	**Kasperske Hory**	**12.27 329**	*i* P	**Pn**	**18 12 21.7**	**-1.3**
KHC	**Kasperske Hory**	**12.27 329**	*e*P	**Pn**	**18 12 23.3**	**+0.3**
KHC			*e*S	**Sn**	**18 14 41.0**	**+1.4**
KHC			AMS	AMS	18 18 10.0	
	comp=Z,2µm,9.1s					
KHC	**Kasperske Hory**	**12.27 329**		**Pn**	**18 12 22.3**	**-0.7**
DPC	**Dobruska-Polom**	**12.39 339**	*e*P	**Pn**	**18 12 25.6**	**+1.0**
DPC			MLR	MLR		
	comp=Z,1µm,13.3s					
DPC	**Dobruska-Polom**	**12.39 339**	*e*P	**Pn**	**18 12 25.6**	**+1.0**
DPC			AMS	AMS	18 17 30.0	
	comp=Z,1µm,13.3s					
YTIR	**Yattir**	**12.40 124**	Pn	**Pn**	**18 12 24.4**	**-0.4**
RETA	**Reutte**	**12.40 318**	*e*Pn	**Pn**	**18 12 25.2**	**+0.4**
	comp=Z,0.5nm,0.2s					
DSI	**Dead Sea**	**12.44 122**	Pn	**Pn**	**18 12 24.2**	**-1.1**
DAVOX	**Davos/Dischmat**	**12.46 313**	Pn	**Pn**	**18 12 26.2**	**+0.5**
	baz=119,slow=10					
DAVOX			Sn	**Sn**	**18 14 38.6**	**-5.8**
	comp=Z,0.5nm,0.3s,baz=219,slow=12,SNR=4.6					
DAVOX			LR	LR	18 17 46.9	
	comp=Z,2µm,19.5s,slow=40					
GOPC	**GO Pecny, Ondr**	**12.48 334**	AMS	AMS	18 17 30.0	
	comp=Z,2µm,7.8s					
HFRF	**Wahat Farafira**	**12.53 158**	P	**Pn**	**18 12 24.4**	**-2.2**
	baz=159					
AKASG	**Malin Array Be**	**12.55 18**	P	**Pn**	**18 12 27.0**	**+0.2**
AKASG	**Malin Array Be**	**12.55 18**	Pn	**Pn**	**18 12 25.4**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=204,slow=12,SNR=6.9					
AKASG			LR	LR	18 17 19.2	
	comp=Z,584nm,20.0s,baz=210,slow=38					
AKASG	**Malin Array Be**	**12.55 18**	Pn	**Pn**	**18 12 26.9**	**+0.2**
AKBB	**Malin Array Si**	**12.55 18**	P	**Pn**	**18 12 26.7**	**-0.1**
AKBB	**Malin Array Si**	**12.55 18**		**Pn**	**18 12 26.6**	**-0.1**
MZDA	**Masada**	**12.59 123**	Pn	**Pn**	**18 12 27.8**	**+0.5**
TUE	**Stuetta**	**12.60 311**		**Pn**	**18 12 26.2**	**-1.4**
UPC	**Upice**	**12.62 339**	AMS	AMS	18 21 00.0	
	comp=Z,2µm,7.8s					
PRU	**Pruhonice**	**12.62 334**	AMS	AMS	18 16 50.0	
	comp=Z,2µm,9.4s					
CHVC	**Chvalec**	**12.68 339**	AMS	AMS	18 19 50.0	
	comp=Z,2µm,7.9s					
PRA	**Prague**	**12.73 334**	AMS	AMS	18 17 20.0	
	comp=Z,2µm,10.2s					
DAVA	**Damuels**	**12.75 315**	Pn	**Pn**	**18 12 31.9**	**+2.2**
	comp=Z,5.2nm,0.6s					
DAVA			Sn	**Sn**	**18 14 52.8**	**+1.3**
	comp=Z,14nm,0.6s					
ZFRI	**Zfri**	**12.98 126**	Pn	**Pn**	**18 12 31.2**	**-1.4**
PRNI	**Paran**	**13.01 127**	Pn	**Pn**	**18 12 31.1**	**-2.0**
ASF	**Jabal al Asfar**	**13.11 117**	Pn	**Pn**	**18 12 37.7**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=248,slow=7.4,SNR=5.9					
ASF	**Jabal al Asfar**	**13.11 117**	P	**P**	**18 12 41.9**	**-2.8**
HRFI	**Mount Harif**	**13.25 128**	Pn	**Pn**	**18 12 35.5**	**-0.9**
HRFI	**Mount Harif**	**13.25 128**	P	**Pn**	**18 12 37.5**	**+1.1**
	comp=Z,54nm,0.7s,comp=Z,1µm					
MBRI	**Mt Berech**	**13.35 129**	Pn	**Pn**	**18

LPSR pmax pmax
comp=Z,60nm,1.3s
LPSR MLR MLR
comp=Z,750nm,14.0s
CLF Chambon-Foret 17.59 308 P **P** **18 13 35.1 +0.8**
CLF IAmb IAmb 18 13 40.8
comp=Z,91nm,1.2s
GROC Groznyy 17.64 69 P **P** **18 13 34.5 -0.4**
GROC pmax pmax
comp=Z,62nm,1.5s
VRH Novokhopyorsk 17.94 41 *e*P **P** **18 13 38.0 -0.1**
VRH pmax pmax
comp=Z,60nm,1.6s
VRH MLR MLR
comp=Z,1μm,8.0s
OBN Obninsk 18.57 25 *e*P **Pn** **18 13 48.8 +3.6**
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,915nm,19.0s
OBN Obninsk 18.57 25 Pn **P** **18 13 42.3 -2.7**
comp=Z,0.2nm,0.3s,baz=189,slow=23,SNR=4.4
OBN LR LR 18 20 46.3
comp=Z,236nm,19.1s,baz=208,slow=36
OBN Obninsk 18.57 25 P **P** **18 13 42.2 -2.7**
MAK Makhachkala 18.87 70 *e*P **P** **18 13 48.1 -0.3**
MAK *e*S **S** **18 17 21.6 -1.0**
MAK pmax pmax
comp=Z,73nm,1.1s
MAK MLR MLR
comp=Z,188nm,17.0s
CART Cartagena 18.95 274 P **P** **18 13 48.2 -1.1**
AKT Akhty 18.99 74 *e*P **Pn** **18 13 53.5 +2.9**
AKT pmax pmax
comp=Z,6.0nm,1.0s
MOS Moscow 19.43 25 *e*P **P** **18 13 52.1 -2.3**
MOS pmax pmax
comp=Z,34nm,0.7s
MOS MLR MLR
comp=Z,600nm,13.0s
VSU Vasula 19.70 6 *ce*P **Pn** **18 13 58.3 -0.5**
VSU pmax pmax
comp=Z,149nm,1.0s
VSU Vasula 19.70 6 *e*P **P** **18 13 57.5 +0.2**
ESBB Sonseca Array 20.92 281 P **P** **18 14 09.7 -1.2**
ESDC Sonseca Array 20.92 281 P **P** **18 14 10.3 -0.6**
comp=Z,15nm,0.8s,baz=74,slow=11,SNR=55
ESDC Sonseca Array 20.92 281 P **P** **18 14 09.3 -1.6**
PAB San Pablo 21.23 280 P **P** **18 14 13.7 -0.5**
PAB pmax pmax
comp=Z,69nm,1.3s
PAB San Pablo 21.23 280 P **P** **18 14 13.7 -0.5**
PAB IAmb IAmb 18 14 18.2
comp=Z,69nm,1.2s
TAM Tamanrasset 21.97 228 P **P** **18 14 23.2 +0.8**
TAM pmax pmax
comp=Z,30nm,0.9s
TAM Tamanrasset 21.97 228 P **P** **18 14 23.2 +0.8**
TAM IAmb IAmb 18 14 24.8
comp=Z,30nm,0.9s
HFS Hagfors 22.05 347 P **P** **18 14 22.5 -0.2**
comp=Z,13nm,1.0s,baz=153,slow=15,SNR=7.7
HFS LR LR 18 24 20.4
comp=Z,885nm,18.6s,baz=164,slow=40
KONO Kongsberg 22.45 342 P **P** **18 14 27.6 +0.6**
KONO pmax pmax
comp=Z,197nm,1.8s
KONO Kongsberg 22.45 342 P **P** **18 14 27.6 +0.6**
KONO IAmb IAmb 18 14 36.5
comp=Z,197nm,1.8s
FINES FINESS Array B 22.62 4 P **P** **18 14 27.0 -1.9**
FINES FINESS Array B 22.62 4 P **P** **18 14 28.8 -0.1**
comp=Z,16nm,1.0s,baz=156,slow=15,SNR=7.9
FINES LR LR 18 24 41.8
comp=Z,623nm,18.9s,baz=194,slow=40
FINES FINESS Array B 22.62 4 P **P** **18 14 27.0 -1.9**
FIA1 FINESS Array S 22.63 4 P **P** **18 14 28.6 -0.2**
FIA1 IAmb IAmb 18 14 46.3
comp=Z,59nm,1.4s
PBRG Braganca 22.85 287 *e*P **P** **18 14 32.3 +0.8**
comp=Z,88nm,1.6s
NC602 NORSAR Array S 23.00 345 P **P** **18 14 31.1 -1.7**
NC602 IAmb IAmb 18 14 38.9
comp=Z,125nm,1.1s
MVO Moncorvo 23.11 285 *e*P **P** **18 14 34.5 +0.3**
comp=Z,53nm,1.2s
MVO *e*S **S** **18 18 45.5 +0.3**
MVO *e*LR LR 18 23 10.3
comp=Z,451nm,16.0s
MDT Midelt 23.20 263 P **P** **18 14 34.7 -0.6**
comp=Z,22nm,1.0s,baz=94,slow=11,SNR=18
MDT LR LR 18 23 52.7
comp=Z,164nm,19.9s,baz=56,slow=37
NAO01 NORSAR Array S 23.23 345 P **P** **18 14 32.9 -2.3**
NC405 NORSAR Array S 23.32 346 P **P** **18 14 35.6 -0.5**
NB201 NORSAR Array S 23.34 345 P **P** **18 14 33.6 -2.7**
NB2 NORSAR Subarra 23.34 345 P **P** **18 14 35.7 -0.7**
comp=Z,138nm,2.0s,baz=155,slow=10
NB2 NORSAR Subarra 23.34 345 P **P** **18 14 35.7 -0.7**
baz=155,slow=10
NOA NORSAR Array B 23.34 345 P **P** **18 14 35.5 -0.8**
comp=Z,5.3nm,0.9s,baz=159,slow=10,SNR=13
NOA LR LR 18 24 47.2
comp=Z,364nm,18.0s,baz=165,slow=39
NBO00 NORSAR Array S 23.42 345 P **P** **18 14 35.8 -1.3**
NC303 NORSAR Array S 23.48 346 P **P** **18 14 37.1 -0.6**
MTE Manteigas 23.57 283 *e*P **P** **18 14 38.3 -0.5**
comp=Z,65nm,1.2s
MTE *e*S **S** **18 18 55.1 +2.3**
MTE *e*LR LR 18 23 32.2
comp=Z,818nm,18.0s
MTE Manteigas 23.57 283 P **P** **18 14 37.9 -1.0**
MTE IAmb IAmb 18 14 39.7
comp=Z,40nm,1.1s
PMRV Marv??o 23.58 281 *e*P **P** **18 14 37.9 -1.0**
comp=Z,70nm,1.2s
PMRV *e*LR LR 18 23 37.8
comp=Z,502nm,18.0s
PCBR Castelo Branco 23.59 282 *e*P **P** **18 14 38.5 -0.4**
comp=Z,74nm,1.6s
PVRL Vila Real 23.61 286 *e*P **P** **18 14 39.4 +0.1**
NC204 NORSAR Array S 23.65 345 P **P** **18 14 38.4 -1.0**
POLO Lamas de Olo 23.67 286 *e*P **P** **18 14 40.0 +0.2**
comp=Z,23nm,1.3s
PVIS Viseu 23.80 284 *e*P **P** **18 14 40.4 -0.7**
comp=Z,77nm,1.5s
PESTR Estremoz 23.82 280 P **P** **18 14 39.0 -2.2**
PESTR IAmb IAmb 18 14 41.4
comp=Z,27nm,1.2s
EKA Eskdalemuir Ar 24.04 322 P **P** **18 14 42.3 -0.8**
comp=Z,15nm,0.7s,baz=120,slow=10.0,SNR=10
ESK Eskdalemuir 24.05 322 P **P** **18 14 41.8 -1.4**
ESK pmax pmax
comp=Z,48nm,1.1s
ESK Eskdalemuir 24.05 322 P **P** **18 14 41.8 -1.4**
ESK IAmb IAmb 18 14 48.2
comp=Z,48nm,1.1s
PBEJ Beja 24.19 278 *e*P **P** **18 14 44.4 -0.3**
comp=Z,30nm,2.2s
PVAQ Vaqueiros 24.21 276 *e*P **P** **18 14 44.0 -0.9**
comp=Z,56nm,1.0s
PVAQ *e*S **S** **18 19 03.9 +1.0**
PVAQ Vaqueiros 24.21 276 P **P** **18 14 42.7 -2.1**
PVAQ IAmb IAmb 18 14 45.1
comp=Z,54nm,1.0s
KLMR Klimovskoe 24.24 20 *e*P **P** **18 14 46.4 +1.6**
KLMR pmax pmax
comp=Z,52nm,1.5s
KLMR Klimovskoe 24.24 20 *e*P **P** **18 14 46.5 +1.6**
KLMR AMP 18 14 57.8
comp=Z,52nm,1.5s
KLMR LQ LQ 18 22 09.7
KLMR LR LR 18 23 21.8
COI Coimbra 24.25 283 P **P** **18 14 42.7 -2.5**
COI pmax pmax
comp=Z,91nm,1.2s
COI Coimbra 24.25 283 P **P** **18 14 42.7 -2.5**
COI IAmb IAmb 18 14 46.6
comp=Z,91nm,1.1s
PMTG Montargil 24.27 280 *e*P **P** **18 14 44.2 -1.3**
comp=Z,52nm,1.2s
PCAS Casmilo, Conde 24.34 283 *e*P **P** **18 14 46.0 0.0**
PCVE Castro Verde 24.41 277 *e*P **P** **18 14 45.8 -0.9**
comp=Z,52nm,1.8s
PBDV Barranco-do-Ve 24.41 276 *e*P **P** **18 14 46.1 -0.7**
comp=Z,141nm,1.3s

RAYN Ar Rayn 24.47 122 P **P** **18 14 48.1 +0.7**
RAYN pmax pmax
comp=Z,19nm,1.3s
RAYN Ar Rayn 24.47 122 P **P** **18 14 48.1 +0.7**
MESJ Messejana 24.50 277 *e*P **P** **18 14 47.3 -0.2**
MESJ AMb AMB 18 14 48.8
comp=Z,77nm,1.6s
MESJ *e*S **S** **18 19 10.0 +2.4**
MESJ Messejana 24.50 277 *e*P **P** **18 14 47.5 0.0**
comp=Z,76nm,1.4s
MESJ Messejana 24.50 277 *e*P **P** **18 14 47.3 -0.2**
MESJ *e*S **S** **18 19 10.0 +2.4**
ALMR Almeirim 24.53 281 *e*P **P** **18 14 47.6 -0.2**
comp=Z,90nm,2.5s
PNCL Nicolau / Gran 24.68 278 *e*P **P** **18 14 49.1 -0.1**
comp=Z,77nm,1.7s
DSB Dublin 24.73 315 P **P** **18 14 49.7 +0.3**
DSB IAmb IAmb 18 15 32.6
comp=Z,152nm,1.8s
PTEO Sao Teotonio 24.96 277 *e*P **P** **18 14 51.5 -0.1**
comp=Z,143nm,1.6s
PFVI Vila Bisbo 25.13 276 *e*P **P** **18 14 53.3 +0.1**
comp=Z,121nm,1.7s
PFVI Vila Bisbo 25.13 276 P **P** **18 14 52.1 -1.1**
KIRV Kirov 25.95 32 P **P** **18 15 02.6 +2.2**
comp=Z,8.0nm,0.5s,baz=18,slow=3.2,SNR=3.5
KIRV LR LR 18 25 36.5
comp=Z,405nm,21.1s,baz=215,slow=37
PRGR Permogore 26.65 24 *e*P **P** **18 15 12.0 +5.3**
PRGR pmax pmax
comp=Z,17nm,0.9s
TMCR Tamitsa 26.79 15 *e*P **P** **18 15 08.6 +0.7**
AKTO Aktyubinsk 27.13 53 P **P** **18 15 11.9 +0.7**
comp=Z,4.4nm,0.8s,baz=260,slow=9.6,SNR=15
AKTO LR LR 18 27 38.8
comp=Z,168nm,19.3s,baz=264,slow=40
GEYT Alibeck 27.37 81 P **P** **18 15 15.7 +2.2**
comp=Z,9.5nm,1.1s,baz=236,slow=10,SNR=14
GEYT Alibeck 27.37 81 P **P** **18 15 15.4 +1.9**
GYA0B ALIBECK ARRAY 27.37 81 P **P** **18 15 14.3 +0.8**
GYA0B IAmb IAmb 18 15 20.8
comp=Z,46nm,1.6s
ABKAR Abkulak array 28.16 56 P **P** **18 15 20.9 +0.5**
ABKAR Abkulak array 28.16 56 P **P** **18 15 20.2 -0.2**
ABKAR IAmb IAmb 18 16 16.7
comp=Z,12nm,1.3s
ARU Arti 29.17 41 *c i*P **P** **18 15 31.0 +1.7**
ARU 18 16 19.7
ARU S **S** **18 20 25.0 +3.8**
ARU SS **SnSn** **18 21 48.9 +3.3**
ARU pmax pmax
comp=Z,13nm,1.9s
ARU MLR MLR
comp=Z,403nm,12.0s
ARU Arti 29.17 41 P **P** **18 15 30.6 +1.3**
comp=Z,0.7nm,0.4s,baz=262,slow=6.1,SNR=5.3
ARU LR LR 18 28 07.3
comp=Z,445nm,19.6s,baz=242,slow=38
ARU Arti 29.17 41 P **P** **18 15 28.6 -0.7**
APA Apatity 29.27 8 *i*P **P** **18 15 26.5 -3.6**
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,2μm,16.0s
SVE Sverdlovsk 30.39 41 *e*P **P** **18 15 44.3 +4.2**
ARCES ARCESS Array B 30.70 2 P **P** **18 15 41.5 -1.2**
ARCES ARCESS Array B 30.70 2 P **P** **18 15 42.9 +0.1**
comp=Z,2.8nm,1.0s,baz=186,slow=8.2,SNR=5.7
ARCES PcP **PcP** **18 18 39.4 -0.8**
comp=Z,2.9nm,0.9s,baz=197,slow=2.5,SNR=5.5
ARCES LR LR 18 27 54.5
comp=Z,716nm,21.9s,baz=172,slow=36
ARCES ARCESS Array B 30.70 2 P **P** **18 15 41.5 -1.2**
ARE0 ARCESS Array S 30.70 2 P **P** **18 15 41.2 -1.5**
UOSS Minazif 31.19 107 P **P** **18 15 51.6 +4.2**
UOSS Minazif 31.19 107 P **P** **18 15 47.0 -0.5**
UOSS IAmb IAmb 18 15 51.9
comp=Z,22nm,1.2s
ASHO Ashiyiah 31.23 107 P **P** **18 15 49.1 +1.2**
HRA Herat 31.58 86 P **P** **18 15 50.8 -0.3**
HRA IAmb IAmb 18 15 58.1
comp=Z,18nm,1.2s
TOA0 Torodi Ar. Sit 31.90 222 P **P** **18 15 53.2 -0.6**
TOA0 IAmb IAmb 18 15 54.4
comp=Z,19nm,0.9s
TORD Torodi Ar. Bea 31.90 222 P **P** **18 15 53.8 0.0**
comp=Z,15nm,0.8s,baz=32,slow=9.4,SNR=70
TORD LR LR 18 30 07.4
comp=Z,334nm,18.8s,baz=350,slow=39
TORD Torodi Ar. Bea 31.90 222 P **P** **18 15 52.2 -1.6**
ARQ Araqi 32.35 109 P **P** **18 16 01.0 +3.3**
SNR=6.3
BSY Bisya 33.21 109 P **P** **18 16 08.4 +3.2**
BSY P **P** **18 16 08.4 +3.2**
SMDO Samad 33.65 108 P **P** **18 16 12.5 +3.3**
SNR=7.0
WSAR Wadi Sarin 33.98 107 P **P** **18 16 13.9 +2.0**
comp=Z,5.1nm,0.9s,baz=317,slow=8.9,SNR=4.1
BRVK Borovoye 35.04 50 P **P** **18 16 21.2 +0.4**
BRVK pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 35.04 50 P **P** **18 16 21.2 +0.4**
BVAR Borovoye Array 35.10 51 P **P** **18 16 23.0 +1.7**
comp=Z,0.4nm,0.4s,baz=243,slow=44,SNR=9.0
JLN Jalan Bani Buh 35.20 108 P **P** **18 16 26.3 +3.8**
SNR=6.8
CHGR Chuyangaron 35.62 76 P **P** **18 16 27.3 +1.2**
KK31 Karatay Array 35.66 68 P **P** **18 16 26.5 +0.2**
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 35.66 68 P **P** **18 16 26.5 +0.2**
KKAR Karatay Array 35.66 68 P **P** **18 16 25.7 -0.6**
KKAR 18 16 26.1
KKAR pmax pmax
comp=Z,10.0nm,1.1s
KKAR Karatay Array 35.66 68 P **P** **18 16 25.7 -0.6**
KKAR Karatay Array 35.66 68 P **P** **18 16 26.1 -0.2**
KKAR IAmb IAmb 18 16 32.6
comp=Z,10nm,1.1s
GAR Garm 36.40 75 P **P** **18 16 33.9 +1.0**
GAR IAmb IAmb 18 16 39.7
comp=Z,26nm,1.0s
BTK Batken 36.51 73 P **P** **18 16 34.2 +0.5**
BTK pmax pmax
comp=Z,19nm,1.4s
BTK Batken 36.51 73 P **P** **18 16 34.2 +0.5**
BTK IAmb IAmb 18 16 40.8
comp=Z,19nm,1.4s
KBL Kabul 36.80 82 P **P** **18 16 37.2 +0.9**
KBL pmax pmax
comp=Z,9.0nm,1.2s
KBL Kabul 36.80 82 P **P** **18 16 37.2 +0.9**
CMLA Cha da Macela 37.78 284 *i*P **P** **18 16 42.1 -2.3**
ARSB Arslanbob 37.81 70 P **P** **18 16 44.5 -0.4**
ARSB IAmb IAmb 18 16 51.6
comp=Z,48nm,1.6s
AAK Ala-Archa 38.62 68 P **P** **18 16 55.6 +3.9**
SNR=13
AAK Ala-Archa 38.62 68 *ce*P **P** **18 16 55.3 +3.7**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 38.62 68 P **P** **18 16 51.5 -0.2**
FRU1 Bishkek 38.68 67 P **P** **18 16 51.5 -0.6**
FRU1 pmax pmax
comp=Z,28nm,1.0s
FRU1 Bishkek 38.68 67 P **P** **18 16 51.5 -0.6**
FRU1 IAmb IAmb 18 16 59.1
comp=Z,28nm,0.9s
BOOM Boomskoye usch 39.70 67 P **P** **18 17 02.5 +1.8**
BOOM Boomskoye usch 39.70 67 P **P** **18 17 02.5 +1.8**
MBAR Mbarara 39.96 168 P **P** **18 17 02.5 -0.4**
MBAR pmax pmax
comp=Z,4.0nm,0.7s
MBAR Mbarara 39.96 168 P **P** **18 17 03.3 +0.3**
comp=Z,3.4nm,0.2s,baz=0.0,slow=20,SNR=2.8
MBAR Mbarara 39.96 168 P **P** **18 17 02.5 -0.4**
NRN Naryn 39.99 69 P **P** **18 17 04.0 +0.7**
NRN pmax pmax
comp=Z,14nm,1.1s
NRN Naryn 39.99 69 P **P** **18 17 04.0 +0.7**
KURBB Kurchatov Arra 40.17 54 P **P** **18 17 04.6 +0.3**
comp=Z,5.6nm,0.9s,baz=280,slow=8.8,SNR=25
KURBB PP **PP** **18 18 38.2 +1.7**
comp=Z,1.9nm,1.0s,baz=276,slow=8.6,SNR=3.3
KURK Kurchatov 40.22 54 *ce*P **P** **18 17 07.5 +2.9**

KURK pmax pmax
comp=Z,7.0nm,1.3s
KURK Kurchatov 40.22 54 P **P** **18 17 04.7 +0.1**
KURK **PP** **18 18 36.6 -0.4**
NIL Nilore 40.37 81 P **P** **18 17 06.5 +0.3**
NIL pmax pmax
comp=Z,21nm,1.0s
NIL Nilore 40.37 81 P **P** **18 17 06.5 +0.3**
NIL IAmb IAmb 18 17 13.6
comp=Z,21nm,1.0s
KSH Kashi 40.48 72 P **P** **18 17 06.7 -0.5**
KSH sP sP 18 17 15.1 +2.6
KSH PcP **PcP** **18 19 10.8 +1.1**
KSH S **S** **18 23 11.6 -4.2**
KSH pmax pmax
comp=Z,68nm,1.7s
KSH pmax pmax
comp=Z,670nm,6.0s
KSH LR LR
comp=Z,440nm,13.5s
KSH LR LR
comp=Z,490nm,12.0s
KDJ Kajisay 40.67 68 P **P** **18 17 09.1 +0.3**
KDJ pmax pmax
comp=Z,12nm,1.0s
KDJ Kajisay 40.67 68 P **P** **18 17 09.1 +0.3**
DBIC Dimbokro 40.82 225 P **P** **18 17 08.7 -1.2**
comp=Z,18nm,0.9s,baz=11,slow=10.0,SNR=10
DBIC LR LR 18 35 17.5
comp=Z,271nm,18.8s,baz=14,slow=38
DBIC Dimbokro 40.82 225 P **P** **18 17 09.3 -0.7**
DBIC IAmb IAmb 18 17 23.5
comp=Z,20nm,0.9s
TIC Toumodi 40.93 226 *e*P **P** **18 17 10.6 -0.3**
KIC Kosan Boka 41.01 225 *e*P **P** **18 17 11.4 -0.2**
comp=Z,67nm,1.1s
TARG Taragay, Kyrgy 41.23 68 P **P** **18 17 15.2 +1.6**
TARG IAmb IAmb 18 17 19.1
comp=Z,27nm,1.5s
LIC Lamto 41.28 225 *e*P **P** **18 17 13.7 -0.1**
comp=Z,128nm,1.1s
KMBO Kilima Mbogo 41.93 159 P **P** **18 17 18.3 -1.0**
comp=Z,0.4nm,0.3s,baz=41,slow=19,SNR=2.1
KMBO Kilima Mbogo 41.93 159 P **P** **18 17 19.0 -0.3**
MAKZ Makanchi 42.99 60 P **P** **18 17 28.9 +1.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.3s
MAKZ Makanchi 42.99 60 P **P** **18 17 28.9 +1.5**
MK31 Makanchi Array 43.20 60 P **P** **18 17 29.1 0.0**
MK31 pmax pmax
comp=Z,26nm,2.0s
MK31 Makanchi Array 43.20 60 P **P** **18 17 29.1 0.0**
MKAR Makanchi Array 43.20 60 P **P** **18 17 29.0 -0.2**
MKAR Makanchi Array 43.20 60 P **P** **18 17 29.4 +0.2**
comp=Z,3.8nm,0.7s,baz=280,slow=6.4,SNR=14
MKAR LR LR 18 39 41.6
comp=Z,258nm,18.4s,baz=280,slow=42
MKAR Makanchi Array 43.20 60 P **P** **18 17 29.0 -0.2**
ZAA0 Zalesovo Array 43.70 49 P **P** **18 17 32.7 -0.3**
ZALV Zalesovo Beam 43.70 49 P **P** **18 17 32.7 -0.3**
ZALV Zalesovo Beam 43.70 49 P **P** **18 17 33.0 0.0**
comp=Z,7.7nm,0.5s,baz=274,slow=8.7,SNR=22
ZALV LR LR 18 38 35.0
comp=Z,187nm,18.5s,baz=283,slow=40
ZALV Zalesovo Beam 43.70 49 P **P** **18 17 32.7 -0.3**
NRIK Noril'sk 45.23 27 LR LR 18 38 01.0
comp=Z,600nm,20.1s,baz=258,slow=38
DGZ Jazzator, Alta 45.97 55 *i*P **P** **18 17 54.3 +2.9**
SACV Santiago Islan 47.33 253 P **P** **18 18 01.6 -0.7**
WMQ Urumqi 47.64 62 *e*P **P** **18 18 05.8 +1.4**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,190nm,5.1s
WMQ LR LR
comp=Z,750nm,26.9s
WMQ LR LR
comp=Z,2μm,29.2s
IVI Ivigtut 48.02 322 P **P** **18 18 06.8 -0.1**
DANN Dangsing 50.78 83 *e*P **P** **18 18 31.2 +2.2**
comp=Z,83nm,0.8s
KOLN Koldanda 50.94 83 *e*P **P** **18 18 31.3 +1.3**
comp=Z,49nm,0.9s
GKN Gorkha 51.63 83 *e*P **P** **18 18 37.1 +1.9**
comp=Z,87nm,1.3s
DMN Daman 52.18 83 *e*P **P** **18 18 41.6 +2.2**
comp=Z,88nm,1.3s
KKN Kakani 52.23 82 *e*P **P** **18 18 41.5 +1.8**
comp=Z,36nm,1.0s
PKIN Phulchoki 52.42 83 *e*P **P** **18 18 43.2 +2.0**
comp=Z,60nm,1.5s
PKI Pulchoki 52.44 83 *e*P **P** **18 18 43.2 +1.8**
comp=Z,57nm,1.3s
GUN Gumba 52.63 82 *e*P **P** **18 18 44.9 +2.0**
comp=Z,96nm,1.2s
MSEY Mahe Island 52.71 138 P **P** **18 18 43.7 +0.6**
MSEY pmax pmax
comp=Z,55nm,1.9s
MSEY Mahe Island 52.71 138 P **P** **18 18 43.7 +0.6**
MSEY IAmb IAmb 18 18 48.9
comp=Z,55nm,1.9s
TULEG Thule 52.97 343 P **P** **18 18 44.6 +0.4**
TULEG IAmb IAmb 18 19 49.1
comp=Z,62nm,1.9s
JIRN Jiri 53.00 82 *e*P **P** **18 18 47.7 +2.1**
comp=Z,27nm,0.7s
RAMN Ramite 53.66 83 *e*P **P** **18 18 52.0 +1.7**
comp=Z,51nm,0.8s
LSZ Lusaka 54.12 174 P **P** **18 18 53.0 -0.4**
LSZ pmax pmax
comp=Z,11nm,1.4s
LSZ Lusaka 54.12 174 P **P** **18 18 53.0 -0.4**
LSZ IAmb IAmb 18 18 58.7
comp=Z,11nm,1.4s
ODAN Odare 54.32 82 *e*P **P** **18 18 57.1 +2.0**
comp=Z,48nm,1.4s
TAPN Taplejung 54.32 82 *e*P **P** **18 18 56.7 +1.5**
comp=Z,132nm,1.6s
LSA Lhasa 55.81 77 P **P** **18 19 06.4 +0.2**
LSA pmax pmax
comp=Z,23nm,1.4s
LSA Lhasa 55.81 77 P **P** **18 19 06.4 +0.2**
LSA IAmb IAmb 18 19 13.6
comp=Z,23nm,1.4s
GTA Gaotai 57.70 63 *e*P **P** **18 19 21.2 +2.1**
GTA pP sP 18 19 25.9 +1.4
GTA sP pP 18 19 28.2 +5.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,66nm,6.4s
GTA LR LR
comp=Z,180nm,20.3s
GTA LR LR
comp=Z,200nm,19.2s
GTA LR LR
comp=Z,240nm,20.3s
TIXI Tiksi 58.25 21 *ce*P **P** **18 19 25.4 +3.2**
TIXI pmax pmax
comp=Z,11nm,2.5s
TIXI Tiksi 58.25 21 P **P** **18 19 23.1 +1.0**
comp=Z,0.8nm,0.5s,baz=350,slow=3.7,SNR=5.3
TIXI Tiksi 58.25 21 P **P** **18 19 22.4 +0.2**
TIXI IAmb IAmb 18 19 43.4
comp=Z,23nm,1.7s
SONM Songino Array 58.43 52 P **P** **18 19 23.4 -0.6**
SONM pmax pmax
comp=Z,6.0nm,1.5s
SONM Songino Array 58.43 52 P **P** **18 19 23.6 -0.4**
comp=Z,0.8nm,0.8s,baz=309,slow=9.1,SNR=2.6
SONM LR LR 18 46 07.5
comp=Z,248nm,19.9s,baz=305,slow=38
SONM Songino Array 58.43 52 P **P** **18 19 23.4 -0.6**
SHL Shillong 58.45 81 P **P** **18 19 28.3 +3.8**
SNR=9.1
SHL Shillong 58.45 81 P **P** **18 19 23.7 -0.8**
SHL Shillong 58.45 81 P **P** **18 19 23.7 -0.8**
LZH Lanzhou 62.07 65 *e*P **P** **18 19 51.8 +2.6**
LZH pP sP 18 19 56.6 +1.9
LZH sP pP 18 19 59.7 +6.5
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,63nm,4.9s
LZH LR LR
comp=Z,310nm,15.2s

LZH				LR	LR		
	comp=Z,260nm,15.4s						
LZH				LR	LR		
	comp=Z,480nm,16.8s						
LMN	**Caledonia Moun**	**62.12**	**308**	P	**P**	**18 19 50.0**	**+0.8**
LBTB	**Lobatse**	**63.65**	**177**	P	**P**	**18 20 00.0**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,14nm,1.1s						
LBTB	**Lobatse**	**63.65**	**177**	P	**P**	**18 20 00.0**	**+0.6**
LBTB				IAmb	IAmb	18 20 05.8	
	comp=Z,14nm,1.1s						
G65A	**Princeton**	**64.13**	**308**	P	**P**	**18 20 00.9**	**-1.6**
CD2	**Chengdu**	**64.63**	**70**	P	**P**	**18 20 04.5**	**-1.6**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
HHC	**Hu-ho-hao-te**	**64.95**	**57**	*e*P	**P**	**18 20 09.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,14nm,4.9s						
XAN	**Xi'an**	**66.70**	**64**	P	**P**	**18 20 24.1**	**+4.7**
XAN				pP	sP	18 20 30.4	+5.5
XAN				pmax	pmax		
	comp=Z,12nm,1.3s						
XAN	**Xi'an**	**66.70**	**64**	P	**P**	**18 20 20.3**	**+1.0**
XAN				pmax	pmax		
	comp=Z,31nm,1.5s						
XAN	**Xi'an**	**66.70**	**64**	P	**P**	**18 20 20.3**	**+1.0**
XAN				IAmb	IAmb	18 20 24.8	
	comp=Z,31nm,1.5s						
KMI	**Kunming**	**66.98**	**76**	P	**P**	**18 20 22.1**	**+0.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI	**Kunming**	**66.98**	**76**	P	**P**	**18 20 22.0**	**+0.6**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI	**Kunming**	**66.98**	**76**	P	**P**	**18 20 22.0**	**+0.6**
BOSA	**Boshof**	**67.22**	**178**	P	**P**	**18 20 22.1**	**-0.4**
	comp=Z,12nm,1.1s,baz=352,slow=8.4,SNR=9.3						
BOSA				LR	LR	18 52 29.5	
	comp=Z,149nm,18.0s,baz=354,slow=38						
BOSA	**Boshof**	**67.22**	**178**	P	**P**	**18 20 22.4**	**-0.2**
BOSA				IAmb	IAmb	18 20 28.4	
	comp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**67.60**	**83**	P	**P**	**18 20 23.7**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHTO	**Chiang Mai**	**67.60**	**83**	P	**P**	**18 20 23.7**	**-1.5**
CHTO				IAmb	IAmb	18 20 45.7	
	comp=Z,4.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**67.81**	**84**	P	**P**	**18 20 25.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**67.81**	**84**	P	**P**	**18 20 26.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=304,slow=7.7,SNR=13						
CMAR	**Chiang Mai Arr**	**67.81**	**84**	P	**P**	**18 20 25.9**	**-0.6**
BILL	**Bilibino**	**69.83**	**14**	*e*P	**P**	**18 20 40.9**	**+2.6**
BILL				*e*		18 21 01.0	
BILL				*e*		18 23 17.1	
BILL				pmax	pmax		
	comp=Z,28nm,1.8s						
BILL				MLR	MLR		
	comp=Z,292nm,21.0s						
BILL	**Bilibino**	**69.83**	**14**	P	**P**	**18 20 38.5**	**+0.1**
BILL				IAmb	IAmb	18 21 14.9	
	comp=Z,18nm,1.0s						
PLVO	**Plevna**	**69.89**	**312**	P	**P**	**18 20 39.3**	**+0.2**
PLVO				IAmb	IAmb	18 22 19.1	
	comp=Z,32nm,1.3s						
DELO	**Deloro Mine**	**70.51**	**312**	P	**P**	**18 20 42.3**	**-0.6**
DELO				IAmb	IAmb	18 20 43.8	
	comp=Z,32nm,1.4s						
SEY	**Seymchan**	**70.71**	**22**	P	**P**	**18 20 44.5**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=343,slow=19,SNR=3.5						
KLR	**Kul'dur**	**72.01**	**41**	P	**P**	**18 20 53.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=325,slow=12,SNR=3.0						
NJ2	**Nanjing**	**74.70**	**61**	*e*P	**P**	**18 21 07.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
S58A	**Poland Farm, P**	**74.89**	**306**	P	**P**	**18 21 08.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**75.35**	**45**	LR	LR	18 57 42.7	
	comp=Z,165nm,19.0s,baz=321,slow=38						
ULM	**Lac du Bonnet**	**76.27**	**325**	LR	LR	18 54 54.2	
	comp=Z,220nm,19.2s,baz=65,slow=36						
ILAR	**Eielson Array**	**76.34**	**356**	LR	LR	18 58 11.3	
	comp=Z,91nm,19.0s,baz=344,slow=38						
KSRS	**Korea Array**	**77.30**	**52**	P	**P**	**18 21 23.9**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=310,slow=4.2,SNR=4.7						
KSRS				LR	LR	18 59 25.4	
	comp=Z,101nm,19.2s,baz=322,slow=39						
YSS	**Yuzh-Sakhalins**	**78.97**	**37**	*e*P	**P**	**18 21 34.3**	**+2.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=E,500nm,13.0s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
PETK	**Petropavlovsk-**	**80.28**	**26**	LR	LR	19 00 38.7	
	comp=Z,191nm,19.6s,baz=270,slow=38						
LAO	**LASA Array**	**83.47**	**328**	P	**P**	**18 21 55.8**	**-0.1**
EGMT	**Eagleton**	**83.81**	**330**	P	**P**	**18 21 57.6**	**-0.1**
MJAR	**Matsushiro Arr**	**84.02**	**47**	P	**P**	**18 22 00.4**	**+1.5**
	comp=Z,4.7nm,1.0s,baz=287,slow=5.2,SNR=5.8						
MJAR				LR	LR	19 01 49.5	
	comp=Z,83nm,20.8s,baz=20,slow=37						
BDFB	**Brasilia**	**85.65**	**246**	P	**P**	**18 22 07.9**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=21,slow=8.6,SNR=3.4						
BOZ	**Bozeman (W)**	**86.55**	**330**	P	**P**	**18 22 11.5**	**0.0**
BOZ				pmax	pmax		
	comp=Z,27nm,1.3s						
BOZ	**Bozeman (W)**	**86.55**	**330**	P	**P**	**18 22 11.5**	**0.0**
BOZ				IAmb	IAmb	18 22 30.7	
	comp=Z,27nm,1.2s						
K22A	**Casper**	**86.82**	**325**	P	**P**	**18 22 12.7**	**-0.2**
DLMT	**Dillon**	**87.12**	**330**	P	**P**	**18 22 14.5**	**+0.2**
DLMT				IAmb	IAmb	18 22 28.6	
	comp=Z,16nm,0.9s						
H17A	**Grant Village**	**87.12**	**329**	P	**P**	**18 22 15.4**	**+1.0**
PHWY	**Pilot Hill**	**87.41**	**324**	P	**P**	**18 22 14.3**	**-1.7**
PHWY				IAmb	IAmb	18 23 23.5	
	comp=Z,10nm,0.8s						
N23A	**Red Feather La**	**87.95**	**324**	P	**P**	**18 22 18.0**	**-0.6**
PDAR	**Pinedale Array**	**88.04**	**327**	P	**P**	**18 22 19.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=60,slow=5.3,SNR=3.6						
PDAR				LR	LR	19 02 47.1	
	comp=Z,229nm,18.2s,baz=34,slow=36						
PDAR	**Pinedale Array**	**88.04**	**327**	P	**P**	**18 22 18.1**	**-0.8**
PV22	**Blue Mesa, Par**	**91.15**	**324**	P	**P**	**18 22 32.4**	**-1.1**
PV04	**Paradox Valley**	**91.32**	**324**	P	**P**	**18 22 32.9**	**-1.3**
PV23	**Carpenter Ridg**	**91.32**	**324**	P	**P**	**18 22 32.4**	**-2.0**
PV12	**Saucer Basin,**	**91.33**	**324**	P	**P**	**18 22 33.9**	**-0.5**
PV09	**Paradox Valley**	**91.34**	**324**	P	**P**	**18 22 33.8**	**-0.7**
PV14	**Lion Creek, Pa**	**91.39**	**324**	P	**P**	**18 22 32.8**	**-1.8**
ROSC	**El Rosal**	**92.73**	**278**	LR	LR	19 01 12.3	
	comp=Z,70nm,19.9s,baz=82,slow=34						
NVAR	**Mina Array Bea**	**95.24**	**331**	LR	LR	19 06 42.2	
	comp=Z,220nm,21.1s,baz=32,slow=36						
TXAR	**Lajitas Array**	**95.89**	**315**	P	**P**	**18 22 54.5**	**-0.8**
TXAR	**Lajitas Array**	**95.89**	**315**	P	**P**	**18 22 55.6**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=32,slow=3.6,SNR=3.0						
TXAR				LR	LR	19 06 46.8	
	comp=Z,112nm,19.2s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**95.89**	**315**	P	**P**	**18 22 54.5**	**-0.8**
CPUP	**Villa Florida**	**99.17**	**244**	LR	LR	19 10 21.4	
	comp=Z,170nm,19.4s,baz=50,slow=37						
WRA	**Warramunga Arr**	**118.57**	**93**	PKIKP	**PKPdf**	**18 28 15.5**	**-1.0**
WRA	**Warramunga Arr**	**118.57**	**93**	PKP	**PKPdf**	**18 28 15.2**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=291,slow=2.0,SNR=4.0						
WRA	**Warramunga Arr**	**118.57**	**93**		**PKPdf**	**18 28 15.5**	**-1.0**
ASAR	**Alice Springs**	**120.27**	**97**	PKP	**PKPdf**	**18 28 17.7**	**-2.0**
	comp=Z,1.9nm,0.9s,baz=336,slow=1.6,SNR=8.9						

IDC ***12*** *18:14:16.8±45.0, 16°.90S×175°.69W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/34, mbtmp4.1/3, Error ellipse: s-maj=852.1km s-min=171.5km az=79.0*

ISCJB ***12*** *18:14:20.3±0.7, 17°.6S±0°.2×176°.06W±0°.09, h10km, mb4.0/3, Error ellipse: s-maj=23.7km s-min=11.4km az=165.1*

NEIC ***12*** *18:14:22.9±1.3, 17°.6S±0°.2×176°.1W±0°.1, h17km±8km, mb4.6/5*

ISC 12 18:14:22.6±1.0, 17°.6S±0°.2×176°.0W±0°.1, h10km, n13, σ1§17/13, mb4.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.52**	**48**		**Pn**	**18 15 45.2**	**+0.3**
NIUE	**Niue**	**5.96**	**105**	Pn	**Pn**	**18 15 50.5**	**-0.4**
THZ	**Tophouse**	**25.85**	**199**		**P**	**18 19 55.3**	**+0.9**
STKA	**Stephens Creek**	**40.75**	**241**	P	**P**	**18 22 05.3**	**+1.4**
	0.9nm,0.7s,baz=86,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**40.75**	**241**	P	**P**	**18 22 05.0**	**+1.1**
WB2	**Warramunga Arr**	**46.91**	**259**	P	**P**	**18 22 52.6**	**-1.1**
WB2				IAmb	IAmb	18 23 00.9	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**46.92**	**259**	P	**P**	**18 22 52.6**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.0,SNR=22						
WRA	**Warramunga Arr**	**46.92**	**259**	P	**P**	**18 22 52.6**	**-1.1**
AS31	**Alice Springs**	**47.05**	**254**	P	**P**	**18 22 54.5**	**-0.3**
ASAR	**Alice Springs**	**47.05**	**254**	P	**P**	**18 22 54.4**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=87,slow=8.6,SNR=101						
ASAR	**Alice Springs**	**47.05**	**254**	P	**P**	**18 22 53.8**	**-1.0**
KNRA	**Kununurra**	**52.78**	**263**	P	**P**	**18 23 37.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**55.31**	**260**	P	**P**	**18 23 55.2**	**-1.6**
FITZ				IAmb	IAmb	18 23 55.6	
	comp=Z,5.1nm,1.2s						

ISCJB ***12*** *18:16:46.9±0.1, 63°.16N±0°.01×151°.02W±0°.03, h133km±1km, mb4.8/169, Error ellipse: s-maj=2.6km s-min=1.8km az=42.9*

MOS ***12*** *18:16:46.8±0.9, 63°.17N×151°.08W, h134km, mb5.1/33, Error ellipse: s-maj=8.8km s-min=4.0km az=99.9*

BJI ***12*** *18:16:46.8±0.0, 63°.42N×151°.51W, h127km, mb5.0/51, mB5.2/28*

NEIC ***12*** *18:16:48.4±2.4, 63°.07N±0°.03×150°.96W±0°.05, h132km±3km*

AEIC ***12*** *18:16:48±2.5, 63°.07N±0°.03×150°.91W±0°.06, h131km±3km, ML4.7, mb5.0/436(NEIC), Mwr4.7(SLM), Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}=0.34; $M_{\theta\theta}$=0.36; $M_{\phi\phi}$=-0.02; $M_{r\theta}$=1.00; $M_{\theta\phi}$=0.09; $M_{\phi r}$=0.61;*

IDC ***12*** *18:16:49.2±0.4, 63°.26N×151°.00W, h136km±3km, mb4.5/39, mb1 4.5/44, mb1mx4.5/51, mbtmp4.8/44 Error ellipse: s-maj=8.3km s-min=5.8km az=25.0*

GCMT ***12*** *18:16:51.0±0.4, 63°.18N±0°.03×150°.83W±0°.06, h142km±6km, MW4.8/75, Moment Tensor Solution. s8,c9; s75,c92; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=-0.29±.13; $M_{\theta\theta}$=-0.02±.19; $M_{\phi\phi}$=0.30±.16; $M_{r\theta}$=1.84±.10; $M_{\theta\phi}$=0.31±.11; $M_{\phi r}$=0.79±.08; Best double couple: M_0=2.04700×10^16^ NP1=φs=246.00000°, δ86.00000°, λ-81.00000°. NP2=φs=359.00000°, δ10.00000°, λ-157.00000°. Principal axes: T 2.0340, Plg40.0000°, Azm327.0000°; N 0.0260, Plg9.0000°, Azm65.0000°; P -2.0600, Plg48.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 18:16:48.2±0.3, 63°.07N±0°.03×151°.01W±0°.03, h133km±2km, h133km:pP-P, n1213, σ1§09/1425, mb5.0/318, 38C-9D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.49**	**5**		**Pn**	**18 17 07.5**	**-0.1**
KTH				Sn	**Sn**	**18 17 22.2**	**-0.3**
TRF	**Thorofare Moun**	**0.51**	**40**		**Pn**	**18 17 07.7**	**-0.1**
TRF				Sn	**Sn**	**18 17 22.8**	**+0.1**
PPLA	**Purkeypile**	**0.56**	**253**		**Pn**	**18 17 08.3**	**+0.1**
PPLA				Sn	**Sn**	**18 17 23.9**	**+0.6**
CAST	**Castle Rocks**	**0.60**	**307**		**Pn**	**18 17 08.1**	**-0.2**
CAST				Sn	**Sn**	**18 17 23.2**	**-0.3**
RND	**Reindeer**	**1.03**	**70**	P	**Pn**	**18 17 11.3**	**-0.5**
RND						18 17 28.7	
RND	**Reindeer**	**1.03**	**70**		**Pn**	**18 17 11.3**	**-0.5**
RND				Sn	**Sn**	**18 17 28.7**	**-1.0**
BPAW	**Bear Paw Mtn.**	**1.04**	**1**		**Pn**	**18 17 11.4**	**-0.3**
BPAW				Sn	**Sn**	**18 17 29.1**	**-0.6**
SKT	**Skwentna**	**1.12**	**193**		**Pn**	**18 17 12.2**	**-0.3**
SKT				Sn	**Sn**	**18 17 30.8**	**-0.1**
MCK	**McKinley**	**1.15**	**53**	P	**Pn**	**18 17 12.4**	**-0.4**
MCK						18 17 30.5	
MCK	**McKinley**	**1.15**	**53**		**Pn**	**18 17 12.4**	**-0.4**
MCK				Sn	**Sn**	**18 17 30.5**	**-1.1**
BWN	**Browne**	**1.31**	**31**		**Pn**	**18 17 14.6**	**+0.2**
BWN				Sn	**Sn**	**18 17 36.3**	**+2.0**
SUA	**Susitna One**	**1.61**	**176**		**Pn**	**18 17 17.7**	**-0.2**
SUA				Sn	**Sn**	**18 17 40.6**	**+0.1**
GHO	**Glory Hole Cre**	**1.62**	**142**		**Pn**	**18 17 17.5**	**-0.4**
GHO				Sn	**Sn**	**18 17 40.5**	**-0.1**
DHY	**Denali Highway**	**1.65**	**88**		**Pn**	**18 17 17.8**	**-0.6**
DHY				Sn	**Sn**	**18 17 40.7**	**-0.7**
PMR	**Palmer**	**1.72**	**148**	P	**Pn**	**18 17 18.2**	**-0.7**
PMR						18 17 41.6	
PMR	**Palmer**	**1.72**	**148**		**Pn**	**18 17 18.2**	**-0.7**
PMR				Sn	**Sn**	**18 17 41.6**	**-0.8**
NEA	**Nenana**	**1.74**	**29**	Pn	**Pn**	**18 17 18.5**	**-0.7**
SML	**Sawmill**	**1.77**	**134**		**Pn**	**18 17 18.7**	**-0.9**
SML				Sn	**Sn**	**18 17 43.9**	**+0.2**
WRH	**Wood River Hil**	**1.92**	**41**		**Pn**	**18 17 20.6**	**-0.7**
WRH				Sn	**Sn**	**18 17 46.2**	**-0.4**
MLY	**Manley**	**1.98**	**3**		**Pn**	**18 17 21.6**	**-0.4**
MLY				Sn	**Sn**	**18 17 46.7**	**-1.3**
KNK	**Knik Glacier**	**2.04**	**143**		**Pn**	**18 17 21.9**	**-0.9**
RC01	**Rabbit Creek A**	**2.07**	**163**		**Pn**	**18 17 22.3**	**-0.9**
SCM	**Sheep Creek Mo**	**2.11**	**124**	P	**Pn**	**18 17 22.6**	**-1.1**
SCM						18 17 49.9	
SCM	**Sheep Creek Mo**	**2.11**	**124**		**Pn**	**18 17 22.6**	**-1.1**
SCM				Sn	**Sn**	**18 17 49.9**	**-1.1**
CCB	**Clear Creek Bu**	**2.13**	**40**		**Pn**	**18 17 23.1**	**-0.7**
HDA	**Harding Lake**	**2.25**	**51**	P	**Pn**	**18 17 24.4**	**-1.0**
	baz=234,SNR=728						
HDA	**Harding Lake**	**2.25**	**51**	Pn	**Pn**	**18 17 24.4**	**-1.0**
MDM	**Murphy Dome**	**2.26**	**32**		**Pn**	**18 17 24.7**	**-0.8**
TCOL	**CIGO, UAF Yank**	**2.29**	**36**	P	**Pn**	**18 17 25.2**	**-0.6**
	baz=218,SNR=181						
TTA	**Tatalina**	**2.29**	**269**	P	**Pn**	**18 17 25.7**	**-0.2**
TTA	**Tatalina**	**2.29**	**269**		**Pn**	**18 17 25.7**	**-0.2**
COLA	**College**	**2.29**	**36**	*c iP*	**Pn**	**18 17 25.0**	**-0.7**
COLA	**College**	**2.29**	**36**		**Pn**	**18 17 25.1**	**-0.7**
IL31		**2.50**	**45**		**Pn**	**18 17 27.5**	**-0.9**
ILAR	**Eielson Array**	**2.50**	**45**	P	**Pn**	**18 17 27.4**	**-1.1**
	155nm,0.3s,baz=227,slow=12,SNR=3181						
ILAR				S	**Sn**	**18 17 57.5**	**-2.0**
	87nm,0.3s,baz=226,slow=15,SNR=10						
ILAR	**Eielson Array**	**2.50**	**45**		**Pn**	**18 17 26.8**	**-1.7**
PAX	**Paxson**	**2.53**	**90**	P	**Pn**	**18 17 28.2**	**-0.7**
PAX	**Paxson**	**2.53**	**90**		**Pn**	**18 17 28.2**	**-0.7**
RSO	**Redoubt South**	**2.74**	**198**		**Pn**	**18 17 31.6**	**-0.2**
GLI	**Glacier Island**	**2.87**	**138**		**Pn**	**18 17 32.1**	**-1.1**
SVW2	**Sparrevohn**	**2.92**	**229**		**Pn**	**18 17 33.3**	**-0.5**
SEW	**Seward**	**3.06**	**165**		**Pn**	**18 17 34.7**	**-1.0**
FID	**Port Fidalgo**	**3.16**	**135**		**Pn**	**18 17 35.7**	**-1.3**
IMAR	**Indian Mountai**	**3.16**	**339**		**Pn**	**18 17 36.4**	**-0.5**
DOT	**Dot Lake**	**3.19**	**76**		**Pn**	**18 17 35.9**	**-1.3**
SCRK	**Sand Creek**	**3.28**	**71**		**Pn**	**18 17 37.4**	**-1.2**
BRLK	**Bradley Lake**	**3.31**	**179**		**Pn**	**18 17 38.5**	**-0.5**
MENT	**Mentasta**	**3.33**	**89**		**Pn**	**18 17 38.2**	**-0.9**
HIN	**Hinchinbrook I**	**3.43**	**139**		**Pn**	**18 17 39.3**	**-1.2**
HOM	**Homer**	**3.43**	**185**		**Pn**	**18 17 40.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.55**	**133**		**Pn**	**18 17 41.0**	**-0.9**
CNPM	**China Poot**	**3.55**	**182**		**Pn**	**18 17 41.5**	**-0.6**
GLB	**Gilahina Butte**	**3.74**	**113**		**Pn**	**18 17 43.6**	**-1.0**
VRDI	**Verde Repeater**	**4.00**	**114**		**Pn**	**18 17 46.7**	**-1.3**
RAGM	**Ragged Mountai**	**4.04**	**129**		**Pn**	**18 17 47.4**	**-1.1**
MCARA	**McCarthy VSAT**	**4.10**	**111**		**Pn**	**18 17 48.9**	**-0.4**
COLD	**Coldfoot**	**4.20**	**4**		**Pn**	**18 17 50.2**	**-0.3**
BCAR	**Beaver Creek A**	**4.20**	**86**		**Pn**	**18 17 48.6**	**-1.9**
HMT	**Hamilton**	**4.22**	**127**		**Pn**	**18 17 49.5**	**-1.4**
FYU	**Fort Yukon**	**4.29**	**33**		**Pn**	**18 17 50.9**	**-0.9**
CRQM	**Cirque**	**4.38**	**118**		**Pn**	**18 17 51.8**	**-1.4**
TGL	**Tana Glacier**	**4.51**	**117**		**Pn**	**18 17 53.3**	**-1.5**
BALM	**Baldy**	**4.56**	**113**		**Pn**	**18 17 54.2**	**-1.3**
SUCK	**Suckling Hills**	**4.58**	**128**	Pn	**Pn**	**18 17 54.5**	**-1.2**
EGAK	**Eagle**	**4.67**	**64**		**Pn**	**18 17 55.5**	**-1.4**
WAX	**Waxell Ridge**	**4.68**	**120**		**Pn**	**18 17 56.0**	**-1.1**
BARN	**Barnard Glacie**	**4.83**	**110**		**Pn**	**18 17 58.6**	**-0.6**
CTGM	**Chitina Glacie**	**5.02**	**110**		**Pn**	**18 18 01.0**	**-0.7**
BMAR	**Burnt Mountain**	**5.15**	**29**		**Pn**	**18 18 01.9**	**-1.3**
YAH	**Yahtse**	**5.17**	**117**		**Pn**	**18 18 02.4**	**-1.3**
MESA	**MESA**	**5.20**	**120**	Pn	**Pn**	**18 18 03.1**	**-1.0**
DAWY	**Dawson**	**5.29**	**74**		**Pn**	**18 18 03.7**	**-1.4**
KDAK	**Kodiak Island**	**5.36**	**189**	P	**Pn**	**18 18 04.4**	**-1.6**
KDAK	**Kodiak Island**	**5.36**	**189**	P	Pn	18 18 03.3	-2.7
	6.6nm,0.3s,baz=49,slow=6.7,SNR=107						
KDAK				S	**Sn**	**18 19 02.4**	**-4.2**
	36nm,0.3s,baz=124,slow=22,SNR=25						
KDAK	**Kodiak Island**	**5.36**	**189**		**Pn**	**18 18 04.4**	**-1.6**
TOLK	**Toolik Lake Re**	**5.63**	**5**	P	**Pn**	**18 18 10.7**	**+1.0**
	baz=186,SNR=164						
TOLK	**Toolik Lake Re**	**5.63**	**5**		**Pn**	**18 18 10.2**	**+0.5**
PCA	**Pinnacle**	**5.93**	**115**		**Pn**	**18 18 12.8**	**-1.1**
OHAK	**Old Harbor**	**5.97**	**192**		**Pn**	**18 18 12.2**	**-2.0**
BCPM	**Bancas Point**	**6.27**	**115**		**Pn**	**18 18 17.4**	**-0.9**
ANM	**Nome**	**6.53**	**290**	P	**Pn**	**18 18 21.5**	**-0.2**
ANM	**Nome**	**6.53**	**290**	Pn	**Pn**	**18 18 21.5**	**-0.2**
SII	**Sitkinak Islan**	**6.72**	**195**	Pn	**Pn**	**18 18 23.8**	**-0.5**
SII					**Sn**	**18 19 36.8**	**-3.0**
HYT	**Haines Junctio**	**6.75**	**103**		**Pn**	**18 18 23.5**	**-1.4**
EPYK	**Eagle Plains**	**6.96**	**55**	P	**Pn**	**18 18 25.5**	**-1.9**
	baz=248,SNR=92						
EPYK	**Eagle Plains**	**6.96**	**55**		**Pn**	**18 18 25.3**	**-2.1**
RDOG	**Red Dog Mine**	**7.02**	**321**		**Pn**	**18 18 28.0**	**-0.3**
DHAK	**Deception Hill**	**7.37**	**117**		**Pn**	**18 18 32.2**	**-0.9**
CHIR	**Chirikof Islan**	**7.63**	**200**	Pn	Pn	18 18 33.6	-3.0
CHGN	**Chignik**	**7.75**	**212**		Pn	18 18 35.3	-2.7
CHGN					**Sn**	**18 20 02.0**	**-2.1**
WHY	**Whitehorse**	**7.99**	**100**		**Pn**	**18 18 40.5**	**-1.0**
SKAG	**Skagway**	**8.37**	**108**		**Pn**	**18 18 45.4**	**-1.0**
INK	**Inuvik**	**8.90**	**46**	P	**Pn**	**18 18 51.9**	**-1.6**
INK	**Inuvik**	**8.90**	**46**	P	**Pn**	**18 18 51.6**	**-1.8**
	2.4nm,0.3s,baz=232,slow=9.7,SNR=30						
INK				S	**Sn**	**18 20 29.6**	**-2.3**
	1.7nm,0.3s,baz=336,slow=9.3,SNR=5.4						
INK	**Inuvik**	**8.90**	**46**		**Pn**	**18 18 51.9**	**-1.6**
BESE	**Bessie Mountai**	**9.07**	**112**		**Pn**	**18 18 54.2**	**-1.7**
SDPT	**Sand Point**	**9.12**	**216**	Pn	**Pn**	**18 18 55.7**	**-0.8**
GAMB	**Gambell**	**9.30**	**284**	Pn	**Pn**	**18 19 00.6**	**+1.8**
CNBA	**Chernabura Isl**	**9.37**	**212**	Pn	**Pn**	**18 18 58.2**	**-1.6**
JIS	**Juneau Island**	**9.45**	**113**		**Pn**	**18 18 59.3**	**-1.6**
SPIA	**Saint Paul Isl**	**11.23**	**247**		**Pn**	**18 19 25.0**	**+0.3**
DLBC	**Dease Lake**	**11.24**	**105**	P	**Pn**	**18 19 24.6**	**-0.1**
	0.7nm,0.3s,baz=297,slow=8.5,SNR=17						
DLBC	**Dease Lake**	**11.24**	**105**		**Pn**	**18 19 24.5**	**-0.3**
WRAK	**Wrangell Islan**	**11.50**	**117**		**Pn**	**18 19 28.9**	**+0.8**
UNV	**Unalaska Valle**	**12.26**	**228**	Pn	**Pn**	**18 19 39.5**	**+1.3**
C36M	**Paulatuk**	**12.47**	**48**	P	**Pn**	**18 19 37.3**	**-3.4**
	baz=253						
A36M	**Sachs Harbour**	**13.17**	**36**	P	**Pn**	**18 19 46.8**	**-3.0**
	baz=240,SNR=8.8						
DIB	**Dawson Inlet,**	**13.85**	**127**	P	**Pn**	**18 20 00.9**	**+2.3**
BBB	**Bella Bella**	**16.30**	**121**	P	**P**	**18 20 31.0**	**+1.4**
	0.8nm,0.3s,baz=302,slow=8.4,SNR=6.4						
BBB				S	**Sn**	**18 23 27.3**	**-2.8**
	0.4nm,0.3s,baz=52,slow=17,SNR=2.2						
BBB	**Bella Bella**	**16.30**	**121**		**Pn**	**18 20 28.7**	**-0.3**
YKW3	**Yellowknife Ar**	**16.50**	**75**	P	**Pn**	**18 20 31.3**	**-0.2**
YKA	**Yellowknife Ar**	**16.53**	**76**	P	**Pn**	**18 20 31.2**	**-0.6**
	2.6nm,0.3s,baz=285,slow=9.4,SNR=42						
YKA				ScP	**ScP**	**18 28 35.0**	**-0.8**
	0.2nm,0.3s,baz=275,slow=1.8,SNR=7.9						
GSTR	**Great Sitkin T**	**17.22**	**242**	P	**P**	**18 20 38.8**	**-1.0**
ADK	**Adak**	**17.63**	**242**	P	**P**	**18 20 43.5**	**-0.8**
ADK				pmax	pmax		
	comp=Z,66nm,1.2s						
ADK	**Adak**	**17.63**	**242**	P	**P**	**18 20 43.5**	**-0.8**
ADK				IAmb	IAmb	18 20 48.6	
	comp=Z,66nm,1.2s						
BILL	**Bilibino**	**18.06**	**305**	*e*P	**P**	**18 20 45.9**	**-2.9**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BILL	**Bilibino**	**18.06**	**305**	P	**P**	**18 20 48.9**	**+0.1**
PGC	**Sidney**	**20.92**	**121**	P	**P**	**18 21 21.5**	**+1.6**
PGC				I

FFC pmax pmax
comp=Z,24nm,1.3s
FFC Flin Flon 26.05 86 P **P 18 22 08.8 +0.1**
HUMO Hull Mountain 26.21 128 P **P 18 22 12.1 +1.9**
HUMO **pP 18 22 41.5 +2.8**
J05D Fort Rock, OR 26.25 125 P **P 18 22 12.6 +1.8**
baz=329,SNR=6.7
MSO Missoula 26.27 111 P **P 18 22 11.1 +0.2**
baz=322,SNR=19
MSO Missoula 26.27 111 P **P 18 22 11.0 +0.1**
MSO IAmb IAmb 18 22 12.4
comp=Z,25nm,0.8s
MSO pP **pP 18 22 39.6 +0.4**
L02E Cave Junction 26.37 130 P **P 18 22 13.9 +2.1**
baz=332
BMO Blue Mountains 26.46 118 P **P 18 22 12.6 0.0**
BMO *PP **pP 18 22 42.2 +1.2**
BMO pmax pmax
comp=Z,12nm,0.8s
BMO Blue Mountains 26.46 118 P **P 18 22 12.6 0.0**
BMO pP **pP 18 22 42.2 +1.2**
K04D Chiloquin, OR 26.63 126 P **P 18 22 15.9 +1.7**
baz=330
L04D Klamath Falls 26.78 128 P **P 18 22 17.2 +1.6**
baz=331,SNR=6.6
PLID Pearl Lake 26.80 116 P **P 18 22 15.8 0.0**
PLID pP **pP 18 22 45.1 +0.8**
YBH Yreka Blue Hor 27.06 129 P **P 18 22 19.7 +1.7**
YBH *PP **pP 18 22 49.0 +2.5**
YBH pmax pmax
comp=Z,19nm,0.9s
YBH Yreka Blue Hor 27.06 129 P **P 18 22 20.1 +2.1**
comp=Z,15nm,0.9s,baz=338,slow=3.0,SNR=22
YBH Yreka Blue Hor 27.06 129 P **P 18 22 19.6 +1.7**
YBH pP **pP 18 22 49.0 +2.5**
EGMT Eagleton 27.16 104 P **P 18 22 19.4 +0.5**
baz=319,SNR=8.5
EGMT Eagleton 27.16 104 P **P 18 22 19.1 +0.3**
FCC Fort Churchill 27.21 73 P **P 18 22 18.8 -0.2**
FCC pmax pmax
comp=Z,73nm,1.6s
FCC Fort Churchill 27.21 73 P **P 18 22 18.8 -0.2**
FCC IAmb IAmb 18 22 37.5
comp=Z,73nm,1.6s
HRY Holter Researc 27.26 108 P **P 18 22 20.1 +0.4**
M02C Callahan 27.31 129 P **P 18 22 22.6 +2.4**
baz=332,SNR=6.0
MA2 Magadan 27.32 290 P **P 18 22 21.5 +1.4**
MA2 pmax pmax
comp=Z,138nm,1.4s
MA2 Magadan 27.32 290 P **P 18 22 21.5 +1.4**
M04C Macdoel 27.33 127 P **P 18 22 22.0 +1.6**
baz=331,SNR=6.3
KHMM Horse Mountain 27.46 131 P **P 18 22 23.6 +2.0**
KHMM IAmb IAmb 18 22 25.1
comp=Z,35nm,1.3s
LRM Limekiln Ridge 27.70 110 **P 18 22 24.8 +1.0**
LRM **pP 18 22 54.4 +2.0**
N02D Trinity Center 27.73 130 P **P 18 22 26.6 +2.6**
baz=332,SNR=17
MOD Modoc Plateau 27.79 125 P **P 18 22 26.1 +1.6**
MOD IAmb IAmb 18 22 27.3
comp=Z,42nm,1.6s
WVOR Wild Horse Val 27.96 122 P **P 18 22 27.2 +1.2**
WVOR pmax pmax
comp=Z,24nm,1.0s
WVOR Wild Horse Val 27.96 122 P **P 18 22 27.2 +1.2**
WVOR IAmb IAmb 18 22 28.7
comp=Z,24nm,0.9s
DLMT Dillon 28.00 111 P **P 18 22 27.5 +1.1**
KMRM Mail Ridge 28.05 132 P **P 18 22 29.2 +2.4**
KMRM IAmb IAmb 18 22 30.4
comp=Z,25nm,0.9s
KMRM pP **pP 18 22 58.1 +2.7**
PETK Petropavlovsk- 28.12 273 P **P 18 22 26.2 -0.9**
comp=Z,2.7nm,0.7s,baz=65,slow=13,SNR=7.3
WDC Whiskeytown Da 28.14 130 P **P 18 22 28.8 +1.3**
WDC *PP **pP 18 22 58.4 +2.3**
WDC pmax pmax
comp=Z,20nm,0.9s
WDC Whiskeytown Da 28.14 130 P **P 18 22 28.8 +1.3**
WDC IAmb IAmb 18 22 30.5
comp=Z,20nm,0.8s
WDC pP **pP 18 22 58.4 +2.3**
BOZ Bozeman (W) 28.23 110 P **P 18 22 29.3 +0.9**
baz=322,SNR=7.0
BOZ Bozeman (W) 28.23 110 P **P 18 22 29.5 +1.1**
BOZ Bozeman (W) 28.23 110 P **P 18 22 29.5 +1.1**
MFID Camas Ranch 28.25 117 P **P 18 22 29.6 +1.0**
MFID IAmb IAmb 18 22 30.4
comp=Z,34nm,0.9s
MCMT McKenzie Canyo 28.32 112 P **P 18 22 30.1 +0.7**
MCMT pP **pP 18 22 58.9 +0.9**
TULEG Thule 28.36 29 P **P 18 22 29.6 +0.5**
O02D Mt. Diablo Mer 28.41 130 P **P 18 22 32.0 +2.0**
baz=333,SNR=6.8
KCPM Cahto Peak 28.58 132 P **P 18 22 33.5 +2.0**
KCPM IAmb IAmb 18 22 35.1
comp=Z,70nm,1.5s
KCPM pP **pP 18 23 02.6 +2.4**
O03E Paynes Creek 28.65 129 P **P 18 22 33.3 +1.2**
baz=332,SNR=20
GCMT Greycliff 28.92 107 P **P 18 22 35.7 +1.1**
GCMT **PcP 18 25 40.1 +0.1**
QLMT Earthquake Lak 28.92 110 P **P 18 22 36.0 +1.3**
QLMT PP **PP 18 23 40.0 -2.2**
YHL Hebgen Lake 29.01 110 P **P 18 22 37.0 +1.5**
YHL pP **pP 18 23 05.8 +1.6**
YHB Horse Butte 29.08 110 P **P 18 22 37.4 +1.3**
YHB pP **pP 18 23 06.2 +1.4**
YHH Holmes Hill 29.20 110 P **P 18 22 38.4 +1.2**
YHH pP **pP 18 23 07.1 +1.2**
YMR Madison River 29.25 110 P **P 18 22 39.3 +1.7**
YNM Yellowstone No 29.31 110 P **P 18 22 40.0 +1.8**
DGMT Dagmar 29.32 98 P **P 18 22 38.5 +0.7**
baz=317
DGMT Dagmar 29.32 98 P **P 18 22 38.2 +0.3**
YNR Norris Junctio 29.33 110 P **P 18 22 40.4 +2.1**
YUF Upper Falls 29.41 109 P **P 18 22 40.3 +1.3**
ORV Oroville 29.41 129 P **P 18 22 39.2 +0.4**
ORV *PP **pP 18 23 08.1 +0.6**
ORV pmax pmax
comp=Z,14nm,0.8s
ORV Oroville 29.41 129 P **P 18 22 39.2 +0.4**
ORV **pP 18 23 08.1 +0.6**
YMP Mirror Lake Pl 29.54 109 P **P 18 22 41.5 +1.3**
BEKR Beckworth 29.55 127 P **P 18 22 41.0 +0.9**
BEKR pP **pP 18 23 10.4 +1.5**
LKWY Lake 29.57 109 P **P 18 22 42.7 +2.2**
LKWY *PP **pP 18 23 11.9 +2.7**
LKWY pmax pmax
comp=Z,28nm,0.9s
LKWY Lake 29.57 109 P **P 18 22 42.7 +2.2**
LKWY IAmb IAmb 18 22 44.4
comp=Z,28nm,0.8s
LKWY pP **pP 18 23 11.9 +2.7**
RLMT Red Lodge 29.62 108 P **P 18 22 42.5 +1.6**
baz=322,SNR=23
RLMT Red Lodge 29.62 108 P **P 18 22 42.3 +1.5**
RLMT IAmb IAmb 18 22 44.1
comp=Z,48nm,0.9s
RLMT pP **pP 18 23 10.8 +1.2**
GDXM Geysers 29.63 132 P **P 18 22 42.5 +1.7**
GDXM IAmb IAmb 18 22 44.0
comp=Z,37nm,1.6s
H17A Grant Village 29.63 110 P **P 18 22 43.9 +2.9**
baz=323,SNR=9.8
H17A Grant Village 29.63 110 P **P 18 22 42.5 +1.5**
H17A IAmb IAmb 18 22 45.1
comp=Z,25nm,1.2s
TIXI Tiksi 29.64 321 *ce*P **P 18 22 38.8 -1.6**
TIXI pmax pmax
comp=Z,27nm,2.5s
TIXI Tiksi 29.64 321 P **P 18 22 39.7 -0.7**
comp=Z,8.6nm,0.7s,baz=0.0,slow=24,SNR=23
TIXI pP **pP 18 23 09.6 +0.7**
comp=Z,5.1nm,0.8s,baz=180,slow=24,SNR=4.6
TIXI Tiksi 29.64 321 P **P 18 22 39.5 -0.9**
TIXI **pP 18 23 09.2 +0.2**
YPP Pitchstone Pla 29.64 110 P **P 18 22 41.6 +0.5**
LAO LASA Array 29.74 102 P **P 18 22 43.1 +1.4**
baz=320,SNR=11
LAO LASA Array 29.74 102 P **P 18 22 42.8 +1.1**
LAO IAmb IAmb 18 22 44.0
comp=Z,40nm,0.8s
FLWY Flagg Ranch 29.83 110 P **P 18 22 44.7 +2.0**
FLWY IAmb IAmb 18 22 46.1
comp=Z,32nm,0.8s
IMW Indian Meadow 29.88 111 P **P 18 22 45.0 +1.8**
IMW IAmb IAmb 18 22 46.4
comp=Z,28nm,0.8s
IMW pP **pP 18 23 13.6 +1.6**
PAHR Pah Rah Range 30.04 126 P **P 18 22 45.4 +0.9**
PAHR pP **pP 18 23 15.4 +2.0**
PAHR PP **PnPn 18 23 48.9 +1.4**
FXWY Fox Creek 30.05 111 P **P 18 22 46.0 +1.3**
FXWY pP **pP 18 23 15.8 +2.3**
MOOW Moose Ponds 30.08 111 P **P 18 22 46.2 +1.3**
AFDM Forest Hills D 30.14 129 P **P 18 22 46.0 +0.8**
AFDM **pP 18 23 15.4 +1.4**
TPAW Teton Pass 30.20 111 P **P 18 22 47.9 +1.8**
TPAW pP **pP 18 23 17.3 +2.4**
BMN Battle Mountai 30.23 123 P **P 18 22 47.3 +1.2**
BMN *PP **pP 18 23 16.7 +1.8**
BMN pmax pmax
comp=Z,8.0nm,0.7s
BMN Battle Mountai 30.23 123 P **P 18 22 47.3 +1.2**
BMN pP **pP 18 23 16.7 +1.8**
VCNR Virginia City 30.31 127 **P 18 22 47.8 +0.8**
VCNR IAmb IAmb 18 22 49.4
comp=Z,20nm,0.8s
VCNR pP **pP 18 23 17.8 +2.1**
SNOW Snow King Moun 30.31 111 P **P 18 22 47.8 +0.9**
SNOW IAmb IAmb 18 22 50.2
comp=Z,20nm,0.6s
REDW Red Top Meadow 30.35 111 P **P 18 22 48.2 +0.9**
REDW IAmb IAmb 18 22 52.0
comp=Z,50nm,1.5s
REDW pP **pP 18 23 17.6 +1.5**
PNTR Pine Nut 30.51 127 P **P 18 22 49.4 +0.7**
PNTR IAmb IAmb 18 22 56.6
comp=Z,21nm,0.9s
PNTR pP **pP 18 23 19.2 +1.8**
ELK Elko 30.73 120 P **P 18 22 52.6 +1.9**
comp=Z,23nm,0.9s,baz=330,slow=8.3,SNR=68
ELK pP **pP 18 23 22.1 +2.6**
comp=Z,8.2nm,0.9s,baz=348,slow=4.9,SNR=3.2
ELK Elko 30.73 120 P **P 18 22 52.4 +1.7**
ELK IAmb IAmb 18 22 53.6
comp=Z,30nm,1.0s
ELK pP **pP 18 23 21.6 +2.0**
YERR Yerington 30.73 127 P **P 18 22 51.8 +1.1**
YERR pP **pP 18 23 21.1 +1.6**
YERR PP **PnPn 18 23 55.2 -1.1**
AHID Auburn Hatcher 30.73 112 P **P 18 22 52.0 +1.3**
AHID IAmb IAmb 18 22 53.5
comp=Z,29nm,1.0s
AHID **pP 18 23 21.4 +1.9**
HVU Hansel Valley 30.85 115 P **P 18 22 53.0 +1.4**
HVU pmax pmax
comp=Z,20nm,0.7s
HVU Hansel Valley 30.85 115 P **P 18 22 53.0 +1.4**
WAKR Walker 31.08 127 P **P 18 22 55.1 +1.4**
WAKR IAmb IAmb 18 22 56.5
comp=Z,24nm,1.0s
WAKR pP **pP 18 23 24.7 +2.1**
KVN Kaiserville 31.09 125 P **P 18 22 55.2 +1.4**
KVN *PP **pP 18 23 24.4 +1.7**
KVN pmax pmax
comp=Z,16nm,0.9s
KVN Kaiserville 31.09 125 P **P 18 22 55.2 +1.4**
KVN pP **pP 18 23 24.4 +1.7**
CMB Columbia Colle 31.16 129 P **P 18 22 54.3 +0.1**
CMB pmax pmax
comp=Z,7.0nm,0.9s
CMB Columbia Colle 31.16 129 P **P 18 22 54.3 +0.1**
RYN Ryan 31.31 126 P **P 18 22 56.7 +1.0**
RYN pP **pP 18 23 25.9 +1.3**
SPUT South Promonto 31.38 116 P **P 18 22 57.3 +1.0**
SPUT pP **pP 18 23 27.1 +2.0**
BW06 Boulder Array 31.39 111 P **P 18 22 57.9 +1.5**
baz=325,SNR=25
BW06 Boulder Array 31.39 111 P **P 18 22 57.3 +0.9**
BW06 IAmb IAmb 18 22 58.9
comp=Z,34nm,0.9s
BW06 pP **pP 18 23 26.4 +1.1**
PD31 Pinedale Array 31.39 111 P **P 18 22 57.0 +0.6**
PD31 IAmb IAmb 18 22 58.9
comp=Z,28nm,0.9s
PD31 pP **pP 18 23 26.6 +1.3**
PDAR Pinedale Array 31.39 111 P **P 18 22 57.9 +1.5**
comp=Z,29nm,0.9s,baz=317,slow=6.1,SNR=100
PDAR pP **pP 18 23 26.6 +1.3**
comp=Z,8.1nm,0.8s,baz=324,slow=7.3,SNR=4.9
PDAR PcP **PcP 18 25 46.5 -0.1**
comp=Z,1.6nm,0.6s,baz=156,slow=1.3,SNR=4.4
PDAR ScP **ScP 18 29 17.1 +0.2**
comp=Z,1.5nm,0.7s,baz=106,slow=1.3,SNR=10
PDAR Pinedale Array 31.39 111 P **P 18 22 57.3 +0.9**
PDAR pP **pP 18 23 26.2 +0.9**
PDAR **PcP 18 25 46.1 -0.5**
PDAR **ScP 18 29 16.0 -0.9**
BGU Big Grassy Mou 31.46 117 P **P 18 22 58.0 +1.0**
NVAR Mina Array Bea 31.57 126 P **P 18 22 59.8 +1.8**
comp=Z,19nm,0.7s,baz=315,slow=8.2,SNR=151
NVAR pP **pP 18 23 29.2 +2.3**
comp=Z,20nm,0.8s,baz=310,slow=8.4,SNR=12
NVAR PcP **PcP 18 25 48.3 +1.2**
comp=Z,2.1nm,0.6s,baz=293,slow=2.7,SNR=5.4
NVAR ScP **ScP 18 29 18.5 +1.0**
comp=Z,3.2nm,1.0s,baz=297,slow=2.8,SNR=12
NVAR Mina Array Bea 31.57 126 P **P 18 22 59.3 +1.4**
NVAR pP **pP 18 23 28.9 +2.0**
NVAR PP **PnPn 18 24 02.7 -4.2**
NVAR **PcP 18 25 47.3 +0.1**
NVAR **ScP 18 29 17.5 0.0**
NV11 Mina Array Sit 31.62 126 P **P 18 22 59.9 +1.6**
NV11 IAmb IAmb 18 23 01.2
comp=Z,26nm,0.9s
NV11 pP **pP 18 23 29.4 +2.1**
ULM Lac du Bonnet 31.82 88 P **P 18 23 00.7 +0.8**
comp=Z,15nm,0.7s,baz=310,slow=8.1,SNR=13
ULM pP **pP 18 23 28.4 -0.4**
comp=Z,7.6nm,0.8s,baz=315,slow=9.9,SNR=3.0
ULM Lac du Bonnet 31.82 88 P **P 18 23 00.1 +0.3**
ULM IAmb IAmb 18 23 01.2
comp=Z,15nm,0.8s
MDND Maddock 31.86 94 P **P 18 23 01.4 +1.2**
baz=318
MDND Maddock 31.86 94 P **P 18 23 00.8 +0.6**
TCUT Toone Canyon 31.97 115 P **P 18 23 02.8 +1.3**
MDPB Devils Postpil 31.99 128 P **P 18 23 02.6 +0.9**
MDPB IAmb IAmb 18 23 04.7
comp=Z,15nm,0.8s
MDPB pP **pP 18 23 33.2 +2.5**
OMMB Old Mammoth Mi 32.03 127 P **P 18 23 04.1 +1.9**
OMMB IAmb IAmb 18 23 05.3
comp=Z,23nm,0.9s
OMMB pP **pP 18 23 33.3 +2.2**
MLAC Mammoth, Mammo 32.08 127 P **P 18 23 04.9 +2.4**
baz=333
DUG Dugway, Tooele 32.17 117 P **P 18 23 04.6 +1.3**
baz=328,SNR=21
DUG Dugway, Tooele 32.17 117 P **P 18 23 04.5 +1.3**
DUG pmax pmax
comp=Z,28nm,0.8s
DUG Dugway, Tooele 32.17 117 P **P 18 23 04.5 +1.3**
DUG IAmb IAmb 18 23 05.6
comp=Z,28nm,0.8s
CTU Camp Tracy 32.18 115 P **P 18 23 04.4 +1.1**
CTU pP **pP 18 23 33.6 +1.4**
JLU Jordanelle 32.38 115 P **P 18 23 05.8 +0.6**
PMPB Monarch Peak 32.65 131 P **P 18 23 09.5 +2.2**
PMPB IAmb IAmb 18 23 10.8
comp=Z,20nm,0.9s
PMPB pP **pP 18 23 38.0 +1.8**
R11A Troy Canyon, C 32.66 122 P **P 18 23 08.8 +1.3**
baz=331,SNR=40
R11A Troy Canyon, C 32.66 122 P **P 18 23 08.1 +0.6**
R11A IAmb IAmb 18 23 09.9
comp=Z,24nm,0.9s
R11A pP **pP 18 23 37.1 +0.7**
NLU North Lily Min 32.67 117 P **P 18 23 08.6 +0.9**
NLU pP **pP 18 23 37.8 +1.2**
RSSD Black Hills 32.71 103 P **P 18 23 09.0 +1.1**
baz=322
RSSD Black Hills 32.71 103 P **P 18 23 08.8 +0.9**
RSSD Black Hills 32.71 103 P **P 18 23 08.8 +0.9**
K22A Casper 32.79 107 P **P 18 23 09.5 +1.0**
baz=324,SNR=10
K22A Casper 32.79 107 P **P 18 23 09.1 +0.6**
K22A IAmb IAmb 18 23 10.5
comp=Z,36nm,0.9s
K22A pP **pP 18 23 38.3 +0.8**
MPU Maple Canyon 32.80 116 P **P 18 23 09.8 +1.1**
TIN Tinemaha, Big 32.81 127 P **P 18 23 11.2 +2.5**
baz=333
PSUT Pine Spring 33.17 120 P **P 18 23 13.4 +1.3**
PSUT pP **pP 18 23 42.1 +1.1**
GRAC Grapevine Rang 33.18 126 P **P 18 23 13.9 +2.0**
baz=333
RDMU Red Mountain 33.19 113 P **P 18 23 13.5 +1.3**
RDMU pP **pP 18 23 42.7 +1.5**
AGMN Agassiz Nation 33.23 90 P **P 18 23 12.6 +0.5**
baz=317
AGMN Agassiz Nation 33.23 90 P **P 18 23 12.4 +0.2**
RWWY Rawlins 33.27 109 P **P 18 23 12.4 -0.5**
RWWY IAmb IAmb 18 23 13.7
comp=Z,50nm,1.2s
RWWY pP **pP 18 23 42.0 +0.1**
PAGB Antelope Grade 33.28 131 P **P 18 23 14.3 +1.6**
PAGB IAmb IAmb 18 23 15.7
comp=Z,32nm,0.9s
PAGB pP **pP 18 23 44.0 +2.3**
CWC Cottonwood Cre 33.41 127 P **P 18 23 15.9 +1.9**
baz=333
TMUT Trail Mountain 33.59 116 P **P 18 23 16.6 +0.9**
P17A Butcher Ranch, 33.63 115 P **P 18 23 16.1 +0.2**
TPNV Topopah Spring 33.63 124 P **P 18 23 17.4 +1.4**
baz=332,SNR=22
TPNV Topopah Spring 33.63 124 P **P 18 23 16.7 +0.7**
TPNV *PP **pP 18 23 46.2 +1.1**
TPNV pmax pmax
comp=Z,33nm,1.2s
TPNV Topopah Spring 33.63 124 P **P 18 23 16.7 +0.7**
TPNV IAmb IAmb 18 23 18.4
comp=Z,33nm,1.2s
TPNV pP **pP 18 23 46.2 +1.1**
TCRU Three Creeks R 33.67 118 P **P 18 23 17.8 +1.4**
DAC Darwin (Calif) 33.73 127 P **P 18 23 20.3 +3.4**
DAC *PP **pP 18 23 49.7 +3.8**
DAC 18 25 55.3
DAC pmax pmax
comp=Z,18nm,0.8s
DAC Darwin (Calif) 33.73 127 P **P 18 23 20.2 +3.4**
DAC IAmb IAmb 18 23 21.9
comp=Z,18nm,0.8s
DAC pP **pP 18 23 49.7 +3.8**
DAC PcP **PcP 18 25 55.3 +2.1**
FURC Furnace Creek, 33.83 126 P **P 18 23 19.2 +1.8**
baz=333,SNR=10
MSU Marysvale 33.86 118 P **P 18 23 20.0 +2.0**
MSU 18 25 54.6
MSU Marysvale 33.86 118 P **P 18 23 20.0 +2.0**
MSU PcP **PcP 18 25 54.6 +1.1**
Q16A Castle Valley 33.92 116 P **P 18 23 19.7 +1.2**
Q16A pP **pP 18 23 49.5 +2.0**
ISA Isabella, Lake 33.96 128 P **P 18 23 19.9 +1.2**
baz=334,SNR=11
ISA Isabella, Lake 33.96 128 P **P 18 23 19.4 +0.7**
ISA *PP **pP 18 23 49.3 +1.6**
ISA pmax pmax
comp=Z,17nm,0.9s
ISA Isabella, Lake 33.96 128 P **P 18 23 19.4 +0.7**
ISA IAmb IAmb 18 23 21.0
comp=Z,17nm,0.8s
ISA pP **pP 18 23 49.3 +1.6**
MPMC Manual Prospec 33.97 127 P **P 18 23 20.7 +1.9**
baz=333,SNR=13
SRU San Rafael Swe 34.02 115 P **P 18 23 20.7 +1.4**
SRU *PP **pP 18 23 49.7 +1.3**
SRU pmax pmax
comp=Z,71nm,0.9s
SRU San Rafael Swe 34.02 115 P **P 18 23 20.7 +1.4**
SRU pP **pP 18 23 49.7 +1.3**
O20A White River Ci 34.11 112 P **P 18 23 21.1 +1.0**
baz=327,SNR=5.9
O20A White River Ci 34.11 112 P **P 18 23 20.8 +0.7**
O20A IAmb IAmb 18 23 22.8
comp=Z,25nm,1.1s
PKM Mcpherson Peak 34.19 131 P **P 18 23 22.9 +2.1**
baz=335,SNR=15
CCUT Cedar City 34.22 120 P **P 18 23 22.8 +1.7**
CCUT pP **pP 18 23 51.3 +1.1**
MTPU Mount Pierson 34.26 118 P **P 18 23 23.3 +1.7**
SZCU Shurtz Canyon 34.29 120 P **P 18 23 23.0 +1.3**
SZCU pP **pP 18 23 51.1 +0.3**
ARVC Arvin 34.32 129 P **P 18 23 23.0 +1.3**
baz=335
PHWY Pilot Hill 34.34 108 P **P 18 23 22.6 +0.4**
LRMC Laurel Mtn Rad 34.41 127 P **P 18 23 24.3 +1.6**
baz=334,SNR=34
YAK Yakutsk 34.41 305 *eP* **P 18 23 21.2 -1.0**
YAK pmax pmax
comp=Z,50nm,1.0s
YAK Yakutsk 34.41 305 P **P 18 23 20.9 -1.3**
SHPR Sheep Range 34.44 123 P **P 18 23 23.9 +1.0**
SHPR IAmb IAmb 18 23 25.2
comp=Z,16nm,0.8s
N23A Red Feather La 34.47 109 P **P 18 23 24.2 +1.0**
baz=325,SNR=8.2
N23A Red Feather La 34.47 109 P **P 18 23 24.1 +0.8**
N23A IAmb IAmb 18 23 26.1
comp=Z,23nm,1.2s
FRB Frobisher Bay 34.52 51 P **P 18 23 22.7 -0.3**
comp=Z,20nm,0.5s,baz=311,slow=10,SNR=12
PKCU Pink Cliffs 34.73 119 P **P 18 23 27.3 +1.7**
SUSD Miller 34.73 98 P **P 18 23 26.1 +1.0**
baz=321
SUSD Miller 34.73 98 **P 18 23 25.2 +0.1**
LCMT Little Creek M 34.73 121 P **P 18 23 26.8 +1.4**
LCMT pP **pP 18 23 56.3 +1.7**
LCMT **PcP 18 25 57.0 +1.0**
OSI Osito Audit: C 34.82 130 P **P 18 23 27.9 +1.9**
baz=335
OSI Osito Audit: C 34.82 130 P **P 18 23 26.8 +0.8**
OSI IAmb IAmb 18 23 28.6
comp=Z,18nm,0.8s
EDW2 Edwards Air Fo 34.84 128 P **P 18 23 27.4 +1.1**
baz=334
GSC Goldstone, Bar 34.89 127 P **P 18 23 28.5 +1.8**
baz=334,SNR=26
GSC Goldstone, Bar 34.89 127 P **P 18 23 28.3 +1.6**
GSC *PP **pP 18 23 58.1 +2.2**
GSC pmax pmax
comp=Z,36nm,1.0s
GSC Goldstone, Bar 34.89 127 P **P 18 23 28.3 +1.6**
GSC IAmb IAmb 18 23 29.5
comp=Z,36nm,0.9s
GSC pP **pP 18 23 58.1 +2.2**
KNB Kanab 34.90 120 P **P 18 23 28.5 +1.7**
KNB pmax pmax
comp=Z,59nm,0.8s
KNB Kanab 34.90 120 P **P 18 23 28.5 +1.7**
SCZ2 Santa Cruz Isl 35.06 131 P **P 18 23 29.6 +1.5**
baz=336
TUQ Turquoise Moun 35.10 125 P **P 18 23 30.5 +2.0**
baz=333,SNR=22
PV09 Paradox Valley 35.12 114 P **P 18 23 29.9 +1.1**
PV21 Cone Mtn., Par 35.13 114 P **P 18 23 29.9 +1.0**
PV21 IAmb IAmb 18 23 31.0
comp=Z,26nm,0.8s
BLG Laguna Peak, P 35.16 130 P **P 18 23 30.5 +1.6**
baz=335
RRX Edison Barstow 35.20 127 P **P 18 23 31.5 +2.2**
baz=334
PV23 Carpenter Ridg 35.21 114 P **P 18 23 30.6 +1.0**
PV23 IAmb IAmb 18 23 35.9
comp=Z,26nm,0.7s
PV22 Blue Mesa, Par 35.23 114 P **P 18 23 30.9 +1.2**
PV22 IAmb IAmb 18 23 31.8
comp=Z,38nm,0.9s
PV14 Lion Creek, Pa 35.27 114 P **P 18 23 31.4 +1.3**
PV14 IAmb IAmb 18 23 33.0
comp=Z,29nm,0.9s
DECC Green Verdugo 35.28 129 P **P 18 23 31.4 +1.4**
baz=335
PV04 Paradox Valley 35.30 114 P **P 18 23 31.7 +1.4**
PV20 West Nyswonger 35.32 114 P **P 18 23 31.6 +1.1**
PV20 IAmb IAmb 18 23 32.5
comp=Z,61nm,1.5s
PV19 Morning Glory 35.34 114 P **P 18 23 31.2 +0.5**

PV19 IAmb IAmb 18 23 32.7
comp=Z,20nm,0.9s
PV16 Nyswonger Mesa 35.37 114 P P 18 23 31.9 +1.0
PV16 IAmb IAmb 18 23 32.9
comp=Z,52nm,1.3s
PV07 Paradox Valley 35.37 114 P P 18 23 32.0 +1.0
PV07 IAmb IAmb 18 23 32.9
comp=Z,28nm,0.8s
PV17 East Wray Mesa 35.37 114 P P 18 23 31.9 +0.9
PV11 David Mesa, Pa 35.39 114 P P 18 23 31.6 +0.5
PV11 IAmb IAmb 18 23 33.9
comp=Z,26nm,0.6s
MWC Mount Wilson 35.41 129 P P 18 23 32.6 +1.4
MWC pmax pmax
comp=Z,31nm,1.3s
MWC Mount Wilson 35.41 129 P P 18 23 32.6 +1.4
MWC IAmb IAmb 18 23 34.8
comp=Z,31nm,1.3s
PV12 Saucer Basin, 35.41 114 P P 18 23 32.2 +0.9
PASC Pasadena Art C 35.41 129 P P 18 23 31.7 +0.7
PV18 Skein Mesa, Pa 35.42 114 P P 18 23 32.3 +0.9
PV18 IAmb IAmb 18 23 33.4
comp=Z,33nm,1.1s
PV03 Paradox Valley 35.44 114 P P 18 23 32.2 +0.7
PV03 IAmb IAmb 18 23 33.5
comp=Z,69nm,1.8s
SMCO Snowmass 35.45 111 P P 18 23 32.4 +0.6
EYMN Ely 35.47 87 P P 18 23 32.0 +0.5
baz=318,SNR=14
EYMN Ely 35.47 87 P P 18 23 31.9 +0.4
EYMN pP 18 24 01.2 +0.4
HEC Hector.Ludlow 35.48 126 P P 18 23 33.5 +1.7
baz=334,SNR=7.4
PV05 Paradox Valley 35.49 115 P P 18 23 33.0 +1.0
ISCO Idaho Springs 35.51 109 P P 18 23 33.7 +1.4
baz=326,SNR=11
ISCO Idaho Springs 35.51 109 P P 18 23 33.7 +1.4
ISCO pmax pmax
comp=Z,24nm,1.4s
ISCO Idaho Springs 35.51 109 P P 18 23 33.7 +1.4
ISCO IAmb IAmb 18 23 34.9
comp=Z,24nm,1.4s
PV02 Paradox Valley 35.53 114 P P 18 23 33.3 +1.0
PV02 IAmb IAmb 18 23 33.9
comp=Z,16nm,0.7s
PV13 Radium Mtn., P 35.53 114 P P 18 23 33.4 +1.0
BFSC Mount Baldy Ra 35.53 128 P P 18 23 34.0 +1.7
baz=335,SNR=12
U15A North Rim 35.62 120 P P 18 23 34.5 +1.4
U15A IAmb IAmb 18 23 35.7
comp=Z,25nm,0.8s
U15A PcP 18 25 59.9 +1.2
PV01 Paradox Valley 35.66 114 P P 18 23 34.6 +1.2
GMRC Granite Mounta 35.77 125 P P 18 23 36.1 +1.8
baz=333,SNR=30
BBRC Big Bear Solar 35.78 127 P P 18 23 36.2 +1.7
baz=334
SNCC San Nicolas Is 35.78 132 P P 18 23 35.1 +0.9
baz=336
FMP Fort Macarthur 35.78 130 P P 18 23 35.8 +1.5
baz=335
CIS Catalina Islan 36.02 130 P P 18 23 37.9 +1.6
baz=336
OGNE Ogallala 36.13 104 P P 18 23 38.2 +0.9
baz=324,SNR=8.4
OGNE Ogallala 36.13 104 P P 18 23 37.8 +0.5
OGNE pP pP 18 24 07.5 +0.9
W13A Hualapai Mount 36.16 123 P P 18 23 39.2 +1.5
W13A IAmb IAmb 18 23 40.5
comp=Z,22nm,0.8s
NEE2 Needles Airpor 36.18 124 P P 18 23 39.6 +2.0
baz=333
MURC Murrieta 36.27 128 P P 18 23 39.3 +0.9
baz=335
ECSD EROS Data Cent 36.34 96 P P 18 23 39.0 +0.1
baz=321,SNR=16
ECSD EROS Data Cent 36.34 96 P P 18 23 38.7 -0.2
ECSD IAmb IAmb 18 23 39.9
comp=Z,26nm,0.9s
ECSD pP pP 18 24 08.5 +0.1
BELC Belle Mtn. Jos 36.35 126 P P 18 23 40.7 +1.5
baz=334,SNR=22
SCI2 San Clemente I 36.36 130 P P 18 23 40.2 +1.1
baz=336
Q24A Divide 36.41 110 P P 18 23 41.3 +1.4
baz=327,SNR=7.2
Q24A Divide 36.41 110 P P 18 23 40.4 +0.5
Q24A IAmb IAmb 18 23 42.3
comp=Z,19nm,0.9s
E38A The Farm, Brul 36.44 88 P P 18 23 39.9 +0.1
baz=319
E38A The Farm, Brul 36.44 88 P P 18 23 39.7 0.0
MVCO Mesa Verde 36.48 115 P P 18 23 41.2 +0.9
baz=329,SNR=8.4
MVCO Mesa Verde 36.48 115 P P 18 23 40.7 +0.3
MVCO IAmb IAmb 18 23 42.3
comp=Z,19nm,0.8s
IRM Iron Mountain 36.52 125 P P 18 23 42.3 +1.7
baz=334,SNR=24
PFO Pinyon Flats O 36.53 127 P P 18 23 41.9 +1.1
baz=334,SNR=11
PFO Pinyon Flats O 36.53 127 P P 18 23 41.8 +1.1
comp=Z,12nm,0.7s,baz=328,slow=5.7,SNR=15
PFO pP pP 18 24 11.8 +1.7
comp=Z,11nm,0.9s,baz=334,slow=6.3,SNR=5.1
PFO Pinyon Flats O 36.53 127 P P 18 23 41.3 +0.5
PFO IAmb IAmb 18 23 42.9
comp=Z,21nm,1.1s
PFO pP pP 18 24 11.7 +1.6
TPFO Pinon Flats 36.54 127 P P 18 23 41.9 +1.1
baz=334,SNR=11
S22A 4UR Ranch, Cre 36.72 112 P P 18 23 44.2 +1.7
baz=328,SNR=22
S22A 4UR Ranch, Cre 36.72 112 P P 18 23 43.8 +1.4
S22A IAmb IAmb 18 23 45.4
comp=Z,20nm,0.8s
PDMCI Parker Dam,Lak 36.77 124 P P 18 23 44.1 +1.5
baz=333,SNR=5.9
WUAZ Wupatki 36.77 120 P P 18 23 44.6 +1.8
baz=331,SNR=52
WUAZ Wupatki 36.77 120 P P 18 23 44.2 +1.4
BC3 Big Chuckawall 36.86 126 P P 18 23 44.7 +1.2
baz=334,SNR=11
SPMN Marine on St. 36.92 91 P P 18 23 44.4 +0.6
baz=320
SPMN Marine on St. 36.92 91 P P 18 23 44.4 +0.6
SPMN IAmb IAmb 18 23 45.5
comp=Z,31nm,0.8s
SPMN pP pP 18 24 13.9 +0.6
109C Camp Elliot, M 36.95 129 P P 18 23 45.7 +1.5
baz=335
109C Camp Elliot, M 36.95 129 P P 18 23 45.1 +1.0
109C IAmb IAmb 18 23 46.9
comp=Z,32nm,0.9s
109C pP pP 18 24 14.9 +1.4
Y12C Blythe 37.12 125 P P 18 23 47.3 +1.7
baz=334,SNR=12
Y12C Blythe 37.12 125 P P 18 23 46.9 +1.3
Y12C pP pP 18 24 16.9 +1.9
MONP2 Monument Peak 37.19 128 P P 18 23 48.2 +1.8
baz=335,SNR=23
SUMG Summit 37.22 27 *i* P **P 18 23 46.3 -0.2**
SUMG Summit 37.22 27 *i* P **P 18 23 46.3 -0.2**
SUMG Summit 37.22 27 P P 18 23 46.2 -0.2
SDCO Great Sand Dun 37.28 111 P P 18 23 48.8 +1.5
baz=328,SNR=26
SDCO Great Sand Dun 37.28 111 P P 18 23 48.5 +1.2
SDCO IAmb IAmb 18 23 49.9
comp=Z,30nm,1.2s
DAG Danmarks Havn 37.28 16 *i* P **P 18 23 46.0 -0.4**
DAG pmax pmax
comp=Z,30nm,0.5s
DAG Danmarks Havn 37.28 16 *i* P **P 18 23 46.0 -0.4**
comp=Z,42nm,0.5s
BAR Barrett 37.29 128 P P 18 23 48.1 +1.0
BAR IAmb IAmb 18 23 49.7
comp=Z,17nm,0.9s
BAR pP pP 18 24 18.5 +2.0
SWSC Sam W. Stewart 37.37 127 P P 18 23 49.1 +1.4
baz=334,SNR=5.6
KSCO Kaye Shedlock' 37.46 107 P P 18 23 49.8 +1.2
baz=326
KSCO Kaye Shedlock' 37.46 107 P P 18 23 50.0 +1.4
KSCO pP pP 18 24 19.4 +1.4
BGNE Belgrade 37.49 100 P P 18 23 49.4 +0.8
baz=324
BGNE Belgrade 37.49 100 P P 18 23 49.1 +0.5
IKP In-Ko-Pah, Jac 37.52 128 P P 18 23 50.7 +1.7
baz=335,SNR=15
Y14A Wickenburg 37.53 123 P P 18 23 50.6 +1.5
Y14A IAmb IAmb 18 23 51.9
comp=Z,31nm,0.8s
Y14A pP pP 18 24 19.9 +1.4
G39A Holcombe 37.62 89 P P 18 23 50.4 +0.7
baz=320
GLA Glamis 37.63 126 P P 18 23 51.5 +1.6
baz=334,SNR=8.2
GLA Glamis 37.63 126 P P 18 23 51.2 +1.3
GLA pmax pmax
comp=Z,40nm,0.9s
GLA Glamis 37.63 126 P P 18 23 51.2 +1.3
X16A Lo Mia Camp, P 37.71 121 P P 18 23 52.5 +1.8
W18A Petrified Fore 37.77 118 P P 18 23 53.0 +1.7
baz=331
W18A Petrified Fore 37.77 118 P P 18 23 52.8 +1.5
W18A IAmb IAmb 18 23 54.1
comp=Z,51nm,1.1s
KBS Kingsbay 37.88 5 P P 18 23 52.9 +1.4
KBS pmax pmax
comp=Z,31nm,0.9s
KBS Kingsbay 37.88 5 P P 18 23 52.9 +1.4
KBS IAmb IAmb 18 23 53.4
comp=Z,30nm,0.8s
G40A Rib Lake 38.07 89 P P 18 23 53.9 +0.4
baz=320,SNR=7.6
G40A Rib Lake 38.07 89 P P 18 23 53.9 +0.4
G40A IAmb IAmb 18 23 54.8
comp=Z,26nm,0.7s
SFJD Kangerlussuaq 38.15 39 *eP* **P 18 23 53.9 +0.1**
SFJD Kangerlussuaq 38.15 39 *i* P **P 18 23 53.9 +0.1**
SFJD Kangerlussuaq 38.15 39 P P 18 23 53.7 -0.1
X18A Snowflake 38.20 119 P P 18 23 56.4 +1.5
T25A Trinidad 38.26 110 P P 18 23 56.4 +1.0
baz=328,SNR=5.2
T25A Trinidad 38.26 110 P P 18 23 55.9 +0.5
113A Mohawk Valley, 38.28 125 P P 18 23 56.4 +1.1
113A IAmb IAmb 18 23 57.8
comp=Z,17nm,0.8s
F42A Maple Grove Fa 38.64 86 P P 18 23 59.0 +0.8
baz=320
F42A Maple Grove Fa 38.64 86 P P 18 23 58.2 0.0
F42A IAmb IAmb 18 24 12.7
comp=Z,23nm,0.7s
E43A Lone Tree Farm 38.69 85 P P 18 23 59.0 +0.4
E43A IAmb IAmb 18 24 12.0
comp=Z,29nm,1.1s
SPA0 Spitsbergen Ar 38.78 4 P P 18 23 58.2 -0.8
CBKS Cedar Bluff 38.89 104 P P 18 24 01.5 +1.1
baz=326,SNR=14
CBKS Cedar Bluff 38.89 104 P P 18 24 01.1 +0.7
CBKS pmax pmax
comp=Z,69nm,0.8s
CBKS Cedar Bluff 38.89 104 P P 18 24 01.1 +0.7
GRNR Gornyy 39.25 287⇑ *i P* **P 18 24 03.5 +0.3**
GRNR pmax pmax
comp=Z,60nm,0.8s
YSS Yuzh-Sakhalins 39.26 278⇑ *eP* **P 18 24 03.3 0.0**
YSS pmax pmax
comp=Z,23nm,1.7s
YSS Yuzh-Sakhalins 39.26 278 P P 18 24 03.3 0.0
YSS IAmb IAmb 18 24 04.6
comp=Z,43nm,1.5s
ANMO Albuquerque 39.26 114 P P 18 24 05.4 +1.6
baz=330
ANMO Albuquerque 39.26 114 *ceP* **P 18 24 04.4 +0.7**
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 39.26 114 P P 18 24 05.1 +1.3
ANMO IAmb IAmb 18 24 06.5
comp=Z,27nm,1.2s
214A Organ Pipe Nat 39.36 124 P P 18 24 06.2 +1.8
baz=334,SNR=17
214A Organ Pipe Nat 39.36 124 P P 18 24 06.1 +1.7
214A IAmb IAmb 18 24 07.2
comp=Z,32nm,0.9s
D46A Sault St. Mari 39.64 82 P P 18 24 07.0 +0.5
baz=319
I42A Draeger Farm, 39.72 89 P P 18 24 07.8 +0.6
baz=321
I42A Draeger Farm, 39.72 89 P P 18 24 07.5 +0.3
I42A IAmb IAmb 18 24 08.7
comp=Z,33nm,1.1s
LENM Lemitar 39.72 116 P P 18 24 08.8 +1.2
LPM Los Pinos Moun 39.74 115 P P 18 24 08.8 +1.1
TUC Tucson 39.83 121 P P 18 24 09.9 +1.6
baz=333
TUC Tucson 39.83 121 P P 18 24 09.5 +1.2
TUC pmax pmax
comp=Z,14nm,0.8s
TUC Tucson 39.83 121 P P 18 24 09.5 +1.2
TUC IAmb IAmb 18 24 11.2
comp=Z,14nm,0.8s
JFWS Jewell Farm 39.88 91 P P 18 24 08.7 +0.2
baz=322
JFWS Jewell Farm 39.88 91 P P 18 24 08.5 0.0
JFWS pmax pmax
comp=Z,26nm,0.8s
JFWS Jewell Farm 39.88 91 P P 18 24 08.5 0.0
JFWS IAmb IAmb 18 24 09.4
comp=Z,26nm,0.8s
BNM Barren Site 39.88 115 P P 18 24 10.3 +1.4
BNM pP pP 18 24 40.0 +1.4
E46A Sault Ste Mari 39.91 82 P P 18 24 09.1 +0.3
baz=319
E46A Sault Ste Mari 39.91 82 P P 18 24 09.0 +0.3
E46A IAmb IAmb 18 24 10.0
comp=Z,22nm,0.8s
D47A Chapleau 39.93 81 P P 18 24 09.1 +0.1
baz=319
KSU1 Kansas State U 40.05 100 P P 18 24 10.4 +0.4
baz=325,SNR=20
L40A Anamosa 40.10 93 P P 18 24 10.4 +0.1
baz=322,SNR=8.8
L40A Anamosa 40.10 93 P P 18 24 10.2 -0.1
D48A Paudash Townsh 40.43 80 P P 18 24 13.1 +0.1
baz=319
121A Cookes Peak, D 40.82 118 P P 18 24 18.5 +2.0
baz=332,SNR=12
121A Cookes Peak, D 40.82 118 P P 18 24 17.9 +1.4
121A IAmb IAmb 18 24 19.6
comp=Z,104nm,1.9s
I45A Fountain 40.83 86 P P 18 24 17.4 +1.1
K43A Burlington 40.91 89 P P 18 24 17.3 +0.3
baz=322
K43A Burlington 40.91 89 P P 18 24 16.9 -0.2
GLMI Grayling 40.95 84 P P 18 24 17.7 +0.4
ZEA Zeya 40.97 296 *eP* **P 18 24 16.2 -1.2**
ZEA pmax pmax
comp=Z,43nm,0.9s
SCHQ Schefferville 41.16 61 P P 18 24 18.8 -0.1
comp=Z,5.6nm,0.8s,baz=277,slow=17,SNR=2.5
319A Douglas 41.24 120 P P 18 24 21.8 +1.8
319A IAmb IAmb 18 24 22.9
comp=Z,38nm,0.9s
I46A Reed City 41.26 86 P P 18 24 20.6 +0.7
baz=321
AMTX Amarillo 41.34 109 P P 18 24 21.7 +1.0
baz=329
AMTX Amarillo 41.34 109 P P 18 24 21.6 +0.9
AMTX IAmb IAmb 18 24 22.6
comp=Z,34nm,0.8s
KEKH Kekaha 41.48 192 P P 18 24 22.1 +0.3
D51A Lot 18 Range I 41.58 78 P P 18 24 22.7 +0.4
baz=319
NRIK Noril'sk 41.58 333 P P 18 24 22.3 +0.2
comp=Z,32nm,0.8s,baz=47,slow=6.0,SNR=24
OPA Opana 41.63 190 P P 18 24 23.8 +0.8
OPA pmax pmax
comp=Z,114nm,1.1s
OPA Opana 41.63 190 P P 18 24 23.8 +0.8
CHGQ Chibougamau 41.65 71 P P 18 24 23.2 +0.2
baz=318
MSTX Muleshoe 41.65 111 P P 18 24 24.2 +1.0
baz=329,SNR=29
MSTX Muleshoe 41.65 111 P P 18 24 24.0 +0.8
MSTX pP 18 24 54.3 +1.1
VLDQ Val d'Or 41.65 75 P P 18 24 21.2 -1.8
KIP Kipapa 41.89 190 *ceP* **P 18 24 26.9 +1.8**
KIP pmax pmax
comp=Z,61nm,1.3s
HDIL Hopedale 42.18 92 P P 18 24 27.6 +0.3
baz=323
HDIL Hopedale 42.18 92 P P 18 24 27.3 0.0
F51A Arnstein 42.22 79 P P 18 24 27.8 +0.2
baz=320
KHLH Kahului Airpor 42.30 188 P P 18 24 28.9 +0.4
D53A Lac Vacive, Po 42.33 76 P P 18 24 28.7 +0.3
baz=320
D53A Lac Vacive, Po 42.33 76 P P 18 24 28.5 0.0
KLR Kul'dur 42.42 289 *i P* **P 18 24 28.4 -0.8**
KLR pmax pmax
comp=Z,9.0nm,0.8s
KLR Kul'dur 42.42 289 P P 18 24 28.6 -0.5
comp=Z,8.8nm,0.7s,baz=34,slow=6.9,SNR=16
K47A Vermontville 42.46 87 P P 18 24 30.2 +0.7
baz=322
MNTX Cornudas Mount 42.52 116 P P 18 24 31.8 +1.5
baz=331,SNR=13
MNTX Cornudas Mount 42.52 116 P P 18 24 30.9 +0.6
CLNB Carlsbad 42.65 114 P P 18 24 32.3 +0.9
HSIG 42.70 124 P P 18 24 31.8 +0.1
HSIG IAmb IAmb 18 24 34.2
comp=Z,33nm,1.0s
WMOK Wichita Mounta 42.72 106 P P 18 24 32.2 +0.5
baz=328,SNR=19
WMOK Wichita Mounta 42.72 106 P P 18 24 32.0 +0.2
WMOK *PP **pP** 18 25 01.8 -0.1
WMOK pmax pmax
comp=Z,30nm,0.9s
WMOK Wichita Mounta 42.72 106 P P 18 24 32.0 +0.2
WMOK IAmb IAmb 18 24 33.4
comp=Z,30nm,0.9s
WMOK **pP** 18 25 01.8 -0.1
D54A Lac Fusel, La 42.73 76 P P 18 24 32.0 +0.3
baz=320
K48A Perry 42.75 86 P P 18 24 33.0 +1.0
baz=322
E53A Dumoine, Ponti 42.88 77 P P 18 24 33.3 +0.4
baz=320
FNO Franklin 42.88 105 P P 18 24 33.6 +0.5
BOD Bodaibo 43.04 309 *eP* **P 18 24 33.3 -0.8**
BOD pmax pmax
comp=Z,34nm,1.6s
E54A Lac Daplat, Po 43.05 77 P P 18 24 34.6 +0.3
baz=320
TUL1 Leonard 43.05 102 P P 18 24 34.3 -0.2
baz=327,SNR=5.1
TUL1 Leonard 43.05 102 P P 18 24 34.4 0.0
TUL1 IAmb IAmb 18 24 35.3
comp=Z,34nm,0.9s
CLWO Collingwood 43.19 81 P P 18 24 36.4 +1.0
baz=321
W35A Tecumseh 43.20 104 P P 18 24 35.4 -0.3
X34A Smith Ranch, M 43.25 105 P P 18 24 36.4 +0.3
X34A IAmb IAmb 18 24 37.6
comp=Z,36nm,1.4s
L48A N Adams 43.29 87 P P 18 24 37.2 +0.9
baz=323
SLM Saint Louis 43.30 95 P P 18 24 36.3 -0.1
SLM pmax pmax
comp=Z,58nm,0.8s
SLM Saint Louis 43.30 95 P P 18 24 36.2 -0.1
CCM Cathedral Cave 43.32 96 P P 18 24 36.2 -0.3
baz=325
CCM Cathedral Cave 43.32 96 P P 18 24 35.8 -0.7
CCM pmax pmax
comp=Z,19nm,0.8s
CCM Cathedral Cave 43.32 96 P P 18 24 35.9 -0.7
CCM IAmb IAmb 18 24 36.9
comp=Z,19nm,0.8s
SFIN Lafayette 43.32 90 P P 18 24 36.7 +0.2
baz=324
SFIN Lafayette 43.32 90 P P 18 24 36.5 0.0
SFIN IAmb IAmb 18 24 37.6
comp=Z,31nm,0.8s
D55A Sainte-Anne-du 43.36 75 P P 18 24 36.9 +0.2
baz=320
I51A Listowel 43.37 82 P P 18 24 37.6 +0.6
baz=322
POHA Pohakuloa 43.38 186 P P 18 24 37.9 +0.4
L49A Milan 43.46 86 P P 18 24 38.3 +0.7
baz=322
M48A Edgerton 43.52 87 P P 18 24 38.7 +0.6
baz=323
HMH Humu`ula Sheep 43.54 186 P P 18 24 39.5 +0.7
N47A Urbana 43.56 89 P P 18 24 38.1 -0.3
baz=323,SNR=6.6
N47A Urbana 43.56 89 P P 18 24 38.2 -0.3
N47A IAmb IAmb 18 24 39.0
comp=Z,46nm,0.8s
HHAR Hobbs 43.57 100 P P 18 24 37.2 -1.4
HHAR IAmb IAmb 18 24 38.4
comp=Z,24nm,0.8s
KHLU Kahalu`u 43.57 187 P P 18 24 39.3 +0.5
MGMO Mountain Grove 43.60 98 P P 18 24 37.8 -1.0
MGMO PcP **PP** 18 26 23.4 +0.8
MLH Mauna Loa 43.64 186 P P 18 24 40.6 +1.0
MWH Moku'aweowe 43.66 186 P P 18 24 40.0 0.0
FVM French Village 43.75 96 P P 18 24 39.7 -0.3
FVM pmax pmax
comp=Z,27nm,0.7s
FVM French Village 43.75 96 P P 18 24 39.7 -0.3
FVM IAmb IAmb 18 24 40.7
comp=Z,27nm,0.7s
PUH Pauahi 43.75 186 P P 18 24 40.5 +0.2
AIN Ainahou 43.76 186 P P 18 24 40.9 +0.4
BANO Bancroft 43.81 79 P P 18 24 40.3 -0.2
baz=321
HLP Hilina Pali 43.83 186 P P 18 24 40.8 -0.1
N48A Decatur 43.88 88 P P 18 24 41.1 0.0
baz=323
P46A Rosedale 43.88 91 P P 18 24 41.0 0.0
baz=324,SNR=17
KHU Kahuku 43.90 186 P P 18 24 42.4 +0.8
KHU pmax pmax
comp=Z,101nm,0.9s
KHU Kahuku 43.90 186 P P 18 24 42.4 +0.8
E56A St. Veronique 43.91 75 P P 18 24 41.2 -0.1
baz=320
U40A Yellville 43.99 99 P P 18 24 41.0 -1.0
baz=326,SNR=11
U40A Yellville 43.99 99 P P 18 24 40.7 -1.3
U40A IAmb IAmb 18 24 41.8
comp=Z,20nm,0.5s
D57A Chemin Vers le 44.05 74 P P 18 24 41.6 -0.8
baz=320
ABTX Abilene, Hawle 44.14 109 P P 18 24 43.4 +0.2
baz=329
ABTX Abilene, Hawle 44.14 109 P P 18 24 42.9 -0.4
G55A Calabogie 44.17 77 P P 18 24 42.6 -0.6
baz=321
PLVO Plevna 44.18 78 P P 18 24 44.1 +0.8
OLIL Olney 44.20 93 P P 18 24 43.0 -0.6
N49A Columbus Grove 44.22 87 P P 18 24 43.7 0.0
baz=323,SNR=5.1
N49A Columbus Grove 44.22 87 P P 18 24 43.5 -0.1
N49A IAmb IAmb 18 24 45.1
comp=Z,37nm,1.0s
LATQ La Tuque 44.25 72 P P 18 24 44.2 +0.3
baz=320
LATQ La Tuque 44.25 72 P P 18 24 44.2 +0.3
PLIO Pelee Island, 44.26 85 P P 18 24 44.1 0.0
baz=323
X37A Clayton 44.34 103 P P 18 24 44.7 0.0
X37A IAmb IAmb 18 24 45.6
comp=Z,22nm,0.8s
M50A Fremont 44.35 86 P P 18 24 45.1 +0.4
baz=323
E57A Chemin Saint G 44.41 74 P P 18 24 45.3 +0.1
baz=321
D58A Chemin du LacG 44.43 73 P P 18 24 45.4 +0.1
baz=320
SIUC Southern Illin 44.52 95 P P 18 24 45.8 -0.3
S44A Carbondale 44.52 95 P P 18 24 46.0 -0.1
baz=325,SNR=17
W39A Magazine 44.54 101 P P 18 24 46.0 -0.3
baz=327,SNR=8.9
W39A Magazine 44.54 101 P P 18 24 45.8 -0.6
W39A IAmb IAmb 18 24 46.9
comp=Z,28nm,1.0s
I55A Frankford 44.55 79 P P 18 24 45.2 -1.0
baz=322
BLO Bloomington 44.56 91 P P 18 24 45.7 -0.7
BLO pmax pmax
comp=Z,22nm,0.8s
BLO Bloomington 44.56 91 P P 18 24 45.7 -0.7
BLO IAmb IAmb 18 24 46.9

comp=Z,22nm,0.8s
FCAR Ozark Folk Cen 44.71 99 P P 18 24 46.7 -1.0
FCAR IAmb IAmb 18 24 47.4
comp=Z,27nm,0.8s
O49A Covington 44.73 88 P P 18 24 47.6 -0.2
baz=324
O49A Covington 44.73 88 P P 18 24 47.4 -0.4
O49A IAmb IAmb 18 24 48.4
comp=Z,28nm,0.8s
PBMO Poplar Bluff 44.74 96 P P 18 24 47.2 -0.7
N50A Nevada 44.81 87 P P 18 24 48.5 +0.2
baz=323
P48A Milroy 44.82 90 P P 18 24 48.1 -0.4
baz=324
P48A Milroy 44.82 90 P P 18 24 47.8 -0.7
LCAR Lake Charles 45.00 98 P P 18 24 48.7 -1.2
LCAR PcP 18 26 28.2 -0.4
USIN University of 45.02 93 P P 18 24 49.5 -0.6
N51A Ashland 45.04 86 P P 18 24 50.4 +0.1
baz=323
N51A Ashland 45.04 86 P P 18 24 50.3 +0.1
N51A IAmb IAmb 18 24 51.2
comp=Z,36nm,0.8s
G57A Newington 45.05 76 P P 18 24 50.2 0.0
baz=321
P49A Miami Univ. Ec 45.09 89 P P 18 24 50.2 -0.4
baz=324
O50A Cable 45.09 88 P P 18 24 50.4 -0.3
baz=324,SNR=7.2
Q48A North Vernon 45.11 90 P P 18 24 50.1 -0.7
baz=324,SNR=8.2
WHAR Wooly Hollow 45.13 99 P P 18 24 50.0 -1.0
PARMO Parma 45.14 96 P P 18 24 50.2 -0.8
MIAR Mount Ida 45.18 101 P P 18 24 51.2 -0.1
baz=327,SNR=18
MIAR Mount Ida 45.18 101 P P 18 24 51.1 -0.3
MIAR pmax pmax
comp=Z,37nm,0.8s
MIAR Mount Ida 45.18 101 P P 18 24 51.1 -0.3
MIAR IAmb IAmb 18 24 52.8
comp=Z,36nm,0.8s
HENM Henderson Moun 45.22 96 P P 18 24 51.8 +0.1
W41B Gary Mavity, V 45.25 99 P P 18 24 51.5 -0.4
baz=327
W41B Gary Mavity, V 45.25 99 P P 18 24 51.2 -0.7
TX32 Lajitas Array 45.30 115 P P 18 24 53.8 +1.3
TX32 IAmb IAmb 18 24 55.0
comp=Z,28nm,0.9s
TX32 PcP **PcP 18 26 29.4 -0.5**
TXAR Lajitas Array 45.30 115 P P 18 24 54.0 +1.5
comp=Z,17nm,0.7s,baz=331,slow=6.1,SNR=51
TXAR pP **pP 18 25 23.9 +1.0**
comp=Z,3.2nm,0.7s,baz=337,slow=8.8,SNR=2.4
TXAR PcP **PcP 18 26 30.2 +0.3**
comp=Z,2.3nm,0.7s,baz=324,slow=2.5,SNR=3.3
TXAR Lajitas Array 45.30 115 P P 18 24 53.6 +1.0
TXAR **pP 18 25 24.2 +1.3**
TXAR **PcP 18 26 30.0 +0.1**
ACSO Alum Creek Sta 45.31 87 P P 18 24 52.2 -0.2
baz=324,SNR=7.0
ACSO Alum Creek Sta 45.31 87 P P 18 24 52.1 -0.3
ACSO IAmb IAmb 18 24 53.4
comp=Z,38nm,0.8s
H57A Richville 45.38 77 P P 18 24 52.5 -0.3
baz=322
L54A Sinclairville 45.38 82 P P 18 24 53.3 +0.5
baz=323
M53A WI Miller and 45.40 84 P P 18 24 53.5 +0.5
baz=323
D60A Saint Jean D'O 45.42 71 P P 18 24 53.4 +0.3
baz=321
WCI Wyandotte Cave 45.43 92 P P 18 24 53.0 -0.3
baz=325
WCI Wyandotte Cave 45.43 92 P P 18 24 53.1 -0.2
WCI pmax pmax
comp=Z,41nm,0.8s
WCI Wyandotte Cave 45.43 92 P P 18 24 53.1 -0.2
WCI IAmb IAmb 18 24 54.3
comp=Z,41nm,0.8s
N52A McGinn's Farm, 45.44 85 P P 18 24 53.2 -0.2
baz=323
P50A Jamestown 45.45 88 P P 18 24 53.1 -0.3
baz=324,SNR=7.1
ALLY Alegheny Colle 45.47 83 P P 18 24 53.6 0.0
D61A St Aubert, Com 45.51 71 P P 18 24 53.8 0.0
baz=321
UALR University of 45.54 100 P P 18 24 53.1 -1.1
UALR IAmb IAmb 18 24 54.6
comp=Z,34nm,0.7s
O51A Pataskala 45.55 87 P P 18 24 54.2 -0.1
baz=324,SNR=5.5
X40A Basin Creek Fa 45.56 101 P P 18 24 53.9 -0.5
baz=327,SNR=7.2
X40A Basin Creek Fa 45.56 101 P P 18 24 53.7 -0.7
WVNY West Valley, N 45.56 81 P P 18 24 54.3 0.0
WVNY IAmb IAmb 18 25 00.5
comp=Z,68nm,1.6s
WHTX Lake Whitney, 45.63 107 P P 18 24 55.5 +0.5
baz=329
WHTX Lake Whitney, 45.63 107 P P 18 24 55.6 +0.6
WHTX IAmb IAmb 18 24 56.2
comp=Z,38nm,1.1s
M54A Oil Creek Stat 45.80 83 P P 18 24 56.4 +0.2
M54A IAmb IAmb 18 25 02.0
comp=Z,83nm,1.9s
L55A Hinsdale 45.81 81 P P 18 24 56.7 +0.3
baz=323
N53A Lisbon 45.83 85 P P 18 24 56.8 +0.3
baz=323,SNR=7.3
N53A Lisbon 45.83 85 P P 18 24 56.4 0.0
N53A IAmb IAmb 18 24 57.6
comp=Z,35nm,0.7s
P51A Williamsport 45.88 88 P P 18 24 57.1 +0.2
baz=324
JCT Junction City 45.92 111 P P 18 24 58.0 +0.7
baz=330,SNR=14
JCT Junction City 45.92 111 P P 18 24 57.9 +0.6
JCT pmax pmax
comp=Z,35nm,0.8s
JCT Junction City 45.92 111 P P 18 24 57.9 +0.6
JCT IAmb IAmb 18 25 00.0
comp=Z,35nm,0.8s
O52A Adamsville 45.93 86 P P 18 24 57.4 +0.2
baz=324
O52A Adamsville 45.93 86 P P 18 24 56.8 -0.4
O52A IAmb IAmb 18 24 58.0
comp=Z,44nm,1.3s
H58A Gabriels 45.95 76 P P 18 24 57.0 -0.4
baz=322
Q50A Georgetown 45.98 89 P P 18 24 57.6 0.0
baz=324
T47A Sharon Grove 46.07 93 P P 18 24 58.6 +0.2
baz=326,SNR=9.7
T47A Sharon Grove 46.07 93 P P 18 24 58.6 +0.2
N54A Moraine State 46.09 84 P P 18 24 59.1 +0.6
baz=323
O53A New Philadelph 46.10 85 P P 18 24 58.8 +0.2
baz=324
WLAR White Oak Lake 46.11 101 P P 18 24 59.0 +0.4
WLAR IAmb IAmb 18 25 00.5
comp=Z,44nm,0.8s
Q51A Peebles 46.12 88 P P 18 24 58.8 0.0
baz=324,SNR=8.9
Q51A Peebles 46.12 88 P P 18 24 58.3 -0.4
Q51A IAmb IAmb 18 24 59.5
comp=Z,41nm,0.8s
I58A Old Forge 46.17 77 P P 18 24 58.6 -0.5
baz=322
P52A Corning 46.18 87 P P 18 24 58.9 -0.3
baz=324
USRK Ussuriysk Ar. 46.20 284 P P 18 24 58.5 -0.7
comp=Z,1.5nm,0.7s,baz=47,slow=7.9,SNR=4.7
USRK Ussuriysk Ar. 46.20 284 P P 18 24 58.2 -1.0
M55A Ridgway 46.23 82 P P 18 25 00.1 +0.5
baz=323
M55A Ridgway 46.23 82 P P 18 25 00.4 +0.8
M55A IAmb IAmb 18 25 01.1
comp=Z,71nm,1.6s
S49A Springfield 46.25 91 P P 18 24 59.3 -0.4
baz=325,SNR=13
E62A Clayton Lake 46.25 71 P P 18 24 59.4 -0.2
E62A IAmb IAmb 18 25 08.0
comp=Z,17nm,0.8s
R50A Paris 46.28 90 P P 18 25 00.1 +0.1
baz=325
R50A Paris 46.28 90 P P 18 24 59.5 -0.4

X43A Marvell 46.41 99 P P 18 25 01.5 +0.5
baz=327
X43A Marvell 46.41 99 P P 18 25 01.1 +0.1
WVT Waverly 46.45 95 P P 18 25 01.9 +0.5
baz=326
WVT Waverly 46.45 95 P P 18 25 01.7 +0.4
WVT pmax pmax
comp=Z,29nm,0.8s
WVT Waverly 46.45 95 P P 18 25 01.7 +0.4
WVT IAmb IAmb 18 25 02.5
comp=Z,29nm,0.8s
M56A Emporium 46.49 82 P P 18 25 01.8 +0.2
baz=323
M56A Emporium 46.49 82 P P 18 25 01.8 +0.2
M56A IAmb IAmb 18 25 11.6
comp=Z,92nm,2.0s
HAMF Hammerfest 46.52 2 eP P 18 25 00.2 -1.2
O54A Avella 46.54 85 P P 18 25 02.1 +0.2
baz=324,SNR=7.4
R51A Hillsboro 46.60 89 P P 18 25 02.6 +0.1
baz=325,SNR=14
Z41A Richland Creek 46.61 101 P P 18 25 02.3 -0.2
baz=328
Z41A Richland Creek 46.61 101 P P 18 25 02.3 -0.2
Z41A IAmb IAmb 18 25 04.0
comp=Z,56nm,1.1s
435B Jarrell 46.61 108 P P 18 25 03.1 +0.4
baz=330
435B Jarrell 46.61 108 P P 18 25 02.9 +0.2
435B IAmb IAmb 18 25 04.2
comp=Z,19nm,0.8s
HPIG 46.62 119 P P 18 25 04.0 +1.0
HPIG IAmb IAmb 18 25 05.3
comp=Z,26nm,0.9s
P53A Whipple 46.64 86 P P 18 25 02.6 -0.1
baz=324
P53A Whipple 46.64 86 P P 18 25 02.1 -0.7
P53A IAmb IAmb 18 25 03.4
comp=Z,50nm,1.4s
Q52A Bidwell 46.66 87 P P 18 25 02.5 -0.4
baz=324,SNR=6.7
N55A Marion Center 46.69 83 P P 18 25 03.5 +0.3
baz=324,SNR=7.2
N55A Marion Center 46.69 83 P P 18 25 03.2 +0.1
N55A IAmb IAmb 18 25 04.2
comp=Z,23nm,0.8s
T49A Edmonton 46.69 92 P P 18 25 02.9 -0.3
baz=325,SNR=11
T49A Edmonton 46.69 92 P P 18 25 02.8 -0.5
T49A IAmb IAmb 18 25 04.5
comp=Z,24nm,0.8s
S50A Richmond 46.74 90 P P 18 25 03.5 -0.1
baz=325,SNR=7.1
I60A Shoreham 46.79 76 P P 18 25 04.0 +0.2
baz=322
E63A Oxbow 46.88 70 P P 18 25 03.8 -0.7
BINY Binghamton 46.90 79 P P 18 25 04.8 0.0
baz=323
BINY Binghamton 46.90 79 P P 18 25 04.0 -0.8
BINY IAmb IAmb 18 25 07.7
comp=Z,77nm,1.8s
G62A West of Eustis 46.92 73 P P 18 25 03.4 -1.5
G62A IAmb IAmb 18 25 20.5
comp=Z,54nm,1.4s
MDJ Mudanjiang 46.92 286 P P 18 25 04.8 -0.1
P54A Burton 46.96 85 P P 18 25 05.3 +0.1
baz=324
O55A Ligonier 47.00 84 P P 18 25 06.0 +0.4
baz=324
NATX Nacogdoches 47.05 104 P P 18 25 05.3 -0.7
NATX IAmb IAmb 18 25 07.2
comp=Z,30nm,0.9s
U49A Red Boiling Sp 47.07 92 P P 18 25 06.4 +0.3
baz=326,SNR=31
T50A Nancy 47.08 91 P P 18 25 06.3 +0.1
baz=325,SNR=22
OXF Oxford 47.08 97 P P 18 25 06.8 +0.6
baz=327,SNR=13
OXF Oxford 47.08 97 P P 18 25 06.3 +0.1
OXF pmax pmax
comp=Z,273nm,1.1s
OXF Oxford 47.08 97 P P 18 25 06.3 +0.1
LBNH Lisbon 47.08 75 P P 18 25 06.6 +0.5
baz=322
Q53A Leroy 47.09 87 P P 18 25 06.1 -0.2
baz=324,SNR=9.1
S51A Beattyville 47.14 90 P P 18 25 06.5 -0.2
baz=325,SNR=8.3
S51A Beattyville 47.14 90 P P 18 25 06.5 -0.2
S51A IAmb IAmb 18 25 07.4
comp=Z,30nm,0.8s
CLTN Cedars of Leba 47.16 93 P P 18 25 07.2 +0.4
CLTN IAmb IAmb 18 25 08.8
comp=Z,28nm,0.8s
BORG Borgarnes 47.20 27 P P 18 25 07.4 +0.7
BORG pmax pmax
comp=Z,228nm,2.0s
BORG Borgarnes 47.20 27 P P 18 25 07.4 +0.7
MCWV Mont Chateau 47.20 85 P P 18 25 07.2 +0.1
baz=324
BATG Bathurst New B 47.21 68 P P 18 25 07.3 +0.2
BATG IAmb IAmb 18 25 14.8
comp=Z,31nm,0.9s
V48A Smith Brothers 47.23 94 P P 18 25 07.5 +0.1
baz=326,SNR=8.5
V48A Smith Brothers 47.23 94 P P 18 25 07.5 +0.1
V48A IAmb IAmb 18 25 08.7
comp=Z,40nm,1.1s
O56A Blue Knob Stat 47.29 83 P P 18 25 08.3 +0.5
baz=324
O56A Blue Knob Stat 47.29 83 P P 18 25 08.1 +0.2
PLAL Pickwick Lake 47.29 96 P P 18 25 07.8 0.0
PLAL IAmb IAmb 18 25 09.0
comp=Z,39nm,0.8s
Q54A Coxs Mills 47.30 86 P P 18 25 08.0 +0.1
baz=324
Q54A Coxs Mills 47.30 86 P P 18 25 07.9 0.0
SSPA Standing Stone 47.30 82 P P 18 25 08.1 +0.2
baz=324
SSPA Standing Stone 47.30 82 P P 18 25 08.3 +0.4
SSPA IAmb IAmb 18 25 21.4
comp=Z,65nm,1.8s
R53A Hurricane 47.32 88 P P 18 25 08.3 +0.2
baz=325
R53A Hurricane 47.32 88 P P 18 25 08.1 0.0
R53A IAmb IAmb 18 25 09.3
comp=Z,29nm,0.8s
L59A Walton 47.33 79 P P 18 25 08.7 +0.5
baz=323
P55A Reedsville 47.33 85 P P 18 25 08.8 +0.6
baz=324
F64A Sherman 47.35 70 P P 18 25 08.4 +0.2
baz=322
F64A Sherman 47.35 70 P P 18 25 08.3 +0.1
M58A Price's Panora 47.35 81 P P 18 25 08.5 +0.2
baz=324
TRO Tromso 47.39 5 eP P 18 25 07.7 -0.5
PKME Peaks-Kenny Pk 47.42 72 P P 18 25 08.8 +0.1
PKME IAmb IAmb 18 25 15.6
comp=Z,95nm,1.9s
HIA Hailar 47.42 297 P P 18 25 08.9 +0.1
HIA pmax pmax
comp=Z,29nm,0.8s
HIA Hailar 47.42 297 P P 18 25 08.9 +0.1
HIA IAmb IAmb 18 25 09.8
comp=Z,29nm,0.8s
KEV Kevo 47.45 1 P P 18 25 07.9 -0.8
KEV pmax pmax
comp=Z,27nm,0.8s
KEV Kevo 47.45 1 P P 18 25 07.9 -0.8
KEV IAmb IAmb 18 25 08.7
comp=Z,27nm,0.8s
T51A Gray 47.53 90 P P 18 25 09.6 -0.1
baz=326,SNR=8.6
U50A Jamestown 47.57 92 P P 18 25 10.1 0.0
baz=326,SNR=9.9
V49A McMinnville 47.63 93 P P 18 25 10.6 +0.1
baz=326,SNR=23
Q55A Buckhannon 47.63 85 P P 18 25 11.1 +0.6
baz=324
G64A Maxfield 47.66 71 P P 18 25 10.6 0.0
baz=322
ARCES ARCESS Array B 47.66 2 P P 18 25 09.2 -1.1
comp=Z,14nm,0.7s,baz=360,slow=7.9,SNR=70
ARCES PcP **PcP 18 26 38.1 +0.6**
comp=Z,2.2nm,0.7s,baz=32,slow=5.3,SNR=3.2

ARCES ARCESS Array B 47.66 2 P P 18 25 08.5 -1.8
ARE0 ARCESS Array S 47.66 2 eP P 18 25 09.8 -0.5
ARE0 ARCESS Array S 47.66 2 P P 18 25 08.9 -1.4
N58A Sunbury 47.66 81 P P 18 25 10.8 +0.1
baz=324
N58A Sunbury 47.66 81 P P 18 25 10.3 -0.4
M59A Waymart 47.68 80 P P 18 25 10.9 +0.1
baz=324
O57A Amberson 47.76 82 P P 18 25 11.7 +0.3
baz=324
S53A Williamson 47.77 88 P P 18 25 11.7 +0.1
baz=325
P56A Dayton Farm, R 47.78 84 P P 18 25 12.2 +0.6
baz=324
FFD Franklin Falls 47.81 75 P P 18 25 11.2 -0.6
T52A Hallie 47.85 89 P P 18 25 12.4 +0.1
baz=325,SNR=6.3
T52A Hallie 47.85 89 P P 18 25 12.3 +0.1
T52A IAmb IAmb 18 25 13.5
comp=Z,25nm,0.9s
R54A Victor 47.88 87 P P 18 25 12.2 -0.3
baz=325,SNR=6.8
U51A La Follette 47.98 91 P P 18 25 13.1 -0.1
baz=326
W49A Belvidere 48.00 94 P P 18 25 13.3 -0.1
baz=326,SNR=7.2
Q56A Snyder Ridge, 48.00 85 P P 18 25 13.4 +0.1
baz=324
Q56A Snyder Ridge, 48.00 85 P P 18 25 13.3 0.0
Q56A IAmb IAmb 18 25 14.1
comp=Z,14nm,0.7s
S54A Dingess, Beckl 48.05 87 P P 18 25 13.9 +0.2
baz=325
S54A Dingess, Beckl 48.05 87 P P 18 25 13.6 -0.1
S54A IAmb IAmb 18 25 14.5
comp=Z,20nm,0.9s
TZTN Tazewell 48.06 90 P P 18 25 13.8 +0.1
baz=326,SNR=7.5
TZTN Tazewell 48.06 90 P P 18 25 13.9 +0.1
TZTN IAmb IAmb 18 25 15.0
comp=Z,25nm,0.8s
SWET Sewanee 48.07 94 P P 18 25 13.6 -0.4
SWET IAmb IAmb 18 25 14.5
comp=Z,23nm,0.7s
V50A Pikevile 48.07 92 P P 18 25 13.9 0.0
baz=326,SNR=16
HKT Hockley 48.09 107 P P 18 25 14.3 +0.3
HKT pmax pmax
comp=Z,90nm,1.8s
HKT Hockley 48.09 107 P P 18 25 14.3 +0.3
HKT IAmb IAmb 18 25 16.1
comp=Z,90nm,1.8s
KTK1 Kautokeino 48.15 3 eP P 18 25 13.1 -1.0
PAGS Pennsylvania G 48.15 82 P P 18 25 14.2 -0.3
PAGS IAmb IAmb 18 25 27.6
comp=Z,37nm,1.4s
T53A Wise 48.16 89 P P 18 25 14.8 +0.1
baz=326,SNR=6.4
P57A Homestead Farm 48.17 83 P P 18 25 15.0 +0.3
baz=324
P57A Homestead Farm 48.17 83 P P 18 25 14.9 +0.3
P57A IAmb IAmb 18 25 15.7
comp=Z,15nm,0.7s
X48A Hartselle 48.20 95 P P 18 25 14.8 -0.1
baz=327,SNR=9.7
X48A Hartselle 48.20 95 P P 18 25 14.4 -0.5
X48A IAmb IAmb 18 25 16.9
comp=Z,21nm,0.8s
U52A Thorn Hill 48.26 90 P P 18 25 15.4 0.0
baz=326,SNR=5.6
V51A Loudon 48.30 92 P P 18 25 15.7 0.0
baz=326,SNR=5.2
V51A Loudon 48.30 92 P P 18 25 15.3 -0.3
V51A IAmb IAmb 18 25 16.7
comp=Z,17nm,0.8s
Q57A Strasburg 48.36 84 P P 18 25 16.2 +0.1
baz=325,SNR=5.3
N60A Cedar Hill Far 48.36 80 P P 18 25 16.0 0.0
baz=324
W50A Signal Mountai 48.37 93 P P 18 25 16.3 +0.1
baz=326
W50A Signal Mountai 48.37 93 P P 18 25 16.0 -0.2
R56A Bull Pasture M 48.42 85 P P 18 25 16.8 +0.1
baz=325
S55A Lewisburg 48.44 87 P P 18 25 16.9 +0.2
baz=325
P58A Pank, Wackersv 48.49 83 P P 18 25 17.2 +0.1
baz=324
VBMS Vicksburg 48.51 100 P P 18 25 17.4 +0.1
CPCT Cooper Cave 48.52 92 P P 18 25 17.3 -0.1
T54A Tazewell 48.53 88 P P 18 25 17.9 +0.4
baz=325
GGN Saint George 48.59 70 P P 18 25 17.5 -0.2
GGN IAmb IAmb 18 25 34.2
comp=Z,67nm,1.5s
V52A Sevierville 48.62 91 P P 18 25 18.0 -0.1
baz=326,SNR=6.5
V52A Sevierville 48.62 91 P P 18 25 18.0 -0.1
LOF Lofoten 48.62 8 eP P 18 25 16.7 -1.0
U53A Fall Branch 48.65 90 P P 18 25 18.7 +0.4
baz=326
W51A Cleveland 48.65 92 P P 18 25 18.2 -0.2
baz=326,SNR=5.8
O60A Telford 48.67 80 P P 18 25 17.9 -0.6
baz=324
Q58A Fox Den Farm, 48.76 83 P P 18 25 18.9 -0.2
baz=325
SDMD Soldier's Deli 48.76 82 P P 18 25 18.8 -0.3
SDMD IAmb IAmb 18 25 32.5
comp=Z,39nm,1.9s
FPAL Fort Paine 48.78 94 P P 18 25 19.5 +0.2
T55A Pulaski 48.84 87 P P 18 25 20.4 +0.6
baz=325
U54A Nelsons Funny 48.86 89 P P 18 25 20.3 +0.3
baz=326,SNR=7.0
U54A Nelsons Funny 48.86 89 P P 18 25 20.2 +0.1
LMN Caledonia Moun 48.87 68 P P 18 25 19.7 -0.2
R57A Stanardsville 48.91 85 P P 18 25 20.6 +0.4
baz=325
STEI Steigen 48.92 7 eP P 18 25 19.3 -0.6
BLA Blacksburg 48.93 87 P P 18 25 20.9 +0.3
baz=325
Y49A Blount Mountai 48.98 95 P P 18 25 20.8 -0.1
baz=327,SNR=6.1
Y49A Blount Mountai 48.98 95 P P 18 25 21.0 +0.1
Y49A IAmb IAmb 18 25 34.2
comp=Z,21nm,0.6s
W52A Murphy 49.08 92 P P 18 25 21.8 +0.1
baz=326,SNR=7.5
W52A Murphy 49.08 92 P P 18 25 21.2 -0.5
W52A IAmb IAmb 18 25 22.7
comp=Z,26nm,0.8s
X51A Calhoun 49.10 93 P P 18 25 21.5 -0.2
baz=327,SNR=5.6
X51A Calhoun 49.10 93 P P 18 25 21.8 +0.1
V53A Saluda 49.11 90 P P 18 25 22.1 +0.2
baz=326,SNR=10
V53A Saluda 49.11 90 P P 18 25 21.9 0.0
V53A IAmb IAmb 18 25 23.1
comp=Z,22nm,0.8s
DRLN Deer Lake 49.13 60 P P 18 25 22.4 +0.6
R58A Rapidan 49.14 84 P P 18 25 21.9 -0.1
baz=325
S57A Dark Hollow, R 49.15 85 P P 18 25 22.7 +0.6
baz=325
U55A TA2, Sparta 49.23 88 P P 18 25 23.1 +0.3
baz=326,SNR=16
T56A Rocky Mt 49.26 87 P P 18 25 23.1 +0.2
baz=326
LVZ Lovozero 49.26 357 ceP P 18 25 22.3 -0.3
LVZ pmax pmax
comp=Z,39nm,1.7s
LVZ Lovozero 49.26 357 P P 18 25 21.7 -0.9
W53A Cullowhee 49.37 91 P P 18 25 24.0 +0.1
baz=326
CN2 Changchun 49.37 289 eP P 18 25 23.9 +0.2
CN2 pmax pmax
comp=Z,40nm,0.7s
LRAL Lakeview Retre 49.41 96 P P 18 25 23.6 -0.5
baz=328
LRAL Lakeview Retre 49.41 96 P P 18 25 23.2 -0.8
V54A Nebo 49.42 90 P P 18 25 24.5 +0.3
baz=326,SNR=6.1
R58B Mineral 49.47 84 P P 18 25 25.3 +0.8
baz=325
R58B Mineral 49.47 84 P P 18 25 24.5 0.0

R58B IAmb IAmb 18 25 26.0
comp=Z,18nm,1.1s
X52A Dahlonega 49.51 92 P **P 18 25 25.1 +0.2**
baz=327,SNR=14
Y51A Rockmart 49.56 94 P **P 18 25 25.2 -0.1**
baz=327,SNR=7.7
MJAR Matsushiro Arr 49.57 273 P **P 18 25 25.7 +0.4**
MJAR Matsushiro Arr 49.57 273 P **P 18 25 25.3 -0.1**
comp=Z,2.4nm,0.9s,baz=128,slow=18,SNR=4.2
MJAR Matsushiro Arr 49.57 273 P **P 18 25 25.7 +0.4**
BG3 Lake Jocassee 49.62 91 P **P 18 25 25.8 +0.1**
R59A King George, V 49.62 84 P **P 18 25 26.0 +0.3**
baz=325
T57A Hurt 49.64 86 P **P 18 25 25.7 -0.1**
baz=326
T57A Hurt 49.64 86 P **P 18 25 25.4 -0.4**
U56A King 49.66 88 P **P 18 25 26.5 +0.5**
baz=326
S58A Poland Farm, P 49.68 85 P **P 18 25 26.6 +0.5**
baz=325
S58A Poland Farm, P 49.68 85 P **P 18 25 26.1 0.0**
S58A IAmb IAmb 18 25 27.5
comp=Z,38nm,1.3s
V55A Taylorsville 49.69 89 P **P 18 25 26.8 +0.6**
baz=326
V55A Taylorsville 49.69 89 P **P 18 25 26.3 +0.1**
V55A IAmb IAmb 18 25 27.3
comp=Z,15nm,0.8s
Z50A Ashland 49.71 95 P **P 18 25 26.6 +0.1**
baz=327,SNR=27
Z50A Ashland 49.71 95 P **P 18 25 26.4 -0.1**
Z50A pP **pP 18 25 54.9 -2.4**
X53A Estanollee 49.86 92 P **P 18 25 28.0 +0.5**
baz=327
W54A Cherokee Point 49.88 90 P **P 18 25 28.1 +0.4**
baz=326
S59A Mechanicsville 49.90 84 P **P 18 25 27.8 +0.1**
baz=325
Z51A Franklin 50.00 94 P **P 18 25 28.5 0.0**
baz=327
T58A Grand View Acr 50.01 86 P **P 18 25 28.5 -0.1**
baz=326
Y52A Lilburn 50.05 93 P **P 18 25 29.2 +0.3**
baz=327,SNR=13
Y52A Lilburn 50.05 93 P **P 18 25 29.6 +0.6**
Y52A pP **pP 18 25 58.9 -1.0**
V56A Mocksville 50.05 88 P **P 18 25 29.2 +0.2**
baz=326
V56A Mocksville 50.05 88 P **P 18 25 28.9 0.0**
U57A Blanch 50.07 87 P **P 18 25 29.0 0.0**
baz=326,SNR=5.6
KONS Konsvik 50.22 8 *eP* **P 18 25 28.8 -0.9**
KMSC Kings Mountain 50.22 89 P **P 18 25 30.3 0.0**
baz=326
KMSC Kings Mountain 50.22 89 P **P 18 25 30.1 -0.2**
X54A Belton 50.24 91 P **P 18 25 30.6 +0.2**
baz=327,SNR=6.5
Y53A Monroe 50.27 92 P **P 18 25 30.7 0.0**
baz=327,SNR=7.0
PAULI Pauline 50.27 90 P **P 18 25 30.4 -0.2**
PAULI IAmb IAmb 18 25 31.4
comp=Z,23nm,0.8s
T59A Double "B" Far 50.43 85 P **P 18 25 32.1 +0.3**
baz=326
T59A Double "B" Far 50.43 85 P **P 18 25 31.5 -0.3**
T59A IAmb IAmb 18 25 33.0
comp=Z,17nm,0.9s
Z52A Williamson 50.45 94 P **P 18 25 31.9 -0.1**
baz=327,SNR=9.7
HODGE Hodges 50.56 91 P **P 18 25 32.3 -0.4**
HODGE IAmb IAmb 18 25 33.7
comp=Z,25nm,0.7s
W56A Indian Trail 50.57 89 P **P 18 25 33.0 +0.2**
baz=326
GBN Guysborough 50.60 66 P **P 18 25 33.2 +0.2**
MOR8 Moi Rana 50.62 8 *eP* **P 18 25 31.4 -1.5**
250A Grady 50.63 96 P **P 18 25 33.5 +0.2**
baz=328
250A Grady 50.63 96 P **P 18 25 32.3 -1.0**
Y54A Tignall 50.67 92 P **P 18 25 33.6 0.0**
baz=327,SNR=7.1
V58A Windy Hill, Pi 50.69 87 P **P 18 25 34.0 +0.3**
baz=326
GOGA Godfrey 50.70 93 P **P 18 25 33.6 -0.2**
baz=327
GOGA Godfrey 50.70 93 P **P 18 25 33.2 -0.6**
GOGA pmax pmax
comp=Z,11nm,1.0s
GOGA Godfrey 50.70 93 P **P 18 25 33.2 -0.6**
152A Waverly Hall 50.75 94 P **P 18 25 33.8 -0.4**
baz=328,SNR=8.5
152A Waverly Hall 50.75 94 P **P 18 25 33.8 -0.4**
152A IAmb IAmb 18 25 34.8
comp=Z,23nm,0.8s
Z53A Monticello 50.76 93 P **P 18 25 34.1 -0.1**
baz=327
W57A Gilead 50.83 88 P **P 18 25 34.7 -0.1**
baz=326
W57A Gilead 50.83 88 P **P 18 25 34.5 -0.3**
W57A IAmb IAmb 18 25 36.3
comp=Z,52nm,1.8s
X56A White Oak 50.90 90 P **P 18 25 35.2 -0.1**
baz=327,SNR=7.5
BRAL Brewton 50.96 97 P **P 18 25 36.0 +0.2**
JSC Jenkinsville 50.97 90 P **P 18 25 35.3 -0.6**
JSC pmax pmax
comp=Z,11nm,0.6s
JSC Jenkinsville 50.97 90 P **P 18 25 35.3 -0.6**
JSC IAmb IAmb 18 25 48.1
comp=Z,11nm,0.6s
Y55A Saluda 50.99 91 P **P 18 25 35.9 0.0**
baz=327,SNR=7.9
BIRD Birdtown, Kers 51.03 89 P **P 18 25 36.4 +0.1**
BIRD IAmb IAmb 18 25 48.4
comp=Z,13nm,0.7s
V59A Middlesex 51.12 86 P **P 18 25 37.1 +0.2**
baz=326
Z54A Sparta 51.13 92 P **P 18 25 36.8 -0.2**
baz=327,SNR=9.1
153A Fort Valley 51.17 93 P **P 18 25 37.4 0.0**
baz=328
W58A Raeford 51.28 88 P **P 18 25 38.2 +0.1**
baz=326
252A Lumpkin 51.31 95 P **P 18 25 38.0 -0.4**
baz=328
X57A Johnson Farm, 51.35 89 P **P 18 25 39.0 +0.3**
baz=327
Z55A Blythe 51.46 92 P **P 18 25 39.3 -0.2**
baz=327
154A Montrose 51.53 93 P **P 18 25 39.7 -0.3**
TLY Talaya 51.56 310 *eP* **P 18 25 40.9 +0.8**
TLY pmax pmax
comp=Z,64nm,1.8s
TLY Talaya 51.56 310 P **P 18 25 40.2 +0.1**
comp=Z,4.5nm,0.6s,baz=25,slow=9.5,SNR=3.5
TLY Talaya 51.56 310 P **P 18 25 40.4 +0.3**
TLY IAmb IAmb 18 25 41.8
comp=Z,60nm,1.9s
ZAIG Zacatecas 51.58 118 P **P 18 25 41.3 +0.5**
JHJ Hachijo jima 2 51.70 269 P **P 18 25 42.6 +1.3**
comp=Z,159nm,0.8s,baz=127,slow=0.2,SNR=4.0
155A Kite 51.81 92 P **P 18 25 42.3 +0.2**
baz=328
W60A Pink Hill 51.95 86 P **P 18 25 43.3 +0.2**
baz=326
254A Abbeville 52.01 93 P **P 18 25 43.1 -0.5**
baz=328
353A Camilla 52.09 95 P **P 18 25 43.8 -0.4**
baz=328
W61A Ground Anchor 52.17 86 P **P 18 25 44.8 +0.1**
baz=326
TIGA Tifton 52.30 94 P **P 18 25 45.4 -0.4**
baz=328
157A Early Branch 52.43 91 P **P 18 25 47.7 +1.0**
baz=327
NHSC New Hope 52.45 90 P **P 18 25 47.6 +0.8**
baz=327
MOY Mondy 52.49 312 *eP* **P 18 25 48.5 +1.4**
MOY pmax pmax
comp=Z,44nm,2.0s
ZAK Zakamensk 52.77 309 *eP* **P 18 25 48.8 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
TMCR Tamitsa 52.90 355 *eP* **P 18 25 48.2 -1.5**
TMCR pmax pmax
comp=Z,23nm,0.8s
356A Blackshear 53.06 93 P **P 18 25 51.1 -0.2**
baz=328
455A Stateville 53.14 94 P **P 18 25 51.7 -0.2**
baz=328
KS19 Wonju Array Si 53.45 282 P **P 18 25 54.6 +0.5**
KSRS Korea Array 53.46 282 P **P 18 25 55.0 +0.9**
comp=Z,6.3nm,0.7s,baz=28,slow=6.8,SNR=20
KSAR Wonju Array Be 53.49 282 P **P 18 25 54.2 -0.2**
KSAR Wonju Array Be 53.49 282 P **P 18 25 54.2 -0.2**
ULN Ulaanbaatar 53.50 305 *ce*P **P 18 25 55.2 +0.6**
ULN pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 53.50 305 P **P 18 25 54.9 +0.4**
ULN IAmb IAmb 18 25 56.1
comp=Z,16nm,0.6s
SONM Songino Array 53.77 305 P **P 18 25 57.7 +1.1**
comp=Z,16nm,0.7s,baz=23,slow=6.5,SNR=71
SONM Songino Array 53.77 305 P **P 18 25 57.2 +0.6**
DOMB Dombas 54.31 11 *eP* **P 18 26 00.2 +0.1**
PRGR Permogore 54.98 350 ⇑*iP* **P 18 26 04.9 +0.1**
PRGR *e**PP **pP 18 26 33.4 -2.6**
PRGR pmax pmax
comp=Z,76nm,0.8s
NC204 NORSAR Array S 55.21 11 *e*P **P 18 26 06.8 +0.2**
NC204 NORSAR Array S 55.21 11 P **P 18 26 05.2 -1.4**
NC303 NORSAR Array S 55.31 10 P **P 18 26 06.3 -0.9**
NC405 NORSAR Array S 55.45 10 P **P 18 26 07.3 -0.9**
NBO00 NORSAR Array S 55.45 11 P **P 18 26 07.1 -1.2**
ZAA0 Zalesovo Array 55.47 324 P **P 18 26 07.6 -0.8**
ZALV Zalesovo Beam 55.47 324 P **P 18 26 07.7 -0.7**
comp=Z,32nm,0.7s,baz=27,slow=6.7,SNR=119
ZALV pP **pP 18 26 40.2 +0.6**
comp=Z,4.4nm,0.7s,baz=27,slow=6.7,SNR=1.9
NB201 NORSAR Array S 55.48 10 P **P 18 26 07.5 -1.0**
NB2 NORSAR Subarra 55.48 10 P **P 18 26 07.1 -1.4**
comp=Z,4.3nm,0.6s,baz=351,slow=7.4
NB2 NORSAR Subarra 55.48 10 P **P 18 26 07.1 -1.4**
baz=351,slow=7.4
NOA NORSAR Array B 55.48 10 P **P 18 26 07.4 -1.1**
comp=Z,5.9nm,0.7s,baz=351,slow=7.2,SNR=22
NOA pP **pP 18 26 40.1 +0.1**
comp=Z,7.1nm,1.2s,baz=350,slow=7.2,SNR=2.7
NAO01 NORSAR Array S 55.65 11 P **P 18 26 08.8 -0.8**
FIA1 FINESS Array S 55.79 2 P **P 18 26 09.5 -1.1**
FINES FINESS Array B 55.79 2 P **P 18 26 09.5 -1.1**
comp=Z,9.8nm,0.6s,baz=6.5,slow=7.8,SNR=52
NC602 NORSAR Array S 55.81 10 P **P 18 26 10.7 -0.1**
KLMR Klimovskoe 56.14 354 *eP* **P 18 26 11.5 -1.6**
KLMR *e**PP **pP 18 26 43.8 -0.6**
KLMR pmax pmax
comp=Z,67nm,1.0s
KLMR Klimovskoe 56.14 354 *eP* **P 18 26 11.5 -1.6**
KLMR AMP 18 26 13.9
comp=Z,67nm,1.0s
KLMR *ep*P **pP 18 26 43.9 -0.5**
BJI Beijing 56.41 293 P **P 18 26 15.9 +0.6**
BJI pmax pmax
comp=Z,14nm,1.1s
KONO Kongsberg 56.72 12 P **P 18 26 16.1 -1.1**
KONO pmax pmax
comp=Z,129nm,1.8s
KONO Kongsberg 56.72 12 *eP* **P 18 26 16.9 -0.3**
KONO Kongsberg 56.72 12 P **P 18 26 16.1 -1.1**
HHC Hu-ho-hao-te 57.63 297 *eP* **P 18 26 24.6 +0.5**
HHC pmax pmax
comp=Z,9.0nm,0.9s
KIRV Kirov 57.67 348 P **P 18 26 23.8 -0.1**
comp=Z,34nm,0.7s,baz=214,slow=0.8,SNR=9.7
TLIG Tlapa 57.87 117 P **P 18 26 25.2 -0.8**
TLIG IAmb IAmb 18 26 28.0
comp=Z,13nm,0.9s
SVE Sverdlovsk 57.96 340 *de*P **P 18 26 25.8 -0.2**
SVE pmax pmax
comp=Z,57nm,1.1s
DGZ Jazzator, Alta 58.51 320 *c iP* **P 18 26 30.5 +0.4**
ARU Arti 58.65 341 *c iP* **P 18 26 30.3 -0.5**
ARU *PP **pP 18 27 00.9 -1.5**
ARU 18 27 17.7
ARU S **S 18 34 26.9 +2.7**
ARU SS **SS 18 38 18.1 0.0**
ARU pmax pmax
comp=Z,50nm,0.8s
ARU Arti 58.65 341 P **P 18 26 30.4 -0.5**
comp=Z,18nm,0.7s,baz=10,slow=4.7,SNR=83
ARU pP **pP 18 27 02.4 +0.1**
comp=Z,2.4nm,0.5s,baz=45,slow=6.7,SNR=2.5
ARU Arti 58.65 341 P **P 18 26 30.0 -0.8**
ARU **pP 18 27 02.2 -0.2**
EKA Eskdalemuir Ar 59.31 21 P **P 18 26 34.4 -0.9**
comp=Z,4.4nm,0.5s,baz=333,slow=5.0,SNR=23
ESK Eskdalemuir 59.32 21 P **P 18 26 34.7 -0.8**
ESK pmax pmax
comp=Z,43nm,1.3s
ESK Eskdalemuir 59.32 21 P **P 18 26 34.7 -0.8**
BRVK Borovoye 59.78 333 *c iP* **P 18 26 38.0 -0.6**
BRVK pmax pmax
comp=Z,42nm,1.1s
BRVK Borovoye 59.78 333 P **P 18 26 37.7 -0.9**
BRVK pP **pP 18 27 10.7 +0.3**
KURK Kurchatov 60.02 326 P **P 18 26 39.7 -0.6**
KURK pmax pmax
comp=Z,34nm,1.1s
KURK Kurchatov 60.02 326 P **P 18 26 39.7 -0.6**
MOS Moscow 61.34 354 *eP* **P 18 26 47.7 -1.4**
MOS pmax pmax
comp=Z,59nm,1.0s
OBN Obninsk 62.01 355 *eP* **P 18 26 53.4 -0.2**
OBN *e**PP **pP 18 27 24.7 -0.8**
OBN *e**SP **PcP 18 27 35.9 +3.1**
OBN pmax pmax
comp=Z,88nm,1.1s
OBN Obninsk 62.01 355 P **P 18 26 53.4 -0.2**
MK31 Makanchi Array 62.62 322 *i P* **P 18 26 56.4 -1.5**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 62.62 322 P **P 18 26 56.4 -1.5**
MKAR Makanchi Array 62.62 322 *i P* **P 18 26 56.7 -1.2**
MKAR pmax pmax
comp=Z,14nm,0.5s
MKAR Makanchi Array 62.62 322 P **P 18 26 56.6 -1.2**
comp=Z,16nm,0.6s,baz=44,slow=6.9,SNR=211
MKAR S **S 18 35 12.4 -2.6**
comp=Z,0.4nm,0.9s,baz=353,slow=9.3,SNR=2.7
MKAR Makanchi Array 62.62 322 P **P 18 26 56.6 -1.2**
MKAR pP **pP 18 27 29.8 0.0**
MAKZ Makanchi 62.70 322 P **P 18 26 56.7 -1.7**
MAKZ pmax pmax
comp=Z,18nm,0.6s
MAKZ Makanchi 62.70 322 P **P 18 26 56.7 -1.7**
MAKZ IAmb IAmb 18 26 58.3
comp=Z,18nm,0.6s
SUW Suwalki 63.17 4 P **P 18 27 00.0 -1.3**
SUW pmax pmax
comp=Z,24nm,0.9s
SUW Suwalki 63.17 4 P **P 18 27 00.1 -1.3**
SUW IAmb IAmb 18 27 01.6
comp=Z,24nm,0.9s
GTA Gaotai 63.45 305 ⇑P **P 18 27 03.9 +0.3**
GTA pP PcP 18 27 38.0 -1.2
GTA sP sP 18 27 52.0 +1.9
GTA pmax pmax
comp=Z,25nm,0.8s
GTA pmax pmax
comp=Z,140nm,6.1s
GTA LR LR
comp=Z,210nm,20.3s
GTA LR LR
comp=Z,200nm,18.2s
GTA LR LR
comp=Z,210nm,18.9s
WMQ Urumqi 63.70 316 *eP* **P 18 27 05.4 +0.3**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,190nm,5.9s
WMQ LR LR
comp=Z,620nm,23.5s
WMQ LR LR
comp=Z,1μm,29.1s
WMQ LR LR
comp=Z,260nm,17.1s
LPSR Galich'ya Gora 64.41 353 *eP* **P 18 27 08.6 -0.9**
LPSR pmax pmax
comp=Z,50nm,1.3s
XAN Xi'an 64.54 295 P **P 18 27 09.9 -0.8**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 64.54 295 P **P 18 27 09.4 -1.2**
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN Xi'an 64.54 295 P **P 18 27 09.4 -1.2**
AKTO Aktyubinsk 64.55 340 P **P 18 27 09.9 -0.5**
comp=Z,24nm,0.6s,baz=24,slow=6.5,SNR=78
AKTO pP **pP 18 27 42.6 0.0**
comp=Z,14nm,0.9s,baz=11,slow=6.0,SNR=4.2
LZH Lanzhou 64.81 300 *eP* **P 18 27 13.0 +0.5**
LZH pP pP 18 27 46.7 +2.0
LZH sP sP 18 27 57.0 -2.2
LZH pmax pmax
comp=Z,27nm,1.0s
WHN Wuhan 65.27 289 P **P 18 27 15.0 -0.3**
CLL Collm 65.28 11 P **P 18 27 14.5 -0.6**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 65.28 11 *eP* **P 18 27 15.0 -0.1**
CLL Collm 65.28 11 P **P 18 27 14.5 -0.6**
AB31 Akbulak array 65.38 338 *i P* **P 18 27 14.8 -1.0**
AB31 pmax pmax
comp=Z,24nm,0.7s
ABKAR Akbulak array 65.38 338 P **P 18 27 14.9 -0.9**
ABKAR **pP 18 27 47.2 -0.8**
ABKAR Akbulak array 65.38 338 P **P 18 27 14.6 -1.1**
ABKAR pP **pP 18 27 47.7 -0.2**
VRH Novokhopyorsk 65.63 351 *eP* **P 18 27 15.9 -1.5**
VRH pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 65.78 353 *i P* **P 18 27 17.4 -0.9**
VSR pmax pmax
comp=Z,33nm,0.4s
VORD Divnogorie 66.02 353 *eP* **P 18 27 17.8 -2.1**
VORD pmax pmax
comp=Z,30nm,0.6s
DPC Dobruska-Polom 66.49 9 *eP* **P 18 27 22.0 -0.9**
DPC *e* 18 27 56.6
DPC Dobruska-Polom 66.49 9 *eP* **P 18 27 22.0 -0.9**
DPC *ep*P **pP 18 27 56.6 +1.2**
AKASG Malin Array Be 66.58 360 P **P 18 27 22.5 -0.9**
comp=Z,20nm,0.5s,baz=3.0,slow=6.4,SNR=122
AKASG pP **pP 18 27 55.8 0.0**
comp=Z,2.0nm,0.5s,baz=3.1,slow=6.2,SNR=1.7
AKASG Malin Array Be 66.58 360 P **P 18 27 21.8 -1.6**
AKASG **pP 18 27 55.3 -0.5**
AKBB Malin Array Si 66.58 360 P **P 18 27 22.2 -1.2**
AKBB pmax pmax
comp=Z,28nm,0.7s
AKBB Malin Array Si 66.58 360 P **P 18 27 22.2 -1.2**
PDGK Podgornoye 66.59 322 P **P 18 27 23.4 -0.4**
PDGK pmax pmax
comp=Z,30nm,1.1s
KRLC Kraliky 66.79 9 *eP* **P 18 27 24.5 -0.4**
KRLC *e* 18 27 58.3
KRLC Kraliky 66.79 9 *eP* **P 18 27 24.5 -0.4**
KRLC *ep*P **pP 18 27 58.3 +0.9**
MORC Moravsky Berou 67.14 8 P **P 18 27 26.2 -0.9**
MORC Moravsky Berou 67.14 8 ⇓P **P 18 27 26.8 -0.3**
MORC Moravsky Berou 67.14 8 *eP* **P 18 27 26.2 -0.9**
MORC Moravsky Berou 67.14 8 P **P 18 27 26.2 -0.9**
KHC Kasperske Hory 67.48 11 P **P 18 27 29.1 -0.1**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 67.48 11 *eP* **P 18 27 28.8 -0.5**
KHC *ep*P **pP 18 28 02.6 +0.8**
KHC Kasperske Hory 67.48 11 P **P 18 27 29.1 -0.1**
KWP Kalwaria Pacla 67.54 4 P **P 18 27 29.6 +0.1**
KWP pmax pmax
comp=Z,302nm,1.7s
KWP Kalwaria Pacla 67.54 4 P **P 18 27 29.6 +0.1**
VRAC Vranov 67.54 9 ⇑P **P 18 27 29.4 -0.2**
VRAC mb 18 27 32.0
VRAC Vranov 67.54 9 *eP* **P 18 27 29.0 -0.6**
VRAC *ep*P **pP 18 28 02.9 +0.7**
ENH Enshi 67.57 293 P **P 18 27 29.4 -0.7**
ENH IAmb IAmb 18 27 30.8
comp=Z,13nm,0.7s
KRUC Moravsky 67.77 9 *eP* **P 18 27 30.2 -0.8**
KRUC *ep*P **pP 18 28 04.0 +0.4**
GEC2 GERESS Array S 67.78 11 P **P 18 27 30.7 -0.5**
GERES GERESS Array B 67.78 11 P **P 18 27 30.6 -0.6**
comp=Z,3.0nm,0.8s,baz=355,slow=5.6,SNR=17
GERES pP **pP 18 28 04.0 +0.3**
comp=Z,1.8nm,0.7s,baz=359,slow=5.3,SNR=4.2
GERES GERESS Array B 67.78 11 P **P 18 27 30.2 -1.0**
GERES **pP 18 28 01.8 -2.0**
LANS Liptovska Anna 67.88 7 *eP* **P 18 27 32.0 +0.3**
LANS Liptovska Anna 67.88 7 *eP* **P 18 27 32.0 +0.3**
USP Ospenovka 67.98 326 P **P 18 27 32.5 0.0**
SNR=12
TKM2 Tokmak 2 68.02 325 P **P 18 27 31.2 -1.7**
TKM2 pmax pmax
comp=Z,19nm,0.9s
JAVC Velka Javorina 68.06 8 *eP* **P 18 27 32.8 -0.1**
JAVC *ep*P **pP 18 28 06.9 +1.4**
CHMS Chumysh 68.17 326 P **P 18 27 33.5 -0.2**
SNR=21
KOLS Kolonicke sedl 68.22 5 *eP* **P 18 27 34.4 +0.6**
KOLS Kolonicke sedl 68.22 5 *eP* **P 18 27 34.4 +0.6**
BOOM Boomskoye usch 68.33 324 P **P 18 27 34.4 -0.5**
BOOM Boomskoye usch 68.33 324 P **P 18 27 34.4 -0.5**
KDJ Kajisay 68.34 323 P **P 18 27 34.4 -0.5**
KDJ pmax pmax
comp=Z,13nm,0.7s
KDJ Kajisay 68.34 323 P **P 18 27 34.4 -0.5**
KDJ IAmb IAmb 18 27 35.3
comp=Z,13nm,0.7s
FRU1 Bishkek 68.38 326 P **P 18 27 34.6 -0.4**
FRU1 pmax pmax
comp=Z,42nm,1.0s
FRU1 Bishkek 68.38 326 P **P 18 27 34.6 -0.4**
KBK Karagaybulak 68.44 325 P **P 18 27 35.2 -0.3**
SNR=22
VYHS Vyhne 68.50 7 *eP* **P 18 27 35.1 -0.4**
VYHS Vyhne 68.50 7 *eP* **P 18 27 35.1 -0.4**
MODS Modra-Piesok 68.52 8 *eP* **P 18 27 36.3 +0.6**
MODS Modra-Piesok 68.52 8 *eP* **P 18 27 36.3 +0.6**
TARG Taragay, Kyrgy 68.54 323 P **P 18 27 35.6 -0.8**
TARG IAmb IAmb 18 27 39.3
comp=Z,33nm,1.7s
AAK Ala-Archa 68.57 326 *i P* **P 18 27 36.2 -0.1**
AAK pmax pmax
comp=Z,30nm,1.2s
AAK Ala-Archa 68.57 326 P **P 18 27 36.3 0.0**
SNR=19
AAK Ala-Archa 68.57 326 P **P 18 27 36.0 -0.3**
AAK IAmb IAmb 18 27 37.3
comp=Z,21nm,0.9s
AAK pP **pP 18 28 09.6 +0.8**
ESPN Las Esperanzas 68.72 105 P **P 18 27 37.5 +0.2**
ESPN IAmb IAmb 18 27 37.5
comp=Z,15nm,0.8s
EKS2 Erkin-Say 68.73 326 P **P 18 27 37.4 +0.1**
SNR=38
MOA Molln 68.81 11 *eP* **P 18 27 38.9 +1.3**
comp=Z,9.7nm,1.8s
CONA Conrad Observa 68.86 9 *eP* **P 18 27 37.7 -0.2**
comp=Z,6.8nm,0.8s
CONA *ep*P **pP 18 28 11.7 +1.1**
comp=Z,7.8nm,0.9s
KZA Kyzart 68.90 325 P **P 18 27 38.4 -0.3**
SNR=11
TRPA Tarpa 69.03 5 ⇑P **P 18 27 38.6 -0.2**
TRPA mb 18 27 41.0
WATA Walderalm 69.08 13 P **P 18 27 40.9 +1.6**
comp=Z,9.4nm,1.1s
WATA *ep*P **pP 18 28 13.2 +1.1**
comp=Z,9.1nm,1.2s
KK31 Karatay Array 69.12 329 *i P* **P 18 27 38.5 -1.0**
KK31 pmax pmax
comp=Z,13nm,0.9s
KK31 Karatay Array 69.12 329 P **P 18 27 38.5 -1.0**
KKAR Karatay Array 69.12 329 P **P 18 27 38.5 -1.0**
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 69.12 329 P **P 18 27 37.9 -1.6**
KKAR pP **pP 18 28 09.2 -2.8**
KKAR Karatay Array 69.12 329 P **P 18 27 38.5 -1.0**
KKAR IAmb IAmb 18 27 39.8
comp=Z,13nm,0.8s
PSZ Piszkesteto 69.13 7 P **P 18 27 37.5 -2.0**
PSZ pmax pmax

comp=Z,9.0nm,0.9s
PSZ Piszkesteto 69.13 7 ⇑P P 18 27 37.7 -1.8
PSZ mb 18 27 41.5
PSZ Piszkesteto 69.13 7 P P 18 27 37.5 -2.0
SORM Soroca 69.15 0 ⇑P P 18 27 38.8 -0.7
SQTA Sankt Quirin 69.16 13 *e*P **P 18 27 41.6 +1.8**
comp=Z,12nm,0.9s
SQTA *e*pP **pP 18 28 13.9 +1.4**
comp=Z,8.9nm,1.1s
WTTA Wattenberg 69.16 13 *e*P **P 18 27 41.6 +1.7**
comp=Z,8.7nm,0.6s,SNR=4.5
AML Almayashu 69.25 326 P P 18 27 41.1 +0.3
SNR=23
NRN Naryn 69.30 324 P P 18 27 40.9 -0.2
NRN pmax pmax
comp=Z,15nm,1.1s
NRN Naryn 69.30 324 P P 18 27 40.9 -0.2
FETA Feichten 69.30 13 *e*P **P 18 27 42.6 +1.8**
comp=Z,7.7nm,1.0s
FETA pP **pP 18 28 14.9 +1.4**
comp=Z,5.6nm,1.2s
CD2 Chengdu 69.38 298 *e*P **P 18 27 46.0 +4.7**
KBA Koelnbreinsper 69.50 11 *e*P **P 18 27 41.9 -0.1**
comp=Z,17nm,0.9s,SNR=14
KBA pP **pP 18 28 16.3 +1.7**
comp=Z,12nm,0.8s
ARSA Arzberg 69.51 10 *e*P **P 18 27 39.6 -2.2**
comp=Z,7.2nm,1.6s
BUR08 Bucovina Ar. S 69.60 3 P P 18 27 42.0 -0.5
BURAR Bucovina Array 69.63 3 ⇑P P 18 27 42.2 -0.5
BURAR mb 18 27 43.5
BURAR Bucovina Array 69.63 3 P P 18 27 41.8 -0.8
TUE Stuetta 69.70 14 P P 18 27 43.2 0.0
ARCR ARCALIA 70.14 3 ⇑P P 18 27 46.3 +0.7
OBKA Obir 70.17 11 *e*P **P 18 27 45.7 -0.3**
comp=Z,13nm,0.8s,SNR=10.0
OBKA *e*pP **pP 18 28 18.6 -0.1**
comp=Z,22nm,1.7s
ARSB Arslanbob 70.19 326 P P 18 27 45.8 -0.5
ARSB IAmb IAmb 18 27 46.9
comp=Z,28nm,1.4s
BIZ Bicaz 70.32 2 ⇓P P 18 27 47.1 +0.3
MILM Milestii Mici 70.36 0 ⇑P P 18 27 46.4 -0.6
TESR Tescani 70.75 2 ⇓P P 18 27 48.5 -0.9
BNI Bardonecchia 70.77 17 P P 18 27 49.9 +0.2
BNI pmax pmax
comp=Z,28nm,1.6s
BNI Bardonecchia 70.77 17 P P 18 27 49.9 +0.2
BNI IAmb IAmb 18 28 08.7
comp=Z,28nm,1.6s
KSH Kashi 71.10 323 P P 18 27 54.8 +3.0
KSH PP **PP 18 30 36.3 +5.9**
KSH S **S 18 36 54.7 -2.6**
KSH SS **SS 18 41 33.3 +1.2**
KSH pmax pmax
comp=Z,58nm,0.8s
KSH pmax pmax
comp=Z,550nm,5.5s
KSH LR LR
comp=Z,330nm,11.1s
KSH LR LR
comp=Z,300nm,11.6s
KSH LR LR
comp=Z,130nm,14.3s
DOPR Dopca 71.28 3 ⇑P P 18 27 53.3 +0.8
VRI Vrincioaia 71.40 2 ⇓P P 18 27 53.0 -0.3
PLOR Plostina 71.42 2 ⇑P P 18 27 53.7 +0.3
BZS Buzias 71.51 5 ⇑P P 18 27 53.3 -0.6
BISRR Bisoca 71.72 2 ⇑P P 18 27 55.8 +0.5
MLR Muntele Rosu 71.77 2 P P 18 27 56.1 +0.4
MLR pmax pmax
comp=Z,9.0nm,1.0s
MLR Muntele Rosu 71.77 2 ⇑P P 18 27 56.8 +1.2
MLR Muntele Rosu 71.77 2 P P 18 27 56.1 +0.4
GZR Gura Zlata 71.78 5 ⇑P P 18 27 55.0 -0.6
VOIR 71.80 3 ⇑P P 18 27 55.7 -0.1
MSSA Maissana 71.84 15 P P 18 27 56.9 +0.9
BTK Batken 71.93 327 P P 18 27 56.0 -0.7
BTK pmax pmax
comp=Z,22nm,1.1s
BTK Batken 71.93 327 P P 18 27 56.0 -0.7
BTK IAmb IAmb 18 27 57.4
comp=Z,22nm,1.1s
TLCR 72.10 0 ⇓P P 18 27 57.7 +0.3
TLCR mb 18 27 58.3
GYA Guiyang 72.10 293 *e*P **P 18 27 57.8 -0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CFR Carcaliu 72.10 1 ⇑P P 18 27 57.4 -0.1
TOPG Topolog 72.41 0 ⇓P P 18 27 60.0 +0.7
HARR Harsova 72.59 1 ⇑P P 18 28 00.2 -0.1
HARR mb 18 28 01.3
TLB Topalu 72.69 1 ⇓P P 18 28 01.0 0.0
KIV Kislovodsk 72.77 350 *e*P **P 18 28 01.3 -0.3**
KIV pmax pmax
comp=Z,98nm,0.9s
KIV Kislovodsk 72.77 350 ⇑P P 18 28 01.5 -0.1
KIV mb 18 28 03.1
KIV Kislovodsk 72.77 350 P P 18 28 00.9 -0.7
TIRR Tirgusor 72.82 0 P P 18 28 01.6 -0.2
TIRR pmax pmax
comp=Z,33nm,0.7s
TIRR Tirgusor 72.82 0 ⇓P P 18 28 02.2 +0.5
TIRR Tirgusor 72.82 0 P P 18 28 01.6 -0.2
TIRR IAmb IAmb 18 28 02.8
comp=Z,33nm,0.7s
KBZ Khabaz 72.98 350 P P 18 28 02.8 +0.2
comp=Z,6.6nm,0.6s,baz=196,slow=0.4,SNR=30
GAR Garm 73.05 327 P P 18 28 02.6 -0.7
GAR pP **pP 18 28 35.3 -0.9**
MFTR Murfatlar 73.10 0 ⇑P P 18 28 03.0 -0.4
MFTR mb 18 28 10.9
NCK Nalchik 73.15 349 ⇑*i*P **P 18 28 04.0 +0.3**
NCK pmax pmax
comp=Z,67nm,0.6s
ICOR Ion Corvin 73.16 1 ⇑P P 18 28 04.2 +0.5
SOC Sochi 73.35 352 *e*P **P 18 28 03.5 -1.4**
SOC *e* 18 30 46.9
SOC *e*PPP PPP 18 32 43.1
SOC *e*S **SKiKP 18 37 25.1 +3.4**
SOC pmax pmax
comp=Z,17nm,0.6s
CHGR Chuyangaron 73.66 328 P P 18 28 06.3 -0.6
NRCA Norcia 73.69 12 P P 18 28 07.3 +0.3
NRCA IAmb IAmb 18 28 12.3
comp=Z,49nm,1.5s
ZEI Tsey 73.82 349 *e*P **P 18 28 05.0 -2.9**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
ESDC Sonseca Array 74.27 26 P P 18 28 09.8 -0.5
comp=Z,4.4nm,0.7s,baz=346,slow=5.7,SNR=22
ESDC pP **pP 18 28 43.9 +0.4**
comp=Z,5.6nm,0.8s,baz=345,slow=5.6,SNR=8.2
ESDC Sonseca Array 74.27 26 P P 18 28 09.8 -0.5
ESDC **pP 18 28 43.3 -0.3**
PAB San Pablo 74.31 26 P P 18 28 12.1 +1.4
PAB pmax pmax
comp=Z,4.0nm,0.8s
PAB San Pablo 74.31 26 P P 18 28 12.1 +1.4
PDG Podgorica 74.56 7 P P 18 28 11.3 -0.6
VTS Vitosha 74.56 4 P P 18 28 10.9 -1.3
VTS pmax pmax
comp=Z,6.0nm,0.6s
VTS Vitosha 74.56 4 ⇑P P 18 28 11.6 -0.6
VTS mb 18 28 12.4
VTS Vitosha 74.56 4 P P 18 28 10.9 -1.3
AKT Akhty 74.73 346 *e*P **P 18 28 12.7 -0.4**
AKT *e* 18 28 26.9
AKT *e**SP **sP 18 28 56.7 -3.7**
AKT *e* 18 31 00.1
AKT pmax pmax
comp=Z,19nm,0.8s
TBLG Delisi 74.79 348 P P 18 28 13.1 -0.2
TBLG pmax pmax
comp=Z,29nm,0.7s
TBLG Delisi 74.79 348 P P 18 28 13.1 -0.2
TBLG IAmb IAmb 18 28 15.1
comp=Z,29nm,0.7s
KMI Kunming 74.91 296 P P 18 28 14.2 -0.3
KMI pmax pmax
comp=Z,8.0nm,1.2s
AKH Akhalkalaki 75.23 349 P P 18 28 15.2 -0.8
AKH pmax pmax
comp=Z,6.0nm,0.6s
AKH Akhalkalaki 75.23 349 ⇑P P 18 28 16.6 +0.5
AKH Akhalkalaki 75.23 349 P P 18 28 15.2 -0.8
LSA Lhasa 75.30 307 P P 18 28 17.1 +0.2
LSA pmax pmax
comp=Z,35nm,1.7s
LSA Lhasa 75.30 307 P P 18 28 17.1 +0.2
LSA IAmb IAmb 18 28 19.3
comp=Z,35nm,1.7s
DIKM Dikmen 75.51 355 ⇑P P 18 28 17.7 +0.3
DIKM mb 18 28 19.5
PVAQ Vaqueiros 75.66 29 P P 18 28 19.1 +0.8
SMLC San Martn de 76.29 98 *e*P **P 18 28 20.9 -1.2**
SMLC San Martn de 76.29 98 *e*P **P 18 28 20.9 -1.2**
FNA Florina 76.32 6 P P 18 28 20.9 -1.2
FNA pmax pmax
comp=Z,16nm,0.7s
FNA Florina 76.32 6 P P 18 28 20.9 -1.2
FNA IAmb IAmb 18 28 22.9
comp=Z,16nm,0.7s
ALN Alexandroupoli 76.36 2 P P 18 28 21.6 -0.6
ALN pmax pmax
comp=Z,9.0nm,0.7s
ALN Alexandroupoli 76.36 2 P P 18 28 21.6 -0.6
GNI Garni 76.36 348 *ce*P **P 18 28 24.7 +2.2**
GNI pmax pmax
comp=Z,65nm,2.5s
GNI Garni 76.36 348 P P 18 28 23.0 +0.5
GEYT Alibeck 76.68 337 P P 18 28 24.4 +0.2
comp=Z,4.6nm,0.8s,baz=318,slow=4.2,SNR=18
GEYT pP **pP 18 28 58.1 +0.8**
comp=Z,1.5nm,0.7s,baz=352,slow=7.6,SNR=2.4
GEYT Alibeck 76.68 337 P P 18 28 23.7 -0.4
GEYT pP **pP 18 28 57.0 -0.3**
GYA0B ALIBECK ARRAY 76.68 337 P P 18 28 24.1 0.0
GYA0B pP **pP 18 28 57.2 -0.1**
LIT Litokhoron 77.05 5 P P 18 28 26.0 -0.2
LIT pmax pmax
comp=Z,18nm,0.7s
LIT Litokhoron 77.05 5 P P 18 28 26.0 -0.2
LIT IAmb IAmb 18 28 27.6
comp=Z,18nm,0.7s
ZARC Zaragoza, Cauc 77.09 99 *e*P **P 18 28 25.1 -1.6**
ZARC Zaragoza, Cauc 77.09 99 *e*P **P 18 28 25.1 -1.6**
NIL Nilore 77.35 323 P P 18 28 27.2 -0.7
NIL *PP **pP 18 29 01.5 +0.4**
NIL pmax pmax
comp=Z,57nm,1.5s
NIL Nilore 77.35 323 P P 18 28 27.2 -0.7
NIL IAmb IAmb 18 28 28.9
comp=Z,57nm,1.5s
NIL **pP 18 29 01.5 +0.4**
ANTO Ankara 77.37 357 P P 18 28 28.7 +0.7
ANTO pmax pmax
comp=Z,19nm,0.7s
ANTO Ankara 77.37 357 ⇑*i*P **P 18 28 28.8 +0.8**
ANTO mb 18 28 30.0
ANTO Ankara 77.37 357 P P 18 28 28.7 +0.7
ANTO IAmb IAmb 18 28 29.9
comp=Z,19nm,0.7s
BR231 Keskin MP Arra 77.39 357 P P 18 28 28.1 -0.1
BR131 Keskin Array S 77.49 356 P P 18 28 28.3 -0.4
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 77.49 356 P P 18 28 28.3 -0.4
BRTR Keskin Array B 77.49 356 P P 18 28 28.5 -0.3
comp=Z,5.2nm,0.7s,baz=3.0,slow=2.8,SNR=30
BRTR pP **pP 18 29 02.5 +0.4**
comp=Z,2.0nm,0.9s,baz=12,slow=6.6,SNR=3.2
BRTR PP **PP 18 31 24.8 +0.4**
comp=Z,1.2nm,0.8s,baz=31,slow=6.1,SNR=5.3
BRTR Keskin Array B 77.49 356 P P 18 28 27.6 -1.1
BRTR pP **pP 18 29 01.8 -0.3**
BRTR **PP 18 31 24.1 -0.2**
KBL Kabul 77.60 327 P P 18 28 27.6 -2.0
KBL pmax pmax
comp=Z,10.0nm,1.2s
KBL Kabul 77.60 327 P P 18 28 27.6 -2.0
TIP Timpagrande 77.63 10 P P 18 28 29.6 +0.1
TIP IAmb IAmb 18 28 39.2
comp=Z,59nm,2.0s
SDV Santo Domingo 77.77 95 P P 18 28 30.2 -0.5
SLVN Son La 77.79 293 P P 18 28 30.6 +0.1
CAPV Capacho 77.91 97 *e*P **P 18 28 31.1 -0.4**
CAPV Capacho 77.91 97 *e*P **P 18 28 31.1 -0.4**
PTBC PUERTO BERRIO, 78.11 99 *e*P **P 18 28 31.3 -1.1**
PTBC PUERTO BERRIO, 78.11 99 *e*P **P 18 28 31.3 -1.1**
PAMC Pamplona, Colo 78.20 97 *e*P **P 18 28 32.5 -0.8**
PAMC Pamplona, Colo 78.20 97 *e*P **P 18 28 32.5 -0.8**
SOCV Socops 78.20 95 *e*P **P 18 28 32.1 -0.7**
SOCV Socops 78.20 95 *e*P **P 18 28 32.1 -0.7**
TAPN Taplejung 78.67 309 *e*P **P 18 28 36.1 +0.5**
comp=Z,24nm,0.5s
SHL Shillong 78.77 305 P P 18 28 35.0 -1.1
SHL pmax pmax
comp=Z,7.0nm,0.6s
SHL Shillong 78.77 305 P P 18 28 35.0 -1.1
MANT Manisa 78.79 0 P P 18 28 36.1 +0.1
MANT IAmb IAmb 18 28 37.0
comp=Z,30nm,0.6s
GUN Gumba 78.79 311 *e*P **P 18 28 36.6 +0.2**
comp=Z,30nm,0.8s
NORC Norcasia 78.80 100 *e*P **P 18 28 35.1 -1.0**
NORC Norcasia 78.80 100 *e*P **P 18 28 35.1 -1.0**
GUY2C Guyana, Caldas 78.87 100 *e*P **P 18 28 36.3 -0.8**
GUY2C Guyana, Caldas 78.87 100 *e*P **P 18 28 36.3 -0.8**
JIRN Jiri 78.91 311 *e*P **P 18 28 37.3 +0.2**
comp=Z,82nm,1.0s
SPBC San Pablo de B 79.07 99 *e*P **P 18 28 35.9 -1.8**
SPBC San Pablo de B 79.07 99 *e*P **P 18 28 35.9 -1.8**
DANN Dangsing 79.11 313 *e*P **P 18 28 38.2 +0.2**
comp=Z,94nm,0.9s
KKN Kakani 79.11 311 *e*P **P 18 28 38.1 +0.2**
comp=Z,8.8nm,0.5s
GKN Gorkha 79.13 312 *e*P **P 18 28 37.9 -0.1**
ODAN Odare 79.23 309 *e*P **P 18 28 38.8 +0.2**
comp=Z,20nm,0.8s
PKIN Phulchoki 79.26 311 *e*P **P 18 28 38.7 -0.1**
comp=Z,11nm,0.7s
PKI Pulchoki 79.26 311 *e*P **P 18 28 38.8 -0.1**
HRA Herat 79.31 333 P P 18 28 38.6 -0.3
RUSC La Rusia 79.31 98 *e*P **P 18 28 38.8 -0.6**
RUSC La Rusia 79.31 98 *e*P **P 18 28 38.8 -0.6**
DMN Daman 79.33 311 *e*P **P 18 28 39.6 +0.4**
comp=Z,9.6nm,0.6s
RAMN Ramite 79.42 310 *e*P **P 18 28 39.8 +0.1**
comp=Z,15nm,0.5s
ISP Isparta 79.45 359 P P 18 28 38.1 -1.4
ISP pmax pmax
comp=Z,14nm,0.8s
ISP Isparta 79.45 359 P P 18 28 38.1 -1.4
ROSC El Rosal 79.68 100 P P 18 28 42.0 +0.6
comp=Z,5.2nm,0.4s,baz=94,slow=23,SNR=3.7
ROSC El Rosal 79.68 100 P P 18 28 41.3 0.0
ITM Ithomi 79.94 6 P P 18 28 41.9 -0.1
ITM IAmb IAmb 18 28 46.6
comp=Z,29nm,0.9s
ELOV Elorza 79.96 94 *e*P **P 18 28 41.7 -0.7**
ELOV Elorza 79.96 94 *e*P **P 18 28 41.7 -0.7**
ORTC Ortega, Tolima 80.09 101 *e*P **P 18 28 40.9 -2.3**
ORTC Ortega, Tolima 80.09 101 *e*P **P 18 28 40.9 -2.3**
KEST Kesra 80.29 16 P P 18 28 45.4 +1.3
comp=Z,13nm,0.9s,baz=264,slow=3.9,SNR=7.9
KEST Kesra 80.29 16 P P 18 28 44.8 +0.7
KEST IAmb IAmb 18 28 46.0
comp=Z,31nm,1.2s
SOTA Rioblanco 81.06 103 *e*P **P 18 28 47.6 -1.3**
SOTA Rioblanco 81.06 103 *e*P **P 18 28 47.6 -1.3**
PAYA Payao 81.23 295 P P 18 28 49.7 +0.6
OTAV Otavalo 81.94 106 P P 18 28 53.3 -0.1
OTAV pmax pmax
comp=Z,3.0nm,0.7s
OTAV Otavalo 81.94 106 P P 18 28 53.3 -0.1
CMMT Chiang Mai 82.09 296 P P 18 28 54.7 +1.0
comp=Z,2.6nm,2.3s,comp=Z,0.0nm
CHTO Chiang Mai 82.10 296 P P 18 28 52.7 -1.0
CHTO pmax pmax
comp=Z,3.0nm,1.1s
CHTO Chiang Mai 82.10 296 P P 18 28 52.7 -1.0
CM31 Chiang Mai Arr 82.42 296 P P 18 28 55.0 -0.3
CM31 pP **pP 18 29 29.0 +0.1**
CMAR Chiang Mai Arr 82.42 296 P P 18 28 55.0 -0.4
comp=Z,4.2nm,0.8s,baz=7.7,slow=6.2,SNR=41
CMAR pP **pP 18 29 29.4 +0.4**
comp=Z,3.2nm,0.8s,baz=9.2,slow=5.9,SNR=5.9
CMAR Chiang Mai Arr 82.42 296 P P 18 28 54.7 -0.6
CMAR pP **pP 18 29 29.0 +0.1**
RAYN Ar Rayn 92.72 345 P P 18 29 44.4 -0.7
RAYN *PP **pP 18 30 19.7 +0.4**
RAYN pmax pmax
comp=Z,3.0nm,1.1s
RAYN Ar Rayn 92.72 345 P P 18 29 44.4 -0.7
RAYN **pP 18 30 19.7 +0.4**
TORD Torodi Ar. Bea 101.13 27 P Pdif 18 30 23.2 +0.1
comp=Z,0.6nm,1.0s,baz=343,slow=9.0,SNR=2.5
TORD PKKPbc **PKKPbc 18 46 30.9 +1.1**
comp=Z,0.8nm,0.6s,baz=112,slow=0.9,SNR=4.4
KMBO Kilima Mbogo 117.90 351 PP PP 18 36 33.1 -0.9
comp=Z,0.5nm,0.4s,baz=34,slow=12,SNR=3.0
BOSA Boshof 145.46 6 PKP2 **PKPab 18 36 10.7 +0.1**
BOSA Boshof 145.46 6 PKPbc **PKPdf 18 36 09.7 -0.3**
comp=Z,14nm,0.8s,baz=14,slow=2.6,SNR=20
BOSA pPKPbc pPKPab 18 36 45.0 -0.3
comp=Z,13nm,0.8s,baz=8.2,slow=2.8,SNR=5.8
BOSA PP **PP 18 39 34.8 +3.8**
comp=Z,2.8nm,0.8s,baz=0.0,slow=3.7,SNR=3.8
BOSA Boshof 145.46 6 PKPab 18 36 10.7 +0.1
BOSA pPKPab 18 36 44.7 -0.6

IDC ***12*** *18:57:48.4±1.5,36°.67S×179°.46W,h0km,mb4.2/2, mb1 4.3/3,mb1mx3.9/24,mbtmp4.0/3,ML3.4/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/20,Error ellipse: s-maj=50.1km s-min=31.1km az=159.0*
ISCJB ***12*** *18:57:50.6±1.1,36°.75S±0°.09×179°.3W±0°.1,h28km, mb4.0/2,Error ellipse: s-maj=16.8km s-min=7.4km az=136.2*
WEL ***12*** *18:57:52.5±1.2,37°S±14°×17°9W±1°1,h33km,M4.2/17, ML4.3/10,MLv4.2/17,Error ellipse: s-maj=0.0km s-min=0.0km az=144.4*
ISC 12 18:57:52.1±1.3,36.7S±0°.1×179°.4W±0°.1,h28km,n26, σ0.64/41,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.04**	**245**	P	**Pn**	**18 58 23.9**	**-0.7**
MXZ				S	**Sn**	**18 58 48.6**	**-0.6**
WMGZ	**Waiomatatini S**	**2.09**	**237**	P	**Pn**	**18 58 25.1**	**-0.1**
WMGZ				S	**Sn**	**18 58 51.0**	**+0.7**
PUZ	**Puketiti**	**2.33**	**234**	P	**Pn**	**18 58 28.7**	**+0.2**
PUZ				S	**Sn**	**18 58 55.4**	**-0.9**
PKGZ	**Pakihiroa**	**2.35**	**239**	P	**Pn**	**18 58 28.5**	**-0.5**
PKGZ				S	**Sn**	**18 58 56.4**	**-0.5**
HAZ	**Te Kaha**	**2.50**	**244**	P	**Pn**	**18 58 31.3**	**+0.4**
HAZ				S	**Sn**	**18 59 01.3**	**+0.8**
CNGZ	**Carnagh Statio**	**2.62**	**227**	P	**Pn**	**18 58 32.9**	**+0.5**
CNGZ				S	**Sn**	**18 59 05.9**	**+2.5**
RUGZ	**Raukumara Rang**	**2.67**	**241**	P	**Pn**	**18 58 33.6**	**+0.3**
RUGZ				S	**Sn**	**18 59 05.6**	**+0.8**
TKGZ	**Te Karaka**	**2.81**	**231**	P	**Pn**	**18 58 35.4**	**+0.3**
TKGZ				S	**Sn**	**18 59 08.8**	**+0.8**
MWZ	**Matawai**	**2.95**	**236**	P	**Pn**	**18 58 36.7**	**-0.4**
MWZ				S	**Sn**	**18 59 11.4**	**-0.3**
RIGZ	**Rimuhau**	**3.03**	**228**	P	**Pn**	**18 58 37.8**	**-0.4**
RIGZ				S	**Sn**	**18 59 13.7**	**+0.2**
PRGZ	**Paritu Road**	**3.10**	**224**	P	**Pn**	**18 58 39.0**	**-0.2**
PRGZ				S	**Sn**	**18 59 15.2**	**-0.1**
URZ	**Urewera**	**3.20**	**240**	Pn	**Pn**	**18 58 40.3**	**-0.2**
	4.0nm,0.3s,baz=288,slow=3.2,SNR=24						
URZ				Sn	**Sn**	**18 59 18.5**	**+0.8**
	33nm,0.3s,baz=300,slow=20,SNR=5.6						
URZ	**Urewera**	**3.20**	**240**	P	**Pn**	**18 58 40.4**	**-0.1**
URZ				S	**Sn**	**18 59 17.8**	**+0.1**
MHGZ	**Mahia Peninsul**	**3.25**	**221**	P	**Pn**	**18 58 40.6**	**-0.6**
MHGZ				S	**Sn**	**18 59 18.4**	**-0.6**
KNZ	**Kokohu**	**3.29**	**225**	P	**Pn**	**18 58 41.2**	**-0.4**
KNZ				S	**Sn**	**18 59 19.6**	**-0.3**
WHHZ	**Waihua**	**3.58**	**228**	P	**Pn**	**18 58 45.8**	**+0.1**
WHHZ				S	**Sn**	**18 59 27.1**	**+0.1**
MTHZ	**Maungataniwha**	**3.69**	**233**	P	**Pn**	**18 58 47.5**	**+0.2**
ARHZ	**Aropaoanui**	**3.84**	**227**	S	**Sn**	**18 59 33.3**	**-0.3**
NMHZ	**Naumai**	**3.85**	**231**	S	**Sn**	**18 59 33.4**	**-0.5**
DZM	**Mont Dzumac**	**19.09**	**316**	LR	LR	19 08 54.6	
	comp=Z,60nm,18.6s,baz=171,slow=35						
ASAR	**Alice Springs**	**42.05**	**275**	P	**P**	**19 05 41.1**	**-0.3**
	3.3nm,0.6s,baz=119,slow=7.8,SNR=82						
WRA	**Warramunga Arr**	**43.60**	**280**	P	**P**	**19 05 53.3**	**-0.7**
	0.8nm,0.4s,baz=121,slow=7.6,SNR=15						
MKAR	**Makanchi Array**	**120.83**	**308**	PKP	**PKiKP**	**19 16 41.8**	**+0.5**
	0.2nm,0.7s,baz=35,slow=3.5,SNR=1.8						
ARCES	**ARCESS Array B**	**144.44**	**345**	PKP	**PKPdf**	**19 17 24.5**	**-0.1**
	2.3nm,0.9s,baz=347,slow=2.8,SNR=4.9						
FINES	**FINESS Array B**	**150.53**	**335**	PKPbc	**PKiKP**	**19 17 41.3**	**+0.4**
	3.2nm,0.9s,baz=48,slow=2.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**156.52**	**183**	PKPab	**PKPab**	**19 18 13.6**	**+0.2**
	1.2nm,0.8s,baz=205,slow=3.0,SNR=5.6						

WEL 12 19:04:08.0±1.2,36°S±14°×17°9E±2°0,h232km±12km, M3.6/8,ML4.1/6,MLv3.6/8,Error ellipse: s-maj=0.0km s-min=0.0km az=121.3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.24**	**194**	P	Pn	19 04 51.9	+0.7
WMGZ				S	S	19 05 26.9	+1.6
HAZ	**Te Kaha**	**2.36**	**207**	P	Pn	19 04 52.8	+0.3
HAZ				S	S	19 05 27.1	-0.3
PKGZ	**Pakihiroa**	**2.39**	**200**	P	Pn	19 04 52.8	0.0
PKGZ				S	S	19 05 27.1	-1.0
MWZ	**Matawai**	**2.97**	**205**	P	Pn	19 04 59.5	+0.5
MWZ				S	S	19 05 38.4	-0.8
URZ	**Urewera**	**3.06**	**211**	P	Pn	19 05 00.8	+0.8
URZ				S	S	19 05 41.8	+0.9
MUGZ	**Murupara**	**3.39**	**213**	P	Pn	19 05 04.2	+0.4
MUGZ				S	S	19 05 48.9	+1.2
RTZ	**Ruatahuna**	**3.42**	**209**	P	Pn	19 05 03.9	-0.3
HIZ	**Hauiti**	**4.45**	**229**	P	Pn	19 05 17.3	+0.9
KAHZ	**Kahuranaki**	**4.50**	**203**	P	Pn	19 05 17.2	+0.1
KAHZ				S	S	19 06 14.8	+2.9
BHHZ	**Black Hill Sta**	**4.54**	**211**	P	Pn	19 05 17.7	+0.2
BHHZ				S	S	19 06 12.8	+0.1
KRHZ	**Kereru**	**4.54**	**208**	P	Pn	19 05 16.7	-0.8
KRHZ				S	S	19 06 12.6	-0.1
PXZ	**Pawanui**	**4.72**	**202**	P	Pn	19 05 19.2	-0.6
PXZ				S	S	19 06 16.8	+0.2
PNHZ	**Pukenui**	**4.84**	**208**	P	Pn	19 05 20.2	-1.1
TSZ	**Takapari Road**	**5.06**	**209**	P	Pn	19 05 23.2	-0.8

SOME ***12*** *19:06:07.9,50°.22N×78°.27E,h10km*
NNC ***12*** *19:06:10.3±0.4,50°.92N×78°.63E,h21km±2km,mb3.6, mpv3.6,Error ellipse: s-maj=4.8km s-min=3.7km az=82.0*
ASRS ***12*** *19:06:11.3±0.3,51°N±2°×7°9E±°,h10km,MLh3.8/14, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 12 19:06:08.5±1.9,50°.92N±0°.04×78°.89E±0°.03,h3km±14km, n66,σ1.69/99,13C-23D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.26**	**220**	⇑P	**Pb**	**19 06 16.9**	**+0.9**
	68nm,0.2s						
KURK				⇑S	**Sb**	**19 06 22.0**	**+1.2**
	285nm,0.3s						
KURK	**Kurchatov**	**0.26**	**220**	P	**Pb**	**19 06 16.8**	**+0.8**
KURK				S	**Sb**	**19 06 21.5**	**+0.6**
KUR04	**Kurchatov Arra**	**0.34**	**221**	⇓P	**Pb**	**19 06 18.5**	**+1.4**
KUR04				⇑S	**Sb**	**19 06 23.6**	**+0.7**
KUR05	**Kurchatov Arra**	**0.35**	**219**	⇓P	**Pb**	**19 06 18.8**	**+1.3**
KUR05				⇓S	**Sb**	**19 06 23.9**	**+0.5**
KUR14	**Kurchatov Arra**	**0.35**	**212**	⇑P	**Pb**	**19 06 18.9**	**+1.4**
KUR14				⇑S	**Sb**	**19 06 24.0**	**+0.5**
KUR15	**Kurchatov Arra**	**0.36**	**215**	⇓P	**Pb**	**19 06 19.1**	**+1.5**
KUR15				⇑S	**Sb**	**19 06 24.3**	**+0.5**
KURBB	**Kurchatov Arra**	**0.37**	**218**	⇓P	**Pb**	**19 06 19.2**	**+1.4**
KURBB				⇑S	**Sb**	**19 06 24.4**	**+0.4**
	351nm,0.3s						
KUR16	**Kurchatov Arra**	**0.38**	**220**	⇓P	**Pb**	**19 06 19.3**	**+1.3**
KUR16				⇓S	**Sb**	**19 06 24.4**	**+0.2**
KUR06	**Kurchatov Arra**	**0.39**	**216**	⇓P	**Pb**	**19 06 19.5**	**+1.4**
KUR06				⇓S	**Sb**	**19 06 24.6**	**+0.1**
KUR17	**Kurchatov Arra**	**0.39**	**223**	⇓P	**Pb**	**19 06 19.4**	**+1.3**
KUR17				⇑S	**Sb**	**19 06 24.5**	**+0.1**
KUR07	**Kurchatov Arra**	**0.41**	**215**	⇓P	**Pb**	**19 06 19.9**	**+1.5**
KUR07				⇑S	**Sb**	**19 06 24.9**	**-0.1**

UKR	**Ust'-Kan**	**3.73**	**87**	P	**Pn**	**19 07 09.4**	**+2.4**
UKR				S	**Sn**	**19 07 52.0**	**+0.5**
BRZS	**Berezniki**	**4.08**	**259**	*e*P	**Pn**	**19 07 13.7**	**+1.9**
BRZS	4.3nm,0.1s			*e*S	**Sn**	**19 08 00.7**	**+0.6**
BSTK	**Bystrovka, Nov**	**4.31**	**31**	P	**Pn**	**19 07 16.3**	**+1.3**
GALT	**Gorno-Altaysk,**	**4.54**	**74**	P	**Pn**	**19 07 20.3**	**+2.1**
GALT	9.0nm,0.1s			S	**Sn**	**19 08 13.4**	**+2.1**
ELDR	**Elanda**	**4.55**	**83**	P	**Pn**	**19 07 20.3**	**+1.9**
ELDR	3.9nm,0.5s			S	**Sn**	**19 08 12.8**	**+1.0**
MAKZ	**Makanchi**	**4.59**	**152**	⇑Pn	**Pn**	**19 07 19.2**	**+0.3**
MAKZ	2.4nm,0.2s			⇓Sn	**Sn**	**19 08 14.2**	**+1.5**
MAKZ	18nm,0.5s			⇓Lg	Lg	19 08 39.4	
MAKZ	**Makanchi**	**4.59**	**152**	P	**Pn**	**19 07 20.4**	**+1.5**
MAKZ	1.1nm,0.4s,baz=308,slow=9.9,SNR=66			S	**Sn**	**19 08 15.4**	**+2.7**
ALXA	**Alekseevka, NS**	**4.60**	**28**	S	**Sn**	**19 08 16.1**	**+3.3**
NHES	**Novosibirsk, N**	**4.67**	**31**	S	**Sn**	**19 08 16.1**	**+1.7**
KHAR	**Kharino, NSO,**	**4.68**	**36**	P	**Pn**	**19 07 21.8**	**+1.9**
KHAR	3.0nm,0.5s,baz=323,slow=10,SNR=7.7			S	**Sn**	**19 08 16.7**	**+2.0**
MK31	**Makanchi Array**	**4.70**	**150**	⇓Pn	**Pn**	**19 07 21.7**	**+1.3**
MK31	5.9nm,0.5s,baz=323,slow=10,SNR=5.2			⇓Pg	**Pg**	**19 07 37.9**	**-0.6**
MK31	18nm,0.5s,baz=337,slow=27,SNR=12			⇓Sn	**Sn**	**19 08 16.3**	**+0.9**
MK31				⇓Lg	Lg	19 08 42.5	
MKAR	**Makanchi Array**	**4.70**	**150**	P	**Pn**	**19 07 22.2**	**+1.8**
MKAR				S	**Sn**	**19 08 17.7**	**+2.3**
NVS	**Novosibirsk**	**4.73**	**32**	P	**Pn**	**19 07 22.4**	**+1.7**
NVS				S	**Sn**	**19 08 17.5**	**+1.5**
NVSII	**Novosibirsk**	**4.73**	**32**	P	**Pn**	**19 07 23.0**	**+2.2**
NVSII				S	**Sn**	**19 08 17.5**	**+1.4**
ZAA0	**Zalesovo Array**	**4.73**	**48**	⇓Pn	**Pn**	**19 07 22.1**	**+1.4**
ZAA0	0.2nm,0.3s			⇑Lg	Lg	19 08 44.8	
TUNR	**Tungur**	**4.81**	**96**	P	**Pn**	**19 07 23.5**	**+1.6**
TUNR	2.3nm,0.5s			S	**Sn**	**19 08 19.2**	**+1.1**
ELT	**Eltsovka**	**5.11**	**60**	P	**Pn**	**19 07 27.6**	**+1.7**
ELT				S	**Sn**	**19 08 25.9**	**+0.6**
ZSN	**Zaisan**	**5.24**	**129**	Pg	Pb	19 07 35.5	-5.2
ZSN	2.0nm,0.3s			Lg	Lg	19 08 52.7	
ZSN	**Zaisan**	**5.24**	**129**	*e*P	**Pb**	**19 07 38.0**	**-2.6**
ZSN	0.7nm,0.1s			*e*S	**Sb**	**19 08 42.5**	**-1.4**
ARTR	**Artybash**	**5.33**	**77**	P	**Pn**	**19 07 31.2**	**+2.1**
ARTR	5.5nm,0.4s			S	**Sn**	**19 08 31.1**	**+0.1**
SALR	**Pechorkino, Sa**	**5.43**	**47**	P	**Pn**	**19 07 31.3**	**+1.0**
SALR				S	**Sn**	**19 08 31.2**	**-2.1**
CHBI	**Chibit, Altay**	**5.52**	**93**	P	**Pn**	**19 07 34.0**	**+2.3**
CHBI				S	**Sn**	**19 08 36.7**	**+1.0**
AKAR	**Aktash**	**5.59**	**93**	P	**Pn**	**19 07 35.3**	**+2.6**
AKAR				S	**Sn**	**19 08 39.5**	**+1.9**
DGZ	**Jazzator, Alta**	**5.61**	**99**	P	**Pn**	**19 07 35.7**	**+2.7**
DGZ				S	**Sn**	**19 08 39.3**	**+1.3**
KAPS	**Kapalarasan**	**5.64**	**177**	Pg	**Pb**	**19 07 44.8**	**-2.9**
KAPS	0.8nm,0.3s			Lg	Lg	19 09 09.3	
KAPS	**Kapalarasan**	**5.64**	**177**	*e*P	**Pn**	**19 07 35.4**	**+2.0**
KAPS	2.4nm,0.1s			*e*S	**Sn**	**19 08 38.9**	**+0.2**
BRVK	**Borovoye**	**5.73**	**295**	⇑Pn	**Pn**	**19 07 31.6**	**-2.9**
BRVK	3.5nm,1.1s			⇓Sn	**Sn**	**19 08 36.4**	**-4.4**
BRVK	5.0nm,0.4s			⇓Lg	Lg	19 09 08.1	
ULGR	**Ulagan, Altay**	**5.77**	**89**	P	**Pn**	**19 07 37.8**	**+2.7**
ULGR				S	**Sn**	**19 08 43.6**	**+1.8**
TDK	**Taldyqorghan**	**5.93**	**183**	Pg	**Pb**	**19 07 50.5**	**-1.9**
TDK	17nm,0.2s			Lg	Lg	19 09 19.1	
TDK	**Taldyqorghan**	**5.93**	**183**	*e*P	**Pn**	**19 07 40.9**	**+3.7**
TDK	10.0nm,0.2s			*e*S	**Sn**	**19 08 46.3**	**+0.6**
CUR	**Chagan-Uzun**	**6.09**	**94**	P	**Pn**	**19 07 42.2**	**+2.6**
CUR				S	**Sn**	**19 08 51.6**	**+1.7**
DJR	**Jarkent**	**6.62**	**174**	Pg	**Pb**	**19 08 04.0**	**-0.3**
DJR	4.7nm,0.5s			Lg	Lg	19 09 43.7	
DJR	**Jarkent**	**6.62**	**174**	*e*P	**Pn**	**19 07 49.0**	**+2.2**
DJR	2.4nm,0.3s			*e*S	**Sn**	**19 09 02.1**	**-0.6**
BTLS	**Baital**	**6.71**	**211**	Pg	**Pb**	**19 08 04.3**	**-1.6**
BTLS	1.0nm,0.2s			Lg	Lg	19 09 44.1	
BTLS	**Baital**	**6.71**	**211**	*e*P	**Pb**	**19 08 04.1**	**-1.8**
BTLS	2.2nm,1.0s			*e*S	**Sb**	**19 09 25.3**	**-1.2**
ARXS	**Arharly**	**6.75**	**186**	Pg	**Pb**	**19 08 05.7**	**-0.8**
ARXS	2.3nm,0.4s			Lg	Lg	19 09 46.1	
CHKK	**Chushkaly**	**7.18**	**191**	Pg	**Pb**	**19 08 13.8**	**0.0**
CHKK	1.0nm,0.1s			Lg	Lg	19 09 59.3	
KUU	**Kurty**	**7.24**	**195**	Pg	**Pb**	**19 08 13.7**	**-1.0**
KUU	21nm,0.5s			Lg	Lg	19 10 00.9	
KTBS	**Karatobe**	**7.36**	**193**	Pg	**Pb**	**19 08 16.8**	**-0.2**
KTBS	1.1nm,0.6s			Lg	Lg	19 10 06.0	
KURS	**Kuram**	**7.45**	**184**	Pg	**Pb**	**19 08 18.8**	**+0.4**
KURS	5.4nm,1.6s			Lg	Lg	19 10 10.2	
PDGK	**Podgornoye**	**7.60**	**177**	Pg	**Pb**	**19 08 21.2**	**+0.2**
PDGK	1.5nm,1.9s			Lg	Lg	19 10 13.6	
SHLS	**Shalkode**	**7.77**	**177**	Pg	**Pb**	**19 08 24.4**	**+0.4**
SHLS	6.1nm,1.7s			Lg	Lg	19 10 20.1	
UZB	**Uzynbulak**	**7.77**	**179**	Pg	**Pb**	**19 08 24.3**	**+0.3**
UZB	8.0nm,5.2s			Lg	Lg	19 10 19.7	
MDOK	**Medeo**	**7.86**	**190**	⇓Lg	Lg	19 10 18.5	
MDOK	**Medeo**	**7.86**	**190**	Pg	**Pb**	**19 08 27.4**	**+2.0**
MDOK	8.3nm,2.3s			Lg	Lg	19 10 24.9	
SATY	**Saty**	**7.87**	**183**	Pg	**Pb**	**19 08 25.8**	**+0.2**
SATY	4.8nm,0.7s			Lg	Lg	19 10 22.8	
DGS	**Degeres**	**7.97**	**197**	Pg	**Pb**	**19 08 25.9**	**-1.3**
DGS				Lg	Lg	19 10 22.8	
MTBS	**Maitube**	**7.97**	**193**	Pg	**Pb**	**19 08 29.3**	**+2.1**
MTBS	3.6nm,0.2s			Lg	Lg	19 10 28.9	
TNSS	**Tian-Shan**	**7.99**	**190**	Pg	**Pb**	**19 08 28.1**	**+0.2**
TNSS	1.8nm,0.4s			Lg	Lg	19 10 27.5	
SGDS	**Sogindy**	**8.01**	**203**	Pg	**Pb**	**19 08 30.0**	**+2.0**
SGDS	2.9nm,0.4s			Lg	Lg	19 10 29.8	
KST	**Kastek**	**8.13**	**195**	Pg	**Pb**	**19 08 30.8**	**+0.8**
KST	8.1nm,0.7s			Lg	Lg	19 10 30.6	
TKM2	**Tokmak 2**	**8.31**	**197**	⇑Lg	Lg	19 10 33.7	
	20nm,0.9s						
AAK	**Ala-Archa**	**8.81**	**202**	Lg	Lg	19 10 49.5	
	10nm,1.1s						
MRKS	**Merke**	**9.04**	**208**	Pg	Pn	19 08 48.5	+28
MRKS	4.2nm,0.6s			Lg	Lg	19 11 02.3	
KK31	**Karatay Array**	**9.68**	**219**	⇓Pn	**Pn**	**19 08 26.1**	**-2.6**
KK31	0.1nm,0.2s,baz=31,slow=13,SNR=3.7			⇓Lg	Lg	19 11 13.5	
	2.7nm,0.6s,baz=34,slow=27,SNR=5.6						

JMA 12 19:10:26.9±0.2, 37°.16N×144°.36E, h45km, M4.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.57**	**297**	P	Pn	19 11 07.4	+1.5
JIKH				*e*S	Sn	19 11 37.1	+1.2
JIO	**Ouri**	**2.71**	**299**	P	Pn	19 11 09.6	+1.6
JIO				*e*S	Sn	19 11 41.1	+1.6
JFK	**Kawauchi**	**2.79**	**275**	P	Pn	19 11 10.3	+1.2
JFK				S	Sn	19 11 43.0	+1.5
JKMT	**Kesennumamotoy**	**2.81**	**307**	P	Pn	19 11 10.7	+1.4
JKMT				*e*S	Sn	19 11 43.5	+1.5
JMST	**Minamisoumatoc**	**2.82**	**283**	P	Pn	19 11 10.6	+1.2
JMST				*e*S	Sn	19 11 43.4	+1.2
ONAJ	**Iwakimizuishiy**	**2.85**	**270**	*e*S	Sn	19 11 44.0	+1.1
JMK	**Ichinoseki**	**3.06**	**307**	P	Pn	19 11 14.4	+1.7
JMK				*e*S	Sn	19 11 49.9	+1.9
JOU	**Okura**	**3.17**	**293**	P	Pn	19 11 16.4	+2.2
JFT	**Otama**	**3.23**	**278**	P	Pn	19 11 17.3	+2.3
JFT				*e*S	Sn	19 11 55.0	+2.8
JYK	**Kaneyama**	**3.61**	**300**	P	Pn	19 11 22.7	+2.4
JRG	**Rokugo**	**3.69**	**308**	P	Pn	19 11 23.7	+2.4
BSO1	**Boso 1**	**3.71**	**229**	P	Pn	19 11 20.6	-0.6
BSO1				*e*S	Sn	19 12 02.7	-0.7
JAH	**Hinai**	**4.20**	**317**	P	Pn	19 11 30.7	+2.3
JTM	**Tenmabayashi**	**4.44**	**326**	P	Pn	19 11 32.9	+1.3
JRY	**Ryogami san**	**4.54**	**257**	P	Pn	19 11 34.0	+0.9
JRY				*e*S	Sn	19 12 23.0	-1.6
JOD2	**Odawara 2**	**4.66**	**248**	P	Pn	19 11 36.1	+1.3
JOT	**Ohata**	**4.94**	**330**	P	Pn	19 11 39.5	+1.0
JOT				*e*S	Sn	19 12 34.4	+0.1
JKB	**Kayabe**	**5.38**	**332**	P	Pn	19 11 46.1	+1.6
JKB				*e*S	Sn	19 12 46.1	+1.0
JHJ2	**Mitsune**	**5.49**	**224**	P	Pn	19 11 44.6	-1.5
JHJ2				*e*S	Sn	19 12 45.0	-3.0
JCH	**Churui**	**5.50**	**352**	P	Pn	19 11 45.7	-0.5
JCH				*e*S	Sn	19 12 45.2	-3.0
NEM2	**Nemuro 2**	**6.29**	**9**	P	Pn	19 11 53.9	-3.1
NEM2				*e*S	Sn	19 13 00.8	-6.7
JTKR	**Abashiri--Toko**	**6.81**	**357**	P	Pn	19 12 03.4	-0.8
JTKR				*e*S	Sn	19 13 15.3	-5.1

OMAN 12 19:19:44.5±0.8, 25°.74N×63°.64E, h20km, ml3.9/2, Error ellipse: s-maj=22.6km s-min=6.6km az=297.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**5.27**	**228**	P	Pn	19 21 01.5	-0.6
JLN	SNR=14			S	Sn	19 22 03.2	+0.9
WBK	**Wadi Bani Khal**	**5.28**	**235**	P	Pn	19 21 02.0	-0.4
WBK	SNR=41			S	Sn	19 22 03.0	+0.3
SMDO	**Samad**	**5.75**	**244**	P	Pn	19 21 08.7	-0.2
JMDO	**Jabal Madar**	**6.07**	**238**	P	Pn	19 21 13.7	+0.5
JMDO				S	Sn	19 22 24.0	+1.9
HOQ	**Hoqain**	**6.15**	**251**	P	Pn	19 21 13.1	-1.1
BSY	**Bisya**	**6.59**	**244**	P	Pn	19 21 21.2	+0.8
	SNR=16						
BANOM	**Banah**	**6.62**	**273**	P	Pn	19 21 19.5	-1.2
ARQ	**Araqi**	**6.91**	**251**	P	Pn	19 21 27.0	+2.3
	SNR=15						
ASHO	**Ashiyiah**	**6.95**	**263**	P	Pn	19 21 27.2	+2.0
	SNR=20						

*ISCJB **12** 19:23:26.9±0.4, 6°.55S±0°.06×154°.98E±0°.06, h10km, mb3.8/9, Error ellipse: s-maj=8.5km s-min=8.0km az=166.2*
*IDC **12** 19:23:26.8±0.8, 6°.58S×155°.03E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/33, mbtmp3.9/10, ML2.1/1, Error ellipse: s-maj=21.7km s-min=17.6km az=42.0*
*NEIC **12** 19:23:28.5±2.9, 6°.54S±0°.10×155°.02E±0°.08, h10km±4km, mb4.5/17*
ISC 12 19:23:28.7±0.5, 6°.52S±0°.07×154°.99E±0°.06, h10km, n54, σ1§09/54, mb4.2/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.68**	**307**	Pn	**Pn**	**19 24 27.8**	**+2.0**
KRVT	9.1nm,0.3s,baz=196,slow=2.2,SNR=17			Pg	**Pb**	**19 24 34.8**	**+0.9**
KRVT	7.9nm,0.3s,baz=134,slow=8.0,SNR=6.0			Lg	Lg	19 25 25.8	
HNR	**Honiara**	**5.70**	**121**	Pg	**Pb**	**19 25 09.6**	**+1.3**
HNR	24nm,0.3s,baz=276,slow=22,SNR=8.6			Lg	Lg	19 26 16.4	
HNR	**Honiara**	**5.70**	**121**		**Pn**	**19 24 56.0**	**+2.5**
PMG	**Port Moresby**	**8.27**	**249**	Pn	**Pn**	**19 25 28.9**	**0.0**
PMG	1.2nm,0.3s,baz=17,slow=11,SNR=3.7			Sn	**Sn**	**19 27 00.7**	**-1.7**
PMG	**Port Moresby**	**8.27**	**249**		**Pn**	**19 25 28.7**	**-0.1**
PMG	0.9nm,0.3s,baz=91,slow=12,SNR=4.6				**Sn**	**19 27 04.7**	**+2.3**
PATS	**Pohnpei**	**13.67**	**14**	Pn	**Pn**	**19 26 41.8**	**-1.1**
CTAO	**Charters Tower**	**15.93**	**211**		**P**	**19 27 19.1**	**+2.2**
DZM	**Mont Dzumac**	**19.01**	**146**		**P**	**19 27 49.2**	**-1.7**
WB0	**Warramunga Arr**	**23.95**	**235**	P	**P**	**19 28 42.7**	**-0.8**
WB0	comp=Z,14nm,1.6s			IAmb	IAmb	19 29 10.8	
ARMA	**Armidale**	**23.98**	**187**	P	**P**	**19 28 43.5**	**-0.3**
ARMA	comp=Z,7.6nm,1.1s			IAmb	IAmb	19 29 02.2	
WB2	**Warramunga Arr**	**24.08**	**234**	P	**P**	**19 28 42.6**	**-2.0**
FUNA	**Funafuti**	**24.08**	**96**	P	**P**	**19 28 44.1**	**-0.5**
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**19 28 43.7**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=56,slow=9.5,SNR=14						
WRA				PcP	**PcP**	**19 32 26.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=57,slow=2.3,SNR=10						
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**19 28 43.5**	**-1.2**
ASAR	**Alice Springs**	**26.49**	**228**	P	**P**	**19 29 05.0**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=60,slow=8.9,SNR=6.7						
ASAR				PcP	**PcP**	**19 32 31.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=63,slow=3.0,SNR=3.7						
ASAR	**Alice Springs**	**26.49**	**228**	P	**P**	**19 29 05.4**	**-1.1**
KNRA	**Kununurra**	**27.27**	**248**	P	**P**	**19 29 13.9**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**27.40**	**25**	T	T	19 57 42.7	
	baz=204,slow=75,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**27.41**	**25**	T	T	19 57 33.9	
	baz=204,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.42**	**25**	T	T	19 57 25.0	
	baz=204,slow=75,SNR=7.4						
STKA	**Stephens Creek**	**28.16**	**205**	P	**P**	**19 29 21.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=40,slow=7.4,SNR=3.1						
STKA	**Stephens Creek**	**28.16**	**205**	P	**P**	**19 29 22.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**30.84**	**245**	P	**P**	**19 29 45.0**	**-0.3**
FITZ				IAmb	IAmb	19 29 47.2	
	comp=Z,6.5nm,1.2s						
LTZ	**Lake Taylor**	**39.21**	**160**	P	**P**	**19 30 55.6**	**-1.6**
LTZ				IAmb	IAmb	19 31 04.1	
	comp=Z,32nm,1.7s						
SSLB	**Suanglung**	**44.84**	**313**	P	**P**	**19 31 43.6**	**+0.2**
SSLB				IAmb	IAmb	19 31 58.0	
	comp=Z,28nm,1.4s						
YHNB	**Yeheng**	**45.09**	**315**	P	**P**	**19 31 44.4**	**-1.1**
PETK	**Petropavlovsk-**	**59.44**	**2**	P	P	19 33 36.9	+5.3
	comp=Z,5.7nm,0.6s,baz=170,slow=7.7,SNR=5.7						
PETK	**Petropavlovsk-**	**59.44**	**2**	P	P	19 33 36.4	+4.8
CMAR	**Chiang Mai Arr**	**60.58**	**295**	P	**P**	**19 33 40.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=104,slow=5.1,SNR=8.9						
CMAR	**Chiang Mai Arr**	**60.58**	**295**	P	**P**	**19 33 40.5**	**+0.5**
SHL	**Shillong**	**69.05**	**300**	P	**P**	**19 34 35.3**	**-0.2**
LSA	**Lhasa**	**71.00**	**304**	P	**P**	**19 34 48.8**	**+1.1**
LSA				IAmb	IAmb	19 34 49.6	
	comp=Z,4.0nm,0.9s						
TAPN	**Taplejung**	**73.15**	**301**	*e*P	**P**	**19 35 00.3**	**-0.2**
	comp=Z,11nm,0.7s						
ODAN	**Odare**	**73.29**	**300**	*e*P	**P**	**19 35 01.2**	**0.0**
	comp=Z,30nm,0.7s						
JIRN	**Jiri**	**74.54**	**301**	*e*P	**P**	**19 35 08.7**	**+0.1**
	comp=Z,15nm,0.7s						
GUN	**Gumba**	**74.87**	**301**	*e*P	**P**	**19 35 10.4**	**-0.1**
	comp=Z,21nm,0.7s						
PKI	**Pulchoki**	**75.18**	**301**	*e*P	**P**	**19 35 11.9**	**-0.4**
	comp=Z,8.4nm,0.6s						
PKIN	**Phulchoki**	**75.19**	**301**	*e*P	**P**	**19 35 11.9**	**-0.4**
	comp=Z,6.5nm,0.5s						
KKN	**Kakani**	**75.35**	**301**	*e*P	**P**	**19 35 12.9**	**-0.2**
	comp=Z,16nm,0.7s						
DMN	**Daman**	**75.45**	**301**	*e*P	**P**	**19 35 13.8**	**0.0**
	comp=Z,25nm,0.7s						
GKN	**Gorkha**	**75.95**	**301**	*e*P	**P**	**19 35 16.3**	**-0.2**
	comp=Z,20nm,0.7s						
KOLN	**Koldanda**	**76.78**	**300**	*e*P	**P**	**19 35 20.9**	**-0.4**
	comp=Z,18nm,0.8s						
DANN	**Dangsing**	**76.79**	**301**	*e*P	**P**	**19 35 21.0**	**-0.5**
	comp=Z,16nm,0.7s						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**19 35 53.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=235,slow=5.5,SNR=5.6						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**19 35 53.5**	**-0.1**
MK31	**Makanchi Array**	**83.05**	**319**	P	**P**	**19 35 54.9**	**+0.3**
MK31				IAmb	IAmb	19 36 00.3	
	comp=Z,2.5nm,1.2s						
MKAR	**Makanchi Array**	**83.05**	**319**	P	**P**	**19 35 54.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=97,slow=5.4,SNR=12						
MKAR	**Makanchi Array**	**83.05**	**319**	P	**P**	**19 35 54.9**	**+0.2**
MAKZ	**Makanchi**	**83.26**	**319**	P	**P**	**19 35 54.6**	**-1.0**
MAKZ				IAmb	IAmb	19 35 56.7	
	comp=Z,2.4nm,0.9s						
ZALV	**Zalesovo Beam**	**83.78**	**326**	P	**P**	**19 35 56.5**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=76,slow=6.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**83.78**	**326**	P	**P**	**19 35 56.3**	**-1.9**
NVAR	**Mina Array Bea**	**91.43**	**52**	P	**P**	**19 36 36.6**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=251,slow=8.5,SNR=4.1						
NVAR	**Mina Array Bea**	**91.43**	**52**	P	**P**	**19 36 34.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.89**	**286**	PKPbc	**PKPbc**	**19 43 26.2**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=73,slow=2.3,SNR=11						

*ISCJB **12** 19:39:32.8±1.2, 16°.90S±0°.09×167°.2E±0°.2, h25km, mb4.2/3, MS3.4/1, Error ellipse: s-maj=22.6km s-min=10.5km az=158.6*
*IDC **12** 19:39:34.7±14.0, 17°.06S×166°.87E, h0km, mb4.4/3, mb1 4.5/4, mb1mx3.9/29, mbtmp4.4/4, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/38, Error ellipse: s-maj=236.9km s-min=37.6km az=65.0*
*NEIC **12** 19:39:35.6±1.8, 16°.88S±0°.08×167°.3E±0°.3, h35km±16km, mb4.5/10*
ISC 12 19:39:33.7±1.9, 16°.8S±0°.1×167°.3E±0°.3, h25km, n16, σ0§91/17, mb4.5/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.27**	**189**	Pn	**Pn**	**19 40 51.1**	**+0.1**
DZM	7.0nm,0.3s,baz=43,slow=12,SNR=50			Sn	**Sn**	**19 41 50.0**	**-1.0**
QRZ	**Quartz Range**	**24.31**	**170**	P	**P**	**19 44 50.4**	**+1.0**
CAN	**Canberra**	**24.62**	**218**	P	**P**	**19 44 50.7**	**-1.6**
CAN				IAmb	IAmb	19 45 09.0	
	comp=Z,32nm,1.6s						
SNZO	**South Karori**	**25.19**	**167**	P	**P**	**19 44 57.4**	**+0.1**
PLWZ	**Palliser**	**25.56**	**166**	P	**P**	**19 45 01.1**	**+0.3**
STKA	**Stephens Creek**	**27.73**	**233**	P	**P**	**19 45 21.1**	**+0.8**
	comp=Z,4.5nm,0.7s,baz=67,slow=8.4,SNR=8.1						
STKA	**Stephens Creek**	**27.73**	**233**	P	**P**	**19 45 21.3**	**+1.0**
WRA	**Warramunga Arr**	**31.44**	**259**	P	**P**	**19 45 52.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=92,slow=8.7,SNR=6.9						
WRA	**Warramunga Arr**	**31.44**	**259**	P	**P**	**19 45 52.8**	**-0.6**
AS31	**Alice Springs**	**32.04**	**252**	P	**P**	**19 45 59.3**	**+0.6**
AS31				IAmb	IAmb	19 46 00.3	
	comp=Z,4.1nm,0.7s						
ASAR	**Alice Springs**	**32.04**	**252**	P	**P**	**19 45 59.5**	**+0.8**
	comp=Z,12nm,0.7s,baz=79,slow=8.7,SNR=201						
ASAR				LR	LR	19 57 08.9	
	comp=Z,75nm,21.1s,baz=80,slow=33						
ASAR	**Alice Springs**	**32.04**	**252**	P	**P**	**19 45 58.8**	**+0.1**
BBOO	**Buckleboo**	**32.38**	**235**	P	**P**	**19 46 03.1**	**+1.6**
BBOO				IAmb	IAmb	19 46 03.4	
	comp=Z,7.9nm,0.9s						
KNRA	**Kununurra**	**37.02**	**266**	P	**P**	**19 46 41.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.74**	**262**	P	**P**	**19 47 04.9**	**+0.3**
FITZ				IAmb	IAmb	19 47 21.9	
	comp=Z,15nm,1.6s						
ENH	**Enshi**	**72.76**	**310**	P	**P**	**19 50 59.4**	**-0.9**
ENH				IAmb	IAmb	19 51 01.0	
	comp=Z,5.9nm,1.1s						

*IDC **12** 19:50:47.5±0.9, 34°.78N×24°.96E, h0km, mb4.0/11, mb1 4.1/16, mb1mx3.7/67, mbtmp4.0/16, ML3.8/5, Error ellipse: s-maj=19.6km s-min=15.0km az=154.0*
*ISCJB **12** 19:50:50.9±0.5, 34°.60N±0°.03×25°.01E±0°.03, h29km±4km, mb3.9/11, Error ellipse: s-maj=4.7km s-min=3.4km az=12.0*
*ATH **12** 19:50:52.8, 34°.79N×24°.95E, h30km±1km, ML3.9/5, Error ellipse: s-maj=3.5km s-min=1.3km az=178.0*
*ISK **12** 19:50:52.5, 34°.83N×24°.99E, h15km, ML3.8/9*
*THE **12** 19:50:52.5, 34°.73N×24°.97E, h5km±1km, ML3.6/11, Error ellipse: s-maj=1.9km s-min=0.7km az=13.0*
*HLW **12** 19:50:52.3, 34°.52N×24°.94E, h10km±18km, Ml3.9*
ISC 12 19:50:51.1±1.0, 34°.64N±0°.04×24°.96E±0°.02, h28km±8km, n100, σ1§65/127, mb4.1/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.39**	**342**	P	**Pb**	**19 50 59.8**	**+0.1**
SIVA				S	**Sb**	**19 51 04.5**	**-1.1**
	41μm,0.3s						
SIVA	**Sivas**	**0.39**	**342**	P	**Pb**	**19 50 59.9**	**+0.2**
SIVA				S	**Sb**	**19 51 04.6**	**-1.0**
SIVA				AML	AML	19 51 05.9	
SIVA				AML	AML	19 51 06.8	
	comp=N,57079μm,0.3s						
TMBK	**Timbaki Herakl**	**0.46**	**340**	P	**Pn**	**19 51 01.0**	**-0.7**
TMBK				S	**Sb**	**19 51 07.0**	**-0.3**
	comp=N,11μm,0.3s						
IACM	**Heraklion**	**0.67**	**8**	P	**Pb**	**19 51 04.3**	**+0.1**
LAST	**Lasithi**	**0.67**	**40**	P	**Pb**	**19 51 04.2**	**-0.2**
HRKL	**Herakleio**	**0.68**	**10**	P	**Pb**	**19 51 04.2**	**-0.2**
HRKL				S	**Sb**	**19 51 11.9**	**-1.6**
	comp=N,13μm,0.9s						
FRMA	**Ierapetra Chan**	**0.74**	**60**	P	**Pn**	**19 51 07.6**	**+2.0**
FRMA				S	**Sn**	**19 51 18.3**	**+2.3**
	comp=N,2μm,0.5s						
GVDS	**Gavdos**	**0.74**	**286**	P	**Pn**	**19 51 06.8**	**+1.1**
GVD	**Gavdhos**	**0.74**	**286**	P	**Pn**	**19 51 06.6**	**+0.9**
GVD				S	**Sn

ZKR Zakros 1.14 65 P **Pb** **19 51 13.1 +1.0**
ZKR Zakros 1.14 65 P **Pb** **19 51 13.1 +1.0**
ZKR Zakros 1.14 65 PG **Pb** **19 51 13.2 +1.0**
ZKR SG **Sb** **19 51 28.2 +1.6**
IMMV Iera Moni Meta 1.14 316 P **Pb** **19 51 11.8 -0.4**
IMMV S **Sn** **19 51 27.4 +1.5**
comp=E,5μm,0.5s
IMMV Iera Moni Meta 1.14 316 P **Pb** **19 51 12.4 +0.2**
IMMV S **Sn** **19 51 27.6 +1.7**
IMMV AML AML 19 51 33.0
comp=N,9373μm,0.6s
IMMV AML AML 19 51 33.9
comp=E,11415μm,0.5s
IMMV Iera Moni Meta 1.14 316 PG **Pb** **19 51 12.9 +0.7**
IMMV SG **Sn** **19 51 27.6 +1.7**
CHAN Chania 1.15 320 P **Pb** **19 51 12.5 +0.2**
CHAN S **Sn** **19 51 28.7 +2.6**
comp=E,1μm,0.8s
KNDR Palaiochora Ch 1.20 300 P **Pb** **19 51 14.3 +1.2**
KNDR S **Sb** **19 51 32.5 +4.3**
comp=E,812nm,0.6s
RODP Rodopos 1.34 313 P **Pb** **19 51 15.7 +0.1**
RODP S **Sb** **19 51 35.5 +3.1**
comp=E,750nm,0.3s
THR6 Thira Island, 1.75 12 P **Pb** **19 51 21.4 -1.1**
SANT Santorini 1.77 13 P **Pn** **19 51 20.8 +0.9**
SANT Santorini 1.77 13 P **Pn** **19 51 21.1 +1.2**
SANT Santorini 1.77 13 PN **Pn** **19 51 20.9 +1.0**
THR3 Thira Island, 1.80 12 P **Pn** **19 51 21.2 +1.0**
THR5 Thira Island, 1.80 10 P **Pn** **19 51 21.4 +1.2**
ANKY Antikythira Is 1.82 313 P **Pb** **19 51 23.1 -0.7**
THT2 Imerovigli 1.83 12 P **Pn** **19 51 21.5 +0.8**
ANAF Anafi Island 1.84 21 P **Pn** **19 51 21.7 +0.9**
KARP Karpathos 2.02 63 P **Pb** **19 51 26.6 -0.6**
KARP Karpathos 2.02 63 P **Pb** **19 51 26.9 -0.3**
KARP Karpathos 2.02 63 PN **Pb** **19 51 25.6 -1.6**
MHLO Agia Marina, M 2.09 348 P **Pn** **19 51 25.4 +1.1**
KTHA Kythira Island 2.23 317 P **Pn** **19 51 27.9 +1.7**
KTHA Kythira Island 2.23 317 P **Pn** **19 51 28.0 +1.7**
KTHA Kythira Island 2.23 317 PN **Pb** **19 51 28.4 -2.3**
KTHR Kythira 2.27 316 P **Pb** **19 51 28.8 -2.6**
AMGA Amorgos Island 2.31 19 P **Pn** **19 51 27.9 +0.6**
APE Apeiranthos 2.47 11 P **Pn** **19 51 30.0 +0.5**
APE Apeiranthos 2.47 11 PN **Pn** **19 51 30.0 +0.5**
SERI Serifos 2.54 352 P **Pn** **19 51 31.5 +1.0**
VLI Veliai 2.64 322 P **Pn** **19 51 32.8 +1.0**
KOSK Kos Island 2.67 37 P **Pn** **19 51 33.6 +1.4**
DAT Datca 2.98 45 *i* P **Pn** **19 51 38.1 +1.5**
DAT IAML_P
comp=Z,140nm,0.1s
DAT Datca 2.98 45 PN **Pn** **19 51 38.5 +1.9**
ARG Arkhangelos 3.03 58 P **Pn** **19 51 39.5 +2.4**
ARG Arkhangelos 3.03 58 PN **Pn** **19 51 39.5 +2.4**
BODT Bodrum 3.08 38 PN **Pn** **19 51 39.7 +1.8**
SLUM Salum 3.15 176 P **Pn** **19 51 41.0 +2.2**
baz=175
SLUM AMP 19 52 00.0
baz=175
SLUM S **Sn** **19 52 15.8 +0.4**
baz=175
DID Didima 3.18 335 P **Pn** **19 51 39.9 +0.7**
SMG Samos 3.42 26 P **Pn** **19 51 43.3 +0.8**
VLX Vlachokerasia 3.43 323 P **Pn** **19 51 44.0 +1.2**
ITM Ithomi 3.53 317 P **Pn** **19 51 44.8 +0.8**
YER Yerkesik 3.67 46 P **Pn** **19 51 48.4 +2.4**
TURN Turunc 3.71 52 *i* P **Pn** **19 51 44.6 -1.9**
TURN IAML_P
comp=Z,960nm,0.2s
DALY Dalyan (Mula) 3.71 53 *i* P **Pn** **19 51 49.7 +3.2**
DALY IAML_P
comp=Z,2μm,0.2s
AYDN Tasoluk 3.83 37 *i* P **Pn** **19 51 51.4 +3.2**
AYDN IAML_P
comp=Z,992nm,0.2s
FETY Fethiye 3.91 58 P **Pn** **19 51 50.3 +1.1**
FETY Fethiye 3.91 58 *i* P **Pn** **19 51 51.1 +1.8**
FETY IAML_P
comp=Z,2μm,0.3s
AKAS Kas 4.12 66 *i* P **Pn** **19 51 53.4 +1.2**
AKAS *i* S **Sn** **19 52 39.1 -0.4**
AKAS IAML_P
comp=Z,917nm,0.1s
TAVA DENIZLI_Tavas 4.27 48 *i* P **Pn** **19 51 56.3 +2.0**
TAVA IAML_P
comp=Z,521nm,0.1s
GOLH Golhisar 4.55 54 *i* P **Pn** **19 52 00.0 +1.9**
GOLH IAML_P
comp=Z,2μm,0.2s
AKUM Antalya-Kumluc 4.71 68 *i* P **Pn** **19 52 01.4 +1.3**
AKUM *i* S **Sn** **19 52 53.0 -0.8**
AKUM IAML_P
comp=Z,1μm,0.2s
KHAL Karahalli 5.21 43 *i* P **Pn** **19 52 09.5 +2.2**
KHAL IAML_P
comp=Z,229nm,0.2s
SWA2 5.40 175 P **Pn** **19 52 11.2 +1.4**
baz=175
SWA2 AMP 19 53 00.0
baz=175
SWA2 S **Sn** **19 53 08.6 -2.3**
baz=175
KZIL AFYON_Kizioren 5.52 48 *i* P **Pn** **19 52 13.3 +1.8**
KZIL IAML_P
comp=Z,167nm,0.2s
KEPZ Antalya-Kepez 5.86 65 *i* P **Pn** **19 52 19.0 +2.9**
KEPZ *i* S **Sn** **19 53 21.3 -0.9**
KEPZ IAML_P
comp=Z,215nm,0.1s
GAZI Gazipasa 6.21 73 *i* P **Pn** **19 52 20.7 -0.2**
GAZI IAML_P
comp=Z,483nm,0.2s
HFRF Wahat Farafira 8.01 158 P **Pn** **19 52 46.3 +0.7**
baz=157
HFRF S **Sn** **19 54 10.8 -4.3**
baz=157
NBNS Bani Suef 8.07 136 P **Pn** **19 52 47.8 +1.3**
baz=135
NBNS S **Sn** **19 54 14.4 -2.5**
baz=135
BRTR Keskin Array B 8.59 51 Pn **Pn** **19 52 54.7 +1.1**
comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=3.6
MMAI Mount Meron Ar 8.84 98 Pn **Pn** **19 52 58.2 +1.1**
comp=Z,1.6nm,0.3s,baz=294,slow=11,SNR=8.4
MMAI Sn Sn 19 54 29.8 -6.0
comp=Z,1.5nm,0.3s,baz=251,slow=18,SNR=3.0
VAE Valguarnera 8.99 291 Sn **Sn** **19 54 34.4 -5.1**
comp=Z,1.3nm,0.3s,baz=319,slow=20,SNR=3.0
EIL Elat 9.81 118 Pn **Pn** **19 53 10.3 0.0**
comp=Z,0.6nm,0.3s,baz=330,slow=8.1,SNR=6.3
EIL Sn Sn 19 54 50.2 -9.3
comp=Z,0.4nm,0.3s,baz=328,slow=19,SNR=3.1
STON Ston 9.98 328 *e*Pn **Pn** **19 53 09.8 -2.7**
STON Sn Sn 19 54 50.9 -13
MAKA Makarska 10.61 327 Sn Sn 19 55 07.7 -11
ZIRJ Zirje 11.53 324 *e*Pn **Pn** **19 53 31.6 -2.2**
ZIRJ Sn Sn 19 55 30.2 -11
DUGI Dugi Otok 12.07 324 *e*Pn **Pn** **19 53 39.6 -1.5**
DUGI Sn Sn 19 55 44.7 -10
NVLJ Novalja 12.58 325 *e*Pn **Pn** **19 53 46.0 -2.1**
NVLJ Sn Sn 19 55 54.6 -13
AKASG Malin Array Be 16.35 10 Pn **Pn** **19 54 38.6 +0.1**
comp=Z,1.1nm,0.3s,baz=202,slow=11,SNR=7.4
GERES GERESS Array B 16.46 333 Pn **Pn** **19 54 40.1 +0.1**
comp=Z,0.3nm,0.3s,baz=160,slow=12,SNR=9.3
KVAR Kislovodsk Ar 16.56 51 Pn **P** **19 54 43.8 +0.1**
baz=258,slow=17,SNR=3.0
KBZ Khabaz 16.58 51 Pn **P** **19 54 45.0 +1.3**
comp=Z,0.2nm,0.3s,baz=240,slow=11,SNR=12
ESDC Sonseca Array 23.54 291 P **P** **19 56 00.3 +1.3**
comp=Z,0.2nm,0.3s,baz=86,slow=9.5,SNR=4.9
HFS Hagfors 26.54 347 P **P** **19 56 25.2 -0.9**
comp=Z,6.5nm,1.1s,baz=132,slow=11,SNR=3.5
FINES FINESS Array B 26.83 1 P **P** **19 56 26.2 -2.5**
comp=Z,7.8nm,1.2s,baz=174,slow=7.7,SNR=3.4
NOA NORSAR Array B 27.86 346 P **P** **19 56 37.6 -0.5**
comp=Z,1.3nm,0.9s,baz=149,slow=9.5,SNR=2.3
EKA Eskdalemuir Ar 28.37 325 P **P** **19 56 43.8 +1.2**
comp=Z,0.5nm,0.5s,baz=135,slow=8.1,SNR=2.8
TORD Torodi Ar. Bea 30.03 230 P **P** **19 56 59.1 +1.5**
comp=Z,1.6nm,0.4s,baz=34,slow=8.6,SNR=24
ARCES ARCESS Array B 34.95 0 P **P** **19 57 37.7 -2.5**
comp=Z,3.0nm,1.1s,baz=191,slow=9.2,SNR=4.1
DBIC Dimbokro 39.11 232 P **P** **19 58 16.9 +0.7**
comp=Z,3.4nm,0.9s,baz=6.3,slow=8.6,SNR=3.8

KURBB Kurchatov Arra 41.58 51 P **P** **19 58 35.8 -0.4**
comp=Z,0.6nm,0.3s,baz=272,slow=8.6,SNR=8.4
MKAR Makanchi Array 44.20 56 P **P** **19 58 57.8 +0.2**
comp=Z,1.1nm,0.3s,baz=265,slow=8.1,SNR=12
PETK Petropavlovsk- 83.45 26 P **P** **20 03 15.6 -0.2**
comp=Z,6.8nm,1.1s,baz=296,slow=11,SNR=3.8

*ISCJB **12** 19:52:11.5±0.2,24°.44N±0°.02×94°.57E±0°.03,h82km, mb4.0/26, Error ellipse: s-maj=3.7km s-min=3.0km az=140.1*
*NDI **12** 19:52:12.9±2.3,24°.50N×94°.55E,h22km±11km,ML4.1, mb4.4(NEIC)*
*IDC **12** 19:52:13.3±2.0,24°.35N×94°.67E,h83km±19km,mb3.9/25, mb1 4.0/26,mb1mx3.7/78,mbtmp4.2/26, Error ellipse: s-maj=15.4km s-min=9.6km az=52.0*
*BJI **12** 19:52:13.8±0.0,24°.53N×94°.66E,h92km,mb4.1/10, mB4.6/5*
*NEIC **12** 19:52:14.2±2.4,24°.48N±0°.06×94°.67E±0°.06,h89km±6km, mb4.4/47*
ISC 12 19:52:13.3±0.4,24°.45N±0°.04×94°.56E±0°.04,h82km,n122, σ1§74/144,mb4.3/38,1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**1.33**	**342**	‖ *i*P	**Pn**	**19 52 36.6**	**-0.2**
KOHI				*e*S	**Sn**	**19 52 51.0**	**-3.4**
KOHI				IAML		19 53 01.4	
KOHI	comp=E,2μm,0.5s			IAML		19 53 03.0	
JORH	**JORHAT**	**2.31**	**353**	*e*P	**Pn**	**19 52 49.0**	**-0.4**
JORH				*e*S	**Sn**	**19 53 16.7**	**-0.2**
JORH				IAML		19 53 27.2	
JORH	comp=N,3μm,0.4s			IAML		19 53 27.7	
SHL	**Shillong**	**2.67**	**295**	*e*P	**Pn**	**19 52 54.3**	**-0.2**
SHL				*e*S	**Sn**	**19 53 24.2**	**-1.9**
SHL				IAML		19 53 25.9	
SHL	comp=N,1μm,0.1s			IAML		19 53 26.3	
SHL	**Shillong**	**2.67**	**295**		**Pn**	**19 52 54.2**	**-0.2**
SHL				Sn	**Sn**	**19 53 24.0**	**-2.1**
BELO	**BELONIA**	**3.09**	**248**	*e*P	**Pn**	**19 53 00.7**	**+0.8**
BELO				*e*S	**Sn**	**19 53 36.2**	**+0.3**
BELO				IAML		19 53 39.2	
LKP	**Lekhapani**	**3.10**	**22**	*e*P	**Pn**	**19 52 59.8**	**-0.2**
LKP				*e*S	**Sn**	**19 53 34.3**	**-1.8**
ZIRO	**ZIRO**	**3.13**	**348**	*e*P	**Pn**	**19 52 59.6**	**-1.1**
ZIRO				*e*S	**Sn**	**19 53 34.5**	**-2.7**
ZIRO				IAML		19 53 37.6	
ZIRO	comp=N,2μm,0.4s			IAML		19 53 41.3	
BRDH	**Bariadhala**	**3.21**	**237**	P	**Pn**	**19 53 02.5**	**+0.9**
BRDH	comp=E,0.0nm,0.3s,baz=277,slow=23,SNR=17			S	**Sn**	**19 53 39.4**	**+0.7**
SIMRM	**Sittwe**	**4.56**	**200**		**Pn**	**19 53 21.7**	**+1.7**
SIMRM				Sn	**Sn**	**19 54 11.4**	**-0.4**
LSA	**Lhasa**	**6.05**	**331**		**Pn**	**19 53 42.1**	**+1.4**
GTK	**Tadong**	**6.08**	**299**	*e*P	**Pn**	**19 53 41.6**	**+0.8**
GTK				*e*S	**Sn**	**19 54 46.3**	**-2.8**
GTK				IAML		19 54 52.8	
GTK	comp=N,107nm,0.2s			IAML		19 54 53.4	
TAPN	**Taplejung**	**6.81**	**297**	*e*Pn	**Pn**	**19 53 50.9**	**-0.1**
TAPN				*e*Sn	**Sn**	**19 55 04.6**	**-2.6**
ODAN	**Odare**	**6.91**	**292**	*e*Pn	**Pn**	**19 53 51.8**	**-0.3**
ODAN				*e*Sn	**Sn**	**19 55 07.1**	**-2.2**
CHTO	**Chiang Mai**	**6.93**	**143**		**Pn**	**19 53 51.9**	**-0.4**
CMMT	**Chiang Mai**	**6.93**	**143**	P	**Pn**	**19 53 51.9**	**-0.4**
MHMT	**Maesarieng**	**6.98**	**153**	P	**Pn**	**19 53 53.5**	**+0.5**
PAYA	**Payao**	**7.06**	**135**	P	**Pn**	**19 53 54.7**	**+0.6**
CM31	**Chiang Mai Arr**	**7.22**	**145**		**Pn**	**19 53 56.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.22**	**145**	P	**Pn**	**19 53 56.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.22**	**145**		**Pn**	**19 53 55.8**	**-0.4**
RAMN	**Ramite**	**7.60**	**291**	*e*Pn	**Pn**	**19 54 01.8**	**+0.1**
RAMN				*e*Sn	**Sn**	**19 55 23.7**	**-2.7**
BOK	**Bokaro**	**7.95**	**267**	*e*P	**Pn**	**19 54 05.4**	**-0.8**
BOK				*e*S	**Sn**	**19 55 29.6**	**-5.1**
JIRN	**Jiri**	**8.18**	**295**	*e*Pn	**Pn**	**19 54 09.2**	**-0.5**
JIRN				*e*Sn	**Sn**	**19 55 37.5**	**-3.2**
GUN	**Gumba**	**8.53**	**296**	*e*Pn	**Pn**	**19 54 14.0**	**-0.4**
GUN				*e*Sn	**Sn**	**19 55 45.3**	**-3.9**
PKI	**Pulchoki**	**8.80**	**293**	*e*Pn	**Pn**	**19 54 17.4**	**-0.7**
PKI				*e*Sn	**Sn**	**19 55 52.0**	**-3.9**
PKIN	**Phulchoki**	**8.81**	**293**	*e*Pn	**Pn**	**19 54 16.9**	**-1.3**
PKIN				*e*Sn	**Sn**	**19 55 52.0**	**-4.1**
KKN	**Kakani**	**8.98**	**294**	*e*Pn	**Pn**	**19 54 19.2**	**-1.3**
DMN	**Daman**	**9.07**	**292**	*e*Pn	**Pn**	**19 54 20.3**	**-1.4**
GKN	**Gorkha**	**9.59**	**294**	*e*Pn	**Pn**	**19 54 27.3**	**-1.4**
PBKT	**Sadao Pong**	**9.87**	**141**		**Pn**	**19 54 33.3**	**+0.9**
KOLN	**Koldanda**	**10.39**	**291**	*e*Pn	**Pn**	**19 54 38.4**	**-1.3**
KOLN				*e*Sn	**Sn**	**19 56 28.1**	**-6.4**
DANN	**Dangsing**	**10.44**	**294**	*e*Pn	**Pn**	**19 54 38.4**	**-1.9**
DANN				*e*Sn	**Sn**	**19 56 28.5**	**-7.1**
PBA	**Port Blair**	**12.84**	**188**	Pn	Pn	19 55 13.4	+0.6
ENH	**Enshi**	**14.47**	**63**		**Pn**	**19 55 32.6**	**-1.5**
QIZ	**Qiongzhong**	**15.18**	**108**	Pn	**Pn**	**19 55 41.5**	**-1.7**
QIZ				IAmb	IAmb	19 55 52.2	
GTA	**Gaotai**	**15.57**	**15**	*e*P	**P**	**19 55 55.7**	**+5.0**
GTA				pP	pP	19 56 00.8	-6.3
GTA				sP	sP	19 56 04.0	-14
GTA				pmax	pmax		
WMQ	**Urumqi**	**20.13**	**345**	P	**P**	**19 56 41.7**	**+0.9**
WMQ				IAmb	IAmb	19 56 47.1	
NIL	**Nilore**	**20.73**	**301**	P	**P**	**19 56 48.2**	**+0.9**
NIL				IAmb	IAmb	19 57 00.6	
HHC	**Hu-ho-hao-te**	**21.67**	**37**	*e*P	**P**	**19 56 57.1**	**-0.3**
HHC				pmax	pmax		
TARG	**Taragay, Kyrgy**	**22.16**	**325**	P	**P**	**19 57 05.9**	**+2.9**
NRN	**Naryn**	**22.93**	**322**	P	**P**	**19 57 15.9**	**+4.9**
TWG	**Pinlang**	**24.33**	**88**	P	**P**	**19 57 22.6**	**-1.0**
MK31	**Makanchi Array**	**24.37**	**339**	P	**P**	**19 57 25.2**	**+1.5**
MKAR	**Makanchi Array**	**24.37**	**339**	P	**P**	**19 57 25.3**	**+1.6**
MKAR	comp=Z,4.4nm,0.5s,baz=146,slow=10,SNR=61			PcP	**PcP**	**20 01 02.7**	**+1.6**
MKAR	**Makanchi Array**	**24.37**	**339**	P	**P**	**19 57 24.8**	**+1.1**
MAKZ	**Makanchi**	**24.48**	**339**	P	**P**	**19 57 26.4**	**+1.6**
AAK	**Ala-Archa**	**24.57**	**322**	P	**P**	**19 57 27.8**	**+2.1**
AAK	**Ala-Archa**	**24.57**	**322**	P	**P**	**19 57 28.0**	**+2.2**
GAR	**Garm**	**25.11**	**311**	P	**P**	**19 57 32.2**	**+1.5**
GAR				IAmb	IAmb	19 57 34.6	
SONM	**Songino Array**	**25.16**	**19**	P	**P**	**19 57 31.3**	**+0.3**
SONM	**Songino Array**	**25.16**	**19**	P	**P**	**19 57 30.5**	**-0.5**
BTK	**Batken**	**25.30**	**314**	P	**P**	**19 57 34.2**	**+1.9**
BTK				IAmb	IAmb	19 57 48.8	
ULN	**Ulaanbaatar**	**25.39**	**20**	P	**P**	**19 57 32.6**	**-0.5**
KURBB	**Kurchatov Arra**	**28.93**	**339**	P	**P**	**19 58 05.7**	**+1.1**
KURBB	comp=Z,1.6nm,0.8s,baz=153,slow=8.1,SNR=6.8			PcP	**PcP**	**20 01 11.5**	**-0.2**
KURK	**Kurchatov**	**28.98**	**339**	P	**P**	**19 58 06.2**	**+1.1**
KURK					**PcP**	**20 01 10.9**	**-0.9**
ZAA0	**Zalesovo Array**	**30.36**	**349**	P	**P**	**19 58 19.2**	**+2.1**
ZALV	**Zalesovo Beam**	**30.36**	**349**	P	**P**	**19 58 18.2**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=173,slow=13,SNR=3.8						
ZALV	**Zalesovo Beam**	**30.36**	**349**	P	**P**	**19 58 18.8**	**+1.7**
BVAR	**Borovoye Array**	**33.88**	**334**	PcP	**PcP**	**20 01 24.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=188,slow=4.0,SNR=3.6						
ABKAR	**Akbulak array**	**36.65**	**321**	P	**P**	**19 59 12.7**	**+0.9**
ABKAR	**Akbulak array**	**36.65**	**321**	P	**P**	**19 59 13.3**	**+1.4**
ABKAR				IAmb	IAmb	19 59 20.7	
	comp=Z,6.0nm,1.6s						
ARU	**Arti**	**41.25**	**330**	P	**P**	**19 59 51.5**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=124,slow=3.1,SNR=6.8						
ARU	**Arti**	**41.25**	**330**	P	**P**	**19 59 51.5**	**+1.3**
ARU				IAmb	IAmb	20 00 09.2	
	comp=Z,5.8nm,1.3s						
RAYN	**Ar Rayn**	**44.64**	**279**	P	**P**	**20 00 19.3**	**+1.2**
RAYN				IAmb	IAmb	20 00 35.0	
	comp=Z,4.5nm,1.6s						
BATI	**Baumata**	**44.65**	**137**	P	**P**	**20 00 15.8**	**-2.3**
	comp=Z,2.9nm,0.3s,baz=87,slow=1.4,SNR=3.9						
FAKI	**Fak Fak**	**45.61**	**121**	P	**P**	**20 00 23.7**	**-2.0**
FAKI				IAmb	IAmb	20 00 27.8	
	comp=Z,17nm,1.0s						
TIXI	**Tiksi**	**51.04**	**13**	P	**P**	**20 01 05.7**	**-1.0**
KNRA	**Kununurra**	**52.00**	**137**	P	**P**	**20 01 13.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.02**	**141**	P	**P**	**20 01 13.2**	**-1.5**
	comp=Z,1.7nm,0.9s,baz=337,slow=13,SNR=5.0						
FITZ	**Fitzroy Crossi**	**52.02**	**141**	P	**P**	**20 01 13.7**	**-1.0**
FITZ				IAmb	IAmb	20 01 14.1	
	comp=Z,11nm,1.6s						
BR131	**Keskin Array S**	**52.88**	**302**	P	**P**	**20 01 22.1**	**+1.1**
BR131				IAmb	IAmb	20 01 33.7	
	comp=Z,3.4nm,1.4s						
BRTR	**Keskin Array B**	**52.88**	**302**	P	**P**	**20 01 21.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=138,slow=9.5,SNR=8.6						
BRTR	**Keskin Array B**	**52.88**	**302**	P	**P**	**20 01 22.1**	**+1.0**
AKASG	**Malin Array Be**	**55.98**	**316**	P	**P**	**20 01 42.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=77,slow=6.6,SNR=5.7						
AKASG	**Malin Array Be**	**55.98**	**316**	P	**P**	**20 01 42.9**	**-0.3**
MORW	**Morawa**	**57.08**	**158**	P	**P**	**20 01 50.7**	**-0.4**
MLR	**Muntele Rosu**	**58.25**	**310**	P	**P**	**20 01 59.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=329,slow=8.2,SNR=4.5						
MLR	**Muntele Rosu**	**58.25**	**310**	P	**P**	**20 02 00.5**	**+1.0**
MLR				IAmb	IAmb	20 02 16.1	
	comp=Z,10nm,1.5s						
FINES	**FINESS Array B**	**58.57**	**328**	P	**P**	**20 02 01.5**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=99,slow=4.9,SNR=5.2						
FINES	**FINESS Array B**	**58.57**	**328**	P	**P**	**20 02 02.0**	**+0.8**
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**20 02 01.6**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=325,slow=7.2,SNR=38						
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**20 02 01.1**	**-1.7**
WB2	**Warramunga Arr**	**58.71**	**135**	P	**P**	**20 02 01.7**	**-1.1**
WB2				IAmb	IAmb	20 02 02.3	
	comp=Z,5.1nm,0.8s						
ARCES	**ARCESS Array B**	**60.01**	**338**	P	**P**	**20 02 12.1**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=81,slow=7.5,SNR=9.1						
ARCES	**ARCESS Array B**	**60.01**	**338**	P	**P**	**20 02 11.8**	**+0.8**
ARE0	**ARCESS Array S**	**60.01**	**338**	P	**P**	**20 02 11.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**61.01**	**158**	P	**P**	**20 02 17.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**61.01**	**158**	P	**P**	**20 02 17.2**	**-1.0**
NWAO				IAmb	IAmb	20 02 21.5	
	comp=Z,24nm,1.2s						
AS31	**Alice Springs**	**61.18**	**138**	P	**P**	**20 02 19.0**	**-0.7**
ASAR	**Alice Springs**	**61.18**	**138**	P	**P**	**20 02 18.7**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=321,slow=6.9,SNR=28						
ITM	**Ithomi**	**62.30**	**301**	P	**P**	**20 02 25.9**	**-1.2**
HFS	**Hagfors**	**64.62**	**327**	P	**P**	**20 02 41.7**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=104,slow=6.3,SNR=21						
NC303	**NORSAR Array S**	**65.64**	**328**	P	**P**	**20 02 48.4**	**-0.1**
NB2	**NORSAR Subarra**	**65.74**	**328**	P	**P**	**20 02 48.7**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=95,slow=5.6						
NOA	**NORSAR Array B**	**65.74**	**328**	P	**P**	**20 02 49.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=94,slow=5.4,SNR=4.2						
TIP	**Timpagrande**	**65.89**	**304**	P	**P**	**20 02 51.5**	**+0.9**
TIP				IAmb	IAmb	20 02 59.3	
	comp=Z,18nm,1.4s						
NC204	**NORSAR Array S**	**65.93**	**328**	P	**P**	**20 02 50.7**	**+0.2**
GERES	**GERESS Array B**	**66.14**	**315**	P	**P**	**20 02 52.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=59,slow=7.3,SNR=6.2						
GERES	**GERESS Array B**	**66.14**	**315**	P	**P**	**20 02 51.9**	**-0.2**
CTA	**Charters Tower**	**67.01**	**127**	P	**P**	**20 02 56.9**	**-1.0**
	comp=Z,3.6nm,0.9s,baz=299,slow=13,SNR=2.9						
CTAO	**Charters Tower**	**67.01**	**127**	P	**P**	**20 02 56.4**	**-1.5**
CTAO				IAmb	IAmb	20 02 59.5	
	comp=Z,23nm,1.5s						
EKA	**Eskdalemuir Ar**	**74.47**	**324**	P	**P**	**20 03 43.4**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=64,slow=6.4,SNR=3.2						
LSZ	**Lusaka**	**75.83**	**246**	P	**P**	**20 03 52.0**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=56,slow=6.6,SNR=3.6						
LSZ	**Lusaka**	**75.83**	**246**	P	**P**	**20 03 52.0**	**+0.8**
LSZ				IAmb	IAmb	20 03 52.6	
	comp=Z,2.2nm,0.6s						
IMAR	**Indian Mountai**	**76.25**	**23**	P	**P**	**20 03 52.5**	**-0.2**
TOLK	**Toolik Lake Re**	**76.27**	**20**	P	**P**	**20 03 53.1**	**+0.3**
TOLK				IAmb	IAmb	20 04 00.9	
	comp=Z,6.3nm,1.5s						
MLY	**Manley**	**77.82**	**23**	P	**P**	**20 04 01.9**	**+0.3**
MLY				IAmb	IAmb	20 04 14.5	
	comp=Z,4.0nm,1.3s						
SUMG	**Summit**	**78.17**	**347**	P	**P**	**20 04 04.2**	**+0.4**
SUMG				IAmb	IAmb	20 04 04.4	
	comp=Z,2.1nm,0.6s						
BPAW	**Bear Paw Mtn.**	**78.23**	**24**	P	**P**	**20 04 04.2**	**+0.4**
BPAW				IAmb	IAmb	20 04 16.4	
	comp=Z,8.6nm,1.3s						
BMAR	**Burnt Mountain**	**78.51**	**20**	P	**P**	**20 04 06.2**	**+0.8**
TULEG	**Thule**	**78.73**	**356**	P	**P**	**20 04 06.2**	**-0.1**
ILAR	**Eielson Array**	**79.33**	**23**	P	**P**	**20 04 09.1**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=279,slow=4.6,SNR=5.8						
ILAR	**Eielson Array**	**79.33**	**23**	P	**P**	**20 04 07.4**	**-2.4**
BRLK	**Bradley Lake**	**80.60**	**28**	P	**P**	**20 04 14.7**	**-2.1**
INK	**Inuvik**	**81.04**	**16**	P	**P**	**20 04 18.8**	**-0.1**
	comp=Z,2.4nm,0.4s,baz=324,slow=3.8,SNR=16						
INK	**Inuvik**	**81.04**	**16**	P	**P**	**20 04 18.3**	**-0.6**
INK				IAmb	IAmb	20 04 19.2	
	comp=Z,4.9nm,1.1s						
BCAR	**Beaver Creek A**	**82.16**	**22**	P	**P**	**20 04 25.1**	**+0.1**
LBTB	**Lobatse**	**82.89**	**239**	P	**P**	**20 04 30.6**	**+1.1**
LBTB				IAmb	IAmb	20 04 31.5	
	comp=Z,5.8nm,0.7s						
BOSA	**Boshof**	**85.00**	**236**	P	**P**	**20 04 40.7**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=83,slow=4.1,SNR=14						
BOSA	**Boshof**	**85.00**	**236**	P	**P**	**20 04 40.7**	**+0.6**
BOSA				IAmb	IAmb	20 04 41.4	
	comp=Z,6.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**87.22**	**283**	P	**P**	**20 04 52.0**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=74,slow=4.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**87.22**	**283**	P	**P**	**20 04 51.8**	**+0.6**

IDC 12 19:58:27.4±2.0,1°.16N×125°.32E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/51,mbtmp3.5/3,Error ellipse: s-maj=203.5km s-min=26.5km az=64.0,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.76**	**158**	P	P	20 03 30.9	-0.5
	0.4nm,0.3s,baz=334,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**26.05**	**162**	P	P	20 04 03.1	+0.5
	0.4nm,0.5s,baz=354,slow=7.7,SNR=4.2						
**MKA

HNR S **Sn** **20 02 13.2 0.0**
68nm,0.3s,baz=214,slow=18,SNR=4.0
HNR LR LR 20 03 11.5
comp=Z,3μm,19.4s,baz=288,slow=40
HNR Honiara 4.35 121 *e*P **Pn** **20 01 24.0 +0.2**
HNR Honiara 4.35 121 **Pn** **20 01 22.6 -1.1**
KRVT Keravat (AS076 5.03 305 P **Pn** **20 01 35.7 +2.6**
18nm,0.3s,baz=73,slow=6.4,SNR=7.4
KRVT S **Sn** **20 02 33.8 +3.9**
23nm,0.3s,baz=354,slow=23,SNR=3.8
KRVT LR LR 20 03 48.2
comp=Z,2μm,22.0s,baz=150,slow=40
PMG Port Moresby 9.19 256 P **Pn** **20 02 32.9 +2.8**
13nm,0.3s,baz=74,slow=7.8,SNR=22
PMG S **Sn** **20 04 14.5 +2.5**
1.2nm,0.3s,baz=80,slow=18,SNR=1.6
PMG Port Moresby 9.19 256 Pn **Pn** **20 02 31.8 +1.7**
MANU Manus Island 10.16 300 Pn **Pn** **20 02 42.4 -1.0**
PATS Pohnpei 14.10 9 Pn **Pn** **20 03 37.9 +0.9**
COEN Coen 14.43 241 P **P** **20 03 44.7 -1.8**
MTSU Mount Surprise 15.87 226 P **P** **20 04 03.7 +1.3**
baz=15,SNR=5.3
CTA Charters Tower 16.03 216 P **P** **20 04 05.6 +1.4**
0.3nm,0.3s,baz=36,slow=14,SNR=7.1
CTAO Charters Tower 16.03 216 **P** **20 04 05.5 +1.4**
JAY Jayapura 16.10 286 P **P** **20 04 04.3 -0.7**
1.8nm,0.3s,baz=105,slow=7.0,SNR=4.5
JAY LR LR 20 10 50.4
comp=Z,216nm,18.9s,baz=122,slow=39
DZM Mont Dzumac 17.80 147 *e*P **Pn** **20 04 24.8 +0.9**
66nm,1.2s
DZM *e*S **Sn** **20 07 42.1 +0.3**
349nm,28.9s
DZM *e*LR LR 20 08 38.4
comp=Z,1μm,27.1s
DZM Mont Dzumac 17.80 147 P **P** **20 04 23.1 -0.8**
0.7nm,0.3s,baz=349,slow=18,SNR=4.3
DZM LR LR 20 10 24.1
comp=Z,283nm,20.8s,baz=322,slow=34
DZM Mont Dzumac 17.80 147 P **P** **20 04 22.5 -1.5**
EIDS Eidsvold 18.72 194 P **Pn** **20 04 36.0 +1.1**
KWAJ Kwajalein Atol 19.56 36 P **P** **20 04 41.1 -2.0**
KWAJ IAmb IAmb 20 05 39.8
comp=Z,204nm,1.2s
RMQ Roma 20.44 199 P Pn 20 05 01.8 +6.5
baz=20,SNR=13
QIS Mount Isa 20.83 229 P **P** **20 04 57.3 +0.4**
baz=20,SNR=4.8
ARMA Armidale 23.50 190 P P 20 05 32.4 +7.7
baz=23,SNR=4.5
ARMA Armidale 23.50 190 P **P** **20 05 26.2 +1.4**
GUMO Guam 23.50 331 LR LR 20 14 03.1
comp=Z,82nm,21.6s,baz=166,slow=35
KDU Kakadu 23.97 255 P **P** **20 05 28.5 -0.6**
baz=23,SNR=48
FAKI Fak Fak 24.20 279 P **P** **20 05 28.6 -2.6**
WRAB Tennant Creek 24.66 237 P **P** **20 05 35.2 -0.2**
WRAB IAmb IAmb 20 05 37.0
comp=Z,40nm,0.6s
SAUI Saumlaki 24.67 267 P **P** **20 05 36.0 +0.5**
SAUI Saumlaki 24.67 267 P **P** **20 05 35.0 -0.5**
WB2 Warramunga Arr 24.67 237 P **P** **20 05 35.1 -0.4**
WB2 IAmb IAmb 20 05 37.1
comp=Z,31nm,0.6s
WRA Warramunga Arr 24.68 237 P **P** **20 05 35.5 -0.1**
comp=Z,18nm,0.4s,baz=60,slow=9.7,SNR=175
WRA PcP **PcP** **20 09 11.7 +0.1**
comp=Z,1.0nm,0.5s,baz=49,slow=2.1,SNR=6.4
WRA ScP **ScP** **20 12 43.6 -1.8**
comp=Z,1.9nm,1.0s,baz=70,slow=3.4,SNR=5.8
WRA LR LR 20 14 40.8
comp=Z,228nm,20.9s,baz=65,slow=35
WRA Warramunga Arr 24.68 237 P **P** **20 05 34.4 -1.2**
WRA **ScP** **20 12 47.4 +2.0**
MTN Manton Dam 25.28 255 P **P** **20 05 40.7 -0.3**
baz=24,SNR=13
MTN Manton Dam 25.28 255 P **P** **20 05 40.1 -0.9**
MTN IAmb IAmb 20 05 41.9
comp=Z,56nm,1.0s
SIJI Sorong 25.62 283 P **P** **20 05 44.9 +0.8**
comp=Z,13nm,0.6s,baz=356,slow=18,SNR=12
SWI Sorong 25.62 283 P **P** **20 05 41.9 -2.3**
CMSA Cobar Meteorol 26.12 201 P **P** **20 05 51.4 +2.9**
baz=26,SNR=6.2
AS31 Alice Springs 26.93 230 P **P** **20 05 54.6 -1.3**
ASAR Alice Springs 26.93 230 P **P** **20 05 55.0 -0.9**
comp=Z,2.3nm,0.6s,baz=58,slow=9.5,SNR=39
ASAR PcP **PcP** **20 09 16.7 -0.1**
comp=Z,1.3nm,0.5s,baz=61,slow=2.7,SNR=8.0
ASAR ScP **ScP** **20 12 50.7 -1.2**
comp=Z,0.6nm,0.7s,baz=56,slow=3.3,SNR=5.1
ASAR LR LR 20 16 08.3
comp=Z,201nm,19.5s,baz=58,slow=35
ASAR Alice Springs 26.93 230 P **P** **20 05 54.4 -1.6**
ASAR **PcP** **20 09 16.2 -0.6**
H11S3 WAKE ISLAND Hy 27.55 22 T T 20 34 29.0
baz=202,slow=75,SNR=108
H11S2 WAKE ISLAND Hy 27.55 22 T T 20 34 28.9
baz=202,slow=75,SNR=143
H11S1 WAKE ISLAND Hy 27.57 22 T T 20 34 30.0
baz=202,slow=75,SNR=53
STKA Stephens Creek 28.07 207 P **P** **20 06 05.0 -0.9**
comp=Z,1.9nm,0.6s,baz=15,slow=8.6,SNR=5.5
STKA LR LR 20 17 12.3
comp=Z,205nm,18.1s,baz=27,slow=36
STKA Stephens Creek 28.07 207 P **P** **20 06 05.2 -0.8**
KNRA Kununurra 28.13 250 P **P** **20 06 06.5 -0.2**
baz=27,SNR=20
KNRA Kununurra 28.13 250 P **P** **20 06 06.6 0.0**
KNRA IAmb IAmb 20 06 07.5
comp=Z,34nm,1.1s
H11N1 WAKE ISLAND Hy 28.74 21 T T 20 35 51.8
baz=202,slow=76,SNR=53
H11N3 WAKE ISLAND Hy 28.75 21 T T 20 35 59.5
baz=202,slow=76,SNR=38
H11N2 WAKE ISLAND Hy 28.76 21 T T 20 35 53.2
baz=202,slow=76,SNR=21
TNTI Ternate 29.81 284 P **P** **20 06 20.2 -1.4**
SANI Sanana 30.51 278 P **P** **20 06 25.8 -2.0**
BBOO Buckleboo 31.60 214 P **P** **20 06 35.3 -1.9**
BBOO IAmb IAmb 20 07 11.8
comp=Z,54nm,1.7s
FITZ Fitzroy Crossi 31.65 247 P **P** **20 06 37.1 -0.7**
baz=30,SNR=23
FITZ Fitzroy Crossi 31.65 247 P **P** **20 06 37.3 -0.5**
comp=Z,18nm,0.7s,baz=75,slow=6.7,SNR=87
FITZ LR LR 20 19 00.1
comp=Z,112nm,20.9s,baz=71,slow=35
FITZ Fitzroy Crossi 31.65 247 P **P** **20 06 36.7 -1.1**
FITZ IAmb IAmb 20 06 38.0
comp=Z,20nm,0.8s
SOEI Soe 31.65 263 P P 20 06 55.0 +17
SOEI Soe 31.65 263 P **P** **20 06 37.6 -0.5**
SOEI IAmb IAmb 20 07 23.4
comp=Z,24nm,1.0s
WRKA Warakurna 32.01 233 P **P** **20 06 39.8 -1.2**
baz=31,SNR=9.9
OUZ Omahuta 32.16 153 P **P** **20 06 42.7 +0.6**
BATI Baumata 32.27 262 P **P** **20 06 43.9 +0.6**
comp=Z,7.7nm,0.7s,baz=351,slow=8.4,SNR=4.3
BATI LR LR 20 21 18.4
comp=Z,213nm,19.6s,baz=109,slow=39
RAO Raoul Island 32.82 135 LR LR 20 18 09.4
comp=Z,131nm,18.8s,baz=175,slow=33
MMRI Maumere 33.64 265 P **P** **20 06 54.7 -0.6**
MMRI IAmb IAmb 20 06 55.2
comp=Z,29nm,0.8s
CTBH Cotabato--PC H 34.91 294 ⇑*i*P **P** **20 07 06.7 +0.4**
FORT Forrest 35.26 225 P **P** **20 07 08.1 -1.0**
FORT IAmb IAmb 20 07 41.5
comp=Z,27nm,0.9s
BKSI Bulukumba 35.88 271 P **P** **20 07 19.0 +4.4**
BNSI Bone 35.98 272 P **P** **20 07 15.1 -0.4**
URZ Urewera 36.27 152 LR LR 20 19 25.0
comp=Z,185nm,20.2s,baz=328,slow=32
URZ Urewera 36.27 152 P **P** **20 07 18.5 +0.9**
URZ IAmb IAmb 20 08 23.2
comp=Z,46nm,1.4s
KAPI Kappang 36.27 271 P **P** **20 07 19.2 +1.3**
comp=Z,21nm,0.5s,baz=144,slow=7.6,SNR=6.3
KAPI Kappang 36.27 271 P **P** **20 07 17.6 -0.4**
KAPI IAmb IAmb 20 07 39.9
comp=Z,21nm,0.8s
JCJ Chichijima 36.68 339 LR LR 20 21 04.4
comp=Z,72nm,18.5s,baz=180,slow=34
BKZ Black Stump Fm 36.72 153 P **P** **20 07 20.9 -0.5**

THZ Tophouse 37.49 159 P **P** **20 07 27.6 -0.5**
TUWZ Tuamarina 37.58 158 P **P** **20 07 29.5 +0.8**
PSA00 Pilbara Seismi 37.86 244 P **P** **20 07 30.3 -1.1**
PSA00 IAmb IAmb 20 07 47.5
comp=Z,24nm,1.1s
KHZ Kahutara 38.29 159 P **P** **20 07 33.1 -1.5**
RPZ Rata Peaks 38.65 163 P **P** **20 07 36.7 -1.0**
comp=Z,4.5nm,0.8s,baz=333,slow=4.5,SNR=2.5
RPZ LR LR 20 23 28.6
comp=Z,220nm,18.7s,baz=348,slow=36
RPZ Rata Peaks 38.65 163 P **P** **20 07 37.5 -0.1**
RPZ IAmb IAmb 20 09 03.8
comp=Z,50nm,1.5s
MEEK Meekatharra 40.58 237 P **P** **20 07 53.1 -1.0**
baz=40,SNR=3.2
TGY Tagaytay City 40.87 301 LR LR 20 22 37.5
comp=Z,169nm,21.9s,baz=132,slow=33
JAGI Jajag, Banyuwa 41.64 265 P **P** **20 08 00.1 -2.7**
JAGI IAmb IAmb 20 08 45.5
comp=Z,25nm,1.2s
KKM Kota Kinabalu 41.98 287 P **P** **20 08 04.6 -1.2**
KLBR Kellerberrin 43.26 231 P **P** **20 08 14.9 -0.9**
baz=42,SNR=7.4
MORW Morawa 43.60 235 P **P** **20 08 17.9 -0.6**
baz=42,SNR=3.4
MORW Morawa 43.60 235 P **P** **20 08 18.0 -0.6**
MORW IAmb IAmb 20 08 38.2
comp=Z,70nm,1.6s
NWAO Narrogin (SRO) 44.24 229 P **P** **20 08 22.5 -1.1**
NWAO Narrogin (SRO) 44.24 229 P **P** **20 08 22.6 -1.1**
NWAO IAmb IAmb 20 08 40.8
comp=Z,116nm,1.8s
UGM Wanagama 45.24 266 P **P** **20 08 30.7 -1.3**
TPUB Ta-pu 46.10 312 P **P** **20 08 38.6 +0.1**
KSM Kuching 46.56 279 P **P** **20 08 41.0 -1.3**
KSM IAmb IAmb 20 08 42.4
comp=Z,12nm,0.6s
MJAR Matsushiro Arr 46.66 340 P **P** **20 08 42.5 -0.1**
comp=Z,4.2nm,0.7s,baz=164,slow=7.4,SNR=8.3
MJAR PcP **PcP** **20 10 15.4 -0.2**
comp=Z,0.7nm,0.5s,baz=160,slow=3.9,SNR=4.1
MJAR LR LR 20 27 18.8
comp=Z,46nm,21.5s,baz=205,slow=35
MJAR Matsushiro Arr 46.66 340 P **P** **20 08 42.7 +0.1**
MAJO Matsushiro 46.66 340 P **P** **20 08 43.3 +0.7**
MAT Matsushiro 46.66 340 P **P** **20 08 42.5 -0.1**
MAT S **S** **20 15 22.4 -5.2**
MJB9 Matsu-Tunnel 46.66 340 P **P** **20 08 43.3 +0.6**
JNU Nakatsue 46.75 331 LR LR 20 29 22.4
comp=Z,42nm,18.0s,baz=134,slow=37
JNU Nakatsue 46.75 331 P **P** **20 08 43.2 -0.3**
CISI Cisompet, Garu 47.94 266 P **P** **20 08 51.0 -2.1**
LEM Lembang 48.18 267 P **P** **20 08 54.9 -0.2**
comp=Z,20nm,0.6s,baz=39,slow=6.3,SNR=5.8
LEM LR LR 20 32 00.6
comp=Z,54nm,18.1s,baz=112,slow=39
DLV T Lat 51.09 292 P **P** **20 09 17.4 +0.2**
DLV IAmb IAmb 20 09 35.5
comp=Z,20nm,0.9s
KSRS Korea Array 51.67 331 P **P** **20 09 21.8 +1.0**
comp=Z,6.1nm,0.7s,baz=144,slow=6.7,SNR=18
KSRS LR LR 20 32 24.1
comp=Z,46nm,18.0s,baz=138,slow=37
KSAR Wonju Array Be 51.67 331 P **P** **20 09 20.5 -0.4**
KS19 Wonju Array Si 51.73 331 P **P** **20 09 21.4 0.0**
KS19 IAmb IAmb 20 09 51.5
comp=Z,14nm,0.9s
ASAJ Asahikawa 52.53 348 LR LR 20 31 47.0
comp=Z,101nm,19.5s,baz=200,slow=36
QIZ Qiongzhong 52.57 300 P **P** **20 09 26.2 -1.7**
QIZ S **S** **20 16 50.1 -0.6**
NJ2 Nanjing 52.82 320 *e*P **P** **20 09 28.7 -0.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
MYKOM Kota Tinggi 52.97 278 P **P** **20 09 30.3 -0.7**
PPT Papeete 53.82 106 LR LR 20 29 21.2
comp=Z,65nm,18.4s,baz=248,slow=32
PPT2 Papeete2 53.82 106 *e*S **S** **20 17 10.2 +2.2**
comp=Z,44nm,24.2s
PPT2 *e*LR LR 20 25 20.5
comp=Z,79nm,22.5s
TBI Tubuai 54.53 113 *e*LR LR 20 25 38.2
comp=Z,435nm,34.5s
WHN Wuhan 54.90 315 ⇑P **P** **20 09 45.4 +0.7**
USRK Ussuriysk Ar. 55.62 339 P **P** **20 09 51.1 +1.4**
comp=Z,1.8nm,0.5s,baz=170,slow=6.3,SNR=10
USRK LR LR 20 32 27.7
comp=Z,44nm,20.5s,baz=151,slow=35
USRK Ussuriysk Ar. 55.62 339 P **P** **20 09 50.8 +1.1**
IPM Ipoh 56.24 280 P **P** **20 09 52.5 -2.2**
ENH Enshi 58.23 312 P **P** **20 10 07.9 -0.6**
ENH IAmb IAmb 20 10 09.2
comp=Z,11nm,1.0s
CHAI Chaiyaphum 58.35 294 P **P** **20 10 09.8 +0.3**
comp=Z,18μm,0.8s,comp=Z,247μm
PATY Pattaya 58.47 290 P **P** **20 10 11.1 +0.8**
comp=Z,26μm,0.6s
GYA Guiyang 58.51 307 *e*P **P** **20 10 11.2 +0.6**
GYA pmax pmax
comp=Z,10.0nm,0.9s
SLVN Son La 58.59 300 P **P** **20 10 11.4 +0.2**
SLVN IAmb IAmb 20 10 53.2
comp=Z,19nm,1.6s
GSI Gunungsitoli 59.07 276 P **P** **20 10 11.4 -3.2**
GSI IAmb IAmb 20 10 14.9
comp=Z,23nm,0.9s
PBKT Sadao Pong 59.49 294 P **P** **20 10 17.5 +0.1**
PBKT IAmb IAmb 20 10 19.3
comp=Z,34nm,1.6s
PHET Kaeng Krachan 59.62 289 P **P** **20 10 19.3 +1.0**
comp=Z,47μm,0.6s,comp=Z,382μm
BJT Baijiatuau 59.73 325 P **P** **20 10 18.9 +0.2**
BJT IAmb IAmb 20 10 20.4
comp=Z,6.4nm,0.7s
BJI Beijing 59.75 325 P **P** **20 10 18.6 -0.1**
BJI pmax pmax
comp=Z,9.0nm,0.6s
PEA0B Petropavlovsk- 60.08 1 P **P** **20 10 22.1 +1.3**
PETK Petropavlovsk- 60.08 1 P **P** **20 10 22.7 +1.9**
comp=Z,3.6nm,0.6s,baz=152,slow=6.5,SNR=5.4
PETK LR LR 20 32 59.1
comp=Z,130nm,21.6s,baz=240,slow=32
PETK Petropavlovsk- 60.08 1 P **P** **20 10 22.5 +1.7**
KLR Kul'dur 60.11 342 P **P** **20 10 22.9 +1.8**
comp=Z,2.8nm,0.9s,baz=154,slow=5.3,SNR=5.6
NANT Nan 60.47 296 P **P** **20 10 24.3 +0.2**
comp=Z,657μm,0.6s
SRDT SRDT 60.50 291 P **P** **20 10 25.4 +1.0**
comp=Z,13nm,1.4s
UTHA Uthaitani 60.56 292 P **P** **20 10 25.4 +0.6**
comp=Z,27μm,0.9s,comp=Z,247μm
XAN Xi'an 60.66 316 P **P** **20 10 25.2 0.0**
XAN pP pP 20 10 40.9 -0.8
XAN pmax pmax
comp=Z,4.0nm,0.6s
XAN Xi'an 60.66 316 P **P** **20 10 25.5 +0.3**
XAN IAmb IAmb 20 10 26.3
comp=Z,7.0nm,0.5s
KMI Kunming 61.10 304 P **P** **20 10 29.5 +1.0**
KMI pmax pmax
comp=Z,12nm,0.7s
KMI LR LR
comp=Z,360nm,7.0s
KMI LR LR
comp=Z,320nm,7.3s
KMI LR LR
comp=Z,290nm,8.7s
KHLT Khaolaem Dam 61.12 291 P **P** **20 10 25.9 -2.7**
comp=Z,13nm,1.6s
PAYA Payao 61.40 297 P **P** **20 10 31.0 +0.6**
comp=Z,60μm,0.8s,comp=Z,562μm
CM31 Chiang Mai Arr 61.93 295 P **P** **20 10 34.6 +0.6**
CM31 IAmb IAmb 20 10 35.9
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 61.93 295 P **P** **20 10 35.1 +1.1**
comp=Z,15nm,0.8s,baz=119,slow=5.3,SNR=125
CMAR LR LR 20 35 51.6
comp=Z,38nm,20.9s,baz=90,slow=34
CMAR Chiang Mai Arr 61.93 295 P **P** **20 10 34.0 0.0**
CMMT Chiang Mai 62.04 296 P **P** **20 10 35.1 +0.4**
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 62.04 296 P **P** **20 10 34.9 +0.1**
CHTO IAmb IAmb 20 10 36.3
comp=Z,28nm,1.2s
MHMT Maesarieng 62.75 295 P **P** **20 10 40.7 +1.3**
comp=Z,13nm,0.9s,comp=Z,737nm

CD2 Chengdu 62.83 310 P **P** **20 10 38.5 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
HHC Hu-ho-hao-te 62.95 323 *e*P **P** **20 10 42.1 +1.6**
HHC pmax pmax
comp=Z,6.0nm,1.1s
LZH Lanzhou 65.28 315 *e*P **P** **20 10 57.7 +1.7**
LZH pP pP 20 11 13.5 +0.9
LZH sP sP 20 11 20.4 +0.9
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,58nm,4.9s
LZH LR LR
comp=Z,380nm,14.9s
LZH LR LR
comp=Z,410nm,15.7s
LZH LR LR
comp=Z,550nm,16.3s
GTA Gaotai 69.69 317 P **P** **20 11 24.9 +1.2**
GTA pP pP 20 11 42.2 +2.0
GTA sP sP 20 11 50.3 +3.3
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,190nm,5.5s
GTA LR LR
comp=Z,170nm,17.9s
GTA LR LR
comp=Z,140nm,18.2s
ULN Ulaanbaatar 69.80 327 P **P** **20 11 24.9 +0.7**
SONM Songino Array 70.14 327 P **P** **20 11 27.3 +1.1**
comp=Z,11nm,0.8s,baz=144,slow=7.0,SNR=23
SONM Songino Array 70.14 327 P **P** **20 11 26.4 +0.1**
SHL Shillong 70.40 300 P **P** **20 11 27.5 -0.9**
SBA Scott Base 70.84 178 P **P** **20 11 31.2 +1.3**
LSA Lhasa 72.35 304 P **P** **20 11 41.1 +0.6**
TLY Talaya 73.83 329 LR LR 20 43 46.5
comp=Z,40nm,20.7s,baz=140,slow=35
TAPN Taplejung 74.51 301 *e*P **P** **20 11 53.3 +0.3**
comp=Z,63nm,0.8s
ODAN Odare 74.64 300 *e*P **P** **20 11 54.0 +0.3**
comp=Z,121nm,0.6s
RAMN Ramite 75.34 300 *e*P **P** **20 11 58.0 +0.2**
comp=Z,28nm,0.6s
JIRN Jiri 75.89 301 *e*P **P** **20 12 01.3 +0.3**
comp=Z,53nm,0.7s
GUN Gumba 76.22 301 *e*P **P** **20 12 03.1 +0.2**
comp=Z,71nm,0.7s
PKI Pulchoki 76.53 300 *e*P **P** **20 12 04.5 -0.1**
comp=Z,28nm,0.7s
PKIN Phulchoki 76.54 300 *e*P **P** **20 12 04.5 -0.1**
comp=Z,24nm,0.7s
KKN Kakani 76.70 301 *e*P **P** **20 12 05.5 +0.1**
comp=Z,40nm,0.8s
DMN Daman 76.80 300 *e*P **P** **20 12 06.3 +0.3**
comp=Z,83nm,1.0s
GKN Gorkha 77.31 301 *e*P **P** **20 12 08.7 0.0**
comp=Z,60nm,0.7s
KOLN Koldanda 78.13 300 *e*P **P** **20 12 13.3 -0.1**
comp=Z,41nm,0.7s
DANN Dangsing 78.14 301 *e*P **P** **20 12 13.3 -0.3**
comp=Z,50nm,0.6s
WMQ Urumqi 79.77 317 *e*P **P** **20 12 22.8 +0.9**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,250nm,6.3s
WMQ LR LR
comp=Z,640nm,28.9s
WMQ LR LR
comp=Z,1μm,29.2s
TIXI Tiksi 80.72 352 P **P** **20 12 27.1 +0.9**
comp=Z,1.1nm,0.5s,baz=121,slow=5.9,SNR=8.9
TIXI Tiksi 80.72 352 P **P** **20 12 26.9 +0.7**
QSPA South Pole Qui 82.78 180 P **P** **20 12 37.5 0.0**
comp=Z,2.5nm,0.5s,baz=359,slow=5.0,SNR=9.6
QSPA South Pole Qui 82.78 180 P **P** **20 12 37.8 +0.3**
QSPA IAmb IAmb 20 12 53.1
comp=Z,17nm,1.1s
ILAR Eielson Array 83.13 21 P **P** **20 12 39.3 +0.2**
comp=Z,0.6nm,0.6s,baz=238,slow=5.5,SNR=9.8
ILAR LR LR 20 44 30.7
comp=Z,52nm,20.5s,baz=265,slow=32
ILAR Eielson Array 83.13 21 P **P** **20 12 38.4 -0.7**
MK31 Makanchi Array 84.33 318 P **P** **20 12 45.8 +0.2**
MKAR Makanchi Array 84.33 318 P **P** **20 12 46.3 +0.7**
comp=Z,43nm,0.7s,baz=101,slow=6.2,SNR=416
MKAR LR LR 20 53 44.4
comp=Z,30nm,18.4s,baz=114,slow=38
MKAR Makanchi Array 84.33 318 P **P** **20 12 45.1 -0.5**
MAKZ Makanchi 84.54 318 P **P** **20 12 46.5 -0.2**
MAW Mawson 84.67 203 P **P** **20 12 47.2 +0.3**
comp=Z,6.0nm,0.9s,baz=118,slow=7.2,SNR=7.3
MAW LR LR 20 47 10.7
comp=Z,28nm,18.7s,baz=60,slow=33
MAW Mawson 84.67 203 P **P** **20 12 46.7 -0.2**
ZAA0 Zalesovo Array 85.00 326 P **P** **20 12 47.9 -0.8**
ZAA0 IAmb IAmb 20 12 49.2
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 85.00 326 P **P** **20 12 48.5 -0.3**
comp=Z,16nm,0.5s,baz=116,slow=5.7,SNR=63
ZALV LR LR 20 48 45.2
comp=Z,29nm,21.8s,baz=66,slow=34
ZALV Zalesovo Beam 85.00 326 P **P** **20 12 47.5 -1.2**
TARG Taragay, Kyrgy 86.14 313 P **P** **20 12 55.8 +0.5**
KDJ Kajisay 86.69 313 P **P** **20 12 58.2 +0.5**
KDJ IAmb IAmb 20 12 59.3
comp=Z,28nm,1.1s
KSH Kashi 87.03 310 P **P** **20 13 01.8 +2.4**
KSH pP pP 20 13 18.5 +1.8
KSH PP **PP** **20 16 28.0 +4.5**
KSH S **S** **20 23 35.0 +1.3**
KSH sS sS 20 24 04.1 +0.9
KSH pmax pmax
comp=Z,51nm,1.1s
KSH pmax pmax
comp=Z,660nm,5.8s
KSH LR LR
comp=Z,280nm,13.5s
NRN Naryn 87.40 312 P **P** **20 13 00.9 -0.4**
NRN IAmb IAmb 20 13 04.0
comp=Z,20nm,1.8s
KURK Kurchatov 87.71 322 P **P** **20 13 00.4 -1.7**
KURK IAmb IAmb 20 13 02.2
comp=Z,8.4nm,0.8s
KURBB Kurchatov Arra 87.75 321 P **P** **20 13 02.2 -0.1**
comp=Z,6.3nm,0.6s,baz=103,slow=3.9,SNR=31
KZA Kyzart 88.08 313 P **P** **20 13 05.5 +0.8**
SNR=10
NIL Nilore 88.09 304 P **P** **20 13 04.1 -0.3**
NIL IAmb IAmb 20 13 07.1
comp=Z,7.5nm,0.7s
KBK Karagaybulak 88.42 313 P **P** **20 13 06.2 +0.3**
SNR=6.3
CHMS Chumysh 88.62 313 P **P** **20 13 07.0 +0.2**
SNR=12
UCH Uchtor 88.65 313 P **P** **20 13 08.6 +1.2**
SNR=5.9
FRU1 Bishkek 88.67 313 P **P** **20 13 07.5 +0.4**
FRU1 IAmb IAmb 20 13 08.4
comp=Z,10nm,0.7s
AAK Ala-Archa 88.74 313 P **P** **20 13 08.1 +0.7**
SNR=11
AAK Ala-Archa 88.74 313 P **P** **20 13 07.9 +0.4**
AAK IAmb IAmb 20 13 08.7
comp=Z,8.7nm,0.7s
USP Ospenovka 88.85 314 P **P** **20 13 08.0 +0.2**
SNR=6.9
AML Almayashu 89.23 312 P **P** **20 13 11.1 +1.0**
SNR=10
EKS2 Erkin-Say 89.26 313 P **P** **20 13 10.1 +0.3**
SNR=8.3
NRIK Noril'sk 89.31 341 LR LR 20 52 56.6
comp=Z,47nm,21.1s,baz=350,slow=35
ARSB Arslanbob 89.61 312 P **P** **20 13 12.1 +0.5**
NVAR Mina Array Bea 90.93 52 P **P** **20 13 18.4 +0.5**
comp=Z,0.1nm,0.3s,baz=248,slow=4.8,SNR=2.5
NVAR LR LR 20 47 29.7
comp=Z,39nm,20.1s,baz=276,slow=31
NVAR Mina Array Bea 90.93 52 P **P** **20 13 17.9 0.0**
BTK Batken 91.04 310 P **P** **20 13 17.9 -0.3**
BTK IAmb IAmb 20 13 19.1
comp=Z,9.3nm,0.9s
GAR Garm 91.27 309 P **P** **20 13 18.6 -0.7**
GAR IAmb IAmb 20 13 20.2

comp=Z,11nm,1.1s
KBL Kabul 91.67 304 P **P 20 13 19.8 -1.6**
KBL IAmb IAmb 20 13 20.9
comp=Z,7.0nm,1.2s
KK31 Karatay Array 91.70 313 P **P 20 13 19.6 -1.4**
KKAR Karatay Array 91.70 313 P **P 20 13 20.2 -0.9**
KKAR Karatay Array 91.70 313 P **P 20 13 19.9 -1.2**
KKAR IAmb IAmb 20 13 21.2
comp=Z,3.7nm,0.8s
CHGR Chuyangaron 92.12 309 P **P 20 13 23.6 +0.4**
TAS Tashkent 92.36 311 P **P 20 13 24.7 +0.5**
SYO Syowa Base 92.52 199⇑ *e*P **P 20 13 22.8 -1.5**
SYO Syowa Base 92.52 199⇑ *e*X **P 20 13 28.5 +4.2**
BVAR Borovoye Array 93.16 323 P **P 20 13 26.9 -0.7**
comp=Z,5.5nm,0.6s,baz=104,slow=6.3,SNR=30
BRVK Borovoye 93.23 323 P **P 20 13 26.7 -1.1**
BRVK IAmb IAmb 20 13 27.9
comp=Z,9.9nm,1.0s
HRA Herat 97.25 304 P **P 20 13 46.1 -0.9**
HRA IAmb IAmb 20 13 46.7
comp=Z,18nm,1.9s
ABKAR Akbulak array 99.47 319 P **Pdif 20 13 54.2 -2.0**
ABKAR Akbulak array 99.47 319 P **Pdif 20 13 54.5 -1.8**
ABKAR IAmb IAmb 20 13 54.9
comp=Z,1.8nm,0.8s
P48A Milroy 116.36 49 PKPdf 20 18 56.6 -0.7
AKASG Malin Array Be 118.38 325 PKP **PKPdf 20 19 00.1 -0.6**
comp=Z,1.3nm,0.5s,baz=51,slow=2.3,SNR=7.1
AKASG Malin Array Be 118.38 325 PKPdf 20 18 59.9 -0.8
BRTR Keskin Array B 119.39 312 PKP **PKPdf 20 19 03.0 -0.2**
comp=Z,0.5nm,0.6s,baz=40,slow=2.2,SNR=5.2
BRTR Keskin Array B 119.39 312 PKPdf 20 19 02.9 -0.4
NOA NORSAR Array B 120.27 341 PKP **PKPdf 20 19 03.7 -0.4**
comp=Z,0.8nm,0.6s,baz=359,slow=1.5,SNR=3.0
KOLS Kolonicke sedl 123.18 325 *e*PKP **PKiKP 20 19 10.9 +0.6**
LANS Liptovska Anna 124.61 327 *e*PKP **PKiKP 20 19 13.5 +0.4**
CLL Collm 126.54 332 *e*PKPdf **PKiKP 20 19 17.0 +0.2**
KHC Kasperske Hory 127.70 330 *e*PKPDF **PKiKP 20 19 19.2 +0.5**
GERES GERESS Array B 127.82 329 PKP **PKPdf 20 19 19.4 +0.3**
comp=Z,1.6nm,0.6s,baz=66,slow=2.1,SNR=19
GERES GERESS Array B 127.82 329 PKPdf 20 19 18.8 -0.3
LPAZ La Paz 130.34 118 PKP **PKPdf 20 19 25.1 -0.3**
comp=Z,1.5nm,0.8s,baz=243,slow=2.3,SNR=4.7
LPAZ La Paz 130.34 118 PKPdf 20 19 24.7 -0.7
ESDC Sonseca Array 143.07 334 PKP PKPbc 20 19 44.8 +0.3
comp=Z,1.3nm,0.7s,baz=41,slow=3.0,SNR=7.8
ESDC Sonseca Array 143.07 334 PKPbc 20 19 44.3 -0.2
PVIS Viseu 143.71 339 *e*PKP PKPbc 20 19 47.0 +0.7
MTE Manteigas 143.87 339 *e*PKP PKPbc 20 19 47.6 +0.8
PCBR Castelo Branco 144.34 338 *e*PKP PKPbc 20 19 48.9 +0.8
PMRV Marv??o 144.66 338 *e*PKP **PKPdf 20 19 50.1 -0.2**
PTOM Tomar 144.87 339 *e*PKP **PKPdf 20 19 51.0 +0.4**
PMTG Montargil 145.29 338 *e*PKP **PKPdf 20 19 53.0 +1.6**
PBEJ Beja 146.07 337 *e*PKP **PKPbc 20 19 53.8 +0.1**
PNCL Nicolau / Gran 146.24 338 *e*PKP **PKPbc 20 19 54.7 +0.5**
MESJ Messejana 146.37 337 *e*PKP **PKPdf 20 19 51.9 -1.3**
PVAQ Vaqueiros 146.55 336 *e*PKP **PKPab 20 19 55.9 -0.2**
BDFB Brasilia 147.00 134 PKPbc **PKPbc 20 19 57.0 -0.1**
comp=Z,7.3nm,0.7s,baz=171,slow=3.6,SNR=7.5
BDFB Brasilia 147.00 134 PKPbc 20 19 56.5 -0.6
TORD Torodi Ar. Bea 154.21 285 PKP **PKPdf 20 20 05.2 -0.8**
comp=Z,0.9nm,0.7s,baz=17,slow=1.2,SNR=5.5
TORD PKPbc **PKPbc 20 20 13.8 -0.5**
comp=Z,3.9nm,0.7s,baz=66,slow=2.4,SNR=16
TORD Torodi Ar. Bea 154.21 285 PKPdf 20 20 04.9 -1.2
TORD **PKPbc 20 20 13.4 -0.9**
KIC Kosan Boka 161.03 269 *e*PKP2 **PKPab 20 20 57.7 -0.2**
comp=Z,18nm,0.6s
DBIC Dimbokro 161.16 270 PKPab **PKPab 20 20 58.4 0.0**
comp=Z,5.4nm,0.6s,baz=75,slow=3.7,SNR=13
DBIC Dimbokro 161.16 270 PKPab 20 20 58.0 -0.4
LIC Lamto 161.31 268 *e*PKP2 **PKPab 20 20 58.8 -0.3**
comp=Z,39nm,1.2s
TIC Toumodi 161.32 269 *e*PKP2 **PKPab 20 20 59.0 -0.2**

ISCJB ***12*** *20:03:15.7±1.0, 36°.15N±0°.07×71°.2E±0°.1, h114km, Error ellipse: s-maj=18.8km s-min=4.3km az=152.5*
NNC ***12*** *20:03:24.2±4.2, 36°.77N×70°.89E, h117km±72km, mb3.4, mpv4.0, Error ellipse: s-maj=34.6km s-min=29.3km az=41.0*

ISC 12 20:03:18.3±1.8, 36°26N±0°.09×71°.5E±0°.2, h114km, n27, σ1§02/28, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**4.54**	**140**	*e*S	**Sn**	**20 05 16.0**	**-0.6**
DHRM	**DHARAMSHALA**	**5.66**	**133**	*e*P	**Pn**	**20 04 42.4**	**+2.0**
DHRM				*e*S	**Sn**	**20 05 44.9**	**+0.6**
DHRM				IAML		20 05 48.7	
	comp=E,103nm,0.5s						
DHRM				IAML		20 06 18.6	
	comp=E,32nm,0.4s						
AML	**Almayashu**	**6.12**	**16**	P	**Pn**	**20 04 47.3**	**+0.7**
	SNR=27						
UCH	**Uchtor**	**6.42**	**21**	P	**Pn**	**20 04 51.7**	**+1.0**
	SNR=7.0						
KZA	**Kyzart**	**6.52**	**26**	P	**Pn**	**20 04 53.6**	**+1.5**
	SNR=7.5						
EKS2	**Erkin-Say**	**6.65**	**15**	P	**Pn**	**20 04 54.5**	**+1.0**
	SNR=15						
AAK	**Ala-Archa**	**6.79**	**19**	⇑P	**Pn**	**20 04 56.9**	**+1.4**
	comp=E,3.9nm,0.3s						
AAK				⇑S	**Sn**	**20 06 10.1**	**-1.4**
	comp=E,6.7nm,0.7s						
AAK	**Ala-Archa**	**6.79**	**19**	P	**Pn**	**20 04 56.8**	**+1.3**
	SNR=14						
KK31	**Karatay Array**	**6.88**	**354**	⇓P	Pn	20 04 55.3	-1.2
	comp=E,3.5nm,0.2s,baz=175,slow=12,SNR=116						
KK31				S	Sn	20 06 07.2	-6.1
	comp=E,2.1nm,0.3s,baz=189,slow=26,SNR=6.9						
SMLA	**Simla**	**6.99**	**135**	*e*P	**Pn**	**20 04 59.5**	**+1.5**
SMLA				*e*S	**Sn**	**20 06 15.0**	**-1.0**
SMLA				IAML		20 06 18.1	
	comp=N,39nm,0.3s						
SMLA				IAML		20 06 18.1	
	comp=E,25nm,0.3s						
SMLA				IAML		20 06 18.4	
	comp=Z,15nm,0.2s						
CHMS	**Chumysh**	**7.20**	**20**	P	**Pn**	**20 05 01.7**	**+0.8**
	SNR=6.0						
USP	**Ospenovka**	**7.39**	**18**	P	**Pn**	**20 05 04.0**	**+0.6**
	SNR=11						
JOSI	**Joshimath**	**8.84**	**128**	*e*P	**Pn**	**20 05 23.0**	**-0.4**
JOSI				*e*S	**Sn**	**20 07 00.6**	**-0.8**
JOSI				IAML		20 07 05.7	
	comp=N,207nm,0.5s						
JOSI				IAML		20 07 09.6	
	comp=E,175nm,0.5s						
KUDL	**Kundal**	**9.14**	**151**	*e*P	Pn	20 05 18.5	-8.7
KUDL				*e*S	Sn	20 06 54.6	-14
DANN	**Dangsing**	**13.05**	**124**	*e*P	**Pn**	**20 06 18.6**	**-1.1**
	comp=E,12nm,0.3s						
KOLN	**Koldanda**	**13.33**	**126**	*e*P	**Pn**	**20 06 23.2**	**0.0**
GKN	**Gorkha**	**13.87**	**123**	*e*P	**Pn**	**20 06 29.0**	**-1.1**
	comp=E,12nm,0.2s						
DMN	**Daman**	**14.44**	**123**	*e*P	**Pn**	**20 06 37.6**	**+0.1**
KKN	**Kakani**	**14.44**	**122**	*e*P	**Pn**	**20 06 36.7**	**-0.8**
	comp=E,6.6nm,0.5s						
PKIN	**Phulchoki**	**14.65**	**122**	*e*P	**Pn**	**20 06 39.7**	**-0.6**
	comp=E,5.4nm,0.4s						
PKI	**Pulchoki**	**14.67**	**122**	*e*P	**Pn**	**20 06 40.4**	**-0.1**
	comp=E,7.0nm,0.4s						
GUN	**Gumba**	**14.78**	**120**	*e*P	**Pn**	**20 06 41.3**	**-0.7**
JIRN	**Jiri**	**15.15**	**120**	*e*P	**Pn**	**20 06 46.5**	**-0.2**
	comp=E,14nm,0.3s						
AB31	**Akbulak array**	**15.47**	**331**	⇓P	Pn	20 06 46.9	-3.3
	comp=E,0.8nm,0.3s,baz=140,slow=13,SNR=52						
AB31				S	Sn	20 09 29.0	-12
	comp=E,1.3nm,0.6s,baz=156,slow=23,SNR=7.8						
TAPN	**Taplejung**	**16.41**	**118**	*e*P	**Pn**	**20 07 02.6**	**+0.4**
	comp=E,17nm,0.5s						
ODAN	**Odare**	**16.48**	**120**	*e*P	**Pn**	**20 07 04.0**	**+0.9**
AKTO	**Aktyubinsk**	**17.17**	**330**	⇑P	**P**	**20 07 09.9**	**-1.0**
	comp=E,4.8nm,0.8s						

IDC ***12*** *20:24:51.7±2.1, 1°.81N×126°.61E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/38, mbtmp3.2/3, Error ellipse: s-maj=185.7km s-min=24.7km az=66.0*
ISCJB ***12*** *20:24:53.9±1.5, 2°.2N±0°.1×127°.3E±0°.5, h35km, mb3.1/3, Error ellipse: s-maj=76.6km s-min=14.3km az=171.6*
DJA ***12*** *20:24:56.1±1.9, 2°N±6°×12°7E±°, h17km±17km, M3.1/4, MLv3.1/4*

ISC 12 20:24:55.8±1.9, 2°.1N±0°.2×127°.4E±0°.6, h35km, n4, σ0§92/5, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**179**	P	**Pn**	**20 25 18.2**	**+0.3**
TNTI				S	**Sn**	**20 25 34.1**	**-0.3**
WRA	**Warramunga Arr**	**22.97**	**163**	P	**P**	**20 29 56.6**	**-0.8**
	0.5nm,0.5s,baz=340,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**26.41**	**166**	P	**P**	**20 30 30.2**	**+0.9**
	0.1nm,0.3s,baz=346,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**59.23**	**326**	P	**P**	**20 34 53.5**	**-0.2**
	0.1nm,0.3s,baz=121,slow=8.5,SNR=3.9						

NDI ***12*** *20:41:29.9±1.7, 30°.78N×97°.52E, h26km±134km, ML4.2, mb4.4(NEIC)*
ISCJB ***12*** *20:41:32.1±0.2, 30°.07N±0°.03×97°.14E±0°.03, h10km, mb4.1/31, MS3.6/2, Error ellipse: s-maj=4.5km s-min=3.4km az=148.2*
IDC ***12*** *20:41:32.4±0.6, 30°.09N×97°.23E, h0km, mb4.0/22, mb1 4.1/25, mb1mx4.0/58, mbtmp4.0/25, ML3.6/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/63, Error ellipse: s-maj=15.7km s-min=12.5km az=50.0*
MOS ***12*** *20:41:35.7±1.0, 30°.08N×97°.20E, h39km, mb4.4/8, Error ellipse: s-maj=9.6km s-min=6.2km az=113.9*
BJI ***12*** *20:41:35.5±0.0, 29°.99N×97°.16E, h9km, mb4.1/11, ML4.0/9, Ms3.8/11, Ms7 3.6/10*
NEIC ***12*** *20:41:38.0±1.7, 30°.01N±0°.09×97°.2E±0°.1, h45km±7km, mb4.4/47*

ISC 12 20:41:34.5±0.4, 30°.13N±0°.04×97°.10E±0°.04, h10km, n148, σ1§49/157, mb4.3/49, 6C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**2.99**	**202**	*e*P	**Pn**	**20 42 25.6**	**+3.6**
LKP				*e*S	**Sb**	**20 43 06.3**	**+1.8**
LKP				IAML		20 43 08.0	
	comp=E,1μm,0.6s						
LKP				IAML		20 43 15.3	
	comp=N,970nm,0.5s						
ZIRO	**ZIRO**	**3.85**	**229**	*e*P	**Pn**	**20 42 36.6**	**+2.6**
ZIRO				*e*S	**Sb**	**20 43 26.9**	**-2.5**
ZIRO				IAML		20 43 34.0	
	comp=E,1μm,0.2s						
ZIRO				IAML		20 43 34.4	
	comp=N,3μm,0.4s						
JORH	**JORHAT**	**4.20**	**217**	*e*P	**Pn**	**20 42 42.5**	**+4.0**
JORH				*e*S	**Sb**	**20 43 35.8**	**-3.5**
JORH				IAML		20 43 50.8	
	comp=E,353nm,0.6s						
JORH				IAML		20 43 52.4	
	comp=N,539nm,0.7s						
KOHI	**KOHIMA**	**5.12**	**212**	*e*P	**Pn**	**20 42 53.5**	**+2.0**
KOHI				*e*S	**Sn**	**20 43 53.4**	**+2.6**
KOHI				IAML		20 44 17.2	
	comp=N,376nm,0.8s						
KOHI				IAML		20 44 20.9	
	comp=E,276nm,0.1s						
LSA	**Lhasa**	**5.18**	**267**	P	**Pn**	**20 42 55.1**	**+2.6**
LSA	**Lhasa**	**5.18**	**267**		**Pn**	**20 42 55.1**	**+2.6**
SHL	**Shillong**	**6.48**	**227**	P	**Pn**	**20 43 09.3**	**-0.7**
SHL	**Shillong**	**6.48**	**227**	*e*P	**Pn**	**20 43 09.7**	**-0.4**
SHL				*e*S	**Sn**	**20 44 23.9**	**-0.3**
SHL				IAML		20 44 55.4	
	comp=E,64nm,0.5s						
SHL				IAML		20 45 00.2	
	comp=N,62nm,0.6s						
SHL	**Shillong**	**6.48**	**227**		**Pn**	**20 43 09.3**	**-0.7**
KMI	**Kunming**	**7.06**	**134**	Pn	Pg	20 43 44.4	-5.3
KMI				Sn	**Sb**	**20 45 04.2**	**+2.4**
KMI				smax	smax		
	comp=N,22nm,1.5s						
KMI				smax	smax		
	comp=E,26nm,1.4s						
KMI				LR	LR		
	comp=N,360nm,6.2s						
KMI				LR	LR		
	comp=E,320nm,6.6s						
KMI				LR	LR		
	comp=Z,290nm,8.8s						
GTK	**Tadong**	**7.97**	**252**	*e*P	**Pn**	**20 43 30.6**	**+0.1**
GTK				*e*S	**Sn**	**20 45 00.3**	**-0.5**
TAPN	**Taplejung**	**8.69**	**254**	*e*P	**Pn**	**20 43 41.3**	**+0.7**
	comp=Z,23nm,0.4s						
BRDH	**Bariadhala**	**8.88**	**215**	Pn	**Pn**	**20 43 44.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=287,slow=19,SNR=2.2						
BRDH				Sn	**Sn**	**20 45 25.8**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=4.8						
ODAN	**Odare**	**9.14**	**252**	*e*P	**Pn**	**20 43 47.3**	**+0.6**
	comp=Z,28nm,0.3s						
GYA	**Guiyang**	**9.19**	**111⇑**	*i*P	**Pn**	**20 43 47.7**	**+0.5**
GYA				S	**Sn**	**20 45 30.4**	**-0.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				LR	LR		
	comp=Z,340nm,10.6s						
GYA				LR	LR		
	comp=Z,220nm,10.7s						
GYA				LR	LR		
	comp=Z,290nm,9.4s						
GTA	**Gaotai**	**9.53**	**13**	*e*P	**Pn**	**20 43 54.8**	**+3.0**
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GTA				smax	smax		
	comp=Z,2.0nm,1.8s						
GTA				smax	smax		
	comp=Z,2.0nm,1.8s						
RAMN	**Ramite**	**9.76**	**254**	*e*P	**Pn**	**20 43 55.6**	**+0.4**
	comp=Z,33nm,0.5s						
JIRN	**Jiri**	**9.87**	**258**	*e*P	**Pn**	**20 43 57.0**	**+0.2**
	comp=Z,30nm,0.3s						
GUN	**Gumba**	**10.07**	**260**	*e*P	**Pn**	**20 43 59.4**	**-0.1**
	comp=Z,31nm,0.3s						
PKI	**Pulchoki**	**10.56**	**259**	*e*P	**Pn**	**20 44 06.0**	**-0.2**
	comp=Z,34nm,0.5s						
PKIN	**Phulchoki**	**10.57**	**259**	*e*P	**Pn**	**20 44 06.1**	**-0.2**
	comp=Z,30nm,0.4s						
KKN	**Kakani**	**10.61**	**260**	*e*P	**Pn**	**20 44 06.0**	**-0.8**
	comp=Z,30nm,0.5s						
DMN	**Daman**	**10.81**	**260**	*e*P	**Pn**	**20 44 08.9**	**-0.7**
	comp=Z,25nm,0.6s						
GKN	**Gorkha**	**11.11**	**262**	*e*P	**Pn**	**20 44 12.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**11.74**	**171**	*ce*P	**Pn**	**20 44 24.2**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.74**	**171**	Pn	**Pn**	**20 44 22.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=14						
CMAR				Lg	Lg	20 47 44.6	
	baz=350,slow=26,SNR=2.2						
CMAR				LR	LR	20 49 00.7	
	comp=Z,54nm,18.7s,baz=220,slow=38						
DANN	**Dangsing**	**11.79**	**265**	*e*P	**Pn**	**20 44 20.5**	**-2.5**
	comp=Z,28nm,0.5s						
KOLN	**Koldanda**	**12.05**	**262**	*e*P	**Pn**	**20 44 23.5**	**-3.1**
	comp=Z,23nm,0.5s						
CHAI	**Chaiyaphum**	**14.85**	**161**	P	**P**	**20 45 11.2**	**+0.7**
	comp=Z,10μm,0.8s,comp=Z,34nm						
WMQ	**Urumqi**	**15.58**	**334**	*e*P	**Pn**	**20 45 14.9**	**+0.7**
WMQ				LR	LR		
	comp=Z,570nm,29.3s						
WMQ				LR	LR		
	comp=Z,340nm,28.9s						
WMQ				LR	LR		
	comp=Z,190nm,22.5s						
HHC	**Hu-ho-hao-te**	**15.89**	**44**	*e*P	**P**	**20 45 20.6**	**-1.4**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
UBPT	**Khong Chiam**	**16.66**	**151**	P	**Pn**	**20 45 25.2**	**-2.9**
UBPT				IAmb	IAmb	20 45 45.6	
	comp=Z,42nm,1.6s						
HKPS	**Hong Kong Po S**	**17.16**	**113**		**Pn**	**20 45 29.8**	**-4.7**
PBA	**Port Blair**	**18.82**	**193**	P	P	20 45 48.8	-5.6
SONM	**Songino Array**	**19.08**	**19**	P	**P**	**20 45 57.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=5.6						
SONM	**Songino Array**	**19.08**	**19**	P	**P**	**20 45 57.0**	**-0.2**
ULN	**Ulaanbaatar**	**19.30**	**21**	*ce*P	**Pn**	**20 46 00.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,14nm,2.5s						
ULN	**Ulaanbaatar**	**19.30**	**21**	P	**Pn**	**20 46 00.6**	**-0.1**
TARG	**Taragay, Kyrgy**	**19.40**	**312**	P	**P**	**20 46 01.6**	**+0.5**
KSH	**Kashi**	**19.68**	**304**	P	**Pn**	**20 46 07.3**	**+2.1**
KSH				PP	**PnPn**	**20 46 27.0**	**+8.2**
KSH				S	**S**	**20 49 42.5**	**-3.3**
KSH				sS	sS	20 49 54.1	+2.0
KSH				LR	LR		
	comp=Z,290nm,12.1s						
KSH				LR	LR		
	comp=Z,310nm,11.6s						
KSH				LR	LR		
	comp=Z,290nm,10.0s						
KDJ	**Kajisay**	**20.00**	**312**	P	**P**	**20 46 06.8**	**-0.6**
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KDJ	**Kajisay**	**20.00**	**312**	P	**P**	**20 46 06.8**	**-0.6**
MK31	**Makanchi Array**	**20.23**	**329**	P	**P**	**20 46 09.8**	**+0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**20.23**	**329**	P	**P**	**20 46 09.8**	**+0.2**
MKAR	**Makanchi Array**	**20.23**	**329**	P	**P**	**20 46 10.0**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=132,slow=12,SNR=19						
MKAR				PcP	**PcP**	**20 50 22.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=211,slow=2.4,SNR=4.2						
MKAR	**Makanchi Array**	**20.23**	**329**	P	**P**	**20 46 09.8**	**+0.2**
MKAR					**PcP**	**20 50 22.2**	**-1.3**
MAKZ	**Makanchi**	**20.38**	**329**	P	**P**	**20 46 11.8**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**20.38**	**329**	P	**P**	**20 46 11.8**	**+0.5**
NRN	**Naryn**	**20.45**	**309**	P	**P**	**20 46 13.4**	**+1.0**
NRN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NRN	**Naryn**	**20.45**	**309**	P	**P**	**20 46 13.4**	**+1.0**
NIL	**Nilore**	**20.54**	**286**	P	**P**	**20 46 13.3**	**+0.1**
NIL				pmax	pmax		
	comp=Z,14nm,0.8s						
NIL	**Nilore**	**20.54**	**286**	P	**P**	**20 46 13.3**	**+0.1**
NIL				IAmb	IAmb	20 46 29.0	
	comp=Z,14nm,0.8s						
ZAK	**Zakamensk**	**20.76**	**11**	*e*P	**P**	**20 46 15.4**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s						
DGZ	**Jazzator, Alta**	**20.88**	**342**	*i*P	Pn	20 46 18.0	-1.3
AAK	**Ala-Archa**	**21.99**	**311**	P	**P**	**20 46 30.1**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=127,slow=5.1,SNR=4.8						
AAK	**Ala-Archa**	**21.99**	**311**	P	**P**	**20 46 30.1**	**+1.2**
ARSB	**Arslanbob**	**22.47**	**306**	P	**P**	**20 46 33.8**	**-0.2**
ARSB				IAmb	IAmb	20 46 57.1	
	comp=Z,12nm,1.4s						
BTK	**Batken**	**23.60**	**302**	P	**P**	**20 46 46.8**	**+1.2**
BTK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BTK	**Batken**	**23.60**	**302**	P	**P**	**20 46 46.8**	**+1.2**
BTK				IAmb	IAmb	20 46 59.8	
	comp=Z,6.9nm,0.9s						
GAR	**Garm**	**23.70**	**299**	P	**P**	**20 46 45.9**	**-0.7**
GAR				IAmb	IAmb	20 46 50.6	
	comp=Z,7.9nm,0.9s						
KBL	**Kabul**	**24.08**	**288**	P	**P**	**20 46 49.7**	**-0.6**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**24.08**	**288**	P	**P**	**20 46 49.7**	**-0.6**
KBL				IAmb	IAmb	20 47 07.1	
	comp=Z,7.1nm,0.9s						
CHGR	**Chuyangaron**	**24.51**	**298**	P	**P**	**20 46 54.0**	**-0.2**
CHGR				IAmb	IAmb	20 47 19.1	
	comp=Z,18nm,1.0s						
KURBB	**Kurchatov Arra**	**24.76**	**331**	P	**P**	**20 46 56.7**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=140,slow=11,SNR=11						
KURK	**Kurchatov**	**24.79**	**331**	*ce*P	**P**	**20 46 58.1**	**+1.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**24.79**	**331**	P	**P**	**20 46 55.9**	**-0.5**
KKAR	**Karatay Array**	**24.84**	**309**	P	**P**	**20 46 57.5**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KKAR	**Karatay Array**	**24.84**	**309**	P	**P**	**20 46 57.5**	**+0.5**
KKAR	**Karatay Array**	**24.84**	**309**	P	**P**	**20 46 58.1**	**+1.0**
KKAR				IAmb	IAmb	20 47 07.3	
	comp=Z,4.7nm,1.2s						
ZAA0	**Zalesovo Array**	**25.42**	**343**	P	**P**	**20 47 02.2**	**+0.2**
ZAA0				IAmb	IAmb	20 47 04.5	
	comp=Z,5.1nm,0.7s						
ZALV	**Zalesovo Beam**	**25.42**	**343**	P	**P**	**20 47 02.1**	**+0.1**
ZALV	**Zalesovo Beam**	**25.42**	**343**	P	**P**	**20 47 02.5**	**+0.4**
	comp=Z,5.8nm,0.6s,baz=157,slow=9.6,SNR=26						
ZALV	**Zalesovo Beam**	**25.42**	**343**	P	**P**	**20 47 02.1**	**+0.1**
KSRS	**Korea Array**	**26.56**	**66**	P	**P**	**20 47 12.5**	**0.0**
	comp=Z,1.9nm,0.6s,baz=262,slow=9.9,SNR=4.5						
BVAR	**Borovoye Array**	**30.06**	**327**	P	**P**	**20 47 44.0**	**+0.3**
BVAR	**Borovoye Array**	**30.06**	**327**	P	**P**	**20 47 44.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=129,slow=9.6,SNR=4.6						
BRVK	**Borovoye**	**30.13**	**327**	*i*P	**P**	**20 47 44.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**30.13**	**327**	P	**P**	**20 47 44.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**30.90**	**53**	P	**P**	**20 47 49.7**	**-1.5**
USRK	**Ussuriysk Ar.**	**30.90**	**53**	P	**P**	**20 47 50.1**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=267,slow=11,SNR=4.5						
USRK	**Ussuriysk Ar.**	**30.90**	**53**	P	**P**	**20 47 49.7**	**-1.5**
KLR	**Kul'dur**	**32.40**	**44**	*i*P	**P**	**20 48 02.8**	**-1.5**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**32.40**	**44**	P	**P**	**20 48 03.4**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=292,slow=11,SNR=5.2						
KLR				LR	LR	21 01 18.2	
	comp=Z,50nm,18.3s,baz=234,slow=37						
GEYT	**Alibeck**	**33.05**	**294**	P	**P**	**20 48 12.1**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=116,slow=6.8,SNR=4.7						
GEYT	**Alibeck**	**33.05**	**294**	P	**P**	**20 48 09.9**	**-0.2**
ABKAR	**Akbulak array**	**33.94**	**315**	P	**P**	**20 48 18.0**	**+0.3**
ABKAR	**Akbulak array**	**33.94**	**315**	P	**P**	**20 48 18.3**	**+0.5**
ABKAR				IAmb	IAmb	20 48 19.6	
	comp=Z,1.9nm,0.8s						
DAV	**Davao City (W)**	**35.23**	**125⇑**	*e*P	**P**	**20 48 31.7**	**+2.4**
AKTO	**Aktyubinsk**	**35.51**	**316**	P	**P**	**20 48 32.0**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=116,slow=5.9,SNR=6.8						
ASAJ	**Asahikawa**	**38.39**	**56**	P	**P**	**20 48 55.0**	**-0.8**
	comp=Z,11nm,0.9s,baz=242,slow=4.1,SNR=6.3						
JKA	**Kamikawa-asahi**	**38.39**	**56**	P	**P**	**20 48 55.0**	**-0.8**
NRIK	**Noril'sk**	**39.64**	**355**	P	**P**	**20 49 05.7**

WRA Warramunga Arr 61.34 140 P **P 20 51 49.1 -1.6**
comp=Z,5.1nm,0.8s,baz=326,slow=7.8,SNR=13
WRA Warramunga Arr 61.34 140 P **P 20 51 48.8 -1.8**
NOA NORSAR Array B 62.19 327 P **P 20 51 55.4 -0.5**
comp=Z,0.6nm,0.5s,baz=77,slow=6.6,SNR=3.0
GERES GERESS Array B 63.85 313 P **P 20 52 07.2 0.0**
comp=Z,0.4nm,0.5s,baz=55,slow=5.1,SNR=5.3
GERES GERESS Array B 63.85 313 P **P 20 52 07.5 +0.3**
ASAR Alice Springs 64.11 142 P **P 20 52 07.0 -2.0**
ASAR Alice Springs 64.11 142 P **P 20 52 07.5 -1.5**
comp=Z,2.1nm,0.6s,baz=330,slow=6.6,SNR=3.1
ASAR Alice Springs 64.11 142 P **P 20 52 07.0 -2.0**
CTA Charters Tower 68.77 130 LR LR 21 27 42.4
comp=Z,87nm,18.6s,baz=252,slow=40
IMAR Indian Mountai 70.17 24 P **P 20 52 46.7 -0.3**
TOLK Toolik Lake Re 70.19 21 P **P 20 52 47.0 -0.1**
MLY Manley 71.73 24 P **P 20 52 56.0 -0.6**
MLY IAmb IAmb 20 52 57.4
comp=Z,9.9nm,1.1s
SVW2 Sparrevohn 71.87 29 P **P 20 52 57.9 +0.5**
BPAW Bear Paw Mtn. 72.14 25 P **P 20 52 58.6 -0.4**
BPAW IAmb IAmb 20 53 00.2
comp=Z,8.6nm,1.1s
PPLA Purkeypile 72.33 27 P **P 20 53 00.5 +0.2**
BMAR Burnt Mountain 72.42 21 P **P 20 53 00.7 +0.1**
KTH Kantishna Hill 72.46 26 P **P 20 52 59.7 -1.2**
KTH IAmb IAmb 20 53 02.6
comp=Z,7.1nm,1.2s
NEA Nenana 72.58 24 P **P 20 53 01.6 +0.1**
NEA IAmb IAmb 20 53 02.1
comp=Z,7.6nm,0.8s
MDM Murphy Dome 72.66 24 P **P 20 53 02.7 +0.6**
MDM IAmb IAmb 20 53 03.4
comp=Z,12nm,1.2s
TRF Thorofare Moun 72.76 26 P **P 20 53 02.8 0.0**
TRF IAmb IAmb 20 53 26.2
comp=Z,12nm,1.5s
CCB Clear Creek Bu 72.99 24 P **P 20 53 02.5 -1.4**
WRH Wood River Hil 72.99 24 P **P 20 53 02.4 -1.6**
WRH IAmb IAmb 20 53 14.0
comp=Z,4.9nm,1.2s
SKT Skwentna 73.08 27 P **P 20 53 03.2 -1.4**
SKT IAmb IAmb 20 53 25.5
comp=Z,11nm,1.4s
IL31 73.24 24 P **P 20 53 04.4 -1.0**
IL31 IAmb IAmb 20 53 05.1
comp=Z,2.5nm,0.8s
ILAR Eielson Array 73.24 24 P **P 20 53 03.5 -2.0**
ILAR Eielson Array 73.24 24 P **P 20 53 04.3 -1.2**
comp=Z,2.3nm,1.0s,baz=296,slow=5.5,SNR=14
ILAR Eielson Array 73.24 24 P **P 20 53 03.5 -2.0**
PRP Porcupine Dome 73.27 23 P **P 20 53 06.1 +0.3**
PRP IAmb IAmb 20 53 07.0
comp=Z,12nm,1.4s
SUA Susitna One 73.67 28 P **P 20 53 07.9 -0.3**
DHY Denali Highway 74.06 25 P **P 20 53 10.1 -0.4**
DHY IAmb IAmb 20 53 11.3
comp=Z,10.0nm,1.3s
BRLK Bradley Lake 74.55 29 P **P 20 53 11.8 -1.5**
KDAK Kodiak Island 74.90 31 P **P 20 53 14.1 -1.1**
KDAK pmax pmax
comp=Z,85nm,1.6s
KDAK Kodiak Island 74.90 31 P **P 20 53 14.1 -1.1**
DOT Dot Lake 74.91 24 P **P 20 53 14.5 -0.8**
DOT IAmb IAmb 20 53 30.4
comp=Z,4.8nm,1.3s
BCAR Beaver Creek A 76.07 24 P **P 20 53 22.0 0.0**
TORD Torodi Ar. Bea 88.09 284 P **P 20 54 25.0 -0.8**
comp=Z,0.6nm,0.8s,baz=15,slow=4.2,SNR=4.1
BDFB Brasilia 144.94 286 PKPbc **PKPab 21 01 11.1 -0.7**
comp=Z,4.0nm,0.7s,baz=161,slow=1.5,SNR=5.8

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*IDC **12** 20:44:08.6±0.7,5°.64N×123°.99E,h0km,mb4.1/19,*
mb1 4.1/20,mb1mx4.0/48,mbtmp4.1/20,ML4.1/1,MS3.9/3,
Ms1 3.9/3,ms1mx3.1/44,Error ellipse: s-maj=16.9km
s-min=13.5km az=89.0
*NEIC **12** 20:44:09.1±1.3,5°.7N±0°.1×124°.2E±0°.1,h11km±6km,*
mb4.5/14
*ISCJB **12** 20:44:11.2±0.5,5°.71N±0°.07×124°.14E±0°.09,h33km,*
mb4.0/19,MS3.9/3,Error ellipse: s-maj=13.3km
s-min=9.4km az=147.1
ISC 12 20:44:13.0±0.6,5.70N±0°.09×124°.2E±0°.1,h35km,n57,
σ0°98/56,mb4.3/25,MS4.0/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.93**	**45**	Pn	**Pn**	**20 44 43.2**	**-0.2**
	62nm,0.3s,baz=116,slow=22,SNR=4.5						
DAV				Lg	Lg	20 45 17.5	
	38nm,0.3s,baz=302,slow=20,SNR=5.7						
DAV	**Davao City (W)**	**1.93**	**45**		**Pn**	**20 44 42.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**23.69**	**177**	P	**P**	**20 49 23.5**	**+1.8**
	2.4nm,0.8s,baz=16,slow=6.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**23.69**	**177**	P	**P**	**20 49 21.7**	**0.0**
FITZ				IAmb	IAmb	20 49 30.8	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**27.36**	**159**	P	**P**	**20 49 56.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=340,slow=9.5,SNR=3.6						
WRA	**Warramunga Arr**	**27.36**	**159**	P	**P**	**20 49 55.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**27.71**	**299**	P	**P**	**20 49 57.6**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=118,slow=8.5,SNR=9.1						
CMAR	**Chiang Mai Arr**	**27.71**	**299**	P	**P**	**20 49 57.4**	**-0.9**
ASAR	**Alice Springs**	**30.68**	**162**	P	**P**	**20 50 24.4**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=340,slow=6.6,SNR=13						
ASAR	**Alice Springs**	**30.68**	**162**	P	**P**	**20 50 22.9**	**-1.8**
USRK	**Ussuriysk Ar.**	**38.95**	**9**	P	**P**	**20 51 37.1**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=188,slow=5.8,SNR=3.4						
USRK	**Ussuriysk Ar.**	**38.95**	**9**	P	**P**	**20 51 34.7**	**-0.9**
TAPN	**Taplejung**	**40.83**	**306**	*eP*	**P**	**20 51 20.4**	**-0.5**
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**40.88**	**157**	P	**P**	**20 51 52.1**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=313,slow=9.5,SNR=3.1						
STKA	**Stephens Creek**	**40.88**	**157**	P	**P**	**20 51 51.6**	**-0.2**
ODAN	**Odare**	**40.88**	**305**	*eP*	**P**	**20 51 51.9**	**-0.4**
	comp=Z,18nm,0.8s						
RAMN	**Ramite**	**41.56**	**305**	*eP*	**P**	**20 51 57.8**	**-0.1**
JIRN	**Jiri**	**42.18**	**306**	*eP*	**P**	**20 52 03.2**	**+0.1**
GUN	**Gumba**	**42.54**	**306**	*eP*	**P**	**20 52 05.5**	**-0.5**
	comp=Z,40nm,0.9s						
PKI	**Pulchoki**	**42.78**	**305**	*eP*	**P**	**20 52 07.4**	**-0.5**
PKIN	**Phulchoki**	**42.80**	**305**	*eP*	**P**	**20 52 07.0**	**-1.0**
	comp=Z,9.5nm,0.8s						
KKN	**Kakani**	**42.98**	**305**	*eP*	**P**	**20 52 08.3**	**-1.1**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**43.05**	**305**	*eP*	**P**	**20 52 09.6**	**-0.4**
	comp=Z,15nm,0.8s						
GKN	**Gorkha**	**43.58**	**305**	*eP*	**P**	**20 52 13.4**	**-0.8**
	comp=Z,23nm,1.1s						
KLR	**Kul'dur**	**43.85**	**7**	P	**P**	**20 52 18.0**	**+2.2**
	comp=Z,1.1nm,0.3s,baz=241,slow=13,SNR=3.0						
KOLN	**Koldanda**	**44.34**	**304**	*eP*	**P**	**20 52 20.5**	**+0.2**
	comp=Z,24nm,0.8s						
DANN	**Dangsing**	**44.43**	**305**	*eP*	**P**	**20 52 20.8**	**-0.3**
	comp=Z,26nm,0.8s						
SONM	**Songino Array**	**44.66**	**343**	P	**P**	**20 52 22.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=153,slow=10.0,SNR=3.6						
SONM	**Songino Array**	**44.66**	**343**	P	**P**	**20 52 19.8**	**-2.7**
TLY	**Talaya**	**48.91**	**343**	LR	LR	21 14 05.9	
	comp=Z,71nm,18.2s,baz=148,slow=37						
MK31	**Makanchi Array**	**54.52**	**326**	P	**P**	**20 53 36.6**	**-0.9**
MK31				IAmb	IAmb	20 53 37.8	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**54.52**	**326**	P	**P**	**20 53 36.8**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=132,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**54.52**	**326**	P	**P**	**20 53 36.5**	**-1.0**
MAKZ	**Makanchi**	**54.70**	**326**	P	**P**	**20 53 37.9**	**-0.9**
MAKZ				IAmb	IAmb	20 53 50.5	
	comp=Z,9.1nm,1.4s						
AAK	**Ala-Archa**	**57.22**	**318**	P	**P**	**20 53 56.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=112,slow=5.4,SNR=3.3						
AAK	**Ala-Archa**	**57.22**	**318**	P	**P**	**20 53 56.1**	**-1.0**
ZALV	**Zalesovo Beam**	**57.71**	**334**	P	**P**	**20 54 00.0**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=132,slow=6.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**57.71**	**334**	P	**P**	**20 53 58.8**	**-1.3**
KURBB	**Kurchatov Arra**	**58.74**	**328**	P	**P**	**20 54 07.3**	**0.0**
	comp=Z,2.8nm,0.8s,baz=129,slow=6.5,SNR=9.5						
KURK	**Kurchatov**	**58.74**	**328**	P	**P**	**20 54 07.1**	**-0.3**
GAR	**Garm**	**58.74**	**313**	P	**P**	**20 54 07.9**	**+0.1**
CHGR	**Chuyangaron**	**59.48**	**312**	P	**P**	**20 54 12.6**	**-0.3**
CHGR				IAmb	IAmb	20 54 16.4	
	comp=Z,7.3nm,0.8s						
KK31	**Karatay Array**	**60.08**	**317**	P	**P**	**20 54 16.2**	**-0.7**
KK31				IAmb	IAmb	20 54 19.1	
	comp=Z,3.7nm,0.9s						
KKAR	**Karatay Array**	**60.08**	**317**	P	**P**	**20 54 16.3**	**-0.5**
KKAR				IAmb	IAmb	20 54 19.1	
	comp=Z,3.7nm,0.9s						
BVAR	**Borovoye Array**	**64.31**	**327**	P	**P**	**20 54 45.3**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=108,slow=9.3,SNR=7.7						
GEYT	**Alibeck**	**67.70**	**309**	P	**P**	**20 55 08.9**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=108,slow=4.7,SNR=3.6						
GEYT	**Alibeck**	**67.70**	**309**	P	**P**	**20 55 07.6**	**+0.4**
NRIK	**Noril'sk**	**67.94**	**347**	P	**P**	**20 55 09.6**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=120,slow=5.4,SNR=3.0						
NRIK				LR	LR	21 31 14.2	
	comp=Z,95nm,18.9s,baz=293,slow=42						
ABKAR	**Akbulak array**	**69.04**	**321**	P	**P**	**20 55 15.8**	**+0.6**
ABKAR	**Akbulak array**	**69.04**	**321**	P	**P**	**20 55 16.4**	**+1.1**
AKTO	**Aktyubinsk**	**70.56**	**322**	P	**P**	**20 55 26.2**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=95,slow=5.0,SNR=6.2						
AKTO				LR	LR	21 27 10.5	
	comp=Z,93nm,19.0s,baz=64,slow=37						
ARU	**Arti**	**71.94**	**328**	P	**P**	**20 55 34.1**	**+1.4**
ARU				IAmb	IAmb	20 55 36.1	
	comp=Z,6.1nm,0.8s						
BRTR	**Keskin Array B**	**86.83**	**309**	P	**P**	**20 56 54.6**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=20,slow=1.7,SNR=2.6						
BRTR	**Keskin Array B**	**86.83**	**309**	P	**P**	**20 56 53.5**	**-1.0**
ARCES	**ARCESS Array B**	**87.74**	**340**	P	**P**	**20 56 58.3**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=79,slow=5.7,SNR=2.6						
ARCES	**ARCESS Array B**	**87.74**	**340**	P	**P**	**20 56 57.6**	**-0.4**
AKASG	**Malin Array Be**	**88.78**	**321**	P	**P**	**20 57 04.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=73,slow=4.0,SNR=2.6						

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*ISCJB **12** 20:44:33.8±0.7,8°.78N±0°.04×122°.58E±0°.06,h10km,Error*
ellipse: s-maj=8.8km s-min=5.2km az=156.9
*MAN **12** 20:44:34.7,8°.82N×122°.58E,h116km,mb5.2,ML4.2,*
MS4.4
ISC 12 20:44:34.3±0.9,8°.86N±0°.05×122°.61E±0°.05,h10km,n25,
σ2°59/20,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.78**	**111**	∥*iP*	**Pg**	20 44 37.9	-12
DCPH				*i* S	**Sg**	**20 44 58.1**	**-1.6**
PAGZ	**Pagadian**	**1.26**	**143**	*eP*	Pn	20 44 50.8	-7.2
PAGZ				*eS*	**Sb**	**20 45 13.0**	**-1.5**
GUIM	**Jordan**	**1.75**	**359**	*eP*	**Pn**	**20 45 06.0**	**+1.2**
GUIM				*eS*	**Sb**	**20 45 30.4**	**+1.7**
LLP	**Lapu-Lapu**	**1.97**	**43**	∥*eP*	**Pn**	**20 45 08.7**	**+1.0**
LLP				*i* S	**Sn**	**20 45 34.3**	**+1.7**
JAP	**San Jose, Anti**	**1.99**	**341**	∥*eP*	**Pg**	**20 45 12.9**	**+0.5**
CUYO	**Cuyo Island**	**2.52**	**322**	*eP*	**Pn**	**20 45 15.2**	**-0.2**
CUYO				*eS*	**Sn**	**20 45 41.8**	**-4.5**
MSLP	**Maasin**	**2.55**	**60**	*eP*	**Pb**	**20 45 19.2**	**-1.0**
MSLP				*eS*	**Sn**	**20 45 43.5**	**-3.4**
BUKP	**Musuan**	**2.61**	**112**	*eP*	**Sn**	**20 45 46.2**	**-2.3**
OCLP	**Ormoc**	**2.93**	**42**	*eP*	**Pn**	**20 45 21.3**	**+0.2**
OCLP				*eS*	Sn	20 45 45.7	-11
BUTP	**Butuan**	**2.98**	**88**	*eP*	**Pn**	**20 45 23.1**	**+1.5**
SKMP	**Bagumbayan, Su**	**3.01**	**140**	*eP*	**Pn**	**20 45 21.9**	**-0.2**
OTRP	**Odiongan**	**3.53**	**351**	*eP*	Pn	20 45 23.5	-5.7
SJMP	**San Jose**	**3.87**	**338**	*eP*	**Pn**	**20 45 34.5**	**+0.6**
TNTI	**Ternate**	**9.33**	**149**	P	Pn	20 46 57.4	+8.5
LUWI	**Luwuk**	**9.84**	**179**	P	Pn	20 47 04.2	+8.3
SANI	**Sanana**	**11.35**	**163**	P	**Pn**	**20 47 19.0**	**+2.4**
KDI	**Kendari**	**12.73**	**180**	P	Pn	20 47 30.2	-5.4
PLAI	**Plampang**	**18.22**	**195**	P	**P**	**20 48 54.5**	**+6.8**
SOEI	**Soe**	**18.57**	**175**	P	Pn	20 49 07.1	+15
BATI	**Baumata**	**18.97**	**177**	P	**Pn**	**20 48 56.6**	**-0.1**
IGBI	**Denpasar**	**19.07**	**203**	P	P	20 48 48.8	-8.3
NGJI	**Ngawi**	**19.58**	**215**	P	**P**	**20 48 59.7**	**-3.0**
YOGI	**Yogyakarta**	**20.62**	**217**	P	Pn	20 49 20.0	+3.7
CISI	**Cisompet, Garu**	**21.99**	**223**	P	P	20 49 17.3	-12
SKJI	**Sukabumi**	**22.46**	**226**	P	P	20 49 23.4	-10

DJA 12 20:48:08.4±0.6,9°S±16°×11°3E±°,h83km±10km,M3.8/8,
MLv3.8/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.94**	**308**	P	Pn	20 48 27.2	+0.3
PWJI				S	Sn	20 48 41.2	+0.4
PCJI	**Pacitan**	**1.42**	**287**	P	Pn	20 48 31.3	-1.5
JAGI	**Jajag, Banyuwa**	**1.59**	**85**	P	Pn	20 48 35.1	+0.1
JAGI				S	Sn	20 48 54.9	-0.3
WOJI	**Wonogiri, Jawa**	**1.78**	**295**	P	Pn	20 48 38.0	+0.5
WOJI				S	Sn	20 49 00.1	+0.4
UGM	**Wanagama**	**2.12**	**289**	P	Pn	20 48 42.3	+0.2
UGM				S	Sn	20 49 08.3	+0.5

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*ISCJB **12** 20:49:49.3±0.8,8°.78N±0°.02×122°.54E±0°.03,h23km±6km,*
mb4.0/22,MS3.6/6,Error ellipse: s-maj=4.7km
s-min=3.7km az=156.4
*MAN **12** 20:49:49.1,8°.77N×122°.57E,h22km,mb5.2,ML4.2,MS4.3*
*NEIC **12** 20:49:55.6±2.1,8°.77N±0°.08×122°.42E±0°.08,h63km±8km,*
mb4.5/33
*IDC **12** 20:50:00.7±1.8,8°.59N×122°.65E,h121km±18km,mb3.6/20,*
mb1 3.8/23,mb1mx3.6/57,mbtmp4.1/23,MS3.7/9,
Ms1 3.7/9,ms1mx3.3/44,Error ellipse: s-maj=21.3km
s-min=9.9km az=68.0
*DJA **12** 20:50:09.4±0.9,8°N±8°×12°4E±°,h109km±9km,M4.6/12,*
mB5.1/1,mb4.5/12,MLv4.6/5,Mw(mB)4.5/1
ISC 12 20:49:50.3±1.3,8°.85N±0°.03×122°.61E±0°.04,h19km±5km,
n127,σ1°55/127,mb4.2/33,MS3.6/6,7C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.78**	**110**	∥*iP*	**Pb**	**20 50 04.8**	**-0.4**
DCPH				*i* S	**Sb**	**20 50 15.2**	**-0.3**
SNPH	**Sibulan**	**0.79**	**52**	∥*iP*	**Pb**	**20 50 05.7**	**+0.3**
SNPH				*i* S	**Sn**	**20 50 17.9**	**+0.2**
PAGZ	**Pagadian**	**1.26**	**142**	*eP*	**Pn**	**20 50 10.5**	**-2.3**
PAGZ				*eS*	**Sn**	**20 50 27.5**	**-1.6**
GUIM	**Jordan**	**1.76**	**359**	*eP*	**Pn**	**20 50 19.8**	**0.0**
GUIM				*eS*	**Sb**	**20 50 44.8**	**+1.0**
LLP	**Lapu-Lapu**	**1.98**	**42**	∥*iP*	**Pn**	**20 50 22.8**	**0.0**
LLP				*eS*	**Sn**	**20 50 48.0**	**+1.0**
JAP	**San Jose, Anti**	**2.00**	**341**	∥*eP*	**Pn**	**20 50 22.3**	**-0.7**
CGP	**Cagayan de Oro**	**2.10**	**101**	∥*iP*	**Pn**	**20 50 23.7**	**-0.7**
CGP				*i* S	**Sb**	**20 50 52.9**	**-0.5**
CTBH	**Cotabato--PC H**	**2.29**	**135**	∥*eP*	**Pn**	**20 50 25.9**	**-1.1**
CUYO	**Cuyo Island**	**2.53**	**322**	*eP*	**Pn**	**20 50 30.1**	**-0.2**
CUYO				*eS*	**Sn**	**20 50 58.6**	**-2.1**
MSLP	**Maasin**	**2.56**	**60**	*eP*	**Pn**	**20 50 30.4**	**-0.3**
MSLP				*eS*	**Sb**	**20 51 06.0**	**-0.7**
BUKP	**Musuan**	**2.61**	**112**	*eP*	**Pn**	**20 50 33.7**	**+2.2**
BUKP				*eS*	**Sb**	**20 51 09.7**	**+1.4**
RCP	**Roxas**	**2.70**	**3**	∥*eP*	**Pn**	**20 50 35.1**	**+2.5**
OCLP	**Ormoc**	**2.94**	**42**	*eP*	**Pn**	**20 50 36.0**	**0.0**
BUTP	**Butuan**	**2.98**	**88**	*eP*	**Pn**	**20 50 37.0**	**+0.5**
BUTP				*eS*	**Sn**	**20 51 14.7**	**+3.0**
SKMP	**Bagumbayan, Su**	**3.01**	**140**	*eP*	**Pn**	**20 50 34.9**	**-2.0**
SKMP				*eS*	**Sn**	**20 51 14.4**	**+2.0**
DMPH	**Davao City--Mi**	**3.37**	**121**	∥*eP*	**Pg**	**20 50 52.8**	**-2.0**
DAV	**Davao City (W)**	**3.43**	**121**	P	**Pb**	**20 50 50.0**	**-0.5**
	62nm,0.3s,baz=247,slow=13,SNR=5.7						
DAV				S	**Sb**	**20 51 30.0**	**-1.8**
	33nm,0.3s,baz=127,slow=20,SNR=3.1						
DAV				LR	LR	20 52 23.1	
	comp=Z,2μm,18.0s,baz=340,slow=44						
DAV	**Davao City (W)**	**3.43**	**121**	∥*eP*	**Pb**	**20 50 51.6**	**+1.1**
DAV	**Davao City (W)**	**3.43**	**121**	Pn	**Pb**	**20 50 48.1**	**-2.4**
OTRP	**Odiongan**	**3.54**	**351**	*eP*	**Pn**	**20 50 45.5**	**+1.3**
GSPH	**General Santos**	**3.59**	**140**	∥*eP*	**Pb**	**20 50 53.4**	**+0.1**
SJMP	**San Jose**	**3.88**	**338**	*eP*	**Pn**	**20 50 50.3**	**+1.4**
BESP	**Borongan**	**3.90**	**45**	*eP*	**Pn**	**20 50 49.8**	**+0.6**
CNP	**Catarman**	**4.16**	**29**	*eP*	**Pn**	**20 50 53.1**	**+0.4**
CNP				*eS*	**Sn**	**20 51 35.5**	**-5.3**
TGY	**Tagaytay City**	**5.47**	**343**	P	**Pb**	**20 51 23.8**	**-1.6**
	22nm,0.3s,baz=139,slow=11,SNR=3.7						
TGY				LR	LR	20 53 44.1	
	comp=Z,706nm,18.0s,baz=142,slow=39						
KKM	**Kota Kinabalu**	**6.93**	**247**		**Pn**	**20 51 30.2**	**-0.8**
MRSI	**Marisa**	**8.35**	**185**	P	**Pn**	**20 51 50.5**	**+0.2**
TNTI	**Ternate**	**9.32**	**149**	P	Pn	20 51 58.1	-5.6
TNTI	**Ternate**	**9.32**	**149**		Pn	20 52 10.0	+6.3
APSI	**Ampana**	**9.74**	**186**	P	**Pn**	**20 52 11.6**	**+2.1**
LUWI	**Luwuk**	**9.83**	**179**	P	**Pn**	**20 52 12.0**	**+1.3**
LUWI	**Luwuk**	**9.83**	**179**		**Pn**	**20 52 12.9**	**+2.2**
SANI	**Sanana**	**11.34**	**163**	P	**Pn**	**20 52 28.8**	**-2.6**
SBUM	**Sibu**	**12.13**	**239**	Pn	**Pn**	**20 52 43.0**	**+0.7**
KAPI	**Kappang**	**14.06**	**192**	LR	LR	20 58 06.8	
	comp=Z,267nm,21.1s,baz=311,slow=35						
TPUB	**Ta-pu**	**14.49**	**353**	P	**P**	**20 53 23.2**	**+2.1**
YULB	**Yu-li**	**14.52**	**355**	Pn	**P**	**20 53 20.6**	**-0.6**
SSLB	**Suanglung**	**14.94**	**354**		**P**	**20 53 29.3**	**+3.3**
FAKI	**Fak Fak**	**15.13**	**140**	P	Pn	20 53 15.9	-7.3
FAKI	**Fak Fak**	**15.13**	**140**		**P**	**20 53 27.8**	**-0.4**
FAKI				IAmb	IAmb	20 53 28.1	
	comp=Z,91nm,1.5s						
PLAI	**Plampang**	**18.21**	**195**	P	**P**	**20 54 05.7**	**+3.4**
SOEI	**Soe**	**18.56**	**175**	P	**P**	**20 54 03.9**	**-2.3**
SOEI	**Soe**	**18.56**	**175**	P	**Pn**	**20 54 07.2**	**+0.8**
SOEI				IAmb	IAmb	20 54 30.9	
	comp=Z,36nm,1.1s						
BATI	**Baumata**	**18.96**	**177**	P	**P**	**20 54 10.7**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=331,slow=3.0,SNR=11						
BATI				LR	LR	21 01 41.5	
	comp=Z,262nm,19.7s,baz=274,slow=38						
BATI	**Baumata**	**18.96**	**177**	P	**P**	**20 54 11.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**19.16**	**206**	P	**Pn**	**20 54 14.3**	**+0.7**
JAGI				IAmb	IAmb	20 54 33.8	
	comp=Z,23nm,1.0s						
WOJI	**Wonogiri, Jawa**	**20.26**	**215**	P	Pn	20 54 27.6	+0.9
KPJI	**Karang Pucung**	**21.08**	**221**	P	P	20 54 42.3	+8.7
GUMO	**Guam**	**22.33**	**76**	LR	LR	21 01 36.1	
	comp=Z,144nm,21.8s,baz=227,slow=31						
PBKT	**Sadao Pong**	**22.44**	**292**	P	**P**	**20 54 49.4**	**+1.1**
WHN	**Wuhan**	**22.92**	**341**	P	P	20 55 06.5	+13
WHN				S	**S**	**20 58 58.0**	**-4.3**
WHN				LR	LR		
	comp=Z,840nm,14.4s						
MTN	**Manton Dam**	**23.16**	**158**	P	**P**	**20 54 55.5**	**-0.2**
MTN				IAmb	IAmb	20 55 18.5	
	comp=Z,51nm,1.4s						
CM31	**Chiang Mai Arr**	**24.87**	**295**	P	**P**	**20 55 11.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**24.87**	**295**	P	**P**	**20 55 13.5**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=118,slow=9.2,SNR=12						
CMAR	**Chiang Mai Arr**	**24.87**	**295**	P	**P**	**20 55 12.2**	**+0.2**
CHTO	**Chiang Mai**	**24.99**	**296**	P	**P**	**20 55 14.2**	**+1.2**
KNRA	**Kununurra**	**25.12**	**166**	P	**P**	**20 55 18.8**	**+4.6**
JNU	**Nakatsue**	**25.33**	**16**	LR	LR	21 05 58.2	
	comp=Z,88nm,20.5s,baz=202,slow=37						
JCJ	**Chichijima**	**25.93**	**43**	LR	LR	21 04 40.0	
	comp=Z,168nm,21.8s,baz=278,slow=34						
FITZ	**Fitzroy Crossi**	**26.94**	**174**	P	**P**	**20 55 28.2**	**-2.4**
	comp=Z,4.4nm,1.0s,baz=0.9,slow=13,SNR=2.5						
FITZ	**Fitzroy Crossi**	**26.94**	**174**	IAmb	IAmb	20 55 46.9	
	comp=Z,7.3nm,0.9s						
WRAB	**Tennant Creek**	**30.85**	**158**	P	**P**	**20 56 05.9**	**+0.4**
WRA	**Warramunga Arr**	**30.86**	**158**	P	**P**	**20 56 03.2**	**-2.3**
	comp=Z,1.1nm,0.4s,baz=331,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**30.86**	**158**	P	**P**	**20 56 06.3**	**+0.8**
WB2	**Warramunga Arr**	**30.86**	**158**	P	**P**	**20 56 06.3**	**+0.8**
MJAR	**Matsushiro Arr**	**31.00**	**25**	LR	LR	21 08 35.4	
	comp=Z,142nm,18.9s,baz=225,slow=36						
HHC	**Hu-ho-hao-te**	**33.34**	**345**	*eP*	**P**	**20 56 30.6**	**+3.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,6.0nm,5.6s						
SHL	**Shillong**	**33.60**	**304**	P	**P**	**20 56 27.8**	**-2.1**
SHL				IAmb	IAmb	20 56 50.8	
	comp=Z,4.4nm,0.7s						
AS31	**Alice Springs**	**34.15**	**161**	P	**P**	**20 56 32.0**	**-2.4**
ASAR	**Alice Springs**	**34.15**	**161**	P	**P**	**20 56 31.9**	**-2.5**
	comp=Z,0.7nm,0.4s,baz=338,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**34.15**	**161**	P	**P**	**20 56 31.4**	**-2.9**
USA0B	**Ussuriysk Arra**	**36.15**	**11**	P	**P**	**20 56 53.4**	**+2.1**
USA0B				IAmb	IAmb	20 57 04.1	
	comp=Z,10.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**36.15**	**11**	P	**P**	**20 56 53.2**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=208,slow=8.2,SNR=4.7						
USRK	**Ussuriysk Ar.**	**36.15**	**11**	P	**P**	**20 56 52.8**	**+1.5**
GTA	**Gaotai**	**36.63**	**330**	*eP*	P	20 57 09.6	+14
GTA				pP	pwP	20 57 13.2	+8.2
GTA				sP

ARCES	**ARCESS Array B**	**84.25**	**339**	P	**P**	**21 02 19.3**	**-1.1**
FINES	**FINESS Array B**	**85.41**	**331**	P	**P**	**21 02 25.9**	**-0.3**
	comp=Z,5.0nm,1.0s,baz=86,slow=8.5,SNR=4.8						
FINES	**FINESS Array B**	**85.41**	**331**	P	**P**	**21 02 25.3**	**-1.0**

*IDC **12** 20:59:48.3±2.1, 37.37N×68.18E, h0km, mb3.5/3, mb1 3.6/8, mb1mx3.3/49, mbtmp3.5/8, ML3.2/5, Error ellipse: s-maj=37.7km s-min=13.5km az=152.0*
*ISCJB **12** 20:59:50.5±1.2, 37.7N±0.1×68.02E±0.08, h22km, mb3.5/2, Error ellipse: s-maj=18.2km s-min=5.4km az=155.7*
*NNC **12** 20:59:54.8±1.9, 37.84N×67.92E, h23km±11km, mb3.8, mpv3.5, Error ellipse: s-maj=18.8km s-min=7.3km az=149.0*

ISC 12 20:59:52.9±1.6, 37.7N±0.2×68.05E±0.09, h22km, n13, σ1§52/18, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.74**	**18**	⇑Pn	**Pn**	**21 01 17.7**	**+0.9**
	0.3nm,0.2s,baz=165,slow=8.3,SNR=8.6						
KK31				⇓Pg	Pb	21 01 37.6	+5.3
	2.4nm,0.6s						
KK31				⇑Sn	**Sn**	**21 02 21.2**	**-0.8**
	1.2nm,0.2s,baz=197,slow=22,SNR=2.8						
KK31				⇑Lg	Lg	21 02 51.9	
	4.3nm,0.4s,baz=195,slow=28,SNR=7.0						
AAK	**Ala-Archa**	**7.00**	**43**	⇑Pn	**Pn**	**21 01 35.6**	**+1.5**
	2.7nm,0.6s						
AAK				⇑Sn	**Sn**	**21 02 54.5**	**+1.4**
	3.6nm,0.6s						
AAK				⇑Lg	Lg	21 03 35.2	
	7.0nm,0.8s						
AAK	**Ala-Archa**	**7.00**	**43**	Pn	**Pn**	**21 01 35.6**	**+1.5**
	0.9nm,0.3s,baz=146,slow=4.2,SNR=11						
AAK				Sn	**Sn**	**21 02 55.7**	**+2.6**
	0.6nm,0.3s,baz=329,slow=18,SNR=3.7						
AAK				Lg	Lg	21 03 35.7	
	0.2nm,0.3s,baz=336,slow=20,SNR=3.2						
TKM2	**Tokmak 2**	**7.79**	**45**	⇓Pn	**Pn**	**21 01 45.4**	**+0.3**
	6.0nm,0.7s						
GEYT	**Alibeck**	**7.87**	**275**	Pn	**Pn**	**21 01 45.3**	**-0.7**
	0.8nm,0.3s,baz=105,slow=11,SNR=8.9						
GEYT				Sn	**Sn**	**21 03 17.2**	**+2.9**
	1.2nm,0.3s,baz=108,slow=14,SNR=5.9						
GYA0B	**ALIBECK ARRAY**	**7.87**	**275**	⇑Pn	**Pn**	**21 01 45.0**	**-0.9**
GYA0B				⇑Sn	**Sn**	**21 03 14.8**	**+0.4**
MKAR	**Makanchi Array**	**13.93**	**45**	Pn	**Pn**	**21 03 06.8**	**-2.0**
	0.0nm,0.3s,baz=230,slow=11,SNR=2.4						
AKTO	**Aktyubinsk**	**14.64**	**334**	Pn	**Pn**	**21 03 17.2**	**-1.3**
	0.1nm,0.3s,baz=135,slow=7.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**14.95**	**27**	Pn	**P**	**21 03 27.1**	**-1.1**
	0.1nm,0.3s,baz=214,slow=9.5,SNR=3.7						
BVAR	**Borovoye Array**	**15.44**	**5**	Pn	**Pn**	**21 03 27.7**	**-1.5**
	0.1nm,0.3s,baz=177,slow=12,SNR=3.1						
ZALV	**Zalesovo Beam**	**19.96**	**30**	P	**P**	**21 04 22.7**	**-0.6**
	1.2nm,0.5s,baz=233,slow=12,SNR=4.1						
NOA	**NORSAR Array B**	**42.02**	**323**	P	**P**	**21 07 43.1**	**+0.8**
	0.3nm,0.5s,baz=99,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**63.41**	**266**	P	**P**	**21 10 21.0**	**-0.1**
	0.5nm,0.5s,baz=46,slow=7.0,SNR=5.2						

RHSSO 12 21:03:14.5±0.4, 45.02N×16.92E, h3km, ML1.6/4, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.33**	**145**	⇓*i*Pg	Pg	21 03 20.3	-0.5
BLY				*e*Sg	Sg	21 03 25.4	+0.3
MGRS	**Mrkonjic Grad**	**0.61**	**169**	*e*Pg	Pg	21 03 25.7	-0.5
MGRS				*e*Sg	Sg	21 03 34.6	+0.4
UDBI	**Udbina**	**0.96**	**240**	*i* Pg	Pg	21 03 32.4	-0.5
UDBI				Sg	Sg	21 03 45.0	-0.3
CRES	**Cresnjev**	**1.31**	**309**	*e*Pg	Pg	21 03 37.5	-2.1
CRES				*e*Sg	Sg	21 03 56.6	0.0
MORI	**Morici**	**1.44**	**217**	*e*Pg	Pg	21 03 42.4	+0.3
NVLJ	**Novalja**	**1.53**	**253**	*e*Pn	Pn	21 03 42.1	-0.6
NVLJ				Sg	Sb	21 04 03.3	+0.1
ZIRJ	**Zirje**	**1.64**	**214**	*e*Pn	Pb	21 03 44.9	-0.5
ZIRJ				Sn	Sg	21 04 07.8	+0.5
DUGI	**Dugi Otok**	**1.68**	**233**	*e*Pn	Pb	21 03 45.9	-0.2
DUGI				Sn	Sg	21 04 09.9	+1.3
HAPS	**Han Pijesak,BI**	**1.73**	**122**	*e*Pn	Pn	21 03 45.1	-0.4
HAPS				*e*Sn	Sn	21 04 08.0	-0.1

*ISCJB **12** 21:04:06.5±0.3, 39.09N±0.02×28.35E±0.02, h7km±3km, mb3.3/2, Error ellipse: s-maj=2.8km s-min=2.5km az=168.0*
*ISK **12** 21:04:06.1, 39.09N×28.35E, h7km, ML3.6/57*
*DDA **12** 21:04:06.4, 39.10N×28.37E, h7km±2km, ML3.7*
*IDC **12** 21:04:06.3±1.6, 38.91N×28.39E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/48, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=35.8km s-min=17.5km az=158.0*
*THE **12** 21:04:08.3, 38.96N×28.32E, h1km±1km, ML3.2/3, Error ellipse: s-maj=2.2km s-min=0.7km az=48.0*

ISC 12 21:04:06.9±1.0, 39.08N±0.02×28.35E±0.02, h9km±8km, n102, σ0§76/119, 10C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**98**	*i* P	**Pg**	**21 04 12.9**	**+0.2**
DEMI				*i* S	**Sg**	**21 04 16.6**	**-0.1**
AKHS	**Akhisar**	**0.46**	**244**	*i* P	**Pg**	**21 04 16.2**	**+0.3**
AKS	**Akhisar**	**0.46**	**244**	PG	**Pg**	**21 04 15.7**	**-0.2**
AKS				SG	**Sg**	**21 04 22.7**	**+0.7**
SMAA	**Simav-Kutahya**	**0.49**	**88**	PG	**Pg**	**21 04 16.3**	**-0.2**
SMAA				SG	**Sg**	**21 04 23.6**	**+0.6**
SIMA	**Simav-Kutahya**	**0.49**	**90**	PG	**Pg**	**21 04 16.2**	**-0.3**
SIMA				SG	**Sg**	**21 04 23.1**	**+0.1**
GOMA	**Golmarmara-Man**	**0.50**	**222**	PG	**Pg**	**21 04 16.5**	**-0.2**
GOMA				SG	**Sg**	**21 04 23.7**	**+0.4**
DURS	**Dursunbey**	**0.53**	**11**	*i* P	**Pg**	**21 04 16.8**	**-0.3**
DURS				IAML_P			
	comp=Z,42μm,0.2s						
STEP	**BALIKESIR_Sava**	**0.57**	**301**	*i* P	**Pg**	**21 04 18.0**	**+0.1**
STEP				IAML_P			
	comp=Z,13μm,0.2s						
MANT	**Manisa**	**0.61**	**164**	*i* P	**Pb**	**21 04 19.4**	**-0.5**
MANT				*i* S	**Sg**	**21 04 27.3**	**+0.4**
KULA	**Kula-Manisa**	**0.62**	**157**	P	**Pg**	**21 04 18.9**	**0.0**
KULA				S	**Sg**	**21 04 26.6**	**-0.4**
KULA	**Kula-Manisa**	**0.62**	**157**	PG	**Pg**	**21 04 18.7**	**-0.2**
KULA				SG	**Sg**	**21 04 26.9**	**-0.1**
USAK	**Uak-Merkez**	**0.64**	**125**	*i* P	**Pg**	**21 04 19.0**	**-0.3**
USAK				*i* S	**Sb**	**21 04 28.5**	**-0.8**
USAK				IAML_P			
	comp=Z,27μm,0.1s						
BALB	**Balikesir**	**0.66**	**327**	PG	**Pg**	**21 04 19.6**	**-0.1**
BALB				SG	**Sb**	**21 04 29.3**	**-0.6**
SHAP	**Saphane-Kutahy**	**0.68**	**95**	PG	**Pg**	**21 04 19.8**	**-0.3**
GEDZ	**Gediz**	**0.83**	**92**	PG	**Pg**	**21 04 22.6**	**-0.3**
BALY	**Balya**	**0.86**	**320**	*i* P	**Pg**	**21 04 23.6**	**+0.1**
BALY				IAML_P			
	comp=Z,4μm,0.1s						
GDZ	**Gediz**	**0.88**	**89**	*i* P	**Pg**	**21 04 23.8**	**0.0**
GDZ				*i* S	**Sg**	**21 04 35.6**	**+0.2**
TVSB	**Tavsanli**	**0.94**	**67**	PG	**Pg**	**21 04 24.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.09**	**332**	PN	**Pg**	**21 04 26.9**	**-0.9**
DKL	**Dikili**	**1.12**	**270**	PN	**Pb**	**21 04 28.1**	**-0.3**
KHAL	**Karahalli**	**1.14**	**128**	*i* P	**Pn**	**21 04 29.6**	**+0.5**
KHAL				IAML_P			
	comp=Z,9μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.19**	**198**	PN	**Pb**	**21 04 29.3**	**-0.4**
KHL	**Karahalli**	**1.19**	**129**	PN	**Pb**	**21 04 29.6**	**-0.1**
ULDT	**Uludag**	**1.22**	**30**	*i* P	**Pb**	**21 04 29.0**	**-1.2**
EDC	**Edincik**	**1.31**	**344**	PN	**Pn**	**21 04 31.0**	**-0.4**
FOCM	**Foa**	**1.31**	**254**	PN	**Pn**	**21 04 31.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.35**	**18**	PN	**Pn**	**21 04 31.5**	**-0.3**
DENT	**Denizli**	**1.43**	**158**	PN	**Pn**	**21 04 33.2**	**+0.2**
KRBN	**Karaburun**	**1.48**	**251**	PN	**Pn**	**21 04 33.9**	**+0.2**
GEMT	**Gemlik**	**1.50**	**25**	PN	**Pn**	**21 04 34.1**	**+0.2**
IZI	**Iznik**	**1.52**	**34**	PN	**Pn**	**21 04 34.5**	**+0.2**
ARMT	**Armutlu**	**1.53**	**15**	PN	**Pn**	**21 04 34.7**	**+0.3**
KRBG	**Karabiga-Canak**	**1.54**	**329**	PN	**Pn**	**21 04 34.6**	**+0.2**
URLA	**Izmir**	**1.55**	**243**	PN	**Pn**	**21 04 34.9**	**+0.3**
AFYO	**Afyonkarahisar**	**1.55**	**100**	*i* P	**Pg**	**21 04 38.3**	**+1.7**
AFYO				IAML_P			
	comp=Z,6μm,0.3s						
PRK	**Paraskevi**	**1.62**	**276**	P	**Pb**	**21 04 36.9**	**0.0**
PRK				S	**Sg**	**21 04 58.7**	**-0.3**
	comp=Z,1μm,0.5s						
MRMT	**Marmara Adasi**	**1.62**	**339**	PN	**Pn**	**21 04 35.8**	**+0.1**
GCAM	**G?zelcaml?**	**1.64**	**213**	PN	**Pn**	**21 04 35.9**	**+0.1**
YLV	**Yalova**	**1.68**	**28**	PN	**Pn**	**21 04 36.6**	**+0.2**
ADVT	**Abdulvahap**	**1.72**	**38**	PN	**Pn**	**21 04 37.4**	**+0.4**
EZN	**Ezine**	**1.73**	**296**	⇑P	**Pn**	**21 04 36.2**	**-0.9**
EZN	**Ezine**	**1.73**	**296**	PN	**Pn**	**21 04 37.3**	**+0.2**
SHUT	**Suhut-Afyon**	**1.80**	**106**	PN	**Pn**	**21 04 38.4**	**+0.2**
BORA	**Eskisehir**	**1.81**	**63**	PN	**Pn**	**21 04 38.7**	**+0.4**
SMG	**Samos**	**1.81**	**221**	P	**Pn**	**21 04 37.5**	**-0.8**
SMG				S	**Sn**	**21 05 01.0**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.84**	**331**	PN	**Pn**	**21 04 38.8**	**+0.2**
MLSB	**Milas**	**1.84**	**194**	PN	**Pn**	**21 04 38.9**	**+0.2**
BUY	**Buyukada**	**1.86**	**18**	PN	**Pn**	**21 04 39.2**	**+0.3**
CHOS	**Chios island**	**1.92**	**249**	P	**Pn**	**21 04 40.0**	**+0.2**
CHOS	**Chios island**	**1.92**	**249**	PN	**Pn**	**21 04 40.3**	**+0.5**
BOZC	**Bozcaada**	**1.93**	**294**	PN	**Pn**	**21 04 40.1**	**+0.3**
SIGR	**SIGRI**	**1.94**	**275**	P	**Pn**	**21 04 40.2**	**+0.2**
SIGR				S	**Sb**	**21 05 07.0**	**+0.3**
	comp=Z,492nm,0.5s						
SIGR	**SIGRI**	**1.94**	**275**	PN	**Pn**	**21 04 40.4**	**+0.4**
YER	**Yerkesik**	**1.95**	**182**	P	**Pn**	**21 04 40.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.95**	**313**	PN	**Pn**	**21 04 40.5**	**+0.4**
ESKT	**Eskisehir**	**1.99**	**77**	PN	**Pn**	**21 04 41.1**	**+0.3**
SRCK	**Saricakaya, Es**	**2.00**	**61**	PN	**Pn**	**21 04 41.4**	**+0.5**
HRT	**Hereke**	**2.01**	**30**	PN	**Pn**	**21 04 41.2**	**+0.2**
KAVV	**Kandilli-Istan**	**2.05**	**15**	PN	**Pn**	**21 04 41.9**	**+0.4**
ISK	**Istanbul-Kandi**	**2.05**	**15**	P	**Pb**	**21 04 44.5**	**+0.2**
ISK	**Istanbul-Kandi**	**2.05**	**15**	PN	**Pn**	**21 04 41.9**	**+0.4**
CRLT	**Corlu**	**2.10**	**347**	PN	**Pn**	**21 04 42.6**	**+0.5**
ERIK	**Erikli-Kesan**	**2.12**	**319**	PN	**Pn**	**21 04 42.9**	**+0.4**
ISP	**Isparta**	**2.12**	**126**	P	**Pn**	**21 04 42.5**	**0.0**
ISP	**Isparta**	**2.12**	**126**	⇑P	**Pg**	**21 04 49.4**	**+1.8**
ISP				AML	AML	21 05 28.6	
ISP	**Isparta**	**2.12**	**126**	PN	**Pn**	**21 04 42.6**	**0.0**
CIFT	**Cifteler, Eski**	**2.13**	**82**	PN	**Pn**	**21 04 43.1**	**+0.5**
GULT	**Gulveren**	**2.15**	**50**	PN	**Pn**	**21 04 43.3**	**+0.4**
SLVT	**Silivri**	**2.15**	**357**	PN	**Pn**	**21 04 43.3**	**+0.5**
CTKS	**Kestanelik-??a**	**2.15**	**3**	PN	**Pn**	**21 04 43.4**	**+0.5**
BODT	**Bodrum**	**2.18**	**202**	P	**Pn**	**21 04 42.8**	**-0.5**
BODT	**Bodrum**	**2.18**	**202**	PN	**Pn**	**21 04 43.2**	**-0.1**
SPNC	**Sapanca-Adapaz**	**2.20**	**43**	PN	**Pn**	**21 04 44.1**	**+0.6**
TURN	**Turunc**	**2.22**	**175**	PN	**Pn**	**21 04 45.7**	**-1.4**
KLYT	**Kilyos**	**2.23**	**14**	⇑P	**Pb**	**21 04 47.7**	**+0.4**
KLYT				AML	AML	21 05 19.1	
KLYT	**Kilyos**	**2.23**	**14**	PN	**Pn**	**21 04 44.5**	**+0.6**
SAUV	**Serdivan-Sakar**	**2.25**	**42**	PN	**Pn**	**21 04 44.8**	**+0.6**
DALY	**Dalyan (Mula)**	**2.28**	**174**	PN	**Pn**	**21 04 45.3**	**+0.7**
SILT	**Sile**	**2.29**	**25**	⇓P	**Pb**	**21 04 49.4**	**+1.0**
SILT				AML	AML	21 05 19.8	
SILT	**Sile**	**2.29**	**25**	PN	**Pn**	**21 04 45.3**	**+0.5**
DAT	**Datca**	**2.43**	**195**	PN	**Pn**	**21 04 47.5**	**+0.7**
UKOP	**Uzunkopru-Edir**	**2.43**	**328**	PN	**Pn**	**21 04 47.3**	**+0.6**
FETY	**Fethiye**	**2.51**	**166**	P	**Pn**	**21 04 48.4**	**+0.5**
FETY	**Fethiye**	**2.51**	**166**	PN	**Pn**	**21 04 48.8**	**+0.9**
ALN	**Alexandroupoli**	**2.53**	**316**	P	**Pn**	**21 04 48.2**	**+0.1**
ALN				S	**Sb**	**21 05 22.9**	**-0.7**
	comp=Z,92nm,0.4s						
ALN	**Alexandroupoli**	**2.53**	**316**	PN	**Pn**	**21 04 48.9**	**+0.8**
ARG	**Arkhangelos**	**2.87**	**184**	P	**Pn**	**21 04 53.3**	**+0.6**
ARG	**Arkhangelos**	**2.87**	**184**	PN	**Pn**	**21 04 53.7**	**+1.0**
APE	**Apeiranthos**	**3.00**	**229**	⇑P	**Pn**	**21 04 54.6**	**+0.1**
APE				AML	AML	21 05 56.0	
BRTR	**Keskin Array B**	**4.15**	**79**	Pn	**Pn**	**21 05 11.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=256,slow=14,SNR=17						
BRTR				Pg	**Pg**	**21 05 23.1**	**-3.3**
	comp=Z,1.6nm,0.3s,baz=260,slow=16,SNR=37						
BRTR				Lg	Lg	21 06 21.5	
	comp=Z,1.0nm,0.3s,baz=256,slow=31,SNR=9.3						
ELND	**Elena**	**4.27**	**335**	⇑P	**Pn**	**21 05 12.8**	**+0.8**
ELND				AML	AML	21 06 22.8	
STIP	**Stip**	**5.38**	**301**	*i* Pn	**Pn**	**21 05 26.6**	**-0.7**
MLR	**Muntele Rosu**	**6.64**	**345**	⇑P	**Pn**	**21 05 45.9**	**+1.2**
ARR	**Arges**	**6.86**	**338**	⇑P	**Pn**	**21 05 48.0**	**+0.5**
PLOR	**Plostina**	**6.88**	**350**	⇓P	**Pn**	**21 05 49.7**	**+1.8**
VRI	**Vrincioaia**	**6.88**	**351**	⇑P	**Pn**	**21 05 49.9**	**+2.0**
OZUR		**7.26**	**346**	⇓P	**Pn**	**21 05 54.8**	**+1.8**
MDVR	**Moldovita**	**7.54**	**321**	⇑P	**Pn**	**21 05 54.5**	**-2.4**
BIZ	**Bicaz**	**8.02**	**349**	⇑P	**Pn**	**21 06 05.7**	**+2.2**
MMAI	**Mount Meron Ar**	**8.32**	**135**	Pn	**Pn**	**21 06 06.5**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=321,slow=13,SNR=10						
MMAI				Sn	**Sn**	**21 07 40.9**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=333,slow=28,SNR=2.7						
TORD	**Torodi Ar. Bea**	**34.97**	**230**	P	**P**	**21 11 00.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=40,slow=9.4,SNR=3.5						
MKAR	**Makanchi Array**	**39.56**	**61**	P	**P**	**21 11 38.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=282,slow=7.2,SNR=3.0						

MAN 12 21:10:42.4, 8.79N×122.56E, h27km, mb4.2, ML3.0, MS2.7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.81**	**105**	⇑*e*P	Pn	21 11 05.0	+6.9
SNPH	**Sibulan**	**0.86**	**51**	⇑*e*P	Pb	21 10 58.4	-0.4
PAGZ	**Pagadian**	**1.24**	**139**	*e*P	Pn	21 11 03.9	-0.1
PAGZ				*e*S	Sn	21 11 20.3	+0.4
GUIM	**Jordan**	**1.82**	**1**	*e*P	Pn	21 11 12.2	+0.2
GUIM				*e*S	Sb	21 11 38.5	+1.0
CTBH	**Cotabato--PC H**	**2.29**	**133**	⇓*i*P	Pb	21 11 20.9	-2.1

*ISCJB **12** 21:16:07.0±0.8, 6.91S±0.06×129.67E±0.08, h150km, mb3.4/2, Error ellipse: s-maj=11.7km s-min=9.0km az=4.8*
*IDC **12** 21:16:07.8±2.2, 6.86S×129.64E, h136km±22km, mb3.3/2, mb1 3.3/7, mb1mx3.0/46, mbtmp3.7/7, Error ellipse: s-maj=27.4km s-min=19.0km az=111.0*

ISC 12 21:16:06.6±0.9, 6.98S±0.07×129.8E±0.1, h150km, n7, σ3§82/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.25**	**14**	P	**Pn**	**21 17 36.6**	**0.0**
	0.5nm,0.3s,baz=195,slow=20,SNR=10						
SIJI				S	**Sn**	**21 18 42.2**	**-4.9**
	1.2nm,0.3s,baz=208,slow=22,SNR=6.6						
BATI	**Baumata**	**6.87**	**242**	P	**Pn**	**21 17 45.8**	**+0.9**
	5.3nm,0.3s,baz=108,slow=6.4,SNR=5.1						
BATI				S	**Sn**	**21 19 00.8**	**-1.2**
	8.4nm,0.3s,baz=168,slow=13,SNR=7.1						
FITZ	**Fitzroy Crossi**	**11.77**	**200**	P	**Pn**	**21 18 51.6**	**+1.7**
	0.2nm,0.3s,baz=29,slow=12,SNR=5.4						
FITZ				S	**Sn**	**21 20 53.8**	**-6.3**
	0.4nm,0.3s,baz=87,slow=18,SNR=5.1						
WRA	**Warramunga Arr**	**13.61**	**162**	P	**Pn**	**21 19 17.3**	**+3.6**
	0.2nm,0.3s,baz=344,slow=13,SNR=8.4						
WRA				S	Sn	21 21 38.2	-6.4
	0.5nm,0.3s,baz=334,slow=21,SNR=7.8						
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**	**21 20 00.0**	**+3.9**
	0.1nm,0.3s,baz=346,slow=11,SNR=9.4						
ASAR				S	**S**	**21 23 01.9**	**-3.9**
	0.1nm,0.3s,baz=354,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**21 26 52.1**	**+1.8**
	0.4nm,0.3s,baz=118,slow=7.8,SNR=10.0						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**21 27 17.4**	**+1.2**
	0.3nm,0.5s,baz=126,slow=4.5,SNR=3.2						

MAN 12 21:18:22.6, 9.88N×124.06E, h1km, mb4.7, ML3.5, MS3.4, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.45**	**348**	⇓*i*P	Pg	21 18 31.6	+0.4
LLP				*i* S	Sg	21 18 38.5	+1.4
MSLP	**Maasin**	**0.82**	**72**	*e*P	Pg	21 18 38.0	-0.4
MSLP				*e*S	Sb	21 18 50.4	-0.9
SNPH	**Sibulan**	**0.97**	**237**	⇓*i*P	Pb	21 18 41.9	-0.5
SNPH				*i* S	Sn	21 18 57.9	0.0
OCLP	**Ormoc**	**1.28**	**25**	*e*P	Pg	21 18 46.8	-0.4
OCLP				*e*S	Sn	21 19 06.0	+0.4
GUIM	**Jordan**	**1.63**	**297**	*e*P	Pn	21 18 50.5	-1.9
GUIM				*e*S	Sb	21 19 14.8	+0.2
RCP	**Roxas**	**2.12**	**322**	⇑*e*P	Pb	21 19 00.5	-1.3
BESP	**Borongan**	**2.18**	**38**	*e*P	Pn	21 19 01.2	+1.1
BUKP	**Musuan**	**2.22**	**153**	*e*P	Pn	21 19 01.2	+0.6
BUKP				*e*S	Sn	21 19 29.1	+0.4
CTBH	**Cotabato--PC H**	**2.65**	**176**	⇓*i*P	Pn	21 19 08.4	+2.0

*IDC **12** 21:23:12.7±1.1, 2.86N×127.70E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/50, mbtmp3.6/6, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/20, Error ellipse: s-maj=64.6km s-min=18.5km az=71.0*
*ISCJB **12** 21:23:16.2±1.0, 2.9N±0.2×128.0E±0.2, h35km, mb3.4/5, MS2.7/1, Error ellipse: s-maj=37.6km s-min=11.4km az=147.7*

ISC 12 21:23:17.9±1.1, 2.9N±0.2×127.9E±0.3, h35km, n7, σ1§36/7, mb3.4/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.00**	**138**	Pn	**Pn**	**21 24 31.8**	**+1.2**
	2.3nm,0.3s,baz=306,slow=19,SNR=11						
SIJI				Sn	**Sn**	**21 25 25.1**	**-2.0**
	1.7nm,0.3s,baz=210,slow=22,SNR=12						
WRA	**Warramunga Arr**	**23.52**	**165**	P	**P**	**21 28 25.2**	**+0.2**
	0.7nm,0.5s,baz=347,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.00**	**168**	P	**P**	**21 28 56.8**	**+0.1**
	0.2nm,0.4s,baz=359,slow=9.2,SNR=4.1						
MJAR	**Matsushiro Arr**	**34.86**	**15**	LR	LR	21 44 27.6	
	comp=Z,12nm,19.3s,baz=260,slow=36						
STKA	**Stephens Creek**	**36.91**	**160**	P	**P**	**21 30 23.8**	**+0.4**
	0.6nm,0.3s,baz=352,slow=14,SNR=2.5						
USRK	**Ussuriysk Ar.**	**41.34**	**4**	P	**P**	**21 31 00.8**	**+0.5**
	0.5nm,0.5s,baz=172,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**58.94**	**325**	P	**P**	**21 33 12.6**	**-1.2**
	0.1nm,0.4s,baz=125,slow=7.4,SNR=2.7						

ATH 12 21:28:07.9, 38.90N×23.12E, h16km±4km, ML1.9/4, Error ellipse: s-maj=4.6km s-min=0.7km az=168.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.26**	**200**	P	Pg	21 28 13.5	-0.1
LKR				S	Sg	21 28 17.1	-0.3
LKR				AML	AML	21 28 18.8	
	comp=N,540μm,0.1s						
LKR				AML	AML	21 28 18.9	
	comp=E,495μm,0.2s						
AXAR	**Agios Charalam**	**0.38**	**250**	P	Pg	21 28 15.4	-0.2
AXAR				S	Sb	21 28 21.6	-0.4
SKIA	**Skiathos**	**0.38**	**45**	P	Pg	21 28 15.9	+0.1
SKIA				S	Sg	21 28 21.1	0.0
MRKA	**Markates**	**0.41**	**117**	P	Pg	21 28 16.3	+0.1
MRKA				S	Sg	21 28 22.2	+0.2
MRKA				AML	AML	21 28 22.7	
	comp=E,347μm,0.2s						
MRKA				AML	AML	21 28 23.0	
	comp=N,407μm,0.3s						
NEO	**Neokhori**	**0.42**	**12**	P	Pg	21 28 16.5	+0.1
NEO				S	Sg	21 28 21.7	-0.4
NEO				AML	AML	21 28 21.9	
	comp=N,742μm,0.3s						
NEO				AML	AML	21 28 22.1	
	comp=E,983μm,0.2s						
XOR	**Xorichti**	**0.47**	**7**	P	Pg	21 28 17.3	-0.1
XOR				S	Sg	21 28 23.3	-0.5
XOR				AML	AML	21 28 23.5	
	comp=N,459μm,0.5s						
XOR				AML	AML	21 28 24.1	
	comp=E,270μm,0.2s						
AGG	**Agios Georgios**	**0.62**	**282**	P	Pg	21 28 19.5	-0.7
AGG				S	Sb	21 28 29.4	+0.3
AOS	**Alonnisos**	**0.66**	**65**	P	Pg	21 28 20.2	-0.5
AOS				S	Sg	21 28 29.2	-0.3
PROD	**Prodromos**	**0.66**	**195**	P	Pg	21 28 20.1	-0.7
VIL2	**Platees**	**0.69**	**170**	P	Pb	21 28 22.2	+0.5
MAKR	**Makrakomi, Fth**	**0.78**	**279**	P	Pg	21 28 22.7	-0.3
EREA	**Eretria**	**0.80**	**126**	P	Pb	21 28 23.3	-0.1
KALE	**Kalithea**	**0.92**	**237**	P	Pb	21 28 25.0	-0.4
PTL	**Penteli**	**1.03**	**145**	P	Pn	21 28 27.7	0.0
KLV	**Kalavryta, Ach**	**1.14**	**222**	P

GOGA IAmb IAmb 21 40 03.7
comp=Z,9.8nm,0.8s
SDV Santo Domingo 16.31 118 Pn **Pn 21 39 51.6 0.0**
comp=Z,2.9nm,0.3s,baz=328,slow=13,SNR=4.0
SDV Santo Domingo 16.31 118 **Pn 21 39 48.8 -2.9**
SDV IAmb IAmb 21 40 05.0
comp=Z,54nm,1.4s
Y49A Blount Mountai 16.69 356 **Pn 21 39 55.4 -0.7**
Y49A IAmb IAmb 21 40 09.4
comp=Z,23nm,0.8s
HODGE Hodges 17.21 8 Pn **Pn 21 40 01.3 -1.4**
833A Chaparral WMA, 17.23 313 P **Pn 21 40 03.2 +0.4**
FPAL Fort Paine 17.34 359 P **P 21 40 05.5 +0.2**
435B Jarrell 17.71 322 P **P 21 40 09.8 +0.4**
W50A Signal Mountai 17.99 359 P **Pn 21 40 12.2 -0.1**
W50A IAmb IAmb 21 40 23.5
comp=Z,16nm,1.1s
SJG San Juan 18.10 84 LR LR 21 46 41.1
comp=Z,60nm,19.2s,baz=275,slow=36
TKL Tuckaleechee C 18.48 3 P **Pn 21 40 19.8 +1.5**
comp=Z,0.6nm,0.3s,baz=184,slow=14,SNR=4.2
TKL LR LR 21 47 15.5
comp=Z,75nm,19.1s,baz=284,slow=37
W57A Gilead 18.51 13 **Pn 21 40 18.5 -0.1**
V53A Saluda 18.57 6 P **Pn 21 40 19.9 +0.5**
JCT Junction City 18.86 317 P **P 21 40 21.5 -0.7**
JCT IAmb IAmb 21 40 33.3
comp=Z,14nm,0.7s
JCT S **Sn 21 43 45.7 -7.4**
V56A Mocksville 19.04 12 P **Pn 21 40 24.7 -0.3**
V56A IAmb IAmb 21 40 33.9
comp=Z,13nm,0.8s
BLA Blacksburg 20.42 11 P **P 21 40 39.1 0.0**
TXAR Lajitas Array 20.89 309 P **P 21 40 45.5 +1.1**
comp=Z,2.3nm,0.7s,baz=118,slow=10,SNR=7.5
TXAR LR LR 21 50 40.6
comp=Z,43nm,18.3s,baz=0.0,slow=42
WCI Wyandotte Cave 21.04 357 P **P 21 40 46.8 +1.1**
WMOK Wichita Mounta 21.36 328 P **P 21 40 48.9 -0.4**
HPIG 21.37 301 IAmb IAmb 21 40 53.3
comp=Z,8.9nm,0.9s
Q51A Peebles 21.86 4 P **P 21 40 54.6 0.0**
P53A Whipple 22.50 8 P **P 21 41 01.5 +0.1**
AMTX Amarillo 23.05 323 P **P 21 41 08.1 +0.8**
PCM Pelee Case Pet 23.09 92 *eP* **P 21 41 13.5 +5.6**
GBMF Grand Be 23.14 92 *eP* **P 21 41 12.9 +4.5**
BAMF Morne Balai 23.15 92 *eP* **P 21 41 12.9 +4.4**
BIM Bigot 23.27 93 *eP* **P 21 41 13.2 +3.5**
TRMF Trois Ilets 23.29 93 *eP* **P 21 41 12.5 +2.7**
ZAM Aeronautique 23.31 93 *eP* **P 21 41 12.1 +2.2**
LPMF Morne Lapointe 23.37 93 *eP* **P 21 41 11.1 +0.6**
MNTX Cornudas Mount 23.41 312 P **P 21 41 09.0 -1.9**
MNTX IAmb IAmb 21 41 25.1
comp=Z,4.4nm,0.8s
MPOM Morne Pois Mar 23.49 93 *eP* **P 21 41 11.5 -0.2**
N49A Columbus Grove 23.71 2 P **P 21 41 14.6 +1.0**
N49A IAmb IAmb 21 41 24.6
comp=Z,8.0nm,0.6s
ATAH Atahualpa 25.02 164 LR LR 21 50 53.3
comp=Z,62nm,19.1s,baz=97,slow=35
ANMO Albuquerque 26.02 317 P **P 21 41 33.6 -1.4**
PD31 Pinedale Array 32.95 326 IAmb IAmb 21 42 48.0
comp=Z,3.1nm,1.2s
PDAR Pinedale Array 32.95 326 P **P 21 42 37.1 +0.6**
comp=Z,1.3nm,0.7s,baz=139,slow=10,SNR=6.6
PDAR Pinedale Array 32.95 326 P **P 21 42 37.0 +0.5**
TPAW Teton Pass 34.19 326 IAmb IAmb 21 42 50.6
comp=Z,4.8nm,0.8s
MOOW Moose Ponds 34.25 326 IAmb IAmb 21 42 50.3
comp=Z,9.9nm,1.4s
FXWY Fox Creek 34.33 326 P **P 21 42 47.0 -1.5**
FXWY IAmb IAmb 21 43 00.3
comp=Z,3.4nm,1.0s
NVAR Mina Array Bea 35.93 313 P **P 21 43 03.4 +1.0**
comp=Z,0.3nm,0.6s,baz=124,slow=8.8,SNR=4.0
NVAR LR LR 21 58 47.5
comp=Z,27nm,20.6s,baz=88,slow=38
MCMT McKenzie Canyo 36.10 326 P **P 21 43 05.9 +2.2**
HRY Holter Researc 36.85 329 P **P 21 43 11.5 +1.6**
LPAZ La Paz 37.20 152 LR LR 22 00 01.7
comp=Z,34nm,19.6s,baz=316,slow=39
SCHQ Schefferville 40.17 16 LR LR 22 00 13.9
comp=Z,75nm,18.6s,baz=330,slow=36
NEW Newport 40.56 327 LR LR 22 01 33.7
comp=Z,38nm,19.2s,baz=98,slow=38
FRB Frobisher Bay 47.94 10 LR LR 22 03 35.0
comp=Z,96nm,18.2s,baz=124,slow=35
RES Resolute Bay 57.81 357 LR LR 22 13 19.1
comp=Z,40nm,18.4s,baz=190,slow=39
INK Inuvik 59.48 341 P **P 21 46 04.9 +0.9**
comp=Z,1.2nm,0.9s,baz=106,slow=7.4,SNR=2.4
INK Inuvik 59.48 341 IAmb IAmb 21 46 20.7
comp=Z,4.0nm,1.2s
IL31 62.71 335 P **P 21 46 27.1 +1.1**
ILAR Eielson Array 62.71 335 P **P 21 46 27.0 +0.9**
comp=Z,1.7nm,0.9s,baz=117,slow=4.9,SNR=11
KDAK Kodiak Island 63.67 326 LR LR 22 16 15.0
comp=Z,26nm,18.6s,baz=128,slow=38
ESDC Sonseca Array 72.56 53 P **P 21 47 29.4 +0.7**
comp=Z,0.7nm,0.6s,baz=287,slow=5.8,SNR=5.8
TORD Torodi Ar. Bea 83.22 78 P **P 21 48 28.2 -0.2**
comp=Z,0.3nm,0.6s,baz=298,slow=3.1,SNR=3.1
KSH Kashi 120.94 17 PKP **PKPdf 21 54 54.0 -0.2**
KSH PP **PP 21 56 28.5 +6.5**
KSH PKS **PKSdf 21 58 31.3 +0.3**
KSH SKS **SKSdf 22 02 06.1 +2.2**
KSH AMB AMB
comp=Z,770nm,7.7s
KSH LR LR
comp=N,320nm,15.5s
KSH LR LR
comp=E,350nm,9.9s
KSH LR LR
comp=Z,350nm,11.7s
WRA Warramunga Arr 142.55 259 PKP **PKiKP 21 55 37.4 -0.7**
comp=Z,0.4nm,0.8s,baz=88,slow=2.1,SNR=2.8
ASAR Alice Springs 142.94 253 PKhKP PKPpre 21 55 32.0
comp=Z,0.4nm,0.5s,baz=102,slow=3.2,SNR=6.7

NNC 12 22:00:39.9±1.0, 51°.69N×75°.38E, h5km±11km, mb3.6, mpv3.3, 6C-1D, Error ellipse: s-maj=11.4km s-min=5.7km az=13.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.25**	**117**	⇑Pg	Pb	22 01 20.9	-0.1
KURBB	3.4nm,0.3s			⇑Lg	Lg	22 01 50.7	
	52nm,0.6s						
SEM	**Semipalatinsk**	**3.33**	**111**	Pg	Pn	22 01 35.1	+2.3
SEM	3.5nm,0.1s			Lg	Lg	22 02 12.4	
	23nm,0.2s						
BRVK	**Borovoye**	**3.41**	**296**	⇑Pg	Pb	22 01 41.6	+0.8
BRVK	2.2nm,0.6s			⇑Lg	Lg	22 02 27.2	
	6.6nm,0.6s						
MK31	**Makanchi Array**	**6.67**	**135**	⇑Pn	Pn	22 02 20.0	+1.6
MK31	0.3nm,0.4s,baz=357,slow=10,SNR=7.0			⇓Sn	Sn	22 03 34.8	+0.1
	0.7nm,0.5s,baz=311,slow=21,SNR=3.5			⇑Lg	Lg	22 04 09.8	
	1.7nm,0.5s,baz=318,slow=26,SNR=7.7						
KAPS	**Kapalarasan**	**6.93**	**156**	Pg	Pg	22 02 47.7	-4.9
KAPS	0.6nm,0.2s			Lg	Lg	22 04 17.7	
	2.6nm,0.4s						
ARXS	**Arharly**	**7.66**	**167**	Pg	Pg	22 03 01.9	-4.6
ARXS	1.1nm,0.3s			Lg	Lg	22 04 42.0	
	4.9nm,0.5s						
DJR	**Jarkent**	**7.93**	**156**	Pg	Pg	22 03 06.1	-5.6
DJR	0.5nm,0.2s			Lg	Lg	22 04 48.9	
	1.9nm,0.4s						

NNC 12 22:02:47.6±2.8, 51°.79N×75°.56E, h0km, mb3.6, mpv3.4, 4C-3D, Error ellipse: s-maj=26.6km s-min=12.8km az=3.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.20**	**121**	⇑Pg	Pb	22 03 27.8	-0.4
KURBB	2.4nm,0.3s,baz=299,slow=17			⇓Lg	Lg	22 03 57.9	
	32nm,0.7s						
SEM	**Semipalatinsk**	**3.26**	**113**	Pg	Pb	22 03 45.4	-1.1
SEM	2.9nm,0.1s			Lg	Lg	22 04 22.9	
	16nm,0.2s						
BRVK	**Borovoye**	**3.47**	**294**	⇓Lg	Lg	22 04 38.2	
BRVK	5.7nm,0.7s						
MAKZ	**Makanchi**	**6.51**	**137**	⇑Sn	Sn	22 05 41.2	+1.7
MAKZ	1.0nm,0.6s			⇓Lg	Lg	22 06 13.0	
	1.9nm,0.6s						
MK31	**Makanchi Array**	**6.66**	**136**	⇑Sn	Sn	22 05 44.7	+1.6
MK31	0.9nm,0.5s			⇑Lg	Lg	22 06 18.5	
	2.4nm,0.6s,baz=327,slow=25						
KAPS	**Kapalarasan**	**6.98**	**157**	Pg	Pg	22 04 58.7	-2.5
KAPS	1.6nm,0.5s			Lg	Lg	22 06 29.4	
	2.0nm,0.8s						

IDC 12 22:30:16.4±0.7, 4°.53S×151°.74E, h205km±7km, mb3.4/4, mb1 3.6/4, mb1mx3.2/30, mbtmp3.9/4, Error ellipse: s-maj=26.5km s-min=11.8km az=59.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.36**	**52**	P	Pn	22 30 44.3	+0.7
KRVT	57nm,0.3s,baz=220,slow=4.2,SNR=20			S	S	22 31 05.7	+0.8
	14nm,0.3s,baz=232,slow=22,SNR=9.9						
WRA	**Warramunga Arr**	**22.85**	**226**	P	P	22 35 02.5	+0.4
	5.3nm,0.6s,baz=52,slow=9.6,SNR=46						
ASAR	**Alice Springs**	**25.65**	**220**	P	P	22 35 27.5	0.0
	0.9nm,0.5s,baz=54,slow=8.6,SNR=18						
FITZ	**Fitzroy Crossi**	**28.86**	**240**	P	P	22 35 55.5	-0.7
	1.1nm,0.6s,baz=74,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**79.43**	**319**	P	P	22 42 00.1	+0.2
	0.2nm,0.6s,baz=117,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**149.22**	**288**	PKPbc	PKPbc	22 49 41.1	-0.6
	0.4nm,0.3s,baz=76,slow=2.3,SNR=12						

SJA 12 22:56:22.7±0.8, 28°.66S×71°.38W, h61km±10km, ML3.3, MW3.5
GUC 12 22:56:23.7±0.5, 28°.73S×71°.13W, h10km±16km, ML2.8
ISC 12 22:56:20.8±2.1, 28°.66S±0°.05×71°.4W±0°.2, h5km±15km, n20, σ1°54/24, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.25**	**174**	*e*P	**Pg**	**22 56 44.8**	**-0.1**
LSCH				*i* S	**Sg**	**22 57 00.1**	**-1.0**
LSCH				IAML		22 57 05.2	
	comp=E,341nm,0.2s						
GO03	**Copiap**	**1.47**	**44**	*e*P	**Pn**	**22 56 48.0**	**0.0**
GO03				*i* S	**Sb**	**22 57 06.3**	**-1.4**
GO03				IAML		22 57 07.0	
	comp=N,393nm,0.4s						
GO03	**Copiap**	**1.47**	**44**	*i* P	**Pn**	**22 56 48.7**	**+0.6**
GO03				*e*S	**Sb**	**22 57 07.2**	**-0.5**
GO04	**Tololo Observa**	**1.59**	**161**	⇑*i*P	**Pn**	**22 56 50.2**	**+0.3**
GO04				*i* S	**Sn**	**22 57 09.0**	**-2.0**
GO04	**Tololo Observa**	**1.59**	**161**	*i* P	**Pn**	**22 56 50.2**	**+0.3**
GO04				*e*S	**Sn**	**22 57 10.4**	**-0.7**
AROD	**Rodeo**	**2.24**	**132**	*i* P	**Pn**	**22 57 00.3**	**+1.3**
ACCO	**Cerro Coronel**	**2.79**	**134**	*i* P	**Pn**	**22 57 08.1**	**+1.6**
AMOG	**MOGNA**	**3.39**	**133**	*i* P	**Pn**	**22 57 16.2**	**+1.7**
RTLL	**Cerro Villicun**	**3.67**	**137**	*i* P	**Pn**	**22 57 19.6**	**+1.3**
RTLL				IAML		22 58 20.0	
	comp=Z,44nm,0.3s						
RTCV	**Cerro Valdivia**	**4.03**	**143**	*i* P	**Pn**	**22 57 25.8**	**+2.5**
ASAL	**Salagasta**	**4.49**	**151**	*i* P	**Pn**	**22 57 32.0**	**+2.3**
PEL	**Peldehue**	**4.51**	**173**	*i* P	**Pn**	**22 57 30.7**	**+0.8**
ARCO	**CERRO ARCO**	**4.67**	**154**	*i* P	**Pn**	**22 57 34.5**	**+2.2**
CYA	**Choya**	**4.92**	**89**	*i* P	**Pn**	**22 57 35.6**	**+0.2**
AAGR	**Agrelo**	**4.93**	**154**	*i* P	**Pn**	**22 57 36.9**	**+1.2**
ACAN	**Cantantal**	**5.11**	**136**	*i* P	**Pn**	**22 57 38.8**	**+0.7**
PB15	**IPOC Station P**	**5.70**	**18**	*i* P	**Pn**	**22 57 48.4**	**+2.1**
LVC	**Limon Verde**	**6.42**	**21**	*i* P	**Pn**	**22 57 56.9**	**+0.4**
TCA	**Tanti**	**6.46**	**116**	*i* P	Pn	22 57 55.4	-1.4
TCA				IAML		22 59 14.7	
	comp=Z,9.5nm,0.5s						
PB09	**IPOC Station P**	**7.10**	**16**	*i* P	**Pn**	**22 58 08.2**	**+2.6**

ANF 12 23:04:01.6±0.6, 35°.48N×96°.66W, h8km±5km, ML3.8/9, Error ellipse: s-maj=8.5km s-min=1.7km az=170.0
NEIC 12 23:04:01.1±1.2, 35°.43N±0°.04×96°.68W±0°.01, h5km±6km
ISC 12 23:04:00.9±1.3, 35°.43N±0°.04×96°.66W±0°.03, h0km±12km, n56, σ1°30/70, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.33**	**213**		**Pg**	**23 04 06.5**	**-0.7**
ADOK	**Arcadia Dam**	**0.62**	**291**	Pg	**Pg**	**23 04 13.0**	**+0.1**
FNO	**Franklin**	**0.63**	**254**		**Pg**	**23 04 12.5**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**0.64**	**268**		**Pg**	**23 04 13.1**	**-0.1**
TUL1	**Leonard**	**0.85**	**56**	P	**Pg**	**23 04 17.5**	**+0.3**
TUL1	baz=236			S	**Sg**	**23 04 29.1**	**+0.8**
	baz=236						
TUL1	**Leonard**	**0.85**	**56**		**Pg**	**23 04 17.5**	**+0.3**
X34A	**Smith Ranch, M**	**1.27**	**230**		**Pn**	**23 04 24.3**	**-1.6**
X34A				Sg	**Sb**	**23 04 41.0**	**-1.7**
WMOK	**Wichita Mounta**	**1.88**	**249**	P	**Pn**	**23 04 33.8**	**-0.4**
WMOK	baz=68			S	**Sb**	**23 04 59.5**	**-0.5**
	baz=68						
WMOK	**Wichita Mounta**	**1.88**	**249**		**Pn**	**23 04 33.9**	**-0.4**
WMOK				Sg	**Sb**	**23 04 58.8**	**-1.2**
U32A	**Winter Ranch,**	**2.12**	**297**		**Pn**	**23 04 37.5**	**-0.1**
W39A	**Magazine**	**2.36**	**95**	P	**Pn**	**23 04 40.7**	**-0.1**
W39A	baz=276			S	**Sn**	**23 05 10.9**	**+0.4**
	baz=276						
W39A	**Magazine**	**2.36**	**95**		**Pn**	**23 04 40.6**	**-0.3**
HHAR	**Hobbs**	**2.36**	**68**		**Pn**	**23 04 40.8**	**-0.2**
MIAR	**Mount Ida**	**2.68**	**108**	P	**Pn**	**23 04 45.4**	**+0.2**
MIAR	baz=290			S	**Sn**	**23 05 19.0**	**+0.6**
	baz=290						
MIAR	**Mount Ida**	**2.68**	**108**		**Pn**	**23 04 45.5**	**+0.3**
U40A	**Yellville**	**3.22**	**72**	P	**Pn**	**23 04 52.5**	**-0.2**
	baz=254						
U40A	**Yellville**	**3.22**	**72**		**Pn**	**23 04 52.6**	**-0.2**
X40A	**Basin Creek Fa**	**3.28**	**106**	P	**Pn**	**23 04 53.6**	**+0.1**
	baz=287						
X40A	**Basin Creek Fa**	**3.28**	**106**	Pn	**Pn**	**23 04 53.8**	**+0.3**
X40A				Pg	**Pb**	**23 05 00.8**	**+0.9**
X40A					LR	23 05 44.5	
WLAR	**White Oak Lake**	**3.40**	**120**	Pn	**Pn**	**23 04 55.3**	**+0.1**
WLAR				Sn	**Sn**	**23 05 34.7**	**-1.6**
WHTX	**Lake Whitney,**	**3.50**	**191**	Pn	**Pn**	**23 04 56.1**	**-0.3**
WHTX					**Pb**	**23 05 03.6**	**0.0**
WHAR	**Wooly Hollow**	**3.57**	**91**		**Pn**	**23 04 56.8**	**-0.7**
WHAR					LR	23 05 53.5	
UALR	**University of**	**3.60**	**99**	Pn	**Pn**	**23 04 57.7**	**-0.1**
UALR					LR	23 05 53.3	
W41B	**Gary Mavity, V**	**3.62**	**93**	P	**Pn**	**23 04 58.4**	**+0.3**
W41B	baz=275			S	**Sn**	**23 05 41.1**	**-0.3**
	baz=275						
W41B	**Gary Mavity, V**	**3.62**	**93**		**Pn**	**23 04 58.2**	**+0.1**
W41B					LR	23 05 55.8	
FCAR	**Ozark Folk Cen**	**3.72**	**82**		**Pn**	**23 04 59.4**	**-0.2**
FCAR				Sg	**Sb**	**23 05 53.8**	**+0.8**
ABTX	**Abilene, Hawle**	**3.74**	**222**	Pn	**Pn**	**23 04 59.8**	**-0.1**
ABTX				Pg	**Pb**	**23 05 09.3**	**+1.5**
ABTX				Sg	**Sb**	**23 05 55.0**	**+1.3**
Z41A	**Richland Creek**	**3.86**	**123**	Pn	**Pn**	**23 05 01.4**	**0.0**
MGMO	**Mountain Grove**	**3.94**	**63**	Pn	**Pn**	**23 05 02.9**	**+0.3**
MGMO				Sg	**Sg**	**23 06 04.0**	**-3.5**
AMTX	**Amarillo**	**4.15**	**264**		**Pn**	**23 05 04.8**	**-0.8**
AMTX				Pg	**Pb**	**23 05 16.5**	**+1.6**
AMTX					LR	23 06 11.1	
CBKS	**Cedar Bluff**	**4.18**	**325**	P	**Pn**	**23 05 06.6**	**+0.6**
	baz=144						
CBKS	**Cedar Bluff**	**4.18**	**325**	Pn	**Pn**	**23 05 05.8**	**-0.1**
CBKS					LR	23 06 14.8	

LCAR Lake Charles 4.52 80 **Pn 23 05 09.9 -0.7**
LCAR Pg **Pb 23 05 23.8 +2.7**
435B Jarrell 4.70 190 Sg **Sb 23 06 26.0 +4.6**
X43A Marvell 4.83 99 Pn **Pn 23 05 13.6 -1.2**
X43A LR 23 06 31.8
CCM Cathedral Cave 5.07 57 P **Pn 23 05 18.5 +0.3**
baz=240
CCM Cathedral Cave 5.07 57 Pn **Pn 23 05 18.5 +0.3**
CCM **Sn 23 06 17.1 -0.3**
CCM LR 23 06 40.2
JCT Junction City 5.60 209 Sg **Sb 23 06 50.2 +2.9**
FVM French Village 5.62 61 Pn **Pn 23 05 25.5 -0.1**
FVM LR 23 06 58.0
LNXT Lenox 5.86 81 Pn **Pn 23 05 30.5 +1.4**
KSCO Kaye Shedlock' 5.95 309 Pn **Pn 23 05 29.2 -1.2**
KSCO **Pb 23 05 48.7 +3.1**
OXF Oxford 6.02 97 Pn **Pn 23 05 29.6 -1.5**
OXF LR 23 07 12.2
SLM Saint Louis 6.05 56 Lg 23 07 11.4
SIUC Southern Illin 6.41 67 Pn **Pn 23 05 37.1 +0.7**
SIUC LR 23 07 20.6
T25A Trinidad 6.49 287 Pn **Pn 23 05 34.6 -3.2**
T25A LR 23 07 24.5
SCIA State Center 7.00 22 Pn **Pn 23 05 45.1 +0.4**
PLAL Pickwick Lake 7.04 91 Pn **Pn 23 05 43.3 -1.9**
SDCO Great Sand Dun 7.48 291 **Pn 23 05 51.4 -0.1**
X48A Hartselle 7.95 94 LR 23 08 10.2
V48A Smith Brothers 8.02 85 Lg 23 08 14.6
ANMO Albuquerque 8.04 269 LR 23 08 13.0
ECSD EROS Data Cent 8.29 0 Pn **Pn 23 06 01.3 -1.1**
ECSD LR 23 08 24.7
BNM Barren Site 8.30 264 Pn **Pn 23 06 01.0 -1.7**
ISCO Idaho Springs 8.34 304 **Pn 23 06 02.5 -0.8**
ISCO LR 23 08 26.1
TX32 Lajitas Array 8.49 226 Pn **Pn 23 06 04.3 -0.9**
TXAR Lajitas Array 8.49 226 Pn **Pn 23 06 03.7 -1.5**
TXAR LR 23 08 25.2

GUC 12 23:14:42.4±0.9, 30°.45S×71°.58W, h40km±5km, ML3.7
ISCJB 12 23:14:43.5±1.4, 30°.38S±0°.04×71°.69W±0°.09, h16km±9km, Error ellipse: s-maj=13.5km s-min=5.6km az=10.0
SJA 12 23:14:43.2±1.1, 30°.28S×71°.64W, h29km±5km, ML3.2, MW3.5
ISC 12 23:14:42.1±2.1, 30°.32S±0°.04×71°.62W±0°.08, h5km±14km, n23, σ1°60/29, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.53**	**39**	*e*P	**Pn**	**23 14 55.6**	**-0.7**
LSCH				*i* S	**Sn**	**23 15 04.4**	**-1.2**
GO04	**Tololo Observa**	**0.73**	**78**	⇓*i*P	**Pb**	**23 14 57.8**	**+0.4**
GO04				*i* S	**Sb**	**23 15 07.5**	**-0.4**
GO04				IAML		23 15 13.3	
	comp=N,6μm,0.4s						
GO04	**Tololo Observa**	**0.73**	**78**	*i* P	**Pb**	**23 14 58.0**	**+0.6**
GO04				*e*S	**Sn**	**23 15 09.1**	**-1.9**
CO02	**Combarbal**	**1.03**	**149**	⇓*e*P	**Pg**	**23 15 01.8**	**-0.1**
CO02				*i* S	**Sg**	**23 15 14.7**	**-0.6**
CO02				IAML		23 15 15.7	
	comp=E,5μm,0.3s						
AROD	**Rodeo**	**1.87**	**86**	*i* P	**Pb**	**23 15 16.6**	**-0.3**
AROD				*e*S	**Sb**	**23 15 40.3**	**-0.5**
ACCO	**Cerro Coronel**	**2.23**	**98**	*i* P	**Pb**	**23 15 22.3**	**-0.7**
ROCH	**El Roble**	**2.69**	**169**	IAML		23 16 15.3	
	comp=E,278nm,0.3s						
ROC1	**El Roble**	**2.70**	**169**	*i* P	**Pn**	**23 15 25.7**	**-0.7**
AMOG	**MOGNA**	**2.77**	**104**	*i* P	**Pn**	**23 15 29.4**	**+2.1**
ZON	**Zonda**	**2.81**	**117**	*i* P	**Pn**	**23 15 29.4**	**+1.6**
ZON				IAML		23 16 13.7	
	comp=Z,44nm,0.3s						
RTLL	**Cerro Villicun**	**2.89**	**111**	*i* P	**Pn**	**23 15 30.1**	**+1.2**
RTLL				IAML		23 16 16.2	
	comp=Z,105nm,0.3s						
PEL	**Peldehue**	**2.92**	**164**	*e*P	**Pn**	**23 15 27.1**	**-2.3**
PEL				*i* S	**Sn**	**23 16 03.1**	**-1.9**
PEL				IAML		23 16 12.8	
	comp=E,189nm,0.4s						
PEL	**Peldehue**	**2.92**	**164**	*i* P	**Pn**	**23 15 30.5**	**+1.1**
GO03	**Copiap**	**2.98**	**24**	*e*P	**Pn**	**23 15 31.0**	**+0.9**
GO03				*i* S	**Sn**	**23 16 08.6**	**+2.3**
GO03				IAML		23 16 20.1	
	comp=E,225nm,0.3s						
GO03	**Copiap**	**2.98**	**24**	*i* P	**Pn**	**23 15 30.6**	**+0.5**
RTCV	**Cerro Valdivia**	**3.06**	**121**	*i* P	**Pn**	**23 15 32.9**	**+1.7**
ASAL	**Salagasta**	**3.29**	**134**	*i* P	**Pn**	**23 15 36.4**	**+2.0**
ARCO	**CERRO ARCO**	**3.40**	**138**	*i* P	**Pn**	**23 15 38.9**	**+2.8**
ARCO				IAML		23 16 27.6	
	comp=Z,53nm,0.4s						
AAGR	**Agrelo**	**3.64**	**140**	*i* P	**Pn**	**23 15 41.4**	**+2.1**
ACAN	**Cantantal**	**4.27**	**118**	*i* P	**Pn**	**23 15 48.9**	**+1.1**
COIS	**El Sosneado**	**5.07**	**161**	*i* P	**Pn**	**23 16 02.0**	**+3.2**
CYA	**Choya**	**5.41**	**71**	*i* P	**Pn**	**23 16 04.2**	**+0.6**
TCA	**Tanti**	**6.13**	**101**	*i* P	**Pn**	**23 16 12.6**	**-0.9**

IDC 12 23:27:08.1±5.9, 36°.24N×71°.01E, h172km±43km, mb3.4/3, mb1 3.2/5, mb1mx2.9/30, mbtmp3.7/5, Error ellipse: s-maj=66.0km s-min=21.5km az=154.0
NNC 12 23:27:16.4±1.7, 36°.83N×70°.85E, h132km±39km, mb3.0, mpv3.7, Error ellipse: s-maj=16.4km s-min=11.0km az=43.0
ISC 12 23:27:11.9±1.7, 36°.6N±0°.1×70°.9E±0°.1, h188km, n17, σ1°58/20, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.98**	**21**	P	**Pn**	**23 28 40.2**	**+1.3**
	SNR=47						
UCH	**Uchtor**	**6.32**	**25**	P	**Pn**	**23 28 44.8**	**+1.3**
	SNR=24						
KZA	**Kyzart**	**6.47**	**30**	P	**Pn**	**23 28 46.1**	**+0.6**
	SNR=7.9						
EKS2	**Erkin-Say**	**6.49**	**19**	P	**Pn**	**23 28 47.0**	**+1.6**
	SNR=5.7						
KK31	**Karatay Array**	**6.54**	**358**	⇓P	**Pn**	**23 28 47.1**	**+1.2**
KK31	0.3nm,0.2s,baz=178,slow=13,SNR=9.6			⇓S	**Sn**	**23 29 57.4**	**-2.9**
	3.6nm,0.3s,baz=182,slow=22,SNR=7.8						
AAK	**Ala-Archa**	**6.68**	**24**	⇑P	**Pn**	**23 28 49.0**	**+1.0**
AAK	7.4nm,0.6s			⇑S	**Sn**	**23 30 02.0**	**-2.0**
	9.1nm,0.7s						
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**23 28 49.3**	**+1.3**
	SNR=15						
KBK	**Karagaybulak**	**6.85**	**26**	P	**Pn**	**23 28 51.6**	**+1.4**
	SNR=6.7						
ULHL	**Ulahol**	**7.04**	**35**	P	**Pn**	**23 28 53.4**	**+0.8**
	SNR=10						
USP	**Ospenovka**	**7.25**	**22**	P	**Pn**	**23 28 56.5**	**+1.2**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.32**	**28**	⇑P	**Pn**	**23 28 57.4**	**+1.1**
	8.4nm,0.5s						
GEYT	**Alibeck**	**10.25**	**281**	P	**Pn**	**23 29 33.5**	**-1.0**
	0.1nm,0.3s,baz=91,slow=12,SNR=2.5						
GEYT				S	**S**	**23 31 29.4**	**0.0**
	0.2nm,0.3s,baz=87,slow=25,SNR=2.9						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**23 30 13.1**	**-0.4**
	0.3nm,0.3s,baz=209,slow=11,SNR=11						
AB31	**Akbulak array**	**14.97**	**331**	⇑P	**P**	**23 30 38.3**	**+3.2**
	0.5nm,0.6s,baz=145,slow=12,SNR=4.5						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**23 31 28.4**	**-0.4**
	1.3nm,0.3s,baz=223,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**23 34 06.7**	**+0.7**
	4.1nm,1.0s,baz=120,slow=8.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**23 37 34.5**	**-1.5**
	0.3nm,0.3s,baz=48,slow=6.0,SNR=6.2						

NEIC 12 23:35:51.4±1.0, 37°.780N±0°.007×121°.95W±0°.01, h13km±2km, Central California

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

BKS	Berkeley--Byer	0.24	293		Pg	23 35 56.9 +0.2
CBSNC	Byron Hot Spri	0.25	81		Pg	23 35 57.1 +0.4
VAK	Adit at Lawren	0.25	293		Pg	23 35 57.0 +0.2
BL67	Building 67, L	0.26	292		Pg	23 35 56.8 -0.1
BRK	Berkeley--Havi	0.26	291		Pg	23 35 57.0 +0.1
CMJM	Mission San Jo	0.27	166		Pg	23 35 57.1 +0.1
CPIM	Pinole Ridge	0.29	315		Pb	23 35 58.2 -0.4
CYBM	Yerba Buena Is	0.33	276		Pg	23 35 58.0 0.0
CSPM	San Pablo Ridg	0.33	302		Pg	23 35 58.7 +0.5
HERB	Hercules	0.34	314		Pg	23 35 58.5 +0.3
JCPM	Coyote Point	0.35	237		Pg	23 35 58.6 +0.1
JSBM	San Bruno Moun	0.37	254		Pg	23 35 58.6 -0.2
NLHM	Lake Herman	0.37	336		Pb	23 35 59.6 -0.3
CMLM	Mount Lewis	0.39	142		Pg	23 35 59.4 +0.2
HMR	Hamilton Ranch	0.39	18		Pb	23 36 00.3 0.0
CPMM	Point Molate	0.40	295		Pg	23 35 59.5 +0.1
JPRM	Presidio of Sa	0.41	272		Pg	23 35 59.7 +0.1
JSFB	Stanford Teles	0.42	205		Pg	23 36 00.0 +0.3
SAC	San Andreas	0.42	242		Pg	23 35 59.8 0.0
JCHM	Cahill Ridge	0.43	232		Pg	23 35 59.9 0.0
JHPM	Huddart Park	0.43	220		Pg	23 36 00.4 +0.3
JMGM	Milagra Ridge	0.44	251		Pg	23 35 59.9 -0.2
JRSC	Jasper Ridge	0.44	211		Pg	23 36 00.1 0.0
JFP	Foothills Park	0.46	204		Pg	23 36 00.7 +0.2
OXMT	Ox Mountain	0.47	233		Pg	23 36 00.5 -0.1
JJRM	Joaquin Road	0.48	204		Pg	23 36 01.2 +0.3
CMMM	Mount Mocho	0.49	132		Pg	23 36 01.4 +0.3
JBMM	Black Mountain	0.49	199		Pg	23 36 01.3 +0.3
JSGM	Saratoga Golf	0.50	189		Pg	23 36 01.7 +0.4
MHC	Mount Hamilton	0.50	151		Pg	23 36 01.5 +0.1
ARN	Arnold Ranch	0.55	142		Pg	23 36 02.2 0.0
JPC	Peters Creek,	0.55	202		Pb	23 36 02.6 -0.4
CCOB	Coe Ranch Numb	0.57	157		Pb	23 36 02.9 -0.3
JJOM	Saint Joseph's	0.57	182		Pg	23 36 02.8 +0.1
JHUM	Huhtala Lane,	0.59	197		Pb	23 36 03.4 -0.3
JLAB	Laurel Hill	0.65	164		Pg	23 36 04.2 +0.1
JPSM		0.66	209		Pg	23 36 04.5 +0.2
CADM	Anderson Res.	0.67	157		Pb	23 36 04.9 0.0
JBNB	Ben Lomond Mou	0.68	194		Pg	23 36 04.7 +0.1
NADM	Allendale	0.68	359		Pg	23 36 04.7 +0.1
CVS	Carmenet Viney	0.69	325		Pg	23 36 05.0 +0.2
JECB	Eureka Canyon	0.74	171		Pb	23 36 06.6 +0.4
HSPM	Sheep	0.75	152		Pg	23 36 06.0 0.0
JTGM	Trout Gulch Ro	0.75	175		Pb	23 36 06.6 +0.2
HLPM	Lions Peak	0.78	161		Pb	23 36 06.8 -0.1
MCCM	Marconi Confer	0.82	297		Pg	23 36 06.7 -0.5
NTYM	Taylor	0.83	318		Pg	23 36 07.4 -0.1
FARB	Farallon Islan	0.83	265		Pg	23 36 07.3 -0.3
CDC	Canada Road	0.84	154		Pb	23 36 07.9 0.0
JELB	Ellicott, Sant	0.86	173		Pb	23 36 08.3 +0.1
NPRM	Point Reyes	0.87	285		Pg	23 36 07.8 -0.4
HPCM	Pacheco Lake	0.90	143		Pg	23 36 08.3 -0.5
NSHM	Saint Helena R	0.90	325		Pg	23 36 08.8 -0.1
NBPM	Berryessa Peak	0.91	348		Pg	23 36 08.2 -0.7
HFEM	San Felipe	0.91	151		Pg	23 36 08.3 -0.7
SLD	San Luis Dam	0.91	140		Pg	23 36 08.7 -0.4
PACP	Pacheco Peak	0.94	145		Pg	23 36 09.0 -0.5
ANZ	Anzar Road	0.94	162		Pg	23 36 09.7 +0.1
MAC	Mark West Spri	0.98	322		Pn	23 36 11.5 +0.6
HBTM	San Juan Bauti	0.98	161		Pn	23 36 10.8 -0.1
HTUM	Tustin Road	0.98	165		Pb	23 36 10.2 -0.1
NHSM	Mount Saint He	1.02	329		Pb	23 36 10.3 -0.7
HJGM	San Juan Grade	1.03	163		Pb	23 36 10.3 -0.8
MCUB	Copperopolis B	1.07	79		Pb	23 36 10.3 -1.6
FRP	Fremont Peak	1.09	160		Pb	23 36 10.2 -1.9
SAO	San Andreas Ge	1.09	158	Pg	Pb	23 36 11.3 -0.9
NMTM	Middletown	1.09	339		Pb	23 36 11.7 -0.5
NMCNC	Mill Creek, So	1.11	317		Pb	23 36 11.5 -0.9
BSLM	Silva Ranch	1.11	154		Pb	23 36 12.4 -0.1
BVYM	Vineyard	1.12	157		Pb	23 36 11.8 -0.9
GAXM	Alexander Vall	1.12	326		Pb	23 36 11.3 -1.4
HMOM	Monterey	1.18	179		Pg	23 36 14.0 -0.1
GDXM	Geysers	1.22	327		Pb	23 36 14.5 0.0
BPCNC	Pine Canyon	1.23	168		Pb	23 36 14.5 0.0
CMB	Columbia Colle	1.27	78	Pn	Pn	23 36 13.7 -1.1
BAVM	Antelope Valle	1.35	147		Pg	23 36 17.2 -0.2
AFDM	Forest Hills D	1.40	33	Pn	Pn	23 36 15.3 -1.4
PMPB	Monarch Peak	1.81	149		Pn	23 36 21.8 -0.7
WAKR	Walker	2.11	69	Pn	Pn	23 36 27.2 +0.6
PNTR	Pine Nut	2.26	54	Pn	Pn	23 36 28.6 -0.2
MDPB	Devils Postpil	2.28	93	Pn	Pn	23 36 29.6 +0.5
MDYM	Dry Creek	2.33	92		Pn	23 36 31.2 +1.3
OMMB	Old Mammoth Mi	2.35	93		Pn	23 36 30.5 +0.5
VCNR	Virginia City	2.36	49	Pn	Pn	23 36 29.1 -0.9
VCNR					Pg	23 36 35.7 -0.9
BEKR	Beckworth	2.43	30		Pn	23 36 31.2 +0.2
YERR	Yerington	2.45	60	Pn	Pn	23 36 31.9 +0.6
PAGB	Antelope Grade	2.46	146	Pn	Pn	23 36 31.1 -0.2
MGNR	McGee Canyon	2.58	88		Pg	23 36 39.4 -1.5
PAHR	Pah Rah Range	2.78	45	Pn	Pn	23 36 36.1 +0.3
KVN	Kaiserville	3.28	66		Pb	23 36 51.1 +1.5
ISA	Isabella, Lake	3.50	126	Pn	Pn	23 36 46.4 +0.7

*TAP **12** 23:36:01.4,25°.27N×122°.64E,h183km±1km,ML3.2,C*
*JMA **12** 23:36:01.1±0.3,25°.00N×122°.78E,h182km±4km,M2.4*
*ISCJB **12** 23:36:02.4±0.9,25°.03N±0°.07×122°.79E±0°.03,*
h169km±6km,Error ellipse: s-maj=11.9km s-min=4.3km
az=176.3

ISC 12 23:36:00.7±2.9,**25°.1N**±0°.1×**122°.79E**±0°.04,**h181**km±17km,
n38,σ0°**78**/64,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.68	163	*eP*	Pn	23 36 27.8	+1.3
	baz=164						
TWB1	Santiao Chiao	0.73	262	*eP*	Pn	23 36 25.9	-0.9
	baz=249						
EOS1	EOS1	0.82	227	P	Pn	23 36 28.2	+0.9
	baz=203						
EOS1				*eS*	Sn	23 36 48.4	+0.6
	baz=203						
TIPB	Shuangxi	0.88	261	*eP*	Pn	23 36 28.3	+0.5
	baz=247						
TIPB				*eS*	Sn	23 36 47.9	-0.8
	baz=247						
TWC	Suao	0.99	240	*eP*	Pn	23 36 29.2	+0.8
	baz=227						
TWC				*eS*	Sn	23 36 49.6	-0.3
	baz=227						
TWE	Neicheng	1.09	249	*eP*	Pn	23 36 30.7	+1.4
	baz=231						
IRIF	Iriomote-Funau	1.16	132	P	Pn	23 36 29.9	+0.1
IRIF				*eS*	Sn	23 36 51.7	-0.5
NANB	Nanao	1.17	234	*i* P	Pn	23 36 30.5	+0.6
	baz=218						
NANB				*i* S	Sn	23 36 52.2	-0.2
	baz=218						
ENA	Nanau	1.17	234	P	Pn	23 36 30.6	+0.7
	baz=218						
ENA				*i* S	Sn	23 36 52.4	0.0
	baz=218						
ENTT	Nioudou	1.21	247	*eP*	Pn	23 36 31.1	+0.9
	baz=232						
ENTT				*eS*	Sn	23 36 53.8	+0.8
	baz=232						
NWLT	Wulai	1.21	254	*eS*	Sn	23 36 52.6	-0.5
	baz=241						
NDT	Datong Townshi	1.27	246	*i* P	Pn	23 36 31.5	+0.8
	baz=231						
NDT				S	Sn	23 36 53.6	-0.3
	baz=231						
YHNB	Yeheng	1.36	251	*eP*	Pn	23 36 31.8	+0.2
	baz=233						
YHNB				S	Sn	23 36 54.3	-1.1
	baz=233						
NSK	Sanguang	1.37	252	S	Sn	23 36 54.4	-1.2
	baz=233						
HATJ	Hateruma jima	1.40	138	*eS*	Sn	23 36 56.3	+0.3
JKRS	Kuro-shima	1.41	128	*eS*	Sn	23 36 56.0	-0.2
NACB	Ninganchiao	1.43	229	*i* P	Pn	23 36 32.2	0.0
	baz=219						
NACB				*eS*	Sn	23 36 55.5	-1.0
	baz=219						
JIJ	Ishigaki jima	1.44	121	P	Pn	23 36 32.4	+0.1
JIJ				S	Sn	23 36 55.3	-1.3
NNSB	Datong	1.45	242	*i* P	Pn	23 36 32.9	+0.5
	baz=233						
NNSB				*eS*	Sn	23 36 56.5	-0.4
	baz=233						
NNS	Nan Shan	1.45	243	S	Sn	23 36 56.4	-0.6
	baz=234						
JISG	Ishigakijimahi	1.48	110	P	Pn	23 36 32.6	0.0
JISG				S	Sn	23 36 56.9	-0.3
ETLH	Xiulin Townshi	1.49	233	*eP*	Pn	23 36 33.3	+0.5
	baz=231						
ETLH				*eS*	Sn	23 36 56.7	-0.9
	baz=231						
TWD	Chiawan	1.50	227	*eS*	Sn	23 36 56.7	-0.9
	baz=217						
LIOB	Emei	1.68	254	*eP*	Pn	23 36 34.9	+0.4
	baz=240						
LIOB				*eS*	Sn	23 37 00.2	-0.5
	baz=240						
WHF	Hehuan Shan	1.69	235	*eP*	Pn	23 36 35.9	+0.8
	baz=231						
WHF				*eS*	Sn	23 37 00.7	-1.0
	baz=231						
TWT	Tachien	1.70	240	*eP*	Pn	23 36 35.2	+0.3
	baz=233						
TWT				*eS*	Sn	23 37 00.6	-0.8
	baz=233						
TDCB	Techi	1.71	240	*eP*	Pn	23 36 35.7	+0.7
	baz=233						
TDCB				*eS*	Sn	23 37 01.3	-0.3
	baz=233						
ESL	Shilin	1.79	224	*eP*	Pn	23 36 36.7	+1.0
	baz=217						
ESL				*eS*	Sn	23 37 01.3	-1.5
	baz=217						
JTJ	Tarama	1.80	105	S	Sn	23 37 02.9	0.0
CHGB	Renai	1.81	235	*eP*	Pn	23 36 37.3	+1.2
	baz=228						
CHGB				*i* S	Sn	23 37 03.1	-0.4
	baz=228						
WHP	Taichung City	1.87	244	*eP*	Pn	23 36 37.2	+0.6
	baz=237						
WHP				*i* S	Sn	23 37 03.5	-0.9
	baz=237						
DPDB	Guoxing	2.01	238	P	Pn	23 36 38.3	+0.3
	baz=238						
VWDT	VWDT	2.02	228	*eP*	Pn	23 36 39.1	+0.9
	baz=215						
VWDT				*eS*	Sn	23 37 06.1	-1.0
	baz=215						
HGSD	Ruisui	2.04	218	*eS*	Sn	23 37 07.3	-0.2
	baz=206						
SSLB	Suanglung	2.13	232	*eP*	Pn	23 36 40.3	+0.9
	baz=233						
SSLB				*eS*	Sn	23 37 09.4	0.0
	baz=233						
TYC	Yuchr	2.13	236	*eP*	Pn	23 36 40.3	+0.9
	baz=230						
TYC				*eS*	Sn	23 37 08.9	-0.3
	baz=230						
YULB	Yu-li	2.19	219	*eP*	Pn	23 36 40.1	+0.1
	baz=213						
YULB				*eS*	Sn	23 37 08.4	-2.1
	baz=213						
WHYT	Xinyi Township	2.26	232	*eP*	Pn	23 36 41.6	+0.8
	baz=232						
WHYT				*eS*	Sn	23 37 11.8	-0.1
	baz=232						

NEIC 12 23:40:30.2±0.8,**37°.648N**±0°.010×**122°.53W**±0°.02,
h17km±1km,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMGM	Milagra Ridge	0.05	104		Pg	23 40 34.1	+0.9
J061	Lakeshore Driv	0.09	19		Pg	23 40 33.1	-0.4
JSBM	San Bruno Moun	0.11	74		Pg	23 40 33.1	-0.7
SAC	San Andreas	0.11	126		Pg	23 40 33.3	-0.4
JPRM	Presidio of Sa	0.15	17		Pg	23 40 34.2	-0.1
OXMT	Ox Mountain	0.17	150		Pg	23 40 34.5	0.0
JCPM	Coyote Point	0.18	110		Pg	23 40 34.3	-0.3
JCHM	Cahill Ridge	0.18	137		Pg	23 40 34.5	-0.2
CYBM	Yerba Buena Is	0.21	40		Pg	23 40 34.8	-0.4
JHPM	Huddart Park	0.27	138		Pg	23 40 36.2	0.0
RFSB	Richmond Field	0.31	30		Pg	23 40 36.5	-0.2
BRK	Berkeley--Havi	0.31	44		Pg	23 40 36.6	-0.2
CMCM	Mills College	0.31	65		Pg	23 40 36.7	-0.1
BL67	Building 67, L	0.32	44		Pg	23 40 36.9	0.0
CPMM	Point Molate	0.32	18		Pg	23 40 36.8	-0.1
BL88	Building 88, L	0.32	44		Pg	23 40 36.8	-0.1
VAK	Adit at Lawren	0.32	44		Pg	23 40 36.9	-0.1
BKS	Berkeley--Byer	0.33	46		Pg	23 40 37.0	0.0
C055	Cottonwood Ave	0.34	88	Pg	Pg	23 40 36.4	-0.8
JRSC	Jasper Ridge	0.34	136		Pg	23 40 37.2	-0.1
CVPM	Vollmer Peak	0.34	46		Pg	23 40 37.4	+0.1
BGH	Bear Gulch	0.34	153		Pb	23 40 37.8	-0.1
CSPM	San Pablo Ridg	0.35	30		Pg	23 40 37.8	+0.2
CYD1	Coyote D'meter	0.36	104		Pg	23 40 37.3	-0.2
JSFB	Stanford Teles	0.37	131		Pg	23 40 38.0	+0.1
FARB	Farallon Islan	0.38	278		Pb	23 40 38.7	+0.3
CLCB	Lake Chabot	0.38	76		Pg	23 40 37.9	-0.1
JFP	Foothills Park	0.40	136		Pg	23 40 38.5	+0.2
JJRM	Joaquin Road	0.40	139		Pb	23 40 38.7	-0.1
BGC	Bolinger Road	0.41	66		Pg	23 40 38.6	+0.1
HERB	Hercules	0.42	30		Pb	23 40 39.2	0.0
CPIM	Pinole Ridge	0.42	36		Pb	23 40 39.4	+0.1
NOLM	Olema	0.44	332		Pb	23 40 39.8	+0.3
JBMM	Black Mountain	0.45	137		Pg	23 40 39.3	+0.1
CNIC	Niles Canyon	0.45	95		Pg	23 40 39.2	-0.1
JPC	Peters Creek,	0.46	146		Pb	23 40 39.8	0.0
JPSM		0.47	162		Pb	23 40 40.1	+0.1
CRHM	Round Hill Res	0.48	64		Pb	23 40 40.4	+0.3
NPRM	Point Reyes	0.52	312		Pb	23 40 41.0	+0.2
JHUM	Huhtala Lane,	0.52	146		Pb	23 40 40.7	-0.1
JSGM	Saratoga Golf	0.53	133		Pb	23 40 41.1	+0.1
CMJM	Mission San Jo	0.54	104		Pg	23 40 40.9	0.0
CVLM	Vallecito	0.55	92		Pb	23 40 41.5	+0.1
CDOM	Doolan Road	0.56	81		Pb	23 40 41.9	+0.3
NLHM	Lake Herman	0.56	33		Pb	23 40 41.9	+0.3
MCCM	Marconi Confer	0.57	331		Pg	23 40 41.5	+0.1
CMOB	Morgan Territo	0.60	74		Pb	23 40 42.5	+0.2
JBNB	Ben Lomond Mou	0.60	150		Pg	23 40 42.0	-0.1
BDM	Black Diamond	0.61	60		Pb	23 40 42.5	+0.1
WENL	Wente Vineyard	0.62	92		Pb	23 40 42.6	+0.1
JJOM	Saint Joseph's	0.62	135		Pg	23 40 42.4	-0.1
CVS	Carmenet Viney	0.70	5		Pb	23 40 44.1	+0.2
JUMM	Mount Umunhum	0.70	134		Pb	23 40 44.0	0.0
CMLM	Mount Lewis	0.72	103		Pg	23 40 44.3	0.0
CBSNC	Byron Hot Spri	0.73	76		Pb	23 40 45.0	+0.6
NTYM	Taylor	0.75	352		Pg	23 40 45.1	+0.3
MHC	Mount Hamilton	0.77	113		Pb	23 40 45.0	-0.2
CCOB	Coe Ranch Numb	0.79	119		Pg	23 40 45.6	+0.1
JLAB	Laurel Hill	0.80	128		Pb	23 40 45.7	0.0
JTGM	Trout Gulch Ro	0.81	140		Pg	23 40 46.0	+0.1
JECB	Eureka Canyon	0.83	136		Pg	23 40 46.5	+0.1
CMMM	Mount Mocho	0.85	103		Pb	23 40 46.5	0.0
ARN	Arnold Ranch	0.85	110		Pb	23 40 46.3	-0.2
NSHM	Saint Helena R	0.87	356		Pb	23 40 46.3	-0.6
JELB	Ellicott, Sant	0.91	142		Pb	23 40 47.1	-0.4
MAC	Mark West Spri	0.91	351		Pb	23 40 47.6	+0.1
NADM	Allendale	0.92	29		Pg	23 40 48.0	-0.1
HLPM	Lions Peak	0.94	130		Pb	23 40 48.1	+0.1
HSPM	Sheep	0.97	123		Pg	23 40 48.8	-0.1
NMCNC	Mill Creek, So	0.99	342		Pb	23 40 47.9	-0.9
MOBB	Monterey Bay O	1.00	163		Pb	23 40 49.1	+0.1
FTR	Fort Ross	1.00	331		Pb	23 40 49.1	0.0
NHSM	Mount Saint He	1.01	356		Pb	23 40 48.8	-0.6
NBPM	Berryessa Peak	1.05	15		Pn	23 40 50.1	-0.1
GAXM	Alexander Vall	1.07	351		Pb	23 40 49.2	-1.2
HFEM	San Felipe	1.12	126		Pb	23 40 49.8	-1.3
HJGM	San Juan Grade	1.14	138		Pn	23 40 50.2	-1.2
NMTM	Middletown	1.16	3		Pn	23 40 50.7	-1.0
HPCM	Pacheco Lake	1.16	120		Pb	23 40 51.9	+0.1
GBGM	Boggs Mountain	1.17	354		Pn	23 40 51.3	-0.7
GDXM	Geysers	1.18	350		Pn	23 40 51.5	-0.5
FRP	Fremont Peak	1.22	137		Pn	23 40 51.4	-1.1
GSGM	Seigler Mounta	1.22	353		Pg	23 40 53.6	-0.2
MNRC	McLaughlin Min	1.23	3		Pn	23 40 52.6	-0.1
SAO	San Andreas Ge	1.24	135	Pn	Pb	23 40 53.0	-0.1
SFJWR	San Luis Fatjo	1.24	118		Pb	23 40 53.0	-0.1
GPMM	Pine Mountain	1.24	345		Pn	23 40 51.9	-0.9
GACM	Adobe Creek	1.25	348		Pn	23 40 52.6	-0.4
BVYM	Vineyard	1.27	135		Pn	23 40 52.0	-1.2
AASM	Arroyo Seco	1.37	55		Pn	23 40 53.6	-0.9
HOPS	Hopland Field	1.41	343	Pn	Pn	23 40 55.4	+0.2
CMB	Columbia Colle	1.74	77		Pn	23 40 59.5	-0.2
CMB					Sn	23 41 20.6	-1.0
AFDM	Forest Hills D	1.79	43		Pn	23 41 00.0	-0.3
PMPB	Monarch Peak	1.99	135	Pn	Pn	23 41 04.1	+0.9
ORV	Oroville	2.07	23	Pn	Pn	23 41 03.8	-0.3
RUBR	Rubicon Trail	2.34	52	Pn	Pn	23 41 08.3	+0.3
WAKR	Walker	2.59	70	Pn	Pn	23 41 12.1	+0.6
PNTR	Pine Nut	2.72	57	Pn	Pn	23 41 13.9	+0.6
MDPB	Devils Postpil	2.74	89	Pn	Pn	23 41 14.2	+0.6
BEKR	Beckworth	2.79	37		Pn	23 41 15.3	+1.0
VCNR	Virginia City	2.80	53	Pn	Pn	23 41 15.2	+0.8
OMMB	Old Mammoth Mi	2.80	90	Pn	Pn	23 41 15.4	+0.8
YERR	Yerington	2.91	62	Pn	Pn	23 41 16.9	+0.9
PAHR	Pah Rah Range	3.21	49	Pn	Pn	23 41 21.0	+1.0
RYN	Ryan	3.31	72	Pn	Pn	23 41 21.4	0.0
NVAR	Mina Array Bea	3.43	76	Pn	Pn	23 41 24.9	+1.8

*IDC **12** 23:42:48.4±1.2,17°.65N×147°.79E,h0km,mb3.9/7,*
mb1 4.2/8,mb1mx3.8/41,mbtmp4.0/8,ML4.7/1,MS3.0/2,
Ms1 3.0/2,ms1mx2.5/33,Error ellipse: s-maj=40.4km
s-min=20.1km az=101.0
*ISCJB **12** 23:42:50.1±1.1,17°.6N±0°.1×147°.6E±0°.2,h21km,mb3.9/7,*
MS3.3/1,Error ellipse: s-maj=32.6km s-min=10.2km
az=21.5

ISC 12 23:42:51.9±1.3,**17°.6N**±0°.1×**147°.7E**±0°.3,**h21**km,**n9,**
σ0°65/9,mb4.0/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.83	215	Pn	Pn	23 44 03.8	+0.5
	32nm,0.3s,baz=165,slow=14,SNR=7.4						
GUMO				Sn	Sn	23 44 57.4	-1.2
	16nm,0.3s,baz=162,slow=20,SNR=3.8						
GUMO				LR	LR	23 45 58.1	
	comp=Z,66nm,18.8s,baz=142,slow=39						
WRA	Warramunga Arr	39.54	200	P	P	23 50 21.7	+0.2
	1.7nm,0.5s,baz=26,slow=9.3,SNR=23						
ASAR	Alice Springs	43.17	199	P	P	23 50 51.9	+0.6
	0.4nm,0.6s,baz=15,slow=9.3,SNR=4.1						
CMAR	Chiang Mai Arr	46.26	279	P	P	23 51 16.2	+0.1
	1.0nm,0.4s,baz=69,slow=7.5,SNR=4.6						
STKA	Stephens Creek	49.54	187	LR	LR	00 12 45.3	
	comp=Z,31nm,18.6s,baz=23,slow=36						
ZALV	Zalesovo Beam	60.04	323	P	P	23 52 57.3	+0.2
	0.8nm,0.4s,baz=98,slow=8.9,SNR=3.5						
MKAR	Makanchi Array	60.59	314	P	P	23 53 01.1	+0.1
	0.2nm,0.4s,baz=92,slow=7.9,SNR=6.0						
ILAR	Eielson Array	63.80	26	P	P	23 53 21.6	-0.6
	0.4nm,0.7s,baz=251,slow=5.6,SNR=3.4						
FINES	FINESS Array B	88.67	336	P	P	23 55 43.3	-0.1
	4.5nm,1.0s,baz=45,slow=4.7,SNR=2.9						

*ISCJB **13** 00:44:41.9±0.5,37°.26S±0°.03×176°.72E±0°.06,h267km±3km,*
mb3.7/4,Error ellipse: s-maj=7.4km s-min=5.5km
az=170.6
*IDC **13** 00:44:42.4±0.9,37°.16S×176°.53E,h240km±6km,mb3.6/4,*
mb1 3.8/5,mb1mx3.5/33,mbtmp4.3/5,Error ellipse:
s-maj=23.4km s-min=17.5km az=46.0
*WEL **13** 00:44:45.7±0.9,37°S±6°×17°7E±°,h220km±8km,M3.4/50,*
MLv3.4/50,Error ellipse: s-maj=0.0km s-min=0.0km
az=31.3

ISC 13 00:44:40.7±0.8,**37°.23S**±0°.06×**176°.75E**±0°.06,**h271**km±6km,
n151,σ1°**83**/169,**mb3.7**/4,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.63	194	P	Pn	00 45 16.9	+0.6
TGRZ	Tauranga	0.63	218	P	Pn	00 45 16.9	+0.6
WHRZ	Whale Island	0.65	164	P	Pn	00 45 18.4	+2.0
MARZ	Manawahe	0.76	185	P	Pn	00 45 18.3	+1.5
KMRZ	Kaimai	0.89	226	P	Pn	00 45 18.3	+0.9
OMRZ	Omania	0.92	199	P	Pn	00 45 18.8	+1.3
KUZ	Kuaotunu	0.96	300	P	Pn	00 45 17.1	-0.7
HAZ	Te Kaha	0.97	123	P	Pn	00 45 17.4	-0.4
HAZ				S	S	00 45 43.1	-3.9
TARZ	Mount Tarawera	1.02	191	P	Pn	00 45 20.3	+2.2
RUGZ	Raukumara Rang	1.04	135	P	Pn	00 45 17.6	-0.6
RUGZ				S	S	00 45 44.2	-3.7
UTU	Utuhina	1.04	205	P	Pn	00 45 19.8	+1.7
URZ	Urewera	1.06	165	P	Pn	00 45 17.5	-0.7
	50nm,0.3s,baz=326,slow=3.4,SNR=217						
URZ				S	S	00 45 45.2	-2.7
	98nm,0.3s,baz=55,slow=21,SNR=31						
URZ	Urewera	1.06	165	P	Pn	00 45 18.3	+0.1
URZ				S	S	00 45 45.5	-2.4
HLRZ	Highlands Stat	1.07	197	P	Pn	00 45 21.0	+2.8
TOZ	Tahuroa Road	1.11	243	P	Pn	00 45 19.7	+1.2
RRRZ	Republican Roa	1.12	190	P	Pn	00 45 20.1	+1.5
HSRZ	Hossack Road	1.15	200	P	Pn	00 45 20.8	+2.1
HRRZ	Handcock Road	1.22	198	P	Pn	00 45 21.0	+1.9
GRRZ	Galatos Road	1.23	204	P	Pn	00 45 21.2	+2.0
PKGZ	Pakihiroa	1.24	122	P	Pn	00 45 19.8	+0.5
MUGZ	Murupara	1.24	179	P	Pn	00 45 20.7	+0.8
MUGZ				S	S	00 45 48

VRZ	Vera Road	2.46 219	P	Pn	00 45 32.0	+3.0
KAHZ	Kahuranaki	2.56 178	P	Pn	00 45 31.8	+1.8
PNHZ	Pukenui	2.71 189	P	Pn	00 45 32.8	+1.3
PXZ	Pawanui	2.80 178	P	Pn	00 45 33.7	+1.5
WPHZ	Waipukurau	2.84 185	P	Pn	00 45 34.5	+1.8
WAZ	Wanganui	2.88 208	P	Pn	00 45 35.4	+2.3
TSZ	Takapari Road	2.89 192	P	Pn	00 45 34.6	+1.3
LREZ	Lake Rotokare	2.89 219	P	Pn	00 45 36.8	+3.6
PKE	Pukeiti	2.93 227	P	Pn	00 45 37.4	+3.7
KHEZ	Kahui Hut	2.98 225	P	Pn	00 45 37.8	+3.5
PRHZ	Porangahau	3.03 182	P	Pn	00 45 36.1	+1.4
NBEZ	Newall Road No	3.05 227	P	Pn	00 45 38.8	+4.0
DVHZ	Dannevirke	3.10 188	P	Pn	00 45 36.7	+1.2
NMEZ	Namu Road	3.14 225	P	Pn	00 45 39.9	+4.0
OHWZ	Ohakea	3.17 200	P	Pn	00 45 38.3	+2.1
ANWZ	Angora Road	3.23 184	P	Pn	00 45 38.3	+1.5
OUZ	Omahuta	3.25 307	P	Pn	00 45 36.9	-0.2
POWZ	Post Office Ro	3.25 193	P	Pn	00 45 38.3	+1.3
PRWZ	Pori Road	3.37 190	P	Pn	00 45 40.1	+1.8
BFZ	Birch Farm	3.47 186	P	Pn	00 45 40.5	+1.1
MRZ	Mangatainoka R	3.54 195	P	Pn	00 45 41.1	+0.9
TIWZ	Tintock	3.60 191	P	Pn	00 45 42.4	+1.5
CPWZ	Castlepoint	3.70 186	P	Pn	00 45 43.8	+1.9
HOWZ	Holdsworth Sta	3.79 194	P	Pn	00 45 43.6	+0.6
OGWZ	Otaki Gorge	3.79 198	P	Pn	00 45 44.0	+1.1
KIW	Kapiti Island	3.90 201	P	Pn	00 45 45.0	+0.8
TMWZ	Te Maipa	3.93 190	P	Pn	00 45 45.9	+1.3
MTW	Mount Morrison	4.04 194	P	Pn	00 45 46.4	+0.6
CAW	Cannon Point	4.09 198	P	Pn	00 45 47.1	+0.7
DUWZ	D'Urville Isla	4.19 211	P	Pn	00 45 48.3	+0.7
TRWZ	Traveller	4.24 191	P	Pn	00 45 49.1	+0.9
PAWZ	Paruwai Farm	4.27 194	P	Pn	00 45 49.0	+0.5
MSWZ	Moikau Station	4.34 195	P	Pn	00 45 49.7	+0.4
TCW	Tory Channel	4.41 205	P	Pn	00 45 50.9	+0.7
BHW	Baring Head	4.42 199	P	Pn	00 45 50.7	+0.5
PLWZ	Palliser	4.49 195	P	Pn	00 45 51.4	+0.4
TUWZ	Tuamarina	4.72 207	P	Pn	00 45 53.8	+0.1
NNZ	Nelson	4.76 212	P	Pn	00 45 54.9	+0.7
QRZ	Quartz Range	4.87 221	P	Pn	00 45 55.7	+0.2
CMWZ	Cape Campbell	4.92 203	P	Pn	00 45 57.8	+1.7
BSWZ	Blackbirch Sta	5.00 206	P	Pn	00 45 58.0	+0.9
THZ	Tophouse	5.42 212	P	Pn	00 46 02.2	+0.1
KHZ	Kahutara	5.74 205	P	Pn	00 46 07.1	+1.1
GVZ	Greta Valley S	6.40 205	P	Pn	00 46 15.0	+0.9
LTZ	Lake Taylor	6.52 210	P	Pn	00 46 15.4	-0.2
AMCZ	Amberley	6.71 207	P	Pn	00 46 18.7	+0.8
INZ	Inchbonnie	6.83 215	P	Pn	00 46 19.5	+0.1
OKCZ	Okains Bay	7.07 202	P	Pn	00 46 23.4	+1.0
OXZ	Oxford	7.07 209	P	Pn	00 46 22.2	-0.2
CRLZ	Canterbury Las	7.08 205	P	Pn	00 46 22.8	+0.4
MOZ	McQueen's Vall	7.18 204	P	Pn	00 46 23.8	+0.1
MQZ			S	S	00 47 42.6	-4.2
AKCZ	Akaroa Harbour	7.25 203	P	Pn	00 46 25.5	+0.9
AKCZ			S	S	00 47 43.8	-4.5
RPZ	Rata Peaks	7.79 212	P	Pn	00 46 31.2	-0.2
	13nm,0.3s,baz=41,slow=3.7,SNR=52					
RPZ			S	S	00 47 57.8	-3.0
	13nm,0.3s,baz=319,slow=23,SNR=18					
RPZ	Rata Peaks	7.79 212	P	Pn	00 46 31.1	-0.2
RPZ			S	S	00 47 55.8	-5.0
FOZ	Fox Glacier	8.22 218	P	Pn	00 46 36.2	-0.5
FOZ			S	S	00 48 02.1	-8.4
LBZ	Lake Benmore	8.71 213	P	Pn	00 46 42.8	0.0
LBZ			S	S	00 48 13.5	-8.2
ODZ	Otahua Downs	9.06 209	P	Pn	00 46 48.2	+1.1
RAO	Raoul Island	9.12 31	P	P	00 46 49.8	-4.4
	48nm,0.3s,baz=233,slow=20,SNR=2.7					
JCZ	Jackson Bay	9.13 219	P	Pn	00 46 47.2	-0.9
WKZ	Wanaka	9.57 215	P	Pn	00 46 53.1	-0.5
HHSZ	Highcliff Hill	9.79 206	P	Pn	00 46 58.9	+2.5
TUZ	Tuapeka	10.21 209	P	Pn	00 47 03.4	+1.9
MLZ	Mavora Lakes	10.40 216	P	Pn	00 47 04.4	+0.5
WHZ	Wether Hill Ro	10.87 215	P	Pn	00 47 10.0	+0.3
SYZ	Scrubby Hill	10.89 209	P	Pn	00 47 12.1	+2.2
APZ	The Paps	11.59 211	P	Pn	00 47 20.0	+1.3
ASAR	Alice Springs	39.01 278	P	P	00 51 44.2	+2.6
	1.7nm,0.5s,baz=121,slow=8.1,SNR=37					
WRA	Warramunga Arr	40.66 283	P	P	00 51 57.5	+2.4
	1.1nm,0.4s,baz=127,slow=6.2,SNR=12					
QSPA	South Pole Qui	52.89 180	P	P	00 53 35.0	+6.0
	2.9nm,0.3s,baz=42,slow=7.1,SNR=11					
PLCA	Paso Flores	80.94 135	P	P	00 56 29.8	+4.7
	0.6nm,0.5s,baz=243,slow=4.5,SNR=3.3					
DBIC	Dimbokro	149.54 177	PKPbc	PKPab	01 04 02.4	-2.0
	2.9nm,0.8s,baz=72,slow=1.5,SNR=4.1					
FINES	FINESS Array B	149.62 332	PKPbc	PKPab	01 04 04.0	+0.5
	7.4nm,1.1s,baz=72,slow=4.5,SNR=2.4					

IDC 13 00:52:46.9±2.2, 5°.68S×156°.27E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/40, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=45.6km s-min=44.8km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.44	288	Pn	Pn	00 53 56.9	+1.2
	7.4nm,0.3s,baz=85,slow=11,SNR=3.0						
KRVT				Sn	Sn	00 54 47.1	-1.0
	11nm,0.3s,baz=293,slow=24,SNR=5.3						
H11S3	WAKE ISLAND Hy	26.13	23	T	T	01 27 11.2	
	baz=207,slow=74						
H11S2	WAKE ISLAND Hy	26.13	23	T	T	01 27 09.5	
	baz=207,slow=74						
H11S1	WAKE ISLAND Hy	26.14	23	T	T	01 27 19.9	
	baz=207						
ASAR	Alice Springs	27.99	228	P	P	00 58 40.7	+1.0
	0.4nm,0.3s,baz=58,slow=9.3,SNR=5.0						
FITZ	Fitzroy Crossi	32.35	245	P	P	00 59 17.2	-1.1
	2.5nm,1.1s,baz=62,slow=10.0,SNR=3.7						
MKAR	Makanchi Array	83.27	318	P	P	01 05 16.6	+1.0
	0.5nm,0.9s,baz=95,slow=5.4,SNR=2.1						
TORD	Torodi Ar. Bea	153.86	288	PKPbc	PKPbc	01 12 48.2	-1.2
	0.5nm,0.8s,baz=86,slow=2.7,SNR=4.6						

IDC 13 01:15:08.0±2.8, 34°.71S×179°.73W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/45, mbtmp4.0/3, ML3.8/1, MS4.1/3, Ms1 4.2/3, ms1mx3.2/29, Error ellipse: s-maj=66.6km s-min=43.6km az=127.0

ISCJB 13 01:15:13.4±1.2, 34°.88S±0°.04×180°.0E±0°.2, h39km, mb3.8/2, MS4.6/2, Error ellipse: s-maj=18.5km s-min=5.4km az=5.9

NEIC 13 01:15:16.2±1.6, 35°.00S±0°.07×180°.0W±0°.1, h67km±12km, mb4.0/5

WEL 13 01:15:16.9±1.2, 35°S±7°×18°0W±1°4, h33km, M4.1/10, ML4.3/11, MLv4.1/10, Error ellipse: s-maj=0.0km s-min=0.0km az=105.7

ISC 13 01:15:12.9±1.5, 34°.87S±0°.07×179°.8W±0°.1, h39km, n34, σ1°06/45, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.12	210	P	Pn	01 15 60.0	+0.5
MXZ				S	Sn	01 16 33.8	-1.6
MXZ	Matakaoa Point	3.12	210	Pn	Pn	01 16 00.2	+0.7
WMGZ	Waiomatatini S	3.30	206	P	Pn	01 16 04.8	+2.9
WMGZ				S	Sn	01 16 39.6	-0.3
PKGZ	Pakihiroa	3.49	210	P	Pn	01 16 05.7	+1.1
PKGZ				S	Sn	01 16 44.6	-0.1
PUZ	Puketiti	3.58	206	P	Pn	01 16 06.7	+0.9
PUZ				S	Sn	01 16 47.4	+0.5
RUGZ	Raukumara Rang	3.72	213	P	Pn	01 16 09.9	+2.0
RUGZ				S	Sn	01 16 50.7	+0.1
CNGZ	Carnagh Statio	3.97	204	P	Pn	01 16 12.2	+1.0
CNGZ				S	Sn	01 16 57.1	+0.7
MWZ	Matawai	4.09	212	P	Pn	01 16 14.3	+1.3
MWZ				S	Sn	01 16 59.1	-0.6
KUZ	Kuaotunu	4.13	242	P	Pn	01 16 14.6	+1.2
URZ	Urewera	4.22	216	Pn	Pn	01 16 15.3	+0.6
	4.5nm,0.3s,baz=335,slow=2.1,SNR=14						
URZ				Sn	Sn	01 17 03.7	+1.0
	7.9nm,0.3s,baz=69,slow=17,SNR=5.6						
URZ	Urewera	4.22	216	P	Pn	01 16 15.3	+0.6
URZ				S	Sn	01 17 01.8	-1.0
URZ	Urewera	4.22	216		Pn	01 16 15.3	+0.6
URZ					Sn	01 17 03.2	+0.4
RIGZ	Rimuhau	4.32	207	P	Pn	01 16 16.4	+0.3
RIGZ				S	Sn	01 17 04.2	-1.0
SNGZ	Shannon Statio	4.55	210	P	Pn	01 16 20.5	+1.3
SNGZ				S	Sn	01 17 09.7	-1.1
MTHZ	Maungataniwha	4.83	213	P	Pn	01 16 23.8	+0.8
MTHZ				S	Sn	01 17 17.4	-0.3
WCZ	Waipu Caves	4.94	256	P	Pn	01 16 26.3	+1.8
BKZ	Black Stump Fm	5.24	214		Pn	01 16 28.5	-0.2
BKZ				Sn	Sn	01 17 25.9	-2.0
OUZ	Omahuta	5.47	264	Pn	Pn	01 16 32.7	+0.9
HIZ	Hauiti	5.66	228	Pn	Pn	01 16 34.7	+0.3
KHZ	Kahutara	9.18	213	Pn	Pn	01 17 21.8	-0.9
MLZ	Mavora Lakes	13.99	218	Pn	Pn	01 18 30.0	+1.6
DZM	Mont Dzumac	17.58	313	LR	LR	01 25 00.6	
	comp=Z,90nm,19.8s,baz=28,slow=34						
EIDS	Eidsvold	26.87	283	P	P	01 20 49.9	-0.1
EIDS				IAmb	IAmb	01 20 52.1	
	comp=Z,3.1nm,1.1s						
CTAO	Charters Tower	33.38	287	P	P	01 21 46.5	-1.2
ASAR	Alice Springs	41.62	273	P	P	01 22 58.1	+0.7
	comp=Z,0.7nm,0.4s,baz=116,slow=7.7,SNR=10						
ASAR	Alice Springs	41.62	273	P	P	01 22 55.8	-1.6
WB2	Warramunga Arr	43.00	278	P	P	01 23 08.2	-0.4
WB2				IAmb	IAmb	01 23 18.9	
	comp=Z,4.6nm,1.1s						
WRA	Warramunga Arr	43.01	278	P	P	01 23 09.2	+0.5
	comp=Z,1.1nm,0.5s,baz=118,slow=7.7,SNR=17						
WRA	Warramunga Arr	43.01	278	P	P	01 23 08.5	-0.2
FITZ	Fitzroy Crossi	51.05	274	P	P	01 24 11.7	+0.3
DAV	Davao City (W)	66.27	298	LR	LR	01 53 14.6	
	comp=Z,249nm,20.6s,baz=312,slow=34						
LPAZ	La Paz	97.61	116	LR	LR	02 02 31.6	
	comp=Z,289nm,21.6s,baz=168,slow=29						
FINES	FINESS Array B	148.73	336	PKPbc	PKPbc	01 34 55.5	+0.4
	comp=Z,5.6nm,1.0s,baz=42,slow=4.3,SNR=12						
FINES	FINESS Array B	148.73	336		PKPbc	01 34 55.0	-0.1

ISCJB 13 01:21:53.2±0.3, 43°.15S±0°.05×40°.53E±0°.10, h10km, mb4.5/25, MS3.9/13, Error ellipse: s-maj=10.2km s-min=7.3km az=171.2

IDC 13 01:21:53.9±0.4, 43°.22S×40°.61E, h0km, mb4.5/21, mb1 4.6/23, mb1mx4.4/42, mbtmp4.5/23, ML3.6/2, MS3.7/14, Ms1 3.7/14, ms1mx3.6/37, Error ellipse: s-maj=17.0km s-min=13.1km az=69.0

BJI 13 01:21:53.4±0.0, 43°.16S×40°.32E, h6km, mb5.2/11, mB5.5/8, Ms5.4/3, Ms7 5.2/3

NEIC 13 01:21:55.1±1.6, 43°.19S±0°.10×40°.5E±0°.2, h16km±3km, mb4.7/42

GCMT 13 01:21:59.1±0.4, 43°.01S±0°.03×40°.56E±0°.04, h17km±1km, MW4.9/69, Moment Tensor Solution. s20,c22; s69,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.10±.28; Mθθ-1.21±.17; Mφφ-1.89±.16; Mrθ-0.07±.43; Mrφ1.38±.07; Mθφ-0.86±.35; Best double couple: Mw3.15200×10^16 NP1:φs152.00000°, δ52.00000°, λ102.00000°. NP2: φs313.00000°, δ40.00000°, λ75.00000°. Principal axes: T 3.2650, Plg79.0000°, Azm111.0000°; N -0.2270, Plg10.0000°, Azm324.0000°; P -3.0390, Plg6.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 13 01:21:54.5±0.3, 43°.11S±0°.07×40°.68E±0°.09, h10km, n120, σ1°84/115, mb4.7/37, MS4.0/14, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	18.97	298	P	Pn	01 26 17.1	+0.3
	0.2nm,0.3s,baz=139,slow=14,SNR=3.8						
SUR				LR	LR	01 32 07.6	
	comp=Z,238nm,18.2s,baz=128,slow=32						
SUR	Sutherland	18.97	298	P	P	01 26 13.6	-2.6
BOSA	Boshof	19.07	314	P	Pn	01 26 19.1	+1.1
	0.1nm,0.3s,baz=136,slow=13,SNR=6.7						
BOSA				LR	LR	01 32 05.0	
	comp=Z,62nm,19.1s,baz=144,slow=32						
BOSA	Boshof	19.07	314	P	P	01 26 16.9	-0.3
LBTB	Lobatse	21.89	321	LR	LR	01 33 29.9	
	comp=Z,71nm,21.5s,baz=152,slow=32						
LBTB	Lobatse	21.89	321	P	P	01 26 44.2	-3.5
ABPO	Ambohimpanom	24.64	15	P	P	01 27 15.8	+0.4
ABPO				IAmb	IAmb	01 27 20.2	
	comp=Z,9.2nm,0.8s						
OPO	Ambohidratompo	25.07	15	P	P	01 27 22.1	+2.8
	comp=Z,15nm,0.9s,baz=210,slow=10,SNR=14						
OPO				LR	LR	01 35 55.0	
	comp=Z,611nm,19.1s,baz=358,slow=33						
MAW	Mawson	27.28	162	P	P	01 27 39.7	+1.1
	comp=Z,2.0nm,0.6s,baz=318,slow=12,SNR=5.4						
MAW				LR	LR	01 37 31.2	
	comp=Z,46nm,18.7s,baz=304,slow=34						
MAW	Mawson	27.28	162	P	P	01 27 37.9	-0.7
LSZ	Lusaka	29.73	335	P	P	01 28 02.1	+0.9
	comp=Z,8.7nm,0.9s,baz=166,slow=8.6,SNR=16						
LSZ				LR	LR	01 37 55.3	
	comp=Z,97nm,19.2s,baz=162,slow=32						
LSZ	Lusaka	29.73	335	P	P	01 28 01.3	+0.2
LSZ				IAmb	IAmb	01 28 05.5	
	comp=Z,12nm,0.9s						
TSUM	Tsumeb	30.77	314	P	P	01 28 09.9	-0.4
SNAA	Sanae	35.52	202	P	P	01 28 51.6	+0.5
SNAA	Sanae	35.52	202	PcP	PcP	01 31 19.9	-0.2
SNAA	Sanae	35.52	202	P	P	01 28 51.6	+0.5
	comp=Z,2.1nm,0.8s,baz=89,slow=8.7,SNR=11						
SNAA	Sanae	35.52	202	P	P	01 28 48.9	-2.3
VNA2	Neumayer--Watz	36.49	204	P	P	01 29 00.2	+0.8
	baz=62,slow=8.4						
VNA2	Neumayer--Watz	36.49	204	PcP	PcP	01 31 23.0	+0.1
VNA1	Neumayer--Stat	36.65	205	P	P	01 29 02.8	+2.1
VNA1	Neumayer--Stat	36.65	205	PcP	PcP	01 31 24.4	+1.1
VNA3	Neumayer Olymp	37.30	204	P	P	01 29 06.0	-0.3
VNA3	Neumayer Olymp	37.30	204	PcP	PcP	01 31 25.0	-0.4
H09W1	TRISTAN DA CUN	40.43	260	T	T	02 12 37.9	
	SNR=3.9						
KMBO	Kilima Mbogo	41.91	355	P	P	01 29 45.1	-0.4
MBAR	Mbarara	43.25	345	P	P	01 29 56.9	+0.6
QSPA	South Pole Qui	47.10	180	P	P	01 30 25.5	-0.9
	comp=Z,11nm,1.0s,baz=255,slow=5.3,SNR=15						
QSPA	South Pole Qui	47.10	180	P	P	01 30 25.5	-0.9
QSPA				IAmb	IAmb	01 30 29.2	
	comp=Z,17nm,1.1s						
QSPA					PcP	01 31 57.3	-0.7
FURI	Furi	51.79	357	P	P	01 31 03.8	+0.9
SBA	Scott Base	54.96	168	P	P	01 31 26.0	+0.9
SBA				IAmb	IAmb	01 31 27.8	
	comp=Z,16nm,1.1s						
H01W2	Cape Leeuwin H	55.99	108	T	T	02 32 09.8	
	baz=238,slow=75,SNR=477						
H01W3	Cape Leeuwin H	56.00	108	T	T	02 32 16.3	
	baz=238,slow=75,SNR=508						
H01W1	Cape Leeuwin H	56.01	108	T	T	02 32 17.0	
	baz=238,slow=75,SNR=490						
NWAO	Narrogin (SRO)	59.23	108	LR	LR	01 52 20.8	
	comp=Z,100nm,18.8s,baz=212,slow=31						
DBIC	Dimbokro	64.47	308	P	P	01 32 32.6	+1.3
	comp=Z,4.1nm,0.8s,baz=113,slow=8.8,SNR=3.8						
DBIC				LR	LR	01 59 40.0	
	comp=Z,59nm,18.1s,baz=146,slow=35						
DBIC	Dimbokro	64.47	308	P	P	01 32 30.4	-0.9
DBIC				IAmb	IAmb	01 32 36.6	
	comp=Z,10nm,1.1s						
TOA0	Torodi Ar. Sit	66.38	318	P	P	01 32 43.1	-0.6
TOA0				IAmb	IAmb	01 32 45.8	
	comp=Z,8.9nm,0.8s						
TORD	Torodi Ar. Bea	66.38	318	P	P	01 32 45.2	+1.5
	comp=Z,7.9nm,0.8s,baz=154,slow=5.8,SNR=34						
TORD	Torodi Ar. Bea	66.38	318	P	P	01 32 42.9	-0.8
RAYN	Ar Rayn	66.45	5	P	P	01 32 44.9	+0.9
RAYN				IAmb	IAmb	01 32 46.7	
	comp=Z,6.6nm,1.1s						
FORT	Forrest	67.94	112	P	P	01 32 53.6	+0.1
WSAR	Wadi Sarin	68.06	18	P	P	01 32 56.4	+2.3
	comp=Z,4.1nm,0.6s,baz=206,slow=7.5,SNR=5.0						
WSAR				LR	LR	01 57 07.0	
	comp=Z,105nm,20.2s,baz=213,slow=31						
HYB	Hyderabad	69.55	39	*i P*	P	01 33 05.0	+1.4
BBOO	Buckleboo	71.97	118	P	P	01 33 18.6	+0.2
FITZ	Fitzroy Crossi	74.25	100	P	P	01 33 34.0	+2.0
	comp=Z,11nm,1.1s,baz=216,slow=7.0,SNR=6.7						
FITZ				LR	LR	02 00 57.0	
	comp=Z,62nm,18.9s,baz=271,slow=32						
FITZ	Fitzroy Crossi	74.25	100	P	P	01 33 32.4	+0.5
FITZ				IAmb	IAmb	01 33 34.3	
	comp=Z,9.8nm,1.1s						
PLCA	Paso Flores	76.05	227	P	P	01 33 42.3	+0.2
	comp=Z,8.3nm,1.0s,baz=144,slow=7.0,SNR=9.3						
PLCA				LR	LR	02 02 28.0	
	comp=Z,55nm,20.2s,baz=155,slow=32						
PLCA	Paso Flores	76.05	227	P	P	01 33 41.9	-0.2
PLCA				IAmb	IAmb	01 33 43.5	
	comp=Z,15nm,1.1s						
STKA	Stephens Creek	76.12	121	P	P	01 33 43.7	+1.1
	comp=Z,10nm,0.8s,baz=232,slow=4.3,SNR=16						
STKA	Stephens Creek	76.12	121	P	P	01 33 43.4	+0.8
ASAR	Alice Springs	76.46	110	P	P	01 33 45.3	+0.6
	comp=Z,2.2nm,1.0s,baz=221,slow=6.1,SNR=11						
GO06	Curarrehue	77.36	227	P	P	01 33 48.4	-1.2
GO06				IAmb	IAmb	01 33 51.8	
	comp=Z,15nm,0.9s						
CPUP	Villa Florida	77.95	245	P	P	01 33 53.4	+0.5
	comp=Z,3.3nm,0.9s,baz=167,slow=4.7,SNR=4.4						
CPUP				LR	LR	02 02 07.7	
	comp=Z,59nm,18.7s,baz=154,slow=31						
CPUP	Villa Florida	77.95	245	P	P	01 33 52.0	-0.9
CPUP				IAmb	IAmb	01 33 55.7	
	comp=Z,6.2nm,1.1s						
BDFB	Brasilia	78.55	259	LR	LR	02 03 27.3	
	comp=Z,126nm,18.9s,baz=137,slow=32						
WRA	Warramunga Arr	79.23	107	P	P	01 34 00.7	+0.6
	comp=Z,4.5nm,1.0s,baz=228,slow=4.3,SNR=16						
WRA	Warramunga Arr	79.23	107	P	P	01 34 00.5	+0.4
WB2	Warramunga Arr	79.23	107	P	P	01 33 57.9	-2.2
WB2				IAmb	IAmb	01 34 03.0	
	comp=Z,4.4nm,1.1s						
KARP	Karpathos	79.25	349	P	P	01 34 00.5	+0.8
HRA	Herat	79.60	18	P	P	01 34 01.8	-0.1
HRA				IAmb	IAmb	01 34 04.1	
	comp=Z,6.6nm,1.1s						
PBKT	Sadao Pong	81.08	57	P	P	01 34 08.7	-1.2
PBKT				IAmb	IAmb	01 34 12.6	
	comp=Z,6.2nm,1.0s						
CMAR	Chiang Mai Arr	81.29	55	P	P	01 34 12.7	+1.6
	comp=Z,1.2nm,0.3s,baz=230,slow=6.3,SNR=16						
NIL	Nilore	82.00	27	P	P	01 34 14.9	+0.4
NIL				IAmb	IAmb	01 34 23.4	
	comp=Z,12nm,1.0s						
GEYT	Alibeck	82.20	14	P	P	01 34 16.7	+1.3
	comp=Z,0.7nm,0.3s,baz=238,slow=8.5,SNR=4.6						
GEYT	Alibeck	82.20	14	P	P	01 34 16.1	+0.7
BRTR	Keskin Array B	82.70	355	P	P	01 34 18.9	+0.8
	comp=Z,2.4nm,0.9s,baz=177,slow=9.2,SNR=15						
BRTR	Keskin Array B	82.70	355	P	P	01 34 18.1	0.0
BR131	Keskin Array S	82.70	355	P	P	01 34 18.1	0.0
BR131				IAmb	IAmb	01 34 19.6	
	comp=Z,2.6nm,0.8s						
GNI	Garni	82.96	3	P	P	01 34 21.4	+2.0
	comp=Z,4.5nm,1.0s,baz=151,slow=5.6,SNR=5.3						
GNI	Garni	82.96	3	P	P	01 34 20.3	+0.8
GNI				IAmb	IAmb	01 34 37.9	
	comp=Z,5.7nm,1.1s						
LTZ	Lake Taylor	84.09	146	P	P	01 34 21.7	-3.8
AKH	Akhalkalaki	84.17	2	P	P	01 34 24.6	-1.1
AKH				IAmb	IAmb	01 34 29.5	
	comp=Z,2.6nm,0.8s						
CHGR	Chuyangaron	85.39	22	P	P	01 34 31.3	-0.5
GAR	Garm	86.03	23	P	P	01 34 30.5	-4.6
KBZ	Khabaz	86.47	2	P	P	01 34 39.0	+2.2
	comp=Z,3.4nm,1.1s,baz=201,slow=1.4,SNR=5.1						
KIV	Kislovodsk	86.70	1	P	P	01 34 37.0	-1.2
KIV				IAmb	IAmb	01 34 40.7	
	comp=Z,7.9nm,1.1s						
KSH	Kashi	88.23	27	P	P	01 34 44.0	-1.7
KSH				PP	PP	01 38 12.7	-0.8
KSH				SKS	SKSac	01 45 06.1	-8.1
KSH				S	S	01 45 22.0	-8.2
KSH				SS	SS	01 51 14.1	-6.1
KSH				pmax	pmax		
	comp=Z,30nm,1.5s						
KSH				pmax	pmax		
	comp=Z,370nm,4.7s						
KSH				LR	LR		
	comp=Z,580nm,10.8s						
KSH				LR	LR		
	comp=Z,1μm,15.5s						
KSH				LR	LR		
	comp=Z,1μm,13.1s						
MLR	Muntele Rosu	89.19	350	P	P	01 34 44.7	-5.3
MLR				IAmb	IAmb	01 34 52.1	
	comp=Z,4.0nm,0.9s						
URZ	Urewera	89.87	147	LR	LR	02 09 43.9	
	comp=Z,60nm,19.2s,baz=192,slow=32						
PB11	IPOC Station P	90.62	242	P	P	01 34 51.5	-6.1
ESDC	Sonseca Array	91.77	327	P	P	01 35 02.8	+0.7
	comp=Z,0.7nm,0.7s,baz=136,slow=5.1,SNR=4.4						
ESDC	Sonseca Array	91.77	327	P	P	01 35 01.1	-1.0
VYHS	Vyhne	93.22	346	*eP*	P	01 35 12.8	+4.2
CD2	Chengdu	93.61	50	P	P	01 35 13.2	+2.3
WMQ	Urumqi	96.22	32	*eP*	P	01 35 25.4	+2.9
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				LR	LR		
	comp=Z,560nm,18.7s						
WMQ				LR	LR		
	comp=Z,500nm,24.3s						
WMQ				LR	LR		
	comp=Z,980nm,27.1s						
MKAR	Makanchi Array	96.81	27	P	P	01 35 25.5	+0.4
	comp=Z,0.1nm,0.4s,baz=233,slow=9.0,SNR=3.6						
MKAR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**2.10**	**205**	*e*Pn	**Pn**	**01 49 09.0**	**-1.6**
IBDR				AML	AML	01 49 10.2	
	comp=Z,55nm,0.3s						
IBDR				*e*Sn	**Sn**	**01 49 37.0**	**+0.2**
ZNJK	**Zanjan**	**2.14**	**39**	*e*Sg	**Sg**	**01 49 41.6**	**-2.6**
ZNJK	**Zanjan**	**2.14**	**39**	*e*Pg	**Pb**	**01 49 13.8**	**-0.6**
IKRK	**Kirkuk**	**2.20**	**281**	*e*Pn	**Pn**	**01 49 11.0**	**-1.0**
IKRK				*e*Sn	**Sn**	**01 49 40.0**	**+0.7**
ASAO	**Ashtian**	**2.54**	**100**	*e*AML	AML	01 50 05.5	
	comp=N,40nm,0.8s						
ASAO				*e*Pn	**Pn**	**01 49 18.5**	**+1.6**
KHMZ	**Khomeyn**	**2.77**	**117**	*e*Sg	**Sg**	**01 50 00.8**	**-3.5**
KHMZ	**Khomeyn**	**2.77**	**117**	*e*Pn	**Pn**	**01 49 21.5**	**+1.6**
KHMZ				*e*AML	AML	01 50 07.0	
	comp=E,28nm,0.5s						
KHMZ				*e*AML	AML	01 50 13.1	
	comp=N,23nm,0.6s						
BHD	**Baghdad**	**2.78**	**232**	*e*Pn	**Pn**	**01 49 19.0**	**-0.9**
BHD				AML	AML	01 49 22.3	
	comp=Z,676nm,0.2s						
BHD				*e*Sn	**Sn**	**01 49 55.0**	**+1.4**
MSL	**Mosul**	**3.44**	**295**	*e*Pn	**Pn**	**01 49 28.0**	**-1.0**
MSL				AML	AML	01 49 30.2	
	comp=Z,44nm,0.2s						
MSL				*e*Sn	**Sn**	**01 50 11.0**	**+1.1**
GHVR	**GHOM**	**3.58**	**97**	*e*Pn	**Pn**	**01 49 31.9**	**+0.9**
GHVR	**GHOM**	**3.58**	**97**	*e*AML	AML	01 50 39.9	
	comp=N,11nm,0.6s						
LRK	**Lerik**	**3.77**	**16**	P	**Pb**	**01 49 44.5**	**+2.4**
LRK				S	**Sg**	**01 50 33.8**	**-2.6**
ASTR	**Astara**	**3.81**	**22**	P	**Pb**	**01 49 44.5**	**+1.9**
ASTR				S	**Sg**	**01 50 34.4**	**-3.3**
LKRN	**Lenkeran, Azer**	**3.95**	**21**	P	**Pb**	**01 49 47.2**	**+2.3**
LKRN				S	**Sg**	**01 50 37.8**	**-4.3**
ORD	**Ordubad**	**3.98**	**349**	P	**Pb**	**01 49 48.8**	**+3.2**
ORD				S	**Sg**	**01 50 42.3**	**-0.8**
YRD	**Yardimli**	**4.01**	**14**	P	**Pb**	**01 49 48.9**	**+2.7**
YRD				S	**Sg**	**01 50 40.4**	**-3.8**
SBZ	**Shahbuz**	**4.51**	**346**	P	**Pb**	**01 49 57.4**	**+2.7**
SBZ				S	**Sg**	**01 50 57.8**	**-2.4**

NEIC ***13*** *01:51:15.3±1.7,2.48N±0.08×90.10E±0.06,h14km±4km, mb5.0/74*
IDC ***13*** *01:51:16.1±0.5,2.48N×90.19E,h0km,mb4.6/29, mb1 4.7/31,mb1mx4.6/44,mbtmp4.6/31,ML4.3/2,MS4.5/28, Ms1 4.5/28,ms1mx4.3/39,Error ellipse: s-maj=14.7km s-min=11.1km az=34.0*
BJI ***13*** *01:51:17.0±0.0,2.50N×90.20E,h10km,mb4.9/64, mB5.2/49,Ms5.0/52,Ms7 4.7/48*
MOS ***13*** *01:51:17.1±1.4,2.42N×90.15E,h33km,mb5.1/54,Error ellipse: s-maj=8.8km s-min=5.6km az=106.3*
ISCJB ***13*** *01:51:18.4±0.2,2.44N±0.03×90.28E±0.02,h33km, mb4.8/90,MS4.6/44,Error ellipse: s-maj=4.1km s-min=2.4km az=19.5*
DJA ***13*** *01:51:19.8±0.9,3.3N±3.9×9.0E±.,h24km±7km,M5.3/37, mb5.3/37,mB5.7/24,MLv5.9/7,Mw(mB)5.2/24*
KLM ***13*** *01:51:19.0,2.55N×90.25E,h10km,mb5.2*
GCMT ***13*** *01:51:19.3±0.2,2.49N±0.01×90.25E±0.01,h12km, MW5.2/111,Moment Tensor Solution. s62,c78; s111,c197; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.44±.12; Mθθ=5.42±.11; Mφφ5.86±.12; Mrθ=2.45±.32; Mθφ3.64±.10; Mφr=0.17±.30; Best double couple: M0=7.15500×10^16^ NP1:φs=60.00000°,δ82.00000°, λ=-18.00000°. NP2:φs=153.00000°,δ72.00000°, λ=-171.00000°. Principal axes: T 7.0350, Plg7.0000°, Azm108.0000°; N 0.2410, Plg70.0000°, Azm217.0000°; P -7.2740, Plg19.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 01:51:19.9±0.3,2.37N±0.04×90.14E±0.04,h35km,n370, σ2Ş20/367,mb4.9/107,MS4.7/44,33C-10b,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**6.18**	**89**	P	**Pn**	**01 52 47.1**	**-1.6**
MLSI	**Meulaboh, Aceh**	**6.53**	**73**	P	**Pn**	**01 52 53.8**	**+0.3**
TPTI		**7.08**	**83**	P	**Pn**	**01 53 01.2**	**0.0**
LHMI	**Lhok Sumawe**	**7.36**	**67**	P	**Pn**	**01 53 06.1**	**+1.2**
LHMI	**Lhok Sumawe**	**7.36**	**67**		**Pn**	**01 53 02.6**	**-2.3**
LHMI				Sn	**Sn**	**01 54 25.5**	**-1.8**
GSI	**Gunungsitoli**	**7.50**	**98**	P	**Pn**	**01 53 05.6**	**-1.3**
GSI				S	**Sn**	**01 54 27.9**	**-2.9**
GSI	**Gunungsitoli**	**7.50**	**98**		**Pn**	**01 53 05.9**	**-1.1**
GSI				Sn	**Sn**	**01 54 30.2**	**-0.7**
KCSI	**Kotacane, Aceh**	**7.70**	**81**	P	**Pn**	**01 53 09.9**	**+0.2**
KCSI				S	**Sn**	**01 54 33.2**	**-2.6**
RPSI	**Rantau Prapat**	**8.78**	**88**		**Pn**	**01 53 24.2**	**-0.2**
RPSI				Sn	**Sn**	**01 55 01.1**	**-1.1**
PSI	**Prapat**	**8.78**	**87**	P	**Pn**	**01 53 24.2**	**-0.4**
PSI						01 55 01.1	
PBA	**Port Blair**	**9.58**	**15**	*e*P	Pn	01 53 35.6	+0.2
PBA	**Port Blair**	**9.58**	**15**		Pn	01 53 31.4	-4.0
PBA				Sn	Sn	01 55 18.8	-3.2
SISI	**Saibi**	**9.67**	**112**	P	**Pn**	**01 53 35.9**	**-0.7**
PKDT	**Phuket**	**9.83**	**56**	P	**Pn**	**01 53 38.2**	**-0.7**
	361nm,1.1s,5μm						
PALK	**Pallekele**	**10.59**	**298**	P	**Pn**	**01 53 46.1**	**-3.3**
PALK	**Pallekele**	**10.59**	**298**	Pn	**Pn**	**01 53 48.4**	**-1.0**
	3.9nm,0.3s,baz=116,slow=14,SNR=16						
PALK				Sn	Sn	01 55 36.6	-10
	15nm,0.3s,baz=116,slow=2.9,SNR=7.1						
PALK				LR	LR	01 57 27.8	
	comp=Z,6μm,19.2s,baz=114,slow=35						
PALK	**Pallekele**	**10.59**	**298**		**Pn**	**01 53 46.1**	**-3.3**
SURT	**Suratani**	**10.81**	**52**	P	**Pn**	**01 53 51.5**	**-0.8**
	332nm,1.0s,3μm						
PDSI	**Padang**	**10.82**	**107**	P	**Pn**	**01 53 51.0**	**-1.4**
KULM	**Kulim**	**10.88**	**74**	P	**Pn**	**01 53 52.0**	**-1.2**
KULM	**Kulim**	**10.88**	**74**		**Pn**	**01 53 51.1**	**-2.1**
TRTT	**Trang**	**10.95**	**60**	P	**Pn**	**01 53 52.9**	**-1.3**
	173nm,1.4s,2μm						
IPM	**Ipoh**	**11.06**	**79**	P	**Pn**	**01 53 56.0**	**+0.2**
IPM	**Ipoh**	**11.06**	**79**		**Pn**	**01 53 53.4**	**-2.4**
BKNI	**Bangkinang**	**11.08**	**100**	P	**Pn**	**01 53 53.7**	**-2.3**
BKNI	**Bangkinang**	**11.08**	**100**		**Pn**	**01 53 54.4**	**-1.6**
BKNI				Sn	**Sn**	**01 55 58.9**	**+0.1**
PPSI	**Pulau Pagai**	**11.10**	**117**	P	Pn	01 54 10.4	+14
SKLT	**Songkhla**	**11.48**	**65**	P	**Pn**	**01 54 01.8**	**+0.4**
	62nm,0.8s,595nm						
JRMM	**Jerantut**	**12.41**	**83**	P	**Pn**	**01 54 13.0**	**-1.2**
MYKOM	**Kota Tinggi**	**13.71**	**92**	P	**Pn**	**01 54 31.0**	**-1.0**
MYKOM	**Kota Tinggi**	**13.71**	**92**		**Pn**	**01 54 30.6**	**-1.4**
PHET	**Kaeng Krachan**	**14.07**	**41**	P	**Pn**	**01 54 36.2**	**-0.6**
	62μm,0.9s,989μm						
MNAI	**Manna**	**14.44**	**118**	P	**P**	**01 54 50.9**	**+2.6**
MNAI	**Manna**	**14.44**	**118**		**Pn**	**01 54 41.3**	**-0.7**
TPRI	**Tanjung Pinang**	**14.45**	**95**	P	P	01 54 53.4	+5.0
LHSI	**Lahat**	**14.72**	**115**	P	**Pn**	**01 54 48.2**	**+2.5**
SRDT	**SRDT**	**14.85**	**36**	P	**Pn**	**01 54 46.7**	**-0.7**
	35nm,1.3s,993nm						
KHLT	**Khaolaem Dam**	**14.90**	**34**	P	Pn	01 54 42.1	-6.0
	32nm,1.5s,676nm						
PATY	**Pattaya**	**14.92**	**45**	P	**Pn**	**01 54 47.9**	**-0.5**
	134μm,1.1s						
UTHA	**Uthaitani**	**16.00**	**34**	P	**Pn**	**01 55 00.9**	**-1.5**
	38μm,0.9s,495μm						
UMPA	**Umpang Tak**	**16.21**	**31**	P	**Pn**	**01 55 01.4**	**-3.8**
	63μm,0.9s						
PPBI	**Pangkal Pinang**	**16.61**	**106**	P	**Pn**	**01 55 10.3**	**+0.1**
KAAM	**Kaadhehdhoo**	**17.24**	**264**		**Pn**	**01 55 17.2**	**-1.0**
MHMT	**Maesarieng**	**17.47**	**25**	P	**Pn**	**01 55 19.2**	**-1.7**
	130nm,1.0s,1μm						
PBKT	**Sadao Pong**	**17.68**	**36**	P	**P**	**01 55 24.3**	**+0.1**
	33nm,1.2s,532nm						
PBKT	**Sadao Pong**	**17.68**	**36**	P	**Pn**	**01 55 21.9**	**-1.6**
PBKT				IAmb	IAmb	01 55 34.0	
	comp=Z,84nm,1.2s						
CHAI	**Chaiyaphum**	**17.80**	**40**	P	**Pn**	**01 55 24.6**	**-0.5**
	comp=Z,80μm,1.4s,comp=Z,877μm						
CGJI	**Cibinong**	**17.90**	**120**	P	**Pn**	**01 55 25.0**	**-1.3**
MNCI	**Minicoy**	**17.99**	**290**	P	**Pn**	**01 55 26.3**	**-1.1**
SBJI	**Serang**	**18.05**	**118**	P	**P**	**01 55 28.7**	**+0.4**
CM31	**Chiang Mai Arr**	**18.17**	**28**	P	**Pn**	**01 55 27.6**	**-1.9**
	SNR=18						
CM31	**Chiang Mai Arr**	**18.17**	**28**		**Pn**	**01 55 26.7**	**-2.9**
CMAR	**Chiang Mai Arr**	**18.17**	**28**	P	**Pn**	**01 55 25.8**	**-3.8**
CMAR	**Chiang Mai Arr**	**18.17**	**28**	P	**Pn**	**01 55 27.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=36						
CMAR	**Chiang Mai Arr**	**18.17**	**28**	P	**Pn**	**01 55 25.8**	**-3.8**
TPI	**Tanjungpandan**	**18.23**	**106**	P	**Pn**	**01 55 31.5**	**+1.2**
CHTO	**Chiang Mai**	**18.48**	**27**	P	**P**	**01 55 32.6**	**-0.4**
	SNR=16						
CHTO	**Chiang Mai**	**18.48**	**27**	P	**P**	**01 55 31.2**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,26nm,1.0s						
CHTO	**Chiang Mai**	**18.48**	**27**	P	**P**	**01 55 31.2**	**-1.8**
CMMT	**Chiang Mai**	**18.48**	**27**	P	**P**	**01 55 32.4**	**-0.6**
	comp=Z,16nm,1.0s,comp=Z,371nm						
LAMP	**Lampang**	**18.55**	**29**	P	**P**	**01 55 33.7**	**-0.1**
	comp=Z,99μm,0.9s						
HYB	**Hyderabad**	**18.80**	**323**	*i* P	**P**	**01 55 36.0**	**-0.5**
	comp=Z,60nm,1.0s						
HYB				*e*S	Sn	01 58 54.0	-13
SKJI	**Sukabumi**	**18.84**	**120**	P	**P**	**01 55 35.9**	**-1.1**
PAYA	**Payao**	**19.39**	**29**	P	**Pn**	**01 55 44.0**	**-0.3**
	comp=Z,81μm,1.0s,comp=Z,832μm						
LEM	**Lembang**	**19.69**	**118**	P	**Pn**	**01 55 49.7**	**+1.6**
	comp=Z,5.5nm,0.3s,baz=216,slow=8.1,SNR=9.4						
LEM				LR	LR	02 02 47.8	
	comp=Z,2μm,18.9s,baz=302,slow=35						
LEM	**Lembang**	**19.69**	**118**	P	**Pn**	**01 55 49.1**	**+1.0**
UBPT	**Khong Chiam**	**19.82**	**49**	P	**Pn**	**01 55 50.6**	**+1.1**
	comp=Z,33nm,0.9s						
UBPT	**Khong Chiam**	**19.82**	**49**	P	**P**	**01 55 46.4**	**-1.4**
UBPT				IAmb	IAmb	01 56 05.5	
	comp=Z,49nm,1.0s						
JCJI	**Jatiwangi**	**20.12**	**116**	P	Pn	01 55 53.9	+0.9
NONG	**Nongkai**	**20.15**	**38**	P	**P**	**01 55 51.9**	**+0.6**
	comp=Z,1.2nm,1.4s						
KSM	**Kuching**	**20.17**	**92**	P	**P**	**01 55 50.7**	**-0.9**
SAIH	**SAIHA**	**20.19**	**8**	⇓*i*P	**P**	**01 55 51.4**	**-0.4**
CISI	**Cisompet, Garu**	**20.20**	**119**	P	**P**	**01 55 52.2**	**+0.2**
CISI	**Cisompet, Garu**	**20.20**	**119**	P	**P**	**01 55 51.2**	**-0.8**
H08S2	**Diego Garcia H**	**20.22**	**240**	T	T	02 16 35.8	
	baz=61,slow=75,SNR=351						
H08S3	**Diego Garcia H**	**20.22**	**240**	T	T	02 16 40.9	
	baz=61,slow=75,SNR=1185						
H08S1	**Diego Garcia H**	**20.24**	**240**	T	T	02 16 49.0	
	baz=61,slow=75,SNR=831						
DLV	**T Lat**	**20.52**	**61**	P	**P**	**01 55 52.6**	**-2.9**
DLV				IAmb	IAmb	01 55 57.7	
	comp=Z,42nm,0.9s						
BELO	**BELONIA**	**20.80**	**3**	⇓*i*P	**P**	**01 55 59.0**	**+0.7**
KPJI	**Karang Pucung**	**21.08**	**117**	P	**P**	**01 56 02.8**	**+1.4**
AZL	**Aizawl**	**21.39**	**6**	*e*P	**P**	**01 56 05.3**	**+0.6**
STKI	**Sintang**	**21.45**	**96**	P	**P**	**01 56 07.5**	**+2.1**
NGP	**Nagpur**	**21.57**	**331**	*e*P	**P**	**01 56 09.0**	**+2.3**
KAD	**Karad**	**21.59**	**314**	*e*P	**P**	**01 56 07.9**	**+1.0**
BOK	**Bokaro**	**21.70**	**349**	⇓*i*P	**P**	**01 56 09.0**	**+1.1**
BOK				IAmb	IAmb	01 56 12.9	
	comp=Z,40nm,0.7s						
SBUM	**Sibu**	**22.06**	**89**	P	**P**	**01 56 13.0**	**+1.1**
SBUM	**Sibu**	**22.06**	**89**	P	**P**	**01 56 10.1**	**-1.9**
SBUM				IAmb	IAmb	01 56 25.6	
	comp=Z,37nm,1.1s						
PBKI	**Pangkalan Bun**	**22.10**	**103**	P	**P**	**01 56 14.0**	**+1.6**
SMRI	**Semarang**	**22.31**	**115**	P	**P**	**01 56 16.7**	**+2.0**
SMRI	**Semarang**	**22.31**	**115**	P	**P**	**01 56 13.6**	**-1.1**
POO	**Poona**	**22.65**	**316**	*e*P	P	01 56 26.5	+8.2
UGM	**Wanagama**	**22.75**	**117**	P	**P**	**01 56 20.4**	**+1.1**
JBP	**Jabalpur**	**22.90**	**335**	⇑*e*P	P	01 56 31.0	+10
JBP				AMB	AMB	01 56 32.5	
	comp=Z,44nm,1.7s						
SHL	**Shillong**	**23.13**	**4**	P	**P**	**01 56 22.0**	**-1.3**
	SNR=23						
SHL	**Shillong**	**23.13**	**4**	P	**P**	**01 56 18.3**	**-5.0**
SHL				pmax	pmax		
	comp=Z,71nm,1.0s						
SHL	**Shillong**	**23.13**	**4**	*e*P	**P**	**01 56 23.1**	**-0.1**
SHL	**Shillong**	**23.13**	**4**	P	**P**	**01 56 18.3**	**-5.0**
SHL				IAmb	IAmb	01 56 24.6	
	comp=Z,71nm,1.0s						
SLVN	**Son La**	**23.13**	**34**	P	**P**	**01 56 20.2**	**-3.1**
PCJI	**Pacitan**	**23.45**	**117**	P	P	01 56 38.1	+12
KOHI	**KOHIMA**	**23.53**	**9**	*e*P	**P**	**01 56 24.9**	**-2.3**
BOM	**Bombay**	**23.62**	**315**	AMP		01 56 38.2	
	comp=Z,220nm,1.6s						
BOM				*e*S	Sn	02 00 51.8	-11
ODAN	**Odare**	**24.50**	**354**	*e*P	**P**	**01 56 36.9**	**+0.6**
	comp=Z,190nm,1.2s						
RAMN	**Ramite**	**24.68**	**352**	*e*P	**P**	**01 56 39.1**	**+1.1**
	comp=Z,103nm,0.7s						
GTK	**Tadong**	**24.86**	**357**	*e*P	**P**	**01 56 39.4**	**-0.1**
TAPN	**Taplejung**	**24.95**	**355**	*e*P	**P**	**01 56 41.6**	**+1.1**
	comp=Z,65nm,0.9s						
QIZ	**Qiongzhong**	**25.42**	**48**	P	**P**	**01 56 46.1**	**+1.6**
QIZ				S	**S**	**02 01 16.1**	**+6.9**
QIZ				pmax	pmax		
	comp=Z,92nm,1.4s						
QIZ				LR	LR		
	comp=Z,4μm,17.3s						
QIZ				LR	LR		
	comp=Z,2μm,20.4s						
QIZ				LR	LR		
	comp=Z,2μm,13.5s						
QIZ	**Qiongzhong**	**25.42**	**48**	P	**P**	**01 56 41.6**	**-2.9**
JIRN	**Jiri**	**25.43**	**352**	*e*P	**P**	**01 56 45.2**	**+0.3**
	comp=Z,172nm,0.9s						
PKI	**Pulchoki**	**25.47**	**350**	*e*P	**P**	**01 56 45.9**	**+0.7**
	comp=Z,26nm,0.8s						
PKIN	**Phulchoki**	**25.48**	**350**	*e*P	**P**	**01 56 45.8**	**+0.6**
	comp=Z,46nm,1.1s						
DMN	**Daman**	**25.56**	**350**	*e*P	**P**	**01 56 46.9**	**+1.0**
	comp=Z,59nm,1.0s						
KMI	**Kunming**	**25.68**	**27**	P	**P**	**01 56 49.2**	**+2.2**
KMI				pP	pP	01 56 53.3	-3.0
KMI				sP	pwP	01 56 55.6	-3.9
KMI				PP	**PnPn**	**01 57 25.1**	**+0.9**
KMI				S	**S**	**02 01 18.1**	**+4.5**
KMI				SS	**SnSn**	**02 02 16.6**	**+6.7**
KMI				pmax	pmax		
	comp=Z,47nm,0.8s						
KMI				pmax	pmax		
	comp=Z,330nm,4.7s						
KMI				LR	LR		
	comp=Z,1μm,16.9s						
KMI				LR	LR		
	comp=Z,1μm,16.2s						
KMI				LR	LR		
	comp=Z,1μm,20.4s						
KMI	**Kunming**	**25.68**	**27**	P	**P**	**01 56 44.5**	**-2.5**
KMI				pmax	pmax		
	comp=Z,52nm,1.1s						
KMI	**Kunming**	**25.68**	**27**	P	**P**	**01 56 44.5**	**-2.5**
KMI				IAmb	IAmb	01 56 49.9	
	comp=Z,52nm,1.1s						
KKN	**Kakani**	**25.70**	**350**	*e*P	**P**	**01 56 48.3**	**+1.1**
	comp=Z,62nm,1.0s						
GUN	**Gumba**	**25.73**	**351**	*e*P	**P**	**01 56 48.7**	**+1.1**
	comp=Z,157nm,1.2s						
KOLN	**Koldanda**	**26.02**	**347**	*e*P	**P**	**01 56 51.3**	**+1.2**
	comp=Z,87nm,0.9s						
GKN	**Gorkha**	**26.03**	**349**	*e*P	**P**	**01 56 51.4**	**+1.3**
	comp=Z,87nm,0.8s						
JAGI	**Jajag, Banyuwa**	**26.25**	**114**	P	**P**	**01 56 50.6**	**-1.4**
JAGI				IAmb	IAmb	01 57 05.5	
	comp=Z,25nm,0.8s						
DANN	**Dangsing**	**26.55**	**347**	*e*P	**P**	**01 56 55.9**	**+1.0**
	comp=Z,144nm,0.8s						
KBKI	**Kotabaru**	**26.61**	**102**	P	**P**	**01 56 55.5**	**+0.1**
BKB	**Balikpapan**	**26.99**	**97**	P	**P**	**01 56 57.2**	**-1.5**
LSA	**Lhasa**	**27.20**	**2**	P	**P**	**01 56 57.4**	**-3.6**
LSA				pmax	pmax		
	comp=Z,38nm,0.9s						
LSA	**Lhasa**	**27.20**	**2**	P	**P**	**01 56 57.4**	**-3.6**
LSA				IAmb	IAmb	01 57 05.7	
	comp=Z,38nm,0.9s						
GYA	**Guiyang**	**28.73**	**32**	⇑*i*P	**P**	**01 57 15.4**	**+1.1**
GYA				PcP	**PcP**	**02 00 30.8**	**+6.6**
GYA				S	**S**	**02 02 09.3**	**+7.8**
GYA				SS	**SnSn**	**02 03 24.3**	**+0.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,100nm,6.8s						
GYA				LR	LR		
	comp=Z,1μm,15.2s						
GYA				LR	LR		
	comp=Z,2μm,14.6s						
GYA				LR	LR		
	comp=Z,1μm,17.7s						
KAPI	**Kappang**	**30.48**	**104**	P	**P**	**01 57 29.4**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,30nm,1.1s						
KAPI	**Kappang**	**30.48**	**104**	P	**P**	**01 57 29.4**	**-0.4**
KAPI				IAmb	IAmb	01 57 38.4	
	comp=Z,30nm,1.1s						
CD2	**Chengdu**	**31.17**	**23**	⇑*i*P	**P**	**01 57 36.2**	**+0.4**
CD2				S	**S**	**02 02 41.8**	**+2.2**
CD2				sS	sS	02 02 51.7	-3.2
CD2				pmax	pmax		
	comp=Z,60nm,1.0s						
CD2				pmax	pmax		
	comp=Z,340nm,7.1s						
CD2				LR	LR		
	comp=Z,2μm,14.5s						
CD2				LR	LR		
	comp=Z,3μm,13.9s						
CD2				LR	LR		
	comp=Z,1μm,12.8s						
MRSI	**Marisa**	**31.84**	**93**	P	P	01 57 49.9	+8.0
LUWI	**Luwuk**	**32.80**	**96**	P	**P**	**01 57 49.6**	**-0.6**
ENH	**Enshi**	**33.26**	**31**	P	**P**	**01 57 51.6**	**-2.5**
NIL	**Nilore**	**34.90**	**335**	P	**P**	**01 58 05.7**	**-2.7**
NIL				pmax	pmax		
	comp=Z,24nm,1.0s						
NIL	**Nilore**	**34.90**	**335**	P	**P**	**01 58 05.7**	**-2.7**
NIL				IAmb	IAmb	01 58 16.3	
	comp=Z,24nm,0.9s						
MSEY	**Mahe Island**	**35.33**	**259**	*i* P	**P**	**01 58 16.2**	**+3.9**
BATI	**Baumata**	**35.63**	**111**	P	**P**	**01 58 14.5**	**-0.4**
	comp=Z,14nm,0.4s,baz=283,slow=15,SNR=4.5						
BATI	**Baumata**	**35.63**	**111**	P	**P**	**01 58 14.7**	**-0.2**
LZH	**Lanzhou**	**35.87**	**19**	*e*P	**P**	**01 58 17.2**	**+0.4**
LZH				sP	pP	01 58 23.0	-3.2
LZH				S	**S**	**02 03 48.5**	**-4.0**
LZH				pmax	pmax		
	comp=Z,36nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.2s						
LZH				LR	LR		
	comp=Z,1μm,12.5s						
LZH				LR	LR		
	comp=Z,890nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,15.9s						
SOEI	**Soe**	**36.06**	**110**	P	**P**	**01 58 17.0**	**-1.6**
SOEI				IAmb	IAmb	01 58 28.0	
	comp=Z,24nm,0.8s						
XAN	**Xi'an**	**36.06**	**27**	P	**P**	**01 58 17.9**	**-0.4**
XAN				pP	pP	01 58 24.6	-3.1
XAN				S	**S**	**02 03 55.4**	**+0.1**
XAN				pmax	pmax		
	comp=Z,24nm,1.1s						
XAN				pmax	pmax		
	comp=Z,230nm,5.6s						
XAN				LR	LR		
	comp=Z,1μm,15.2s						
XAN				LR	LR		
	comp=Z,1μm,17.2s						
XAN				LR	LR		
	comp=Z,1μm,19.4s						
XAN	**Xi'an**	**36.06**	**27**	P	**P**	**01 58 16.5**	**-1.8**
XAN				pmax	pmax		
	comp=Z,32nm,1.2s						
XAN	**Xi'an**	**36.06**	**27**	P	**P**	**01 58 16.5**	**-1.8**
XAN				IAmb	IAmb	01 58 18.6	
	comp=Z,32nm,1.2s						
SANI	**Sanana**	**36.10**	**97**	P	**P**	**01 58 19.8**	**+0.9**
WHN	**Wuhan**	**36.20**	**37**	⇑P	**P**	**01 58 21.0**	**+1.5**
WHN				S	**S**	**02 03 59.1**	**+1.7**
WHN				pmax	pmax		
	comp=Z,66nm,0.9s						
WHN				LR	LR		
	comp=Z,3μm,15.3s						
WHN				LR	LR		
	comp=Z,3μm,17.9s						
WHN				LR	LR		
	comp=Z,3μm,20.8s						
WBK	**Wadi Bani Khal**	**36.33**	**306**	P	**P**	**01 58 22.9**	**+2.2**
	SNR=5.2						
WBK				P	**P**	**01 58 22.9**	**+2.2**
	SNR=5.2						
YULB	**Yu-li**	**36.70**	**53**	P	**P**	**01 58 21.7**	**-2.2**
YULB				IAmb	IAmb	01 58 27.8	
	comp=Z,26nm,0.9s						
WSAR	**Wadi Sarin**	**36.91**	**307**	P	**P**	**01 58 27.6**	**+1.9**
	comp=Z,7.3nm,0.8s,baz=122,slow=7.1,SNR=6.8						
KBL	**Kabul**	**37.57**	**331**	P	**P**	**01 58 28.9**	**-2.4**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**37.57**	**331**	P	**P**	**01 58 28.9**	**-2.4**
BSY	**Bisya**	**37.83**	**305**	P	**P**	**01 58 35.5**	**+2.0**
	SNR=5.0						
BSY				P	**P**	**01 58 35.5**	**+2.0**
	SNR=5.0						
GTA	**Gaotai**	**37.91**	**12**	⇓P	**P**	**01 58 34.8**	**+0.8**
GTA				pP	pP	01 58 41.9	-1.6
GTA				sP	pwP	01 58 46.1	-0.5
GTA				S	**S**	**02 04 25.2**	**+1.7**
GTA				sS	sS	02 04 39.6	+0.7
GTA				pmax	pmax		
	comp=Z,31nm,1.4s						
GTA				pmax	pmax		
	comp=Z,210nm,5.3s						
GTA				LR	LR		
	comp=Z,510nm,15.8s						
GTA				LR	LR		
	comp=Z,830nm,14.1s						
GTA				LR	LR		
	comp=Z,620nm,14.4s						
KSH	**Kashi**	**39.16**	**343**	P	**P**	**01 58 43.8**	**-0.7**
KSH				pP	pP	01 58 47.2	-6.8
KSH				PcP	**PcP**	**02 00 53.7**	**+0.1**
KSH				S	**S**	**02 04 38.2**	**-4.2**
KSH				SS	**SS**	**02 07 21.6**	**-15**
KSH				pmax	pmax		
	comp=Z,78nm,1.1s						
KSH				pmax	pmax		
	comp=Z,510nm,7.4s

BTK Batken 41.41 337 P P 01 59 01.1 -2.1
ARSB Arslanbob 41.75 341 P P 01 59 02.5 -3.5
ARSB IAmb IAmb 01 59 08.5
comp=Z,18nm,0.8s
PDGK Podgornoye 41.88 348 P P 01 59 07.4 +0.5
PDGK pmax pmax
comp=Z,23nm,1.2s
UCH Uchtor 42.09 343 P P 01 59 10.8 +1.8
SNR=14
BTO Baotou 42.10 23 *eP* **P 01 59 08.8 0.0**
BTO S **S 02 05 29.1 +3.0**
AML Almayashu 42.25 342 P P 01 59 11.9 +1.6
SNR=10
KBK Karagaybulak 42.35 343 P P 01 59 13.0 +2.1
SNR=8.9
AAK Ala-Archa 42.47 343 P P 01 59 09.8 -2.0
AAK pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 42.47 343 P P 01 59 13.7 +1.9
comp=Z,5.7nm,0.8s,baz=157,slow=7.0,SNR=16
AAK Ala-Archa 42.47 343 P P 01 59 13.7 +1.9
SNR=7.1
AAK Ala-Archa 42.47 343 P P 01 59 09.8 -2.0
EKS2 Erkin-Say 42.71 342 P P 01 59 15.8 +2.1
SNR=7.5
HHC Hu-ho-hao-te 42.92 24 *eP* **P 01 59 17.8 +2.4**
HHC pmax pmax
comp=Z,5.0nm,1.3s
USP Ospenovka 43.04 343 P P 01 59 17.2 +0.9
SNR=14
H01W3 Cape Leeuwin H 43.36 151 T T 02 45 37.8
baz=326,slow=74,SNR=41
H01W2 Cape Leeuwin H 43.37 151 T T 02 45 45.0
baz=326,slow=74,SNR=44
H01W1 Cape Leeuwin H 43.37 151 T T 02 45 38.8
baz=326,slow=74,SNR=32
KK31 Karatay Array 44.18 339 P P 01 59 23.6 -1.8
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 44.18 339 P P 01 59 23.6 -1.8
KKAR Karatay Array 44.18 339 P P 01 59 23.9 -1.5
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 44.18 339 P P 01 59 23.9 -1.5
KKAR IAmb IAmb 01 59 27.2
comp=Z,10nm,0.8s
MK31 Makanchi Array 44.78 352 P P 01 59 28.9 -1.3
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 44.78 352 P P 01 59 28.9 -1.3
MK31 IAmb IAmb 01 59 31.3
comp=Z,9.9nm,0.8s
MKAR Makanchi Array 44.78 352 *ceP* **P 01 59 30.6 +0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 44.78 352 P P 01 59 30.2 +0.1
comp=Z,9.4nm,0.7s,baz=172,slow=9.1,SNR=47
MKAR LR LR 02 20 34.2
comp=Z,619nm,18.2s,baz=180,slow=39
MAKZ Makanchi 44.83 352 P P 01 59 28.9 -1.7
MAKZ pmax pmax
comp=Z,15nm,1.2s
MAKZ Makanchi 44.83 352 P P 01 59 28.9 -1.7
MAKZ IAmb IAmb 01 59 31.8
comp=Z,14nm,1.1s
GEYT Alibeck 45.98 324 P P 01 59 41.0 +1.1
comp=Z,7.3nm,0.8s,baz=159,slow=9.2,SNR=20
GEYT LR LR 02 19 17.1
comp=Z,905nm,21.7s,baz=140,slow=37
GYA0B ALIBECK ARRAY 45.98 324 P P 01 59 38.5 -1.3
GYA0B IAmb IAmb 01 59 48.3
comp=Z,9.9nm,0.7s
OPO Ambohidratompo 47.10 242 P P 01 59 51.8 +2.7
comp=Z,7.5nm,0.9s,baz=39,slow=7.8,SNR=7.2
DGZ Jazzator, Alta 47.22 358‖ *eP* **P 01 59 50.3 +0.8**
ABPO Ambohimpanom 47.23 241 P P 01 59 47.2 -2.9
ABPO pmax pmax
comp=Z,31nm,1.1s
ABPO Ambohimpanom 47.23 241 P P 01 59 47.2 -2.9
SONM Songino Array 47.42 15 P P 01 59 52.2 +1.1
comp=Z,43nm,0.9s,baz=196,slow=9.1,SNR=75
SONM LR LR 02 21 58.0
comp=Z,520nm,21.4s,baz=194,slow=39
ULN Ulaanbaatar 47.62 15 P P 01 59 54.0 +1.3
SNR=7.7
ULN Ulaanbaatar 47.62 15 *ceP* **P 01 59 53.2 +0.5**
ULN pmax pmax
comp=Z,39nm,1.7s
ULN Ulaanbaatar 47.62 15 P P 01 59 50.1 -2.6
ATD Arta Tunnel 47.76 283 P P 01 59 56.4 +2.2
comp=Z,25nm,1.1s,baz=86,slow=4.6,SNR=4.4
ATD Arta Tunnel 47.76 283 P P 01 59 51.5 -2.6
RAYN Ar Rayn 48.02 300 P P 01 59 55.3 -0.8
RAYN pmax pmax
comp=Z,16nm,1.1s
RAYN Ar Rayn 48.02 300 P P 01 59 55.2 -0.8
RAYN IAmb IAmb 01 59 58.4
comp=Z,16nm,1.1s
WRA Warramunga Arr 48.70 119 P P 02 00 03.0 +1.7
comp=Z,13nm,1.0s,baz=296,slow=8.3,SNR=39
WRA LR LR 02 21 43.7
comp=Z,268nm,20.4s,baz=280,slow=38
WRAB Tennant Creek 48.70 119 *ceP* **P 02 00 03.7 +2.4**
WRAB pmax pmax
comp=Z,34nm,1.7s
WRAB Tennant Creek 48.70 119 P P 02 00 00.6 -0.7
WB2 Warramunga Arr 48.71 119 P P 02 00 01.2 -0.1
WB2 IAmb IAmb 02 00 11.1
comp=Z,22nm,1.0s
KURBB Kurchatov Arra 49.08 350 P P 02 00 03.6 0.0
comp=Z,10nm,0.8s,baz=173,slow=7.3,SNR=89
ZAK Zakamensk 49.12 11 *eP* **P 02 00 01.7 -2.4**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 49.15 350 P P 02 00 04.8 +0.6
SNR=7.6
KURK P **P 02 00 04.8 +0.6**
SNR=7.6
KURK Kurchatov 49.15 350 P P 02 00 03.0 -1.2
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 49.15 350 P P 02 00 03.0 -1.2
KURK IAmb IAmb 02 00 05.6
comp=Z,18nm,0.9s
KSRS Korea Array 49.21 40 P P 02 00 04.7 -0.1
comp=Z,7.0nm,1.1s,baz=234,slow=8.1,SNR=11
KSRS LR LR 02 24 14.4
comp=Z,596nm,18.9s,baz=231,slow=40
AS31 Alice Springs 49.81 124 P P 02 00 09.1 -0.7
ASAR Alice Springs 49.81 124 P P 02 00 11.4 +1.6
comp=Z,5.1nm,1.0s,baz=300,slow=7.1,SNR=26
ASAR LR LR 02 22 25.1
comp=Z,568nm,19.1s,baz=308,slow=38
TLY Talaya 50.43 11 *eP* **P 02 00 14.4 +0.4**
TLY *eS* S 02 07 39.8 +15
TLY pmax pmax
comp=Z,35nm,1.4s
TLY MLR MLR
comp=Z,1μm,16.0s
JAY Jayapura 50.78 95 LR LR 02 27 08.0
comp=Z,98nm,18.0s,baz=237,slow=42
ZAA0 Zalesovo Array 51.60 356 P P 02 00 19.1 -3.5
ZAA0 IAmb IAmb 02 00 23.8
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 51.60 356 P P 02 00 22.7 +0.1
comp=Z,7.6nm,0.7s,baz=185,slow=7.9,SNR=30
ZALV LR LR 02 23 34.0
comp=Z,706nm,21.0s,baz=171,slow=38
KIBK Kibwezi 52.29 265 P P 02 00 30.9 +2.2
SNR=5.4
KMBO Kilima Mbogo 52.99 267 P P 02 00 36.4 +2.4
SNR=8.1
KMBO P **P 02 00 36.4 +2.4**
SNR=8.1
KMBO Kilima Mbogo 52.99 267 P P 02 00 30.8 -3.2
KMBO pmax pmax
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 52.99 267 P P 02 00 36.0 +2.0
comp=Z,8.4nm,0.9s,baz=56,slow=9.6,SNR=28
KMBO LR LR 02 19 01.1
comp=Z,820nm,20.5s,baz=92,slow=31
KMBO Kilima Mbogo 52.99 267 P P 02 00 30.8 -3.2
KMBO IAmb IAmb 02 00 37.4
comp=Z,14nm,1.1s
BRVK Borovoye 53.14 345 *i* P **P 02 00 33.4 -0.7**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 53.14 345 P P 02 00 31.6 -2.4
AB31 Akbulak array 53.36 336 P P 02 00 36.4 +0.6
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 53.36 336 P P 02 00 34.5 -1.3
ABKAR IAmb IAmb 02 00 43.9
comp=Z,21nm,0.9s
AKT Akhty 54.45 321 *eP* **P 02 00 48.7 +4.6**
AKT *e* 02 01 48.5
AKT pmax pmax
comp=Z,31nm,1.4s
MDJ Mudanjiang 54.57 34 P P 02 00 46.3 +1.6
MDJ S **S 02 08 27.6 +5.8**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,460nm,6.1s
MDJ LR LR
comp=Z,810nm,17.5s
MDJ LR LR
comp=Z,1μm,15.9s
MDJ LR LR
comp=Z,1μm,17.8s
LODK Lodwar 54.72 273 P P 02 00 49.1 +2.7
SNR=6.2
GNI Garni 55.66 319 *ceP* **P 02 00 53.1 +0.2**
GNI pmax pmax
comp=Z,31nm,1.3s
GNI Garni 55.66 319 P P 02 00 50.4 -2.5
GNI IAmb IAmb 02 01 01.6
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 55.68 36 P P 02 00 53.5 +0.8
comp=Z,5.2nm,0.8s,baz=255,slow=6.6,SNR=9.5
USRK LR LR 02 27 54.8
comp=Z,520nm,18.6s,baz=218,slow=40
MAT Matsushiro 55.80 46 P P 02 00 54.1 +0.3
MAT S S 02 08 20.8 -18
MJAR Matsushiro Arr 55.80 46 P P 02 00 54.8 +1.0
comp=Z,6.6nm,0.9s,baz=240,slow=7.3,SNR=8.6
GROC Groznyy 56.60 322 *eP* **P 02 01 00.5 +1.1**
GROC *e* 02 01 56.4
GROC *e* 02 03 04.9
GROC *eS* **S 02 08 53.3 +4.3**
GROC pmax pmax
comp=Z,31nm,1.5s
AKH Akhalkalaki 57.12 319 P P 02 01 00.4 -2.9
AKH pmax pmax
comp=Z,5.0nm,0.9s
AKH Akhalkalaki 57.12 319 P P 02 01 00.4 -2.9
ZEI Tsey 57.56 321 *eP* **P 02 01 06.6 +0.2**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
BOD Bodaibo 58.42 15 *eP* **P 02 01 12.1 +0.2**
BOD pmax pmax
comp=Z,20nm,1.9s
KLR Kul'dur 58.62 31‖ *eP* **P 02 01 12.6 -0.9**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 58.62 31 LR LR 02 27 59.4
comp=Z,340nm,18.5s,baz=206,slow=38
KBZ Khabaz 58.67 321 P P 02 01 15.1 +1.2
comp=Z,3.6nm,0.9s,baz=135,slow=4.0,SNR=12
KBZ LR LR 02 26 46.6
comp=Z,99nm,21.9s,baz=119,slow=36
KIV Kislovodsk 58.92 322 *eP* **P 02 01 17.3 +1.5**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV MLR MLR
comp=Z,593nm,17.0s
KIV Kislovodsk 58.92 322 P P 02 01 12.9 -2.9
KIV IAmb IAmb 02 01 24.0
comp=Z,15nm,1.0s
SVE Sverdlovsk 59.18 342 *eP* **P 02 01 17.2 0.0**
SVE pmax pmax
comp=Z,29nm,1.3s
STKA Stephens Creek 59.46 129 P P 02 01 17.7 -1.9
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 59.46 129 P P 02 01 22.2 +2.6
comp=Z,10.0nm,0.9s,baz=306,slow=7.8,SNR=14
STKA LR LR 02 26 46.0
comp=Z,312nm,19.0s,baz=280,slow=36
STKA Stephens Creek 59.46 129 P P 02 01 17.7 -1.9
MBAR Mbarara 59.46 268 P P 02 01 18.7 -1.5
MBAR pmax pmax
comp=Z,9.0nm,1.1s
MBAR Mbarara 59.46 268 P P 02 01 18.7 -1.5
MBAR IAmb IAmb 02 01 24.2
comp=Z,9.4nm,1.1s
ARU Arti 59.54 340 *c i P* **P 02 01 18.4 -1.3**
ARU S **S 02 09 26.3 -0.6**
ARU SS **SS 02 13 20.4 -2.3**
ARU pmax pmax
comp=Z,38nm,2.3s
ARU Arti 59.54 340 P P 02 01 16.9 -2.8
ARU IAmb IAmb 02 01 20.6
comp=Z,13nm,1.0s
ZEA Zeya 59.58 25 *eP* **P 02 01 20.6 +0.6**
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA MLR MLR
comp=Z,2μm,16.0s
ZEA MLR MLR
comp=E,1μm,17.0s
SOC Sochi 60.61 320 *eP* P 02 01 32.2 +4.9
SOC *e*PPP PPP 02 05 04.4
SOC *eS* **S 02 09 47.0 +5.8**
SOC *eSS* **SS 02 13 43.1 +3.0**
SOC *e*SSS SSS 02 16 07.8
SOC pmax pmax
comp=Z,9.0nm,0.7s
BR131 Keskin Array S 63.17 314 P P 02 01 43.3 -1.5
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 63.17 314 P P 02 01 43.3 -1.5
BR131 IAmb IAmb 02 01 52.2
comp=Z,7.7nm,0.8s
BRTR Keskin Array B 63.17 314 *i* P **P 02 01 45.2 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 63.17 314 P P 02 01 45.1 +0.3
comp=Z,4.8nm,0.6s,baz=132,slow=7.0,SNR=22
BRTR LR LR 02 31 04.6
comp=Z,371nm,20.1s,baz=92,slow=38
VRH Novokhopyorsk 63.32 328 *eP* **P 02 01 48.5 +3.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 63.55 37 *eP* **P 02 01 47.2 +0.3**
YSS pmax pmax
comp=Z,20nm,0.9s
LSZ Lusaka 63.73 252 P P 02 01 48.3 -0.5
LSZ pmax pmax
comp=Z,13nm,1.2s
LSZ Lusaka 63.73 252 P P 02 01 48.3 -0.5
LSZ IAmb IAmb 02 01 51.6
comp=Z,13nm,1.1s
BR231 Keskin MP Arra 63.83 314 P P 02 01 46.5 -2.6
VSR Storozhevoye 64.69 327 *eP* **P 02 01 55.8 +1.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
ELL Elmali 64.99 310 P P 02 01 54.0 -2.8
ELL pmax pmax
comp=Z,60nm,1.0s
ELL Elmali 64.99 310 P P 02 01 54.0 -2.8
EIDS Eidsvold 65.06 119 P P 02 01 57.2 -0.1
EIDS IAmb IAmb 02 02 00.9
comp=Z,12nm,0.9s
LPSR Galich'ya Gora 65.53 329 *eP* **P 02 02 00.4 +0.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
YAK Yakutsk 66.46 19 *eP* **P 02 02 04.0 -1.5**
YAK pmax pmax
comp=Z,32nm,1.2s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 66.46 19 LR LR 02 33 52.6
comp=N,456nm,18.9s,baz=216,slow=38
KARP Karpathos 66.80 308 P P 02 02 07.8 -0.6
NRIK Noril'sk 66.88 359 P P 02 02 08.0 -0.1
comp=N,3.8nm,0.4s,baz=175,slow=5.4,SNR=8.6
NRIK LR LR 02 32 51.9
comp=N,858nm,21.8s,baz=176,slow=37
ARMA Armidale 66.96 124 P P 02 02 09.1 -0.5
ARMA IAmb IAmb 02 02 14.3
comp=Z,13nm,0.9s
MOS Moscow 67.81 331 *eP* **P 02 02 16.0 +1.8**
MOS pmax pmax
comp=Z,31nm,0.9s
PRGR Permogore 67.90 339 *eP* **P 02 02 14.0 -0.7**
PRGR *e**PP **pP 02 02 19.3 -5.3**
PRGR pmax pmax
comp=Z,14nm,0.6s
LBTB Lobatse 68.14 242 P P 02 02 16.6 -0.5
LBTB pmax pmax
comp=Z,21nm,1.0s
LBTB Lobatse 68.14 242 P P 02 02 16.6 -0.5
PHSR Pinarhisar 68.18 314 ⇑P **P 02 02 18.5 +1.6**
BOSA Boshof 69.31 238 P P 02 02 23.7 -0.7
BOSA pmax pmax
comp=Z,9.0nm,1.1s
BOSA Boshof 69.31 238 P P 02 02 25.0 +0.7
comp=Z,5.3nm,0.9s,baz=74,slow=5.9,SNR=7.6
BOSA LR LR 02 30 07.2
comp=Z,192nm,19.3s,baz=68,slow=34
BOSA Boshof 69.31 238 P P 02 02 23.6 -0.7
BOSA IAmb IAmb 02 02 26.9
comp=Z,9.2nm,1.1s
RAZG Razgrad 69.47 316 ⇑P **P 02 02 26.8 +1.9**
SORM Soroca 69.71 321 ⇑P **P 02 02 27.2 +1.0**
SORM Soroca 69.71 321 ⇑P **P 02 02 27.2 +1.0**
ELND Elena 69.73 315 ⇓P **P 02 02 27.6 +1.1**
KLMR Klimovskoe 69.75 336 *eP* **P 02 02 26.3 +0.1**
KLMR pmax pmax
comp=Z,39nm,1.4s
KLMR Klimovskoe 69.75 336 *eP* **P 02 02 26.3 +0.1**
KLMR AMP 02 02 34.5
comp=Z,39nm,1.4s
BISRR Bisoca 69.93 318 ⇑P **P 02 02 28.0 +0.3**
VRI Vrincioaia 70.02 318 ⇑P **P 02 02 28.9 +0.7**
VRI Vrincioaia 70.02 318 ⇑P **P 02 02 28.9 +0.7**
PLOR Plostina 70.06 318 ⇓P **P 02 02 30.6 +2.0**
PLOR Plostina 70.06 318 ⇓P **P 02 02 30.6 +2.0**
AKASG Malin Array Be 70.09 324 P P 02 02 26.0 -2.5
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 70.09 324 P P 02 02 28.7 +0.1
comp=Z,0.3nm,0.4s,baz=103,slow=4.3,SNR=6.2
AKASG LR LR 02 34 59.0
comp=Z,303nm,21.0s,baz=90,slow=38
AKASG Malin Array Be 70.09 324 P P 02 02 26.0 -2.5
TESR Tescani 70.27 319 ⇑P **P 02 02 29.6 -0.1**
MLR Muntele Rosu 70.42 318 P P 02 02 28.7 -2.2
MLR pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 70.42 318 ⇑P **P 02 02 32.4 +1.6**
MLR Muntele Rosu 70.42 318 P P 02 02 28.7 -2.2
PRAR RASCA 70.81 320 ⇑P **P 02 02 34.2 +1.2**
DOPR Dopca 70.94 318 ⇑P **P 02 02 35.0 +1.2**
VOIR 71.01 318 ⇑P **P 02 02 38.6 +4.2**
VOIR 71.01 318 ⇑P **P 02 02 38.6 +4.2**
ARR Arges 71.27 317 ⇑P **P 02 02 36.2 +0.3**
VTS Vitosha 71.52 314 ⇑P **P 02 02 38.3 +0.7**
VTS Vitosha 71.52 314 ⇑P **P 02 02 38.3 +0.7**
VTS Vitosha 71.52 314 P P 02 02 35.3 -2.3
BURAR Bucovina Array 71.54 320 ⇑P **P 02 02 37.4 -0.1**
BURAR Bucovina Array 71.54 320 ⇑P **P 02 02 37.4 -0.1**
BUR08 Bucovina Ar. S 71.56 320 P P 02 02 36.7 -1.0
MAW Mawson 72.40 191 LR LR 02 29 36.3
comp=Z,223nm,18.1s,baz=56,slow=32
GZR Gura Zlata 72.54 317 ⇑P **P 02 02 45.6 +2.1**
GZR Gura Zlata 72.54 317 ⇑P **P 02 02 45.6 +2.1**
HERR Herculane 72.66 316 ⇑P **P 02 02 45.5 +1.3**
BZS Buzias 73.39 317 ⇑P **P 02 02 47.8 -0.7**
BZS Buzias 73.39 317 ⇑P **P 02 02 47.8 -0.7**
TRPA Tarpa 73.41 320 ⇑P **P 02 02 49.7 +1.1**
KOLS Kolonicke sedl 73.80 320 *eP* P 02 02 55.7 +4.9
KOLS pmax pmax
comp=Z,24nm,1.8s
KOLS Kolonicke sedl 73.80 320 *eP* P 02 02 55.7 +4.9
FINES FINESS Array B 75.76 334 P P 02 03 00.0 -1.9
FINES FINESS Array B 75.76 334 P P 02 03 03.4 +1.5
comp=Z,1.6nm,0.7s,baz=106,slow=4.2,SNR=7.1
FINES FINESS Array B 75.76 334 P P 02 03 00.1 -1.9
VYHS Vyhne 75.90 319 *eP* P 02 03 08.0 +5.0
VYHS Vyhne 75.90 319 *eP* P 02 03 08.0 +5.0
MODS Modra-Piesok 76.89 319 *eP* P 02 03 15.5 +6.9
MODS Modra-Piesok 76.89 319 *eP* P 02 03 15.5 +6.9
KRLC Kraliky 77.54 321 *eP* P 02 03 19.4 +7.1
KRLC *e* 02 03 31.4
KRLC Kraliky 77.54 321 *ep*P P 02 03 19.4 +7.1
KRLC *ex* x 02 03 31.4
DPC Dobruska-Polom 77.89 321 *eP* **P 02 03 18.9 +4.7**
DPC Dobruska-Polom 77.89 321 *ep*P **P 02 03 18.9 +4.7**
CHVC Chvalec 78.10 321 *eP* **P 02 03 17.1 +1.7**
SYO Syowa Base 79.02 196‖ *eP* **P 02 03 20.0 +0.1**
ARCES ARCESS Array B 79.11 341 P P 02 03 19.9 -0.6
ARCES ARCESS Array B 79.11 341 P P 02 03 22.3 +1.8
comp=Z,4.0nm,0.7s,baz=96,slow=4.7,SNR=8.3
ARCES LR LR 02 39 17.3
comp=Z,408nm,21.8s,baz=127,slow=36
ARCES ARCESS Array B 79.11 341 P P 02 03 19.9 -0.6
GERES GERESS Array B 79.31 319 P P 02 03 23.3 +1.1
comp=Z,2.0nm,0.7s,baz=102,slow=5.6,SNR=18
KHC Kasperske Hory 79.43 319 *eP* **P 02 03 24.0 +1.3**
KHC *e* 02 03 33.0
KHC Kasperske Hory 79.43 319 *eP* **P 02 03 24.0 +1.3**
KHC *ex* x 02 03 33.0
BRG Berggiesshubel 79.47 321 *eP* **P 02 03 26.8 +3.9**
comp=Z,7.1nm,1.2s
CLL Collm 80.12 322 *e*(sP) sP 02 03 34.0 -6.1
comp=Z,8.0nm,1.0s
KEST Kesra 81.15 306 P P 02 03 34.9 +2.6
comp=Z,14nm,1.1s,baz=306,slow=2.1,SNR=4.8
KEST LR LR 02 42 29.9
comp=Z,159nm,19.0s,baz=14,slow=38
NOA NORSAR Array B 82.58 331 LR LR 02 43 09.4
comp=Z,197nm,18.7s,baz=110,slow=38
SENIN Lac Senin/Sane 83.35 316 P P 02 03 41.0 -2.8
SENIN IAmb IAmb 02 03 56.5
comp=Z,11nm,0.9s
TAM Tamanrasset 84.13 293 P P 02 03 44.9 -3.3
TAM pmax pmax
comp=Z,11nm,1.1s
TAM Tamanrasset 84.13 293 P P 02 03 44.9 -3.3
TAM IAmb IAmb 02 03 52.0
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 87.96 283 P P 02 04 08.4 +1.3
comp=Z,1.6nm,0.9s,baz=87,slow=4.4,SNR=6.0
TORD LR LR 02 41 37.0
comp=Z,499nm,19.2s,baz=15,slow=34
ESDC Sonseca Array 91.67 310 P P 02 04 26.0 +2.0
comp=Z,0.7nm,0.8s,baz=50,slow=4.8,SNR=4.3
ESDC LR LR 02 49 09.3
comp=Z,109nm,20.4s,baz=70,slow=38
DAG Danmarks Havn 91.96 347 *i* P **P 02 04 25.0 +0.5**
DAG *i* S **sP 02 04 40.7 +2.3**
DAG Danmarks Havn 91.96 347 *i* P **P 02 04 25.0 +0.5**
DAG *i* S **sP 02 04 40.7 +2.3**
SNAA Sanae 93.17 198 P P 02 04 32.7 +2.5
DBIC Dimbokro 94.69 277 LR LR 02 43 45.5
comp=Z,248nm,21.8s,baz=62,slow=33
VNA2 Neumayer--Watz 94.69 199 P P 02 04 39.8 +2.6
baz=131,slow=12
VNA1 Neumayer--Stat 95.01 199 P P 02 04 39.9 +1.4
ILAR Eielson Array 101.30 22 PP **PP 02 09 18.8 +2.7**
comp=Z,0.9nm,1.1s,baz=306,slow=5.1,SNR=5.2
HOPE Hope Point 112.51 211 *i* PKIKP **PKiKP 02 09 49.6 -2.8**
TBI Tubuai 118.74 115 *e*LR LR 02 46 27.7
comp=Z,202nm,26.0s
PPT2 Papeete2 119.53 109 *e*LR LR 02 46 49.4
comp=Z,245nm,27.0s
VAH Vaihoa 121.67 106 *e*T T 02 05 52.2
comp=Z,13nm,0.2s
TAOE Nuku Hiva Isla 129.58 99 *e*LR LR 02 51 35.8
comp=Z,195nm,26.9s
PEL Peldehue 144.50 208 PKIKP **PKPab 02 10 51.4 -0.3**
PEL Peldehue 144.50 208 PKPab 02 10 51.4 -0.3
TX32 Lajitas Array 145.81 22 PKPdf 02 10 55.0 -0.9
TXAR Lajitas Array 145.82 22 PKPbc **PKPab 02 10 57.4 +0.7**
comp=Z,1.7nm,0.6s,baz=318,slow=1.7,SNR=12
JCT Junction City 145.99 15 PKIKP **PKPdf 02 10 53.8 -2.2**
JCT Junction City 145.99 15 PKPdf 02 10 53.8 -2.2
SAML Samuel 152.68 255 PKIKP **PKPbc 02 11 11.2 -2.9**
SAML Samuel 152.68 255 PKPbc 02 11 11.2 -2.9
LPAZ La Paz 154.53 236 PKPbc **PKiKP 02 11 20.6 +1.8**
comp=Z,2.8nm,1.0s,baz=82,slow=6.6,SNR=4.3

NIED ***13*** *01:51:00,37°.20N×144°.50E,h11km,Mw3.9 Best double couple: M0 7.10000×10^14 NP1:φ0 7.00000°, δ31.00000°, λ-82.00000°. NP2:φ0 178.00000°, δ60.00000°, λ-95.00000°.*

IDC ***13*** *01:51:47.3±4.3,37°.04N×145°.02E,h0km,mb3.5/2, mb1 4.0/4,mb1mx3.6/47,mbtmp3.7/4,ML3.4/2,MS2.8/2, Ms1 2.8/2,ms1mx2.6/28,Error ellipse: s-maj=152.6km s-min=30.0km az=164.0*

ISCJB ***13*** *01:51:50.4±0.8,37°.28N±0°.05×144°.69E±0°.06,h33km, mb3.4/2,Error ellipse: s-maj=7.6km s-min=6.6km az=155.7*

JMA ***13*** *01:51:51.6±0.3,37°.22N×144°.55E,h37km,M4.2*

ISC 13 01:51:52.2±1.3,37°.32N±0°.07×144°.74E±0°.08,h35km,n30, σ2°08/36,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakiboku**	**2.77**	**292**	P	**Pn**	**01 52 34.0**	**-0.2**
JIO	**Ouri**	**2.91**	**294**	P	**Pn**	**01 52 36.0**	**0.0**
JKMT	**Kesennumamotoy**	**2.98**	**301**	P	**Pn**	**01 52 36.8**	**-0.1**
JKMT				eS	**Sn**	**01 53 10.3**	**-1.1**
OFUJ	**Ofunato**	**2.99**	**307**	P	**Pn**	**01 52 37.4**	**+0.3**
OFUJ				eS	**Sn**	**01 53 10.5**	**-1.3**
JFK	**Kawauchi**	**3.08**	**272**	P	**Pn**	**01 52 37.5**	**-0.9**
JFK				eS	**Sn**	**01 53 11.9**	**-2.1**
JMK	**Ichinoseki**	**3.22**	**302**	P	**Pn**	**01 52 40.6**	**+0.3**
JOU	**Okura**	**3.39**	**289**	eS	**Sn**	**01 53 22.1**	**+0.4**
JFT	**Otama**	**3.51**	**275**	P	**Pn**	**01 52 44.6**	**+0.3**
JYK	**Kaneyama**	**3.81**	**296**	P	**Pn**	**01 52 49.2**	**+0.9**
JYK				eS	**Sn**	**01 53 32.4**	**+0.5**
JRG	**Rokugo**	**3.84**	**304**	P	**Pn**	**01 52 50.2**	**+1.4**
BSO1	**Boso 1**	**4.04**	**230**	P	**Pn**	**01 52 48.0**	**-3.1**
BSO1				eS	**Sn**	**01 53 33.3**	**-3.6**
JAH	**Hinai**	**4.30**	**313**	P	**Pn**	**01 52 57.3**	**+2.1**
JAH				eS	**Sn**	**01 53 46.8**	**+2.7**
JTM	**Tenmabayashi**	**4.49**	**322**	eS	**Sn**	**01 53 47.5**	**-1.2**
JRY	**Ryogami san**	**4.87**	**256**	P	**Pn**	**01 53 01.5**	**-1.5**
JRY				eS	**Sn**	**01 53 53.3**	**-4.8**
JOD2	**Odawara 2**	**5.00**	**248**	P	**Pn**	**01 53 03.4**	**-1.4**
MJAR	**Matsushiro Arr**	**5.29**	**264**	Pn	**Pn**	**01 53 09.2**	**+0.5**
	0.9nm,0.3s,baz=79,slow=11,SNR=16						
MJAR				Sn	**Sn**	**01 54 08.2**	**-0.2**
	0.4nm,0.3s,baz=248,slow=20,SNR=4.4						
MJAR				LR	LR	01 55 51.7	
	comp=Z,83nm,18.4s,baz=100,slow=45						
MAT	**Matsushiro**	**5.29**	**264**	P	**Pn**	**01 53 09.0**	**+0.3**
MAT				S	**Sn**	**01 54 07.3**	**-1.2**
JKB	**Kayabe**	**5.39**	**329**	eS	**Sn**	**01 54 08.8**	**-2.0**
JCH	**Churui**	**5.40**	**349**	P	**Pn**	**01 53 09.8**	**-0.4**
JCH				eS	**Sn**	**01 54 08.6**	**-2.5**
NEM2	**Nemuro 2**	**6.09**	**7**	P	**Pn**	**01 53 17.6**	**-2.1**
NEM2				eS	**Sn**	**01 54 23.0**	**-5.1**
JTKR	**Abashiri--Toko**	**6.68**	**355**	P	**Pn**	**01 53 26.2**	**-1.6**
JTKR				eS	**Sn**	**01 54 40.4**	**-2.2**
KSRS	**Korea Array**	**13.38**	**276**	Pn	**Pn**	**01 55 03.5**	**+4.1**
	0.2nm,0.3s,baz=92,slow=14,SNR=5.4						
KSRS				LR	LR	02 00 10.1	
	comp=Z,49nm,20.0s,baz=75,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.09**	**126**	T	T	02 24 17.6	
	baz=317,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**26.09**	**126**	T	T	02 24 15.6	
	baz=317,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**26.10**	**126**	T	T	02 24 10.3	
	baz=317,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	02 25 09.9	
	baz=318,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	02 25 12.6	
	baz=318,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**26.88**	**128**	T	T	02 25 14.2	
	baz=318,slow=76,SNR=15						
ILAR	**Eielson Array**	**47.83**	**33**	P	**P**	**02 00 26.8**	**+0.7**
	0.4nm,0.8s,baz=257,slow=5.3,SNR=4.5						
PDAR	**Pinedale Array**	**75.56**	**47**	P	**P**	**02 03 34.5**	**+1.0**
	0.3nm,0.7s,baz=298,slow=3.2,SNR=3.9						

LJU ***13*** *02:01:31.1,46°.39N×15°.07E,h0km Rockburst*

VIE 13 02:01:31.0±0.5,46°.41N×15°.11E,h0km,ml0.6/2,Error ellipse: s-maj=4.7km s-min=2.0km az=178.0 23 km NNW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.27**	**349**	*e*Pg	Pg	02 01 36.2	-0.1
	2.3nm,0.3s						
SOKA				Sg	Sg	02 01 40.1	+0.3
	0.7nm,0.2s						
OBKA	**Obir**	**0.40**	**284**	*e*Pg	Pg	02 01 39.0	+0.4
	0.6nm,0.2s						
OBKA				*e*Sg	Sg	02 01 45.0	+1.2
	4.5nm,0.4s						

IDC 13 02:07:00.2±5.6,5°.86S×152°.21E,h57km±37km,mb3.2/2, mb1 3.6/3,mb1mx3.3/29,mbtmp3.7/3,ML2.2/1,MS3.9/1, Ms1 3.9/1,ms1mx3.1/14,Error ellipse: s-maj=94.8km s-min=16.1km az=106.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.55**	**353**	P	Pn	02 07 25.4	-0.1
	400nm,0.3s,baz=198,slow=2.3,SNR=135						
KRVT				S	Sn	02 07 44.6	0.0
	305nm,0.3s,baz=13,slow=21,SNR=17						
KRVT				LR	LR	02 08 00.1	
	comp=Z,142nm,18.6s,baz=197,slow=39						
PMG	**Port Moresby**	**6.12**	**235**	P	Pn	02 08 26.9	-1.2
	3.7nm,0.3s,baz=45,slow=10.0,SNR=5.6						
WRA	**Warramunga Arr**	**22.31**	**229**	P	P	02 11 53.5	+0.2
	1.8nm,0.7s,baz=52,slow=9.9,SNR=7.5						
WRA				pP	pP	02 12 02.0	-2.0
	1.6nm,0.5s,baz=53,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**24.98**	**223**	P	P	02 12 19.6	+0.9
	0.3nm,0.4s,baz=63,slow=8.9,SNR=5.4						
ASAR				pP	pP	02 12 29.3	-1.3
	2.5nm,0.7s,baz=55,slow=9.3,SNR=20						
TGY	**Tagaytay City**	**36.82**	**303**	LR	LR	02 27 30.4	
	comp=Z,171nm,19.3s,baz=140,slow=33						
TORD	**Torodi Ar. Bea**	**150.05**	**286**	PKPbc	PKPbc	02 26 44.7	-0.9
	0.7nm,0.5s,baz=84,slow=2.6,SNR=12						

KRSC ***13*** *02:25:41.7±1.1,54°.65N×162°.45E,h72km±16km,ML5.2, FELT [II-III] at GMS Kronoki.*

BJI ***13*** *02:25:41.0±0.0,55°.00N×162°.00E,h32km,mb4.7/31, mB5.3/22,Ms4.8/9,Ms7 4.5/7*

NEIC ***13*** *02:25:42.6±1.3,54°.8N±0°.1×162°.0E±0°.1,h31km±5km, mb4.7/95*

MOS ***13*** *02:25:44.8±1.0,54°.74N×162°.14E,h70km,mb5.1/33, MS3.9/4,Error ellipse: s-maj=6.2km s-min=3.4km az=87.9*

ISCJB ***13*** *02:25:45.1±0.3,54°.72N±0°.02×162°.18E±0°.04,h72km±2km, mb4.8/93,Error ellipse: s-maj=4.3km s-min=2.4km az=30.5*

IDC ***13*** *02:25:47.0±2.7,54°.87N×161°.86E,h65km±25km,mb4.2/26, mb1 4.4/29,mb1mx4.2/51,mbtmp4.5/29,ML4.0/3,MS3.9/15, Ms1 3.9/15,ms1mx3.6/47,Error ellipse: s-maj=14.5km s-min=10.1km az=141.0*

ISC 13 02:25:44.0±0.7,54°.69N±0°.02×162°.34E±0°.03,h49km±6km, n472,σ1°42/531,mb4.8/119,MS4.1/16,60C-20D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.38**	**250**	*i* P	**Pn**	**02 25 53.0**	**-0.8**
MKZ	**Mys Kozlova**	**0.38**	**250**	PN	**Pn**	**02 25 53.0**	**-0.8**
TUMD	**Tumrok D**	**1.23**	**295**	*e*P	**Pn**	**02 26 04.8**	**0.0**
TUMD				*e*S	**Sn**	**02 26 21.2**	**+0.8**
KZV	**Kizimen**	**1.26**	**291**	*e*P	**Pn**	**02 26 05.2**	**-0.1**
KZV	**Kizimen**	**1.26**	**291**	PN	**Pn**	**02 26 05.2**	**-0.1**
TUMR	**Tumrok**	**1.40**	**296**	*i* P	**Pn**	**02 26 07.6**	**+0.4**
TUMR				*e*S	**Sn**	**02 26 25.9**	**+1.4**
TUMR	**Tumrok**	**1.40**	**296**	PN	**Pn**	**02 26 07.6**	**+0.4**
TUMR				S	**Sn**	**02 26 25.9**	**+1.4**
KBTR	**Krutoberegovo**	**1.54**	**10**	*e*P	**Pn**	**02 26 09.2**	**+0.1**
KBTR	**Krutoberegovo**	**1.54**	**10**	PN	**Pn**	**02 26 09.2**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.57**	**324**	*e*P	**Pn**	**02 26 10.7**	**+1.2**
BZGR				*e*S	**Sn**	**02 26 31.0**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**1.57**	**324**	PN	**Pn**	**02 26 10.7**	**+1.2**
BZGR				S	**Sn**	**02 26 31.0**	**+2.4**
KBG	**Krutoberegovo**	**1.58**	**7**	*e*P	**Pn**	**02 26 09.8**	**+0.3**
KBG				*e*S	**Sn**	**02 26 30.0**	**+1.2**
KBG	**Krutoberegovo**	**1.58**	**7**	PN	**Pn**	**02 26 09.8**	**+0.3**
KBG				S	**Sn**	**02 26 30.0**	**+1.2**
ZLN	**Zelenaya**	**1.59**	**327**	*e*P	**Pn**	**02 26 11.3**	**+1.5**
ZLN	**Zelenaya**	**1.59**	**327**	PN	**Pn**	**02 26 11.3**	**+1.5**
KMNR	**Kamenistaya**	**1.61**	**312**	*e*P	**Pn**	**02 26 10.9**	**+0.8**
KMNR	**Kamenistaya**	**1.61**	**312**	PN	**Pn**	**02 26 10.9**	**+0.8**
BZMR	**Bezymyannaya**	**1.64**	**320**	*e*P	**Pn**	**02 26 11.7**	**+1.2**
BZMR	**Bezymyannaya**	**1.64**	**320**	PN	**Pn**	**02 26 11.7**	**+1.2**
BZWR	**Bezymyannyi-We**	**1.66**	**321**	*e*P	**Pn**	**02 26 11.9**	**+1.2**
BZWR				*e*S	**Sn**	**02 26 32.7**	**+1.8**
BZWR	**Bezymyannyi-We**	**1.66**	**321**	PN	**Pn**	**02 26 11.9**	**+1.2**
BZWR				S	**Sn**	**02 26 32.7**	**+1.8**
LGNR	**Loginova**	**1.68**	**327**	*i* P	**Pn**	**02 26 12.8**	**+1.6**
LGNR	**Loginova**	**1.68**	**327**	PN	**Pn**	**02 26 12.8**	**+1.6**
CIRR	**Tsirk**	**1.69**	**328**	*e*P	**Pn**	**02 26 12.6**	**+1.4**
CIRR	**Tsirk**	**1.69**	**328**	PN	**Pn**	**02 26 12.6**	**+1.4**
KIRR	**Kirishev**	**1.71**	**319**	*e*P	**Pn**	**02 26 12.4**	**+1.0**
KIRR	**Kirishev**	**1.71**	**319**	PN	**Pn**	**02 26 12.4**	**+1.0**
KPT	**Kopyto**	**1.76**	**317**	*e*P	**Pn**	**02 26 13.3**	**+1.2**
KPT	**Kopyto**	**1.76**	**317**	PN	**Pn**	**02 26 13.3**	**+1.2**
KII	**Karymskiy**	**1.82**	**250**	*e*P	**Pn**	**02 26 13.4**	**+0.6**
KII	**Karymskiy**	**1.82**	**250**	PN	**Pn**	**02 26 13.4**	**+0.6**
KRSR	**Krestovskiy**	**1.83**	**327**	*e*P	**Pn**	**02 26 14.0**	**+0.9**
KRSR				*e*S	**Sn**	**02 26 37.6**	**+2.4**
KRSR	**Krestovskiy**	**1.83**	**327**	PN	**Pn**	**02 26 14.0**	**+0.9**
KRSR				S	**Sn**	**02 26 37.6**	**+2.4**
KLY	**Klyuchi**	**1.89**	**330**	*e*P	**Pn**	**02 26 13.8**	**+0.1**
KLY				*e*S	**Sn**	**02 26 37.6**	**+1.3**
KLY	**Klyuchi**	**1.89**	**330**	PN	**Pn**	**02 26 13.8**	**+0.1**
KLY				S	**Sn**	**02 26 37.6**	**+1.3**
SMKR	**Semkarok**	**1.96**	**346**	*e*P	**Pn**	**02 26 16.1**	**+1.3**
SMKR	**Semkarok**	**1.96**	**346**	PN	**Pn**	**02 26 16.1**	**+1.3**
KOZ	**Kozyrevsk**	**1.97**	**315**	*e*P	**Pn**	**02 26 16.5**	**+1.7**
KOZ	**Kozyrevsk**	**1.97**	**315**	PN	**Pn**	**02 26 16.5**	**+1.7**
BDR	**Baidarnaya**	**1.99**	**342**	*e*P	**Pn**	**02 26 16.7**	**+1.5**
BDR				*e*S	**Sn**	**02 26 40.6**	**+1.7**
BDR	**Baidarnaya**	**1.99**	**342**	PN	**Pn**	**02 26 16.7**	**+1.5**
BDR				S	**Sn**	**02 26 40.6**	**+1.7**
SRKR	**Sorokina**	**2.08**	**342**	*e*P	**Pn**	**02 26 17.7**	**+1.3**
SRKR	**Sorokina**	**2.08**	**342**	PN	**Pn**	**02 26 17.7**	**+1.3**
SPN	**Mys Shipunski**	**2.10**	**222**	*i* P	**Pn**	**02 26 16.1**	**-0.6**
SPN				*e*S	**Sn**	**02 26 40.1**	**-1.5**
SPN	**Mys Shipunski**	**2.10**	**222**	PN	**Pn**	**02 26 16.1**	**-0.6**
SPN				S	**Sn**	**02 26 40.1**	**-1.5**
BKI	**Bering**	**2.16**	**75**	*e*P	**Pn**	**02 26 17.5**	**+0.1**
BKI				*e*S	**Sn**	**02 26 42.6**	**-0.3**
BKI	**Bering**	**2.16**	**75**	PN	**Pn**	**02 26 17.5**	**+0.1**
BKI				S	**Sn**	**02 26 42.6**	**-0.3**
SRDR	**Sredinnyy**	**2.21**	**319**	*e*P	**Pn**	**02 26 19.3**	**+1.1**
SRDR	**Sredinnyy**	**2.21**	**319**	PN	**Pn**	**02 26 19.3**	**+1.1**
NLC	**Nalytchevo**	**2.34**	**231**	*i* P	**Pn**	**02 26 20.2**	**+0.3**
NLC				*e*S	**Sn**	**02 26 47.9**	**+0.6**
NLC	**Nalytchevo**	**2.34**	**231**	PN	**Pn**	**02 26 20.2**	**+0.3**
NLC				S	**Sn**	**02 26 47.9**	**+0.6**
ESO	**Esso**	**2.42**	**302**	*e*P	**Pn**	**02 26 22.1**	**+1.0**
ESO				*e*S	**Sn**	**02 26 51.2**	**+1.7**
ESO	**Esso**	**2.42**	**302**	PN	**Pn**	**02 26 22.1**	**+1.0**
ESO				S	**Sn**	**02 26 51.2**	**+1.7**
SDLR	**Sedlovina**	**2.48**	**237**	*i* P	**Pn**	**02 26 23.2**	**+1.2**
SDLR				*e*S	**Sn**	**02 26 52.6**	**+1.4**
SDLR	**Sedlovina**	**2.48**	**237**	PN	**Pn**	**02 26 23.2**	**+1.2**
SDLR				S	**Sn**	**02 26 52.6**	**+1.4**
SMAR	**Somma**	**2.53**	**237**	*i* P	**Pn**	**02 26 24.0**	**+1.2**
SMAR				*e*S	**Sn**	**02 26 54.1**	**+1.6**
SMAR	**Somma**	**2.53**	**237**	PN	**Pn**	**02 26 24.0**	**+1.2**
SMAR				S	**Sn**	**02 26 54.1**	**+1.6**
KRER	**Koryakskii**	**2.54**	**238**	*e*P	**Pn**	**02 26 24.3**	**+1.5**
KRER				*e*S	**Sn**	**02 26 54.3**	**+1.8**
KRER	**Koryakskii**	**2.54**	**238**	PN	**Pn**	**02 26 24.3**	**+1.5**
KRER				S	**Sn**	**02 26 54.3**	**+1.8**
KRX	**Arik**	**2.56**	**240**	*i* P	**Pn**	**02 26 24.5**	**+1.5**
KRX				*e*S	**Sn**	**02 26 54.8**	**+1.9**
KRX	**Arik**	**2.56**	**240**	PN	**Pn**	**02 26 24.5**	**+1.5**
KRX				S	**Sn**	**02 26 54.8**	**+1.9**
UGLR	**Uglovaya**	**2.56**	**236**	*i* P	**Pn**	**02 26 24.4**	**+1.4**
UGLR				*e*S	**Sn**	**02 26 53.7**	**+0.8**
UGLR	**Uglovaya**	**2.56**	**236**	PN	**Pn**	**02 26 24.4**	**+1.4**
UGLR				S	**Sn**	**02 26 53.7**	**+0.8**
AVH	**Avacha**	**2.56**	**238**	*i* P	**Pn**	**02 26 24.6**	**+1.5**
AVH				*e*S	**Sn**	**02 26 55.9**	**+2.8**
AVH	**Avacha**	**2.56**	**238**	PN	**Pn**	**02 26 24.6**	**+1.5**
AVH				S	**Sn**	**02 26 55.9**	**+2.8**
KOK	**Koryaka**	**2.60**	**239**	*i* P	**Pn**	**02 26 24.9**	**+1.3**
KOK				*i* S	**Sn**	**02 26 56.1**	**+2.2**
KOK	**Koryaka**	**2.60**	**239**	PN	**Pn**	**02 26 24.9**	**+1.3**
KOK				S	**Sn**	**02 26 56.1**	**+2.2**
DALK	**Dalny**	**2.70**	**233**	*i* P	**Pn**	**02 26 25.7**	**+0.9**
DALK				*i* S	**Sn**	**02 26 57.2**	**+1.0**
DALK	**Dalny**	**2.70**	**233**	PN	**Pn**	**02 26 25.7**	**+0.9**
DALK				S	**Sn**	**02 26 57.2**	**+1.0**
PET	**Petropavlovsk**	**2.75**	**234**	*i* P	**Pn**	**02 26 26.6**	**+1.1**
PET				*e*S	**Sn**	**02 26 58.7**	**+1.2**
PET	**Petropavlovsk**	**2.75**	**234**	||*i* PN	**Pn**	**02 26 26.7**	**+1.2**
PET				*e*S	**Sn**	**02 26 58.5**	**+1.0**
PET				pmax	pmax		
	comp=Z,683nm,0.5s						
PET				smax	smax		
	comp=E,5μm,0.8s						
PET				smax	smax		
	comp=N,7μm,0.7s						
PET				smax	smax		
	comp=E,5μm,0.7s						
PET				smax	smax		
	comp=N,10μm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET	**Petropavlovsk**	**2.75**	**234**	Pn	**Pn**	**02 26 25.1**	**-0.4**
PET				Sn	**Sn**	**02 26 53.9**	**-3.6**
GNL	**Ganaly**	**2.77**	**251**	*i* P	**Pn**	**02 26 27.5**	**+1.5**
GNL				*e*S	**Sn**	**02 27 02.0**	**+3.8**
GNL	**Ganaly**	**2.77**	**251**	PN	**Pn**	**02 26 27.5**	**+1.5**
GNL				S	**Sn**	**02 27 02.0**	**+3.8**
KRMR	**Karymshinskiy**	**3.12**	**235**	*i* P	**Pn**	**02 26 32.3**	**+1.7**
KRMR				*i* S	**Sn**	**02 27 08.8**	**+2.2**
KRMR	**Karymshinskiy**	**3.12**	**235**	PN	**Pn**	**02 26 32.3**	**+1.7**
KRMR				S	**Sn**	**02 27 08.8**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.17**	**242**	*d i* PN	**Pn**	**02 26 32.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**3.17**	**242**		**Pn**	**02 26 28.2**	**-3.1**
PETK	**Petropavlovsk-**	**3.17**	**242**	P	**Pn**	**02 26 32.7**	**+1.3**
	comp=Z,65nm,0.3s,baz=70,slow=19,SNR=275						
PETK				S	**Sn**	**02 27 11.9**	**+4.0**
	comp=Z,52nm,0.3s,baz=76,slow=18,SNR=6.7						
PETK				LR	LR	02 27 59.0	
	comp=Z,2μm,20.0s,baz=50,slow=44						
PETK	**Petropavlovsk-**	**3.17**	**242**		**Pn**	**02 26 28.2**	**-3.2**
RUS	**Russkaya**	**3.21**	**227**	*i* P	**Pn**	**02 26 32.5**	**+0.6**
RUS				*e*S	**Sn**	**02 27 08.6**	**-0.3**
RUS	**Russkaya**	**3.21**	**227**	PN	**Pn**	**02 26 32.5**	**+0.6**
RUS				S	**Sn**	**02 27 08.6**	**-0.3**
MTVR	**Mutnovka**	**3.32**	**230**	*e*P	**Pn**	**02 26 34.7**	**+1.2**
MTVR				*e*S	**Sn**	**02 27 13.4**	**+1.6**
MTVR	**Mutnovka**	**3.32**	**230**	PN	**Pn**	**02 26 34.7**	**+1.2**
MTVR				S	**Sn**	**02 27 13.4**	**+1.6**
GRL	**Gorelyy**	**3.33**	**232**	*i* P	**Pn**	**02 26 35.3**	**+1.7**
GRL				*e*S	**Sn**	**02 27 14.9**	**+3.1**
GRL	**Gorelyy**	**3.33**	**232**	PN	**Pn**	**02 26 35.3**	**+1.7**
GRL				S	**Sn**	**02 27 14.9**	**+3.1**
ASAK	**Asacha**	**3.52**	**231**	*i* P	**Pn**	**02 26 37.9**	**+1.7**
ASAK				*e*S	**Sn**	**02 27 19.0**	**+2.5**
ASAK	**Asacha**	**3.52**	**231**	PN	**Pn**	**02 26 37.9**	**+1.7**
ASAK				S	**Sn**	**02 27 19.0**	**+2.5**
APC	**Apacha**	**3.55**	**242**	*e*P	**Pn**	**02 26 38.5**	**+2.0**
APC				*e*S	**Sn**	**02 27 19.7**	**+2.6**
APC	**Apacha**	**3.55**	**242**	PN	**Pn**	**02 26 38.5**	**+2.0**
APC				S	**Sn**	**02 27 19.7**	**+2.6**
KDTR	**Khodutka, Kamc**	**3.86**	**223**	*i* P	**Pn**	**02 26 41.3**	**+0.6**
KDTR				*i* S	**Sn**	**02 27 23.8**	**-1.0**
KDTR	**Khodutka, Kamc**	**3.86**	**223**	PN	**Pn**	**02 26 41.3**	**+0.6**
KDTR				S	**Sn**	**02 27 23.8**	**-1.0**
OSSR	**Ossora**	**4.59**	**5**	*e*P	**Pn**	**02 26 50.6**	**-0.1**
OSSR				*e*S	**Sn**	**02 27 42.1**	**-0.5**
OSSR	**Ossora**	**4.59**	**5**	PN	**Pn**	**02 26 50.6**	**-0.1**
OSSR				S	**Sn**	**02 27 42.1**	**-0.5**
PAU	**Pauzhetka**	**4.64**	**228**	*e*P	**Pn**	**02 26 53.4**	**+1.9**
PAU	**Pauzhetka**	**4.64**	**228**	PN	**Pn**	**02 26 53.4**	**+1.9**
SKR	**Severo-Kuril's**	**5.52**	**226**	*e*P	**Pn**	**02 27 04.6**	**+1.1**
SKR				*e*S	**Sn**	**02 28 05.1**	**-0.4**
SKR	**Severo-Kuril's**	**5.52**	**226**	*e*PN	**Pn**	**02 27 05.4**	**+1.9**
SKR				*e*S	**Sn**	**02 28 04.9**	**-0.6**
SKR				pmax	pmax		
	comp=Z,84nm,0.6s						
SKR				smax	smax		
	comp=E,377nm,0.7s						
SKR				smax	smax		
	comp=N,358nm,0.8s						
SMY	**Shemya**	**7.25**	**101**	PN	**Pn**	**02 27 28.4**	**+1.2**
SMY	**Shemya**	**7.25**	**101**	Pn	**Pn**	**02 27 28.4**	**+1.2**
MA2	**Magadan**	**7.97**	**313**	LR	LR	02 31 04.8	
	comp=N,674nm,19.6s,baz=138,slow=42						
OKH	**Okha**	**11.45**	**272**	*de*PN	**Pn**	**02 28 28.1**	**+3.5**
OKH				MLR	MLR		
	comp=Z,700nm,17.0s						
BILL	**Bilibino**	**13.52**	**6**	||*e*P	**Pn**	**02 28 49.9**	**-2.9**
BILL				pmax	pmax		
	comp=Z,15nm,1.9s						
BILL				MLR	MLR		
	comp=Z,211nm,18.0s						
YSS	**Yuzh-Sakhalins**	**14.57**	**246**	*e*P	**P**	**02 29 12.4**	**0.0**
YSS				*e*S	**Sn**	**02 31 47.7**	**+0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=N,700nm,13.0s						
YUK	**Yuzh-Kuril'sk**	**15.09**	**232**	P	**Pn**	**02 29 15.1**	**+1.3**
YUK				S	**Sn**	**02 32 05.7**	**+6.0**
YUK				pmax	pmax		
	comp=Z,120nm,0.5s						
YUK				MLR	MLR		
	comp=N,409nm,13.0s						
YUK				MLR	MLR		
	comp=E,226nm,14.0s						
YUK				MLR	MLR		
	comp=Z,351nm,16.0s						
JKA	**Kamikawa-asahi**	**16.58**	**238**	P	**Pn**	**02 29 33.7**	**+0.8**
ASAJ	**Asahikawa**	**16.59**	**238**	P	**Pn**	**02 29 33.7**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=29,slow=2.5,SNR=7.0						
ASAJ				LR	LR	02 35 28.6	
	comp=Z,433nm,21.4s,baz=28,slow=35						
NIKH	**Nikolski High**	**17.04**	**84**	Pn	**P**	**02 29 39.9**	**+0.2**
NIKH				IAmb	IAmb	02 29 56.3	
	comp=Z,65nm,0.9s						
ERM	**Erimo**	**17.91**	**233**	P	**Pn**	**02 29 45.6**	**-3.6**
ERM				pmax	pmax		
	comp=Z,41nm,1.0s						
ERM	**Erimo**	**17.91**	**233**	Pn	**Pn**	**02 29 45.6**	**-3.6**
ERM				IAmb	IAmb	02 30 04.5	
	comp=Z,41nm,0.9s						
UNV	**Unalaska Valle**	**18.14**	**80**	P	**Pn**	**02 29 54.4**	**+2.4**
UNV				IAmb	IAmb	02 30 03.9	
	comp=Z,38nm,1.0s						
YAK	**Yakutsk**	**18.47**	**307**	*e*P	**P**	**02 29 53.8**	**-1.6**
YAK				*e*S	**Sn**	**02 33 17.5**	**-3.7**
YAK				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,1.2s						
YAK				pmax	pmax		
	comp=Z,238nm,3.5s						
YAK				pmax	pmax		
	comp=N,207nm,3.0s						
YAK				smax	smax		
	comp=E,346nm,3.5s						
YAK				smax	smax		
	comp=N,225nm,3.3s						
YAK				MLR	MLR		
	comp=Z,392nm,19.0s						
YAK				MLR	MLR		
	comp=N,331nm,17.0s						
YAK				MLR	MLR		
	comp=E,138nm,17.0s						
YAK	**Yakutsk**	**18.47**	**307**	P	**P**	**02 29 52.3**	**-3.1**
YAK				IAmb	IAmb	02 29 55.9	
	comp=Z,29nm,0.6s						
AKUT	**Akutan**	**18.49**	**79**	P	**Pn**	**02 29 57.8**	**+1.6**
AKUT				IAmb	IAmb	02 30 00.6	
	comp=Z,123nm,1.2s						
TEY	**Ternei**	**19.10**	**250**	*e*P	**Pn**	**02 30 03.3**	**-0.3**
KLR	**Kul'dur**	**19.53**	**266**	||*e*P	**P**	**02 30 06.8**	**-0.3**
KLR				pmax	pmax		
	comp=Z,32nm,3.2s						
KLR	**Kul'dur**	**19.53**	**266**	P	**P**	**02 30 07.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=71,slow=10,SNR=8.5						
KLR				LR	LR	02 37 42.2	
	comp=Z,336nm,19.1s,baz=83,slow=37						
CHGN	**Chignik**	**22.09**	**70**	P	**P**	**02 30 34.9**	**+0.4

baz=355,slow=76,SNR=550
H11N3 WAKE ISLAND Hy 35.09 173 T T 03 09 55.5
baz=355,slow=76,SNR=676
H11N1 WAKE ISLAND Hy 35.09 173 T T 03 09 55.8
baz=355,slow=76,SNR=456
NRIK Noril'sk 35.39 324 LR LR 02 47 56.2
comp=Z,249nm,19.5s,baz=129,slow=38
HHC Hu-ho-hao-te 36.00 269 *e*P **P** **02 32 41.3 +1.1**
HHC pmax pmax
comp=Z,5.0nm,1.2s
DLBC Dease Lake 36.03 56 P **P** **02 32 44.1 +4.0**
comp=Z,2.9nm,0.9s,baz=307,slow=15,SNR=3.7
DLBC Dease Lake 36.03 56 P **P** **02 32 43.1 +2.9**
NJ2 Nanjing 38.03 252 *e*P **P** **02 32 57.7 +0.4**
NJ2 pmax pmax
comp=Z,15nm,1.0s
YKA Yellowknife Ar 41.09 45 P **P** **02 33 24.3 +1.9**
comp=Z,0.7nm,0.6s,baz=299,slow=8.4,SNR=2.4
RES Resolute Bay 41.34 23 P **P** **02 33 25.0 +0.7**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 41.34 23 P **P** **02 33 25.4 +1.2**
comp=Z,2.1nm,0.8s,baz=47,slow=1.2,SNR=4.1
RES Resolute Bay 41.34 23 P **P** **02 33 25.0 +0.7**
ZALV Zalesovo Beam 43.04 302 P **P** **02 33 35.7 -2.7**
comp=Z,1.8nm,0.6s,baz=53,slow=5.3,SNR=6.4
ZALV PcP **PcP** **02 35 28.0 +0.4**
comp=Z,0.8nm,0.3s,baz=37,slow=6.1,SNR=3.9
ZALV LR LR 02 52 25.3
comp=Z,185nm,18.7s,baz=52,slow=37
YULB Yu-li 43.64 241 P **P** **02 33 43.0 -0.6**
YULB IAmb IAmb 02 33 47.5
comp=Z,20nm,0.8s
LZH Lanzhou 43.68 270 *e*P **P** **02 33 44.2 +0.2**
LZH pP pP 02 33 56.7 -0.5
LZH sP sP 02 34 01.2 -1.7
LZH pmax pmax
comp=Z,20nm,1.0s
GTA Gaotai 43.75 276 *e*P **P** **02 33 43.0 -1.5**
GTA pP pP 02 33 53.7 -4.0
GTA sP sP 02 33 57.4 -6.0
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,130nm,4.6s
GTA LR LR
comp=Z,180nm,15.5s
GTA LR LR
comp=Z,260nm,14.8s
GTA LR LR
comp=Z,290nm,14.1s
DGZ Jazzator, Alta 44.16 296 *i*P **P** **02 33 46.3 -1.4**
SPA0 Spitsbergen Ar 45.77 351 *e*P **P** **02 33 59.2 -0.7**
SPA0 Spitsbergen Ar 45.77 351 P **P** **02 33 59.7 -0.3**
SPITS Spitsbergen Ar 45.77 351 P **P** **02 33 59.6 -0.4**
comp=Z,13nm,0.6s,baz=59,slow=9.8,SNR=18
CD2 Chengdu 47.45 265 P **P** **02 34 12.5 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 47.70 289 *e*P **P** **02 34 15.6 +0.1**
WMQ pP pP 02 34 27.7 -1.2
WMQ sP sP 02 34 32.3 -2.3
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,140nm,7.3s
WMQ LR LR
comp=Z,350nm,29.2s
WMQ LR LR
comp=Z,960nm,29.1s
KURK Kurchatov 48.02 302*ce*P **P** **02 34 15.7 -2.1**
KURK pmax pmax
comp=Z,17nm,0.6s
KURK Kurchatov 48.02 302 P **P** **02 34 15.9 -1.9**
MK31 Makanchi Array 48.66 296 *i*P **P** **02 34 20.4 -2.4**
MK31 Makanchi Array 48.66 296 IAmb IAmb 02 34 22.0
comp=Z,5.8nm,0.8s
MKAR Makanchi Array 48.66 296*c i*P **P** **02 34 20.5 -2.3**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 48.66 296 P **P** **02 34 20.3 -2.5**
comp=Z,5.2nm,0.6s,baz=58,slow=7.6,SNR=45
MKAR LR LR 02 55 35.2
comp=Z,189nm,20.9s,baz=54,slow=37
MKAR Makanchi Array 48.66 296 P **P** **02 34 20.1 -2.7**
DAG Danmarks Havn 48.80 0⇑*i*P **P** **02 34 23.2 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 48.80 0⇑*i*P **P** **02 34 23.2 -0.3**
comp=Z,7.5nm,0.7s
MAKZ Makanchi 48.82 296 P **P** **02 34 22.5 -1.5**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 48.82 296 P **P** **02 34 22.5 -1.5**
MAKZ IAmb IAmb 02 34 22.8
comp=Z,6.0nm,0.7s
JTMT Jette 49.76 61 P **P** **02 34 33.5 +2.2**
JTMT IAmb IAmb 02 34 34.3
comp=Z,5.8nm,0.8s
BRVK Borovoye 50.46 309⇓*e*P **P** **02 34 33.6 -2.8**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 50.46 309 P **P** **02 34 34.9 -1.6**
BRVK IAmb IAmb 02 34 36.3
comp=Z,7.8nm,0.7s
PLID Pearl Lake 50.63 65 P **P** **02 34 40.2 +2.1**
ARCES ARCESS Array B 52.17 342 P **P** **02 34 48.2 -0.8**
comp=Z,3.7nm,0.7s,baz=10,slow=7.4,SNR=11
ARCES PcP **PcP** **02 36 00.3 +0.3**
comp=Z,2.6nm,0.7s,baz=28,slow=5.5,SNR=7.1
ARE0 ARCESS Array S 52.17 342 *e*P **P** **02 34 48.1 -0.9**
SUMG Summit 52.20 8 P **P** **02 34 49.5 -0.1**
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 52.20 8 *i*P **P** **02 34 50.2 +0.6**
comp=Z,39nm,1.0s
SUMG Summit 52.20 8 P **P** **02 34 49.5 -0.1**
SUMG IAmb IAmb 02 34 50.7
comp=Z,14nm,1.0s
VCNR Virginia City 52.61 73 P **P** **02 34 55.7 +2.8**
KTK1 Kautokeino 53.03 343 *e*P **P** **02 34 54.3 -1.0**
ARU Arti 53.12 318*d i*P **P** **02 34 54.4 -1.7**
ARU 02 35 57.3
ARU S **S** **02 42 21.5 -1.1**
ARU SS **SS** **02 45 57.9 -3.7**
ARU pmax pmax
comp=Z,14nm,0.5s
TRO Tromso 53.17 345 *e*P **P** **02 34 55.6 -0.7**
WAKR Walker 53.29 73 P **P** **02 35 01.0 +3.1**
RYN Ryan 53.71 73 P **P** **02 35 03.8 +2.9**
PRGR Permogore 53.79 328 *e*P P 02 34 53.1 -7.8
PRGR pmax pmax
comp=Z,19nm,0.6s
NVAR Mina Array Bea 53.97 73 P **P** **02 35 05.8 +2.9**
comp=Z,2.8nm,0.7s,baz=302,slow=7.0,SNR=26
RLMT Red Lodge 54.09 61 IAmb IAmb 02 35 18.8
comp=Z,7.8nm,0.9s
USP Ospenovka 55.11 297 P **P** **02 35 09.6 -1.2**
SNR=9.3
KBK Karagaybulak 55.31 296 P **P** **02 35 11.5 -1.0**
SNR=7.5
LOF Lofoten 55.33 346 *e*P **P** **02 35 11.8 -0.2**
AAK Ala-Archa 55.56 297*ce*P **P** **02 35 12.9 -1.4**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 55.56 297 P **P** **02 35 13.3 -1.0**
SNR=5.1
AAK Ala-Archa 55.56 297 P **P** **02 35 12.7 -1.5**
AAK IAmb IAmb 02 35 13.9
comp=Z,5.9nm,0.7s
PDAR Pinedale Array 55.59 63 P **P** **02 35 17.0 +2.4**
comp=Z,1.0nm,0.7s,baz=310,slow=4.6,SNR=7.0
DUG Dugway, Tooele 55.71 67 IAmb IAmb 02 35 37.6
comp=Z,4.1nm,0.8s
EKS2 Erkin-Say 55.91 297 P **P** **02 35 15.9 -0.9**
SNR=7.1
SFJD Kangerlussuaq 56.13 15 LR LR 02 59 53.4
comp=Z,94nm,21.1s,baz=20,slow=36
KLMR Klimovskoe 56.23 330 *e*P **P** **02 35 16.9 -1.6**
KLMR pmax pmax
comp=Z,25nm,0.7s
KLMR Klimovskoe 56.23 330 *e*P **P** **02 35 16.9 -1.6**
KLMR AMP 02 35 18.8
comp=Z,25nm,0.7s
AML Almayashu 56.33 297 P **P** **02 35 19.4 -0.7**
SNR=6.2

KSH Kashi 57.01 293 P **P** **02 35 27.7 +3.1**
KSH PP **PP** **02 37 36.7 +5.4**
KSH S **S** **02 43 16.9 +1.5**
KSH SS **SS** **02 47 08.3 +4.4**
KSH pmax pmax
comp=Z,580nm,5.7s
KSH LR LR
comp=Z,640nm,13.1s
KSH LR LR
comp=Z,270nm,9.8s
KSH LR LR
comp=Z,460nm,12.9s
MOR8 Moi Rana 57.03 345 *e*P **P** **02 35 21.5 -2.8**
KK31 Karatay Array 57.26 300 IAmb IAmb 02 35 25.1
comp=Z,5.1nm,0.7s
KKAR Karatay Array 57.26 300 P **P** **02 35 24.3 -1.9**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 57.26 300 P **P** **02 35 24.3 -1.9**
KKAR IAmb IAmb 02 35 25.1
comp=Z,5.1nm,0.7s
RSSD Black Hills 57.42 59 P **P** **02 35 30.0 +2.4**
RSSD pmax pmax
comp=Z,8.0nm,1.2s
RSSD Black Hills 57.42 59 P **P** **02 35 30.0 +2.4**
RSSD IAmb IAmb 02 35 48.7
comp=Z,7.6nm,1.1s
ABKAR Akbulak array 57.76 311 P **P** **02 35 28.2 -1.4**
PFO Pinyon Flats O 58.48 75 *i*P **P** **02 35 33.2 -1.8**
FINES FINESS Array B 59.17 337 P **P** **02 35 38.3 -0.9**
comp=Z,28nm,0.6s,baz=32,slow=8.7,SNR=110
BTK Batken 59.33 297 P **P** **02 35 39.6 -1.2**
BTK pmax pmax
comp=Z,12nm,0.5s
BTK Batken 59.33 297 P **P** **02 35 39.6 -1.2**
TAPN Taplejung 59.41 275 *e*P **P** **02 35 39.9 -1.8**
comp=Z,22nm,0.5s
CMMT Chiang Mai 59.52 259 P **P** **02 35 43.0 +0.8**
comp=Z,4.6nm,0.9s
ISCO Idaho Springs 59.79 63 P **P** **02 35 46.4 +2.2**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 59.79 63 P **P** **02 35 46.4 +2.2**
CMAR Chiang Mai Arr 59.80 259 P **P** **02 35 43.7 -0.5**
CMAR Chiang Mai Arr 59.80 259 P **P** **02 35 44.4 +0.3**
comp=Z,3.7nm,0.7s,baz=24,slow=6.9,SNR=12
CMAR LR LR 03 04 56.3
comp=Z,87nm,18.4s,baz=2.0,slow=39
CMAR Chiang Mai Arr 59.80 259 P **P** **02 35 43.7 -0.5**
ODAN Odare 59.96 275 *e*P **P** **02 35 44.3 -1.2**
comp=Z,9.8nm,0.5s
GUN Gumba 60.04 277 *e*P **P** **02 35 44.5 -1.6**
comp=Z,13nm,0.3s
JIRN Jiri 60.05 276 *e*P **P** **02 35 45.0 -1.2**
comp=Z,12nm,0.3s
CHAI Chaiyaphum 60.13 255 P **P** **02 35 46.9 +0.5**
comp=Z,33µm,0.8s
PBKT Sadao Pong 60.16 256 P **P** **02 35 47.5 +0.9**
comp=Z,4.9nm,0.8s
PBKT Sadao Pong 60.16 256 P **P** **02 35 46.3 -0.3**
PBKT IAmb IAmb 02 35 47.9
comp=Z,5.7nm,0.7s
RAMN Ramite 60.35 275 *e*P **P** **02 35 46.4 -1.7**
comp=Z,34nm,0.5s
GAR Garm 60.38 296 IAmb IAmb 02 35 47.0
comp=Z,9.2nm,0.7s
KKN Kakani 60.48 277 *e*P **P** **02 35 47.2 -1.7**
comp=Z,14nm,0.4s
PKI Pulchoki 60.57 277 *e*P **P** **02 35 47.5 -2.2**
comp=Z,18nm,0.7s
PKIN Phulchoki 60.57 277 *e*P **P** **02 35 47.6 -2.1**
comp=Z,12nm,0.5s
GKN Gorkha 60.69 278 *e*P **P** **02 35 48.5 -1.8**
comp=Z,10nm,0.3s
DMN Daman 60.71 277 *e*P **P** **02 35 48.8 -1.8**
comp=Z,6.5nm,0.3s
DANN Dangsing 60.93 279 *e*P **P** **02 35 50.2 -1.9**
comp=Z,25nm,0.7s
KOLN Koldanda 61.46 278 *e*P **P** **02 35 53.3 -2.3**
comp=Z,20nm,0.8s
UMPA Umpang Tak 61.65 258 P **P** **02 35 58.7 +2.0**
comp=Z,44µm,0.8s
VSU Vasula 61.67 335*ce*P **P** **02 35 55.9 -0.3**
VSU pmax pmax
comp=Z,81nm,1.3s
VSU Vasula 61.67 335 *e*P **P** **02 35 55.7 -0.6**
DOMB Dombas 61.72 346 *e*P **P** **02 35 55.8 -0.8**
UTHA Uthaitani 61.84 257 P **P** **02 35 59.0 +1.0**
comp=Z,29µm,0.9s,comp=Z,405µm
AKN Aaknes 61.87 347 *e*P **P** **02 35 57.7 +0.1**
OBN Obninsk 61.87 328*d i*P **P** **02 35 56.2 -1.5**
OBN *e* 02 36 41.5
OBN *e* 02 38 10.4
OBN *e*S **S** **02 44 17.3 0.0**
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,143nm,11.0s
NB2 NORSAR Subarra 62.37 345 P **P** **02 36 00.2 -0.8**
comp=Z,4.9nm,0.5s,baz=19,slow=6.9
NB2 NORSAR Subarra 62.37 345 P **P** **02 36 00.2 -0.8**
baz=19,slow=6.9
NOA NORSAR Array B 62.37 345 P **P** **02 36 00.3 -0.7**
comp=Z,9.4nm,0.7s,baz=18,slow=7.3,SNR=29
NAO01 NORSAR Array S 62.60 345 *e*P **P** **02 36 01.5 -1.0**
KHLT Khaolaem Dam 62.94 257 P **P** **02 36 03.2 -2.1**
comp=Z,17nm,1.0s
ANMO Albuquerque 62.98 67*ce*P **P** **02 36 08.0 +2.3**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
SKAR Skarslia 63.14 346 *e*P **P** **02 36 05.7 -0.4**
LPSR Galich'ya Gora 63.24 325 *e*P **P** **02 36 04.9 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPM Los Pinos Moun 63.37 68 P **P** **02 36 11.0 +2.7**
VRH Novokhopyorsk 63.46 323 *e*P **P** **02 36 06.2 -2.1**
VRH pmax pmax
comp=Z,20nm,0.5s
SCHQ Schefferville 63.61 29 LR LR 03 05 31.6
comp=Z,201nm,20.0s,baz=12,slow=38
PHET Kaeng Krachan 63.88 255 P **P** **02 36 12.6 +1.1**
comp=Z,54µm,0.7s
KONO Kongsberg 63.94 345 *e*P **P** **02 36 10.9 -0.4**
IZAR Zarasai 64.21 334 *e*P **P** **02 36 13.3 +0.1**
IZAR IAmb IAmb 02 36 14.0
comp=Z,6.6nm,0.7s
IZAR *e*PP **PP** **02 38 33.6 -0.6**
VSR Storozhevoye 64.33 324 *e*P **P** **02 36 12.7 -1.3**
VSR pmax pmax
comp=Z,20nm,1.3s
ISAL Salakas 64.40 334 *e*P **P** **02 36 14.9 +0.5**
ISAL *e*PP **PP** **02 38 33.4 -2.5**
KBL Kabul 64.41 294 P **P** **02 36 12.3 -2.8**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 64.41 294 P **P** **02 36 12.3 -2.8**
KBL IAmb IAmb 02 36 13.5
comp=Z,7.1nm,0.8s
VORD Divnogorie 64.50 324 *e*P **P** **02 36 14.2 -0.9**
VORD pmax pmax
comp=Z,10.0nm,0.5s
IIGN Ignalina 64.58 334 *e*P **P** **02 36 15.8 +0.2**
IIGN IAmb IAmb 02 36 16.6
comp=Z,16nm,0.6s
PABE Paberze 65.00 335 *e*P **P** **02 36 18.6 +0.3**
PABE IAmb IAmb 02 36 19.1
comp=Z,39nm,0.7s
PABE *e*PP **PP** **02 38 40.8 -0.2**
WMOK Wichita Mounta 67.17 62 P **P** **02 36 34.2 +1.6**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 67.17 62 P **P** **02 36 34.2 +1.6**
WMOK IAmb IAmb 02 36 47.2
comp=Z,4.3nm,0.8s
GEYT Alibeck 67.32 304 P **P** **02 36 32.6 -0.9**
comp=Z,5.3nm,0.6s,baz=354,slow=4.5,SNR=13
GEYT LR LR 03 08 30.8
comp=Z,138nm,19.3s,baz=25,slow=38
GYA0B ALIBECK ARRAY 67.32 304 P **P** **02 36 32.5 -1.0**
GYA0B IAmb IAmb 02 36 34.5
comp=Z,3.9nm,0.7s
AKASG Malin Array Be 67.91 330 P **P** **02 36 35.8 -1.2**
comp=Z,19nm,0.5s,baz=28,slow=6.4,SNR=44
HRA Herat 68.06 299 P **P** **02 36 36.7 -1.8**
HRA IAmb IAmb 02 36 38.8
comp=Z,4.4nm,0.8s

TX32 Lajitas Array 68.80 69 P **P** **02 36 45.6 +2.5**
TX32 IAmb IAmb 02 36 58.7
comp=Z,3.4nm,0.8s
TXAR Lajitas Array 68.80 69 P **P** **02 36 45.6 +2.5**
comp=Z,2.0nm,0.8s,baz=322,slow=5.4,SNR=8.3
BEL Belsk 69.12 336 *e*P **P** **02 36 45.4 +0.8**
BEL *e*P **P** **02 36 45.4 +0.8**
KIV Kislovodsk 69.16 318 *e*P **P** **02 36 45.2 +0.1**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,135nm,17.0s
KIV Kislovodsk 69.16 318 ⇑P **P** **02 36 45.1 0.0**
KIV mb 02 36 47.8
KIV Kislovodsk 69.16 318 P **P** **02 36 44.1 -1.0**
KIV IAmb IAmb 02 36 47.9
comp=Z,7.3nm,0.6s
AKT Akhty 69.17 313 *e*P **P** **02 36 43.8 -1.4**
AKT *e* 02 37 06.5
AKT pmax pmax
comp=Z,13nm,0.5s
KBZ Khabaz 69.27 318 P **P** **02 36 45.5 0.0**
comp=Z,13nm,0.8s,baz=94,slow=3.8,SNR=33
KBZ LR LR 03 09 39.3
comp=Z,168nm,19.3s,baz=17,slow=38
ZEI Tsey 69.66 316 *e*P **P** **02 36 47.2 -1.1**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
SORM Soroca 70.46 329 ⇓P **P** **02 36 52.2 -0.6**
SORM Soroca 70.46 329 ⇓P **P** **02 36 52.2 -0.6**
KWP Kalwaria Pacla 70.67 333 *e*P **P** **02 36 54.7 +0.6**
KWP *e*P **P** **02 36 54.7 +0.6**
OJC Ojcow 70.86 336 *e*P **P** **02 36 55.3 0.0**
OJC *e*P **P** **02 36 55.3 0.0**
AKH Akhalkalaki 70.99 316 ⇑P **P** **02 36 57.0 +0.6**
KSP Ksiaz 71.08 338 *e*P **P** **02 36 56.8 +0.2**
KSP *e*P **P** **02 36 56.8 +0.2**
CLL Collm 71.32 340⇑*i*P **P** **02 36 57.6 -0.4**
comp=Z,29nm,1.3s
CLL Collm 71.32 340 IAmb IAmb 02 36 58.2
comp=Z,9.6nm,0.6s
OSTC Ostas 71.36 338 *e*P **P** **02 36 58.5 +0.2**
CHVC Chvalec 71.37 338 *e*P **P** **02 36 58.7 +0.4**
MILM Milestii Mici 71.42 328 ⇓P **P** **02 36 57.0 -1.6**
KOLS Kolonicke sedl 71.43 333 *e*P **P** **02 36 58.7 0.0**
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 71.43 333 *e*P **P** **02 36 58.7 0.0**
UPC Upice 71.45 338 *e*P **P** **02 36 59.2 +0.4**
UPC Upice 71.45 338 *e*P **P** **02 36 59.2 +0.4**
NIE Niedzica 71.48 335 *e*P **P** **02 36 59.5 +0.4**
NIE *e*P **P** **02 36 59.5 +0.4**
DPC Dobruska-Polom 71.53 338 *e*P **P** **02 37 00.1 +0.7**
DPC Dobruska-Polom 71.53 338 *e*P **P** **02 37 00.1 +0.7**
GNI Garni 71.53 314*ce*P **P** **02 37 00.5 +0.8**
GNI pmax pmax
comp=Z,43nm,1.3s
GNI Garni 71.53 314 P **P** **02 36 58.8 -0.9**
GNI IAmb IAmb 02 37 01.4
comp=Z,9.5nm,0.9s
OKC Ostrava-Krasne 71.60 336 *e*P **P** **02 37 00.2 +0.5**
OKC Ostrava-Krasne 71.60 336 *e*P **P** **02 37 00.2 +0.5**
KRLC Kraliky 71.69 337 *e*P **P** **02 37 00.7 +0.4**
KRLC Kraliky 71.69 337 *e*P **P** **02 37 00.7 +0.4**
UZH Uzhgorod 71.70 333 *e*P **P** **02 36 58.2 -2.1**
UZH *e* 02 37 13.7
UZH *i* 02 37 25.3
PVCC Panska Ves 71.74 339 *e*P **P** **02 37 01.0 +0.5**
PVCC Panska Ves 71.74 339 *e*P **P** **02 37 01.0 +0.5**
PRAR RASCA 71.78 330 ⇑P **P** **02 37 00.7 -0.2**
PRAR mb 02 37 06.0
MORC Moravsky Berou 71.80 337 ⇑P **P** **02 37 00.7 -0.3**
MORC Moravsky Berou 71.80 337 ⇑P **P** **02 37 00.7 -0.3**
MORC Moravsky Berou 71.80 337 *e*P **P** **02 37 00.9 -0.1**
MORC Moravsky Berou 71.80 337 IAmb IAmb 02 37 02.3
comp=Z,14nm,1.0s
BURAR Bucovina Array 71.84 331 ⇑P **P** **02 37 01.1 -0.2**
BURAR Bucovina Array 71.84 331 ⇑P **P** **02 37 01.1 -0.2**
BURAR mb 02 37 01.9
LANS Liptovska Anna 71.93 335 *e*P **P** **02 37 03.4 +1.6**
LANS pmax pmax
comp=Z,7.0nm,0.8s
LANS Liptovska Anna 71.93 335 *e*P **P** **02 37 03.3 +1.5**
TRPA Tarpa 72.10 333 ⇑P **P** **02 37 03.0 +0.4**
TRPA mb 02 37 04.0
BIZ Bicaz 72.20 330 ⇑P **P** **02 37 03.3 -0.1**
PRA Prague 72.20 339 *e*P **P** **02 37 04.0 +0.7**
PRA Prague 72.20 339 *e*P **P** **02 37 04.0 +0.7**
PRU Pruhonice 72.26 339 *e*P **P** **02 37 04.1 +0.5**
PRU Pruhonice 72.26 339 *e*P **P** **02 37 04.1 +0.5**
GOPC GO Pecny, Ondr 72.28 339 *e*P **P** **02 37 03.8 0.0**
GOPC GO Pecny, Ondr 72.28 339 *e*P **P** **02 37 03.8 0.0**
TESR Tescani 72.43 330 ⇑P **P** **02 37 04.0 -0.7**
NKC Novy Kostel 72.45 340 *e*P **P** **02 37 04.4 -0.4**
NKC Novy Kostel 72.45 340 *e*P **P** **02 37 04.4 -0.4**
VRAC Vranov 72.45 337 ⇑P **P** **02 37 04.8 -0.1**
VRAC Vranov 72.45 337 ⇑P **P** **02 37 04.8 -0.1**
VRAC mb 02 37 06.0
VRAC Vranov 72.45 337 *e*P **P** **02 37 05.1 +0.2**
ARCR ARCALIA 72.56 331 ⇑P **P** **02 37 06.4 +0.9**
JAVC Velka Javorina 72.63 336 *e*P **P** **02 37 07.2 +1.2**
VYHS Vyhne 72.69 336 *e*P **P** **02 37 06.7 +0.4**
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 72.69 336 *e*P **P** **02 37 06.7 +0.4**
TREC Trest 72.71 338 *e*P **P** **02 37 06.6 +0.2**
TREC Trest 72.71 338 *e*P **P** **02 37 06.6 +0.2**
KRUC Moravsky 72.73 337 *e*P **P** **02 37 06.8 +0.3**
TLCR 72.97 328 ⇑P **P** **02 37 07.6 -0.3**
TLCR 72.97 328 ⇑P **P** **02 37 07.6 -0.3**
TLCR mb 02 37 08.1
PSZ Piszkesteto 72.97 335 ⇑P **P** **02 37 08.3 +0.3**
PSZ Piszkesteto 72.97 335 ⇑P **P** **02 37 08.3 +0.3**
PSZ mb 02 37 09.6
PSZ Piszkesteto 72.97 335 IAmb IAmb 02 37 09.6
comp=Z,9.5nm,0.9s
VRI Vrincioaia 72.99 329 ⇑P **P** **02 37 07.5 -0.6**
VRI Vrincioaia 72.99 329 ⇑P **P** **02 37 07.5 -0.6**
SMOL Smolenice 73.01 336 *e*P **P** **02 37 09.2 +1.1**
SMOL pmax pmax
comp=Z,10.0nm,1.0s
SMOL Smolenice 73.01 336 *e*P **P** **02 37 09.2 +1.1**
PLOR Plostina 73.03 329 ⇑P **P** **02 37 07.2 -1.2**
PLOR Plostina 73.03 329 ⇑P **P** **02 37 07.2 -1.2**
OZUR 73.06 330 ⇑P **P** **02 37 06.7 -1.9**
CJR Cluj-Napoca 73.11 332 ⇑P **P** **02 37 09.4 +0.5**
CJR Cluj-Napoca 73.11 332 ⇑P **P** **02 37 09.4 +0.5**
MODS Modra-Piesok 73.17 336 *e*P **P** **02 37 09.2 0.0**
MODS pmax pmax
comp=Z,10.0nm,1.0s
MODS Modra-Piesok 73.17 336 *e*P **P** **02 37 09.2 0.0**
CFR Carcaliu 73.19 328 ⇑P **P** **02 37 08.3 -0.9**
CFR Carcaliu 73.19 328 ⇑P **P** **02 37 08.3 -0.9**
MEM Membach 73.22 345 ⇑P **P** **02 37 08.7 -0.6**
comp=Z,18nm,0.8s
KHC Kasperske Hory 73.27 339 *e*P **P** **02 37 10.3 +0.6**
KHC *e* 02 37 36.5
KHC Kasperske Hory 73.27 339 *e*P **P** **02 37 10.3 +0.6**
KHC Kasperske Hory 73.27 339 IAmb IAmb 02 37 11.3
comp=Z,6.9nm,1.1s
BISRR Bisoca 73.28 329 ⇓P **P** **02 37 10.0 +0.1**
DRGR 73.28 332 ⇑P **P** **02 37 09.6 -0.3**
DRGR 73.28 332 ⇑P **P** **02 37 09.6 -0.3**
DOPR Dopca 73.29 330 ⇑P **P** **02 37 10.2 +0.4**
GRER 73.36 329 ⇑P **P** **02 37 10.7 +0.5**
GRER mb 02 37 12.0
TOPG Topolog 73.38 328 ⇓P **P** **02 37 09.5 -0.9**
SRO Srobarova 73.46 336 *e*P **P** **02 37 11.8 +1.0**
SRO pmax pmax
comp=Z,38nm,1.8s
SRO Srobarova 73.46 336 *e*P **P** **02 37 11.8 +1.0**
GEC2 GERESS Array S 73.52 339 IAmb IAmb 02 37 12.3
comp=Z,7.5nm,0.8s
GERES GERESS Array B 73.52 339 P **P** **02 37 11.2 -0.1**
comp=Z,4.3nm,0.6s,baz=34,slow=5.1,SNR=44
MLR Muntele Rosu 73.56 330 ⇓P **P** **02 37 12.2 +0.6**
MLR Muntele Rosu 73.56 330 ⇓P **P** **02 37 12.2 +0.6**
HARR Harsova 73.69 328 ⇓P **P** **02 37 12.0 -0.2**
HARR Harsova 73.69 328 ⇓P **P** **02 37 12.0 -0.2**
TIRR Tirgusor 73.75 328 ⇑P **P** **02 37 12.0 -0.5**
TIRR Tirgusor 73.75 328 ⇑P **P** **02 37 12.0 -0.5**
TLB Topalu 73.75 328 ⇓P **P** **02 37 11.6 -0.9**

TLB	Topalu	73.75	328	⇓P	P	02 37 11.6	-0.9
VOIR		73.87	330	⇑P	P	02 37 13.8	+0.4
VOIR		73.87	330	⇑P	P	02 37 13.8	+0.4
CONA	Conrad Observa	73.92	337	*e*P	P	02 37 14.3	+0.7
	comp=Z,15nm,1.3s						
DOU	Dourbes	73.93	345	P	P	02 37 13.6	+0.1
AMRR	Amara	73.94	328	⇑P	P	02 37 13.7	+0.1
AMRR	Amara	73.94	328	⇑P	P	02 37 13.7	+0.1
SIRR	Siria	74.05	333	⇑P	P	02 37 14.3	0.0
ARR	Arges	74.05	330	⇑P	P	02 37 15.2	+0.8
ICOR	Ion Corvin	74.25	328	⇑P	P	02 37 15.5	+0.1
MOA	Molln	74.34	338	*e*P	P	02 37 16.1	+0.1
	comp=Z,4.4nm,0.7s						
GZR	Gura Zlata	74.55	332	⇑P	P	02 37 17.2	-0.1
GZR	Gura Zlata	74.55	332	⇑P	P	02 37 17.2	-0.1
ARSA	Arzberg	74.63	337	*e*P	P	02 37 18.1	+0.4
	comp=Z,6.7nm,0.9s						
BZS	Buzias	74.66	333	⇓P	P	02 37 17.6	-0.2
BZS	Buzias	74.66	333	⇓P	P	02 37 17.6	-0.2
BFO	Black Forest	75.04	342	*i* P	P	02 37 20.6	+0.6
HERR	Herculane	75.12	332	⇑P	P	02 37 19.9	-0.7
KBA	Koelnbreinsper	75.27	339	*i* P	P	02 37 22.7	+1.1
	comp=Z,17nm,0.6s,SNR=8.6						
SOKA	Soboth	75.28	337	*e*P	P	02 37 22.0	+0.5
	comp=Z,4.0nm,0.6s						
WATA	Walderalm	75.39	340	*i* P	P	02 37 22.8	+0.6
	comp=Z,8.1nm,0.6s						
RETA	Reutte	75.40	341	*i* P	P	02 37 22.5	+0.3
	comp=Z,20nm,1.6s						
WTTA	Wattenberg	75.44	340	*i* P	P	02 37 23.1	+0.5
	comp=Z,11nm,0.7s						
MOTA	Moosalm	75.47	340	*i* P	P	02 37 22.7	-0.1
	comp=Z,12nm,0.8s						
PUNG	Punghina	75.53	331	⇑P	P	02 37 22.7	-0.2
OBKA	Obir	75.55	338	*i* P	P	02 37 23.7	+0.7
	comp=Z,30nm,1.2s						
FRGS	Fruska Gora	75.56	334	⇑*i*P	P	02 37 22.7	-0.4
SQTA	Sankt Quirin	75.57	340	*e*P	P	02 37 23.8	+0.6
	comp=Z,16nm,0.7s,SNR=6.0						
MYKA	Terra Mystica	75.63	338	*e*P	P	02 37 24.9	+1.3
	comp=Z,7.4nm,0.7s						
ABTA	Abfaltersbach	75.76	339	*e*P	P	02 37 24.5	+0.2
	comp=Z,14nm,0.9s						
FETA	Feichten	75.86	340	*e*P	P	02 37 25.6	+0.7
	comp=Z,16nm,0.9s						
PLVB	Pleven	75.87	330	⇑P	P	02 37 24.7	-0.1
BR131	Keskin Array S	76.21	322	IAmb	IAmb	02 37 27.6	
	comp=Z,10nm,0.8s						
BRTR	Keskin Array B	76.21	322	P	P	02 37 26.6	-0.4
	comp=Z,9.3nm,0.7s,baz=60,slow=3.6,SNR=54						
CEY	Cerknica	76.31	337	*e*P	P	02 37 26.3	-1.0
ANTO	Ankara	76.39	322	P	P	02 37 27.1	-0.8
ANTO				pmax	pmax		
	comp=Z,18nm,0.8s						
ANTO	Ankara	76.39	322	P	P	02 37 27.1	-0.8
DIVS	Divibare	76.50	333	⇑*i*P	P	02 37 27.8	-0.7
TUE	Stuetta	76.65	341	P	P	02 37 28.8	-0.7
RIY	Rijeka	76.69	337	*e*P	P	02 37 27.1	-2.3
HAPS	Han Pijesak,Bl	76.78	334	⇑*i*P	P	02 37 29.4	-0.7
BBLS	Lazići	76.87	333	*e*P	P	02 37 31.0	+0.4
MGRS	Mrkonjic Grad	76.94	335	*e*P	P	02 37 30.1	-0.8
VTS	Vitosha	76.98	330	IAmb	IAmb	02 37 31.8	
	comp=Z,8.0nm,0.7s						
RUDO	Rudo	77.11	333	*e*P	P	02 37 31.0	-0.9
UDBI	Udbina	77.15	336	*i* P	P	02 37 32.2	+0.1
BRJN	Brijuni	77.25	338	*i* P	P	02 37 32.0	-0.6
NVLJ	Novalja	77.32	337	*i* P	P	02 37 32.7	-0.3
UPM	Unac-Piva	77.62	334	*e*P	P	02 37 34.4	-0.5
MORI	Morici	77.79	336	*i* P	P	02 37 35.4	-0.2
DUGI	Dugi Otok	77.82	336	*i* P	P	02 37 35.7	-0.1
BRY	Bratogost	78.00	334	*e*P	P	02 37 36.0	-1.0
ZIRJ	Zirje	78.00	336	*i* P	P	02 37 36.6	-0.2
MAKA	Makarska	78.02	335	*i* P	P	02 37 36.2	-0.7
SKO	Skopje	78.08	331	*i* P	P	02 37 37.5	+0.2
WRAB	Tennant Creek	78.09	207	*ce*P	P	02 37 38.4	+1.0
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA	Warramunga Arr	78.10	207	P	P	02 37 38.2	+0.7
	comp=Z,2.0nm,0.5s,baz=20,slow=6.0,SNR=28						
STIP	Stip	78.13	331	*i* P	P	02 37 36.6	-1.0
TREB	Trebinje	78.22	334	*e*P	P	02 37 37.0	-1.0
PDG	Podgorica	78.25	333	⇑*i*P	P	02 37 37.5	-0.7
VAY	Valandovo	78.36	330	*i* P	P	02 37 39.1	+0.2
HCY	Herceg Novi	78.43	334	*e*P	P	02 37 37.9	-1.3
DRME	Dracevica, Mon	78.50	333	*e*P	P	02 37 39.0	-0.6
BAGO	Egridir - ISPA	78.77	323	*i* P	P	02 37 41.0	-0.3
BAGO				IAML_P			
	comp=Z,326nm,0.6s						
FITZ	Fitzroy Crossi	78.97	215	P	P	02 37 43.4	+1.1
	comp=Z,3.3nm,0.7s,baz=11,slow=4.9,SNR=7.9						
FITZ	Fitzroy Crossi	78.97	215	P	P	02 37 43.6	+1.4
FITZ				IAmb	IAmb	02 37 44.6	
	comp=Z,4.5nm,0.9s						
OHR	Ohrid	79.06	331	*i* P	P	02 37 41.6	-1.1
FNA	Florina	79.20	331	IAmb	IAmb	02 37 43.9	
	comp=Z,13nm,1.0s						
BRDR	BURDUR-Merkez	79.28	323	*i* P	P	02 37 44.1	0.0
BRDR				IAML_P			
	comp=Z,481nm,0.4s						
KEPZ	Antalya-Kepez	79.45	322	*i* P	P	02 37 44.6	-0.4
KEPZ				IAML_P			
	comp=Z,524nm,0.4s						
TAVA	DENIZLI_Tavas	79.89	324	*i* P	P	02 37 47.1	-0.2
TAVA				IAML_P			
	comp=Z,207nm,0.8s						
AKUM	Antalya-Kumluc	80.42	323	*i* P	P	02 37 49.1	-1.0
AKUM				IAML_P			
	comp=Z,671nm,0.6s						
CSS	Mathiatis	80.54	320	P	P	02 37 50.6	-0.2
FETY	Fethiye	80.58	324	*i* P	P	02 37 50.1	-0.9
FETY				IAML_P			
	comp=Z,311nm,0.9s						
AKAS	Kas	80.76	323	*i* P	P	02 37 51.6	-0.6
AKAS				IAML_P			
	comp=Z,501nm,0.9s						
AS31	Alice Springs	81.77	206	P	P	02 37 58.1	+0.8
ASAR	Alice Springs	81.77	206	P	P	02 37 58.3	+1.0
ASAR	Alice Springs	81.77	206	P	P	02 37 58.5	+1.3
	comp=Z,3.9nm,0.6s,baz=17,slow=5.1,SNR=35						
ASAR	Alice Springs	81.77	206	P	P	02 37 58.3	+1.0
RAYN	Ar Rayn	85.27	305	P	P	02 38 14.7	-0.8
RAYN				pmax	pmax		
	comp=Z,24nm,0.7s						
RAYN	Ar Rayn	85.27	305	P	P	02 38 14.7	-0.8
ESDC	Sonseca Array	85.27	349	P	P	02 38 15.9	+0.6
	comp=Z,4.7nm,0.7s,baz=1.1,slow=4.8,SNR=36						
ESDC	Sonseca Array	85.27	349	P	P	02 38 15.5	+0.2
QSPA	South Pole Qui	144.44	180	PKP	PKPab	02 45 11.8	+0.1
	comp=Z,4.4nm,0.8s,baz=355,slow=0.7,SNR=18						
SUR	Sutherland	144.94	294	PKP	PKPdf	02 45 16.4	+1.0
	comp=Z,2.9nm,0.6s,baz=76,slow=2.9,SNR=8.9						
SUR	Sutherland	144.94	294		PKPdf	02 45 16.1	+0.7

MDD ***13*** *02:27:35.7±3.0,33°.43N×5°.82W,h0km,mb3.7/1,Error ellipse: s-maj=28.2km s-min=23.8km az=119.0,PRXIMO*
CNRM ***13*** *02:27:37.0,33°.28N×5°.68W,h0km,ml2.2*
INMG ***13*** *02:27:36.6±0.9,33°.30N×5°.80W,h31km,ML1.8,Error ellipse: s-maj=8.7km s-min=2.5km az=56.0*

ISC 13 02:27:34.8±1.3,33°.39N±0°.03×5°.83W±0°.04,h10km±10km, n26,σ2°09/42,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFR	Ifrane	0.60	78	*e*P	Pg	02 27 45.9	-0.6
IFR				*i* S	Sg	02 27 54.8	+0.3
CZD	Col de Zad	0.75	118	P	Pg	02 27 49.3	-0.1
CZD				S	Sg	02 27 59.1	-0.2
SICH	Sidi Chahed	0.83	31	P	Pg	02 27 53.2	+2.4
SICH				S	Sg	02 28 05.7	+4.0
MD31	MD31	1.04	120	P	Pg	02 27 52.6	-2.3
MD31				S	Sg	02 28 05.0	-3.4
MDT	Midelt	1.18	119	P	Pg	02 27 55.2	-2.3
MDT				S	Sg	02 28 08.9	-3.8
OUZM	OUZ	2.60	198	P	Pb	02 28 21.4	-0.1
OUZM				S	Sb	02 28 54.8	+1.2
OUK	Oukaimeden	2.78	219	P	Pn	02 28 24.0	+4.4
OUK				S	Sb	02 29 00.0	+1.1
JBK	JBK	2.88	70	P	Pn	02 28 20.7	-0.1
JBK				S	Sn	02 28 54.8	-0.8
TDRA	Tendrara	3.21	95	P	Pn	02 28 28.6	+3.2
TDRA				S	Sn	02 29 08.5	+4.7
EMIJ	Mijas	3.28	15	S	Sn	02 29 05.3	-0.2
	0.8nm,0.4s,SNR=7.9						
PBDV	Barranco-do-Ve	4.21	337	*e*Sn	Sn	02 29 26.0	-2.3
PBDV	Barranco-do-Ve	4.21	337	S	Sn	02 29 26.0	-2.3
PVAQ	Vaqueiros	4.29	339	*e*Pn	Pn	02 28 40.8	+0.7
PVAQ				*e*Sn	Sn	02 29 28.2	-2.0
PVAQ				A	A	02 29 30.4	
	2.1nm,0.8s						
PVAQ	Vaqueiros	4.29	339	P	Pn	02 28 40.8	+0.7
PVAQ				S	Sn	02 29 28.2	-2.0
	2.1nm,0.8s						
EGRO	El Granado	4.35	342	P	Pn	02 28 41.0	+0.1
	0.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 29 29.3	-2.3
	0.5nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.42	351	P	Pn	02 28 42.4	+0.5
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 29 32.4	-1.0
	0.6nm,0.1s,SNR=7.9						
PCVE	Castro Verde	4.60	338	*e*Pn	Pn	02 28 45.4	+1.0
PCVE	Castro Verde	4.60	338	P	Pn	02 28 45.4	+1.0
ECAB	El Cabril	4.69	4	P	Pn	02 28 45.8	+0.2
	1.3nm,0.3s,SNR=7.9						
ECAB				S	Sn	02 29 37.9	-2.1
	0.7nm,0.1s,SNR=5.8						
MESJ	Messejana	4.85	337	*e*Pn	Pn	02 28 48.4	+0.6
MESJ				*e*Sn	Sn	02 29 41.4	-2.5
MESJ	Messejana	4.85	337	P	Pn	02 28 48.4	+0.6
MESJ				S	Sn	02 29 41.4	-2.5
EADA	Adamuz	4.87	12	P	Pn	02 28 48.5	+0.3
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	02 29 41.3	-3.4
	0.6nm,0.1s,SNR=7.9						
PNCL	Nicolau / Gran	5.20	336	*e*Pn	Pn	02 28 52.6	0.0
PNCL	Nicolau / Gran	5.20	336	P	Pn	02 28 52.6	0.0
EBAD	Badajoz	5.44	350	P	Pn	02 28 56.2	+0.3
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	02 29 55.9	-2.6
	0.5nm,0.1s,SNR=7.9						
PAB	San Pablo	6.26	11	S	Sn	02 30 13.3	-5.5
	0.2nm,0.1s,SNR=7.9						

BJI ***13*** *02:41:38.9±0.0,56°.31S×27°.25W,h95km,mB5.3/4*
ISCJB ***13*** *02:41:40.0±0.3,55°.96S±0°.05×27°.94W±0°.10,h121km, mb4.8/11,Error ellipse: s-maj=8.7km s-min=6.7km az=135.8*
NEIC ***13*** *02:41:40.4±1.5,55°.9S±0°.1×27°.9W±0°.2,h107km±5km, mb4.5/27*
IDC ***13*** *02:41:40.9±0.6,55°.94S×27°.87W,h108km±5km,mb4.6/9, mb1 4.6/11,mb1mx4.2/27,mbtmp4.9/11,MS3.7/2, Ms1 3.6/2,ms1mx3.3/16,Error ellipse: s-maj=18.8km s-min=14.2km az=77.0*

ISC 13 02:41:41.7±0.3,55°.95S±0°.08×28°.05W±0°.06,h121km,n93, σ1°03/96,mb4.6/20,2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.12	286		Pn	02 42 55.8	-0.4
HOPE				Sn	Sn	02 43 51.0	-3.1
VNA1	Neumayer--Stat	17.07	157	P	P	02 45 32.0	-0.3
VNA3	Neumayer Olymp	17.25	160	P	P	02 45 33.4	-0.9
VNA2	Neumayer--Watz	17.47	157	P	P	02 45 36.1	-0.6
	baz=318,slow=10						
EFI	East Falkland	18.15	271	P	P	02 45 44.8	+0.4
EFI				IAmb	IAmb	02 45 57.2	
	comp=Z,29nm,0.9s						
SNAA	Sanae	19.03	156	P	P	02 45 53.9	+0.1
SNAA	Sanae	19.03	156	P	P	02 45 53.8	-0.1
	comp=Z,54nm,0.3s,baz=308,slow=11,SNR=5123						
SNAA	Sanae	19.03	156	P	P	02 45 53.9	+0.1
PMSA	Palmer Station	19.60	229	P	Pn	02 46 02.4	-0.1
	comp=Z,1.6nm,0.3s,baz=76,slow=9.7,SNR=6.0						
PMSA	Palmer Station	19.60	229	P	P	02 46 00.6	+0.6
PMSA				IAmb	IAmb	02 46 18.6	
	comp=Z,28nm,1.1s						
TRQA	Tornquist	28.84	294	P	P	02 47 28.2	-0.2
SYO	Syowa Base	31.97	141	⇓*e*P	P	02 47 54.0	-1.5
SYO	Syowa Base	31.97	141	⇓*e*pP	pP	02 48 14.9	-6.8
QSPA	South Pole Qui	34.30	180	P	P	02 48 17.2	+1.1
	comp=Z,50nm,0.6s,baz=198,slow=3.0,SNR=230						
QSPA	South Pole Qui	34.30	180	P	P	02 48 15.9	-0.2
GO05	Huala	36.39	286	P	P	02 48 32.6	-1.5
GO05				IAmb	IAmb	02 48 33.4	
	comp=Z,18nm,1.1s						
MAW	Mawson	40.52	144	P	P	02 49 08.5	+0.4
	comp=Z,12nm,0.7s,baz=236,slow=8.2,SNR=27						
MAW	Mawson	40.52	144	P	P	02 49 08.3	+0.2
LVC	Limon Verde	44.83	301	P	P	02 49 44.1	+0.1
LVC				IAmb	IAmb	02 49 55.3	
	comp=Z,4.6nm,0.9s						
PB04	IPOC Station P	45.67	300	P	P	02 49 50.6	+0.3
SBA	Scott Base	46.14	184	P	P	02 49 54.5	+1.3
BOSA	Boshof	46.41	77	P	P	02 49 56.3	+0.2
	comp=Z,2.3nm,0.6s,baz=217,slow=6.6,SNR=6.9						
BOSA				LR	LR	03 06 24.9	
	comp=Z,80nm,19.5s,baz=316,slow=32						
BOSA	Boshof	46.41	77	P	P	02 49 55.7	-0.4
GO01	Chusmiza	47.48	303	P	P	02 50 05.2	+0.3
GO01				IAmb	IAmb	02 50 09.9	
	comp=Z,6.5nm,1.0s						
PB11	IPOC Station P	47.62	302	P	P	02 50 06.5	+0.9
PB11				IAmb	IAmb	02 50 09.6	
	comp=Z,10nm,1.1s						
H10S2	ASCENSION HYDR	48.05	18	T	T	03 42 12.9	
	baz=189,slow=74,SNR=25						
H10S3	ASCENSION HYDR	48.05	18	T	T	03 42 13.1	
	baz=31,slow=74,SNR=17						
MNMC	Minye Minye	48.14	303	P	P	02 50 10.2	+0.6
MNMC				IAmb	IAmb	02 50 11.8	
	comp=Z,11nm,1.1s						
LBTB	Lobatse	49.44	74	P	P	02 50 17.5	-1.9
LBTB				IAmb	IAmb	02 50 19.8	
	comp=Z,8.4nm,0.8s						
LPAZ	La Paz	49.93	306	P	P	02 50 25.0	+1.3
	comp=Z,2.5nm,0.6s,baz=134,slow=2.9,SNR=13						
LPAZ	La Paz	49.93	306	P	P	02 50 23.3	-0.4
LPAZ				IAmb	IAmb	02 50 28.6	
	comp=Z,2.9nm,0.7s						
TSUM	Tsumeb	50.06	62	P	P	02 50 23.2	-0.9
TSUM				IAmb	IAmb	02 50 24.9	
	comp=Z,3.3nm,0.8s						
SAML	Samuel	54.39	316	P	P	02 50 56.5	+0.6
LSZ	Lusaka	58.79	70	P	P	02 51 26.0	-1.2
LSZ				IAmb	IAmb	02 51 28.3	
	comp=Z,9.5nm,0.9s						
LIC	Lamto	64.81	25	*e*P	P	02 52 09.0	+1.7
	comp=Z,45nm,0.7s						
KIC	Kosan Boka	65.01	26	*e*P	P	02 52 09.2	+0.6
	comp=Z,28nm,0.9s						
TIC	Toumodi	65.22	25	*e*P	P	02 52 10.3	+0.3
DBIC	Dimbokro	65.28	26	P	P	02 52 11.1	+0.7
	comp=Z,8.9nm,0.6s,baz=172,slow=7.6,SNR=18						
DBIC	Dimbokro	65.28	26	P	P	02 52 10.1	-0.3
DBIC				IAmb	IAmb	02 52 11.5	
	comp=Z,9.8nm,0.7s						
MBAR	Mbarara	72.54	64	P	P	02 52 54.9	-0.6
MBAR				IAmb	IAmb	02 52 59.6	
	comp=Z,6.3nm,1.1s						
TOA0	Torodi Ar. Sit	73.21	30	P	P	02 52 59.4	+0.2
TORD	Torodi Ar. Bea	73.21	30	P	P	02 53 00.2	+1.0
	comp=Z,28nm,0.6s,baz=201,slow=6.6,SNR=372						
TORD	Torodi Ar. Bea	73.21	30	P	P	02 52 58.2	-0.9
KMBO	Kilima Mbogo	75.45	70	P	P	02 53 11.4	-1.2
MLZ	Mavora Lakes	78.14	192	P	P	02 53 26.3	-0.7
MLZ				IAmb	IAmb	02 53 28.6	
	comp=Z,4.0nm,0.7s						
ODZ	Otahua Downs	78.15	193	P	P	02 53 22.5	-4.6
TAM	Tamanrasset	83.45	31	P	P	02 53 56.0	+0.5
TEIG	Tepich	91.25	305	P	P	02 54 34.3	+1.2
	comp=Z,6.0nm,0.8s,baz=164,slow=2.3,SNR=6.4						
TEIG	Tepich	91.25	305	P	P	02 54 33.5	+0.5
STKA	Stephens Creek	92.08	171	P	P	02 54 37.0	+0.1
	comp=Z,1.2nm,0.4s,baz=162,slow=5.0,SNR=5.2						
STKA				LR	LR	03 35 47.2	
	comp=Z,36nm,18.2s,baz=19,slow=35						
STKA	Stephens Creek	92.08	171	P	P	02 54 36.9	0.0
ASAR	Alice Springs	99.23	163	P	Pdif	02 55 08.7	-0.9
	comp=Z,1.3nm,0.7s,baz=182,slow=4.4,SNR=13						
ASAR				PP	PP	02 59 11.4	-1.3
	comp=Z,1.5nm,0.9s,baz=180,slow=7.0,SNR=7.9						
ASAR	Alice Springs	99.23	163	P	Pdif	02 55 09.0	-0.6
WRA	Warramunga Arr	102.95	163	P	Pdif	02 55 25.4	-0.8
	comp=Z,0.7nm,1.0s,baz=201,slow=4.1,SNR=3.4						
WRA	Warramunga Arr	102.95	163		Pdif	02 55 22.9	-3.2
NVAR	Mina Array Bea	120.91	294	PKP	PKiKP	03 00 20.2	+0.9
	comp=Z,0.2nm,0.4s,baz=126,slow=2.6,SNR=3.9						
NVAR	Mina Array Bea	120.91	294		PKiKP	03 00 19.6	+0.3
FINES	FINESS Array B	124.52	28	PKP	PKPdf	03 00 24.9	-0.2
	comp=Z,2.6nm,0.9s,baz=292,slow=2.0,SNR=6.1						
FINES	FINESS Array B	124.52	28		PKPdf	03 00 24.1	-0.9
CMAR	Chiang Mai Arr	125.55	111	PKP	PKiKP	03 00 28.8	0.0
	comp=Z,0.8nm,0.4s,baz=235,slow=4.2,SNR=7.0						
CMAR	Chiang Mai Arr	125.55	111		PKPdf	03 00 28.2	-0.2
G08A	Pilot Rock	126.30	299		PKiKP	03 00 30.2	+0.6
KSH	Kashi	129.01	75	*e*PKP	PKiKP	03 00 36.3	+1.1
ARCES	ARCESS Array B	131.03	22	PKP	PKPdf	03 00 37.4	+0.1
	comp=Z,3.3nm,0.9s,baz=222,slow=2.9,SNR=6.1						
ARCES				SKPbc	SKPbc	03 03 50.2	-0.2
	comp=Z,3.6nm,1.0s,baz=262,slow=3.6,SNR=3.8						
ARCES	ARCESS Array B	131.03	22		PKPdf	03 00 37.7	+0.4
YKA	Yellowknife Ar	135.77	318	PKP	PKiKP	03 00 47.5	-0.4
	comp=Z,1.2nm,0.5s,baz=132,slow=2.2,SNR=9.1						
MKAR	Makanchi Array	137.31	72	SKPbc	SKPbc	03 04 10.3	-1.3
	comp=Z,0.6nm,0.6s,baz=267,slow=2.1,SNR=4.9						
CD2	Chengdu	138.15	106	Pdif	Pdif	02 58 02.5	+0.2
WMQ	Urumqi	138.36	79	*e*PKP	PKiKP	03 00 53.0	-1.0
WMQ				AMB	AMB		
	comp=Z,170nm,9.5s						
WMQ				LR	LR		
	comp=Z,710nm,29.0s						
WMQ				LR	LR		
	comp=Z,2μm,29.3s						
WMQ				LR	LR		
	comp=Z,110nm,29.2s						
ZALV	Zalesovo Beam	142.76	64	PKP	PKPdf	03 00 59.2	-0.1
	comp=Z,2.2nm,0.5s,baz=250,slow=3.7,SNR=6.7						
ZALV	Zalesovo Beam	142.76	64		PKPdf	03 00 59.7	+0.3
INK	Inuvik	145.42	321	PKPbc	PKPab	03 01 04.6	+0.4
	comp=Z,6.5nm,0.5s,baz=32,slow=1.8,SNR=10						
INK				pPKPbc	pPKPab	03 01 33.0	-2.3
	comp=Z,9.3nm,0.9s,baz=74,slow=8.0,SNR=6.4						
INK				SKPbc	SKPbc	03 04 31.9	+0.2
	comp=Z,0.5nm,0.4s,baz=124,slow=1.6,SNR=4.0						
INK	Inuvik	145.42	321		PKPab	03 01 04.4	+0.3
EPYK	Eagle Plains	146.02	317		PKPbc	03 01 06.2	+0.4
NJ2	Nanjing	146.80	122	*e*PKPbc	PKPbc	03 01 08.1	-0.9
BCAR	Beaver Creek A	147.06	310	PKPdf	PKPbc	03 01 08.5	-0.3
DOT	Dot Lake	148.21	310		PKPbc	03 01 10.8	-1.1
PAX	Paxson	148.63	309		PKPdf	03 01 11.2	+2.0
PRP	Porcupine Dome	149.29	314		PKPdf	03 01 12.2	+1.9
ILAR	Eielson Array	149.69	312	PKPbc	PKPbc	03 01 15.8	+0.2
	comp=Z,6.6nm,0.8s,baz=126,slow=1.6,SNR=53						
ILAR				pPKPbc	pPKPdf	03 01 44.6	+1.6
	comp=Z,6.7nm,1.0s,baz=109,slow=1.2,SNR=6.1						
ILAR	Eielson Array	149.69	312	PKPdf	PKPbc	03 01 13.5	-2.0
HHC	Hu-ho-hao-te	149.74	103	*e*PKPbc	PKPdf	03 01 13.5	+1.8
CCB	Clear Creek Bu	150.05	312	PKPdf	PKPdf	03 01 13.0	+1.8
WRH	Wood River Hil	150.13	311	PKPdf	PKPdf	03 01 13.2	+1.8
RND	Reindeer	150.22	309	PKPdf	PKPdf	03 01 13.2	+1.5
RND					PKiKP	03 01 18.1	+0.4
MCK	McKinley	150.33	310		PKiKP	03 01 18.3	+0.5
BWN	Browne	150.66	310		PKiKP	03 01 19.1	+0.6
SKT	Skwentna	151.09	305		PKiKP	03 01 19.9	+0.4
KTH	Kantishna Hill	151.16	309		PKPbc	03 01 19.4	+0.3
SONM	Songino Array	151.20	87	PKPbc	PKPbc	03 01 19.9	+0.1
	comp=Z,4.2nm,0.6s,baz=220,slow=3.9,SNR=16						
SONM				pPKPbc	pPKPdf	03 01 48.7	+2.7
	comp=Z,2.9nm,0.8s,baz=202,slow=1.9,SNR=5.4						
TOLK	Toolik Lake Re	151.29	319		PKiKP	03 01 20.2	+0.4
BPAW	Bear Paw Mtn.	151.30	310		PKiKP	03 01 20.0	+0.1
COLD	Coldfoot	151.42	316		PKiKP	03 01 20.8	+0.8

ISK ***13*** *02:42:55.6,37°.98N×36°.70E,h5km,ML1.9/8*
DDA ***13*** *02:42:55.9,38°.03N×36°.67E,h7km±3km,ML2.7*
ISCJB ***13*** *02:42:56.1±0.6,38°.02N±0°.03×36°.70E±0°.04,h3km±6km, Error ellipse: s-maj=5.0km s-min=4.6km az=43.6*

ISC 13 02:42:55.5±1.5,38°.06N±0°.04×36°.72E±0°.03,h0km±15km, n17,σ0°64/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBS	KAHRAMANMARAS	0.42	51	*i* P	Pb	02 43 05.2	-0.8
ELBS				IAML_P			
	comp=Z,453nm,0.1s						
SAIM	ADANA	0.51	261	*i* P	Pg	02 43 05.1	-0.2
SAIM				*i* S	Sg	02 43 13.0	+1.1
SAIM				IAML_P			
	comp=Z,2μm,0.2s						
ANDN	Andirin	0.56	212	*i*

S54A Dingess, Beckl 33.80 292 P **P** **02 53 33.3 -0.2**
TAM Tamanrasset 41.76 90 P **P** **02 54 41.5 +0.4**
LCAR Lake Charles 41.81 290 P **P** **02 54 40.7 -0.5**
FETA Feichten 41.89 53 *e*P **P** **02 54 41.5 -0.5**
comp=Z,6.7nm,1.5s
RETA Reutte 41.94 53 *e*P **P** **02 54 41.7 -0.5**
comp=Z,5.8nm,1.3s
SQTA Sankt Quirin 42.23 53 *e*pP **P** **02 54 45.8 +1.1**
comp=Z,10nm,1.5s
WATA Walderalm 42.48 53 *e*P **P** **02 54 43.6 -3.2**
comp=Z,8.6nm,1.4s
WTTA Wattenberg 42.52 53 *e*P **P** **02 54 44.9 -2.2**
comp=Z,8.3nm,1.4s
TORD Torodi Ar. Bea 42.94 106 P **P** **02 54 51.5 +0.9**
comp=Z,1.9nm,0.8s,baz=309,slow=5.5,SNR=3.9
TORD Torodi Ar. Bea 42.94 106 P **P** **02 54 50.8 +0.2**
GERES GERESS Array B 43.97 51 P **P** **02 54 58.7 0.0**
comp=Z,0.7nm,0.8s,baz=258,slow=7.6,SNR=4.2
GERES GERESS Array B 43.97 51 P **P** **02 54 58.3 -0.5**
H10N2 ASCENSION HYDR46.49 143 T T 03 45 10.8
baz=329,slow=75,SNR=82
H10N3 ASCENSION HYDR46.50 143 T T 03 45 11.0
baz=329,slow=75,SNR=89
H10N1 ASCENSION HYDR46.51 143 T T 03 45 06.8
baz=329,slow=75,SNR=32
H10S3 ASCENSION HYDR47.37 144 T T 03 46 16.9
baz=328,slow=74,SNR=12
H10S2 ASCENSION HYDR47.38 144 T T 03 46 18.6
baz=252,slow=74,SNR=19
FINES FINESS Array B 51.76 34 P **P** **02 55 59.3 +0.5**
comp=Z,2.0nm,0.6s,baz=284,slow=7.7,SNR=4.8
FINES FINESS Array B 51.76 34 P **P** **02 55 58.6 -0.1**
ARCES ARCESS Array B 52.48 24 P **P** **02 56 03.5 -0.5**
comp=Z,3.5nm,0.9s,baz=246,slow=5.2,SNR=3.9
ARCES ARCESS Array B 52.48 24 P **P** **02 56 04.0 0.0**
TXAR Lajitas Array 53.68 285 P **P** **02 56 15.7 +2.1**
comp=Z,0.8nm,0.6s,baz=97,slow=9.0,SNR=5.2
TXAR Lajitas Array 53.68 285 P **P** **02 56 12.2 -1.4**
AKASG Malin Array Be 53.93 48 P **P** **02 56 14.1 -0.9**
comp=Z,0.8nm,0.6s,baz=276,slow=6.6,SNR=4.8
AKASG Malin Array Be 53.93 48 P **P** **02 56 14.7 -0.3**
MNTX Cornudas Mount 54.32 288 P **P** **02 56 19.4 +1.2**
PD31 Pinedale Array 54.63 303 P **P** **02 56 19.9 -0.6**
PD31 IAmb IAmb 02 56 22.6
comp=Z,5.9nm,0.9s
PDAR Pinedale Array 54.63 303 P **P** **02 56 21.6 +1.1**
comp=Z,2.9nm,0.7s,baz=81,slow=9.2,SNR=23
YMP Mirror Lake Pl 54.64 305 P **P** **02 56 20.4 -0.3**
YKA Yellowknife Ar 55.17 327 LR LR 03 18 47.2
comp=Z,13nm,20.5s,baz=33,slow=35
YMR Madison River 55.22 305 P **P** **02 56 24.8 +0.1**
IMW Indian Meadow 55.37 304 P **P** **02 56 26.6 +0.7**
TPAW Teton Pass 55.47 304 P **P** **02 56 25.6 -1.0**
FXWY Fox Creek 55.49 304 P **P** **02 56 27.1 +0.4**
TCUT Toone Canyon 56.35 301 **PcP** **02 57 29.4 -0.8**
U15A North Rim 58.33 296 P **P** **02 56 46.1 -0.9**
U15A IAmb IAmb 02 56 51.7
comp=Z,14nm,1.8s
U15A **PcP** **02 57 37.4 -0.6**
NEW Newport 58.59 310 P **P** **02 56 49.5 +1.1**
comp=Z,2.5nm,0.7s,baz=86,slow=6.4,SNR=6.4
NEW Newport 58.59 310 P **P** **02 56 49.0 +0.7**
NEW IAmb IAmb 02 57 05.3
comp=Z,9.8nm,1.6s
BRTR Keskin Array B 59.35 60 P **P** **02 56 55.7 +1.8**
comp=Z,0.8nm,0.9s,baz=311,slow=5.5,SNR=3.8
BRTR Keskin Array B 59.35 60 P **P** **02 56 54.0 +0.1**
NVAR Mina Array Bea 62.22 300 P **P** **02 57 15.0 +1.4**
comp=Z,0.9nm,0.7s,baz=75,slow=5.9,SNR=8.7
NVAR Mina Array Bea 62.22 300 P **P** **02 57 12.7 -0.9**
ILAR Eielson Array 68.37 334 P **P** **02 57 54.0 +1.3**
comp=Z,1.1nm,0.8s,baz=59,slow=4.3,SNR=9.6
ILAR Eielson Array 68.37 334 P **P** **02 57 52.7 0.0**
GHO Glory Hole Cre 70.65 331 P **P** **02 58 07.9 +1.0**
PMR Palmer 70.83 331 P **P** **02 58 08.7 +0.8**
PMR IAmb IAmb 02 58 13.2
comp=Z,29nm,1.6s
H09N1 TRISTAN DA CUN 73.26 157 T T 04 18 37.8
SNR=24
H09W1 TRISTAN DA CUN 73.28 157 T T 04 18 31.0
SNR=7.6

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*ISCJB **13** 02:52:55.1±0.2, 44°.56N±0°.01×7°.29E±0°.02, h10km±2km,*
Error ellipse: s-maj=2.9km s-min=1.7km az=154.8
*ROM **13** 02:52:55.5±0.1, 44°.544N±0°.006×7°.26E±0°.01, h12km,*
ML2.2/21, Error ellipse: s-maj=1.1km s-min=0.3km
az=234.0
*GEN **13** 02:52:56.0, 44°.55N×7°.28E, h9km±1km, Ml2.2*
*STR **13** 02:52:55.7±0.4, 45°.N±2°×±°, h0km, MLv2.4/6*
*LDG **13** 02:52:55.9±0.1, 44°.56N×7°.30E, h10km, Md2.7/2, Ml2.5/23,*
Error ellipse: s-maj=1.2km s-min=0.8km az=68.0
ISC 13 02:52:55.5±0.8, 44°.57N±0°.01×7°.29E±0°.02, h17km±5km,
n82, σ1§65/146, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.07**	**205**	P	**Pg**	**02 52 58.1**	**-0.8**
DOI				S	**Sg**	**02 52 59.2**	**-1.9**
BHB	**Bricherasio**	**0.28**	**356**	P	**Pg**	**02 53 01.9**	**+0.3**
BHB				S	**Sg**	**02 53 05.7**	**0.0**
BHB	**Bricherasio**	**0.28**	**356**	P	**Pg**	**02 53 01.9**	**+0.3**
BHB				S	**Sg**	**02 53 05.8**	**+0.1**
BHB				AML	AML		
	comp=E,879μm,0.5s						
BHB				AML	AML		
	comp=N,727μm,1.4s						
STV	**Sant Anna di V**	**0.32**	**175**	P	**Pg**	**02 53 02.3**	**-0.1**
STV				S	**Sg**	**02 53 06.1**	**-1.0**
STV	**Sant Anna di V**	**0.32**	**175**	P	**Pg**	**02 53 02.3**	**-0.1**
STV				S	**Sg**	**02 53 06.4**	**-0.7**
STV				AML	AML		
	comp=N,1430μm,0.2s						
STV				AML	AML		
	comp=E,1280μm,0.2s						
SURF	**Saint Ours**	**0.35**	**256**	Pg	**Pg**	**02 53 02.9**	**0.0**
ENR	**Entracque**	**0.35**	**164**	P	**Pg**	**02 53 02.8**	**-0.2**
ENR				S	**Sg**	**02 53 06.9**	**-1.1**
ENR	**Entracque**	**0.35**	**164**	P	**Pg**	**02 53 02.7**	**-0.2**
ENR				S	**Sg**	**02 53 07.4**	**-0.6**
ENR				AML	AML		
	comp=E,2265μm,0.2s						
ENR				AML	AML		
	comp=N,2255μm,0.3s						
MBDF	**Montbardon**	**0.40**	**294**	*e*Pg	**Pg**	**02 53 04.1**	**+0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**02 53 09.6**	**+0.2**
	comp=N,109nm,0.2s						
ISO	**Isola**	**0.42**	**204**	Pg	**Pg**	**02 53 04.1**	**0.0**
ISO				Sg	**Sg**	**02 53 09.1**	**-0.8**
RRL	**Rocca Remolon**	**0.50**	**315**	P	**Pg**	**02 53 06.0**	**+0.4**
RRL				S	**Sg**	**02 53 12.8**	**+0.3**
RRL	**Rocca Remolon**	**0.50**	**315**	P	**Pg**	**02 53 06.0**	**+0.4**
RRL				S	**Sg**	**02 53 13.0**	**+0.6**
RRL				AML	AML		
	comp=E,266μm,0.3s						
RRL				AML	AML		
	comp=N,351μm,0.1s						
RRL				AML	AML		
	comp=E,266μm,0.3s						
GBOS	**Grotte di Boss**	**0.51**	**129**	P	**Pg**	**02 53 05.9**	**+0.2**
GBOS				S	**Sg**	**02 53 12.3**	**-0.4**
GBOS	**Grotte di Boss**	**0.51**	**129**	P	**Pg**	**02 53 06.0**	**+0.2**
GBOS				S	**Sg**	**02 53 13.0**	**+0.3**
GBOS				AML	AML		
	comp=N,260μm,0.9s						
GBOS				AML	AML		
	comp=E,314μm,0.2s						
OGAG	**Argentiere**	**0.55**	**258**	Pg	**Pb**	**02 53 07.5**	**+0.8**
OGAG				Sg	**Sb**	**02 53 15.7**	**+1.4**
RSP	**Reno Superiore**	**0.58**	**358**	P	**Pg**	**02 53 06.9**	**-0.2**
RSP				S	**Sg**	**02 53 14.5**	**-0.4**
RSP	**Reno Superiore**	**0.58**	**358**	P	**Pg**	**02 53 06.8**	**-0.2**
RSP				AML	AML		
	comp=N,280μm,0.6s						
RSP				AML	AML		
	comp=E,222μm,0.9s						
TURF	**col de Turini**	**0.60**	**173**	Pg	**Pg**	**02 53 05.9**	**-1.5**
TURF				Sg	**Sg**	**02 53 13.6**	**-1.8**
SAOF	**Saorge**	**0.61**	**162**	Pg	**Pg**	**02 53 07.5**	**-0.2**
SAOF				Sg	**Sg**	**02 53 15.1**	**-0.7**
SAOF	**Saorge**	**0.61**	**162**	P	**Pg**	**02 53 07.5**	**-0.2**
SAOF				S	**Sg**	**02 53 15.1**	**-0.7**
SAOF				AML	AML		
	comp=N,381μm,0.3s						
SAOF				AML	AML		
	comp=E,594μm,1.0s						
MGRO	**Montegrosso**	**0.65**	**144**	P	**Pg**	**02 53 08.3**	**0.0**
MGRO				S	**Sg**	**02 53 16.5**	**-0.3**
MGRO	**Montegrosso**	**0.65**	**144**	P	**Pg**	**02 53 08.1**	**-0.1**
MGRO				S	**Sg**	**02 53 16.6**	**-0.3**
MGRO				AML	AML		
	comp=N,525μm,1.2s						
MGRO				AML	AML		
	comp=E,278μm,0.2s						
BNI	**Bardonecchia**	**0.65**	**318**	P	**Pg**	**02 53 08.8**	**+0.4**
BNI				S	**Sg**	**02 53 17.2**	**+0.2**
BNI				AML	AML		
	comp=E,133μm,0.4s						
BNI				AML	AML		
	comp=N,74μm,1.6s						
MONC	**Moncucco Torin**	**0.68**	**42**	AML	AML		
	comp=E,376μm,0.3s						
MONC				AML	AML		
	comp=N,391μm,0.4s						
MONC				AML	AML		
	comp=N,392μm,0.4s						
SBF	**Sospel**	**0.71**	**171**	*e*Pg	**Pg**	**02 53 09.4**	**-0.1**
	SNR=1.0						
SBF	**Sospel**	**0.71**	**171**	*e*Pn	**Pb**	**02 53 10.6**	**+1.1**
SBF				*e*Sg	**Sg**	**02 53 18.9**	**0.0**
	comp=N,141nm,0.3s,SNR=1.0						
RORO	**Rocca Rossa**	**0.72**	**129**	P	**Pg**	**02 53 09.6**	**-0.1**
RORO				S	**Sg**	**02 53 18.8**	**-0.4**
RORO	**Rocca Rossa**	**0.72**	**129**	P	**Pg**	**02 53 09.5**	**-0.1**
RORO				S	**Sg**	**02 53 18.8**	**-0.4**
RORO				AML	AML		
	comp=E,310μm,1.4s						
RORO				AML	AML		
	comp=N,222μm,1.2s						
ESCA	**l'Escarene**	**0.74**	**175**	Pg	**Pg**	**02 53 09.7**	**-0.2**
ESCA				Sg	**Sg**	**02 53 19.5**	**-0.3**
NEGI	**Seborga**	**0.78**	**157**	P	**Pg**	**02 53 10.6**	**-0.2**
NEGI				S	**Sg**	**02 53 20.3**	**-0.7**
NEGI	**Seborga**	**0.78**	**157**	P	**Pg**	**02 53 10.5**	**-0.2**
NEGI				S	**Sg**	**02 53 20.5**	**-0.5**
NEGI				AML	AML		
	comp=N,563μm,0.2s						
NEGI				AML	AML		
	comp=E,569μm,0.3s						
NEGI				AML	AML		
	comp=N,564μm,0.2s						
IMI	**Imperia**	**0.79**	**146**	P	**Pg**	**02 53 10.8**	**-0.1**
IMI				S	**Sg**	**02 53 20.6**	**-0.7**
IMI	**Imperia**	**0.79**	**146**	P	**Pg**	**02 53 10.6**	**-0.3**
IMI				S	**Sg**	**02 53 20.7**	**-0.7**
IMI				AML	AML		
	comp=E,281μm,1.3s						
IMI				AML	AML		
	comp=N,357μm,0.3s						
QLNO	**Quiliano**	**0.80**	**107**	P	**Pg**	**02 53 11.1**	**+0.1**
QLNO				S	**Sg**	**02 53 21.3**	**-0.3**
QLNO				AML	AML		
	comp=N,145μm,1.5s						
QLNO				AML	AML		
	comp=E,120μm,0.5s						
FINB	**Finale Ligure**	**0.84**	**117**	P	**Pg**	**02 53 11.7**	**-0.1**
FINB				S	**Sb**	**02 53 23.4**	**+0.8**
FINB				AML	AML		
	comp=N,96μm,1.6s						
FINB				AML	AML		
	comp=E,142μm,0.3s						
MON	**Monaco**	**0.84**	**173**	Pg	**Pb**	**02 53 12.1**	**+0.5**
MON				Sg	**Sg**	**02 53 22.7**	**-0.3**
OGDI	**Digne**	**0.84**	**237**	Pg	**Pn**	**02 53 14.1**	**+1.5**
CALF	**Calern**	**0.86**	**198**	Pg	**Pg**	**02 53 12.3**	**+0.1**
CALF				Sg	**Sg**	**02 53 23.6**	**+0.1**
LSD	**Lago del Serru**	**0.90**	**353**	P	**Pg**	**02 53 12.4**	**-0.7**
LSD				S	**Sg**	**02 53 25.0**	**0.0**
LSD	**Lago del Serru**	**0.90**	**353**	AML	AML		
	comp=E,204μm,1.3s						
LSD				AML	AML		
	comp=N,182μm,0.3s						
PCP	**Piancastagn**	**0.90**	**91**	P	**Pg**	**02 53 13.0**	**0.0**
PCP				S	**Sg**	**02 53 24.5**	**-0.3**
PCP	**Piancastagn**	**0.90**	**91**	P	**Pg**	**02 53 13.0**	**0.0**
PCP				S	**Sg**	**02 53 24.7**	**-0.2**
PCP				AML	AML		
	comp=E,114μm,0.3s						
PCP				AML	AML		
	comp=N,158μm,0.3s						
TRAV	**Traversella**	**1.00**	**19**	P	**Pg**	**02 53 13.5**	**-1.5**
TRAV				S	**Sg**	**02 53 25.0**	**-3.0**
TRAV	**Traversella**	**1.00**	**19**	P	**Pg**	**02 53 13.7**	**-1.2**
TRAV				AML	AML		
	comp=E,82μm,0.7s						
TRAV				AML	AML		
	comp=N,77μm,1.4s						
LPG	**La Plagne**	**1.00**	**338**	*e*Pg	**Pg**	**02 53 15.0**	**-0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**02 53 28.1**	**-0.2**
	comp=N,87nm,0.4s						
EILF	**Villa Eilenroc**	**1.02**	**186**	Pg	**Pg**	**02 53 15.1**	**-0.3**
EILF				Sg	**Sg**	**02 53 28.3**	**-0.5**
LPL	**La Plagne**	**1.03**	**338**	*e*Pg	**Pg**	**02 53 15.4**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**02 53 28.3**	**-0.7**
	comp=N,80nm,0.4s						
GDM	**Grand'Maison**	**1.05**	**308**	Pg	**Pg**	**02 53 16.3**	**+0.5**
CIRO	**Champorcher**	**1.05**	**11**	P	**Pg**	**02 53 14.1**	**-1.8**
CIRO				S	**Sg**	**02 53 26.5**	**-3.3**
CIRO	**Champorcher**	**1.05**	**11**	AML	AML		
	comp=N,51μm,1.6s						
CIRO				AML	AML		
	comp=E,58μm,0.3s						
ORIF	**Oris-en-Rattie**	**1.06**	**290**	*e*Pn	**Pg**	**02 53 16.3**	**+0.2**
	SNR=1.0						
ORIF				*e*Sn	**Sg**	**02 53 28.3**	**-1.7**
	comp=E,21nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.06**	**290**	Pg	**Pg**	**02 53 16.4**	**+0.2**
ORIF				Sg	**Sg**	**02 53 29.9**	**-0.1**
BLAF	**les Blancs**	**1.08**	**236**	Pg	**Pn**	**02 53 17.4**	**+1.5**
BLAF				Sg	**Sn**	**02 53 32.3**	**+1.7**
FRF	**La Foret Royal**	**1.11**	**205**	*e*Pg	**Pb**	**02 53 16.1**	**-0.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**02 53 30.5**	**-0.9**
	comp=E,56nm,0.2s,SNR=1.0						
MRGE	**Morge**	**1.21**	**353**	AML	AML		
	comp=N,64μm,0.5s						
MRGE				AML	AML		
	comp=E,40μm,1.6s						
RSL	**Roselend**	**1.22**	**338**	Pg	**Pn**	**02 53 19.2**	**+1.4**
MLYF	**Mely**	**1.24**	**243**	Pg	**Pg**	**02 53 20.1**	**+0.7**
LMR	**La Mourre**	**1.35**	**205**	*e*Pg	**Pn**	**02 53 20.6**	**+1.0**
	SNR=1.0						
LMR				*e*Sg	**Sb**	**02 53 38.0**	**+0.6**
	comp=E,48nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.36**	**245**	*e*Pg	**Pb**	**02 53 21.5**	**+0.9**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**02 53 39.0**	**+1.2**
	comp=E,43nm,0.3s,SNR=1.0						
BSTF	**la Bastide-des**	**1.37**	**240**	Pg	**Pg**	**02 53 23.1**	**+1.2**
RUSF	**Rustrel**	**1.44**	**245**	Pg	**Pg**	**02 53 23.5**	**+0.2**
ARTF	**Artigues**	**1.45**	**228**	Pg	**Pb**	**02 53 23.1**	**+1.0**
GRAM	**Graiana**	**1.99**	**91**	P	**Pg**	**02 53 33.6**	**-0.1**
GRAM				S	**Sg**	**02 54 06.0**	**+6.5**
CABF	**La Chapelle**	**2.21**	**338**	*e*Pg	**Pb**	**02 53 36.8**	**+1.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**02 54 05.9**	**-0.7**
	comp=E,3.0nm,0.3s,SNR=1.0						
SARO	**Sassorosso**	**2.27**	**99**	S	**Sg**	**02 54 08.0**	**-0.4**
PGF	**Pioggiola**	**2.37**	**148**	*e*Pn	**Pn**	**02 53 32.5**	**-1.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**02 53 59.4**	**-3.0**
	comp=E,4.2nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.51**	**260**	*e*P	**Pn**	**02 53 37.2**	**+1.7**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**02 54 03.9**	**-1.8**
	comp=E,1.8nm,0.2s,SNR=1.0						
CAVE	**Cavezzo**	**2.67**	**82**	P	**Pg**	**02 54 03.6**	**-0.4**
CAVE				AML	AML		
	comp=E,186μm,0.5s						
CAVE				AML	AML		
	comp=N,220μm,0.3s						
SMF	**Signal de Mont**	**3.19**	**312**	*e*P	**Pn**	**02 53 46.9**	**+2.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**02 54 20.5**	**-2.0**
	comp=N,2.5nm,0.2s,SNR=1.0						
SMF				*e*Sg	**Sg**	**02 54 36.1**	**-1.8**
	comp=N,3.3nm,0.3s						
HINF	**Hinteralfeld**	**3.26**	**355**	*e*P	**Pn**	**02 53 48.0**	**+2.1**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**02 54 21.7**	**-2.7**
	comp=N,1.7nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.50**	**350**	*e*P	**Pn**	**02 53 51.3**	**+2.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**02 54 28.0**	**-2.2**
	comp=N,3.9nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.54**	**310**	*e*Sn	**Sn**	**02 54 28.3**	**-2.8**
AVF				*e*Sg	**Sg**	**02 54 47.0**	**-2.2**
	comp=N,1.5nm,0.4s						
LOR	**Lormes**	**3.61**	**320**	*e*P	**Pn**	**02 53 53.6**	**+3.0**
	baz=140,SNR=1.0						
LOR				*e*Sn	**Sn**	**02 54 30.6**	**-2.2**
	comp=N,1.2nm,0.2s,baz=123,SNR=1.0						
SSF	**Saint Saulge**	**3.63**	**315**	*e*P	**Pn**	**02 53 53.4**	**+2.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**02 54 30.4**	**-3.0**
	comp=N,0.5nm,0.2s,SNR=1.0						
SSF				*e*Sg	**Sg**	**02 54 50.0**	**-2.2**
	comp=N,0.6nm,0.3s						
BGF	**Bois d'Agland**	**3.70**	**304**	*e*P	**Pn**	**02 53 54.1**	**+2.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 54 32.0**	**-3.0**
BGF				*e*Sg	**Sg**	**02 54 51.7**	**-2.6**
CAF	**Calviac**	**3.74**	**277**	*e*P	**Pn**	**02 53 55.1**	**+2.7**
	SNR=1.0						
CDF	**Champ du Feu**	**3.85**	**360**	*e*P	**Pn**	**02 53 57.3**	**+3.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**02 54 35.9**	**-2.9**
	comp=N,1.9nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.86**	**253**	*e*Pn	**Pn**	**02 53 52.8**	**-1.3**
MTLF				*e*Sn	**Sn**	**02 54 35.9**	**-3.1**
	comp=N,1.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.97**	**297**	*e*P	**Pn**	**02 53 58.6**	**+3.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**02 54 38.2**	**-3.5**
TCF				*e*Sg	**Sg**	**02 55 00.3**	**-2.5**
	comp=N,0.6nm,0.3s						
PAGF	**Fort de Pagny**	**4.13**	**345**	*e*P	**Pn**	**02 54 00.9**	**+3.1**
PAGF				*e*Sn	**Sn**	**02 54 42.6**	**-3.1**
	comp=N,0.6nm,0.1s						
MEZF	**Maizieres J'vi**	**4.23**	**339**	*e*P	**Pn**	**02 54 01.2**	**+2.1**
	baz=159						
MEZF				*e*Sn	**Sn**	**02 54 44.4**	**-3.6**
	comp=N,3.0nm,0.4s						
LDF	**La Druitiere**	**6.50**	**311**	*e*P	**Pn**	**02 54 34.1**	**+3.8**
LDF				*e*Sn	**Sn**	**02 55 38.2**	**-5.8**

IDC 13 02:57:39.6±2.0, 31°.76N×40°.70W, h0km, mb3.6/4,
mb1 3.8/4, mb1mx3.5/52, mbtmp3.6/4, Error ellipse:
s-maj=61.7km s-min=30.6km az=14.0, Northern
Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**43.01**	**106**	P	P	03 05 41.0	-0.1
	1.0nm,1.1s,baz=324,slow=7.1,SNR=2.7						
GERES	**GERESS Array B**	**43.88**	**51**	P	P	03 05 48.6	+0.8
	0.7nm,0.8s,baz=278,slow=9.4,SNR=2.4						
H10N2	**ASCENSION HYDR46.66 143**			T	T	03 55 44.0	
	baz=329,slow=75,SNR=80						
H10N3	**ASCENSION HYDR46.66 143**			T	T	03 55 44.1	
	baz=329,slow=75,SNR=65						
H10N1	**ASCENSION HYDR46.67 143**			T	T	03 55 45.4	
	baz=329,slow=75,SNR=64						
H10S3	**ASCENSION HYDR47.53 144**			T	T	03 56 46.4	
	baz=328,slow=74,SNR=38						
H10S2	**ASCENSION HYDR47.54 144**			T	T	03 56 49.8	
	baz=252,slow=74,SNR=32						
AKASG	**Malin Array Be**	**53.83**	**48**	P	P	03 07 02.9	-1.2
	0.4nm,0.5s,baz=278,slow=6.8,SNR=4.4						
PDAR	**Pinedale Array**	**54.51**	**302**	P	P	03 07 09.5	0.0
	0.5nm,0.7s,baz=69,slow=9.7,SNR=5.0						
H09N1	**TRISTAN DA CUN 73.43 157**			T	T	04 29 04.8	
	SNR=5.0						
H09W1	**TRISTAN DA CUN 73.45 157**			T	T	04 29 09.6	
	SNR=6.3						

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*NIED **13** 03:06:00, 38°.10N×142°.70E, h23km, Mw3.7 Best double*
couple: M0=3.36000×10^14 NP1:φs=53.00000°, δ=14.00000°,
λ=-57.00000°. NP2:φs=200.00000°, δ=78.00000°,
λ=-98.00000°.
*IDC **13** 03:06:42.2±14.0, 38°.39N×142°.70E, h0km, mb3.7/2,*
mb1 3.6/3, mb1mx3.3/40, mbtmp3.6/3, ML2.4/1, MS3.2/3,
Ms1 3.2/3, ms1mx2.7/46, Error ellipse: s-maj=248.1km
s-min=57.9km az=114.0
*JMA **13** 03:06:42.4±0.2, 38°.09N×142°.67E, h25km±3km, M3.7*
ISC 13 03:06:41.3±2.6, 38°.12N±0°.07×142°.7E±0°.1, h7km±12km,
n27, σ1§43/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.96**	**282**	P	**Pb**	**03 07 00.2**	**0.0**
JIKH				*e*S	**Sg**	**03 07 12.5**	**+0.3**
JIO	**Ouri**	**1.08**	**288**	P	**Pb**	**03 07 02.2**	**-0.1**
JIO				*e*S	**Sb**	**03 07 16.6**	**0.0**
JKMT	**Kesennumamotoy**	**1.16**	**307**	P	**Pn**	**03 07 03.5**	**-0.3**
JKMT				*e*S	**Sn**	**03 07 18.8**	**-1.1**
OFUJ	**Ofunato**	**1.23**	**321**	P	**Pg**	**03 07 04.6**	**-0.3**
OFUJ				*e*S	**Sn**	**03 07 20.8**	**-0.9**
JMK	**Ichinoseki**	**1.40**	**307**	P	**Pb**	**03 07 07.3**	**-0.4**
JMM	**Marumori**	**1.50**	**261**	P	**Pn**	**03 07 07.7**	**-0.8**
JOU	**Okura**	**1.59**	**279**	P	**Pn**	**03 07 10.1**	**+0.3**
JFK	**Kawauchi**	**1.60**	**243**	P	**Pn**	**03 07 08.7**	**-1.3**
JFK				*e*S	**Sn**	**03 07 28.0**	**-3.0**
JOM	**Ohasama**	**1.72**	**322**	P	**Pb**	**03 07 12.2**	**-1.0**
JFT	**Otama**	**1.94**	**253**	P	**Pn**	**03 07 14.9**	**+0.3**
JFT				*e*S	**Sn**	**03 07 38.7**	**-0.4**
JYK	**Kaneyama**	**1.97**	**294**	P	**Pn**	**03 07 16.2**	**+1.2**
JRG	**Rokugo**	**2.03**	**309**	P	**Pb**	**03 07 17.6**	**-0.9**
JYS	**Shirataka**	**2.05**	**274**	P	**Pn**	**03 07 17.6**	**+1.5**
JYA	**Atsumi**	**2.37**	**282**	P	**Pn**	**03 07 22.1**	**+1.7**
JANG	**Nango**	**2.42**	**339**	P	**Pb**	**03 07 23.8**	**-1.3**
MJAR	**Matsushiro Arr**	**3.88**	**247**	Pn	**Pn**	**03 07 44.8**	**+3.5**
	0.2nm,0.3s,baz=57,slow=12,SNR=9.0						
MJAR				LR	LR	03 09 25.4	
	comp=Z,94nm,18.7s,baz=15,slow=41						
MAT	**Matsushiro**	**3.88**	**247**	P	**Pn**	**03 07 41.9**	**+0.6**
MAT				*e*S	**Sn**	**03 08 25.2**	**-2.0**
H11N2	**WAKE ISLAND Hy 27.89 124**			T	T	03 41 38.4	
	baz=317,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 27.90 124**			T	T	03 41 22.8	
	baz=317,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy 27.91 124**			T	T	03 41 39.9	
	baz=317,slow=75,SNR=14						
SONM	**Songino Array**	**28.03**	**302**	P	**P**	**03 12 35.1**	**+2.2**
	0.9nm,0.8s,baz=115,slow=9.7,SNR=3.6						
H11S1	**WAKE ISLAND Hy 28.66 126**			T	T	03 42 37.9	
	baz=318,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy 28.66 126**			T	T	03 42 37.4	
	baz=318,slow=76,SNR=9.0						
H11S2	**WA

comp=E,3μm,0.6s
GO03 Copiap 1.68 56 *i* P **Pb 03 55 48.7 0.0**
GO03 *e*S **Sn 03 56 09.2 +0.1**
GO03 Copiap 1.68 56 **Pn 03 55 47.2 -0.1**
GO03 Sn **Sn 03 56 05.1 -3.9**
GO04 Tololo Observa 1.86 152 ⇑ *i*P **Pg 03 55 53.1 +0.1**
GO04 *e*S **Sg 03 56 15.7 -1.5**
GO04 IAML 03 56 23.5
comp=N,6μm,0.4s
GO04 Tololo Observa 1.86 152 *e*P **Pg 03 55 53.2 +0.1**
GO04 Tololo Observa 1.86 152 **Pb 03 55 51.0 -0.9**
GO04 Sn **Sn 03 56 12.3 -1.4**
AROD Rodeo 2.61 129 *i* P **Pb 03 56 04.9 +0.2**
AROD *e*S **Sb 03 56 35.5 -1.7**
CO02 Combarbal 2.75 165 *e*P **Pb 03 56 05.8 -1.3**
CO02 *e*S **Sb 03 56 38.4 -2.6**
CO02 IAML 03 56 50.8
comp=E,2μm,0.3s
ACDV Cuesta del Vie 2.86 125 *e*P **Pb 03 56 08.6 -0.4**
ACDV *e*S **Sb 03 56 44.2 +0.1**
ACCO Cerro Coronel 3.15 131 *i* P **Pb 03 56 12.4 -1.6**
ACCO *e*S **Sb 03 56 52.2 -0.4**
GO02 Mina Guanaco 3.90 31 *e*P **Pn 03 56 20.5 +2.4**
GO02 IAML 03 57 31.8
comp=E,367nm,0.5s
GO02 Mina Guanaco 3.90 31 **Pn 03 56 19.0 +0.9**
GO02 Sn **Sn 03 57 01.1 -3.1**
PB14 IPOC Station P 4.09 18 *i* P **Pn 03 56 22.0 +1.3**
PB14 IAML 03 57 32.1
comp=Z,140nm,0.6s
ROC1 El Roble 4.48 171 Pn **Pn 03 56 28.0 +2.0**
ROC1 Sn **Sn 03 57 19.9 +1.4**
PEL Peldehue 4.70 168 *e*P **Pb 03 56 36.2 -3.9**
PEL Peldehue 4.70 168 Pn **Pn 03 56 30.8 +2.0**
PEL Sn **Sn 03 57 22.6 -0.9**
PB10 IPOC Station P 5.12 13 Pn **Pn 03 56 35.2 +0.6**
CYA Choya 5.29 90 *i* P **Pn 03 56 39.6 +2.7**
CYA IAML 03 56 43.4
comp=Z,140nm,0.3s
PB15 IPOC Station P 5.71 22 *i* P **Pn 03 56 45.2 +2.4**
AHML Horco Molle 6.00 75 *i* P **Pn 03 56 50.5 +3.8**
AHML IAML 03 56 54.3
comp=Z,18nm,0.3s
PB06 IPOC Station P 6.14 20 *i* P **Pn 03 56 49.9 +1.1**
PB06 IAML 03 58 41.2
comp=Z,120nm,0.9s
PB04 IPOC Station P 6.35 14 *i* P **Pn 03 56 52.2 +0.5**
PB04 IAML 03 58 54.8
comp=Z,49nm,0.5s
PB04 IPOC Station P 6.35 14 Pn **Pn 03 56 52.6 +1.0**
PB04 Sn **Sn 03 58 02.8 -1.8**
LVC Limon Verde 6.45 25 Pn **Pn 03 56 55.3 +2.1**
comp=Z,0.4nm,0.3s,baz=196,slow=7.4,SNR=21
LVC Lg Lg 03 58 27.3
comp=Z,2.5nm,0.3s,baz=324,slow=10,SNR=11
LVC LR LR 03 59 28.5
comp=Z,189nm,20.4s,baz=235,slow=39
LVC Limon Verde 6.45 25 *i* P **Pn 03 56 55.3 +2.1**
LVC IAML 03 58 46.0
comp=Z,54nm,0.7s
LVC Limon Verde 6.45 25 **Pn 03 56 53.6 +0.3**
GO05 Huala 6.46 181 Pn **Pn 03 56 55.2 +2.3**
PB09 IPOC Station P 7.10 20 *i* P **Pn 03 57 03.8 +1.8**
PB09 IAML 03 59 03.7
comp=Z,76nm,0.7s
PB11 IPOC Station P 8.95 13 Pn **Pn 03 57 26.9 -0.4**
GO01 Chusmiza 9.14 16 Pn **Pn 03 57 30.4 +0.2**
MNMC Minye Minye 9.58 13 Pn **Pn 03 57 34.8 -1.2**
GO06 Curarrehue 11.03 179 Pn **Pn 03 57 56.5 +0.8**
PLCA Paso Flores 12.21 175 LR LR 04 03 46.5
comp=Z,107nm,19.0s,baz=37,slow=42
TRQA Tornquist 12.55 142 *i* P **Pn 03 58 19.9 +3.5**
TRQA Tornquist 12.55 142 Pn **Pn 03 58 15.0 -1.5**
LPAZ La Paz 12.65 16 Pn Pn 03 58 25.1 +6.7
comp=Z,0.2nm,0.3s,baz=193,slow=7.2,SNR=8.6
LPAZ LR LR 04 04 23.9
comp=Z,46nm,19.5s,baz=44,slow=43
LPAZ La Paz 12.65 16 **Pn 03 58 18.1 -0.3**
CPUP Villa Florida 13.05 84 LR LR 04 03 59.9
comp=Z,95nm,21.0s,baz=304,slow=42
CPUP Villa Florida 13.05 84 Pn **Pn 03 58 21.1 -2.1**
SAML Samuel 21.11 24 P **P 04 00 00.5 -2.2**
SAML IAmb IAmb 04 00 06.7
comp=Z,7.0nm,1.1s
RCBR Riachuelo 40.80 63 P P 04 02 53.2 -6.6
RCBR IAmb IAmb 04 03 04.2
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 82.19 71 P **P 04 07 41.7 +2.1**
comp=Z,1.9nm,0.7s,baz=256,slow=4.0,SNR=9.5
KEST Kesra 99.57 55 LR LR 04 56 14.9
comp=Z,1μm,18.9s,baz=336,slow=37
H11S2 WAKE ISLAND Hyl 25.87 273 T T 06 34 50.8
baz=112,slow=74,SNR=12
H11S1 WAKE ISLAND Hyl 25.88 273 T T 06 34 52.3
baz=112,slow=74,SNR=25
H11S3 WAKE ISLAND Hyl 25.88 273 T T 06 35 06.9
baz=112,slow=74,SNR=26
KURBB Kurchatov Arra 148.58 37 PKPbc **PKPab 04 15 08.7 +0.5**
comp=Z,0.9nm,0.6s,baz=303,slow=2.9,SNR=5.4
ZALV Zalesovo Beam 149.40 27 PKPbc **PKiKP 04 15 10.8 +2.9**
comp=Z,2.4nm,0.6s,baz=327,slow=2.8,SNR=5.4

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*BJI **13** 03:57:39.3±0.0, 52°.22N×178°.82W, h22km, mb5.3/81, mB5.5/69, Ms5.7/85, Ms7 5.5/82*
*NEIC **13** 03:57:39.9±1.9, 51°.55N±0°.08×179°.00W±0°.08, h20km±1km, mb5.8/489, Ms_20 5.6/544, Mwb5.6, Mww5.8, ML6.0(AEIC), Mwc5.9(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=2.09; Mθθ=1.36; Mφφ=3.45; Mrθ=1.65; Mθφ=-1.26; Mφr=0.32; Fault plane solution: M0=3.67000×10^17^ NP1:φs=312.68000°, δ=58.72000°, λ=-140.71000°. NP2:φs=199.67000°, δ=57.24000°, λ=-38.13000°. Principal axes: T 3.7584, Plg1.0000°, Azm76.0000°; N -0.1874, Plg41.0000°, Azm345.0000°; P -3.5710, Plg49.0000°, Azm167.0000°;*
*AEIC **13** 03:57:41.0±3.3, 51°.39N±0°.08×178°.73W±0°.08, h5km±2km*
*MOS **13** 03:57:41.6±1.2, 51°.62N×178°.87W, h39km, mb5.4/45, MS5.6/34, Error ellipse: s-maj=7.2km s-min=5.0km az=106.7*
*ISCJB **13** 03:57:42.6±0.3, 51°.60N±0°.03×178°.83W±0°.02, h49km±2km, mb5.2/117, MS5.4/100, Error ellipse: s-maj=4.7km s-min=2.0km az=178.0*
*IDC **13** 03:57:43.2±1.4, 51°.68N×179°.00W, h36km±10km, mb4.8/41, mb1 4.9/42, mb1mx4.9/47, mbtmp5.1/42, ML5.9/1, MS5.3/46, Ms1 5.3/46, ms1mx5.2/55, Error ellipse: s-maj=12.6km s-min=7.2km az=167.0*
*NEIC **13** 03:57:43, 51°.45N×178°.76W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=3.84; Mθθ=1.93; Mφφ=5.77; Mrθ=3.54; Mθφ=-1.46; Mφr=2.26; Fault plane solution: M0=6.76000×10^17^ NP1:φs=319.00000°, δ=47.00000°, λ=-145.00000°. NP2:φs=203.00000°, δ=65.00000°, λ=-49.00000°. Principal axes: T 6.3365, Plg11.0000°, Azm265.0000°; N 0.7738, Plg37.0000°, Azm3.0000°; P -7.1103, Plg51.0000°, Azm161.0000°;*
*GCMT **13** 03:57:43.1±0.1, 51°.47N±0°.01×178°.77W±0°.01, h22km, MW5.8/138, Moment Tensor Solution. s123,c259; s138,c393; Duration: 2±0 Moment tensor: Scale 10^17^ Nm; Mrr=3.84±.05; Mθθ=1.58±.04; Mφφ=5.42±.04; Mrθ=3.72±.09; Mθφ=-1.50±.03; Mφr=1.66±.07; Best double couple: M0=6.41300×10^17^ NP1:φs=201.00000°, δ=62.00000°, λ=-47.00000°. NP2:φs=318.00000°, δ=50.00000°, λ=-142.00000°. Principal axes: T 5.8290, Plg7.0000°, Azm262.0000°; N 1.1680, Plg37.0000°, Azm357.0000°; P -6.9970, Plg52.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 13 03:57:42.1±0.4, 51°.49N±0°.04×178°.88W±0°.03, h32km±2km, h32km:pP-P, n1781, σ1931/1426, mb5.7/351, MS5.6/360, 69C-18D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.31**	**16**		**Pn**	**03 57 49.8**	**-0.7**
TASE	**Tanaga Southea**	**0.63**	**56**		**Pn**	**03 57 54.2**	**-0.8**
TAFP	**Tanaga Falls P**	**0.70**	**53**		**Pn**	**03 57 55.2**	**-0.6**
TAPA	**Tanaga Point A**	**0.74**	**63**		**Pb**	**03 57 55.7**	**-1.0**
KIMD	**Kanaga Island**	**1.06**	**74**		**Pn**	**03 58 00.2**	**-0.6**
KICM	**Kanaga Island**	**1.14**	**67**		**Pb**	**03 58 01.9**	**-1.3**
KIKV	**Kanaga Island**	**1.14**	**69**		**Pn**	**03 58 01.7**	**-0.1**
KIWB	**Kanaga Island**	**1.14**	**71**		**Pn**	**03 58 01.3**	**-0.5**
KINC	**Kanaga Island**	**1.18**	**67**		**Pb**	**03 58 02.5**	**-1.5**
KIRH	**Kanaga Island**	**1.19**	**69**		**Pb**	**03 58 02.6**	**-1.5**
ADK	**Adak**	**1.43**	**73**	P	**Pn**	**03 58 05.5**	**-0.2**
ADK	**Adak**	**1.43**	**73**		**Pn**	**03 58 05.5**	**-0.2**
ADAG	**Mount Adagdak**	**1.50**	**70**		**Pb**	**03 58 07.6**	**-1.8**
GSSP	**Great Sitkin S**	**1.79**	**69**		**Pn**	**03 58 11.5**	**+0.7**
GSTD	**Great Sitkin T**	**1.79**	**70**		**Pn**	**03 58 11.0**	**+0.1**
GSMY	**Great Sitkin M**	**1.84**	**71**		**Pn**	**03 58 11.8**	**+0.3**
GSTR	**Great Sitkin T**	**1.86**	**70**		**Pn**	**03 58 11.4**	**-0.3**
KOKL	**Mount Kliuchef**	**3.02**	**72**		**Pn**	**03 58 28.3**	**+0.6**
KONW	**Korovin Northw**	**3.03**	**71**		**Pn**	**03 58 28.3**	**+0.4**
KOFP	**Korovin Flat P**	**3.07**	**73**		**Pn**	**03 58 29.6**	**+1.2**
KOSE	**Korovin Southe**	**3.11**	**72**		**Pn**	**03 58 29.9**	**+0.9**
SMY	**Shemya**	**4.50**	**289**	P	**Pn**	**03 58 46.2**	**-1.8**
SMY	**Shemya**	**4.50**	**289**	Pn	**Pn**	**03 58 46.2**	**-1.8**
SMY					**Pn**	**03 58 47.1**	**-0.9**
NIKH	**Nikolski High**	**6.34**	**73**		**Pn**	**03 59 13.5**	**+0.3**
NIKH	**Nikolski High**	**6.34**	**73**		**Sn**	**04 00 27.6**	**+3.2**
OKNC	**Okmok New Cone**	**6.86**	**69**		**Pn**	**03 59 22.9**	**+2.4**
OKNC					**Sn**	**04 00 44.2**	**+6.7**
OKTU	**Okmok Mt. Tuli**	**6.90**	**70**		**Pn**	**03 59 23.5**	**+2.6**
OKFG	**Magazine Ridge**	**6.98**	**70**		**Pn**	**03 59 24.8**	**+2.7**
SPIA	**Saint Paul Isl**	**7.61**	**38**		**Pn**	**03 59 29.6**	**-1.1**
MGOD	**Makushin Gods**	**7.67**	**68**		**Pn**	**03 59 33.5**	**+2.0**
MCIR	**Makushin Cirqu**	**7.69**	**67**		**Pn**	**03 59 34.0**	**+2.1**
MREP	**Makushin Rep't**	**7.74**	**68**		**Pn**	**03 59 34.7**	**+2.1**
MSW	**Makushin Switc**	**7.74**	**67**		**Pn**	**03 59 34.3**	**+1.7**
MSW					**Sn**	**04 01 05.9**	**+6.9**
MNAT	**Makushin Natee**	**7.79**	**67**		**Pn**	**03 59 35.2**	**+2.0**
MTBL	**Makushin Table**	**7.82**	**67**		**Pn**	**03 59 35.6**	**+2.0**
UNV	**Unalaska Valle**	**7.89**	**68**		**Pn**	**03 59 33.9**	**-0.6**
UNV	**Unalaska Valle**	**7.89**	**68**		**Sn**	**04 01 05.9**	**+3.4**
AKRB	**Akutan Reef Bi**	**8.20**	**66**		**Pn**	**03 59 41.4**	**+2.5**
AKMO	**Akutan Morgan**	**8.23**	**66**		**Pn**	**03 59 41.5**	**+2.3**
AKMO					**Sn**	**04 01 16.0**	**+5.0**
LVA	**Lava Point**	**8.23**	**66**		**Pn**	**03 59 41.8**	**+2.6**
AKGG	**Akutan Green G**	**8.26**	**66**		**Pn**	**03 59 42.0**	**+2.4**
AKBBA	**Akutan Broad B**	**8.28**	**67**		**Pn**	**03 59 42.1**	**+2.3**
AKLV	**Akutan Long Va**	**8.28**	**66**		**Pn**	**03 59 42.4**	**+2.6**
AKUT	**Akutan**	**8.38**	**66**	Pn	**Pn**	**03 59 41.3**	**+0.1**
AKUT					**Sn**	**04 01 14.0**	**-0.5**
AKSA	**Akutan Strait**	**8.42**	**66**		**Pn**	**03 59 44.6**	**+2.8**
WESP	**Westdahl Peak**	**9.06**	**65**		**Pn**	**03 59 53.4**	**+2.8**
SSBA	**Shishaldin**	**9.46**	**64**		**Pn**	**03 59 59.0**	**+2.9**
SDPT	**Sand Point**	**11.64**	**63**		**Pn**	**04 00 25.3**	**-0.4**
CNBA	**Chernabura Isl**	**12.05**	**66**		**Pn**	**04 00 30.8**	**-0.6**
CHGN	**Chignik**	**12.98**	**60**		**Pn**	**04 00 43.9**	**-0.2**
PET	**Petropavlovsk**	**13.84**	**285**	*e*P	**Pn**	**04 00 57.1**	**+1.3**
PET				*e*S	**Sn**	**04 03 30.0**	**+1.9**
PET				pmax	pmax		
PET	comp=Z,151nm,0.9s			MLR	MLR		
PETK	comp=Z,8μm,17.0s			LR	LR	04 06 19.2	
PEA0B	**Petropavlovsk-**	**14.41**	**286**	P	**Pn**	**04 01 00.9**	**-2.7**
PEA0B	**Petropavlovsk-**	**14.41**	**286**		**Pn**	**04 01 00.9**	**-2.7**
PETK	**Petropavlovsk-**	**14.41**	**286**	Pn	**Pn**	**04 01 05.6**	**+1.9**
PETK	comp=Z,0.6nm,0.3s,baz=263,slow=33,SNR=5.6			ScP	**ScP**	**04 09 50.3**	**+1.4**
CHIR	**Chirikof Islan**	**14.43**	**63**		**Pn**	**04 01 01.4**	**-2.6**
SII	**Sitkinak Islan**	**15.34**	**61**	IAmb	IAmb	04 01 29.0	
SKR	**Severo-Kuril's**	**15.71**	**277**	*e*P	**Pn**	**04 01 19.6**	**-1.3**
SKR	comp=Z,153nm,0.9s			pmax	pmax		
SKR	comp=Z,1μm,7.6s			pmax	pmax		
SKR	comp=Z,3μm,4.0s			pmax	pmax		
SKR	comp=Z,6μm,20.0s			MLR	MLR		
SKR	comp=Z,6μm,18.0s			MLR	MLR		
KDAK	**Kodiak Island**	**16.41**	**57**	P	**Pn**	**04 01 27.7**	**-2.0**
KDAK	**Kodiak Island**	**16.41**	**57**	Pn	**Pn**	**04 01 27.3**	**-2.5**
KDAK	comp=Z,42nm,0.3s,baz=257,slow=7.2,SNR=152			LR	LR	04 08 41.0	
KDAK	**Kodiak Island**	**16.41**	**57**		**Pn**	**04 01 27.7**	**-2.0**
HOM	**Homer**	**17.33**	**51**	IAmb	IAmb	04 01 50.8	
BILL	**Bilibino**	**18.11**	**342**	*c i*P	**P**	**04 01 54.0**	**+3.0**
BILL	comp=Z,149nm,1.7s			pmax	pmax		
BILL	comp=Z,21μm,16.0s			MLR	MLR		
BILL	**Bilibino**	**18.11**	**342**	P	**P**	**04 01 51.0**	**0.0**
SKT	**Skwentna**	**18.16**	**44**	IAmb	IAmb	04 02 08.9	
PPLA	**Purkeypile**	**18.27**	**41**	IAmb	IAmb	04 02 28.9	
MA2	**Magadan**	**18.84**	**307**	LR	LR	04 08 42.0	
KTH	**Kantishna Hill**	**19.07**	**40**	IAmb	IAmb	04 02 31.9	
SEY	**Seymchan**	**19.13**	**318**	*i* P	**Pn**	**04 02 05.1**	**+1.9**
SEY	**Seymchan**	**19.13**	**318**	PcP	**PcP**	**04 06 25.5**	**+0.6**
SEY	comp=Z,0.8nm,0.3s,baz=166,slow=3.2,SNR=4.9			LR	LR	04 09 31.0	
SEY	comp=Z,18μm,18.6s,baz=112,slow=37			ScP	**ScP**	**04 09 56.7**	**-1.4**
IMAR	**Indian Mountai**	**19.31**	**32**		**Pn**	**04 02 05.5**	**+0.1**
SML	**Sawmill**	**19.52**	**46**	IAmb	IAmb	04 02 29.4	
MLY	**Manley**	**19.84**	**36**	P	**P**	**04 02 09.7**	**-0.3**
RND	**Reindeer**	**19.86**	**42**	IAmb	IAmb	04 02 53.4	
SCM	**Sheep Creek Mo**	**19.98**	**47**	IAmb	IAmb	04 02 33.8	
HIN	**Hinchinbrook I**	**20.02**	**51**	IAMs_20	IAMs_20	04 10 43.5	
FID	**Port Fidalgo**	**20.10**	**50**	IAmb	IAmb	04 02 31.0	
FID	comp=Z,548nm,1.2s			IAMs_20	IAMs_20	04 10 36.4	
NEA	**Nenana**	**20.25**	**38**	IAMs_20	IAMs_20	04 10 27.1	
DHY	**Denali Highway**	**20.36**	**43**	IAMs_20	IAMs_20	04 10 23.5	
EYAK	**Cordova Ski Ar**	**20.41**	**51**	IAMs_20	IAMs_20	04 11 05.5	
WRH	**Wood River Hil**	**20.60**	**39**	IAMs_20	IAMs_20	04 10 18.4	
MDM	**Murphy Dome**	**20.75**	**38**	IAmb	IAmb	04 02 31.2	
MDM	comp=Z,628nm,0.9s			IAMs_20	IAMs_20	04 10 42.7	
CCB	**Clear Creek Bu**	**20.78**	**39**	IAmb	IAmb	04 02 40.2	
TCOL	**CIGO, UAF Yank**	**20.85**	**38**	P	**P**	**04 02 21.8**	**+0.9**
COLA	**College**	**20.86**	**38**	*c i*P	Pn	04 02 22.8	-0.8
COLA	comp=Z,402nm,1.5s			pmax	pmax		
COLA	**College**	**20.86**	**38**	P	**P**	**04 02 20.8**	**-0.2**
COLA	**College**	**20.86**	**38**	IAMs_20	IAMs_20	04 10 35.5	
RAGM	**Ragged Mountai**	**20.91**	**51**	IAMs_20	IAMs_20	04 11 30.0	
HDA	**Harding Lake**	**21.02**	**40**	P	**P**	**04 02 22.9**	**+0.1**
HDA	**Harding Lake**	**21.02**	**40**	IAMs_20	IAMs_20	04 10 52.2	
HMT	**Hamilton**	**21.10**	**52**	IAMs_20	IAMs_20	04 11 52.5	
POKR	**Poker Flat Res**	**21.12**	**38**	P	**P**	**04 02 25.2**	**+1.3**
PAX	**Paxson**	**21.15**	**44**	IAmb	IAmb	04 02 46.8	
PAX	comp=Z,610nm,1.2s			IAMs_20	IAMs_20	04 11 05.8	
COLD	**Coldfoot**	**21.19**	**31**	IAMs_20	IAMs_20	04 10 49.0	
IL31	**Eielson Array**	**21.19**	**39**	IAmb	IAmb	04 02 45.2	
ILAR	**Eielson Array**	**21.19**	**39**	P	**P**	**04 02 23.4**	**-1.1**
ILAR	comp=Z,11nm,0.6s,baz=239,slow=9.4,SNR=50			PcP	**PcP**	**04 06 28.5**	**-0.2**
ILAR	comp=Z,14nm,0.7s,baz=256,slow=3.3,SNR=8.2			ScP	**ScP**	**04 10 01.9**	**-1.1**
ILAR	comp=Z,9.3nm,0.6s,baz=278,slow=3.1,SNR=17			LR	LR	04 11 17.1	
ILAR	**Eielson Array**	**21.19**	**39**	P	**P**	**04 02 22.1**	**-2.5**
GLB	**Gilahina Butte**	**21.52**	**49**	P	**P**	**04 02 28.2**	**0.0**
VRDI	**Verde Repeater**	**21.64**	**50**	IAmb	IAmb	04 02 55.0	
VRDI	comp=Z,502nm,1.2s			IAMs_20	IAMs_20	04 11 46.5	
CRQM	**Cirque**	**21.71**	**51**	IAmb	IAmb	04 03 19.6	
CRQM	comp=Z,244nm,0.9s			IAMs_20	IAMs_20	04 12 07.2	
TGL	**Tana Glacier**	**21.86**	**51**	IAMs_20	IAMs_20	04 12 19.6	
MCARA	**McCarthy VSAT**	**21.88**	**49**	IAmb	IAmb	04 03 07.8	
MENT	**Mentasta**	**21.91**	**45**	IAmb	IAmb	04 03 09.3	
MENT	comp=Z,334nm,1.0s			IAMs_20	IAMs_20	04 12 11.9	
DOT	**Dot Lake**	**21.96**	**43**	IAmb	IAmb	04 03 19.3	
DOT	comp=Z,230nm,0.8s			IAMs_20	IAMs_20	04 11 34.7	
PRP	**Porcupine Dome**	**22.02**	**38**	IAmb	IAmb	04 03 03.4	
PRP	comp=Z,283nm,1.0s			IAMs_20	IAMs_20	04 11 22.2	
BALM	**Baldy**	**22.14**	**50**	IAMs_20	IAMs_20	04 12 18.9	
TOLK	**Toolik Lake Re**	**22.20**	**28**	P	**P**	**04 02 36.5**	**+1.1**
TOLK	**Toolik Lake Re**	**22.20**	**28**	IAMs_20	IAMs_20	04 11 32.5	
FYU	**Fort Yukon**	**22.56**	**35**	IAMs_20	IAMs_20	04 11 58.5	
CTGM	**Chitina Glacie**	**22.62**	**51**	IAmb	IAmb	04 03 28.5	
CTGM	comp=Z,232nm,1.0s			IAMs_20	IAMs_20	04 12 43.5	
BCAR	**Beaver Creek A**	**22.79**	**45**	P	**P**	**04 02 40.8**	**-0.9**
KUR	**Kuril'sk**	**22.82**	**267**	*e*P	**P**	**04 02 44.7**	**+2.6**
KUR				*i*		04 02 53.7	
KUR				*e*PPP	PPP	04 03 20.4	
KUR				pmax	pmax		
KUR	comp=Z,668nm,1.3s			pmax	pmax		
KUR	comp=E,520nm,2.1s			pmax	pmax		
KUR	comp=N,141nm,1.2s			pmax	pmax		
KUR	comp=Z,3μm,3.7s			pmax	pmax		
KUR	comp=E,2μm,2.7s			MLR	MLR		
KUR	comp=E,4μm,15.0s			MLR	MLR		
KUR	comp=Z,3μm,15.0s			MLR	MLR		
KUR	comp=N,4μm,16.0s						
PCA	**Pinnacle**	**23.05**	**53**	IAMs_20	IAMs_20	04 12 52.9	
BMAR	**Burnt Mountain**	**23.17**	**34**	P	**P**	**04 02 45.2**	**-0.4**
YKU2	**Yakutat**	**23.31**	**55**	IAMs_20	IAMs_20	04 13 28.8	
BCPM	**Bancas Point**	**23.36**	**53**	IAMs_20	IAMs_20	04 13 09.8	
EGAK	**Eagle**	**23.50**	**41**	IAmb	IAmb	04 03 05.9	
EGAK	comp=Z,573nm,1.2s			IAMs_20	IAMs_20	04 12 21.7	
TYV	**Tymovskoe**	**23.94**	**284**	*e*P	**P**	**04 02 54.8**	**+1.7**
TYV				*e*S	**S**	**04 07 12.5**	**+5.2**
TYV	comp=Z,93nm,0.9s			pmax	pmax		
TYV	comp=Z,700nm,2.0s			pmax	pmax		
TYV	comp=E,28nm,1.6s			smax	smax		
TYV	comp=Z,9μm,20.0s			MLR	MLR		
DAWY	**Dawson**	**24.06**	**43**	IAmb	IAmb	04 03 11.1	
HYT	**Haines Junctio**	**24.47**	**51**	IAMs_20	IAMs_20	04 14 04.3	
NKL	**Nikolayevsk**	**24.55**	**290**	P	**P**	**04 03 03.7**	**+5.1**
NKL				*e*S	**S**	**04 07 20.5**	**+3.5**
NKL	comp=Z,170nm,1.2s			pmax	pmax		
NKL	comp=E,69nm,1.1s			pmax	pmax		
NKL	comp=N,11nm,1.0s			pmax	pmax		
NKL	comp=Z,499nm,3.5s			pmax	pmax		
NKL	comp=E,301nm,2.3s			smax	smax		
NKL	comp=N,42nm,2.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**24.66**	**266**	*e*P	**P**	**04 03 01.0**	**+1.3**
YUK				*i* S	**S**	**04 07 20.2**	**+1.3**
YUK	comp=Z,1μm,1.1s			pmax	pmax		
YUK	comp=N,586nm,1.0s			pmax	pmax		
YUK	comp=E,278nm,0.9s			pmax	pmax		
YUK	comp=Z,3μm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**25.26**	**275**	*e*P	**P**	**04 03 07.3**	**+2.2**
YSS				*e**PP	**sP**	**04 03 17.5**	**-0.5**
YSS				*e**SP	pP	04 03 24.2	+10
YSS				*e*		04 03 45.0	
YSS				*e*PPP	PPP	04 03 54.2	
YSS				*e*		04 06 31.9	
YSS				*e*S	**S**	**04 07 28.2**	**-0.3**
YSS				*e*SS	**SnSn**	**04 08 23.6**	**+3.1**
YSS				pmax	pmax		
YSS	comp=Z,1μm,4.8s			pmax	pmax		
YSS	comp=Z,190nm,1.0s			smax	smax		
YSS	comp=E,4μm,12.4s						
YSS	**Yuzh-Sakhalins**	**25.26**	**275**	P	**P**	**04 03 03.4**	**-1.7**
SKAG	**Skagway**	**25.53**	**55**	IAMs_20	IAMs_20	04 13 24.3	
EPYK	**Eagle Plains**	**25.71**	**39**	P	**P**	**04 03 08.4**	**-0.7**
EPYK	**Eagle Plains**	**25.71**	**39**	IAMs_20	IAMs_20	04 14 05.9	
WHY	**Whitehorse**	**25.75**	**52**	IAMs_20	IAMs_20	04 14 51.1	
BESE	**Bessie Mountai**	**25.81**	**57**	IAMs_20	IAMs_20	04 13 32.8	
JIS	**Juneau Island**	**26.07**	**57**	IAMs_20	IAMs_20	04 13 29.9	
ASAJ	**Asahikawa**	**26.65**	**269**	P	**P**	**04 03 17.8**	**0.0**
WRAK	**Wrangell Islan**	**27.40**	**61**	IAMs_20	IAMs_20	04 14 49.1	
INK	**Inuvik**	**27.40**	**35**	P	**P**	**04 03 24.2**	**0.0**
INK				PcP	**PcP**	**04 06 42.4**	**+0.3**
INK				ScP	**ScP**	**04 10 19.7**	**-0.3**
INK				LR	LR	04 15 03.2	
INK	**Inuvik**	**27.40**	**35**	P	**P**	**04 03 22.8**	**-1.4**
INK					**PcP**	**04 06 42.4**	**+0.3**
INK				ScP	**ScP**	**04 10 19.4**	**-0.5**
INK				IAMs_20	IAMs_20	04 14 53.4	
ERM	**Erimo**	**27.40**	**265**	*i* P	**P**	**04 03 27.2**	**+2.7**
GRNR	**Gornyy**	**27.73**	**286**	*i* P	**P**	**04 03 27.8**	**+0.4**
GRNR				*e*S	**S**	**04 08 03.2**	**-4.4**
GRNR				pmax	pmax		
GRNR	comp=Z,20nm,1.0s			MLR	MLR		
DIB	**Dawson Inlet,**	**28.02**	**68**	IAmb	IAmb	04 03 57.4	
DLBC	**Dease Lake**	**28.34**	**57**	P	**P**	**04 03 33.7**	**+0.8**
DLBC	comp=Z,7.7nm,0.6s,baz=272,slow=7.7,SNR=6.8			PcP	**PcP**	**04 06 45.5**	**+0.8**
	comp=Z,24nm,0.7s,baz=303,slow=4.8,SNR=5.3						

DLBC LR LR 04 15 40.9
comp=Z,14µm,19.2s,baz=276,slow=38
DLBC Dease Lake 28.34 57 P P 04 03 33.1 +0.2
DLBC **PcP 04 06 44.4 -0.3**
DLBC IAMs_20 IAMs_20 04 15 19.8
comp=Z,14µm,19.0s
YAK Yakutsk 29.31 311 *e*P **P 04 03 45.2 +4.0**
YAK *e**PP **sP 04 03 56.8 +2.7**
YAK *e* 04 04 31.6
YAK *e*PPP PPP 04 04 48.8
YAK *e* 04 06 47.4
YAK *e*S **S 04 08 35.3 +3.3**
YAK *e**SS **sS 04 08 51.5 +4.3**
YAK *e*SS **SnSn 04 10 02.9 +3.9**
YAK *e* 04 14 16.5
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,262nm,2.5s
YAK pmax pmax
comp=N,230nm,2.7s
YAK pmax pmax
comp=E,249nm,2.5s
YAK smax smax
comp=E,183nm,3.1s
YAK smax smax
comp=N,194nm,2.9s
YAK MLR MLR
comp=Z,7µm,18.0s
YAK MLR MLR
comp=E,4µm,16.0s
YAK MLR MLR
comp=N,2µm,15.0s
YAK Yakutsk 29.31 311 ScP **ScP 04 10 24.7 -1.3**
comp=N,9.4nm,0.5s,baz=78,slow=0.3,SNR=4.6
YAK LR LR 04 15 04.6
comp=N,7µm,20.5s,baz=99,slow=36
YAK Yakutsk 29.31 311 ScP **ScP 04 10 24.5 -1.5**
TEY Ternei 29.95 275⇑ *e*P **P 04 03 47.7 +0.6**
TEY *e* 04 04 00.8
TEY *e* 04 08 42.0
TEY 04 10 37.6
TEY pmax pmax
comp=E,20nm,1.1s
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=N,270nm,8.1s
TEY MLR MLR
comp=E,200nm,19.0s
TEY MLR MLR
comp=Z,300nm,15.0s
TIXI Tiksi 30.52 330 P **P 04 03 52.0 +0.1**
TIXI MLR MLR
comp=Z,9µm,22.0s
TIXI Tiksi 30.52 330 LR LR 04 16 29.5
comp=Z,4µm,19.4s,baz=116,slow=37
TIXI Tiksi 30.52 330 P **P 04 03 52.0 +0.1**
BBB Bella Bella 30.86 68 P **P 04 03 57.2 +2.1**
comp=Z,33nm,0.6s,baz=291,slow=9.2,SNR=14
BBB Bella Bella 30.86 68 IAmb IAmb 04 04 01.3
comp=Z,420nm,1.8s
C36M Paulatuk 30.96 34 P **P 04 03 55.7 -0.1**
baz=263,SNR=12
A36M Sachs Harbour 31.02 29 P **P 04 03 56.2 0.0**
baz=258,SNR=23
KLR Kul'dur 31.10 286*c i*P **P 04 03 57.6 +0.3**
KLR pmax pmax
comp=Z,66nm,0.6s
KLR Kul'dur 31.10 286 P **P 04 03 57.1 -0.2**
comp=Z,57nm,0.5s,baz=66,slow=8.5,SNR=86
KLR LR LR 04 16 18.2
comp=Z,10µm,20.9s,baz=74,slow=36
ZEA Zeya 32.13 296 *e*P **P 04 04 05.0 -1.3**
ZEA *e* 04 05 10.0
ZEA *e*S **S 04 09 15.0 -1.4**
ZEA *e*SSS SSS 04 11 32.0
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=Z,52nm,1.0s
ZEA pmax pmax
comp=Z,600nm,4.0s
ZEA pmax pmax
comp=Z,2µm,10.0s
ZEA smax smax
comp=N,2µm,6.0s
ZEA MLR MLR
comp=Z,7µm,18.0s
ZEA MLR MLR
comp=E,7µm,19.0s
USRK Ussuriysk Ar. 33.23 277 P **P 04 04 16.1 +0.1**
USRK Ussuriysk Ar. 33.23 277 P **P 04 04 15.9 -0.1**
comp=E,20nm,0.7s,baz=57,slow=7.5,SNR=26
USRK PcP **PcP 04 06 58.2 +0.4**
comp=E,9.5nm,0.8s,baz=49,slow=1.8,SNR=4.3
USRK LR LR 04 16 59.8
comp=E,3µm,21.0s,baz=74,slow=35
USRK Ussuriysk Ar. 33.23 277 P **P 04 04 16.1 +0.1**
H11N2 WAKE ISLAND Hy 33.61 205 T T 04 41 12.7
baz=18,slow=76
H11N3 WAKE ISLAND Hy 33.62 205 T T 04 41 13.4
baz=18,slow=76
H11N1 WAKE ISLAND Hy 33.62 205 T T 04 41 14.1
baz=18,slow=76
MAJO Matsushiro 33.75 261⇑ *e*P **P 04 04 21.9 +1.3**
MAJO pmax pmax
comp=Z,98nm,0.9s
MAJO Matsushiro 33.75 261 P **P 04 04 18.9 -1.7**
MAT Matsushiro 33.75 261 P **P 04 04 21.8 +1.2**
MAT S **S 04 09 40.6 -1.3**
MJAR Matsushiro Arr 33.75 261 P **P 04 04 21.9 +1.3**
comp=Z,26nm,0.7s,baz=48,slow=7.1,SNR=32
MJAR PcP **PcP 04 06 59.7 +0.2**
comp=Z,14nm,0.8s,baz=87,slow=0.7,SNR=7.1
MJAR ScP **ScP 04 10 40.7 -0.8**
comp=Z,2.9nm,0.7s,baz=53,slow=2.9,SNR=5.0
MJAR LR LR 04 16 09.7
comp=Z,3µm,21.5s,baz=70,slow=33
MJAR Matsushiro Arr 33.75 261 P **P 04 04 22.1 +1.4**
MJAR **ScP 04 10 41.4 -0.1**
MJB9 Matsu-Tunnel 33.75 261 IAmb IAmb 04 04 27.8
comp=Z,83nm,0.8s
KIP Kipapa 34.13 144*ce*P **P 04 04 25.4 +1.4**
KIP pmax pmax
comp=Z,605nm,1.7s
KIP Kipapa 34.13 144 P **P 04 04 24.5 +0.6**
MDJ Mudanjiang 34.50 279 P **P 04 04 27.6 +0.6**
MDJ pP pP 04 04 36.1 -0.1
MDJ sP sP 04 04 40.3 +0.1
MDJ S **S 04 09 53.1 -0.3**
MDJ sS sS 04 10 12.1 +3.7
MDJ pmax pmax
comp=Z,16nm,0.8s
MDJ pmax pmax
comp=Z,430nm,8.4s
MDJ LR LR
comp=Z,4µm,18.2s
MDJ LR LR
comp=Z,5µm,20.8s
MDJ LR LR
comp=Z,8µm,20.2s
H11S1 WAKE ISLAND Hy 34.83 204 T T 04 41 50.1
baz=17,slow=76
H11S2 WAKE ISLAND Hy 34.84 204 T T 04 41 39.6
baz=17,slow=76
H11S3 WAKE ISLAND Hy 34.84 204 T T 04 41 47.8
baz=17,slow=76
PGC Sidney 34.98 72 IAmb IAmb 04 04 36.6
comp=Z,72nm,0.7s
JHJ Hachijo jima 2 35.08 255 LR LR 04 16 13.4
comp=Z,2µm,21.6s,baz=82,slow=32
YKA Yellowknife Ar 35.20 47 P **P 04 04 32.0 -0.8**
comp=Z,14nm,0.6s,baz=284,slow=8.1,SNR=31
YKA PcP **PcP 04 07 03.2 +0.1**
comp=Z,5.2nm,0.4s,baz=286,slow=3.2,SNR=12
YKA ScP **ScP 04 10 46.2 +0.1**
comp=Z,12nm,0.8s,baz=289,slow=3.6,SNR=12
YKA LR LR 04 20 01.0
comp=Z,2µm,18.1s,baz=280,slow=38

YKA Yellowknife Ar 35.20 47 P **P 04 04 31.6 -1.2**
YKA PcP **PcP 04 07 03.2 +0.1**
YKA **ScP 04 10 44.7 -1.4**
KHLH Kahului Airpor 35.21 142 P **P 04 04 33.6 +0.3**
INU Inuyama 35.26 260 P **P 04 04 33.7 0.0**
NLWA Neilton Lookou 35.29 74 IAmb IAmb 04 16 06.0
comp=Z,10µm,20.0s
A04D Lummi Island 35.39 72 P **P 04 04 36.1 +1.5**
baz=296,SNR=18
HLK Haleakala 35.41 142 IAmb IAmb 04 15 43.1
comp=Z,8µm,20.0s
D03D Eldon 35.70 74 P **P 04 04 39.2 +2.0**
baz=298,SNR=146
B05A Bryant 35.96 72 P **P 04 04 40.9 +1.4**
baz=297,SNR=117
D04E Lakebay 36.05 74 P **P 04 04 42.2 +1.9**
baz=298,SNR=14
B06A Marblemount 36.20 71 P **P 04 04 41.7 +0.2**
B06A IAMs_20 IAMs_20 04 16 49.4
comp=Z,8µm,20.0s
F04D Rainier, OR 36.44 76 P **P 04 04 44.5 +0.9**
baz=300,SNR=22
E04D Cinebar 36.48 75 P **P 04 04 45.9 +1.9**
baz=299,SNR=90
E04D S **S 04 10 27.2 +3.7**
baz=299
HUH Hualalai 36.54 142 P **P 04 04 45.2 +0.2**
POHA Pohakuloa 36.59 141 P **P 04 04 45.7 +0.3**
POHA Pohakuloa 36.59 141 IAMs_20 IAMs_20 04 15 21.4
comp=Z,9µm,22.0s
KHLU Kahalu`u 36.60 142 IAMs_20 IAMs_20 04 15 34.7
comp=Z,9µm,22.0s
G03D McMinnville, O 36.72 77 P **P 04 04 47.5 +1.5**
baz=300,SNR=21
HMH Humu'ula Sheep 36.75 141 P **P 04 04 46.7 -0.1**
C06D Leavenworth 36.83 72 P **P 04 04 47.6 +0.6**
baz=298,SNR=15
LON Longmire 36.84 74 IAmb IAmb 04 04 51.2
comp=Z,136nm,0.7s
I02D Swisshome 36.93 79 P **P 04 04 49.0 +1.2**
baz=302,SNR=16
COR Corvallis 37.01 78 P **P 04 04 48.8 +0.3**
COR Corvallis 37.01 78 P **P 04 04 48.8 +0.3**
KHU Kahuku 37.02 142 IAMs_20 IAMs_20 04 16 18.9
comp=Z,9µm,21.0s
PUH Pauahi 37.06 141 IAmb IAmb 04 04 51.7
comp=Z,386nm,1.2s
LTY Liberty 37.28 73 IAmb IAmb 04 04 56.6
comp=Z,100nm,0.7s
LTY IAMs_20 IAMs_20 04 17 32.9
comp=Z,7µm,20.0s
J01E Myrtle Point 37.38 81 P **P 04 04 52.7 +1.0**
baz=303,SNR=24
H04D Lebanon 37.39 78 P **P 04 04 53.0 +1.2**
baz=301,SNR=40
I03D Drain, OR 37.45 80 P **P 04 04 53.6 +1.4**
baz=302,SNR=27
CN2 Changchun 37.48 281 *e*P **P 04 04 52.1 -0.4**
CN2 *e*PP **PnPn 04 06 21.1 +2.1**
CN2 *e*S **S 04 10 38.9 0.0**
CN2 *e*SS **SnSn 04 13 13.6 -3.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,6µm,15.0s
CN2 LR LR
comp=Z,4µm,15.0s
CN2 LR LR
comp=Z,7µm,17.0s
F05D White Salmon 37.48 75 P **P 04 04 53.9 +1.4**
baz=300,SNR=25
B08A Colville Reser 37.55 71 IAmb IAmb 04 05 10.2
comp=Z,174nm,1.1s
KBO Bosley Butte 37.71 82 IAmb IAmb 04 05 09.6
comp=Z,405nm,1.3s
K02D Willamette Mer 37.79 81 P **P 04 04 56.4 +1.1**
baz=303,SNR=46
BOD Bodaibo 37.87 307 *e*P **P 04 04 55.9 +0.3**
BOD *e* 04 10 44.6
BOD pmax pmax
comp=Z,68nm,1.8s
G05D Wamic, OR 37.89 76 P **P 04 04 57.5 +1.5**
baz=301,SNR=70
JCJ Chichijima 38.08 245 P **P 04 04 59.2 +1.5**
comp=Z,100nm,0.5s,baz=258,slow=21,SNR=8.8
E07A Sunnyside 38.11 73 IAmb IAmb 04 05 01.1
comp=Z,139nm,0.7s
L02E Cave Junction 38.13 82 P **P 04 05 00.0 +2.0**
baz=304,SNR=57
HIA Hailar 38.20 292 P **P 04 04 57.0 -1.5**
HIA MLR MLR
comp=Z,8µm,20.0s
HIA Hailar 38.20 292 P **P 04 04 57.0 -1.5**
HIA Hailar 38.20 292 IAMs_20 IAMs_20 04 20 52.1
comp=Z,9µm,20.0s
KRMB Red Mountain 38.29 83 IAmb IAmb 04 05 04.2
comp=Z,323nm,1.6s
I05D Terrebonne, OR 38.34 77 P **P 04 05 01.3 +1.5**
baz=302,SNR=43
C09A Chrisman Ranch 38.44 71 IAmb IAmb 04 05 11.1
comp=Z,136nm,0.7s
J04D Umpqua Nationa 38.45 79 P **P 04 05 02.8 +1.8**
baz=303,SNR=90
E08A Dider Farm, El 38.62 73 P **P 04 05 01.0 -1.0**
E08A **S 04 10 59.5 +3.4**
JCC Jacoby Creek, 38.62 84 IAmb IAmb 04 05 07.0
comp=Z,468nm,1.8s
KHMM Horse Mountain 38.77 84 IAmb IAmb 04 05 08.1
comp=Z,130nm,0.7s
PINE Pine Mountain 38.88 78 P **P 04 05 03.5 -1.0**
PINE **S 04 11 01.0 +0.5**
NEW Newport 38.89 70 P **P 04 05 04.8 +0.3**
baz=299,SNR=137
NEW Newport 38.89 70 P **P 04 05 04.3 -0.2**
NEW S **S 04 11 00.6 +0.3**
NEW MLR MLR
comp=Z,5µm,18.0s
NEW Newport 38.89 70 P **P 04 05 04.9 +0.5**
comp=Z,112nm,0.6s,baz=300,slow=7.4,SNR=277
NEW Newport 38.89 70 P **P 04 05 04.3 -0.2**
NEW **S 04 11 00.6 +0.3**
L04D Klamath Falls 38.90 81 P **P 04 05 06.2 +1.6**
baz=304,SNR=93
YBH Yreka Blue Hor 38.92 82 P **P 04 05 07.0 +2.2**
YBH Yreka Blue Hor 38.92 82 P **P 04 05 07.0 +2.2**
comp=Z,128nm,0.7s,baz=324,slow=5.3,SNR=281
YBH Yreka Blue Hor 38.92 82 IAmb IAmb 04 05 19.0
comp=Z,184nm,0.9s
J05D Fort Rock, OR 38.97 79 P **P 04 05 07.3 +2.0**
baz=303,SNR=130
K04D Chiloquin, OR 39.01 80 P **P 04 05 07.4 +1.9**
baz=304,SNR=72
M02C Callahan 39.02 82 P **P 04 05 07.9 +2.3**
baz=305,SNR=57
KMRM Mail Ridge 39.16 84 P **P 04 05 07.4 +0.6**
G08A Pilot Rock 39.29 75 IAmb IAmb 04 05 12.7
comp=Z,263nm,1.7s
N02D Trinity Center 39.35 83 P **P 04 05 10.5 +2.2**
baz=305,SNR=106
M04C Macdoel 39.43 81 P **P 04 05 11.0 +2.0**
baz=304,SNR=190
KCPM Cahto Peak 39.55 85 IAmb IAmb 04 05 14.1
comp=Z,200nm,0.7s
KSRS Korea Array 39.58 271 P **P 04 05 11.4 +1.2**
comp=Z,32nm,0.7s,baz=54,slow=8.2,SNR=32
KSRS PcP **PcP 04 07 19.1 +2.1**
comp=Z,4.4nm,0.7s,baz=35,slow=3.2,SNR=4.2
KSAR Wonju Array Be 39.62 271 P **P 04 05 10.6 +0.1**
KSAR Wonju Array Be 39.62 271 P **P 04 05 10.6 +0.1**
RES Resolute Bay 39.67 24 P **P 04 05 10.9 +0.4**
comp=Z,6.3nm,0.6s,baz=280,slow=3.1,SNR=22
RES PcP **PcP 04 07 17.0 +0.5**
comp=Z,7.3nm,0.7s,baz=129,slow=3.6,SNR=4.0
RES Resolute Bay 39.67 24 **PcP 04 07 16.0 -0.6**
RES IAMs_20 IAMs_20 04 22 47.0
comp=Z,7µm,21.0s
WDC Whiskeytown Da 39.68 83 P **P 04 05 10.4 -0.6**
WDC Whiskeytown Da 39.68 83 P **P 04 05 10.4 -0.6**
SNY Shenyang 39.71 279 ⇑P **P 04 05 12.3 +1.1**
SNY S **S 04 11 09.0 -3.5**
SNY pmax pmax
comp=Z,87nm,1.7s
SNY pmax pmax
comp=Z,1µm,4.5s
SNY LR LR
comp=Z,4µm,17.2s

SNY LR LR
comp=Z,1µm,14.4s
SNY LR LR
comp=Z,6µm,15.7s
O02D Mt. Diablo Mer 39.76 84 P **P 04 05 13.5 +1.7**
baz=306,SNR=137
F10A Beach Ranch, E 39.97 73 IAmb IAmb 04 05 33.4
comp=Z,157nm,1.0s
HOPS Hopland Field 40.28 86 IAmb IAmb 04 05 30.3
comp=Z,367nm,1.6s
HOPS IAMs_20 IAMs_20 04 17 49.8
comp=Z,7µm,21.0s
O03E Paynes Creek 40.30 83 P **P 04 05 17.2 +0.9**
baz=306,SNR=129
MOD Modoc Plateau 40.31 80 IAmb IAmb 04 05 20.1
comp=Z,134nm,0.7s
WALA Waterton Lakes 40.38 67 IAMs_20 IAMs_20 04 22 15.6
comp=Z,6µm,19.0s
CIT Chita 40.44 298 *e*P **P 04 05 18.2 +0.9**
CIT pmax pmax
comp=Z,174nm,1.1s
BMO Blue Mountains 40.52 74 IAMs_20 IAMs_20 04 19 11.5
comp=Z,7µm,21.0s
JNU Nakatsue 40.53 263 P **P 04 05 19.8 +1.6**
comp=Z,63nm,0.7s,baz=33,slow=4.3,SNR=18
JNU LR LR 04 20 49.7
comp=Z,3µm,21.4s,baz=79,slow=34
JNU Nakatsue 40.53 263 IAmb IAmb 04 05 37.5
comp=Z,174nm,1.1s
GDXM Geysers 40.57 86 IAmb IAmb 04 05 21.8
comp=Z,192nm,1.4s
GDXM IAMs_20 IAMs_20 04 18 40.3
comp=Z,7µm,20.0s
TJN Taejon 40.61 270*ce*P **P 04 05 20.2 +1.5**
WVOR Wild Horse Val 41.03 78 IAmb IAmb 04 05 26.4
comp=Z,128nm,0.8s
MSO Missoula 41.48 70 P **P 04 05 25.8 -0.1**
baz=301,SNR=77
MSO Missoula 41.48 70 IAmb IAmb 04 05 54.0
comp=Z,720nm,2.0s
RUBR Rubicon Trail 42.06 83 IAmb IAmb 04 05 35.4
comp=Z,158nm,0.7s
PAHR Pah Rah Range 42.15 82 IAmb IAmb 04 05 34.9
comp=Z,131nm,0.7s
MFID Camas Ranch 42.19 75 IAmb IAmb 04 05 35.7
comp=Z,202nm,1.4s
VCNR Virginia City 42.23 83 IAmb IAmb 04 05 50.6
comp=Z,130nm,0.8s
DL2 Dalian 42.62 277 P **P 04 05 38.3 +3.1**
DL2 S **S 04 11 59.9 +4.1**
DL2 pmax pmax
comp=Z,53nm,0.7s
DL2 pmax pmax
comp=Z,490nm,10.1s
DL2 LR LR
comp=Z,1µm,16.8s
DL2 LR LR
comp=Z,2µm,17.6s
DL2 LR LR
comp=Z,3µm,16.2s
YERR Yerington 42.67 83 IAmb IAmb 04 05 40.9
comp=Z,102nm,0.7s
EGMT Eagleton 43.28 66 P **P 04 05 40.3 -0.2**
baz=302,SNR=20
PMPB Monarch Peak 43.41 87 IAmb IAmb 04 05 51.1
comp=Z,117nm,0.9s
BOZ Bozeman (W) 43.49 70 P **P 04 05 42.3 -0.1**
baz=303,SNR=251
NVAR Mina Array Bea 43.59 83 P **P 04 05 44.5 +1.2**
comp=Z,65nm,0.7s,baz=295,slow=7.4,SNR=189
NVAR ScP **ScP 04 11 18.8 -0.4**
comp=Z,10nm,0.6s,baz=328,slow=3.3,SNR=26
NVAR LR LR 04 22 31.0
comp=Z,3µm,19.8s,baz=309,slow=34
NVAR Mina Array Bea 43.59 83 P **P 04 05 42.6 -0.7**
NVAR ScP **ScP 04 11 19.1 -0.1**
MDPB Devils Postpil 43.60 84 IAmb IAmb 04 05 57.1
comp=Z,127nm,1.0s
OMMB Old Mammoth Mi 43.66 84 IAmb IAmb 04 05 58.3
comp=Z,151nm,1.4s
OMMB IAMs_20 IAMs_20 04 20 11.2
comp=Z,6µm,21.0s
NV11 Mina Array Sit 43.68 83 IAmb IAmb 04 05 48.1
comp=Z,370nm,1.9s
MLAC Mammoth, Mammo 43.75 84 P **P 04 05 46.4 +1.7**
baz=309,SNR=34
PAGB Antelope Grade 44.07 87 IAmb IAmb 04 05 50.3
comp=Z,147nm,0.6s
ELK Elko 44.09 78 IAmb IAmb 04 05 50.6
comp=Z,134nm,0.9s
FFC Flin Flon 44.12 54 P **P 04 05 46.5 -0.6**
FFC MLR MLR
comp=Z,12µm,19.0s
FFC Flin Flon 44.12 54 P **P 04 05 46.5 -0.6**
FFC Flin Flon 44.12 54 IAMs_20 IAMs_20 04 25 12.6
comp=Z,12µm,19.0s
VOG Valley Oaks Go 44.23 86 P **P 04 05 48.9 +0.7**
baz=310
NRIK Noril'sk 44.29 330 P **P 04 05 48.6 +0.4**
comp=Z,5.0nm,0.5s,baz=79,slow=7.2,SNR=5.6
NRIK LR LR 04 25 58.2
comp=Z,3µm,18.2s,baz=60,slow=38
TIN Tinemaha, Big 44.49 84 P **P 04 05 52.0 +1.5**
baz=309,SNR=42
SMMC Simmler 44.49 88 P **P 04 05 51.6 +1.2**
baz=310,SNR=14
VES Vestal, Richgr 44.72 86 P **P 04 05 52.5 +0.4**
baz=310,SNR=82
H17A Grant Village 44.78 71 P **P 04 05 54.3 +1.5**
baz=305,SNR=178
H17A Grant Village 44.78 71 IAmb IAmb 04 05 56.7
comp=Z,163nm,0.8s
LKWY Lake 44.79 71 IAmb IAmb 04 06 01.0
comp=Z,175nm,0.9s
IMW Indian Meadow 44.85 72 IAmb IAmb 04 05 56.4
comp=Z,97nm,0.8s
PKM Mcpherson Peak 44.88 88 P **P 04 05 54.5 +0.8**
baz=311,SNR=28
CWC Cottonwood Cre 44.97 85 P **P 04 05 55.2 +0.9**
baz=310
GRAC Grapevine Rang 45.06 84 P **P 04 05 56.1 +1.2**
baz=309,SNR=51
RLMT Red Lodge 45.14 69 P **P 04 05 56.0 +0.4**
baz=304,SNR=147
REDW Red Top Meadow 45.21 72 IAmb IAmb 04 06 11.9
comp=Z,329nm,1.6s
SNOW Snow King Moun 45.21 72 IAmb IAmb 04 06 00.0
comp=Z,82nm,0.7s
ISA Isabella, Lake 45.22 86 P **P 04 05 56.3 +0.1**
baz=310,SNR=76
ISA Isabella, Lake 45.22 86 IAmb IAmb 04 05 58.6
comp=Z,72nm,0.8s
SBC Santa Barbara 45.24 88 P **P 04 05 56.6 +0.4**
baz=311
BJI Beijing 45.30 282 P **P 04 06 00.1 +3.5**
BJI S **S 04 12 27.3 -7.5**
BJI LR LR
comp=Z,3µm,18.6s
BJI LR LR
comp=Z,3µm,24.0s
BJI LR LR
comp=Z,4µm,22.1s
BJT Baijiatuau 45.32 282 P **P 04 05 53.5 -3.3**
BJT MLR MLR
comp=Z,5µm,21.0s
BJT Baijiatuau 45.32 282 P **P 04 05 53.5 -3.3**
R11A Troy Canyon, C 45.32 81 P **P 04 05 57.7 +0.6**
baz=308,SNR=388
R11A Troy Canyon, C 45.32 81 IAmb IAmb 04 05 60.0
comp=Z,124nm,0.7s
IRK Irkutsk 45.34 303 *e*P **P 04 05 56.6 -0.2**
IRK *e* 04 07 30.5
IRK pmax pmax
comp=Z,67nm,3.1s
ARVC Arvin 45.34 87 P **P 04 05 57.0 -0.1**
baz=311,SNR=17
AHID Auburn Hatcher 45.41 73 IAmb IAmb 04 06 00.5
comp=Z,122nm,0.9s
AHID IAMs_20 IAMs_20 04 22 32.9
comp=Z,6µm,20.0s
SCZ2 Santa Cruz Isl 45.58 89 P **P 04 05 59.6 +0.6**
baz=311
MPMC Manual Prospec 45.58 85 P **P 04 05 59.7 +0.5**
baz=310,SNR=117
FURC Furnace Creek, 45.71 84 P **P 04 06 00.9 +0.9**
baz=310,SNR=108
OSI Osito Audit: C 45.74 87 P **P 04 06 00.7 +0.4**
baz=311

TPNV	Topopah Spring	45.79	83	P	P	04 06 01.6	+0.8
	baz=309,SNR=374						
TPNV	Topopah Spring	45.79	83	IAMs_20	IAMs_20	04 23 16.4	
	comp=Z,5μm,19.0s						
LRMC	Laurel Mtn Rad	45.83	86	P	P	04 06 01.4	+0.3
	baz=310,SNR=74						
BLG	Laguna Peak, P	45.86	88	P	P	04 06 01.7	+0.5
	baz=311,SNR=18						
DUG	Dugway, Tooele	45.90	77	P	P	04 06 02.6	+1.0
	baz=307,SNR=374						
TLY	Talaya	45.96	302	*c i* P	P	04 05 59.8	-2.0
TLY				*e*		04 07 34.5	
TLY				*e*		04 07 53.0	
TLY				*e*S	S	04 12 41.3	-2.9
TLY				pmax	pmax		
	comp=Z,57nm,0.9s						
TLY				MLR	MLR		
	comp=Z,8μm,17.0s						
TLY	Talaya	45.96	302	LR	LR	04 26 53.4	
	comp=Z,4μm,18.6s,baz=48,slow=38						
TLY	Talaya	45.96	302	P	P	04 06 01.6	-0.2
EDW2	Edwards Air Fo	46.02	87	P	P	04 06 02.8	+0.3
	baz=311,SNR=53						
LAO	LASA Array	46.02	66	P	P	04 06 02.5	+0.1
	baz=304,SNR=47						
LAO	LASA Array	46.02	66	IAmb	IAmb	04 06 04.9	
	comp=Z,109nm,0.6s						
SNCC	San Nicolas Is	46.14	89	P	P	04 06 03.8	+0.4
	baz=312						
SNCC	San Nicolas Is	46.14	89	IAmb	IAmb	04 06 06.3	
	comp=Z,94nm,0.9s						
ULN	Ulaanbaatar	46.16	296	P	P	04 06 03.9	+0.3
	SNR=27						
ULN	Ulaanbaatar	46.16	296	*ce*P	P	04 06 03.7	+0.1
ULN				pmax	pmax		
	comp=Z,46nm,0.8s						
ULN	Ulaanbaatar	46.16	296	P	P	04 06 03.4	-0.2
ULN	Ulaanbaatar	46.16	296	IAMs_20	IAMs_20	04 25 54.6	
	comp=Z,7μm,20.0s						
DGMT	Dagmar	46.18	63	P	P	04 06 03.4	-0.2
	baz=303,SNR=14						
DGMT	Dagmar	46.18	63	IAmb	IAmb	04 07 41.3	
	comp=Z,127nm,0.8s						
DGMT	Dagmar	46.18	63	IAMs_20	IAMs_20	04 24 00.7	
	comp=Z,6μm,20.0s						
DECC	Green Verdugo	46.22	87	P	P	04 06 04.2	+0.1
	baz=311,SNR=7.2						
BW06	Boulder Array	46.33	72	P	P	04 06 05.1	0.0
	baz=306,SNR=311						
BW06	Boulder Array	46.33	72	IAMs_20	IAMs_20	04 22 53.8	
	comp=Z,5μm,21.0s						
PDAR	Pinedale Array	46.33	72	P	P	04 06 05.1	+0.1
	comp=Z,257nm,0.6s,baz=309,slow=3.4,SNR=1030						
PDAR				ScP	ScP	04 11 31.2	+0.7
	comp=Z,4.1nm,0.8s,baz=242,slow=1.9,SNR=5.3						
PDAR				S	S	04 12 50.8	+0.7
	comp=Z,0.9nm,0.9s,baz=350,slow=4.6,SNR=3.1						
PDAR				LR	LR	04 23 26.5	
	comp=Z,4μm,21.5s,baz=306,slow=33						
PDAR	Pinedale Array	46.33	72	P	P	04 06 04.5	-0.5
PDAR				ScP	ScP	04 11 30.3	-0.2
PDAR					S	04 12 50.5	+0.4
MWC	Mount Wilson	46.41	87	IAmb	IAmb	04 06 09.2	
	comp=Z,244nm,1.4s						
SHOC	Shoshone, Teco	46.44	84	P	P	04 06 06.4	+0.6
	baz=310,SNR=114						
GSC	Goldstone, Bar	46.49	85	P	P	04 06 06.7	+0.5
	baz=311,SNR=172						
GSC	Goldstone, Bar	46.49	85	IAmb	IAmb	04 06 08.8	
	comp=Z,125nm,0.7s						
SONM	Songino Array	46.55	296	P	P	04 06 07.0	+0.4
	comp=Z,28nm,0.7s,baz=58,slow=7.8,SNR=75						
SONM				PcP	PcP	04 07 41.1	+0.7
	comp=Z,16nm,0.9s,baz=78,slow=3.7,SNR=3.9						
SONM				ScP	ScP	04 11 30.4	-0.8
	comp=Z,9.8nm,0.9s,baz=47,slow=2.5,SNR=12						
SONM				LR	LR	04 26 48.1	
	comp=Z,7μm,18.5s,baz=60,slow=38						
SONM	Songino Array	46.55	296	P	P	04 06 06.0	-0.6
SONM					PcP	04 07 40.2	-0.2
SONM					ScP	04 11 29.9	-1.3
FMP	Fort Macarthur	46.60	88	P	P	04 06 07.5	+0.5
	baz=312						
RRX	Edison Barstow	46.65	86	P	P	04 06 07.8	+0.4
	baz=311						
BFSC	Mount Baldy Ra	46.65	87	P	P	04 06 07.9	+0.3
	baz=311,SNR=68						
CIS	Catalina Islan	46.73	88	P	P	04 06 08.1	0.0
	baz=312,SNR=8.5						
SHPR	Sheep Range	46.74	83	IAmb	IAmb	04 06 21.3	
	comp=Z,66nm,1.0s						
ZAK	Zakamensk	46.85	301	*e*P	P	04 06 08.6	-0.3
ZAK				*e*		04 07 37.4	
ZAK				pmax	pmax		
	comp=Z,37nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,25nm,1.2s						
SCI2	San Clemente I	46.93	89	P	P	04 06 09.9	+0.3
	baz=312						
TUQ	Turquoise Moun	46.95	84	P	P	04 06 10.5	+0.6
	baz=310,SNR=52						
HEC	Hector,Ludlow	47.09	85	P	P	04 06 11.6	+0.7
	baz=311,SNR=15						
BBRC	Big Bear Solar	47.10	86	P	P	04 06 11.7	+0.5
	baz=311,SNR=25						
TIA	Tai'an	47.10	277	P	P	04 06 11.8	+0.9
TIA				pP	sP	04 06 22.5	-1.5
TIA				S	S	04 12 58.9	-1.9
TIA				sS	sS	04 13 14.8	-1.4
TIA				pmax	pmax		
	comp=Z,13nm,0.8s						
TIA				LR	LR		
	comp=Z,1μm,15.7s						
TIA				LR	LR		
	comp=Z,3μm,16.4s						
MURC	Murrieta	47.36	87	P	P	04 06 13.3	+0.3
	baz=312,SNR=18						
GMRC	Granite Mounta	47.54	85	P	P	04 06 14.9	+0.4
	baz=311,SNR=83						
HHC	Hu-ho-hao-te	47.61	286	*e*P	P	04 06 16.1	+1.2
HHC				pP	pP	04 06 23.5	-0.8
HHC				S	S	04 13 12.3	+4.1
PFO	Pinyon Flats O	47.81	87	P	P	04 06 17.0	+0.4
	baz=312,SNR=36						
PFO	Pinyon Flats O	47.81	87	*i* P	P	04 06 17.0	+0.4
PFO	Pinyon Flats O	47.81	87	P	P	04 06 17.0	+0.4
BELC	Belle Mtn. Jos	47.84	86	P	P	04 06 16.8	0.0
	baz=312,SNR=48						
109C	Camp Elliot, M	47.89	88	P	P	04 06 17.7	+0.7
	baz=312,SNR=12						
109C	Camp Elliot, M	47.89	88	IAmb	IAmb	04 06 19.9	
	comp=Z,76nm,0.8s						
SSE	Sheshan	47.95	269	P	P	04 06 20.9	+3.4
SSE				S	S	04 13 13.3	+0.4
SSE				pmax	pmax		
	comp=Z,65nm,0.9s						
SSE				pmax	pmax		
	comp=Z,570nm,7.0s						
SSE				LR	LR		
	comp=Z,600nm,17.0s						
SSE				LR	LR		
	comp=Z,480nm,17.0s						
K22A	Casper	48.19	71	P	P	04 06 18.9	-0.6
	baz=307,SNR=96						
NEE2	Needles Airpor	48.20	84	P	P	04 06 19.7	+0.2
	baz=311,SNR=27						
IRM	Iron Mountain	48.27	85	P	P	04 06 20.3	+0.2
	baz=312,SNR=53						
BAR	Barrett	48.30	88	IAmb	IAmb	04 06 23.0	
	comp=Z,85nm,0.8s						
MONP2	Monument Peak	48.32	87	P	P	04 06 20.9	+0.3
	baz=312,SNR=49						
RWWY	Rawlins	48.37	72	IAMs_20	IAMs_20	04 24 41.2	
	comp=Z,5μm,20.0s						
BC3	Big Chuckawall	48.41	86	P	P	04 06 21.1	-0.1
	baz=312,SNR=34						
W13A	Hualapai Mount	48.44	83	IAmb	IAmb	04 06 24.2	
	comp=Z,72nm,0.7s						
SWSC	Sam W. Stewart	48.67	87	P	P	04 06 23.0	0.0
	baz=312,SNR=27						
IKP	In-Ko-Pah, Jac	48.67	87	P	P	04 06 23.6	+0.4
	baz=312,SNR=52						
O20A	White River Ci	48.70	74	P	P	04 06 23.7	+0.2
	baz=308,SNR=332						
NJ2	Nanjing	48.76	272	*e*P	P	04 06 26.8	+3.1
NJ2				sP	sP	04 06 36.4	-0.5
NJ2				S	S	04 13 25.1	+0.8
NJ2				sS	sS	04 13 38.8	-0.5
NJ2				pmax	pmax		
	comp=Z,32nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,430nm,6.6s						
NJ2				LR	LR		
	comp=Z,2μm,19.9s						
NJ2				LR	LR		
	comp=Z,2μm,19.9s						
NJ2				LR	LR		
	comp=Z,3μm,14.7s						
RSSD	Black Hills	48.77	68	P	P	04 06 23.8	-0.2
	baz=307						
RSSD	Black Hills	48.77	68	P	P	04 06 23.6	-0.4
RSSD	Black Hills	48.77	68	P	P	04 06 23.6	-0.4
PDMCI	Parker Dam,Lak	48.80	84	P	P	04 06 24.4	+0.4
	baz=312,SNR=37						
Y12C	Blythe	48.93	85	P	P	04 06 25.4	+0.4
	baz=312,SNR=54						
Y12C	Blythe	48.93	85	IAmb	IAmb	04 06 28.4	
	comp=Z,231nm,1.3s						
TIY	Taiyuan	49.03	282	*e*P	P	04 06 31.0	+5.1
TIY				PP	PP	04 08 24.5	+5.2
TIY				S	S	04 13 27.5	-0.7
TIY				sS	sS	04 13 45.4	+1.8
TIY				SS	SS	04 16 54.8	-4.2
TIY				pmax	pmax		
	comp=Z,35nm,0.6s						
TIY				pmax	pmax		
	comp=Z,710nm,9.7s						
TIY				LR	LR		
	comp=Z,2μm,13.9s						
TIY				LR	LR		
	comp=Z,1μm,13.6s						
TIY				LR	LR		
	comp=Z,3μm,15.1s						
MDND	Maddock	49.07	61	P	P	04 06 25.9	-0.1
	baz=306,SNR=8.2						
MDND	Maddock	49.07	61	IAmb	IAmb	04 06 48.5	
	comp=Z,177nm,1.1s						
MDND				IAMs_20	IAMs_20	04 28 25.9	
	comp=Z,7μm,18.0s						
GLA	Glamis	49.20	86	P	P	04 06 27.7	+0.5
	baz=312,SNR=40						
GLA	Glamis	49.20	86	IAmb	IAmb	04 06 29.9	
	comp=Z,139nm,0.8s						
N23A	Red Feather La	49.61	72	P	P	04 06 30.8	+0.3
	baz=308,SNR=79						
PHWY	Pilot Hill	49.65	71	IAmb	IAmb	04 06 32.5	
	comp=Z,54nm,0.7s						
ULM	Lac du Bonnet	49.67	57	P	P	04 06 29.8	-0.6
	comp=Z,15nm,0.6s,baz=312,slow=6.5,SNR=19						
ULM				ScP	ScP	04 11 43.7	-0.4
	comp=Z,12nm,0.8s,baz=280,slow=4.7,SNR=7.0						
ULM				LR	LR	04 28 57.5	
	comp=Z,9μm,18.3s,baz=310,slow=38						
ULM	Lac du Bonnet	49.67	57	P	P	04 06 29.4	-1.0
ULM				ScP	ScP	04 11 43.6	-0.6
ULM				IAMs_20	IAMs_20	04 28 46.5	
	comp=Z,9μm,18.0s						
KBS	Kingsbay	49.69	357	P	P	04 06 30.5	+0.3
KBS				MLR	MLR		
	comp=Z,4μm,18.0s						
KBS	Kingsbay	49.69	357	*e*P	P	04 06 30.8	+0.6
KBS	Kingsbay	49.69	357	P	P	04 06 30.5	+0.3
WUAZ	Wupatki	49.72	81	P	P	04 06 32.3	+1.0
	baz=311,SNR=267						
Y14A	Wickenburg	49.75	84	IAmb	IAmb	04 06 34.6	
	comp=Z,75nm,0.9s						
113A	Mohawk Valley,	50.06	86	IAmb	IAmb	04 06 36.6	
	comp=Z,174nm,1.7s						
SMCO	Snowmass	50.06	74	IAmb	IAmb	04 06 38.4	
	comp=Z,69nm,0.8s						
SPA0	Spitsbergen Ar	50.26	356	*e*P	P	04 06 35.1	+0.4
SPA0	Spitsbergen Ar	50.26	356	IAmb	IAmb	04 06 48.0	
	comp=Z,119nm,0.9s						
SPITS	Spitsbergen Ar	50.26	356	P	P	04 06 33.7	-0.9
	comp=Z,37nm,0.6s,baz=56,slow=6.2,SNR=40						
MVCO	Mesa Verde	50.39	77	P	P	04 06 36.8	+0.3
	baz=310,SNR=103						
X16A	Lo Mia Camp, P	50.40	82	IAmb	IAmb	04 06 39.8	
	comp=Z,88nm,0.7s						
TARA	Tarawa	50.43	191	P	P	04 06 37.1	+0.5
ISCO	Idaho Springs	50.49	73	P	P	04 06 37.7	+0.4
	baz=309,SNR=105						
ISCO	Idaho Springs	50.49	73	IAmb	IAmb	04 06 40.1	
	comp=Z,82nm,0.9s						
ISCO				IAMs_20	IAMs_20	04 26 02.4	
	comp=Z,6μm,20.0s						
AGMN	Agassiz Nation	50.83	59	P	P	04 06 38.8	-0.5
	baz=307						
AGMN	Agassiz Nation	50.83	59	IAMs_20	IAMs_20	04 28 56.3	
	comp=Z,10μm,20.0s						
W18A	Petrified Fore	51.00	80	P	P	04 06 41.7	+0.8
	baz=311,SNR=41						
W18A	Petrified Fore	51.00	80	IAMs_20	IAMs_20	04 25 06.3	
	comp=Z,5μm,22.0s						
S22A	4UR Ranch, Cre	51.06	76	P	P	04 06 42.5	+0.9
	baz=310,SNR=100						
S22A	4UR Ranch, Cre	51.06	76	IAmb	IAmb	04 06 45.7	
	comp=Z,257nm,1.4s						
214A	Organ Pipe Nat	51.20	86	P	P	04 06 42.7	+0.4
	baz=313,SNR=47						
Q24A	Divide	51.30	74	P	P	04 06 43.5	+0.2
	baz=310,SNR=24						
Q24A	Divide	51.30	74	IAmb	IAmb	04 06 47.2	
	comp=Z,169nm,1.4s						
Q24A				IAMs_20	IAMs_20	04 26 18.8	
	comp=Z,4μm,21.0s						
DAG	Danmarks Havn	51.40	6	*i* P	P	04 06 42.4	-0.7
DAG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAG	Danmarks Havn	51.40	6	*i* P	P	04 06 42.4	-0.7
	comp=Z,4.0nm,0.7s						
SUSD	Miller	51.47	64	P	P	04 06 43.9	-0.3
	baz=308,SNR=10						
SUSD	Miller	51.47	64	IAmb	IAmb	04 06 47.2	
	comp=Z,185nm,0.9s						
SUSD				IAMs_20	IAMs_20	04 28 59.8	
	comp=Z,6μm,19.0s						
SDCO	Great Sand Dun	51.87	75	P	P	04 06 48.2	+0.6
	baz=311,SNR=145						
SDCO	Great Sand Dun	51.87	75	IAmb	IAmb	04 06 51.4	
	comp=Z,394nm,1.7s						
OGNE	Ogallala	51.89	70	P	P	04 06 47.5	+0.1
	baz=310,SNR=41						
TUC	Tucson	52.22	84	P	P	04 06 50.4	+0.4
	baz=313						
TUC	Tucson	52.22	84	P	P	04 06 49.1	-0.9
TUC	Tucson	52.22	84	P	P	04 06 49.1	-0.9
WHN	Wuhan	52.60	274	⇑P	P	04 06 52.8	+0.1
WHN				sP	sP	04 07 06.5	+0.6
WHN				S	S	04 14 18.1	+0.5
WHN				ScS	ScS	04 16 38.1	-1.8
WHN				LR	LR		
	comp=Z,3μm,12.9s						
WHN				LR	LR		
	comp=Z,2μm,11.3s						
WHN				LR	LR		
	comp=Z,3μm,14.2s						
KSCO	Kaye Shedlock'	52.77	72	P	P	04 06 54.7	+0.6
	baz=310,SNR=77						
KSCO	Kaye Shedlock'	52.77	72	IAMs_20	IAMs_20	04 27 15.3	
	comp=Z,4μm,21.0s						
T25A	Trinidad	52.92	75	P	P	04 06 56.2	+0.9
	baz=311,SNR=167						
ANMO	Albuquerque	53.12	78	P	P	04 06 57.2	+0.4
	baz=312						
ANMO	Albuquerque	53.12	78	*ce*P	P	04 06 57.2	+0.4
ANMO				pmax	pmax		
	comp=Z,130nm,2.5s						
ANMO	Albuquerque	53.12	78	P	P	04 06 56.2	-0.6
SUMG	Summit	53.20	14	*i* P	P	04 06 57.0	-0.1
SUMG	Summit	53.20	14	*i* P	P	04 06 57.0	-0.1
SUMG	Summit	53.20	14	P	P	04 06 56.5	-0.6
ECSD	EROS Data Cent	53.23	64	P	P	04 06 56.0	-1.3
	baz=310,SNR=21						
ECSD	EROS Data Cent	53.23	64	IAMs_20	IAMs_20	04 30 32.3	
	comp=Z,7μm,18.0s						
SSLB	Suanglung	53.27	262	P	P	04 06 57.6	-0.2
YULB	Yu-li	53.35	262	IAmb	IAmb	04 07 16.6	
	comp=Z,306nm,1.7s						
EYMN	Ely	53.35	57	P	P	04 06 57.3	-0.7
	baz=309,SNR=6.4						
EYMN	Ely	53.35	57	IAMs_20	IAMs_20	04 30 58.0	
	comp=Z,7μm,18.0s						
Y22D	IRIS PASSCAL I	53.42	79	P	P	04 07 00.2	+1.3
	baz=312,SNR=16						
Y22D	IRIS PASSCAL I	53.42	79	IAMs_20	IAMs_20	04 26 49.5	
	comp=Z,5μm,20.0s						
TVZX	PASSCAL Wareho	53.42	79	P	P	04 06 59.7	+1.0
	baz=312,SNR=16						
XAN	Xi'an	53.59	281	P	P	04 07 00.3	+0.3
XAN				pP	pP	04 07 08.0	-1.7
XAN				S	S	04 14 31.6	+0.5
XAN				sS	pS	04 14 42.4	+0.1
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN				pmax	pmax		
	comp=Z,160nm,3.5s						
XAN				LR	LR		
	comp=Z,2μm,20.6s						
XAN				LR	LR		
	comp=Z,3μm,19.6s						
XAN				LR	LR		
	comp=Z,3μm,21.0s						
319A	Douglas	53.79	84	IAmb	IAmb	04 07 05.1	
	comp=Z,153nm,1.1s						
BGNE	Belgrade	53.84	67	P	P	04 07 01.2	-0.6
	baz=310,SNR=7.0						
QZH	Quanzhou	53.90	265	P	P	04 07 03.8	+1.5
QZH				S	S	04 14 37.1	+1.7
QZH				LR	LR		
	comp=Z,2μm,14.9s						
QZH				LR	LR		
	comp=Z,2μm,25.6s						
ZAA0	Zalesovo Array	53.92	313	IAMs_20	IAMs_20	04 31 57.2	
	comp=Z,4μm,19.0s						
ZALV	Zalesovo Beam	53.92	313	P	P	04 07 01.9	-0.2
ZALV	Zalesovo Beam	53.92	313	LR	LR	04 32 08.4	
	comp=Z,4μm,18.1s,baz=36,slow=38						
ZALV	Zalesovo Beam	53.92	313	P	P	04 07 01.9	-0.2
121A	Cookes Peak, D	53.93	81	P	P	04 07 03.3	+0.6
	baz=313,SNR=105						
E38A	The Farm, Brul	54.17	58	P	P	04 07 04.5	+0.4
	baz=310,SNR=6.9						
E38A	The Farm, Brul	54.17	58	IAmb	IAmb	04 07 14.1	
	comp=Z,64nm,0.9s						
SPMN	Marine on St.	54.38	60	P	P	04 07 05.3	-0.4
	baz=310,SNR=7.7						
SPMN	Marine on St.	54.38	60	IAMs_20	IAMs_20	04 29 30.5	
	comp=Z,8μm,21.0s						
CBKS	Cedar Bluff	54.61	70	P	P	04 07 07.7	+0.3
	baz=311,SNR=90						
G39A	Holcombe	55.23	59	P	P	04 07 10.9	-0.8
	baz=311,SNR=13						
LZH	Lanzhou	55.30	286	*e*P	P	04 07 13.3	+0.7
LZH				pP	sP	04 07 22.8	-3.2
LZH				PP	PP	04 09 21.0	+4.9
LZH				S	S	04 14 45.3	-9.1
LZH				pmax	pmax		
	comp=Z,42nm,1.4s						
LZH				pmax	pmax		
	comp=Z,940nm,6.0s						
LZH				LR	LR		
	comp=Z,7μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,15.8s						
LZH				LR	LR		
	comp=Z,8μm,16.3s						
DGZ	Jazzator, Alta	55.43	308	*i* P	P	04 07 14.0	+0.7
D41A	Chassel	55.45	56	P	P	04 07 12.8	-0.5
	baz=311						
D41A	Chassel	55.45	56	IAMs_20	IAMs_20	04 31 40.5	
	comp=Z,7μm,19.0s						
GTA	Gaotai	55.48	292	⇓P	P	04 07 13.8	0.0
GTA				pP	pP	04 07 22.9	-0.5
GTA				sP	sP	04 07 27.3	+0.1
GTA				PcS	PcS	04 12 13.5	-0.3
GTA				S	S	04 14 56.9	+0.3
GTA				sS	sS	04 15 11.3	-0.9
GTA				ScS	ScS	04 16 57.6	-2.8
GTA				SS	SS	04 18 39.5	-1.6
GTA				pmax	pmax		
	comp=Z,52nm,0.9s						
GTA				pmax	pmax		
	comp=Z,710nm,6.2s						
GTA				LR	LR		
	comp=Z,5μm,19.6s						
GTA				LR	LR		
	comp=Z,5μm,19.6s						
GTA				LR	LR		
	comp=Z,6μm,20.3s						
SFJD	Kangerlussuaq	55.57	22	*i* P	P	04 07 14.8	+1.0
SFJD	Kangerlussuaq	55.57	22	*i* P	P	04 07 14.8	+1.0
G40A	Rib Lake	55.76	59	P	P	04 07 15.1	-0.5
	baz=311						
COWI	Conover	55.77	57	IAMs_20	IAMs_20	04 32 32.2	
	comp=Z,8μm,18.0s						
ENH	Enshi	55.81	277	IAmb	IAmb	04 07 30.6	
	comp=Z,97nm,1.3s						
MNTX	Cornudas Mount	55.98	80	P	P	04 07 18.0	+0.6
	baz=314,SNR=203						
MNTX	Cornudas Mount	55.98	80	IAmb	IAmb	04 07 20.2	
	comp=Z,132nm,0.8s						
MSTX	Muleshoe	56.03	77	P	P	04 07 17.8	0.0
	baz=313,SNR=77						
MSTX	Muleshoe	56.03	77	IAmb	IAmb	04 07 30.9	
	comp=Z,205nm,1.1s						
AMTX	Amarillo	56.07	75	P	P	04 07 18.1	+0.1
	baz=313						
KSU1	Kansas State U	56.25	68	P	P	04 07 18.1	-1.0
	baz=312,SNR=50						
SCIA	State Center	56.32	63	P	P	04 07 19.1	-0.5
	baz=312,SNR=9.0						
SCIA	State Center	56.32	63	IAmb	IAmb	04 07 21.3	
	comp=Z,64nm,0.6s						
SCIA				IAMs_20	IAMs_20	04 32 09.9	
	comp=Z,6μm,19.0s						
F42A	Maple Grove Fa	56.53	57	P	P	04 07 20.9	-0.1
	baz=312						
F42A	Maple Grove Fa	56.53	57	IAmb	IAmb	04 07 27.5	
	comp=Z,48nm,0.5s						
F42A				IAMs_20	IAMs_20	04 32 56.3	
	comp=Z,6μm,18.0s						
U32A	Winter Ranch,	56.67	72	IAMs_20	IAMs_20	04 35 31.5	
	comp=Z,4μm,18.0s						
E43A	Lone Tree Farm	56.71	56	P	P	04 07 21.9	-0.5
	baz=312						
E43A	Lone Tree Farm	56.71	56	IAmb	IAmb	04 07 26.3	
	comp=Z,63nm,0.5s						
E43A				IAMs_20	IAMs_20	04 32 37.9	
	comp=Z,8μm,20.0s						
HAMF	Hammerfest	57.10	351	*e*P	P	04 07 24.5	-0.2
E44A	Grand Marais A	57.10	55	P	P	04 07 24.7	-0.3
	baz=312						
SCO	Scoresbysund	57.20	9	*e*P	P	04 07 27.6	+2.2
SCO	Scoresbysund	57.20	9	*i* P	P	04 07 27.6	+2.2
JFWS	Jewell Farm	57.29	61	P	P	04 07 25.3	-1.1
	baz=312,SNR=9.1						
JFWS	Jewell Farm	57.29	61	IAMs_20	IAMs_20	04 32 20.3	
	comp=Z,7μm,19.0s						
L40A	Anamosa	57.32	62	P	P	04 07 26.4	-0.3
	baz=312,SNR=11						
L40A	Anamosa	57.32	62	IAMs_20	IAMs_20	04 31 40.4	
	comp=Z,4μm,20.0s						
I42A	Draeger Farm,	57.36	59	P	P	04 07 26.4	-0.6
	baz=312,SNR=7.5						
H43A	Windswept, Lux	57.58	58	P	P	04 07 28.0	-0.5
	baz=312						
H43A	Windswept, Lux	57.58	58	IAmb	IAmb	04 07 31.5	
	comp=Z,178nm,1.6s						
D46A	Sault St. Mari	57.88	54	P	P	04 07 30.2	-0.4
	baz=313						
WMOK	Wichita Mounta	57.91	73	P	P	04 07 31.1	+0.1
	baz=314,SNR=149						
WMOK	Wichita Mounta	57.91	73	IAmb	IAmb	04 07 33.5	
	comp=Z,150nm,0.9s						
WMOK	Wichita Mounta	57.91	73	IAMs_20	IAMs_20	04 30 39.6	
	comp=Z,4μm,20.0s						
F45A	CMU Biological	57.94	56	P	P	04 07 31.2	+0.2
	baz=313						
ARCES	ARCESS Array B	57.98	350	P	P	04 07 29.7	-1.2
	comp=Z,10nm,0.6s,baz=24,slow=6.2,SNR=32						
ARCES				PKiKP	PK

	baz=313							
G45A	Suttons Bay	58.30	56	P	P	04 07 33.2	-0.3	
	baz=313							
G45A	Suttons Bay	58.30	56	IAMs_20	IAMs_20	04 33 28.0		
	comp=Z,5μm,20.0s							
LVZ	Lovozero	58.32	346	*i* P	P	04 07 32.1	-1.3	
LVZ				pmax	pmax			
	comp=Z,22nm,0.8s							
LVZ	Lovozero	58.32	346	P	P	04 07 32.1	-1.3	
H45A	Beulah	58.38	57	P	P	04 07 33.9	-0.2	
	baz=313							
K43A	Burlington	58.47	60	P	P	04 07 34.6	-0.1	
	baz=313							
K43A	Burlington	58.47	60	IAmb	IAmb	04 07 48.2		
	comp=Z,123nm,1.2s							
TRO	Tromso	58.49	353	*e*P	P	04 07 34.5	0.0	
G46A	Petoskey	58.53	56	P	P	04 07 34.4	-0.7	
	baz=313,SNR=10							
E47A	Iron Bridge	58.56	54	P	P	04 07 35.4	+0.1	
	baz=313							
X34A	Smith Ranch, M	58.58	73	IAMs_20	IAMs_20	04 30 30.1		
	comp=Z,6μm,21.0s							
I45A	Fountain	58.68	57	P	P	04 07 35.7	-0.6	
	baz=313							
I45A	Fountain	58.68	57	IAMs_20	IAMs_20	04 34 12.0		
	comp=Z,7μm,18.0s							
TXAR	Lajitas Array	58.69	81	P	P	04 07 36.7	+0.1	
	comp=Z,61nm,0.7s,baz=299,slow=5.0,SNR=182							
TXAR				PKP2bc		04 37 19.9		
	comp=Z,1.5nm,1.0s,baz=122,slow=8.6,SNR=5.4							
TXAR	Lajitas Array	58.69	81	P	P	04 07 36.6	0.0	
KTK1	Kautokeino	58.71	351	*e*P	P	04 07 35.5	-0.6	
D48A	Paudash Townsh	58.80	52	P	P	04 07 36.7	-0.2	
	baz=314							
APA	Apatity	58.81	346 ⇓	*i* P	P	04 07 43.0	+6.3	
APA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
APA				MLR	MLR			
	comp=Z,3μm,19.0s							
ABTX	Abilene, Hawle	58.85	76	P	P	04 07 37.7	+0.1	
	baz=314,SNR=64							
ABTX	Abilene, Hawle	58.85	76	IAMs_20	IAMs_20	04 32 55.5		
	comp=Z,3μm,18.0s							
H46A	Fife Lake	58.88	56	P	P	04 07 37.9	+0.3	
	baz=313							
TUL1	Leonard	58.88	70	P	P	04 07 37.4	-0.4	
	baz=314,SNR=102							
TUL1	Leonard	58.88	70	IAMs_20	IAMs_20	04 37 12.6		
	comp=Z,4μm,18.0s							
CD2	Chengdu	58.90	282 ⇑	*i* P	P	04 07 38.6	+0.6	
CD2				S	S	04 15 41.8	+0.1	
CD2				sS	sS	04 15 57.0	-0.6	
CD2				ScS	ScS	04 17 27.5	+2.0	
CD2				pmax	pmax			
	comp=Z,20nm,0.6s							
CD2				pmax	pmax			
	comp=Z,520nm,4.7s							
CD2				LR	LR			
	comp=Z,4μm,18.2s							
CD2				LR	LR			
	comp=Z,4μm,18.4s							
CD2				LR	LR			
	comp=Z,3μm,20.2s							
KURK	Kurchatov	58.91	314	*i* P	P	04 07 37.2	-0.4	
KURK				pmax	pmax			
	comp=Z,24nm,1.0s							
KURK	Kurchatov	58.91	314	P	P	04 07 35.9	-1.8	
KURK	Kurchatov	58.91	314	IAMs_20	IAMs_20	04 34 17.2		
	comp=Z,5μm,19.0s							
D49A	Beulah Townshi	58.95	52	P	P	04 07 37.0	-1.0	
	baz=314							
GLMI	Grayling	58.99	56	P	P	04 07 37.4	-0.9	
	baz=314							
GLMI	Grayling	58.99	56	IAmb	IAmb	04 08 16.6		
	comp=Z,136nm,1.1s							
MATQ	Matagami	59.01	48	P	P	04 07 38.3	-0.1	
	baz=314							
J45A	Montague	59.01	58	P	P	04 07 37.0	-1.5	
	baz=313							
J45A	Montague	59.01	58	IAMs_20	IAMs_20	04 34 22.7		
	comp=Z,8μm,19.0s							
KURBB	Kurchatov Arra	59.01	314	P	P	04 07 36.5	-1.9	
	comp=Z,5.6nm,0.6s,baz=44,slow=6.7,SNR=28							
L44A	Lake County Fo	59.06	60	P	P	04 07 38.3	-0.5	
	baz=313,SNR=5.6							
L44A	Lake County Fo	59.06	60	IAmb	IAmb	04 07 40.8		
	comp=Z,168nm,1.1s							
E48A	Lockeyer	59.10	53	P	P	04 07 39.9	+0.8	
	baz=314							
G47A	Hillman	59.14	55	P	P	04 07 39.6	+0.2	
	baz=314							
I46A	Reed City	59.16	57	P	P	04 07 39.4	-0.1	
	baz=314,SNR=8.1							
WMQ	Urumqi	59.24	303	*e*P	P	04 07 40.3	+0.1	
WMQ				pP	pP	04 07 47.6	-2.2	
WMQ				S	S	04 15 46.3	+0.5	
WMQ				pmax	pmax			
	comp=Z,72nm,5.1s							
WMQ				LR	LR			
	comp=Z,4μm,24.3s							
WMQ				LR	LR			
	comp=Z,2μm,17.5s							
WMQ				LR	LR			
	comp=Z,4μm,22.9s							
WMQ	Urumqi	59.24	303	IAMs_20	IAMs_20	04 32 57.5		
	comp=Z,4μm,21.0s							
F48A	Evansville	59.32	54	P	P	04 07 41.5	+0.9	
	baz=314							
H47A	Mio	59.36	56	P	P	04 07 41.1	+0.2	
	baz=314							
HDIL	Hopedale	59.41	62	P	P	04 07 40.5	-0.8	
	baz=314,SNR=24							
HDIL	Hopedale	59.41	62	IAMs_20	IAMs_20	04 31 51.6		
	comp=Z,5μm,21.0s							
J46A	Howard City	59.47	58	P	P	04 07 41.3	-0.3	
	baz=314,SNR=5.6							
I47A	Gladwin	59.60	57	P	P	04 07 42.8	+0.2	
	baz=314							
I47A	Gladwin	59.60	57	IAMs_20	IAMs_20	04 34 08.4		
	comp=Z,6μm,19.0s							
F49A	Sandfield	59.66	54	P	P	04 07 42.7	-0.2	
	baz=314							
HHAR	Hobbs	59.71	69	IAmb	IAmb	04 07 44.4		
	comp=Z,90nm,0.8s							
H48A	Harrisville	59.74	55	P	P	04 07 42.7	-0.8	
	baz=314							
D50A	G1974 Best Tow	59.77	51	P	P	04 07 42.7	-1.0	
	baz=314,SNR=11							
E50A	Wahnapitae	59.85	52	P	P	04 07 43.4	-0.8	
	baz=314							
K46A	Dorr	59.85	58	P	P	04 07 43.4	-0.9	
	baz=314							
I48A	Sherman Twp	59.90	56	P	P	04 07 44.4	-0.2	
	baz=314							
MK31	Makanchi Array	59.92	308	*i* P	P	04 07 42.4	-2.4	
MK31				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MKAR	Makanchi Array	59.92	308	P	P	04 07 42.8	-2.0	
MKAR	Makanchi Array	59.92	308	P	P	04 07 42.4	-2.4	
	comp=Z,1.6nm,0.4s,baz=50,slow=5.9,SNR=23							
MKAR				LR	LR	04 34 47.2		
	comp=Z,3μm,21.3s,baz=42,slow=37							
MKAR				PKP2bc		04 37 17.1		
	comp=Z,1.4nm,0.9s,baz=218,slow=3.0,SNR=3.5							
MKAR	Makanchi Array	59.92	308	P	P	04 07 42.8	-2.0	
SCHQ	Schefferville	59.95	38	P	P	04 07 44.3	-0.6	
	comp=Z,12nm,0.6s,baz=316,slow=7.6,SNR=9.8							
SCHQ				LR	LR	04 35 05.7		
	comp=Z,10μm,18.5s,baz=320,slow=38							
J47A	Sunmer	59.98	57	P	P	04 07 44.2	-1.0	
	baz=314,SNR=5.6							
J47A	Sunmer	59.98	57	IAmb	IAmb	04 08 23.1		
	comp=Z,56nm,0.8s							
J47A				IAMs_20	IAMs_20	04 35 09.2		
	comp=Z,6μm,18.0s							
CCM	Cathedral Cave	60.04	66	P	P	04 07 44.5	-1.2	
	baz=314							
CCM	Cathedral Cave	60.04	66	P	P	04 07 43.3	-2.3	
CCM				MLR	MLR			
	comp=Z,3μm,19.0s							
CCM	Cathedral Cave	60.04	66	P	P	04 07 43.3	-2.3	
CCM	Cathedral Cave	60.04	66	IAMs_20	IAMs_20	04 36 57.4		
	comp=Z,3μm,19.0s							
L46A	Eue Claire	60.04	59	P	P	04 07 44.6	-1.0	
	baz=314							
L46A	Eue Claire	60.04	59	IAmb	IAmb	04 07 48.9		
	comp=Z,110nm,1.1s							
D51A	Lot 18 Range I	60.05	51	P	P	04 07 44.7	-0.9	
	baz=315							
MAKZ	Makanchi	60.07	309	P	P	04 07 43.1	-2.7	
MAKZ				MLR	MLR			
	comp=Z,3μm,22.0s							
MAKZ	Makanchi	60.07	309	P	P	04 07 43.1	-2.7	
MGMO	Mountain Grove	60.08	67	IAmb	IAmb	04 07 47.0		
	comp=Z,92nm,0.9s							
MGMO				IAMs_20	IAMs_20	04 36 27.5		
	comp=Z,7μm,18.0s							
SLM	Saint Louis	60.21	64	IAMs_20	IAMs_20	04 36 19.8		
	comp=Z,6μm,18.0s							
LQP	Lukban	60.25	255	*e*P	P	04 07 50.6	+3.1	
JCT	Junction City	60.26	77	P	P	04 07 46.7	-0.6	
	baz=315,SNR=25							
JCT	Junction City	60.26	77	IAmb	IAmb	04 07 55.7		
	comp=Z,64nm,0.6s							
JCT				IAMs_20	IAMs_20	04 31 32.8		
	comp=Z,4μm,20.0s							
GYA	Guiyang	60.26	276 ⇑	*i* P	P	04 07 47.6	+0.1	
GYA				PP	PP	04 10 07.0	+6.7	
GYA				S	S	04 15 53.5	-5.9	
GYA				ScS	SKKSac	04 17 35.4	-0.2	
GYA				SS	SS	04 19 53.3	-3.4	
GYA				pmax	pmax			
	comp=Z,30nm,0.8s							
GYA				pmax	pmax			
	comp=Z,210nm,4.7s							
GYA				LR	LR			
	comp=Z,1μm,19.0s							
GYA				LR	LR			
	comp=Z,970nm,19.0s							
GYA				LR	LR			
	comp=Z,940nm,18.7s							
K47A	Vermontville	60.28	58	P	P	04 07 45.9	-1.3	
	baz=314,SNR=7.6							
U40A	Yellville	60.29	68	P	P	04 07 45.9	-1.5	
	baz=314,SNR=79							
U40A	Yellville	60.29	68	IAmb	IAmb	04 07 48.3		
	comp=Z,121nm,0.9s							
U40A				IAMs_20	IAMs_20	04 36 48.4		
	comp=Z,5μm,18.0s							
TOBO	Tobermory, Bru	60.29	54	P	P	04 07 46.2	-1.1	
	baz=315							
E51A	G1948 Merrick	60.38	52	P	P	04 07 46.2	-1.7	
	baz=315,SNR=9.2							
CHGQ	Chibougamau	60.39	46	P	P	04 07 46.8	-1.1	
	baz=316							
STEI	Steigen	60.44	354	*e*P	P	04 07 48.2	+0.3	
J48A	Bridge Port	60.48	57	P	P	04 07 48.4	-0.2	
	baz=314							
J48A	Bridge Port	60.48	57	IAmb	IAmb	04 08 36.1		
	comp=Z,45nm,0.8s							
J48A				IAMs_20	IAMs_20	04 34 44.8		
	comp=Z,6μm,19.0s							
I49A	Point Hope	60.53	56	P	P	04 07 47.8	-1.1	
	baz=315							
MANU	Manus Island	60.53	220	IAmb	IAmb	04 07 56.9		
	comp=Z,69nm,0.9s							
FVM	French Village	60.55	65	IAmb	IAmb	04 07 51.5		
	comp=Z,214nm,1.5s							
FVM				IAMs_20	IAMs_20	04 33 36.1		
	comp=Z,4μm,19.0s							
W39A	Magazine	60.56	70	P	P	04 07 48.7	-0.6	
	baz=314,SNR=81							
D52A	ZEK Kipawa Sen	60.60	51	P	P	04 07 48.5	-0.9	
	baz=315							
F51A	Arnstein	60.60	52	P	P	04 07 49.2	-0.2	
	baz=315							
WHTX	Lake Whitney,	60.62	75	P	P	04 07 49.9	+0.2	
	baz=315,SNR=35							
WHTX	Lake Whitney,	60.62	75	IAMs_20	IAMs_20	04 31 19.3		
	comp=Z,5μm,22.0s							
K48A	Perry	60.65	57	P	P	04 07 49.5	-0.3	
	baz=314,SNR=5.3							
SFIN	Lafayette	60.74	61	P	P	04 07 49.7	-0.7	
	baz=314,SNR=42							
SFIN	Lafayette	60.74	61	IAMs_20	IAMs_20	04 32 55.0		
	comp=Z,7μm,21.0s							
BVAR	Borovoye Array	60.77	320	P	P	04 07 48.7	-1.7	
	comp=Z,6.2nm,0.7s,baz=51,slow=7.4,SNR=25							
J49A	Marlette	60.77	56	P	P	04 07 49.7	-0.9	
	baz=315							
BRVK	Borovoye	60.79	320	*i* P	P	04 07 50.3	-0.3	
BRVK				pmax	pmax			
	comp=Z,11nm,0.9s							
BRVK	Borovoye	60.79	320	P	P	04 07 48.7	-1.9	
BRVK	Borovoye	60.79	320	IAMs_20	IAMs_20	04 37 24.8		
	comp=Z,5μm,18.0s							
KLBO	Killbear Provi	60.86	53	P	P	04 07 50.7	-0.4	
	baz=315							
M47A	Cromwell	60.86	59	P	P	04 07 50.9	-0.3	
	baz=314,SNR=5.5							
D53A	Lac Vacive, Po	60.87	50	P	P	04 07 50.7	-0.4	
	baz=316							
D53A	Lac Vacive, Po	60.87	50	IAMs_20	IAMs_20	04 35 25.4		
	comp=Z,6μm,19.0s							
BMRO	Meriville Lake	60.89	54	P	P	04 07 51.4	0.0	
	baz=315							
IVI	Ivigtut	60.96	25	P	P	04 07 51.4	-0.1	
E52A	Mattawa	60.97	51	P	P	04 07 51.0	-0.9	
	baz=315							
F52A	Sundridge	60.99	52	P	P	04 07 51.5	-0.6	
	baz=315,SNR=6.8							
K49A	Clarkson	61.01	57	P	P	04 07 52.3	0.0	
	baz=315,SNR=13							
BRCO	Bruce Peninsul	61.02	55	P	P	04 07 51.6	-0.7	
	baz=315							
BASO	Ashfield	61.07	55	P	P	04 07 52.0	-0.6	
	baz=315							
L48A	N Adams	61.09	58	P	P	04 07 51.8	-1.0	
	baz=315							
MIAR	Mount Ida	61.13	70	P	P	04 07 53.1	-0.1	
	baz=315,SNR=112							
TMCR	Tamitsa	61.15	343	*e*P	P	04 07 54.7	+1.9	
TMCR				pmax	pmax			
	comp=Z,30nm,0.7s							
N47A	Urbana	61.16	60	P	P	04 07 52.1	-1.1	
	baz=315,SNR=11							
N47A	Urbana	61.16	60	IAmb	IAmb	04 08 09.3		
	comp=Z,74nm,1.1s							
BUKO	Buck Lake	61.20	52	P	P	04 07 52.3	-1.2	
	baz=315,SNR=6.7							
P46A	Rosedale	61.22	62	P	P	04 07 52.6	-1.1	
	baz=315,SNR=22							
AAM	Ann Arbor	61.25	57	IAMs_20	IAMs_20	04 35 40.5		
	comp=Z,5μm,18.0s							
M48A	Edgerton	61.26	59	P	P	04 07 52.7	-1.2	
	baz=315,SNR=14							
D54A	Lac Fusel, La	61.31	49	P	P	04 07 53.0	-1.2	
	baz=316							
L49A	Milan	61.32	58	P	P	04 07 53.7	-0.6	
	baz=315,SNR=7.9							
OLIL	Olney	61.34	63	IAmb	IAmb	04 08 00.7		
	comp=Z,118nm,0.8s							
OLIL				IAMs_20	IAMs_20	04 35 32.9		
	comp=Z,6μm,18.0s							
WHAR	Wooly Hollow	61.37	68	IAMs_20	IAMs_20	04 37 14.8		
	comp=Z,3μm,18.0s							
E53A	Dumoine, Ponti	61.38	51	P	P	04 07 53.9	-0.8	
	baz=316							
435B	Jarrell	61.39	76	P	P	04 07 55.3	+0.3	
	baz=315,SNR=16							
435B	Jarrell	61.39	76	IAMs_20	IAMs_20	04 38 29.9		
	comp=Z,4μm,18.0s							
PBMO	Poplar Bluff	61.39	66	IAMs_20	IAMs_20	04 37 27.7		
	comp=Z,3μm,18.0s							
S44A	Carbondale	61.42	65	P	P	04 07 54.2	-0.8	
	baz=315,SNR=18							
SIUC	Southern Illin	61.43	65	IAMs_20	IAMs_20	04 35 10.0		
	comp=Z,6μm,18.0s							
K50A	Casco	61.45	56	P	P	04 07 54.7	-0.5	
	baz=315							
CLWO	Collingwood	61.46	54	P	P	04 07 53.9	-1.4	
	baz=315,SNR=6.5							
W41B	Gary Mavity, V	61.47	69	P	P	04 07 54.5	-0.9	
	baz=315,SNR=69							
W41B	Gary Mavity, V	61.47	69	IAMs_20	IAMs_20	04 37 27.6		
	comp=Z,3μm,18.0s							
SVE	Sverdlovsk	61.47	327	*e*P	P	04 07 54.1	-1.0	
SVE				*e*S	S	04 16 17.0	+3.1	
SVE				pmax	pmax			
	comp=Z,31nm,1.2s							
SVE				MLR	MLR			
	comp=Z,5μm,16.0s							
LCAR	Lake Charles	61.48	67	IAmb	IAmb	04 07 57.4		
	comp=Z,62nm,0.7s							
ALGO	Algonquin Park	61.50	51	P	P	04 07 55.3	-0.2	
	baz=316							
H52A	Wyevale	61.53	53	P	P	04 07 55.3	-0.4	
	baz=316,SNR=8.5							
N48A	Decatur	61.53	59	P	P	04 07 55.0	-0.7	
	baz=315,SNR=8.8							
I51A	Listowel	61.55	55	P	P	04 07 56.0	+0.1	
	baz=315							
E54A	Lac Daplat, Po	61.58	50	P	P	04 07 54.9	-1.1	
	baz=316							
X40A	Basin Creek Fa	61.61	70	P	P	04 07 55.7	-0.7	
	baz=315,SNR=79							
X40A	Basin Creek Fa	61.61	70	IAmb	IAmb	04 07 58.3		
	comp=Z,96nm,0.8s							
UALR	University of	61.70	69	IAMs_20	IAMs_20	04 37 38.6		
	comp=Z,4μm,18.0s							
H06N1	SOCORRO T-PHAS	61.73	95	T	T	05 15 13.2		
	SNR=38							
PRGR	Permogore	61.79	338	*e*P	P	04 07 53.7	-3.4	
PRGR				pmax	pmax			
	comp=Z,59nm,1.1s							
G53A	Haliburton	61.81	52	P	P	04 07 56.9	-0.8	
	baz=316,SNR=12							
H06E1	SOCORRO T-PHAS	61.83	95	T	T	05 15 20.0		
	SNR=117							
L50A	Kingsville	61.87	57	P	P	04 07 57.5	-0.5	
	baz=315							
G54A	Lake Saint Pet	61.88	52	P	P	04 07 57.1	-1.0	
	baz=316							
BLO	Bloomington	61.91	62	IAmb	IAmb	04 08 14.3		
	comp=Z,88nm,0.8s							
BLO				IAMs_20	IAMs_20	04 33 42.8		
	comp=Z,7μm,21.0s							
N49A	Columbus Grove	61.94	59	P	P	04 07 57.5	-1.0	
	baz=315,SNR=10							
N49A	Columbus Grove	61.94	59	IAmb	IAmb	04 08 14.7		
	comp=Z,49nm,0.7s							
D55A	Sainte-Anne-du	61.97	49	P	P	04 07 57.3	-1.3	
	baz=317,SNR=9.5							
833A	Chaparral WMA,	62.04	79	P	P	04 07 59.3	0.0	
	baz=316,SNR=23							
833A	Chaparral WMA,	62.04	79	IAMs_20	IAMs_20	04 38 57.1		
	comp=Z,3μm,19.0s							
PVMO	Portageville	62.07	66	IAMs_20	IAMs_20	04 38 18.3		
	comp=Z,3μm,19.0s							
K51A	Iona Station	62.07	56	P	P	04 07 58.7	-0.6	
	baz=316							
PEMO	Pembroke	62.09	51	P	P	04 07 58.5	-1.0	
	baz=316							
E55A	Montcerf-Lytto	62.10	50	P	P	04 07 58.5	-1.0	
	baz=316							
ACTO	Acton	62.18	54	P	P	04 07 59.9	-0.2	
	baz=316							
GNAR	Gosnell	62.20	66	IAMs_20	IAMs_20	04 37 27.9		
	comp=Z,4μm,18.0s							
M50A	Fremont	62.20	58	P	P	04 07 60.0	-0.3	
	baz=316							
M50A	Fremont	62.20	58	IAmb	IAmb	04 08 15.4		
	comp=Z,47nm,0.8s							
M50A				IAMs_20	IAMs_20	04 36 21.5		
	comp=Z,6μm,18.0s							
H53A	Bobcaygeon	62.23	53	P	P	04 07 59.9	-0.5	
	baz=316							
J52A	Paris	62.23	55	P	P	04 08 00.1	-0.3	
	baz=316							
MOR8	Moi Rana	62.23	354	*e*P	P	04 07 58.5	-1.6	
BANO	Bancroft	62.23	52	P	P	04 07 60.0	-0.4	
	baz=316							
I53A	Kortright Cn E	62.26	54	P	P	04 08 00.5	-0.2	
	baz=316							
D56A	ZEC Mazanza, M	62.28	49	P	P	04 07 59.6	-1.1	
	baz=317							
P48A	Milroy	62.30	61	P	P	04 07 59.9	-1.1	
	baz=315,SNR=47							
P48A	Milroy	62.30	61	IAMs_20	IAMs_20	04 35 42.2		
	comp=Z,7μm,19.0s							
O49A	Covington	62.38	60	P	P	04 08 00.8	-0.6	
	baz=315							
O49A	Covington	62.38	60	IAmb	IAmb	04 08 23.3		
	comp=Z,170nm,1.6s							
GLAT	Glass	62.40	66	IAMs_20	IAMs_20	04 34 53.5		
	comp=Z,3μm,18.0s							
F55A	Otter Lake	62.41	50	P	P	04 08 01.8	+0.2	
	baz=317							
K52A	Tillsonburg	62.44	55	P	P	04 08 01.4	-0.4	
	baz=316							
NATX	Nacogdoches	62.46	73	P	P	04 08 02.3	+0.2	
	baz=316,SNR=16							
NATX	Nacogdoches	62.46	73	IAMs_20	IAMs_20	04 33 36.0		
	comp=Z,4μm,20.0s							
ARU	Arti	62.48	328 *c*	*i* P	P	04 08 01.5	-0.4	
ARU						04 08 38.3		
ARU				S	S	04 16 27.8	+1.2	
ARU				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ARU				MLR	MLR			
	comp=Z,4μm,17.0s							
ARU	Arti	62.48	328	P	P	04 08 00.8	-1.1	
	comp=Z,2.7nm,0.4s,baz=350,slow=3.8,SNR=10.0							
ARU	Arti	62.48	328	P	P	04 08 00.2	-1.7	
ARU				IAMs_20	IAMs_20	04 38 17.4		
	comp=Z,5μm,18.0s							
Z41A	Richland Creek	62.50	70	P	P	04 08 02.3	0.0	
	baz=316,SNR=19							
Q48A	North Vernon	62.51	61	P	P	04 08 01.5	-0.8	
	baz=315,SNR=12							
E56A	St. Veronique	62.52	49	P	P	04 08 01.4	-1.0	
	baz=317							
N50A	Nevada	62.60	58	P	P	04 08 02.2	-0.7	
	baz=316,SNR=11							
CCAR	Cane Creek	62.63	69	IAMs_20	IAMs_20	04 38 08.0		
	comp=Z,3μm,18.0s							
PLVO	Plevna	62.63	51	P	P	04 08 02.6	-0.5	
	baz=317							
PLVO	Plevna	62.63	51	IAmb	IAmb	04 08 06.2		
	comp=Z,88nm,1.6s							
P49A	Miami Univ. Ec	62.64	60	P	P	04 08 02.0	-1.2	
	baz=316,SNR=16							
G55A	Calabogie	62.65	51	P	P	04 08 02.7	-0.5	
	baz=317							
DRWO	Darlington Wes	62.66	53	P	P	04 08 03.2	0.0	
	baz=316							
WCI	Wyandotte Cave	62.70	62	P	P	04 08 02.6	-1.0	
	baz=316							
WCI	Wyandotte Cave	62.70	62	P	P	04 08 02.8	-0.8	
WCI				MLR	MLR			
	comp=Z,6μm,18.0s							
WCI	Wyandotte Cave	62.70	62	P	P	04 08 02.8	-0.8	
WCI	Wyandotte Cave	62.70	62	IAMs_20	IAMs_20	04 38 20.8		
	comp=Z,6μm,18.0s							
M51A	Elyria	62.71	57	P	P	04 08 03.0	-0.6	
	baz=316							
D57A	Chemin Vers le	62.71	48	P	P	04 08 03.2	-0.4	
	baz=317							
X43A	Marvell	62.73	68	P	P	04 08 03.3	-0.5	
	baz=316,SNR=36							
X43A	Marvell	62.73	68	IAMs_20	IAMs_20	04 38 04.8		
	comp=Z,5μm,18.0s							
DELO	Deloro Mine	62.75	52	P	P	04 08 03.3	-0.5	
	baz=316							
O50A	Cable	62.79	59	P	P	04 08 03.4	-0.9	
	baz=316,SNR=21							
BORG	Borgarnes	62.80	11	LR	LR	04 33 40.8		
	comp=Z,2μm,21.4s,baz=341,slow=34							
MET	Memphis--Engin	62.85	67	IAMs_20	IAMs_20	04 37 60.0		
	comp=Z,7μm,18.0s							
N51A	Ashland	62.90	58	P	P	04 08 03.8	-1.2	
	baz=316							
N51A	Ashland	62.90	58	IAmb	IAmb	04 08 47.8

comp=Z,4µm,18.0s
ACSO Alum Creek Sta 63.07 59 P **P** **04 08 05.3 -0.8**
baz=316,SNR=8.3
ACSO Alum Creek Sta 63.07 59 IAmb IAmb 04 08 45.2
comp=Z,40nm,0.8s
P50A Jamestown 63.08 60 P **P** **04 08 05.3 -0.8**
baz=316,SNR=22
ORIO Orleans, Innes 63.09 50 P **P** **04 08 05.2 -0.9**
baz=317
D58A Chemin du LacG 63.12 47 P **P** **04 08 05.9 -0.4**
baz=318,SNR=6.0
T47A Sharon Grove 63.13 64 P **P** **04 08 06.3 -0.2**
baz=316,SNR=75
J54A Appleton 63.14 54 P **P** **04 08 06.2 -0.3**
baz=316
J54A Appleton 63.14 54 IAmb IAmb 04 08 57.5
comp=Z,71nm,0.9s
ALFO Alfred 63.26 50 P **P** **04 08 07.1 -0.1**
baz=317
L53A Girard 63.27 56 P **P** **04 08 07.7 +0.4**
baz=316
ERPA Erie 63.29 55 P **P** **04 08 07.4 -0.1**
baz=316
MEDO Medina 63.31 54 P **P** **04 08 06.9 -0.7**
baz=317
MEDO Medina 63.31 54 IAmb IAmb 04 08 11.4
comp=Z,68nm,0.7s
WVT Waverly 63.33 65 P **P** **04 08 07.5 -0.3**
baz=316
WVT Waverly 63.33 65 P **P** **04 08 07.0 -0.9**
WVT MLR MLR
comp=Z,5µm,18.0s
WVT Waverly 63.33 65 P **P** **04 08 07.0 -0.9**
WVT Waverly 63.33 65 IAMs_20 IAMs_20 04 38 13.7
comp=Z,5µm,18.0s
O51A Pataskala 63.33 58 P **P** **04 08 07.2 -0.6**
baz=316,SNR=13
N52A McGinn's Farm, 63.34 57 P **P** **04 08 07.0 -0.9**
baz=316,SNR=5.4
H56A Elgin 63.36 51 P **P** **04 08 07.7 -0.2**
baz=317
M53A Wl Miller and 63.42 56 P **P** **04 08 08.0 -0.4**
baz=316,SNR=6.3
E58A La Victoria 63.47 48 P **P** **04 08 08.2 -0.4**
baz=318
DAV Davao City (W) 63.48 246 LR LR 04 31 37.8
comp=Z,3µm,21.8s,baz=45,slow=32
DAV Davao City (W) 63.48 246 IAMs_20 IAMs_20 04 31 16.0
comp=Z,3µm,21.0s
Q50A Georgetown 63.53 60 P **P** **04 08 08.7 -0.5**
baz=316,SNR=26
ALLY Alegheny Colle 63.55 56 IAmb IAmb 04 08 52.8
comp=Z,119nm,1.0s
L54A Sinclairville 63.55 55 P **P** **04 08 09.0 -0.2**
baz=317
J55A Hilton 63.56 53 P **P** **04 08 08.1 -1.2**
baz=317
P51A Williamsport 63.57 59 P **P** **04 08 08.6 -0.8**
baz=316
P51A Williamsport 63.57 59 IAmb IAmb 04 08 47.1
comp=Z,47nm,0.7s
S49A Springfield 63.57 62 P **P** **04 08 09.1 -0.4**
baz=316,SNR=42
OXF Oxford 63.58 67 P **P** **04 08 09.1 -0.4**
baz=316,SNR=99
OXF Oxford 63.58 67 IAMs_20 IAMs_20 04 38 23.4
comp=Z,6µm,18.0s
K54A Basiliko Farm, 63.59 54 P **P** **04 08 08.8 -0.8**
baz=317,SNR=6.9
G57A Newington 63.60 50 P **P** **04 08 09.0 -0.5**
baz=318
KMI Kunming 63.66 278 P **P** **04 08 11.3 +0.8**
KMI pP pP 04 08 14.8 -5.5
KMI sP sP 04 08 24.3 +0.3
KMI PP **PP** **04 10 31.0 +0.6**
KMI S **S** **04 16 40.8 -1.8**
KMI sS sS 04 16 57.5 -1.2
KMI SS **SS** **04 20 54.8 +4.7**
KMI pmax pmax
comp=Z,44nm,1.3s
KMI pmax pmax
comp=Z,500nm,4.0s
KMI LR LR
comp=Z,1µm,16.6s
KMI LR LR
comp=Z,2µm,16.9s
KMI LR LR
comp=Z,2µm,17.2s
D59A Saint-Raymond 63.67 47 P **P** **04 08 09.6 -0.3**
baz=318
QIZ Qiongzhong 63.72 268 P **P** **04 08 10.3 -0.3**
QIZ S **S** **04 16 46.6 +3.6**
QIZ sS **sS** **04 16 59.3 +0.6**
QIZ SS **SS** **04 20 54.1 +3.3**
QIZ pmax pmax
comp=Z,510nm,6.1s
QIZ LR LR
comp=Z,790nm,15.7s
QIZ LR LR
comp=Z,1µm,18.4s
QIZ LR LR
comp=Z,970nm,15.2s
Q51A Peebles 63.74 60 P **P** **04 08 09.9 -0.6**
baz=316,SNR=18
Q51A Peebles 63.74 60 IAmb IAmb 04 08 42.4
comp=Z,69nm,0.8s
R50A Paris 63.74 61 P **P** **04 08 10.1 -0.5**
baz=316,SNR=26
R50A Paris 63.74 61 IAmb IAmb 04 08 12.7
comp=Z,53nm,0.7s
R50A IAMs_20 IAMs_20 04 34 38.5
comp=Z,6µm,20.0s
O52A Adamsville 63.77 58 P **P** **04 08 10.1 -0.6**
baz=316,SNR=17
WVNY West Valley, N 63.78 54 IAmb IAmb 04 08 15.9
comp=Z,49nm,0.9s
WVNY IAMs_20 IAMs_20 04 36 28.2
comp=Z,6µm,20.0s
PDGK Podgornoye 63.79 307 P **P** **04 08 10.2 -0.8**
PDGK pmax pmax
comp=Z,30nm,1.2s
N53A Lisbon 63.79 57 P **P** **04 08 10.2 -0.6**
baz=316
N53A Lisbon 63.79 57 IAmb IAmb 04 08 43.3
comp=Z,167nm,1.6s
JAY Jayapura 63.79 226 P **P** **04 08 09.1 -2.0**
comp=Z,230nm,1.5s,comp=Z,8µm
KCP Kidapawan 63.80 247 ⇑ *i*P **P** **04 08 12.1 +0.8**
K55A Perry 63.82 54 P **P** **04 08 10.5 -0.5**
baz=317,SNR=5.7
KLMR Klimovskoe 63.85 340 *e*P **P** **04 08 09.9 -0.9**
KLMR pmax pmax
comp=Z,54nm,1.5s
KLMR Klimovskoe 63.85 340 *e*P **P** **04 08 10.0 -0.9**
KLMR AMP 04 08 15.5
comp=Z,54nm,1.5s
KLMR LQ LQ 04 30 34.2
KLMR LQ LQ 04 30 34.2
KLMR LR LR 04 35 15.3
KLMR AMP 04 41 46.9
comp=Z,5µm,18.0s
H57A Richville 63.88 51 P **P** **04 08 10.9 -0.4**
baz=318
M54A Oil Creek Stat 63.90 56 P **P** **04 08 11.3 -0.2**
baz=317
M54A Oil Creek Stat 63.90 56 IAmb IAmb 04 09 05.6
comp=Z,68nm,1.2s
MMNY Mt. Morris Dam 63.90 54 IAmb IAmb 04 08 29.7
comp=Z,54nm,0.9s
T49A Edmonton 63.92 63 P **P** **04 08 11.3 -0.5**
baz=316,SNR=37
T49A Edmonton 63.92 63 IAmb IAmb 04 08 14.5
comp=Z,84nm,0.9s
T49A IAMs_20 IAMs_20 04 37 37.4
comp=Z,5µm,18.0s
P52A Corning 63.96 59 P **P** **04 08 11.2 -0.7**
baz=316
O53A New Philadelph 64.00 58 P **P** **04 08 11.5 -0.7**
baz=317,SNR=7.4
G58A Ormstown 64.01 50 P **P** **04 08 11.9 -0.2**
baz=318
NSS Namsos 64.01 355 *e*P **P** **04 08 12.2 +0.3**
J56A Wolcott 64.03 53 P **P** **04 08 11.5 -0.8**
baz=317
L55A Hinsdale 64.03 54 P **P** **04 08 11.7 -0.8**
baz=317,SNR=6.8
F59A Saint Guilaume 64.09 48 P **P** **04 08 12.4 -0.2**
baz=318
ZAIG Zacatecas 64.10 86 IAmb IAmb 04 08 16.4
comp=Z,77nm,1.1s
N54A Moraine State 64.12 56 P **P** **04 08 12.6 -0.4**
baz=317,SNR=12
N54A Moraine State 64.12 56 IAmb IAmb 04 08 50.9
comp=Z,54nm,0.7s
I57A Carthage 64.13 51 P **P** **04 08 13.0 -0.1**
baz=318
R51A Hillsboro 64.14 61 P **P** **04 08 13.2 +0.1**
baz=316,SNR=44
S50A Richmond 64.14 62 P **P** **04 08 12.9 -0.2**
baz=316,SNR=17
D60A Saint Jean D'O 64.15 46 P **P** **04 08 12.7 -0.3**
baz=319
LONY Lake Ozonia 64.15 50 IAMs_20 IAMs_20 04 36 57.8
comp=Z,3µm,20.0s
V48A Smith Brothers 64.18 65 P **P** **04 08 12.9 -0.6**
baz=316,SNR=44
V48A Smith Brothers 64.18 65 IAMs_20 IAMs_20 04 36 53.3
comp=Z,6µm,19.0s
CLTN Cedars of Leba 64.20 64 IAmb IAmb 04 08 15.8
comp=Z,79nm,0.9s
U49A Red Boiling Sp 64.21 63 P **P** **04 08 12.9 -0.8**
baz=316,SNR=33
K56A Middlesex 64.22 53 P **P** **04 08 13.3 -0.3**
baz=317,SNR=14
E60A Ste Agathe de 64.32 47 P **P** **04 08 13.8 -0.4**
baz=319
J57A Williamstown 64.36 52 P **P** **04 08 15.0 +0.5**
baz=318
Q52A Bidwell 64.37 59 P **P** **04 08 13.8 -0.8**
baz=317
T50A Nancy 64.37 62 P **P** **04 08 14.3 -0.3**
baz=316,SNR=74
M55A Ridgway 64.39 55 P **P** **04 08 14.9 +0.1**
baz=317,SNR=7.1
M55A Ridgway 64.39 55 IAmb IAmb 04 08 52.0
comp=Z,42nm,0.8s
F60A Warwick 64.39 48 P **P** **04 08 14.1 -0.6**
baz=319
P53A Whipple 64.46 58 P **P** **04 08 14.9 -0.4**
baz=317
P53A Whipple 64.46 58 IAmb IAmb 04 08 39.3
comp=Z,187nm,1.6s
O54A Avella 64.49 57 P **P** **04 08 15.3 -0.2**
baz=317,SNR=7.8
H58A Gabriels 64.49 50 P **P** **04 08 14.7 -0.8**
baz=318
L56A Greenwood 64.51 54 P **P** **04 08 15.6 0.0**
baz=317,SNR=10
L56A Greenwood 64.51 54 IAmb IAmb 04 08 48.2
comp=Z,86nm,0.8s
L56A IAMs_20 IAMs_20 04 37 49.4
comp=Z,6µm,20.0s
H59A Cadyville 64.56 50 P **P** **04 08 15.1 -0.7**
baz=318
VBMS Vicksburg 64.58 70 P **P** **04 08 16.5 +0.3**
baz=316,SNR=22
VBMS Vicksburg 64.58 70 IAMs_20 IAMs_20 04 39 22.2
comp=Z,3µm,18.0s
K57A Scipio Center 64.60 53 P **P** **04 08 15.9 -0.2**
baz=318
S51A Beattyville 64.61 61 P **P** **04 08 16.2 0.0**
baz=317,SNR=13
S51A Beattyville 64.61 61 IAmb IAmb 04 08 31.8
comp=Z,50nm,0.7s
S51A IAMs_20 IAMs_20 04 36 09.4
comp=Z,6µm,20.0s
R52A Catlettsburg 64.62 60 P **P** **04 08 15.4 -0.9**
baz=317,SNR=12
I58A Old Forge 64.65 51 P **P** **04 08 15.9 -0.6**
baz=318
M56A Emporium 64.67 55 P **P** **04 08 16.8 +0.2**
baz=317
V49A McMinnville 64.68 64 P **P** **04 08 16.0 -0.8**
baz=316,SNR=54
E61A Lac Etchemin 64.71 47 P **P** **04 08 16.8 0.0**
baz=319
J58A Remsen 64.74 52 P **P** **04 08 16.5 -0.5**
baz=318
J58A Remsen 64.74 52 IAmb IAmb 04 09 19.4
comp=Z,144nm,1.8s
N55A Marion Center 64.78 56 P **P** **04 08 17.0 -0.3**
baz=317
U50A Jamestown 64.80 63 P **P** **04 08 16.7 -0.8**
baz=317,SNR=27
NCB Newcomb 64.81 51 IAMs_20 IAMs_20 04 37 09.8
comp=Z,4µm,20.0s
F61A St Evariste 64.83 47 P **P** **04 08 17.3 -0.3**
baz=319
Q53A Leroy 64.84 59 P **P** **04 08 17.4 -0.4**
baz=317,SNR=12
P54A Burton 64.86 58 P **P** **04 08 17.5 -0.4**
baz=317,SNR=10
S52A Salyersville 64.86 61 P **P** **04 08 17.4 -0.5**
baz=317
G60A Masonville 64.86 49 P **P** **04 08 17.3 -0.5**
baz=319
D62A Allapoint, All 64.86 45 P **P** **04 08 17.0 -0.7**
baz=320
T51A Gray 64.90 62 P **P** **04 08 18.2 0.0**
baz=317,SNR=24
W49A Belvidere 64.94 65 P **P** **04 08 17.8 -0.7**
baz=317,SNR=54
PRZ Przheval'sk 64.95 307 IAMs_20 IAMs_20 04 36 55.7
comp=Z,4µm,21.0s
L57A Andrews Acres 64.97 54 P **P** **04 08 18.3 -0.3**
baz=318,SNR=10
X48A Hartselle 64.98 66 P **P** **04 08 17.5 -1.2**
baz=317,SNR=30
X48A Hartselle 64.98 66 IAMs_20 IAMs_20 04 39 08.5
comp=Z,4µm,18.0s
R53A Hurricane 65.00 59 P **P** **04 08 18.4 -0.4**
baz=317
R53A Hurricane 65.00 59 IAmb IAmb 04 08 41.5
comp=Z,106nm,0.9s
E62A Clayton Lake 65.00 46 P **P** **04 08 18.1 -0.6**
baz=320
K58A Earlville 65.00 52 P **P** **04 08 18.1 -0.6**
baz=318
O55A Ligonier 65.03 56 P **P** **04 08 18.4 -0.6**
baz=317
N56A West Decatur 65.03 55 P **P** **04 08 18.7 -0.3**
baz=318,SNR=6.1
J59A Piesco 65.05 51 P **P** **04 08 18.5 -0.5**
baz=318
J59A Piesco 65.05 51 IAmb IAmb 04 09 05.5
comp=Z,92nm,1.4s
SWET Sewanee 65.06 64 IAmb IAmb 04 08 20.6
comp=Z,83nm,0.8s
SWET IAMs_20 IAMs_20 04 37 29.3
comp=Z,5µm,19.0s
H60A Morristown 65.09 49 P **P** **04 08 19.0 -0.3**
baz=319
G61A St-Isidore-de- 65.10 48 P **P** **04 08 19.2 -0.2**
baz=319
I59A Olmsteadville 65.10 50 P **P** **04 08 19.0 -0.4**
baz=318,SNR=5.2
Q54A Coxs Mills 65.12 58 P **P** **04 08 19.8 +0.2**
baz=317,SNR=12
MCWV Mont Chateau 65.15 57 P **P** **04 08 19.5 -0.3**
baz=317,SNR=6.5
MCWV Mont Chateau 65.15 57 IAMs_20 IAMs_20 04 38 50.1
comp=Z,4µm,18.0s
V50A Pikeville 65.20 64 P **P** **04 08 19.6 -0.6**
baz=317,SNR=24
BINY Binghamton 65.25 53 P **P** **04 08 19.8 -0.6**
baz=318,SNR=12
BINY Binghamton 65.25 53 IAmb IAmb 04 08 23.6
comp=Z,170nm,1.4s
P55A Reedsville 65.27 57 P **P** **04 08 20.7 +0.2**
baz=317,SNR=7.2
U51A La Follette 65.29 62 P **P** **04 08 20.0 -0.7**
baz=317,SNR=15
D63A Stockholm 65.32 45 P **P** **04 08 20.5 -0.1**
baz=320
M57A Sunshine Farm, 65.32 54 P **P** **04 08 20.0 -0.8**
baz=318,SNR=7.0
M57A Sunshine Farm, 65.32 54 IAmb IAmb 04 08 23.3
comp=Z,234nm,1.9s
M57A IAMs_20 IAMs_20 04 37 35.4
comp=Z,6µm,20.0s
T52A Hallie 65.33 61 P **P** **04 08 20.8 -0.1**
baz=317,SNR=13
T52A Hallie 65.33 61 IAmb IAmb 04 08 44.7
comp=Z,115nm,1.1s
I60A Shoreham 65.35 50 P **P** **04 08 20.9 0.0**
baz=319
F62A Pittston Farm, 65.35 47 P **P** **04 08 20.6 -0.4**
baz=320
O56A Blue Knob Stat 65.37 56 P **P** **04 08 21.1 -0.1**
baz=318
S53A Williamson 65.38 60 P **P** **04 08 21.0 -0.3**
baz=317
K59A Cooperstown 65.39 52 P **P** **04 08 21.4 +0.1**
baz=318
W50A Signal Mountai 65.42 64 P **P** **04 08 21.3 -0.4**
baz=317,SNR=47
TZTN Tazewell 65.43 62 P **P** **04 08 21.4 -0.2**
baz=317,SNR=6.2
TZTN Tazewell 65.43 62 IAmb IAmb 04 08 50.6
comp=Z,73nm,0.9s
L58A Harry Jones Me 65.44 53 P **P** **04 08 21.1 -0.5**
baz=318,SNR=12
SSPA Standing Stone 65.45 55 P **P** **04 08 21.4 -0.3**
baz=318
SSPA Standing Stone 65.45 55 P **P** **04 08 21.1 -0.6**
H61A Lyndonville 65.48 49 P **P** **04 08 21.5 -0.3**
baz=319
Q55A Buckhannon 65.51 58 P **P** **04 08 21.7 -0.4**
baz=317,SNR=9.2
V51A Loudon 65.52 63 P **P** **04 08 22.0 -0.2**
baz=317,SNR=20
V51A Loudon 65.52 63 IAMs_20 IAMs_20 04 38 45.5
comp=Z,5µm,18.0s
N57A Milroy 65.53 55 P **P** **04 08 21.8 -0.4**
baz=318
G62A West of Eustis 65.61 47 P **P** **04 08 21.7 -1.0**
baz=320
G62A West of Eustis 65.61 47 IAmb IAmb 04 08 42.6
comp=Z,84nm,1.5s
R54A Victor 65.62 59 P **P** **04 08 22.4 -0.4**
baz=317,SNR=9.0
M58A Price's Panora 65.63 54 P **P** **04 08 22.3 -0.5**
baz=318,SNR=6.6
PQI Presque Isle 65.64 45 IAmb IAmb 04 09 50.7
comp=Z,193nm,1.9s
U52A Thorn Hill 65.64 62 P **P** **04 08 22.4 -0.6**
baz=317,SNR=9.4
E63A Oxbow 65.65 45 P **P** **04 08 22.0 -0.8**
baz=320
E63A Oxbow 65.65 45 IAmb IAmb 04 08 26.8
comp=Z,74nm,1.4s
T53A Wise 65.66 61 P **P** **04 08 22.5 -0.7**
baz=317,SNR=6.2
FINES FINESS Array B 65.67 347 P **P** **04 08 22.8 +0.1**
FINES FINESS Array B 65.67 347 P **P** **04 08 21.8 -0.9**
comp=Z,10nm,0.7s,baz=37,slow=5.8,SNR=18
FINES PKPPKP P'P'df 04 36 53.0 -15
comp=Z,2.4nm,0.7s,baz=173,slow=1.5,SNR=4.5
FINES LR LR 04 40 29.7
comp=Z,2µm,18.6s,baz=20,slow=39
FINES FINESS Array B 65.67 347 P **P** **04 08 22.8 +0.1**
CPCT Cooper Cave 65.68 63 IAmb IAmb 04 08 46.8
comp=Z,92nm,1.1s
LBNH Lisbon 65.70 49 P **P** **04 08 23.0 -0.3**
baz=319
SLVN Son La 65.71 274 IAmb IAmb 04 08 42.6
comp=Z,56nm,1.1s
S54A Dingess, Beckl 65.73 59 P **P** **04 08 23.2 -0.4**
baz=317
L59A Walton 65.73 52 P **P** **04 08 23.4 -0.1**
baz=318,SNR=5.4
L59A Walton 65.73 52 IAmb IAmb 04 08 56.9
comp=Z,90nm,1.3s
FPAL Fort Paine 65.73 65 IAmb IAmb 04 08 25.3
comp=Z,135nm,1.0s
J60A Lant Hill Farm 65.73 51 P **P** **04 08 22.7 -0.7**
baz=319
W51A Cleveland 65.76 64 P **P** **04 08 22.9 -0.9**
baz=317,SNR=20
Y49A Blount Mountai 65.77 66 P **P** **04 08 23.1 -0.8**
baz=317,SNR=39
Y49A Blount Mountai 65.77 66 IAMs_20 IAMs_20 04 36 46.5
comp=Z,3µm,19.0s
P56A Dayton Farm, R 65.79 57 P **P** **04 08 24.0 +0.1**
baz=318,SNR=9.7
I61A Oroboro, Fairl 65.80 49 P **P** **04 08 23.9 +0.1**
baz=319
H62A Milan 65.81 48 P **P** **04 08 23.0 -1.0**
baz=319
H62A Milan 65.81 48 IAmb IAmb 04 08 27.4
comp=Z,44nm,0.8s
TARG Taragay, Kyrgy 65.81 307 IAMs_20 IAMs_20 04 40 44.1
comp=Z,3µm,18.0s
KDJ Kajisay 65.82 308 IAmb IAmb 04 08 46.3
comp=Z,71nm,1.3s
F63A Nahmakanta, Br 65.89 46 P **P** **04 08 24.1 -0.4**
baz=320
O57A Amberson 65.89 55 P **P** **04 08 24.3 -0.3**
baz=318,SNR=9.5
N58A Sunbury 65.90 54 P **P** **04 08 24.3 -0.2**
baz=318
N58A Sunbury 65.90 54 IAmb IAmb 04 08 58.0
comp=Z,45nm,0.8s
N58A IAMs_20 IAMs_20 04 39 11.0
comp=Z,6µm,18.0s
V52A Sevierville 65.91 62 P **P** **04 08 24.6 -0.1**
baz=317,SNR=17
V52A Sevierville 65.91 62 IAmb IAmb 04 08 59.0
comp=Z,128nm,1.0s
E64A Bridgewater 65.91 45 P **P** **04 08 23.3 -1.3**
baz=320
Q56A Snyder Ridge, 65.95 57 P **P** **04 08 25.2 +0.3**
baz=318
Q56A Snyder Ridge, 65.95 57 IAmb IAmb 04 08 57.4
comp=Z,63nm,1.2s
TRY Troy 66.00 51 IAMs_20 IAMs_20 04 38 28.2
comp=Z,6µm,18.0s
M59A Waymart 66.02 53 P **P** **04 08 24.8 -0.5**
baz=318
LRAL Lakeview Retre 66.04 67 P **P** **04 08 24.5 -1.0**
baz=317,SNR=82
J61A Chester 66.08 50 P **P** **04 08 25.3 -0.4**
baz=319
U53A Fall Branch 66.09 61 P **P** **04 08 25.9 0.0**
baz=317,SNR=9.2
F64A Sherman 66.11 46 P **P** **04 08 25.3 -0.5**
baz=320
F64A Sherman 66.11 46 IAmb IAmb 04 08 30.7
comp=Z,98nm,1.4s
G63A Kingsbury 66.11 47 P **P** **04 08 25.3 -0.5**
baz=320
T54A Tazewell 66.13 60 P **P** **04 08 25.6 -0.5**
baz=318,SNR=20
X51A Calhoun 66.14 64 P **P** **04 08 25.7 -0.5**
baz=317,SNR=16
X51A Calhoun 66.14 64 IAMs_20 IAMs_20 04 38 22.0
comp=Z,6µm,19.0s
PKME Peaks-Kenny Pk 66.14 47 P **P** **04 08 25.4 -0.6**
baz=320
MOL Molde 66.17 357 *e*P **P** **04 08 25.5 -0.5**
S55A Lewisburg 66.19 59 P **P** **04 08 26.6 +0.1**
baz=318
P57A Homestead Farm 66.23 56 P **P** **04 08 26.7 0.0**
baz=318
P57A Homestead Farm 66.23 56 IAmb IAmb 04 09 04.6
comp=Z,85nm,1.6s
K61A Williamstown 66.24 51 P **P** **04 08 27.1 +0.4**
baz=319
I62A Tamworth 66.25 49 P **P** **04 08 26.9 +0.1**
baz=320
H63A New Sharon 66.26 48 P **P** **04 08 27.0 +0.2**
baz=320
W52A Murphy 66.27 63 P **P** **04 08 26.3 -0.8**
baz=317,SNR=21
W52A Murphy 66.27 63 IAmb IAmb 04 08 37.4
comp=Z,129nm,1.1s
W52A IAMs_20 IAMs_20 04 38 52.3
comp=Z,5µm,18.0s
LKP Lekhapani 66.28 284 *e*P **P** **04 08 29.0 +1.8**
LKP IAmb IAmb 04 08 39.0
comp=Z,203nm,1.4s
L60A Shokan 66.29 52 P **P** **04 08 27.4 +0.4**
baz=319
R56A Bull Pasture M 66.30 58 P **P** **04 08 26.9 -0.3**
baz=318
N59A State Game Lan 66.32 54 P **P** **04 08 26.9 -0.4**
baz=318,SNR=11
N59A State Game Lan 66.32 54 IAmb IAmb 04 08 30.3
comp=Z,46nm,0.8s
PAGS Pennsylvania G 66.35 55 IAMs_20 IAMs_20 04 38 00.0
comp=Z,5µm,19.0s
Q57A Strasburg 66.36 57 P **P** **04 08 28.2 +0.7**
baz=318
U54A Nelsons Funny 66.39 61 P **P** **04 08 27.8 -0.1**

baz=318,SNR=14
U54A Nelsons Funny 66.39 61 IAmb IAmb 04 09 08.9
comp=Z,58nm,0.8s
G64A Maxfield 66.39 46 P **P** **04 08 28.1 +0.4**
baz=320
L61A Hillsdale 1, H 66.46 51 P **P** **04 08 27.9 -0.3**
baz=319
V53A Saluda 66.47 62 P **P** **04 08 27.8 -0.6**
baz=318,SNR=19
V53A Saluda 66.47 62 IAmb IAmb 04 09 03.9
comp=Z,71nm,1.0s
I63A Otisfield 66.47 48 P **P** **04 08 28.6 +0.4**
baz=320
Z50A Ashland 66.49 66 P **P** **04 08 27.5 -1.0**
baz=317,SNR=127
Z50A Ashland 66.49 66 IAms_20 IAms_20 04 37 25.9
comp=Z,3μm,18.0s
Y51A Rockmart 66.51 65 P **P** **04 08 27.5 -1.1**
baz=317,SNR=39
T55A Pulaski 66.52 60 P **P** **04 08 28.5 -0.2**
baz=318
J62A Henniker 66.52 50 P **P** **04 08 27.9 -0.6**
baz=320
FRU1 Bishkek 66.56 310 IAms_20 IAms_20 04 38 33.7
comp=Z,3μm,20.0s
M60A Port Jervis 66.58 53 P **P** **04 08 28.3 -0.6**
baz=319,SNR=6.3
P58A Pank, Wackersv 66.60 56 P **P** **04 08 30.0 +0.9**
baz=318
BLA Blacksburg 66.64 59 P **P** **04 08 29.3 -0.2**
baz=318,SNR=8.1
BLA Blacksburg 66.64 59 IAmb IAmb 04 09 10.3
comp=Z,90nm,1.1s
DOMB Dombas 66.64 356 *e*P **P** **04 08 29.7 +0.7**
W53A Cullowhee 66.64 63 P **P** **04 08 28.9 -0.7**
baz=318,SNR=14
H64A Troy 66.65 47 P **P** **04 08 29.2 -0.1**
baz=320
X52A Dahlonega 66.65 64 P **P** **04 08 29.2 -0.3**
baz=317,SNR=31
N60A Cedar Hill Far 66.69 53 P **P** **04 08 29.1 -0.5**
baz=319,SNR=8.5
L61B Northampton 66.69 51 P **P** **04 08 29.5 -0.1**
baz=319
K62A Royalston 66.74 50 P **P** **04 08 29.9 0.0**
baz=319
K62A Royalston 66.74 50 IAms_20 IAms_20 04 37 46.2
comp=Z,4μm,20.0s
AAK Ala-Archa 66.75 310 *ce*P **P** **04 08 29.2 -1.0**
AAK pmax pmax
comp=Z,24nm,1.3s
AAK Ala-Archa 66.75 310 P **P** **04 08 29.1 -1.1**
comp=Z,4.7nm,0.8s,baz=126,slow=4.7,SNR=9.2
AAK Ala-Archa 66.75 310 P **P** **04 08 29.9 -0.3**
AAK Ala-Archa 66.75 310 IAms_20 IAms_20 04 39 23.9
comp=Z,4μm,20.0s
S56A Natural Bridge 66.75 58 P **P** **04 08 29.6 -0.5**
baz=318,SNR=7.5
Q58A Fox Den Farm, 66.81 56 P **P** **04 08 30.2 -0.2**
baz=318,SNR=7.8
U55A TA2, Sparta 66.83 60 P **P** **04 08 30.6 -0.1**
baz=318,SNR=12
J63A Strafford 66.83 49 P **P** **04 08 30.4 0.0**
baz=320
R57A Stanardsville 66.85 57 P **P** **04 08 31.0 +0.3**
baz=318,SNR=7.5
V54A Nebo 66.87 61 P **P** **04 08 30.6 -0.2**
baz=318,SNR=20
Z51A Franklin 66.87 65 P **P** **04 08 30.2 -0.7**
baz=317,SNR=22
BG3 Lake Jocassee 66.90 63 IAmb IAmb 04 09 03.7
comp=Z,112nm,1.3s
NRN Naryn 66.93 308 IAms_20 IAms_20 04 39 00.1
comp=Z,3μm,20.0s
O60A Telford 66.95 54 P **P** **04 08 30.9 -0.3**
baz=319
P59A Jarrettsville 66.96 55 P **P** **04 08 31.2 -0.1**
baz=319,SNR=6.8
G65A Princeton 66.97 46 P **P** **04 08 30.9 -0.4**
baz=321
T56A Rocky Mt 66.98 59 P **P** **04 08 31.5 -0.1**
baz=318
S57A Dark Hollow, R 67.02 58 P **P** **04 08 32.0 +0.2**
baz=318
S57A Dark Hollow, R 67.02 58 IAmb IAmb 04 09 03.9
comp=Z,90nm,1.6s
M61A Granite Spring 67.02 52 P **P** **04 08 32.0 +0.3**
baz=319
X53A Estanollee 67.06 63 P **P** **04 08 31.4 -0.6**
baz=318,SNR=24
K63A Dunstable 67.06 50 P **P** **04 08 31.2 -0.8**
baz=320
BRNJ Basking Ridge 67.10 53 IAmb IAmb 04 08 40.9
comp=Z,207nm,1.6s
Y52A Lilburn 67.10 64 P **P** **04 08 31.8 -0.5**
baz=318,SNR=24
Y52A Lilburn 67.10 64 IAmb IAmb 04 08 49.5
comp=Z,91nm,0.8s
Y52A IAms_20 IAms_20 04 38 52.2
comp=Z,5μm,18.0s
R58A Rapidan 67.12 57 P **P** **04 08 32.1 -0.3**
baz=318
N61A South Mountain 67.18 53 P **P** **04 08 32.5 -0.2**
baz=319
PAL Palisades 67.18 52 P **P** **04 08 32.6 -0.1**
baz=319
PAL Palisades 67.18 52 IAmb IAmb 04 09 19.1
comp=Z,70nm,1.1s
HRV Adam Dziewonsk 67.19 50 P **P** **04 08 32.4 -0.3**
baz=320
HRV Adam Dziewonsk 67.19 50 IAms_20 IAms_20 04 38 58.9
comp=Z,5μm,19.0s
P60A Greenville 67.21 54 P **P** **04 08 32.6 -0.3**
baz=319
P60A Greenville 67.21 54 IAms_20 IAms_20 04 38 36.5
comp=Z,5μm,19.0s
V55A Taylorsville 67.21 61 P **P** **04 08 32.8 -0.2**
baz=318,SNR=11
V55A Taylorsville 67.21 61 IAmb IAmb 04 09 08.2
comp=Z,54nm,0.9s
250A Grady 67.23 67 P **P** **04 08 32.9 -0.2**
baz=318,SNR=105
250A Grady 67.23 67 IAms_20 IAms_20 04 40 23.5
comp=Z,2μm,18.0s
W54A Cherokee Point 67.25 62 P **P** **04 08 32.8 -0.4**
baz=318,SNR=13
U56A King 67.30 60 P **P** **04 08 33.0 -0.6**
baz=318,SNR=5.9
CPNY Central Park 67.32 53 IAmb IAmb 04 09 20.6
comp=Z,135nm,1.6s
NC204 NORSAR Array S 67.32 355 IAmb IAmb 04 09 31.2
comp=Z,119nm,1.3s
M62A Hamden 67.35 52 P **P** **04 08 34.7 +0.9**
baz=320
LSA Lhasa 67.35 289 IAmb IAmb 04 08 46.7
comp=Z,93nm,0.8s
PMG Port Moresby 67.36 217 P **P** **04 08 34.5 +0.5**
PMG Port Moresby 67.36 217 P **P** **04 08 34.5 +0.5**
BRAL Brewton 67.37 68 P **P** **04 08 33.5 -0.5**
baz=318,SNR=5.4
BRAL Brewton 67.37 68 IAms_20 IAms_20 04 40 46.3
comp=Z,4μm,18.0s
Y53A Monroe 67.38 64 P **P** **04 08 33.5 -0.6**
baz=318,SNR=27
WES Weston 67.39 50 IAmb IAmb 04 09 20.9
comp=Z,93nm,1.4s
WES IAms_20 IAms_20 04 38 36.4
comp=Z,5μm,20.0s
Z52A Williamson 67.39 65 P **P** **04 08 33.2 -1.1**
baz=318,SNR=28
Q59A Harwood 67.40 56 P **P** **04 08 34.5 +0.4**
baz=319
H66A Whiting 67.41 46 P **P** **04 08 34.0 -0.1**
baz=321
T57A Hurt 67.42 59 P **P** **04 08 33.9 -0.4**
baz=318
T57A Hurt 67.42 59 IAmb IAmb 04 09 12.0
comp=Z,61nm,1.2s
NC405 NORSAR Array S 67.43 354 IAmb IAmb 04 09 28.1
comp=Z,95nm,1.2s
R58B Mineral 67.44 57 P **P** **04 08 34.5 +0.1**
baz=318
BCX Boston College 67.50 50 IAms_20 IAms_20 04 38 48.3
comp=Z,5μm,20.0s
NB201 NORSAR Array S 67.52 355 IAmb IAmb 04 09 04.8
comp=Z,138nm,1.2s
CBN Corbin Frederi 67.52 57 P **P** **04 08 35.4 +0.5**
baz=319

NB2 NORSAR Subarra 67.53 355 P **P** **04 08 33.6 -1.1**
comp=Z,131nm,2.0s,baz=7.2,slow=6.5
NB2 NORSAR Subarra 67.53 355 P **P** **04 08 33.6 -1.1**
baz=7.2,slow=6.5
NOA NORSAR Array B 67.53 355 P **P** **04 08 33.7 -1.0**
comp=Z,4.9nm,0.7s,baz=6.1,slow=6.4,SNR=16
NOA PKPPKP P'P'df 04 36 53.3 -11
comp=Z,2.4nm,0.9s,baz=135,slow=3.8,SNR=3.2
NOA LR LR 04 39 18.2
comp=Z,1μm,19.5s,baz=0.0,slow=37
X54A Belton 67.54 63 P **P** **04 08 34.8 -0.3**
baz=318,SNR=25
O61A Allentown 67.55 54 P **P** **04 08 34.0 -1.0**
baz=319,SNR=6.0
AKTO Aktyubinsk 67.56 325 P **P** **04 08 34.0 -1.0**
AKTO Aktyubinsk 67.56 325 P **P** **04 08 34.0 -1.0**
comp=Z,9.6nm,0.7s,baz=51,slow=7.8,SNR=24
S58A Poland Farm, P 67.61 58 P **P** **04 08 35.5 0.0**
baz=318
152A Waverly Hall 67.61 65 P **P** **04 08 35.3 -0.2**
baz=318,SNR=17
152A Waverly Hall 67.61 65 IAms_20 IAms_20 04 40 30.5
comp=Z,4μm,20.0s
V56A Mocksville 67.64 60 P **P** **04 08 35.4 -0.3**
baz=318,SNR=11
BRYW Bryant College 67.65 50 IAms_20 IAms_20 04 38 55.7
comp=Z,4μm,20.0s
PAULI Pauline 67.65 62 IAmb IAmb 04 08 58.3
comp=Z,144nm,1.3s
LMN Caledonia Moun 67.67 44 IAmb IAmb 04 08 40.9
comp=Z,65nm,1.0s
KMSC Kings Mountain 67.67 61 P **P** **04 08 35.2 -0.7**
baz=318,SNR=25
KMSC Kings Mountain 67.67 61 IAmb IAmb 04 08 38.8
comp=Z,100nm,0.8s
ITAN ITANAGAR 67.70 286 *e*P **P** **04 08 38.2 +2.0**
NAO01 NORSAR Array S 67.75 355 *e*P **P** **04 08 36.6 +0.6**
GOGA Godfrey 67.77 64 P **P** **04 08 36.1 -0.5**
baz=318,SNR=24
GOGA Godfrey 67.77 64 IAmb IAmb 04 08 53.4
comp=Z,73nm,0.8s
GOGA Godfrey 67.77 64 IAms_20 IAms_20 04 39 30.9
comp=Z,4μm,20.0s
M63A Gales Ferry 67.79 51 P **P** **04 08 36.6 0.0**
baz=320
U57A Blanch 67.80 59 P **P** **04 08 36.7 -0.1**
baz=318,SNR=5.9
Z53A Monticello 67.81 64 P **P** **04 08 36.4 -0.4**
baz=318,SNR=47
AB31 Akbulak array 67.82 323 *i*P **P** **04 08 35.1 -1.5**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 67.82 323 P **P** **04 08 35.1 -1.5**
HODGE Hodges 67.84 63 IAmb IAmb 04 08 46.9
comp=Z,74nm,0.7s
T58A Grand View Acr 67.85 58 P **P** **04 08 36.8 -0.2**
baz=319,SNR=5.8
Y54A Tignall 67.87 63 P **P** **04 08 37.5 +0.3**
baz=318,SNR=25
S59A Mechanicsville 67.89 57 P **P** **04 08 36.8 -0.4**
baz=319
V57A Coltrane Farms 67.97 60 P **P** **04 08 37.8 0.0**
baz=318
SKAR Skarslia 68.03 356 *e*P **P** **04 08 37.7 -0.1**
W56A Indian Trail 68.09 61 P **P** **04 08 39.0 +0.4**
baz=318,SNR=7.1
252A Lumpkin 68.09 66 P **P** **04 08 38.9 +0.2**
baz=318,SNR=14
153A Fort Valley 68.12 65 P **P** **04 08 38.0 -0.8**
baz=318,SNR=12
FAKI Fak Fak 68.20 234 P **P** **04 08 39.4 -0.1**
FAKI Fak Fak 68.20 234 IAmb IAmb 04 08 58.6
comp=Z,72nm,1.0s
Z54A Sparta 68.25 64 P **P** **04 08 39.4 -0.1**
baz=318,SNR=32
KK31 Karatay Array 68.27 312 *i*P **P** **04 08 38.2 -1.4**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 68.27 312 P **P** **04 08 37.9 -1.7**
KKAR Karatay Array 68.27 312 P **P** **04 08 37.9 -1.7**
Y55A Saluda 68.28 63 P **P** **04 08 39.6 -0.1**
baz=318,SNR=16
X56A White Oak 68.32 62 P **P** **04 08 39.9 -0.1**
baz=318,SNR=20
M65A Busby, Falmout 68.35 50 IAms_20 IAms_20 04 39 24.2
comp=Z,4μm,20.0s
T59A Double "B" Far 68.35 58 P **P** **04 08 39.6 -0.5**
baz=319,SNR=8.9
352A Blakely 68.37 66 P **P** **04 08 39.8 -0.5**
baz=318,SNR=12
352A Blakely 68.37 66 IAms_20 IAms_20 04 41 04.4
comp=Z,3μm,18.0s
253A Americus 68.39 66 P **P** **04 08 40.0 -0.4**
baz=318,SNR=11
253A Americus 68.39 66 IAms_20 IAms_20 04 41 12.5
comp=Z,5μm,18.0s
KSH Kashi 68.39 307 P **P** **04 08 44.1 +3.5**
KSH pP sP 04 08 54.4 +0.3
KSH PcP **PcP** **04 09 09.4 +3.5**
KSH S **S** **04 17 41.4 +1.7**
KSH sS sS 04 17 58.8 +3.0
KSH SS **SS** **04 22 08.1 +5.5**
KSH pmax pmax
comp=Z,56nm,1.1s
KSH LR LR
comp=Z,8μm,20.8s
V58A Windy Hill, Pi 68.40 60 P **P** **04 08 40.4 -0.1**
baz=319,SNR=7.3
V58A Windy Hill, Pi 68.40 60 IAmb IAmb 04 09 18.9
comp=Z,60nm,1.0s
W57A Gilead 68.40 61 P **P** **04 08 40.1 -0.4**
baz=318,SNR=6.2
W57A Gilead 68.40 61 IAmb IAmb 04 09 08.6
comp=Z,54nm,0.9s
VSU Vasula 68.43 346 *i*P **P** **04 08 39.9 -0.4**
VSU pmax pmax
comp=Z,48nm,0.6s
KOHI KOHIMA 68.51 285 *e*P **P** **04 08 42.1 +0.6**
KOHI IAmb IAmb 04 08 58.0
comp=Z,162nm,1.4s
BIRD Birdtown, Kers 68.52 61 IAmb IAmb 04 08 44.0
comp=Z,50nm,0.8s
BIRD IAms_20 IAms_20 04 37 59.7
comp=Z,6μm,21.0s
451A Vernon 68.53 68 P **P** **04 08 42.1 +0.7**
baz=318
154A Montrose 68.56 64 P **P** **04 08 41.3 -0.2**
baz=318,SNR=17
154A Montrose 68.56 64 IAms_20 IAms_20 04 39 47.0
comp=Z,5μm,19.0s
NONG Nongkai 68.62 272 P **P** **04 08 43.0 +0.9**
Z55A Blythe 68.66 63 P **P** **04 08 41.8 -0.3**
baz=318
OSL Oslo 68.66 355 *e*P **P** **04 08 41.3 -0.3**
U59A Littleton 68.69 58 P **P** **04 08 42.5 +0.3**
baz=319
Y56A Pelion 68.69 62 P **P** **04 08 42.3 0.0**
baz=318
TAOE Nuku Hiva Isla 68.74 138 *e*S **S** **04 17 42.8 -1.2**
TAOE comp=Z,1μm,24.9s *e*LQ LQ 04 26 06.3
TAOE comp=Z,4μm,33.1s *e*LR LR 04 29 30.2
comp=Z,9μm,23.8s,baz=344
TAOE Nuku Hiva Isla 68.74 138 *e*T T 05 23 21.2
comp=Z,375nm,0.3s
X57A Johnson Farm, 68.86 61 P **P** **04 08 43.4 +0.1**
baz=319,SNR=9.6
353A Camilla 68.87 66 P **P** **04 08 44.0 +0.5**
baz=318,SNR=6.4
V59A Middlesex 68.89 59 P **P** **04 08 43.5 0.0**
baz=319,SNR=10
W58A Raeford 68.91 60 P **P** **04 08 44.0 +0.3**
baz=319,SNR=7.4
155A Kite 68.92 64 P **P** **04 08 44.1 +0.3**
baz=318,SNR=14
U60A Pendleton 68.93 58 P **P** **04 08 44.0 +0.2**
baz=319
MOS Moscow 68.94 339 *e*P **P** **04 08 43.4 -0.1**
MOS *e* 04 09 10.1
MOS pmax pmax
comp=Z,61nm,1.2s
MOS MLR MLR
comp=N,4μm,19.0s
MOS MLR MLR
comp=Z,5μm,19.0s
MOS MLR MLR

comp=E,2μm,17.0s
254A Abbeville 68.95 65 P **P** **04 08 44.2 +0.2**
baz=318,SNR=13
Z56A Williston 69.00 63 P **P** **04 08 44.7 +0.5**
baz=319,SNR=7.6
KONO Kongsberg 69.01 355 *e*P **P** **04 08 43.9 +0.1**
Y57A Sumter 69.03 62 P **P** **04 08 44.9 +0.4**
baz=319
Y57A Sumter 69.03 62 IAmb IAmb 04 08 47.2
comp=Z,72nm,0.8s
Y57A IAms_20 IAms_20 04 37 53.1
comp=Z,7μm,21.0s
TIGA Tifton 69.16 66 P **P** **04 08 45.4 +0.1**
baz=318
TIGA Tifton 69.16 66 IAmb IAmb 04 08 50.0
comp=Z,79nm,0.8s
TIGA IAms_20 IAms_20 04 39 38.9
comp=Z,3μm,20.0s
453A Whigham 69.18 67 P **P** **04 08 45.8 +0.4**
baz=318,SNR=14
453A Whigham 69.18 67 IAms_20 IAms_20 04 40 06.5
comp=Z,3μm,19.0s
X58A Rowland 69.20 61 P **P** **04 08 45.4 -0.1**
baz=319
X58A Rowland 69.20 61 IAmb IAmb 04 08 48.4
comp=Z,59nm,0.8s
W59A Clinton 69.23 60 P **P** **04 08 46.5 +0.9**
baz=319
IMP Imphal 69.27 284 *e*P **P** **04 08 46.1 0.0**
IMP IAmb IAmb 04 09 01.1
comp=Z,2μm,3.6s
UBPT Khong Chiam 69.27 269 P P 04 08 51.1 +5.0
UBPT Khong Chiam 69.27 269 IAmb IAmb 04 09 01.2
comp=Z,80nm,1.2s
Z57A Bowman 69.39 62 P **P** **04 08 47.3 +0.6**
baz=319,SNR=8.6
V60A Jim Taylor Roa 69.41 58 P **P** **04 08 46.9 +0.2**
baz=319
255A Hazlehurst 69.43 64 P **P** **04 08 47.3 +0.4**
baz=319,SNR=10.0
255A Hazlehurst 69.43 64 IAms_20 IAms_20 04 40 23.3
comp=Z,5μm,19.0s
156A Sylvania 69.44 63 P **P** **04 08 47.4 +0.5**
baz=319
CNNC Cliffs of the 69.47 59 P **P** **04 08 47.0 -0.1**
baz=319
CNNC Cliffs of the 69.47 59 IAmb IAmb 04 09 53.9
comp=Z,42nm,0.6s
Y58A Scranton 69.51 61 P **P** **04 08 48.0 +0.6**
baz=319,SNR=8.3
X59A McDuffie Farm, 69.59 60 P **P** **04 08 48.4 +0.6**
baz=319
553A Crawfordville 69.61 67 P **P** **04 08 48.7 +0.6**
baz=318,SNR=6.1
GUWA GUWAHATI 69.62 287 *e*P **P** **04 08 47.7 -0.5**
355A Pearson 69.65 65 P **P** **04 08 48.6 +0.3**
baz=319,SNR=16
454A Quitman 69.68 66 P **P** **04 08 48.7 +0.3**
baz=319,SNR=5.2
157A Early Branch 69.70 63 P **P** **04 08 48.8 +0.3**
baz=319
PAYA Payao 69.70 276 P **P** **04 08 50.1 +1.3**
W60A Pink Hill 69.71 59 P **P** **04 08 49.3 +0.7**
baz=319
256A Glennville 69.72 64 P **P** **04 08 48.7 0.0**
baz=319
OBN Obninsk 69.75 339 *ce*P **P** **04 08 47.6 -0.9**
OBN *e* 04 09 15.5
OBN *e*S **S** **04 17 52.8 -2.1**
OBN pmax pmax
comp=Z,100nm,2.5s
OBN Obninsk 69.75 339 IAms_20 IAms_20 04 44 22.3
comp=Z,4μm,19.0s
V61A Roper 69.75 58 P **P** **04 08 48.5 -0.4**
baz=320
NHSC New Hope 69.83 62 P **P** **04 08 49.8 +0.5**
baz=319,SNR=6.2
Z58A St. Stephen 69.86 62 P **P** **04 08 50.2 +0.7**
baz=319
Y59A Loris 69.88 61 P **P** **04 08 50.6 +0.9**
baz=319
X60A Albert Glenn T 69.92 60 P **P** **04 08 50.3 +0.3**
baz=319
DLV T Lat 69.93 264 P **P** **04 08 48.6 -1.9**
DLV IAmb IAmb 04 09 05.8
comp=Z,172nm,1.8s
SHL Shillong 69.97 286 P **P** **04 08 50.1 -0.5**
SNR=49
SHL Shillong 69.97 286 *e*P **P** **04 08 49.7 -0.8**
SHL IAmb IAmb 04 08 58.2
comp=Z,46nm,0.7s
SHL IAms_20 IAms_20 04 40 12.1
comp=Z,2μm,11.5s
455A Stateville 70.00 66 P **P** **04 08 50.6 +0.2**
baz=319,SNR=12
356A Blackshear 70.08 65 P **P** **04 08 51.4 +0.5**
baz=319,SNR=8.9
257A Skidaway Islan 70.21 63 P **P** **04 08 52.3 +0.6**
baz=319
257A Skidaway Islan 70.21 63 IAms_20 IAms_20 04 40 11.4
comp=Z,4μm,19.0s
TAS Tashkent 70.22 312 IAms_20 IAms_20 04 43 46.6
comp=Z,3μm,18.0s
Y60A Bolivia 70.23 60 P **P** **04 08 52.6 +0.8**
baz=319
MSAI Masohi 70.28 237 P **P** **04 08 51.3 -1.0**
TLIG Tlapa 70.47 86 IAmb IAmb 04 09 07.0
comp=Z,221nm,1.9s
LAMP Lampang 70.47 275 P P 04 09 00.9 +7.4
BTK Batken 70.50 310 IAms_20 IAms_20 04 42 58.0
comp=Z,3μm,20.0s
456A Hilliard 70.58 65 P **P** **04 08 54.5 +0.5**
baz=319,SNR=11
456A Hilliard 70.58 65 IAms_20 IAms_20 04 43 09.5
comp=Z,5μm,18.0s
GTK Tadong 70.62 290 *e*P **P** **04 08 54.9 +0.4**
GTK IAmb IAmb 04 09 05.8
comp=Z,188nm,1.2s
CMMT Chiang Mai 70.68 276 P **P** **04 08 55.4 +0.6**
CHTO Chiang Mai 70.68 276 P **P** **04 08 55.3 +0.5**
SNR=21
CHTO Chiang Mai 70.68 276 P **P** **04 08 54.6 -0.2**
CHTO MLR MLR
comp=Z,2μm,18.0s
CHTO Chiang Mai 70.68 276 P **P** **04 08 54.6 -0.2**
SANI Sanana 70.76 240 P **P** **04 08 54.5 -0.7**
MRSI Marisa 70.92 245 P **P** **04 08 56.0 -0.2**
457A Yulee 70.93 65 P **P** **04 08 56.6 +0.5**
baz=319
CM31 Chiang Mai Arr 70.95 276 P **P** **04 08 57.0 +0.6**
SNR=16
CMAR Chiang Mai Arr 70.95 276 P **P** **04 08 56.1 -0.3**
comp=Z,19nm,0.7s,baz=27,slow=6.8,SNR=41
CMAR LR LR 04 42 54.3
comp=Z,1μm,19.1s,baz=25,slow=38
CHAI Chaiyaphum 70.98 272 P **P** **04 08 57.1 +0.5**
PBKT Sadao Pong 71.11 273 P **P** **04 08 57.8 +0.5**
TAPN Taplejung 71.12 290 *e*P **P** **04 08 58.0 +0.3**
comp=Z,569nm,0.9s
656A Willston 71.31 66 P **P** **04 08 58.9 +0.4**
baz=319,SNR=6.2
656A Willston 71.31 66 IAms_20 IAms_20 04 44 21.3
comp=Z,3μm,22.0s
PMOR Pomariorio Ree 71.51 148 *e*T T 05 26 48.7
comp=Z,187nm,0.2s
LPSR Galich'ya Gora 71.51 337 *e*P **P** **04 08 59.6 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR MLR MLR
comp=Z,5μm,22.0s
GAR Garm 71.57 310 IAmb IAmb 04 09 30.3
comp=Z,109nm,1.0s
AGT Agartala 71.61 285 *e*P **P** **04 09 00.0 -0.3**
AGT IAmb IAmb 04 09 13.0
comp=Z,675nm,1.6s
ODAN Odare 71.67 290 *e*P **P** **04 09 01.1 +0.1**
comp=Z,192nm,0.9s
GUN Gumba 71.77 292 *e*P **P** **04 09 01.9 +0.2**
comp=Z,594nm,0.7s
JIRN Jiri 71.77 292 *e*P **P** **04 09 02.2 +0.4**
comp=Z,575nm,0.7s
MHMT Maesarieng 71.79 276 P **P** **04 09 02.5 +1.0**
VAH Vaihoa 71.81 148 *e*T T 05 27 11.6
comp=Z,25nm,0.4s
658A Bunnell 72.00 65 P **P** **04 09 02.9 +0.3**
baz=320
658A Bunnell 72.00 65 IAms_20 IAms_20 04 40 40.1

comp=Z,4μm,20.0s
MICGM Minsk 72.04 344 *e*P **P 04 09 03.0 +0.6**
MICGM *e*LR LR 04 39 08.0
MNK Minsk 72.04 344 *e*P **P 04 09 03.0 +0.6**
VRH Novokhopyorsk 72.06 335 *e*P **P 04 09 01.4 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.4s
VRH MLR MLR
comp=Z,3μm,15.0s
RAMN Ramite 72.07 291 *e*P **P 04 09 03.4 0.0**
comp=Z,240nm,0.6s
KKN Kakani 72.20 292 *e*P **P 04 09 04.2 0.0**
comp=Z,169nm,0.6s
MPSI Mapaga 72.20 247 P **P 04 09 03.1 -0.9**
APSI Ampana 72.22 245 P P 04 09 11.9 +7.8
PKI Pulchoki 72.30 292 *e*P **P 04 09 04.6 -0.2**
comp=Z,304nm,1.0s
PKIN Phulchoki 72.30 292 *e*P **P 04 09 04.4 -0.4**
comp=Z,170nm,0.8s
CHGR Chuyangaron 72.39 310 IAmb IAmb 04 09 35.1
comp=Z,101nm,1.0s
GKN Gorkha 72.42 293 *e*P **P 04 09 05.1 -0.2**
comp=Z,264nm,0.8s
DMN Daman 72.44 292 *e*P **P 04 09 05.8 +0.2**
comp=Z,164nm,0.8s
LAWE Loch Awe, Argy 72.48 4 *e*P **P 04 09 03.4 -1.7**
DANN Dangsing 72.66 294 *e*P **P 04 09 06.9 0.0**
comp=Z,421nm,1.0s
UMPA Umpang Tak 72.70 274 P **P 04 09 08.8 +1.8**
VSR Storozhevoye 72.72 336 *e*P **P 04 09 05.5 -1.0**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR MLR MLR
comp=Z,5μm,19.0s
UTHA Uthaitani 72.82 273 P **P 04 09 08.7 +1.0**
DWPF Disney Wildern 72.89 66 P **P 04 09 09.0 +1.0**
baz=320
DWPF Disney Wildern 72.89 66 P **P 04 09 07.9 -0.1**
DWPF Disney Wildern 72.89 66 IAMs_20 IAMs_20 04 44 12.2
comp=Z,4μm,18.0s
PGBU Glenifferbraes 72.97 3 *e*P **P 04 09 07.1 -0.8**
BSD Bornholm Skovb 73.15 352 *e*P **P 04 09 08.7 -0.3**
BSD pmax pmax
comp=Z,3.0nm,0.4s
BSD Bornholm Skovb 73.15 352 *i* P **P 04 09 08.7 -0.3**
comp=Z,3.2nm,0.4s
KOLN Koldanda 73.19 293 *e*P **P 04 09 09.2 -0.8**
comp=Z,191nm,0.9s
SUW Suwalki 73.26 347 IAMs_20 IAMs_20 04 45 10.2
comp=Z,5μm,18.0s
PPT Papeete 73.38 151 LR LR 04 34 43.0
comp=Z,1μm,19.9s,baz=328,slow=30
PPT2 Papeete2 73.40 151 *e*S **S 04 18 37.4 -0.5**
PPT2 *e*LQ LQ 04 27 55.0
comp=Z,2μm,30.2s
PPT2 *e*LR LR 04 31 42.9
comp=Z,6μm,28.0s,baz=345
PPT2 Papeete2 73.40 151 *e*T T 05 29 11.1
comp=Z,54nm,0.3s
TIAR Tiarei 73.44 151 *e*T T 05 29 13.8
comp=Z,9.6nm,0.2s
PAE Paea 73.47 151 *e*T T 05 29 15.8
comp=Z,13nm,0.3s
ESK Eskdalemuir 73.50 3 *e*P **P 04 09 10.8 -0.3**
TVO Taravao 73.68 151 *e*T T 05 29 31.8
comp=Z,2.8nm,0.3s
DHRM DHARAMSHALA 73.80 301 *e*P **P 04 09 14.8 +1.2**
KHLT Khaolaem Dam 73.94 274 P **P 04 09 11.5 -2.7**
PATY Pattaya 73.94 271 P **P 04 09 15.3 +1.1**
SRDT SRDT 73.94 273 P **P 04 09 15.4 +1.1**
EDMD Edmundbyers 74.02 2 *e*P **P 04 09 13.8 -0.3**
SMLA Simla 74.20 300 *e*P **P 04 09 15.1 -0.5**
SMLA IAmb IAmb 04 09 20.6
comp=Z,59nm,0.5s
NIL Nilore 74.31 304 IAMs_20 IAMs_20 04 43 12.0
comp=Z,4μm,22.0s
060A Indiantown 74.32 66 P **P 04 09 17.7 +1.3**
baz=320
060A Indiantown 74.32 66 IAMs_20 IAMs_20 04 44 47.7
comp=Z,4μm,18.0s
DZM Mont Dzumac 74.36 194 *e*P **P 04 09 17.6 +1.1**
comp=Z,219nm,1.6s
DZM Mont Dzumac 74.36 194 *e*PP PP 04 12 08.0 +4.7
comp=Z,173nm,29.2s
DZM *e*S **S 04 18 48.3 -0.3**
comp=Z,696nm,26.4s
DZM Mont Dzumac 74.36 194 *e*LR LR 04 32 07.5
comp=Z,10μm,27.7s,baz=40
DZM Mont Dzumac 74.36 194 IAMs_20 IAMs_20 04 34 53.7
comp=Z,3μm,22.0s
060Z West Palm Beac 74.69 67 P **P 04 09 19.1 +0.6**
baz=320,SNR=5.4
PHET Kaeng Krachan 74.72 272 P **P 04 09 20.2 +1.4**
TEIG Tepich 74.81 77 P **P 04 09 19.4 +0.1**
BOK Bokaro 74.88 289 *e*P **P 04 09 20.1 +0.5**
BOK IAmb IAmb 04 09 30.7
comp=Z,68nm,0.8s
061Z Ochoppi 74.90 68 P **P 04 09 20.4 +0.7**
baz=320,SNR=5.3
061Z Ochoppi 74.90 68 IAMs_20 IAMs_20 04 46 21.2
comp=Z,3μm,18.0s
TTSI Tana Toraja 75.01 245 P **P 04 09 19.4 -1.0**
SBUM Sibu 75.05 255 P **P 04 09 21.0 +0.3**
AKASG Malin Array Be 75.43 342 P **P 04 09 20.8 -1.6**
comp=Z,8.1nm,0.5s,baz=22,slow=6.0,SNR=28
AKASG LR LR 04 46 07.3
comp=Z,1μm,19.7s,baz=0.0,slow=39
AKBB Malin Array Si 75.43 342 IAMs_20 IAMs_20 04 47 38.5
comp=Z,3μm,18.0s
CCIG Comitan 75.43 82 IAmb IAmb 04 09 27.2
comp=Z,91nm,1.1s
DSB Dublin 75.45 5 IAMs_20 IAMs_20 04 40 26.9
comp=Z,3μm,18.0s
062Z Marathon 75.69 68 P **P 04 09 24.8 +0.6**
baz=320
KBL Kabul 75.73 308 P **P 04 09 23.7 -1.0**
KBL Kabul 75.73 308 P **P 04 09 23.7 -1.0**
SPSI Sidrap Palu 75.79 245 P **P 04 09 23.7 -1.2**
FOEL Foel Wylfa 75.93 3 *e*P **P 04 09 25.4 +0.2**
BNSI Bone 75.96 244 P **P 04 09 24.8 -1.0**
HLM1 Long Mynd 76.31 3 *e*P **P 04 09 27.3 -0.1**
KAPI Kappang 76.66 244 P **P 04 09 30.0 +0.2**
KAPI Kappang 76.66 244 LR LR 04 39 07.9
comp=Z,629nm,21.9s,baz=115,slow=32
KAPI Kappang 76.66 244 P **P 04 09 30.0 +0.2**
BKSI Bulukumba 76.70 243 P **P 04 09 30.2 +0.1**
MCH1 Michaelchurch 76.83 3 *e*P **P 04 09 30.0 -0.3**
KSM Kuching 76.97 256 P **P 04 09 33.0 +1.4**
KSM Kuching 76.97 256 IAmb IAmb 04 09 36.9
comp=Z,160nm,1.7s
MONM Monmouth 77.00 2 *e*P **P 04 09 31.1 -0.1**
CLL Collm 77.09 352 *e*P **P 04 09 30.0 -1.8**
comp=Z,59nm,2.0s
CLL *i* (sP) **PcP 04 09 42.2 -0.4**
comp=Z,15nm,1.3s
CLL *e*S **S 04 19 15.0 -3.0**
CLL *e*PS **PnS 04 19 54.0 -5.1**
CLL *e*SS **SS 04 24 12.0 -2.1**
CLL L L 04 53 00.0
comp=Z,2μm,18.3s
LVV L'vov 77.20 345 *e*P **P 04 09 35.2 +2.7**
KSP Ksiaz 77.23 350 *e*P **P 04 09 34.1 +1.4**
KSP *e*P **P 04 09 34.1 +1.4**
GOF Gofitskoye 77.24 331⇑ *e*P **P 04 09 33.3 +0.5**
GOF pmax pmax
comp=Z,113nm,1.1s
MTN Manton Dam 77.31 230 IAmb IAmb 04 09 40.9
comp=Z,172nm,1.4s
STKI Sintang 77.38 254 P **P 04 09 32.9 -1.0**
OJC Ojcow 77.43 348 *e*P **P 04 09 32.6 -1.1**
OJC *e*P **P 04 09 32.6 -1.1**
BRG Berggiesshubel 77.44 352 *e*P **P 04 09 33.2 -0.5**
comp=Z,22nm,1.8s
BRG *e* 04 09 40.3
comp=Z,17nm,1.6s
BRG S **S 04 19 22.0 +0.1**
BRG SS **SS 04 24 23.0 +3.6**
comp=N,2μm,18.8s
comp=E,1μm,14.0s
comp=Z,2μm,14.2s
CHVC Chvalec 77.51 350 *e*P **P 04 09 37.6 +3.4**
CHVC AMS AMS 04 46 40.0
comp=Z,2μm,22.0s
CTAO Charters Tower 77.54 213 P **P 04 09 35.3 +0.7**
CTAO Charters Tower 77.54 213 P **P 04 09 35.3 +0.7**

WOL Wolverton 77.56 2 *e*P **P 04 09 34.7 +0.3**
KWP Kalwaria Pacla 77.59 346 *e*P **P 04 09 35.5 +0.8**
KWP *e*P **P 04 09 35.5 +0.8**
UPC Upice 77.60 350 AMS AMS 04 53 40.0
comp=Z,2μm,17.0s
DPC Dobruska-Polom 77.72 350 *e*P **P 04 09 35.7 +0.3**
DPC *e* 04 09 39.1
DPC MLR MLR
comp=Z,2μm,19.0s
DPC Dobruska-Polom 77.72 350 *e*P **P 04 09 35.7 +0.3**
DPC *e*pP **pP 04 09 39.1 -6.3**
DPC AMS AMS 04 53 10.0
comp=Z,2μm,19.0s
PVCC Panska Ves 77.72 351 *e*P **P 04 09 34.8 -0.5**
PVCC MLR MLR
comp=Z,2μm,19.0s
PVCC Panska Ves 77.72 351 *e*P **P 04 09 34.8 -0.5**
PVCC AMS AMS 04 51 40.0
comp=Z,2μm,19.0s
ASHT Ashkhabad 77.84 317 IAMs_20 IAMs_20 04 48 09.1
comp=Z,3μm,20.0s
KRLC Kraliky 77.94 350 *e*P **P 04 09 34.7 -1.9**
KRLC *e* 04 09 41.2
KRLC MLR MLR
comp=Z,6μm,18.9s
KRLC Kraliky 77.94 350 *e*P **P 04 09 34.7 -1.9**
KRLC *e*pP **pP 04 09 41.2 -5.4**
KRLC AMS AMS 04 50 30.0
comp=Z,2μm,18.9s
GEYT Alibeck 77.97 317 P **P 04 09 37.3 +0.3**
comp=Z,0.8nm,0.3s,baz=328,slow=2.2,SNR=3.6
GEYT LR LR 04 48 24.3
comp=Z,4μm,19.5s,baz=40,slow=39
GEYT Alibeck 77.97 317 P **P 04 09 36.6 -0.5**
GYA0B ALIBECK ARRAY 77.97 317 IAMs_20 IAMs_20 04 48 22.4
comp=Z,5μm,20.0s
OKC Ostrava-Krasne 78.02 349 AMS AMS 04 50 00.0
comp=Z,2μm,20.0s
GROC Groznyy 78.04 328 *e*P **P 04 09 38.6 +1.4**
GROC *e* 04 09 47.6
GROC *e*S **S 04 19 28.1 -0.5**
GROC pmax pmax
comp=Z,11nm,0.4s
SORM Soroca 78.05 342 ⇑P **P 04 09 36.7 -0.5**
SORM Soroca 78.05 342 ⇑P **P 04 09 36.7 -0.5**
MORC Moravsky Berou 78.15 349 *e*P **P 04 09 39.5 +1.7**
MORC Moravsky Berou 78.15 349 IAMs_20 IAMs_20 04 50 43.5
comp=Z,3μm,18.0s
NIE Niedzica 78.15 347 *e*P **P 04 09 37.8 0.0**
NIE *e*P **P 04 09 37.8 0.0**
PRA Prague 78.19 351 AMS AMS 04 50 50.0
comp=Z,2μm,16.4s
NKC Novy Kostel 78.20 353 *e*P **P 04 09 37.4 -0.6**
NKC Novy Kostel 78.20 353 *e*P **P 04 09 37.4 -0.6**
PRU Pruhonice 78.26 351 *e*P **P 04 09 38.3 0.0**
PRU MLR MLR
comp=Z,3μm,16.2s
PRU Pruhonice 78.26 351 *e*P **P 04 09 38.3 0.0**
PRU AMS AMS 04 54 10.0
comp=Z,3μm,16.2s
SURT Suratani 78.27 270 P **P 04 09 40.0 +1.1**
GOPC GO Pecny, Ondr 78.31 351 AMS AMS 04 51 00.0
comp=Z,3μm,21.1s
KOLS Kolonicke sedl 78.34 346 *e*P **P 04 09 38.0 -0.8**
KOLS pmax pmax
comp=Z,27nm,1.3s
KOLS Kolonicke sedl 78.34 346 *e*P **P 04 09 38.0 -0.8**
KIV Kislovodsk 78.35 331 P **P 04 09 39.3 +0.2**
SNR=7.8
KIV Kislovodsk 78.35 331 *e*P **P 04 09 39.2 +0.2**
KIV pmax pmax
comp=Z,91nm,1.0s
KIV MLR MLR
comp=Z,6μm,18.0s
KIV Kislovodsk 78.35 331 IAMs_20 IAMs_20 04 46 30.0
comp=Z,3μm,22.0s
KBZ Khabaz 78.49 330 P **P 04 09 39.2 -0.5**
comp=Z,4.8nm,0.8s,baz=7.5,slow=2.5,SNR=16
KBZ LR LR 04 47 23.7
comp=Z,5μm,21.9s,baz=15,slow=38
SKLT Songkhla 78.51 267 P P 04 09 47.0 +6.8
BBSR BB Station 78.52 52 IAMs_20 IAMs_20 04 44 40.8
comp=Z,4μm,20.0s
LANS Liptovska Anna 78.52 348 *e*P **P 04 09 41.4 +1.5**
LANS pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 78.52 348 *e*P **P 04 09 41.4 +1.5**
TRTT Trang 78.58 268 P **P 04 09 44.6 +4.0**
UZH Uzhgorod 78.63 346 *e*P **P 04 09 39.7 -0.7**
VRAC Vranov 78.72 350 ⇑P **P 04 09 39.2 -1.7**
VRAC Vranov 78.72 350 ⇑P **P 04 09 39.2 -1.7**
VRAC mb 04 09 48.8
VRAC Vranov 78.72 350 *e*P **P 04 09 39.8 -1.1**
BATI Baumata 78.83 238 LR LR 04 40 32.7
comp=Z,497nm,21.8s,baz=68,slow=33
TREC Trest 78.85 350 AMS AMS 04 54 10.0
comp=Z,2μm,17.6s
TBI Tubuai 78.87 153 *e*S **S 04 19 36.8 -0.8**
comp=Z,705nm,30.5s
TBI Tubuai 78.87 153 *e*LQ LQ 04 29 54.3
comp=Z,1μm,34.2s
TBI *e*LR LR 04 34 07.5
comp=Z,5μm,22.5s,baz=338
TBI Tubuai 78.87 153 *e*T T 05 36 00.9
comp=Z,31nm,0.3s
AKT Akhty 78.92 326 *e*P **P 04 09 43.3 +1.0**
AKT *e* 04 09 51.8
AKT pmax pmax
comp=Z,25nm,0.9s
KRUC Moravsky 78.98 350 *e*P **P 04 09 41.5 -0.8**
ZEI Tsey 79.02 329 *e*P **P 04 09 38.8 -4.2**
ZEI pmax pmax
comp=Z,31nm,0.7s
JAVC Velka Javorina 79.03 349 *e*P **P 04 09 42.9 +0.2**
KECS Kecovo 79.04 347 *e*P **P 04 09 43.3 +0.6**
KECS pmax pmax
comp=Z,8.0nm,0.8s
KECS Kecovo 79.04 347 *e*P **P 04 09 43.3 +0.6**
KIS Kishinev 79.04 341 *e*P **P 04 09 42.0 -0.7**
comp=Z,170nm,2.0s
KIS Kishinev 79.04 341 *e*PP PP 04 12 44.0 +2.9
KIS *e*S **S 04 19 36.0 -3.2**
KIS *e*SSS SSS 04 31 46.0
KIS *e*L L 04 36 40.0
KIS LRM MLR 04 50 28.0
comp=Z,3μm,17.0s
KIS Kishinev 79.04 341 *e*P **P 04 09 42.0 -0.7**
KIS *i* 04 09 51.0
KIS *i* 04 09 56.0
KIS *e* 04 12 44.0
KIS *e*S **S 04 19 36.0 -3.2**
KIS pmax pmax
comp=Z,170nm,2.0s
TRPA Tarpa 79.08 346 ⇑P **P 04 09 42.7 -0.1**
TRPA mb 04 09 58.4
ANN Anapa 79.08 335 *e*P **P 04 09 39.8 -3.1**
ANN *e*PP **PcP 04 09 50.8 -0.5**
ANN *e* 04 12 40.6
ANN *e*PPP PPP 04 14 26.6
ANN *e*S **S 04 19 35.3 -4.4**
ANN *e*SSS SSS 04 28 01.1
ANN pmax pmax
comp=Z,40nm,1.1s
HRA Herat 79.10 312 IAMs_20 IAMs_20 04 47 58.6
comp=Z,3μm,20.0s
MILM Milestii Mici 79.12 341 ⇑P **P 04 09 42.1 -1.1**
BURAR Bucovina Array 79.13 344 ⇑P **P 04 09 43.0 -0.3**
BURAR Bucovina Array 79.13 344 ⇑P **P 04 09 43.0 -0.3**
BURAR mb 04 09 57.7
BURAR Bucovina Array 79.13 344 P **P 04 09 42.0 -1.3**
WLF Walferdange 79.13 357 IAMs_20 IAMs_20 04 50 50.8
comp=Z,3μm,20.0s
KHC Kasperske Hory 79.20 352 *e*P **P 04 09 43.5 -0.1**
KHC *e* 04 09 57.5
KHC MLR MLR
comp=Z,3μm,19.8s
KHC Kasperske Hory 79.20 352 *e*P **P 04 09 43.5 -0.1**
KHC *e*x x 04 09 57.5
KHC AMS AMS 04 48 10.0
comp=Z,3μm,19.8s
PRAR RASCA 79.20 343 ⇑P **P 04 09 44.0 +0.4**
PRAR mb 04 09 58.5
VYHS Vyhne 79.25 348 *e*P **P 04 09 43.9 +0.1**
VYHS pmax pmax

comp=Z,23nm,1.3s
VYHS Vyhne 79.25 348 *e*P **P 04 09 43.9 +0.1**
PKDT Phuket 79.38 269 P **P 04 09 46.3 +1.3**
SMOL Smolenice 79.40 349 *e*P **P 04 09 47.0 +2.3**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
SMOL Smolenice 79.40 349 *e*P **P 04 09 47.0 +2.3**
GERES GERESS Array B 79.47 352 P **P 04 09 44.5 -0.6**
comp=Z,1.8nm,0.6s,baz=24,slow=5.5,SNR=18
GERES PKKPbc **PKKPbc 04 28 32.0 +0.3**
comp=Z,1.0nm,0.8s,baz=183,slow=2.7,SNR=7.4
GERES PKPPKP P'P'df 04 36 31.4 -12
comp=Z,0.3nm,0.5s,baz=151,slow=3.0,SNR=3.9
GERES LR LR 04 49 07.5
comp=Z,1μm,18.9s,baz=22,slow=39
GERES GERESS Array B 79.47 352 P **P 04 09 44.2 -0.9**
MODS Modra-Piesok 79.56 349 *e*P **P 04 09 48.5 +3.0**
MODS pmax pmax
comp=Z,79nm,1.9s
MODS Modra-Piesok 79.56 349 *e*P **P 04 09 48.5 +3.0**
SOC Sochi 79.57 333 *e*P **P 04 09 47.8 +2.2**
SOC *e* 04 12 46.1
SOC *e*S **S 04 19 45.7 +0.8**
SOC *e*SSS SSS 04 28 14.3
SOC pmax pmax
comp=Z,23nm,0.9s
SOC MLR MLR
comp=Z,5μm,21.0s
BIZ Bicaz 79.63 343 ⇑P **P 04 09 46.1 +0.2**
ARCR ARCALIA 79.80 344 ⇑P **P 04 09 47.5 +0.7**
SIM Simferopol' 79.80 337 *e*P P 04 09 55.8 +8.9
SIM *e*S S 04 20 01.0 +14
SIM pmax pmax
comp=Z,16nm,1.2s
SIM MLR MLR
comp=Z,4μm,18.0s
TESR Tescani 79.94 342 ⇑P **P 04 09 47.1 -0.5**
KULM Kulim 79.94 266 P **P 04 09 48.0 -0.1**
SRO Srobarova 79.98 348 *e*P **P 04 09 51.5 +3.7**
SRO pmax pmax
comp=Z,25nm,1.2s
SRO Srobarova 79.98 348 *e*P **P 04 09 51.5 +3.7**
CONA Conrad Observa 80.16 350 *e*pP **P 04 09 49.4 +0.5**
comp=Z,7.8nm,0.7s
BHPL Bhopal 80.21 295 *e*P **P 04 09 48.2 -1.3**
BHPL IAmb IAmb 04 09 55.3
comp=Z,658nm,2.5s
CJR Cluj-Napoca 80.28 345 ⇑P **P 04 09 49.3 -0.2**
CJR Cluj-Napoca 80.28 345 ⇑P **P 04 09 49.3 -0.2**
IPM Ipoh 80.34 265 P **P 04 09 50.0 -0.2**
DRGR 80.35 345 ⇑P **P 04 09 48.7 -1.2**
DRGR 80.35 345 ⇑P **P 04 09 48.7 -1.2**
AKH Akhalkalaki 80.40 329 ⇓P **P 04 09 50.1 -0.3**
MOA Molln 80.40 351 *e*pP **P 04 09 52.2 +2.1**
comp=Z,3.6nm,0.7s
OZUR 80.50 343 ⇑P **P 04 09 51.6 +1.0**
VRI Vrincioaia 80.54 342 ⇓P **P 04 09 50.4 -0.5**
VRI Vrincioaia 80.54 342 ⇓P **P 04 09 50.4 -0.5**
PLOR Plostina 80.57 342 ⇑P **P 04 09 51.0 0.0**
PLOR Plostina 80.57 342 ⇑P **P 04 09 51.0 0.0**
ODBI Odobesti 80.58 342 ⇑P **P 04 09 52.2 +1.2**
ODBI mb 04 10 02.8
PETR Petresti 80.58 342 ⇓P **P 04 09 51.2 +0.2**
MYKOM Kota Tinggi 80.68 261 P **P 04 09 53.0 +1.0**
DOPR Dopca 80.69 343 ⇑P **P 04 09 52.4 +0.7**
TLCR 80.78 341 ⇓P **P 04 09 51.6 -0.5**
TLCR 80.78 341 ⇓P **P 04 09 51.6 -0.5**
TLCR mb 04 10 03.5
BISRR Bisoca 80.85 342 ⇓P **P 04 09 52.4 -0.2**
CLF Chambon-Foret 80.86 359 IAmb IAmb 04 10 16.5
comp=Z,211nm,1.8s
ARSA Arzberg 80.86 350 pP **P 04 09 53.9 +1.3**
comp=Z,5.3nm,0.8s
KNRA Kununurra 80.89 231 IAmb IAmb 04 10 06.9
comp=Z,138nm,1.6s
PLAI Plampang 80.89 243 P **P 04 09 50.3 -2.8**
EIDS Eidsvold 80.96 207 IAmb IAmb 04 09 54.8
comp=Z,134nm,1.8s
GRER 80.96 342 ⇑P **P 04 09 54.0 +0.9**
GRER mb 04 10 05.0
SIRR Siria 81.03 346 ⇓P **P 04 09 53.4 -0.1**
DBOC Borcka 81.03 330 *i* P **P 04 09 53.5 -0.2**
DBOC IAML_P
comp=Z,373nm,0.6s
MLR Muntele Rosu 81.05 343 ⇑P **P 04 09 54.5 +0.8**
MLR Muntele Rosu 81.05 343 ⇑P **P 04 09 54.5 +0.8**
MLR Muntele Rosu 81.05 343 IAMs_20 IAMs_20 04 50 37.3
comp=Z,3μm,21.0s
RETA Reutte 81.06 353 *e*PcP **P 04 09 54.4 +0.7**
comp=Z,8.9nm,0.9s
ARTV Artvin 81.10 330 *i* P **P 04 09 54.2 0.0**
ARTV IAML_P
comp=Z,40nm,0.1s
GNI Garni 81.12 328 P **P 04 09 57.4 +3.1**
SNR=9.9
GNI Garni 81.12 328 *c*e*P **P 04 09 56.5 +2.2**
GNI pmax pmax
comp=Z,133nm,2.5s
GNI Garni 81.12 328 IAMs_20 IAMs_20 04 52 51.5
comp=Z,3μm,19.0s
WATA Walderalm 81.15 353 *e*PcP **P 04 09 54.5 +0.2**
comp=Z,8.8nm,0.9s
TOPG Topolog 81.16 341 ⇑P **P 04 09 53.7 -0.5**
MOTA Moosalm 81.17 353 *e*PcP **P 04 09 55.6 +1.2**
comp=Z,8.8nm,1.0s
DAGI Agillar 81.20 330 *i* P **P 04 09 54.3 -0.3**
DAGI IAML_P
comp=Z,170nm,0.8s
WTTA Wattenberg 81.21 353 *e*P **P 04 09 54.2 -0.4**
comp=Z,11nm,0.9s
KBA Koelnbreinsper 81.25 352 *e*PcP **P 04 09 55.5 +0.6**
comp=Z,27nm,0.8s
VOIR 81.27 343 ⇓P **P 04 09 55.0 +0.2**
VOIR 81.27 343 ⇓P **P 04 09 55.0 +0.2**
SQTA Sankt Quirin 81.29 353 *e*PcP **P 04 09 55.1 +0.1**
comp=Z,8.5nm,0.7s
DAVA Damuels 81.32 354 *e*PcP **P 04 09 56.3 +1.1**
comp=Z,7.8nm,1.1s
DBAD Bademkaya 81.32 330 *i* P **P 04 09 56.0 +0.7**
DBAD IAML_P
comp=Z,353nm,0.4s
ARR Arges 81.41 343 ⇑P **P 04 09 56.0 +0.4**
DDEM Demirkent 81.42 330 *i* P **P 04 09 57.3 +1.6**
DDEM IAML_P
comp=Z,16nm,0.1s
ESTN Estel 81.43 80 IAmb IAmb 04 10 06.7
comp=Z,85nm,0.9s
HARR Harsova 81.43 341 P **P 04 09 57.0 +1.4**
HARR Harsova 81.43 341 ⇓P **P 04 09 55.4 -0.2**
HARR mb 04 09 57.0
SOKA Soboth 81.48 350 *e*PcP **P 04 09 56.3 +0.3**
comp=Z,14nm,0.8s
TLB Topalu 81.51 341 ⇑P **P 04 09 55.8 -0.2**
TLB Topalu 81.51 341 ⇑P **P 04 09 55.8 -0.2**
FETA Feichten 81.52 353 *e*PcP **P 04 09 57.1 +0.8**
comp=Z,11nm,1.0s
SENK Senkaya-Erzuru 81.53 329 *e*P **P 04 09 57.3 +0.8**
TIRR Tirgusor 81.56 341 ⇑P **P 04 09 55.9 -0.3**
TIRR Tirgusor 81.56 341 ⇑P **P 04 09 55.9 -0.3**
ABTA Abfaltersbach 81.66 352 *e*PcP **P 04 09 56.8 0.0**
comp=Z,11nm,1.0s
MYKA Terra Mystica 81.67 351 PcP **P 04 09 58.8 +1.9**
comp=Z,11nm,1.6s
OBKA Obir 81.70 351 *e*PcP **P 04 09 57.3 +0.2**
comp=Z,6.0nm,0.6s
GZR Gura Zlata 81.70 345 ⇑P **P 04 09 56.9 -0.2**
GZR Gura Zlata 81.70 345 ⇑P **P 04 09 56.9 -0.2**
SULR 81.78 342 ⇑P **P 04 09 58.0 +0.6**
WRAB Tennant Creek 82.04 224 *c*e*P **P 04 09 57.5 -1.5**
WRAB pmax pmax
comp=Z,44nm,1.7s
WRAB Tennant Creek 82.04 224 P **P 04 09 58.0 -1.0**
WRA Warramunga Arr 82.06 224 P **P 04 09 58.4 -0.7**
comp=Z,4.7nm,0.5s,baz=32,slow=5.9,SNR=44
WRA PKiKP **PKiKP 04 15 20.6 -0.9**
comp=Z,0.6nm,0.8s,baz=329,slow=1.5,SNR=3.6
WRA PKKPbc **PKKPbc 04 28 27.5 +0.4**
comp=Z,1.2nm,0.7s,baz=229,slow=2.2,SNR=11
WRA LR LR 04 42 06.5
comp=Z,772nm,21.9s,baz=15,slow=32
WRA Warramunga Arr 82.06 224 P **P 04 09 57.3 -1.8**
HOMI Horasan 82.14 330 *i* P **P 04 10 00.8 +1.1**
HOMI IAML_P
comp=Z,5.4nm,0.2s

KOPR	Koprukoy-ERZUR	82.21	330	eP		P		04 09 59.2	-0.8
HERR	Herculane	82.26	345	⇑P		P		04 09 59.3	-0.7
LHMI	Lhok Sumawe	82.30	269	P		P		04 10 02.7	+2.1
SENIN	Lac Senin/Sane	82.38	356	IAMs_20	IAMs_20			04 51 08.7	
	comp=Z,2μm,20.0s								
FRGS	Fruska Gora	82.39	347	eP		P		04 09 59.1	-1.6
CEY	Cerknica	82.47	351	eP		P		04 10 00.6	-0.5
VLAD	Vladila	82.78	343	⇑P		P		04 10 02.5	-0.2
MTDJ	Mount Denham	82.78	70	IAMs_20	IAMs_20			04 51 59.4	
	comp=Z,2μm,18.0s								
RAZG	Razgrad	82.80	342	⇓P		P		04 10 02.1	-0.7
BBJ	Bamboo Saint A	82.81	70	⇑iP		P		04 10 04.2	+0.8
GTBY	Guantanamo Bay	82.86	67	IAmb	IAmb			04 10 06.2	
	comp=Z,94nm,1.1s								
GTBY				IAMs_20	IAMs_20			04 49 12.1	
	comp=Z,3μm,20.0s								
KVT	Kavak	82.91	334	eP		P		04 10 03.9	+0.4
SALO	Salr	82.93	353	P		P		04 10 01.6	-2.0
SALO				IAmb	IAmb			04 10 13.6	
	comp=Z,48nm,0.9s								
RPSI	Rantau Prapat	83.03	266	IAmb	IAmb			04 10 18.9	
	comp=Z,88nm,1.0s								
ACON	Acoyapa	83.04	80	IAmb	IAmb			04 10 07.3	
	comp=Z,67nm,1.0s								
TEOL	Teolo	83.10	353	IAmb	IAmb			04 10 16.2	
	comp=Z,83nm,0.7s								
BLY	Banja Luka	83.14	349	eP		P		04 10 03.0	-1.5
BLY	Banja Luka	83.14	349	IAMs_20	IAMs_20			04 53 05.6	
	comp=Z,2μm,18.0s								
STH	Stony Hill	83.32	69	⇑iP		P		04 10 06.5	+0.6
PLVB	Pleven	83.33	343	⇓P		P		04 10 04.4	-1.1
DIVS	Divibare	83.40	346	⇑iP		P		04 10 05.2	-0.8
HOJ	Hope	83.42	69	⇑iP		P		04 10 07.3	+1.0
MGRS	Mrkonjic Grad	83.48	349	eP		P		04 10 15.2	+6.8
CMJ	Castle Mountai	83.53	69	⇓iP		P		04 10 07.6	+0.6
ELND	Elena	83.53	342	⇑P		P		04 10 05.8	-0.9
ILGA	Ilgaz	83.56	336	IAmb	IAmb			04 10 22.5	
	comp=Z,92nm,1.6s								
ILGA				IAMs_20	IAMs_20			04 51 21.7	
	comp=Z,2μm,21.0s								
HAPS	Han Pijesak,Bl	83.56	347	eP		P		04 10 05.3	-1.6
PWJI	Pagerwojo	83.65	249	P		P		04 10 05.4	-2.1
BBLS	Lazići	83.71	347	⇑iP		P		04 10 07.5	-0.1
BNI	Bardonecchia	83.72	356	IAMs_20	IAMs_20			04 51 17.1	
	comp=Z,2μm,18.0s								
SVSK	Karacayir	83.73	333	eP		P		04 10 08.2	+0.6
GRTK	Grand Turk	83.86	63	IAMs_20	IAMs_20			04 49 15.4	
	comp=Z,4μm,20.0s								
RUDO	Rudo	83.96	347	eP		P		04 10 06.9	-1.9
HYB	Hyderabad	84.13	290	iP		P		04 10 09.0	-1.1
HYB	Hyderabad	84.13	290	eP		P		04 10 08.9	-1.1
HYB				IAmb	IAmb			04 10 14.3	
	comp=Z,59nm,0.5s								
CORM	Corum	84.14	335	eP		P		04 10 06.1	-3.8
MSSA	Maissana	84.30	354	IAMs_20	IAMs_20			04 52 09.9	
	comp=Z,2μm,21.0s								
VTS	Vitosha	84.32	344	⇑P		P		04 10 09.3	-1.5
VTS	Vitosha	84.32	344	⇑P		P		04 10 09.3	-1.5
VTS				mb				04 10 26.1	
VTS	Vitosha	84.32	344	IAMs_20	IAMs_20			04 50 02.0	
	comp=Z,3μm,21.0s								
VLC	Villacollemand	84.39	353	IAmb	IAmb			04 10 51.3	
	comp=Z,141nm,1.9s								
EDRB	Edirne	84.40	341	eP		P		04 10 10.2	-0.9
UPM	Unac-Piva	84.43	347	eP		P		04 10 10.3	-1.1
JTS	Las Juntas de	84.47	81	P		P		04 10 09.7	-2.1
JTS	Las Juntas de	84.47	81	P		P		04 10 09.7	-2.1
SVRC	Sivrice-ELAZID	84.47	331	eP		P		04 10 11.1	-0.6
FITZ	Fitzroy Crossi	84.49	232	LR	LR			04 44 56.0	
	comp=Z,919nm,20.6s,baz=38,slow=34								
DYBB	Diyarbakir	84.61	330	eP		P		04 10 11.5	-0.8
YUVA	Yuva-Kibriscik	84.69	337	eP		P		04 10 13.3	+0.6
BRY	Bratogost	84.78	347	eP		P		04 10 11.9	-1.2
KPJI	Karang Pucung	84.79	251	P		P		04 10 11.8	-1.5
MALT	Malatya	84.80	331	eP		P		04 10 12.3	-1.0
BR131	Keskin Array S	84.83	335	P		P		04 10 12.9	-0.5
	SNR=24								
BRTR	Keskin Array B	84.83	335	P		P		04 10 12.3	-1.2
	comp=Z,16nm,0.7s,baz=53,slow=2.5,SNR=87								
BRTR				PKKPbc	PKKPbc			04 28 20.4	+0.8
	comp=Z,0.8nm,0.6s,baz=170,slow=3.9,SNR=6.0								
BRTR				LR	LR			04 53 03.3	
	comp=Z,884nm,19.3s,baz=356,slow=39								
BRTR	Keskin Array B	84.83	335	eP		P		04 10 12.4	-1.0
BRTR	Keskin Array B	84.83	335	P		P		04 10 12.1	-1.3
DARE	Darende-Malaty	84.84	332	eP		P		04 10 13.6	+0.1
ANTO	Ankara	84.91	336	P		P		04 10 14.9	+1.2
	SNR=13								
ANTO	Ankara	84.91	336	⇑P		P		04 10 13.7	-0.1
ANTO	Ankara	84.91	336	⇑P		P		04 10 13.7	-0.1
ANTO				mb				04 10 29.4	
ANTO	Ankara	84.91	336	P		P		04 10 12.9	-0.9
ANTO	Ankara	84.91	336	IAMs_20	IAMs_20			04 51 56.4	
	comp=Z,2μm,20.0s								
STON	Ston	84.92	348	eP		P		04 10 12.9	-0.7
BR231	Keskin MP Arra	84.94	336	IAmb	IAmb			04 10 24.8	
	comp=Z,48nm,1.1s								
GSI	Gunungsitoli	84.95	266	P		P		04 10 14.2	0.0
GSI	Gunungsitoli	84.95	266	IAmb	IAmb			04 10 21.5	
	comp=Z,128nm,1.4s								
OSSC	Osservatorio P	84.96	353	IAmb	IAmb			04 10 52.6	
	comp=Z,59nm,1.1s								
MAZI	Mazidag	84.96	330	eP		P		04 10 12.5	-1.6
TREB	Trebinje	84.99	347	eP		P		04 10 12.8	-1.2
BNN	Bunyan	85.05	333	eP		P		04 10 12.7	-1.8
YLV	Yalova	85.07	339	eP		P		04 10 13.3	-1.2
PDG	Podgorica	85.14	347	⇑iP		P		04 10 13.6	-1.1
PDG	Podgorica	85.14	347	IAmb	IAmb			04 10 48.0	
	comp=Z,51nm,0.9s								
PDG				IAMs_20	IAMs_20			04 54 20.5	
	comp=Z,3μm,18.0s								
HCY	Herceg Novi	85.23	347	eP		P		04 10 12.7	-2.5
AFSR	Afar-Bala (An	85.23	336	eP		P		04 10 16.4	+1.0
AUMIH	MIHALICIK	85.23	337	eP		P		04 10 15.6	+0.1
DRME	Dracevica, Mon	85.39	347	eP		P		04 10 15.9	-0.1
STIP	Stip	85.40	344	iPn		P		04 10 15.6	-0.5
ALN	Alexandroupoli	85.46	341	IAMs_20	IAMs_20			04 55 15.0	
	comp=Z,2μm,19.0s								
BORA	Eskisehir	85.47	338	eP		P		04 10 16.2	-0.4
NRCA	Norcia	85.48	351	IAmb	IAmb			04 10 27.0	
	comp=Z,44nm,0.9s								
YAYX	Yaylak	85.52	335	eP		P		04 10 15.8	-1.1
ASAR	Alice Springs	85.53	222	P		P		04 10 16.8	0.0
	comp=Z,9.7nm,0.5s,baz=25,slow=5.4,SNR=97								
ASAR				PKPPKP	P'P'df			04 36 24.2	+1.4
	comp=Z,0.5nm,0.8s,baz=201,slow=1.9,SNR=4.9								
ASAR				LR	LR			04 43 42.1	
	comp=Z,1μm,21.9s,baz=32,slow=32								
ASAR	Alice Springs	85.53	222	P		P		04 10 16.1	-0.7
SERE	Serefiikochisa	85.58	335	eP		P		04 10 15.9	-1.3
ARMA	Armidale	85.58	205	IAmb	IAmb			04 10 34.4	
	comp=Z,89nm,1.2s								
KULU	Kulu	85.63	336	eP		P		04 10 15.9	-1.5
SDDR	Presa de Saban	85.79	65	IAmb	IAmb			04 10 20.5	
	comp=Z,48nm,0.8s								
SDDR				IAMs_20	IAMs_20			04 51 38.6	
	comp=Z,3μm,19.0s								
AQU	L'Aquila	85.93	351	eP		P		04 10 16.3	-2.5
AQU	L'Aquila	85.93	351	IAmb	IAmb			04 11 06.1	
	comp=Z,72nm,1.1s								
SISI	Saibi	86.06	263	P		P		04 10 19.5	-0.2
KIZT	Kizilcal	86.07	336	eP		P		04 10 18.8	-0.8
CHBY	Cihanbeyli	86.09	336	eP		P		04 10 18.8	-0.9
TVSB	Tavsanli	86.11	338	eP		P		04 10 19.0	-0.8
INTR	Introdacqua	86.22	350	IAmb	IAmb			04 10 50.9	
	comp=Z,122nm,1.6s								
INTR				IAMs_20	IAMs_20			04 56 28.6	
	comp=Z,2μm,19.0s								
BOM	Bombay	86.25	296	eP		P		04 10 25.2	+4.5
BOM				AMP				04 10 32.1	
	comp=Z,379nm,2.5s								
BOM				AMP				04 10 32.1	
	comp=Z,379nm,2.5s								
SGRT	San Giovanni R	86.27	349	IAMs_20	IAMs_20			04 55 40.9	
	comp=Z,3μm,18.0s								
OUZ	Omahuta	86.59	186	IAMs_20	IAMs_20			04 40 47.9	
	comp=Z,2μm,21.0s								
SHUT	Suhut-Afyon	86.71	337	eP		P		04 10 22.1	-0.7
KARA	Karaisali	86.75	334	eP		P		04 10 21.7	-1.2
LIT	Litokhoron	86.90	344	IAMs_20	IAMs_20			04 54 38.0	
	comp=Z,2μm,18.0s								
ISP	Isparta	87.41	337	IAMs_20	IAMs_20			04 56 09.2	
	comp=Z,2μm,20.0s								
KIZK	Mersin	87.74	334	eP		P		04 10 25.6	-2.0
KEBE	Keben-Mersin	87.89	334	eP		P		04 10 25.2	-3.2
TEVE	Tevekalti-Mers	87.97	334	eP		P		04 10 26.8	-2.0
IKL	Isikli	88.09	334	eP		P		04 10 24.9	-4.4
COI	Coimbra	88.30	7	IAMs_20	IAMs_20			04 46 25.8	
	comp=Z,2μm,22.0s								
BCIP	Isla Barro Col	88.48	77	eP		P		04 10 31.2	-0.2
BCIP	Isla Barro Col	88.48	77	eP		P		04 10 31.2	-0.2
ELL	Elmali	88.58	337	IAmb	IAmb			04 11 09.2	
	comp=Z,154nm,1.9s								
TIP	Timpagrande	88.68	348	IAMs_20	IAMs_20			04 51 43.1	
	comp=Z,2μm,22.0s								
MXZ	Matakaoa Point	88.71	182	IAMs_20	IAMs_20			04 42 25.6	
	comp=Z,4μm,21.0s								
AOPR	Arecibo Observ	88.83	62	IAmb	IAmb			04 10 46.9	
	comp=Z,125nm,1.3s								
ESDC	Sonseca Array	89.11	4	P		P		04 10 32.6	-1.5
	comp=Z,4.3nm,0.8s,baz=358,slow=4.4,SNR=16								
ESDC				PKKPbc	PKKPbc			04 28 10.1	+0.8
	comp=Z,1.1nm,0.8s,baz=192,slow=2.0,SNR=5.0								
AKAS	Kas	89.14	337	eP		P		04 10 32.4	-2.0
PAB	San Pablo	89.22	4	IAMs_20	IAMs_20			04 58 30.3	
	comp=Z,2μm,19.0s								
SJG	San Juan	89.35	61	P		P		04 10 36.0	+0.5
SJG				pmax	pmax				
	comp=Z,50nm,0.9s								
SJG				MLR	MLR				
	comp=Z,5μm,20.0s								
SJG	San Juan	89.35	61	P		P		04 10 36.0	+0.5
SJG				IAmb	IAmb			04 10 39.3	
	comp=Z,50nm,0.8s								
CBYP	Canovanas	89.38	61	IAmb	IAmb			04 10 38.1	
	comp=Z,40nm,0.8s								
URZ	Urewera	89.44	183	IAMs_20	IAMs_20			04 44 38.0	
	comp=Z,3μm,21.0s								
HIZ	Hauiti	89.79	185	P		P		04 10 37.6	+0.8
HIZ				IAMs_20	IAMs_20			04 46 00.3	
	comp=Z,2μm,19.0s								
ITM	Ithomi	89.84	344	IAMs_20	IAMs_20			04 56 25.6	
	comp=Z,2μm,19.0s								
UOSS	Minazif	89.86	312	IAMs_20	IAMs_20			04 55 19.5	
	comp=Z,2μm,21.0s								
SANT	Santorini	89.94	341	IAMs_20	IAMs_20			04 57 55.6	
	comp=Z,2μm,18.0s								
STKA	Stephens Creek	89.99	213	P		P		04 10 38.8	+0.8
	comp=Z,36nm,0.8s,baz=355,slow=5.0,SNR=64								
STKA				LR	LR			04 46 21.6	
	comp=Z,2μm,21.6s,baz=23,slow=32								
SMRC	Santa Marta, M	90.30	72	eP		P		04 10 39.9	-0.1
SMRC	Santa Marta, M	90.30	72	eP		P		04 10 39.9	-0.1
CORL	Corleone	90.35	350	IAMs_20	IAMs_20			04 59 21.5	
	comp=Z,2μm,20.0s								
BKZ	Black Stump Fm	90.37	184	IAMs_20	IAMs_20			04 44 59.5	
	comp=Z,3μm,21.0s								
KARP	Karpathos	90.37	339	IAMs_20	IAMs_20			04 58 50.9	
	comp=Z,2μm,18.0s								
VAE	Valguarnera	90.64	349	LR	LR			04 55 21.6	
	comp=Z,1μm,18.1s,baz=16,slow=38								
CLTB	Caltabellotta	90.67	350	IAMs_20	IAMs_20			04 58 30.0	
	comp=Z,3μm,20.0s								
SJCC	San Jacinto, C	90.73	73	eP		P		04 10 42.5	+0.5
SJCC	San Jacinto, C	90.73	73	eP		P		04 10 42.5	+0.5
PVAQ	Vaqueiros	91.14	7	IAMs_20	IAMs_20			04 56 53.3	
	comp=Z,2μm,18.0s								
URIC	Uribia, Colomb	91.19	70	eP		P		04 10 43.9	-0.2
URIC	Uribia, Colomb	91.19	70	eP		P		04 10 43.9	-0.2
PFVI	Vila Bisbo	91.32	8	IAMs_20	IAMs_20			04 59 45.1	
	comp=Z,2μm,18.0s								
SABA	Saba	91.33	59	IAMs_20	IAMs_20			04 50 58.1	
	comp=Z,4μm,21.0s								
SEUS	St. Eustatius	91.58	59	IAMs_20	IAMs_20			04 51 26.6	
	comp=Z,4μm,22.0s								
CODC	Agustn Codazz	91.73	72	eP		P		04 10 44.5	-2.1
CODC	Agustn Codazz	91.73	72	eP		P		04 10 44.5	-2.1
ANWB	Willy Bob	92.07	58	IAMs_20	IAMs_20			04 54 19.6	
	comp=Z,4μm,20.0s								
QRZ	Quartz Range	92.24	187	IAMs_20	IAMs_20			04 44 12.2	
	comp=Z,3μm,22.0s								
SMLC	San Martn de	92.26	73	eP		P		04 10 49.2	+0.1
SMLC	San Martn de	92.26	73	eP		P		04 10 49.2	+0.1
NNZ	Nelson	92.57	186	IAMs_20	IAMs_20			04 46 47.9	
	comp=Z,3μm,21.0s								
SNZO	South Karori	92.59	185	IAMs_20	IAMs_20			04 44 43.2	
	comp=Z,3μm,22.0s								
ZARC	Zaragoza, Cauc	92.82	74	eP		P		04 10 51.2	-0.5
ZARC	Zaragoza, Cauc	92.82	74	eP		P		04 10 51.2	-0.5
KEST	Kesra	92.85	353	P		P		04 10 51.1	-0.5
	comp=Z,4.2nm,0.8s,baz=275,slow=9.1,SNR=3.7								
KEST	Kesra	92.85	353	IAmb	IAmb			04 12 22.1	
	comp=Z,56nm,1.6s								
KEST				IAMs_20	IAMs_20			04 55 45.2	
	comp=Z,3μm,21.0s								
CBOC	Ciudad Bolivar	93.40	76	eP		P		04 10 51.8	-2.7
CBOC	Ciudad Bolivar	93.40	76	eP		P		04 10 51.8	-2.7
HELC	Santa Helena	93.44	76	eP		P		04 10 53.8	-1.1
HELC	Santa Helena	93.44	76	eP		P		04 10 53.8	-1.1
BRRC	Barranca, Sant	93.81	74	eP		P		04 10 54.5	-1.7
BRRC	Barranca, Sant	93.81	74	eP		P		04 10 54.5	-1.7
PTBC	PUERTO BERRIO,	93.81	75	eP		P		04 10 54.5	-1.7
PTBC	PUERTO BERRIO,	93.81	75	eP		P		04 10 54.5	-1.7
EIL	Elat	93.88	331	LR	LR			05 00 56.5	
	comp=Z,2μm,18.1s,baz=38,slow=40								
SDV	Santo Domingo	94.23	70	IAMs_20	IAMs_20			04 58 46.8	
	comp=Z,1μm,18.0s								
SDV	Santo Domingo	94.23	70	eP		P		04 10 59.7	+1.4
SDV	Santo Domingo	94.23	70	eP		P		04 10 59.7	+1.4
PAMC	Pamplona, Colo	94.23	73	eP		P		04 10 56.5	-2.3
PAMC	Pamplona, Colo	94.23	73	eP		P		04 10 56.5	-2.3
GUY2C	Guyana, Caldas	94.30	76	eP		P		04 10 57.8	-1.2
GUY2C	Guyana, Caldas	94.30	76	eP		P		04 10 57.8	-1.2
NORC	Norcasia	94.33	76	⇓eP		P		04 10 51.8	-6.8
NORC	Norcasia	94.33	76	⇓eP		P		04 10 51.8	-6.8
BARC	Barichara	94.54	74	eP		P		04 10 59.1	-0.7
BARC	Barichara	94.54	74	eP		P		04 10 59.1	-0.7
RREF	El Recreo	94.56	76	eP		P		04 11 01.1	+0.7
RREF	El Recreo	94.56	76	eP		P		04 11 01.1	+0.7
YOTC	Yotoco, Valle	94.68	78	eP		P		04 11 01.1	+0.8
YOTC	Yotoco, Valle	94.68	78	eP		P		04 11 01.1	+0.8
SPBC	San Pablo de B	94.75	75	eP		P		04 10 59.1	-1.5
SPBC	San Pablo de B	94.75	75	eP		P		04 10 59.1	-1.5
TOLC	Tolima	94.83	77	eP		P		04 11 02.5	+1.2
TOLC	Tolima	94.83	77	eP		P		04 11 02.5	+1.2
FDF	Fort de France	94.83	59	IAMs_20	IAMs_20			04 55 11.0	
	comp=Z,3μm,20.0s								
FOZ	Fox Glacier	95.15	188	IAMs_20	IAMs_20			04 47 40.0	
	comp=Z,3μm,20.0s								
RUSC	La Rusia	95.15	74	eP		P		04 11 01.1	-1.8
RUSC	La Rusia	95.15	74	eP		P		04 11 01.1	-1.8
ROSC	El Rosal	95.24	76	eP		P		04 11 03.1	-0.1
ROSC	El Rosal	95.24	76	eP		P		04 11 03.1	-0.1
ROSC	El Rosal	95.24	76	P		P		04 11 04.8	+1.6
	comp=Z,18nm,0.7s,baz=349,slow=12,SNR=12								
ROSC				LR	LR			04 59 04.3	
	comp=Z,724nm,18.4s,baz=12,slow=39								
ORTC	Ortega, Tolima	95.41	77	eP		P		04 11 01.8	-1.8
ORTC	Ortega, Tolima	95.41	77	eP		P		04 11 01.8	-1.8
BBAC	Balboa, Cauca	95.66	80	eP		P		04 11 01.1	-3.8
BBAC	Balboa, Cauca	95.66	80	eP		P		04 11 01.1	-3.8
RAYN	Ar Rayn	95.76	320	P		P		04 11 02.5	-2.6
RAYN	Ar Rayn	95.76	320	P		P		04 11 02.5	-2.6
RAYN				IAMs_20	IAMs_20			05 01 33.5	
	comp=Z,2μm,20.0s								
MDT	Midelt	95.91	5	LR	LR			05 00 06.2	
	comp=Z,466nm,18.0s,baz=328,slow=39								
PCON	Cinco Dias	95.95	79	eP		P		04 10 58.5	-8.2
PCON	Cinco Dias	95.95	79	eP		P		04 10 58.5	-8.2
SOTA	Rioblanco	95.97	79	eP		P		04 11 07.1	+0.4
SOTA	Rioblanco	95.97	79	eP		P		04 11 07.1	+0.4
VILC	Villavicencio,	96.19	76	eP		P		04 11 07.8	+0.5
VILC	Villavicencio,	96.19	76	eP		P		04 11 07.8	+0.5
BETC	Betania	96.25	78	eP		P		04 11 08.4	+1.0
BETC	Betania	96.25	78	eP		P		04 11 08.4	+1.0
OTAV	Otavalo	96.32	82	P		P		04 11 07.3	-0.9
OTAV	Otavalo	96.32	82	P		P		04 11 07.3	-0.9
OTAV	Otavalo	96.32	82	eP		P		04 11 09.8	+1.6
FLOC	Florencia	96.99	79	eP		P		04 11 08.4	-2.3
FLOC	Florencia	96.99	79	eP		P		04 11 08.4	-2.3
PTGC	Puerto Gaitan,	97.06	74	eP		P		04 11 09.8	-1.3
PTGC	Puerto Gaitan,	97.06	74	eP		P		04 11 09.8	-1.3
DAMY	Dhamar	104.22	317	IAMs_20	IAMs_20			05 04 01.7	
	comp=Z,1μm,22.0s								
ATD	Arta Tunnel	107.60	317	IAMs_20	IAMs_20			05 07 33.2	
	comp=Z,1μm,20.0s								
SACV	Santiago Islan	110.40	26	IAMs_20	IAMs_20			04 59 58.0	
	comp=Z,2μm,20.0s								
FURI	Furi	111.71	320	IAMs_20	IAMs_20			05 07 56.0	
	comp=Z,2μm,22.0s								
SAML	Samuel	112.86	75	IAMs_20	IAMs_20			05 08 34.4	
	comp=Z,2μm,20.0s								
SAML	Samuel	112.86	75	eP		Pdif		04 12 23.2	+1.9
SAML	Samuel	112.86	75	eP		Pdif		04 12 23.2	+1.9
TOC1	Torodi Ar. Sit	115.61	359	IAMs_20	IAMs_20			05 14 07.7	
	comp=Z,2μm,18.0s								
TOC7	Torodi Ar. Sit	115.62	359	IAMs_20	IAMs_20			05 14 06.9	
	comp=Z,1μm,18.0s								
TOC2	Torodi Ar. Sit	115.63	359	IAMs_20	IAMs_20			05 14 18.1	
	comp=Z,1μm,18.0s								
TOB2	Torodi Ar. Sit	115.63	359	IAMs_20	IAMs_20			05 14 17.2	
	comp=Z,1μm,18.0s								
TOB5	Torodi Ar. Sit	115.63	359	IAMs_20	IAMs_20			05 14 17.2	
	comp=Z,1μm,18.0s								
TOA1	Torodi Ar. Sit	115.63	359	IAMs_20	IAMs_20			05 14 17.2	
	comp=Z,1μm,18.0s								
TOA0	Torodi Ar. Sit	115.64	359	IAMs_20	IAMs_20			05 14 18.3	
	comp=Z,1μm,18.0s								
TOA2	Torodi Ar. Sit	115.64	359	IAMs_20	IAMs_20			05 14 17.3	
	comp=Z,1μm,18.0s								
TORD	Torodi Ar. Bea	115.64	359	PKP	PKiKP			04 16 20.0	-1.2
	comp=Z,2.5nm,0.4s,baz=348,slow=2.3,SNR=37								
TORD				PKKPbc	PKKPbc			04 26 52.2	+0.5
	comp=Z,2.6nm,0.8s,baz=190,slow=2.2,SNR=10								
TOA3	Torodi Ar. Sit	115.64	359	IAMs_20	IAMs_20			05 14 16.5	
	comp=Z,1μm,18.0s								
TOB4	Torodi Ar. Sit	115.64	359	IAMs_20	IAMs_20			05 14 17.6	
	comp=Z,1μm,18.0s								
TOB3	Torodi Ar. Sit	115.65	359	IAMs_20	IAMs_20			05 14 18.6	
	comp=Z,1μm,18.0s								
TOC3	Torodi Ar. Sit	115.65	359	IAMs_20	IAMs_20			05 14 18.6	
	comp=Z,1μm,18.0s								
TOC5	Torodi Ar. Sit	115.66	359	IAMs_20	IAMs_20			05 14 17.9	
	comp=Z,2μm,18.0s								
TOC4	Torodi Ar. Sit	115.66	359	IAMs_20	IAMs_20			05 14 19.0	
	comp=Z,1μm,18.0s								
SIV	San Ignacio	119.62	78	PKP	PKPdf			04 16 27.9	-0.8
	comp=Z,4.0nm,0.7s,baz=296,slow=1.2,SNR=15								
NBMO	Morrinhos-CE	120.98	50	eP	PKiKP			04 16 33.4	+1.8
NBMO	Morrinhos-CE	120.98	50	eP	PKiKP			04 16 33.4	+1.8
KMBO	Kilima Mbogo	121.34	316	PKP	PKiKP			04 16 32.7	+0.1
	comp=Z,9.6nm,0.9s,baz=12,slow=3.0,SNR=22								
KMBO	Kilima Mbogo	121.34	316		PKPdf			04 16 30.9	-1.5
KMBO	Kilima Mbogo	121.34	316	IAMs_20	IAMs_20			05 11 43.5	
	comp=Z,1μm,22.0s								
DBIC	Dimbokro	121.85	7	PKP	PKPdf			04 16 32.4	-0.8
	comp=Z,11nm,0.4s,baz=337,slow=2.7,SNR=59								
TIC	Toumodi	121.86	7	ePKIKP	PKPdf			04 16 32.0	-1.2
KIC	Kosan Boka	122.16	7	ePKIKP	PKPdf			04 16 32.5	-1.3

TSUM	Tsumeb	145.27	332		IAMs_20	IAMs_20	05 25 10.8	
	comp=Z,1μm,22.0s							
MAW	Mawson	146.54	218		PKPbc	PKPbc	04 17 18.7	+0.1
	comp=Z,52nm,0.9s,baz=101,slow=4.5,SNR=49							
MAW	Mawson	146.54	218			PKPbc	04 17 18.0	-0.7
LBTB	Lobatse	147.62	315		PKIKP	PKPdf	04 17 19.7	-0.7
LBTB	Lobatse	147.62	315			PKPdf	04 17 19.7	-0.7
BOSA	Boshof	150.86	312		PKPbc	PKPbc	04 17 30.6	-0.6
	comp=Z,65nm,0.8s,baz=19,slow=2.2,SNR=13							
BOSA	Boshof	150.86	312			PKPdf	04 17 25.7	+0.1
SYO	Syowa Base	154.74	212⇑eX			PKPdf	04 17 26.4	-3.3
SYO	Syowa Base	154.74	212⇑eX			PKPdf	04 17 32.0	+2.3
SUR	Sutherland	156.07	315		IAMs_20	IAMs_20	05 34 42.8	
	comp=Z,2μm,20.0s							
VNA3	Neumayer Olymp	159.58	170		PKPab	PKPab	04 18 13.8	-0.6
VNA3	Neumayer Olymp	159.58	170		PKPdf	PKPdf	04 17 34.8	-1.1
SNAA	Sanae	159.67	176		PKPab	PKPab	04 18 14.0	-0.9
SNAA	Sanae	159.67	176		PKPdf	PKPdf	04 17 34.6	-1.5
SNAA	Sanae	159.67	176		PKIKP	PKPdf	04 17 34.8	-1.2
SNAA							04 18 14.7	
SNAA	Sanae	159.67	176		PKP	PKPdf	04 17 33.9	-2.1
	comp=Z,2.8nm,0.7s,baz=204,slow=1.0,SNR=14							
SNAA					PKPab	PKPab	04 18 14.3	-0.6
	comp=Z,6.8nm,0.8s,baz=223,slow=5.7,SNR=8.8							
SNAA	Sanae	159.67	176			PKPdf	04 17 34.8	-1.2
SNAA						PKPab	04 18 14.7	-0.2
SNAA					IAMs_20	IAMs_20	05 37 14.2	
	comp=Z,831nm,20.0s							
VNA2	Neumayer--Watz	160.11	172		PKPab	PKPab	04 18 16.6	-0.1
	baz=187,slow=2.7							
VNA2	Neumayer--Watz	160.11	172		PKPdf	PKPdf	04 17 35.0	-1.5
VNA1	Neumayer--Stat	160.29	171		PKPab	PKPab	04 18 17.2	-0.3
VNA1	Neumayer--Stat	160.29	171		PKPdf	PKPdf	04 17 37.4	+0.8

AEIC 13 04:00:31.7±2.4, 51°.45N±0°.10×178°.95W±0°.05, h24km±5km, ML3.8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	0.36	21		Pn	04 00 40.5	-0.9
GAEA					Sb	04 00 45.9	+1.0
TASE	Tanaga Southea	0.69	55		Pb	04 00 45.1	0.0
TAFP	Tanaga Falls P	0.75	53		Sn	04 00 57.3	-0.2
TAPA	Tanaga Point A	0.80	62		Pb	04 00 46.6	-0.3
KIMD	Kanaga Island	1.11	73		Pn	04 00 51.1	-0.7
KIWB	Kanaga Island	1.19	69		Pn	04 00 52.7	-0.2
KIWB					Sn	04 01 08.4	+0.1
KINC	Kanaga Island	1.23	66		Pn	04 00 53.6	+0.2
ADK	Adak	1.48	72	Sn	Sn	04 01 13.5	-1.9
ADK	Adak	1.48	72	Pn	Pn	04 00 56.1	-0.7
ADK					Sn	04 01 13.8	-1.6
GSTD	Great Sitkin T	1.85	70		Sn	04 01 26.0	+1.4
SII	Sitkinak Islan	15.39	61	P	P	04 04 13.3	+1.8
HYT	Haines Junctio	24.52	51		S	04 10 12.7	+4.5

ISCJB 13 04:06:39.1±0.9, 7°.87N±0°.05×82°.94W±0°.03, h26km±5km, Error ellipse: s-maj=8.6km s-min=4.2km az=17.6
UPA 13 04:06:39.9±0.8, 7°.90N×82°.94W, h24km±4km, MW4.0
UCR 13 04:06:39.7±1.1, 7°.88N×82°.91W, h28km±6km, MW3.6

ISC 13 04:06:39.6±1.4, 7°.89N±0°.06×82°.91W±0°.04, h27km±11km, n34, σ0°.90/55, 3C-10D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBAR3	San Bartolo, C	0.43	4	⇓iP	Pb	04 06 48.9	+0.1
SBAR3				eS	Sb	04 06 55.5	+0.5
LESP3	La Esperanza,	0.53	13	⇓iP	Pb	04 06 49.7	-0.7
LESP3				eS	Sb	04 06 57.3	-0.5
BAGA3	Bagala, Chiriq	0.69	34	⇓iP	Pb	04 06 52.9	-0.2
BAGA3				eS	Sb	04 07 02.0	-0.2
PEDE3	Pedregal, Chir	0.69	45	⇓iP	Pb	04 06 52.8	-0.3
PEDE3				eS	Sb	04 07 03.0	+0.7
DVD	David	0.71	40	⇑iP	Pb	04 06 53.0	-0.4
DVD				eS	Sb	04 07 03.5	+0.7
LOCO3	Loma Colorada,	0.71	43	⇓iP	Pb	04 06 53.1	-0.3
LOCO3				eS	Sb	04 07 03.0	+0.1
LOMA3	Las Lomas, Chi	0.75	44	⇓iP	Pb	04 06 53.7	-0.4
LOMA3				eS	Sb	04 07 04.3	+0.5
PTJ1	Puerto Jimnez	0.75	329	eP	Pb	04 06 52.7	-1.4
PTJ1				eS	Sb	04 07 04.8	+0.9
PTJ1	Puerto Jimnez	0.75	329	eP	Pb	04 06 52.9	-1.2
PTJ1				eS	Sb	04 07 04.0	+0.1
CHIR3	Chiriqui UPA,	0.77	49	⇓iP	Pb	04 06 54.0	-0.4
CHIR3				eS	Sb	04 07 04.6	+0.2
PTAR3	Potrerillos Ar	0.90	27	⇓iP	Pn	04 06 56.2	-0.4
PTAR3				eS	Sb	04 07 07.6	-0.7
BCO2	Palmira	0.91	25	⇓iP	Pn	04 06 56.3	-0.4
BCO2				eS	Sb	04 07 09.2	+0.5
BRU2	Volcan	0.93	14	eP	Pn	04 06 56.5	-0.4
BRU2				eS	Sn	04 07 10.1	+0.6
BRU2	Volcan	0.93	14	⇓iP	Pn	04 06 56.5	-0.4
BRU2				eS	Sn	04 07 09.9	+0.4
EDSV	San Vito	0.93	356	eP	Pn	04 06 56.7	-0.2
REME3	Remedios, Chir	1.12	73	eP	Pn	04 06 59.9	+0.4
REME3				⇑eS	Sb	04 07 15.8	+1.2
EDPN	Palmar Norte	1.19	333	eP	Pn	04 06 59.9	-0.6
NANC3	Nancito, Chiri	1.22	73	eP	Pn	04 07 01.5	+0.6
NANC3				eS	Sb	04 07 18.7	+1.3
CHGR2	Aguacate	1.29	36	eP	Pn	04 07 01.9	+0.1
CHGR2				eS	Sn	04 07 18.6	+0.3
DRK0	Durika	1.40	346	eP	Pn	04 07 03.4	-0.2
DRK0	Durika	1.40	346	⇑iP	Pn	04 07 03.2	-0.4
DRK0				eS	Sn	04 07 20.8	-0.5
EDLM	Las Mercedes	1.53	334	eP	Pn	04 07 05.7	+0.5
GMAL	Guarumal, Vera	1.67	94	eP	Pn	04 07 07.0	0.0
GMAL				eS	Sn	04 07 26.1	-1.4
MESA3	La Mesa, Verag	1.73	81	eS	Sb	04 07 33.2	+1.1
CACAO	El Cacao, Vera	2.10	105	eP	Pn	04 07 13.9	+0.9
CACAO				eS	Sn	04 07 39.3	+1.0
LCR2	La Lucha 2	2.13	330	eP	Pn	04 07 14.3	+0.7
OVTR	Volcan Turrial	2.28	339	eP	Pn	04 07 16.3	+0.5
AZU	Azuero	2.62	92	eP	Pb	04 07 24.1	-1.8
AZU	Azuero	2.62	92	eP	Pb	04 07 23.7	-2.1
AZU				eS	Sn	04 07 51.3	+0.3
ARE1	Arenal 1	3.12	325	eP	Pn	04 07 30.2	+3.2
JTS	Las Juntas de	3.12	320	eP	Pn	04 07 28.1	+1.0
CEDE	Laguna Cedeo	3.13	326	eP	Pn	04 07 28.5	+1.3
ZANG	Zanguenga, Cho	3.19	70	eP	Pb	04 07 34.5	-1.2
PLVR	Palo Verde	3.43	316	eP	Pn	04 07 31.5	0.0

GCG 13 04:23:14.5±0.8, 15°.47N×93°.21W, h23km, MD3.9
MEX 13 04:23:14.8±0.7, 15°.44N×92°.98W, h112km±6km, MD3.9
ISCJB 13 04:23:16.5±1.8, 15°.51N±0°.07×93°.0W±0°.1, h91km±13km, Error ellipse: s-maj=17.5km s-min=8.8km az=152.5

ISC 13 04:23:18.9±2.5, 15°.54N±0°.07×92°.9W±0°.1, h73km±20km, n7, σ1°.94/13, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.31	301	eP	Pn	04 23 30.0	-0.4
PCIG				eS	Sn	04 23 41.2	+2.3
THIG		0.91	134	eP	Pn	04 23 33.7	-2.7
THIG				eS	Sn	04 23 48.7	-0.7
CCIG	Comitan	1.07	46	iP	Pn	04 23 37.2	-1.3
CCIG				iS	Sn	04 23 54.2	+1.1
TGIG		1.24	352	iP	Pn	04 23 39.0	-1.6
TGIG				eS	Sn	04 23 57.7	+0.8
STG3	Santiaguito 3,	1.56	122	eP	Pn	04 23 43.5	-1.4
STG3				eS	Sn	04 24 05.3	+0.7
FUG	Fuego 3	2.30	118	eP	Pn	04 23 54.6	-0.3
IXG	Ixpaco	2.77	119	eP	Pn	04 24 01.4	+0.2
IXG				eS	Sn	04 24 37.3	+3.5

AEIC 13 04:29:57.4±2.1, 51°.4N±0°.1×178°.9W±0°.2, h12km±7km, ML3.7, mb3.6/4(NEIC), Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	0.38	16		Pb	04 30 06.5	+0.4
TASE	Tanaga Southea	0.69	53		Pg	04 30 10.9	+0.2
TANO	Tanaga North	0.70	45		Pb	04 30 11.3	-0.2
TANO					Sb	04 30 21.2	+0.1
TAFP	Tanaga Falls P	0.75	50		Pg	04 30 11.8	-0.2
TAFP					Sg	04 30 22.2	+0.3
TAPA	Tanaga Point A	0.79	60		Pg	04 30 12.4	-0.4
KIMD	Kanaga Island	1.10	71		Pb	04 30 16.9	-1.5
KIKV	Kanaga Island	1.18	67		Pb	04 30 18.4	-1.3
KICM	Kanaga Island	1.18	64		Pn	04 30 18.8	-1.0
KICM					Sg	04 30 35.4	0.0
KIWB	Kanaga Island	1.18	68		Pn	04 30 18.4	-1.3
KIWB				Sn	Sb	04 30 34.5	-0.5
KIRH	Kanaga Island	1.23	66		Pn	04 30 19.2	-1.2
ADK	Adak	1.47	71		Pn	04 30 22.6	-1.0
ADK	Adak	1.47	71	Sn	Sn	04 30 40.7	-2.0
ADAG	Mount Adagdak	1.55	68		Pn	04 30 24.3	-0.4
GSTD	Great Sitkin T	1.84	69		Pn	04 30 28.8	0.0
GSTD					Sb	04 30 53.9	0.0
GSMY	Great Sitkin M	1.89	70		Pn	04 30 28.9	-0.5
GSTR	Great Sitkin T	1.90	68		Pn	04 30 29.5	-0.1
GSTR				Sn	Sn	04 30 52.9	-0.6
KOKL	Mount Kliuchef	3.06	71		Pn	04 30 46.6	+1.0
KOFP	Korovin Flat P	3.11	72		Pn	04 30 47.6	+1.4
SPIA	Saint Paul Isl	7.67	38	Pn	Pn	04 31 47.8	-1.0
SKT	Skwentna	18.22	44		Pn	04 34 09.6	-0.3
SKT				IAmb	IAmb	04 34 19.4	
	comp=Z,3.9nm,1.0s						
PPLA	Purkeypile	18.33	41		Pn	04 34 10.9	-0.4
PPLA				IAmb	IAmb	04 34 15.6	
	comp=Z,7.2nm,1.2s						
RND	Reindeer	19.92	41	P	P	04 34 28.2	-0.5
DHY	Denali Highway	20.42	43	P	P	04 34 32.5	-1.7

IDC 13 04:35:13.8±4.0, 4°.24S×102°.21E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, Error ellipse: s-maj=167.8km s-min=23.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	29.75	262	T	T	05 11 41.4	
	baz=85,slow=74,SNR=29						
H08S3	Diego Garcia H	29.75	262	T	T	05 11 42.0	
	baz=85,slow=74,SNR=37						
H08S1	Diego Carcia H	29.77	262	T	T	05 11 43.2	
	baz=85						
WRA	Warramunga Arr	34.97	119	P	P	04 42 07.8	-0.2
	0.3nm,0.6s,baz=303,slow=8.9,SNR=4.2						
ASAR	Alice Springs	36.16	125	P	P	04 42 18.2	-0.1
	0.2nm,0.5s,baz=299,slow=7.8,SNR=3.2						
SONM	Songino Array	51.98	4	P	P	04 44 25.6	+0.7
	1.0nm,0.6s,baz=185,slow=9.1,SNR=8.5						
MKAR	Makanchi Array	53.78	343	P	P	04 44 37.4	-0.7
	0.3nm,0.4s,baz=138,slow=8.9,SNR=3.8						
TXAR	Lajitas Array	145.01	42	PKPbc	PKPbc	04 54 52.4	-0.8
	0.3nm,0.5s,baz=276,slow=1.2,SNR=4.8						

ISCJB 13 04:35:53.5±1.1, 31°.8N±0°.3×40°.6W±0°.1, h10km, mb3.9/7, MS4.4/2, Error ellipse: s-maj=42.7km s-min=14.1km az=6.2
IDC 13 04:35:54.2±1.5, 31°.72N×40°.50W, h0km, mb3.9/7, mb1 4.3/7, mb1mx3.9/43, mbtmp3.9/7, MS4.4/2, Ms1 4.4/2, ms1mx3.7/43, Error ellipse: s-maj=53.7km s-min=20.9km az=6.0
NEIC 13 04:35:55.8±1.3, 31°.7N±0°.5×40°.5W±0°.2, h15km±9km, mb4.5/9

ISC 13 04:35:55.5±1.4, 31°.7N±0°.3×40°.5W±0°.1, h10km, n28, σ0°.70/20, mb4.2/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	29.67	329	LR	LR	04 53 11.2	
	comp=Z,533nm,18.7s,baz=18,slow=35						
TORD	Torodi Ar. Bea	42.86	106	P	P	04 43 54.4	+0.1
	2.4nm,1.1s,baz=293,slow=4.6,SNR=5.6						
GERES	GERESS Array B	43.77	51	P	P	04 44 01.5	+0.2
	0.4nm,0.6s,baz=270,slow=7.3,SNR=6.3						
GERES	GERESS Array B	43.77	51	P	P	04 44 01.3	0.0
H10N2	ASCENSION HYDR	46.55	143	T	T	05 33 54.2	
	baz=329,slow=75,SNR=268						
H10N3	ASCENSION HYDR	46.56	143	T	T	05 33 54.5	
	baz=329,slow=75,SNR=265						
H10N1	ASCENSION HYDR	46.57	143	T	T	05 33 57.8	
	baz=329,slow=75,SNR=322						
H10S3	ASCENSION HYDR	47.43	144	T	T	05 34 58.9	
	baz=329,slow=74,SNR=62						
H10S2	ASCENSION HYDR	47.44	144	T	T	05 35 00.0	
	baz=251,slow=74,SNR=65						
AKASG	Malin Array Be	53.73	48	P	P	04 45 17.1	-0.6
	0.7nm,0.5s,baz=278,slow=6.4,SNR=5.1						
TXAR	Lajitas Array	53.75	285	P	P	04 45 18.5	+0.2
	0.5nm,0.6s,baz=99,slow=8.2,SNR=4.1						
TXAR	Lajitas Array	53.75	285	P	P	04 45 18.1	-0.2
BW06	Boulder Array	54.64	303	P	P	04 45 25.0	+0.2
PD31	Pinedale Array	54.64	303	P	P	04 45 25.0	+0.2
PD31				IAmb	IAmb	04 45 26.2	
	comp=Z,4.7nm,0.9s						
PDAR	Pinedale Array	54.64	303	P	P	04 45 24.7	-0.1
	comp=Z,3.2nm,0.8s,baz=80,slow=8.9,SNR=26						
PDAR	Pinedale Array	54.64	303	P	P	04 45 24.5	-0.3
IMW	Indian Meadow	55.38	304	P	P	04 45 28.4	-1.7
IMW				IAmb	IAmb	04 45 31.7	
	comp=Z,4.0nm,0.8s						
TPAW	Teton Pass	55.48	304	P	P	04 45 29.6	-1.3
TPAW				IAmb	IAmb	04 45 39.9	
	comp=Z,5.5nm,1.2s						
FXWY	Fox Creek	55.49	304	P	P	04 45 30.8	-0.1
DUG	Dugway, Tooele	57.65	300	P	P	04 45 46.4	+0.2
CCUT	Cedar City	58.83	297	P	P	04 45 53.9	-0.8
MFID	Camas Ranch	58.93	305	P	P	04 45 54.3	-0.8
MFID				IAmb	IAmb	04 45 57.4	
	comp=Z,4.1nm,1.1s						
KVN	Kaiserville	61.89	300	P	P	04 46 15.0	-0.4
NVAR	Mina Array Bea	62.24	300	P	P	04 46 18.3	+0.4
	comp=Z,1.1nm,0.8s,baz=75,slow=6.5,SNR=9.5						
NVAR	Mina Array Bea	62.24	300	P	P	04 46 17.4	-0.5
ILAR	Eielson Array	68.28	334	P	P	04 46 57.4	+1.1
	comp=Z,1.7nm,1.0s,baz=53,slow=4.5,SNR=9.1						
H09W1	TRISTAN DA CUN	73.38	157	T	T	06 07 31.0	
	SNR=6.1						
YAK	Yakutsk	86.22	5	LR	LR	05 25 13.5	
	comp=Z,262nm,18.4s,baz=292,slow=34						

ISC 13 04:44:28.6±2.1, 51°.49N±0°.09×16°.09E±0°.07, h0km, n9, σ0°.69/18, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	169	ePg	Pg	04 44 41.7	+0.5
KSP				ePg	Pg	04 44 41.7	+0.5
KSP				eSg	Sg	04 44 50.7	+1.0
KSP				eSg	Sg	04 44 50.7	+1.0
CHVC	Chvalec	0.90	181	ePG	Pg	04 44 46.5	+0.6
CHVC				eSG	Sb	04 44 59.0	-0.7
UPC	Upice	0.98	183	ePG	Pg	04 44 47.7	+0.2
UPC				eSG	Sb	04 45 01.8	-0.3
	comp=Z,6.0nm,0.3s						
DPC	Dobruska-Polom	1.15	172	ePG	Pg	04 44 50.5	-0.1
DPC				eSG	Sg	04 45 05.8	+0.3
PVCC	Panska Ves	1.36	225	ePG	Pg	04 44 54.5	-0.1
PVCC				eSG	Sb	04 45 13.4	+0.6
	comp=Z,11nm,0.2s						
KRLC	Kraliky	1.48	162	ePG	Pn	04 44 55.6	-1.0
KRLC				eSG	Sn	04 45 16.5	-0.2
PRU	Pruhonice	1.79	214	eSG	Sg	04 45 27.0	+0.8
CLL	Collm	1.94	266	iPg	Pb	04 45 05.2	+0.4
CLL				iSg	Sg	04 45 31.5	+0.6
KHC	Kasperske Hory	2.86	215	eSG	Sg	04 45 59.2	-1.1

IDC 13 05:05:25.3±1.9, 0°.48S×20°.99W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/35, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=69.0km s-min=36.3km az=116.0

ISC 13 05:05:26.6±1.8, 0°.6S±0°.4×20°.9W±0°.3, h10km, n10, σ0°.36/7, mb3.8/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	9.67	138	T	T	05 17 34.3	
	baz=318,slow=74,SNR=185						
H10N3	ASCENSION HYDR	9.67	139	T	T	05 17 33.2	
	baz=318,slow=74,SNR=206						
H10N1	ASCENSION HYDR	9.69	139	T	T	05 17 34.6	
	baz=318,slow=74,SNR=291						
DBIC	Dimbokro	17.59	66	P	Pn	05 09 31.8	-0.2
	0.2nm,0.3s,baz=235,slow=16,SNR=3.1						
TORD	Torodi Ar. Bea	26.25	58	P	P	05 11 02.8	+0.5
	3.0nm,0.8s,baz=256,slow=9.1,SNR=15						
GERES	GERESS Array B	57.57	26	P	P	05 15 16.9	+0.2
	0.7nm,0.7s,baz=218,slow=6.2,SNR=6.3						
BRTR	Keskin Array B	63.84	44	P	P	05 15 59.4	-0.2
	0.4nm,0.7s,baz=251,slow=4.4,SNR=2.7						
AKASG	Malin Array Be	66.43	32	P	P	05 16 15.8	-0.2
	0.3nm,0.4s,baz=234,slow=6.6,SNR=2.5						
ASAR	Alice Springs	145.70	136	PKPbc	PKPdf	05 25 06.2	-0.2
	0.6nm,0.6s,baz=229,slow=3.0,SNR=7.1						
WRA	Warramunga Arr	148.35	131	PKPbc	PKPbc	05 25 14.5	+0.2
	0.4nm,0.8s,baz=240,slow=2.8,SNR=2.6						

SJA 13 05:13:12.2±0.9, 24°.18S×66°.99W, h203km±8km, ML2.3, MW2.9
ISCJB 13 05:13:13.5±1.0, 24°.20S±0°.05×67°.07W±0°.04, h188km±11km, Error ellipse: s-maj=9.2km s-min=6.0km az=14.9
GUC 13 05:13:14.2±0.7, 24°.18S×67°.71W, h239km±16km, ML3.4

ISC 13 05:13:12.6±2.3, 24°.21S±0°.06×67°.05W±0°.05, h199km±20km, n21, σ1°.01/31, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.49	110	iP	Pn	05 13 47.0	+0.6
SLA				eS	Sn	05 14 12.0	-0.5
SLA				IAML		05 14 12.7	
	comp=Z,11nm,0.7s						
HJA	Humahuaca	1.80	57	iP	Pn	05 13 49.7	+0.2
HJA				IAML		05 13 52.7	
	comp=Z,17nm,0.6s						
HJA				eS	Sn	05 14 16.8	-1.3
LVC	Limon Verde	2.34	313	eP	Pn	05 13 56.5	+1.4
LVC	Limon Verde	2.34	313	iP	Pn	05 13 55.9	+0.9
LVC				eS	Sn	05 14 28.2	+0.1
LVC				IAML		05 14 31.7	
	comp=Z,16nm,0.5s						
PB15	IPOC Station P	2.44	294	⇑iP	Pn	05 13 56.9	+0.9
PB15				eS	Sn	05 14 29.0	-0.7
PB15	IPOC Station P	2.44	294	iP	Pn	05 13 56.8	+0.9
YJA	Yavi	2.47	35	iP	Pn	05 13 57.4	+0.8
YJA				eS	Sn	05 14 30.6	-0.2
GO02	Mina Guanaco	2.50	247	⇑iP	Pn	05 13 57.6	+0.8
GO02				eS	Sn	05 14 30.6	-0.6
GO02				IAML		05 14 34.5	
	comp=E,82nm,0.1s						
PB06	IPOC Station P	2.76	302	⇑iP	Pn	05 14 00.3	+0.7
PB06				iS	Sn	05 14 34.7	-1.5
PB06				IAML		05 14 37.5	
	comp=N,94nm,0.1s						
PB06	IPOC Station P	2.76	302	iP	Pn	05 14 00.4	+0.8
AHML	Horco Molle	2.99	149	iP	Pn	05 14 02.6	+0.4
PB09	IPOC Station P	3.14	319	⇓iP	Pn	05 14 05.4	+1.3
PB09				iS	Sn	05 14 45.3	+1.0
PB09				IAML		05 14 50.8	
	comp=N,32nm,0.3s						
PB09	IPOC Station P	3.14	319	iP	Pn	05 14 05.4	+1.3
PB10	IPOC Station P	3.29	281	iP	Pn	05 14 06.5	+0.8
PB03	IPOC Station P	3.29	310	⇑iP	Pn	05 14 06.3	+0.5
PB03				iS	Sn	05 14 45.8	-1.8
PB03				IAML		05 14 47.6	
	comp=E,64nm,0.2s						
PB03	IPOC Station P	3.29	310	iP	Pn	05 14 06.5	+0.6
PB04	IPOC Station P	3.41	303	eP	Pn	05 14 07.8	+0.5
PB04				eS	Sn	05 14 47.7	-2.4
PB04				IAML		05 14 51.8	
	comp=N,66nm,0.1s						
PB04	IPOC Station P	3.41	303	iP	Pn	05 14 07.8	+0.5
PB02	IPOC Station P	3.90	317	iP	Pn	05 14 13.4	+0.2
PB11	IPOC Station P	5.05	331	iP	Pn	05 14 28.1	+0.3
MNMCX	Minye Minye	5.58	334	iP	Pn	05 14 35.4	+0.5

IDC 13 05:30:36.0±4.3, 51°.49N×179°.18W, h0km, mb3.6/5, mb1 4.1/6, mb1mx3.6/58, mbtmp3.8/6, ML4.4/1, Error ellipse: s-maj=93.8km s-min=46.8km az=120.0
NEIC 13 05:30:39.9±1.9, 51°.4N±0°.1×178°.9W±0°.2, h16km±8km
AEIC 13 05:30:40±1.9, 51°.4N±0°.1×178°.8W±0°.2, h14km±6km, ML3.7, mb4.0/31(NEIC)

ISC 13 05:30:41.7±2.1, 51°.4N±0°.1×178°.78W±0°.08, h26km±11km, n71, σ0°.94/72, mb3.8/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	0.34	3		Pb	05 30 49.2	-0.3
TASE	Tanaga Southea	0.60	49		Pb	05 30 53.5	-0.2
TANO	Tanaga North	0.62	40		Pb	05 30 53.9	-0.2
TAFP	Tanaga Falls P	0.67	47		Pb	05 30 54.5	-0.4
TAFP					Sn	05 31 05.2	-0.1
TAPA	Tanaga Point A	0.71	58		Pb	05 30 55.1	-0.4
KIMD	Kanaga Island	1.01	71		Pn	05 30 59.6	-0.7
KIMD					Sn	05 31 14.4	+0.8
KIKV	Kanaga Island	1.09	66		Pn	05 31 01.0	-0.3
KICM	Kanaga Island	1.09	64		Pn	05 31 01.3	0.0
KICM					Sn	05 31 17.6	+2.1
KIWB	Kanaga Island	1.09	67		Pn	05 31 01.0	-0.3
KIWB					Sn	05 31 16.0	+0.4
KIRH	Kanaga Island	1.14	66		Pn	05 31 02.0	-0.1
ADK	Adak	1.38	70	Pn	Pn	05 31 04.8	-0.4
ADK					Sb	05 31 23.5	-0.4
ADK	Adak	1.38	70		Pn	05 31 05.2	0.0
ADK				Sn	Sb	05 31 23.4	-0.5
ADAG	Mount Adagdak	1.46	67		Pn	05 31 06.7	+0.4
GSSP	Great Sitkin S	1.74	67		Sb	05 31 35.4	+1.0
GSTD	Great Sitkin T	1.75	68		Pn	05 31 10.4	0.0
GSMY	Great Sitkin M	1.79	69		Pn	05 31 11.3	+0.3
GSTR	Great Sitkin T	1.81	68		Pn	05 31 11.8

VRDI				IAmb	IAmb	05 35 35.1	
	comp=Z,5.6nm,1.3s						
DOT	**Dot Lake**	**21.94**	**43**	P	**P**	**05 35 33.1**	**+0.2**
DOT				IAmb	IAmb	05 35 34.5	
	comp=Z,3.1nm,0.8s						
TOLK	**Toolik Lake Re**	**22.20**	**28**	P	**P**	**05 35 36.7**	**+0.9**
BCAR	**Beaver Creek A**	**22.78**	**45**	P	**P**	**05 35 40.8**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**33.59**	**205**	T	T	06 12 43.7	
	baz=17						
H11N3	**WAKE ISLAND Hy**	**33.60**	**205**	T	T	06 12 44.4	
	baz=17						
H11N1	**WAKE ISLAND Hy**	**33.61**	**205**	T	T	06 12 45.0	
	baz=17						
H11S1	**WAKE ISLAND Hy**	**34.81**	**205**	T	T	06 14 44.8	
	baz=17,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.83**	**205**	T	T	06 14 32.6	
	baz=17,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.83**	**205**	T	T	06 14 43.3	
	baz=17						
YBH	**Yreka Blue Hor**	**38.86**	**82**	P	**P**	**05 38 05.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=288,slow=3.2,SNR=3.6						
PNTR	**Pine Nut**	**42.32**	**83**	P	**P**	**05 38 34.2**	**+0.8**
PNTR				IAmb	IAmb	05 38 35.6	
	comp=Z,3.4nm,0.7s						
NVAR	**Mina Array Bea**	**43.53**	**83**	P	**P**	**05 38 43.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=296,slow=6.7,SNR=5.8						
ELK	**Elko**	**44.03**	**78**	P	**P**	**05 38 45.9**	**-1.3**
ELK				IAmb	IAmb	05 38 51.1	
	comp=Z,1.4nm,0.8s						
YHH	**Holmes Hill**	**44.35**	**71**	P	**P**	**05 38 49.6**	**-0.2**
BW06	**Boulder Array**	**46.27**	**72**	P	**P**	**05 39 04.8**	**-0.2**
PD31	**Pinedale Array**	**46.27**	**72**	P	**P**	**05 39 04.7**	**-0.3**
PDAR	**Pinedale Array**	**46.27**	**72**	P	**P**	**05 39 04.5**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=306,slow=3.8,SNR=27						
PDAR	**Pinedale Array**	**46.27**	**72**	P	**P**	**05 39 04.2**	**-0.8**
PV11	**David Mesa, Pa**	**49.41**	**77**	P	**P**	**05 39 29.7**	**+0.4**
PV13	**Radium Mtn., P**	**49.53**	**77**	P	**P**	**05 39 30.2**	**-0.1**
TXAR	**Lajitas Array**	**58.63**	**81**	P	**P**	**05 40 35.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=305,slow=4.4,SNR=3.5						

*IDC **13** 05:31:34.9±2.4, 53°.33N×91°.81E, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.5/57, mbtmp3.8/8, ML3.5/4, Error ellipse: s-maj=39.0km s-min=19.2km az=112.0*
*ASRS **13** 05:31:34.9, 53°.37N×91°.35E, M3.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*ISCJB **13** 05:31:37.1±1.1, 53°.32N±0°.07×90°.8E±0°.1, h0km, mb3.8/4, Error ellipse: s-maj=13.7km s-min=7.6km az=38.2*
*NNC **13** 05:31:42.9±3.8, 53°.18N×90°.70E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=31.3km s-min=26.7km az=2.0, Suspected Mining explosion.*

ISC 13 05:31:37.7±1.6, 53°.3N±0°.1×91°.1E±0°.1, h0km, n13, σ1§65/18, mb3.8/4, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.80**	**282**	Pn	**Pn**	**05 32 40.2**	**+2.8**
	6.3nm,0.3s,baz=104,slow=12,SNR=21						
ZALV				Lg	Lg	05 33 39.6	
	7.2nm,0.3s,baz=97,slow=31,SNR=6.8						
KURK	**Kurchatov**	**8.13**	**256**	⇓Pn	**Pn**	**05 33 38.1**	**+1.3**
KURK	2.6nm,0.5s						
				⇓Sn	**Sn**	**05 35 08.8**	**-0.6**
KURK	42nm,0.7s						
				⇓Lg	Lg	05 35 56.4	
	92nm,1.0s						
KURBB	**Kurchatov Arra**	**8.22**	**256**	⇓Pn	**Pn**	**05 33 39.1**	**+1.0**
KURBB	4.1nm,0.3s						
				⇑Sn	**Sn**	**05 35 10.7**	**-0.8**
KURBB	164nm,0.6s						
				⇑Lg	Lg	05 36 01.2	
	96nm,0.8s						
KURBB	**Kurchatov Arra**	**8.22**	**256**	Pn	**Pn**	**05 33 39.4**	**+1.3**
KURBB	0.8nm,0.3s,baz=72,slow=15,SNR=9.1						
				Sn	**Sn**	**05 35 10.8**	**-0.8**
KURBB	0.8nm,0.3s,baz=68,slow=26,SNR=12						
				Lg	Lg	05 35 56.4	
KURBB	baz=71,slow=34,SNR=3.3						
MK31	**Makanchi Array**	**8.63**	**225**	Pn	**Pn**	**05 33 47.0**	**+3.2**
MK31	2.8nm,0.6s,baz=35,slow=12,SNR=23						
				⇑Sn	**Sn**	**05 35 20.6**	**-1.2**
MK31	4.3nm,0.7s						
				⇓Lg	Lg	05 36 11.6	
	19nm,0.8s,baz=42,slow=32,SNR=3.8						
MKAR	**Makanchi Array**	**8.63**	**225**	Pn	**Pn**	**05 33 46.5**	**+2.7**
MKAR	0.6nm,0.3s,baz=38,slow=16,SNR=22						
				Sn	**Sn**	**05 35 20.7**	**-1.1**
MKAR	0.1nm,0.3s,baz=43,slow=26,SNR=2.6						
				Lg	Lg	05 36 07.6	
MKAR	0.3nm,0.3s,baz=41,slow=27,SNR=3.4						
SONM	**Songino Array**	**11.14**	**113**	Lg	Lg	05 37 17.7	
	0.1nm,0.3s,baz=311,slow=26,SNR=3.7						
BVAR	**Borovoye Array**	**12.44**	**277**	Pn	**Pn**	**05 34 37.7**	**+1.9**
BVAR	0.3nm,0.3s,baz=74,slow=16,SNR=2.9						
				Sn	**Sn**	**05 36 53.8**	**-1.1**
BVAR	0.4nm,0.3s,baz=78,slow=26,SNR=5.5						
NRIK	**Noril'sk**	**16.18**	**355**	Pn	**Pn**	**05 35 26.2**	**+0.1**
	0.4nm,0.3s,baz=156,slow=12,SNR=8.7						
ARCES	**ARCESS Array B**	**33.29**	**324**	P	**P**	**05 38 15.8**	**-0.6**
	3.9nm,0.9s,baz=84,slow=9.2,SNR=4.9						
FINES	**FINESS Array B**	**34.60**	**310**	P	**P**	**05 38 27.4**	**-0.4**
	0.6nm,0.5s,baz=91,slow=6.1,SNR=2.8						
ESDC	**Sonseca Array**	**62.12**	**300**	P	**P**	**05 41 59.4**	**-0.8**
	0.3nm,0.5s,baz=41,slow=6.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**79.24**	**277**	P	**P**	**05 43 43.9**	**-0.8**
	0.3nm,0.8s,baz=27,slow=5.9,SNR=3.2						

*IDC **13** 06:09:42.3±1.5, 33°.84S×178°.97W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/23, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=42.7km s-min=30.3km az=54.0*
*WEL **13** 06:09:44.6±1.1, 34°S±12°×17°9W±2°9, h33km, M4.7/14, ML4.8/7, MLv4.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*
*NEIC **13** 06:09:53.3±1.8, 34°.4S±0°.1×179°.1W±0°.2, h82km±10km, mb4.3/4*

ISC 13 06:09:45.1±1.0, 34°20S±0°.07×178°.5W±0°.1, h35km, n39, σ2§89/53, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.23**	**217**	P	**Pn**	**06 10 48.2**	**+1.2**
MXZ				S	**Sn**	**06 11 34.8**	**-0.3**
MXZ	**Matakaoa Point**	**4.23**	**217**	Pn	**Pn**	**06 10 49.4**	**+2.4**
WMGZ	**Waiomatatini S**	**4.38**	**214**	P	**Pn**	**06 10 51.0**	**+1.9**
WMGZ				S	**Sn**	**06 11 40.5**	**+1.5**
HAZ	**Te Kaha**	**4.65**	**219**	P	**Pn**	**06 10 53.8**	**+1.2**
HAZ				S	**Sn**	**06 11 46.6**	**+1.3**
PUZ	**Puketiti**	**4.66**	**213**	P	**Pn**	**06 10 53.7**	**+0.8**
PUZ				S	**Sn**	**06 11 45.9**	**+0.1**
GLKZ	**Green Lake**	**4.95**	**6**	P	**Pn**	**06 10 54.9**	**-2.0**
GLKZ				S	**Sn**	**06 11 48.4**	**-4.5**
RIZ	**Raoul Island**	**4.96**	**6**	P	**Pn**	**06 10 56.5**	**-0.6**
URZ	**Urewera**	**5.37**	**220**	Pn	**Pn**	**06 11 04.6**	**+1.9**
	1.7nm,0.3s,baz=18,slow=20,SNR=12						
URZ				Sn	**Sn**	**06 12 02.1**	**-1.3**
	9.4nm,0.3s,baz=122,slow=19,SNR=16						
URZ	**Urewera**	**5.37**	**220**	P	**Pn**	**06 11 03.5**	**+0.8**
URZ				S	**Sn**	**06 12 02.1**	**-1.3**
URZ	**Urewera**	**5.37**	**220**		**Sn**	**06 12 03.0**	**-0.3**
KNZ	**Kokohu**	**5.70**	**211**	S	**Sn**	**06 12 06.9**	**-4.5**
RTZ	**Ruatahuna**	**5.71**	**218**	P	**Pn**	**06 11 09.6**	**+2.3**
MHGZ	**Mahia Peninsul**	**5.72**	**209**	P	**Pn**	**06 11 05.4**	**-2.0**
MHGZ				S	**Sn**	**06 12 09.4**	**-2.4**
WHHZ	**Waihua**	**5.95**	**214**	P	**Sn**	**06 12 18.4**	**+1.0**
NMHZ	**Naumai**	**6.16**	**216**	P	**Pn**	**06 11 16.7**	**+3.1**
NMHZ				P	**Sn**	**06 12 22.6**	**-0.3**
ARHZ	**Aropaoanui**	**6.20**	**214**	P	**Pn**	**06 11 15.6**	**+1.4**
ARHZ				P	**Sn**	**06 12 23.6**	**-0.2**
BKZ	**Black Stump Fm**	**6.37**	**217**	P	**Pn**	**06 11 17.8**	**+1.3**
BKZ				S	**Sn**	**06 12 25.5**	**-2.6**
BKZ	**Black Stump Fm**	**6.37**	**217**	Pn	**Pn**	**06 11 19.0**	**+2.5**
MCHZ	**McNeill Hill**	**6.49**	**215**	P	**Sn**	**06 12 30.0**	**-0.8**
OUZ	**Omahuta**	**6.57**	**259**	Pn	**Pn**	**06 11 22.1**	**+2.9**
KWHZ	**Kaweka Forest**	**6.61**	**216**	P	**Pn**	**06 11 20.9**	**+1.2**
KWHZ				P	**Sn**	**06 12 32.4**	**-1.3**
KAHZ	**Kahuranaki**	**6.69**	**212**	P	**Pn**	**06 11 20.0**	**-0.8**
KAHZ				S	**Sn**	**06 12 31.5**	**-4.3**
KRHZ	**Kereru**	**6.80**	**215**	P	**Pn**	**06 11 23.1**	**+0.7**
KRHZ				S	**Sn**	**06 12 35.2**	**-3.3**
PXZ	**Pawanui**	**6.89**	**211**	P	**Sn**	**06 12 34.9**	**-5.7**
MOVZ	**Moawhango**	**6.94**	**220**	S	**Sn**	**06 12 36.6**	**-5.3**
PNHZ	**Pukenui**	**7.09**	**215**	P	**Sn**	**06 12 40.8**	**-5.0**
WPHZ	**Waipukurau**	**7.10**	**213**	S	**Sn**	**06 12 42.0**	**-3.9**
PRHZ	**Porangahau**	**7.18**	**211**	S	**Sn**	**06 12 43.9**	**-4.0**
TSZ	**Takapari Road**	**7.32**	**215**	P	**Sn**	**06 12 43.5**	**-7.8**
NNZ	**Nelson**	**9.50**	**220**	Pn	**Pn**	**06 12 02.6**	**+3.3**
NNZ				Sn	**Sn**	**06 13 37.4**	**-7.4**
ASAR	**Alice Springs**	**42.61**	**271**	P	**P**	**06 17 37.4**	**-0.7**
	0.5nm,0.4s,baz=111,slow=7.3,SNR=12						
ASAR				PcP	**PcP**	**06 19 29.9**	**-0.1**
	0.3nm,0.6s,baz=114,slow=4.1,SNR=3.2						
WB2	**Warramunga Arr**	**43.93**	**276**	P	**P**	**06 17 48.2**	**-0.5**
WB2				IAmb	IAmb	06 17 56.1	
	comp=Z,8.2nm,1.5s						
WRA	**Warramunga Arr**	**43.94**	**276**	P	**P**	**06 17 47.9**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=118,slow=7.6,SNR=39						
WRA	**Warramunga Arr**	**43.94**	**276**	IAmb	IAmb	06 17 48.6	
	comp=Z,0.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.02**	**273**	P	**P**	**06 18 51.1**	**-0.2**
QSPA	**South Pole Qui**	**55.92**	**180**	P	P	06 19 25.0	+5.7
	comp=Z,1.8nm,1.1s,baz=23,slow=3.3,SNR=4.9						
QSPA	**South Pole Qui**	**55.92**	**180**	P	**P**	**06 19 22.2**	**+2.8**
QSPA				IAmb	IAmb	06 19 35.6	
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**148.51**	**337**	PKPbc	**PKiKP**	**06 29 29.2**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=62,slow=3.3,SNR=12						
TORD	**Torodi Ar. Bea**	**159.04**	**181**	PKPab	**PKPab**	**06 30 19.3**	**+3.0**
	comp=Z,0.7nm,1.0s,baz=176,slow=4.3,SNR=2.1						

ISC 13 06:12:53.0±2.5, 51°.6N±0°.1×16°.04E±0°.07, h0km, n10, σ0§50/17, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**169**	*e*Pg	**Pg**	**06 13 08.9**	**+0.4**
KSP				*e*Pg	**Pg**	**06 13 08.9**	**+0.4**
KSP				*e*Sg	**Sg**	**06 13 19.3**	**+0.3**
KSP				*e*Sg	**Sg**	**06 13 19.3**	**+0.3**
CHVC	**Chvalec**	**1.05**	**180**	*e*PG	**Pg**	**06 13 12.8**	**-0.3**
UPC	**Upice**	**1.13**	**181**	*e*PG	**Pg**	**06 13 14.8**	**+0.2**
UPC				*e*SG	**Sg**	**06 13 29.3**	**0.0**
	comp=Z,4.9nm,0.2s						
DPC	**Dobruska-Polom**	**1.30**	**172**	*e*PG	**Pb**	**06 13 18.2**	**-0.1**
DPC				*e*SG	**Sg**	**06 13 35.1**	**+0.4**
PVCC	**Panska Ves**	**1.45**	**221**	*e*SG	**Sb**	**06 13 40.2**	**+0.4**
	comp=Z,15nm,0.1s						
BRG	**Berggiesshubel**	**1.53**	**241**	PG	**Pb**	**06 13 22.3**	**+0.2**
BRG				SG	**Sn**	**06 13 42.0**	**0.0**
	4.2nm,0.2s						
KRLC	**Kraliky**	**1.63**	**163**	*e*PG	**Pb**	**06 13 23.6**	**-0.4**
KRLC				*e*SG	**Sn**	**06 13 44.2**	**-0.5**
PRU	**Pruhonice**	**1.91**	**211**	*e*SG	**Sb**	**06 13 53.6**	**+0.7**
MORC	**Moravsky Berou**	**2.09**	**152**	*e*PN	**Pn**	**06 13 29.1**	**-0.2**
KHC	**Kasperske Hory**	**2.96**	**213**	*e*SG	**Sg**	**06 14 26.9**	**-1.3**

*AEIC **13** 06:27:13.8±2.0, 66°.49N±0°.03×141°.85W±0°.07, h4km±5km, ML3.5, Mwr3.5(NEIC)*
*ANF **13** 06:27:14.0±1.9, 66°.56N×141°.85W, h4km±13km, ML4.1/5, Error ellipse: s-maj=6.2km s-min=3.6km az=168.0*
*NEIC **13** 06:27:14.2±2.0, 66°.55N±0°.04×141°.91W±0°.07, h7km±7km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.28; $M_{\theta\theta}$=2.14; $M_{\phi\phi}$=2.41; $M_{r\theta}$=0.81; $M_{\theta\phi}$=0.13; $M_{\phi r}$=-0.25; Fault plane solution: M_0=2.44000×10^{14} NP1: ϕ_s=224.83000°, δ=71.88000°, λ=-11.48000°. NP2: ϕ_s=318.44000°, δ=79.09000°, λ=-161.53000°. Principal axes: T 2.4350, Plg=5.0000°, Azm=91.0000°; N 0.0134, Plg=69.0000°, Azm=348.0000°; P -2.4485, Plg=21.0000°, Azm=183.0000°;*
*IDC **13** 06:27:14.3±2.2, 66°.68N×142°.32W, h0km, mb3.3/1, mb1 4.1/3, mb1mx3.5/31, mbtmp3.6/3, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/23 Error ellipse: s-maj=34.0km s-min=15.4km az=162.0*
*PGC **13** 06:27:15.5±0.1, 66°.55N×141°.76W, h1km, ML3.8/8, 297km northwest of Dawson, Yt Northern Alaska*

ISC 13 06:27:12.2±1.1, 66°.50N±0°.02×141°.73W±0°.02, h10km±9km, n116, σ2§86/142, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYU	**Fort Yukon**	**1.40**	**274**		**Pg**	**06 27 39.3**	**+0.3**
FYU	**Fort Yukon**	**1.40**	**274**		**Sg**	**06 27 58.5**	**+1.2**
FYU	**Fort Yukon**	**1.40**	**274**		**Pg**	**06 27 39.7**	**+0.6**
BMAR	**Burnt Mountain**	**1.46**	**311**		**Pg**	**06 27 40.3**	**+0.2**
BMAR				Sn	**Sn**	**06 27 54.9**	**-2.9**
BM03	**Burnt Mountain**	**1.46**	**310**		**Pb**	**06 27 39.1**	**-0.3**
EGAK	**Eagle**	**1.75**	**172**		**Pg**	**06 27 45.9**	**+0.2**
EGAK	**Eagle**	**1.75**	**172**		**Pg**	**06 27 46.5**	**+0.8**
EGAK				Sn	**Sg**	**06 28 08.8**	**+0.4**
PRP	**Porcupine Dome**	**1.84**	**239**		**Pb**	**06 27 45.3**	**-0.6**
PRP	**Porcupine Dome**	**1.84**	**239**		**Pb**	**06 27 45.5**	**-0.5**
PRP				Sn	**Sb**	**06 28 08.8**	**-0.3**
PRP					**Sg**	**06 28 10.5**	**-0.8**
EPYK	**Eagle Plains**	**2.02**	**92**	P	**Pb**	**06 27 49.6**	**+0.6**
	baz=276						
EPYK				S	**Sg**	**06 28 16.8**	**-0.2**
	baz=276						
EPYK	**Eagle Plains**	**2.02**	**92**		**Pb**	**06 27 49.7**	**+0.6**
EPYK					**Pg**	**06 27 50.4**	**-0.4**
EPYK	**Eagle Plains**	**2.02**	**92**		**Sg**	**06 28 17.0**	**0.0**
DAWY	**Dawson**	**2.64**	**157**	Pn	**Pb**	**06 27 58.9**	**-0.6**
DAWY				Sn	**Sb**	**06 28 31.7**	**-0.3**
DAWY	**Dawson**	**2.64**	**157**	Pn	**Pb**	**06 27 58.9**	**-0.6**
DAWY					**Pb**	**06 27 59.1**	**+4.2**
DAWY					**Pg**	**06 27 59.3**	**-3.4**
DAWY					**Sn**	**06 28 24.2**	**-2.7**
POKR	**Poker Plat Res**	**2.73**	**242**	P	**Pn**	**06 27 57.6**	**+1.5**
	baz=56						
POKR	**Poker Plat Res**	**2.73**	**242**		**Pn**	**06 27 57.6**	**+1.5**
POKR					**Sb**	**06 28 32.2**	**-2.4**
IL31		**2.75**	**233**		**Pn**	**06 27 58.1**	**+1.8**
IL31		**2.75**	**233**	Sn	**Sb**	**06 28 33.4**	**-1.8**
ILAR	**Eielson Array**	**2.75**	**233**	Pn	**Pn**	**06 27 58.0**	**+1.7**
	4.2nm,0.3s,baz=39,slow=14,SNR=108						
ILAR				Lg	Lg	06 28 37.7	
	41nm,0.3s,baz=43,slow=31,SNR=15						
ILAR				LR	LR	06 28 43.6	
	comp=Z,89nm,19.4s,baz=263,slow=33						
ILAR	**Eielson Array**	**2.75**	**233**	Pn	**Pn**	**06 27 58.3**	**+1.9**
PS07	**TAPS Pump Stn7**	**2.94**	**249**		**Sb**	**06 28 38.3**	**-2.3**
COLA	**College**	**3.01**	**240**		**Pn**	**06 28 01.4**	**+1.5**
COLA	**College**	**3.01**	**240**		**Pn**	**06 28 02.4**	**+2.5**
TCOL	**CIGO, UAF Yank**	**3.02**	**240**	Sb	**Sg**	**06 28 47.9**	**-1.0**
	baz=54						
HDA	**Harding Lake**	**3.03**	**228**	P	**Pn**	**06 28 02.2**	**+2.1**
	baz=43						
HDA				Sb	**Sg**	**06 28 48.9**	**-0.3**
	baz=43						
HDA	**Harding Lake**	**3.03**	**228**		**Sb**	**06 28 41.6**	**-1.5**
HDA	**Harding Lake**	**3.03**	**228**	Pn	**Pn**	**06 28 01.9**	**+1.7**
HDA					**Pb**	**06 28 04.3**	**-1.8**
DOT	**Dot Lake**	**3.03**	**200**	Pn	**Pb**	**06 28 03.6**	**-2.6**
DOT				Sg	**Sg**	**06 28 50.2**	**+0.8**
DOT	**Dot Lake**	**3.03**	**200**		**Pb**	**06 28 03.5**	**-2.6**
MDM	**Murphy Dome**	**3.10**	**243**		**Pn**	**06 28 02.5**	**+1.3**
CCB	**Clear Creek Bu**	**3.14**	**236**		**Pn**	**06 28 03.5**	**+1.9**
WRH	**Wood River Hil**	**3.34**	**235**		**Pn**	**06 28 06.0**	**+1.6**
COLD	**Coldfoot**	**3.42**	**286**	Pn	**Pn**	**06 28 07.6**	**+2.1**
COLD				Sg	**Sb**	**06 28 57.5**	**+3.1**
COLD	**Coldfoot**	**3.42**	**286**		**Pn**	**06 28 07.5**	**+2.0**
COLD	**Coldfoot**	**3.42**	**286**	Sn	**Sn**	**06 28 46.7**	**+0.6**
BC03		**3.45**	**180**		**Pn**	**06 28 09.7**	**+3.7**
BCAR	**Beaver Creek A**	**3.45**	**180**	Pn	**Pn**	**06 28 08.6**	**+2.6**
INK	**Inuvik**	**3.65**	**57**	Pn	**Pn**	**06 28 11.5**	**+2.9**
INK				Sn	**Sn**	**06 28 53.4**	**+1.7**
INK				Sg	**Sg**	**06 29 07.9**	**-1.3**
INK	**Inuvik**	**3.65**	**57**		**Pn**	**06 28 11.3**	**+2.6**
TOLK	**Toolik Lake Re**	**3.69**	**309**	P	**Pn**	**06 28 11.5**	**+2.2**
	baz=122						
TOLK				S	**Sn**	**06 28 54.1**	**+1.3**
	baz=122						
TOLK	**Toolik Lake Re**	**3.69**	**309**		**Pn**	**06 28 11.8**	**+2.5**
PAX	**Paxson**	**3.89**	**206**	Pn	**Pn**	**06 28 16.3**	**+4.2**
PAX				Sn	**Sn**	**06 29 01.2**	**+3.3**
PAX				Sg	**Sg**	**06 29 18.1**	**+1.1**
PAX	**Paxson**	**3.89**	**206**		**Pn**	**06 28 15.6**	**+3.5**
BWN	**Browne**	**4.00**	**238**		**Pn**	**06 28 13.8**	**+0.4**
MCK	**McKinley**	**4.12**	**231**		**Pn**	**06 28 17.2**	**+2.0**
BVCY	**Beaver Creek**	**4.12**	**174**	Pn	**Pn**	**06 28 19.4**	**+4.2**
BVCY				Sn	**Sn**	**06 29 05.9**	**+2.4**
BVCY				Sg	**Sg**	**06 29 24.5**	**+0.1**
BVCY	**Beaver Creek**	**4.12**	**174**		**Pn**	**06 28 19.4**	**+4.2**
DHY	**Denali Highway**	**4.20**	**218**		**Pn**	**06 28 20.0**	**+3.5**
RND	**Reindeer**	**4.34**	**228**		**Pn**	**06 28 20.9**	**+2.6**
YUK1	**Sand Pete Hill**	**4.40**	**173**	Pn	**Pn**	**06 28 23.1**	**+4.0**
YUK1				Sg	**Sg**	**06 29 33.4**	**+0.1**
BPAW	**Bear Paw Mtn.**	**4.57**	**242**		**Pn**	**06 28 21.9**	**+0.6**
WAT2	**Susitna Watana**	**4.61**	**223**		**Pn**	**06 28 25.4**	**+3.4**
WAT1	**Susitna Watana**	**4.71**	**222**		**Pn**	**06 28 26.1**	**+2.8**
PS11	**TAPS Pump St11**	**4.73**	**202**		**Pn**	**06 28 27.6**	**+4.1**
TRF	**Thorofare Moun**	**4.75**	**234**		**Pn**	**06 28 25.8**	**+1.8**
YUK2	**White River**	**4.75**	**175**	Pn	**Pn**	**06 28 28.1**	**+4.2**
YUK2				Sn	**Sn**	**06 29 22.7**	**+3.7**
YUK2				Sg	**Sg**	**06 29 43.8**	**-0.8**
YUK2	**White River**	**4.75**	**175**		**Pn**	**06 28 28.0**	**+4.0**
YUK3	**Moose Creek**	**4.78**	**173**	Pn	**Pn**	**06 28 28.3**	**+4.0**
YUK3				Sg	**Sg**	**06 29 46.3**	**+0.8**
YUK3	**Moose Creek**	**4.78**	**173**		**Pn**	**06 28 28.4**	**+4.0**
IM03		**4.89**	**269**		**Pn**	**06 28 27.1**	**+1.5**
IMAR	**Indian Mountai**	**4.89**	**269**	Pn	**Pn**	**06 28 27.6**	**+2.0**
KTH	**Kantishna Hill**	**4.89**	**237**		**Pn**	**06 28 27.1**	**+1.3**
GLB	**Gilahina Butte**	**5.16**	**191**		**Pn**	**06 28 32.9**	**+3.4**
MCARA	**McCarthy VSAT**	**5.17**	**187**		**Pn**	**06 28 33.3**	**+3.7**
SCM	**Sheep Creek Mo**	**5.29**	**210**		Pn	06 28 36.1	+4.9
PTPK	**Patty Peak**	**5.35**	**184**	Pn	**Pn**	**06 28 36.8**	**+4.6**
PTPK	**Patty Peak**	**5.35**	**184**		**Pn**	**06 28 36.6**	**+4.4**
VRDI	**Verde Repeater**	**5.35**	**189**		**Pn**	**06 28 37.0**	**+4.7**
YUK4	**Talbot Arm**	**5.36**	**164**	Pn	**Pn**	**06 28 35.4**	**+3.1**
YUK4				Sg	**Sg**	**06 30 00.0**	**-3.9**
YUK4	**Talbot Arm**	**5.36**	**164**		**Pn**	**06 28 35.0**	**+2.7**
BARN	**Barnard Glacie**	**5.47**	**180**		**Pn**	**06 28 36.7**	**+2.9**
BALM	**Baldy**	**5.50**	**183**	Pn	**Pn**	**06 28 38.7**	**+4.6**
BALM	**Baldy**	**5.50**	**183**		**Pn**	**06 28 38.7**	**+4.6**
SML	**Sawmill**	**5.53**	**215**		**Pn**	**06 28 38.7**	**+4.2**
CTGM	**Chitina Glacie**	**5.56**	**178**	Pn	Pn	06 28 40.0	+4.9
CTGM				Sg	**Sg**	**06 30 10.0**	**-0.6**
CTGM	**Chitina Glacie**	**5.56**	**178**		**Pn**	**06 28 39.7**	**+4.6**
KIAG	**Kiagna River**	**5.61**	**183**	Pn	**Pn**	**06 28 40.5**	**+4.8**
KIAG	**Kiagna River**	**5.61**	**183**		**Pn**	**06 28 39.7**	**+4.0**
YUK5	**Granite Creek**	**5.66**	**161**	Pn	**Pn**	**06 28 40.8**	**+4.4**
YUK5				Sn	**Sn**	**06 29 43.4**	**+1.9**
YUK5				Sg	**Sg**	**06 30 11.5**	**-2.2**
YUK5	**Granite Creek**	**5.66**	**161**		**Pn**	**06 28 39.9**	**+3.5**
GHO	**Glory Hole Cre**	**5.70**	**217**	Pn	**Pn**	**06 28 39.0**	**+2.2**
PPLA	**Purkeypile**	**5.76**	**236**	Pn	**Pn**	**06 28 39.6**	**+1.8**
YUK6	**Outpost Mounta**	**5.78**	**163**	Pn	**Pn**	**06 28 42.5**	**+4.4**
YUK6				Sg	**Sg**	**06 30 16.3**	**-1.2**
YUK6	**Outpost Mounta**	**5.78**	**163**		**Pn**	**06 28 42.0**	**+3.8**
TGL	**Tana Glacier**	**5.79**	**185**		**Pn**	**06 28 41.0**	**+2.8**
GRNC	**Granite Creek**	**5.79**	**180**	Pn	**Pn**	**06 28 43.0**	**+4.7**
GRNC				Sn	**Sn**	**06 29 50.7**	**+5.8**
GRNC	**Granite Creek**	**5.79**	**180**		**Pn**	**06 28 42.5**	**+4.2**
CRQM	**Cirque**	**5.80**	**187**		**Pn**	**06 28 41.8**	**+3.3**
PMR	**Palmer**	**5.90**	**217**	Pn	Pn	06 28 44.8	+5.2
KNK	**Knik Glacier**	**5.90**	**213**		**Pn**	**06 28 43.0**	**+3.3**
HYT	**Haines Junctio**	**6.00**	**160**	Pn	**Pn**	**06 28 45.4**	**+4.3**
HYT				Sg	**Sg**	**06 30 22.7**	**-2.0**
HYT	**Haines Junctio**	**6.00**	**160**		**Pn**	**06 28 45.1**	**+4.0**
GLI	**Glacier Island**	**6.13**	**205**	Pn	**Pn**	**06 28 47.4**	**+4.7**
FID	**

0.7nm,0.2s,baz=241,slow=37,SNR=2.9
AAK Ala-Archa 6.58 26 P Pn 06 36 47.5 0.0
1.7nm,0.5s
AAK S Sn 06 38 02.1 +0.4
5.6nm,0.9s
TKM2 Tokmak 2 7.24 30 ⇓P Pn 06 36 55.8 -0.6
2.8nm,0.4s
TKM2 ⇓S Sn 06 38 18.5 +1.0
1.5nm,0.7s
AB31 Akbulak array 14.71 331 ⇓P Pn 06 38 33.6 +0.1
0.7nm,0.6s,baz=141,slow=12,SNR=6.0

*ISCJB **13** 06:45:50.4±0.3,6°.59S±0°.03×128°.50E±0°.04,h250km, mb3.9/8,Error ellipse: s-maj=5.9km s-min=4.2km az=1.2*
*NEIC **13** 06:45:52.0±2.5,6°.52S±0°.03×128°.45E±0°.09,h269km±10km, mb4.5/11*
*IDC **13** 06:45:51.7±1.6,6°.51S×128°.41E,h259km±18km,mb3.7/8, mb1 4.0/13,mb1mx3.8/29,mbtmp4.6/13,Error ellipse: s-maj=20.1km s-min=11.3km az=76.0*
*DJA **13** 06:45:52.8±0.2,7°.S±3°.×12°.8E±°,h257km±4km,M4.6/14, mB5.0/7,mb4.5/14,MLv4.8/8,Mw(mB)4.3/7*
ISC 13 06:45:51.4±0.5,6°.60S±0°.04×128°.48E±0°.06,h250km,n50, σ2°.23/61,mb4.0/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.50**	**35**	P		**Pn**		**06 46 42.8**	**+4.1**
BNDI				S		**S**		**06 47 18.8**	**+2.7**
SAUI	**Saumlaki**	**3.12**	**116**	P		**Pn**		**06 46 48.6**	**+3.4**
SAUI				S		**S**		**06 47 30.1**	**+2.3**
SAUI	**Saumlaki**	**3.12**	**116**	Pn		**Pn**		**06 46 48.7**	**+3.5**
SAUI						**S**		**06 47 27.6**	**-0.2**
MSAI	**Masohi**	**3.26**	**8**	P		**Pn**		**06 46 49.9**	**+3.1**
SANI	**Sanana**	**5.16**	**331**	P		**Pn**		**06 47 11.2**	**+2.0**
SOEI	**Soe**	**5.21**	**233**	P		**Pn**		**06 47 11.7**	**+1.7**
SOEI	**Soe**	**5.21**	**233**			**Pn**		**06 47 10.2**	**+0.3**
FAKI	**Fak Fak**	**5.24**	**46**	P		**Pn**		**06 47 10.3**	**+0.1**
FAKI	**Fak Fak**	**5.24**	**46**			**Pn**		**06 47 10.7**	**+0.4**
FAKI						**S**		**06 48 07.8**	**-5.3**
BATI	**Baumata**	**5.96**	**233**	P		**Pn**		**06 47 20.5**	**+1.4**
145nm,0.3s,baz=84,slow=3.1,SNR=64									
BATI				S		**S**		**06 48 28.0**	**-1.2**
24nm,0.3s,baz=77,slow=22,SNR=6.5									
BATI	**Baumata**	**5.96**	**233**	P		**Pn**		**06 47 20.0**	**+0.9**
SIJI	**Sorong**	**6.34**	**26**	P		**Pn**		**06 47 23.5**	**-0.3**
8.8nm,0.3s,baz=111,slow=3.5,SNR=25									
SIJI				S		**S**		**06 48 33.4**	**-4.4**
6.0nm,0.3s,baz=262,slow=23,SNR=6.9									
SWI	**Sorong**	**6.34**	**26**	P		**Pn**		**06 47 23.8**	**0.0**
MTN	**Manton Dam**	**6.73**	**157**			**Pn**		**06 47 30.1**	**+1.3**
KNRA	**Kununurra**	**9.03**	**178**			**Pn**		**06 47 58.9**	**+1.2**
KNRA						**S**		**06 49 38.1**	**-1.7**
TTSI	**Tana Toraja**	**9.32**	**292**	P		**Pn**		**06 48 01.6**	**+0.1**
MRSI	**Marisa**	**9.59**	**317**	P		**Pn**		**06 48 07.2**	**+2.3**
PLAI	**Plampang**	**10.83**	**258**	P		**Pn**		**06 48 20.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.76**	**193**	P		**Pn**		**06 48 31.6**	**-0.5**
3.7nm,0.3s,baz=28,slow=10,SNR=69									
FITZ				S		**S**		**06 50 37.8**	**-5.6**
1.7nm,0.3s,baz=317,slow=18,SNR=4.4									
JAY	**Jayapura**	**12.85**	**72**	P		**P**		**06 48 47.6**	**+0.1**
2.1nm,0.3s,baz=226,slow=12,SNR=6.3									
WB0	**Warramunga Arr**	**14.30**	**157**	P		**P**		**06 49 07.0**	**+3.5**
WRAB	**Tennant Creek**	**14.43**	**157**	P		**Pn**		**06 49 04.9**	**+0.1**
WRA	**Warramunga Arr**	**14.43**	**157**	P		**Pn**		**06 49 04.2**	**-0.6**
10nm,0.3s,baz=332,slow=12,SNR=130									
WRA				S		**S**		**06 51 40.5**	**-4.3**
1.3nm,0.3s,baz=338,slow=19,SNR=7.1									
WRA	**Warramunga Arr**	**14.43**	**157**	P		**Pn**		**06 49 03.3**	**-1.6**
WB2	**Warramunga Arr**	**14.44**	**157**	P		**Pn**		**06 49 05.0**	**+0.1**
WR0	**Warramunga Arr**	**14.53**	**157**	P		**Pn**		**06 49 05.7**	**-0.4**
COEN	**Coen**	**16.20**	**118**	P		**P**		**06 49 25.0**	**+0.4**
COEN				IAmb		IAmb		06 49 26.9	
comp=Z,14nm,0.7s									
PSA00	**Pilbara Seismi**	**17.07**	**208**	P		**P**		**06 49 34.9**	**+0.9**
PSA00				IAmb		IAmb		06 49 46.9	
comp=Z,18nm,1.3s									
AS31	**Alice Springs**	**17.75**	**163**	P		**P**		**06 49 42.8**	**+1.3**
ASAR	**Alice Springs**	**17.75**	**163**	P		**P**		**06 49 42.8**	**+1.3**
comp=Z,13nm,0.3s,baz=343,slow=11,SNR=1366									
ASAR				S		**S**		**06 52 48.3**	**-4.3**
baz=345,slow=24,SNR=7.0									
ASAR	**Alice Springs**	**17.75**	**163**	P		**P**		**06 49 42.1**	**+0.6**
CTA	**Charters Tower**	**21.85**	**130**	P		**P**		**06 50 25.5**	**+1.3**
comp=Z,5.8nm,0.6s,baz=304,slow=12,SNR=14									
CTAO	**Charters Tower**	**21.85**	**130**	P		**P**		**06 50 25.0**	**+0.8**
FORT	**Forrest**	**24.06**	**181**	P		**P**		**06 50 44.0**	**-0.1**
FORT				IAmb		IAmb		06 50 45.0	
comp=Z,24nm,0.9s									
BBOO	**Buckleboo**	**27.02**	**166**	P		**P**		**06 51 10.8**	**+0.1**
BBOO				IAmb		IAmb		06 51 11.2	
comp=Z,11nm,0.7s									
STKA	**Stephens Creek**	**27.98**	**156**	P		**P**		**06 51 19.2**	**0.0**
comp=Z,3.5nm,0.7s,baz=303,slow=6.1,SNR=7.0									
STKA	**Stephens Creek**	**27.98**	**156**	IAmb		IAmb		06 51 20.1	
comp=Z,1.1nm,0.8s									
ARMA	**Armidale**	**32.16**	**140**	P		**P**		**06 51 57.4**	**+1.2**
CAN	**Canberra**	**34.25**	**149**	P		**P**		**06 52 14.7**	**+0.6**
KSRS	**Korea Array**	**43.83**	**359**	P		**P**		**06 53 31.0**	**-1.9**
comp=Z,2.4nm,0.5s,baz=174,slow=9.0,SNR=9.7									
MJAR	**Matsushiro Arr**	**43.87**	**11**	P		**P**		**06 53 30.7**	**-2.7**
comp=Z,2.3nm,0.6s,baz=186,slow=9.6,SNR=4.3									
USRK	**Ussuriysk Ar.**	**50.66**	**3**	P		**P**		**06 54 24.4**	**-0.9**
comp=Z,2.6nm,0.5s,baz=188,slow=7.7,SNR=9.5									
KHZ	**Kahutara**	**53.39**	**139**	P		**P**		**06 54 45.5**	**0.0**
BKZ	**Black Stump Fm**	**53.95**	**134**	P		**P**		**06 54 49.3**	**-0.5**
BKZ				IAmb		IAmb		06 54 49.8	
comp=Z,19nm,1.3s									
SONM	**Songino Array**	**57.60**	**343**	P		**P**		**06 55 15.0**	**-0.5**
comp=Z,1.5nm,0.7s,baz=161,slow=6.5,SNR=7.8									
KSH	**Kashi**	**66.71**	**318**	P		**P**		**06 56 19.8**	**+3.8**
KSH				PcP		**PcP**		**06 56 47.4**	**+4.4**
KSH				S		**S**		**07 04 47.3**	**-0.2**
KSH				ScS		**SKSac**		**07 05 45.1**	**-3.2**
KSH	**Kashi**	**66.71**	**318**	SS		SS		07 09 12.9	+2.2
KSH				pmax		pmax			
comp=Z,660nm,6.7s									
KSH				LR		LR			
comp=N,160nm,11.5s									
KSH				LR		LR			
comp=E,290nm,9.9s									
KSH				LR		LR			
comp=Z,440nm,15.7s									
MKAR	**Makanchi Array**	**67.07**	**327**	P		**P**		**06 56 17.1**	**-0.9**
comp=Z,1.4nm,0.4s,baz=123,slow=7.9,SNR=21									
MKAR	**Makanchi Array**	**67.07**	**327**	P		**P**		**06 56 16.8**	**-1.2**
ZALV	**Zalesovo Beam**	**70.56**	**334**	P		**P**		**06 56 37.5**	**-1.7**
comp=Z,1.5nm,0.6s,baz=137,slow=6.9,SNR=4.9									

*ISK **13** 06:50:23.8,38°.95N×23°.11E,h9km,ML3.2/5*
*ATH **13** 06:50:23.9,38°.92N×23°.10E,h21km,ML3.5/25,Error ellipse: s-maj=0.9km s-min=0.6km az=171.0*
*ISCJB **13** 06:50:24.2±0.3,38°.94N±0°.01×23°.11E±0°.02,h10km±2km, Error ellipse: s-maj=2.3km s-min=1.9km az=25.3*
*THE **13** 06:50:24.4,38°.91N×23°.09E,h4km±1km,ML3.4/25,Error ellipse: s-maj=1.3km s-min=0.4km az=142.0*
ISC 13 06:50:24.3±0.8,38°.92N±0°.01×23°.09E±0°.01,h15km±7km, n133,σ0°.72/191,8C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.28**	**195**	P		**Pg**		**06 50 30.1**	**-0.1**
LKR				S		**Sg**		**06 50 34.2**	**-0.1**
14μm,0.2s									
LKR	**Lokris**	**0.28**	**195**	P		**Pg**		**06 50 30.2**	**-0.1**
LKR				S		**Sg**		**06 50 34.5**	**+0.1**
LKR				AML		AML		06 50 34.9	
comp=E,20351μm,0.2s									
LKR				AML		AML		06 50 35.8	
comp=N,35306μm,0.2s									
AXAR	**Agios Charalam**	**0.37**	**246**	P		**Pg**		**06 50 31.9**	**0.0**
AXAR				S		**Sb**		**06 50 38.0**	**-0.2**
AXAR				AML		AML		06 50 42.1	
comp=E,18072μm,0.4s									
AXAR				AML		AML		06 50 44.3	
comp=N,33454μm,0.3s									
SKIA	**Skiathos**	**0.38**	**50**	P		**Pb**		**06 50 32.5**	**-0.2**
SKIA				S		**Sb**		**06 50 37.9**	**-0.5**
comp=N,8μm,0.2s									
SKIA	**Skiathos**	**0.38**	**50**	P		**Pb**		**06 50 32.5**	**-0.2**
SKIA				S		**Sg**		**06 50 37.6**	**+0.4**
SKIA				AML		AML		06 50 38.9	
comp=N,29115μm,0.3s									
SKIA				AML		AML		06 50 39.3	
comp=E,27728μm,0.2s									
NEO	**Neokhori**	**0.40**	**15**	P		**Pg**		**06 50 32.6**	**+0.2**
NEO				S		**Sg**		**06 50 37.8**	**0.0**
comp=E,19μm,0.3s									
NEO	**Neokhori**	**0.40**	**15**	P		**Pb**		**06 50 32.7**	**-0.3**
NEO				S		**Sg**		**06 50 37.9**	**0.0**
NEO				AML		AML		06 50 38.6	
comp=E,35179μm,0.2s									
NEO				AML		AML		06 50 41.5	
comp=N,36324μm,0.3s									
MRKA	**Markates**	**0.44**	**119**	P		**Pg**		**06 50 33.1**	**0.0**
MRKA				S		**Sg**		**06 50 39.2**	**+0.1**
comp=N,15μm,0.3s									
MRKA	**Markates**	**0.44**	**119**	P		**Pg**		**06 50 33.2**	**+0.1**
MRKA				S		**Sg**		**06 50 39.4**	**+0.2**
MRKA				AML		AML		06 50 40.7	
comp=N,34568μm,0.4s									
MRKA				AML		AML		06 50 41.0	
comp=E,25510μm,0.3s									
XOR	**Xorichti**	**0.45**	**10**	P		**Pb**		**06 50 33.6**	**-0.3**
XOR				S		**Sg**		**06 50 39.1**	**-0.3**
comp=E,8μm,0.2s									
XOR	**Xorichti**	**0.45**	**10**	P		**Pb**		**06 50 33.6**	**-0.3**
XOR				S		**Sb**		**06 50 39.9**	**-0.6**
XOR				AML		AML		06 50 40.3	
comp=N,22140μm,0.2s									
XOR				AML		AML		06 50 41.1	
comp=E,12178μm,0.3s									
AGG	**Agios Georgios**	**0.60**	**280**	P		**Pg**		**06 50 35.7**	**-0.4**
AGG				S		**Sb**		**06 50 45.2**	**+0.3**
comp=E,4μm,0.3s									
AGG	**Agios Georgios**	**0.60**	**280**	P		**Pg**		**06 50 35.8**	**-0.4**
AGG				S		**Sb**		**06 50 44.9**	**0.0**
AGG				AML		AML		06 50 46.4	
comp=N,10219μm,0.5s									
AGG				AML		AML		06 50 49.4	
comp=E,6502μm,0.2s									
AGG	**Agios Georgios**	**0.60**	**280**	PG		**Pg**		**06 50 35.8**	**-0.4**
AGG				SG		**Sb**		**06 50 45.0**	**+0.1**
ALNA	**Alonissos**	**0.64**	**69**	P		**Pg**		**06 50 36.6**	**-0.2**
ALNA				S		**Sb**		**06 50 46.1**	**+0.1**
ALNA				AML		AML		06 50 49.0	
comp=N,7862μm,0.3s									
ALNA				AML		AML		06 50 50.4	
comp=E,9221μm,0.8s									
DLFA	**Delphi**	**0.64**	**227**	P		**Pg**		**06 50 36.3**	**-0.6**
DLFA				S		**Sb**		**06 50 46.1**	**0.0**
DLFA				AML		AML		06 50 46.3	
comp=E,11422μm,0.5s									
DLFA				AML		AML		06 50 46.7	
comp=N,11175μm,0.4s									
AOS	**Alonnisos**	**0.66**	**68**	P		**Pg**		**06 50 36.6**	**-0.6**
AOS				S		**Sb**		**06 50 46.2**	**-0.3**
comp=N,5μm,0.2s									
AOS	**Alonnisos**	**0.66**	**68**	P		**Pg**		**06 50 36.8**	**-0.4**
AOS				S		**Sb**		**06 50 46.2**	**-0.3**
AOS				AML		AML		06 50 49.1	
comp=N,11736μm,0.3s									
AOS				AML		AML		06 50 50.2	
comp=E,6651μm,0.3s									
AOS	**Alonnisos**	**0.66**	**68**	PG		**Pg**		**06 50 36.8**	**-0.4**
AOS				SG		**Sg**		**06 50 45.4**	**-0.6**
DSF	**Desfina**	**0.68**	**221**	P		**Pg**		**06 50 36.7**	**-0.8**
DSF				S		**Sg**		**06 50 46.6**	**+0.1**
comp=E,6μm,0.4s									
DSF	**Desfina**	**0.68**	**221**	P		**Pg**		**06 50 37.0**	**-0.5**
DSF				S		**Sb**		**06 50 47.3**	**+0.3**
DSF				AML		AML		06 50 47.7	
comp=N,11030μm,0.3s									
DSF				AML		AML		06 50 49.1	
comp=E,12377μm,0.6s									
VIL2	**Platees**	**0.72**	**169**	P		**Pb**		**06 50 38.7**	**+0.2**
VIL2				S		**Sn**		**06 50 50.3**	**-0.5**
VIL2				AML		AML		06 50 54.5	
comp=E,9884μm,0.6s									
VIL2				AML		AML		06 50 55.5	
comp=N,7134μm,0.4s									
MAKR	**Makrakomi, Fth**	**0.76**	**277**	P		**Pg**		**06 50 38.5**	**-0.5**
MAKR				S		**Sb**		**06 50 50.3**	**+1.0**
comp=N,15μm,0.3s									
MAKR	**Makrakomi, Fth**	**0.76**	**277**	P		**Pg**		**06 50 38.7**	**-0.3**
MAKR				S		**Sb**		**06 50 49.7**	**+0.4**
MAKR				AML		AML		06 50 50.9	
comp=N,19660μm,0.4s									
MAKR				AML		AML		06 50 53.8	
comp=E,10464μm,0.3s									
VILL	**Villia**	**0.78**	**167**	P		**Pg**		**06 50 38.5**	**-0.9**
VILL				S		**Sb**		**06 50 50.5**	**+0.7**
comp=E,3μm,0.5s									
EREA	**Eretria**	**0.82**	**127**	P		**Pg**		**06 50 40.2**	**-0.1**
EREA				S		**Sb**		**06 50 52.0**	**+0.8**
comp=E,8μm,0.4s									
EREA	**Eretria**	**0.82**	**127**	P		**Pg**		**06 50 40.1**	**-0.1**
EREA				S		**Sb**		**06 50 51.6**	**+0.4**
EREA				AML		AML		06 50 54.5	
comp=E,20819μm,0.4s									
EREA				AML		AML		06 50 55.2	
comp=N,10496μm,0.4s									
LTK	**Loutraki**	**0.90**	**186**	P		**Pb**		**06 50 40.9**	**-0.7**
LTK				S		**Sn**		**06 50 55.0**	**-0.2**
comp=N,3μm,0.4s									
LTK	**Loutraki**	**0.90**	**186**	P		**Pb**		**06 50 41.2**	**-0.4**
LTK				AML		AML		06 50 59.1	
comp=N,5522μm,0.6s									
LTK				AML		AML		06 50 59.6	
comp=E,4324μm,0.3s									
KALE	**Kalithea**	**0.92**	**235**	P		**Pb**		**06 50 40.9**	**-1.0**
KALE				S		**Sn**		**06 50 55.4**	**-0.2**
comp=E,3μm,0.3s									
KALE	**Kalithea**	**0.92**	**235**	P		**Pb**		**06 50 41.1**	**-0.8**
KALE				S		**Sg**		**06 50 54.9**	**+0.8**
KALE				AML		AML		06 50 56.6	
comp=N,5775μm,0.4s									
KALE				AML		AML		06 50 57.4	
comp=E,4107μm,0.3s									
LOUT	**Loutraki**	**0.94**	**186**	P		**Pb**		**06 50 41.5**	**-0.7**
LOUT				S		**Sn**		**06 50 55.8**	**-0.2**
comp=E,2μm,0.5s									
LOUT	**Loutraki**	**0.94**	**186**	P		**Pb**		**06 50 41.6**	**-0.7**
SERG	**Sergoula**	**0.96**	**238**	P		**Pb**		**06 50 41.8**	**-0.8**
SERG				S		**Sg**		**06 50 56.0**	**+0.6**
comp=E,4μm,0.4s									
SERG	**Sergoula**	**0.96**	**238**	P		**Pb**		**06 50 42.0**	**-0.6**
SERG				S		**Sg**		**06 50 55.9**	**+0.6**
SERG				AML		AML		06 50 57.5	
comp=N,9316μm,0.4s									
SERG				AML		AML		06 50 59.0	
comp=E,6470μm,0.3s									
TRIZ	**Trizonia**	**0.97**	**236**	P		**Pb**		**06 50 42.3**	**-0.5**
TRIZ				S		**Sg**		**06 50 56.2**	**+0.3**
comp=E,3μm,0.4s									
TRIZ	**Trizonia**	**0.97**	**236**	P		**Pb**		**06 50 42.0**	**-0.8**
TRIZ				S		**Sg**		**06 50 56.1**	**+0.3**
EVR	**Evrytania**	**1.00**	**270**	P		**Pb**		**06 50 43.0**	**-0.4**
EVR				S		**Sg**		**06 50 57.1**	**+0.2**
EFP	**Efpalio**	**1.05**	**242**	P		**Pb**		**06 50 44.0**	**-0.2**
EFP				S		**Sn**		**06 50 59.1**	**+0.2**
comp=E,1μm,0.3s									
EFP	**Efpalio**	**1.05**	**242**	P		**Pb**		**06 50 43.9**	**-0.3**
EFP				S		**Sg**		**06 50 58.6**	**+0.2**
EFP				AML		AML		06 51 01.7	
comp=E,2100μm,0.3s									
EFP				AML		AML		06 51 03.1	
comp=N,2947μm,0.4s									
THL	**Klokotos Trika**	**1.06**	**308**	P		**Pb**		**06 50 43.8**	**-0.4**
THL				S		**Sn**		**06 50 59.2**	**+0.3**
comp=N,750nm,0.5s									
THL	**Klokotos Trika**	**1.06**	**308**	P		**Pb**		**06 50 43.8**	**-0.4**
THL				S		**Sn**		**06 50 59.5**	**+0.6**
THL				AML		AML		06 51 01.7	
comp=N,1772μm,0.5s									
THL				AML		AML		06 51 04.4	
comp=E,1279μm,0.6s									
PTL	**Penteli**	**1.06**	**145**	P		**Pn**		**06 50 44.6**	**0.0**
PTL				S		**Sg**		**06 50 58.7**	**+0.1**
comp=E,2μm,0.6s									
PTL	**Penteli**	**1.06**	**145**	P		**Pn**		**06 50 44.6**	**0.0**
PTL				S		**Sn**		**06 50 59.1**	**0.0**
PTL				AML		AML		06 51 00.2	
comp=E,4523μm,0.5s									
PTL				AML		AML		06 51 00.3	
comp=N,5035μm,0.7s									
ATH	**Athens Observa**	**1.07**	**153**	P		**Pb**		**06 50 43.7**	**-0.7**
ATH				S		**Sn**		**06 50 59.2**	**0.0**
comp=N,4μm,0.3s									
ATH	**Athens Observa**	**1.07**	**153**	P		**Pn**		**06 50 44.6**	**0.0**
ATH				S		**Sn**		**06 50 59.3**	**+0.2**
ATH				AML		AML		06 51 00.9	
comp=E,9714μm,0.3s									
ATH				AML		AML		06 51 00.9	
comp=N,5303μm,0.3s									
ATHU	**Athens Univers**	**1.10**	**150**	P		**Pn**		**06 50 45.3**	**+0.3**
ATHU				S		**Sg**		**06 50 59.7**	**-0.1**
comp=N,1μm,0.4s									
ATHU	**Athens Univers**	**1.10**	**150**	P		**Pn**		**06 50 45.4**	**+0.3**
ATHU				S		**Sg**		**06 51 00.0**	**+0.2**
ATHU				AML		AML		06 51 01.4	
comp=E,2440μm,0.5s									
ATHU				AML		AML		06 51 03.7	
comp=N,2179μm,0.4s									
PAIG	**Paliouri**	**1.10**	**24**	P		**Pn**		**06 50 45.1**	**0.0**
PAIG				S		**Sn**		**06 51 00.7**	**+0.6**
comp=N,2μm,0.5s									
PAIG	**Paliouri**	**1.10**	**24**	P		**Pn**		**06 50 45.1**	**0.0**
PAIG				AML		AML		06 51 02.1	
comp=E,4756μm,0.5s									
PAIG				AML		AML		06 51 03.1	
comp=N,3471μm,0.5s									
LAKA	**Lakka**	**1.11**	**232**	P		**Pb**		**06 50 45.1**	**0.0**
LAKA	**Lakka**	**1.11**	**232**	P		**Pb**		**06 50 45.2**	**0.0**
LAKA				AML		AML		06 51 09.1	
comp=E,799μm,0.5s									
LAKA				AML		AML		06 51 11.3	
comp=N,799μm,0.5s									
SKY	**Skiros Island**	**1.14**	**92**	P		**Pn**		**06 50 45.8**	**+0.2**
SKY	**Skiros Island**	**1.14**	**92**	P		**Pg**		**06 50 46.0**	**-0.2**
KLV	**Kalavryta, Ach**	**1.15**	**220**	P		**Pb**		**06 50 45.3**	**-0.5**
KLV				S		**Sn**		**06 51 01.5**	**+0.2**
comp=N,860nm,0.7s									
KLV	**Kalavryta, Ach**	**1.15**	**220**	P		**Pb**		**06 50 45.5**	**-0.3**
KLV				S		**Sn**		**06 51 01.6**	**+0.2**
UPR	**University Cam**	**1.21**	**239**	P		**Pg**		**06 50 47.3**	**-0.3**
PVO	**Paravola**	**1.26**	**257**	P		**Pg**		**06 50 48.3**	**-0.3**
LIT	**Litokhoron**	**1.27**	**339**	P		**Pb**		**06 50 47.9**	**+0.1**
LIT	**Litokhoron**	**1.27**	**339**	P		**Pb**		**06 50 47.9**	**+0.1**
LIT				AML		AML		06 51 08.8	
comp=N,1916μm,0.3s									
LIT				AML		AML		06 51 10.3	
comp=E,1654μm,0.5s									
DID	**Didima**	**1.42**	**175**	P		**Pn**		**06 50 49.9**	**+0.4**
DID				S		**Sg**		**06 51 09.6**	**-0.4**
comp=E,928nm,0.6s									
DID	**Didima**	**1.42**	**175**	P		**Pb**		**06 50 50.1**	**-0.3**
DRO	**Drossia**	**1.46**	**229**	P		**Pb**		**06 50 51.2**	**+0.2**
DRO	**Drossia**	**1.46**	**229**	P		**Pb**		**06 50 51.2**	**+0.2**
PLG	**Polygyros**	**1.48**	**10**	P		**Pn**		**06 50 50.6**	**+0.3**
PDO	**Prodromos**	**1.53**	**258**	P		**Pg**		**06 50 53.3**	**-0.4**
RLS	**Riolos of Patr**	**1.54**	**236**	P		**Pb**		**06 50 52.9**	**+0.4**
OUR	**Ouranopolis**	**1.57**	**26**	P		**Pn**		**06 50 51.9**	**+0.4**
OUR	**Ouranopolis**	**1.57**	**26**	P		**Pn**		**06 50 52.1**	**+0.5**
OUR	**Ouranopolis**	**1.57**	**26**	PN		**Pn**		**06 50 51.9**	**+0.4**
OUR				SN		**Sb**		**06 51 12.7**	**+0.1**
EFSA	**Agios Efstrati**	**1.60**	**67**	P		**Pb**		**06 50 53.5**	**+0.1**
VLX	**Vlachokerasia**	**1.65**	**200**	P		**Pb**		**06 50 53.9**	**-0.5**
VLX				S		**Sb**		**06 51 15.2**	**+0.2**
comp=E,558nm,0.7s									
VLX	**Vlachokerasia**	**1.65**	**200**	P		**Pb**		**06 50 54.0**	**-0.5**
HORT	**Hortiatis**	**1.67**	**0**	P		**Pn**		**06 50 53.4**	**+0.3**
HORT	**Hortiatis**	**1.67**	**0**	P		**Pn**		**06 50 53.5**	**+0.3**
HORT	**Hortiatis**	**1.67**	**0**	PN		**Pn**		**06 50 53.4**	**+0.3**
HORT				SN		**Sb**		**06 51 15.5**	**-0.3**
KPRO	**Kipourio**	**1.69**	**308**	P		**Pb**		**06 50 54.4**	**-0.7**
KPRO	**Kipourio**	**1.69**	**308**	P		**Pb**		**06 50 54.5**	**-0.7**
THE	**Thessaloniki**	**1.71**	**357**	P		**Pn**		**06 50 53.6**	**+0.1**
KZN	**Kozani**	**1.72**	**324**	P		**Pb**		**06 50 55.0**	**-0.6**
KZN	**Kozani**	**1.72**	**324**	P		**Pb**		**06 50 55.0**	**-0.6**
AMT	**Artemida-Makis**	**1.77**	**219**	P		**Pb**		**06 50 56.0**	**-0.3**
JAN	**Janina**	**1.89**	**294**	P		**Pn**		**06 50 56.7**	**+0.7**
LIA	**Limnos Island**	**1.89**	**58**	P		**Pn**		**06 50 56.3**	**+0.4**
LIA	**Limnos Island**	**1.89**	**58**	P		**Pn**		**06 50 56.4**	**+0.4**
TSLK	**Tsoukalades, L**	**1.91**	**268**	P		**Pb**		**06 50 58.3**	**-0.4**
SOH	**Sokhos**	**1.91**	**6**	P		**Pn**		**06 50 57.2**	**+0.9**
SOH	**Sokhos**	**1.91**	**6**	P		**Pn**		**06 50 57.2**	**+0.9**
EVGI	**Lefkada island**	**1.93**	**262**	P		**Pb**		**06 50 59.3**	**+0.1**
ITM	**Ithomi**	**1.97**	**208**	P		**Pb**		**06 50 59.4**	**-0.5**
ITM	**Ithomi**	**1.97**	**208**	PN		**Pb**		**06 50 59.3**	**-0.5**
ITM				SN		**Sb**		**06 51 24.3**	**+0.2**
PENT	**Pentalofos**	**1.98**	**311**	P		**Pb**		**06 50 58.7**	**-1.3**
FSK	**Fiskardo**	**2.04**	**258**	P		**Pb**		**06 51 00.5**	**-0.4**
SERI	**Serifos**	**2.07**	**148**	P		**Pn**		**06 50 59.2**	**+

2.9nm,0.9s,baz=64,slow=8.1,SNR=4.0
FINES FINESS Array B 83.11 334 P **P 07 09 40.9 -0.5**
0.9nm,0.3s,baz=69,slow=4.6,SNR=5.9
NVAR Mina Array Bea 83.30 51 P **P 07 09 44.0 +0.8**
0.2nm,0.6s,baz=275,slow=4.2,SNR=3.3

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*IDC **13** 07:06:36.5±1.9, 86°.08N×75°.58E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/65, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=89.9km s-min=23.6km az=146.0*
*IEPN **13** 07:06:40.0, 85°.33N×79°.86E, h20km*
ISC 13 07:06:38.0±1.3, 85°.8N±0°.1×75°.1E±0°.1, h10km, n9, σ2§28/12, mb3.5/3, 1C, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.85**	**227**	⇑*i*P	**Pn**	**07 08 05.6**	**+1.1**
ZFI2				*e*S	**Sn**	**07 09 08.3**	**-3.2**
	17nm,0.2s						
KBS	**Kingsbay**	**9.97**	**265**	*e*P	**Pn**	**07 09 03.3**	**+2.3**
KBS				*e*S	**Sn**	**07 10 51.6**	**-1.2**
SPA0	**Spitsbergen Ar**	**10.35**	**259**	*e*P	**Pn**	**07 09 07.5**	**+1.3**
SPA0				*e*S	**Sn**	**07 10 59.7**	**-2.4**
SPITS	**Spitsbergen Ar**	**10.35**	**259**	Pn	**Pn**	**07 09 07.7**	**+1.5**
	baz=49,slow=18,SNR=19						
SPITS				Sn	**Sn**	**07 10 58.9**	**-3.2**
	baz=43,slow=22,SNR=2.6						
SPITS				Lg	Lg	07 11 56.2	
	baz=45,slow=20,SNR=5.9						
NRIK	**Noril'sk**	**16.70**	**165**	Pn	Pn	07 10 24.8	-6.9
	0.3nm,0.3s,baz=354,slow=16,SNR=4.4						
NRIK				Sn	Sn	07 13 13.2	-24
	baz=32,slow=15,SNR=2.2						
ARCES	**ARCESS Array B**	**18.14**	**239**	P	**Pn**	**07 10 49.6**	**+0.1**
	0.2nm,0.3s,baz=9.1,slow=12,SNR=8.5						
ILAR	**Eielson Array**	**28.63**	**37**	P	**P**	**07 12 31.8**	**-2.2**
	0.5nm,0.9s,baz=14,slow=7.9,SNR=4.9						
AKASG	**Malin Array Be**	**36.66**	**230**	P	**P**	**07 13 46.0**	**+1.8**
	1.3nm,0.5s,baz=2.2,slow=9.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.77**	**254**	P	**P**	**07 18 24.5**	**+0.9**
	0.4nm,0.8s,baz=347,slow=5.9,SNR=2.1						

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*ASRS **13** 07:08:05.9, 53°.72N×90°.97E, M3.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*ISCJB **13** 07:08:10.8±1.5, 53°.6N±0°.1×90°.7E±0°.1, h0km, Error ellipse: s-maj=19.0km s-min=9.3km az=170.0*
*IDC **13** 07:08:11.7±2.5, 53°.79N×90°.75E, h0km, mb1 3.4/3, mb1mx3.2/65, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=25.7km s-min=17.9km az=9.0*
*NNC **13** 07:08:14.2±3.0, 53°.59N×90°.71E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=31.9km s-min=21.2km az=174.0, Suspected Mining explosion.*
ISC 13 07:08:12.6±1.6, 53°.8N±0°.1×90°.69E±0°.08, h0km, n8, σ1§30/12, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.48**	**275**	Pg	**Pb**	**07 09 13.9**	**-1.1**
	2.0nm,0.3s,baz=94,slow=15,SNR=20						
ZALV				Lg	Lg	07 10 04.8	
	1.3nm,0.3s,baz=86,slow=23,SNR=6.0						
KURK	**Kurchatov**	**8.02**	**252**	⇓Pn	**Pn**	**07 10 11.8**	**+1.6**
	5.8nm,0.9s						
KURK				⇓Sn	**Sn**	**07 11 44.3**	**+2.9**
	13nm,0.9s						
KURK				⇓Lg	Lg	07 12 28.2	
	48nm,0.8s						
KURBB	**Kurchatov Arra**	**8.11**	**252**	⇑Pn	**Pn**	**07 10 12.0**	**+0.5**
	7.3nm,0.8s						
KURBB				⇑Sn	**Sn**	**07 11 43.8**	**+0.1**
	55nm,0.8s						
KURBB				⇑Lg	Lg	07 12 33.5	
	72nm,0.9s						
KURBB	**Kurchatov Arra**	**8.11**	**252**	Pn	**Pn**	**07 10 11.2**	**-0.2**
	0.2nm,0.3s,baz=64,slow=14,SNR=13						
KURBB				Pg	Pb	07 10 25.6	-8.2
	0.1nm,0.3s,baz=67,slow=15,SNR=4.7						
KURBB				Sn	**Sn**	**07 11 42.2**	**-1.6**
	0.1nm,0.3s,baz=67,slow=25,SNR=12						
KURBB				Lg	Lg	07 12 32.2	
	0.1nm,0.3s,baz=65,slow=31,SNR=5.3						
MK31	**Makanchi Array**	**8.81**	**221**	Pn	**Pn**	**07 10 21.0**	**-0.2**
	0.5nm,0.5s,baz=36,slow=12,SNR=16						
MK31				Sn	**Sn**	**07 12 01.8**	**+0.6**
	2.5nm,0.8s,baz=40,slow=21,SNR=3.9						
MK31				⇑Lg	Lg	07 12 47.1	
	17nm,0.9s,baz=28,slow=24,SNR=3.5						
MKAR	**Makanchi Array**	**8.81**	**221**	Pn	**Pn**	**07 10 20.9**	**-0.3**
	0.3nm,0.3s,baz=32,slow=12,SNR=14						
MKAR				Sn	**Sn**	**07 12 00.9**	**-0.2**
	0.1nm,0.3s,baz=34,slow=21,SNR=5.5						
MKAR				Lg	Lg	07 12 50.6	
	0.1nm,0.3s,baz=28,slow=25,SNR=5.2						
SONM	**Songino Array**	**11.57**	**115**	Pn	**Pn**	**07 10 59.1**	**+0.2**
	0.1nm,0.3s,baz=322,slow=41,SNR=2.8						
SONM				Lg	Lg	07 14 06.1	
	0.6nm,0.3s,baz=308,slow=26,SNR=5.5						
AAK	**Ala-Archa**	**15.47**	**230**	Lg	Lg	07 16 19.9	
	0.2nm,0.3s,baz=24,slow=20,SNR=3.3						

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*DDA **13** 07:13:45.4, 34°.77N×27°.75E, h4km±22km, MW4.4*
*ISK **13** 07:13:47.9, 34°.91N×27°.88E, h5km, ML4.2/44*
*ISCJB **13** 07:13:48.8±0.7, 34°.79N±0°.02×27°.85E±0°.02, h13km±4km, mb4.4/48, MS3.9/19, Error ellipse: s-maj=2.8km s-min=2.2km az=26.7*
*IDC **13** 07:13:48.2±0.5, 35°.06N×27°.68E, h0km, mb4.3/28, mb1 4.3/36, mb1mx4.2/59, mbtmp4.2/36, ML3.6/9, MS3.7/21, Ms1 3.7/21, ms1mx3.4/64, Error ellipse: s-maj=13.0km s-min=10.2km az=169.0*
*MOS **13** 07:13:49.8±1.0, 34°.89N×27°.79E, h20km, mb4.7/14, Error ellipse: s-maj=7.9km s-min=4.9km az=68.9*
*HLW **13** 07:13:50.3, 35°.04N×27°.96E, h29km±20km, Ml4.2*
*NEIC **13** 07:13:50.1±2.2, 34°.93N±0°.05×27°.77E±0°.06, h10km±2km*
*GII **13** 07:13:50.0±0.0, 34°.86N×27°.85E, h10km*
*MED_RC **13** 07:13:51.0±0.9, 34°.81N×27°.84E, h23km±2km, MW4.5/18, Moment Tensor Solution. Mantle waves: s18,c31; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr=0.01±.11; Mθθ=0.80±.07; Mφφ=0.81±.06; Mrθ=0.17±.07; Mθφ=0.15±.04; Mφr=0.14±.07; Best double couple: M=0.85000×1016 NP1:φs=310.00000°, δ=90.00000°, λ=-165.00000°. NP2:φs=220.00000°, δ=75.00000°, λ=0.00000°. Principal axes: T 0.8500, Plg=10.0000°, Azm=84.0000°; N -0.0100, Plg=75.0000°, Azm=311.0000°; P -0.8500, Plg=11.0000°, Azm=176.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*ATH **13** 07:13:51.3, 34°.97N×27°.70E, h16km±2km, ML3.9/7 Error ellipse: s-maj=5.3km s-min=2.0km az=336.0*
*THE **13** 07:13:53.3, 35°.06N×27°.67E, h0km±1km, ML3.9/3, Error ellipse: s-maj=3.4km s-min=1.2km az=157.0*
ISC 13 07:13:48.8±1.2, 34°.87N±0°.03×27°.83E±0°.02, h2km±7km, n367, σ1§69/372, mb4.5/50, MS3.8/19, 24C-14D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.87**	**321**	P	**Pg**	**07 14 05.0**	**-0.4**
KARP				S	**Sg**	**07 14 16.9**	**+0.2**
	15μm,0.9s						
KARP	**Karpathos**	**0.87**	**321**	P	**Pg**	**07 14 05.0**	**-0.4**
KARP				S	**Sg**	**07 14 16.2**	**-0.5**
KARP				AML	AML	07 14 29.8	
	comp=E,32010μm,1.1s						
KARP				AML	AML	07 14 30.5	
	comp=N,28321μm,0.6s						
KARP	**Karpathos**	**0.87**	**321**	PG	**Pg**	**07 14 05.2**	**-0.2**
KARP				SG	**Sb**	**07 14 18.6**	**0.0**
KARP	**Karpathos**	**0.87**	**321**		**Pg**	**07 14 04.6**	**-0.8**
ZKR	**Zakros**	**1.34**	**281**	P	**Pn**	**07 14 14.6**	**+0.1**
ZKR				S	**Sg**	**07 14 33.9**	**+1.9**
	comp=N,3μm,0.7s						
ZKR	**Zakros**	**1.34**	**281**	P	**Pn**	**07 14 13.9**	**-0.7**
ZKR				AML	AML	07 14 51.4	
	comp=N,3617μm,0.7s						
ZKR				AML	AML	07 14 54.5	
	comp=E,8520μm,1.1s						
ZKR	**Zakros**	**1.34**	**281**	PN	**Pn**	**07 14 14.7**	**+0.2**
ZKR				SN	**Sg**	**07 14 35.6**	**+3.6**

ARG	**Arkhangelos**	**1.36**	**10**	P	**Pg**	**07 14 16.1**	**+1.1**
ARG				S	**Sg**	**07 14 33.7**	**+1.0**
	comp=E,6μm,1.0s						
ARG	**Arkhangelos**	**1.36**	**10**	P	**Pg**	**07 14 16.0**	**+1.1**
ARG				AML	AML	07 14 55.1	
	comp=N,14231μm,1.0s						
ARG				AML	AML	07 14 58.2	
	comp=E,9538μm,1.0s						
ARG	**Arkhangelos**	**1.36**	**10**	PN	**Pn**	**07 14 13.9**	**-0.9**
STIA	**Sitia Lasithi**	**1.46**	**284**	P	**Pb**	**07 14 17.2**	**+0.5**
FRMA	**Ierapetra Chan**	**1.73**	**275**	P	**Pn**	**07 14 19.5**	**-0.2**
NPS	**Neapolis**	**1.86**	**283**	P	**Pb**	**07 14 23.5**	**+0.1**
NPS	**Neapolis**	**1.86**	**283**	P	**Pb**	**07 14 23.8**	**+0.4**
NPS				AML	AML	07 15 08.2	
	comp=N,4822μm,1.1s						
NPS				AML	AML	07 15 19.9	
	comp=E,5587μm,1.1s						
DAT	**Datca**	**1.86**	**354**	⇑*i*P	**Pn**	**07 14 22.1**	**+0.3**
DAT				*i*S	**Sg**	**07 14 51.3**	**+2.6**
DAT				IAML		07 14 58.0	
	comp=N,651nm,0.8s						
DAT				IAML		07 14 58.0	
	comp=E,384nm,1.0s						
DAT	**Datca**	**1.86**	**354**	PN	**Pn**	**07 14 21.9**	**+0.1**
MRSB	**Marmaris-Mugla**	**1.86**	**9**	PN	**Pn**	**07 14 21.3**	**-0.4**
AKAS	**Kas**	**1.99**	**46**	⇑*i*P	**Pn**	**07 14 24.2**	**+0.7**
AKAS				*i*S	**Sb**	**07 14 50.0**	**-1.0**
AKAS				IAML		07 15 28.0	
	comp=Z,256nm,1.2s						
AKAS				IAML		07 15 30.0	
	comp=N,557nm,1.0s						
AKAS				IAML		07 15 30.0	
	comp=E,431nm,0.9s						
AKAS				IVMs_BB	IVMs_BB	07 16 07.0	
	comp=Z,5μm,8.0s						
AKAS	**Kas**	**1.99**	**46**	PN	**Pn**	**07 14 23.6**	**+0.1**
FETY	**Fethiye**	**2.04**	**30**	⇑*i*P	**Pn**	**07 14 24.3**	**+0.2**
FETY				*i*S	**Sg**	**07 14 56.5**	**+2.3**
FETY				IAML		07 15 16.0	
	comp=E,257nm,0.9s						
FETY				IAML		07 15 28.0	
	comp=N,335nm,1.0s						
FETY	**Fethiye**	**2.04**	**30**	PN	**Pn**	**07 14 23.8**	**-0.3**
DALY	**Dalyan (Mula)**	**2.06**	**19**	⇑*i*P	**Pn**	**07 14 25.1**	**+0.8**
DALY				*i*S	**Sg**	**07 14 54.7**	**-0.2**
DALY				IAML		07 15 19.0	
	comp=E,707nm,0.9s						
DALY				IAML		07 15 21.0	
	comp=N,964nm,1.8s						
DALY	**Dalyan (Mula)**	**2.06**	**19**	PN	**Pn**	**07 14 24.9**	**+0.6**
TURN	**Turunc**	**2.10**	**17**	⇑*i*P	**Pn**	**07 14 24.8**	**-0.1**
TURN				*i*S	**Sn**	**07 14 51.4**	**-0.1**
TURN				IAML		07 15 11.0	
	comp=N,748nm,0.8s						
TURN				IAML		07 15 14.0	
	comp=E,848nm,1.3s						
TURN	**Turunc**	**2.10**	**17**	PN	**Pn**	**07 14 23.3**	**-1.5**
BODT	**Bodrum**	**2.23**	**349**	P	**Pn**	**07 14 26.6**	**-0.1**
BODT	**Bodrum**	**2.23**	**349**	PN	**Pn**	**07 14 27.2**	**+0.5**
ANAF	**Anafi Island**	**2.23**	**312**	P	**Pn**	**07 14 27.8**	**+1.0**
ANAF	**Anafi Island**	**2.23**	**312**	P	**Pn**	**07 14 27.8**	**+1.0**
YER	**Yerkesik**	**2.29**	**9**	P	**Pn**	**07 14 29.1**	**+1.5**
YER	**Yerkesik**	**2.29**	**9**	PN	**Pn**	**07 14 28.3**	**+0.7**
MLSB	**Milas**	**2.42**	**359**	PN	**Pn**	**07 14 29.8**	**+0.4**
SANT	**Santorini**	**2.44**	**308**	⇑P	**Pn**	**07 14 31.1**	**+1.5**
SANT				AML	AML	07 15 26.9	
SANT	**Santorini**	**2.44**	**308**	PN	**Pn**	**07 14 31.1**	**+1.5**
SANT	**Santorini**	**2.44**	**308**		**Pn**	**07 14 30.5**	**+0.8**
THR8	**Santorini-Mono**	**2.45**	**309**	P	**Pn**	**07 14 30.6**	**+0.9**
THR6	**Thira Island,**	**2.47**	**308**	P	**Pn**	**07 14 31.6**	**+1.6**
SIVA	**Sivas**	**2.48**	**274**	P	**Pb**	**07 14 32.6**	**-1.4**
SIVA				AML	AML	07 15 39.3	
	comp=N,3051μm,0.7s						
SIVA				AML	AML	07 15 47.7	
	comp=E,4834μm,0.8s						
THR9	**Santorini-Faro**	**2.50**	**307**	P	**Pn**	**07 14 32.2**	**+1.8**
THR3	**Thira Island,**	**2.50**	**309**	P	**Pn**	**07 14 31.5**	**+1.1**
AMGA	**Amorgos Island**	**2.51**	**322**	P	**Pn**	**07 14 31.3**	**+0.7**
AMGA				AML	AML	07 15 24.0	
	comp=E,3929μm,1.3s						
AMGA				AML	AML	07 15 24.2	
	comp=N,3383μm,1.2s						
AKUM	**Antalya-Kumluc**	**2.51**	**54**	⇑*i*P	**Pn**	**07 14 31.2**	**+0.6**
AKUM				IAML		07 16 02.0	
	comp=N,178nm,1.6s						
AKUM				IVMs_BB	IVMs_BB	07 16 21.0	
	comp=Z,5μm,8.6s						
ELL	**Elmali**	**2.52**	**42**	P	**Pn**	**07 14 32.7**	**+1.8**
ELL	**Elmali**	**2.52**	**42**	PN	**Pn**	**07 14 30.6**	**-0.3**
ELL	**Elmali**	**2.52**	**42**		**Pn**	**07 14 32.6**	**+1.8**
THR5	**Thira Island,**	**2.54**	**308**	P	**Pn**	**07 14 32.5**	**+1.5**
TAVA	**DENIZLI_Tavas**	**2.73**	**18**	⇑*i*P	**Pn**	**07 14 34.8**	**+1.0**
TAVA				*i*S	**Sg**	**07 15 14.9**	**-1.8**
TAVA				IAML		07 15 33.0	
	comp=N,500nm,1.5s						
TAVA				IVMs_BB	IVMs_BB	07 15 44.0	
	comp=Z,7μm,3.9s						
TAVA				IAML		07 15 47.0	
	comp=E,426nm,1.2s						
GOLH	**Golhisar**	**2.75**	**30**	⇑*i*P	**Pn**	**07 14 35.9**	**+1.9**
GOLH				*i*S	**Sb**	**07 15 13.1**	**+0.2**
GOLH				IAML		07 15 41.0	
	comp=N,818nm,1.1s						
GOLH				IAML		07 15 50.0	
	comp=E,122nm,1.1s						
AYDN	**Tasoluk**	**2.78**	**1**	⇑*i*P	**Pn**	**07 14 34.8**	**+0.4**
AYDN				IAML		07 15 32.0	
	comp=E,410nm,1.0s						
AYDN				IAML		07 15 36.0	
	comp=N,466nm,2.0s						
AYDN				IVMs_BB	IVMs_BB	07 15 50.0	
	comp=Z,4μm,3.8s						
GCAM	**G?zelcaml?**	**2.86**	**351**	*i*P	**Pg**	**07 14 44.6**	**+0.9**
GCAM				*i*S	Sg	07 15 35.5	+15
GCAM	**G?zelcaml?**	**2.86**	**351**	PN	**Pn**	**07 14 36.5**	**+1.1**
APE	**Apeiranthos**	**2.88**	**320**	⇑P	**Pn**	**07 14 37.2**	**+1.5**
APE				S	**Sn**	**07 15 10.9**	**0.0**
APE	**Apeiranthos**	**2.88**	**320**	P	**Pn**	**07 14 36.0**	**+0.3**
APE				AML	AML	07 15 26.4	
	comp=N,1126μm,0.7s						
APE				AML	AML	07 15 43.2	
	comp=E,1138μm,1.6s						
APE	**Apeiranthos**	**2.88**	**320**	⇑P	**Pn**	**07 14 37.2**	**+1.5**
APE				⇑S	**Sn**	**07 15 10.9**	**0.0**
APE				AML	AML	07 15 26.4	
APE	**Apeiranthos**	**2.88**	**320**	PN	**Pn**	**07 14 36.8**	**+1.1**
SMG	**Samos**	**2.94**	**345**	P	**Pn**	**07 14 36.8**	**+0.3**
SMG	**Samos**	**2.94**	**345**	P	**Pn**	**07 14 37.2**	**+0.7**
VAM	**Vamos**	**3.02**	**281**	P	**Pn**	**07 14 40.0**	**+2.4**
VAM	**Vamos**	**3.02**	**281**	P	**Pn**	**07 14 40.2**	**+2.6**
DENT	**Denizli**	**3.04**	**18**	PN	**Pn**	**07 14 38.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.07**	**1**	PN	**Pn**	**07 14 38.6**	**+0.2**
GVDS	**Gavdos**	**3.07**	**271**	P	**Pn**	**07 14 40.1**	**+1.8**
GVD	**Gavdhos**	**3.07**	**270**	P	**Pn**	**07 14 39.6**	**+1.3**
GVD	**Gavdhos**	**3.07**	**270**	P	**Pn**	**07 14 40.2**	**+1.9**
GVD	**Gavdhos**	**3.07**	**270**	PN	**Pn**	**07 14 40.4**	**+2.1**
IMMV	**Iera Moni Meta**	**3.20**	**282**	P	**Pn**	**07 14 42.0**	**+1.9**
IMMV	**Iera Moni Meta**	**3.20**	**282**	P	**Pn**	**07 14 42.0**	**+1.9**
IMMV	**Iera Moni Meta**	**3.20**	**282**	PN	**Pn**	**07 14 42.4**	**+2.3**
DGB	**zmir**	**3.26**	**347**	*i*P	**Pn**	**07 14 41.2**	**+0.3**
DGB				*i*S	**Sg**	**07 15 33.5**	**-0.2**
DGB				IAML		07 15 57.0	
	comp=E,122nm,1.4s						
DGB				IAML		07 16 03.0	
	comp=N,130nm,1.1s						
DGB				IVMs_BB	IVMs_BB	07 16 13.0	
	comp=Z,3μm,9.9s						
BRDR	**BURDUR-Merkez**	**3.35**	**32**	*i*P	**Pn**	**07 14 43.5**	**+1.3**
BRDR				IAML		07 16 06.0	
	comp=N,228nm,1.5s						
BRDR				IAML		07 16 06.0	
	comp=E,180nm,0.9s						
RODP	**Rodopos**	**3.40**	**283**	P	**Pn**	**07 14 44.4**	**+1.6**
BCK	**Bucak**	**3.42**	**40**	PN	**Pn**	**07 14 44.2**	**+1.1**
ZEY	**zmir**	**3.52**	**343**	*e*P	**Pn**	**07 14 44.0**	**-0.5**
ZEY				IAML		07 15 57.0	
	comp=E,139nm,1.1s						
ZEY				IAML		07 16 09.0	
	comp=N,104nm,0.7s						
ZEY				IVMs_BB	IVMs_BB	07 16 27.0	
	comp=Z,3μm,9.6s						
URLA	**Izmir**	**3.62**	**344**	*i*P	**Pn**	**07 14 46.8**	**+1.0**
URLA				*i*S	**Sb**	**07 15 35.5**	**-2.3**
URLA				IAML		07 16 14.0	

	comp=E,169nm,1.1s						
URLA				IAML		07 16 20.0	
	comp=N,157nm,1.2s						
URLA				IVMs_BB	IVMs_BB	07 16 26.0	
	comp=Z,1μm,9.2s						
URLA	**Izmir**	**3.62**	**344**	PN	**Pn**	**07 14 46.9**	**+1.0**
MANT	**Manisa**	**3.66**	**9**	*e*P	**Pn**	**07 14 46.0**	**-0.6**
MANT				IAML		07 16 03.0	
	comp=E,139nm,2.7s						
MANT				IAML		07 16 08.0	
	comp=N,129nm,2.0s						
MANT				IVMs_BB	IVMs_BB	07 16 14.0	
	comp=Z,3μm,3.8s						
MANT	**Manisa**	**3.66**	**9**		**Pn**	**07 14 47.4**	**+0.8**
ISP	**Isparta**	**3.66**	**36**	P	**Pn**	**07 14 47.5**	**+1.0**
ISP	**Isparta**	**3.66**	**36**	Pn	**Pn**	**07 14 46.6**	**+0.1**
ISP	**Isparta**	**3.66**	**36**	PN	**Pn**	**07 14 47.2**	**+0.7**
ISP	**Isparta**	**3.66**	**36**		**Pn**	**07 14 47.5**	**+1.0**
KEPZ	**Antalya-Kepez**	**3.68**	**55**	⇑*i*P	**Pn**	**07 14 48.0**	**+1.4**
KEPZ				IAML		07 15 44.0	
	comp=E,148nm,0.7s						
KEPZ				*i*S	**Sg**	**07 15 44.4**	**-2.5**
KEPZ				IAML		07 15 46.0	
	comp=N,100nm,0.8s						
KEPZ				IVMs_BB	IVMs_BB	07 17 23.0	
	comp=Z,3μm,11.3s						
KULA	**Kula-Manisa**	**3.70**	**10**	PN	**Pn**	**07 14 46.9**	**-0.1**
KHAL	**Karahalli**	**3.74**	**21**	*i*P	**Pn**	**07 14 47.6**	**0.0**
KHAL				IAML		07 16 07.0	
	comp=E,155nm,2.5s						
KHAL				IAML		07 16 11.0	
	comp=N,143nm,2.1s						
KHAL				IVMs_BB	IVMs_BB	07 16 20.0	
	comp=Z,5μm,7.9s						
CHOS	**Chios island**	**3.79**	**338**	PN	**Pn**	**07 14 48.9**	**+0.7**
ALAN	**Alanya-ANTALYA**	**3.81**	**63**	PN	**Pn**	**07 14 49.7**	**+1.2**
ANKY	**Antikythira Is**	**3.83**	**286**	P	**Pn**	**07 14 49.3**	**+0.6**
KZIL	**AFYON_Kizioren**	**3.86**	**28**	*e*P	**Pn**	**07 14 49.8**	**+0.5**
KZIL				IAML		07 16 23.0	
	comp=E,172nm,1.7s						
KZIL				IAML		07 16 25.0	
	comp=N,96nm,1.1s						
KZIL				IVMs_BB	IVMs_BB	07 16 54.0	
	comp=Z,2μm,4.6s						
GAZI	**Gazipasa**	**3.91**	**68**	*i*P	**Pn**	**07 14 50.6**	**+0.8**
GAZI				IAML		07 15 39.0	
	comp=N,199nm,0.6s						
GAZI				IAML		07 15 45.0	
	comp=E,205nm,0.6s						
GAZI	**Gazipasa**	**3.91**	**68**	PN	**Pn**	**07 14 49.7**	**-0.1**
BAGO	**Egridir - ISPA**	**3.92**	**37**	⇑*i*P	**Pn**	**07 14 52.5**	**+2.4**
BAGO				IAML		07 16 26.0	
	comp=E,48nm,1.4s						
BAGO				IAML		07 16 33.0	
	comp=N,66nm,1.6s						
BAGO				IVMs_BB	IVMs_BB	07 16 46.0	
	comp=Z,1μm,5.1s						
USAK	**Uak-Merkez**	**3.95**	**14**	*i*P	**Pn**	**07 14 50.5**	**0.0**
USAK				IAML		07 16 10.0	
	comp=E,121nm,1.6s						
USAK				IVMs_BB	IVMs_BB	07 16 36.0	
	comp=Z,4μm,7.4s						
USAK				IAML		07 16 41.0	
	comp=N,84nm,1.8s						
AKHS	**Akhisar**	**4.00**	**360**	*e*P	**Pn**	**07 14 52.4**	**+1.3**
AKHS				IAML		07 16 21.0	
	comp=E,113nm,2.3s						
AKHS				IVMs_BB	IVMs_BB	07 16 35.0	
	comp=Z,2μm,9.7s						
SLUM	**Salum**	**4.02**	**214**	P	**Pn**	**07 14 52.7**	**+1.3**
	baz=214						
SLUM				AMP		07 15 00.0	
	baz=214						
SLUM				S	**Sn**	**07 15 37.8**	**-1.1**
	baz=214						
KTHA	**Kythira Island**	**4.12**	**291**	PN	**Pn**	**07 14 54.2**	**+1.4**
ZEDA	**zmir-Bergama**	**4.13**	**352**	*e*P	**Pn**	**07 14 55.0**	**+2.2**
ZEDA				IAML		07 16 26.0	
	comp=E,109nm,1.3s						
ZEDA				IAML		07 16 45.0	
	comp=N,83nm,1.2s						
ZEDA				IVMs_BB	IVMs_BB	07 16 49.0	
	comp=Z,3μm,8.2s						
LEF	**Lefka**	**4.17**	**85**	*i*P	**Pn**	**07 14 54.8**	**+1.4**
LEF				IAML		07 15 54.0	
	comp=N,148nm,1.1s						
LEF				IAML		07 15 54.0	
	comp=E,166nm,1.0s						
KTHR	**Kythira**	**4.17**	**291**	P	**Pn**	**07 14 54.5**	**+1.1**
DEMI	**Demirci**	**4.22**	**9**	*i*P	**Pn**	**07 14 54.3**	**+0.1**
DEMI				IAML		07 16 08.0	
	comp=N,73nm,1.2s						
DEMI				IAML		07 16 36.0	
	comp=E,106nm,2.0s						
DEMI				IVMs_BB	IVMs_BB	07 16 46.0	
	comp=Z,3μm,7.5s						
DKL	**Dikili**	**4.26**	**350**	PN	**Pn**	**07 14 55.9**	**+1.3**
SHUT	**Suhut-Afyon**	**4.28**	**30**	PN	**Pn**	**07 14 55.9**	**+0.9**
SIMA	**Simav-Kutahya**	**4.30**	**12**	PN	**Pn**	**07 14 56.4**	**+1.1**
VLI	**Veliai**	**4.38**	**296**	P	**Pn**	**07 14 57.1**	**+0.8**
GDZ	**Gediz**	**4.41**	**17**	⇓*i*P	**Pn**	**07 14 57.1**	**+0.2**
GDZ				IVMs_BB	IVMs_BB	07 16 44.0	
	comp=Z,1μm,6.4s						
DOGA	**KONYA_Doganhis**	**4.47**	**43**	*i*P	Pn	07 15 02.5	+4.8
DOGA				IVMs_BB	IVMs_BB	07 17 15.0	
	comp=Z,3μm,7.9s						
TEKE	**Tekeli-Mersin**	**4.50**	**72**	PN	**Pn**	**07 14 58.3**	**+0.4**
ERMK	**Ermenek**	**4.50**	**65**	⇑*i*P	**Pn**	**07 15 00.2**	**+2.1**
STEP	**BALIKESIR_Sava**	**4.50**	**359**	⇓*i*P	**Pn**	**07 15 00.3**	**+2.4**
CSS	**Mathiatis**	**4.52**	**87**	Pn	**Pn**	**07 14 59.2**	**+0.9**
CSS				Sn	**Sn**	**07 15 50.0**	**-1.5**
CSS	**Mathiatis**	**4.52**	**87**	P	**Pn**	**07 14 59.0**	**+0.7**
CSS	**Mathiatis**	**4.52**	**87**		**Pn**	**07 14 59.0**	**+0.7**
DID	**Didima**	**4.55**	**307**	P

AGG **Agios Georgios** 6.04 315 P Pn 07 15 20.7 +1.5
AGG **Agios Georgios** 6.04 315 Pn 07 15 20.7 +1.5
HHAG **Hagoal** 6.09 142 P Pn 07 15 19.5 -0.3
baz=144
HHAG AMP 07 16 00.0
baz=144
GULE **Gulek** 6.12 65 *i* P Pn 07 15 23.5 +3.1
ALN **Alexandroupoli** 6.18 347 P Pn 07 15 21.0 0.0
ALN **Alexandroupoli** 6.18 347 PN Pn 07 15 23.3 +2.3
ALN **Alexandroupoli** 6.18 347 Pn Pn 07 15 21.0 0.0
KIRS **Kırehir-Merke** 6.47 47 *i* P Pn 07 15 28.0 +2.9
MMAI **Mount Meron Ar** 6.56 104 Pn Pn 07 15 26.6 +0.2
comp=Z,5.2nm,0.3s,baz=290,slow=10,SNR=8.0
MMAI Sn Sn 07 16 38.1 -3.8
comp=Z,2.5nm,0.3s,baz=306,slow=12,SNR=2.5
MMAI Lg Lg 07 17 20.8
comp=Z,8.1nm,0.3s,baz=322,slow=19,SNR=3.7
SUZ **Suez** 6.56 138 P Pn 07 15 26.8 +0.5
baz=140
BR131 **Keskin Array S** 6.70 42 P Pn 07 15 29.7 +1.4
BR131 **Keskin Array S** 6.70 42 Pn 07 15 29.7 +1.4
BRTR **Keskin Array B** 6.70 42 Pn Pn 07 15 28.9 +0.5
comp=Z,0.7nm,0.3s,baz=221,slow=12,SNR=40
BRTR Sn Sn 07 16 42.9 -2.5
comp=Z,0.7nm,0.3s,baz=208,slow=23,SNR=6.7
GEM **Giv'at Ha'Em** 6.71 102 Pn Pn 07 15 28.1 -0.3
GEM Sn Sn 07 16 44.1 -1.3
KSDI **Kefar Szold** 6.72 102 Pn Pn 07 15 28.4 0.0
HWQ **Hawqa** 6.72 93 *eP* Pn 07 15 30.5 +1.9
LIT **Litokhoron** 6.72 322 P Pn 07 15 28.4 -0.1
LIT **Litokhoron** 6.72 322 Pn Pn 07 15 28.4 -0.1
NATI **Neve Ativ** 6.76 102 Pn Pn 07 15 29.2 +0.3
RCY **Rachaya** 6.78 99 *eP* Pn 07 15 29.1 -0.3
MMLI **Mount Malkishu** 6.78 109 Pn Pn 07 15 29.6 +0.3
KZIT **Kziot** 6.79 124 Pn Pn 07 15 29.3 -0.2
KZIT **Kziot** 6.79 124 P Pn 07 15 30.2 +0.7
comp=Z,200nm,0.8s,comp=Z,0.8nm
NBNS **Bani Suef** 6.89 154 S Sn 07 16 44.8 -5.1
baz=155
KSHT **Keshet** 6.90 104 Pn Pn 07 15 31.4 +0.4
SHMJ **Saham** 6.95 106 P Pn 07 15 32.3 +0.7
comp=Z,74nm,0.6s,comp=Z,0.4nm
ZNM **Zenema** 6.95 141 P Pn 07 15 31.5 -0.2
baz=142
YTIR **Yattir** 7.04 118 Pn Pn 07 15 33.1 +0.1
DELI **KIRIKKALE** 7.05 42 *i* P Pn 07 15 34.5 +1.5
CDAG **Cicekdag** 7.05 46 *i* P Pn 07 15 35.4 +2.3
DSI **Dead Sea** 7.13 115 Pn Pn 07 15 35.1 +1.0
DSI Sn Sn 07 16 55.1 -0.7
MZDA **Masada** 7.25 117 Pn Pn 07 15 35.5 -0.2
LISJ **El Lisan** 7.38 117 P Pn 07 15 38.3 +0.9
comp=Z,41nm,0.9s,comp=Z,0.2nm
WALJ **Wala** 7.46 114 P Pn 07 15 39.4 +0.8
comp=Z,102nm,0.6s,comp=Z,0.4nm
PRNI **Paran** 7.55 125 Pn Pn 07 15 39.8 0.0
VAY **Valandovo** 7.66 329 *i* P Pb 07 16 07.3 +5.1
HRFI **Mount Harif** 7.77 126 Pn Pn 07 15 43.3 +0.4
HRFI **Mount Harif** 7.77 126 P Pn 07 15 42.7 -0.2
comp=Z,36nm,0.5s,comp=Z,0.4nm
FNA **Florina** 7.80 321 P Pn 07 15 43.4 +0.1
FNA **Florina** 7.80 321 Pn 07 15 43.4 +0.1
GRB **Gharib** 7.82 146 P Pn 07 15 43.4 -0.2
baz=147
MBRI **Mt Berech** 7.85 128 Pn Pn 07 15 44.4 +0.4
EIL **Elat** 7.95 129 Pn Pn 07 15 45.8 +0.4
EIL **Elat** 7.95 129 Pn Pn 07 15 46.2 +0.8
comp=Z,1.7nm,0.3s,baz=335,slow=9.5,SNR=15
EIL Sn Sn 07 17 10.2 -5.7
comp=Z,5.0nm,0.3s,baz=320,slow=22,SNR=6.5
EIL **Elat** 7.95 129 P Pn 07 15 46.4 +1.0
comp=Z,28nm,0.8s,comp=Z,0.2nm
AQBJ **Aqaba** 7.98 128 P Pn 07 15 45.8 +0.1
ASF **Jabal al Asfar** 8.04 107 Pn Pn 07 15 47.0 +0.4
comp=Z,0.7nm,0.3s,baz=238,slow=11,SNR=7.7
ASF Sn Sn 07 17 21.6 +3.5
comp=Z,0.7nm,0.3s,baz=297,slow=4.5,SNR=2.2
ASF **Jabal al Asfar** 8.04 107 P Pn 07 15 47.3 +0.7
comp=Z,15nm,0.9s,comp=Z,0.1nm
STIP **Stip** 8.13 329 *i* P Pn 07 15 53.0 +5.3
ELND **Elena** 8.19 350 ⇓P Pn 07 15 53.3 +4.8
HKAT **Jabal Katrina** 8.22 139 P Pn 07 15 48.4 -0.9
baz=140
OHR **Ohrid** 8.34 320 *i* P Pb 07 16 06.8 -7.1
VTS **Vitosha** 8.52 337 ⇑P Pn 07 15 58.2 +4.9
VTS **Vitosha** 8.52 337 ⇑P Pn 07 15 58.2 +4.9
SKO **Skopje** 8.68 327 *i* P Pn 07 16 04.2 +8.9
TIP **Timpagrande** 9.84 299 Pn 07 16 09.6 -1.6
PDG **Podgorica** 10.09 321 ⇑P Pn 07 16 18.1 +3.5
MLR **Muntele Rosu** 10.70 353 Pn Pn 07 16 21.4 -1.7
comp=Z,0.1nm,0.3s,baz=146,slow=15,SNR=1.9
MLR LR LR 07 20 57.3
comp=Z,406nm,20.7s,baz=147,slow=41
MLR **Muntele Rosu** 10.70 353 ⇓P Pn 07 16 29.8 +6.6
MLR **Muntele Rosu** 10.70 353 Pn 07 16 23.4 +0.2
VOIR 10.76 349 ⇓P Pn 07 16 30.3 +6.4
VOIR 10.76 349 ⇓P Pn 07 16 30.3 +6.4
HERR **Herculane** 10.82 339 ⇓P Pn 07 16 30.1 +5.4
RAFF **Raffo Rosso** 11.15 286 Pn 07 16 28.5 -0.6
VAE **Valguarnera** 11.15 287 Sn Sn 07 18 33.4 -1.1
comp=Z,3.1nm,0.3s,baz=82,slow=19,SNR=2.3
VAE LR LR 07 20 46.9
comp=Z,164nm,18.7s,baz=115,slow=38
SIM **Simferopol'** 11.16 24 *eP* Pn 07 16 32.6 +3.3
SIM pmax pmax
comp=Z,18nm,1.1s
SIM MLR MLR
comp=Z,300nm,14.0s
GZR **Gura Zlata** 11.19 341 ⇓P Pn 07 16 35.3 +5.5
GZR **Gura Zlata** 11.19 341 ⇓P Pn 07 16 35.3 +5.5
CORL **Corleone** 12.09 289 Pn Pn 07 16 40.9 -1.1
BIZ **Bicaz** 12.13 354 ⇓P Pn 07 16 49.2 +6.8
ANN **Anapa** 12.35 34 *eP* Pn 07 16 47.2 +1.6
ANN *eS* Sn 07 19 09.6 +5.9
ANN pmax pmax
comp=Z,19nm,1.0s
ANN MLR MLR
comp=N,182nm,8.0s
ANN MLR MLR
comp=Z,372nm,8.0s
ANN MLR MLR
comp=E,100nm,8.0s
DRGR 12.52 344 ⇑P Pn 07 16 53.6 +5.7
DRGR 12.52 344 ⇑P Pn 07 16 53.6 +5.7
BURAR **Bucovina Array** 12.88 352 ⇑P Pn 07 16 59.9 +7.0
BURAR **Bucovina Array** 12.88 352 ⇑P Pn 07 16 59.9 +7.0
AKH **Akhalkalaki** 13.94 57 ⇓P P 07 17 17.5 +1.7
PSZ **Piszkesteto** 14.32 338 P Pn 07 17 15.5 +3.0
PSZ **Piszkesteto** 14.32 338 ⇓P P 07 17 17.6 -2.2
PSZ **Piszkesteto** 14.32 338 Pn 07 17 15.5 +3.0
GNI **Garni** 14.42 64 Pn Pn 07 17 14.5 +0.5
comp=E,2.0nm,0.3s,baz=185,slow=3.4,SNR=4.5
GNI LR LR 07 23 33.4
comp=E,104nm,18.8s,baz=276,slow=40
SHA1 **Shidzhatmaz** 14.48 48 *eP* P 07 17 21.1 -0.8
KIV **Kislovodsk** 14.62 47 *eP* P 07 17 23.2 0.0
KIV pmax pmax
comp=Z,107nm,1.0s
KIV MLR MLR
comp=Z,501nm,12.0s
KIV **Kislovodsk** 14.62 47 P P 07 17 22.7 -0.5
KBZ **Khabaz** 14.62 48 Pn Pn 07 17 19.2 +2.7
comp=Z,0.0nm,0.3s,baz=288,slow=16,SNR=2.6
KBZ LR LR 07 24 14.8
comp=Z,209nm,19.0s,baz=164,slow=43
KOLS **Kolonicke sedl** 14.64 345 *eP* P 07 17 26.1 +2.8
KOLS **Kolonicke sedl** 14.64 345 *eP* P 07 17 26.1 +2.8
KECS **Kecovo** 14.65 340 *eP* P 07 17 27.3 +3.8
KECS **Kecovo** 14.65 340 *eP* P 07 17 27.3 +3.8
ZEI **Tsey** 14.80 53 *eP* Pn 07 17 19.0 -0.2
ZEI pmax pmax
comp=Z,21nm,0.9s
KEST **Kesra** 15.12 279 Pn Pn 07 17 23.0 -0.4
comp=Z,0.1nm,0.3s,baz=107,slow=11,SNR=3.2
KEST **Kesra** 15.12 279 IAmb IAmb 07 17 30.8
comp=Z,30nm,0.8s
VYHS **Vyhne** 15.16 337 *eP* P 07 17 32.3 +3.2
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS **Vyhne** 15.16 337 *eP* P 07 17 32.3 +3.2
SOKA **Soboth** 15.24 325 Pn P 07 17 27.6 -2.5
comp=Z,8.1nm,1.3s
GOF **Gofitskoye** 15.46 44⇑ *eP* P 07 17 32.2 -0.2
GOF pmax pmax
comp=Z,44nm,0.6s

LANS **Liptovska Anna** 15.55 339 *eP* P 07 17 37.0 +3.6
LANS **Liptovska Anna** 15.55 339 *eP* P 07 17 37.0 +3.6
AKASG **Malin Array Be** 15.85 3 Pn Pn 07 17 28.4 -4.5
comp=Z,0.5nm,0.3s,baz=187,slow=12,SNR=4.9
AKASG LR LR 07 24 04.8
comp=Z,153nm,21.8s,baz=180,slow=39
AKASG **Malin Array Be** 15.85 3 P P 07 17 36.1 -0.7
AKBB **Malin Array Si** 15.85 3 P P 07 17 37.8 +1.0
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB **Malin Array Si** 15.85 3 P P 07 17 37.8 +1.0
ZCCA **Zocca** 16.04 311 P Pn 07 17 35.2 -0.2
ZCCA IAmb IAmb 07 17 54.8
comp=Z,13nm,0.7s
GROC **Groznyy** 16.23 54 P Pn 07 17 38.7 +0.9
GROC pmax pmax
comp=Z,77nm,1.0s
KBA **Koelnbreinsper** 16.35 323 Pn Pn 07 17 39.1 -0.4
comp=Z,11nm,0.7s
MOA **Molln** 16.45 326 P P 07 17 45.2 +1.7
comp=Z,9.7nm,1.6s
ABTA **Abfaltersbach** 16.55 320 Pn P 07 17 43.2 -1.4
comp=Z,4.9nm,0.9s
VRAC **Vranov** 16.63 334 LR LR 07 24 20.2
comp=Z,153nm,20.6s,baz=154,slow=38
WTTA **Wattenberg** 17.34 320 pP P 07 17 58.3 +4.8
comp=Z,16nm,1.0s
WATA **Walderalm** 17.42 321 Pn Pn 07 17 52.5 -0.5
comp=Z,14nm,1.1s
GERES **GERESS Array B** 17.44 327 P Pn 07 17 49.9 -3.3
comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=3.1
SQTA **Sankt Quirin** 17.54 320 *eP* P 07 17 57.3 +1.7
comp=Z,11nm,1.0s
DPC **Dobruska-Polom** 17.60 335 *eP* Pn 07 17 55.0 -0.1
DPC **Dobruska-Polom** 17.60 335 *eP* Pn 07 17 55.0 -0.1
MOTA **Moosalm** 17.68 320 Pn Pn 07 17 55.4 -0.8
comp=Z,10.0nm,1.2s
FETA **Feichten** 17.68 319 Pn P 07 17 56.9 -0.3
comp=Z,14nm,1.0s
KHC **Kasperske Hory** 17.71 328 *eP* Pn 07 17 56.4 0.0
KHC **Kasperske Hory** 17.71 328 *eP* Pn 07 17 56.4 0.0
KHC *ex* x 07 18 12.5
KHC **Kasperske Hory** 17.71 328 P P 07 17 56.7 -0.7
CHVC **Chvalec** 17.89 335 *eP* P 07 18 02.1 +2.7
RETA **Reutte** 17.95 320 Pn P 07 17 59.9 -0.1
comp=Z,2.1nm,0.6s
VSR **Storozhevoye** 18.28 23 *eP* P 07 18 04.6 +1.0
VSR pmax pmax
comp=Z,20nm,1.3s
DAVA **Damuels** 18.30 318 Pn P 07 18 04.4 +0.3
comp=Z,7.1nm,0.7s
BRG **Berggiesshubel** 18.90 332 *e*(P) Pn 07 18 13.5 +2.5
comp=Z,17nm,1.7s
VRH **Novokhopyorsk** 19.17 27 *eP* Pn 07 18 15.1 +0.9
VRH pmax pmax
comp=Z,20nm,0.8s
SENIN **Lac Senin/Sane** 19.29 313 P P 07 18 15.0 0.0
SENIN IAmb IAmb 07 18 22.0
comp=Z,12nm,0.8s
LPSR **Galich'ya Gora** 19.41 21 *eP* Pn 07 18 17.7 +0.6
LPSR pmax pmax
comp=Z,30nm,0.9s
CLL **Collm** 19.61 331 *i* P Pn 07 18 21.0 +1.5
comp=Z,9.0nm,0.9s
CLL *i* PP PnPn 07 18 36.4 +3.6
comp=Z,19nm,1.3s
OBN **Obninsk** 21.13 14⇓ *eP* P 07 18 39.9 +5.2
OBN *e* 07 19 00.4
OBN pmax pmax
comp=Z,28nm,1.4s
OBN MLR MLR
comp=Z,290nm,17.0s
OBN **Obninsk** 21.13 14 LR LR 07 28 08.6
comp=Z,45nm,19.9s,baz=175,slow=41
MOS **Moscow** 21.93 15 *eP* P 07 18 43.7 +0.4
MOS pmax pmax
comp=Z,38nm,0.9s
TAM **Tamanrasset** 22.89 244 P P 07 18 55.1 +1.2
TAM pmax pmax
comp=Z,12nm,1.1s
TAM **Tamanrasset** 22.89 244 P P 07 18 55.1 +1.2
TAM IAmb IAmb 07 18 57.6
comp=Z,12nm,1.1s
GEYT **Alibeck** 24.52 74 P P 07 19 10.3 +0.7
comp=Z,2.5nm,0.6s,baz=243,slow=19,SNR=5.1
ESBB **Sonseca Array** 25.67 290 P P 07 19 19.6 -0.4
ESDC **Sonseca Array** 25.67 290 P P 07 19 18.4 -1.6
comp=Z,5.0nm,0.5s,baz=81,slow=9.6,SNR=34
ESDC **Sonseca Array** 25.67 290 P P 07 19 19.4 -0.6
PAB **San Pablo** 25.97 290 P P 07 19 22.0 -0.8
PAB pmax pmax
comp=Z,7.0nm,1.1s
PAB **San Pablo** 25.97 290 P P 07 19 22.0 -0.8
PAB IAmb IAmb 07 19 22.2
comp=Z,6.7nm,1.1s
UOSS **Minazif** 26.44 104 P P 07 19 28.2 +1.2
FINES **FINESS Array B** 26.61 358 P P 07 19 24.8 -3.5
comp=Z,4.3nm,0.8s,baz=156,slow=14,SNR=8.9
FINES LR LR 07 30 53.7
comp=Z,358nm,19.4s,baz=213,slow=39
AKTO **Aktyubinsk** 26.87 45 P P 07 19 29.7 -1.0
comp=Z,10nm,0.7s,baz=253,slow=10,SNR=24
HFS **Hagfors** 26.90 344 P P 07 19 29.1 -1.8
comp=Z,5.7nm,0.7s,baz=144,slow=8.5,SNR=11
HFS LR LR 07 31 28.1
comp=Z,319nm,22.0s,baz=288,slow=40
MDT **Midelt** 26.95 275 P P 07 19 31.2 -0.6
comp=Z,3.6nm,0.7s,baz=93,slow=13,SNR=7.7
KLMR **Klimovskoe** 27.07 13 *eP* P 07 19 29.4 -2.9
KLMR pmax pmax
comp=Z,15nm,1.0s
KLMR **Klimovskoe** 27.07 13 *eP* P 07 19 29.5 -2.9
KLMR AMP 07 19 32.6
comp=Z,15nm,1.0s
ABKAR **Akbulak array** 27.59 49 P P 07 19 38.0 +0.8
ABKAR **Akbulak array** 27.59 49 P P 07 19 37.2 0.0
ABKAR IAmb IAmb 07 19 44.1
comp=Z,6.2nm,0.9s
NB2 **NORSAR Subarra** 28.28 343 P P 07 19 41.1 -2.1
comp=Z,0.9nm,0.6s,baz=150,slow=9.3
NOA **NORSAR Array B** 28.28 343 P P 07 19 39.8 -3.4
comp=Z,0.9nm,0.7s,baz=150,slow=7.8,SNR=3.1
NOA LR LR 07 33 07.2
comp=Z,154nm,21.5s,baz=155,slow=41
EKA **Eskdalemuir Ar** 29.56 323 P P 07 19 50.9 -3.7
comp=Z,0.9nm,0.5s,baz=119,slow=12,SNR=4.4
ARU **Arti** 30.02 35 P P 07 19 51.6 -7.1
ARU **Arti** 30.02 35 LR LR 07 33 01.9
comp=Z,190nm,18.8s,baz=242,slow=38
TOA0 **Torodi Ar. Sit** 32.03 234 P P 07 20 17.4 +0.5
TORD **Torodi Ar. Bea** 32.03 234 P P 07 20 17.0 +0.1
comp=Z,15nm,0.8s,baz=35,slow=9.3,SNR=65
KKAR **Karatay Array** 33.88 63 P P 07 20 33.2 +0.4
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR **Karatay Array** 33.88 63 P P 07 20 33.2 +0.4
KKAR IAmb IAmb 07 20 40.4
comp=Z,3.7nm,0.6s
ARCES **ARCESS Array B** 34.74 359 P P 07 20 37.8 -2.2
comp=Z,3.0nm,0.8s,baz=171,slow=8.6,SNR=8.6
ARCES **ARCESS Array B** 34.74 359 P P 07 20 39.3 -0.7
BVAR **Borovoye Array** 34.98 45 P P 07 20 42.2 +0.1
comp=Z,0.8nm,0.7s,baz=221,slow=39,SNR=3.4
AAK **Ala-Archa** 36.83 64 *eP* P 07 20 58.8 +0.5
AAK pmax pmax
comp=Z,21nm,3.7s
AAK **Ala-Archa** 36.83 64 P P 07 20 58.9 +0.5
comp=Z,1.6nm,0.5s,baz=255,slow=6.1,SNR=5.4
AAK LR LR 07 39 36.3
comp=Z,97nm,18.1s,baz=276,slow=42
AAK **Ala-Archa** 36.83 64 P P 07 20 59.2 +0.9
AAK IAmb IAmb 07 21 13.8
comp=Z,4.1nm,0.8s
NIL **Nilore** 37.32 79 P P 07 21 03.9 +1.4
NIL pmax pmax
comp=Z,13nm,1.0s
NIL **Nilore** 37.32 79 P P 07 21 03.9 +1.4
NRN **Naryn** 38.05 65 P P 07 21 08.3 -0.6
NRN pmax pmax
comp=Z,9.0nm,1.1s
NRN **Naryn** 38.05 65 P P 07 21 08.3 -0.6
NRN IAmb IAmb 07 21 17.8
comp=Z,9.5nm,1.1s
KSH **Kashi** 38.27 68 P P 07 21 10.8 +0.2
KSH S S 07 27 02.6 -2.9
KSH PcS PcS 07 27 15.1 +1.2

KSH **Kashi** 38.27 68 ScS ScS 07 31 20.3 -3.1
KURBB **Kurchatov Arra** 39.61 51 P P 07 21 22.0 +0.5
comp=Z,2.9nm,0.8s,baz=275,slow=8.7,SNR=14
KURBB PP PnPn 07 23 00.1 +5.0
comp=Z,3.0nm,1.0s,baz=276,slow=11,SNR=5.1
KURBB PcP PcP 07 23 28.8 +0.3
comp=Z,0.9nm,0.7s,baz=259,slow=4.5,SNR=3.0
KURK **Kurchatov** 39.67 51 P P 07 21 22.0 0.0
KURK 07 23 28.8
KURK **Kurchatov** 39.67 51 P P 07 21 23.6 +1.6
DBIC **Dimbokro** 41.14 235 P P 07 21 33.1 -1.4
comp=Z,7.4nm,0.8s,baz=43,slow=5.8,SNR=7.2
DBIC LR LR 07 41 06.9
comp=Z,186nm,18.1s,baz=22,slow=40
DBIC **Dimbokro** 41.14 235 P P 07 21 33.6 -0.9
TIC **Toumodi** 41.27 235 *eP* P 07 21 34.9 -0.7
KIC **Kosan Boka** 41.29 234 *eP* P 07 21 34.5 -1.3
comp=Z,33nm,0.8s
LIC **Lamto** 41.58 234 *eP* P 07 21 37.3 -0.9
comp=Z,52nm,1.2s
MK31 **Makanchi Array** 42.11 56 P P 07 21 43.3 +1.1
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 **Makanchi Array** 42.11 56 P P 07 21 43.4 +1.1
MKAR **Makanchi Array** 42.11 56 P P 07 21 41.9 -0.3
comp=Z,3.3nm,0.6s,baz=289,slow=4.4,SNR=16
MKAR PcP PcP 07 23 34.3 -2.5
comp=Z,1.0nm,0.8s,baz=284,slow=5.8,SNR=3.1
MKAR LR LR 07 43 28.0
comp=Z,102nm,19.9s,baz=286,slow=42
MKAR **Makanchi Array** 42.11 56 P P 07 21 42.6 +0.4
ZALV **Zalesovo Beam** 43.63 46 P P 07 21 54.0 -0.4
ZALV **Zalesovo Beam** 43.63 46 P P 07 21 54.0 -0.4
comp=Z,1.4nm,0.6s,baz=257,slow=10,SNR=5.3
SPITS **Spitsbergen Ar** 43.69 357 P P 07 21 52.9 -1.7
comp=Z,5.4nm,0.7s,baz=168,slow=21,SNR=2.2
DGZ **Jazzator, Alta** 45.33 52 *eP* P 07 22 09.0 +0.7
WMQ **Urumqi** 46.26 60 *eP* P 07 22 17.8 +2.3
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=N,560nm,29.0s
WMQ LR LR
comp=E,2μm,29.0s
WMQ LR LR
comp=Z,210nm,22.3s
NRIK **Noril'sk** 47.22 25 P P 07 22 22.6 0.0
comp=Z,1.5nm,0.3s,baz=220,slow=6.7,SNR=6.7
DANN **Dangsing** 47.56 82 *eP* P 07 22 27.4 +1.2
comp=Z,110nm,0.7s
KOLN **Koldanda** 47.66 82 *eP* P 07 22 27.7 +0.8
comp=Z,34nm,1.0s
GKN **Gorkha** 48.41 82 *eP* P 07 22 33.4 +0.8
comp=Z,17nm,0.7s
KKN **Kakani** 49.02 82 *eP* P 07 22 37.4 0.0
comp=Z,11nm,0.5s
PKIN **Phulchoki** 49.20 82 *eP* P 07 22 38.7 -0.1
comp=Z,24nm,1.1s
PKI **Pulchoki** 49.21 82 *eP* P 07 22 38.7 -0.3
comp=Z,20nm,0.9s
JIRN **Jiri** 49.81 81 *eP* P 07 22 43.2 -0.4
comp=Z,29nm,0.9s
RAMN **Ramite** 50.43 82 *eP* P 07 22 47.5 -0.7
comp=Z,9.8nm,0.7s
TLY **Talaya** 55.19 47 *eP* P 07 23 24.7 +1.9
TLY pmax pmax
comp=Z,12nm,1.0s
TLY MLR MLR
comp=Z,347nm,14.0s
ZAK **Zakamensk** 55.29 49 *eP* P 07 23 24.5 +0.9
ZAK pmax pmax
comp=Z,7.0nm,1.2s
GTA **Gaotai** 56.16 62 P P 07 23 30.8 +0.7
GTA pP sP 07 23 34.4 +4.4
GTA sP pwP 07 23 37.0 +3.3
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,140nm,5.1s
GTA LR LR
comp=N,210nm,16.9s
GTA LR LR
comp=E,210nm,20.3s
GTA LR LR
comp=Z,94nm,20.3s
SONM **Songino Array** 57.97 51 P P 07 23 43.8 +1.1
comp=Z,3.0nm,0.7s,baz=289,slow=8.0,SNR=14
SONM LR LR 07 50 41.2
comp=Z,70nm,18.7s,baz=326,slow=38
SONM **Songino Array** 57.97 51 P P 07 23 44.3 +1.5
LBTB **Lobatse** 59.60 182 P P 07 23 56.0 +1.9
LBTB pmax pmax
comp=Z,8.0nm,0.8s
LBTB **Lobatse** 59.60 182 P P 07 23 56.0 +1.9
TIXI **Tiksi** 60.66 21 *eP* P 07 24 02.9 +2.1
TIXI pmax pmax
comp=Z,13nm,3.0s
TIXI **Tiksi** 60.66 21 LR LR 07 52 55.7
comp=Z,99nm,21.1s,baz=13,slow=39
BOSA **Boshof** 63.19 183 P P 07 24 19.6 +1.2
comp=Z,2.4nm,0.5s,baz=340,slow=7.4,SNR=7.1
BOSA **Boshof** 63.19 183 IAmb IAmb 07 24 21.1
comp=Z,3.9nm,0.8s
HHC **Hu-ho-hao-te** 63.97 57 *eP* P 07 24 24.5 +0.9
HHC pmax pmax
comp=Z,4.0nm,0.8s
HHC pmax pmax
comp=Z,11nm,6.6s
CMAR **Chiang Mai Arr** 64.42 85 P P 07 24 26.9 0.0
comp=Z,1.6nm,0.3s,baz=308,slow=9.2,SNR=4.1
SCHQ **Schefferville** 64.81 320 P P 07 24 27.5 -1.3
comp=Z,5.7nm,0.7s,baz=61,slow=7.1,SNR=3.6
SCHQ **Schefferville** 64.81 320 IAmb IAmb 07 24 28.3
comp=Z,7.2nm,0.8s
KLR **Kul'dur** 72.54 42 P P 07 25 16.2 -0.8
comp=Z,1.3nm,0.7s,baz=345,slow=3.8,SNR=3.9
KLR LR LR 08 03 34.8
comp=Z,95nm,18.3s,baz=200,slow=41
BILL **Bilibino** 72.79 15⇓ *eP* P 07 25 17.5 -0.7
BILL *e* 07 25 37.6
BILL *e* 07 27 58.3
BILL *eS* SKSac 07 35 33.3 +9.2
BILL pmax pmax
comp=Z,12nm,1.6s
BILL MLR MLR
comp=Z,70nm,15.0s
MA2 **Magadan** 74.79 26 *eP* P 07 25 29.9 -0.2
MA2 pmax pmax
comp=Z,32nm,1.3s
USRK **Ussuriysk Ar.** 75.48 46 P P 07 25 34.1 -0.3
comp=Z,3.4nm,0.7s,baz=274,slow=5.6,SNR=7.2
USRK **Ussuriysk Ar.** 75.48 46 P P 07 25 34.4 0.0
INK **Inuvik** 76.19 353 LR LR 08 02 40.0
comp=Z,43nm,18.1s,baz=66,slow=39
KSRS **Korea Array** 76.71 54 P P 07 25 42.0 +0.5
KSRS **Korea Array** 76.71 54 P P 07 25 42.0 +0.5
comp=Z,2.1nm,0.7s,baz=304,slow=4.9,SNR=4.8
KSRS LR LR 08 02 45.0
comp=Z,42nm,21.8s,baz=265,slow=38
ILAR **Eielson Array** 80.60 358 P P 07 26 00.5 -1.9
comp=Z,0.4nm,0.7s,baz=332,slow=3.7,SNR=4.8
SKT **Skwentna** 83.49 360 P P 07 26 16.2 -1.5
KUR **Kuril'sk** 83.58 38 *eP* P 07 26 17.0 -1.4
KUR pmax pmax
comp=Z,166nm,1.5s
BDFB **Brasilia** 87.63 249 P P 07 26 39.2 +0.1
comp=Z,3.7nm,0.7s,baz=68,slow=2.0,SNR=5.9
BDFB LR LR 08 05 33.9
comp=Z,55nm,18.2s,baz=142,slow=36
PDAR **Pinedale Array** 93.47 330 P P 07 27 05.2 -1.0
comp=Z,0.1nm,0.4s,baz=54,slow=6.8,SNR=2.8
PDAR LR LR 08 12 33.1
comp=Z,23nm,18.4s,baz=29,slow=38

*KLM **13** 07:25:00.0, 6°.85S×106°.01E, h132km, mb4.6*
*ISCJB **13** 07:25:01.4±0.2, 6°.40S±0°.04×106°.48E±0°.03, h150km±2km, mb4.4/33, Error ellipse: s-maj=7.3km s-min=3.0km az=39.0*
*NEIC **13** 07:25:02.1±1.9, 6°.25S±0°.08×106°.57E±0°.07, h141km±2km, mb4.5/37*
*DJA **13** 07:25:02.0±0.2, 7°S±3°×10°6E±°, h139km±2km, M5.0/30, mb5.1/20, mB5.5/16, MLv5.0/30, Mw(mB)4.9/16*

*IDC **13** 07:25:02.2±0.5, 6°.13S×106°.71E, h144km±4km, mb4.1/24, mb1 4.2/26, mb1mx4.0/51, mbtmp4.5/26, Error ellipse: s-maj=15.2km s-min=6.4km az=45.0*

ISC 13 07:25:02.7±0.6, 6°.45S±0°.05×106°.45E±0°.04, h146km±4km, n178, σ1°83/187, mb4.4/37, 5C-6D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNG	**Tangerang**	**0.34**	**35**	P	**Pn**	**07 25 22.1**	**-0.8**
TNG				S	**Sn**	**07 25 37.8**	**-0.4**
SBJI	**Serang**	**0.46**	**315**	P	**Pn**	**07 25 22.9**	**-0.5**
SBJI				S	**Sn**	**07 25 38.8**	**-0.3**
SKJI	**Sukabumi**	**0.56**	**169**	P	**Pn**	**07 25 22.8**	**-1.2**
SKJI				S	**Sn**	**07 25 39.0**	**-1.2**
CGJI	**Cibinong**	**0.77**	**258**	P	**Pn**	**07 25 25.1**	**-0.1**
CGJI				S	**Sn**	**07 25 41.0**	**-1.4**
LEM	**Lembang**	**1.22**	**108**	P	**Pn**	**07 25 28.9**	**-0.3**
	394nm,0.3s,baz=284,slow=1.7,SNR=195						
LEM				S	**Sn**	**07 25 47.2**	**-2.3**
	93nm,0.3s,baz=319,slow=19,SNR=10						
LEM	**Lembang**	**1.22**	**108**	P	**Pn**	**07 25 29.0**	**-0.3**
BLSI	**Bandar Lampung**	**1.61**	**312**	P	**Pn**	**07 25 33.9**	**+0.7**
BLSI				S	**Sn**	**07 25 57.2**	**+0.7**
CISI	**Cisompet, Garu**	**1.75**	**129**	P	**Pn**	**07 25 33.4**	**-1.3**
CISI	**Cisompet, Garu**	**1.75**	**129**		**Pn**	**07 25 33.7**	**-1.0**
JCJI	**Jatiwangi**	**1.81**	**91**	P	**Pn**	**07 25 35.2**	**-0.1**
KASI	**Kota Agung**	**2.15**	**295**	P	**Pn**	**07 25 40.1**	**+0.8**
KASI				S	**Sn**	**07 26 07.1**	**-0.4**
CMJI	**Cimerak**	**2.38**	**124**	P	**Pn**	**07 25 41.0**	**-1.2**
KPJI	**Karang Pucung**	**2.61**	**110**	P	**Pn**	**07 25 45.0**	**0.0**
LWLI	**Liwa**	**2.77**	**301**	P	**Pn**	**07 25 48.6**	**+1.5**
TPI	**Tanjungpandan**	**3.86**	**18**	P	**Pn**	**07 26 01.0**	**0.0**
PMBI	**Palembang**	**3.88**	**334**	P	**Pn**	**07 26 03.3**	**+2.1**
PMBI	**Palembang**	**3.88**	**334**	Pn	**Pn**	**07 26 01.4**	**+0.2**
LHSI	**Lahat**	**3.91**	**312**	P	**Pn**	**07 26 03.3**	**+1.6**
SMRI	**Semarang**	**4.01**	**99**	P	**Pn**	**07 26 03.4**	**+0.5**
SMRI	**Semarang**	**4.01**	**99**		**Pn**	**07 26 02.2**	**-0.8**
YOGI	**Yogyakarta**	**4.05**	**110**	P	**Pn**	**07 26 02.6**	**-0.9**
MNAI	**Manna**	**4.05**	**301**	P	**Pn**	**07 26 04.6**	**+1.1**
MNAI	**Manna**	**4.05**	**301**		**Pn**	**07 26 03.3**	**-0.3**
MNAI				Sn	**Sn**	**07 26 49.6**	**-1.2**
XMIS	**Christmas Isla**	**4.08**	**191**		**Pn**	**07 25 59.9**	**-4.1**
PPBI	**Pangkal Pinang**	**4.27**	**356**	P	**Pn**	**07 26 07.8**	**+1.4**
UGM	**Wanagama**	**4.29**	**110**	P	**Pn**	**07 26 05.9**	**-0.8**
UGM	**Wanagama**	**4.29**	**110**		**Pn**	**07 26 06.2**	**-0.6**
WOJI	**Wonogiri, Jawa**	**4.65**	**108**	P	**Pn**	**07 26 10.0**	**-1.4**
PCJI	**Pacitan**	**5.00**	**111**	P	**Pn**	**07 26 14.5**	**-1.5**
NGJI	**Ngawi**	**5.06**	**101**	P	**Pn**	**07 26 18.6**	**+1.8**
MASI	**Maura Aman, Be**	**5.33**	**308**	P	**Pn**	**07 26 21.9**	**+1.4**
PWJI	**Pagerwojo**	**5.54**	**107**	P	**Pn**	**07 26 22.6**	**-0.6**
GRJI	**Gresik**	**6.00**	**95**	P	**Pn**	**07 26 31.1**	**+1.7**
DSRI	**Dabo**	**6.22**	**342**	P	**Pn**	**07 26 33.5**	**+1.2**
KRJI	**Kerinci**	**6.59**	**311**	P	**Pn**	**07 26 37.9**	**+0.5**
GMJI	**Gumukmas**	**7.17**	**105**	P	**Pn**	**07 26 46.4**	**+1.4**
PPSI	**Pulau Pagai**	**7.39**	**299**	P	**Pn**	**07 26 46.7**	**-1.3**
SDSI	**Sungai Dareh**	**7.42**	**317**	P	**Pn**	**07 26 48.3**	**-0.1**
TPRI	**Tanjung Pinang**	**7.56**	**345**	P	**Pn**	**07 26 51.5**	**+1.2**
JAGI	**Jajag, Banyuwa**	**7.90**	**105**	P	**Pn**	**07 26 54.4**	**-0.3**
JAGI	**Jajag, Banyuwa**	**7.90**	**105**		**Pn**	**07 26 54.6**	**-0.1**
PDSI	**Padang**	**8.12**	**312**	P	**Pn**	**07 26 56.1**	**-1.7**
MYKOM	**Kota Tinggi**	**8.58**	**342**	P	**Pn**	**07 27 05.0**	**+1.1**
MYKOM	**Kota Tinggi**	**8.58**	**342**		**Pn**	**07 27 02.3**	**-1.7**
BKNI	**Bangkinang**	**8.63**	**321**	P	**Pn**	**07 27 04.4**	**-0.1**
SRBI	**Singaraja**	**8.84**	**101**	P	**Pn**	**07 27 07.8**	**+0.4**
SISI	**Saibi**	**8.93**	**304**	P	**Pn**	**07 27 06.2**	**-2.4**
KGM	**Kluang**	**8.97**	**339**	P	**Pn**	**07 27 10.0**	**+0.9**
TWSI	**Taliwang, Sumb**	**10.59**	**103**	P	**Pn**	**07 27 28.6**	**-2.0**
JRMM	**Jerantut**	**11.01**	**339**	P	**Pn**	**07 27 37.0**	**+0.9**
PLAI	**Plampang**	**11.47**	**103**	P	**Pn**	**07 27 38.0**	**-4.2**
GSI	**Gunungsitoli**	**11.74**	**311**	P	**Pn**	**07 27 41.7**	**-4.0**
GSI	**Gunungsitoli**	**11.74**	**311**		**Pn**	**07 27 41.8**	**-3.9**
RPSI	**Rantau Prapat**	**11.79**	**320**		**Pn**	**07 27 42.8**	**-3.6**
RPSI	**Rantau Prapat**	**11.79**	**320**		**Pn**	**07 27 43.2**	**-3.1**
PSI	**Prapat**	**11.87**	**320**	P	**Pn**	**07 27 43.2**	**-4.3**
	2.8nm,0.3s,baz=160,slow=12,SNR=9.3						
IPM	**Ipoh**	**12.13**	**333**	P	**Pn**	**07 27 52.0**	**+1.1**
IPM	**Ipoh**	**12.13**	**333**		**Pn**	**07 27 48.0**	**-2.8**
KULM	**Kulim**	**13.02**	**333**	P	**Pn**	**07 28 02.0**	**-0.3**
KULM	**Kulim**	**13.02**	**333**		**Pn**	**07 27 59.5**	**-2.8**
KCSI	**Kotacane, Aceh**	**13.16**	**319**	P	**P**	**07 28 13.0**	**+4.2**
TRTT	**Trang**	**15.71**	**334**	P	**Pn**	**07 28 36.4**	**+0.3**
	14nm,1.2s						
MMRI	**Maumere**	**15.80**	**99**	Pn	**Pn**	**07 28 34.3**	**-3.0**
SURT	**Suratani**	**17.10**	**333**	P	**Pn**	**07 28 57.7**	**+4.6**
	8.8nm,0.8s						
BATI	**Baumata**	**17.43**	**104**	P	**P**	**07 28 53.9**	**-2.2**
	8.7nm,0.3s,baz=264,slow=9.2,SNR=5.1						
BATI				S	**S**	**07 32 09.5**	**-0.9**
	4.7nm,0.3s,baz=273,slow=11,SNR=4.4						
BATI	**Baumata**	**17.43**	**104**	P	**Pn**	**07 28 57.0**	**-0.1**
GIRL	**Giralia**	**17.77**	**156**		**Pn**	**07 29 00.9**	**-0.1**
PSAD1	**Pilbara Seismi**	**19.75**	**140**	P	**P**	**07 29 20.8**	**-0.5**
PSAD1				IAmb	IAmb	07 29 26.2	
	comp=Z,23nm,1.1s						
PSAC1	**Pilbara Seismi**	**19.80**	**141**	P	**P**	**07 29 22.4**	**+0.5**
PSAC1				IAmb	IAmb	07 29 26.6	
	comp=Z,19nm,0.8s						
PSAB1	**Pilbara Seismi**	**19.83**	**141**	P	**P**	**07 29 23.5**	**+1.4**
PSAA2	**Pilbara Seismi**	**19.84**	**141**	P	**P**	**07 29 23.1**	**+0.9**
PSAA2				IAmb	IAmb	07 29 26.7	
	comp=Z,18nm,0.8s						
PSAB2	**Pilbara Seismi**	**19.84**	**141**	P	**P**	**07 29 22.4**	**+0.1**
PSAB2				IAmb	IAmb	07 29 26.8	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**19.85**	**141**	P	**P**	**07 29 23.1**	**+0.7**
PSAA3	**Pilbara Seismi**	**19.86**	**141**	P	**P**	**07 29 23.0**	**+0.5**
PSAA3				IAmb	IAmb	07 29 27.3	
	comp=Z,23nm,1.0s						
PSAD3	**Pilbara Seismi**	**19.86**	**141**	P	**P**	**07 29 23.1**	**+0.7**
PSAB3	**Pilbara Seismi**	**19.87**	**141**	P	**P**	**07 29 24.0**	**+1.4**
PSAC3	**Pilbara Seismi**	**19.87**	**141**	P	**P**	**07 29 24.0**	**+1.4**
SRAK	**Srakaew**	**20.79**	**348**	P	Pn	07 29 39.1	+2.4
FITZ	**Fitzroy Crossi**	**22.01**	**123**	P	**P**	**07 29 44.4**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=336,slow=5.9,SNR=8.0						
FITZ				S	**S**	**07 33 45.0**	**+6.8**
	comp=Z,2.4nm,0.9s,baz=351,slow=19,SNR=3.3						
FITZ	**Fitzroy Crossi**	**22.01**	**123**	P	**P**	**07 29 44.8**	**-0.6**
PBKT	**Sadao Pong**	**23.50**	**347**	P	**P**	**07 29 58.6**	**-0.9**
	comp=Z,3.5nm,0.8s,comp=Z,438nm						
PBKT	**Sadao Pong**	**23.50**	**347**	P	**P**	**07 29 58.5**	**-1.0**
KNRA	**Kununurra**	**23.72**	**115**	P	**P**	**07 30 01.4**	**0.0**
KNRA				IAmb	IAmb	07 30 13.1	
	comp=Z,17nm,0.9s						
UMPA	**Umpang Tak**	**23.73**	**342**	P	**P**	**07 29 59.5**	**-2.1**
	comp=Z,8μm,0.5s						
MTN	**Manton Dam**	**25.14**	**107**	P	**P**	**07 30 14.8**	**+0.4**
MTN				IAmb	IAmb	07 30 29.4	
	comp=Z,6.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.83**	**343**	P	**P**	**07 30 18.3**	**-2.3**
	comp=Z,2.6nm,0.4s,baz=178,slow=8.6,SNR=17						
NWAO	**Narrogin (SRO)**	**28.19**	**161**	P	**P**	**07 30 42.2**	**+0.7**
	comp=Z,4.8nm,0.5s,baz=338,slow=9.5,SNR=6.0						
NWAO	**Narrogin (SRO)**	**28.19**	**161**	P	**P**	**07 30 42.5**	**+1.0**
NWAO				IAmb	IAmb	07 30 55.6	
	comp=Z,17nm,1.1s						
H01W3	**Cape Leeuwin H**	**29.17**	**167**	T	T	08 00 58.6	
	baz=344,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**29.19**	**167**	T	T	08 00 56.9	
	baz=344,slow=76,SNR=7.3						
H01W2	**Cape Leeuwin H**	**29.19**	**167**	T	T	08 00 57.8	
	baz=344,slow=76,SNR=13						
WRA	**Warramunga Arr**	**30.21**	**119**	P	**P**	**07 30 59.9**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=309,slow=8.9,SNR=46						
WRA				PcP	**PcP**	**07 33 57.5**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=313,slow=2.1,SNR=14						
WRA				S	**S**	**07 35 45.5**	**-3.1**
	comp=Z,1.9nm,1.0s,baz=291,slow=16,SNR=5.4						
WRA				ScP	**ScP**	**07 37 26.4**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=299,slow=2.4,SNR=6.8						
WB2	**Warramunga Arr**	**30.23**	**119**	P	**P**	**07 31 00.1**	**+0.4**
ASAR	**Alice Springs**	**31.45**	**126**	P	**P**	**07 31 11.3**	**+0.7**
	comp=Z,6.0nm,0.5s,baz=296,slow=7.8,SNR=126						
ASAR				PcP	**PcP**	**07 34 00.9**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=310,slow=1.8,SNR=5.4						
ASAR				S	**S**	**07 36 05.7**	**-2.2**
	comp=Z,2.7nm,0.8s,baz=295,slow=15,SNR=15						
ASAR				ScP	**ScP**	**07 37 30.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=304,slow=3.2,SNR=9.7						
AS31	**Alice Springs**	**31.45**	**126**	P	**P**	**07 31 11.4**	**+0.9**
AS31				IAmb	IAmb	07 31 12.2	
	comp=Z,3.1nm,0.5s						
H08S2	**Diego Garcia H**	**33.72**	**266**	T	T	08 07 21.0	
	baz=92,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**33.73**	**266**	T	T	08 07 23.1	
	baz=92,slow=76,SNR=6.9						
H08S1	**Diego Garcia H**	**33.74**	**266**	T	T	08 07 22.2	
	baz=92,slow=76,SNR=9.6						
CD2	**Chengdu**	**37.23**	**356**	P	**P**	**07 32 00.3**	**+0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
ODAN	**Odare**	**37.91**	**332**	*e*P	**P**	**07 32 03.8**	**-2.4**
	comp=Z,22nm,0.5s						
TAPN	**Taplejung**	**38.18**	**332**	*e*P	**P**	**07 32 06.5**	**-2.0**
	comp=Z,22nm,0.7s						
RAMN	**Ramite**	**38.37**	**331**	*e*P	**P**	**07 32 08.0**	**-2.0**
	comp=Z,12nm,0.5s						
JIRN	**Jiri**	**39.16**	**331**	*e*P	**P**	**07 32 14.3**	**-2.4**
	comp=Z,33nm,0.6s						
PKI	**Pulchoki**	**39.47**	**330**	*e*P	**P**	**07 32 15.4**	**-3.9**
	comp=Z,3.8nm,0.4s						
PKIN	**Phulchoki**	**39.48**	**330**	*e*P	**P**	**07 32 15.4**	**-3.9**
	comp=Z,4.4nm,0.5s						
GUN	**Gumba**	**39.52**	**331**	*e*P	**P**	**07 32 17.4**	**-2.3**
	comp=Z,26nm,0.6s						
DMN	**Daman**	**39.65**	**330**	*e*P	**P**	**07 32 18.0**	**-2.7**
	comp=Z,14nm,0.8s						
KKN	**Kakani**	**39.71**	**330**	*e*P	**P**	**07 32 18.3**	**-2.8**
	comp=Z,16nm,0.8s						
NJ2	**Nanjing**	**40.07**	**16**	*e*P	**P**	**07 32 25.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.9s						
GKN	**Gorkha**	**40.21**	**329**	*e*P	**P**	**07 32 22.7**	**-2.5**
	comp=Z,12nm,0.3s						
KOLN	**Koldanda**	**40.56**	**328**	*e*P	**P**	**07 32 25.7**	**-2.4**
	comp=Z,35nm,0.6s						
DANN	**Dangsing**	**40.94**	**329**	*e*P	**P**	**07 32 28.8**	**-2.5**
	comp=Z,34nm,0.6s						
STKA	**Stephens Creek**	**41.41**	**132**	P	**P**	**07 32 36.3**	**+1.5**
	comp=Z,49nm,0.7s,baz=308,slow=8.2,SNR=140						
STKA				PcP	**PcP**	**07 34 31.1**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=315,slow=2.9,SNR=3.3						
STKA				S	**S**	**07 38 38.9**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=179,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**41.41**	**132**	P	**P**	**07 32 36.3**	**+1.5**
STKA				IAmb	IAmb	07 32 37.0	
	comp=Z,7.0nm,0.7s						
KRVT	**Keravat (AS076**	**45.41**	**90**	P	**P**	**07 33 07.6**	**+0.4**
	comp=Z,17nm,0.3s,baz=204,slow=20,SNR=3.4						
GTA	**Gaotai**	**46.04**	**353**	P	**P**	**07 33 11.3**	**-0.5**
GTA				pP	pP	07 33 39.9	-4.9
GTA				sP	sP	07 33 54.0	-7.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,200nm,4.6s						
GTA				LR	LR		
	comp=N,180nm,19.3s						
GTA				LR	LR		
	comp=E,260nm,17.6s						
GTA				LR	LR		
	comp=Z,200nm,19.3s						
HHC	**Hu-ho-hao-te**	**47.30**	**5**	*e*P	**P**	**07 33 23.4**	**+1.9**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,11nm,6.6s						
CAN	**Canberra**	**48.48**	**132**	P	**P**	**07 33 32.1**	**+1.4**
CAN				IAmb	IAmb	07 33 42.2	
	comp=Z,7.7nm,1.0s						
MJAR	**Matsushiro Arr**	**52.09**	**32**	P	**P**	**07 33 57.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=236,slow=13,SNR=3.8						
WMQ	**Urumqi**	**52.83**	**343**	*e*P	**P**	**07 34 04.8**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,7.5s						
WMQ				LR	LR		
	comp=N,460nm,29.3s						
WMQ				LR	LR		
	comp=E,2μm,29.0s						
WMQ				LR	LR		
	comp=Z,210nm,29.2s						
KSH	**Kashi**	**53.72**	**331**	P	**P**	**07 34 12.3**	**+2.5**
KSH				PP	**PP**	**07 36 16.3**	**+4.0**
KSH				S	**S**	**07 41 34.9**	**+2.1**
KSH				sS	sS	07 42 27.5	-3.9
KSH	**Kashi**	**53.72**	**331**	SS	**SS**	**07 45 17.3**	**+1.5**
KSH				pmax	pmax		
	comp=Z,630nm,5.7s						
KSH				LR	LR		
	comp=N,530nm,9.5s						
KSH				LR	LR		
	comp=E,560nm,12.4s						
KSH				LR	LR		
	comp=Z,230nm,13.6s						
SONM	**Songino Array**	**54.05**	**360**	P	**P**	**07 34 11.2**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=185,slow=8.9,SNR=9.8						
SONM				ScP	**ScP**	**07 38 57.2**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=166,slow=4.8,SNR=5.3						
SONM	**Songino Array**	**54.05**	**360**	IAmb	IAmb	07 34 12.1	
	comp=Z,2.9nm,1.2s						
WSAR	**Wadi Sarin**	**55.25**	**304**	P	**P**	**07 34 21.0**	**0.0**
	baz=164,slow=7.9						
GAR	**Garm**	**56.26**	**326**	P	**P**	**07 34 27.6**	**-0.4**
MKAR	**Makanchi Array**	**57.19**	**340**	P	**P**	**07 34 31.8**	**-2.6**
	comp=Z,1.2nm,0.5s,baz=146,slow=8.4,SNR=14						
UOSS	**Minazif**	**57.99**	**305**	P	**P**	**07 34 40.3**	**-0.1**
OPO	**Ambohidratompo**	**58.86**	**252**	P	**P**	**07 34 48.2**	**+1.4**
	comp=Z,2.9nm,0.5s,baz=72,slow=5.1,SNR=5.9						
KURBB	**Kurchatov Arra**	**61.75**	**340**	P	**P**	**07 35 02.3**	**-3.2**
	comp=Z,1.5nm,0.7s,baz=151,slow=6.1,SNR=9.1						
KURK	**Kurchatov**	**61.80**	**340**	P	**P**	**07 35 03.1**	**-2.7**
ZALV	**Zalesovo Beam**	**62.87**	**346**	P	**P**	**07 35 10.3**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=111,slow=8.1,SNR=3.5						
GEYT	**Alibeck**	**62.99**	**318**	P	**P**	**07 35 12.2**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=168,slow=8.8,SNR=2.9						
BVAR	**Borovoye Array**	**66.65**	**337**	P	**P**	**07 35 35.2**	**-2.2**
	comp=Z,1.0nm,0.4s,baz=140,slow=7.2,SNR=6.7						
MAW	**Mawson**	**67.74**	**197**	P	**P**	**07 35 46.4**	**+2.4**
	comp=Z,8.9nm,0.6s,baz=51,slow=5.8,SNR=28						
MAW	**Mawson**	**67.74**	**197**	P	**P**	**07 35 46.0**	**+2.0**
ABKAR	**Akbulak array**	**68.66**	**329**	P	**P**	**07 35 47.8**	**-2.3**
SYO	**Syowa Base**	**75.83**	**200⇑**	*e*P	**P**	**07 36 33.0**	**+0.7**
SYO	**Syowa Base**	**75.83**	**200⇑**	*e*PcP	**PcP**	**07 36 45.0**	**+0.8**
KBZ	**Khabaz**	**75.88**	**318**	P	**P**	**07 36 32.7**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=22,slow=7.4,SNR=3.7						
ASF	**Jabal al Asfar**	**76.39**	**305**	P	**P**	**07 36 36.7**	**+0.3**
	comp=Z,6.1nm,0.3s,baz=78,slow=5.0,SNR=11						
NRIK	**Noril'sk**	**76.74**	**353**	P	**P**	**07 36 36.3**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=155,slow=19,SNR=3.1						
MMAI	**Mount Meron Ar**	**77.84**	**306**	P	**P**	**07 36 45.4**	**+1.0**
	comp=Z,3.2nm,0.5s,baz=90,slow=8.3,SNR=4.9						
BOSA	**Boshof**	**79.23**	**242**	P	**P**	**07 36 53.1**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=121,slow=1.8,SNR=7.2						
BOSA	**Boshof**	**79.23**	**242**	IAmb	IAmb	07 36 54.4	
	comp=Z,5.3nm,0.8s						
TIXI	**Tiksi**	**79.33**	**7**	P	**P**	**07 36 49.2**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=273,slow=2.0,SNR=3.1						
BR131	**Keskin Array S**	**81.06**	**312**	P	**P**	**07 37 01.2**	**-0.6**
BR131				IAmb	IAmb	07 37 01.7	
	comp=Z,6.6nm,0.7s						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**07 37 00.9**	**-0.8**
	comp=Z,5.6nm,0.6s,baz=140,slow=7.3,SNR=29						
QSPA	**South Pole Qui**	**83.54**	**180**	P	**P**	**07 37 15.7**	**+1.5**
OBN	**Obninsk**	**83.97**	**327**	P	**P**	**07 37 16.3**	**0.0**
	comp=Z,11nm,0.4s,baz=162,slow=3.2,SNR=4.6						
OBN	**Obninsk**	**83.97**	**327**	IAmb	IAmb	07 37 17.6	
	comp=Z,42nm,0.5s						
TIRR	**Tirgusor**	**86.01**	**315 ⇑**	P	**P**	**07 37 27.0**	**+0.3**
SORM	**Soroca**	**86.88**	**319 ⇑**	P	**P**	**07 37 30.8**	**-0.1**
AKASG	**Malin Array Be**	**86.93**	**322**	P	**P**	**07 37 29.9**	**-1.1**
	comp=Z,0.2nm,0.2s,baz=95,slow=4.0,SNR=3.9						
AKASG	**Malin Array Be**	**86.93**	**322**	IAmb	IAmb	07 37 31.6	
	comp=Z,1.8nm,1.1s						
VRI	**Vrincioaia**	**87.47**	**317 ⇑**	P	**P**	**07 37 34.8**	**+1.0**
MLR	**Muntele Rosu**	**87.94**	**316 ⇓**	P	**P**	**07 37 36.4**	**+0.2**
MLR	**Muntele Rosu**	**87.94**	**316**	P	**P**	**07 37 36.4**	**+0.2**
VOIR		**88.55**	**316 ⇓**	P	**P**	**07 37 38.3**	**-0.7**
ARR	**Arges**	**88.82**	**316 ⇓**	P	**P**	**07 37 40.2**	**0.0**
BURAR	**Bucovina Array**	**88.84**	**318 ⇓**	P	**P**	**07 37 41.5**	**+1.1**
VTS	**Vitosha**	**89.35**	**313 ⇑**	P	**P**	**07 37 43.3**	**+0.4**
SNAA	**Sanae**	**89.89**	**197**	P	**P**	**07 37 47.3**	**+2.5**
SNAA	**Sanae**	**89.89**	**197**	P	**P**	**07 37 47.4**	**+2.5**
GZR	**Gura Zlata**	**90.11**	**316 ⇓**	P	**P**	**07 37 47.8**	**+1.5**
VNA2	**Neumayer--Watz**	**91.53**	**198**	P	**P**	**07 37 55.0**	**+2.7**
	baz=96,slow=3.9						
VNA1	**Neumayer--Stat**	**91.91**	**198**	P	**P**	**07 37 56.6**	**+2.5**
VNA3	**Neumayer Olymp**	**92.06**	**197**	P	**P**	**07 37 57.2**	**+2.4**
ARCES	**ARCESS Array B**	**92.83**	**340**	P	**P**	**07 37 56.3**	**-2.0**
	comp=Z,3.8nm,0.9s,baz=102,slow=8.5,SNR=2.3						
LANS	**Liptovska Anna**	**92.85**	**319**	*e*P	**P**	**07 37 57.7**	**-1.2**
VYHS	**Vyhne**	**93.20**	**318**	*e*P	**P**	**07 37 58.1**	**-2.4**
PDAR	**Pinedale Array**	**131.87**	**36**	SKPbc	**SKPbc**	**07 47 10.2**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=306,slow=3.3,SNR=5.2						
ULM	**Lac du Bonnet**	**132.51**	**19**	SKPbc	**SKPbc**	**07 47 11.1**	**-2.3**
	comp=Z,3.3nm,0.7s,baz=7.5,slow=3.7,SNR=3.3						
PLCA	**Paso Flores**	**132.97**	**183**	SKPbc	**SKPbc**	**07 47 12.8**	**-2.6**
	comp=Z,4.2nm,1.2s,baz=300,slow=7.0,SNR=5.2						
TXAR	**Lajitas Array**	**143.60**	**48**	PKP	PKPbc	07 44 19.4	+0.6
	comp=Z,0.2nm,0.4s,baz=352,slow=2.7,SNR=3.3						
CPUP	**Villa Florida**	**143.82**	**205**	PKP	**PKPdf**	**07 44 20.4**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=165,slow=2.3,SNR=14						
BDFB	**Brasilia**	**146.51**	**229**	PKPbc	**PKPab**	**07 44 29.0**	**-0.2**
	comp=Z,4.6nm,0.5s,baz=89,slow=2.5,SNR=6.2						
LPAZ	**La Paz**	**156.78**	**193**	PKPab	**PKPab**	**07 45 14.3**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=160,slow=4.8,SNR=4.5						

JMA 13 07:50:34.9±0.2, 24°.88N×123°.37E, h35km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**218**	P	Pn	07 50 45.7	-0.3
YOJ				S	Sn	07 50 52.7	-1.0
IRIF	**Iriomote-Funau**	**0.63**	**149**	S	Sn	07 50 56.6	+0.3
JKRS	**Kuro-shima**	**0.86**	**138**	P	Pn	07 50 50.8	+0.2
JKRS				*e*S	Sn	07 51 02.5	+0.5
JIJ	**Ishigaki jima**	**0.87**	**126**	S	Sn	07 51 01.5	-0.6
JISG	**Ishigakijimahi**	**0.90**	**109**	P	Pn	07 50 51.4	+0.3
JISG				*e*S	Sn	07 51 03.0	+0.1

TAP 13 07:50:48.7, 24°.33N×121°.44E, h6km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.11**	**332**	P	Pg	07 50 51.6	+0.4
	baz=333						
NNSB				S	Sg	07 50 53.3	+0.4
	baz=333						
NNS	**Nan Shan**	**0.12**	**331**	*i* P	Pg	07 50 51.9	+0.4
	baz=335						
NNS				S	Sg	07 50 53.7	+0.4
	baz=335						
ETLH	**Xiulin Townshi**	**0.13**	**162**	P	Pg	07 50 52.4	+1.0
	baz=171						
ETLH				S	Sg	07 50 54.5	+1.2
	baz=171						
NACB	**Ninganchiao**	**0.21**	**138**	P	Pg	07 50 53.9	+0.9
	baz=138						
NACB				S	Sg	07 50 56.8	+1.1
	baz=138						
WHF	**Hehuan Shan**	**0.24**	**221**	P	Pg	07 50 54.2	+0.5
	baz=209						
WHF				S	Sg	07 50 57.9	+1.0
	baz=209						
TWT	**Tachien**	**0.25**	**252**	P	Pb	07 50 54.9	-0.8
	baz=241						
TWT				S	Sb	07 50 58.9	-1.5
	baz=241						
TDCB	**

RPZ	**Rata Peaks**	**4.33**	**55**	Pn	**Pn**	**07 55 54.7**	**-0.2**
	14nm,0.3s,baz=216,slow=4.3,SNR=40						
RPZ				Sn	**Sn**	**07 56 44.9**	**-1.2**
	50nm,0.3s,baz=359,slow=17,SNR=8.4						
RPZ				LR	LR	07 57 56.8	
	comp=Z,3μm,18.0s,baz=220,slow=44						
RPZ	**Rata Peaks**	**4.33**	**55**	P	**Pn**	**07 55 54.8**	**-0.1**
RPZ				S	**Sn**	**07 56 44.9**	**-1.2**
RPZ	**Rata Peaks**	**4.33**	**55**		**Pn**	**07 55 55.1**	**+0.2**
WVZ	**Waitaha Valley**	**4.59**	**47**	P	**Pn**	**07 55 59.9**	**+1.5**
WVZ				S	**Sn**	**07 56 53.3**	**+1.0**
OXZ	**Oxford**	**5.14**	**57**	P	**Pn**	**07 56 07.5**	**+1.5**
OXZ	**Oxford**	**5.14**	**57**		**Pn**	**07 56 07.5**	**+1.5**
INZ	**Inchbonnie**	**5.21**	**49**	P	**Pn**	**07 56 07.4**	**+0.5**
MQZ	**McQueen's Vall**	**5.30**	**63**	P	**Pn**	**07 56 07.9**	**-0.2**
MQZ	**McQueen's Vall**	**5.30**	**63**		**Pn**	**07 56 09.5**	**+1.4**
CRLZ	**Canterbury Las**	**5.35**	**62**	P	**Pn**	**07 56 11.0**	**+2.3**
CRLZ	**Canterbury Las**	**5.35**	**62**	Pn	**Pn**	**07 56 10.7**	**+1.9**
AKCZ	**Akaroa Harbour**	**5.37**	**66**	P	**Pn**	**07 56 10.2**	**+1.1**
OKCZ	**Okains Bay**	**5.54**	**65**	P	**Pn**	**07 56 12.8**	**+1.3**
AMCZ	**Amberley**	**5.59**	**59**	P	**Pn**	**07 56 13.9**	**+1.7**
LTZ	**Lake Taylor**	**5.61**	**54**	P	**Pn**	**07 56 12.3**	**-0.2**
GVZ	**Greta Valley S**	**5.94**	**59**	P	**Pn**	**07 56 18.0**	**+1.1**
DSZ	**Denniston Nort**	**6.11**	**44**	P	**Pn**	**07 56 20.5**	**+1.2**
KHZ	**Kahutara**	**6.57**	**57**	P	**Pn**	**07 56 26.6**	**+1.1**
KHZ	**Kahutara**	**6.57**	**57**	Pn	**Pn**	**07 56 27.4**	**+1.9**
THZ	**Tophouse**	**6.65**	**50**	P	**Pn**	**07 56 27.2**	**+0.4**
THZ	**Tophouse**	**6.65**	**50**		**Pn**	**07 56 28.2**	**+1.4**
THZ				Sn	**Sn**	**07 57 40.7**	**-2.6**
QRZ	**Quartz Range**	**7.17**	**43**	P	**Pn**	**07 56 35.0**	**+1.2**
QRZ	**Quartz Range**	**7.17**	**43**		**Pn**	**07 56 35.4**	**+1.6**
QRZ				Sn	**Sn**	**07 57 54.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**7.21**	**53**	P	**Pn**	**07 56 36.8**	**+2.3**
BSWZ	**Blackbirch Sta**	**7.21**	**53**	Pn	**Pn**	**07 56 36.0**	**+1.6**
BSWZ					**Sn**	**07 57 58.3**	**+1.3**
NNZ	**Nelson**	**7.29**	**49**	P	**Pn**	**07 56 37.5**	**+2.0**
NNZ	**Nelson**	**7.29**	**49**	Pn	**Pn**	**07 56 38.5**	**+3.0**
NNZ					**Sn**	**07 58 01.5**	**+2.6**
TUWZ	**Tuamarina**	**7.44**	**52**	P	**Pn**	**07 56 41.0**	**+3.5**
TUWZ	**Tuamarina**	**7.44**	**52**		**Pn**	**07 56 37.6**	**+0.1**
TCW	**Tory Channel**	**7.78**	**52**	P	**Pn**	**07 56 44.9**	**+2.8**
DUWZ	**D'Urville Isla**	**7.88**	**49**	P	**Pn**	**07 56 46.4**	**+2.9**
SNZO	**South Karori**	**7.95**	**54**	Pn	**Pn**	**07 56 45.9**	**+1.5**
SNZO				Sn	**Sn**	**07 58 12.4**	**-2.6**
BHW	**Baring Head**	**7.98**	**55**	P	**Pn**	**07 56 47.1**	**+2.2**
BHW	**Baring Head**	**7.98**	**55**	Pn	**Pn**	**07 56 46.5**	**+1.6**
PLWZ	**Palliser**	**8.10**	**58**	Pn	**Pn**	**07 56 47.8**	**+1.2**
MSWZ	**Moikau Station**	**8.19**	**57**	P	**Pn**	**07 56 49.4**	**+1.6**
MSWZ	**Moikau Station**	**8.19**	**57**	Pn	**Pn**	**07 56 49.1**	**+1.3**
MSWZ				Sn	**Sn**	**07 58 17.2**	**-3.8**
CAW	**Cannon Point**	**8.29**	**55**	P	**Pn**	**07 56 49.5**	**+0.3**
PAWZ	**Paruwai Farm**	**8.31**	**57**	P	**Pn**	**07 56 51.2**	**+1.6**
KIW	**Kapiti Island**	**8.36**	**53**	P	**Pn**	**07 56 51.8**	**+1.6**
MTW	**Mount Morrison**	**8.50**	**56**	P	**Pn**	**07 56 53.5**	**+1.4**
HOWZ	**Holdsworth Sta**	**8.68**	**55**	P	**Pn**	**07 56 55.6**	**+1.1**
MRZ	**Mangatainoka R**	**8.87**	**54**	P	**Pn**	**07 56 57.7**	**+0.5**
NBEZ	**Newall Road No**	**9.03**	**42**	P	**Pn**	**07 57 02.7**	**+3.4**
KHEZ	**Kahui Hut**	**9.07**	**42**	P	**Pn**	**07 57 02.8**	**+2.8**
PREZ	**Palmer Road**	**9.10**	**43**	P	**Pn**	**07 57 03.2**	**+2.8**
PKE	**Pukeiti**	**9.14**	**42**	P	**Pn**	**07 57 03.4**	**+2.5**
BFZ	**Birch Farm**	**9.24**	**56**	P	**Pn**	**07 57 03.0**	**+0.9**
BFZ	**Birch Farm**	**9.24**	**56**	Pn	**Pn**	**07 57 03.1**	**+0.9**
DVHZ	**Dannevirke**	**9.45**	**54**	P	**Pn**	**07 57 06.5**	**+1.4**
VRZ	**Vera Road**	**9.56**	**45**	P	**Pn**	**07 57 10.6**	**+4.0**
PKVZ	**Pokaka**	**9.73**	**47**	P	Pn	07 57 14.3	+5.3
TRVZ	**Turoa**	**9.82**	**48**	P	Pn	07 57 16.3	+5.8
FWVZ	**Far West T-bar**	**9.86**	**48**	P	**Pn**	**07 57 15.0**	**+4.1**
TUVZ	**Tukino**	**9.90**	**48**	P	**Pn**	**07 57 16.1**	**+4.7**
NGZ	**Ngauruhoe**	**9.95**	**48**	P	**Pn**	**07 57 16.3**	**+4.3**
BHHZ	**Black Hill Sta**	**9.96**	**51**	P	**Pn**	**07 57 14.1**	**+2.0**
WTVZ	**West Tongariro**	**9.98**	**48**	P	**Pn**	**07 57 15.4**	**+2.9**
HIZ	**Hauiti**	**10.09**	**43**	P	**Pn**	**07 57 15.6**	**+1.7**
HIZ	**Hauiti**	**10.09**	**43**	Pn	**Pn**	**07 57 14.6**	**+0.8**
KAHZ	**Kahuranaki**	**10.19**	**54**	P	**Pn**	**07 57 17.9**	**+2.6**
BKZ	**Black Stump Fm**	**10.42**	**51**	P	**Pn**	**07 57 21.8**	**+3.3**
BKZ	**Black Stump Fm**	**10.42**	**51**	Pn	**Pn**	**07 57 20.7**	**+2.2**
URZ	**Urewera**	**11.41**	**49**	Pn	**Pn**	**07 57 31.8**	**-0.2**
	2.0nm,0.3s,baz=244,slow=5.8,SNR=11						
URZ				Sn	Sn	07 59 29.8	-10
	0.7nm,0.3s,baz=180,slow=20,SNR=2.9						
URZ	**Urewera**	**11.41**	**49**	P	**Pn**	**07 57 34.7**	**+2.7**
URZ	**Urewera**	**11.41**	**49**	Pn	**Pn**	**07 57 32.2**	**+0.3**
WIAZ	**Waiheke Island**	**11.63**	**39**	P	**Pn**	**07 57 37.9**	**+3.0**
OUZ	**Omahuta**	**12.41**	**30**	Pn	**Pn**	**07 57 48.1**	**+2.5**
TAU	**Tasmania Unive**	**13.82**	**277**	Pn	**Pn**	**07 58 02.1**	**-2.7**
CAN	**Canberra**	**16.94**	**304**	Pn	**Pn**	**07 58 46.8**	**+0.7**
CAN				IAmb	IAmb	07 58 59.2	
	comp=Z,31nm,1.4s						
TOO	**Toolangi**	**17.61**	**292**	Pn	**P**	**07 58 56.2**	**+0.5**
TOO				IAmb	IAmb	07 59 09.7	
	comp=Z,20nm,0.9s						
RAO	**Raoul Island**	**21.10**	**42**	LR	LR	08 07 53.1	
	comp=Z,410nm,21.4s,baz=132,slow=37						
STKA	**Stephens Creek**	**23.74**	**299**	P	**P**	**08 00 01.9**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=104,slow=13,SNR=4.9						
STKA				LR	LR	08 08 42.4	
	comp=Z,110nm,18.6s,baz=183,slow=35						
DZM	**Mont Dzumac**	**24.16**	**1**	LR	LR	08 09 07.2	
	comp=Z,109nm,21.5s,baz=216,slow=36						
AS31	**Alice Springs**	**34.36**	**300**	P	**P**	**08 01 36.3**	**-0.1**
ASAR	**Alice Springs**	**34.36**	**300**	P	**P**	**08 01 35.8**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=132,slow=8.3,SNR=69						
ASAR				PcP	**PcP**	**08 04 11.7**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=135,slow=4.0,SNR=3.1						
ASAR				LR	LR	08 15 27.5	
	comp=Z,116nm,18.6s,baz=143,slow=36						
ASAR	**Alice Springs**	**34.36**	**300**	P	**P**	**08 01 36.1**	**-0.3**
WB2	**Warramunga Arr**	**36.97**	**305**	P	**P**	**08 01 58.0**	**-0.7**
WB2				IAmb	IAmb	08 01 59.4	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**36.98**	**305**	P	**P**	**08 01 58.1**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=137,slow=7.9,SNR=64						
WRA				PcP	**PcP**	**08 04 19.6**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=125,slow=2.8,SNR=2.8						
WRA				LR	LR	08 16 25.9	
	comp=Z,95nm,19.6s,baz=170,slow=35						
WRA	**Warramunga Arr**	**36.98**	**305**	P	**P**	**08 01 57.6**	**-1.3**
WRAB	**Tennant Creek**	**36.98**	**305**	P	**P**	**08 01 58.5**	**-0.4**
WRAB				IAmb	IAmb	08 02 02.9	
	comp=Z,12nm,0.5s						
H01W1	**Cape Leeuwin H**	**40.41**	**267**	T	T	08 45 21.0	
	baz=122,slow=75,SNR=148						
H01W2	**Cape Leeuwin H**	**40.42**	**267**	T	T	08 45 20.3	
	baz=122,slow=75,SNR=142						
H01W3	**Cape Leeuwin H**	**40.43**	**267**	T	T	08 45 22.3	
	baz=122,slow=75,SNR=110						
KNRA	**Kununurra**	**43.58**	**302**	P	**P**	**08 02 53.1**	**-0.4**
KNRA				IAmb	IAmb	08 02 54.5	
	comp=Z,17nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.60**	**296**	LR	LR	08 19 48.4	
	comp=Z,87nm,21.5s,baz=147,slow=34						
FITZ	**Fitzroy Crossi**	**43.60**	**296**	P	**P**	**08 02 53.8**	**0.0**
QSPA	**South Pole Qui**	**43.84**	**180**	P	**P**	**08 02 57.2**	**+1.8**
	comp=Z,3.3nm,0.8s,baz=27,slow=2.2,SNR=14						
QSPA	**South Pole Qui**	**43.84**	**180**	P	**P**	**08 02 55.2**	**-0.1**
QSPA				IAmb	IAmb	08 02 58.5	
	comp=Z,4.8nm,1.0s						
PPT	**Papeete**	**46.40**	**67**	LR	LR	08 18 43.2	
	comp=Z,81nm,21.9s,baz=245,slow=31						
MAW	**Mawson**	**52.81**	**208**	LR	LR	08 23 47.2	
	comp=Z,146nm,21.0s,baz=66,slow=33						
KAPI	**Kappang**	**57.37**	**301**	LR	LR	08 31 04.8	
	comp=Z,83nm,18.5s,baz=290,slow=38						
SYO	**Syowa Base**	**58.45**	**200⇑**	*e*pP	**P**	**08 04 45.2**	**+0.5**
SYO	**Syowa Base**	**58.45**	**200⇑**	*e*sP	**P**	**08 04 48.6**	**+3.9**
SNAA	**Sanae**	**62.09**	**184**	P	**P**	**08 05 10.3**	**+0.5**
SNAA	**Sanae**	**62.09**	**184**	P	**P**	**08 05 10.5**	**+0.7**
SNAA				IAmb	IAmb	08 05 11.1	
	comp=Z,5.0nm,0.9s						
VNA2	**Neumayer--Watz**	**63.01**	**182**	P	**P**	**08 05 16.1**	**+0.2**
	baz=163,slow=4.0						
LEM	**Lembang**	**63.59**	**289**	LR	LR	08 33 27.6	
	comp=Z,72nm,18.3s,baz=129,slow=36						
H08S2	**Diego Garcia H**	**87.04**	**262**	T	T	09 43 26.4	
	baz=136,slow=76,SNR=31						
H08S1	**Diego Carcia H**	**87.05**	**262**	T	T	09 43 27.6	
	baz=136,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**87.06**	**262**	T	T	09 43 26.1	
	baz=136,slow=76,SNR=39						
CMAR	**Chiang Mai Arr**	**88.37**	**299**	P	**P**	**08 07 42.1**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=154,slow=3.9,SNR=7.7						
CMAR				LR	LR	08 48 58.9	
	comp=Z,18nm,19.2s,baz=20,slow=37						
PETK	**Petropavlovsk-**	**99.28**	**355**	LR	LR	08 48 39.4	
	comp=Z,16nm,20.0s,baz=65,slow=33						
HHC	**Hu-ho-hao-te**	**99.46**	**321**	*e*P	**Pdif**	**08 08 34.8**	**+2.8**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,10.0nm,5.7s						
KSH	**Kashi**	**117.26**	**300**	*e*PKP	**PKPdf**	**08 13 33.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**144.45**	**207**	PKP	**PKPab**	**08 14 23.6**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=154,slow=2.1,SNR=14						
TORD	**Torodi Ar. Bea**	**144.45**	**207**		**PKPab**	**08 14 24.2**	**-0.2**
BR131	**Keskin Array S**	**145.07**	**277**		**PKPbc**	**08 14 25.8**	**-0.4**
BRTR	**Keskin Array B**	**145.07**	**277**	PKPbc	**PKPbc**	**08 14 25.5**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=134,slow=3.6,SNR=13						
ARCES	**ARCESS Array B**	**149.65**	**334**	PKPbc	**PKPbc**	**08 14 37.3**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=90,slow=2.4,SNR=11						
ARCES	**ARCESS Array B**	**149.65**	**334**		**PKPbc**	**08 14 36.7**	**-1.2**
AKASG	**Malin Array Be**	**151.41**	**295**	PKP	**PKPdf**	**08 14 34.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=78,slow=2.5,SNR=3.0						
AKASG				PKPbc	**PKPbc**	**08 14 40.7**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=72,slow=2.5,SNR=4.6						
FINES	**FINESS Array B**	**152.53**	**318**	PKPbc	**PKPbc**	**08 14 44.2**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=72,slow=6.2,SNR=3.5						
VYHS	**Vyhne**	**157.84**	**288**	*e*PKP	**PKPdf**	**08 14 47.8**	**+2.3**
STU	**Stuttgart**	**164.23**	**287**		**PKPdf**	**08 14 52.4**	**+0.1**

TAP 13 08:06:54.5, 24.13N×121.70E, h11km, ML2.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**294**	P	Pg	08 06 57.4	+0.1
	baz=294						
NACB				S	Sg	08 06 59.3	0.0
	baz=294						
TWD	**Chiawan**	**0.11**	**240**	*i* P	Pg	08 06 57.5	+0.2
	baz=240						
TWD				*i* S	Sg	08 06 59.5	+0.2
	baz=240						
HWA	**Hwalien**	**0.18**	**208**	*e*P	Pb	08 06 59.4	-0.4
	baz=215						
HWA				*e*S	Sg	08 07 03.2	+2.1
	baz=215						
ETLH	**Xiulin Townshi**	**0.21**	**291**	P	Pg	08 06 59.2	+0.2
	baz=291						
ETLH				S	Sg	08 07 02.5	+0.3
	baz=291						
ENA	**Nanau**	**0.30**	**8**	*i* P	Pg	08 07 00.8	+0.2
	baz=7.0						
ENA				S	Sg	08 07 04.9	+0.3
	baz=7.0						
NANB	**Nanao**	**0.30**	**9**	*i* P	Pg	08 07 00.8	+0.2
	baz=7.0						
NANB				S	Sg	08 07 05.0	+0.4
	baz=7.0						
WHF	**Hehuan Shan**	**0.40**	**272**	*i* P	Pg	08 07 02.5	0.0
	baz=272						
WHF				S	Sg	08 07 08.3	+0.5
	baz=272						
ESL	**Shilin**	**0.40**	**217**	*i* P	Pg	08 07 02.5	0.0
	baz=225						
ESL				S	Sg	08 07 08.5	+0.7
	baz=225						
NNSB	**Datong**	**0.41**	**316**	P	Pg	08 07 03.0	+0.3
	baz=315						
NNSB				S	Sg	08 07 08.8	+0.6
	baz=315						
NNS	**Nan Shan**	**0.42**	**316**	*i* P	Pg	08 07 03.2	+0.3
	baz=316						
NNS				S	Sg	08 07 09.4	+0.7
	baz=316						
CHGB	**Renai**	**0.48**	**261**	P	Pg	08 07 04.5	+0.5
	baz=254						
CHGB				S	Sg	08 07 11.0	+0.5
	baz=254						
TWT	**Tachien**	**0.49**	**284**	P	Pb	08 07 04.9	-0.4
	baz=283						
TWT				S	Sb	08 07 12.3	-0.3
	baz=283						
TWC	**Suao**	**0.49**	**16**	P	Pb	08 07 05.2	-0.1
	baz=9.0						
TWC				S	Sg	08 07 11.5	+0.7
	baz=9.0						
NDT	**Datong Townshi**	**0.50**	**340**	*i* P	Pb	08 07 04.8	-0.5
	baz=338						
NDT				S	Sb	08 07 11.9	-0.7
	baz=338						
TDCB	**Techi**	**0.51**	**284**	P	Pb	08 07 05.0	-0.5
	baz=284						
TDCB				S	Sg	08 07 12.1	+0.9
	baz=284						
ENTT	**Nioudou**	**0.52**	**347**	*i* P	Pg	08 07 05.1	+0.4
	baz=345						
ENTT				S	Sg	08 07 12.3	+0.8
	baz=345						
EGFH	**Guangfu**	**0.52**	**208**	*e*P	Pb	08 07 05.3	-0.5
	baz=219						
EGFH				*e*S	Sb	08 07 12.6	-0.7
	baz=219						
EOS1	**EOS1**	**0.57**	**43**	*e*P	Pb	08 07 06.6	0.0
	baz=31						
TWE	**Neicheng**	**0.59**	**357**	P	Pb	08 07 06.6	-0.2
	baz=357						
TWE				*e*S	Sg	08 07 14.3	+0.6
	baz=357						
YHNB	**Yeheng**	**0.61**	**331**	P	Pb	08 07 06.9	-0.3
	baz=330						
YHNB				*e*S	Sg	08 07 14.9	+0.4
	baz=330						
YHNB	**Yeheng**	**0.61**	**331**	P	Pb	08 07 07.0	-0.2
SLBB	**Yuanshan**	**0.62**	**355**	P	Pg	08 07 06.3	-0.4
	baz=353						
SLBB				*e*S	Sg	08 07 14.8	0.0
	baz=353						
NSK	**Sanguang**	**0.62**	**330**	P	Pb	08 07 07.9	+0.4
	baz=329						
NSK				S	Sb	08 07 16.0	-0.2
	baz=329						
VWDT	**VWDT**	**0.63**	**234**	P	Pg	08 07 06.8	0.0
	baz=235						
VWDT				*e*S	Sg	08 07 15.2	0.0
	baz=235						
NWLT	**Wulai**	**0.67**	**345**	P	Pb	08 07 07.9	-0.3
	baz=332						
NWLT				S	Sg	08 07 16.5	+0.2
	baz=332						
HGSD	**Ruisui**	**0.69**	**201**	*e*P	Pb	08 07 09.0	+0.5
	baz=217						
HGSD				*e*S	Sn	08 07 20.0	-0.8
	baz=217						
WHP	**Taichung City**	**0.70**	**282**	P	Pb	08 07 09.0	+0.2
	baz=282						
WHP				S	Sb	08 07 18.8	+0.3
	baz=282						
DPDB	**Guoxing**	**0.71**	**262**	*e*S	Sg	08 07 18.2	+0.5
	baz=254						
EHY	**Hungye**	**0.71**	**209**	*e*P	Pb	08 07 09.1	+0.1
	baz=221						
EHY				*e*S	Sb	08 07 18.8	0.0
	baz=221						
SSLB	**Suanglung**	**0.76**	**243**	P	Pg	08 07 09.3	+0.1
	baz=254						
SSLB				S	Sg	08 07 19.1	-0.1
	baz=254						
SSLB	**Suanglung**	**0.76**	**243**	P	Pg	08 07 07.4	-1.9
SMLT	**Sun Moon Lake**	**0.77**	**251**	*e*P	Pb	08 07 10.0	0.0
	baz=252						
SMLT				*e*S	Sg	08 07 19.9	+0.4
	baz=252						
LIOB	**Emei**	**0.80**	**310**	*e*S	Sb	08 07 22.3	+0.9
	baz=309						
YULB	**Yu-li**	**0.82**	**206**	P	Pg	08 07 10.5	+0.1
	baz=220						
YULB				*e*S	Sb	08 07 21.6	-0.3
	baz=220						
TIPB	**Shuangxi**	**0.84**	**8**	P	Pg	08 07 10.9	0.0
	baz=356						
TWF1	**Yuli**	**0.86**	**205**	*e*P	Pg	08 07 10.9	-0.2
	baz=218						
TWF1				*e*S	Sg	08 07 22.6	+0.2
	baz=218						
WHYT	**Xinyi Township**	**0.89**	**241**	*e*P	Pb	08 07 12.0	0.0
	baz=249						
WHYT				*e*S	Sg	08 07 23.2	0.0
	baz=249						
YUS	**Yu-Shan**	**0.94**	**227**	*e*S	Sn	08 07 26.8	-0.9
	baz=218						
NWF	**Wu-fen Shan**	**0.94**	**5**	*e*S	Sb	08 07 25.6	+0.2
	baz=354						
WFSB	**Wu-fen Shan**	**0.94**	**5**	*e*S	Sg	08 07 25.0	+0.1
	baz=354						
CHN5	**Tsauling**	**1.07**	**240**	*e*S	Sn	08 07 31.4	+0.8
	baz=242						
CHN4	**Tsaushan**	**1.28**	**233**	*e*P	Pg	08 07 19.1	+0.1
	baz=223						
CHN4				*e*S	Sg	08 07 37.3	+1.6
	baz=223						
TPUB	**Ta-pu**	**1.28**	**230**	*e*S	Sg	08 07 36.9	+1.1
	baz=221						

KRNET 13 08:09:02.2±0.1, 40.71N×72.37E, h18km, mb2.4
SOME 13 08:09:04.7, 40.85N×72.25E, h10km
NNC 13 08:09:11.4±4.9, 41.25N×72.33E, h0km, mb2.7, mpv2.4,
Error ellipse: s-maj=45.7km s-min=19.5km az=165.0
ISC 13 08:09:02.4±1.7, 40.77N±0.06×72.29E±0.04, h3km±12km, n17, σ1.08/28, 18C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.77**	**43**	⇑*i*P	**Pg**	**08 09 16.6**	**-0.5**
	baz=37						
ARSB				⇑*i*S	**Sg**	**08 09 26.8**	**-0.3**
	baz=37						
ARK	**Arkit**	**1.06**	**347**	⇑*i*P	**Pg**	**08 09 23.1**	**+0.4**
	baz=45						
ARK				⇑*i*S	**Sn**	**08 09 38.3**	**-1.4**
	baz=45						
BTK	**Batken**	**1.32**	**238**	⇑*e*P	**Pn**	**08 09 26.8**	**-1.1**
	baz=42						
BTK				⇑*i*S	**Sb**	**08 09 45.3**	**-0.1**
	baz=42						
AML	**Almayashu**	**1.73**	**37**	⇑*i*P	**Pn**	**08 09 34.0**	**+0.3**
	baz=35						
AML				⇑*i*S	**Sb**	**08 09 56.6**	**-0.7**
	baz=35						
ARLS	**Aral**	**1.89**	**54**	⇓*i*P	**Pn**	**08 09 36.3**	**+0.6**
	baz=51						
ARLS				⇓*i*S	**Sb**	**08 10 01.3**	**-0.3**
	baz=51						
MRKS	**Merke**	**2.10**	**19**	Pg	**Pn**	**08 09 39.9**	**+1.3**
	5.2nm,0.5s						
MRKS				Lg	Lg	08 10 08.5	
	14nm,0.4s						
MRKS	**Merke**	**2.10**	**19**	*e*P	**Pb**	**08 09 41.5**	**+0.3**
	1.7nm,0.2s						
MRKS				*e*S	**Sg**	**08 10 08.7**	**-1.2**
	14nm,0.4s						
IUG	**Iuzhnay**	**2.19**	**310**	Pg	**Pb**	**08 09 43.5**	**+0.8**
	0.6nm,0.3s						
IUG				Lg	Lg	08 10 14.5	
	44nm,0.3s						
IUG	**Iuzhnay**	**2.19**	**310**	*e*P	**Pb**	**08 09 43.8**	**+1.1**
	0.4nm,0.2s						
IUG				*e*S	**Sg**	**08 10 12.5**	**-0.1**
	20nm,0.3s						
EKS2	**Erkin-Say**	**2.20**	**30**	⇑*i*P	**Pn**	**08 09 40.8**	**+0.8**
	baz=28						
EKS2				⇑*i*S	**Sb**	**08 10 08.7**	**-1.9**
	baz=28						
UCH	**Uchtor**	**2.22**	**48**	⇑*i*P	**Pn**	**08 09 40.9**	**+0.3**
	baz=46						
UCH				⇑*i*S	**Sn**	**08 10 08.8**	**0.0**
	baz=46						
AAK	**Ala-Archa**	**2.50**	**41**	⇑Pn	**Pb**	**08 09 48.7**	**+0.7**
	1.0nm,0.3s						
AAK				Lg	Lg	08 10 20.8	
	4.5nm,0.4s						
AAK	**Ala-Archa**	**2.50**	**41**	⇑*i*P	**Pn**	**08 09 45.2**	**+1.1**
	baz=39						
AAK				⇑*i*S	**Sn**	**08 10 15.5**	**+0.3**
	baz=39						
KZA	**Kyzart**	**2.59**	**59**	⇑*e*P	**Pn**	**08 09 46.3**	**+0.8**
	baz=57						
KZA				⇑*i*S	**Sn**	**08 10 17.7**	**0.0**
	baz=57						
KK31	**Karatay Array**	**2.69**	**331**	⇓Pn	**Pb**	**08 09 52.3**	**+1.2**
	0.2nm,0.2s,baz=141,slow=14,SNR=6.6						
KK31				⇓Lg	Lg	08 10 27.8	
	1.8nm,0.3s,baz=138,slow=30,SNR=8.5						
SGDS	**Sogindy**	**3.20**	**32**	Pg	**Pb**	**08 09 57.8**	**-2.2**
	1.5nm,0.3s						
SGDS				Lg	Lg	08 10 38.8	
	2.1nm,0.6s						
TKM2	**Tokmak 2**	**3.28**	**48**	⇓Pn	**Pb**	**08 10 03.7**	**+2.3**
	0.8nm,0.5s						
TKM2				⇑Lg	Lg	08 10 43.5	
	4.1nm,0.6s						

NEIC 13 08:19:12.3±0.8, 59.72N±0.04×153.0W±0.1, h104km±1km
AEIC 13 08:19:13±1.0, 59.71N±0.03×153.02W±0.07, h100km±5km, ML2.6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.25**	**354**		Pn	08 19 27.2	-0.3
IVE	**Iliamna Volcan**	**0.31**	**0**		Pn	08 19 27.3	-0.5
IVE					Sn	08 19 38.7	-0.1
ILW	**Iliamna West**	**0.35**	**351**		Pn	08 19 27.6	-0.5
ILW					Sn	08 19 39.6	+0.2
AU22	**Augustine Moun**	**0.38**	**207**		Pn	08 19 28.0

HUR	Hurricane	3.66	25		Pn	08 20 07.2	-0.3
EYAK	Cordova Ski Ar	3.73	74		Pn	08 20 06.8	-1.6
WAT1	Susitna Watana	3.80	33		Pn	08 20 08.2	-1.2
WAT2	Susitna Watana	3.90	31		Pn	08 20 09.8	-1.1
TRF	Thorofare Moun	3.97	18		Pn	08 20 11.6	-0.3
KTH	Kantishna Hill	3.98	14		Pn	08 20 10.8	-1.1
RND	Reindeer	4.21	26		Pn	08 20 14.0	-1.0
PS12	TAPS Pump St12	4.27	62		Pn	08 20 15.3	-0.4
DHY	Denali Highway	4.33	36		Pn	08 20 15.6	-1.1
HMT	Hamilton	4.44	78		Pn	08 20 17.1	-1.0
MCK	McKinley	4.48	24		Pn	08 20 17.9	-0.7
BPAW	Bear Paw Mtn.	4.51	11		Pn	08 20 18.1	-0.8
NICHA	Nichawak Mount	4.58	79		Pn	08 20 19.2	-0.7
GLB	Gilahina Butte	4.86	65		Pn	08 20 23.1	-0.6
PAX	Paxson	4.89	45		Pn	08 20 25.1	+0.9
VRDI	Verde Repeater	4.97	68		Pn	08 20 24.2	-1.2
CRQM	Cirque	5.04	74		Sn	08 21 18.4	-4.8
CRQM	Cirque	5.04	74		Pn	08 20 25.7	-0.6
MCARA	McCarthy VSAT	5.21	67		Pn	08 20 28.6	+0.2
WRH	Wood River Hil	5.31	24		Pn	08 20 28.2	-1.5
PTPK	Patty Peak	5.43	70		Pn	08 20 31.6	0.0
KIAG	Kiagna River	5.44	72		Pn	08 20 31.2	-0.5
MLY	Manley	5.44	10		Pn	08 20 30.4	-1.2
BALM	Baldy	5.46	71		Pn	08 20 31.0	-0.9
CCB	Clear Creek Bu	5.52	24		Pn	08 20 30.9	-1.7
MESA	MESA	5.58	80		Pn	08 20 33.2	-0.5
YAH	Yahtse	5.69	79		Pn	08 20 34.7	-0.4
TCOL	CIGO, UAF Yank	5.71	23		Pn	08 20 33.9	-1.3
IL31		5.83	27		Pn	08 20 35.1	-1.7
CTGM	Chitina Glacie	5.94	73		Pn	08 20 38.1	-0.3
IM03		6.31	357		Pn	08 20 42.7	-0.5
BC03		6.36	53		Pn	08 20 44.2	+0.3
PCA	Pinnacle	6.43	81		Pn	08 20 44.5	-0.6

NNC 13 08:20:32.9±3.1, 53°.49N×87°.51E, h0km, mb3.6, mpv3.2, 7C-2D, Error ellipse: s-maj=29.5km s-min=20.3km az=175.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.14	247	⇑Pn	Pn	08 22 04.7	-0.1
	2.1nm,0.7s						
KURK				⇑Sn	Sn	08 23 18.4	+2.6
	2.1nm,0.6s						
KURK				⇑Lg	Lg	08 23 49.3	
	6.4nm,0.8s						
KURBB	Kurchatov Arra	6.24	246	⇑Pn	Pn	08 22 05.8	-0.4
	2.3nm,0.4s						
KURBB				⇑Sn	Sn	08 23 17.8	-0.4
	4.3nm,0.7s						
KURBB				⇑Lg	Lg	08 23 50.8	
	14nm,0.8s						
MK31	Makanchi Array	7.50	209	⇓Pn	Pn	08 22 24.2	+0.8
	0.2nm,0.3s,baz=29,slow=14,SNR=14						
MK31				⇑Sn	Sn	08 23 50.1	+1.0
	2.2nm,1.0s,baz=28,slow=22,SNR=5.0						
MK31				⇓Lg	Lg	08 24 30.3	
	3.1nm,0.8s,baz=30,slow=30,SNR=5.3						

PGC 13 08:33:09.7±6.8, 50°.87N×139°.02W, h10km, MLSn3.6/4, Mw4.2/4, 559km Wsw of Sandspit, Bc West Of Vancouver Island, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	Dawson Inlet,	4.66	57	Pn	Pn	08 34 19.4	-0.7
DIB				Sn	Sn	08 35 10.8	-3.5
BNB	Barry Inlet	4.83	67	Pn	Pn	08 34 21.6	-0.8
BNB				Sn	Sn	08 35 14.9	-3.6
MOBC	Moresby Island	4.91	60	Pn	Pn	08 34 22.8	-0.8
MOBC				Sn	Sn	08 35 18.0	-2.5
HG3B	Hotspring	5.01	67	Pn	Pn	08 34 24.1	-0.8
HG3B				Sn	Sn	08 35 19.4	-3.3
RUBB	Prince Rupert	6.36	54	Pn	Pn	08 34 44.5	+1.1
RUBB				Sn	Sn	08 35 55.3	-0.8
BBB	Bella Bella	6.93	75	Pn	Pn	08 34 51.0	-0.3
PNL	Peninsula	8.82	359	Pn	Pn	08 35 19.0	+1.8
SAMH	Samovar Hills	9.33	355	Pn	Pn	08 35 26.0	+1.8
MESA	MESA	9.47	351	Pn	Pn	08 35 26.7	+0.4
RKAV	Rock Avalanche	9.54	353	Pn	Pn	08 35 28.1	+1.0
YUK7	Dusty Glacier	9.69	3	Pn	Pn	08 35 32.2	+2.9
GRNC	Granite Creek	10.00	352	Pn	Pn	08 35 34.5	+1.0
HYT	Haines Junctio	10.01	4	Pn	Pn	08 35 36.4	+2.8
WHY	Whitehorse	10.08	12	Pn	Pn	08 35 38.1	+3.6
YUK6	Outpost Mounta	10.10	2	Pn	Pn	08 35 38.1	+3.2
CTGM	Chitina Glacie	10.20	354	Pn	Pn	08 35 37.0	+0.9
KIAG	Kiagna River	10.24	351	Pn	Pn	08 35 37.2	+0.4
YUK5	Granite Creek	10.30	3	Pn	Pn	08 35 40.3	+2.7
BALM	Baldy	10.35	351	Pn	Pn	08 35 38.9	+0.6
YUK4	Talbot Arm	10.50	1	Pn	Pn	08 35 44.2	+3.9
PTPK	Patty Peak	10.52	351	Pn	Pn	08 35 41.6	+1.1
YUK3	Moose Creek	10.96	356	Pn	Pn	08 35 49.5	+2.9
YUK2	White River	10.99	355	Pn	Pn	08 35 49.6	+2.7
YUK1	Sand Pete Hill	11.34	356	Pn	Pn	08 35 54.7	+3.0
BVCY	Beaver Creek	11.61	356	Pn	Pn	08 35 58.1	+2.8
DAWY	Dawson	13.23	359	Pn	Pn	08 36 20.8	+3.4

NEIC 13 08:37:43.3±1.4, 51°.21N±0°.07×178°.9W±0°.1, h10km±7km
AEIC 13 08:37:43.2±2.4, 51°.3N±0°.1×179°.22W±0°.08, h25km±8km, ML3.7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	0.56	32		Pb	08 37 54.9	+0.4
TASE	Tanaga Southea	0.91	54		Pb	08 37 59.3	-1.0
TAFP	Tanaga Falls P	0.97	52		Pn	08 37 59.5	-1.8
TAFP					Sn	08 38 14.6	+0.4
TAPA	Tanaga Point A	1.01	60		Pn	08 38 00.7	-1.2
KIMD	Kanaga Island	1.32	69		Pn	08 38 05.3	-0.7
KIMD					Sn	08 38 21.2	-1.6
KIKV	Kanaga Island	1.40	65		Pn	08 38 06.7	-0.4
KIWB	Kanaga Island	1.40	66		Pn	08 38 06.7	-0.5
KIWB	Kanaga Island	1.40	66	Sn	Sn	08 38 22.5	-2.3
KICM	Kanaga Island	1.40	63		Pn	08 38 07.1	-0.1
KIRH	Kanaga Island	1.45	65		Pn	08 38 07.4	-0.4
ADK	Adak	1.68	69		Pn	08 38 10.7	-0.3
ADK	Adak	1.68	69		Pn	08 38 10.9	-0.1
ADK				Sn	Sn	08 38 30.6	-1.2
ADK	Adak	1.68	69		Sn	08 38 31.3	-0.5
ADAG	Mount Adagdak	1.77	67		Pn	08 38 12.7	+0.6
GSTD	Great Sitkin T	2.06	68		Pn	08 38 16.8	+0.6
GSTD					Sn	08 38 41.0	-0.1
GSMY	Great Sitkin M	2.10	68		Pn	08 38 17.2	+0.4
GSTR	Great Sitkin T	2.12	67		Pn	08 38 17.9	+0.8
GSTR	Great Sitkin T	2.12	67	Sn	Sn	08 38 42.9	+0.3
KOWE	Korovin West	3.26	69		Pn	08 38 33.4	+0.7
KOKL	Mount Kliuchef	3.28	70		Pn	08 38 34.0	+1.0
KOFP	Korovin Flat P	3.33	71		Pn	08 38 35.1	+1.5
KOSE	Korovin Southe	3.37	70		Pn	08 38 35.7	+1.4
UNV	Unalaska Valle	8.15	67	Pn	Pn	08 39 43.2	+3.5

ISCJB 13 08:38:57.8±0.6, 9°.83N±0°.04×61°.87W±0°.05, h79km±8km, Error ellipse: s-maj=10.2km s-min=4.5km az=36.2
TRN 13 08:38:57.1, 9°.76N×61°.84W, h25km, MD4.1
NEIC 13 08:38:58.7±2.2, 9°.79N±0°.03×61°.86W±0°.07, h58km±15km
ISC 13 08:38:58.4±1.1, 9°.79N±0°.06×61°.85W±0°.05, h59km±16km, n65, σ0°97/96, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.92	337	eP	Pn	08 39 14.9	-0.6
GUIV				eS	Sn	08 39 28.2	+0.2
GUIV	Guiria	0.92	337		Pn	08 39 14.9	-0.6
GUIV					Sn	08 39 28.2	+0.2
TRN	Trinidad (W)	0.96	27	eP	Pn	08 39 16.3	+0.4
TRN				eS	Sn	08 39 29.3	+0.5
TRN	Trinidad (W)	0.96	27		Pn	08 39 16.3	+0.4
TRN					Sn	08 39 29.3	+0.5
ORIV	Oritupano	1.69	245	eP	Pn	08 39 24.6	-1.1
ORIV				eS	Sn	08 39 46.7	+0.3
ORIV	Oritupano	1.69	245		Pn	08 39 27.2	+1.5
ORIV					Sn	08 39 47.6	+1.2
TOSP	Speyside	1.98	41	eP	Pn	08 39 29.3	-0.3
TOSP				eS	Sn	08 39 52.9	-0.4
TOSP	Speyside	1.98	41		Pn	08 39 29.3	-0.3
TOSP					Sn	08 39 52.9	-0.4

GRGR	Grenville	2.33	5	eP	Pn	08 39 34.1	-0.3
GRGR				eS	Sn	08 40 03.0	+1.0
GRGR	Grenville	2.33	5		Pn	08 39 34.1	-0.3
GRGR					Sn	08 40 03.0	+1.0
GRHS	Sauteurs	2.42	5	eP	Pn	08 39 36.5	+0.8
GRHS				eS	Sn	08 40 04.7	+0.5
GRSS	Sisters	2.50	5	eP	Pn	08 39 37.4	+0.7
GRSS				eS	Sn	08 40 06.0	0.0
GRSS	Sisters	2.50	5		Pn	08 39 36.5	-0.2
GRSS					Sn	08 40 04.7	-1.4
GRSS	Sisters	2.50	5		Pn	08 39 38.3	+1.6
GRSS					Sn	08 40 06.0	0.0
FCV	Fort Charlotte	3.40	10	eP	Pn	08 39 49.9	+0.9
FCV				eS	Sn	08 40 27.6	-0.5
FCV	Fort Charlotte	3.40	10		Pn	08 39 49.9	+0.9
FCV					Sn	08 40 27.6	-0.5
SVB	Belmont	3.51	10	eP	Pn	08 39 52.1	+1.6
SVB				eS	Sn	08 40 30.9	+0.1
SVB	Belmont	3.51	10		Pn	08 39 52.1	+1.6
SVB					Sn	08 40 30.9	+0.1
SVCV	St. Vincent, C	3.53	11	eP	Pn	08 39 51.5	+0.7
SVCV				eS	Sn	08 40 30.9	-0.4
SVCV	St. Vincent, C	3.53	11		Pn	08 39 51.5	+0.7
SVCV					Sn	08 40 30.9	-0.4
MCLT	Moule a Chique	3.99	13	eP	Pn	08 39 57.7	+0.6
MCLT				eS	Sn	08 40 42.3	-0.4
MCLT	Moule a Chique	3.99	13		Pn	08 39 57.7	+0.6
MCLT					Sn	08 40 42.3	-0.4
BBGH	Gun Hill	4.02	34	eP	Pn	08 39 59.1	+1.6
BBGH				eS	Sn	08 40 42.7	-0.7
BBGH	Gun Hill	4.02	34		Pn	08 39 59.1	+1.6
BBSP	Saint Philip	4.04	35	eP	Pn	08 39 58.4	+0.6
BBSP	Saint Philip	4.04	35	eS	Sn	08 40 43.5	-0.4
BBSP	Saint Philip	4.04	35		Pn	08 39 58.4	+0.6
BBSP					Sn	08 40 43.5	-0.4
SLDE	Delcer	4.06	11	eP	Pn	08 39 59.2	+1.1
SLDE				eS	Sn	08 40 43.9	-0.5
SLDE	Delcer	4.06	11		Pn	08 39 59.2	+1.1
SLDE					Sn	08 40 43.9	-0.5
SLB	Belfond	4.09	11	eP	Pn	08 39 59.8	+1.4
SLB				eS	Sn	08 40 44.5	-0.7
SLB	Belfond	4.09	11		Pn	08 39 59.8	+1.4
SLB					Sn	08 40 44.5	-0.7
SLPA	Patience	4.14	13	eP	Pn	08 39 59.7	+0.6
SLPA	Patience	4.14	13	eS	Sn	08 40 46.1	-0.2
SLPA	Patience	4.14	13		Pn	08 40 01.0	+1.9
SLPA					Sn	08 40 46.1	-0.2
SLBI	Saint Lucia, B	4.29	11	eP	Pn	08 40 01.6	+0.4
SLBI	Saint Lucia, B	4.29	11	eS	Sn	08 40 49.8	-0.3
SLBI	Saint Lucia, B	4.29	11		Pn	08 40 01.6	+0.4
SLBI					Sn	08 40 49.8	-0.3
SLW	Petit Monier	4.30	12	eP	Pn	08 40 01.4	+0.1
SLW	Petit Monier	4.30	12		Pn	08 40 01.4	+0.1
MPOM	Morne Pois Mar	4.72	12	eP	Pn	08 40 08.0	+0.9
BIM	Bigot	4.76	9	eP	Pn	08 40 08.1	+0.5
TRMF	Trois Ilets	4.78	9	eP	Pn	08 40 08.4	+0.5
ZAM	Aeronautique	4.82	10	eP	Pn	08 40 09.7	+1.3
LPMF	Morne Lapointe	4.83	10	eP	Pn	08 40 09.8	+1.2
FDF	Fort de France	4.96	8	eP	Pn	08 40 11.0	+0.6
FDF	Fort de France	4.96	8	eS	Sn	08 41 05.8	-0.7
FDF	Fort de France	4.96	8		Pn	08 40 11.0	+0.6
GBMF	Grand Be	5.02	8	eP	Pn	08 40 12.5	+1.2
PCM	Pelee Case Pet	5.03	7	eP	Pn	08 40 12.1	+0.7
BAMF	Morne Balai	5.04	8	eP	Pn	08 40 11.8	+0.3
SVN	Savane Anatole	5.06	8	eP	Pn	08 40 13.4	+1.5
DSHT	Scott's Head	5.41	5	eP	Pn	08 40 17.2	+0.7
DSHT	Scott's Head	5.41	5		Pn	08 40 17.2	+0.7
DBCT	Belle View Cho	5.47	5	eP	Pn	08 40 18.5	+1.1
DBCT	Belle View Cho	5.47	5		Pn	08 40 18.5	+1.1
MDN	Morne-Daniel	5.51	5	eP	Pn	08 40 19.0	+1.1
MDN	Morne-Daniel	5.51	5		Pn	08 40 19.0	+1.1
MAGL	Barre de l'ile	6.14	5	eP	Pn	08 40 30.3	+3.7
BAUV	El Baul	6.17	263	eP	Pn	08 40 28.2	+1.4
BAUV	El Baul	6.17	263	eS	Sn	08 41 34.2	-1.8
BAUV	El Baul	6.17	263		Pn	08 40 28.2	+1.4
BAUV					Sn	08 41 34.2	-1.8
STVI	Saint Thomas	9.02	341	Pn	Pn	08 41 05.4	-0.6
DR12	Loma Pena Alta	11.54	322	Pn	Pn	08 41 41.3	+0.9
ROSC	El Rosal	13.30	249	Pn	Pn	08 42 03.5	-1.5
SAML	Samuel	18.66	184	P	P	08 43 11.3	-0.4

NNC 13 08:41:26.1±3.0, 53°.43N×87°.43E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=28.2km s-min=19.0km az=179.0, Suspected Mining explosion.
ASRS 13 08:41:17.4, 53°.59N×87°.90E, M3.0, 6C-2D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.39	247	⇓Pn	Pn	08 42 57.7	+4.9
	0.9nm,0.3s						
KURK				⇑Sn	Sn	08 44 07.6	+1.2
	3.6nm,0.6s						
KURK				⇑Lg	Lg	08 44 42.1	
	22nm,1.0s						
KURBB	Kurchatov Arra	6.49	246	⇓Pn	Pn	08 42 58.1	+4.0
	1.9nm,0.2s						
KURBB				⇑Sn	Sn	08 44 10.3	+1.6
	18nm,0.5s						
KURBB				⇑Lg	Lg	08 44 43.0	
	22nm,0.6s						
MK31	Makanchi Array	7.70	210	Pn	Pn	08 43 15.6	+4.8
	0.6nm,0.5s,baz=239,slow=12,SNR=33						
MK31				⇑Sn	Sn	08 44 41.7	+3.1
	2.0nm,0.6s,baz=31,slow=25,SNR=3.3						
MK31				⇑Lg	Lg	08 45 23.0	
	6.3nm,0.7s,baz=49,slow=29,SNR=6.7						

IDC 13 08:51:53.3±5.0, 37°.47N×142°.68E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.5/44, mbtmp3.7/6, ML2.7/3, MS2.8/3, Ms1 2.8/3, ms1mx2.5/36, Error ellipse: s-maj=79.1km s-min=35.3km az=93.0
NIED 13 08:52:00, 37°.40N×141°.80E, h50km, Mw3.8 Best double couple: M0=4.95000×10^14 NP1:φs=205.00000°, δ=40.00000°, λ=114.00000°. NP2:φs=355.00000°, δ=54.00000°, λ=72.00000°.
JMA 13 08:52:03.6±0.1, 37°.40N×141°.78E, h47km±2km, M4.0
JMA Felt I J1.
ISC 13 08:51:58.3±2.0, 37°.37N±0°.04×141°.94E±0°.07, h5km±11km, n21, σ1°22/34, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.85	270	P	Pn	08 52 17.6	+0.6
JFK				eS	Sb	08 52 27.6	+0.3
JMST	Minamisoumatoc	0.91	293	P	Pn	08 52 18.2	+0.5
JMST				S	Sb	08 52 28.6	-0.3
ONAJ	Iwakimizuishiy	0.95	254	P	Pn	08 52 19.2	+0.8
ONAJ				S	Sb	08 52 30.1	-0.1
JIKH	Ishinomakikobu	1.01	338	P	Pn	08 52 20.5	+1.3
JIKH				eS	Sb	08 52 32.4	+0.5
JMM	Marumori	1.04	299	P	Pn	08 52 20.3	+0.8
JMM				S	Sb	08 52 32.2	-0.5
JFFD	Fukushimafurud	1.14	256	P	Pn	08 52 21.7	+0.8
JFFD				S	Sb	08 52 34.6	-0.9
JIO	Ouri	1.18	337	P	Pn	08 52 22.9	+1.4
JIO				S	Sb	08 52 36.3	-0.5
JFT	Otama	1.28	277	P	Pn	08 52 24.4	+1.5
JFT				S	Sb	08 52 39.2	-0.6
JOU	Okura	1.42	315	P	Pg	08 52 26.0	+0.5
JOU				eS	Sg	08 52 42.9	-1.0
JMK	Ichinoseki	1.68	340	P	Pg	08 52 30.4	-0.1
JYS	Shirataka	1.71	300	P	Pg	08 52 30.6	-0.5
JYS				eS	Sn	08 52 50.3	-0.8
JFY	Yanaizu	1.78	272	P	Pb	08 52 31.1	-0.3
JFY				S	Sn	08 52 51.8	-1.0
JYK	Kaneyama	1.99	322	P	Pb	08 52 34.4	-0.5
JYK				eS	Sn	08 52 57.0	-0.8
MJAR	Matsushiro Arr	3.10	256	Pn	Pn	08 52 49.7	+1.8
	1.2nm,0.3s,baz=78,slow=16,SNR=46						
MJAR				Sn	Sn	08 53 26.7	+1.4
	1.2nm,0.3s,baz=158,slow=32,SNR=5.9						
MJAR				LR	LR	08 54 12.6	
	comp=Z,92nm,19.8s,baz=55,slow=38						
MAT	Matsushiro	3.10	256	P	Pn	08 52 50.7	+2.8
MAT				S	Sn	08 53 27.1	+1.7
JHJ	Hachijo jima 2	4.59	203	Pn	Pn	08 53 09.8	+1.5
	25nm,0.3s,baz=2.3,slow=14,SNR=8.7						
JHJ				Sn	Sn	08 53 59.3	-2.8
	16nm,0.3s,baz=90,slow=20,SNR=4.7						
USRK	Ussuriysk Ar.	10.17	315	Pn	Pn	08 54 26.2	+1.3
	baz=130,slow=17,SNR=2.4						
KSRS	Korea Array	11.15	275	Pn	Pn	08 54 44.0	+5.7
	0.2nm,0.3s,baz=85,slow=14,SNR=4.5						
KSRS				LR	LR	08 59 03.2	
	comp=Z,16nm,19.2s,baz=355,slow=36						
SONM	Songino Array	27.95	303	P	P	08 57 49.5	-0.2
	0.3nm,0.4s,baz=86,slow=7.6,SNR=3.2						
MKAR	Makanchi Array	44.30	302	P	P	09 00 07.6	-1.4
	0.4nm,0.5s,baz=92,slow=8.1,SNR=4.9						
TXAR	Lajitas Array	89.58	53	LR	LR	09 39 33.1	
	comp=Z,17nm,21.8s,baz=0.0,slow=32						

ISC 13 08:56:07.5±1.3, 49°.15N±0°.05×18°.90E±0°.04, h8km±16km, n5, σ0°62/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	Liptovska Anna	0.37	89	ePG	Pg	08 56 15.1	+0.3
LANS				eSG	Sb	08 56 21.4	-0.9
LANS				eLG	Lg	08 56 22.6	
VYHS	Vyhne	0.66	184	ePG	Pg	08 56 20.4	+0.3
VYHS				eSG	Sb	08 56 30.7	+0.3
KOLL	Kolacno	0.66	210	ePG	Pg	08 56 19.5	-0.7
KOLL				eSG	Sg	08 56 28.2	-0.6
JAVC	Velka Javorina	0.86	251	ePG	Pb	08 56 25.1	+0.4
JAVC				eSG	Sg	08 56 35.7	+0.5
MORC	Moravsky Berou	1.09	306	ePG	Pg	08 56 28.1	-0.3
MORC				eSG	Sb	08 56 43.0	+0.1

MEX 13 09:07:27.0±0.6, 15°.64N×96°.32W, h20km±17km, MD4.0
ISC 13 09:07:23.6±2.1, 15°.74N±0°.10×96°.33W±0°.04, h15km±12km, n11, σ1°53/19, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.38	344	eP	Pg	09 07 49.9	-0.3
VHO				eS	Sb	09 08 06.6	-0.1
PNIG	Pinotepa	1.84	291	eP	Pb	09 07 55.5	-1.5
PNIG				i S	Sn	09 08 17.2	-0.7
PNIG	Pinotepa	1.84	291		Pb	09 07 55.5	-1.5
PNIG					Sn	09 08 17.2	-0.7
CMIG	Matias Romero	1.93	46	eP	Pb	09 07 56.6	-1.9
CMIG				eS	Sn	09 08 20.2	+0.3
CMIG	Matias Romero	1.93	46		Pb	09 07 56.6	-1.9
CMIG					Sn	09 08 20.2	+0.3
TLIG	Tlapa	2.81	310	eP	Pn	09 08 09.6	+1.5
TLIG				eS	Sn	09 08 42.6	+0.9
TLIG	Tlapa	2.81	310		Pb	09 08 11.6	-1.9
TLIG				Sn	Sn	09 08 42.0	+0.2
TLIG	Tlapa	2.81	310		Pn	09 08 09.6	+1.5
TLIG					Sn	09 08 42.6	+0.9
TEIG	Tepich	8.87	59		Pn	09 09 33.4	+2.2
TGUH	Tegucigalpa,Un	8.91	100	Pn	Pn	09 09 33.4	+1.3
SJG	San Juan	28.95	81		S	09 18 10.6	-2.5

ISC 13 09:11:08.2±1.1, 48°.96N±0°.05×18°.11E±0°.05, h10km, n5, σ0°89/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	Velka Javorina	0.30	250	ePG	Pg	09 11 14.1	-0.2
JAVC				eSG	Sg	09 11 19.8	+1.4
KOLL	Kolacno	0.43	153	ePG	Pb	09 11 16.9	-1.0
KOLL				eSG	Sb	09 11 24.0	-0.4
VYHS	Vyhne	0.68	134	ePG	Pg	09 11 21.0	-0.2
VYHS				eSG	Sb	09 11 32.5	+1.1
MORC	Moravsky Berou	0.89	336	ePG	Pg	09 11 24.8	-0.6
MORC				eSG	Sg	09 11 37.1	+0.1
LANS	Liptovska Anna	0.92	78	ePG	Pb	09 11 26.5	+0.3

ISCJB 13 09:29:52.3±0.6, 48°.79S±0°.09×120°.5E±0°.2, h10km, mb3.9/5, MS3.6/9, Error ellipse: s-maj=21.9km s-min=8.9km az=30.2
IDC 13 09:29:53.9±1.0, 48°.94S×121°.07E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/30, mbtmp4.2/6, ML2.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=54.8km s-min=18.2km az=109.0
NEIC 13 09:29:54.9±1.2, 48°.9S±0°.1×120°.8E±0°.1, h10km±2km, mb4.2/15
ISC 13 09:29:54.4±0.7, 48°.9S±0°.1×120°.6E±0°.2, h10km, n37, σ1°12/26, mb4.0/7, MS3.6/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	14.74	339	T	T	09 48 41.7	
	baz=161,slow=74,SNR=172						
H01W2	Cape Leeuwin H	14.74	339	T	T	09 48 37.7	
	baz=161,slow=74,SNR=141						
H01W3	Cape Leeuwin H	14.76	339	T	T	09 48 38.7	
	baz=161,slow=74,SNR=123						
NWAO	Narrogin (SRO)	16.11	350	Pn	P	09 33 45.0	+0.7
	0.6nm,0.3s,baz=189,slow=14,SNR=5.5						
NWAO				LR	LR	09 38 30.6	
	comp=Z,392nm,19.2s,baz=300,slow=32						
NWAO	Narrogin (SRO)	16.11	350	P	P	09 33 44.8	+0.6
NWAO				IAmb	IAmb	09 33 56.2	
	comp=Z,37nm,1.4s						
NWAO	Narrogin (SRO)	16.11	350	P	P	09 33 45.0	+0.7
NWAO				IAmb	IAmb	09 33 56.2	
	comp=Z,46nm,1.4s						
CASY	Casey	18.23	193	Pn	Pn	09 34 04.9	-2.4
CASY				IAmb	IAmb	09 34 08.1	
	comp=Z,14nm,1.4s						
BBOO	Buckleboo	19.80	42	P	P	09 34 23.3	-1.5
BBOO				IAmb	I

comp=Z,21nm,21.7s,baz=220,slow=33
EKA Eskdalemuir Ar 145.67 303 PKPbc **PKiKP 09 49 34.3 -1.7**
comp=Z,1.7nm,0.7s,baz=117,slow=4.3,SNR=3.5

ISK 13 09:38:07.5, 37°.09N×27°.95E, h11km, ML1.8/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.24**	**326**	PG	Pg	09 38 12.9	+0.3
MLSB				SG	Sg	09 38 16.9	+0.9
YER	**Yerkesik**	**0.27**	**81**	PG	Pg	09 38 13.5	+0.4
YER				SG	Sg	09 38 17.8	+1.0
TURN	**Turunc**	**0.57**	**112**	PG	Pg	09 38 15.7	-2.9
DALY	**Dalyan (Mula)**	**0.63**	**116**	PG	Pb	09 38 20.2	-0.3
AYDB	**Zeytinkoy-Aydi**	**0.85**	**357**	PG	Pb	09 38 24.3	-0.2

DDA 13 09:38:30.4, 38°.56N×28°.65E, h7km±2km, ML2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.10**	**229**	*i* P	Pg	09 38 33.0	+0.2
MANT				*i* S	Sg	09 38 35.4	+0.9
USAK	**Uak-Merkez**	**0.33**	**61**	*i* P	Pg	09 38 37.3	+0.5
USAK				*i* S	Sg	09 38 42.2	+1.0
USAK				IAML_P			
comp=Z,2μm,0.2s							
DEMI	**Demirci**	**0.49**	**6**	*i* P	Pg	09 38 40.2	+0.4
DEMI				*i* S	Sg	09 38 46.4	+0.1
DEMI				IAML_P			
comp=Z,3μm,0.2s							
KHAL	**Karahalli**	**0.68**	**106**	*i* P	Pb	09 38 44.2	-0.5
KHAL				*i* S	Sb	09 38 54.2	-0.2
KHAL				IAML_P			
comp=Z,1μm,0.1s							
GDZ	**Gediz**	**0.84**	**50**	*i* P	Pg	09 38 46.8	+0.3
GDZ				IAML_P			
comp=Z,242nm,0.1s							
DURS	**Dursunbey**	**1.05**	**352**	*i* P	Pn	09 38 51.9	+0.2
DURS				IAML_P			
comp=Z,690nm,0.1s							

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*ISCJB **13** 09:40:41.9±1.1, 24°.76N±0°.08×141°.5E±0°.2, h100km, mb3.8/3, Error ellipse: s-maj=25.4km s-min=10.2km az=15.7*
*JMA **13** 09:40:44.2±0.2, 25°.07N×140°.93E, h91km, M4.7*
*IDC **13** 09:40:44.4±6.0, 24°.84N×141°.55E, h108km±57km, mb3.7/3, mb1 3.8/4, mb1mx3.2/54, mbtmp3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/40, Error ellipse: s-maj=71.8km s-min=22.4km az=99.0*
ISC 13 09:40:43.5±1.3, **24°.8N**±0°.1×**141°.5E**±0°.3, **h100**km, **n13, σ1°07/12, mb3.8/3, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.90**	**18**	P	**Pn**	**09 41 15.9**	**+1.1**
JHH2				*e*S	**Sn**	**09 41 39.1**	**+0.4**
CBIJ	**Chichi jima**	**2.35**	**14**	P	**Pn**	**09 41 20.9**	**+0.3**
CBIJ				*e*S	**Sn**	**09 41 49.9**	**+0.9**
BSO3	**Boso 3**	**9.99**	**355**	P	**Pn**	**09 43 02.7**	**-1.1**
JIM2	**Oshima 3**	**10.04**	**350**	P	Pn	09 43 07.1	+2.5
JKUC	**kamogawauchiur**	**10.38**	**354**	P	**Pn**	**09 43 08.6**	**-0.6**
JOD2	**Odawara 2**	**10.63**	**349**	P	Pn	09 43 13.9	+1.2
JRY	**Ryogami san**	**11.39**	**349**	P	**Pn**	**09 43 23.7**	**+0.7**
JHO	**Hitachi**	**11.79**	**356**	P	**Pn**	**09 43 25.8**	**-2.5**
MJAR	**Matsushiro Arr**	**12.03**	**347**	P	**Pn**	**09 43 31.8**	**+0.2**
0.1nm,0.3s,baz=152,slow=9.8,SNR=4.1							
SIJI	**Sorong**	**27.40**	**203**	LR	LR	09 55 30.8	
comp=Z,86nm,21.9s,baz=131,slow=32							
WRA	**Warramunga Arr**	**45.03**	**190**	P	**P**	**09 48 49.6**	**+0.2**
0.6nm,0.4s,baz=7.4,slow=8.5,SNR=26							
ILAR	**Eielson Array**	**59.99**	**28**	P	**P**	**09 50 39.0**	**-0.2**
1.0nm,0.8s,baz=271,slow=6.1,SNR=7.3							
FINES	**FINESS Array B**	**79.72**	**334**	P	**P**	**09 52 40.0**	**0.0**
1.0nm,0.6s,baz=57,slow=5.1,SNR=3.5							

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*JMA **13** 09:40:51.7±0.2, 23°.70N×121°.53E, h19km±4km, M2.8*
*ISCJB **13** 09:40:52.6±0.2, 23°.74N±0°.01×121°.47E±0°.02, h21km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=27.5*
*TAP **13** 09:40:52.3, 23°.75N×121°.43E, h24km, ML2.9, B*
ISC 13 09:40:52.4±0.9, **23°.74N**±0°.02×**121°.46E**±0°.02, **h25**km±4km, **n79, σ0°74/123, 5C-5D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.07**	**201**	⇓*i*P	**Pb**	**09 40 56.6**	**-0.3**
EGFH				S	**Sb**	**09 40 59.5**	**-0.4**
baz=180							
ESL	**Shilin**	**0.08**	**345**	⇓*i*P	**Pb**	**09 40 56.6**	**-0.3**
ESL				S	**Sb**	**09 40 59.3**	**-0.7**
baz=13							
ENLB	**Shoufeng**	**0.21**	**39**	*e*P	**Pb**	**09 40 57.9**	**-0.3**
ENLB				*e*S	**Sb**	**09 41 03.4**	**+1.2**
baz=41							
HGSD	**Ruisui**	**0.24**	**187**	P	**Pb**	**09 40 58.9**	**+0.2**
HGSD				*e*S	**Sb**	**09 41 03.9**	**+1.0**
baz=186							
EHY	**Hungye**	**0.26**	**208**	P	**Pb**	**09 40 58.2**	**-0.7**
EHY				*e*S	**Sb**	**09 41 02.9**	**-0.4**
baz=195							
HWA	**Hwalien**	**0.28**	**30**	*e*P	**Pb**	**09 40 59.5**	**+0.4**
baz=29							
VWDT	**VWDT**	**0.29**	**273**	⇑P	**Pb**	**09 40 59.0**	**-0.3**
baz=271							
VWDT				S	**Sb**	**09 41 03.1**	**-0.8**
baz=271							
TWD	**Chiawan**	**0.36**	**21**	*e*P	**Pb**	**09 41 00.3**	**-0.2**
TWD				*e*S	**Sb**	**09 41 05.5**	**-0.4**
baz=26							
YULB	**Yu-li**	**0.37**	**203**	*e*P	**Pb**	**09 40 59.6**	**-1.0**
baz=189							
TWF1	**Yuli**	**0.41**	**201**	⇓*e*P	**Pb**	**09 41 00.1**	**-1.0**
TWF1				*e*S	**Sb**	**09 41 06.9**	**-0.2**
baz=195							
CHGB	**Renai**	**0.41**	**321**	⇓P	**Pb**	**09 41 01.0**	**-0.4**
CHGB				S	**Sb**	**09 41 06.1**	**-1.3**
baz=327							
WHF	**Hehuan Shan**	**0.44**	**337**	*e*P	**Pb**	**09 41 01.4**	**-0.6**
WHF				S	**Sb**	**09 41 07.2**	**-1.3**
baz=340							
NACB	**Ninganchiao**	**0.45**	**16**	⇑*e*P	**Pb**	**09 41 01.1**	**-0.8**
NACB				*e*S	**Sb**	**09 41 07.0**	**-1.3**
baz=20							
SSLB	**Suanglung**	**0.46**	**276**	⇑P	**Pb**	**09 41 01.1**	**-0.9**
SSLB				*e*S	**Sb**	**09 41 06.6**	**-1.9**
baz=278							
ETLH	**Xiulin Townshi**	**0.47**	**3**	*e*P	**Pb**	**09 41 01.9**	**-0.3**
ETLH				*e*S	**Sb**	**09 41 08.0**	**-0.8**
baz=15							
YUS	**Yu-Shan**	**0.52**	**242**	⇑P	**Pb**	**09 41 03.0**	**-0.4**
YUS				*e*S	**Sb**	**09 41 09.7**	**-1.1**
baz=239							
SMLT	**Sun Moon Lake**	**0.53**	**286**	*e*P	**Pb**	**09 41 02.4**	**-0.8**
SMLT				*e*S	**Sb**	**09 41 08.8**	**-1.8**
baz=288							
WHYT	**Xinyi Township**	**0.55**	**266**	*e*P	**Pb**	**09 41 03.2**	**-0.4**
WHYT				*e*S	**Sb**	**09 41 10.1**	**-1.0**
baz=262							
FULB	**Fuli**	**0.56**	**196**	*e*P	**Pb**	**09 41 03.7**	**+0.1**
FULB				*e*S	**Sn**	**09 41 12.6**	**-0.7**
baz=200							
DPDB	**Guoxing**	**0.57**	**301**	*e*P	**Pb**	**09 41 03.3**	**-0.5**
DPDB				*e*S	**Sb**	**09 41 10.2**	**-1.4**
baz=305							
TDCB	**Techi**	**0.58**	**332**	⇓P	**Pb**	**09 41 03.9**	**-0.2**
baz=334							
TDCB				*e*S	**Sb**	**09 41 10.6**	**-1.5**
baz=334							
CHKT	**Chengkung**	**0.64**	**187**	*e*P	**Pb**	**09 41 04.7**	**-0.3**
baz=173							
WJS	**Zhushan**	**0.67**	**277**	*e*P	**Pb**	**09 41 05.6**	**+0.1**
baz=276							
ELDTW	**Lidau**	**0.68**	**217**	*e*P	**Pb**	**09 41 04.9**	**-0.8**
ELDTW				*e*S	**Sb**	**09 41 14.1**	**-0.6**
baz=206							
NNSB	**Datong**	**0.69**	**354**	⇑P	**Pb**	**09 41 05.7**	**-0.3**
baz=5.0							
NNSB				S	**Sb**	**09 41 14.5**	**-0.7**
baz=5.0							
NNS	**Nan Shan**	**0.70**	**354**	P	**Pb**	**09 41 05.9**	**-0.2**
baz=5.0							
NNS				S	**Sb**	**09 41 15.2**	**-0.4**
baz=5.0							
WHP	**Taichung City**	**0.71**	**319**	*e*P	**Pb**	**09 41 05.9**	**-0.4**
baz=325							
WNT	**Mingjian**	**0.72**	**281**	*e*P	**Pb**	**09 41 06.6**	**+0.3**
baz=281							
WNT				*e*S	**Sb**	**09 41 16.8**	**+1.0**
baz=281							
CHN5	**Tsauling**	**0.73**	**259**	P	**Pb**	**09 41 06.7**	**+0.2**
baz=249							
CHN5				*e*S	**Sb**	**09 41 16.9**	**+0.8**
baz=249							
NANB	**Nanao**	**0.74**	**21**	*e*P	**Pb**	**09 41 05.7**	**-1.0**
baz=25							
WGK	**Gukeng**	**0.82**	**267**	*e*P	**Pn**	**09 41 09.0**	**+0.6**
baz=265							
WGK				*e*S	**Sn**	**09 41 19.9**	**+0.1**
baz=265							
WDLH	**Douliu**	**0.84**	**267**	*e*P	**Pn**	**09 41 08.6**	**-0.1**
baz=265							
WDLH				*e*S	**Sb**	**09 41 20.0**	**+0.7**
baz=265							
STYT	**Tauyuan**	**0.86**	**228**	P	**Pn**	**09 41 08.8**	**-0.2**
baz=218							
STYT				*e*S	**Sb**	**09 41 20.1**	**+0.3**
baz=218							
NDT	**Datong Townshi**	**0.86**	**3**	*e*P	**Pb**	**09 41 08.7**	**-0.1**
baz=16							
TWQ1	**Liyutan**	**0.87**	**314**	P	**Pn**	**09 41 09.8**	**+0.6**
baz=324							
TWQ1				*e*S	**Sn**	**09 41 21.4**	**+0.3**
baz=324							
TPUB	**Ta-pu**	**0.87**	**240**	P	**Pn**	**09 41 09.4**	**+0.2**
baz=238							
TPUB				*e*S	**Sn**	**09 41 20.9**	**-0.3**
baz=238							
CHN4	**Tsaushan**	**0.88**	**244**	P	**Pn**	**09 41 09.7**	**+0.5**
baz=233							
CHN4				S	**Sn**	**09 41 21.9**	**+0.7**
baz=233							
WCHH	**Zhanghua**	**0.89**	**293**	*e*P	**Pb**	**09 41 09.1**	**-0.1**
baz=293							
ENTT	**Nioudou**	**0.91**	**6**	*e*P	**Pn**	**09 41 09.6**	**0.0**
baz=9.0							
ENTT				*e*S	**Sb**	**09 41 21.2**	**0.0**
baz=9.0							
WTP	**Ta-pu**	**0.91**	**238**	*e*P	**Pn**	**09 41 10.2**	**+0.4**
baz=235							
WTP				*e*S	**Sn**	**09 41 22.4**	**+0.2**
baz=235							
NSY	**Sanyi**	**0.93**	**317**	*e*P	**Pn**	**09 41 10.8**	**+0.9**
baz=319							
NSY				*e*S	**Sn**	**09 41 23.2**	**+0.7**
baz=319							
YHNB	**Yeheng**	**0.93**	**356**	P	**Pn**	**09 41 10.1**	**+0.1**
baz=358							
YHNB				S	**Sb**	**09 41 21.3**	**-0.7**
baz=358							
NSK	**Sanguang**	**0.94**	**355**	P	**Pn**	**09 41 10.3**	**+0.2**
baz=357							
NSK				*e*S	**Sb**	**09 41 21.9**	**-0.3**
baz=357							
TWC	**Suao**	**0.94**	**22**	*e*P	**Pb**	**09 41 09.7**	**-0.3**
baz=20							
WDJ	**Dajia District**	**0.96**	**309**	*e*P	**Pn**	**09 41 10.7**	**+0.3**
baz=312							
CHY	**Chiayi**	**0.98**	**256**	*e*P	**Pn**	**09 41 10.6**	**+0.1**
baz=264							
TWG	**Pinlang**	**0.98**	**201**	*e*P	**Pb**	**09 41 09.9**	**-0.8**
baz=186							
TWG				*e*S	**Sb**	**09 41 22.9**	**-0.3**
baz=186							
TWGBT	**Beinan**	**0.98**	**201**	*e*P	**Pb**	**09 41 09.2**	**-1.5**
baz=180							
NSTT	**Nanjuang**	**0.98**	**335**	P	**Pn**	**09 41 11.2**	**+0.5**
baz=345							
NSTT				S	**Sb**	**09 41 23.3**	**0.0**
baz=345							
PTSB	**Yuanli**	**0.98**	**316**	*e*P	**Pb**	**09 41 10.7**	**-0.1**
baz=320							
LIOB	**Emei**	**0.99**	**336**	*e*P	**Pn**	**09 41 11.4**	**+0.6**
baz=349							
TWE	**Neicheng**	**1.00**	**11**	*e*P	**Pn**	**09 41 11.4**	**+0.5**
baz=27							
TWK	**Hsinying**	**1.00**	**242**	*e*P	**Pn**	**09 41 11.5**	**+0.5**
baz=239							
TWK				S	**Sn**	**09 41 24.9**	**+0.5**
baz=239							
CHN1	**Nanshi**	**1.01**	**237**	*e*P	**Pn**	**09 41 11.9**	**+0.8**
baz=235							
CHN1				*e*S	**Sn**	**09 41 25.6**	**+1.0**
baz=235							
EOS1	**EOS1**	**1.02**	**37**	*e*P	**Pn**	**09 41 12.2**	**+1.2**
baz=57							
RLNB	**Erlin**	**1.02**	**279**	*e*P	**Pb**	**09 41 10.9**	**-0.4**
baz=279							
RLNB				*e*S	**Sn**	**09 41 24.9**	**+0.4**
baz=279							
SNST	**Tainan City**	**1.02**	**240**	*e*P	**Pn**	**09 41 11.7**	**+0.5**
baz=233							
SLBB	**Yuanshan**	**1.03**	**9**	*e*P	**Pb**	**09 41 10.9**	**-0.6**
baz=24							
SGST	**Jiashian**	**1.03**	**231**	*e*P	**Pb**	**09 41 11.2**	**-0.5**
baz=228							
SGST				*e*S	**Sn**	**09 41 25.7**	**+0.7**
baz=228							
NWLT	**Wulai**	**1.04**	**2**	*e*P	**Pn**	**09 41 11.8**	**+0.3**
baz=17							
SLGT	**Liugui**	**1.05**	**225**	*e*P	**Pb**	**09 41 12.2**	**+0.3**
baz=218							
ECL	**Taimali**	**1.23**	**202**	*e*P	**Pb**	**09 41 14.8**	**-0.1**
baz=182							
TATO	**Taipei**	**1.23**	**1**	*e*P	**Pb**	**09 41 14.9**	**-0.1**
baz=18							
SSD	**Sandimen**	**1.24**	**218**	*e*P	**Pb**	**09 41 14.9**	**-0.3**
baz=209							
TWA	**Mucha**	**1.24**	**5**	*e*P	**Pb**	**09 41 16.5**	**+1.2**
baz=18							
TIPB	**Shuangxi**	**1.27**	**15**	*e*P	**Pb**	**09 41 15.2**	**-0.6**
baz=20							
MASBT	**Mashibuluo**	**1.35**	**214**	*e*P	**Pb**	**09 41 17.4**	**+0.3**
baz=205							
YM01	**YM01**	**1.41**	**4**	*e*P	**Pb**	**09 41 18.5**	**+0.5**
baz=28							
YM04	**YM04**	**1.41**	**3**	*e*P	**Pb**	**09 41 18.1**	**0.0**
baz=27							
YM10	**YM10**	**1.42**	**4**	*e*P	**Pb**	**09 41 17.5**	**-0.7**
baz=28							
YM05	**YM05**	**1.43**	**4**	*e*P	**Pb**	**09 41 17.8**	**-0.6**
baz=28							
YM11	**YM11**	**1.43**	**4**	*e*P	**Pb**	**09 41 19.1**	**+0.6**
baz=11							
EAST	**Anshuo**	**1.46**	**203**	*e*P	**Pb**	**09 41 18.4**	**-0.5**
baz=184							
SCZT	**Fangliau**	**1.56**	**210**	*e*P	**Pn**	**09 41 18.8**	**+0.2**
baz=199							
YOJ	**Yonaguni jima**	**1.59**	**63**	P	**Pn**	**09 41 18.9**	**-0.1**
PHUB	**P'eng-hu**	**1.74**	**263**	*e*P	**Pn**	**09 41 21.9**	**+0.8**
baz=239							
JKRS	**Kuro-shima**	**2.39**	**77**	P	**Pb**	**09 41 32.0**	**-2.7**
JKRS				S	**Sn**	**09 42 00.2**	**+1.7**
JIJ	**Ishigaki jima**	**2.53**	**75**	P	**Pn**	**09 41 32.7**	**+0.7**
JIJ				S	**Sn**	**09 42 02.6**	**+0.5**
JISG	**Ishigakijimahi**	**2.74**	**71**	P	**Pn**	**09 41 35.6**	**+0.8**
JISG				S	**Sn**	**09 42 07.8**	**+0.6**

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*ISCJB **13** 09:45:56.6±0.5, 6°.18N±0°.04×126°.18E±0°.09, h138km±5km, mb4.1/9, Error ellipse: s-maj=15.3km s-min=5.0km az=168.4*
*DJA **13** 09:45:56.8±1.0, 6°.N±5°×12°.6E±°, h133km±13km, M4.6/5, mb4.5/2, mB4.5/1, MLv4.7/5, Mw(mB)3.6/1*
*NEIC **13** 09:45:58.2±2.2, 6°.18N±0°.08×126°.2E±0°.2, h135km±4km, mb4.3/20*
*IDC **13** 09:45:58.2±1.1, 6°.21N×126°.23E, h135km±10km, mb3.9/9, mb1 4.0/9, mb1mx3.5/44, mbtmp4.3/9, MS3.5/1, Ms1 3.5/1, ms1mx2.5/44, Error ellipse: s-maj=49.1km s-min=12.1km az=78.0*
*MAN **13** 09:46:00.4, 6°.40N×126°.10E, h122km, MS3.2*
ISC 13 09:45:58.1±0.8, **6°.15N**±0°.04×**126°.17E**±0°.09, **h131**km±8km, **n47, σ1°20/57, mb4.2/14, 4C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.08**	**327**	P	**Pn**	**09 46 21.6**	**-0.2**
251nm,0.3s,baz=92,slow=0.9,SNR=11							
DAV				S	**Sn**	**09 46 40.8**	**+0.8**
531nm,0.3s,baz=291,slow=24,SNR=18							
DAV				LR	LR	09 46 56.2	
comp=Z,129nm,19.4s,baz=178,slow=54							
DAV	**Davao City (W)**	**1.08**	**327**		**Pn**	**09 46 21.7**	**-0.2**
DAV					**Sn**	**09 46 43.0**	**+3.0**
DMPH	**Davao City--Mi**	**1.13**	**325**	⇑*e*P	**Pn**	**09 46 21.9**	**-0.5**
DMPH				*e*S	**Sn**	**09 46 39.5**	**-1.4**
GSPH	**General Santos**	**1.21**	**267**	⇑*i*P	**Pn**	**09 46 22.8**	**-0.5**
GSPH				*i* S	**Sn**	**09 46 41.8**	**-0.6**
KCP	**Kidapawan**	**1.37**	**309**	⇑*i*P	**Pn**	**09 46 24.2**	**-0.6**
KCP				*e*S	**Sn**	**09 46 43.5**	**-1.8**
SKMP	**Bagumbayan, Su**	**1.65**	**283**	*e*P	**Pn**	**09 46 27.1**	**-1.0**
SKMP				*e*S	**Sn**	**09 46 51.2**	**+0.4**
BUKP	**Musuan**	**2.04**	**327**	*e*P	**Pn**	**09 46 32.4**	**-0.2**
BUKP				*e*S	**Sn**	**09 46 59.1**	**0.0**
CTBH	**Cotabato--PC H**	**2.18**	**299**	⇓*i*P	**Pn**	**09 46 35.1**	**+0.7**
SGSI	**Sangihe**	**2.53**	**195**	P	**Pn**	**09 46 39.5**	**+0.7**
SGSI				S	**Sn**	**09 47 11.3**	**+1.2**
CGP	**Cagayan de Oro**	**2.71**	**328**	⇑*i*P	**Pn**	**09 46 41.3**	**+0.2**
CGP				*i* S	**Sn**	**09 47 14.8**	**+0.6**
BUTP	**Butuan**	**2.85**	**349**	*e*P	**Pn**	**09 46 42.2**	**-0.6**
BUTP				*e*S	**Sn**	**09 47 21.2**	**+3.9**
TNTI	**Ternate**	**5.48**	**167**	P	**Pn**	**09 47 16.8**	**-0.9**
TNTI	**Ternate**	**5.48**	**167**		**Pn**	**09 47 16.9**	**-0.7**
TNTI					**Sn**	**09 48 19.2**	**-0.5**
MTN	**Manton Dam**	**19.51**	**165**	P	**P**	**09 50 16.4**	**+1.2**
MTN				IAmb	IAmb	09 50 17.3	
comp=Z,21nm,1.1s							
KNRA	**Kununurra**	**21.84**	**173**	P	**P**	**09 50 40.8**	**+0.5**
KNRA				IAmb	IAmb	09 50 41.3	
comp=Z,12nm,0.8s							
FITZ	**Fitzroy Crossi**	**24.10**	**181**	P	**P**	**09 51 01.9**	**+0.2**
comp=Z,4.9nm,0.5s,baz=11,slow=8.0,SNR=23							
FITZ	**Fitzroy Crossi**	**24.10**	**181**	P	**P**	**09 51 02.0**	**+0.3**
FITZ				IAmb	IAmb	09 51 04.0	
comp=Z,18nm,1.4s							
WRAB	**Tennant Creek**	**27.14**	**163**	P	**P**	**09 51 28.1**	**-1.1**
WRA	**Warramunga Arr**	**27.15**	**163**	P	**P**	**09 51 28.5**	**-0.8**
comp=Z,1.1nm,0.5s,baz=345,slow=10,SNR=16							
WRA	**Warramunga Arr**	**27.15**	**163**	P	**P**	**09 51 28.7**	**-0.6**
WB2	**Warramunga Arr**	**27.15**	**163**	P	**P**	**09 51 28.8**	**-0.4**
WB2				IAmb	IAmb	09 51 42.8	
comp=Z,7.4nm,1.4s							
AS31	**Alice Springs**	**30.59**	**166**	P	**P**	**09 51 58.8**	**-0.8**
ASAR	**Alice Springs**	**30.59**	**166**	P	**P**	**09 51 59.5**	**-0.2**
comp=Z,2.3nm,0.5s,baz=340,slow=7.1,SNR=43							
ASAR	**Alice Springs**	**30.59**	**166**	P	**P**	**09 51 58.3**	**-1.4**
KS19	**Wonju Array Si**	**31.24**	**3**	P	**P**	**09 52 04.4**	**-0.8**
MJAR	**Matsushiro Arr**	**32.19**	**18**	P	**P**	**09 52 11.2**	**-2.5**
BJT	**Baijiatuau**	**34.90**	**347**	P	**P**	**09 52 36.4**	**-0.5**
BJT				IAmb	IAmb	09 52 38.9	
comp=Z,9.7nm,1.0s							
MORW	**Morawa**	**36.35**	**195**	P	**P**	**09 52 48.1**	**-1.4**
MORW				IAmb	IAmb	09 53 01.8	
comp=Z,3.1nm,0.8s							
EIDS	**Eidsvold**	**39.61**	**143**	P	**P**	**09 53 16.7**	**-0.2**
EIDS				IAmb	IAmb	09 53 25.7	
comp=Z,8.8nm,1.2s							
NWAO	**Narrogin (SRO)**	**39.78**	**192**	P	**P**	**09 53 18.9**	**+0.7**
comp=Z,6.8nm,0.4s,baz=32,slow=7.6,SNR=10							
NWAO	**Narrogin (SRO)**	**39.78**	**192**	P	**P**	**09 53 18.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.78**	**192**	P	**P**	**09 53 18.9**	**+0.7**
BBOO	**Buckleboo**	**39.87**	**167**	P	**P**	**09 53 19.8**	**+0.8**
STKA	**Stephens Creek**	**40.58**	**160**	P	**P**	**09 53 25.4**	**+0.5**
comp=Z,6.3nm,0.7s,baz=336,slow=8.3,SNR=13							
STKA	**Stephens Creek**	**40.58**	**160**	P	**P**	**09 53 25.4**	**+0.5**
KLR	**Kul'dur**	**43.19**	**5**	P	**P**	**09 53 45.4**	**-0.4**
comp=Z,1.4nm,0.6s,baz=237,slow=2.8,SNR=6.1							
ARMA	**Armidale**	**43.79**	**148**	P	**P**	**09 53 52.2**	**+1.1**
CAN	**Canberra**	**46.52**	**154**	P	**P**	**09 54 14.3**	**+1.8**
DZM	**Mont Dzumac**	**48.40**	**127**	P	**P**	**09 54 27.9**	**+0.5**
MK31	**Makanchi Array**	**55.26**	**325**	P	**P**	**09 55 17.7**	**-0.1**
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**09 55 16.9**	**-0.9**
comp=Z,0.5nm,0.5s,baz=123,slow=8.7,SNR=5.0							
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**09 55 17.4**	**-0.4**
KSH	**Kashi**	**55.95**	**314**	*e*P	**P**	**09 55 26.6**	**+3.7**
URZ	**Urewera**	**64.69**	**137**	LR	LR	10 23 44.1	
comp=Z,33nm,18.5s,baz=270,slow=35							
MQZ	**McQueen's Vall**	**64.97**	**145**	P	**P**	**09 56 23.2**	**-0.7**
NRIK	**Noril'sk**	**67.96**	**346**	P	**P**	**09 56 42.2**	**-0.2**
comp=Z,1.2nm,0.4s,baz=134,slow=9.3,SNR=4.9							
ARCES	**ARCESS Array B**	**88.00**	**340**	P	**P**	**09 58 32.3**	**-0.8**
comp=Z,2.8nm,0.7s,baz=53,slow=6.2,SNR=5.3							

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*ISCJB **13** 09:47:54.4±0.3, 1°.72N±0°.04×124°.50E±0°.06, h250km, mb4.1/13, Error ellipse: s-maj=7.7km s-min=5.4km az=169.4*
*NEIC **13** 09:47:55.6±1.1, 1°.68N±0°.10×124°.47E±0°.06, h247km±9km, mb4.4/23*
*DJA **13** 09:47:56.6±0.6, 2°.N±7°×12°.5E±°, h249km±5km, M4.1/9, MLv4.1/9*
*IDC **13** 09:47:57.7±4.8, 1°.62N×124°.38E, h271km±53km, mb3.8/13, mb1 3.9/15, mb1mx3.6/41, mbtmp4.5/15, Error ellipse: s-maj=27.7km s-min=11.6km az=86.0*
ISC 13 09:47:55.8±0.5, **1°.67N**±0°.06×**124°.53E**±0°.06, **h250**km, **n52, σ0°82/54, mb4.2/21, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.21**	**207**	P	**Pn**	**09 48 32.8**	**+0.6**
MRSI	**Marisa**	**2.84**	**245**	S	**S**	**09 49 28.4**	**+1.6**
TNTI	**Ternate**	**2.98**	**107**	P	**Pn**	**09 48 48.9**	**+0.8**
TNTI	**Ternate**	**2.98**	**107**	Pn	**Pn**	**09 48 48.5**	**+0.4**
TNTI				S	**S**	**09 49 29.0**	**-0.4**
LUWI	**Luwuk**	**3.21**	**213**	P	**Pn**	**09 48 50.6**	**-0.1**
LUWI	**Luwuk**	**3.21**	**213**		**Pn**	**09 48 50.1**	**-0.5**
LUWI				S	**S**	**09 49 32.9**	**-1.2**
APSI	**Ampana**	**3.85**	**228**	P	**Pn**	**09 48 58.7**	**+0.8**
SANI	**Sanana**	**3.97**	**158**	P	**Pn**	**09 48 57.8**	**-1.5**
MTN	**Manton Dam**	**15.84**	**156**	P	**Pn**	**09 51 26.2**	**+0.1**
MTN				IAmb	IAmb	09 51 29.0	
comp=Z,12nm,0.5s							
JAY	**Jayapura**	**16.70**	**104**	P	**Pn**	**09 51 36.0**	**-0.4**
comp=Z,1.4nm,0.

BBOO	**Buckleboo**	**35.98**	**163**	P	**P**	**09 54 33.4**	**+0.2**
BBOO				IAmb	IAmb	09 54 51.0	
	comp=Z,17nm,1.4s						
MJAR	**Matsushiro Arr**	**36.94**	**18**	P	**P**	**09 54 40.8**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=189,slow=9.2,SNR=7.4						
STKA	**Stephens Creek**	**37.08**	**156**	P	**P**	**09 54 43.2**	**+0.7**
	comp=Z,2.4nm,0.4s,baz=332,slow=8.1,SNR=7.3						
STKA	**Stephens Creek**	**37.08**	**156**	P	**P**	**09 54 43.1**	**+0.7**
USA0B	**Ussuriysk Arra**	**42.87**	**8**	P	**P**	**09 55 29.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**42.87**	**8**	P	**P**	**09 55 30.4**	**+0.8**
	comp=Z,3.2nm,0.4s,baz=194,slow=7.2,SNR=30						
USRK	**Ussuriysk Ar.**	**42.87**	**8**	P	**P**	**09 55 30.9**	**+1.2**
KLR	**Kul'dur**	**47.79**	**6**	P	**P**	**09 56 08.6**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=196,slow=5.8,SNR=17						
SONM	**Songino Array**	**48.59**	**344**	P	**P**	**09 56 14.3**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=148,slow=7.0,SNR=14						
SONM	**Songino Array**	**48.59**	**344**	P	**P**	**09 56 14.2**	**-0.2**
MK31	**Makanchi Array**	**58.03**	**327**	P	**P**	**09 57 22.3**	**-0.5**
MKAR	**Makanchi Array**	**58.03**	**327**	P	**P**	**09 57 22.4**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=124,slow=7.8,SNR=53						
MKAR				PcP	**PcP**	**09 58 11.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=111,slow=5.3,SNR=4.5						
MKAR	**Makanchi Array**	**58.03**	**327**	P	**P**	**09 57 22.2**	**-0.6**
PETK	**Petropavlovsk-**	**58.17**	**23**	P	**P**	**09 57 24.5**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=179,slow=7.1,SNR=5.0						
MAKZ	**Makanchi**	**58.21**	**327**	P	**P**	**09 57 23.0**	**-1.0**
MAKZ				IAmb	IAmb	09 57 25.7	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**61.45**	**335**	P	**P**	**09 57 44.6**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=134,slow=4.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.45**	**335**	P	**P**	**09 57 44.9**	**-1.0**
KHZ	**Kahutara**	**62.22**	**141**	P	**P**	**09 57 51.7**	**+0.6**
KURK	**Kurchatov**	**62.32**	**329**	P	**P**	**09 57 51.4**	**-0.4**
KURK				IAmb	IAmb	09 57 53.4	
	comp=Z,13nm,0.5s						
BKZ	**Black Stump Fm**	**62.58**	**136**	P	**P**	**09 57 54.5**	**+0.8**
KKAR	**Karatay Array**	**63.27**	**318**	P	**P**	**09 57 57.3**	**-0.9**
TIXI	**Tiksi**	**69.93**	**1**	P	**P**	**09 58 39.4**	**-0.2**
TIXI				IAmb	IAmb	09 58 43.8	
	comp=Z,2.6nm,0.5s						
NRIK	**Noril'sk**	**71.91**	**347**	P	**P**	**09 58 51.4**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=127,slow=6.4,SNR=6.6						
ABKAR	**Akbulak array**	**72.37**	**322**	P	**P**	**09 58 53.8**	**-0.8**
ABKAR	**Akbulak array**	**72.37**	**322**	P	**P**	**09 58 54.0**	**-0.6**
ABKAR				IAmb	IAmb	09 58 56.0	
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**91.61**	**340**	P	**P**	**10 00 33.3**	**-0.9**
	comp=Z,3.6nm,1.1s,baz=90,slow=5.4,SNR=4.0						

DJA 13 09:53:53.1±1.5, 9°S±12°×11°4E±°, h25km±13km, M4.0/10, mb4.4/1, MLv3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.61**	**43**	P	Pn	09 54 06.3	+0.1
JAGI				S	Sn	09 54 15.5	+0.2
GMJI	**Gumukmas**	**0.70**	**336**	P	Pn	09 54 07.3	-0.2
GMJI				S	Sn	09 54 17.4	-0.1
IGBI	**Denpasar**	**1.40**	**86**	P	Pn	09 54 16.3	-0.8
SRBI	**Singaraja**	**1.69**	**61**	P	Pn	09 54 21.3	+0.3
PWJI	**Pagerwojo**	**2.10**	**295**	P	Pn	09 54 26.5	-0.2
PCJI	**Pacitan**	**2.63**	**286**	P	Pn	09 54 33.7	-0.2
WOJI	**Wonogiri, Jawa**	**2.98**	**291**	P	Pn	09 54 39.4	+0.6
TWSI	**Taliwang, Sumb**	**3.12**	**87**	P	Pn	09 54 40.5	-0.2
UGM	**Wanagama**	**3.33**	**287**	P	Pn	09 54 43.8	+0.2
PLAI	**Plampang**	**4.00**	**89**	P	Pn	09 54 53.4	+0.5
CMJI	**Cimerak**	**5.35**	**282**	P	Pn	09 55 10.3	-1.1

TAP 13 09:56:06.3, 23°63N×121°35E, h7km, ML1.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.09**	**60**	P	Pg	09 56 08.5	+0.2
	baz=59						
EGFH				S	Sg	09 56 10.2	+0.4
	baz=59						
EHY	**Hungye**	**0.12**	**190**	*i* P	Pg	09 56 09.2	+0.3
	baz=197						
EHY				S	Sg	09 56 11.2	+0.5
	baz=197						
HGSD	**Ruisui**	**0.15**	**151**	*i* P	Pg	09 56 09.7	+0.3
	baz=152						
HGSD				S	Sg	09 56 12.9	+1.4
	baz=152						
ESL	**Shilin**	**0.20**	**23**	P	Pg	09 56 10.7	+0.3
	baz=24						
ESL				S	Sg	09 56 13.6	+0.4
	baz=24						
VWDT	**VWDT**	**0.23**	**304**	*e*P	Pg	09 56 12.6	+1.8
	baz=304						
VWDT				*e*S	Sg	09 56 16.8	+2.9
	baz=304						
YULB	**Yu-li**	**0.24**	**191**	*i* P	Pg	09 56 11.1	+0.1
	baz=198						
YULB				*e*S	Sg	09 56 14.3	+0.2
	baz=198						
YULB	**Yu-li**	**0.24**	**191**		Sg	09 56 14.7	+0.6
TWF1	**Yuli**	**0.28**	**189**	P	Pg	09 56 11.8	+0.1
	baz=194						
TWF1				S	Sg	09 56 15.9	+0.5
	baz=194						
SSLB	**Suanglung**	**0.39**	**294**	P	Pb	09 56 15.4	-0.2
	baz=294						
SSLB				*e*S	Sb	09 56 21.2	-0.7
	baz=294						
FULB	**Fuli**	**0.43**	**186**	*e*P	Pg	09 56 15.3	+0.8
	baz=200						
FULB				*e*S	Sb	09 56 22.3	-0.6
	baz=200						
WHYT	**Xinyi Township**	**0.46**	**279**	*e*P	Pb	09 56 16.6	-0.2
	baz=280						
CHGB	**Renai**	**0.46**	**340**	*e*P	Pb	09 56 16.4	-0.5
	baz=339						
CHGB				*e*S	Sg	09 56 22.4	+1.0
	baz=339						
ALS	**Alishan**	**0.51**	**257**	*e*P	Pb	09 56 18.3	+0.5
	baz=268						
ALS				*e*S	Sb	09 56 25.1	-0.5
	baz=268						
WHF	**Hehuan Shan**	**0.52**	**352**	P	Pb	09 56 17.5	-0.6
	baz=351						
WHF				*e*S	Sb	09 56 25.2	-0.9
	baz=351						
ELDTW	**Lidau**	**0.53**	**215**	*e*P	Pg	09 56 16.7	+0.2
	baz=207						
ELDTW				*e*S	Sg	09 56 23.8	+0.4
	baz=207						
NACB	**Ninganchiao**	**0.59**	**23**	*e*P	Pg	09 56 17.5	-0.2
	baz=32						
NACB				*e*S	Sg	09 56 25.8	+0.3
	baz=32						
ETLH	**Xiulin Townshi**	**0.59**	**12**	*e*S	Sb	09 56 27.2	-0.5
	baz=11						
CHN5	**Tsauling**	**0.61**	**268**	*e*P	Pb	09 56 19.6	+0.2
	baz=268						
CHN5				*e*S	Sb	09 56 28.5	+0.2
	baz=268						
TDCB	**Techi**	**0.65**	**345**	P	Pb	09 56 19.9	-0.2
	baz=332						
TDCB				*e*S	Sb	09 56 28.4	-1.0
	baz=332						
TPUB	**Ta-pu**	**0.73**	**244**	*e*P	Pg	09 56 20.8	+0.4
	baz=253						
TPUB				*e*S	Sb	09 56 32.1	+0.4
	baz=253						

IDC ***13*** *10:05:45.4±21.0, 21°20S×179°56W, h0km, mb4.4/3, mb1 4.6/4, mb1mx3.8/41, mbtmp4.4/4, ML4.0/1, Error ellipse: s-maj=388.8km s-min=59.3km az=63.0*
ISCJB ***13*** *10:06:39.4±1.1, 23°6S±0°1×180°0E±0°2, h532km, mb4.0/3, Error ellipse: s-maj=24.1km s-min=9.7km az=140.5*
NEIC ***13*** *10:06:40.6±1.0, 23°7S±0°1×179°9W±0°2, h538km±13km, mb4.1/15*

ISC 13 10:06:40.5±1.3, 23°7S±0°1×180°0W±0°2, h532km, n25, σ0°95/24, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.85**	**162**	P	**P**	**10 08 17.1**	**+0.4**
RAO				S	**S**	**10 09 33.8**	**-1.7**
URZ	**Urewera**	**14.75**	**189**	Pn	**P**	**10 09 47.8**	**+0.4**
	0.6nm,0.3s,baz=300,slow=2.6,SNR=5.2						
URZ	**Urewera**	**14.75**	**189**	P	**P**	**10 09 47.3**	**-0.2**

EIDS	**Eidsvold**	**26.37**	**260**	P	**P**	**10 11 33.6**	**-0.7**
CTAO	**Charters Tower**	**31.50**	**270**	P	**P**	**10 12 19.4**	**+0.4**
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**10 12 44.1**	**+0.2**
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**10 12 48.2**	**+1.2**
	1.6nm,0.4s,baz=104,slow=10,SNR=6.9						
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**10 12 48.4**	**+1.4**
AS31	**Alice Springs**	**42.10**	**260**	P	**P**	**10 13 46.2**	**+0.1**
AS31				IAmb	IAmb	10 13 47.2	
	comp=Z,1.2nm,0.4s						
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**10 13 46.2**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=96,slow=7.4,SNR=34						
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**10 13 46.0**	**-0.1**
WR0	**Warramunga Arr**	**42.26**	**266**	P	**P**	**10 13 47.1**	**-0.3**
WR0				IAmb	IAmb	10 13 47.4	
	comp=Z,4.6nm,0.9s						
WB2	**Warramunga Arr**	**42.44**	**266**	P	**P**	**10 13 47.9**	**-0.9**
WB2				IAmb	IAmb	10 13 48.9	
	comp=Z,5.2nm,0.7s						
WB0	**Warramunga Arr**	**42.44**	**266**	P	**P**	**10 13 48.4**	**-0.4**
WB0				IAmb	IAmb	10 13 48.9	
	comp=Z,6.4nm,0.7s						
WRAB	**Tennant Creek**	**42.44**	**266**	P	**P**	**10 13 47.9**	**-0.9**
WRAB				IAmb	IAmb	10 13 48.8	
	comp=Z,5.4nm,0.7s						
WRAB				pP	**pwP**	**10 15 26.5**	**-2.5**
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**10 13 48.4**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=92,slow=8.3,SNR=78						
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**10 13 48.6**	**-0.3**
WAKE	**Wake Island**	**44.65**	**342**	P	**P**	**10 14 05.6**	**-0.2**
FORT	**Forrest**	**46.41**	**249**	P	**P**	**10 14 19.2**	**-0.1**
KNRA	**Kununurra**	**48.72**	**270**	P	**P**	**10 14 36.8**	**+0.1**
KNRA				IAmb	IAmb	10 14 40.8	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**66.41**	**180**	P	**P**	**10 16 38.0**	**+1.4**
NV11	**Mina Array Sit**	**84.67**	**44**		pP	10 20 14.3	+0.9
SNAA	**Sanae**	**84.89**	**179**	P	**P**	**10 18 18.1**	**-0.7**
SNAA				IAmb	IAmb	10 18 27.8	
	comp=Z,5.4nm,1.5s						
KVN	**Kaiserville**	**85.06**	**44**		pP	10 20 16.5	+0.8
WMOK	**Wichita Mounta**	**96.36**	**55**		pP	10 21 09.2	-0.5

IDC ***13*** *10:10:57.8±1.1, 35°73N×140°48E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.7/44, mbtmp3.8/10, ML3.7/2, MS3.3/5, Ms1 3.3/5, ms1mx2.8/47, Error ellipse: s-maj=29.8km s-min=15.9km az=79.0*
NIED ***13*** *10:11:00, 35°90N×140°60E, h44km, Mw4.0 Best double couple: M₀1.22000×10¹⁵ NP1:φs291.00000°, δ28.00000°, λ-173.00000°. NP2:φs195.00000°, δ87.00000°, λ-62.00000°.*
ISCJB ***13*** *10:11:01.1±0.3, 35°83N±0°03×140°57E±0°05, h50km, mb3.7/7, MS3.3/4, Error ellipse: s-maj=5.5km s-min=3.8km az=171.2*
JMA ***13*** *10:11:01.5±0.1, 35°87N×140°51E, h38km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs69.00000°, δ59.00000°, λ97.00000°. NP2:φs236.00000°, δ32.00000°, λ79.00000°. Principal axes: T Plg75.0000°, Azm358.0000°; N Plg6.0000°, Azm245.0000°; P Plg14.0000°, Azm154.0000°;*
JMA Felt II J1.
NEIC ***13*** *10:11:02.2±1.0, 35°76N±0°05×140°53E±0°08, h33km±2km, mb4.2/13*

ISC 13 10:11:03.4±0.6, 35°82N±0°04×140°56E±0°05, h50km, n56, σ2°00/56, mb3.9/11, MS3.3/4, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.15**	**349**	⇓P	**Pn**	**10 11 08.3**	**-3.1**
JIHU				S	**Sn**	**10 11 13.3**	**-3.8**
JSMT	**Sammumatsuo**	**0.20**	**207**	⇑P	**Pn**	**10 11 09.2**	**-2.5**
JSMT				S	**Sn**	**10 11 15.1**	**-2.5**
CHOJ	**Chosi**	**0.27**	**116**	⇑P	**Pn**	**10 11 09.7**	**-2.5**
CHOJ				S	**Sn**	**10 11 15.3**	**-3.2**
JYT	**Yasato**	**0.50**	**324**	⇓P	**Pn**	**10 11 11.2**	**-3.5**
JYT				S	**Sn**	**10 11 17.8**	**-5.0**
JHO	**Hitachi**	**0.79**	**0**	⇓P	**Pn**	**10 11 15.3**	**-3.0**
JHO				S	**Sn**	**10 11 24.7**	**-4.5**
BSO4	**Boso 4**	**0.85**	**192**	P	**Pn**	**10 11 18.3**	**-0.7**
BSO3	**Boso 3**	**1.02**	**182**	P	**Pn**	**10 11 20.1**	**-1.0**
JAG	**Ashikaga**	**1.08**	**304**	⇓P	**Pn**	**10 11 19.0**	**-3.2**
BSO1	**Boso 1**	**1.21**	**164**	P	**Pn**	**10 11 22.5**	**-1.0**
MJAR	**Matsushiro Arr**	**2.04**	**291**	**Pn**	**Pn**	**10 11 33.2**	**-2.0**
	3.1nm,0.3s,baz=100,slow=10,SNR=109						
MJAR	**Matsushiro Arr**	**2.04**	**291**		**Pn**	**10 11 33.0**	**-2.2**
MAJO	**Matsushiro**	**2.04**	**291**		**Pn**	**10 11 33.9**	**-1.4**
MAT	**Matsushiro**	**2.04**	**291**	P	**Pn**	**10 11 33.8**	**-1.4**
MAT				S	**Sn**	**10 11 57.2**	**-2.3**
MJB9	**Matsu-Tunnel**	**2.04**	**291**		**Pn**	**10 11 33.9**	**-1.4**
MJB9				Sn	**Sn**	**10 11 58.5**	**-1.1**
JHJ	**Hachijo jima 2**	**2.77**	**194**	Pn	**Pn**	**10 11 43.3**	**-1.9**
	50nm,0.3s,baz=320,slow=22,SNR=19						
JHJ				Sn	**Sn**	**10 12 14.2**	**-3.3**
	52nm,0.3s,baz=44,slow=19,SNR=5.6						
JHJ2	**Mitsune**	**2.77**	**193**	Pn	**Pn**	**10 11 43.5**	**-1.7**
JHJ2				Sn	**Sn**	**10 12 15.2**	**-2.3**
INU	**Inuyama**	**2.93**	**262**		**Pn**	**10 11 47.8**	**+0.4**
ERM	**Erimo**	**6.51**	**17**	Pn	**Pn**	**10 12 36.5**	**+0.1**
ERM				Sn	**Sn**	**10 13 50.4**	**+1.1**
ASAJ	**Asahikawa**	**8.43**	**10**	Pn	**Pn**	**10 13 01.7**	**-1.1**
	0.7nm,0.3s,baz=194,slow=8.3,SNR=6.0						
JKA	**Kamikawa-asahi**	**8.43**	**10**		**Pn**	**10 13 01.7**	**-1.1**
JNU	**Nakatsue**	**8.44**	**254**	LR	LR	10 16 29.7	
	comp=Z,111nm,19.2s,baz=52,slow=40						
USRK	**Ussuriysk Ar.**	**10.64**	**324**	Pn	**Pn**	**10 13 32.4**	**-0.6**
	baz=141,slow=25,SNR=3.4						
USRK	**Ussuriysk Ar.**	**10.64**	**324**		**Pn**	**10 13 32.2**	**-0.8**
ENH	**Enshi**	**26.56**	**267**	P	**P**	**10 16 35.9**	**-0.8**
ENH				IAmb	IAmb	10 16 38.3	
	comp=Z,8.6nm,0.9s						
SONM	**Songino Array**	**27.92**	**306**	P	**P**	**10 16 49.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=96,slow=8.7,SNR=4.2						
SONM				LR	LR	10 28 11.5	
	comp=Z,44nm,19.0s,baz=130,slow=37						
SONM	**Songino Array**	**27.92**	**306**	P	**P**	**10 16 49.1**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.16**	**118**	T	T	10 46 10.1	
	baz=310,slow=74,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.16**	**118**	T	T	10 46 08.2	
	baz=310,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**28.17**	**118**	T	T	10 46 08.3	
	baz=310,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.82**	**120**	T	T	10 46 50.1	
	baz=312,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hy**	**28.82**	**120**	T	T	10 46 55.2	
	baz=312,slow=75,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.83**	**120**	T	T	10 46 56.8	
	baz=312,slow=75,SNR=26						
CMAR	**Chiang Mai Arr**	**40.53**	**256**	LR	LR	10 35 41.7	
	comp=Z,23nm,18.0s,baz=240,slow=37						
ZAA0	**Zalesovo Array**	**42.23**	**313**	P	**P**	**10 18 51.9**	**+0.6**
ZAA0				IAmb	IAmb	10 18 54.0	
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**10 18 52.5**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=99,slow=7.7,SNR=7.1						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**10 18 52.3**	**+1.0**
MK31	**Makanchi Array**	**44.19**	**303**	P	**P**	**10 19 08.2**	**+0.9**
MKAR	**Makanchi Array**	**44.19**	**303**	P	**P**	**10 19 08.5**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=92,slow=9.8,SNR=8.5						
MKAR	**Makanchi Array**	**44.19**	**303**	P	**P**	**10 19 08.1**	**+0.8**
MAKZ	**Makanchi**	**44.40**	**303**	P	**P**	**10 19 10.3**	**+1.3**
MAKZ				IAmb	IAmb	10 19 10.9	
	comp=Z,3.3nm,1.1s						
TARA	**Tarawa**	**45.57**	**131**	P	**P**	**10 19 18.2**	**-0.3**
KURK	**Kurchatov**	**46.15**	**309**	P	**P**	**10 19 23.8**	**+1.1**
TARG	**Taragay, Kyrgy**	**48.33**	**297**	P	**P**	**10 19 40.9**	**+0.6**
TARG				IAmb	IAmb	10 19 47.5	
	comp=Z,3.2nm,0.8s						
HNR	**Honiara**	**48.58**	**154**	LR	LR	10 42 11.8	
	comp=Z,53nm,18.9s,baz=193,slow=39						
AAK	**Ala-Archa**	**50.47**	**299**	LR	LR	10 43 32.7	
	comp=Z,47nm,19.6s,baz=18,slow=39						
JAGI	**Jajag, Banyuwa**	**50.59**	**215**	P	**P**	**10 19 56.2**	**-1.1**
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**10 20 02.0**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=274,slow=5.2,SNR=4.1						
KKAR	**Karatay Array**	**53.14**	**301**	P	**P**	**10 20 15.1**	**-1.0**
WRA	**Warramunga Arr**	**55.77**	**187**	P	**P**	**10 20 34.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=0,3,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**55.77**	**187**	P	**P**	**10 20 35.9**	**+0.7**
INK	**Inuvik**	**55.78**	**27**	P	**P**	**10 20 36.6**	**+1.9**
ABKAR	**Akbulak array**	**58.20**	**310**	P	**P**	**10 20 53.1**	**+0.9**
ABKAR	**Akbulak array**	**58.20**	**310**	P	**P**	**10 20 53.2**	**+1.0**
ABKAR				IAmb	IAmb	10 21 04.5	
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**59.50**	**187**	P	**P**	**10 21 02.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=19,slow=11,SNR=4.6						
AKASG	**Malin Array Be**	**74.83**	**322**	P	**P**	**10 22 38.8**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=46,slow=6.0,SNR=5.3						
NC204	**NORSAR Array S**	**75.00**	**337**	P	**P**	**10 22 40.6**	**+1.5**

ISCJB ***13*** *10:13:14.4±0.2, 15°67N±0°02×87°19W±0°03, h10km, mb4.2/8, MS3.2/9, Error ellipse: s-maj=3.7km s-min=2.4km az=171.4*
IDC ***13*** *10:13:14.6±0.8, 15°65N×87°24W, h0km, mb4.0/8, mb1 4.3/12, mb1mx4.1/39, mbtmp4.1/12, ML3.9/4, MS3.4/11, Ms1 3.4/11, ms1mx3.1/35, Error ellipse: s-maj=19.8km s-min=16.5km az=21.0*
NEIC ***13*** *10:13:15.8±1.8, 15°59N±0°04×87°27W±0°04, h10km±1km, mb4.4/101, Mwr4.3, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=3.13; Mθθ=0.04; Mφφ=3.16; Mrθ=0.42; Mφφ=0.23; Mφr=1.53; Fault plane solution: M₀3.53000×10¹⁵ NP1:φs179.03000°, δ32.07000°, λ-98.66000°. NP2:φs9.21000°, δ58.33000°, λ-84.61000°. Principal axes: T 3.5456, Plg13.0000°, Azm95.0000°; N -0.0286, Plg5.0000°, Azm186.0000°; P -3.5170, Plg76.0000°, Azm295.0000°;*
SNET ***13*** *10:13:15.4±1.3, 15°65N×87°05W, h15km±46km, ML4.5*
GCG ***13*** *10:13:16.8±0.5, 15°41N×87°24W, h14km, MD4.7*

ISC 13 10:13:14.7±0.4, 15°60N±0°03×87°18W±0°03, h10km, n172, σ1°56/167, mb4.3/45, MS3.2/9, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.54**	**183**	*e*P	**Pb**	**10 13 42.1**	**-1.3**
TGUH				*e*S	**Sg**	**10 14 04.0**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.54**	**183**	Pn	**Pg**	**10 13 43.1**	**-1.1**
TGUH				Sn	**Sg**	**10 14 03.2**	**-1.0**
VICT	**Victoria**	**2.16**	**221**	*e*P	**Pb**	**10 13 52.2**	**-1.7**
VICT				*e*S	**Sb**	**10 14 21.1**	**+0.3**
VICT				IAML		10 14 28.3	
	comp=Z,2μm,0.4s						
LLGN	**La Laguna**	**2.22**	**230**	IAML		10 14 29.2	
	comp=Z,3μm,0.6s						
PACA	**Pacayal**	**2.39**	**208**	*e*P	**Pb**	**10 13 56.2**	**-1.7**
VSM	**San Miguel**	**2.41**	**206**	*e*P	**Pb**	**10 13 56.1**	**-2.2**
MTO3	**Montecristo**	**2.42**	**241**	*e*P	**Pb**	**10 13 56.6**	**-1.9**
MRL	**Marmol**	**2.47**	**258**	*e*P	**Pn**	**10 13 54.7**	**-0.5**
ESTN	**Estel**	**2.61**	**162**		**Pb**	**10 13 59.0**	**-2.6**
ESTN				Sn	**Sb**	**10 14 31.4**	**-2.4**
SNET	**Serv Nac Est T**	**2.75**	**226**	Pn	**Pn**	**10 13 58.5**	**-0.4**
SNET				Sn	**Sn**	**10 14 34.3**	**+2.0**
UNIC	**Universidad Ca**	**2.80**	**235**	*e*P	**Pb**	**10 14 02.4**	**-2.4**
UNIC				*e*S	**Sb**	**10 14 38.1**	**-1.1**
UNIC				IAML		10 14 43.1	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**2.94**	**234**	*e*P	**Pn**	**10 14 03.6**	**+1.9**
NBG	**Las Nubes**	**3.22**	**252**	*e*P	**Pn**	**10 14 06.0**	**+0.4**
APG	**El Apazote**	**3.22**	**260**	Pn	**Pn**	**10 14 04.6**	**-1.0**
	comp=Z,26nm,0.3s,baz=101,slow=11,SNR=41						
APG				Sn	**Sn**	**10 14 43.2**	**-1.0**
	comp=Z,62nm,0.3s,baz=346,slow=15,SNR=5.7						
APG				Lg	Lg	10 14 54.3	
	comp=Z,156nm,0.3s,baz=70,slow=23,SNR=7.8						
IXG	**Ixpaco**	**3.46**	**246**	*e*P	**Pn**	**10 14 09.1**	**+0.3**
FUG	**Fuego 3**	**3.72**	**252**	*e*P	**Pn**	**10 14 13.2**	**+0.8**
ACON	**Acoyapa**	**4.11**	**151**		**Pn**	**10 14 20.8**	**+3.3**
ACON					**Sb**	**10 15 17.1**	**+0.3**
STG3	**Santiaguito 3,**	**4.33**	**259**	*e*P	**Pn**	**10 14 21.7**	**+0.9**
ESPN	**Las Esperanzas**	**4.39**	**140**		**Pn**	**10 14 21.7**	**+0.2**
ESPN				Sn	**Sn**	**10 15 14.9**	**+2.2**
TEIG	**Tepich**	**4.71**	**347**	Pn	**Pn**	**10 14 25.1**	**-0.9**
	comp=Z,9.8nm,0.3s,baz=135,slow=0.8,SNR=74						
TEIG				Sn	**Sn**	**10 15 18.9**	**-1.8**
	comp=Z,18nm,0.3s,baz=319,slow=2.6,SNR=9.4						
TEIG	**Tepich**	**4.71**	**347**		**Pn**	**10 14 25.3**	**-0.6**
TEIG					**Sn**	**10 15 20.0**	**-0.7**
CCIG	**Comitan**	**4.81**	**279**		**Pn**	**10 14 26.6**	**-0.8**
JTS	**Las Juntas de**	**5.71**	**157**	Pn	**Pn**	**10 14 42.6**	**+3.0**
	comp=Z,1.4nm,0.3s,baz=50,slow=12,SNR=9.2						
JTS				Lg	Lg	10 16 12.0	
	comp=Z,19nm,0.3s,baz=17,slow=22,SNR=6.2						
JTS				LR	LR	10 17 14.7	
	comp=Z,501nm,18.1s,baz=62,slow=42						
PRVC	**Isla de Provid**	**6.05**	**111**	*e*P	**Pn**	**10 14 43.5**	**-0.9**
PRVC				*e*S	**Sg**	**10 16 25.0**	**-4.2**
PRVC	**Isla de Provid**	**6.05**	**111**	*e*P	**Pn**	**10 14 43.5**	**-0.9**
PRVC				*e*S	**Sg**	**10 16 25.0**	**-4.2**
HDC	**Heredia**	**6.32**	**151**	Pn	**Pn**	**10 14 50.2**	**+2.0**
CMIG	**Matias Romero**

PBMO	**Poplar Bluff**	**21.29 353**	P	**P**	**10 18 03.5**	**+2.1**
PBMO			IAmb	IAmb	10 18 04.5	
	comp=Z,23nm,0.9s					
W35A	**Tecumseh**	**21.32 338**	P	**P**	**10 18 03.0**	**+1.2**
HHAR	**Hobbs**	**21.46 345**	P	**P**	**10 18 05.3**	**+1.9**
HHAR			IAmb	IAmb	10 18 12.5	
	comp=Z,14nm,1.2s					
T49A	**Edmonton**	**21.47 4**	P	**P**	**10 18 05.4**	**+2.1**
T49A			IAmb	IAmb	10 18 09.0	
	comp=Z,20nm,1.1s					
FNO	**Franklin**	**21.61 337**	P	**P**	**10 18 06.7**	**+1.7**
WMOK	**Wichita Mounta**	**21.72 333**	P	**P**	**10 18 07.5**	**+1.4**
SIUC	**Southern Illin**	**22.10 356**	P	**P**	**10 18 11.3**	**+1.1**
SIUC			IAmb	IAmb	10 18 13.8	
	comp=Z,16nm,0.9s					
USIN	**University of**	**22.28 359**	P	**P**	**10 18 13.7**	**+1.7**
CCM	**Cathedral Cave**	**22.65 352**	P	**P**	**10 18 16.7**	**+0.6**
MNTX	**Cornudas Mount**	**23.07 317**	P	**P**	**10 18 21.5**	**+1.0**
MNTX			IAmb	IAmb	10 18 23.0	
	comp=Z,12nm,1.1s					
MSTX	**Muleshoe**	**23.07 325**	P	**P**	**10 18 21.0**	**+0.4**
MSTX			IAmb	IAmb	10 18 39.9	
	comp=Z,14nm,0.9s					
SLM	**Saint Louis**	**23.10 354**	P	**P**	**10 18 22.3**	**+1.6**
SLM			IAmb	IAmb	10 18 23.1	
	comp=Z,11nm,0.7s					
AMTX	**Amarillo**	**23.20 329**	P	**P**	**10 18 21.5**	**-0.4**
AMTX			IAmb	IAmb	10 18 25.2	
	comp=Z,7.8nm,0.9s					
LPIG	**La Paz**	**23.31 295**	LR	LR	10 27 56.7	
	comp=Z,106nm,19.9s,baz=112,slow=38					
Q51A	**Peebles**	**23.58 7**	P	**P**	**10 18 27.3**	**+1.8**
ATAH	**Atahualpa**	**24.21 158**	P	**P**	**10 18 35.6**	**+3.4**
	comp=Z,5.0nm,0.7s,baz=12,slow=4.7,SNR=4.8					
ATAH			LR	LR	10 27 04.1	
	comp=Z,84nm,18.8s,baz=302,slow=34					
P53A	**Whipple**	**24.33 11**	P	**P**	**10 18 35.0**	**+2.3**
P57A	**Homestead Farm**	**25.11 17**	P	**P**	**10 18 41.9**	**+2.2**
121A	**Cookes Peak, D**	**25.18 316**	P	**P**	**10 18 42.2**	**+1.6**
121A			IAmb	IAmb	10 19 00.1	
	comp=Z,10nm,1.1s					
319A	**Douglas**	**25.56 312**	P	**P**	**10 18 45.2**	**+1.2**
319A			IAmb	IAmb	10 18 48.1	
	comp=Z,14nm,1.0s					
Y22D	**IRIS PASSCAL I**	**25.59 320**	P	**P**	**10 18 47.4**	**+3.1**
CBKS	**Cedar Bluff**	**25.62 337**	P	**P**	**10 18 45.3**	**+0.8**
CBKS			IAmb	IAmb	10 18 47.1	
	comp=Z,10nm,1.1s					
LENM	**Lemitar**	**25.68 320**	P	**P**	**10 18 47.8**	**+2.6**
ANMO	**Albuquerque**	**25.89 322**	P	**P**	**10 18 49.5**	**+2.5**
	comp=Z,1.5nm,0.8s,baz=132,slow=16,SNR=6.5					
ANMO	**Albuquerque**	**25.89 322**	P	**P**	**10 18 47.0**	**-0.1**
TUC	**Tucson**	**27.14 312**	P	**P**	**10 18 59.4**	**+1.1**
J56A	**Wolcott**	**28.96 16**	P	**P**	**10 19 14.7**	**+0.4**
WUAZ	**Wupatki**	**29.35 317**	P	**P**	**10 19 19.7**	**+1.6**
WUAZ			IAmb	IAmb	10 19 21.2	
	comp=Z,7.5nm,1.1s					
PV07	**Paradox Valley**	**29.57 324**	P	**P**	**10 19 21.2**	**+1.1**
PV07			IAmb	IAmb	10 19 23.8	
	comp=Z,5.1nm,1.1s					
W13A	**Hualapai Mount**	**30.81 314**	P	**P**	**10 19 32.0**	**+1.0**
SRU	**San Rafael Swe**	**31.10 323**	P	**P**	**10 19 34.0**	**+0.4**
PDAR	**Pinedale Array**	**33.17 329**	P	**P**	**10 19 53.1**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=134,slow=8.7,SNR=6.8					
PDAR	**Pinedale Array**	**33.17 329**	P	**P**	**10 19 52.8**	**+1.0**
R11A	**Troy Canyon, C**	**33.73 318**	P	**P**	**10 19 57.5**	**+0.9**
R11A			IAmb	IAmb	10 19 59.4	
	comp=Z,4.0nm,1.2s					
BGU	**Big Grassy Mou**	**33.74 324**	P	**P**	**10 19 58.5**	**+1.8**
MDND	**Maddock**	**33.75 345**	P	**P**	**10 19 56.6**	**+0.2**
REDW	**Red Top Meadow**	**34.26 329**	P	**P**	**10 20 01.8**	**+0.6**
SNOW	**Snow King Moun**	**34.28 329**	P	**P**	**10 20 02.7**	**+1.3**
TPAW	**Teton Pass**	**34.40 329**	P	**P**	**10 20 03.4**	**+0.9**
MOOW	**Moose Ponds**	**34.48 329**	P	**P**	**10 20 04.6**	**+1.4**
MOOW			IAmb	IAmb	10 20 05.3	
	comp=Z,5.5nm,1.2s					
FXWY	**Fox Creek**	**34.54 329**	P	**P**	**10 20 05.5**	**+1.8**
IMW	**Indian Meadow**	**34.69 329**	P	**P**	**10 20 06.3**	**+1.4**
FLWY	**Flagg Ranch**	**34.71 330**	P	**P**	**10 20 07.2**	**+2.2**
RLMT	**Red Lodge**	**34.82 332**	P	**P**	**10 20 06.8**	**+0.8**
YPP	**Pitchstone Pla**	**34.90 330**	P	**P**	**10 20 07.6**	**+0.8**
LKWY	**Lake**	**34.92 331**	P	**P**	**10 20 08.0**	**+1.0**
LKWY			IAmb	IAmb	10 20 14.2	
	comp=Z,6.0nm,0.9s					
ELK	**Elko**	**34.93 321**	P	**P**	**10 20 08.8**	**+1.8**
ELK			IAmb	IAmb	10 20 10.1	
	comp=Z,7.1nm,1.1s					
YMP	**Mirror Lake Pl**	**34.94 331**	P	**P**	**10 20 07.0**	**-0.1**
YMR	**Madison River**	**35.27 330**	P	**P**	**10 20 10.7**	**+0.8**
YHH	**Holmes Hill**	**35.30 330**	P	**P**	**10 20 09.5**	**-0.8**
YHL	**Hebgen Lake**	**35.51 330**	P	**P**	**10 20 12.0**	**0.0**
NVAR	**Mina Array Bea**	**35.58 316**	P	**P**	**10 20 14.7**	**+2.1**
	comp=Z,3.7nm,1.0s,baz=126,slow=8.6,SNR=21					
NVAR			PcP	**PcP**	**10 22 42.4**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=93,slow=3.5,SNR=4.0					
NVAR			LR	LR	10 38 08.9	
	comp=Z,44nm,18.8s,baz=144,slow=42					
NVAR	**Mina Array Bea**	**35.58 316**	P	**P**	**10 20 13.5**	**+0.9**
RYN	**Ryan**	**35.83 316**	P	**P**	**10 20 16.3**	**+1.6**
RYN			IAmb	IAmb	10 20 17.9	
	comp=Z,4.1nm,1.1s					
BMN	**Battle Mountai**	**35.96 319**	P	**P**	**10 20 16.8**	**+0.9**
BMN			IAmb	IAmb	10 20 19.0	
	comp=Z,9.3nm,1.1s					
BOZ	**Bozeman (W)**	**36.27 331**	P	**P**	**10 20 17.6**	**-0.8**
BOZ			IAmb	IAmb	10 20 21.5	
	comp=Z,9.3nm,1.1s					
MCMT	**McKenzie Canyo**	**36.31 329**	P	**P**	**10 20 19.0**	**+0.1**
YERR	**Yerington**	**36.49 316**	P	**P**	**10 20 20.1**	**-0.3**
DLMT	**Dillon**	**36.56 329**	P	**P**	**10 20 21.2**	**+0.3**
DLMT			IAmb	IAmb	10 20 24.3	
	comp=Z,13nm,1.3s					
PNTR	**Pine Nut**	**36.78 316**	P	**P**	**10 20 25.1**	**+2.1**
PNTR			IAmb	IAmb	10 20 27.8	
	comp=Z,3.8nm,0.9s					
LPAZ	**La Paz**	**36.85 148**	LR	LR	10 36 33.0	
	comp=Z,49nm,20.4s,baz=346,slow=38					
VCNR	**Virginia City**	**36.92 316**	P	**P**	**10 20 24.2**	**+0.1**
MFID	**Camas Ranch**	**36.94 324**	P	**P**	**10 20 23.2**	**-0.9**
MFID			IAmb	IAmb	10 20 29.6	
	comp=Z,4.9nm,1.1s					
BEKR	**Beckworth**	**37.68 316**	P	**P**	**10 20 29.7**	**-0.8**
PLID	**Pearl Lake**	**38.12 326**	P	**P**	**10 20 35.4**	**+1.2**
PLID			IAmb	IAmb	10 20 36.3	
	comp=Z,8.1nm,1.1s					
MSO	**Missoula**	**38.27 330**	P	**P**	**10 20 36.0**	**+0.7**
MSO			IAmb	IAmb	10 20 38.5	
	comp=Z,14nm,1.4s					
MNMC	**Minye Minye**	**38.61 153**	P	**P**	**10 20 40.0**	**+1.4**
BMO	**Blue Mountains**	**38.67 325**	P	**P**	**10 20 39.2**	**+0.5**
BMO			IAmb	IAmb	10 20 40.3	
	comp=Z,7.5nm,1.1s					
MOD	**Modoc Plateau**	**38.71 319**	P	**P**	**10 20 39.6**	**+0.5**
JTMT	**Jette**	**39.09 331**	P	**P**	**10 20 43.6**	**+1.4**
JTMT			IAmb	IAmb	10 20 45.0	
	comp=Z,6.1nm,1.1s					
PB11	**IPOC Station P**	**39.14 153**	P	**P**	**10 20 43.9**	**+1.0**
GO01	**Chusmiza**	**39.26 153**	P	**P**	**10 20 45.4**	**+1.1**
GO01			IAmb	IAmb	10 20 49.4	
	comp=Z,13nm,0.9s					
F10A	**Beach Ranch, E**	**39.35 327**	P	**P**	**10 20 45.2**	**+0.8**
WALA	**Waterton Lakes**	**39.87 333**	P	**P**	**10 20 49.8**	**+1.1**
WALA			IAmb	IAmb	10 20 59.9	
	comp=Z,6.5nm,0.9s					
PINE	**Pine Mountain**	**40.14 321**	P	**P**	**10 20 52.1**	**+1.0**
PINE			IAmb	IAmb	10 20 53.5	
	comp=Z,10nm,0.9s					
YBH	**Yreka Blue Hor**	**40.16 318**	P	**P**	**10 20 51.3**	**+0.1**
YBH			IAmb	IAmb	10 20 52.3	
	comp=Z,9.6nm,1.5s					
C09A	**Chrisman Ranch**	**41.09 328**	P	**P**	**10 20 59.9**	**+1.3**
C09A			IAmb	IAmb	10 21 00.3	
	comp=Z,5.7nm,0.8s					
H04A	**Detroit Lake**	**41.38 322**	P	**P**	**10 21 00.7**	**-0.4**
B08A	**Colville Reser**	**41.99 328**	P	**P**	**10 21 07.0**	**+0.9**
B08A			IAmb	IAmb	10 21 08.0	
	comp=Z,5.7nm,1.1s					
LON	**Longmire**	**42.33 325**	P	**P**	**10 21 09.3**	**+0.5**
LON			IAmb	IAmb	10 21 11.2	
	comp=Z,6.7nm,0.9s					
BDFB	**Brasilia**	**49.60 127**	LR	LR	10 47 15.7	
	comp=Z,44nm,21.0s,baz=253,slow=41					
CPUP	**Villa Florida**	**50.80 145**	LR	LR	10 43 27.5	
	comp=Z,27nm,18.1s,baz=360,slow=36					
BCAR	**Beaver Creek A**	**60.52 335**	P	**P**	**10 23 25.8**	**+0.9**
HDA	**Harding Lake**	**63.16 335**	P	**P**	**10 23 43.4**	**+0.8**
IL31		**63.27 336**	P	**P**	**10 23 43.7**	**+0.5**
ILAR	**Eielson Array**	**63.27 336**	P	**P**	**10 23 43.5**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=106,slow=5.5,SNR=15					
ILAR	**Eielson Array**	**63.27 336**	P	**P**	**10 23 43.7**	**+0.4**
SUMG	**Summit**	**63.49 15**	*i* P	**P**	**10 23 45.0**	**-0.1**
	comp=Z,60nm,1.3s					
RND	**Reindeer**	**63.61 334**	P	**P**	**10 23 46.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**64.73 334**	P	**P**	**10 23 53.4**	**+0.4**
BPAW			IAmb	IAmb	10 23 56.7	
	comp=Z,3.1nm,1.0s					
ESDC	**Sonseca Array**	**75.06 52**	P	**P**	**10 24 58.3**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=284,slow=6.5,SNR=4.9					
ESDC	**Sonseca Array**	**75.06 52**	P	**P**	**10 24 58.0**	**+0.9**
NOA	**NORSAR Array B**	**80.50 29**	P	**P**	**10 25 27.8**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=288,slow=5.2,SNR=3.2					
WRA	**Warramunga Arr**	**140.30 257**	PKhKP	PKPpre	10 32 37.2	
	comp=Z,0.3nm,0.7s,baz=0.1,slow=1.1,SNR=4.8					
WRA			PKP	**PKiKP**	**10 32 45.3**	**-2.0**
	comp=Z,2.2nm,0.7s,baz=82,slow=1.8,SNR=20					
WRA	**Warramunga Arr**	**140.30 257**		**PKPdf**	**10 32 44.1**	**-0.8**
ASAR	**Alice Springs**	**140.59 252**	PKhKP	PKPpre	10 32 36.8	
	comp=Z,0.3nm,0.7s,baz=107,slow=2.1,SNR=5.7					
ASAR			PKP	**PKiKP**	**10 32 45.8**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=99,slow=2.2,SNR=11					
ASAR	**Alice Springs**	**140.59 252**		**PKPdf**	**10 32 45.3**	**0.0**
CMAR	**Chiang Mai Arr**	**145.62 350**	PKPbc	**PKPab**	**10 32 54.4**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=338,slow=3.9,SNR=16					
CMAR	**Chiang Mai Arr**	**145.62 350**		**PKPab**	**10 32 54.2**	**-0.5**
PBKT	**Sadao Pong**	**147.03 346**		**PKPdf**	**10 32 56.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**148.51 261**	PKPbc	**PKiKP**	**10 33 03.0**	**-1.2**
	baz=47,slow=6.7					
FITZ	**Fitzroy Crossi**	**148.51 261**		**PKPdf**	**10 32 57.8**	**-1.3**

ATH 13 10:15:44.9, 38°.38N×21°.89E, h8km±2km, ML1.7/1, Error ellipse: s-maj=2.0km s-min=0.5km az=22.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.05**	**17**	P	Pg	10 15 46.5	-0.1
EFP				S	Sg	10 15 47.8	-0.1
EFP				AML	AML	10 15 48.4	
	comp=E,1576μm,0.4s						
EFP				AML	AML	10 15 48.7	
	comp=N,1076μm,0.3s						
SERG	**Sergoula**	**0.14**	**74**	P	Pg	10 15 47.8	-0.2
SERG				S	Sg	10 15 50.5	+0.5
TRIZ	**Trizonia**	**0.15**	**94**	P	Pg	10 15 48.3	+0.3
TRIZ				S	Sg	10 15 51.2	+1.0
LAKA	**Lakka**	**0.15**	**151**	P	Pg	10 15 48.1	-0.1
LAKA				S	Sg	10 15 50.6	+0.3
KALE	**Kalithea**	**0.20**	**85**	P	Pg	10 15 49.1	+0.1
KALE				S	Sg	10 15 52.1	+0.3
PVO	**Paravola**	**0.37**	**311**	P	Pg	10 15 52.4	+0.2
PVO				S	Sg	10 15 58.1	+1.0
KLV	**Kalavryta, Ach**	**0.39**	**148**	P	Pg	10 15 52.3	-0.3
KLV				S	Sg	10 15 57.4	-0.3
DRO	**Drossia**	**0.44**	**198**	P	Pg	10 15 53.4	-0.2
DRO				S	Sg	10 16 00.4	+1.0
PDO	**Prodromos**	**0.59**	**292**	P	Pg	10 15 56.0	-0.5

*KRNET **13** 10:15:59.5±0.1, 41°.22N×69°.75E, mb2.3*
*NNC **13** 10:16:00.4±6.9, 40°.79N×70°.26E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=49.1km s-min=27.1km az=19.0*
*SOME **13** 10:16:01.6, 41°.00N×70°.42E, h10km*
ISC 13 10:16:03.7±1.9, 41°.07N±0°.06×70°.48E±0°.05, h2km±15km, n9, σ2°.68/17, 4C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.04**	**166**	⇓*i* P	**Pn**	**10 16 24.9**	**-0.6**
	baz=45						
BTK				⇓*i* S	**Sn**	**10 16 43.5**	**+2.8**
	baz=45						
IUG	**Iuzhnay**	**1.13**	**343**	P	**Pg**	**10 16 26.8**	**+1.5**
	1.1nm,0.2s						
IUG				S	**Sn**	**10 16 45.3**	**+2.5**
	68nm,0.3s						
IUG	**Iuzhnay**	**1.13**	**343**	*e* P	**Pb**	**10 16 23.8**	**-2.2**
	1.0nm,0.2s						
IUG				*e* S	**Sg**	**10 16 39.7**	**-0.2**
	37nm,0.8s						
ARK	**Arkit**	**1.33**	**56**	⇓*e* P	**Pg**	**10 16 30.0**	**+0.8**
	baz=71						
ARK				⇓*i* S	**Sg**	**10 16 52.3**	**+5.9**
	baz=71						
ARSB	**Arslanbob**	**1.90**	**82**	⇑*i* P	**Pg**	**10 16 39.5**	**-0.7**
	baz=86						
ARSB				⇑*i* S	**Sg**	**10 17 08.5**	**+3.6**
	baz=86						
KK31	**Karatay Array**	**2.03**	**1**	⇑Pn	**Pb**	**10 16 40.7**	**-0.7**
	0.5nm,0.3s,baz=186,slow=17,SNR=10						
KK31				⇑Sn	**Sg**	**10 17 08.3**	**-0.7**
	0.7nm,0.3s,baz=189,slow=30,SNR=5.3						
MRKS	**Merke**	**2.65**	**50**	Pg	**Pg**	**10 16 52.5**	**-1.9**
	2.9nm,0.6s						
MRKS				Lg	Lg	10 17 29.8	
	5.4nm,1.1s						
MRKS	**Merke**	**2.65**	**50**	*e* P	**Pg**	**10 16 52.5**	**-1.9**
	2.9nm,0.6s						
MRKS				*e* S	**Sg**	**10 17 29.8**	**+1.2**
	5.4nm,1.1s						
ARLS	**Aral**	**2.99**	**73**	⇓*i* P	**Pb**	**10 16 54.2**	**-3.6**
	baz=78						
ARLS				⇓*i* S	**Sb**	**10 17 34.2**	**-0.7**
	baz=78						

*ISCJB **13** 10:33:44.9±0.7, 33°.00S±0°.04×70°.38W±0°.04, h110km±6km, Error ellipse: s-maj=6.8km s-min=5.4km az=137.5*
*SJA **13** 10:33:44.4±1.1, 32°.98S×70°.41W, h107km±4km, ML3.0, MW3.1*
*GUC **13** 10:33:45.4±0.6, 32°.86S×70°.24W, h98km±5km, ML3.6*
ISC 13 10:33:45.9±1.6, 32°.98S±0°.04×70°.38W±0°.04, h102km±10km, n25, σ0°.86/39, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.30**	**237**	*e* P	**Pn**	**10 34 00.0**	**-0.8**
PEL				*i* S	**Sn**	**10 34 12.0**	**0.0**
PEL				IAML		10 34 13.0	
	comp=E,5μm,0.2s						
PEL	**Peldehue**	**0.30**	**237**	*i* P	**Pn**	**10 34 00.4**	**-0.4**
PEL				*e* S	**Sn**	**10 34 12.3**	**+0.3**
FCH	**Farellones**	**0.35**	**168**	⇓*i* P	**Pn**	**10 34 01.0**	**-0.5**
FCH				*i* S	**Sn**	**10 34 12.9**	**-0.1**
FCH				IAML		10 34 13.9	
	comp=E,3μm,0.4s						
CLCH	**Cerro Calan**	**0.44**	**198**	⇑*i* P	**Pn**	**10 34 01.6**	**0.0**
CLCH				*i* S	**Sn**	**10 34 13.4**	**0.0**
CLCH				IAML		10 34 15.0	
	comp=E,3μm,0.6s						
ROCH	**El Roble**	**0.53**	**271**	⇑*i* P	**Pn**	**10 34 02.4**	**0.0**
ROCH				*i* S	**Sn**	**10 34 15.1**	**+0.3**
ROCH				IAML		10 34 16.1	
	comp=E,4μm,0.3s						
ROC1	**El Roble**	**0.54**	**270**	*i* P	**Pn**	**10 34 01.9**	**-0.5**
ROC1				*e* S	**Sn**	**10 34 15.3**	**+0.4**
LMEL	**Las Melosas**	**0.88**	**170**	*e* P	**Pn**	**10 34 05.3**	**-0.1**
LMEL				*e* S	**Sn**	**10 34 21.0**	**+0.9**
LMEL				IAML		10 34 24.6	
	comp=N,1μm,0.1s						
VA01	**Torpederas**	**1.07**	**267**	*e* P	**Pn**	**10 34 07.4**	**+0.2**
ARCO	**CERRO ARCO**	**1.23**	**84**	*i* P	**Pn**	**10 34 09.0**	**-0.2**
ARCO				IAML		10 34 09.6	
	comp=Z,296nm,0.4s						
ARCO				*e* S	**Sn**	**10 34 27.1**	**+0.3**
AAGR	**Agrelo**	**1.31**	**95**	*i* P	**Pn**	**10 34 10.0**	**0.0**
AAGR				*e* S	**Sn**	**10 34 28.0**	**-0.4**
ASAL	**Salagasta**	**1.36**	**74**	*i* P	**Pn**	**10 34 10.6**	**-0.1**
ASAL				*e* S	**Sn**	**10 34 30.7**	**+1.3**
CO02	**Combarbal**	**1.85**	**343**	*e* P	**Pn**	**10 34 16.9**	**+0.1**
CO02				*i* S	**Sn**	**10 34 41.1**	**+0.9**
RTCV	**Cerro Valdivia**	**1.91**	**55**	*i* P	**Pn**	**10 34 17.5**	**0.0**
RTCV				*e* S	**Sn**	**10 34 41.8**	**+0.2**
ZON	**Zonda**	**2.03**	**46**	*i* P	**Pn**	**10 34 19.2**	**+0.2**
ZON				*e* S	**Sn**	**10 34 45.3**	**+1.1**
ZON				IAML		10 34 47.3	
	comp=Z,31nm,0.2s						
COIS	**El Sosneado**	**2.22**	**163**	*i* P	**Pn**	**10 34 22.1**	**+0.6**
RTLL	**Cerro Villicun**	**2.31**	**45**	*i* P	**Pn**	**10 34 22.8**	**+0.2**
RTLL				*e* S	**Sn**	**10 34 50.8**	**+0.1**
RTLL				IAML		10 34 52.4	
	comp=Z,106nm,0.4s						
GO05	**Huala**	**2.40**	**212**	*i* P	**Pn**	**10 34 22.8**	**-0.9**
AMOG	**MOGNA**	**2.59**	**39**	*i* P	**Pn**	**10 34 26.7**	**+0.3**
PUMA	**Malargue**	**2.63**	**163**	*i* P	**Pn**	**10 34 27.4**	**+0.6**
ACCO	**Cerro Coronel**	**2.63**	**25**	*i* P	**Pn**	**10 34 27.7**	**+0.5**
ACAN	**Cantantal**	**2.78**	**76**	*i* P	**Pn**	**10 34 28.2**	**-0.6**
GO04	**Tololo Observa**	**2.82**	**353**	*i* P	**Pn**	**10 34 29.4**	**-0.1**
AROD	**Rodeo**	**2.91**	**16**	*i* P	**Pn**	**10 34 27.5**	**-3.3**
ACDV	**Cuesta del Vie**	**3.00**	**21**	*i* P	**Pn**	**10 34 33.0**	**+1.1**
TCA	**Tanti**	**5.17**	**73**	*i* P	**Pn**	**10 34 58.8**	**-2.2**

*ISCJB **13** 10:47:45.5±0.3, 0°.11S±0°.04×123°.90E±0°.04, h110km, mb4.0/9, Error ellipse: s-maj=6.1km s-min=4.7km az=139.2*
*NEIC **13** 10:47:46.1±1.6, 0°.03S±0°.07×123°.80E±0°.09, h99km±10km, mb4.5/11*
*IDC **13** 10:47:46.9±2.6, 0°.02S×123°.93E, h94km±26km, mb3.7/9, mb1 3.9/12, mb1mx3.6/39, mbtmp4.1/12, MS2.9/2, Ms1 2.9/2, ms1mx2.4/43, Error ellipse: s-maj=22.8km s-min=14.6km az=80.0*
*DJA **13** 10:47:47.8±0.4, 0°.S±4°×12°.4E±°, h79km±21km, M4.5/9, mb4.7/6, mB4.8/5, MLv4.5/9, Mw(mB)4.1/5*
ISC 13 10:47:47.4±0.5, 0°.08S±0°.06×123°.93E±0°.06, h110km, n43, σ1°.54/44, mb4.2/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.50**	**230**	P	**Pn**	**10 48 12.3**	**-1.9**
LUWI	**Luwuk**	**1.50**	**230**		**Pn**	**10 48 11.5**	**-2.7**
MRSI	**Marisa**	**2.06**	**286**	P	**Pn**	**10 48 18.5**	**-2.6**
APSI	**Ampana**	**2.42**	**250**	P	**Pn**	**10 48 25.1**	**-0.7**
SANI	**Sanana**	**2.84**	**134**	P	**Pn**	**10 48 28.9**	**-2.4**
TNTI	**Ternate**	**3.54**	**76**	P	**Pn**	**10 48 40.5**	**-0.1**
TNTI	**Ternate**	**3.54**	**76**		**Pn**	**10 48 40.7**	**+0.1**
TTSI	**Tana Toraja**	**5.05**	**234**	P	**Pn**	**10 49 00.6**	**-0.4**
SPSI	**Sidrap Palu**	**5.67**	**227**	P	**Pn**	**10 49 09.0**	**-0.3**
SPSI				S	**Sn**	**10 50 10.6**	**-2.6**
BNSI	**Bone**	**5.74**	**222**	P	**Pn**	**10 49 09.9**	**-0.4**
BNSI				S	**Sn**	**10 50 13.9**	**-1.1**
MSAI	**Masohi**	**5.96**	**123**	S	**Sn**	**10 50 19.4**	**-0.9**
KAPI	**Kappang**	**6.44**	**220**	P	**Pn**	**10 49 19.7**	**0.0**
	14nm,0.3s,baz=99,slow=2.0,SNR=45						
KAPI				S	**Sn**	**10 50 29.4**	**-2.3**
	7.4nm,0.3s,baz=186,slow=20,SNR=11						
KAPI				LR	LR	10 51 19.3	
	comp=Z,28nm,20.8s,baz=310,slow=33						
BKSI	**Bulukumba**	**6.45**	**216**	P	**Pn**	**10 49 20.1**	**+0.3**
SIJI	**Sorong**	**7.38**	**96**	P	**Pn**	**10 49 33.4**	**+0.9**
	5.6nm,0.3s,baz=225,slow=13,SNR=8.7						
FAKI	**Fak Fak**	**8.79**	**109**	P	**Pn**	**10 49 50.7**	**-0.9**
BATI	**Baumata**	**10.06**	**181**	LR	LR	10 55 15.2	
	comp=Z,206nm,18.5s,baz=158,slow=44						
KPJI	**Karang Pucung**	**16.60**	**244**	P	**P**	**10 51 39.3**	**+5.0**
FITZ	**Fitzroy Crossi**	**17.99**	**175**	P	**P**	**10 51 50.4**	**+1.0**
	0.2nm,0.3s,baz=34,slow=7.4,SNR=4.3						
FITZ	**Fitzroy Crossi**	**17.99**	**175**	IAmb	IAmb	10 51 52.2	
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**22.22**	**153**	P	**P**	**10 52 35.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=335,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**25.37**	**158**	P	**P**	**10 53 06.6**	**+2.1**
	comp=Z,1.0nm,0.9s,baz=339,slow=6.8,SNR=8.9						
ASAR				PcP	**PcP**	**10 56 36.1**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=349,slow=2.5,SNR=6.4						
ASAR	**Alice Springs**	**25.37**	**158**	P	**P**	**10 53 03.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.69**	**308**	P	**P**	**10 53 53.5**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=134,slow=7.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**30.69**	**308**	P	**P**	10 53 47.6	-4.4
FORT	**Forrest**	**30.78**	**173**	P	**P**	**10 53 50.8**	**-1.8**
NWAO	**Narrogin (SRO)**	**33.28**	**190**	P	**P**	**10 54 14.2**	**-0.2**
XAN	**Xi'an**	**36.74**	**339**	P	**P**	**10 54 42.9**	**-1.4**
XAN				IAmb	IAmb	10 54 49.7	
	comp=Z,4.3nm,1.0s						
MJAR	**Matsushiro Arr**	**38.77**	**18**	P	**P**	**10 55 00.9**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=191,slow=9.0,SNR=9.3						
MJAR	**Matsushiro Arr**	**38.77**	**18**	P	**P**	**10 55 00.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**44.67**	**8**	P	**P**	**10 55 49.9**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=195,slow=5.6,SNR=15						
USRK	**Ussuriysk Ar.**	**44.67**	**8**	P	**P**	**10 55 49.5**	**+0.4**
KLR	**Kul'dur**	**49.58**	**7**	P	**P**	**10 56 27.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=182,slow=3.9,SNR=6.0		

	7.2nm,0.4s									
MRKS						Lg		Lg	10 50 39.0	
	16nm,0.8s									
KBK	**Karagaybulak**	**3.25**	**18**	⇓	*i*	P		**Pb**	**10 49 53.9**	**-0.3**
	baz=17									
KBK				⇓	*i*	S		**Sb**	**10 50 35.3**	**+1.0**
	baz=17									
ULHL	**Ulahol**	**3.34**	**36**	⇑	*i*	P		**Pb**	**10 49 55.4**	**-0.3**
	baz=35									
ULHL				⇑	*i*	S		**Sb**	**10 50 37.7**	**+0.9**
	baz=35									
ULHL	**Ulahol**	**3.34**	**36**			P		**Pg**	**10 49 59.2**	**-0.5**
	SNR=13									
BOOM	**Boomskoye usch**	**3.42**	**30**	⇑	*e*	P		**Pb**	**10 49 55.7**	**-1.2**
	baz=29									
BOOM				⇑	*e*	S		**Sb**	**10 50 37.5**	**-1.4**
	baz=29									
TKM2	**Tokmak 2**	**3.68**	**23**	⇑		Pg		**Pg**	**10 50 05.2**	**-0.9**
	3.2nm,0.6s									
TKM2				⇑		Lg		Lg	10 50 55.1	
	6.7nm,0.6s									
IUG	**Iuzhnay**	**3.75**	**315**			Pg		**Pb**	**10 49 58.5**	**-4.1**
	0.9nm,0.4s									
IUG						Lg		Lg	10 50 48.7	
	31nm,0.7s									
KST	**Kastek**	**3.91**	**26**			Pg		**Pb**	**10 50 05.4**	**+0.2**
	4.9nm,0.5s									
KST						Lg		Lg	10 51 00.8	
	10nm,0.8s									
DGS	**Degeres**	**4.02**	**23**			Pg		**Pb**	**10 50 08.3**	**+1.2**
	5.9nm,0.6s									
DGS						Lg		Lg	10 51 05.5	
	12nm,0.5s									
IZV	**Izvestkoviy**	**4.14**	**32**			Pg		**Pb**	**10 50 09.6**	**+0.3**
	3.2nm,0.7s									
IZV						Lg		Lg	10 51 08.6	
	10nm,0.5s									
KK31	**Karatay Array**	**4.24**	**328**			Pg		**Pb**	**10 50 08.2**	**-2.7**
	2.4nm,0.5s,baz=147,slow=16,SNR=8.9									
KK31				⇑		Lg		Lg	10 51 13.4	
	2.1nm,0.3s,baz=137,slow=30,SNR=4.3									
KOTS	**Kotyrbulak**	**4.52**	**34**			Pg		**Pb**	**10 50 17.2**	**+1.6**
	6.6nm,0.4s									
KOTS						Lg		Lg	10 51 21.0	
	24nm,0.5s									
KTBS	**Karatobe**	**4.74**	**28**			Pg		**Pb**	**10 50 20.1**	**+0.7**
	2.5nm,0.8s									
KTBS						Lg		Lg	10 51 26.7	
	18nm,0.6s									
ARXS	**Arharly**	**5.61**	**33**			Pg		**Pb**	**10 50 36.3**	**+2.0**
	2.6nm,0.7s									
ARXS						Lg		Lg	10 51 53.4	
	6.4nm,0.6s									

SJA 13 10:59:51.5±0.7,31°22S×68°47W,h102km±3km,ML2.4, MW2.7,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.11**	**182**	*i* P	Pn	11 00 06.3	+0.4
RTLL				IAML		11 00 07.0	
	comp=Z,206nm,0.3s						
AMOG	**MOGNA**	**0.28**	**356**	*i* P	Pn	11 00 07.5	+1.0
ZON	**Zonda**	**0.37**	**209**	*i* P	Pn	11 00 07.6	+0.8
ZON				IAML		11 00 07.7	
	comp=Z,59nm,0.2s						
ZON				*e*S	Sn	11 00 19.4	+1.1
RTCV	**Cerro Valdivia**	**0.64**	**185**	*i* P	Pn	11 00 09.4	+0.7
RTCV				*e*S	Sn	11 00 22.3	+0.6
ACCO	**Cerro Coronel**	**0.81**	**321**	*i* P	Pn	11 00 11.9	+1.4
ACCO				*e*S	Sn	11 00 26.8	+1.9
ASAL	**Salagasta**	**1.40**	**193**	*i* P	Pn	11 00 18.1	+1.3
ASAL				*e*S	Sn	11 00 37.4	+1.4
ACAN	**Cantantal**	**1.52**	**134**	*i* P	Pn	11 00 19.6	+1.5
ARCO	**CERRO ARCO**	**1.66**	**194**	*i* P	Pn	11 00 21.2	+1.2
ARCO				*e*S	Sn	11 00 41.6	-0.2
ARCO				IAML		11 00 44.3	
	comp=Z,28nm,0.3s						
AAGR	**Agrelo**	**1.88**	**189**	*i* P	Pn	11 00 24.1	+1.3
AAGR				*e*S	Sn	11 00 45.9	-0.8
GO04	**Tololo Observa**	**2.26**	**297**	*i* P	Pn	11 00 29.1	+1.3
ROC1	**El Roble**	**2.78**	**230**	*i* P	Pn	11 00 35.8	+1.2
TCA	**Tanti**	**3.32**	**93**	*i* P	Pn	11 00 42.5	+0.9
TCA				IAML		11 00 42.8	
	comp=Z,6.3nm,0.5s						

*ISCJB **13** 11:01:29.7±0.3,22°.94S±0°.03×68°.72W±0°.05,h118km±4km, mb3.8/2,Error ellipse: s-maj=7.7km s-min=4.1km az=175.6*
*SJA **13** 11:01:29.1±1.0,22°.96S×68°.74W,h119km±7km,ML3.8, MW3.8*
*NEIC **13** 11:01:29.7±2.6,22°.92S±0°.05×68°.55W±0°.09,h101km±3km*
*IDC **13** 11:01:29.6±1.1,22°.85S×68°.47W,h90km±15km,mb3.8/2, mb1 4.0/3,mb1mx3.5/22,mbtmp4.3/3,Error ellipse: s-maj=45.7km s-min=27.1km az=131.0*
*GUC **13** 11:01:30.5±0.7,22°.87S×68°.61W,h97km±4km,ML4.3*

ISC 13 11:01:30.0±0.7,22°.92S±0°.04×68°.67W±0°.05,h103km±5km, n70,σ1§34/98,mb4.0/4,5C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.38**	**324**	*e*P	**Pn**	**11 01 46.1**	**+0.3**
LVC				*i* S	**Sn**	**11 01 57.2**	**-0.4**
LVC	**Limon Verde**	**0.38**	**324**	P	**Pn**	**11 01 46.1**	**+0.3**
	676nm,0.3s,baz=147,slow=5.4,SNR=7322						
LVC				S	**Sn**	**11 01 57.2**	**-0.4**
	1μm,0.3s,baz=229,slow=19,SNR=240						
LVC	**Limon Verde**	**0.38**	**324**	*i* P	**Pn**	**11 01 45.9**	**+0.1**
LVC	**Limon Verde**	**0.38**	**324**	*e*P	**Pn**	**11 01 46.1**	**+0.3**
LVC				*e*S	**Sn**	**11 01 57.7**	**+0.1**
LVC				IAML		11 01 58.3	
	comp=Z,3μm,0.2s						
LVC	**Limon Verde**	**0.38**	**324**		**Pn**	**11 01 46.1**	**+0.3**
LVC					**Sn**	**11 01 57.7**	**+0.1**
PB15	**IPOC Station P**	**0.79**	**249**	⇑	*i* P	**Pn**	**11 01 50.0**	**+1.2**
PB15				*i* S	**Sn**	**11 02 04.9**	**+2.1**
PB15	**IPOC Station P**	**0.79**	**249**	*i* P	**Pn**	**11 01 49.6**	**+0.8**
PB15	**IPOC Station P**	**0.79**	**249**	*e*P	**Pn**	**11 01 50.0**	**+1.2**
PB15				*e*S	**Sn**	**11 02 05.1**	**+2.3**
PB06	**IPOC Station P**	**0.86**	**284**	⇑	*i* P	**Pn**	**11 01 50.3**	**+0.9**
PB06				*i* S	**Sn**	**11 02 05.3**	**+1.4**
PB06				IAML		11 02 06.7	
	comp=E,20μm,0.2s						
PB06	**IPOC Station P**	**0.86**	**284**	*i* P	**Pn**	**11 01 49.9**	**+0.5**
PB06	**IPOC Station P**	**0.86**	**284**	*e*P	**Pn**	**11 01 50.3**	**+0.9**
PB06				*e*S	**Sn**	**11 02 05.1**	**+1.1**
PB06				IAML		11 02 08.3	
	comp=Z,11μm,0.5s						
PB09	**IPOC Station P**	**1.24**	**335**	⇓	*i* P	**Pn**	**11 01 54.6**	**+1.1**
PB09				*i* S	**Sn**	**11 02 12.6**	**+1.4**
PB09	**IPOC Station P**	**1.24**	**335**	*i* P	**Pn**	**11 01 54.6**	**+1.1**
PB09				*e*S	**Sn**	**11 02 13.2**	**+2.0**
PB09				IAML		11 02 16.1	
	comp=Z,1μm,0.2s						
PB03	**IPOC Station P**	**1.33**	**311**	⇓	*i* P	**Pn**	**11 01 55.3**	**+0.8**
PB03				*i* S	**Sn**	**11 02 13.9**	**+0.8**
PB03				IAML		11 02 14.8	
	comp=E,5μm,0.1s						
PB03	**IPOC Station P**	**1.33**	**311**	*e*P	**Pn**	**11 01 55.5**	**+1.0**
PB03				*e*S	**Sn**	**11 02 13.9**	**+0.8**
PB04	**IPOC Station P**	**1.49**	**293**	⇑	*i* P	**Pn**	**11 01 57.1**	**+0.7**
PB04				*i* S	**Sn**	**11 02 18.6**	**+2.2**
PB04				IAML		11 02 23.1	
	comp=N,5μm,0.2s						
PB04	**IPOC Station P**	**1.49**	**293**	*e*P	**Pn**	**11 01 57.2**	**+0.7**
PB04				*e*S	**Sn**	**11 02 17.3**	**+0.8**
PB04				IAML		11 02 25.5	
	comp=Z,3μm,0.1s						
PB04	**IPOC Station P**	**1.49**	**293**		**Pn**	**11 01 57.6**	**+1.2**
PB04					Sn	**11 02 17.1**	**+0.6**
PB07	**IPOC Station P**	**1.64**	**316**	⇓	*i* P	**Pn**	**11 01 59.2**	**+0.9**
PB07				*i* S	**Sn**	**11 02 20.7**	**+0.9**
PB07				IAML		11 02 24.6	
	comp=N,5μm,0.3s						
PB07	**IPOC Station P**	**1.64**	**316**	*e*P	**Pn**	**11 01 59.3**	**+0.9**
PB07				*e*S	**Sn**	**11 02 21.0**	**+1.2**
PB10	**IPOC Station P**	**1.83**	**251**	⇑	*i* P	**Pn**	**11 02 01.7**	**+1.2**
PB10				*i* S	**Sn**	**11 02 24.6**	**+0.8**
PB10	**IPOC Station P**	**1.83**	**251**	*i* P	**Pn**	**11 02 01.9**	**+1.3**
PB10				*e*S	**Sn**	**11 02 22.3**	**-1.5**
PB10				IAML		11 02 33.0	
	comp=Z,764nm,0.5s						
PB10	**IPOC Station P**	**1.83**	**251**		**Pn**	**11 02 01.7**	**+1.2**
PB02	**IPOC Station P**	**1.96**	**324**	⇓	*i* P	**Pn**	**11 02 03.1**	**+0.7**
PB02				*i* S	**Sn**	**11 02 28.4**	**+1.5**
PB02				IAML		11 02 35.6	
	comp=N,4μm,0.4s						
PB02	**IPOC Station P**	**1.96**	**324**	*e*P	**Pn**	**11 02 03.0**	**+0.7**
PB02				*e*S	**Sn**	**11 02 28.2**	**+1.3**
PB01	**IPOC Station P**	**2.02**	**338**	⇓	*i* P	**Pn**	**11 02 03.8**	**+0.7**
PB01				*i* S	**Sn**	**11 02 29.4**	**+1.1**
PB01				IAML		11 02 33.4	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**2.02**	**338**		**Pn**	**11 02 04.2**	**+1.2**
PB01					Sn	**11 02 30.0**	**+1.8**
PB14	**IPOC Station P**	**2.32**	**223**	*e*P	**Pn**	**11 02 08.6**	**+1.4**
PB14				*e*S	**Sn**	**11 02 38.1**	**+2.4**
PB14	**IPOC Station P**	**2.32**	**223**	*i* P	**Pn**	**11 02 08.8**	**+1.6**
PB14				*e*S	**Sn**	**11 02 33.6**	**-2.1**
PB14				IAML		11 02 43.0	
	comp=Z,905nm,0.3s						
GO02	**Mina Guanaco**	**2.38**	**201**	*e*P	**Pn**	**11 02 09.1**	**+1.2**
GO02				*e*S	**Sn**	**11 02 39.3**	**+2.3**
GO02	**Mina Guanaco**	**2.38**	**201**		**Pn**	**11 02 09.4**	**+1.4**
PB08	**IPOC Station P**	**2.81**	**351**	⇑	*i* P	**Pn**	**11 02 14.8**	**+1.2**
PB08				*e*S	**Sn**	**11 02 49.0**	**+1.9**
PB08				IAML		11 02 55.3	
	comp=E,372nm,0.2s						
PB08	**IPOC Station P**	**2.81**	**351**	*e*P	**Pn**	**11 02 14.8**	**+1.2**
YJA	**Yavi**	**3.01**	**76**	*i* P	**Pn**	**11 02 19.1**	**+2.7**
YJA				IAML		11 02 19.5	
	comp=Z,20nm,0.4s						
HJA	**Humahuaca**	**3.02**	**96**	*i* P	**Pn**	**11 02 18.7**	**+2.3**
GO01	**Chusmiza**	**3.28**	**351**	*e*P	**Pn**	**11 02 21.3**	**+1.3**
GO01	**Chusmiza**	**3.28**	**351**		**Pn**	**11 02 18.8**	**-1.2**
PB11	**IPOC Station P**	**3.28**	**344**	*e*P	**Pn**	**11 02 19.3**	**-0.4**
PB11	**IPOC Station P**	**3.28**	**344**		**Pn**	**11 02 19.1**	**-0.7**
SLA	**San Lorenzo**	**3.41**	**122**	*i* P	**Pn**	**11 02 22.0**	**+0.6**
SLA				IAML		11 02 28.0	
	comp=Z,26nm,0.7s						
MNMC	**Minye Minye**	**3.87**	**347**		**Pn**	**11 02 26.8**	**-1.0**
GO03	**Copiap**	**4.86**	**197**	*i* P	**Pn**	**11 02 40.2**	**-0.8**
GO03	**Copiap**	**4.86**	**197**		**Pn**	**11 02 40.0**	**-0.9**
AHML	**Horco Molle**	**4.89**	**142**	*e*P	**Pn**	**11 02 43.9**	**+2.5**
LPAZ	**La Paz**	**6.62**	**4**	P	**Pn**	**11 03 07.6**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=172,slow=4.5,SNR=16						
LPAZ	**La Paz**	**6.62**	**4**	*i* P	**Pn**	**11 03 08.0**	**+2.7**
LPAZ	**La Paz**	**6.62**	**4**		**Pn**	**11 03 03.8**	**-1.6**
ACDV	**Cuesta del Vie**	**7.23**	**183**	*i* P	**Pn**	**11 03 13.1**	**0.0**
AROD	**Rodeo**	**7.25**	**186**	*i* P	**Pn**	**11 03 15.7**	**+2.1**
GO04	**Tololo Observa**	**7.47**	**194**	*i* P	**Pn**	**11 03 14.2**	**-2.2**
GO04	**Tololo Observa**	**7.47**	**194**	Pn	**Pn**	**11 03 14.4**	**-2.0**
ACCO	**Cerro Coronel**	**7.64**	**183**	*i* P	**Pn**	**11 03 18.6**	**-0.3**
RTLL	**Cerro Villicun**	**8.38**	**179**	*i* P	**Pn**	**11 03 27.1**	**-1.6**
RTLL				IAML		11 03 59.0	
	comp=Z,12nm,0.4s						
TCA	**Tanti**	**9.13**	**157**	*i* P	**Pn**	**11 03 38.0**	**-0.9**
TCA				IAML		11 03 38.8	
	comp=Z,3.3nm,0.4s						
ASAL	**Salagasta**	**9.63**	**181**	*i* P	**Pn**	**11 03 44.1**	**-1.6**
SIV	**San Ignacio**	**9.94**	**47**	P	**Pn**	**11 03 46.2**	**-3.8**
	comp=Z,8.8nm,0.3s,baz=253,slow=11,SNR=112						
MTDJ	**Mount Denham**	**41.81**	**347**	P	**P**	**11 09 09.2**	**-0.6**
W50A	**Signal Mountai**	**59.92**	**344**	P	**P**	**11 11 24.4**	**-1.0**
SNAA	**Sanae**	**60.87**	**161**	P	**P**	**11 11 32.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=270,slow=10,SNR=8.7						
SNAA	**Sanae**	**60.87**	**161**	P	**P**	**11 11 32.3**	**+0.9**
SNAA				IAmb	IAmb	11 11 32.5	
	comp=Z,4.6nm,1.3s						
ADOK	**Arcadia Dam**	**64.29**	**334**	P	**P**	**11 11 54.5**	**0.0**
D53A	**Lac Vacive, Po**	**70.15**	**353**	P	**P**	**11 12 31.9**	**+0.7**
D53A				IAmb	IAmb	11 12 37.8	
	comp=Z,18nm,1.3s						
TORD	**Torodi Ar. Bea**	**77.63**	**70**	P	**P**	**11 13 15.5**	**0.0**
	comp=Z,1.7nm,0.6s,baz=252,slow=5.2,SNR=12						
TORD				pP	**pP**	**11 13 42.7**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=247,slow=4.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.63**	**70**	P	**P**	**11 13 15.3**	**-0.3**
GCMT	**Greycliff**	**77.87**	**332**	P	**P**	**11 13 16.4**	**0.0**
BMO	**Blue Mountains**	**80.73**	**327**	P	**P**	**11 13 32.3**	**+0.4**
BMO				IAmb	IAmb	11 13 42.6	
	comp=Z,2.3nm,0.9s						
ASAR	**Alice Springs**	**128.75**	**207**	PKP	**PKiKP**	**11 20 26.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=126,slow=2.4,SNR=4.7						
WRA	**Warramunga Arr**	**131.84**	**210**	PKP	**PKiKP**	**11 20 33.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=155,slow=1.5,SNR=8.6						
MKAR	**Makanchi Array**	**146.64**	**37**	PKPbc	**PKPbc**	**11 21 00.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=314,slow=2.8,SNR=6.7						
MKAR	**Makanchi Array**	**146.64**	**37**	PKPab	**PKPab**	**11 21 01.3**	**+0.3**

*IDC **13** 11:02:15.2±3.4,8°.88S×110°.33E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/36,mbtmp3.3/3,Error ellipse: s-maj=180.4km s-min=28.5km az=48.0*
*ISCJB **13** 11:02:20.5±1.6,9°.1S±0°.1×110°.3E±0°.2,h51km,mb3.2/3, Error ellipse: s-maj=25.0km s-min=13.9km az=163.7*
*DJA **13** 11:02:26.8±2.6,9°.5±18°.×11°.1E±1°.0,h10km,M3.0/6, MLv3.0/6*

ISC 13 11:02:22.8±1.8,9°.0S±0°.2×110°.5E±0°.1,h51km,n8,σ1§18/8, mb2.9/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.02**	**42**	P	**Pn**	**11 02 40.8**	**0.0**
UGM	**Wanagama**	**1.04**	**2**	P	**Pn**	**11 02 41.0**	**-0.1**
YOGI	**Yogyakarta**	**1.15**	**350**	P	**Pn**	**11 02 44.3**	**+1.7**
WOJI	**Wonogiri, Jawa**	**1.19**	**21**	P	**Pn**	**11 02 43.8**	**+0.6**
PWJI	**Pagerwojo**	**1.60**	**55**	P	**Pn**	**11 02 49.6**	**+0.9**
WRA	**Warramunga Arr**	**25.51**	**118**	P	**P**	**11 07 46.8**	**0.0**
	0.3nm,0.8s,baz=290,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**26.75**	**126**	P	**P**	**11 07 58.9**	**+0.9**
	0.3nm,0.8s,baz=300,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**60.93**	**338**	P	**P**	**11 12 29.1**	**-1.4**
	0.3nm,0.4s,baz=162,slow=6.1,SNR=4.5						

*NEIC **13** 11:24:59.8±1.5,20°.4S±0°.1×178°.5W±0°.1,h562km±9km, mb4.3/35*
*ISCJB **13** 11:25:00.6±0.3,20°.42S±0°.07×178°.49W±0°.07,h587km, mb3.9/15,Error ellipse: s-maj=10.8km s-min=6.3km az=141.2*
*IDC **13** 11:25:02.3±2.3,20°.58S×178°.41W,h596km±28km, mb3.5/15,mb1 3.7/17,mb1mx3.5/35,mbtmp4.4/17,Error ellipse: s-maj=23.6km s-min=13.1km az=156.0*

ISC 13 11:25:01.8±0.5,20°.28S±0°.09×178°.44W±0°.07,h587km, n72,σ1§56/76,mb4.3/31,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.11**	**83**	P	**P**	**11 26 59.5**	**-2.2**
NIUE				S	**S**	**11 28 46.3**	**+6.3**
AFI	**Afiamalu**	**8.98**	**46**	P	**P**	**11 27 07.3**	**-3.1**
AFI				S	**S**	**11 28 49.6**	**-6.2**
DZM	**Mont Dzumac**	**14.22**	**260**	P	**P**	**11 28 04.6**	**+1.5**
	0.7nm,0.3s,baz=293,slow=24,SNR=9.2						
OUZ	**Omahuta**	**16.46**	**204**	P	**P**	**11 28 24.1**	**+0.3**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**11 28 36.7**	**-4.0**
	1.7nm,0.3s,baz=282,slow=2.8,SNR=13						
URZ	**Urewera**	**18.33**	**191**	P	**P**	**11 28 36.9**	**-3.8**
KNTN	**Kanton**	**18.59**	**22**	P	**P**	**11 28 42.8**	**-0.7**
MSWZ	**Moikau Station**	**21.74**	**193**	P	**P**	**11 29 09.9**	**-1.6**
QRZ	**Quartz Range**	**21.88**	**199**	P	**P**	**11 29 11.1**	**-1.7**
HNR	**Honiara**	**23.48**	**294**	P	**P**	**11 29 27.4**	**+0.1**
WHZ	**Wether Hill Ro**	**27.89**	**201**	P	**P**	**11 30 05.1**	**-0.6**
EIDS	**Eidsvold**	**28.51**	**254**	P	**P**	**11 30 11.7**	**+0.3**
EIDS				IAmb	IAmb	11 30 17.9	
	comp=Z,16nm,1.4s						
CTA	**Charters Tower**	**33.10**	**264**	P	**P**	**11 30 50.9**	**+0.2**
	comp=Z,16nm,0.4s,baz=89,slow=11,SNR=56						
CTAO	**Charters Tower**	**33.10**	**264**	P	**P**	**11 30 51.0**	**+0.2**
PMG	**Port Moresby**	**34.89**	**283**	P	**P**	**11 31 05.3**	**-0.4**
COEN	**Coen**	**37.16**	**274**	P	**P**	**11 31 25.2**	**+0.9**
COEN				IAmb	IAmb	11 31 25.5	
	comp=Z,7.5nm,0.8s						
STKA	**Stephens Creek**	**37.52**	**244**	P	**P**	**11 31 27.1**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=66,slow=10,SNR=3.7						
BBOO	**Buckleboo**	**42.28**	**243**	P	**P**	**11 32 04.3**	**-0.8**
BBOO				IAmb	IAmb	11 32 13.4	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**44.17**	**257**	P	**P**	**11 32 19.5**	**-0.4**
ASAR	**Alice Springs**	**44.17**	**257**	P	**P**	**11 32 19.4**	**-0.5**
	comp=Z,7.3nm,0.7s,baz=96,slow=7.6,SNR=113						
ASAR				PcP	**PcP**	**11 33 51.3**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=101,slow=3.8,SNR=9.5						
ASAR				S	**S**	**11 38 09.8**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=92,slow=16,SNR=5.0						
ASAR	**Alice Springs**	**44.17**	**257**	P	**P**	**11 32 19.2**	**-0.7**
WB2	**Warramunga Arr**	**44.21**	**262**	P	**P**	**11 32 19.4**	**-0.9**
WB2				IAmb	IAmb	11 32 20.1	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**44.22**	**262**	P	**P**	**11 32 19.6**	**-0.7**
WRAB				IAmb	IAmb	11 32 20.1	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**44.23**	**262**	P	**P**	**11 32 19.2**	**-1.1**
	comp=Z,4.3nm,0.5s,baz=98,slow=8.0,SNR=117						
WRA	**Warramunga Arr**	**44.23**	**262**	P	**P**	**11 32 19.3**	**-1.1**
MTN	**Manton Dam**	**48.75**	**271**	P	**P**	**11 32 54.1**	**-0.3**
MTN				IAmb	IAmb	11 32 55.0	
	comp=Z,11nm,0.6s						
FORT	**Forrest**	**49.01**	**246**	P	**P**	**11 32 55.3**	**-0.8**
FORT				IAmb	IAmb	11 33 00.5	
	comp=Z,20nm,0.9s						
KNRA	**Kununurra**	**50.26**	**266**	P	**P**	**11 33 05.1**	**-0.4**
KNRA				IAmb	IAmb	11 33 23.6	
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.65**	**262**	P	**P**	**11 33 22.6**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=73,slow=4.2,SNR=22						
FITZ	**Fitzroy Crossi**	**52.65**	**262**	P	**P**	**11 33 22.6**	**-0.1**
FITZ				IAmb	IAmb	11 33 24.5	
	comp=Z,8.2nm,1.1s						
SIJI	**Sorong**	**52.78**	**285**	P	**P**	**11 33 24.2**	**+0.5**
	comp=Z,19nm,0.6s,baz=101,slow=7.7,SNR=4.7						
PSA00	**Pilbara Seismi**	**57.32**	**257**	P	**P**	**11 33 54.4**	**-0.8**
PSA00				IAmb	IAmb	11 34 03.7	
	comp=Z,33nm,1.4s						
QSPA	**South Pole Qui**	**69.79**	**180**	P	**P**	**11 35 13.6**	**-0.2**
MJAR	**Matsushiro Arr**	**69.79**	**324**	P	**P**	**11 35 14.3**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=140,slow=5.9,SNR=5.2						
ADK	**Adak**	**71.87**	**1**	P	**P**	**11 35 26.4**	**+0.5**
UNV	**Unalaska Valle**	**74.53**	**7**	P	**P**	**11 35 41.1**	**+0.1**
PETK	**Petropavlovsk-**	**75.95**	**345**	P	**P**	**11 35 49.4**	**+0.4**
	comp=Z,6.4nm,1.0s,baz=126,slow=6.7,SNR=6.3						
KSRS	**Korea Array**	**76.45**	**319**	P	**P**	**11 35 53.3**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=125,slow=6.0,SNR=4.9						
USRK	**Ussuriysk Ar.**	**78.55**	**326**	P	**P**	**11 36 05.0**	**+1.8**
	comp=Z,2.6nm,0.7s,baz=139,slow=2.8,SNR=7.3						
USRK	**Ussuriysk Ar.**	**78.55**	**326**	P	**P**	**11 36 05.2**	**+2.0**
YBH	**Yreka Blue Hor**	**80.37**	**39**	P	**P**	**11 36 15.4**	**+2.3**
YERR	**Yerington**	**80.86**	**43**	P	**P**	**11 36 17.2**	**+1.4**
YERR				IAmb	IAmb	11 36 17.8	
	comp=Z,8.7nm,1.5s						
NVAR	**Mina Array Bea**	**81.15**	**44**	P	**P**	**11 36 18.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=224,slow=9.3,SNR=8.1						
KVN	**Kaiserville**	**81.63**	**43**	P	**P**	**11 36 21.2**	**+1.6**
MOD	**Modoc Plateau**	**81.91**	**40**	P	**P**	**11 36 22.4**	**+1.4**
SCM	**Sheep Creek Mo**	**85.52**	**14**	P	**P**	**11 36 39.0**	**+0.8**
SCM				IAmb	IAmb	11 36 43.4	
	comp=Z,15nm,1.4s						
GLB	**Gilahina Butte**	**86.04**	**16**	P	**P**	**11 36 41.1**	**+0.4**
GLB				IAmb	IAmb	11 36 50.4	
	comp=Z,4.6nm,1.3s						
B08A	**Colville Reser**	**86.28**	**35**	P	**P**	**11 36 41.7**	**-0.4**
PLID	**Pearl Lake**	**86.30**	**39**	P	**P**	**11 36 43.2**	**+0.7**
RND	**Reindeer**	**86.57**	**13**	P	**P**	**11 36 43.6**	**+0.4**
RND				IAmb	IAmb	11 36 44.0	
	comp=Z,6.7nm,0.8s						
TXAR	**Lajitas Array**	**87.28**	**58**	P	**P**	**11 36 48.7**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=213,slow=4.3,SNR=8.4						
HDA	**Harding Lake**	**87.86**	**13**	P	**P**	**11 36 49.2**	**+0.1**
HDA				IAmb	IAmb	11 36 49.9	
	comp=Z,3.3nm,0.6s						
CCB	**Clear Creek Bu**	**87.89**	**13**	P	**P**	**11 36 49.0**	**-0.1**
CCB				IAmb	IAmb	11 36 49.2	
	comp=Z,3.5nm,0.6s						
IMAR	**Indian Mountai**	**88.01**	**10**	P	**P**	**11 36 50.2**	**+0.5**
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**11 36 50.1**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=223,slow=5.5,SNR=16						
PDAR	**Pinedale Array**	**89.08**	**43**	P	**P**	**11 36 55.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=213,slow=3.8,SNR=7.2						
PDAR	**Pinedale Array**	**

JMA 13 11:42:30.8±0.3, 37°.24N×144°.39E, h52km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.55**	**296**	P	Pn	11 43 11.0	+1.3
JIO	**Ouri**	**2.69**	**298**	P	Pn	11 43 13.1	+1.5
JIO				eS	Sn	11 43 44.8	+1.8
JKMT	**Kesennumamotoy**	**2.79**	**305**	P	Pn	11 43 14.0	+1.1
JKMT				S	Sn	11 43 46.4	+1.1
OFUJ	**Ofunato**	**2.82**	**311**	P	Pn	11 43 14.5	+1.1
JMST	**Minamisoumatoc**	**2.83**	**281**	P	Pn	11 43 14.5	+1.0
JMST				S	Sn	11 43 47.5	+1.2
JMK	**Ichinoseki**	**3.03**	**305**	P	Pn	11 43 17.7	+1.5
JMK				S	Sn	11 43 53.3	+2.1
JFT	**Otama**	**3.24**	**276**	P	Pn	11 43 21.7	+2.5
JFT				eS	Sn	11 43 58.8	+2.3
JRY	**Ryogami san**	**4.58**	**256**	P	Pn	11 43 38.3	+0.8
JRY				eS	Sn	11 44 29.2	-0.3
JCH	**Churui**	**5.43**	**352**	P	Pn	11 43 48.3	-0.8
JCH				eS	Sn	11 44 47.4	-2.7
JTKR	**Abashiri--Toko**	**6.73**	**357**	P	Pn	11 44 06.3	-0.7
JTKR				S	Sn	11 45 19.2	-3.1

*SJA **13** 11:54:00.7±1.2, 22°.29S×67°.37W, h184km±10km, ML2.6, MW2.7*
*ISCJB **13** 11:54:01.2±0.8, 22°.25S±0°.04×67°.42W±0°.05, h179km±9km, Error ellipse: s-maj=7.0km s-min=6.0km az=161.1*
*GUC **13** 11:54:01.6±0.5, 22°.22S×67°.56W, h184km±7km, ML3.3*

ISC 13 11:54:00.6±1.6, 22°.25S±0°.05×67°.39W±0°.05, h185km±14km, n24, σ1§03/42, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.45**	**256**	eP	Pn	11 54 33.6	+0.7
LVC				i S	Sn	11 54 57.5	-0.4
LVC	**Limon Verde**	**1.45**	**256**	⇓P	Pn	11 54 33.6	+0.7
LVC				eS	Sn	11 54 57.2	-0.7
LVC				IAML		11 55 01.0	
	comp=Z,14nm,0.1s						
YJA	**Yavi**	**1.74**	**88**	i P	Pn	11 54 36.8	+0.9
YJA				eS	Sn	11 55 00.8	-2.3
YJA				IAML		11 55 05.5	
	comp=Z,3.5nm,0.3s						
PB09	**IPOC Station P**	**1.77**	**285**	eP	Pn	11 54 37.1	+1.2
PB09				eS	Sn	11 55 02.8	-0.4
PB09	**IPOC Station P**	**1.77**	**285**	i P	Pn	11 54 37.0	+1.0
PB09				eS	Sn	11 55 03.2	0.0
PB09				IAML		11 55 04.4	
	comp=Z,42nm,0.5s						
HJA	**Humahuaca**	**2.06**	**118**	i P	Pn	11 54 40.1	+0.9
HJA				IAML		11 54 40.3	
	comp=Z,6.0nm,0.4s						
PB06	**IPOC Station P**	**2.06**	**257**	eP	Pn	11 54 39.4	+0.5
PB06				i S	Sn	11 55 08.5	-0.1
PB06				IAML		11 55 10.4	
	comp=E,63nm,0.2s						
PB06	**IPOC Station P**	**2.06**	**257**	i P	Pn	11 54 38.9	0.0
PB06				eS	Sn	11 55 09.2	+0.5
PB06				IAML		11 55 11.9	
	comp=Z,33nm,0.2s						
PB15	**IPOC Station P**	**2.14**	**243**	eP	Pn	11 54 40.6	+0.8
PB15				i S	Sn	11 55 10.3	+0.1
PB15				IAML		11 55 13.4	
	comp=E,244nm,0.2s						
PB15	**IPOC Station P**	**2.14**	**243**	i P	Pn	11 54 41.1	+1.3
PB15				eS	Sn	11 55 10.4	+0.1
PB03	**IPOC Station P**	**2.20**	**275**	eP	Pn	11 54 40.9	+0.5
PB03				i S	Sn	11 55 10.2	-1.0
PB03				IAML		11 55 12.3	
	comp=E,188nm,0.1s						
PB01	**IPOC Station P**	**2.29**	**301**	eP	Pn	11 54 41.8	+0.5
PB01				i S	Sn	11 55 12.4	-0.6
PB01				IAML		11 55 16.4	
	comp=N,101nm,0.2s						
PB07	**IPOC Station P**	**2.37**	**282**	eP	Pn	11 54 43.0	+0.6
PB07				i S	Sn	11 55 13.1	-1.6
PB07				IAML		11 55 14.1	
	comp=N,178nm,0.3s						
PB04	**IPOC Station P**	**2.55**	**268**	i P	Pn	11 54 45.3	+0.9
PB04				eS	Sn	11 55 16.7	-1.7
PB04				IAML		11 55 17.8	
	comp=Z,84nm,0.2s						
PB08	**IPOC Station P**	**2.67**	**322**	⇑iP	Pn	11 54 47.4	+1.4
PB08				i S	Sn	11 55 21.9	+0.6
PB08				IAML		11 55 23.1	
	comp=E,28nm,0.3s						
GO01	**Chusmiza**	**3.07**	**326**	⇑iP	Pn	11 54 51.9	+0.9
GO01				i S	Sn	11 55 30.7	+0.6
GO01				IAML		11 55 33.6	
	comp=N,106nm,0.1s						
PB10	**IPOC Station P**	**3.17**	**246**	i P	Pn	11 54 52.0	+0.4
PB11	**IPOC Station P**	**3.26**	**319**	eP	Pn	11 54 52.8	-0.1
PB11				i S	Sn	11 55 31.4	-2.2
GO02	**Mina Guanaco**	**3.53**	**214**	eP	Pn	11 54 57.2	+0.9
GO02				eS	Sn	11 55 39.2	-0.6
PB14	**IPOC Station P**	**3.64**	**229**	i P	Pn	11 54 58.2	+0.6
PB14				IAML		11 55 45.3	
	comp=Z,12nm,0.2s						
PSGC	**Pisagua**	**3.67**	**316**	eP	Pn	11 54 56.9	-1.0
MNMC	**Minye Minye**	**3.73**	**326**	⇑iP	Pn	11 54 59.3	+0.5
MNMC				i S	Sn	11 55 42.8	-1.5
LPAZ	**La Paz**	**5.98**	**353**	i P	Pn	11 55 30.0	+1.9
TCA	**Tanti**	**9.38**	**165**	i P	Pn	11 56 11.4	-0.7
TCA				IAML		11 56 13.3	
	comp=Z,1.2nm,0.3s						

*IDC **13** 12:14:37.9±3.6, 36°.15N×71°.23E, h109km±32km, mb3.4/7, mb1 3.6/13, mb1mx3.3/70, mbtmp3.9/13, Error ellipse: s-maj=26.7km s-min=19.7km az=15.0*
*BJI **13** 12:14:37.4±0.0, 36°.52N×70°.86E, h116km, mb4.4/7, mB4.9/5*
*ISCJB **13** 12:14:40.0±0.3, 36°.42N±0°.02×71°.33E±0°.04, h150km, mb3.6/7, Error ellipse: s-maj=4.9km s-min=3.0km az=170.0*
*NEIC **13** 12:14:41.0±1.2, 36°.49N±0°.07×71°.23E±0°.08, h140km±8km, mb4.0/10*
*NNC **13** 12:14:45.4±3.8, 36°.78N×71°.22E, h132km±60km, mb3.8, mpv4.4, Error ellipse: s-maj=34.0km s-min=28.0km az=152.0*

ISC 13 12:14:41.2±0.5, 36°.41N±0°.05×71°.35E±0°.05, h150km, n78, σ1§68/88, mb3.8/11, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.62**	**170**	⇓P	Pn	12 15 24.1	+0.1
CEP				S	Sn	12 15 56.0	-1.0
KBL	**Kabul**	**2.65**	**226**		Pn	12 15 23.2	-1.2
KBL				Sn	Sn	12 15 55.3	-2.4
CHCP	**Chirah Chowk**	**3.17**	**150**	P	Pn	12 15 31.5	+0.8
NIL	**Nilore**	**3.17**	**150**		Pn	12 15 31.6	+0.9
NIL				Sn	Sn	12 16 10.9	+1.9
THW	**Thamme Wali**	**3.62**	**175**	⇓P	Pn	12 15 36.4	-0.2
JMU	**Jammu**	**4.71**	**140**	eS	Sn	12 16 37.5	-7.4
KSH	**Kashi**	**4.79**	**48**	P	Pn	12 15 49.3	-2.6
KSH				S	Sn	12 16 38.1	-8.9
KSH				smax	smax		
	comp=N,810nm,0.6s						
KSH				smax	smax		
	comp=E,460nm,0.5s						
ARSB	**Arslanbob**	**5.07**	**14**	Pn	Pn	12 15 54.8	-0.7
ARSB				Sn	Sn	12 16 51.5	-2.0
DHRM	**DHARAMSHALA**	**5.83**	**134**	eP	Pn	12 16 06.2	+0.3
DHRM				eS	Sn	12 17 08.9	-3.1
DHRM				IAML		12 17 12.0	
	comp=E,395nm,0.3s						
DHRM				IAML		12 17 12.2	
	comp=N,258nm,0.3s						
AML	**Almayashu**	**5.99**	**17**	P	Pn	12 16 07.4	-0.7
	SNR=111						
NRN	**Naryn**	**6.19**	**34**		Pn	12 15 53.9	-17
UCH	**Uchtor**	**6.30**	**22**	P	Pn	12 16 12.2	-0.1
	SNR=37						
KZA	**Kyzart**	**6.42**	**27**	P	Pn	12 16 13.6	-0.1
	SNR=12						
EKS2	**Erkin-Say**	**6.52**	**16**	P	Pn	12 16 14.8	+0.1
	SNR=20						
AAK	**Ala-Archa**	**6.67**	**20**	⇓P	Pn	12 16 17.2	+0.3
	comp=N,6.5nm,0.3s						
AAK				⇑S	Sn	12 17 29.8	-2.1
	comp=N,24nm,0.6s						
AAK	**Ala-Archa**	**6.67**	**20**	P	Pn	12 16 17.1	+0.2
	comp=N,5.4nm,0.3s,baz=170,slow=5.4,SNR=55						
AAK				S	Sn	12 17 29.8	-2.1
	comp=N,0.9nm,0.3s,baz=134,slow=24,SNR=5.2						
AAK	**Ala-Archa**	**6.67**	**20**	P	Pn	12 16 17.1	+0.2
	SNR=19						
AAK	**Ala-Archa**	**6.67**	**20**		Pn	12 16 17.4	+0.5
AAK					Sn	12 17 30.2	-1.8
KK31	**Karatay Array**	**6.71**	**355**	⇑P	Pn	12 16 16.5	-0.8
	comp=N,33nm,0.3s,baz=178,slow=13,SNR=304						
KK31				⇑S	Sn	12 17 28.6	-4.1
	comp=N,6.3nm,0.3s,baz=180,slow=22,SNR=8.1						
KK31	**Karatay Array**	**6.71**	**355**		Pn	12 16 16.7	-0.6
KK31				Sn	Sn	12 17 28.2	-4.4
KKAR	**Karatay Array**	**6.71**	**355**		Pn	12 16 16.5	-0.8
KKAR				Sn	Sn	12 17 30.5	-2.2
KKAR	**Karatay Array**	**6.71**	**355**		Pn	12 16 16.5	-0.8
KKAR				Sn	Sn	12 17 30.5	-2.2
KBK	**Karagaybulak**	**6.83**	**23**	P	Pn	12 16 19.4	+0.4
	SNR=12						
CHMS	**Chumysh**	**7.08**	**21**	P	Pn	12 16 22.3	+0.1
	SNR=8.2						
SMLA	**Simla**	**7.16**	**136**	eP	Pn	12 16 23.1	-0.2
SMLA				eS	Sn	12 17 37.1	-6.3
SMLA				IAML		12 17 43.0	
	comp=E,147nm,0.4s						
SMLA				IAML		12 17 43.5	
	comp=N,112nm,0.4s						
USP	**Ospenovka**	**7.26**	**19**	P	Pn	12 16 24.7	0.0
	SNR=13						
TKM2	**Tokmak 2**	**7.28**	**25**	⇑P	Pn	12 16 25.3	+0.3
	comp=N,9.5nm,0.5s						
TKM2				⇑S	Sn	12 17 42.9	-3.6
	comp=N,3.0nm,0.5s						
TKM2	**Tokmak 2**	**7.28**	**25**	P	Pn	12 16 25.2	+0.1
	SNR=21						
KDJ	**Kajisay**	**7.28**	**37**		Pn	12 16 25.9	+0.9
TARG	**Taragay, Kyrgy**	**7.31**	**41**		Pn	12 16 26.0	+0.4
JOSI	**Joshimath**	**9.01**	**128**	eP	Pn	12 16 48.8	+0.6
JOSI				eS	Sn	12 18 21.1	-7.2
JOSI				IAML		12 18 26.4	
	comp=E,81nm,0.7s						
JOSI				IAML		12 18 27.2	
	comp=N,99nm,0.5s						
KUDL	**Kundal**	**9.32**	**151**	eP	Pn	12 16 42.1	-10
KUDL				eS	Sn	12 18 18.4	-17
GEYT	**Alibeck**	**10.67**	**282**	P	Pn	12 17 07.6	-2.4
	comp=N,1.3nm,0.3s,baz=104,slow=12,SNR=6.3						
GEYT	**Alibeck**	**10.67**	**282**	Pn	Pn	12 17 08.9	-1.1
GYA0B	**ALIBECK ARRAY**	**10.67**	**282**	Pn	Pn	12 17 08.3	-1.6
MAKZ	**Makanchi**	**13.07**	**34**	Pn	Pn	12 17 41.3	+0.2
MAKZ					Sn	12 20 02.6	-3.0
MKAR	**Makanchi Array**	**13.20**	**35**	P	Pn	12 17 43.8	+1.0
	comp=N,0.1nm,0.3s,baz=219,slow=15,SNR=5.6						
MKAR	**Makanchi Array**	**13.20**	**35**		Pn	12 17 42.8	+0.1
DANN	**Dangsing**	**13.21**	**124**	eP	Pn	12 17 41.3	-2.0
	comp=N,13nm,0.3s						
KOLN	**Koldanda**	**13.49**	**126**	eP	Pn	12 17 45.2	-1.6
	comp=N,7.3nm,0.3s						
GKN	**Gorkha**	**14.02**	**123**	eP	Pn	12 17 52.0	-1.5
	comp=N,19nm,0.3s						
WMQ	**Urumqi**	**14.52**	**54**	eP	P	12 18 02.5	+0.5
WMQ				pmax	pmax		
	comp=N,8.0nm,1.1s						
WMQ				pmax	pmax		
	comp=N,160nm,7.3s						
WMQ				LR	LR		
	comp=N,260nm,29.1s						
WMQ				LR	LR		
	comp=N,1μm,28.8s						
WMQ				LR	LR		
	comp=N,66nm,27.3s						
DMN	**Daman**	**14.59**	**123**	eP	Pn	12 17 59.7	-1.1
	comp=N,8.5nm,0.4s						
KKN	**Kakani**	**14.59**	**122**	eP	Pn	12 17 59.3	-1.4
	comp=N,13nm,0.5s						
PKIN	**Phulchoki**	**14.81**	**123**	eP	Pn	12 18 02.3	-1.2
	comp=N,13nm,0.4s						
PKI	**Pulchoki**	**14.82**	**123**	eP	Pn	12 18 02.5	-1.2
	comp=N,12nm,0.3s						
GUN	**Gumba**	**14.93**	**120**	eP	Pn	12 18 03.6	-1.5
	comp=N,8.5nm,0.3s						
KURBB	**Kurchatov Arra**	**15.12**	**18**	P	P	12 18 09.7	+1.2
	comp=N,0.2nm,0.3s,baz=207,slow=10,SNR=6.5						
KURK	**Kurchatov**	**15.22**	**18**		Pn	12 18 07.8	-0.3
AB31	**Akbulak array**	**15.29**	**331**	P	P	12 18 08.8	-1.6
	comp=N,2.6nm,0.3s,baz=146,slow=12,SNR=142						
ABKAR	**Akbulak array**	**15.29**	**331**		Pn	12 18 08.0	-1.1
ABKAR	**Akbulak array**	**15.29**	**331**		Pn	12 18 07.7	-1.3
JIRN	**Jiri**	**15.30**	**121**	eP	Pn	12 18 08.8	-0.9
	comp=N,45nm,0.4s						
RAMN	**Ramite**	**16.03**	**122**	eP	Pn	12 18 18.3	-0.2
	comp=N,15nm,0.5s						
TAPN	**Taplejung**	**16.56**	**118**	eP	P	12 18 25.6	+0.7
	comp=N,15nm,0.4s						
BVAR	**Borovoye Array**	**16.62**	**358**	P	Pn	12 18 26.3	+1.1
	comp=N,0.5nm,0.3s,baz=177,slow=12,SNR=6.3						
ODAN	**Odare**	**16.64**	**120**	eP	P	12 18 26.5	+0.8
	comp=N,12nm,0.5s						
BRVK	**Borovoye**	**16.66**	**358**	P	Pn	12 18 27.0	+1.3
AKTO	**Aktyubinsk**	**17.00**	**330**	⇓P	Pn	12 18 31.1	+1.3
	comp=N,11nm,0.8s						
AKTO	**Aktyubinsk**	**17.00**	**330**	P	Pn	12 18 31.5	+1.8
	comp=N,0.6nm,0.3s,baz=140,slow=9.0,SNR=35						
ZAA0	**Zalesovo Array**	**19.88**	**24**	P	P	12 19 00.5	-0.1
ZAA0				IAmb	IAmb	12 19 03.7	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	Pn	12 19 02.5	-1.2
	comp=Z,3.0nm,0.4s,baz=214,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	P	12 19 01.0	+0.5
ARU	**Arti**	**21.80**	**341**	P	P	12 19 20.3	-0.8
ARU				IAmb	IAmb	12 19 25.8	
	comp=Z,15nm,1.5s						
ULN	**Ulaanbaatar**	**28.60**	**55**	P	P	12 20 24.0	+0.8
ULN				IAmb	IAmb	12 20 26.3	
	comp=Z,1.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**31.53**	**69**	eP	P	12 20 54.5	+5.3
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**37.71**	**326**	P	P	12 21 44.1	+2.3
	comp=Z,2.2nm,0.8s,baz=122,slow=9.3,SNR=4.3						
FINES	**FINESS Array B**	**37.71**	**326**	P	P	12 21 43.4	+1.6
ARCES	**ARCESS Array B**	**41.33**	**338**	P	P	12 22 14.4	+2.7
	comp=Z,0.8nm,0.4s,baz=119,slow=9.8,SNR=7.7						
NOA	**NORSAR Array B**	**44.62**	**323**	P	P	12 22 39.9	+1.7
	comp=Z,1.7nm,0.8s,baz=96,slow=7.7,SNR=4.2						
TOA0	**Torodi Ar. Sit**	**66.00**	**269**	P	P	12 25 11.3	-0.4
TOA0				IAmb	IAmb	12 25 19.2	
	comp=Z,3.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P	P	12 25 11.5	-0.2
	comp=Z,0.4nm,0.5s,baz=53,slow=5.9,SNR=7.2						
TOLK	**Toolik Lake Re**	**70.94**	**15**	P	P	12 25 44.3	+2.6
TOLK				IAmb	IAmb	12 25 57.2	
	comp=Z,6.0nm,1.4s						
IMAR	**Indian Mountai**	**72.17**	**18**	P	P	12 25 50.8	+1.7
WRA	**Warramunga Arr**	**81.71**	**122**	P	P	12 26 44.2	+1.1
	comp=Z,0.2nm,0.6s,baz=325,slow=4.9,SNR=6.7						
WRA	**Warramunga Arr**	**81.71**	**122**	IAmb	IAmb	12 26 46.0	
	comp=Z,0.2nm,1.4s						
WB2	**Warramunga Arr**	**81.72**	**122**	P	P	12 26 44.4	+1.4
ASAR	**Alice Springs**	**83.98**	**125**	P	P	12 26 56.1	+1.4
	comp=Z,0.2nm,0.8s,baz=316,slow=5.2,SNR=3.2						

*ISCJB **13** 12:17:42.8±0.9, 41°.84N±0°.02×126°.79W±0°.05, h7km±7km, mb4.1/11, MS3.8/16, Error ellipse: s-maj=6.7km s-min=3.8km az=166.0*
*IDC **13** 12:17:42.5±1.6, 41°.76N×126°.94W, h0km, mb4.0/8, mb1 4.1/11, mb1mx3.8/62, mbtmp3.9/11, ML3.1/3, MS3.8/20, Ms1 3.8/20, ms1mx3.6/45, Error ellipse: s-maj=38.1km s-min=13.0km az=30.0*
*NEIC **13** 12:17:43.1±2.0, 41°.75N±0°.06×127°.0W±0°.1, h10km±2km, mb4.0/5*
*GCMT **13** 12:17:46.1±0.4, 42°.00N±0°.04×127°.07W±0°.03, h13km±1km, MW4.7/78, Moment Tensor Solution. s18,c18; s78,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.53±.12; $M_{\theta\theta}$0.13±.07; $M_{\phi\phi}$1.40±.09; $M_{r\theta}$0.35±.22; $M_{\theta\phi}$0.16±.04; $M_{\phi r}$-0.09±.18; Best double couple: $M_0$1.51400×10^{16}*
NP1:ϕ_s355.00000°, δ47.00000°, λ-106.00000°. NP2: ϕ_s199.00000°, δ45.00000°, λ-73.00000°. Principal axes: T 1.4210, Plg1.0000°, Azm97.0000°; N 0.1850, Plg12.0000°, Azm7.0000°; P -1.6080, Plg78.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*ANF **13** 12:17:47.2±1.2, 41°.88N×126°.37W, ML3.4/17 Error ellipse: s-maj=13.5km s-min=5.0km az=89.0*

ISC 13 12:17:46.1±4.5, 41°.90N±0°.05×126°.77W±0°.07, h13km±28km, n163, σ1§63/155, mb4.0/11, MS3.9/16, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.92**	**80**		Pn	12 18 16.8	-1.7
KBO				Sn	Sb	12 18 45.5	+0.5
KEBM	**Edson Butte**	**2.05**	**61**		Pn	12 18 19.0	-1.3
KEBM				Sn	Sn	12 18 43.1	-2.7
KSXB	**Camp Six Broad**	**2.16**	**91**		Pn	12 18 20.0	-1.9
KRMB	**Red Mountain**	**2.18**	**99**	Pn	Pn	12 18 20.3	-1.8
KRMB					Sn	12 18 49.2	+0.1
KRPM	**Rodgers**	**2.19**	**109**		Pn	12 18 19.9	-2.3
KCTM	**Capetown**	**2.33**	**127**		Pn	12 18 21.4	-2.6
JCC	**Jacoby Creek,**	**2.33**	**117**	Pn	Pn	12 18 21.3	-2.8
JCC				Sn	Sn	12 18 51.5	-1.0
L02E	**Cave Junction**	**2.38**	**83**	P	Pn	12 18 22.9	-1.8
	baz=267,SNR=24						
L02E	**Cave Junction**	**2.38**	**83**		Pn	12 18 22.9	-1.8
L02E					Sn	12 18 54.9	+1.2
K02D	**Willamette Mer**	**2.44**	**70**	P	Pn	12 18 23.9	-1.7
	baz=253,SNR=17						
K02D				S	Sn	12 18 52.9	-2.5
	baz=253						
J01E	**Myrtle Point**	**2.45**	**58**	P	Pn	12 18 24.2	-1.6
	baz=241,SNR=30						
J01E				S	Sn	12 18 53.6	-1.9
	baz=241						
KMPM	**Mount Pierce**	**2.49**	**126**		Pn	12 18 23.1	-3.3
KHMM	**Horse Mountain**	**2.51**	**113**	Pn	Pn	12 18 25.0	-1.7
KTRM	**Thompson Ridge**	**2.54**	**89**		Pn	12 18 25.4	-1.7
KSMM	**Slide Mountain**	**2.61**	**130**		Pn	12 18 24.4	-3.6
KCRM	**Chalk Rock**	**2.67**	**122**		Pn	12 18 26.0	-2.9
KCSM	**Cold Springs**	**2.81**	**118**		Pn	12 18 28.7	-2.2
KMRM	**Mail Ridge**	**2.86**	**125**	Pn	Pn	12 18 29.4	-2.1
DBO	**Dodson Butte**	**2.88**	**64**		Pn	12 18 30.9	-0.9
HUMO	**Hull Mountain**	**2.92**	**75**		Pn	12 18 31.3	-0.9
KHBM	**Hayfork Bally**	**2.95**	**114**		Pn	12 18 30.5	-2.3
M02C	**Callahan**	**2.98**	**98**	P	Pn	12 18 31.8	-1.3
	baz=283,SNR=29						
M02C	**Callahan**	**2.98**	**98**		Pn	12 18 31.9	-1.2
YBH	**Yreka Blue Hor**	**3.04**	**92**	Pn	Pn	12 18 33.6	-0.3
	9.3nm,0.3s,baz=292,slow=13,SNR=105						
YBH				LR	LR	12 19 37.1	
	comp=Z,2μm,20.6s,baz=234,slow=36						
YBH	**Yreka Blue Hor**	**3.04**	**92**	Pn	Pn	12 18 34.0	+0.1
I02D	**Swisshome**	**3.08**	**43**	P	Pn	12 18 34.0	-0.4
	baz=225,SNR=52						
I02D				S	Sn	12 19 10.3	-0.7
	baz=225						
I03D	**Drain, OR**	**3.10**	**53**	P	Pn	12 18 33.4	-1.2
	baz=236,SNR=39						
I03D				S	Sn	12 19 10.3	-1.2
	baz=236						
LAMM	**Antelope Mount**	**3.12**	**94**		Pn	12 18 34.7	-0.4
KBSM	**Bell Springs**	**3.12**	**128**		Pn	12 18 32.8	-2.2
LGPM	**Granite Peak**	**3.13**	**107**		Pn	12 18 33.5	-1.7
BBOR	**Butler Butte**	**3.19**	**71**		Pn	12 18 36.3	+0.2
LBKM	**Bonanza King**	**3.19**	**103**		Pn	12 18 34.7	-1.4
N02D	**Trinity Center**	**3.19**	**105**	P	Pn	12 18 34.4	-1.7
	baz=290,SNR=13						
N02D	**Trinity Center**	**3.19**	**105**		Pn	12 18 34.5	-1.6
B040	**Montague**	**3.25**	**90**		Pn	12 18 36.2	-0.6
KIPM	**Iron Peak**	**3.25**	**129**		Pn	12 18 34.2	-2.7
KCPM	**Cahto Peak**	**3.28**	**131**	Pn	Pn	12 18 33.9	-3.4
LBPM	**Beegum Peak**	**3.34**	**117**		Pn	12 18 35.9	-2.1
L04D	**Klamath Falls**	**3.34**	**83**	P	Pn	12 18 37.4	-0.7
	baz=267,SNR=32						
L04D	**Klamath Falls**	**3.34**	**83**		Pn	12 18 38.2	0.0
KBNM	**Bluenose Ridge**	**3.37**	**125**		Pn	12 18 36.3	-2.3
KFPM	**Farley Peak**	**3.40**	**130**		Pn	12 18 35.5	-3.4
LHEM	**Herd Peak**	**3.42**	**93**		Pn	12 18 39.0	-0.3
WDC	**Whiskeytown Da**	**3.45**	**111**		Pn	12 18 38.4	-1.2
O02D	**Mt. Diablo Mer**	**3.47**	**118**	P	Pn	12 18 38.2	-1.6
	baz=303						
O02D	**Mt. Diablo Mer**	**3.47**	**118**		Pn	12 18 37.9	-1.9
LMPM	**Military Pass**	**3.48**	**95**		Pn	12 18 40.7	+0.7
GTC	**Three Chop Rid**	**3.50**	**135**		Pn	12 18 37.3	-2.9
M03C	**McCloud**	**3.54**	**99**		Pn	12 18 41.6	+0.7
KRKM	**Rackout Spring**	**3.59**	**129**		Pn	12 18 38.9	-2.6
GNAM	**Navarro Ridge**	**3.61**	**137**		Pn	12 18 38.9	-2.8
GROM	**Round Mountain**	**3.69**	**121**		Pn	12 18 40.7	-2.1
M04C	**Macdoel**	**3.69**	**90**	P	Pn	12 18 42.5	-0.4
	baz=275,SNR=33						
M04C	**Macdoel**	**3.69**	**90**		Pn	12 18 42.9	0.0
COR	**Corvallis**	**3.69**	**42**		Pn	12 18 42.5	-0.3
COR				Sn	Sn	12 19 29.0	+2.9
J04D	**Umpqua Nationa**	**3.70**	**67**	P	Pn	12 18 43.2	+0.2
	baz=251,SNR=22						
LBFM	**Black Fox Moun**	**3.70**	**97**		Pn	12 18 43.8	+0.7
LSHM	**Sage Hen Hill**	**3.73**	**106**		Pn	12 18 43.1	-0.3
GVV	**Valley View**	**3.76**	**123**		Pn	12 18 41.7	-2.2
K04D	**Chiloquin, OR**	**3.80**	**77**	P	Pn	12 18 43.9	-0.5
	baz=262						
LMHM	**Little Mount H**	**3.84**	**93**		Pn	12 18 44.7	-0.4
LASM	**Arnica Sink**	**3.90**	**93**		Pn	12 18 45.4	-0.5
H04D	**Lebanon**	**3.95**	**47**	P	Pn	12 18 46.4	+0.1
	baz=230,SNR=15						
H04D				S	Sn	12 19 32.2	-0.3
	baz=230						
LDBM	**Digger Butte**	**4.04**	**110**		Pn

B06A	Marblemount	7.60	28	Pn		Pn	12 19 35.7	-0.7
F10A	Beach Ranch, E	8.00	56			Pn	12 19 44.0	+1.9
MFID	Camas Ranch	8.21	76			Pn	12 19 43.6	-1.4
B08A	Colville Reser	8.33	37			Pn	12 19 45.0	-1.5
C09A	Chrisman Ranch	8.44	43	Pn		Pn	12 19 46.9	-1.1
PLID	Pearl Lake	8.46	64			Pn	12 19 49.8	+1.3
ELK	Elko	8.76	94	Pn		Pn	12 19 55.6	+3.0
	0.1nm,0.3s,baz=284,slow=17,SNR=8.2							
ELK	Elko	8.76	94			Pn	12 19 53.3	+0.7
ISA	Isabella, Lake	8.98	131			Pn	12 19 53.5	-2.0
R11A	Troy Canyon, C	9.27	109	Pn		Pn	12 19 58.1	-1.5
NEW	Newport	9.33	44	LR		LR	12 23 44.2	
	comp=Z,1μm,18.3s,baz=232,slow=38							
TPNV	Topopah Spring	9.52	118			Pn	12 20 01.8	-1.2
BBB	Bella Bella	10.33	355	LR		LR	12 23 24.3	
	comp=Z,220nm,21.3s,baz=154,slow=33							
PSUT	Pine Spring	10.44	105			Pn	12 20 14.6	-0.9
HVU	Hansel Valley	10.45	86			Pn	12 20 15.7	0.0
SHPR	Sheep Range	10.49	117			Pn	12 20 20.5	+4.2
MCMT	McKenzie Canyo	10.55	69	Pn		Pn	12 20 17.3	+0.1
SPUT	South Promonto	10.75	88			Pn	12 20 19.0	-0.7
DLMT	Dillon	10.84	67			Pn	12 20 21.0	0.0
CCUT	Cedar City	11.20	108			Pn	12 20 24.4	-1.7
WALA	Waterton Lakes	11.51	47	Pn		Pn	12 20 30.3	+0.1
BOZ	Bozeman (W)	11.56	66			Pn	12 20 31.1	+0.2
PFO	Pinyon Flats O	11.61	132	LR		LR	12 24 55.1	
	comp=Z,523nm,18.0s,baz=302,slow=37							
YHL	Hebgen Lake	11.72	70			Pn	12 20 34.4	+1.2
W13A	Hualapai Mount	12.16	120			Pn	12 20 42.7	+3.5
PDAR	Pinedale Array	12.77	80	LR		LR	12 25 58.2	
	comp=Z,731nm,21.0s,baz=273,slow=38							
X18A	Snowflake	15.12	114			Pn	12 21 18.0	-1.5
X18A					IAmb	IAmb	12 21 32.7	
	comp=Z,19nm,1.5s							
N23A	Red Feather La	15.66	87	Pn		Pn	12 21 26.3	-0.4
N23A					IAmb	IAmb	12 21 42.0	
	comp=Z,14nm,1.4s							
PHWY	Pilot Hill	15.96	85	Pn		Pn	12 21 30.2	-0.3
SDCO	Great Sand Dun	16.85	97	P		Pn	12 21 42.2	+0.3
SDCO					IAmb	IAmb	12 21 47.8	
	comp=Z,17nm,1.5s							
ANMO	Albuquerque	17.35	107	LR		LR	12 28 57.5	
	comp=Z,420nm,20.6s,baz=302,slow=39							
YKA	Yellowknife Ar	21.86	15	P		P	12 22 37.6	-0.5
	comp=Z,3.2nm,0.8s,baz=205,slow=11,SNR=3.0							
LPIG	La Paz	22.42	137	LR		LR	12 30 28.1	
	comp=Z,232nm,19.7s,baz=329,slow=34							
TXAR	Lajitas Array	22.50	116	P		P	12 22 46.9	+1.4
	comp=Z,1.3nm,1.1s,baz=293,slow=6.7,SNR=7.1							
TXAR					LR	LR	12 31 54.1	
	comp=Z,101nm,18.6s,baz=0.0,slow=38							
KDAK	Kodiak Island	22.80	323	LR		LR	12 29 18.6	
	comp=Z,367nm,21.2s,baz=126,slow=30							
ULM	Lac du Bonnet	22.87	58	P		P	12 22 48.6	-0.5
	comp=Z,3.7nm,0.7s,baz=261,slow=6.6,SNR=3.1							
ULM					LR	LR	12 32 35.1	
	comp=Z,73nm,19.4s,baz=280,slow=39							
ULM	Lac du Bonnet	22.87	58	P		P	12 22 48.9	-0.2
ILAR	Eielson Array	25.64	340	P		P	12 23 14.8	-0.3
	comp=Z,2.2nm,0.9s,baz=153,slow=7.7,SNR=16							
ILAR					PcP	PcP	12 26 43.6	-1.6
	comp=Z,1.1nm,1.0s,baz=183,slow=3.2,SNR=6.3							
ILAR					LR	LR	12 32 12.0	
	comp=Z,48nm,18.4s,baz=158,slow=34							
INK	Inuvik	26.71	354	LR		LR	12 33 29.0	
	comp=Z,99nm,19.5s,baz=126,slow=35							
RES	Resolute Bay	35.91	14	P		P	12 24 45.6	+0.1
	comp=Z,3.0nm,0.8s,baz=236,slow=8.0,SNR=4.9							
H11N3	WAKE ISLAND Hy	59.63	270	T		T	13 32 07.4	
	baz=52,slow=75,SNR=32							
H11N2	WAKE ISLAND Hy	59.63	270	T		T	13 32 08.4	
	baz=52,slow=75,SNR=29							
H11N1	WAKE ISLAND Hy	59.64	270	T		T	13 32 09.8	
	baz=52,slow=75,SNR=23							
VAH	Vaihoa	60.02	203	eT		T	13 32 19.4	
	comp=Z,11nm,0.2s							
H11S1	WAKE ISLAND Hy	60.52	269	T		T	13 33 17.1	
	baz=52,slow=75,SNR=131							
H11S2	WAKE ISLAND Hy	60.53	269	T		T	13 33 17.7	
	baz=52,slow=75,SNR=118							
H11S3	WAKE ISLAND Hy	60.54	269	T		T	13 33 14.5	
	baz=52,slow=75,SNR=60							
TIAR	Tiarei	62.73	204	eT		T	13 35 42.5	
	comp=Z,3.4nm,0.3s							
PPT2	Papeete2	62.83	205	eLR		LR	12 27 31.4	
	comp=Z,139nm,26.0s							
PPT2	Papeete2	62.83	205	eLR		LR	12 46 48.6	
	comp=Z,86nm,26.2s							
ATAH	Atahualpa	65.80	126	LR		LR	12 53 44.4	
	comp=Z,22nm,21.2s,baz=316,slow=33							
NNA	Nana	70.55	127	LR		LR	12 58 21.9	
	comp=Z,26nm,18.9s,baz=312,slow=35							
SONM	Songino Array	79.04	327	P		P	12 29 48.7	-1.1
	comp=Z,1.8nm,1.1s,baz=20,slow=4.7,SNR=6.4							
SONM					LR	LR	13 03 57.7	
	comp=Z,111nm,18.1s,baz=28,slow=35							
HHC	Hu-ho-hao-te	82.17	319	eP		P	12 30 07.4	+0.6
HHC					pmax	pmax		
	comp=Z,8.0nm,0.7s							
HHC					pmax	pmax		
	comp=Z,7.0nm,5.7s							
GERES	GERESS Array B	83.16	25	P		P	12 30 11.8	+0.1
	comp=Z,0.5nm,0.7s,baz=327,slow=5.3,SNR=4.2							
ESDC	Sonseca Array	83.54	41	P		P	12 30 14.3	0.0
	comp=Z,0.7nm,0.6s,baz=312,slow=3.1,SNR=5.7							
HNR	Honiara	84.05	252	LR		LR	12 59 54.9	
	comp=Z,85nm,20.0s,baz=88,slow=30							
AKASG	Malin Array Be	85.42	15	P		P	12 30 21.4	-1.6
	comp=Z,0.5nm,0.4s,baz=350,slow=4.7,SNR=5.5							
DZM	Mont Dzumac	88.60	239	eLR		LR	12 58 28.3	
	comp=Z,106nm,22.8s							
WMQ	Urumqi	89.22	336	eP		P	12 30 44.0	+2.3
WMQ					pmax	pmax		
	comp=Z,17nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,59nm,3.8s							
WMQ					LR	LR		
	comp=N,610nm,29.1s							
WMQ					LR	LR		
	comp=E,2μm,29.0s							
WMQ					LR	LR		
	comp=Z,170nm,29.2s							
BDFB	Brasilia	92.18	109	LR		LR	13 17 00.4	
	comp=Z,41nm,18.2s,baz=272,slow=39							
CPUP	Villa Florida	93.34	123	LR		LR	13 15 42.7	
	comp=Z,92nm,18.7s,baz=240,slow=37							
PLCA	Paso Flores	96.72	141	LR		LR	13 04 30.3	
	comp=Z,85nm,21.8s,baz=252,slow=29							

*SOME **13** 12:18:52.3, 43°.02N×84°.33E, h10km*
*NNC **13** 12:18:59.4±2.4, 43°.20N×84°.00E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=20.8km s-min=12.2km az=151.0*

ISC 13 12:19:05.1±2.7, 43°.4N±0°.1×83°.7E±0°.1, h10km, n13, σ1§30/18, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	3.01	290	Pg	Pb	12 19 56.8	-2.0
	6.5nm,0.5s						
DJR				Lg	Lg	12 20 43.0	
	7.1nm,0.4s						
DJR	Jarkent	3.01	290	eP	Pb	12 19 56.6	-2.3
	6.2nm,0.6s						
DJR				eS	Sg	12 20 42.0	+0.3
	9.2nm,0.6s						
PDGK	Podgornoye	3.09	271	Pg	Pb	12 19 58.7	-1.5
	2.7nm,0.4s						
PDGK				Lg	Lg	12 20 46.4	
	10.0nm,0.5s						
PDGK	Podgornoye	3.09	271	⇑Pn	Pn	12 19 54.5	+0.5
	2.6nm,0.4s						
PDGK				⇑Lg	Lg	12 20 41.8	
	16nm,0.6s						
UZB	Uzynbulak	3.44	268	Pg	Pb	12 20 05.2	-1.0
	3.2nm,0.4s						
UZB				Lg	Lg	12 20 57.6	
	7.9nm,0.5s						
MK31	Makanchi Array	3.59	344	⇑Pn	Pn	12 20 00.8	-0.1
	0.2nm,0.2s,baz=156,slow=15,SNR=10						
MK31				⇓Pg	Pb	12 20 08.7	0.0
	1.1nm,0.4s,baz=153,slow=18,SNR=12						
MK31				⇑Lg	Lg	12 21 00.8	
	4.7nm,0.7s,baz=156,slow=29,SNR=6.2						
KPKS	Kokpek	3.67	274	eP	Pb	12 20 08.5	-1.6
	2.8nm,0.2s						
KPKS				eS	Sg	12 21 02.2	-0.8
	20nm,0.4s						
SATY	Saty	3.90	268	Pg	Pb	12 20 14.1	+0.1
	10.0nm,0.5s						
SATY				Lg	Lg	12 21 12.3	
	11nm,0.5s						
SATY	Saty	3.90	268	eP	Pb	12 20 13.1	-0.9
	12nm,0.5s						
SATY				eS	Sg	12 21 09.9	-0.3
	6.0nm,0.2s						
ARXS	Arharly	4.35	283	Pg	Pb	12 20 23.1	+1.4
	3.4nm,0.5s						
ARXS				Lg	Lg	12 21 27.7	
	13nm,0.5s						
ARXS	Arharly	4.35	283	eP	Pb	12 20 22.4	+0.7
	1.9nm,0.4s						
ARXS				eS	Sg	12 21 26.4	+1.4
	7.2nm,0.5s						
KOTS	Kotyrbulak	4.83	271	Pg	Pb	12 20 31.4	+1.6
	3.9nm,0.4s						
KOTS				Lg	Lg	12 21 41.8	
	12nm,0.5s						
KTBS	Karatobe	5.13	276	Pg	Pb	12 20 36.3	+1.3
	1.2nm,0.7s						
KTBS				Lg	Lg	12 21 50.2	
	8.6nm,0.6s						

*IDC **13** 12:25:06.3±0.8, 8°.99S×158°.07E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.1/36, mbtmp4.2/10, ML4.0/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/27, Error ellipse: s-maj=29.0km s-min=18.5km az=145.0*
*ISCJB **13** 12:25:07.9±0.4, 8°.99S±0°.07×158°.07E±0°.05, h23km, mb4.0/10, MS3.4/5, Error ellipse: s-maj=10.8km s-min=6.7km az=168.4*
*NEIC **13** 12:25:10.8±2.1, 9°.0S±0°.1×158°.17E±0°.10, h37km±8km, mb4.4/18*

ISC 13 12:25:09.2±0.5, 9°.1S±0°.1×158°.19E±0°.06, h23km, n40, σ1§39/35, mb4.3/16, MS3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.78	102	Pn	Pn	12 25 39.1	+0.6
	67nm,0.3s,baz=210,slow=12,SNR=24						
HNR				LR	LR	12 26 09.8	
	comp=Z,476nm,18.0s,baz=310,slow=33						
HNR	Honiara	1.78	102	eP	Pb	12 25 40.0	-1.2
HNR				i S	Sb	12 26 03.0	-0.1
KRVT	Keravat (AS076	7.72	307	LR	LR	12 30 07.3	
	comp=Z,301nm,18.9s,baz=145,slow=40						
DZM	Mont Dzumac	15.18	149	LR	LR	12 33 51.8	
	comp=Z,144nm,20.9s,baz=9.5,slow=34						
COEN	Coen	15.49	250	Pn	Pn	12 28 46.0	-0.5
COEN				IAmb	IAmb	12 29 01.9	
	comp=Z,25nm,1.5s						
CTA	Charters Tower	15.92	225	Pn	Pn	12 28 51.9	0.0
	comp=Z,0.4nm,0.3s,baz=47,slow=14,SNR=3.6						
CTAO	Charters Tower	15.92	225	Pn	Pn	12 28 51.9	0.0
JAY	Jayapura	18.56	289	LR	LR	12 37 01.0	
	comp=Z,107nm,19.0s,baz=90,slow=39						
WR0	Warramunga Arr	25.29	242	P	P	12 30 33.6	-0.6
WR0				IAmb	IAmb	12 30 39.4	
	comp=Z,7.5nm,0.8s						
WB0	Warramunga Arr	25.35	243	P	P	12 30 34.5	-0.2
WB0				IAmb	IAmb	12 30 41.4	
	comp=Z,23nm,1.5s						
WRAB	Tennant Creek	25.45	242	P	P	12 30 35.4	-0.3
WRAB				IAmb	IAmb	12 30 42.2	
	comp=Z,10nm,1.0s						
WB2	Warramunga Arr	25.45	242	P	P	12 30 35.6	-0.1
WB2				IAmb	IAmb	12 30 42.3	
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	25.46	242	P	P	12 30 35.6	-0.2
	comp=Z,5.1nm,0.8s,baz=67,slow=9.2,SNR=26						
WRA				LR	LR	12 40 03.3	
	comp=Z,146nm,20.9s,baz=285,slow=35						
WRA	Warramunga Arr	25.46	242	P	P	12 30 34.5	-1.3
GUMO	Guam	26.09	329	LR	LR	12 40 19.7	
	comp=Z,36nm,18.6s,baz=124,slow=35						
AS31	Alice Springs	27.39	235	P	P	12 30 53.7	+0.5
ASAR	Alice Springs	27.39	235	P	P	12 30 52.4	-0.8
	comp=Z,1.9nm,0.8s,baz=65,slow=9.0,SNR=16						
ASAR				LR	LR	12 41 13.7	
	comp=Z,110nm,19.2s,baz=74,slow=35						
ASAR	Alice Springs	27.39	235	P	P	12 30 53.4	+0.2
STKA	Stephens Creek	27.44	212	P	P	12 30 55.1	+1.5
	comp=Z,3.1nm,0.8s,baz=32,slow=13,SNR=4.6						
STKA				LR	LR	12 41 59.9	
	comp=Z,140nm,18.2s,baz=26,slow=37						
STKA	Stephens Creek	27.44	212	P	P	12 30 54.0	+0.5
FITZ	Fitzroy Crossi	32.84	251	LR	LR	12 44 30.0	
	comp=Z,76nm,18.1s,baz=74,slow=36						
SOEI	Soe	33.46	266		S	12 37 07.5	-0.3
MAJO	Matsushiro	49.09	339	P	P	12 33 51.9	-3.1
MJB9	Matsu-Tunnel	49.09	339	P	P	12 33 52.1	-2.8
KSAR	Wonju Array Be	54.26	330	P	P	12 34 30.3	-3.2
USRK	Ussuriysk Ar.	58.07	338	P	P	12 35 01.3	+0.7
CMAR	Chiang Mai Arr	64.52	295	P	P	12 35 47.7	+2.8
	comp=Z,0.9nm,0.5s,baz=117,slow=5.1,SNR=11						
CMAR	Chiang Mai Arr	64.52	295	P	P	12 35 45.9	+1.1
CASY	Casey	65.66	199	P	P	12 35 50.3	-1.1
CASY				IAmb	IAmb	12 35 54.7	
	comp=Z,5.4nm,1.2s						
SONM	Songino Array	72.78	326	P	P	12 36 37.4	+1.4
	comp=Z,0.8nm,0.8s,baz=138,slow=6.7,SNR=4.1						
SONM	Songino Array	72.78	326	P	P	12 36 35.7	-0.3
BILL	Bilibino	77.12	3	P	P	12 37 01.2	+0.8
BILL				IAmb	IAmb	12 37 07.8	
	comp=Z,4.9nm,1.0s						
IMAR	Indian Mountai	82.67	18	P	P	12 37 30.9	+0.4
MCK	McKinley	82.81	21	P	P	12 37 31.5	+0.2
IL31		84.15	21	P	P	12 37 35.7	-2.4
IL31				IAmb	IAmb	12 37 50.7	
	comp=Z,6.3nm,1.5s						
ILAR	Eielson Array	84.15	21	P	P	12 37 38.3	+0.1
	comp=Z,1.6nm,1.0s,baz=266,slow=4.7,SNR=9.4						
MKAR	Makanchi Array	87.03	318	P	P	12 37 52.8	-0.2
	comp=Z,0.9nm,0.7s,baz=96,slow=6.6,SNR=8.7						
NVAR	Mina Array Bea	90.52	51	P	P	12 38 12.2	+2.3
	comp=Z,3.4nm,0.9s,baz=245,slow=6.7,SNR=19						
BVAR	Borovoye Array	95.83	323	P	P	12 38 32.8	-1.0
	comp=Z,0.6nm,0.7s,baz=71,slow=6.2,SNR=3.2						
PDAR	Pinedale Array	97.72	48	P	Pdif	12 38 43.6	+0.7
	comp=Z,0.3nm,0.7s,baz=241,slow=3.1,SNR=3.8						

*ISCJB **13** 12:28:29.2±0.3, 19°.97S±0°.07×179°.07W±0°.07, h665km, mb4.0/11, Error ellipse: s-maj=9.8km s-min=6.8km az=143.9*
*IDC **13** 12:28:31.6±3.8, 20°.05S×178°.99W, h688km±53km, mb3.4/11, mb1 3.5/13, mb1mx3.3/34, mbtmp4.4/13, Error ellipse: s-maj=31.3km s-min=20.8km az=9.0*
*NEIC **13** 12:28:31.5±1.5, 19°.9S±0°.2×179°.1W±0°.1, h678km±13km, mb4.4/32*

ISC 13 12:28:30.5±0.6, 19°.9S±0°.1×179°.04W±0°.09, h665km, n59, σ1§17/61, mb4.4/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.74	258	eLR	LR	12 32 26.1	
	comp=Z,101nm,20.9s						
DZM	Mont Dzumac	13.74	258	P	P	12 31 27.0	+1.9
	0.6nm,0.3s,baz=315,slow=22,SNR=6.7						
DZM	Mont Dzumac	13.74	258	P	P	12 31 26.1	+1.1
OUZ	Omahuta	16.62	202	P	P	12 31 53.9	+2.8
URZ	Urewera	18.64	190	P	P	12 32 07.1	-2.1
	0.6nm,0.3s,baz=248,slow=5.9,SNR=5.3						
QRZ	Quartz Range	22.10	197	P	P	12 32 41.0	+0.8
PLWZ	Palliser	22.18	191	P	P	12 32 39.9	-1.0
THZ	Tophouse	22.88	196	P	P	12 32 47.1	0.0
THZ				IAmb	IAmb	12 33 02.2	
	comp=Z,44nm,1.4s						
FOZ	Fox Glacier	25.39	199	P	P	12 33 08.6	-0.4
LBZ	Lake Benmore	26.05	198	P	P	12 33 13.4	-1.5
WKZ	Wanaka	26.80	199	P	P	12 33 21.4	0.0
MLZ	Mavora Lakes	27.57	200	P	P	12 33 28.9	+0.8
MLZ				IAmb	IAmb	12 33 44.7	
	comp=Z,16nm,1.1s						
CTA	Charters Tower	32.59	264	P	P	12 34 11.7	+0.6
	comp=Z,11nm,0.4s,baz=92,slow=10,SNR=22						
CTAO	Charters Tower	32.59	264	P	P	12 34 11.9	+0.8
CTAO				IAmb	IAmb	12 34 12.4	
	comp=Z,13nm,0.7s						
PMG	Port Moresby	34.25	283	P	P	12 34 25.8	+0.8
	comp=Z,16nm,0.8s,baz=55,slow=8.3,SNR=5.3						
PMG	Port Moresby	34.25	283	P	P	12 34 25.9	+0.8
TOO	Toolangi	35.50	233	P	P	12 34 36.0	+1.1
TOO				IAmb	IAmb	12 34 52.7	
	comp=Z,18nm,1.4s						
COEN	Coen	36.57	273	P	P	12 34 45.0	+1.0
COEN				IAmb	IAmb	12 34 45.5	
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	37.20	243	P	P	12 34 49.1	+0.3
	comp=Z,1.3nm,0.4s,baz=86,slow=9.4,SNR=6.5						
STKA	Stephens Creek	37.20	243	P	P	12 34 50.0	+1.1
BBOO	Buckleboo	41.97	243	P	P	12 35 26.8	+0.1
BBOO				IAmb	IAmb	12 35 34.1	
	comp=Z,22nm,1.4s						
JAY	Jayapura	42.92	289	P	P	12 35 34.8	+0.4
	comp=Z,20nm,0.6s,baz=146,slow=3.9,SNR=17						
WR0	Warramunga Arr	43.54	262	P	P	12 35 38.7	-0.3
WR0				IAmb	IAmb	12 35 39.5	
	comp=Z,14nm,1.5s						
WB2	Warramunga Arr	43.72	262	P	P	12 35 40.0	-0.3
WRAB	Tennant Creek	43.72	262	P	P	12 35 39.6	-0.8
WRAB				IAmb	IAmb	12 35 40.1	
	comp=Z,6.8nm,0.8s						
AS31	Alice Springs	43.72	256	P	P	12 35 40.6	+0.2
AS31					S	12 41 23.6	-1.6
ASAR	Alice Springs	43.72	256	P	P	12 35 40.2	-0.1
	comp=Z,4.7nm,0.4s,baz=89,slow=8.6,SNR=131						
ASAR				S	S	12 41 22.7	-2.5
	comp=Z,4.9nm,0.7s,baz=92,slow=16,SNR=37						
ASAR	Alice Springs	43.72	256	P	P	12 35 39.9	-0.4
WRA	Warramunga Arr	43.73	262	P	P	12 35 39.7	-0.8
	comp=Z,3.3nm,0.6s,baz=97,slow=8.2,SNR=83						
WRA				S	S	12 41 20.8	-4.5
	comp=Z,0.7nm,0.9s,baz=96,slow=12,SNR=6.4						
WRA	Warramunga Arr	43.73	262	P	P	12 35 40.1	-0.3
MTN	Manton Dam	48.18	270	P	P	12 36 13.5	-0.5
MTN				IAmb	IAmb	12 36 14.1	
	comp=Z,13nm,0.8s						
KNRA	Kununurra	49.73	266	P	P	12 36 25.0	-0.2
KNRA				IAmb	IAmb	12 36 25.2	
	comp=Z,20nm,1.3s						
FAKI	Fak Fak	50.41	283	P	P	12 36 30.2	+0.1
FITZ	Fitzroy Crossi	52.15	262	P	P	12 36 42.6	+0.1
	comp=Z,2.0nm,0.5s,baz=116,slow=3.5,SNR=9.8						
PSA00	Pilbara Seismi	56.86	257	P	P	12 37 15.0	-0.2
QSPA	South Pole Qui	70.20	180	P	P	12 38 39.3	+0.4
AFDM	Forest Hills D	79.82	42	P	P	12 39 33.0	+0.6
AFDM				IAmb	IAmb	12 39 37.0	
	comp=Z,8.3nm,0.8s						
BEKR	Beckworth	80.74	42	P	P	12 39 37.2	0.0
BEKR				IAmb	IAmb	12 39 38.5	
	comp=Z,20nm,1.1s						
NVAR	Mina Array Bea	81.24	44	P	P	12 39 40.1	+0.2
	comp=Z,1.7nm,0.8s,baz=224,slow=11,SNR=5.0						
NVAR	Mina Array Bea	81.24	44	P	P	12 39 40.6	+0.7
SHPR	Sheep Range	82.31	47	P	P	12 39 45.7	+0.4
SHPR				IAmb	IAmb	12 39 49.2	
	comp=Z,18nm,1.5s						
U15A	North Rim	84.26	48	P	P	12 39 55.4	+0.4
U15A				IAmb	IAmb	12 40 14.4	
	comp=Z,16nm,1.5s						
SZCU	Shurtz Canyon	84.29	47	P	P	12 39 56.7	+1.6
TTA	Tatalina	84.49	10	P	P	12 39 56.8	+1.5
MSU	Marysvale	85.37	46	P	P	12 40 00.3	0.0
TMUT	Trail Mountain	86.41	46	P	P	12 40 05.8	+0.5
TXAR	Lajitas Array	87.54	58	P	P	12 40 11.3	+0.8
	comp=Z,1.3nm,0.8s,baz=216,slow=6.1,SNR=11						
TXAR	Lajitas Array	87.54	58	P	P	12 40 10.7	+0.1
ILAR	Eielson Array	87.91	13	P	P	12 40 09.4	-1.9
	comp=Z,0.7nm,0.9s,baz=217,slow=4.7,SNR=5.1						
VNA3	Neumayer Olymp	88.84	177	P	P	12 40 14.4	-1.3
BW06	Boulder Array	89.17	44	P	P	12 40 16.9	-1.0
PD31	Pinedale Array	89.17	44	P	P	12 40 17.6	-0.4
PD31				IAmb	IAmb	12 40 35.5	
	comp=Z,6.9nm,1.3s						
PDAR	Pinedale Array	89.17	44	P	P	12 40 17.5	-0.4
	comp=Z,0.7nm,0.7s,baz=188,slow=4.0,SNR=6.8						
SMCO	Snowmass	89.27	48	P	P	12 40 18.1	-0.6
VNA2	Neumayer--Watz	89.27	177	P	P	12 40 16.7	-1.0
	baz=175,slow=3.3						
VNA1	Neumayer--Stat	89.50	177	P	P	12 40 17.5	-1.2
ARCES	ARCESS Array B	128.12	349	PKP	PKPdf	12 46 21.1	-1.4
	comp=Z,2.1nm,0.7s,baz=0.0,slow=2.9,SNR=5.9						
CLL	Collm	147.22	346	i PKPbc	PKPbc	12 47 00.2	-0.9
GERES	GERESS Array B	149.32	343	PKPbc	PKPbc	12 47 05.5	-1.0
	comp=Z,0.3nm,0.3s,baz=318,slow=1.8,SNR=3.5						

*ISCJB **13** 12:37:07.5±0.7, 41°.79N±0°.02×126°.86W±0°.07, h10km, mb3.7/4, MS3.7/16, Error ellipse: s-maj=7.8km s-min=3.3km az=175.5*
*IDC **13** 12:37:08.4±2.0, 41°.83N×127°.09W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/47, mbtmp3.7/5, ML2.9/1, MS3.8/17, Ms1 3.8/17, ms1mx3.6/43, Error ellipse: s-maj=60.2km s-min=19.9km az=40.0*
*NEIC **13** 12:37:10.3±2.5, 41°.78N±0°.05×126°.66W±0°.10, h10km±2km, ML3.2/44*
*ANF **13** 12:37:11.5±1.4, 41°.89N×126°.40W, ML3.2/13, Error ellipse: s-maj=15.8km s-min=6.5km az=89.0*
*GCMT **13** 12:37:12.3±0.5, 41°.91N±0°.04×126°.97W±0°.03, h12km, MW4.7/72, Moment Tensor Solution. s18,c18; s72,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.38±.06; Mθθ=0.10±.07; Mφφ=1.28±.05; Mrθ=-0.03±.28; Mrφ=-0.04±.05; Mθφ=-0.87±.22; Best double couple: Mo=1.59200×10^16 NP1:φ=0.00000°, δ=62.00000°, λ=-88.00000°. NP2: φ=176.00000°, δ=28.00000°, λ=-93.00000°. Principal axes: T 1.5420, Plg=17.0000°, Azm=89.

KCRM Chalk Rock 2.61 121 Pn 12 37 50.6 -1.4
KCSM Cold Springs 2.75 116 Pn 12 37 53.4 -0.7
KMRM Mail Ridge 2.79 123 Pn 12 37 54.0 -0.6
KMRM IAML 12 38 40.1
comp=E,237nm,1.2s
KMRM IAML 12 38 43.8
comp=N,145nm,1.1s
KHBM Hayfork Bally 2.90 112 Pn 12 37 55.0 -1.1
DBO Dodson Butte 2.91 62 Pn 12 37 55.6 -0.6
HUMO Hull Mountain 2.94 73 P **Pn 12 37 56.4 -0.1**
HUMO Hull Mountain 2.94 73 Pn 12 37 55.8 -0.7
HUMO Hull Mountain 2.94 73 Pn 12 37 56.8 -0.5
HUMO IAML 12 38 34.6
comp=N,37nm,1.8s
HUMO IAML 12 38 40.1
comp=E,36nm,1.8s
KPPM Pickett Peak 2.95 118 Pn 12 37 55.4 -1.4
M02C Callahan 2.96 97 P **Pn 12 37 56.6 -0.2**
baz=278,SNR=84
M02C Callahan 2.96 97 Pn 12 37 56.7 -0.1
YBH Yreka Blue Hor 3.03 90 P **Pn 12 37 58.3 +0.5**
YBH Yreka Blue Hor 3.03 90 Pn 12 37 58.5 +0.7
YBH IAML 12 38 52.4
comp=N,47nm,2.0s
YBH IAML 12 39 08.2
comp=E,40nm,3.5s
YBH Yreka Blue Hor 3.03 90 Pn 12 37 58.8 +1.0
YBH IAML 12 38 52.4
comp=N,46nm,2.0s
YBH IAML 12 39 33.6
comp=E,40nm,3.8s
KBSM Bell Springs 3.05 127 Pn 12 37 57.0 -1.1
LGPM Granite Peak 3.09 105 Pn 12 37 58.5 -0.1
LAMM Antelope Mount 3.10 92 Pn 12 37 59.8 +1.0
I02D Swisshome 3.14 42 P **Pn 12 37 58.5 -0.7**
baz=225,SNR=99
I02D S **Sn 12 38 35.5 -1.3**
baz=225
I03D Drain, OR 3.15 52 P **Pn 12 37 58.2 -1.1**
baz=235,SNR=68
I03D S **Sn 12 38 34.7 -2.2**
baz=235
LBKM Bonanza King 3.16 102 Pn 12 37 59.8 +0.2
N02D Trinity Center 3.16 104 P **Pn 12 37 59.5 -0.1**
baz=285,SNR=12
N02D Trinity Center 3.16 104 Pn 12 37 59.9 +0.3
KIPM Iron Peak 3.18 128 Pn 12 37 59.0 -1.0
KCPM Cahto Peak 3.21 130 Pn 12 37 59.2 -1.1
KCPM Sn **Sn 12 38 38.4 -0.2**
KCPM IAML 12 38 42.1
comp=N,107nm,0.6s
KCPM IAML 12 38 42.7
comp=E,174nm,1.7s
B040 Montague 3.24 88 Pn 12 38 01.3 +0.6
LBPM Beegum Peak 3.28 116 Pn 12 38 00.7 -0.7
KBNM Bluenose Ridge 3.31 124 Pn 12 38 01.3 -0.4
KFPM Farley Peak 3.33 129 Pn 12 38 00.3 -1.5
L04D Klamath Falls 3.34 81 P **Pn 12 38 02.3 +0.1**
baz=264,SNR=59
L04D Klamath Falls 3.34 81 Pn 12 38 02.8 +0.6
LHEM Herd Peak 3.40 91 Pn 12 38 04.3 +1.3
WDC Whiskeytown Da 3.41 110 Pn 12 38 03.2 +0.3
WDC Whiskeytown Da 3.41 110 Pn 12 38 03.4 +0.5
WDC IAML 12 38 52.7
comp=E,35nm,1.6s
WDC IAML 12 38 53.1
comp=N,43nm,2.8s
O02D Mt. Diablo Mer 3.41 117 P **Pn 12 38 02.4 -0.7**
baz=298,SNR=8.4
O02D Mt. Diablo Mer 3.41 117 Pn 12 38 02.8 -0.3
GTC Three Chop Rid 3.42 133 Pn 12 38 01.6 -1.5
LGBM Gray Butte 3.45 96 Pn 12 38 05.3 +1.5
LMPM Military Pass 3.46 94 Pn 12 38 05.6 +1.8
M03C McCloud 3.52 97 Pn 12 38 06.2 +1.7
KRKM Rackout Spring 3.52 128 Pn 12 38 03.3 -1.3
GNAM Navarro Ridge 3.53 136 Pn 12 38 03.2 -1.3
GROM Round Mountain 3.62 120 Pn 12 38 05.6 -0.5
M04C Macdoel 3.68 89 P **Pn 12 38 07.5 +0.7**
baz=271,SNR=23
M04C Macdoel 3.68 89 Pn 12 38 07.7 +0.9
LBFM Black Fox Moun 3.68 95 Pn 12 38 08.2 +1.3
GHOM Hamilton Openi 3.69 137 Pn 12 38 05.4 -1.5
LGMM Garner Mountai 3.69 91 Pn 12 38 08.1 +1.2
LSHM Sage Hen Hill 3.69 104 Pn 12 38 08.0 +1.1
GVV Valley View 3.70 122 Pn 12 38 06.3 -0.8
GHMM Hull Mountain 3.71 127 Pn 12 38 05.9 -1.4
J04D Umpqua Nationa 3.72 66 P **Pn 12 38 08.0 +0.6**
baz=249,SNR=16
GASB Alder Springs 3.74 124 Pn 12 38 06.7 -1.0
COR Corvallis 3.76 41 Pn **Pn 12 38 08.0 +0.3**
COR Sn **Sn 12 38 52.9 +0.9**
COR IAML 12 39 25.5
comp=N,40nm,3.1s
COR IAML 12 39 57.4
comp=N,49nm,4.6s
LMHM Little Mount H 3.83 92 Pn 12 38 09.7 +0.8
LTCM Tuscan Springs 3.85 113 Pn 12 38 10.5 +1.5
GGUM Gualala 3.85 139 Pn 12 38 08.4 -0.7
HOPS Hopland Field 3.97 134 Pn **Pn 12 38 09.7 -1.0**
HOPS Sn **Sn 12 38 57.7 +0.4**
HOPS IAML 12 39 08.1
comp=E,49nm,2.4s
HOPS IAML 12 40 42.4
comp=N,60nm,3.0s
H04D Lebanon 4.01 46 P **Pn 12 38 11.4 +0.3**
baz=229,SNR=16
O03E Paynes Creek 4.04 110 P **Pn 12 38 11.7 0.0**
baz=292,SNR=7.9
G03D McMinnville, O 4.25 36 S **Sn 12 39 02.7 -1.5**
baz=219
GDXM Geysers 4.25 133 Pn 12 38 15.2 +0.5
GDXM IAML 12 38 47.9
comp=E,21nm,3.0s
GDXM IAML 12 39 14.5
comp=N,26nm,2.6s
H04A Detroit Lake 4.41 48 Pn 12 38 17.0 +0.3
H04A Sn **Sn 12 39 09.8 +1.7**
H04A IAML 12 39 11.3
comp=N,20nm,0.3s
H04A IAML 12 39 19.9
comp=E,22nm,3.7s
ORV Oroville 4.58 118 Pn 12 38 18.6 -0.5
ORV IAML 12 39 20.7
comp=E,16nm,2.5s
ORV IAML 12 39 24.3
comp=N,17nm,1.7s
PINE Pine Mountain 4.72 63 Pn 12 38 21.6 +0.5
PINE IAML 12 40 35.4
comp=E,25nm,4.7s
PINE IAML 12 40 42.7
comp=N,27nm,4.3s
MOD Modoc Plateau 4.82 87 Pn 12 38 22.2 -0.3
MOD IAML 12 40 09.9
comp=N,18nm,4.7s
MOD IAML 12 40 22.5
comp=E,35nm,4.8s
F04A Amboy 5.18 36 Pn 12 38 28.4 +1.0
F04A IAML 12 39 40.0
comp=E,19nm,4.1s
F04A IAML 12 41 08.7
comp=N,21nm,4.4s
BEKR Beckworth 5.22 110 Pn 12 38 30.8 +2.7
BEKR IAML 12 39 45.0
comp=E,14nm,4.5s
BEKR IAML 12 39 50.1
comp=N,16nm,2.1s
G05D Wamic, OR 5.24 47 P **Pn 12 38 28.5 +0.3**
baz=232,SNR=13
AFDM Forest Hills D 5.26 121 Pn 12 38 27.5 -0.8
AFDM IAML 12 39 31.2
comp=N,13nm,3.8s
E03A Lebam 5.27 25 Pn **Pn 12 38 28.5 0.0**
E03A IAML 12 39 22.1
comp=N,32nm,2.4s
E03A IAML 12 39 44.5
comp=E,43nm,4.6s
E04D Cinebar 5.63 31 P **Pn 12 38 34.7 +1.3**
baz=215,SNR=9.3
RUBR Rubicon Trail 5.74 116 Pn 12 38 37.9 +2.8
PAHR Pah Rah Range 5.98 108 Pn 12 38 41.4 +3.1
WVOR Wild Horse Val 6.07 81 Pn 12 38 40.5 +0.8
LON Longmire 6.09 34 Pn 12 38 40.8 +1.0
PNTR Pine Nut 6.09 114 Pn 12 38 44.0 +3.9
CMB Columbia Colle 6.17 125 Pn 12 38 40.7 -0.2

D05A Enumclaw 6.37 31 Pn 12 38 44.6 +1.0
YERR Yerington 6.39 114 Pn 12 38 44.6 +0.6
WAKR Walker 6.50 118 Pn 12 38 45.8 +0.1
G08A Pilot Rock 6.65 56 Pn 12 38 49.0 +1.4
LTY Liberty 6.98 36 Pn 12 38 53.0 +1.0
NVAR Mina Array Bea 7.30 115 Pn **Pn 12 38 59.5 +2.9**
comp=E,0.2nm,0.3s,baz=290,slow=11,SNR=5.4
B08A Colville Reser 8.40 36 Pn **Pn 12 39 13.1 +1.6**
PLID Pearl Lake 8.49 64 Pn 12 39 16.1 +3.2
PDAR Pinedale Array 12.78 80 LR LR 12 45 23.2
comp=E,744nm,21.0s,baz=303,slow=38
TXAR Lajitas Array 22.45 116 P **P 12 42 13.4 +4.4**
comp=E,4.8nm,1.2s,baz=305,slow=4.4,SNR=12
TXAR LR LR 12 50 56.6
comp=E,88nm,19.4s,baz=0.0,slow=36
ULM Lac du Bonnet 22.91 58 P **P 12 42 16.5 +2.9**
comp=E,8.0nm,1.1s,baz=255,slow=13,SNR=3.1
ULM LR LR 12 51 17.0
comp=E,252nm,20.3s,baz=266,slow=37
ILAR Eielson Array 25.73 340 P **P 12 42 39.1 -0.9**
comp=E,0.6nm,1.0s,baz=146,slow=8.3,SNR=4.5
ILAR PcP **PcP 12 46 10.2 +0.6**
comp=E,0.6nm,0.9s,baz=165,slow=1.9,SNR=4.3
ILAR LR LR 12 51 10.2
comp=E,147nm,21.0s,baz=158,slow=33
CMIG Matias Romero 36.75 122 LR LR 12 59 17.4
comp=E,91nm,21.9s,baz=358,slow=36
TEIG Tepich 38.93 112 LR LR 13 03 53.3
comp=E,70nm,18.7s,baz=220,slow=41
SCHQ Scheffervilla 40.67 50 LR LR 13 01 57.6
comp=E,274nm,18.6s,baz=328,slow=36
APG El Apazote 41.13 120 LR LR 13 01 59.3
comp=E,74nm,20.7s,baz=262,slow=36
PETK Petropavlovsk- 50.03 310 LR LR 13 03 51.5
comp=E,42nm,20.3s,baz=61,slow=32
ROSC El Rosal 59.34 113 LR LR 13 16 27.2
comp=E,44nm,18.7s,baz=84,slow=40
RAR Rarotonga 69.75 213 LR LR 13 09 26.2
comp=E,461nm,20.5s,baz=342,slow=28
MJAR Mashiro Arr 70.07 301 LR LR 13 13 27.7
comp=E,34nm,20.6s,baz=155,slow=31
KSRS Korea Array 75.82 308 LR LR 13 21 32.6
comp=E,28nm,18.3s,baz=30,slow=35
SONM Songino Array 79.13 327 LR LR 13 23 22.9
comp=E,90nm,19.4s,baz=30,slow=35
ZALV Zalesovo Beam 80.85 342 LR LR 13 27 02.9
comp=E,50nm,20.3s,baz=62,slow=37
BVAR Borovoye Array 84.40 350 P **P 12 49 40.9 -1.1**
comp=E,0.3nm,0.4s,baz=20,slow=4.7,SNR=4.2
MKAR Makanchi Array 88.09 341 LR LR 13 30 48.6
comp=E,57nm,18.6s,baz=356,slow=37
BRTR Keskin Array B 96.92 15 LR LR 13 37 07.5
comp=E,38nm,18.8s,baz=300,slow=37

*ISCJB **13** 12:40:38.4±1.2,31°.36N±0°.09×115°.60W±0°.07,h6km±17km,*
Error ellipse: s-maj=17.3km s-min=6.3km az=28.2
*ECX **13** 12:40:39.4±0.5,31°.27N×115°.70W,h5km,MD2.4,ML2.6*
*MEX **13** 12:40:39.9±0.4,31°.05N×115°.77W,h24km±5km,MD3.7*
ISC 13 12:40:38.5±1.3,**31°.28N**±0°.07×**115°.69W**±0°.06,
h16km±12km,**n12**,σ0°**40**/19,**2C-3D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.30**	**141**	*e*P	**Pb**	**12 40 45.4**	**-0.4**
SPIG				*e*S	**Sg**	**12 40 49.7**	**+0.2**
SPIG	**San Pedro Mart**	**0.30**	**141⇓**	*e*P	**Pb**	**12 40 45.4**	**-0.4**
SPIG				*e*S	**Sg**	**12 40 49.8**	**+0.2**
SPX	**San Pedro Mart**	**0.31**	**142⇓**	*e*P	**Pb**	**12 40 45.4**	**-0.5**
SPX				*e*S	**Sg**	**12 40 49.8**	**+0.1**
SPX				⇑*e*		12 40 52.3	
SPX				IAML		12 40 52.3	
comp=E,598nm,0.5s							
SFX	**San Felipe**	**0.76**	**108⇑**	*e*P	**Pb**	**12 40 52.8**	**-0.5**
ECNX	**Esteban Cantu**	**0.86**	**296**	*e*P	**Pn**	**12 40 56.9**	**+0.7**
CBX	**Cerro Bola**	**1.32**	**321**	*e*P	**Pn**	**12 41 02.1**	**-0.5**
CBX				*e*S	**Sb**	**12 41 19.9**	**0.0**
CBX	**Cerro Bola**	**1.32**	**321**	*e*P	**Pn**	**12 41 02.7**	**+0.1**
CBX				*e*S	**Sb**	**12 41 19.8**	**-0.2**
RMX	**La Rumorosa**	**1.36**	**346**	*e*P	**Pn**	**12 41 02.7**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**1.41**	**345⇓**	*e*P	**Pb**	**12 41 04.5**	**-0.1**
TJIG	**Tijuana**	**1.43**	**324**	*i*P	**Pn**	**12 41 03.8**	**0.0**
TJIG				*i*S	**Sn**	**12 41 22.4**	**+0.1**
TJIG	**Tijuana**	**1.43**	**324**	*e*P	**Pn**	**12 41 04.1**	**+0.3**
214A	**Organ Pipe Nat**	**2.54**	**74**	*e*P	**Pn**	**12 41 19.8**	**+0.6**
214A				*i*S	**Sn**	**12 41 50.2**	**+0.3**

*ISCJB **13** 12:43:18.5±1.3,31°.36N±0°.09×115°.62W±0°.08,h7km±17km,*
Error ellipse: s-maj=17.5km s-min=5.6km az=35.2
*ECX **13** 12:43:19.5±0.4,31°.27N×115°.71W,h5km,MD2.4,ML2.6*
*MEX **13** 12:43:20.4±0.5,31°.09N×115°.76W,h14km±12km,MD3.7*
ISC 13 12:43:15.4±1.6,**31°.34N**±0°.06×**115°.46W**±0°.05,**h6**km±15km,
n8,σ0°**96**/14,**3C-1D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.29**	**181**	*e*P	**Pn**	**12 43 25.5**	**-1.1**
SPIG				*i*S	**Sb**	**12 43 29.5**	**+1.0**
SPIG	**San Pedro Mart**	**0.29**	**181⇑**	*e*P	**Pn**	**12 43 25.5**	**-1.1**
SPIG				*e*S	**Sb**	**12 43 29.9**	**+1.4**
SPX	**San Pedro Mart**	**0.30**	**181⇓**	*e*P	**Pn**	**12 43 25.5**	**-1.0**
SPX				*e*S	**Sb**	**12 43 29.9**	**+1.3**
SPX				⇑*e*		12 43 32.5	
SPX				IAML		12 43 32.5	
comp=E,412nm,0.5s							
SFX	**San Felipe**	**0.60**	**120⇑**	*e*P	**Pn**	**12 43 32.9**	**+0.2**
ECNX	**Esteban Cantu**	**1.02**	**288**	*e*P	**Pn**	**12 43 36.8**	**+0.4**
CBX	**Cerro Bola**	**1.41**	**314**	*e*P	**Pg**	**12 43 42.5**	**0.0**
CBX				*i*S	**Sn**	**12 44 00.2**	**-0.5**
TJIG	**Tijuana**	**1.50**	**317**	*i*P	**Pg**	**12 43 44.0**	**-0.3**
TJIG				*e*S	**Sn**	**12 44 02.1**	**-0.7**
214A	**Organ Pipe Nat**	**2.34**	**74**	*i*P	**Pg**	**12 44 00.0**	**-0.3**
214A				*i*S	**Sg**	**12 44 30.9**	**+0.2**

*TAP **13** 12:56:14.8,24°.82N×122°.90E,h152km±1km,ML3.2,C*
*ISCJB **13** 12:56:15.7±0.5,24°.79N±0°.04×122°.92E±0°.02,*
h135km±4km,Error ellipse: s-maj=6.4km s-min=2.5km
az=173.2
*JMA **13** 12:56:15.3±0.2,24°.88N×122°.91E,h143km±3km,M2.7*
ISC 13 12:56:14.8±1.6,**24°.83N**±0°.06×**122°.92E**±0°.03,**h148**km±9km,
n68,σ0°**79**/120,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.37**	**167**	P	**Pn**	**12 56 35.8**	**+0.4**
baz=164							
YOJ				S	**Sn**	**12 56 51.5**	**+0.5**
baz=164							
YOJ	**Yonaguni jima**	**0.37**	**167**	P	**Pn**	**12 56 35.7**	**+0.4**
YOJ				S	**Sn**	**12 56 50.4**	**-0.6**
JYNG	**Yonagunijimaku**	**0.37**	**176**	P	**Pn**	**12 56 35.8**	**+0.4**
JYNG				S	**Sn**	**12 56 51.1**	**+0.1**
EOS1	**EOS1**	**0.77**	**249**	P	**Pn**	**12 56 37.7**	**+0.2**
baz=248							
EOS1				*e*S	**Sn**	**12 56 55.2**	**+0.5**
baz=248							
TWB1	**Santiao Chiao**	**0.86**	**282**	*e*P	**Pn**	**12 56 38.4**	**+0.2**
baz=282							
IRIF	**Iriomote-Funau**	**0.89**	**123**	P	**Pn**	**12 56 38.9**	**+0.5**
IRIF				S	**Sn**	**12 56 56.5**	**+0.1**
TWC	**Suao**	**0.99**	**258**	P	**Pn**	**12 56 39.0**	**-0.3**
baz=257							
TWC				*i*S	**Sn**	**12 56 56.0**	**-1.9**
baz=257							
TIPB	**Shuangxi**	**1.00**	**279**	P	**Pn**	**12 56 39.0**	**-0.4**
baz=278							
TIPB				S	**Sn**	**12 56 56.6**	**-1.5**
baz=278							
HATJ	**Hateruma jima**	**1.11**	**133**	P	**Pn**	**12 56 41.5**	**+1.1**
HATJ				S	**Sn**	**12 57 00.4**	**+0.5**
NANB	**Nanao**	**1.13**	**250**	*i*P	**Pn**	**12 56 40.9**	**+0.3**
baz=249							
NANB				*i*S	**Sn**	**12 56 59.9**	**-0.3**
baz=249							
ENA	**Nanau**	**1.14**	**250**	*i*P	**Pn**	**12 56 40.9**	**+0.3**
baz=249							
ENA				S	**Sn**	**12 57 00.0**	**-0.3**
baz=249							
TWE	**Neicheng**	**1.14**	**265**	*i*P	**Pn**	**12 56 40.4**	**-0.2**
baz=264							
TWE				*i*S	**Sn**	**12 56 59.8**	**-0.5**
baz=264							

JKRS Kuro-shima 1.16 120 P **Pn 12 56 41.8 +1.1**
JKRS S **Sn 12 57 00.9 +0.4**
SLBB Yuanshan 1.17 267 P **Pn 12 56 40.4 -0.5**
baz=266
SLBB *e*S **Sn 12 57 00.3 -0.5**
baz=266
JIJ Ishigaki jima 1.21 112 P **Pn 12 56 41.6 +0.4**
JIJ S **Sn 12 57 00.3 -1.1**
ENTT Nioudou 1.24 262 *i*P **Pn 12 56 42.6 +1.0**
baz=261
ENTT *i*S **Sn 12 57 01.9 -0.1**
baz=261
YM01 YM01 1.26 285 *e*P **Pn 12 56 42.4 +0.6**
baz=284
YM01 *e*S **Sn 12 57 02.6 +0.1**
baz=284
YM05 YM05 1.27 286 *e*S **Sn 12 57 02.6 -0.1**
baz=285
YM10 YM10 1.27 285 *e*S **Sn 12 57 02.9 +0.2**
baz=285
NWLT Wulai 1.29 268 *e*P **Pn 12 56 43.2 +1.2**
baz=267
NWLT S **Sn 12 57 03.5 +0.6**
baz=267
JISG Ishigakijimahi 1.29 100 P **Pn 12 56 42.3 +0.3**
JISG S **Sn 12 57 02.2 -0.6**
NDT Datong Townshi 1.29 260 P **Pn 12 56 42.8 +0.7**
baz=260
NDT S **Sn 12 57 03.4 +0.4**
baz=260
NACB Ninganchiao 1.37 242 P **Pn 12 56 42.9 +0.1**
baz=241
NACB S **Sn 12 57 03.8 -0.4**
baz=241
NTST Danshui 1.37 285 *e*P **Pn 12 56 43.5 +0.7**
baz=284
YHNB Yeheng 1.41 264 P **Pn 12 56 43.6 +0.3**
baz=263
YHNB S **Sn 12 57 04.6 -0.5**
baz=263
TWD Chiawan 1.41 239 *e*P **Pn 12 56 43.0 -0.3**
baz=237
TWD S **Sn 12 57 04.9 -0.2**
baz=237
NSK Sanguang 1.42 264 *i*P **Pn 12 56 43.5 +0.1**
baz=263
NSK *i*S **Sn 12 57 04.2 -1.1**
baz=263
ETLH Xiulin Townshi 1.44 245 P **Pn 12 56 43.7 0.0**
baz=244
ETLH S **Sn 12 57 04.2 -1.6**
baz=244
NNSB Datong 1.45 255 P **Pn 12 56 43.8 0.0**
baz=254
NNSB S **Sn 12 57 04.9 -1.1**
baz=254
NNS Nan Shan 1.46 255 *i*P **Pn 12 56 44.2 +0.3**
baz=254
NNS *i*S **Sn 12 57 05.4 -0.7**
baz=254
ENLB Shoufeng 1.51 233 *e*S **Sn 12 57 06.6 -0.3**
baz=232
JTJ Tarama 1.63 96 P **Pn 12 56 46.5 +0.9**
JTJ S **Sn 12 57 08.7 -0.5**
WHF Hehuan Shan 1.65 246 P **Pn 12 56 46.7 +0.5**
baz=245
WHF S **Sn 12 57 08.9 -1.4**
baz=245
TWT Tachien 1.68 251 P **Pn 12 56 47.4 +1.0**
baz=250
TWT *i*S **Sn 12 57 11.0 +0.4**
baz=250
ESL Shilin 1.69 234 P **Pn 12 56 46.1 -0.1**
baz=232
ESL S **Sn 12 57 09.1 -1.2**
baz=232
TDCB Techi 1.70 251 P **Pn 12 56 47.2 +0.7**
baz=250
TDCB S **Sn 12 57 10.3 -0.5**
baz=250
LIOB Emei 1.74 264 *e*P **Pn 12 56 47.2 +0.4**
baz=264
LIOB *e*S **Sn 12 57 10.3 -1.0**
baz=264
NSTT Nanjuang 1.75 264 *e*P **Pn 12 56 47.2 +0.3**
baz=263
NSTT S **Sn 12 57 10.3 -1.3**
baz=263
CHGB Renai 1.76 245 P **Pn 12 56 47.5 +0.2**
baz=244
CHGB S **Sn 12 57 11.4 -0.7**
baz=244
EGFH Guangfu 1.78 230 *e*P **Pn 12 56 47.5 +0.2**
baz=229
EGFH *e*S **Sn 12 57 11.4 -0.8**
baz=229
WHP Taichung City 1.88 254 P **Pn 12 56 49.8 +1.4**
baz=252
WHP S **Sn 12 57 14.0 -0.2**
baz=252
HGSD Ruisui 1.90 226 P **Pn 12 56 48.6 0.0**
baz=225
HGSD S **Sn 12 57 14.8 +0.2**
baz=225
VWDT VWDT 1.94 237 P **Pn 12 56 50.1 +1.0**
baz=236
VWDT S **Sn 12 57 14.8 -0.5**
baz=236
EHY Hungye 1.96 228 P **Pn 12 56 49.2 -0.1**
baz=227
EHY S **Sn 12 57 14.8 -1.0**
baz=227
DPDB Guoxing 1.98 247 P **Pn 12 56 51.2 +1.6**
baz=246
DPDB S **Sn 12 57 16.8 +0.6**
baz=246
TWQ1 Liyutan 2.01 257 *e*S **Sn 12 57 16.3 -0.6**
baz=256
JIRB Irabujima 2.05 89 P **Pn 12 56 50.7 +0.4**
JIRB S **Sn 12 57 16.9 -0.8**
YULB Yu-li 2.06 226 P **Pn 12 56 50.1 -0.4**
baz=225
YULB S **Sn 12 57 16.5 -1.3**
baz=225
SMLT Sun Moon Lake 2.06 243 P **Pn 12 56 52.1 +1.4**
baz=242
SSLB Suanglung 2.07 240 P **Pn 12 56 52.4 +1.7**
baz=239
SSLB *e*S **Sn 12 57 18.0 -0.1**
baz=239
TWF1 Yuli 2.08 226 *i*P **Pn 12 56 50.4 -0.4**
baz=224
TWF1 *i*S **Sn 12 57 17.4 -1.0**
baz=224
TYC Yuchr 2.09 244 P **Pn 12 56 52.1 +1.3**
baz=243
TYC S **Sn 12 57 18.1 -0.5**
baz=243
JIKM Ikemajima 2.12 87 P **Pn 12 56 50.9 -0.3**
JIKM *e*S **Sn 12 57 18.2 -0.9**
JMJ Miyako jima 2 2.16 90 *e*P **Pn 12 56 51.3 -0.3**
baz=90
JMJ *e*S **Sn 12 57 20.2 +0.2**
baz=90
WHYT Xinyi Township 2.19 240 P **Pn 12 56 52.6 +0.5**
baz=238
JMJ2 Miyako jima3 2.19 92 P **Pn 12 56 52.9 +0.9**
JMJ2 S **Sn 12 57 20.2 -0.5**
FULB Fuli 2.20 223 P **Pn 12 56 52.4 +0.2**
baz=222
FULB S **Sn 12 57 19.7 -1.2**
baz=222
CHKT Chengkung 2.23 220 *e*P **Pn 12 56 52.9 +0.4**
baz=219
CHKT *e*S **Sn 12 57 20.5 -1.0**
baz=219
WJS Zhushan 2.23 244 *e*P **Pn 12 56 52.9 +0.4**
baz=243
YUS Yu-Shan 2.23 234 P **Pn 12 56 53.8 +0.7**
baz=233
YUS *e*S **Sn 12 57 21.9 -0.5**
baz=233
JOGS Gusukube 2.26 91 S **Sn 12 57 20.1 -2.1**
CHN5 Tsauling 2.38 240 P **Pn 12 56 55.8 +1.3**
baz=238
ELDTW Lidau 2.38 227 P **Pn 12 56 54.4 -0.1**
baz=226
ELDTW S **Sn 12 57 24.8 -0.2**

	baz=226						
WDLH	Douliu	2.45	243	eS		Sn	12 57 24.8 -1.4
	baz=242						
RLNB	Erlin	2.51	249	eS		Sn	12 57 27.4 -0.2
	baz=248						
CHN4	Tsaushan	2.58	236	eP		Pn	12 56 58.0 +1.2
	baz=235						
WTP	Ta-pu	2.63	234	eP		Pn	12 56 58.3 +0.9
	baz=232						
SLGT	Liugui	2.76	229	eP		Pn	12 57 00.3 +1.2
	baz=228						

ISCJB ***13*** *13:08:01.8±0.7,56°.8S±0°.2×150°.8W±0°.2,h10km,mb4.1/6, MS3.6/5,Error ellipse: s-maj=29.4km s-min=14.5km az=5.5*
IDC ***13*** *13:08:02.2±0.8,56°.63S×150°.86W,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.1/23,mbtmp4.1/6,MS3.6/4,Ms1 3.6/4, ms1mx3.3/14,Error ellipse: s-maj=41.0km s-min=21.2km az=10.0*
NEIC ***13*** *13:08:04.5±1.4,56°.7S±0°.2×150°.8W±0°.2,h15km±3km, mb4.8/10*
ISC 13 13:08:04.1±0.7,**56°.8S**±0°.2×**150°.8W**±0°.1,**h10**km,**n43,** σ1°**01/26,mb4.4/7,MS3.6/5,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	28.15	297	LR	LR	13 22 42.0	
	comp=Z,110nm,19.2s,baz=77,slow=31						
QSPA	South Pole Qui	33.34	180	P	P	13 14 43.5	+1.5
	2.0nm,1.1s,baz=65,slow=4.8,SNR=2.3						
QSPA	South Pole Qui	33.34	180	P	P	13 14 42.6	+0.6
QSPA				IAmb	IAmb	13 14 52.8	
	comp=Z,22nm,1.9s						
TBI	Tubuai	33.43	2	eT	T	13 49 54.2	
	comp=Z,16nm,0.3s						
TVO	Taravao	38.97	2	eT	T	13 56 49.1	
	comp=Z,0.5nm,0.3s						
PAE	Paea	39.09	2	eT	T	13 56 56.9	
	comp=Z,0.6nm,0.2s						
PPT2	Papeete2	39.16	2	eLR	LR	13 25 58.0	
	comp=Z,141nm,29.0s						
PPT2	Papeete2	39.16	2	eT	T	13 56 59.8	
	comp=Z,1.3nm,0.3s						
PPT	Papeete	39.18	2	LR	LR	13 27 20.0	
	comp=Z,91nm,20.7s,baz=220,slow=30						
SNAA	Sanae	49.85	167	P	P	13 16 55.7	-1.1
STKA	Stephens Creek	51.91	269	P	P	13 17 12.9	+0.2
PLCA	Paso Flores	52.13	108	P	P	13 17 14.3	0.0
	comp=Z,2.8nm,0.9s,baz=186,slow=7.4,SNR=4.1						
PLCA	Paso Flores	52.13	108	P	P	13 17 14.7	+0.3
PLCA				IAmb	IAmb	13 17 55.5	
	comp=Z,27nm,1.9s						
MAW	Mawson	53.43	195	LR	LR	13 37 30.3	
	comp=Z,48nm,19.6s,baz=68,slow=33						
PEL	Peldehue	57.73	102	P	P	13 17 54.7	-0.2
TRQA	Tornquist	58.55	112	P	P	13 18 00.1	-0.4
ASAR	Alice Springs	62.54	268	P	P	13 18 27.1	-1.0
	comp=Z,1.5nm,0.7s,baz=138,slow=6.4,SNR=16						
ASAR	Alice Springs	62.54	268	P	P	13 18 26.8	-1.2
H01W1	Cape Leeuwin H	64.18	245	T	T	14 28 38.2	
	baz=142,slow=76,SNR=33						
H01W2	Cape Leeuwin H	64.19	245	T	T	14 28 34.6	
	baz=142,slow=76,SNR=26						
H01W3	Cape Leeuwin H	64.20	245	T	T	14 28 38.6	
	baz=142,slow=76,SNR=36						
WRA	Warramunga Arr	65.29	271	P	P	13 18 45.5	-0.6
	comp=Z,0.7nm,0.9s,baz=142,slow=5.3,SNR=4.6						
MNMC	Minye Minye	69.40	94	P	P	13 19 12.0	-0.4
MNMC				IAmb	IAmb	13 19 13.6	
	comp=Z,9.9nm,0.7s						
CPUP	Villa Florida	70.20	108	P	P	13 19 16.7	-0.3
	comp=Z,2.3nm,0.7s,baz=201,slow=8.6,SNR=3.9						
CPUP	Villa Florida	70.20	108	P	P	13 19 16.5	-0.4
LPAZ	La Paz	72.51	93	P	P	13 19 32.3	+0.5
	comp=Z,2.9nm,0.9s,baz=80,slow=3.7,SNR=7.6						
LPAZ	La Paz	72.51	93	P	P	13 19 31.9	+0.1
LPAZ				IAmb	IAmb	13 19 33.2	
	comp=Z,4.7nm,1.0s						
BOSA	Boshof	94.85	176	LR	LR	14 00 36.2	
	comp=Z,39nm,20.2s,baz=194,slow=33						
H10S3	ASCENSION HYDR	105.22	135	T	T	15 20 32.5	
	baz=205,slow=74,SNR=11						
H10S2	ASCENSION HYDR	105.22	135	T	T	15 20 32.6	
	baz=15,slow=74,SNR=12						
H10N3	ASCENSION HYDR	106.30	134	T	T	15 21 56.8	
	baz=203,slow=75,SNR=20						
H10N1	ASCENSION HYDR	106.30	134	T	T	15 21 58.3	
	baz=203,slow=75,SNR=16						
H10N2	ASCENSION HYDR	106.31	134	T	T	15 21 56.6	
	baz=203,slow=75,SNR=17						
ILAR	Eielson Array	121.29	2	PKP	PKPdf	13 26 55.5	-0.3
	comp=Z,1.0nm,0.7s,baz=226,slow=1.6,SNR=16						
RAYN	Ar Rayn	144.70	206		PKPab	13 27 39.3	-0.2
NRN	Naryn	146.50	263	PKPdf	PKPdf	13 27 43.9	+0.2
MK31	Makanchi Array	146.50	276		PKPdf	13 27 43.8	+0.7
MKAR	Makanchi Array	146.50	276	PKPbc	PKPdf	13 27 43.7	+0.6
	comp=Z,2.2nm,0.7s,baz=122,slow=4.4,SNR=22						
MKAR	Makanchi Array	146.50	276	PKPdf	PKPdf	13 27 43.5	+0.4
ZALV	Zalesovo Beam	149.02	289	PKPbc	PKPdf	13 27 49.7	+2.8
	comp=Z,1.5nm,0.6s,baz=140,slow=2.3,SNR=4.8						
ZALV	Zalesovo Beam	149.02	289		PKPdf	13 27 49.5	+2.6
KKAR	Karatay Array	150.62	260		PKPbc	13 27 54.9	-0.5
KURK	Kurchatov	150.72	279		PKPbc	13 27 55.1	-0.2

TAP ***13*** *13:12:17.4,24°.30N×121°.84E,h14km,ML2.8,C*
JMA ***13*** *13:12:17.4±0.1,24°.25N×121°.78E,h22km±3km,M2.3*
ISCJB ***13*** *13:12:18.4±0.3,24°.30N±0°.01×121°.85E±0°.02,h15km±3km, Error ellipse: s-maj=3.0km s-min=1.7km az=20.4*
ISC 13 13:12:17.7±0.9,**24°.29N**±0°.01×**121°.81E**±0°.02,**h18**km±3km, **n75,** σ0°**67**/136,**2C-4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.15	339	⇓iP	Pb	13 12 21.3	-0.2
	baz=329						
NANB				i S	Sb	13 12 24.1	+0.2
	baz=329						
ENA	Nanau	0.15	337	i P	Pb	13 12 21.2	-0.3
	baz=328						
ENA				i S	Sb	13 12 24.2	+0.1
	baz=328						
NACB	Ninganchiao	0.22	240	⇓P	Pb	13 12 22.6	-0.5
	baz=238						
NACB				S	Sg	13 12 26.6	0.0
	baz=238						
TWD	Chiawan	0.28	223	i P	Pb	13 12 23.6	-0.6
	baz=230						
TWD				i S	Sb	13 12 28.6	+0.1
	baz=230						
ETLH	Xiulin Townshi	0.31	255	P	Pg	13 12 24.1	-0.3
	baz=256						
ETLH				eS	Sb	13 12 29.2	-0.2
	baz=256						
TWC	Suao	0.32	7	⇓iP	Pg	13 12 24.0	-0.7
	baz=8.0						
TWC				i S	Sg	13 12 28.6	-0.8
	baz=8.0						
EOS1	EOS1	0.39	48	P	Pg	13 12 25.6	-0.3
	baz=38						
EOS1				S	Sb	13 12 31.6	-0.2
	baz=38						
NNSB	Datong	0.41	290	⇑P	Pb	13 12 26.4	-0.2
	baz=288						
NNSB				S	Sb	13 12 32.2	-0.4
	baz=288						
NDT	Datong Townshi	0.41	320	⇓iP	Pb	13 12 26.4	-0.2
	baz=316						
NDT				S	Sb	13 12 32.4	-0.1
	baz=316						
ENTT	Nioudou	0.41	328	i P	Pg	13 12 26.2	0.0
	baz=324						
ENTT				i S	Sg	13 12 31.8	-0.2
	baz=324						
ENLB	Shoufeng	0.42	206	P	Pn	13 12 27.5	-1.4
	baz=219						
ENLB				eS	Sn	13 12 35.0	-1.3
	baz=219						
NNS	Nan Shan	0.42	291	i P	Pb	13 12 26.6	-0.2
	baz=289						
NNS				i S	Sg	13 12 32.1	-0.3
	baz=289						
TWE	Neicheng	0.45	344	i P	Pg	13 12 26.7	-0.2
	baz=341						
TWE				i S	Sg	13 12 33.0	-0.1
	baz=341						
ILA	Ilan	0.48	354	eP	Pb	13 12 27.7	0.0
	baz=344						
ILA				S	Sb	13 12 34.5	+0.1
	baz=344						
SLBB	Yuanshan	0.49	341	P	Pg	13 12 26.8	-0.9
	baz=340						
SLBB				S	Sb	13 12 34.6	-0.1
	baz=340						
WHF	Hehuan Shan	0.52	254	i P	Pb	13 12 28.1	-0.3
	baz=255						
WHF				S	Sb	13 12 36.2	+0.4
	baz=255						
YHNB	Yeheng	0.55	314	⇑P	Pb	13 12 28.8	-0.1
	baz=311						
YHNB				S	Sb	13 12 36.3	-0.1
	baz=311						
NWLT	Wulai	0.56	330	eP	Pg	13 12 28.8	-0.1
	baz=327						
NWLT				eS	Sb	13 12 36.8	0.0
	baz=327						
NSK	Sanguang	0.56	314	P	Pb	13 12 29.0	-0.1
	baz=311						
NSK				S	Sb	13 12 36.8	-0.1
	baz=311						
TWT	Tachien	0.58	267	P	Pn	13 12 30.5	-0.7
	baz=266						
TWT				i S	Sn	13 12 38.5	-1.8
	baz=266						
ESL	Shilin	0.58	216	i P	Pb	13 12 29.0	-0.3
	baz=223						
ESL				i S	Sn	13 12 38.8	-1.4
	baz=223						
TDCB	Techi	0.59	267	P	Pb	13 12 30.1	+0.5
	baz=267						
TDCB				S	Sb	13 12 38.0	+0.3
	baz=267						
CHGB	Renai	0.62	249	P	Pb	13 12 30.4	+0.2
	baz=245						
CHGB				S	Sn	13 12 40.6	-0.8
	baz=245						
TIPB	Shuangxi	0.68	1	P	Pb	13 12 31.0	-0.1
	baz=358						
TIPB				S	Sb	13 12 40.0	-0.2
	baz=358						
EGFH	Guangfu	0.71	210	P	Pn	13 12 32.3	-0.5
	baz=228						
EGFH				eS	Sn	13 12 43.9	+0.7
	baz=228						
TWA	Mucha	0.72	344	eP	Pn	13 12 32.5	-0.5
	baz=341						
TWA				S	Sg	13 12 42.3	+0.8
	baz=341						
NHDH	Xindian Distri	0.72	339	P	Pn	13 12 32.4	-0.6
	baz=336						
NHDH				eS	Sg	13 12 41.5	0.0
	baz=336						
TWB1	Santiao Chiao	0.74	13	eP	Pb	13 12 31.8	-0.2
	baz=10.0						
WLTB	Daxi	0.76	318	P	Pn	13 12 33.1	-0.4
	baz=310						
WLTB				S	Sn	13 12 44.6	+0.1
	baz=310						
NWF	Wu-fen Shan	0.78	358	eP	Pn	13 12 33.8	-0.2
	baz=348						
NWF				eS	Sg	13 12 44.2	+0.8
	baz=348						
WFSB	Wu-fen Shan	0.78	358	eP	Pg	13 12 33.1	+0.1
	baz=350						
WHP	Taichung City	0.79	270	eP	Pn	13 12 33.9	-0.1
	baz=270						
WHP				S	Sn	13 12 44.6	-0.7
	baz=270						
LIOB	Emei	0.81	297	P	Pn	13 12 34.2	0.0
	baz=295						
LIOB				S	Sn	13 12 45.3	-0.4
	baz=295						
VWDT	VWDT	0.81	229	P	Pn	13 12 34.0	-0.2
	baz=237						
VWDT				S	Sn	13 12 46.3	+0.5
	baz=237						
NSTT	Nanjuang	0.81	295	P	Pn	13 12 34.1	-0.1
	baz=294						
NSTT				S	Sn	13 12 45.0	-0.8
	baz=294						
DPDB	Guoxing	0.84	253	P	Pn	13 12 35.6	+0.8
	baz=254						
DPDB				S	Sn	13 12 46.7	0.0
	baz=254						
YM01	YM01	0.88	346	P	Pn	13 12 35.3	0.0
	baz=343						
YM01				eS	Sn	13 12 47.6	-0.1
	baz=343						
TWS1	Kuangyinshan	0.89	336	P	Pn	13 12 35.2	0.0
	baz=334						
TWS1				eS	Sn	13 12 47.3	-0.4
	baz=334						
YM10	YM10	0.89	346	eP	Pn	13 12 35.3	-0.1
	baz=343						
YM10				eS	Sn	13 12 48.4	+0.4
	baz=343						
EHY	Hungye	0.90	210	P	Pn	13 12 34.9	-0.5
	baz=224						
EHY				eS	Sn	13 12 49.4	+1.5
	baz=224						
YM04	YM04	0.90	344	P	Pn	13 12 35.4	-0.1
	baz=342						
YM04				eS	Sn	13 12 48.3	+0.3
	baz=342						
YM05	YM05	0.90	346	P	Pg	13 12 35.3	0.0
	baz=343						
YM05				S	Sn	13 12 47.9	-0.3
	baz=343						
YM11	YM11	0.90	346	eP	Pn	13 12 35.8	+0.2
	baz=344						
SBCB	Hsinchu	0.90	304	eP	Pn	13 12 35.8	+0.3
	baz=295						
SBCB				eS	Sn	13 12 48.8	+0.7
	baz=295						
YM08	YM08	0.92	348	eP	Pb	13 12 35.2	+0.1
	baz=337						
YM08				eS	Sg	13 12 47.7	0.0
	baz=337						
SMLT	Sun Moon Lake	0.92	244	P	Pn	13 12 36.1	+0.3
	baz=239						
SMLT				eS	Sn	13 12 49.4	+0.7
	baz=239						
SSLB	Suanglung	0.93	238	P	Pn	13 12 35.9	+0.1
	baz=248						
SSLB				S	Sn	13 12 49.4	+0.7
	baz=248						
ANP	Anpu	0.93	344	eP	Pg	13 12 35.8	-0.1
	baz=342						
TWQ1	Liyutan	0.95	274	P	Pg	13 12 36.6	+0.5
	baz=274						
TWQ1				eS	Sn	13 12 49.5	+0.3
	baz=274						
TYC	Yuchr	0.95	247	P	Pg	13 12 36.8	+0.6
	baz=248						
TYC				S	Sn	13 12 49.3	+0.1
	baz=248						
TWY	Chenhua	1.00	349	eP	Pg	13 12 37.2	0.0
	baz=347						
TWY				eS	Sn	13 12 51.3	+0.7
	baz=347						
YULB	Yu-li	1.00	208	eP	Pg	13 12 37.7	+0.5
	baz=221						
YULB				eS	Sn	13 12 52.4	+1.8
	baz=221						
TWF1	Yuli	1.04	207	eP	Pn	13 12 36.9	-0.5
	baz=209						
TWF1				S	Sg	13 12 53.3	+1.7
	baz=209						
WHYT	Xinyi Township	1.05	236	eP	Pg	13 12 38.4	+0.2
	baz=244						
WHYT				eS	Sg	13 12 54.1	+2.2
	baz=244						
WDJ	Dajia District	1.07	274	eP	Pg	13 12 38.6	+0.2
	baz=275						
WNT	Mingjian	1.10	249	eP	Pg	13 12 39.3	+0.1
	baz=247						
WNT				eS	Sg	13 12 54.5	+0.9
	baz=247						
YOJ	Yonaguni jima	1.11	81	P	Pb	13 12 38.4	0.0
YUS	Yu-Shan	1.11	225	P	Pg	13 12 39.1	-0.4
	baz=229						
YUS				S	Sg	13 12 55.7	+1.6
	baz=229						
FULB	Fuli	1.18	204	P	Pg	13 12 39.8	-0.7
	baz=228						
FULB				eS	Sg	13 12 56.5	+0.4
	baz=228						
CHN5	Tsauling	1.24	237	eP	Pg	13 12 42.0	+0.2
	baz=241						
CHN5				eS	Sg	13 12 58.6	+0.6
	baz=241						
ELDTW	Lidau	1.31	214	eP	Pg	13 12 42.0	-1.1
	baz=201						
ELDTW				eS	Sg	13 13 00.6	+0.4
	baz=201						
CHN4	Tsaushan	1.45	230	eP	Pg	13 12 44.5	-1.2
	baz=234						
TPUB	Ta-pu	1.46	228	eP	Pb	13 12 44.3	-0.1
	baz=233						
TPUB				eS	Sg	13 13 04.6	-0.3
	baz=233						
STYT	Tauyuan	1.48	221	eP	Pb	13 12 44.0	-0.6
	baz=226						
STYT				eS	Sg	13 13 05.1	-0.3
	baz=226						
WTP	Ta-pu	1.51	227	eP	Pb	13 12 45.0	-0.1
	baz=231						
TWK	Hsinying	1.58	230	eP	Pb	13 12 45.8	-0.6
	baz=234						
SNST	Tainan City	1.60	229	eP	Pb	13 12 46.9	+0.1
	baz=233						
SGST	Jiashian	1.64	223	eP	Pb	13 12 47.6	+0.2
	baz=227						
SLGT	Liugui	1.67	220	eP	Pb	13 12 47.9	-0.1
	baz=224						
SSD	Sandimen	1.88	215	eP	Pb	13 12 51.0	-0.5
	baz=231						
MASBT	Mashibuluo	1.98	213	eP	Pb	13 12 51.7	-1.6
	baz=218						
JKRS	Kuro-shima	2.01	91	P	Pn	13 12 51.8	+1.1
JKRS				S	Sn	13 13 16.5	+1.1
JIJ	Ishigaki jima	2.13	87	P	Pn	13 12 52.0	-0.4
JIJ				S	Sn	13 13 19.2	+0.8
VWUC	VWUC	2.26	289	eP	Pn	13 12 54.6	+0.4
	baz=289						
VWUC				eS	Sb	13 13 23.4	-2.2
	baz=289						
PTMZ	Houxiangcun	2.56	288	eP	Pn	13 12 59.5	+1.2
	baz=288						
PTMZ				eS	Sn	13 13 30.6	+1.7
	baz=288						

ISK ***13*** *13:54:33.0,36°.60N×27°.67E,h94km,ML2.4/11*
ATH ***13*** *13:54:33.4,36°.60N×27°.61E,h96km±7km,ML2.8/2,Error ellipse: s-maj=8.0km s-min=2.1km az=92.0*
THE ***13*** *13:54:34.6,36°.62N×27°.65E,h108km±4km,ML2.7/3,Error ellipse: s-maj=4.2km s-min=0.8km az=100.0*
DDA ***13*** *13:54:41.3,37°.02N×28°.00E,h7km±3km,ML2.7*
ISC 13 13:54:33.4±1.5,**36°.64N**±0°.04×**27°.67E**±0°.04,**h95**km±9km, **n35,** σ1°**22/52,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.12	322	i P	Pn	13 54 47.5	+0.5
DAT				i S	Sn	13 54 57.7	+0.6
DAT				IAML_P			
	comp=Z,2μm,0.1s						
DAT	Datca	0.12	322	PG	Pn	13 54 47.1	+0.1
DAT				SG	Sn	13 54 57.0	-0.1
MRSB	Marmaris-Mugla	0.43	79	PG	Pn	13 54 48.6	+0.4
NISR	Nisiros	0.43	267	P	Pn	13 54 48.5	+0.3
BODT	Bodrum	0.51	326	P	Pn	13 54 49.1	+0.2
BODT	Bodrum	0.51	326	PG	Pn	13 54 49.0	+0.2
ARG	Arkhangelos	0.56	138	P	Pn	13 54 49.9	+0.8
ARG				S	Sn	13 55 01.7	+0.8
	comp=Z,378nm,0.3s						
ARG	Arkhangelos	0.56	138	P	Pn	13 54 49.9	+0.8
ARG				S	Sn	13 55 01.7	+0.8
ARG				AML	AML	13 55 02.8	
	comp=N,488μm,0.3s						
ARG				AML	AML	13 55 03.2	
	comp=E,1002μm,0.3s						
MLSB	Milas	0.66	7	PG	Pn	13 54 50.6	+0.5
YER	Yerkesik	0.70	45	P	Pn	13 54 51.0	+0.5
YER				S	Sn	13 55 03.2	0.0
YER	Yerkesik	0.70	45	PG	Pn	13 54 50.9	+0.5
TURN	Turunc	0.79	72	i P	Pn	13 54 48.3	-2.9
TURN				i S	Sn	13 55 00.0	-4.5
TURN				IAML_P			
	comp=Z,5μm,0.1s						
TURN	Turunc	0.79	72	PG	Pn	13 54 48.9	-2.3
TURN				SG	Sn	13 55 00.2	-4.3
DALY	Dalyan (Mula)	0.81	77	i P	Pn	13 54 52.9	+1.4
DALY				i S	Sn	13 55 06.9	+1.9
DALY	Dalyan (Mula)	0.81	77	PG	Pn	13 54 51.7	+0.3
AYDN	Tasoluk	1.04	9	i P	Pn	13 54 54.8	+0.8
AYDN				i S	Sn	13 55 09.6	+0.2
AYDN				IAML_P			
	comp=Z,2μm,0.2s						
FETY	Fethiye	1.14	90	P	Pn	13 54 55.2	+0.1
FETY				S	Sn	13 55 11.5	+0.1
FETY	Fethiye	1.14	90	i P	Pn	13 54 55.7	+0.7
FETY				i S	Sn	13 55 12.2	+0.8
FETY	Fethiye	1.14	90	PN	Pn	13 54 55.4	+0.3
KARP	Karpathos	1.16	201	P	Pn	13 54 55.4	0.0
KARP				S	Sn	13 55 11.2	-0.7
	comp=Z,465nm,0.1s						
KARP	Karpathos	1.16	201	P	Pn	13 54 55.4	0.0
KARP				S	Sn	13 55 11.7	-0.1
KARP				AML	AML	13 55 12.2	
	comp=E,1192μm,0.1s						
KARP				AML	AML	13 55 12.9	
	comp=N,651μm,0.2s						
KARP	Karpathos	1.16	201	PN	Pn	13 54 55.3	-0.1
KARP				SN	Sn	13 55 11.4	-0.5
TAVA	DENIZLI_Tavas	1.30	50	i P	Pn	13 54 57.4	+0.4
TAVA				i S	Sn	13 55 14.8	0.0
AYDB	Zeytinkoy-Aydi	1.32	8	PN	Pn	13 54 57.4	+0.1
AMGA	Amorgos Island	1.44	278	P	Pn	13 54 58.9	+0.3
AMGA	Amorgos Island	1.44	278	P	Pn	13 54 58.7	+0.1
ANAF	Anafi Island	1.55	260	P	Pn	13 55 00.6	+0.5
ANAF	Anafi Island	1.55	260	P	Pn	13 55 00.5	+0.5
AKAS	Kas	1.61	104	PN	Pn	13 55 01.3	+0.4
GOLH	Golhisar	1.63	68	i P	Pn	13 55 02.9	+1.7
STIA	Sitia Lasithi	1.92	222	P	Pn	13 55 05.4	+0.7
STIA				S	Sn	13 55 27.6	-1.0
ZKR	Zakros	1.92	218	P	Pn	13 55 05.4	+0.6
ZKR				S	Sn	13 55 28.4	-0.3
	comp=N,50nm,0.3s						
ZKR	Zakros	1.92	218	P	Pn	13 55 05.1	+0.3
NPS	Neapolis	2.16	231	P	Pn	13 55 07.4	-0.5
LAST	Lasithi	2.31	231	P	Pn	13 55 09.5	-0.4

GCMT ***13*** *14:02:44.0±0.2,54°.50S±0°.02×136°.35W±0°.02,h15km±1km, MW5.0/82,Moment Tensor Solution. s26,c34; s82,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18±.12; $M_{\theta\theta}$2.51±.16; $M_{\phi\phi}$-2.33±.12; $M_{r\theta}$1.24±.42; $M_{\theta\phi}$2.33±.10; $M_{\phi r}$0.71±.33; Best double couple: $M_0$3.61000×10^{16} NP1:ϕ_s22.00000°,δ80.00000°,λ163.00000°. NP2: ϕ_s115.00000°,δ74.00000°,λ11.00000°. Principal axes: T 3.9370, Plg19.0000°, Azm338.0000°; N -0.6540, Plg71.0000°, Azm170.0000°; P -3.2830, Plg4.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 13 14:02:41.8±1.9,**54°.58S**×**137°.54W,h0**km,**mb4.0**/3, **mb1 4.3**/3,**mb1mx3.9**/29,**mbtmp4.0**/3,**MS4.3**/13, **Ms1 4.3**/13,**ms1mx4.1**/20 **Error ellipse: s-maj=818.8km s-min=29.7km az=171.0,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	Tubuai	32.44	339	eLR	LR	14 17 26.5	
	comp=Z,2μm,28.0s,baz=169						
TBI	Tubuai	32.44	339	eT	T	14 43 03.0	
	45nm,0.3s						
PPT2	Papeete2	38.06	341	eLR	LR	14 20 16.9	
	comp=Z,1μm,25.8s,baz=174						
PPT	Papeete	38.08	341	LR	LR	14 21 10.2	
	comp=Z,587nm,18.3s,baz=163,slow=29						
VAH	Vaihoa	40.03	345	eT	T	14 52 26.9	
	27nm,0.3s						
PLCA	Paso Flores	45.46	101	LR	LR	14 25 17.5	

comp=Z,300nm,19.1s,baz=255,slow=30
TAOE Nuku Hiva Isla 45.64 356 eLR LR 14 23 36.5
comp=Z,775nm,27.5s,baz=188
DZM Mont Dzumac 52.73 285 eLR LR 14 27 37.0
comp=Z,400nm,23.1s
MAW Mawson 57.19 189 LR LR 14 36 22.7
comp=Z,147nm,18.6s,baz=162,slow=35
STKA Stephens Creek 59.61 257 LR LR 14 34 13.0
comp=Z,157nm,19.7s,baz=188,slow=32
CPUP Villa Florida 63.41 99 LR LR 14 35 51.5
comp=Z,349nm,20.2s,baz=220,slow=31
LPAZ La Paz 64.96 83 P P 14 13 24.0 0.0
1.6nm,0.9s,baz=204,slow=13,SNR=5.5
LPAZ LR LR 14 34 50.5
comp=Z,107nm,19.9s,baz=216,slow=30
ASAR Alice Springs 70.25 257 P P 14 13 57.2 +0.5
1.4nm,0.9s,baz=142,slow=6.2,SNR=9.7
ASAR LR LR 14 42 22.5
comp=Z,235nm,18.0s,baz=141,slow=34
H01W1 Cape Leeuwin H 71.78 235 T T 15 34 04.0
baz=143,slow=75,SNR=14
H01W2 Cape Leeuwin H 71.79 235 T T 15 33 55.4
baz=143,slow=75,SNR=14
H01W3 Cape Leeuwin H 71.80 235 T T 15 33 59.9
baz=143,slow=75,SNR=15
WRA Warramunga Arr 72.93 260 P P 14 14 12.4 -0.4
1.4nm,0.9s,baz=145,slow=5.4,SNR=14
WRA LR LR 14 43 38.3
comp=Z,256nm,19.0s,baz=145,slow=34
BDFB Brasilia 77.14 99 LR LR 14 44 57.0
comp=Z,178nm,19.4s,baz=210,slow=33
ROSC El Rosal 78.86 65 LR LR 14 42 21.8
comp=Z,157nm,20.9s,baz=130,slow=30
NVAR Mina Array Bea 94.10 15 LR LR 14 50 26.8
comp=Z,142nm,18.2s,baz=180,slow=30
BOSA Boshof 95.83 165 LR LR 14 53 21.8
comp=Z,229nm,21.6s,baz=207,slow=32
PDAR Pinedale Array 99.87 21 LR LR 14 54 03.4
comp=Z,104nm,18.3s,baz=204,slow=31

TAP 13 14:08:20.8,24°.14N×121°.69E,h12km,ML1.5,2C,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.09**	**290**	⇑P	Pg	14 08 24.3	+0.7
	baz=289						
NACB				S	Sg	14 08 26.2	+0.6
	baz=289						
TWD	**Chiawan**	**0.11**	**234**	⇑*i* P	Pb	14 08 24.3	-0.4
	baz=231						
TWD				*i* S	Sg	14 08 26.4	+0.5
	baz=231						
ETLH	**Xiulin Townshi**	**0.20**	**289**	P	Pb	14 08 26.1	-0.3
	baz=288						
ETLH				*e*S	Sg	14 08 29.1	+0.8
	baz=288						
ENA	**Nanau**	**0.29**	**9**	P	Pb	14 08 27.8	-0.1
	baz=10.0						
ENA				S	Sb	14 08 31.9	-0.7
	baz=10.0						
NANB	**Nanao**	**0.29**	**11**	*i* P	Pb	14 08 27.8	-0.1
	baz=11						
NANB				*i* S	Sb	14 08 31.9	-0.8
	baz=11						
WHF	**Hehuan Shan**	**0.39**	**270**	*i* P	Pb	14 08 29.7	-0.1
	baz=270						
WHF				*i* S	Sb	14 08 35.3	-0.6
	baz=270						
NNSB	**Datong**	**0.40**	**316**	P	Pb	14 08 29.9	+0.1
	baz=315						
NNSB				S	Sb	14 08 35.7	-0.3
	baz=315						
ESL	**Shilin**	**0.40**	**216**	*i* P	Pg	14 08 29.2	+0.4
	baz=214						
ESL				S	Sb	14 08 35.4	-0.5
	baz=214						
NNS	**Nan Shan**	**0.41**	**316**	P	Pb	14 08 30.3	+0.2
	baz=316						
NNS				*i* S	Sb	14 08 36.1	-0.3
	baz=316						
CHGB	**Renai**	**0.48**	**260**	P	Pb	14 08 31.5	+0.2
	baz=260						
CHGB				S	Sb	14 08 37.5	-0.8
	baz=260						
TWT	**Tachien**	**0.48**	**283**	*i* P	Pb	14 08 32.0	+0.7
	baz=282						
TWT				*i* S	Sb	14 08 38.8	+0.4
	baz=282						
NDT	**Datong Townshi**	**0.48**	**341**	P	Pg	14 08 30.8	+0.4
	baz=340						
NDT				S	Sb	14 08 38.8	+0.5
	baz=340						
TWC	**Suao**	**0.49**	**17**	P	Pg	14 08 30.4	0.0
	baz=18						
TWC				S	Sb	14 08 38.0	-0.3
	baz=18						
TDCB	**Techi**	**0.50**	**283**	P	Pb	14 08 32.0	+0.5
	baz=282						
TDCB				S	Sb	14 08 38.5	-0.2
	baz=282						
ENTT	**Nioudou**	**0.51**	**347**	*i* P	Pb	14 08 32.1	+0.4
	baz=347						
ENTT				*i* S	Sb	14 08 38.9	-0.1
	baz=347						
TWE	**Neicheng**	**0.58**	**358**	*e*P	Pb	14 08 32.6	-0.2
	baz=359						
TWE				*e*S	Sb	14 08 41.2	+0.3
	baz=359						
YHNB	**Yeheng**	**0.60**	**331**	P	Pb	14 08 33.9	+0.7
	baz=331						
YHNB				S	Sb	14 08 41.9	+0.3
	baz=331						
SLBB	**Yuanshan**	**0.61**	**355**	*e*P	Pb	14 08 33.2	-0.2
	baz=355						
SLBB				*e*S	Sb	14 08 42.4	+0.4
	baz=355						
VWDT	**VWDT**	**0.63**	**232**	*e*P	Pb	14 08 34.0	+0.3
	baz=232						
VWDT				S	Sb	14 08 43.0	+0.5
	baz=232						
NWLT	**Wulai**	**0.65**	**345**	*e*P	Pb	14 08 34.6	+0.4
	baz=344						
NWLT				*e*S	Sb	14 08 43.4	+0.1
	baz=344						
WHP	**Taichung City**	**0.69**	**281**	*e*P	Pb	14 08 35.4	+0.6
	baz=281						
WHP				*e*S	Sb	14 08 45.1	+0.8
	baz=281						
SSLB	**Suanglung**	**0.76**	**242**	*e*P	Pb	14 08 36.4	+0.5
	baz=242						
SSLB				*e*S	Sb	14 08 46.3	0.0
	baz=242						

JMA 13 14:09:11.0±0.1,24°.73N×123°.44E,h14km±3km,M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**236**	P	Pg	14 09 20.3	-0.1
YOJ				S	Sg	14 09 26.6	-0.1
IRIF	**Iriomote-Funau**	**0.47**	**146**	P	Pg	14 09 20.3	-0.1
IRIF				S	Sg	14 09 26.6	-0.2
JYNG	**Yonagunijimaku**	**0.53**	**238**	P	Pg	14 09 21.3	-0.1
JYNG				S	Sg	14 09 28.8	+0.3
JKRS	**Kuro-shima**	**0.71**	**133**	P	Pg	14 09 24.8	-0.1
JKRS				S	Sg	14 09 34.3	0.0
JIJ	**Ishigaki jima**	**0.74**	**120**	P	Pg	14 09 24.8	-0.5
JIJ				S	Sg	14 09 34.2	-0.8
HATJ	**Hateruma jima**	**0.75**	**154**	P	Pg	14 09 25.3	-0.3
HATJ				S	Sg	14 09 34.7	-0.7
JISG	**Ishigakijimahi**	**0.81**	**100**	P	Pg	14 09 26.1	-0.5
JISG				S	Sg	14 09 37.2	0.0
JTJ	**Tarama**	**1.15**	**94**	P	Pb	14 09 32.3	-0.4
JTJ				S	Sb	14 09 46.8	-0.7

*ISK **13** 14:13:26.2,40°.98N×36°.05E,h6km,ML2.0/5*
*ISCJB **13** 14:13:27.3±0.7,41°.01N±0°.08×36°.08E±0°.07,h10km±9km, Error ellipse: s-maj=14.2km s-min=8.4km az=12.6*
*DDA **13** 14:13:27.4,41°.00N×36°.06E,h7km±4km,ML2.6*
ISC 13 14:13:27.0±1.1,41°.01N±0°.06×36°.04E±0°.05,h7km±9km,n9, σ0°63/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.07**	**5**	PG	Pg	14 13 28.4	-0.6
KVT				SG	Sg	14 13 31.3	+0.8
HAVZ	**Havza**	**0.25**	**286**	*i* P	Pb	14 13 33.6	-0.2
HAVZ				*i* S	Sb	14 13 38.4	0.0
HAVZ				IAML_P			
	comp=Z,4μm,0.1s						
SAMS	**Samsun-Alacam**	**0.37**	**18**	*i* P	Pb	14 13 35.8	-0.1
ERBA	**Erbaa**	**0.63**	**121**	*i* P	Pb	14 13 40.8	+0.4
ERBA				IAML_P			
	comp=Z,3μm,0.2s						
DIKM	**Dikmen**	**0.87**	**318**	PG	Pg	14 13 43.8	+0.1
DIKM				SG	Sb	14 13 57.2	+1.0
CTAK	**Corum_Osmancik**	**1.01**	**250**	*i* P	Pb	14 13 47.3	+0.4
SVSK	**Karacayir**	**1.31**	**146**	PN	Pn	14 13 51.2	-0.5
CORM	**Corum**	**1.35**	**233**	PN	Pn	14 13 51.7	-0.7
YOZ	**Yozgat**	**1.47**	**202**	PN	Pn	14 13 53.9	-0.1

*DDA **13** 14:13:38.5,35°.72N×32°.27E,h8km±5km,ML3.0*
*ISK **13** 14:13:40.5,35°.65N×32°.33E,h22km,ML2.9/17*
*ISCJB **13** 14:13:41.5±0.6,35°.64N±0°.03×32°.30E±0°.06,h33km±5km, Error ellipse: s-maj=7.7km s-min=4.5km az=171.5*
*NIC **13** 14:13:41.6±0.0,35°.64N×32°.33E,h32km±47km,Ml2.8/5*
ISC 13 14:13:41.1±1.4,35°.64N±0°.02×32°.35E±0°.04,h17km±11km, n38,σ0°70/47,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.53**	**157**	P	Pb	14 13 52.1	+0.2
ALFC				S	Sb	14 14 00.7	+1.5
GAZI	**Gazipasa**	**0.59**	**357**	*i* P	Pb	14 13 54.0	+1.0
GAZI				*i* S	Sb	14 14 02.2	+1.1
GAZI				IAML_P			
	comp=Z,3μm,0.1s						
GAZI	**Gazipasa**	**0.59**	**357**	PG	Pg	14 13 52.9	0.0
GAZI				SG	Sb	14 14 01.7	+0.6
AKDN	**Akdeniz- Kıbrı**	**0.61**	**124**	PG	Pn	14 13 54.6	-0.3
AKMS	**Akamas**	**0.62**	**181**	P	Pb	14 13 53.8	+0.3
AKMS				S	Sb	14 14 03.2	+1.3
AKMS				AML	AML	14 14 07.1	
	comp=Z,1.7nm,0.2s						
AKMS				AML	AML	14 14 07.1	
	comp=Z,1.7nm,0.2s						
LEF	**Lefka**	**0.68**	**140**	*i* P	Pg	14 13 54.5	0.0
LEF	**Lefka**	**0.68**	**140**	PG	Pg	14 13 54.4	-0.2
LEF				SG	Sb	14 14 04.4	+0.7
TEKE	**Tekeli-Mersin**	**0.80**	**51**	PG	Pb	14 13 56.7	+0.2
TEKE				SG	Sn	14 14 08.5	-0.5
NATA	**Nata**	**0.88**	**168**	P	Pg	14 13 58.4	+0.1
NATA				AML	AML	14 14 21.5	
	comp=Z,1.8nm,0.7s						
NATA				AML	AML	14 14 22.9	
	comp=Z,2.8nm,0.8s						
SZAC	**Souni**	**0.99**	**154**	P	Pb	14 13 60.0	+0.2
SZAC				AML	AML	14 14 18.3	
	comp=Z,1.4nm,0.5s						
SZAC				AML	AML	14 14 19.5	
	comp=Z,0.9nm,0.3s						
ATHAL	**Athalassa**	**0.99**	**120**	P	Pb	14 13 59.7	-0.1
ATHAL				AML	AML	14 14 21.3	
	comp=Z,0.9nm,0.6s						
YORU	**Yoruktepe-Mers**	**1.00**	**59**	PG	Pb	14 13 59.7	-0.2
BERE	**Bereket-Mersin**	**1.00**	**45**	PG	Pb	14 13 59.8	-0.2
BERE				SG	Sn	14 14 14.2	0.0
CSS	**Mathiatis**	**1.05**	**130**	PG	Pb	14 14 00.5	-0.3
CSS	**Mathiatis**	**1.05**	**130**	P	Pb	14 14 01.0	+0.2
OREN	**Orenkoy-Mersin**	**1.06**	**58**	PG	Pb	14 14 00.4	-0.6
AKK1	**Akkuyu-Mersin**	**1.09**	**62**	PN	Pb	14 14 01.2	-0.2
AKK2	**Akkuyu-Mersin**	**1.09**	**63**	PN	Pb	14 14 01.6	+0.1
ERMK	**Ermenek**	**1.10**	**24**	*i* S	Sn	14 14 17.4	+0.7
AKKU	**Akkuyu-Mersin**	**1.10**	**62**	PN	Pb	14 14 01.7	0.0
AKIN	**Akıncılar- Kıb**	**1.11**	**124**	PN	Pb	14 14 01.5	-0.3
GULN	**MERSIN_Gulnar**	**1.11**	**61**	*i* P	Pb	14 14 01.1	-0.7
GULN				*i* S	Sb	14 14 16.0	+0.1
GULN				IAML_P			
	comp=Z,648nm,0.1s						
ASGA	**Asgata**	**1.13**	**139**	P	Pg	14 14 02.8	-0.2
ASGA				AML	AML	14 14 21.4	
	comp=Z,0.4nm,0.5s						
TEPE	**Tepekoy-Mersin**	**1.14**	**59**	PN	Pb	14 14 01.5	-0.8
YESI	**Yesilovacik-Me**	**1.19**	**62**	PN	Pn	14 14 02.6	-0.2
TEVE	**Tevekalti-Mers**	**1.19**	**48**	PN	Pn	14 14 02.7	-0.3
TISA	**Tisan-Mersin**	**1.20**	**64**	PN	Pn	14 14 02.9	-0.1
MVOU	**Mavrovouni**	**1.22**	**120**	P	Pn	14 14 01.5	-1.8
IKL	**Isikli**	**1.24**	**61**	PN	Pn	14 14 02.9	-0.6
KARG	**Kargicak-Mersi**	**1.24**	**63**	PN	Pn	14 14 03.2	-0.4
KEBE	**Keben-Mersin**	**1.37**	**54**	PN	Pn	14 14 05.4	0.0
KEPZ	**Antalya-Kepez**	**1.39**	**335**	*i* P	Pn	14 14 04.2	-1.5
KEPZ				IAML_P			
	comp=Z,1μm,0.1s						
EREN	**Erenkoy**	**1.49**	**94**	*i* P	Pn	14 14 07.7	+0.7
EREN				*i* S	Sn	14 14 24.9	-1.1
EREN				IAML_P			
	comp=Z,904nm,0.2s						
EREN	**Erenkoy**	**1.49**	**94**	PN	Pn	14 14 07.1	+0.1
KIZK	**Mersin**	**1.68**	**60**	*i* P	Pn	14 14 10.8	+1.2
KIZK				IAML_P			
	comp=Z,661nm,0.2s						
KIZK	**Mersin**	**1.68**	**60**	PN	Pn	14 14 09.4	-0.2
AKUM	**Antalya-Kumluc**	**1.76**	**293**	*i* P	Pn	14 14 09.5	-1.3
AKUM				IAML_P			
	comp=Z,693nm,0.1s						
KONT	**Konya--Tatoy**	**2.30**	**0**	PN	Pn	14 14 17.9	-0.3

*TAP **13** 14:17:19.6,23°.81N×122°.97E,h60km±1km,ML2.8,D*
*ISCJB **13** 14:17:20.8±0.7,23°.78N±0°.04×122°.82E±0°.02,h31km±6km, Error ellipse: s-maj=6.2km s-min=3.0km az=165.7*
*JMA **13** 14:17:21.0±0.1,23°.84N×122°.79E,h47km,M2.3*
ISC 13 14:17:20.9±1.3,23°.79N±0°.05×122°.82E±0°.03,h29km±12km, n39,σ0°72/61,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**10**	P	Pb	14 17 33.7	-0.4
JYNG				*e*S	Sb	14 17 42.6	-0.4
YOJ	**Yonaguni jima**	**0.69**	**15**	P	Pb	14 17 33.6	-0.9
	baz=358						
YOJ				*e*S	Sb	14 17 43.9	+0.2
	baz=358						
YOJ	**Yonaguni jima**	**0.69**	**15**	P	Pb	14 17 34.0	-0.4
YOJ				S	Sb	14 17 43.7	0.0
HATJ	**Hateruma jima**	**0.94**	**73**	P	Pn	14 17 38.3	+0.2
HATJ				*e*S	Sb	14 17 51.3	+0.6
EOS1	**EOS1**	**0.98**	**320**	*e*P	Pn	14 17 39.0	+0.3
	baz=320						
EOS1				S	Sb	14 17 53.4	+1.5
	baz=320						
IRIF	**Iriomote-Funau**	**0.99**	**57**	P	Pn	14 17 38.7	-0.2
TWD	**Chiawan**	**1.16**	**285**	*e*P	Pn	14 17 40.4	-0.7
	baz=274						
NANB	**Nanao**	**1.17**	**303**	*e*P	Pn	14 17 41.0	-0.2
	baz=308						
JKRS	**Kuro-shima**	**1.18**	**67**	P	Pn	14 17 41.8	+0.4
JKRS				S	Sn	14 17 56.1	-0.3
NACB	**Ninganchiao**	**1.18**	**289**	P	Pn	14 17 41.0	-0.4
	baz=277						
NACB				*e*S	Sn	14 17 55.6	-1.0
	baz=277						
TWC	**Suao**	**1.20**	**313**	*e*P	Pn	14 17 41.5	-0.2
	baz=308						
TWC				*e*S	Sn	14 17 57.2	+0.1
	baz=308						
ESL	**Shilin**	**1.27**	**271**	*e*P	Pn	14 17 41.8	-0.8
	baz=270						
EGFH	**Guangfu**	**1.28**	**265**	*e*P	Pn	14 17 42.3	-0.5
	baz=265						
ETLH	**Xiulin Townshi**	**1.29**	**289**	*e*P	Pn	14 17 42.9	-0.2
	baz=279						
ETLH				*e*S	Sn	14 17 59.5	+0.1
	baz=279						
HGSD	**Ruisui**	**1.31**	**257**	*e*P	Pn	14 17 42.6	-0.6
	baz=258						
HGSD				*e*S	Sb	14 18 02.5	+1.2
	baz=258						
JIJ	**Ishigaki jima**	**1.34**	**64**	P	Pn	14 17 43.4	-0.2
JIJ				S	Sn	14 17 59.9	-0.6
EHY	**Hungye**	**1.40**	**259**	P	Pn	14 17 44.4	-0.1
	baz=259						
EHY				*e*S	Sn	14 18 01.5	-0.5
	baz=259						
TWE	**Neicheng**	**1.40**	**312**	*e*P	Pn	14 17 45.0	+0.5
	baz=308						
TWE				*e*S	Sn	14 18 00.9	-1.1
	baz=308						
ENTT	**Nioudou**	**1.42**	**307**	*e*P	Pn	14 17 45.9	+1.1
	baz=303						
YULB	**Yu-li**	**1.45**	**254**	*e*P	Pn	14 17 45.1	-0.1
	baz=248						
TWF1	**Yuli**	**1.46**	**253**	*e*P	Pn	14 17 45.3	0.0
	baz=247						
TWF1				*e*S	Sn	14 18 02.8	-0.7
	baz=247						
WHF	**Hehuan Shan**	**1.46**	**284**	*e*P	Pn	14 17 45.4	-0.3
	baz=283						
WHF				*e*S	Sn	14 18 03.8	-0.4
	baz=283						
CHGB	**Renai**	**1.53**	**280**	P	Pn	14 17 46.6	+0.2
	baz=272						
VWDT	**VWDT**	**1.54**	**269**	P	Pn	14 17 46.7	+0.4
	baz=269						
VWDT				*e*S	Sn	14 18 04.7	-0.7
	baz=269						
JISG	**Ishigakijimahi**	**1.58**	**59**	P	Pn	14 17 46.5	-0.4
JISG				*e*S	Sn	14 18 05.8	-0.5
YHNB	**Yeheng**	**1.58**	**304**	P	Pn	14 17 47.6	+0.6
	baz=301						
YHNB				*e*S	Sn	14 18 06.3	-0.3
	baz=301						
TDCB	**Techi**	**1.59**	**287**	P	Pn	14 17 47.7	+0.5
	baz=285						
TDCB				*e*S	Sn	14 18 06.7	-0.1
	baz=285						
SSLB	**Suanglung**	**1.71**	**270**	*e*P	Pn	14 17 49.2	+0.4
	baz=270						
DPDB	**Guoxing**	**1.75**	**278**	*e*P	Pn	14 17 49.6	+0.3
	baz=277						
ELDTW	**Lidau**	**1.76**	**250**	*e*P	Pn	14 17 49.3	-0.2
	baz=243						
SMLT	**Sun Moon Lake**	**1.76**	**273**	*e*P	Pn	14 17 50.1	+0.7
	baz=266						
LIOB	**Emei**	**1.85**	**298**	*e*P	Pn	14 17 51.4	+0.7
	baz=296						
TWG	**Pinlang**	**1.87**	**239**	*e*P	Pn	14 17 50.2	-0.7
	baz=234						
TWG				*e*S	Sn	14 18 12.4	-1.2
	baz=234						
JTJ	**Tarama**	**1.92**	**63**	P	Pn	14 17 53.0	+1.4
JTJ				S	Sn	14 18 15.8	+1.1
CHN5	**Tsauling**	**1.97**	**265**	*e*P	Pn	14 17 53.9	+1.5
	baz=265						
CHN5				*e*S	Sn	14 18 16.4	+0.2
	baz=265						
TPUB	**Ta-pu**	**2.07**	**257**	*e*P	Pn	14 17 55.7	+2.1
	baz=250						
CHN4	**Tsaushan**	**2.09**	**258**	*e*P	Pn	14 17 54.7	+0.7
	baz=252						
CHN1	**Nanshi**	**2.19**	**254**	*e*P	Pn	14 17 56.6	+1.3
	baz=255						
SSD	**Sandimen**	**2.26**	**243**	*e*P	Pn	14 17 56.9	+0.6
	baz=240						

WEL 13 14:32:29.0±1.0,37°.S±8°×17°.7E±°,h12km,M3.5/21, ML3.7/15,MLv3.5/21,Error ellipse: s-maj=0.0km s-min=0.0km az=174.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.28**	**225**	P	Pb	14 32 36.3	+0.3
WIZ				S	Sb	14 32 40.7	0.0
HAZ	**Te Kaha**	**0.51**	**148**	P	Pb	14 32 39.4	-0.4
WHRZ	**Whale Island**	**0.64**	**215**	P	Pb	14 32 42.9	+0.7
RUGZ	**Raukumara Rang**	**0.66**	**164**	P	Pg	14 32 42.2	+0.3
MXZ	**Matakaoa Point**	**0.73**	**109**	P	Pg	14 32 43.2	0.0
MXZ				S	Sg	14 32 52.9	+0.2
PKGZ	**Pakihiroa**	**0.75**	**138**	P	Pg	14 32 43.7	0.0
OPRZ	**Ohinepanea**	**0.87**	**234**	P	Pg	14 32 45.4	-0.5
MARZ	**Manawahe**	**0.89**	**223**	P	Pg	14 32 46.1	-0.2
WMGZ	**Waiomatatini S**	**0.92**	**123**	P	Pn	14 32 47.6	-0.1
TWGZ	**Tauwhareparae**	**0.95**	**153**	P	Pn	14 32 48.3	0.0
EDRZ	**Edgecumbe**	**0.95**	**215**	P	Pg	14 32 47.4	-0.1
URZ	**Urewera**	**0.96**	**196**	P	Pg	14 32 47.3	-0.4
URZ				S	Sb	14 33 00.6	+0.2
PUZ	**Puketiti**	**0.98**	**139**	P	Pn	14 32 48.7	0.0
MWZ	**Matawai**	**1.01**	**176**	P	Pb	14 32 47.7	-0.7
TGRZ	**Tauranga**	**1.02**	**247**	P	Pb	14 32 47.9	-0.7
LIRZ	**Lichensteins R**	**1.07**	**231**	P	Pb	14 32 49.4	-0.2
OMRZ	**Omania**	**1.15**	**227**	P	Pb	14 32 50.3	-0.6
TKGZ	**Te Karaka**	**1.15**	**164**	P	Pg	14 32 51.6	+0.4
RAGZ	**Rawiri**	**1.17**	**181**	P	Pb	14 32 50.7	-0.5
TARZ	**Mount Tarawera**	**1.17**	**219**	P	Pb	14 32 51.1	-0.1
KARZ	**Kaharoa**	**1.17**	**234**	P	Pb	14 32 50.3	-0.9
RRRZ	**Republican Roa**	**1.25**	**216**	P	Pn	14 32 51.5	-0.8
MUGZ	**Murupara**	**1.26**	**205**	P	Pn	14 32 51.5	-1.1
KMRZ	**Kaimai**	**1.30**	**246**	P	Pn	14 32 51.9	-1.1
CNGZ	**Carnagh Statio**	**1.30**	**152**	P	Pg	14 32 54.9	+0.8
RTZ	**Ruatahuna**	**1.33**	**196**	P	Pn	14 32 52.6	-0.9
RIGZ	**Rimuhau**	**1.40**	**170**	P	Pg	14 32 55.6	-0.3
SNGZ	**Shannon Statio**	**1.45**	**183**	P	Pn	14 32 55.1	0.0
KUZ	**Kuaotunu**	**1.49**	**292**	P	Pn	14 32 53.7	-2.0
ALRZ	**Allen Road**	**1.51**	**215**	P	Pn	14 32 55.5	-0.4
MTHZ	**Maungataniwha**	**1.59**	**197**	P	Pn	14 32 56.6	-0.5
TOZ	**Tahuroa Road**	**1.59**	**255**	P	Pn	14 32 56.5	-0.5
RAHZ	**Arahi**	**1.61**	**190**	P	Pn	14 32 56.9	-0.4
PRGZ	**Paritu Road**	**1.63**	**168**	P	Pb	14 32 58.9	-0.1
KNZ	**Kokohu**	**1.70**	**174**	P	Pn	14 32 59.0	+0.5
MRHZ	**Matea Rd**	**1.71**	**208**	P	Pn	14 32 58.2	-0.5
KUTZ	**Kaahu Road**	**1.73**	**227**	P	Pn	14 32 58.7	-0.2
WHHZ	**Waihua**	**1.75**	**185**	P	Pb	14 33 00.3	-0.8
TLZ	**Tolley Road**	**1.81**	**236**	P	Pn	14 32 59.6	-0.4
MKAZ	**Moumakai**	**1.83**	**276**	P	Pn	14 32 59.1	-1.2
NMHZ	**Naumai**	**1.83**	**196**	P	Pn	14 33 00.4	0.0
MHGZ	**Mahia Peninsul**	**1.86**	**169**	P	Pn	14 33 01.4	+0.7
GRZ	**Great Barrier**	**1.92**	**303**	P	Pn	14 33 00.2	-1.3
WIAZ	**Waiheke Island**	**1.92**	**285**	P	Pn	14 33 00.4	-1.1
ARHZ	**Aropaoanui**	**1.96**	**190**	P	Pb	14 33 03.5	-1.1
BKZ	**Black Stump Fm**	**1.98**	**202**	P	Pn	14 33 01.8	-0.6
ETAZ	**East Tamaki Re**	**2.04**	**280**	P	Pn	14 33 02.7	-0.5
KBAZ	**Karaka Road Bo**	**2.05**	**276**	P	Pn	14 33 03.1	-0.2
MBAZ	**Motutapu North**	**2.11**	**285**	P	Pn	14 33 03.4	-0.8
MCHZ	**McNeill Hill**	**2.19**	**195**	P	Pn	14 33 06.2	+1.0
ABAZ	**Army Bay**	**2.21**	**288**	P	Pn	14 33 05.1	-0.5
KWHZ	**Kaweka Forest**	**2.24**	**201**	P	Pn	14 33 06.3	+0.3
AWAZ	**Awhitu Peninsu**	**2.25**	**276**	P	Pn	14 33 05.9	-0.2
KRVZ	**Karewarewa**	**2.26**	**218**	P	Pb	14 33 08.4	-1.4
WTAZ	**Waiatarua**	**2.33**	**279**	P	Pn	14 33 07.0	-0.1
NGZ	**Ngauruhoe**	**2.34**	**218**	P	Pn	14 33 09.2	+1.7
HIZ	**Hauiti**	**2.36**	**239**	P	Pn	14 33 07.5	-0.1
TUVZ	**Tukino**	**2.39**	**215**	P	Pn	14 33 09.2	+1.1
BHHZ	**Black Hill Sta**	**2.41**	**206**	P	Pn	14 33 08.2	-0.2
FWVZ	**Far West T-bar**	**2.43**	**217**	P	Pn	14 33 10.3	+1.5
WHVZ	**Whangaehu Hut**	**2.43**	**216**	P	Pn	14 33 10.0	+1.2
KRHZ	**Kereru**	**2.46**	**200**	P	Pn	14 33 09.3	+0.4
MOVZ	**Moawhango**	**2.46**	**212**	P	Pn	14 33 09.3	+0.2
KAHZ	**Kahuranaki**	**2.50**	**190**	P	Pn	14 33 09.4	-0.2
**M

KIW	Kapiti Island	4.04 208	P	Pn	14 33 29.7	-1.0
MTW	Mount Morrison	4.11 201	P	Pn	14 33 29.2	-2.5
CAW	Cannon Point	4.20 205	P	Pn	14 33 32.3	-0.6
MSWZ	Moikau Station	4.42 202	P	Pn	14 33 34.1	-1.8
TCW	Tory Channel	4.59 211	P	Pn	14 33 36.4	-1.8
TUWZ	Tuamarina	4.91 212	P	Pn	14 33 40.9	-1.7
BSWZ	Blackbirch Sta	5.17 211	P	Pn	14 33 45.4	-0.8
QRZ	Quartz Range	5.17 226	P	Pn	14 33 46.6	+0.3
THZ	Tophouse	5.65 217	P	Pn	14 33 51.3	-1.5
KHZ	Kahutara	5.90 209	P	Pn	14 33 54.1	-2.1

BJI ***13*** *14:37:10.9±0.0,5.′56S×127.′77E, h343km, mb4.2/22, mB4.7/12*

ISCJB ***13*** *14:37:13.4±0.2,5.′13S±0.′03×127.′93E±0.′03, h350km, mb4.3/21, Error ellipse: s-maj=4.3km s-min=3.1km az=150.7*

IDC ***13*** *14:37:15.2±1.1,5.′14S×127.′93E, h352km±13km, mb3.8/13, mb1 3.9/21, mb1mx3.7/42, mbtmp4.6/21, Error ellipse: s-maj=12.4km s-min=9.2km az=57.0*

NEIC ***13*** *14:37:15.0±1.3,5.′13S±0.′07×127.′92E±0.′07, h354km±7km, mb4.5/60*

DJA ***13*** *14:37:16.7±0.3,5.′S±4.′×12.′8E±.′, h328km±4km, M4.5/17, mb4.5/13, mB5.2/8, MLv4.6/17, Mw(mB)4.5/8*

ISC 13 14:37:14.6±0.3,5.′12S±0.′04×127.′93E±0.′05, h350km, n147, σ1.9 25/157, mb4.4/43, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.44	10	P	Pn	14 38 02.2	-0.3
AAI				S	S	14 38 40.2	-0.6
MSAI	Masohi	2.02	29	P	Pn	14 38 05.2	-0.9
MSAI				S	S	14 38 43.8	-3.6
NLAI	Namlea	2.04	336	P	Pn	14 38 08.9	+2.7
NLAI				S	S	14 38 47.0	-0.6
BNDI	Bandanaira	2.05	73	P	Pn	14 38 05.8	-0.5
SANI	Sanana	3.61	327	P	Pn	14 38 19.2	-0.6
SANI				S	S	14 39 07.7	-4.5
SAUI	Saumlaki	4.39	131	Pn	Pn	14 38 27.9	+0.2
LBMI	Labuha	4.47	354	S	S	14 39 25.9	-2.3
FAKI	Fak Fak	4.83	63	P	Pn	14 38 32.4	0.0
FAKI	Fak Fak	4.83	63		Pn	14 38 32.1	-0.2
BBSI	Bau Bau	5.35	266	P	Pn	14 38 41.4	+3.2
	29nm,1.1s,278nm0.1nm						
SIJI	Sorong	5.37	38	P	Pn	14 38 38.9	+0.4
	28nm,0.3s,baz=159,slow=23,SNR=251						
SIJI				S	S	14 39 42.9	-3.3
	20nm,0.3s,baz=43,slow=19,SNR=9.4						
SWI	Sorong	5.37	38	P	Pn	14 38 38.9	+0.5
	236nm,0.7s,6μm1.0nm						
KDI	Kendari	5.42	282	P	Pn	14 38 41.3	+2.4
	56nm,1.1s,8μm0.2nm						
SOEI	Soe	5.87	218	Pn	Pn	14 38 45.4	+1.3
TNTI	Ternate	5.88	354	Pn	Pn	14 38 47.2	+3.2
LUWI	Luwuk	6.55	308	P	Pn	14 38 53.5	+1.7
	131nm,1.0s,0.5nm						
LUWI	Luwuk	6.55	308		Pn	14 38 52.8	+1.0
BATI	Baumata	6.59	220	P	Pn	14 38 53.3	+1.0
	12nm,0.3s,baz=58,slow=4.2,SNR=11						
BATI				S	S	14 40 11.7	0.0
	8.4nm,0.3s,baz=132,slow=4.9,SNR=12						
BATI	Baumata	6.59	220	P	Pn	14 38 53.0	+0.7
	21nm,0.6s						
MMRI	Maumere	6.65	238	Pn	Pn	14 38 54.5	+1.5
RKPI	Ransiki, Papua	7.19	60	P	Pn	14 39 00.4	+1.2
	737nm,0.6s,10μm						
BKSI	Bulukumba	7.78	268	P	Pn	14 39 07.7	+1.5
	18nm,0.8s,0.0nm						
BNSI	Bone	7.83	275	P	Pn	14 39 10.0	+3.2
	30nm,0.8s,516nm0.1nm						
KAPI	Kappang	8.15	270	P	P	14 39 12.3	-1.3
	1.8nm,0.3s,baz=107,slow=6.1,SNR=6.2						
KAPI	Kappang	8.15	270	Pn	Pn	14 39 11.3	+0.7
SPSI	Sidrap Palu	8.22	278	P	P	14 39 13.4	-0.9
	33nm,0.9s,0.1nm						
MTN	Manton Dam	8.30	158	Pn	Pn	14 39 11.9	-0.5
SRPI	Serui, Papua	8.89	69	P	P	14 39 21.7	-0.1
KNRA	Kununurra	10.53	176	P	Pn	14 39 38.7	-0.2
JAY	Jayapura	13.00	79	P	Pn	14 40 09.6	+1.2
	2.8nm,0.3s,baz=226,slow=7.4,SNR=9.6						
FITZ	Fitzroy Crossi	13.10	190	P	P	14 40 08.2	-0.2
	0.2nm,0.3s,baz=27,slow=7.2,SNR=6.8						
FITZ	Fitzroy Crossi	13.10	190	P	P	14 40 07.5	-0.9
JAGI	Jajag, Banyuwa	14.08	256	P	P	14 40 18.9	-0.4
WRAB	Tennant Creek	16.00	158	P	P	14 40 39.8	-0.4
WRA	Warramunga Arr	16.00	158	P	P	14 40 39.9	-0.3
	8.3nm,0.3s,baz=335,slow=12,SNR=633						
WRA				S	S	14 43 26.4	-4.4
	1.1nm,0.3s,baz=301,slow=14,SNR=6.5						
WRA	Warramunga Arr	16.00	158	P	P	14 40 38.5	-1.7
WB2	Warramunga Arr	16.01	158	P	P	14 40 39.8	-0.4
KKM	Kota Kinabalu	16.12	313	P	P	14 40 42.7	+1.1
KKM				IAmb	IAmb	14 41 30.1	
	comp=Z,48nm,1.3s						
COEN	Coen	17.40	121	P	P	14 40 55.4	+0.1
COEN				IAmb	IAmb	14 40 56.3	
	comp=Z,13nm,0.7s						
SBUM	Sibu	17.40	295	P	P	14 40 56.6	+1.2
PSA00	Pilbara Seismi	18.14	205	P	P	14 41 02.4	-0.8
PSA00				IAmb	IAmb	14 41 22.9	
	comp=Z,53nm,1.7s						
KSM	Kuching	18.78	290	P	P	14 41 10.2	+0.1
KSM				IAmb	IAmb	14 41 13.9	
	comp=Z,18nm,0.8s						
AS31	Alice Springs	19.32	163	P	P	14 41 15.2	-0.5
AS31				IAmb	IAmb	14 41 16.1	
	comp=Z,12nm,0.5s						
ASAR	Alice Springs	19.32	163	P	P	14 41 15.2	-0.4
	comp=Z,7.1nm,0.3s,baz=342,slow=12,SNR=586						
ASAR				S	S	14 44 31.6	-3.2
	comp=Z,0.8nm,0.3s,baz=328,slow=16,SNR=16						
ASAR	Alice Springs	19.32	163	P	P	14 41 15.1	-0.6
PMG	Port Moresby	19.54	104	P	P	14 41 18.6	+0.6
	comp=Z,1.2nm,0.3s,baz=299,slow=10,SNR=7.5						
PMG	Port Moresby	19.54	104	P	P	14 41 18.3	+0.3
PMG				IAmb	IAmb	14 41 20.5	
	comp=Z,20nm,0.7s						
MANU	Manus Island	19.63	82	P	P	14 41 19.6	+0.6
MANU				IAmb	IAmb	14 41 28.0	
	comp=Z,17nm,0.9s						
CISI	Cisompet, Garu	20.14	262	P	P	14 41 21.1	-3.0
LEM	Lembang	20.28	264	P	P	14 41 25.9	+0.3
	comp=Z,60nm,1.0s,baz=82,slow=14,SNR=9.0						
GIRL	Giralia	21.89	216	P	P	14 41 39.2	-0.7
XMIS	Christmas Isla	22.70	255	P	P	14 41 45.0	-2.4
CTA	Charters Tower	23.22	131	P	P	14 41 52.4	+0.3
	comp=Z,4.7nm,0.8s,baz=304,slow=13,SNR=6.9						
CTAO	Charters Tower	23.22	131	P	P	14 41 52.1	+0.1
MYKOM	Kota Tinggi	25.02	285	P	P	14 42 09.1	+0.8
FORT	Forrest	25.53	180	P	P	14 42 12.5	-0.1
FORT				IAmb	IAmb	14 42 55.8	
	comp=Z,26nm,1.0s						
MORW	Morawa	26.35	204	P	P	14 42 19.6	-0.4
MORW				IAmb	IAmb	14 43 08.1	
	comp=Z,56nm,1.7s						
BBOO	Buckleboo	28.58	166	P	P	14 42 39.9	+0.3
BBOO				IAmb	IAmb	14 43 02.7	
	comp=Z,20nm,1.2s						
TPUB	Ta-pu	29.13	346	P	P	14 42 43.2	-1.4
NWAO	Narrogin (SRO)	29.42	199	P	P	14 42 46.3	-0.7
NWAO				IAmb	IAmb	14 43 17.8	
	comp=Z,71nm,1.6s						
NWAO	Narrogin (SRO)	29.42	199	P	P	14 42 46.4	-0.6
NWAO				IAmb	IAmb	14 43 17.9	
	comp=Z,94nm,1.7s						
STKA	Stephens Creek	29.54	156	P	P	14 42 48.6	+0.5
	comp=Z,8.1nm,0.4s,baz=333,slow=8.8,SNR=39						
STKA	Stephens Creek	29.54	156	P	P	14 42 48.4	+0.2
YOJ	Yonaguni jima	29.79	351	P	P	14 42 49.5	-0.8
RPSI	Rantau Prapat	30.00	284	P	P	14 42 51.5	-0.8
GSI	Gunungsitoli	30.99	281	P	P	14 42 59.9	-1.1
GSI				IAmb	IAmb	14 43 08.4	
	comp=Z,38nm,1.6s						
HNR	Honiara	32.03	100	P	P	14 43 10.1	+0.1
HNR				IAmb	IAmb	14 43 34.0	
	comp=Z,24nm,0.8s						
CHAI	Chaiyaphum	33.10	310	P	P	14 43 19.6	+0.4
	comp=Z,23μm,0.7s						
ARMA	Armidale	33.64	141	P	P	14 43 24.9	+1.1
ARMA				IAmb	IAmb	14 43 28.1	
	comp=Z,22nm,1.3s						
PBKT	Sadao Pong	34.28	309	P	P	14 43 29.3	0.0
UTHA	Uthaitani	34.90	307	P	P	14 43 35.2	+0.7
	comp=Z,15μm,0.6s						
KHLT	Khaolaem Dam	35.18	305	P	P	14 43 34.1	-2.8
CAN	Canberra	35.80	150	P	P	14 43 43.6	+1.6
CAN				IAmb	IAmb	14 43 44.5	
	comp=Z,15nm,0.8s						
TOO	Toolangi	36.06	156	P	P	14 43 46.0	+1.8
CM31	Chiang Mai Arr	36.95	310	P	P	14 43 52.0	+0.2
CMAR	Chiang Mai Arr	36.95	310	P	P	14 43 52.4	+0.5
	comp=Z,6.7nm,0.5s,baz=134,slow=7.2,SNR=67						
CMAR				PcP	PcP	14 46 06.2	+1.4
	comp=Z,0.6nm,0.4s,baz=174,slow=3.5,SNR=5.2						
CMAR	Chiang Mai Arr	36.95	310	P	P	14 43 51.9	0.0
CMMT	Chiang Mai	37.16	311	P	P	14 43 54.0	+0.4
	comp=Z,9.5nm,0.8s						
CHTO	Chiang Mai	37.16	311	P	P	14 43 53.5	-0.1
CHTO				IAmb	IAmb	14 43 55.0	
	comp=Z,12nm,0.7s						
NJ2	Nanjing	37.96	347	eP	P	14 44 01.9	+2.0
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
DZM	Mont Dzumac	40.88	118	P	P	14 44 25.1	+0.9
DZM				IAmb	IAmb	14 44 42.5	
	comp=Z,86nm,1.8s						
KSRS	Korea Array	42.35	360	P	P	14 44 36.5	+1.0
	comp=Z,1.5nm,0.5s,baz=182,slow=9.1,SNR=9.1						
CD2	Chengdu	42.63	329	P	P	14 44 38.6	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	Lanzhou	46.79	333	eP	P	14 45 12.1	+1.5
LZH				pP	pwP	14 46 22.8	-0.4
LZH				sP	sP	14 46 58.8	-1.6
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC	Hu-ho-hao-te	48.14	343	eP	P	14 45 24.5	+3.8
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
USA0B	Ussuriysk Arra	49.22	4	P	P	14 45 29.1	+0.5
USA0B				IAmb	IAmb	14 46 51.7	
	comp=Z,32nm,1.9s						
USRK	Ussuriysk Ar.	49.22	4	P	P	14 45 29.5	+0.8
	comp=Z,2.5nm,0.5s,baz=193,slow=6.9,SNR=11						
USRK	Ussuriysk Ar.	49.22	4	P	P	14 45 29.1	+0.5
LSA	Lhasa	49.43	317	P	P	14 45 30.2	-0.8
ODAN	Odare	50.48	311	eP	P	14 45 38.6	0.0
	comp=Z,37nm,0.5s						
TAPN	Taplejung	50.51	312	eP	P	14 45 39.0	+0.1
	comp=Z,33nm,0.3s						
RAMN	Ramite	51.12	311	eP	P	14 45 43.7	+0.3
	comp=Z,102nm,0.5s						
GTA	Gaotai	51.35	332	⇓P	P	14 45 45.3	+0.6
GTA				pP	pP	14 46 57.8	+0.7
GTA				sP	sP	14 47 36.3	+0.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
JIRN	Jiri	51.81	311	eP	P	14 45 48.6	0.0
	comp=Z,32nm,0.2s						
GUN	Gumba	52.17	311	eP	P	14 45 51.2	0.0
	comp=Z,57nm,0.4s						
PKI	Pulchoki	52.35	311	eP	P	14 45 52.0	-0.5
	comp=Z,17nm,0.4s						
PKIN	Phulchoki	52.36	311	eP	P	14 45 52.0	-0.5
	comp=Z,12nm,0.4s						
KKN	Kakani	52.56	311	eP	P	14 45 53.7	-0.2
	comp=Z,18nm,0.4s						
DMN	Daman	52.60	311	eP	P	14 45 54.2	0.0
	comp=Z,21nm,0.4s						
FOZ	Fox Glacier	53.12	143	P	P	14 45 57.8	+0.4
FOZ				IAmb	IAmb	14 46 09.8	
	comp=Z,51nm,1.4s						
GKN	Gorkha	53.16	311	eP	P	14 45 58.1	0.0
	comp=Z,87nm,0.2s						
MLZ	Mavora Lakes	53.18	145	P	P	14 45 58.1	+0.2
MLZ				IAmb	IAmb	14 46 15.3	
	comp=Z,61nm,1.8s						
WHZ	Wether Hill Ro	53.40	146	P	P	14 45 59.8	+0.4
QRZ	Quartz Range	53.42	138	P	P	14 46 00.7	+1.1
KOLN	Koldanda	53.82	310	eP	P	14 46 03.1	+0.1
	comp=Z,27nm,0.4s						
RPZ	Rata Peaks	53.97	142	P	P	14 46 03.9	+0.3
RPZ				IAmb	IAmb	14 47 58.3	
	comp=Z,83nm,1.8s						
DANN	Dangsing	54.00	311	eP	P	14 46 04.2	-0.1
	comp=Z,38nm,0.6s						
LTZ	Lake Taylor	54.24	141	P	P	14 46 05.9	+0.4
LTZ				IAmb	IAmb	14 47 24.0	
	comp=Z,78nm,2.0s						
TUWZ	Tuamarina	54.65	138	P	P	14 46 08.4	0.0
KHZ	Kahutara	54.86	140	P	P	14 46 10.2	+0.3
KHZ				IAmb	IAmb	14 46 59.9	
	comp=Z,42nm,1.4s						
BKZ	Black Stump Fm	55.38	135	P	P	14 46 14.0	+0.3
URZ	Urewera	55.44	134	P	P	14 46 14.1	0.0
URZ				IAmb	IAmb	14 46 46.6	
	comp=Z,41nm,1.3s						
BFZ	Birch Farm	55.85	137	P	P	14 46 17.4	+0.4
ULN	Ulaanbaatar	55.86	343	P	P	14 46 17.5	+0.5
SONM	Songino Array	56.03	343	P	P	14 46 18.7	+0.6
	comp=Z,2.7nm,0.6s,baz=170,slow=7.8,SNR=21						
SONM	Songino Array	56.03	343	P	P	14 46 18.5	+0.3
RAO	Raoul Island	56.44	122	P	P	14 46 21.0	-0.2
WMQ	Urumqi	60.71	328	eP	P	14 46 51.3	+1.1
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.9s						
WMQ				LR	LR		
	comp=Z,1μm,28.9s						
WMQ				LR	LR		
	comp=Z,2μm,29.2s						
WMQ				LR	LR		
	comp=Z,210nm,28.9s						
KSH	Kashi	65.25	318	P	P	14 47 21.6	+1.6
KSH				S	S	14 55 32.3	-2.8
KSH				sS	sS	14 57 47.8	-1.0
KSH				SS	SS	14 59 54.4	-1.3
KSH				pmax	pmax		
	comp=Z,350nm,4.4s						
KSH				LR	LR		
	comp=Z,230nm,12.4s						
KSH				LR	LR		
	comp=Z,490nm,10.2s						
KSH				LR	LR		
	comp=Z,280nm,12.5s						
MK31	Makanchi Array	65.54	327	P	P	14 47 21.6	+0.1
MK31				PcP	PcP	14 47 49.5	-0.7
MKAR	Makanchi Array	65.54	327	P	P	14 47 21.8	+0.3
	comp=Z,9.1nm,0.8s,baz=124,slow=8.2,SNR=41						
MKAR				PcP	PcP	14 47 50.2	+0.1
	comp=Z,1.3nm,0.5s,baz=138,slow=3.5,SNR=5.3						
MKAR	Makanchi Array	65.54	327	P	P	14 47 21.4	-0.1
MKAR				PcP	PcP	14 47 49.9	-0.3
YAK	Yakutsk	66.97	1	P	P	14 47 30.5	+0.4
YAK				IAmb	IAmb	14 47 31.4	
	comp=Z,14nm,0.9s						
AAK	Ala-Archa	67.79	320	P	P	14 47 36.9	+1.0
	comp=Z,1.1nm,0.3s,baz=108,slow=5.6,SNR=6.4						
AAK	Ala-Archa	67.79	320	P	P	14 47 36.4	+0.4
KBL	Kabul	67.98	310	P	P	14 47 37.5	+0.1
KBL				IAmb	IAmb	14 47 38.5	
	comp=Z,6.8nm,0.6s						
ARSB	Arslanbob	68.13	318	P	P	14 47 38.4	+0.3
GAR	Garm	68.89	315	P	P	14 47 42.6	-0.1
ZAA0	Zalesovo Array	69.00	334	P	P	14 47 42.3	-0.6
ZAA0				IAmb	IAmb	14 47 43.3	
	comp=Z,6.8nm,0.8s						
ZALV	Zalesovo Beam	69.00	334	P	P	14 47 42.5	-0.4
	comp=Z,5.5nm,0.5s,baz=128,slow=5.0,SNR=23						
ZALV	Zalesovo Beam	69.00	334	P	P	14 47 42.1	-0.7
KURK	Kurchatov	69.85	329	P	P	14 47 48.2	+0.1
KURK				IAmb	IAmb	14 47 49.3	
	comp=Z,8.1nm,0.8s						
KKAR	Karatay Array	70.58	319	P	P	14 47 52.6	-0.1
BRVK	Borovoye	75.46	328	P	P	14 48 20.7	-0.1
GEYT	Alibeck	77.44	310	P	P	14 48 32.9	+0.7
	comp=Z,1.8nm,0.7s,baz=38,slow=7.5,SNR=5.4						
GEYT	Alibeck	77.44	310	IAmb	IAmb	14 48 33.8	
	comp=Z,2.0nm,0.8s						
NRIK	Noril'sk	79.25	346	P	P	14 48 42.0	+0.7
	comp=Z,1.7nm,0.5s,baz=135,slow=11,SNR=4.1						
ABKAR	Akbulak array	79.77	322	P	P	14 48 44.2	-0.3
ABKAR	Akbulak array	79.77	322	P	P	14 48 44.2	-0.3
ABKAR				IAmb	IAmb	14 48 44.8	
	comp=Z,2.8nm,0.6s						
PAE	Paea	81.32	107	eT	T	14 49 52.2	
	comp=Z,2.9nm,0.3s						
PPT2	Papeete2	81.33	107	eT	T	14 49 55.1	
	comp=Z,4.7nm,0.3s						
TVO	Taravao	81.63	107	eT	T	14 49 43.9	
	comp=Z,1.6nm,0.3s						
RAYN	Ar Rayn	85.11	294	P	P	14 49 12.6	0.0
RAYN				IAmb	IAmb	14 49 13.6	
	comp=Z,5.8nm,0.8s						
ILAR	Eielson Array	92.53	25	P	P	14 49 45.5	-0.9
	comp=Z,0.3nm,0.7s,baz=258,slow=3.6,SNR=3.1						
VYHS	Vyhne	106.43	319	eP	DIFF	Pdif	14 50 50.2	+1.0
TORD	Torodi Ar. Bea	126.41	282	PKP	PKPdf	14 55 37.5	+0.2
	comp=Z,1.4nm,0.6s,baz=77,slow=2.8,SNR=6.9						
CPUP	Villa Florida	148.33	171	PKPbc	PKPbc	14 56 21.3	+0.5
	comp=Z,1.7nm,0.7s,baz=147,slow=2.6,SNR=4.2						

WEL 13 15:02:26.3, 42.′S±1.′×17.′4E±.′, h16km±3km, M3.9/28, ML4.2/14, MLv3.9/28, Error ellipse: s-maj=0.0km s-min=0.0km az=147.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.16	192	P	Pb	15 02 30.8	0.0
CMWZ				S	Sb	15 02 34.4	+0.5
TUWZ	Tuamarina	0.29	305	P	Pb	15 02 33.0	0.0
TUWZ				S	Sb	15 02 37.7	+0.1
BSWZ	Blackbirch Sta	0.31	247	P	Pg	15 02 33.0	+0.1
BSWZ				S	Sg	15 02 37.7	+0.3
TCW	Tory Channel	0.38	2	P	Pb	15 02 34.9	+0.2
TCW				S	Sb	15 02 40.5	+0.2
BHW	Baring Head	0.50	68	P	Pb	15 02 37.1	+0.5
PLWZ	Palliser	0.75	88	P	Pn	15 02 41.8	-0.4
NNZ	Nelson	0.76	299	P	Pb	15 02 41.1	0.0
NNZ				S	Sg	15 02 51.0	-0.1
MSWZ	Moikau Station	0.77	77	P	Pn	15 02 42.0	-0.4
MSWZ				S	Sn	15 02 52.9	-0.8
CAW	Cannon Point	0.78	52	P	Pg	15 02 41.8	+0.4
DUWZ	D'Urville Isla	0.83	342	P	Pg	15 02 42.6	+0.2
KIW	Kapiti Island	0.88	34	P	Pg	15 02 43.5	+0.1
PAWZ	Paruwai Farm	0.91	77	P	Pg	15 02 44.0	+0.2
KHZ	Kahutara	0.98	213	P	Pb	15 02 44.8	0.0
THZ	Tophouse	1.03	260	P	Pb	15 02 45.3	-0.4
MTW	Mount Morrison	1.03	65	P	Pn	15 02 45.9	-0.2
OGWZ	Otaki Gorge	1.04	42	P	Pg	15 02 46.3	-0.1
TRWZ	Traveller	1.09	80	P	Pb	15 02 46.4	-0.4
HOWZ	Holdsworth Sta	1.18	54	P	Pn	15 02 48.1	0.0
TMWZ	Te Maipa	1.32	69	P	Pn	15 02 49.5	-0.6
MRZ	Mangatainoka R	1.37	47	P	Pn	15 02 51.0	+0.3
TIWZ	Tintock	1.48	57	P	Pn	15 02 51.8	-0.4
QRZ	Quartz Range	1.51	300	P	Pb	15 02 53.8	-0.1
OHWZ	Ohakea	1.60	30	P	Pb	15 02 55.8	+0.4
CPWZ	Castlepoint	1.62	66	P	Pn	15 02 53.8	-0.3
GVZ	Greta Valley S	1.64	213	P	Pn	15 02 53.5	-1.0
POWZ	Post Office Ro	1.66	44	P	Pn	15 02 54.8	+0.1
PRWZ	Pori Road	1.66	52	P	Pn	15 02 54.5	-0.2
BFZ	Birch Farm	1.76	59	P	Pn	15 02 55.0	-1.0
DSZ	Denniston Nort	1.84	265	P	Pn	15 02 58.2	+0.9
LTZ	Lake Taylor	1.89	231	P	Pn	15 02 57.4	-0.6
WAZ	Wanganui	1.92	17	P	Pb	15 03 00.7	-0.2
DVHZ	Dannevirke	1.94	49	P	Pn	15 02 57.9	-0.7
AMCZ	Amberley	1.98	216	P	Pn	15 02 57.7	-1.3
TSZ	Takapari Road	2.01	41	P	Pn	15 02 59.5	0.0
ANWZ	Angora Road	2.02	57	P	Pn	15 02 58.6	-1.1
PNHZ	Pukenui	2.24	42	P	Pn	15 03 02.3	-0.3
PRHZ	Porangahau	2.24	54	P	Pn	15 03 01.5	-1.2
WPHZ	Waipukurau	2.25	48	P	Pn	15 03 02.3	-0.5
OKCZ	Okains Bay	2.30	202	P	Pn	15 03 01.6	-2.0
CRLZ	Canterbury Las	2.32	211	P	Pn	15 03 01.4	-2.3
NBEZ	Newall Road No	2.34	353	P	Pb	15 03 06.4	-1.7
INZ	Inchbonnie	2.38	241	P	Pn	15 03 04.2	-0.3
OXZ	Oxford	2.38	223	P	Pn	15 03 02.7	-2.0
MTVZ	Mangateitei	2.39	23	P	Pb	15 03 07.2	-1.8
MQZ	McQueen's Vall	2.42	209	P	Pn	15 03 02.4	-2.7
PKVZ	Pokaka	2.45	20	P	Pb	15 03 08.0	-1.9
MOVZ	Moawhango	2.46	28	P	Pn	15 03 06.6	+0.8
AKCZ	Akaroa Harbour	2.48	203	P	Pn	15 03 03.8	-2.2
TRVZ	Turoa	2.50	24	P	Pb	15 03 08.7	-2.2
VRZ	Vera Road	2.50	9	P	Pn	15 03 08.3	+2.1
BHHZ	Black Hill Sta	2.51	34	P	Pn	15 03 07.0	+0.5
PXZ	Pawanui	2.52	53	P	Pn	15 03 05.1	-1.4
WHVZ	Whangaehu Hut	2.52	24	P	Pn	15 03 08.7	+1.9
KRHZ	Kereru	2.53	40	P	Pn	15 03 06.1	-0.6
FWVZ	Far West T-bar	2.54	23	P	Pn	15 03 08.9	+1.9
TUVZ	Tukino	2.56	25	P	Pn	15 03 08.8	+1.6
NGUZ	Ngauruhoe	2.62	23	P	Pn	15 03 11.1	+2.0
TWVZ	Taurewa	2.68	20	P	Pn	15 03 11.1	+2.3
WTVZ	West Tongariro	2.68	23	P	Pn	15 03 10.9	+2.1
KAHZ	Kahuranaki	2.68	49	P	Pn	15 03 07.6	-1.2
KRVZ	Karewarewa	2.71	23	P	Pn	15 03 11.5	+2.2
KWHZ	Kaweka Forest	2.73	38	P	Pn	15 03 08.9	-0.5
MCHZ	McNeill Hill	2.84	42	P	Pn	15 03 10.2	-0.8
BKZ	Black Stump Fm	2.97	36	P	Pn	15 03 11.9	-0.8
WVZ	Waitaha Valley	3.00	239	P	Pn	15 03 12.4	-0.7
HIZ	Hauiti	3.11	9	P	Pn	15 03 16.9	+2.2
NMHZ	Naumai	3.17	39	P	Pn	15 03 14.6	-0.8
RPZ	Rata Peaks	3.17	227	P	Pn	15 03 13.7	-1.8
M

TAFP						Sn	15 07 02.9	-0.6
TAPA	Tanaga Point A	0.69	66			Pn	15 06 53.1	-0.8
KIMD	Kanaga Island	1.02	76			Pn	15 06 57.6	-0.7
KICM	Kanaga Island	1.08	69			Pn	15 06 59.4	+0.1
KICM						Sn	15 07 16.2	+1.9
KIKV	Kanaga Island	1.08	71			Pn	15 06 59.0	-0.3
KIWB	Kanaga Island	1.09	72			Pg	15 06 58.8	-0.2
KIWB	Kanaga Island	1.09	72			Sn	15 07 15.2	+0.8
KINC	Kanaga Island	1.13	69			Pg	15 06 59.9	+0.2
ADK	Adak	1.38	74			Pb	15 07 03.3	-0.6
ADAG	Mount Adagdak	1.45	71			Pb	15 07 04.8	-0.4
GSTD	Great Sitkin T	1.74	72			Pn	15 07 08.8	+0.4
GSTD						Sg	15 07 34.8	+0.7
GSMY	Great Sitkin M	1.79	72			Pn	15 07 09.5	+0.5
GSTR	Great Sitkin T	1.81	71			Pb	15 07 09.8	-1.4
GSIG	Igitkin Island	1.86	75			Pn	15 07 10.4	+0.5
KOKL	Mount Kliuchef	2.97	73			Pn	15 07 25.8	+0.5
KOFP	Korovin Flat P	3.02	74			Pb	15 07 29.1	-2.8
SPIA	Saint Paul Isl	7.55	38	Pn		Pn	15 08 30.7	+2.7
UNV	Unalaska Valle	7.84	68	Pn		Pn	15 08 33.3	+1.3
CNBA	Chernabura Isl	11.99	67	Pn		Pn	15 09 29.1	+0.2
GAMB	Gambell	12.84	14	Pn		Pn	15 09 42.1	+1.7
CHGN	Chignik	12.92	60	Pn		Pn	15 09 42.8	+1.3
OHAK	Old Harbor	15.87	59	Pn		Pn	15 10 18.8	-2.5
KDAK	Kodiak Island	16.35	57	Pn		Pn	15 10 25.6	-1.8
CNPM	China Poot	17.44	52			P	15 10 41.8	-0.6
BRLK	Bradley Lake	17.67	51			P	15 10 44.5	-0.5
BRLK					IAmb	IAmb	15 11 31.2	
	comp=Z,36nm,1.5s							
SKT	Skwentna	18.10	44			P	15 10 51.1	+1.4
SUA	Susitna One	18.26	46	P		P	15 10 52.2	+0.7
SEW	Seward	18.46	51	P		P	15 10 53.0	-0.6
SEW					IAmb	IAmb	15 11 28.4	
	comp=Z,67nm,1.8s							
GHO	Glory Hole Cre	19.18	46	P		P	15 11 01.5	-0.2
GHO					IAmb	IAmb	15 11 34.2	
	comp=Z,29nm,1.8s							
TRF	Thorofare Moun	19.22	41	P		Pn	15 11 02.9	-0.2
TRF					IAmb	IAmb	15 11 20.4	
	comp=Z,36nm,2.0s							
KNK	Knik Glacier	19.29	47	P		Pn	15 11 04.1	+0.4
KNK					IAmb	IAmb	15 11 45.8	
	comp=Z,40nm,1.9s							
RND	Reindeer	19.80	42	P		P	15 11 08.4	0.0
SCM	Sheep Creek Mo	19.92	47	P		P	15 11 08.2	-1.5
SCM					IAmb	IAmb	15 12 01.0	
	comp=Z,33nm,1.6s							
HIN	Hinchinbrook I	19.96	51	P		Pn	15 11 11.1	-0.6
FID	Port Fidalgo	20.04	50	P		P	15 11 11.5	+0.5
FID					IAmb	IAmb	15 11 33.0	
	comp=Z,15nm,1.1s							
DHY	Denali Highway	20.30	43	P		P	15 11 14.3	+0.4
DHY					IAmb	IAmb	15 11 21.8	
	comp=Z,34nm,1.8s							
CCB	Clear Creek Bu	20.72	39	P		P	15 11 18.9	+0.7
PAX	Paxson	21.09	44	P		P	15 11 22.2	-0.1
PAX					IAmb	IAmb	15 11 30.2	
	comp=Z,26nm,2.0s							
GLB	Gilahina Butte	21.46	49	P		P	15 11 26.9	+0.6
VRDI	Verde Repeater	21.59	50	P		P	15 11 28.3	+0.5
VRDI					IAmb	IAmb	15 12 24.9	
	comp=Z,20nm,1.6s							
BCAR	Beaver Creek A	22.73	45	P		P	15 11 40.0	0.0
BMAR	Burnt Mountain	23.11	34	P		P	15 11 45.5	+1.6
YSS	Yuzh-Sakhalins	25.29	275	P		P	15 12 02.6	-1.7
HHC	Hu-ho-hao-te	47.63	286	eP		P	15 15 15.8	+1.6
HHC					pmax	pmax		
	comp=Z,5.0nm,0.5s							
HHC					pmax	pmax		
	comp=Z,10.0nm,6.0s							

ISCJB ***13*** *15:13:09.2±0.5,2°.59N±0°.06×128°.85E±0°.09,h200km, mb3.5/7,Error ellipse: s-maj=12.9km s-min=7.4km az=151.8*
NEIC ***13*** *15:13:11.4±1.9,2°.6N±0°.1×128°.8E±0°.1,h207km±7km, mb4.3/17*
IDC ***13*** *15:13:13.1±8.7,2°.43N×128°.58E,h217km±94km,mb3.2/8, mb1 3.3/8,mb1mx3.1/35,mbtmp3.8/8,MS2.5/1,Ms1 2.5/1, ms1mx2.2/19,Error ellipse: s-maj=42.2km s-min=15.0km az=67.0*

ISC 13 15:13:11.1±0.7,2°.51N±0°.07×128°.8E±0°.1,h200km,n32, σ§92/31,mb3.9/13,1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.25	220		Pn	15 13 54.4	+2.1
DAV	Davao City (W)	5.56	325	LR	LR	15 17 04.1	
	comp=Z,46nm,18.8s,baz=16,slow=42						
KCP	Kidapawan	5.81	320	⇓iP	Pn	15 14 37.7	+1.6
SAUI	Saumlaki	10.71	167	Pn	Pn	15 15 39.6	0.0
BKB	Balikpapan	12.49	253	Pn	Pn	15 16 01.5	-0.8
MTN	Manton Dam	15.43	171		Pn	15 16 38.5	-0.1
MTN				IAmb	IAmb	15 17 35.0	
	comp=Z,17nm,1.4s						
SBUM	Sibu	16.58	270	P	Pn	15 16 52.5	-0.1
KNRA	Kununurra	18.07	180	P	P	15 17 08.8	+1.0
KNRA				IAmb	IAmb	15 17 36.6	
	comp=Z,23nm,1.4s						
MANU	Manus Island	19.09	104	P	P	15 17 17.7	-1.3
FITZ	Fitzroy Crossi	20.71	189	P	P	15 17 35.4	-0.8
	comp=Z,1.6nm,0.8s,baz=14,slow=9.2,SNR=6.5						
FITZ	Fitzroy Crossi	20.71	189	P	P	15 17 35.2	-1.0
FITZ				IAmb	IAmb	15 18 10.8	
	comp=Z,15nm,1.5s						
WB0	Warramunga Arr	22.81	166	P	P	15 17 56.9	0.0
WB0				IAmb	IAmb	15 17 59.5	
	comp=Z,4.8nm,1.0s						
WRAB	Tennant Creek	22.96	167	P	P	15 17 57.5	-0.7
WRAB				IAmb	IAmb	15 18 41.4	
	comp=Z,8.3nm,1.1s						
WRA	Warramunga Arr	22.96	167	P	P	15 17 58.3	0.0
	comp=Z,1.0nm,0.3s,baz=334,slow=11,SNR=36						
WRA	Warramunga Arr	22.96	167	P	P	15 17 58.1	-0.2
WB2	Warramunga Arr	22.96	167	P	P	15 17 58.7	+0.3
WB2				IAmb	IAmb	15 18 46.4	
	comp=Z,15nm,1.6s						
WR0	Warramunga Arr	23.03	166	P	P	15 17 59.8	+1.0
WR0				IAmb	IAmb	15 18 01.8	
	comp=Z,18nm,1.8s						
ASAR	Alice Springs	26.49	169	P	P	15 18 30.3	+0.1
	comp=Z,0.7nm,0.5s,baz=355,slow=8.0,SNR=22						
ASAR				pP	pP	15 19 00.9	-9.1
	comp=Z,1.0nm,0.8s,baz=335,slow=9.1,SNR=5.3						
GIRL	Giralia	28.77	209	P	P	15 18 49.2	-1.1
CMAR	Chiang Mai Arr	33.28	301	P	P	15 19 29.8	-0.2
	comp=Z,0.5nm,0.5s,baz=125,slow=7.7,SNR=5.3						
KSRS	Korea Array	34.79	359	P	P	15 19 43.5	+0.9
	comp=Z,1.0nm,0.5s,baz=177,slow=9.6,SNR=5.4						
BBOO	Buckleboo	35.79	170	P	P	15 19 51.5	+0.2
BBOO				IAmb	IAmb	15 20 11.6	
	comp=Z,24nm,1.2s						
STKA	Stephens Creek	36.29	161	P	P	15 19 56.9	+1.3
	comp=Z,1.5nm,0.5s,baz=326,slow=15,SNR=4.0						
STKA	Stephens Creek	36.29	161	P	P	15 19 56.2	+0.7
SONM	Songino Array	49.13	340	P	P	15 21 39.0	+0.3
	comp=Z,0.2nm,0.5s,baz=157,slow=7.0,SNR=3.6						
SONM	Songino Array	49.13	340	P	P	15 21 38.1	-0.6
MK31	Makanchi Array	59.74	325	P	P	15 22 53.9	-1.1
MKAR	Makanchi Array	59.74	325	P	P	15 22 54.0	-1.0
	comp=Z,0.6nm,0.4s,baz=115,slow=8.1,SNR=15						
MKAR	Makanchi Array	59.74	325	P	P	15 22 53.9	-1.1
OXZ	Oxford	59.90	145	P	P	15 22 55.5	-0.5
TUWZ	Tuamarina	59.91	142	P	P	15 22 57.0	+0.9
MAKZ	Makanchi	59.93	325	P	P	15 22 55.3	-1.0
MAKZ				IAmb	IAmb	15 23 12.8	
	comp=Z,16nm,1.9s						

ISCJB ***13*** *15:26:35.8±0.3,9°.34N±0°.04×83°.67W±0°.03,h36km±6km, Error ellipse: s-maj=7.8km s-min=2.3km az=39.4*
UPA ***13*** *15:26:35.6±1.1,9°.34N×83°.71W,h27km±6km,MD4.4, MW4.6*
UCR ***13*** *15:26:36.0±3.2,9°.32N×83°.74W,h22km±5km,MW4.2*

ISC 13 15:26:36.0±0.9,9°.34N±0°.04×83°.69W±0°.03,h32km±6km, n55,σ§02/82,14C-15D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDLM	Las Mercedes	0.12	123	⇓eP	Pb	15 26 41.8	-0.1
EDLM				eS	Sb	15 26 47.3	+1.4
EDDO	Dominical	0.19	242	⇑eP	Pb	15 26 41.8	-0.6
EDDO				eS	Sb	15 26 46.0	-0.8
EDPN	Palmar Norte	0.44	149	eP	Pb	15 26 45.1	-0.6
EDPN				eS	Sb	15 26 52.7	+0.4
DRK0	Durika	0.45	100	⇓eP	Pb	15 26 45.4	-0.5
DRK0				eS	Sb	15 26 53.3	+0.6
DRK0	Durika	0.45	100	⇓iP	Pb	15 26 45.4	-0.5
DRK0				i S	Sb	15 26 53.1	+0.4
EDBA	Buenos Aires	0.45	114	⇓iP	Pb	15 26 44.9	-0.9
EDBA				eS	Sb	15 26 52.2	-0.3
LCR2	La Lucha 2	0.50	322	⇑eP	Pb	15 26 45.7	-1.0
LCR2				eS	Sb	15 26 53.7	-0.4
CVTR	Volcan Turrial	0.68	354	⇑eP	Pb	15 26 48.8	-0.9
CVTR				eS	Sb	15 26 59.0	0.0
SJS	Escuela Geolog	0.69	329	⇑iP	Pb	15 26 48.6	-1.2
SJS				eS	Sb	15 26 58.8	-0.4
HDC	Heredia	0.78	327	eP	Pb	15 26 49.5	-1.3
HDC				eS	Sb	15 27 01.0	-0.5
HDC	Heredia	0.78	327	⇓iP	Pn	15 26 49.8	-1.0
HDC				i S	Sb	15 27 00.2	-1.3
EDSV	San Vito	0.88	126	⇓eP	Pn	15 26 51.8	-0.4
EDSV				eS	Sb	15 27 05.2	+0.8
PTJ1	Puerto Jimnez	0.89	154	eP	Pn	15 26 51.5	-0.8
PTJ1				eS	Sn	15 27 04.8	+0.8
PTJ1	Puerto Jimnez	0.89	154	⇑eP	Pn	15 26 51.5	-0.8
SRA1	San Ramn	1.07	313	eP	Pn	15 26 53.7	-1.2
SRA1				eS	Sn	15 27 07.6	-1.1
BRU2	Volcan	1.13	119	⇑eP	Pn	15 26 54.8	-0.9
BRU2				eS	Sn	15 27 10.2	0.0
BRU2	Volcan	1.13	119	⇑iP	Pn	15 26 54.8	-0.9
	baz=296,slow=3.8						
BRU2				i S	Sn	15 27 10.4	+0.3
LESP3	La Esperanza,	1.29	136	eP	Pn	15 26 57.6	-0.2
SBAR3	San Bartolo, C	1.29	142	eP	Pn	15 26 55.3	-2.5
BCO2	Palmira	1.30	118	⇓eP	Pn	15 26 57.5	-0.6
BCO2				i S	Sn	15 27 13.4	-1.1
PTAR3	Potrerillos Ar	1.35	119	⇑iP	Pn	15 26 58.3	-0.3
BAGA3	Bagala, Chiriq	1.44	127	eP	Pn	15 26 59.5	-0.4
ARE1	Arenal 1	1.50	318	⇑iP	Pn	15 27 00.9	+0.2
ARE1				eS	Sn	15 27 21.6	+2.3
CEDE	Laguna Cedeo	1.51	319	⇑eP	Pn	15 27 01.1	+0.2
CEDE				eS	Sn	15 27 21.1	+1.6
DVD	David	1.52	126	⇓iP	Pn	15 27 00.4	-0.6
JTS	Las Juntas de	1.56	307	⇓eP	Pn	15 27 01.2	-0.3
JTS				eS	Sn	15 27 21.0	+0.3
JTS	Las Juntas de	1.56	307	⇓eP	Pn	15 27 01.3	-0.3
JTS				i S	Sn	15 27 22.6	+2.0
LOCO3	Loma Colorada,	1.56	126	i P	Pn	15 27 00.9	-0.6
LOMA3	Las Lomas, Chi	1.57	125	eP	Pn	15 27 01.1	-0.6
PEDE3	Pedregal, Chir	1.57	127	eP	Pn	15 27 01.1	-0.6
CHIR3	Chiriqui UPA,	1.64	125	⇓iP	Pn	15 27 01.8	-0.8
CHIR3				i S	Sn	15 27 22.4	-0.2
PLVR	Palo Verde	1.92	302	eP	Pn	15 27 05.9	-0.6
PLVR				eS	Sn	15 27 30.6	+1.0
CUI	Cuipilapa	1.95	312	eP	Pn	15 27 07.4	+0.5
CUI				eS	Sn	15 27 33.3	+2.9
REME3	Remedios, Chir	2.15	121	eP	Pn	15 27 09.9	+0.3
BUEV	Buena Vista	2.22	311	⇓iP	Pn	15 27 12.9	+2.2
NANC3	Nancito, Chiri	2.23	119	⇑eP	Pn	15 27 10.8	+0.2
GB1A	Borinquen Arri	2.23	311	eP	Pn	15 27 13.2	+2.4
CNAZ3	Canazas, Verag	2.65	112	eP	Pn	15 27 17.2	+0.8
MESA3	La Mesa, Verag	2.75	115	⇑eP	Pn	15 27 18.9	+1.1
GMAL	Guarumal, Vera	2.89	123	⇑iP	Pn	15 27 19.8	-0.1
GMAL				eS	Sn	15 27 52.6	-1.0
SFRA3	San Francisco,	2.90	112	eP	Pn	15 27 21.4	+1.5
STIA3	Santiago, Vera	2.96	114	eP	Pn	15 27 22.6	+1.9
ACON	Acoyapa	2.99	331	⇓eP	Pn	15 27 20.9	-0.2
CALO3	Calobre, Verag	2.99	110	eP	Pn	15 27 23.5	+2.3
OCU3	Ocu, Herrera	3.20	116	eP	Pn	15 27 26.0	+1.9
CRIS3	El Cristo, Coc	3.23	109	eP	Pn	15 27 24.2	-0.2
CACAO	El Cacao, Vera	3.43	125	eP	Pn	15 27 28.2	+0.9
CACAO				eS	Sn	15 28 07.0	+0.2
CHIT3	Chitre	3.52	113	eP	Pn	15 27 28.2	-0.2
AZU	Azuero	3.71	114	eP	Pn	15 27 33.1	+2.0
AZU	Azuero	3.71	114	eP	Pn	15 27 31.6	+0.5
AZU				eS	Sn	15 28 14.0	+0.2
ZANG	Zanguenga, Cho	3.80	96	⇓eP	Pn	15 27 31.9	-0.4
BCIP	Isla Barro Col	3.81	92	⇑iP	Pn	15 27 33.1	+0.6
CHOR3	La Chorrera	3.90	96	eP	Pn	15 27 34.4	+0.7
FRIJ	El Hiral	3.92	91	⇓eP	Pn	15 27 34.3	+0.4
FRIJ				eS	Sn	15 28 18.7	-0.1
UPA	Univ. de Panam	4.12	95	eP	Pn	15 27 37.2	+0.5

TAP 13 15:52:56.4,24°.39N×121°.81E,h11km,ML1.0,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.07	300	P	Pg	15 52 58.7	0.0
	baz=300						
NANB				S	Sg	15 53 00.3	-0.2
	baz=300						
ENA	Nanau	0.07	298	P	Pg	15 52 58.7	-0.1
	baz=299						
ENA				S	Sg	15 53 00.4	-0.2
	baz=299						
NACB	Ninganchiao	0.30	223	eP	Pg	15 53 02.3	-0.1
	baz=222						
NACB				eS	Sg	15 53 06.6	+0.2
	baz=222						
ENTT	Nioudou	0.33	317	eP	Pg	15 53 03.1	0.0
	baz=318						
ENTT				eS	Sg	15 53 07.5	-0.1
	baz=318						
NDT	Datong Townshi	0.34	307	eP	Pg	15 53 03.3	0.0
	baz=307						
NDT				eS	Sg	15 53 08.1	+0.2
	baz=307						
ETLH	Xiulin Townshi	0.35	239	P	Pg	15 53 03.3	-0.2
	baz=238						
ETLH				eS	Sg	15 53 08.8	+0.5
	baz=238						
NNSB	Datong	0.40	275	eS	Sg	15 53 10.0	+0.4
	baz=275						

JMA 13 15:53:34.8±0.1,24°.72N×123°.43E,h20km,M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.46	236	P	Pb	15 53 44.0	-0.2
YOJ				eS	Sb	15 53 50.2	-0.4
IRIF	Iriomote-Funau	0.47	144	P	Pb	15 53 44.3	-0.1
IRIF				S	Sb	15 53 50.2	-0.7
JYNG	Yonagunijimaku	0.52	239	P	Pb	15 53 45.0	-0.2
JYNG				eS	Sb	15 53 52.4	+0.2
JKRS	Kuro-shima	0.71	132	P	Pb	15 53 48.5	-0.1
JKRS				S	Sb	15 53 58.2	+0.3
JIJ	Ishigaki jima	0.74	119	P	Pb	15 53 48.7	-0.3
JIJ				S	Sb	15 53 58.1	-0.6
JISG	Ishigakijimahi	0.81	99	P	Pb	15 53 49.9	-0.3
JISG				eS	Sb	15 54 00.5	-0.3

IDC 13 15:59:32.3±7.9,7°.79S×128°.28E,h618km±135km,mb2.4/1, mb1 2.3/4,mb1mx2.2/42,mbtmp3.2/4,Error ellipse: s-maj=117.0km s-min=53.7km az=38.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.57	194	P	P	16 01 56.8	-0.2
	0.2nm,0.3s,baz=0.0,slow=10,SNR=7.0						
WRA	Warramunga Arr	13.44	155	P	P	16 02 25.2	0.0
	0.1nm,0.3s,baz=334,slow=11,SNR=4.7						
ASAR	Alice Springs	16.69	162	P	P	16 02 55.7	+0.5
	0.1nm,0.3s,baz=340,slow=7.0,SNR=7.5						
MKAR	Makanchi Array	67.96	328	P	P	16 09 31.3	+0.1
	0.3nm,0.9s,baz=134,slow=7.0,SNR=2.3						

ISCJB ***13*** *16:02:16.6±0.3,5°.59S±0°.03×127°.75E±0°.05,h400km, mb3.9/8,Error ellipse: s-maj=6.9km s-min=4.6km az=177.4*
NEIC ***13*** *16:02:17.7±1.6,5°.62S±0°.08×127°.75E±0°.07,h397km±12km, mb4.5/12*
IDC ***13*** *16:02:17.6±1.0,5°.64S×127°.81E,h392km±12km,mb3.2/4, mb1 3.5/8,mb1mx3.1/46,mbtmp4.3/8,Error ellipse: s-maj=18.3km s-min=9.3km az=88.0*
DJA ***13*** *16:02:58.8±0.6,2°.5±5°.5×12°.8E±°,h185km±8km,M4.4/3, mb4.9/1,mB5.6/2,MLv4.2/3,Mw(mB)5.1/2*

ISC 13 16:02:17.3±0.5,5°.61S±0°.05×127°.80E±0°.06,h400km,n43, σ1§77/51,mb4.4/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.95	12	P	Pn	16 03 13.9	+0.8
AAI				S	S	16 03 57.9	-0.1
MSAI	Masohi	2.52	27	P	Pn	16 03 15.2	-1.7
MSAI				S	S	16 04 00.5	-4.4
SANI	Sanana	3.97	333	P	Pn	16 03 28.8	-0.4
SANI				S	S	16 04 23.0	-4.5
SAUI	Saumlaki	4.20	124		Pn	16 03 32.7	+1.3
SAUI				S	S	16 04 25.4	-6.0
FAKI	Fak Fak	5.18	59	Pn	Pn	16 03 41.7	+0.4
SOEI	Soe	5.40	220	P	S	16 04 52.3	-1.7
SOEI	Soe	5.40	220		Pn	16 03 44.8	+1.1
SIJI	Sorong	5.85	36	P	Pn	16 03 49.3	+0.9
	30nm,0.3s,baz=215,slow=11,SNR=115						
SIJI				S	S	16 05 01.1	-1.4
	4.9nm,0.3s,baz=40,slow=22,SNR=6.0						
BATI	Baumata	6.13	222	P	Pn	16 03 52.3	+0.8
	12nm,0.3s,baz=80,slow=1.6,SNR=16						
BATI				S	S	16 05 06.8	-1.4
	33nm,0.3s,baz=92,slow=5.8,SNR=28						
BATI	Baumata	6.13	222	P	S	16 05 05.6	-2.6
	104nm,0.8s,1μm						
MMRI	Maumere	6.28	241	Pn	Pn	16 03 53.9	+0.8
MTN	Manton Dam	7.90	156	P	P	16 04 11.8	+0.2
MRSI	Marisa	8.41	316	P	P	16 04 17.7	+0.3
KNRA	Kununurra	10.05	175		Pn	16 04 36.0	0.0
FITZ	Fitzroy Crossi	12.59	189	P	Pn	16 05 04.7	-0.7
	0.4nm,0.3s,baz=19,slow=11,SNR=13						
FITZ	Fitzroy Crossi	12.59	189		P	16 05 04.4	+0.9
JAGI	Jajag, Banyuwa	13.84	257		P	16 05 16.9	-0.5
WRAB	Tennant Creek	15.60	156	P	P	16 05 37.0	+0.7
WRA	Warramunga Arr	15.60	157	P	P	16 05 37.1	+0.7
	7.5nm,0.3s,baz=335,slow=11,SNR=808						
WRA				S	S	16 08 19.0	-2.1
	1.1nm,0.3s,baz=333,slow=20,SNR=17						
WRA	Warramunga Arr	15.60	157	P	P	16 05 35.6	-0.8
WB2	Warramunga Arr	15.61	156	P	P	16 05 37.1	+0.6
WB2				IAmb	IAmb	16 05 37.8	
	comp=Z,4.6nm,0.6s						
COEN	Coen	17.26	120	P	P	16 05 55.0	+0.8
COEN				IAmb	IAmb	16 06 11.1	
	comp=Z,19nm,1.4s						
PSA00	Pilbara Seismi	17.64	205		P	16 05 58.0	-0.1
PSA00				IAmb	IAmb	16 06 13.2	
	comp=Z,54nm,1.8s						
AS31	Alice Springs	18.89	162	P	P	16 06 12.0	+0.7
ASAR	Alice Springs	18.89	162	P	P	16 06 11.8	+0.4
	comp=Z,7.4nm,0.3s,baz=343,slow=11,SNR=771						
ASAR				S	S	16 09 24.1	+0.7
	comp=Z,0.3nm,0.3s,baz=337,slow=19,SNR=18						
BBOO	Buckleboo	28.14	165	P	P	16 07 35.7	+0.9
BBOO				IAmb	IAmb	16 08 32.5	
	comp=Z,38nm,1.5s						
STKA	Stephens Creek	29.15	155	P	P	16 07 44.9	+1.3
	comp=Z,2.4nm,0.5s,baz=334,slow=10,SNR=8.5						
STKA	Stephens Creek	29.15	155	P	P	16 07 44.1	+0.5
CAN	Canberra	35.44	149	P	P	16 08 39.9	+2.1
CAN				IAmb	IAmb	16 08 42.2	
	comp=Z,105nm,2.0s						
NJ2	Nanjing	38.41	348	eP	P	16 09 03.1	+0.7
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
CD2	Chengdu	42.98	329	P	P	16 09 38.3	-1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	48.58	344	eP	P	16 10 22.5	+0.1
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,13nm,5.7s						
PALK	Pallekele	48.70	285	P	P	16 10 23.3	-0.5
PALK				IAmb	IAmb	16 11 39.1	
	comp=Z,74nm,1.6s						
LSA	Lhasa	49.70	317	P	P	16 10 28.9	-2.5
USRK	Ussuriysk Ar.	49.73	4	P	P	16 10 32.1	+1.3
	comp=Z,0.5nm,0.5s,baz=196,slow=9.2,SNR=3.2						
SONM	Songino Array	56.46	343	P	P	16 11 20.7	+1.4
	comp=Z,0.5nm,0.4s,baz=170,slow=8.6,SNR=5.7						
SONM	Songino Array	56.46	343	IAmb	IAmb	16 11 21.8	
	comp=Z,0.6nm,0.7s						
WMQ	Urumqi	61.05	328	eP	P	16 11 51.1	+0.5
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,180nm,7.3s						
WMQ				LR	LR		
	comp=N,360nm,29.3s						
WMQ				LR	LR		
	comp=E,2μm,29.2s						
WMQ				LR	LR		
	comp=Z,83nm,29.3s						
KSH	Kashi	65.53	318	eP	P	16 12 22.5	+2.7
KSH				S	S	16 20 31.0	-1.5
MKAR	Makanchi Array	65.88	328	P	P	16 12 22.5	+0.8
	comp=Z,0.7nm,0.4s,baz=113,slow=8.5,SNR=15						
KOLS	Kolonicke sedl	104.40	319	ePDIFF	Pdif	16 15 39.5	+1.9
VYHS	Vyhne	106.72	319	ePDIFF	Pdif	16 15 49.5	+1.5
MODS	Modra-Piesok	107.76	319	ePDIFF	Pdif	16 15 55.6	+3.0

ISCJB ***13*** *16:07:46.4±1.4,2°.9N±0°.2×127°.7E±0°.3,h10km,mb3.5/4, Error ellipse: s-maj=44.2km s-min=18.8km az=147.3*
IDC ***13*** *16:07:46.9±1.6,2°.91N×127°.82E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/38,mbtmp3.6/6,ML3.4/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/35,Error ellipse: s-maj=70.5km s-min=22.3km az=65.0*

ISC 13 16:07:46.9±1.1,3°.0N±0°.2×127°.7E±0°.3,h10km,n8,σ1§73/7, mb3.7/5,1C,Talaud Islands

| Code | Station Name | Δ° | AZ

comp=Z,37nm,1.9s
WB0 Warramunga Arr 27.30 159 P **P 16 23 54.7 -0.4**
WRA Warramunga Arr 27.44 159 P **P 16 23 56.0 -0.4**
comp=Z,0.4nm,0.7s,baz=334,slow=10,SNR=6.3
WB2 Warramunga Arr 27.44 159 P **P 16 23 56.2 -0.3**
WB2 IAmb IAmb 16 24 26.6
comp=Z,14nm,1.6s
PSA00 Pilbara Seismi 27.53 189 P **P 16 23 55.9 -1.3**
WR0 Warramunga Arr 27.53 159 P **P 16 23 53.0 -4.2**
ASAR Alice Springs 30.76 162 P **P 16 24 26.4 +0.4**
comp=Z,0.6nm,0.7s,baz=341,slow=8.2,SNR=12
MKAR Makanchi Array 54.45 326 P **P 16 27 40.0 +2.2**
comp=Z,0.3nm,0.6s,baz=134,slow=8.4,SNR=4.7
MKAR Makanchi Array 54.45 326 P **P 16 27 38.9 +1.1**

SVSA 13 16:28:20.3±1.3, 37°.55N×23°.74W, h10km, MD3.7, ML3.2, Error ellipse: s-maj=8.1km s-min=5.3km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**1.16**	**282**	*e*P	Pb	16 28 38.0	-4.5
BART				*e*S	Sb	16 28 51.6	-6.0
BART				A	A	16 28 52.5	
125nm,0.1s							
PSMN	**Pico do Norte,**	**1.20**	**243**	*e*P	Pb	16 28 38.2	-4.8
PSMN				*e*S	Sb	16 28 51.7	-6.8
PSMN				A	A	16 28 54.3	
89nm,0.2s							
PSMA	**Santa Maria**	**1.24**	**244**	*e*P	Pn	16 28 38.8	-4.9
PSMA				*e*S	Sb	16 28 53.2	-6.7
PSMA				A	A	16 28 56.7	
84nm,0.2s							
CMLA	**Cha da Macela**	**1.44**	**279**	*e*P	Pn	16 28 42.0	-4.4
CMLA				*e*S	Sn	16 28 58.0	-7.3
CMLA				A	A	16 29 03.8	
128nm,0.4s							
GRON	**Grota Negra**	**1.44**	**279**	*e*P	Pn	16 28 40.4	-6.1
GRON				*e*S	Sn	16 28 55.2	-10
GRON				A	A	16 28 58.2	
44nm,0.1s							
PDA	**Ponta Delgada**	**1.54**	**278**	*e*P	Pn	16 28 43.9	-3.9
PDA				*e*S	Sn	16 29 01.0	-6.9
PDA				A	A	16 29 03.9	
78nm,0.2s							
PSET	**Sete Cidades**	**1.60**	**280**	*e*P	Pn	16 28 44.2	-4.5
PSET				*e*S	Sn	16 29 02.0	-7.4
PSET				A	A	16 29 10.1	
72nm,0.5s							
PSCM	**Serra do Cume**	**2.90**	**294**	*e*P	Pn	16 29 02.3	-4.3
PSCM				*e*S	Sn	16 29 33.1	-8.4
PSCM				A	A	16 29 34.6	
69nm,0.1s							
ADH	**Angra Heroismo**	**2.97**	**293**	*e*S	Sn	16 29 34.9	-8.3
ADH				A	A	16 29 38.2	
55nm,0.4s							
ROSA	**Rosais**	**3.74**	**290**	*e*P	Pn	16 29 13.4	-4.7
ROSA				*e*S	Sn	16 29 53.4	-8.8
ROSA				A	A	16 29 54.0	
44nm,0.6s							
PICO	**Pico**	**3.82**	**286**	*e*P	Pn	16 29 15.0	-4.3

*IDC **13** 16:29:52.7±0.8, 3°.13N×128°.43E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/39, mbtmp3.8/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/41, Error ellipse: s-maj=43.6km s-min=15.0km az=76.0*
*ISCJB **13** 16:29:56.0±0.5, 3°.18N±0°.05×128°.53E±0°.06, h33km, mb3.7/9, Error ellipse: s-maj=9.1km s-min=6.6km az=172.9*
*DJA **13** 16:29:58.3±0.9, 3°N±4°×12°8E±°, h10km, M4.0/6, mb4.0/1, MLv4.0/6*
*NEIC **13** 16:29:59.8±1.4, 3°.11N±0°.10×128°.5E±0°.2, h58km±10km, mb4.0/14*
ISC 13 16:29:57.7±0.8, 3°.14N±0°.07×128°.6E±0°.1, h35km, n32, σ0°.93/31, mb3.9/13, 1C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.64**	**207**	P	**Pn**	**16 30 39.4**	**+1.6**
TNTI	**Ternate**	**2.64**	**207**		**Pn**	**16 30 39.1**	**+1.3**
KCP	**Kidapawan**	**5.17**	**318**	*i*P	**Pn**	**16 31 15.3**	**+2.6**
KMSI	**Cibinong**	**5.24**	**241**	P	**Pn**	**16 31 13.9**	**+0.3**
KMSI				S	**Sn**	**16 32 12.1**	**-0.6**
SANI	**Sanana**	**5.76**	**207**	P	**Pn**	**16 31 21.9**	**+1.1**
CTBH	**Cotabato--PC H**	**5.90**	**314**	*i*P	**Pn**	**16 31 24.4**	**+1.6**
MTN	**Manton Dam**	**16.09**	**171**	P	**P**	**16 33 43.9**	**-0.5**
MTN				IAmb	IAmb	16 34 17.6	
comp=Z,14nm,1.0s							
SBUM	**Sibu**	**16.33**	**268**	P	**P**	**16 33 47.6**	**+0.5**
KSM	**Kuching**	**18.31**	**265**	P	**P**	**16 34 08.6**	**-0.4**
KSM				IAmb	IAmb	16 34 11.3	
comp=Z,5.1nm,0.9s							
KNRA	**Kununurra**	**18.70**	**179**	P	**Pn**	**16 34 13.9**	**+0.1**
GUMO	**Guam**	**19.17**	**56**	LR	LR	16 40 22.7	
comp=Z,44nm,21.7s,baz=216,slow=33							
WB0	**Warramunga Arr**	**23.48**	**166**	P	**P**	**16 35 04.7**	**+0.3**
WB0				IAmb	IAmb	16 35 18.6	
comp=Z,7.8nm,0.8s							
WRAB	**Tennant Creek**	**23.62**	**166**	P	**P**	**16 35 05.6**	**-0.2**
WRAB				IAmb	IAmb	16 35 19.0	
comp=Z,9.8nm,1.1s							
WRA	**Warramunga Arr**	**23.63**	**166**	P	**P**	**16 35 06.3**	**+0.4**
comp=Z,2.3nm,0.7s,baz=344,slow=10,SNR=58							
WRA	**Warramunga Arr**	**23.63**	**166**	P	**P**	**16 35 05.0**	**-0.9**
WB2	**Warramunga Arr**	**23.64**	**166**	P	**P**	**16 35 05.9**	**0.0**
WR0	**Warramunga Arr**	**23.70**	**166**	P	**P**	**16 35 06.8**	**+0.2**
WR0				IAmb	IAmb	16 35 23.5	
comp=Z,13nm,1.5s							
AS31	**Alice Springs**	**27.15**	**169**	P	**P**	**16 35 36.8**	**-1.1**
AS31				IAmb	IAmb	16 36 13.7	
comp=Z,3.3nm,1.7s							
ASAR	**Alice Springs**	**27.15**	**169**	P	**P**	**16 35 37.7**	**-0.2**
comp=Z,0.7nm,0.8s,baz=353,slow=7.7,SNR=16							
ASAR	**Alice Springs**	**27.15**	**169**	P	**P**	**16 35 37.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**32.74**	**300**	P	**P**	**16 36 27.6**	**+0.1**
comp=Z,0.2nm,0.4s,baz=119,slow=7.5,SNR=4.4							
CMAR	**Chiang Mai Arr**	**32.74**	**300**	P	**P**	**16 36 27.3**	**-0.2**
KSRS	**Korea Array**	**34.15**	**359**	P	**P**	**16 36 39.8**	**+0.3**
comp=Z,0.7nm,0.8s,baz=168,slow=10,SNR=5.3							
MJAR	**Matsushiro Arr**	**34.41**	**14**	P	**P**	**16 36 42.0**	**+0.2**
comp=Z,1.1nm,0.8s,baz=196,slow=13,SNR=4.3							
STKA	**Stephens Creek**	**36.97**	**161**	P	**P**	**16 37 04.0**	**+0.2**
comp=Z,0.9nm,0.3s,baz=343,slow=10,SNR=9.2							
STKA	**Stephens Creek**	**36.97**	**161**	P	**P**	**16 37 04.0**	**+0.2**
STKA	**Stephens Creek**	**36.97**	**161**	IAmb	IAmb	16 38 03.4	
comp=Z,3.7nm,1.7s							
USRK	**Ussuriysk Ar.**	**41.00**	**4**	P	**P**	**16 37 38.5**	**+1.1**
comp=Z,2.1nm,0.7s,baz=166,slow=7.4,SNR=5.8							
SONM	**Songino Array**	**48.45**	**340**	P	**P**	**16 38 35.8**	**-1.1**
comp=Z,0.2nm,0.4s,baz=157,slow=7.8,SNR=4.3							
MKAR	**Makanchi Array**	**59.08**	**325**	P	**P**	**16 39 54.0**	**-0.7**
comp=Z,0.7nm,0.4s,baz=116,slow=7.7,SNR=9.3							
MKAR	**Makanchi Array**	**59.08**	**325**	P	**P**	**16 39 53.4**	**-1.2**
MAKZ	**Makanchi**	**59.27**	**325**	P	**P**	**16 39 54.7**	**-1.2**

IDC 13 16:35:32.6±2.1, 2°.71N×127°.30E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/40, mbtmp3.3/3, Error ellipse: s-maj=155.6km s-min=25.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.55**	**163**	P	P	16 40 44.5	-0.2
0.6nm,0.6s,baz=343,slow=11,SNR=8.9							
ASAR	**Alice Springs**	**26.99**	**167**	P	P	16 41 16.5	+0.2
0.4nm,0.9s,baz=345,slow=8.4,SNR=5.2							
MKAR	**Makanchi Array**	**58.72**	**325**	P	P	16 45 32.2	0.0
0.2nm,0.4s,baz=105,slow=7.3,SNR=3.8							

*ISCJB **13** 17:02:20.8±2.0, 36°.01S±0°.04×73°.52W±0°.10, h10km±11km, Error ellipse: s-maj=13.6km s-min=6.8km az=171.0*
*SJA **13** 17:02:20.9±0.8, 36°.03S×73°.49W, h28km±4km, ML3.7, MW3.9*
*GUC **13** 17:02:23.3±0.5, 36°.06S×73°.45W, h7km±4km, ML3.8*
ISC 13 17:02:22.9±2.1, 36°.07S±0°.05×73°.43W±0°.09, h16km±12km, n15, σ0°.76/21, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.53**	**97**	*i*P	**Pg**	**17 02 33.1**	**-0.2**
COCH				*i*S	**Sg**	**17 02 40.6**	**+0.2**
COCH				IAML		17 02 42.2	
comp=N,13μm,0.5s							
COCH	**Cobquecura**	**0.53**	**97**	*i*P	**Pg**	**17 02 33.3**	**-0.1**
COCH				*e*S	**Sb**	**17 02 41.8**	**+0.7**
CCSP	**San Pedro de C**	**0.82**	**161**	*i*P	**Pg**	**17 02 38.6**	**-0.2**
CCSP				*i*S	**Sb**	**17 02 49.8**	**+0.3**
CCSP				IAML		17 02 51.4	
comp=E,6μm,0.5s							
CCHI	**Chillan**	**1.22**	**116**	*i*P	**Pn**	**17 02 44.7**	**-0.6**
CCHI				*i*S	**Sb**	**17 03 01.0**	**0.0**
CCHI				IAML		17 03 06.8	
comp=N,3μm,0.3s							
CCHI	**Chillan**	**1.22**	**116**	*i*P	**Pn**	**17 02 44.7**	**-0.6**
CCHI				*e*S	**Sg**	**17 03 02.6**	**+0.3**
GO05	**Huala**	**1.62**	**50**	*i*P	**Pn**	**17 02 50.2**	**-0.6**
GO05				*i*S	**Sb**	**17 03 11.3**	**-1.3**
GO05				IAML		17 03 16.1	
comp=N,854nm,0.6s							
ROC1	**El Roble**	**3.67**	**34**	*i*P	**Pn**	**17 03 18.9**	**-0.4**
PEL	**Peldehue**	**3.69**	**39**	*i*P	**Pn**	**17 03 19.4**	**0.0**
AAGR	**Agrelo**	**4.83**	**53**	*i*P	**Pn**	**17 03 36.8**	**+1.8**
ARCO	**CERRO ARCO**	**4.92**	**50**	*i*P	**Pn**	**17 03 37.1**	**+0.8**
ARCO				IAML		17 05 04.7	
comp=Z,31nm,0.9s							
ASAL	**Salagasta**	**5.15**	**49**	*i*P	**Pn**	**17 03 40.5**	**+1.1**
ASAL				IAML		17 05 12.8	
comp=Z,54nm,1.1s							
RTLL	**Cerro Villicun**	**6.28**	**43**	*i*P	**Pn**	**17 03 54.9**	**0.0**
RTLL				IAML		17 05 44.1	
comp=Z,16nm,2.0s							
ACCO	**Cerro Coronel**	**6.58**	**35**	*i*P	**Pn**	**17 03 59.2**	**0.0**
ACCO				IAML		17 05 58.9	
comp=Z,25nm,0.8s							
AROD	**Rodeo**	**6.76**	**31**	*i*P	**Pn**	**17 04 02.6**	**+0.9**
TCA	**Tanti**	**8.74**	**60**	*i*P	**Pn**	**17 04 28.2**	**-0.5**

*NIC **13** 17:16:20.5±0.0, 35°.09N×27°.04E, h0km±3km, Ml3.2/3*
*ISCJB **13** 17:16:21.4±0.8, 35°.10N±0°.04×26°.98E±0°.03, h7km±6km, Error ellipse: s-maj=7.4km s-min=3.4km az=164.5*
*ISK **13** 17:16:22.9, 35°.30N×26°.85E, h5km, ML3.3/13*
*THE **13** 17:16:22.1, 35°.16N×26°.94E, h0km±1km, ML3.2/6, Error ellipse: s-maj=3.2km s-min=0.9km az=150.0*
*ATH **13** 17:16:23.1, 35°.30N×26°.88E, h19km±1km, ML3.2/7, Error ellipse: s-maj=3.5km s-min=1.1km az=145.0*
ISC 13 17:16:21.4±1.2, 35°.16N±0°.04×26°.98E±0°.02, h9km±10km, n75, σ1°.18/90, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.41**	**21**	P	**Pb**	**17 16 30.3**	**-0.6**
KARP				S	**Sb**	**17 16 37.3**	**0.0**
4μm,0.4s							
KARP	**Karpathos**	**0.41**	**21**	P	**Pb**	**17 16 30.3**	**-0.6**
KARP				S	**Sb**	**17 16 35.8**	**-1.5**
KARP				AML	AML	17 16 39.6	
comp=E,6373μm,0.4s							
KARP				AML	AML	17 16 41.8	
comp=N,5054μm,0.2s							
KARP	**Karpathos**	**0.41**	**21**	PG	**Pb**	**17 16 30.4**	**-0.5**
KARP				SG	**Sb**	**17 16 37.2**	**0.0**
KARP	**Karpathos**	**0.41**	**21**	P	**Pb**	**17 16 30.3**	**-0.5**
KARP				S	**Sb**	**17 16 38.6**	**+1.3**
KARP				AML	AML	17 16 39.1	
comp=N,6.3nm,0.3s							
KARP				AML	AML	17 16 39.1	
comp=N,6.3nm,0.3s							
KARP				AML	AML	17 16 41.5	
comp=N,5.0nm,0.2s							
KARP				AML	AML	17 16 41.5	
comp=N,5.0nm,0.2s							
ZKR	**Zakros**	**0.63**	**266**	P	**Pg**	**17 16 33.5**	**0.0**
ZKR				S	**Sb**	**17 16 44.7**	**+1.3**
comp=N,3μm,0.3s							
ZKR	**Zakros**	**0.63**	**266**	P	**Pg**	**17 16 33.6**	**0.0**
ZKR				S	**Sg**	**17 16 42.9**	**+1.2**
ZKR				AML	AML	17 16 47.5	
comp=E,7877μm,0.3s							
ZKR				AML	AML	17 16 48.3	
comp=N,3688μm,0.3s							
ZKR	**Zakros**	**0.63**	**266**	PG	**Pg**	**17 16 33.9**	**+0.4**
ZKR				SG	**Sb**	**17 16 43.5**	**+0.1**
ZKR	**Zakros**	**0.63**	**266**	P	**Pg**	**17 16 33.5**	**0.0**
ZKR				S	**Sn**	**17 16 46.2**	**-0.4**
ZKR				AML	AML	17 16 47.0	
comp=N,7.8nm,0.3s							
ZKR				AML	AML	17 16 47.0	
comp=N,7.8nm,0.3s							
ZKR				AML	AML	17 16 47.9	
comp=N,3.7nm,0.4s							
ZKR				AML	AML	17 16 47.9	
comp=N,3.7nm,0.4s							
STIA	**Sitia Lasithi**	**0.73**	**273**	P	**Pg**	**17 16 35.5**	**+0.1**
STIA				S	**Sb**	**17 16 47.3**	**+1.0**
FRMA	**Ierapetra Chan**	**1.03**	**262**	P	**Pg**	**17 16 38.9**	**-2.3**
FRMA				S	**Sg**	**17 16 54.3**	**-0.3**
comp=N,945nm,0.5s							
NPS	**Neapolis**	**1.12**	**276**	P	**Pg**	**17 16 43.2**	**+0.2**
NPS				S	**Sn**	**17 16 59.2**	**+0.3**
comp=N,2μm,0.5s							
NPS	**Neapolis**	**1.12**	**276**	P	**Pb**	**17 16 43.1**	**+0.1**
NPS				AML	AML	17 17 07.4	
comp=E,3781μm,0.7s							
NPS				AML	AML	17 17 07.7	
comp=N,3885μm,0.5s							
LAST	**Lasithi**	**1.23**	**270**	P	**Pn**	**17 16 44.3**	**-0.5**
LAST	**Lasithi**	**1.23**	**270**	P	**Pb**	**17 16 45.1**	**+0.3**
ARG	**Arkhangelos**	**1.41**	**41**	P	**Pg**	**17 16 48.0**	**-0.4**
ARG				S	**Sg**	**17 17 08.1**	**+1.5**
comp=N,680nm,1.0s							
ARG	**Arkhangelos**	**1.41**	**41**	P	**Pg**	**17 16 48.7**	**+0.3**
ARG				AML	AML	17 17 10.9	
comp=N,1142μm,0.9s							
ARG				AML	AML	17 17 15.2	
comp=E,1542μm,1.0s							
ARG	**Arkhangelos**	**1.41**	**41**	P	**Pg**	**17 16 48.4**	**0.0**
ARG				S	**Sg**	**17 17 08.4**	**+1.7**
NISR	**Nisiros**	**1.45**	**5**	P	**Pb**	**17 16 48.2**	**-0.4**
NISR	**Nisiros**	**1.45**	**5**	P	**Pb**	**17 16 48.1**	**-0.4**
ANAF	**Anafi Island**	**1.54**	**321**	P	**Pb**	**17 16 49.6**	**-0.6**
ANAF				S	**Sg**	**17 17 09.9**	**-1.2**
comp=E,2μm,0.6s							
ANAF	**Anafi Island**	**1.54**	**321**	P	**Pb**	**17 16 49.9**	**-0.2**
ANAF				S	**Sn**	**17 17 08.1**	**-1.1**
ANAF				AML	AML	17 17 14.9	
comp=E,4173μm,0.7s							
ANAF				AML	AML	17 17 16.5	
comp=N,2701μm,0.4s							
KOSK	**Kos Island**	**1.59**	**360**	P	**Pg**	**17 16 50.7**	**-1.1**
DAT	**Datca**	**1.64**	**17**	*i*P	**Pb**	**17 16 51.4**	**-0.4**
DAT				IAML_P			
comp=Z,388nm,0.2s							
DAT	**Datca**	**1.64**	**17**	PN	**Pg**	**17 16 52.6**	**-0.2**
SANT	**Santorini**	**1.73**	**315**	P	**Pn**	**17 16 52.1**	**+0.5**
SANT	**Santorini**	**1.73**	**315**	P	**Pb**	**17 16 52.3**	**-1.0**
SANT	**Santorini**	**1.73**	**315**	PN	**Pb**	**17 16 53.2**	**-0.1**
THR6	**Thira Island,**	**1.75**	**313**	P	**Pb**	**17 16 52.5**	**-1.2**
SIVA	**Sivas**	**1.79**	**266**	P	**Pg**	**17 16 55.3**	**-0.3**
SIVA				AML	AML	17 17 28.5	
comp=N,1594μm,0.8s							
SIVA				AML	AML	17 17 34.4	
comp=E,1908μm,0.7s							
THR3	**Thira Island,**	**1.79**	**315**	P	**Pb**	**17 16 53.1**	**-1.2**
THR5	**Thira Island,**	**1.82**	**314**	P	**Pn**	**17 16 53.0**	**+0.1**
CMBO	**Columbo, Santo**	**1.83**	**316**	P	**Pn**	**17 16 53.5**	**+0.6**
CMBO	**Columbo, Santo**	**1.83**	**316**	P	**Pn**	**17 16 53.6**	**+0.6**
MRSB	**Marmaris-Mugla**	**1.84**	**32**	PN	**Pg**	**17 16 57.1**	**+0.5**
AMGA	**Amorgos Island**	**1.89**	**332**	P	**Pn**	**17 16 54.0**	**+0.2**
AMGA	**Amorgos Island**	**1.89**	**332**	P	**Pn**	**17 16 53.8**	**+0.1**
AMGA				AML	AML	17 17 25.4	
comp=N,566μm,0.5s							
AMGA				AML	AML	17 17 31.0	
comp=E,790μm,0.6s							
BODT	**Bodrum**	**1.92**	**8**	PN	**Pg**	**17 16 56.7**	**-1.4**
DALY	**Dalyan (Mula)**	**2.14**	**39**	*i*P	**Pg**	**17 17 01.0**	**-1.4**
DALY				IAML_P			
comp=Z,206nm,0.2s							
DALY	**Dalyan (Mula)**	**2.14**	**39**	PN	**Pb**	**17 17 00.7**	**+0.5**
TURN	**Turunc**	**2.16**	**37**	*i*P	**Pn**	**17 16 56.2**	**-1.2**
TURN				IAML_P			
comp=Z,1μm,0.3s							
TURN	**Turunc**	**2.16**	**37**	PN	**Pn**	**17 16 56.9**	**-0.5**
MLSB	**Milas**	**2.23**	**17**	PN	**Pb**	**17 17 00.8**	**-1.0**
YER	**Yerkesik**	**2.23**	**28**	P	**Pn**	**17 16 59.6**	**+1.0**
YER	**Yerkesik**	**2.23**	**28**	PN	**Pb**	**17 17 01.7**	**-0.2**
APE	**Apeiranthos**	**2.24**	**329**	P	**Pn**	**17 16 59.0**	**+0.4**
APE	**Apeiranthos**	**2.24**	**329**	P	**Pn**	**17 16 59.2**	**+0.5**
APE	**Apeiranthos**	**2.24**	**329**	PN	**Pb**	**17 17 00.2**	**-1.8**
APE	**Apeiranthos**	**2.24**	**329**	P	**Pn**	**17 16 59.5**	**+0.9**
FETY	**Fethiye**	**2.25**	**49**	*i*P	**Pb**	**17 17 01.6**	**-0.6**
FETY				IAML_P			
comp=Z,2μm,0.3s							
VAM	**Vamos**	**2.29**	**277**	P	**Pb**	**17 17 01.4**	**-1.4**
KSL	**Kastellorizon**	**2.34**	**64**	P	**Pn**	**17 16 59.4**	**-0.5**
AKAS	**Kas**	**2.39**	**63**	*i*P	**Pb**	**17 17 03.1**	**-1.5**
GVD	**Gavdhos**	**2.40**	**263**	P	**Pb**	**17 17 03.5**	**-1.1**
GVD	**Gavdhos**	**2.40**	**263**	PN	**Pb**	**17 17 04.3**	**-0.3**
IMMV	**Iera Moni Meta**	**2.47**	**278**	P	**Pn**	**17 17 03.5**	**+1.7**
IMMV	**Iera Moni Meta**	**2.47**	**278**	PN	**Pb**	**17 17 04.3**	**-1.6**
GCAM	**G?zelcaml?**	**2.54**	**5**	*i*P	**Pb**	**17 17 06.6**	**-0.6**
SMG	**Samos**	**2.54**	**357**	P	**Pn**	**17 17 03.5**	**+0.7**
AYDN	**Tasoluk**	**2.60**	**16**	*i*P	**Pb**	**17 17 06.6**	**-1.6**
AYDN				IAML_P			
comp=Z,459nm,0.2s							
TAVA	**DENIZLI_Tavas**	**2.78**	**34**	*i*P	**Pb**	**17 17 09.9**	**-1.4**
TAVA				IAML_P			
comp=Z,374nm,0.4s							
DGB	**zmir**	**2.89**	**358**	*i*P	**Pn**	**17 17 08.9**	**+1.5**
DGB				IAML_P			
comp=Z,138nm,0.2s							
AKUM	**Antalya-Kumluc**	**2.97**	**66**	*i*P	**Pn**	**17 17 10.3**	**+1.6**
AKUM				IAML_P			
comp=Z,584nm,0.3s							
KORT	**Korkueli**	**3.29**	**55**	*i*P	**Pb**	**17 17 16.8**	**-3.2**
CHOS	**Chios island**	**3.30**	**347**	P	**Pn**	**17 17 13.5**	**+0.2**
MANT	**Manisa**	**3.56**	**20**	*i*P	**Pn**	**17 17 20.0**	**+3.0**
MANT				IAML_P			
comp=Z,210nm,0.3s							
VLI	**Velial**	**3.63**	**297**	P	**Pn**	**17 17 18.9**	**+1.2**
KHAL	**Karahalli**	**3.79**	**31**	*i*P	**Pn**	**17 17 22.8**	**+2.8**
KHAL				IAML_P			
comp=Z,223nm,0.2s							
USAK	**Uak-Merkez**	**3.90**	**24**	*i*P	**Pn**	**17 17 24.7**	**+3.2**
USAK				IAML_P			
comp=Z,185nm,0.3s							
DEMI	**Demirci**	**4.12**	**19**	*i*P	**Pn**	**17 17 27.1**	**+2.6**
DEMI				IAML_P			
comp=Z,419nm,0.3s							
KEPZ	**Antalya-Kepez**	**4.13**	**64**	*i*P	**Pn**	**17 17 27.5**	**+2.9**
AKMS	**Akamas**	**4.39**	**90**	P	**Pn**	**17 17 29.1**	**+0.9**
AKMS				AML	AML	17 18 22.3	
comp=Z,0.2nm,0.9s							
AKMS				AML	AML	17 18 33.7	
comp=Z,0.3nm,0.5s							
BAYC	**CANAKKALE_Bayr**	**4.58**	**356**	*i*P	**Pn**	**17 17 31.4**	**+0.5**
ALFC	**Alefka**	**4.60**	**88**	P	**Pn**	**17 17 31.5**	**+0.4**
SZAC	**Souni**	**4.86**	**93**	P	**Pn**	**17 17 35.0**	**+0.3**
ASGA	**Asgata**	**5.16**	**92**	P	**Pn**	**17 17 39.0**	**+0.2**

NEIC 13 17:30:30.9±1.1, 37°.790N±0°.009×121°.97W±0°.01, h18km±1km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRHM	**Round Hill Res**	**0.07**	**344**		Pg	17 30 33.5	-0.7
CRHM					Sg	17 30 35.8	-0.8
BGC	**Bolinger Road**	**0.08**	**289**		Pg	17 30 33.5	-0.9
BGC					Sg	17 30 35.9	-0.9
CLCB	**Lake Chabot**	**0.09**	**236**		Pg	17 30 35.9	+1.5
CDOM	**Doolan Road**	**0.12**	**120**		Pb	17 30 34.2	0.0
CDOM					Sg	17 30 37.3	0.0
CRPB	**Russellman Par**	**0.13**	**21**		Pb	17 30 34.0	-0.4
CMOB	**Morgan Territo**	**0.13**	**81**		Pb	17 30 34.2	-0.3
CSU1	**Sunol Dilatome**	**0.15**	**172**		Pb	17 30 34.5	-0.3
CSU1					Sb	17 30 37.4	0.0
CMCM	**Mills College**	**0.17**	**267**		Pb	17 30 34.9	-0.3
C055	**Cottonwood Ave**	**0.17**	**221**		Pb	17 30 34.8	-0.5
C055					Sb	17 30 34.9	-3.3
CNIC	**Niles Canyon**	**0.18**	**179**		Pb	17 30 35.1	-0.3
CNIC					Sb	17 30 38.6	0.0
BDM	**Black Diamond**	**0.18**	**26**		Pb	17 30 35.4	-0.1
BRIB	**Briones**	**0.19**	**312**		Pg	17 30 35.6	-0.1
CVLM	**Vallecito**	**0.19**	**147**		Pb	17 30 35.8	+0.1
CVPM	**Vollmer Peak**	**0.22**	**295**		Pb	17 30 36.2	0.0
BKS	**Berkeley--Byer**	**0.23**	**292**		Pg	17 30 36.2	0.0
WENL	**Wente Vineyard**	**0.24**	**135**		Pb	17 30 36.5	-0.1
VAK	**Adit at Lawren**	**0.24**	**292**		Pg	17 30 36.4	0.0
VAK					Sb	17 30 40.8	+0.3
BL67	**Building 67, L**	**0.24**	**291**		Pg	17 30 36.3	-0.2
BL67					Sb	17 30 40.5	0.0
BL88	**Building 88, L**	**0.24**	**291**		Pg	17 30 36.5	0.0
BRK	**Berkeley--Havi**	**0.25**	**290**		Pg	17 30 36.4	-0.1
BRK					Sb	17 30 40.8	+0.1
CYD1	**Coyote D'meter**	**0.25**	**204**		Pg	17 30 36.2	-0.3
CBSNC	**Byron Hot Spri**	**0.26**	**84**		Pb	17 30 37.0	0.0
CMJM	**Mission San Jo**	**0.28**	**164**		Pg	17 30 37.1	0.0
CPIM	**Pinole Ridge**	**0.28**	**316**		Pb	17 30 37.5	+0.1
CYBM	**Yerba Buena Is**	**0.31**	**274**		Pg	17 30 37.5	-0.1
RFSB	**Richmond Field**	**0.32**	**293**		Pg	17 30 37.6	0.0
CSPM	**San Pablo Ridg**	**0.32**	**302**		Pb	17 30 38.0	0.0
JCPM	**Coyote Point**	**0.35**	**234**		Pg	17 30 38.1	0.0
JSBM	**San Bruno Moun**	**0.36**	**252**		Pg	17 30 38.2	-0.2
NLHM	**Lake Herman**	**0.36**	**337**		Pb	17 30 38.7	0.0
CALM	**Calaveras Res.**	**0.36**	**158**		Pg	17 30 38.6	+0.1
CPMM	**Point Molate**	**0.38**	**295**		Pg	17 30 38.8	0.0
HMR	**Hamilton Ranch**	**0.39**	**20

MNHB	New Hogan Dam	0.98	68		Pb	17 30 48.1	-1.2
HBTM	San Juan Bauti	0.99	160		Pg	17 30 50.7	+0.6
HTUM	Tustin Road	0.99	165		Pb	17 30 48.9	-0.7
NHSM	Mount Saint He	1.00	330		Pb	17 30 49.1	-0.8
HERM	Elkhorn Road	1.01	168		Pg	17 30 50.4	0.0
HJGM	San Juan Grade	1.04	162		Pb	17 30 49.4	-0.9
MCUB	Copperopolis B	1.08	80		Pb	17 30 49.7	-1.3
NMTM	Middletown	1.08	340		Pb	17 30 50.8	-0.2
NMCNC	Mill Creek, So	1.09	317		Pb	17 30 50.6	-0.6
FRP	Fremont Peak	1.10	160		Pb	17 30 50.0	-1.4
SAO	San Andreas Ge	1.10	158		Pb	17 30 50.4	-1.1
GAXM	Alexander Vall	1.11	326		Pb	17 30 50.2	-1.3
MOBB	Monterey Bay O	1.11	188		Pn	17 30 51.1	-0.3
BSLM	Silva Ranch	1.13	154		Pn	17 30 51.5	-0.2
BVYM	Vineyard	1.13	157		Pn	17 30 50.8	-1.0
GCRM	Castle Rock Sp	1.14	329		Pn	17 30 51.1	-1.0
MNRC	McLaughlin Min	1.15	341		Pn	17 30 51.3	-0.9
GBGM	Boggs Mountain	1.17	332		Pn	17 30 51.9	-0.5
BSRM	Salinas Radio	1.18	162		Pn	17 30 51.1	-1.4
HMOM	Monterey	1.19	178		Pn	17 30 51.9	-0.7
FTR	Fort Ross	1.19	308		Pn	17 30 52.1	-0.6
GDXM	Geysers	1.21	328		Pn	17 30 51.3	-1.6
GSGM	Seigler Mounta	1.22	332		Pn	17 30 52.8	-0.2
GSSM	Skaggs Springs	1.23	318		Pb	17 30 53.5	-0.1
BPCNC	Pine Canyon	1.24	167		Pn	17 30 52.7	-0.6
GHCM	House Creek	1.27	310		Pn	17 30 53.0	-0.7
BJOM	Mount Johnson	1.27	156		Pn	17 30 53.8	+0.1
SCZ	Santa Cruz	1.27	159		Pn	17 30 52.6	-1.1
CMB	Columbia Colle	1.27	78		Pn	17 30 53.1	-0.7
CMB	Columbia Colle	1.27	78	Pn	Pn	17 30 52.7	-1.2
GCVM	Cloverdale	1.28	320		Pn	17 30 53.5	-0.3
GACM	Adobe Creek	1.29	327		Pn	17 30 54.0	-0.1
MYLM	Yosemite Lake	1.29	108		Pn	17 30 52.9	-1.1
GPMM	Pine Mountain	1.31	324		Pn	17 30 54.3	0.0
BRMM	Rolling Bench	1.32	136		Pn	17 30 54.0	-0.4
BJCM	Johnson Can.	1.32	159		Pn	17 30 54.0	-0.5
BEMM	Emmet	1.32	148		Pn	17 30 54.0	-0.5
BAVM	Antelope Valle	1.36	146		Pn	17 30 54.5	-0.6
AFDM	Forest Hills D	1.40	34		Pn	17 30 54.6	-0.9
GDCM	Dry Creek	1.40	315		Pn	17 30 54.8	-0.7
BBGB	Big Mountain B	1.42	148		Pg	17 30 58.0	-0.2
HAST	Hastings Reser	1.44	166		Pn	17 30 55.3	-0.7
ASMM	Slate Mountain	1.44	44		Pn	17 30 55.9	-0.3
BPIM	Pinnacles	1.45	154		Pn	17 30 54.0	-2.2
BMSM	Mercy Hot Spri	1.47	140		Pn	17 30 56.0	-0.5
BSMM	Soledad Missio	1.47	163		Pn	17 30 56.3	-0.2
HOPS	Hopland Field	1.48	324		Pb	17 30 58.4	+0.5
OSUM	Sutter Buttes	1.48	3		Pn	17 30 55.4	-1.2
GHLM	Highland Sprin	1.50	327		Pn	17 30 56.9	0.0
GSNM	Snow Mountain	1.50	320		Pn	17 30 57.2	+0.2
BCWM	Chews Ridge	1.52	168		Pn	17 30 57.4	+0.1
GFC	Funks Creek	1.56	351		Pn	17 30 57.3	-0.4
LRV	Little Rabbit	1.56	151		Pn	17 30 57.5	-0.3
BPOM	Post Ranch	1.57	174		Pn	17 30 56.9	-0.9
OHCM	Honcut	1.59	14		Pn	17 30 57.1	-1.0
GGUM	Gualala	1.61	312		Pn	17 30 58.4	0.0
BAPM	Anderson Peak	1.63	171		Pn	17 30 58.0	-0.9
GHOM	Hamilton Openi	1.76	316		Pn	17 31 00.2	-0.3
MHDM	Hidden Dam	1.78	112		Pn	17 31 00.3	-0.5
GCK	Clark Valley	1.79	348		Pn	17 31 00.8	-0.1
ORV	Oroville	1.80	12		Pn	17 31 00.4	-0.6
ORV	Oroville	1.80	12		Pn	17 31 00.5	-0.5
ORV	Oroville	1.80	12	Pn	Pn	17 31 00.1	-1.0
MMIM	Miami Mountain	1.80	101		Pn	17 31 01.1	-0.1
PMPB	Monarch Peak	1.83	149		Pn	17 31 01.2	-0.2
GHMM	Hull Mountain	1.86	336		Pn	17 31 00.7	-1.3
EMB	Emerald Bay	1.88	51		Pn	17 31 03.5	+1.1
RUBR	Rubicon Trail	1.90	48		Pn	17 31 03.5	+0.9
GNAM	Navarro Ridge	1.92	318		Pn	17 31 01.9	-0.7
PAPM	Alder Peak	1.94	165		Pn	17 31 02.9	-0.1
GASB	Alder Springs	1.95	343		Pn	17 31 02.8	-0.4
TAHR	Tahoe	1.96	46		Pn	17 31 04.3	+0.8
FRI	Friant	1.97	113		Pn	17 31 03.2	-0.1
GNO	Genoa	2.01	55		Pb	17 31 05.6	-1.4
DONR	Donner Summit	2.02	39		Pn	17 31 05.4	+1.1
GTC	Three Chop Rid	2.03	323		Pn	17 31 04.7	+0.4
MGL	Magalia	2.04	9		Pn	17 31 04.5	0.0
PHSB	Hesperia Broad	2.10	159		Pn	17 31 05.2	+0.1
PHPM	Hope Ranch	2.11	148		Pn	17 31 05.1	-0.2
WAKR	Walker	2.12	70		Pb	17 31 07.7	-1.2
MPK	Martis Peak	2.14	45		Pn	17 31 07.3	+1.4
BFC	Buffalo Canyon	2.16	59		Pb	17 31 08.0	-1.5
KBF	Kyburz Flat	2.20	38		Pn	17 31 08.2	+1.4
PPO	Portuguese Can	2.21	150		Pn	17 31 06.8	+0.2
PNTR	Pine Nut	2.27	54		Pn	17 31 09.1	+1.4
KCPM	Cahto Peak	2.28	327	Pn	Pn	17 31 09.6	+1.9
PWKM	Work Ranch	2.29	149		Pn	17 31 09.4	+1.6
MDPB	Devils Postpil	2.30	93		Pn	17 31 09.1	+1.0
LOY	Loyalton	2.31	35		Pn	17 31 09.3	+1.2
MINS	Minaret Summit	2.31	92		Pn	17 31 09.6	+1.3
MRDM	Red Cones	2.31	94		Pn	17 31 09.6	+1.2
MDCM	Deadman Creek	2.32	91		Pn	17 31 09.8	+1.3
MMSM	Mammoth Summit	2.33	93		Pn	17 31 10.2	+1.5
MMPM	Mammoth Pass	2.34	94		Pn	17 31 10.1	+1.4
PCMM	Cholame Hills	2.34	147		Pn	17 31 10.2	+1.7
MLIM	Lincoln Peak	2.34	93		Pb	17 31 11.1	-1.7
MDYM	Dry Creek	2.35	92		Pn	17 31 10.5	+1.7
VCNR	Virginia City	2.36	50		Pn	17 31 09.6	+0.7
OMMB	Old Mammoth Mi	2.36	93		Pn	17 31 10.1	+1.1
MMLB	Mammoth Lakes	2.37	92		Pn	17 31 10.9	+1.8
LMCR	Lookout Mounta	2.40	91		Pb	17 31 11.6	-2.0
MEMM	East Mammoth H	2.40	92		Pn	17 31 11.4	+1.8
BEKR	Beckworth	2.42	31		Pn	17 31 11.7	+1.9
MLCM	Laurel Creek C	2.43	93		Pn	17 31 11.5	+1.6
MCSM	Casa Diablo Ho	2.43	92		Pn	17 31 11.9	+2.0
MGPM	Gravel Pit	2.44	93		Pn	17 31 11.8	+1.9
MCBM	Casa Benchmark	2.44	92		Pn	17 31 12.1	+2.0
YERR	Yerington	2.45	60		Pn	17 31 11.5	+1.3
MCMM	Convict Lake	2.46	93		Pn	17 31 12.0	+1.6
PAGB	Antelope Grade	2.48	146		Pn	17 31 10.9	+0.6
MDRNC	Doe Ridge	2.49	93		Pb	17 31 13.1	-2.1
MCVM	Convict Lake	2.50	94		Pn	17 31 12.5	+1.6
RCCR	Rock Creek Can	2.59	96		Pn	17 31 14.0	+1.7
HELL	Mitchell Peak,	2.60	114		Pn	17 31 12.4	+0.3
ORC	Owens River	2.63	92		Pn	17 31 14.6	+1.9
SCHCA	Scheelite	2.64	98		Pn	17 31 14.5	+1.7
LDBM	Digger Butte	2.64	3		Pn	17 31 12.8	+0.1
HCK	Huntoon Valley	2.68	83		Pn	17 31 15.6	+2.5
BENR	Benton	2.69	91		Pn	17 31 15.2	+1.6
LRDM	Redding Peak	2.70	8		Pn	17 31 15.0	+1.6
MTUM	Tungsten Hills	2.74	98		Pn	17 31 16.2	+2.1
KMRM	Mail Ridge	2.78	331	Pn	Pn	17 31 13.3	-1.3
PAHR	Pah Rah Range	2.78	46		Pn	17 31 14.6	-0.1
WDC	Whiskeytown Da	2.82	351		Pn	17 31 14.9	-0.2
RYN	Ryan	2.84	72		Pn	17 31 16.3	+0.9
NVAR	Mina Array Bea	2.96	76	Pn	Pn	17 31 18.2	+1.1
NV11	Mina Array Sit	3.07	77		Pn	17 31 19.4	+0.7
KVN	Kaiserville	3.29	66		Pn	17 31 21.8	+0.1
ISA	Isabella, Lake	3.52	126		Pn	17 31 25.4	+0.7
DAC	Darwin (Calif)	3.81	112		Pn	17 31 28.4	-0.4
TPNV	Topopah Spring	4.63	99		Pb	17 31 49.6	-2.1
R11A	Troy Canyon, C	5.07	82		Pg	17 32 04.4	-3.5

*SJA **13** 17:33:06.8±0.7, 35°.93S×73°.25W, h30km±22km, ML3.3, MW3.5*

*GUC **13** 17:33:07.0±0.6, 36°.04S×73°.39W, h13km±13km, ML3.6*

ISC 13 17:33:06.2±2.0, 36°.06S±0°.06×73°.33W±0°.10, h8km±17km, n14, σ0°56/19, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.44**	**100**	*i* P	**Pb**	**17 33 16.1**	**0.0**
COCH				*i* S	**Sb**	**17 33 23.3**	**+0.4**
COCH				IAML		17 33 25.2	
	comp=N,8μm,0.2s						
COCH	**Cobquecura**	**0.44**	**100**	*i* P	**Pb**	**17 33 16.5**	**+0.3**
COCH				*e*S	**Sb**	**17 33 23.7**	**+0.7**
CCSP	**San Pedro de C**	**0.81**	**168**	*i* P	**Pg**	**17 33 21.6**	**-0.1**
CCSP				*i* S	**Sg**	**17 33 32.8**	**+0.7**
CCSP				IAML		17 33 34.2	
	comp=E,6μm,0.6s						
CCHI	**Chillan**	**1.15**	**119**	*i* P	**Pb**	**17 33 27.7**	**-0.5**
CCHI				*i* S	**Sg**	**17 33 42.6**	**-0.4**
CCHI				IAML		17 33 49.8	
	comp=E,2μm,0.4s						
GO05	**Huala**	**1.54**	**48**	*i* P	**Pn**	**17 33 33.4**	**-0.6**
GO05				*i* S	**Sg**	**17 33 56.1**	**+0.2**
PEL	**Peldehue**	**3.63**	**38**	*i* P	**Pn**	**17 34 02.4**	**-0.3**
AAGR	**Agrelo**	**4.75**	**53**	*i* P	**Pn**	**17 34 18.3**	**+0.1**
ASAL	**Salagasta**	**5.08**	**48**	*i* P	**Pn**	**17 34 23.3**	**+0.6**
RTLL	**Cerro Villicun**	**6.21**	**42**	*i* P	**Pn**	**17 34 37.7**	**-0.5**
RTLL				IAML		17 36 13.5	
	comp=Z,9.0nm,0.6s						
ACAN	**Cantantal**	**6.33**	**55**	*i* P	**Pn**	**17 34 40.3**	**+0.4**
AMOG	**MOGNA**	**6.51**	**40**	*i* P	**Pn**	**17 34 41.8**	**-0.5**
ACCO	**Cerro Coronel**	**6.52**	**34**	*i* P	**Pn**	**17 34 42.2**	**-0.4**
AROD	**Rodeo**	**6.70**	**30**	*i* P	**Pn**	**17 34 46.0**	**+0.8**
TCA	**Tanti**	**8.66**	**60**	*i* P	**Pn**	**17 35 11.1**	**-0.8**

IDC 13 17:45:29.5±319.0, 37°.38N×116°.37W, h0km, Error ellipse: s-maj=130.3km s-min=82.5km az=172.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**3.77**	**181**	*i*		18 10 10.0	
	baz=0.0,slow=313,SNR=1.6						
I56US	**NEWPORT INFRASt**	**0.89**	**357**	*i*		18 49 00.0	
	baz=177,slow=326,SNR=2.4						
I10CA	**LAC DU BONNET**	**19.41**	**42**	*i*		19 48 20.0	
	baz=229,slow=325,SNR=1.5						

IDC 13 17:51:23.2±1.4, 38°.44N×92°.60E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.2/46, mbtmp3.3/5, ML3.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/24, Error ellipse: s-maj=128.5km s-min=24.6km az=56.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.28**	**321**	Pn	Pn	17 54 01.0	-4.6
	0.3nm,0.3s,baz=132,slow=14,SNR=15						
MKAR				Lg	Lg	17 57 12.1	
	0.1nm,0.3s,baz=125,slow=30,SNR=2.6						
KURBB	**Kurchatov Arra**	**15.74**	**325**	Pn	Pn	17 55 04.0	-2.2
	0.0nm,0.3s,baz=134,slow=12,SNR=3.2						
CMAR	**Chiang Mai Arr**	**20.66**	**163**	P	P	17 56 04.9	+0.2
	0.2nm,0.5s,baz=334,slow=8.0,SNR=4.3						
ARU	**Arti**	**28.80**	**320**	LR	LR	18 08 44.0	
	comp=Z,108nm,18.6s,baz=246,slow=36						
WRA	**Warramunga Arr**	**70.04**	**138**	P	P	18 02 36.8	-0.3
	0.4nm,1.1s,baz=333,slow=6.4,SNR=3.2						
ASAR	**Alice Springs**	**72.92**	**141**	P	P	18 02 54.6	+0.3
	0.4nm,0.8s,baz=327,slow=6.9,SNR=4.4						

*IDC **13** 18:00:58.9±1.3, 34°.31N×25°.07E, h0km, mb3.9/4, mb1 3.7/7, mb1mx3.5/39, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=27.6km s-min=24.1km az=171.0*

*ISCJB **13** 18:01:00.9±1.2, 34°.17N±0°.06×25°.08E±0°.04, h30km±8km, mb3.7/4, Error ellipse: s-maj=9.8km s-min=5.5km az=5.7*

*THE **13** 18:01:02.1, 34°.33N×24°.99E, h0km±1km, ML2.7/3, Error ellipse: s-maj=3.0km s-min=0.9km az=179.0*

*ATH **13** 18:01:03.3, 34°.43N×24°.98E, h28km±2km, ML2.9/5, Error ellipse: s-maj=8.5km s-min=2.3km az=1.0*

ISC 13 18:01:02.3±1.7, 34°.26N±0°.08×25°.05E±0°.03, h25km±13km, n39, σ1°30/48, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.78**	**345**	P	**Pb**	**18 01 15.9**	**-1.4**
SIVA				S	**Sn**	**18 01 27.7**	**-1.0**
SIVA	**Sivas**	**0.78**	**345**	P	**Pb**	**18 01 16.0**	**-1.3**
SIVA				AML	AML	18 01 32.4	
	comp=E,9131μm,0.8s						
SIVA				AML	AML	18 01 35.2	
	comp=N,6749μm,0.8s						
TMBK	**Timbaki Herakl**	**0.85**	**344**	P	**Pb**	**18 01 17.5**	**-0.9**
FRMA	**Ierapetra Chan**	**0.94**	**37**	P	**Pn**	**18 01 21.3**	**+1.4**
LAST	**Lasithi**	**0.97**	**21**	P	**Pb**	**18 01 19.5**	**-1.0**
GVD	**Gavdhos**	**0.98**	**306**	P	**Pb**	**18 01 19.7**	**-1.1**
GVD				S	**Sn**	**18 01 33.3**	**-0.3**
	comp=N,1μm,0.6s						
GVD	**Gavdhos**	**0.98**	**306**	P	**Pb**	**18 01 19.6**	**-1.1**
GVD				AML	AML	18 01 41.2	
	comp=E,1598μm,0.4s						
GVD				AML	AML	18 01 47.2	
	comp=N,2402μm,0.3s						
GVDS	**Gavdos**	**0.98**	**307**	P	**Pb**	**18 01 20.0**	**-0.7**
GVDS				S	**Sn**	**18 01 34.6**	**+0.9**
NPS	**Neapolis**	**1.10**	**25**	P	**Pb**	**18 01 22.1**	**-0.7**
NPS				S	**Sn**	**18 01 38.6**	**+1.9**
	comp=N,300nm,0.8s						
NPS	**Neapolis**	**1.10**	**25**	P	**Pb**	**18 01 22.0**	**-0.8**
NPS				AML	AML	18 01 46.2	
	comp=E,617μm,0.5s						
NPS				AML	AML	18 01 46.8	
	comp=N,538μm,0.9s						
PRNS	**Prines Rethymn**	**1.19**	**338**	P	**Pb**	**18 01 23.4**	**-0.9**
PRNS				S	**Sn**	**18 01 39.7**	**+0.9**
ZKR	**Zakros**	**1.29**	**48**	P	**Pb**	**18 01 26.2**	**+0.3**
ZKR				S	**Sb**	**18 01 44.2**	**+2.2**
	comp=N,240nm,0.6s						
ZKR	**Zakros**	**1.29**	**48**	P	**Pb**	**18 01 26.2**	**+0.3**
VAM	**Vamos**	**1.34**	**329**	P	**Pn**	**18 01 25.6**	**+0.1**
VAM	**Vamos**	**1.34**	**329**	P	**Pn**	**18 01 25.6**	**+0.1**
VAM				AML	AML	18 01 50.3	
	comp=N,1117μm,0.4s						
VAM				AML	AML	18 01 54.0	
	comp=E,997μm,0.7s						
IMMV	**Iera Moni Meta**	**1.49**	**324**	P	**Pb**	**18 01 28.1**	**-1.2**
IMMV	**Iera Moni Meta**	**1.49**	**324**	P	**Pb**	**18 01 28.3**	**-1.0**
IMMV				AML	AML	18 01 59.1	
	comp=E,861μm,0.5s						
IMMV				AML	AML	18 02 03.4	
	comp=N,740μm,0.5s						
KARP	**Karpathos**	**2.16**	**53**	P	**Pb**	**18 01 39.4**	**-1.4**
KARP	**Karpathos**	**2.16**	**53**	P	**Pb**	**18 01 39.4**	**-1.4**
ANAF	**Anafi Island**	**2.18**	**16**	P	**Pn**	**18 01 37.2**	**+0.3**
MHLO	**Agia Marina, M**	**2.48**	**348**	P	**Pn**	**18 01 41.2**	**+0.1**
VLI	**Veliai**	**3.00**	**326**	P	**Pn**	**18 01 48.4**	**+0.1**
DAT	**Datca**	**3.21**	**39**	*i* P	**Pn**	**18 01 50.4**	**-0.9**
DAT				IAML_P			
	comp=Z,136nm,0.2s						
DALY	**Dalyan (Mula)**	**3.89**	**48**	*i* P	**Pn**	**18 02 02.9**	**+2.4**
DALY				IAML_P			
	comp=Z,246nm,0.2s						
TURN	**Turunc**	**3.90**	**47**	*i* P	**Pn**	**18 01 59.0**	**-1.6**
TURN				*i* S	Sn	18 02 36.7	-8.9
TURN				IAML_P			
	comp=Z,181nm,0.2s						
FETY	**Fethiye**	**4.06**	**53**	*i* P	**Pn**	**18 02 03.3**	**+0.5**
FETY				*i* S	**Sn**	**18 02 46.1**	**-3.4**
FETY				IAML_P			
	comp=Z,179nm,0.3s						
AYDN	**Tasoluk**	**4.10**	**33**	*i* P	**Pn**	**18 02 05.0**	**+1.6**
AYDN				IAML_P			
	comp=Z,270nm,0.3s						
AKAS	**Kas**	**4.22**	**61**	*i* P	**Pn**	**18 02 06.9**	**+1.8**
AKAS				*i* S	**Sn**	**18 02 52.6**	**-1.0**
AKAS				IAML_P			
	comp=Z,338nm,0.1s						
TAVA	**DENIZLI_Tavas**	**4.48**	**43**	*i* P	**Pn**	**18 02 06.2**	**-2.6**
TAVA				IAML_P			
	comp=Z,149nm,0.3s						
AKUM	**Antalya-Kumluc**	**4.79**	**63**	*i* P	**Pn**	**18 02 13.5**	**+0.6**
AKUM				*i* S	**Sn**	**18 03 06.4**	**-1.2**
AKUM				IAML_P			
	comp=Z,292nm,0.2s						
KHAL	**Karahalli**	**5.45**	**40**	*i* P	**Pn**	**18 02 23.7**	**+1.7**
KHAL				IAML_P			
	comp=Z,41nm,0.1s						
USAK	**Uak-Merkez**	**5.48**	**35**	*i* P	**Pn**	**18 02 24.2**	**+1.9**
USAK				IAML_P			
	comp=Z,340nm,0.5s						
MMAI	**Mount Meron Ar**	**8.72**	**95**	Pn	**Pn**	**18 03 07.1**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=264,slow=12,SNR=4.0						
EIL	**Elat**	**9.57**	**116**	Pn	**Pn**	**18 03 18.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=315,slow=2.9,SNR=3.3						
GERES	**GERESS Array B**	**16.84**	**333**	Pn	**P**	**18 04 57.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=143,slow=11,SNR=9.0						
HFS	**Hagfors**	**26.93**	**347**	P	**P**	**18 06 41.1**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=152,slow=9.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P	**P**	**18 07 08.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=36,slow=9.0,SNR=9.1						
MKAR	**Makanchi Array**	**44.35**	**56**	P	**P**	**18 09 10.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=270,slow=7.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.70**	**46**	P	**P**	**18 09 20.0**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=271,slow=8.4,SNR=3.9						

TAP 13 18:06:49.9, 24°.14N×121°.69E, h9km±1km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**289**	P	Pg	18 06 52.3	0.0
	baz=288						
NACB				*e*S	Sg	18 06 54.1	+0.1
	baz=288						
TWD	**Chiawan**	**0.11**	**235**	*e*P	Pg	18 06 52.3	-0.2
	baz=233						
TWD				*e*S	Sg	18 06 54.2	-0.1
	baz=233						
ETLH	**Xiulin Townshi**	**0.20**	**288**	*e*P	Pg	18 06 54.1	0.0
	baz=288						
ETLH				*e*S	Sg	18 06 57.3	+0.3
	baz=288						
ENA	**Nanau**	**0.29**	**9**	*e*P	Pg	18 06 55.6	0.0
	baz=10.0						
NANB	**Nanao**	**0.29**	**10**	*e*P	Pg	18 06 55.4	-0.2
	baz=10.0						
WHF	**Hehuan Shan**	**0.39**	**270**	*e*P	Pg	18 06 57.6	-0.1
	baz=270						
NNSB	**Datong**	**0.40**	**315**	*e*P	Pg	18 06 58.1	+0.3
	baz=315						

TAP 13 18:06:55.0, 24°.13N×121°.70E, h8km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**294**	*e*P	Pg	18 06 57.3	-0.1
	baz=293						
NACB				*e*S	Sg	18 06 59.1	0.0
	baz=293						
TWD	**Chiawan**	**0.10**	**240**	*e*P	Pg	18 06 57.3	-0.2
	baz=238						
TWD				*e*S	Sg	18 06 59.2	+0.1
	baz=238						
ETLH	**Xiulin Townshi**	**0.21**	**291**	*e*P	Pg	18 06 59.3	0.0
	baz=290						
ETLH				*e*S	Sg	18 07 02.3	+0.2
	baz=290						
ENA	**Nanau**	**0.30**	**8**	*e*S	Sg	18 07 05.1	+0.2
	baz=9.0						
NANB	**Nanao**	**0.30**	**10**	*e*P	Pg	18 07 00.3	-0.6
	baz=9.0						
NANB				*e*S	Sg	18 07 05.1	+0.2
	baz=9.0						
NANB	**Nanao**	**0.30**	**10**	*e*S	Pg	18 06 59.9	-1.0
	baz=10.0						
WHF	**Hehuan Shan**	**0.39**	**272**	*e*P	Pg	18 07 02.8	-0.1
	baz=271						
WHF				*e*S	Sg	18 07 08.1	0.0
	baz=271						
WHF	**Hehuan Shan**	**0.39**	**272**	*e*S	Pg	18 07 02.8	0.0
	baz=270						
NNSB	**Datong**	**0.41**	**316**	*e*P	Pg	18 07 03.0	0.0
	baz=315						
NNSB				*e*S	Sg	18 07 08.7	+0.3
	baz=315						
NNSB	**Datong**	**0.41**	**316**	*e*S	Pg	18 07 03.0	0.0
	baz=315						
NNS	**Nan Shan**	**0.42**	**316**	*e*P	Pg	18 07 03.2	-0.1
	baz=316						
NNS				*e*S	Sg	18 07 09.1	+0.1
	baz=316						
CHGB	**Renai**	**0.48**	**261**	*e*P	Pg	18 07 04.5	+0.1
	baz=261						
CHGB				*e*S	Sg	18 07 10.8	+0.1
	baz=261						
NDT	**Datong Townshi**	**0.50**	**340**	*e*P	Pg	18 07 04.8	+0.1
	baz=340						
NDT				*e*S	Sg	18 07 11.5	+0.3
	baz=340						
TDCB	**Techi**	**0.50**	**284**	*e*P	Pg	18 07 05.2	+0.4
	baz=283						
TDCB				*e*S	Sg	18 07 11.9	+0.5
	baz=283						
ENTT	**Nioudou**	**0.52**	**347**	*e*S	Sg	18 07 12.2	+0.3
	baz=347						
YHNB	**Yeheng**	**0.61**	**331**	*e*S	Sg	18 07 15.3	+0.5
	baz=331						
VWDT	**VWDT**	**0.63**	**233**	*e*P	Pg	18 07 06.6	-0.6
	baz=233						
VWDT				*e*S	Sg	18 07 16.0	+0.5
	baz=233						
DPDB	**Guoxing**	**0.71**	**262**	*e*P	Pg	18 07 08.7	0.0
	baz=261						
DPDB				*e*S	Sg	18 07 18.1	+0.2
	baz=261						
SSLB	**Suanglung**	**0.76**	**243**	*e*P	Pg	18 07 09.2	-0.4
	baz=243						
SSLB				*e*S	Sg	18 07 19.0	-0.6
	baz=243						
YULB	**Yu-li**	**0.82**	**206**	*e*S	Sg	18 07 21.9	+0.4
	baz=206						

IDC 13 18:15:18.1±3.7, 25°.06N×95°.28E, h118km±38km, mb2.9/3, mb1 3.1/4, mb1mx2.8/36, mbtmp3.3/4, Error ellipse: s-maj=88.3km s-min=20.9km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMMT	**Chiang Mai**	**7.09**	**151**	P	Pn	18 17 00.1	+0.8
	2.6nm,1.0s						
**C

ANAF AML AML 18 18 41.8
comp=E,768μm,0.4s
DAT Datca 1.73 13 *i* P **Pg 18 18 24.3 -0.5**
DAT *i* S **Sg 18 18 45.4 -2.0**
DAT IAML_P
comp=Z,122nm,0.2s
AMGA Amorgos Island 2.03 332 P **Pn 18 18 25.3 +0.4**
DALY Dalyan (Mula) 2.18 35 *i* P **Pg 18 18 32.6 -0.8**
DALY *i* S **Sg 18 19 06.4 +4.7**
DALY IAML_P
comp=Z,195nm,0.2s
TURN Turunc 2.21 34 *i* P **Pn 18 18 27.8 +0.5**
TURN *i* S **Sn 18 18 52.9 -1.2**
TURN IAML_P
comp=Z,441nm,0.3s
FETY Fethiye 2.27 45 *i* P **Pb 18 18 32.1 0.0**
FETY IAML_P
comp=Z,535nm,0.3s
APE Apeiranthos 2.38 329 P **Pn 18 18 30.9 +1.1**
AYDN Tasoluk 2.69 14 *i* P **Pb 18 18 38.8 -0.4**
AYDN IAML_P
comp=Z,18nm,0.1s
TAVA DENIZLI_Tavas 2.84 31 *i* P **Pb 18 18 39.9 -1.8**
TAVA IAML_P
comp=Z,254nm,0.5s

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*KRNET **13** 18:41:36.2±0.1, 41°.55N×70°.74E, h35km, mb2.2*
SOME 13 18:41:45.3, 41°.10N×71°.77E, h10km, 14C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.71**	**12**	⇑*i*P	Pg	18 41 54.5	-4.6
ARK	baz=76			⇑*i*S	Sg	18 42 07.9	-0.6
ARSB	**Arslanbob**	**0.94**	**76**	⇑*i*P	Pn	18 42 04.6	-0.2
ARSB	baz=97			⇑*i*S	Sn	18 42 25.4	+7.0
BTK	**Batken**	**1.27**	**215**	⇑*e*P	Pn	18 42 01.8	-7.4
BTK	baz=78			⇑*i*S	Sb	18 42 20.8	-4.9
IUG	**Iuzhnay**	**1.67**	**309**	*e*P	Pn	18 42 15.4	+0.6
IUG	0.2nm,0.1s 11nm,0.3s			*e*S	Sb	18 42 37.2	-0.1
AML	**Almayashu**	**1.77**	**54**	⇑*e*P	Pn	18 42 12.4	-4.0
AML	baz=74			⇑*i*S	Sb	18 42 41.0	+0.4
MRKS	**Merke**	**1.97**	**33**	*e*P	Pb	18 42 21.6	+0.3
MRKS	0.9nm,0.1s 1.9nm,0.3s			*e*S	Sg	18 42 48.6	-0.1
ARLS	**Aral**	**2.06**	**68**	⇑*i*P	Pn	18 42 18.5	-1.7
ARLS	baz=82			⇑*i*S	Sb	18 42 49.7	+0.9
KK31	**Karatay Array**	**2.21**	**335**	⇑Pn	Pb	18 42 25.4	0.0
KK31	0.3nm,0.3s,baz=148,slow=16,SNR=10			⇑Sn	Sg	18 42 56.4	+0.1
UCH	**Uchtor**	**2.35**	**60**	⇑*i*P	Pn	18 42 21.0	-3.3
UCH	0.6nm,0.3s,baz=150,slow=28,SNR=6.5 baz=75			⇑*i*S	Sb	18 42 55.8	-1.3
	baz=75						

IDC 13 18:42:55.3±27.0, 41°.05S×79°.78E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.5/3, MS3.6/8, Ms1 3.6/8, ms1mx3.4/15, Error ellipse: s-maj=647.0km s-min=50.8km az=47.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**27.65**	**88**	T	T	19 17 23.7	
H01W3	**Cape Leeuwin H**	**27.65**	**88**	T	T	19 17 24.3	
H01W1	**Cape Leeuwin H**	**27.66**	**88**	T	T	19 17 24.9	
MAW	**Mawson**	**28.17**	**194**	LR	LR	18 57 26.1	
NWAO	**Narrogin (SRO)**	**30.81**	**87**	LR	LR	18 58 19.9	
BOSA	**Boshof**	**45.77**	**268**	LR	LR	19 07 27.4	
ASAR	**Alice Springs**	**48.12**	**86**	P	P	18 51 37.7	+0.6
ASAR	0.6nm,0.9s,baz=233,slow=7.2,SNR=5.1			LR	LR	19 09 19.3	
STKA	**Stephens Creek**	**49.63**	**100**	LR	LR	19 08 32.8	
WRA	**Warramunga Arr**	**50.62**	**83**	P	P	18 51 55.5	-0.7
CMAR	**Chiang Mai Arr**	**61.82**	**21**	P	P	18 53 16.0	0.0
CMAR	0.3nm,0.7s,baz=202,slow=6.8,SNR=3.0			LR	LR	19 16 35.0	
RPZ	**Rata Peaks**	**64.00**	**126**	LR	LR	19 14 15.4	
DZM	**Mont Dzumac**	**73.43**	**105**	LR	LR	19 20 24.7	

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*ISCJB **13** 18:51:13.4±1.1, 37°.36N±0°.08×144°.75E±0°.10, h33km, mb3.4/2, Error ellipse: s-maj=14.2km s-min=7.7km az=44.5*
*IDC **13** 18:51:13.7±10.0, 36°.76N×144°.76E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=236.5km s-min=47.3km az=29.0*
*JMA **13** 18:51:16.3±0.2, 37°.40N×144°.57E, h44km, M3.4*
ISC 13 18:51:14.4±1.5, 37°.39N±0°.07×144°.82E±0°.10, h35km, n14, σ1§29/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.81**	**290**	P	**Pn**	18 51 57.4	+0.6
JIKH				S	**Sn**	18 52 28.3	-1.2
JIO	**Ouri**	**2.94**	**292**	P	**Pn**	18 51 59.4	+0.8
JIO				S	**Sn**	18 52 32.0	-0.7
JKMT	**Kesennumamotoy**	**3.00**	**299**	P	**Pn**	18 52 00.2	+0.8
JKMT				S	**Sn**	18 52 33.0	-1.0
OFUJ	**Ofunato**	**3.00**	**305**	P	**Pn**	18 52 00.6	+1.2
OFUJ				*e*S	**Sn**	18 52 33.2	-1.0
JMK	**Ichinoseki**	**3.24**	**300**	P	**Pn**	18 52 03.6	+0.9
JMK				*e*S	**Sn**	18 52 39.7	-0.3
JOM	**Ohasama**	**3.46**	**308**	P	**Pn**	18 52 08.0	+2.2
JOM				*e*S	**Sn**	18 52 45.5	-0.1
JRY	**Ryogami san**	**4.95**	**256**	P	**Pn**	18 52 26.4	+0.1
JRY				*e*S	**Sn**	18 53 19.7	-2.7
JCH	**Churui**	**5.33**	**348**	P	**Pn**	18 52 31.5	0.0
JCH				*e*S	**Sn**	18 53 29.5	-2.2
MJAR	**Matsushiro Arr**	**5.36**	**263**	Pn	**Pn**	18 52 33.4	+1.4
H11N2	0.1nm,0.3s,baz=88,slow=14,SNR=8.1 **WAKE ISLAND Hy**	**26.08**	**126**	T	T	19 23 47.6	
H11N1	baz=317,slow=74,SNR=10 **WAKE ISLAND Hy**	**26.09**	**126**	T	T	19 23 38.5	
H11N3	baz=317,slow=74,SNR=5.8 **WAKE ISLAND Hy**	**26.10**	**126**	T	T	19 23 44.6	
WRA	baz=317,slow=74,SNR=6.8 **Warramunga Arr**	**57.88**	**192**	P	**P**	**19 01 02.8**	**0.0**
ASAR	0.3nm,0.4s,baz=9.0,slow=7.0,SNR=15 **Alice Springs**	**61.60**	**191**	P	**P**	**19 01 28.8**	**+0.5**
	0.1nm,0.5s,baz=7.4,slow=7.1,SNR=3.2						

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*NEIC **13** 19:07:25.4±0.6, 23°.1S±0°.8×173°.2W±0°.3, h35km±2km, mb4.6/4*
IDC 13 19:07:35.3±56.0, 23°.17S×175°.32W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/34, mbtmp3.9/3, Error ellipse: s-maj=1038.0km s-min=167.6km az=88.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.79**	**267**	P	P	19 14 38.1	+1.6
CTAO				IAmb	IAmb	19 15 40.8	
STKA	comp=Z,14nm,1.4s **Stephens Creek**	**38.98**	**248**	P	P	19 15 03.7	+0.2
STKA	comp=Z,0.5nm,0.3s,baz=89,slow=11,SNR=6.0 **Stephens Creek**	**38.98**	**248**	P	P	19 15 03.6	+0.2
STKA				IAmb	IAmb	19 15 39.0	
	comp=Z,6.9nm,1.9s						
ASAR	**Alice Springs**	**46.39**	**259**	P	P	19 16 03.5	-0.4
	comp=Z,0.4nm,0.5s,baz=94,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**46.39**	**259**	P	P	19 16 03.0	-0.9
WB2	**Warramunga Arr**	**46.74**	**264**	P	P	19 16 06.7	+0.1
WB2				IAmb	IAmb	19 17 05.2	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**46.75**	**264**	P	P	19 16 06.6	-0.1
	comp=Z,1.1nm,0.3s,baz=104,slow=8.2,SNR=50						
WRA	**Warramunga Arr**	**46.75**	**264**	P	P	19 16 06.4	-0.3
WRA				IAmb	IAmb	19 16 07.2	
	comp=Z,0.1nm,0.8s						

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*ISCJB **13** 19:09:37.2±0.5, 43°.41N±0°.02×126°.75W±0°.05, h14km, mb3.7/3, MS3.4/7, Error ellipse: s-maj=5.3km s-min=2.9km az=166.8*
*NEIC **13** 19:09:37.2±2.1, 43°.37N±0°.07×126°.9W±0°.1, h10km±2km, mb4.1/15*
*IDC **13** 19:09:37.3±1.8, 43°.45N×126°.65W, h0km, mb3.7/4, mb1 4.0/11, mb1mx3.7/56, mbtmp3.8/11, ML3.7/7, MS3.4/13, Ms1 3.4/13, ms1mx3.1/44, Error ellipse: s-maj=29.2km s-min=12.0km az=56.0*
*ANF **13** 19:09:38.5±1.0, 43°.35N×126°.64W, h10km±13km, ML3.8/19, Error ellipse: s-maj=15.6km s-min=3.7km az=73.0*
ISC 13 19:09:38.8±1.1, 43°.35N±0°.05×126°.77W±0°.09, h14km, n148, σ1§34/147, mb4.4/11, MS3.4/7, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.84**	**104**		**Pn**	**19 10 07.4**	**-2.7**
J01E	**Myrtle Point**	**2.08**	**94**	P	**Pn**	**19 10 10.8**	**-2.5**
J01E	baz=276,SNR=64			S	**Sn**	**19 10 37.5**	**-1.5**
KBO	**Bosley Butte**	**2.19**	**120**	Pn	**Pn**	**19 10 12.6**	**-2.3**
I02D	**Swisshome**	**2.25**	**69**	P	**Pn**	**19 10 13.9**	**-1.7**
K02D	baz=250 **Willamette Mer**	**2.37**	**105**	P	**Pn**	**19 10 14.9**	**-2.4**
K02D	baz=288,SNR=22			S	**Sn**	**19 10 44.4**	**-1.7**
I03D	**Drain, OR**	**2.51**	**81**	P	**Pn**	**19 10 17.5**	**-1.7**
I03D	baz=263,SNR=186			S	**Sn**	**19 10 49.0**	**-0.5**
L02E	**Cave Junction**	**2.62**	**116**	P	**Pn**	**19 10 18.5**	**-2.2**
L02E	baz=299,SNR=33			S	**Sn**	**19 10 51.0**	**-1.3**
COR	**Corvallis**	**2.79**	**62**		**Pn**	**19 10 21.6**	**-1.5**
KRMB	**Red Mountain**	**2.79**	**130**	Pn	**Pn**	**19 10 20.1**	**-3.1**
HUMO	**Hull Mountain**	**2.89**	**103**		**Pn**	**19 10 22.3**	**-2.2**
G03D	**McMinnville, O**	**3.13**	**52**	P	**Pn**	**19 10 26.3**	**-1.5**
G03D	baz=234,SNR=49			S	**Sn**	**19 11 04.5**	**-0.4**
H04D	**Lebanon**	**3.14**	**67**	P	**Pn**	**19 10 27.5**	**-0.4**
KHMM	baz=249,SNR=80 **Horse Mountain**	**3.35**	**137**		**Pn**	**19 10 30.8**	**-0.1**
J04D	**Umpqua Nationa**	**3.40**	**90**	P	**Pn**	**19 10 31.5**	**-0.2**
YBH	baz=273,SNR=63 **Yreka Blue Hor**	**3.40**	**117**	Pn	**Pn**	**19 10 30.8**	**-0.7**
YBH	3.8nm,0.3s,baz=299,slow=14,SNR=53			Sn	**Sn**	**19 11 13.8**	**+2.0**
YBH	**Yreka Blue Hor**	**3.40**	**117**		**Pn**	**19 10 30.5**	**-1.1**
L04D	**Klamath Falls**	**3.47**	**107**	P	**Pn**	**19 10 31.6**	**-1.0**
M02C	baz=291,SNR=18 **Callahan**	**3.50**	**123**	P	**Pn**	**19 10 31.2**	**-1.7**
H04A	baz=306 **Detroit Lake**	**3.56**	**66**	Pn	**Pn**	**19 10 33.0**	**-0.8**
K04D	**Chiloquin, OR**	**3.75**	**99**	P	**Pn**	**19 10 35.4**	**-0.9**
F04D	baz=283,SNR=7.7 **Rainier, OR**	**3.83**	**43**	P	**Pn**	**19 10 36.5**	**-0.8**
N02D	baz=225 **Trinity Center**	**3.84**	**127**	P	**Pn**	**19 10 37.1**	**-0.4**
KMRM	baz=310 **Mail Ridge**	**3.87**	**143**	Pn	**Pn**	**19 10 37.4**	**-0.6**
E03A	**Lebam**	**3.92**	**34**		**Pn**	**19 10 37.0**	**-1.6**
M04C	**Macdoel**	**3.96**	**112**	P	**Pn**	**19 10 38.6**	**-0.7**
J05D	baz=296 **Fort Rock, OR**	**4.04**	**89**	P	**Pn**	**19 10 39.3**	**-1.0**
F04A	baz=273,SNR=29 **Amboy**	**4.04**	**49**		**Pn**	**19 10 39.9**	**-0.3**
I05D	**Terrebonne, OR**	**4.05**	**74**	P	**Pn**	**19 10 39.5**	**-0.9**
PINE	baz=257,SNR=17 **Pine Mountain**	**4.26**	**82**		**Pn**	**19 10 42.6**	**-0.9**
G05D	**Wamic, OR**	**4.35**	**62**	P	**Pn**	**19 10 44.3**	**-0.2**
E04D	baz=245,SNR=78 **Cinebar**	**4.38**	**41**	P	**Pn**	**19 10 44.1**	**-0.9**
E04D	baz=223,SNR=13			S	**Sn**	**19 11 36.6**	**+0.9**
NLWA	baz=223 **Neilton Lookou**	**4.53**	**26**		**Pn**	**19 10 45.5**	**-1.5**
F05D	**White Salmon**	**4.56**	**54**	P	**Pn**	**19 10 47.3**	**-0.1**
D04E	baz=237,SNR=58 **Lakebay**	**4.76**	**35**	P	**Pn**	**19 10 49.7**	**-0.3**
O03E	baz=217,SNR=15 **Paynes Creek**	**4.80**	**128**	P	**Pn**	**19 10 50.5**	**-0.3**
LON	baz=312 **Longmire**	**4.89**	**44**		**Pn**	**19 10 51.6**	**-0.4**
D03D	**Eldon**	**4.92**	**30**	P	**Pn**	**19 10 50.8**	**-1.6**
D03D	baz=212,SNR=12			S	**Sn**	**19 11 47.5**	**-1.6**
MOD	baz=212 **Modoc Plateau**	**4.98**	**105**		**Pn**	**19 10 52.9**	**-0.4**
D05A	**Enumclaw**	**5.11**	**40**		**Pn**	**19 10 54.9**	**-0.1**
ORV	**Oroville**	**5.48**	**132**		**Pn**	**19 11 01.8**	**+1.8**
F07A	**Phinny Hill Vi**	**5.51**	**60**		**Pn**	**19 11 00.2**	**-0.1**
PGC	**Sidney**	**5.79**	**22**		**Pn**	**19 11 03.0**	**-1.2**
LTY	**Liberty**	**5.81**	**46**		**Pn**	**19 11 04.6**	**0.0**
E07A	**Sunnyside**	**5.86**	**54**		**Pn**	**19 11 05.2**	**-0.1**
B05A	**Bryant**	**5.90**	**32**	P	**Pn**	**19 11 04.8**	**-1.0**
B05A	baz=214,SNR=12			S	**Sn**	**19 12 13.1**	**-0.1**
BEKR	baz=214 **Beckworth**	**5.93**	**124**		**Pn**	**19 11 08.1**	**+1.7**
G08A	**Pilot Rock**	**5.93**	**68**		**Pn**	**19 11 05.8**	**-0.5**
HAWA	**Hanford**	**5.97**	**57**		**Pn**	**19 11 06.5**	**-0.3**
MCCM	**Marconi Confer**	**5.97**	**149**	Pn	**Pn**	**19 11 06.2**	**-0.6**
WVOR	**Wild Horse Val**	**6.04**	**96**		**Pn**	**19 11 06.6**	**-1.2**
A04D	**Lummi Island**	**6.07**	**26**	P	**Pn**	**19 11 07.4**	**-0.7**
A04D	baz=208			S	**Sn**	**19 12 17.1**	**-0.2**
C06D	baz=208 **Leavenworth**	**6.16**	**40**	P	**Pn**	**19 11 09.1**	**-0.2**
C06D	baz=223,SNR=8.8			S	**Sn**	**19 12 20.7**	**+1.3**
AFDM	baz=223 **Forest Hills D**	**6.20**	**133**		**Pn**	**19 11 11.3**	**+1.4**
E08A	**Dider Farm, El**	**6.31**	**57**		**Pn**	**19 11 11.2**	**-0.2**
B06A	**Marblemount**	**6.35**	**34**		**Pn**	**19 11 11.4**	**-0.6**
PNTR	**Pine Nut**	**6.87**	**126**		**Pn**	**19 11 20.7**	**+1.3**
BMO	**Blue Mountains**	**6.98**	**74**		**Pn**	**19 11 20.2**	**-0.5**
YERR	**Yerington**	**7.16**	**125**		**Pn**	**19 11 24.1**	**+0.9**
CMB	**Columbia Colle**	**7.18**	**135**		**Pn**	**19 11 24.8**	**+1.3**
B08A	**Colville Reser**	**7.21**	**43**		**Pn**	**19 11 23.1**	**-0.7**
F10A	**Beach Ranch, E**	**7.29**	**66**		**Pn**	**19 11 24.2**	**-0.7**
WAKR	**Walker**	**7.36**	**129**		**Pn**	**19 11 27.4**	**+1.3**
C09A	**Chrisman Ranch**	**7.44**	**50**		**Pn**	**19 11 26.5**	**-0.4**
KVN	**Kaiserville**	**7.81**	**120**		**Pn**	**19 11 33.9**	**+1.6**
PLID	**Pearl Lake**	**7.93**	**74**		**Pn**	**19 11 33.6**	**-0.2**
MFID	**Camas Ranch**	**7.97**	**86**		**Pn**	**19 11 34.8**	**+0.5**
NVAR	**Mina Array Bea**	**8.07**	**125**	Pn	**Pn**	**19 11 37.8**	**+2.0**
NVAR	0.3nm,0.3s,baz=296,slow=14,SNR=10			LR	LR	19 14 53.1	
NVAR	comp=Z,166nm,19.2s,baz=297,slow=39 **Mina Array Bea**	**8.07**	**125**	Pn	**Pn**	**19 11 35.6**	**-0.2**
MDPB	**Devils Postpil**	**8.18**	**132**	Pn	**Pn**	**19 11 39.3**	**+2.0**
NEW	**Newport**	**8.34**	**51**	P	**Pn**	**19 11 38.7**	**-0.6**
NEW	baz=237 **Newport**	**8.34**	**51**	Pn	**Pn**	**19 11 39.3**	**0.0**
NEW	1.7nm,0.3s,baz=215,slow=12,SNR=7.3			LR	LR	19 14 56.8	
NEW	comp=Z,368nm,21.4s,baz=240,slow=39 **Newport**	**8.34**	**51**		**Pn**	**19 11 39.1**	**-0.2**
BBB	**Bella Bella**	**8.89**	**355**	Pn	**Pn**	**19 11 46.6**	**-0.1**
ELK	1.3nm,0.3s,baz=231,slow=9.4,SNR=5.7 **Elko**	**8.96**	**103**	Pn	**Pn**	**19 11 51.1**	**+3.1**
ELK	0.1nm,0.3s,baz=305,slow=13,SNR=11			LR	LR	19 15 21.8	
ELK	comp=Z,101nm,21.9s,baz=284,slow=39 **Elko**	**8.96**	**103**		**Pn**	**19 11 49.6**	**+1.6**
MSO	**Missoula**	**9.72**	**65**	P	**Pn**	**19 11 57.5**	**-0.8**
	baz=253						
MSO	**Missoula**	**9.72**	**65**		**Pn**	**19 11 58.0**	**-0.3**
JTMT	**Jette**	**9.80**	**59**		**Pn**	**19 11 60.0**	**+0.6**
ISA	**Isabella, Lake**	**9.99**	**137**		**Pn**	**19 12 05.1**	**+3.1**
MCMT	**McKenzie Canyo**	**10.12**	**77**		**Pn**	**19 12 04.5**	**+0.6**
DLMT	**Dillon**	**10.35**	**74**		**Pn**	**19 12 07.8**	**+0.9**
HVU	**Hansel Valley**	**10.44**	**94**	Pn	**Pn**	**19 12 07.7**	**-0.6**
BGU	**Big Grassy Mou**	**10.49**	**99**	Pn	**Pn**	**19 12 09.5**	**+0.6**
WALA	**Waterton Lakes**	**10.58**	**53**		**Pn**	**19 12 10.7**	**+0.7**
PSUT	**Pine Spring**	**10.88**	**112**		**Pn**	**19 12 15.3**	**+1.0**
DUG	**Dugway, Tooele**	**10.89**	**102**		**Pn**	**19 12 15.4**	**+1.1**
BOZ	**Bozeman (W)**	**11.05**	**73**	P	**Pn**	**19 12 16.3**	**-0.2**
	baz=263,SNR=6.9						
BOZ	**Bozeman (W)**	**11.05**	**73**		**Pn**	**19 12 16.8**	**+0.2**
YHB	**Horse Butte**	**11.30**	**78**		**Pn**	**19 12 19.6**	**-0.4**
YHL	**Hebgen Lake**	**11.31**	**77**		**Pn**	**19 12 21.9**	**+1.7**
FXWY	**Fox Creek**	**11.44**	**83**		**Pn**	**19 12 23.4**	**+1.4**
YMR	**Madison River**	**11.46**	**78**	Pn	**Pn**	**19 12 24.7**	**+2.5**
AHID	**Auburn Hatcher**	**11.48**	**88**	Pn	**Pn**	**19 12 23.7**	**+1.2**
IMW	**Indian Meadow**	**11.49**	**82**	Pn	**Pn**	**19 12 25.4**	**+2.7**
TPAW	**Teton Pass**	**11.51**	**84**		**Pn**	**19 12 25.6**	**+2.7**
YHH	**Holmes Hill**	**11.54**	**77**		**Pn**	**19 12 25.1**	**+1.7**
YPP	**Pitchstone Pla**	**11.57**	**80**		**Pn**	**19 12 26.2**	**+2.3**
REDW	**Red Top Meadow**	**11.59**	**84**	Pn	**Pn**	**19 12 26.0**	**+2.0**
MOOW	**Moose Ponds**	**11.64**	**83**		**Pn**	**19 12 26.8**	**+2.1**
FLWY	**Flagg Ranch**	**11.65**	**81**		**Pn**	**19 12 26.2**	**+1.4**
YNR	**Norris Junctio**	**11.66**	**78**		**Pn**	**19 12 26.6**	**+1.6**
JLU	**Jordanelle**	**11.73**	**98**	Pn	**Pn**	**19 12 27.4**	**+1.4**
CCUT	**Cedar City**	**11.73**	**115**		**Pn**	**19 12 28.5**	**+2.5**
H17A	**Grant Village**	**11.74**	**79**		**Pn**	**19 12 28.1**	**+2.0**
YUF	**Upper Falls**	**11.78**	**78**	Pn	**Pn**	**19 12 28.1**	**+1.4**
KNB	**Kanab**	**12.39**	**116**		**Pn**	**19 12 33.1**	**-1.8**
BW06	**Boulder Array**	**12.60**	**87**		**Pn**	**19 12 39.2**	**+1.3**
PD31	**Pinedale Array**	**12.60**	**87**		**Pn**	**19 12 39.2**	**+1.3**
PDAR	**Pinedale Array**	**12.60**	**87**	Pn	**Pn**	**19 12 39.2**	**+1.3**
	0.1nm,0.3s,baz=276,slow=13,SNR=16						
PDAR				LR	LR	19 17 55.2	
	comp=Z,274nm,18.4s,baz=280,slow=40						
PDAR	**Pinedale Array**	**12.60**	**87**	Pn	**Pn**	**19 12 39.0**	**+1.2**
PFO	**Pinyon Flats O**	**12.62**	**137**	LR	LR	19 17 27.2	
	comp=Z,129nm,21.0s,baz=324,slow=37						
U15A	**North Rim**	**13.08**	**117**		**Pn**	**19 12 47.2**	**+2.8**
X16A	**Lo Mia Camp, P**	**14.88**	**122**	P	**Pn**	**19 13 10.1**	**+1.2**
W18A	**Petrified Fore**	**15.53**	**116**	P	**P**	**19 13 20.1**	**-1.8**
W18A				IAmb	IAmb	19 13 22.7	
	comp=Z,5.8nm,0.8s						
214A	**Organ Pipe Nat**	**15.83**	**131**	P	**P**	**19 13 24.3**	**-0.8**
214A				IAmb	IAmb	19 13 26.6	
	comp=Z,6.5nm,1.1s						
PHWY	**Pilot Hill**	**15.89**	**90**		**S**	**19 16 34.2**	**+1.6**
ISCO	**Idaho Springs**	**16.21**	**95**		**Pn**	**19 13 25.8**	**-0.7**
ISCO				IAmb	IAmb	19 13 29.7	
	comp=Z,3.4nm,0.8s						
TUC	**Tucson**	**16.73**	**126**	P	**P**	**19 13 34.9**	**-0.2**
TUC				IAmb	IAmb	19 13 43.2	
	comp=Z,6.0nm,1.4s						
SDCO	**Great Sand Dun**	**17.09**	**102**	P	**Pn**	**19 13 37.1**	**-0.4**
	baz=296,SNR=7.4						
SDCO	**Great Sand Dun**	**17.09**	**102**		**Pn**	**19 13 37.8**	**+0.2**
SDCO				IAmb	IAmb	19 13 39.1	
	comp=Z,6.5nm,0.9s						
ANMO	**Albuquerque**	**17.82**	**111**	P	**P**	**19 13 47.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=310,slow=12,SNR=6.7						
ANMO				LR	LR	19 21 11.5	
	comp=Z,92nm,18.1s,baz=296,slow=39						
ANMO	**Albuquerque**	**17.82**	**111**	P	**P**	**19 13 47.1**	**-0.1**
ANMO				IAmb	IAmb	19 13 48.4	
	comp=Z,4.2nm,0.9s						
YKA	**Yellowknife Ar**	**20.47**	**16**	P	**P**	**19 14 16.6**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=207,slow=10,SNR=3.6						
KDAK	**Kodiak Island**	**21.67**	**321**	LR	LR	19 20 12.6	
	comp=Z,104nm,20.1s,baz=124,slow=29						
ECSD	**EROS Data Cent**	**21.81**	**79**	P	**P**	**19 14 30.2**	**-0.3**
ECSD				IAmb	IAmb	19 14 31.8	
	comp=Z,50nm,2.0s						
MENT	**Mentasta**	**21.97**	**339**	P	**P**	**19 14 34.3**	**+2.3**
MENT				IAmb	IAmb	19 14 35.0	
	comp=Z,6.7nm,0.9s						
DAWY	**Dawson**	**21.98**	**345**	P	**P**	**19 14 30.8**	**-1.3**
DAWY				IAmb	IAmb	19 14 37.8	
	comp=Z,13nm,1.4s						
AGMN	**Agassiz Nation**	**22.01**	**66**	P	**P**	**19 14 33.7**	**+1.1**
AGMN				IAmb	IAmb	19 14 38.5	
	comp=Z,24nm,1.1s						
ULM	**Lac du Bonnet**	**22.13**	**61**	P	**P**	**19 14 33.8**	**-0.1**
	comp=Z,8.9nm,0.8s,baz=269,slow=11,SNR=7.3						
ULM				LR	LR	19 23 47.7	
	comp=Z,156nm,18.1s,baz=277,slow=39						
ULM	**Lac du Bonnet**	**22.13**	**61**	P	**P**	**19 14 33.3**	**-0.5**
ULM				IAmb	IAmb	19 14 34.8	
	comp=Z,18nm,1.0s						
SUA	**Susitna One**	**23.07**	**330**	P	**P**	**19 14 42.5**	**-1.3**
SUA				IAmb	IAmb	19 14 44.2	
	comp=Z,12nm,1.0s						
DHY	**Denali Highway**	**23.10**	**336**	P	**P**	**19 14 43.1**	**-1.0**
DHY				IAmb	IAmb	19 14 48.1	
	comp=Z,16nm,1.2s						
TXAR	**Lajitas Array**	**23.18**	**119**	P	**P**	**19 14 46.5**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=289,slow=7.8,SNR=4.4						
WMOK	**Wichita Mounta**	**23.29**	**102**	P	**P**	**19 14 46.8**	**+0.6**
	baz=300,SNR=8.8						
WMOK	**Wichita Mounta**	**23.29**	**102**	P	**P**	**19 14 47.0**	**+0.8**
WMOK				IAmb	IAmb	19 14 48.8	
	comp=Z,37nm,1.6s						
IL31		**24.28**	**339**	P	**P**	**19 14 53.8**	**-1.5**
IL31				IAmb	IAmb	19 15 11.0	
	comp=Z,14nm,1.7s						
ILAR	**Eielson Array**	**24.28**	**339**	P	**P**	**19 14 54.2**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=151,slow=9.0,SNR=24						
ILAR				LR	LR	19 22 45.9	
	comp=Z,92nm,21.0s,baz=144,slow=33						
ILAR	**Eielson Array**	**24.28**	**339**	P	**P**	**19 14 54.3**	**-1.1**
INK	**Inuvik**	**25.27**	**354**	LR	LR	19 25 35.3	
	comp=Z,60nm,18.0s,baz=130,slow=38						
H11N3	**WAKE ISLAND Hy**	**59.64**	**269**	T	T	20 24 10.8	
	baz=50,slow=75,SNR=85						
H11N2	**WAKE ISLAND Hy**	**59.65**	**269**	T	T	20 24 02.5	
	baz=50,slow=75,SNR=79						
H11N1	**WAKE ISLAND Hy**	**59.66**	**269**	T	T	20 24 10.0	
	baz=50,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	**60.56**	**268**	T	T	20 25 15.0	
	baz=50,slow=75,SNR=565						
H11S2	**WAKE ISLAND Hy**	**60.57**	**268**	T	T	20 25 09.1	
	baz=50,slow=75,SNR=421						
H11S3	**WAKE ISLAND Hy**	**60.58**	**268**	T	T	20 25 16.3	
	baz=50,slow=75,SNR=283						
NRIK	**Noril'sk**	**64.81**	**347**	LR	LR	19 47 31.0	
	comp=Z,24nm,21.8s,baz=254,slow=35						
SONM	**Songino Array**	**77.83**	**327**	LR	LR	19 55 17.4	
	comp=Z,40nm,19.6s,baz=166,slow=35						
ZALV

KUR pmax pmax
comp=Z,479nm,0.1s
KUR pmax pmax
comp=N,222nm,0.2s
KUR pmax pmax
comp=E,535nm,0.2s
KUR smax smax
comp=N,237nm,0.5s
KUR smax smax
comp=E,1μm,0.5s
KUR Kuril'sk 0.32 291 *i* P **Pn 19 21 25.1 +1.4**
KUR AMB AMB 19 21 26.0
comp=E,479nm,0.3s
KUR *i* S **Sn 19 21 40.7 +1.8**
KUR A A 19 21 43.0
comp=E,382nm,0.4s
KUR A A 19 21 43.0
comp=E,1μm,0.4s
YUK Yuzh-Kuril'sk 2.05 239*d i* PN **Pn 19 21 40.5 +1.5**
YUK *i* S **Sn 19 22 07.8 +1.7**
YUK pmax pmax
comp=N,582nm,0.2s
YUK pmax pmax
comp=E,720nm,0.2s
YUK pmax pmax
comp=Z,1μm,0.2s
YUK smax smax
comp=N,1μm,0.4s
YUK smax smax
comp=E,801nm,0.1s
YUK Yuzh-Kuril'sk 2.05 239 *i* P **Pn 19 21 40.3 +1.3**
YUK AMB AMB 19 21 43.0
comp=E,650nm,0.3s
YUK *i* S **Sn 19 22 07.0 +0.9**
YUK A A 19 22 09.0
comp=E,1μm,0.4s
YUK A A 19 22 09.0
comp=E,2μm,0.4s
LAGR Lagunnoye 2.08 240⇑ *i* PN **Pn 19 21 40.6 +1.2**
LAGR *i* S **Sn 19 22 08.7 +1.8**
LAGR pmax pmax
comp=N,205nm,0.1s
LAGR pmax pmax
comp=Z,332nm,0.1s
LAGR smax smax
comp=N,2μm,0.2s
LAGR smax smax
comp=E,1μm,0.2s
LAGR Lagunnoye 2.08 240 *i* P **Pn 19 21 40.8 +1.4**
LAGR AMB AMB 19 21 42.0
comp=E,332nm,0.3s
LAGR *i* S **Sn 19 22 08.4 +1.5**
LAGR A A 19 22 11.0
comp=E,2μm,0.3s
LAGR A A 19 22 11.0
comp=E,1μm,0.3s
GRPR Tuman 2.12 239⇓ *i* PN **Pn 19 21 41.3 +1.4**
GRPR *i* S **Sn 19 22 09.8 +2.0**
GRPR pmax pmax
comp=N,298nm,0.2s
GRPR pmax pmax
comp=E,428nm,0.2s
GRPR pmax pmax
comp=N,174nm,0.1s
GRPR smax smax
comp=N,2μm,0.3s
GRPR smax smax
comp=E,1μm,0.3s
GRPR Tuman 2.12 239 *i* P **Pn 19 21 41.0 +1.1**
GRPR AMB AMB 19 21 43.0
comp=E,428nm,0.3s
GRPR *i* S **Sn 19 22 09.3 +1.5**
GRPR A A 19 22 10.0
comp=E,2μm,0.5s
GRPR A A 19 22 10.0
comp=E,1μm,0.5s
NEM2 Nemuro 2 2.54 227 P **Pn 19 21 44.8 -0.1**
NEM2 *e*S **Sn 19 22 14.8 -1.9**
NMR Nemuro--Hokkai 2.54 227*d i* PN **Pn 19 21 44.9 -0.1**
NMR *i* S **Sn 19 22 14.7 -2.1**
NMR Nemuro--Hokkai 2.54 227 *i* P **Pn 19 21 44.0 -1.0**
JRA Rausu 2.56 244 P **Pn 19 21 46.6 +1.4**
JRA *e*S **Sn 19 22 19.0 +1.8**
JNSB Nemuroshibetsu 2.71 242 P **Pn 19 21 49.0 +1.9**
JNK Nakash 2.99 240 P **Pn 19 21 51.8 +1.2**
JKHN Kushirohamanak 3.04 229 P **Pn 19 21 51.4 +0.2**
JTKR Abashiri--Toko 3.34 251 P **Pn 19 21 56.6 +1.5**
JTKR *e*S **Sn 19 22 35.9 +1.0**
JAK Akkeshi 3.35 232 P **Pn 19 21 55.0 -0.2**
JAK *e*S **Sn 19 22 33.9 -1.3**
JAR Ashorobuto 3.73 242 P **Pn 19 22 01.6 +1.5**
JSE Soyaes 4.05 270 P **Pn 19 22 06.1 +1.8**
JSE *e*S **Sn 19 22 53.2 +1.7**
JKK2 Kamakawa 2 4.16 255 P **Pn 19 22 07.8 +2.0**
JKK2 *e*S **Sn 19 22 56.4 +2.3**
JKA Kamikawa-asahi 4.19 258 **Pn 19 22 08.7 +2.5**
JKA **Sn 19 22 56.6 +1.9**
ASAJ Asahikawa 4.19 258 P **Pn 19 22 08.7 +2.5**
comp=E,3.3nm,0.3s,baz=99,slow=5.0,SNR=48
ASAJ S **Sn 19 22 56.6 +1.8**
comp=E,2.2nm,0.3s,baz=220,slow=23,SNR=6.7
ASAJ LR LR 19 23 50.3
comp=E,75nm,18.5s,baz=117,slow=40
YSS Yuzh-Sakhalins 4.27 297 *e*PN **Pn 19 22 08.6 +1.4**
YSS *e*S **Sn 19 22 59.2 +2.5**
YSS pmax pmax
comp=Z,130nm,1.1s
YSS smax smax
comp=E,10.0nm,1.2s
YSS smax smax
comp=E,500nm,3.6s
YSS Yuzh-Sakhalins 4.27 297 *e*P **Pn 19 22 08.3 +1.1**
YSS Yuzh-Sakhalins 4.27 297 **Pn 19 22 08.4 +1.2**
JCH Churui 4.36 237 P **Pn 19 22 08.5 +0.1**
JCH *e*S **Sn 19 22 56.4 -2.3**
JWK2 Keihoku 4.52 275 P **Pn 19 22 13.9 +3.3**
JFR Furan 4.54 247 P **Pn 19 22 13.2 +2.3**
ERM Erimo 4.85 232*de*PN **Pn 19 22 15.3 +0.4**
ERM Erimo 4.85 232 **Pn 19 22 15.7 +0.8**
JNBK Urakawa-nobuka 4.92 237 P **Pn 19 22 15.0 -0.8**
JNBK *e*S **Sn 19 23 08.9 -3.1**
JRBN Rebuntou 5.11 276 P **Pn 19 22 20.7 +2.4**
JEW Eniwo 5.44 248 P **Pn 19 22 24.6 +1.9**
JEW *e*S **Sn 19 23 24.8 +0.4**
JKB Kayabe 6.19 241 P **Pn 19 22 32.1 -0.6**
JKB *e*S **Sn 19 23 37.7 -4.7**
JOT Ohata 6.47 237 P **Pn 19 22 35.1 -1.4**
TYV Tymovskoe 6.88 329 *e*PN **Pn 19 22 41.9 0.0**
TYV *e*S **Sn 19 24 00.8 +1.9**
TYV pmax pmax
comp=Z,30nm,0.7s
TYV smax smax
comp=N,22nm,1.8s
TYV Tymovskoe 6.88 329 *e*P **Pn 19 22 42.6 +0.7**
TYV AMB AMB 19 22 43.0
comp=N,26nm,0.5s
TYV *e*S **Sn 19 24 00.0 +1.1**
TYV A A 19 24 03.0
comp=N,26nm,1.1s
TYV A A 19 24 03.0
comp=N,16nm,1.1s
JOSM Okushiri--Mats 7.08 248 P **Pn 19 22 44.6 -0.1**
TEY Ternei 8.28 274⇑ *i* PN **Pn 19 23 02.6 +2.0**
TEY pmax pmax
comp=E,70nm,0.9s
TEY pmax pmax
comp=N,10.0nm,0.5s
TEY pmax pmax
comp=Z,80nm,0.8s
TEY Ternei 8.28 274 *i* P **Pn 19 23 01.8 +1.2**
TEY AMB AMB 19 23 03.3
comp=Z,80nm,0.7s
GRNR Gornyy 9.76 310⇓ *i* PN **Pn 19 23 20.7 +0.3**
GRNR pmax pmax
comp=Z,20nm,0.7s
PEA0B Petropavlovsk- 10.09 34 PN **Pn 19 23 23.9 -0.8**
PEA0B Petropavlovsk- 10.09 34 Pn **Pn 19 23 23.9 -0.8**
PETK Petropavlovsk- 10.09 34 P **Pn 19 23 23.4 -1.3**
comp=Z,1.9nm,0.3s,baz=191,slow=11,SNR=41
PETK Petropavlovsk- 10.09 34 **Pn 19 23 23.3 -1.4**
MJB9 Matsu-Tunnel 11.47 225 **Pn 19 23 42.7 -0.3**
MAJO Matsushiro 11.47 225 *e*PN **Pn 19 23 44.0 +1.0**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 11.47 225 **Pn 19 23 42.5 -0.5**
MJAR Matsushiro Arr 11.47 225 PN **Pn 19 23 42.8 -0.2**
MJAR Matsushiro Arr 11.47 225 P **Pn 19 23 42.0 -1.0**
comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=9.9
MJAR Matsushiro Arr 11.47 225 **Pn 19 23 42.8 -0.2**
USA0B Ussuriysk Arra 11.65 271 PN **Pn 19 23 45.7 +0.4**
USA0B Ussuriysk Arra 11.65 271 **Pn 19 23 45.7 +0.4**
USRK Ussuriysk Ar. 11.65 271 P **Pn 19 23 45.7 +0.3**
baz=88,slow=13,SNR=40
KLR Kul'dur 11.98 296 *e*PN **Pn 19 23 49.8 +0.2**
KLR pmax pmax
comp=Z,15nm,1.8s
KLR Kul'dur 11.98 296 P **Pn 19 23 50.7 +1.1**
comp=Z,0.2nm,0.3s,baz=100,slow=15,SNR=8.4
KLR LR LR 19 29 31.1
comp=Z,45nm,18.0s,baz=125,slow=43
KLR Kul'dur 11.98 296 *e*P **Pn 19 23 49.8 +0.2**
MDJ Mudanjiang 13.28 274 P **Pn 19 24 06.5 +0.2**
MA2 Magadan 14.56 5 LR LR 19 29 20.2
comp=Z,25nm,18.3s,baz=86,slow=34
ZEA Zeya 16.13 310 *e*P **Pn 19 24 41.2 -0.7**
ZEA pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 16.36 273 *e*P **Pn 19 24 42.4 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KSRS Korea Array 17.09 251 P **Pn 19 24 53.9 +0.3**
comp=Z,0.4nm,0.3s,baz=58,slow=12,SNR=22
HIA Hailar 19.79 292 P **P 19 25 20.1 -2.3**
HIA pmax pmax
comp=Z,10.0nm,0.5s
HIA Hailar 19.79 292 P **P 19 25 20.1 -2.3**
HIA IAmb IAmb 19 25 26.2
comp=Z,10nm,0.5s
YAK Yakutsk 20.10 334 *e*P **P 19 25 22.2 -3.3**
YAK *e*S **S 19 28 56.3 -6.7**
YAK pmax pmax
comp=Z,52nm,0.8s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=N,16nm,0.9s
YAK smax smax
comp=E,222nm,3.9s
YAK smax smax
comp=N,210nm,3.0s
YAK Yakutsk 20.10 334 P **P 19 25 23.2 -2.3**
comp=N,0.6nm,0.3s,baz=170,slow=0.9,SNR=41
YAK Yakutsk 20.10 334 P **P 19 25 23.1 -2.3**
YAK IAmb IAmb 19 25 24.8
comp=Z,66nm,0.7s
ADK Adak 24.00 61 P **P 19 26 04.9 +0.4**
ADK pmax pmax
comp=Z,81nm,1.3s
ADK Adak 24.00 61 P **P 19 26 04.9 +0.4**
ADK IAmb IAmb 19 26 58.4
comp=Z,81nm,1.2s
BJT Baijiatuau 24.11 269 P **P 19 26 06.1 +0.5**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 24.11 269 P **P 19 26 06.1 +0.5**
BJT IAmb IAmb 19 26 07.4
comp=Z,16nm,0.8s
GSTR Great Sitkin T 24.39 61 P **P 19 26 08.5 +0.4**
BOD Bodaibo 24.55 313 *e*P **P 19 26 06.3 -3.2**
BOD *e* 19 26 37.8
BOD pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 24.82 16⇑ *e*P **P 19 26 13.2 +1.4**
BILL *e**PP **pP 19 26 40.6 -0.5**
BILL *e* 19 26 54.6
BILL pmax pmax
comp=Z,3.0nm,1.2s
BTO Baotou 28.23 274 *e*P **P 19 26 43.1 +0.3**
ULN Ulaanbaatar 28.29 290 *e*P **P 19 26 43.7 +0.4**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 28.29 290 P **P 19 26 42.6 -0.7**
ULN IAmb IAmb 19 26 45.0
comp=Z,8.4nm,0.8s
SONM Songino Array 28.73 291 P **P 19 26 46.2 -1.0**
comp=Z,3.4nm,0.6s,baz=84,slow=7.4,SNR=21
SONM Songino Array 28.73 291 P **P 19 26 46.2 -1.0**
SONM IAmb IAmb 19 26 48.5
comp=Z,3.5nm,0.9s
H11N2 WAKE ISLAND Hy 29.64 143 T T 19 58 14.3
baz=334,slow=76,SNR=289
H11N1 WAKE ISLAND Hy 29.66 143 T T 19 58 15.3
baz=334,slow=76,SNR=127
H11N3 WAKE ISLAND Hy 29.66 143 T T 19 58 15.6
baz=334,slow=76,SNR=212
TLY Talaya 29.98 299 *e*P **P 19 26 56.7 -1.3**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY Talaya 29.98 299 *e*P **P 19 26 56.7 -1.3**
ZAK Zakamensk 30.35 296 *e*P **P 19 26 59.3 -2.2**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
H11S1 WAKE ISLAND Hy 30.65 144 T T 19 59 38.0
baz=334,slow=76,SNR=263
H11S3 WAKE ISLAND Hy 30.67 144 T T 19 59 17.6
baz=334,slow=76,SNR=207
H11S2 WAKE ISLAND Hy 30.67 144 T T 19 59 24.6
baz=334,slow=76,SNR=193
TPUB Ta-pu 31.32 235 P **P 19 27 11.7 +1.7**
TPUB IAmb IAmb 19 27 32.2
comp=Z,177nm,1.8s
XAN Xi'an 32.01 264 P **P 19 27 16.4 +0.3**
XAN pmax pmax
comp=Z,9.0nm,0.9s
GTA Gaotai 35.89 278⇓ P **P 19 27 50.8 +1.2**
GTA pmax pmax
comp=Z,33nm,0.8s
GTA pmax pmax
comp=Z,92nm,4.9s
GTA LR LR
comp=Z,86nm,13.7s
GTA LR LR
comp=Z,100nm,14.8s
GTA LR LR
comp=Z,170nm,17.2s
IMAR Indian Mountai 37.05 35 P **P 19 27 59.1 +0.1**
OHAK Old Harbor 37.41 50 P **P 19 28 01.8 -0.3**
OHAK IAmb IAmb 19 28 53.3
comp=Z,153nm,2.0s
KDAK Kodiak Island 37.73 49 P **P 19 28 04.6 -0.1**
KDAK pmax pmax
comp=Z,99nm,1.9s
KDAK Kodiak Island 37.73 49 P **P 19 28 04.5 -0.3**
comp=Z,6.9nm,0.7s,baz=260,slow=4.2,SNR=10
KDAK Kodiak Island 37.73 49 P **P 19 28 04.6 -0.1**
KDAK IAmb IAmb 19 28 51.0
comp=Z,99nm,1.9s
CNPM China Poot 38.24 46 P **P 19 28 08.9 -0.2**
CNPM IAmb IAmb 19 28 23.1
comp=Z,79nm,1.9s
SUA Susitna One 38.33 43 P **P 19 28 10.2 +0.3**
SUA IAmb IAmb 19 28 57.4
comp=Z,22nm,1.4s
WRH Wood River Hil 39.40 38 P **P 19 28 19.1 +0.5**
WRH IAmb IAmb 19 29 00.7
comp=Z,28nm,1.9s
KNK Knik Glacier 39.43 43 P **P 19 28 19.4 +0.4**
KNK IAmb IAmb 19 29 31.4
comp=Z,33nm,1.7s
SML Sawmill 39.45 42 P **P 19 28 19.6 +0.4**
SML IAmb IAmb 19 28 21.5
comp=Z,45nm,1.8s
DHY Denali Highway 39.79 40 P **P 19 28 22.0 -0.1**
DHY IAmb IAmb 19 28 49.0
comp=Z,20nm,1.7s
HDA Harding Lake 39.89 38 P **P 19 28 22.7 0.0**
HDA IAmb IAmb 19 29 02.4
comp=Z,14nm,1.7s
ILAR Eielson Array 39.90 37 P **P 19 28 22.8 0.0**
ILAR Eielson Array 39.90 37 P **P 19 28 22.7 -0.1**
comp=Z,0.7nm,0.8s,baz=240,slow=7.5,SNR=7.9
ILAR Eielson Array 39.90 37 P **P 19 28 22.9 0.0**
SCM Sheep Creek Mo 39.92 42 P **P 19 28 23.6 +0.5**
SCM pmax pmax
comp=Z,93nm,2.0s
SCM Sheep Creek Mo 39.92 42 P **P 19 28 23.6 +0.5**
SCM IAmb IAmb 19 29 13.1
comp=Z,93nm,2.0s
DGZ Jazzator, Alta 40.45 299 *e*P **P 19 28 26.3 -1.4**
FID Port Fidalgo 40.46 43 P **P 19 28 26.9 -0.5**
FID IAmb IAmb 19 29 02.5
comp=Z,43nm,1.4s
BMAR Burnt Mountain 40.74 33 P **P 19 28 30.5 +0.8**
ZAA0 Zalesovo Array 40.84 306 P **P 19 28 28.6 -2.0**
ZAA0 IAmb IAmb 19 28 31.7
comp=Z,2.4nm,0.6s
ZALV Zalesovo Beam 40.84 306 P **P 19 28 27.5 -3.2**
ZALV 19 30 28.8
ZALV Zalesovo Beam 40.84 306 P **P 19 28 28.2 -2.5**
comp=Z,2.3nm,0.5s,baz=71,slow=6.9,SNR=11
ZALV PcP **PcP 19 30 28.8 +0.3**
comp=Z,1.0nm,0.4s,baz=58,slow=3.9,SNR=4.9
ZALV Zalesovo Beam 40.84 306 P **P 19 28 27.5 -3.2**
DOT Dot Lake 41.22 39 P **P 19 28 33.4 -0.3**
DOT IAmb IAmb 19 28 50.5
comp=Z,26nm,1.6s
DOT **PcP 19 30 33.1 +3.4**
VRDI Verde Repeater 41.85 42 P **P 19 28 39.3 +0.3**
VRDI IAmb IAmb 19 28 51.0
comp=Z,31nm,1.7s
CRQM Cirque 42.08 43 P **P 19 28 41.4 +0.6**
CRQM IAmb IAmb 19 29 56.4
comp=Z,73nm,1.9s
TGL Tana Glacier 42.23 43 P **P 19 28 42.3 +0.4**
TGL IAmb IAmb 19 29 49.3
comp=Z,32nm,1.6s
WAX Waxell Ridge 42.28 43 P **P 19 28 42.8 +0.5**
WAX IAmb IAmb 19 29 24.9
comp=Z,80nm,1.8s
BCAR Beaver Creek A 42.32 39 P **P 19 28 43.3 +0.7**
BALM Baldy 42.41 42 P **P 19 28 43.5 0.0**
BALM IAmb IAmb 19 30 21.8
comp=Z,33nm,1.9s
BARN Barnard Glacie 42.73 42 P **P 19 28 46.7 +0.5**
BARN IAmb IAmb 19 28 57.1
comp=Z,20nm,1.4s
CTGM Chitina Glacie 42.91 42 P **P 19 28 48.5 +1.0**
CTGM IAmb IAmb 19 28 49.8
comp=Z,9.1nm,1.0s
MK31 Makanchi Array 44.69 297 P **P 19 29 00.9 -0.9**
MK31 pmax pmax
comp=Z,18nm,0.7s
MK31 Makanchi Array 44.69 297 P **P 19 29 00.9 -0.9**
MK31 IAmb IAmb 19 29 02.6
comp=Z,18nm,0.7s
MKAR Makanchi Array 44.69 297 P **P 19 29 00.9 -0.9**
comp=Z,18nm,0.6s,baz=76,slow=8.0,SNR=110
MKAR PcP **PcP 19 30 42.0 +0.3**
comp=Z,1.1nm,0.6s,baz=63,slow=4.5,SNR=3.3
HYT Haines Junctio 44.76 42 P **P 19 29 04.3 +2.1**
HYT IAmb IAmb 19 29 05.2
comp=Z,7.7nm,0.9s
INK Inuvik 44.81 31 P **P 19 29 02.5 +0.2**
comp=Z,1.6nm,0.5s,baz=298,slow=5.3,SNR=10
INK Inuvik 44.81 31 P **P 19 29 02.4 +0.1**
INK IAmb IAmb 19 29 11.6
comp=Z,16nm,1.9s
MAKZ Makanchi 44.88 297 P **P 19 29 02.6 -0.7**
MAKZ pmax pmax
comp=Z,17nm,0.7s
MAKZ Makanchi 44.88 297 P **P 19 29 02.6 -0.7**
MAKZ IAmb IAmb 19 29 04.6
comp=Z,17nm,0.7s
KURK Kurchatov 45.46 303 P **P 19 29 06.9 -0.8**
KURK Kurchatov 45.46 303 *e*P **P 19 29 05.7 -2.0**
KURK Kurchatov 45.46 303 P **P 19 29 06.2 -1.5**
KURK IAmb IAmb 19 29 06.8
comp=Z,12nm,0.5s
KURBB Kurchatov Arra 45.54 303 P **P 19 29 06.9 -1.5**
comp=Z,10nm,0.5s,baz=71,slow=9.0,SNR=17
LSA Lhasa 46.97 271 P **P 19 29 21.8 +1.3**
PDGK Podgornoye 47.96 294 P **P 19 29 26.8 -0.7**
PDGK pmax pmax
comp=Z,13nm,0.8s
CMMT Chiang Mai 48.45 254 P **P 19 29 33.6 +2.3**
comp=Z,2.1nm,0.8s
CHTO Chiang Mai 48.45 254 P **P 19 29 32.3 +1.0**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 48.45 254 P **P 19 29 32.3 +1.0**
CHTO IAmb IAmb 19 29 34.8
comp=Z,2.6nm,0.6s
CMAR Chiang Mai Arr 48.70 253 P **P 19 29 34.5 +1.2**
comp=Z,0.9nm,0.3s,baz=42,slow=7.4,SNR=8.0
CMAR ScP **ScP 19 34 38.6 +1.4**
comp=Z,0.2nm,0.4s,baz=33,slow=3.5,SNR=4.0
BVAR Borovoye Array 49.28 309 P **P 19 29 35.4 -1.8**
comp=Z,1.7nm,0.3s,baz=83,slow=8.3,SNR=23
BRVK Borovoye 49.32 309*ce*P **P 19 29 36.2 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 49.32 309 *e*P **P 19 29 36.2 -1.3**
BRVK Borovoye 49.32 309 P **P 19 29 36.5 -1.1**
BRVK IAmb IAmb 19 29 36.8
comp=Z,5.1nm,0.7s
TARG Taragay, Kyrgy 49.81 293 P **P 19 29 43.5 +1.6**
TARG IAmb IAmb 19 29 44.6
comp=Z,13nm,0.6s
KDJ Kajisay 50.03 293 P **P 19 29 43.8 +0.5**
KDJ pmax pmax
comp=Z,35nm,0.7s
KDJ Kajisay 50.03 293 P **P 19 29 43.8 +0.5**
KDJ IAmb IAmb 19 29 44.7
comp=Z,35nm,0.7s
ULHL Ulahol 50.58 294 P **P 19 29 48.1 +0.6**
SNR=16
TKM2 Tokmak 2 50.66 295 P **P 19 29 48.2 +0.1**
TKM2 pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 50.66 295 P **P 19 29 48.6 +0.5**
SNR=21
TAPN Taplejung 50.80 271 *e*P **P 19 29 50.1 +0.7**
comp=Z,12nm,0.5s
NRN Naryn 51.14 293 P **P 19 29 52.1 +0.3**
NRN pmax pmax
comp=Z,8.0nm,0.8s
NRN Naryn 51.14 293 P **P 19 29 52.1 +0.3**
NRN IAmb IAmb 19 29 53.2
comp=Z,7.6nm,0.8s
CHMS Chumysh 51.17 295 P **P 19 29 52.0 +0.4**
SNR=6.8
USP Ospenovka 51.20 296 P **P 19 29 52.3 +0.4**
SNR=35
KBK Karagaybulak 51.21 295 P **P 19 29 52.6 +0.5**
SNR=32
KZA Kyzart 51.30 294 P **P 19 29 54.4 +1.3**
SNR=39
FRU1 Bishkek 51.34 295 P **P 19 29 54.0 +1.1**
FRU1 pmax pmax
comp=Z,35nm,0.6s
FRU1 Bishkek 51.34 295 P **P 19 29 54.0 +1.1**
FRU1 IAmb IAmb 19 29 54.3
comp=Z,35nm,0.6s
AAK Ala-Archa 51.51 295 *i* P **P 19 29 54.7 +0.3**
SNR=34
AAK Ala-Archa 51.51 295 *e*P **P 19 29 54.6 +0.3**
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 51.51 295 P **P 19 29 54.7 +0.3**
SNR=21
AAK Ala-Archa 51.51 295 *e*P **P 19 29 54.5 +0.1**
AAK Ala-Archa 51.51 295 P **P 19 29 54.5 +0.1**
AAK IAmb IAmb 19 29 55.5
comp=Z,20nm,0.9s
JIRN Jiri 51.69 272 *e*P **P 19 29 57.0 +0.9**
comp=Z,33nm,0.6s
UCH Uchtor 51.70 295 P **P 19 29 56.9 +0.8**
SNR=10
GUN Gumba 51.76 273 *e*P **P 19 29 57.2 +0.6**
comp=Z,30nm,0.8s
RAMN Ramite 51.83 271 *e*P **P 19 29 57.6 +0.6**
comp=Z,46nm,0.7s
EKS2 Erkin-Say 51.96 295 P **P 19 29 58.0 +0.4**
SNR=43
KSH Kashi 52.13 291 P **P 19 30 03.6 +4.7**
KSH PP **PP 19 32 05.8 +7.4**
KSH S S 19 37 20.4 +8.5
KSH SS **SS 19 40 57.9 +7.3**
KSH pmax pmax
comp=Z,35nm,0.8s
KSH pmax pmax
comp=Z,290nm,8.1s
KSH LR LR
comp=Z,250nm,10.0s
KSH LR LR
comp=Z,250nm,9.3s

KSH LR LR
comp=Z,220nm,10.5s
KKN Kakani 52.25 273 *eP* **P 19 30 00.7 +0.6**
comp=Z,26nm,0.8s
AML Almayashu 52.28 295 P **P 19 30 01.1 +0.8**
SNR=20
PKI Pulchoki 52.30 273 *eP* **P 19 30 00.8 +0.3**
comp=Z,18nm,0.9s
PKIN Phulchoki 52.30 273 *eP* **P 19 30 00.9 +0.4**
comp=Z,11nm,0.8s
DMN Daman 52.49 273 *eP* **P 19 30 02.6 +0.7**
comp=Z,28nm,0.8s
GKN Gorkha 52.58 274 *eP* **P 19 30 03.1 +0.7**
comp=Z,27nm,0.7s
SVE Sverdlovsk 52.71 316 *eP* **P 19 30 01.0 -1.8**
SVE pmax pmax
comp=Z,19nm,0.7s
DANN Dangsing 52.99 275 *eP* **P 19 30 06.6 +1.0**
comp=Z,34nm,0.6s
ARSB Arslanbob 53.15 294 P **P 19 30 07.5 +1.0**
ARSB IAmb IAmb 19 30 08.8
comp=Z,65nm,0.9s
RES Resolute Bay 53.42 17 P **P 19 30 06.5 -1.2**
comp=Z,2.5nm,0.8s,baz=349,slow=7.7,SNR=8.4
RES Resolute Bay 53.42 17 P **P 19 30 06.5 -1.2**
RES IAmb IAmb 19 30 09.4
comp=Z,30nm,1.9s
KOLN Koldanda 53.45 274 *eP* **P 19 30 09.7 +0.8**
comp=Z,10nm,0.6s
KK31 Karatay Array 53.80 298 P **P 19 30 10.9 -0.1**
KK31 pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 53.80 298 P **P 19 30 10.9 -0.1**
KK31 IAmb IAmb 19 30 11.7
comp=Z,23nm,0.7s
KKAR Karatay Array 53.80 298 P **P 19 30 10.9 -0.1**
KKAR pmax pmax
comp=Z,23nm,0.7s
KKAR Karatay Array 53.80 298 P **P 19 30 10.9 -0.1**
KKAR Karatay Array 53.80 298 P **P 19 30 11.0 0.0**
KKAR IAmb IAmb 19 30 11.7
comp=Z,23nm,0.7s
ARU Arti 53.91 317 *c iP* **P 19 30 09.7 -1.8**
ARU S **S 19 37 33.1 -2.1**
ARU SS **SKiKP 19 41 11.5 +3.2**
ARU pmax pmax
comp=Z,11nm,0.5s
ARU Arti 53.91 317 *eP* **P 19 30 09.7 -1.8**
ARU Arti 53.91 317 P **P 19 30 09.6 -2.0**
ARU IAmb IAmb 19 30 10.3
comp=Z,20nm,0.5s
YKA Yellowknife Ar 54.21 35 P **P 19 30 13.7 +0.1**
comp=Z,0.6nm,0.5s,baz=302,slow=6.6,SNR=4.7
BTK Batken 55.21 294 P **P 19 30 21.2 -0.1**
BTK pmax pmax
comp=Z,21nm,0.9s
BTK Batken 55.21 294 P **P 19 30 21.1 -0.1**
BTK IAmb IAmb 19 30 23.0
comp=Z,22nm,0.8s
GAR Garm 56.12 293 P **P 19 30 27.8 0.0**
GAR IAmb IAmb 19 30 29.6
comp=Z,35nm,1.0s
AB31 Akbulak array 56.85 309 *i* P **P 19 30 31.7 -0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 56.85 309 P **P 19 30 31.5 -1.1**
ABKAR Akbulak array 56.85 309 P **P 19 30 31.7 -0.9**
ABKAR IAmb IAmb 19 30 32.4
comp=Z,8.4nm,0.6s
PRGR Permogore 56.89 326 *eP* **P 19 30 29.4 -3.3**
PRGR pmax pmax
comp=Z,20nm,0.8s
CHGR Chuyangaron 57.06 294 P **P 19 30 34.3 -0.1**
CHGR IAmb IAmb 19 30 36.0
comp=Z,60nm,1.0s
NIL Nilore 57.19 286 P **P 19 30 35.8 +0.5**
NIL pmax pmax
comp=Z,17nm,0.9s
NIL Nilore 57.19 286 P **P 19 30 35.8 +0.5**
NIL IAmb IAmb 19 30 37.0
comp=Z,17nm,0.9s
TMCR Tamitsa 58.17 331 *eP* **P 19 30 39.8 -1.8**
TMCR pmax pmax
comp=Z,27nm,0.8s
ARCES ARCESS Array B 58.25 340 P **P 19 30 40.1 -2.1**
comp=Z,3.2nm,1.0s,baz=45,slow=6.9,SNR=6.3
KBL Kabul 59.50 290 P **P 19 30 50.8 -0.8**
KBL pmax pmax
comp=Z,13nm,0.6s
KBL Kabul 59.50 290 P **P 19 30 50.8 -0.8**
KBL IAmb IAmb 19 30 51.5
comp=Z,13nm,0.6s
KLMR Klimovskoe 59.72 328 *eP* P 19 30 47.8 -4.6
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 59.72 328 *eP* **P 19 30 47.9 -4.5**
KLMR AMP 19 30 51.3
comp=Z,14nm,0.9s
PINE Pine Mountain 61.31 56 P **P 19 31 04.5 +0.8**
PINE IAmb IAmb 19 31 06.2
comp=Z,5.8nm,0.8s
SUMG Summit 62.51 2 P **P 19 31 10.7 -0.8**
SUMG pmax pmax
comp=Z,28nm,1.6s
SUMG Summit 62.51 2 P **P 19 31 10.7 -0.8**
SUMG IAmb IAmb 19 31 51.2
comp=Z,28nm,1.6s
KNRA Kununurra 63.05 201 P **P 19 31 16.4 +1.2**
KNRA IAmb IAmb 19 31 29.5
comp=Z,26nm,1.4s
PLID Pearl Lake 63.35 52 P **P 19 31 17.9 +0.7**
PLID IAmb IAmb 19 31 18.9
comp=Z,8.1nm,1.1s
XMAS Kiritimati 64.00 116 P **P 19 31 22.4 +0.8**
XMAS IAmb IAmb 19 33 43.2
comp=Z,294nm,1.7s
FIA1 FINESS Array S 64.03 333 P **P 19 31 19.4 -1.7**
FIA1 IAmb IAmb 19 33 22.2
comp=Z,49nm,1.4s
FINES FINESS Array B 64.03 333 P **P 19 31 19.3 -1.8**
comp=Z,11nm,0.5s,baz=40,slow=7.5,SNR=94
HRA Herat 64.07 293 P **P 19 31 22.2 0.0**
HRA IAmb IAmb 19 31 23.0
comp=Z,6.6nm,0.6s
FFC Flin Flon 64.11 37 P **P 19 31 22.5 +0.7**
FFC pmax pmax
comp=Z,29nm,1.7s
FFC Flin Flon 64.11 37 P **P 19 31 22.5 +0.7**
FFC IAmb IAmb 19 32 46.6
comp=Z,29nm,1.7s
GEYT Alibeck 64.50 299 P **P 19 31 24.8 +0.1**
comp=Z,8.8nm,0.6s,baz=31,slow=3.5,SNR=23
GEYT Alibeck 64.50 299 P **P 19 31 24.7 +0.1**
GEYT IAmb IAmb 19 31 26.5
comp=Z,6.7nm,0.8s
OBN Obninsk 64.70 324 ⇓ *eP* **P 19 31 23.6 -1.9**
OBN *e**PP **pwP 19 32 01.4 -1.4**
OBN *e* 19 33 54.5
OBN pmax pmax
comp=Z,105nm,4.2s
OBN Obninsk 64.70 324 *eP* **P 19 31 23.6 -1.9**
VRH Novokhopyorsk 65.05 318 *eP* **P 19 31 25.6 -2.3**
VRH pmax pmax
comp=Z,20nm,0.8s
DLMT Dillon 65.05 50 P **P 19 31 29.9 +1.6**
DLMT IAmb IAmb 19 32 06.5
comp=Z,19nm,1.9s
LPSR Galich'ya Gora 65.39 321 *eP* **P 19 31 28.2 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BOZ Bozeman (W) 65.43 49 P **P 19 31 31.5 +0.8**
BOZ pmax pmax
comp=Z,6.0nm,0.5s
BOZ Bozeman (W) 65.43 49 P **P 19 31 31.6 +0.8**
BOZ IAmb IAmb 19 31 32.1
comp=Z,6.1nm,0.5s
KVN Kaiserville 65.89 58 P **P 19 31 34.8 +1.0**
KVN pmax pmax
comp=Z,4.0nm,1.0s
KVN Kaiserville 65.89 58 P **P 19 31 34.8 +1.0**
KVN IAmb IAmb 19 31 35.8
comp=Z,4.1nm,1.0s
WRAB Tennant Creek 65.97 194 *eP* **P 19 31 34.8 +0.7**
WRAB pmax pmax
comp=Z,18nm,3.4s

WB2 Warramunga Arr 65.98 194 P **P 19 31 34.7 +0.5**
WB2 IAmb IAmb 19 32 43.3
comp=Z,12nm,1.5s
WRA Warramunga Arr 65.98 194 P **P 19 31 34.7 +0.5**
comp=Z,2.6nm,0.8s,baz=12,slow=6.7,SNR=15
WRA Warramunga Arr 65.98 194 P **P 19 31 34.4 +0.2**
WRA IAmb IAmb 19 31 35.4
comp=Z,0.2nm,0.8s
YHL Hebgen Lake 66.15 50 P **P 19 31 36.6 +1.1**
YHL IAmb IAmb 19 31 37.5
comp=Z,4.5nm,1.0s
NVAR Mina Array Bea 66.17 59 P **P 19 31 36.8 +1.2**
comp=Z,1.8nm,0.7s,baz=290,slow=6.9,SNR=12
NVAR Mina Array Bea 66.17 59 P **P 19 31 36.4 +0.8**
FITZ Fitzroy Crossi 66.21 204 P **P 19 31 37.1 +1.4**
FITZ IAmb IAmb 19 32 04.9
comp=Z,26nm,1.8s
VSR Storozhevoye 66.23 320 *eP* **P 19 31 33.2 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 66.34 319 *eP* **P 19 31 35.0 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.6s
YHH Holmes Hill 66.37 50 P **P 19 31 38.0 +1.1**
YHH IAmb IAmb 19 31 39.7
comp=Z,3.2nm,1.1s
FXWY Fox Creek 67.02 51 P **P 19 31 42.5 +1.5**
FXWY IAmb IAmb 19 32 49.0
comp=Z,8.0nm,1.8s
MOOW Moose Ponds 67.11 51 P **P 19 31 43.0 +1.5**
MOOW IAmb IAmb 19 31 48.6
comp=Z,3.3nm,1.1s
R11A Troy Canyon, C 67.85 58 P **P 19 31 47.0 +0.8**
R11A IAmb IAmb 19 31 47.8
comp=Z,2.8nm,1.2s
GROC Groznyy 68.31 310 *eP* **P 19 31 47.1 -1.6**
GROC *e* 19 32 10.6
GROC pmax pmax
comp=Z,16nm,0.7s
AKT Akhty 68.38 307 *eP* **P 19 31 49.5 +0.1**
AKT *e* 19 32 13.4
AKT *e**PP **pP 19 32 24.5 +0.7**
AKT pmax pmax
comp=Z,24nm,0.7s
PD31 Pinedale Array 68.41 51 P **P 19 31 50.0 +0.3**
PD31 IAmb IAmb 19 31 51.0
comp=Z,9.7nm,1.4s
PDAR Pinedale Array 68.41 51 P **P 19 31 50.2 +0.5**
comp=Z,1.9nm,0.6s,baz=299,slow=1.8,SNR=15
NC303 NORSAR Array S 68.42 339 P **P 19 31 47.8 -1.4**
NC303 IAmb IAmb 19 31 48.6
comp=Z,108nm,1.6s
NC405 NORSAR Array S 68.43 339 P **P 19 31 47.6 -1.6**
NC405 IAmb IAmb 19 33 25.4
comp=Z,215nm,1.8s
NC204 NORSAR Array S 68.53 339 P **P 19 31 48.6 -1.3**
NC204 IAmb IAmb 19 33 55.4
comp=Z,233nm,2.0s
NB201 NORSAR Array S 68.59 339 P **P 19 31 48.7 -1.5**
NB201 IAmb IAmb 19 32 58.9
comp=Z,237nm,1.8s
NB2 NORSAR Subarra 68.62 339 P **P 19 31 48.6 -1.8**
comp=Z,1.5nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 68.62 339 P **P 19 31 48.9 -1.6**
comp=Z,2.0nm,0.5s,baz=32,slow=6.7,SNR=29
NBO00 NORSAR Array S 68.74 339 P **P 19 31 49.9 -1.3**
NBO00 IAmb IAmb 19 32 45.6
comp=Z,223nm,1.9s
NC602 NORSAR Array S 68.80 339 P **P 19 31 49.7 -1.8**
NC602 IAmb IAmb 19 33 02.9
comp=Z,193nm,1.8s
KIV Kislovodsk 69.46 312 *i* P **P 19 31 56.7 +0.7**
SNR=35
KIV Kislovodsk 69.46 312 *eP* **P 19 31 56.4 +0.4**
KIV pmax pmax
comp=Z,197nm,0.9s
KIV Kislovodsk 69.46 312 ⇓P **P 19 31 56.9 +0.9**
KIV mb 19 31 58.3
KIV Kislovodsk 69.46 312 *eP* **P 19 31 56.4 +0.4**
KBZ Khabaz 69.50 312 P **P 19 31 56.8 +0.7**
comp=Z,28nm,0.8s,baz=39,slow=6.5,SNR=88
ZEI Tsey 69.61 310 *eP* **P 19 31 56.2 -0.9**
ZEI pmax pmax
comp=Z,17nm,0.9s
SHA1 Shidzhatmaz 69.62 312 *ceP* **P 19 31 57.7 +0.5**
AS31 Alice Springs 69.70 194 P **P 19 31 59.3 +1.9**
AS31 IAmb IAmb 19 31 59.5
comp=Z,0.8nm,0.6s
ASAR Alice Springs 69.70 194 P **P 19 31 58.8 +1.3**
comp=Z,2.8nm,0.7s,baz=8.5,slow=5.1,SNR=37
RDMU Red Mountain 69.87 52 P **P 19 31 60.0 +1.3**
RDMU IAmb IAmb 19 32 00.6
comp=Z,7.2nm,0.7s
TBLG Delisi 69.88 309 P **P 19 31 59.5 +1.0**
TBLG pmax pmax
comp=Z,23nm,0.7s
TBLG Delisi 69.88 309 P **P 19 31 59.5 +1.0**
TBLG IAmb IAmb 19 32 00.3
comp=Z,23nm,0.7s
SRU San Rafael Swe 70.32 54 P **P 19 32 02.0 +0.6**
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 70.32 54 P **P 19 32 02.0 +0.6**
SRU IAmb IAmb 19 32 03.4
comp=Z,4.6nm,0.8s
AKH Akhalkalaki 70.78 310 ⇓P **P 19 32 05.5 +1.3**
GNI Garni 70.95 308 P **P 19 32 06.7 +1.4**
GNI Garni 70.95 308 ⇓ *eP* **P 19 32 04.7 -0.5**
GNI pmax pmax
comp=Z,38nm,1.2s
GNI Garni 70.95 308 P **P 19 32 05.5 +0.3**
GNI IAmb IAmb 19 32 35.4
comp=Z,8.3nm,0.8s
AKASG Malin Array Be 70.96 324 P **P 19 32 04.0 -0.8**
AKASG Malin Array Be 70.96 324 P **P 19 32 03.7 -1.1**
comp=Z,1.3nm,0.3s,baz=38,slow=6.1,SNR=14
AKASG Malin Array Be 70.96 324 P **P 19 32 04.0 -0.8**
AKASG IAmb IAmb 19 32 04.8
comp=Z,1.3nm,0.8s
AKBB Malin Array Si 70.96 324 P **P 19 32 03.8 -1.0**
AKBB pmax pmax
comp=Z,10.0nm,1.2s
AKBB Malin Array Si 70.96 324 P **P 19 32 03.8 -1.0**
AKBB IAmb IAmb 19 32 10.4
comp=Z,10nm,1.2s
ANN Anapa 71.55 315 *eP* **P 19 32 05.7 -2.8**
ANN *e**PP **pP 19 32 42.6 -0.7**
ANN *e*S **S 19 41 12.4 -3.0**
ANN *e*SS **SS 19 45 54.9 +2.4**
ANN pmax pmax
comp=Z,42nm,1.0s
BATM Batumi 71.61 311 ⇓P **P 19 32 09.2 +0.2**
BCA Borcka 71.76 311 ⇓P **P 19 32 10.6 +0.8**
BCA mb 19 32 11.3
PV17 East Wray Mesa 71.78 54 P **P 19 32 11.0 +0.8**
PV17 IAmb IAmb 19 32 11.9
comp=Z,7.1nm,0.6s
SIM Simferopol' 73.06 317 *eP* **P 19 32 18.2 +0.7**
SIM pmax pmax
comp=Z,20nm,0.8s
SORM Soroca 73.29 323 ⇓P **P 19 32 18.5 -0.2**
SORM Soroca 73.29 323 ⇓P **P 19 32 18.5 -0.2**
BANOM Banah 73.45 290 *i* P **P 19 32 20.1 0.0**
SNR=5.5
LVV L'vov 73.75 326 *eP* **P 19 32 21.5 +0.1**
MDH Madha 73.87 290 P **P 19 32 22.2 -0.3**
UOSS Minazif 74.17 289 P **P 19 32 23.8 -0.5**
HATD Hatta, Dubai 74.30 289 P **P 19 32 25.7 +0.7**
KWP Kalwaria Pacla 74.42 327 P **P 19 32 25.9 +0.6**
KWP pmax pmax
comp=Z,264nm,0.6s
KWP Kalwaria Pacla 74.42 327 P **P 19 32 25.9 +0.6**
KWP IAmb IAmb 19 34 49.0
comp=Z,264nm,0.6s
ASHO Ashiyiah 74.45 289 P **P 19 32 25.5 -0.4**
DIKM Dikmen 74.94 314 ⇓P **P 19 32 30.0 +1.6**
DIKM mb 19 32 30.4
ASUD Al Ashush, Dub 74.97 290 P **P 19 32 29.2 +0.3**
BUR08 Bucovina Ar. S 75.00 324 P **P 19 32 28.8 0.0**
BUR08 IAmb IAmb 19 32 29.6
comp=Z,8.5nm,0.8s
BURAR Bucovina Array 75.02 324 ⇓P **P 19 32 28.6 -0.3**
BURAR Bucovina Array 75.02 324 ⇓P **P 19 32 28.6 -0.3**
BURAR mb 19 32 29.4

BURAR Bucovina Array 75.02 324 P **P 19 32 28.5 -0.3**
OJC Ojcow 75.04 329 P **P 19 32 29.1 +0.2**
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 75.04 329 *eP* **P 19 32 29.4 +0.5**
OJC *eP* **P 19 32 29.4 +0.5**
OJC Ojcow 75.04 329 P **P 19 32 29.1 +0.2**
OJC IAmb IAmb 19 32 29.8
comp=Z,10nm,0.8s
KOLS Kolonicke sedl 75.15 327 *eP* **P 19 32 29.7 +0.2**
KOLS Kolonicke sedl 75.15 327 *eP* **P 19 32 29.7 +0.2**
BIZ Bicaz 75.17 323 ⇑P **P 19 32 29.9 +0.2**
TESR Tescani 75.28 323 ⇓P **P 19 32 30.0 -0.3**
TLCR 75.35 320 ⇑P **P 19 32 30.5 -0.2**
TLCR 75.35 320 ⇑P **P 19 32 30.5 -0.2**
TLCR mb 19 32 31.3
NIE Niedzica 75.51 328 *eP* **P 19 32 32.5 +0.9**
NIE *eP* **P 19 32 32.5 +0.9**
PETR Petresti 75.64 322 ⇓P **P 19 32 32.4 +0.1**
CFR Carcaliu 75.66 321 ⇑P **P 19 32 32.0 -0.5**
CFR Carcaliu 75.66 321 ⇑P **P 19 32 32.0 -0.5**
BMR Baia Mare 75.67 325 ⇑P P 19 32 37.7 +5.2
BMR Baia Mare 75.67 325 ⇑P P 19 32 37.7 +5.2
ODBI Odobesti 75.69 322 ⇓P **P 19 32 34.0 +1.4**
ODBI mb 19 32 34.6
TRPA Tarpa 75.69 326 ⇓P **P 19 32 33.2 +0.7**
TRPA mb 19 32 33.5
VRI Vrincioaia 75.75 322 ⇓P **P 19 32 33.2 +0.2**
VRI Vrincioaia 75.75 322 ⇓P **P 19 32 33.2 +0.2**
TOPG Topolog 75.79 321 ⇑P **P 19 32 33.5 +0.3**
ARCR ARCALIA 75.79 324 ⇓P **P 19 32 34.3 +1.1**
PLOR Plostina 75.79 322 ⇑P **P 19 32 32.8 -0.5**
PLOR Plostina 75.79 322 ⇑P **P 19 32 32.8 -0.5**
OZUR 75.97 323 ⇑P **P 19 32 35.2 +0.9**
BISRR Bisoca 76.00 322 ⇑P **P 19 32 35.0 +0.5**
GRER 76.02 322 ⇑P P 19 32 40.5 +6.0
LANS Liptovska Anna 76.05 328 *eP* **P 19 32 35.8 +1.1**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 76.05 328 *eP* **P 19 32 35.8 +1.1**
TIRR Tirgusor 76.10 320 ⇑P **P 19 32 34.9 0.0**
TIRR Tirgusor 76.10 320 ⇑P **P 19 32 34.9 0.0**
HARR Harsova 76.13 321 ⇑P **P 19 32 35.3 +0.1**
HARR Harsova 76.13 321 ⇑P **P 19 32 35.3 +0.1**
HARR mb 19 32 36.0
ILGA Ilgaz 76.16 315 P **P 19 32 36.6 +0.9**
ILGA IAmb IAmb 19 32 38.9
comp=Z,38nm,1.4s
TLB Topalu 76.17 321 ⇑P **P 19 32 35.3 0.0**
TLB Topalu 76.17 321 ⇑P **P 19 32 35.3 0.0**
DPC Dobruska-Polom 76.18 331 *eP* **P 19 32 36.1 +0.7**
DPC Dobruska-Polom 76.18 331 *eP* **P 19 32 36.1 +0.7**
MORC Moravsky Berou 76.23 330 ⇑P **P 19 32 35.6 -0.1**
MORC Moravsky Berou 76.23 330 ⇑P **P 19 32 35.6 -0.1**
MORC mb 19 32 36.9
MORC Moravsky Berou 76.23 330 *eP* **P 19 32 35.9 +0.2**
MORC Moravsky Berou 76.23 330 P **P 19 32 35.5 -0.1**
MORC IAmb IAmb 19 32 36.9
comp=Z,9.2nm,0.9s
DOPR Dopca 76.25 323 ⇓P **P 19 32 36.4 +0.6**
KRLC Kraliky 76.25 330 *eP* **P 19 32 36.3 +0.5**
KRLC Kraliky 76.25 330 *eP* **P 19 32 36.3 +0.5**
MFTR Murfatlar 76.31 320 ⇑P **P 19 32 35.9 -0.3**
MFTR mb 19 32 38.5
MLR Muntele Rosu 76.38 322 ⇓P **P 19 32 37.0 +0.2**
MLR Muntele Rosu 76.38 322 ⇓P **P 19 32 37.0 +0.2**
MLR Muntele Rosu 76.38 322 P **P 19 32 36.4 -0.3**
MLR IAmb IAmb 19 32 38.5
comp=Z,13nm,0.6s
ISR Istrita 76.42 322 ⇑P **P 19 32 37.6 +0.8**
ISR Istrita 76.42 322 ⇑P **P 19 32 37.6 +0.8**
CLL Collm 76.47 333 P **P 19 32 36.7 -0.3**
CLL pmax pmax
comp=Z,13nm,0.6s
CLL Collm 76.47 333 ⇓ *iP* **P 19 32 36.9 -0.1**
comp=Z,13nm,0.6s
CLL Collm 76.47 333 P **P 19 32 36.6 -0.3**
CLL IAmb IAmb 19 32 37.3
comp=Z,12nm,0.6s
ICOR Ion Corvin 76.64 320 ⇑P **P 19 32 38.9 +0.9**
SECR 76.69 322 ⇑P **P 19 32 39.4 +1.1**
DRGR 76.70 325 ⇑P P 19 32 47.2 +8.8
DRGR 76.70 325 ⇑P P 19 32 47.2 +8.8
VOIR 76.81 323 ⇓P **P 19 32 39.7 +0.6**
VOIR 76.81 323 ⇓P **P 19 32 39.7 +0.6**
VYHS Vyhne 76.82 328 *eP* **P 19 32 39.4 +0.4**
VYHS Vyhne 76.82 328 *eP* **P 19 32 39.4 +0.4**
RASA Rasa 76.86 321 ⇑P **P 19 32 39.9 +0.7**
PSZ Piszkesteto 76.90 327 ⇑P **P 19 32 39.6 +0.1**
PSZ Piszkesteto 76.90 327 ⇑P **P 19 32 39.6 +0.1**
PSZ mb 19 32 40.5
PSZ Piszkesteto 76.90 327 P **P 19 32 40.0 +0.5**
PSZ IAmb IAmb 19 32 40.9
comp=Z,7.5nm,0.9s
JAVC Velka Javorina 76.95 329 *eP* **P 19 32 41.0 +1.2**
VRAC Vranov 76.96 330 ⇓P **P 19 32 39.0 -0.8**
VRAC Vranov 76.96 330 ⇓P **P 19 32 39.0 -0.8**
VRAC mb 19 32 41.2
VRAC Vranov 76.96 330 *eP* **P 19 32 40.4 +0.6**
ARR Arges 77.04 323 ⇑P **P 19 32 41.5 +1.1**
GOPC GO Pecny, Ondr 77.08 331 *eP* **P 19 32 40.7 +0.3**
GOPC GO Pecny, Ondr 77.08 331 *eP* **P 19 32 40.7 +0.3**
PRU Pruhonice 77.10 331 *eP* **P 19 32 40.8 +0.3**
PRU Pruhonice 77.10 331 *eP* **P 19 32 40.8 +0.3**
BR131 Keskin Array S 77.19 314 P **P 19 32 41.8 +0.4**
BR131 pmax pmax
comp=Z,6.0nm,1.2s
BR131 Keskin Array S 77.19 314 P **P 19 32 41.8 +0.4**
BR131 IAmb IAmb 19 32 43.4
comp=Z,5.8nm,1.2s
BRTR Keskin Array B 77.19 314 *i* P **P 19 32 41.5 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 77.19 314 P **P 19 32 41.5 +0.1**
comp=Z,1.7nm,0.8s,baz=104,slow=2.3,SNR=15
BRTR Keskin Array B 77.19 314 P **P 19 32 40.8 -0.6**
KRUC Moravsky 77.24 330 *eP* **P 19 32 41.6 +0.3**
SMOL Smolenice 77.33 329 *eP* **P 19 32 42.8 +1.0**
SMOL pmax pmax
comp=Z,7.0nm,0.6s
SMOL Smolenice 77.33 329 *eP* **P 19 32 42.8 +1.0**
MODS Modra-Piesok 77.50 329 *eP* **P 19 32 42.5 -0.3**
MODS Modra-Piesok 77.50 329 *eP* **P 19 32 42.5 -0.3**
PBCC Pribram 77.54 332 *eP* **P 19 32 43.2 +0.2**
SIRR Siria 77.55 325 ⇑P **P 19 32 43.4 +0.2**
RAZG Razgrad 77.65 321 ⇓P **P 19 32 43.8 +0.1**
COPA Copaceanca 77.77 322 ⇑P **P 19 32 44.0 -0.3**
GZR Gura Zlata 77.80 324 ⇑P **P 19 32 44.4 -0.2**
GZR Gura Zlata 77.80 324 ⇑P **P 19 32 44.4 -0.2**
BZS Buzias 78.10 325 ⇓P **P 19 32 45.7 -0.4**
BZS Buzias 78.10 325 ⇓P **P 19 32 45.7 -0.4**
KHC Kasperske Hory 78.16 332 *eP* **P 19 32 46.9 +0.5**
KHC Kasperske Hory 78.16 332 *eP* **P 19 32 46.9 +0.5**
KHC Kasperske Hory 78.16 332 P **P 19 32 46.3 -0.1**
KHC IAmb IAmb 19 32 47.6
comp=Z,6.6nm,0.6s
GEC2 GERESS Array S 78.36 331 P **P 19 32 47.2 -0.4**
GEC2 IAmb IAmb 19 32 48.2
comp=Z,5.4nm,0.6s
GERES GERESS Array B 78.36 331 P **P 19 32 47.6 -0.1**
comp=Z,4.4nm,0.5s,baz=38,slow=5.8,SNR=40
GERES GERESS Array B 78.36 331 P **P 19 32 47.4 -0.2**
HERR Herculane 78.37 324 ⇑P **P 19 32 47.3 -0.3**
CONA Conrad Observa 78.39 330 *i* P **P 19 32 48.4 +0.6**
comp=Z,9.0nm,0.6s
GRA1 Grafenberg Arr 78.44 333 P **P 19 32 47.8 -0.2**
GRA1 IAmb IAmb 19 32 49.2
comp=Z,14nm,0.7s
GRF Grafenberg Arr 78.44 333 P **P 19 32 47.8 -0.2**
GRF pmax pmax
comp=Z,14nm,0.7s
PLVB Pleven 78.63 322 ⇓P **P 19 32 49.1 0.0**
MDVR Moldovita 78.74 324 ⇑P **P 19 32 49.4 -0.3**
MOA Molln 79.02 330 *i* P **P 19 32 51.0 -0.1**
comp=Z,5.2nm,0.8s,SNR=5.9
ARSA Arzberg 79.08 329 *i* P **P 19 32 51.7 +0.2**
comp=Z,2.4nm,0.6s
SOKA Soboth 79.75 329 *i* P **P 19 32 55.4 +0.2**
comp=Z,15nm,1.1s
VTS Vitosha 79.85 322 ⇑P **P 19 32 55.9 0.0**
VTS 19 32 57.8
VTS Vitosha 79.85 322 ⇑P **P 19 32 55.9 0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS				mb		19 32 57.8	
VTS	**Vitosha**	**79.85**	**322**	P	**P**	**19 32 56.1**	**+0.1**
VTS				IAmb	IAmb	19 32 57.3	
	comp=Z,10nm,0.8s						
KBA	**Koelnbreinsper**	**80.00**	**331**	*i* P	**P**	**19 32 57.3**	**+0.6**
	comp=Z,15nm,0.7s,SNR=8.7						
OBKA	**Obir**	**80.06**	**330**	*i* P	**P**	**19 32 56.4**	**-0.5**
	comp=Z,7.0nm,0.8s						
MYKA	**Terra Mystica**	**80.28**	**330**	*i* P	**P**	**19 32 56.8**	**-1.3**
	comp=Z,9.5nm,1.0s						
WATA	**Walderalm**	**80.38**	**332**	*i* P	**P**	**19 32 58.9**	**+0.2**
	comp=Z,13nm,0.5s,SNR=6.4						
WTTA	**Wattenberg**	**80.42**	**332**	*i* P	**P**	**19 32 59.3**	**+0.3**
	comp=Z,17nm,0.5s,SNR=9.2						
RETA	**Reutte**	**80.52**	**332**	*i* P	**P**	**19 32 59.5**	**+0.2**
	comp=Z,13nm,1.1s						
MOTA	**Moosalm**	**80.53**	**332**	*i* P	**P**	**19 32 59.5**	**0.0**
	comp=Z,15nm,0.7s,SNR=12						
ABTA	**Abfaltersbach**	**80.58**	**331**	*i* P	**P**	**19 32 59.7**	**+0.1**
SQTA	**Sankt Quirin**	**80.61**	**332**	*i* P	**P**	**19 33 00.2**	**+0.3**
	comp=Z,12nm,0.7s,SNR=7.6						
FETA	**Feichten**	**80.94**	**332**	*i* P	**P**	**19 33 01.9**	**+0.3**
	comp=Z,11nm,1.1s						
DAVA	**Damuels**	**80.98**	**333**	*i* P	**P**	**19 33 02.0**	**+0.1**
	comp=Z,11nm,0.8s,SNR=6.0						
TX32	**Lajitas Array**	**81.21**	**57**	P	**P**	**19 33 04.3**	**+1.0**
TX32				IAmb	IAmb	19 33 04.5	
	comp=Z,3.4nm,0.8s						
TXAR	**Lajitas Array**	**81.22**	**57**	P	**P**	**19 33 04.2**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=295,slow=4.2,SNR=21						
PDG	**Podgorica**	**81.69**	**324**	⇑P	**P**	**19 33 04.3**	**-1.1**
PDG				mb		19 33 07.4	
TUE	**Stuetta**	**81.87**	**333**	P	**P**	**19 33 06.1**	**-0.5**
TUE				IAmb	IAmb	19 33 10.5	
	comp=Z,7.6nm,0.7s						
PLCA	**Paso Flores**	**151.41**	**95**	PKPbc	**PKPbc**	**19 40 40.7**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=293,slow=3.0,SNR=7.4						

IDC 13 19:39:34.7±1.5, 28°.10N×101°.93E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.1/49, mbtmp3.2/4, ML3.3/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=41.3km s-min=24.6km az=76.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.98**	**197**	Pn	Pn	19 41 59.6	+0.1
	0.1nm,0.3s,baz=1.9,slow=14,SNR=4.6						
CMAR				Pg		19 42 37.3	
	0.1nm,0.3s,baz=5.8,slow=18,SNR=11						
CMAR				Lg	Lg	19 44 48.3	
	0.1nm,0.3s,baz=18,slow=29,SNR=6.7						
CMAR				LR	LR	19 45 54.5	
	comp=Z,43nm,19.6s,baz=190,slow=38						
MKAR	**Makanchi Array**	**24.20**	**326**	P	P	19 44 52.3	-0.7
	0.3nm,0.5s,baz=119,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**57.13**	**143**	P	P	19 49 23.2	-0.1
	0.5nm,0.7s,baz=330,slow=8.0,SNR=3.1						
ASAR	**Alice Springs**	**59.99**	**146**	P	P	19 49 43.8	+0.5
	0.2nm,0.6s,baz=337,slow=8.5,SNR=2.7						

MAN 13 19:52:46.0, 9°.91N×124°.21E, h4km, MS2.5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.47**	**330**	⇓*i*P	Pg	19 52 54.7	-0.3
LLP				*i* S	Sg	19 53 01.3	+0.2
MSLP	**Maasin**	**0.68**	**71**	*e*P	Pb	19 52 60.0	-0.5
MSLP				*e*S	Sb	19 53 10.9	+0.7
SNPH	**Sibulan**	**1.11**	**239**	⇑*i*P	Pb	19 53 08.1	+0.2
SNPH				*i* S	Sn	19 53 24.6	+0.4
OCLP	**Ormoc**	**1.20**	**19**	*e*P	Pg	19 53 08.8	-0.2
OCLP				*e*S	Sn	19 53 26.3	0.0
CGP	**Cagayan de Oro**	**1.53**	**162**	⇑*e*P	Pn	19 53 13.4	-0.7
CGP				*e*S	Sn	19 53 34.0	-0.4
GUIM	**Jordan**	**1.74**	**294**	*e*P	Pn	19 53 16.6	-0.4
GUIM				*e*S	Sn	19 53 40.1	+0.3
RCP	**Roxas**	**2.18**	**319**	⇓*e*P	Pn	19 53 23.4	+0.4
PAGZ	**Pagadian**	**2.21**	**202**	*e*P	Pn	19 53 22.3	-1.1
PAGZ				*e*S	Sb	19 53 53.9	-0.4

IDC 13 19:59:04.9±2.6, 23°.38N×123°.71E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/32, mbtmp3.4/3, Error ellipse: s-maj=185.1km s-min=28.0km az=66.0
JMA 13 19:59:06.7±0.2, 23°.13N×123°.44E, h54km, M3.0

ISC 13 19:59:07.2±2.2, 23°.27N±0°.08×123°.46E±0°.06, h13km±12km, n14, σ0§40/23, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.85**	**22**	P	**Pn**	**19 59 24.5**	**-0.3**
HATJ				*e*S	**Sn**	**19 59 37.5**	**+0.4**
JKRS	**Kuro-shima**	**1.09**	**27**	P	**Pg**	**19 59 28.4**	**+0.2**
JKRS				S	**Sn**	**19 59 43.6**	**+0.6**
IRIF	**Iriomote-Funau**	**1.09**	**13**	P	**Pn**	**19 59 28.2**	**+0.1**
IRIF				S	**Sn**	**19 59 43.8**	**+0.7**
JIJ	**Ishigaki jima**	**1.26**	**30**	P	**Pn**	**19 59 30.1**	**-0.3**
JIJ				*e*S	**Sb**	**19 59 46.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.26**	**341**	P	**Pn**	**19 59 30.4**	**-0.1**
YOJ				*e*S	**Sn**	**19 59 47.5**	**+0.2**
JYNG	**Yonagunijimaku**	**1.27**	**338**	P	**Pn**	**19 59 30.0**	**-0.6**
JYNG				S	**Sg**	**19 59 48.1**	**-0.1**
JISG	**Ishigakijimahi**	**1.52**	**30**	P	**Pn**	**19 59 33.8**	**-0.3**
JISG				S	**Sn**	**19 59 53.4**	**-0.4**
JTJ	**Tarama**	**1.78**	**39**	P	**Pn**	**19 59 37.6**	**0.0**
JTJ				*e*S	**Sn**	**20 00 00.5**	**+0.5**
JIRB	**Irabujima**	**2.20**	**45**	P	**Pn**	**19 59 43.1**	**-0.4**
JIRB				*e*S	**Sn**	**20 00 10.3**	**-0.3**
JMJ2	**Miyako jima3**	**2.25**	**49**	*e*S	**Sn**	**20 00 11.8**	**+0.1**
JIKM	**Ikemajima**	**2.32**	**44**	*e*S	**Sn**	**20 00 13.8**	**+0.4**
SONM	**Songino Array**	**28.05**	**335**	P	**P**	**20 04 57.9**	**-0.4**
	0.6nm,0.7s,baz=157,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**40.45**	**316**	P	**P**	**20 06 45.7**	**+0.3**
	0.5nm,0.7s,baz=101,slow=8.4,SNR=3.4						
ASAR	**Alice Springs**	**47.74**	**167**	P	**P**	**20 07 44.2**	**+0.1**
	0.2nm,0.5s,baz=351,slow=8.0,SNR=4.6						

TAP 13 19:59:23.8, 23°.81N×121°.48E, h12km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.05**	**280**	P	Pg	19 59 26.6	+0.5
	baz=278						
ESL				S	Sg	19 59 27.8	+0.1
	baz=278						
EGFH	**Guangfu**	**0.14**	**200**	P	Pg	19 59 27.8	+0.5
	baz=199						
EGFH				*i* S	Sg	19 59 30.5	+0.7
	baz=199						
HGSD	**Ruisui**	**0.32**	**190**	*e*P	Pb	19 59 31.9	+0.6
	baz=189						
HGSD				*e*S	Sb	19 59 36.8	+0.4
	baz=189						
VWDT	**VWDT**	**0.32**	**261**	P	Pb	19 59 31.4	0.0
	baz=260						
VWDT				S	Sb	19 59 36.2	-0.2
	baz=260						
EHY	**Hungye**	**0.33**	**206**	*e*S	Sb	19 59 36.2	-0.7
	baz=204						
CHGB	**Renai**	**0.38**	**312**	*e*P	Pb	19 59 32.8	+0.3
	baz=311						
CHGB				*e*S	Sb	19 59 38.2	-0.2
	baz=311						
NACB	**Ninganchiao**	**0.38**	**16**	S	Sb	19 59 38.3	0.0
	baz=15						
WHF	**Hehuan Shan**	**0.39**	**330**	P	Pb	19 59 32.4	-0.5
	baz=330						
WHF				*e*S	Sb	19 59 38.7	-0.4
	baz=330						
ETLH	**Xiulin Townshi**	**0.40**	**360**	*e*S	Sb	19 59 40.6	+1.7
YULB	**Yu-li**	**0.45**	**202**	*e*S	Sg	19 59 39.2	+0.7
	baz=202						
SSLB	**Suanglung**	**0.48**	**268**	P	Pb	19 59 34.4	+0.2
	baz=267						
SSLB				*e*S	Sg	19 59 40.4	+0.7
	baz=267						

NEIC 13 20:13:04.8±2.0, 16°.2S±0°.1×176°.1W±0°.2, h343km±8km, mb4.6/17
ISCJB 13 20:13:05.2±0.5, 16°.30S±0°.09×176°.08W±0°.08, h360km, mb4.0/9, Error ellipse: s-maj=12.7km s-min=9.7km az=159.7
IDC 13 20:13:07.6±2.7, 16°.34S×176°.13W, h368km±27km, mb3.8/9, mb1 3.9/10, mb1mx3.5/36, mbtmp4.5/10, Error ellipse: s-maj=28.1km s-min=14.0km az=141.0

ISC 13 20:13:06.0±0.5, 16°.25S±0°.10×176°.02W±0°.10, h360km, n44, σ1§20/47, mb4.4/15, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.71**	**61**	**Pn**	**Pn**	**20 14 21.3**	**-1.8**
NIUE	**Niue**	**6.45**	**117**	**Pn**	**Pn**	**20 14 42.0**	**-0.2**
DZM	**Mont Dzumac**	**17.54**	**248**	P	**P**	**20 16 47.5**	**-0.2**
	0.5nm,0.3s,baz=68,slow=19,SNR=5.5						
DZM	**Mont Dzumac**	**17.54**	**248**	P	**P**	**20 16 47.3**	**-0.4**
DZM				IAmb	IAmb	20 17 03.6	
	comp=Z,56nm,1.5s						
OUZ	**Omahuta**	**21.05**	**204**	P	**P**	**20 17 24.1**	**+1.4**
URZ	**Urewera**	**22.74**	**194**	P	**P**	**20 17 36.5**	**-1.6**
	comp=Z,8.4nm,0.5s,baz=14,slow=11,SNR=4.1						
URZ	**Urewera**	**22.74**	**194**	P	**P**	**20 17 36.5**	**-1.6**
URZ				IAmb	IAmb	20 17 42.5	
	comp=Z,52nm,1.4s						
FOZ	**Fox Glacier**	**29.74**	**201**	P	**P**	**20 18 38.4**	**-1.9**
FOZ				IAmb	IAmb	20 18 41.5	
	comp=Z,16nm,0.8s						
MLZ	**Mavora Lakes**	**31.94**	**201**	P	**P**	**20 18 58.8**	**-0.7**
DCZ	**Deep Cove**	**32.37**	**202**	P	**P**	**20 19 02.1**	**-0.9**
DCZ				IAmb	IAmb	20 19 03.6	
	comp=Z,19nm,0.8s						
WHZ	**Wether Hill Ro**	**32.45**	**201**	P	**P**	**20 19 03.3**	**-0.5**
CAN	**Canberra**	**36.52**	**232**	P	**P**	**20 19 39.1**	**+0.5**
CAN				IAmb	IAmb	20 19 39.5	
	comp=Z,21nm,0.7s						
TOO	**Toolangi**	**39.98**	**230**	P	**P**	**20 20 07.5**	**+0.4**
TOO				IAmb	IAmb	20 20 08.8	
	comp=Z,46nm,1.1s						
STKA	**Stephens Creek**	**41.43**	**240**	P	**P**	**20 20 19.3**	**+0.4**
	comp=Z,7.2nm,0.7s,baz=89,slow=10,SNR=18						
STKA	**Stephens Creek**	**41.43**	**240**	P	**P**	**20 20 18.9**	**0.0**
WB2	**Warramunga Arr**	**47.19**	**258**	P	**P**	**20 21 03.5**	**-0.7**
WRA	**Warramunga Arr**	**47.20**	**258**	P	**P**	**20 21 03.7**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=92,slow=7.6,SNR=140						
WRA				PcP	**PcP**	**20 22 29.7**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=86,slow=3.9,SNR=5.5						
WRA	**Warramunga Arr**	**47.20**	**258**	P	**P**	**20 21 03.3**	**-1.0**
AS31	**Alice Springs**	**47.45**	**253**	P	**P**	**20 21 06.1**	**-0.1**
ASAR	**Alice Springs**	**47.45**	**253**	P	**P**	**20 21 06.0**	**-0.2**
	comp=Z,22nm,0.4s,baz=89,slow=7.9,SNR=646						
ASAR				PcP	**PcP**	**20 22 30.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=97,slow=3.3,SNR=4.7						
ASAR				S	**S**	**20 27 30.9**	**-2.1**
	comp=Z,0.8nm,0.8s,baz=82,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**47.45**	**253**	P	**P**	**20 21 05.4**	**-0.8**
KNRA	**Kununurra**	**52.95**	**262**	P	**P**	**20 21 47.6**	**+0.5**
KNRA				IAmb	IAmb	20 23 33.1	
	comp=Z,55nm,1.9s						
SOEI	**Soe**	**58.38**	**268**	P	**P**	**20 22 27.1**	**+1.7**
PETK	**Petropavlovsk-**	**72.70**	**344**	P	**P**	**20 23 55.6**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=112,slow=8.7,SNR=5.4						
QSPA	**South Pole Qui**	**73.79**	**180**	P	**P**	**20 24 02.8**	**+1.1**
QSPA				IAmb	IAmb	20 24 03.7	
	comp=Z,8.4nm,0.9s						
TXAR	**Lajitas Array**	**83.18**	**57**	P	**P**	**20 24 55.3**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=197,slow=3.9,SNR=5.2						
ILAR	**Eielson Array**	**83.78**	**12**	P	**P**	**20 24 55.1**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=215,slow=5.3,SNR=19						
ILAR	**Eielson Array**	**83.78**	**12**	P	**P**	**20 24 54.9**	**-0.3**
MAW	**Mawson**	**86.17**	**199**	P	**P**	**20 25 07.8**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=93,slow=7.7,SNR=5.9						
MAW	**Mawson**	**86.17**	**199**	P	**P**	**20 25 07.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**90.50**	**289**	P	**P**	**20 25 30.2**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=95,slow=2.7,SNR=5.5						
SYO	**Syowa Base**	**91.25**	**192**	⇑*e*P	**P**	**20 25 27.4**	**-3.4**
SYO	**Syowa Base**	**91.25**	**192**	⇓*e*PcP	**P**	**20 25 29.2**	**-1.6**
SNAA	**Sanae**	**92.17**	**178**	P	**P**	**20 25 36.2**	**+1.1**
VNA3	**Neumayer Olymp**	**92.22**	**176**	P	**P**	**20 25 35.6**	**+0.3**
VNA2	**Neumayer--Watz**	**92.69**	**176**	P	**P**	**20 25 38.5**	**+1.1**
	baz=190,slow=4.0						
VNA1	**Neumayer--Stat**	**92.90**	**176**	P	**P**	**20 25 40.0**	**+1.7**
ARCES	**ARCESS Array B**	**125.08**	**351**	PKP	**PKiKP**	**20 31 23.6**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=316,slow=3.3,SNR=6.8						
FINES	**FINESS Array B**	**132.19**	**346**	PKP	**PKiKP**	**20 31 38.2**	**0.0**
	comp=Z,2.4nm,0.9s,baz=28,slow=8.6,SNR=4.0						
KOLS	**Kolonicke sedl**	**144.15**	**339**	*e*PKP	**PKPdf**	**20 31 59.2**	**-0.1**
BRTR	**Keskin Array B**	**145.17**	**318**	PKPbc	**PKPab**	**20 32 02.5**	**0.0**
	comp=Z,1.6nm,0.5s,baz=128,slow=3.5,SNR=13						
BRTR	**Keskin Array B**	**145.17**	**318**	**PKPab**	**PKPab**	**20 32 02.3**	**-0.2**
VYHS	**Vyhne**	**145.62**	**342**	*e*PKP	**PKiKP**	**20 32 04.0**	**-2.0**
GERES	**GERESS Array B**	**146.54**	**348**	PKPbc	**PKPab**	**20 32 05.9**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=7.6,slow=4.0,SNR=3.5						

NIED 13 20:16:00, 37°.30N×144°.60E, h8km, Mw3.7 Best double couple: M$_{\rho}$*4.39000×10*^{14} *NP1:*ϕ_{ρ}*=358.00000°, δ29.00000°, λ-82.00000°. NP2:*ϕ_{ρ}*=169.00000°, δ61.00000°, λ-95.00000°.*
IDC 13 20:16:05.6±0.8, 37°.06N×144°.95E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.8/38, mbtmp3.7/14, ML3.5/4, MS3.0/4, Ms1 3.0/4, ms1mx2.5/38, Error ellipse: s-maj=22.9km s-min=18.1km az=123.0
ISCJB 13 20:16:08.7±0.5, 37°.18N±0°.03×144°.68E±0°.04, h33km, mb3.6/10, MS3.9/1, Error ellipse: s-maj=5.0km s-min=4.5km az=175.1
JMA 13 20:16:10.4±0.2, 37°.27N×144°.59E, h39km, M4.2
NEIC 13 20:16:10.8±1.0, 36°.97N±0°.09×144°.8E±0°.1, h37km±6km, mb4.3/2

ISC 13 20:16:11.0±0.8, 37°.25N±0°.05×144°.70E±0°.07, h35km, n55, σ2§08/69, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.77**	**293**	P	**Pn**	**20 16 52.8**	**-0.1**
JIKH				*e*S	**Sn**	**20 17 24.1**	**-1.1**
JIO	**Ouri**	**2.91**	**295**	P	**Pn**	**20 16 54.8**	**0.0**
JIO				*e*S	**Sn**	**20 17 27.9**	**-0.7**
JKMT	**Kesennumamotoy**	**2.99**	**302**	P	**Pn**	**20 16 55.7**	**-0.1**
JKMT				S	**Sn**	**20 17 29.5**	**-0.9**
OFUJ	**Ofunato**	**3.01**	**308**	P	**Pn**	**20 16 55.9**	**-0.2**
OFUJ				*e*S	**Sn**	**20 17 29.9**	**-1.1**
JFK	**Kawauchi**	**3.05**	**273**	P	**Pn**	**20 16 56.6**	**-0.2**
JFK				*e*S	**Sn**	**20 17 30.5**	**-1.7**
JMK	**Ichinoseki**	**3.23**	**303**	P	**Pn**	**20 16 59.2**	**0.0**
JMK				S	**Sn**	**20 17 35.9**	**-0.5**
JOU	**Okura**	**3.39**	**290**	P	**Pn**	**20 17 01.9**	**+0.5**
JOU				*e*S	**Sn**	**20 17 40.7**	**+0.4**
JFT	**Otama**	**3.49**	**276**	P	**Pn**	**20 17 03.4**	**+0.6**
JFT				S	**Sn**	**20 17 42.7**	**-0.1**
JYK	**Kaneyama**	**3.81**	**297**	P	**Pn**	**20 17 07.9**	**+0.7**
JYK				S	**Sn**	**20 17 51.7**	**+1.0**
JRG	**Rokugo**	**3.85**	**305**	P	**Pn**	**20 17 08.5**	**+0.8**
JRG				S	**Sn**	**20 17 53.5**	**+1.8**
BSO1	**Boso 1**	**3.98**	**230**	P	**Pn**	**20 17 06.7**	**-2.3**
BSO1				*e*S	**Sn**	**20 17 52.4**	**-1.8**
JAH	**Hinai**	**4.33**	**314**	P	**Pn**	**20 17 15.4**	**+1.1**
JAH				*e*S	**Sn**	**20 18 04.3**	**+0.9**
JTM	**Tenmabayashi**	**4.53**	**322**	P	**Pn**	**20 17 17.3**	**+0.3**
JTM				S	**Sn**	**20 18 05.6**	**-2.7**
JRY	**Ryogami san**	**4.83**	**257**	P	**Pn**	**20 17 20.1**	**-1.1**
JRY				S	**Sn**	**20 18 13.5**	**-2.3**
JOD2	**Odawara 2**	**4.95**	**248**	P	**Pn**	**20 17 21.1**	**-1.8**
JOD2				S	**Sn**	**20 18 15.1**	**-3.8**
JOT	**Ohata**	**5.00**	**327**	P	**Pn**	**20 17 23.9**	**+0.3**
JOT				*e*S	**Sn**	**20 18 18.6**	**-1.5**
MJAR	**Matsushiro Arr**	**5.25**	**264**	Pn	**Pn**	**20 17 27.6**	**+0.5**
	0.5nm,0.3s,baz=70,slow=11,SNR=37						
MJAR				Sn	**Sn**	**20 18 26.8**	**+0.5**
	0.6nm,0.3s,baz=90,slow=30,SNR=5.5						
MJAR				LR	LR	20 19 26.3	
	comp=Z,47nm,21.2s,baz=105,slow=37						
MJAR	**Matsushiro Arr**	**5.25**	**264**		**Pn**	**20 17 27.3**	**+0.3**
MAJO	**Matsushiro**	**5.25**	**264**		**Pn**	**20 17 27.9**	**+0.9**
MAT	**Matsushiro**	**5.25**	**264**	P	**Pn**	**20 17 27.9**	**+0.9**
MAT				S	**Sn**	**20 18 27.4**	**+1.0**
MJB9	**Matsu-Tunnel**	**5.26**	**264**		**Pn**	**20 17 27.9**	**+0.9**
JCH	**Churui**	**5.46**	**350**	P	**Pn**	**20 17 28.4**	**-1.3**
JCH				*e*S	**Sn**	**20 18 27.3**	**-3.9**
JHJ2	**Mitsune**	**5.75**	**226**	P	**Pn**	**20 17 30.9**	**-2.9**
JHJ2				*e*S	**Sn**	**20 18 32.9**	**-5.7**
JHJ	**Hachijo jima 2**	**5.76**	**226**	Pn	**Pn**	**20 17 31.0**	**-3.0**
	13nm,0.3s,baz=95,slow=23,SNR=7.9						
JHJ				Sn	**Sn**	**20 18 33.0**	**-5.9**
	86nm,0.3s,baz=232,slow=23,SNR=9.9						
NEM2	**Nemuro 2**	**6.16**	**7**	P	**Pn**	**20 17 36.0**	**-3.4**
NEM2				*e*S	**Sn**	**20 18 41.7**	**-6.8**
JOSM	**Okushiri--Mats**	**6.29**	**322**	P	**Pn**	**20 17 41.4**	**+0.2**
JTKR	**Abashiri--Toko**	**6.74**	**355**	P	**Pn**	**20 17 45.8**	**-1.6**
JTKR				*e*S	**Sn**	**20 18 57.6**	**-5.2**
JKA	**Kamikawa-asahi**	**7.04**	**348**		**Pn**	**20 17 51.0**	**-0.5**
ASAJ	**Asahikawa**	**7.04**	**348**	Pn	**Pn**	**20 17 51.0**	**-0.5**
	1.1nm,0.3s,baz=207,slow=18,SNR=11						
JNU	**Nakatsue**	**12.04**	**254**	LR	LR	20 23 18.1	
	comp=Z,58nm,20.1s,baz=22,slow=36						
KSRS	**Korea Array**	**13.36**	**276**	Pn	**Pn**	**20 19 20.4**	**+2.5**
	0.2nm,0.3s,baz=88,slow=13,SNR=3.4						
KSRS				LR	LR	20 24 01.4	
	comp=Z,35nm,18.1s,baz=44,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.07**	**126**	T	T	20 48 38.3	
	baz=317,slow=76,SNR=128						
H11N1	**WAKE ISLAND Hy**	**26.08**	**126**	T	T	20 48 36.5	
	baz=317,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**26.09**	**126**	T	T	20 48 39.0	
	baz=317,slow=76,SNR=61						
H11S1	**WAKE ISLAND Hy**	**26.84**	**128**	T	T	20 49 31.7	
	baz=319,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**26.85**	**128**	T	T	20 49 28.7	
	baz=319,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	20 49 32.3	
	baz=319,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**43.71**	**312**	P	**P**	**20 24 14.2**	**+1.7**
	0.3nm,0.4s,baz=96,slow=11,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.71**	**312**	P	**P**	**20 24 13.8**	**+1.4**
TTA	**Tatalina**	**43.75**	**35**		**S**	**20 30 39.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**44.10**	**258**	P	P	20 24 18.7	+2.6
	0.2nm,0.6s,baz=62,slow=6.3,SNR=3.0						
MKAR	**Makanchi Array**	**46.22**	**303**	P	**P**	**20 24 34.4**	**+1.8**
	0.9nm,0.7s,baz=83,slow=10,SNR=7.3						
MKAR	**Makanchi Array**	**46.22**	**303**	P	**P**	**20 24 34.1**	**+1.5**
KURK	**Kurchatov**	**47.86**	**308**	P	**P**	**20 24 46.7**	**+1.5**
KURK				IAmb	IAmb	20 24 47.5	
	comp=Z,3.1nm,0.9s						
ILAR	**Eielson Array**	**47.90**	**32**	P	**P**	**20 24 45.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=263,slow=6.2,SNR=7.8						
WRA	**Warramunga Arr**	**57.72**	**192**	P	**P**	**20 25 56.4**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=11,slow=7.0,SNR=6.2						
WRA	**Warramunga Arr**	**57.72**	**192**	P	**P**	**20 25 56.3**	**-1.9**
ASAR	**Alice Springs**	**61.44**	**191**	P	**P**	**20 26 22.4**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=14,slow=9.7,SNR=4.4						
NOA	**NORSAR Array B**	**74.97**	**339**	P	**P**	**20 27 49.5**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=38,slow=5.8,SNR=3.1						
PDAR	**Pinedale Array**	**75.62**	**47**	P	**P**	**20 27 53.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=240,slow=1.0,SNR=4.0						
PDAR	**Pinedale Array**	**75.62**	**47**	P	**P**	**20 27 53.2**	**+0.6**
AKASG	**Malin Array Be**	**75.71**	**324**	P	**P**	**20 27 53.9**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=44,slow=5.5,SNR=4.3						
TXAR	**Lajitas Array**	**87.88**	**54**	P	**P**	**20 28 57.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=256,slow=1.9,SNR=4.1						
TXAR	**Lajitas Array**	**87.88**	**54**	P	**P**	**20 28 56.5**	**-0.8**
TKL	**Tuckaleechee C**	**94.64**	**38**	LR	LR	21 11 38.1	
	comp=Z,36nm,18.5s,baz=100,slow=35						

ISCJB 13 20:51:39.7±0.4, 36°.50N±0°.03×70°.29E±0°.05, h213km, mb3.4/4, Error ellipse: s-maj=6.2km s-min=3.4km az=160.3
IDC 13 20:51:39.5±2.9, 36°.45N×70°.24E, h195km±29km, mb3.2/5, mb1 3.3/10, mb1mx3.0/56, mbtmp3.9/10, Error ellipse: s-maj=24.5km s-min=20.5km az=2.0
NEIC 13 20:51:40.6±1.4, 36°.52N±0°.04×70°.2E±0°.1, h219km±13km, mb4.1/2
NNC 13 20:51:47.9±7.5, 37°.06N×70°.35E, h253km±103km, mb2.7, mpv3.7, Error ellipse: s-maj=78.7km s-min=48.8km az=179.0

ISC 13 20:51:40.2±0.7, 36°.50N±0°.05×70°.29E±0°.07, h213km, n59, σ1§31/66, mb3.2/5, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.20**	**208**		**Pn**	**20 52 22.4**	**+0.4**
CHGR	**Chuyangaron**	**2.33**	**338**		**Pn**	**20 52 23.7**	**+0.5**
CHGR					**S**	**20 52 54.6**	**-2.0**
GAR	**Garm**	**2.50**	**1**		**Pn**	**20 52 26.1**	**+1.1**
CEP	**C

comp=E,64nm,0.7s
AKTO Aktyubinsk 16.50 331 ⇓P Pn 20 55 19.9 +0.1
comp=E,2.2nm,0.8s
AKTO Aktyubinsk 16.50 331 P Pn 20 55 20.4 +0.6
comp=E,0.4nm,0.3s,baz=133,slow=9.3,SNR=6.4
RAMN Ramite 16.81 120 *e*P **P 20 55 23.5 +1.0**
comp=E,18nm,0.6s
TAPN Taplejung 17.36 117 *e*P **Pn 20 55 30.4 +0.1**
comp=E,14nm,0.6s
ODAN Odare 17.42 119 *e*P **Pn 20 55 30.9 -0.1**
comp=E,29nm,0.6s
ZAA0 Zalesovo Array 20.16 25 P **P 20 55 58.6 +0.5**
ZAA0 IAmb IAmb 20 56 02.0
comp=Z,3.1nm,0.5s
ZALV Zalesovo Beam 20.16 25 P **P 20 55 58.8 +0.7**
comp=Z,2.8nm,0.4s,baz=228,slow=10,SNR=13
ZALV Zalesovo Beam 20.16 25 P **P 20 55 58.7 +0.5**
SHL Shillong 21.43 114 P 20 56 12.2 +0.3
SHL IAmb IAmb 20 56 20.7
comp=Z,4.6nm,0.8s
SONM Songino Array 28.81 55 P **P 20 57 20.7 +2.2**
comp=Z,0.3nm,0.6s,baz=259,slow=8.8,SNR=4.1
CMAR Chiang Mai Arr 30.96 118 P **P 20 57 38.8 +1.2**
comp=Z,0.3nm,0.6s,baz=302,slow=7.6,SNR=4.8
ARCES ARCESS Array B 40.93 338 P **P 20 59 02.6 +1.2**
comp=Z,5.7nm,0.9s,baz=110,slow=11,SNR=3.6
ASAR Alice Springs 84.73 124 P **P 21 03 50.9 +0.5**
comp=Z,0.5nm,1.0s,baz=315,slow=5.0,SNR=4.5

IDC ***13*** *20:52:25.4±1.7, 4°.31S×145°.63E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/31, mbtmp3.7/4, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/29, Error ellipse: s-maj=85.4km s-min=26.2km az=123.0*
ISCJB ***13*** *20:52:29.8±1.5, 4°.6S±0°.3×145°.8E±0°.5, h43km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=91.3km s-min=18.5km az=31.4*
NEIC ***13*** *20:52:30.2±2.0, 4°.5S±0°.4×145°.8E±0°.6, h35km±10km, mb4.0/6*
ISC 13 20:52:31.3±1.6, 4°.5S±0°.4×145°.8E±0°.6, h43km, n12, σ0°49/12, mb3.9/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0	**Warramunga Arr**	**18.79 215**			**Pn**	**20 56 48.2**	**+0.2**
WB0				IAmb	IAmb	20 57 22.4	
comp=Z,13nm,1.6s							
WR0	**Warramunga Arr**	**18.86 214**		Pn	**Pn**	**20 56 49.8**	**+1.0**
WR0				IAmb	IAmb	20 56 52.7	
comp=Z,12nm,1.6s							
WRAB	**Tennant Creek**	**18.95 215**		P	**P**	**20 56 48.2**	**-0.7**
WRAB				IAmb	IAmb	20 57 01.2	
comp=Z,19nm,1.8s							
WB2	**Warramunga Arr**	**18.95 215**		P	**Pn**	**20 56 50.1**	**+0.2**
WB2				IAmb	IAmb	20 57 01.1	
comp=Z,18nm,1.8s							
WRA	**Warramunga Arr**	**18.96 215**		P	**Pn**	**20 56 50.1**	**+0.1**
comp=Z,0.4nm,0.3s,baz=36,slow=11,SNR=36							
WRA	**Warramunga Arr**	**18.96 215**		P	**P**	**20 56 48.4**	**-0.7**
WRA				IAmb	IAmb	20 57 42.7	
comp=Z,0.3nm,1.6s							
ASAR	**Alice Springs**	**22.23 210**		P	**P**	**20 57 24.4**	**0.0**
comp=Z,0.5nm,0.6s,baz=44,slow=7.6,SNR=17							
ASAR	**Alice Springs**	**22.23 210**		P	**P**	**20 57 24.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**23.87 234**		P	**P**	**20 57 40.7**	**-0.3**
comp=Z,0.7nm,0.2s,baz=50,slow=12,SNR=8.2							
FITZ				LR	LR	21 07 40.9	
comp=Z,70nm,18.8s,baz=330,slow=38							
FITZ	**Fitzroy Crossi**	**23.87 234**		P	**P**	**20 57 40.7**	**-0.3**
FITZ				IAmb	IAmb	20 58 10.2	
comp=Z,24nm,1.8s							
ILAR	**Eielson Array**	**84.59 23**		P	**P**	**21 04 59.9**	**+0.1**
comp=Z,0.7nm,0.7s,baz=250,slow=4.8,SNR=7.2							
ILAR	**Eielson Array**	**84.59 23**		P	**P**	**21 04 59.8**	**-0.1**

IDC ***13*** *20:59:11.0±26.0, 18°.48S×173°.02W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/47, mbtmp4.1/4, Error ellipse: s-maj=494.2km s-min=162.1km az=73.0*
ISCJB ***13*** *20:59:13.1±0.7, 18°.3S±0°.1×173°.26W±0°.10, h19km, mb4.0/4, Error ellipse: s-maj=17.6km s-min=12.1km az=156.5*
NEIC ***13*** *20:59:16.8±0.5, 18°.31S±0°.08×173°.1W±0°.1, h37km±9km, mb4.5/10*
ISC 13 20:59:14.8±0.9, 18°.3S±0°.1×173°.2W±0°.1, h19km, n17, σ0°39/17, mb4.4/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.22 104**		Pn	**Pn**	**21 00 04.4**	**0.0**
AFI	**Afiamalu**	**4.60 18**		Pn	**Pn**	**21 00 23.4**	**0.0**
CTA	**Charters Tower**	**38.24 261**		P	**P**	**21 06 34.4**	**+0.4**
0.6nm,0.3s,baz=82,slow=9.8,SNR=5.8							
CTAO	**Charters Tower**	**38.24 261**		P	**P**	**21 06 34.1**	**+0.1**
CTAO				IAmb	IAmb	21 06 48.2	
comp=Z,7.2nm,1.4s							
STKA	**Stephens Creek**	**42.79 243**		P	**P**	**21 07 11.5**	**+0.1**
comp=Z,1.0nm,0.4s,baz=81,slow=10,SNR=5.6							
STKA	**Stephens Creek**	**42.79 243**		P	**P**	**21 07 10.8**	**-0.7**
BBOO	**Buckleboo**	**47.55 242**		P	**P**	**21 07 49.2**	**-0.1**
WB0	**Warramunga Arr**	**49.37 259**		P	**P**	**21 08 03.8**	**+0.3**
WB0				IAmb	IAmb	21 08 20.9	
comp=Z,7.8nm,1.3s							
WB2	**Warramunga Arr**	**49.39 259**		P	**P**	**21 08 03.8**	**+0.2**
WB2				IAmb	IAmb	21 08 11.9	
comp=Z,15nm,1.7s							
WRA	**Warramunga Arr**	**49.40 259**		P	**P**	**21 08 04.1**	**+0.4**
comp=Z,0.3nm,0.3s,baz=96,slow=6.9,SNR=3.9							
WRA	**Warramunga Arr**	**49.40 259**		P	**P**	**21 08 02.8**	**-1.0**
AS31	**Alice Springs**	**49.42 254**		P	**P**	**21 08 04.0**	**+0.1**
ASAR	**Alice Springs**	**49.42 254**		P	**P**	**21 08 04.2**	**+0.2**
comp=Z,2.2nm,0.6s,baz=95,slow=8.3,SNR=41							
ASAR	**Alice Springs**	**49.42 254**		P	**P**	**21 08 03.5**	**-0.4**
GUMO	**Guam**	**52.08 305**		P	**P**	**21 08 24.2**	**+0.3**
MAJO	**Matsushiro**	**71.27 320**		P	**P**	**21 10 32.9**	**-0.2**
MJB9	**Matsu-Tunnel**	**71.28 320**		P	**P**	**21 10 32.8**	**-0.3**
MJB9				IAmb	IAmb	21 10 52.0	
comp=Z,5.8nm,1.0s							

DDA ***13*** *21:01:48.7, 38°.43N×44°.97E, h4km±4km, ML2.9*
ISK ***13*** *21:01:49.9, 38°.48N×44°.90E, h6km, ML2.5/6*
ISC 13 21:01:49.4±1.5, 38°.44N±0°.03×44°.95E±0°.06, h1km±11km, n21, σ1°16/33, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASK	**Baskale_VAN**	**0.84 243**		*i* P	**Pb**	**21 02 06.3**	**-0.7**
BASK				*i* S	**Sb**	**21 02 18.6**	**-0.2**
YOVA	**Hakkari_Yksek**	**1.00 212**		*i* P	**Pb**	**21 02 09.2**	**-0.5**
YOVA				*i* S	**Sg**	**21 02 21.3**	**-0.3**
YOVA				IAML_P			
comp=Z,3μm,0.2s							
CLDR	**Caldiran**	**1.07 311**		*i* P	**Pb**	**21 02 10.4**	**-0.5**
CLDR				*i* S	**Sn**	**21 02 25.4**	**-2.0**
CLDR				IAML_P			
comp=Z,2μm,0.1s							
CLDR	**Caldiran**	**1.07 311**		PG	**Pg**	**21 02 09.6**	**-0.3**
CLDR				SG	**Sb**	**21 02 24.3**	**-1.1**
VMUR	**Van-Muradiye**	**1.21 297**		*i* P	**Pg**	**21 02 12.3**	**-0.3**
VMUR				IAML_P			
comp=Z,304nm,0.2s							
TVAN	**Van**	**1.21 275**		*i* P	**Pn**	**21 02 13.1**	**-0.7**
TVAN				*i* S	**Sn**	**21 02 31.2**	**+0.2**
TVAN				IAML_P			
comp=Z,1μm,0.3s							
VANB	**Van**	**1.23 278**		PN	**Pg**	**21 02 12.6**	**-0.5**
VANB				SN	**Sb**	**21 02 29.2**	**-0.9**
HAKT	**HAKKARI**	**1.32 228**		*i* P	**Pg**	**21 02 14.4**	**-0.3**
HAKT				*i* S	**Sn**	**21 02 36.3**	**+2.7**
HAKT				IAML_P			
comp=Z,1μm,0.3s							
DYDN	**Diyadin**	**1.47 319**		*i* P	**Pg**	**21 02 19.0**	**+1.3**
DYDN				*i* S	**Sn**	**21 02 39.8**	**+2.4**
DYDN				IAML_P			
comp=Z,737nm,0.2s							
GEVA	**Gevas**	**1.49 266**		*i* P	**Pg**	**21 02 17.8**	**-0.2**
GEVA				*i* S	**Sg**	**21 02 39.0**	**+1.6**
GEVA				IAML_P			
comp=Z,1μm,0.3s							
AKDM	**Akdamar-Van**	**1.55 266**		PN	**Pb**	**21 02 18.1**	**-1.0**
AKDM				SN	**Sg**	**21 02 38.9**	**-0.4**
CUKT	**Cukurca**	**1.60 222**		*i* P	**Pn**	**21 02 18.5**	**-0.4**
CUKT	**Cukurca**	**1.60 222**		PN	**Pb**	**21 02 19.6**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.64 340**		PN	**Pn**	**21 02 19.2**	**-0.2**
TUTA	**Tutak**	**1.92 301**		*i* P	**Pg**	**21 02 25.8**	**-0.5**
TUTA				IAML_P			
comp=Z,353nm,0.2s							
SIRT	**Sirnak**	**2.19 245**		PN	**Pn**	**21 02 27.6**	**+0.5**
SIRN	**Sırnak**	**2.22 246**		*i* P	**Pb**	**21 02 29.8**	**-0.5**
SIRN				IAML_P			
comp=Z,445nm,0.3s							
BLIS	**Bitlis-Merkez**	**2.23 270**		*i* P	**Pb**	**21 02 30.5**	**-0.1**
BLIS				IAML_P			
comp=Z,256nm,0.2s							
SRTM	**Siirt_Merkez**	**2.43 260**		*i* P	**Pb**	**21 02 33.5**	**-0.5**
SRTM				*i* S	**Sg**	**21 03 09.9**	**+2.5**
EAK	**Akyaka**	**2.47 336**		*i* P	**Pg**	**21 02 36.0**	**-0.8**
DGRG	**David-gareji**	**3.02 6**		P	**Pg**	**21 02 46.9**	**-0.4**
DGRG				S	**Sg**	**21 03 28.4**	**+1.9**

JMA 13 21:44:20.0±0.2, 37°.40N×144°.49E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.56 292**		P	Pn	21 45 00.5	+1.5
JIKH				S	Sn	21 45 30.5	+1.6
JIO	**Ouri**	**2.70 294**		P	Pn	21 45 02.5	+1.6
JIO				S	Sn	21 45 34.0	+1.7
JKMT	**Kesennumamotoy**	**2.77 302**		P	Pn	21 45 03.2	+1.4
JKMT				S	Sn	21 45 35.6	+1.7
OFUJ	**Ofunato**	**2.78 308**		P	Pn	21 45 03.3	+1.2
OFUJ				*e*S	Sn	21 45 35.4	+1.0
JMK	**Ichinoseki**	**3.01 302**		P	Pn	21 45 06.9	+1.8
JMK				S	Sn	21 45 42.0	+2.1
JOM	**Ohasama**	**3.25 310**		P	Pn	21 45 10.5	+2.0
JOM				S	Sn	21 45 47.9	+1.9
JFT	**Otama**	**3.31 273**		P	Pn	21 45 11.7	+2.4
JRY	**Ryogami san**	**4.70 255**		P	Pn	21 45 29.2	+0.8
JCH	**Churui**	**5.28 351**		P	Pn	21 45 35.7	-0.6
JCH				*e*S	Sn	21 46 33.0	-2.8

NIED ***13*** *22:09:00, 38°.40N×141°.90E, h65km, Mw4.0 Best double couple: M0=1.00000×10^15 NP1:φ=345.00000°, δ=76.00000°, λ=-4.00000°. NP2:φ=76.00000°, δ=86.00000°, λ=-166.00000°.*
ISCJB ***13*** *22:09:03.4±0.6, 38°.41N±0°.03×142°.08E±0°.06, h65km±3km, mb4.1/13, Error ellipse: s-maj=8.3km s-min=4.1km az=21.4*
NEIC ***13*** *22:09:03.4±1.8, 38°.35N±0°.06×142°.3E±0°.1, h57km±10km, mb4.4/11*
JMA ***13*** *22:09:05.6±0.1, 38°.41N×141°.93E, h62km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ=73.00000°, δ=87.00000°, λ=-160.00000°. NP2: φ=342.00000°, δ=70.00000°, λ=-3.00000°. Principal axes: T Plg12.0000°, Azm206.0000°; N Plg70.0000°, Azm81.0000°; P Plg16.0000°, Azm299.0000°;*
JMA Felt II J1.
IDC ***13*** *22:09:05.4±2.2, 38°.37N×141°.97E, h64km±20km, mb3.8/12, mb1 3.9/16, mb1mx3.7/48, mbtmp4.1/16, MS2.7/4, Ms1 2.7/4, ms1mx2.4/43 Error ellipse: s-maj=23.5km s-min=13.1km az=76.0*
ISC 13 22:09:04.3±0.8, 38°.38N±0°.04×142°.06E±0°.08, h56km±6km, n73, σ1°06/82, mb4.2/16, 5C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.47 261**		⇑P	**Pn**	**22 09 16.6**	**+1.0**
JIKH				*i* S	**Sn**	**22 09 24.2**	**+0.4**
JIO	**Ouri**	**0.56 277**		⇓P	**Pn**	**22 09 17.4**	**+0.8**
JIO				S	**Sn**	**22 09 25.5**	**0.0**
JKMT	**Kesennumamotoy**	**0.62 313**		⇓P	**Pn**	**22 09 18.2**	**+0.8**
JKMT				S	**Sn**	**22 09 27.0**	**+0.1**
OFUJ	**Ofunato**	**0.76 337**		⇑P	**Pn**	**22 09 20.0**	**+0.9**
OFUJ				S	**Sn**	**22 09 30.2**	**+0.3**
JMK	**Ichinoseki**	**0.86 311**		⇓P	**Pn**	**22 09 21.2**	**+0.8**
JMK				S	**Sn**	**22 09 32.5**	**+0.2**
JOU	**Okura**	**1.09 269**		⇓P	**Pn**	**22 09 23.8**	**+0.3**
JOU				S	**Sn**	**22 09 37.2**	**-0.5**
JMM	**Marumori**	**1.12 243**		⇑P	**Pn**	**22 09 24.1**	**+0.3**
JMM				S	**Sn**	**22 09 37.5**	**-0.8**
JOM	**Ohasama**	**1.24 332**		⇓P	**Pn**	**22 09 26.2**	**+0.8**
JOM				S	**Sn**	**22 09 41.2**	**+0.1**
JFK	**Kawauchi**	**1.38 223**		⇑P	**Pn**	**22 09 27.9**	**+0.6**
JFK				*e*S	**Sn**	**22 09 44.9**	**+0.3**
JYK	**Kaneyama**	**1.43 292**		⇓P	**Pn**	**22 09 28.4**	**+0.4**
JYK				S	**Sn**	**22 09 45.4**	**-0.4**
JRG	**Rokugo**	**1.50 313**		⇓P	**Pn**	**22 09 29.3**	**+0.4**
JRG				*e*S	**Sn**	**22 09 47.4**	**0.0**
JYS	**Shiratake**	**1.57 265**		⇓P	**Pn**	**22 09 30.5**	**+0.6**
JYS				S	**Sn**	**22 09 49.1**	**-0.1**
JFT	**Otama**	**1.61 238**		⇑P	**Pn**	**22 09 31.4**	**+1.0**
JFT				S	**Sn**	**22 09 49.9**	**-0.2**
MJAR	**Matsushiro Arr**	**3.57 240**		P	**Pn**	**22 09 59.1**	**+1.9**
3.6nm,0.3s,baz=314,slow=22,SNR=97							
MJAR	**Matsushiro Arr**	**3.57 240**			**Pn**	**22 09 59.3**	**+2.0**
MAJO	**Matsushiro**	**3.57 240**			**Pn**	**22 09 59.6**	**+2.4**
MAT	**Matsushiro**	**3.57 240**		P	**Pn**	**22 09 59.5**	**+2.3**
MAT				S	**Sn**	**22 10 40.1**	**+1.9**
MJB9	**Matsu-Tunnel**	**3.57 240**			**Pn**	**22 09 59.6**	**+2.4**
ERM	**Erimo**	**3.72 13**			**Pn**	**22 09 59.2**	**0.0**
ERM					**Sn**	**22 10 40.4**	**-1.5**
INU	**Inuyama**	**5.05 235**			**Pn**	**22 10 19.4**	**+1.9**
INU				Sn	**Sn**	**22 11 15.6**	**+1.2**
JHJ2	**Mitsune**	**5.57 200**		Pn	**Pn**	**22 10 24.3**	**-0.2**
JHJ2				Sn	**Sn**	**22 11 24.6**	**-2.6**
JHJ	**Hachijo jima 2**	**5.57 200**		P	**Pn**	**22 10 24.1**	**-0.5**
43nm,0.3s,baz=140,slow=23,SNR=22							
JHJ				S	**Sn**	**22 11 23.7**	**-3.5**
45nm,0.3s,baz=247,slow=23,SNR=8.8							
JKA	**Kamikawa-asahi**	**5.74 4**			**Pn**	**22 10 26.6**	**-0.3**
JKA					**Sn**	**22 11 29.4**	**-2.0**
ASAJ	**Asahikawa**	**5.74 4**		P	**Pn**	**22 10 26.7**	**-0.3**
6.0nm,0.3s,baz=220,slow=10.0,SNR=38							
ASAJ				S	**Sn**	**22 11 29.4**	**-2.0**
4.4nm,0.3s,baz=2.2,slow=18,SNR=8.4							
ASAJ				LR	LR	22 12 58.1	
comp=Z,50nm,20.4s,baz=337,slow=40							
USA0B	**Ussuriysk Arra**	**9.54 311**		Pn	**Pn**	**22 11 20.2**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.54 311**		P	**Pn**	**22 11 20.1**	**+1.2**
baz=114,slow=14,SNR=12							
JNU	**Nakatsue**	**10.49 243**		Pn	**Pn**	**22 11 33.4**	**+1.5**
KSRS	**Korea Array**	**11.20 270**		LR	LR	22 15 04.2	
comp=Z,17nm,18.8s,baz=325,slow=32							
KLR	**Kul'dur**	**13.13 329**		LR	LR	22 17 14.9	
comp=Z,26nm,20.9s,baz=118,slow=37							
ULN	**Ulaanbaatar**	**27.05 302**		P	**P**	**22 14 40.5**	**-1.0**
SONM	**Songino Array**	**27.48 302**		P	**P**	**22 14 44.9**	**-0.4**
1.4nm,0.5s,baz=108,slow=9.2,SNR=12							
SONM	**Songino Array**	**27.48 302**		IAmb	IAmb	22 14 47.5	
comp=Z,1.2nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.44 124**		T	T	22 45 32.3	
baz=317,slow=75,SNR=135							
H11N1	**WAKE ISLAND Hy**	**28.45 124**		T	T	22 45 33.0	
baz=317,slow=75,SNR=133							
H11N3	**WAKE ISLAND Hy**	**28.46 124**		T	T	22 45 35.0	
baz=317,slow=75,SNR=104							
H11S1	**WAKE ISLAND Hy**	**29.20 126**		T	T	22 46 19.3	
baz=318,slow=76,SNR=120							
H11S3	**WAKE ISLAND Hy**	**29.20 126**		T	T	22 46 13.9	
baz=318,slow=76,SNR=87							
H11S2	**WAKE ISLAND Hy**	**29.22 126**		T	T	22 46 14.4	
baz=318,slow=76,SNR=78							
ZAA0	**Zalesovo Array**	**41.40 311**		P	**P**	**22 16 44.8**	**-0.1**
ZAA0				IAmb	IAmb	22 16 46.6	
comp=Z,4.7nm,0.6s							
ZALV	**Zalesovo Beam**	**41.40 311**		P	**P**	**22 16 44.8**	**-0.1**
comp=Z,4.8nm,0.5s,baz=85,slow=8.0,SNR=21							
KRVT	**Keravat (AS076**	**43.47 165**		P	**P**	**22 17 01.4**	**-0.6**
comp=Z,81nm,0.5s,baz=233,slow=12,SNR=7.8							
MK31	**Makanchi Array**	**43.85 301**		P	**P**	**22 17 04.7**	**-0.2**
MKAR	**Makanchi Array**	**43.85 301**		P	**P**	**22 17 04.5**	**-0.4**
comp=Z,1.5nm,0.5s,baz=84,slow=11,SNR=26							
MKAR	**Makanchi Array**	**43.85 301**		P	**P**	**22 17 04.3**	**-0.6**
TTA	**Tatalina**	**44.03 36**		P	**P**	**22 17 04.8**	**-1.4**
KURK	**Kurchatov**	**45.51 307**		P	**P**	**22 17 17.5**	**-0.5**
KURBB	**Kurchatov Arra**	**45.58 307**		P	**P**	**22 17 18.1**	**-0.4**
comp=Z,7.0nm,0.5s,baz=81,slow=8.3,SNR=25							
TAPN	**Taplejung**	**46.37 273**		*e*P	**P**	**22 17 25.6**	**+0.2**
ODAN	**Odare**	**46.85 273**		*e*P	**P**	**22 17 29.3**	**+0.2**
JIRN	**Jiri**	**47.41 274**		*e*P	**P**	**22 17 34.0**	**+0.3**
comp=Z,7.6nm,0.4s							
RAMN	**Ramite**	**47.43 273**		*e*P	**P**	**22 17 33.2**	**-0.4**
comp=Z,8.6nm,0.6s							
GUN	**Gumba**	**47.54 275**		*e*P	**P**	**22 17 33.9**	**-0.7**
KKN	**Kakani**	**48.06 275**		*e*P	**P**	**22 17 38.7**	**+0.1**
PKI	**Pulchoki**	**48.07 275**		*e*P	**P**	**22 17 38.3**	**-0.4**
comp=Z,3.3nm,0.4s							
PKIN	**Phulchoki**	**48.07 275**		*e*P	**P**	**22 17 38.4**	**-0.3**
ILAR	**Eielson Array**	**48.09 33**		P	**P**	**22 17 39.6**	**+1.7**
comp=Z,0.3nm,0.7s,baz=255,slow=5.7,SNR=3.9							
ILAR				pP	**sP**	**22 17 58.4**	**-0.4**
comp=Z,0.7nm,0.8s,baz=271,slow=5.9,SNR=4.1							
DMN	**Daman**	**48.29 275**		*e*P	**P**	**22 17 40.2**	**-0.1**
comp=Z,2.6nm,0.4s							
GKN	**Gorkha**	**48.47 276**		*e*P	**P**	**22 17 41.3**	**-0.3**
DANN	**Dangsing**	**48.99 276**		*e*P	**P**	**22 17 45.9**	**+0.1**
KOLN	**Koldanda**	**49.39 276**		*e*P	**P**	**22 17 48.8**	**+0.1**
AAK	**Ala-Archa**	**50.31 298**		P	**P**	**22 17 54.9**	**-0.5**
comp=Z,0.9nm,0.3s,baz=121,slow=6.9,SNR=7.0							
AAK	**Ala-Archa**	**50.31 298**		IAmb	IAmb	22 17 58.1	
comp=Z,1.3nm,0.5s							
NIL	**Nilore**	**54.68 288**		P	**P**	**22 18 27.6**	**-0.1**
NIL				IAmb	IAmb	22 18 32.2	
comp=Z,5.7nm,0.6s							
ABKAR	**Akbulak array**	**57.47 310**		IAmb	IAmb	22 18 50.9	
comp=Z,1.9nm,0.8s							
WRA	**Warramunga Arr**	**58.47 189**		P	**P**	**22 18 54.7**	**+0.1**
comp=Z,1.4nm,0.6s,baz=5.1,slow=6.9,SNR=28							
WRA	**Warramunga Arr**	**58.47 189**		P	**P**	**22 18 53.9**	**-0.7**
ASAR	**Alice Springs**	**62.20 188**		P	**P**	**22 19 20.4**	**+0.4**
comp=Z,0.5nm,0.7s,baz=355,slow=5.5,SNR=5.3							
ASAR	**Alice Springs**	**62.20 188**		P	**P**	**22 19 21.3**	**+1.3**
FINES	**FINESS Array B**	**67.86 332**		P	**P**	**22 19 56.2**	**-0.1**
comp=Z,1.3nm,0.6s,baz=30,slow=13,SNR=7.4							
KBZ	**Khabaz**	**70.41 311**		P	**P**	**22 20 12.8**	**+0.4**
comp=Z,0.7nm,0.7s,baz=32,slow=5.5,SNR=4.2							
NOA	**NORSAR Array B**	**73.14 337**		P	**P**	**22 20 28.5**	**0.0**
comp=Z,1.3nm,0.8s,baz=40,slow=5.7,SNR=4.3							
AKASG	**Malin Array Be**	**73.54 322**		P	**P**	**22 20 30.8**	**-0.2**
comp=Z,0.3nm,0.3s,baz=45,slow=5.6,SNR=4.7							
KEST	**Kesra**	**94.25 323**		LR	LR	23 10 24.5	
comp=Z,12nm,19.9s,baz=298,slow=39							

BJI ***13*** *22:35:59.9±0.0, 2°.43N×95°.84E, h8km, mb4.6/42, mB4.9/28, Ms4.4/12, Ms7 4.1/9*
IDC ***13*** *22:36:00.5±0.9, 2°.41N×95°.78E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.1/52, mbtmp4.3/18, ML3.5/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/31, Error ellipse: s-maj=29.5km s-min=14.1km az=39.0*
ISCJB ***13*** *22:36:02.6±0.3, 2°.43N±0°.04×95°.83E±0°.04, h25km, mb4.4/25, MS3.7/8, Error ellipse: s-maj=7.8km s-min=3.3km az=136.9*
KLM ***13*** *22:36:04.0, 2°.54N×95°.70E, h24km, mb4.4*
NEIC ***13*** *22:36:04.7±1.6, 2°.47N±0°.04×95°.9E±0°.1, h28km±6km, mb4.7/27*
DJA ***13*** *22:36:04.8±0.7, 2°.N±3°.×9°.6E±°, h25km±4km, M4.4/9, mb4.7/4, mB4.9/1, MLv4.3/9, Mw(mB)4.2/1*
ISC 13 22:36:04.1±0.5, 2°.42N±0°.05×95°.79E±0°.06, h25km, n119, σ1°36/114, mb4.6/37, MS3.8/8, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.54 91**		P	**Pn**	**22 36 15.1**	**-1.1**
SNSI				S	**Sn**	**22 36 24.4**	**-0.1**
MLSI	**Meulaboh, Aceh**	**1.94 19**		P	**Pn**	**22 36 35.3**	**-0.1**
MLSI				S	**Sb**	**22 37 07.6**	**+5.1**
GSI	**Gunungsitoli**	**2.10 122**		P	**Pn**	**22 36 36.9**	**-0.9**
GSI				S	**Sn**	**22 37 02.6**	**-0.6**
GSI	**Gunungsitoli**	**2.10 122**		Pn	**Pn**	**22 36 37.9**	**+0.1**
LHMI	**Lhok Sumawe**	**3.02 23**		P	**Pn**	**22 36 51.0**	**+0.6**
LHMI	**Lhok Sumawe**	**3.02 23**			**Pn**	**22 36 50.3**	**-0.1**
RPSI	**Rantau Prapat**	**3.15 85**			**Pn**	**22 36 52.0**	**-0.2**
RPSI	**Rantau Prapat**	**3.15 85**			**Pn**	**22 36 52.6**	**+0.5**
PSI	**Prapat**	**3.16 83**		Pn	**Pn**	**22 36 52.6**	**+0.2**
5.7nm,0.3s,baz=268,slow=9.9,SNR=30							
PBSI	**Pulau Batu**	**3.50 135**		P	**Pn**	**22 36 57.7**	**+0.7**
PBSI				S	**Sn**	**22 37 35.0**	**-2.7**
CMBY	**CAMPBELL BAY**	**4.92 338**		*e*P	**Pn**	**22 37 15.5**	**-1.1**
CMBY				*e*S	**Sn**	**22 38 10.2**	**-2.5**
CMBY				IAML		22 38 13.6	
comp=N,230nm,0.0s							
CMBY				IAML		22 38 13.7	
comp=E,243nm,0.6s							
SISI	**Saibi**	**4.98 138**		P	**Pn**	**22 37 18.2**	**+0.9**
SISI				S	**Sn**	**22 38 13.2**	**-0.9**
IPM	**Ipoh**	**5.62 69**		P	**Pn**	**22 37 27.0**	**+0.9**
IPM	**Ipoh**	**5.62 69**			**Pn**	**22 37 25.6**	**-0.5**
BKNI	**Bangkinang**	**5.65 112**		P	**Pn**	**22 37 25.2**	**-1.4**
comp=E,79nm,0.6s							
BKNI	**Bangkinang**	**5.65 112**			**Pn**	**22 37 25.6**	**-1.0**
PDSI	**Padang**	**5.73 125**		P	**Pn**	**22 37 25.6**	**-2.1**
comp=E,17nm,1.0s							
JRMM	**Jerantut**	**6.84 78**		P	**Pn**	**22 37 43.0**	**+0.1**
MYKOM	**Kota Tinggi

comp=Z,25nm,0.8s
PKIN Phulchoki 26.92 339 *eP* **P** **22 41 44.5 +0.7**
comp=Z,10nm,0.7s
DMN Daman 27.05 339 *eP* **P** **22 41 45.7 +0.7**
comp=Z,27nm,0.9s
GUN Gumba 27.06 340 *eP* **P** **22 41 46.4 +1.3**
KKN Kakani 27.15 339 *eP* **P** **22 41 46.7 +0.9**
comp=Z,38nm,0.9s
LSA Lhasa 27.48 351 P **P** **22 41 48.7 -0.4**
GKN Gorkha 27.58 338 *eP* **P** **22 41 50.6 +1.0**
comp=Z,34nm,0.8s
KOLN Koldanda 27.77 336 *eP* **P** **22 41 52.5 +1.1**
comp=Z,34nm,0.8s
DANN Dangsing 28.22 337 *eP* **P** **22 41 56.3 +0.8**
comp=Z,39nm,0.6s
CD2 Chengdu 29.32 14 P **P** **22 42 04.8 -0.1**
CD2 pmax pmax
comp=Z,30nm,0.6s
ENH Enshi 30.59 24 P **P** **22 42 15.0 -1.2**
XAN Xi'an 33.77 20 P **P** **22 42 43.1 -0.9**
XAN pP pP 22 42 49.4 -2.0
XAN pmax pmax
comp=Z,14nm,0.9s
XAN Xi'an 33.77 20 P **P** **22 42 43.2 -0.9**
LZH Lanzhou 34.32 12 *eP* **P** **22 42 48.3 -0.6**
LZH pP pP 22 42 52.8 -3.5
LZH sP sP 22 42 55.6 -3.7
LZH pmax pmax
comp=Z,13nm,1.0s
FITZ Fitzroy Crossi 35.78 126 P **P** **22 43 02.5 +0.9**
baz=36
NJ2 Nanjing 36.61 34 *eP* **P** **22 43 08.6 +0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GTA Gaotai 37.00 5 ⇓P **P** **22 43 11.6 -0.3**
GTA pP sP 22 43 23.3 +1.0
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,100nm,5.9s
GTA LR LR
comp=Z,92nm,14.1s
GTA LR LR
comp=Z,86nm,16.1s
GTA LR LR
comp=Z,130nm,14.1s
KNRA Kununurra 37.24 120 P **P** **22 43 17.1 +3.0**
baz=37
NIL Nilore 37.54 328 P **P** **22 43 16.8 +0.4**
NIL IAmb IAmb 22 43 17.3
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 40.83 18 *eP* **P** **22 43 44.6 +0.7**
HHC pmax pmax
comp=Z,5.0nm,0.7s
H01W3 Cape Leeuwin H 40.91 157 T T 23 27 10.3
baz=332,slow=76,SNR=434
H01W2 Cape Leeuwin H 40.92 157 T T 23 27 11.2
baz=332,slow=76,SNR=397
H01W1 Cape Leeuwin H 40.93 157 T T 23 27 11.4
baz=332,slow=76,SNR=486
KSH Kashi 41.09 336 P **P** **22 43 46.0 -0.1**
KSH PcP **PcP** **22 45 47.1 +1.6**
KSH S **S** **22 49 55.5 -2.1**
KSH SS **SS** **22 52 54.0 -6.7**
KSH pmax pmax
comp=Z,310nm,4.9s
KSH LR LR
comp=Z,200nm,9.1s
KSH LR LR
comp=Z,180nm,9.1s
KSH LR LR
comp=Z,150nm,12.5s
BJT Baijiatuau 41.74 24 P **P** **22 43 52.0 +0.7**
BJT IAmb IAmb 22 43 59.9
comp=Z,11nm,0.7s
WMQ Urumqi 41.85 351 *eP* **P** **22 43 52.8 +0.6**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,81nm,3.9s
WMQ LR LR
comp=Z,270nm,7.9s
WMQ LR LR
comp=Z,340nm,8.1s
GAR Garm 43.18 331 IAmb IAmb 22 44 04.2
comp=Z,15nm,1.0s
CHGR Chuyangaron 43.50 329 P **P** **22 44 05.0 -0.7**
BTK Batken 43.77 332 P **P** **22 44 08.2 +0.3**
BTK IAmb IAmb 22 44 12.1
comp=Z,12nm,0.8s
ARSB Arslanbob 43.84 335 P **P** **22 44 07.8 -0.7**
WB9 Warramunga Arr 43.85 122 P **P** **22 44 08.6 -0.1**
baz=44
WRA Warramunga Arr 43.88 122 P **P** **22 44 08.7 -0.3**
comp=Z,2.8nm,0.9s,baz=302,slow=9.1,SNR=14
WRA LR LR 23 03 29.8
comp=Z,76nm,20.0s,baz=300,slow=38
UCH Uchtor 43.98 337 P **P** **22 44 11.4 +1.5**
SNR=12
KBK Karagaybulak 44.18 338 P **P** **22 44 13.5 +2.3**
SNR=5.8
AML Almayashu 44.22 336 P **P** **22 44 13.4 +1.6**
SNR=8.1
AAK Ala-Archa 44.34 337 P **P** **22 44 14.3 +1.8**
comp=Z,3.2nm,0.8s,baz=145,slow=6.7,SNR=8.2
AAK Ala-Archa 44.34 337 P **P** **22 44 14.1 +1.6**
EKS2 Erkin-Say 44.63 337 P **P** **22 44 16.6 +1.8**
SNR=6.3
USP Ospenovka 44.87 338 P **P** **22 44 17.2 +0.6**
SNR=14
ASAR Alice Springs 45.25 127 P **P** **22 44 19.8 -0.2**
comp=Z,1.4nm,0.8s,baz=307,slow=7.7,SNR=12
KSRS Korea Array 45.68 36 P **P** **22 44 21.9 -1.1**
comp=Z,1.4nm,0.7s,baz=224,slow=8.8,SNR=4.1
KSRS LR LR 23 06 05.5
comp=Z,81nm,19.1s,baz=250,slow=40
MK31 Makanchi Array 45.73 347 IAmb IAmb 22 44 24.7
comp=Z,6.1nm,0.8s
MKAR Makanchi Array 45.73 347 P **P** **22 44 23.7 +0.3**
comp=Z,1.1nm,0.8s,baz=162,slow=8.0,SNR=75
MAKZ Makanchi 45.82 347 P **P** **22 44 24.3 +0.3**
MAKZ IAmb IAmb 22 44 25.6
comp=Z,8.4nm,0.8s
SONM Songino Array 46.16 10 P **P** **22 44 26.5 -0.3**
comp=Z,7.7nm,0.8s,baz=208,slow=6.4,SNR=3.9
SONM PcP **PcP** **22 46 03.2 +0.7**
comp=Z,1.5nm,0.7s,baz=187,slow=4.1,SNR=4.9
ULN Ulaanbaatar 46.31 10 P **P** **22 44 27.7 -0.3**
KK31 Karatay Array 46.35 334 IAmb IAmb 22 44 30.6
comp=Z,13nm,1.1s
KKAR Karatay Array 46.35 334 P **P** **22 44 28.8 +0.6**
KKAR Karatay Array 46.35 334 IAmb IAmb 22 44 30.6
comp=Z,13nm,1.1s
GEYT Alibeck 49.38 320 P **P** **22 44 52.7 +0.8**
comp=Z,2.3nm,0.6s,baz=104,slow=5.0,SNR=6.4
GEYT Alibeck 49.38 320 P **P** **22 44 52.5 +0.7**
KURK Kurchatov 50.26 346 P **P** **22 44 57.7 -0.5**
KURK IAmb IAmb 22 45 01.0
comp=Z,5.6nm,0.8s
MJAR Matsushiro Arr 51.77 44 LR LR 23 09 15.2
comp=Z,14nm,18.8s,baz=245,slow=38
MTSU Mount Surprise 51.96 115 P **P** **22 45 12.5 +0.9**
baz=52
ZAA0 Zalesovo Array 52.15 352 P **P** **22 45 11.8 -0.6**
ZAA0 IAmb IAmb 22 45 14.6
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 52.15 352 P **P** **22 45 12.6 +0.2**
comp=Z,9.6nm,0.8s,baz=180,slow=6.8,SNR=35
BRVK Borovoye 54.71 341 P **P** **22 45 31.2 +0.1**
ABKAR Abkulak array 55.78 332 IAmb IAmb 22 45 40.3
comp=Z,6.6nm,0.8s
KLR Kul'dur 55.82 28 P **P** **22 45 39.6 +0.4**
comp=Z,5.4nm,0.9s,baz=269,slow=6.3,SNR=14
CMSA Cobar Meteorol 58.16 130 P **P** **22 45 56.7 +0.6**
baz=58
KBZ Khabaz 62.23 319 P **P** **22 46 24.3 +0.5**
comp=Z,2.0nm,0.8s,baz=108,slow=3.9,SNR=7.6
NRIK Noril'sk 67.03 357 P **P** **22 46 54.6 -0.1**
comp=Z,3.1nm,0.8s,baz=144,slow=5.9,SNR=9.1
BRTR Keskin Array B 67.25 312 P **P** **22 46 56.6 -0.3**
comp=Z,0.8nm,0.8s,baz=123,slow=7.9,SNR=6.0
LHI Lord Howe Isla 68.78 125 P **P** **22 47 07.2 +0.7**
baz=69
AKASG Malin Array Be 73.44 323 P **P** **22 47 34.0 -0.3**
comp=Z,0.5nm,0.5s,baz=92,slow=4.7,SNR=4.8
BOSA Boshof 74.17 239 LR LR 23 15 15.2
comp=Z,27nm,20.5s,baz=66,slow=32

KOLS Kolonicke sedl 77.38 320 *eP* **P** **22 47 58.7 +1.7**
FINES FINESS Array B 78.27 333 P **P** **22 48 01.9 +0.2**
comp=Z,2.9nm,0.8s,baz=96,slow=5.7,SNR=6.3
ARCES ARCESS Array B 80.92 340 P **P** **22 48 16.7 +0.8**
comp=Z,3.2nm,0.8s,baz=98,slow=6.4,SNR=10.0
GERES GERESS Array B 82.97 319 P **P** **22 48 28.2 +0.9**
comp=Z,1.5nm,0.8s,baz=103,slow=5.8,SNR=12
TXAR Lajitas Array 143.34 29 PKP PKPbc 22 55 35.1 +0.8
comp=Z,0.2nm,0.5s,baz=276,slow=0.3,SNR=4.3

NIED ***13*** *22:37:00,36°.20N×141°.10E,h38km,Mw3.6 Best double couple: M₀2.59000×10¹⁴ NP1:φ₀205.00000°,δ23.00000°, λ141.00000°. NP2:φ₀332.00000°,δ76.00000°,λ72.00000°.*
ISCJB ***13*** *22:37:22.2±0.7,36°.22N±0°.03×141°.04E±0°.07,h42km±8km, mb3.5/3,MS2.6/1,Error ellipse: s-maj=9.8km s-min=4.8km az=3.1*
JMA ***13*** *22:37:22.7±0.1,36°.20N×140°.99E,h44km±1km,M3.4*
JMA Felt I J1.
IDC ***13*** *22:37:33.2±3.4,35°.73N×139°.85E,h89km±32km,mb3.2/3, mb1 3.5/3,mb1mx3.1/46,mbtmp3.5/3,MS2.7/1,Ms1 2.7/1, ms1mx2.2/15,Error ellipse: s-maj=45.9km s-min=27.1km az=99.0*
ISC 13 22:37:22.5±1.3,36°.22N±0°.03×141°.06E±0°.07,h33km±7km, n23,σ0°91/26,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.40**	**288**	P	**Pb**	**22 37 32.0**	**+0.4**
JHYU				*eS*	**Sb**	**22 37 38.1**	**+0.3**
JIHU	**Itakohorinouch**	**0.50**	**240**	P	**Pb**	**22 37 33.6**	**+0.5**
JIHU				*eS*	**Sb**	**22 37 41.0**	**+0.6**
CHOJ	**Chosi**	**0.54**	**198**	P	**Pb**	**22 37 33.5**	**-0.2**
CHOJ				*eS*	**Sb**	**22 37 40.5**	**-0.9**
JHO	**Hitachi**	**0.56**	**315**	P	**Pb**	**22 37 33.8**	**-0.2**
JHO				*eS*	**Sb**	**22 37 41.3**	**-0.6**
JYT	**Yasato**	**0.70**	**271**	P	**Pb**	**22 37 35.5**	**-0.9**
JYT				*eS*	**Sb**	**22 37 43.9**	**-1.9**
JSMT	**Sammumatsuo**	**0.76**	**221**	P	**Pn**	**22 37 36.8**	**-0.1**
JSMT				*eS*	**Sb**	**22 37 47.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.91**	**347**	P	**Pn**	**22 37 38.9**	**-0.1**
ONAJ				*eS*	**Sn**	**22 37 49.8**	**-1.2**
JFK	**Kawauchi**	**1.16**	**353**	P	**Pn**	**22 37 42.4**	**-0.1**
JFK				*eS*	**Sn**	**22 37 55.7**	**-1.5**
JAG	**Ashikaga**	**1.31**	**279**	P	**Pn**	**22 37 44.3**	**-0.3**
JAG				*eS*	**Sn**	**22 37 59.4**	**-1.6**
JFT	**Otama**	**1.42**	**336**	P	**Pn**	**22 37 47.4**	**+1.3**
JFT				*eS*	**Sn**	**22 38 04.6**	**+0.9**
BSO3	**Boso 3**	**1.48**	**198**	*eS*	**Sn**	**22 38 04.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.32**	**279**	P	**Pn**	**22 37 59.0**	**+0.5**
	2.3nm,0.3s,baz=103,slow=8.2,SNR=80						
MJAR				LR	LR	22 38 12.2	
	comp=Z,23nm,20.1s,baz=70,slow=26						
MAT	**Matsushiro**	**2.33**	**279**	P	**Pn**	**22 37 59.8**	**+1.3**
MAT				S	**Sn**	**22 38 26.6**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	23 12 36.4	
	baz=312,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	23 12 34.9	
	baz=312,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	23 12 38.6	
	baz=312,slow=75,SNR=11						
SONM	**Songino Array**	**28.01**	**305**	P	**P**	**22 43 11.3**	**+0.7**
	0.3nm,0.7s,baz=91,slow=7.4,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**28.67**	**121**	T	T	23 13 29.4	
	baz=314,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**28.67**	**121**	T	T	23 13 25.4	
	baz=314,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	23 13 25.9	
	baz=314,slow=76,SNR=32						
DAV	**Davao City (W)**	**32.29**	**210**	LR	LR	22 55 51.5	
	comp=Z,12nm,18.7s,baz=32,slow=35						
ILAR	**Eielson Array**	**50.33**	**32**	P	P	22 46 27.7	+12
	0.5nm,0.7s,baz=281,slow=7.2,SNR=5.2						
WRA	**Warramunga Arr**	**56.22**	**188**	P	**P**	**22 46 59.6**	**+0.1**
	0.4nm,0.4s,baz=3.6,slow=7.5,SNR=9.7						

IDC ***13*** *22:45:52.0±4.8,22°.91S×179°.19W,h0km,mb4.2/3, mb1 4.3/3,mb1mx3.9/22,mbtmp4.2/3,Error ellipse: s-maj=177.3km s-min=61.6km az=145.0*
NEIC ***13*** *22:46:42.0±0.4,24°.2S±0°.5×179°.4W±0°.2,h509km±9km, mb4.1/8*
ISC 13 22:46:41.5±1.3,24°.4S±0°.5×179°.4W±0°.2,h500km,n15, σ1°14/15,mb4.1/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.22**	**61**	P	**P**	**22 49 03.1**	**+1.8**
NIUE				S	**S**	**22 50 54.1**	**-2.1**
TUWZ	**Tuamarina**	**17.92**	**197**		**PcP**	**22 54 28.8**	**-0.2**
CTAO	**Charters Tower**	**32.07**	**271**	P	**P**	**22 52 27.3**	**+0.5**
STKA	**Stephens Creek**	**35.10**	**249**	P	**P**	**22 52 52.8**	**+0.5**
	1.2nm,0.5s,baz=86,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**35.10**	**249**	IAmb	IAmb	22 52 55.0	
	comp=Z,1.3nm,1.3s						
BBOO	**Buckleboo**	**39.81**	**247**	P	**P**	**22 53 30.5**	**-0.4**
BBOO				IAmb	IAmb	22 53 44.0	
	comp=Z,10.0nm,1.1s						
AS31	**Alice Springs**	**42.54**	**261**	P	**P**	**22 53 52.2**	**-0.7**
ASAR	**Alice Springs**	**42.54**	**261**	P	**P**	**22 53 52.5**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=97,slow=7.2,SNR=13						
WB2	**Warramunga Arr**	**42.95**	**266**	P	**P**	**22 53 55.4**	**-0.7**
WB2				IAmb	IAmb	22 53 56.1	
	comp=Z,4.7nm,0.6s						
WB0	**Warramunga Arr**	**42.96**	**267**	P	**P**	**22 53 55.3**	**-0.8**
WB0				IAmb	IAmb	22 53 56.4	
	comp=Z,4.2nm,0.7s						
WRA	**Warramunga Arr**	**42.97**	**266**	P	**P**	**22 53 55.4**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=101,slow=8.2,SNR=47						
WRA	**Warramunga Arr**	**42.97**	**266**	P	**P**	**22 53 55.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.38**	**266**	P	**P**	**22 54 59.0**	**-0.7**
FITZ				IAmb	IAmb	22 55 00.3	
	comp=Z,11nm,1.4s						
BRTR	**Keskin Array B**	**148.32**	**307**	PKPbc	**PKPab**	**23 05 37.9**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=111,slow=5.4,SNR=4.4						
CLL	**Collm**	**151.46**	**344**	*e*PKPdf	**PKPbc**	**23 05 37.0**	**-1.2**

ISCJB ***13*** *23:04:40.0±0.5,36°.20N±0°.03×29°.03E±0°.03,h8km±4km, Error ellipse: s-maj=5.1km s-min=3.6km az=5.5*
DDA ***13*** *23:04:39.6,36°.24N×29°.05E,h25km,ML2.8*
ATH ***13*** *23:04:39.7,35°.98N×29°.05E,h12km±4km,ML2.1/2,Error ellipse: s-maj=5.9km s-min=1.0km az=355.0*
THE ***13*** *23:04:39.9,36°.26N×29°.08E,h2km±1km,ML2.0/2,Error ellipse: s-maj=1.2km s-min=0.4km az=135.0*
ISK ***13*** *23:04:40.1,36°.26N×29°.05E,h13km,ML2.5/12*
ISC 13 23:04:40.3±1.1,36°.25N±0°.03×29°.05E±0°.02,h14km±9km, n42,σ0°76/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.39**	**4**	P	**Pg**	**23 04 47.8**	**-0.3**
FETY				S	**Sb**	**23 04 54.4**	**-0.4**
FETY	**Fethiye**	**0.39**	**4**	*i* P	**Pb**	**23 04 48.8**	**-0.1**
FETY				*i* S	**Sb**	**23 04 53.9**	**-0.9**
FETY				IAML_P			
	comp=Z,13μm,0.2s						
FETY	**Fethiye**	**0.39**	**4**	PG	**Pg**	**23 04 47.9**	**-0.2**
FETY				SG	**Sb**	**23 04 53.7**	**-1.1**
KSL	**Kastellorizon**	**0.45**	**103**	P	**Pg**	**23 04 48.9**	**-0.2**
KSL				S	**Sb**	**23 04 55.4**	**-1.1**
	comp=Z,220nm,0.6s						
KSL	**Kastellorizon**	**0.45**	**103**	P	**Pg**	**23 04 49.0**	**-0.1**
KSL				S	**Sg**	**23 04 55.3**	**+0.2**
KSL				AML	AML	23 04 59.7	
	comp=E,419μm,0.4s						
KSL				AML	AML	23 05 01.2	
	comp=N,461μm,0.6s						
AKAS	**Kas**	**0.45**	**92**	*i* P	**Pb**	**23 04 49.4**	**-0.8**
AKAS				*i* S	**Sb**	**23 04 57.1**	**+0.3**
AKAS				IAML_P			
	comp=Z,8μm,0.1s						
AKAS	**Kas**	**0.45**	**92**	PG	**Pg**	**23 04 49.1**	**-0.2**
AKAS				SG	**Sb**	**23 04 56.2**	**-0.6**
DALY	**Dalyan (Mula)**	**0.65**	**331**	*i* P	**Pb**	**23 04 53.3**	**-0.1**
DALY				*i* S	**Sn**	**23 05 03.9**	**-1.3**
DALY				IAML_P			
	comp=Z,2μm,0.2s						
DALY	**Dalyan (Mula)**	**0.65**	**331**	PG	**Pg**	**23 04 52.6**	**-0.3**
DALY				SG	**Sb**	**23 05 02.4**	**+0.1**

TURN Turunc 0.72 330 *i* P **Pn** **23 04 56.6 +0.6**
TURN *i* S **Sn** **23 05 08.2 +1.3**
TURN IAML_P
comp=Z,1μm,0.1s
TURN Turunc 0.72 330 PG **Pn** **23 04 56.4 +0.4**
TURN SG **Sn** **23 05 08.9 +2.0**
ARG Arkhangelos 0.74 268 P **Pb** **23 04 55.4 +0.4**
ARG S **Sn** **23 05 07.4 -0.1**
comp=Z,208nm,0.5s
ARG Arkhangelos 0.74 268 P **Pb** **23 04 54.7 -0.4**
ARG S **Sb** **23 05 05.6 +0.5**
ARG AML AML 23 05 11.1
comp=N,256μm,0.5s
ARG AML AML 23 05 11.3
comp=E,597μm,0.4s
ARG Arkhangelos 0.74 268 PG **Pn** **23 04 55.8 -0.6**
ELL Elmali 0.85 54 PG **Pb** **23 04 56.8 -0.2**
AKUM Antalya-Kumluc 1.05 86 *i* P **Pn** **23 05 00.1 -0.5**
AKUM IAML_P
comp=Z,448nm,0.1s
YER Yerkesik 1.07 325 P **Pb** **23 05 00.5 -0.2**
YER S **Sn** **23 05 16.2 +0.4**
YER Yerkesik 1.07 325 PG **Pn** **23 05 00.9 -0.1**
TAVA DENIZLI_Tavas 1.22 355 *i* P **Pg** **23 05 03.3 -0.5**
TAVA *i* S **Sg** **23 05 20.3 +0.6**
TAVA IAML_P
comp=Z,2μm,0.3s
DAT Datca 1.28 292 *i* P **Pg** **23 05 04.4 -0.5**
DAT Datca 1.28 292 PN **Pb** **23 05 04.2 0.0**
KORT Korkueli 1.29 54 *i* P **Pg** **23 05 04.6 -0.5**
KORT *i* S **Sg** **23 05 24.4 +2.5**
KORT IAML_P
comp=Z,1μm,0.3s
KORT Korkueli 1.29 54 PN **Pg** **23 05 04.7 -0.4**
MLSB Milas 1.46 316 PN **Pb** **23 05 06.7 -0.5**
BODT Bodrum 1.61 301 P **Pn** **23 05 08.0 -0.4**
BODT Bodrum 1.61 301 PN **Pb** **23 05 09.0 -0.9**
BRDR BURDUR-Merkez 1.66 29 *i* P **Pb** **23 05 09.8 -0.8**
BRDR IAML_P
comp=Z,1μm,0.2s
KARP Karpathos 1.68 246 P **Pn** **23 05 09.6 +0.3**
KARP S **Sn** **23 05 31.4 +0.6**
KARP Karpathos 1.68 246 PN **Pn** **23 05 09.7 +0.3**
AYDN Tasoluk 1.69 327 *i* P **Pb** **23 05 10.3 -0.9**
AYDN *i* S **Sg** **23 05 34.3 -0.4**
AYDN IAML_P
comp=Z,1μm,0.2s
AYDB Zeytinkoy-Aydi 1.93 332 PN **Pn** **23 05 13.6 +0.8**
GCAM G?zelcaml? 2.05 315 *i* P **Pn** **23 05 14.5 +0.2**
GCAM *i* S **Sn** **23 05 39.4 -0.4**
GCAM IAML_P
comp=Z,514nm,0.2s
GCAM G?zelcaml? 2.05 315 PN **Pn** **23 05 14.3 -0.1**
KHAL Karahalli 2.15 9 *i* P **Pb** **23 05 18.2 -0.8**
KHAL *i* S **Sb** **23 05 45.7 +0.1**
KHAL IAML_P
comp=Z,132nm,0.3s
KEPZ Antalya-Kepez 2.16 72 *i* P **Pn** **23 05 16.8 +0.8**
KEPZ IAML_P
comp=Z,159nm,0.3s
KZIL AFYON_Kizioren 2.19 23 *i* P **Pb** **23 05 19.0 -0.7**
KZIL IAML_P
comp=Z,151nm,0.2s
BAGO Egridir - ISPA 2.23 38 *i* P **Pb** **23 05 19.0 -1.4**
MANT Manisa 2.27 350 *i* P **Pn** **23 05 17.8 +0.2**
USAK Uak-Merkez 2.46 359 *i* P **Pn** **23 05 20.9 +0.8**
USAK IAML_P
comp=Z,91nm,0.2s
ZKR Zakros 2.57 245 P **Pn** **23 05 22.1 +0.6**
DOGA KONYA_Doganhis 2.80 48 *i* P **Pn** **23 05 26.3 +1.5**
DOGA IAML_P
comp=Z,54nm,0.1s
DEMI Demirci 2.80 355 *i* P **Pn** **23 05 25.0 +0.3**
DEMI IAML_P
comp=Z,190nm,0.1s

ISCJB ***13*** *23:33:40.8±1.5,30°.01N±0°.05×79°.19E±0°.05,h11km±10km, mb3.6/11,Error ellipse: s-maj=8.6km s-min=7.1km az=30.9*
IDC ***13*** *23:33:40.6±1.0,29°.95N×78°.98E,h0km,mb3.7/11, mb1 3.9/13,mb1mx3.7/38,mbtmp3.7/13,ML3.7/2,MS3.4/3, Ms1 3.4/3,ms1mx2.8/46,Error ellipse: s-maj=27.3km s-min=18.3km az=42.0*
NDI ***13*** *23:33:42.6±2.6,30°.06N×79°.17E,h5km,ML3.5*
ISC 13 23:33:40.7±1.3,29°.97N±0°.04×79°.08E±0°.04,h3km±9km, n29,σ1°82/34,mb3.7/11,1C,Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALG	**Kalgarh**	**0.54**	**212**	*e*P	Pg	23 33 40.1	-11
KALG				*e*S	Sg	23 33 48.8	-9.4
JOSI	**Joshimath**	**0.71**	**35**	*e*P	**Pg**	**23 33 53.9**	**-0.6**
JOSI				*e*S	**Sg**	**23 34 02.3**	**-1.5**
JOSI				IAML		23 34 04.2	
	comp=N,1μm,0.4s						
JOSI				IAML		23 34 04.8	
	comp=E,2μm,0.1s						
DDI	**Dehra Dun**	**0.96**	**292**	*e*P	**Pb**	**23 34 00.6**	**+0.6**
DDI				*e*S	**Sb**	**23 34 14.1**	**+1.0**
DDI				IAML		23 34 15.4	
	comp=N,2μm,0.2s						
DDI				IAML		23 34 15.8	
	comp=E,2μm,0.2s						
SMLA	**Simla**	**2.02**	**305**	*e*P	**Pb**	**23 34 17.9**	**-0.1**
SMLA				*e*S	**Sg**	**23 34 44.6**	**-0.9**
SMLA				IAML		23 34 46.1	
	comp=E,2μm,0.4s						
SMLA				IAML		23 34 46.7	
	comp=N,1μm,0.4s						
NDI	**New Delhi**	**2.07**	**232**	*e*P	**Pg**	**23 34 20.5**	**0.0**
NDI				*e*S	**Sg**	**23 34 49.0**	**+1.6**
AYAN	**Aya Nagar**	**2.26**	**230**	*e*P	**Pg**	**23 34 24.0**	**-0.2**
AYAN				*e*S	**Sg**	**23 34 52.9**	**-0.6**
KUDL	**Kundal**	**2.91**	**232**	*e*P	**Pn**	**23 34 23.4**	**-4.6**
KUDL				*e*S	**Sn**	**23 34 59.3**	**-4.2**
KUDL				IAML		23 35 06.5	
	comp=E,74nm,0.2s						
KUDL				IAML		23 35 06.7	
	comp=N,88nm,0.6s						
DHRM	**DHARAMSHALA**	**3.29**	**314**	*e*P	**Pn**	**23 34 35.7**	**+2.2**
DHRM				*e*S	**Sn**	**23 35 14.0**	**+0.7**
DHRM				IAML		23 35 23.6	
	comp=E,232nm,0.5s						
CHCP	**Chirah Chowk**	**6.17**	**308**	P	**Pn**	**23 35 15.0**	**+2.2**
JBP	**Jabalpur**	**6.83**	**173⇑**	*e*P	**Pn**	**23 35 25.6**	**+3.9**
JBP				*ex*	x	23 36 31.9	
JBP				AML	AML	23 36 46.5	
	comp=Z,23nm,0.5s						
BHPL	**Bhopal**	**6.87**	**193**	*e*P	**Pn**	**23 35 23.6**	**+1.2**
BHPL				*e*S	**Sn**	**23 36 37.4**	**-3.7**
THW	**Thamme Wali**	**6.88**	**296**	P	**Pn**	**23 35 23.0**	**+0.5**
CEP	**Cherat**	**7.21**	**304**	P	**Pn**	**23 35 27.4**	**+0.2**
AAK	**Ala-Archa**	**13.17**	**345**	Pn	**Pn**	**23 36 48.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=149,slow=9.2,SNR=4.9						
MKAR	**Makanchi Array**	**16.98**	**8**	P	**Pn**	**23 37 38.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=189,slow=12,SNR=16						
KURBB	**Kurchatov Arra**	**20.63**	**359**	P	**P**	**23 38 19.6**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=186,slow=9.6,SNR=9.9						
CMAR	**Chiang Mai Arr**	**21.40**	**118**	P	**P**	**23 38 31.7**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=309,slow=10.0,SNR=3.2						
CMAR				LR	LR	23 48 14.7	
	comp=Z,43nm,19.6s,baz=183,slow=41						
BVAR	**Borovoye Array**	**23.90**	**347**	P	**P**	**23 38 55.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=156,slow=13,SNR=8.8						
ZALV	**Zalesovo Beam**	**24.32**	**8**	P	**P**	**23 39 00.2**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=188,slow=9.0,SNR=4.3						
SONM	**Songino Array**	**27.53**	**42**	P	**P**	**23 39 30.5**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=226,slow=9.8,SNR=4.2						
KBZ	**Khabaz**	**31.78**	**306**	LR	LR	23 56 52.2	
	comp=Z,58nm,18.1s,baz=356,slow=44						
BRTR	**Keskin Array B**	**38.19**	**297**	P	**P**	**23 41 02.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=124,slow=9.4,SNR=4.6						
FINES	**FINESS Array B**	**46.62**	**328**	P	**P**	**23 42 10.2**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=112,slow=9.5,SNR=15						
ARCES	**ARCESS Array B**	**49.72**	**338**	P	**P**	**23 42 34.4**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=108,slow=8.7,SNR=12						
GERES	**GERESS Array B**	**52.27**	**311**	P	**P**	**23 42 53.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=79,slow=5.2,SNR=3.6						
NOA	**NORSAR Array B**	**53.61**	**326**	P	**P**	**23 43 03.1**	**0.0**
	comp=Z,0.9nm,0.8s,baz=100,slow=7.0,SNR=3.5						
GUMO	**Guam**	**62.48**	**90**	LR	LR	00 08 35.1	
	comp=Z,93nm,21.6s,baz=119,slow=34						

TORD Torodi Ar. Bea 72.73 275 P **P 23 45 10.2 -0.5**
comp=Z,0.4nm,0.6s,baz=73,slow=5.0,SNR=3.4
WRA Warramunga Arr 72.74 126 P **P 23 45 10.6 0.0**
comp=Z,0.5nm,0.7s,baz=322,slow=5.8,SNR=4.4

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*ISCJB **13** 23:45:46.6±0.2, 60°.38S±0°.03×47°.42W±0°.08, h10km, mb5.6/38, MS5.7/54, Error ellipse: s-maj=5.8km s-min=4.4km az=159.2*
*MOS **13** 23:45:47.4±1.3, 60°.21S×47°.11W, h10km, mb5.8/24, MS5.7/21, Error ellipse: s-maj=20.3km s-min=8.4km az=96.9*
*NEIC **13** 23:45:47.9±2.4, 60°.28S±0°.07×47°.1W±0°.1, h11km, mb5.8/85, Ms_20 5.7/651, Mwb6.0, Mwc6.1, Mww6.1, Mwc6.1(GCMT), Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.30; Mθθ0.05; Mφφ0.24; Mrθ0.07; Mφφ1.03; Mφr0.21; Fault plane solution: M0 1.09000×1018 NP1:φs87.55000°, δ78.19000°, λ-0.91000°. NP2:φs177.73000°, δ89.11000°, λ-168.18000°. Principal axes: T 1.2100, Plg8.0000°, Azm312.0000°; N -0.3116, Plg78.0000°, Azm182.0000°; P -0.8984, Plg9.0000°, Azm43.0000°;*
*NEIC **13** 23:45:48, 60°.36S×47°.40W, h15km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.25; Mθθ0.14; Mφφ0.12; Mrθ-0.56; Mφφ1.33; Mφr0.54; Fault plane solution: M0 1.56000×1018 NP1:φs184.00000°, δ69.00000°, λ-158.00000°. NP2:φs86.00000°, δ70.00000°, λ-22.00000°. Principal axes: T 1.4569, Plg1.0000°, Azm135.0000°; N 0.1828, Plg61.0000°, Azm227.0000°; P -1.6397, Plg29.0000°, Azm45.0000°;*
*IDC **13** 23:45:49.0±2.1, 60°.26S×47°.02W, h16km±12km, mb5.4/22, mb1 5.4/23, mb1mx5.3/26, mbtmp5.5/23, ML4.5/1, MS5.6/15, Ms1 5.6/15, ms1mx5.5/19 Error ellipse: s-maj=18.5km s-min=10.2km az=59.0*
*GCMT **13** 23:45:51.9±0.1, 60°.50S×47°.52W, h17km, MW6.0/137, Moment Tensor Solution. s129, c297; s137, c480; Duration: 2±5 Moment tensor: Scale 1018Nm; Mrr=0.24±.01; Mθθ-0.02±.01; Mφφ0.26±.01; Mrθ0.11±.02; Mφφ1.24±.01; Mφr0.62±.03; Best double couple: M0 1.39300×1018 NP1:φs178.00000°, δ88.00000°, λ-153.00000°. NP2:φs87.00000°, δ63.00000°, λ-2.00000°. Principal axes: T 1.5380, Plg17.0000°, Azm309.0000°; N -0.2920, Plg63.0000°, Azm182.0000°; P -1.2470, Plg20.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **13** 23:45:53, 60°.47S×47°.49W, h18km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.22; Mθθ-0.02; Mφφ0.24; Mrθ0.22; Mφφ1.26; Mφr0.59; Fault plane solution: M0 1.43000×1018 NP1:φs88.00000°, δ66.00000°, λ2.00000°. NP2:φs358.00000°, δ88.00000°, λ156.00000°. Principal axes: T 1.5724, Plg18.0000°, Azm310.0000°; N -0.3549, Plg66.0000°, Azm173.0000°; P -1.2175, Plg15.0000°, Azm45.0000°;*
*NEIC **13** 23:45:59.7, 60°.79S×47°.19W, h24km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.30; Mθθ-0.03; Mφφ0.34; Mrθ-0.08; Mφφ1.55; Mφr0.37; Fault plane solution: M0 1.61000×1018 NP1:φs177.58000°, δ84.17000°, λ-164.99000°. NP2:φs86.02000°, δ75.07000°, λ-6.04000°. Principal axes: T 1.7366, Plg6.0000°, Azm311.0000°; N -0.2453, Plg74.0000°, Azm198.0000°; P -1.4912, Plg15.0000°, Azm43.0000°;*

ISC 13 23:45:48.2±0.2, 60°.31S±0°.04×47°.29W±0°.05, h10km, n908, σ1§86/602, mb5.8/70, MS5.8/368, 10C-37D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.40**	**49**	*i* P		**Pn**		**23 47 48.6**	**-1.2**
HOPE	**Hope Point**	**8.40**	**49**	Pn		**Pn**		**23 47 48.4**	**-1.5**
PMSA	**Palmer Station**	**8.93**	**233**	Pn		**Pn**		**23 47 55.9**	**-1.2**
	38nm,0.3s,baz=54,slow=10.0,SNR=124								
PMSA				Sn		**Sn**		**23 49 35.8**	**-1.8**
	6.2nm,0.3s,baz=304,slow=21,SNR=5.5								
PMSA				LR		LR		23 51 15.6	
	comp=Z,88μm,20.6s,baz=49,slow=36								
PMSA	**Palmer Station**	**8.93**	**233**	*e*P		**Pn**		**23 47 56.0**	**-1.1**
EFI	**East Falkland**	**10.54**	**320**	P		**Pn**		**23 48 20.1**	**+1.0**
EFI								23 50 11.0	
EFI	**East Falkland**	**10.54**	**320**			**Pn**		**23 48 20.1**	**+1.0**
EFI				Sn		**Sn**		**23 50 11.0**	**-6.0**
USHA	**Ushuaia**	**12.57**	**287**	Pn		**Pn**		**23 48 49.2**	**+2.3**
	2.7nm,0.3s,baz=128,slow=15,SNR=29								
USHA				LR		LR		23 52 32.7	
	comp=Z,76μm,19.0s,baz=160,slow=32								
GO10	**Punta Arenas**	**14.81**	**288**			**Pn**		**23 49 19.2**	**+1.6**
GO09	**Cerro Castillo**	**16.64**	**292**			**Pn**		**23 49 40.3**	**-1.0**
GO09				IAmb		IAmb		23 50 05.6	
	comp=Z,608nm,1.2s								
VNA3	**Neumayer Olymp**	**18.52**	**142**	P		**Pn**		**23 50 05.5**	**+1.0**
VNA1	**Neumayer--Stat**	**18.81**	**139**	P		**Pn**		**23 50 08.0**	**+0.1**
VNA2	**Neumayer--Watz**	**19.16**	**140**	P		**Pn**		**23 50 12.1**	**0.0**
	baz=288,slow=9.4								
SNAA	**Sanae**	**20.75**	**141**	P		**P**		**23 50 29.4**	**+0.7**
SNAA	**Sanae**	**20.75**	**141**	*ce*P		**P**		**23 50 29.6**	**+1.0**
SNAA	**Sanae**	**20.75**	**141**	P		**P**		**23 50 29.2**	**+0.6**
	comp=Z,70nm,1.1s,baz=278,slow=9.4,SNR=53								
SNAA				LR		LR		23 57 05.3	
	comp=Z,11μm,18.2s,baz=282,slow=33								
SNAA	**Sanae**	**20.75**	**141**	P		Pn		23 50 31.1	+0.1
SNAA				IAmb		IAmb		23 50 54.0	
	comp=Z,748nm,1.4s								
TRQA	**Tornquist**	**24.14**	**331**	P		**P**		**23 51 05.9**	**+1.7**
TRQA				pmax		pmax			
	comp=Z,2μm,2.0s								
TRQA				MLR		MLR			
	comp=Z,15μm,19.0s								
TRQA	**Tornquist**	**24.14**	**331**	P		**P**		**23 51 05.9**	**+1.7**
TRQA	**Tornquist**	**24.14**	**331**	*e*P		**P**		**23 51 06.2**	**+2.0**
PLCA	**Paso Flores**	**24.32**	**313**	P		**P**		**23 51 06.2**	**+0.4**
	comp=Z,276nm,0.9s,baz=180,slow=9.4,SNR=80								
PLCA				LR		LR		23 59 59.2	
	comp=Z,23μm,22.0s,baz=184,slow=35								
PLCA	**Paso Flores**	**24.32**	**313**	P		**P**		**23 51 06.2**	**+0.4**
PLCA	**Paso Flores**	**24.32**	**313**	*e*P		**P**		**23 51 06.2**	**+0.4**
PLCA				*ep*P		**pwP**		**23 51 10.3**	**-1.8**
PLCA				*es*		**S**		**23 55 27.6**	**+2.9**
GO06	**Curarrehue**	**25.66**	**313**	P		**P**		**23 51 18.2**	**+0.1**
GO06				IAmb		IAmb		23 51 23.2	
	comp=Z,183nm,1.0s								
GO06				IAMs_20		IAMs_20		00 00 30.4	
	comp=Z,22μm,22.0s								
LPA	**La Plata**	**26.34**	**340**	*i* P		**P**		**23 51 23.0**	**-1.0**
LPA				pPP				23 52 07.3	
LPA				PCP		**PcP**		**23 54 44.7**	**-4.9**
LPA				S		**S**		**23 56 06.2**	**+9.5**
OGAUY	**Aigu**	**26.44**	**346**	*e*P		**P**		**23 51 26.9**	**+2.0**
OGAUY	**Aigu**	**26.44**	**346**	*e*P		**P**		**23 51 26.9**	**+2.0**
PLTB	**Pedras Altas**	**28.86**	**349**	*e*P		**P**		**23 51 48.1**	**+1.4**
PLTB				*es*		**S**		**23 56 40.0**	**+3.5**
PLTB	**Pedras Altas**	**28.86**	**349**	*e*P		**P**		**23 51 48.1**	**+1.4**
PLTB				*es*		**S**		**23 56 40.0**	**+3.5**
GO05	**Huala**	**29.92**	**317**	P		**P**		**23 51 56.0**	**0.0**
QSPA	**South Pole Qui**	**29.93**	**180**	P		**P**		**23 51 57.2**	**+1.1**
	comp=Z,379nm,0.9s,baz=172,slow=4.1,SNR=164								
QSPA	**South Pole Qui**	**29.93**	**180**	P		**P**		**23 51 57.1**	**+1.0**
QSPA	**South Pole Qui**	**29.93**	**180**	IAMs_20		IAMs_20		00 05 03.0	
	comp=Z,16μm,20.0s								
CPSB	**Cacapava Do Su**	**30.19**	**349**	*e*P		**P**		**23 52 00.1**	**+1.7**
CPSB	**Cacapava Do Su**	**30.19**	**349**	*e*P		**P**		**23 52 00.1**	**+1.7**
CNLB	**Canela**	**31.09**	**354**	*e*P		**P**		**23 52 08.5**	**+2.1**
CNLB	**Canela**	**31.09**	**354**	*e*P		**P**		**23 52 08.5**	**+2.1**
PEL	**Peldehue**	**31.21**	**320**	P		**P**		**23 52 07.5**	**0.0**
PEL				pmax		pmax			
	comp=Z,391nm,0.9s								
PEL				MLR		MLR			
	comp=Z,11μm,21.0s								
PEL	**Peldehue**	**31.21**	**320**	P		**P**		**23 52 07.5**	**0.0**
ROC1	**El Roble**	**31.47**	**320**	P		**P**		**23 52 12.4**	**+2.4**
TRIS	**Tristan da Cun**	**32.13**	**60**	IAMs_20		IAMs_20		00 03 47.9	
	comp=Z,21μm,18.0s								
ITAB	**Concordia**	**33.23**	**352**	*e*P		**P**		**23 52 26.8**	**+1.6**
ITAB	**Concordia**	**33.23**	**352**	*e*P		**P**		**23 52 26.8**	**+1.6**
GO04	**Tololo Observa**	**34.00**	**322**	P		**P**		**23 52 31.7**	**-0.5**
CPUP	**Villa Florida**	**34.66**	**344**	P		**P**		**23 52 37.7**	**+0.1**
	comp=Z,7.3nm,0.8s,baz=173,slow=7.7,SNR=13								
CPUP	**Villa Florida**	**34.66**	**344**	*e*P		**P**		**23 52 38.7**	**+1.1**
CPUP	**Villa Florida**	**34.66**	**344**	*e*P		**P**		**23 52 38.7**	**+1.1**
SYO	**Syowa Base**	**35.04**	**141**	*i*pP		**P**		**23 52 39.0**	**-1.4**
SYO	**Syowa Base**	**35.04**	**141**	*i*sP		**P**		**23 52 42.0**	**+1.6**
PTGB	**Pitanga**	**35.73**	**353**	*e*P		**P**		**23 52 47.8**	**+0.9**
PTGB	**Pitanga**	**35.73**	**353**	*e*P		**P**		**23 52 47.8**	**+0.9**
GO03	**Copiap**	**36.25**	**324**	IAmb		IAmb		23 53 07.0	
	comp=Z,159nm,0.8s								
GO03				IAMs_20		IAMs_20		00 08 40.6	
	comp=Z,12μm,18.0s								
SPB	**Sao Paulo**	**36.69**	**360**	P		**P**		**23 52 55.3**	**+0.2**
SPB	**Sao Paulo**	**36.69**	**360**	*e*P		**P**		**23 52 56.3**	**+1.3**
FRTB	**Fartura**	**36.97**	**357**	*e*P		**P**		**23 52 59.0**	**+1.5**
FRTB	**Fartura**	**36.97**	**357**	*e*P		**P**		**23 52 59.0**	**+1.5**
VAO	**Valinhos**	**37.28**	**0**	*e*P		**P**		**23 53 03.2**	**+3.0**
VAO	**Valinhos**	**37.28**	**0**	*e*P		**P**		**23 53 03.2**	**+3.0**
ESAR	**Angra dos Reis**	**37.31**	**4**	*e*P		**P**		**23 53 02.4**	**+2.1**
ESAR	**Angra dos Reis**	**37.31**	**4**	*e*P		**P**		**23 53 02.4**	**+2.1**
MAN01	**Angra dos Reis**	**37.49**	**5**	*e*P		**P**		**23 53 03.9**	**+2.0**
MAN01	**Angra dos Reis**	**37.49**	**5**	*e*P		**P**		**23 53 03.9**	**+2.0**
TRCB	**Terra Rica**	**37.67**	**352**	*e*P		**P**		**23 53 04.8**	**+1.3**
TRCB	**Terra Rica**	**37.67**	**352**	*e*P		**P**		**23 53 04.8**	**+1.3**
RCLB	**Rio Claro- Sao**	**37.86**	**360**	*e*P		**P**		**23 53 06.6**	**+1.5**
RCLB	**Rio Claro- Sao**	**37.86**	**360**	*e*P		**P**		**23 53 06.6**	**+1.5**
VAS01	**Vassouras-RJ**	**38.09**	**6**	*e*P		**P**		**23 53 09.8**	**+2.8**
VAS01	**Vassouras-RJ**	**38.09**	**6**	*e*P		**P**		**23 53 09.8**	**+2.8**
DUB01	**Friburgo-RJ**	**38.35**	**7**	*e*P		**P**		**23 53 11.6**	**+2.4**
DUB01	**Friburgo-RJ**	**38.35**	**7**	*e*P		**P**		**23 53 11.6**	**+2.4**
GO02	**Mina Guanaco**	**38.36**	**326**	P		**P**		**23 53 10.7**	**+1.2**
GO02				IAmb		IAmb		23 53 25.7	
	comp=Z,284nm,1.2s								
GO02				PP		**PP**		**23 54 31.9**	**-5.2**
GO02				IAMs_20		IAMs_20		00 08 44.6	
	comp=Z,11μm,19.0s								
CAM01	**Campos-RJ**	**38.66**	**8**	*e*P		**P**		**23 53 13.5**	**+1.8**
CAM01	**Campos-RJ**	**38.66**	**8**	*e*P		**P**		**23 53 13.5**	**+1.8**
PCMB	**Pacaembu**	**38.77**	**354**	*e*P		**P**		**23 53 13.8**	**+1.1**
PCMB	**Pacaembu**	**38.77**	**354**	*e*P		**P**		**23 53 13.8**	**+1.1**
BB19B	**Bebedouro**	**39.22**	**358**	*e*P		**P**		**23 53 16.9**	**+0.5**
BB19B	**Bebedouro**	**39.22**	**358**	*e*P		**P**		**23 53 16.9**	**+0.5**
BSCB	**Bom Sucesso**	**39.31**	**4**	*e*P		**P**		**23 53 19.3**	**+2.0**
BSCB	**Bom Sucesso**	**39.31**	**4**	*e*P		**P**		**23 53 19.3**	**+2.0**
ALF01	**Guarapari-ES**	**39.93**	**10**	*e*P		**P**		**23 53 24.4**	**+2.1**
ALF01	**Guarapari-ES**	**39.93**	**10**	*e*P		**P**		**23 53 24.4**	**+2.1**
PB10	**IPOC Station P**	**40.19**	**326**	P		**P**		**23 53 23.7**	**-0.8**
PB10				IAmb		IAmb		23 53 40.0	
	comp=Z,444nm,1.6s								
AQDB	**Aquidauana**	**40.24**	**348**	*e*P		**P**		**23 53 25.7**	**+0.8**
AQDB	**Aquidauana**	**40.24**	**348**	*e*P		**P**		**23 53 25.7**	**+0.8**
SBA	**Scott Base**	**40.52**	**191**	P		**P**		**23 53 28.6**	**+2.0**
SBA				pmax		pmax			
	comp=Z,308nm,0.9s								
SBA				MLR		MLR			
	comp=Z,12μm,18.0s								
SBA	**Scott Base**	**40.52**	**191**	P		**P**		**23 53 28.6**	**+2.0**
SBA				IAMs_20		IAMs_20		00 12 26.2	
	comp=Z,13μm,18.0s								
LVC	**Limon Verde**	**40.61**	**328**	P		**P**		**23 53 28.8**	**+0.4**
LVC				pmax		pmax			
	comp=Z,55nm,1.0s								
LVC	**Limon Verde**	**40.61**	**328**	LR		LR		00 11 45.8	
	comp=Z,5μm,18.2s,baz=181,slow=38								
LVC	**Limon Verde**	**40.61**	**328**	P		**P**		**23 53 28.8**	**+0.4**
LVC	**Limon Verde**	**40.61**	**328**	*e*P		**P**		**23 53 29.5**	**+1.1**
ITRB	**Iturama**	**40.62**	**356**	*e*P		**P**		**23 53 29.2**	**+1.2**
ITRB	**Iturama**	**40.62**	**356**	*e*P		**P**		**23 53 29.2**	**+1.2**
PB04	**IPOC Station P**	**41.20**	**327**	P		**P**		**23 53 32.3**	**-0.7**
PB04				IAmb		IAmb		23 53 37.5	
	comp=Z,195nm,1.1s								
PB04				IAMs_20		IAMs_20		00 11 22.8	
	comp=Z,9μm,19.0s								
RIB01	**Linhares ES**	**41.24**	**10**	*e*P		**P**		**23 53 35.1**	**+1.9**
RIB01	**Linhares ES**	**41.24**	**10**	*e*P		**P**		**23 53 35.1**	**+1.9**
BSFB	**Barra de Sao F**	**41.69**	**9**	*e*P		**P**		**23 53 38.7**	**+1.9**
BSFB	**Barra de Sao F**	**41.69**	**9**	*e*P		**P**		**23 53 38.7**	**+1.9**
PMNB	**Patos De Minas**	**41.73**	**1**	*e*P		**P**		**23 53 38.0**	**+0.7**
PMNB	**Patos De Minas**	**41.73**	**1**	*e*P		**P**		**23 53 38.0**	**+0.7**
SJMB	**Sao Joao De Ma**	**41.79**	**9**	*e*P		**P**		**23 53 39.3**	**+1.6**
SJMB	**Sao Joao De Ma**	**41.79**	**9**	*e*P		**P**		**23 53 39.3**	**+1.6**
MAW	**Mawson**	**42.66**	**148**	P		**P**		**23 53 45.3**	**+1.0**
MAW				pmax		pmax			
	comp=Z,18nm,1.1s								
MAW	**Mawson**	**42.66**	**148**	P		**P**		**23 53 43.8**	**-0.5**
	comp=Z,51nm,1.0s,baz=222,slow=7.9,SNR=23								
MAW				LR		LR		00 10 34.7	
	comp=Z,11μm,20.0s,baz=230,slow=35								
MAW	**Mawson**	**42.66**	**148**	P		**P**		**23 53 45.3**	**+1.0**
PP1B	**Ponte de Pedra**	**43.00**	**349**	*e*P		**P**		**23 53 49.0**	**+1.4**
PP1B	**Ponte de Pedra**	**43.00**	**349**	*e*P		**P**		**23 53 49.0**	**+1.4**
GO01	**Chusmiza**	**43.49**	**329**	IAmb		IAmb		23 54 08.3	
	comp=Z,128nm,1.1s								
PB11	**IPOC Station P**	**43.52**	**329**	IAmb		IAmb		23 54 20.1	
	comp=Z,158nm,1.1s								
MNMC	**Minye Minye**	**44.11**	**329**	IAMs_20		IAMs_20		00 13 21.8	
	comp=Z,8μm,19.0s								
BDFB	**Brasilia**	**44.60**	**359**	P		**P**		**23 54 00.9**	**+0.3**
	comp=Z,118nm,0.9s,baz=174,slow=5.3,SNR=32								
BDFB				LR		LR		00 12 13.9	
	comp=Z,3μm,19.1s,baz=177,slow=36								
ARAG	**Araguaiana, MT**	**44.66**	**354**	*e*P		**P**		**23 54 01.3**	**+0.4**
ARAG	**Araguaiana, MT**	**44.66**	**354**	*e*P		**P**		**23 54 01.3**	**+0.4**
NBIT	**Itapeh - BA**	**45.67**	**11**	*e*P		**P**		**23 54 10.8**	**+1.9**
NBIT	**Itapeh - BA**	**45.67**	**11**	*e*P		**P**		**23 54 10.8**	**+1.9**
LPAZ	**La Paz**	**46.48**	**332**	P		**P**		**23 54 16.1**	**+0.1**
	comp=Z,16nm,0.9s,baz=124,slow=8.8,SNR=18								
LPAZ				LR		LR		00 15 58.3	
	comp=Z,4μm,19.6s,baz=174,slow=39								
LPAZ	**La Paz**	**46.48**	**332**	IAmb		IAmb		23 54 48.2	
	comp=Z,93nm,1.2s								
LPAZ	**La Paz**	**46.48**	**332**	*e*P		**P**		**23 54 17.0**	**+0.9**
LPAZ				*es*		**S**		**00 01 05.8**	**+1.2**
LPAZ	**La Paz**	**46.48**	**332**	*e*P		**P**		**23 54 17.0**	**+0.9**
LPAZ				*es*		**S**		**00 01 05.8**	**+1.2**
NBPN	**Ponto Novo - B**	**49.65**	**9**	*e*P		**P**		**23 54 39.7**	**-0.2**
NBPN	**Ponto Novo - B**	**49.65**	**9**	*e*P		**P**		**23 54 39.7**	**-0.2**
NBLA	**Lagarto - SE**	**49.73**	**12**	*e*P		**P**		**23 54 40.7**	**+0.3**
NBLA	**Lagarto - SE**	**49.73**	**12**	*e*P		**P**		**23 54 40.7**	**+0.3**
CLDB	**Colider**	**49.75**	**349**	*e*P		**P**		**23 54 39.5**	**-1.1**
CLDB				*es*		**S**		**00 01 53.4**	**+3.8**
CLDB	**Colider**	**49.75**	**349**	*e*P		**P**		**23 54 39.5**	**-1.1**
CLDB				*es*		**S**		**00 01 53.4**	**+3.8**
NBAN	**Anadia - AL**	**51.21**	**14**	*e*P		**P**		**23 54 52.1**	**+0.5**
NBAN	**Anadia - AL**	**51.21**	**14**	*e*P		**P**		**23 54 52.1**	**+0.5**
NBTA	**Tacaratu-PE**	**51.55**	**12**	*e*P		**P**		**23 54 54.4**	**+0.2**
NBTA	**Tacaratu-PE**	**51.55**	**12**	*e*P		**P**		**23 54 54.4**	**+0.2**
SUR	**Sutherland**	**51.73**	**89**	P		**P**		**23 54 55.6**	**-0.1**
SUR				IAmb		IAmb		23 55 00.9	
	comp=Z,61nm,0.8s								
NBRF	**Rio Formoso -**	**52.33**	**15**	*e*P		**P**		**23 55 01.6**	**+1.7**
NBRF	**Rio Formoso -**	**52.33**	**15**	*e*P		**P**		**23 55 01.6**	**+1.7**
SAML	**Samuel**	**52.62**	**340**	P		**P**		**23 55 02.2**	**0.0**
SAML				pmax		pmax			
	comp=Z,115nm,1.0s								
SAML	**Samuel**	**52.62**	**340**	P		**P**		**23 55 02.2**	**0.0**
SAML				IAmb		IAmb		23 55 06.5	
	comp=Z,115nm,0.9s								
SAML	**Samuel**	**52.62**	**340**	*e*P		**P**		**23 55 02.4**	**+0.2**
SAML				*es*		**S**		**00 02 32.6**	**+3.3**
CASY	**Casey**	**52.65**	**169**	P		**P**		**23 55 02.8**	**+1.0**
CASY				IAmb		IAmb		23 55 07.5	
	comp=Z,168nm,1.2s								
CASY	**Casey**	**52.65**	**169**	IAMs_20		IAMs_20		00 17 01.5	
	comp=Z,8μm,18.0s								
NNA	**Nana**	**52.94**	**323**	P		**P**		**23 55 04.0**	**-0.5**
	comp=Z,85nm,0.9s,baz=169,slow=7.4								
NNA	**Nana**	**52.94**	**323**	P		**P**		**23 55 03.5**	**-1.0**
NNA				IAmb		IAmb		23 55 08.6	
	comp=Z,123nm,1.1s								
NBMA	**Muriti-CE**	**53.22**	**11**	*e*P		**P**		**23 55 08.4**	**+1.8**
NBMA	**Muriti-CE**	**53.22**	**11**	*e*P		**P**		**23 55 08.4**	**+1.8**
SHEL	**Horse Pasture**	**53.46**	**53**	P		**P**		**23 55 07.0**	**-1.3**
SHEL				pmax		pmax			
	comp=Z,139nm,0.8s								
SHEL	**Horse Pasture**	**53.46**	**53**	P		**P**		**23 55 07.0**	**-1.3**
NBPV	**Pedro Velho**	**54.53**	**15**	*e*P		**P**		**23 55 17.7**	**+1.6**
NBPV	**Pedro Velho**	**54.53**	**15**	*e*P		**P**		**23 55 17.7**	**+1.6**
NBPB	**Pedra_Branca-C**	**54.95**	**9**	*e*P		**P**		**23 55 21.0**	**+1.8**
NBPB	**Pedra_Branca-C**	**54.95**	**9**	*e*P		**P**		**23 55 21.0**	**+1.8**
NBPA	**Parau_RN**	**54.98**	**12**	*e*P		**P**		**23 55 21.7**	**+2.3**
NBPA	**Parau_RN**	**54.98**	**12**	*e*P		**P**		**23 55 21.7**	**+2.3**
RCBR	**Riachuelo**	**55.04**	**14**	IAMs_20		IAMs_20		00 18 07.3	
	comp=Z,7μm,18.0s								
RCBR	**Riachuelo**	**55.04**	**14**	*e*P		**P**		**23 55 22.3**	**+2.4**
RCBR	**Riachuelo**	**55.04**	**14**	*e*P		**P**		**23 55 22.3**	**+2.4**
NBPS	**Pedro II - PI**	**55.96**	**7**	*e*P		**P**		**23 55 28.0**	**+1.5**
NBPS	**Pedro II - PI**	**55.96**	**7**	*e*P		**P**		**23 55 28.0**	**+1.5**
NBCL	**Cascavel-CE**	**56.37**	**11**	*e*P		**P**		**23 55 31.6**	**+2.2**
NBCL	**Cascavel-CE**	**56.37**	**11**	*e*P		**P**		**23 55 31.6**	**+2.2**
H10S2	**ASCENSION HYDR**	**56.75**	**40**	T		T		00 57 20.3	
	baz=200,slow=74,SNR=74								
H10S3	**ASCENSION HYDR**	**56.75**	**40**	T		T		00 57 20.3	
	baz=20,slow=74,SNR=92								
BOSA	**Boshof**	**57.01**	**91**	P		**P**		**23 55 32.9**	**-1.1**
BOSA				pmax		pmax			
	comp=Z,97nm,1.2s								
BOSA	**Boshof**	**57.01**	**91**	P		**P**		**23 55 31.7**	**-2.3**
	comp=Z,10nm,0.5s,baz=207,slow=5.9,SNR=43								
BOSA				LR		LR		00 15 16.1	
	comp=Z,5μm,19.5s,baz=213,slow=31								
BOSA	**Boshof**	**57.01**	**91**	P		**P**		**23 55 32.9**	**-1.1**
BOSA				IAmb		IAmb		23 55 46.1	
	comp=Z,97nm,1.2s								
NBMO	**Morrinhos-CE**	**57.13**	**9**	*e*P		**P**		**23 55 34.5**	**-0.2**
NBMO	**Morrinhos-CE**	**57.13**	**9**	*e*P		**P**		**23 55 34.5**	**-0.2**
ASCN	**Ascension**	**57.80**	**40**	IAMs_20		IAMs_20		00 15 03.9	
	comp=Z,7μm,19.0s								
H10N3	**ASCENSION HYDR**	**57.84**	**39**	T		T		00 58 45.9	
	baz=199,slow=75,SNR=137								
H10N1	**ASCENSION HYDR**	**57.85**	**39**	T		T		00 58 51.1	
	baz=199,slow=75,SNR=87								
H10N2	**ASCENSION HYDR**	**57.86**	**39**	T		T		00 58 55.2	
	baz=199,slow=75,SNR=113								
ATAH	**Atahualpa**	**57.99**	**323**	P		**P**		**23 55 42.2**	**+0.9**
	comp=Z,60nm,1.0s,baz=161,slow=5.2,SNR=20								
WIN	**Windhoek**	**58.01**	**79**	IAMs_20		IAMs_20		00 14 34.6	
	comp=Z,7μm,21.0s								
LBTB	**Lobatse**	**60.16**	**89**	P		**P**		**23 55 55.4**	**-0.6**
LBTB				pmax		pmax			
	comp=Z,374nm,1.8s								
LBTB	**Lobatse**	**60.16**	**89**	P		**P**		**23 55 55.4**	**-0.6**
TSUM	**Tsumeb**	**61.10**	**78**	P		**P**		**23 56 02.3**	**-0.2**
PTLC	**Puerto Leguiza**	**63.96**	**329**	*e*P		**P**		**23 56 18.4**	**-3.0**
PTLC	**Puerto Leguiza**	**63.96**	**329**	*e*P		**P**		**23 56 18.4**	**-3.0**
OTAV	**Otavalo**	**65.01**	**325**	*e*P		**P**		**23 56 29.6**	**+0.7**
OTAV	**Otavalo**	**65.01**	**325**	*e*P		**P**		**23 56 29.6**	**+0.7**
OTAV	**Otavalo**	**65.01**	**325**	P		**P**		**23 56 29.4**	**+0.6**
OTAV				pmax		pmax			
	comp=Z,361nm,1.6s								
OTAV	**Otavalo**	**65.01**	**325**	P		**P**		**23 56 29.4**	**+0.6**
OTAV	**Otavalo**	**65.01**	**325**	IAMs_20		IAMs_20		00 22 29.7	
	comp=Z,6μm,22.0s								
OTAV	**Otavalo**	**65.01**	**325**	*e*P		**P**		**23 56 29.5**	**+0.7**
MDP	**Montagnes des**	**65.35**	**354**	P		**P**		**23 56 28.9**	**-1.5**
	comp=Z,61nm,0.8s,baz=190,slow=8.9,SNR=9.4								
FLOC	**Florencia**	**65.54**	**329**	*e*P		**P**		**23 56 30.6**	**-1.1**
FLOC	**Florencia**	**65.54**	**329**	*e*P		**P**		**23 56 30.6**	**-1.1**
MACC	**Mac

SJCC **San Jacinto, C** 73.41 331 eP P 23 57 20.3 -0.1
QRZ **Quartz Range** 74.06 210 IAmb IAmb 23 57 26.2
comp=Z,145nm,1.1s
LIC **Lamto** 74.16 44 eP P 23 57 25.0 +0.3
comp=Z,289nm,1.0s
KIC **Kosan Boka** 74.39 44 eP P 23 57 26.1 0.0
comp=Z,80nm,0.6s
TIC **Toumodi** 74.56 44 eP P 23 57 26.9 -0.1
BKZ **Black Stump Fm** 74.57 214 IAmb IAmb 23 57 37.8
comp=Z,158nm,1.5s
BKZ IAMs_20 IAMs_20 00 29 00.0
comp=Z,4μm,18.0s
DBIC **Dimbokro** 74.64 44 P P 23 57 27.2 -0.3
comp=Z,39nm,0.9s,baz=174,slow=5.9,SNR=24
DBIC LR LR 00 24 09.5
comp=Z,5μm,20.0s,baz=192,slow=31
URZ **Urewera** 75.24 215 IAmb IAmb 23 57 45.5
comp=Z,56nm,1.0s
HIZ **Hauiti** 75.63 213 IAMs_20 IAMs_20 00 29 06.0
comp=Z,3μm,18.0s
TBI **Tubuai** 75.80 248 eS S 00 07 15.7 -0.4
comp=Z,3μm,28.8s
TBI **Tubuai** 75.80 248 eLQ LQ 00 17 36.0
comp=Z,5μm,33.2s
TBI eLR LR 00 20 59.5
comp=Z,15μm,26.0s,baz=154
ABPO **Ambohimpanom** 75.89 103 IAMs_20 IAMs_20 00 23 25.4
comp=Z,4μm,21.0s
TAU **Tasmania Unive** 76.44 191 P P 23 57 37.1 -0.5
TAU pmax pmax
comp=Z,169nm,1.5s
TAU **Tasmania Unive** 76.44 191 P P 23 57 37.1 -0.5
TAU IAmb IAmb 23 58 06.6
comp=Z,169nm,1.4s
JTS **Las Juntas de** 76.47 322⇑ eP P 23 57 37.5 -0.4
JTS pmax pmax
comp=Z,63nm,1.0s
JTS **Las Juntas de** 76.47 322 P P 23 57 37.2 -0.8
comp=Z,53nm,0.9s,baz=350,slow=2.1,SNR=20
JTS **Las Juntas de** 76.47 322 P P 23 57 37.6 -0.4
JTS IAmb IAmb 23 57 42.0
comp=Z,61nm,1.0s
ACON **Acoyapa** 78.12 322 IAmb IAmb 23 57 50.1
comp=Z,90nm,1.2s
SEUS **St. Eustatius** 78.56 345 IAMs_20 IAMs_20 00 36 18.1
comp=Z,4μm,19.0s
SABA **Saba** 78.72 344 IAMs_20 IAMs_20 00 34 28.4
comp=Z,4μm,19.0s
OUZ **Omahuta** 79.06 213 IAmb IAmb 23 57 55.6
comp=Z,136nm,1.1s
MLPR **Magueyes Islan** 79.63 341 IAmb IAmb 23 57 58.5
comp=Z,115nm,0.9s
CRPR **Cabo Rojo, PR** 79.68 341 IAmb IAmb 23 57 58.8
comp=Z,121nm,0.9s
STVI **Saint Thomas** 79.68 343 IAmb IAmb 23 57 59.4
comp=Z,139nm,1.1s
PPT2 **Papeete2** 80.83 251 eS S 00 08 09.7 -0.7
comp=Z,3μm,25.5s
PPT2 **Papeete2** 80.83 251 eLQ LQ 00 19 41.8
comp=Z,10μm,34.2s
PPT2 eLR LR 00 23 18.5
comp=Z,13μm,25.8s,baz=154
PPT **Papeete** 80.84 251 LR LR 00 25 00.3
comp=Z,2μm,21.9s,baz=155,slow=29
SNET **Serv Nac Est T** 81.03 319 IAMs_20 IAMs_20 00 31 34.3
comp=Z,3μm,18.0s
SDDR **Presa de Saban** 81.38 337 IAMs_20 IAMs_20 00 31 47.2
comp=Z,3μm,22.0s
SC01 **Santiago de lo** 81.70 338 IAMs_20 IAMs_20 00 33 43.6
comp=Z,5μm,22.0s
TOO **Toolangi** 81.91 190 IAmb IAmb 23 58 15.2
comp=Z,143nm,1.6s
VAH **Vaihoa** 81.94 254 eP P 23 58 06.2 -1.8
comp=Z,119nm,1.0s
MTDJ **Mount Denham** 82.00 331 IAMs_20 IAMs_20 00 35 34.8
comp=Z,3μm,20.0s
APG **El Apazote** 82.66 318 P P 23 58 12.1 +0.3
comp=Z,26nm,0.8s,baz=194,slow=9.6,SNR=15
TOA0 **Torodi Ar. Sit** 82.98 48 P P 23 58 13.2 0.0
TORD **Torodi Ar. Bea** 82.98 48 P P 23 58 13.1 -0.2
comp=Z,35nm,0.8s,baz=207,slow=5.3,SNR=82
TORD LR LR 00 27 16.9
comp=Z,5μm,22.0s,baz=270,slow=30
GTBY **Guantanamo Bay** 83.08 334 IAmb IAmb 23 58 17.2
comp=Z,44nm,0.9s
MBAR **Mbarara** 83.55 80 eP P 23 58 18.0 +1.4
MBAR pmax pmax
comp=Z,27nm,1.4s
MBAR **Mbarara** 83.55 80 IAMs_20 IAMs_20 00 29 40.6
comp=Z,5μm,21.0s
CAN **Canberra** 83.78 193 IAmb IAmb 23 58 26.8
comp=Z,125nm,1.5s
CCIG **Comitan** 84.42 317 P P 23 58 20.6 -0.2
CCIG IAmb IAmb 23 58 29.2
comp=Z,104nm,1.5s
CCIG IAMs_20 IAMs_20 00 30 52.2
comp=Z,4μm,20.0s
LHI **Lord Howe Isla** 85.97 202 IAMs_20 IAMs_20 00 32 26.3
comp=Z,3μm,20.0s
CMIG **Matias Romero** 86.11 315 P P 23 58 29.1 +0.1
comp=Z,20nm,1.0s,baz=126,slow=2.4,SNR=7.8
NWAO **Narrogin (SRO)** 86.23 167 P P 23 58 30.6 +0.9
NWAO pmax pmax
comp=Z,85nm,1.3s
NWAO MLR MLR
comp=Z,9μm,19.0s
NWAO **Narrogin (SRO)** 86.23 167 P P 23 58 30.6 +0.9
NWAO IAmb IAmb 23 58 33.0
comp=Z,85nm,1.2s
KMBO **Kilima Mbogo** 86.31 86 P P 23 58 29.9 -0.7
KMBO pmax pmax
comp=Z,64nm,1.8s
KMBO **Kilima Mbogo** 86.31 86 P P 23 58 32.8 +2.3
comp=Z,5.5nm,1.1s,baz=201,slow=3.1,SNR=11
KMBO LR LR 00 33 05.1
comp=Z,2μm,20.1s,baz=217,slow=33
KMBO **Kilima Mbogo** 86.31 86 P P 23 58 29.9 -0.7
KMBO **Kilima Mbogo** 86.31 86 IAMs_20 IAMs_20 00 32 52.8
comp=Z,3μm,19.0s
TEIG **Tepich** 86.86 322 P P 23 58 31.7 -0.9
comp=Z,60nm,0.6s,baz=137,slow=1.4,SNR=31
TEIG **Tepich** 86.86 322 P P 23 58 32.2 -0.4
BBOO **Buckleboo** 87.18 183 IAMs_20 IAMs_20 00 37 52.3
comp=Z,4μm,19.0s
STKA **Stephens Creek** 87.86 188 P P 23 58 36.8 -0.8
comp=Z,18nm,0.9s,baz=168,slow=6.6,SNR=12
STKA PP PP 00 02 07.3 +4.7
comp=Z,6.8nm,0.9s,baz=176,slow=15,SNR=3.9
STKA LR LR 00 38 10.5
comp=Z,4μm,18.5s,baz=176,slow=36
TLIG **Tlapa** 87.88 312 IAmb IAmb 23 58 43.9
comp=Z,65nm,1.3s
TLIG IAMs_20 IAMs_20 00 31 16.2
comp=Z,4μm,21.0s
ARMA **Armidale** 88.28 196 IAmb IAmb 23 58 43.5
comp=Z,34nm,0.8s
FORT **Forrest** 89.17 176 P P 23 58 43.4 -0.3
FORT PP PP 00 02 14.5 +1.5
060A **Indiantown** 91.15 331 IAMs_20 IAMs_20 00 40 19.0
comp=Z,3μm,21.0s
TAM **Tamanrasset** 93.23 47 P P 23 59 03.2 +0.5
TAM pmax pmax
comp=Z,23nm,1.6s
TAM **Tamanrasset** 93.23 47 P P 23 59 03.2 +0.5
EIDS **Eidsvold** 93.32 197 IAmb IAmb 23 59 11.1
comp=Z,48nm,1.2s
DZM **Mont Dzumac** 93.44 211 eSS SS 00 16 33.3 +6.4
comp=Z,2μm,26.7s
DZM **Mont Dzumac** 93.44 211 eLR LR 00 29 11.3
comp=Z,8μm,22.6s
656A **Willston** 93.92 330 IAMs_20 IAMs_20 00 42 44.4
comp=Z,3μm,18.0s
ZAIG **Zacatecas** 94.13 310 P P 23 59 07.6 +0.6
ZAIG IAmb IAmb 23 59 11.9
comp=Z,36nm,1.3s
ZAIG IAMs_20 IAMs_20 00 38 20.8
comp=Z,2μm,21.0s
453A **Whigham** 95.79 329 IAMs_20 IAMs_20 00 41 57.0
comp=Z,3μm,19.0s
451A **Vernon** 95.94 327 IAMs_20 IAMs_20 00 42 48.0
comp=Z,2μm,20.0s
PMOZ **Porto Moniz, M** 96.04 25 ePP PP 00 03 21.2 +13
PMOZ **Porto Moniz, M** 96.04 25 eLR LR 00 30 04.8
comp=Z,1μm,18.0s
257A **Skidaway Islan** 96.04 332 IAMs_20 IAMs_20 00 44 50.5
comp=Z,3μm,21.0s
TIGA **Tifton** 96.16 329 IAMs_20 IAMs_20 00 39 47.7
comp=Z,3μm,22.0s
ASAR **Alice Springs** 96.33 181 P P 23 59 15.7 -1.3
ASAR **Alice Springs** 96.33 181 P P 23 59 14.9 -2.0
comp=Z,22nm,0.9s,baz=172,slow=4.2,SNR=42
ASAR PP PP 00 03 09.3 -0.2
comp=Z,9.8nm,1.0s,baz=173,slow=7.6,SNR=9.8
ASAR PKKPbc PKKPbc 00 15 59.7 +0.2
comp=Z,2.3nm,0.9s,baz=352,slow=2.7,SNR=11
ASAR LR LR 00 41 48.6
comp=Z,3μm,20.0s,baz=180,slow=35
ASAR **Alice Springs** 96.33 181 P P 23 59 15.7 -1.3
352A **Blakely** 96.54 328 IAMs_20 IAMs_20 00 42 17.9
comp=Z,3μm,21.0s
253A **Americus** 96.88 329 IAMs_20 IAMs_20 00 39 46.0
comp=Z,3μm,22.0s
152A **Waverly Hall** 97.61 329 IAMs_20 IAMs_20 00 42 23.3
comp=Z,2μm,21.0s
DGAR **Diego Garcia** 97.69 120 IAMs_20 IAMs_20 00 38 01.2
comp=Z,3μm,19.0s
X58A **Rowland** 98.13 334 IAMs_20 IAMs_20 00 41 29.8
comp=Z,3μm,22.0s
HKT **Hockley** 98.32 319 eP Pdif 23 59 26.3 +0.9
HKT pmax pmax
comp=Z,12nm,1.3s
V62A **Hyde County Ai** 98.39 337 IAMs_20 IAMs_20 00 43 13.5
comp=Z,2μm,21.0s
BIRD **Birdtown, Kers** 98.47 333 IAMs_20 IAMs_20 00 42 32.0
comp=Z,2μm,21.0s
HODGE **Hodges** 98.49 331 IAMs_20 IAMs_20 00 46 24.5
comp=Z,3μm,18.0s
V60A **Jim Taylor Roa** 98.86 336 IAMs_20 IAMs_20 00 43 24.7
comp=Z,2μm,21.0s
HPIG 99.08 310 IAMs_20 IAMs_20 00 37 22.4
comp=Z,3μm,21.0s
W52A **Murphy** 99.72 330 IAMs_20 IAMs_20 00 43 49.7
comp=Z,2μm,21.0s
V55A **Taylorsville** 99.80 333 IAMs_20 IAMs_20 00 46 54.7
comp=Z,2μm,19.0s
ATD **Arta Tunnel** 99.98 84 IAMs_20 IAMs_20 00 42 04.2
comp=Z,3μm,20.0s
V53A **Saluda** 100.00 331 IAMs_20 IAMs_20 00 42 17.1
comp=Z,2μm,22.0s
WRA **Warramunga Arr** 100.03 182 P Pdif 23 59 31.8 -1.8
WRA **Warramunga Arr** 100.03 182 P Pdif 23 59 31.4 -2.2
comp=Z,9.2nm,0.7s,baz=179,slow=4.1,SNR=24
WRA PKKP PKKPdf 00 15 52.2 -0.1
comp=Z,2.9nm,1.0s,baz=355,slow=3.6,SNR=8.0
WRA **Warramunga Arr** 100.03 182 Pdif 23 59 31.8 -1.8
WRA PP PP 00 03 29.3 -8.5
CPCT **Cooper Cave** 100.20 330 IAMs_20 IAMs_20 00 44 09.6
comp=Z,3μm,21.0s
V52A **Sevierville** 100.35 331 IAMs_20 IAMs_20 00 48 12.4
comp=Z,2μm,21.0s
S61A **Accomac** 100.39 337 IAMs_20 IAMs_20 00 42 48.4
comp=Z,2μm,21.0s
T57A **Hurt** 100.46 334 IAMs_20 IAMs_20 00 42 44.3
comp=Z,3μm,22.0s
TXAR **Lajitas Array** 100.49 312 P Pdif 23 59 33.2 -2.1
comp=Z,1.0nm,0.8s,baz=188,slow=5.5,SNR=3.6
TXAR PKKP PKKPdf 00 15 53.2 -1.2
comp=Z,2.0nm,1.0s,baz=180,slow=0.6,SNR=8.9
V51A **Loudon** 100.50 330 IAMs_20 IAMs_20 00 42 13.4
comp=Z,3μm,22.0s
U54A **Nelsons Funny** 100.58 332 IAMs_20 IAMs_20 00 44 13.4
comp=Z,2μm,21.0s
S57A **Dark Hollow, R** 101.13 335 IAMs_20 IAMs_20 00 43 11.0
comp=Z,2μm,22.0s
HDBT **Hernando Brdge** 101.40 325 IAMs_20 IAMs_20 00 42 50.4
comp=Z,3μm,19.0s
Q60A **Greensboro** 101.70 338 IAMs_20 IAMs_20 00 43 12.1
comp=Z,2μm,21.0s
T49A **Edmonton** 102.03 330 IAMs_20 IAMs_20 00 47 27.9
comp=Z,2μm,19.0s
SRIG **Santa Rosalia** 102.03 304 IAMs_20 IAMs_20 00 39 38.7
comp=Z,2μm,19.0s
S51A **Beattyville** 102.06 331 IAMs_20 IAMs_20 00 49 30.7
comp=Z,2μm,21.0s
PFVI **Vila Bisbo** 102.11 31 IAMs_20 IAMs_20 00 40 42.0
comp=Z,2μm,20.0s
P61A **Hammonton** 102.16 339 IAMs_20 IAMs_20 00 44 36.2
comp=Z,2μm,22.0s
SFS **San Fernando** 102.16 33 IAMs_20 IAMs_20 00 44 42.5
comp=Z,3μm,18.0s
MORF **Marmelete** 102.32 31 ePP PP 00 04 16.1 +20
T47A **Shannon Grove** 102.32 328 IAMs_20 IAMs_20 00 45 45.7
comp=Z,3μm,22.0s
R53A **Hurricane** 102.33 333 IAMs_20 IAMs_20 00 46 46.3
comp=Z,2μm,19.0s
PBDV **Barranco-do-Ve** 102.44 31 ePP PP 00 03 58.9 +1.8
P60A **Greenville** 102.45 338 IAMs_20 IAMs_20 00 49 54.9
comp=Z,2μm,20.0s
PSUB **Penn St. - Bra** 102.53 338 IAMs_20 IAMs_20 00 42 36.9
comp=Z,2μm,21.0s
PVAQ **Vaqueiros** 102.65 31 ePP PP 00 04 32.6 +34
PVAQ **Vaqueiros** 102.65 31 eLR LR 00 33 11.5
comp=Z,1μm,20.0s
PCVE **Castro Verde** 102.78 31 ePP PP 00 04 21.8 +22
R50A **Paris** 102.85 331 IAMs_20 IAMs_20 00 43 51.6
comp=Z,3μm,22.0s
HSIG 103.01 306 IAMs_20 IAMs_20 00 37 23.6
comp=Z,3μm,22.0s
PAGS **Pennsylvania G** 103.06 337 IAMs_20 IAMs_20 00 44 35.0
comp=Z,3μm,21.0s
CPNY **Central Park** 103.10 340 IAMs_20 IAMs_20 00 39 54.0
comp=Z,3μm,22.0s
BRNJ **Basking Ridge** 103.10 339 IAMs_20 IAMs_20 00 45 24.0
comp=Z,3μm,21.0s
PNCL **Nicolau / Gran** 103.11 30 ePP PP 00 04 16.9 +15
MNTX **Cornudas Mount** 103.25 312 IAMs_20 IAMs_20 00 39 55.9
comp=Z,3μm,21.0s
PAL **Palisades** 103.30 340 IAMs_20 IAMs_20 00 45 01.3
comp=Z,2μm,22.0s
P53A **Whipple** 103.31 334 IAMs_20 IAMs_20 00 43 04.8
comp=Z,3μm,22.0s
U40A **Yellville** 103.33 324 IAMs_20 IAMs_20 00 45 14.0
comp=Z,2μm,22.0s
ODNJ **Ogdensburg** 103.50 339 IAMs_20 IAMs_20 00 45 24.5
comp=Z,3μm,22.0s
N59A **State Game Lan** 103.55 338 IAMs_20 IAMs_20 00 42 05.9
comp=Z,3μm,22.0s
SSPA **Standing Stone** 103.68 337 IAMs_20 IAMs_20 00 46 11.5
comp=Z,2μm,21.0s
EPT **El Paso** 103.73 311 IAMs_20 IAMs_20 00 43 31.7
comp=Z,3μm,18.0s
MGMO **Mountain Grove** 103.90 324 IAMs_20 IAMs_20 00 50 20.6
comp=Z,2μm,20.0s
KSCT **Kent School, K** 103.93 340 IAMs_20 IAMs_20 00 46 19.9
comp=Z,2μm,21.0s
O52A **Adamsville** 104.02 333 IAMs_20 IAMs_20 00 43 02.4
comp=Z,2μm,21.0s
KSPA **Keystone Colle** 104.17 338 IAMs_20 IAMs_20 00 42 20.3
comp=Z,3μm,22.0s
M57A **Sunshine Farm,** 104.21 337 IAMs_20 IAMs_20 00 46 59.4
comp=Z,2μm,18.0s
OLIL **Olney** 104.23 328 IAMs_20 IAMs_20 00 46 54.2
comp=Z,2μm,20.0s
P48A **Milroy** 104.23 330 IAMs_20 IAMs_20 00 43 15.3
comp=Z,3μm,21.0s
ACSO **Alum Creek Sta** 104.39 333 IAMs_20 IAMs_20 00 45 28.2
comp=Z,3μm,22.0s
319A **Douglas** 104.44 309 IAMs_20 IAMs_20 00 41 48.5
comp=Z,2μm,22.0s
M56A **Emporium** 104.56 337 IAMs_20 IAMs_20 00 46 15.7
comp=Z,3μm,20.0s
K62A **Royalston** 104.64 341 IAMs_20 IAMs_20 00 42 04.9
comp=Z,2μm,21.0s
PMRV **Marv??o** 104.64 31 ePP PP 00 04 31.7 +18
PMRV **Marv??o** 104.64 31 eLR LR 00 34 13.5
comp=Z,2μm,18.0s
L59A **Walton** 104.65 339 IAMs_20 IAMs_20 00 45 47.0
comp=Z,3μm,22.0s
O49A **Covington** 104.66 332 IAMs_20 IAMs_20 00 46 18.5
comp=Z,3μm,22.0s
CART **Cartagena** 104.68 36 IAMs_20 IAMs_20 00 42 08.2
comp=Z,3μm,20.0s
AMTX **Amarillo** 104.80 316 IAMs_20 IAMs_20 00 42 53.8
comp=Z,3μm,20.0s
BINY **Binghamton** 104.83 338 IAMs_20 IAMs_20 00 42 02.8
comp=Z,3μm,22.0s
121A **Cookes Peak, D** 104.90 310 IAMs_20 IAMs_20 00 41 14.5
comp=Z,3μm,22.0s
N51A **Ashland** 104.90 333 IAMs_20 IAMs_20 00 43 26.9
comp=Z,2μm,19.0s
TRY **Troy** 104.94 340 IAMs_20 IAMs_20 00 46 15.6
comp=Z,3μm,21.0s
PCAS **Casmilo, Conde** 104.95 30 ePP PP 00 04 29.9 +14
L56A **Greenwood** 105.06 337 IAMs_20 IAMs_20 00 42 06.1
comp=Z,2μm,22.0s
COI **Coimbra** 105.12 30 ePP PP 00 04 27.8 +11
N49A **Columbus Grove** 105.32 332 IAMs_20 IAMs_20 00 46 27.0
comp=Z,3μm,22.0s
SFIN **Lafayette** 105.52 329 IAMs_20 IAMs_20 00 43 20.3
comp=Z,3μm,22.0s
MTE **Manteigas** 105.52 30 ePP PP 00 04 19.7 -0.3
MTE **Manteigas** 105.52 30 eLR LR 00 34 33.0
comp=Z,2μm,18.0s
MTE **Manteigas** 105.52 30 IAMs_20 IAMs_20 00 46 56.5
comp=Z,2μm,19.0s
WVNY **West Valley, N** 105.53 336 IAMs_20 IAMs_20 00 42 35.4
comp=Z,2μm,19.0s
PAB **San Pablo** 105.56 33 IAMs_20 IAMs_20 00 45 40.2
comp=Z,3μm,19.0s
ACCN **Adirondack Com** 105.57 340 IAMs_20 IAMs_20 00 45 57.4
comp=Z,3μm,20.0s
N47A **Urbana** 105.64 331 IAMs_20 IAMs_20 00 48 54.6
comp=Z,2μm,18.0s
I63A **Otisfield** 105.74 343 IAMs_20 IAMs_20 00 47 22.7
comp=Z,2μm,20.0s
ESBB **Sonseca Array** 105.78 33 IAMs_20 IAMs_20 00 46 18.3
comp=Z,2μm,18.0s
J59A **Piesco** 105.79 340 IAMs_20 IAMs_20 00 47 04.2
comp=Z,2μm,22.0s
J58A **Remsen** 105.83 339 IAMs_20 IAMs_20 00 44 05.6
comp=Z,2μm,22.0s
TUC **Tucson** 105.86 308 IAMs_20 IAMs_20 00 42 37.0
comp=Z,2μm,20.0s
M48A **Edgerton** 105.98 332 IAMs_20 IAMs_20 00 45 18.5
comp=Z,3μm,21.0s
GBN **Guysborough** 106.00 350 IAMs_20 IAMs_20 00 43 16.4
comp=Z,2μm,21.0s
J56A **Wolcott** 106.03 338 IAMs_20 IAMs_20 00 46 57.6
comp=Z,3μm,21.0s
LBNH **Lisbon** 106.12 342 IAMs_20 IAMs_20 00 48 41.0
comp=Z,3μm,20.0s
J55A **Hilton** 106.20 337 IAMs_20 IAMs_20 00 48 02.2
comp=Z,3μm,21.0s
MEDO **Medina** 106.23 337 IAMs_20 IAMs_20 00 43 05.3
comp=Z,3μm,22.0s
HDIL **Hopedale** 106.25 328 IAMs_20 IAMs_20 00 48 19.8
comp=Z,2μm,20.0s
VT1 **Waterbury** 106.34 341 IAMs_20 IAMs_20 00 48 44.5
comp=Z,3μm,20.0s
MVO **Moncorvo** 106.37 31 eSKS SKSac 00 10 50.6 +10
MVO **Moncorvo** 106.37 31 eLR LR 00 35 01.9
comp=Z,1μm,18.0s
J54A **Appleton** 106.37 337 IAMs_20 IAMs_20 00 43 20.6
comp=Z,3μm,20.0s
ANMO **Albuquerque** 106.56 313 IAMs_20 IAMs_20 00 43 42.3
comp=Z,3μm,20.0s
K50A **Casco** 106.73 334 IAMs_20 IAMs_20 00 46 41.2
comp=Z,3μm,21.0s
L46A **Eue Claire** 106.86 331 IAMs_20 IAMs_20 00 49 01.8
comp=Z,2μm,21.0s
G62A **West of Eustis** 106.87 343 IAMs_20 IAMs_20 00 48 06.7
comp=Z,3μm,20.0s
KSU1 **Kansas State U** 106.99 322 IAMs_20 IAMs_20 00 47 14.6
comp=Z,2μm,22.0s
PBRG **Braganca** 107.05 31 ePP PP 00 04 40.1 +8.9
HNR **Honiara** 107.19 208 IAMs_20 IAMs_20 00 41 28.9
comp=Z,3μm,22.0s
X18A **Snowflake** 107.49 310 IAMs_20 IAMs_20 00 41 43.3
comp=Z,2μm,20.0s
CBKS **Cedar Bluff** 107.72 319 IAMs_20 IAMs_20 00 46 55.9
comp=Z,2μm,20.0s
W18A **Petrified Fore** 107.93 310 IAMs_20 IAMs_20 00 45 45.9
comp=Z,2μm,22.0s
PQI **Presque Isle** 107.95 345 IAMs_20 IAMs_20 00 42 54.7
comp=Z,3μm,22.0s
X16A **Lo Mia Camp, P** 107.97 309 IAMs_20 IAMs_20 00 46 40.0
comp=Z,2μm,19.0s
K43A **Burlington** 108.02 329 IAMs_20 IAMs_20 00 50 23.0
comp=Z,2μm,19.0s
E62A **Clayton Lake** 108.10 344 IAMs_20 IAMs_20 00 42 48.2
comp=Z,3μm,22.0s
L40A **Anamosa** 108.17 327 IAMs_20 IAMs_20 00 50 14.7
comp=Z,3μm,22.0s
J45A **Montague** 108.22 331 IAMs_20 IAMs_20 00 45 35.9
comp=Z,3μm,22.0s
I47A **Gladwin** 108.33 333 IAMs_20 IAMs_20 00 47 55.8
comp=Z,3μm,22.0s
D62A **Allapoint, All** 108.49 345 IAMs_20 IAMs_20 00 43 22.5
comp=Z,3μm,22.0s
BAR **Barrett** 108.56 304 IAMs_20 IAMs_20 00 44 41.6
comp=Z,2μm,19.0s
SCIA **State Center** 108.58 326 IAMs_20 IAMs_20 00 50 35.5
comp=Z,2μm,19.0s
Y12C **Blythe** 108.61 306 IAMs_20 IAMs_20 00 40 16.1
comp=Z,2μm,20.0s
SDCO **Great Sand Dun** 108.71 315 IAMs_20 IAMs_20 00 44 20.3
comp=Z,3μm,20.0s
KSCO **Kaye Shedlock'** 108.85 317 IAMs_20 IAMs_20 00 48 18.4
comp=Z,3μm,20.0s
WUAZ **Wupatki** 108.91 309 IAMs_20 IAMs_20 00 49 48.8
comp=Z,2μm,19.0s
GLMI **Grayling** 109.12 333 IAMs_20 IAMs_20 00 47 59.6
comp=Z,2μm,21.0s
S22A **4UR Ranch, Cre** 109.19 314 IAMs_20 IAMs_20 00 45 03.0
comp=Z,2μm,22.0s
PFO **Pinyon Flats O** 109.28 304 IAMs_20 IAMs_20 00 40 56.6
comp=Z,2μm,22.0s
MVCO **Mesa Verde** 109.32 312 IAMs_20 IAMs_20 00 43 06.5
comp=Z,3μm,22.0s
G45A **Suttons Bay** 109.57 332 IAMs_20 IAMs_20 00 49 50.4
comp=Z,3μm,21.0s
BGNE **Belgrade** 109.58 322 IAMs_20 IAMs_20 00 49 27.1
comp=Z,2μm,19.0s
Q24A **Divide** 109.68 315 IAMs_20 IAMs_20 00 46 49.8
comp=Z,2μm,19.0s
JAGI **Jajag, Banyuwa** 109.87 160 IAMs_20 IAMs_20 00 49 54.6
comp=Z,3μm,19.0s
U15A **North Rim** 110.07 309 IAMs_20 IAMs_20 00 49 02.4
comp=Z,2μm,20.0s
PV01 **Paradox Valley** 110.16 313 IAMs_20 IAMs_20 00 43 34.8
comp=Z,3μm,22.0s
PV13 **Radium Mtn., P** 110.28 312 IAMs_20 IAMs_20 00 46 14.9
comp=Z,3μm,21.0s
PV02 **Paradox Valley** 110.29 312 IAMs_20 IAMs_20 00 51 17.2
comp=Z,3μm,19.0s
PV05 **Paradox Valley** 110.31 312 IAMs_20 IAMs_20 00 46 07.1
comp=Z,3μm,20.0s
PV03 **Paradox Valley** 110.37 312 IAMs_20 IAMs_20 00 46 08.4
comp=Z,2μm,20.0s
PV18 **Skein Mesa, Pa** 110.39 312 IAMs_20 IAMs_20 00 46 08.8
comp=Z,2μm,19.0s
PV12 **Saucer Basin,** 110.41 312 IAMs_20 IAMs_20 00 47 46.4
comp=Z,3μm,21.0s
PV11 **David Mesa, Pa** 110.42 312 IAMs_20 IAMs_20 00 43 57.6
comp=Z,3μm,21.0s
PV07 **Paradox Valley** 110.46 313 IAMs_20 IAMs_20 00 46 21.8
comp=Z,2μm,20.0s
PV19 **Morning Glory** 110.47 312 IAMs_20 IAMs_20 00 46 11.0
comp=Z,2μm,20.0s
PASC **Pasadena Art C** 110.47 303 IAMs_20 IAMs_20 00 40 58.4
comp=Z,2μm,21.0s
PV20 **West Nyswonger** 110.49 312 IAMs_20 IAMs_20 00 46 14.2
comp=Z,2μm,21.0s
E46A **Sault Ste Mari** 110.52 334 IAMs_20 IAMs_20 00 46 10.4
comp=Z,2μm,22.0s
ISCO **Idaho Springs** 110.58 316 IAMs_20 IAMs_20 00 46 56.9
comp=Z,2μm,22.0s
PV21 **Cone Mtn., Par** 110.69 312 IAMs_20 IAMs_20 00 46 18.8
comp=Z,3μm,21.0s
MMRI **Maumere** 110.77 169 IAMs_20 IAMs_20 00 51 20.0
comp=Z,2μm,20.0s
ECSD **EROS Data Cent** 111.24 324 IAMs_20 IAMs_20 00 49 23.9
comp=Z,2μm,20.0s
SHPR **Sheep Range** 111.26 307 IAMs_20 IAMs_20 00 41 50.1
comp=Z,2μm,21.0s
RAYN **Ar Rayn** 111.50 80 IAMs_20 IAMs_20 00 46 14.3
comp=Z,3μm,21.0s
N23A **Red Feather La** 111.67 316 IAMs_20 IAMs_20 00 46 42.7
comp=Z,2μm,21.0s
O20A **White River Ci** 111.81 314 IAMs_20 IAMs_20 00 46 50.4
comp=Z,3μm,21.0s
MNCI **Minicoy** 111.90 113 IAMs_20 IAMs_20 00 39 38.6
comp=Z,3μm,22.0s
ITM **Ithomi** 112.38 54 IAMs_20 IAMs_20 00 45 52.1
comp=Z,3μm,22.0s
PAGB **Antelope Grade** 112.68 303 IAMs_20 IAMs_20 00 41 25.8
comp=Z,2μm,20.0s
RWWY **Rawlins** 112.82 315 IAMs_20 IAMs_20 00 47 53.0
comp=Z,2μm,21.0s
R11A **Troy Canyon, C** 113.03 307 IAMs_20 IAMs_20 00 46 55.8
comp=Z,2μm,20.0s
KARP **Karpathos** 113.15 59 IAMs_20 IAMs_20 00 46 49.5
comp=Z,2μm,22.0s

CASP	**Castiglione de**	113.18	43		IAMs_20	IAMs_20	00 47 45.2	
	comp=Z,3µm,20.0s							
PMBI	**Palembang**	113.28	149		IAMs_20	IAMs_20	00 56 38.0	
	comp=Z,2µm,18.0s							
PMPB	**Monarch Peak**	113.32	302		IAMs_20	IAMs_20	00 44 12.9	
	comp=Z,3µm,19.0s							
K22A	**Casper**	113.43	316		IAMs_20	IAMs_20	00 46 52.1	
	comp=Z,2µm,20.0s							
EYMN	**Ely**	113.71	329		IAMs_20	IAMs_20	00 51 45.1	
	comp=Z,2µm,22.0s							
OMMB	**Old Mammoth Mi**	113.77	305		IAMs_20	IAMs_20	00 46 44.6	
	comp=Z,2µm,21.0s							
RSSD	**Black Hills**	113.90	319		IAMs_20	IAMs_20	00 53 30.4	
	comp=Z,2µm,21.0s							
NV11	**Mina Array Sit**	114.12	306		IAMs_20	IAMs_20	00 52 31.0	
	comp=Z,2µm,19.0s							
AGG	**Agios Georgios**	114.13	53		IAMs_20	IAMs_20	00 47 33.4	
	comp=Z,3µm,20.0s							
NVAR	**Mina Array Bea**	114.18	305		PKP	**PKiKP**	**00 04 28.5**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=164,slow=3.4,SNR=5.1							
NVAR					PKKPab	**PKKPab**	**00 15 10.8**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=296,slow=2.2,SNR=5.0							
VLC	**Villacollemand**	114.24	42		IAMs_20	IAMs_20	00 49 55.1	
	comp=Z,2µm,18.0s							
PALK	**Pallekele**	114.40	121	*i*	PKiKP	**PKiKP**	**00 04 28.9**	**+0.7**
PDAR	**Pinedale Array**	114.59	314		PKP	PKPdf	00 04 27.1	-0.7
	comp=Z,0.8nm,0.7s,baz=118,slow=5.2,SNR=3.4							
PDAR					PKKPab	**PKKPbc**	**00 15 07.0**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=34,slow=0.5,SNR=3.8							
PDAR	**Pinedale Array**	114.59	314			PKPdf	00 04 26.6	-1.2
LIT	**Litokhoron**	115.12	53		IAMs_20	IAMs_20	00 49 28.5	
	comp=Z,2µm,19.0s							
AHID	**Auburn Hatcher**	115.15	313		IAMs_20	IAMs_20	00 50 39.8	
	comp=Z,3µm,21.0s							
AGMN	**Agassiz Nation**	115.19	326		IAMs_20	IAMs_20	00 53 26.7	
	comp=Z,2µm,20.0s							
CSS	**Mathiatis**	115.35	64		IAMs_20	IAMs_20	00 49 33.7	
	comp=Z,2µm,21.0s							
BKNI	**Bangkinang**	115.38	144		IAMs_20	IAMs_20	00 53 16.4	
	comp=Z,2µm,18.0s							
BMN	**Battle Mountai**	115.46	307		IAMs_20	IAMs_20	00 44 29.3	
	comp=Z,2µm,21.0s							
RUBR	**Rubicon Trail**	115.47	304		IAMs_20	IAMs_20	00 47 38.5	
	comp=Z,2µm,21.0s							
REDW	**Red Top Meadow**	115.58	314		IAMs_20	IAMs_20	00 52 14.1	
	comp=Z,2µm,20.0s							
SNOW	**Snow King Moun**	115.63	314		IAMs_20	IAMs_20	00 53 18.5	
	comp=Z,2µm,20.0s							
TPAW	**Teton Pass**	115.72	314		IAMs_20	IAMs_20	00 53 22.0	
	comp=Z,2µm,18.0s							
MCCM	**Marconi Confer**	115.83	302		IAMs_20	IAMs_20	00 43 52.4	
	comp=Z,2µm,21.0s							
PDG	**Podgorica**	115.87	49		IAMs_20	IAMs_20	00 50 42.3	
	comp=Z,2µm,20.0s							
MOOW	**Moose Ponds**	115.87	314		IAMs_20	IAMs_20	00 51 18.0	
	comp=Z,2µm,20.0s							
FXWY	**Fox Creek**	115.88	314			**PKPdf**	**00 04 29.8**	**-0.5**
FXWY					IAMs_20	IAMs_20	00 52 59.1	
	comp=Z,2µm,21.0s							
TUE	**Stuetta**	115.95	40		IAMs_20	IAMs_20	00 48 15.4	
	comp=Z,3µm,22.0s							
IMW	**Indian Meadow**	116.07	314		IAMs_20	IAMs_20	00 51 23.2	
	comp=Z,2µm,20.0s							
FLWY	**Flagg Ranch**	116.15	314		IAMs_20	IAMs_20	00 51 37.2	
	comp=Z,2µm,20.0s							
CTI	**Castel Tesino**	116.32	42		IAMs_20	IAMs_20	00 50 17.3	
	comp=Z,2µm,20.0s							
GDXM	**Geysers**	116.36	302		IAMs_20	IAMs_20	00 42 28.2	
	comp=Z,2µm,22.0s							
ORV	**Oroville**	116.45	304		IAMs_20	IAMs_20	00 44 44.5	
	comp=Z,2µm,21.0s							
RLMT	**Red Lodge**	116.55	316		IAMs_20	IAMs_20	00 52 29.7	
	comp=Z,2µm,22.0s							
MANU	**Manus Island**	116.78	196		IAMs_20	IAMs_20	01 01 50.3	
	comp=Z,1µm,18.0s							
ECH	**Echery**	116.82	38		IAMs_20	IAMs_20	00 50 56.3	
	comp=Z,2µm,19.0s							
DAVA	**Damuels**	116.84	40	*i*	PKiKP	**PKiKP**	**00 04 32.7**	**+0.7**
	comp=Z,2.2nm,0.6s							
STAL	**STALIGIAL**	116.86	42		IAMs_20	IAMs_20	00 48 31.6	
	comp=Z,3µm,21.0s							
FAKI	**Fak Fak**	116.96	179		IAMs_20	IAMs_20	00 53 01.1	
	comp=Z,2µm,21.0s							
RPSI	**Rantau Prapat**	116.99	141			**PKPdf**	**00 04 31.9**	**-1.2**
PSI	**Prapat**	117.09	141		PKiKP	**PKPdf**	**00 04 31.9**	**-1.6**
SQTA	**Sankt Quirin**	117.21	41	*i*	pPKPdf	**PKPdf**	**00 04 34.8**	**+2.2**
	comp=Z,4.4nm,0.6s							
ABTA	**Abfaltersbach**	117.22	42	*i*	PKiKP	**PKiKP**	**00 04 33.4**	**+0.8**
	comp=Z,3.4nm,0.9s							
BFO	**Black Forest**	117.28	38		IAMs_20	IAMs_20	00 48 07.5	
	comp=Z,3µm,21.0s							
VTS	**Vitosha**	117.55	52	⇓	PKiKP	**PKiKP**	**00 04 33.7**	**+0.3**
VTS	**Vitosha**	117.55	52	⇓	P	**PKiKP**	**00 04 33.7**	**+0.3**
VTS	**Vitosha**	117.55	52		IAMs_20	IAMs_20	00 52 19.0	
	comp=Z,2µm,20.0s							
MYKOM	**Kota Tinggi**	117.56	147		IAMs_20	IAMs_20	00 55 43.3	
	comp=Z,2µm,20.0s							
BOZ	**Bozeman (W)**	117.79	314		IAMs_20	IAMs_20	00 50 19.6	
	comp=Z,2µm,21.0s							
KBA	**Koelnbreinsper**	117.79	42	*i*	pPKiKP	**PKiKP**	**00 04 37.8**	**+4.0**
	comp=Z,2.4nm,0.8s							
SOKA	**Soboth**	118.02	44	*i*	pPKiKP	**PKiKP**	**00 04 39.4**	**+5.2**
	comp=Z,1.6nm,0.6s							
LUWI	**Luwuk**	118.33	169		IAMs_20	IAMs_20	00 59 08.3	
	comp=Z,2µm,18.0s							
ARSA	**Arzberg**	118.68	44	*i*	PKiKP	**PKiKP**	**00 04 36.7**	**+1.3**
	comp=Z,1.3nm,0.5s							
LHMI	**Lhok Sumawe**	118.74	138		IAMs_20	IAMs_20	00 46 37.5	
	comp=Z,2µm,20.0s							
MOA	**Molln**	118.77	43	*i*	PKiKP	**PKiKP**	**00 04 36.0**	**+0.5**
	comp=Z,2.6nm,0.8s							
YBH	**Yreka Blue Hor**	118.77	304		IAMs_20	IAMs_20	00 54 32.1	
	comp=Z,2µm,18.0s							
KSM	**Kuching**	118.83	154		IAMs_20	IAMs_20	00 53 46.0	
	comp=Z,2µm,19.0s							
PLID	**Pearl Lake**	118.95	311			**PKiKP**	**00 04 36.6**	**+0.4**
SIJI	**Sorong**	118.98	178		PKP	**PKiKP**	**00 04 38.0**	**+0.9**
	comp=Z,16nm,0.7s,baz=353,slow=2.3,SNR=5.2							
BMO	**Blue Mountains**	119.25	310		PKiKP	**PKiKP**	**00 04 36.8**	**+0.2**
BMO	**Blue Mountains**	119.25	310			**PKiKP**	**00 04 36.8**	**+0.2**
BMO					IAMs_20	IAMs_20	00 47 49.4	
	comp=Z,2µm,21.0s							
IPM	**Ipoh**	119.32	143		IAMs_20	IAMs_20	01 02 28.8	
	comp=Z,2µm,18.0s							
CONA	**Conrad Observa**	119.38	44	*i*	PKiKP	**PKiKP**	**00 04 36.8**	**+0.1**
	comp=Z,2.5nm,0.9s							
BRTR	**Keskin Array B**	119.44	61		PKiKP	**PKPdf**	**00 04 35.7**	**-1.5**
BRTR	**Keskin Array B**	119.44	61		PKP	**PKPdf**	**00 04 35.1**	**-2.1**
	comp=Z,5.0nm,0.8s,baz=194,slow=4.9,SNR=16							
BRTR					PP	**PP**	**00 06 04.5**	**+4.9**
	comp=Z,2.7nm,0.9s,baz=202,slow=6.1,SNR=3.8							
BRTR					PKKPab	**PKKPab**	**00 14 50.9**	**+1.9**
	comp=Z,1.8nm,0.9s,baz=29,slow=2.8,SNR=7.0							
BRTR	**Keskin Array B**	119.44	61		PKPdf	**PKPdf**	**00 04 35.7**	**-1.5**
GERES	**GERESS Array B**	119.45	42		PKP	**PKPdf**	**00 04 35.0**	**-1.8**
	comp=Z,3.2nm,0.8s,baz=146,slow=2.6,SNR=19							
BZS	**Buzias**	119.47	49	⇓	PKiKP	**PKPdf**	**00 04 35.9**	**-0.9**
BZS	**Buzias**	119.47	49	⇓	P	**PKPdf**	**00 04 35.9**	**-0.9**
KHC	**Kasperske Hory**	119.65	41	*e*	PKiKP	**PKPdf**	**00 04 36.3**	**-0.8**
KHC				*e*			00 06 04.0	
KHC				*e*	SS	SS	00 22 22.9	-1.8
KHC					MLR	MLR		
	comp=Z,3µm,21.7s							
KHC	**Kasperske Hory**	119.65	41	*e*	PKP	**PKPdf**	**00 04 36.3**	**-0.8**
KHC				*e*	x	x	00 04 48.6	
KHC				*e*	PP	**PP**	**00 06 04.0**	**+3.2**
KHC				*e*	SS	SS	00 22 22.9	-1.8
KHC					AMS	AMS	00 49 20.0	
	comp=Z,3µm,21.7s							
MSO	**Missoula**	119.67	313			**PKiKP**	**00 04 37.9**	**+0.5**
MSO					IAMs_20	IAMs_20	00 55 26.5	
	comp=Z,2µm,19.0s							
GZR	**Gura Zlata**	119.72	50	⇓	PKiKP	**PKPdf**	**00 04 37.2**	**-0.2**
GZR	**Gura Zlata**	119.72	50	⇓	P	**PKPdf**	**00 04 37.2**	**-0.2**
PINE	**Pine Mountain**	119.78	307		IAMs_20	IAMs_20	00 49 20.5	
	comp=Z,2µm,22.0s							
KULM	**Kulim**	119.97	142		IAMs_20	IAMs_20	00 58 41.1	
	comp=Z,2µm,19.0s							
F10A	**Beach Ranch, E**	120.16	311		IAMs_20	IAMs_20	00 53 52.6	
	comp=Z,2µm,20.0s							
SBUM	**Sibu**	120.18	156			**PKPdf**	**00 04 38.3**	**-1.0**
NKC	**Novy Kostel**	120.24	40	*e*	PKiKP	**PKiKP**	**00 04 38.3**	**0.0**
NKC					MLR	MLR		
	comp=Z,2µm,23.4s							
NKC	**Novy Kostel**	120.24	40	*e*	PKP	**PKiKP**	**00 04 38.3**	**0.0**
NKC				*e*	x	x	00 04 49.6	
NKC				*e*	SS	SS	00 22 17.5	-15
NKC					AMS	AMS	00 48 10.0	
	comp=Z,2µm,23.4s							
G08A	**Pilot Rock**	120.25	309		IAMs_20	IAMs_20	00 56 40.0	
	comp=Z,2µm,22.0s							
PBCC	**Pribram**	120.27	41		AMS	AMS	00 50 00.0	
	comp=Z,800nm,24.7s							
ARR	**Arges**	120.41	51	⇓	P	**PKPdf**	**00 04 37.8**	**-1.0**
TREC	**Trest**	120.43	42	*e*	PKiKP	**PKiKP**	**00 04 40.2**	**+1.5**
TREC				*e*	SS	SS	00 22 54.9	+20
TREC					MLR	MLR		
	comp=Z,4µm,18.6s							
TREC	**Trest**	120.43	42	*e*	PKP	**PKiKP**	**00 04 40.2**	**+1.5**
TREC				*e*	SS	SS	00 22 54.9	+20
TREC					AMS	AMS	00 53 00.0	
	comp=Z,4µm,18.6s							
JTMT	**Jette**	120.58	314		IAMs_20	IAMs_20	00 55 52.4	
	comp=Z,2µm,19.0s							
VOIR		120.63	51	⇓	PKiKP	**PKPdf**	**00 04 38.0**	**-1.2**
VOIR		120.63	51	⇓	P	**PKPdf**	**00 04 38.0**	**-1.2**
PRU	**Pruhonice**	120.71	41	*e*	SS	SS	00 22 59.0	+21
PRU					AMS	AMS	00 52 20.0	
	comp=Z,4µm,20.0s							
GOPC	**GO Pecny, Ondr**	120.73	42	*e*	SS	SS	00 23 08.6	+30
GOPC					AMS	AMS	00 52 40.0	
	comp=Z,4µm,18.4s							
PRA	**Prague**	120.75	41	*e*	SS	SS	00 22 51.5	+13
PRA					AMS	AMS	00 50 10.0	
	comp=Z,4µm,22.1s							
PSZ	**Piszkesteto**	120.79	46		IAMs_20	IAMs_20	00 51 43.5	
	comp=Z,2µm,20.0s							
DRGR		120.87	49	⇓	PKiKP	**PKPdf**	**00 04 38.0**	**-1.6**
DRGR		120.87	49	⇓	P	**PKPdf**	**00 04 38.0**	**-1.6**
MLR	**Muntele Rosu**	121.03	52	⇑	PKiKP	**PKPdf**	**00 04 38.3**	**-1.7**
MLR	**Muntele Rosu**	121.03	52	⇑	P	**PKPdf**	**00 04 38.3**	**-1.7**
MLR	**Muntele Rosu**	121.03	52		IAMs_20	IAMs_20	00 59 22.9	
	comp=Z,2µm,19.0s							
TLB	**Topalu**	121.11	54	⇓	PKiKP	**PKPdf**	**00 04 38.6**	**-1.4**
TLB	**Topalu**	121.11	54	⇓	P	**PKPdf**	**00 04 38.6**	**-1.4**
F07A	**Phinny Hill Vi**	121.13	309		IAMs_20	IAMs_20	00 51 20.3	
	comp=Z,2µm,21.0s							
HARR	**Harsova**	121.15	54	⇓	PKiKP	**PKiKP**	**00 04 41.1**	**+0.9**
HARR	**Harsova**	121.15	54	⇓	P	**PKiKP**	**00 04 41.1**	**+0.9**
TIRR	**Tirgusor**	121.15	54	⇓	PKiKP	**PKPdf**	**00 04 38.9**	**-1.1**
TIRR	**Tirgusor**	121.15	54	⇓	P	**PKPdf**	**00 04 38.9**	**-1.1**
TIRR	**Tirgusor**	121.15	54		IAMs_20	IAMs_20	00 52 10.2	
	comp=Z,2µm,20.0s							
PVCC	**Panska Ves**	121.18	41	*e*	PKiKP	**PKiKP**	**00 04 41.6**	**+1.5**
PVCC					MLR	MLR		
	comp=Z,3µm,21.0s							
PVCC	**Panska Ves**	121.18	41	*e*	PKP	**PKiKP**	**00 04 41.6**	**+1.5**
PVCC					AMS	AMS	00 50 40.0	
	comp=Z,3µm,21.0s							
BRG	**Berggiesshubel**	121.28	41	*e*	PKP	**PKPdf**	**00 04 40.0**	**-0.1**
	comp=Z,3.3nm,0.9s							
BRG				*e*			00 04 44.7	
	comp=Z,18nm,1.5s							
BRG					PP	**PP**	**00 06 06.0**	**-5.9**
BRG				*i*	PKKP	**PKKPbc**	**00 14 46.9**	**+6.2**
	comp=Z,20nm,1.6s							
BRG					SS	SS	00 23 01.0	+16
	comp=N,2µm,21.8s							
	comp=E,1µm,18.3s							
	comp=Z,2µm,23.5s							
E08A	**Dider Farm, El**	121.29	310		IAMs_20	IAMs_20	00 49 55.5	
	comp=Z,2µm,20.0s							
CLL	**Collm**	121.35	40		PKiKP	**PKPdf**	**00 04 39.6**	**-0.6**
CLL	**Collm**	121.35	40	*i*	PKPdf	**PKiKP**	**00 04 42.4**	**+2.0**
	comp=Z,7.0nm,0.8s							
CLL				*e*	PP	**PP**	**00 06 12.0**	**-0.3**
CLL				*e*	SKKSac	SKKSac	00 13 07.0	-3.3
CLL				*e*	PS	**PS**	**00 16 08.0**	**+4.3**
CLL				*e*	PPS	PPS	00 17 23.0	
CLL				*e*	SS	SS	00 23 12.0	+26
CLL				*e*	SSS	SSS	00 27 12.0	
CLL					L	L	00 51 00.0	
	comp=Z,1µm,21.2s							
CLL	**Collm**	121.35	40			**PKPdf**	**00 04 39.6**	**-0.6**
BISRR	**Bisoca**	121.37	52	⇓	P	**PKiKP**	**00 04 40.8**	**+0.1**
COR	**Corvallis**	121.38	306		IAMs_20	IAMs_20	00 46 30.1	
	comp=Z,2µm,22.0s							
KRLC	**Kraliky**	121.53	43	*e*	PKiKP	**PKiKP**	**00 04 40.8**	**-0.1**
KRLC					MLR	MLR		
	comp=Z,6µm,19.1s							
KRLC	**Kraliky**	121.53	43	*e*	PKP	**PKiKP**	**00 04 40.8**	**-0.1**
KRLC					AMS	AMS	00 52 30.0	
	comp=Z,2µm,19.1s							
PLOR	**Plostina**	121.60	52	⇓	PKiKP	**PKPdf**	**00 04 40.5**	**-0.5**
PLOR	**Plostina**	121.60	52	⇓	P	**PKPdf**	**00 04 40.5**	**-0.5**
DPC	**Dobruska-Polom**	121.61	42	*e*	PKiKP	**PKiKP**	**00 04 42.7**	**+1.7**
DPC				*e*			00 04 51.0	
DPC				*e*	SS	SS	00 22 53.4	+3.5
DPC					MLR	MLR		
	comp=Z,3µm,19.2s							
DPC	**Dobruska-Polom**	121.61	42	*e*	PKP	**PKiKP**	**00 04 42.7**	**+1.7**
DPC				*e*	x	x	00 04 51.0	
DPC				*e*	SS	SS	00 22 53.4	+3.5
DPC					AMS	AMS	00 53 00.0	
	comp=Z,3µm,19.2s							
CFR	**Carcaliu**	121.63	54	⇓	PKiKP	**PKPdf**	**00 04 39.4**	**-1.6**
CFR	**Carcaliu**	121.63	54	⇓	P	**PKPdf**	**00 04 39.4**	**-1.6**
UPC	**Upice**	121.64	42	*e*	SS	SS	00 23 06.4	+16
UPC					AMS	AMS	00 52 00.0	
	comp=Z,3µm,20.2s							
VRI	**Vrincioaia**	121.64	52	⇓	PKiKP	**PKPdf**	**00 04 39.8**	**-1.2**
VRI	**Vrincioaia**	121.64	52	⇓	P	**PKPdf**	**00 04 39.8**	**-1.2**
PKDT	**Phuket**	121.69	139		PKP	**PKiKP**	**00 04 43.6**	**+1.3**
CHVC	**Chvalec**	121.73	42	*e*	PKP	**PKiKP**	**00 04 42.0**	**+0.8**
CHVC				*e*	SS	SS	00 23 15.3	+24
CHVC					AMS	AMS	00 49 10.0	
	comp=Z,3µm,26.9s							
OSTC	**Ostas**	121.75	42	*e*	PKP	**PKiKP**	**00 04 42.9**	**+1.7**
OSTC				*e*	SS	SS	00 23 25.2	+34
OSTC					AMS	AMS	00 49 20.0	
	comp=Z,2µm,19.3s							
OKC	**Ostrava-Krasne**	121.80	44	*e*	PKiKP	**PKiKP**	**00 04 42.0**	**+0.7**
OKC				*e*			00 04 47.4	
OKC					MLR	MLR		
	comp=Z,2µm,18.0s							
OKC	**Ostrava-Krasne**	121.80	44	*e*	PKP	**PKiKP**	**00 04 42.0**	**+0.7**
OKC				*e*	x	x	00 04 47.4	
OKC				*e*	SS	SS	00 23 26.4	+34
OKC					AMS	AMS	00 55 40.0	
	comp=Z,2µm,18.0s							
TRPA	**Tarpa**	121.93	48	⇓	P	**PKPdf**	**00 04 41.3**	**-0.2**
KSP	**Ksiaz**	122.02	42	*e*	PKP	**PKiKP**	**00 04 41.7**	**0.0**
KSP				*e*	PKP	**PKiKP**	**00 04 41.7**	**0.0**
TRTT	**Trang**	122.08	140		PKP		00 04 44.0	
C09A	**Chrisman Ranch**	122.09	311		IAMs_20	IAMs_20	00 56 31.4	
	comp=Z,2µm,21.0s							
UZH	**Uzhgorod**	122.26	47	*e*	PKiKP	**PKiKP**	**00 04 42.2**	**0.0**
BIZ	**Bicaz**	122.29	51	⇓	P	**PKPdf**	**00 04 41.2**	**-1.0**
HYB	**Hyderabad**	122.43	114	*i*	PKP	**PKPdf**	**00 04 41.0**	**-2.4**
BURAR	**Bucovina Array**	122.50	50	⇓	PKiKP	**PKPdf**	**00 04 42.3**	**-0.4**
BURAR	**Bucovina Array**	122.50	50	⇓	P	**PKPdf**	**00 04 42.3**	**-0.4**
LTY	**Liberty**	122.55	309		IAMs_20	IAMs_20	00 48 58.6	
	comp=Z,2µm,20.0s							
LON	**Longmire**	122.57	308		IAMs_20	IAMs_20	00 50 59.4	
	comp=Z,2µm,22.0s							
FFC	**Flin Flon**	122.65	326		IAMs_20	IAMs_20	00 59 11.7	
	comp=Z,2µm,20.0s							
OJC	**Ojcow**	122.69	45	*e*	PKP	**PKPdf**	**00 04 42.4**	**-0.5**
OJC				*e*	PKP	**PKPdf**	**00 04 42.4**	**-0.5**
SURT	**Suratani**	122.84	139		PKP		00 04 44.4	
B08A	**Colville Reser**	122.95	311		IAMs_20	IAMs_20	00 49 42.2	
	comp=Z,2µm,22.0s							
D05A	**Enumclaw**	123.00	308		IAMs_20	IAMs_20	00 51 22.8	
	comp=Z,2µm,20.0s							
KIS	**Kishinev**	123.40	53	*e*	PKP	**PKiKP**	**00 04 45.0**	**+0.5**
KIS	**Kishinev**	123.40	53	*e*	PKiKP	**PKiKP**	**00 04 45.0**	**+0.5**
KIS				*e*			00 04 53.0	
KIS				*e*	PS	PS	00 16 16.0	-6.0
KIS				*e*			00 17 44.0	
KIS				*e*	SS	SS	00 23 28.0	+15
B06A	**Marblemount**	123.89	310		IAMs_20	IAMs_20	00 50 02.4	
	comp=Z,2µm,20.0s							
NLWA	**Neilton Lookou**	123.91	307		IAMs_20	IAMs_20	00 51 43.8	
	comp=Z,2µm,22.0s							
SORM	**Soroca**	124.14	52	⇓	PKiKP	**PKPdf**	**00 04 43.6**	**-2.1**
SORM	**Soroca**	124.14	52	⇓	P	**PKPdf**	**00 04 43.6**	**-2.1**
RGN	**Rugen**	124.23	38		IAMs_20	IAMs_20	00 55 02.4	
	comp=Z,2µm,20.0s							
GKP	**Gorka Klasztor**	124.39	41	*e*	PKP	**PKiKP**	**00 04 47.9**	**+1.6**
GKP				*e*	PKP	**PKiKP**	**00 04 47.9**	**+1.6**
GNI	**Garni**	124.79	69		PKP	**PKiKP**	**00 04 47.6**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=231,slow=1.6,SNR=5.7							
GNI	**Garni**	124.79	69			**PKiKP**	**00 04 48.0**	**+0.3**
GNI	**Garni**	124.79	69		IAMs_20	IAMs_20	00 57 37.1	
	comp=Z,2µm,20.0s							
ANN	**Anapa**	125.20	60	*i*	PKIKP	**PKPdf**	**00 04 46.5**	**-1.3**
ANN				*e*			00 04 50.3	
ANN				*e*			00 11 48.2	
ANN					pmax	pmax		
	comp=Z,48nm,1.0s							
AKH	**Akhalkalaki**	125.21	67		IAMs_20	IAMs_20	00 55 46.6	
	comp=Z,2µm,21.0s							
SOC	**Sochi**	125.23	63	*i*	PKIKP	**PKiKP**	**00 04 53.4**	**+5.1**
SOC				*e*			00 06 40.8	
SOC					pmax	pmax		
	comp=Z,19nm,0.6s							
SOC					MLR	MLR		
	comp=Z,688nm,17.0s							
ZEI	**Tsey**	126.48	66	*i*	PKIKP	**PKPdf**	**00 04 48.5**	**-2.2**
ZEI					pmax	pmax		
	comp=Z,11nm,1.3s							
AKASG	**Malin Array Be**	126.55	50	*c*	*i*PKIKP	**PKPdf**	**00 04 50.0**	**-0.2**
AKASG					pmax	pmax		
	comp=Z,16nm,0.8s							
AKASG	**Malin Array Be**	126.55	50	PKP		**PKPdf**	**00 04 47.8**	**-2.4**
	comp=Z,16nm,0.8s,baz=250,slow=2.0,SNR=21							
AKBB	**Malin Array Si**	126.55	50		IAMs_20	IAMs_20	00 58 55.9	
	comp=Z,2µm,20.0s							
DAV	**Davao City (W)**	126.61	171		IAMs_20	IAMs_20	01 02 53.6	
	comp=Z,2µm,20.0s							
SHA1	**Shidzhatmaz**	126.67	65	*e*	PKiKP	**PKPdf**	**00 04 50.2**	**-0.8**
KBZ	**Khabaz**	126.77	65	PKP		**PKPdf**	**00 04 49.8**	**-1.1**
	comp=Z,9.1nm,0.8s,baz=78,slow=1.7,SNR=14							
PHET	**Kaeng Krachan**	126.82	138	PKP		**PKiKP**	**00 04 54.0**	**+1.7**
KIV	**Kislovodsk**	126.85	64	*i*	PKiKP	**PKiKP**	**00 04 51.5**	**-0.2**
KIV					pmax	pmax		
	comp=Z,76nm,1.1s							
KIV	**Kislovodsk**	126.85	64	⇓	P	**PKPdf**	**00 04 51.2**	**0.0**
KIV	**Kislovodsk**	126.85	64			**PKPdf**	**00 04 49.8**	**-1.4**
KIV					PP	**PP**	**00 06 46.5**	**-3.1**
NCK	**Nalchik**	126.90	65	*e*	PKiKP	**PKPdf**	**00 04 50.6**	**-0.6**
SUW	**Suwalki**	127.00	44	*e*	PKP	**PKiKP**	**00 04 52.7**	**+1.2**
SUW				*e*	PKP	**PKiKP**	**00 04 52.7**	**+1.2**
AKT	**Akhty**	127.23	70	*e*	PKiKP	**PKPdf**	**00 04 51.7**	**-0.3**
AKT				*e*			00 06 51.7	
AKT					pmax	pmax		
	comp=Z,37nm,0.8s							
PATY	**Pattaya**	127.23	140	PKP		**PKiKP**	**00 04 54.9**	**+1.7**
GROC	**Groznyy**	127.67	67	*i*	PKIKP	**PKPdf**	**00 04 52.0**	**-0.6**
GROC				*e*			00 06 55.7	
GROC				*e*			00 12 02.8	
GROC					pmax	pmax		
	comp=Z,33nm,0.7s							
SRDT	**SRDT**	127.99	137	PKP		**PKiKP**	**00 04 55.1**	**+0.4**
KHLT	**Khaolaem Dam**	128.22	136	PKP		**PKPdf**	**00 04 51.1**	**-3.4**
MAK	**Makhachkala**	128.28	69	*e*	P	**Pdif**	**00 01 39.2**	**+0.8**
MAK				*i*			00 04 51.2	

comp=Z,39nm,0.9s
PKI Pulchoki 134.34 114 *e*P **PKPdf 00 05 03.8 -2.4**
comp=Z,49nm,0.8s
RAMN Ramite 134.35 116 *e*P **PKPdf 00 05 03.4 -2.7**
comp=Z,79nm,0.8s
GKN Gorkha 134.36 113 *e*P **PKPdf 00 05 04.6 -1.4**
KKN Kakani 134.47 114 *e*P **PKPdf 00 05 04.2 -2.1**
comp=Z,42nm,0.8s
ODAN Odare 134.62 117 *e*P **PKPdf 00 05 03.7 -3.0**
comp=Z,91nm,1.1s
JIRN Jiri 134.78 115 *e*P **PKPdf 00 05 04.7 -2.4**
comp=Z,148nm,0.8s
GUN Gumba 134.85 114 *e*P **PKPdf 00 05 04.6 -2.6**
comp=Z,61nm,0.8s
TAPN Taplejung 135.19 117 *e*P **PKPdf 00 05 05.1 -2.7**
comp=Z,60nm,1.2s
SARN Sarigan 135.43 198 IAMs_20 IAMs_20 00 50 16.3
comp=Z,1µm,20.0s
QIZ Qiongzhong 135.65 148 PKP **PKPdf 00 05 08.8 +0.3**
QIZ PP **PP 00 07 46.8 +1.1**
QIZ SS SS 00 25 46.6 +4.0
QIZ LR LR
comp=Z,1µm,16.7s
QIZ LR LR
comp=Z,750nm,16.2s
QIZ LR LR
comp=Z,2µm,35.3s
QIZ Qiongzhong 135.65 148 IAMs_20 IAMs_20 01 00 56.9
comp=Z,2µm,21.0s
JIS Juneau Island 136.30 310 IAMs_20 IAMs_20 01 08 49.5
comp=Z,2µm,18.0s
BESE Bessie Mountai 136.69 310 IAMs_20 IAMs_20 01 09 14.8
comp=Z,2µm,18.0s
TULEG Thule 137.28 353 **PKPdf 00 05 10.0 +0.3**
BTK Batken 137.39 90 IAMs_20 IAMs_20 01 06 59.9
comp=Z,2µm,22.0s
KLMR Klimovskoe 137.96 47 *e*PKIKP **PKPdf 00 05 08.2 -3.1**
KLMR pmax pmax
comp=Z,28nm,1.2s
KLMR Klimovskoe 137.96 47 *e*PKPdf **PKPdf 00 05 08.3 -3.1**
KLMR AMP 00 05 15.6
comp=Z,28nm,1.2s
KLMR *e*PP PP 00 07 52.3 -8.2
KLMR *e*SKKP 00 18 13.4
KLMR LQ LQ 00 54 10.5
KLMR LQ LQ 00 54 10.5
KLMR LR LR 00 57 32.3
DAG Danmarks Havn 138.02 9 *e*PKIKP **PKPdf 00 05 10.7 -0.4**
DAG Danmarks Havn 138.02 9 *i* P **PKPdf 00 05 10.7 -0.4**
WHY Whitehorse 138.12 313 IAMs_20 IAMs_20 01 08 31.3
comp=Z,1µm,20.0s
RES Resolute Bay 138.32 343 IAMs_20 IAMs_20 01 13 09.3
comp=Z,1µm,20.0s
DHAK Deception Hill 138.33 309 IAMs_20 IAMs_20 01 09 41.6
comp=Z,1µm,20.0s
AKTO Aktyubinsk 138.66 69 PKhKP PKPpre 00 05 02.4
comp=Z,1.6nm,0.7s,baz=127,slow=2.2,SNR=4.3
LSA Lhasa 138.73 119 IAMs_20 IAMs_20 00 57 49.1
comp=Z,1µm,21.0s
AB31 Akbulak array 138.75 72 *i* PKHKP PKPpre 00 05 02.3
AB31 pmax pmax
comp=Z,14nm,0.9s
HYT Haines Junctio 139.20 311 IAMs_20 IAMs_20 01 05 43.9
comp=Z,2µm,22.0s
KMI Kunming 139.21 136 PKP **PKPdf 00 05 11.9 -3.3**
KMI sPKP 00 05 23.6
KMI PP **PP 00 08 11.3 +3.0**
KMI SS SS 00 26 27.5 +1.9
KMI AMB AMB
comp=Z,320nm,6.2s
KMI LR LR
comp=Z,1µm,18.9s
KMI LR LR
comp=Z,700nm,18.9s
KMI LR LR
comp=Z,1µm,19.8s
KMI Kunming 139.21 136 IAMs_20 IAMs_20 01 11 06.4
comp=Z,2µm,19.0s
BCPM Bancas Point 139.44 309 IAMs_20 IAMs_20 01 04 05.5
comp=Z,2µm,22.0s
ARCES ARCESS Array B 139.47 31 PKHKP PKPpre 00 05 03.9
ARCES ARCESS Array B 139.47 31 PKhKP PKPpre 00 05 02.9
comp=Z,5.2nm,0.5s,baz=242,slow=2.6,SNR=28
ARCES ARCESS Array B 139.47 31 PKPpre PKPpre 00 05 03.9
KK31 Karatay Array 139.51 86 *i* PKHKP PKPpre 00 05 06.2
KK31 pmax pmax
comp=Z,13nm,0.9s
KSH Kashi 139.54 95 PKP **PKPdf 00 05 09.8 -5.4**
KSH PP **PP 00 08 07.3 -3.3**
KSH PKS 00 08 45.0
KSH SS SS 00 26 21.3 -8.7
KSH AMB AMB
comp=Z,510nm,7.1s
KSH LR LR
comp=Z,2µm,17.2s
KSH LR LR
comp=Z,800nm,10.7s
KSH LR LR
comp=Z,1µm,17.4s
TMCR Tamitsa 139.62 42 *e*PKIKP **PKPdf 00 05 13.9 -0.4**
TMCR pmax pmax
comp=Z,30nm,0.9s
HKPS Hong Kong Po S 139.82 153 IAMs_20 IAMs_20 01 02 28.1
comp=Z,2µm,21.0s
APA Apatity 140.35 36 ⇓*i* PKIKP PKiKP 00 05 29.7 +12
APA pmax pmax
comp=Z,11nm,1.2s
AML Almayashu 140.38 90 P **PKPdf 00 05 16.1 -0.9**
SNR=12
YAH Yahtse 140.52 309 IAMs_20 IAMs_20 01 18 28.1
comp=Z,2µm,19.0s
PRGR Permogore 140.72 49 *e*PKHKP PKPpre 00 05 06.9
PRGR pmax pmax
comp=Z,17nm,0.6s
CTGM Chitina Glacie 140.73 310 IAMs_20 IAMs_20 01 11 12.7
comp=Z,2µm,20.0s
EKS2 Erkin-Say 140.81 89 P **PKiKP 00 05 19.4 -0.6**
SNR=7.5
UCH Uchtor 140.86 91 P **PKPdf 00 05 13.8 -4.1**
SNR=16
KZA Kyzart 141.11 91 P **PKPdf 00 05 17.0 -1.4**
SNR=8.8
AAK Ala-Archa 141.15 90 *e*PKIKP **PKPdf 00 05 16.1 -2.0**
AAK Ala-Archa 141.15 90 PKhKP PKPpre 00 05 12.3
comp=Z,9.8nm,0.8s,baz=185,slow=6.0,SNR=17
AAK Ala-Archa 141.15 90 P **PKPdf 00 05 14.3 -3.8**
SNR=6.5
AAK Ala-Archa 141.15 90 PKPpre 00 05 12.1
AAK Ala-Archa 141.15 90 IAMs_20 IAMs_20 01 08 18.4
comp=Z,2µm,20.0s
BALM Baldy 141.17 309 IAMs_20 IAMs_20 01 14 23.5
comp=Z,1µm,19.0s
TGL Tana Glacier 141.18 309 IAMs_20 IAMs_20 01 12 07.5
comp=Z,2µm,19.0s
CRQM Cirque 141.30 309 IAMs_20 IAMs_20 01 09 00.2
comp=Z,2µm,21.0s
FRU1 Bishkek 141.34 90 PKIKP **PKPdf 00 05 16.7 -1.6**
FRU1 MLR MLR
comp=Z,2µm,20.0s
FRU1 Bishkek 141.34 90 **PKPdf 00 05 16.7 -1.6**
FRU1 IAMs_20 IAMs_20 01 09 24.6
comp=Z,2µm,20.0s
KBK Karagaybulak 141.39 90 P **PKPdf 00 05 15.5 -3.0**
SNR=8.1
HMT Hamilton 141.48 308 IAMs_20 IAMs_20 01 15 57.7
comp=Z,2µm,19.0s
MCARA McCarthy VSAT 141.64 309 IAMs_20 IAMs_20 01 05 24.6
comp=Z,2µm,22.0s
VRDI Verde Repeater 141.71 309 IAMs_20 IAMs_20 01 18 02.5
comp=Z,1µm,20.0s
GYA Guiyang 141.75 141 ⇑*i* PKP **PKPdf 00 05 16.6 -3.0**
GYA PP **PP 00 08 29.6 +5.9**
GYA PKS 00 08 50.6
GYA SKKS 00 15 14.9
GYA SS **SS 00 26 57.4 +2.4**
GYA AMB AMB
comp=Z,430nm,8.6s
GYA LR LR
comp=Z,790nm,18.8s
GYA LR LR
comp=Z,540nm,19.5s
GYA LR LR
comp=Z,840nm,18.6s
TKM2 Tokmak 2 141.91 91 PKHKP PKPpre 00 05 14.3
TKM2 pmax pmax
comp=Z,14nm,1.0s
TKM2 Tokmak 2 141.91 91 P **PKPdf 00 05 17.3 -2.2**
SNR=16
GLB Gilahina Butte 141.98 309 IAMs_20 IAMs_20 01 12 02.6
comp=Z,2µm,20.0s
KDJ Kajisay 142.11 93 PKIKP **PKPdf 00 05 16.3 -3.5**
KDJ MLR MLR
comp=Z,1µm,21.0s
KDJ Kajisay 142.11 93 **PKPdf 00 05 16.3 -3.5**
KDJ IAMs_20 IAMs_20 01 09 12.7
comp=Z,1µm,21.0s
TARG Taragay, Kyrgy 142.12 94 IAMs_20 IAMs_20 01 14 19.2
comp=Z,1µm,20.0s
EPYK Eagle Plains 142.34 319 IAMs_20 IAMs_20 01 12 27.7
comp=Z,2µm,20.0s
HIN Hinchinbrook I 142.41 307 IAMs_20 IAMs_20 01 19 33.2
comp=Z,2µm,21.0s
INK Inuvik 142.46 322 PKHKP PKPpre 00 05 14.2
INK MLR MLR
comp=Z,3µm,21.0s
INK Inuvik 142.46 322 PKhKP PKPpre 00 05 13.5
comp=Z,26nm,1.1s,baz=95,slow=0.6,SNR=17
INK SKPbc **SKiKP 00 08 57.8 -0.4**
comp=Z,6.7nm,1.0s,baz=128,slow=8.7,SNR=3.1
INK Inuvik 142.46 322 PKPpre 00 05 14.2
FID Port Fidalgo 142.61 307 IAMs_20 IAMs_20 01 08 29.4
comp=Z,2µm,22.0s
ARU Arti 142.81 62 *i* PKIKP **PKPdf 00 05 19.5 -0.8**
ARU Arti 142.81 62 PKPpre 00 05 15.1
KNMB Chin-men Tao 142.82 158 IAMs_20 IAMs_20 01 12 18.6
comp=Z,1µm,19.0s
MENT Mentasta 142.82 311 **PKPdf 00 05 18.0 -2.2**
MENT IAMs_20 IAMs_20 01 17 30.8
comp=Z,1µm,18.0s
GLI Glacier Island 142.93 307 IAMs_20 IAMs_20 01 13 25.9
comp=Z,2µm,19.0s
EGAK Eagle 142.94 315 IAMs_20 IAMs_20 01 10 25.8
comp=Z,1µm,20.0s
PRZ Przheval'sk 142.98 94 IAMs_20 IAMs_20 01 02 16.6
comp=Z,1µm,20.0s
NACB Ninganchiao 143.07 163 IAMs_20 IAMs_20 01 08 05.3
comp=Z,1µm,21.0s
KBS Kingsbay 143.29 16 PKIKP **PKPdf 00 05 20.1 -0.5**
KBS Kingsbay 143.29 16 **PKPdf 00 05 20.1 -0.5**
DOT Dot Lake 143.35 312 IAMs_20 IAMs_20 01 11 33.8
comp=Z,2µm,19.0s
SPA0 Spitsbergen Ar 143.43 18 **PKPdf 00 05 20.2 -0.7**
PAX Paxson 143.50 311 IAMs_20 IAMs_20 01 12 50.3
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 143.57 308 IAMs_20 IAMs_20 01 19 51.0
comp=Z,1µm,21.0s
BRLK Bradley Lake 143.83 304 IAMs_20 IAMs_20 01 03 51.8
comp=Z,2µm,20.0s
CNPM China Poot 143.84 303 PKPbc 00 05 20.8 +0.9
SML Sawmill 143.95 308 IAMs_20 IAMs_20 01 08 18.9
comp=Z,1µm,22.0s
SVE Sverdlovsk 143.97 63 ⇓*i* PKIKP PKPab 00 05 19.2 -0.5
SVE pmax pmax
comp=Z,91nm,1.1s
SVE MLR MLR
comp=Z,2µm,23.0s
RC01 Rabbit Creek A 144.11 306 IAMs_20 IAMs_20 01 13 46.3
comp=Z,1µm,20.0s
PDGK Podgornoye 144.14 94 PKHKP **PKPab 00 05 19.1 -1.9**
PDGK pmax pmax
comp=Z,96nm,0.9s
PMR Palmer 144.15 307 IAMs_20 IAMs_20 01 11 42.1
comp=Z,2µm,21.0s
GHO Glory Hole Cre 144.17 307 IAMs_20 IAMs_20 01 15 07.6
comp=Z,2µm,21.0s
SUA Susitna One 144.72 306 IAMs_20 IAMs_20 01 17 05.4
comp=Z,1µm,19.0s
HDA Harding Lake 144.84 312 IAMs_20 IAMs_20 01 08 46.1
comp=Z,2µm,22.0s
CD2 Chengdu 144.86 134 PKP **PKPab 00 05 23.0 -0.9**
CD2 pPKP sPKPdf 00 05 27.8 -0.5
CD2 sPKP 00 05 30.4
CD2 PP **PP 00 08 42.9 +0.5**
CD2 SKS **SKSdf 00 12 33.3 -0.6**
CD2 AMB AMB
comp=Z,480nm,6.3s
CD2 LR LR
comp=Z,2µm,21.6s
CD2 LR LR
comp=Z,1µm,19.6s
CD2 LR LR
comp=Z,2µm,17.7s
ILAR Eielson Array 145.00 313 PKP **PKPbc 00 05 21.4 -1.9**
comp=Z,49nm,0.7s,baz=138,slow=3.2,SNR=137
ILAR PKPbc **PKPab 00 05 23.3 -0.1**
comp=Z,71nm,0.9s,baz=149,slow=1.5,SNR=132
CCB Clear Creek Bu 145.28 312 IAMs_20 IAMs_20 01 16 29.8
comp=Z,1µm,20.0s
SKT Skwentna 145.32 306 IAMs_20 IAMs_20 01 13 41.2
comp=Z,2µm,19.0s
COLA College 145.41 312 *e*PKIKP **PKPdf 00 05 24.1 -0.5**
COLA College 145.41 312 **PKPdf 00 05 23.5 -1.0**
COLA College 145.41 312 IAMs_20 IAMs_20 01 12 51.2
comp=Z,2µm,20.0s
KTH Kantishna Hill 145.90 309 IAMs_20 IAMs_20 01 11 49.3
comp=Z,2µm,20.0s
BRVK Borovoye 146.16 74 *e*PKP2 **PKPdf 00 05 26.1 -0.1**
BRVK Borovoye 146.16 74 **PKPdf 00 05 25.6 -0.6**
BRVK Borovoye 146.16 74 IAMs_20 IAMs_20 01 11 29.7
comp=Z,2µm,20.0s
ENH Enshi 146.18 142 IAMs_20 IAMs_20 01 05 08.7
comp=Z,2µm,21.0s
TOLK Toolik Lake Re 147.76 318 IAMs_20 IAMs_20 01 12 37.8
comp=Z,2µm,21.0s
WHN Wuhan 147.80 149 ⇓PKPbc **PKPdf 00 05 30.9 +1.2**
WHN PP **PP 00 09 03.5 +4.0**
WHN LR LR
comp=Z,4µm,20.9s
WHN LR LR
comp=Z,2µm,20.4s
WHN LR LR
comp=Z,4µm,17.7s
MAKZ Makanchi 147.86 92 PKP2 **PKPbc 00 05 31.6 -0.7**
MAKZ MLR MLR
comp=Z,1µm,22.0s
MAKZ Makanchi 147.86 92 **PKPbc 00 05 31.6 -0.7**
MAKZ IAMs_20 IAMs_20 01 14 08.9
comp=Z,1µm,22.0s
MKAR Makanchi Array 148.00 92 PKP2 **PKPbc 00 05 31.4 -1.3**
MKAR Makanchi Array 148.00 92 PKP **PKPdf 00 05 27.2 -2.4**
comp=Z,20nm,0.5s,baz=232,slow=1.7,SNR=171
MKAR PKPbc **PKPbc 00 05 30.9 -1.8**
comp=Z,77nm,0.7s,baz=236,slow=2.6,SNR=214
MKAR Makanchi Array 148.00 92 **PKPbc 00 05 31.4 -1.3**
WMQ Urumqi 148.55 101 PKPbc **PKPdf 00 05 32.4 +1.7**
WMQ AMB AMB
comp=Z,470nm,11.6s
WMQ LR LR
comp=Z,580nm,19.3s
WMQ LR LR
comp=Z,550nm,19.5s
WMQ LR LR
comp=Z,830nm,29.9s
WMQ Urumqi 148.55 101 IAMs_20 IAMs_20 01 20 23.4
comp=Z,2µm,21.0s
KURBB Kurchatov Arra 148.66 83 PKP **PKPdf 00 05 28.2 -2.3**
comp=Z,8.0nm,0.8s,baz=233,slow=2.7,SNR=16
KURBB PKPbc **PKPbc 00 05 33.5 -0.8**
comp=Z,41nm,0.8s,baz=233,slow=3.0,SNR=35
KURK Kurchatov 148.77 83 *e*PKIKP **PKPdf 00 05 29.5 -1.1**
KURK Kurchatov 148.77 83 PKPdf **PKPdf 00 05 28.8 -1.8**
KURK **PKPbc 00 05 32.5 -2.1**
KURK Kurchatov 148.77 83 IAMs_20 IAMs_20 01 13 31.7
comp=Z,2µm,20.0s
XAN Xi'an 149.49 139 PKPbc **PKPdf 00 05 33.4 +1.0**
XAN pPKP PKPbc 00 05 37.0 0.0
XAN PKPab **pPKPab 00 05 44.3 -0.1**
XAN PP **PP 00 09 13.0 +3.4**
XAN SS SS 00 28 25.3 +2.3
XAN AMB AMB
comp=Z,720nm,7.3s
XAN LR LR
comp=Z,850nm,20.1s
XAN LR LR
comp=Z,750nm,16.9s
XAN LR LR
comp=Z,2µm,20.4s
XAN Xi'an 149.49 139 **PKPdf 00 05 33.5 +1.0**
LZH Lanzhou 149.51 130 *e*PKPbc **PKPdf 00 05 31.8 -0.8**
LZH pPKP pPKPbc 00 05 39.3 -0.4
LZH PP **PP 00 09 11.1 +1.1**
LZH SS SS 00 28 23.3 -0.5
LZH AMB AMB
comp=Z,850nm,9.8s
LZH LR LR
comp=Z,650nm,19.0s
LZH LR LR
comp=Z,610nm,18.4s
LZH LR LR
comp=Z,770nm,19.5s
SSE Sheshan 149.79 160 PKPbc **PKPbc 00 05 37.0 -0.7**
SSE PP **PP 00 09 15.0 +4.0**
SSE SS SS 00 28 31.6 +5.7
SSE AMB AMB
comp=Z,160nm,5.3s
SSE LR LR
comp=Z,310nm,19.6s
SSE LR LR
comp=Z,200nm,19.9s
SSE Sheshan 149.79 160 IAMs_20 IAMs_20 01 12 21.6
comp=Z,1µm,20.0s
NJ2 Nanjing 150.28 156 *e*PKPbc **PKPbc 00 05 38.3 -0.6**
NJ2 PP **PP 00 09 13.3 -0.6**
NJ2 AMB AMB
comp=Z,540nm,4.0s
NJ2 LR LR
comp=Z,1µm,18.9s
NJ2 LR LR
comp=Z,1µm,18.9s
NJ2 LR LR
comp=Z,2µm,18.6s
GTA Gaotai 150.72 121 ⇓PKPbc **PKPdf 00 05 32.8 -1.5**
GTA pPKP pPKPbc 00 05 42.4 -0.1
GTA PP **PP 00 09 21.8 +4.8**
GTA SKKS 00 16 07.4
GTA SS **SS 00 28 36.4 -0.9**
GTA AMB AMB
comp=Z,360nm,7.8s
GTA LR LR
comp=Z,830nm,22.5s
GTA LR LR
comp=Z,710nm,20.9s
GTA LR LR
comp=Z,1µm,20.8s
ADK Adak 151.22 276 PKIKP **PKPbc 00 05 39.9 -0.5**
ADK Adak 151.22 276 **PKPbc 00 05 39.9 -0.5**
JNU Nakatsue 152.78 177 **PKPbc 00 05 44.0 -0.7**
ZAA0 Zalesovo Array 153.75 82 IAMs_20 IAMs_20 01 19 34.6
comp=Z,1µm,18.0s
ZALV Zalesovo Beam 153.75 82 PKIKP **PKPdf 00 05 37.5 -0.6**
ZALV 00 05 45.8
ZALV 00 05 57.8
ZALV Zalesovo Beam 153.75 82 PKP **PKPdf 00 05 35.7 -2.4**
comp=Z,1.2nm,0.8s,baz=258,slow=1.4,SNR=11
ZALV PKPbc **PKPbc 00 05 45.8 -0.2**
comp=Z,11nm,0.7s,baz=244,slow=3.0,SNR=21
ZALV PKPab **PKPab 00 05 57.8 -1.3**
comp=Z,12nm,0.8s,baz=231,slow=6.0,SNR=9.9
ZALV Zalesovo Beam 153.75 82 PKPdf **PKPdf 00 05 37.5 -0.6**
TIY Taiyuan 153.98 141 *e*PKPbc **PKPdf 00 05 36.8 -2.4**
TIY PP **PP 00 09 37.1 +1.9**
TIY SKKS 00 16 27.1
TIY SS **SS 00 29 16.6 +4.0**
TIY AMB AMB
comp=Z,440nm,7.3s
TIY LR LR
comp=Z,1µm,17.3s
TIY LR LR
comp=Z,470nm,14.7s
TIY LR LR
comp=Z,1µm,18.7s
INU Inuyama 154.87 188 IAMs_20 IAMs_20 01 18 46.4
comp=Z,1µm,21.0s
BTO Baotou 155.78 134 *e*PKP **PKPdf 00 05 46.9 +5.3**
MJAR Matsushiro Arr 155.95 191 PKP **PKPdf 00 05 41.3 -0.6**
comp=Z,0.9nm,0.4s,baz=231,slow=5.3,SNR=5.0
MJAR PKPbc PKPbc 00 05 53.3
comp=Z,4.9nm,0.6s,baz=196,slow=3.0,SNR=7.2
MJAR PKPab **PKPab 00 06 09.5 +0.5**
comp=Z,12nm,0.8s,baz=186,slow=6.3,SNR=9.6
MAJO Matsushiro 155.96 191 IAMs_20 IAMs_20 01 15 20.3
comp=Z,1µm,19.0s
MJB9 Matsu-Tunnel 155.96 191 IAMs_20 IAMs_20 01 15 20.3
comp=Z,1µm,21.0s
HHC Hu-ho-hao-te 156.53 137 *e*PKP **PKPdf 00 05 39.3 -3.3**
KSRS Korea Array 156.92 170 PKP **PKPdf 00 05 42.8 -0.2**
comp=Z,6.2nm,1.0s,baz=193,slow=1.3,SNR=13
KSRS PKPab **PKPab 00 06 15.1 +2.1**
comp=Z,11nm,0.8s,baz=190,slow=4.2,SNR=12
BJT Baijiatuau 157.22 146 PKIKP **PKPdf 00 05 43.6 +0.3**
BJT 00 06 12.6
BJT Baijiatuau 157.22 146 PKPdf **PKPdf 00 05 43.6 +0.3**
BJT **PKPab 00 06 12.6 -1.7**
BJT Baijiatuau 157.22 146 IAMs_20 IAMs_20 01 19 52.1
comp=Z,2µm,20.0s
DL2 Dalian 157.47 157 ⇑PKP **PKPdf 00 05 45.8 +2.2**
DL2 AMB AMB
comp=Z,670nm,6.0s
DL2 LR LR
comp=Z,850nm,17.2s
DL2 LR LR
comp=Z,590nm,14.4s
DL2 LR LR
comp=Z,1µm,18.4s
SONM Songino Array 160.31 118 PKP **PKPdf 00 05 47.9 +1.0**
comp=Z,2.1nm,0.8s,baz=207,slow=1.0,SNR=8.4
SONM PKPab **PKPab 00 06 28.2 +0.5**
comp=Z,9.7nm,0.9s,baz=212,slow=4.5,SNR=13
SONM Songino Array 160.31 118 PKPdf **PKPdf 00 05 47.0 +0.1**
SONM **PKPab 00 06 25.5 -2.2**
ULN Ulaanbaatar 160.62 119 PKIKP **PKPdf 00 05 49.2 +1.9**
ULN 00 06 27.5
ULN Ulaanbaatar 160.62 119 **PKPdf 00 05 49.1 +1.9**
ULN PKPab **PKPab 00 06 27.5 -1.6**
SNY Shenyang 160.66 159 ⇓PKP **PKPdf 00 05 45.6 -1.7**
SNY pPKP **sPKPdf 00 05 55.8 +5.0**
SNY PP **PP 00 10 15.1 +3.4**
SNY SKKS 00 16 55.9
SNY AMB AMB
comp=Z,240nm,7.5s
SNY LR LR
comp=Z,880nm,19.7s
SNY LR LR
comp=Z,1µm,20.5s
SNY LR LR
comp=Z,2µm,18.6s
ZAK Zakamensk 160.70 108 *e*PKIKP **PKPdf 00 05 47.1 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 161.73 105 *e*PKIKP **PKPdf 00 05 48.9 +0.8**
TLY *e*SS SS 00 30 39.4 +3.5
TLY pmax pmax
comp=Z,25nm,1.3s
YUK Yuzh-Kuril'sk 161.88 212 *e*PKP2 **PKPab 00 06 34.7 +0.3**
YUK *e*SS SS 00 30 40.1 +3.6
YUK *e*SSS SSS 00 36 53.3
CN2 Changchun 162.89 162 *e*PKP **PKPdf 00 05 48.4 -1.1**
CN2 PP **PP 00 10 24.1 +0.5**
CN2 LR LR
comp=Z,680nm,18.0s
CN2 LR LR
comp=Z,770nm,18.0s
CN2 LR LR
comp=Z,970nm,18.0s
BILL Bilibino 163.66 312 *e*PKIKP **PKPdf 00 05 47.7 -1.8**
BILL *e*SS SS 00 31 02.1 +6.7
BILL pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 163.66 312 **PKPdf 00 05 47.9 -1.7**
BILL **PKPab 00 06 42.5 +0.8**
USRK Ussuriysk Ar. 163.86 178 PKP **PKPdf 00 05 51.1 +0.6**
comp=Z,5.6nm,1.1s,baz=180,slow=7.1,SNR=5.0
USRK PKPab **PKPab 00 06 43.4 +0.4**
comp=Z,12nm,0.8s,baz=173,slow=2.8,SNR=14
PETK Petropavlovsk- 164.57 253 PKP **PKPdf 00 05 51.0 +0.3**
comp=Z,14nm,1.0s,baz=95,slow=6.4,SNR=5.6
PETK PKPab **PKPab 00 06 45.7 -0.4**
comp=Z,9.3nm,0.8s,baz=125,slow=6.2,SNR=4.7
PETK Petropavlovsk- 164.57 253 PKPdf **PKPdf 00 05 49.2 -1.6**
PETK **PKPab 00 06 44.0 -2.1**
YSS Yuzh-Sakhalins 165.38 208 *e*PKIKP **PKPdf 00 05 48.7 -2.9**
YSS *e*PPP PPP 00 10 44.3
HIA Hailar 166.68 140 PKIKP **PKPdf 00 05 51.6 -1.1**
HIA 00 06 53.4
HIA Hailar 166.68 140 PKPdf **PKPdf 00 05 51.6 -1.1**
HIA **PKPab 00 06 53.4 -2.0**
BOD Bodaibo 170.05 96 *e*PKIKP **PKPdf 00 05 52.5 -2.1**

BOD				pmax	pmax		
	comp=Z,13nm,1.1s						
GRNR	**Gornyy**	**170.21**	**194**	*e*PKP2	**PKPab**	**00 07 11.4**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NKL	**Nikolayevsk**	**171.60**	**215**	*e*PKIKP	**PKPdf**	**00 05 57.8**	**+2.3**
NKL				*e*		00 11 15.1	
ZEA	**Zeya**	**172.77**	**153**	*i* PKIKP	**PKPdf**	**00 05 52.0**	**-4.1**
ZEA				*e*		00 11 19.0	
ZEA				*e*		00 32 30.0	
ZEA				pmax	pmax		
	comp=Z,600nm,5.0s						
ZEA				pmax	pmax		
	comp=Z,130nm,2.5s						
ZEA				pmax	pmax		
	comp=Z,1μm,7.0s						
YAK	**Yakutsk**	**177.73**	**39**	*e*PKP2	PKPab	00 07 42.6	-1.5
YAK				*e*		00 11 36.3	
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
YAK				pmax	pmax		
	comp=N,14nm,1.4s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.4s						

*IDC **13** 23:52:00.7±1.2,59°.97S×47°.97W,h0km,mb4.5/4, mb1 4.6/5,mb1mx4.1/38,mbtmp4.5/5,ML3.5/1,Error ellipse: s-maj=41.1km s-min=31.1km az=104.0*
*NEIC **13** 23:52:03.6±1.8,60°.4S±0°.1×48°.1W±0°.3,h16km±4km, mb4.5/5*
ISC 13 23:52:02.4±0.7,**60°.0S**±0°.1×**47°.6W**±0°.1,**h10**km,**n24,** σ1§**27**/23,**mb4.5/5,Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.35**	**51**		**Pn**	**23 54 02.2**	**-1.2**
PMSA	**Palmer Station**	**8.97**	**231**	Pn	**Pn**	**23 54 10.7**	**-1.1**
	0.6nm,0.3s,baz=44,slow=12,SNR=4.6						
PMSA	**Palmer Station**	**8.97**	**231**		**Pn**	**23 54 11.5**	**-0.2**
SNAA	**Sanae**	**21.06**	**142**	P	**P**	**23 56 47.1**	**+0.9**
	20nm,0.9s,baz=275,slow=10,SNR=6.5						
SNAA	**Sanae**	**21.06**	**142**	P	**P**	**23 56 46.6**	**+0.3**
SNAA				IAmb	IAmb	23 56 52.3	
	comp=Z,33nm,1.0s						
PLCA	**Paso Flores**	**24.01**	**313**	P	**P**	**23 57 19.5**	**+2.3**
PLCA				IAmb	IAmb	23 57 37.0	
	comp=Z,11nm,1.3s						
MAW	**Mawson**	**42.98**	**148**	P	**P**	**00 00 03.0**	**+1.9**
	comp=Z,8.2nm,0.9s,baz=234,slow=11,SNR=6.6						
MAW	**Mawson**	**42.98**	**148**	IAmb	IAmb	00 00 07.3	
	comp=Z,2.2nm,0.9s						
MNMC	**Minye Minye**	**43.80**	**329**	P	P	00 00 12.9	+4.4
TORD	**Torodi Ar. Bea**	**82.92**	**48**	P	**P**	**00 04 29.2**	**+2.1**
	comp=Z,3.4nm,0.8s,baz=186,slow=8.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**82.92**	**48**	IAmb	IAmb	00 04 35.2	
	comp=Z,2.8nm,0.8s						
ASAR	**Alice Springs**	**96.59**	**181**	P	**P**	**00 05 32.6**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=160,slow=3.5,SNR=2.8						
ASAR	**Alice Springs**	**96.59**	**181**	P	**P**	**00 05 30.2**	**-2.2**
IL31		**144.70**	**313**		**PKPdf**	**00 11 36.9**	**-0.7**
ILAR	**Eielson Array**	**144.70**	**313**	PKP	**PKPdf**	**00 11 36.5**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=143,slow=1.1,SNR=12						
ILAR	**Eielson Array**	**144.70**	**313**		**PKPdf**	**00 11 36.6**	**-1.0**
RND	**Reindeer**	**144.72**	**310**		**PKPdf**	**00 11 37.6**	**-0.1**
CCB	**Clear Creek Bu**	**144.97**	**312**		**PKPdf**	**00 11 38.0**	**0.0**
WRH	**Wood River Hil**	**144.99**	**312**		**PKPdf**	**00 11 38.4**	**+0.3**
BVAR	**Borovoye Array**	**146.27**	**74**	PKPbc	**PKPbc**	**00 11 40.8**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=231,slow=4.2,SNR=6.6						
MK31	**Makanchi Array**	**148.18**	**92**	PKPdf	**PKPdf**	**00 11 44.6**	**+0.5**
MK31				PKPbc	**PKiKP**	**00 11 48.8**	**-0.3**
MKAR	**Makanchi Array**	**148.18**	**92**	PKPbc	**PKPbc**	**00 11 45.5**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=235,slow=3.1,SNR=4.8						
MKAR	**Makanchi Array**	**148.18**	**92**		**PKPdf**	**00 11 43.0**	**-1.1**
MKAR				PKPbc	**PKiKP**	**00 11 48.7**	**-0.4**
KURBB	**Kurchatov Arra**	**148.80**	**83**	PKPbc	**PKPbc**	**00 11 47.7**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=232,slow=3.1,SNR=4.1						

WEL 14 00:05:02.6,42°S±2°.×**17°4E**±°,**h12**km±2km,**M3.7**/14, **ML3.9**/12,**MLv3.7**/14,**Error ellipse: s-maj=0.0km s-min=0.0km az=156.9,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.12**	**286**	P	Pg	00 05 06.2	+0.4
BSWZ				S	Sg	00 05 08.9	+0.9
CMWZ	**Cape Campbell**	**0.14**	**91**	P	Pg	00 05 06.5	+0.5
CMWZ				S	Sg	00 05 09.9	+1.4
TUWZ	**Tuamarina**	**0.33**	**348**	P	Pb	00 05 10.1	-0.2
TUWZ				S	Sb	00 05 15.6	+0.1
TCW	**Tory Channel**	**0.57**	**19**	P	Pb	00 05 14.1	-0.3
BHW	**Baring Head**	**0.72**	**62**	P	Pb	00 05 17.2	+0.2
BHW				S	Sn	00 05 28.5	-0.9
NNZ	**Nelson**	**0.72**	**317**	P	Pb	00 05 17.1	0.0
NNZ				S	Sn	00 05 28.3	-1.2
KHZ	**Kahutara**	**0.76**	**209**	P	Pb	00 05 17.9	+0.2
KHZ				S	Sb	00 05 29.1	+1.0
THZ	**Tophouse**	**0.84**	**269**	P	Pb	00 05 19.2	0.0
PLWZ	**Palliser**	**0.94**	**79**	P	Pb	00 05 20.7	0.0
PLWZ				S	Sn	00 05 34.6	-0.3
DUWZ	**D'Urville Isla**	**0.95**	**355**	P	Pb	00 05 20.9	0.0
DUWZ				S	Sn	00 05 35.3	+0.1
MSWZ	**Moikau Station**	**0.97**	**70**	P	Pb	00 05 21.7	+0.3
MSWZ				S	Sn	00 05 35.9	+0.2
CAW	**Cannon Point**	**1.01**	**51**	P	Pg	00 05 22.2	+0.2
KIW	**Kapiti Island**	**1.11**	**37**	P	Pb	00 05 23.6	-0.1
PAWZ	**Paruwai Farm**	**1.11**	**71**	P	Pb	00 05 23.3	-0.4
MTW	**Mount Morrison**	**1.25**	**62**	P	Pn	00 05 25.4	-0.5
OGWZ	**Otaki Gorge**	**1.27**	**43**	P	Pg	00 05 26.7	-0.3
OGWZ				S	Sg	00 05 44.5	+1.0
TRWZ	**Traveller**	**1.29**	**75**	P	Pn	00 05 25.4	-1.0
HOWZ	**Holdsworth Sta**	**1.41**	**53**	P	Pn	00 05 27.7	-0.3
HOWZ				S	Sb	00 05 46.9	+0.3
GVZ	**Greta Valley S**	**1.42**	**211**	P	Pn	00 05 27.9	-0.3
GVZ				S	Sn	00 05 46.8	-0.1
QRZ	**Quartz Range**	**1.46**	**309**	P	Pb	00 05 29.9	+0.3
TMWZ	**Te Maipa**	**1.54**	**66**	P	Pn	00 05 28.9	-1.0
MRZ	**Mangatainoka R**	**1.60**	**48**	P	Pn	00 05 30.6	0.0
DSZ	**Denniston Nort**	**1.67**	**269**	P	Pg	00 05 33.9	-0.6
LTZ	**Lake Taylor**	**1.67**	**231**	P	Pn	00 05 31.8	+0.2
TIWZ	**Tintock**	**1.70**	**56**	P	Pn	00 05 31.7	-0.4
AMCZ	**Amberley**	**1.75**	**215**	P	Pn	00 05 32.2	-0.6
OHWZ	**Ohakea**	**1.82**	**33**	P	Pb	00 05 36.3	+0.5
POWZ	**Post Office Ro**	**1.89**	**45**	P	Pn	00 05 34.9	+0.3
PRWZ	**Pori Road**	**1.89**	**52**	P	Pn	00 05 34.3	-0.3
BFZ	**Birch Farm**	**1.98**	**58**	P	Pn	00 05 34.9	-1.1
CRLZ	**Canterbury Las**	**2.10**	**209**	P	Pn	00 05 37.9	+0.4
OKCZ	**Okains Bay**	**2.10**	**200**	P	Pn	00 05 36.1	-1.4
WAZ	**Wanganui**	**2.12**	**20**	P	Pb	00 05 40.6	-0.3
INZ	**Inchbonnie**	**2.15**	**242**	P	Pn	00 05 39.8	+1.5
OXZ	**Oxford**	**2.16**	**222**	P	Pn	00 05 37.7	-0.6
DVHZ	**Dannevirke**	**2.17**	**49**	P	Pn	00 05 37.9	-0.6
MQZ	**McQueen's Vall**	**2.20**	**207**	P	Pn	00 05 37.0	-2.0
TSZ	**Takapari Road**	**2.23**	**42**	P	Pn	00 05 39.8	+0.4
ANWZ	**Angora Road**	**2.25**	**56**	P	Pn	00 05 41.3	+1.7
AKCZ	**Akaroa Harbour**	**2.28**	**201**	P	Pn	00 05 38.5	-1.5
PNHZ	**Pukenui**	**2.46**	**43**	P	Pn	00 05 42.3	-0.2
PRHZ	**Porangahau**	**2.46**	**54**	P	Pn	00 05 41.3	-1.2
WPHZ	**Waipukurau**	**2.48**	**48**	P	Pn	00 05 42.9	+0.1
MOVZ	**Moawhango**	**2.68**	**30**	P	Pn	00 05 47.0	+1.4
TRVZ	**Turoa**	**2.71**	**26**	P	Pn	00 05 48.0	+2.0
WHVZ	**Whangaehu Hut**	**2.73**	**26**	P	Pn	00 05 48.7	+2.2
BHHZ	**Black Hill Sta**	**2.74**	**35**	P	Pn	00 05 47.0	+0.6
FWVZ	**Far West T-bar**	**2.75**	**26**	P	Pn	00 05 48.7	+2.0
KRHZ	**Kereru**	**2.75**	**41**	P	Pn	00 05 46.2	-0.3
TUVZ	**Tukino**	**2.77**	**27**	P	Pn	00 05 48.4	+1.6
WVZ	**Waitaha Valley**	**2.77**	**240**	P	Pn	00 05 47.9	+1.1
NGZ	**Ngauruhoe**	**2.83**	**26**	P	Pn	00 05 49.6	+1.8
TWVZ	**Taurewa**	**2.88**	**22**	P	Pn	00 05 50.1	+1.8
WTVZ	**West Tongariro**	**2.89**	**25**	P	Pn	00 05 50.1	+1.6
KAHZ	**Kahuranaki**	**2.91**	**49**	P	Pn	00 05 48.0	-0.7
RPZ	**Rata Peaks**	**2.94**	**227**	P	Pn	00 05 50.6	+1.5
KWHZ	**Kaweka Forest**	**2.95**	**39**	P	Pn	00 05 49.3	0.0
BKZ	**Black Stump Fm**	**3.19**	**37**	P	Pn	00 05 54.4	+1.8
HIZ	**Hauiti**	**3.29**	**11**	P	Pn	00 05 56.4	+2.5
FOZ	**Fox Glacier**	**3.58**	**239**	P	Pn	00 05 59.9	+2.0
TLZ	**Tolley Road**	**3.60**	**19**	P	Pn	00 06 00.6	+2.3
LBZ	**Lake Benmore**	**3.86**	**226**	P	Pn	00 06 02.3	+0.6
ODZ	**Otahua Downs**	**4.12**	**216**	P	Pn	00 06 03.8	-1.4
JCZ	**Jackson Bay**	**4.50**	**237**	P	Pn	00 06 12.0	+1.4
MKAZ	**Moumakai**	**4.72**	**11**	P	Pn	00 06 15.3	+1.8
WIAZ	**Waiheke Island**	**5.02**	**10**	P	Pn	00 06 20.6	+2.9

IDC 14 01:53:50.8±1.4,**31°.73N**×**40°.54W,h0**km,**mb3.8**/7, **mb1 4.1**/7,**mb1mx3.7**/42,**mbtmp3.8**/7,**Error ellipse: s-maj=50.1km s-min=21.1km az=7.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**42.88**	**106**	P	P	02 01 51.1	0.0
	0.7nm,0.6s,baz=306,slow=7.3,SNR=8.1						
GERES	**GERESS Array B**	**43.79**	**51**	P	P	02 01 57.6	-0.7
	0.5nm,0.7s,baz=264,slow=6.8,SNR=3.5						
H10N2	**ASCENSION HYDR**	**46.56**	**143**	T	T	02 52 10.4	
	baz=329,slow=75,SNR=59						
H10N3	**ASCENSION HYDR**	**46.56**	**143**	T	T	02 52 10.7	
	baz=329,slow=75,SNR=89						
H10N1	**ASCENSION HYDR**	**46.58**	**143**	T	T	02 52 11.8	
	baz=329,slow=75,SNR=66						
H10S3	**ASCENSION HYDR**	**47.43**	**144**	T	T	02 53 17.1	
	baz=328,slow=74,SNR=28						
H10S2	**ASCENSION HYDR**	**47.44**	**144**	T	T	02 53 23.3	
	baz=252,slow=74,SNR=38						
FINES	**FINESS Array B**	**51.57**	**34**	P	P	02 02 58.7	+0.3
	2.1nm,0.8s,baz=254,slow=14,SNR=3.4						
TXAR	**Lajitas Array**	**53.74**	**285**	P	P	02 03 15.0	0.0
	0.4nm,0.7s,baz=82,slow=3.3,SNR=4.8						
PDAR	**Pinedale Array**	**54.63**	**303**	P	P	02 03 20.9	-0.6
	1.6nm,0.7s,baz=81,slow=9.3,SNR=14						
NVAR	**Mina Array Bea**	**62.23**	**300**	P	P	02 04 14.8	+0.1
	0.5nm,0.7s,baz=82,slow=6.6,SNR=2.8						
ILAR	**Eielson Array**	**68.28**	**334**	P	P	02 04 53.6	+0.5
	0.8nm,0.9s,baz=85,slow=3.0,SNR=5.6						

JMA 14 02:40:14.2±0.2,**37°.21N**×**144°.34E,h48**km,**M3.7,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.53**	**297**	P	Pn	02 40 54.3	+1.6
JIKH				*e*S	Sn	02 41 23.9	+1.6
JIO	**Ouri**	**2.67**	**299**	P	Pn	02 40 56.4	+1.7
JIO				*e*S	Sn	02 41 27.4	+1.5
JFK	**Kawauchi**	**2.77**	**274**	P	Pn	02 40 57.4	+1.3
JFK				*e*S	Sn	02 41 29.9	+1.6
JKMT	**Kesennumamotoy**	**2.77**	**306**	P	Pn	02 40 57.4	+1.3
JKMT				S	Sn	02 41 29.7	+1.4
JMST	**Minamisoumatoc**	**2.79**	**282**	P	Pn	02 40 57.8	+1.4
JMST				*e*S	Sn	02 41 30.2	+1.3
OFUJ	**Ofunato**	**2.81**	**312**	P	Pn	02 40 57.9	+1.2
OFUJ				*e*S	Sn	02 41 30.9	+1.5
JMK	**Ichinoseki**	**3.01**	**306**	P	Pn	02 41 01.3	+1.9
JMK				*e*S	Sn	02 41 36.5	+2.2
JFT	**Otama**	**3.20**	**277**	P	Pn	02 41 04.7	+2.7
JFT				*e*S	Sn	02 41 41.9	+2.9
JRY	**Ryogami san**	**4.53**	**256**	P	Pn	02 41 21.3	+1.0
JRY				*e*S	Sn	02 42 11.3	-0.5
JKB	**Kayabe**	**5.33**	**332**	P	Pn	02 41 32.6	+1.5
JKB				*e*S	Sn	02 42 29.9	-1.2
JCH	**Churui**	**5.45**	**352**	P	Pn	02 41 31.6	-1.2
JCH				*e*S	Sn	02 42 29.9	-4.3

*BJI **14** 02:58:42.0±0.0,5°.09N×127°.24E,h126km,mb4.8/39, mB5.0/26*
*ISCJB **14** 02:58:48.2±0.3,5°.76N±0°.02×126°.91E±0°.04,h131km±3km, mb4.3/34,Error ellipse: s-maj=7.2km s-min=3.3km az=158.8*
*NEIC **14** 02:58:49.2±1.3,5°.70N±0°.06×126°.8E±0°.1,h127km±7km, mb4.7/34*
*MAN **14** 02:58:49.0,5°.68N×126°.67E,h147km,MS3.6*
*DJA **14** 02:58:50.2±0.4,6°N±3°×12°7E±°,h128km±4km,M4.6/24, mB5.1/10,mb4.8/24,MLv4.8/13,Mw(mB)4.5/10*
*IDC **14** 02:58:50.7±0.9,5°.74N×126°.91E,h137km±7km,mb4.1/25, mb1 4.2/27,mb1mx4.0/51,mbtmp4.5/27,MS2.7/1, Ms1 2.9/1,ms1mx2.3/31,Error ellipse: s-maj=17.7km s-min=8.0km az=69.0*
ISC 14 02:58:48.6±0.7,**5°.73N**±0°.04×**126°.95E**±0°.05,**h121**km±6km, **n165,**σ1§**52**/181,**mb4.6**/47,**2C-5D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.28**	**287**	*e*P	**Pn**	**02 59 13.6**	**0.0**
DDMP				*e*S	**Sn**	**02 59 32.9**	**+0.2**
MATI	**Mati**	**1.39**	**330**	*e*P	**Pn**	**02 59 14.1**	**-0.8**
MATI				*e*S	**Sn**	**02 59 38.5**	**+3.7**
DAV	**Davao City (W)**	**1.90**	**314**	P	**Pn**	**02 59 22.1**	**+1.2**
	536nm,0.3s,baz=157,slow=1.2,SNR=18						
DAV				S	**Sn**	**02 59 49.5**	**+3.9**
	363nm,0.3s,baz=294,slow=23,SNR=9.0						
DAV				LR	LR	03 00 03.8	
	comp=Z,332nm,20.1s,baz=165,slow=39						
DAV	**Davao City (W)**	**1.90**	**314**	∥*i*P	**Pn**	**02 59 22.5**	**+1.6**
DAV	**Davao City (W)**	**1.90**	**314**	Pn	**Pn**	**02 59 20.6**	**-0.4**
DAV					**Sn**	**02 59 44.5**	**-1.1**
DMPH	**Davao City--Mi**	**1.96**	**313**	∥*e*P	**Pn**	**02 59 22.5**	**+0.8**
DMPH				*e*S	**Sn**	**02 59 48.9**	**+1.9**
GSPH	**General Santos**	**2.02**	**280**	∥*i*P	**Pn**	**02 59 22.3**	**-0.2**
GSPH				*i* S	**Sn**	**02 59 47.5**	**-0.8**
KCP	**Kidapawan**	**2.24**	**305**	∥*i*P	**Pn**	**02 59 26.0**	**+0.8**
KCP				*i* S	**Sn**	**03 00 00.2**	**+6.9**
SGSI	**Sangihe**	**2.48**	**215**	P	**Pn**	**02 59 30.4**	**+2.2**
BIPH	**Bislig**	**2.51**	**347**	∥*e*P	**Pn**	**02 59 27.0**	**-1.6**
BIPH				*e*S	**Sn**	**02 59 52.5**	**-6.8**
SKMP	**Bagumbayan, Su**	**2.52**	**288**	*e*P	**Pn**	**02 59 27.6**	**-1.1**
SKMP				*e*S	**Sn**	**02 59 58.5**	**-1.0**
BUKP	**Musuan**	**2.84**	**319**	*e*P	**Pn**	**02 59 33.2**	**+0.3**
BUKP				*e*S	**Sn**	**03 00 07.1**	**0.0**
CTBH	**Cotabato--PC H**	**3.07**	**299**	∥*e*P	**Pn**	**02 59 36.3**	**+0.5**
CTBH				*i* S	**Sn**	**03 00 13.1**	**+0.8**
BUTP	**Butuan**	**3.48**	**338**	*e*P	**Pn**	**02 59 40.5**	**-0.8**
BUTP				*e*S	**Sn**	**03 00 23.6**	**+1.6**
CGP	**Cagayan de Oro**	**3.51**	**321**	∥*e*P	**Pn**	**02 59 42.0**	**+0.3**
CGP				*e*S	**Sn**	**03 00 22.2**	**-0.5**
PAGZ	**Pagadian**	**4.12**	**301**	*e*P	**Pn**	**02 59 48.7**	**-1.1**
TNTI	**Ternate**	**4.94**	**175**	P	**Pn**	**03 00 02.0**	**+1.1**
TNTI	**Ternate**	**4.94**	**175**		**Pn**	**03 00 01.7**	**+0.8**
TNTI				Sn	**Sn**	**03 00 56.7**	**-0.4**
MRSI	**Marisa**	**7.23**	**224**	P	**Pn**	**03 00 33.7**	**+2.0**
PALU	**Palau**	**7.65**	**77**	P	**Pn**	**03 00 37.3**	**-0.1**
	baz=7.7,SNR=15						
SANI	**Sanana**	**7.79**	**187**	P	**Pn**	**03 00 37.4**	**-1.9**
SWI	**Sorong**	**7.84**	**147**	P	Pn	03 00 45.2	+5.2
SIJI	**Sorong**	**7.85**	**147**	P	**Pn**	**03 00 41.9**	**+1.8**
	9.0nm,0.3s,baz=231,slow=22,SNR=19						
SIJI				S	**Sn**	**03 02 04.6**	**-2.8**
	7.3nm,0.3s,baz=328,slow=23,SNR=5.0						
LUWI	**Luwuk**	**7.92**	**212**	P	**Pn**	**03 00 43.7**	**+2.7**
LUWI	**Luwuk**	**7.92**	**212**		**Pn**	**03 00 40.6**	**-0.4**
LUWI				Sn	**Sn**	**03 02 05.9**	**-3.1**
APSI	**Ampana**	**8.46**	**219**	P	Pn	03 00 55.8	+7.5
MPSI	**Mapaga**	**8.84**	**233**	P	**Pn**	**03 00 56.8**	**+3.2**
NLAI	**Namlea**	**8.91**	**179**	P	**Pn**	**03 00 54.2**	**-0.3**
MSAI	**Masohi**	**9.23**	**168**	P	**Pn**	**03 01 00.5**	**+1.7**
TTSI	**Tana Toraja**	**11.26**	**219**	P	**Pn**	**03 01 26.6**	**+0.6**
BAKI	**Biak**	**11.44**	**127**	P	**P**	**03 01 36.9**	**-0.4**
KAPI	**Kappang**	**12.87**	**214**	P	**Pn**	**03 01 47.2**	**0.0**
	1.0nm,0.3s,baz=5.9,slow=9.1,SNR=8.9						
KAPI	**Kappang**	**12.87**	**214**	P	**Pn**	**03 01 44.4**	**-2.8**
SBUM	**Sibu**	**15.04**	**258**	P	**Pn**	**03 02 14.6**	**-0.5**
SOEI	**Soe**	**15.61**	**190**	P	**P**	**03 02 24.4**	**+0.5**
SOEI	**Soe**	**15.61**	**190**	P	**Pn**	**03 02 22.4**	**+0.1**
BATI	**Baumata**	**16.17**	**192**	P	**P**	**03 02 33.9**	**+4.0**
	17nm,0.3s,baz=314,slow=3.2,SNR=12						
BATI	**Baumata**	**16.17**	**192**	P	**P**	**03 02 30.6**	**+0.7**
STKI	**Sintang**	**16.44**	**250**	P	**Pn**	**03 02 27.8**	**-4.6**
MTN	**Manton Dam**	**18.91**	**167**	P	**Pn**	**03 03 01.8**	**-0.3**
	baz=19,SNR=14						
MTN	**Manton Dam**	**18.91**	**167**	P	**P**	**03 02 59.4**	**-0.7**
KDU	**Kakadu**	**19.10**	**163**	P	**Pn**	**03 03 03.6**	**-0.7**
	baz=19,SNR=24						
KNRA	**Kununurra**	**21.34**	**175**	P	**P**	**03 03 27.7**	**+1.4**
	baz=22,SNR=34						
KNRA	**Kununurra**	**21.34**	**175**	P	**P**	**03 03 27.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.71**	**183**	P	**P**	**03 03 50.6**	**+1.0**
	baz=24,SNR=61						
FITZ	**Fitzroy Crossi**	**23.71**	**183**	P	**P**	**03 03 50.7**	**+1.0**
	10nm,0.3s,baz=11,slow=7.1,SNR=78						
FITZ	**Fitzroy Crossi**	**23.71**	**183**	P	**P**	**03 03 49.4**	**-0.3**
PMBI	**Palembang**	**23.76**	**249**	P	P	03 03 40.2	-10
COEN	**Coen**	**25.34**	**141**	P	**P**	**03 04 05.5**	**+1.1**
	baz=26,SNR=10						
WB9	**Warramunga Arr**	**26.40**	**164**	P	**P**	**03 04 14.6**	**+0.6**
	baz=27						
WRAB	**Tennant Creek**	**26.52**	**164**	P	**P**	**03 04 14.6**	**-0.5**
WRAB				IAmb	IAmb	03 04 21.4	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**26.53**	**164**	P	**P**	**03 04 15.3**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=344,slow=9.9,SNR=47						
WRA				ScP	**ScP**	**03 11 05.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=343,slow=3.0,SNR=7.8						
WRA	**Warramunga Arr**	**26.53**	**164**	P	**P**	**03 04 13.7**	**-1.5**
WB2	**Warramunga Arr**	**26.53**	**164**	P	**P**	**03 04 15.3**	**+0.1**
WB2				IAmb	IAmb	03 04 20.6	
	comp=Z,15nm,0.7s						
NJ2	**Nanjing**	**27.26**	**345**	*e*P	**P**	**03 04 24.3**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PBKT	**Sadao Pong**	**27.63**	**295**	P	**P**	**03 04 25.8**	**+0.7**
	comp=Z,3.9nm,0.9s						
QIS	**Mount Isa**	**28.93**	**155**	P	**P**	**03 04 37.5**	**+0.9**
	baz=29,SNR=28						
MTSU	**Mount Surprise**	**29.26**	**144**	P	**P**	**03 04 41.2**	**+1.7**
	baz=29,SNR=8.9						
GSI	**Gunungsitoli**	**29.64**	**263**	P	**P**	**03 04 39.5**	**-3.5**
GSI	**Gunungsitoli**	**29.64**	**263**	P	**P**	**03 04 41.2**	**-1.8**
AS31	**Alice Springs**	**30.00**	**167**	P	**P**	**03 04 45.6**	**-0.4**
ASAR	**Alice Springs**	**30.00**	**167**	P	**P**	**03 04 46.5**	**+0.5**
	comp=Z,2.8nm,0.4s,baz=347,slow=7.5,SNR=55						
ASAR				ScP	**ScP**	**03 11 16.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=3.7,slow=3.9,SNR=7.7						
ASAR	**Alice Springs**	**30.00**	**167**	P	**P**	**03 04 46.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.10**	**297**	P	**P**	**03 04 46.9**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=118,slow=6.8,SNR=6.3						
CMAR				LR	LR	03 17 24.5	
	comp=Z,14nm,20.0s,baz=230,slow=37						
CMAR	**Chiang Mai Arr**	**30.10**	**297**	P	**P**	**03 04 46.3**	**-0.7**
KMI	**Kunming**	**30.17**	**312**	P	**P**	**03 04 49.8**	**+2.0**
KMI				pmax	pmax		
	comp=Z,20nm,0.9s						
KMI				pmax	pmax		
	comp=Z,77nm,4.3s						
WRKA	**Warakurna**	**30.61**	**178**	P	**P**	**03 04 52.2**	**+0.8**
	baz=31,SNR=25						
KSRS	**Korea Array**	**31.59**	**1**	P	**P**	**03 05 00.1**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=178,slow=9.4,SNR=4.7						
CTA	**Charters Tower**	**31.92**	**144**	P	**P**	**03 05 05.2**	**+2.3**
	comp=Z,6.9nm,0.7s,baz=322,slow=12,SNR=11						
CTAO	**Charters Tower**	**31.92**	**144**	P	**P**	**03 05 03.0**	**0.0**
CTAO				IAmb	IAmb	03 05 05.8	
	comp=Z,7.9nm,0.7s						
MJAR	**Matsushiro Arr**	**32.36**	**17**	P	**P**	**03 05 05.5**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=183,slow=9.4,SNR=4.7						
MJAR	**Matsushiro Arr**	**32.36**	**17**	P	**P**	**03 05 05.6**	**-1.1**
XAN	**Xi'an**	**32.75**	**332**	P	**P**	**03 05 09.6**	**-0.5**
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
XAN	**Xi'an**	**32.75**	**332**	P	**P**	**03 05 09.7**	**-0.5**
MEEK	**Meekatharra**	**33.17**	**194**	P	**P**	**03 05 14.7**	**+0.9**
	baz=33,SNR=11						
CD2	**Chengdu**	**33.19**	**322**	*e*P	**P**	**03 05 14.0**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**35.51**	**346**	P	**P**	**03 05 34.3**	**+0.5**
MORW	**Morawa**	**36.15**	**196**	P	**P**	**03 05 40.0**	**+0.6**
	baz=36,SNR=3.2						
QLP	**Quilpie**	**36.23**	**153**	P	**P**	**03 05 40.9**	**+0.8**
	baz=36						
FORT

comp=Z,10.0nm,0.8s
KSH **Kashi** 56.80 314 P **P** 03 08 22.6 +2.0
KSH PP **PP** 03 10 32.1 +3.9
KSH S **S** 03 16 01.0 -3.7
KSH sS sS 03 16 59.1 +5.1
KSH pmax pmax
comp=Z,650nm,6.9s
KSH LR LR
comp=Z,200nm,10.4s
KSH LR LR
comp=Z,240nm,8.6s
KSH LR LR
comp=Z,250nm,9.0s
KZA Kyzart 58.31 317 P **P** 03 08 32.5 +1.0
SNR=6.0
TKM2 Tokmak 2 58.41 318 P **P** 03 08 32.5 +0.5
SNR=6.8
UCH Uchtor 58.87 317 P **P** 03 08 36.5 +1.1
SNR=9.6
ZALV Zalesovo Beam 58.92 332 P **P** 03 08 34.3 -0.6
comp=Z,1.9nm,0.3s,baz=126,slow=5.7,SNR=7.8
ZALV Zalesovo Beam 58.92 332 P **P** 03 08 34.7 -0.2
AAK Ala-Archa 59.04 317 P **P** 03 08 36.7 +0.5
comp=Z,1.7nm,0.5s,baz=125,slow=2.2,SNR=6.2
AAK Ala-Archa 59.04 317 P **P** 03 08 35.6 -0.6
USP Ospenovka 59.29 318 P **P** 03 08 38.2 +0.4
SNR=10
AML Almayashu 59.40 316 P **P** 03 08 39.8 +0.8
SNR=6.8
EKS2 Erkin-Say 59.54 317 P **P** 03 08 40.0 +0.4
SNR=7.3
KURK Kurchatov 60.19 327 P **P** 03 08 43.5 -0.2
KURBB Kurchatov Arra 60.19 327 P **P** 03 08 43.7 0.0
comp=Z,8.1nm,0.6s,baz=126,slow=6.3,SNR=86
CHGR Chuyangaron 61.51 311 IAmb IAmb 03 08 54.2
comp=Z,7.9nm,0.9s
KK31 Karatay Array 61.94 316 P **P** 03 08 54.6 -1.1
KK31 IAmb IAmb 03 08 56.4
comp=Z,7.3nm,0.8s
KKAR Karatay Array 61.94 316 P **P** 03 08 55.5 -0.3
KKAR Karatay Array 61.94 316 P **P** 03 08 54.6 -1.1
KKAR IAmb IAmb 03 08 56.4
comp=Z,7.3nm,0.8s
BVAR Borovoye Array 65.78 326 P **P** 03 09 21.1 +0.4
comp=Z,4.3nm,0.4s,baz=124,slow=7.4,SNR=40
BRVK Borovoye 65.85 326 P **P** 03 09 21.0 -0.2
NRIK Noril'sk 68.55 346 P **P** 03 09 38.3 +0.4
comp=Z,2.6nm,0.5s,baz=146,slow=5.4,SNR=3.7
GEYT Alibeck 69.83 308 P **P** 03 09 47.0 +0.6
comp=Z,2.4nm,0.7s,baz=77,slow=3.2,SNR=7.0
GEYT Alibeck 69.83 308 P **P** 03 09 45.8 -0.7
ABKAR Abkulak array 70.75 320 P **P** 03 09 51.7 -0.1
ABKAR Abkulak array 70.75 320 P **P** 03 09 51.6 -0.1
ABKAR IAmb IAmb 03 09 52.5
comp=Z,7.8nm,0.7s
ARU Arti 73.38 327 P **P** 03 10 06.8 -0.5
comp=Z,2.2nm,0.2s,baz=112,slow=5.0,SNR=13
ARU Arti 73.38 327 P **P** 03 10 06.7 -0.5
ARU IAmb IAmb 03 10 08.3
comp=Z,9.5nm,0.6s
RAYN Ar Rayn 79.91 293 P **P** 03 10 44.0 -0.7
TBLG Delisi 80.40 311 P **P** 03 10 45.3 -1.7
TBLG IAmb IAmb 03 10 48.3
comp=Z,12nm,0.6s
SKT Skwentna 80.98 28 P **P** 03 10 49.3 -0.4
AKH Akhalkalaki 81.33 311 P **P** 03 10 51.4 -0.8
AKH IAmb IAmb 03 10 54.2
comp=Z,9.0nm,0.9s
KBZ Khabaz 81.77 313 P **P** 03 10 54.4 +0.3
comp=Z,2.7nm,0.9s,baz=99,slow=4.8,SNR=5.3
ILAR Eielson Array 83.22 26 P **P** 03 11 00.9 -0.4
comp=Z,0.2nm,0.6s,baz=247,slow=4.6,SNR=4.7
ILAR Eielson Array 83.22 26 P **P** 03 11 01.1 -0.1
KLMR Klimovskoe 83.78 331 *e*P **P** 03 11 03.8 -0.4
KLMR AMP 03 11 06.6
comp=Z,16nm,1.3s
ARCES ARCESS Array B 88.66 340 P **P** 03 11 27.4 -0.6
comp=Z,4.8nm,0.8s,baz=83,slow=5.9,SNR=14
BR131 Keskin Array S 88.92 310 P **P** 03 11 29.2 -0.8
BRTR Keskin Array B 88.92 310 P **P** 03 11 29.2 -0.8
comp=Z,1.2nm,0.7s,baz=113,slow=4.3,SNR=8.0
FINES FINESS Array B 90.18 332 P **P** 03 11 34.9 -0.2
comp=Z,1.7nm,0.7s,baz=63,slow=5.1,SNR=11
FINES FINESS Array B 90.18 332 P **P** 03 11 35.3 +0.1
VYHS Vyhne 97.57 320 *e*PDIFF Pdif 03 12 10.8 +1.4
MODS Modra-Piesok 98.59 321 *e*PDIFF Pdif 03 12 15.1 +1.1
TORD Torodi Ar. Bea 122.48 289 PKP **PKPdf** 03 17 30.6 -0.3
comp=Z,0.4nm,0.4s,baz=63,slow=1.9,SNR=8.5
TORD Torodi Ar. Bea 122.48 289 **PKPdf** 03 17 29.6 -1.2

IDC ***14*** *03:00:10.5±1.9, 43°.80N×129°.28W, h0km, mb3.6/5, mb1 3.8/11, mb1mx3.6/55, mbtmp3.5/11, ML3.3/6, MS3.3/13, Ms1 3.3/13, ms1mx3.1/32, Error ellipse: s-maj=36.6km s-min=15.8km az=42.0*
ISCJB ***14*** *03:00:12.1±0.6, 44°.02N±0°.04×128°.86W±0°.06, h15km, mb4.7/1, MS3.5/8, Error ellipse: s-maj=6.5km s-min=4.9km az=141.4*
ANF ***14*** *03:00:13.0±1.4, 43°.97N×128°.70W, ML3.5/9, Error ellipse: s-maj=16.0km s-min=13.4km az=174.0*
NEIC ***14*** *03:00:13.8±1.1, 44°.01N±0°.08×128°.8W±0°.1, h10km±2km, mb4.0/16*
ISC 14 03:00:14.4±0.9, 44°.01N±0°.08×128°.84W±0°.08, h15km, n98, σ1°.11/93, MS3.4/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	3.47	107	Pn	**Pn**	03 01 05.6	-2.4
I02D	**Swisshome**	3.60	87	P	**Pn**	03 01 09.0	-0.7
I02D	baz=273			S	**Sn**	03 01 51.2	-0.6
	baz=273						
J01E	**Myrtle Point**	3.67	102	P	**Pn**	03 01 08.9	-1.7
J01E	baz=288,SNR=8.1			S	**Sn**	03 01 52.8	-0.6
	baz=288						
I03D	**Drain, OR**	3.98	93	P	**Pn**	03 01 14.0	-1.0
I03D	baz=279			S	**Sn**	03 02 01.0	-0.4
	baz=279						
K02D	**Willamette Mer**	4.00	107	P	**Pn**	03 01 13.2	-2.0
K02D	baz=293,SNR=14			S	**Sn**	03 02 01.7	-0.1
	baz=293						
COR	**Corvallis**	4.02	80		**Pn**	03 01 15.4	+0.1
COR				Sn	**Sn**	03 02 03.3	+1.1
G03D	**McMinnville, O**	4.16	71	P	**Pn**	03 01 17.0	-0.3
	baz=258,SNR=7.3						
L02E	**Cave Junction**	4.26	114	P	**Pn**	03 01 17.7	-1.0
L02E	baz=300			S	**Sn**	03 02 08.6	+0.4
	baz=300						
H04D	**Lebanon**	4.41	81	P	**Pn**	03 01 20.8	0.0
	baz=268,SNR=8.2						
E03A	**Lebam**	4.51	54		**Pn**	03 01 21.8	-0.4
HUMO	**Hull Mountain**	4.51	106		**Pn**	03 01 22.4	+0.1
J04D	**Umpqua Nationa**	4.95	97	P	**Pn**	03 01 28.3	-0.1
J04D	baz=283,SNR=20			S	**Sn**	03 02 26.7	+1.3
	baz=283						
F04A	**Amboy**	4.95	65		**Pn**	03 01 28.7	+0.6
YBH	**Yreka Blue Hor**	5.04	115	Pn	**Pn**	03 01 29.6	0.0
YBH	0.5nm,0.3s,baz=311,slow=9.9,SNR=11			Sn	**Sn**	03 02 29.7	+2.1
	0.6nm,0.3s,baz=73,slow=21,SNR=5.7						
YBH				LR	LR	03 03 12.7	
	comp=Z,138nm,21.4s,baz=296,slow=35						
YBH	**Yreka Blue Hor**	5.04	115		**Pn**	03 01 29.9	+0.3
YBH					**Sn**	03 02 27.2	-0.5
L04D	**Klamath Falls**	5.11	108	P	**Pn**	03 01 31.0	+0.5
L04D	baz=295			S	**Sn**	03 02 29.6	+0.3
	baz=295						
E04D	**Cinebar**	5.11	58	P	**Pn**	03 01 29.8	-0.6
	baz=244						
D03D	**Eldon**	5.35	47	P	**Pn**	03 01 33.2	-0.5
	baz=232						
F05D	**White Salmon**	5.57	68	P	**Pn**	03 01 36.5	-0.2
F05D	baz=255			S	**Sn**	03 02 42.3	+2.0
	baz=255						
J05D	**Fort Rock, OR**	5.57	95	P	**Pn**	03 01 37.2	+0.4
	baz=282						
LON	**Longmire**	5.66	59		**Pn**	03 01 37.9	-0.1
PINE	**Pine Mountain**	5.71	89		**Pn**	03 01 38.8	-0.1
D05A	**Enumclaw**	5.76	54		**Pn**	03 01 38.7	-0.7
B05A	**Bryant**	6.33	45	P	**Pn**	03 01 46.6	-0.5
	baz=232						
LTY	**Liberty**	6.59	58		**Pn**	03 01 50.0	-0.7
B06A	**Marblemount**	6.81	46		**Pn**	03 01 53.1	-0.5
HAWA	**Hanford**	7.00	67		**Pn**	03 01 56.1	-0.1
ORV	**Oroville**	7.06	127		**Pn**	03 01 57.5	+0.3
G08A	**Pilot Rock**	7.16	76		**Pn**	03 01 58.8	0.0
E08A	**Dider Farm, El**	7.34	67		**Pn**	03 02 01.0	+0.1
WVOR	**Wild Horse Val**	7.62	98	Pn	**Pn**	03 02 04.6	-0.4
C09A	**Chrisman Ranch**	8.29	59		**Pn**	03 02 14.2	+0.2
CMB	**Columbia Colle**	8.74	130	Pn	**Pn**	03 02 19.9	-0.4
YERR	**Yerington**	8.78	122		**Pn**	03 02 21.4	+0.5
WAKR	**Walker**	8.96	125		**Pn**	03 02 23.8	+0.3
NEW	**Newport**	9.18	58	Pn	**Pn**	03 02 30.6	+4.3
	0.3nm,0.3s,baz=239,slow=8.6,SNR=4.3						
NEW				LR	LR	03 05 53.2	
	comp=Z,294nm,20.6s,baz=245,slow=36						
NEW	**Newport**	9.18	58	Pn	**Pn**	03 02 26.4	+0.1
NVAR	**Mina Array Bea**	9.69	121	Pn	**Pn**	03 02 35.8	+2.3
	0.1nm,0.3s,baz=287,slow=13,SNR=5.2						
NVAR				LR	LR	03 06 17.9	
	comp=Z,186nm,18.0s,baz=310,slow=37						
NVAR	**Mina Array Bea**	9.69	121		**Pn**	03 02 33.7	+0.2
MDPB	**Devils Postpil**	9.76	127	Pn	**Pn**	03 02 34.2	-0.2
ELK	**Elko**	10.58	103	Pn	Pn	03 02 50.9	+5.3
	0.1nm,0.3s,baz=292,slow=15,SNR=6.0						
ELK				LR	LR	03 06 09.9	
	comp=Z,32nm,20.9s,baz=292,slow=33						
MCMT	**McKenzie Canyo**	11.47	80	Pn	**Pn**	03 02 57.4	-0.5
TPNV	**Topopah Spring**	11.89	122		**Pn**	03 03 05.5	+2.0
YHB	**Horse Butte**	12.65	80		**Pn**	03 03 14.7	+0.8
YHL	**Hebgen Lake**	12.65	80		**Pn**	03 03 13.6	-0.5
GSC	**Goldstone, Bar**	12.70	129	Pn	**Pn**	03 03 15.8	+1.3
YHH	**Holmes Hill**	12.89	80		**Pn**	03 03 14.0	-3.4
TPAW	**Teton Pass**	12.95	86		**Pn**	03 03 18.5	+0.4
YPP	**Pitchstone Pla**	12.96	83		**Pn**	03 03 18.0	-0.3
REDW	**Red Top Meadow**	13.04	87		**Pn**	03 03 19.2	-0.1
FLWY	**Flagg Ranch**	13.06	83		**Pn**	03 03 19.6	+0.1
MOOW	**Moose Ponds**	13.06	85		**Pn**	03 03 19.3	-0.3
H17A	**Grant Village**	13.12	82		**Pn**	03 03 20.8	+0.5
CCUT	**Cedar City**	13.38	114		**Pn**	03 03 23.6	-0.3
MSU	**Marysvale**	13.68	108		**Pn**	03 03 27.9	0.0
KNB	**Kanab**	14.03	114		**Pn**	03 03 32.6	-0.2
PDAR	**Pinedale Array**	14.08	88	Pn	**P**	03 03 38.9	-2.4
	0.0nm,0.3s,baz=283,slow=17,SNR=3.8						
PDAR				LR	LR	03 09 10.3	
	comp=Z,160nm,18.6s,baz=282,slow=38						
PFO	**Pinyon Flats O**	14.16	133	LR	LR	03 08 40.5	
	comp=Z,196nm,18.2s,baz=326,slow=36						
P17A	**Butcher Ranch,**	14.25	102		**Pn**	03 03 35.1	-0.6
SRU	**San Rafael Swe**	14.55	103		**Pn**	03 03 41.1	+1.1
RDMU	**Red Mountain**	14.67	97		**Pn**	03 03 42.4	+0.8
U15A	**North Rim**	14.72	115		**Pn**	03 03 42.2	-0.1
O20A	**White River Ci**	15.77	97	P	**Pn**	03 03 55.7	-0.4
WUAZ	**Wupatki**	15.86	116	IAmb	IAmb	03 04 06.5	
	comp=Z,32nm,1.9s						
Y14A	**Wickenburg**	15.87	124		**Pn**	03 03 58.8	+1.6
Y14A				IAmb	IAmb	03 04 06.4	
	comp=Z,16nm,1.6s						
PV21	**Cone Mtn., Par**	15.88	103		**Pn**	03 03 57.5	-0.1
PV21				IAmb	IAmb	03 04 06.8	
	comp=Z,18nm,1.3s						
PV23	**Carpenter Ridg**	15.90	104	P	**Pn**	03 03 57.2	-0.7
PV23				IAmb	IAmb	03 04 10.9	
	comp=Z,20nm,1.3s						
PV14	**Lion Creek, Pa**	15.93	104	P	**Pn**	03 03 57.8	-0.5
PV22	**Blue Mesa, Par**	16.02	103		**Pn**	03 03 59.1	-0.3
PV22				IAmb	IAmb	03 04 08.8	
	comp=Z,13nm,1.3s						
S22A	**4UR Ranch, Cre**	17.76	103	IAmb	IAmb	03 04 36.8	
	comp=Z,20nm,1.8s						
RSSD	**Black Hills**	17.81	81	P	**Pn**	03 04 21.9	0.0
SDCO	**Great Sand Dun**	18.69	102	P	**Pn**	03 04 32.6	-0.1
ANMO	**Albuquerque**	19.46	110	P	**Pn**	03 04 42.9	+1.1
	comp=Z,0.1nm,0.3s,baz=310,slow=9.0,SNR=9.3						
LENM	**Lemitar**	19.56	113	P	**P**	03 04 40.7	-1.1
121A	**Cookes Peak, D**	20.05	118	P	**P**	03 04 45.3	-1.8
121A				IAmb	IAmb	03 04 53.9	
	comp=Z,8.2nm,1.1s						
KDAK	**Kodiak Island**	20.21	321	LR	LR	03 09 54.4	
	comp=Z,76nm,18.9s,baz=139,slow=29						
YKA	**Yellowknife Ar**	20.30	19	P	Pn	03 04 52.7	+1.3
	comp=Z,1.1nm,0.8s,baz=205,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	20.30	19	P	**P**	03 04 48.7	-0.7
FFC	**Flin Flon**	20.39	49	P	**P**	03 04 49.6	-0.9
ILAR	**Eielson Array**	23.14	340	P	**P**	03 05 19.2	-0.5
	comp=Z,1.2nm,1.0s,baz=147,slow=9.7,SNR=6.2						
ULM	**Lac du Bonnet**	23.15	63	P	**P**	03 05 21.5	+1.5
	comp=Z,6.5nm,0.9s,baz=283,slow=9.3,SNR=5.2						
ULM				LR	LR	03 14 20.0	
	comp=Z,152nm,18.2s,baz=328,slow=36						
ULM	**Lac du Bonnet**	23.15	63	P	**P**	03 05 19.6	-0.5
ULM				IAmb	IAmb	03 05 23.4	
	comp=Z,5.7nm,0.8s						
INK	**Inuvik**	24.48	356	LR	LR	03 14 40.7	
	comp=Z,92nm,19.4s,baz=218,slow=35						
TXAR	**Lajitas Array**	24.81	118	P	**P**	03 05 36.8	+0.8
	comp=Z,0.8nm,0.8s,baz=315,slow=8.2,SNR=8.4						
TXAR				LR	LR	03 14 38.6	
	comp=Z,52nm,18.3s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	24.81	118	P	**P**	03 05 34.4	-1.6
WMOK	**Wichita Mounta**	24.90	102	P	**P**	03 05 35.9	-0.8
LPIG	**La Paz**	24.99	137	LR	LR	03 13 23.4	
	comp=Z,62nm,20.5s,baz=326,slow=32						
SCHQ	**Scheferville**	40.48	52	LR	LR	03 26 25.9	
	comp=Z,76nm,19.4s,baz=346,slow=39						
H11N3	**WAKE ISLAND Hy**	58.16	267	T	T	04 12 50.2	
	baz=49,slow=75,SNR=880						
H11N2	**WAKE ISLAND Hy**	58.16	267	T	T	04 12 51.1	
	baz=49,slow=75,SNR=719						
H11N1	**WAKE ISLAND Hy**	58.18	267	T	T	04 12 52.3	
	baz=49,slow=75,SNR=603						
H11S1	**WAKE ISLAND Hy**	59.09	266	T	T	04 13 56.6	
	baz=49,slow=75,SNR=174						
H11S2	**WAKE ISLAND Hy**	59.10	266	T	T	04 14 04.5	
	baz=49,slow=75,SNR=116						
H11S3	**WAKE ISLAND Hy**	59.11	266	T	T	04 13 57.9	
	baz=49,slow=75,SNR=91						
HHC	**Hu-ho-hao-te**	79.59	318	*e*P	**P**	03 12 21.4	+0.4
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,13nm,4.8s						
KURBB	**Kurchatov Arra**	82.79	343	P	**P**	03 12 35.5	-2.1
	comp=Z,0.5nm,0.7s,baz=22,slow=4.4,SNR=5.6						
AKASG	**Malin Array Be**	83.76	14	LR	LR	03 48 03.1	
	comp=Z,26nm,20.0s,baz=325,slow=34						
WMQ	**Urumqi**	86.67	334	*e*P	**P**	03 13 00.3	+2.8
WMQ				pmax	pmax		
	comp=Z,17nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,99nm,5.7s						
WMQ				LR	LR		
	comp=N,490nm,25.1s						
WMQ				LR	LR		
	comp=E,1μm,28.8s						
WMQ				LR	LR		
	comp=Z,120nm,26.5s						

IDC ***14*** *03:06:54.7±3.0, 37°.05N×142°.29E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/40, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=73.5km s-min=36.2km az=54.0*
ISCJB ***14*** *03:06:57.0±1.4, 37°.01N±0°.05×142°.01E±0°.08, h15km±8km, mb3.4/2, Error ellipse: s-maj=10.5km s-min=8.0km az=173.8*
JMA ***14*** *03:06:59.0±0.2, 37°.03N×141°.94E, h39km±3km, M3.3*
ISC 14 03:06:57.4±3.5, 37°.02N±0°.06×141°.95E±0°.08, h12km±23km, n23, σ0°.91/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.92	275	P	**Pb**	03 07 15.5	+0.1
ONAJ				*e*S	**Sb**	03 07 27.6	0.0
JFK	**Kawauchi**	0.92	292	P	**Pb**	03 07 15.4	0.0
JFK				S	**Sb**	03 07 27.5	-0.1
JMST	**Minamisoumatoc**	1.10	310	P	**Pb**	03 07 17.7	-0.6
JMST				*e*S	**Sb**	03 07 31.8	-0.8
JFFD	**Fukushimafurud**	1.11	274	P	**Pb**	03 07 18.2	-0.4
JFFD				S	**Sb**	03 07 32.8	-0.2
JHO	**Hitachi**	1.18	250	P	**Pn**	03 07 19.2	-0.5
JMM	**Marumori**	1.25	313	P	**Pn**	03 07 19.9	-0.8
JMM				*e*S	**Sb**	03 07 35.7	-1.2
JFT	**Otama**	1.38	292	P	**Pn**	03 07 23.0	+0.5
JFT				*e*S	**Sn**	03 07 40.5	-0.1
JIO	**Ouri**	1.51	342	P	**Pn**	03 07 24.9	+0.6
JIO				*e*S	**Sn**	03 07 43.4	-0.4
JOU	**Okura**	1.68	323	P	**Pn**	03 07 27.2	+0.5
JOU				*e*S	**Sn**	03 07 48.2	-0.1
JFY	**Yanaizu**	1.83	283	P	**Pn**	03 07 30.0	+1.3
JFY				*e*S	**Sn**	03 07 52.7	+0.8
JYS	**Shirataka**	1.92	309	P	**Pn**	03 07 30.9	+1.0
JYS				*e*S	**Sn**	03 07 54.8	+0.9
JMK	**Ichinoseki**	2.01	344	P	**Pn**	03 07 31.5	+0.3
JAG	**Ashikaga**	2.09	254	P	**Pn**	03 07 32.8	+0.5
MJAR	**Matsushiro Arr**	3.04	262	Pn	**Pn**	03 07 47.3	+1.9
	0.4nm,0.3s,baz=93,slow=15,SNR=12						
MAT	**Matsushiro**	3.04	262	P	**Pn**	03 07 45.7	+0.3
MAT				S	**Sn**	03 08 19.3	-2.4
H11N2	**WAKE ISLAND Hy**	27.78	121	T	T	03 41 52.6	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	27.78	122	T	T	03 41 52.6	
	baz=314,slow=75,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	27.79	121	T	T	03 41 56.3	
	baz=314,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	28.50	124	T	T	03 43 07.4	
	baz=316,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	28.50	124	T	T	03 42 58.7	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	28.51	124	T	T	03 43 07.0	
	baz=316,slow=76,SNR=11						
MKAR	**Makanchi Array**	44.49	302	P	**P**	03 15 09.3	+0.8
	0.4nm,0.7s,baz=71,slow=6.2,SNR=2.7						
WRA	**Warramunga Arr**	57.11	189	P	**P**	03 16 43.4	-0.4
	0.3nm,0.6s,baz=7.3,slow=7.0,SNR=5.8						

ISCJB ***14*** *03:43:40.8±0.6, 10°.22S±0°.06×118°.79E±0°.04, h33km, mb4.1/3, MS3.4/2, Error ellipse: s-maj=8.4km s-min=4.8km az=23.1*
DJA ***14*** *03:43:40.8±0.3, 10°.S±4°.×11°.9E±°, h10km, M4.3/12, mb4.5/4, mB5.0/1, MLv4.3/12, Mw(mB)4.3/1*
IDC ***14*** *03:43:43.4±3.9, 10°.15S×118°.75E, h54km±36km, mb3.8/3, mb1 3.9/8, mb1mx3.5/36, mbtmp4.0/8, ML3.9/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=35.6km s-min=14.0km az=63.0*
ISC 14 03:43:42.1±0.8, 10°.12S±0°.07×118°.81E±0°.04, h33km, n25, σ2°.01/25, mb4.2/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	0.75	50	P	**Pn**	03 43 55.3	-1.0
WBSI				S	**Sn**	03 44 02.0	-4.6
WSI	**Waingapu**	1.53	73	P	**Pb**	03 44 10.6	+0.7
PLAI	**Plampang**	1.64	322	P	**Pn**	03 44 08.5	-0.1
PLAI				S	**Sb**	03 44 31.8	-0.3
TWSI	**Taliwang, Sumb**	2.35	306	P	**Pn**	03 44 19.6	+1.3
MMRI	**Maumere**	3.69	67	P	**Pn**	03 44 38.6	+1.8
IGBI	**Denpasar**	3.84	289	P	**Pn**	03 44 39.9	+1.0
IGBI				S	**Sn**	03 45 24.2	+1.3
SRBI	**Singaraja**	4.09	299	P	**Pn**	03 44 45.0	+2.7
BATI	**Baumata**	4.78	91	P	**Pn**	03 44 54.9	+3.0
	8.5nm,0.3s,baz=248,slow=7.1,SNR=3.8						
BATI				S	**Sn**	03 45 49.0	+2.9
	25nm,0.3s,baz=343,slow=13,SNR=7.1						
BATI	**Baumata**	4.78	91	P	**Pn**	03 44 53.5	+1.7
JAGI	**Jajag, Banyuwa**	4.88	289	P	**Pn**	03 44 52.9	-0.3
BKSI	**Bulukumba**	4.94	15	P	**Pn**	03 44 55.4	+1.3
KAPI	**Kappang**	5.16	10	P	**Pn**	03 45 00.3	+3.3
	8.5nm,0.3s,baz=199,slow=7.7,SNR=20						
KAPI				S	**Sn**	03 45 57.4	+1.9
	9.0nm,0.3s,baz=357,slow=22,SNR=9.0						
KAPI				LR	LR	03 47 11.7	
	comp=Z,128nm,20.2s,baz=178,slow=40						
SOEI	**Soe**	5.39	87	P	**Pn**	03 45 01.7	+1.4
	37nm,0.7s,0.3nm						
BNSI	**Bone**	5.83	13	P	**Pn**	03 45 08.9	+2.7
FITZ	**Fitzroy Crossi**	10.33	141	P	**Pn**	03 46 08.0	0.0
	0.9nm,0.3s,baz=337,slow=12,SNR=32						
FITZ				LR	LR	03 51 24.7	
	comp=Z,49nm,18.0s,baz=258,slow=45						
WRA	**Warramunga Arr**	17.88	125	P	**Pn**	03 47 47.1	-1.3
	0.2nm,0.3s,baz=298,slow=14,SNR=12						
ASAR	**Alice Springs**	19.72	135	P	**Pn**	03 48 10.4	-0.2
	0.3nm,0.3s,baz=312,slow=11,SNR=15						
JNU	**Nakatsue**	44.52	14	LR	LR	04 09 29.5	
	comp=Z,22nm,20.3s,baz=165,slow=35						
H08S2	**Diego Garcia H**	45.81	269	T	T	04 41 19.9	
	baz=96,slow=75,SNR=28						
H08S3	**Diego Garcia H**	45.81	269	T	T	04 41 20.6	
	baz=96,slow=75,SNR=32						
H08S1	**Diego Garcia H**	45.82	269	T	T	04 41 21.2	
	baz=96,slow=75,SNR=27						
SONM	**Songino Array**	58.74	350	P	**P**	03 53 35.9	-0.9
	1.0nm,0.5s,baz=160,slow=8.2,SNR=9.0						
MKAR	**Makanchi Array**	65.37	333	P	**P**	03 54 20.1	-1.2
	0.9nm,0.5s,baz=148,slow=7.8,SNR=10						
ZALV	**Zalesovo Beam**	70.02	339	P	**P**	03 54 49.0	-1.3
	1.3nm,0.5s,baz=137,slow=4.5,SNR=5.0						
AKASG	**Malin Array Be**	97.48	320	LR	LR	04 51 20.4	
	comp=Z,21nm,19.5s,baz=245,slow=42						

ISCJB ***14*** *03:48:59.0±0.6, 42°.89N±0°.03×77°.09E±0°.05, h2km±6km, Error ellipse: s-maj=6.5km s-min=4.3km az=161.1*
NNC ***14*** *03:48:59.8±1.5, 42°.93N×77°.06E, h1km±5km, mb1.8, mpv2.5, Error ellipse: s-maj=13.6km s-min=4.4km az=149.0*
SOME ***14*** *03:49:00.2, 42°.92N×77°.03E, h5km*
KRNET ***14*** *03:49:01.1±0.1, 42°.81N×77°.01E, h26km, mb2.1*
ISC 14 03:48:58.8±0.9, 42°.96N±0°.04×77°.04E±0°.04, h18km±5km, n16, σ0°.92/31, 7C-8D, Lake Issyk-Kul region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

TARG	**Taragay, Kyrgy**	**1.35**	**155**	⇑*i*P	**Pn**	**03 49 23.9**	**+0.7**
	baz=51						
TARG				⇑*i*S	**Sn**	**03 49 39.7**	**-1.2**
	baz=51						
AAK	**Ala-Archa**	**1.90**	**261**	Pn	**Pg**	**03 49 35.1**	**-0.3**
	1.9nm,1.1s						
AAK				⇓Sn	**Sg**	**03 49 59.6**	**-0.6**
	0.9nm,0.6s						
ARLS	**Aral**	**2.29**	**242**	⇑*i*P	**Pn**	**03 49 36.9**	**+1.0**
	baz=46						
ARLS				⇑*i*S	**Sn**	**03 50 03.0**	**-0.8**
	baz=46						

*IDC **14** 04:20:54.1±0.8, 36°.88S×71°.11W, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/27, mbtmp4.1/11, ML4.2/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/18, Error ellipse: s-maj=32.8km s-min=13.6km az=89.0*
*ISCJB **14** 04:20:55.9±1.1, 36°.82S±0°.04×71°.18W±0°.04, h25km±8km, mb4.1/8, MS3.4/3, Error ellipse: s-maj=6.5km s-min=5.5km az=136.7*
*SJA **14** 04:20:55.7±0.9, 36°.56S×71°.17W, h10km, ML3.7, MW3.3*
*NEIC **14** 04:20:57.1±1.8, 36°.70S±0°.04×71°.1W±0°.1, h36km±4km*
*GUC **14** 04:20:57.2±0.7, 36°.71S×71°.19W, h15km±7km, ML4.0*
ISC 14 04:20:55.0±1.3,**36°.67S**±0°.03×**71°.13W**±0°.03,**h13**km±9km,
n55,σ1§**79**/72,**mb4.2**/10,**MS3.4**/3,**3D**,**Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.77**	**275**	⇓*e*P	**Pb**	**04 21 09.8**	**-0.4**
CCHI				*e*S	**Sb**	**04 21 19.3**	**-1.3**
CCHI				IAML		04 21 21.6	
	comp=N,15μm,0.3s						
CCHI	**Chillan**	**0.77**	**275**	*i* P	**Pb**	**04 21 09.6**	**-0.6**
CCHI				*e*S	**Sb**	**04 21 21.1**	**+0.6**
COCH	**Cobquecura**	**1.44**	**291**	*e*P	**Pn**	**04 21 20.9**	**+0.1**
COCH				*e*S	**Sn**	**04 21 38.6**	**-1.0**
COCH				IAML		04 21 41.6	
	comp=N,6μm,0.4s						
COCH	**Cobquecura**	**1.44**	**291**	*e*P	**Pn**	**04 21 20.7**	**-0.1**
COCH				*e*S	**Sb**	**04 21 40.6**	**+0.6**
CCSP	**San Pedro de C**	**1.60**	**263**	*e*P	**Pn**	**04 21 23.3**	**+0.3**
CCSP				*e*S	**Sn**	**04 21 42.4**	**-1.2**
CCSP				IAML		04 21 49.4	
	comp=E,8μm,0.6s						
EDS3	**Malargue**	**1.66**	**58**	*i* P	**Pb**	**04 21 25.7**	**+0.2**
EDS3				*e*P	**Pg**	**04 21 25.9**	**-1.0**
EDS3				*e*S	**Sg**	**04 21 49.0**	**+0.6**
EDS3				*e*S	**Sg**	**04 21 49.0**	**+0.6**
GO05	**Huala**	**1.78**	**338**	*e*P	**Pb**	**04 21 27.1**	**-0.3**
GO05				*e*S	**Sb**	**04 21 49.5**	**-0.3**
GO05				IAML		04 21 53.5	
	comp=E,2μm,0.7s						
GO05	**Huala**	**1.78**	**338**	*e*P	**Pb**	**04 21 26.9**	**-0.6**
GO05				*e*S	**Sg**	**04 21 51.8**	**-0.4**
GO05	**Huala**	**1.78**	**338**		**Pn**	**04 21 26.7**	**+1.2**
GO05				Sn	**Sn**	**04 21 46.2**	**-1.8**
PUMA	**Malargue**	**1.79**	**50**	*i* P	**Pb**	**04 21 28.5**	**+0.8**
COIS	**El Sosneado**	**2.00**	**39**	*i* P	**Pb**	**04 21 31.5**	**+0.3**
LMEL	**Las Melosas**	**2.92**	**15**	IAML		04 22 39.9	
	comp=N,446nm,0.6s						
GO06	**Curarrehue**	**2.92**	**185**	⇓*e*P	**Pn**	**04 21 43.1**	**+1.8**
GO06				*e*S	**Sn**	**04 22 18.0**	**+1.7**
GO06				IAML		04 22 26.6	
	comp=N,202nm,0.5s						
GO06	**Curarrehue**	**2.92**	**185**	*e*P	**Pn**	**04 21 43.3**	**+2.0**
GO06				*e*S	**Sb**	**04 22 24.1**	**+1.4**
GO06	**Curarrehue**	**2.92**	**185**		**Pn**	**04 21 40.6**	**-0.7**
GO06				Sn	**Sn**	**04 22 12.1**	**-4.3**
FCH	**Farellones**	**3.40**	**12**	*e*P	**Pb**	**04 21 52.7**	**-2.6**
FCH				*e*S	**Sb**	**04 22 32.7**	**-4.1**
FCH				IAML		04 22 50.0	
	comp=N,220nm,0.4s						
PEL	**Peldehue**	**3.54**	**6**	⇓*i*P	**Pn**	**04 21 52.3**	**+2.6**
PEL				*i* S	**Sb**	**04 22 40.0**	**-0.3**
PEL	**Peldehue**	**3.54**	**6**	*i* P	**Pb**	**04 21 54.1**	**-3.4**
PEL				*e*S	**Sg**	**04 22 49.6**	**+1.1**
PEL	**Peldehue**	**3.54**	**6**		**Pn**	**04 21 50.0**	**+0.3**
ROC1	**El Roble**	**3.69**	**1**	*i* P	**Pn**	**04 21 55.6**	**+3.7**
ROC1	**El Roble**	**3.69**	**1**		**Pn**	**04 21 52.4**	**+0.4**
ROCH	**El Roble**	**3.69**	**2**	*e*P	**Pn**	**04 21 55.5**	**+3.6**
PLCA	**Paso Flores**	**4.08**	**174**	Pn	**Pn**	**04 21 57.1**	**-0.1**
	comp=N,6.4nm,0.3s,baz=3.3,slow=11,SNR=30						
PLCA				Pg	Pb	04 22 01.9	-4.9
	comp=N,9.5nm,0.3s,baz=12,slow=13,SNR=61						
PLCA				Lg	Lg	04 22 57.1	
	comp=N,17nm,0.3s,baz=309,slow=21,SNR=7.1						
PLCA	**Paso Flores**	**4.08**	**174**	*e*P	**Pb**	**04 22 04.8**	**-1.9**
PLCA				*e*S	**Sb**	**04 22 56.4**	**+0.3**
ARCO	**CERRO ARCO**	**4.22**	**26**	*i* P	**Pb**	**04 22 08.1**	**-1.2**
ARCO				IAML		04 23 22.7	
	comp=Z,87nm,0.6s						
CFA	**Coronel Fontan**	**5.59**	**26**	Pn	**Pn**	**04 22 21.9**	**+4.0**
	comp=Z,2.6nm,0.3s,baz=209,slow=13,SNR=12						
CFA				LR	LR	04 24 29.1	
	comp=Z,255nm,21.0s,baz=252,slow=37						
GO04	**Tololo Observa**	**6.49**	**3**		**Pn**	**04 22 30.6**	**+0.2**
GO04				Sn	**Sn**	**04 23 42.6**	**-1.8**
TRQA	**Tornquist**	**7.42**	**104**		**Pn**	**04 22 42.8**	**-0.2**
TRQA				Sn	**Sn**	**04 24 02.1**	**-4.9**
CPUP	**Villa Florida**	**15.63**	**53**	LR	LR	04 30 19.4	
	comp=Z,74nm,19.3s,baz=224,slow=36						
GO01	**Chusmiza**	**17.02**	**6**	P	**P**	**04 24 54.7**	**-0.4**
MNMC	**Minye Minye**	**17.52**	**5**	P	**Pn**	**04 24 59.5**	**+0.2**
MNMC				IAmb	IAmb	04 25 08.6	
	comp=Z,8.8nm,1.0s						
LPAZ	**La Paz**	**20.47**	**8**	P	Pn	04 25 37.0	+1.7
	comp=Z,2.1nm,0.7s,baz=168,slow=6.9,SNR=6.7						
LPAZ				LR	LR	04 34 45.5	
	comp=Z,106nm,19.6s,baz=162,slow=40						
LPAZ	**La Paz**	**20.47**	**8**	P	**P**	**04 25 32.5**	**-0.7**
SIV	**San Ignacio**	**22.45**	**26**	P	**P**	**04 25 57.0**	**+3.1**
	comp=Z,2.9nm,0.7s,baz=228,slow=7.2,SNR=14						
NNA	**Nana**	**25.11**	**347**	P	**P**	**04 26 23.3**	**+3.7**
	comp=Z,9.9nm,0.8s,baz=195,slow=8.3,SNR=5.3						
PMSA	**Palmer Station**	**28.46**	**174**	P	**P**	**04 26 49.5**	**+0.2**
PMSA				IAmb	IAmb	04 27 05.9	
	comp=Z,4.9nm,1.0s						
SAML	**Samuel**	**28.52**	**17**	P	**P**	**04 26 50.6**	**+0.3**
SAML				IAmb	IAmb	04 26 55.0	
	comp=Z,1.4nm,0.8s						
BDFB	**Brasilia**	**29.34**	**51**	P	**P**	**04 27 00.9**	**+3.2**
	comp=Z,1.9nm,0.6s,baz=157,slow=4.6,SNR=3.6						
BDFB				LR	LR	04 40 16.8	
	comp=Z,95nm,18.7s,baz=283,slow=40						
ROSC	**El Rosal**	**41.40**	**355**	LR	LR	04 45 31.0	
	comp=Z,62nm,19.1s,baz=153,slow=36						
VNA3	**Neumayer Olymp**	**46.61**	**157**	P	**P**	**04 29 22.2**	**-0.3**
VNA1	**Neumayer--Stat**	**46.93**	**156**	P	**P**	**04 29 25.0**	**+0.1**
VNA2	**Neumayer--Watz**	**47.27**	**156**	P	**P**	**04 29 27.3**	**-0.3**
	baz=288,slow=9.1						
SNAA	**Sanae**	**48.84**	**157**	P	**P**	**04 29 39.5**	**-0.3**
SNAA	**Sanae**	**48.84**	**157**	P	**P**	**04 29 39.3**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=310,slow=8.9,SNR=24						
SNAA	**Sanae**	**48.84**	**157**	P	**P**	**04 29 39.0**	**-0.8**
SNAA				PcP	**PcP**	**04 31 03.2**	**-0.9**
QSPA	**South Pole Qui**	**53.57**	**180**	P	**P**	**04 30 16.0**	**+0.5**
	comp=Z,4.0nm,1.1s,baz=204,slow=1.0,SNR=6.4						
QSPA	**South Pole Qui**	**53.57**	**180**	P	**P**	**04 30 15.5**	**0.0**
QSPA				IAmb	IAmb	04 30 25.3	
	comp=Z,5.0nm,1.1s						
TXAR	**Lajitas Array**	**72.42**	**330**	P	**P**	**04 32 22.9**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=150,slow=8.8,SNR=5.2						
TXAR	**Lajitas Array**	**72.42**	**330**	P	**P**	**04 32 19.6**	**-1.5**
DBIC	**Dimbokro**	**75.36**	**70**	P	**P**	**04 32 38.2**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=238,slow=5.8,SNR=3.8						
DBIC	**Dimbokro**	**75.36**	**70**	P	**P**	**04 32 36.9**	**-1.7**
NVAR	**Mina Array Bea**	**86.49**	**325**	P	**P**	**04 33 40.0**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=98,slow=5.6,SNR=5.5						
NVAR	**Mina Array Bea**	**86.49**	**325**	P	**P**	**04 33 36.8**	**-0.8**
WRA	**Warramunga Arr**	**118.77**	**207**	PKP	**PKPdf**	**04 39 42.7**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.5,SNR=8.8						
WRA	**Warramunga Arr**	**118.77**	**207**		**PKPdf**	**04 39 41.5**	**-2.0**

*ISCJB **14** 04:53:14.5±0.6, 6°.45N±0°.04×126°.74E±0°.07, h99km±6km, mb4.0/9, Error ellipse: s-maj=11.5km s-min=5.3km az=161.3*
*IDC **14** 04:53:14.3±2.2, 6°.62N×126°.97E, h77km±16km, mb3.9/9, mb1 4.0/10, mb1mx3.5/58, mbtmp4.2/10, MS2.7/6, Ms1 2.8/6, ms1mx2.6/41, Error ellipse: s-maj=30.4km s-min=10.7km az=56.0*
*NEIC **14** 04:53:15.5±1.6, 6°.42N±0°.08×126°.6E±0°.1, h94km±6km, mb4.3/18*
*MAN **14** 04:53:15.1, 6°.32N×126°.60E, h66km, MS3.7*
*DJA **14** 04:53:17.0±0.6, 6°N±5°×12°7E±°, h56km±9km, M4.5/12, mB4.9/5, mb4.6/12, MLv4.6/6, Mw(mB)4.2/5*
ISC 14 04:53:16.2±1.0,**6°.43N**±0°.05×**126°.74E**±0°.08,**h95**km±8km,
n54,σ1§**73**/62,**mb4.1**/14,**1C-3D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.31**	**299**	P	**Pn**	**04 53 38.6**	**-1.3**
	309nm,0.3s,baz=99,slow=1.0,SNR=46						
DAV				S	**Sn**	**04 53 57.3**	**-0.5**
	180nm,0.3s,baz=239,slow=20,SNR=18						
DAV	**Davao City (W)**	**1.31**	**299**		**Pn**	**04 53 38.7**	**-1.3**
DAV					**Sn**	**04 53 56.1**	**-1.8**
DMPH	**Davao City--Mi**	**1.38**	**298**	⇓*e*P	**Pn**	**04 53 38.9**	**-1.8**
KCP	**Kidapawan**	**1.73**	**290**	⇑*e*P	**Pn**	**04 53 42.6**	**-2.6**
KCP				*i* S	**Sn**	**04 54 14.9**	**+7.6**
SKMP	**Bagumbayan, Su**	**2.18**	**273**	*e*P	**Pn**	**04 53 48.5**	**-2.4**
SKMP				*e*S	**Sn**	**04 54 18.9**	**+1.3**
BUKP	**Musuan**	**2.20**	**311**	*e*P	**Pn**	**04 53 49.5**	**-1.7**
BUKP				*e*S	**Sn**	**04 54 16.4**	**-1.6**
CTBH	**Cotabato--PC H**	**2.59**	**288**	⇓*i* P	**Pn**	**04 53 54.3**	**-2.2**
BUTP	**Butuan**	**2.76**	**336**	*e*P	**Pn**	**04 53 59.0**	**+0.4**
BUTP				*e*S	**Sn**	**04 54 34.7**	**+3.5**
CGP	**Cagayan de Oro**	**2.86**	**315**	⇓*e*P	**Pn**	**04 53 59.5**	**-0.4**
CGP				*e*S	**Sn**	**04 54 32.5**	**-1.0**
TNTI	**Ternate**	**5.65**	**174**	Pn	**Pn**	**04 54 37.4**	**-0.4**
TNTI				Sn	**Sn**	**04 55 41.9**	**+0.4**
MRSI	**Marisa**	**7.61**	**219**	P	**Pn**	**04 55 06.0**	**+1.6**
LUWI	**Luwuk**	**8.41**	**208**	P	**Pn**	**04 55 16.3**	**+1.0**
LUWI	**Luwuk**	**8.41**	**208**	Pn	**Pn**	**04 55 14.2**	**-1.2**
LUWI				Sn	**Sn**	**04 56 47.9**	**-0.7**
SWI	**Sorong**	**8.54**	**148**	P	**Pn**	**04 55 18.7**	**+1.7**
SIJI	**Sorong**	**8.54**	**148**	P	**Pn**	**04 55 17.0**	**-0.2**
	5.1nm,0.3s,baz=233,slow=23,SNR=13						
APSI	**Ampana**	**8.88**	**215**	P	**Pn**	**04 55 23.4**	**+1.6**
TTSI	**Tana Toraja**	**11.67**	**216**	P	**Pn**	**04 56 01.7**	**+2.0**
KAPI	**Kappang**	**13.33**	**212**	P	**Pn**	**04 56 22.0**	**+0.2**
	0.5nm,0.3s,baz=30,slow=7.6,SNR=7.7						
SBUM	**Sibu**	**15.00**	**255**	P	**Pn**	**04 56 44.1**	**+0.8**
SOEI	**Soe**	**16.26**	**189**	Pn	**Pn**	**04 56 55.6**	**-3.6**
JAY	**Jayapura**	**16.54**	**122**	LR	LR	05 03 24.0	
	comp=Z,10nm,21.5s,baz=216,slow=37						
JAGI	**Jajag, Banyuwa**	**19.40**	**220**	P	**P**	**04 57 33.5**	**-1.4**
JAGI				IAmb	IAmb	04 57 44.1	
	comp=Z,18nm,1.0s						
MTN	**Manton Dam**	**19.64**	**167**	P	**P**	**04 57 38.6**	**+1.1**
MTN				IAmb	IAmb	04 57 42.0	
	comp=Z,8.4nm,0.6s						
KNRA	**Kununurra**	**22.05**	**175**	P	**P**	**04 58 01.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**24.39**	**183**	P	**P**	**04 58 27.6**	**+1.7**
	comp=Z,8.1nm,0.7s,baz=18,slow=9.8,SNR=25						
FITZ	**Fitzroy Crossi**	**24.39**	**183**	P	**P**	**04 58 24.8**	**-1.0**
FITZ				IAmb	IAmb	04 58 28.8	
	comp=Z,9.7nm,0.9s						
COEN	**Coen**	**26.01**	**141**	P	**P**	**04 58 40.3**	**-0.3**
WB0	**Warramunga Arr**	**27.10**	**164**	P	**P**	**04 58 49.9**	**-0.5**
WB0				IAmb	IAmb	04 58 58.3	
	comp=Z,3.0nm,0.5s						
WRA	**Warramunga Arr**	**27.25**	**164**	P	**P**	**04 58 51.7**	**0.0**
	comp=Z,1.0nm,0.7s,baz=346,slow=10,SNR=15						
WRA				ScP	**ScP**	**05 05 43.1**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=339,slow=3.1,SNR=5.8						
WRA	**Warramunga Arr**	**27.25**	**164**	P	**P**	**04 58 50.8**	**-0.9**
WRA					**ScP**	**05 05 42.2**	**+0.7**
WB2	**Warramunga Arr**	**27.25**	**164**	P	**P**	**04 58 50.7**	**-1.0**
WB2				IAmb	IAmb	04 59 08.7	
	comp=Z,4.6nm,1.0s						
KRVT	**Keravat (AS076**	**27.41**	**112**	LR	LR	05 07 55.9	
	comp=Z,22nm,21.8s,baz=323,slow=32						
JHJ	**Hachijo jima 2**	**29.20**	**23**	LR	LR	05 10 53.7	
	comp=Z,12nm,19.4s,baz=278,slow=37						
CMAR	**Chiang Mai Arr**	**29.60**	**296**	LR	LR	05 12 37.6	
	comp=Z,15nm,18.9s,baz=235,slow=39						
ASAR	**Alice Springs**	**30.72**	**167**	P	**P**	**04 59 23.0**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=347,slow=6.7,SNR=24						
ASAR				ScP	**ScP**	**05 05 54.3**	**+1.8**
	comp=Z,0.4nm,0.9s,baz=343,slow=2.9,SNR=4.3						
ASAR	**Alice Springs**	**30.72**	**167**	P	**P**	**04 59 21.9**	**-0.5**
ASAR					**ScP**	**05 05 51.2**	**-1.2**
MJAR	**Matsushiro Arr**	**31.76**	**18**	LR	LR	05 16 47.8	
	comp=Z,9.7nm,18.3s,baz=275,slow=45						
FORT	**Forrest**	**37.02**	**178**	P	**P**	**05 00 15.1**	**-1.7**
BBOO	**Buckleboo**	**40.02**	**168**	P	**P**	**05 00 41.0**	**-0.9**
BBOO				IAmb	IAmb	05 00 45.4	
	comp=Z,6.7nm,0.7s						
NWAO	**Narrogin (SRO)**	**40.17**	**192**	P	**P**	**05 00 45.3**	**+2.1**
	comp=Z,9.2nm,0.5s,baz=28,slow=8.2,SNR=7.7						
NWAO	**Narrogin (SRO)**	**40.17**	**192**	P	**P**	**05 00 42.6**	**-0.6**
NWAO				IAmb	IAmb	05 00 45.9	
	comp=Z,8.6nm,0.6s						
STKA	**Stephens Creek**	**40.64**	**160**	P	**P**	**05 00 48.2**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=337,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**40.64**	**160**	P	**P**	**05 00 48.0**	**+0.9**
ARMA	**Armidale**	**43.72**	**148**	P	**P**	**05 01 13.4**	**+1.1**
ARMA				IAmb	IAmb	05 01 26.6	
	comp=Z,3.1nm,1.0s						
MK31	**Makanchi Array**	**55.37**	**324**	P	**P**	**05 02 40.1**	**-0.4**
MKAR	**Makanchi Array**	**55.37**	**324**	P	**P**	**05 02 39.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=121,slow=8.5,SNR=8.6						
MKAR	**Makanchi Array**	**55.37**	**324**	P	**P**	**05 02 39.5**	**-1.0**
MKAR				PcP	**PcP**	**05 03 39.3**	**-0.6**
ZAA0	**Zalesovo Array**	**58.21**	**332**	P	**P**	**05 02 59.9**	**-0.5**
KURBB	**Kurchatov Arra**	**59.49**	**327**	P	**P**	**05 03 08.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=126,slow=6.3,SNR=4.5						
LTZ	**Lake Taylor**	**64.07**	**144**	P	**P**	**05 03 38.9**	**-1.3**
LTZ				IAmb	IAmb	05 03 45.5	
	comp=Z,6.4nm,0.8s						
BVAR	**Borovoye Array**	**65.08**	**326**	P	**P**	**05 03 46.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=145,slow=7.5,SNR=3.8						
AKTO	**Aktyubinsk**	**71.57**	**321**	P	**P**	**05 04 28.8**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=118,slow=12,SNR=4.2						
BRTR	**Keskin Array B**	**88.32**	**310**	LR	LR	05 50 45.9	
	comp=Z,19nm,18.3s,baz=282,slow=39						
TORD	**Torodi Ar. Bea**	**122.05**	**290**	PKP	**PKiKP**	**05 12 01.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=46,slow=2.1,SNR=8.4						

*ISCJB **14** 04:55:27.3±0.6, 36°.99N±0°.04×71°.64E±0°.09, h109km, mb3.6/4, Error ellipse: s-maj=10.6km s-min=4.3km az=154.4*
*IDC **14** 04:55:27.4±5.4, 36°.85N×71°.71E, h109km±32km, mb3.5/3, mb1 3.7/7, mb1mx3.2/58, mbtmp4.0/7, Error ellipse: s-maj=71.0km s-min=26.7km az=167.0*
*NNC **14** 04:55:37.6±5.4, 37°.76N×71°.54E, h173km±74km, mb3.1, mpv4.1, Error ellipse: s-maj=49.9km s-min=28.7km az=15.0*
ISC 14 04:55:28.4±0.8,**37°.10N**±0°.06×**71°.70E**±0°.08,**h109**km,**n36**,
σ1§**67**/42,**mb3.6**/4,**5C-5D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.25**	**16**	P	**Pn**	**04 56 46.6**	**+1.6**
	SNR=78						
UCH	**Uchtor**	**5.56**	**22**	P	**Pn**	**04 56 51.0**	**+1.8**
	SNR=36						
KZA	**Kyzart**	**5.68**	**28**	P	**Pn**	**04 56 52.5**	**+1.7**
	SNR=9.5						
EKS2	**Erkin-Say**	**5.78**	**15**	P	**Pn**	**04 56 53.6**	**+1.8**
	SNR=11						
AAK	**Ala-Archa**	**5.93**	**20**	⇓P	**Pn**	**04 56 55.8**	**+1.8**
	16nm,0.4s						
AAK				⇓S	**Sn**	**04 57 58.6**	**-2.1**
	13nm,0.5s						
AAK	**Ala-Archa**	**5.93**	**20**	P	**Pn**	**04 56 55.9**	**+2.0**
	8.7nm,0.3s,baz=171,slow=5.6,SNR=79						
AAK				S	**Sn**	**04 57 59.1**	**-1.6**
	1.8nm,0.3s,baz=298,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.93**	**20**	P	**Pn**	**04 56 55.7**	**+1.8**
	SNR=30						
KK31	**Karatay Array**	**6.07**	**352**	⇑P	**Pn**	**04 56 57.4**	**+1.8**
	4.6nm,0.4s,baz=180,slow=13,SNR=40						
KK31				⇓S	**Sn**	**04 57 59.3**	**-4.3**
	12nm,0.3s,baz=171,slow=22,SNR=22						
KBK	**Karagaybulak**	**6.08**	**23**	P	**Pn**	**04 56 58.0**	**+2.0**
	SNR=8.5						
DHRM	**DHARAMSHALA**	**6.14**	**141**	*e*P	**Pn**	**04 56 59.9**	**+2.9**
DHRM				*e*S	**Sn**	**04 58 05.4**	**-0.5**
CHMS	**Chumysh**	**6.34**	**21**	P	**Pn**	**04 57 01.0**	**+1.7**
	SNR=9.5						
USP	**Ospenovka**	**6.52**	**18**	P	**Pn**	**04 57 02.7**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**6.54**	**26**	⇑P	**Pn**	**04 57 03.5**	**+1.3**
	18nm,0.6s						
TKM2				⇑S	**Sn**	**04 58 13.7**	**-1.7**
	10nm,1.4s						
TKM2	**Tokmak 2**	**6.54**	**26**	P	**Pn**	**04 57 03.6**	**+1.5**
	SNR=25						
SMLA	**Simla**	**7.48**	**141**	*e*P	**Pn**	**04 57 16.8**	**+2.0**
SMLA				*e*S	**Sn**	**04 58 34.6**	**-3.5**
GEYT	**Alibeck**	**10.83**	**278**	P	**Pn**	**04 57 59.8**	**-0.4**
	2.0nm,0.3s,baz=89,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**12.47**	**36**	P	**Pn**	**04 58 22.2**	**+0.2**
	0.1nm,0.3s,baz=216,slow=12,SNR=6.4						
DANN	**Dangsing**	**13.37**	**127**	*e*P	**Pn**	**04 58 33.1**	**-1.1**
	36nm,0.4s						
KOLN	**Koldanda**	**13.68**	**129**	*e*P	**Pn**	**04 58 37.2**	**-0.9**
	15nm,0.3s						
GKN	**Gorkha**	**14.17**	**126**	*e*P	**Pn**	**04 58 43.8**	**-0.6**
	43nm,0.2s						
KURBB	**Kurchatov Arra**	**14.38**	**18**	P	**P**	**04 58 49.9**	**-0.5**
	0.2nm,0.3s,baz=203,slow=11,SNR=10						
KKN	**Kakani**	**14.73**	**125**	*e*P	**Pn**	**04 58 50.1**	**-1.5**
	23nm,0.5s						
DMN	**Daman**	**14.74**	**126**	*e*P	**Pn**	**04 58 51.2**	**-0.6**
	13nm,0.3s						
AB31	**Akbulak array**	**14.85**	**329**	⇑P	**Pn**	**04 58 51.9**	**-0.8**
	0.7nm,0.3s,baz=132,slow=15,SNR=37						
AB31				⇑S	Sn	05 01 27.7	-8.8
	2.7nm,0.5s,baz=150,slow=21,SNR=11						
PKIN	**Phulchoki**	**14.96**	**125**	*e*P	**Pn**	**04 58 53.8**	**-0.6**
	14nm,0.4s						
PKI	**Pulchoki**	**14.97**	**125**	*e*P	**Pn**	**04 58 54.1**	**-0.6**
	17nm,0.4s						
GUN	**Gumba**	**15.05**	**123**	*e*P	**Pn**	**04 58 54.4**	**-1.3**
	16nm,0.4s						
JIRN	**Jiri**	**15.42**	**123**	*e*P	**Pn**	**04 58 59.2**	**-1.2**
	74nm,0.4s						
RAMN	**Ramite**	**16.17**	**124**	*e*P	**Pn**	**04 59 09.0**	**-0.6**
	25nm,0.5s						
AKTO	**Aktyubinsk**	**16.56**	**328**	⇓P	**P**	**04 59 15.4**	**+0.8**
	3.0nm,1.0s						
AKTO				⇓S	Sn	05 02 06.5	-11
	3.7nm,1.1s						
TAPN	**Taplejung**	**16.65**	**121**	*e*P	**Pn**	**04 59 15.0**	**-0.6**
	17nm,0.5s						
ODAN	**Odare**	**16.75**	**123**	*e*P	**Pn**	**04 59 16.1**	**-0.6**
	12nm,0.4s						
GTA	**Gaotai**	**22.16**	**75**	*e*P	**P**	**05 00 18.0**	**+2.4**
GTA				pP	pP	05 00 22.3	-15
GTA				sP	sP	05 00 25.1	-27
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**27.53**	**56**	P	**P**	**05 01 05.8**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=248,slow=7.8,SNR=3.9						
ARCES	**ARCESS Array B**	**40.81**	**337**	P	**P**	**05 02 59.9**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=113,slow=9.6,SNR=6.7						
YKA	**Yellowknife Ar**	**80.62**	**3**	P	**P**	**05 07 28.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=351,slow=5.4,SNR=2.8						

ISC 14 04:58:52.6±2.2,**51°.70N**±0°.10×**16°.67E**±0°.09,**h0**km,**n8**,
σ2§**54**/19,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.89**	**196**	*e*Pg	**Pb**	**04 59 11.2**	**+0.3**
KSP				*e*Pg	**Pb**	**04 59 11.2**	**+0.3**
KSP				*e*Sg	**Sg**	**04 59 19.9**	**-1.3**
KSP				*e*Sg	**Sg**	**04 59 19.9**	**-1.3**
BRG	**Berggiesshubel**	**1.90**	**245**	PG	**Pn**	**04 59 26.9**	**+0.5**
BRG				SG	**Sn**	**04 59 46.8**	**-4.2**
	11nm,0.5s						
MORC	**Moravsky Berou**	**2.00**	**164**	*e*PN	**Pg**	**04 59 31.5**	**+0.5**
MORC				*e*SG	**Sg**	**04 59 56.6**	**-0.3**
CLL	**Collm**	**2.33**	**262**	*i* Pn	**Pn**	**04 59 32.5**	**+0.4**
CLL				*i* Pg	**Pb**	**04 59 35.8**	**+0.4**
CLL

KSP eSg Sg 05 09 35.2 -0.2
KSP Ksiaz 0.76 174 i Pg Pg 05 09 26.0 +0.4
KSP i Pg Pg 05 09 26.0 +0.4
KSP eSg Sg 05 09 35.3 -0.1
KSP eSg Sg 05 09 35.3 -0.1
CHVC Chvalec 1.01 184 ePG Pg 05 09 30.6 +0.2
CHVC eSG Sg 05 09 42.1 -1.4
comp=Z,142nm,0.4s
UPC Upice 1.09 185 ePG Pg 05 09 31.8 -0.2
UPC eSG Sg 05 09 45.5 -0.7
comp=Z,262nm,0.7s
DPC Dobruska-Polom 1.25 175 ePg Pg 05 09 34.8 -0.3
DPC eSg Sg 05 09 50.5 -0.7
DPC Dobruska-Polom 1.25 175 ePG Pg 05 09 34.7 -0.3
DPC eSG Sg 05 09 50.5 -0.7
comp=Z,121nm,0.6s
PVCC Panska Ves 1.47 224 ePG Pn 05 09 38.6 -0.2
PVCC eSG Sg 05 09 57.1 -1.1
comp=Z,342nm,0.4s
BRG Berggiesshubel 1.57 243 PN Pn 05 09 39.5 -0.7
BRG PG Pb 05 09 40.9 -0.1
BRG SG Sn 05 10 01.4 +0.1
300nm,0.4s
KRLC Kraliky 1.57 165 ePG Pn 05 09 40.2 -0.1
KRLC eSG Sn 05 10 00.5 -0.8
comp=Z,160nm,0.7s
RUE Ruedersdorf 1.72 302 ePn Pn 05 09 42.2 +0.1
RUE eSn Sn 05 10 04.6 -0.2
RUE eSg Sg 05 10 07.4 +1.2
PRA Prague 1.88 216 ePN Pn 05 09 44.0 -0.4
PRA eSG Sn 05 10 09.6 +0.8
comp=Z,89nm,0.7s
GOPC GO Pecny, Ondr 1.90 208 ePN Pn 05 09 44.8 +0.1
GOPC eSG Sn 05 10 10.3 +1.0
comp=Z,56nm,0.5s
PRU Pruhonice 1.91 213 ePN Pn 05 09 44.5 -0.3
PRU eSG Sn 05 10 10.4 +0.8
comp=Z,86nm,0.3s
RAC Raciborz 1.99 139 ePg Pg 05 09 48.9 -0.2
RAC ePg Pg 05 09 48.9 -0.2
RAC eSg Sb 05 10 13.8 +0.4
RAC eSg Sb 05 10 13.8 +0.4
CLL Collm 2.00 263 i Pn Pn 05 09 45.5 -0.5
comp=Z,24nm,0.5s
CLL i Pg Pb 05 09 48.6 +0.4
CLL i 05 09 52.6
CLL i Sg Sb 05 10 14.4 +0.8
comp=Z,83nm,0.3s
CLL Collm 2.00 263 ePn Pn 05 09 45.5 -0.5
CLL eSg Sg 05 10 15.4 +0.2
MORC Moravsky Berou 2.02 154 ePn Pn 05 09 46.4 -0.1
MORC Moravsky Berou 2.02 154 ePn Pn 05 09 46.1 -0.3
MORC eSG Sn 05 10 11.1 -1.3
MORC Moravsky Berou 2.02 154 ePn Pn 05 09 46.1 -0.3
baz=339
MORC eSg Sn 05 10 11.1 -1.3
comp=Z,27nm,0.2s,baz=339
OKC Ostrava-Krasne 2.17 144 ePn Pn 05 09 48.4 0.0
OKC Ostrava-Krasne 2.17 144 ePG Pg 05 09 52.2 -0.4
OKC eSG Sg 05 10 20.6 0.0
comp=Z,72nm,0.5s
VRAC Vranov 2.31 173 Pn Pn 05 09 51.4 +1.1
comp=Z,2.4nm,0.3s,baz=348,slow=16,SNR=7.8
VRAC Lg Lg 05 10 23.3
comp=Z,14nm,0.3s,baz=261,slow=20,SNR=12
VRAC Vranov 2.31 173 ePN Pn 05 09 51.0 +0.6
VRAC eSG Sb 05 10 22.4 -0.2
VRAC Vranov 2.31 173 ePn Pn 05 09 50.9 +0.6
baz=358
VRAC eSg Sb 05 10 22.3 -0.3
comp=Z,22nm,0.2s,baz=358
TREC Trest 2.34 191 ePN Pn 05 09 51.0 +0.2
TREC ePG Pb 05 09 54.2 0.0
TREC eSG Sb 05 10 24.0 +0.3
comp=Z,55nm,0.4s
PBCC Pribram 2.36 217 ePN Pn 05 09 51.0 0.0
PBCC ePG Pb 05 09 53.9 -0.5
PBCC eSG Sb 05 10 24.4 +0.4
comp=Z,13nm,0.5s
KRUC Moravsky 2.54 177 ePN Pn 05 09 54.3 +0.8
KRUC eSG Sb 05 10 29.9 +0.6
KRUC Moravsky 2.54 177 ePn Pn 05 09 54.3 +0.8
baz=1.3
KRUC eSg Sb 05 10 29.9 +0.6
comp=Z,19nm,0.2s,baz=1.3
TANN Tannenbergstha 2.62 245 ePn Pn 05 09 54.7 0.0
TANN ePg Pg 05 10 00.8 -0.5
TANN eSg Sg 05 10 33.9 -1.3
OJC Ojcow 2.68 119 ePn Pn 05 09 54.3 -1.2
OJC ePg Pg 05 10 03.2 +0.7
OJC eSg Sg 05 10 37.0 -0.2
OJC Ojcow 2.68 119 ePn Pn 05 09 55.3 -0.2
OJC ePn Pn 05 09 55.3 -0.2
OJC ePg Pg 05 10 03.4 +0.9
OJC ePg Pg 05 10 03.4 +0.9
OJC eSn Sn 05 10 26.2 -2.5
OJC eSn Sn 05 10 26.2 -2.5
OJC eSg Sg 05 10 38.3 +1.0
OJC eSg Sg 05 10 38.3 +1.0
NKC Novy Kostel 2.72 241 ePN Pn 05 09 56.0 0.0
NKC eSG Sg 05 10 37.3 -1.0
comp=Z,233nm,0.3s
JAVC Velka Javorina 2.91 160 ePN Pn 05 09 58.6 0.0
JAVC eSG Sb 05 10 39.0 -0.9
JAVC Velka Javorina 2.91 160 ePn Pn 05 09 58.6 0.0
baz=344
JAVC eSg Sb 05 10 39.0 -0.9
comp=Z,19nm,0.4s,baz=344
KHC Kasperske Hory 2.97 215 ePN Pn 05 09 59.6 +0.1
KHC ePG Pb 05 10 05.4 +0.5
KHC eSN Sn 05 10 34.0 -1.8
KHC eSG Sb 05 10 43.9 +2.2
comp=Z,26nm,0.4s
MOX Moxa 3.02 253 ePn Pn 05 09 59.9 -0.2
MOX ePg Pg 05 10 08.3 -0.5
MOX eSg Sg 05 10 46.5 -1.5
MANZ Manzenberg 3.04 239 ePn Pn 05 10 00.6 +0.3
MANZ ePg Pg 05 10 09.4 +0.2
MANZ eSg Sg 05 10 47.5 -1.0
ROTZ Rotzenmuhle 3.11 235 ePn Pn 05 10 01.4 +0.1
ROTZ eSg Sg 05 10 49.3 -1.6
GEC2 GERESS Array S 3.17 211 ePn Pn 05 10 03.1 +0.8
GEC2 ePg Pg 05 10 10.8 -1.1
GEC2 eSn Sn 05 10 37.5 -3.4
GEC2 eSg Sb 05 10 48.9 +1.3
GERES GERESS Array B 3.17 211 Pn Pn 05 10 02.8 +0.4
comp=Z,2.9nm,0.3s,baz=33,slow=12,SNR=38
GERES Pg Pb 05 10 09.1 +0.7
comp=Z,5.2nm,0.3s,baz=25,slow=16,SNR=29
GERES Lg Lg 05 10 51.2
comp=Z,8.3nm,0.3s,baz=28,slow=29,SNR=9.8
SMOL Smolenice 3.19 165 ePN Pn 05 10 00.4 -2.1
SMOL ePG Pg 05 10 12.2 0.0
SMOL eSG Sg 05 10 54.2 +0.6
SMOL eLG Lg 05 11 04.2
WET Wettzell 3.23 222 ePn Pn 05 10 02.9 -0.2
WET eSg Sb 05 10 51.8 +2.6
LANS Liptovska Anna 3.24 138 ePN Pn 05 10 04.0 +0.9
LANS ePG Pg 05 10 13.0 -0.1
LANS eSG Sg 05 10 56.3 +1.3
LANS eLG Lg 05 11 03.7
MODS Modra-Piesok 3.31 167 ePN Pn 05 10 05.4 +1.3
MODS ePG Pg 05 10 14.5 +0.1
MODS eSG Sg 05 11 00.3 +3.1
NIE Niedzica 3.43 128 eP Pg 05 10 16.6 -0.1
NIE eP Pg 05 10 16.6 -0.1
NIE eS Sg 05 11 01.9 +0.8
NIE eS Sg 05 11 01.9 +0.8
ASSE Asse, Remlinge 3.44 281 ePn Pn 05 10 06.7 +0.8
ASSE ePg Pg 05 10 17.2 +0.1
ASSE eSg Sg 05 10 60.0 -1.6
VYHS Vyhne 3.55 150 ePN Pn 05 10 07.5 +0.1
VYHS ePG Pg 05 10 20.3 +1.2
VYHS eSG Sg 05 11 05.5 +0.4
BSD Bornholm Skovb 3.60 349 i P Pn 05 10 08.0 -0.1
BSD i S Sn 05 10 48.2 -3.1
CLZ Clausthal 3.61 276 ePn Pn 05 10 09.3 +1.0
CLZ ePg Pg 05 10 20.5 +0.3
CLZ eSg Sg 05 11 07.2 +0.3
CONA Conrad Observa 3.68 183 ePn Pn 05 10 10.2 +1.0
comp=Z,3.1nm,0.3s
CONA Sg Sg 05 11 08.3 -0.8
comp=Z,20nm,0.3s

GRF Grafenberg Arr 3.68 241 ePn Pn 05 10 09.7 +0.5
GRF ePg Pg 05 10 20.8 -0.7
GRF eSg Sg 05 11 08.2 -0.9
NRDL Niedersach Rie 3.84 286 ePn Pn 05 10 12.6 +1.3
MOA Molln 3.95 199 i Pn Pn 05 10 13.4 +0.5
comp=Z,5.9nm,0.3s,SNR=13
MOA eSg Sg 05 11 17.1 -0.7
comp=Z,18nm,0.4s
ARSA Arzberg 4.37 186 Pn Pn 05 10 22.5 +3.8
comp=Z,3.2nm,0.5s
ARSA Sg Sg 05 11 31.5 +0.2
comp=Z,26nm,0.7s
KOLS Kolonicke sedl 4.74 122 ePN Pn 05 10 24.6 +0.8
KOLS ePG Pg 05 10 44.3 +2.4
KOLS eSG Sg 05 11 48.6 +5.3
KBA Koelnbreinsper 4.88 203 ePn Pn 05 10 26.5 +0.6
comp=Z,5.6nm,0.4s,SNR=10
KBA Sg Sg 05 11 48.0 +0.2
comp=Z,13nm,0.5s
WATA Walderalm 5.21 217 Pn Pn 05 10 31.5 +1.2
comp=Z,4.9nm,0.5s
WTTA Wattenberg 5.25 216 ePn Pn 05 10 32.4 +1.5
comp=Z,4.5nm,0.6s
WTTA eSn Sn 05 11 32.9 +0.8
comp=Z,3.2nm,0.3s
MOTA Moosalm 5.38 220 Pn Pn 05 10 32.6 -0.1
comp=Z,2.7nm,0.4s
MOTA i Sn Sn 05 11 33.9 -1.5
comp=Z,3.1nm,0.4s
SQTA Sankt Quirin 5.44 218 ePn Pn 05 10 35.0 +1.5
comp=Z,3.7nm,0.3s,SNR=4.8
SQTA Sg Sg 05 12 06.3 +0.5
comp=Z,11nm,0.5s
DAVOX Davos/Dischmat 6.34 223 Pn Pn 05 10 48.1 +2.2
comp=Z,0.4nm,0.3s,baz=17,slow=19,SNR=5.6
CDF Champ du Feu 6.55 244 ePn Pn 05 10 47.6 -1.1
CDF eSn Sn 05 11 54.2 -10
CDF eSg Sb 05 12 30.3 +5.5
comp=Z,4.1nm,0.3s
HINF Hinteralfeld 7.12 242 ePn Pn 05 10 54.2 -2.3
HINF Hinteralfeld 7.12 242 ePg Pb 05 11 21.7 +6.1
HINF eSn Sn 05 12 07.3 -11
HINF eSg Sb 05 12 47.5 +6.4
comp=Z,1.0nm,0.2s
HAU Haudompre 7.30 244 ePn Pn 05 10 57.7 -1.1
HAU Haudompre 7.30 244 ePg Pg 05 11 25.2 -5.6
HAU eSn Sn 05 12 11.8 -11
HAU eSg Sb 05 12 53.3 +7.3
comp=Z,2.0nm,0.3s
GIVF Givet 7.33 263 ePn Pn 05 10 59.1 -0.2
PAGF Fort de Pagny 7.37 250 ePn Pn 05 10 58.7 -1.2
PAGF Fort de Pagny 7.37 250 ePg Pg 05 11 26.8 -5.4
PAGF eSn Sn 05 12 13.8 -10
PAGF eSg Sb 05 12 56.9 +8.7
comp=Z,0.8nm,0.2s
MEZF Maizieres J'vi 7.79 251 ePn Pn 05 11 04.7 -0.9
MEZF eSn Sn 05 12 24.6 -10
MEZF eSg Sb 05 13 10.1 +10
comp=Z,2.8nm,0.3s
SFTF Sexfontaines 7.94 249 ePn Pn 05 11 06.1 -1.6
SFTF Sexfontaines 7.94 249 ePg Pg 05 11 37.3 -5.8
SFTF eSn Sn 05 12 28.1 -10
SFTF eSg Sb 05 13 14.6 +10
comp=Z,1.0nm,0.2s
AKASG Malin Array Be 8.27 91 Pn Pn 05 11 11.1 -1.0
comp=Z,1.7nm,0.3s,baz=280,slow=12,SNR=5.8
HFS Hagfors 8.67 352 Pn Pn 05 11 17.9 +0.3
comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=4.3
LOR Lormes 9.11 246 ePn Pn 05 11 22.1 -1.6
NOA NORSAR Array B 9.85 346 Pn Pn 05 11 33.9 0.0
comp=Z,0.0nm,0.3s,baz=165,slow=12,SNR=2.9
FINES FINESS Array B 11.27 25 Pn Pn 05 11 52.7 -0.5
comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=6.4
FINES Sn Sn 05 13 49.8 -10
comp=Z,0.2nm,0.3s,baz=200,slow=23,SNR=2.8
EKA Eskdalemuir Ar 12.10 296 Pn Pn 05 12 00.7 -3.8
baz=105,slow=13,SNR=3.6
ARCES ARCESS Array B 18.53 10 Pn P 05 13 26.6 -2.1
comp=Z,0.2nm,0.3s,baz=201,slow=12,SNR=6.5

*IDC **14** 05:10:46.1±1.0,52.°26N×168.°55W,h0km,mb4.1/19, mb1 4.2/20,mb1mx4.0/65,mbtmp4.1/20,ML3.3/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/42,Error ellipse: s-maj=26.9km s-min=15.4km az=171.0*
*ISCJB **14** 05:10:47.1±0.4,52.°04N±0.°04×168.°34W±0.°05,h26km, mb4.0/18,MS2.9/1,Error ellipse: s-maj=6.1km s-min=3.6km az=154.4*
*AEIC **14** 05:10:49.0±1.9,52.°12N±0.°03×168.°38W±0.°09,h26km±4km, ML3.4,mb4.0/27(NEIC)*
ISC 14 05:10:49.8±0.6,**52.°18N**±0.°07×**168.°46W**±0.°05,**h26km**,**n91**, σ1°**16**/92,**mb4.0**/18,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.83**	**343**		**Pb**	**05 11 05.2**	**-0.5**
NIKH				Sg	**Sn**	**05 11 18.1**	**+0.9**
NIKH	**Nikolski High**	**0.83**	**343**		**Sn**	**05 11 18.3**	**+1.0**
OKCE	**Okmok Cone E**	**1.27**	**8**		**Pn**	**05 11 11.6**	**-0.3**
OKFG	**Magazine Ridge**	**1.28**	**15**		**Pn**	**05 11 11.5**	**-0.5**
OKFG					**Sb**	**05 11 30.0**	**+0.7**
OKNC	**Okmok New Cone**	**1.30**	**9**		**Pn**	**05 11 12.4**	**+0.1**
MREP	**Makushin Rep't**	**1.94**	**32**		**Pn**	**05 11 21.1**	**0.0**
MCIR	**Makushin Cirqu**	**2.01**	**27**		**Pn**	**05 11 22.8**	**+0.6**
MSW	**Makushin Switc**	**2.01**	**30**		**Pn**	**05 11 22.0**	**-0.1**
MSW					**Sn**	**05 11 46.9**	**+0.5**
UNV	**Unalaska Valle**	**2.05**	**35**		**Pn**	**05 11 21.9**	**-0.7**
UNV	**Unalaska Valle**	**2.05**	**35**		**Sn**	**05 11 47.7**	**+0.5**
MTBL	**Makushin Table**	**2.09**	**30**		**Pn**	**05 11 23.4**	**+0.1**
AKMO	**Akutan Morgan**	**2.42**	**37**		**Sn**	**05 11 58.1**	**+1.7**
AKBBA	**Akutan Broad B**	**2.46**	**37**		**Pn**	**05 11 28.8**	**+0.7**
AKUT	**Akutan**	**2.54**	**38**		**Pn**	**05 11 29.3**	**0.0**
WESP	**Westdahl Peak**	**3.23**	**43**		**Sn**	**05 12 18.2**	**+1.8**
KOSE	**Korovin Southe**	**3.44**	**275**		**Pn**	**05 11 42.9**	**+1.2**
KOFP	**Korovin Flat P**	**3.47**	**274**		**Pn**	**05 11 43.0**	**+1.0**
GSTD	**Great Sitkin T**	**4.74**	**272**		**Pn**	**05 11 59.6**	**+0.1**
ADAG	**Mount Adagdak**	**5.03**	**271**		**Pn**	**05 12 04.1**	**+0.6**
ADK	**Adak**	**5.09**	**270**		**Pn**	**05 12 03.9**	**-0.4**
ADK	**Adak**	**5.09**	**270**		**Pn**	**05 12 04.3**	**+0.1**
SDPT	**Sand Point**	**5.70**	**53**	Pn	**Pn**	**05 12 10.4**	**-2.3**
SDPT					**Pn**	**05 12 12.6**	**-0.1**
SDPT					**Sn**	**05 13 17.5**	**+0.3**
CNBA	**Chernabura Isl**	**5.92**	**60**		**Pn**	**05 12 15.9**	**+0.2**
CNBA				Sn	**Sn**	**05 13 20.4**	**-2.1**
CHGN	**Chignik**	**7.19**	**51**	Pn	**Pn**	**05 12 35.4**	**+2.2**
OHAK	**Old Harbor**	**10.12**	**54**	Pn	**Pn**	**05 13 13.1**	**-0.2**
KDAK	**Kodiak Island**	**10.70**	**52**	Pn	**Pn**	**05 13 20.3**	**-0.9**
	1.1nm,0.3s,baz=243,slow=7.1,SNR=21						
SVW2	**Sparrevohn**	**11.39**	**33**	Pn	**Pn**	**05 13 34.8**	**+4.2**
CNPM	**China Poot**	**12.13**	**46**	Pn	**Pn**	**05 13 40.3**	**-0.5**
BRLK	**Bradley Lake**	**12.40**	**45**	Pn	**Pn**	**05 13 44.2**	**-0.3**
SEW	**Seward**	**13.20**	**46**	Pn	**Pn**	**05 13 54.8**	**-0.6**
SKT	**Skwentna**	**13.41**	**36**	Pn	**Pn**	**05 14 00.4**	**+2.2**
GHO	**Glory Hole Cre**	**14.29**	**40**	Pn	**Pn**	**05 14 10.4**	**+0.2**
SML	**Sawmill**	**14.54**	**41**	Pn	**Pn**	**05 14 13.2**	**-0.4**
HIN	**Hinchinbrook I**	**14.65**	**47**	Pn	**Pn**	**05 14 13.4**	**-1.7**
KTH	**Kantishna Hill**	**14.66**	**32**	Pn	**Pn**	**05 14 14.2**	**-1.2**
SCM	**Sheep Creek Mo**	**14.96**	**42**		**Pn**	**05 14 16.5**	**-2.8**
BPAW	**Bear Paw Mtn.**	**15.02**	**31**	Pn	**Pn**	**05 14 19.0**	**-1.1**
EYAK	**Cordova Ski Ar**	**15.05**	**47**	Pn	**Pn**	**05 14 18.4**	**-2.1**
EYAK				IAmb	IAmb	05 14 33.3	
	comp=Z,14nm,1.4s						
SUCK	**Suckling Hills**	**15.79**	**50**	Pn	**Pn**	**05 14 30.0**	**-0.2**
GLB	**Gilahina Butte**	**16.28**	**46**	Pn	**Pn**	**05 14 34.5**	**-1.9**
GLB				IAmb	IAmb	05 14 45.0	
	comp=Z,6.9nm,0.9s						
PAX	**Paxson**	**16.29**	**40**	Pn	**Pn**	**05 14 35.3**	**-1.3**
CRQM	**Cirque**	**16.32**	**48**		**Pn**	**05 14 36.3**	**-0.8**
CRQM				IAmb	IAmb	05 14 43.2	
	comp=Z,11nm,0.7s						
WAX	**Waxell Ridge**	**16.35**	**50**		**Pn**	**05 14 36.8**	**-0.6**
VRDI	**Verde Repeater**	**16.35**	**47**	Pn	**Pn**	**05 14 35.3**	**-2.2**
CCB	**Clear Creek Bu**	**16.42**	**33**	Pn	**Pn**	**05 14 37.4**	**-0.8**
TGL	**Tana Glacier**	**16.46**	**49**		**Pn**	**05 14 38.0**	**-0.8**
TGL				IAmb	IAmb	05 14 44.6	
	comp=Z,11nm,0.7s						
MCARA	**McCarthy VSAT**	**16.60**	**46**		**Pn**	**05 14 41.0**	**+0.5**
MCARA				IAmb	IAmb	05 14 47.6	
	comp=Z,8.9nm,0.9s						
BALM	**Baldy**	**16.78**	**48**		**Pn**	**05 14 42.3**	**-0.6**
ILAR	**Eielson Array**	**16.80**	**33**	Pn	**Pn**	**05 14 41.0**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=230,slow=9.9,SNR=13						

BARN Barnard Glacie 17.11 48 P Pn 05 14 45.9 -1.1
BARN IAmb IAmb 05 14 51.0
comp=Z,16nm,1.4s
DOT Dot Lake 17.18 39 P Pn 05 14 47.3 -0.5
CTGM Chitina Glacie 17.23 49 P Pn 05 14 48.3 -0.1
CTGM IAmb IAmb 05 14 52.3
comp=Z,15nm,1.2s
BCAR Beaver Creek A 17.82 42 P Pn 05 14 55.1 -0.5
TOLK Toolik Lake Re 18.81 22 P Pn 05 15 08.4 +0.7
TOLK IAmb IAmb 05 15 22.6
comp=Z,21nm,1.5s
HYT Haines Junctio 18.99 51 P Pn 05 15 12.0 +2.0
HYT IAmb IAmb 05 15 15.4
comp=Z,20nm,1.4s
DAWY Dawson 19.21 40 Pn 05 15 12.0 -0.6
DAWY IAmb IAmb 05 15 20.2
comp=Z,16nm,1.5s
SKAG Skagway 19.82 55 Pn 05 15 20.6 +0.8
SKAG IAmb IAmb 05 15 34.1
comp=Z,7.6nm,0.8s
WHY Whitehorse 20.22 52 P P 05 15 22.1 -0.5
WHY IAmb IAmb 05 15 28.3
comp=Z,12nm,1.1s
PEA0B Petropavlovsk- 20.45 286 P P 05 15 24.6 -0.5
PETK Petropavlovsk- 20.45 286 P P 05 15 24.2 -0.8
comp=Z,6.6nm,0.5s,baz=83,slow=14,SNR=28
PETK Petropavlovsk- 20.45 286 P P 05 15 24.0 -1.0
EPYK Eagle Plains 21.23 36 P P 05 15 32.3 -1.1
INK Inuvik 23.20 33 P P 05 15 52.5 -1.7
comp=Z,2.4nm,0.4s,baz=245,slow=7.6,SNR=28
INK Inuvik 23.20 33 P P 05 15 52.9 -1.3
INK IAmb IAmb 05 15 53.5
comp=Z,4.4nm,0.9s
SEY Seymchan 23.21 313 P P 05 15 54.8 +0.4
comp=Z,2.1nm,0.6s,baz=98,slow=9.2,SNR=3.7
YKA Yellowknife Ar 29.95 49 P P 05 16 56.8 +1.4
comp=Z,0.9nm,0.7s,baz=273,slow=7.6,SNR=4.3
YHH Holmes Hill 37.99 78 P P 05 18 07.3 +1.6
H11S1 WAKE ISLAND Hy 38.84 219 T T 06 00 25.3
baz=22
H11S2 WAKE ISLAND Hy 38.85 219 T T 06 00 02.8
baz=22
H11S3 WAKE ISLAND Hy 38.86 219 T T 06 00 26.6
baz=22
USRK Ussuriysk Ar. 39.48 283 LR LR 05 35 49.6
comp=Z,19nm,19.4s,baz=39,slow=38
BW06 Boulder Array 39.89 79 P P 05 18 23.0 +1.5
PDAR Pinedale Array 39.89 79 P P 05 18 22.2 +0.7
comp=Z,0.6nm,0.5s,baz=294,slow=3.3,SNR=10
KSRS Korea Array 45.98 278 P P 05 19 10.8 +0.2
comp=Z,1.4nm,0.7s,baz=46,slow=7.0,SNR=4.4
SPITS Spitsbergen Ar 49.88 359 P P 05 19 38.8 -1.4
comp=Z,7.9nm,1.0s,baz=66,slow=7.3,SNR=4.7
DAG Danmarks Havn 49.90 9 i P P 05 19 39.0 -1.3
SUMG Summit 50.80 17 i P P 05 19 48.2 +0.5
SONM Songino Array 51.88 301 P P 05 19 56.1 +0.3
comp=Z,0.9nm,0.6s,baz=38,slow=5.6,SNR=4.9
TXAR Lajitas Array 52.19 89 P P 05 19 59.1 +0.7
comp=Z,0.3nm,0.5s,baz=290,slow=5.0,SNR=4.6
ARCES ARCESS Array B 58.17 354 P P 05 20 40.0 -0.8
comp=Z,2.7nm,0.7s,baz=16,slow=11,SNR=5.2
MKAR Makanchi Array 64.34 314 P P 05 21 21.7 -1.2
comp=Z,1.5nm,0.7s,baz=48,slow=6.8,SNR=14
ARU Arti 65.04 333 P P 05 21 27.0 -0.3
comp=Z,2.4nm,0.2s,baz=85,slow=6.5,SNR=5.5
ARU Arti 65.04 333 IAmb IAmb 05 21 27.9
comp=Z,7.4nm,1.0s
FINES FINESS Array B 66.14 352 P P 05 21 33.6 -0.6
comp=Z,3.5nm,0.5s,baz=15,slow=8.1,SNR=26
NB2 NORSAR Subarra 67.13 0 P P 05 21 40.2 -0.5
comp=Z,0.7nm,0.5s,baz=357,slow=6.2
NOA NORSAR Array B 67.13 0 P P 05 21 40.5 -0.2
comp=Z,0.9nm,0.6s,baz=359,slow=6.1,SNR=4.6
AKTO Aktyubinsk 70.45 331 P P 05 22 01.4 0.0
comp=Z,2.9nm,0.6s,baz=38,slow=6.0,SNR=9.9
CMAR Chiang Mai Arr 77.20 284 P P 05 22 41.6 +0.1
comp=Z,1.0nm,0.4s,baz=27,slow=6.5,SNR=6.2
KBZ Khabaz 80.70 338 P P 05 23 01.2 +0.9
comp=Z,1.6nm,0.8s,baz=33,slow=6.1,SNR=4.3
BRTR Keskin Array B 86.47 343 P P 05 23 30.9 +0.8
comp=Z,0.3nm,0.5s,baz=90,slow=2.5,SNR=3.7
ASAR Alice Springs 90.70 231 P P 05 23 49.5 -0.6
comp=Z,0.4nm,0.8s,baz=20,slow=4.9,SNR=4.3

*ISCJB **14** 05:23:41.1±0.4,6.°82N±0.°02×73.°11W±0.°03,h158km±3km, mb3.5/5,Error ellipse: s-maj=5.6km s-min=3.8km az=19.6*
*IDC **14** 05:23:42.2±0.8,6.°77N×72.°94W,h165km±10km,mb3.2/5, mb1 3.6/7,mb1mx3.2/31,mbtmp3.7/7,Error ellipse: s-maj=30.8km s-min=7.9km az=131.0*
*RSNC **14** 05:23:43.4±0.9,6.°81N×73.°16W,h147km±4km,ML3.5, Mw3.6*
ISC 14 05:23:41.6±0.8,**6.°79N**±0.°03×**73.°07W**±0.°04,**h158**km±5km, **n37**,σ1°**65**/67,**mb3.4**/5,**2C-4D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**209**	⇑i P	**Pn**	**05 24 03.5**	**+0.2**
BARC				eS	**Sn**	**05 24 19.2**	**-0.5**
BARC				i		05 24 20.3	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**34**	eP	**Pn**	**05 24 06.2**	**+0.9**
PAMC				eS	**Sn**	**05 24 23.2**	**-0.2**
PAMC				i		05 24 25.6	
	comp=Z,866nm,0.6s						
BRRC	**Barranca, Sant**	**0.71**	**296**	⇑i P	**Pn**	**05 24 05.4**	**+0.4**
BRRC				eS	**Sn**	**05 24 20.9**	**-2.0**
BRRC				i		05 24 25.6	
	comp=Z,424nm,0.4s						
RUSC	**La Rusia**	**0.90**	**181**	⇓i P	**Pn**	**05 24 07.3**	**+0.4**
RUSC				eS	**Sn**	**05 24 25.4**	**-0.9**
RUSC				i		05 24 27.4	
	comp=Z,308nm,0.7s						
RUSC				i		05 24 29.6	
	comp=Z,209nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.40**	**260**	eP	**Pn**	**05 24 10.1**	**-0.7**
PTBC				eS	**Sn**	**05 24 31.4**	**-1.7**
PTBC				i		05 24 38.7	
	comp=Z,629nm,0.4s						
PTBC				i		05 24 38.9	
	comp=Z,622nm,0.4s						
OCAC	**Ocana**	**1.46**	**350**	eP	**Pn**	**05 24 11.5**	**0.0**
OCAC				eS	**Sn**	**05 24 34.0**	**-0.6**
OCAC				i		05 24 39.4	
	comp=Z,312nm,0.3s						
OCAC				i		05 24 39.6	
	comp=Z,305nm,0.3s						
SPBC	**San Pablo de B**	**1.51**	**221**	⇓i P	**Pn**	**05 24 12.3**	**+0.3**
SPBC				eS	**Sn**	**05 24 34.4**	**-0.9**
SPBC				i		05 24 37.0	
	comp=Z,472nm,0.4s						
SPBC				i		05 24 37.3	
	comp=Z,477nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.90**	**292**	eP	**Pn**	**05 24 16.0**	**-0.1**
ZARC				eS	**Sn**	**05 24 41.4**	**-1.4**
ZARC				i		05 24 46.7	
	comp=Z,400nm,0.8s						
ZARC				i		05 24 47.5	
	comp=Z,389nm,0.5s						
NORC	**Norcasia**	**2.16**	**236**	eP	**Pn**	**05 24 19.1**	**-0.1**
NORC				eS	**Sn**	**05 24 46.8**	**-1.4**
NORC				i		05 24 55.0	
	comp=Z,172nm,0.2s						
NORC				i		05 24 55.0	
	comp=Z,162nm,0.2s						
SMLC	**San Martn de**	**2.23**	**334**	eP	**Pn**	**05 24 19.7**	**-0.2**
SMLC				eS	**Sn**	**05 24 47.9**	**-1.6**
SMLC				i		05 24 55.9	
	comp=Z,318nm,0.3s						
SMLC				i		05 24 55.9	
	comp=Z,329nm,0.3s						
CHIC	**Chingaza**	**2.25**	**197**	eP	**Pn**	**05 24 21.1**	**+0.6**
CHIC				eS	**Sn**	**05 24 50.7**	**+0.1**
CHIC				i		05 24 56.6	
	comp=Z,187nm,0.4s						
CHIC				i		05 24 57.6	
	comp=Z,192nm,0.6s						
ROSC	**El Rosal**	**2.30**	**213**	⇓i P	**Pn**	**05 24 23.1**	**+2.0**
ROSC				eS	**Sn**	**05 24 49.9**	**-1.8**
ROSC				i		05 25 01.6	
	comp=Z,295nm,0.4s						
ROSC	**El Rosal**	**2.30**	**213**	P	**Pn**	**05 24 23.2**	**+2.0**
	comp=Z,34nm,0.3s,baz=93,slow=10,SNR=83						
ROSC				S	**Sn**	**05 24 54.3**	**+2.6**
	comp=Z,109nm,0.3s,baz=150,slow=22,SNR=13						

CVER	**Cruz Verde, Cu**	**2.47 204**	*e*P	**Pn**	**05 24 25.8**	**+2.6**
CVER			*e*S	**Sn**	**05 24 52.4**	**-2.9**
CVER			*i*		05 25 08.3	
	comp=Z,1μm,0.5s					
HELC	**Santa Helena**	**2.51 256**	*e*P	**Pn**	**05 24 24.9**	**+1.3**
HELC			*e*S	**Sn**	**05 24 57.1**	**+1.1**
HELC			*i*		05 25 02.2	
	comp=Z,189nm,0.4s					
VILC	**Villavicencio,**	**2.73 193**	*e*P	**Pn**	**05 24 26.3**	**+0.1**
VILC			*e*S	**Sn**	**05 25 00.7**	**+0.1**
VILC			*i*		05 25 11.1	
	comp=Z,165nm,0.7s					
PTGC	**Puerto Gaitan,**	**2.74 160**	*i*P	**Pn**	**05 24 26.3**	**+0.2**
PTGC			*e*S	**Sn**	**05 24 59.1**	**-1.5**
PTGC			*i*		05 25 04.0	
	comp=Z,108nm,0.7s					
GUY2C	**Guyana, Caldas**	**2.76 236**	*e*P	**Pn**	**05 24 27.5**	**+0.7**
GUY2C			*e*S	**Sn**	**05 25 02.4**	**+0.7**
GUY2C			*i*		05 25 07.9	
	comp=Z,182nm,0.9s					
RREF	**El Recreo**	**2.94 230**	*e*P	**Pn**	**05 24 30.4**	**+1.2**
RREF			*e*S	**Sn**	**05 25 07.0**	**+1.0**
RREF			*i*		05 25 36.1	
	comp=Z,191nm,0.9s					
CBOC	**Ciudad Bolivar**	**3.06 253**	*e*P	**Pn**	**05 24 31.1**	**+0.8**
CBOC			*e*S	**Sn**	**05 25 06.3**	**-1.6**
CBOC			*i*		05 25 16.6	
	comp=Z,85nm,0.6s					
DBBC	**Dabeiba**	**3.12 274**	*e*P	**Pn**	**05 24 30.9**	**0.0**
DBBC			*e*S	**Sn**	**05 25 07.1**	**-2.1**
DBBC			*i*		05 25 15.1	
	comp=Z,145nm,0.5s					
TOLC	**Tolima**	**3.13 226**	*e*P	**Pn**	**05 24 32.8**	**+1.5**
TOLC			*e*S	**Sn**	**05 25 06.9**	**-2.9**
TOLC			*i*		05 25 15.1	
	comp=Z,72nm,0.6s					
CODC	**Agustn Codazz**	**3.14 353**	*e*P	**Pn**	**05 24 30.6**	**-0.5**
CODC			*e*S	**Sn**	**05 25 07.8**	**-1.8**
CODC			*i*		05 25 17.6	
	comp=Z,79nm,1.0s					
SDV	**Santo Domingo**	**3.19 49**	P	**Pn**	**05 24 32.8**	**+0.9**
	comp=Z,6.0nm,0.3s,baz=237,slow=14,SNR=5.7					
SDV			S	**Sn**	**05 25 10.4**	**-0.5**
	comp=Z,14nm,0.3s,baz=252,slow=17,SNR=22					
ORTC	**Ortega, Tolima**	**3.59 217**	*e*P	**Pn**	**05 24 37.5**	**+0.6**
ORTC			*e*S	**Sn**	**05 25 20.6**	**+0.7**
ORTC			*i*		05 25 26.7	
	comp=Z,98nm,0.5s					
ORTC			*i*		05 25 26.9	
	comp=Z,96nm,0.5s					
PLMC	**San Jos del P**	**3.70 240**	*e*P	**Pn**	**05 24 35.4**	**-2.9**
PLMC			*e*S	**Sn**	**05 25 20.6**	**-1.9**
PLMC			*i*		05 25 30.9	
	comp=Z,38nm,0.2s					
GUVC	**San Jose del G**	**4.24 174**	*e*P	**Pn**	**05 24 44.8**	**-0.5**
GUVC			*e*S	**Sn**	**05 25 32.5**	**-2.4**
GUVC			*i*		05 25 38.2	
	comp=Z,64nm,0.8s					
YOTC	**Yotoco, Valle**	**4.29 230**	*e*P	**Pn**	**05 24 45.9**	**-0.1**
YOTC			*e*S	**Sn**	**05 25 39.8**	**+3.7**
YOTC			*i*		05 25 46.9	
	comp=Z,11nm,0.4s					
YOTC			*i*		05 25 47.3	
	comp=Z,10.0nm,0.5s					
MACC	**Macarena, Meta**	**4.68 190**	*e*P	**Pn**	**05 24 50.0**	**-1.0**
MACC			*e*S	**Sn**	**05 25 40.3**	**-5.0**
MACC			*i*		05 25 45.5	
	comp=Z,46nm,0.8s					
BBAC	**Balboa, Cauca**	**6.31 221**	*e*P	**Pn**	**05 25 13.5**	**+0.8**
BBAC			*e*S	**Sn**	**05 26 18.8**	**-5.3**
BBAC			*i*		05 26 26.2	
	comp=Z,6.3nm,0.4s					
TXAR	**Lajitas Array**	**36.52 312**	P	**P**	**05 30 33.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=120,slow=10,SNR=7.8					
ULM	**Lac du Bonnet**	**47.33 340**	P	**P**	**05 31 59.7**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=153,slow=9.7,SNR=3.4					
PDAR	**Pinedale Array**	**48.13 324**	P	**P**	**05 32 06.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=116,slow=10,SNR=3.2					
NVAR	**Mina Array Bea**	**51.54 315**	P	**P**	**05 32 32.9**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=97,slow=7.4,SNR=2.8					
YKA	**Yellowknife Ar**	**63.31 340**	P	**P**	**05 33 53.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=131,slow=6.4,SNR=4.3					
ASAR	**Alice Springs**	**149.13 234**	PKPbc	**PKPbc**	**05 43 11.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=112,slow=4.3,SNR=3.2					
WRA	**Warramunga Arr**	**150.37 241**	PKPbc	**PKPbc**	**05 43 14.8**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=108,slow=2.8,SNR=5.0					

*ISCJB **14** 05:49:31.6±0.9, 15°.58N±0°.08×95°.77W±0°.04, h32km±6km, Error ellipse: s-maj=13.3km s-min=5.7km az=7.9*
*MEX **14** 05:49:34.0±0.7, 15°.56N×95°.78W, h24km±8km, MD4.1*
ISC 14 05:49:32.4±1.3,**15°.60N**±0°.08×**95°.77W**±0°.04,**h23**km±10**km**,**n26**,σ1§**48**/40,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.37**	**297**	*e*P	**Pb**	**05 49 40.6**	**+0.2**
HUIG				*i* S	**Sb**	**05 49 46.0**	**+0.1**
HUIG	**Huatulco**	**0.37**	**297**		**Pb**	**05 49 40.6**	**+0.2**
HUIG					**Sb**	**05 49 46.0**	**+0.1**
PANG	**Puerto Angel**	**0.69**	**276**	*e*P	**Pn**	**05 49 45.3**	**-1.3**
PANG				*i* S	**Sb**	**05 49 53.7**	**-1.1**
PANG	**Puerto Angel**	**0.69**	**276**		**Pn**	**05 49 45.3**	**-1.3**
PANG					**Sb**	**05 49 53.7**	**-1.1**
CMIG	**Matias Romero**	**1.71**	**30**	*e*P	**Pn**	**05 49 59.8**	**-1.0**
CMIG				*e*S	**Sn**	**05 50 21.1**	**-0.9**
CMIG	**Matias Romero**	**1.71**	**30**		**Pn**	**05 49 59.8**	**-1.0**
CMIG					**Sn**	**05 50 21.1**	**-0.9**
VHO	**Vista Hermosa**	**1.73**	**328**	*e*P	**Pn**	**05 50 01.4**	**+0.1**
VHO				*e*S	**Sn**	**05 50 22.0**	**-0.8**
PNIG	**Pinotepa**	**2.40**	**289**	*e*P	**Pn**	**05 50 10.2**	**-0.2**
PNIG				*e*S	**Sn**	**05 50 36.8**	**-2.3**
PNIG	**Pinotepa**	**2.40**	**289**		**Pn**	**05 50 10.2**	**-0.2**
PNIG					**Sn**	**05 50 36.8**	**-2.3**
PCIG		**2.46**	**87**	*e*P	**Pn**	**05 50 10.8**	**-0.2**
PCIG				*i* S	**Sn**	**05 50 39.1**	**-1.2**
PCIG		**2.46**	**87**		**Pn**	**05 50 10.8**	**-0.2**
PCIG					**Sn**	**05 50 39.1**	**-1.2**
TLIG	**Tlapa**	**3.32**	**306**	*e*P	**Pn**	**05 50 22.6**	**-0.5**
TLIG				*e*S	**Sn**	**05 51 00.1**	**-1.8**
TLIG	**Tlapa**	**3.32**	**306**		**Pn**	**05 50 24.4**	**+1.3**
TLIG				Sn	**Sn**	**05 51 00.5**	**-1.4**
TLIG	**Tlapa**	**3.32**	**306**		**Pn**	**05 50 22.6**	**-0.5**
TLIG					**Sn**	**05 51 00.1**	**-1.8**
CCIG	**Comitan**	**3.56**	**79**		**Pn**	**05 50 26.9**	**+0.5**
TEIG	**Tepich**	**8.48**	**56**		**Pn**	**05 51 33.1**	**-0.8**
TEIG				Sn	**Sn**	**05 53 05.0**	**-4.0**
WHTX	**Lake Whitney,**	**16.39**	**355**		**P**	**05 53 25.1**	**+1.4**
WHTX				IAmb	IAmb	05 53 38.5	
	comp=Z,5.9nm,0.7s						
MNTX	**Cornudas Mount**	**18.27**	**333**	P	**Pn**	**05 53 45.5**	**+1.0**
MIAR	**Mount Ida**	**18.97**	**6**	P	**Pn**	**05 53 52.5**	**-0.4**
MSTX	**Muleshoe**	**19.35**	**342**	P	**Pn**	**05 53 58.8**	**+1.1**
W39A	**Magazine**	**19.60**	**5**	P	**Pn**	**05 53 59.9**	**-0.5**
W39A				IAmb	IAmb	05 54 13.7	
	comp=Z,4.2nm,0.8s						
U40A	**Yellville**	**20.84**	**7**	P	**P**	**05 54 12.5**	**+0.1**
U40A				IAmb	IAmb	05 54 23.1	
	comp=Z,5.2nm,0.8s						
BNM	**Barren Site**	**20.91**	**334**	P	Pn	05 54 16.9	+0.8
SDCO	**Great Sand Dun**	**23.68**	**341**	P	**P**	**05 54 43.6**	**+0.9**
P48A	**Milroy**	**25.44**	**19**	P	**P**	**05 54 57.1**	**-1.3**
P48A				IAmb	IAmb	05 55 09.8	
	comp=Z,21nm,1.4s						
MCWV	**Mont Chateau**	**27.72**	**27**	P	**P**	**05 55 23.6**	**+4.5**
MCWV				IAmb	IAmb	05 55 34.6	
	comp=Z,5.1nm,0.8s						

*IDC **14** 05:52:16.6±1.1, 19°.61N×105°.34W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/32, mbtmp3.9/8, ML4.1/1, MS3.4/13, Ms1 3.4/13, ms1mx3.2/36, Error ellipse: s-maj=37.0km s-min=21.0km az=68.0*
*MEX **14** 05:52:21.9±0.6, 19°.73N×105°.52W, h20km±3km, MD4.0*
*ISCJB **14** 05:52:24.5±0.5, 19°.84N±0°.04×105°.15W±0°.03, h66km±4km, mb3.8/8, Error ellipse: s-maj=7.2km s-min=2.9km az=29.5*
*NEIC **14** 05:52:25.5±1.3, 19°.83N±0°.06×105°.15W±0°.08, h61km±8km*
ISC 14 05:52:23.4±0.9,**19°.76N**±0°.05×**105°.33W**±0°.07,**h45**km±9**km**,**n281**,σ1§**16**/275,**mb4.1**/30,**MS3.3**/8,**Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.37**	**134**	*e*P	**Pn**	**05 52 30.4**	**-2.4**
CJM				*e*S	**Sn**	**05 52 37.1**	**-2.4**
R15V		**1.40**	**114**	*e*P	**Pn**	**05 52 45.9**	**-0.6**
R15V				*e*S	**Sn**	**05 53 03.5**	**-0.4**
R15V		**1.40**	**114**		**Pn**	**05 52 45.9**	**-0.6**
ANIG	**Ahuacatlan**	**1.50**	**30**	*e*P	**Pn**	**05 52 46.9**	**-1.0**
ANIG				*e*S	**Sn**	**05 53 06.4**	**+0.1**
ANIG	**Ahuacatlan**	**1.50**	**30**		**Pn**	**05 52 46.9**	**-1.0**
ANIG					**Sn**	**05 53 06.4**	**+0.1**
EZ5V		**1.65**	**99**	*e*P	**Pn**	**05 52 51.0**	**+0.9**
EZ5V				*i* S	**Sn**	**05 53 10.7**	**+0.3**
EZ5V		**1.65**	**99**		**Pn**	**05 52 51.0**	**+0.9**
MMIG	**Aquila**	**2.38**	**128**	*e*P	**Pn**	**05 52 58.4**	**-1.5**
MMIG				*e*S	**Sn**	**05 53 27.9**	**0.0**
MMIG	**Aquila**	**2.38**	**128**		**Pn**	**05 52 58.4**	**-1.5**
MMIG					**Sn**	**05 53 27.9**	**0.0**
MAIG	**Mazatlaan**	**3.56**	**344**	*e*P	**Pn**	**05 53 14.1**	**-2.0**
MAIG	**Mazatlaan**	**3.56**	**344**		**Pn**	**05 53 14.1**	**-2.0**
ZAIG	**Zacatecas**	**3.95**	**40**		**Pn**	**05 53 22.1**	**+0.3**
ZIIG	**Zihuatanejo**	**4.24**	**120**	*i* P	**Pn**	**05 53 24.7**	**-0.9**
ZIIG				*i* S	**Sn**	**05 54 14.8**	**+1.0**
ZIIG	**Zihuatanejo**	**4.24**	**120**		**Pn**	**05 53 26.9**	**+1.3**
H06E1	**SOCORRO T-PHAS**	**5.37**	**260**	T	T	05 59 09.5	
	SNR=210						
H06N1	**SOCORRO T-PHAS**	**5.42**	**261**	T	T	05 59 19.0	
	SNR=116						
LPIG	**La Paz**	**6.33**	**314**	Pn	**Pn**	**05 53 55.5**	**+1.4**
	1.2nm,0.3s,baz=303,slow=2.4,SNR=6.5						
TLIG	**Tlapa**	**6.77**	**108**	Pn	**Pn**	**05 54 01.9**	**+1.5**
TLIG				Sn	**Sn**	**05 55 15.0**	**-1.4**
HPIG		**7.15**	**358**		**Pn**	**05 54 06.9**	**+1.2**
TX32	**Lajitas Array**	**9.65**	**9**		**Pn**	**05 54 39.6**	**-0.2**
TXAR	**Lajitas Array**	**9.65**	**9**	Pn	**Pn**	**05 54 41.2**	**+1.4**
	0.4nm,0.3s,baz=192,slow=15,SNR=17						
TXAR				Lg	Lg	05 57 16.9	
	0.1nm,0.3s,baz=188,slow=26,SNR=2.9						
TXAR				LR	LR	05 59 00.8	
	comp=Z,160nm,19.8s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**9.65**	**9**		**Pn**	**05 54 39.0**	**-0.8**
SRIG	**Santa Rosalía**	**9.84**	**321**		**Pn**	**05 54 45.3**	**+3.0**
833A	**Chaparral WMA,**	**10.10**	**31**	Pn	**Pn**	**05 54 45.3**	**-0.6**
CMIG	**Matias Romero**	**10.26**	**103**	Pn	**Pn**	**05 54 50.3**	**+2.2**
	1.6nm,0.3s,baz=286,slow=12,SNR=41						
CMIG				Lg	Lg	05 57 37.4	
	0.3nm,0.3s,baz=187,slow=3.7,SNR=4.3						
CMIG				LR	LR	05 59 06.5	
	comp=Z,306nm,18.5s,baz=282,slow=40						
HSIG		**10.54**	**332**		**Pn**	**05 54 53.8**	**+1.8**
MNTX	**Cornudas Mount**	**11.89**	**360**	P	**Pn**	**05 55 12.4**	**+2.0**
	baz=179						
MNTX	**Cornudas Mount**	**11.89**	**360**	Pn	**Pn**	**05 55 11.5**	**+1.1**
319A	**Douglas**	**12.10**	**344**		**Pn**	**05 55 15.8**	**+2.4**
GDL2	**Guadalupe Moun**	**12.42**	**4**	Pn	**Pn**	**05 55 18.5**	**+0.8**
121A	**Cookes Peak, D**	**12.91**	**351**	P	**Pn**	**05 55 26.6**	**+2.2**
	baz=169						
121A	**Cookes Peak, D**	**12.91**	**351**		**Pn**	**05 55 26.1**	**+1.6**
CCIG	**Comitan**	**13.02**	**103**	Pn	**Pn**	**05 55 27.1**	**+1.2**
TUC	**Tucson**	**13.42**	**340**	P	**Pn**	**05 55 34.0**	**+2.7**
	baz=156						
TUC	**Tucson**	**13.42**	**340**		**Pn**	**05 55 33.0**	**+1.7**
214A	**Organ Pipe Nat**	**13.88**	**333**	P	**Pn**	**05 55 40.2**	**+2.7**
	baz=148,SNR=13						
214A	**Organ Pipe Nat**	**13.88**	**333**		**Pn**	**05 55 39.1**	**+1.6**
WHTX	**Lake Whitney,**	**14.09**	**29**	Pn	**Pn**	**05 55 38.8**	**-1.5**
LENM	**Lemitar**	**14.43**	**355**	Pn	**Pn**	**05 55 47.1**	**+2.1**
APG	**El Apazote**	**14.95**	**106**	LR	LR	06 01 42.7	
	comp=Z,196nm,21.4s,baz=289,slow=38						
113A	**Mohawk Valley,**	**14.99**	**331**	P	**P**	**05 55 55.1**	**-2.0**
ANMO	**Albuquerque**	**15.16**	**356**	LR	LR	06 02 07.4	
	comp=Z,149nm,22.0s,baz=174,slow=39						
X18A	**Snowflake**	**15.27**	**345**	Pn	**Pn**	**05 55 56.0**	**-0.2**
AMTX	**Amarillo**	**15.41**	**11**	Pn	**Pn**	**05 55 56.2**	**-1.7**
AMTX				IAmb	IAmb	05 56 02.0	
	comp=Z,19nm,1.2s						
X16A	**Lo Mia Camp, P**	**15.58**	**341**		**Pn**	**05 56 01.1**	**+1.0**
X16A				IAmb	IAmb	05 56 07.1	
	comp=Z,8.4nm,0.8s						
Y14A	**Wickenburg**	**15.69**	**336**		**Pn**	**05 56 01.6**	**+0.2**
Y14A				IAmb	IAmb	05 56 07.8	
	comp=Z,11nm,0.8s						
GLA	**Glamis**	**15.72**	**329**	P	**P**	**05 56 04.5**	**-0.8**
	baz=144						
GLA	**Glamis**	**15.72**	**329**	Pn	**P**	**05 56 03.9**	**-1.3**
GLA				IAmb	IAmb	05 56 09.3	
	comp=Z,27nm,1.2s						
W18A	**Petrified Fore**	**15.79**	**347**	Pn	**Pn**	**05 56 03.7**	**+0.9**
WMOK	**Wichita Mounta**	**16.01**	**20**	P	**Pn**	**05 56 06.4**	**+0.9**
	baz=202						
TEIG	**Tepich**	**16.04**	**85**	LR	LR	06 03 30.3	
	comp=Z,134nm,19.8s,baz=52,slow=42						
IKP	**In-Ko-Pah, Jac**	**16.06**	**325**	P	**P**	**05 56 08.7**	**-0.3**
	baz=140						
SWSC	**Sam W. Stewart**	**16.12**	**327**	P	**P**	**05 56 09.3**	**-0.3**
	baz=141						
Y12C	**Blythe**	**16.16**	**331**	P	**P**	**05 56 09.5**	**-0.5**
	baz=146,SNR=7.5						
Y12C	**Blythe**	**16.16**	**331**		**P**	**05 56 09.2**	**-0.8**
Y12C				IAmb	IAmb	05 56 10.8	
	comp=Z,14nm,1.0s						
MONP2	**Monument Peak**	**16.41**	**325**	P	**P**	**05 56 13.8**	**+0.7**
	baz=139						
PDMCI	**Parker Dam,Lak**	**16.46**	**333**	P	**P**	**05 56 13.4**	**0.0**
	baz=149						
BC3	**Big Chuckawall**	**16.52**	**329**	P	**P**	**05 56 14.0**	**-0.1**
	baz=144,SNR=7.4						
WUAZ	**Wupatki**	**16.58**	**342**	P	**P**	**05 56 15.0**	**+0.2**
	baz=159,SNR=7.4						
WUAZ	**Wupatki**	**16.58**	**342**		**P**	**05 56 14.5**	**-0.3**
WUAZ				IAmb	IAmb	05 56 19.4	
	comp=Z,20nm,1.1s						
IRM	**Iron Mountain**	**16.78**	**331**	P	**P**	**05 56 17.3**	**+0.4**
	baz=145,SNR=8.5						
109C	**Camp Elliot, M**	**16.79**	**324**	P	**P**	**05 56 17.5**	**+0.6**
	baz=138						
109C	**Camp Elliot, M**	**16.79**	**324**		**P**	**05 56 16.7**	**-0.2**
109C				IAmb	IAmb	05 56 18.0	
	comp=Z,22nm,1.4s						
PFO	**Pinyon Flats O**	**16.99**	**327**	P	**P**	**05 56 20.5**	**+1.2**
	baz=141						
PFO	**Pinyon Flats O**	**16.99**	**327**	P	**P**	**05 56 20.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=6.9						
PFO	**Pinyon Flats O**	**16.99**	**327**	P	**P**	**05 56 19.1**	**-0.3**
PFO				IAmb	IAmb	05 56 23.4	
	comp=Z,20nm,1.2s						
W13A	**Hualapai Mount**	**17.05**	**335**		**P**	**05 56 19.6**	**-0.5**
W35A	**Tecumseh**	**17.06**	**24**	Pn	**Pn**	**05 56 18.6**	**-0.1**
BELC	**Belle Mtn. Jos**	**17.06**	**328**	P	**P**	**05 56 21.2**	**+1.1**
	baz=143,SNR=7.6						
T25A	**Trinidad**	**17.34**	**2**	P	**Pn**	**05 56 22.4**	**0.0**
	baz=182						
GMRC	**Granite Mounta**	**17.54**	**331**	P	**P**	**05 56 27.1**	**+1.7**
	baz=145,SNR=14						
WLAR	**White Oak Lake**	**17.63**	**36**	Pn	**Pn**	**05 56 25.1**	**-0.6**
WLAR				IAmb	IAmb	05 56 38.3	
	comp=Z,20nm,1.2s						
U15A	**North Rim**	**17.70**	**341**	P	**P**	**05 56 27.6**	**+0.3**
BBRC	**Big Bear Solar**	**17.74**	**327**	P	**P**	**05 56 29.3**	**+1.6**
	baz=141						
HEC	**Hector,Ludlow**	**17.89**	**329**	P	**P**	**05 56 31.8**	**+2.5**
	baz=144						
SDCO	**Great Sand Dun**	**17.92**	**360**	P	**P**	**05 56 30.2**	**+0.4**
	baz=179						
SDCO	**Great Sand Dun**	**17.92**	**360**	Pn	**Pn**	**05 56 29.5**	**-0.1**
BFSC	**Mount Baldy Ra**	**18.11**	**325**	P	**Pn**	**05 56 33.4**	**+1.7**
	baz=139,SNR=6.3						
TUQ	**Turquoise Moun**	**18.20**	**331**	P	**Pn**	**05 56 34.8**	**+2.0**
	baz=146,SNR=6.3						
MWC	**Mount Wilson**	**18.31**	**324**	P	**Pn**	**05 56 35.5**	**+1.3**
MWC				IAmb	IAmb	05 56 37.8	
	comp=Z,18nm,1.1s						
PASC	**Pasadena Art C**	**18.34**	**324**	P	**Pn**	**05 56 35.2**	**+0.8**
PASC				IAmb	IAmb	05 56 37.3	
	comp=Z,19nm,1.4s						
KNB	**Kanab**	**18.40**	**341**	P	**Pn**	**05 56 35.7**	**+0.3**
GSC	**Goldstone, Bar**	**18.50**	**329**	P	**Pn**	**05 56 38.4**	**+1.8**
	baz=143,SNR=6.7						
GSC	**Goldstone, Bar**	**18.50**	**329**	P	**Pn**	**05 56 38.3**	**+1.8**
LCMT	**Little Creek M**	**18.53**	**340**	P	**P**	**05 56 35.9**	**-0.5**
PKCU	**Pink Cliffs**	**18.64**	**342**	P	**P**	**05 56 37.4**	**-0.4**
PV03	**Paradox Valley**	**18.68**	**351**	P	**P**	**05 56 38.1**	**+0.1**
SHOC	**Shoshone, Teco**	**18.74**	**331**	P	**Pn**	**05 56 40.3**	**+1.0**
	baz=146,SNR=6.7						
EDW2	**Edwards Air Fo**	**18.77**	**326**	P	**Pn**	**05 56 40.7**	**+1.0**
	baz=139						
SHPR	**Sheep Range**	**18.78**	**335**	P	**Pn**	**05 56 41.4**	**+1.5**
PV22	**Blue Mesa, Par**	**18.95**	**352**	P	**Pn**	**05 56 41.7**	**-0.3**
PV21	**Cone Mtn., Par**	**19.00**	**351**	P	**Pn**	**05 56 42.6**	**-0.1**
CCUT	**Cedar City**	**19.06**	**340**	P	**Pn**	**05 56 43.2**	**-0.2**
LRMC	**Laurel Mtn Rad**	**19.08**	**328**	P	**Pn**	**05 56 45.3**	**+1.8**
	baz=141						
ARVC	**Arvin**	**19.41**	**325**	P	**Pn**	**05 56 47.5**	**+0.2**
	baz=138						
MPMC	**Manual Prospec**	**19.44**	**329**	P	**Pn**	**05 56 48.4**	**+0.5**
	baz=143,SNR=9.7						
FURC	**Furnace Creek,**	**19.48**	**331**	P	**Pn**	**05 56 48.7**	**+0.7**
	baz=145						
CBKS	**Cedar Bluff**	**19.60**	**13**	P	**P**	**05 56 48.3**	**+0.4**
	baz=195						
MSU	**Marysvale**	**19.61**	**344**	P	**P**	**05 56 49.0**	**+0.8**
TPNV	**Topopah Spring**	**19.61**	**333**	P	**Pn**	**05 56 50.6**	**+0.7**
	baz=147,SNR=13						
TPNV	**Topopah Spring**	**19.61**	**333**	P	**Pn**	**05 56 50.1**	**+0.2**
TPNV				IAmb	IAmb	05 56 53.4	
	comp=Z,9.3nm,0.8s						
ISA	**Isabella, Lake**	**19.62**	**327**	P	**Pn**	**05 56 50.7**	**+0.8**
ISA				IAmb	IAmb	05 56 55.7	
	comp=Z,12nm,0.8s						
DAC	**Darwin (Calif)**	**19.67**	**329**	P	**Pn**	**05 56 50.2**	**-0.4**
Q16A	**Castle Valley**	**19.75**	**346**	P	**Pn**	**05 56 50.7**	**-0.8**
PKM	**Mcpherson Peak**	**19.78**	**323**	P	**Pn**	**05 56 51.5**	**-0.4**
	baz=135						
SRU	**San Rafael Swe**	**19.80**	**348**	P	**Pn**	**05 56 51.6**	**-0.5**
U40A	**Yellville**	**19.83**	**31**	P	**P**	**05 56 50.1**	**-0.3**
	baz=216						
ISCO	**Idaho Springs**	**19.98**	**359**	P	**P**	**05 56 52.4**	**+0.1**
	baz=179						
CWC	**Cottonwood Cre**	**20.03**	**329**	P	Pn	05 56 54.1	-0.7
	baz=142						
VES	**Vestal, Richgr**	**20.08**	**326**	P	Pn	05 56 55.4	+0.2
	baz=139,SNR=9.0						
PSUT	**Pine Spring**	**20.12**	**340**	P	Pn	05 56 55.1	-0.7
TMUT	**Trail Mountain**	**20.12**	**347**	P	**P**	**05 56 54.4**	**+0.5**
GRAC	**Grapevine Rang**	**20.14**	**331**	P	Pn	05 56 56.3	+0.3
	baz=145,SNR=7.6						
P17A	**Butcher Ranch,**	**20.19**	**348**	P	**P**	**05 56 54.8**	**+0.3**
R11A	**Troy Canyon, C**	**20.55**	**337**	P	Pn	05 57 00.2	-0.8
	baz=151,SNR=17						
R11A	**Troy Canyon, C**	**20.55**	**337**	P	**P**	**05 56 59.6**	**+1.2**
R11A				IAmb	IAmb	05 57 01.3	
	comp=Z,9.1nm,0.9s						
TIN	**Tinemaha, Big**	**20.59**	**329**	P	Pn	05 57 01.2	-0.2
	baz=143						
250A	**Grady**	**20.99**	**51**	P	**P**	**05 57 02.8**	**-0.2**
	baz=239						
MLAC	**Mammoth, Mammo**	**21.34**	**329**	P	**P**	**05 57 08.8**	**+1.8**
	baz=142						
DUG	**Dugway, Tooele**	**21.36**	**344**	P	**P**	**05 57 08.4**	**+1.3**
	baz=160,SNR=6.1						
DUG	**Dugway, Tooele**	**21.36**	**344**	P	**P**	**05 57 07.2**	**+0.1**
DUG				IAmb	IAmb	05 57 09.6	
	comp=Z,9.7nm,1.2s						
OMMB	**Old Mammoth Mi**	**21.41**	**329**	P	**P**	**05 57 09.6**	**+1.7**
OMMB				IAmb	IAmb	05 57 12.8	
	comp=Z,24nm,1.4s						
JLU	**Jordanelle**	**21.43**	**347**	P	**P**	**05 57 08.7**	**+0.9**
MDPB	**Devils Postpil**	**21.46**	**329**	P	**P**	**05 57 10.3**	**+1.9**
553A	**Crawfordville**	**21.57**	**57**	P	**P**	**05 57 08.6**	**-0.6**
	baz=246						
CTU	**Camp Tracy**	**21.58**	**347**	P	**P**	**05 57 10.1**	**+0.7**
GLAT	**Glass**	**21.65**	**37**	P	**P**	**05 57 08.8**	**-1.3**
NV11	**Mina Array Sit**	**21.68**	**332**	P	**P**	**05 57 11.8**	**+1.3**
NVAR	**Mina Array Bea**	**21.74**	**332**	P	**P**	**05 57 13.1**	**+1.9**
	comp=Z,7.5nm,0.8s,baz=152,slow=13,SNR=46						
NVAR	**Mina Array Bea**	**21.74**	**332**	P	**P**	**05 57 12.6**	**+1.3**
352A	**Blakely**	**21.75**	**54**	P	**P**	**05 57 10.5**	**-0.6**
	baz=242						
JTS	**Las Juntas de**	**21.79**	**113**	P	**P**	**05 57 14.8**	**+3.0**
	comp=Z,5.9nm,0.7s,baz=286,slow=6.6,SNR=7.3						
JTS				LR	LR	06 04 18.0	
	comp=Z,69nm,18.0s,baz=4.5,slow=33						
Y49A	**Blount Mountai**	**21.91**	**46**	P	**P**	**05 57 12.3**	**-0.6**
	baz=235						
Z50A	**Ashland**	**21.91**	**48**	P	**P**	**05 57 11.8**	**-1.1**
	baz=237						

REDW IAmb IAmb 05 57 34.8
comp=Z,6.9nm,0.8s
X52A Dahlonega 24.06 48 P P 05 57 33.3 -1.3
baz=237
SNOW Snow King Moun 24.07 350 P P 05 57 35.0 +0.2
SNOW IAmb IAmb 05 57 37.4
comp=Z,8.8nm,1.0s
155A Kite 24.12 53 P P 05 57 34.0 -1.1
baz=244
Z54A Sparta 24.12 52 P P 05 57 33.8 -1.3
baz=242
TPAW Teton Pass 24.13 350 P P 05 57 35.5 +0.1
TPAW IAmb IAmb 05 57 52.9
comp=Z,8.7nm,1.1s
ORV Oroville 24.15 328 P P 05 57 36.1 +0.8
FXWY Fox Creek 24.29 350 P P 05 57 36.9 +0.1
FXWY IAmb IAmb 05 57 38.2
comp=Z,5.8nm,0.8s
256A Glennville 24.29 55 P P 05 57 35.5 -1.1
baz=246
W52A Murphy 24.30 47 P P 05 57 36.2 -0.6
MOOW Moose Ponds 24.35 350 P P 05 57 37.4 +0.1
X53A Estanollee 24.42 49 P P 05 57 36.4 -1.4
baz=239
IMW Indian Meadow 24.52 350 P P 05 57 38.6 -0.3
IMW IAmb IAmb 05 57 40.6
comp=Z,3.6nm,0.8s
Y54A Tignall 24.54 50 P P 05 57 38.0 -0.8
baz=241
Z55A Blythe 24.64 52 P P 05 57 39.1 -0.8
baz=243
FLWY Flagg Ranch 24.67 351 P P 05 57 39.7 -0.5
FLWY IAmb IAmb 05 57 41.4
comp=Z,5.4nm,0.8s
TKL Tuckaleechee C 24.72 46 P P 05 57 40.1 -0.5
comp=Z,3.0nm,0.8s,baz=207,slow=18,SNR=3.3
WCI Wyandotte Cave 24.73 38 P P 05 57 39.7 -0.9
baz=227
T50A Nancy 24.83 42 P P 05 57 40.5 -1.0
baz=232
O03E Paynes Creek 24.86 329 P P 05 57 44.3 +2.4
baz=140,SNR=11
W53A Cullowhee 24.87 47 P P 05 57 41.2 -0.8
baz=238
156A Sylvania 24.88 54 P P 05 57 41.4 -0.5
baz=245
V52A Sevierville 24.94 46 P P 05 57 41.5 -1.1
H17A Grant Village 24.95 351 P P 05 57 43.9 +1.1
baz=168
U51A La Follette 24.97 44 P P 05 57 42.3 -0.5
baz=234
S49A Springfield 25.03 40 P P 05 57 42.7 -0.7
baz=230
X54A Belton 25.10 49 P P 05 57 43.1 -0.9
baz=240
Y55A Saluda 25.18 51 P P 05 57 44.0 -0.7
baz=242
MFID Camas Ranch 25.18 342 P P 05 57 45.7 +1.0
WVOR Wild Horse Val 25.25 336 P P 05 57 46.0 +0.5
WVOR IAmb IAmb 05 58 01.0
comp=Z,5.2nm,1.0s
YMR Madison River 25.28 351 P P 05 57 45.9 +0.2
T51A Gray 25.36 43 P P 05 57 46.0 -0.3
baz=233
V53A Saluda 25.38 47 P P 05 57 46.1 -0.5
baz=237
YHH Holmes Hill 25.38 351 P P 05 57 47.1 +0.3
MOD Modoc Plateau 25.47 333 P P 05 57 48.9 +1.5
W54A Cherokee Point 25.51 48 P P 05 57 47.0 -0.7
baz=239
Q48A North Vernon 25.53 37 P P 05 57 46.8 -1.1
baz=227
MCMT McKenzie Canyo 25.77 348 P P 05 57 50.2 0.0
V54A Nebo 26.03 47 P P 05 57 51.6 -0.8
baz=238
X56A White Oak 26.04 51 P P 05 57 51.5 -1.1
baz=242
T52A Hallie 26.07 44 P P 05 57 51.5 -1.3
baz=234
NHSC New Hope 26.07 54 P P 05 57 51.9 -0.9
baz=246
KMSC Kings Mountain 26.14 49 P P 05 57 51.6 -1.8
baz=240
M02C Callahan 26.22 329 P P 05 57 55.1 +0.9
baz=140
DLMT Dillon 26.23 348 P P 05 57 54.8 +0.5
DLMT IAmb IAmb 05 57 55.6
comp=Z,3.7nm,0.8s
BOZ Bozeman (W) 26.29 350 P P 05 57 55.5 +0.6
baz=166,SNR=5.2
BOZ Bozeman (W) 26.29 350 P P 05 57 54.6 -0.2
U54A Nelsons Funny 26.51 46 P P 05 57 54.9 -2.0
baz=237
L04D Klamath Falls 26.60 331 P P 05 57 57.7 0.0
baz=142
W56A Indian Trail 26.67 50 P P 05 57 57.4 -0.8
baz=241
X57A Johnson Farm, 26.72 52 P P 05 57 57.8 -0.9
baz=243
Y58A Scranton 26.79 53 P P 05 57 57.9 -1.4
baz=245
LAO LASA Array 26.87 359 P P 05 57 57.5 -2.4
BMO Blue Mountains 26.93 341 P P 05 57 59.9 -0.7
BMO IAmb IAmb 05 58 00.8
comp=Z,4.2nm,1.0s
V56A Mocksville 27.06 49 P P 05 57 59.9 -1.8
baz=240
P50A Jamestown 27.10 38 P P 05 58 00.6 -1.5
baz=229
Q49A Covington 27.18 37 P P 05 58 01.7 -1.0
baz=227
N48A Decatur 27.25 35 P P 05 58 02.1 -1.2
baz=225
J04D Umpqua Nationa 27.33 333 P P 05 58 05.5 +1.3
baz=143
SPMN Marine on St. 27.44 19 P P 05 58 04.9 0.0
baz=206
R53A Hurricane 27.44 43 P P 05 58 05.0 -0.1
baz=234
T55A Pulaski 27.53 46 P P 05 58 04.8 -1.2
baz=238
K02D Willamette Mer 27.61 330 P P 05 58 07.5 +0.9
baz=140
V57A Coltrane Farms 27.61 49 P P 05 58 05.6 -1.1
baz=241
BLA Blacksburg 27.83 46 P P 05 58 06.6 -2.1
baz=238
MSO Missoula 27.91 347 P P 05 58 09.3 0.0
baz=162,SNR=5.8
MSO Missoula 27.91 347 P P 05 58 09.5 +0.2
F10A Beach Ranch, E 27.92 342 P P 05 58 09.4 0.0
F10A IAmb IAmb 05 58 12.0
comp=Z,4.1nm,0.9s
J01E Myrtle Point 28.09 330 P P 05 58 11.6 +0.8
baz=140
N50A Nevada 28.24 37 P P 05 58 10.9 -1.3
baz=228
I03D Drain, OR 28.24 332 P P 05 58 12.6 +0.5
baz=142
X60A Albert Glenn T 28.34 53 P P 05 58 11.6 -1.6
baz=246
P53A Whipple 28.48 41 P P 05 58 12.8 -1.5
baz=233
E38A The Farm, Brul 29.06 20 P P 05 58 18.6 -0.8
baz=207
K48A Perry 29.11 33 P P 05 58 18.7 -1.2
baz=224
F05D White Salmon 29.25 337 P P 05 58 22.1 +0.9
baz=147
NEW Newport 30.00 344 P P 05 58 28.0 +0.2
baz=157
NEW Newport 30.00 344 P P 05 58 27.7 -0.1
comp=Z,2.2nm,0.7s,baz=118,slow=6.5,SNR=5.3
NEW LR LR 06 10 44.0
comp=Z,59nm,19.3s,baz=162,slow=37
NEW Newport 30.00 344 IAmb IAmb 05 58 29.0
comp=Z,2.6nm,0.8s
P56A Dayton Farm, R 30.11 43 P P 05 58 27.2 -1.6
baz=237
LON Longmire 30.11 337 P P 05 58 29.4 +0.6
LON IAmb IAmb 05 58 30.4
comp=Z,2.7nm,0.9s
LTY Liberty 30.15 339 P P 05 58 29.6 +0.5
B08A Colville Reser 30.70 342 P P 05 58 33.7 -0.2
B08A IAmb IAmb 05 58 35.4
comp=Z,5.0nm,0.8s
D03D Eldon 31.25 337 P P 05 58 39.0 +0.2
baz=146
ULM Lac du Bonnet 31.34 12 LR LR 06 12 12.4
comp=Z,135nm,18.1s,baz=188,slow=38
B05A Bryant 31.50 338 P P 05 58 40.9 0.0
baz=148
BINY Binghamton 33.39 41 P P 05 58 56.0 -1.7
baz=237
L58A Harry Jones Me 33.39 42 P P 05 58 55.8 -1.8
baz=237
DLBC Dease Lake 42.62 341 P P 06 00 16.0 +0.8
EPYK Eagle Plains 50.83 344 P P 06 01 19.3 +0.1
baz=140
C36M Paulatuk 50.90 352 P P 06 01 19.1 -0.5
baz=157
LPAZ La Paz 51.19 132 P P 06 01 23.1 -0.1
comp=Z,0.7nm,0.7s,baz=267,slow=5.0,SNR=4.9
LPAZ LR LR 06 21 17.6
comp=Z,26nm,19.1s,baz=290,slow=34
RIDG Independent Ri 51.38 339 P P 06 01 24.3 +0.9
INK Inuvik 51.64 347 P P 06 01 24.5 -0.7
HDA Harding Lake 52.52 339 P P 06 01 31.5 -0.3
baz=128
ILAR Eielson Array 52.72 339 P P 06 01 33.2 -0.1
comp=Z,2.8nm,0.8s,baz=162,slow=6.1,SNR=39
ILAR Eielson Array 52.72 339 P P 06 01 33.1 -0.2
POKR Poker Plat Res 53.12 339 P P 06 01 35.4 -0.9
baz=128
TRF Thorofare Moun 53.15 337 P P 06 01 37.1 +0.4
BWN Browne 53.26 338 P P 06 01 37.2 -0.1
A36M Sachs Harbour 53.50 352 P P 06 01 38.1 -0.7
baz=156
TOLK Toolik Lake Re 55.95 342 P P 06 01 56.6 -0.3
baz=127
SIV San Ignacio 56.17 126 LR LR 06 22 31.5
comp=Z,26nm,22.0s,baz=328,slow=32
NRIK Noril'sk 90.67 355 LR LR 06 50 09.4
comp=Z,19nm,18.6s,baz=16,slow=38
WRA Warramunga Arr 124.15 259 PKP PKPdf 06 11 17.1 -0.8
comp=Z,0.4nm,0.8s,baz=72,slow=2.1,SNR=4.8
ASAR Alice Springs 125.16 255 PKP PKPdf 06 11 18.9 -0.8
comp=Z,0.4nm,0.9s,baz=85,slow=2.1,SNR=2.9

*ISCJB **14** 05:55:13.7±1.3, 36°.64S±0°.04×71°.19W±0°.05, h0km±9km,*
Error ellipse: s-maj=6.6km s-min=6.1km az=149.1
*SJA **14** 05:55:13.2±1.4, 36°.63S×71°.14W, h10km±9km, MD3.1*
*GUC **14** 05:55:14.2±0.7, 36°.74S×71°.11W, h19km±9km, ML3.5*
ISC 14 05:55:14.6±1.6, 36°.70S±0°.04×71°.20W±0°.05, h11km±12km,
n11, σ1ˢ49/21, 3C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.71**	**277**	⇑*i*P		**Pg**	**05 55 27.7**	**-0.7**
CCHI				*e*S		**Sg**	**05 55 38.1**	**+0.4**
CCHI				IAML			05 55 39.7	
comp=N,3μm,0.2s								
CCHI	**Chillan**	**0.71**	**277**	*i* P		**Pg**	**05 55 27.8**	**-0.7**
CCHI				*e*S		**Sg**	**05 55 38.8**	**+1.1**
COCH	**Cobquecura**	**1.40**	**293**	⇑*i*P		**Pn**	**05 55 38.8**	**-1.3**
COCH				*e*S		**Sn**	**05 55 58.0**	**-0.6**
COCH				IAML			05 56 00.1	
comp=E,684nm,0.3s								
EDS3	**Malargue**	**1.73**	**58**	*i* P		**Pn**	**05 55 44.1**	**-0.6**
EDS3				*e*S		**Sb**	**05 56 06.2**	**-1.9**
GO05	**Huala**	**1.79**	**340**	⇓*e*P		**Pn**	**05 55 45.2**	**-0.2**
GO05				*e*S		**Sn**	**05 56 08.2**	**0.0**
GO05				IAML			05 56 11.7	
comp=E,518nm,0.2s								
PUMA	**Malargue**	**1.86**	**50**	*i* P		**Pn**	**05 55 46.6**	**+0.2**
PUMA				*e*S		**Sb**	**05 56 10.0**	**-1.8**
COIS	**El Sosneado**	**2.05**	**40**	*i* P		**Pn**	**05 55 49.6**	**+0.5**
COIS				*e*S		**Sb**	**05 56 17.7**	**+0.2**
GO06	**Curarrehue**	**2.89**	**184**	*i* P		**Pn**	**05 56 02.3**	**+1.6**
GO06				*e*S		**Sb**	**05 56 40.4**	**-1.3**
ROC1	**El Roble**	**3.72**	**2**	*e*P		**Pn**	**05 56 16.5**	**+4.3**
ROC1				*e*S		**Sb**	**05 57 05.9**	**+0.3**
ROCH	**El Roble**	**3.72**	**2**	⇑*i*P		**Pn**	**05 56 13.5**	**+1.3**
ROCH				*e*S		**Sn**	**05 56 56.2**	**0.0**
PLCA	**Paso Flores**	**4.06**	**173**	*i* P		**Pn**	**05 56 18.1**	**+1.4**

*CNRM **14** 06:03:48.6, 36°.35N×0°.44W, h30km, ml4.3*
*ISCJB **14** 06:03:56.5±0.3, 39°.68N±0°.01×1°.27W±0°.02, h2km±2km,*
Error ellipse: s-maj=3.3km s-min=2.1km az=30.3
*MDD **14** 06:03:59.9±0.3, 39°.59N×1°.13W, h6km, ML2.9, UTIEL (VALENCIA)*
*LDG **14** 06:03:59.7±0.1, 39°.58N×1°.13W, h3km, Ml2.9/11, Error ellipse: s-maj=2.0km s-min=1.1km az=125.0*
*INMG **14** 06:04:00.6±1.7, 39°.56N×1°.13W, h16km±4km, ML2.8, Error ellipse: s-maj=2.8km s-min=2.3km az=114.0*
ISC 14 06:03:58.5±1.0, 39°.61N±0°.02×1°.16W±0°.02, h10km±8km,
n81, σ1ˢ76/159, 2D, Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ECHE	**Chera**	**0.15**	**98**	Pg		**Pg**	**06 04 01.7**	**-0.2**
ECHE				Lg		Lg	06 04 04.4	
1μm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**0.92**	**35**	Pg		**Pg**	**06 04 17.4**	**+1.2**
EMOS				Lg		Lg	06 04 30.1	
110nm,0.2s,SNR=5.0								
ETOB	**Tobarra**	**1.01**	**198**	Pg		**Pg**	**06 04 17.9**	**0.0**
ETOB				Lg		Lg	06 04 32.1	
235nm,0.4s,SNR=12								
EBEN2	**Beniarda presa**	**1.20**	**141**	Lg		Lg	06 04 36.4	
143nm,0.3s,SNR=7.9								
ETOR	**Torete**	**1.39**	**331**	Pn		**Pn**	**06 04 25.1**	**+1.1**
17nm,0.2s,SNR=7.9								
ETOR				Pg		**Pb**	**06 04 26.5**	**+2.0**
17nm,0.2s,SNR=225								
ETOR				Lg		Lg	06 04 44.9	
696nm,0.5s,SNR=5.0								
ETRV	**Los Montesinos**	**1.62**	**169**	Pg		**Pn**	**06 04 28.7**	**+1.7**
3.4nm,0.0s,SNR=7.9								
ETRV				Lg		Lg	06 04 50.0	
162nm,0.3s,SNR=7.9								
UCM	**Universidad Co**	**1.75**	**294**	*e*P		Pn	06 04 18.1	-11
UCM				*e*S		Sn	06 04 33.0	-18
ERTA	**Horta de San J**	**1.76**	**40**	Pn		**Pn**	**06 04 30.2**	**+1.1**
1.5nm,0.1s,SNR=26								
ERTA				Pg		**Pb**	**06 04 32.5**	**+1.6**
4.8nm,0.1s,SNR=16								
ERTA				Sn		**Sn**	**06 04 51.8**	**+0.2**
16nm,0.3s,SNR=7.9								
ERTA				Lg		Lg	06 04 55.6	
26nm,0.2s,SNR=6.1								
EMUR	**La Murta**	**1.77**	**182**	Pn		**Pn**	**06 04 31.1**	**+2.0**
2.5nm,0.3s,SNR=7.9								
EMUR				Pg		**Pg**	**06 04 33.1**	**+0.7**
2.5nm,0.2s,SNR=36								
EMUR				Lg		Lg	06 04 54.1	
88nm,0.6s,SNR=6.6								
SESP	**Santiago Espad**	**1.84**	**216**	P		**Pn**	**06 04 29.1**	**-1.1**
SESP				S		**Sn**	**06 04 55.0**	**+1.3**
SESP	**Santiago Espad**	**1.84**	**216**	Pn		**Pn**	**06 04 30.0**	**-0.3**
7.6nm,0.2s,SNR=7.9								
SESP				Pg		**Pb**	**06 04 34.0**	**+1.6**
11nm,0.2s,SNR=7.9								
SESP				Lg		Lg	06 04 56.9	
72nm,0.2s,SNR=7.9								
CART	**Cartagena**	**2.03**	**176**	*e*P		**Pb**	**06 04 36.6**	**+1.3**
CART				*e*S		**Sn**	**06 04 57.1**	**-0.9**
CART	**Cartagena**	**2.03**	**176**	Pg		**Pb**	**06 04 36.6**	**+1.3**
CART				Sn		**Sn**	**06 04 57.1**	**-0.9**
EIBI	**Ibiza**	**2.03**	**106**	Pn		**Pn**	**06 04 32.0**	**-0.6**
2.3nm,0.1s,SNR=8.5								
EIBI				Sn		**Sn**	**06 04 55.7**	**-2.3**
18nm,0.3s,SNR=5.0								
ESDC	**Sonseca Array**	**2.17**	**273**	Pn		**Pn**	**06 04 34.9**	**+0.2**
7.9nm,0.1s,baz=91,slow=14,SNR=70								
ESDC				Lg		Lg	06 05 06.0	
13nm,0.1s,baz=92,slow=29,SNR=84								
ESAC	**San Caprasio**	**2.17**	**14**	Pg		**Pb**	**06 04 40.2**	**+2.3**
13nm,0.1s,SNR=20								
ESAC				Lg		Lg	06 05 07.9	
409nm,0.3s,SNR=10								
EQES	**Quesada**	**2.35**	**220**	⇓Pn		**Pn**	**06 04 37.2**	**0.0**
1.6nm,0.1s,SNR=16								
EQES				Pg		**Pg**	**06 04 43.6**	**+0.1**
8.3nm,0.3s,SNR=32								
EQES				Lg		Lg	06 05 14.9	
81nm,0.5s,SNR=6.9								
PAB	**San Pablo**	**2.47**	**269**	⇓Pn		**Pn**	**06 04 39.1**	**+0.3**
20nm,0.1s,SNR=18								
PAB				Lg		Lg	06 05 16.3	
57nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**2.52**	**295**	Pn		**Pn**	**06 04 40.4**	**+0.9**
0.3nm,0.4s,SNR=21								
GUD				Pg		**Pb**	**06 04 46.0**	**+2.2**
4.6nm,0.2s,SNR=6.5								
GUD				Lg		Lg	06 05 20.0	
24nm,0.3s,SNR=15								
GORA	**Gorafe**	**2.59**	**215**	Pn		**Pn**	**06 04 42.7**	**+2.2**
6.1nm,0.2s,SNR=7.9								
GORA				Pg		**Pg**	**06 04 49.3**	**+1.1**
7.2nm,0.2s,SNR=7.9								
GORA				Lg		Lg	06 05 22.5	
139nm,0.5s,SNR=7.9								
ENIJ	**Nijar**	**2.76**	**198**	Pn		**Pn**	**06 04 44.4**	**+1.6**
0.1nm,0.1s,SNR=7.9								
ENIJ				Pg		**Pg**	**06 04 51.0**	**-0.5**
4.5nm,0.3s,SNR=7.9								
ENIJ				Lg		Lg	06 05 28.6	
22nm,0.7s,SNR=7.9								
EQUE	**Quentar**	**3.00**	**217**	Pn		**Pn**	**06 04 47.0**	**+0.8**
1.1nm,0.2s,SNR=8.3								
EQUE				Pg		**Pg**	**06 04 55.5**	**-0.5**
0.6nm,0.1s,SNR=15								
EQUE				Lg		Lg	06 05 34.5	
25nm,0.5s,SNR=5.0								
EADA	**Adamuz**	**3.03**	**243**	Pn		**Pn**	**06 04 46.3**	**-0.3**
1.6nm,0.1s,SNR=22								
EADA				Pg		**Pb**	**06 04 55.0**	**+2.4**
3.6nm,0.2s,SNR=11								
EADA				Sn		**Sn**	**06 05 22.1**	**-0.8**
4.0nm,0.1s,SNR=5.5								
EADA				Lg		Lg	06 05 35.2	
21nm,0.2s,SNR=5.0								
EBER	**Berja**	**3.03**	**207**	Pn		**Pn**	**06 04 49.1**	**+2.4**
0.1nm,0.1s,SNR=6.5								
EBER				Pg		**Pg**	**06 04 56.8**	**+0.2**
1.6nm,0.2s,SNR=8.9								
EBER				Lg		Lg	06 05 37.4	
123nm,0.8s,SNR=7.7								
ETOS	**Mallorca**	**3.07**	**86**	Pn		**Pn**	**06 04 46.6**	**-0.4**
0.4nm,0.1s,SNR=6.8								
ETOS				Sn		**Sn**	**06 05 21.0**	**-2.8**
1.7nm,0.2s,SNR=7.9								
IZUN	**Zunzarren**	**3.25**	**356**	Pn		**Pn**	**06 04 52.4**	**+2.8**
0.5nm,0.2s,SNR=7.9								
IZUN				Pg		**Pb**	**06 04 59.8**	**+3.5**
1.8nm,0.2s,SNR=7.9								
IZUN				Lg		Lg	06 05 43.6	
8.7nm,0.3s,SNR=7.9								
CSOR	**Sort**	**3.26**	**31**	Pn		**Pn**	**06 04 50.9**	**+1.2**
0.7nm,0.1s,SNR=7.5								
CSOR				Pg		**Pb**	**06 04 58.6**	**+2.2**
1.8nm,0.2s,SNR=7.9								
CSOR				Lg		Lg	06 05 42.1	
15nm,0.3s,SNR=6.3								
EORO	**Oroz-Betelu**	**3.28**	**358**	Pn		**Pn**	**06 04 51.8**	**+1.8**
0.1nm,0.1s,SNR=10.0								
EORO				Pg		**Pb**	**06 05 00.9**	**+4.1**
0.1nm,0.1s,SNR=5.7								
EORO				Lg		Lg	06 05 43.4	
25nm,0.3s,SNR=6.3								
ETSF	**Etsaut**	**3.31**	**8**	*e*Pn		**Pn**	**06 04 51.3**	**+0.9**
ETSF	**Etsaut**	**3.31**	**8**	*e*Pg		**Pb**	**06 05 01.5**	**+4.1**
ETSF				*e*Sn		**Sn**	**06 05 28.9**	**-1.0**
1.8nm,0.2s								
ETSF				*e*Sg		**Sg**	**06 05 44.4**	**-0.5**
8.0nm,0.2s								
ETSF	**Etsaut**	**3.31**	**8**	Pn		**Pn**	**06 04 51.3**	**+0.9**
ETSF				Pg		**Pb**	**06 05 01.5**	**+4.1**
ETSF				Sn		**Sn**	**06 05 28.9**	**-1.0**
0.9nm,0.2s								
ETSF				Lg		Lg	06 05 44.4	
4.0nm,0.2s								
ELGU	**Los Guajares,**	**3.36**	**216**	Pn		**Pn**	**06 04 52.9**	**+1.8**
0.2nm,0.1s,SNR=7.9								
ELGU				Pg		**Pg**	**06 05 01.9**	**-0.9**
2.0nm,0.2s,SNR=7.9								
ELGU				Lg		Lg	06 05 46.4	
31nm,0.5s,SNR=7.9								
EGOR	**Sierra Gorda,**	**3.41**	**224**	Pn		**Pn**	**06 04 52.4**	**+0.6**
0.7nm,0.2s,SNR=7.9								
EGOR				Pg		**Pg**	**06 05 03.2**	**-0.6**
2.3nm,0.2s,SNR=7.9								
EGOR				Lg		Lg	06 05 48.4	
20nm,0.3s,SNR=7.9								
ATE	**Arette**	**3.49**	**6**	Pn		**Pn**	**06 04 54.1**	**+1.3**
0.2nm,0.0s,SNR=7.9								
ATE				Pg		**Pb**	**06 05 04.4**	**+4.1**
1.4nm,0.1s,SNR=7.9								
ATE				Sn		**Sn**	**06 05 33.5**	**-0.6**
0.8nm,0.1s,SNR=7.9								
ATE				Lg		Lg	06 05 50.3	
9.3nm,0.3s,SNR=7.9								
SJPF	**Ste Jean**	**3.50**	**359**	*e*Pn		**Pn**	**06 04 53.9**	**+1.0**
SJPF	**Ste Jean**	**3.50**	**359**	*e*Pg		**Pg**	**06 05 05.1**	**-0.4**
SJPF				*e*Sn		**Sn**	**06 05 33.2**	**-1.2**
4.3nm,0.3s								
SJPF				*e*Sg		**Sg**	**06 05 50.2**	**-0.6**
14nm,0.3s								
SJPF	**Ste Jean**	**3.50**	**359**	Pn		**Pn**	**06 04 53.9**	**+1.0**
SJPF				Pg		**Pg**	**06 05 05.1**	**-0.4**
SJPF				Sn		**Sn**	**06 05 33.2**	**-1.2**
2.2nm,0.3s								
SJPF				Lg		Lg	06 05 50.2	
7.1nm,0.3s								
EPF	**Esparros**	**3.60**	**18**	*e*Pn		**Pn**	**06 04 55.1**	**+0.8**
EPF	**Esparros**	**3.60**	**18**	*e*Pg		**Pb**	**06 05 05.7**	**+3.5**
EPF				*e*Sn		**Sn**	**06 05 35.7**	**-1.1**
4.1nm,0.2s								
EPF				*e*Sg		**Sg**	**06 05 53.0**	**-1.0**
18nm,0.3s								
EPF	**Esparros**	**3.60**	**18**	Pn		**Pn**	**06 04 55.1**	**+0.8**
EPF				Pg		**Pb**	**06 05 05.7**	**+3.5**
EPF				Sn		**Sn**	**06 05 35.7**	**-1.1**
2.0nm,0.2s								
EPF				Lg		Lg	06 05 53.0	
8.9nm,0.3s								
EALK	**Alkurruntz**	**3.61**	**356**	Pn		**Pn**	**06 04 55.5**	**+0.9**
0.1nm,0.1s,SNR=5.0								
EALK				Pg		**Pg**	**06 05 07.1**	**-0.6**
0.0nm,0.1s,SNR=7.9								
EALK				Sn		**Sn**	**06 05 38.5**	**+1.2**
0.1nm,0.1s,SNR=7.9								
EALK				Lg		Lg	06 05 54.2	
28nm,0.4s,SNR=6.1								
HORN	**Hornachuelos**	**3.66**	**242**	P		Pn	06 04 48.9	-6.2
HORN				S		**Sn**	**06 05 38.7**	**+0.4**
ECAB	**El Cabril**	**3.66**	**247**	Pn		**Pn**	**06 04 54.8**	**-0.4**
1.6nm,0.2s,SNR=27								
ECAB				Sn		**Sn**	**06 05 37.6**	**-0.9**
2.4nm,0.2s,SNR=7.5								
ECAB				Lg		Lg	06 05 53.8	
10nm,0.3s,SNR=7.2								
CLLI	**Llivia**	**3.72**	**39**	Pn		**Pn**	**06 04 57.2**	**+1.2**
1.4nm,0.3s,SNR=9.8								
CLLI				Sn		**Sn**	**06 05 39.2**	**-0.7**
0.1nm,0.1s,SNR=7.9								
CLLI				Lg		Lg	06 05 58.2	
1.9nm,0.2s,SNR=5.0								
EMAL	**Malaga-Limoner**	**3.84**	**223**	*e*P		Pn	06 04 48.6	-9.0
EMAL				*e*S		**Sn**	**06 05 44.6**	**+1.9**
ELAN	**Lanestosa**	**4.00**	**335**	Pn		**Pn**	**06 05 02.0**	**+2.1**
0.2nm,0.1s,SNR=7.3								
ELAN				Sn		**Sn**	**06 05 45.3**	**-1.4**
0.8nm,0.2s								
ELAN				Lg		Lg	06 06 07.8	
11nm,0.4s,SNR=7.9								
EJON	**La Jonquera**	**4.17**	**46**	Pn		**Pn**	**06 05 03.2**	**+1.0**
0.6nm,0.1s,SNR=7.9								
EJON				Sn		**Sn**	**06 05 50.5**	**-0.4**
1.3nm,0.2s,SNR=7.9								
EJON				Lg		Lg	06 06 10.0	
2.9nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**4.17**	**224**	Pn		**Pn**	**06 05 03.8**	**+1.7**
0.0nm,0.2s,SNR=7.9								
EMIJ				Sn		**Sn**	**06 05 50.9**	**-0.1**
0.6nm,0.2s,SNR=7.9								
EMIJ				Lg		Lg	06 06 13.0	
11nm,0.4s,SNR=7.9								
SJAF	**Saint Jean de**	**4.19**	**45**	Pn		**Pn**	**06 05 03.3**	**+0.9**

0.5nm,0.2s,SNR=7.9
SJAF Lg Lg 06 06 10.5

0.7nm,0.2s,SNR=7.9
MTLF Montolieu 4.51 33 *e*Pn **Pn 06 05 07.5 +0.7**
MTLF Montolieu 4.51 33 *e*Pg **Pg 06 05 23.3 -1.5**
MTLF *e*Sn **Sn 06 05 57.1 -2.1**

2.2nm,0.4s
MTLF *e*Sg **Sg 06 06 21.1 -2.0**

7.9nm,0.4s
MTLF Montolieu 4.51 33 Pn **Pn 06 05 07.5 +0.7**
MTLF Pg **Pg 06 05 23.3 -1.5**
MTLF Sn **Sn 06 05 57.1 -2.1**

1.1nm,0.4s
MTLF Lg Lg 06 06 21.1

4.0nm,0.4s
ESPR Espera 4.60 235 Pn **Pn 06 05 07.6 -0.5**
0.4nm,0.1s,SNR=5.8
ESPR Sn **Sn 06 06 00.5 -1.1**

4.8nm,0.3s,SNR=7.9
ESPR Lg Lg 06 06 27.5

1.5nm,0.3s
EBAD Badajoz 4.63 261 Pn **Pn 06 05 07.5 -0.9**
0.5nm,0.1s,SNR=5.7
EBAD Sn **Sn 06 05 58.3 -4.0**

4.8nm,0.2s,SNR=8.5
EBAD Lg Lg 06 06 26.8

9.1nm,0.2s,SNR=5.0
EMIN Mina Concepcio 4.69 249 Pn **Pn 06 05 09.4 +0.1**
0.7nm,0.2s,SNR=7.9
EMIN Sn **Sn 06 05 59.8 -4.0**

0.3nm,0.1s,SNR=7.9
EMIN Lg Lg 06 06 26.5

4.2nm,0.3s,SNR=6.0
MVO Moncorvo 4.74 291 *e*Pn **Pn 06 05 10.3 +0.2**
MVO *e*Sn **Sn 06 06 04.3 -0.9**
MVO *e*Sg **Sg 06 06 31.1 +0.3**
MVO A A 06 06 46.6

12nm,0.6s
MVO Moncorvo 4.74 291 Pn **Pn 06 05 09.8 -0.3**
1.5nm,0.1s,SNR=8.1
MVO Sn **Sn 06 06 03.7 -1.4**

2.8nm,0.2s,SNR=7.9
MVO Lg Lg 06 06 31.1

14nm,0.4s,SNR=7.9
PBRG Braganca 4.78 299 *e*Pn **Pn 06 05 12.2 +1.7**
PBRG *e*Sn **Sn 06 06 04.5 -1.4**
PBRG *e*Sg **Sg 06 06 31.3 -0.5**
PBRG A A 06 06 34.9

9.4nm,0.4s
PBRG Braganca 4.78 299 Pn **Pn 06 05 12.2 +1.7**
PBRG Sn **Sn 06 06 04.5 -1.4**
PBRG Lg Lg 06 06 31.3

4.7nm,0.4s
EARI Arriondas 4.78 322 Pn **Pn 06 05 12.0 +1.5**
0.0nm,0.1s,SNR=7.9
EARI Sn **Sn 06 06 05.8 -0.2**

0.2nm,0.2s,SNR=7.9
EARI Lg Lg 06 06 28.9

11nm,0.7s,SNR=7.9
PMRV Marv??o 4.83 270 *e*Pn **Pn 06 05 11.1 -0.1**
PMRV *e*Sn **Sn 06 06 05.4 -1.7**
PMRV *e*Sg **Sg 06 06 31.2 -2.2**
PMRV A A 06 06 34.5

14nm,0.7s
PMRV Marv??o 4.83 270 Pn **Pn 06 05 11.1 -0.1**
PMRV Sn **Sn 06 06 05.4 -1.7**
PMRV Lg Lg 06 06 31.2

14nm,0.7s
ECAL Calabor 4.83 301 Pn **Pn 06 05 11.6 +0.2**
1.2nm,0.1s,SNR=16
ECAL Sn **Sn 06 06 04.8 -2.5**

5.7nm,0.3s,SNR=7.9
ECAL Lg Lg 06 06 33.6

11nm,0.3s,SNR=5.0
PCBR Castelo Branco 4.88 275 *e*Pn **Pn 06 05 12.3 +0.4**
PCBR *e*Sn **Sn 06 06 06.7 -1.7**
PCBR *e*Sg **Sg 06 06 32.6 -2.5**
PCBR A A 06 06 39.3

7.6nm,0.8s
PCBR Castelo Branco 4.88 275 Pn **Pn 06 05 12.3 +0.4**
PCBR Sn **Sn 06 06 06.7 -1.7**
PCBR Lg Lg 06 06 32.6

3.8nm,0.8s
MTE Manteigas 4.97 281 *e*Pn **Pn 06 05 13.0 -0.2**
MTE *e*Sn **Sn 06 06 09.3 -1.4**
MTE *e*Sg **Sg 06 06 35.2 -2.8**
MTE A A 06 06 43.8

11nm,0.6s
MTE Manteigas 4.97 281 Pn **Pn 06 05 13.0 -0.2**
MTE Sn **Sn 06 06 09.3 -1.4**
MTE Lg Lg 06 06 35.2

5.3nm,0.6s
PESTR Estremoz 5.05 264 *e*Pn **Pn 06 05 15.0 +0.8**
PESTR Estremoz 5.05 264 P **Pn 06 05 16.4 +2.2**
PESTR S **Sb 06 06 29.1 +1.4**
EGRO El Granado 5.37 249 Pn **Pn 06 05 18.1 -0.5**
0.6nm,0.2s,SNR=4.0
EGRO Lg Lg 06 06 48.8

5.1nm,0.3s,SNR=7.9
LFF La Frestale 5.51 14 *e*Pn **Pn 06 05 20.7 +0.2**
LFF *e*Sn **Sn 06 06 21.7 -2.1**
LFF *e*Sg **Sg 06 06 52.4 -2.8**

3.8nm,0.3s
LFF La Frestale 5.51 14 Pn **Pn 06 05 20.7 +0.2**
LFF Sn **Sn 06 06 21.7 -2.1**
LFF Lg Lg 06 06 52.4

1.9nm,0.3s
ELOB Lobios 5.71 295 Pn **Pn 06 05 23.9 +0.6**
0.3nm,0.1s,SNR=7.9
ELOB Sn **Sn 06 06 24.5 -4.4**

2.7nm,0.3s,SNR=7.9
ELOB Lg Lg 06 07 00.8

5.6nm,0.3s,SNR=7.9
CAF Calviac 5.82 23 *e*Pn **Pn 06 05 25.4 +0.5**
CAF *e*Sn **Sn 06 06 28.4 -3.3**
CAF *e*Sg **Sg 06 07 02.6 -2.7**

2.0nm,0.3s
CAF Calviac 5.82 23 Pn **Pn 06 05 25.4 +0.5**
CAF Sn **Sn 06 06 28.4 -3.3**
CAF Lg Lg 06 07 02.6

1.0nm,0.3s
EPON Pontenova 5.83 311 Pn **Pn 06 05 25.2 +0.2**
0.8nm,0.3s,SNR=7.9
EPON Pg Pb 06 05 46.1 +5.8

1.1nm,0.3s,SNR=7.9
EPON Sn **Sn 06 06 27.7 -4.2**

1.6nm,0.3s,SNR=7.9
EPON Lg Lg 06 07 06.1

4.0nm,0.3s,SNR=7.9
RJF Les Rejaudoux 6.02 18 *e*Pn **Pn 06 05 27.9 +0.3**
RJF Les Rejaudoux 6.02 18 *e*Pg **Pg 06 05 51.6 -2.2**
RJF *e*Sn **Sn 06 06 33.2 -3.3**
RJF *e*Sg **Sg 06 07 08.6 -3.1**

1.4nm,0.3s
RJF Les Rejaudoux 6.02 18 Pn **Pn 06 05 27.9 +0.3**
RJF Pg **Pg 06 05 51.6 -2.2**
RJF Sn **Sn 06 06 33.2 -3.3**
RJF Lg Lg 06 07 08.6

0.7nm,0.3s
EAGO Agolada(Pontev 6.12 304 Lg Lg 06 07 14.1
1.9nm,0.4s,SNR=7.9
PMAFR Mafra 6.34 267 Pn **Pn 06 05 32.3 +0.4**
2.0nm,0.2s,SNR=7.9
PMAFR Sn Sn 06 06 37.6 -6.8

7.7nm,0.2s,SNR=7.9
PMAFR Lg Lg 06 07 25.8

20nm,0.2s,SNR=7.9

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*UCR **14** 06:21:59.8±1.4, 8.°04N×82.°71W, h8km±5km, MW3.2*
*ISCJB **14** 06:22:00.1±0.9, 8.°05N±0.°05×82.°75W±0.°03, h8km±4km, Error ellipse: s-maj=8.2km s-min=3.8km az=23.5*
*UPA **14** 06:22:01.2±1.2, 8.°13N×82.°73W, h16km±2km, MW3.7*

ISC 14 06:21:59.6±1.5, 8.°05N±0.°06×82.°74W±0.°03, h9km±11km, n31, σ1§15/45, 2C-11D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBAR3	**San Bartolo, C**	**0.30**	**331**	⇓*i*P	**Pb**	**06 22 07.5**	**+0.3**
LESP3	**La Esperanza,**	**0.35**	**351**	⇓*i*P	**Pg**	**06 22 07.2**	**+0.6**
PEDE3	**Pedregal, Chir**	**0.45**	**43**	⇓*i*P	**Pb**	**06 22 09.7**	**-0.1**
BAGA3	**Bagala, Chiriq**	**0.46**	**27**	⇓*i*P	**Pb**	**06 22 10.0**	**+0.1**
DVD	**David**	**0.47**	**37**	*i* P	**Pb**	**06 22 09.9**	**-0.2**
DVD				*e*S	**Sb**	**06 22 16.6**	**-0.7**
LOCO3	**Loma Colorada,**	**0.47**	**42**	⇓*i*P	**Pb**	**06 22 10.1**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.51**	**42**	⇓*i*P	**Pb**	**06 22 10.6**	**-0.2**
CHIR3	**Chiriqui UPA,**	**0.53**	**50**	⇓*i*P	**Pb**	**06 22 10.8**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.68**	**20**	⇓*i*P	**Pg**	**06 22 13.5**	**+0.7**
BCO2	**Palmira**	**0.69**	**17**	⇓*i*P	**Pg**	**06 22 13.7**	**+0.6**
BCO2				*e*S	**Sb**	**06 22 22.9**	**-0.9**
PTJ1	**Puerto Jimnez**	**0.74**	**311**	*e*P	**Pb**	**06 22 15.0**	**+0.3**
PTJ1				*e*S	**Sn**	**06 22 27.0**	**-0.6**
PTJ1	**Puerto Jimnez**	**0.74**	**311**	⇓*i*P	**Pb**	**06 22 15.1**	**+0.5**
PTJ1				*e*S	**Sb**	**06 22 25.6**	**+0.8**
BRU2	**Volcan**	**0.74**	**3**	*e*P	**Pg**	**06 22 14.2**	**+0.3**
BRU2	**Volcan**	**0.74**	**3**	⇓*i*P	**Pg**	**06 22 14.2**	**+0.3**
BRU2				*e*S	**Sb**	**06 22 24.9**	**-0.1**
EDSV	**San Vito**	**0.80**	**343**	*e*P	**Pg**	**06 22 14.9**	**-0.1**
REME3	**Remedios, Chir**	**0.91**	**79**	*e*P	**Pg**	**06 22 17.0**	**-0.2**
REME3				*e*S	**Sn**	**06 22 33.9**	**+2.0**
NANC3	**Nancito, Chiri**	**1.01**	**79**	⇑*i*P	**Pg**	**06 22 18.4**	**-0.7**
CHGR2	**Aguacate**	**1.06**	**34**	*e*P	**Pb**	**06 22 18.7**	**-1.4**
CHGR2				*e*S	**Sb**	**06 22 33.7**	**-0.3**
EDPN	**Palmar Norte**	**1.15**	**322**	*e*P	**Pb**	**06 22 20.6**	**-1.1**
EDPN				*e*S	**Sg**	**06 22 37.4**	**+0.7**
DRK0	**Durika**	**1.30**	**337**	*e*P	**Pn**	**06 22 22.9**	**-1.3**
DRK0				*e*S	**Sb**	**06 22 41.2**	**-0.1**
DRK0	**Durika**	**1.30**	**337**	*e*P	**Pn**	**06 22 22.8**	**-1.4**
DRK0				*e*S	**Sb**	**06 22 37.7**	**-3.7**
EDDO	**Dominical**	**1.63**	**317**	*e*P	**Pn**	**06 22 28.0**	**-0.5**
EDDO				*e*S	**Sb**	**06 22 51.4**	**+0.8**
CALO3	**Calobre, Verag**	**1.90**	**82**	⇑*e*S	**Sg**	**06 22 59.9**	**-0.7**
CACAO	**El Cacao, Vera**	**1.99**	**111**	*e*P	**Pn**	**06 22 34.2**	**+0.8**
CACAO				*e*S	**Sn**	**06 22 58.8**	**+0.4**
LCR2	**La Lucha 2**	**2.09**	**323**	*e*P	**Pn**	**06 22 35.7**	**+0.6**
LCR2				*e*S	**Sb**	**06 23 03.2**	**-0.9**
CVTR	**Volcan Turrial**	**2.20**	**333**	*e*P	**Pn**	**06 22 37.2**	**+0.5**
HDC	**Heredia**	**2.37**	**325**	*e*P	**Pn**	**06 22 40.0**	**+1.2**
AZU	**Azuero**	**2.45**	**96**	*e*P	**Pb**	**06 22 42.3**	**-1.6**
AZU				*e*S	**Sb**	**06 23 13.3**	**-1.0**
ZANG	**Zanguenga, Cho**	**2.98**	**72**	*e*P	**Pn**	**06 22 50.1**	**+3.1**
JTS	**Las Juntas de**	**3.12**	**316**	*e*P	**Pn**	**06 22 47.0**	**-2.0**
CUI	**Cuipilapa**	**3.53**	**317**	*e*P	**Pn**	**06 22 56.3**	**+1.6**

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*IDC **14** 06:22:11.3±1.1, 6.°02S×78.°83W, h126km±11km, mb3.2/4, mb1 3.5/6, mb1mx3.3/31, mbtmp3.7/6, Error ellipse: s-maj=49.6km s-min=18.2km az=59.0*

ISC 14 06:22:09.0±0.8, 5.°8S±0.°1×78.°7W±0.°2, h100km, n10, σ1§45/12, mb3.5/3, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.38**	**169**	P	**Pn**	**06 22 35.9**	**+1.6**
	59nm,0.3s,baz=8.9,slow=7.3,SNR=601						
ATAH				S	**Sn**	**06 22 55.2**	**+1.9**
	119nm,0.3s,baz=225,slow=22,SNR=32						
NNA	**Nana**	**6.44**	**164**	P	**Pn**	**06 23 41.3**	**0.0**
	3.6nm,0.3s,baz=355,slow=8.3,SNR=18						
NNA				S	**Sn**	**06 24 50.9**	**-2.5**
	8.2nm,0.3s,baz=304,slow=23,SNR=9.8						
LPAZ	**La Paz**	**14.70**	**136**	P	**Pn**	**06 25 32.5**	**0.0**
	0.1nm,0.3s,baz=273,slow=5.1,SNR=6.7						
SIV	**San Ignacio**	**20.02**	**122**	P	**P**	**06 26 34.8**	**+0.7**
	1.9nm,0.8s,baz=308,slow=10,SNR=9.1						
TXAR	**Lajitas Array**	**42.38**	**327**	P	**P**	**06 29 53.8**	**0.0**
	0.4nm,0.6s,baz=150,slow=8.0,SNR=6.2						
NVAR	**Mina Array Bea**	**57.31**	**323**	P	**P**	**06 31 47.5**	**+0.7**
	0.5nm,0.7s,baz=134,slow=7.4,SNR=5.2						
ILAR	**Eielson Array**	**86.10**	**336**	P	**P**	**06 34 38.2**	**-0.2**
	0.4nm,0.7s,baz=110,slow=1.8,SNR=5.8						
ASAR	**Alice Springs**	**136.80**	**226**	PKP	**PKPdf**	**06 41 18.8**	**-2.0**
	0.4nm,0.7s,baz=122,slow=1.9,SNR=5.7						
WRA	**Warramunga Arr**	**138.69**	**231**	PKP	**PKPdf**	**06 41 23.3**	**-1.0**
	0.3nm,0.4s,baz=118,slow=2.2,SNR=9.5						
FITZ	**Fitzroy Crossi**	**146.27**	**225**	PKPbc	**PKPdf**	**06 41 36.9**	**-0.8**
	2.6nm,1.1s,baz=136,slow=5.9,SNR=4.1						

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*IDC **14** 06:51:53.2±2.8, 36.°15N×70.°81E, h157km±24km, mb3.7/12, mb1 3.7/18, mb1mx3.5/54, mbtmp4.2/18, Error ellipse: s-maj=19.7km s-min=13.3km az=178.0*
*BJI **14** 06:51:57.7±0.0, 36.°68N×70.°65E, h199km, mb4.2/14, mB4.7/11*
*ISCJB **14** 06:51:57.2±0.2, 36.°48N±0.°02×70.°69E±0.°03, h204km, mb3.9/21, Error ellipse: s-maj=4.0km s-min=2.8km az=158.0*
*MOS **14** 06:51:57.9±1.0, 36.°47N×70.°69E, h208km, mb4.2/11, Error ellipse: s-maj=10.3km s-min=5.2km az=82.6*
*NEIC **14** 06:51:58.3±2.0, 36.°48N±0.°06×70.°65E±0.°09, h207km±9km, mb4.0/8*
*NNC **14** 06:52:02.0±3.7, 36.°83N×70.°67E, h199km±29km, mb3.2, mpv4.0, Error ellipse: s-maj=31.7km s-min=20.9km az=21.0*

ISC 14 06:51:58.4±0.4, 36.°48N±0.°04×70.°69E±0.°04, h204km, n132, σ1§66/153, mb4.0/21, 13C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**215**	PN	**Pn**	**06 52 41.4**	**+0.2**
KBL						06 53 12.5	
KBL	**Kabul**	**2.36**	**215**		**Pn**	**06 52 41.4**	**+0.2**
KBL				Sn	**S**	**06 53 12.5**	**-1.5**
CHGR	**Chuyangaron**	**2.49**	**331**		**Pn**	**06 52 42.5**	**+0.1**
CHGR				Sn	**S**	**06 53 14.4**	**-1.9**
GAR	**Garm**	**2.53**	**353**		**Pn**	**06 52 43.2**	**+0.3**
GAR				Sn	**S**	**06 53 16.0**	**-1.2**
CEP	**Cherat**	**2.84**	**159**	P	**Pn**	**06 52 46.7**	**+0.2**
CEP				S	**S**	**06 53 22.0**	**-1.5**
CHCP	**Chirah Chowk**	**3.52**	**142**	P	**Pn**	**06 52 54.8**	**+0.3**
NIL	**Nilore**	**3.52**	**143**	PN	**Pn**	**06 52 54.9**	**+0.4**
NIL	**Nilore**	**3.52**	**143**		**Pn**	**06 52 54.9**	**+0.4**
BTK	**Batken**	**3.57**	**2**	PN	**Pn**	**06 52 56.6**	**+1.5**
BTK						06 53 38.3	
BTK	**Batken**	**3.57**	**2**		**Pn**	**06 52 56.6**	**+1.5**
BTK				Sn	**S**	**06 53 38.3**	**-0.8**
THW	**Thamme Wali**	**3.78**	**166**	P	**Pn**	**06 52 57.6**	**-0.1**
SARP	**Sargodha**	**4.84**	**160**	P	**Pn**	**06 53 10.1**	**-0.8**
TAS	**Tashkent**	**4.96**	**348**	PN	**Pn**	**06 53 13.1**	**+0.8**
TAS						06 54 08.3	
TAS	**Tashkent**	**4.96**	**348**	Pn	**Pn**	**06 53 13.1**	**+0.8**
TAS					**S**	**06 54 08.3**	**-2.0**
ARSB	**Arslanbob**	**5.15**	**20**		**Pn**	**06 53 14.6**	**-0.3**
KSH	**Kashi**	**5.16**	**52**	P	**Pn**	**06 53 10.5**	**-4.4**
KSH				S	S	06 54 00.9	-14
KSH				smax	smax		
	comp=N,520nm,0.6s						
KSH				smax	smax		
	comp=E,310nm,0.4s						
AML	**Almayashu**	**6.10**	**22**	P	**Pn**	**06 53 27.2**	**-0.1**
	SNR=53						
DHRM	**DHARAMSHALA**	**6.28**	**131**	*e*P	**Pn**	**06 53 28.8**	**-0.7**
DHRM				*e*S	**S**	**06 54 36.6**	**-4.8**
DHRM				IAML		06 54 39.2	
	comp=N,279nm,0.5s						
DHRM				IAML		06 54 39.7	
	comp=E,324nm,0.2s						
NRN	**Naryn**	**6.45**	**38**	PN	**Pn**	**06 53 31.2**	**-0.5**
NRN	**Naryn**	**6.45**	**38**		**Pn**	**06 53 31.1**	**-0.5**
UCH	**Uchtor**	**6.46**	**26**	P	**Pn**	**06 53 31.9**	**0.0**
	SNR=26						
KK31	**Karatay Array**	**6.61**	**359**	⇑P	**Pn**	**06 53 33.8**	**+0.2**
	comp=E,6.3nm,0.3s,baz=195,slow=15,SNR=136						
KK31				⇓S	**S**	**06 54 43.8**	**-5.1**
	comp=E,31nm,0.4s,baz=192,slow=23,SNR=5.1						
KK31	**Karatay Array**	**6.61**	**359**	PN	**Pn**	**06 53 33.5**	**0.0**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KK31	**Karatay Array**	**6.61**	**359**		**Pn**	**06 53 33.5**	**0.0**
KK31				Sn	**S**	**06 54 44.9**	**-4.0**
KKAR	**Karatay Array**	**6.61**	**359**	PN	**Pn**	**06 53 33.5**	**0.0**
KKAR	**Karatay Array**	**6.61**	**359**		**Pn**	**06 53 33.5**	**0.0**
KKAR				Sn	**S**	**06 54 45.2**	**-3.7**
KKAR	**Karatay Array**	**6.61**	**359**		**Pn**	**06 53 33.2**	**-0.3**
KKAR				Sn	**S**	**06 54 45.2**	**-3.7**
EKS2	**Erkin-Say**	**6.61**	**20**	P	**Pn**	**06 53 33.9**	**+0.3**
	SNR=26						
AAK	**Ala-Archa**	**6.81**	**24**	⇓P	**Pn**	**06 53 35.9**	**-0.3**
AAK				⇑S	**S**	**06 54 51.1**	**-2.7**
	comp=Z,28nm,0.6s						
AAK	**Ala-Archa**	**6.81**	**24**	PN	**Pn**	**06 53 35.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**06 53 35.7**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=174,slow=7.9,SNR=10						
AAK				S	**S**	**06 54 51.5**	**-2.3**
	comp=Z,4.9nm,0.3s,baz=317,slow=22,SNR=12						
AAK	**Ala-Archa**	**6.81**	**24**		**Pn**	**06 53 35.5**	**-0.8**
AAK					**S**	**06 54 52.8**	**-1.0**
KBK	**Karagaybulak**	**6.99**	**27**	P	**S**	**06 54 52.9**	**-5.0**
	SNR=8.8						
BOOM	**Boomskoye usch**	**7.24**	**32**	PN	**Pn**	**06 53 41.6**	**-0.2**
BOOM	**Boomskoye usch**	**7.24**	**32**	Pn	**Pn**	**06 53 41.6**	**-0.2**
USP	**Ospenovka**	**7.38**	**22**	P	**Pn**	**06 53 43.3**	**-0.2**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.46**	**29**	⇓P	**Pn**	**06 53 44.7**	**0.0**
	comp=Z,4.1nm,0.4s						
TKM2				⇓S	**S**	**06 55 06.5**	**-2.7**
	comp=Z,14nm,0.7s						
TKM2	**Tokmak 2**	**7.46**	**29**	PN	**Pn**	**06 53 44.7**	**0.0**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TKM2	**Tokmak 2**	**7.46**	**29**	P	**Pn**	**06 53 44.9**	**+0.3**
	SNR=16						
KDJ	**Kajisay**	**7.56**	**40**	PN	**Pn**	**06 53 46.2**	**+0.3**
KDJ	**Kajisay**	**7.56**	**40**	Pn	**Pn**	**06 53 46.2**	**+0.3**
SMLA	**Simla**	**7.59**	**133**	*e*P	**Pn**	**06 53 45.0**	**-1.3**
SMLA				*e*S	**S**	**06 55 05.9**	**-6.1**
SMLA				IAML		06 55 08.6	
	comp=N,103nm,0.2s						
SMLA				IAML		06 55 08.7	
	comp=E,134nm,0.3s						
TARG	**Taragay, Kyrgy**	**7.62**	**44**	Pn	**Pn**	**06 53 46.8**	**-0.1**
JOSI	**Joshimath**	**9.47**	**126**	*e*P	**Pn**	**06 54 09.8**	**-1.2**
JOSI				*e*S	S	06 55 48.0	-9.3
JOSI				IAML		06 55 56.7	
	comp=E,112nm,0.6s						
JOSI				IAML		06 55 57.1	
	comp=N,148nm,0.4s						
PDGK	**Podgornoye**	**9.61**	**42**	⇑P	**Pn**	**06 54 10.9**	**-1.6**
	comp=N,4.4nm,1.0s						
KUDL	**Kundal**	**9.65**	**148**	*e*P	Pn	06 54 02.6	-10
KUDL				*e*S	S	06 55 42.1	-19
GEYT	**Alibeck**	**10.13**	**282**	P	**Pn**	**06 54 18.3**	**-0.9**
	comp=N,0.4nm,0.3s,baz=143,slow=13,SNR=5.5						
GEYT				S	**S**	**06 56 10.3**	**-2.6**
	comp=N,1.3nm,0.3s,baz=280,slow=26,SNR=4.0						
GEYT	**Alibeck**	**10.13**	**282**		**Pn**	**06 54 18.1**	**-1.2**
MAKZ	**Makanchi**	**13.31**	**36**	⇑P	**Pn**	**06 54 58.0**	**-1.5**
	comp=N,12nm,0.6s						
MAKZ	**Makanchi**	**13.31**	**36**	P	**Pn**	**06 54 59.5**	**0.0**
MAKZ	**Makanchi**	**13.31**	**36**		**Pn**	**06 54 59.5**	**0.0**
MK31	**Makanchi Array**	**13.45**	**36**	⇑P	**Pn**	**06 55 00.3**	**-0.9**
	comp=N,5.0nm,0.7s,baz=224,slow=12,SNR=32						
MK31	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**06 55 01.4**	**+0.2**
MK31	**Makanchi Array**	**13.45**	**36**		**Pn**	**06 55 01.4**	**+0.2**
MKAR	**Makanchi Array**	**13.45**	**36**	*ce*P	**Pn**	**06 55 01.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**06 55 01.8**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=216,slow=10,SNR=29						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**Pn**	**06 55 01.3**	**0.0**
DANN	**Dangsing**	**13.69**	**123**	*e*P	**Pn**	**06 55 02.8**	**-1.8**
KOLN	**Koldanda**	**13.96**	**125**	*e*P	**Pn**	**06 55 05.8**	**-2.1**
	comp=Z,14nm,0.3s						
GKN	**Gorkha**	**14.51**	**122**	*e*P	**Pn**	**06 55 13.1**	**-1.5**
WMQ	**Urumqi**	**14.91**	**55**	*e*P	**Pn**	**06 55 19.4**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,7.5s						
WMQ				LR	LR		
	comp=Z,170nm,4.9s						
WMQ				LR	LR		
	comp=Z,250nm,6.9s						
WMQ				LR	LR		
	comp=Z,32nm,4.9s						
AB31	**Akbulak array**	**14.98**	**332**	⇑P	**Pn**	**06 55 19.7**	**-0.3**
	comp=Z,7.3nm,0.8s,baz=144,slow=12,SNR=107						
AB31				⇓S	**S**	**06 57 58.7**	**-7.2**
	comp=Z,2.0nm,0.5s,baz=157,slow=22,SNR=6.1						
AB31	**Akbulak array**	**14.98**	**332**	*i* P	**Pn**	**06 55 19.6**	**-0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	**Akbulak array**	**14.98**	**332**	P	**Pn**	**06 55 20.0**	**+0.1**
ABKAR	**Akbulak array**	**14.98**	**332**	P	**P**	**06 55 20.2**	**-0.3**
DMN	**Daman**	**15.08**	**122**	*e*P	**Pn**	**06 55 21.0**	**-0.7**
KKN	**Kakani**	**15.09**	**121**	*e*P	**Pn**	**06 55 20.0**	**-1.7**
KURBB	**Kurchatov Arra**	**15.22**	**19**	⇓P	**P**	**06 55 24.1**	**+0.9**
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**15.22**	**19**	P	**P**	**06 55 23.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=10						
PKIN	**Phulchoki**	**15.30**	**121**	*e*P	**Pn**	**06 55 23.2**	**-1.1**
	comp=Z,47nm,0.5s						
PKI	**Pulchoki**	**15.31**	**121**	*e*P	**Pn**	**06 55 23.4**	**-1.2**
	comp=Z,60nm,0.5s						
KURK	**Kurchatov**	**15.33**	**19**	⇑P	**P**	**06 55 24.7**	**+0.3**
	comp=Z,3.4nm,1.1s						
KURK	**Kurchatov**	**15.33**	**19**	*ce*P	**P**	**06 55 26.5**	**+2.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KURK	**Kurchatov**	**15.33**	**19**	P	**Pn**	**06 55 24.3**	**+0.1**
KURK				IAmb	IAmb	06 55 27.2	
	comp=Z,3.1nm,1.1s						
GUN	**Gumba**	**15.43**	**119**	*e*P	**Pn**	**06 55 25.2**	**-0.8**
JIRN	**Jiri**	**15.80**	**119**	*e*P	**Pn**	**06 55 30.5**	**0.0**
	comp=Z,143nm,0.4s						
RAMN	**Ramite**	**16.52**	**121**	*e*P	**P**	**06 55 38.4**	**+0.3**
	comp=Z,24nm,0.4s						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**06 55 40.2**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=172,slow=12,SNR=14						
BRVK	**Borovoye**	**16.57**	**359**	⇑P	**Pn**	**06 55 39.2**	**+0.1**
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**16.57**	**359**	*i* P	**Pn**	**06 55 39.2**	**+0.1**
BRVK	**Borovoye**	**16.57**	**359**		**P**	**06 55 38.6**	**+0.5**
BRVK				IAmb	IAmb	06 55 43.8	
	comp=Z,5.3nm,0.8s						
AKTO	**Aktyubinsk**	**16.67**	**331**	⇓P	**Pn**	**06 55 41.0**	**+0.7**
	comp=Z,29nm,0.9s						
AKTO				⇓S	**S**	**06 58 42.7**	**-0.1**
	comp=Z,14nm,1.2s						
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**Pn**	**06 55 41.4**	**+1.1**
AKTO				pmax	pmax		
	comp=Z,15nm,0.7s						
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**Pn**	**06 55 40.9**	**+0.6**
	comp=Z,3.2nm,0.3s,baz=139,slow=9.9,SNR=46						
WSAR	**Wadi Sarin**	**16.82**	**222**	P	**P**	**06 55 41.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=146,slow=13,SNR=3.3						
TAPN	**Taplejung**	**17.06**	**117**	*e*P	**Pn**	**06 55 46.0**	**+0.5**
	comp=Z,28nm,0.4s						
ODAN	**Odare**	**17.13**	**119**	*e*P	**Pn**	**06 55 46.6**	**+0.3**
DGZ	**Jazzator, Alta**	**17.95**	**37**	*i* P	**Pn**	**06 55 54.7**	**-0.8**
ZAA0	**Zalesovo Array**	**20.04**	**25**	⇓P	**P**	**06 56 16.4**	**+0.8**
	comp=Z,1.0nm,0.7s						
ZAA0	**Zalesovo Array**	**20.04**	**25**	P	**P**	**06

ANN					*e*S		**S**	**07 01 32.8**	**-1.4**
ANN					pmax		pmax		
	comp=Z,24nm,0.9s								
TLY	**Talaya**	**27.83**	**47**	*i* P			**P**	**06 57 27.8**	**-0.8**
TLY					pmax		pmax		
	comp=Z,5.0nm,1.0s								
SONM	**Songino Array**	**28.55**	**55**	P			**P**	**06 57 35.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=254,slow=9.7,SNR=6.2								
ULN	**Ulaanbaatar**	**28.99**	**55**	*i* P			**P**	**06 57 40.4**	**+1.3**
ULN					pmax		pmax		
	comp=Z,2.0nm,0.8s								
OBN	**Obninsk**	**29.79**	**320**	*i* P			**P**	**06 57 45.6**	**-0.1**
OBN					pmax		pmax		
	comp=Z,4.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.67**	**118**	*i* P			**P**	**06 57 55.5**	**+1.5**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
HHC	**Hu-ho-hao-te**	**32.01**	**70**	*e*P			**P**	**06 58 07.5**	**+1.9**
HHC					pmax		pmax		
	comp=Z,4.0nm,0.8s								
AKASG	**Malin Array Be**	**32.76**	**309**	P			**P**	**06 58 13.4**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=79,slow=7.3,SNR=3.0								
NRIK	**Noril'sk**	**34.19**	**11**	P			**P**	**06 58 26.9**	**+3.0**
	comp=Z,1.2nm,0.3s,baz=212,slow=6.4,SNR=5.0								
FINES	**FINESS Array B**	**37.36**	**326**	*ce*P			**P**	**06 58 53.0**	**+2.1**
FINES					pmax		pmax		
	comp=Z,3.0nm,0.6s								
FINES	**FINESS Array B**	**37.36**	**326**	P			**P**	**06 58 53.1**	**+2.2**
	comp=Z,2.6nm,0.7s,baz=116,slow=8.7,SNR=6.8								
FINES	**FINESS Array B**	**37.36**	**326**	P			**P**	**06 58 50.6**	**-0.4**
VYHS	**Vyhne**	**39.36**	**304**	*e*P			**P**	**06 59 08.3**	**+0.5**
VYHS	**Vyhne**	**39.36**	**304**	*e*P			**P**	**06 59 08.3**	**+0.5**
ARCES	**ARCESS Array B**	**41.06**	**338**	P			**P**	**06 59 23.6**	**+2.1**
	comp=Z,3.7nm,1.0s,baz=110,slow=7.9,SNR=4.0								
NC405	**NORSAR Array S**	**44.01**	**323**	P			**P**	**06 59 45.3**	**0.0**
YAK	**Yakutsk**	**44.12**	**35**	*i* P			**P**	**06 59 46.5**	**+0.3**
YAK					pmax		pmax		
	comp=Z,5.0nm,0.4s								
NB2	**NORSAR Subarra**	**44.24**	**323**	P			**P**	**06 59 48.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.24**	**323**	P			**P**	**06 59 48.9**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.8,SNR=2.8								
TIXI	**Tiksi**	**45.88**	**22**	*ce*P			**P**	**07 00 01.5**	**+1.6**
TIXI					pmax		pmax		
	comp=Z,6.0nm,0.8s								
TIXI	**Tiksi**	**45.88**	**22**	P			**P**	**07 00 00.5**	**+0.6**
TIXI					IAmb		IAmb	07 00 02.3	
	comp=Z,6.6nm,0.8s								
SENIN	**Lac Senin/Sane**	**47.38**	**303**	P			**P**	**07 00 11.5**	**-0.6**
SPA0	**Spitsbergen Ar**	**47.45**	**347**	P			**P**	**07 00 12.5**	**+0.5**
BILL	**Bilibino**	**58.73**	**26**	*i* P			**P**	**07 01 34.2**	**-0.1**
BILL					pmax		pmax		
	comp=Z,3.0nm,1.2s								
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P			**P**	**07 02 20.2**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=51,slow=6.1,SNR=21								
YKA	**Yellowknife Ar**	**81.27**	**2**	P			**P**	**07 03 53.2**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=349,slow=5.3,SNR=8.3								
WRA	**Warramunga Arr**	**82.20**	**122**	P			**P**	**07 03 56.5**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=323,slow=5.0,SNR=9.4								
ASAR	**Alice Springs**	**84.45**	**125**	P			**P**	**07 04 06.7**	**-1.5**
ASAR	**Alice Springs**	**84.45**	**125**	P			**P**	**07 04 05.5**	**-2.8**
	comp=Z,1.3nm,0.6s,baz=312,slow=4.4,SNR=11								
ASAR	**Alice Springs**	**84.45**	**125**	P			**P**	**07 04 06.7**	**-1.5**

*BJI **14** 06:54:30.4±0.0, 1°.03S×99°.63E, h77km, mb4.8/30, mB5.0/20, Ms4.7/6, Ms7 4.4/2*
*ISCJB **14** 06:54:32.0±0.3, 0°.78S±0°.03×99°.85E±0°.03, h77km, mb4.5/28, Error ellipse: s-maj=4.7km s-min=3.5km az=40.7*
*NEIC **14** 06:54:33.0±2.0, 0°.81S±0°.06×99°.82E±0°.05, h79km±5km, mb4.6/30*
*IDC **14** 06:54:34.2±2.6, 0°.68S×100°.06E, h84km±21km, mb4.1/21, mb1 4.1/23, mb1mx3.9/56, mbtmp4.4/23, MS3.0/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=21.1km s-min=12.1km az=56.0*
*DJA **14** 06:54:34.2±0.2, 1°.S±2°.×10°.0E±°, h77km±4km, M4.6/16, mb4.8/6, mB5.1/4, MLv4.5/16, Mw(mB)4.4/4*
*KLM **14** 06:54:35.0, 0°.74S×99°.84E, h59km, mb4.6*
ISC 14 06:54:33.1±0.4, **0°.79S**±0°.04×**99°.84E**±0°.04, **h77**km, **n123,** σ**1**§**61**/127, **mb4.5**/38, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.63**	**101**	P		**Pn**	**06 54 48.4**	**+0.5**
SISI	**Saibi**	**0.92**	**235**	P		**Pn**	**06 54 52.9**	**+1.9**
SDSI	**Sungai Dareh**	**1.59**	**95**	P		**Pn**	**06 55 00.3**	**+0.8**
BKNI	**Bangkinang**	**1.63**	**47**	P		**Pn**	**06 55 00.7**	**+0.6**
BKNI	**Bangkinang**	**1.63**	**47**			**Pn**	**06 55 01.0**	**+0.9**
BKNI				Sn		**Sn**	**06 55 19.4**	**-1.1**
PBSI	**Pulau Batu**	**1.72**	**295**	P		**Pn**	**06 55 02.4**	**+1.1**
PBSI				S		**Sn**	**06 55 24.2**	**+1.6**
PPSI	**Pulau Pagai**	**1.97**	**175**	P		**Pn**	**06 55 05.3**	**+0.8**
PPSI				S		**Sn**	**06 55 30.3**	**+1.9**
KRJI	**Kerinci**	**2.07**	**129**	P		Pn	06 55 11.2	+5.2
RGRI	**Rengat**	**2.53**	**80**	P		**Pn**	**06 55 12.8**	**+0.7**
RGRI				S		**Sn**	**06 55 43.0**	**+1.0**
GSI	**Gunungsitoli**	**3.08**	**313**	P		**Pn**	**06 55 20.6**	**+1.1**
GSI	**Gunungsitoli**	**3.08**	**313**			**Pn**	**06 55 20.6**	**+1.1**
GSI				Sn		**Sn**	**06 55 50.3**	**-4.9**
MASI	**Maura Aman, Be**	**3.35**	**134**	P		Pn	06 55 32.7	+10
RPSI	**Rantau Prapat**	**3.58**	**345**			**Pn**	**06 55 27.3**	**+0.9**
RPSI	**Rantau Prapat**	**3.58**	**345**			**Pn**	**06 55 27.5**	**+1.1**
PSI	**Prapat**	**3.68**	**346**	P		**Pn**	**06 55 27.5**	**-0.4**
	12nm,0.3s,baz=144,slow=13,SNR=20							
PSI				LR		LR	06 56 55.2	
	comp=Z,190nm,20.6s,baz=178,slow=40							
MNAI	**Manna**	**4.72**	**139**	P		**Pn**	**06 55 42.3**	**+0.5**
MNAI	**Manna**	**4.72**	**139**	Pn		**Pn**	**06 55 42.5**	**+0.6**
MNAI				Sn		**Sn**	**06 56 35.3**	**0.0**
KCSI	**Kotacane, Aceh**	**4.76**	**334**	P		**Pn**	**06 55 43.8**	**+1.4**
MYKOM	**Kota Tinggi**	**4.76**	**57**	P		**Pn**	**06 55 44.0**	**+1.6**
MYKOM	**Kota Tinggi**	**4.76**	**57**			**Pn**	**06 55 43.2**	**+0.9**
MYKOM				Sn		**Sn**	**06 56 36.2**	**-0.1**
TPTI		**4.82**	**327**	P		**Pn**	**06 55 47.2**	**+3.9**
TPRI	**Tanjung Pinang**	**4.98**	**70**	P		**Pn**	**06 55 46.6**	**+1.1**
JRMM	**Jerantut**	**5.34**	**30**	P		**Pn**	**06 55 52.0**	**+1.6**
IPM	**Ipoh**	**5.37**	**13**	P		**Pn**	**06 55 53.0**	**+2.2**
IPM	**Ipoh**	**5.37**	**13**			**Pn**	**06 55 53.0**	**+2.2**
MLSI	**Meulaboh, Aceh**	**6.09**	**326**	P		**Pn**	**06 56 02.0**	**+1.5**
KULM	**Kulim**	**6.09**	**8**	P		**Pn**	**06 56 02.0**	**+1.3**
KULM	**Kulim**	**6.09**	**8**			**Pn**	**06 56 01.6**	**+1.0**
KULM				Sn		**Sn**	**06 57 09.5**	**+0.5**
SKLT	**Songkhla**	**7.95**	**6**	P		**Pn**	**06 56 27.4**	**+1.5**
	16nm,0.8s,0.1nm							
TRTT	**Trang**	**8.57**	**359**	P		**Pn**	**06 56 36.2**	**+1.7**
	47nm,1.0s,0.1nm							
KKM	**Kota Kinabalu**	**17.70**	**67**	P		**P**	**06 58 31.8**	**-2.9**
CM31	**Chiang Mai Arr**	**19.15**	**357**	P		**P**	**06 58 46.9**	**-3.5**
CMAR	**Chiang Mai Arr**	**19.15**	**357**	P		**P**	**06 58 48.5**	**-1.9**
	0.7nm,0.3s,baz=187,slow=9.6,SNR=13							
CMAR				LR		LR	07 06 53.6	
	comp=Z,41nm,18.2s,baz=182,slow=39							
CMAR	**Chiang Mai Arr**	**19.15**	**357**	P		**P**	**06 58 49.8**	**-0.6**
MPSI	**Mapaga**	**20.09**	**87**	P		**P**	**06 59 02.6**	**+1.9**
KAPI	**Kappang**	**20.32**	**102**	P		**P**	**06 59 03.2**	**0.0**
KAPI				IAmb		IAmb	06 59 09.8	
	comp=Z,22nm,1.1s							
BNSI	**Bone**	**20.56**	**100**	P		**P**	**06 59 08.1**	**+2.4**
PALK	**Pallekele**	**20.70**	**293**	P		**P**	**06 59 06.2**	**-1.2**
MRSI	**Marisa**	**22.14**	**87**	P		**P**	**06 59 24.0**	**+1.3**
LUWI	**Luwuk**	**22.93**	**91**	P		**P**	**06 59 32.3**	**+1.3**
KMI	**Kunming**	**25.91**	**6**	P		**P**	**07 00 00.9**	**+2.5**
KMI				pmax		pmax		
	comp=Z,16nm,0.6s							
KMI				pmax		pmax		
	comp=Z,98nm,5.2s							
SHL	**Shillong**	**27.31**	**344**	P		**P**	**07 00 10.6**	**-0.3**
SHL				IAmb		IAmb	07 00 11.4	
	comp=Z,20nm,0.6s							
ODAN	**Odare**	**30.00**	**337**	*e*P		**P**	**07 00 35.8**	**+1.0**
	comp=Z,32nm,0.5s							
TAPN	**Taplejung**	**30.32**	**338**	*e*P		**P**	**07 00 38.8**	**+1.1**
	comp=Z,63nm,0.9s							
RAMN	**Ramite**	**30.39**	**336**	*e*P		**P**	**07 00 39.5**	**+1.2**
	comp=Z,9.0nm,0.4s							
JIRN	**Jiri**	**31.18**	**336**	*e*P		**P**	**07 00 46.5**	**+1.0**
	comp=Z,74nm,0.7s							
PKI	**Pulchoki**	**31.43**	**335**	*e*P		**P**	**07 00 48.1**	**+0.5**
	comp=Z,14nm,0.5s							
LSA	**Lhasa**	**31.44**	**345**	P		**P**	**07 00 49.2**	**+1.4**
PKIN	**Phulchoki**	**31.44**	**335**	*e*P		**P**	**07 00 48.0**	**+0.4**
	comp=Z,11nm,0.5s							
GUN	**Gumba**	**31.53**	**336**	*e*P		**P**	**07 00 49.6**	**+1.1**
	comp=Z,113nm,0.5s							
KKN	**Kakani**	**31.67**	**335**	*e*P		**P**	**07 00 50.2**	**+0.6**
	comp=Z,30nm,0.5s							
CD2	**Chengdu**	**31.75**	**6**	*e*P		**P**	**07 00 50.6**	**+0.6**
CD2					pmax		pmax		
	comp=Z,20nm,0.4s								
GKN	**Gorkha**	**32.14**	**334**	*e*P		**P**	**07 00 54.3**	**+0.7**
	comp=Z,22nm,0.4s								
KOLN	**Koldanda**	**32.40**	**332**	*e*P		**P**	**07 00 57.0**	**+1.0**
	comp=Z,40nm,0.7s								
DANN	**Dangsing**	**32.82**	**333**	*e*P		**P**	**07 01 00.6**	**+0.8**
	comp=Z,30nm,0.4s								
XAN	**Xi'an**	**35.68**	**13**	P		**P**	**07 01 21.8**	**-2.3**
XAN					pmax		pmax		
	comp=Z,7.0nm,0.6s								
XAN	**Xi'an**	**35.68**	**13**	P		P	07 01 20.3	-3.9
XAN					IAmb		IAmb	07 01 24.5	
	comp=Z,8.7nm,0.9s								
NWAO	**Narrogin (SRO)**	**35.91**	**155**	P		**P**	**07 01 23.8**	**-2.3**
NWAO	**Narrogin (SRO)**	**35.91**	**155**	P		**P**	**07 01 24.6**	**-1.5**
NWAO					IAmb		IAmb	07 01 39.2	
	comp=Z,22nm,1.4s								
H01W3	**Cape Leeuwin H**	**36.45**	**160**	T		T	07 39 54.4	
	baz=335								
H01W2	**Cape Leeuwin H**	**36.46**	**160**	T		T	07 39 54.4	
	baz=335								
H01W1	**Cape Leeuwin H**	**36.46**	**160**	T		T	07 39 54.3	
	baz=335								
LZH	**Lanzhou**	**36.88**	**5**	*e*P		**P**	**07 01 38.3**	**+3.9**
LZH				pP		pP	07 01 58.3	+5.5
LZH				sP		sP	07 02 07.6	+5.8
LZH				pmax		pmax		
	comp=Z,18nm,1.0s								
NJ2	**Nanjing**	**37.30**	**27**	*e*P		**P**	**07 01 39.3**	**+1.5**
NJ2					pmax		pmax		
	comp=Z,12nm,0.5s								
WRA	**Warramunga Arr**	**38.75**	**122**	P		**P**	**07 01 48.5**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=302,slow=9.1,SNR=22								
WRA	**Warramunga Arr**	**38.75**	**122**	P		**P**	**07 01 49.0**	**-1.3**
WRAB	**Tennant Creek**	**38.75**	**122**	P		**P**	**07 01 50.5**	**+0.2**
WRAB					IAmb		IAmb	07 02 07.8	
	comp=Z,5.2nm,1.1s								
WB2	**Warramunga Arr**	**38.76**	**122**	P		**P**	**07 01 49.2**	**-1.1**
WB2					IAmb		IAmb	07 02 08.6	
	comp=Z,4.7nm,1.1s								
GTA	**Gaotai**	**40.01**	**360**	*e*P		**P**	**07 01 59.3**	**-1.3**
GTA				pP		pP	07 02 22.4	+3.2
GTA				sP		sP	07 02 34.3	+6.2
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s								
AS31	**Alice Springs**	**40.10**	**127**	P		**P**	**07 02 00.6**	**-0.9**
ASAR	**Alice Springs**	**40.10**	**127**	P		**P**	**07 02 00.6**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=303,slow=7.9,SNR=17								
ASAR				ScP		**ScP**	**07 07 46.0**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=303,slow=3.2,SNR=4.7								
ASAR	**Alice Springs**	**40.10**	**127**	P		**P**	**07 02 01.2**	**-0.2**
NIL	**Nilore**	**42.41**	**326**	P		**P**	**07 02 20.4**	**+0.1**
NIL					IAmb		IAmb	07 02 23.9	
	comp=Z,8.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**42.80**	**13**	*e*P		**P**	**07 02 26.1**	**+2.7**
MSEY	**Mahe Island**	**44.47**	**264**	P		**P**	**07 02 35.7**	**-1.5**
MSEY					IAmb		IAmb	07 02 52.0	
	comp=Z,7.6nm,1.2s								
JNU	**Nakatsue**	**44.64**	**38**	P		**P**	**07 02 38.1**	**-0.1**
KSH	**Kashi**	**45.68**	**334**	P		**P**	**07 02 46.0**	**-0.5**
KSH				sP		sP	07 03 13.1	-1.1
KSH				S		**S**	**07 09 20.8**	**-3.2**
KSH				sS		sS	07 09 52.4	-3.7
KSH				ScS		**ScS**	**07 12 29.4**	**-6.1**
KSH				pmax		pmax		
	comp=Z,490nm,5.3s								
KSH				LR		LR		
	comp=Z,210nm,9.2s								
KSH				LR		LR		
	comp=Z,160nm,9.7s								
KSH				LR		LR		
	comp=Z,200nm,10.1s								
WMQ	**Urumqi**	**45.73**	**348**	*e*P		**P**	**07 02 48.1**	**+1.4**
WMQ				pP		pP	07 03 02.9	-2.7
WMQ				pmax		pmax		
	comp=Z,21nm,0.9s								
WMQ				pmax		pmax		
	comp=Z,140nm,6.1s								
WMQ				LR		LR		
	comp=Z,320nm,28.8s								
WMQ				LR		LR		
	comp=Z,1μm,29.0s								
WMQ	**Urumqi**	**45.73**	**348**	P		**P**	**07 02 48.3**	**+1.6**
KSAR	**Wonju Array Be**	**46.04**	**31**	P		**P**	**07 02 49.2**	**0.0**
KSRS	**Korea Array**	**46.07**	**31**	P		**P**	**07 02 48.8**	**-0.7**
	comp=Z,4.1nm,0.6s,baz=223,slow=8.3,SNR=13								
TARG	**Taragay, Kyrgy**	**46.79**	**337**	P		**P**	**07 02 57.5**	**+2.0**
TARG					IAmb		IAmb	07 02 57.7	
	comp=Z,4.4nm,0.6s								
NRN	**Naryn**	**47.26**	**336**	P		**P**	**07 02 57.9**	**-1.2**
NRN					IAmb		IAmb	07 03 00.7	
	comp=Z,6.3nm,0.7s								
KDJ	**Kajisay**	**47.38**	**337**	P		**P**	**07 03 01.7**	**+2.0**
SONM	**Songino Array**	**48.77**	**6**	P		**P**	**07 03 09.7**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=186,slow=9.3,SNR=22								
SONM				PcP		**PcP**	**07 04 33.5**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=186,slow=3.5,SNR=6.4								
SONM	**Songino Array**	**48.77**	**6**	P		**P**	**07 03 10.5**	**+0.2**
AAK	**Ala-Archa**	**48.89**	**335**	P		**P**	**07 03 12.9**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=146,slow=7.3								
MK31	**Makanchi Array**	**49.83**	**344**	P		**P**	**07 03 19.0**	**+0.7**
MKAR	**Makanchi Array**	**49.83**	**344**	P		**P**	**07 03 19.1**	**+0.7**
	comp=Z,13nm,0.5s,baz=158,slow=8.5,SNR=141								
MKAR	**Makanchi Array**	**49.83**	**344**	P		**P**	**07 03 18.6**	**+0.3**
MAKZ	**Makanchi**	**49.93**	**344**	P		**P**	**07 03 19.6**	**+0.6**
MAKZ					IAmb		IAmb	07 03 20.1	
	comp=Z,5.5nm,0.8s								
STKA	**Stephens Creek**	**50.07**	**132**	P		**P**	**07 03 20.6**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=320,slow=12,SNR=4.8								
STKA	**Stephens Creek**	**50.07**	**132**	P		**P**	**07 03 20.7**	**+0.3**
KKAR	**Karatay Array**	**51.01**	**333**	P		**P**	**07 03 30.1**	**+2.8**
MJAR	**Matsushiro Arr**	**51.45**	**40**	P		**P**	**07 03 29.7**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=224,slow=8.0,SNR=4.2								
MJAR	**Matsushiro Arr**	**51.45**	**40**	P		**P**	**07 03 29.1**	**-1.6**
USA0B	**Ussuriysk Arra**	**53.17**	**29**	P		**P**	**07 03 42.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**53.17**	**29**	P		**P**	**07 03 43.0**	**-0.3**
	comp=Z,7.7nm,0.6s,baz=239,slow=4.2,SNR=22								
USRK	**Ussuriysk Ar.**	**53.17**	**29**	P		**P**	**07 03 43.2**	**-0.1**
KURBB	**Kurchatov Arra**	**54.35**	**343**	P		**P**	**07 03 51.9**	**+0.2**
	comp=Z,8.7nm,0.7s,baz=160,slow=7.2,SNR=78								
KURK	**Kurchatov**	**54.41**	**344**	P		**P**	**07 03 52.0**	**-0.2**
ZAA0	**Zalesovo Array**	**55.96**	**349**	P		**P**	**07 04 03.0**	**-0.2**
ZALV	**Zalesovo Beam**	**55.96**	**349**	P		**P**	**07 04 02.9**	**-0.3**
	comp=Z,12nm,0.5s,baz=179,slow=6.3,SNR=42								
ZALV	**Zalesovo Beam**	**55.96**	**349**	P		**P**	**07 04 03.0**	**-0.2**
ZALV						**pP**	**07 04 22.9**	**+0.1**
BVAR	**Borovoye Array**	**59.00**	**340**	P		**P**	**07 04 24.2**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=144,slow=10,SNR=12								
ABKAR	**Abkulak array**	**60.51**	**331**	P		**P**	**07 04 34.3**	**-0.8**
ABKAR	**Abkulak array**	**60.51**	**331**	P		**P**	**07 04 34.5**	**-0.6**
ABKAR					IAmb		IAmb	07 04 35.5	
	comp=Z,3.6nm,0.7s								
AKTO	**Aktyubinsk**	**62.23**	**331**	P		**P**	**07 04 46.2**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=115,slow=12,SNR=4.8								
NRIK	**Noril'sk**	**70.49**	**355**	P		**P**	**07 05 38.0**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=119,slow=4.3,SNR=4.5								
PETK	**Petropavlovsk-**	**71.95**	**32**	P		**P**	**07 05 45.8**	**-2.4**
	comp=Z,1.5nm,0.6s,baz=276,slow=3.5,SNR=4.7								
BRTR	**Keskin Array B**	**72.40**	**312**	P		**P**	**07 05 50.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=141,slow=9.5,SNR=3.0								
BOSA	**Boshof**	**76.10**	**241**	P		**P**	**07 06 15.1**	**+2.0**
	comp=Z,1.7nm,0.6s,baz=89,slow=7.3,SNR=3.2								
KOLS	**Kolonicke sedl**	**82.44**	**319**	*e*P		**P**	**07 06 49.0**	**+1.9**
FINES	**FINESS Array B**	**82.97**	**332**	P		**P**	**07 06 49.8**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=114,slow=6.1,SNR=24								
VYHS	**Vyhne**	**84.62**	**319**	*e*P		**P**	**07 07 02.9**	**+4.6**
ARCES	**ARCESS Array B**	**85.29**	**340**	P		**P**	**07 07 01.5**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=98,slow=4.9,SNR=25								
MODS	**Modra-Piesok**	**85.64**	**318**	*e*P		P	07 07 08.4	+5.0
HFS	**Hagfors**	**88.75**	**330**	P		**P**	**07 07 18.5**	**+0.4**
	comp=Z,7.5nm,1.2s,baz=104,slow=4.6,SNR=3.2								
SPITS	**Spitsbergen Ar**	**89.43**	**348**	P		**P**	**07 07 19.8**	**-1.2**
	comp=Z,12nm,0.9s,baz=114,slow=8.3,SNR=4.8								
TXAR	**Lajitas Array**	**143.84**	**36**	PKP		PKPab	07 13 58.6	+1.1
	comp=Z,1.9nm,0.5s,baz=286,slow=0.3,SNR=39								
TXAR	**Lajitas Array**	**143.84**	**36**			PKPab	07 13 58.3	+0.9
CPUP	**Villa Florida**	**145.18**	**218**	PKPbc		**PKPab**	**07 14 03.5**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=67,slow=4.9,SNR=5.1								
CFA	**Coronel Fontan**	**145.85**	**198**	PKPbc		**PKPbc**	**07 14 05.4**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=169,slow=4.8,SNR=4.9								

*ISCJB **14** 06:58:49.5±1.3, 17°.6N±0°.1×102°.18W±0°.05, h28km±9km, Error ellipse: s-maj=18.5km s-min=5.6km az=16.3*
*MEX **14** 06:58:51.3±0.5, 17°.58N×102°.20W, h12km±7km, MD4.0*
ISC 14 06:58:48.8±1.7, **17°.53N**±0°.10×**102°.22W**±0°.05, **h15**km±10km, **n19,** σ**1**§**46**/33, **Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.72**	**84**	*e*P		**Pg**	**06 59 02.8**	**-0.2**
ZIIG				*e*S		**Sg**	**06 59 11.8**	**-0.7**
ZIIG	**Zihuatanejo**	**0.72**	**84**			**Pg**	**06 59 02.8**	**-0.2**
ZIIG						**Sg**	**06 59 11.8**	**-0.7**
MMIG	**Aquila**	**1.31**	**305**	*e*P		**Pn**	**06 59 11.8**	**-0.8**
MMIG				*e*S		**Sn**	**06 59 27.1**	**-2.7**
MMIG	**Aquila**	**1.31**	**305**			**Pn**	**06 59 11.8**	**-0.8**
MMIG						**Sn**	**06 59 27.1**	**-2.7**
CAIG	**El Cayaco**	**1.93**	**104**	*e*P		**Pn**	**06 59 20.9**	**-0.1**
CAIG				*i* S		**Sn**	**06 59 43.9**	**-1.2**
CAIG	**El Cayaco**	**1.93**	**104**			**Pn**	**06 59 20.9**	**-0.1**
CAIG						**Sn**	**06 59 43.9**	**-1.2**
ARIG	**Puente Sto Nin**	**1.93**	**67**	*e*P		**Pn**	**06 59 19.8**	**-1.4**
ARIG				*e*S		**Sn**	**06 59 43.1**	**-2.2**
ARIG	**Puente Sto Nin**	**1.93**	**67**			**Pn**	**06 59 19.8**	**-1.4**
ARIG						**Sn**	**06 59 43.1**	**-2.2**
MEIG	**Mezcala**	**2.51**	**81**	*e*P		**Pn**	**06 59 28.5**	**-0.7**
MEIG				*e*S		**Sn**	**06 59 57.9**	**-1.8**
MEIG	**Mezcala**	**2.51**	**81**			**Pn**	**06 59 28.5**	**-0.7**
MEIG						**Sn**	**06 59 57.9**	**-1.8**
PLIG	**Platanillo**	**2.73**	**71**	*e*P		**Pn**	**06 59 32.5**	**+0.3**
PLIG				*i* S		**Sn**	**07 00 03.4**	**-1.5**
PLIG	**Platanillo**	**2.73**	**71**			**Pn**	**06 59 32.5**	**+0.3**
PLIG						**Sn**	**07 00 03.4**	**-1.5**
TLIG	**Tlapa**	**3.49**	**89**	*e*P		**Pn**	**06 59 43.6**	**+0.9**
TLIG				*i* S		**Sn**	**07 00 22.9**	**-0.9**
TLIG	**Tlapa**	**3.49**	**89**			**Pn**	**06 59 43.6**	**+0.9**
TLIG						**Sn**	**07 00 22.9**	**-0.9**
TLIG	**Tlapa**	**3.49**	**89**	Pn		**Pn**	**06 59 44.2**	**+1.5**
ZAIG	**Zacatecas**	**5.22**	**356**			**Pn**	**07 00 08.4**	**+1.7**
TXAR	**Lajitas Array**	**11.82**	**354**	Pn		**Pn**	**07 01 38.6**	**+1.5**
U15A	**North Rim**	**20.83**	**337**	P		**P**	**07 03 32.0**	**+1.8**
U15A				IAmb		IAmb	07 03 34.0	
	comp=Z,4.6nm,1.4s							
PHWY	**Pilot Hill**	**23.85**	**354**	P		**P**	**07 04 03.5**	**+1.5**
PHWY				IAmb		IAmb	07 04 08.1	
	comp=Z,7.6nm,1.0s							

*GUC **14** 07:15:35.5±0.6, 37°.62S×73°.98W, h43km±45km, ML4.4*
*ISCJB **14** 07:15:37.5±0.5, 37°.16S±0°.04×72°.24W±0°.10, h10km, mb3.9/5, MS3.3/1, Error ellipse: s-maj=11.2km s-min=5.0km az=171.6*
*NEIC **14** 07:15:38.3±1.9, 37°.18S±0°.04×72°.44

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**34.62**	**238**	LR	LR	07 47 30.8	
	comp=Z,99nm,19.4s,baz=30,slow=38						
JTS	**Las Juntas de**	**40.52**	**255**	LR	LR	07 49 42.2	
	comp=Z,42nm,20.0s,baz=146,slow=36						
H10N2	**ASCENSION HYDR**	**44.64**	**134**	T	T	08 21 24.2	
	baz=318						
H10N3	**ASCENSION HYDR**	**44.64**	**134**	T	T	08 21 20.5	
	baz=318						
H10N1	**ASCENSION HYDR**	**44.65**	**134**	T	T	08 21 22.1	
	baz=318						
TORD	**Torodi Ar. Bea**	**45.74**	**96**	P	**P**	**07 33 58.5**	**+0.2**
	1.9nm,1.0s,baz=290,slow=5.4,SNR=6.2						
LPAZ	**La Paz**	**47.13**	**211**	P	**P**	**07 34 10.9**	**+1.2**
	1.8nm,0.8s,baz=11,slow=8.5,SNR=8.5						
LPAZ	**La Paz**	**47.13**	**211**	P	**P**	**07 34 10.1**	**+0.3**
LPAZ				IAmb	IAmb	07 34 14.4	
	comp=Z,3.2nm,1.0s						
GO01	**Chusmiza**	**50.57**	**210**	P	**P**	**07 34 35.9**	**0.0**
GO01				IAmb	IAmb	07 34 44.0	
	comp=Z,6.4nm,1.0s						
PB11	**IPOC Station P**	**50.86**	**210**	P	**P**	**07 34 37.2**	**-0.6**
PB11				IAmb	IAmb	07 34 38.3	
	comp=Z,14nm,0.9s						
PDAR	**Pinedale Array**	**54.69**	**306**	P	**P**	**07 35 05.7**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=88,slow=8.2,SNR=4.2						
PDAR	**Pinedale Array**	**54.69**	**306**	P	**P**	**07 35 05.8**	**-0.2**
AKASG	**Malin Array Be**	**61.03**	**44**	P	**P**	**07 35 50.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=280,slow=5.8,SNR=5.2						
BRTR	**Keskin Array B**	**65.99**	**56**	P	**P**	**07 36 22.8**	**-0.5**
	comp=Z,6.3nm,1.3s,baz=285,slow=5.7,SNR=4.0						
BRTR	**Keskin Array B**	**65.99**	**56**	P	**P**	**07 36 22.0**	**-1.4**
PLCA	**Paso Flores**	**69.96**	**200**	P	**P**	**07 36 48.6**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=36,slow=5.6,SNR=3.8						
PLCA	**Paso Flores**	**69.96**	**200**	P	**P**	**07 36 46.7**	**-1.3**
KBZ	**Khabaz**	**71.57**	**50**	P	**P**	**07 36 59.3**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=43,slow=3.6,SNR=3.7						
ILAR	**Eielson Array**	**72.03**	**334**	P	**P**	**07 37 00.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=78,slow=4.9,SNR=6.7						
ILAR	**Eielson Array**	**72.03**	**334**	P	**P**	**07 37 00.5**	**+0.3**
BOSA	**Boshof**	**86.48**	**124**	LR	LR	08 08 50.8	
	comp=Z,36nm,19.9s,baz=28,slow=30						
AAK	**Ala-Archa**	**92.40**	**40**	LR	LR	08 19 40.1	
	comp=Z,41nm,18.4s,baz=322,slow=35						
PETK	**Petropavlovsk-**	**99.22**	**346**	LR	LR	08 25 23.6	
	comp=Z,24nm,21.1s,baz=60,slow=36						

IDC 14 07:27:16.3±1.9, 25°82N×45°12W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/45, mbtmp3.6/6, MS3.4/6, Ms1 3.4/6, ms1mx3.1/26, Error ellipse: s-maj=73.7km s-min=23.6km az=7.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.95**	**253**	LR	LR	07 38 01.3	
	comp=Z,166nm,21.8s,baz=84,slow=31						
MDP	**Montagnes des**	**21.83**	**201**	LR	LR	07 38 46.0	
	comp=Z,39nm,19.5s,baz=23,slow=32						
SCHQ	**Schefferville**	**33.09**	**337**	LR	LR	07 45 25.7	
	comp=Z,44nm,20.0s,baz=10,slow=33						
ESDC	**Sonseca Array**	**36.94**	**58**	LR	LR	07 46 43.8	
	comp=Z,80nm,19.2s,baz=5.0,slow=32						
H10N2	**ASCENSION HYDR**	**44.78**	**134**	T	T	08 23 01.5	
	baz=318,slow=75						
H10N3	**ASCENSION HYDR**	**44.78**	**134**	T	T	08 23 10.0	
	baz=318,slow=75						
H10N1	**ASCENSION HYDR**	**44.80**	**134**	T	T	08 23 12.2	
	baz=318,slow=75						
H10S3	**ASCENSION HYDR**	**45.52**	**135**	T	T	08 23 52.6	
	baz=262,slow=74						
H10S2	**ASCENSION HYDR**	**45.54**	**135**	T	T	08 23 54.4	
	baz=318,slow=74						
TORD	**Torodi Ar. Bea**	**45.67**	**97**	P	P	07 35 38.6	-0.6
	0.9nm,0.8s,baz=300,slow=8.7,SNR=4.7						
TXAR	**Lajitas Array**	**51.56**	**288**	P	P	07 36 25.3	+0.8
	0.5nm,0.9s,baz=82,slow=7.4,SNR=2.9						
TXAR				LR	LR	07 59 22.2	
	comp=Z,30nm,18.5s,baz=0.0,slow=37						
PDAR	**Pinedale Array**	**54.59**	**305**	P	P	07 36 45.9	-0.9
	0.2nm,0.4s,baz=93,slow=10.0,SNR=2.5						
AKASG	**Malin Array Be**	**60.72**	**45**	P	P	07 37 30.0	+0.4
	0.3nm,0.3s,baz=270,slow=6.3,SNR=4.4						
BRTR	**Keskin Array B**	**65.71**	**56**	P	P	07 38 03.4	+0.2
	1.1nm,0.9s,baz=274,slow=4.7,SNR=4.2						
ILAR	**Eielson Array**	**71.78**	**334**	P	P	07 38 40.1	-0.2
	0.6nm,0.9s,baz=81,slow=4.6,SNR=4.5						
ARU	**Arti**	**76.00**	**34**	LR	LR	08 09 22.3	
	comp=Z,57nm,19.4s,baz=297,slow=33						

ISCJB 14 07:41:50.9±0.4, 21°.15S±0°.02×68°.72W±0°.07, h127km±3km, Error ellipse: s-maj=10.1km s-min=3.8km az=0.1
NEIC 14 07:41:51.5±2.1, 21°.19S±0°.04×68°.62W±0°.06, h112km±4km
IDC 14 07:41:52.2±1.1, 21°.11S×68°.59W, h112km±12km, mb3.3/5, mb1 3.7/8, mb1mx3.6/29, mbtmp3.9/8, MS2.3/1, Ms1 2.5/1, ms1mx2.3/7, Error ellipse: s-maj=21.8km s-min=14.5km az=110.0
GUC 14 07:41:52.6±0.6, 21°.16S×68°.75W, h118km±3km, ML4.1
ISC 14 07:41:51.8±0.7, 21°.18S±0°.03×68°.73W±0°.07, h121km±6km, n64, σ1§42/90, 11C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.72**	**281**	*e*P	**Pn**	**07 42 11.3**	**-0.1**
PB01				*e*S	**Sn**	**07 42 25.5**	**-0.9**
PB01				IAML		07 42 27.6	
	comp=E,5μm,0.2s						
PB01	**IPOC Station P**	**0.72**	**281**		**Pn**	**07 42 11.4**	**-0.1**
PB01				Sn	**Sn**	**07 42 25.7**	**-0.6**
PB09	**IPOC Station P**	**0.78**	**218**	⇑*i*P	**Pn**	**07 42 12.8**	**+0.7**
PB09				*e*S	**Sn**	**07 42 28.0**	**+0.6**
PB09				IAML		07 42 30.1	
	comp=E,4μm,0.4s						
PB02	**IPOC Station P**	**1.09**	**262**	⇑*i*P	**Pn**	**07 42 15.4**	**+0.5**
PB02				*e*S	**Sn**	**07 42 32.3**	**-0.1**
PB02				IAML		07 42 34.4	
	comp=E,10μm,0.4s						
PB08	**IPOC Station P**	**1.11**	**339**	⇑*i*P	**Pn**	**07 42 16.0**	**+0.6**
PB08				*e*S	**Sn**	**07 42 33.2**	**0.0**
PB08				IAML		07 42 34.4	
	comp=E,2μm,0.3s						
PB07	**IPOC Station P**	**1.20**	**243**	⇑*i*P	**Pn**	**07 42 16.6**	**+0.4**
PB07				*e*S	**Sn**	**07 42 34.7**	**+0.1**
PB07				IAML		07 42 36.5	
	comp=N,5μm,0.1s						
PB03	**IPOC Station P**	**1.28**	**227**	⇑*i*P	**Pn**	**07 42 17.5**	**+0.5**
PB03				*e*S	**Sn**	**07 42 36.2**	**+0.1**
PB03				IAML		07 42 37.2	
	comp=N,4μm,0.4s						
LVC	**Limon Verde**	**1.43**	**187**	*e*P	**Pn**	**07 42 19.8**	**+0.8**
LVC				*i*S	**Sn**	**07 42 40.7**	**+1.2**
LVC	**Limon Verde**	**1.43**	**187**	P	**Pn**	**07 42 19.7**	**+0.8**
	comp=N,160nm,0.3s,baz=13,slow=10,SNR=1286						
LVC				LR	LR	07 42 34.8	
	comp=N,50nm,19.3s,baz=220,slow=28						
LVC				S	**Sn**	**07 42 40.6**	**+1.2**
	comp=N,153nm,0.3s,baz=234,slow=20,SNR=40						
LVC	**Limon Verde**	**1.43**	**187**		**Pn**	**07 42 19.7**	**+0.8**
LVC					**Sn**	**07 42 38.9**	**-0.6**
GO01	**Chusmiza**	**1.56**	**344**	⇑*i*P	**Pn**	**07 42 20.9**	**+0.3**
GO01				IAML		07 42 45.5	
	comp=E,2μm,0.2s						
GO01	**Chusmiza**	**1.56**	**344**		**Pn**	**07 42 21.0**	**+0.5**
GO01				Sn	**Sn**	**07 42 40.2**	**-2.1**
PB11	**IPOC Station P**	**1.66**	**328**	⇑*i*P	**Pn**	**07 42 21.3**	**0.0**
PB11				*e*S	**Sn**	**07 42 43.6**	**-0.1**
PB11				IAML		07 42 45.6	
	comp=N,2μm,0.1s						
PB11	**IPOC Station P**	**1.66**	**328**		**Pn**	**07 42 21.3**	**0.0**
PB11				Sn	**Sn**	**07 42 44.0**	**+0.3**
PB06	**IPOC Station P**	**1.71**	**207**	⇑*i*P	**Pn**	**07 42 22.6**	**+0.7**
PB06				*e*S	**Sn**	**07 42 45.7**	**+0.8**
PB06				IAML		07 42 46.4	
	comp=E,3μm,0.4s						
PB04	**IPOC Station P**	**1.75**	**229**	*e*P	**Pn**	**07 42 22.7**	**+0.3**
PB04				*e*S	**Sn**	**07 42 46.6**	**+0.9**
PB04				IAML		07 42 53.0	
	comp=N,2μm,0.1s						
PB04	**IPOC Station P**	**1.75**	**229**		**Pn**	**07 42 22.6**	**+0.2**
PB04				Sn	**Sn**	**07 42 45.2**	**-0.5**
PSGC	**Pisagua**	**2.04**	**320**	⇑*i*P	**Pn**	**07 42 25.4**	**-0.6**
PSGC				*i*S	**Sn**	**07 42 51.1**	**-0.9**
PSGC				IAML		07 42 53.1	
	comp=E,1μm,0.4s						
PB15	**IPOC Station P**	**2.13**	**199**	*e*P	**Pn**	**07 42 28.2**	**+1.0**
PB15				*e*S	**Sn**	**07 42 55.7**	**+1.5**
MNMC	**Minye Minye**	**2.19**	**338**	⇑*i*P	**Pn**	**07 42 28.4**	**+0.4**
MNMC				*i*S	**Sn**	**07 42 56.7**	**+1.0**
MNMC				IAML		07 43 02.0	
	comp=E,2μm,0.3s						
MNMC	**Minye Minye**	**2.19**	**338**		**Pn**	**07 42 28.2**	**+0.2**
MNMC				Sn	**Sn**	**07 42 54.5**	**-1.2**
PB10	**IPOC Station P**	**2.87**	**216**		**Pn**	**07 42 37.1**	**+0.7**
PB10				Sn	**Sn**	**07 43 07.7**	**-3.1**
PB16	**IPOC Station P**	**2.92**	**345**	IAML		07 43 19.9	
	comp=N,220nm,0.4s						
PB12	**IPOC Station P**	**2.96**	**329**	⇑*i*P	**Pn**	**07 42 36.6**	**-1.1**
PB12				*i*S	**Sn**	**07 43 11.4**	**-1.6**
PB12				IAML		07 43 17.7	
	comp=E,466nm,0.7s						
GO02	**Mina Guanaco**	**4.04**	**191**		**Pn**	**07 42 51.9**	**-0.3**
GO02				Sn	**Sn**	**07 43 35.6**	**-3.4**
LPAZ	**La Paz**	**4.90**	**7**	P	**Pn**	**07 43 05.2**	**+1.2**
	comp=E,7.1nm,0.3s,baz=208,slow=5.9,SNR=151						
LPAZ				S	**Sn**	**07 44 01.0**	**+0.9**
	baz=207,slow=14,SNR=1.7						
LPAZ				LR	LR	07 45 22.5	
	comp=E,37nm,21.1s,baz=92,slow=44						
LPAZ	**La Paz**	**4.90**	**7**		**Pn**	**07 43 01.2**	**-2.8**
LPAZ					**Sn**	**07 43 58.6**	**-1.5**
GO03	**Copiap**	**6.53**	**192**		**Pn**	**07 43 23.3**	**-2.1**
GO03				Sn	**Sn**	**07 44 33.8**	**-4.7**
SIV	**San Ignacio**	**8.91**	**56**	P	**Pn**	**07 43 54.5**	**-3.1**
	comp=E,12nm,0.3s,baz=258,slow=11,SNR=357						
GO04	**Tololo Observa**	**9.15**	**191**	Pn	**Pn**	**07 43 56.8**	**-4.1**
SAML	**Samuel**	**13.29**	**25**		**Pn**	**07 44 54.3**	**-1.4**
GO05	**Huala**	**14.06**	**191**	Pn	**Pn**	**07 45 02.9**	**-2.7**
TRQA	**Tornquist**	**17.80**	**162**		**Pn**	**07 45 52.3**	**+0.5**
TRQA				IAmb	IAmb	07 45 54.9	
	comp=Z,11nm,1.2s						
GO06	**Curarrehue**	**18.49**	**187**	P	**Pn**	**07 46 00.2**	**0.0**
GO06				IAmb	IAmb	07 46 03.1	
	comp=Z,20nm,1.4s						
PLCA	**Paso Flores**	**19.55**	**184**	P	**Pn**	**07 46 12.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=9.7,SNR=3.3						
PLCA	**Paso Flores**	**19.55**	**184**	P	**Pn**	**07 46 12.4**	**-0.1**
BDFB	**Brasilia**	**20.41**	**78**	P	**P**	**07 46 18.8**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=243,slow=8.0,SNR=4.7						
BDFB	**Brasilia**	**20.41**	**78**	P	**P**	**07 46 18.9**	**-0.6**
BDFB				IAmb	IAmb	07 46 19.7	
	comp=Z,3.7nm,0.6s						
OTAV	**Otavalo**	**23.31**	**335**	P	**P**	**07 46 46.4**	**-3.2**
Z50A	**Ashland**	**56.56**	**343**	P	**P**	**07 51 22.9**	**+1.2**
Z50A				IAmb	IAmb	07 51 37.1	
	comp=Z,6.8nm,1.1s						
V55A	**Taylorsville**	**57.94**	**348**	P	**P**	**07 51 33.6**	**+2.3**
SWET	**Sewanee**	**58.41**	**343**	P	**P**	**07 51 35.8**	**+1.1**
SWET				IAmb	IAmb	07 51 42.1	
	comp=Z,5.1nm,1.1s						
WVT	**Waverly**	**59.80**	**342**	P	**P**	**07 51 44.8**	**+0.6**
WVT				IAmb	IAmb	07 51 45.5	
	comp=Z,5.1nm,0.9s						
T49A	**Edmonton**	**60.10**	**345**	P	**P**	**07 51 46.7**	**+0.5**
MIAR	**Mount Ida**	**60.24**	**336**	P	**P**	**07 51 48.8**	**+1.6**
TXAR	**Lajitas Array**	**60.46**	**325**	P	**P**	**07 51 50.9**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=153,slow=8.1,SNR=3.2						
FVM	**French Village**	**62.28**	**341**	P	**P**	**07 52 02.1**	**+1.2**
SNAA	**Sanae**	**62.53**	**161**	P	**P**	**07 52 00.9**	**-1.4**
SNAA				IAmb	IAmb	07 52 12.0	
	comp=Z,1.9nm,1.1s						
ADOK	**Arcadia Dam**	**62.70**	**334**	P	**P**	**07 52 03.2**	**-0.5**
PDAR	**Pinedale Array**	**73.92**	**330**	P	**P**	**07 53 14.9**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=128,slow=5.8,SNR=2.7						
NVAR	**Mina Array Bea**	**75.34**	**322**	P	**P**	**07 53 22.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=119,slow=7.3,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**77.09**	**70**	P	**P**	**07 53 32.0**	**-0.3**
TOA0				IAmb	IAmb	07 53 33.8	
	comp=Z,2.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P	**P**	**07 53 32.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=256,slow=4.8,SNR=10						
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P	**P**	**07 53 32.1**	**-0.1**
ASAR	**Alice Springs**	**130.27**	**208**	PKP	**PKiKP**	**08 00 50.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=132,slow=2.6,SNR=3.4						
ASAR	**Alice Springs**	**130.27**	**208**		**PKiKP**	**08 00 50.0**	**+0.7**
WRA	**Warramunga Arr**	**133.31**	**210**	PKP	**PKiKP**	**08 00 56.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=165,slow=1.7,SNR=6.9						
WRA	**Warramunga Arr**	**133.31**	**210**		**PKPdf**	**08 00 54.9**	**+0.6**
ZALV	**Zalesovo Beam**	**141.59**	**25**	PKP	**PKiKP**	**08 01 10.4**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=337,slow=3.4,SNR=3.9						
KSH	**Kashi**	**144.77**	**51**	PKP	**PKiKP**	**08 01 17.8**	**-0.7**
KSH				PKS	**PKSdf**	**08 04 52.3**	**+2.0**
MKAR	**Makanchi Array**	**145.28**	**36**	PKPbc	**PKPab**	**08 01 17.0**	**+1.6**
	comp=Z,3.4nm,0.8s,baz=325,slow=3.3,SNR=26						
MKAR	**Makanchi Array**	**145.28**	**36**		**PKPab**	**08 01 17.2**	**+1.8**
SONM	**Songino Array**	**153.12**	**7**	PKPbc	**PKiKP**	**08 01 37.3**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=299,slow=3.0,SNR=2.7						
SONM	**Songino Array**	**153.12**	**7**		**PKiKP**	**08 01 36.4**	**+1.0**

IDC 14 07:53:45.6±2.0, 36°.63N×141°.94E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/48, mbtmp3.4/5, ML3.1/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/22, Error ellipse: s-maj=49.3km s-min=28.1km az=54.0
ISCJB 14 07:53:47.9±1.1, 36°.42N±0°.08×141°.84E±0°.08, h26km, mb3.3/4, Error ellipse: s-maj=13.2km s-min=7.8km az=151.1
JMA 14 07:53:50.8±0.3, 36°.51N×141°.60E, h48km, M3.1
ISC 14 07:53:50.5±1.4, 36°.54N±0°.08×141°.63E±0°.09, h26km, n25, σ1§44/22, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.86**	**275**	P	**Pn**	**07 54 06.2**	**-0.7**
JHYU	**Hitachinakayam**	**0.87**	**257**	P	**Pn**	**07 54 06.6**	**-0.4**
JHYU				*e*S	**Sb**	**07 54 18.4**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.87**	**310**	P	**Pn**	**07 54 06.6**	**-0.6**
JFFD	**Fukushimafurud**	**1.02**	**303**	P	**Pn**	**07 54 08.9**	**-0.3**
JFK	**Kawauchi**	**1.02**	**324**	P	**Pb**	**07 54 09.2**	**-0.4**
JFT	**Otama**	**1.43**	**314**	P	**Pb**	**07 54 15.7**	**-0.7**
JMM	**Marumori**	**1.48**	**333**	P	**Pb**	**07 54 15.9**	**-1.5**
JAG	**Ashikaga**	**1.76**	**267**	P	**Pn**	**07 54 19.6**	**+0.3**
JFY	**Yanaizu**	**1.77**	**300**	P	**Pb**	**07 54 20.8**	**-1.5**
JKT	**Katashina**	**1.93**	**277**	P	**Pb**	**07 54 24.0**	**-1.1**
JRY	**Ryogami san**	**2.27**	**258**	P	**Pn**	**07 54 26.2**	**-0.1**
JRY				*e*S	**Sn**	**07 54 53.3**	**-0.1**
JMK	**Ichinoseki**	**2.43**	**352**	P	**Pn**	**07 54 29.6**	**+1.1**
MJAR	**Matsushiro Arr**	**2.76**	**271**	Pn	**Pn**	**07 54 34.7**	**+1.7**
	2.3nm,0.3s,baz=110,slow=9.8,SNR=64						
MJAR				Sn	**Sb**	**07 55 10.8**	**-1.7**
	0.6nm,0.3s,baz=66,slow=22,SNR=6.0						
MAT	**Matsushiro**	**2.76**	**271**	P	**Pn**	**07 54 34.8**	**+1.7**
MAT				S	**Sn**	**07 55 10.1**	**+4.5**
KSRS	**Korea Array**	**11.01**	**279**	LR	LR	08 00 27.6	
	comp=Z,20nm,18.8s,baz=120,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.75**	**120**	T	T	08 28 39.3	
	baz=313,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.75**	**120**	T	T	08 28 38.2	
	baz=313,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**27.76**	**120**	T	T	08 28 32.8	
	baz=313,slow=75,SNR=7.4						
SONM	**Songino Array**	**28.21**	**305**	P	**P**	**07 59 40.3**	**-0.8**
	0.5nm,0.5s,baz=105,slow=8.2,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**28.44**	**122**	T	T	08 29 36.4	
	baz=317,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.45**	**122**	T	T	08 29 33.9	
	baz=317,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.46**	**122**	T	T	08 29 34.5	
	baz=317						
MKAR	**Makanchi Array**	**44.53**	**303**	P	**P**	**08 02 00.1**	**+0.2**
	0.2nm,0.4s,baz=81,slow=8.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.45**	**308**	P	**P**	**08 02 15.8**	**+0.8**
	0.4nm,0.5s,baz=82,slow=7.7,SNR=5.7						
WRA	**Warramunga Arr**	**56.60**	**188**	P	**P**	**08 03 31.0**	**-0.1**
	0.1nm,0.6s,baz=7.4,slow=7.3,SNR=3.4						

IDC 14 08:15:09.4±2.6, 18°.36N×39°.91E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.5/29, mbtmp3.7/4, MS3.4/6, Ms1 3.4/6, ms1mx3.0/39, Error ellipse: s-maj=66.9km s-min=29.5km az=153.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**21.97**	**347**	P	P	08 20 05.2	+0.1
	4.4nm,1.1s,baz=161,slow=11,SNR=11						
BRTR				LR	LR	08 29 00.9	
	comp=Z,23nm,18.7s,baz=74,slow=38						
GEYT	**Alibeck**	**25.17**	**36**	LR	LR	08 31 24.6	
	comp=Z,96nm,20.8s,baz=235,slow=39						
TORD	**Torodi Ar. Bea**	**37.10**	**268**	P	P	08 22 21.8	-0.1
	1.3nm,0.9s,baz=66,slow=8.1,SNR=5.4						
TORD				LR	LR	08 37 33.7	
	comp=Z,69nm,18.6s,baz=30,slow=36						
MKAR	**Makanchi Array**	**44.81**	**41**	P	P	08 23 25.6	+0.5
	0.3nm,0.7s,baz=244,slow=6.3,SNR=3.2						
DBIC	**Dimbokro**	**45.10**	**261**	LR	LR	08 40 59.4	
	comp=Z,58nm,18.6s,slow=34						
BOSA	**Boshof**	**48.80**	**197**	LR	LR	08 44 42.7	
	comp=Z,81nm,20.7s,baz=33,slow=36						
ZALV	**Zalesovo Beam**	**49.45**	**33**	P	P	08 24 00.2	-0.9
	1.8nm,1.0s,baz=232,slow=7.2,SNR=4.5						
SONM	**Songino Array**	**60.88**	**45**	LR	LR	08 54 41.2	
	comp=Z,57nm,18.7s,baz=346,slow=39						

IDC 14 08:47:17.7±3.5, 38°.70N×122°.94W, h0km, mb1 3.7/3, mb1mx3.4/38, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=45.9km s-min=28.1km az=19.0
ISCJB 14 08:47:18.8±0.2, 38°.74N±0°.01×122°.78W±0°.02, h18km±3km, Error ellipse: s-maj=3.3km s-min=2.0km az=168.0
NEIC 14 08:47:19.0±1.8, 38°.767N±0°.005×122°.73W±0°.02, h17km±2km
ISC 14 08:47:18.2±0.8, 38°.74N±0°.02×122°.81W±0°.02, h9km±5km, n182, σ1§17/194, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.07**	**8**	Pg	**Pg**	**08 47 19.4**	**-1.0**
GDXM				Sg	**Sg**	**08 47 19.9**	**-2.0**
NMCNC	**Mill Creek, So**	**0.17**	**209**		**Pg**	**08 47 23.4**	**+1.6**
MAC	**Mark West Spri**	**0.20**	**160**		**Pb**	**08 47 23.6**	**+1.3**
NSHM	**Saint Helena R**	**0.27**	**144**		**Pb**	**08 47 24.4**	**-0.8**
NMTM	**Middletown**	**0.29**	**76**		**Pg**	**08 47 23.5**	**-0.5**
MNRC	**McLaughlin Min**	**0.32**	**64**		**Pg**	**08 47 24.4**	**-0.1**
HOPS	**Hopland Field**	**0.33**	**321**	Pg	**Pg**	**08 47 25.3**	**+0.6**
HOPS				Sg	**Sg**	**08 47 29.7**	**+0.6**
GHCM	**House Creek**	**0.33**	**247**		**Pn**	**08 47 26.6**	**-2.7**
GDCM	**Dry Creek**	**0.34**	**275**		**Pb**	**08 47 26.5**	**0.0**
FTR	**Fort Ross**	**0.35**	**232**		**Pn**	**08 47 27.1**	**-2.4**
GSNM	**Snow Mountain**	**0.36**	**304**		**Pb**	**08 47 26.4**	**-0.5**
NTYM	**Taylor**	**0.37**	**162**		**Pb**	**08 47 26.6**	**-0.3**
GWKM	**Walker Ridge**	**0.40**	**38**		**Pg**	**08 47 25.7**	**-0.3**
GBMM	**Baldy Mountain**	**0.47**	**31**		**Pg**	**08 47 27.1**	**-0.3**
CVS	**Carmenet Viney**	**0.48**	**145**		**Pb**	**08 47 28.4**	**-0.5**
NAPC	**Atlas Peak**	**0.53**	**124**		**Pg**	**08 47 29.0**	**+0.6**
GGUM	**Gualala**	**0.55**	**283**		**Pn**	**08 47 30.4**	**-2.0**
GTSM	**Trough Springs**	**0.59**	**15**		**Pg**	**08 47 29.7**	**0.0**
MCCM	**Marconi Confer**	**0.59**	**186**	Pg	**Pn**	**08 47 31.7**	**-1.1**
MCCM				Sg	**Sn**	**08 47 40.9**	**-1.8**
GHOM	**Hamilton Openi**	**0.65**	**298**		**Pn**	**08 47 32.0**	**-1.7**
NGVM		**0.65**	**134**		**Pb**	**08 47 31.5**	**-0.3**
NOLM	**Olema**	**0.70**	**179**		**Pn**	**08 47 33.2**	**-1.1**
NDHM	**Dunnigan Hills**	**0.70**	**87**		**Pb**	**08 47 33.1**	**+0.5**
NADM	**Allendale**	**0.71**	**113**		**Pn**	**08 47 33.7**	**-0.7**
GFC	**Funks Creek**	**0.71**	**34**		**Pg**	**08 47 33.2**	**+1.2**
NPRM	**Point Reyes**	**0.76**	**193**		**Pn**	**08 47 34.5**	**-0.6**
GHMM	**Hull Mountain**	**0.76**	**353**		**Pg**	**08 47 33.6**	**+0.7**
GNAM	**Navarro Ridge**	**0.79**	**306**		**Pn**	**08 47 34.6**	**-1.0**
NLHM	**Lake Herman**	**0.81**	**140**		**Pb**	**08 47 34.3**	**-0.1**
HERB	**Hercules**	**0.84**	**149**		**Pn**	**08 47 35.5**	**-0.8**
CPMM	**Point Molate**	**0.85**	**158**		**Pn**	**08 47 35.2**	**-1.1**
GCK	**Clark Valley**	**0.85**	**20**		**Pg**	**08 47 35.6**	**+0.9**
CSPM	**San Pablo Ridg**	**0.87**	**153**		**Pn**	**08 47 36.1**	**-0.5**
KRKM	**Rackout Spring**	**0.87**	**341**		**Pb**	**08 47 36.0**	**+0.3**
CPIM	**Pinole Ridge**	**0.88**	**148**		**Pn**	**08 47 35.9**	**-0.9**
GTC	**Three Chop Rid**	**0.88**	**319**		**Pn**

HTUM	Tustin Road	2.12	154			Pn	08 47 52.9 -0.9
EMB	Emerald Bay	2.12	83			Pn	08 47 54.5 +0.4
SFJWR	San Luis Fatjo	2.12	142			Pn	08 47 54.1 +0.1
LSHM	Sage Hen Hill	2.14	16			Pn	08 47 55.1 +1.0
KBF	Kyburz Flat	2.16	68			Pn	08 47 55.0 +0.3
HJGM	San Juan Grade	2.17	153			Pn	08 47 53.5 -1.0
LOY	Loyalton	2.20	64			Pn	08 47 55.5 +0.4
BEKR	Beckworth	2.21	59			Pn	08 47 55.6 +0.3
MPK	Martis Peak	2.23	75			Pn	08 47 56.3 +0.6
N02D	Trinity Center	2.23	2			Pn	08 47 56.6 +1.1
FRP	Fremont Peak	2.24	152			Pn	08 47 54.2 -1.4
SAO	San Andreas Ge	2.25	151			Pn	08 47 55.1 -0.5
SAO	San Andreas Ge	2.25	151	Pn		Pn	08 47 54.8 -0.8
HMOM	Monterey	2.25	161			Pn	08 47 54.6 -1.0
BVYM	Vineyard	2.27	150			Pn	08 47 55.2 -0.8
BSLM	Silva Ranch	2.27	149			Pn	08 47 55.6 -0.3
VPK	Verdi Peak	2.28	70			Pn	08 47 55.8 -0.5
JCC	Jacoby Creek,	2.28	336	Pn		Pb	08 47 58.0 -1.6
BSRM	Salinas Radio	2.31	153			Pn	08 47 54.8 -1.6
GNO	Genoa	2.32	84			Pn	08 47 57.5 +0.8
MYLM	Yosemite Lake	2.32	125			Pn	08 47 57.0 +0.4
BCGM	Cienega Road	2.33	150			Pn	08 47 56.4 -0.4
BHRM	Hodges Ranch	2.35	148			Pn	08 47 56.8 -0.2
BPCNC	Pine Canyon	2.35	156			Pn	08 47 56.5 -0.6
PEAR	Peavine Mounta	2.38	68			Pn	08 47 58.2 +0.6
LBCM	Butte Creek Ri	2.38	28			Pn	08 47 57.0 -0.6
BMRR	Black Mountain	2.38	54			Pn	08 47 54.8 -2.9
BLRM	Lewis Ranch	2.40	149			Pn	08 47 57.4 -0.3
SCZ	Santa Cruz	2.41	152			Pn	08 47 56.7 -1.2
BEHM	Elkhorn Ranch	2.44	147			Pn	08 47 58.4 +0.1
BJCM	Johnson Can.	2.46	152			Pn	08 47 57.4 -1.1
BRMM	Rolling Bench	2.47	140			Pn	08 47 59.0 +0.4
BEMM	Emmet	2.48	146			Pn	08 47 58.6 -0.2
BFC	Buffalo Canyon	2.50	85			Pn	08 48 00.1 +0.8
VCNR	Virginia City	2.52	76			Pn	08 48 00.4 +0.8
PNTR	Pine Nut	2.53	81			Pn	08 48 00.6 +0.9
HAST	Hastings Reser	2.55	157			Pn	08 47 58.7 -1.1
BSMM	Soledad Missio	2.59	155			Pn	08 47 59.7 -0.7
BPIM	Pinnacles	2.59	149			Pn	08 47 59.4 -1.0
BBNM	San Benito	2.62	148			Pn	08 48 00.2 -0.5
BMSM	Mercy Hot Spri	2.62	142			Pn	08 48 00.6 -0.2
WAKR	Walker	2.65	94			Pn	08 48 03.1 +1.8
YERR	Yerington	2.80	84			Pn	08 48 03.9 +0.6
PAHR	Pah Rah Range	2.83	69			Pn	08 48 03.6 -0.2
KRMB	Red Mountain	2.91	343	Pn		Pn	08 48 03.2 -1.6
PMPB	Monarch Peak	2.98	147			Pn	08 48 06.1 +0.4
YBH	Yreka Blue Hor	2.99	1			Pn	08 48 07.1 +1.2
MDPB	Devils Postpil	3.14	109			Pn	08 48 09.7 +1.6
MDPB				Sn		Sn	08 48 46.0 +0.1
OMMB	Old Mammoth Mi	3.20	109			Pn	08 48 10.8 +1.8
OMMB				Sn		Sn	08 48 49.8 +2.3
RYN	Ryan	3.35	91			Pn	08 48 11.4 +0.4
RYN				Sn		Sn	08 48 51.8 +0.7
NVAR	Mina Array Bea	3.54	94	Pn		Pn	08 48 14.2 +0.5
	1.0nm,0.3s,baz=271,slow=15,SNR=23						
NVAR				Pg		Pb	08 48 21.8 +0.6
	3.9nm,0.3s,baz=267,slow=17,SNR=38						
NVAR				Lg		Lg	08 49 11.7
	2.5nm,0.3s,baz=245,slow=32,SNR=6.5						
PAGB	Antelope Grade	3.63	145	Pn		Pn	08 48 14.2 -0.5
PAGB				Sn		Sn	08 49 00.0 +2.4
NV11	Mina Array Sit	3.66	93			Pn	08 48 15.9 +0.7
KVN	Kaiserville	3.69	84			Pn	08 48 15.4 -0.1
MOD	Modoc Plateau	3.70	30	Pn		Pn	08 48 13.3 -2.4
HUMO	Hull Mountain	3.87	358	Pn		Pn	08 48 19.6 +1.7
ISA	Isabella, Lake	4.62	130			Pn	08 48 28.3 -0.1
R11A	Troy Canyon, C	5.67	92	Pn		Pn	08 48 42.8 -0.1
PDAR	Pinedale Array	10.83	64	Pn		Pn	08 49 59.2 +5.7
	baz=250,slow=10,SNR=7.4						
TXAR	Lajitas Array	18.40	115	P		Pn	08 51 36.8 +3.1
	0.0nm,0.3s,baz=304,slow=8.6,SNR=4.2						

BJI **14** *08:55:47.3±0.0, 4°.73N×94°.31E, h60km, mb4.8/31, mB4.8/20, Ms4.6/6, Ms7 4.2/4*
ISCJB **14** *08:55:49.9±0.3, 5°.23N±0°.04×94°.28E±0°.03, h46km, mb4.4/25, MS3.6/9, Error ellipse: s-maj=6.6km s-min=2.8km az=42.2*
NEIC **14** *08:55:52.9±1.4, 5°.27N±0°.08×94°.36E±0°.09, h59km±8km, mb4.6/34*
DJA **14** *08:55:53.7±0.8, 5°N±5°×9°4E±°, h62km±7km, M4.4/10, mB4.7/5, mb4.7/10, MLv4.5/8, Mw(mB)4.0/5*
IDC **14** *08:55:53.4±2.6, 5°.39N×94°.39E, h57km±23km, mb4.1/18, mb1 4.3/21, mb1mx4.0/46, mbtmp4.4/21, ML4.5/3, MS3.3/9, Ms1 3.3/9, ms1mx3.0/45, Error ellipse: s-maj=24.4km s-min=12.2km az=44.0*

ISC 14 08:55:51.8±0.5, 5°32N±0°.06×94°31E±0°.06, h46km, n133, σ1§29/135, mb4.6/37, MS3.5/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	1.73	347	eP	Pn	08 56 20.4	+1.0
CMBY				eS	Sn	08 56 35.9	-4.3
CMBY				IAML		08 56 53.6	
	comp=E,3μm,0.3s						
MLSI	Meulaboh, Aceh	2.34	116	P	Pn	08 56 29.0	+1.2
LHMI	Lhok Sumawe	2.63	92	P	Pn	08 56 32.5	+0.7
LHMI	Lhok Sumawe	2.63	92		Pn	08 56 32.4	+0.7
LHMI				Sn	Sn	08 57 02.9	+0.4
TPTI		3.52	125	P	Pn	08 56 45.3	+1.3
TPTI				S	Sn	08 57 23.8	-0.6
KCSI	Kotacane, Aceh	3.89	117	P	Pn	08 56 50.3	+1.2
KCSI				S	Sn	08 57 34.1	+0.6
PKDT	Phuket	4.75	57	P	Pn	08 57 01.4	+0.5
GSI	Gunungsitoli	5.15	141	P	Pn	08 57 06.2	-0.2
GSI	Gunungsitoli	5.15	141		Pn	08 57 06.3	-0.2
GSI				Sn	Sn	08 58 02.8	-1.8
PSI	Prapat	5.24	118	P	Pn	08 57 09.6	+1.8
	comp=E,7.7nm,0.3s,baz=298,slow=12,SNR=23						
PSI				S	Sn	08 58 09.2	+2.2
	comp=E,7.5nm,0.3s,baz=154,slow=18,SNR=4.2						
PSI				LR	LR	08 59 34.6	
	comp=E,162nm,21.8s,baz=315,slow=42						
RPSI	Rantau Prapat	5.29	119		Pn	08 57 09.6	+1.2
RPSI				Sn	Sn	08 58 06.6	-1.5
RPSI	Rantau Prapat	5.29	119		Pn	08 57 09.6	+1.2
RPSI					Sn	08 58 09.2	+1.1
SURT	Suratani	5.74	51	P	Pn	08 57 15.5	+1.0
	comp=E,141nm,0.5s,comp=E,4μmcomp=E,0.8nm						
TRTT	Trang	5.91	65	P	Pn	08 57 16.8	0.0
KULM	Kulim	6.32	90		Pn	08 57 22.8	+0.3
KULM				Sn	Sn	08 58 32.5	-0.9
PBA	Port Blair	6.49	346	Pn	Pn	08 57 25.2	+0.4
PBA				Sn	Sn	08 58 36.5	-1.0
SKLT	Songkhla	6.54	73	P	Pn	08 57 26.5	+1.0
	comp=E,32nm,0.6s,comp=E,510nmcomp=E,0.1nm						
PBSI	Pulau Batu	6.65	143	P	Pn	08 57 26.6	-0.4
IPM	Ipoh	6.75	97		Pn	08 57 28.5	+0.2
IPM				Sn	Sn	08 58 41.4	-2.6
PHET	Kaeng Krachan	9.20	34	P	Pn	08 58 04.0	+2.1
	comp=E,37μm,0.5s,comp=E,273nm						
MYKOM	Kota Tinggi	10.15	110	Pn	Pn	08 58 13.1	-1.9
KHLT	Khaolaem Dam	10.32	24	P	Pn	08 58 19.6	+2.2
	comp=E,12nm,0.7s,comp=E,1μm						
UTHA	Uthaitani	11.36	26	P	Pn	08 58 39.7	+8.1
UMPA	Umpang Tak	11.71	22	P	Pn	08 58 38.4	+2.0
	comp=E,31μm,0.7s						
MNAI	Manna	12.92	138	Pn	Pn	08 58 51.8	-1.2
PBKT	Sadao Pong	12.95	30	P	Pn	08 58 56.6	+3.3
	comp=E,8.4nm,0.5s,comp=E,444nm						
PBKT	Sadao Pong	12.95	30		Pn	08 58 55.9	+2.6
MHMT	Maesarieng	13.27	15	P	P	08 59 05.1	-1.1
	comp=E,39nm,0.8s,comp=E,1μm						
PALK	Pallekele	13.66	279	P	Pn	08 59 05.9	+2.8
	comp=E,0.6nm,0.3s,baz=115,slow=12,SNR=2.3						
PALK				S	Sn	09 01 24.1	-9.4
	comp=E,1.1nm,0.3s,baz=116,slow=10,SNR=5.0						
CMAR	Chiang Mai Arr	13.82	19	P	Pn	08 59 07.1	+1.9
	comp=E,2.9nm,0.3s,baz=207,slow=14,SNR=35						
CMAR				LR	LR	09 04 01.9	
	comp=E,106nm,19.5s,baz=187,slow=36						
CMAR	Chiang Mai Arr	13.82	19	Pn	Pn	08 59 06.7	+1.4
CHTO	Chiang Mai	14.16	18		Pn	08 59 10.9	+1.1
CMMT	Chiang Mai	14.16	18	P	P	08 59 14.3	-1.9
	comp=E,21nm,0.7s						
PAYA	Payao	14.98	21	P	P	08 59 26.2	+0.9
	comp=E,79μm,0.7s,comp=E,832μm						
NONG	Nongkai	15.34	34	P	P	08 59 30.4	+1.1
	comp=E,0.4nm,2.0s						
KSM	Kuching	16.42	103	P	Pn	08 59 38.8	-0.4
KMI	Kunming	21.29	21	P	P	09 00 38.1	+3.2
KMI				pmax	pmax		
	comp=E,15nm,0.5s						
KMI				pmax	pmax		
	comp=E,110nm,3.8s						
ODAN	Odare	22.42	344	eP	P	09 00 48.2	+1.2
	comp=E,14nm,0.4s						
RAMN	Ramite	22.74	342	eP	P	09 00 49.5	-0.9
	comp=E,20nm,0.5s						
TAPN	Taplejung	22.80	345	eP	P	09 00 51.2	+0.2
	comp=E,11nm,0.4s						
JIRN	Jiri	23.53	342	eP	P	09 00 56.9	-1.4
PKI	Pulchoki	23.70	340	eP	P	09 00 58.9	-1.0
PKIN	Phulchoki	23.71	340	eP	P	09 00 59.0	-0.9
	comp=E,11nm,0.4s						
DMN	Daman	23.84	339	eP	P	09 01 00.6	-0.5
GUN	Gumba	23.86	341	eP	P	09 01 00.3	-1.1
	comp=E,24nm,0.5s						
KKN	Kakani	23.94	340	eP	P	09 01 01.6	-0.5
	comp=E,25nm,0.8s						
GKN	Gorkha	24.36	339	eP	P	09 01 06.0	+0.1
	comp=E,31nm,0.2s						
LSA	Lhasa	24.44	353	P	P	09 01 07.2	+0.3
LSA				IAmb	IAmb	09 01 09.4	
	comp=Z,17nm,0.5s						
KOLN	Koldanda	24.54	337	eP	P	09 01 07.9	+0.3
	comp=Z,37nm,0.7s						
DANN	Dangsing	25.00	338	eP	P	09 01 12.1	+0.3
	comp=Z,58nm,0.5s						
H08S3	Diego Garcia H	25.28	240	T	T	09 27 13.6	
	baz=58						
H08S2	Diego Garcia H	25.29	240	T	T	09 27 16.2	
	baz=58						
H08S1	Diego Carcia H	25.30	240	T	T	09 27 20.6	
	baz=58						
MPSI	Mapaga	26.03	100	P	P	09 01 21.3	+0.4
KAPI	Kappang	27.41	112	P	P	09 01 33.7	+0.4
	comp=Z,5.1nm,0.4s,baz=310,slow=9.6,SNR=6.5						
KAPI	Kappang	27.41	112	P	P	09 01 32.9	-0.5
KAPI				IAmb	IAmb	09 01 48.1	
	comp=Z,10nm,1.1s						
BKSI	Bulukumba	27.86	112	P	P	09 01 38.6	+1.2
XAN	Xi'an	31.64	24	P	P	09 02 09.4	-1.3
XAN				pP	pP	09 02 23.8	+1.7
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
XAN	Xi'an	31.64	24	P	P	09 02 09.4	-1.3
XAN				IAmb	IAmb	09 02 10.2	
	comp=Z,15nm,0.8s						
LZH	Lanzhou	31.86	15	eP	P	09 02 15.8	+3.1
LZH				pP	sP	09 02 29.9	+0.6
LZH				sP	pwP	09 02 36.6	+9.0
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
SOEI	Soe	33.40	117	P	P	09 02 23.7	-2.8
GTA	Gaotai	34.31	8	P	P	09 02 33.5	-0.5
GTA				pP	pwP	09 02 49.1	+0.2
GTA				sP	sP	09 02 56.3	+5.6
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
NJ2	Nanjing	35.14	38	eP	P	09 02 42.6	+1.4
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
KSH	Kashi	37.86	337	eP	P	09 03 06.8	+2.3
KSH				S	S	09 08 53.6	+0.9
KSH				ScP	ScP	09 09 02.5	-1.6
KSH				SS	SnSn	09 11 33.8	-3.2
KSH				LR	LR		
	comp=Z,270nm,12.1s						
KSH				LR	LR		
	comp=Z,320nm,12.6s						
KSH				LR	LR		
	comp=Z,200nm,11.4s						
HHC	Hu-ho-hao-te	38.62	21	eP	P	09 03 11.8	+1.0
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,10.0nm,4.8s						
FITZ	Fitzroy Crossi	38.69	128	LR	LR	09 20 30.4	
	comp=Z,25nm,19.6s,baz=311,slow=38						
WMQ	Urumqi	38.79	352	eP	P	09 03 14.6	+2.5
WMQ				sP	sP	09 03 36.1	+7.3
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,6.7s						
WMQ				LR	LR		
	comp=Z,530nm,29.3s						
WMQ				LR	LR		
	comp=Z,490nm,29.2s						
TARG	Taragay, Kyrgy	39.13	340	P	P	09 03 17.6	+2.1
TARG				IAmb	IAmb	09 03 19.0	
	comp=Z,7.6nm,0.6s						
KNRA	Kununurra	39.99	122	P	P	09 03 20.9	-1.4
KNRA				IAmb	IAmb	09 03 35.7	
	comp=Z,6.1nm,0.9s						
CHGR	Chuyangaron	40.27	329	P	P	09 03 23.7	-0.9
CHGR				IAmb	IAmb	09 03 30.7	
	comp=Z,5.4nm,0.5s						
BOOM	Boomskoye usch	40.45	339	P	P	09 03 26.2	+0.1
BOOM				IAmb	IAmb	09 03 29.2	
	comp=Z,4.3nm,0.6s						
BTK	Batken	40.54	332	P	P	09 03 29.2	+2.4
BTK				IAmb	IAmb	09 03 43.5	
	comp=Z,6.3nm,1.0s						
MTN	Manton Dam	40.80	117	P	P	09 03 27.9	-1.2
MTN				IAmb	IAmb	09 03 28.1	
	comp=Z,7.8nm,0.5s						
AAK	Ala-Archa	41.11	338	LR	LR	09 21 54.8	
	comp=Z,45nm,19.8s,baz=142,slow=38						
AAK	Ala-Archa	41.11	338	P	P	09 03 31.4	-0.2
MK31	Makanchi Array	42.61	348	P	P	09 03 44.1	+0.6
MK31				IAmb	IAmb	09 03 44.8	
	comp=Z,13nm,0.8s						
MKAR	Makanchi Array	42.61	348	P	P	09 03 44.0	+0.5
	comp=Z,19nm,0.6s,baz=170,slow=7.8,SNR=149						
MKAR	Makanchi Array	42.61	348	P	P	09 03 43.6	+0.1
MAKZ	Makanchi	42.69	348	P	P	09 03 44.6	+0.4
KK31	Karatay Array	43.12	334	P	P	09 03 48.5	+0.8
KKAR	Karatay Array	43.12	334	P	P	09 03 47.7	0.0
KKAR	Karatay Array	43.12	334	P	P	09 03 48.3	+0.6
KKAR				IAmb	IAmb	09 03 48.9	
	comp=Z,2.4nm,0.6s						
SONM	Songino Array	43.61	12	P	P	09 03 51.2	-0.5
	comp=Z,3.3nm,0.7s,baz=194,slow=8.6,SNR=11						
SONM				PcP	PcP	09 05 38.8	+0.2
	comp=Z,1.3nm,0.5s,baz=191,slow=3.4,SNR=4.5						
SONM	Songino Array	43.61	12	P	P	09 03 51.3	-0.5
KSAR	Wonju Array Be	44.27	39	P	P	09 03 56.9	-0.1
KSRS	Korea Array	44.31	39	P	P	09 03 56.0	-1.3
	comp=Z,1.5nm,0.8s,baz=206,slow=8.1,SNR=5.3						
GEYT	Alibeck	46.23	320	P	P	09 04 13.1	+0.5
	comp=Z,2.7nm,0.4s,baz=146,slow=11,SNR=4.5						
GEYT	Alibeck	46.23	320	P	P	09 04 13.3	+0.7
WRA	Warramunga Arr	46.68	124	P	P	09 04 16.2	-0.2
	comp=Z,4.3nm,0.7s,baz=301,slow=9.3,SNR=26						
WRA	Warramunga Arr	46.68	124	P	P	09 04 16.1	-0.2
WRAB	Tennant Creek	46.69	124	P	P	09 04 16.6	+0.2
WRAB				IAmb	IAmb	09 04 18.8	
	comp=Z,7.5nm,0.8s						
WB2	Warramunga Arr	46.69	124	P	P	09 04 16.4	-0.1
WB2				IAmb	IAmb	09 04 18.8	
	comp=Z,9.5nm,0.9s						
TLY	Talaya	46.86	8	LR	LR	09 28 41.5	
	comp=Z,47nm,18.1s,baz=122,slow=42						
KURK	Kurchatov	47.12	346	P	P	09 04 20.0	+0.7
AS31	Alice Springs	48.18	128	P	P	09 04 26.5	-1.5
ASAR	Alice Springs	48.18	128	P	P	09 04 27.9	-0.1
	comp=Z,1.8nm,0.4s,baz=301,slow=7.9,SNR=50						
ASAR	Alice Springs	48.18	128	P	P	09 04 27.4	-0.7
ZAA0	Zalesovo Array	49.10	353	P	P	09 04 34.8	+0.2
ZALV	Zalesovo Beam	49.10	353	P	P	09 04 35.0	+0.5
	comp=Z,12nm,0.6s,baz=188,slow=6.6,SNR=43						
MJAR	Matsushiro Arr	50.78	46	LR	LR	09 27 33.4	
	comp=Z,30nm,19.8s,baz=265,slow=38						
USRK	Ussuriysk Ar.	50.90	35	P	P	09 04 46.9	-1.4
	comp=Z,0.9nm,0.6s,baz=250,slow=5.6,SNR=4.2						
USRK	Ussuriysk Ar.	50.90	35	P	P	09 04 47.7	-0.6
BRVK	Borovoye	51.51	342	P	P	09 04 52.0	-0.8
BRVK				IAmb	IAmb	09 04 53.7	
	comp=Z,4.9nm,0.6s						
ABKAR	Akbulak array	52.55	332	P	P	09 05 00.7	+0.1
ABKAR	Akbulak array	52.55	332	P	P	09 05 01.1	+0.5
ABKAR				IAmb	IAmb	09 05 19.5	
	comp=Z,6.2nm,1.1s						
KLR	Kul'dur	54.00	30	P	P	09 05 11.1	-0.2
	comp=Z,0.7nm,0.4s,baz=192,slow=6.1,SNR=4.7						
GNI	Garni	56.35	316	LR	LR	09 31 31.8	
	comp=Z,17nm,19.7s,baz=283,slow=38						
TBLG	Delisi	57.02	317	P	P	09 05 32.6	-0.5
ASAJ	Asahikawa	57.25	40	LR	LR	09 31 41.7	
	comp=Z,36nm,18.7s,baz=174,slow=38						
NRIK	Noril'sk	64.09	357	P	P	09 06 20.4	-0.4
	comp=Z,3.1nm,0.4s,baz=146,slow=3.2,SNR=4.9						
BR131	Keskin Array S	64.23	312	P	P	09 06 22.6	+0.2
BRTR	Keskin Array B	64.23	312	P	P	09 06 22.6	+0.2
	comp=Z,1.6nm,0.7s,baz=135,slow=6.7,SNR=8.0						
BRTR	Keskin Array B	64.23	312	P	P	09 06 22.3	-0.1
TIXI	Tiksi	69.69	11	P	P	09 06 55.0	-1.4
TIXI				IAmb	IAmb	09 06 56.0	
	comp=Z,5.8nm,0.8s						
AKASG	Malin Array Be	70.26	322	P	P	09 06 59.3	-0.9
	comp=Z,0.5nm,0.3s,baz=92,slow=4.8,SNR=6.4						
AKASG	Malin Array Be	70.26	322	P	P	09 06 59.5	-0.7
BURAR	Bucovina Array	72.05	318	P	P	09 07 11.4	+0.1
BURR8	Bucovina Ar. S	72.06	318	P	P	09 07 11.1	-0.3
BOSA	Boshof	74.38	238	LR	LR	09 33 53.1	
	comp=Z,28nm,21.4s,baz=28,slow=31						
FIA1	FINESS Array S	75.04	332	P	P	09 07 28.5	+0.1
FINES	FINESS Array B	75.04	332	P	P	09 07 28.3	-0.1
	comp=Z,3.8nm,1.0s,baz=93,slow=6.0,SNR=9.0						
ARCES	ARCESS Array B	77.71	340	P	P	09 07 42.6	-0.9
	comp=Z,3.3nm,0.8s,baz=97,slow=6.2,SNR=11						
ARCES	ARCESS Array B	77.71	340	P	P	09 07 43.9	+0.4
GEC2	GERESS Array S	79.84	319	P	P	09 07 57.1	+1.5
GEC2				IAmb	IAmb	09 07 57.6	
	comp=Z,4.5nm,0.7s						
GERES	GERESS Array B	79.84	319	P	P	09 07 56.6	+0.9
	comp=Z,3.7nm,0.7s,baz=96,slow=5.2,SNR=24						
GERES	GERESS Array B	79.84	319	P	P	09 07 56.2	+0.5
ILAR	Eielson Array	97.04	22	P	P	09 09 17.9	-0.6
	comp=Z,0.3nm,0.5s,baz=297,slow=5.0,SNR=4.1						
ILAR	Eielson Array	97.04	22	P	P	09 09 18.3	-0.3
INK	Inuvik	99.39	16	P	Pdif	09 09 29.1	+0.1
	comp=Z,0.8nm,0.6s,baz=298,slow=3.9,SNR=6.2						
INK	Inuvik	99.39	16	P	Pdif	09 09 29.1	+0.1
NVAR	Mina Array Bea	127.00	32	PKP	PKiKP	09 14 53.3	+1.2
	comp=Z,0.3nm,0.5s,baz=265,slow=4.1,SNR=2.9						
PDAR	Pinedale Array	127.47	22	PKP	PKiKP	09 14 52.7	-0.2
	comp=Z,0.2nm,0.5s,baz=252,slow=1.7,SNR=3.3						
TXAR	Lajitas Array	141.46	26	PKhKP	PKPpre	09 15 12.4	
	comp=Z,0.4nm,0.6s,baz=19,slow=1.7,SNR=7.6						
TXAR				PKP	PKPdf	09 15 17.3	-1.4
	comp=Z,0.3nm,0.4s,baz=62,slow=0.6,SNR=8.9						

MOS **14** *08:58:24.8±0.0, 42°.44N×43°.82E, h9km, MPVA4.1*
ISK **14** *08:58:25.7, 42°.43N×43°.84E, h3km, ML3.2/3*
TIF **14** *08:58:25.5, 42°.46N×43°.88E, h11km*
NORS **14** *08:58:26.1±0.0, 42°.42N×43°.76E, h8km, MPVA4.4*
AZER **14** *08:58:26.9±1.6, 42°.33N×43°.75E, h4km±22km, ml3.5/11, Error ellipse: s-maj=24.2km s-min=10.3km az=108.0*
DDA **14** *08:58:26.2, 42°.39N×43°.79E, h3km±2km, ML3.5*

ISC 14 08:58:25.9±1.1, 42°.42N±0°.01×43°.85E±0°.01, h1km±9km, n103, σ1§43/188, 3C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.34	300	P	Pg	08 58 32.9	+0.6
ONI				S	Sg	08 58 37.1	+0.3
ONI	Oni	0.34	300	PG	Pg	08 58 32.9	+0.6
ONI				S	Sg	08 58 37.1	+0.3
ONI	Oni	0.34	300	i Pg	Pg	08 58 32.9	+0.6
ONI				i Sg	Sb	08 58 38.2	-2.5
ONI	Oni	0.34	300	PG	Pg	08 58 32.9	+0.6
ONI				SG	Sb	08 58 38.2	-2.5
ZEI	Tsey	0.37	6	ePG	Pg	08 58 32.6	-0.3
ZEI				eS	Sg	08 58 38.0	+0.3
ZEI	Tsey	0.37	6	ePg	Pg	08 58 32.6	-0.3
ZEI				eSg	Sg	08 58 38.0	+0.3
DIGR	Digorskoe uzhe	0.52	337	⇓iPG	Pg	08 58 35.5	-0.3
DIGR				eS	Sg	08 58 42.5	0.0
DIGR	Digorskoe uzhe	0.52	337	i Pg	Pg	08 58 35.4	-0.3
DIGR				eSg	Sg	08 58 42.5	0.0
LACR	Lac	0.52	39	ePG	Pg	08 58 34.8	-1.0
LACR	Lac	0.52	39	ePg	Pg	08 58 34.8	-1.0
LACR				eSg	Sg	08 58 41.6	-1.0
TKB	Tkibuli	0.64	264	P	Pb	08 58 39.0	-0.9
TKB				S	Sb	08 58 49.0	-0.3
TKB	Tkibuli	0.64	264	PG	Pb	08 58 39.0	-0.9
TKB				S	Sb	08 58 49.0	-0.3
KORR	Kora	0.68	13	⇓iPG	Pg	08 58 39.0	+0.1
KORR				eS	Sb	08 58 49.6	-1.0
KORR	Kora	0.68	13	i Pg	Pg	08 58 39.0	+0.1
KORR				eSg	Sb	08 58 49.6	-1.0
ARNR	Ardon	0.82	23	⇓iPG	Pb	08 58 42.6	-0.3
ARNR				eS	Sn	08 58 55.1	-2.4
ARNR	Ardon	0.82	23	i Pg	Pb	08 58 42

SHA1				*e*S	**Sg**	**08 59 16.7**	**+0.1**
SHA1	**Shidzhatmaz**	**1.58 327**		*i* Pg	**Pb**	**08 58 55.1**	**-0.8**
SHA1				*e*Sg	**Sg**	**08 59 16.7**	**+0.1**
GROC	**Groznyy**	**1.63**	**61**	*e*PN	**Pb**	**08 58 55.7**	**-1.0**
GROC				*e*S	**Sg**	**08 59 18.6**	**+0.4**
GROC	**Groznyy**	**1.63**	**61**	*e*Pg	**Pb**	**08 58 55.6**	**-1.0**
GROC				*e*Sg	**Sg**	**08 59 18.6**	**+0.4**
PYA1	**Pyatigorsk**	**1.73 342**		*e*PN	**Pb**	**08 58 57.7**	**-0.8**
PYA1				*e*S	**Sb**	**08 59 20.2**	**-0.5**
PYA1	**Pyatigorsk**	**1.73 342**		*e*Pg	**Pb**	**08 58 57.6**	**-0.8**
PYA1				*e*Sg	**Sb**	**08 59 20.2**	**-0.5**
EAK	**Akyaka**	**1.75 186**		*i* P	**Pb**	**08 58 58.7**	**-0.1**
EAK				*i* S	**Sg**	**08 59 23.2**	**+1.3**
EAK				IAML_P			
	comp=Z,4μm,0.3s						
KIV	**Kislovodsk**	**1.75 331**	⇑	*e*PN	**Pb**	**08 58 57.9**	**-1.0**
KIV				pmax	pmax		
	comp=Z,75nm,1.3s						
KIV	**Kislovodsk**	**1.75 331**		PN	**Pb**	**08 58 57.9**	**-1.0**
QZX	**Qazax, Azerbai**	**1.78 140**		P	**Pb**	**08 58 58.5**	**-0.7**
	SNR=8.1						
QZX				S	**Sg**	**08 59 23.6**	**+0.7**
BATM	**Batumi**	**1.81 244**		P	**Pb**	**08 58 59.3**	**-0.4**
BATM				S	**Sg**	**08 59 24.0**	**+0.2**
BATM	**Batumi**	**1.81 244**		PN	**Pb**	**08 58 59.3**	**-0.4**
BATM				S	**Sg**	**08 59 24.0**	**+0.2**
BATM	**Batumi**	**1.81 244**		*i* P	**Pb**	**08 58 59.4**	**-0.3**
BATM				*i* S	**Sg**	**08 59 23.9**	**0.0**
BATM	**Batumi**	**1.81 244**		PN	**Pb**	**08 58 58.7**	**-1.0**
DOMR	**Dombai**	**1.85 299**		*e*PN	**Pb**	**08 59 00.4**	**-0.3**
DOMR				*e*S	**Sg**	**08 59 26.9**	**+1.5**
DOMR	**Dombai**	**1.85 299**		*e*Pg	**Pb**	**08 59 00.4**	**-0.3**
DOMR				*e*Sg	**Sg**	**08 59 26.9**	**+1.5**
LGD	**Lagodekhi**	**1.87 107**		P	**Pn**	**08 58 55.8**	**-3.3**
LGD				S	**Sn**	**08 59 20.1**	**-3.3**
LGD	**Lagodekhi**	**1.87 107**		*e*PN	**Pn**	**08 58 55.9**	**-3.2**
LGD	**Lagodekhi**	**1.87 107**		*e*Pg	**Pn**	**08 58 55.9**	**-3.2**
LGD				*e*Sg	**Sn**	**08 59 21.8**	**-1.6**
ARTV	**Artvin**	**1.90 230**		*i* P	**Pb**	**08 59 01.1**	**-0.3**
ARTV				*i* S	**Sg**	**08 59 27.3**	**+0.6**
ARTV				IAML_P			
	comp=Z,4μm,0.3s						
BCA	**Borcka**	**1.93 240**		PN	**Pb**	**08 59 00.8**	**-1.1**
DDFL	**Dedoflistskaro**	**1.95 119**		P	**Pg**	**08 59 04.3**	**+1.1**
DDFL				S	**Sg**	**08 59 30.8**	**+2.2**
DDFL	**Dedoflistskaro**	**1.95 119**		PN	**Pg**	**08 59 04.3**	**+1.1**
DDFL				S	**Sg**	**08 59 30.8**	**+2.2**
DDFL	**Dedoflistskaro**	**1.95 119**		*i* P	**Pg**	**08 59 04.4**	**+1.1**
DDFL				*i* S	**Sg**	**08 59 32.8**	**+4.2**
DBOC	**Borcka**	**1.96 237**		*i* P	**Pb**	**08 59 02.4**	**+0.1**
DBOC				*i* S	**Sg**	**08 59 28.1**	**-0.5**
DBOC				IAML_P			
	comp=Z,2μm,0.2s						
DAGI	**Agillar**	**1.98 228**		*i* P	**Pg**	**08 59 03.1**	**-0.6**
DAGI				*i* S	**Sg**	**08 59 29.7**	**+0.3**
DBAD	**Bademkaya**	**2.14 230**		*i* P	**Pb**	**08 59 05.2**	**-0.3**
DBAD				*i* S	**Sg**	**08 59 34.3**	**-0.3**
DBAD				IAML_P			
	comp=Z,4μm,0.3s						
SENK	**Senkaya-Erzuru**	**2.17 212**		PN	**Pn**	**08 59 03.9**	**+0.5**
DDEM	**Demirkent**	**2.19 227**		*i* P	**Pg**	**08 59 07.0**	**-0.9**
DDEM				*i* S	**Sg**	**08 59 35.8**	**-0.6**
DDEM				IAML_P			
	comp=Z,1μm,0.2s						
ZKTA	**Zakatala**	**2.21 110**		P	**Pb**	**08 59 06.0**	**-0.6**
	SNR=4.5						
ZKTA				S	**Sb**	**08 59 35.5**	**+1.0**
GDB	**GEDABAY**	**2.22 139**		P	**Pb**	**08 59 05.0**	**-1.9**
	SNR=48						
GDB				S	**Sb**	**08 59 35.0**	**0.0**
DBC	**Dubki**	**2.27**	**74**	*e*PN	**Pb**	**08 59 06.8**	**-1.0**
DBC				*e*S	**Sg**	**08 59 37.9**	**-1.0**
DBC	**Dubki**	**2.27**	**74**	*e*Pn	**Pb**	**08 59 06.8**	**-1.0**
DBC				*e*Sn	**Sg**	**08 59 37.9**	**-1.0**
GNBR	**Gunib**	**2.31**	**90**	*e*PN	**Pb**	**08 59 07.5**	**-0.8**
GNBR				*e*S	**Sb**	**08 59 37.8**	**+0.5**
GNBR	**Gunib**	**2.31**	**90**	*e*Pn	**Pb**	**08 59 07.5**	**-0.8**
GNBR				*e*Sn	**Sb**	**08 59 37.8**	**+0.5**
GNI	**Garni**	**2.37 163**		*c i* PN	**Pb**	**08 59 09.8**	**+0.4**
GNI	**Garni**	**2.37 163**		PN	**Pb**	**08 59 07.2**	**-2.2**
GANJ	**Ganja**	**2.57 133**		PN	**Pb**	**08 59 10.3**	**-2.4**
GANJ	**Ganja**	**2.57 133**		P	**Pb**	**08 59 10.3**	**-2.4**
GANJ				S	**Sb**	**08 59 44.1**	**-0.7**
GOF	**Gofitskoye**	**2.70 348**		*e*PN	**Pb**	**08 59 14.9**	**-0.1**
GOF				*e*S	**Sg**	**08 59 51.6**	**-0.9**
GOF	**Gofitskoye**	**2.70 348**		*e*Pn	**Pb**	**08 59 14.9**	**-0.1**
GOF				*e*Sn	**Sg**	**08 59 51.6**	**-0.9**
SEKA	**Sheki**	**2.78 115**		PN	**Pb**	**08 59 14.5**	**-1.8**
SEKA	**Sheki**	**2.78 115**		P	**Pb**	**08 59 14.6**	**-1.8**
	SNR=4.5						
SEKA				S	**Sb**	**08 59 52.0**	**+1.0**
AKT	**Akhty**	**3.04 107**		*e*PN	**Pn**	**08 59 15.1**	**-0.2**
AKT				*e*S	**Sn**	**08 59 54.1**	**+1.7**
AKT	**Akhty**	**3.04 107**		*e*Pn	**Pn**	**08 59 15.1**	**-0.2**
AKT				*e*Sn	**Sn**	**08 59 54.1**	**+1.7**
SBZ	**Shahbuz**	**3.29 156**		P	**Pn**	**08 59 20.0**	**+1.4**
	SNR=3.9						
SBZ				S	**Sg**	**09 00 09.4**	**-2.0**
AGDM	**Agdam**	**3.37 132**		P	**Pn**	**08 59 20.4**	**+0.7**
AGDM				S	**Sb**	**09 00 03.5**	**-4.4**
QSAR	**Qusar**	**3.41 104**		S	**Sb**	**09 00 07.0**	**-2.1**
XNQ	**Khinaliq**	**3.44 110**		S	**Sb**	**09 00 06.2**	**-3.9**
ORD	**Ordubad**	**3.85 154**		P	**Pn**	**08 59 27.7**	**+1.3**
	SNR=4.5						
ORD				S	**Sg**	**09 00 25.7**	**-3.9**
BLQ	**Beylaqan**	**3.89 133**		S	**Sn**	**09 00 16.5**	**+3.4**
BRVK	**Borovoye**	**20.60**	**50**	*i* P	**P**	**09 03 04.3**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**22.53**	**79**	*i* P	**P**	**09 03 32.0**	**+4.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL	**Bilibino**	**61.74**	**21**	*i* P	**P**	**09 08 47.7**	**+2.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.5s						

NIED ***14*** *09:00:00,37.°00N×142.°00E,h11km,Mw3.6 Best double couple: M0 2.58000×10^14 NP1:ϕs 192.00000°,δ37.00000°, λ-48.00000°. NP2:ϕs 324.00000°,δ64.00000°, λ-116.00000°.*

IDC ***14*** *09:00:07.3±1.5,37.°24N×142.°35E,h0km,mb3.5/3, mb1 3.7/6,mb1mx3.5/42,mbtmp3.6/6,ML2.0/2,MS2.4/1, Ms1 2.4/1,ms1mx2.1/38,Error ellipse: s-maj=34.1km s-min=21.9km az=86.0*

ISCJB ***14*** *09:00:10.4±1.3,37.°02N±0.°04×142.°07E±0.°07,h17km±8km, mb3.6/3,Error ellipse: s-maj=9.2km s-min=6.7km az=178.7*

JMA ***14*** *09:00:12.5±0.2,37.°05N×141.°99E,h45km±5km,M3.5*

ISC 14 09:00:08.0±2.0,37.°13N±0.°05×142.°16E±0.°07,h3km±11km, n27,σ1°55/34,mb3.6/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.05**	**284**	P	**Pn**	**09 00 29.5**	**-0.1**
JFK				*e*S	**Sg**	**09 00 41.6**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.09**	**269**	P	**Pb**	**09 00 29.6**	**+0.2**
ONAJ				S	**Sg**	**09 00 42.0**	**-1.0**
JMST	**Minamisoumatoc**	**1.18**	**301**	P	**Pn**	**09 00 31.9**	**+0.6**
JMST				S	**Sg**	**09 00 46.1**	**+0.3**
JFFD	**Fukushimafurud**	**1.28**	**269**	P	**Pn**	**09 00 32.3**	**-0.4**
JFFD				*e*S	**Sb**	**09 00 46.9**	**-2.6**
JMM	**Marumori**	**1.31**	**305**	P	**Pg**	**09 00 33.9**	**+0.7**
JMM				*e*S	**Sb**	**09 00 50.1**	**-0.4**
JHO	**Hitachi**	**1.38**	**249**	P	**Pn**	**09 00 33.1**	**-0.9**
JHO				S	**Sb**	**09 00 49.0**	**-3.2**
JIO	**Ouri**	**1.47**	**334**	P	**Pg**	**09 00 36.7**	**+0.5**
JFT	**Otama**	**1.50**	**286**	P	**Pb**	**09 00 36.9**	**+0.4**
JFT				*e*S	**Sn**	**09 00 54.5**	**-1.4**
JOU	**Okura**	**1.71**	**317**	P	**Pg**	**09 00 41.2**	**+0.4**
JOU				*e*S	**Sb**	**09 01 01.6**	**-0.4**
JMK	**Ichinoseki**	**1.97**	**338**	P	**Pg**	**09 00 45.3**	**-0.4**
JFY	**Yanaizu**	**1.98**	**279**	P	**Pb**	**09 00 43.7**	**-0.9**
JFY				*e*S	**Sn**	**09 01 07.0**	**-0.6**
JYS	**Shiratake**	**1.99**	**304**	P	**Pb**	**09 00 45.4**	**+0.6**
JAG	**Ashikaga**	**2.28**	**253**	P	**Pn**	**09 00 46.7**	**+0.2**
JKT	**Katashina**	**2.36**	**262**	P	**Pn**	**09 00 48.7**	**+1.1**
MJAR	**Matsushiro Arr**	**3.22**	**261**	Pn	**Pn**	**09 01 01.2**	**+1.8**
	0.6nm,0.3s,baz=87,slow=14,SNR=25						
MJAR				Sn	**Sn**	**09 01 41.4**	**+3.1**
	0.7nm,0.3s,baz=59,slow=25,SNR=8.4						
MJAR				LR	LR	09 02 19.0	
	comp=Z,57nm,19.1s,baz=10.0,slow=39						
MAT	**Matsushiro**	**3.22**	**261**	P	**Pn**	**09 01 01.5**	**+2.0**
MAT				S	**Sn**	**09 01 39.5**	**+1.1**
JHJ	**Hachijo jima 2**	**4.45**	**207**	Pn	**Pn**	**09 01 17.9**	**+1.7**
	14nm,0.3s,baz=122,slow=22,SNR=6.2						
JHJ				Sn	**Sn**	**09 02 05.5**	**-3.0**
	20nm,0.3s,baz=235,slow=24,SNR=6.7						
ASAJ	**Asahikawa**	**6.99**	**3**	Pn	**Pn**	**09 01 47.5**	**-3.7**
	0.0nm,0.3s,baz=246,slow=20,SNR=3.6						
ASAJ				Sn	**Sn**	**09 03 11.3**	**+0.2**
	0.0nm,0.3s,baz=288,slow=20,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**27.69**	**122**	T	T	09 35 01.4	
	baz=314,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.69**	**122**	T	T	09 35 01.8	
	baz=314,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	09 35 02.8	
	baz=314,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	09 35 55.9	
	baz=316,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	09 35 56.0	
	baz=316,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	09 35 57.8	
	baz=316,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.58**	**302**	P	**P**	**09 08 22.0**	**+0.8**
	0.3nm,0.5s,baz=92,slow=9.8,SNR=2.5						
WRA	**Warramunga Arr**	**57.24**	**189**	P	**P**	**09 09 57.2**	**+0.7**
	0.5nm,0.5s,baz=6.9,slow=7.3,SNR=7.9						
ASAR	**Alice Springs**	**60.97**	**189**	P	**P**	**09 10 23.4**	**+1.0**
	0.3nm,0.5s,baz=11,slow=6.9,SNR=6.2						

NORS ***14*** *09:02:00.2±0.0,42.°48N×43.°90E,h15km,MPVA3.3*
TIF ***14*** *09:02:00.6,42.°46N×43.°89E,h7km±1km*

ISC 14 09:02:01.2±1.0,42.°46N±0.°02×43.°90E±0.°03,h14km±8km, n16,σ0°83/31,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.33**	**0**	*i* Pg	**Pg**	**09 02 08.1**	**0.0**
ZEI				*e*Sg	**Sb**	**09 02 13.3**	**-1.0**
ONI	**Oni**	**0.35**	**292**	P	**Pg**	**09 02 08.3**	**-0.1**
ONI				S	**Sg**	**09 02 13.6**	**+0.2**
LACR	**Lac**	**0.47**	**38**	*e*Pg	**Pg**	**09 02 10.1**	**-0.5**
LACR				*e*Sg	**Sg**	**09 02 17.0**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.50**	**332**	*e*Pg	**Pg**	**09 02 10.8**	**-0.3**
DIGR				*e*Sg	**Sg**	**09 02 17.9**	**+0.1**
KORR	**Kora**	**0.64**	**11**	*e*Pg	**Pb**	**09 02 14.5**	**+0.3**
KORR				*e*Sg	**Sn**	**09 02 25.0**	**-0.9**
TKB	**Tkibuli**	**0.68**	**261**	P	**Pg**	**09 02 14.3**	**-0.1**
TKB				S	**Sb**	**09 02 24.4**	**+0.3**
ARNR	**Ardon**	**0.77**	**21**	*e*Pg	**Pn**	**09 02 17.2**	**-0.6**
ARNR				*e*Sg	**Sn**	**09 02 29.1**	**-0.2**
LSNR	**Lesken**	**0.82**	**356**	*i* Pg	**Pn**	**09 02 17.7**	**-0.7**
LSNR				*e*Sg	**Sn**	**09 02 29.6**	**-0.8**
STDR	**Stavd-Durt**	**0.92**	**7**	*e*Pg	**Pn**	**09 02 21.1**	**+1.4**
STDR				*e*Sg	**Sn**	**09 02 35.3**	**+2.5**
TBLG	**Delisi**	**0.96**	**139**	P	**Pb**	**09 02 18.6**	**-1.0**
TBLG				S	**Sn**	**09 02 34.3**	**+0.5**
BTNK	**Botanikuri**	**1.02**	**139**	P	**Pn**	**09 02 21.0**	**-0.2**
BTNK				S	**Sn**	**09 02 36.2**	**+0.8**
AKH	**Akhalkalaki**	**1.09**	**196**	P	**Pb**	**09 02 21.8**	**-0.2**
AKH				S	**Sn**	**09 02 37.6**	**+0.3**
KZRT	**Kazreti**	**1.14**	**161**	P	**Pn**	**09 02 22.6**	**-0.2**
KBTC	**Kuba-Taba**	**1.40**	**345**	*e*Pg	**Pg**	**09 02 28.5**	**+0.3**
KBTC				*e*Sg	**Sg**	**09 02 48.1**	**+1.7**
DGRG	**David-gareji**	**1.49**	**132**	P	**Pg**	**09 02 30.0**	**+0.1**
DGRG				S	**Sg**	**09 02 50.1**	**+0.8**
SHA1	**Shidzhatmaz**	**1.57**	**325**	*e*Pg	**Pg**	**09 02 30.5**	**-0.8**
SHA1				*e*Sg	**Sg**	**09 02 51.7**	**-0.1**

NORS ***14*** *09:05:16.0±0.0,42.°48N×43.°90E,h15km,MPVA3.5*
TIF ***14*** *09:05:16.8,42.°46N×43.°88E,h15km±1km*

ISC 14 09:05:17.5±1.0,42.°46N±0.°02×43.°88E±0.°03,h12km±9km, n18,σ0°85/35,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.33**	**3**	*i* Pg	**Pg**	**09 05 24.0**	**-0.2**
ZEI				*e*Sg	**Sg**	**09 05 29.1**	**+0.4**
ONI	**Oni**	**0.34**	**292**	P	**Pg**	**09 05 24.2**	**-0.1**
ONI				S	**Pg**	**09 05 24.3**	**-0.1**
LACR	**Lac**	**0.48**	**40**	*i* Pg	**Pg**	**09 05 26.2**	**-0.8**
LACR				*e*Sg	**Sg**	**09 05 32.8**	**-0.6**
DIGR	**Digorskoe uzhe**	**0.49**	**334**	*i* Pg	**Pg**	**09 05 26.8**	**-0.4**
DIGR				*e*Sg	**Sg**	**09 05 33.9**	**+0.2**
KORR	**Kora**	**0.64**	**13**	*e*Pg	**Pb**	**09 05 30.4**	**-0.3**
KORR				*e*Sg	**Sn**	**09 05 41.0**	**-1.7**
TKB	**Tkibuli**	**0.66**	**261**	P	**Pg**	**09 05 30.2**	**-0.2**
TKB				S	**Sb**	**09 05 40.7**	**+0.4**
LSNR	**Lesken**	**0.82**	**357**	*e*Pg	**Pb**	**09 05 33.6**	**-0.1**
LSNR				*e*Sg	**Sn**	**09 05 45.6**	**-1.4**
STDR	**Stavd-Durt**	**0.92**	**9**	*e*Pg	**Pn**	**09 05 37.0**	**+0.7**
STDR				*e*Sg	**Sn**	**09 05 51.6**	**+2.2**
TBLG	**Delisi**	**0.97**	**138**	P	**Pb**	**09 05 35.7**	**-0.6**
TBLG				S	**Sn**	**09 05 50.4**	**-0.4**
BTNK	**Botanikuri**	**1.04**	**138**	P	**Pb**	**09 05 37.0**	**-0.5**
BTNK				S	**Sn**	**09 05 52.1**	**-0.3**
AKH	**Akhalkalaki**	**1.09**	**195**	P	**Pb**	**09 05 37.9**	**-0.5**
AKH				S	**Sg**	**09 05 53.4**	**+0.7**
AKH	**Akhalkalaki**	**1.09**	**195**	P	**Pb**	**09 05 37.8**	**-0.6**
KZRT	**Kazreti**	**1.14**	**160**	P	**Pb**	**09 05 38.5**	**-0.8**
KZRT				S	**Sb**	**09 05 54.6**	**+0.5**
KBTC	**Kuba-Taba**	**1.40**	**346**	*e*Pg	**Pg**	**09 05 44.6**	**+0.3**
KBTC				*e*Sg	**Sg**	**09 06 04.2**	**+1.7**
DGRG	**David-gareji**	**1.51**	**132**	P	**Pb**	**09 05 46.1**	**+0.7**
DGRG				S	**Sg**	**09 06 06.8**	**+0.8**
SHA1	**Shidzhatmaz**	**1.56**	**325**	*e*Pg	**Pb**	**09 05 46.5**	**0.0**
SHA1				*e*Sg	**Sg**	**09 06 07.2**	**-0.5**
LGD	**Lagodekhi**	**1.87**	**109**	P	**Pn**	**09 05 48.0**	**-1.3**
LGD				S	**Sn**	**09 06 13.4**	**+0.5**
DDFL	**Dedoflistskaro**	**1.96**	**121**	P	**Pg**	**09 05 55.7**	**+0.6**
DDFL				S	**Sg**	**09 06 21.5**	**+1.1**

NIED ***14*** *09:09:00,37.°10N×142.°10E,h20km,Mw4.2 Best double couple: M0 2.33000×10^15 NP1:ϕs 188.00000°,δ49.00000°, λ-51.00000°. NP2:ϕs 317.00000°,δ54.00000°, λ-126.00000°.*

IDC ***14*** *09:09:26.9±0.5,37.°02N×142.°05E,h0km,mb4.0/25, mb1 4.2/31,mb1mx4.1/58,mbtmp4.0/31,ML3.9/5,MS3.1/10, Ms1 3.2/10,ms1mx2.9/48,Error ellipse: s-maj=14.9km s-min=12.1km az=89.0*

ISCJB ***14*** *09:09:27.3±0.9,37.°05N±0.°03×142.°09E±0.°04,h17km±6km, mb4.0/25,MS3.1/5,Error ellipse: s-maj=5.8km s-min=4.0km az=18.0*

NEIC ***14*** *09:09:28.8±1.8,37.°00N±0.°06×142.°21E±0.°09,h19km±5km, mb4.3/13*

JMA ***14*** *09:09:29.5±0.2,37.°05N×142.°00E,h46km±5km,M4.3*

JMA Felt II J1.

ISC 14 09:09:28.6±3.1,37.°05N±0.°04×142.°05E±0.°05,h14km±19km, n90,σ1°37/95,mb4.2/28,MS3.2/5,9C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.99**	**289**	⇑P	**Pb**	**09 09 46.6**	**-1.0**
JFK				*e*S	**Sb**	**09 09 58.8**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.00**	**273**	⇑P	**Pb**	**09 09 46.7**	**-1.1**
ONAJ				*e*S	**Sb**	**09 09 58.9**	**-2.0**
JMST	**Minamisoumatoc**	**1.15**	**306**	⇑P	**Pn**	**09 09 49.0**	**-1.3**
JMST				*e*S	**Sb**	**09 10 03.1**	**-1.9**
JFFD	**Fukushimafurud**	**1.19**	**272**	⇑P	**Pn**	**09 09 49.5**	**-1.4**
JFFD				*e*S	**Sb**	**09 10 03.9**	**-2.5**
JHO	**Hitachi**	**1.27**	**250**	⇑P	**Pn**	**09 09 50.2**	**-1.8**
JMM	**Marumori**	**1.29**	**309**	⇑P	**Pn**	**09 09 51.3**	**-1.0**
JMM				*e*S	**Sn**	**09 10 06.5**	**-2.8**
JFT	**Otama**	**1.45**	**289**	⇑P	**Pn**	**09 09 54.3**	**-0.1**
JFT				*e*S	**Sn**	**09 10 11.4**	**-1.8**
JIO	**Ouri**	**1.51**	**339**	P	**Pn**	**09 09 54.0**	**-1.2**
JIO				*e*S	**Sn**	**09 10 11.3**	**-3.4**
JOU	**Okura**	**1.71**	**320**	P	**Pn**	**09 09 57.6**	**-0.5**
JFY	**Yanaizu**	**1.91**	**281**	⇑P	**Pn**	**09 10 00.8**	**0.0**
JFY				*e*S	**Sn**	**09 10 23.2**	**-1.4**
JYS	**Shiratake**	**1.96**	**307**	P	**Pn**	**09 10 02.2**	**+0.7**
JYS				*e*S	**Sn**	**09 10 25.6**	**-0.3**
JMK	**Ichinoseki**	**2.01**	**341**	P	**Pn**	**09 10 01.8**	**-0.3**
JAG	**Ashikaga**	**2.18**	**254**	⇑P	**Pn**	**09 10 03.7**	**-0.8**
JKT	**Katashina**	**2.26**	**264**	P	**Pn**	**09 10 06.1**	**+0.4**
JKT				*e*S	**Sn**	**09 10 31.6**	**-1.9**
MJAR	**Matsushiro Arr**	**3.13**	**262**	Pn	**Pn**	**09 10 17.8**	**+0.2**
	7.4nm,0.3s,baz=91,slow=15,SNR=172						
MJAR				Sn	**Sn**	**09 10 57.5**	**+2.8**
	4.0nm,0.3s,baz=58,slow=24,SNR=9.1						
MJAR	**Matsushiro Arr**	**3.13**	**262**	Pn	**Pn**	**09 10 18.1**	**+0.6**
MAJO	**Matsushiro**	**3.13**	**262**	P	**Pn**	**09 10 18.7**	**+1.1**
MAT	**Matsushiro**	**3.13**	**262**	P	**Pn**	**09 10 18.5**	**+0.9**
MAT				*e*S	**Sn**	**09 10 53.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**3.13**	**262**	Pn	**Pn**	**09 10 18.7**	**+1.1**
JHJ2	**Mitsune**	**4.34**	**206**	Pn	**Pn**	**09 10 33.1**	**-1.0**
JHJ2				Sn	**Sn**	**09 11 23.3**	**-1.2**
JHJ	**Hachijo jima 2**	**4.34**	**206**	Pn	**Pn**	**09 10 34.0**	**-0.2**
	23nm,0.3s,baz=317,slow=23,SNR=9.6						
JHJ				Sn	**Sn**	**09 11 24.9**	**+0.3**
	35nm,0.3s,baz=222,slow=13,SNR=3.6						
JHJ				LR	LR	09 12 34.4	
	comp=Z,311nm,19.7s,baz=76,slow=44						
INU	**Inuyama**	**4.41**	**249**	Pn	**Pn**	**09 10 37.7**	**+2.6**
ERM	**Erimo**	**5.03**	**9**	Pn	**Pn**	**09 10 43.6**	**0.0**
ERM				Sn	**Sn**	**09 11 39.4**	**-2.2**
JKA	**Kamikawa-asahi**	**7.07**	**3**		**Pn**	**09 11 11.9**	**+0.2**
JKA					**Sn**	**09 12 31.5**	**-0.3**
ASAJ	**Asahikawa**	**7.07**	**3**	Pn	**Pn**	**09 11 11.9**	**+0.2**
	3.2nm,0.3s,baz=212,slow=8.4,SNR=16						
ASAJ				Sn	**Sn**	**09 12 31.5**	**-0.3**
	2.7nm,0.3s,baz=106,slow=31,SNR=6.0						
ASAJ				LR	LR	09 14 25.2	
	comp=Z,135nm,18.2s,baz=149,slow=42						
JCJ	**Chichijima**	**9.93**	**179**	Pn	**Pn**	**09 11 50.7**	**-0.2**
	4.2nm,0.3s,baz=241,slow=19,SNR=2.8						
JCJ				Sn	**Sn**	**09 13 36.0**	**-6.2**
	5.2nm,0.3s,baz=269,slow=17,SNR=3.4						
JNU	**Nakatsue**	**9.96**	**250**	Pn	**Pn**	**09 11 54.0**	**+2.7**
	0.8nm,0.3s,baz=54,slow=4.7,SNR=12						
JNU	**Nakatsue**	**9.96**	**250**	Pn	**Pn**	**09 11 52.8**	**+1.5**
USRK	**Ussuriysk Ar.**	**10.46**	**316**	Pn	**Pn**	**09 11 58.9**	**+0.8**
	baz=130,slow=13,SNR=2.2						
USRK				LR	LR	09 15 47.6	
	comp=Z,91nm,20.6s,baz=124,slow=36						
USRK	**Ussuriysk Ar.**	**10.46**	**316**	Pn	**Pn**	**09 11 60.0**	**+1.9**
KSRS	**Korea Array**	**11.27**	**276**	Pn	**Pn**	**09 12 10.7**	**+1.5**
	0.2nm,0.3s,baz=90,slow=13,SNR=6.6						
KLR	**Kul'dur**	**14.29**	**332**	LR	LR	09 18 11.5	
	comp=Z,119nm,20.0s,baz=130,slow=37						
PETK	**Petropavlovsk-**	**19.42**	**29**	LR	LR	09 21 09.2	
	comp=Z,37nm,21.2s,baz=241,slow=36						
GUMO	**Guam**	**23.50**	**173**	LR	LR	09 28 21.1	
	comp=Z,13nm,18.9s,baz=8.5,slow=48						
SEY	**Seymchan**	**26.68**	**11**	P	**P**	**09 15 08.8**	**+1.9**
	2.0nm,0.8s,baz=197,slow=19,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**27.72**	**122**	T	T	09 44 52.4	
	baz=314,slow=75,SNR=153						
H11N1	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	09 44 58.0	
	baz=314,slow=75,SNR=118						
H11N3	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	09 44 45.3	
	baz=314,slow=75,SNR=104						
SONM	**Songino Array**	**28.20**	**304**	P	**P**	**09 15 21.3**	**+0.4**
	1.6nm,0.5s,baz=113,slow=6.6,SNR=9.5						
SONM	**Songino Array**	**28.20**	**304**	P	**P**	**09 15 20.2**	**-0.7**
H11S1	**WAKE ISLAND Hy**	**28.44**	**124**	T	T	09 45 54.6	
	baz=316,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**28.44**	**124**	T	T	09 45 41.7	
	baz=316,slow=76,SNR=76						
H11S2	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	09 45 40.0	
	baz=316,slow=76,SNR=60						
DAV	**Davao City (W)**	**33.41**	**211**	LR	LR	09 31 02.5	
	comp=Z,30nm,18.3s,baz=37,slow=39						
TIXI	**Tiksi**	**35.33**	**353**	LR	LR	09 33 16.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.86**	**48**	⇓*iP*	**Pn**	**09 37 40.8**	**-1.0**
SBLS				*eS*	**Sn**	**09 37 53.5**	**+0.2**
RTR	**El Retiro**	**0.88**	**44**	⇓*iP*	**Pn**	**09 37 41.3**	**-0.8**
SNJE	**San Jose**	**0.89**	**47**	⇓*iP*	**Pn**	**09 37 41.2**	**-0.9**
IXG	**Ixpaco**	**0.92**	**350**	*eP*	**Pn**	**09 37 41.7**	**-0.9**
UEES	**Universidad Ev**	**1.10**	**66**	*eP*	**Pn**	**09 37 44.1**	**-0.9**
UEES				*eS*	**Sn**	**09 38 00.7**	**+1.5**
UEES				IAML		09 38 08.4	
	comp=Z,695nm,0.2s						
LFU	**La Fuente**	**1.23**	**67**	*eP*	**Pn**	**09 37 46.4**	**-0.3**
FUG	**Fuego 3**	**1.30**	**335**	*eP*	**Pn**	**09 37 46.9**	**-1.0**
NBG	**Las Nubes**	**1.32**	**357**	*eP*	**Pn**	**09 37 49.3**	**+1.1**
PAVA	**Las Pavas**	**1.38**	**71**	*eP*	**Pn**	**09 37 48.7**	**-0.1**
PAVA				IAML		09 38 15.9	
	comp=Z,272nm,0.3s						
COEG	**Centro de Oper**	**1.40**	**75**	*eP*	**Pn**	**09 37 48.2**	**-0.9**
COEG				*eS*	**Sn**	**09 38 07.8**	**+1.4**
COEG				IAML		09 38 20.3	
	comp=Z,505nm,0.3s						
MTO3	**Montecristo**	**1.44**	**38**	⇓*eP*	**Pn**	**09 37 49.6**	**-0.2**
ALJI	**Alcalda de J**	**1.66**	**87**	*eP*	**Pn**	**09 37 52.0**	**-0.6**
COEB	**Comit de Eme**	**1.71**	**82**	*eP*	**Pn**	**09 37 52.6**	**-0.9**
COEB				*eS*	**Sn**	**09 38 14.3**	**+0.1**
COEB				IAML		09 38 25.8	
	comp=Z,222nm,0.4s						
PACA	**Pacayal**	**1.91**	**84**	*eP*	**Pn**	**09 37 55.8**	**-0.3**
STG3	**Santiaguito 3,**	**1.91**	**319**	*eP*	**Pn**	**09 37 55.7**	**-0.5**
LCND	**La Caada**	**2.32**	**89**	*eP*	**Pn**	**09 38 01.1**	**-0.6**
LCND				IAML		09 38 34.5	
	comp=Z,197nm,0.3s						
CNCH	**Conchagua**	**2.38**	**89**	*eP*	**Pn**	**09 38 02.0**	**-0.6**
CNCH				IAML		09 38 40.0	
	comp=Z,594nm,0.4s						
CRIN	**San Cristobal**	**3.19**	**100**	*eP*	**Pn**	**09 38 12.8**	**-1.0**
CNGN	**Cerro Negro**	**3.57**	**102**	*eP*	**Pn**	**09 38 18.1**	**-0.8**
ESTN	**Estel**	**3.81**	**92**	*eP*	**Pn**	**09 38 21.1**	**-1.1**
RCON	**San Juan de Ri**	**4.01**	**86**	*eP*	**Pn**	**09 38 24.4**	**-0.7**
MAGA	**Matagalpa**	**4.25**	**94**	*eP*	**Pn**	**09 38 26.8**	**-1.6**
BUEV	**Buena Vista**	**5.35**	**117**	*eP*	**Pn**	**09 38 44.9**	**+1.4**
CVTR	**Volcan Turrial**	**7.15**	**116**	*eP*	**Pn**	**09 39 07.9**	**-0.5**

*BJI **14** 09:38:52.2±0.0, 5°.37S×118°.34E, h10km, mb4.8/29, mB5.0/21, Ms4.5/5, Ms7 4.3/5*
*IDC **14** 09:38:55.5±0.6, 4°.76S×118°.01E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.4/29, mbtmp4.4/17, ML3.3/1, MS3.6/18, Ms1 3.6/18, ms1mx3.4/38, Error ellipse: s-maj=22.9km s-min=12.7km az=46.0*
*ISCJB **14** 09:38:56.3±0.2, 4°.82S±0°.03×118°.04E±0°.03, h10km, mb4.7/31, MS3.6/16, Error ellipse: s-maj=5.4km s-min=3.8km az=42.2*
*NEIC **14** 09:38:58.4±1.4, 4°.77S±0°.08×118°.08E±0°.06, h16km±4km, mb4.6/30*
*DJA **14** 09:38:58.3±0.2, 5°S±3°×11°8E±°, h10km, M4.7/15, mb4.6/6, mB5.0/4, MLv4.9/15, Mw(mB)4.4/4*

ISC 14 09:38:57.6±0.4, 4°.83S±0°.04×118°.07E±0°.04, h10km, n121, σ1§37/113, mb4.5/39, MS3.6/16, 2C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**1.68**	**96**	Pn	**Pn**	**09 39 27.4**	**+0.2**
	135nm,0.3s,baz=314,slow=13,SNR=88						
KAPI				Sn	**Sb**	**09 39 51.5**	**+1.6**
	319nm,0.3s,baz=246,slow=20,SNR=16						
KAPI				LR	LR	09 39 57.4	
	comp=Z,587nm,20.8s,baz=115,slow=35						
SPSI	**Sidrap Palu**	**1.90**	**63**	P	**Pn**	**09 39 29.7**	**-0.4**
BNSI	**Bone**	**2.07**	**78**	P	**Pn**	**09 39 34.0**	**+1.5**
BKSI	**Bulukumba**	**2.10**	**104**	P	**Pn**	**09 39 33.4**	**+0.5**
BKSI				S	**Sg**	**09 40 06.9**	**+1.7**
KBKI	**Kotabaru**	**2.43**	**308**	P	**Pb**	**09 39 43.2**	**+1.7**
TTSI	**Tana Toraja**	**2.48**	**45**	P	**Pn**	**09 39 39.3**	**+1.1**
BKB	**Balikpapan**	**3.73**	**342**	P	**Pn**	**09 39 59.1**	**+3.8**
BKB	**Balikpapan**	**3.73**	**342**	Pn	**Pn**	**09 39 56.9**	**+1.5**
PLAI	**Plampang**	**3.99**	**184**	P	**Pn**	**09 39 59.9**	**+1.0**
PLAI				S	**Sg**	**09 41 07.4**	**+1.6**
TWSI	**Taliwang, Sumb**	**4.06**	**197**	P	**Pn**	**09 40 00.0**	**+0.1**
SRBI	**Singaraja**	**4.31**	**221**	P	**Pn**	**09 40 02.7**	**-0.6**
KMMI	**Kalianget**	**4.64**	**241**	P	**Pn**	**09 40 09.1**	**+1.2**
WBSI	**Waikabubak, Su**	**4.96**	**165**	P	**Pn**	**09 40 13.2**	**+0.9**
APSI	**Ampana**	**5.28**	**43**	P	**Pn**	**09 40 17.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.32**	**227**	P	**Pn**	**09 40 17.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**5.32**	**227**		**Pn**	**09 40 17.8**	**+0.6**
GRJI	**Gresik**	**5.94**	**249**	P	**Pn**	**09 40 26.7**	**+1.0**
BATI	**Baumata**	**7.70**	**134**	LR	LR	09 44 18.5	
	comp=Z,1μm,18.4s,baz=312,slow=42						
SOEI	**Soe**	**7.86**	**129**		**Pn**	**09 40 53.4**	**+1.2**
LEM	**Lembang**	**10.59**	**259**	LR	LR	09 45 58.2	
	comp=Z,520nm,21.2s,baz=68,slow=40						
DAV	**Davao City (W)**	**13.99**	**32**	LR	LR	09 49 24.5	
	comp=Z,297nm,18.2s,baz=192,slow=45						
KNRA	**Kununurra**	**15.05**	**137**		**Pn**	**09 42 30.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.12**	**151**	Pn	**Pn**	**09 42 31.6**	**0.0**
	0.1nm,0.3s,baz=349,slow=7.9,SNR=7.4						
FITZ				LR	LR	09 49 17.4	
	comp=Z,269nm,18.4s,baz=327,slow=41						
FITZ	**Fitzroy Crossi**	**15.12**	**151**		**Pn**	**09 42 32.7**	**+1.2**
FITZ				IAmb	IAmb	09 42 50.7	
	comp=Z,27nm,1.0s						
MTN	**Manton Dam**	**15.16**	**123**		**Pn**	**09 42 32.5**	**+0.5**
IPM	**Ipoh**	**19.38**	**298**	P	**P**	**09 43 23.3**	**-0.5**
IPM				IAmb	IAmb	09 43 27.8	
	comp=Z,32nm,1.0s						
KULM	**Kulim**	**20.09**	**300**	P	**P**	**09 43 31.3**	**-0.4**
KULM				IAmb	IAmb	09 43 43.5	
	comp=Z,60nm,1.5s						
RPSI	**Rantau Prapat**	**20.54**	**291**	P	**P**	**09 43 37.6**	**+1.1**
RPSI	**Rantau Prapat**	**20.54**	**291**	P	Pn	09 43 38.8	+0.1
RPSI				IAmb	IAmb	09 43 42.5	
	comp=Z,65nm,1.1s						
PSI	**Prapat**	**20.58**	**291**	P	**P**	**09 43 37.6**	**+0.6**
	comp=Z,36nm,1.0s,baz=124,slow=6.5,SNR=24						
PSI				LR	LR	09 51 44.3	
	comp=Z,442nm,18.0s,baz=86,slow=38						
SKLT	**Songkhla**	**21.10**	**304**	P	**P**	**09 43 47.8**	**+5.2**
	comp=Z,15nm,1.3s						
WB0	**Warramunga Arr**	**21.75**	**134**	P	**P**	**09 43 49.8**	**+0.2**
WRA	**Warramunga Arr**	**21.83**	**135**	P	**P**	**09 43 50.5**	**+0.1**
	comp=Z,12nm,1.0s,baz=309,slow=11,SNR=32						
WRA				LR	LR	09 53 49.0	
	comp=Z,249nm,18.7s,baz=310,slow=41						
WRA	**Warramunga Arr**	**21.83**	**135**	P	**P**	**09 43 50.3**	**-0.1**
WRAB	**Tennant Creek**	**21.83**	**135**	P	**P**	**09 43 51.1**	**+0.6**
WRAB				IAmb	IAmb	09 43 54.7	
	comp=Z,21nm,1.1s						
WB2	**Warramunga Arr**	**21.84**	**135**	P	**P**	**09 43 49.8**	**-0.7**
WB2				IAmb	IAmb	09 43 54.7	
	comp=Z,21nm,1.1s						
WR0	**Warramunga Arr**	**21.98**	**135**	P	**P**	**09 43 55.8**	**+3.7**
WR0				IAmb	IAmb	09 44 13.1	
	comp=Z,34nm,1.1s						
TRTT	**Trang**	**22.24**	**304**	P	**P**	**09 43 56.3**	**+1.5**
	comp=Z,20nm,1.4s,comp=Z,953nm						
JAY	**Jayapura**	**22.70**	**85**	LR	LR	09 54 13.4	
	comp=Z,87nm,18.8s,baz=35,slow=40						
UBPT	**Khong Chiam**	**23.56**	**328**	P	**P**	**09 44 10.8**	**+2.3**
	comp=Z,17nm,1.9s						
SURT	**Suratani**	**23.60**	**305**	P	**P**	**09 44 10.5**	**+1.6**
	comp=Z,15nm,1.6s						
AS31	**Alice Springs**	**24.16**	**142**	P	**P**	**09 44 14.6**	**+0.2**
ASAR	**Alice Springs**	**24.16**	**142**	P	**P**	**09 44 14.3**	**0.0**
	comp=Z,5.6nm,0.9s,baz=320,slow=8.6,SNR=46						
ASAR				PcP	**PcP**	**09 47 55.0**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=327,slow=1.8,SNR=13						
ASAR				LR	LR	09 53 37.1	
	comp=Z,56nm,18.5s,baz=304,slow=36						
ASAR	**Alice Springs**	**24.16**	**142**	P	**P**	**09 44 13.9**	**-0.4**
PHET	**Kaeng Krachan**	**25.42**	**314**	P	**P**	**09 44 28.9**	**+3.2**
	comp=Z,26μm,0.9s						
CHAI	**Chaiyaphum**	**26.03**	**323**	P	**P**	**09 44 34.8**	**+3.5**
	comp=Z,9μm,0.8s,comp=Z,472μm						
PBKT	**Sadao Pong**	**27.16**	**322**	P	**P**	**09 44 43.5**	**+2.0**
	comp=Z,3.3nm,1.2s,comp=Z,1μm						
PBKT	**Sadao Pong**	**27.16**	**322**	P	**P**	**09 44 41.4**	**-0.1**
UTHA	**Uthaitani**	**27.39**	**318**	P	**P**	**09 44 44.8**	**+1.2**
	comp=Z,22μm,0.9s						
KHLT	**Khaolaem Dam**	**27.44**	**316**	P	**P**	**09 44 42.6**	**-1.4**
	comp=Z,18nm,1.0s						
NWAO	**Narrogin (SRO)**	**27.97**	**182**	LR	LR	09 57 14.6	
	comp=Z,138nm,18.7s,baz=26,slow=39						
UMPA	**Umpang Tak**	**28.25**	**318**	P	**P**	**09 44 52.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**29.85**	**321**	P	**P**	**09 45 05.6**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=142,slow=7.1,SNR=21						
CMAR				PcP	**PcP**	**09 48 08.8**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=177,slow=2.1,SNR=7.0						
CMAR				LR	LR	09 57 33.8	
	comp=Z,94nm,20.4s,baz=176,slow=38						
CMAR	**Chiang Mai Arr**	**29.85**	**321**	P	**P**	**09 45 06.1**	**+0.7**
CMMT	**Chiang Mai**	**30.11**	**322**	P	**P**	**09 45 09.7**	**+1.9**
	comp=Z,3.8nm,1.2s						
CHTO	**Chiang Mai**	**30.12**	**322**	P	**P**	**09 45 09.0**	**+1.2**
CHTO				IAmb	IAmb	09 45 09.8	
	comp=Z,10nm,1.2s						
STKA	**Stephens Creek**	**34.79**	**143**	P	**P**	**09 45 48.6**	**0.0**
	comp=Z,3.1nm,0.7s,baz=319,slow=11,SNR=7.5						
STKA				LR	LR	10 00 23.0	
	comp=Z,70nm,18.6s,baz=12,slow=37						
NJ2	**Nanjing**	**36.68**	**1**	*eP*	**P**	**09 46 05.6**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
SHL	**Shillong**	**39.49**	**321**	P	**P**	**09 46 27.9**	**-0.9**
LZH	**Lanzhou**	**42.83**	**343**	*eP*	**P**	**09 46 56.8**	**+0.7**
LZH				pP	pwP	09 47 02.3	+1.2
LZH				sP	sP	09 47 05.3	+5.6
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LSA	**Lhasa**	**42.96**	**325**	P	**P**	**09 46 57.3**	**-0.3**
KSAR	**Wonju Array Be**	**43.03**	**11**	P	**P**	**09 46 57.0**	**-0.5**
KSRS	**Korea Array**	**43.05**	**12**	P	**P**	**09 46 56.8**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=183,slow=9.3,SNR=10						
KSRS				LR	LR	10 06 01.3	
	comp=Z,30nm,19.9s,baz=214,slow=38						
ODAN	**Odare**	**43.28**	**318**	*eP*	**P**	**09 47 00.8**	**+0.8**
	comp=Z,74nm,0.9s						
TAPN	**Taplejung**	**43.40**	**319**	*eP*	**P**	**09 47 02.0**	**+0.9**
	comp=Z,85nm,1.0s						
RAMN	**Ramite**	**43.87**	**318**	*eP*	**P**	**09 47 05.6**	**+0.8**
	comp=Z,56nm,1.0s						
JIRN	**Jiri**	**44.61**	**318**	*eP*	**P**	**09 47 11.7**	**+0.9**
	comp=Z,90nm,0.7s						
GUN	**Gumba**	**44.98**	**318**	*eP*	**P**	**09 47 14.4**	**+0.6**
	comp=Z,90nm,0.9s						
PKI	**Pulchoki**	**45.07**	**317**	*eP*	**P**	**09 47 14.6**	**+0.1**
	comp=Z,43nm,0.9s						
PKIN	**Phulchoki**	**45.08**	**317**	*eP*	**P**	**09 47 14.7**	**+0.2**
	comp=Z,30nm,0.8s						
MJAR	**Matsushiro Arr**	**45.26**	**23**	P	**P**	**09 47 13.4**	**-2.1**
	comp=Z,2.1nm,0.8s,baz=190,slow=6.4,SNR=4.4						
MJAR				PcP	**PcP**	**09 48 55.4**	**0.0**
	comp=Z,3.9nm,1.0s,baz=224,slow=5.2,SNR=6.3						
MJAR				LR	LR	10 04 26.4	
	comp=Z,43nm,21.9s,baz=125,slow=34						
MJAR	**Matsushiro Arr**	**45.26**	**23**	IAmb	IAmb	09 47 14.1	
	comp=Z,2.3nm,1.2s						
DMN	**Daman**	**45.30**	**317**	*eP*	**P**	**09 47 16.8**	**+0.6**
	comp=Z,68nm,1.0s						
KKN	**Kakani**	**45.30**	**318**	*eP*	**P**	**09 47 16.6**	**+0.4**
	comp=Z,101nm,1.3s						
HHC	**Hu-ho-hao-te**	**45.84**	**353**	*eP*	**P**	**09 47 21.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
GKN	**Gorkha**	**45.87**	**317**	*eP*	**P**	**09 47 21.1**	**+0.5**
KOLN	**Koldanda**	**46.43**	**316**	*eP*	**P**	**09 47 25.5**	**+0.4**
	comp=Z,98nm,0.9s						
DANN	**Dangsing**	**46.69**	**317**	*eP*	**P**	**09 47 27.7**	**+0.5**
	comp=Z,225nm,0.8s						
GTA	**Gaotai**	**47.13**	**341**	⇓P	**P**	**09 47 31.5**	**+1.2**
GTA				pP	pwP	09 47 37.3	+2.0
GTA				sP	sP	09 47 40.1	+6.2
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,6.7s						
GTA				LR	LR		
	comp=Z,84nm,16.3s						
GTA				LR	LR		
	comp=Z,78nm,16.0s						
GTA				LR	LR		
	comp=Z,140nm,16.0s						
SONM	**Songino Array**	**53.43**	**350**	P	**P**	**09 48 16.9**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=171,slow=7.8,SNR=13						
SONM				LR	LR	10 13 23.1	
	comp=Z,62nm,18.4s,baz=192,slow=39						
WMQ	**Urumqi**	**55.62**	**334**	*eP*	**P**	**09 48 36.5**	**+2.6**
WMQ				pP	pwP	09 48 41.1	+2.2
KSH	**Kashi**	**58.74**	**323**	P	**P**	**09 48 56.8**	**+0.8**
KSH				pP	pwP	09 49 01.5	+0.4
KSH				PP	**PP**	**09 51 08.8**	**+2.7**
KSH				S	**S**	**09 56 58.3**	**-2.9**
KSH				pmax	pmax		
	comp=Z,37nm,1.0s						
KSH				pmax	pmax		
	comp=Z,270nm,6.8s						
KSH				LR	LR		
	comp=Z,350nm,14.3s						
KSH				LR	LR		
	comp=Z,250nm,9.0s						
KSH				LR	LR		
	comp=Z,180nm,13.9s						
MK31	**Makanchi Array**	**60.35**	**332**	P	**P**	**09 49 06.2**	**-0.7**
MK31				IAmb	IAmb	09 49 06.9	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**60.35**	**332**	P	**P**	**09 49 06.0**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=141,slow=7.8,SNR=40						
KBL	**Kabul**	**60.52**	**314**	P	**P**	**09 49 07.7**	**-0.8**
AAK	**Ala-Archa**	**61.56**	**325**	P	**P**	**09 49 14.7**	**-0.7**
GAR	**Garm**	**61.99**	**319**	P	**P**	**09 49 17.9**	**-0.4**
CHGR	**Chuyangaron**	**62.56**	**318**	P	**P**	**09 49 21.6**	**-0.5**
WSAR	**Wadi Sarin**	**64.33**	**298**	LR	LR	10 17 05.7	
	comp=Z,38nm,18.2s,baz=188,slow=36						
ZAA0	**Zalesovo Array**	**64.84**	**339**	IAmb	IAmb	09 49 43.9	
	comp=Z,5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**64.84**	**339**	P	**P**	**09 49 34.4**	**-2.3**
	comp=Z,6.2nm,0.8s,baz=148,slow=4.8,SNR=22						
KURK	**Kurchatov**	**64.87**	**334**	P	**P**	**09 49 35.5**	**-1.4**
KURK				IAmb	IAmb	09 49 36.5	
	comp=Z,6.9nm,0.9s						
PETK	**Petropavlovsk-**	**66.67**	**25**	P	**P**	**09 49 48.5**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=199,slow=4.1,SNR=5.6						
MA2	**Magadan**	**69.21**	**17**	LR	LR	10 17 50.5	
	comp=Z,27nm,21.6s,baz=86,slow=34						
GEYT	**Alibeck**	**69.92**	**313**	P	**P**	**09 50 07.7**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=146,slow=11,SNR=5.2						
GEYT	**Alibeck**	**69.92**	**313**	IAmb	IAmb	09 50 10.4	
	comp=Z,7.8nm,1.2s						
MAW	**Mawson**	**72.84**	**199**	LR	LR	10 22 06.0	
	comp=Z,34nm,18.5s,baz=57,slow=36						
ABKAR	**Akbulak array**	**73.64**	**325**	IAmb	IAmb	09 50 30.9	
	comp=Z,4.2nm,0.9s						
TIXI	**Tiksi**	**76.66**	**3**	P	**P**	**09 50 45.6**	**-2.7**
KMBO	**Kilima Mbogo**	**80.76**	**270**	P	**P**	**09 51 12.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=54,slow=7.2,SNR=5.9						
SYO	**Syowa Base**	**81.39**	**201**	⇑*eP*	**P**	**09 51 14.8**	**+0.4**
SYO	**Syowa Base**	**81.39**	**201**	⇑*es*P	sP	09 51 23.6	+5.3
AKH	**Akhalkalaki**	**81.71**	**313**	P	**P**	**09 51 17.1**	**+0.3**
KBZ	**Khabaz**	**82.69**	**315**	P	**P**	**09 51 21.2**	**-0.4**
	comp=Z,7.1nm,0.9s,baz=84,slow=4.9,SNR=12						
BR131	**Keskin Array S**	**88.78**	**310**	P	**P**	**09 51 50.7**	**-1.5**
BRTR	**Keskin Array B**	**88.78**	**310**	P	**P**	**09 51 50.7**	**-1.5**
	comp=Z,6.0nm,0.9s,baz=116,slow=5.6,SNR=28						
BOSA	**Boshof**	**90.19**	**241**	LR	LR	10 27 54.3	
	comp=Z,53nm,18.3s,baz=32,slow=33						
AKASG	**Malin Array Be**	**92.97**	**320**	P	**P**	**09 52 09.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=82,slow=3.6,SNR=5.7						
AKASG	**Malin Array Be**	**92.97**	**320**	IAmb	IAmb	09 52 11.3	
	comp=Z,2.3nm,1.1s						
ILAR	**Eielson Array**	**96.49**	**25**	P	**P**	**09 52 25.7**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=270,slow=4.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**116.75**	**282**	PKP	**PKPdf**	**09 57 41.8**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=106,slow=0.4,SNR=3.6						
NVAR	**Mina Array Bea**	**119.02**	**48**	PKP	**PKPdf**	**09 57 47.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=246,slow=3.0,SNR=6.5						
NVAR	**Mina Array Bea**	**119.02**	**48**	PKPdf	**PKPdf**	**09 57 47.8**	**+0.3**
PDAR	**Pinedale Array**	**123.44**	**41**	PKP	**PKPdf**	**09 57 55.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=259,slow=3.0,SNR=5.1						
JCT	**Junction City**	**136.16**	**50**		**PKPdf**	**09 58 19.0**	**-1.0**
KMSC	**Kings Mountain**	**144.90**	**28**		**PKPab**	**09 58 34.9**	**+0.1**
T59A	**Double "B" Far**	**144.94**	**22**		**PKPab**	**09 58 35.1**	**+0.3**
GOGA	**Godfrey**	**145.19**	**33**	PKPbc	**PKPbc**	**09 58 36.2**	**+0.5**
CPUP	**Villa Florida**	**148.71**	**188**		**PKPdf**	**09 58 42.7**	**+0.3**
GO02	**Mina Guanaco**	**149.28**	**166**		**PKPbc**	**09 58 48.1**	**+0.1**
LVC	**Limon Verde**	**151.89**	**166**		**PKPbc**	**09 58 54.1**	**-0.2**

*SOME **14** 10:05:31.8, 41°.30N×71°.03E, h0km*
*KRNET **14** 10:05:31.1±0.1, 41°.39N×70°.94E, h12km, mb2.3*
*NNC **14** 10:05:31.4±3.2, 41°.18N×71°.04E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=26.5km s-min=10.7km az=16.0*

ISC 14 10:05:32.3±1.4, 41°.33N±0°.04×71°.06E±0°.04, h10km±11km, n18, σ1§43/33, 14C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.83**	**55**	⇓*iP*	**Pg**	**10 05 47.7**	**-0.6**
	baz=63						
ARK				⇓*iS*	**Sb**	**10 06 00.5**	**+0.4**
	baz=63						
IUG	**Iuzhnay**	**1.12**	**317**	P	**Pn**	**10 05 54.2**	**0.0**
	0.4nm,0.3s						
IUG				S	**Sn**	**10 06 09.8**	**0.0**
	10nm,0.8s						
IUG	**Iuzhnay**	**1.12**	**317**	*eP*	**Pn**	**10 05 54.2**	**0.0**
	0.4nm,0.2s						
IUG				*eS*	**Sn**	**10 06 09.8**	**0.0**
	11nm,0.9s						
BTK	**Batken**	**1.28**	**188**	⇓*eP*	**Pg**	**10 05 56.5**	**-0.4**
	baz=84						
BTK				⇓*iS*	**Sn**	**10 06 15.3**	**+1.7**
	baz=84						
ARSB	**Arslanbob**	**1.45**	**89**	⇑*iP*	**Pg**	**10 05 59.8**	**-0.4**
	baz=92						
ARSB				⇑*iS*	**Sg**	**10 06 21.5**	**+2.5**
	baz=92						
KK31	**Karatay Array**	**1.82**	**347**	⇑Pn	**Pg**	**10 06 06.9**	**-0.3**
	3.0nm,0.5s,baz=172,slow=17,SNR=31						
KK31				⇑Sn	**Sg**	**10 06 33.4**	**+2.6**
	10.0nm,0.7s,baz=164,slow=32,SNR=20						
BRLS	**Borolday**	**1.93**	**332**	P	**Pn**	**10 06 05.9**	**+0.7**
	0.4nm,0.3s						
BRLS				S	**Sn**	**10 06 30.2**	**+0.6**
	7.0nm,0.6s						
BRLS	**Borolday**	**1.93**	**332**	*eP*	**Pn**	**10 06 05.9**	**+0.7**
	0.3nm,0.1s						
BRLS				*eS*	**Sn**	**10 06 30.2**	**+0.6**
	7.2nm,0.8s						
AML	**Almayashu**	**2.13**	**67**	⇓*iP*	**Pb**	**10 06 10.9**	**-0.4**
	baz=69						
AML				⇓*iS*	**Sg**	**10 06 40.8**	**-0.1**
	baz=69						
MRKS	**Merke**	**2.15**	**48**	Pg	**Pg**	**10 06 13.4**	**-0.1**
	3.0nm,0.3s						
MRKS				Lg	Lg	10 06 43.0	
	3.7nm,0.4s						
MRKS	**Merke**	**2.15**	**48**	*eP*	**Pg**	**10 06 13.4**	**-0.1**
	3.0nm,0.3s						
MRKS				*eS*	**Sg**	**10 06 43.0**	**+1.6**
	3.7nm,0.4s						
EKS2	**Erkin-Say**	**2.43**	**56**	⇑*iP*	**Pb**	**10 06 14.1**	**-2.0**
	baz=58						
EKS2				⇑*iS*	**Sb**	**10 06 46.2**	**0.0**
	baz=58						
ARLS	**Aral**	**2.51**	**77**	⇑*iP*	**Pb**	**10 06 16.0**	**-1.5**
	baz=78						
ARLS				⇑*iS*	**Sb**	**10 06 49.8**	**+1.3**
	baz=78						
UCH	**Uchtor**	**2.74**	**70**	⇑*eP*	**Pb**	**10 06 19.3**	**-2.3**
	baz=71						
UCH				⇑*iS*	**Sb**	**10 06 55.1**	**-0.3**
	baz=71						
AAK	**Ala-Archa**	**2.88**	**62**	⇓Pg	**Pb**	**10 06 22.8**	**-1.1**
	2.5nm,0.8s						
AAK				⇑Lg	Lg	10 07 02.8	
	1.5nm,0.7s						
AAK	**Ala-Archa**	**2.88**	**62**	⇓*eP*	**Pn**	**10 06 20.6**	**+2.2**
	baz=64						
AAK				⇓*iS*	**Sb**	**10 06 57.7**	**-1.5**
	baz=64						
KZA	**Kyzart**	**3.23**	**75**	⇑*eP*	**Pb**	**10 06 26.6**	**-3.4**
	baz=77						
KZA				⇑*iS*	**Sb**	**10 07 07.4**	**-2.1**
	baz=77						
TKM2	**Tokmak 2**	**3.73**	**63**	⇓Pg	**Pg**	**10 06 43.1**	**-0.7**
	1.9nm,0.9s						
TKM2				⇑Lg	Lg	10 07 28.4	
	2.0nm,1.0s						

*IDC **14** 10:26:16.4±3.0, 5°.29S×100°.38E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/41, mbtmp3.6/6, Error ellipse: s-maj=106.6km s-min=25.5km az=56.0*
*ISCJB **14** 10:26:18.5±1.1, 4°.86S±0°.09×100°.91E±0°.10, h10km, mb3.7/6, Error ellipse: s-maj=14.0km s-min=12.6km az=174.5*
*DJA **14** 10:

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS				*e*S	**Sn**	**10 33 02.8**	**+0.2**
	4.0nm,0.2s						
MDOK	**Medeo**	**1.33**	**306**	Pg	**Pn**	**10 32 44.0**	**-0.3**
	4.2nm,0.2s						
MDOK				Lg	Lg	10 33 02.1	
	6.9nm,0.2s						
MDOK	**Medeo**	**1.33**	**306**	*e*P	**Pn**	**10 32 44.0**	**-0.3**
	baz=8.0						
MDOK				*e*S	**Sg**	**10 33 02.1**	**0.0**
	baz=8.0						
MDOK	**Medeo**	**1.33**	**306**	*e*P	**Pn**	**10 32 43.6**	**-0.7**
	4.1nm,0.2s						
MDOK				*e*S	**Sb**	**10 33 01.3**	**-0.6**
	6.6nm,0.2s						
KOTS	**Kotyrbulak**	**1.33**	**309**	P	**Pg**	**10 32 45.1**	**+0.2**
	6.9nm,0.3s						
KOTS				S	**Sg**	**10 33 04.0**	**+1.7**
	14nm,0.3s						
KOTS	**Kotyrbulak**	**1.33**	**309**	*e*P	**Pg**	**10 32 45.1**	**+0.2**
	baz=11						
KOTS				*e*S	**Sg**	**10 33 04.0**	**+1.7**
	baz=11						
KOTS	**Kotyrbulak**	**1.33**	**309**	*e*P	**Pg**	**10 32 45.1**	**+0.2**
	6.9nm,0.3s						
KOTS				*e*S	**Sg**	**10 33 04.0**	**+1.7**
	14nm,0.3s						
IZV	**Izvestkoviy**	**1.55**	**295**	P	**Pg**	**10 32 48.5**	**-0.5**
	2.7nm,0.2s						
IZV				S	**Sg**	**10 33 09.8**	**+0.8**
	6.5nm,0.1s						
IZV	**Izvestkoviy**	**1.55**	**295**	*e*P	**Pg**	**10 32 48.5**	**-0.5**
	baz=97						
IZV				*e*S	**Sg**	**10 33 09.8**	**+0.8**
	baz=97						
IZV	**Izvestkoviy**	**1.55**	**295**	*e*P	**Pg**	**10 32 48.5**	**-0.5**
	2.7nm,0.2s						
IZV				*e*S	**Sg**	**10 33 09.8**	**+0.8**
	6.5nm,0.1s						
MNBS	**Baschi**	**1.68**	**357**	P	**Pb**	**10 32 50.8**	**+0.2**
	1.1nm,0.1s						
MNBS				S	**Sg**	**10 33 13.6**	**+0.2**
	514nm,0.2s						
MNBS	**Baschi**	**1.68**	**357**	*e*P	**Pb**	**10 32 50.8**	**+0.2**
	1.1nm,0.1s						
MNBS				*e*S	**Sg**	**10 33 13.6**	**+0.2**
	514nm,0.2s						
ULHL	**Ulahol**	**1.70**	**266**	⇑*i*P	**Pb**	**10 32 51.0**	**+0.1**
	baz=67						
ULHL				⇑*i*S	**Sg**	**10 33 14.3**	**+0.4**
	baz=67						
KTMS	**Ketmen**	**1.70**	**51**	P	**Pg**	**10 32 51.8**	**-0.1**
	1.7nm,0.1s						
KTMS				S	**Sg**	**10 33 15.6**	**+1.7**
	3.7nm,0.1s						
KTMS	**Ketmen**	**1.70**	**51**	*e*P	**Pg**	**10 32 51.8**	**-0.1**
	baz=49						
KTMS				*e*S	**Sg**	**10 33 15.7**	**+1.7**
	baz=49						
KTMS	**Ketmen**	**1.70**	**51**	*e*P	**Pg**	**10 32 51.8**	**-0.1**
	1.7nm,0.1s						
KTMS				*e*S	**Sg**	**10 33 15.6**	**+1.7**
	3.7nm,0.1s						
KTBS	**Karatobe**	**1.89**	**315**	Pg	**Pg**	**10 32 54.9**	**-0.5**
	1.5nm,0.2s						
KTBS				Lg	Lg	10 33 20.9	
	5.9nm,0.2s						
KTBS	**Karatobe**	**1.89**	**315**	*e*P	**Pg**	**10 32 54.9**	**-0.5**
	1.5nm,0.2s						
KTBS				*e*S	**Sg**	**10 33 20.9**	**+1.0**
	5.9nm,0.2s						
BOOM	**Boomskoye usch**	**1.92**	**274**	⇓*i*P	**Pb**	**10 32 54.2**	**-0.4**
	baz=75						
BOOM				⇓*i*S	**Sg**	**10 33 20.3**	**-0.6**
	baz=75						
NRN	**Naryn**	**2.12**	**244**	⇑*i*P	**Pb**	**10 32 56.3**	**-1.8**
	baz=45						
NRN				⇑*i*S	**Sb**	**10 33 24.9**	**+0.2**
	baz=45						
DGS	**Degeres**	**2.19**	**294**	Pg	**Pb**	**10 32 60.0**	**+0.7**
	2.4nm,0.4s						
DGS				Lg	Lg	10 33 29.5	
	3.8nm,0.2s						
DGS	**Degeres**	**2.19**	**294**	*e*P	**Pb**	**10 33 00.0**	**+0.7**
	2.4nm,0.4s						
DGS				*e*S	**Sg**	**10 33 29.5**	**-0.3**
	3.8nm,0.2s						
TKM2	**Tokmak 2**	**2.22**	**285**	⇑Pg	**Pg**	**10 33 00.9**	**-1.0**
	1.0nm,0.6s						
TKM2				⇓Lg	Lg	10 33 30.3	
	1.9nm,0.6s						
TKM2	**Tokmak 2**	**2.22**	**285**	⇑*e*P	**Pb**	**10 32 58.3**	**-1.5**
	baz=86						
TKM2				⇑*i*S	**Sb**	**10 33 27.8**	**+0.2**
	baz=86						
KZA	**Kyzart**	**2.45**	**264**	⇑*e*P	**Pn**	**10 33 01.5**	**+1.5**
	baz=65						
KZA				⇑*i*S	**Sb**	**10 33 33.4**	**-1.0**
	baz=65						
AAK	**Ala-Archa**	**2.99**	**276**	⇑Pg	**Pg**	**10 33 16.4**	**-0.2**
	1.3nm,0.7s						
AAK				⇓Lg	Lg	10 33 50.7	
	3.0nm,0.9s						
ARLS	**Aral**	**3.17**	**262**	⇓*e*P	**Pn**	**10 33 11.3**	**+1.7**
	baz=63						
ARLS				⇓*i*S	**Sn**	**10 33 49.3**	**+1.5**
	baz=63						

ISCJB ***14*** *10:37:14.4±1.6, 30.°0N±0.°1×36.°1E±0.°2, h3km, Error ellipse: s-maj=23.2km s-min=8.1km az=33.8*
HLW ***14*** *10:37:17.0, 29.°88N×36.°06E, h10km±9km, Md2.8*
ISC 14 10:37:15.5±2.1, 30.°04N±0.°10×36.°0E±0.°1, h3km, n9, σ1§04/9, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**0.81**	**270**	P	**Pg**	**10 37 32.1**	**+1.0**
AQBJ	**Aqaba**	**0.86**	**249**	P	**Pg**	**10 37 32.9**	**+0.9**
EIL	**Elat**	**0.96**	**248**	P	**Pb**	**10 37 35.3**	**+0.5**
LISJ	**El Lisan**	**1.27**	**341**	P	**Pn**	**10 37 38.7**	**-1.4**
HBST	**Basata**	**1.36**	**233**	P	**Pn**	**10 37 40.9**	**-0.5**
	baz=241						
HBST				S	**Sg**	**10 37 58.3**	**-0.9**
	baz=241						
KZIT	**Kziot**	**1.61**	**303**	P	Pn	10 37 39.3	-5.6
HDHB	**Dhahab**	**1.77**	**222**	P	**Pn**	**10 37 46.1**	**-0.9**
	baz=228						
ASF	**Jabal al Asfar**	**2.27**	**20**	P	**Pn**	**10 37 53.9**	**-0.1**
HKAT	**Jabal Katrina**	**2.30**	**229**	P	**Pn**	**10 37 53.6**	**-0.9**
	baz=234						

ISK ***14*** *11:11:20.9, 37.°32N×29.°63E, h21km, ML2.2/5*
DDA ***14*** *11:11:21.3, 37.°24N×29.°69E, h7km±4km, ML2.6*
ISC 14 11:11:21.4±1.4, 37.°27N±0.°04×29.°66E±0.°03, h8km±12km, n10, σ0§66/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDR	**BURDUR-Merkez**	**0.53**	**37**	*i*P	**Pg**	**11 11 31.8**	**+0.1**
BRDR				*i*S	**Sb**	**11 11 41.7**	**+0.8**
BRDR				IAML_P			
	comp=Z,3μm,0.1s						
ELL	**Elmali**	**0.56**	**159**	PG	**Pb**	**11 11 33.8**	**+0.4**
ELL				SG	**Sb**	**11 11 42.9**	**+1.3**
KORT	**Korkueli**	**0.62**	**116**	PG	**Pb**	**11 11 34.4**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.62**	**289**	*i*P	**Pg**	**11 11 33.7**	**+0.3**
TAVA				*i*S	**Sb**	**11 11 44.2**	**+0.8**
TAVA				IAML_P			
	comp=Z,2μm,0.2s						
BCK	**Bucak**	**0.77**	**75**	PG	**Pb**	**11 11 36.6**	**-0.4**
BCK				SG	**Sb**	**11 11 47.7**	**+0.1**
FETY	**Fethiye**	**0.78**	**216**	PG	**Pb**	**11 11 37.1**	**-0.1**
ISP	**Isparta**	**0.88**	**51**	PG	**Pg**	**11 11 37.9**	**-0.5**
ISP				SG	**Sb**	**11 11 51.4**	**+0.5**
DALY	**Dalyan (Mula)**	**0.92**	**241**	*i*P	**Pn**	**11 11 39.9**	**-0.6**
DALY				*i*S	**Sn**	**11 11 53.4**	**-0.5**
DALY				IAML_P			
	comp=Z,593nm,0.3s						
DALY	**Dalyan (Mula)**	**0.92**	**241**	PG	**Pg**	**11 11 39.0**	**0.0**
DALY				SG	**Sn**	**11 11 52.9**	**-1.0**
KZIL	**AFYON_Kizioren**	**1.06**	**21**	*i*P	**Pb**	**11 11 41.9**	**-0.1**
KZIL				*i*S	**Sn**	**11 11 58.4**	**+0.9**
KZIL				IAML_P			
	comp=Z,206nm,0.1s						

WEL 14 11:31:51.9, 40.°5N±1.°×17.°7E±.°, h48km±2km, M3.4/30, ML3.7/18, MLv3.4/30, Error ellipse: s-maj=0.0km s-min=0.0km az=73.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.16**	**137**	P	Pn	11 31 60.0	+0.2
PXZ				S	Sn	11 32 06.2	+0.9
KAHZ	**Kahuranaki**	**0.17**	**45**	P	Pn	11 32 00.1	+0.2
KAHZ				S	Sn	11 32 06.3	+0.7
WPHZ	**Waipukurau**	**0.26**	**235**	P	Pn	11 32 01.0	+0.5
WPHZ				S	Sn	11 32 08.0	+1.3
PRHZ	**Porangahau**	**0.36**	**191**	P	Pn	11 32 02.0	+0.5
PRHZ				S	Sn	11 32 09.5	+1.3
CKHZ	**Cape Kidnapper**	**0.38**	**47**	P	Pn	11 32 01.8	+0.2
CKHZ				S	Sn	11 32 09.3	+0.8
KRHZ	**Kereru**	**0.38**	**315**	P	Pn	11 32 01.7	0.0
KRHZ				S	Sn	11 32 08.8	+0.1
PNHZ	**Pukenui**	**0.40**	**270**	P	Pn	11 32 02.2	+0.3
PNHZ				S	Sn	11 32 09.6	+0.5
MCHZ	**McNeill Hill**	**0.47**	**358**	P	Pn	11 32 03.1	+0.4
MCHZ				S	Sn	11 32 11.5	+1.1
KWHZ	**Kaweka Forest**	**0.54**	**335**	P	Pn	11 32 03.6	0.0
KWHZ				S	Sn	11 32 12.2	+0.2
DVHZ	**Dannevirke**	**0.57**	**228**	P	Pn	11 32 04.3	+0.3
DVHZ				S	Sn	11 32 13.5	+0.9
ANWZ	**Angora Road**	**0.57**	**199**	P	Pn	11 32 04.4	+0.5
ANWZ				S	Sn	11 32 14.0	+1.4
TSZ	**Takapari Road**	**0.60**	**256**	P	Pn	11 32 04.6	+0.3
TSZ				S	Sn	11 32 13.9	+0.6
BHHZ	**Black Hill Sta**	**0.66**	**310**	P	Pn	11 32 05.5	+0.3
BHHZ				S	Sn	11 32 14.7	0.0
ARHZ	**Aropaoanui**	**0.69**	**18**	P	Pn	11 32 05.8	+0.4
ARHZ				S	Sn	11 32 16.8	+1.7
BKZ	**Black Stump Fm**	**0.77**	**347**	P	Pn	11 32 06.6	+0.1
NMHZ	**Naumai**	**0.82**	**5**	P	Pn	11 32 07.6	+0.4
BFZ	**Birch Farm**	**0.85**	**205**	P	Pn	11 32 07.7	+0.1
BFZ				S	Sn	11 32 19.3	+0.3
PRWZ	**Pori Road**	**0.86**	**222**	P	Pn	11 32 08.3	+0.6
POWZ	**Post Office Ro**	**0.87**	**237**	P	Pn	11 32 08.2	+0.4
MOVZ	**Moawhango**	**0.90**	**304**	P	Pn	11 32 09.1	+0.8
WHHZ	**Waihua**	**0.93**	**26**	P	Pn	11 32 08.7	+0.2
RAHZ	**Arahi**	**1.04**	**16**	P	Pn	11 32 10.3	+0.2
TUVZ	**Tukino**	**1.05**	**308**	P	Pn	11 32 11.7	+1.3
MTHZ	**Maungataniwha**	**1.07**	**5**	P	Pn	11 32 10.5	0.0
CPWZ	**Castlepoint**	**1.07**	**202**	P	Pn	11 32 10.9	+0.4
TIWZ	**Tintock**	**1.07**	**216**	P	Pn	11 32 10.6	+0.1
WHVZ	**Whangaehu Hut**	**1.08**	**305**	P	Pn	11 32 12.0	+1.2
TRVZ	**Turoa**	**1.09**	**304**	P	Pn	11 32 12.1	+1.1
MTVZ	**Mangateitei**	**1.10**	**298**	P	Pn	11 32 12.4	+1.4
MRHZ	**Matea Rd**	**1.10**	**348**	P	Pn	11 32 11.6	+0.5
OHWZ	**Ohakea**	**1.12**	**255**	P	Pn	11 32 12.7	+1.6
FWVZ	**Far West T-bar**	**1.12**	**306**	P	Pn	11 32 12.3	+0.9
HATZ	**Hinemaiaia**	**1.13**	**334**	P	Pn	11 32 12.1	+0.7
NGZ	**Ngauruhoe**	**1.14**	**310**	P	Pn	11 32 12.6	+1.0
MRZ	**Mangatainoka R**	**1.15**	**229**	P	Pn	11 32 11.6	0.0
RITZ	**Rihia Road**	**1.15**	**324**	P	Pn	11 32 12.7	+1.1
KNZ	**Kokohu**	**1.16**	**44**	P	Pn	11 32 11.2	-0.4
KRVZ	**Karewarewa**	**1.17**	**314**	P	Pn	11 32 13.0	+1.0
WTVZ	**West Tongariro**	**1.19**	**312**	P	Pn	11 32 13.2	+1.0
MHGZ	**Mahia Peninsul**	**1.19**	**51**	P	Pn	11 32 11.9	-0.3
KATZ	**Kakaramea**	**1.23**	**319**	P	Pn	11 32 13.8	+1.0
SNGZ	**Shannon Statio**	**1.23**	**23**	P	Pn	11 32 12.6	-0.1
PKVZ	**Pokaka**	**1.23**	**300**	P	Pn	11 32 14.1	+1.3
RATZ	**Rangitukua**	**1.28**	**325**	P	Pn	11 32 14.3	+0.9
TWVZ	**Taurewa**	**1.30**	**310**	P	Pn	11 32 14.4	+0.7
RTZ	**Ruatahuna**	**1.31**	**9**	P	Pn	11 32 13.8	-0.1
PRGZ	**Paritu Road**	**1.34**	**43**	P	Pn	11 32 13.8	-0.4
HOWZ	**Holdsworth Sta**	**1.34**	**223**	P	Pn	11 32 13.9	-0.4
TMWZ	**Te Maipa**	**1.35**	**208**	P	Pn	11 32 13.7	-0.6
WHTZ	**Whakaora**	**1.38**	**334**	P	Pn	11 32 15.7	+0.9
ALRZ	**Allen Road**	**1.38**	**348**	P	Pn	11 32 15.0	+0.2
WATZ	**Wairara**	**1.43**	**327**	P	Pn	11 32 15.9	+0.5
MUGZ	**Murupara**	**1.44**	**2**	P	Pn	11 32 15.3	-0.2
PRRZ	**Plateau Road**	**1.44**	**350**	P	Pn	11 32 15.7	+0.2
RIGZ	**Rimuhau**	**1.45**	**34**	P	Pn	11 32 15.2	-0.5
WPRZ	**Whakapapatarin**	**1.46**	**343**	P	Pn	11 32 16.4	+0.6
OGWZ	**Otaki Gorge**	**1.49**	**232**	P	Pn	11 32 15.9	-0.3
RAGZ	**Rawiri**	**1.52**	**21**	P	Pn	11 32 16.2	-0.4
MTW	**Mount Morrison**	**1.55**	**216**	P	Pn	11 32 16.0	-1.0
HRRZ	**Handcock Road**	**1.56**	**347**	P	Pn	11 32 17.5	+0.2
RRRZ	**Republican Roa**	**1.58**	**354**	P	Pn	11 32 17.3	-0.2
KUTZ	**Kaahu Road**	**1.59**	**334**	P	Pn	11 32 18.0	+0.5
GRRZ	**Galatos Road**	**1.63**	**343**	P	Pn	11 32 19.0	+0.7
HSRZ	**Hossack Road**	**1.64**	**347**	P	Pn	11 32 18.6	+0.2
KIW	**Kapiti Island**	**1.68**	**235**	P	Pn	11 32 18.5	-0.3
TRWZ	**Traveller**	**1.68**	**208**	P	Pn	11 32 17.9	-0.9
URZ	**Urewera**	**1.68**	**11**	P	Pn	11 32 18.2	-0.6
HLRZ	**Highlands Stat**	**1.69**	**350**	P	Pn	11 32 20.1	+1.2
TARZ	**Mount Tarawera**	**1.69**	**354**	P	Pn	11 32 19.1	+0.2
MWZ	**Matawai**	**1.70**	**22**	P	Pn	11 32 18.3	-0.8
VRZ	**Vera Road**	**1.71**	**297**	P	Pn	11 32 20.3	+1.0
TKGZ	**Te Karaka**	**1.71**	**31**	P	Pn	11 32 18.8	-0.8
CAW	**Cannon Point**	**1.73**	**226**	P	Pn	11 32 18.8	-0.8
PAWZ	**Paruwai Farm**	**1.77**	**213**	P	Pn	11 32 18.7	-1.3
UTU	**Utuhina**	**1.78**	**347**	P	Pn	11 32 19.7	-0.5
MKRZ	**Makatiti**	**1.79**	**354**	P	Pn	11 32 20.6	+0.3
EDRZ	**Edgecumbe**	**1.81**	**0**	P	Pn	11 32 20.2	-0.4
OMRZ	**Omania**	**1.83**	**351**	P	Pn	11 32 20.7	-0.2
TLZ	**Tolley Road**	**1.83**	**329**	P	Pn	11 32 21.2	+0.2
CNGZ	**Carnagh Statio**	**1.84**	**39**	P	Pn	11 32 20.2	-0.7
NGRZ	**Ngongotaha**	**1.86**	**347**	P	Pn	11 32 21.8	+0.5
MSWZ	**Moikau Station**	**1.87**	**216**	P	Pn	11 32 19.8	-1.6
MARZ	**Manawahe**	**1.93**	**359**	P	Pn	11 32 22.3	+0.1
PLWZ	**Palliser**	**1.99**	**214**	P	Pn	11 32 21.4	-1.8
HIZ	**Hauiti**	**2.02**	**313**	P	Pn	11 32 24.0	+0.6
BHW	**Baring Head**	**2.05**	**223**	P	Pn	11 32 22.4	-1.5
WHRZ	**Whale Island**	**2.07**	**6**	P	Pn	11 32 23.7	-0.4
OPRZ	**Ohinepanea**	**2.07**	**356**	P	Pn	11 32 23.7	-0.5
RUGZ	**Raukumara Rang**	**2.09**	**21**	P	Pn	11 32 23.6	-0.9
PUZ	**Puketiti**	**2.20**	**34**	P	Pn	11 32 24.5	-1.4
TGRZ	**Tauranga**	**2.21**	**351**	P	Pn	11 32 25.7	-0.5
TCW	**Tory Channel**	**2.27**	**234**	P	Pn	11 32 25.8	-1.1
PKGZ	**Pakihiroa**	**2.28**	**28**	P	Pn	11 32 26.3	-0.9
HAZ	**Te Kaha**	**2.31**	**21**	P	Pn	11 32 26.1	-1.3
DUWZ	**D'Urville Isla**	**2.31**	**247**	P	Pn	11 32 26.9	-0.7
TOZ	**Tahuroa Road**	**2.38**	**336**	P	Pn	11 32 28.5	+0.1
WMGZ	**Waiomatatini S**	**2.48**	**33**	P	Pn	11 32 28.4	-1.3
MXZ	**Matakaoa Point**	**2.66**	**28**	P	Pn	11 32 31.4	-0.8
BSWZ	**Blackbirch Sta**	**2.81**	**229**	P	Pn	11 32 32.7	-1.6
NNZ	**Nelson**	**2.86**	**242**	P	Pn	11 32 34.1	-0.8
MKAZ	**Moumakai**	**3.06**	**336**	P	Pn	11 32 36.0	-1.7
ETAZ	**East Tamaki Re**	**3.27**	**334**	P	Pn	11 32 41.6	+0.9
AWAZ	**Awhitu Peninsu**	**3.28**	**330**	P	Pn	11 32 41.5	+0.7
QRZ	**Quartz Range**	**3.33**	**253**	P	Pn	11 32 40.6	-0.8
WIAZ	**Waiheke Island**	**3.36**	**338**	P	Pn	11 32 42.7	+0.9
WTAZ	**Waiatarua**	**3.42**	**330**	P	Pn	11 32 43.8	+1.0
THZ	**Tophouse**	**3.43**	**236**	P	Pn	11 32 41.0	-1.9
MBAZ	**Motutapu North**	**3.45**	**335**	P	Pn	11 32 43.8	+0.7
KHZ	**Kahutara**	**3.46**	**223**	P	Pn	11 32 40.5	-2.7
ABAZ	**Army Bay**	**3.63**	**335**	P	Pn	11 32 46.7	+1.2
GVZ	**Greta Valley S**	**4.12**	**221**	P	Pn	11 32 51.3	-1.0
WCZ	**Waipu Caves**	**4.39**	**334**	P	Pn	11 32 56.9	+1.0
LTZ	**Lake Taylor**	**4.41**	**228**	P	Pn	11 32 53.6	-2.6
AMCZ	**Amberley**	**4.46**	**222**	P	Pn	11 32 55.6	-1.4
OKCZ	**Okains Bay**	**4.69**	**215**	P	Pn	11 32 57.2	-2.8
CRLZ	**Canterbury Las**	**4.77**	**219**	P	Pn	11 32 59.2	-1.9
MQZ	**McQueen's Vall**	**4.86**	**217**	P	Pn	11 32 59.5	-2.8
INZ	**Inchbonnie**	**4.86**	**233**	P	Pn	11 32 59.6	-2.9
AKCZ	**Akaroa Harbour**	**4.87**	**214**	P	Pn	11 33 00.3	-2.2
OXZ	**Oxford**	**4.89**	**224**	P	Pn	11 33 00.5	-2.4
OUZ	**Omahuta**	**5.30**	**331**	P	Pn	11 33 09.5	+1.0
WVZ	**Waitaha Valley**	**5.49**	**233**	P	Pn	11 33 08.6	-2.4
RPZ	**Rata Peaks**	**5.69**	**226**	P	Pn	11 33 11.6	-2.1
FOZ	**Fox Glacier**	**6.30**	**233**	P	Pn	11 33 19.5	-2.6
LBZ	**Lake Benmore**	**6.60**	**225**	P	Pn	11 33 23.7	-2.6
ODZ	**Otahua Downs**	**6.81**	**219**	P	Pn	11 33 26.8	-2.4

BGR ***14*** *11:34:35.4±0.6, 44.°23N×8.°57E, h10km, ML3.4/19, Error ellipse: s-maj=8.9km s-min=6.7km az=25.0*
STR ***14*** *11:34:36.1±0.4, 44.°N±3.°×.°±.°, h0km, MLv3.2/6*
NEIC ***14*** *11:34:36.6±1.9, 44.°42N±0.°06×8.°84E±0.°03, h14km±4km*
ROM ***14*** *11:34:36.3±0.1, 44.°519N±0.°008×8.°909E±0.°005, h6km±1km, ML3.1/27, Error ellipse: s-maj=0.7km s-min=0.5km az=352.0*
LDG ***14*** *11:34:37.8±0.0, 44.°45N×8.°91E, h2km, Ml3.4/50, Error ellipse: s-maj=0.8km s-min=0.7km az=13.0*
GEN ***14*** *11:34:37.2, 44.°55N×8.°89E, h7km±3km, Ml3.1*
PRU ***14*** *11:34:38.0±0.0, 44.°50N×8.°85E, h6km*
ISC 14 11:34:37.2±0.8, 44.°50N±0.°02×8.°86E±0.°01, h17km±5km, n216, σ1§76/312, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCP	**Piancastagn**	**0.23**	**282**	P	**Pg**	**11 34 42.1**	**-0.5**
PCP				S	**Sg**	**11 34 45.7**	**-0.6**
PCP	**Piancastagn**	**0.23**	**282**	P	**Pg**	**11 34 42.1**	**-0.5**
PCP				S	**Sg**	**11 34 46.3**	**0.0**
PCP				AML	AML		
	comp=E,4620μm,0.2s						
PCP				AML	AML		
	comp=N,4625μm,0.8s						
GORR	**Gorreto**	**0.33**	**70**	P	**Pg**	**11 34 42.8**	**-1.4**
GORR				S	**Sg**	**11 34 47.1**	**-1.8**
GORR	**Gorreto**	**0.33**	**70**	P	**Pg**	**11 34 42.8**	**-1.4**
GORR				S	**Sg**	**11 34 47.3**	**-1.6**
GORR				AML	AML		
	comp=E,9495μm,0.3s						
GORR				AML	AML		
	comp=N,11800μm,1.0s						
GORR				AML	AML		
	comp=E,9500μm,0.3s						
QLNO	**Quiliano**	**0.41**	**246**	*e*P	**Pb**	**11 34 45.6**	**-0.4**
QLNO				S	**Sb**	**11 34 53.4**	**+1.5**
QLNO				AML	AML		
	comp=E,2950μm,0.5s						
QLNO				AML	AML		
	comp=N,2245μm,0.2s						
BOB	**Bobbio (Coli)**	**0.50**	**57**	P	**Pg**	**11 34 46.2**	**-1.0**
BOB				S	**Sg**	**11 34 53.4**	**-0.6**
BOB				AML	AML		
	comp=N,3675μm,0.4s						
BOB				AML	AML		
	comp=E,2650μm,0.4s						
BOB				AML	AML		
	comp=E,2645μm,0.4s						
BOB				AML	AML		
	comp=E,3070μm,0.6s						
BOB				AML	AML		
	comp=N,3505μm,0.4s						
BOB				AML	AML		
	comp=N,3680μm,0.4s						
FINB	**Finale Ligure**	**0.50**	**231**	P	**Pb**	**11 34 47.4**	**-0.1**
FINB				S	**Sb**	**11 34 55.7**	**+1.2**
FINB				AML	AML		
	comp=E,3150μm,0.6s						
FINB				AML	AML		
	comp=N,3370μm,1.0s						
MSSA	**Maissana**	**0.50**	**111**	P	**Pg**	**11 34 46.5**	**-0.7**
MSSA				S	**Sg**	**11 34 53.1**	**-0.9**
MSSA				AML	AML		
	comp=E,1925μm,0.5s						
MSSA				AML	AML		
	comp=N,2675μm,0.8s						
MSSA	**Maissana**	**0.50**	**111**		**Pg**	**11 34 46.6**	**-0.7**
MSSA					**Pb**	**11 34 46.8**	**-0.8**
MSSA					**Sg**	**11 34 52.7**	**-1.3**
MSSA					**Sg**	**11 34 53.1**	**-0.9**
ROTM	**Rocchetta Tana**	**0.51**	**314**	P	**Pg**	**11 34 47.4**	**0.0**
ROTM				S	**Sb**	**11 34 55.4**	**+0.6**
RORO	**Rocca Rossa**	**0.69**	**237**	P	**Pb**	**11 34 50.6**	**-0.2**
RORO				S	**Sb**	**11 35 01.2**	**+1.3**
RORO	**Rocca Rossa**	**0.69**	**237**	P	**Pb**	**11 34 50.7**	**0.0**
RORO				S	**Sb**	**11 35 01.3**	**+1.3**
RORO				AML	AML		
	comp=N,3580μm,1.0s						
RORO				AML	AML		
	comp=E,2365μm,0.8s						
GBOS	**Grotte di Boss**	**0.78**	**251**	P	**Pg**	**11 34 52.1**	**-0.3**
GBOS				S	**Sb**	**11 35 03.4**	**+0.8**
GBOS	**Grotte di Boss**	**0.78**	**251**	P	**Pg**	**11 34 52.1**	**-0.3**
GBOS				S	**Sb**	**11 35 03.6**	**+1.0**
GBOS				AML	AML		
	comp=N,1275μm,0.4s						
GBOS				AML	AML		
	comp=E,1515μm,1.2s						
PLMA	**Palmaria, Port**	**0.84**	**122**	P	**Pb**	**11 34 53.0**	**-0.2**
PLMA				S	**Sb**	**11 35 03.5**	**-0.7**
PLMA				AML	AML		
	comp=E,1760μm,0.2s						
PLMA				AML	AML		
	comp=N,1720μm,0.2s						
GRAM	**Graiana**	**0.86**	**90**	P	**Pg**	**11 34 52.8**	**-1.2**
GRAM				S	**Sg**	**11 35 04.4**	**-0.9**
GRAM	**Graiana**	**0.86**	**90**	P	**Pg**	**11 34 52.8**	**-1.2**
GRAM				S	**Sg**	**11 35 04.4**	**-0.9**
GRAM				AML	AML		
	comp=N,2140μm,0.3s						
GRAM				AML	AML		
	comp=E,2790μm,1.0s						
MGRO	**Montegrosso**	**0.88**	**240**	P	**Pb**	**11 34 54.3**	**+0.1**
MGRO				S	**Sb**	**11 35 07.5**	**+1.8**
MGRO	**Montegrosso**	**0.88**	**240**	P	**Pb**	**11 34 54.3**	**+0.1**
MGRO				S	**Sb**	**11 35 07.7**	**+2.0**
MGRO				AML

VLC			AML	AML		
	comp=E,543µm,0.9s					
VLC			AML	AML		
	comp=N,534µm,1.1s					
VLC			AML	AML		
	comp=E,554µm,0.9s					
VLC			AML	AML		
	comp=N,522µm,1.1s					
VLC			AML	AML		
	comp=E,542µm,0.9s					
VLC			AML	AML		
	comp=N,533µm,1.1s					
VLC	**Villacollemand**	**1.14 107**		**Pg**	**11 34 58.2**	**-1.1**
VLC			Sg	**Sg**	**11 35 12.6**	**-1.6**
SARO	**Sassorosso**	**1.15 105**	P	**Pg**	**11 34 58.2**	**-1.1**
SARO			S	**Sg**	**11 35 13.0**	**-1.4**
SARO			AML	AML		
	comp=E,356µm,0.3s					
SARO			AML	AML		
	comp=E,356µm,0.3s					
SARO			AML	AML		
	comp=N,448µm,0.9s					
DOI	**San Damiano**	**1.16 271**	AML	AML		
	comp=N,1550µm,1.4s					
DOI			AML	AML		
	comp=E,1795µm,0.3s					
TURF	**col de Turini**	**1.18 244**	Pg	**Pg**	**11 34 58.8**	**-1.2**
TURF			Sg	**Sb**	**11 35 15.2**	**+1.0**
BHB	**Bricherasio**	**1.19 287**	P	**Pg**	**11 34 59.1**	**-1.2**
BHB			AML	AML		
	comp=N,699µm,0.6s					
BHB			AML	AML		
	comp=E,1031µm,0.4s					
SBF	**Sospel**	**1.21 239**	*e*Pn	**Pb**	**11 35 00.0**	**+0.4**
SBF			*e*Sg	**Sb**	**11 35 16.2**	**+1.3**
	comp=E,637nm,0.3s					
CARD	**Cardoso**	**1.25 111**	P	**Pg**	**11 34 59.9**	**-1.5**
CARD			AML	AML		
	comp=E,2005µm,0.6s					
CARD			AML	AML		
	comp=N,1250µm,0.6s					
ESCA	**l'Escarene**	**1.26 239**	Pg	**Pb**	**11 35 01.0**	**+0.5**
ESCA			Sg	**Sn**	**11 35 17.9**	**+1.2**
MON	**Monaco**	**1.29 234**	Pg	**Pg**	**11 35 01.3**	**-0.7**
TRAV	**Traversella**	**1.29 322**	P	**Pn**	**11 35 00.9**	**+0.4**
TRAV			AML	AML		
	comp=E,812µm,1.5s					
TRAV			AML	AML		
	comp=N,904µm,0.8s					
TRAV			AML	AML		
	comp=E,812µm,1.5s					
GROG	**Isola di Gorgo**	**1.30 145**	P	**Pn**	**11 34 59.5**	**-1.1**
GROG			AML	AML		
	comp=E,425µm,0.4s					
GROG			AML	AML		
	comp=N,324µm,0.5s					
MAIM	**Mastiano**	**1.31 116**	P	**Pn**	**11 35 00.8**	**+0.1**
MAIM			AML	AML		
	comp=E,652µm,0.4s					
MAIM			AML	AML		
	comp=N,819µm,0.3s					
RSP	**Reno Superiore**	**1.31 300**	AML	AML		
	comp=E,350µm,1.5s					
RSP			AML	AML		
	comp=N,414µm,0.5s					
BDI	**Bagni Di Lucca**	**1.32 109**	AML	AML		
	comp=N,882µm,0.8s					
BDI			AML	AML		
	comp=E,1300µm,0.3s					
BDI			AML	AML		
	comp=N,752µm,0.7s					
BDI			AML	AML		
	comp=E,1345µm,0.3s					
ISO	**Isola**	**1.34 257**	Pg	**Pn**	**11 35 02.0**	**+0.8**
VARE	**Varese**	**1.38 357**	P	**Pn**	**11 35 01.7**	**0.0**
VARE			AML	AML		
	comp=E,364µm,1.4s					
VARE			AML	AML		
	comp=N,396µm,0.5s					
VARE			AML	AML		
	comp=E,364µm,1.4s					
VARE			AML	AML		
	comp=N,396µm,0.5s					
MDI	**Monti di Nese**	**1.42 25**	AML	AML		
	comp=N,620µm,0.4s					
MDI			AML	AML		
	comp=E,650µm,0.4s					
MDI			AML	AML		
	comp=N,758µm,1.1s					
MDI			AML	AML		
	comp=E,685µm,0.4s					
PII	**Pisa**	**1.42 122**	P	**Pg**	**11 35 03.2**	**-1.4**
PII			AML	AML		
	comp=E,914µm,1.6s					
PII			AML	AML		
	comp=N,778µm,0.3s					
POPM	**Popiglio**	**1.43 108**	AML	AML		
	comp=N,1210µm,0.2s					
POPM			AML	AML		
	comp=E,1200µm,0.7s					
MUGIO	**Muggio**	**1.43 5**	P	**Pn**	**11 35 02.3**	**-0.1**
MUGIO			AML	AML		
	comp=E,271µm,0.5s					
MUGIO			AML	AML		
	comp=N,341µm,0.4s					
MUGIO			AML	AML		
	comp=N,342µm,0.4s					
CIRO	**Champorcher**	**1.44 321**	P	**Pn**	**11 35 02.3**	**-0.5**
CIRO			AML	AML		
	comp=N,640µm,0.6s					
CIRO			AML	AML		
	comp=E,602µm,0.7s					
SURF	**Saint Ours**	**1.47 270**	Pg	**Pn**	**11 35 04.0**	**+0.9**
SURF			Sg	**Sg**	**11 35 24.9**	**+0.3**
NDIM	**Novi di Modena**	**1.50 74**	AML	AML		
	comp=N,1445µm,1.1s					
NDIM			AML	AML		
	comp=E,912µm,1.4s					
MBDF	**Montbardon**	**1.51 280**	*e*Pn	**Pn**	**11 35 04.9**	**+1.3**
MBDF			*e*Sn	**Sn**	**11 35 24.0**	**+1.0**
	comp=E,89nm,0.2s					
MBDF			*e*Sg	**Sg**	**11 35 27.1**	**+1.0**
	comp=E,152nm,0.4s					
ZCCA	**Zocca**	**1.52 95**		**Pg**	**11 35 05.4**	**-1.1**
RRL	**Rocca Remolon**	**1.54 287**	AML	AML		
	comp=N,347µm,0.8s					
RRL			AML	AML		
	comp=E,236µm,0.7s					
SATI	**Passo dei Sala**	**1.55 333**	AML	AML		
	comp=N,1120µm,0.4s					
SATI			AML	AML		
	comp=E,1195µm,1.6s					
LSD	**Lago del Serru**	**1.56 309**	AML	AML		
	comp=E,261µm,0.7s					
LSD			AML	AML		
	comp=N,184µm,0.5s					
EILF	**Villa Eilenroc**	**1.57 233**	Pn	**Pn**	**11 35 04.1**	**-0.1**
CALF	**Calern**	**1.58 243**	Pn	**Pn**	**11 35 05.8**	**+1.2**
CALF			Sg	**Sg**	**11 35 27.5**	**-0.8**
SALO	**Salr**	**1.63 46**	AML	AML		
	comp=N,901µm,0.4s					
SALO			AML	AML		
	comp=E,523µm,0.4s					
SALO	**Salr**	**1.63 46**	Pn	**Pb**	**11 35 07.4**	**+0.6**
SALO			Sn	**Sg**	**11 35 29.4**	**-0.3**
BNI	**Bardonecchia**	**1.65 290**	AML	AML		
	comp=E,119µm,1.6s					
BNI			AML	AML		
	comp=E,104µm,1.3s					
BNI			AML	AML		
	comp=N,136µm,0.4s					
BNI			AML	AML		
	comp=N,194µm,0.5s					
BNI	**Bardonecchia**	**1.65 290**		**Pn**	**11 35 06.9**	**+1.3**
OGAG	**Argentiere**	**1.66 269**	Pn	**Pb**	**11 35 07.7**	**+0.3**
MMK	**Mattmark**	**1.68 338**	P	**Pn**	**11 35 06.8**	**+0.8**
MMK			AML	AML		
	comp=E,1470µm,0.5s					
MMK			AML	AML		
	comp=N,1025µm,0.4s					
MAGA	**Magasa**	**1.79 44**	AML	AML		
	comp=E,1590µm,0.4s					
MAGA			AML	AML		
	comp=N,816µm,0.4s					
LPG	**La Plagne**	**1.80 305**	*e*Pn	**Pn**	**11 35 09.2**	**+1.4**
LPG	**La Plagne**	**1.80 305**	*e*Pg	**Pg**	**11 35 12.5**	**+0.6**
LPG			*e*Sn	**Sn**	**11 35 31.7**	**+1.3**
	comp=N,78nm,0.4s					
LPG			*e*Sg	**Sg**	**11 35 36.5**	**+1.1**
	comp=N,188nm,0.6s					
MRGE	**Morge**	**1.80 316**	AML	AML		
	comp=E,241µm,1.6s					
MRGE			AML	AML		
	comp=N,208µm,1.0s					
REMY	**Saint-Rhmy-en**	**1.81 319**	AML	AML		
	comp=E,444µm,0.5s					
REMY			AML	AML		
	comp=N,550µm,0.8s					
LPL	**La Plagne**	**1.82 305**	*e*Pn	**Pn**	**11 35 07.6**	**-0.4**
LPL	**La Plagne**	**1.82 305**	*e*P	**Pb**	**11 35 10.5**	**+0.2**
LPL			*e*Sn	**Sn**	**11 35 32.1**	**+1.3**
	comp=N,104nm,0.4s					
LPL			*e*Sg	**Sg**	**11 35 37.2**	**+1.2**
	comp=N,110nm,0.3s					
FRF	**La Foret Royal**	**1.85 240**	*e*Pn	**Pn**	**11 35 08.7**	**+0.6**
FRF	**La Foret Royal**	**1.85 240**	*e*Pg	**Pg**	**11 35 12.2**	**-0.6**
FRF			*e*Sn	**Sn**	**11 35 31.3**	**+0.2**
FRF			*e*Sg	**Sg**	**11 35 36.5**	**-0.3**
	comp=N,232nm,0.3s					
EMBD	**Embd, Matterta**	**1.87 337**	Pn	**Pn**	**11 35 10.3**	**+1.8**
MABI	**Malga Bissina**	**1.95 36**	AML	AML		
	comp=E,156µm,0.7s					
MABI			AML	AML		
	comp=N,140µm,0.5s					
PGF	**Pioggiola**	**1.95 177**	*e*Pn	**Pn**	**11 35 09.5**	**-0.1**
PGF			*e*Sn	**Sn**	**11 35 32.6**	**-1.1**
PGF			*e*Sg	**Sg**	**11 35 37.7**	**-2.2**
PGF	**Pioggiola**	**1.95 177**	Pn	**Pn**	**11 35 09.5**	**-0.1**
FUSIO	**Fusio**	**1.97 356**	AML	AML		
	comp=E,147µm,1.1s					
FUSIO			AML	AML		
	comp=N,106µm,0.6s					
OSSC	**Osservatorio P**	**1.97 119**		**Pn**	**11 35 08.9**	**-0.9**
RSL	**Roselend**	**1.98 308**	Pn	**Pb**	**11 35 12.6**	**-0.4**
TUE	**Stuetta**	**2.01 10**		**Pn**	**11 35 11.8**	**+1.3**
LMR	**La Mourre**	**2.06 237**	*e*Pn	**Pn**	**11 35 11.5**	**+0.5**
LMR	**La Mourre**	**2.06 237**	*e*Pg	**Pg**	**11 35 15.9**	**-0.8**
LMR			*e*Sn	**Sn**	**11 35 35.7**	**-0.6**
	comp=N,50nm,0.3s					
LMR			*e*Sg	**Sg**	**11 35 42.6**	**-0.9**
	comp=N,66nm,0.2s					
GDM	**Grand'Maison**	**2.08 291**	Pn	**Pb**	**11 35 15.1**	**+0.6**
BLAF	**les Blancs**	**2.10 256**	Pn	**Pn**	**11 35 13.7**	**+2.2**
SENIN	**Lac Senin/Sane**	**2.17 330**		**Pn**	**11 35 11.1**	**-1.6**
ORIF	**Oris-en-Rattie**	**2.17 282**	*e*P	**Pb**	**11 35 16.2**	**+0.1**
ORIF			*e*Sn	**Sn**	**11 35 40.1**	**+1.0**
	comp=N,203nm,0.4s					
ORIF	**Oris-en-Rattie**	**2.17 282**	Pn	**Pb**	**11 35 16.1**	**+0.1**
TEOL	**Teolo**	**2.17 66**		**Pn**	**11 35 13.3**	**+0.8**
TEOL			Sn	**Sb**	**11 35 42.6**	**-0.1**
CASP	**Castiglione de**	**2.24 139**	AML	AML		
	comp=N,59µm,0.7s					
CASP			AML	AML		
	comp=E,49µm,1.0s					
CASP	**Castiglione de**	**2.24 139**	Pn	**Pn**	**11 35 13.0**	**-0.5**
MLYF	**Mely**	**2.28 258**	Pn	**Pn**	**11 35 16.4**	**+2.3**
DAVOX	**Davos/Dischmat**	**2.40 17**	AML	AML		
	comp=E,166µm,0.9s					
DAVOX			AML	AML		
	comp=N,189µm,0.6s					
BSTF	**la Bastide-des**	**2.40 256**	Pn	**Pn**	**11 35 16.7**	**+1.0**
SMPL	**Sampolo**	**2.42 173**	Pn	**Pn**	**11 35 17.1**	**+1.1**
SMRF	**Simiane la Rot**	**2.42 259**	*e*P	**Pn**	**11 35 17.8**	**+1.8**
SMRF	**Simiane la Rot**	**2.42 259**	*e*Pg	**Pg**	**11 35 22.9**	**-0.7**
SMRF			*e*Sn	**Sn**	**11 35 45.0**	**-0.2**
	comp=N,21nm,0.2s					
SMRF			*e*Sg	**Sg**	**11 35 54.5**	**-0.5**
	comp=N,79nm,0.4s					
MOSI	**Grossmontoni**	**2.43 29**	AML	AML		
	comp=N,431µm,0.9s					
MOSI			AML	AML		
	comp=E,267µm,1.6s					
RUSF	**Rustrel**	**2.49 258**	Pn	**Pn**	**11 35 19.1**	**+2.1**
CGRP	**Cima Grappa**	**2.50 55**	AML	AML		
	comp=E,208µm,0.7s					
CGRP			AML	AML		
	comp=N,234µm,0.7s					
CTI	**Castel Tesino**	**2.51 51**		**Pn**	**11 35 18.3**	**+1.0**
OGSM	**Saint Maurice**	**2.51 298**	Pn	**Pb**	**11 35 20.6**	**-1.2**
PLONS	**Plons/SG**	**2.58 8**	*e*Pn	**Pn**	**11 35 20.9**	**+2.6**
PLONS			*e*Sn	**Sb**	**11 35 53.7**	**-0.8**
PLONS	**Plons/SG**	**2.58 8**	AML	AML		
	comp=N,127µm,0.3s					
PLONS			AML	AML		
	comp=E,135µm,0.3s					
KOSI	**Kohlern**	**2.65 41**	AML	AML		
	comp=N,142µm,0.6s					
KOSI			AML	AML		
	comp=E,168µm,0.6s					
GIMEL	**St. Georges /**	**2.74 319**	Pn	**Pn**	**11 35 22.8**	**+2.4**
OG35	**Corcelles**	**2.79 305**	Pn	**Pn**	**11 35 23.8**	**+2.6**
FETA	**Feichten**	**2.84 27**	Pn	**Pn**	**11 35 24.8**	**+2.9**
	comp=E,4.9nm,0.3s					
FETA			Sn	**Sb**	**11 36 02.8**	**+0.7**
	comp=E,30nm,0.9s					
CABF	**La Chapelle**	**2.88 318**	*e*Pn	**Pn**	**11 35 24.3**	**+2.0**
CABF			*e*Sn	**Sn**	**11 35 57.1**	**+0.5**
	comp=E,25nm,0.4s					
DAVA	**Damuels**	**2.88 14**	*e*Pn	**Pn**	**11 35 24.6**	**+2.2**
DAVA			*e*Sn	**Sn**	**11 36 01.1**	**+4.4**
DAVA	**Damuels**	**2.88 14**	Pn	**Pn**	**11 35 25.0**	**+2.6**
	comp=E,1.7nm,0.2s,SNR=10					
DAVA			Sn	**Sn**	**11 36 01.2**	**+4.4**
	comp=E,28nm,0.3s					
WILA	**Wila**	**2.92 1**	*e*Pn	**Pn**	**11 35 24.2**	**+1.3**
WILA			*e*Sn	**Sn**	**11 36 01.3**	**+3.7**
BALST	**Balsthal**	**2.96 344**	Pn	**Pn**	**11 35 24.3**	**+0.9**
BALST	**Balsthal**	**2.96 344**	*e*Pn	**Pn**	**11 35 24.7**	**+1.3**
BRANT	**Les Verrieres**	**2.96 326**	Pn	**Pn**	**11 35 25.3**	**+1.7**
POLC	**Polcenigo**	**2.99 58**	AML	AML		
	comp=N,265µm,0.4s					
POLC			AML	AML		
	comp=E,196µm,0.7s					
ROSI	**Rosskopf**	**3.02 35**	AML	AML		
	comp=E,130µm,0.6s					
ROSI			AML	AML		
	comp=N,190µm,0.4s					
OBER	**Oberstdorf**	**3.08 18**	*e*Pn	**Pn**	**11 35 27.3**	**+2.2**
OBER			*e*Sn	**Sn**	**11 36 05.4**	**+3.9**
SULZ	**Cheisacher**	**3.08 350**	Pn	**Pn**	**11 35 26.0**	**+1.0**
SULZ	**Cheisacher**	**3.08 350**	*e*Pn	**Pn**	**11 35 26.1**	**+1.0**
SULZ			*e*Sn	**Sn**	**11 36 03.9**	**+2.5**
SSB	**Saint Sauveur**	**3.17 286**	Pn	**Pn**	**11 35 27.8**	**+1.5**
SQTA	**Sankt Quirin**	**3.18 30**	*i* Pn	**Pn**	**11 35 30.6**	**+4.0**
	comp=N,4.4nm,0.1s,SNR=6.8					
SQTA			Sn	**Sn**	**11 36 08.9**	**+4.8**
	comp=N,1.8nm,0.2s					
STAL	**STALIGIAL**	**3.23 56**	AML	AML		
	comp=N,142µm,0.2s					
STAL			AML	AML		
	comp=E,129µm,0.3s					
STAL	**STALIGIAL**	**3.23 56**		**Pn**	**11 35 26.6**	**-0.6**
METMA	**Mettma DE**	**3.25 353**	*e*Sn	**Sn**	**11 36 07.4**	**+1.8**
MOTA	**Moosalm**	**3.25 28**	*e*Pn	**Pn**	**11 35 30.8**	**+3.3**
	comp=E,7.7nm,0.3s,SNR=9.2					
MOTA			Sn	**Sb**	**11 36 11.4**	**-2.4**
	comp=E,35nm,0.6s					
RETA	**Reutte**	**3.27 23**	*e*Pn	**Pn**	**11 35 30.3**	**+2.5**
	comp=E,3.6nm,0.2s,SNR=8.5					
RETA			*e*Sn	**Sn**	**11 36 10.4**	**+4.1**
	comp=E,7.9nm,0.4s					
SLE	**Schleitheim**	**3.28 356**	*e*Pn	**Pn**	**11 35 28.1**	**+0.3**
SLE			*e*Sn	**Sn**	**11 36 06.6**	**+0.2**
UBR	**Ueberruh**	**3.30 15**	*e*Pn	**Pn**	**11 35 30.0**	**+1.8**
UBR			*e*Sn	**Sn**	**11 36 08.4**	**+1.4**
RISI	**Rein**	**3.33 41**	AML	AML		
	comp=N,274µm,0.3s					
RISI			AML	AML		
	comp=E,166µm,0.3s					
WTTA	**Wattenberg**	**3.38 34**	*e*Pn	**Pn**	**11 35 32.8**	**+3.5**
WTTA			*e*Sn	**Sn**	**11 36 13.4**	**+4.3**
WTTA	**Wattenberg**	**3.38 34**	AML	AML		
	comp=N,67µm,1.0s					
WTTA			AML	AML		
	comp=E,68µm,0.9s					
WTTA	**Wattenberg**	**3.38 34**	*e*Pn	**Pn**	**11 35 33.0**	**+3.7**
	comp=E,16nm,0.3s,SNR=16					
WTTA			Sn	**Sn**	**11 36 14.6**	**+5.5**
	comp=E,42nm,0.9s					
EMING	**Emmingen-Lipti**	**3.40 360**	*e*Pn	**Pn**	**11 35 28.5**	**-0.9**
EMING			*e*Sn	**Sn**	**11 36 11.1**	**+1.7**
ABTA	**Abfaltersbach**	**3.41 47**	*e*Pn	**Pn**	**11 35 32.3**	**+2.7**
	comp=E,5.4nm,0.3s,SNR=9.7					
ABTA			*e*Sn	**Sn**	**11 36 13.9**	**+4.2**
	comp=E,18nm,0.6s					
BERGE	**Lenzkirch (DE)**	**3.41 352**	*e*Sn	**Sn**	**11 36 10.7**	**+1.0**
WATA	**Walderalm**	**3.41 33**	*e*Pn	**Pn**	**11 35 33.4**	**+3.6**
	comp=E,6.1nm,0.3s,SNR=5.5					
WATA			*e*Sn	**Sn**	**11 36 14.5**	**+4.6**
	comp=E,10nm,0.3s					
BRJN	**Brijuni**	**3.51 82**	*e*Pn	**Pn**	**11 35 31.9**	**+1.0**
BRJN			Sn	**Sn**	**11 36 10.8**	**-1.1**
HINF	**Hinteralfeld**	**3.60 338**	*e*Pn	**Pn**	**11 35 33.0**	**+0.7**
HINF			*e*Sn	**Sn**	**11 36 14.4**	**0.0**
	comp=E,13nm,0.3s					
LASF	**Ste Croix**	**3.62 265**	*e*Pn	**Pn**	**11 35 32.9**	**+0.4**
LASF			*e*Sn	**Sn**	**11 36 14.4**	**-0.4**
	comp=E,7.7nm,0.3s					
TRI	**Trieste**	**3.68 69**	AML	AML		
	comp=N,52µm,1.2s					
TRI			AML	AML		
	comp=E,53µm,0.3s					
TRI	**Trieste**	**3.68 69**	Pn	**Pn**	**11 35 33.6**	**+0.4**
PTCC	**Patocco-Chiusa**	**3.69 57**	AML	AML		
	comp=N,38µm,0.6s					
PTCC			AML	AML		
	comp=E,46µm,0.6s					
BFO	**Black Forest**	**3.85 355**	*e*Pn	**Pn**	**11 35 35.9**	**+0.2**
BFO			*e*Sn	**Sn**	**11 36 19.6**	**-1.0**
BFO	**Black Forest**	**3.85 355**	Pn	**Pn**	**11 35 35.8**	**+0.1**
BFO			Sn	**Sn**	**11 36 20.4**	**-0.2**
ECH	**Echery**	**3.91 343**	*e*Pn	**Pn**	**11 35 37.0**	**+0.6**
ECH			*e*Sn	**Sn**	**11 36 22.2**	**+0.4**
ECH	**Echery**	**3.91 343**		**Pn**	**11 35 35.9**	**-0.5**
ECH			Sn	**Sn**	**11 36 23.0**	**+1.2**
HAU	**Haudompre**	**3.92 334**	*e*Pn	**Pn**	**11 35 37.7**	**+1.1**
HAU			*e*Sn	**Sn**	**11 36 22.4**	**+0.2**
	comp=E,41nm,0.5s					
MYKA	**Terra Mystica**	**3.98 56**	*e*Pn	**Pn**	**11 35 39.2**	**+1.8**
	comp=E,2.7nm,0.3s					
MYKA			Sn	**Sn**	**11 36 26.2**	**+2.6**
	comp=E,5.4nm,0.3s					
KBA	**Koelnbreinsper**	**4.06 49**	*e*Pn	**Pn**	**11 35 41.2**	**+2.5**
KBA			*e*Sn	**Sn**	**11 36 27.4**	**+1.4**
KBA	**Koelnbreinsper**	**4.06 49**	Pn	**Pn**	**11 35 42.4**	**+3.8**
	comp=E,2.2nm,0.3s					
KBA			Sn	**Sn**	**11 36 28.1**	**+2.2**
	comp=E,3.9nm,0.5s					
CDF	**Champ du Feu**	**4.07 345**	*e*Pn	**Pn**	**11 35 39.2**	**+0.5**
CDF			*e*Sn	**Sn**	**11 36 25.6**	**-0.4**
	comp=E,15nm,0.4s					
CDF			*e*Sg	**Sg**	**11 36 47.6**	**-0.2**
	comp=E,6.0nm,0.3s					
SMF	**Signal de Mont**	**4.13 303**	*e*Pn	**Pn**	**11 35 41.6**	**+2.1**
SMF			*e*Sn	**Sn**	**11 36 27.0**	**-0.4**
	comp=E,15nm,0.3s					
RJOB	**Jochberg**	**4.24 39**	*e*Sn	**Sn**	**11 36 32.8**	**+2.7**
NVLJ	**Novalja**	**4.30 87**	*e*Pn	**Pn**	**11 35 43.2**	**+1.5**
NVLJ			Sn	**Sn**	**11 36 30.0**	**-1.3**
NORI	**Noerdlinger Ri**	**4.40 15**	*e*Sn	**Sn**	**11 36 35.2**	**+1.2**
LOR	**Lormes**	**4.46 310**	*e*Pn	**Pn**	**11 35 45.4**	**+1.4**
	baz=130					
LOR			*e*Sn	**Sn**	**11 36 35.3**	**-0.2**
	comp=E,21nm,0.3s					
LOR			*e*Sg	**Sg**	**11 36 59.3**	**-1.1**
	comp=E,5.0nm,0.3s					
OBKA	**Obir**	**4.47 61**	*e*Sn	**Sn**	**11 36 38.5**	**+2.4**
OBKA	**Obir**	**4.47 61**	*e*Sn	**Sn**	**11 36 38.4**	**+2.4**
	comp=E,17nm,0.5s					
DUGI	**Dugi Otok**	**4.48 94**	*e*Pn	**Pn**	**11 35 45.2**	**+0.9**
DUGI			Sn	**Sn**	**11 36 33.5**	**-2.5**
AVF	**Avril sur Loir**	**4.50 303**	*e*Pn	**Pn**	**11 35 46.2**	**+1.7**
AVF	**Avril sur Loir**	**4.50 303**	*e*Pg	**Pg**	**11 36 01.2**	**-2.1**
AVF			*e*Sn	**Sn**	**11 36 35.7**	**-0.6**
	comp=E,7.6nm,0.3s					
SSF	**Saint Saulge**	**4.54 306**	*e*Pn	**Pn**	**11 35 47.1**	**+2.0**
SSF	**Saint Saulge**	**4.54 306**	*e*Pg	**Pg**	**11 36 02.6**	**-1.6**
SSF			*e*Sn	**Sn**	**11 36 37.0**	**-0.5**
	comp=E,11nm,0.4s					
SSF			*e*Sg	**Sg**	**11 37 02.0**	**-1.0**
SFTF	**Sexfontaines**	**4.56 326**	*e*Pn	**Pn**	**11 35 46.5**	**+1.1**
	baz=143					
SFTF			*e*Sn	**Sn**	**11 36 37.2**	**-0.7**
	comp=E,16nm,0.4s					
SFTF			*e*Sg	**Sg**	**11 37 02.3**	**-1.2**
	comp=E,16nm,0.4s					
PAGF	**Fort de Pagny**	**4.60 333**	*e*Pn	**Pn**	**11 35 47.0**	**+1.0**
PAGF	**Fort de Pagny**	**4.60 333**	*e*Pg	**Pg**	**11 36 03.4**	**-1.9**
PAGF			*e*Sn	**Sn**	**11 36 38.2**	**-0.8**
	comp=E,6.3nm,0.2s					
PAGF			*e*Sg	**Sg**	**11 37 03.0**	**-1.9**
BGF	**Bois d'Agland**	**4.71 298**	*e*Pn	**Pn**	**11 35 49.1**	**+1.7**
BGF			*e*Sn	**Sn**	**11 36 40.7**	**-0.8**
	comp=E,53nm,0.3s					
MEZF	**Maizieres J'vi**	**4.79 328**	*e*Pn	**Pn**	**11 35 49.8**	**+1.2**
MEZF			*e*Sn	**Sn**	**11 36 42.8**	**-0.9**
	comp=E,13nm,0.3s					
MEZF			*e*Sg	**Sg**	**11 37 09.7**	**-1.3**
	comp=E,11nm,0.4s					
SOKA	**Soboth**	**4.85 61**	Pn	**Pn**	**11 35 48.4**	**-1.0**
	comp=E,2.1nm,0.7s					
SOKA			*e*Sn	**Sn**	**11 36 46.1**	**+0.9**
	comp=E,2.0nm,0.3s					
CAF	**Calviac**	**4.87 277**	*e*Pn	**Pn**	**11 35 51.1**	**+1.5**
CAF	**Calviac**	**4.87 277**	*e*Pg	**Pg**	**11 36 08.5**	**-1.8**
CAF			*e*Sn	**Sn**	**11 36 44.6**	**-0.9**
CAF			*e*Sg	**Sg**	**11 37 11.4**	**-1.9**
	comp=E,2.8nm,0.3s					
MTLF	**Montolieu**	**4.94 259**	*e*Pn	**Pn**	**11 35 51.1**	**+0.5**
MTLF			*e*Sn	**Sn**	**11 36 45.8**	**-1.5**
	comp=E,4.1nm,0.2s					
MTLF			*e*Sg	**Sg**	**11 37 12.8**	**-2.9**
	comp=E,8.8nm,0.8s					
ZIRJ	**Zirje**	**4.96 97**	*e*Pn	**Pn**	**11 35 51.5**	**+0.7**
ZIRJ			Sn	**Sn**	**11 36 45.5**	**-2.2**
MORI	**Morici**	**4.96 95**	*e*Pn	**Pn**	**11 35 54.1**	**+3.2**
MORI			Sn	**Sn**	**11 36 46.8**	**-1.0**
TCF	**Toulx Ste Croi**	**5.02 293**	*e*Pn	**Pn**	**11 35 54.2**	**+2.5**
TCF			*e*Sn	**Sn**	**11 36 48.2**	**-1.1**
	comp=E,9.4nm,0.4s					
MOA	**Molln**	**5.03 46**	*e*Pn	**Pn**	**11 35 55.1**	**+3.2**
MOA	**Molln**	**5.03 46**	*e*Pn	**Pn**	**11 35 55.3**	**+3.4**
	comp=E,1.7nm,0.2s					
MOA			Sn	**Sn**	**11 36 51.9**	**+2.3**
	comp=E,2.6nm,0.3s					
HYF	**Humbligny**	**5.16 305**	*e*Pn	**Pn**	**11 35 54.4**	**+0.8**
RJF	**Les Rejaudoux**	**5.28 281**	*e*Pn	**Pn**	**11 35 56.5**	**+1.2**
RJF	**Les Rejaudoux**	**5.28 281**	*e*Pg	**Pg**	**11 36 16.7**	**-1.6**
RJF			*e*Sn	**Sn**	**11 36 54.0**	**-1.8**
RJF			*e*Sg	**Sg**	**11 37 24.4**	**-2.3**
	comp=E,3.9nm,0.4s					
ARSA	**Arzberg**	**5.41 57**	*e*Pn	**Pn**	**11 35 58.4**	**+1.4**
ARSA			*e*Sn	**Sn**	**11 36 58.9**	**+0.1**
ARSA	**Arzberg**	**5.41 57**	*e*Pn	**Pn**	**11 35 58.4**	**+1.4**
	comp=E,1.5nm,0.2s					
WET	**Wettzell**	**5.41 29**	*e*Sn	**Sn**	**11 36 58.3**	**-0.5**
GRF	**Grafenberg Arr**	**5.44 16**	*e*Sn	**Sn**	**11 36 58.2**	**-1.5**
GEC2	**GERESS Array S**	**5.48 36**	*e*Pn	**Pn**	**11 35 58.8**	**+0.7**
GEC2			*e*Sn	**Sn**	**11 36 60.0**	**-0.7**
GEC2	**GERESS Array S**	**5.48 36**		**Pn**	**11 35 58.8**	**+0.7**
GEC2				**Sn**	**11 36 59.2**	**-1.5**
KHC	**Kasperske Hory**	**5.65 33**	*e*PN	**Pn**	**11 36 01.5**	**+1.1**
KHC			*e*SN	**Sn**	**11

BAIF *eSg* **Sg** **11 37 59.6 -3.0**
comp=E,1.4nm,0.2s
MOX Moxa 6.43 16 *eSn* **Sn** **11 37 20.3 -3.6**
MFF Saint Martin d 6.67 292 *ePn* **Pn** **11 36 15.0 +0.7**
MFF *eSn* **Sn** **11 37 27.6 -2.2**
comp=E,3.1nm,0.3s
MFF *eSg* **Sg** **11 38 08.1 -3.0**
MODS Modra-Piesok 6.99 53 *ePN* **Pn** **11 36 19.3 +0.6**
MODS *ePG* **Pg** **11 36 47.7 -3.2**
MODS *eSN* Sn 11 37 21.1 -17
MODS Modra-Piesok 6.99 53 *eSn* **Sn** **11 37 35.9 -1.8**
MODS e 11 37 51.4
ETSF Etsaut 7.01 260 *ePn* **Pn** **11 36 19.9 +0.8**
ETSF Etsaut 7.01 260 *ePg* **Pg** **11 36 48.0 -3.4**
ETSF *eSn* **Sn** **11 37 35.9 -2.6**
ETSF *eSg* **Sg** **11 38 18.2 -4.0**
comp=E,0.9nm,0.2s
LDF La Druitiere 7.43 307 *ePn* **Pn** **11 36 25.6 +0.9**
LDF La Druitiere 7.43 307 *ePg* **Pg** **11 36 55.8 -3.5**
LDF *eSn* **Sn** **11 37 45.7 -2.8**
LDF *eSg* **Sg** **11 38 31.8 -3.6**
comp=E,1.0nm,0.3s
FLN La Foliniere 7.72 307 *ePn* **Pn** **11 36 28.3 -0.4**
FLN La Foliniere 7.72 307 *ePg* 11 36 59.9
FLN *eSn* **Sn** **11 37 52.5 -3.2**
FLN *eSg* 11 38 40.9
comp=E,5.7nm,0.4s
GRR Gorron 7.76 304 *ePn* **Pn** **11 36 30.0 +0.7**
GRR Gorron 7.76 304 *ePg* 11 37 02.2
GRR *eSn* **Sn** **11 37 54.4 -2.3**
comp=E,2.4nm,0.3s
GRR *eSg* 11 38 42.2

IDC 14 11:36:38.9±999.0, 56°88N×2°31E, h0km, Error ellipse: s-maj=436.1km s-min=188.9km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.58**	**135**	*i*		12 42 45.0	
baz=324,slow=378,SNR=4.1							
I43RU	**DUBNA INFRASON**	**9.00**	**76**	*i*		13 40 10.0	
baz=288,slow=321,SNR=0.9							
I31KZ	**AKTYUBINSK INF**	**32.84**	**77**	*i*		14 56 21.8	
baz=298,slow=334,SNR=0.3							

*ISCJB **14** 11:45:42.3±1.1, 8°.11S±0°.06×110°.40E±0°.04, h6km±7km, mb3.7/3, Error ellipse: s-maj=10.4km s-min=4.5km az=26.9*
*IDC **14** 11:45:42.0±2.6, 7°.73S×110°.61E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/39, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=143.3km s-min=22.5km az=24.0*
*NEIC **14** 11:45:43.7±2.1, 8°.06S±0°.02×110°.42E±0°.04, h7km±5km, mb4.1/5*
*DJA **14** 11:45:43.9±0.4, 8°.S±5°×11°.0E±°, h10km, M3.7/9, MLv3.7/9*
ISC 14 11:45:43.5±1.3, 8°.06S±0°.06×110°.41E±0°.04, h9km±9km, n25, σ1°.09/30, mb4.1/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.19**	**39**	P	**Pg**	**11 45 47.6**	**+0.2**
UGM	**Wanagama**	**0.19**	**39**	Pg	**Pg**	**11 45 47.8**	**+0.3**
UGM				Sg	**Sg**	**11 45 49.7**	**-0.4**
YOGI	**Yogyakarta**	**0.27**	**336**	P	**Pg**	**11 45 49.2**	**+0.3**
YOGI				S	**Sg**	**11 45 52.8**	**+0.4**
WOJI	**Wonogiri, Jawa**	**0.56**	**67**	P	**Pg**	**11 45 53.6**	**-0.8**
PCJI	**Pacitan**	**0.78**	**100**	P	**Pg**	**11 45 57.8**	**-0.7**
PCJI				S	**Sg**	**11 46 08.6**	**0.0**
SMRI	**Semarang**	**1.00**	**2**	P	**Pb**	**11 46 02.8**	**-0.4**
SMRI	**Semarang**	**1.00**	**2**		**Pb**	**11 46 02.9**	**-0.4**
SMRI				Sg	**Sn**	**11 46 16.2**	**-2.0**
NGJI	**Ngawi**	**1.25**	**57**	P	**Pn**	**11 46 07.8**	**+0.5**
PWJI	**Pagerwojo**	**1.39**	**89**	P	**Pn**	**11 46 07.5**	**-1.6**
KPJI	**Karang Pucung**	**1.63**	**296**	P	**Pn**	**11 46 13.2**	**+0.7**
CMJI	**Cimerak**	**1.96**	**278**	P	**Pn**	**11 46 14.5**	**-2.5**
CISI	**Cisompet, Garu**	**2.61**	**281**	P	**Pn**	**11 46 26.3**	**+0.1**
CISI	**Cisompet, Garu**	**2.61**	**281**		**Pn**	**11 46 26.2**	**+0.1**
GMJI	**Gumukmas**	**3.02**	**94**	P	**Pn**	**11 46 33.0**	**+1.4**
LEM	**Lembang**	**3.02**	**294**	Pn	**Pn**	**11 46 33.0**	**+1.1**
6.6nm,0.3s,baz=248,slow=2.1,SNR=5.7							
LEM				Sn	**Sn**	**11 47 09.8**	**+1.5**
3.2nm,0.3s,baz=355,slow=23,SNR=3.0							
JAGI	**Jajag, Banyuwa**	**3.73**	**97**	P	**Pn**	**11 46 42.9**	**+1.5**
JAGI	**Jajag, Banyuwa**	**3.73**	**97**		**Pn**	**11 46 43.4**	**+2.0**
JAGI				Sn	**Sn**	**11 47 26.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.87**	**125**	P	**Pn**	**11 49 52.4**	**-0.2**
0.1nm,0.3s,baz=249,slow=10,SNR=2.5							
FITZ				S	Sn	11 52 53.3	-19
0.0nm,0.3s,baz=327,slow=5.0,SNR=3.0							
FITZ	**Fitzroy Crossi**	**17.87**	**125**	P	**Pn**	**11 49 52.4**	**-0.2**
WRA	**Warramunga Arr**	**26.01**	**120**	P	**P**	**11 51 16.4**	**-0.8**
0.5nm,0.7s,baz=293,slow=11,SNR=6.8							
WRAB	**Tennant Creek**	**26.02**	**119**	P	**P**	**11 51 16.6**	**-0.7**
WRAB				IAmb	IAmb	11 51 30.2	
comp=Z,7.1nm,1.4s							
WB2	**Warramunga Arr**	**26.02**	**119**	P	**P**	**11 51 16.7**	**-0.6**
WB2				IAmb	IAmb	11 51 17.4	
comp=Z,5.7nm,1.4s							
ASAR	**Alice Springs**	**27.35**	**127**	P	**P**	**11 51 29.9**	**+0.7**
comp=Z,0.4nm,0.5s,baz=304,slow=9.1,SNR=8.5							
STKA	**Stephens Creek**	**37.45**	**134**	P	**P**	**11 52 57.9**	**+0.4**
comp=Z,5.9nm,0.5s,baz=309,slow=8.5,SNR=17							
STKA	**Stephens Creek**	**37.45**	**134**	IAmb	IAmb	11 52 58.5	
comp=Z,1.6nm,0.6s							

*NIED **14** 11:47:00, 38°.40N×144°.50E, h5km, Mw4.0 Best double couple: M0:1.00000×10^15 NP1:φs=3.00000°, δ24.00000°, λ-72.00000°. NP2:φs163.00000°, δ68.00000°, λ-98.00000°.*
*IDC **14** 11:47:27.4±0.9, 38°.23N×144°.85E, h0km, mb3.8/9, mb1 4.0/13, mb1mx3.8/46, mbtmp3.9/13, ML3.5/4, MS3.0/6, Ms1 3.0/6, ms1mx2.6/41, Error ellipse: s-maj=25.7km s-min=17.6km az=88.0*
*ISCJB **14** 11:47:30.0±0.5, 38°.39N±0°.03×144°.62E±0°.04, h29km, mb3.8/9, MS3.7/1, Error ellipse: s-maj=4.7km s-min=4.3km az=24.7*
*JMA **14** 11:47:31.9±0.1, 38°.38N×144°.51E, h44km, M4.4*
*NEIC **14** 11:47:31.5±2.7, 38°.21N±0°.03×144°.7E±0°.2, h24km±6km, mb4.5/6*
ISC 14 11:47:32.2±0.7, 38°.41N±0°.05×144°.65E±0°.07, h29km, n51, σ2°.14/66, mb4.1/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.43**	**287**	P	**Pn**	**11 48 09.2**	**-0.7**
OFUJ				*eS*	**Sn**	**11 48 36.9**	**-1.7**
MIYJ	**Miyakonagasawa**	**2.50**	**299**	P	**Pn**	**11 48 10.1**	**-0.8**
MIYJ				S	**Sn**	**11 48 38.1**	**-2.2**
JIKH	**Ishinomakikobu**	**2.51**	**269**	P	**Pn**	**11 48 09.8**	**-1.2**
JIKH				S	**Sn**	**11 48 38.0**	**-2.6**
JKMT	**Kesennumamotoy**	**2.52**	**280**	P	**Pn**	**11 48 10.3**	**-0.9**
JKMT				S	**Sn**	**11 48 38.8**	**-2.2**
JMK	**Ichinoseki**	**2.74**	**282**	P	**Pn**	**11 48 13.7**	**-0.5**
JMK				S	**Sn**	**11 48 44.6**	**-1.7**
JOM	**Ohasama**	**2.83**	**293**	P	**Pn**	**11 48 15.0**	**-0.4**
JOM				*eS*	**Sn**	**11 48 46.5**	**-2.0**
JANG	**Nango**	**3.12**	**310**	P	**Pn**	**11 48 19.4**	**-0.1**
JANG				S	**Sn**	**11 48 54.6**	**-1.2**
JYK	**Kaneyama**	**3.40**	**280**	P	**Pn**	**11 48 23.2**	**-0.1**
JYK				S	**Sn**	**11 49 01.7**	**-0.9**
JFT	**Otama**	**3.52**	**257**	P	**Pn**	**11 48 24.7**	**-0.3**
JFT				S	**Sn**	**11 49 04.4**	**-1.3**
ERM	**Erimo**	**3.78**	**343**	Pn	**Pn**	**11 48 28.5**	**0.0**
ERM				Sn	**Sn**	**11 49 09.5**	**-2.4**
JOT	**Ohata**	**4.06**	**318**	P	**Pn**	**11 48 33.1**	**+0.7**
JCH	**Churui**	**4.32**	**347**	P	**Pn**	**11 48 34.1**	**-1.7**
JCH				*eS*	**Sn**	**11 49 21.8**	**-3.4**
JKB	**Kayabe**	**4.45**	**323**	P	**Pn**	**11 48 36.9**	**-0.7**
JKB				*eS*	**Sn**	**11 49 24.8**	**-3.6**
BSO1	**Boso 1**	**4.77**	**219**	P	**Pn**	**11 48 39.5**	**-2.2**
BSO1				*eS*	**Sn**	**11 49 32.4**	**-3.3**
NEM2	**Nemuro 2**	**5.02**	**9**	P	**Pn**	**11 48 42.3**	**-3.2**
NEM2				*eS*	**Sn**	**11 49 36.1**	**-6.4**
JRY	**Ryogami san**	**5.17**	**244**	P	**Pn**	**11 48 46.5**	**-1.2**
JRY				*eS*	**Sn**	**11 49 42.2**	**-4.2**
JOSM	**Okushiri--Mats**	**5.40**	**314**	P	**Pn**	**11 48 51.7**	**+1.0**
MJAR	**Matsushiro Arr**	**5.45**	**252**	Pn	**Pn**	**11 48 51.7**	**+0.2**
0.8nm,0.3s,baz=72,slow=12,SNR=30							
MJAR				Sn	**Sn**	**11 49 49.5**	**-3.8**
0.1nm,0.3s,baz=71,slow=12,SNR=2.3							
MJAR				LR	LR	11 51 04.3	
comp=Z,132nm,20.9s,baz=75,slow=39							
MAJO	**Matsushiro**	**5.46**	**252**		**Pn**	**11 48 52.3**	**+0.8**
MAT	**Matsushiro**	**5.46**	**252**	P	**Pn**	**11 48 52.0**	**+0.5**
MAT				S	**Sn**	**11 49 54.6**	**+1.3**
JOD2	**Odawara 2**	**5.46**	**237**	P	**Pn**	**11 48 50.0**	**-1.5**
JOD2				S	**Sn**	**11 49 48.2**	**-5.1**
MJB9	**Matsu-Tunnel**	**5.46**	**252**		**Pn**	**11 48 52.3**	**+0.8**
JTKR	**Abashiri--Toko**	**5.59**	**354**	P	**Pn**	**11 48 51.9**	**-1.4**
JTKR				*eS*	**Sn**	**11 49 50.9**	**-5.5**
JKA	**Kamikawa-asahi**	**5.91**	**345**		**Pn**	**11 48 57.8**	**+0.1**
JKA					**Sn**	**11 50 02.4**	**-2.0**
ASAJ	**Asahikawa**	**5.91**	**345**	Pn	**Pn**	**11 48 57.8**	**+0.1**
1.9nm,0.3s,baz=188,slow=13,SNR=18							
ASAJ				Sn	**Sn**	**11 50 02.4**	**-2.0**
1.2nm,0.3s,baz=111,slow=25,SNR=2.9							
JHJ2	**Mitsune**	**6.59**	**218**	P	**Pn**	**11 49 04.3**	**-2.7**
JHJ2				*eS*	Sn	11 50 10.9	-10
JHJ2	**Mitsune**	**6.59**	**218**	Pn	**Pn**	**11 49 06.6**	**-0.4**
JHJ2				Sn	Sn	11 50 09.8	-11
JHJ	**Hachijo jima 2**	**6.60**	**218**	Pn	**Pn**	**11 49 04.4**	**-2.8**
10.0nm,0.3s,baz=33,slow=17,SNR=5.5							
JHJ				Sn	Sn	11 50 09.9	-12
15nm,0.3s,baz=147,slow=19,SNR=3.0							
JHJ				LR	LR	11 51 43.7	
comp=Z,35nm,21.8s,baz=67,slow=39							
INU	**Inuyama**	**6.84**	**246**	Pn	**Pn**	**11 49 10.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.14**	**305**	Pn	**Pn**	**11 50 11.7**	**+2.3**
baz=104,slow=16,SNR=4.3							
JNU	**Nakatsue**	**12.37**	**249**	LR	LR	11 55 25.9	
comp=Z,71nm,18.9s,baz=98,slow=38							
KSRS	**Korea Array**	**13.25**	**271**	LR	LR	11 54 52.6	
comp=Z,90nm,19.4s,baz=86,slow=33							
KLR	**Kul'dur**	**14.25**	**324**	LR	LR	11 55 44.3	
comp=Z,25nm,21.3s,baz=84,slow=34							
YHNB	**Yeheng**	**24.02**	**242**	P	**P**	**11 52 44.5**	**-0.2**
SEY	**Seymchan**	**25.00**	**8**	P	**P**	**11 52 54.6**	**+1.5**
4.7nm,0.7s,baz=180,slow=9.0,SNR=12							
SEY				LR	LR	12 02 00.0	
comp=Z,243nm,21.2s,baz=330,slow=35							
H11N2	**WAKE ISLAND Hy**	**26.79**	**128**	T	T	12 21 01.3	
baz=313							
H11N1	**WAKE ISLAND Hy**	**26.80**	**128**	T	T	12 20 58.8	
baz=313							
H11N3	**WAKE ISLAND Hy**	**26.81**	**128**	T	T	12 20 58.3	
baz=313							
SONM	**Songino Array**	**29.21**	**301**	P	**P**	**11 53 33.1**	**+1.8**
0.2nm,0.7s,baz=81,slow=13,SNR=2.5							
MANU	**Manus Island**	**40.33**	**176**	P	**P**	**11 55 05.2**	**-1.9**
ZALV	**Zalesovo Beam**	**42.91**	**311**	P	**P**	**11 55 29.0**	**+1.1**
0.4nm,0.3s,baz=101,slow=7.5,SNR=3.3							
MKAR	**Makanchi Array**	**45.58**	**302**	P	**P**	**11 55 50.7**	**+1.3**
1.1nm,0.7s,baz=82,slow=9.3,SNR=11							
HYT	**Haines Junctio**	**51.66**	**38**	P	**P**	**11 56 37.9**	**+1.8**
HYT				IAmb	IAmb	11 56 49.2	
comp=Z,4.6nm,1.2s							
WR0	**Warramunga Arr**	**58.83**	**191**	P	**P**	**11 57 26.8**	**-1.2**
WR0				IAmb	IAmb	11 57 34.2	
comp=Z,6.7nm,1.4s							
WB2	**Warramunga Arr**	**58.84**	**191**	P	**P**	**11 57 27.1**	**-1.0**
WB2				IAmb	IAmb	11 57 42.3	
comp=Z,6.3nm,1.2s							
WRA	**Warramunga Arr**	**58.84**	**191**	P	**P**	**11 57 26.8**	**-1.3**
comp=Z,1.1nm,0.8s,baz=11,slow=7.1,SNR=9.7							
ABKAR	**Akbulak array**	**59.01**	**310**	P	**P**	**11 57 30.4**	**+1.3**
ASAR	**Alice Springs**	**62.56**	**191**	P	**P**	**11 57 52.0**	**-1.5**
comp=Z,0.5nm,0.8s,baz=206,slow=28,SNR=5.9							
FINES	**FINESS Array B**	**68.78**	**333**	P	**P**	**11 58 33.4**	**+0.3**
comp=Z,1.9nm,0.9s,baz=90,slow=9.7,SNR=3.2							
KBZ	**Khabaz**	**71.93**	**312**	P	**P**	**11 58 54.2**	**+1.6**
comp=Z,1.6nm,0.8s,baz=359,slow=6.2,SNR=4.3							
TXAR	**Lajitas Array**	**87.24**	**54**	P	**P**	**12 00 16.2**	**0.0**
comp=Z,0.2nm,0.6s,baz=301,slow=1.9,SNR=2.6							

OMAN 14 11:52:20.5±0.7, 25°.49N×63°.89E, h20km, ml3.5/1, Error ellipse: s-maj=23.8km s-min=13.1km az=318.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**5.28**	**232**	P	Pn	11 53 38.3	-0.1
SNR=11							
JLN				S	Sn	11 54 43.1	+4.5
WSAR	**Wadi Sarin**	**5.30**	**246**	P	Pn	11 53 37.7	-0.8
WBK	**Wadi Bani Khal**	**5.34**	**238**	P	Pn	11 53 38.6	-0.5
SNR=17							
WBK				S	Sn	11 54 40.2	+0.1
SMDO	**Samad**	**5.86**	**247**	P	Pn	11 53 46.2	-0.1
JMDO	**Jabal Madar**	**6.14**	**241**	P	Pn	11 53 50.9	+0.8
JMDO				S	Sn	11 55 01.1	+1.2
BSY	**Bisya**	**6.70**	**247**	P	Pn	11 53 58.5	+0.7
ASHO	**Ashiyiah**	**7.15**	**265**	P	Pn	11 54 03.5	-0.4
SNR=7.4							

RSNC 14 12:01:06.0±1.2, 7°.13N×72°.08W, h4km±4km, ML3.3, Mw3.6, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.65**	**289**	⇓*iP*	Pg	12 01 16.4	-2.1
PAMC				*eS*	Sg	12 01 24.9	-2.1
PAMC				*i*		12 01 26.1	
comp=Z,697nm,0.2s							
TAMC	**Tame, Arauca**	**0.75**	**157**	*eP*	Pg	12 01 19.0	-1.4
TAMC				*eS*	Sg	12 01 29.7	-0.3
TAMC				*i*		12 01 43.8	
comp=Z,485nm,0.9s							
CCUC3	**Cucuta, Santo**	**0.85**	**330**	*eP*	Pg	12 01 20.7	-1.7
CCUC3				*i*		12 01 42.6	
comp=Z,895nm,0.3s							
BARC	**Barichara**	**1.22**	**244**	⇑*iP*	Pg	12 01 26.7	-2.6
BARC				*eS*	Sg	12 01 44.3	-0.9
BARC				*i*		12 01 50.7	
comp=Z,1μm,0.5s							
RUSC	**La Rusia**	**1.58**	**219**	*eP*	Pn	12 01 33.4	-1.9
RUSC				*eS*	Sn	12 01 54.4	-2.0
RUSC				*i*		12 01 57.5	
comp=Z,147nm,1.3s							
BRRC	**Barranca, Sant**	**1.62**	**269**	⇓*iP*	Pn	12 01 34.6	-0.8
BRRC				*eS*	Sn	12 01 55.7	-1.0
BRRC				*i*		12 01 59.5	
comp=Z,310nm,0.7s							
OCAC	**Ocana**	**1.65**	**312**	*eP*	Pn	12 01 34.7	-1.2
OCAC				*eS*	Sn	12 01 55.8	-1.9
OCAC				*i*		12 02 00.8	
comp=Z,696nm,0.8s							
SDV	**Santo Domingo**	**2.26**	**39**	*eP*	Pn	12 01 42.8	-1.6
SDV				*eS*	Sn	12 02 11.9	-0.9
SDV				*i*		12 02 15.6	
comp=Z,226nm,0.5s							
PTBC	**PUERTO BERRIO,**	**2.43**	**256**	*eP*	Pn	12 01 45.1	-1.4
PTBC				*eS*	Sn	12 02 16.2	-0.6
PTBC				*i*		12 02 21.9	
comp=Z,168nm,0.4s							
SPBC	**San Pablo de B**	**2.46**	**234**	*eP*	Pn	12 01 46.4	-0.6
SPBC				*eS*	Sn	12 02 16.8	-0.9
SPBC				*i*		12 02 23.1	
comp=Z,123nm,0.6s							
SMLC	**San Martn de**	**2.58**	**310**	*eP*	Pn	12 01 46.9	-1.7
SMLC				*i*		12 02 24.9	
comp=Z,250nm,0.3s							
ZARC	**Zaragoza, Cauc**	**2.78**	**278**	*eP*	Pn	12 01 50.5	-0.8
ZARC				*eS*	Sn	12 02 24.5	-0.9
ZARC				*i*		12 02 27.6	
comp=Z,142nm,0.4s							
CHIC	**Chingaza**	**2.98**	**214**	*eP*	Pn	12 01 53.3	-1.1
CHIC				*i*		12 02 47.3	
comp=Z,51nm,0.7s							
NORC	**Norcasia**	**3.18**	**241**	*eP*	Pn	12 01 55.7	-1.2
NORC				*i*		12 02 44.5	
comp=Z,57nm,0.5s							
HELC	**Santa Helena**	**3.55**	**255**	*eP*	Pn	12 02 00.5	-1.7
HELC				*i*		12 02 59.2	
comp=Z,40nm,0.4s							
GUY2C	**Guyana, Caldas**	**3.77**	**240**	*eP*	Pn	12 02 05.0	-0.5
GUY2C				*i*		12 02 55.6	
comp=Z,42nm,0.6s							
ANIL	**Santa Ana**	**4.22**	**232**	*eP*	Pn	12 02 10.8	-0.6
ANIL				*i*		12 03 18.0	
comp=Z,47nm,0.4s							

*ISCJB **14** 12:14:19.6±0.4, 1°.57N±0°.05×126°.53E±0°.06, h47km, mb3.9/11, MS3.3/4, Error ellipse: s-maj=9.4km s-min=6.5km az=151.3*
*DJA **14** 12:14:19.4±0.3, 2°N±5°×12°7E±°, h44km±8km, M4.0/9, mb4.3/4, MLv3.9/9*
*NEIC **14** 12:14:22.2±2.4, 1°.6N±0°.1×126°.74E±0°.07, h53km±10km, mb4.2/12*
*IDC **14** 12:14:23.3±5.3, 1°.54N×126°.57E, h65km±56km, mb3.7/11, mb1 3.8/13, mb1mx3.6/34, mbtmp4.0/13, ML3.6/2, MS3.3/5, Ms1 3.3/5, ms1mx2.8/45, Error ellipse: s-maj=34.4km s-min=14.3km az=67.0*
ISC 14 12:14:21.4±0.6, 1°.59N±0°.08×126°.59E±0°.07, h47km, n41, σ1°.55/36, mb4.0/16, MS3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**136**	P	**Pn**	**12 14 39.1**	**-1.6**
TNTI				S	**Sn**	**12 14 58.7**	**+3.6**
TNTI	**Ternate**	**1.12**	**136**		**Pn**	**12 14 39.2**	**-1.6**
LBMI	**Labuha**	**2.39**	**158**	P	**Pn**	**12 14 57.4**	**-0.8**
KMSI	**Cibinong**	**2.80**	**249**	P	**Pn**	**12 15 00.8**	**-2.9**
SANI	**Sanana**	**3.67**	**189**	P	**Pn**	**12 15 14.3**	**-1.3**
MRSI	**Marisa**	**4.78**	**257**	P	**Pn**	**12 15 31.1**	**+0.2**
SIJI	**Sorong**	**5.28**	**118**	LR	LR	12 18 18.7	
comp=Z,230nm,18.1s,baz=350,slow=45							
APSI	**Ampana**	**5.53**	**243**	P	Pn	12 15 46.2	+5.0
MPSI	**Mapaga**	**6.80**	**260**	P	**Pn**	**12 15 57.3**	**-1.4**
TTSI	**Tana Toraja**	**8.19**	**236**	P	Pn	12 16 26.8	+9.1
KAPI	**Kappang**	**9.47**	**226**	P	**Pn**	**12 16 36.7**	**+1.4**
1.0nm,0.3s,baz=66,slow=6.3,SNR=2.5							
KNRA	**Kununurra**	**17.29**	**173**	Pn	**Pn**	**12 18 17.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**19.59**	**183**	P	**P**	**12 18 46.0**	**+0.3**
0.1nm,0.3s,baz=96,slow=5.3,SNR=3.8							
FITZ	**Fitzroy Crossi**	**19.59**	**183**	P	**P**	**12 18 45.0**	**-0.8**
WB0	**Warramunga Arr**	**22.56**	**161**	P	**P**	**12 19 17.3**	**-0.5**
WB0				IAmb	IAmb	12 19 24.1	
comp=Z,11nm,1.1s							
WRAB	**Tennant Creek**	**22.70**	**161**	P	**P**	**12 19 18.9**	**-0.4**
WRAB				IAmb	IAmb	12 19 25.6	
comp=Z,9.1nm,1.1s							
WRA	**Warramunga Arr**	**22.71**	**161**	P	**P**	**12 19 18.6**	**-0.8**
comp=Z,5.2nm,0.6s,baz=336,slow=11,SNR=66							
WRA	**Warramunga Arr**	**22.71**	**161**	P	**P**	**12 19 19.0**	**-0.4**
WB2	**Warramunga Arr**	**22.71**	**161**	P	**P**	**12 19 19.9**	**+0.5**
WB2				IAmb	IAmb	12 19 25.7	
comp=Z,12nm,1.1s							
MYKOM	**Kota Tinggi**	**22.73**	**271**	P	**P**	**12 19 21.4**	**+1.7**
MYKOM				IAmb	IAmb	12 19 25.1	
comp=Z,9.9nm,1.1s							
WR0	**Warramunga Arr**	**22.79**	**160**	P	**P**	**12 19 19.9**	**-0.3**
WR0				IAmb	IAmb	12 19 27.9	
comp=Z,8.0nm,1.0s							
PMG	**Port Moresby**	**23.22**	**118**	LR	LR	12 30 52.7	
comp=Z,185nm,18.4s,baz=146,slow=43							
RGRI	**Rengat**	**24.33**	**266**	P	**P**	**12 19 39.0**	**+4.0**
AS31	**Alice Springs**	**26.09**	**165**	P	**P**	**12 19 51.0**	**+0.1**
ASAR	**Alice Springs**	**26.09**	**165**	P	**P**	**12 19 51.1**	**+0.1**
comp=Z,2.0nm,0.7s,baz=346,slow=12,SNR=25							
ASAR	**Alice Springs**	**26.09**	**165**	P	**P**	**12 19 51.7**	**+0.7**
CTA	**Charters Tower**	**28.91**	**139**	P	**P**	**12 20 15.4**	**-0.8**
comp=Z,4.1nm,0.9s,baz=71,slow=4.5,SNR=3.3							
CMAR	**Chiang Mai Arr**	**31.88**	**303**	P	**P**	**12 20 42.6**	**+0.1**
comp=Z,1.0nm,0.9s,baz=127,slow=6.7,SNR=4.3							
CMAR				LR	LR	12 34 57.5	
comp=Z,13nm,18.6s,baz=105,slow=39							
KSRS	**Korea Array**	**35.71**	**2**	P	**P**	**12 21 16.5**	**+1.0**
comp=Z,1.3nm,0.9s,baz=186,slow=9.8,SNR=3.4							
STKA	**Stephens Creek**	**36.20**	**158**	P	**P**	**12 21 20.6**	**+0.9**
comp=Z,0.6nm,0.3s,baz=29,slow=7.4,SNR=3.0							
MJAR	**Matsushiro Arr**	**36.40**	**16**	P	**P**	**12 21 21.6**	**+0.2**
comp=Z,1.8nm,0.9s,baz=186,slow=9.8,SNR=4.3							
ARMA	**Armidale**	**39.78**	**145**	P	**P**	**12 21 51.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**42.70**	**6**	P	**P**	**12 22 14.1**	**+0.4**
comp=Z,1.0nm,0.8s,baz=141,slow=7.1,SNR=2.0							
SONM	**Songino Array**	**49.27**	**342**	P	**P**	**12 23 06.7**	**+1.1**
comp=Z,0.7nm,0.7s,baz=163,slow=7.1,SNR=5.2							
TLY	**Talaya**	**53.51**	**342**	LR	LR	12 47 12.0	
comp=Z,36nm,19.1s,baz=132,slow=37							
MKAR	**Makanchi Array**	**59.23**	**326**	P	**P**	**12 24 17.3**	**-0.7**
comp=Z,2.4nm,0.9s,baz=124,slow=7.2,SNR=12							
WHZ	**Wether Hill Ro**	**59.72**	**148**	P	**P**	**12 24 19.1**	**-2.2**
URZ	**Urewera**	**61.10**	**136**	LR	LR	12 53 22.6	
comp=Z,28nm,18.0s,baz=1.0,slow=38							
ZALV	**Zalesovo Beam**	**62.42**	**334**	P	**P**	**12 24 39.7**	**+0.2**
comp=Z,0.7nm,0.6s,baz=134,slow=8.3,SNR=1.8							
KURK	**Kurchatov**	**63.47**	**328**	P	**P**	**12 24 45.7**	**-0.8**
KOLS	**Kolonicke sedl**	**98.18**	**320**	*e*SG	**S**	**12 39 14.1**	**-3.4**

*ISCJB **14** 12:22:59.1±0.3, 37°.44N±0°.03×54°.36E±0°.03, h10km, Error ellipse: s-maj=4.1km s-min=2.8km az=35.8*
*TEH **14** 12:22:59.8, 37°.37N×54°.39E, h15km, ML3.7*
*THR **14** 12:23:00.7, 37°.26N×54°.47E, h15km, ML3.5*
*AZER **14** 12:23:07.1±2.2, 37°.35N×53°.95E, h30km, ml3.9/9, Error ellipse: s-maj=16.8km s-min=13.7km az=71.0*
**ISC 14 12:22:59.6±0.8, 37°.38N±0°.05×54°.38E±0°.04, h10km, n76, σ

KRSH	**Karshahi**	**3.86 209**	*e*Pn	**Pn**	**12 24 00.0 +0.8**
TNSJ	**Nastanj**	**3.86 151**	*e*Pn	**Pn**	**12 24 00.3 +1.2**
TNSJ			IAMB	IAmb	12 25 14.2
	comp=Z,0.0nm,0.7s				
QABG	**Abgarm-Qazvin**	**4.21 248**	*e*Pn	**Pn**	**12 24 06.6 +2.7**
ANAR	**Anarak**	**4.21 187**	IAMB	IAmb	12 24 05.3
	comp=Z,0.0nm,0.3s				
ANAR			*e*Pn	**Pn**	**12 24 05.0 +1.0**
QAM	**Ghamsar**	**4.33 214**	*e*Pn	**Pn**	**12 24 06.4 +0.7**
TKDS	**Koohdasht(Taba**	**4.37 148**	IAMB	IAmb	12 25 16.6
	comp=Z,0.0nm,0.6s				
ASTR	**Astara**	**4.57 287**	*e*Pn	**Pn**	**12 24 09.1 +0.4**
ASTR	**Astara**	**4.57 287**	P	**Pn**	**12 24 09.1 +0.4**
	SNR=3.0				
ASTR			S	**Sn**	**12 24 59.6 -2.2**
ZNJK	**Zanjan**	**4.61 263**	*e*Pn	**Pn**	**12 24 12.4 +2.9**
ZNJK	**Zanjan**	**4.61 263**	*e*Pn	**Pn**	**12 24 12.4 +2.9**
LKRN	**Lenkeran, Azer**	**4.61 288**	*e*Pn	**Pn**	**12 24 10.6 +1.3**
LKRN	**Lenkeran, Azer**	**4.61 288**	P	**Pn**	**12 24 10.7 +1.3**
	SNR=12				
LKRN			S	**Sn**	**12 25 00.3 -2.7**
NDR	**Nardaran**	**4.68 314**	*e*Pn	**Pn**	**12 24 11.0 +0.8**
NDR	**Nardaran**	**4.68 314**	P	**Pn**	**12 24 11.0 +0.8**
NDR			S	**Sn**	**12 25 05.1 +0.4**
IMYA	**Miami**	**4.71 101**	*e*Pn	**Pn**	**12 24 11.6 +0.8**
TPRV	**Parvadeh(Tabas**	**4.73 156**	*e*Pn	**Pn**	**12 24 12.6 +1.5**
TPRV			IAMB	IAmb	12 25 54.9
	comp=Z,0.0nm,0.6s				
IZEF	**Zefreh**	**4.78 201**	*e*Pn	**Pn**	**12 24 12.5 +0.7**
ALIB	**Äli-Bayra**	**4.93 303**	*e*Pn	**Pn**	**12 24 14.3 +0.7**
ALIB	**Äli-Bayra**	**4.93 303**	P	**Pn**	**12 24 14.3 +0.7**
LRK	**Lerik**	**4.93 287**	*e*Pn	**Pn**	**12 24 15.1 +1.2**
LRK	**Lerik**	**4.93 287**	P	**Pn**	**12 24 15.1 +1.2**
	SNR=5.5				
LRK			S	**Sn**	**12 25 09.4 -1.7**
YZKH	**Yazd**	**4.98 178**	*e*Pn	**Pn**	**12 24 15.5 +1.0**
YZKH	**Yazd**	**4.98 178**	*e*Pn	**Pn**	**12 24 15.5 +1.0**
JRKH	**Jarkhoshk**	**5.02 105**	*e*Pn	**Pn**	**12 24 16.3 +1.2**
GLBA	**Ciilabad**	**5.06 293**	S	**Sn**	**12 25 10.5 -3.5**
YRD	**Yardimli**	**5.07 289**	P	**Pn**	**12 24 17.4 +1.6**
	SNR=9.2				
YRD			S	**Sn**	**12 25 10.9 -3.7**
IGAR	**Gharneh**	**5.32 202**	*e*Pn	**Pn**	**12 24 21.6 +2.3**
ISRB	**Sarab**	**5.35 277**	*e*Pn	**Pn**	**12 24 21.4 +1.8**
AFRZ	**Afriz**	**5.47 135**	*e*Pn	**Pn**	**12 24 22.0 +0.8**
ATGJ	**Altiaghaj**	**5.47 311**	S	**Sn**	**12 25 22.1 -2.3**
ISAD	**Sadrabad**	**5.48 186**	*e*Pn	**Pn**	**12 24 22.6 +1.0**
ISAD			IAMB	IAmb	12 24 22.9
	comp=Z,522nm,0.3s				
IPIR	**Pirpir**	**5.49 212**	*e*Pn	**Pn**	**12 24 25.2 +3.6**
PQL	**Pirkuli**	**5.64 309**	S	**Sn**	**12 25 26.0 -2.6**
IRAM	**Ramesheh**	**5.79 197**	*e*Pn	**Pn**	**12 24 27.7 +1.9**
BLQ	**Beylaqan**	**5.83 296**	S	**Sn**	**12 25 31.6 -1.4**
IBAF	**Bafgh**	**5.86 170**	*e*Pn	**Pn**	**12 24 27.7 +1.1**
IHRS	**Heris**	**5.88 281**	*e*Pn	**Pn**	**12 24 29.0 +2.0**
QRD	**Qoradiz**	**5.92 293**	S	**Sn**	**12 25 32.9 -2.2**
ZNGN	**Zangian**	**6.00 210**	*e*Pn	**Pn**	**12 24 30.2 +1.6**
QUBA	**Quba, Azerbaij**	**6.04 313**	S	**Sn**	**12 25 37.1 -1.2**
XNQ	**Khinaliq**	**6.14 310**	*e*Pn	**Pn**	**12 24 32.5 +1.9**
XNQ	**Khinaliq**	**6.14 310**	P	**Pn**	**12 24 32.5 +1.9**
	SNR=9.4				
XNQ			S	**Sn**	**12 25 41.8 +0.8**
QSAR	**Qusar**	**6.28 313**	*e*Pn	**Pn**	**12 24 33.5 +1.2**
QSAR	**Qusar**	**6.28 313**	P	**Pn**	**12 24 33.5 +1.2**
QSAR			S	**Sn**	**12 25 44.5 +0.5**
ORD	**Ordubad**	**6.79 286**	*e*Pn	**Pn**	**12 24 41.9 +2.7**
ORD	**Ordubad**	**6.79 286**	P	**Pn**	**12 24 42.0 +2.7**
	SNR=3.7				
ORD			S	**Sn**	**12 25 56.1 -0.5**
ISHB	**Shabestar**	**6.99 280**	*e*Pn	**Pn**	**12 24 45.9 +3.7**
GDB	**GEDABAY**	**7.49 299**	*e*Pn	**Pn**	**12 24 50.6 +1.6**
GDB	**GEDABAY**	**7.49 299**	P	**Pn**	**12 24 50.6 +1.6**

NIED ***14*** *12:39:00,39˚.90N×143˚.20E,h17km,Mw4.6 Best double couple: M₀7.86000×10¹⁵ NP1:φs175.00000°,δ15.00000°, λ57.00000°. NP2:φs28.00000°,δ78.00000°,λ98.00000°.*
ISCJB ***14*** *12:39:04.8±0.7,39˚.86N±0˚.02×143˚.25E±0˚.03,h25km±4km, mb4.8/83,MS4.2/40,Error ellipse: s-maj=4.7km s-min=2.9km az=36.0*
JMA ***14*** *12:39:04.3±0.2,39˚.94N×143˚.22E,h16km±2km,M4.7*
JMA Felt II J1.
BJI ***14*** *12:39:04.2±0.0,39˚.88N×143˚.09E,h24km,mb4.9/65, mB4.9/44,Ms4.4/49,Ms7 4.2/46*
MOS ***14*** *12:39:06.2±1.0,39˚.90N×143˚.19E,h35km,mb5.0/39, MS4.2/5,Error ellipse: s-maj=7.2km s-min=4.4km az=102.0*
NEIC ***14*** *12:39:07.8±2.0,39˚.85N±0˚.05×143˚.2E±0˚.1,h31km±5km, mb4.8/41*
IDC ***14*** *12:39:09.6±1.5,39˚.87N×143˚.09E,h45km±13km,mb4.2/24, mb1 4.3/32,mb1mx4.2/52,mbtmp4.4/32,ML3.6/8,MS4.0/28, Ms1 4.0/28,ms1mx3.8/46,Error ellipse: s-maj=14.6km s-min=8.9km az=114.0*
ISC 14 12:39:07.5±0.6,39˚.88N±0˚.04×143˚.14E±0˚.04,h31km±3km, h30km:pP-P,n276,σ1§64/290,mb4.8/97,MS4.2/40, 15C-15D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.99**	**274**	P			**Pn**	**12 39 23.7**	**-1.5**
JTH				*e*S			**Sb**	**12 39 37.7**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.06**	**254**	P			**Pn**	**12 39 25.3**	**-1.0**
MIYJ				*e*S			**Sb**	**12 39 40.2**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.15**	**287**	P			**Pn**	**12 39 25.7**	**-1.7**
JKEN				*e*S			**Sn**	**12 39 41.8**	**-0.3**
JANG	**Nango**	**1.34**	**292**	P			**Pn**	**12 39 28.7**	**-1.4**
JANG				S			**Sn**	**12 39 46.7**	**-0.2**
JOM	**Ohasama**	**1.48**	**255**	P			**Pn**	**12 39 32.2**	**+0.1**
JOM				S			**Sb**	**12 39 52.0**	**-0.9**
JMK	**Ichinoseki**	**1.75**	**239**	P			**Pn**	**12 39 36.0**	**+0.2**
JMK				S			**Sb**	**12 39 58.9**	**-1.7**
JTM	**Tenmabayashi**	**1.83**	**300**	P			**Pn**	**12 39 36.8**	**+0.1**
JTM				*e*S			**Sn**	**12 39 59.8**	**+1.0**
JAH	**Hinai**	**1.95**	**280**	P			**Pn**	**12 39 38.9**	**+0.5**
JAH				S			**Sb**	**12 40 04.3**	**-1.9**
JIO	**Ouri**	**1.99**	**225**	P			**Pn**	**12 39 38.5**	**-0.5**
JIO				S			**Sb**	**12 40 04.8**	**-2.6**
JRG	**Rokugo**	**2.00**	**257**	P			**Pn**	**12 39 39.7**	**+0.6**
ERM	**Erimo**	**2.13**	**0**	P			**Pn**	**12 39 41.3**	**+0.4**
ERM								12 40 08.0	
ERM	**Erimo**	**2.13**	**0**				**Pn**	**12 39 41.3**	**+0.4**
ERM					Sn		**Sn**	**12 40 08.0**	**+1.7**
JEM	**Erimo**	**2.13**	**0**	P			**Pn**	**12 39 41.1**	**+0.1**
JEM				S			**Sn**	**12 40 06.6**	**+0.2**
JOT	**Ohata**	**2.19**	**314**	P			**Pn**	**12 39 42.1**	**+0.4**
JOT				S			**Sn**	**12 40 08.9**	**+1.1**
JYK	**Kaneyama**	**2.36**	**247**	P			**Pn**	**12 39 45.0**	**+0.9**
JYK				S			**Sb**	**12 40 14.2**	**-3.8**
JNBK	**Urakawa-nobuka**	**2.42**	**353**	P			**Pn**	**12 39 44.6**	**-0.2**
JNBK				S			**Sn**	**12 40 13.5**	**+0.1**
NMR	**Nemuro--Hokkai**	**3.99**	**28**	||*i*P		**Pn**	**12 40 04.3**	**-2.1**
NMR				*i*S			**Sn**	**12 40 47.9**	**-4.2**
GLVR	**Golovnino**	**4.24**	**24**	*e*P			**Pn**	**12 40 09.2**	**-0.8**
GLVR				*i*S			**Sn**	**12 40 55.2**	**-3.2**
GLVR					pmax	pmax			
	comp=Z,233nm,0.4s								
GLVR					pmax	pmax			
	comp=N,117nm,0.2s								
GLVR					pmax	pmax			
	comp=E,95nm,0.3s								
GLVR					smax	smax			
	comp=E,2μm,0.3s								
GLVR					smax	smax			
	comp=N,2μm,0.2s								
JKA	**Kamikawa-asahi**	**4.25**	**355**				**Pn**	**12 40 10.7**	**+0.6**
JKA							**Sn**	**12 41 01.0**	**+2.4**
ASAJ	**Asahikawa**	**4.25**	**355**	P			**Pn**	**12 40 10.7**	**+0.6**
	comp=N,7.3nm,0.3s,baz=209,slow=12,SNR=59								
ASAJ				S			**Sn**	**12 41 01.0**	**+2.3**
	comp=N,14nm,0.3s,baz=244,slow=32,SNR=5.6								
GRPR	**Tuman**	**4.55**	**25**	*e*P			**Pn**	**12 40 12.8**	**-1.4**
GRPR				*e*S			**Sn**	**12 41 02.0**	**-4.0**
GRPR					pmax	pmax			
	comp=Z,288nm,0.4s								
GRPR					pmax	pmax			
	comp=N,74nm,0.2s								
GRPR					pmax	pmax			
	comp=E,119nm,0.1s								
GRPR					smax	smax			
	comp=N,2μm,0.4s								
GRPR					smax	smax			
	comp=E,995nm,0.2s								
LAGR	**Lagunnoye**	**4.61**	**24**	*e*P			**Pn**	**12 40 14.2**	**-0.8**
LAGR				*e*S			**Sn**	**12 41 03.2**	**-4.3**
LAGR					pmax	pmax			
	comp=Z,410nm,0.2s								
LAGR					pmax	pmax			
	comp=N,86nm,0.1s								
LAGR					pmax	pmax			
	comp=E,63nm,0.1s								
LAGR					smax	smax			
	comp=N,962nm,0.4s								
LAGR					smax	smax			
	comp=E,3μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.62**	**25***c*	*i*P			**Pn**	**12 40 14.3**	**-0.8**
YUK				*i*S			**Sn**	**12 41 03.5**	**-4.2**
YUK					pmax	pmax			
	comp=Z,297nm,0.4s								
YUK					pmax	pmax			
	comp=N,82nm,0.2s								
YUK					pmax	pmax			
	comp=E,135nm,0.2s								
YUK					smax	smax			
	comp=N,2μm,0.4s								
YUK					smax	smax			
	comp=E,927nm,0.5s								
YUK					MLR	MLR			
	comp=Z,460nm,16.0s								
YUK					MLR	MLR			
	comp=N,577nm,11.0s								
MJAR	**Matsushiro Arr**	**5.12**	**231**	P			**Pn**	**12 40 23.4**	**+1.3**
	comp=N,1.4nm,0.3s,baz=39,slow=12,SNR=92								
MJAR				S			**Sn**	**12 41 22.8**	**+2.7**
	baz=322,slow=47,SNR=0.8								
MJAR				LR			LR	12 42 35.5	
	comp=N,1μm,19.1s,baz=50,slow=41								
MJAR	**Matsushiro Arr**	**5.12**	**231**				**Pn**	**12 40 23.6**	**+1.5**
MJB9	**Matsu-Tunnel**	**5.12**	**231**				**Pn**	**12 40 23.4**	**+1.3**
MAJO	**Matsushiro**	**5.12**	**231**	*c*P			**Pn**	**12 40 23.2**	**+1.1**
MAJO	**Matsushiro**	**5.12**	**231**				**Pn**	**12 40 23.9**	**+1.9**
MAT	**Matsushiro**	**5.12**	**231**	P			**Pn**	**12 40 23.8**	**+1.7**
MAT				*e*S			**Sn**	**12 41 27.1**	**+7.0**
KUR	**Kuril'sk**	**6.38**	**32***d*	*i*P			**Pn**	**12 40 38.5**	**-0.8**
KUR				*i*S			**Sn**	**12 41 46.7**	**-4.4**
KUR					pmax	pmax			
	comp=Z,103nm,0.8s								
KUR					pmax	pmax			
	comp=N,47nm,0.4s								
KUR					pmax	pmax			
	comp=E,48nm,0.7s								
KUR					smax	smax			
	comp=E,249nm,0.5s								
KUR					smax	smax			
	comp=N,119nm,0.4s								
INU	**Inuyama**	**6.64**	**229**				**Pn**	**12 40 44.0**	**+1.1**
TEY	**Ternei**	**7.06**	**319**	||*e*P		**Pn**	**12 40 50.4**	**+1.7**
TEY					pmax	pmax			
	comp=N,10.0nm,0.8s								
TEY					pmax	pmax			
	comp=E,20nm,0.8s								
TEY					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TEY					MLR	MLR			
	comp=Z,90nm,18.0s								
YSS	**Yuzh-Sakhalins**	**7.08**	**358**	*e*P			**Pn**	**12 40 49.3**	**+0.5**
YSS				*e*S			**Sn**	**12 42 05.9**	**-2.3**
YSS					pmax	pmax			
	comp=Z,20nm,0.9s								
YSS					smax	smax			
	comp=N,20nm,0.5s								
YSS					MLR	MLR			
	comp=Z,1μm,16.0s								
YSS					MLR	MLR			
	comp=E,900nm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.08**	**358**				**Pn**	**12 40 49.4**	**+0.5**
JHJ2	**Mitsune**	**7.27**	**203**	Pn			**Pn**	**12 40 51.5**	**0.0**
JHJ	**Hachijo jima 2**	**7.27**	**203**	P			**Pn**	**12 40 51.0**	**-0.6**
	comp=E,16nm,0.3s,baz=344,slow=23,SNR=11								
JHJ				S			**Sn**	**12 42 06.3**	**-6.7**
	comp=E,16nm,0.3s,baz=116,slow=22,SNR=3.6								
JHJ				LR			LR	12 43 48.3	
	comp=E,364nm,19.3s,baz=73,slow=38								
USA0B	**Ussuriysk Arra**	**9.35**	**301**	P			**Pn**	**12 41 23.0**	**+2.9**
USA0B	**Ussuriysk Arra**	**9.35**	**301**				**Pn**	**12 41 23.0**	**+2.9**
USRK	**Ussuriysk Ar.**	**9.35**	**301**	P			**Pn**	**12 41 22.8**	**+2.7**
	baz=104,slow=14,SNR=66								
USRK				LR			LR	12 44 49.9	
	comp=E,1μm,18.9s,baz=113,slow=36								
TYV	**Tymovskoe**	**10.99**	**358**	*e*P			**Pn**	**12 41 44.5**	**+2.1**
TYV				*e*				12 43 49.8	
TYV					pmax	pmax			
	comp=Z,12nm,0.7s								
TYV					MLR	MLR			
	comp=Z,1μm,18.0s								
MDJ	**Mudanjiang**	**11.10**	**300**	P			**Pn**	**12 41 46.6**	**+2.6**
MDJ				pP				12 41 53.8	
MDJ				sP				12 41 58.0	
MDJ				S			**Sn**	**12 43 48.8**	**+1.8**
MDJ				sS				12 43 59.6	
MDJ					pmax	pmax			
	comp=Z,32nm,1.1s								
MDJ					pmax	pmax			
	comp=Z,190nm,3.1s								
MDJ				LR			LR		
	comp=Z,920nm,13.7s								
MDJ				LR			LR		
	comp=Z,990nm,15.2s								
MDJ				LR			LR		
	comp=Z,2μm,15.0s								
MDJ	**Mudanjiang**	**11.10**	**300**				**Pn**	**12 41 46.8**	**+2.8**
GRNR	**Gornyy**	**11.86**	**339**	||*i*P		**Pn**	**12 41 55.3**	**+0.9**
GRNR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
JNU	**Nakatsue**	**11.95**	**239**	P			**Pn**	**12 41 56.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=125,slow=3.3,SNR=4.6								
JNU				LR			LR	12 46 42.6	
	comp=Z,747nm,20.3s,baz=39,slow=38								
KSRS	**Korea Array**	**12.14**	**263**	P			**Pn**	**12 42 00.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=75,slow=13,SNR=11								
KSRS				LR			LR	12 46 23.7	
	comp=Z,810nm,18.6s,baz=76,slow=36								
KS19	**Wonju Array Si**	**12.17**	**264**				**Pn**	**12 42 00.2**	**+1.4**
KSAR	**Wonju Array Be**	**12.18**	**263**	P			**Pn**	**12 42 00.3**	**+1.6**
KSAR	**Wonju Array Be**	**12.18**	**263**				**Pn**	**12 42 00.3**	**+1.6**
KLR	**Kul'dur**	**12.37**	**323**	P			**Pn**	**12 42 01.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=139,slow=13,SNR=11								
KLR				LR			LR	12 46 49.9	
	comp=Z,676nm,20.7s,baz=140,slow=37								
CN2	**Changchun**	**13.76**	**292**	*e*P			**P**	**12 42 29.5**	**+1.0**
CN2				*e*S			**Sn**	**12 44 48.3**	**-3.7**
CN2					pmax	pmax			
	comp=Z,20nm,0.8s								
CN2					pmax	pmax			
	comp=Z,200nm,4.0s								
CN2				LR			LR		
	comp=N,420nm,17.0s								
CN2				LR			LR		
	comp=E,730nm,17.0s								
CN2				LR			LR		
	comp=Z,760nm,17.0s								
PETK	**Petropavlovsk-**	**16.55**	**32**	P			**P**	**12 43 00.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=210,slow=8.3,SNR=4.1								
PETK				LR			LR	12 48 51.5	
	comp=Z,184nm,21.4s,baz=230,slow=35								
ZEA	**Zeya**	**17.56**	**327**	*e*P			**Pn**	**12 43 06.1**	**-3.6**
ZEA					pmax	pmax			
	comp=N,42nm,0.8s								
ZEA					pmax	pmax			
	comp=E,26nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,51nm,0.8s								
ZEA					MLR	MLR			
	comp=E,800nm,16.0s								
ZEA					MLR	MLR			
	comp=Z,1μm,16.0s								
ZEA					MLR	MLR			
	comp=N,500nm,15.0s								
HIA	**Hailar**	**19.06**	**307**	P			**P**	**12 43 25.6**	**-1.6**
HIA					pmax	pmax			
	comp=Z,20nm,0.8s								
HIA	**Hailar**	**19.06**	**307**	P			**P**	**12 43 25.6**	**-1.6**
MA2	**Magadan**	**20.30**	**11***ce*	P			**P**	**12 43 40.9**	**+0.4**
MA2					pmax	pmax			
	comp=Z,38nm,1.3s								
MA2	**Magadan**	**20.30**	**11**	P			**P**	**12 43 41.5**	**+1.0**
	comp=Z,31nm,0.8s,baz=192,slow=8.5,SNR=7.7								
MA2	**Magadan**	**20.30**	**11**	P			Pn	12 43 42.0	-0.7
MA2					IAmb	IAmb		12 43 42.2	
	comp=Z,33nm,0.8s								
TIA	**Tai'an**	**20.79**	**268**	P			**P**	**12 43 44.8**	**-1.3**
TIA					pmax	pmax			
	comp=Z,19nm,0.8s								
TIA					LR	LR			
	comp=Z,270nm,20.6s								
TIA					LR	LR			
	comp=Z,630nm,13.7s								
TIA					LR	LR			
	comp=Z,1μm,17.2s								
NJ2	**Nanjing**	**21.11**	**256**	*e*P			**P**	**12 43 51.3**	**+1.8**
NJ2					pmax	pmax			
	comp=Z,23nm,0.8s								
NJ2					LR	LR			
	comp=Z,480nm,13.3s								
NJ2					LR	LR			
	comp=Z,510nm,14.0s								
NJ2					LR	LR			
	comp=Z,630nm,15.6s								
YAK	**Yakutsk**	**23.65**	**344**	*e*P			**P**	**12 44 12.8**	**-3.0**
YAK				*e**PP			**pP**	**12 44 20.9**	**-3.1**
YAK				*e*PPP			PPP	12 44 52.4	
YAK				*e*S			**S**	**12 48 26.0**	**-2.2**
YAK				*e**SS			**sS**	**12 48 44.7**	**+2.7**
YAK				*e*SS			**SnSn**	**12 49 10.2**	**+3.5**
YAK				*e*SSS			SSS	12 49 23.1	
YAK				*e*				12 55 17.5	
YAK					pmax	pmax			
	comp=Z,41nm,0.9s								
YAK					pmax	pmax			
	comp=N,19nm,1.0s								
YAK					pmax	pmax			
	comp=E,9.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,62nm,1.6s								
YAK					pmax	pmax			
	comp=N,51nm,1.6s								
YAK					pmax	pmax			
	comp=E,46nm,1.5s								
YAK					smax	smax			
	comp=N,44nm,1.8s								
YAK					smax	smax			
	comp=E,47nm,1.8s								
YAK	**Yakutsk**	**23.65**	**344**	P			**P**	**12 44 14.1**	**-1.7**
	comp=E,25nm,0.5s,baz=183,slow=2.5,SNR=31								
YAK	**Yakutsk**	**23.65**	**344**	P			**P**	**12 44 13.5**	**-2.2**
SEY	**Seymchan**	**23.74**	**11**	||*i*P		**P**	**12 44 16.9**	**+0.2**
SEY	**Seymchan**	**23.74**	**11**	P			**P**	**12 44 16.2**	**-0.5**
	comp=E,32nm,0.9s,baz=195,slow=8.0,SNR=26								
HHC	**Hu-ho-hao-te**	**24.02**	**283**	*e*P			**P**	**12 44 19.8**	**+0.1**
HHC					pmax	pmax			
	comp=E,7.0nm,0.8s								
TPUB	**Ta-pu**	**25.21**	**236**	P			**P**	**12 44 29.7**	**-0.8**
TPUB					IAmb	IAmb		12 44 39.6	
	comp=Z,19nm,0.9s								
WHN	**Wuhan**	**25.21**	**257**	||P		**P**	**12 44 30.8**	**+0.4**
WHN				S			**S**	**12 48 43.8**	**-10**
WHN					pmax	pmax			
	comp=Z,68nm,0.8s								
WHN				LR			LR		
	comp=Z,2μm,19.9s								
WHN				LR			LR		
	comp=Z,620nm,11.4s								
WHN				LR			LR		
	comp=Z,1μm,16.0s								
BOD	**Bodaibo**	**25.95**	**323**	*e*P			**P**	**12 44 36.1**	**-0.8**
BOD					pmax	pmax			
	comp=Z,31nm,0.9s								
ULN	**Ulaanbaatar**	**27.02**	**299***ce*	P			**P**	**12 44 47.0**	**+0.2**
ULN					pmax	pmax			
	comp=Z,14nm,0.7s								
ULN	**Ulaanbaatar**	**27.02**	**299**	P			**P**	**12 44 46.7**	**-0.1**
SONM	**Songino Array**	**27.46**	**299**	P			**P**	**12 44 51.3**	**+0.6**
SONM					pmax	pmax			
	comp=Z,8.0nm,0.8s								
SONM	**Songino Array**	**27.46**	**299**	P			**P**	**12 44 51.1**	**+0.4**
	comp=Z,10nm,0.8s,baz=94,slow=9.0,SNR=56								
SONM					LR	LR		12 56 24.7	
	comp=Z,809nm,18.0s,baz=99,slow=38								
SONM	**Songino Array**	**27.46**	**299**	P			**P**	**12 44 51.3**	**+0.6**
XAN	**Xi'an**	**27.85**	**269**	P			**P**	**12 44 52.4**	**-1.9**
XAN				pP			sP	12 45 04.3	-2.0
XAN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
XAN					pmax	pmax			
	comp=Z,82nm,4.4s								
XAN				LR			LR		
	comp=Z,91nm,6.9s								
XAN				LR			LR		
	comp=Z,530nm,15.7s								
XAN				LR			LR		
	comp=Z,510nm,15.2s								
XAN	**Xi'an**	**27.85**	**269**	P			**P**	**12 44 53.6**	**-0.7**
XAN					pmax	pmax			
	comp=Z,8.0nm,0.6s								
XAN	**Xi'an**	**27.85**	**269**	P			**P**	**12 44 53.6**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**28.62**	**128**	T			T	13 16 01.3	
	baz=318,slow=75,SNR=453								
H11N1	**WAKE ISLAND Hy**	**28.63**	**128**	T			T	13 15 57.7	
	baz=318,slow=75,SNR=295								
H11N3	**WAKE ISLAND Hy**	**28.64**	**128**	T			T	13 16 02.6	
	baz=318,slow=75,SNR=395								
ENH	**Enshi**	**29.02**	**261**	P			**P**	**12 45 04.6**	**-0.1**
H11S1	**WAKE ISLAND Hy**	**29.44**	**130**	T			T	13 16 17.6	
	baz=322,slow=76,SNR=102								
H11S3	**WAKE ISLAND Hy**	**29.45**	**130**	T			T	13 16 06.6	
	baz=322,slow=76,SNR=58								
H11S2	**WAKE ISLAND Hy**	**29.46**	**130**	T			T	13 16 07.3	
	baz=322,slow=76,SNR=49								
TLY	**Talaya**	**29.61**	**307**	*e*P			**P**	**12 45 07.9**	**-1.8**
TLY				*e*				12 46 13.7	
TLY				*e*S			**S**	**12 50 07.9**	**+5.0**
TLY				*e*SS			**SnSn**	**12 51 33.2**	**+0.8**
TLY					pmax	pmax			
	comp=Z,17nm,0.9s								
TLY				MLR			MLR		
	comp=Z,1μm,17.0s								
ZAK	**Zakamensk**	**29.69**	**304**	*e*P			**P**	**12 45 10.7**	**+0.2**
ZAK					pmax	pmax			
	comp=Z,8.0nm,1.1s								
BILL	**Bilibino**	**30.91**	**17**	*i*P			**P**	**12 45 21.1**	**+0.1**
BILL				*i*				12 45 27.8	
BILL				*i*				12 46 20.

comp=Z,480nm,10.4s
CD2 LR LR
comp=Z,300nm,12.7s
CD2 LR LR
comp=Z,650nm,12.3s
GTA Gaotai 33.12 283 P **P 12 45 41.8 +0.9**
GTA pP pP 12 45 46.8 -2.6
GTA sP sP 12 45 49.8 -3.2
GTA PcP **PcP 12 48 25.1 +1.5**
GTA ScP **ScP 12 52 04.0 -1.5**
GTA PcS **PcS 12 52 09.1 0.0**
GTA ScS **ScS 12 56 06.4 +0.3**
GTA pmax pmax
comp=Z,17nm,1.0s
GTA pmax pmax
comp=Z,80nm,4.3s
GTA LR LR
comp=Z,210nm,18.4s
GTA LR LR
comp=Z,670nm,16.4s
GTA LR LR
comp=Z,860nm,17.0s
QIZ Qiongzhong 35.37 244 P **P 12 45 58.8 -1.6**
QIZ S **S 12 51 33.5 +0.5**
QIZ pmax pmax
comp=Z,43nm,1.7s
QIZ LR LR
comp=Z,360nm,17.7s
KMI Kunming 36.79 259 P **P 12 46 13.4 +0.6**
KMI pP sP 12 46 23.5 -1.4
KMI pmax pmax
comp=Z,28nm,1.0s
KMI pmax pmax
comp=Z,170nm,4.3s
DGZ Jazzator, Alta 39.90 303*c i*P **P 12 46 39.6 +1.0**
NONG Nongkai 40.74 250 P P 12 46 53.1 +7.4
WMQ Urumqi 40.84 294 *e*P **P 12 46 47.3 +1.0**
WMQ pP sP 12 46 56.8 -1.7
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,180nm,4.9s
WMQ LR LR
comp=Z,610nm,28.9s
WMQ LR LR
comp=Z,1μm,29.0s
WMQ LR LR
comp=Z,150nm,21.7s
WMQ Urumqi 40.84 294 IAmb IAmb 12 46 49.0
comp=Z,20nm,0.7s
ZAA0 Zalesovo Array 41.06 310 IAmb IAmb 12 46 59.1
comp=Z,16nm,0.6s
ZALV Zalesovo Beam 41.06 310*c i*P **P 12 46 47.8 -0.1**
ZALV Zalesovo Beam 41.06 310 P **P 12 46 48.0 +0.1**
comp=Z,13nm,0.6s,baz=88,slow=7.6,SNR=54
ZALV PcP **PcP 12 48 47.2 +0.1**
comp=Z,3.7nm,0.7s,baz=72,slow=2.6,SNR=4.3
ZALV LR LR 13 04 37.4
comp=Z,298nm,18.9s,baz=79,slow=37
ZALV Zalesovo Beam 41.06 310 P **P 12 46 48.4 +0.4**
NRIK Noril'sk 41.29 334 P **P 12 46 49.5 -0.1**
comp=Z,4.0nm,0.6s,baz=111,slow=10,SNR=8.2
NRIK LR LR 13 05 18.6
comp=Z,357nm,18.8s,baz=91,slow=38
CHAI Chaiyaphum 43.00 248 P **P 12 47 04.5 +0.4**
comp=Z,38μm,0.8s,comp=Z,315μm
PBKT Sadao Pong 43.29 250 P **P 12 47 07.5 +1.1**
comp=Z,5.7nm,1.0s
PBKT Sadao Pong 43.29 250 P **P 12 47 07.2 +0.8**
CMMT Chiang Mai 43.34 254 P **P 12 47 07.5 +0.6**
comp=Z,6.6nm,0.8s
CHTO Chiang Mai 43.34 254 P **P 12 47 07.3 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 43.34 254 P **P 12 47 07.3 +0.4**
IMAR Indian Mountai 43.52 32 P **P 12 47 07.9 +0.2**
CMAR Chiang Mai Arr 43.56 254 P **P 12 47 09.3 +0.6**
comp=Z,3.2nm,0.8s,baz=48,slow=7.0,SNR=18
CMAR LR LR 13 08 28.0
comp=Z,84nm,18.1s,baz=52,slow=40
MK31 Makanchi Array 43.82 300 *i* P **P 12 47 10.3 -0.2**
MK31 pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 43.82 300 P **P 12 47 10.6 +0.1**
comp=Z,11nm,0.9s,baz=83,slow=9.2,SNR=64
MKAR LR LR 13 06 22.6
comp=Z,366nm,18.6s,baz=71,slow=37
MAKZ Makanchi 44.02 300 P **P 12 47 11.7 -0.4**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 44.02 300 P **P 12 47 11.7 -0.4**
MAKZ IAmb IAmb 12 47 23.1
comp=Z,12nm,0.9s
KDAK Kodiak Island 44.09 44 P **P 12 47 13.4 +1.0**
comp=Z,6.2nm,0.9s,baz=310,slow=5.4,SNR=5.5
KDAK Kodiak Island 44.09 44 IAmb IAmb 12 47 15.7
comp=Z,16nm,1.1s
UMPA Umpang Tak 45.06 251 P **P 12 47 23.7 +3.0**
comp=Z,23μm,1.1s
KURK Kurchatov 45.30 306*ce*P **P 12 47 22.1 0.0**
KURK pmax pmax
comp=Z,41nm,1.3s
KURK Kurchatov 45.30 306 P **P 12 47 22.2 0.0**
KURBB Kurchatov Arra 45.37 306 P **P 12 47 22.8 0.0**
comp=Z,15nm,0.6s,baz=81,slow=8.8,SNR=67
ILAR Eielson Array 46.37 34 P **P 12 47 31.1 +0.7**
comp=Z,1.4nm,0.8s,baz=268,slow=6.2,SNR=14
PHET Kaeng Krachan 46.69 247 P **P 12 47 35.7 +2.1**
comp=Z,28μm,0.8s
PDGK Podgornoye 46.70 296 P **P 12 47 33.0 -0.5**
PDGK pmax pmax
comp=Z,10.0nm,0.9s
TAPN Taplejung 47.14 272 *e*P **P 12 47 38.0 +0.7**
comp=Z,21nm,0.8s
ODAN Odare 47.63 272 *e*P **P 12 47 41.6 +0.5**
comp=Z,33nm,0.7s
JIRN Jiri 48.15 274 *e*P **P 12 47 45.8 +0.5**
comp=Z,37nm,0.7s
RAMN Ramite 48.20 273 *e*P **P 12 47 45.9 +0.4**
comp=Z,61nm,0.7s
GUN Gumba 48.27 274 *e*P **P 12 47 46.6 +0.5**
comp=Z,84nm,0.8s
TARG Taragay, Kyrgy 48.41 295 IAmb IAmb 12 47 58.8
comp=Z,15nm,0.8s
KDJ Kajisay 48.70 295 P **P 12 47 49.2 +0.1**
KDJ pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 48.70 295 P **P 12 47 49.2 +0.1**
KDJ IAmb IAmb 12 47 50.7
comp=Z,10nm,0.9s
KKN Kakani 48.79 274 *e*P **P 12 47 50.4 +0.4**
comp=Z,46nm,0.7s
PKI Pulchoki 48.80 274 *e*P **P 12 47 50.2 0.0**
PKIN Phulchoki 48.80 274 *e*P **P 12 47 50.1 -0.1**
comp=Z,16nm,0.7s
DMN Daman 49.01 274 *e*P **P 12 47 52.1 +0.3**
comp=Z,36nm,1.0s
GKN Gorkha 49.18 275 *e*P **P 12 47 53.1 +0.2**
TKM2 Tokmak 2 49.52 297 P **P 12 47 55.3 -0.1**
TKM2 pmax pmax
comp=Z,37nm,0.9s
TKM2 Tokmak 2 49.52 297 P **P 12 47 56.2 +0.8**
SNR=37
DANN Dangsing 49.68 276 *e*P **P 12 47 57.5 +0.6**
comp=Z,121nm,0.7s
BRVK Borovoye 49.75 311*c i*P **P 12 47 57.2 +0.5**
BRVK pmax pmax
comp=Z,15nm,0.9s
BRVK Borovoye 49.75 311 P **P 12 47 57.3 +0.5**
BRVK IAmb IAmb 12 48 08.2
comp=Z,17nm,0.8s
KBK Karagaybulak 50.06 297 P **P 12 48 00.2 +0.8**
SNR=36
KZA Kyzart 50.06 296 P **P 12 48 01.2 +1.5**
SNR=10
KOLN Koldanda 50.09 275 *e*P **P 12 48 00.1 +0.2**
comp=Z,43nm,1.0s
USP Ospenovka 50.14 298 P **P 12 48 00.3 +0.3**
SNR=8.2
TRTT Trang 50.21 242 P **P 12 48 02.9 +2.2**
comp=Z,9.8nm,1.1s
AAK Ala-Archa 50.38 297*ce*P **P 12 48 01.8 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 50.38 297 P **P 12 48 01.7 -0.2**
SNR=7.6
AAK Ala-Archa 50.38 297 P **P 12 48 02.0 +0.2**
AAK IAmb IAmb 12 48 03.1
comp=Z,9.7nm,1.0s
UCH Uchtor 50.51 296 P **P 12 48 04.4 +1.2**
SNR=5.6
EKS2 Erkin-Say 50.86 297 P **P 12 48 05.9 +0.5**
SNR=19
AML Almayashu 51.11 297 P **P 12 48 08.7 +1.0**
SNR=18
INK Inuvik 51.24 28 P **P 12 48 08.8 +1.1**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 51.24 28 P **P 12 48 08.3 +0.6**
comp=Z,0.7nm,0.3s,baz=232,slow=3.5,SNR=9.0
INK Inuvik 51.24 28 P **P 12 48 08.8 +1.1**
KK31 Karatay Array 52.91 299 *i* P **P 12 48 20.2 -0.4**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 52.91 299 IAmb IAmb 12 48 21.5
comp=Z,11nm,0.8s
KKAR Karatay Array 52.91 299 IAmb IAmb 12 48 21.5
comp=Z,11nm,0.8s
SVE Sverdlovsk 53.94 318 *e*P **P 12 48 29.0 +1.1**
SVE pmax pmax
comp=Z,26nm,0.8s
SVE MLR MLR
comp=Z,879nm,16.0s
GAR Garm 54.74 294 IAmb IAmb 12 48 34.7
comp=Z,18nm,1.1s
NIL Nilore 55.05 287 P **P 12 48 36.8 +0.5**
NIL pmax pmax
comp=Z,22nm,0.8s
NIL Nilore 55.05 287 P **P 12 48 36.8 +0.5**
ARU Arti 55.15 318*d i*P **P 12 48 36.8 +0.1**
ARU 12 49 32.6
ARU 12 50 36.2
ARU S **S 12 56 19.1 +1.6**
ARU SS **SS 12 59 57.4 -3.7**
ARU pmax pmax
comp=Z,26nm,1.1s
ARU Arti 55.15 318 LR LR 13 14 39.1
comp=Z,336nm,19.8s,baz=64,slow=39
ARU Arti 55.15 318 P **P 12 48 36.8 +0.1**
KNRA Kununurra 56.87 197 P **P 12 48 48.2 -1.1**
KNRA IAmb IAmb 12 49 01.4
comp=Z,7.7nm,0.8s
AB31 Akbulak array 57.17 309 *i* P **P 12 48 51.2 0.0**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 57.17 309 P **P 12 48 51.7 +0.5**
ABKAR Akbulak array 57.17 309 IAmb IAmb 12 48 52.4
comp=Z,14nm,0.7s
AKTO Aktyubinsk 57.80 311 P **P 12 48 55.3 -0.4**
AKTO pmax pmax
comp=Z,11nm,0.8s
AKTO Aktyubinsk 57.80 311 LR LR 13 16 33.5
comp=Z,118nm,18.6s,baz=63,slow=39
SPITS Spitsbergen Ar 58.00 349 LR LR 13 16 11.7
comp=Z,90nm,18.4s,baz=285,slow=38
KIRV Kirov 58.81 322 LR LR 13 18 44.9
comp=Z,72nm,18.4s,baz=158,slow=40
PRGR Permogore 59.13 327 *e*P **P 12 49 00.3 -4.4**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
RES Resolute Bay 59.51 15 P **P 12 49 07.5 +0.4**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 59.51 15 LR LR 13 16 38.1
comp=Z,53nm,20.2s,baz=316,slow=38
RES Resolute Bay 59.51 15 P **P 12 49 07.5 +0.4**
RES IAmb IAmb 12 49 16.9
comp=Z,4.6nm,0.8s
FITZ Fitzroy Crossi 59.95 199 P **P 12 49 11.7 +0.9**
FITZ IAmb IAmb 12 49 23.0
comp=Z,11nm,1.1s
WRAB Tennant Creek 60.07 190*ce*P **P 12 49 11.3 -0.3**
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 60.07 190 P **P 12 49 11.7 +0.1**
WRAB IAmb IAmb 12 49 21.7
comp=Z,13nm,1.1s
WRA Warramunga Arr 60.08 190 P **P 12 49 11.1 -0.6**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 60.08 190 P **P 12 49 10.7 -0.9**
comp=Z,4.2nm,1.0s,baz=7.6,slow=6.8,SNR=27
WRA Warramunga Arr 60.08 190 P **P 12 49 11.1 -0.6**
ARCES ARCESS Array B 61.81 339 LR LR 13 18 44.6
comp=Z,114nm,20.0s,baz=4.0,slow=38
KLMR Klimovskoe 62.09 327 *e*P **P 12 49 23.8 -1.0**
KLMR pmax pmax
comp=Z,18nm,1.7s
KLMR Klimovskoe 62.09 327 *e*P **P 12 49 23.8 -1.0**
KLMR AMP 12 49 32.2
comp=Z,18nm,1.7s
DAG Danmarks Havn 63.05 355 *i* P **P 12 49 31.0 -0.1**
DAG pmax pmax
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 63.05 355 *i* P **P 12 49 31.0 -0.1**
comp=Z,10nm,1.0s
GEYT Alibeck 63.66 298 P **P 12 49 35.3 -0.5**
comp=Z,8.5nm,0.8s,baz=28,slow=3.5,SNR=15
GEYT LR LR 13 20 43.9
comp=Z,85nm,18.1s,baz=345,slow=39
ASAR Alice Springs 63.80 189 P **P 12 49 36.6 -0.1**
comp=Z,2.2nm,1.0s,baz=2.5,slow=5.0,SNR=18
DZM Mont Dzumac 65.36 156 *e*LR LR 13 09 23.5
comp=Z,134nm,23.4s
VRH Novokhopyorsk 66.39 318 *e*P **P 12 49 52.4 -0.8**
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 66.63 323 *i* P **P 12 49 53.7 -1.0**
OBN *i* 12 50 24.6
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,229nm,15.0s
FINES FINESS Array B 66.93 332 *i* P **P 12 49 56.7 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 66.93 332 P **P 12 49 56.5 +0.1**
comp=Z,6.3nm,0.7s,baz=50,slow=7.0,SNR=18
FINES LR LR 13 21 06.7
comp=Z,230nm,18.0s,baz=45,slow=38
LPSR Galich'ya Gora 66.99 320 *e*P **P 12 49 56.5 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 67.69 319 *e*P **P 12 50 00.8 -0.7**
VSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 67.77 318 *e*P **P 12 50 00.7 -1.3**
VORD pmax pmax
comp=Z,8.0nm,1.0s
MAK Makhachkala 67.78 308 *e*P **P 12 50 00.3 -1.9**
MAK *e*S **S 12 58 55.4 -2.6**
MAK pmax pmax
comp=Z,70nm,1.4s
MAK MLR MLR
comp=Z,74nm,14.0s
SUMG Summit 67.84 1 *i* P **P 12 50 03.7 +1.1**
SUMG Summit 67.84 1 *i* P **P 12 50 03.7 +1.1**
AKT Akhty 68.48 306 *e*P **P 12 50 07.1 +0.3**
AKT *e* 12 50 32.0
AKT pmax pmax
comp=Z,22nm,0.9s
VSU Vasula 68.69 330 *i* P **P 12 50 07.7 +0.1**
VSU pmax pmax
comp=Z,41nm,1.0s
SEKA Sheki 68.96 306 P **P 12 50 09.5 -0.2**
MNGR Mingechevir, A 69.28 306 P **P 12 50 11.8 +0.2**
LKRN Lenkeran, Azer 69.39 304 P **P 12 50 12.4 +0.1**
GANJ Ganja 69.83 306 P **P 12 50 12.2 -2.9**
ZEI Tsey 70.05 309 *e*P **P 12 50 15.8 -0.8**
ZEI pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 70.07 311 *e*P **P 12 50 17.5 +0.9**
KIV pmax pmax
comp=Z,127nm,1.0s
KIV MLR MLR
comp=Z,439nm,18.0s
KIV Kislovodsk 70.07 311 ⇓P **P 12 50 17.7 +1.2**
KIV mb 12 50 19.4
KBZ Khabaz 70.08 311 P **P 12 50 17.4 +1.0**
comp=Z,15nm,0.9s,baz=52,slow=4.0,SNR=31
KBZ LR LR 13 25 24.9
comp=Z,107nm,18.9s,baz=26,slow=40
SHA1 Shidzhatmaz 70.22 311*c i*P **P 12 50 18.5 +0.9**
NACGM Naroch 71.09 327 *e* **P 12 50 23.0 +0.6**
GNI Garni 71.09 307 LR LR 13 24 40.7
comp=Z,128nm,18.4s,baz=54,slow=38
AKH Akhalkalaki 71.11 308 ⇓P **P 12 50 23.5 +0.5**
NAX Nakhchivan 71.20 306 P **P 12 50 23.7 +0.2**
STKA Stephens Creek 71.41 181 LR LR 13 20 21.9
comp=Z,22nm,21.9s,baz=25,slow=35
NB2 NORSAR Subarra 72.08 338 P **P 12 50 28.6 +0.2**
comp=Z,3.5nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 72.08 338 P **P 12 50 28.6 +0.2**
comp=Z,6.5nm,0.8s,baz=38,slow=6.0,SNR=19
NOA LR LR 13 26 01.8
comp=Z,100nm,18.5s,baz=35,slow=39
BCA Borcka 72.21 309 ⇓P **P 12 50 30.9 +1.5**
NVAR Mina Array Bea 72.22 55 P **P 12 50 31.4 +1.5**
comp=Z,0.4nm,0.7s,baz=281,slow=6.5,SNR=4.4
ANN Anapa 72.53 314 *e*P **P 12 50 28.7 -2.6**
ANN pmax pmax
comp=Z,74nm,1.7s
AKASG Malin Array Be 72.87 323 P **P 12 50 33.3 +0.1**
comp=Z,2.0nm,0.5s,baz=43,slow=5.9,SNR=8.1
AKASG LR LR 13 26 07.9
comp=Z,113nm,18.7s,baz=15,slow=39
AKASG Malin Array Be 72.87 323 IAmb IAmb 12 50 34.5
comp=Z,2.1nm,0.8s
AKBB Malin Array Si 72.87 323 P **P 12 50 33.7 +0.5**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 72.87 323 P **P 12 50 33.7 +0.5**
AKBB IAmb IAmb 12 50 44.9
comp=Z,7.8nm,0.9s
PDAR Pinedale Array 74.72 47 P **P 12 50 45.8 +1.3**
comp=Z,0.3nm,0.5s,baz=194,slow=2.6,SNR=4.0
BURAR Bucovina Array 76.91 322 ⇑P **P 12 50 57.4 +0.6**
BIZ Bicaz 76.97 321 ⇑P **P 12 50 58.2 +1.2**
KOLS Kolonicke sedl 77.31 325 *e*P **P 12 51 00.3 +1.5**
KOLS Kolonicke sedl 77.31 325 *e*P **P 12 51 00.3 +1.5**
UZH Uzhgorod 77.52 324 *e*P **P 12 50 56.7 -3.3**
TRPA Tarpa 77.78 324 ⇑P **P 12 51 02.8 +1.4**
TRPA mb 12 51 03.7
BRTR Keskin Array B 77.97 312 P **P 12 51 03.4 +0.5**
comp=Z,2.3nm,0.8s,baz=60,slow=5.0,SNR=8.4
BRTR LR LR 13 29 45.5
comp=Z,74nm,18.1s,baz=9.5,slow=39
VOIR 78.56 321 ⇓P **P 12 51 07.1 +1.1**
CHVC Chvalec 78.68 329 *e*P **P 12 51 07.1 +0.7**
CHVC *ex* x 12 51 16.2
MORC Moravsky Berou 78.70 327 ⇓P **P 12 51 07.7 +1.1**
MORC mb 12 51 08.7
MORC Moravsky Berou 78.70 327 IAmb IAmb 12 51 08.6
comp=Z,7.8nm,1.0s
DPC Dobruska-Polom 78.76 328 *e*P **P 12 51 08.2 +1.3**
DPC *e* 12 51 19.4
DPC Dobruska-Polom 78.76 328 *e*P **P 12 51 08.2 +1.3**
DPC *ep*P **sP 12 51 19.4 -0.1**
VYHS Vyhne 79.14 326 *e*P **P 12 51 10.4 +1.4**
VYHS Vyhne 79.14 326 *e*P **P 12 51 10.4 +1.4**
BRG Berggiesshubel 79.28 330 *e*P **P 12 51 10.1 +0.4**
comp=Z,8.4nm,1.2s
CLL Collm 79.29 331 *i* P **P 12 51 10.1 +0.4**
comp=Z,9.0nm,0.8s
VRAC Vranov 79.46 328 ⇓P **P 12 51 12.0 +1.3**
VRAC mb 12 51 23.7
GOPC GO Pecny, Ondr 79.71 329 *e*P **P 12 51 12.6 +0.5**
GOPC GO Pecny, Ondr 79.71 329 *e*P **P 12 51 12.6 +0.5**
PRU Pruhonice 79.75 329 *e*P **P 12 51 13.5 +1.2**
PRU *e* 12 51 24.3
PRU Pruhonice 79.75 329 *e*P **P 12 51 13.5 +1.2**
PRU *ep*P **sP 12 51 24.3 -0.5**
MODS Modra-Piesok 79.90 327 *e*P **P 12 51 14.7 +1.6**
MODS Modra-Piesok 79.90 327 *e*P **P 12 51 14.7 +1.6**
KHC Kasperske Hory 80.81 329 *e*P **P 12 51 18.9 +0.8**
KHC *e* 12 51 30.2
KHC Kasperske Hory 80.81 329 *e*P **P 12 51 18.9 +0.8**
KHC *ep*P **sP 12 51 30.2 -0.5**
CONA Conrad Observa 80.84 327 *i* P **P 12 51 19.4 +1.1**
comp=Z,7.6nm,1.1s
GERES GERESS Array B 81.00 329 P **P 12 51 19.6 +0.5**
comp=Z,2.2nm,0.7s,baz=41,slow=4.3,SNR=10
VTS Vitosha 81.51 320 ⇑P **P 12 51 23.1 +1.1**
VTS mb 12 51 24.1
SOKA Soboth 82.17 327 *i* PcP **P 12 51 26.2 +0.8**
comp=Z,13nm,1.2s
KBA Koelnbreinsper 82.55 328 *i* PcP **P 12 51 28.9 +1.5**
comp=Z,8.9nm,1.0s
MYKA Terra Mystica 82.79 328 *i* P **P 12 51 28.1 -0.5**
comp=Z,7.2nm,1.0s
WTTA Wattenberg 83.09 329 *i* P **P 12 51 28.7 -1.5**
comp=Z,4.6nm,0.7s
MOTA Moosalm 83.23 329 *i* PcP **P 12 51 32.0 +1.1**
comp=Z,11nm,1.2s
FETA Feichten 83.64 329 *i* PcP **P 12 51 34.5 +1.4**
comp=Z,6.8nm,1.2s
DAVA Damuels 83.75 330 *i* PcP **P 12 51 35.0 +1.4**
comp=Z,7.0nm,0.9s
PMOR Pomariorio Ree 84.11 115 *e*T T 14 24 06.3
comp=Z,5.0nm,0.2s
PPT Papeete 84.73 118 LR LR 13 22 00.4
comp=Z,73nm,21.3s,baz=286,slow=30
PPT2 Papeete2 84.74 118 *e*LR LR 13 18 18.9
comp=Z,131nm,22.8s,baz=314
PPT2 Papeete2 84.74 118 *e*T T 14 24 55.0
comp=Z,2.9nm,0.3s
TAOE Nuku Hiva Isla 85.58 105 *e*LR LR 13 18 54.2
comp=Z,115nm,21.2s
TXAR Lajitas Array 87.32 53 P **P 12 51 53.3 +1.6**
comp=Z,0.5nm,0.8s,baz=292,slow=4.3,SNR=5.5
TBI Tubuai 88.85 122 *e*T T 14 30 01.7
comp=Z,7.0nm,0.3s
ESDC Sonseca Array 95.31 335 LR LR 13 40 49.6
comp=Z,85nm,20.6s,baz=325,slow=39
SNAA Sanae 143.87 197 PKPdf PKPab 12 58 34.5 -1.2
VNA2 Neumayer--Watz 145.43 197 PKPdf **PKPab 12 58 41.3 -0.1**
baz=117,slow=2.3
VNA3 Neumayer Olymp 145.66 195 PKPdf **PKPdf 12 58 41.6 +0.1**
VNA1 Neumayer--Stat 145.83 196 PKPdf **PKPab 12 58 43.6 +0.7**

HEL 14 12:46:15.2±0.1, 60°47N×26°58E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.36**	**282**	*e*P	Pg	12 46 21.5	-0.7
PVF				*e*S	Sg	12 46 26.4	-0.5
VJF	**Virojoki**	**0.49**	**81**	*e*P	Pg	12 46 23.9	-0.6
VJF				*e*S	Sg	12 46 30.1	-0.6
NUR	**Nurmijrvi**	**0.96**	**273**	*e*P	Pg	12 46 32.4	-1.1
NUR				*e*S	Sg	12 46 45.2	-0.7
FIA0	**FINESS Array S**	**1.01**	**346**	*e*P	Pg	12 46 32.7	-1.8
FIA0				*e*S	Sg	12 46 46.2	-1.4
KAF	**Kangasniemi**	**1.66**	**356**	*e*P	Pn	12 46 44.2	-1.2
KAF				*e*S	Sn	12 47 06.3	-1.1
KEF	**Keuruu**	**1.89**	**335**	*e*P	Pn	12 46 48.8	0.0
KEF				MSG		12 47 09.7	
	comp=Z,1.1nm,0.2s						
KEF				*e*S	Sn	12 47 12.7	-0.6

BER 14 12:46:24.0±0.8, 60°22N×12°16E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**0.60**	**329**	*e*P	Pg	12 46 34.5	-1.0
NC602				*e*S	Sg	12 46 42.3	-0.9
NAO01	**NORSAR Array S**	**0.89**	**315**	*e*P	Pg	12 46 40.1	-0.9
NAO01				*e*S	Sg	12 46 52.3	-0.2
NAO01				IAML		12 46 52.8	
	comp=Z,7.2nm,0.7s						
NB201	**NORSAR Array S**	**0.93**	**333**	*e*P	Pg	12 46 40.8	-1.1
NB201				*e*S	Sg	12 46 53.0	-1.0
NB201				IAML		12 46 59.7	
	comp=Z,8.2nm,0.8s						
NC303	**NORSAR Array S**	**1.08**	**339**	*e*P	Pg	12 46 43.6	-1.1
NC303				*e*S	Sg	12 46 58.1	-0.5
NC303				IAML		12 47 05.7	
	comp=Z,8.5nm,0.9s						
NC204	**NORSAR Array S**	**1.26**	**328**	*e*P	Pg	12 46 46.8	-1.4
NC204				*e*S	Sg	12 47 02.6	-1.8
NC204				IAML		12 47 06.7	
	comp=Z,3.4nm,0.4s						
STRU	**Stroemstad**	**1.29**	**203**	*e*P	Pg	12 46 46.9	-1.8
STRU				*e*S	Sg	12 47 04.1	-1.3

ROM 14 12:48:37.5±0.1, 42°.474N±0°.006×13°.232E±0°.010, h12km±2km, ML1.1/3, Error ellipse: s-maj=0.8km s-min=0.6km az=63.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.14**	**145**	P	Pb	12 48 41.5	-0.6
T0104				S	Sg	12 48 44.0	+0.8
SMA1	**SAN MARTINO**	**0.17**	**26**	P	Pb	12 48 42.1	-0.6
SMA1				AML	AML		
	comp=E,81μm,1.4s						
SMA1				AML	AML		
	comp=N,54μm,1.3s						
LNSS	**Leonessa**	**0.19**	**312**	P	Pg	12 48 42.2	+0.4
LNSS				S	Sg	12 48 45.5	+0.8
LNSS				AML	AML		
	comp=N,62μm,1.4s						
LNSS				AML	AML		
	comp=E,62μm,1.1s						
FIAM	**Fiamignano**	**0.22**	**203**	P	Pg	12 48 42.7	+0.5
FIAM				S	Sg	12 48 46.2	+0.7
TERO	**Teramo**	**0.31**	**61**	P	Pg	12 48 44.1	+0.2
TERO				S	Sg	12 48 48.8	+0.7
NRCA	**Norcia**	**0.37**	**346**	P	Pg	12 48 45.4	+0.5
NRCA				S	Sg	12 48 50.8	+0.9
NRCA				AML	AML		
	comp=E,132μm,0.1s						
NRCA				AML	AML		
	comp=N,60μm,0.6s						

*NORS **14** 13:06:55.5±0.0, 42°.46N×43°.83E, h16km, MPVA3.6*
*DDA **14** 13:06:56.2, 42°.46N×43°.82E, h7km±1km, ML2.8*
*TIF **14** 13:06:56.3, 42°.45N×43°.87E, h12km±2km*
ISC 14 13:06:56.9±1.0, 42°.46N±0°.02×43°.84E±0°.02, h13km±8km, n33, σ1°.24/63, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.31**	**295**	P	Pb	13 07 03.7	-0.7
ONI				S	Sb	13 07 08.9	-0.5
ONI	**Oni**	**0.31**	**295**	*i* Pg	Pb	13 07 03.6	-0.7
ONI				*e*Sg	Sb	13 07 08.9	-0.5
ZEI	**Tsey**	**0.33**	**9**	*i* Pg	Pg	13 07 03.4	-0.3
ZEI				*e*Sg	Sg	13 07 08.6	+0.2
DIGR	**Digorskoe uzhe**	**0.48**	**337**	*i* Pg	Pg	13 07 06.2	-0.2
DIGR				*e*Sg	Sb	13 07 13.3	-1.0
LACR	**Lac**	**0.50**	**43**	*i* Pg	Pg	13 07 05.5	-1.2
LACR				*e*Sg	Sg	13 07 12.3	-1.1
TKB	**Tkibuli**	**0.63**	**260**	P	Pb	13 07 09.6	-0.2
TKB				S	Sb	13 07 19.5	+0.9
KORR	**Kora**	**0.65**	**15**	*i* Pg	Pb	13 07 09.8	-0.3
KORR				*e*Sg	Sn	13 07 20.3	-1.6
ARNR	**Ardon**	**0.79**	**25**	*e*Pg	Pn	13 07 13.0	-0.7
ARNR				*e*Sg	Sn	13 07 24.6	-0.9
LSNR	**Lesken**	**0.82**	**360**	*i* Pg	Pb	13 07 13.1	+0.1
LSNR				*e*Sg	Sn	13 07 25.0	-1.1
STDR	**Stavd-Durt**	**0.92**	**10**	*i* Pg	Pn	13 07 16.5	+0.9
STDR				*e*Sg	Sn	13 07 31.0	+2.4
KMGR	**Komgaron**	**0.96**	**52**	*e*Pg	Pn	13 07 17.2	+1.1
KMGR				*e*Sg	Sn	13 07 29.6	-0.2
TBLG	**Delisi**	**0.99**	**137**	P	Pb	13 07 14.8	-1.1
TBLG				S	Sn	13 07 29.6	-0.8
BTKR	**Batakoyurt**	**1.05**	**29**	*e*Pg	Pn	13 07 18.7	+1.4
BTKR				*e*Pg	Sn	13 07 35.2	+3.4
NCK	**Nalchik**	**1.05**	**350**	*e*Pg	Pn	13 07 17.6	+0.3
NCK				*e*Sg	Sn	13 07 32.7	+0.9
BTNK	**Botanikuri**	**1.06**	**137**	P	Pb	13 07 16.3	-0.8
BTNK				S	Sn	13 07 31.5	-0.5
BTNK	**Botanikuri**	**1.06**	**137**	*i* P	Pb	13 07 16.7	-0.4
BTNK				IAML_P			
	comp=Z,1μm,0.1s						
AKH	**Akhalkalaki**	**1.08**	**194**	P	Pb	13 07 17.3	-0.2
AKH				S	Sn	13 07 32.9	+0.1
AKH	**Akhalkalaki**	**1.08**	**194**	*i* Pg	Pb	13 07 17.3	-0.2
AKH				*e*Sg	Sn	13 07 32.6	-0.2
KZRT	**Kazreti**	**1.15**	**158**	P	Pb	13 07 17.8	-0.9
KZRT				S	Sb	13 07 33.6	0.0
KZRT	**Kazreti**	**1.15**	**158**	*i* P	Pn	13 07 18.6	-0.2
EPOS	**Posof**	**1.26**	**221**	*i* P	Pb	13 07 20.4	-0.2
EPOS				*i* S	Sg	13 07 38.9	+1.2
KBTC	**Kuba-Taba**	**1.39**	**347**	*e*Pg	Pg	13 07 23.9	+0.3
KBTC				*e*Sg	Sg	13 07 43.6	+2.0
DGRG	**David-gareji**	**1.53**	**131**	P	Pg	13 07 25.8	-0.5
DGRG				S	Sg	13 07 48.2	+2.1
DGRG	**David-gareji**	**1.53**	**131**	*i* P	Pg	13 07 25.7	-0.5
DGRG				*i* S	Sg	13 07 47.9	+1.8
DGRG	**David-gareji**	**1.53**	**131**	*i* Pg	Pg	13 07 25.6	-0.7
DGRG				*e*Sg	Sg	13 07 47.7	+1.6
SHA1	**Shidzhatmaz**	**1.54**	**326**	*e*Pg	Pg	13 07 25.9	-0.6
SHA1				*e*Sg	Sg	13 07 47.5	+1.0
PYA1	**Pyatigorsk**	**1.69**	**342**	*e*Pg	Pn	13 07 26.2	+0.1
PYA1				*e*Sg	Sg	13 07 50.5	-0.7
BATM	**Batumi**	**1.81**	**242**	P	Pb	13 07 30.1	+0.2
BATM				S	Sg	13 07 54.3	-0.8
BATM	**Batumi**	**1.81**	**242**	*i* P	Pb	13 07 30.1	+0.2
LGD	**Lagodekhi**	**1.90**	**108**	P	Pn	13 07 26.6	-2.3
LGD				S	Sn	13 07 52.7	0.0
LGD	**Lagodekhi**	**1.90**	**108**	*e*Pg	Pn	13 07 26.6	-2.3
LGD				*e*Sg	Sn	13 07 52.6	0.0
DDFL	**Dedoflistskaro**	**1.98**	**120**	P	Pg	13 07 36.3	+1.4
DDFL				S	Sg	13 08 05.2	+4.5
DBC	**Dubki**	**2.28**	**75**	*e*Pn	Pg	13 07 39.7	-0.8
DBC				*e*Sn	Sb	13 08 05.7	-0.2

*ISCJB **14** 13:12:14.2±0.4, 4°.12N±0°.02×76°.76W±0°.04, h81km±6km, mb3.4/5, Error ellipse: s-maj=6.6km s-min=3.2km az=24.3*
*RSNC **14** 13:12:16.0±1.6, 4°.12N×76°.75W, h42km±13km, ML3.4, Mw3.6*
*IDC **14** 13:12:17.2±4.3, 4°.11N×76°.72W, h99km±39km, mb3.3/5, mb1 3.5/6, mb1mx3.3/28, mbtmp3.6/6, MS2.8/4, Ms1 2.8/4, ms1mx2.5/19, Error ellipse: s-maj=43.1km s-min=23.2km az=48.0*
ISC 14 13:12:13.9±0.9, 4°.12N±0°.03×76°.78W±0°.04, h61km±8km, n35, σ1°.64/55, mb3.5/5, 3C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.45**	**107**	⇓*i* P	Pn	13 12 25.4	-0.2
YOTC				*e*S	Sn	13 12 33.2	-0.9
YOTC				*i*		13 12 34.0	
	comp=Z,1μm,0.2s						
PLMC	**San Jos del P**	**0.92**	**32**	*e*P	Pn	13 12 31.5	+0.4
PLMC				*e*S	Sn	13 12 43.5	-0.2
ANIL	**Santa Ana**	**1.42**	**75**	⇓*i* P	Pn	13 12 39.2	+1.4
ANIL				*e*S	Sn	13 12 56.9	+1.2
ANIL				*i*		13 13 03.5	
	comp=Z,2μm,0.3s						
TOLC	**Tolima**	**1.53**	**72**	*e*P	Pn	13 12 40.8	+1.6
TOLC				*e*S	Sn	13 12 58.5	+0.2
TOLC				*i*		13 13 01.5	
	comp=Z,387nm,0.2s						
ORTC	**Ortega, Tolima**	**1.54**	**98**	*e*P	Pn	13 12 40.2	+1.0
ORTC				*e*S	Sn	13 12 58.6	+0.3
ORTC				*i*		13 13 08.3	
	comp=Z,692nm,0.8s						
POPC	**Popayan, Colom**	**1.57**	**176**	⇑*i* P	Pn	13 12 41.0	+1.2
POPC				*e*S	Sn	13 12 59.5	+0.2
POPC				*i*		13 13 00.9	
	comp=Z,585nm,0.7s						
RREF	**El Recreo**	**1.62**	**61**	*e*P	Pn	13 12 42.6	+1.8
RREF				*e*S	Sn	13 13 01.8	+0.6
RREF				*i*		13 13 10.7	
	comp=Z,263nm,0.6s						
GRGC	**Isla de Gorgon**	**1.77**	**231**	*e*P	Pn	13 12 43.2	+0.9
GRGC				*e*S	Sn	13 13 05.2	+1.3
GRGC				*i*		13 13 10.4	
	comp=Z,63nm,0.4s						
GUY2C	**Guyana, Caldas**	**1.79**	**52**	⇑*i* P	Pn	13 12 45.1	+2.2
GUY2C				*e*S	Sn	13 13 06.0	+1.1
GUY2C				*i*		13 13 13.6	
	comp=Z,334nm,0.7s						
PCON	**Cinco Dias**	**1.82**	**168**	*e*P	Pn	13 12 45.5	+2.1
PCON				*e*S	Sn	13 13 07.0	+1.2
PCON				*i*		13 13 13.8	
	comp=Z,702nm,1.1s						
CBOC	**Ciudad Bolivar**	**1.89**	**24**	*e*P	Pn	13 12 45.2	+1.1
CBOC				*e*S	Sn	13 13 06.7	-0.4
CBOC				*i*		13 13 14.1	
	comp=Z,390nm,0.7s						
BETC	**Betania**	**1.96**	**137**	*e*P	Pn	13 12 46.2	+1.4
BETC				*e*S	Sn	13 13 09.5	+1.2
BETC				*i*		13 13 15.2	
	comp=Z,122nm,0.6s						
SOTA	**Rioblanco**	**1.98**	**175**	⇑*i* P	Pn	13 12 47.4	+1.8
SOTA				*e*S	Sn	13 13 11.4	+1.9
SOTA				*i*		13 13 25.6	
	comp=Z,507nm,0.6s						
BBAC	**Balboa, Cauca**	**2.14**	**193**	*e*P	Pn	13 12 49.0	+1.5
BBAC				*e*S	Sn	13 13 13.6	+0.6
BBAC				*i*		13 13 24.6	
	comp=Z,302nm,0.4s						
HELC	**Santa Helena**	**2.41**	**31**	*e*P	Pn	13 12 53.1	+1.9
HELC				*e*S	Sn	13 13 20.1	+0.3
HELC				*i*		13 13 31.0	
	comp=Z,76nm,0.7s						
CRUC	**La Cruz**	**2.54**	**184**	*e*P	Pn	13 12 54.8	+1.7
CRUC				*e*S	Sn	13 13 25.5	+2.4
CRUC				*i*		13 13 34.2	
	comp=Z,281nm,0.5s						
ROSC	**El Rosal**	**2.55**	**74**	*e*P	Pn	13 12 54.2	+1.0
ROSC				*e*S	Sn	13 13 23.9	+0.5
ROSC				*i*		13 13 34.4	
	comp=Z,116nm,0.9s						
ROSC	**El Rosal**	**2.55**	**74**	P	Pn	13 12 56.6	+3.4
	comp=Z,17nm,0.3s,baz=217,slow=12,SNR=14						
ROSC				S	Sn	13 13 27.8	+4.3
	comp=Z,26nm,0.3s,baz=64,slow=24,SNR=12						
FLOC	**Florencia**	**2.76**	**156**	*e*P	Pn	13 12 57.1	+1.4
FLOC				*e*S	Sn	13 13 28.8	+0.8
FLOC				*i*		13 13 39.6	
	comp=Z,156nm,1.2s						
GCUF	**Volcan Galeras**	**2.93**	**191**	*e*P	Pn	13 13 00.8	+2.3
GCUF				*e*S	Sn	13 13 33.7	+0.9
GCUF				*i*		13 13 46.1	
	comp=Z,108nm,0.6s						
DBBC	**Dabeiba**	**2.93**	**11**	*e*P	Pn	13 13 00.5	+2.3
DBBC				*i*		13 13 44.4	
	comp=Z,130nm,0.8s						
CHIC	**Chingaza**	**3.08**	**80**	*e*P	Pn	13 13 03.0	+2.5
CHIC				*e*S	Sn	13 13 36.4	0.0
CHIC				*i*		13 13 41.1	
	comp=Z,102nm,0.4s						
PTBC	**PUERTO BERRIO,**	**3.34**	**44**	*e*P	Pn	13 13 06.4	+2.8
PTBC				*e*S	Sn	13 13 43.5	+1.4
PTBC				*i*		13 14 05.3	
	comp=Z,56nm,0.7s						
MACC	**Macarena, Meta**	**3.52**	**124**	*e*P	Pn	13 13 06.8	+0.6
MACC				*e*S	Sn	13 13 45.1	-1.6
MACC				*i*		13 14 06.7	
	comp=Z,192nm,0.6s						
ZARC	**Zaragoza, Cauc**	**3.86**	**30**	*e*P	Pn	13 13 14.1	+3.4
ZARC				*i*		13 14 24.6	
	comp=Z,32nm,1.4s						
JTS	**Las Juntas de**	**10.16**	**308**	LR	LR	13 18 19.7	
	comp=Z,49nm,20.1s,baz=178,slow=36						
NNA	**Nana**	**16.00**	**180**	LR	LR	13 23 27.1	
	comp=Z,24nm,19.8s,baz=356,slow=42						
MDP	**Montagnes des**	**24.08**	**87**	LR	LR	13 27 18.0	
	comp=Z,25nm,20.4s,baz=294,slow=38						
SIV	**San Ignacio**	**25.31**	**142**	P	P	13 17 33.8	-1.4
	comp=Z,0.8nm,0.8s,baz=338,slow=10,SNR=4.1						
SIV				LR	LR	13 26 56.4	
	comp=Z,20nm,20.6s,baz=87,slow=35						
PDAR	**Pinedale Array**	**48.25**	**328**	P	P	13 20 47.4	-1.7
	comp=Z,0.4nm,0.7s,baz=116,slow=10,SNR=1.6						
NVAR	**Mina Array Bea**	**50.90**	**318**	P	P	13 21 09.3	0.0
	comp=Z,0.7nm,0.8s,baz=132,slow=8.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**77.86**	**78**	P	P	13 24 04.4	-1.4
	comp=Z,0.6nm,0.6s,baz=294,slow=4.6,SNR=2.2						
ILAR	**Eielson Array**	**77.88**	**336**	P	P	13 24 04.3	-0.6
	comp=Z,0.3nm,0.6s,baz=122,slow=4.3,SNR=4.8						
ASAR	**Alice Springs**	**144.59**	**234**	PKP	PKPab	13 31 42.6	-0.5
	comp=Z,0.6nm,0.7s,baz=116,slow=3.9,SNR=11						
WRA	**Warramunga Arr**	**145.85**	**240**	PKPbc	PKPdf	13 31 46.6	-0.2
	comp=Z,0.5nm,0.9s,baz=112,slow=3.2,SNR=4.7						

*IDC **14** 13:12:50.3±1.7, 7°.00S×128°.19E, h0km, mb3.8/2, mb1 4.0/7, mb1mx3.7/31, mbtmp3.9/7, ML3.8/4, MS2.6/1, Ms1 2.6/1, ms1mx2.1/36, Error ellipse: s-maj=39.6km s-min=23.9km az=60.0*
*ISCJB **14** 13:12:57.7±0.9, 7°.26S±0°.07×127°.97E±0°.05, h100km, Error ellipse: s-maj=9.7km s-min=7.3km az=13.8*
*NEIC **14** 13:12:57.9±2.3, 7°.16S±0°.03×128°.00E±0°.09, h106km±15km, mb4.4/4*
ISC 14 13:12:58.5±1.3, 7°.3S±0°.1×127°.93E±0°.08, h100km, n21, σ2°.17/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.42**	**102**	Pn	Pn	13 13 49.3	-0.6
SOEI	**Soe**	**4.39**	**235**	Pn	Pn	13 14 05.8	+2.6
BATI	**Baumata**	**5.14**	**235**	Pn	Pn	13 14 14.7	+1.5
	3.9nm,0.3s,baz=182,slow=2.0,SNR=5.4						
BATI				Sn	Sn	13 15 12.6	+1.3
	3.3nm,0.3s,baz=327,slow=23,SNR=1.4						
KNRA	**Kununurra**	**8.41**	**174**		Pn	13 14 58.5	+0.8
KNRA					Sn	13 16 33.5	+2.5
KAPI	**Kappang**	**8.43**	**285**	Pn	Pn	13 14 55.1	-2.8
	baz=136,slow=6.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.01**	**191**	Pn	Pn	13 15 32.1	-1.0
	0.5nm,0.3s,baz=12,slow=9.9,SNR=18						
FITZ				Sn	Sn	13 17 32.7	-1.5
	1.1nm,0.3s,baz=358,slow=7.0,SNR=6.1						
FITZ				LR	LR	13 20 06.2	
	comp=Z,28nm,18.4s,baz=314,slow=38						
FITZ	**Fitzroy Crossi**	**11.01**	**191**		Pn	13 15 32.0	-1.0
FITZ				Sn	Sn	13 17 35.6	+1.4
JAGI	**Jajag, Banyuwa**	**13.70**	**264**	Pn	Pn	13 16 07.7	-1.0
WB0	**Warramunga Arr**	**13.93**	**154**	Pn	Pn	13 16 11.2	-0.5
WRAB	**Tennant Creek**	**14.06**	**154**	Pn	Pn	13 16 13.8	+0.5
WRA	**Warramunga Arr**	**14.07**	**154**	Pn	Pn	13 16 12.3	-1.1
	0.5nm,0.3s,baz=336,slow=13,SNR=25						
WRA				Sn	Sn	13 18 44.6	-3.8
	0.5nm,0.3s,baz=331,slow=22,SNR=8.5						
WRA	**Warramunga Arr**	**14.07**	**154**		Pn	13 16 12.6	-0.9
WB2	**Warramunga Arr**	**14.07**	**154**	Pn	Pn	13 16 12.5	-1.0
WR0	**Warramunga Arr**	**14.17**	**154**	Pn	Pn	13 16 13.8	-0.9
ASAR	**Alice Springs**	**17.30**	**161**	P	Pn	13 16 56.2	+2.3
	0.3nm,0.3s,baz=332,slow=10,SNR=14						
ASAR				S	Sn	13 20 01.7	-4.8
	0.1nm,0.3s,baz=316,slow=19,SNR=2.4						
NWAO	**Narrogin (SRO)**	**27.41**	**200**	P	P	13 18 32.1	-2.7
NWAO				IAmb	IAmb	13 18 48.2	
	comp=Z,33nm,1.5s						
STKA	**Stephens Creek**	**27.62**	**154**	P	P	13 18 40.5	+3.9
	comp=Z,1.1nm,0.7s,baz=315,slow=10.0,SNR=1.5						
STKA	**Stephens Creek**	**27.62**	**154**	P	P	13 18 38.1	+1.4
EIDS	**Eidsvold**	**28.52**	**132**	P	P	13 18 45.4	+0.6
EIDS				IAmb	IAmb	13 18 52.3	
	comp=Z,7.3nm,1.3s						
TOO	**Toolangi**	**34.14**	**155**	P	P	13 19 36.1	+2.0
MKAR	**Makanchi Array**	**67.33**	**328**	P	P	13 23 46.9	+4.1
	comp=Z,0.4nm,0.5s,baz=128,slow=7.9,SNR=4.5						

*MAN **14** 13:32:15.9, 6°.83N×126°.42E, h211km, MS3.1*
*ISCJB **14** 13:32:25.8±0.8, 6°.7N±0°.1×125°.8E±0°.1, h148km±7km, mb3.3/4, Error ellipse: s-maj=19.2km s-min=16.6km az=168.8*
*IDC **14** 13:32:26.5±2.3, 6°.86N×125°.94E, h146km±10km, mb3.0/4, mb1 3.2/4, mb1mx3.0/46, mbtmp3.4/4, Error ellipse: s-maj=121.6km s-min=22.0km az=68.0*
ISC 14 13:32:27.1±1.1, 6°.69N±0°.09×125°.9E±0°.1, h149km±8km, n12, σ3°.08/18, mb3.3/4, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.48**	**322**	P	Pn	13 32 47.0	-1.3
	49nm,0.3s,baz=51,slow=4.6,SNR=3.6						
DAV				S	Sn	13 33 04.1	-0.4
	189nm,0.3s,baz=51,slow=22,SNR=16						
DMPH	**Davao City--Mi**	**0.53**	**317**	*e*P	Pn	13 32 47.5	-1.1
DMPH				*e*S	Sn	13 33 02.2	-2.7
KCP	**Kidapawan**	**0.84**	**292**	⇑*i* P	Pn	13 32 49.1	-1.5
KCP				*i* S	Sn	13 33 16.0	+7.5
GSPH	**General Santos**	**1.10**	**237**	⇑*i* P	Pn	13 32 49.6	-3.3
GSPH				*i* S	Sn	13 33 17.7	+5.3
SKMP	**Bagumbayan, Su**	**1.33**	**263**	*e*P	Pn	13 32 52.4	-2.5
SKMP				*e*S	Sn	13 33 13.7	-2.5
BUKP	**Musuan**	**1.43**	**326**	*e*P	Pn	13 32 55.0	-1.0
BUKP				*e*S	Sn	13 33 20.0	+1.9
CTBH	**Cotabato--PC H**	**1.70**	**288**	⇑*i* P	Pn	13 32 58.0	-0.8
PAGZ	**Pagadian**	**2.73**	**295**	*e*P	Pn	13 33 09.4	-1.6
FITZ	**Fitzroy Crossi**	**24.63**	**181**	P	P	13 37 33.8	-0.1
	1.3nm,0.9s,baz=355,slow=14,SNR=1.9						
WRA	**Warramunga Arr**	**27.75**	**163**	P	P	13 38 02.9	+1.0
	0.6nm,0.9s,baz=346,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**31.18**	**166**	P	P	13 38 34.1	+1.8
	0.2nm,0.5s,baz=338,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**54.66**	**325**	P	P	13 41 39.6	-1.0
	0.2nm,0.3s,baz=110,slow=7.0,SNR=4.4						

*ISCJB **14** 13:32:52.2±0.4, 52°.2N±0°.1×175°.51W±0°.08, h88km±5km, mb3.5/4, Error ellipse: s-maj=24.5km s-min=5.9km az=165.0*
*IDC **14** 13:32:52.5±2.3, 51°.54N×173°.24W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/57, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=60.9km s-min=31.6km az=180.0*
*NEIC **14** 13:32:53.1±1.9, 52°.2N±0°.1×175°.56W±0°.10, h81km±4km*
*AEIC **14** 13:32:53±2.8, 52°.3N±0°.2×175°.58W±0°.10, h73km±6km, ML3.2, mb3.8/19(NEIC)*
ISC 14 13:32:52.8±0.8, 52°.2N±0°.2×175°.50W±0°.06, h79km±7km, n57, σ1°.42/55, mb3.4/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.31**	**238**		Pn	13 33 05.1	+0.1
GSIG					Sn	13 33 14.3	+0.3
GSTR	**Great Sitkin T**	**0.35**	**261**		Pn	13 33 06.2	+1.0
GSMY	**Great Sitkin M**	**0.36**	**253**		Pn	13 33 05.9	+0.6
GSTD	**Great Sitkin T**	**0.41**	**257**		Pn	13 33 06.3	+0.6
GSTD					Sn	13 33 15.9	+0.6
GSCK	**Great Sitkin C**	**0.43**	**252**		Pn	13 33 06.6	+0.8
GSCK					Sn	13 33 16.8	+1.3
ADAG	**Mount Adagdak**	**0.70**	**256**		Pn	13 33 09.3	+1.0
ADK	**Adak**	**0.78**	**250**		Pn	13 33 09.2	+0.1
KOKL	**Mount Kliuchef**	**0.82**	**77**		Pn	13 33 10.4	+0.7
KOFP	**Korovin Flat P**	**0.87**	**81**		Pn	13 33 10.6	+0.4
KONE	**Korovin Northe**	**0.88**	**73**		Pn	13 33 11.4	+1.0
KINC	**Kanaga Island**	**1.03**	**258**		Pn	13 33 12.9	+0.9
KIWB	**Kanaga Island**	**1.06**	**254**		Pn	13 33 13.4	+1.0
KIKV	**Kanaga Island**	**1.07**	**256**		Pn	13 33 13.4	+0.9
KIKV					Sn	13 33 28.8	+1.5
KICM	**Kanaga Island**	**1.07**	**258**		Pn	13 33 13.7	+1.1
KIMD	**Kanaga Island**	**1.14**	**251**		Pn	13 33 13.9	+0.5
TAFP	**Tanaga Falls P**	**1.55**	**262**		Pn	13 33 19.8	+1.1
TAFP					Sn	13 33 38.9	+0.6
TASE	**Tanaga Southea**	**1.60**	**260**		Pn	13 33 20.3	+1.0
GAEA	**Gareloi East**	**2.04**	**261**		Pn	13 33 26.3	+1.2
OKSP	**Okmok Steeple**	**4.52**	**73**		Pn	13 34 01.2	+2.4
MREP	**Makushin Rep't**	**5.55**	**69**		Pn	13 34 14.6	+1.9
UNV	**Unalaska Valle**	**5.69**	**69**		Pn	13 34 16.5	+1.9
OHAK	**Old Harbor**	**13.79**	**60**	Pn	Pn	13 36 02.8	-1.6
KDAK	**Kodiak Island**	**14.28**	**58**	Pn	Pn	13 36 08.5	-2.4
	0.2nm,0.3s,baz=178,slow=2.5,SNR=15						
KDAK	**Kodiak Island**	**14.28**	**58**		Pn	13 36 10.9	+0.1
TTA	**Tatalina**	**14.96**	**36**	P	P	13 36 23.2	-0.1
HOM	**Homer**	**15.28**	**51**	Pn	Pn	13 36 22.5	-1.2
CNPM	**China Poot**	**15.44**	**52**	Pn	Pn	13 36 24.9	-0.7
BRLK	**Bradley Lake**	**15.68**	**51**	P	P	13 36 31.4	+0.1
PETK	**Petropavlovsk-**	**16.27**	**284**	Pn	Pn	13 36 34.8	-1.4
SUA	**Susitna One**	**16.35**	**46**	Pn	Pn	13 36 36.5	-0.7
SUA				IAmb	IAmb	13 36 49.4	
	comp=Z,6.9nm,1.1s						
PPLA	**Purkeypile**	**16.40**	**40**	Pn	Pn	13 36 35.0	-2.9
PPLA				IAmb	IAmb	13 36 38.2	
	comp=Z,18nm,1.5s						
SEW	**Seward**	**16.47**	**51**	Pn	Pn	13 36 37.4	-1.2
RC01	**Rabbit Creek A**	**16.66**	**47**	Pn	Pn	13 36 37.1	-3.9
HIN	**Hinchinbrook I**	**17.96**	**51**		Pn	13 36 57.4	+0.4
HIN				IAmb	IAmb	13 37 15.3	
	comp=Z,14nm,1.1s						
RND	**Reindeer**	**17.98**	**41**		Pn	13 36 57.9	+0.8
DHY	**Denali Highway**	**18.44**	**43**		Pn	13 37 03.0	+0.2
DHY				IAmb	IAmb	13 37 05.0	
	comp=Z,5.5nm,1.1s						
PAX	**Paxson**	**19.21**	**44**	Pn	Pn	13 37 11.7	-0.2
IL31		**19.36**	**38**	Pn	Pn	13 37 14.8	+1.3
ILAR	**Eielson Array**	**19.36**	**38**	P	Pn	13 37 15.3	+1.7
	comp=Z,0.1nm,0.3s,baz=220,slow=9.9,SNR=7.0						
GLB	**Gilahina Butte**	**19.50**	**49**	P	P	13 37 11.2	-2.1
GLB				IAmb	IAmb	13 37 13.4	
	comp=Z,5.6nm,1.3s						
CRQM	**Cirque**	**19.66**	**51**	P	P	13 37 13.6	-1.6
CRQM				IAmb	IAmb	13 37 32.0	
	comp=Z,9.7nm,1.2s						
TGL	**Tana Glacier**	**19.81**	**51**	P	P	13 37 13.4	-3.4
TGL				IAmb	IAmb	13 37 14.8	
	comp=Z,6.1nm,1.0s						
DOT	**Dot Lake**	**20.04**	**43**	P	P	13 37 18.8	-0.3
DOT				IAmb	IAmb	13 37 37.0	
	comp=Z,3.8nm,1.0s						
BCAR	**Beaver Creek A**	**20.84**	**45**	P	P	13 37 26.4	-1.3
YKU2	**Yakutat**	**21.21**	**56**	P	P	13 37 29.7	-1.9
WHY	**Whitehorse**	**23.68**	**53**	P	P	13 37 57.7	+0.7
PGC	**Sidney**	**32.78**	**75**	P	P

*IDC **14** 13:39:37.1±5.4, 56.°28S×151.°19W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/26, mbtmp3.6/2, Error ellipse: s-maj=466.0km s-min=56.8km az=165.0*

ISC 14 13:39:35.1±0.8, 55.7°S±0.2°×151.1°W±0.1°, h10km, n30, σ1°93/21, mb4.7/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.43**	**180**	P	**P**	**13 46 23.4**	**+0.9**
GO09	**Cerro Castillo**	**44.69**	**119**	P	**P**	**13 47 47.9**	**+0.1**
GO09				IAmb	IAmb	13 47 48.0	
	comp=Z,13nm,0.9s						
CAN	**Canberra**	**45.06**	**271**	P	**P**	**13 47 50.0**	**-1.0**
CAN				IAmb	IAmb	13 47 57.7	
	comp=Z,27nm,1.5s						
ARMA	**Armidale**	**47.20**	**278**	P	**P**	**13 48 05.5**	**-2.5**
ARMA				IAmb	IAmb	13 48 14.1	
	comp=Z,14nm,1.3s						
SNAA	**Sanae**	**50.96**	**168**	P	P	13 48 41.4	+5.2
EIDS	**Eidsvold**	**51.41**	**281**	P	**P**	**13 48 40.0**	**-0.1**
EIDS				IAmb	IAmb	13 48 49.9	
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**54.44**	**195**	P	**P**	**13 49 01.9**	**+0.1**
HOPE	**Hope Point**	**58.01**	**141**	P	**P**	**13 49 26.1**	**-1.4**
ASAR	**Alice Springs**	**62.41**	**268**	P	**P**	**13 50 01.1**	**+3.0**
	comp=Z,0.5nm,0.6s,baz=139,slow=6.5,SNR=9.7						
H01W1	**Cape Leeuwin H**	**64.49**	**245**	T	T	15 00 16.6	
	baz=142,slow=76,SNR=9.1						
H01W2	**Cape Leeuwin H**	**64.49**	**245**	T	T	15 00 15.8	
	baz=142,slow=76,SNR=9.3						
H01W3	**Cape Leeuwin H**	**64.50**	**245**	T	T	15 00 19.8	
	baz=142,slow=76,SNR=8.6						
WB2	**Warramunga Arr**	**65.10**	**271**	P	**P**	**13 50 15.7**	**-0.2**
WB2				IAmb	IAmb	13 50 21.6	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**65.11**	**271**	P	**P**	**13 50 19.2**	**+3.3**
	comp=Z,0.7nm,1.0s,baz=148,slow=5.6,SNR=3.3						
WRA	**Warramunga Arr**	**65.11**	**271**	P	**P**	**13 50 15.1**	**-0.9**
PB10	**IPOC Station P**	**65.62**	**96**	P	**P**	**13 50 18.3**	**-0.9**
PMG	**Port Moresby**	**66.55**	**289**	P	**P**	**13 50 24.0**	**-1.2**
PB04	**IPOC Station P**	**66.78**	**96**	P	**P**	**13 50 24.1**	**-2.8**
PB04				IAmb	IAmb	13 50 34.6	
	comp=Z,6.2nm,0.7s						
CPUP	**Villa Florida**	**70.69**	**108**	P	**P**	**13 50 52.1**	**+1.2**
CPUP				IAmb	IAmb	13 51 00.8	
	comp=Z,6.3nm,1.5s						
FITZ	**Fitzroy Crossi**	**71.49**	**265**	P	**P**	**13 50 57.0**	**+1.1**
FITZ				IAmb	IAmb	13 51 08.2	
	comp=Z,1.8nm,1.2s						
KNRA	**Kununurra**	**71.67**	**269**	P	**P**	**13 50 56.1**	**-0.9**
KNRA				IAmb	IAmb	13 51 13.7	
	comp=Z,14nm,1.4s						
PSA00	**Pilbara Seismi**	**71.95**	**258**	P	**P**	**13 50 58.4**	**-0.3**
H10S3	**ASCENSION HYDR**	**106.11**	**135**	T	T	15 52 07.2	
	baz=16,slow=74,SNR=5.2						
H10S2	**ASCENSION HYDR**	**106.11**	**135**	T	T	15 52 01.7	
	baz=204,slow=74,SNR=5.2						
H10N3	**ASCENSION HYDR**	**107.18**	**135**	T	T	15 53 24.9	
	baz=204,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**107.19**	**135**	T	T	15 53 29.9	
	baz=204,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**107.20**	**135**	T	T	15 53 26.2	
	baz=204,slow=75,SNR=10						
ILAR	**Eielson Array**	**120.20**	**2**	PKP	**PKiKP**	**13 58 29.4**	**+4.7**
	comp=Z,0.8nm,0.9s,baz=206,slow=2.9,SNR=5.9						
MKAR	**Makanchi Array**	**146.21**	**278**	PKPbc	**PKiKP**	**13 59 17.9**	**0.0**
	comp=Z,1.2nm,0.8s,baz=104,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**148.50**	**291**	PKPbc	**PKiKP**	**13 59 23.5**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=86,slow=1.9,SNR=2.3						

*ISCJB **14** 14:06:23.8±0.3, 3.°93N±0.°07×31.°51W±0.°07, h10km, mb4.2/28, MS4.3/24, Error ellipse: s-maj=11.9km s-min=7.9km az=143.6*

*NEIC **14** 14:06:23.2±2.8, 3.°87N±0.°10×31.°54W±0.°03, h10km±1km, mb4.4/13*

*IDC **14** 14:06:24.3±0.6, 3.°84N×31.°50W, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.3/48, mbtmp4.3/27, ML4.3/1, MS4.3/24, Ms1 4.3/24, ms1mx4.2/28, Error ellipse: s-maj=20.6km s-min=11.2km az=146.0*

*GCMT **14** 14:06:29.2±0.2, 3.°98N±0.°01×31.°56W±0.°01, h15km, MW5.1/110, Moment Tensor Solution. s64,c89; s110,c181; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.52±.12; Mθθ0.62±.13; Mφφ-0.09±.12; Mrθ1.63±.35; Mφφ-5.95±.12; Mθr-0.05±.37; Best double couple: M0=6.18000×10^16 NP1:φs=269.00000°, δ89.00000°, λ-165.00000°. NP2:φs178.00000°, δ75.00000°, λ-1.00000°. Principal axes: T 6.4380, Plg10.0000°, Azm42.0000°; N -0.5170, Plg75.0000°, Azm272.0000°; P -5.9220, Plg12.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 14:06:24.9±0.4, 3.°77N±0.°07×31.°55W±0.°08, h10km, n69, σ2°98/59, mb4.4/36, MS4.4/25, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.48**	**205**	Pn	**Pn**	**14 08 55.8**	**+0.4**
	2.3nm,0.3s,baz=6.4,slow=7.0,SNR=12						
RCBR				Sn	**Sn**	**14 10 47.8**	**-5.2**
	0.7nm,0.3s,baz=326,slow=0.7,SNR=3.2						
RCBR	**Riachuelo**	**10.48**	**205**	Pn	**Pn**	**14 08 55.6**	**+0.2**
RCBR					**Sn**	**14 10 48.7**	**-4.3**
SACV	**Santiago Islan**	**13.60**	**35**		**Pn**	**14 09 33.6**	**-4.5**
H10N3	**ASCENSION HYDR**	**20.55**	**124**	T	T	14 32 40.6	
	baz=304,slow=75,SNR=345						
H10N2	**ASCENSION HYDR**	**20.57**	**124**	T	T	14 32 37.9	
	baz=304,slow=75,SNR=505						
H10N1	**ASCENSION HYDR**	**20.57**	**124**	T	T	14 32 39.6	
	baz=304,slow=75,SNR=352						
MDP	**Montagnes des**	**21.07**	**274**	P	**P**	**14 11 10.7**	**+1.0**
	20nm,1.0s,baz=119,slow=6.6,SNR=6.1						
BDFB	**Brasilia**	**25.25**	**220**	P	**P**	**14 11 53.9**	**+2.3**
	3.5nm,0.6s,baz=96,slow=5.5,SNR=4.4						
BDFB				LR	LR	14 20 43.3	
	comp=Z,1μm,20.6s,baz=67,slow=34						
DBIC	**Dimbokro**	**26.73**	**83**	P	**P**	**14 12 07.0**	**+2.0**
	2.9nm,0.7s,baz=246,slow=12						
DBIC				LR	LR	14 20 11.9	
	comp=Z,320nm,21.1s,slow=31						
DBIC	**Dimbokro**	**26.73**	**83**	P	**P**	**14 12 00.7**	**-4.3**
DBIC				IAmb	IAmb	14 12 19.2	
	comp=Z,6.3nm,0.9s						
SAML	**Samuel**	**33.98**	**248**	P	**P**	**14 13 07.2**	**-1.9**
SAML				IAmb	IAmb	14 13 13.6	
	comp=Z,5.0nm,1.1s						
TOA0	**Torodi Ar. Sit**	**34.13**	**72**	P	**P**	**14 13 08.9**	**-1.6**
TOA0				IAmb	IAmb	14 13 23.5	
	comp=Z,8.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**34.13**	**72**	P	**P**	**14 13 09.5**	**-1.0**
	comp=Z,24.0nm,0.7s,baz=254,slow=8.5,SNR=10.0						
TORD				LR	LR	14 24 44.9	
	comp=Z,744nm,21.0s,baz=285,slow=32						
TORD	**Torodi Ar. Bea**	**34.13**	**72**	P	**P**	**14 13 09.5**	**-1.0**
SIV	**San Ignacio**	**35.19**	**235**	P	**P**	**14 13 21.3**	**+1.7**
	comp=Z,5.5nm,0.7s,baz=96,slow=9.0,SNR=34						
MTP	**Monte Pirata**	**36.20**	**296**	P	**P**	**14 13 25.7**	**-2.5**
CPUP	**Villa Florida**	**38.96**	**218**	P	**P**	**14 13 53.2**	**+1.7**
	comp=Z,4.6nm,0.9s,baz=28,slow=7.3,SNR=10.0						
CPUP				LR	LR	14 29 47.7	
	comp=Z,2μm,18.7s,baz=42,slow=36						
CPUP	**Villa Florida**	**38.96**	**218**	P	**P**	**14 13 53.1**	**+1.7**
SDV	**Santo Domingo**	**39.16**	**279**	P	**P**	**14 13 55.2**	**+1.6**
	comp=Z,5.4nm,0.8s,baz=176,slow=8.9,SNR=3.9						
PVAQ	**Vaqueiros**	**39.97**	**30**	P	**P**	**14 13 56.4**	**-3.4**
PVAQ				IAmb	IAmb	14 14 10.5	
	comp=Z,8.3nm,1.0s						
LPAZ	**La Paz**	**41.30**	**240**	P	**P**	**14 14 12.6**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=46,slow=9.4,SNR=6.7						
LPAZ				LR	LR	14 30 38.8	
	comp=Z,624nm,20.8s,baz=68,slow=35						
LPAZ	**La Paz**	**41.30**	**240**	P	**P**	**14 14 09.7**	**-2.0**
ROSC	**El Rosal**	**42.66**	**273**	P	**P**	**14 14 23.7**	**+1.0**
	comp=Z,3.5nm,0.3s,baz=330,slow=20,SNR=3.9						
ROSC				LR	LR	14 32 41.8	
	comp=Z,639nm,18.7s,baz=86,slow=37						
ROSC	**El Rosal**	**42.66**	**273**	P	**P**	**14 14 21.8**	**-0.9**
ROSC				IAmb	IAmb	14 14 39.8	
	comp=Z,7.8nm,1.1s						
ESDC	**Sonseca Array**	**43.60**	**31**	P	**P**	**14 14 29.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=228,slow=8.0,SNR=10						
ESDC				LR	LR	14 29 57.0	
	comp=Z,232nm,19.2s,baz=235,slow=32						
ESDC	**Sonseca Array**	**43.60**	**31**	P	**P**	**14 14 29.9**	**+0.3**
H09W1	**TRISTAN DA CUN**	**44.42**	**158**	T	T	15 02 12.9	
	SNR=7.1						
GTBY	**Guantanamo Bay**	**45.38**	**294**	P	**P**	**14 14 43.7**	**-0.3**
OTAV	**Otavalo**	**47.00**	**267**	P	**P**	**14 14 55.0**	**-2.3**
OTAV				IAmb	IAmb	14 15 05.8	
	comp=Z,5.3nm,1.1s						
GBN	**Guysborough**	**49.05**	**332**	P	**P**	**14 15 09.1**	**-3.2**
GBN				IAmb	IAmb	14 15 27.7	
	comp=Z,13nm,1.1s						
KEST	**Kesra**	**49.33**	**45**	LR	LR	14 35 43.0	
	comp=Z,768nm,20.8s,baz=204,slow=36						
DAVOX	**Davos/Dischmat**	**55.83**	**33**	P	**P**	**14 16 02.5**	**-0.3**
	comp=Z,7.4nm,0.9s,baz=264,slow=8.5,SNR=8.5						
DAVA	**Damuels**	**56.14**	**33**	*i* pP	**P**	**14 16 04.4**	**-0.5**
	comp=Z,18nm,1.4s						
FETA	**Feichten**	**56.44**	**34**	*i* pP	**P**	**14 16 06.7**	**-0.4**
	comp=Z,10nm,1.1s						
SQTA	**Sankt Quirin**	**56.82**	**34**	*i* pP	**P**	**14 16 09.4**	**-0.4**
	comp=Z,14nm,1.2s						
MOTA	**Moosalm**	**56.84**	**33**	*i* P	**P**	**14 16 09.1**	**-0.8**
	comp=Z,6.5nm,0.8s						
PLCA	**Paso Flores**	**56.85**	**215**	LR	LR	14 40 18.3	
	comp=Z,996nm,20.6s,baz=84,slow=36						
ABTA	**Abfaltersbach**	**57.28**	**35**	*i* P	**P**	**14 16 12.3**	**-0.7**
	comp=Z,13nm,0.9s						
SCHQ	**Schefferville**	**58.36**	**337**	LR	LR	14 36 49.4	
	comp=Z,105nm,20.8s,baz=14,slow=31						
SOKA	**Soboth**	**58.69**	**36**	*i* pP	**P**	**14 16 23.7**	**+0.8**
	comp=Z,6.9nm,1.0s						
GERES	**GERESS Array B**	**59.13**	**33**	P	**P**	**14 16 25.3**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=195,slow=9.7,SNR=6.1						
GERES				LR	LR	14 38 58.2	
	comp=Z,207nm,20.7s,baz=264,slow=33						
CLL	**Collm**	**60.18**	**30**	*e*S	**S**	**14 24 53.0**	**+6.4**
CLL				L	L	14 39 00.0	
	comp=Z,300nm,20.2s						
BOSA	**Boshof**	**63.30**	**125**	LR	LR	14 38 31.3	
	comp=Z,307nm,21.7s,baz=278,slow=30						
MLR	**Muntele Rosu**	**64.94**	**41**	P	**P**	**14 17 03.6**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=252,slow=3.2,SNR=4.1						
NB2	**NORSAR Subarra**	**65.57**	**21**	P	**P**	**14 17 08.1**	**-0.6**
	comp=Z,22nm,1.4s,baz=230,slow=6.5						
NOA	**NORSAR Array B**	**65.57**	**21**	P	**P**	**14 17 07.6**	**-1.1**
	comp=Z,4.1nm,1.0s,baz=230,slow=6.3,SNR=5.0						
NOA				LR	LR	14 44 31.9	
	comp=Z,209nm,18.1s,baz=230,slow=35						
BRTR	**Keskin Array B**	**68.62**	**49**	P	**P**	**14 17 30.3**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=252,slow=4.5,SNR=5.5						
BRTR				LR	LR	14 47 36.3	
	comp=Z,157nm,21.5s,baz=242,slow=36						
AKASG	**Malin Array Be**	**68.88**	**37**	P	**P**	**14 17 30.2**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=251,slow=6.0,SNR=9.3						
ULM	**Lac du Bonnet**	**70.88**	**322**	P	**P**	**14 17 44.1**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=114,slow=10.0,SNR=1.9						
ULM				LR	LR	14 43 39.9	
	comp=Z,172nm,20.1s,baz=124,slow=32						
FINES	**FINESS Array B**	**71.70**	**25**	P	**P**	**14 17 49.0**	**+2.1**
	comp=Z,3.8nm,0.8s,baz=204,slow=4.2,SNR=5.3						
FINES				LR	LR	14 48 05.6	
	comp=Z,219nm,18.0s,baz=245,slow=35						
FINES	**FINESS Array B**	**71.70**	**25**	P	**P**	**14 17 47.4**	**+0.5**
TXAR	**Lajitas Array**	**72.58**	**299**	P	**P**	**14 17 54.8**	**+1.8**
	comp=Z,1.8nm,0.9s,baz=120,slow=7.3,SNR=12						
TXAR				LR	LR	14 46 17.5	
	comp=Z,80nm,21.9s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**72.58**	**299**	P	**P**	**14 17 53.9**	**+0.9**
ARCES	**ARCESS Array B**	**75.40**	**18**	LR	LR	14 45 43.3	
	comp=Z,182nm,21.2s,baz=216,slow=31						
VNA1	**Neumayer--Stat**	**75.88**	**172**	P	**P**	**14 18 12.5**	**+1.3**
KBZ	**Khabaz**	**76.17**	**46**	P	**P**	**14 18 15.8**	**+2.4**
	comp=Z,2.9nm,0.8s,baz=236,slow=2.4,SNR=5.2						
KBZ				LR	LR	14 53 58.5	
	comp=Z,110nm,20.0s,baz=304,slow=38						
VNA3	**Neumayer Olymp**	**76.25**	**173**	P	**P**	**14 18 15.2**	**+1.9**
VNA2	**Neumayer--Watz**	**76.25**	**172**	P	**P**	**14 18 14.7**	**+1.3**
	baz=344,slow=6.7						
SNAA	**Sanae**	**77.59**	**171**	P	**P**	**14 18 23.9**	**+3.0**
PDAR	**Pinedale Array**	**78.65**	**313**	P	**P**	**14 18 27.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=92,slow=9.5,SNR=4.4						
PDAR				LR	LR	14 49 18.5	
	comp=Z,137nm,20.7s,baz=125,slow=33						
PDAR	**Pinedale Array**	**78.65**	**313**	P	**P**	**14 18 26.7**	**-1.1**
YKA	**Yellowknife Ar**	**83.46**	**332**	P	**P**	**14 18 53.7**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=101,slow=4.9,SNR=2.9						
YKA				LR	LR	14 53 52.8	
	comp=Z,22nm,18.4s,baz=92,slow=34						
NVAR	**Mina Array Bea**	**85.14**	**308**	P	**P**	**14 19 03.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=100,slow=4.8,SNR=4.4						
NVAR				LR	LR	14 54 50.3	
	comp=Z,172nm,20.2s,baz=148,slow=34						
GEYT	**Alibeck**	**87.44**	**52**	LR	LR	15 01 18.5	
	comp=Z,76nm,20.0s,baz=230,slow=38						
INK	**Inuvik**	**90.94**	**339**	P	**P**	**14 19 29.7**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=97,slow=8.1,SNR=3.4						
MAW	**Mawson**	**95.15**	**157**	P	**P**	**14 19 48.9**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=6.4,slow=8.5,SNR=8.5						
NRIK	**Noril'sk**	**96.38**	**18**	LR	LR	15 01 26.1	
	comp=Z,166nm,21.1s,baz=298,slow=34						
ILAR	**Eielson Array**	**97.12**	**337**	P	Pdif	14 19 57.6	+0.3
	comp=Z,0.7nm,0.7s,baz=32,slow=5.6,SNR=5.0						
PETK	**Petropavlovsk-**	**122.80**	**353**	PKP	**PKPdf**	**14 25 21.3**	**-0.1**
	comp=Z,4.8nm,1.1s,baz=338,slow=3.1,SNR=3.5						

*ISCJB **14** 14:15:26.8±0.5, 18.°17S±0.°09×176.°61W±0.°07, h10km, mb4.6/17, MS4.2/19, Error ellipse: s-maj=13.0km s-min=9.5km az=165.7*

*NEIC **14** 14:15:26.4±1.5, 18.°0S±0.°1×176.°36W±0.°09, h10km±2km, mb4.8/16*

*IDC **14** 14:15:26.0±0.7, 18.°23S×176.°46W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/33, mbtmp4.5/13, MS4.2/18, Ms1 4.2/18, ms1mx4.0/38, Error ellipse: s-maj=27.7km s-min=17.5km az=157.0*

*BJI **14** 14:15:26.3±0.0, 17.°95S×176.°27W, h9km, mb4.9/21, mB5.5/16, Ms4.9/4, Ms7 4.6/4*

*GCMT **14** 14:15:32.4±0.2, 17.°87S±0.°01×176.°40W±0.°01, h18km±1km, MW5.0/98, Moment Tensor Solution. s34,c48; s98,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.12±.12; Mθθ-3.68±.11; Mφφ3.80±.11; Mrθ-0.01±.26; Mθφ0.33±.10; Mφr1.64±.28; Best double couple: M0=4.05200×10^16 NP1:φs316.00000°, δ77.00000°, λ165.00000°. NP2: φs49.00000°, δ75.00000°, λ13.00000°. Principal axes: T 4.4080, Plg20.0000°, Azm272.0000°; N -0.7060, Plg70.0000°, Azm97.0000°; P -3.6970, Plg1.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 14:15:27.6±0.4, 18.°04S±0.°09×176.°43W±0.°07, h10km, n104, σ1°78/90, mb4.7/22, MS4.3/19, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.26**	**273**		**Pn**	**14 16 47.1**	**+0.6**
AFI	**Afiamalu**	**6.08**	**48**	Pn	**Pn**	**14 16 53.6**	**-4.0**
	1.4nm,0.3s,baz=24,slow=13,SNR=6.3						
AFI	**Afiamalu**	**6.08**	**48**		**Pn**	**14 16 54.7**	**-3.0**
NIUE	**Niue**	**6.25**	**100**	Pn	**Pn**	**14 16 58.0**	**-2.0**
RAO	**Raoul Island**	**11.24**	**187**	LR	LR	14 21 57.8	
	comp=Z,3μm,20.4s,baz=340,slow=35						
RAR	**Rarotonga**	**16.00**	**104**	LR	LR	14 23 58.0	
	comp=Z,770nm,18.4s,baz=286,slow=32						
DZM	**Mont Dzumac**	**16.58**	**253**	*e*P	**P**	**14 19 25.2**	**+2.2**
	138nm,1.5s						
DZM				*e*LQ	LQ	14 22 30.4	
	4μm,29.0s						
DZM				*e*LR	LR	14 23 13.0	
	comp=Z,3μm,24.3s						
DZM	**Mont Dzumac**	**16.58**	**253**	Pn	**P**	**14 19 21.7**	**-1.3**
	0.2nm,0.3s,baz=89,slow=16,SNR=6.7						
DZM				LR	LR	14 24 40.4	
	comp=Z,3μm,19.6s,baz=70,slow=34						
DZM	**Mont Dzumac**	**16.58**	**253**		**Pn**	**14 19 20.1**	**-0.3**
DZM				IAmb	IAmb	14 19 27.8	
	comp=Z,64nm,1.2s						
URZ	**Urewera**	**20.92**	**194**	P	**P**	**14 20 08.9**	**-1.5**
	comp=Z,8.6nm,1.0s,baz=337,slow=9.2,SNR=3.0						
BHW	**Baring Head**	**24.45**	**196**	P	**P**	**14 20 42.5**	**-4.2**
HNR	**Honiara**	**24.47**	**287**	P	**P**	**14 20 46.2**	**-0.8**
	comp=Z,12nm,0.5s,baz=217,slow=7.0,SNR=7.1						
HNR				LR	LR	14 28 50.4	
	comp=Z,597nm,19.5s,baz=118,slow=33						
PAE	**Paea**	**25.55**	**93**	*e*T	T	14 47 20.4	
	comp=Z,3.1nm,0.3s						
PPT2	**Papeete2**	**25.56**	**93**	*e*LQ	LQ	14 26 07.5	
	comp=Z,500nm,28.2s						
PPT2				*e*LR	LR	14 27 15.6	
	comp=Z,2μm,27.0s,baz=260						
PPT2	**Papeete2**	**25.56**	**93**	*e*T	T	14 47 22.5	
	comp=Z,4.9nm,0.3s						
PPT	**Papeete**	**25.57**	**93**	LR	LR	14 28 20.9	
	comp=Z,598nm,20.2s,baz=243,slow=30						
TBI	**Tubuai**	**25.75**	**106**	*e*LQ	LQ	14 26 12.5	
	comp=Z,992nm,28.0s						
TBI				*e*LR	LR	14 27 15.1	
	comp=Z,1μm,29.2s,baz=277						
TBI	**Tubuai**	**25.75**	**106**	*e*T	T	14 47 37.6	
	comp=Z,4.6nm,0.4s						
TVO	**Taravao**	**25.86**	**94**	*e*T	T	14 47 43.7	
	comp=Z,1.9nm,0.3s						
VAH	**Vaihoa**	**27.73**	**89**	*e*T	T	14 50 02.4	
	comp=Z,6.4nm,0.3s						
KRVT	**Keravat (AS076**	**33.74**	**290**	P	**P**	**14 22 09.2**	**-0.4**
	comp=Z,22nm,0.8s,baz=195,slow=9.4,SNR=8.3						
CAN	**Canberra**	**35.13**	**234**	P	**P**	**14 22 19.6**	**-2.0**
CAN				IAmb	IAmb	14 22 29.4	
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**35.28**	**261**	P	**P**	**14 22 22.8**	**-0.1**
PMG	**Port Moresby**	**36.34**	**279**	P	**P**	**14 22 32.5**	**+0.4**
	comp=Z,7.4nm,0.9s,baz=102,slow=5.4,SNR=3.4						
TAOE	**Nuku Hiva Isla**	**36.39**	**80**	*e*S	**S**	**14 28 18.0**	**+3.7**
	comp=Z,69nm,26.5s						
TAOE				*e*LR	LR	14 32 08.2	
	comp=Z,772nm,28.8s,baz=256						
TAOE	**Nuku Hiva Isla**	**36.39**	**80**	*e*T	T	15 00 50.4	
	comp=Z,29nm,0.2s						
COEN	**Coen**	**38.99**	**270**	P	**P**	**14 22 53.8**	**-0.8**
COEN				IAmb	IAmb	14 22 59.4	
	comp=Z,51nm,1.4s						
STKA	**Stephens Creek**	**40.22**	**242**	P	**P**	**14 23 03.9**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=61,slow=9.3,SNR=4.7						
STKA				LR	LR	14 38 56.3	
	comp=Z,151nm,18.1s,baz=63,slow=35						
STKA	**Stephens Creek**	**40.22**	**242**	P	**P**	**14 23 04.9**	**+0.3**
WB2	**Warramunga Arr**	**46.45**	**259**	P	**P**	**14 23 53.8**	**-1.3**
WRAB	**Tennant Creek**	**46.45**	**259**	P	**P**	**14 23 53.8**	**-1.3**
WRA	**Warramunga Arr**	**46.46**	**259**	P	**P**	**14 23 53.6**	**-1.5**
	comp=Z,6.8nm,0.9s,baz=96,slow=7.8,SNR=35						
WRA				LR	LR	14 43 02.5	
	comp=Z,521nm,18.1s,baz=90,slow=36						
WRA	**Warramunga Arr**	**46.46**	**259**	P	**P**	**14 23 54.0**	**-1.2**
AS31	**Alice Springs**	**46.57**	**254**	P	**P**	**14 23 55.6**	**-0.5**
AS31				IAmb	IAmb	14 24 09.7	
	comp=Z,6.6nm,0.8s						
ASAR	**Alice Springs**	**46.57**	**254**	P	**P**	**14 23 55.0**	**-1.0**
	comp=Z,16nm,0.7s,baz=88,slow=8.1,SNR=120						
ASAR				LR	LR	14 41 45.5	
	comp=Z,310nm,21.2s,baz=98,slow=34						
KNRA	**Kununurra**	**52.35**	**264**	P	**P**	**14 24 40.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**54.86**	**260**	P	**P**	**14 24 56.7**	**-1.9**
FITZ				IAmb	IAmb	14 25 03.1	
	comp=Z,22nm,1.4s						
SOEI	**Soe**	**57.95**	**270**	P	**P**	**14 25 16.4**	**-4.5**
SOEI	**Soe**	**57.95**	**270**	P	**P**	**14 25 20.4**	**-0.5**
SANI	**Sanana**	**58.62**	**279**	P	**P**	**14 25 24.0**	**-1.4**
APSI	**Ampana**	**63.09**	**278**	P	**P**	**14 25 56.0**	**+0.2**
MPSI	**Mapaga**	**65.16**	**279**	P	**P**	**14 26 10.3**	**+0.9**
MPSI				pP	**pwP**	**14 26 17.0**	**+1.9**
MJAR	**Matsushiro Arr**	**69.15**	**322**	P	**P**	**14 26 34.6**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=140,slow=5.9,SNR=2.8						
MJAR				LR	LR	14 53 27.1	
	comp=Z,22nm,20.7s,baz=50,slow=33						
QSPA	**South Pole Qui**	**72.01**	**180**	P	**P**	**14 26 53.5**	**+1.9**
ASAJ	**Asahikawa**	**72.31**	**330**	LR	LR	14 51 53.9	
	comp=Z,234nm,22.0s,baz=170,slow=30						
PETK	**Petropavlovsk-**	**74.31**	**344**	LR	LR	14 56 53.8	
	comp=Z,112nm,19.2s,baz=71,slow=33						
NVAR	**Mina Array Bea**	**78.23**	**43**	P	**P**	**14 27 28.3**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=228,slow=9.2,SNR=7.7						
NJ2	**Nanjing**	**79.49**	**309**	*e*P	**P**	**14 27 35.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
KLR	**Kul'dur**	**81.20**	**329**	LR	LR	14 58 08.9	
	comp=Z,179nm,21.2s,baz=152,slow=32						
CN2	**Changchun**	**81.29**	**322**	*e*P	**P**	**14 27 46.1**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**81.84**	**344**	LR	LR	15 00 49.8	
	comp=Z,99

comp=Z,5.6nm,1.1s,baz=27,slow=1.5,SNR=16
CONA Conrad Observa 148.54 344 PKPab **PKPab 14 35 16.7 -1.6**
comp=Z,9.2nm,1.1s
MOA Molln 149.01 346 pPKiKP **PKiKP 14 35 18.3 +1.0**
comp=Z,8.7nm,1.4s
SOKA Soboth 149.92 344 *i* PKPbc **PKPbc 14 35 16.4 -1.9**
comp=Z,10nm,1.3s
KBA Koelnbreinsper 149.95 347 *i* pPKPbc **PKPbc 14 35 19.2 +0.6**
comp=Z,7.0nm,0.9s
WTTA Wattenberg 150.11 349 *i* pPKPdf **PKPdf 14 35 15.4 +1.5**
comp=Z,8.5nm,0.7s
MOTA Moosalm 150.13 350 *i* pPKPab **PKPab 14 35 24.0 -0.8**
comp=Z,10nm,1.1s
SQTA Sankt Quirin 150.23 349 *i* pPKPab **PKPab 14 35 24.4 -0.7**
comp=Z,3.8nm,0.5s
MYKA Terra Mystica 150.30 346 *i* pPKPbc **PKPbc 14 35 19.5 +0.3**
comp=Z,12nm,1.2s
DAVA Damuels 150.38 351 *i* pPKiKP **PKiKP 14 35 21.9 +1.6**
comp=Z,14nm,1.3s
ABTA Abfaltersbach 150.44 347 *i* PKiKP **PKiKP 14 35 19.0 -1.4**
comp=Z,12nm,1.0s
FETA Feichten 150.50 350 *i* pPKiKP **PKiKP 14 35 22.1 +1.5**
comp=Z,14nm,1.1s
TORD Torodi Ar. Bea 174.81 159 PKP **PKPdf 14 35 39.5 +0.8**
comp=Z,4.0nm,1.3s,baz=261,slow=1.5,SNR=5.8
TORD PKPab **PKPab 14 37 09.3 -3.3**
comp=Z,0.3nm,0.6s,baz=324,slow=7.3,SNR=2.5

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*NIED **14** 14:23:00,29.°50N×131.°60E,h8km,Mw4.3 Best double couple: M0:2.89000×10^15 NP1:φs=34.00000°,δ37.00000°, λ-48.00000°. NP2:φs=166.00000°,δ63.00000°, λ-116.00000°.*
*IDC **14** 14:23:38.1±0.6,29.°51N×131.°65E,h0km,mb4.1/16, mb1 4.3/22,mb1mx4.2/46,mbtmp4.2/22,ML3.7/5,MS3.3/7, Ms1 3.4/7,ms1mx3.0/44,Error ellipse: s-maj=18.3km s-min=13.7km az=79.0*
*ISCJB **14** 14:23:40.2±1.1,29.°48N±0.°02×131.°72E±0.°03,h28km±8km, mb4.1/18,MS3.7/4,Error ellipse: s-maj=4.4km s-min=3.4km az=31.2*
*NEIC **14** 14:23:40.9±2.4,29.°46N±0.°06×131.°61E±0.°08,h20km±4km, mb4.5/15*
*JMA **14** 14:23:42.0±0.1,29.°50N×131.°64E,h67km±4km,M4.2*
ISC 14 14:23:39.9±1.5,29.°47N±0.°04×131.°65E±0.°04,h13km±9km, n97,σ1§19/116,mb4.3/23,MS3.8/5,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**1.13**	**325**	P	**Pg**	**14 24 01.9**	**+0.1**
JMTN				eS	**Sg**	**14 24 16.6**	**+0.1**
JYAK	**Yakushimahirau**	**1.25**	**308**	P	**Pb**	**14 24 03.5**	**+0.1**
JYAK				eS	**Sb**	**14 24 19.3**	**-0.2**
JTN	**Tanegashima 3**	**1.32**	**334**	P	**Pn**	**14 24 04.3**	**+0.3**
JTN				eS	**Sb**	**14 24 20.5**	**-0.8**
JNN	**Nakanoshima**	**1.59**	**284**	P	**Pb**	**14 24 08.6**	**-0.6**
JNN				eS	**Sn**	**14 24 28.2**	**0.0**
JKC	**Kuchinoerabu**	**1.60**	**308**	P	**Pn**	**14 24 08.6**	**+0.6**
JKC				eS	**Sn**	**14 24 28.8**	**+0.3**
JTSR	**Tashiro 2**	**1.81**	**340**	P	**Pn**	**14 24 11.1**	**+0.3**
JTSR				eS	**Sn**	**14 24 32.2**	**-1.4**
JZK	**Kikaishima**	**1.87**	**232**	P	**Pn**	**14 24 12.5**	**+0.9**
JZK				eS	**Sn**	**14 24 34.2**	**-0.9**
JNAR	**Kushima--Naru**	**2.08**	**351**	P	**Pn**	**14 24 14.9**	**+0.4**
JNAR				eS	**Sn**	**14 24 38.7**	**-1.5**
JAM	**Amami Oshima**	**2.08**	**240**	P	**Pn**	**14 24 14.9**	**+0.4**
JAM				eS	**Sn**	**14 24 39.5**	**-0.8**
JTAJ	**Takarajima**	**2.16**	**262**	P	**Pn**	**14 24 16.1**	**+0.5**
JTAJ				eS	**Sn**	**14 24 41.7**	**-0.6**
JSU	**Suzuyama**	**2.28**	**333**	P	**Pn**	**14 24 17.8**	**+0.5**
JSU				eS	**Sn**	**14 24 43.6**	**-1.6**
JTZ	**Takazaki**	**2.47**	**349**	P	**Pn**	**14 24 20.6**	**+0.7**
JTZ				eS	**Sn**	**14 24 48.6**	**-1.4**
JAMN	**Amaminishikomi**	**2.49**	**241**	P	**Pn**	**14 24 20.7**	**+0.5**
JAMN				eS	**Sn**	**14 24 49.9**	**-0.5**
JSJ	**Shimokoshiki**	**2.76**	**323**	P	**Pn**	**14 24 23.4**	**-0.5**
JSJ				eS	**Sn**	**14 24 54.8**	**-2.3**
JTSN	**Tsuno**	**2.77**	**357**	P	**Pn**	**14 24 23.9**	**-0.1**
JTSN				eS	**Sn**	**14 24 56.0**	**-1.3**
JZO	**Okuchi**	**2.81**	**341**	P	**Pn**	**14 24 25.1**	**+0.5**
JZO				eS	**Sn**	**14 24 56.5**	**-1.9**
JTK	**Tokunoshima**	**2.91**	**235**	P	**Pn**	**14 24 26.2**	**+0.3**
JTK				eS	**Sn**	**14 24 59.9**	**-0.8**
JIU3	**Izumi3**	**3.15**	**347**	P	**Pn**	**14 24 29.8**	**+0.5**
JIU3				eS	**Sn**	**14 25 04.3**	**-2.5**
JNU	**Nakatsue**	**3.70**	**350**	Pn	**Pn**	**14 24 37.4**	**+0.5**
JNU				Sn	**Sn**	**14 25 17.0**	**-3.3**
JNU	**Nakatsue**	**3.70**	**350**		**Pn**	**14 24 37.6**	**+0.7**
JOW	**Kunigami**	**3.97**	**229**	Pn	**Pn**	**14 24 40.7**	**+0.1**
JOW				Sn	**Sn**	**14 25 23.8**	**-3.3**
JOW	**Kunigami**	**3.97**	**229**		**Pn**	**14 24 40.6**	**0.0**
INU	**Inuyama**	**7.41**	**36**		**Pn**	**14 25 29.0**	**+1.2**
JHJ	**Hachijo jima 2**	**7.85**	**60**	Pn	**Pn**	**14 25 35.8**	**+2.0**
JHJ				LR	LR	14 28 16.6	
KSRS	**Korea Array**	**8.55**	**340**	Pn	**Pn**	**14 25 45.2**	**+1.8**
MAJO	**Matsushiro**	**8.94**	**36**		**Pn**	**14 25 48.5**	**-0.3**
MAT	**Matsushiro**	**8.94**	**36**	P	**Pn**	**14 25 49.8**	**+1.0**
MAT				eS	**Sn**	**14 27 28.9**	**-0.5**
MJAR	**Matsushiro Arr**	**8.94**	**36**	Pn	**Pn**	**14 25 50.3**	**+1.5**
MJAR				LR	LR	14 29 11.3	
ASAJ	**Asahikawa**	**17.02**	**28**	LR	LR	14 34 11.9	
HKPS	**Hong Kong Po S**	**17.30**	**250**	Pn	**Pn**	**14 27 39.7**	**-1.5**
HKPS				IAmb	IAmb	14 27 54.0	
KLR	**Kul'dur**	**19.73**	**0**	P	**P**	**14 28 09.2**	**-0.1**
KLR				LR	LR	14 35 32.1	
XAN	**Xi'an**	**19.85**	**289**	P	**P**	**14 28 10.6**	**-0.1**
XAN				pP	pwP	14 28 20.1	+1.4
HHC	**Hu-ho-hao-te**	**19.92**	**310**	eP	**Pn**	**14 28 12.8**	**-0.3**
HHC				pmax	pmax		
DAV	**Davao City (W)**	**23.00**	**196**	LR	LR	14 37 32.8	
SONM	**Songino Array**	**26.74**	**320**	P	**P**	**14 29 19.2**	**-0.1**
SONM	**Songino Array**	**26.74**	**320**	P	**P**	**14 29 17.1**	**-2.2**
GTA	**Gaotai**	**27.94**	**299**	eP	**P**	**14 29 32.8**	**+2.6**
GTA				pP	pwP	14 29 42.0	+3.0
GTA				sP	sP	14 29 45.9	+12
PEA0B	**Petropavlovsk-**	**30.36**	**32**	P	**P**	**14 29 51.8**	**+0.4**
PEA0B				IAmb	IAmb	14 30 10.6	
PETK	**Petropavlovsk-**	**30.36**	**32**	P	**P**	**14 29 51.6**	**+0.3**
PETK	**Petropavlovsk-**	**30.36**	**32**	P	**P**	**14 29 52.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**31.73**	**257**	P	**P**	**14 30 03.8**	**0.0**
MA2	**Magadan**	**32.79**	**18**	P	**P**	**14 30 10.6**	**-2.0**
WMQ	**Urumqi**	**37.62**	**305**	eP	**P**	**14 30 55.4**	**+0.9**
WMQ				pmax	pmax		
WMQ				pmax	pmax		

comp=Z,80nm,8.5s
WMQ LR LR
comp=N,350nm,29.1s
WMQ LR LR
comp=E,510nm,29.2s
WMQ LR LR
comp=Z,36nm,25.1s
JIRN Jiri 39.78 279 eP **P 14 31 13.0 -0.1**
GUN Gumba 39.99 279 eP **P 14 31 15.1 +0.2**
comp=Z,41nm,0.8s
PKI Pulchoki 40.47 279 eP **P 14 31 18.6 -0.3**
comp=Z,16nm,0.9s
PKIN Phulchoki 40.48 279 eP **P 14 31 18.5 -0.4**
KKN Kakani 40.53 279 eP **P 14 31 19.0 -0.2**
comp=Z,25nm,0.9s
DMN Daman 40.72 279 eP **P 14 31 21.3 +0.4**
GKN Gorkha 41.03 280 eP **P 14 31 24.4 +1.1**
ZALV Zalesovo Beam 41.63 320 P **P 14 31 29.1 +1.4**
comp=Z,0.4nm,0.4s,baz=114,slow=6.5,SNR=2.6
ZALV PcP **PcP 14 33 22.9 -1.6**
comp=Z,0.3nm,0.3s,baz=123,slow=5.3,SNR=4.1
DANN Dangsing 41.70 281 eP **P 14 31 29.9 +0.9**
comp=Z,24nm,0.7s
MK31 Makanchi Array 41.77 308 P **P 14 31 29.1 +0.2**
MKAR Makanchi Array 41.77 308 P **P 14 31 30.2 +1.3**
comp=Z,0.6nm,0.5s,baz=94,slow=9.1,SNR=10
MKAR PcP **PcP 14 33 25.2 +0.1**
comp=Z,0.6nm,0.8s,baz=109,slow=3.4,SNR=3.5
MKAR Makanchi Array 41.77 308 P **P 14 31 28.0 -1.0**
KOLN Koldanda 41.98 280 eP **P 14 31 32.7 +1.6**
comp=Z,13nm,0.8s
MTN Manton Dam 42.07 181 P **P 14 31 30.4 -1.2**
MTN IAmb IAmb 14 31 39.2
comp=Z,18nm,1.3s
TIXI Tiksi 42.26 359 P **P 14 31 33.0 +0.6**
TIXI IAmb IAmb 14 31 34.0
comp=Z,5.2nm,1.1s
KURK Kurchatov 44.67 314 P **P 14 31 52.6 +0.3**
KURBB Kurchatov Arra 44.71 314 P **P 14 31 53.3 +0.7**
comp=Z,2.7nm,0.2s,baz=100,slow=8.7,SNR=5.3
KSH Kashi 46.33 298 P **P 14 32 08.3 +2.5**
KSH PP **PP 14 33 56.8 +2.4**
KSH S **S 14 38 53.8 +1.0**
KSH sS sS 14 39 05.1 +7.6
KSH pmax pmax
comp=Z,330nm,6.0s
KSH LR LR
comp=N,250nm,13.5s
KSH LR LR
comp=E,170nm,8.8s
KSH LR LR
comp=Z,380nm,8.9s
NRIK Noril'sk 47.17 340 P **P 14 32 11.8 +0.1**
comp=Z,5.2nm,0.6s,baz=122,slow=9.9,SNR=14
SPIA Saint Paul Isl 48.59 38 P **P 14 32 20.9 -1.9**
WRA Warramunga Arr 49.19 177 P **P 14 32 28.1 +0.2**
comp=Z,1.3nm,0.7s,baz=357,slow=8.6,SNR=11
WRA Warramunga Arr 49.19 177 IAmb IAmb 14 32 34.8
comp=Z,0.2nm,1.0s
ASAR Alice Springs 52.87 177 P **P 14 32 56.6 +1.0**
comp=Z,1.5nm,1.0s,baz=11,slow=13,SNR=15
ASAR Alice Springs 52.87 177 P **P 14 32 57.7 +2.2**
ABKAR Abkulak array 56.70 312 P **P 14 33 23.8 +0.8**
ABKAR Abkulak array 56.70 312 P **P 14 33 24.1 +1.0**
ABKAR IAmb IAmb 14 33 24.8
comp=Z,2.1nm,0.7s
IMAR Indian Mountai 57.22 28 P **P 14 33 26.1 -0.4**
KDAK Kodiak Island 58.12 38 P **P 14 33 32.7 -0.2**
ILAR Eielson Array 60.15 29 P **P 14 33 45.4 -1.5**
comp=Z,0.7nm,0.9s,baz=282,slow=6.6,SNR=5.6
BMAR Burnt Mountain 60.79 26 P **P 14 33 53.2 +1.9**
STKA Stephens Creek 61.74 170 P **P 14 33 59.1 +1.2**
comp=Z,2.4nm,0.7s,baz=342,slow=6.4,SNR=5.5
BCAR Beaver Creek A 62.64 31 P **P 14 34 04.7 +0.9**
ARCES ARCESS Array B 68.11 339 P **P 14 34 38.2 -0.8**
comp=Z,5.0nm,1.0s,baz=39,slow=6.2,SNR=4.1
KBZ Khabaz 69.46 309 P **P 14 34 47.6 -0.3**
comp=Z,2.2nm,0.7s,baz=75,slow=2.8,SNR=7.0
FINES FINESS Array B 71.53 331 P **P 14 34 59.8 -0.4**
comp=Z,1.2nm,0.5s,baz=86,slow=5.9,SNR=8.0
AKASG Malin Array Be 75.03 320 P **P 14 35 21.4 +0.4**
comp=Z,1.2nm,0.5s,baz=56,slow=6.3,SNR=4.4
AKASG Malin Array Be 75.03 320 IAmb IAmb 14 35 21.7
comp=Z,1.5nm,1.0s
NB2 NORSAR Subarra 77.73 335 P **P 14 35 36.0 -0.3**
comp=Z,0.7nm,0.6s,baz=49,slow=5.6
NOA NORSAR Array B 77.73 335 P **P 14 35 34.9 -1.4**
comp=Z,2.1nm,0.9s,baz=50,slow=5.2,SNR=3.8
CLL Collm 83.19 326 *i* P **P 14 36 06.5 +0.8**
KVN Kaiserville 85.86 47 P **P 14 36 20.3 +0.5**
KVN IAmb IAmb 14 36 20.9
comp=Z,3.6nm,0.8s
NVAR Mina Array Bea 86.09 48 P **P 14 36 21.4 +0.4**
comp=Z,1.4nm,0.6s,baz=300,slow=5.8,SNR=13
NVAR Mina Array Bea 86.09 48 P **P 14 36 20.1 -0.8**
PPT Papeete 89.13 111 LR LR 15 13 23.1
comp=Z,38nm,18.9s,baz=84,slow=34
SCHQ Schefferville 94.55 11 LR LR 15 23 37.7
comp=Z,53nm,18.0s,baz=332,slow=38

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*IDC **14** 14:46:56.1±24.0,16.°12S×173.°95W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/43,mbtmp3.9/4,Error ellipse: s-maj=458.3km s-min=166.1km az=70.0*
*NEIC **14** 14:47:02.2±2.2,15.°3S±0.°2×174.°6W±0.°2,h24km±13km, mb4.3/11*
ISC 14 14:47:01.2±2.2,15.°3S±0.°4×174.°3W±0.°1,h35km,n16, σ1§14/16,mb4.2/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.01**	**115**	Pn	**P**	**14 50 35.3**	**-0.4**
RAR				IAmb	IAmb	14 50 41.3	
DZM	**Mont Dzumac**	**19.46**	**247**	P	**P**	**14 51 23.0**	**-2.2**
DZM				IAmb	IAmb	14 51 42.0	
RPZ	**Rata Peaks**	**31.00**	**201**	P	**P**	**14 53 16.6**	**+1.2**
CTA	**Charters Tower**	**37.84**	**257**	P	**P**	**14 54 15.7**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=78,slow=9.7,SNR=2.4						
CTAO	**Charters Tower**	**37.84**	**257**	P	**P**	**14 54 16.0**	**+1.2**
CTAO				IAmb	IAmb	14 54 30.5	
	comp=Z,8.3nm,1.3s						
STKA	**Stephens Creek**	**43.37**	**240**	P	**P**	**14 54 59.3**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=107,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**43.37**	**240**	P	**P**	**14 54 59.5**	**-0.8**
WR0	**Warramunga Arr**	**48.85**	**257**	P	**P**	**14 55 45.8**	**+2.1**
WR0				IAmb	IAmb	14 55 46.0	
	comp=Z,4.2nm,1.4s						
WB0	**Warramunga Arr**	**49.00**	**257**	P	**P**	**14 55 45.0**	**+0.1**
WB0				IAmb	IAmb	14 55 53.2	
	comp=Z,3.8nm,1.4s						
WB2	**Warramunga Arr**	**49.03**	**257**	P	**P**	**14 55 44.3**	**-0.8**
WB2				IAmb	IAmb	14 55 46.1	
	comp=Z,3.1nm,1.1s						
WRAB	**Tennant Creek**	**49.03**	**257**	P	**P**	**14 55 45.9**	**+0.8**
WRA	**Warramunga Arr**	**49.04**	**257**	P	**P**	**14 55 45.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=94,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**49.04**	**257**	P	**P**	**14 55 45.2**	**0.0**
AS31	**Alice Springs**	**49.34**	**252**	P	**P**	**14 55 47.7**	**+0.2**
ASAR	**Alice Springs**	**49.34**	**252**	P	**P**	**14 55 48.0**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=89,slow=8.1,SNR=116						
ASAR	**Alice Springs**	**49.34**	**252**	P	**P**	**14 55 47.4**	**0.0**

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*IDC **14** 14:52:24.1±2.1,38.°00N×144.°30E,h0km,mb3.6/2, mb1 3.6/4,mb1mx3.3/44,mbtmp3.4/4,ML2.8/2,Error ellipse: s-maj=57.3km s-min=33.9km az=81.0*
*ISCJB **14** 14:52:26.8±0.8,38.°06N±0.°03×143.°95E±0.°06,h33km, mb3.7/2,Error ellipse: s-maj=6.9km s-min=4.8km az=11.9*
*JMA **14** 14:52:28.7±0.2,38.°10N×143.°85E,h44km,M3.4*
ISC 14 14:52:28.3±1.3,38.°07N±0.°05×143.°98E±0.°08,h35km,n20, σ1§68/34,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.99**	**278**	S	**Sn**	**14 53 21.2**	**-2.0**
OFUJ	**Ofunato**	**2.07**	**300**	P	**Pn**	**14 53 00.6**	**0.0**
JKMT	**Kesennumamotoy**	**2.10**	**291**	P	**Pn**	**14 53 01.0**	**+0.1**
JKMT				S	**Sn**	**14 53 25.0**	**-0.8**
JIO	**Ouri**	**2.10**	**281**	P	**Pn**	**14 53 01.0**	**0.0**
JIO				S	**Sn**	**14 53 24.3**	**-1.6**
JMK	**Ichinoseki**	**2.33**	**293**	P	**Pn**	**14 53 04.9**	**+0.7**
JMK				S	**Sn**	**14 53 31.6**	**0.0**
JOM	**Ohasama**	**2.52**	**305**	P	**Pn**	**14 53 07.3**	**+0.5**
JFT	**Otama**	**2.94**	**260**	P	**Pn**	**14 53 13.4**	**+0.9**
JFT				S	**Sn**	**14 53 46.1**	**-0.4**
JYK	**Kaneyama**	**2.96**	**288**	P	**Pn**	**14 53 13.7**	**+0.9**
JYK				S	**Sn**	**14 53 47.7**	**+0.6**
JANG	**Nango**	**2.99**	**321**	P	**Pn**	**14 53 13.5**	**+0.3**
JANG				eS	**Sn**	**14 53 46.7**	**-1.1**
JAG	**Ashikaga**	**3.96**	**247**	P	**Pn**	**14 53 27.2**	**+0.6**
JAG				S	**Sn**	**14 54 10.3**	**-1.6**
JOT	**Ohata**	**4.00**	**327**	eS	**Sn**	**14 54 11.5**	**-1.3**
BSO1	**Boso 1**	**4.18**	**216**	P	**Pn**	**14 53 28.2**	**-0.9**
BSO1				S	**Sn**	**14 54 15.7**	**-0.8**
JKB	**Kayabe**	**4.43**	**330**	P	**Pn**	**14 53 34.0**	**+1.0**
JKB				eS	**Sn**	**14 54 21.2**	**-2.1**
JRY	**Ryogami san**	**4.55**	**245**	P	**Pn**	**14 53 34.9**	**+0.2**
JRY				eS	**Sn**	**14 54 23.1**	**-3.2**
JCH	**Churui**	**4.56**	**354**	P	**Pn**	**14 53 34.7**	**-0.1**
JCH				eS	**Sn**	**14 54 23.2**	**-3.3**
JOD2	**Odawara 2**	**4.83**	**236**	P	**Pn**	**14 53 38.0**	**-0.5**
JOD2				eS	**Sn**	**14 54 27.8**	**-5.4**
MJAR	**Matsushiro Arr**	**4.84**	**253**	Pn	**Pn**	**14 53 41.6**	**+2.9**
	0.1nm,0.3s,baz=231,slow=48,SNR=3.8						
MJAR				Sn	**Sn**	**14 54 34.7**	**+1.1**
	0.1nm,0.3s,baz=18,slow=18,SNR=3.1						
ASAJ	**Asahikawa**	**6.13**	**351**	Pn	**Pn**	**14 53 57.5**	**+1.2**
	0.5nm,0.3s,baz=207,slow=14,SNR=5.5						
ASAJ				Sn	**Sn**	**14 55 06.2**	**+1.1**
	0.2nm,0.3s,baz=222,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**58.41**	**191**	P	**P**	**15 02 21.3**	**+0.9**
	0.8nm,0.6s,baz=11,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**62.14**	**190**	P	**P**	**15 02 46.8**	**+0.9**
	0.3nm,0.8s,baz=4.1,slow=6.6,SNR=5.1						

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*IDC **14** 15:02:51.3±2.2,5.°80S×80.°00W,h88km±20km,mb3.9/12, mb1 4.1/17,mb1mx3.9/36,mbtmp4.3/17,MS3.4/7, Ms1 3.4/7,ms1mx3.2/19,Error ellipse: s-maj=28.9km s-min=13.5km az=63.0*
*VAO **14** 15:02:54.4±0.6,5.°58S×79.°75W,h116km,mb4.7*
*ISCJB **14** 15:02:57.5±0.3,5.°73S±0.°03×78.°46W±0.°06,h70km, mb4.1/11,Error ellipse: s-maj=8.1km s-min=4.0km az=163.2*
*NEIC **14** 15:02:57.9±3.0,5.°70S±0.°06×78.°3W±0.°1,h56km±8km, mb4.7/60*
ISC 14 15:02:49.6±0.5,5.°86S±0.°05×79.°92W±0.°08,h70km,n154, σ1§45/105,mb4.6/35,2C-1D,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.98**	**130**	P	**Pn**	**15 03 25.0**	**+3.5**
	83nm,0.3s,baz=11,slow=11,SNR=136						
ATAH				S	**Sn**	**15 03 42.0**	**-3.5**
	279nm,0.3s,baz=358,slow=7.2,SNR=40						
ATAH				LR	LR	15 04 01.0	
	comp=Z,455nm,18.3s,baz=273,slow=34						
OTAV	**Otavalo**	**6.23**	**14**	eP	**Pn**	**15 04 19.5**	**0.0**
OTAV	**Otavalo**	**6.23**	**14**	eP	**Pn**	**15 04 19.5**	**0.0**
OTAV	**Otavalo**	**6.23**	**14**		**Pn**	**15 04 19.7**	**+0.2**
OTAV				Sn	**Sn**	**15 05 28.5**	**-1.1**
OTAV	**Otavalo**	**6.23**	**14**	eP	**Pn**	**15 04 19.7**	**+0.2**
NNA	**Nana**	**6.81**	**154**	P	**Pn**	**15 04 28.6**	**+1.6**
	14nm,0.3s,baz=282,slow=13,SNR=12						
NNA				S	**Sn**	**15 05 43.5**	**+0.3**
	31nm,0.3s,baz=73,slow=9.7,SNR=4.2						
NNA				LR	LR	15 07 19.5	
	comp=Z,127nm,19.1s,baz=334,slow=39						
NNA	**Nana**	**6.81**	**154**		**Pn**	**15 04 28.1**	**+1.1**
NNA				Sn	**Sn**	**15 05 42.0**	**-1.2**
GCUF	**Volcan Galeras**	**7.49**	**20**	eP	**Pn**	**15 04 36.9**	**+0.2**
GCUF	**Volcan Galeras**	**7.49**	**20**	eP	**Pn**	**15 04 36.9**	**+0.2**
PTLC	**Puerto Leguiza**	**7.88**	**41**	eP	**Pn**	**15 04 38.2**	**-3.4**
PTLC	**Puerto Leguiza**	**7.88**	**41**	eP	**Pn**	**15 04 38.2**	**-3.4**
CRUC	**La Cruz**	**7.95**	**22**	eP	**Pn**	**15 04 42.7**	**-0.2**
CRUC	**La Cruz**	**7.95**	**22**	eP	**Pn**	**15 04 42.7**	**-0.2**
BBAC	**Balboa, Cauca**	**8.27**	**19**	eP	**Pn**	**15 04 45.3**	**-1.8**
BBAC	**Balboa, Cauca**	**8.27**	**19**	eP	**Pn**	**15 04 45.3**	**-1.8**
FLOC	**Florencia**	**8.53**	**30**	eP	**Pn**	**15 04 51.7**	**+1.1**
FLOC	**Florencia**	**8.53**	**30**	eP	**Pn**	**15 04 51.7**	**+1.1**
SOTA	**Rioblanco**	**8.60**	**23**	eP	**Pn**	**15 04 51.6**	**-0.4**
SOTA	**Rioblanco**	**8.60**	**23**	eP	**Pn**	**15 04 51.6**	**-0.4**
PCON	**Cinco Dias**	**8.86**	**24**	eP	**Pn**	**15 04 58.8**	**+3.3**
PCON	**Cinco Dias**	**8.86**	**24**	eP	**Pn**	**15 04 58.8**	**+3.3**
POPC	**Popayan, Colom**	**8.95**	**21**	eP	**Pn**	**15 04 56.9**	**+0.5**
POPC	**Popayan, Colom**	**8.95**	**21**	eP	**Pn**	**15 04 56.9**	**+0.5**
MACC	**Macarena, Meta**	**10.00**	**38**	eP	**Pn**	**15 05 09.4**	**-1.2**
MACC	**Macarena, Meta**	**10.00**	**38**	eP	**Pn**	**15 05 09.4**	**-1.2**
YOTC	**Yotoco, Valle**	**10.41**	**20**	eP	**Pn**	**15 05 14.6**	**-1.7**
YOTC	**Yotoco, Valle**	**10.41**	**20**	eP	**Pn**	**15 05 14.6**	**-1.7**
ORTC	**Ortega, Tolima**	**10.77**	**26**	eP	Pn	15 05 27.3	+6.2
ORTC	**Ortega, Tolima**	**10.77**	**26**	eP	Pn	15 05 27.3	+6.2
PAYG	**Puerto Ayora**	**11.55**	**296**		Pn	15 05 55.2	+23
RREF	**El Recreo**	**11.62**	**23**	eP	Pn	15 05 37.9	+4.6
RREF	**El Recreo**	**11.62**	**23**	eP	Pn	15 05 37.9	+4.6
VILC	**Villavicencio,**	**11.70**	**32**	eP	**Pn**	**15 05 32.9**	**-0.9**
VILC	**Villavicencio,**	**11.70**	**32**	eP	**Pn**	**15 05 32.9**	**-0.9**
GUY2C	**Guyana, Caldas**	**11.91**	**23**	eP	**Pn**	**15 05 38.5**	**+1.4**
GUY2C	**Guyana, Caldas**	**11.91**	**23**	eP	**Pn**	**15 05 38.5**	**+1.4**
ROSC	**El Rosal**	**12.01**	**28**	LR	LR	15 11 11.1	
	comp=Z,135nm,21.1s,baz=234,slow=42						
DBBC	**Dabeiba**	**13.31**	**16**	eP	**Pn**	**15 05 56.4**	**+0.5**
DBBC	**Dabeiba**	**13.31**	**16**	eP	**Pn**	**15 05 56.4**	**+0.5**
RUSC	**La Rusia**	**13.52**	**30**	eP	**Pn**	**15 06 00.2**	**+1.2**
RUSC	**La Rusia**	**13.52**	**30**	eP	**Pn**	**15 06 00.2**	**+1.2**
BCIP	**Isla Barro Col**	**14.92**	**0**	P		15 06 30.6	+10
LPAZ	**La Paz**	**15.53**	**133**	P	**P**	**15 06 26.7**	**-1.4**
	0.8nm,0.3s,baz=307,slow=9.9,SNR=22						
LPAZ	**La Paz**	**15.53**	**133**	P	**P**	**15 06 27.2**	**-1.0**
LPAZ	**La Paz**	**15.53**	**133**	eP	**P**	**15 06 28.3**	**+0.1**
SJCC	**San Jacinto, C**	**16.35**	**17**	eP	**P**	**15 06 37.6**	**+0.9**
SJCC	**San Jacinto, C**	**16.35**	**17**	eP	**P**	**15 06 37.6**	**+0.9**
MNMC	**Minye Minye**	**16.59**	**144**	P	**P**	**15 06 39.2**	**-0.4**
JTS	**Las Juntas de**	**16.80**	**343**	P	**P**	**15 06 42.0**	**+0.2**
	0.4nm,0.3s,baz=105,slow=20,SNR=1.7						
JTS	**Las Juntas de**	**16.80**	**343**	P	P	15 06 53.3	+12
SAML	**Samuel**	**16.88**	**101**	P	**Pn**	**15 06 41.4**	**-0.2**
SAML	**Samuel**	**16.88**	**101**	eP	**P**	**15 06 42.6**	**0.0**
SAML				eS	**Sn**	**15 09 49.2**	**+0.5**
PB11	**IPOC Station P**	**17.05**	**145**	P	**P**	**15 06 44.4**	**-0.2**
GO01	**Chusmiza**	**17.25**	**144**	P	**P**	**15 06 47.9**	**+0.9**
PB01	**IPOC Station P**	**18.17**	**147**	P	**Pn**	**15 06 58.2**	**+0.8**
LVC	**Limon Verde**	**19.76**	**149**	P	**Pn**	**15 07 17.4**	**+0.9**
	1.0nm,0.3s,baz=316,slow=8.5,SNR=11						
LVC	**Limon Verde**	**19.76**	**149**	P	**Pn**	**15 07 17.0**	**+0.4**
LVC				IAmb	IAmb	15 07 21.9	
	comp=Z,48nm,1.4s						
LVC	**Limon Verde**	**19.76**	**149**	eP	**Pn**	**15 07 17.5**	**+0.9**
SIV	**San Ignacio**	**21.05**	**120**	P	**P**	**15 07 29.7**	**+1.5**
	comp=Z,11nm,0.8s,baz=308,slow=9.5,SNR=38						
GO02	**Mina Guanaco**	**21.60**	**154**	P	**P**	**15 07 36.0**	**+1.7**
GO02				IAmb	IAmb	15 07 39.1	
	comp=Z,31nm,0.8s						
TOSP	**Speyside**	**25.74**	**49**	P	**P**	**15 08 20.0**	**+6.1**
AOPR	**Arecibo Observ**	**27.34**	**28**	P	**P**	**15 08 29.8**	**+1.6**
PDPR	**Patillas Dam,**	**27.41**	**30**	P	**P**	**15 08 29.0**	**+0.2**
PDPR				IAmb	IAmb	15 08 55.8	
	comp=Z,17nm

TRQA	**Tornquist**	**35.97**	**156**	P	**P**	**15 09 43.8 +0.1**
TRQA	**Tornquist**	**35.97**	**156**	*e*P	**P**	**15 09 44.0 +0.3**
LCAR	**Lake Charles**	**43.02**	**347**	P	P	15 10 54.0 +12
LCAR				IAmb	IAmb	15 10 57.5
	comp=Z,20nm,1.3s					
U40A	**Yellville**	**43.71**	**345**	P	P	15 11 00.3 +12
FNO	**Franklin**	**44.08**	**339**	P	P	15 11 05.2 +14
TUL1	**Leonard**	**44.14**	**341**	P	P	15 11 05.4 +14
TUL1				IAmb	IAmb	15 11 08.2
	comp=Z,12nm,0.8s					
MGMO	**Mountain Grove**	**44.31**	**346**	P	P	15 11 07.3 +15
MNTX	**Cornudas Mount**	**44.55**	**329**	P	P	15 11 09.4 +15
FVM	**French Village**	**44.70**	**348**	P	P	15 11 07.8 +12
FVM				IAmb	IAmb	15 11 10.9
	comp=Z,9.9nm,1.0s					
MSTX	**Muleshoe**	**45.13**	**333**	P	P	15 11 14.1 +15
MSTX				IAmb	IAmb	15 11 16.3
	comp=Z,13nm,1.1s					
319A	**Douglas**	**46.44**	**325**	P	P	15 11 23.3 +13
319A				IAmb	IAmb	15 11 44.3
	comp=Z,7.3nm,0.8s					
121A	**Cookes Peak, D**	**46.47**	**327**	P	P	15 11 23.6 +14
121A				IAmb	IAmb	15 11 26.8
	comp=Z,6.7nm,1.0s					
ANMO	**Albuquerque**	**47.67**	**330**	P	P	15 11 33.3 +14
ANMO				IAmb	IAmb	15 11 36.2
	comp=Z,6.8nm,0.8s					
TUC	**Tucson**	**47.99**	**324**	P	P	15 11 35.7 +14
CBKS	**Cedar Bluff**	**48.09**	**339**	P	P	15 11 35.7 +13
T25A	**Trinidad**	**48.51**	**334**	P	P	15 11 40.0 +14
T25A				IAmb	IAmb	15 11 42.4
	comp=Z,5.8nm,0.8s					
214A	**Organ Pipe Nat**	**48.95**	**322**	P	P	15 11 42.7 +14
WUAZ	**Wupatki**	**50.67**	**327**	P	P	15 11 57.1 +15
WUAZ				IAmb	IAmb	15 11 59.1
	comp=Z,9.4nm,1.0s					
PV01	**Paradox Valley**	**51.23**	**331**	P	P	15 12 01.5 +15
PV01				IAmb	IAmb	15 12 03.0
	comp=Z,6.7nm,1.0s					
PV02	**Paradox Valley**	**51.37**	**331**	P	P	15 12 01.7 +14
PV13	**Radium Mtn., P**	**51.37**	**331**	P	P	15 12 01.6 +14
PV03	**Paradox Valley**	**51.46**	**331**	P	P	15 12 02.0 +14
PV03				IAmb	IAmb	15 12 04.7
	comp=Z,5.0nm,0.8s					
PV12	**Saucer Basin,**	**51.49**	**331**	P	P	15 12 03.4 +15
PV12				IAmb	IAmb	15 12 04.7
	comp=Z,8.4nm,0.9s					
PV07	**Paradox Valley**	**51.51**	**331**	P	P	15 12 03.7 +15
PV07				IAmb	IAmb	15 12 05.4
	comp=Z,5.4nm,0.9s					
ECSD	**EROS Data Cent**	**51.62**	**345**	P	P	15 12 02.8 +14
ECSD				IAmb	IAmb	15 12 05.3
	comp=Z,6.9nm,0.8s					
KNB	**Kanab**	**52.57**	**327**	P	P	15 12 11.2 +15
SZCU	**Shurtz Canyon**	**53.14**	**327**	P	P	15 12 15.9 +15
CCUT	**Cedar City**	**53.25**	**327**	P	P	15 12 17.4 +16
RDMU	**Red Mountain**	**53.63**	**332**	P	P	15 12 18.1 +14
PSUT	**Pine Spring**	**54.23**	**327**	P	P	15 12 23.3 +15
RSSD	**Black Hills**	**54.29**	**339**	P	P	15 12 22.7 +14
RSSD				IAmb	IAmb	15 12 25.5
	comp=Z,4.6nm,0.9s					
PDAR	**Pinedale Array**	**55.38**	**334**	P	**P**	**15 12 15.0 -1.9**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=4.0					
PDAR	**Pinedale Array**	**55.38**	**334**	P	P	15 12 28.8 +12
AGMN	**Agassiz Nation**	**55.72**	**347**	P	P	15 12 31.6 +13
MDND	**Maddock**	**56.22**	**344**	P	P	15 12 35.9 +13
REDW	**Red Top Meadow**	**56.42**	**333**	P	P	15 12 38.8 +14
REDW				IAmb	IAmb	15 12 54.8
	comp=Z,6.7nm,1.1s					
ELK	**Elko**	**56.57**	**328**	P	P	15 12 40.6 +15
NVAR	**Mina Array Bea**	**56.65**	**324**	P	**P**	**15 12 25.4 -0.7**
	comp=Z,1.4nm,0.8s,baz=139,slow=7.3,SNR=8.5					
NVAR				LR	LR	15 34 34.3
	comp=Z,35nm,19.8s,baz=148,slow=34					
NVAR	**Mina Array Bea**	**56.65**	**324**	P	P	15 12 40.5 +14
BMN	**Battle Mountai**	**57.41**	**327**	P	P	15 12 46.4 +15
BMN				IAmb	IAmb	15 12 47.3
	comp=Z,7.2nm,1.4s					
ULM	**Lac du Bonnet**	**57.56**	**348**	P	**P**	**15 12 31.3 -0.7**
	comp=Z,2.4nm,0.6s,baz=156,slow=7.2,SNR=4.5					
ULM	**Lac du Bonnet**	**57.56**	**348**	P	P	15 12 45.0 +13
BOZ	**Bozeman (W)**	**58.53**	**334**	P	P	15 12 54.3 +15
MFID	**Camas Ranch**	**58.82**	**330**	P	P	15 12 56.4 +15
MFID				IAmb	IAmb	15 12 57.6
	comp=Z,6.9nm,0.9s					
WVOR	**Wild Horse Val**	**59.57**	**328**	P	P	15 13 01.3 +15
WVOR				IAmb	IAmb	15 13 02.4
	comp=Z,9.2nm,1.2s					
PMSA	**Palmer Station**	**59.89**	**172**	P	**P**	**15 12 48.3 +0.4**
	comp=Z,7.3nm,1.0s,baz=85,slow=7.0,SNR=4.1					
MOD	**Modoc Plateau**	**60.11**	**326**	P	P	15 13 05.1 +15
MOD				IAmb	IAmb	15 13 06.3
	comp=Z,5.6nm,0.8s					
PPT	**Papeete**	**68.88**	**254**	LR	LR	15 37 46.7
	comp=Z,93nm,19.5s,baz=81,slow=30					
VNA3	**Neumayer Olymp**	**78.19**	**162**	P	**P**	**15 14 41.0 -0.2**
VNA1	**Neumayer--Stat**	**78.47**	**161**	P	**P**	**15 14 42.8 +0.2**
VNA2	**Neumayer--Watz**	**78.82**	**161**	P	**P**	**15 14 44.4 -0.2**
	baz=293,slow=5.8					
SNAA	**Sanae**	**80.42**	**162**	P	**P**	**15 14 53.1 -0.3**
ESDC	**Sonseca Array**	**83.00**	**49**	P	**P**	**15 15 07.3 -0.3**
	comp=Z,0.4nm,0.4s,baz=260,slow=5.9,SNR=4.3					
ESDC	**Sonseca Array**	**83.00**	**49**	P	**P**	**15 15 07.6 0.0**
TORD	**Torodi Ar. Bea**	**83.20**	**76**	P	**P**	**15 15 09.4 +0.4**
	comp=Z,3.3nm,0.9s,baz=285,slow=4.9,SNR=10					
TORD	**Torodi Ar. Bea**	**83.20**	**76**	P	**P**	**15 15 09.2 +0.1**
EGAK	**Eagle**	**83.48**	**338**	P	P	15 15 24.3 +15
EGAK				IAmb	IAmb	15 15 28.6
	comp=Z,10nm,0.9s					
PAX	**Paxson**	**84.38**	**335**	P	P	15 15 28.8 +15
ILAR	**Eielson Array**	**85.68**	**337**	P	**P**	**15 15 19.1 -1.5**
	comp=Z,0.6nm,1.0s,baz=78,slow=6.1,SNR=4.3					
SYO	**Syowa Base**	**94.71**	**162**	*e*X	**P**	**15 16 04.0 +1.1**
ABKAR	**Akbulak array**	**125.09**	**31**		**PKPdf**	**15 21 41.4 -0.8**
ABKAR	**Akbulak array**	**125.09**	**31**		**PKPdf**	**15 21 41.6 -0.5**
ZAA0	**Zalesovo Array**	**130.47**	**12**		**PKPdf**	**15 21 50.7 -1.6**
ZALV	**Zalesovo Beam**	**130.47**	**12**	PKP	**PKPdf**	**15 21 51.5 -0.7**
	comp=Z,3.1nm,0.8s,baz=260,slow=2.6,SNR=12					
ZALV	**Zalesovo Beam**	**130.47**	**12**		**PKPdf**	**15 21 50.5 -1.7**
KURK	**Kurchatov**	**131.82**	**18**		**PKPdf**	**15 21 52.8 -2.1**
ASAR	**Alice Springs**	**135.83**	**227**	PKhKP	PKPpre	15 21 53.7
	comp=Z,0.2nm,0.6s,baz=115,slow=2.0,SNR=4.6					
ASAR				PKP	**PKPdf**	**15 22 01.9 -1.5**
	comp=Z,1.3nm,0.8s,baz=115,slow=2.5,SNR=9.5					
ASAR	**Alice Springs**	**135.83**	**227**		**PKPdf**	**15 22 00.5 -2.9**
MK31	**Makanchi Array**	**136.43**	**18**		**PKPdf**	**15 22 02.1 -1.6**
MKAR	**Makanchi Array**	**136.43**	**18**	PKP	**PKPdf**	**15 22 02.6 -1.1**
	comp=Z,1.4nm,0.9s,baz=317,slow=1.7,SNR=10					
MKAR	**Makanchi Array**	**136.43**	**18**		**PKPdf**	**15 22 02.1 -1.6**
WRA	**Warramunga Arr**	**137.66**	**232**	PKP	**PKPdf**	**15 22 05.7 -1.1**
	comp=Z,2.0nm,0.8s,baz=124,slow=1.5,SNR=14					
WRA	**Warramunga Arr**	**137.66**	**232**		**PKPdf**	**15 22 04.9 -1.9**
SONM	**Songino Array**	**137.83**	**354**	PKP	**PKPdf**	**15 22 05.1 -1.4**
	comp=Z,0.3nm,0.5s,baz=354,slow=3.0,SNR=3.7					
KSH	**Kashi**	**140.06**	**29**	*e*PKP	PKiKP	15 22 21.4 +8.2
NJ2	**Nanjing**	**148.58**	**328**	*e*P	**PKPab**	**15 22 35.3 +2.5**
NJ2				pmax	pmax	
	comp=Z,12nm,0.7s					
CMAR	**Chiang Mai Arr**	**167.43**	**5**	PKP	**PKPdf**	**15 22 48.0 -0.7**
	comp=Z,0.7nm,0.8s,baz=341,slow=1.5,SNR=4.8					

JMA 14 15:03:53.0±0.1, 38°.38N×144°.52E, h44km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.34**	**288**	P	Pn	15 04 30.3	+1.4
OFUJ				*e*S	Sn	15 04 57.7	+1.3
JIKH	**Ishinomakikobu**	**2.40**	**269**	P	Pn	15 04 30.9	+1.1
JIKH				S	Sn	15 04 58.9	+0.9
MIYJ	**Miyakonagasawa**	**2.42**	**300**	P	Pn	15 04 31.1	+1.0
MIYJ				S	Sn	15 04 59.3	+0.9
JKMT	**Kesennumamotoy**	**2.42**	**281**	P	Pn	15 04 31.3	+1.2
JKMT				S	Sn	15 05 00.2	+1.7
JMK	**Ichinoseki**	**2.65**	**283**	P	Pn	15 04 34.9	+1.8
JMK				S	Sn	15 05 05.9	+1.9
JOM	**Ohasama**	**2.74**	**294**	P	Pn	15 04 36.1	+1.6
JOM				S	Sn	15 05 08.7	+2.3
JANG	**Nango**	**3.06**	**311**	P	Pn	15 04 40.5	+1.6
JANG				*e*S	Sn	15 05 16.2	+1.9
JYK	**Kaneyama**	**3.30**	**281**	P	Pn	15 04 44.5	+2.3
JYK				*e*S	Sn	15 05 22.4	+2.2
JFT	**Otama**	**3.42**	**257**	P	Pn	15 04 46.1	+2.3
JFT				S	Sn	15 05 25.2	+2.2
JNBK	**Urakawa-nobuka**	**4.12**	**341**	P	Pn	15 04 54.7	+1.3
JNBK				*e*S	Sn	15 05 42.1	+1.8
JCH	**Churui**	**4.32**	**349**	P	Pn	15 04 56.4	+0.3
JCH				*e*S	Sn	15 05 44.5	-0.7
JKB	**Kayabe**	**4.41**	**324**	P	Pn	15 04 59.7	+2.4
JKB				*e*S	Sn	15 05 49.7	+2.4
JRY	**Ryogami san**	**5.07**	**244**	P	Pn	15 05 07.6	+1.2
JRY				*e*S	Sn	15 06 03.4	-0.3
JTKR	**Abashiri--Toko**	**5.61**	**355**	P	Pn	15 05 13.0	-0.7

TAP 14 15:20:40.7, 24°.93N×122°.67E, h130km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.62**	**232**	P	Pn	15 21 00.3	-0.1
	baz=225						
EOS1				S	Sn	15 21 15.6	+0.3
	baz=225						
TIPB	**Shuangxi**	**0.77**	**273**	P	Pn	15 21 01.9	+0.3
	baz=269						
TIPB				S	Sn	15 21 17.4	+0.1
	baz=269						
NANB	**Nanao**	**0.98**	**239**	P	Pn	15 21 02.6	-0.7
	baz=235						
NANB				S	Sn	15 21 20.2	-0.2
	baz=235						
ENA	**Nanau**	**0.98**	**240**	*e*P	Pn	15 21 04.6	+1.2
	baz=235						
ENA				S	Sn	15 21 20.2	-0.4
	baz=235						
YM01	**YM01**	**1.02**	**282**	*e*P	Pn	15 21 04.5	+0.8
	baz=282						
ENTT	**Nioudou**	**1.05**	**254**	P	Pn	15 21 04.6	+0.6
	baz=260						
NWLT	**Wulai**	**1.07**	**262**	*e*P	Pn	15 21 04.1	-0.2
	baz=269						
NWLT				*e*S	Sn	15 21 21.7	-0.4
	baz=269						
NDT	**Datong Townshi**	**1.10**	**253**	P	Pn	15 21 05.7	+1.2
	baz=252						
NDT				S	Sn	15 21 23.1	+0.5
	baz=252						
YHNB	**Yeheng**	**1.21**	**258**	P	Pn	15 21 05.9	+0.2
	baz=263						
YHNB				S	Sn	15 21 25.1	+0.5
	baz=263						
NSK	**Sanguang**	**1.22**	**258**	*e*P	Pn	15 21 06.4	+0.6
	baz=258						
NSK				S	Sn	15 21 24.8	-0.1
	baz=258						
NACB	**Ninganchiao**	**1.24**	**233**	*e*P	Pn	15 21 04.4	-1.4
	baz=228						
NACB				S	Sn	15 21 23.5	-1.5
	baz=228						
NNSB	**Datong**	**1.27**	**247**	*e*P	Pn	15 21 07.4	+1.0
	baz=241						
NNSB				S	Sn	15 21 25.8	-0.2
	baz=241						
NNS	**Nan Shan**	**1.28**	**248**	*e*P	Pn	15 21 07.8	+1.4
	baz=242						
NNS				S	Sn	15 21 25.8	-0.2
	baz=242						
TWD	**Chiawan**	**1.30**	**229**	*e*S	Sn	15 21 25.6	-0.5
	baz=225						
ETLH	**Xiulin Townshi**	**1.30**	**237**	*e*P	Pn	15 21 07.3	+0.7
	baz=231						
ETLH				*e*S	Sn	15 21 25.6	-0.8
	baz=231						
ENLB	**Shoufeng**	**1.41**	**224**	*e*S	Sn	15 21 28.3	0.0
	baz=219						
WHF	**Hehuan Shan**	**1.50**	**239**	*e*P	Pn	15 21 09.8	+0.6
	baz=233						
WHF				S	Sn	15 21 29.9	-0.9
	baz=233						
LIOB	**Emei**	**1.53**	**260**	*e*P	Pn	15 21 09.8	+0.8
	baz=259						
LIOB				S	Sn	15 21 30.8	+0.1
	baz=259						
TDCB	**Techi**	**1.53**	**244**	*e*S	Sn	15 21 30.5	-0.5
	baz=238						
NSTT	**Nanjuang**	**1.55**	**259**	*e*P	Pn	15 21 10.1	+0.8
	baz=259						
NSTT				*e*S	Sn	15 21 31.4	+0.4
	baz=259						
ESL	**Shilin**	**1.58**	**226**	*e*S	Sn	15 21 30.0	-1.8
	baz=220						
CHGB	**Renai**	**1.62**	**238**	P	Pn	15 21 10.8	+0.5
	baz=231						
CHGB				S	Sn	15 21 32.2	-0.6
	baz=231						
EGFH	**Guangfu**	**1.69**	**222**	*e*S	Sn	15 21 32.5	-1.6
	baz=217						
WHP	**Taichung City**	**1.70**	**248**	P	Pn	15 21 11.9	+0.8
	baz=255						
WHP				S	Sn	15 21 35.0	+0.6
	baz=255						
VWDT	**VWDT**	**1.82**	**230**	*e*P	Pn	15 21 12.6	+0.1
	baz=226						
VWDT				*e*S	Sn	15 21 35.7	-1.0
	baz=226						
DPDB	**Guoxing**	**1.82**	**241**	*e*S	Sn	15 21 37.5	+0.6
	baz=236						
HGSD	**Ruisui**	**1.83**	**219**	*e*P	Pn	15 21 11.7	-0.9
	baz=214						
HGSD				S	Sn	15 21 35.5	-1.4
	baz=214						
EHY	**Hungye**	**1.88**	**221**	*e*S	Sn	15 21 35.8	-2.2
	baz=216						
SSLB	**Suanglung**	**1.94**	**234**	*e*P	Pn	15 21 14.6	+0.8
	baz=231						
SSLB				*e*S	Sn	15 21 39.4	+0.1
	baz=231						
TYC	**Yuchr**	**1.94**	**239**	*e*P	Pn	15 21 15.5	+1.6
	baz=235						
TYC				*e*S	Sn	15 21 40.2	+0.9
	baz=235						
YULB	**Yu-li**	**1.98**	**220**	P	Pn	15 21 13.5	-0.9
	baz=226						
YULB				S	Sn	15 21 37.8	-2.4
	baz=226						
TWF1	**Yuli**	**2.01**	**219**	*e*P	Pn	15 21 14.0	-0.8
	baz=226						
WHYT	**Xinyi Township**	**2.06**	**234**	*e*P	Pn	15 21 16.4	+1.0
	baz=228						
WHYT				S	Sn	15 21 43.9	+1.8
	baz=228						
WJS	**Zhushan**	**2.09**	**238**	*e*S	Sn	15 21 44.5	+1.9
	baz=238						
FULB	**Fuli**	**2.14**	**216**	P	Pn	15 21 15.4	-0.9
	baz=212						
FULB				S	Sn	15 21 43.2	-0.4
	baz=212						
CHN5	**Tsauling**	**2.25**	**234**	S	Sn	15 21 47.1	+0.8
	baz=242						
ELDTW	**Lidau**	**2.30**	**221**	*e*P	Pn	15 21 17.6	-0.9
	baz=219						
ELDTW				*e*S	Sn	15 21 45.7	-1.7
	baz=219						
CHN4	**Tsaushan**	**2.47**	**231**	*e*S	Sn	15 21 51.4	+0.5
	baz=239						
TPUB	**Ta-pu**	**2.47**	**229**	*e*S	Sn	15 21 52.0	+0.8
	baz=229						
WTP	**Ta-pu**	**2.52**	**229**	*e*S	Sn	15 21 52.5	+0.3
	baz=228						
CHN1	**Nanshi**	**2.62**	**229**	*e*S	Sn	15 21 55.0	+0.5
	baz=228						

ISCJB ***14*** *15:31:46.2±0.3, 6°.45S±0°.04×103°.51E±0°.03, h35km, mb4.5/34, MS3.9/10, Error ellipse: s-maj=6.3km s-min=3.4km az=31.7*
DJA ***14*** *15:31:47.6±0.4, 7°.5±3°×10°.3E±°, h41km±4km, M4.7/17, mB5.0/5, mb4.7/17, MLv4.8/13, Mw(mB)4.3/5*
NEIC ***14*** *15:31:47.0±1.9, 6°.35S±0°.06×103°.52E±0°.07, h24km±4km, mb4.8/50*
BJI ***14*** *15:31:47.0±0.0, 6°.30S×103°.60E, h30km, mb4.8/41, mB5.0/27, Ms4.4/11, Ms7 4.1/11*
IDC ***14*** *15:31:54.0±2.4, 6°.12S×103°.75E, h74km±21km, mb4.0/23, mb1 4.1/24, mb1mx4.0/37, mbtmp4.4/24, MS3.6/8, Ms1 3.6/8, ms1mx3.2/40, Error ellipse: s-maj=17.4km s-min=9.5km az=38.0*
ISC 14 15:31:48.0±0.4, 6°.45S±0°.05×103°.52E±0°.05, h35km, n170, σ1ⁿ73/169, mb4.7/56, MS3.9/10, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.34**	**47**	P	**Pn**	**15 32 09.3**	**-0.9**
KASI				S	**Sn**	**15 32 25.3**	**-1.5**
LWLI	**Liwa**	**1.52**	**21**	P	**Pn**	**15 32 12.4**	**-0.4**
LWLI				S	**Sn**	**15 32 34.5**	**+3.1**
BLSI	**Bandar Lampung**	**2.03**	**58**	P	**Pn**	**15 32 20.1**	**+0.5**
KLSI		**2.12**	**35**	P	**Pn**	**15 32 21.5**	**+0.5**
MNAI	**Manna**	**2.15**	**345**	P	**Pn**	**15 32 22.1**	**+0.8**
MNAI	**Manna**	**2.15**	**345**		**Pn**	**15 32 22.2**	**+0.9**
MNAI				Sn	**Sn**	**15 32 39.1**	**-7.6**
LHSI	**Lahat**	**2.60**	**0**	P	**Pn**	**15 32 28.8**	**+1.2**
SBJI	**Serang**	**2.62**	**83**	P	**Pn**	**15 32 29.4**	**+1.6**
SKJI	**Sukabumi**	**3.07**	**101**	P	**Pn**	**15 32 36.4**	**+2.4**
MASI	**Maura Aman, Be**	**3.52**	**339**	P	**Pn**	**15 32 40.6**	**+0.3**
PMBI	**Palembang**	**3.71**	**20**	P	**Pn**	**15 32 42.9**	**0.0**
PMBI	**Palembang**	**3.71**	**20**	Pn	**Pn**	**15 32 42.1**	**-0.8**
LEM	**Lembang**	**4.09**	**96**	P	Pn	15 32 52.5	+4.3
	6.6nm,0.3s,baz=194,slow=14,SNR=6.8						
LEM				S	**Sn**	**15 33 37.2**	**+2.3**
	6.5nm,0.3s,baz=56,slow=6.2,SNR=4.0						
LEM				LR	LR	15 34 34.8	
	comp=Z,459nm,19.4s,baz=285,slow=41						
CISI	**Cisompet, Garu**	**4.41**	**105**	P	**Pn**	**15 32 52.7**	**+0.3**
CISI	**Cisompet, Garu**	**4.41**	**105**		**Pn**	**15 32 53.0**	**+0.5**
CISI				Sn	**Sn**	**15 33 38.5**	**-4.1**
XMIS	**Christmas Isla**	**4.53**	**152**		**Pn**	**15 32 51.8**	**-2.3**
XMIS				Sn	**Sn**	**15 33 38.1**	**-7.5**
KRJI	**Kerinci**	**4.79**	**335**	P	**Pn**	**15 32 57.0**	**-0.7**
PPSI	**Pulau Pagai**	**5.06**	**316**	P	**Pn**	**15 33 02.0**	**+0.6**
	216nm,0.8s,3.6nm						
CMJI	**Cimerak**	**5.07**	**105**	P	**Pn**	**15 33 02.1**	**+0.6**
	54nm,0.6s,2μm0.4nm						
SISI	**Saibi**	**6.74**	**319**	P	**Pn**	**15 33 24.0**	**-0.4**
	30nm,0.7s,0.3nm						
UGM	**Wanagama**	**7.10**	**102**	Pn	**Pn**	**15 33 32.0**	**+2.5**
MYKOM	**Kota Tinggi**	**8.19**	**2**		**Pn**	**15 33 44.4**	**0.0**
PWJI	**Pagerwojo**	**8.37**	**101**	P	**Pn**	**15 33 48.5**	**+1.7**
	34nm,0.9s						
GSI	**Gunungsitoli**	**9.72**	**322**	Pn	**Pn**	**15 34 05.2**	**-0.2**
STKI	**Sintang**	**10.24**	**51**	P	Pn	15 34 16.9	+4.3
JAGI	**Jajag, Banyuwa**	**10.73**	**101**	P	**Pn**	**15 34 19.5**	**+0.2**
JAGI	**Jajag, Banyuwa**	**10.73**	**101**		**Pn**	**15 34 19.7**	**+0.4**
IPM	**Ipoh**	**11.14**	**347**	Pn	**Pn**	**15 34 23.6**	**-1.2**
SRBI	**Singaraja**	**11.72**	**99**	P	**Pn**	**15 34 34.6**	**+1.9**
KAPI	**Kappang**	**16.22**	**86**	LR	LR	15 41 53.2	
	comp=Z,139nm,20.1s,baz=121,slow=38						
BKSI	**Bulukumba**	**16.56**	**87**	P	**Pn**	**15 35 35.6**	**-2.0**
MPSI	**Mapaga**	**17.68**	**68**	P	**P**	**15 35 52.4**	**+0.1**
MMRI	**Maumere**	**18.68**	**98**	P	**P**	**15 36 02.0**	**-1.4**
MMRI				IAmb	IAmb	15 36 24.3	
	comp=Z,34nm,0.8s						
APSI	**Ampana**	**18.91**	**74**	P	**P**	**15 36 02.7**	**-3.1**
GIRL	**Giralia**	**19.13**	**148**	P	**Pn**	**15 36 09.6**	**+0.4**
KDI	**Kendari**	**19.18**	**84**	P	**P**	**15 36 08.3**	**-0.5**
	comp=Z,75nm,1.1s						
MRSI	**Marisa**	**19.63**	**70**	P	**Pn**	**15 36 13.7**	**-1.6**
	comp=Z,30nm,0.6s,comp=Z,350nm						
BATI	**Baumata**	**20.28**	**102**	P	Pn	15 36 22.3	-0.6
	comp=Z,86nm,0.7s,baz=199,slow=0.2,SNR=16						
BATI				S	**S**	**15 40 03.9**	**-2.7**
	comp=Z,17nm,0.8s,baz=266,slow=19,SNR=4.0						
BATI	**Baumata**	**20.28**	**102**	P	Pn	15 36 21.2	-1.8
SRAK	**Srakaew**	**20.38**	**356**	P	Pn	15 36 23.6	-0.4
	comp=Z,97μm,0.7s						
SOEI	**Soe**	**20.80**	**100**	P	**P**	**15 36 27.0**	**+0.4**
	comp=Z,104nm,0.8s,comp=Z,1μm						
SOEI	**Soe**	**20.80**	**100**	P	**P**	**15 36 26.7**	**+0.1**
KHLT	**Khaolaem Dam**	**21.66**	**347**	P	**P**	**15 36 34.3**	**-1.4**
	comp=Z,21nm,0.7s						
UBPT	**Khong Chiam**	**21.67**	**5**	P	**P**	**15 36 34.5**	**-1.3**
UTHA	**Uthaitani**	**22.23**	**350**	P	**P**	**15 36 42.5**	**+0.7**
	comp=Z,22μm,0.7s,comp=Z,225μm						
PBKT	**Sadao Pong**	**23.01**	**354**	P	**P**	**15 36 49.8**	**-0.1**
	comp=Z,3.7nm,0.8s						
PBKT	**Sadao Pong**	**23.01**	**354**	P	**P**	**15 36 48.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**24.49**	**120**	P	**P**	**15 37 06.4**	**+2.3**
	comp=Z,2.7nm,1.0s,baz=302,slow=7.8,SNR=5.3						
FITZ	**Fitzroy Crossi**	**24.49**	**120**	P	**P**	**15 37 04.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.16**	**350**	P	**P**	**15 37 08.9**	**-1.1**
	comp=Z,14nm,0.7s,baz=180,slow=9.0,SNR=95						
CMAR				PcP	**PcP**	**15 40 45.4**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=194,slow=1.7,SNR=5.9						
CMAR				LR	LR	15 47 18.7	
	comp=Z,106nm,19.1s,baz=165,slow=37						
CMAR	**Chiang Mai Arr**	**25.16**	**350**	P	**P**	**15 37 08.3**	**-1.8**
CMAR					**PcP**	**15 40 45.1**	**+1.4**
CHTO	**Chiang Mai**	**25.50**	**350**	P	**P**	**15 37 11.7**	**-1.6**
QIZ	**Qiongzhong**	**26.07**	**14**	P	**P**	**15 37 18.8**	**+0.4**
QIZ				S	**S**	**15 41 48.0**	**+0.5**
QIZ				LR	LR		
	comp=Z,320nm,19.6s						
KNRA	**Kununurra**	**26.39**	**112**	P	**P**	**15 37 20.5**	**-0.9**
H01W3	**Cape Leeuwin H**	**29.95**	**162**	T	T	16 09 10.5	
	baz=339,slow=76,SNR=9.5						
H01W2	**Cape Leeuwin H**	**29.96**	**162**	T	T	16 09 10.5	
	baz=339,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**29.96**	**162**	T	T	16 09 10.5	
	baz=339,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**30.81**	**266**	T	T	16 10 21.4	
	baz=90,slow=75,SNR=56						
H08S3	**Diego Garcia H**	**30.82**	**266**	T	T	16 10 17.4	
	baz=90,slow=75,SNR=54						
H08S1	**Diego Carcia H**	**30.83**	**266**	T	T	16 10 20

LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
PMG	**Port Moresby**	**43.30**	**97**	P	**P**	**15 39 47.1**	**+0.2**
PMG				IAmb	IAmb	15 39 48.0	
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**43.60**	**130**	P	**P**	**15 39 52.6**	**+3.6**
	comp=Z,1.6nm,0.6s,baz=312,slow=14,SNR=2.7						
STKA	**Stephens Creek**	**43.60**	**130**	P	**P**	**15 39 52.2**	**+3.2**
GTA	**Gaotai**	**45.76**	**356**	⇑P	**P**	**15 40 06.4**	**+0.2**
GTA				pP	sP	15 40 19.4	-0.6
GTA				sP	pwP	15 40 24.8	+6.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,34nm,4.1s						
GTA				LR	LR		
	comp=Z,100nm,19.9s						
GTA				LR	LR		
	comp=Z,95nm,18.6s						
GTA				LR	LR		
	comp=Z,130nm,18.5s						
JNU	**Nakatsue**	**47.16**	**32**	P	**P**	**15 40 14.8**	**-2.3**
	comp=Z,9.3nm,0.9s,baz=185,slow=6.2,SNR=4.3						
JNU	**Nakatsue**	**47.16**	**32**	P	**P**	**15 40 15.2**	**-2.0**
HHC	**Hu-ho-hao-te**	**47.64**	**8**	*e*P	**P**	**15 40 24.0**	**+3.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,13nm,4.5s						
BJT	**Baijiatuau**	**47.69**	**13**	P	**P**	**15 40 20.3**	**-0.8**
BJI	**Beijing**	**47.71**	**13**	P	**P**	**15 40 21.3**	**+0.1**
BJI				pmax	pmax		
	comp=Z,15nm,0.7s						
NIL	**Nilore**	**49.12**	**326**	P	**P**	**15 40 31.8**	**-0.5**
NIL				IAmb	IAmb	15 40 35.1	
	comp=Z,6.9nm,0.6s						
KSAR	**Wonju Array Be**	**49.23**	**26**	P	**P**	**15 40 33.1**	**+0.1**
KSRS	**Korea Array**	**49.26**	**26**	P	**P**	**15 40 31.1**	**-2.1**
	comp=Z,5.8nm,0.8s,baz=221,slow=7.1,SNR=17						
KS19	**Wonju Array Si**	**49.28**	**26**	P	**P**	**15 40 31.8**	**-1.6**
WMQ	**Urumqi**	**52.04**	**346**	P	**P**	**15 40 55.0**	**+0.7**
WMQ				pP	sP	15 41 06.5	-1.6
WMQ				sP	pwP	15 41 08.3	+1.7
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,7.9s						
WMQ				LR	LR		
	comp=Z,270nm,20.1s						
WMQ				LR	LR		
	comp=Z,170nm,21.7s						
WMQ	**Urumqi**	**52.04**	**346**	P	**P**	**15 40 54.9**	**+0.7**
KSH	**Kashi**	**52.35**	**333**	P	**P**	**15 40 56.4**	**-0.3**
KSH				S	**S**	**15 48 15.1**	**-5.0**
KSH				sS	pS	15 48 32.1	+0.3
KSH				ScS	**ScS**	**15 50 37.5**	**-6.7**
KSH				pmax	pmax		
	comp=Z,270nm,5.6s						
KSH				LR	LR		
	comp=Z,150nm,9.3s						
KSH				LR	LR		
	comp=Z,200nm,9.4s						
KSH				LR	LR		
	comp=Z,240nm,10.1s						
SOCY	**Socotra**	**52.61**	**291**	P	**P**	**15 41 00.8**	**+1.9**
SOCY				IAmb	IAmb	15 42 33.5	
	comp=Z,14nm,1.3s						
WSAR	**Wadi Sarin**	**52.85**	**305**	P	**P**	**15 41 01.9**	**+1.3**
	comp=Z,4.1nm,0.9s,baz=256,slow=4.2,SNR=3.1						
TARG	**Taragay, Kyrgy**	**53.40**	**336**	P	**P**	**15 41 05.1**	**+0.4**
TARG				IAmb	IAmb	15 41 21.3	
	comp=Z,25nm,1.9s						
MAJO	**Matsushiro**	**53.71**	**35**	P	**P**	**15 41 06.8**	**+0.1**
MAJO				IAmb	IAmb	15 41 15.8	
	comp=Z,17nm,1.4s						
MJAR	**Matsushiro Arr**	**53.71**	**35**	P	**P**	**15 41 04.9**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=223,slow=8.3,SNR=4.2						
MJAR	**Matsushiro Arr**	**53.71**	**35**	P	**P**	**15 41 06.0**	**-0.7**
MJB9	**Matsu-Tunnel**	**53.71**	**35**	P	**P**	**15 41 07.2**	**+0.5**
MJB9				IAmb	IAmb	15 41 15.8	
	comp=Z,16nm,1.4s						
CN2	**Changchun**	**53.80**	**20**	*e*P	**P**	**15 41 06.8**	**-0.4**
CN2				*e*pP	sP	15 41 19.6	-1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
NRN	**Naryn**	**53.90**	**335**	P	**P**	**15 41 08.2**	**-0.1**
NRN				IAmb	IAmb	15 41 23.1	
	comp=Z,6.7nm,0.8s						
KDJ	**Kajisay**	**53.99**	**336**	P	**P**	**15 41 09.4**	**+0.7**
SONM	**Songino Array**	**54.11**	**2**	P	**P**	**15 41 09.6**	**+0.1**
	comp=Z,9.5nm,0.8s,baz=177,slow=8.8,SNR=73						
SONM				LR	LR	16 07 13.0	
	comp=Z,86nm,19.0s,baz=116,slow=39						
SONM	**Songino Array**	**54.11**	**2**	P	**P**	**15 41 09.4**	**0.0**
SONM				PcP	**PcP**	**15 42 14.0**	**+0.1**
ULN	**Ulaanbaatar**	**54.17**	**3**	P	**P**	**15 41 09.9**	**0.0**
ULN				IAmb	IAmb	15 41 11.2	
	comp=Z,6.8nm,0.9s						
GAR	**Garm**	**54.69**	**328**	P	**P**	**15 41 13.1**	**-0.8**
GAR				IAmb	IAmb	15 41 17.1	
	comp=Z,5.9nm,0.8s						
KZA	**Kyzart**	**54.75**	**334**	P	**P**	**15 41 15.4**	**+0.8**
	SNR=5.6						
ARSB	**Arslanbob**	**55.16**	**332**	P	**P**	**15 41 17.8**	**+0.5**
BTK	**Batken**	**55.23**	**330**	P	**P**	**15 41 18.2**	**+0.5**
BTK				IAmb	IAmb	15 41 33.2	
	comp=Z,13nm,1.6s						
TKM2	**Tokmak 2**	**55.30**	**335**	P	**P**	**15 41 18.5**	**+0.2**
	SNR=12						
KBK	**Karagaybulak**	**55.35**	**335**	P	**P**	**15 41 20.0**	**+1.3**
	SNR=7.3						
AML	**Almayashu**	**55.48**	**333**	P	**P**	**15 41 20.1**	**+0.3**
	SNR=6.4						
AAK	**Ala-Archa**	**55.53**	**334**	P	**P**	**15 41 20.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=127,slow=8.4,SNR=6.3						
AAK	**Ala-Archa**	**55.53**	**334**	P	**P**	**15 41 20.5**	**+0.5**
EKS2	**Erkin-Say**	**55.86**	**334**	P	**P**	**15 41 23.2**	**+0.9**
	SNR=9.7						
HNR	**Honiara**	**55.92**	**97**	P	**P**	**15 41 22.8**	**-0.2**
USP	**Ospenovka**	**56.04**	**335**	P	**P**	**15 41 23.8**	**+0.3**
	SNR=5.9						
MKAR	**Makanchi Array**	**56.26**	**343**	P	**P**	**15 41 25.0**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=149,slow=7.4,SNR=69						
MKAR	**Makanchi Array**	**56.26**	**343**	P	**P**	**15 41 24.6**	**-0.3**
MK31	**Makanchi Array**	**56.26**	**343**	P	**P**	**15 41 24.6**	**-0.3**
MK31				IAmb	IAmb	15 41 26.9	
	comp=Z,5.9nm,0.8s						
MAKZ	**Makanchi**	**56.37**	**342**	P	**P**	**15 41 26.2**	**+0.5**
USA0B	**Ussuriysk Arra**	**56.58**	**24**	P	**P**	**15 41 26.5**	**-0.7**
USRK	**Ussuriysk Ar.**	**56.58**	**24**	P	**P**	**15 41 26.6**	**-0.6**
	comp=Z,11nm,0.6s,baz=208,slow=5.9,SNR=49						
USRK	**Ussuriysk Ar.**	**56.58**	**24**	P	**P**	**15 41 26.2**	**-0.9**
KK31	**Karatay Array**	**57.70**	**332**	P	**P**	**15 41 35.1**	**0.0**
KK31				IAmb	IAmb	15 43 03.2	
	comp=Z,14nm,1.9s						
KKAR	**Karatay Array**	**57.70**	**332**	P	**P**	**15 41 35.0**	**-0.1**
KKAR	**Karatay Array**	**57.70**	**332**	P	**P**	**15 41 34.9**	**-0.3**
KKAR				IAmb	IAmb	15 43 03.2	
	comp=Z,14nm,1.9s						
TLY	**Talaya**	**57.90**	**0**	P	**P**	**15 41 36.6**	**+0.2**
TLY				IAmb	IAmb	15 41 53.7	
	comp=Z,20nm,1.6s						
KURK	**Kurchatov**	**60.86**	**342**	P	**P**	**15 41 56.2**	**-0.6**
KURK				IAmb	IAmb	15 41 59.7	
	comp=Z,6.8nm,0.8s						
GEYT	**Alibeck**	**61.09**	**320**	P	**P**	**15 41 60.0**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=76,slow=12,SNR=3.7						
GEYT	**Alibeck**	**61.09**	**320**	P	**P**	**15 41 59.2**	**+0.5**
ZAA0	**Zalesovo Array**	**62.20**	**348**	P	**P**	**15 42 05.2**	**-0.6**
ZALV	**Zalesovo Beam**	**62.20**	**348**	P	**P**	**15 42 05.3**	**-0.4**
	comp=Z,6.9nm,0.4s,baz=164,slow=5.1,SNR=43						
ZALV				LR	LR	16 11 40.9	
	comp=Z,64nm,19.8s,baz=116,slow=38						
ZALV	**Zalesovo Beam**	**62.20**	**348**	P	**P**	**15 42 04.9**	**-0.9**
BRVK	**Borovoye**	**65.62**	**339**	P	**P**	**15 42 28.1**	**-0.2**
BRVK				IAmb	IAmb	15 42 29.1	
	comp=Z,4.7nm,0.6s						
MAW	**Mawson**	**66.92**	**196**	P	**P**	**15 42 39.2**	**+2.7**
	comp=Z,1.1nm,0.7s,baz=286,slow=16,SNR=2.8						
MAW				LR	LR	16 07 37.4	
	comp=Z,56nm,18.7s,baz=58,slow=32						
MAW	**Mawson**	**66.92**	**196**	P	**P**	**15 42 39.3**	**+2.9**
ABKAR	**Akbulak array**	**67.20**	**331**	P	**P**	**15 42 38.6**	**+0.1**
ABKAR				IAmb	IAmb	15 42 55.4	
	comp=Z,13nm,1.1s						
ABKAR	**Akbulak array**	**67.20**	**331**	P	**P**	**15 42 38.4**	**-0.2**
ARU	**Arti**	**72.67**	**336**	P	**P**	**15 43 12.3**	**+0.4**
ARU				IAmb	IAmb	15 43 13.1	
	comp=Z,5.4nm,0.6s						
KBZ	**Khabaz**	**73.94**	**319**	P	**P**	**15 43 20.7**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=111,slow=7.0,SNR=12						
PETK	**Petropavlovsk-**	**74.83**	**30**	P	**P**	**15 43 24.0**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=222,slow=5.2,SNR=2.8						
PETK	**Petropavlovsk-**	**74.83**	**30**	P	**P**	**15 43 24.0**	**-0.8**
NRIK	**Noril'sk**	**76.42**	**354**	P	**P**	**15 43 32.5**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=185,slow=6.5,SNR=5.0						
NRIK				LR	LR	16 20 08.1	
	comp=Z,68nm,18.1s,baz=36,slow=38						
BOSA	**Boshof**	**76.65**	**242**	LR	LR	16 12 36.8	
	comp=Z,32nm,18.5s,baz=321,slow=32						
BRTR	**Keskin Array B**	**78.89**	**312**	P	**P**	**15 43 49.8**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=121,slow=6.7,SNR=8.1						
BRTR	**Keskin Array B**	**78.89**	**312**	P	**P**	**15 43 49.0**	**+0.9**
AKASG	**Malin Array Be**	**85.12**	**322**	P	**P**	**15 44 21.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=89,slow=4.7,SNR=6.5						
AKASG	**Malin Array Be**	**85.12**	**322**	P	**P**	**15 44 20.8**	**+0.4**
BURAR	**Bucovina Array**	**86.89**	**318**	P	**P**	**15 44 31.9**	**+2.5**
BUR08	**Bucovina Ar. S**	**86.91**	**318**	P	**P**	**15 44 30.8**	**+1.3**
KOLS	**Kolonicke sedl**	**89.09**	**319**	*e*P	**P**	**15 44 42.9**	**+3.2**
FINES	**FINESS Array B**	**89.66**	**332**	P	**P**	**15 44 43.2**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=129,slow=5.4,SNR=6.2						
FINES	**FINESS Array B**	**89.66**	**332**	P	**P**	**15 44 42.9**	**+0.9**
TX32	**Lajitas Array**	**145.72**	**45**		**PKiKP**	**15 51 25.1**	**-2.6**
TXAR	**Lajitas Array**	**145.72**	**45**	PKPbc	**PKiKP**	**15 51 25.4**	**-2.3**
	comp=Z,4.5nm,0.8s,baz=297,slow=1.7,SNR=49						
TXAR	**Lajitas Array**	**145.72**	**45**		**PKiKP**	**15 51 25.1**	**-2.6**
U40A	**Yellville**	**146.67**	**24**		**PKPab**	**15 51 26.2**	**-1.4**
LCAR	**Lake Charles**	**147.59**	**23**		**PKPab**	**15 51 29.9**	**-1.3**
WVT	**Waverly**	**148.68**	**18**		**PKiKP**	**15 51 32.5**	**-0.9**

*GUC **14** 15:35:36.6±0.7, 30.°56S×71.°58W, h13km±5km, ML3.1*
*SJA **14** 15:35:36.1±0.9, 30.°40S×71.°93W, h40km±999km, ML3.2, MW3.6*

ISC 14 15:35:30.4±2.4, 30.°45S±0.°04×71.°90W±0.°09, h3km±14km, n18, σ1§61/24, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.79**	**47**	*i* P	**Pn**	**15 35 50.8**	**+2.4**
LSCH				*i* S	**Sn**	**15 36 00.7**	**-0.1**
LSCH				IAML		15 36 01.9	
	comp=E,529nm,0.3s						
GO04	**Tololo Observa**	**0.99**	**74**	⇓*i* P	**Pn**	**15 35 52.8**	**+1.2**
GO04				*i* S	**Sn**	**15 36 04.9**	**-1.3**
CO02	**Combarbal**	**1.08**	**134**	⇓*i* P	**Pn**	**15 35 53.0**	**+0.4**
CO02				*i* S	**Sb**	**15 36 05.1**	**-1.4**
CO02				IAML		15 36 06.3	
	comp=N,3μm,0.4s						
AROD	**Rodeo**	**2.12**	**83**	*i* P	**Pg**	**15 36 11.6**	**+0.5**
AROD				*e*S	**Sg**	**15 36 38.3**	**-0.2**
ACCO	**Cerro Coronel**	**2.45**	**94**	*i* P	**Pg**	**15 36 17.2**	**-0.2**
ACCO				IAML		15 36 57.4	
	comp=Z,124nm,0.7s						
RTLS	**Leoncito**	**2.61**	**122**	*i* P	**Pb**	**15 36 18.9**	**+0.9**
ROCH	**El Roble**	**2.62**	**163**	*i* P	**Pn**	**15 36 16.2**	**+2.2**
ROCH				*i* S	**Sb**	**15 36 49.0**	**-2.1**
ROCH				IAML		15 36 56.0	
	comp=N,124nm,0.3s						
PEL	**Peldehue**	**2.88**	**159**	⇑*i* P	**Pb**	**15 36 22.2**	**-0.3**
PEL				*i* S	**Sb**	**15 36 56.9**	**-1.2**
PEL				IAML		15 37 06.1	
	comp=E,103nm,0.6s						
ZON	**Zonda**	**2.97**	**112**	*i* P	**Pb**	**15 36 23.7**	**-0.4**
ZON				IAML		15 37 13.5	
	comp=Z,46nm,0.3s						
AMOG	**MOGNA**	**2.98**	**100**	*i* P	**Pb**	**15 36 24.4**	**+0.2**
AMOG				IAML		15 37 13.8	
	comp=Z,72nm,0.4s						
RTLL	**Cerro Villicun**	**3.07**	**107**	*i* P	**Pb**	**15 36 24.9**	**-0.9**
RTLL				IAML		15 37 15.3	
	comp=Z,57nm,0.7s						
GO03	**Copiap**	**3.20**	**28**	*i* P	**Pb**	**15 36 25.9**	**-2.1**
RTCV	**Cerro Valdivia**	**3.21**	**117**	*i* P	**Pb**	**15 36 27.3**	**-0.8**
RTCV				IAML		15 37 22.9	
	comp=Z,40nm,1.2s						
CFA	**Coronel Fontan**	**3.35**	**111**	*i* P	**Pb**	**15 36 28.6**	**-1.9**
ASAL	**Salagasta**	**3.38**	**130**	*i* P	**Pb**	**15 36 29.6**	**-1.5**
ASAL				IAML		15 37 25.0	
	comp=Z,73nm,1.0s						
VCA	**Vinchina**	**3.64**	**63**	*i* P	**Pb**	**15 36 35.0**	**-0.7**
VCA				IAML		15 37 35.4	
	comp=Z,80nm,0.5s						
MRA	**San Martin**	**5.64**	**112**	*i* P	**Pn**	**15 36 57.8**	**+2.5**
MRA				IAML		15 38 36.8	
	comp=Z,7.5nm,0.6s						
TCA	**Tanti**	**6.34**	**100**	*i* P	**Pn**	**15 37 08.2**	**+3.3**
TCA				IAML		15 39 12.2	
	comp=Z,12nm,0.7s						

*ISCJB **14** 16:09:44.6±0.4, 18.°93S±0.°06×172.°43W±0.°06, h13km, mb4.3/17, MS3.2/9, Error ellipse: s-maj=8.0km s-min=7.8km az=168.6*
*NEIC **14** 16:09:45.2±3.0, 18.°94S±0.°09×172.°37W±0.°07, h6km±4km, mb4.8/44*
*IDC **14** 16:09:47.0±0.9, 19.°16S×172.°71W, h0km, mb4.3/16, mb1 4.5/17, mb1mx4.4/30, mbtmp4.3/17, ML4.1/1, MS3.1/8, Ms1 3.1/8, ms1mx2.9/33, Error ellipse: s-maj=30.8km s-min=16.7km az=140.0*

ISC 14 16:09:46.9±0.4, 18.°94S±0.°06×172.°40W±0.°06, h13km, n84, σ1§79/78, mb4.8/38, MS3.2/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.34**	**94**		**Pn**	**16 10 23.9**	**-1.2**
AFI	**Afiamalu**	**5.04**	**7**	Pn	**Pn**	**16 11 02.3**	**-0.1**
	2.1nm,0.3s,baz=204,slow=12,SNR=3.4						
AFI				Sn	**Sn**	**16 11 55.9**	**-4.7**
	20nm,0.3s,baz=57,slow=22,SNR=13						
AFI				LR	LR	16 13 19.3	
	comp=Z,35nm,19.5s,baz=261,slow=40						
AFI	**Afiamalu**	**5.04**	**7**		**Pn**	**16 11 01.4**	**-0.9**
AFI					**Sn**	**16 11 56.2**	**-4.3**
MSVF	**Nonsavu**	**9.15**	**276**	Pn	**Pn**	**16 11 58.5**	**-0.3**
RAO	**Raoul Island**	**11.43**	**205**		Pn	16 12 36.0	+6.1
RAR	**Rarotonga**	**12.07**	**103**	Pn	**Pn**	**16 12 37.5**	**-1.2**
	7.1nm,0.3s,baz=260,slow=13,SNR=12						
RAR				LR	LR	16 16 10.8	
	comp=Z,97nm,20.6s,baz=260,slow=31						
RAR	**Rarotonga**	**12.07**	**103**		**Pn**	**16 12 37.2**	**-1.6**
DZM	**Mont Dzumac**	**20.06**	**257**	*e*P	**P**	**16 14 19.4**	**-0.8**
	33nm,1.0s						
DZM				*e*LR	LR	16 19 01.9	
	comp=Z,111nm,23.6s						
DZM	**Mont Dzumac**	**20.06**	**257**	P	**P**	**16 14 18.8**	**-1.4**
	0.6nm,0.3s,baz=84,slow=19,SNR=5.9						
DZM				LR	LR	16 20 37.7	
	comp=Z,149nm,21.8s,baz=16,slow=33						
DZM	**Mont Dzumac**	**20.06**	**257**	P	**P**	**16 14 19.0**	**-1.2**
OUZ	**Omahuta**	**20.41**	**215**	P	**P**	**16 14 24.3**	**+0.6**
URZ	**Urewera**	**21.31**	**203**	P	**P**	**16 14 32.9**	**-0.4**
	8.3nm,0.6s,baz=20,slow=12,SNR=8.8						
URZ	**Urewera**	**21.31**	**203**	P	**P**	**16 14 33.8**	**+0.4**
PPT2	**Papeete2**	**21.71**	**90**	*e*LR	LR	16 19 42.1	
	comp=Z,156nm,27.2s						
PPT	**Papeete**	**21.71**	**90**	LR	LR	16 22 27.8	
	comp=Z,34nm,18.3s,baz=268,slow=35						
TBI	**Tubuai**	**21.83**	**106**	*e*LR	LR	16 19 49.3	
	comp=Z,177nm,30.5s						
BKZ	**Black Stump Fm**	**22.33**	**203**	P	**P**	**16 14 44.2**	**-0.2**
HIZ	**Hauiti**	**22.43**	**207**	P	**P**	**16 14 47.1**	**+1.6**
HIZ				IAmb	IAmb	16 14 49.9	
	comp=Z,21nm,0.9s						
BFZ	**Birch Farm**	**23.76**	**202**		**P**	**16 15 00.0**	**+1.0**
BFZ				IAmb	IAmb	16 15 19.2	
	comp=Z,66nm,1.4s						
MSWZ	**Moikau Station**	**24.76**	**203**	P	**P**	**16 15 09.6**	**+1.3**
PLWZ	**Palliser**	**24.89**	**202**	P	**P**	**16 15 10.8**	**+1.3**
NNZ	**Nelson**	**25.31**	**206**	P	**P**	**16 15 11.1**	**-2.2**
NNZ				IAmb	IAmb	16 15 13.0	
	comp=Z,14nm,1.0s						
QRZ	**Quartz Range**	**25.35**	**207**	P	**P**	**16 15 11.8**	**-1.8**
QRZ				IAmb	IAmb	16 15 20.8	
	comp=Z,17nm,0.7s						
THZ	**Tophouse**	**25.96**	**206**	P	**P**	**16 15 18.4**	**-0.9**
THZ				IAmb	IAmb	16 15 35.3	
	comp=Z,43nm,1.7s						
KHZ	**Kahutara**	**26.27**	**204**	P	**P**	**16 15 21.0**	**-0.9**
LTZ	**Lake Taylor**	**27.07**	**205**	P	**P**	**16 15 26.9**	**-2.4**
LTZ				IAmb	IAmb	16 15 39.8	
	comp=Z,17nm,0.7s						
OXZ	**Oxford**	**27.62**	**205**	P	**P**	**16 15 33.8**	**-0.3**
OXZ				IAmb	IAmb	16 15 43.6	
	comp=Z,14nm,0.8s						
RPZ	**Rata Peaks**	**28.34**	**206**	P	P	16 15 48.3	+7.7
	comp=Z,8.0nm,0.5s,baz=25,slow=14,SNR=6.8						
RPZ	**Rata Peaks**	**28.34**	**206**	P	**P**	**16 15 41.5**	**+1.0**
RPZ				IAmb	IAmb	16 16 03.4	
	comp=Z,36nm,1.5s						
HNR	**Honiara**	**28.39**	**286**	P	**P**	**16 15 39.0**	**-2.3**
LHI	**Lord Howe Isla**	**28.60**	**238**	P	**P**	**16 15 40.2**	**-2.8**
FOZ	**Fox Glacier**	**28.72**	**208**	P	**P**	**16 15 42.3**	**-1.6**
FOZ				IAmb	IAmb	16 15 54.0	
	comp=Z,11nm,0.8s						
MLZ	**Mavora Lakes**	**30.92**	**207**	P	**P**	**16 16 04.0**	**+0.7**
MLZ				IAmb	IAmb	16 16 05.0	
	comp=Z,33nm,1.6s						
WHZ	**Wether Hill Ro**	**31.41**	**207**	P	**P**	**16 16 07.5**	**-0.2**
WHZ				IAmb	IAmb	16 16 23.3	
	comp=Z,16nm,1.1s						
TAOE	**Nuku Hiva Isla**	**32.81**	**77**	*e*LR	LR	16 24 50.8	
	comp=Z,58nm,23.4s						
EIDS	**Eidsvold**	**34.35**	**253**	P	**P**	**16 16 31.2**	**-2.5**
EIDS				IAmb	IAmb	16 16 35.4	
	comp=Z,22nm,1.6s						
ARMA	**Armidale**	**34.49**	**244**	P	**P**	**16 16 32.5**	**-2.5**
ARMA				IAmb	IAmb	16 16 35.4	
	comp=Z,21nm,1.4s						
KRVT	**Keravat (AS076**	**37.65**	**288**	LR	LR	16 30 42.8	
	comp=Z,55nm,19.8s,baz=113,slow=34						
CAN	**Canberra**	**37.76**	**236**	P	**P**	**16 17 01.8**	**-1.0**
CTA	**Charters Tower**	**38.92**	**261**	P	**P**	**16 17 11.1**	**-1.7**
	comp=Z,4.0nm,0.4s,baz=100,slow=9.8,SNR=7.8						
CTAO	**Charters Tower**	**38.92**	**261**	P	**P**	**16 17 11.6**	**-1.2**
PTCN	**Pitcairn Islan**	**39.57**	**107**	P	**P**	**16 17 15.9**	**-2.2**
PMG	**Port Moresby**	**40.26**	**278**		**P**	**16 17 23.7**	**-0.2**
PMG				IAmb	IAmb	16 17 25.8	
	comp=Z,20nm,0.9s						
TOO	**Toolangi**	**41.08**	**234**	P	**P**	**16 17 29.6**	**-0.9**
TAU	**Tasmania Unive**	**41.46**	**226**	P	**P**	**16 17 33.6**	**+0.1**
TAU				IAmb	IAmb	16 17 42.7	
	comp=Z,57nm,1.4s						
COEN	**Coen**	**42.81**	**270**	P	**P**	**16 17 44.8**	**-0.1**
COEN				IAmb	IAmb	16 18 07.2	
	comp=Z,33nm,1.7s						
STKA	**Stephens Creek**	**43.21**	**243**	P	**P**	**16 17 46.4**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=72,slow=9.8,SNR=6.2						
STKA				LR	LR	16 33 10.0	
	comp=Z,26nm,20.6s,baz=26,slow=33						
STKA	**Stephens Creek**	**43.21**	**243**	P	**P**	**16 17 45.9**	**-2.0**
BBOO	**Buckleboo**	**47.95**	**243**	P	**P**	**16 18 24.2**	**-1.2**
BBOO				IAmb	IAmb	16 18 27.3	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**49.87**	**260**	P	**P**	**16 18 39.0**	**-1.4**
WR0				IAmb	IAmb	16 18 41.0	
	comp=Z,6.6nm,0.9s						
AS31	**Alice Springs**	**50.01**	**255**	P	**P**	**16 18 40.2**	**-1.2**
ASAR	**Alice Springs**	**50.02**	**255**	P	**P**	**16 18 40.3**	**-1.2**
	comp=Z,8.2nm,0.6s,baz=92,slow=8.0,SNR=133						
WB0	**Warramunga Arr**	**50.03**	**260**	P	**P**	**16 18 40.5**	**-1.1**
WB0				IAmb	IAmb	16 18 41.6	
	comp=Z,17nm,1.2s						
WB2	**Warramunga Arr**	**50.05**	**260**	P	**P**	**16 18 40.4**	**-1.3**
WB2				IAmb	IAmb	16 18 41.7	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**50.05**	**260**	P	**P**	**16 18 40.2**	**-1.5**
WRAB				IAmb	IAmb	16 18 41.7	
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**50.06**	**260**	P	**P**	**16 18 40.6**	**-1.2**
	comp=Z,5.9nm,0.6s,baz=98,slow=7.9,SNR=62						
WRA	**Warramunga Arr**	**50.06**	**260**	P	**P**	**16 18 40.5**	**-1.3**
MTN	**Manton Dam**	**54.47**	**268**	P	**P**	**16 19 13.8**	**-0.8**
MTN				IAmb	IAmb	16 19 15.2	
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**54.74**	**245**	P	**P**	**16 19 15.8**	**-0.6**
KNRA	**Kununurra**	**56.05**	**264**	P	**P**	**16 19 25.8**	**-0.2**
SIJI	**Sorong**	**58.03**	**281**	P	**P**	**16 19 40.7**	**+0.6**
	comp=Z,26nm,0.9s,baz=63,slow=6.7,SNR=6.8						
RPN	**Rapa Nui**	**58.10**	**111**	P	**P**	**16 19 38.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**58.48**	**260**	P	**P**	**16 19 42.8**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=127,slow=4.5,SNR=6.8						
FITZ	**Fitzroy Crossi**	**58.48**	**260**	P	**P**	**16 19 42.9**	**-0.4**
FITZ				IAmb	IAmb	16 19 46.7	
	comp=Z,10nm,1.6s						
SOEI	**Soe**	**61.77**	**269**	P	**P**	**16 20 07.1**	**+1.2**
BATI	**Baumata**	**62.22**	**268**	P	**P**	**16 20 09.5**	**+0.6**
	comp=Z,7.9nm,0.7s,baz=104,slow=4.2,SNR=3.3						
**TN

15nm,0.9s,0.1nm
FAKI Fak Fak 8.11 61 P **P 16 31 09.2 +0.1**
MTN Manton Dam 8.35 135 P **P 16 31 12.6 +1.3**
KNRA Kununurra 9.41 158 P **P 16 31 23.4 +1.3**
FITZ Fitzroy Crossi 11.13 178 P **P 16 31 40.5 +0.6**
0.5nm,0.3s,baz=359,slow=7.8,SNR=25
PSAC2 Pilbara Seismi 15.43 199 P **P 16 32 24.1 -0.3**
PSAC2 IAmb IAmb 16 32 26.6
comp=Z,15nm,1.2s
PSAB2 Pilbara Seismi 15.43 199 P **P 16 32 24.5 +0.1**
WB0 Warramunga Arr 15.62 146 P **P 16 32 26.2 -0.2**
WB0 IAmb IAmb 16 32 30.9
comp=Z,14nm,1.1s
WRAB Tennant Creek 15.73 146 P **P 16 32 27.5 0.0**
WRAB IAmb IAmb 16 32 27.7
comp=Z,3.2nm,0.7s
WRA Warramunga Arr 15.74 146 P **P 16 32 26.9 -0.6**
comp=Z,0.6nm,0.3s,baz=324,slow=10,SNR=55
WRA Warramunga Arr 15.74 146 P **P 16 32 26.4 -1.1**
WB2 Warramunga Arr 15.74 146 P **P 16 32 26.9 -0.7**
WB2 IAmb IAmb 16 32 28.4
comp=Z,4.6nm,1.0s
AS31 Alice Springs 18.67 154 P **P 16 32 55.3 +0.6**
AS31 IAmb IAmb 16 32 56.6
comp=Z,2.0nm,0.4s
ASAR Alice Springs 18.67 154 P **P 16 32 55.2 +0.5**
comp=Z,1.4nm,0.3s,baz=345,slow=15,SNR=158
ASAR ScP **ScP 16 39 36.9 -2.9**
comp=Z,0.1nm,0.3s,baz=348,slow=2.1,SNR=16
ASAR Alice Springs 18.67 154 P **P 16 32 54.8 +0.1**
ASAR **ScP 16 39 36.6 -3.2**
COEN Coen 19.06 113 P **P 16 32 58.5 +0.1**
COEN IAmb IAmb 16 33 16.7
comp=Z,6.8nm,1.1s
FORT Forrest 23.91 174 P **P 16 33 42.3 +0.6**
BBOO Buckleboo 27.70 160 P **P 16 34 15.2 +0.1**
BBOO IAmb IAmb 16 34 30.9
comp=Z,24nm,1.3s
STKA Stephens Creek 29.21 150 P **P 16 34 29.0 +0.7**
comp=Z,2.3nm,0.5s,baz=323,slow=8.6,SNR=13
STKA Stephens Creek 29.21 150 P **P 16 34 28.2 -0.1**
CAN Canberra 35.78 146 P **P 16 35 26.0 +1.9**
CMAR Chiang Mai Arr 36.10 315 P **P 16 35 27.4 +0.5**
comp=Z,1.1nm,0.6s,baz=138,slow=6.5,SNR=8.7
CMAR Chiang Mai Arr 36.10 315 P **P 16 35 26.1 -0.8**
WHZ Wether Hill Ro 53.54 144 P **P 16 37 40.4 0.0**
WHZ IAmb IAmb 16 37 40.8
comp=Z,15nm,1.2s
FUNA Funafuti 53.56 95 P **P 16 37 39.7 -1.3**
THZ Tophouse 54.65 137 P **P 16 37 49.0 +0.7**
THZ IAmb IAmb 16 38 02.2
comp=Z,9.5nm,1.2s
BKZ Black Stump Fm 56.14 133 P **P 16 37 57.4 -1.3**
BKZ IAmb IAmb 16 38 00.1
comp=Z,32nm,1.5s
SONM Songino Array 56.96 345 P **P 16 38 03.3 -1.0**
comp=Z,0.7nm,0.7s,baz=163,slow=5.6,SNR=3.0
SONM Songino Array 56.96 345 P **P 16 38 03.7 -0.6**
CASY Casey 60.14 187 pwP 16 40 18.1 +3.7
MK31 Makanchi Array 65.59 329 P **P 16 39 00.1 -0.5**
MKAR Makanchi Array 65.59 329 P **P 16 39 00.2 -0.5**
comp=Z,0.8nm,0.5s,baz=128,slow=6.7,SNR=16
MKAR Makanchi Array 65.59 329 P **P 16 39 00.4 -0.2**
MAKZ Makanchi 65.76 329 P **P 16 39 00.3 -1.4**
PETK Petropavlovsk- 65.85 21 P **P 16 39 02.3 +0.2**
comp=Z,2.3nm,0.8s,baz=195,slow=4.5,SNR=2.6
PETK Petropavlovsk- 65.85 21 P **P 16 39 02.4 +0.4**
ZALV Zalesovo Beam 69.45 336 P **P 16 39 22.7 -1.3**
comp=Z,1.6nm,0.4s,baz=133,slow=4.4,SNR=5.6
ZALV Zalesovo Beam 69.45 336 P **P 16 39 23.0 -1.0**
KURK Kurchatov 70.00 331 P **P 16 39 26.8 -0.5**
ABKAR Akbulak array 79.48 323 P **P 16 40 19.6 -0.9**

*IDC **14** 16:33:03.2±5.3, 18°.47S×176°.70W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/29, mbtmp3.9/4, MS3.2/7, Ms1 3.2/7, ms1mx3.0/37, Error ellipse: s-maj=242.6km s-min=30.3km az=146.0*
*ISCJB **14** 16:33:18.8±0.8, 17°.5S±0°.2×177°.6W±0°.1, h100km, mb3.8/4, Error ellipse: s-maj=30.7km s-min=12.2km az=154.6*
*NEIC **14** 16:33:21.1±2.8, 17°.5S±0°.2×177°.7W±0°.1, h108km±7km, mb4.1/5*
ISC 14 16:33:20.6±0.9, 17°.4S±0°.2×177°.7W±0°.1, h100km, n26, σ1§11/16, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.11**	**265**	Pn	**Pn**	**16 34 22.4**	**+1.0**
AFI	**Afiamalu**	**6.66**	**59**	LR	LR	16 36 26.3	
comp=Z,52nm,21.8s,baz=225,slow=31							
AFI	**Afiamalu**	**6.66**	**59**	Pn	**Pn**	**16 34 56.9**	**+0.9**
DZM	**Mont Dzumac**	**15.66**	**250**	eLR	LR	16 40 13.6	
comp=Z,371nm,23.6s							
DZM	**Mont Dzumac**	**15.66**	**250**	LR	LR	16 42 15.2	
comp=Z,313nm,19.0s,baz=36,slow=34							
RAR	**Rarotonga**	**17.28**	**105**	LR	LR	16 41 32.3	
comp=Z,60nm,20.9s,baz=272,slow=32							
HNR	**Honiara**	**23.18**	**287**	LR	LR	16 45 55.2	
comp=Z,66nm,21.6s,baz=320,slow=32							
PPT2	**Papeete2**	**26.77**	**95**	eLR	LR	16 44 47.3	
comp=Z,238nm,27.8s,baz=250							
PPT	**Papeete**	**26.77**	**95**	LR	LR	16 45 56.6	
comp=Z,70nm,18.9s,baz=245,slow=30							
TBI	**Tubuai**	**27.04**	**107**	eLR	LR	16 44 50.7	
comp=Z,269nm,36.2s							
FOZ	**Fox Glacier**	**28.09**	**200**	P	**P**	**16 39 02.9**	**+0.1**
CTA	**Charters Tower**	**34.23**	**260**	P	**P**	**16 39 58.1**	**+1.0**
3.8nm,0.8s,baz=85,slow=10.0,SNR=5.0							
CTAO	**Charters Tower**	**34.23**	**260**	P	**P**	**16 39 58.4**	**+1.2**
CTAO				IAmb	IAmb	16 40 06.2	
comp=Z,6.4nm,1.0s							
WB0	**Warramunga Arr**	**45.39**	**259**	P	**P**	**16 41 28.7**	**-0.9**
WB0				IAmb	IAmb	16 41 32.7	
comp=Z,2.1nm,1.1s							
WRA	**Warramunga Arr**	**45.43**	**259**	P	**P**	**16 41 28.7**	**-1.2**
comp=Z,0.5nm,0.6s,baz=96,slow=6.9,SNR=8.3							
WRA	**Warramunga Arr**	**45.43**	**259**	P	**P**	**16 41 28.4**	**-1.5**
AS31	**Alice Springs**	**45.61**	**254**	P	**P**	**16 41 30.3**	**-1.0**
ASAR	**Alice Springs**	**45.61**	**254**	P	**P**	**16 41 30.2**	**-1.1**
comp=Z,2.5nm,0.7s,baz=91,slow=8.3,SNR=79							
ASAR	**Alice Springs**	**45.61**	**254**	P	**P**	**16 41 29.8**	**-1.5**
GUMO	**Guam**	**48.16**	**307**	LR	LR	16 59 48.6	
comp=Z,38nm,21.3s,baz=108,slow=32							
PETK	**Petropavlovsk-**	**73.42**	**345**	LR	LR	17 13 50.5	
comp=Z,17nm,19.6s,baz=66,slow=33							
ILAR	**Eielson Array**	**85.28**	**13**	P	**P**	**16 45 44.9**	**-1.0**
comp=Z,0.4nm,0.8s,baz=213,slow=6.5,SNR=3.2							
BRTR	**Keskin Array B**	**144.96**	**316**	PKPbc	**PKPbc**	**16 52 45.2**	**-0.9**
comp=Z,0.3nm,0.7s,baz=64,slow=3.1,SNR=3.5							
BRTR	**Keskin Array B**	**144.96**	**316**		**PKPbc**	**16 52 45.1**	**-1.0**
GERES	**GERESS Array B**	**147.34**	**346**	PKPbc	**PKPbc**	**16 52 53.0**	**+0.2**
comp=Z,0.7nm,0.8s,baz=11,slow=1.4,SNR=4.1							
GERES	**GERESS Array B**	**147.34**	**346**		**PKPbc**	**16 52 53.4**	**+0.6**

*IDC **14** 16:49:35.1±2.0, 37°.19N×145°.06E, h0km, mb3.3/3, mb1 3.6/7, mb1mx3.4/46, mbtmp3.6/7, ML3.2/4, Error ellipse: s-maj=46.7km s-min=23.5km az=72.0*
*ISCJB **14** 16:49:39.1±0.8, 37°.29N±0°.05×144°.64E±0°.06, h33km, mb3.4/3, Error ellipse: s-maj=7.3km s-min=7.0km az=155.3*
*JMA **14** 16:49:41.8±0.2, 37°.33N×144°.50E, h57km, M3.9*
ISC 14 16:49:41.4±1.4, 37°.29N±0°.06×144°.6E±0°.1, h35km, n25, σ1§93/30, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.68**	**293**	P	**Pn**	**16 50 22.6**	**+0.6**
JIKH				S	**Sn**	**16 50 52.6**	**-0.6**
JIO	**Ouri**	**2.82**	**295**	P	**Pn**	**16 50 24.5**	**+0.6**
JIO				eS	**Sn**	**16 50 56.3**	**-0.4**
JKMT	**Kesennumamotoy**	**2.90**	**303**	P	**Pn**	**16 50 25.5**	**+0.5**
JKMT				S	**Sn**	**16 50 58.2**	**-0.3**
OFUJ	**Ofunato**	**2.92**	**309**	P	**Pn**	**16 50 25.7**	**+0.4**
OFUJ				eS	**Sn**	**16 50 58.8**	**-0.3**
JFK	**Kawauchi**	**2.97**	**273**	P	**Pn**	**16 50 26.5**	**+0.5**
JFK				S	**Sn**	**16 50 59.5**	**-0.9**
JMK	**Ichinoseki**	**3.14**	**303**	P	**Pn**	**16 50 29.0**	**+0.7**
JFT	**Otama**	**3.40**	**275**	P	**Pn**	**16 50 33.6**	**+1.7**
JFT				S	**Sn**	**16 51 11.8**	**+0.8**
JRY	**Ryogami san**	**4.75**	**256**	P	**Pn**	**16 50 50.7**	**+0.2**
JOT	**Ohata**	**4.93**	**327**	P	**Pn**	**16 50 53.4**	**+0.5**
JOT				eS	**Sn**	**16 51 48.7**	**+0.1**
MJAR	**Matsushiro Arr**	**5.17**	**264**	Pn	**Pn**	**16 50 58.0**	**+1.7**
0.2nm,0.3s,baz=87,slow=14,SNR=9.4							
MJAR				Sn	**Sn**	**16 51 54.4**	**-0.3**
0.2nm,0.3s,baz=88,slow=28,SNR=4.8							
JCH	**Churui**	**5.41**	**350**	P	**Pn**	**16 50 58.8**	**-0.6**
JHJ	**Hachijo jima 2**	**5.73**	**225**	Pn	**Pn**	**16 51 03.7**	**-0.2**
4.2nm,0.3s,baz=270,slow=20,SNR=5.4							
JHJ				Sn	**Sn**	**16 52 02.2**	**-6.2**
14nm,0.3s,baz=139,slow=23,SNR=6.9							
JOSM	**Okushiri--Mats**	**6.21**	**322**	P	**Pn**	**16 51 12.1**	**+1.7**
JTKR	**Abashiri--Toko**	**6.70**	**356**	P	**Pn**	**16 51 16.0**	**-1.2**
JTKR				S	**Sn**	**16 52 27.5**	**-4.7**
ASAJ	**Asahikawa**	**6.99**	**348**	Pn	**Pn**	**16 51 20.3**	**-0.9**
1.2nm,0.3s,baz=201,slow=16,SNR=19							
ASAJ				Sn	**Sn**	**16 52 36.0**	**-3.4**
0.1nm,0.3s,baz=246,slow=20,SNR=2.2							
USRK	**Ussuriysk Ar.**	**11.79**	**310**	Pn	**Pn**	**16 52 29.3**	**+2.4**
baz=116,slow=15,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**26.16**	**126**	T	T	17 21 59.4	
baz=317,slow=74,SNR=36							
H11N1	**WAKE ISLAND Hy**	**26.17**	**126**	T	T	17 22 01.7	
baz=317,slow=74,SNR=18							
H11N3	**WAKE ISLAND Hy**	**26.18**	**126**	T	T	17 22 05.9	
baz=317,slow=74,SNR=27							
H11S1	**WAKE ISLAND Hy**	**26.93**	**128**	T	T	17 22 58.8	
baz=319,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**26.94**	**128**	T	T	17 22 57.8	
baz=319,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	17 22 59.8	
baz=319,slow=76,SNR=10							
MKAR	**Makanchi Array**	**46.13**	**302**	P	**P**	**16 58 04.4**	**+2.1**
0.3nm,0.6s,baz=79,slow=7.5,SNR=3.3							
WRA	**Warramunga Arr**	**57.74**	**191**	P	**P**	**16 59 27.6**	**-1.2**
0.3nm,0.5s,baz=9.6,slow=7.0,SNR=5.0							
ASAR	**Alice Springs**	**61.46**	**191**	P	**P**	**16 59 53.4**	**-1.0**
0.2nm,0.8s,baz=7.3,slow=6.9,SNR=6.3							

*ISCJB **14** 17:10:01.8±0.7, 56°.9S±0°.2×150°.9W±0°.2, h10km, mb4.2/7, MS3.5/6, Error ellipse: s-maj=22.2km s-min=14.2km az=13.5*
*IDC **14** 17:10:02.4±0.7, 56°.69S×150°.78W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.2/25, mbtmp4.2/7, MS3.4/4, Ms1 3.4/4, ms1mx3.1/18, Error ellipse: s-maj=39.8km s-min=18.8km az=9.0*
*NEIC **14** 17:10:03.2±1.7, 56°.64S±0°.06×150°.9W±0°.3, h10km±1km, mb4.6/8*
ISC 14 17:10:03.4±0.7, 56°.7S±0°.2×150°.8W±0°.1, h10km, n51, σ1§07/34, mb4.4/8, MS3.5/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.25**	**282**	LR	LR	17 25 47.2	
comp=Z,76nm,18.2s,baz=58,slow=35							
URZ	**Urewera**	**28.08**	**297**	LR	LR	17 24 30.7	
comp=Z,62nm,21.3s,baz=130,slow=31							
TBI	**Tubuai**	**33.36**	**2**	eLR	LR	17 25 20.6	
comp=Z,232nm,33.8s							
TBI	**Tubuai**	**33.36**	**2**	eT	T	17 51 49.7	
25nm,0.3s							
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**17 16 42.7**	**+0.8**
5.1nm,1.0s,baz=64,slow=5.0,SNR=11							
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**17 16 42.5**	**+0.7**
QSPA				IAmb	IAmb	17 16 44.4	
comp=Z,5.8nm,1.1s							
MEH	**Mehetia**	**38.85**	**4**	eT	T	17 58 44.1	
comp=Z,15nm,0.2s							
PPT2	**Papeete2**	**39.09**	**2**	eLR	LR	17 28 13.3	
comp=Z,165nm,25.8s							
PPT	**Papeete**	**39.11**	**2**	LR	LR	17 29 19.5	
comp=Z,93nm,18.7s,baz=197,slow=30							
TIAR	**Tiarei**	**39.13**	**2**	eT	T	17 59 04.7	
comp=Z,4.1nm,0.3s							
VAH	**Vaihoa**	**41.49**	**5**	eT	T	18 02 01.7	
comp=Z,62nm,0.2s							
VNA3	**Neumayer Olymp**	**49.41**	**165**	P	**P**	**17 18 51.4**	**-1.2**
SNAA	**Sanae**	**49.93**	**167**	P	**P**	**17 18 55.4**	**-1.3**
VNA2	**Neumayer--Watz**	**50.02**	**165**	P	**P**	**17 18 56.4**	**-0.9**
baz=203,slow=7.2							
VNA1	**Neumayer--Stat**	**50.14**	**165**	P	**P**	**17 18 56.8**	**-1.3**
STKA	**Stephens Creek**	**51.87**	**269**	P	**P**	**17 19 14.4**	**+2.7**
comp=Z,1.4nm,0.6s,baz=125,slow=12,SNR=3.8							
STKA	**Stephens Creek**	**51.87**	**269**	P	**P**	**17 19 09.7**	**-2.1**
PLCA	**Paso Flores**	**52.19**	**109**	P	**P**	**17 19 16.3**	**+2.3**
comp=Z,2.8nm,0.8s,baz=252,slow=7.2,SNR=3.0							
PLCA	**Paso Flores**	**52.19**	**109**	P	**P**	**17 19 14.8**	**+0.7**
MAW	**Mawson**	**53.48**	**195**	LR	LR	17 39 40.6	
comp=Z,34nm,20.7s,baz=244,slow=33							
ASAR	**Alice Springs**	**62.51**	**268**	P	**P**	**17 20 27.5**	**+0.4**
comp=Z,1.9nm,0.6s,baz=138,slow=6.7,SNR=63							
ASAR	**Alice Springs**	**62.51**	**268**	P	**P**	**17 20 27.4**	**+0.3**
AS31	**Alice Springs**	**62.51**	**268**	P	**P**	**17 20 27.4**	**+0.3**
H01W1	**Cape Leeuwin H**	**64.18**	**245**	T	T	18 30 43.2	
baz=142,slow=76,SNR=29							
H01W2	**Cape Leeuwin H**	**64.18**	**245**	T	T	18 30 41.2	
baz=142,slow=76,SNR=24							
H01W3	**Cape Leeuwin H**	**64.19**	**245**	T	T	18 30 42.5	
baz=142,slow=76,SNR=24							
WRA	**Warramunga Arr**	**65.25**	**271**	P	**P**	**17 20 45.6**	**+0.5**
comp=Z,0.6nm,0.7s,baz=147,slow=5.7,SNR=8.3							
MNMC	**Minye Minye**	**69.44**	**94**	P	**P**	**17 21 11.8**	**-0.2**
CPUP	**Villa Florida**	**70.25**	**108**	P	**P**	**17 21 16.5**	**0.0**
comp=Z,3.7nm,0.9s,baz=223,slow=6.0,SNR=6.6							
CPUP	**Villa Florida**	**70.25**	**108**	P	**P**	**17 21 16.2**	**-0.3**
CPUP				IAmb	IAmb	17 21 17.2	
comp=Z,5.0nm,0.9s							
LPAZ	**La Paz**	**72.55**	**93**	P	**P**	**17 21 32.1**	**+0.8**
comp=Z,2.7nm,0.8s,baz=176,slow=4.9,SNR=9.9							
LPAZ	**La Paz**	**72.55**	**93**	P	**P**	**17 21 31.1**	**-0.2**
LPAZ				IAmb	IAmb	17 21 33.4	
comp=Z,4.9nm,1.0s							
SAML	**Samuel**	**81.30**	**93**	P	**P**	**17 22 19.8**	**-0.1**
SAML				IAmb	IAmb	17 24 07.6	
comp=Z,14nm,1.9s							
H10N3	**ASCENSION HYDR**	**106.37**	**135**	T	T	19 23 53.0	
baz=204,slow=75,SNR=24							
H10N1	**ASCENSION HYDR**	**106.38**	**135**	T	T	19 23 45.5	
baz=204,slow=75,SNR=25							
H10N2	**ASCENSION HYDR**	**106.39**	**135**	T	T	19 23 52.8	
baz=204,slow=75,SNR=25							
ILAR	**Eielson Array**	**121.22**	**2**	PKP	**PKiKP**	**17 28 55.5**	**+0.4**
comp=Z,1.3nm,0.8s,baz=238,slow=2.5,SNR=9.2							
ILAR	**Eielson Array**	**121.22**	**2**		**PKiKP**	**17 28 55.7**	**+0.7**
EPYK	**Eagle Plains**	**123.25**	**7**		**PKPdf**	**17 28 56.4**	**-2.4**
RAYN	**Ar Rayn**	**144.74**	**207**		PKPbc	17 29 39.2	+0.2
MK31	**Makanchi Array**	**146.46**	**276**		**PKPbc**	**17 29 43.4**	**-0.3**
MKAR	**Makanchi Array**	**146.46**	**276**	PKPbc	**PKPbc**	**17 29 44.1**	**+0.4**
comp=Z,4.4nm,0.7s,baz=115,slow=4.8,SNR=47							
MKAR	**Makanchi Array**	**146.46**	**276**		**PKPdf**	**17 29 42.8**	**+0.4**
NRN	**Naryn**	**146.47**	**263**		**PKPbc**	**17 29 44.5**	**+0.2**
MAKZ	**Makanchi**	**146.64**	**276**		**PKPbc**	**17 29 44.2**	**0.0**
CHGR	**Chuyangaron**	**148.18**	**253**		**PKPbc**	**17 29 49.3**	**+0.5**
ZAA0	**Zalesovo Array**	**148.97**	**289**		**PKPbc**	**17 29 49.7**	**-0.5**
ZALV	**Zalesovo Beam**	**148.97**	**289**	PKPbc	**PKPbc**	**17 29 50.0**	**-0.2**
comp=Z,1.9nm,0.6s,baz=119,slow=3.3,SNR=11							
KURK	**Kurchatov**	**150.68**	**279**		**PKPbc**	**17 29 53.6**	**-0.8**
ESDC	**Sonseca Array**	**152.47**	**114**	PKPbc	**PKPbc**	**17 29 57.9**	**-1.2**
comp=Z,0.2nm,0.4s,baz=48,slow=1.2,SNR=5.1							
ESDC	**Sonseca Array**	**152.47**	**114**		**PKPbc**	**17 29 58.2**	**-0.9**

*GUC **14** 17:12:30.9±0.7, 32°.59S×71°.69W, h25km±29km, ML3.1*
*SJA **14** 17:12:32.1±1.0, 32°.93S×71°.68W, h30km, ML3.1, MW3.4*
ISC 14 17:12:29.1±2.2, 32°.54S±0°.10×71°.7W±0°.1, h29km±21km, n23, σ1§25/22, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.49**	**172**	⇓*iP*	**Pb**	**17 12 40.1**	**+0.8**
VA01				*i* S	**Sb**	**17 12 45.9**	**-0.4**
VA01				IAML		17 12 47.9	
comp=N,2μm,0.1s							
ROC1	**El Roble**	**0.74**	**126**	*i P*	**Pb**	**17 12 43.8**	**+0.1**
ROC1				*e*S	**Sb**	**17 12 52.6**	**-1.0**
ROCH	**El Roble**	**0.74**	**126**	⇓*iP*	**Pb**	**17 12 43.7**	**0.0**
ROCH				*i* S	**Sb**	**17 12 53.7**	**+0.1**
ROCH				IAML		17 12 55.4	
comp=N,604nm,0.1s							
PEL	**Peldehue**	**1.06**	**125**	⇓*iP*	**Pb**	**17 12 48.8**	**-0.2**
PEL				*i* S	**Sb**	**17 13 03.1**	**+0.5**
PEL				IAML		17 13 04.2	
comp=N,854nm,0.1s							
PEL	**Peldehue**	**1.06**	**125**	*i P*	**Pb**	**17 12 49.0**	**0.0**
PEL				*e*S	**Sb**	**17 13 02.7**	**+0.1**
ANTU	**Antumapu**	**1.38**	**139**	IAML		17 13 17.9	
comp=N,441nm,0.2s							
FCH	**Farellones**	**1.44**	**124**	⇑*iP*	**Pb**	**17 12 54.7**	**-0.9**
FCH				*i* S	**Sb**	**17 13 13.2**	**-0.5**
FCH				IAML		17 13 14.9	
comp=E,454nm,0.1s							
LMEL	**Las Melosas**	**1.83**	**136**	⇓*iP*	**Pb**	**17 13 01.0**	**-1.0**
LMEL				*i* S	**Sb**	**17 13 23.7**	**-0.9**
LMEL				IAML		17 13 26.3	
comp=N,650nm,0.2s							
RTLS	**Leoncito**	**2.19**	**71**	*i P*	**Pb**	**17 13 08.7**	**+0.5**
ARCO	**CERRO ARCO**	**2.38**	**98**	*i P*	**Pb**	**17 13 11.9**	**+0.5**
ARCO				IAML		17 13 48.6	
comp=Z,88nm,0.7s							
ASAL	**Salagasta**	**2.44**	**92**	*i P*	**Pb**	**17 13 12.8**	**+0.4**
AAGR	**Agrelo**	**2.50**	**103**	*i P*	**Pb**	**17 13 14.0**	**+0.6**
ZON	**Zonda**	**2.77**	**70**	*i P*	**Pn**	**17 13 09.4**	**-2.1**
ACCO	**Cerro Coronel**	**2.99**	**50**	*i P*	Pn	17 13 02.2	-13
ACCO				IAML		17 14 14.2	
comp=Z,40nm,0.8s							
RTLL	**Cerro Villicun**	**3.02**	**67**	*i P*	Pn	17 13 10.1	-4.9
RTLL				IAML		17 14 13.7	
comp=Z,26nm,0.4s							
CFA	**Coronel Fontan**	**3.10**	**74**	*i P*	**Pn**	**17 13 14.4**	**-1.8**
AMOG	**MOGNA**	**3.18**	**61**	*i P*	Pn	17 13 09.6	-7.6
AMOG				IAML		17 14 26.6	
comp=Z,38nm,0.5s							
ACAN	**Cantantal**	**3.85**	**87**	*i P*	**Pn**	**17 13 30.2**	**+3.8**
VCA	**Vinchina**	**4.85**	**40**	*i P*	Pn	17 13 19.8	-21
VCA				IAML		17 15 18.6	
comp=Z,28nm,0.5s							
APLL	**PUNTA DE LOS L**	**4.93**	**66**	*i P*	Pn	17 13 31.4	-10
MRA	**San Martin**	**5.08**	**90**	*i P*	**Pn**	**17 13 43.9**	**+0.5**
MRA				IAML		17 15 14.4	
comp=Z,5.3nm,0.6s							
ACLC	**CERRO LA CRUZ**	**5.14**	**54**	*i P*	Pn	17 13 28.2	-16
ACLC				IAML		17 15 28.8	
comp=Z,16nm,2.6s							
TCA	**Tanti**	**6.18**	**81**	*i P*	Pn	17 13 53.2	-5.3
TCA				IAML		17 15 50.9	

IDC 14 17:42:37.9±1.6, 7°.73S×127°.37E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=206.1km s-min=25.2km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**152**	Pn	Pn	17 45 56.0	-0.2
0.5nm,0.3s,baz=325,slow=13,SNR=26							
WRA				Sn	Sn	17 48 15.4	-16
1.1nm,0.3s,baz=331,slow=23,SNR=9.8							
ASAR	**Alice Springs**	**17.04**	**159**	P	P	17 46 39.1	-0.6
0.5nm,0.3s,baz=339,slow=12,SNR=38							
ASAR				S	Sn	17 49 34.6	-13
0.3nm,0.3s,baz=346,slow=26,SNR=8.4							
STKA	**Stephens Creek**	**27.44**	**153**	P	P	17 48 25.2	-0.4
1.0nm,0.4s,baz=326,slow=11,SNR=5.5							
MKAR	**Makanchi Array**	**67.43**	**328**	P	P	17 53 35.5	+0.1
0.1nm,0.4s,baz=126,slow=7.1,SNR=4.0							

*IDC **14** 17:51:27.6±1.9, 5°.13S×104°.10E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/42, mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=60.0km s-min=16.4km az=55.0*
*ISCJB **14** 17:51:31.7±1.4, 5°.1S±0°.2×104°.3E±0°.2, h35km, mb4.0/9, Error ellipse: s-maj=37.2km s-min=9.0km az=136.5*
ISC 14 17:51:33.5±1.8, 5°.1S±0°.2×104°.3E±0°.3, h35km, n10, σ1§15/11, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**3.73**	**118**	Pn	**Pn**	**17 52 28.6**	**-0.1**
2.0nm,0.3s,baz=218,slow=22,SNR=3.9							
LEM				Sn	**Sn**	**17 53 10.8**	**-0.8**
1.3nm,0.3s,baz=163,slow=19,SNR=2.4							
CMAR	**Chiang Mai Arr**	**23.97**	**347**	P	**P**	**17 56 45.1**	**+0.3**
1.4nm,0.7s,baz=182,slow=9.1,SNR=7.6							
FITZ	**Fitzroy Crossi**	**24.54**	**124**	P	**P**	**17 56 49.5**	**-0.6**
0.9nm,0.9s,baz=315,slow=7.1,SNR=2.3							
TGY	**Tagaytay City**	**25.20**	**41**	P	**P**	**17 56 55.5**	**-0.7**
168nm,0.3s,baz=71,slow=3.0,SNR=3.8							
WRA	**Warramunga Arr**	**32.74**	**119**	P	**P**	**17 58 04.0**	**+0.6**
0.4nm,0.9s,baz=311,slow=8.9,SNR=5.6							
ASAR	**Alice Springs**	**33.98**	**126**	P	**P**	**17 58 15.4**	**+1.2**
0.2nm,0.4s,baz=301,slow=7.7,SNR=20							
SONM	**Songino Array**	**52.71**	**2**	P	**P**	**18 00 45.7**	**+0.9**
0.9nm,0.7s,baz=176,slow=9.2,SNR=8.6							
USRK	**Ussuriysk Ar.**	**55.01**	**24**	P	**P**	**18 01 02.6**	**+1.2**
1.0nm,0.5s,baz=203,slow=4.8,SNR=5.7							
MKAR	**Makanchi Array**	**55.20**	**342**	P	**P**	**18 01 01.2**	**-1.7**
1.0nm,0.7s,baz=147,slow=8.2,SNR=11							
ZALV	**Zalesovo Beam**	**61.04**	**347**	P	**P**	**18 01 42.1**	**-1.4**
0.9nm,0.4s,baz=151,slow=5.8,SNR=5.4							

*NEIC **14** 18:13:53.1±1.9, 9°.83N±0°.07×124°.10E±0°.08, h10

DAV	**Davao City (W)**	**3.26 152**			**Pn**	**18 14 46.4 +0.3**
SKMP	**Bagumbayan, Su**	**3.46 171**	*e*P		**Pn**	**18 14 47.6 -1.2**
SKMP			*e*S		**Sn**	**18 15 32.8 +4.2**
PVCP	**Virac**	**3.62 2**	*e*P		**Pn**	**18 14 49.8 -1.1**
PVCP			*e*S		**Sn**	**18 15 35.2 +2.7**
MATI	**Mati**	**3.72 143**	*e*P		**Pn**	**18 14 54.1 +1.7**
MATI			*e*S		**Sn**	**18 15 36.1 +0.9**
SJMP	**San Jose**	**3.78 311**	*e*P		**Pn**	**18 14 54.6 +1.3**
GSPH	**General Santos**	**3.96 167** ⇑	*i*P		**Pb**	**18 15 04.9 -1.4**
BOAC	**Boac**	**4.08 329**	*e*P		**Pn**	**18 14 58.0 +0.7**
BOAC			*e*S		**Sb**	**18 15 51.6 -5.7**
DDMP	**Don Marcelino,**	**4.18 156**	*e*P		**Pn**	**18 14 57.6 -1.1**
DDMP			*e*S		**Sn**	**18 15 46.3 -0.2**
GQP	**Guinayangan**	**4.21 339** ‖	*e*P		**Pb**	**18 15 11.0 +0.4**
ENPP	**El Nido**	**4.69 286**	*e*P		**Pn**	**18 15 04.5 -1.2**
LQP	**Lukban**	**4.79 330**	*e*P		**Pn**	**18 15 09.2 +1.9**
TGY	**Tagaytay City**	**5.11 324**	P		Pn	18 15 17.5 +6.0
	50nm,0.3s,baz=324,slow=11,SNR=2.4					
TGY			LR		LR	18 17 36.6
	comp=Z,320nm,21.8s,baz=140,slow=42					
PCPH	**Palayan**	**6.26 333** ‖	*e*P		Pn	18 15 35.5 +8.2
KKM	**Kota Kinabalu**	**8.66 244**			**Pn**	**18 16 00.2 -0.2**
KMSI	**Cibinong**	**9.32 180**	P		**Pn**	**18 16 11.7 +2.3**
TNTI	**Ternate**	**9.71 160**	P		Pn	18 16 09.1 -5.7
TNTI	**Ternate**	**9.71 160**			**Pn**	**18 16 14.0 -0.8**
I39PW	**PALAU INFRASON**	**10.67 102**	*i*			19 26 10.0
	baz=284,slow=305,SNR=0.4					
LUWI	**Luwuk**	**11.00 187**	P		Pn	18 16 39.2 +6.8
APSI	**Ampana**	**11.06 192**	P		**Pn**	**18 16 31.8 -1.3**
SIJI	**Sorong**	**12.95 146**	LR		LR	18 21 51.8
	comp=Z,128nm,18.2s,baz=1.5,slow=37					
TTSI	**Tana Toraja**	**13.58 198**	P		**Pn**	**18 17 06.3 -1.4**
SBUM	**Sibu**	**13.90 238**			**Pn**	**18 17 12.7 +0.6**
SSLB	**Suanglung**	**14.06 348**	P		**P**	**18 17 23.6 +2.0**
SPSI	**Sidrap Palu**	**14.47 197**	P		P	18 17 38.5 +12
STKI	**Sintang**	**15.89 233**	P		**P**	**18 17 42.9 +0.9**
JOW	**Kunigami**	**17.25 13**	P		**P**	**18 18 00.6 +3.5**
JOW			IAmb		IAmb	18 18 02.7
	comp=Z,57nm,0.9s					
UBPT	**Khong Chiam**	**18.86 288**	P		**Pn**	**18 18 18.1 +2.6**
	comp=Z,54nm,1.1s					
UBPT	**Khong Chiam**	**18.86 288**	P		**Pn**	**18 18 17.3 +1.8**
TWSI	**Taliwang, Sumb**	**19.89 201**	P		**Pn**	**18 18 28.6 +0.8**
BATI	**Baumata**	**20.04 181**	P		**P**	**18 18 27.6 -0.1**
	comp=Z,4.3nm,0.3s,baz=330,slow=0.9,SNR=33					
BATI	**Baumata**	**20.04 181**	P		**P**	**18 18 28.1 +0.4**
	comp=Z,56nm,1.0s,comp=Z,533nm					
GENI	**Genyem**	**20.35 127**	P		Pn	18 18 35.8 +2.6
TPI	**Tanjungpandan**	**20.63 233**	P		Pn	18 18 36.9 +0.4
	comp=Z,21nm,0.9s					
GUMO	**Guam**	**20.72 78**	LR		LR	18 25 01.6
	comp=Z,31nm,20.6s,baz=242,slow=32					
JAY	**Jayapura**	**20.73 126**	LR		LR	18 25 11.3
	comp=Z,74nm,21.2s,baz=295,slow=33					
JAGI	**Jajag, Banyuwa**	**20.78 209**	P		**P**	**18 18 35.3 -0.4**
JAGI	**Jajag, Banyuwa**	**20.78 209**	P		Pn	18 18 37.2 -1.1
NGJI	**Ngawi**	**21.28 216**	P		**P**	**18 18 46.4 +5.3**
MYKOM	**Kota Tinggi**	**21.63 249**	P		**P**	**18 18 47.1 +2.2**
NONG	**Nongkai**	**21.79 294**	P		**P**	**18 18 52.7 +6.2**
	comp=Z,0.3nm,0.8s					
WOJI	**Wonogiri, Jawa**	**21.98 217**	P		**P**	**18 18 47.9 -0.6**
JRMM	**Jerantut**	**22.22 256**	P		**P**	**18 18 52.0 +0.8**
CHAI	**Chaiyaphum**	**22.27 288**	P		**P**	**18 18 54.9 +3.2**
	comp=Z,21μm,0.8s					
UGM	**Wanagama**	**22.27 218**	P		**P**	**18 18 53.0 +1.2**
UGM	**Wanagama**	**22.27 218**	P		**P**	**18 18 54.3 +2.5**
WHN	**Wuhan**	**22.38 338** ⇑	P		**P**	**18 18 48.1 -4.6**
SLVN	**Son La**	**22.40 303**	P		**P**	**18 18 54.6 +1.4**
KPJI	**Karang Pucung**	**22.83 222**	P		**P**	**18 18 58.4 +0.7**
LEM	**Lembang**	**23.35 225**	P		**P**	**18 19 03.8 +0.7**
	comp=Z,40nm,0.7s,baz=298,slow=5.3,SNR=16					
LEM			LR		LR	18 30 31.4
	comp=Z,71nm,19.4s,baz=40,slow=42					
PBKT	**Sadao Pong**	**23.37 289**	P		**P**	**18 19 04.7 +1.6**
	comp=Z,14nm,1.2s,comp=Z,367nm					
PBKT	**Sadao Pong**	**23.37 289**	P		**P**	**18 19 02.7 -0.4**
PBKT			IAmb		IAmb	18 19 08.9
	comp=Z,36nm,1.2s					
IPM	**Ipoh**	**23.45 258**	P		**P**	**18 19 05.0 +1.0**
IPM	**Ipoh**	**23.45 258**	P		**P**	**18 19 03.5 -0.5**
KULM	**Kulim**	**23.62 260**	P		**P**	**18 19 06.0 +0.3**
KULM	**Kulim**	**23.62 260**	P		**P**	**18 19 05.4 -0.2**
KULM			IAmb		IAmb	18 19 07.3
	comp=Z,46nm,1.3s					
MTN	**Manton Dam**	**23.73 163**	P		**P**	**18 19 05.8 -0.8**
MTN			IAmb		IAmb	18 19 11.9
	comp=Z,24nm,1.1s					
CISI	**Cisompet, Garu**	**23.74 223**	P		**P**	**18 19 05.1 -1.7**
TRTT	**Trang**	**24.13 267**	P		**P**	**18 19 12.0 +1.6**
	comp=Z,16nm,1.8s					
NANT	**Nan**	**24.22 294**	P		**P**	**18 19 12.9 +1.7**
	comp=Z,71μm,0.6s					
ENH	**Enshi**	**24.34 328**	P		**P**	**18 19 13.1 +0.9**
ENH			IAmb		IAmb	18 19 19.0
	comp=Z,40nm,1.3s					
UTHA	**Uthaitani**	**24.60 286**	P		**P**	**18 19 17.1 +2.4**
	comp=Z,16μm,0.7s					
SRDT	**SRDT**	**24.73 283**	P		**P**	**18 19 18.8 +3.0**
	comp=Z,8.0nm,1.7s					
BKNI	**Bangkinang**	**24.79 249**	P		**P**	**18 19 16.3 -0.2**
SURT	**Suratani**	**24.91 270**	P		**P**	**18 19 22.0 +4.5**
	comp=Z,14nm,1.1s					
PAYA	**Payao**	**25.14 295**	P		**P**	**18 19 21.7 +2.1**
	comp=Z,45μm,0.8s					
PKDT	**Phuket**	**25.46 267**	P		**P**	**18 19 24.4 +1.9**
	comp=Z,30nm,1.1s					
CM31	**Chiang Mai Arr**	**25.71 292**	P		**P**	**18 19 24.5 -0.3**
CM31			IAmb		IAmb	18 19 32.1
	comp=Z,30nm,1.4s					
CMAR	**Chiang Mai Arr**	**25.71 292**	P		**P**	**18 19 25.4 +0.7**
	comp=Z,4.3nm,1.1s,baz=110,slow=7.5,SNR=20					
CMAR			PcP		**PcP**	**18 22 55.3 +0.7**
	comp=Z,0.5nm,0.7s,baz=87,slow=2.0,SNR=5.1					
CMAR			LR		LR	18 29 08.2
	comp=Z,66nm,18.1s,baz=7.5,slow=35					
CMAR	**Chiang Mai Arr**	**25.71 292**	P		**P**	**18 19 24.7 -0.1**
CMMT	**Chiang Mai**	**25.81 293**	P		**P**	**18 19 30.2 +4.5**
	comp=Z,2.9nm,1.3s					
CHTO	**Chiang Mai**	**25.81 293**	P		**P**	**18 19 26.2 +0.5**
PDSI	**Padang**	**25.82 247**	P		**P**	**18 19 24.8 -1.0**
KNRA	**Kununurra**	**25.90 170**			**P**	**18 19 26.6 +0.2**
KNRA			IAmb		IAmb	18 19 32.3
	comp=Z,12nm,0.8s					
RPSI	**Rantau Prapat**	**25.96 256**	P		**P**	**18 19 26.9 -0.1**
RPSI			IAmb		IAmb	18 19 32.0
	comp=Z,25nm,1.1s					
MHMT	**Maesarieng**	**26.57 291**	P		**P**	**18 19 38.9 +6.4**
	comp=Z,18nm,1.0s					
JHJ	**Hachijo jima 2**	**27.24 30**	LR		LR	18 29 13.9
	comp=Z,51nm,20.4s,baz=294,slow=34					
KSRS	**Korea Array**	**27.60 7**	P		**P**	**18 19 42.1 +0.6**
	comp=Z,4.0nm,0.7s,baz=187,slow=10,SNR=12					
XAN	**Xi'an**	**27.68 332**	P		**P**	**18 19 47.5 +5.1**
XAN			pmax		pmax	
	comp=Z,7.0nm,1.3s					
XAN	**Xi'an**	**27.68 332**	P		**P**	**18 19 41.9 -0.6**
FITZ	**Fitzroy Crossi**	**27.93 177**	P		**P**	**18 19 44.1 -0.5**
	comp=Z,6nm,0.8s,baz=18,slow=13,SNR=4.5					
FITZ	**Fitzroy Crossi**	**27.93 177**	P		**P**	**18 19 42.7 -1.9**
CD2	**Chengdu**	**28.10 321**	*e*P		**P**	**18 19 47.5 +1.3**
CD2			pmax		pmax	
	comp=Z,40nm,0.6s					
BJT	**Baijiatuau**	**30.74 348**	P		**P**	**18 20 09.2 -0.2**
BJT			IAmb		IAmb	18 20 25.5
	comp=Z,7.7nm,0.5s					
WRAB	**Tennant Creek**	**31.40 161**	P		P	18 20 09.6 -5.9
WRAB			IAmb		IAmb	18 20 09.7
	comp=Z,7.7nm,0.8s					
WRA	**Warramunga Arr**	**31.40 161**	P		**P**	**18 20 12.9 -2.6**
	comp=Z,1.0nm,0.6s,baz=339,slow=9.4,SNR=12					
WRA			PcP		**PcP**	**18 23 07.0 -1.7**
	comp=Z,1.7nm,0.7s,baz=338,slow=3.2,SNR=9.2					
WRA	**Warramunga Arr**	**31.40 161**	P		**P**	**18 20 12.0 -3.5**
WB2	**Warramunga Arr**	**31.41 161**	P		**P**	**18 20 12.4 -3.1**
LZH	**Lanzhou**	**31.82 328**	*e*P		**P**	**18 20 21.1 +1.9**
LZH			pmax		pmax	
	comp=Z,29nm,1.1s					
LZH			pmax		pmax	
	comp=Z,180nm,5.4s					
LZH			LR		LR	
	comp=Z,180nm,14.1s					
LZH			LR		LR	
	comp=Z,260nm,15.1s					
LZH			LR		LR	
	comp=Z,280nm,15.5s					
HHC	**Hu-ho-hao-te**	**32.68 342**	*e*P		**P**	**18 20 30.0 +3.4**
HHC			pmax		pmax	
	comp=Z,8.0nm,0.7s					
CN2	**Changchun**	**33.74 2**	*e*P		**P**	**18 20 37.5 +1.9**
CN2			pmax		pmax	
	comp=Z,10.0nm,0.8s					
SHL	**Shillong**	**34.19 301**	P		**P**	**18 20 39.5 -0.5**
AS31	**Alice Springs**	**34.79 164**	P		**P**	**18 20 42.8 -2.2**
ASAR	**Alice Springs**	**34.79 164**	P		**P**	**18 20 43.4 -1.6**
	comp=Z,2.6nm,0.8s,baz=342,slow=7.1,SNR=21					
ASAR			PcP		**PcP**	**18 23 16.5 -1.6**
	comp=Z,1.3nm,0.6s,baz=342,slow=2.3,SNR=12					
ASAR	**Alice Springs**	**34.79 164**	P		**P**	**18 20 43.0 -2.0**
USA0B	**Ussuriysk Arra**	**34.80 10**	P		**P**	**18 20 45.9 +1.1**
USA0B			IAmb		IAmb	18 20 46.7
	comp=Z,10nm,0.9s					
USRK	**Ussuriysk Ar.**	**34.80 10**	P		**P**	**18 20 45.3 +0.4**
	comp=Z,6.4nm,0.8s,baz=201,slow=7.9,SNR=18					
USRK			LR		LR	18 36 01.6
	comp=Z,42nm,19.4s,baz=335,slow=38					
USRK	**Ussuriysk Ar.**	**34.80 10**	P		**P**	**18 20 45.8 +0.9**
MDJ	**Mudanjiang**	**34.86 7**	P		**P**	**18 20 46.2 +0.8**
MDJ			IAmb		IAmb	18 20 47.4
	comp=Z,13nm,0.8s					
GTA	**Gaotai**	**36.42 328** ⇑	P		**P**	**18 21 00.5 +1.5**
GTA			pP		sP	18 21 14.5 +2.2
GTA			sP		pP	18 21 21.8 +13
GTA			pmax		pmax	
	comp=Z,9.0nm,1.5s					
GTA			pmax		pmax	
	comp=Z,67nm,4.4s					
GTA			LR		LR	
	comp=Z,150nm,16.8s					
GTA			LR		LR	
	comp=Z,170nm,15.1s					
GTA			LR		LR	
	comp=Z,190nm,16.5s					
LSA	**Lhasa**	**36.43 307**	P		**P**	**18 21 01.2 +1.5**
TAPN	**Taplejung**	**38.32 302**	*e*P		**P**	**18 21 16.3 +0.8**
	comp=Z,23nm,0.7s					
ODAN	**Odare**	**38.43 301**	*e*P		**P**	**18 21 17.0 +0.7**
	comp=Z,42nm,0.9s					
RAMN	**Ramite**	**39.12 301**	*e*P		**P**	**18 21 23.2 +1.0**
HIA	**Hailar**	**39.34 356**	P		**P**	**18 21 23.0 -0.4**
KLR	**Kul'dur**	**39.67 8**	P		**P**	**18 21 26.5 +0.4**
	comp=Z,4.9nm,1.0s,baz=205,slow=5.9,SNR=11					
KLR			PcP		**PcP**	**18 23 32.5 0.0**
	comp=Z,1.7nm,0.8s,baz=234,slow=3.4,SNR=4.4					
JIRN	**Jiri**	**39.70 302**	*e*P		**P**	**18 21 27.9 +0.8**
GUN	**Gumba**	**40.04 302**	*e*P		**P**	**18 21 30.6 +0.7**
	comp=Z,59nm,1.0s					
PKI	**Pulchoki**	**40.32 301**	*e*P		**P**	**18 21 32.3 0.0**
	comp=Z,38nm,1.2s					
PKIN	**Phulchoki**	**40.34 301**	*e*P		**P**	**18 21 32.4 +0.1**
	comp=Z,80nm,1.7s					
KKN	**Kakani**	**40.50 301**	*e*P		**P**	**18 21 34.0 +0.4**
	comp=Z,16nm,0.8s					
SONM	**Songino Array**	**40.58 342**	P		**P**	**18 21 34.5 +0.7**
	comp=Z,2.3nm,1.0s,baz=159,slow=6.3,SNR=12					
SONM			LR		LR	18 39 08.1
	comp=Z,112nm,18.7s,baz=168,slow=37					
SONM	**Songino Array**	**40.58 342**	P		**P**	**18 21 34.2 +0.4**
DMN	**Daman**	**40.59 301**	*e*P		**P**	**18 21 34.7 +0.3**
	comp=Z,72nm,1.5s					
HNR	**Honiara**	**40.61 117**	P		**P**	**18 21 32.6 -1.7**
GKN	**Gorkha**	**41.11 301**	*e*P		**P**	**18 21 38.6 +0.1**
KOLN	**Koldanda**	**41.91 301**	*e*P		**P**	**18 21 45.8 +0.6**
	comp=Z,19nm,0.8s					
DANN	**Dangsing**	**41.95 302**	*e*P		**P**	**18 21 45.7 +0.1**
	comp=Z,136nm,1.5s					
BBOO	**Buckleboo**	**44.05 165**	P		**P**	**18 22 00.8 -1.4**
STKA	**Stephens Creek**	**44.87 159**	P		**P**	**18 22 07.8 -0.9**
	comp=Z,3.2nm,0.7s,baz=338,slow=12,SNR=4.1					
STKA			LR		LR	18 43 15.6
	comp=Z,73nm,18.0s,baz=22,slow=39					
STKA	**Stephens Creek**	**44.87 159**	P		**P**	**18 22 06.0 -2.7**
PETK	**Petropavlovsk-**	**50.85 26**	LR		LR	18 43 22.3
	comp=Z,27nm,20.8s,baz=233,slow=35					
PETK	**Petropavlovsk-**	**50.85 26**	P		**P**	**18 22 55.3 +0.6**
MK31	**Makanchi Array**	**50.95 324**	P		**P**	**18 22 56.4 +0.8**
MKAR	**Makanchi Array**	**50.95 324**	P		**P**	**18 22 56.6 +1.0**
	comp=Z,6.2nm,0.7s,baz=128,slow=8.2,SNR=70					
MKAR			PcP		**PcP**	**18 24 11.5 -0.2**
	comp=Z,2.0nm,0.8s,baz=122,slow=4.1,SNR=4.1					
MKAR			LR		LR	18 46 00.9
	comp=Z,72nm,18.6s,baz=93,slow=38					
MKAR	**Makanchi Array**	**50.95 324**	P		**P**	**18 22 55.8 +0.2**
MAKZ	**Makanchi**	**51.14 324**	P		**P**	**18 22 57.7 +0.6**
MAKZ			IAmb		IAmb	18 22 59.2
	comp=Z,15nm,1.4s					
TARG	**Taragay, Kyrgy**	**51.38 316**	P		**P**	**18 22 58.3 -1.1**
TARG			IAmb		IAmb	18 23 12.3
	comp=Z,8.6nm,0.9s					
KSH	**Kashi**	**51.81 313**	P		**P**	**18 23 05.6 +3.3**
KSH			PP		**PP**	**18 25 06.8 +6.5**
KSH			S		**S**	**18 30 22.1 -0.6**
KSH			ScS		**ScS**	**18 32 44.0 -6.5**
KSH			SS		**SS**	**18 33 58.3 -1.3**
KSH			pmax		pmax	
	comp=Z,18nm,0.6s					
KSH			pmax		pmax	
	comp=Z,310nm,6.0s					
KSH			LR		LR	
	comp=Z,190nm,8.9s					
KSH			LR		LR	
	comp=Z,110nm,11.4s					
KSH			LR		LR	
	comp=Z,210nm,9.6s					
KDJ	**Kajisay**	**51.97 316**	P		**P**	**18 23 03.9 +0.3**
KDJ			IAmb		IAmb	18 23 09.9
	comp=Z,7.6nm,0.8s					
NIL	**Nilore**	**52.09 305**	P		**P**	**18 23 04.7 +0.3**
YAK	**Yakutsk**	**52.14 3**	P		**P**	**18 23 03.8 -0.4**
NRN	**Naryn**	**52.51 315**	P		**P**	**18 23 07.8 +0.1**
KZA	**Kyzart**	**53.27 316**	P		**P**	**18 23 16.2 +2.8**
	SNR=7.2					
TKM2	**Tokmak 2**	**53.36 317**	P		**P**	**18 23 15.3 +1.4**
	SNR=6.2					
UCH	**Uchtor**	**53.83 316**	P		**P**	**18 23 19.6 +2.0**
	SNR=11					
ZAA0	**Zalesovo Array**	**53.85 332**	P		**P**	**18 23 16.6 -0.4**
ZAA0			IAmb		IAmb	18 23 18.0
	comp=Z,7.2nm,1.1s					
ZALV	**Zalesovo Beam**	**53.85 332**	P		**P**	**18 23 16.4 -0.6**
	comp=Z,3.9nm,0.8s,baz=133,slow=6.7,SNR=16					
ZALV			LR		LR	18 47 36.4
	comp=Z,54nm,19.2s,baz=110,slow=37					
ZALV	**Zalesovo Beam**	**53.85 332**	P		**P**	**18 23 16.6 -0.4**
AAK	**Ala-Archa**	**54.00 316**	P		**P**	**18 23 20.4 +1.9**
AML	**Almayashu**	**54.37 315**	P		**P**	**18 23 22.8 +1.3**
	SNR=6.6					
EKS2	**Erkin-Say**	**54.50 316**	P		**P**	**18 23 23.4 +1.3**
	SNR=6.2					
ARSB	**Arslanbob**	**54.58 314**	P		**P**	**18 23 23.8 +1.1**
KURK	**Kurchatov**	**55.09 326**	P		**P**	**18 23 26.4 +0.4**
KBL	**Kabul**	**55.69 305**	P		**P**	**18 23 31.6 +0.6**
KBL			IAmb		IAmb	18 23 36.1
	comp=Z,6.9nm,0.9s					
BTK	**Batken**	**55.74 312**	P		**P**	**18 23 31.2 +0.2**
BTK			IAmb		IAmb	18 23 38.6
	comp=Z,6.8nm,0.8s					
GAR	**Garm**	**55.80 311**	P		**P**	**18 23 31.2 -0.4**
CHGR	**Chuyangaron**	**56.58 310**	P		**P**	**18 23 37.1 0.0**
CHGR			IAmb		IAmb	18 23 40.0
	comp=Z,8.9nm,0.8s					
KK31	**Karatay Array**	**56.91 315**	P		**P**	**18 23 39.5 +0.2**
KK31			IAmb		IAmb	18 23 47.1
	comp=Z,7.9nm,1.1s					
KKAR	**Karatay Array**	**56.91 315**	P		**P**	**18 23 39.5 +0.2**
KKAR			IAmb		IAmb	18 23 47.1
	comp=Z,7.9nm,1.1s					
KKAR	**Karatay Array**	**56.91 315**	P		**P**	**18 23 38.8 -0.4**
BRVK	**Borovoye**	**60.75 326**	P		**P**	**18 24 05.6 -0.1**
BRVK			IAmb		IAmb	18 24 08.9
	comp=Z,10nm,1.1s					
HRA	**Herat**	**61.20 304**	P		**P**	**18 24 09.2 -0.1**
HRA			IAmb		IAmb	18 24 11.5
	comp=Z,4.7nm,0.9s					
TIXI	**Tiksi**	**61.71 2**	P		**P**	**18 24 11.2 -0.6**
	comp=Z,2.8nm,0.8s,baz=94,slow=5.4,SNR=9.7					
TIXI	**Tiksi**	**61.71 2**	P		**P**	**18 24 11.1 -0.8**
TIXI			IAmb		IAmb	18 24 12.2
	comp=Z,7.3nm,1.2s					
NRIK	**Noril'sk**	**63.78 346**	P		**P**	**18 24 25.7 0.0**
	comp=Z,10nm,0.6s,baz=141,slow=6.9,SNR=9.8					
NRIK			LR		LR	18 52 26.3
	comp=Z,8.8nm,19.4s,baz=134,slow=36					
GEYT	**Alibeck**	**64.97 307**	P		**P**	**18 24 34.7 +0.6**
	comp=Z,2.4nm,0.8s,baz=146,slow=2.9,SNR=6.9					
GEYT			LR		LR	18 54 54.1
	comp=Z,41nm,19.9s,baz=195,slow=38					
GEYT	**Alibeck**	**64.97 307**	P		**P**	**18 24 34.1 0.0**
ABKAR	**Akbulak array**	**65.67 320**	P		**P**	**18 24 37.7 -0.7**
ABKAR	**Akbulak array**	**65.67 320**	P		**P**	**18 24 38.0 -0.4**
ABKAR			IAmb		IAmb	18 24 42.5
	comp=Z,3.3nm,0.8s					
ARU	**Arti**	**68.28 327**	P		**P**	**18 24 53.9 -0.9**
GNI	**Garni**	**75.48 309**	P		**P**	**18 25 39.5 +0.9**
GNI			IAmb		IAmb	18 25 49.6
	comp=Z,11nm,1.2s					
RAYN	**Ar Rayn**	**75.63 292**	P		**P**	**18 25 38.8 -0.9**
RAYN			IAmb		IAmb	18 25 43.9
	comp=Z,7.3nm,0.9s					
KBZ	**Khabaz**	**76.79 313**	P		**P**	**18 25 46.2 +0.5**
	comp=Z,1.9nm,0.8s,baz=101,slow=5.2,SNR=5.3					
KBZ			LR		LR	19 02 45.8
	comp=Z,25nm,20.0s,baz=36,slow=38					
KIV	**Kislovodsk**	**76.94 313**	P		**P**	**18 25 46.8 0.0**
KIV			IAmb		IAmb	18 25 47.9
	comp=Z,4.6nm,0.6s					
IMAR	**Indian Mountai**	**77.80 25**	P		**P**	**18 25 50.9 0.0**
MCK	**McKinley**	**79.83 27**	P		**P**	**18 26 01.8 -0.4**
MCK			IAmb		IAmb	18 26 06.6
	comp=Z,22nm,1.4s					
ILAR	**Eielson Array**	**80.68 26**	P		**P**	**18 26 06.3 -0.5**
	comp=Z,0.4nm,0.7s,baz=257,slow=5.0,SNR=4.4					
BCAR	**Beaver Creek A**	**83.09 27**	P		**P**	**18 26 18.0 -1.6**
ARCES	**ARCESS Array B**	**83.71 340**	P		**P**	**18 26 22.5 -0.1**
	comp=Z,6.7nm,1.0s,baz=70,slow=7.8,SNR=3.7					
ARCES			LR		LR	19 05 57.6
	comp=Z,37nm,20.9s,baz=136,slow=37					
ARCES	**ARCESS Array B**	**83.71 340**	P		**P**	**18 26 22.2 -0.4**
BRTR	**Keskin Array B**	**84.02 309**	P		**P**	**18 26 24.6 -0.3**
	comp=Z,0.8nm,0.8s,baz=52,slow=5.7,SNR=4.8					
BRTR	**Keskin Array B**	**84.02 309**	P		**P**	**18 26 24.0 -0.9**
CSS	**Mathiatis**	**84.94 304**	P		**P**	**18 26 28.6 -0.9**
FINES	**FINESS Array B**	**85.11 331**	P		**P**	**18 26 28.5 -1.2**
	comp=Z,1.0nm,0.7s,baz=96,slow=5.6,SNR=3.4					
FINES			LR		LR	19 05 31.5
	comp=Z,42nm,20.4s,baz=16,slow=36					
INK	**Inuvik**	**85.38 21**	P		**P**	**18 26 30.6 -0.3**
INK			IAmb		IAmb	18 26 35.7
	comp=Z,10nm,1.1s					
AKASG	**Malin Array Be**	**85.40 321**	P		**P**	**18 26 30.4 -1.0**
	comp=Z,0.6nm,0.4s,baz=69,slow=4.4,SNR=8.8					
AKASG			LR		LR	19 07 34.0
	comp=Z,38nm,18.9s,baz=15,slow=38					
KMBO	**Kilima Mbogo**	**87.02 268**	P		**P**	**18 26 40.6 +0.2**
	comp=Z,2.3nm,0.7s,baz=55,slow=7.5,SNR=9.0					
KMBO	**Kilima Mbogo**	**87.02 268**	P		**P**	**18 26 40.6 +0.2**
KMBO			IAmb		IAmb	18 26 41.9
	comp=Z,4.2nm,1.0s					
PPT	**Papeete**	**89.57 108**	LR		LR	19 05 29.2
	comp=Z,9.0nm,18.7s,baz=338,slow=34					
NOA	**NORSAR Array B**	**92.05 333**	P		**P**	**18 27 02.2 -0.7**
	comp=Z,0.8nm,0.7s,baz=67,slow=4.5,SNR=2.5					
NOA			LR		LR	19 13 34.5
	comp=Z,38nm,18.2s,baz=280,slow=39					
GERES	**GERESS Array B**	**95.57 322**	P		**P**	**18 27 20.8 +1.3**
	comp=Z,0.6nm,0.8s,baz=21,slow=8.4,SNR=3.7					
GERES	**GERESS Array B**	**95.57 322**	P		**P**	**18 27 19.5 +0.1**
TORD	**Torodi Ar. Bea**	**118.32 291**	PKP		**PKPdf**	**18 32 41.4 -0.9**
	comp=Z,1.5nm,0.9s,baz=46,slow=1.2,SNR=5.4					
TORD	**Torodi Ar. Bea**	**118.32 291**			**PKPdf**	**18 32 39.7 -2.6**
R50A	**Paris**	**125.19 27**			**PKPdf**	**18 32 53.1 -1.9**
PLCA	**Paso Flores**	**146.74 160**	PKPbc		**PKPbc**	**18 33 35.6 -0.7**
	comp=Z,4.0nm,0.8s,baz=212,slow=2.4,SNR=7.0					
LPAZ	**La Paz**	**166.60 119**			**PKPdf**	**18 34 00.7 -0.5**

*ISCJB **14** 19:00:05.7±0.3,24°.17N±0°.02×122°.22E±0°.02,h26km±3km,*
Error ellipse: s-maj=3.1km s-min=2.1km az=146.9
*JMA **14** 19:00:05.9,24°.15N×122°.20E,h48km±2km,M2.1*
*TAP **14** 19:00:06.9,24°.23N×122°.13E,h47km,ML2.8,C*
ISC 14 19:00:03.8±1.0,24°.15N±0°.02×122°.21E±0°.02,h17km±8km,
n73,σ0s66/132,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.40**	**349**	P	**Pn**	**19 00 16.0**	**+1.1**
	baz=359						
EOS1				*e*S	**Sn**	**19 00 22.4**	**+0.4**
	baz=359						
NANB	**Nanao**	**0.50**	**303**	*e*P	**Pn**	**19 00 17.2**	**+0.9**
	baz=306						
NANB				*e*S	**Sn**	**19 00 23.9**	**-0.6**
	baz=306						
ENA	**Nanau**	**0.51**	**303**	P	**Pn**	**19 00 17.2**	**+0.9**
	baz=306						
ENA				*e*S	**Sn**	**19 00 24

NSK			*e*S	Sg	19 00 34.2	-0.2
	baz=302					
TWT	**Tachien**	**0.95 276**	*e*P	Pn	19 00 24.1	+1.6
	baz=272					
TWT			*e*S	Sn	19 00 35.8	0.0
	baz=272					
CHGB	**Renai**	**0.95 265**	*e*P	Pn	19 00 23.6	+1.0
	baz=250					
CHGB			*e*S	Sn	19 00 35.8	-0.1
	baz=250					
TDCB	**Techi**	**0.97 276**	*e*P	Pn	19 00 23.5	+0.8
	baz=272					
TDCB			*e*S	Sn	19 00 35.5	-0.7
	baz=272					
HGSD	**Ruisui**	**0.97 228**	*e*P	Pg	19 00 23.7	+1.0
	baz=217					
HGSD			*e*S	Sn	19 00 37.1	+0.9
	baz=217					
NWF	**Wu-fen Shan**	**1.00 337**	*e*P	Pg	19 00 23.7	+0.5
	baz=351					
NWF			*e*S	Sb	19 00 34.5	-1.0
	baz=351					
WFSB	**Wu-fen Shan**	**1.00 337**	*e*S	Sb	19 00 34.7	-0.8
	baz=351					
TWA	**Mucha**	**1.00 325**	*e*P	Pg	19 00 24.3	+0.9
	baz=326					
TWA			*e*S	Sg	19 00 36.2	-0.3
	baz=326					
NHDH	**Xindian Distri**	**1.02 322**	*e*P	Pg	19 00 24.5	+0.8
	baz=322					
NHDH			*e*S	Sn	19 00 37.1	-0.2
	baz=322					
EHY	**Hungye**	**1.04 232**	*e*P	Pg	19 00 24.7	+0.7
	baz=226					
EHY			*e*S	Sn	19 00 37.6	-0.1
	baz=226					
VWDT	**VWDT**	**1.05 248**	*e*P	Pg	19 00 25.3	+1.0
	baz=233					
VWDT			*e*S	Sn	19 00 38.2	+0.1
	baz=233					
YULB	**Yu-li**	**1.13 228**	*e*P	Pg	19 00 25.6	0.0
	baz=235					
YULB			*e*S	Sn	19 00 39.7	-0.2
	baz=235					
TWF1	**Yuli**	**1.16 227**	*e*P	Pg	19 00 26.2	0.0
	baz=233					
TWF1			*e*S	Sb	19 00 39.8	-0.2
	baz=233					
WHP	**Taichung City**	**1.16 276**	*e*P	Pg	19 00 27.3	+1.0
	baz=273					
WHP			*e*S	Sn	19 00 40.7	-0.2
	baz=273					
YM10	**YM10**	**1.16 330**	*e*P	Pb	19 00 25.5	0.0
	baz=330					
YM05	**YM05**	**1.17 330**	*e*P	Pb	19 00 25.5	-0.1
	baz=331					
YM04	**YM04**	**1.17 329**	*e*P	Pb	19 00 25.6	-0.1
	baz=329					
YM08	**YM08**	**1.18 331**	*e*P	Pb	19 00 26.0	-0.6
	baz=332					
DPDB	**Guoxing**	**1.18 265**	*e*P	Pg	19 00 27.2	+0.5
	baz=255					
DPDB			*e*S	Sg	19 00 41.5	-0.6
	baz=255					
TWS1	**Kuangyinshan**	**1.19 323**	*e*P	Pg	19 00 26.7	-0.2
	baz=331					
TWS1			*e*S	Sn	19 00 40.9	-0.5
	baz=331					
LIOB	**Emei**	**1.20 295**	*e*P	Pg	19 00 27.2	+0.3
	baz=292					
LIOB			*e*S	Sb	19 00 41.0	-0.3
	baz=292					
NSTT	**Nanjuang**	**1.20 294**	*e*P	Pg	19 00 27.3	+0.2
	baz=291					
NSTT			*e*S	Sn	19 00 41.8	0.0
	baz=291					
SSLB	**Suanglung**	**1.21 253**	*e*P	Pg	19 00 27.2	+0.1
	baz=248					
SSLB			*e*S	Sb	19 00 41.4	-0.2
	baz=248					
TYC	**Yuchr**	**1.26 259**	*e*P	Pg	19 00 28.2	0.0
	baz=248					
TYC			*e*S	Sn	19 00 43.2	-0.1
	baz=248					
FULB	**Fuli**	**1.27 222**	*e*P	Pg	19 00 27.9	-0.4
	baz=208					
FULB			*e*S	Sg	19 00 44.1	-0.7
	baz=208					
CHKT	**Chengkung**	**1.30 217**	*e*P	Pb	19 00 27.7	-0.1
	baz=203					
CHKT			*e*S	Sn	19 00 43.1	-1.1
	baz=203					
WHYT	**Xinyi Township**	**1.32 250**	*e*P	Pg	19 00 29.8	+0.4
	baz=246					
WHYT			*e*S	Sb	19 00 45.3	+0.4
	baz=246					
TWQ1	**Liyutan**	**1.33 279**	*e*P	Pg	19 00 29.4	-0.1
	baz=276					
TWQ1			*e*S	Sb	19 00 44.8	-0.2
	baz=276					
YUS	**Yu-Shan**	**1.33 241**	*e*P	Pg	19 00 29.2	-0.3
	baz=236					
YUS			*e*S	Sn	19 00 45.4	-0.1
	baz=236					
WJS	**Zhushan**	**1.40 257**	*e*P	Pg	19 00 31.3	+0.6
	baz=244					
IRIF	**Iriomote-Funau**	**1.40 82**	P	Pb	19 00 29.5	0.0
IRIF			*e*S	Sn	19 00 46.8	+0.2
WNT	**Mingjian**	**1.42 259**	*e*P	Pg	19 00 31.6	+0.3
	baz=256					
WNT			*e*S	Sg	19 00 49.4	-0.4
	baz=256					
ELDTW	**Lidau**	**1.45 229**	*e*P	Pb	19 00 30.2	-0.3
	baz=219					
ELDTW			*e*S	Sn	19 00 47.1	-1.1
	baz=219					
HATJ	**Hateruma jima**	**1.46 93**	*e*S	Sb	19 00 48.9	+0.1
CHN5	**Tsauling**	**1.51 249**	*e*P	Pg	19 00 32.6	-0.3
	baz=235					
CHN5			*e*S	Sg	19 00 51.2	-1.4
	baz=235					
JKRS	**Kuro-shima**	**1.65 87**	P	Pb	19 00 33.5	-0.2
JKRS			*e*S	Sn	19 00 53.3	+0.6
STYT	**Tauyuan**	**1.66 234**	*e*S	Sb	19 00 55.1	+0.6
	baz=222					
TPUB	**Ta-pu**	**1.68 240**	*e*P	Pb	19 00 34.9	+0.6
	baz=237					
TPUB			*e*S	Sb	19 00 55.9	+0.7
	baz=237					
CHN4	**Tsaushan**	**1.68 242**	*e*P	Pg	19 00 35.4	-0.8
	baz=230					
CHN4			*e*S	Sb	19 00 56.2	+1.0
	baz=230					
TWGBT	**Beinan**	**1.69 218**	*e*S	Sn	19 00 53.0	-0.7
	baz=215					
WTP	**Ta-pu**	**1.72 239**	*e*P	Pg	19 00 36.0	-0.9
	baz=235					
WTP			*e*S	Sb	19 00 56.9	+0.6
	baz=235					
JIJ	**Ishigaki jima**	**1.78 83**	P	Pb	19 00 34.8	-1.1
JIJ			S	Sn	19 00 55.8	-0.1
TWK	**Hsinying**	**1.81 241**	*e*P	Pb	19 00 37.1	+0.6
	baz=229					
TWK			*e*S	Sb	19 00 59.2	+0.3
	baz=229					
CHN1	**Nanshi**	**1.82 238**	*e*P	Pg	19 00 37.6	-1.2
	baz=236					
CHN1			*e*S	Sb	19 00 59.5	+0.4
	baz=236					
SGST	**Jiashian**	**1.83 235**	*e*P	Pb	19 00 36.7	-0.2
	baz=232					
SGST			*e*S	Sb	19 00 59.6	0.0
	baz=232					
SLGT	**Liugui**	**1.84 232**	*e*P	Pb	19 00 37.6	+0.6
	baz=228					
WSF	**Szhu**	**1.89 255**	*e*S	Sb	19 01 01.5	+0.3
	baz=265					
JISG	**Ishigakijimahi**	**1.96 77**	P	Pn	19 00 36.9	+0.6
JISG			*e*S	Sn	19 00 59.2	-1.4
SSD	**Sandimen**	**2.01 226**	*e*P	Pb	19 00 39.4	-0.6
	baz=223					
MASBT	**Mashibuluo**	**2.11 224**	*e*P	Pb	19 00 40.8	-0.8
	baz=220					
MASBT			*e*S	Sb	19 01 07.4	-0.1
	baz=220					
EAST	**Anshuo**	**2.16 216**	*e*P	Pb	19 00 40.7	-1.8
	baz=205					

*ISCJB **14** 19:05:01.0±0.7, 20°.91S±0°.02×69°.10W±0°.09, h119km±7km, mb3.2/1, Error ellipse: s-maj=14.1km s-min=4.1km az=179.5*
*GUC **14** 19:05:01.1±0.8, 20°.94S×68°.89W, h98km±5km, ML3.3*
*IDC **14** 19:05:03.1±1.6, 21°.00S×68°.49W, h110km±30km, mb3.1/1, mb1 2.9/2, mb1mx2.9/23, mbtmp3.3/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/6, Error ellipse: s-maj=106.9km s-min=20.9km az=96.0*

ISC 14 19:05:01.6±1.0, 20°.91S±0°.03×69°.07W±0°.09, h111km±8km, n19, σ0§74/33, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.41**	**251**	⇑*i*P	**Pn**	**19 05 17.7**	**-0.4**
PB01				⇓*i*S	**Sn**	**19 05 30.3**	**-0.2**
PB01				IAML		19 05 31.4	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**0.77**	**354**	⇓*i*P	**Pn**	**19 05 20.9**	**-0.2**
PB08				*i* S	**Sn**	**19 05 35.2**	**-0.5**
PB08				IAML		19 05 36.1	
	comp=E,1μm,0.4s						
PB02	**IPOC Station P**	**0.87**	**242**	⇑*i*P	**Pn**	**19 05 22.1**	**+0.4**
PB02				*i* S	**Sn**	**19 05 37.9**	**+1.0**
PB02				IAML		19 05 39.7	
	comp=E,1μm,0.1s						
PB09	**IPOC Station P**	**0.90**	**190**	⇑*i*P	**Pn**	**19 05 22.2**	**+0.2**
PB09				*i* S	**Sn**	**19 05 37.8**	**+0.3**
PB09				IAML		19 05 39.1	
	comp=E,419nm,0.4s						
PB07	**IPOC Station P**	**1.11**	**223**	⇑*i*P	**Pn**	**19 05 24.6**	**+0.3**
PB07				*i* S	**Sn**	**19 05 42.3**	**+0.9**
PB07				IAML		19 05 43.0	
	comp=E,410nm,0.3s						
GO01	**Chusmiza**	**1.24**	**355**	*e*P	**Pn**	**19 05 25.9**	**-0.1**
GO01				*i* S	**Sn**	**19 05 44.6**	**+0.3**
GO01				IAML		19 05 46.7	
	comp=E,1μm,0.1s						
PB11	**IPOC Station P**	**1.27**	**334**	⇓*i*P	**Pn**	**19 05 25.9**	**0.0**
PB11				*i* S	**Sn**	**19 05 44.9**	**+0.6**
PB11				IAML		19 05 45.7	
	comp=E,820nm,0.2s						
PB03	**IPOC Station P**	**1.30**	**209**	⇑*i*P	**Pn**	**19 05 26.6**	**+0.3**
PB03				*i* S	**Sn**	**19 05 45.2**	**+0.2**
PB03				IAML		19 05 47.2	
	comp=E,415nm,0.3s						
PSGC	**Pisagua**	**1.64**	**323**	*i* P	**Pn**	**19 05 30.2**	**-0.1**
PSGC				*i* S	**Sn**	**19 05 51.7**	**-0.2**
LVC	**Limon Verde**	**1.70**	**175**	P	**Pn**	**19 05 31.5**	**+0.3**
	comp=E,6.0nm,0.3s,baz=4.1,slow=14,SNR=88						
LVC				S	**Sn**	**19 05 54.1**	**+0.4**
	comp=E,10nm,0.3s,baz=284,slow=4.5,SNR=4.3						
PB04	**IPOC Station P**	**1.74**	**215**	⇑*i*P	**Pn**	**19 05 32.7**	**+1.2**
PB04				*i* S	**Sn**	**19 05 53.1**	**-1.2**
PB04				IAML		19 05 57.9	
	comp=N,227nm,0.1s						
MNMC	**Minye Minye**	**1.84**	**344**	*i* P	**Pn**	**19 05 33.4**	**+0.6**
MNMC				*i* S	**Sn**	**19 05 58.5**	**+1.8**
MNMC				IAML		19 06 00.7	
	comp=N,506nm,0.1s						
PB06	**IPOC Station P**	**1.85**	**194**	*i* P	**Pn**	**19 05 33.2**	**+0.3**
PB06				*i* S	**Sn**	**19 05 56.6**	**-0.1**
PB06				IAML		19 06 00.2	
	comp=E,377nm,0.2s						
PB15	**IPOC Station P**	**2.32**	**189**	*e*P	**Pn**	**19 05 39.1**	**+0.2**
PB15				*i* P		19 05 39.4	
PB15				*i* S	**Sn**	**19 06 07.7**	**+0.2**
PB12	**IPOC Station P**	**2.57**	**332**	*i* P	**Pn**	**19 05 41.4**	**-0.7**
PB12				*i* S	**Sn**	**19 06 13.2**	**0.0**
LPAZ	**La Paz**	**4.68**	**11**	P	**Pn**	**19 06 12.2**	**+1.5**
	comp=E,0.4nm,0.3s,baz=203,slow=13,SNR=11						
RPN	**Rapa Nui**	**37.18**	**252**	LR	LR	19 23 33.0	
	comp=E,142nm,18.7s,baz=74,slow=30						
TORD	**Torodi Ar. Bea**	**77.30**	**71**	P	**P**	**19 16 43.0**	**-1.4**
	comp=E,0.2nm,0.4s,baz=264,slow=7.0,SNR=3.2						
MKAR	**Makanchi Array**	**145.24**	**35**	PKPbc	**PKPdf**	**19 24 26.9**	**+0.7**
	comp=E,0.5nm,0.7s,baz=321,slow=4.0,SNR=4.1						

*IDC **14** 19:14:38.1±8.3, 17°.96S×178°.53W, h546km±91km, mb3.2/6, mb1 3.4/6, mb1mx3.0/39, mbtmp4.1/6, Error ellipse: s-maj=47.0km s-min=34.3km az=134.0*
*ISCJB **14** 19:14:39.7±1.5, 17°.95S±0°.4×178°.7W±0°.3, h579km, mb3.7/6, Error ellipse: s-maj=57.3km s-min=23.5km az=148.8*

ISC 14 19:14:40.8±1.5, 18°.0S±0°.4×178°.6W±0°.3, h579km, n7, σ0§48/8, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**19 21 14.3**	**0.0**
	1.7nm,0.5s,baz=95,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**44.47**	**260**	P	**P**	**19 22 00.8**	**-1.0**
	1.3nm,0.5s,baz=98,slow=6.7,SNR=57						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**19 22 02.7**	**-0.3**
	8.0nm,0.6s,baz=89,slow=8.3,SNR=127						
ASAR				PcP	**PcP**	**19 23 33.1**	**0.0**
	0.1nm,0.4s,baz=98,slow=4.8,SNR=2.6						
FITZ	**Fitzroy Crossi**	**52.86**	**261**	P	**P**	**19 23 04.2**	**+0.3**
	1.6nm,0.8s,baz=101,slow=5.2,SNR=4.8						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**19 24 42.3**	**+0.1**
	1.3nm,0.6s,baz=155,slow=5.1,SNR=3.8						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**19 26 21.7**	**-0.2**
	0.5nm,0.8s,baz=251,slow=5.6,SNR=2.6						
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**	**19 33 21.1**	**+0.2**
	0.5nm,0.5s,baz=33,slow=3.8,SNR=6.1						

DJA 14 19:23:00.7±0.5, 2°S±6°×12°5E±°, h10km, M4.3/7, mb4.5/2, mB4.8/1, MLv4.2/7, Mw(mB)4.0/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.25**	**88**	P	Pn	19 23 21.2	-3.0
SANI				S	Sn	19 23 42.0	+0.9
LUWI	**Luwuk**	**2.23**	**298**	P	Pn	19 23 38.1	+0.4
KMSI	**Cibinong**	**2.76**	**344**	P	Pn	19 23 45.1	0.0
LBMI	**Labuha**	**3.12**	**62**	P	Sn	19 24 24.4	-2.9
APSI	**Ampana**	**3.31**	**291**	P	Pn	19 23 51.9	-0.7
MRSI	**Marisa**	**3.79**	**312**	P	Pn	19 23 58.2	-1.1
SPSI	**Sidrap Palu**	**5.30**	**249**	P	Pn	19 24 21.2	+1.2

*NEIC **14** 19:23:41.9±0.2, 20°S±1°×169°.4E±0°.8, h195km±39km, mb4.1/3*
*IDC **14** 19:23:42.1±3.2, 19°.78S×169°.53E, h199km±53km, mb3.3/6, mb1 3.6/7, mb1mx3.3/33, mbtmp3.9/7, Error ellipse: s-maj=163.5km s-min=29.2km az=153.0*

ISC 14 19:23:41.3±2.1, 19°.9S±0°.4×169°.6E±0°.4, h200km, n14, σ0§75/15, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.71**	**233**	P	**Pn**	**19 24 39.6**	**0.0**
	27nm,0.3s,baz=81,slow=7.8,SNR=279						
DZM				S	**Sn**	**19 25 25.9**	**+0.5**
	21nm,0.3s,baz=316,slow=22,SNR=9.1						
DZM	**Mont Dzumac**	**3.71**	**233**		**Pn**	**19 24 39.2**	**-0.4**
WRAB	**Tennant Creek**	**33.15**	**264**	P	**P**	**19 29 58.5**	**-0.6**
WRAB				IAmb	IAmb	19 31 11.1	
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**33.16**	**264**	P	**P**	**19 29 57.4**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=94,slow=8.2,SNR=8.1						
AS31	**Alice Springs**	**33.35**	**257**	P	**P**	**19 30 00.3**	**-0.4**
AS31				IAmb	IAmb	19 30 01.5	
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**33.35**	**257**	P	**P**	**19 30 01.0**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=83,slow=8.6,SNR=57						
ASAR	**Alice Springs**	**33.35**	**257**	P	**P**	**19 30 00.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.56**	**265**	P	**P**	**19 31 09.8**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=69,slow=7.3,SNR=7.9						
FITZ	**Fitzroy Crossi**	**41.56**	**265**	P	**P**	**19 31 09.3**	**-0.3**
FITZ				IAmb	IAmb	19 31 58.0	
	comp=Z,12nm,1.6s						
CMAR	**Chiang Mai Arr**	**79.10**	**294**	P	**P**	**19 35 25.0**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=111,slow=4.9,SNR=4.7						
SONM	**Songino Array**	**87.93**	**323**	P	**P**	**19 36 08.5**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=152,slow=6.7,SNR=4.4						
ILAR	**Eielson Array**	**90.70**	**17**	P	**P**	**19 36 20.1**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=238,slow=5.1,SNR=5.4						
GERES	**GERESS Array B**	**145.21**	**332**	PKPbc	**PKPdf**	**19 42 56.0**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=46,slow=2.8,SNR=8.1						
GERES	**GERESS Array B**	**145.21**	**332**		**PKPdf**	**19 42 55.7**	**+0.6**

*JMA **14** 19:32:36.8±0.3, 43°.98N×147°.83E, h0km, M3.6*
*SKHL **14** 19:32:37.4±0.8, 44°.36N×148°.07E, h54km±7km, mb4.0/4*

ISC 14 19:32:34.1±3.5, 44°.3N±0°.1×148°.0E±0°.1, h7km±25km, n13, σ1§06/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**355**	*e*P	**Pb**	**19 32 53.0**	**-0.2**
KUR				AMB	AMB	19 32 53.0	
	40nm,0.2s						
KUR				*e*S	**Sb**	**19 33 04.9**	**-1.3**
KUR				A	A	19 33 08.0	
	299nm,0.2s						
KUR				A	A	19 33 08.0	
	277nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.55**	**262**	*e*P	**Pb**	**19 33 03.0**	**-0.1**
YUK				AMB	AMB	19 33 05.0	
	45nm,0.2s						
YUK				*e*S	**Sn**	**19 33 22.0**	**-0.4**
YUK				A	A	19 33 25.0	
	324nm,0.2s						
YUK				A	A	19 33 25.0	
	267nm,0.2s						
LAGR	**Lagunnoye**	**1.60**	**263**	*e*P	**Pb**	**19 33 04.0**	**0.0**
LAGR				*e*S	**Sn**	**19 33 23.0**	**-0.6**
LAGR				A	A	19 33 28.0	
	369nm,0.4s						
LAGR				A	A	19 33 28.0	
	462nm,0.4s						
GRPR	**Tuman**	**1.62**	**261**	*e*P	**Pb**	**19 33 04.0**	**-0.3**
GRPR				AMB	AMB	19 33 06.0	
	47nm,0.2s						
GRPR				*e*S	**Sn**	**19 33 24.0**	**-0.1**
GRPR				A	A	19 33 28.0	
	298nm,0.2s						
GRPR				A	A	19 33 28.0	
	115nm,0.2s						
GLVR	**Golovnino**	**1.86**	**254**	*e*P	**Pn**	**19 33 07.0**	**+0.7**
GLVR				AMB	AMB	19 33 09.0	
	53nm,0.4s						
GLVR				*e*S	**Sn**	**19 33 30.0**	**0.0**
GLVR				A	A	19 33 36.0	
	356nm,0.4s						
GLVR				A	A	19 33 36.0	
	271nm,0.4s						
NEM2	**Nemuro 2**	**1.86**	**242**	P	**Pn**	**19 33 06.8**	**+0.5**
NEM2				*e*S	**Sn**	**19 33 28.9**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.87**	**242**	*i* P	**Pn**	**19 33 06.0**	**-0.4**
NMR				*e*S	**Sn**	**19 33 29.0**	**-1.2**
JRA	**Rausu**	**2.09**	**262**	P	**Pb**	**19 33 11.7**	**-0.6**
JRA				*e*S	**Sb**	**19 33 37.7**	**-0.8**
JNSB	**Nemuroshibetsu**	**2.21**	**258**	P	**Pb**	**19 33 13.2**	**-1.1**
JKHN	**Kushirohamanak**	**2.37**	**241**	P	**Pn**	**19 33 14.4**	**+1.1**
JNK	**Nakash**	**2.46**	**255**	P	**Pn**	**19 33 16.5**	**+1.9**
JNK				*e*S	**Sn**	**19 33 45.3**	**+0.4**
JAK	**Akkeshi**	**2.71**	**243**	P	**Pn**	**19 33 19.1**	**+1.1**
JAK				*e*S	**Sn**	**19 33 50.7**	**-0.3**
JAR	**Ashorobuto**	**3.21**	**254**	P	**Pn**	**19 33 27.4**	**+2.5**
JAR				*e*S	**Sn**	**19 34 04.4**	**+1.1**

*UCR **14** 20:01:44.5±1.4, 8°.30N×82°.58W, h7km±9km, MW3.9*
*ISCJB **14** 20:01:45.0±0.6, 8°.27N±0°.05×82°.60W±0°.03, h28km±3km, Error ellipse: s-maj=8.3km s-min=3.0km az=22.6*
*UPA **14** 20:01:45.0±1.8, 8°.30N×82°.64W, h27km±4km, MD4.0, MW4.2*

ISC 14 20:01:45.6±1.0, 8°.32N±0°.04×82°.61W±0°.03, h31km±5km, n48, σ1§33/72, 9C-19D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAGA3	**Bagala, Chiriq**	**0.17**	**31**	⇓*i*P	**Pb**	**20 01 51.3**	**-0.3**
BAGA3				*i* S	**Sb**	**20 01 57.0**	**+1.4**
DVD	**David**	**0.20**	**55**	⇑*i*P	**Pb**	**20 01 51.1**	**-0.7**
DVD				*i* S	**Sb**	**20 01 56.3**	**+0.2**
PEDE3	**Pedregal, Chir**	**0.20**	**72**	⇓*i*P	**Pb**	**20 01 51.0**	**-0.8**
PEDE3				*i* S	**Sb**	**20 01 56.4**	**+0.2**
LOCO3	**Loma Colorada,**	**0.21**	**66**	⇓*i*P	**Pb**	**20 01 51.3**	**-0.8**
LOCO3				*i* S	**Sb**	**20 01 56.8**	**+0.4**
LOMA3	**Las Lomas, Chi**	**0.24**	**64**	⇓*i*P	**Pb**	**20 01 51.6**	**-0.8**
LOMA3				*i* S	**Sb**	**20 01 55.6**	**-1.4**
CHIR3	**Chiriqui UPA,**	**0.29**	**76**	⇓*i*P	**Pb**	**20 01 52.0**	**-1.0**
CHIR3				*i* S	**Sb**	**20 01 57.6**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.39**	**17**	⇓*i*P	**Pb**	**20 01 54.1**	**-0.4**
PTAR3				*i* S	**Sb**	**20 02 00.4**	**-0.1**
BCO2	**Palmira**	**0.40**	**12**	⇓*i*P	**Pb**	**20 01 54.4**	**-0.4**
BCO2				*i* S	**Sn**	**20 02 02.0**	**-0.1**
BRU2	**Volcan**	**0.47**	**351**	⇓*e*P	**Pb**	**20 01 55.3**	**-0.5**
BRU2				*e*S	**Sn**	**20 02 03.7**	**-0.2**
BRU2	**Volcan**	**0.47**	**351**	⇓*i*P	**Pb**	**20 01 55.3**	**-0.5**
BRU2				*i* S	**Sb**	**20 02 02.1**	**-0.6**
EDSV	**San Vito**	**0.61**	**324**	*e*P	**Pb**	**20 01 57.2**	**-0.7**
EDSV				*e*S	**Sn**	**20 02 08.1**	**+1.0**
PTJ1	**Puerto Jimnez**	**0.71**	**287**	*e*P	**Pb**	**20 01 58.0**	**-1.6**
PTJ1				*e*S	**Sn**	**20 02 10.2**	**+0.7**
PTJ1	**Puerto Jimnez**	**0.71**	**287**	⇓*e*P	**Pb**	**20 01 58.4**	**-1.2**
PTJ1				*i* S	**Sn**	**20 02 09.0**	**-0.5**
CHGR2	**Aguacate**	**0.77**	**37**	⇓*e*P	**Pb**	**20 01 58.8**	**-1.7**
CHGR2				*i* S	**Sb**	**20 02 09.7**	**-1.0**
NANC3	**Nancito, Chiri**	**0.88**	**95**	⇑*e*P	**Pn**	**20 01 59.6**	**-2.2**
EDPN	**Palmar Norte**	**1.05**	**307**	*e*P	**Pn**	**20 02 03.1**	**-1.1**
DRK0	**Durika**	**1.12**	**326**	⇑*e*P	**Pn**	**20 02 04.8**	**-0.6**
DRK0				*i* S	**Sn**	**20 02 19.1**	**-0.8**
EDLM	**Las Mercedes**	**1.35**	**315**	*e*P	**Pn**	**20 02 06.8**	**+0.4**
CNAZ3	**Canazas, Verag**	**1.39**	**89**	*e*P	**Pn**	**20 02 06.7**	**-2.2**
CNAZ3				*i* S	**Sn**	**20 02 23.9**	**-2.3**
GMAL	**Guarumal, Vera**	**1.48**	**112**	⇑*i*P	**Pn**	**20 02 08.5**	**-1.5**
GMAL				*i* S	**Sn**	**20 02 27.1**	**-1.2**
EDDO	**Dominical**	**1.54**	**307**	*e*P	**Pn**	**20 02 11.8**	**+0.8**
EDDO				*e*S	**Sb**	**20 02 33.9**	**+1.1**
SFRA3	**San Francisco,**	**1.63**	**92**	⇑*e*P	**Pn**	**20 02 11.8**	**-0.3**
SFRA3				*i* S	**Sn**	**20 02 32.6**	**+0.5**
STIA3	**Santiago, Vera**	**1.64**	**98**	⇓*e*P	**Pn**	**20 02 12.0**	**-0.4**
PONU3	**Ponuga, Veragu**	**1.68**	**105**	⇑*e*P	**Pb**	**20 02 17.3**	**+1.5**
CALO3	**Calobre, Verag**	**1.75**	**90**	⇓*e*P	**Pn**	**20 02 13.5**	**-0.4**
CALO3				*e*S	**Sn**	**20 02 36.1**	**+0.9**
OCU3	**Ocu, Herrera**	**1.86**	**102**	*e*P	**Pn**	**20 02 16.1**	**+0.7**
OCU3				*i* S	**Sn**	**20 02 39.5**	**+1.7**
LCR2	**La Lucha 2**	**1.97**	**316**	*e*P	**Pn**	**20 02 17.9**	**+0.8**
CACAO	**El Cacao, Vera**	**1.99**	**119**	⇑*e*P	**Pn**	**20 02 16.6**	**-0.6**
CACAO				*i* S	**Sn**	**20 02 41.5**	**+0.5**
CVTR	**Volcan Turrial**	**2.03**	**326**	*e*P	**Pb**	**20 02 20.1**	**-2.0**
**CHI

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44**	**92**	Pn	**Pn**	**20 05 46.4**	**+0.2**
	21nm,0.3s,baz=311,slow=6.8,SNR=6.5						
HNR				LR	LR	20 06 12.1	
	comp=Z,95nm,20.8s,baz=292,slow=27						
HNR				Sn	**Sn**	**20 06 14.1**	**-1.2**
	57nm,0.3s,baz=243,slow=7.3,SNR=7.5						
HNR	**Honiara**	**2.44**	**92**	P	**Pn**	**20 05 46.0**	**-0.1**
HNR	**Honiara**	**2.44**	**92**	P	**Pn**	**20 05 46.1**	**-0.1**
KRVT	**Keravat (AS076**	**7.37**	**312**	LR	LR	20 09 47.0	
	comp=Z,160nm,21.3s,baz=142,slow=39						
COEN	**Coen**	**14.73**	**251**	P	**P**	**20 08 38.6**	**-2.0**
CTA	**Charters Tower**	**15.21**	**224**	Pn	**Pn**	**20 08 41.8**	**+0.6**
	0.2nm,0.3s,baz=48,slow=15,SNR=4.1						
CTA				LR	LR	20 12 38.1	
	comp=Z,202nm,21.0s,baz=158,slow=30						
CTAO	**Charters Tower**	**15.21**	**224**	Pn	**Pn**	**20 08 40.6**	**-0.6**
CTAO				IAmb	IAmb	20 08 41.9	
	comp=Z,24nm,1.6s						
DZM	**Mont Dzumac**	**15.31**	**147**	LR	LR	20 13 44.1	
	comp=Z,126nm,19.4s,baz=316,slow=34						
WRAB	**Tennant Creek**	**24.69**	**242**	P	**P**	**20 10 27.7**	**+0.5**
WRAB				IAmb	IAmb	20 10 28.3	
	comp=Z,7.0nm,0.7s						
WB2	**Warramunga Arr**	**24.69**	**242**	P	**P**	**20 10 27.3**	**+0.2**
WRA	**Warramunga Arr**	**24.70**	**242**	P	**P**	**20 10 27.6**	**+0.4**
	comp=Z,6.4nm,0.8s,baz=68,slow=9.4,SNR=52						
WRA	**Warramunga Arr**	**24.70**	**242**	P	**P**	**20 10 26.8**	**-0.5**
GUMO	**Guam**	**25.99**	**331**	LR	LR	20 18 57.0	
	comp=Z,27nm,19.7s,baz=128,slow=32						
ASAR	**Alice Springs**	**26.65**	**235**	P	**P**	**20 10 44.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=70,slow=8.3,SNR=8.4						
STKA	**Stephens Creek**	**26.83**	**211**	P	**P**	**20 10 48.6**	**+2.3**
	comp=Z,8.0nm,0.7s,baz=29,slow=13,SNR=18						
STKA				LR	LR	20 20 51.3	
	comp=Z,30nm,18.8s,baz=23,slow=35						
STKA	**Stephens Creek**	**26.83**	**211**	P	**P**	**20 10 47.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**32.08**	**251**	LR	LR	20 22 13.2	
	comp=Z,30nm,21.7s,baz=71,slow=32						
DAV	**Davao City (W)**	**35.72**	**296**	LR	LR	20 24 48.7	
	comp=Z,29nm,21.6s,baz=274,slow=33						
MJAR	**Matsushiro Arr**	**49.11**	**339**	LR	LR	20 34 08.5	
	comp=Z,10nm,19.1s,baz=280,slow=36						
KSRS	**Korea Array**	**54.16**	**331**	LR	LR	20 37 30.2	
	comp=Z,19nm,18.0s,slow=36						
KSAR	**Wonju Array Be**	**54.17**	**331**	P	**P**	**20 14 31.7**	**+0.5**
PETK	**Petropavlovsk-**	**62.21**	**0**	LR	LR	20 38 13.6	
	comp=Z,18nm,21.4s,baz=46,slow=32						
CM31	**Chiang Mai Arr**	**64.00**	**296**	P	**P**	**20 15 39.3**	**-0.5**
CM31				IAmb	IAmb	20 15 56.0	
	comp=Z,4.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**64.00**	**296**	P	**P**	**20 15 40.3**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=117,slow=5.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**64.00**	**296**	P	**P**	**20 15 40.1**	**+0.3**
SHL	**Shillong**	**72.59**	**300**	P	**P**	**20 16 32.6**	**-1.2**
SONM	**Songino Array**	**72.63**	**327**	P	**P**	**20 16 34.3**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=130,slow=5.0,SNR=9.3						
SONM	**Songino Array**	**72.63**	**327**	P	**P**	**20 16 33.6**	**+0.2**
ILAR	**Eielson Array**	**84.67**	**21**	P	**P**	**20 17 39.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=247,slow=5.3,SNR=4.6						
MKAR	**Makanchi Array**	**86.78**	**318**	P	**P**	**20 17 50.5**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=109,slow=5.4,SNR=15						
MKAR	**Makanchi Array**	**86.78**	**318**	P	**P**	**20 17 50.0**	**-0.1**
ZALV	**Zalesovo Beam**	**87.49**	**326**	P	**P**	**20 17 53.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=104,slow=4.6,SNR=2.8						
YERR	**Yerington**	**90.64**	**51**	P	**P**	**20 18 10.2**	**+1.4**
YERR				IAmb	IAmb	20 18 37.3	
	comp=Z,6.1nm,1.0s						
TPNV	**Topopah Spring**	**92.59**	**53**	P	**P**	**20 18 20.1**	**+2.3**
ELK	**Elko**	**93.98**	**50**	P	**P**	**20 18 21.4**	**-2.9**
ELK				IAmb	IAmb	20 19 07.3	
	comp=Z,13nm,1.6s						

*ISCJB **14** 20:07:41.0±1.4, 8°.44N±0°.08×83°.01W±0°.09, h20km±13km, Error ellipse: s-maj=18.0km s-min=9.2km az=135.4*
*UCR **14** 20:07:40.7±0.5, 8°.44N×82°.96W, h36km±6km, MW3.1*
*UPA **14** 20:07:41.3±2.2, 8°.50N×82°.97W, h12km±11km, MW3.8*
ISC 14 20:07:41.0±1.6, 8°.57N±0°.05×82°.93W±0°.05, h1km±14km, n18, σ1°.46/25, 4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.32**	**46**	*e*P	**Pb**	**20 07 50.1**	**+0.4**
BRU2				*e*S	**Sb**	**20 07 57.1**	**+1.7**
BRU2	**Volcan**	**0.32**	**46**	⇓*i*P	**Pb**	**20 07 50.1**	**+0.4**
	baz=226,slow=2.8						
BRU2				*i* S	**Sb**	**20 07 57.2**	**+1.7**
BAGA3	**Bagala, Chiriq**	**0.41**	**104**	*e*P	**Pg**	**20 07 50.1**	**+1.3**
BAGA3				*e*S	**Sb**	**20 07 56.8**	**-0.9**
BCO2	**Palmira**	**0.42**	**69**	⇓*i*P	**Pb**	**20 07 51.3**	**0.0**
BCO2				*i* S	**Sb**	**20 07 59.1**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.44**	**74**	*e*P	**Pn**	**20 07 54.2**	**-0.4**
PTAR3				*i* S	**Sb**	**20 07 59.8**	**+1.0**
DVD	**David**	**0.49**	**105**	*e*P	**Pb**	**20 07 52.9**	**+0.6**
LOCO3	**Loma Colorada,**	**0.53**	**107**	*e*P	**Pn**	**20 07 55.6**	**0.0**
PEDE3	**Pedregal, Chir**	**0.53**	**110**	*e*P	**Pg**	**20 07 51.6**	**+0.4**
PEDE3				*i* S	**Sg**	**20 07 58.0**	**0.0**
LOMA3	**Las Lomas, Chi**	**0.55**	**104**	*e*P	**Pb**	**20 07 54.4**	**+1.1**
LOMA3				*e*S	**Sb**	**20 08 00.9**	**-0.8**
CHIR3	**Chiriqui UPA,**	**0.61**	**106**	*e*P	**Pg**	**20 07 53.5**	**+0.7**
DRK0	**Durika**	**0.76**	**336**	⇓*e*P	**Pg**	**20 07 56.1**	**+0.6**
CHGR2	**Aguacate**	**0.86**	**64**	*i* P	**Pg**	**20 07 57.7**	**+0.3**
CHGR2				*i* S	**Sg**	**20 08 04.4**	**-4.1**
REME3	**Remedios, Chir**	**1.13**	**107**	*i* P	**Pn**	**20 08 04.0**	**0.0**
PVID3	**Puerto Vidal,**	**1.40**	**111**	*e*P	Pn	20 08 01.2	-6.5
GMAL	**Guarumal, Vera**	**1.86**	**115**	*e*P	**Pn**	**20 08 11.2**	**-2.8**
CALO3	**Calobre, Verag**	**2.08**	**97**	*e*P	**Pg**	**20 08 23.1**	**+2.2**
CACAO	**El Cacao, Vera**	**2.38**	**121**	⇓*e*P	**Pn**	**20 08 20.2**	**-1.0**
JTS	**Las Juntas de**	**2.63**	**311**	*e*P	**Pg**	**20 08 32.2**	**+0.7**

*IDC **14** 20:35:51.3±8.3, 31°.55S×179°.93E, h282km±89km, mb3.5/3, mb1 3.8/4, mb1mx3.3/36, mbtmp4.3/4, Error ellipse: s-maj=87.1km s-min=35.0km az=1.0*
*ISCJB **14** 20:35:59.7±1.0, 32°.29S±0°.06×179°.7W±0°.2, h350km, mb3.5/3, Error ellipse: s-maj=23.1km s-min=8.1km az=8.6*
*WEL **14** 20:36:03.9±0.6, 32°.5S×18°.0E±1°.1, h0km, M4.8/22, mB5.4/8, ML4.8/16, MLv4.8/22, Mw(mB)4.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2*
ISC 14 20:35:56.3±1.2, 32°.08S±0°.07×179°.6W±0°.1, h350km, n76, σ2°.79/84, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.16**	**28**	S	**S**	**20 37 42.4**	**-3.8**
MXZ	**Matakaoa Point**	**5.73**	**197**	P	**Pn**	**20 37 27.3**	**+3.4**
MXZ				S	**S**	**20 38 33.6**	**-1.3**
GRZ	**Great Barrier**	**5.83**	**223**	P	**Pn**	**20 37 27.9**	**+2.8**
WMGZ	**Waiomatatini S**	**5.95**	**195**	P	Pn	20 37 30.2	+3.8
WMGZ				S	**S**	**20 38 40.3**	**+0.8**
KUZ	**Kuaotunu**	**6.05**	**218**	P	**Pn**	**20 37 30.6**	**+3.2**
HAZ	**Te Kaha**	**6.05**	**200**	P	Pn	20 37 31.3	+3.7
HAZ				S	**S**	**20 38 40.8**	**-0.8**
PKGZ	**Pakihiroa**	**6.10**	**198**	P	Pn	20 37 33.3	+5.1
PKGZ				S	**S**	**20 38 41.7**	**-1.0**
MYRZ	**Mayor Island**	**6.21**	**212**	P	Pn	20 37 34.3	+4.9
PUZ	**Puketiti**	**6.23**	**196**	P	Pn	20 37 33.9	+4.3
PUZ				S	**S**	**20 38 44.4**	**-1.0**
RUGZ	**Raukumara Rang**	**6.28**	**200**	P	**Pn**	**20 37 32.7**	**+2.4**
RUGZ				S	**S**	**20 38 42.4**	**-4.2**
TWGZ	**Tauwhareparae**	**6.40**	**197**	P	Pn	20 37 35.9	+4.4
TWGZ				S	**S**	**20 38 49.2**	**+0.3**
WHRZ	**Whale Island**	**6.41**	**205**	P	Pn	20 37 36.8	+5.1
WHRZ				S	**S**	**20 38 49.0**	**-0.2**
OUZ	**Omahuta**	**6.47**	**239**	P	**Pn**	**20 37 34.4**	**+2.0**
OPRZ	**Ohinepanea**	**6.56**	**208**	P	**Pn**	**20 37 36.9**	**+3.5**
MARZ	**Manawahe**	**6.63**	**206**	P	Pn	20 37 39.2	+4.9
CNGZ	**Carnagh Statio**	**6.63**	**195**	P	**Pn**	**20 37 37.2**	**+3.0**
CNGZ				S	**S**	**20 38 50.6**	**-3.3**
MWZ	**Matawai**	**6.67**	**200**	P	**Pn**	**20 37 36.7**	**+2.0**
MWZ				S	**S**	**20 38 52.3**	**-2.3**
TKGZ	**Te Karaka**	**6.68**	**197**	P	**Pn**	**20 37 37.6**	**+2.8**
TKGZ				S	**S**	**20 38 53.1**	**-1.7**
URZ	**Urewera**	**6.72**	**203**	P	**Pn**	**20 37 34.9**	**-0.4**
	12nm,0.3s,baz=268,slow=4.4,SNR=55						
URZ				S	**S**	**20 38 53.5**	**-2.3**
	16nm,0.3s,baz=68,slow=23,SNR=19						
URZ	**Urewera**	**6.72**	**203**	P	**Pn**	**20 37 35.4**	**+0.1**
URZ				S	**S**	**20 38 52.7**	**-3.1**
TARZ	**Mount Tarawera**	**6.92**	**206**	P	Pn	20 37 42.8	+5.2
TOZ	**Tahuroa Road**	**6.92**	**214**	P	Pn	20 37 42.1	+4.5
RTZ	**Ruatahuna**	**7.09**	**202**	P	**Pn**	**20 37 41.9**	**+2.2**
PRGZ	**Paritu Road**	**7.13**	**196**	P	Pn	20 37 44.0	+4.0
PRGZ				S	**S**	**20 39 00.9**	**-3.6**
SNGZ	**Shannon Statio**	**7.14**	**200**	P	**Pn**	**20 37 39.3**	**-0.8**
SNGZ				S	**S**	**20 39 00.9**	**-3.8**
HRRZ	**Handcock Road**	**7.14**	**207**	P	Pn	20 37 44.5	+4.4
MTHZ	**Maungataniwha**	**7.35**	**202**	P	**Pn**	**20 37 43.0**	**+0.3**
MTHZ				S	**S**	**20 39 03.5**	**-5.8**
WHHZ	**Waihua**	**7.44**	**199**	P	**Pn**	**20 37 47.0**	**+3.4**
WHHZ				S	**S**	**20 39 02.8**	**-8.3**
NMHZ	**Naumai**	**7.59**	**202**	P	**Pn**	**20 37 47.3**	**+1.8**
NMHZ				S	**S**	**20 39 08.6**	**-5.8**
WATZ	**Wairara**	**7.63**	**209**	P	Pn	20 37 49.6	+3.6
BKZ	**Black Stump Fm**	**7.75**	**203**	P	**Pn**	**20 37 47.3**	**-0.1**
BKZ				S	**S**	**20 39 12.8**	**-5.1**
RITZ	**Rihia Road**	**7.81**	**207**	P	**Pn**	**20 37 51.0**	**+3.0**
HIZ	**Hauiti**	**7.85**	**214**	P	Pn	20 37 53.5	+4.9
KATZ	**Kakaramea**	**7.87**	**208**	P	**Pn**	**20 37 52.2**	**+3.3**
MCHZ	**McNeill Hill**	**7.94**	**201**	P	**Pn**	**20 37 51.5**	**+2.0**
KWHZ	**Kaweka Forest**	**8.01**	**203**	P	**Pn**	**20 37 51.2**	**+0.7**
CKHZ	**Cape Kidnapper**	**8.03**	**199**	P	**Pn**	**20 37 52.5**	**+2.0**
WTVZ	**West Tongariro**	**8.04**	**208**	P	**Pn**	**20 37 52.1**	**+1.3**
TWVZ	**Taurewa**	**8.06**	**209**	P	**Pn**	**20 37 52.4**	**+1.4**
NGZ	**Ngauruhoe**	**8.08**	**207**	P	**Pn**	**20 37 53.6**	**+2.2**
TUVZ	**Tukino**	**8.14**	**207**	P	**P**	**20 37 53.9**	**-1.2**
FWVZ	**Far West T-bar**	**8.17**	**207**	P	**Pn**	**20 37 53.2**	**+0.7**
WHVZ	**Whangaehu Hut**	**8.18**	**207**	P	**P**	**20 37 53.6**	**-2.0**
BHHZ	**Black Hill Sta**	**8.19**	**204**	P	**Pn**	**20 37 52.7**	**+0.2**
KAHZ	**Kahuranaki**	**8.21**	**199**	P	**P**	**20 37 54.1**	**-1.6**
TRVZ	**Turoa**	**8.21**	**207**	P	**Pn**	**20 37 53.5**	**+0.5**
KRHZ	**Kereru**	**8.22**	**202**	P	**Pn**	**20 37 53.0**	**0.0**
MOVZ	**Moawhango**	**8.22**	**206**	P	**P**	**20 37 54.3**	**-1.6**
PKVZ	**Pokaka**	**8.28**	**208**	P	**P**	**20 37 55.5**	**-1.0**
MTVZ	**Mangateitei**	**8.31**	**207**	P	**Pn**	**20 37 54.2**	**+0.2**
VRZ	**Vera Road**	**8.39**	**212**	P	**P**	**20 37 58.4**	**+0.7**
PXZ	**Pawanui**	**8.43**	**199**	P	**P**	**20 37 56.4**	**-1.7**
PNHZ	**Pukenui**	**8.52**	**202**	P	**Pn**	**20 37 55.5**	**-1.0**
WPHZ	**Waipukurau**	**8.59**	**201**	P	**P**	**20 37 58.7**	**-1.2**
PRHZ	**Porangahau**	**8.71**	**199**	P	**P**	**20 37 59.4**	**-1.8**
TSZ	**Takapari Road**	**8.73**	**203**	P	**Pn**	**20 37 58.7**	**-0.3**
PKE	**Pukeiti**	**8.80**	**214**	P	**P**	**20 38 04.4**	**+2.0**
WAZ	**Wanganui**	**8.82**	**208**	P	**P**	**20 38 01.5**	**-1.0**
KHEZ	**Kahui Hut**	**8.87**	**214**	P	**P**	**20 38 04.4**	**+1.3**
DVHZ	**Dannevirke**	**8.88**	**201**	P	**P**	**20 38 01.6**	**-1.5**
ANWZ	**Angora Road**	**8.94**	**200**	P	**P**	**20 38 03.9**	**+0.2**
POWZ	**Post Office Ro**	**9.10**	**203**	P	**P**	**20 38 04.3**	**-1.2**
PRWZ	**Pori Road**	**9.18**	**202**	P	**P**	**20 38 05.5**	**-0.9**
BFZ	**Birch Farm**	**9.21**	**200**	P	**Pn**	**20 38 04.1**	**-0.5**
MRZ	**Mangatainoka R**	**9.40**	**203**	P	**Pn**	**20 38 06.0**	**-0.9**
TIWZ	**Tintock**	**9.41**	**201**	P	**P**	**20 38 08.2**	**-0.8**
CPWZ	**Castlepoint**	**9.44**	**200**	P	**P**	**20 38 09.8**	**+0.6**
HOWZ	**Holdsworth Sta**	**9.63**	**203**	P	**Pn**	**20 38 09.1**	**-0.6**
HOWZ				S	**S**	**20 39 50.4**	**-8.7**
OGWZ	**Otaki Gorge**	**9.68**	**204**	P	**Pn**	**20 38 08.8**	**-1.4**
TMWZ	**Te Maipa**	**9.71**	**201**	P	**P**	**20 38 11.2**	**-1.1**
TMWZ				S	**S**	**20 39 53.8**	**-6.9**
KIW	**Kapiti Island**	**9.81**	**205**	P	**Pn**	**20 38 10.8**	**-1.0**
KIW				S	S	20 39 51.4	-12
TRWZ	**Traveller**	**10.04**	**201**	P	**P**	**20 38 14.9**	**-1.0**
TRWZ				S	**S**	**20 40 00.3**	**-7.6**
STKA	**Stephens Creek**	**32.79**	**260**	P	**P**	**20 41 57.1**	**-0.9**
	1.1nm,0.4s,baz=122,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**41.68**	**270**	P	**P**	**20 43 09.4**	**-2.7**
	1.2nm,0.5s,baz=105,slow=7.6,SNR=29						
WRA	**Warramunga Arr**	**42.82**	**275**	P	**P**	**20 43 18.5**	**-2.8**
	2.0nm,0.4s,baz=112,slow=8.0,SNR=71						
FINES	**FINESS Array B**	**146.21**	**338**	PKPbc	**PKPdf**	**20 54 55.0**	**+1.6**
	1.5nm,0.4s,baz=38,slow=4.6,SNR=19						

*ISCJB **14** 20:46:51.9±0.4, 9°.38S±0°.06×108°.82E±0°.04, h27km, mb4.4/21, MS3.3/3, Error ellipse: s-maj=8.8km s-min=4.9km az=14.1*
*NEIC **14** 20:46:54.0±1.6, 9°.34S±0°.06×108°.85E±0°.06, h30km±6km, mb4.6/19*
*DJA **14** 20:46:54.5±0.7, 9°.5S±5°×10°.9E±°, h36km±7km, M4.7/14, mb4.9/11, mB5.3/7, MLv4.6/14, Mw(mB)4.7/7*
*IDC **14** 20:46:59.7±2.7, 8°.88S×109°.21E, h60km±24km, mb4.0/19, mb1 4.0/22, mb1mx3.8/51, mbtmp4.3/22, ML4.1/3, MS3.3/6, Ms1 3.4/6, ms1mx3.0/40, Error ellipse: s-maj=28.0km s-min=11.6km az=46.0*
ISC 14 20:46:53.9±0.5, 9°.30S±0°.06×108°.86E±0°.05, h27km, n90, σ1°.47/88, mb4.4/27, MS3.3/3, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.56**	**345**	P	**Pn**	**20 47 20.0**	**+0.2**
KPJI	**Karang Pucung**	**1.95**	**2**	P	**Pb**	**20 47 27.2**	**-1.6**
CISI	**Cisompet, Garu**	**2.02**	**329**	P	**Pn**	**20 47 27.2**	**+1.0**
CISI	**Cisompet, Garu**	**2.02**	**329**		**Pn**	**20 47 26.7**	**+0.5**
YOGI	**Yogyakarta**	**2.04**	**44**	P	**Pn**	**20 47 25.9**	**-0.6**
UGM	**Wanagama**	**2.14**	**50**	P	**Pn**	**20 47 27.9**	**0.0**
UGM	**Wanagama**	**2.14**	**50**		**Pn**	**20 47 27.7**	**-0.2**
WOJI	**Wonogiri, Jawa**	**2.50**	**55**	P	**Pn**	**20 47 33.3**	**+0.5**
PCJI	**Pacitan**	**2.54**	**65**	P	**Pn**	**20 47 32.6**	**-0.7**
SMRI	**Semarang**	**2.72**	**35**	P	**Pn**	**20 47 37.8**	**+1.9**
SMRI	**Semarang**	**2.72**	**35**		**Pn**	**20 47 37.6**	**+1.7**
LEM	**Lembang**	**2.75**	**333**	P	**Pb**	**20 47 40.2**	**-2.2**
	72nm,0.3s,baz=346,slow=13,SNR=34						
LEM				S	**Sb**	**20 48 19.9**	**+4.2**
	54nm,0.3s,baz=333,slow=21,SNR=6.9						
LEM				LR	LR	20 49 00.7	
	comp=Z,941nm,19.9s,baz=138,slow=47						
LEM	**Lembang**	**2.75**	**333**	P	**Pb**	**20 47 40.1**	**-2.3**
PWJI	**Pagerwojo**	**3.17**	**67**	P	**Pn**	**20 47 42.8**	**+0.8**
NGJI	**Ngawi**	**3.21**	**54**	P	**Pb**	**20 47 46.4**	**-3.7**
SKJI	**Sukabumi**	**3.22**	**315**	P	**Pn**	**20 47 44.9**	**+2.1**
XMIS	**Christmas Isla**	**3.38**	**249**		**Pn**	**20 47 44.5**	**-0.4**
GRJI	**Gresik**	**4.29**	**57**	P	**Pn**	**20 47 59.6**	**+2.2**
JAGI	**Jajag, Banyuwa**	**5.29**	**82**	P	**Pn**	**20 48 11.7**	**+0.5**
	82nm,0.7s,2μm						
JAGI	**Jajag, Banyuwa**	**5.29**	**82**		**Pn**	**20 48 11.2**	**0.0**
TWSI	**Taliwang, Sumb**	**7.94**	**87**	P	**Pn**	**20 48 48.3**	**+0.7**
PLAI	**Plampang**	**8.81**	**88**	P	**Pn**	**20 48 58.6**	**-1.0**
KAPI	**Kappang**	**11.61**	**69**	LR	LR	20 54 07.9	
	comp=Z,115nm,21.4s,baz=296,slow=38						
TTSI	**Tana Toraja**	**12.53**	**61**	P	**P**	**20 50 02.4**	**+0.5**
MPSI	**Mapaga**	**14.57**	**50**	P	**P**	**20 50 26.0**	**+1.4**
BATI	**Baumata**	**14.62**	**95**	P	**Pn**	**20 50 20.8**	**+1.7**
	3.1nm,0.3s,baz=210,slow=8.5,SNR=4.1						
BATI				S	Sn	20 52 46.5	-14
	1.8nm,0.3s,baz=227,slow=19,SNR=2.2						
SOEI	**Soe**	**15.20**	**93**	P	**Pn**	**20 50 25.5**	**-1.5**
SOEI	**Soe**	**15.20**	**93**		**Pn**	**20 50 26.2**	**-0.8**
SOEI				IAmb	IAmb	20 50 47.4	
	comp=Z,25nm,1.0s						
APSI	**Ampana**	**15.21**	**58**	P	**P**	**20 50 30.1**	**-1.6**
GSI	**Gunungsitoli**	**15.40**	**313**	Pn	**Pn**	**20 50 27.9**	**-1.7**
GSI				IAmb	IAmb	20 50 37.5	
	comp=Z,20nm,0.7s						
MRSI	**Marisa**	**16.24**	**54**	P	**P**	**20 50 42.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.49**	**120**	P	**Pn**	**20 51 11.3**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=257,slow=10,SNR=5.7						
FITZ				S	Sn	20 54 18.9	-15
	comp=Z,0.4nm,0.3s,baz=171,slow=19,SNR=3.9						
FITZ				LR	LR	20 57 56.4	
	comp=Z,81nm,20.4s,baz=308,slow=36						
FITZ	**Fitzroy Crossi**	**18.49**	**120**	P	**P**	**20 51 06.1**	**-1.9**
AAI	**Ambon**	**19.99**	**75**	P	**Pn**	**20 51 30.3**	**+3.9**
CHAI	**Chaiyaphum**	**25.94**	**345**	P	**P**	**20 52 26.4**	**+2.2**
	comp=Z,20μm,0.7s						
WRA	**Warramunga Arr**	**26.79**	**116**	P	**P**	**20 52 32.5**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=289,slow=12,SNR=21						
WRA	**Warramunga Arr**	**26.79**	**116**	P	**P**	**20 52 32.3**	**+0.4**
WB2	**Warramunga Arr**	**26.80**	**116**	P	**P**	**20 52 32.9**	**+0.9**
WB2				IAmb	IAmb	20 52 50.6	
	comp=Z,31nm,2.0s						
ASAR	**Alice Springs**	**27.87**	**124**	P	**P**	**20 52 43.2**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=298,slow=9.5,SNR=16						
ASAR				PcP	**PcP**	**20 55 59.4**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=302,slow=2.2,SNR=8.2						
ASAR				LR	LR	21 04 23.6	
	comp=Z,74nm,20.3s,baz=295,slow=38						
CMAR	**Chiang Mai Arr**	**29.26**	**340**	P	**P**	**20 52 52.8**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=176,slow=8.5,SNR=11						
CMAR				PcP	**PcP**	**20 56 03.0**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=200,slow=2.4,SNR=4.4						
CMAR				LR	LR	21 05 21.9	
	comp=Z,70nm,20.6s,baz=155,slow=38						
CMAR	**Chiang Mai Arr**	**29.26**	**340**	P	**P**	**20 52 52.9**	**-1.1**
H08S2	**Diego Garcia H**	**36.00**	**270**	T	T	21 32 06.7	
	baz=95,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**36.01**	**270**	T	T	21 32 16.7	
	baz=95,slow=75,SNR=22						
H08S1	**Diego Garcia H**	**36.02**	**270**	T	T	21 32 08.5	
	baz=95,slow=75,SNR=22						
STKA	**Stephens Creek**	**37.75**	**131**	P	**P**	**20 54 09.6**	**+1.9**
	comp=Z,2.7nm,0.6s,baz=311,slow=9.8,SNR=8.1						
STKA				LR	LR	21 11 02.8	
	comp=Z,62nm,20.0s,baz=21,slow=38						
STKA	**Stephens Creek**	**37.75**	**131**	P	**P**	**20 54 09.2**	**+1.6**
SHL	**Shillong**	**38.39**	**335**	P	**P**	**20 54 13.1**	**-0.2**
SHL				IAmb	IAmb	20 54 14.0	
	comp=Z,5.4nm,0.7s						
ODAN	**Odare**	**41.55**	**330**	*e*P	**P**	**20 54 39.6**	**0.0**
	comp=Z,18nm,0.6s						
TAPN	**Taplejung**	**41.80**	**331**	*e*P	**P**	**20 54 42.1**	**+0.4**
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**42.36**	**337**	P	**P**	**20 54 47.0**	**+0.5**
JIRN	**Jiri**	**42.80**	**330**	*e*P	**P**	**20 54 50.0**	**0.0**
	comp=Z,31nm,0.6s						
PKI	**Pulchoki**	**43.12**	**329**	*e*P	**P**	**20 54 52.6**	**+0.1**
	comp=Z,4.2nm,0.6s						
PKIN	**Phulchoki**	**43.13**	**329**	*e*P	**P**	**20 54 52.5**	**0.0**
GUN	**Gumba**	**43.16**	**330**	*e*P	**P**	**20 54 53.1**	**+0.2**
	comp=Z,22nm,0.6s						
DMN	**Daman**	**43.30**	**329**	*e*P	**P**	**20 54 53.7**	**-0.2**
	comp=Z,14nm,0.7s						
KKN	**Kakani**	**43.36**	**329**	*e*P	**P**	**20 54 54.5**	**+0.2**
	comp=Z,12nm,0.9s						
GKN	**Gorkha**	**43.87**	**328**	*e*P	**P**	**20 54 58.4**	**+0.1**
	comp=Z,12nm,0.3s						
KOLN	**Koldanda**	**44.23**	**327**	*e*P	**P**	**20 55 01.7**	**+0.4**
	comp=Z,35nm,0.7s						
DANN	**Dangsing**	**44.60**	**328**	*e*P	**P**	**20 55 04.6**	**+0.2**
	comp=Z,37nm,0.6s						
GTA	**Gaotai**	**49.18**	**351**	*e*P	**P**	**20 55 35.6**	**-4.2**
GTA				pP	pP	20 55 41.1	-6.2
GTA				sP	sP	20 55 43.6	-6.5
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	**Matsushiro Arr**	**53.29**	**29**	P	**P**	**20 56 08.4**	**-2.2**
	comp=Z,4.4nm,0.8s,baz=212,slow=8.9,SNR=8.6						
NIL	**Nilore**	**54.49**	**323**	P	**P**	**20 56 18.9**	**-0.6**
SONM	**Songino Array**	**56.92**	**358**	P	**P**	**20 56 36.8**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=177,slow=8.5,SNR=25						
SONM	**Songino Array**	**56.92**	**358**	P	**P**	**20 56 36.2**	**-0.5**
ULN	**Ulaanbaatar**	**56.93**	**359**	P	**P**	**20 56 36.7**	**-0.1**
ULN				IA

YJA				*e*S	**Sn**	**20 55 31.5**	**-1.2**
YJA				IAML		20 55 34.4	
	comp=Z,38nm,0.5s						
PB09	**IPOC Station P**	**1.79 271**	⇑	*i*P	**Pn**	**20 55 06.6**	**+0.9**
PB09				*i* S	**Sn**	**20 55 33.7**	**-0.2**
PB09	**IPOC Station P**	**1.79 271**		*i* P	**Pn**	**20 55 06.5**	**+0.9**
PB09				IAML		20 55 36.7	
	comp=Z,69nm,0.3s						
PB01	**IPOC Station P**	**2.18 291**	⇑	*i*P	**Pn**	**20 55 09.9**	**+0.4**
PB01				*i* S	**Sn**	**20 55 40.0**	**-0.8**
PB01				IAML		20 55 41.1	
	comp=N,684nm,0.3s						
PB01				IAML		20 55 41.5	
	comp=E,350nm,0.2s						
PB06	**IPOC Station P**	**2.26 247**		*e*P	**Pn**	**20 55 11.0**	**+0.5**
PB06				*i* S	**Sn**	**20 55 41.9**	**-0.7**
PB06				IAML		20 55 43.7	
	comp=E,126nm,0.2s						
PB06	**IPOC Station P**	**2.26 247**		*i* P	**Pn**	**20 55 11.1**	**+0.7**
PB06				IAML		20 55 45.1	
	comp=Z,67nm,0.1s						
PB03	**IPOC Station P**	**2.28 264**	⇑	*i*P	**Pn**	**20 55 11.2**	**+0.6**
PB03				*i* S	**Sn**	**20 55 41.7**	**-1.1**
PB03				IAML		20 55 42.9	
	comp=E,247nm,0.2s						
PB03	**IPOC Station P**	**2.28 264**		*i* P	**Pn**	**20 55 11.2**	**+0.6**
PB03				IAML		20 55 44.4	
	comp=Z,126nm,0.3s						
PB07	**IPOC Station P**	**2.40 272**	⇓	*i*P	**Pn**	**20 55 12.7**	**+0.7**
PB07				*i* S	**Sn**	**20 55 43.9**	**-1.3**
PB07				IAML		20 55 44.9	
	comp=N,339nm,0.2s						
PB07	**IPOC Station P**	**2.40 272**		*i* P	**Pn**	**20 55 12.7**	**+0.7**
PB07				IAML		20 55 46.8	
	comp=Z,134nm,0.3s						
PB08	**IPOC Station P**	**2.41 314**	⇑	*i*P	**Pn**	**20 55 13.8**	**+1.4**
PB08				*i* S	**Sn**	**20 55 45.6**	**-0.3**
PB08				IAML		20 55 48.0	
	comp=N,76nm,0.3s						
PB08				IAML		20 55 48.5	
	comp=E,53nm,0.4s						
PB08	**IPOC Station P**	**2.41 314**		*i* P	**Pn**	**20 55 13.8**	**+1.4**
PB08				IAML		20 55 52.4	
	comp=Z,29nm,0.6s						
PB15	**IPOC Station P**	**2.42 235**		*i* P	**Pn**	**20 55 13.1**	**+0.9**
PB15				*i* S	**Sn**	**20 55 45.5**	**-0.2**
PB15	**IPOC Station P**	**2.42 235**		*i* P	**Pn**	**20 55 13.2**	**+0.9**
PB15				IAML		20 55 51.1	
	comp=Z,284nm,0.4s						
PB02	**IPOC Station P**	**2.46 282**	⇑	*i*P	**Pn**	**20 55 13.1**	**+0.5**
PB02				*i* S	**Sn**	**20 55 44.8**	**-1.5**
PB02				IAML		20 55 46.0	
	comp=N,436nm,0.4s						
PB02	**IPOC Station P**	**2.46 282**		*i* P	**Pn**	**20 55 12.9**	**+0.3**
PB02				IAML		20 55 50.4	
	comp=Z,278nm,0.4s						
PB04	**IPOC Station P**	**2.68 259**		*i* P	**Pn**	**20 55 15.6**	**+0.5**
GO01	**Chusmiza**	**2.79 320**	⇑	*i*P	**Pn**	**20 55 17.7**	**+1.0**
GO01				*i* S	**Sn**	**20 55 54.4**	**+0.6**
GO01				IAML		20 55 58.9	
	comp=E,143nm,0.1s						
PB11	**IPOC Station P**	**3.02 313**	⇑	*i*P	**Pn**	**20 55 19.2**	**+0.2**
PB11				*i* S	**Sn**	**20 55 56.1**	**-1.9**
PB11				IAML		20 55 59.2	
	comp=N,189nm,0.3s						
PB11	**IPOC Station P**	**3.02 313**		*i* P	**Pn**	**20 55 19.2**	**+0.2**
PB11				IAML		20 55 58.6	
	comp=Z,82nm,0.3s						
AZAP	**Zapla**	**3.15 139**		*i* P	**Pn**	**20 55 21.0**	**+0.3**
AZAP				IAML		20 56 37.0	
	comp=Z,8.9nm,0.6s						
ASTB	**Santa Barbara**	**3.37 129**		*i* P	**Pn**	**20 55 24.2**	**+1.0**
ASTB				IAML		20 56 08.0	
	comp=Z,16nm,0.5s						
MNMC	**Minye Minye**	**3.44 321**	⇑	*i*P	**Pn**	**20 55 25.1**	**+0.8**
MNMC				*i* S	**Sn**	**20 56 06.4**	**-1.0**
MNMCX	**Minye Minye**	**3.44 321**		*i* P	**Pn**	**20 55 25.0**	**+0.7**
MNMCX				IAML		20 56 10.0	
	comp=Z,100nm,0.2s						
PB14	**IPOC Station P**	**3.97 225**		*i* P	**Pn**	**20 55 31.4**	**+0.6**
PB14				IAML		20 56 23.7	
	comp=Z,24nm,0.5s						
APLL	**PUNTA DE LOS L**	**8.55 175**		*i* P	**Pn**	**20 56 29.1**	**-0.5**

*IDC **14** 20:55:01.8±2.5, 25°.68N×64°.35E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.7/68, mbtmp3.9/15, ML4.2/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/44, Error ellipse: s-maj=49.8km s-min=19.5km az=148.0*
*ISCJB **14** 20:55:02.2±0.3, 25°.87N±0°.04×64°.16E±0°.03, h10km, mb3.8/15, MS3.4/13, Error ellipse: s-maj=6.6km s-min=3.3km az=164.7*
*NEIC **14** 20:55:04.8±2.4, 25°.9N±0°.1×64°.2E±0°.1, h17km±6km, mb4.2/13*
*OMAN **14** 20:55:08.9±4.8, 25°.72N×64°.03E, h30km±192km, Error ellipse: s-maj=243.8km s-min=22.6km az=251.0*
*DSN **14** 20:55:09.6±2.9, 25°.89N×63°.80E, h15km, ML4.1/8, Error ellipse: s-maj=76.6km s-min=20.5km az=12.0*
ISC 14 20:55:04.1±0.5, 25°.84N±0°.07×64°.16E±0°.04, h10km, n89, σ1s70/81, mb4.0/20, MS3.4/13, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHUJ	**Bhuj**	**5.63**	**116**	*e*P		**Pn**	**20 56 28.5**	**+0.6**
BHUJ				*e*S		**Sn**	**20 57 32.0**	**-0.6**
BHUJ				IAML		20 57 36.4	
	comp=E,164nm,0.5s						
BHUJ				IAML		20 57 36.5	
	comp=N,125nm,0.7s						
WSAR	**Wadi Sarin**	**5.66**	**244**	Pn		**Pn**	**20 56 28.3**	**-0.1**
	comp=N,7.4nm,0.3s,baz=107,slow=12,SNR=58						
WSAR				Sn		**Sn**	**20 57 27.8**	**-5.7**
	comp=N,1.9nm,0.3s,baz=32,slow=0.7,SNR=6.1						
WSAR				LR		LR	20 59 30.8	
	comp=N,462nm,18.2s,baz=96,slow=47						
JLN	**Jalan Bani Buh**	**5.69**	**231**	P		**Pn**	**20 56 29.0**	**+0.3**
	SNR=22						
WBK	**Wadi Bani Khal**	**5.72**	**237**	P		**Pn**	**20 56 29.2**	**-0.1**
	SNR=58						
SMDO	**Samad**	**6.22**	**245**	P		**Pn**	**20 56 36.2**	**+0.1**
	SNR=20						
SMDO				S		**Sn**	**20 57 44.6**	**-2.8**
HOQ	**Hoqain**	**6.62**	**252**	P		**Pn**	**20 56 41.1**	**-0.4**
	SNR=8.1						
BSY	**Bisya**	**7.06**	**246**	P		**Pn**	**20 56 49.0**	**+1.4**
	SNR=26						
BSY				S		**Sn**	**20 58 07.2**	**-0.7**
BANOM	**Banah**	**7.08**	**272**	P		**Pn**	**20 56 47.6**	**-0.3**
BANOM	**Banah**	**7.08**	**272**	P		**Pn**	**20 56 47.6**	**-0.3**
	SNR=6.5						
MDH	**Madha**	**7.12**	**267**	*i* P		**Pn**	**20 56 47.7**	**-0.7**
	SNR=6.2						
SHME	**Shamm**	**7.22**	**273**	P		**Pn**	**20 56 50.6**	**+0.8**
SHME				S		**Sn**	**20 58 09.2**	**-2.7**
MSFE	**Esma-Masafi**	**7.24**	**268**	P		**Pn**	**20 56 51.1**	**+1.0**
UOSS	**Minazif**	**7.25**	**265**	P		**Pn**	**20 56 48.6**	**-1.6**
UOSS	**Minazif**	**7.25**	**265**	P		**Pn**	**20 56 48.5**	**-1.6**
	SNR=12						
UOSS	**Minazif**	**7.25**	**265**			**Pn**	**20 56 48.8**	**-1.4**
HATD	**Hatta, Dubai**	**7.33**	**264**	P		**Pn**	**20 56 50.6**	**-0.7**
ASHO	**Ashiyiah**	**7.42**	**263**	*i* P		**Pn**	**20 56 52.8**	**+0.2**
	SNR=25						
ASHO	**Ashiyiah**	**7.42**	**263**	P		**Pn**	**20 56 53.3**	**+0.7**
	SNR=48						
NAZ	**Nazwa, Dubai**	**7.73**	**266**	P		**Pn**	**20 56 58.6**	**+1.9**
ALNE	**Al Ain**	**7.83**	**259**	*i* P		**Pn**	**20 56 59.9**	**+1.7**
	SNR=12						
ASUD	**Al Ashush, Dub**	**8.09**	**263**	*i* P		**Pn**	**20 57 03.7**	**+2.0**
	SNR=15						
ASUD	**Al Ashush, Dub**	**8.09**	**263**	P		**Pn**	**20 57 04.0**	**+2.4**
	SNR=15						
HRA	**Herat**	**8.67**	**349**	Pn		**Pn**	**20 57 07.9**	**-2.0**
THW	**Thamme Wali**	**9.58**	**42**	P		**Pn**	**20 57 20.2**	**-1.9**
KBL	**Kabul**	**9.64**	**25**			**Pn**	**20 57 21.7**	**-1.5**
CEP	**Cherat**	**10.41**	**38**	P		**Pn**	**20 57 31.4**	**-2.3**
NIL	**Nilore**	**11.08**	**43**			**Pn**	**20 57 40.9**	**-1.9**
CHCP	**Chirah Chowk**	**11.10**	**43**	P		**Pn**	**20 57 40.5**	**-2.5**
KUDL	**Kundal**	**11.23**	**75**	*e*P		Pn	20 57 34.9	-10
KUDL				*e*S		Sn	20 59 30.6	-20
BHPL	**Bhopal**	**12.35**	**99**	*e*P		**Pn**	**20 58 01.0**	**+0.9**
BHPL				*e*S		Sn	21 00 06.7	-11
DHRM	**DHARAMSHALA**	**12.39**	**56**	*e*P		**Pn**	**20 57 58.3**	**-2.5**
DHRM				*e*S		Sn	21 00 05.3	-14
DHRM				IAML		21 00 12.9	
	comp=N,36nm,0.6s						
SMLA	**Simla**	**12.59**	**62**	*e*P		**Pn**	**20 58 01.4**	**-2.0**
SMLA				*e*S		Sn	21 00 08.6	-15
SMLA				IAML		21 00 13.4	
	comp=N,28nm,0.2s						
SMLA				IAML		21 00 18.6	
	comp=E,25nm,0.5s						
GEYT	**Alibeck**	**13.09**	**338**	LR		LR	21 04 00.6
	comp=E,163nm,21.2s,baz=90,slow=40						
JOSI	**Joshimath**	**14.37**	**67**	*e*P		**Pn**	**20 58 25.1**	**-2.7**
JOSI				*e*S		**Sn**	**21 01 04.6**	**-2.8**
JOSI				IAML		21 01 30.3	
	comp=E,1μm,0.9s						
JOSI				IAML		21 01 30.9	
	comp=N,266nm,0.5s						
RAYN	**Ar Rayn**	**17.11**	**266**	P		**Pn**	**20 59 00.6**	**-2.9**
KOLN	**Koldanda**	**17.46**	**79**	*e*P		**Pn**	**20 59 08.3**	**+0.2**
DANN	**Dangsing**	**17.63**	**77**	*e*P		**P**	**20 59 11.2**	**-0.1**
GKN	**Gorkha**	**18.39**	**79**	*e*P		**P**	**20 59 21.1**	**+1.6**
AAK	**Ala-Archa**	**18.78**	**24**	LR		LR	21 08 50.7
	comp=N,113nm,18.3s,baz=200,slow=44						
DMN	**Daman**	**18.80**	**80**	*e*P		**Pn**	**20 59 25.7**	**+1.2**
KKN	**Kakani**	**18.95**	**79**	*e*P		**Pn**	**20 59 28.3**	**+1.9**
PKIN	**Phulchoki**	**19.05**	**80**	*e*P		**Pn**	**20 59 28.0**	**+0.3**
PKI	**Pulchoki**	**19.07**	**80**	*e*P		**Pn**	**20 59 27.9**	**0.0**
GUN	**Gumba**	**19.49**	**79**	*e*P		**Pn**	**20 59 34.2**	**+1.3**
JIRN	**Jiri**	**19.76**	**80**	*e*P		**Pn**	**20 59 38.1**	**+1.9**
ODAN	**Odare**	**20.84**	**82**	*e*P		Pn	20 59 49.8	+1.0
	comp=N,28nm,0.8s						
TAPN	**Taplejung**	**21.11**	**81**	*e*P		**P**	**20 59 52.9**	**+3.5**
	comp=N,17nm,0.8s						
GNI	**Garni**	**21.58**	**316**	P		**P**	**20 59 56.3**	**+2.1**
	comp=N,7.0nm,0.8s,baz=348,slow=7.7,SNR=5.2						
GNI				LR		LR	21 09 25.9
	comp=N,85nm,18.2s,baz=126,slow=40						
GNI	**Garni**	**21.58**	**316**	P		**P**	**20 59 55.2**	**+1.0**
GNI				IAmb		IAmb	21 00 15.2
	comp=Z,8.5nm,0.8s						
DAMY	**Dhamar**	**21.64**	**243**	P		**P**	**20 59 55.2**	**+0.1**
TBLG	**Delisi**	**22.54**	**320**	P		**P**	**21 00 04.4**	**+0.2**
TBLG				IAmb		IAmb	21 00 24.4
	comp=Z,11nm,1.1s						
ABKAR	**Akbulak array**	**23.60**	**353**	P		**P**	**21 00 13.3**	**-1.7**
ABKAR				IAmb		IAmb	21 00 18.7
	comp=Z,5.6nm,1.0s						
ABKAR	**Akbulak array**	**23.60**	**353**	P		**P**	**21 00 13.7**	**-1.4**
LSA	**Lhasa**	**24.17**	**75**	P		**P**	**21 00 20.1**	**-1.2**
LSA				IAmb		IAmb	21 00 34.7
	comp=Z,4.4nm,0.8s						
PALK	**Pallekele**	**24.29**	**137**	LR		LR	21 11 08.7
	comp=Z,174nm,18.3s,baz=297,slow=40						
ASF	**Jabal al Asfar**	**24.62**	**291**	LR		LR	21 12 39.5
	comp=Z,209nm,20.5s,baz=49,slow=43						
KBZ	**Khabaz**	**24.85**	**321**	P		**P**	**21 00 28.3**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=116,slow=10,SNR=5.0						
AKTO	**Aktyubinsk**	**25.00**	**351**	P		**P**	**21 00 29.8**	**+1.8**
	comp=Z,2.6nm,0.8s,baz=163,slow=10,SNR=6.6						
AKTO				LR		LR	21 10 53.6
	comp=Z,83nm,21.1s,baz=161,slow=38						
KIV	**Kislovodsk**	**25.11**	**321**	P		**P**	**21 00 29.8**	**+0.6**
MAKZ	**Makanchi**	**25.26**	**30**	P		**P**	**21 00 29.0**	**-1.4**
MAKZ				IAmb		IAmb	21 00 56.2
	comp=Z,14nm,1.8s						
MK31	**Makanchi Array**	**25.39**	**30**	P		**P**	**21 00 30.4**	**-1.3**
MKAR	**Makanchi Array**	**25.39**	**30**	P		**P**	**21 00 31.3**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=214,slow=10,SNR=6.6						
MKAR				LR		LR	21 13 00.3
	comp=Z,118nm,18.6s,baz=212,slow=42						
MKAR	**Makanchi Array**	**25.39**	**30**	P		**P**	**21 00 30.7**	**-0.9**
MMAI	**Mount Meron Ar**	**25.99**	**293**	P		**P**	**21 00 40.4**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=101,slow=12,SNR=2.8						
MMAI				LR		LR	21 13 04.6
	comp=Z,90nm,18.6s,baz=65,slow=41						
EIL	**Elat**	**26.09**	**285**	P		**P**	**21 00 42.5**	**+4.4**
	comp=Z,3.4nm,0.8s,baz=44,slow=6.4,SNR=4.2						
EIL				LR		LR	21 12 46.0
	comp=Z,44nm,21.2s,baz=84,slow=40						
KURBB	**Kurchatov Arra**	**27.10**	**20**	P		**P**	**21 00 47.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=218,slow=7.9,SNR=4.0						
KURK	**Kurchatov**	**27.20**	**20**	P		**P**	**21 00 47.5**	**-0.4**
BVAR	**Borovoye Array**	**27.55**	**8**	P		**P**	**21 00 52.6**	**+1.6**
	comp=Z,4.0nm,0.9s,baz=168,slow=7.6,SNR=8.9						
BRVK	**Borovoye**	**27.57**	**8**	P		**P**	**21 00 51.7**	**+0.6**
BRVK				IAmb		IAmb	21 00 58.3
	comp=Z,5.5nm,0.8s						
BRTR	**Keskin Array B**	**28.99**	**306**	LR		LR	21 13 30.1
	comp=Z,48nm,21.3s,baz=115,slow=38						
ZALV	**Zalesovo Beam**	**32.00**	**23**	P		**P**	**21 01 30.4**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=225,slow=8.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**32.00**	**23**	P		**P**	**21 01 29.9**	**-0.5**
H08N2	**Diego Garcia H**	**32.66**	**167**	T		T	21 35 01.4
	baz=348,slow=76,SNR=31						
H08N3	**Diego Garcia H**	**32.68**	**167**	T		T	21 34 59.0
	baz=348,slow=76,SNR=60						
H08N1	**Diego Garcia H**	**32.68**	**167**	T		T	21 34 57.3
	baz=348,slow=76,SNR=45						
AKASG	**Malin Array Be**	**36.45**	**322**	P		**P**	**21 02 10.3**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=117,slow=7.9,SNR=3.0						
FINES	**FINESS Array B**	**43.86**	**335**	P		**P**	**21 03 09.5**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=104,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**43.86**	**335**	P		**P**	**21 03 09.8**	**-0.5**
GERES	**GERESS Array B**	**45.21**	**314**	P		**P**	**21 03 22.9**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=98,slow=7.0,SNR=3.3						
GERES	**GERESS Array B**	**45.21**	**314**	P		**P**	**21 03 22.5**	**+1.0**
ARCES	**ARCESS Array B**	**49.20**	**343**	P		**P**	**21 03 51.3**	**-0.8**
	comp=Z,10nm,1.1s,baz=144,slow=7.8,SNR=5.1						
ARCES				LR		LR	21 26 19.0
	comp=Z,93nm,19.1s,baz=70,slow=38						
NOA	**NORSAR Array B**	**49.98**	**330**	P		**P**	**21 03 57.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=114,slow=7.6,SNR=2.8						
KSRS	**Korea Array**	**54.58**	**61**	LR		LR	21 31 24.1
	comp=Z,69nm,18.6s,baz=335,slow=40						
KBS	**Kingsbay**	**57.85**	**350**	P		**P**	**21 04 56.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**59.75**	**271**	P		**P**	**21 05 09.9**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=62,slow=6.4,SNR=7.0						
TORD	**Torodi Ar. Bea**	**59.75**	**271**	P		**P**	**21 05 09.6**	**0.0**
MJAR	**Matsushiro Arr**	**62.84**	**60**	LR		LR	21 35 20.0
	comp=Z,34nm,21.1s,baz=5.0,slow=38						
PETK	**Petropavlovsk-**	**71.80**	**39**	LR		LR	21 41 44.6
	comp=Z,61nm,18.2s,baz=239,slow=39						
FITZ	**Fitzroy Crossi**	**74.02**	**120**	LR		LR	21 41 47.2
	comp=Z,17nm,18.6s,baz=256,slow=38						

*BJI **14** 20:56:14.6±0.0, 40°.25N×74°.40E, h8km, ML3.4/5*
*KRNET **14** 20:56:17.3±0.1, 39°.88N×74°.53E, mb4.0*
*SOME **14** 20:56:17.8, 40°.28N×74°.53E, h0km*
*NNC **14** 20:56:18.3±1.6, 40°.22N×74°.50E, h7km±10km, mb4.3, mpv3.9, Error ellipse: s-maj=12.3km s-min=6.9km az=171.0*
ISC 14 20:56:17.1±1.7, 39°.92N±0°.04×74°.52E±0°.03, h7km±12km, n83, σ2s02/124, 33C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.19**	**109**	Pg		**Pb**	**20 56 39.5**	**-0.6**
KSH				Sg		**Sb**	**20 56 54.8**	**-1.0**
KSH				smax		smax	
	comp=N,1μm,0.2s						
KSH				smax		smax	
	comp=E,1μm,0.2s						
ARSB	**Arslanbob**	**1.83**	**321**	⇑ *e*P		**Pn**	**20 56 48.2**	**-1.0**
	baz=21						
ARSB				⇑ *i*S		**Sn**	**20 57 10.4**	**-2.3**
	baz=21						
NRN	**Naryn**	**1.89**	**36**	⇑ *e*P		**Pn**	**20 56 48.2**	**-1.9**
	baz=35						
NRN				⇑ *e*S		**Sn**	**20 57 11.0**	**-3.4**
	baz=35						
ARLS	**Aral**	**1.95**	**356**	⇓ *i*P		**Pn**	**20 56 49.0**	**-1.8**
	baz=56						
ARLS				⇓ *i*S		**Sn**	**20 57 13.3**	**-2.4**
	baz=56						
KZA	**Kyzart**	**2.23**	**14**	⇑ *e*P		**Pn**	**20 56 53.8**	**-1.1**
	baz=14						
KZA				⇑ *i*S		**Sn**	**20 57 20.0**	**-2.9**
	baz=14						
KZA	**Kyzart**	**2.23**	**14**	P		**Pn**	**20 56 54.8**	**-0.1**
	SNR=72						
AML	**Almayashu**	**2.30**	**345**	⇓ *e*P		**Pn**	**20 56 54.8**	**-1.1**
	baz=44						
AML				⇓ *e*S		**Sn**	**20 57 21.9**	**-2.7**
	baz=44						
AML	**Almayashu**	**2.30**	**345**	P		**Pn**	**20 56 55.1**	**-0.7**
	SNR=92						
UCH	**Uchtor**	**2.31**	**360**	⇑ *e*P		**Pn**	**20 56 55.0**	**-1.0**
	baz=60						
UCH				⇑ *e*S		**Sn**	**20 57 22.2**	**-2.8**
	baz=60						
UCH	**Uchtor**	**2.31**	**360**	P		**Pn**	**20 56 56.1**	**0.0**
	SNR=167						
ULHL	**Ulahol**	**2.67**	**29**	⇓ *e*P		**Pn**	**20 56 59.8**	**-0.9**
	baz=28						
ULHL				⇓ *e*S		**Sn**	**20 57 30.1**	**-3.3**
	baz=28						
ULHL	**Ulahol**	**2.67**	**29**	P		**Pn**	**20 57 03.0**	**+2.3**
	SNR=43						
ARK	**Arkit**	**2.70**	**315**	⇓ *i*P		**Pn**	**20 57 00.3**	**-0.8**
	baz=15						
ARK				⇓ *i*S		**Sn**	**20 57 30.9**	**-3.2**
	baz=15						
AAK	**Ala-Archa**	**2.72**	**360**	Pn		**Pn**	**20 57 01.7**	**+0.3**
	50nm,0.6s						
AAK				Lg		Lg	20 57 36.5
	190nm,0.8s						
AAK	**Ala-Archa**	**2.72**	**360**	⇑ *i*P		**Pn**	**20 57 00.6**	**-0.8**
	baz=59						
AAK				⇑ *i*S		**Sn**	**20 57 31.4**	**-3.3**
	baz=59						
AAK	**Ala-Archa**	**2.72**	**360**	P		**Pn**	**20 57 01.8**	**+0.4**
	67nm,0.5s,baz=156,slow=7.2,SNR=109						
AAK	**Ala-Archa**	**2.72**	**360**	P		**Pn**	**20 57 01.9**	**+0.5**
	SNR=82						
KBK	**Karagaybulak**	**2.76**	**7**	⇑ *e*P		**Pn**	**20 57 00.8**	**-1.1**
	baz=6.0						
KBK				⇑ *e*S		**Sn**	**20 57 32.4**	**-3.2**
	baz=6.0						
KBK	**Karagaybulak**	**2.76**	**7**	P		**Pn**	**20 57 02.7**	**+0.7**
	SNR=37						
BOOM	**Boomskoye usch**	**2.79**	**22**	⇓ *i*P		**Pn**	**20 57 01.0**	**-1.3**
	baz=22						
BOOM				⇓ *i*S		**Sn**	**20 57 33.2**	**-3.1**
	baz=22						
EKS2	**Erkin-Say**	**2.80**	**349**	⇑ *e*P		**Pn**	**20 57 01.7**	**-0.8**
	baz=49						
EKS2				⇑ *e*S		**Sn**	**20 57 34.0**	**-2.6**
	baz=49						
EKS2	**Erkin-Say**	**2.80**	**349**	P		**Pn**	**20 57 02.6**	**+0.1**
	SNR=18						
BTK	**Batken**	**2.85**	**274**	⇑ *e*P		**Pn**	**20 57 01.9**	**-1.2**
	baz=75						
BTK				⇑ *i*S		**Sn**	**20 57 34.2**	**-3.5**
	baz=75						
FRU1	**Bishkek**	**2.89**	**2**	⇑ *i*P		**Pn**	**20 57 02.4**	**-1.3**
	baz=1.0						
FRU1				⇑ *i*S		**Sn**	**20 57 35.8**	**-3.0**
	baz=1.0						
MRKS	**Merke**	**2.99**	**341**	Pg		**Pn**	**20 57 06.9**	**+1.8**
	28nm,0.5s						
MRKS				Lg		Lg	20 57 43.1
	88nm,0.8s						
MRKS	**Merke**	**2.99**	**341**	*e*P		**Pn**	**20 57 06.9**	**+1.8**
	28nm,0.5s						
MRKS				*e*S		**Sn**	**20 57 42.0**	**+0.8**
	88nm,0.8s						
KDJ	**Kajisay**	**2.99**	**41**	⇑ *e*P		**Pn**	**20 57 03.3**	**-1.9**
	baz=41						
KDJ				⇑ *i*S		**Sn**	**20 57 37.6**	**-3.8**
	baz=41						
CHMS	**Chumysh**	**3.09**	**3**	⇑ *e*P		**Pn**	**20 57 05.4**	**-0.9**
	baz=3.0						
CHMS				⇑ *e*S		**Sn**	**20 57 40.2**	**-3.3**
	baz=3.0						
CHMS	**Chumysh**	**3.09**	**3**	P		**Pn**	**20 57 07.0**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**3.11**	**15**	⇑ Pn		Pn	20 56 60.0	-6.8
	8.0nm,0.6s						
TKM2				⇑ Pg		Pb	20 57 07.6	-5.3
	20nm,0.4s						
TKM2				⇑ Lg		Lg	20 57 47.2
	44nm,0.5s						
TKM2	**Tokmak 2**	**3.11**	**15**	P		**Pn**	**20 57 07.5**	**+0.7**
	SNR=7.8						
KST	**Kastek**	**3.31**	**19**	Pg		**Pb**	**20 57 13.3**	**-3.0**
	28nm,0.7s						
KST				Lg		Lg	20 57 53.8
	124nm,0.4s						
KST	**Kastek**	**3.31**	**19**	*e*P		**Pb**	**20 57 13.2**	**-3.0**
	28nm,0.7s						
KST				*e*S		**Sn**	**20 57 52.9**	**+3.7**
	124nm,0.4s						
USP	**Ospenovka**	**3.35**	**360**	⇑ *i*P		**Pn**	**20 57 08.9**	**-1.0**
	baz=60						
USP				⇑ *i*S		**Sn**	**20 57 46.5**	**-3.5**
	baz=60						
USP	**Ospenovka**	**3.35**	**360**	P		**Pn**	**20 57 10.5**	**+0.5**
	SNR=9.9						
DGS	**Degeres**	**3.45**	**15**	Pg		**Pb**	**20 57 17.5**	**-1.2**
	47nm,0.6s						
DGS				Lg		Lg	20 58 00.2
	130nm,0.7s						
DGS	**Degeres**	**3.45**	**15**	*e*P		**Pb**	**20 57 17.5**	**-1.2**
	47nm,0.6s						
DGS				*e*S		**Sb**	**20 58 00.2**	**-0.8**
	130nm,0.7s						
IZV	**Izvestkoviy**	**3.49**	**26**	Pg		**Pb**	**20 57 18.2**	**-1.2**
	124

KUU	**Kurty**	**4.20**	**18**	*e*P		**Pb**	**20 57 30.8**	**-0.6**
	8.4nm,0.5s							
KUU				*e*S		**Sb**	**20 58 23.2**	**+0.9**
	33nm,0.8s							
SATY	**Saty**	**4.29**	**42**	Pg		**Pb**	**20 57 33.2**	**+0.3**
	39nm,0.7s							
SATY				Lg		Lg	20 58 27.1	
	41nm,1.2s							
SATY	**Saty**	**4.29**	**42**	*e*P		**Pb**	**20 57 33.2**	**+0.3**
	39nm,0.7s							
SATY				*e*S		**Sb**	**20 58 27.1**	**+2.2**
	41nm,1.2s							
CHKK	**Chushkaly**	**4.35**	**24**	Pg		**Pb**	**20 57 33.7**	**-0.2**
	17nm,0.8s							
CHKK				Lg		Lg	20 58 28.1	
	61nm,0.5s							
CHKK	**Chushkaly**	**4.35**	**24**	*e*P		**Pb**	**20 57 33.7**	**-0.2**
	17nm,0.8s							
CHKK				*e*S		**Sb**	**20 58 28.1**	**+1.6**
	61nm,0.5s							
KK31	**Karatay Array**	**4.38**	**318**	⇓Pn		**Pn**	**20 57 22.8**	**-1.3**
	0.5nm,0.3s,baz=131,slow=13,SNR=21							
KK31				⇑Pg		**Pb**	**20 57 33.3**	**-1.1**
	8.8nm,0.7s,baz=141,slow=11,SNR=33							
KK31				⇓Lg		Lg	20 58 29.3	
	12nm,0.5s,baz=138,slow=30,SNR=6.6							
UZB	**Uzynbulak**	**4.67**	**45**	Pg		**Pb**	**20 57 40.0**	**+0.5**
	12nm,0.6s							
UZB				Lg		Lg	20 58 38.8	
	19nm,0.9s							
UZB	**Uzynbulak**	**4.67**	**45**	*e*P		**Pb**	**20 57 40.0**	**+0.5**
	12nm,0.6s							
UZB				*e*S		**Sb**	**20 58 38.8**	**+2.7**
	19nm,0.9s							
BRLS	**Borolday**	**4.70**	**313**	Pg		**Pb**	**20 57 37.3**	**-2.5**
	0.7nm,0.5s							
BRLS				Lg		Lg	20 58 34.6	
	24nm,0.6s							
BRLS	**Borolday**	**4.70**	**313**	*e*P		**Pb**	**20 57 40.7**	**+0.9**
	0.7nm,0.5s							
BRLS				*e*S		**Sb**	**20 58 39.9**	**+3.3**
	24nm,0.6s							
KPKS	**Kokpek**	**4.72**	**40**	*e*P		**Pb**	**20 57 39.4**	**-0.9**
	28nm,0.7s							
KPKS				*e*S		**Sb**	**20 58 37.8**	**+0.4**
	51nm,0.6s							
SHLS	**Shalkode**	**4.92**	**47**	Pg		**Pg**	**20 57 49.9**	**-1.6**
	8.2nm,0.7s							
SHLS				Lg		Lg	20 58 55.7	
	47nm,0.6s							
SHLS	**Shalkode**	**4.92**	**47**	*e*P		**Pg**	**20 57 49.9**	**-1.6**
	8.2nm,0.7s							
SHLS				*e*S		**Sg**	**20 58 55.7**	**+0.5**
	47nm,0.6s							
ARXS	**Arharly**	**4.95**	**29**	Pg		**Pb**	**20 57 44.3**	**+0.2**
	14nm,0.5s							
ARXS				Lg		Lg	20 58 46.2	
	24nm,0.7s							
ARXS	**Arharly**	**4.95**	**29**	*e*P		**Pb**	**20 57 44.3**	**+0.2**
	14nm,0.5s							
ARXS				*e*S		**Sb**	**20 58 46.2**	**+2.2**
	24nm,0.7s							
PDGK	**Podgornoye**	**5.05**	**46**	Pg		**Pb**	**20 57 46.7**	**+0.8**
	7.6nm,0.8s							
PDGK				Lg		Lg	20 58 50.4	
	13nm,0.9s							
PDGK	**Podgornoye**	**5.05**	**46**	⇑Pg		**Pb**	**20 57 46.3**	**+0.4**
	22nm,0.8s							
PDGK				⇓Lg		Lg	20 58 51.0	
	43nm,0.8s							
MNBS	**Baschi**	**5.07**	**34**	Pg		**Pb**	**20 57 47.0**	**+0.8**
MNBS				Lg		Lg	20 58 51.4	
MNBS	**Baschi**	**5.07**	**34**	*e*P		**Pb**	**20 57 47.0**	**+0.8**
	10nm,0.5s							
MNBS				*e*S		**Sb**	**20 58 50.8**	**+3.5**
	50nm,0.4s							
KTMS	**Ketmen**	**5.61**	**49**	Pg		**Pb**	**20 57 56.6**	**+1.1**
	0.2nm,0.1s							
KTMS				Lg		Lg	20 59 08.0	
	17nm,1.1s							
KTMS	**Ketmen**	**5.61**	**49**	*e*P		**Pb**	**20 57 56.6**	**+1.1**
	0.2nm,0.1s							
KTMS				*e*S		**Sb**	**20 59 07.3**	**+4.3**
	17nm,1.1s							
TDK	**Taldyqorghan**	**5.84**	**28**	Pg		**Pb**	**20 57 59.5**	**+0.2**
	39nm,0.6s							
TDK				Lg		Lg	20 59 12.1	
	22nm,0.9s							
TDK	**Taldyqorghan**	**5.84**	**28**	*e*P		**Pb**	**20 57 59.5**	**+0.2**
	26nm,0.3s							
TDK				*e*S		**Sb**	**20 59 12.1**	**+2.7**
	54nm,0.6s							
DJR	**Jarkent**	**5.90**	**40**	Pg		**Pb**	**20 58 00.6**	**+0.2**
	10nm,0.5s							
DJR				Lg		Lg	20 59 14.5	
	9.8nm,0.9s							
DJR	**Jarkent**	**5.90**	**40**	*e*P		**Pb**	**20 58 00.6**	**+0.2**
	8.7nm,1.2s							
DJR				*e*S		**Sb**	**20 59 14.4**	**+3.1**
	14nm,0.6s							
KAPS	**Kapalarasan**	**6.44**	**32**	Pg		**Pb**	**20 58 11.7**	**+2.1**
	14nm,0.7s							
KAPS				Lg		Lg	20 59 33.2	
	7.7nm,1.0s							
KAPS	**Kapalarasan**	**6.44**	**32**	*e*P		**Pb**	**20 58 11.7**	**+2.1**
	14nm,0.7s							
KAPS				*e*S		**Sb**	**20 59 33.2**	**+6.4**
	7.7nm,1.0s							
WMQ	**Urumqi**	**10.57**	**64**	*e*P		**Pn**	**20 58 48.1**	**-1.0**
GTA	**Gaotai**	**19.47**	**83**	*e*P		**Pn**	**21 00 51.6**	**+5.8**
GTA				pP		sP	21 00 56.3	+7.6
GTA				sP		pP	21 00 58.6	+11
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							

ISCJB **14** *20:56:30.4±0.2,67°.70N±0°.03×142°.85E±0°.06,h10km, mb4.2/49,MS3.4/11,Error ellipse: s-maj=4.1km s-min=3.4km az=5.3*

IDC **14** *20:56:31.0±0.6,67°.71N×142°.91E,h0km,mb4.0/22, mb1 4.1/27,mb1mx3.9/74,mbtmp4.0/27,ML3.7/4,MS3.4/13, Ms1 3.4/13,ms1mx3.1/53,Error ellipse: s-maj=15.2km s-min=12.5km az=159.0*

NEIC **14** *20:56:31.8±1.6,67°.59N±0°.08×142°.9E±0°.2,h10km±1km, mb4.5/43*

MOS **14** *20:56:31.0±1.4,67°.81N×143°.01E,h11km,mb4.4/13,Error ellipse: s-maj=15.2km s-min=8.2km az=97.0*

YARS **14** *20:56:32.6,67°.70N×142°.84E,h21km*

ISC 14 20:56:32.2±0.4,67°.72N±0°.04×142°.93E±0°.03,h10km,n152, σ1**57**/156**,mb4.3**/68**,MS3.5**/11**,3C-1D,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MOMR	**Moma**	**1.27**	**175**	*i* Pg	**Pn**	**20 56 56.5**		**+0.6**
	640nm,0.6s							
MOMR				*e*Lg	Lg	20 57 12.6		
	2μm,0.4s							
YBGR	**Belaya Gora**	**1.47**	**55**	*i* Pn	**Pn**	**20 56 58.8**		**+0.1**
	73nm,0.5s							
YBGR				*e*Pg	**Pb**	**20 56 59.6**		**0.0**
	304nm,0.2s							
YBGR				*e*Lg	Lg	20 57 20.9		
	3μm,0.4s							
DEPR	**Deputatskiy**	**2.01**	**328**	*i* Pn	**Pn**	**20 57 05.8**		**-0.3**
	28nm,0.6s							
DEPR				*e*Pg	**Pb**	**20 57 09.8**		**+1.0**
	319nm,0.8s							
DEPR				*i* Lg	Lg	20 57 37.2		
	2μm,0.6s							
BTGS	**Batagay**	**3.16**	**273**	*i* Pn	**Pn**	**20 57 22.5**		**+0.6**
	49nm,0.5s							
BTGS				*i* Pg	**Pb**	**20 57 30.6**		**+2.2**
	172nm,0.6s							
BTGS				*i* Sn	**Sn**	**20 57 58.1**		**-1.5**
BTGS				*i* Lg	Lg	20 58 13.1		
	5μm,1.0s							
UNR	**Ust'-Nera**	**3.17**	**178**	*i* Pn	**Pn**	**20 57 20.8**		**-1.3**
	1.3nm,0.4s							
UNR				*i* Pg	**Pb**	**20 57 29.4**		**+0.9**
	15nm,1.2s							
UNR				*i* Sn	**Sn**	**20 57 57.5**		**-2.3**
	43nm,1.1s							
UNR				*i* Lg	Lg	20 58 11.9		
	57nm,0.7s							
ATKR	**Artyk**	**3.67**	**165**	*i* Pn	**Pn**	**20 57 27.9**		**-1.1**
	49nm,0.5s							
ATKR				*i* Sn	**Sn**	**20 58 11.2**		**-1.1**
	216nm,0.5s							
ATKR				*i* Lg	Lg	20 58 26.2		
	671nm,0.6s							
SEY	**Seymchan**	**6.22**	**136**	Pn	**Pn**	**20 58 02.3**		**-1.7**
	0.7nm,0.3s,baz=312,slow=13,SNR=8.7							
SEY				Lg	Lg	20 59 44.1		
	2.1nm,0.3s,baz=238,slow=18,SNR=8.0							
TIXI	**Tiksi**	**6.27**	**315**	*i* Pn	**Pn**	**20 58 05.0**		**+0.4**
TIXI				*i* Pg	Pb	20 58 27.4		+6.1
TIXI				*i* Sn	**Sn**	**20 59 15.7**		**-0.5**
TIXI				*i* Lg	Lg	20 59 51.9		
TIXI	**Tiksi**	**6.27**	**315**	*ce*P	**Pn**	**20 58 06.7**		**+2.1**
TIXI				*i* S	**Sn**	**20 59 15.2**		**-1.0**
TIXI				pmax	pmax			
	comp=Z,23nm,0.7s							
TIXI	**Tiksi**	**6.27**	**315**	Pn	**Pn**	**20 58 06.1**		**+1.5**
	comp=Z,2.2nm,0.3s,baz=0.0,slow=24,SNR=60							
TIXI				Sn	**Sn**	**20 59 15.7**		**-0.5**
	comp=Z,16nm,0.3s,baz=57,slow=17,SNR=9.4							
TIXI				Lg	Lg	20 59 45.8		
	comp=Z,21nm,0.3s,baz=355,slow=23,SNR=7.7							
TIXI	**Tiksi**	**6.27**	**315**		**Pn**	**20 58 05.5**		**+0.9**
TIXI					**Sn**	**20 59 15.2**		**-1.0**
YAK	**Yakutsk**	**8.01**	**231**	*e*P	**Pn**	**20 58 26.3**		**-2.1**
YAK				*e*		20 59 56.2		
YAK				pmax	pmax			
	comp=Z,11nm,0.8s							
YAK				pmax	pmax			
	comp=Z,22nm,1.1s							
YAK				smax	smax			
	comp=N,53nm,1.1s							
YAK				smax	smax			
	comp=E,34nm,1.1s							
YAK				smax	smax			
	comp=N,180nm,0.9s							
YAK				smax	smax			
	comp=E,214nm,1.3s							
YAK	**Yakutsk**	**8.01**	**231**	Pn	**Pn**	**20 58 28.3**		**-0.1**
	comp=E,0.1nm,0.3s,baz=127,slow=0.4,SNR=6.1							
YAK				Sn	**Sn**	**20 59 53.1**		**-5.8**
	comp=E,0.3nm,0.3s,baz=68,slow=19,SNR=5.2							
YAK				Lg	Lg	21 00 42.8		
	comp=E,0.1nm,0.3s,baz=162,slow=20,SNR=2.9							
YAK	**Yakutsk**	**8.01**	**231**	Pn	**Pn**	**20 58 26.2**		**-2.1**
BILL	**Biliibino**	**8.79**	**77**	*i* P	**Pn**	**20 58 40.5**		**+1.4**
BILL				*i* S	**Sn**	**21 00 15.7**		**-2.5**
BILL				pmax	pmax			
	comp=Z,1.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,198nm,17.0s							
MA2	**Magadan**	**8.88**	**153**	Lg	Lg	21 01 16.3		
	comp=Z,1.3nm,0.3s,baz=176,slow=19,SNR=3.7							
MA2				LR	LR	21 02 43.3		
	comp=Z,40nm,20.7s,baz=359,slow=42							
YCRN	**Chernyshevskiy**	**13.44**	**264**	*i* Pn	**Pn**	**20 59 41.8**		**-0.8**
YCRN				*i* Sn	**Sn**	**21 02 11.4**		**-0.3**
YCRN				*i* Lg	Lg	21 03 38.4		
	comp=Z,76nm,1.2s							
ZEA	**Zeya**	**15.90**	**216**	*e*P	Pn	21 00 08.0		-7.7
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ZEA				MLR	MLR			
	comp=Z,600nm,6.0s							
ZEA				MLR	MLR			
	comp=N,600nm,7.0s							
PETK	**Petropavlovsk-**	**16.30**	**147**	P	**Pn**	**21 00 23.6**		**+2.8**
PETK	**Petropavlovsk-**	**16.30**	**147**	Pn	**Pn**	**21 00 25.1**		**+4.3**
	comp=N,0.1nm,0.3s,baz=331,slow=8.6,SNR=6.2							
PETK	**Petropavlovsk-**	**16.30**	**147**	P	**Pn**	**21 00 23.6**		**+2.8**
BOD	**Bodaibo**	**16.36**	**247**	*e*P	**Pn**	**21 00 18.2**		**-3.3**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KLR	**Kul'dur**	**19.38**	**203**	*i* P	**P**	**21 00 58.9**		**+1.1**
KLR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KLR	**Kul'dur**	**19.38**	**203**	P	**P**	**21 00 59.7**		**+1.8**
	comp=Z,0.0nm,0.3s,baz=14,slow=13,SNR=6.9							
KLR				Lg	Lg	21 06 45.5		
	comp=Z,0.0nm,0.3s,baz=101,slow=16,SNR=4.2							
KLR				LR	LR	21 08 38.6		
	comp=Z,106nm,21.2s,baz=12,slow=38							
NRIK	**Noril'sk**	**19.75**	**300**	P	**Pn**	**21 01 03.7**		**+0.5**
	comp=Z,0.3nm,0.3s,baz=66,slow=7.2,SNR=7.2							
NRIK				S	**S**	**21 04 36.4**		**-7.4**
	comp=Z,0.1nm,0.3s,baz=355,slow=19,SNR=3.5							
NRIK				Lg	Lg	21 06 57.8		
	comp=Z,0.3nm,0.3s,baz=164,slow=20,SNR=2.8							
HIA	**Hailar**	**21.86**	**224**	*i* P	**P**	**21 01 27.2**		**+2.5**
HIA				pmax	pmax			
	comp=Z,64nm,0.8s							
HIA	**Hailar**	**21.86**	**224**	P	**P**	**21 01 22.9**		**-1.8**
HIA				IAmb	IAmb	21 01 32.6		
	comp=Z,10.0nm,0.8s							
ASAJ	**Asahikawa**	**23.66**	**181**	LR	LR	21 10 28.0		
	comp=Z,56nm,18.9s,baz=8.0,slow=35							
TOLK	**Toolik Lake Re**	**23.99**	**56**	P	**P**	**21 01 46.4**		**0.0**
TOLK				IAmb	IAmb	21 01 48.4		
	comp=Z,46nm,1.7s							
IMAR	**Indian Mountai**	**24.00**	**64**	P	**P**	**21 01 45.5**		**-1.0**
MDJ	**Mudanjiang**	**24.21**	**204**	P	**P**	**21 01 47.7**		**-0.9**
MDJ				IAmb	IAmb	21 01 51.4		
	comp=Z,20nm,1.2s							
USRK	**Ussuriysk Ar.**	**24.28**	**199**	P	**P**	**21 01 50.3**		**+1.0**
	comp=Z,1.7nm,0.5s,baz=17,slow=11,SNR=5.7							
USRK				LR	LR	21 11 33.3		
	comp=Z,119nm,18.4s,baz=345,slow=37							
TLY	**Talaya**	**24.88**	**250**	*i* P	**P**	**21 01 57.8**		**+3.1**
TLY				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TLY	**Talaya**	**24.88**	**250**	LR	LR	21 12 15.9		
	comp=Z,105nm,19.0s,baz=26,slow=38							
MLY	**Manley**	**25.58**	**64**	P	**P**	**21 01 59.5**		**-1.4**
MLY				IAmb	IAmb	21 02 04.0		
	comp=Z,5.0nm,1.0s							
MOY	**Mondy**	**25.85**	**253**	*e*P	**P**	**21 02 06.0**		**+2.4**
ZAK	**Zakamensk**	**26.09**	**248**	*e*P	**P**	**21 02 06.2**		**+0.5**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BMAR	**Burnt Mountain**	**26.22**	**56**	P	**P**	**21 02 07.8**		**+1.0**
MDM	**Murphy Dome**	**26.48**	**63**	P	**P**	**21 02 10.4**		**+1.4**
MDM				IAmb	IAmb	21 03 04.6		
	comp=Z,11nm,0.8s							
COLA	**College**	**26.66**	**63**	*i* P	**P**	**21 02 12.1**		**+1.5**
COLA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**26.94**	**241**	*ce*P	**P**	**21 02 15.7**		**+2.2**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.7s							
IL31		**27.05**	**62**	P	**P**	**21 02 13.6**		**-0.4**
IL31				IAmb	IAmb	21 02 15.2		
	comp=Z,7.6nm,1.0s							
ILAR	**Eielson Array**	**27.05**	**62**	P	**P**	**21 02 14.8**		**+0.6**
	comp=Z,4.8nm,0.9s,baz=298,slow=7.8,SNR=47							
ILAR	**Eielson Array**	**27.05**	**62**	P	**P**	**21 02 13.4**		**-0.7**
SONM	**Songino Array**	**27.18**	**241**	*e*P	**P**	**21 02 18.9**		**+3.3**
SONM				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**27.18**	**241**	P	**P**	**21 02 16.6**		**+0.9**
	comp=Z,2.2nm,1.0s,baz=35,slow=7.4,SNR=10							
SONM	**Songino Array**	**27.18**	**241**	P	**P**	**21 02 15.2**		**-0.4**
SONM				IAmb	IAmb	21 02 19.8		
	comp=Z,3.5nm,1.2s							
HDA	**Harding Lake**	**27.25**	**63**	P	**P**	**21 02 16.7**		**+0.7**
HDA				IAmb	IAmb	21 02 17.8		
	comp=Z,22nm,1.6s							
INK	**Inuvik**	**29.06**	**50**	LR	LR	21 16 01.9		
	comp=Z,62nm,19.3s,baz=338,slow=40							
KDAK	**Kodiak Island**	**29.70**	**77**	LR	LR	21 16 01.8		
	comp=Z,116nm,20.1s,baz=312,slow=39							
BCAR	**Beaver Creek A**	**29.87**	**62**	P	**P**	**21 02 39.4**		**+0.1**
ZALV	**Zalesovo Beam**	**30.15**	**272**	*i* P	**P**	**21 02 44.0**		**+2.2**
ZALV	**Zalesovo Beam**	**30.15**	**272**	P	**P**	**21 02 41.7**		**0.0**
	comp=Z,1.0nm,0.5s,baz=46,slow=8.4,SNR=2.7							
MJAR	**Matsushiro Arr**	**31.34**	**187**	LR	LR	21 17 18.7		
	comp=Z,38nm,18.2s,baz=45,slow=40							
KSRS	**Korea Array**	**31.47**	**203**	LR	LR	21 16 07.0		
	comp=Z,89nm,19.5s,slow=37							
KURK	**Kurchatov**	**35.05**	**274**	P	**P**	**21 03 25.5**		**+0.9**
KURK				pmax	pmax			
	comp=Z,10.0nm,1.5s							
KURK	**Kurchatov**	**35.05**	**274**	P	**P**	**21 03 25.5**		**+0.9**
KURK				IAmb	IAmb	21 03 26.4		
	comp=Z,9.5nm,1.4s							
KURBB	**Kurchatov Arra**	**35.15**	**274**	P	**P**	**21 03 26.3**		**+0.7**
	comp=Z,1.2nm,0.7s,baz=41,slow=8.5,SNR=4.2							
JNU	**Nakatsue**	**35.35**	**198**	LR	LR	21 18 07.4		
	comp=Z,76nm,19.1s,baz=352,slow=37							
BVAR	**Borovoye Array**	**36.31**	**283**	P	**P**	**21 03 35.2**		**-0.3**
	comp=Z,2.1nm,0.7s,baz=80,slow=8.1,SNR=7.1							
BRVK	**Borovoye**	**36.32**	**283**	*i* P	**P**	**21 03 37.5**		**+2.0**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MK31	**Makanchi Array**	**36.85**	**267**	P	**P**	**21 03 38.9**		**-1.3**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MK31	**Makanchi Array**	**36.85**	**267**	P	**P**	**21 03 38.9**		**-1.3**
MK31				IAmb	IAmb	21 03 45.5		
	comp=Z,2.4nm,0.9s							
MKAR	**Makanchi Array**	**36.85**	**267**	*e*P	**P**	**21 03 42.8**		**+2.6**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**36.85**	**267**	P	**P**	**21 03 39.1**		**-1.1**
	comp=Z,1.5nm,0.7s,baz=23,slow=6.4,SNR=8.6							
ARU	**Arti**	**37.86**	**296**	*d* P	**P**	**21 03 48.6**		**0.0**
ARU				S	**S**	**21 09 41.8**		**+2.4**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.1s							
AKTO	**Aktyubinsk**	**42.92**	**291**	P	**P**	**21 04 30.3**		**-0.2**
	comp=Z,1.9nm,0.8s,baz=84,slow=9.2,SNR=4.6							
ABKAR	**Akbulak array**	**43.20**	**288**	P	**P**	**21 04 32.5**		**-0.3**
ABKAR				IAmb	IAmb	21 04 35.3		
	comp=Z,9.6nm,1.4s							
ABKAR	**Akbulak array**	**43.20**	**288**	P	**P**	**21 04 32.5**		**-0.3**
FINES	**FINESS Array B**	**43.28**	**321**	P	**P**	**21 04 33.6**		**+0.3**
FINES	**FINESS Array B**	**43.28**	**321**	P	**P**	**21 04 33.3**		**+0.1**
	comp=Z,1.8nm,0.8s,baz=39,slow=7.8,SNR=6.6							
FINES	**FINESS Array B**	**43.28**	**321**	P	**P**	**21 04 33.6**		**+0.3**
AAK	**Ala-Archa**	**43.34**	**271**	*ce*P	**P**	**21 04 35.9**		**+1.7**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
AAK	**Ala-Archa**	**43.34**	**271**	P	**P**	**21 04 35.3**		**+1.1**
	comp=Z,2.7nm,0.6s,baz=131,slow=1.9,SNR=8.1							
AAK	**Ala-Archa**	**43.34**	**271**	P	**P**	**21 04 34.1**		**-0.1**
AAK				IAmb	IAmb	21 04 40.5		
	comp=Z,2.7nm,0.7s							
KK31	**Karatay Array**	**44.45**	**275**	P	**P**	**21 04 41.7**		**-1.3**
KK31				pmax	pmax			
	comp=Z,7.0nm,1.7s							
KK31	**Karatay Array**	**44.45**	**275**	P	**P**	**21 04 41.7**		**-1.3**
KK31				IAmb	IAmb	21 04 59.7		
	comp=Z,7.2nm,1.6s							
KKAR	**Karatay Array**	**44.45**	**275**	P	**P**	**21 04 42.7**		**-0.3**
KKAR	**Karatay Array**	**44.45**	**275**	P	**P**	**21 04 42.7**		**-0.3**
KSH	**Kashi**	**45.47**	**267**	*e*P	**P**	**21 04 54.4**		**+3.2**
OBN	**Obninsk**	**45.98**	**310**	*i* P	**P**	**21 04 55.3**		**+0.5**
OBN				*i*		21 06 32.6		
OBN				*i*		21 06 43.4		
OBN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NOA	**NORSAR Array B**	**46.83**	**330**	P	**P**	**21 05 00.8**		**-0.8**
	comp=Z,2.1nm,0.9s,baz=24,slow=8.0,SNR=3.1							
BTK	**Batken**	**46.96**	**272**	P	**P**	**21 05 02.1**		**-0.8**
BTK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BTK	**Batken**	**46.96**	**272**	P	**P**	**21 05 02.1**		**-0.8**
BTK				IAmb	IAmb	21 05 20.2		
	comp=Z,6.0nm,1.2s							
VSR	**Storozhevoye**	**48.57**	**305**	*e*P	**P**	**21 05 13.7**		**-1.4**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LSA	**Lhasa**	**48.63**	**246**	P	**P**	**21 05 15.0**		**-1.4**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
LSA	**Lhasa**	**48.63**	**246**	P	**P**	**21 05 15.0**		**-1.4**
LSA				IAmb	IAmb	21 05 22.0		
	comp=Z,3.8nm,0.9s							
VORD	**Divnogorie**	**48.75**	**305**	*e*P	**P**	**21 05 15.0**		**-1.5**
VORD				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CHGR	**Chuyangaron**	**48.81**	**273**	P	**P**	**21 05 17.1**		**-0.1**
CHGR				IAmb	IAmb	21 05 47.6		
	comp=Z,30nm,1.7s							
AKASG	**Malin Array Be**	**51.98**	**312**	*e*P	**P**	**21 05 40.8**		**0.0**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**51.98**	**312**	P	**P**	**21 05 40.8**		**0.0**
	comp=Z,2.9nm,0.7s,baz=30,slow=8.3,SNR=6.4							
AKASG	**Malin Array Be**	**51.98**	**312**	P	**P**	**21 05 40.5**		**-0.3**
AKASG				IAmb	IAmb	21 05 41.6		
	comp=Z,1.2nm,0.8s							
AKBB	**Malin Array Si**	**51.98**	**312**	P	**P**	**21 05 40.4**		**-0.5**
AKBB				pmax	pmax			
	comp=Z,12nm,1.4s							
AKBB	**Malin Array Si**	**51.98**	**312**	P	**P**	**21 05 40.4**		**-0.5**
AKBB				IAmb	IAmb	21 05 41.9		
	comp=Z,12nm,1.4s							
PINE	**Pine Mountain**	**52.55**	**65**	P	**P**	**21 05 44.9**		**-0.6**
PINE				IAmb	IAmb	21 05 47.3		
	comp=Z,13nm,1.3s							
PLID	**Pearl Lake**	**53.09**	**60**	P	P	21 05 46.7		-2.8
PLID				IAmb	IAmb	21 06 29.4		
	comp=Z,5.5nm,1.3s							
KRMB	**Red Mountain**	**53.51**	**69**	P	**P**	**21 05 50.9**		**-1.6**
KRMB				IAmb	IAmb	21 06 33.7		
	comp=Z,69nm,1.6s							
GEYT	**Alibeck**	**53.62**	**282**	P	**P**	**21 05 55.5**		**+2.3**
GEYT				IAmb	IAmb	21 05 57.8		
	comp=Z,2.2nm,1.1s							
KIV	**Kislovodsk**	**53.81**	**298**	*e*P	**P**	**21 05 56.2**		**+1.6**
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
KIV	**Kislovodsk**	**53.81**	**298**	P	**P**	**21 05 55.2**		**+0.6**
KIV				IAmb	IAmb	21 05 58.6		
	comp=Z,5.4nm,0.9s							
KBZ	**Khabaz**	**53.94**	**298**	*e*P	**P**	**21 05 58.8**		**+3.4**
KBZ				pmax	pmax			
	comp

PSZ				IAmb	IAmb	21 06 23.2	
	comp=Z,28nm,2.0s						
HVU	**Hansel Valley**	**57.10**	**60**	P	**P**	**21 06 16.8**	**-1.6**
HVU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HVU	**Hansel Valley**	**57.10**	**60**	P	**P**	**21 06 16.9**	**-1.6**
HVU				IAmb	IAmb	21 06 20.7	
	comp=Z,5.3nm,1.1s						
ELK	**Elko**	**57.20**	**62**	P	**P**	**21 06 20.7**	**+1.4**
	comp=Z,2.0nm,1.0s,baz=353,slow=5.5,SNR=3.7						
ELK	**Elko**	**57.20**	**62**	P	**P**	**21 06 19.6**	**+0.3**
ELK				IAmb	IAmb	21 06 21.6	
	comp=Z,4.2nm,1.1s						
PDAR	**Pinedale Array**	**57.25**	**57**	LR	LR	21 34 52.1	
	comp=Z,84nm,18.8s,baz=26,slow=40						
GERES	**GERESS Array B**	**57.67**	**323**	P	**P**	**21 06 22.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=28,slow=6.0,SNR=6.5						
GERES	**GERESS Array B**	**57.67**	**323**	P	**P**	**21 06 22.7**	**+0.4**
PBKT	**Sadao Pong**	**57.73**	**229**	P	**P**	**21 06 24.8**	**+1.9**
PBKT				IAmb	IAmb	21 06 25.5	
	comp=Z,5.9nm,1.0s						
KVN	**Kaiserville**	**57.74**	**65**	P	**P**	**21 06 24.5**	**+1.5**
KVN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KVN	**Kaiserville**	**57.74**	**65**		**P**	**21 06 24.5**	**+1.5**
KVN				IAmb	IAmb	21 06 25.3	
	comp=Z,4.0nm,1.0s						
NVAR	**Mina Array Bea**	**58.23**	**66**	P	**P**	**21 06 27.5**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=314,slow=5.8,SNR=9.4						
NVAR	**Mina Array Bea**	**58.23**	**66**	P	**P**	**21 06 26.9**	**+0.5**
DUG	**Dugway, Tooele**	**58.51**	**61**	P	**P**	**21 06 29.8**	**+1.4**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DUG	**Dugway, Tooele**	**58.51**	**61**	P	**P**	**21 06 29.8**	**+1.4**
DUG				IAmb	IAmb	21 06 30.6	
	comp=Z,3.9nm,0.9s						
R11A	**Troy Canyon, C**	**59.24**	**64**	P	**P**	**21 06 33.9**	**+0.4**
R11A				IAmb	IAmb	21 06 35.9	
	comp=Z,3.2nm,1.1s						
PSUT	**Pine Spring**	**59.66**	**62**	P	**P**	**21 06 37.2**	**+0.8**
PSUT				IAmb	IAmb	21 06 40.9	
	comp=Z,5.1nm,0.9s						
BRTR	**Keskin Array B**	**60.57**	**303**	P	**P**	**21 06 43.0**	**+0.4**
BRTR	**Keskin Array B**	**60.57**	**303**	P	**P**	**21 06 43.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=77,slow=2.7,SNR=4.3						
KNB	**Kanab**	**61.38**	**62**	P	**P**	**21 06 50.0**	**+1.9**
KNB				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KNB	**Kanab**	**61.38**	**62**	P	**P**	**21 06 50.0**	**+1.9**
KNB				IAmb	IAmb	21 06 51.8	
	comp=Z,7.2nm,1.2s						
R50A	**Paris**	**68.49**	**38**	P	**P**	**21 07 31.7**	**-2.4**
R50A				IAmb	IAmb	21 09 15.0	
	comp=Z,25nm,1.1s						
ESDC	**Sonseca Array**	**70.04**	**333**	P	**P**	**21 07 44.0**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=6.3,slow=7.3,SNR=7.9						
ESDC	**Sonseca Array**	**70.04**	**333**	P	**P**	**21 07 43.8**	**0.0**
ESDC				IAmb	IAmb	21 07 45.0	
	comp=Z,1.6nm,0.9s						
RAYN	**Ar Rayn**	**71.24**	**286**	P	**P**	**21 07 51.0**	**-0.3**
RAYN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
RAYN	**Ar Rayn**	**71.24**	**286**	P	**P**	**21 07 51.0**	**-0.3**
RAYN				IAmb	IAmb	21 07 54.2	
	comp=Z,3.3nm,1.1s						
TXAR	**Lajitas Array**	**71.44**	**58**	P	**P**	**21 07 52.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=342,slow=1.9,SNR=3.7						
TXAR				LR	LR	21 44 48.5	
	comp=Z,40nm,18.2s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**71.44**	**58**	P	**P**	**21 07 52.1**	**-0.4**
WRA	**Warramunga Arr**	**87.64**	**188**	P	**P**	**21 09 18.8**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=0.7,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**87.64**	**188**	P	**P**	**21 09 18.9**	**-1.4**
WRA				IAmb	IAmb	21 10 41.5	
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**94.62**	**322**	P	**P**	**21 09 53.5**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=35,slow=5.4,SNR=3.8						
PLCA	**Paso Flores**	**147.41**	**51**	*e*PKP2	**PKPbc**	**21 16 17.0**	**+1.8**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*IDC **14** 20:57:24.2±1.6, 1°.95N×126°.48E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.5/60, mbtmp3.9/5, ML4.2/1, MS3.2/3, Ms1 3.3/3, ms1mx2.7/29, Error ellipse: s-maj=114.4km s-min=18.9km az=69.0*

*ISCJB **14** 20:57:28.8±0.6, 1°.91N±0°.08×126°.3E±0°.1, h47km, mb3.8/4, MS3.1/3, Error ellipse: s-maj=19.3km s-min=8.9km az=156.9*

*NEIC **14** 20:57:29.6±1.8, 1°.9N±0°.1×126°.31E±0°.04, h36km±9km, mb4.3/10*

ISC 14 20:57:30.7±1.0**, 1°.9N**±0°.1×**126°.3E**±0°.1**, h47**km**, n21,** σ1§**12**/18**, mb4.2**/9**, MS3.1**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.50**	**137**		**Pn**	**20 57 55.4**	**+0.2**
LUWI	**Luwuk**	**4.60**	**231**	Pn	**Pn**	**20 58 38.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.87**	**182**	P	**P**	**21 01 57.7**	**-0.4**
	0.6nm,0.3s,baz=4.5,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**19.87**	**182**	P	**P**	**21 01 57.5**	**-0.5**
YULB	**Yu-li**	**21.93**	**348**	P	**P**	**21 02 20.7**	**+0.3**
YULB				IAmb	IAmb	21 02 49.9	
	comp=Z,24nm,1.3s						
WB0	**Warramunga Arr**	**22.92**	**160**	P	**P**	**21 02 31.6**	**+0.7**
WB0				IAmb	IAmb	21 02 33.1	
	comp=Z,21nm,1.8s						
WRA	**Warramunga Arr**	**23.07**	**160**	P	**P**	**21 02 31.9**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=340,slow=11,SNR=52						
WRA	**Warramunga Arr**	**23.07**	**160**	P	**P**	**21 02 30.3**	**-2.1**
WB2	**Warramunga Arr**	**23.07**	**160**	P	**P**	**21 02 32.1**	**-0.2**
WR0	**Warramunga Arr**	**23.15**	**160**	P	**P**	**21 02 36.5**	**+3.3**
WR0				IAmb	IAmb	21 02 47.5	
	comp=Z,15nm,1.6s						
KRVT	**Keravat (AS076**	**26.39**	**104**	LR	LR	21 12 25.7	
	comp=Z,50nm,19.0s,baz=280,slow=34						
AS31	**Alice Springs**	**26.44**	**164**	P	**P**	**21 03 03.3**	**-0.1**
AS31				IAmb	IAmb	21 03 06.8	
	comp=Z,2.2nm,0.3s						
ASAR	**Alice Springs**	**26.44**	**164**	P	**P**	**21 03 03.6**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=349,slow=9.4,SNR=32						
JCJ	**Chichijima**	**29.31**	**30**	LR	LR	21 12 09.6	
	comp=Z,51nm,21.5s,baz=125,slow=30						
CMAR	**Chiang Mai Arr**	**31.51**	**303**	LR	LR	21 17 41.2	
	comp=Z,42nm,18.2s,baz=186,slow=38						
MK31	**Makanchi Array**	**58.85**	**326**	P	**P**	**21 07 24.4**	**-0.3**
MK31				IAmb	IAmb	21 08 50.3	
	comp=Z,3.3nm,1.6s						
MKAR	**Makanchi Array**	**58.85**	**326**	P	**P**	**21 07 25.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=123,slow=7.5,SNR=7.7						
MKAR	**Makanchi Array**	**58.85**	**326**	P	**P**	**21 07 24.4**	**-0.3**
MAKZ	**Makanchi**	**59.04**	**326**	P	**P**	**21 07 24.7**	**-1.3**
KURBB	**Kurchatov Arra**	**63.08**	**328**	P	**P**	**21 07 53.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=128,slow=6.0,SNR=2.7						
KURK	**Kurchatov**	**63.09**	**328**	P	**P**	**21 07 53.2**	**0.0**

ANF 14 21:00:21.9±0.6**, 37°.37N**×**81°.48W, ML2.5**/17**, ML2.3**/8**, Error ellipse: s-maj=4.2km s-min=3.0km az=116.0, West Virginia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T54A	**Tazewell**	**0.32**	**194**	P	Pg	21 00 28.7	+0.7
	baz=14						
T54A				S	Sg	21 00 33.4	+1.3
	baz=14						
S54A	**Dingess, Beckl**	**0.45**	**18**	P	Pg	21 00 31.2	+0.7
	baz=198						
S54A				S	Sg	21 00 37.9	+1.6
	baz=198						
BLA	**Blacksburg**	**0.86**	**100**	S	Sg	21 00 50.1	+0.5
	baz=281						
S55A	**Lewisburg**	**0.88**	**63**	S	Sg	21 00 50.9	+0.9
	baz=243						
U54A	**Nelsons Funny**	**0.89**	**198**	S	Sb	21 00 51.7	-1.1
	baz=18						
T53A	**Wise**	**0.93**	**246**	S	Sg	21 00 52.4	+0.8
	baz=65						
U55A	**TA2, Sparta**	**0.94**	**158**	S	Sg	21 00 52.3	+0.3
	baz=338						
R53A	**Hurricane**	**1.03**	**339**	S	Sg	21 00 55.3	+0.5
	baz=159						

ANF 14 21:00:44.4±0.3**, 38°.44N**×**80°.50W, Error ellipse: s-maj=3.0km s-min=1.9km az=129.0, West Virginia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R54A	**Victor**	**0.47**	**237**	P	Pg	21 00 53.8	+0.5
	baz=58,SNR=14						
R54A				S	Sg	21 01 00.2	+0.8
	baz=58						
Q54A	**Coxs Mills**	**0.61**	**334**	S	Sg	21 01 04.6	+0.5
	baz=154						
Q55A	**Buckhannon**	**0.65**	**30**	P	Pg	21 00 57.6	+0.8
	baz=210,SNR=10						
Q55A				S	Sg	21 01 06.2	+0.9
	baz=210						
P54A	**Burton**	**1.17**	**1**	P	Pg	21 01 06.8	0.0
	baz=181						
Q56A	**Snyder Ridge,**	**1.19**	**59**	P	Pb	21 01 07.8	-0.1
	baz=240,SNR=8.2						
P55A	**Reedsville**	**1.19**	**26**	S	Sg	21 01 23.0	+0.2
	baz=206						
MCWV	**Mont Chateau**	**1.32**	**22**	S	Sg	21 01 27.2	+0.3
	baz=203						
Q52A	**Bidwell**	**1.48**	**291**	S	Sn	21 01 32.6	+0.1
	baz=110						
T54A	**Tazewell**	**1.62**	**212**	S	Sg	21 01 36.5	+0.1
	baz=32						
P56A	**Dayton Farm, R**	**1.68**	**50**	P	Pn	21 01 15.4	+0.4
	baz=231,SNR=8.2						
R52A	**Catlettsburg**	**1.69**	**267**	S	Sn	21 01 37.9	+0.2
	baz=86						
P52A	**Corning**	**1.75**	**314**	P	Pn	21 01 15.9	-0.1
	baz=133						
O53A	**New Philadelph**	**1.90**	**343**	P	Pn	21 01 18.4	+0.3
	baz=163						
O53A				S	Sn	21 01 43.0	+0.3
	baz=163						
R58A	**Rapidan**	**1.96**	**93**	Sb	Sg	21 01 46.9	-0.6
	baz=275						
U55A	**TA2, Sparta**	**1.98**	**193**	Sb	Sg	21 01 48.2	+0.2
	baz=13						
O55A	**Ligonier**	**2.00**	**27**	P	Pn	21 01 20.4	+1.0
	baz=208,SNR=9.0						
O55A				Sb	Sg	21 01 48.6	-0.1
	baz=208						
U56A	**King**	**2.09**	**178**	Sb	Sg	21 01 51.0	-0.5
	baz=358						
S58A	**Poland Farm, P**	**2.10**	**112**	S	Sn	21 01 47.9	+0.3
	baz=294						
O56A	**Blue Knob Stat**	**2.36**	**39**	P	Pn	21 01 26.1	+1.6
	baz=220,SNR=20						

IDC 14 21:05:27.7±1.7**, 30°.13S**×**178°.75W, h228**km±22km**, mb2.8**/2**, mb1 3.1**/3**, mb1mx2.9**/34**, mbtmp3.5**/3**, Error ellipse: s-maj=61.2km s-min=24.5km az=112.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**40**	P	Pn	21 06 01.3	0.0
	39nm,0.3s,baz=121,slow=23,SNR=1.4						
RAO				S	S	21 06 18.1	-9.4
	66nm,0.3s,baz=249,slow=23,SNR=2.2						
URZ	**Urewera**	**8.80**	**202**	P	Pn	21 07 31.2	+0.1
	0.5nm,0.3s,baz=315,slow=8.6,SNR=1.7						
URZ				S	S	21 09 10.5	0.0
	1.1nm,0.3s,baz=264,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**42.47**	**267**	P	P	21 13 01.1	+0.4
	0.2nm,0.6s,baz=96,slow=8.5,SNR=2.1						
WRA	**Warramunga Arr**	**43.44**	**272**	P	P	21 13 07.9	-0.5
	0.2nm,0.3s,baz=110,slow=8.1,SNR=2.7						
FINES	**FINESS Array B**	**144.67**	**340**	PKP	PKPab	21 24 35.6	-0.1
	2.4nm,0.4s,baz=58,slow=3.6,SNR=4.2						

*SOF **14** 21:44:29.5, 45°.59N×26°.28E, h140km*

*ISCJB **14** 21:44:31.3±0.4, 45°.50N±0°.02×26°.34E±0°.03, h124km±3km, Error ellipse: s-maj=3.4km s-min=3.0km az=28.7*

*BUC **14** 21:44:31.9±0.3, 45°.50N×26°.35E, h120km±2km, ml3.8/42, Error ellipse: s-maj=2.0km s-min=1.8km az=120.0*

ISC 14 21:44:31.1±1.3**, 45°.50N**±0°.02×**26°.32E**±0°.02**, h129**km±6km**, n121,** σ0§**90**/200**, 98C-75D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.26**	**268**	P	**Pn**	**21 44 49.3**	**+0.1**
MLR				⇑S	**Sn**	**21 45 01.6**	**-1.2**
MLR	**Muntele Rosu**	**0.26**	**268**	⇑P	**Pn**	**21 44 49.3**	**+0.1**
MLR				⇑S	**Sn**	**21 45 01.6**	**-1.2**
MLR				AML	AML	21 45 03.2	
BISRR	**Bisoca**	**0.28**	**80**	⇑P	**Pn**	**21 44 49.7**	**+0.6**
BISRR				⇑S	**Sn**	**21 45 02.3**	**-0.5**
BISRR	**Bisoca**	**0.28**	**80**	⇑P	**Pn**	**21 44 49.7**	**+0.6**
BISRR				⇑S	**Sn**	**21 45 02.3**	**-0.5**
BISRR				AML	AML	21 45 08.1	
PLOR	**Plostina**	**0.42**	**33**	⇑P	**Pn**	**21 44 49.7**	**0.0**
PLOR				⇓S	**Sn**	**21 45 03.8**	**0.0**
PLOR	**Plostina**	**0.42**	**33**	⇑P	**Pn**	**21 44 49.7**	**0.0**
PLOR				AML	AML	21 44 57.3	
PLOR				⇓S	**Sn**	**21 45 03.8**	**0.0**
VRI	**Vrincioaia**	**0.46**	**38**	⇑P	**Pn**	**21 44 50.2**	**+0.3**
VRI				⇑S	**Sn**	**21 45 03.6**	**-0.5**
VRI	**Vrincioaia**	**0.46**	**38**	⇑P	**Pn**	**21 44 50.2**	**+0.3**
VRI				⇑S	**Sn**	**21 45 03.6**	**-0.5**
VRI				AML	AML	21 45 05.1	
GRER		**0.48**	**104**	⇑P	**Pn**	**21 44 51.2**	**+1.3**
GRER				⇑S	**Sn**	**21 45 04.3**	**+0.1**
GRER		**0.48**	**104**	⇑P	**Pn**	**21 44 51.2**	**+1.3**
GRER				⇑S	**Sn**	**21 45 04.3**	**+0.1**
GRER				AML	AML	21 45 07.4	
SECR		**0.50**	**201**	⇓P	**Pn**	**21 44 50.7**	**+0.6**
SECR				⇑S	**Sn**	**21 45 04.6**	**+0.1**
SECR		**0.50**	**201**	⇓P	**Pn**	**21 44 50.7**	**+0.6**
SECR				⇑S	**Sn**	**21 45 04.6**	**+0.1**
ODBI	**Odobesti**	**0.58**	**63**	⇑P	**Pn**	**21 44 51.7**	**+1.2**
ODBI				⇑S	**Sn**	**21 45 05.8**	**+0.5**
ODBI	**Odobesti**	**0.58**	**63**	⇑P	**Pn**	**21 44 51.7**	**+1.2**
ODBI				⇑S	**Sn**	**21 45 05.8**	**+0.5**
PLAR	**PLOIESTI**	**0.62**	**199**	⇓P	**Pn**	**21 44 51.5**	**+0.7**
PLAR				⇑S	**Sn**	**21 45 06.4**	**+0.7**
PLAR	**PLOIESTI**	**0.62**	**199**	⇓P	**Pn**	**21 44 51.5**	**+0.7**
PLAR				⇑S	**Sn**	**21 45 06.4**	**+0.7**
PLAR				AML	AML	21 45 07.1	
PETR	**Petresti**	**0.68**	**71**	⇑P	**Pn**	**21 44 52.0**	**+0.9**
PETR	**Petresti**	**0.68**	**71**	⇑P	**Pn**	**21 44 52.0**	**+0.9**
OZUR		**0.70**	**328**	⇑P	**Pn**	**21 44 51.2**	**-0.2**
OZUR				⇑S	**Sn**	**21 45 05.0**	**-1.9**
OZUR		**0.70**	**328**	⇑P	**Pn**	**21 44 51.2**	**-0.2**
OZUR				⇑S	**Sn**	**21 45 05.0**	**-1.9**
OZUR				AML	AML	21 45 05.3	
PGOR	**Pogoanele**	**0.76**	**141**	⇑S	**Sn**	**21 45 08.3**	**+0.9**
PGOR	**Pogoanele**	**0.76**	**141**	⇑P	**Pn**	**21 44 56.0**	**+4.3**
PGOR				⇑S	**Sn**	**21 45 08.3**	**+0.9**
DOPR	**Dopca**	**0.80**	**306**	⇑P	**Pn**	**21 44 52.0**	**-0.1**
DOPR				⇑S	**Sn**	**21 45 06.6**	**-1.6**
DOPR	**Dopca**	**0.80**	**306**	⇑P	**Pn**	**21 44 52.0**	**-0.1**
DOPR				⇑S	**Sn**	**21 45 06.6**	**-1.6**
DOPR				AML	AML	21 45 10.5	
SULR		**0.82**	**183**	⇓P	**Pn**	**21 44 53.0**	**+0.6**
SULR				⇑S	**Sn**	**21 45 08.6**	**+0.2**
SULR		**0.82**	**183**	⇓P	**Pn**	**21 44 53.0**	**+0.6**
SULR				⇑S	**Sn**	**21 45 08.6**	**+0.2**
SULR				AML	AML	21 45 09.2	
MTUR	**Matau**	**0.93**	**253**	⇓P	**Pn**	**21 44 53.6**	**+0.3**
MTUR	**Matau**	**0.93**	**253**	⇓P	**Pn**	**21 44 53.6**	**+0.3**
TUDR		**0.95**	**84**	⇑P	**Pn**	**21 44 53.5**	**+0.1**
TUDR				⇓S	**Sn**	**21 45 09.7**	**-0.7**
TUDR		**0.95**	**84**	⇑P	**Pn**	**21 44 53.5**	**+0.1**
TUDR				⇓S	**Sn**	**21 45 09.7**	**-0.7**
TUDR				AML	AML	21 45 10.7	
IZVR	**Izvoarele**	**1.02**	**87**	⇑P	**Pn**	**21 44 53.9**	**-0.1**
IZVR				⇑S	**Sn**	**21 45 10.1**	**-1.4**
IZVR	**Izvoarele**	**1.02**	**87**	⇓P	**Pn**	**21 44 53.9**	**-0.1**
IZVR				⇑S	**Sn**	**21 45 10.1**	**-1.4**
IZVR				AML	AML	21 45 11.0	
SLCR	**Slobozia Conac**	**1.02**	**85**	⇑P	**Pn**	**21 44 54.1**	**0.0**
SLCR	**Slobozia Conac**	**1.02**	**85**	⇑P	**Pn**	**21 44 54.1**	**0.0**
TESR	**Tescani**	**1.04**	**13**	⇑P	**Pn**	**21 44 54.5**	**+0.2**
TESR				⇓S	**Sn**	**21 45 10.3**	**-1.6**
TESR	**Tescani**	**1.04**	**13**	⇑P	**Pn**	**21 44 54.5**	**+0.2**
TESR				⇓S	**Sn**	**21 45 10.3**	**-1.6**
TESR				AML	AML	21 45 11.6	
INCR	**INCERC-Sediu C**	**1.07**	**186**	P	**Pn**	**21 44 54.8**	**+0.3**
INCR				⇑S	**Sn**	**21 45 12.0**	**-0.3**
INCR	**INCERC-Sediu C**	**1.07**	**186**	⇓P	**Pn**	**21 44 54.8**	**+0.3**
INCR				⇑S	**Sn**	**21 45 12.0**	**-0.3**
INCR				AML	AML	21 45 12.2	
BRAG	**Branistea**	**1.07**	**93**	⇑P	**Pn**	**21 44 54.4**	**-0.1**
BRAG				⇑S	**Sn**	**21 45 10.5**	**-1.7**
BRAG	**Branistea**	**1.07**	**93**	⇓P	**Pn**	**21 44 54.4**	**-0.1**
BRAG				⇑S	**Sn**	**21 45 10.5**	**-1.7**
BRAG				AML	AML	21 45 11.7	
LEHL	**Lehliu**	**1.09**	**161**	⇓P	**Pn**	**21 44 55.4**	**+0.7**
LEHL				⇑S	**Sn**	**21 45 12.7**	**0.0**
LEHL	**Lehliu**	**1.09**	**161**	⇓P	**Pn**	**21 44 55.4**	**+0.7**
LEHL				⇑S	**Sn**	**21 45 12.7**	**0.0**
LEHL				AML	AML	21 45 13.8	
NEGR	**Negresti**	**1.09**	**88**	⇑P	**Pn**	**21 44 55.0**	**+0.3**
NEGR				⇓S	**Sn**	**21 45 11.7**	**-1.0**
NEGR	**Negresti**	**1.09**	**88**	⇑P	**Pn**	**21 44 55.0**	**+0.3**
NEGR				⇓S	**Sn**	**21 45 11.7**	**-1.0**
NEGR				AML	AML	21 45 13.9	
AMRR	**Amara**	**1.15**	**141**	⇓P	**Pn**	**21 44 56.0**	**+0.7**
AMRR				⇑S	**Sn**	**21 45 13.7**	**0.0**
AMRR	**Amara**	**1.15**	**141**	⇑P	**Pn**	**21 44 56.0**	**+0.7**
AMRR				⇑S	**Sn**	**21 45 13.7**	**0.0**
AMRR				AML	AML	21 45 14.7	
BUC1	**Bucharest**	**1.17**	**190**	⇓P	**Pn**	**21 44 56.0**	**+0.4**
BUC1				⇓S	**Sn**	**21 45 13.9**	**-0.3**
BUC1	**Bucharest**	**1.17**	**190**	⇓P	**Pn**	**21 44 56.0**	**+0.4**
BUC1				⇓S	**Sn**	**21 45 13.9**	**-0.3**
BUC1				AML	AML	21 45 14.8	
BIR	**Birlad**	**1.19**	**50**	P	**Pn**	**21 44 56.5**	**+0.8**
BIR				⇑S	**Sn**	**21 45 14.1**	**-0.4**
BIR	**Birlad**	**1.19**	**50**	⇓P	**Pn**	**21 44 56.5**	**+0.8**
BIR				⇑S	**Sn**	**21 45 14.1**	**-0.4**
BIR				AML	AML	21 45 14.6	
ARR	**Arges**	**1.19**	**264**	P	**Pn**	**21 44 56.4**	**+0.5**
ARR				⇑S	**Sn**	**21 45 14.5**	**-0.2**
ARR	**Arges**	**1.19**	**264**	⇑P	**Pn**	**21 44 56.4**	**+0.5**
ARR				⇑S	**Sn**	**21 45 14.5**	**-0.2**
ARR				AML	AML	21 45 17.4	
SGRR	**Singureni**	**1.30**	**191**	⇓P	**Pn**	**21 44 57.3**	**+0.4**
SGRR				⇓S	**Sn**	**21 45 15.7**	**-0.8**
SGRR	**Singureni**	**1.30**	**191**	⇓P	**Pn**	**21 44 57.3**	**+0.4**
SGRR				⇓S	**Sn**	**21 45 15.7**	**-0.8**
SGRR				AML	AML	21 45 17.5	
CFR	**Carcaliu**	**1.32**	**104**	⇓P	**Pn**	**21 44 57.3**	**+0.2**
CFR				⇓S	**Sn**	**21 45 15.3**	**-1.6**
CFR	**Carcaliu**	**1.32**	**104**	⇑P	**Pn**	**21 44 57.3**	**+0.2**
CFR				⇓S	**Sn**	**21 45 15.3**	**-1.6**
CFR				AML	AML	21 45 16.4	
GIUM	**Giurgiulesti**	**1.33**	**90**	⇑P	**Pn**	**21 44 57.5**	**+0.3**
GIUM				⇓S	**Sn**	**21 45 17.3**	**+0.3**
GIUM	**Giurgiulesti**	**1.33**	**90**	⇑P	**Pn**	**21 44 57.5**	**+0.3**
GIUM				⇓S	**Sn**	**21 45 17.3**	**+0.3**
HUMR	**Humele**	**1.36**	**225**	⇓P	**Pn**	**21 44 57.7**	**+0.1**
HUMR				⇑S	**Sn**	**21 45 16.9**	**-0.7**
HUMR	**Humele**	**1.36**	**225**	⇓P	**Pn**	**21 44 57.7**	**+0.1**
HUMR				⇑S	**Sn**	**21 45 16.9**	**-0.7**
HUMR				AML	AML	21 45 17.9	
HARR	**Harsova**	**1.40**	**125**	P	**Pn**	**21 44 58.5**	**+0.5**
HARR	**Harsova**	**1.40**	**125**	⇓P	**Pn**	**21 44 58.5**	**+0.5**
RASA	**Rasa**	**1.42**	**155**	P	**Pn**	**21 44 58.3**	**+0.2**
RASA				⇓S	**Sn**	**21 45 18.1**	**-0.6**
RASA	**Rasa**	**1.42**	**155**	⇓P	**Pn**	**21 44 58.3**	**+0.2**
RASA				⇓S	**Sn**	**21 45 18.1**	**-0.6**
RASA				AML	AML	21 45 18.8	
BIZ	**Bicaz**	**1.45**	**354**	⇑P	**Pn**	**21 44 59.8**	**+1.3**
BIZ				⇓S	**Sn**	**21 45 19.9**	**+0.5**
BIZ	**Bicaz**	**1.45**	**354**	⇑P	**Pn**	**21 44 59.8**	**+1.3**
BIZ				⇓S	**Sn**	**21 45 19.9**	**+0.5**
GIRR	**Girov**	**1.46**	**5**	⇑P	**Pn**	**21 44 58.3**	**-0.3**
GIRR	**Girov**	**1.46**	**5**	⇑P	**Pn**	**21 44 58.3**	**-0.3**
TLB	**Topalu**	**1.53**	**126**	⇓P	**Pn**	**21 44 59.9**	**+0.5**
TLB				⇓S	**Sn**	**21 45 19.5**	**-1.4**
TLB	**Topalu**	**1.53**	**126**	⇓P	**Pn**	**21 44 59.9**	**+0.5**
TLB				⇓S	**Sn**	**21 45 19.5**	**-1.4**
TLB				AML	AML	21 45 20.8	
COPA	**Copaceanca**	**1.58**	**210**	⇓P	**Pn**	**21 45 00.2**	**+0.2**
COPA				⇑S	**Sn**	**21 45 21.5**	**-0.4**
COPA	**Copaceanca**	**1.58**	**210**	⇓P	**Pn**	**21 45 00.2**	**+0.2**
COPA				⇑S	**Sn**	**21 45 21.5**	**-0.4**
COPA				AML	AML	21 45 21.9	
TOPG	**Topolog**	**1.58**	**112**	⇓P	**Pn**	**21 45 00.4**	**+0.3**
TOPG				⇓S	**Sn**	**21 45 20.7**	**-1.4**
ICOR	**Ion Corvin**	**1.74**	**142**	P	**Pn**	**21 45 02.8**	**+0.9**
ICOR				⇓S	**Sn**	**21 45 25.1**	**-0.3**
ICOR	**Ion Corvin**	**1.74**	**142**	⇓P	**Pn**	**21 45 02.8**	**+0.9**
ICOR				⇓S	**Sn**	**21 45 25.1**	**-0.3**
**TLC

STIP	**Stip**	**4.85 220**	*i* Pn	**Pn**	**21 45 40.1**	**-2.0**

IDC 14 21:50:10.0±2.2, 3°95S×151°72E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.5/3, MS3.1/10, Ms1 3.1/10, ms1mx3.0/22, Error ellipse: s-maj=48.3km s-min=9.9km az=38.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.47**	**139**	Pg	Pg	21 50 18.1	-0.8
	582nm,0.3s,baz=282,slow=20,SNR=20						
KRVT				Lg	Lg	21 50 26.3	
	379nm,0.3s,baz=178,slow=10,SNR=7.6						
HNR	**Honiara**	**9.82**	**124**	LR	LR	21 56 20.0	
	comp=Z,252nm,21.9s,baz=295,slow=38						
JAY	**Jayapura**	**11.09**	**277**	LR	LR	21 57 02.9	
	comp=Z,128nm,18.2s,baz=13,slow=37						
GUMO	**Guam**	**18.71**	**339**	LR	LR	22 02 02.6	
	comp=Z,13nm,19.0s,baz=123,slow=38						
WRA	**Warramunga Arr**	**23.23**	**225**	P	P	21 55 19.3	+0.2
	1.1nm,0.8s,baz=50,slow=9.9,SNR=6.8						
ASAR	**Alice Springs**	**26.07**	**220**	P	P	21 55 45.4	-0.1
	0.5nm,1.0s,baz=52,slow=9.6,SNR=2.1						
STKA	**Stephens Creek**	**29.36**	**198**	LR	LR	22 06 57.5	
	comp=Z,40nm,18.2s,baz=22,slow=34						
MJAR	**Matsushiro Arr**	**42.22**	**344**	LR	LR	22 16 09.5	
	comp=Z,20nm,18.1s,baz=260,slow=37						
KSRS	**Korea Array**	**46.77**	**334**	LR	LR	22 16 13.8	
	comp=Z,22nm,18.2s,slow=33						
RAR	**Rarotonga**	**50.11**	**114**	LR	LR	22 17 14.4	
	comp=Z,24nm,21.8s,baz=21,slow=32						
CMAR	**Chiang Mai Arr**	**56.54**	**295**	P	P	21 59 55.3	+0.5
	0.4nm,0.3s,baz=122,slow=6.7,SNR=5.2						
CMAR				LR	LR	22 25 05.4	
	comp=Z,9.6nm,18.1s,baz=40,slow=37						
PETK	**Petropavlovsk-**	**57.08**	**4**	LR	LR	22 18 31.1	
	comp=Z,22nm,22.0s,baz=246,slow=30						
SONM	**Songino Array**	**65.04**	**328**	LR	LR	22 28 48.7	
	comp=Z,18nm,19.8s,baz=58,slow=36						

IDC 14 22:15:07.0±4.9, 29°45S×179°04W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/21, mbtmp4.1/3, Error ellipse: s-maj=174.6km s-min=77.0km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.83**	**256**	P	P	22 21 51.7	+0.6
	0.9nm,0.3s,baz=107,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**42.27**	**266**	P	P	22 23 01.9	-0.6
	0.7nm,0.4s,baz=104,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**43.17**	**272**	P	P	22 23 09.7	-0.1
	2.0nm,0.5s,baz=112,slow=7.6,SNR=35						
FINES	**FINESS Array B**	**143.95**	**340**	PKP	PKPdf	22 34 43.4	-0.4
	1.5nm,0.6s,baz=14,slow=2.9,SNR=13						

IDC 14 22:24:56.5±5.9, 56°47S×150°45W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/22, mbtmp3.7/2, Error ellipse: s-maj=509.5km s-min=58.8km az=165.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**62.73**	**268**	P	P	22 35 22.4	-0.8
	0.9nm,0.7s,baz=141,slow=6.5,SNR=8.0						
H01W1	**Cape Leeuwin H**	**64.48**	**245**	T	T	23 45 40.4	
	baz=141						
H01W2	**Cape Leeuwin H**	**64.49**	**245**	T	T	23 45 37.2	
	baz=141						
H01W3	**Cape Leeuwin H**	**64.50**	**245**	T	T	23 45 40.9	
	baz=141						
WRA	**Warramunga Arr**	**65.46**	**271**	P	P	22 35 41.8	+0.6
	0.6nm,0.9s,baz=152,slow=8.4,SNR=3.3						
H10N3	**ASCENSION HYDR**	**106.41**	**134**	T	T	00 38 51.7	
	baz=204						
H10N1	**ASCENSION HYDR**	**106.41**	**134**	T	T	00 38 57.2	
	baz=204,slow=74						
H10N2	**ASCENSION HYDR**	**106.43**	**134**	T	T	00 38 46.5	
	baz=204,slow=74						
ILAR	**Eielson Array**	**120.94**	**2**	PKP	PKPdf	22 43 48.5	-0.6
	0.5nm,0.8s,baz=197,slow=1.9,SNR=4.6						
MKAR	**Makanchi Array**	**146.65**	**276**	PKPbc	PKPbc	22 44 38.8	-0.3
	0.6nm,0.7s,baz=123,slow=4.5,SNR=6.3						

*NIED **14** 23:13:00, 35°60N×141°10E, h8km, Mw3.7 Best double couple: M0 3.86000×10^14 NP1:φ=181.00000°, δ=46.00000°, λ=-60.00000°. NP2:φ=322.00000°, δ=52.00000°, λ=-117.00000°.*
*ISCJB **14** 23:13:16.7±1.1, 35°65N±0°04×141°20E±0°06, h10km±6km, mb3.4/5, Error ellipse: s-maj=8.1km s-min=6.3km az=152.8*
*IDC **14** 23:13:16.9±1.2, 35°50N×141°00E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/55, mbtmp3.5/7, ML2.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/35, Error ellipse: s-maj=28.4km s-min=21.0km az=68.0*
*JMA **14** 23:13:19.0±0.2, 35°64N×141°05E, h13km±1km, M3.7*
JMA Felt I J1.

ISC 14 23:13:17.9±1.5, 35°56N±0°05×141°05E±0°07, h9km±8km, n26, σ1°07/28, mb3.5/5, 4C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.21**	**312**	⇑P	**Pg**	**23 13 23.0**	**+0.7**
CHOJ				S	**Sg**	**23 13 25.9**	**+0.7**
JSMT	**Sammumatsuo**	**0.50**	**280**	⇑P	**Pb**	**23 13 28.9**	**+0.1**
JSMT				S	**Sb**	**23 13 37.1**	**+0.9**
JIHU	**Itakohorinouch**	**0.59**	**313**	P	**Pb**	**23 13 30.1**	**-0.2**
JIHU				S	**Sb**	**23 13 38.2**	**-0.6**
JCN	**Nagara**	**0.71**	**259**	⇑P	**Pn**	**23 13 33.7**	**-0.3**
JCN				S	**Sn**	**23 13 44.9**	**-0.2**
KTR	**Katsuura**	**0.73**	**236**	P	**Pn**	**23 13 33.8**	**-0.5**
KTR				S	**Sn**	**23 13 44.6**	**-1.0**
JKUC	**kamogawauchiur**	**0.81**	**240**	P	**Pb**	**23 13 34.7**	**+0.7**
BSO4	**Boso 4**	**0.82**	**226**	P	**Pn**	**23 13 36.3**	**+0.9**
BSO3	**Boso 3**	**0.88**	**211**	P	**Pn**	**23 13 36.7**	**+0.6**
BSO1	**Boso 1**	**0.91**	**184**	P	**Pn**	**23 13 36.7**	**+0.4**
JYT	**Yasato**	**0.96**	**314**	⇑P	**Pg**	**23 13 35.5**	**-0.9**
JYT				S	**Sg**	**23 13 47.1**	**-1.9**
JHO	**Hitachi**	**1.12**	**340**	P	**Pg**	**23 13 37.8**	**-1.6**
MJAR	**Matsushiro Arr**	**2.50**	**294**	Pn	**Pn**	**23 13 58.6**	**-0.1**
	0.7nm,0.3s,baz=99,slow=12,SNR=21						
MJAR				Sn	**Sn**	**23 14 30.9**	**+1.4**
	1.0nm,0.3s,baz=122,slow=30,SNR=5.1						
MAT	**Matsushiro**	**2.51**	**294**	P	**Pn**	**23 13 59.2**	**+0.4**
MAT				S	**Sb**	**23 14 33.0**	**-1.0**
JHJ	**Hachijo jima 2**	**2.65**	**204**	Pn	**Pn**	**23 13 59.6**	**-1.2**
	15nm,0.3s,baz=18,slow=16,SNR=3.4						
JHJ				Sn	**Sn**	**23 14 30.2**	**-2.8**
	21nm,0.3s,baz=48,slow=20,SNR=1.6						
ASAJ	**Asahikawa**	**8.63**	**7**	LR	LR	23 19 20.6	
	comp=Z,46nm,18.3s,baz=121,slow=42						
H11N2	**WAKE ISLAND Hy**	**27.68**	**118**	T	T	23 48 04.0	
	baz=311,slow=75,SNR=228						
H11N1	**WAKE ISLAND Hy**	**27.69**	**118**	T	T	23 48 04.6	
	baz=311,slow=75,SNR=143						
H11N3	**WAKE ISLAND Hy**	**27.70**	**118**	T	T	23 48 05.5	
	baz=311,slow=75,SNR=182						
H11S1	**WAKE ISLAND Hy**	**28.34**	**120**	T	T	23 48 49.4	
	baz=312,slow=75,SNR=605						
H11S3	**WAKE ISLAND Hy**	**28.34**	**120**	T	T	23 48 51.0	
	baz=312,slow=75,SNR=445						
H11S2	**WAKE ISLAND Hy**	**28.36**	**120**	T	T	23 48 54.4	
	baz=312,slow=75,SNR=420						
SONM	**Songino Array**	**28.39**	**306**	P	**P**	**23 19 13.6**	**+1.1**
	0.2nm,0.5s,baz=111,slow=8.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.70**	**314**	P	**P**	**23 21 14.8**	**-0.1**
	0.3nm,0.3s,baz=91,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**44.67**	**303**	P	**P**	**23 21 30.7**	**-0.2**
	0.4nm,0.6s,baz=81,slow=9.2,SNR=5.2						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**23 22 20.0**	**+1.1**
	0.3nm,0.6s,baz=266,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**55.56**	**188**	P	**P**	**23 22 53.8**	**+0.1**
	0.7nm,0.7s,baz=6.8,slow=7.9,SNR=11						

*NORS **14** 23:17:38.9±0.0, 42°97N×45°72E, h18km, MPVA3.1*
*ISCJB **14** 23:17:41.7±0.4, 42°99N±0°05×45°70E±0°04, h23km±5km, Error ellipse: s-maj=8.4km s-min=3.5km az=21.3*

ISC 14 23:17:40.4±1.1, 42°97N±0°04×45°70E±0°02, h16km±9km, n17, σ1°08/35, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.24**	**17**	*e*Pg	**Pg**	**23 17 45.4**	**-0.4**
GROC				*e*Sg	**Sb**	**23 17 50.5**	**+0.1**
BTLR	**Botlikh**	**0.49**	**129**	*e*Pg	**Pn**	**23 17 51.6**	**-1.2**
BTLR				*e*Sg	**Sn**	**23 17 59.6**	**-1.5**
KMGR	**Komgaron**	**0.62**	**278**	*e*Pg	**Pb**	**23 17 53.4**	**+0.5**
KMGR				*e*Sg	**Sn**	**23 18 02.9**	**-1.2**
DBC	**Dubki**	**0.83**	**86**	*e*Pg	**Pg**	**23 17 56.2**	**-0.4**
DBC				*e*Pg	**Pn**	**23 17 57.1**	**-0.3**
DBC				*e*Sg	**Sb**	**23 18 08.0**	**+0.6**
DBC				*e*Sg	**Sn**	**23 18 09.7**	**+0.3**
XNZR	**Khunzakh**	**0.86**	**120**	*e*Pg	**Pn**	**23 17 57.7**	**-0.3**
XNZR				*e*Sg	**Sn**	**23 18 11.2**	**+1.0**
BTKR	**Batakoyurt**	**0.94**	**296**	*e*Pg	**Pb**	**23 17 58.1**	**-0.2**
BTKR				*e*Sg	**Sn**	**23 18 12.8**	**+0.8**
TRKR	**Terskaya**	**1.03**	**317**	*e*Pg	**Pg**	**23 18 00.6**	**+0.3**
TRKR				*e*Sg	**Sn**	**23 18 16.5**	**+2.2**
LACR	**Lac**	**1.04**	**262**	*i* Pg	**Pb**	**23 17 57.8**	**-2.2**
LACR				*e*Sg	**Sb**	**23 18 11.8**	**-1.7**
GNBR	**Gunib**	**1.10**	**122**	*e*Pg	**Pg**	**23 18 01.4**	**-0.2**
GNBR				*e*Sg	**Sn**	**23 18 17.2**	**+1.2**
KORR	**Kora**	**1.20**	**276**	*e*Pg	**Pn**	**23 18 02.5**	**-0.1**
KORR				*e*Sg	**Sg**	**23 18 19.9**	**+0.6**
STDR	**Stavd-Durt**	**1.26**	**289**	*e*Pg	**Pb**	**23 18 03.6**	**-0.2**
STDR				*e*Sg	**Sg**	**23 18 22.0**	**+0.8**
PRTR	**Priterechnaya**	**1.29**	**307**	*e*Pg	**Pb**	**23 18 04.3**	**0.0**
PRTR				*e*Sg	**Sg**	**23 18 23.2**	**+1.0**
ZEI	**Tsey**	**1.33**	**263**	*e*Pg	**Pn**	**23 18 03.5**	**-1.0**
ZEI				*e*Sg	**Sb**	**23 18 20.7**	**-1.3**
LSNR	**Lesken**	**1.41**	**283**	*e*Pg	**Pn**	**23 18 05.6**	**+0.2**
LSNR				*e*Sg	**Sg**	**23 18 25.6**	**-0.2**
DDFL	**Dedoflistskaro**	**1.56**	**168**	P	**Pg**	**23 18 13.1**	**+2.8**
DDFL				S	Sg	23 18 39.2	+8.7
DIGR	**Digorskoe uzhe**	**1.56**	**268**	*e*Pg	**Pn**	**23 18 07.3**	**-0.3**
DIGR				*e*Sg	**Sn**	**23 18 27.9**	**+0.3**
ONI	**Oni**	**1.70**	**258**	P	**Pb**	**23 18 10.7**	**-0.6**
ONI				S	**Sb**	**23 18 32.5**	**+0.1**

*IDC **14** 23:22:49.0±2.0, 10°19N×124°59E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.7/4, MS3.0/3, Ms1 3.1/3, ms1mx2.6/39, Error ellipse: s-maj=103.2km s-min=24.3km az=58.0*
*ISCJB **14** 23:22:52.5±0.8, 10°03N±0°03×124°21E±0°03, h10km±6km, mb3.6/4, MS3.1/2, Error ellipse: s-maj=5.9km s-min=4.6km az=44.2*
*MAN **14** 23:22:53.0, 10°03N×124°24E, h14km, MS3.3*

ISC 14 23:22:51.3±1.7, 10°01N±0°03×124°19E±0°03, h5km±12km, n22, σ1°30/32, mb3.7/4, 4C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.38**	**324**	⇓*i*P	**Pb**	**23 22 60.0**	**-0.5**
LLP				*i* S	**Sb**	**23 23 06.0**	**-0.6**
MSLP	**Maasin**	**0.67**	**79**	*e*P	**Pb**	**23 23 05.3**	**-0.1**
MSLP				*e*S	**Sb**	**23 23 15.6**	**+0.5**
OCLP	**Ormoc**	**1.11**	**22**	*e*P	**Pb**	**23 23 12.8**	**-0.3**
OCLP				*e*S	**Sn**	**23 23 30.6**	**+1.2**
SNPH	**Sibulan**	**1.15**	**235**	⇓*i*P	**Pn**	**23 23 14.8**	**+0.7**
SNPH				*i* S	**Sn**	**23 23 31.0**	**+0.8**
SNPH	**Sibulan**	**1.15**	**235**	⇑*e*P	**Sn**	**23 23 33.0**	**+2.8**
DCPH	**Dipolog City**	**1.64**	**210**	⇑*e*P	**Pb**	**23 23 22.0**	**0.0**
DCPH				*e*S	**Sg**	**23 23 44.2**	**+0.1**
GUIM	**Jordan**	**1.69**	**291**	*e*P	**Pb**	**23 23 22.4**	**-0.4**
GUIM				*e*S	**Sg**	**23 23 45.3**	**-0.3**
BUTP	**Butuan**	**1.75**	**126**	*e*P	**Pn**	**23 23 20.7**	**-1.6**
BUTP				*e*S	**Sb**	**23 23 47.1**	**+0.9**
RCP	**Roxas**	**2.10**	**317**	*e*P	**Pb**	**23 23 27.9**	**-1.9**
BUKP	**Musuan**	**2.29**	**158**	*e*P	**Pn**	**23 23 30.9**	**+1.2**
BUKP				*e*S	**Sg**	**23 24 05.0**	**+0.2**
PAGZ	**Pagadian**	**2.29**	**200**	*e*P	**Pn**	**23 23 30.5**	**+0.7**
PAGZ				*e*S	**Sb**	**23 24 00.7**	**-1.0**
CNP	**Catarman**	**2.53**	**11**	*e*P	**Pn**	**23 23 33.5**	**+0.5**
CNP				*e*S	**Sg**	**23 24 13.9**	**+1.3**
CTBH	**Cotabato--PC H**	**2.77**	**179**	⇑*i*P	**Pn**	**23 23 37.6**	**+1.3**
KCP	**Kidapawan**	**3.11**	**163**	⇑*i*P	**Pn**	**23 23 44.0**	**+2.9**
KCP				*i* S	**Sn**	**23 24 17.1**	**-1.6**
OTRP	**Odiongan**	**3.16**	**318**	*e*P	**Pn**	**23 23 42.4**	**+0.7**
OTRP				*e*S	**Sn**	**23 24 22.2**	**+2.4**
DAV	**Davao City (W)**	**3.23**	**155**	LR	LR	23 25 06.7	
	comp=Z,171nm,20.2s,baz=347,slow=42						
CMAR	**Chiang Mai Arr**	**25.85**	**292**	P	**P**	**23 28 23.8**	**-0.2**
	0.6nm,0.3s,baz=106,slow=9.8,SNR=1.4						
CMAR				LR	LR	23 39 09.0	
	comp=Z,16nm,18.7s,baz=80,slow=38						
WRA	**Warramunga Arr**	**31.40**	**161**	P	**P**	**23 29 11.8**	**-1.6**
	0.7nm,1.1s,baz=353,slow=7.4,SNR=2.3						
ASAR	**Alice Springs**	**34.79**	**164**	P	**P**	**23 29 42.6**	**-0.5**
	0.8nm,0.5s,baz=340,slow=6.5,SNR=6.9						
MKAR	**Makanchi Array**	**51.01**	**324**	P	**P**	**23 31 54.6**	**+0.3**
	0.6nm,0.7s,baz=123,slow=8.6,SNR=5.0						
BRTR	**Keskin Array B**	**84.11**	**309**	LR	LR	00 19 08.6	
	comp=Z,21nm,18.7s,baz=280,slow=40						
TORD	**Torodi Ar. Bea**	**118.45**	**291**	PKP	**PKPdf**	**23 41 39.7**	**-1.4**
	0.5nm,0.7s,baz=48,slow=2.1,SNR=3.3						

*IDC **14** 23:24:13.4±1.0, 39°12N×21°62E, h0km, mb3.7/9, mb1 3.8/16, mb1mx3.6/42, mbtmp3.7/16, ML3.8/6, Error ellipse: s-maj=18.4km s-min=17.4km az=149.0*
*ISCJB **14** 23:24:19.9±0.2, 39°11N±0°01×21°37E±0°02, h79km±2km, mb3.6/9, Error ellipse: s-maj=2.6km s-min=2.0km az=40.6*
*ATH **14** 23:24:20.6, 39°08N×21°45E, h68km±2km, ML3.6/50, Error ellipse: s-maj=2.1km s-min=0.7km az=248.0*
*BEO **14** 23:24:20.9±0.8, 39°27N×21°16E, h9km±4km, ML3.4/12*
*THE **14** 23:24:22.3, 39°09N×21°45E, h55km±1km, ML3.7/15, Error ellipse: s-maj=1.3km s-min=0.4km az=187.0*
*HLW **14** 23:24:25.0, 38°43N×21°56E, h33km±57km, Md4.5*

ISC 14 23:24:20.3±0.7, 39°10N±0°03×21°40E±0°02, h64km±6km, n231, σ1°67/303, mb3.7/9, 9C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.36**	**119**	P	**Pn**	**23 24 31.7**	**+0.2**
EVR				S	**Sn**	**23 24 39.0**	**-0.5**
	18μm,0.3s						
EVR	**Evrytania**	**0.36**	**119**	P	**Pn**	**23 24 31.6**	**+0.2**
EVR				S	**Sn**	**23 24 39.2**	**-0.3**
EVR				AML	AML	23 24 39.6	
	comp=N,29605μm,0.3s						
EVR				AML	AML	23 24 39.9	
	comp=E,44024μm,0.3s						
PVO	**Paravola**	**0.49**	**169**	P	**Pn**	**23 24 33.2**	**+0.7**
PVO				S	**Sn**	**23 24 41.6**	**+0.3**
	comp=E,7μm,0.5s						
PVO	**Paravola**	**0.49**	**169**	P	**Pn**	**23 24 32.9**	**+0.5**
PVO				S	**Sn**	**23 24 42.5**	**+1.2**
PVO				AML	AML	23 24 43.2	
	comp=E,14615μm,0.6s						
PVO				AML	AML	23 24 44.2	
	comp=N,13686μm,0.4s						
PDO	**Prodromos**	**0.53**	**199**	P	**Pn**	**23 24 33.6**	**+0.7**
PDO				S	**Sn**	**23 24 42.9**	**+0.9**
	comp=N,13μm,0.3s						
PDO	**Prodromos**	**0.53**	**199**	P	**Pn**	**23 24 33.8**	**+0.9**
PDO				S	**Sn**	**23 24 43.1**	**+1.1**
PDO				AML	AML	23 24 44.8	
	comp=E,12500μm,0.3s						
PDO				AML	AML	23 24 45.3	
	comp=N,25381μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.57**	**98**	P	**Pn**	**23 24 34.5**	**+1.1**
MAKR				S	**Sn**	**23 24 43.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.57**	**98**	P	**Pn**	**23 24 34.4**	**+1.1**
MAKR				S	**Sn**	**23 24 43.3**	**+0.4**
MAKR				AML	AML	23 24 44.7	
	comp=N,49991μm,0.3s						
MAKR				AML	AML	23 24 44.8	
TSLK	**Tsoukalades, L**	**0.64**	**245**	P	**Pn**	**23 24 35.4**	**+1.3**
TSLK				S	**Sn**	**23 24 46.1**	**+1.9**
	comp=N,3μm,0.5s						
TSLK	**Tsoukalades, L**	**0.64**	**245**	P	**Pn**	**23 24 35.2**	**+1.1**
TSLK				S	**Sn**	**23 24 46.3**	**+2.1**
TSLK				AML	AML	23 24 51.9	
	comp=E,7339μm,0.5s						
TSLK				AML	AML	23 24 53.1	
	comp=N,6178μm,0.5s						
MGNA	**Meganis**	**0.65**	**227**	P	**Pn**	**23 24 34.8**	**+0.7**
MGNA				S	**Sn**	**23 24 45.5**	**+1.2**
MGNA				AML	AML	23 24 47.9	
	comp=N,4132μm,0.2s						
MGNA				AML	AML	23 24 48.0	
	comp=E,3992μm,0.1s						
THL	**Klokotos Trika**	**0.67**	**45**	P	**Pn**	**23 24 35.4**	**+1.0**
THL				S	**Sn**	**23 24 45.5**	**+0.8**
THL	**Klokotos Trika**	**0.67**	**45**	P	**Pn**	**23 24 35.4**	**+1.0**
THL				S	**Sn**	**23 24 45.9**	**+1.2**
THL				AML	AML	23 24 46.6	
	comp=N,16041μm,0.5s						
THL				AML	AML	23 24 46.7	
	comp=E,9155μm,0.3s						
MEV	**Metsovon**	**0.70**	**349**	P	**Pn**	**23 24 37.0**	**+2.0**
JAN	**Janina**	**0.70**	**323**	P	**Pn**	**23 24 37.0**	**+2.1**
JAN				S	**Sn**	**23 24 47.7**	**+2.1**
	comp=E,11μm,0.4s						
JAN	**Janina**	**0.70**	**323**	P	**Pn**	**23 24 37.0**	**+2.1**
JAN				S	**Sn**	**23 24 48.3**	**+2.7**
JAN				AML	AML	23 24 51.2	
	comp=E,26081μm,0.4s						
JAN				AML	AML	23 24 51.3	
	comp=N,19776μm,0.4s						
AGG	**Agios Georgios**	**0.73**	**96**	P	**Pn**	**23 24 36.2**	**+1.1**
AGG				S	**Sn**	**23 24 46.4**	**+0.4**
	comp=N,8μm,0.3s						
AGG	**Agios Georgios**	**0.73**	**96**	P	**Pn**	**23 24 36.2**	**+1.1**
AGG				S	**Sn**	**23 24 46.7**	**+0.7**
AGG				AML	AML	23 24 48.3	
	comp=E,15720μm,0.3s						
AGG				AML	AML	23 24 48.5	
	comp=N,18405μm,0.4s						
EVGI	**Lefkada island**	**0.75**	**231**	P	**Pn**	**23 24 36.5**	**+1.1**
EVGI				S	**Sn**	**23 24 48.6**	**+2.1**
EVGI	**Lefkada island**	**0.75**	**231**	P	**Pn**	**23 24 36.5**	**+1.1**
EVGI				S	**Sn**	**23 24 48.8**	**+2.3**
EFP	**Efpalio**	**0.78**	**149**	P	**Pn**	**23 24 37.0**	**+1.3**
EFP	**Efpalio**	**0.78**	**149**	P	**Pn**	**23 24 37.1**	**+1.4**
EFP				AML	AML	23 24 50.1	
	comp=E,14430μm,0.5s						
EFP				AML	AML	23 24 51.4	
	comp=N,11649μm,0.5s						
SERG	**Sergoula**	**0.85**	**143**	P	**Pn**	**23 24 38.2**	**+1.5**
SERG	**Sergoula**	**0.85**	**143**	P	**Pn**	**23 24 38.2**	**+1.5**
SERG				S	**Sn**	**23 24 50.5**	**+1.8**
SERG				AML	AML	23 24 52.0	
	comp=E,16978μm,0.6s						
SERG				AML	AML	23 24 55.7	
	comp=N,12775μm,0.4s						
KPRO	**Kipourio**	**0.86**	**358**	P	**Pn**	**23 24 38.7**	**+1.9**
KPRO				S	**Sn**	**23 24 50.7**	**+1.8**
	comp=N,8μm,0.4s						
KPRO	**Kipourio**	**0.86**	**358**	P	**Pn**	**23 24 39.1**	**+2.3**
KPRO				S	**Sn**	**23 24 51.1**	**+2.2**
KPRO				AML	AML	23 24 54.1	
	comp=E,16537μm,0.4s						
KPRO				AML	AML	23 24 54.5	
	comp=N,13423μm,0.5s						
UPR	**University Cam**	**0.87**	**160**	P	**Pn**	**23 24 38.3**	**+1.5**
UPR	**University Cam**	**0.87**	**160**	P	**Pn**	**23 24 38.4**	**+1.6**
TRIZ	**Trizonia**	**0.90**	**144**	P	**Pn**	**23 24 38.7**	**+1.5**
TRIZ				S	**Sn**	**23 24 50.7**	**+1.0**
	comp=N,6μm,0.5s						
TRIZ	**Trizonia**	**0.90**	**144**	P	**Pn**	**23 24 38.7**	**+1.5**
KALE	**Kalithea**	**0.91**	**140**	P	**Pn**	**23 24 38.9**	**+1.5**
KALE	**Kalithea**	**0.91**	**140**	P	**Pn**	**23 24 39.0**	**+1.5**
KALE				S	**Sn**	**23 24 51.2**	**+1.1**
KALE				AML	AML	23 24 55.3	
	comp=N,10834μm,0.3s						
KALE				AML	AML	23 24 56.0	
	comp=E,5784μm,0.5s						
IGT	**Igoumenitsa**	**0.94**	**298**	P	**Pn**	**23 24 39.3**	**+1.6**
IGT				S	**Sn**	**23 24 52.9**	**+2.3**
	comp=E,3μm,0.4s						
IGT	**Igoumenitsa**	**0.94**	**298**	P	**Pn**	**23 24 39.3**	**+1.6**
IGT				S	**Sn**	**23 24 53.1**	**+2.6**
IGT				AML	AML	23 24 55.4	
	comp=E,5177μm,0.4s						
IGT				AML	AML	23 24 59.0	
	comp=N,4924μm,0.5s						
LRSO	**Larissa Observ**	**0.96**	**53**	P	**Pn**	**23 24 39.3**	**+1.4**
LRSO				S	**Sn**	**23 24 52.1**	**+1.1**
	comp=N,14μm,0.4s						
LRSO	**Larissa Observ**	**0.96**	**53**	P	**Pn**	**23 24 39.3**	**+1.4**
LRSO				S	**Sn**	**23 24 52.1**	**+1.1**
LRSO				AML	AML	23 24 53.7	
	comp=E,33853μm,0.4s						
LRSO				AML	AML	23 24 55.5	
	comp=N,22606μm,0.4s						
LAKA	**Lakka**	**0.97**	**152**	P	**Pn**	**23 24 39.5**	**+1.4**
LAKA	**Lakka**	**0.97**	**152**	P	**Pn**	**23 24 39.5**	**+1.4**
LAKA				AML	AML	23 24 59.8	
	comp=N,2098μm,0.7s						
LAKA				AML	AML	23 25 00.9	
	comp=E,2720μm,0.5s						
AXAR	**Agios Charalam**	**1.03**	**108**	P	**Pn**	**23 24 40.3**	**+1.3**
AXAR				S	**Sn**	**23 24 53.3**	**+0.5**
AXAR				AML	AML	23 24 55.8	
	comp=E,19875μm,0.4s						
AXAR				AML	AML	23 24 55.9	
	comp=N,22108μm,0.7s						
RLS	**Riolos of Patr**	**1.04**	**177**	P	**Pn**	**23 24 40.1**	**+1.1**
RLS	**Riolos of Patr**	**1.04**	**177**	P	**Pn**	**23 24 40.2**	**+1.1**
RLS				S	**Sn**	**23 24 54.2**	**+1.4**
RLS				AML	AML	23 25 04.5	
	comp=N,1542μm,0.5s						
RLS				AML	AML	23 25 06.9	
	comp=E,1271μm,0.5s						
DLFA	**Delphi**	**1.05**	**126**	P	**Pn**	**23 24 40.4**	**+1.2**
DLFA				S	**Sn**	**23 24 54.3**	**+1

KASA AML AML 23 25 08.9
comp=N,4400µm,0.4s
LIT Litokhoron 1.31 40 P **Pn** **23 24 44.0 +1.5**
LIT S **Sn** **23 25 00.5 +1.3**
comp=N,2µm,0.4s
LIT Litokhoron 1.31 40 P **Pn** **23 24 43.6 +1.1**
LIT S **Sn** **23 25 00.1 +0.9**
LIT AML AML 23 25 02.5
comp=E,3935µm,0.3s
LIT AML AML 23 25 04.8
comp=N,4286µm,0.4s
LKR Lokris 1.32 109 P **Pn** **23 24 43.6 +0.8**
LKR Lokris 1.32 109 P **Pn** **23 24 43.5 +0.8**
LKR AML AML 23 25 04.1
comp=E,1926µm,0.3s
LKR AML AML 23 25 07.7
comp=N,2163µm,0.4s
SRN Sarande 1.34 306 P **Pn** **23 24 44.7 +1.8**
SRN S **Sn** **23 25 03.2 +3.4**
comp=N,1µm,0.4s
NEST Nestorio 1.34 348 P **Pn** **23 24 46.1 +3.0**
NEST AML AML 23 25 09.7
comp=E,3311µm,0.7s
NEST AML AML 23 25 11.2
comp=N,3044µm,0.5s
VLMS Volimes, Zakyn 1.35 206 P **Pn** **23 24 43.8 +0.7**
VLMS AML AML 23 25 17.0
comp=E,1934µm,0.5s
VLMS AML AML 23 25 21.6
comp=N,1793µm,0.6s
KEK Kerkira 1.39 297 P **Pn** **23 24 45.2 +1.6**
KEK Kerkira 1.39 297 P **Pn** **23 24 45.1 +1.5**
KEK AML AML 23 25 12.6
comp=E,4800µm,0.3s
KEK AML AML 23 25 12.9
comp=N,3673µm,0.6s
XOR Xorichti 1.42 78 P **Pn** **23 24 44.8 +0.8**
XOR Xorichti 1.42 78 P **Pn** **23 24 44.6 +0.6**
XOR AML AML 23 25 03.2
comp=E,3318µm,0.3s
XOR AML AML 23 25 03.8
comp=N,5853µm,0.3s
NEO Neokhori 1.43 81 P **Pn** **23 24 45.1 +0.9**
NEO Neokhori 1.43 81 P **Pn** **23 24 45.0 +0.9**
NEO S **Sn** **23 25 02.2 +0.1**
NEO AML AML 23 25 03.5
comp=E,4614µm,0.3s
NEO AML AML 23 25 04.7
comp=N,5926µm,0.3s
PROD Prodromos 1.44 125 P **Pn** **23 24 45.1 +0.8**
PROD AML AML 23 25 10.1
comp=N,3055µm,0.3s
PROD AML AML 23 25 10.5
comp=E,3548µm,0.2s
AMT Artemida-Makis 1.58 171 P **Pn** **23 24 47.9 +1.7**
AMT Artemida-Makis 1.58 171 P **Pn** **23 24 47.8 +1.7**
AMT AML AML 23 25 21.3
comp=N,1976µm,0.6s
AMT AML AML 23 25 24.5
comp=E,1540µm,0.6s
SKIA Skiathos 1.61 87 P **Pn** **23 24 47.6 +1.1**
SKIA Skiathos 1.61 87 P **Pn** **23 24 47.4 +0.9**
SKIA AML AML 23 25 07.2
comp=N,1956µm,0.8s
SKIA AML AML 23 25 10.7
comp=E,1649µm,0.5s
TPE Tepelena 1.61 319 P **Pn** **23 24 48.7 +2.2**
LTK Loutraki 1.63 131 P **Pn** **23 24 47.8 +1.0**
LTK Loutraki 1.63 131 P **Pn** **23 24 48.0 +1.1**
LTK AML AML 23 25 17.0
comp=N,2050µm,0.8s
LTK AML AML 23 25 18.3
comp=E,1680µm,1.0s
LOUT Loutraki 1.66 131 P **Pn** **23 24 48.3 +1.1**
LOUT AML AML 23 25 21.9
comp=N,337µm,0.6s
LOUT AML AML 23 25 22.9
comp=E,370µm,0.6s
FNA Florina 1.69 359 *e*Pg **Pn** **23 24 49.6 +2.0**
FNA *e*Sg **Sn** **23 25 08.4 +0.1**
FNA Florina 1.69 359 P **Pn** **23 24 49.6 +2.0**
FNA S **Sn** **23 25 10.3 +2.0**
comp=E,898nm,0.2s
FNA Florina 1.69 359 P **Pn** **23 24 49.7 +2.0**
FNA AML AML 23 25 15.4
comp=E,2199µm,0.3s
FNA AML AML 23 25 18.7
comp=N,1261µm,0.4s
VIL2 Platees 1.71 121 P **Pn** **23 24 49.5 +1.6**
MRKA Markates 1.75 102 P **Pn** **23 24 49.3 +0.9**
MRKA Markates 1.75 102 P **Pn** **23 24 49.5 +1.1**
MRKA AML AML 23 25 12.4
comp=N,3002µm,0.8s
MRKA AML AML 23 25 15.3
comp=E,1686µm,0.5s
VILL Villia 1.76 121 P **Pn** **23 24 49.5 +0.9**
VLX Vlachokerasia 1.89 156 P **Pn** **23 24 52.2 +1.8**
VLX AML AML 23 25 18.8
comp=N,1250µm,0.6s
VLX AML AML 23 25 26.4
comp=E,1683µm,0.6s
ALNA Alonissos 1.92 88 P **Pn** **23 24 51.7 +1.0**
ALNA AML AML 23 25 14.6
comp=E,4140µm,0.5s
ALNA AML AML 23 25 15.3
comp=N,3632µm,0.4s
AOS Alonnisos 1.93 87 P **Pn** **23 24 51.3 +0.5**
PAIG Paliouri 1.95 64 P **Pn** **23 24 51.6 +0.6**
THE Thessaloniki 1.95 38 P **Pn** **23 24 52.8 +1.7**
THE Thessaloniki 1.95 38 P **Pn** **23 24 52.0 +0.9**
ITM Ithomi 1.96 168 P **Pn** **23 24 52.7 +1.5**
HORT Hortiatis 1.99 41 P **Pn** **23 24 52.4 +0.6**
HORT AML AML 23 25 19.6
comp=N,1161µm,0.3s
HORT AML AML 23 25 21.0
comp=E,818µm,0.4s
GRG Griva 2.01 22 P **Pn** **23 24 53.8 +1.8**
GRG Griva 2.01 22 P **Pn** **23 24 53.3 +1.3**
GRG AML AML 23 25 23.2
comp=E,515µm,0.3s
GRG AML AML 23 25 25.6
comp=N,667µm,0.5s
PLG Polygyros 2.03 50 P **Pn** **23 24 53.1 +0.8**
PLG AML AML 23 25 19.8
comp=N,1461µm,0.4s
PLG AML AML 23 25 20.3
comp=E,1719µm,0.4s
OHR Ohrid 2.06 347 *i* Pn **Pn** **23 24 54.8 +2.0**
OHR *i* Sn Sn 23 25 27.9 +10
EREA Eretria 2.09 108 P **Pn** **23 24 54.1 +1.0**
EREA Eretria 2.09 108 P **Pn** **23 24 54.2 +1.2**
EREA AML AML 23 25 21.0
comp=N,2422µm,0.5s
EREA AML AML 23 25 21.4
comp=E,2218µm,0.5s
ATH Athens Observa 2.13 121 P **Pn** **23 24 54.8 +1.2**
ATH Athens Observa 2.13 121 P **Pn** **23 24 54.8 +1.2**
ATH AML AML 23 25 24.3
comp=E,2253µm,0.5s
ATH AML AML 23 25 24.8
comp=N,1309µm,0.4s
DID Didima 2.15 137 P **Pn** **23 24 54.8 +1.0**
DID Didima 2.15 137 P **Pn** **23 24 54.5 +0.6**
DID AML AML 23 25 35.8
comp=N,1076µm,0.9s
DID AML AML 23 25 36.2
comp=E,1143µm,0.6s
ATHU Athens Univers 2.18 120 P **Pn** **23 24 55.4 +1.1**
ATHU AML AML 23 25 26.1
comp=E,342µm,0.5s
ATHU AML AML 23 25 26.6
comp=N,543µm,0.6s
PTL Penteli 2.20 118 P **Pn** **23 24 55.7 +1.3**
PTL Penteli 2.20 118 P **Pn** **23 24 55.8 +1.3**
PYL PYLOS 2.21 173 P **Pn** **23 24 55.7 +1.0**
SOH Sokhos 2.28 40 P **Pn** **23 24 57.6 +1.9**
SOH Sokhos 2.28 40 P **Pn** **23 24 57.4 +1.7**
OUR Ouranopolis 2.34 57 P **Pn** **23 24 57.8 +1.4**
OUR Ouranopolis 2.34 57 P **Pn** **23 24 57.6 +1.2**
KNT Kendrikon 2.36 29 P **Pn** **23 24 58.4 +1.7**
KNT Kendrikon 2.36 29 P **Pn** **23 24 58.3 +1.5**
YDRA Hydra 2.38 136 P **Pn** **23 24 57.7 +0.7**
VAY Valandovo 2.40 22 *e*Pn **Pn** **23 24 58.6 +1.4**
VAY *e*Sn **Sn** **23 25 27.4 +2.0**
VAY Valandovo 2.40 22 *i* Pn **Pn** **23 24 59.0 +1.8**
VAY *i* Sn **Sn** **23 25 26.7 +1.3**
SCTE Santa Cesarea 2.47 294 P **Pn** **23 24 59.7 +1.5**
TIR Tirane 2.54 333 *e*Pn **Pn** **23 24 59.2 +0.1**
TIR Tirane 2.54 333 P **Pn** **23 25 01.9 +2.8**
TIR Tirane 2.54 333 ⇑P Pn 23 25 10.8 +12
KARY Karystos 2.61 113 P **Pn** **23 25 01.3 +1.3**
STIP Stip 2.66 13 *i* Pn **Pn** **23 25 04.3 +3.4**
VLI Veliai 2.67 152 P **Pn** **23 25 01.5 +0.6**
SKO Skopje 2.87 1 *i* Pn **Pn** **23 25 05.7 +2.0**
NVR Nevrokopi 2.93 39 P **Pn** **23 25 06.3 +1.7**
NVR Nevrokopi 2.93 39 P **Pn** **23 25 06.2 +1.7**
THAS Thassos island 2.96 58 P **Pn** **23 25 05.7 +0.8**
LIA Limnos Island 3.03 74 P **Pn** **23 25 06.8 +1.0**
KAVA Kavala 3.05 51 P **Pn** **23 25 07.0 +0.9**
SERI Serifos 3.11 128 P **Pn** **23 25 07.6 +0.7**
KTHA Kythira Island 3.13 155 P **Pn** **23 25 09.5 +2.3**
TNSA Tinos 3.34 117 P **Pn** **23 25 12.5 +2.4**
CGL1 Ceglie Messapi 3.40 298 ⇑*i* Pn **Pn** **23 25 11.7 +0.9**
CGL1 Sn **Sn** **23 25 50.5 +0.6**
SIGR SIGRI 3.46 87 P **Pn** **23 25 13.2 +1.5**
SMTH Samothraki Isl 3.46 65 P **Pn** **23 25 12.4 +0.7**
TAR1 Taranto 3.48 296 ⇑*i* Pn **Pn** **23 25 12.8 +0.9**
TAR1 Sn **Sn** **23 25 51.8 0.0**
BOSS Bosilegrad 3.49 13 *e*Pn **Pn** **23 25 14.1 +1.9**
BOSS *e*Sn **Sn** **23 25 54.4 +2.1**
DRME Dracevica, Mon 3.52 332 *e*Pn **Pn** **23 25 13.1 +0.6**
FASA Fasano 3.55 300 ⇑*i* Pn **Pn** **23 25 13.8 +0.8**
FASA Sn **Sn** **23 25 52.7 -1.0**
ANKY Antikythira Is 3.56 154 P **Pn** **23 25 15.0 +1.9**
TIP Timpagrande 3.61 273 P **Pn** **23 25 15.0 +1.1**
TIP Timpagrande 3.61 273 ⇓P **Pn** **23 25 15.1 +1.3**
TIP ⇓S **Sn** **23 25 55.6 +0.4**
MASS Massafra 3.62 296 ⇓*i* Pn **Pn** **23 25 14.5 +0.7**
MASS Sn **Sn** **23 25 53.9 -1.4**
CHOS Chios island 3.71 100 P **Pn** **23 25 17.0 +1.8**
PDG Podgorica 3.71 335 *e*Pn **Pn** **23 25 16.1 +1.1**
PDG Podgorica 3.71 335 ⇓P **Pn** **23 25 16.3 +1.2**
BARS Barje 3.73 5 *e*Pn **Pn** **23 25 16.8 +1.4**
BARS *e*Sn **Sn** **23 25 58.7 +0.7**
NOCI Noci 3.74 298 P **Pn** **23 25 16.3 +0.8**
RDO Rodhopi 3.77 56 P **Pn** **23 25 17.1 +1.1**
VTS Vitosha 3.78 21 *e*Pn **Pn** **23 25 17.8 +1.6**
VTS *e*Sn **Sn** **23 25 59.9 +0.4**
VTS Vitosha 3.78 21 ⇑P **Pn** **23 25 18.4 +2.2**
VTS ⇑S **Sn** **23 26 01.0 +1.4**
PRK Paraskevi 3.79 86 P **Pn** **23 25 19.0 +2.9**
APE Apeiranthos 3.83 121 P **Pn** **23 25 18.0 +1.1**
APE Apeiranthos 3.83 121 ⇑P **Pn** **23 25 18.3 +1.4**
APE ⇓S **Sn** **23 26 02.0 +1.3**
ALN Alexandroupoli 3.99 62 P **Pn** **23 25 20.0 +1.0**
BAI Bari 4.01 301 ⇓*i* Pn **Pn** **23 25 19.7 +0.6**
BAI Sn **Sn** **23 26 01.7 -3.1**
HCY Herceg Novi 4.01 328 *e*Pn **Pn** **23 25 18.9 -0.3**
SG1 Sgolgore (BA) 4.03 297 ⇓*i* Pn **Pn** **23 25 20.2 +0.8**
SG1 Sn **Sn** **23 26 02.8 -2.5**
SELS Selova 4.12 357 *e*Pn **Pn** **23 25 21.2 +0.4**
TREB Trebinje 4.29 328 *e*Pn **Pn** **23 25 22.8 -0.3**
TREB *e*Sn **Sn** **23 26 09.5 -2.3**
TREB Trebinje 4.29 328 *e*Pn **Pn** **23 25 22.6 -0.5**
SJES Sjenica 4.30 346 *e*Pn **Pn** **23 25 24.1 +0.9**
BRY Bratogost 4.38 331 *e*Pn **Pn** **23 25 24.1 -0.2**
SMG Samos 4.49 106 P **Pn** **23 25 27.6 +1.9**
UPM Unac-Piva 4.51 336 *e*Pn **Pn** **23 25 28.4 +2.1**
BOVS Bovan 4.54 3 *e*Pn **Pn** **23 25 27.0 +0.6**
IVAS Ivanjica 4.57 349 *e*Pn **Pn** **23 25 26.0 -1.0**
STON Ston 4.70 325 *e*Pn **Pn** **23 25 27.4 -1.1**
STON *e*Sn **Sn** **23 26 18.8 -2.9**
STON Ston 4.70 325 *e*Pn **Pn** **23 25 27.9 -0.7**
STON Sn **Sn** **23 26 17.5 -4.2**
STON Ston 4.70 325 *e*Pn **Pn** **23 25 27.5 -1.1**
ZAGS Zajecar 4.75 7 *e*Pn **Pn** **23 25 30.3 +0.9**
RUDO Rudo 4.77 342 *e*Pn **Pn** **23 25 29.3 -0.3**
GRUS Gruza 4.81 354 *e*Pn **Pn** **23 25 30.2 0.0**
BBLS Lazići 5.00 343 *e*Pn **Pn** **23 25 33.0 +0.3**
BBLS Lazići 5.00 343 *e*Pn **Pn** **23 25 33.1 +0.3**
DIVS Divibare 5.11 349 *e*Pn **Pn** **23 25 34.4 +0.1**
DIVS Divibare 5.11 349 *e*Pn **Pn** **23 25 34.4 +0.1**
ELND Elena 5.11 40 ⇓P **Pn** **23 25 36.3 +2.1**
ELND ⇑S **Sn** **23 26 31.9 0.0**
TRUS Trudelj 5.18 352 *e*Pn **Pn** **23 25 35.1 -0.1**
HAPS Han Pijesak,BI 5.31 341 *e*Pn **Pn** **23 25 36.3 -0.8**
HAPS *e*Sn **Sn** **23 26 34.1 -2.9**
HAPS Han Pijesak,BI 5.31 341 *e*Pn **Pn** **23 25 36.3 -0.8**
MAKA Makarska 5.33 323 *e*Pn **Pn** **23 25 37.4 +0.1**
HVAR Hvar 5.53 319 *e*Pn **Pn** **23 25 39.5 -0.5**
VAE Valguarnera 5.73 256 Pn **Pn** **23 25 44.1 +1.3**
comp=N,0.8nm,0.3s,baz=146,slow=5.6,SNR=9.4
VAE Sn **Sn** **23 26 41.3 -6.0**
comp=N,1.0nm,0.3s,baz=351,slow=19,SNR=2.3
FRGS Fruska Gora 6.17 349 *e*Pn **Pn** **23 25 49.0 +0.2**
FRGS Fruska Gora 6.17 349 *e*Pn **Pn** **23 25 48.7 -0.1**
MGRS Mrkonjic Grad 6.22 330 *e*Pn **Pn** **23 25 49.3 -0.1**
ZIRJ Zirje 6.28 318 *e*Pn **Pn** **23 25 50.2 0.0**
GZR Gura Zlata 6.37 9 ⇑P Pn 23 26 01.5 +10
MORI Morici 6.40 320 *e*Pn **Pn** **23 25 51.8 -0.1**
BLY Banja Luka 6.46 332 *e*Pn **Pn** **23 25 53.1 +0.3**
DUGI Dugi Otok 6.82 318 *e*Pn **Pn** **23 25 57.7 +0.1**
DUGI Sn **Sn** **23 27 10.3 -3.5**
UDBI Udbina 6.87 324 *i* Pn **Pn** **23 25 59.0 +0.7**
AQU L'Aquila 6.89 301 *e*Pn **Pn** **23 26 02.7 +4.0**
MLR Muntele Rosu 7.22 26 Pn **Pn** **23 26 05.4 +2.1**
comp=N,0.2nm,0.3s,baz=209,slow=13,SNR=4.0
MLR Sn **Sn** **23 27 25.9 +2.1**
baz=134,slow=21,SNR=0.6
NVLJ Novalja 7.32 320 *i* Pn **Pn** **23 26 04.1 -0.4**
CRES Cresnjev 8.03 329 *e*Pn **Pn** **23 26 13.2 -1.0**
BRJN Brijuni 8.13 318 *i* Pn **Pn** **23 26 15.2 -0.3**
SLUM Salum 8.20 157 P **Pn** **23 26 14.3 -2.3**
baz=155
SLUM S Sn 23 27 32.2 -16
baz=155
CEY Cerknica 8.40 324 *e*Pn **Pn** **23 26 18.3 -1.0**
SOKA Soboth 8.90 330 *e*Pn **Pn** **23 26 26.0 -0.2**
comp=N,1.0nm,0.3s
SOKA *e*Sn **Sn** **23 28 01.0 -3.8**
comp=N,1.2nm,0.4s
OBKA Obir 8.95 328 Pn **Pn** **23 26 28.2 +1.3**
comp=N,0.7nm,0.2s
OBKA *i* Sn **Sn** **23 28 07.3 +1.1**
comp=N,9.6nm,0.6s
MATC Matruh 9.08 147 P **Pn** **23 26 25.8 -2.8**
baz=144
BRTR Keskin Array B 9.49 82 Pn **Pn** **23 26 36.8 +2.4**
comp=N,0.9nm,0.3s,baz=264,slow=12,SNR=30
VYHS Vyhne 9.57 350 *e*SN **Sn** **23 28 22.5 +1.3**
MODS Modra-Piesok 9.74 344 *e*PN **Pn** **23 26 36.0 -1.6**
MODS *e*SN **Sn** **23 28 23.4 -1.9**
ABTA Abfaltersbach 10.04 322 *e*Pn **Pn** **23 26 42.4 +0.6**
comp=N,2.4nm,0.5s
ABTA Sn **Sn** **23 28 29.1 -3.7**
comp=N,3.4nm,0.6s
KEST Kesra 10.16 254 Pn **Pn** **23 26 44.2 +0.8**
comp=N,0.2nm,0.3s,baz=32,slow=6.5,SNR=4.9
MOA Molln 10.16 332 *i* Pn **Pn** **23 26 45.0 +1.6**
comp=N,1.1nm,0.4s
MOA *e*Sn **Sn** **23 28 35.1 -0.6**
comp=N,2.0nm,0.5s
SWA2 10.38 160 P **Pn** **23 26 42.7 -3.7**
baz=159
WTTA Wattenberg 10.83 322 *e*Pn **Pn** **23 26 53.5 +0.9**
WTTA Sn **Sn** **23 28 50.3 -1.9**
comp=N,5.4nm,0.4s
WATA Walderalm 10.91 322 Pn **Pn** **23 26 54.2 +0.6**
comp=N,4.5nm,0.5s,SNR=4.8
WATA Sn **Sn** **23 28 51.0 -3.1**
comp=N,3.7nm,0.5s
SQTA Sankt Quirin 11.01 321 *e*Pn **Pn** **23 26 56.1 +1.1**
comp=N,2.8nm,0.5s
SQTA *i* Sn **Sn** **23 28 51.3 -5.1**
comp=N,3.5nm,0.5s
FETA Feichten 11.11 319 Sn **Sn** **23 28 58.7 -0.4**
MOTA Moosalm 11.14 321 *e*Pn **Pn** **23 26 57.3 +0.4**
comp=N,4.0nm,0.7s
MOTA *i* Sn **Sn** **23 28 58.5 -1.3**
comp=N,7.3nm,0.8s
GERES GERESS Array B 11.21 333 Pn **Pn** **23 26 57.1 -0.6**
comp=N,0.1nm,0.3s,baz=149,slow=14,SNR=3.1
GERES Sn **Sn** **23 28 54.3 -6.9**
comp=N,0.1nm,0.3s,baz=149,slow=33,SNR=2.3
DAVOX Davos/Dischmat 11.40 316 Pn **Pn** **23 27 00.4 0.0**
comp=N,0.3nm,0.3s,baz=148,slow=19,SNR=4.6
DAVOX Sn **Sn** **23 28 59.2 -7.0**
comp=N,0.2nm,0.3s,baz=177,slow=23,SNR=1.4
MMAI Mount Meron Ar 12.85 114 Pn **Pn** **23 27 16.7 -3.3**
comp=N,0.5nm,0.3s,baz=306,slow=12,SNR=5.7
MMAI Sn Sn 23 29 29.6 -12
comp=N,0.2nm,0.3s,baz=307,slow=27,SNR=2.2
EIL Elat 14.60 126 Pn Pn 23 27 38.7 -4.7
comp=N,0.2nm,0.3s,baz=324,slow=5.5,SNR=8.4
ESDC Sonseca Array 19.60 280 P **Pn** **23 28 45.4 +0.2**
comp=N,0.4nm,0.3s,baz=75,slow=11,SNR=13
HFS Hagfors 21.61 349 P **P** **23 29 05.4 +0.7**
comp=N,1.3nm,0.4s,baz=156,slow=11,SNR=12
FINES FINESS Array B 22.56 6 P **P** **23 29 13.6 -1.3**
comp=N,0.7nm,0.5s,baz=169,slow=11,SNR=5.9
NB2 NORSAR Subarra 22.86 347 P **P** **23 29 19.0 +0.9**
comp=Z,1.2nm,0.6s,baz=158,slow=9.3
NOA NORSAR Array B 22.86 347 P **P** **23 29 18.2 +0.1**
comp=Z,0.6nm,0.7s,baz=156,slow=9.8,SNR=5.6
EKA Eskdalemuir Ar 23.10 323 P **P** **23 29 20.3 -0.2**
comp=Z,2.8nm,0.9s,baz=130,slow=9.3,SNR=4.2
ARCES ARCESS Array B 30.58 3 P **P** **23 30 27.6 0.0**
comp=Z,2.7nm,0.9s,baz=190,slow=10,SNR=4.3
TORD Torodi Ar. Bea 31.18 219 P **P** **23 30 34.5 +1.1**
comp=Z,1.2nm,0.5s,baz=34,slow=9.0,SNR=25
MKAR Makanchi Array 44.24 59 P **P** **23 32 23.9 +0.8**
comp=Z,0.4nm,0.6s,baz=278,slow=7.2,SNR=4.0
ZALV Zalesovo Beam 44.57 49 P **P** **23 32 25.2 -0.4**
comp=Z,1.0nm,0.5s,baz=264,slow=8.4,SNR=5.0
PETK Petropavlovsk- 80.68 25 P **P** **23 36 28.0 +1.9**
comp=Z,1.4nm,0.7s,baz=345,slow=9.0,SNR=5.0
PETK Petropavlovsk- 80.68 25 P **P** **23 36 28.0 +1.9**

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*ISCJB **14** 23:25:41.5±0.2, 8°.25S±0°.03×119°.82E±0°.02, h172km, mb4.9/30, Error ellipse: s-maj=3.9km s-min=2.7km az=26.8*
*BJI **14** 23:25:42.0±0.0, 8°.20S×119°.80E, h181km, mb4.6/36, mB4.9/25*
*NEIC **14** 23:25:42.4±1.8, 8°.26S±0°.06×119°.77E±0°.06, h177km±5km, mb4.6/43*
*DJA **14** 23:25:43.5±0.1, 8°S±2°×12°0E±°, h178km±2km, M4.6/41, mB5.1/19, mb4.9/41, MLv4.9/25, Mw(mB)4.5/19*
*KLM **14** 23:25:43.0, 8°.40S×119°.88E, h140km, mb4.9*
*IDC **14** 23:25:45.0±1.0, 8°.06S×119°.89E, h191km±8km, mb3.9/15, mb1 4.1/20, mb1mx3.9/33, mbtmp4.6/20, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=16.1km s-min=8.4km az=56.0*

ISC 14 23:25:42.2±0.3, 8°.27S±0°.04×119°.81E±0°.04, h172km, n172, σ1°74/181, **mb4.6**/44, **2C-1D, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.43**	**197**	P	**Pn**	**23 26 14.9**	**+2.0**
WSI	**Waingapu**	**1.48**	**161**	P	**Pn**	**23 26 15.0**	**+1.7**
PLAI	**Plampang**	**2.09**	**254**	P	**Pn**	**23 26 22.5**	**+2.8**
MMRI	**Maumere**	**2.43**	**99**	P	**Pn**	**23 26 24.9**	**+1.3**
MMRI	**Maumere**	**2.43**	**99**		**Pn**	**23 26 24.9**	**+1.3**
MMRI				Sn	**Sn**	**23 26 57.8**	**+2.1**
TWSI	**Taliwang, Sumb**	**2.93**	**261**	P	**Pn**	**23 26 32.1**	**+2.5**
BKSI	**Bulukumba**	**2.94**	**6**	P	**Pn**	**23 26 31.1**	**+1.3**
KAPI	**Kappang**	**3.23**	**359**	P	**Pn**	**23 26 34.5**	**+1.2**
	17nm,0.3s,baz=181,slow=7.6,SNR=100						
KAPI				S	**Sn**	**23 27 13.9**	**+0.7**
	7.1nm,0.3s,baz=352,slow=20,SNR=14						
BNSI	**Bone**	**3.85**	**4**	P	**Pn**	**23 26 42.2**	**+1.0**
BBSI	**Bau Bau**	**3.89**	**45**	P	**Pn**	**23 26 42.8**	**+1.1**
BATI	**Baumata**	**4.27**	**117**	P	**Pn**	**23 26 48.7**	**+2.2**
	49nm,0.3s,baz=299,slow=1.9,SNR=30						
BATI				S	**Sn**	**23 27 35.1**	**-1.7**
	50nm,0.3s,baz=278,slow=4.1,SNR=4.3						
BATI				LR	LR	23 28 45.8	
	comp=Z,199nm,19.1s,baz=344,slow=42						
BATI	**Baumata**	**4.27**	**117**	P	**Pn**	**23 26 48.3**	**+1.8**
SPSI	**Sidrap Palu**	**4.27**	**359**	P	**Pn**	**23 26 48.4**	**+1.8**
SRBI	**Singaraja**	**4.55**	**272**	P	**Pn**	**23 26 53.1**	**+2.9**
DNP	**Denpasar**	**4.57**	**265**	P	**Pn**	**23 26 52.4**	**+2.0**
IGBI	**Denpasar**	**4.64**	**263**	P	**Pn**	**23 26 52.3**	**+0.9**
SOEI	**Soe**	**4.65**	**109**	P	**Pn**	**23 26 53.3**	**+1.8**
SOEI	**Soe**	**4.65**	**109**		**Pn**	**23 26 52.8**	**+1.3**
SOEI				Sn	**Sn**	**23 27 46.6**	**+0.8**
TTSI	**Tana Toraja**	**5.19**	**0**	P	**Pn**	**23 27 01.4**	**+2.9**
	90nm,1.1s,1µm0.4nm						
JAGI	**Jajag, Banyuwa**	**5.60**	**268**	P	**Pn**	**23 27 03.7**	**-0.2**
	220nm,0.8s,5µm1.2nm						
JAGI	**Jajag, Banyuwa**	**5.60**	**268**		**Pn**	**23 27 03.4**	**-0.5**
KMMI	**Kalianget**	**5.92**	**281**	P	**Pn**	**23 27 12.4**	**+4.4**
	190nm,0.8s,69µm3.0nm						
KBKI	**Kotabaru**	**6.12**	**324**	P	**Pn**	**23 27 13.0**	**+2.3**
	23nm,0.6s,0.2nm						
GRJI	**Gresik**	**7.39**	**280**	P	**Pn**	**23 27 30.7**	**+3.2**
	443nm,0.9s,3µm1.2nm						
APSI	**Ampana**	**7.53**	**14**	P	**Pn**	**23 27 31.4**	**+2.0**
	19nm,0.8s,0.1nm						
LUWI	**Luwuk**	**7.76**	**23**	Pn	**Pn**	**23 27 32.4**	**0.0**
PWJI	**Pagerwojo**	**7.93**	**271**	P	**Pn**	**23 27 36.3**	**+1.7**
	126nm,0.7s,3µm0.7nm						
NGJI	**Ngawi**	**8.32**	**276**	P	**Pn**	**23 27 42.4**	**+2.6**
	140nm,0.8s						
PCJI	**Pacitan**	**8.54**	**270**	P	**Pn**	**23 27 43.4**	**+0.6**
	490nm,0.7s,5µm						
MPSI	**Mapaga**	**8.55**	**1**	P	Pn	23 27 49.5	+6.7
SANI	**Sanana**	**8.72**	**45**	P	**Pn**	**23 27 46.7**	**+1.7**
	102nm,1.1s,1µm						
NLAI	**Namlea**	**8.80**	**56**	P	**Pn**	**23 27 49.6**	**+3.4**
	80nm,0.7s,2µm						
WOJI	**Wonogiri, Jawa**	**8.81**	**272**	P	**Pn**	**23 27 47.7**	**+1.4**
	116nm,0.5s,3µm						
MRSI	**Marisa**	**8.94**	**14**	P	**Pn**	**23 27 49.1**	**+1.1**
	27nm,1.1s						
UGM	**Wanagama**	**9.20**	**272**	P	**Pn**	**23 27 53.1**	**+1.6**
	182nm,0.8s						
UGM	**Wanagama**	**9.20**	**272**		**Pn**	**23 27 52.5**	**+1.0**
UGM					**Sn**	**23 29 33.6**	**-0.5**
SMRI	**Semarang**	**9.36**	**277**	P	**Pn**	**23 27 57.6**	**+4.0**
	804nm,0.7s,8µm						
SMRI	**Semarang**	**9.36**	**277**		**Pn**	**23 27 56.2**	**+2.6**
AAI	**Ambon**	**9.50**	**62**	P	Pn	23 28 09.4	+14
BNDI	**Bandanaira**	**10.70**	**70**	P	**P**	**23 28 18.3**	**-0.8**
KPJI	**Karang Pucung**	**10.82**	**274**	P	**Pn**	**23 28 12.7**	**+0.1**
	92nm,0.6s						
CMJI	**Cimerak**	**11.26**	**272**	P	**Pn**	**23 28 16.3**	**-2.1**
	90nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.30**	**150**	P	**Pn**	**23 28 20.1**	**+1.3**
	4.4nm,0.3s,baz=343,slow=6.9,SNR=98						
FITZ				S	**Sn**	**23 30 20.2**	**-4.1**
	4.2nm,0.3s,baz=185,slow=14,SNR=5.2						
FITZ	**Fitzroy Crossi**	**11.30**	**150**		**Pn**	**23 28 19.8**	**+0.9**
SAUI	**Saumlaki**	**11.38**	**89**	P	**Pn**	**23 28 19.6**	**-0.4**
	395nm,0.8s						
SAUI	**Saumlaki**	**11.38**	**89**		**Pn**	**23 28 20.0**	**0.0**
KNRA	**Kununurra**	**11.44**	**131**		**Pn**	**23 28 20.6**	**-0.1**
TNTI	**Ternate**	**11.72**	**40**	Pn	**Pn**	**23 28 24.7**	**+0.3**
CISI	**Cisompet, Garu**	**11.90**	**273**	P	**Pn**	**23 28 25.2**	**-1.5**
	113nm,0.7s						
CISI	**Cisompet, Garu**	**11.90**	**273**	Pn	**Pn**	**23 28 25.5**	**-1.3**
MTN	**Manton Dam**	**12.03**	**113**		**Pn**	**23 28 28.3**	**0.0**
LEM	**Lembang**	**12.17**	**276**	P	**Pn**	**23 28 32.3**	**+2.0**
	7.8nm,0.3s,baz=164,slow=21,SNR=18						
LEM				S	**Sn**	**23 30 45.6**	**+0.1**
	4.1nm,0.3s,baz=129,slow=22,SNR=1.9						
LEM	**Lembang**	**12.17**	**276**	P	**Pn**	**23 28 31.8**	**+1.5**
	1µm,0.8s						
MBWA	**Marble Bar**	**12.82**	**180**		**S**	**23 31 09.7**	**+1.3**
SBUM	**Sibu**	**13.06**	**324**		**Pn**	**23 28 42.3**	**+0.8**
PSA00	**Pilbara Seismi**	**13.23**	**180**		**Pn**	**23 28 43.6**	**0.0**
PSA00	**Pilbara Seismi**	**13.23**	**180**	P	**Pn**	**23 28 44.7**	**+1.1**
FAKI	**Fak Fak**	**13.47**	**67**	P	**Pn**	**23 28 45.5**	**-1.2**
	127nm,0.6s,3µm						
FAKI	**Fak Fak**	**13.47**	**67**		**Pn**	**23 28 45.6**	**-1.1**
KSM	**Kuching**	**13.54**	**315**		**Pn**	**23 28 47.3**	**-0.3**
SWI	**Sorong**	**13.57**	**58**	P	**Pn**	**23 28 48.6**	**+0.6**
	120nm,0.8s,1µm						
SIJI	**Sorong**	**13.57**	**58**	P	**Pn**	**23 28 47.9**	**-0.1**
	13nm,0.3s,baz=225,slow=4.8,SNR=12						
SIJI				S	**Sn**	**23 31 21.2**	**+2.3**
	1.2nm,0.3s,baz=106,slow=20,SNR=3.8						
XMIS	**Christmas Isla**	**14.14**	**260**	Pn	**Pn**	**23 28 53.6**	**-1.5**
KKM	**Kota Kinabalu**	**14.66**	**346**	P	**Pn**	**23 29 01.9**	**+0.3**
KASI	**Kota Agung**	**15.44**	**279**	P	**P**	**23 29 14.7**	**+2.8**
	37nm,0.5s						
RKPI

2.4nm,0.3s,baz=306,slow=23,SNR=18
WRA ScP **ScP** **23 37 24.6 -2.4**
0.1nm,0.3s,baz=309,slow=2.8,SNR=3.5
WRA Warramunga Arr 18.24 131 Pn 23 29 44.4 -0.3
WRAB Tennant Creek 18.24 131 P **P 23 29 43.5 +0.9**
WRAB IAmb IAmb 23 29 53.6
comp=Z,15nm,0.7s
WB2 Warramunga Arr 18.25 131 Pn 23 29 44.4 -0.4
MYKOM Kota Tinggi 18.79 301 P **Pn 23 29 52.0 +0.9**
MYKOM Kota Tinggi 18.79 301 P **P 23 29 49.2 +0.6**
AS31 Alice Springs 20.42 140 P Pn 23 30 09.2 -1.3
ASAR Alice Springs 20.42 140 P Pn 23 30 08.6 -2.0
comp=Z,6.1nm,0.6s,baz=320,slow=8.3,SNR=60
ASAR S **S 23 33 42.0 -3.5**
comp=Z,12nm,0.7s,baz=326,slow=24,SNR=9.7
ASAR ScP **ScP 23 37 29.9 -2.0**
comp=Z,3.0nm,0.5s,baz=323,slow=2.2,SNR=7.9
ASAR Alice Springs 20.42 140 P **P 23 30 06.5 +0.3**
ASAR **ScP 23 37 29.8 -2.0**
MORW Morawa 21.00 189 P **P 23 30 12.1 -0.1**
MORW IAmb IAmb 23 30 27.0
comp=Z,21nm,1.4s
JRMM Jerantut 21.08 304 P **P 23 30 16.0 +2.7**
JAY Jayapura 21.57 76 P **P 23 30 17.3 -1.2**
comp=Z,13nm,0.6s,baz=276,slow=5.9,SNR=5.1
TGY Tagaytay City 22.25 3 P **P 23 30 25.4 +0.2**
comp=Z,433nm,0.6s,baz=169,slow=4.4,SNR=9.6
IPM Ipoh 22.61 303 P **P 23 30 27.1 -1.6**
KULM Kulim 23.38 305 P **P 23 30 36.0 +0.4**
KULM Kulim 23.38 305 P **P 23 30 35.8 +0.2**
RPSI Rantau Prapat 23.50 297 IAmb IAmb 23 30 38.9
comp=Z,22nm,1.0s
COEN Coen 23.61 106 P **P 23 30 38.7 +1.0**
FORT Forrest 23.69 162 P **P 23 30 38.7 +0.4**
FORT IAmb IAmb 23 30 49.3
comp=Z,22nm,0.8s
GSI Gunungsitoli 24.12 292 P 23 30 41.9 -0.5
PKDT Phuket 26.75 306 P **P 23 31 07.5 +1.4**
comp=Z,29nm,0.7s
SURT Suratani 27.04 309 P **P 23 31 10.6 +2.0**
comp=Z,14nm,0.6s
CTA Charters Tower 28.15 117 P **P 23 31 19.9 +1.3**
comp=Z,3.3nm,0.7s,baz=292,slow=13,SNR=7.3
CTAO Charters Tower 28.15 117 P **P 23 31 19.5 +0.9**
BBOO Buckleboo 28.69 151 P **P 23 31 24.8 +1.5**
BBOO IAmb IAmb 23 31 26.8
comp=Z,9.3nm,0.9s
CHAI Chaiyaphum 29.80 324 P **P 23 31 35.2 +2.1**
comp=Z,33μm,0.9s
NONG Nongkai 30.91 328 P **P 23 31 46.4 +3.6**
comp=Z,0.5nm,1.0s
PBKT Sadao Pong 30.93 323 P **P 23 31 44.7 +1.7**
comp=Z,12nm,2.0s,comp=Z,1μm
PBKT Sadao Pong 30.93 323 P **P 23 31 43.2 +0.2**
PBKT IAmb IAmb 23 31 45.5
comp=Z,11nm,0.7s
STKA Stephens Creek 31.02 142 P **P 23 31 46.5 +2.7**
comp=Z,10nm,0.4s,baz=320,slow=9.3,SNR=40
STKA ScP **ScP 23 38 00.9 -1.4**
comp=Z,2.7nm,0.6s,baz=352,slow=7.3,SNR=6.2
STKA Stephens Creek 31.02 142 P **P 23 31 44.9 +1.1**
UTHA Uthaitani 31.10 320 P **P 23 31 46.4 +1.8**
comp=Z,32μm,0.7s,comp=Z,382μm
KHLT Khaolaem Dam 31.11 317 P **P 23 31 44.8 +0.1**
comp=Z,17nm,1.0s,comp=Z,964nm
UMPA Umpang Tak 31.96 320 P **P 23 31 55.1 +3.0**
comp=Z,22μm,0.9s
YHNB Yeheng 32.77 3 P **P 23 31 58.4 -0.7**
CMAR Chiang Mai Arr 33.60 322 P **P 23 32 07.2 +0.8**
comp=Z,1.8nm,0.4s,baz=142,slow=6.5,SNR=22
CMAR Chiang Mai Arr 33.60 322 P **P 23 32 05.8 -0.5**
PAYA Payao 33.76 325 P **P 23 32 09.7 +2.0**
comp=Z,25μm,1.1s
CMMT Chiang Mai 33.87 323 P **P 23 32 10.5 +1.8**
comp=Z,7.5nm,1.4s
CHTO Chiang Mai 33.87 323 P **P 23 32 07.8 -0.9**
CHTO IAmb IAmb 23 32 10.7
comp=Z,10nm,1.1s
WHN Wuhan 38.94 352 ⇓P **P 23 32 52.3 +0.9**
NJ2 Nanjing 40.10 359 *e*P **P 23 33 01.9 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 41.88 339 *e*P **P 23 33 16.0 +0.3**
XAN Xi'an 43.32 347 P **P 23 33 27.5 +0.3**
XAN pmax pmax
comp=Z,11nm,0.6s
XAN Xi'an 43.32 347 P **P 23 33 27.1 -0.2**
XAN IAmb IAmb 23 33 28.5
comp=Z,15nm,1.1s
KSRS Korea Array 46.11 9 P **P 23 33 48.8 -0.3**
comp=Z,1.4nm,0.7s,baz=187,slow=8.6,SNR=3.4
LZH Lanzhou 46.60 342 *e*P **P 23 33 56.5 +3.2**
LZH pP pwP 23 34 33.6 -1.5
LZH sP sP 23 34 52.5 +3.5
LZH pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 46.74 325 P **P 23 33 55.6 +0.7**
LSA IAmb IAmb 23 33 57.0
comp=Z,24nm,0.7s
ODAN Odare 46.98 319 *e*P **P 23 33 56.8 +0.3**
comp=Z,34nm,0.5s
TAPN Taplejung 47.12 320 *e*P **P 23 33 58.1 +0.5**
comp=Z,43nm,0.7s
KAAM Kaadhehdhoo 47.46 278 P **P 23 33 58.5 -1.5**
RAMN Ramite 47.56 319 *e*P **P 23 34 01.8 +0.9**
comp=Z,57nm,0.6s
JIRN Jiri 48.31 319 *e*P **P 23 34 07.2 +0.4**
comp=Z,74nm,0.5s
GUN Gumba 48.68 319 *e*P **P 23 34 09.8 +0.2**
comp=Z,83nm,0.7s
PKI Pulchoki 48.76 318 *e*P **P 23 34 09.9 -0.3**
comp=Z,44nm,0.5s
PKIN Phulchoki 48.77 318 *e*P **P 23 34 10.0 -0.2**
comp=Z,37nm,0.5s
DMN Daman 48.99 318 *e*P **P 23 34 11.8 -0.1**
KKN Kakani 48.99 318 *e*P **P 23 34 11.7 -0.1**
GKN Gorkha 49.56 318 *e*P **P 23 34 16.0 -0.1**
comp=Z,53nm,0.4s
KOLN Koldanda 50.10 317 *e*P **P 23 34 21.0 +0.8**
comp=Z,74nm,0.7s
DANN Dangsing 50.37 318 *e*P **P 23 34 22.2 -0.1**
comp=Z,145nm,0.6s
GTA Gaotai 50.93 340 ⇑P **P 23 34 27.0 +0.9**
GTA pP pwP 23 35 09.0 +0.8
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,66nm,5.7s
GTA LR LR
comp=Z,100nm,17.2s
GTA LR LR
comp=Z,94nm,16.8s
GTA LR LR
comp=Z,110nm,17.2s
USRK Ussuriysk Ar. 53.37 11 P **P 23 34 42.2 -1.6**
comp=Z,1.4nm,0.6s,baz=189,slow=7.7,SNR=4.8
USRK Ussuriysk Ar. 53.37 11 P **P 23 34 42.7 -1.1**
SONM Songino Array 57.10 349 P **P 23 35 10.4 -0.3**
comp=Z,2.2nm,0.5s,baz=169,slow=8.2,SNR=16
SONM Songino Array 57.10 349 P **P 23 35 10.9 +0.2**
WMQ Urumqi 59.45 333 *e*P **P 23 35 28.8 +1.8**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,150nm,5.7s
WMQ LR LR
comp=Z,520nm,29.3s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ LR LR
comp=Z,170nm,29.1s
NIL Nilore 60.73 316 P **P 23 35 34.7 -1.1**
NIL IAmb IAmb 23 35 36.0
comp=Z,11nm,0.7s
KSH Kashi 62.50 323 P **P 23 35 47.4 -0.3**
KSH PcP **PcP 23 36 23.6 -1.7**
KSH S **S 23 43 54.4 -7.2**
KSH SS **SS 23 48 03.4 -5.6**
KSH pmax pmax
comp=Z,170nm,8.8s
KSH LR LR
comp=Z,190nm,9.8s
KSH LR LR
comp=Z,230nm,10.6s
KSH LR LR
comp=Z,200nm,17.4s

TARG Taragay, Kyrgy 62.88 326 IAmb IAmb 23 35 58.5
comp=Z,5.4nm,0.7s
KDJ Kajisay 63.50 326 P **P 23 35 52.3 -1.9**
KDJ IAmb IAmb 23 35 53.5
comp=Z,10nm,1.1s
NRN Naryn 63.71 325 P **P 23 35 54.2 -1.7**
NRN IAmb IAmb 23 35 56.2
comp=Z,8.7nm,0.6s
KBL Kabul 64.14 315 P **P 23 35 57.7 -0.9**
MK31 Makanchi Array 64.18 332 IAmb IAmb 23 35 59.2
comp=Z,9.2nm,0.7s
MKAR Makanchi Array 64.18 332 P **P 23 35 58.4 0.0**
comp=Z,12nm,0.5s,baz=153,slow=7.2,SNR=175
MKAR Makanchi Array 64.18 332 P **P 23 35 58.1 -0.3**
MAKZ Makanchi 64.33 332 P **P 23 35 59.1 -0.4**
MAKZ IAmb IAmb 23 35 60.0
comp=Z,5.2nm,0.5s
AAK Ala-Archa 65.34 325 P **P 23 36 06.3 +0.1**
AAK IAmb IAmb 23 36 07.1
comp=Z,6.6nm,0.6s
BTK Batken 65.99 321 IAmb IAmb 23 36 11.9
comp=Z,9.8nm,1.1s
CHGR Chuyangaron 66.27 319 P **P 23 36 11.4 -0.7**
KKAR Karatay Array 67.94 323 P **P 23 36 21.4 -1.1**
KKAR Karatay Array 67.94 323 IAmb IAmb 23 36 24.7
comp=Z,2.8nm,1.2s
SOCY Socotra 68.50 287 P **P 23 36 26.2 -0.5**
ZALV Zalesovo Beam 68.65 339 P **P 23 36 25.6 -1.0**
comp=Z,9.2nm,0.4s,baz=141,slow=4.9,SNR=48
ZALV Zalesovo Beam 68.65 339 P **P 23 36 25.4 -1.2**
KURK Kurchatov 68.70 333 P **P 23 36 26.7 -0.3**
KURK IAmb IAmb 23 36 27.5
comp=Z,10nm,0.9s
GEYT Alibeck 73.52 313 P **P 23 36 55.9 -0.4**
comp=Z,1.1nm,0.3s,baz=144,slow=5.3,SNR=6.0
GEYT Alibeck 73.52 313 P **P 23 36 55.4 -1.0**
ABKAR Abkulak array 77.43 325 P **P 23 37 17.3 -1.0**
ABKAR Abkulak array 77.43 325 IAmb IAmb 23 37 18.4
comp=Z,2.8nm,0.6s
SYO Syowa Base 78.82 201⇑*e*PcP **PcP 23 37 34.4 +0.7**
RAYN Ar Rayn 79.10 296 P **P 23 37 27.2 -1.0**
KMBO Kilima Mbogo 82.47 270 P **P 23 37 47.6 +1.1**
comp=Z,1.6nm,0.6s,baz=63,slow=8.6,SNR=8.4
KBZ Khabaz 86.32 315 P **P 23 38 04.6 -0.3**
comp=Z,2.1nm,0.8s,baz=141,slow=4.0,SNR=5.8
BOSA Boshof 90.06 241 P **P 23 38 24.9 +1.8**
comp=Z,0.8nm,0.4s,baz=106,slow=2.6,SNR=5.2
BRTR Keskin Array B 92.29 310 P **P 23 38 31.8 -1.4**
comp=Z,1.1nm,0.8s,baz=120,slow=7.3,SNR=6.6
BRTR Keskin Array B 92.29 310 P **P 23 38 31.2 -2.0**
FINES FINESS Array B 98.99 331 PKiKP **PKiKP 23 43 32.9 +0.3**
comp=Z,1.8nm,1.0s,baz=111,slow=4.3,SNR=4.1
YKA Yellowknife Ar 113.20 24 PKiKP **PKiKP 23 43 57.8 -1.0**
comp=Z,0.6nm,0.5s,baz=311,slow=2.0,SNR=4.4
TORD Torodi Ar. Bea 119.12 280 PKP **PKPdf 23 44 11.5 -0.2**
comp=Z,1.0nm,0.5s,baz=47,slow=3.3,SNR=20
NVAR Mina Array Bea 119.94 50 PKP **PKiKP 23 44 13.8 +0.8**
comp=Z,0.5nm,0.7s,baz=213,slow=3.1,SNR=3.4
ESDC Sonseca Array 121.03 312 PKP **PKPdf 23 44 14.4 -0.4**
comp=Z,0.2nm,0.4s,baz=38,slow=2.4,SNR=3.2
TXAR Lajitas Array 134.17 57 PKP **PKPdf 23 44 40.1 0.0**
comp=Z,0.4nm,0.9s,baz=272,slow=2.5,SNR=3.1
TXAR SKPab **SKPbc 23 47 53.6 0.0**
comp=Z,0.6nm,1.0s,baz=294,slow=0.9,SNR=2.6
CPUP Villa Florida 145.50 185 PKPbc **PKPab 23 45 02.4 +1.0**
comp=Z,1.7nm,0.6s,baz=186,slow=3.8,SNR=5.8
CPUP SKPbc **SKPbc 23 48 22.6 -1.8**
comp=Z,1.0nm,0.5s,baz=123,slow=2.3,SNR=3.0
LPAZ La Paz 154.37 162 PKPab **PKPab 23 45 41.1 +2.6**
comp=Z,1.1nm,0.6s,baz=198,slow=6.8,SNR=5.3

*ANF **14** 23:48:03.9±1.4, 41°.93N×125°.75W, h16km±12km, ML2.6/4, Error ellipse: s-maj=9.6km s-min=4.1km az=84.0*
ISC 14 23:47:58.8±2.4, 41°.87N±0°.04×126°.07W±0°.09, h8km±12km, n77, σ1§60/87, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.41**	**75**		**Pn**	**23 48 25.3**	**+0.4**
KBO	**Bosley Butte**	**1.41**	**75**		**Sg**	**23 48 45.4**	**+1.2**
KBO	**Bosley Butte**	**1.41**	**75**		**Pg**	**23 48 26.3**	**+0.4**
KEBM	**Edson Butte**	**1.63**	**51**		**Pn**	**23 48 28.3**	**+0.5**
KEBM	**Edson Butte**	**1.63**	**51**		**Sg**	**23 48 48.9**	**-2.3**
KEBM	**Edson Butte**	**1.63**	**51**		**Pn**	**23 48 29.0**	**+1.1**
KSXB	**Camp Six Broad**	**1.64**	**91**		**Pn**	**23 48 28.4**	**+0.4**
KSXB					**Sg**	**23 48 50.4**	**-1.0**
KRMB	**Red Mountain**	**1.65**	**101**	Pn	**Pn**	**23 48 28.7**	**+0.4**
KRMB					**Pb**	**23 48 29.0**	**-0.6**
KRPM	**Rodgers**	**1.69**	**114**		**Pn**	**23 48 29.1**	**+0.4**
KRPM					**Sn**	**23 48 49.5**	**-1.1**
JCC	**Jacoby Creek,**	**1.86**	**124**		**Pn**	**23 48 31.1**	**+0.2**
JCC	**Jacoby Creek,**	**1.86**	**124**		**Sn**	**23 48 53.1**	**-1.5**
JCC	**Jacoby Creek,**	**1.86**	**124**		**Pn**	**23 48 31.2**	**+0.3**
L02E	**Cave Junction**	**1.86**	**80**	P	**Pn**	**23 48 31.6**	**+0.7**
baz=263,SNR=62							
L02E	**Cave Junction**	**1.86**	**80**		**Pn**	**23 48 31.6**	**+0.7**
KCTM	**Capetown**	**1.91**	**136**		**Pn**	**23 48 32.4**	**+0.7**
K02D	**Willamette Mer**	**1.96**	**64**	P	**Pn**	**23 48 33.1**	**+0.6**
baz=247,SNR=34							
K02D				Sb	**Sb**	**23 48 57.6**	**-1.9**
baz=247							
KTRM	**Thompson Ridge**	**2.01**	**88**		**Pn**	**23 48 33.5**	**+0.4**
KHMM	**Horse Mountain**	**2.02**	**119**		**Pn**	**23 48 33.9**	**+0.6**
J01E	**Myrtle Point**	**2.04**	**50**	P	**Pn**	**23 48 34.1**	**+0.7**
baz=234,SNR=22							
J01E				S	**Sn**	**23 48 58.2**	**-0.9**
baz=234							
KOMM	**Orleans Mounta**	**2.05**	**106**		**Pn**	**23 48 34.5**	**+0.9**
KSMM	**Slide Mountain**	**2.21**	**139**		**Pn**	**23 48 36.1**	**+0.3**
KCSM	**Cold Springs**	**2.34**	**124**		**Pn**	**23 48 38.8**	**+1.0**
HUMO	**Hull Mountain**	**2.42**	**71**		**Pn**	**23 48 39.8**	**+1.1**
HUMO	**Hull Mountain**	**2.42**	**71**		**Pn**	**23 48 39.9**	**+1.1**
KMRM	**Mail Ridge**	**2.43**	**132**		**Pn**	**23 48 40.5**	**+1.7**
M02C	**Callahan**	**2.46**	**100**	P	**Pn**	**23 48 40.5**	**+1.2**
baz=282,SNR=55							
M02C	**Callahan**	**2.46**	**100**		**Pn**	**23 48 40.8**	**+1.6**
KHBM	**Hayfork Bally**	**2.46**	**118**		**Pn**	**23 48 40.3**	**+0.9**
YBH	**Yreka Blue Hor**	**2.51**	**92**		**Pn**	**23 48 42.1**	**+2.1**
YBH	**Yreka Blue Hor**	**2.51**	**92**		**Pn**	**23 48 42.3**	**+2.2**
KPPM	**Pickett Peak**	**2.55**	**126**		**Pn**	**23 48 41.4**	**+0.8**
LAMM	**Antelope Mount**	**2.59**	**95**		**Pn**	**23 48 43.5**	**+2.3**
LGPM	**Granite Peak**	**2.62**	**110**		**Pn**	**23 48 42.5**	**+1.0**
LBKM	**Bonanza King**	**2.67**	**106**		**Pn**	**23 48 44.3**	**+2.0**
N02D	**Trinity Center**	**2.68**	**108**	P	**Pn**	**23 48 43.3**	**+1.0**
baz=290							
N02D				S	**Sn**	**23 49 14.6**	**-0.5**
baz=290							
N02D	**Trinity Center**	**2.68**	**108**		**Pn**	**23 48 43.5**	**+1.2**
KBSM	**Bell Springs**	**2.70**	**135**		**Pn**	**23 48 43.8**	**+1.1**
I03D	**Drain, OR**	**2.71**	**47**	P	**Pn**	**23 48 43.4**	**+0.8**
baz=230,SNR=9.8							
I03D				S	**Sn**	**23 49 14.9**	**-0.6**
baz=230							
B040	**Montague**	**2.72**	**90**		**Pn**	**23 48 44.9**	**+2.0**
I02D	**Swisshome**	**2.77**	**35**	P	**Pn**	**23 48 45.0**	**+1.6**
baz=219,SNR=28							
I02D				S	**Sn**	**23 49 16.5**	**-0.5**
baz=219							
L04D	**Klamath Falls**	**2.82**	**82**	P	**Pn**	**23 48 46.1**	**+1.8**
baz=265,SNR=83							
L04D	**Klamath Falls**	**2.82**	**82**		**Pn**	**23 48 46.6**	**+2.3**
KIPM	**Iron Peak**	**2.84**	**136**		**Pn**	**23 48 45.6**	**+1.0**
LBPM	**Beegum Peak**	**2.86**	**122**		**Pn**	**23 48 46.2**	**+1.4**
KCPM	**Cahto Peak**	**2.88**	**138**	Pn	**Pn**	**23 48 46.7**	**+1.6**
LHEM	**Herd Peak**	**2.89**	**94**		**Pn**	**23 48 47.8**	**+2.5**
LMPM	**Military Pass**	**2.95**	**96**		**Pn**	**23 48 49.3**	**+3.2**
WDC	**Whiskeytown Da**	**2.96**	**115**	Pn	**Pn**	**23 48 47.2**	**+1.2**
WDC					**Pn**	**23 48 47.7**	**+1.7**
KFPM	**Farley Peak**	**3.00**	**137**		**Pn**	**23 48 47.3**	**+0.6**
O02D	**Mt. Diablo Mer**	**3.00**	**123**	P	**Pn**	**23 48 48.2**	**+1.5**
baz=304,SNR=8.6							
O02D				S	**Sn**	**23 49 23.7**	**+0.7**
baz=304							
M03C	**McCloud**	**3.02**	**100**		**Pn**	**23 48 50.1**	**+3.2**
GTC	**Three Chop Rid**	**3.12**	**141**		**Pn**	**23 48 48.9**	**+0.6**
M04C	**Macdoel**	**3.16**	**90**	P	**Pn**	**23 48 51.1**	**+2.1**
baz=273							
M04C	**Macdoel**	**3.16**	**90**		**Pn**	**23 48 51.5**	**+2.5**
LBFM	**Black Fox Moun**	**3.17**	**98**		**Pn**	**23 48 52.2**	**+2.9**
LGMM	**Garner Mountai**	**3.18**	**93**		**Pn**	**23 48 52.1**	**+2.9**
LSHM	**Sage Hen Hill**	**3.22**	**108**		**Pn**	**23 48 51.9**	**+2.2**
GROM	**Round Mountain**	**3.23**	**126**		**Pn**	**23 48 51.6**	**+1.7**
GNAM	**Navarro Ridge**	**3.25**	**144**		**Pn**	**23 48 50.5**	**+0.4**
GVV	**Valley View**	**3.32**	**128**		**Pn**	**23 48 53.0**	**+1.9**
LASM	**Arnica Sink**	**3.37**	**93**		**Pn**	**23 48 54.1**	**+2.2**
COR	**Corvallis**	**3.38**	**36**	Pn	**Pn**	**23 48 53.3**	**+1.4**
GHOM	**Hamilton Openi**	**3.42**	**145**		**Pn**	**23 48 52.8**	**+0.4**
O03E	**Paynes Creek**	**3.59**	**115**	P	**Pn**	**23 48 56.4**	**+1.6**
baz=297							
O03E	**Paynes Creek**	**3.59**	**115**		**Pn**	**23 48 56.6**	**+1.8**
H04D	**Lebanon**	**3.60**	**41**	P	**Pn**	**23 48 57.0**	**+2.1**
baz=225							
HOPS	**Hopland Field**	**3.67**	**141**	Pn	**Pn**	**23 48 56.6**	**+0.7**
H04A	**Detroit Lake**	**3.99**	**44**	Pn	**Pn**	**23 49 02.4**	**+2.0**
ORV	**Oroville**	**4.17**	**122**	Pn	**Pn**	**23 49 05.0**	**+2.3**
PINE	**Pine Mountain**	**4.23**	**61**	Pn	**Pn**	**23 49 06.1**	**+2.3**
MOD	**Modoc Plateau**	**4.30**	**88**	Pn	**Pn**	**23 49 06.0**	**+1.3**
BEKR	**Beckworth**	**4.77**	**113**	Pn	**Pn**	**23 49 13.5**	**+2.4**
F04A	**Amboy**	**4.84**	**32**	Pn	**Pn**	**23 49 13.4**	**+1.4**
AFDM	**Forest Hills D**	**4.86**	**125**	Pn	**Pn**	**23 49 14.6**	**+2.3**
E03A	**Lebam**	**5.01**	**20**	Pn	**Pn**	**23 49 15.4**	**+1.1**
RUBR	**Rubicon Trail**	**5.32**	**120**	Pn	**Pn**	**23 49 21.2**	**+2.5**
PAHR	**Pah Rah Range**	**5.51**	**111**	Pn	**Pn**	**23 49 23.8**	**+2.4**

*IDC **14** 23:54:20.8±2.7, 15°.48S×173°.26W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/51, mbtmp3.7/6, ML4.4/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/28, Error ellipse: s-maj=160.2km s-min=21.6km az=146.0*
ISC 14 23:54:26.1±2.7, 15°.1S±0°.9×173°.3W±0°.6, h30km, n12, σ1§57/7, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**52**	Pn	**Pn**	**23 54 57.6**	**+0.6**
130nm,0.3s,baz=228,slow=12,SNR=84							
AFI				Sn	**Sn**	**23 55 18.2**	**-2.1**
69nm,0.3s,baz=237,slow=24,SNR=5.5							
AFI				LR	LR	23 55 32.5	
comp=Z,107nm,19.9s,baz=180,slow=34							
H11S2	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	00 43 40.9	
baz=149							
H11S3	**WAKE ISLAND Hy**	**38.77**	**329**	T	T	00 43 41.6	
baz=149							
H11S1	**WAKE ISLAND Hy**	**38.78**	**329**	T	T	00 43 41.3	
baz=149							
H11N3	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	00 44 40.3	
baz=149							
H11N1	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	00 44 42.8	
baz=149							
H11N2	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	00 44 54.0	
baz=149							
WRA	**Warramunga Arr**	**49.97**	**257**	P	**P**	**00 03 17.0**	**-0.8**
0.1nm,0.3s,baz=96,slow=7.0,SNR=4.9							
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**00 03 18.8**	**-1.2**
0.7nm,0.5s,baz=86,slow=8.3,SNR=11							
NVAR	**Mina Array Bea**	**74.08**	**42**	P	**P**	**00 06 01.3**	**+1.5**
0.5nm,0.7s,baz=234,slow=7.7,SNR=4.1							
PDAR	**Pinedale Array**	**82.02**	**42**	P	**P**	**00 06 43.7**	**+0.1**
0.7nm,0.9s,baz=234,slow=4.3,SNR=4.0							
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**00 06 44.4**	**+0.8**
0.5nm,0.6s,baz=210,slow=5.2,SNR=2.6							

IDC 15 00:01:17.4±3.6, 17°.06S×177°.75W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/43, mbtmp4.2/3, MS3.6/12, Ms1 3.6/12, ms1mx3.4/26, Error ellipse: s-maj=176.8km s-min=43.7km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.55**	**62**	LR	LR	00 04 33.9	
comp=Z,110nm,19.4s,baz=220,slow=30							
RAO	**Raoul Island**	**12.14**	**181**	LR	LR	00 07 41.7	
comp=Z,896nm,21.2s,baz=148,slow=32							
PPT	**Papeete**	**26.89**	**95**	LR	LR	00 14 04.7	
comp=Z,125nm,20.0s,baz=210,slow=28							
STKA	**Stephens Creek**	**39.59**	**240**	P	P	00 08 51.6	+0.8
3.9nm,1.0s,baz=39,slow=14,SNR=3.6							
JAY	**Jayapura**	**43.29**	**285**	LR	LR	00 26 21.1	
comp=Z,58nm,20.6s,baz=134,slow=35							
WRA	**Warramunga Arr**	**45.41**	**259**	P	P	00 09 38.2	-0.1
1.8nm,0.9s,baz=94,slow=8.1,SNR=13							
WRA				LR	LR	00 28 28.5	
comp=Z,114nm,18.8s,baz=90,slow=36							
ASAR	**Alice Springs**	**45.63**	**253**	P	P	00 09 39.3	-0.7
5.1nm,0.7s,baz=86,slow=8.3,SNR=52							
ASAR				LR	LR	00 27 40.1	
comp=Z,74nm,19.7s,baz=98,slow=35							
PETK	**Petropavlovsk-**	**73.03**	**345**	LR	LR	00 43 27.0	
comp=Z,30nm,18.4s,baz=129,slow=35							
KSRS	**Korea Array**	**74.49**	**318**	LR	LR	00 41 43.0	
comp=Z,11nm,20.1s,baz=15,slow=33							
MAW	**Mawson**	**84.87**	**200**	LR	LR	00 49 06.7	
comp=Z,48nm,20.5s,baz=66,slow=34							
ILAR	**Eielson Array**	**84.92**	**13**	LR	LR	00 43 33.5	
comp=Z,62nm,20.5s,baz=186,slow=30							
PDAR	**Pinedale Array**	**86.31**	**43**	LR	LR	00 45 54.8	
comp=Z,38nm,18.4s,baz=352,slow=31							
ULM	**Lac du Bonnet**	**97.86**	**40**	LR	LR	00 52 53.2	
comp=Z,49nm,18.3s,baz=298,slow=32							
BRTR	**Keskin Array B**	**144.62**	**316**	PKP	PKPab	00 20 54.4	-0.7
2.0nm,0.9s,baz=118,slow=2.0,SNR=8.3							
GERES	**GERESS Array B**	**146.95**	**346**	PKPbc	PKPbc	00 21 02.1	0.0
0.9nm,1.0s,baz=50,slow=1.5,SNR=4.2							

*SOF **15** 00:10:29.5, 39°.64N×25°.87E, h2km, MD3.5*
*ISK **15** 00:10:32.7, 39°.66N×25°.57E, h5km, ML4.0/36*
*DDA **15** 00:10:33.1, 39°.66N×25°.63E, h26km±1km, ML3.9*
*ATH **15** 00:10:33.0, 39°.65N×25°.56E, h29km, ML3.6/17, Error ellipse: s-maj=1.2km s-min=0.7km az=71.0*
*ISCJB **15** 00:10:33.1±0.4, 39°.65N±0°.01×25°.55E±0°.01, h9km±3km, Error ellipse: s-maj=2.1km s-min=1.9km az=2.7*
*THE **15** 00:10:33.9, 39°.66N×25°.53E, h8km, ML3.6/7, Error ellipse: s-maj=0.9km s-min=0.3km az=57.0*
ISC 15 00:10:33.1±1.0, 39°.66N±0°.02×25°.55E±0°.02, h9km±9km, n206, σ1§33/241, 33C-14D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**310**	P	**Pb**	**00 10 41.3**	**-0.6**
LIA				S	**Sg**	**00 10 46.5**	**+1.1**
7μm,0.5s							
LIA	**Limnos Island**	**0.37**	**310**	P	**Pb**	**00 10 41.3**	**-0.6**
LIA				AML	AML	00 10 47.2	
comp=E,15220μm,0.4s							
LIA				S	**Sb**	**00 10 47.5**	**-0.4**
LIA				AML	AML	00 10 50.1	
comp=N,9953μm,0.3s							
BOZC	**Bozcaada**	**0.43**	**64**	*i* P	**Pg**	**00 10 41.6**	**+0.1**
BOZC				*i* S	**Sg**	**00 10 47.4**	**+0.3**
BOZC				IAML_P			
comp=Z,47μm,0.1s							
BOZC	**Bozcaada**	**0.43**	**64**	PG	**Pg**	**00 10 41.0**	**-0.5**
BOZC				SG	**Sg**	**00 10 47.2**	**+0.1**
EFSA	**Agios Efstrati**	**0.45**	**255**	P	**Pb**	**00 10 43.5**	**+0.3**
EFSA				S	**Sb**	**00 10 50.3**	**+0.2**
EFSA				AML	AML	00 10 51.3	
comp=E,35920μm,0.6s							
EFSA				AML	AML	00 10 53.0	
comp=N,26779μm,0.3s							
GPNR	**Gulpinar-Canak**	**0.49**	**114**	PG	**Pg**	**00 10 42.7**	**0.0**
SIGR	**SIGRI**	**0.50**	**152**	P	**Pb**	**00 10 43.4**	**-0.7**
SIGR				S	**Sb**	**00 10 51.2**	**-0.3**
comp=N,25μm,0.5s							
SIGR	**SIGRI**	**0.50**	**152**	P	**Pg**	**00 10 43.3**	**+0.4**
SIGR				S	**Sb**	**00 10 51.1**	**-0.5**
SIGR				AML	AML

PRK			AML	AML	00 11 02.8	
	comp=N,23362μm,0.4s					
BAYC	**CANAKKALE_Bayr**	**0.77 83**	*i* P	**Pb**	**00 10 48.2**	**-0.5**
BAYC			*i* S	**Sg**	**00 10 58.2**	**+0.2**
BAYC			IAML_P			
	comp=Z,77μm,0.2s					
SMTH	**Samothraki Isl**	**0.81 359**	P	**Pg**	**00 10 48.9**	**+0.1**
SMTH			S	**Sb**	**00 11 01.4**	**+0.9**
	comp=Z,3μm,0.4s					
SMTH	**Samothraki Isl**	**0.81 359**	P	**Pg**	**00 10 48.8**	**0.0**
SMTH			S	**Sb**	**00 11 01.1**	**+0.6**
SMTH			AML	AML	00 11 02.3	
	comp=E,6517μm,0.5s					
SMTH			AML	AML	00 11 08.6	
	comp=N,4967μm,0.7s					
AYVA	**Ayvalik**	**0.95 111**	*i* P	**Pg**	**00 10 51.2**	**-0.1**
AYVA			*i* S	**Sn**	**00 11 05.3**	**-0.9**
AYVA			IAML_P			
	comp=Z,21μm,0.1s					
GELI	**Tayfur-Gelibol**	**1.02 43**	PG	**Pg**	**00 10 52.2**	**-0.6**
GELI			SG	**Sb**	**00 11 06.6**	**+0.1**
SKY	**Skiros Island**	**1.10 225**	P	**Pb**	**00 10 54.5**	**+0.2**
SKY			AML	AML	00 11 16.1	
	comp=E,5998μm,0.6s					
SKY			AML	AML	00 11 18.2	
	comp=N,4454μm,0.3s					
PSRA	**Psara**	**1.11 180**	P	**Pn**	**00 10 54.9**	**0.0**
PSRA			AML	AML	00 11 15.4	
	comp=N,5848μm,0.3s					
PSRA			AML	AML	00 11 15.9	
	comp=E,5702μm,0.4s					
THAS	**Thassos island**	**1.14 326**	P	**Pg**	**00 10 54.9**	**-0.2**
THAS			S	**Sn**	**00 11 11.1**	**0.0**
	comp=E,3μm,0.4s					
THAS	**Thassos island**	**1.14 326**	P	**Pn**	**00 10 55.3**	**0.0**
THAS			S	**Sb**	**00 11 10.4**	**+0.4**
THAS			AML	AML	00 11 11.6	
	comp=N,4287μm,0.3s					
THAS			AML	AML	00 11 12.3	
	comp=E,6495μm,0.3s					
LPK	**Lapseki**	**1.17 52**	PN	**Pg**	**00 10 55.0**	**-0.6**
LPK			SN	**Sb**	**00 11 11.0**	**+0.2**
DKL	**Dikili**	**1.20 119**	PN	**Pn**	**00 10 56.3**	**+0.2**
DKL			SN	**Sn**	**00 11 12.4**	**0.0**
ERIK	**Erikli-Kesan**	**1.25 36**	PN	**Pg**	**00 10 57.8**	**+0.7**
ALN	**Alexandroupoli**	**1.29 17**	P	**Pn**	**00 10 57.3**	**-0.1**
ALN	**Alexandroupoli**	**1.29 17**	P	**Pn**	**00 10 57.0**	**-0.4**
ALN			AML	AML	00 11 14.8	
	comp=E,2103μm,0.4s					
ALN			S	**Sn**	**00 11 14.8**	**0.0**
ALN			AML	AML	00 11 21.4	
	comp=N,2469μm,0.6s					
ALN	**Alexandroupoli**	**1.29 17**	PN	**Pn**	**00 10 56.9**	**-0.4**
FOCM	**Foa**	**1.31 136**	PN	**Pg**	**00 10 58.2**	**-0.1**
KRBN	**Karaburun**	**1.32 143**	PN	**Pg**	**00 10 58.1**	**-0.3**
CHOS	**Chios island**	**1.33 163**	P	**Pn**	**00 10 57.6**	**-0.3**
CHOS			S	**Sn**	**00 11 16.6**	**+0.9**
	comp=N,4μm,0.7s					
CHOS	**Chios island**	**1.33 163**	P	**Pn**	**00 10 57.7**	**-0.3**
CHOS			AML	AML	00 11 21.6	
	comp=E,8237μm,0.7s					
CHOS			AML	AML	00 11 22.9	
	comp=N,5773μm,0.8s					
CHOS	**Chios island**	**1.33 163**	PN	**Pb**	**00 10 58.1**	**-0.1**
ZEDA	**zmir-Bergama**	**1.37 120**	*i* P	**Pb**	**00 10 58.6**	**-0.2**
ZEDA			*i* S	**Sb**	**00 11 15.6**	**-0.8**
ZEDA			IAML_P			
	comp=Z,8μm,0.2s					
OUR	**Ouranopolis**	**1.38 300**	P	**Pn**	**00 10 58.5**	**-0.1**
OUR	**Ouranopolis**	**1.38 300**	P	**Pn**	**00 10 58.6**	**-0.1**
OUR			AML	AML	00 11 21.9	
	comp=N,2648μm,0.5s					
OUR			AML	AML	00 11 24.1	
	comp=E,2170μm,0.4s					
OUR	**Ouranopolis**	**1.38 300**	PN	**Pn**	**00 10 58.9**	**+0.3**
AOS	**Alonnisos**	**1.39 250**	P	**Pn**	**00 10 58.5**	**-0.1**
AOS	**Alonnisos**	**1.39 250**	P	**Pn**	**00 10 58.4**	**-0.1**
AOS			AML	AML	00 11 27.3	
	comp=N,2838μm,0.6s					
AOS			AML	AML	00 11 28.7	
	comp=E,2077μm,0.8s					
AOS	**Alonnisos**	**1.39 250**	PN	**Pn**	**00 10 58.7**	**+0.1**
ALNA	**Alonissos**	**1.40 249**	P	**Pn**	**00 10 58.6**	**-0.2**
CESE	**eme**	**1.45 156**	PN	**Pn**	**00 10 59.1**	**-0.3**
KESN	**Edirne-Kesan**	**1.45 36**	*i* P	**Pn**	**00 11 00.1**	**+0.2**
KESN			*i* S	**Sb**	**00 11 18.1**	**-1.1**
KESN			IAML_P			
	comp=Z,2μm,0.2s					
PAIG	**Paliouri**	**1.47 281**	P	**Pn**	**00 10 59.8**	**0.0**
PAIG	**Paliouri**	**1.47 281**	P	**Pn**	**00 10 59.7**	**-0.1**
RDO	**Rodhopi**	**1.49 360**	P	**Pn**	**00 10 59.7**	**-0.3**
RDO	**Rodhopi**	**1.49 360**	P	**Pn**	**00 10 59.4**	**-0.7**
KRBG	**Karabiga-Canak**	**1.53 61**	PN	**Pb**	**00 11 01.2**	**-0.4**
URLA	**Izmir**	**1.53 148**	*i* P	**Pb**	**00 11 01.3**	**-0.4**
URLA			IAML_P			
	comp=Z,5μm,0.2s					
URLA	**Izmir**	**1.53 148**	PN	**Pb**	**00 11 01.1**	**-0.5**
KAVA	**Kavala**	**1.56 330**	P	**Pn**	**00 11 01.0**	**0.0**
KAVA			S	**Sb**	**00 11 22.1**	**+0.2**
	comp=Z,985nm,0.4s					
KAVA	**Kavala**	**1.56 330**	P	**Pn**	**00 11 00.3**	**-0.6**
KAVA			AML	AML	00 11 25.9	
	comp=N,2083μm,0.4s					
KAVA			AML	AML	00 11 26.9	
	comp=E,2031μm,0.4s					
KVLA	**Kavala**	**1.56 325**	P	**Pn**	**00 11 00.6**	**-0.4**
BALY	**Balya**	**1.60 86**	*i* P	**Pb**	**00 11 02.3**	**-0.5**
BALY			*i* S	**Sn**	**00 11 20.5**	**-1.8**
BALY			IAML_P			
	comp=Z,3μm,0.2s					
ZEY	**zmir**	**1.60 152**	*i* P	**Pb**	**00 11 02.4**	**-0.4**
ZEY			IAML_P			
	comp=Z,6μm,0.1s					
RKY	**Sarkoy-Tekirda**	**1.61 50**	PN	**Pn**	**00 11 02.1**	**+0.3**
SART	**Tekirdag**	**1.62 50**	*i* P	**Pn**	**00 11 02.1**	**+0.2**
SART			IAML_P			
	comp=Z,9μm,0.1s					
UKOP	**Uzunkopru-Edir**	**1.69 29**	PN	**Pn**	**00 11 03.4**	**+0.7**
GONE	**Gonen-Balikesi**	**1.69 76**	PN	**Pn**	**00 11 03.4**	**+0.6**
SKIA	**Skiathos**	**1.69 254**	P	**Pn**	**00 11 02.8**	**0.0**
SKIA			S	**Sn**	**00 11 25.1**	**+0.5**
SKIA			AML	AML	00 11 31.9	
	comp=E,3795μm,0.8s					
SKIA			AML	AML	00 11 31.9	
	comp=N,3164μm,0.5s					
STEP	**BALIKESIR_Sava**	**1.70 99**	*i* P	**Pn**	**00 11 03.5**	**+0.5**
STEP			*i* S	**Sn**	**00 11 23.4**	**-1.4**
STEP			IAML_P			
	comp=Z,15μm,0.2s					
EREA	**Eretria**	**1.77 226**	P	**Pn**	**00 11 03.3**	**-0.6**
EREA	**Eretria**	**1.77 226**	P	**Pn**	**00 11 03.3**	**-0.6**
EREA			AML	AML	00 11 34.0	
	comp=N,1938μm,0.5s					
EREA			AML	AML	00 11 34.3	
	comp=E,2374μm,0.4s					
PLG	**Polygyros**	**1.77 295**	P	**Pn**	**00 11 04.1**	**+0.1**
BALB	**Balikesir**	**1.80 90**	PN	**Pn**	**00 11 04.5**	**+0.2**
MRKA	**Markates**	**1.80 239**	P	**Pn**	**00 11 04.0**	**-0.4**
MRKA	**Markates**	**1.80 239**	P	**Pn**	**00 11 03.9**	**-0.4**
MRKA			AML	AML	00 11 34.3	
	comp=N,3370μm,1.0s					
MRKA			AML	AML	00 11 34.8	
	comp=E,3013μm,0.7s					
MRMT	**Marmara Adasi**	**1.83 58**	PN	**Pb**	**00 11 06.1**	**-0.7**
NEO	**Neokhori**	**1.84 260**	P	**Pn**	**00 11 05.3**	**+0.4**
KARY	**Karystos**	**1.84 209**	P	**Pn**	**00 11 03.9**	**-1.0**
KARY			AML	AML	00 11 38.1	
	comp=N,663μm,0.6s					
KARY			AML	AML	00 11 38.5	
	comp=E,307μm,0.5s					
EDC	**Edincik**	**1.90 68**	PN	**Pn**	**00 11 06.5**	**+0.7**
DGB	**zmir**	**1.91 147**	*i* P	**Pb**	**00 11 07.7**	**-0.4**
DGB			IAML_P			
	comp=Z,1μm,0.1s					
AKS	**Akhisar**	**1.92 113**	PN	**Pn**	**00 11 05.4**	**-0.6**
AKHS	**Akhisar**	**1.92 113**	*i* P	**Pn**	**00 11 06.3**	**+0.3**
AKHS			IAML_P			
	comp=Z,7μm,0.1s					
KDZ	**Kurdzhali**	**1.99 357**	P	**Pn**	**00 11 07.1**	**+0.1**
KDZ			Pg	**Pb**	**00 11 09.7**	**+0.1**
KDZ	**Kurdzhali**	**1.99 357**	PN	**Pn**	**00 11 06.5**	**-0.5**
TKR	**Tekirdag**	**2.02 48**	PN	**Pn**	**00 11 07.4**	**+0.1**
SOH	**Sokhos**	**2.05 305**	P	**Pn**	**00 11 07.9**	**+0.1**
SOH	**Sokhos**	**2.05 305**	P	**Pn**	**00 11 07.8**	**+0.1**
PTL	**Penteli**	**2.08 220**	P	**Pn**	**00 11 07.3**	**-0.9**
HORT	**Hortiatis**	**2.10 297**	P	**Pn**	**00 11 08.8**	**+0.2**
HORT	**Hortiatis**	**2.10 297**	PN	**Pn**	**00 11 08.9**	**+0.3**
RZN	**Rozhen**	**2.13 343**	P	**Pn**	**00 11 09.1**	**+0.1**
NVR	**Nevrokopi**	**2.13 323**	P	**Pn**	**00 11 08.7**	**-0.2**
NVR	**Nevrokopi**	**2.13 323**	P	**Pn**	**00 11 08.7**	**-0.2**
TNSA	**Tinos**	**2.14 188**	P	**Pn**	**00 11 08.9**	**0.0**
ATHU	**Athens Univers**	**2.18 220**	P	**Pn**	**00 11 09.0**	**-0.5**
SMG	**Samos**	**2.19 152**	P	**Pn**	**00 11 09.6**	**-0.1**
SMG	**Samos**	**2.19 152**	P	**Pn**	**00 11 09.6**	**-0.1**
THE	**Thessaloniki**	**2.21 297**	P	**Pn**	**00 11 10.1**	**+0.1**
ATH	**Athens Observa**	**2.21 221**	P	**Pn**	**00 11 10.1**	**+0.2**
CRLT	**Corlu**	**2.22 48**	PN	**Pb**	**00 11 12.2**	**-1.2**
LKR	**Lokris**	**2.23 244**	P	**Pn**	**00 11 10.4**	**+0.2**
KCTX	**Karacabey (Bur**	**2.24 73**	PN	**Pn**	**00 11 11.6**	**+1.2**
DURS	**Dursunbey**	**2.26 90**	*i* P	**Pn**	**00 11 11.6**	**+0.9**
DURS			IAML_P			
	comp=Z,4μm,0.1s					
VIL2	**Platees**	**2.29 232**	P	**Pn**	**00 11 10.4**	**-0.8**
GCAM	**G?zelcaml?**	**2.35 146**	*i* P	**Pn**	**00 11 13.2**	**+1.3**
GCAM			IAML_P			
	comp=Z,480nm,0.2s					
GCAM	**G?zelcaml?**	**2.35 146**	PN	**Pn**	**00 11 13.3**	**+1.3**
EDRB	**Edirne**	**2.37 22**	PN	**Pn**	**00 11 13.4**	**+1.3**
MMB	**Musomiste**	**2.38 325**	P	**Pn**	**00 11 12.0**	**-0.3**
AXAR	**Agios Charalam**	**2.42 249**	P	**Pn**	**00 11 13.0**	**+0.2**
KIRK	**Kirklareli**	**2.42 28**	*i* P	**Pb**	**00 11 16.7**	**-0.2**
PHSR	**Pinarhisar**	**2.48 37**	⇓P	**Pn**	**00 11 15.4**	**+1.8**
PHSR			AML	AML	00 12 00.8	
PHSR	**Pinarhisar**	**2.48 37**	PN	**Pn**	**00 11 14.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.50 132**	PN	**Pn**	**00 11 14.5**	**+0.4**
KNT	**Kendrikon**	**2.52 307**	P	**Pn**	**00 11 14.9**	**+0.6**
KNT	**Kendrikon**	**2.52 307**	P	**Pn**	**00 11 15.3**	**+1.0**
DEMI	**Demirci**	**2.53 103**	*i* P	**Pn**	**00 11 15.1**	**+0.7**
DEMI			IAML_P			
	comp=Z,2μm,0.2s					
PLD	**Plovdiv**	**2.53 345**	PN	**Pn**	**00 11 15.9**	**+1.6**
SLVT	**Silivri**	**2.56 51**	PN	**Pn**	**00 11 16.3**	**+1.5**
AGG	**Agios Georgios**	**2.58 257**	P	**Pn**	**00 11 15.4**	**+0.3**
APE	**Apeiranthos**	**2.58 180**	P	**Pn**	**00 11 14.1**	**-1.0**
APE	**Apeiranthos**	**2.58 180**	⇑P	**Pn**	**00 11 15.0**	**-0.1**
APE			⇑S	**Sg**	**00 11 55.5**	**-0.6**
LTK	**Loutraki**	**2.60 232**	P	**Pn**	**00 11 15.0**	**-0.3**
MANT	**Manisa**	**2.61 116**	*i* P	**Pn**	**00 11 16.2**	**+0.5**
MANT			IAML_P			
	comp=Z,871nm,0.3s					
MDNY	**Mudanya-Bursa**	**2.65 73**	PN	**Pn**	**00 11 17.1**	**+1.0**
DSF	**Desfina**	**2.67 243**	P	**Pn**	**00 11 15.5**	**-0.8**
KULA	**Kula-Manisa**	**2.67 114**	P	**Pn**	**00 11 17.1**	**+0.7**
KULA	**Kula-Manisa**	**2.67 114**	PN	**Pn**	**00 11 17.5**	**+1.1**
ARMT	**Armutlu**	**2.69 69**	PN	**Pn**	**00 11 18.3**	**+1.7**
SIMA	**Simav-Kutahya**	**2.72 101**	PN	**Pn**	**00 11 17.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.73 257**	P	**Pn**	**00 11 18.3**	**+1.1**
THL	**Klokotos Trika**	**2.74 269**	P	**Pn**	**00 11 17.7**	**+0.5**
GRG	**Griva**	**2.74 299**	P	**Pn**	**00 11 18.7**	**+1.4**
CTKS	**Kestanelik-??a**	**2.75 54**	PN	**Pn**	**00 11 17.3**	**-0.1**
ULDT	**Uludag**	**2.80 79**	*i* P	**Pn**	**00 11 18.9**	**+0.7**
ULDT			IAML_P			
	comp=Z,1μm,0.3s					
DID	**Didima**	**2.81 221**	P	**Pn**	**00 11 17.6**	**-0.7**
VAY	**Valandovo**	**2.82 307**	*i* Pn	**Pb**	**00 11 22.7**	**-0.9**
AMGA	**Amorgos Island**	**2.83 174**	P	**Pn**	**00 11 17.8**	**-0.8**
USAK	**Uak-Merkez**	**2.85 108**	*i* P	**Pn**	**00 11 20.2**	**+1.3**
USAK			IAML_P			
	comp=Z,724nm,0.1s					
IGD	**Bursa**	**2.87 77**	*i* P	**Pn**	**00 11 19.3**	**+0.3**
IGD			IAML_P			
	comp=Z,856nm,0.1s					
BGKT	**Bogazkoy**	**2.89 57**	PN	**Pn**	**00 11 19.8**	**+0.5**
GEMT	**Gemlik**	**2.90 73**	PN	**Pn**	**00 11 21.3**	**+1.9**
KKB	**Krupnik**	**2.90 320**	P	**Pn**	**00 11 21.2**	**+1.8**
SHAP	**Saphane-Kutahy**	**2.91 101**	PN	**Pn**	**00 11 21.2**	**+1.5**
KALE	**Kalithea**	**2.94 246**	P	**Pn**	**00 11 20.4**	**+0.3**
BUY	**Buyukada**	**2.98 65**	PN	**Pn**	**00 11 21.9**	**+1.4**
SERG	**Sergoula**	**2.99 247**	P	**Pn**	**00 11 21.3**	**+0.5**
EVR	**Evrytania**	**3.00 257**	P	**Pn**	**00 11 22.0**	**+1.1**
TRIZ	**Trizonia**	**3.00 246**	P	**Pn**	**00 11 21.2**	**+0.3**
TVSB	**Tavsanli**	**3.03 93**	PN	**Pn**	**00 11 22.5**	**+1.2**
YLV	**Yalova**	**3.07 72**	⇑P	**Pg**	**00 11 30.0**	**-1.9**
YLV			⇓S	**Sg**	**00 12 12.2**	**+0.6**
PGB	**Panagyurishte**	**3.07 341**	P	**Pn**	**00 11 21.9**	**0.0**
EFP	**Efpalio**	**3.10 248**	P	**Pn**	**00 11 22.1**	**0.0**
MHLO	**Agia Marina, M**	**3.10 197**	P	**Pn**	**00 11 21.1**	**-1.1**
KLV	**Kalavryta, Ach**	**3.11 240**	P	**Pn**	**00 11 22.3**	**-0.1**
LAKA	**Lakka**	**3.13 244**	P	**Pn**	**00 11 23.1**	**+0.5**
KPRO	**Kipourio**	**3.24 277**	P	**Pn**	**00 11 25.3**	**+1.1**
STIP	**Stip**	**3.27 310**	*i* Pn	**Pn**	**00 11 24.0**	**-0.6**
ELND	**Elena**	**3.28 4**	⇓P	**Pn**	**00 11 25.1**	**+0.4**
ELND			⇑S	**Sg**	**00 12 18.1**	**-0.3**
ELND			AML	AML	00 12 28.5	
ANAF	**Anafi Island**	**3.30 177**	P	**Pn**	**00 11 25.0**	**0.0**
PVO	**Paravola**	**3.30 253**	P	**Pn**	**00 11 25.8**	**+0.9**
VLX	**Vlachokerasia**	**3.38 228**	P	**Pn**	**00 11 26.9**	**+0.8**
FNA	**Florina**	**3.39 291**	P	**Pn**	**00 11 27.8**	**+1.5**
VTS	**Vitosha**	**3.44 330**	P	**Pn**	**00 11 29.4**	**+2.4**
VTS	**Vitosha**	**3.44 330**	⇓P	**Pn**	**00 11 29.9**	**+2.9**
VTS			⇑S	**Sg**	**00 12 23.9**	**+0.3**
VTS			AML	AML	00 12 36.5	
DRO	**Drossia**	**3.45 242**	P	**Pn**	**00 11 27.6**	**+0.5**
NEST	**Nestorio**	**3.54 284**	P	**Pn**	**00 11 30.1**	**+1.8**
PDO	**Prodromos**	**3.56 254**	P	**Pn**	**00 11 27.5**	**-1.0**
RLS	**Riolos of Patr**	**3.57 245**	P	**Pn**	**00 11 29.7**	**+1.1**
VLI	**Veliai**	**3.59 216**	P	**Pn**	**00 11 28.6**	**-0.3**
AMT	**Artemida-Makis**	**3.69 236**	P	**Pn**	**00 11 31.5**	**+1.2**
ITM	**Ithomi**	**3.77 230**	P	**Pn**	**00 11 32.7**	**+1.2**
PLVB	**Pleven**	**3.79 350**	⇓P	**Pn**	**00 11 35.0**	**+3.3**
PLVB			⇑S	**Sg**	**00 12 34.9**	**0.0**
PLVB			AML	AML	00 12 49.7	
SKO	**Skopje**	**3.88 308**	*i* Pn	**Pn**	**00 11 35.3**	**+2.3**
KTHA	**Kythira Island**	**3.92 211**	P	**Pn**	**00 11 33.5**	**-0.1**
MPEP	**Malo Peshtene**	**3.94 340**	P	**Pn**	**00 11 35.1**	**+1.4**
PYL	**PYLOS**	**4.07 229**	P	**Pn**	**00 11 37.3**	**+1.7**
VLAD	**Vladila**	**4.42 349**	⇑P	**Pn**	**00 11 43.8**	**+3.4**
VLAD			AML	AML	00 13 18.9	
COPA	**Copaceanca**	**4.48 357**	⇑P	**Pn**	**00 11 44.1**	**+2.9**
COPA			AML	AML	00 13 10.2	
BLKB	**Belogradchik**	**4.51 332**	⇓S	**Sg**	**00 12 52.7**	**-5.2**
TIR	**Tirane**	**4.65 293**	⇑P	Pn	00 11 48.9	+5.3
HUMR	**Humele**	**4.89 355**	⇑P	**Pn**	**00 11 49.6**	**+2.8**
HUMR			AML	AML	00 13 35.6	
PDG	**Podgorica**	**5.51 302**	⇑P	**Pn**	**00 11 58.8**	**+3.6**
MTUR	**Matau**	**5.58 356**	⇓P	**Pn**	**00 11 58.2**	**+1.9**
HERR	**Herculane**	**5.71 337**	⇑P	**Pn**	**00 11 59.6**	**+1.5**
ARR	**Arges**	**5.75 354**	⇑P	**Pn**	**00 12 00.2**	**+1.6**
VOIR		**5.79 356**	⇓P	**Pn**	**00 12 02.8**	**+3.6**
MLR	**Muntele Rosu**	**5.84 3**	⇑P	**Pn**	**00 12 01.2**	**+1.2**
MDVR	**Moldovita**	**5.86 332**	⇓P	**Pn**	**00 12 02.6**	**+2.4**
LOT	**Lotru**	**5.94 348**	⇑P	**Pn**	**00 12 03.0**	**+1.7**
BISRR	**Bisoca**	**5.95 8**	⇓P	**Pn**	**00 12 04.8**	**+3.4**
GZR	**Gura Zlata**	**6.09 341**	⇑P	**Pn**	**00 12 05.9**	**+2.6**
GZR			⇑S	**Sn**	**00 13 10.6**	**-2.5**
PLOR	**Plostina**	**6.24 7**	⇓P	**Pn**	**00 12 07.8**	**+2.4**
VRI	**Vrincioaia**	**6.27 8**	⇑P	**Pn**	**00 12 07.9**	**+2.2**
DOPR	**Dopca**	**6.31 359**	⇑P	**Pn**	**00 12 07.9**	**+1.6**
OZUR		**6.44 1**	⇑P	**Pn**	**00 12 11.0**	**+2.9**
DEV	**Deva**	**6.52 343**	⇓P	**Pn**	**00 12 12.2**	**+3.1**
MDB	**Medias**	**6.54 353**	⇑P	**Pn**	**00 12 12.1**	**+2.6**
BZS	**Buzias**	**6.62 335**	⇑P	**Pn**	**00 12 12.1**	**+1.5**
BZS			⇑S	**Sg**	**00 14 02.9**	**-2.8**
BIR	**Birlad**	**6.78 12**	⇑P	**Pn**	**00 12 15.2**	**+2.5**
TIP	**Timpagrande**	**6.83 269**	⇑P	**Pn**	**00 12 17.9**	**+4.4**
TESR	**Tescani**	**6.90 6**	⇓P	**Pn**	**00 12 16.3**	**+1.9**
SIRR	**Siria**	**7.20 338**	⇑P	**Pn**	**00 12 20.8**	**+2.3**
BIZ	**Bicaz**	**7.29 3**	⇑P	**Pn**	**00 12 21.8**	**+2.1**
DRGR		**7.43 345**	⇑P	**Pn**	**00 12 23.8**	**+2.1**
ARCR	**ARCALIA**	**7.48 354**	⇑P	**Pn**	**00 12 24.0**	**+1.7**
PRAR	**RASCA**	**7.72 3**	⇑P	**Pn**	**00 12 28.7**	**+3.0**
BURAR	**Bucovina Array**	**7.96 358**	⇓P	**Pn**	**00 12 31.8**	**+2.8**
TRPA	**Tarpa**	**8.74 347**	⇑P	**Pn**	**00 12 40.2**	**+0.6**
KOLS	**Kolonicke sedl**	**9.57 347**	*e*PN	**Pn**	**00 12 55.3**	**+4.3**
KOLS			*e*SN	Sn	00 14 29.0	-10
VYHS	**Vyhne**	**10.06 334**	*e*PN	**Pn**	**00 13 01.1**	**+3.3**
VYHS			*e*SN	Sn	00 14 29.9	-21
OBKA	**Obir**	**10.56 314**	*e*Pn	**Pn**	**00 13 02.2**	**-2.5**
	comp=Z,4.0nm,0.8s					
ABTA	**Abfaltersbach**	**11.86 311**	*i* Pn	**Pn**	**00 13 25.9**	**+3.5**
	comp=Z,5.5nm,0.8s					

VAO ***15*** *00:13:32.8±1.6, 14°.72S×73°.04W, h10km, mb5.3*

ISCJB ***15*** *00:13:54.7±0.6, 14°.76S±0°.03×71°.55W±0°.03, h118km±5km, mb4.6/24, Error ellipse: s-maj=5.8km s-min=3.2km az=142.9*

BJI ***15*** *00:13:54.7±0.0, 14°.91S×71°.43W, h106km, mB5.5/5*

NEIC ***15*** *00:13:57.2±1.6, 14°.80S±0°.07×71°.68W±0°.07, h123km±5km, mb4.9/228*

IDC ***15*** *00:13:58.5±0.5, 14°.73S×71°.38W, h131km±3km, mb4.3/16, mb1 4.5/20, mb1mx4.4/33, mbtmp4.7/20, MS3.6/3, Ms1 3.7/3, ms1mx3.1/21, Error ellipse: s-maj=14.6km s-min=9.9km az=57.0*

GCMT ***15*** *00:14:00.2±0.3, 14°.87S±0°.02×71°.72W±0°.03, h137km±2km, MW5.0/91, Moment Tensor Solution. s44,c48; s91,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.03±.11; Mθθ-3.17±.15; Mφφ0.13±.19; Mrθ0.97±.10; Mrφ2.47±.12; Mθr~1.38±.12; Best double couple: M=4.18300×10^16 NP1:φs135.00000°, δ59.00000°, λ112.00000°. NP2: φs277.00000°, δ38.00000°, λ58.00000°. Principal axes: T 3.5830, Plg68.0000°, Azm90.0000°; N 1.1980, Plg19.0000°, Azm303.0000°; P -4.7840, Plg11.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 00:13:56.7±0.4, 14°.83S±0°.04×71°.64W±0°.05, h122km±3km, h122km:pP-P, n686, σ1§13/672, mb4.9/120, 4C-2D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.68**	**114**		**Pn**	**00 14 55.6**	**+3.1**
	45nm,0.3s,baz=295,slow=9.1,SNR=476						
LPAZ				S	**Sn**	**00 15 38.9**	**+3.2**
	16nm,0.3s,baz=359,slow=25,SNR=5.0						
LPAZ				LR	LR	00 16 00.7	
	comp=Z,403nm,19.0s,baz=230,slow=35						
LPAZ	**La Paz**	**3.68**	**114**		**Pn**	**00 14 55.5**	**+3.0**
LPAZ					**Sn**	**00 15 37.2**	**+1.5**
MNMC	**Minye Minye**	**4.70**	**156**		**Pn**	**00 15 05.9**	**-0.1**
MNMC				Sn	**Sn**	**00 16 00.2**	**+0.5**
PB11	**IPOC Station P**	**5.25**	**159**		**Pn**	**00 15 11.7**	**-1.6**
GO01	**Chusmiza**	**5.34**	**154**		**Pn**	**00 15 15.3**	**+0.5**
NNA	**Nana**	**5.80**	**299**	P	**Pn**	**00 15 18.7**	**-1.8**
	23nm,0.3s,baz=131,slow=10,SNR=39						
NNA				S	**Sn**	**00 16 22.3**	**-3.6**
	42nm,0.3s,baz=194,slow=12,SNR=7.4						
PB01	**IPOC Station P**	**6.51**	**162**		**Pn**	**00 15 28.0**	**-2.1**
PB04	**IPOC Station P**	**7.59**	**170**		**Pn**	**00 15 41.9**	**-3.0**
LVC	**Limon Verde**	**8.15**	**162**	P	**Pn**	**00 15 51.1**	**-1.6**
	46nm,0.3s,baz=337,slow=8.8,SNR=345						
LVC				S	**Sn**	**00 17 18.3**	**-5.1**
	119nm,0.3s,baz=151,slow=20,SNR=23						
PB10	**IPOC Station P**	**8.70**	**173**	*i* P	**Pn**	**00 15 56.2**	**-3.4**
PB10	**IPOC Station P**	**8.70**	**173**		**Pn**	**00 15 55.7**	**-3.9**
ATAH	**Atahualpa**	**10.12**	**318**	P	**Pn**	**00 16 19.6**	**+0.2**
	0.9nm,0.3s,baz=133,slow=17,SNR=5.5						
ATAH				S	**Sn**	**00 18 06.5**	**-4.8**
	0.5nm,0.3s,baz=198,slow=19,SNR=3.0						
SAML	**Samuel**	**10.13**	**56**		**Pn**	**00 16 16.8**	**-2.2**
SAML	**Samuel**	**10.13**	**56**	*e*P	**Pn**	**00 16 15.0**	**-4.0**
SIV	**San Ignacio**	**10.25**	**98**	P	**Pn**	**00 16 18.9**	**-1.9**
	4.5nm,0.3s,baz=291,slow=11,SNR=78						
SIV				S	**Sn**	**00 18 08.2**	**-5.7**
	1.7nm,0.3s,baz=304,slow=6.8,SNR=7.1						
PTLC	**Puerto Leguiza**	**15.23**	**348⇑**	*e*P	Pn	00 17 15.9	-10
PTLC	**Puerto Leguiza**	**15.23**	**348⇑**	*e*P	Pn	00 17 15.9	-10
ACDV	**Cuesta del Vie**	**15.44**	**172**	*e*S	**Pn**	**00 17 27.6**	**-0.6**
CLDB	**Colider**	**15.94**	**78**	*e*P	**Pn**	**00 17 33.4**	**-0.9**
CLDB	**Colider**	**15.94**	**78**	*e*P	**Pn**	**00 17 33.4**	**-0.9**
OTAV	**Otavalo**	**16.42**	**335**	P	**P**	**00 17 41.0**	**-0.3**
FLOC	**Florencia**	**16.79**	**346**	*e*P	**P**	**00 17 46.5**	**+1.6**
FLOC

comp=Z,19nm,0.8s,baz=189,slow=7.8,SNR=14
SDV Santo Domingo 23.59 2 P P 00 18 57.2 +0.4
SDV IAmb IAmb 00 19 08.2
comp=Z,33nm,0.8s
SMLC San Martn de 23.61 354 eP **P 00 18 54.9 -1.9**
SMLC San Martn de 23.61 354 eP **P 00 18 54.9 -1.9**
CNLB Canela 24.00 130 eP **P 00 18 58.2 -2.1**
CNLB Canela 24.00 130 eP **P 00 18 58.2 -2.1**
RCLB Rio Claro- Sao 24.04 112 eP **P 00 19 00.7 0.0**
RCLB Rio Claro- Sao 24.04 112 eP **P 00 19 00.7 0.0**
PMNB Patos De Minas 24.41 102 eP **P 00 19 03.5 -0.7**
PMNB Patos De Minas 24.41 102 eP **P 00 19 03.5 -0.7**
SPB Sao Paulo 24.43 115 P **P 00 19 04.1 -0.1**
SPB Sao Paulo 24.43 115 eP **P 00 19 04.3 +0.1**
GO06 Curarrehue 24.66 180 P **P 00 19 06.8 +0.6**
GO06 IAmb IAmb 00 19 07.8
comp=Z,28nm,0.7s
TRQA Tornquist 24.66 161 P **P 00 19 05.5 -0.6**
VAO Valinhos 24.68 113 eP **P 00 19 06.4 -0.2**
VAO Valinhos 24.68 113 eP **P 00 19 06.4 -0.2**
SJCC San Jacinto, C 24.82 352 eP **P 00 19 06.8 -1.0**
SJCC San Jacinto, C 24.82 352 eP **P 00 19 06.8 -1.0**
BCIP Isla Barro Col 25.19 341 P **P 00 19 11.8 +0.6**
PLCA Paso Flores 25.82 178 P **P 00 19 17.4 +0.6**
comp=Z,19nm,1.1s,baz=19,slow=10,SNR=28
PLCA pP **pP 00 19 45.8 +1.6**
comp=Z,26nm,1.1s,baz=24,slow=10,SNR=5.4
PLCA Paso Flores 25.82 178 IAmb IAmb 00 19 19.8
comp=Z,24nm,1.2s
BSCB Bom Sucesso 26.26 107 eP **P 00 19 20.0 -1.0**
BSCB Bom Sucesso 26.26 107 eP **P 00 19 20.0 -1.0**
ESAR Angra dos Reis 26.95 112 eP **P 00 19 26.8 -0.2**
ESAR Angra dos Reis 26.95 112 eP **P 00 19 26.8 -0.2**
MDP Montagnes des 27.33 45 pP **pP 00 19 58.9 +0.7**
comp=Z,11nm,1.0s,baz=209,slow=7.2,SNR=4.8
MDP sP sP 00 20 11.1 -1.5
comp=Z,49nm,1.3s,baz=220,slow=14,SNR=5.9
MAN01 Angra dos Reis 27.34 111 eP **P 00 19 30.6 0.0**
MAN01 Angra dos Reis 27.34 111 eP **P 00 19 30.6 0.0**
VAS01 Vassouras-RJ 27.70 110 eP **P 00 19 33.5 -0.2**
VAS01 Vassouras-RJ 27.70 110 eP **P 00 19 33.5 -0.2**
DUB01 Friburgo-RJ 28.64 109 eP **P 00 19 42.0 -0.2**
DUB01 Friburgo-RJ 28.64 109 eP **P 00 19 42.0 -0.2**
CAM01 Campos-RJ 29.26 108 eP **P 00 19 47.5 -0.1**
CAM01 Campos-RJ 29.26 108 eP **P 00 19 47.5 -0.1**
SJMB Sao Joao De Ma 29.39 102 eP **P 00 19 47.5 -1.3**
SJMB Sao Joao De Ma 29.39 102 eP **P 00 19 47.5 -1.3**
BSFB Barra de Sao F 29.72 102 eP **P 00 19 50.7 -1.0**
BSFB Barra de Sao F 29.72 102 eP **P 00 19 50.7 -1.0**
ALF01 Guarapari-ES 29.97 106 eP **P 00 19 54.7 +0.9**
ALF01 Guarapari-ES 29.97 106 eP **P 00 19 54.7 +0.9**
RIB01 Linhares ES 30.17 103 eP **P 00 19 55.3 -0.3**
RIB01 Linhares ES 30.17 103 eP **P 00 19 55.3 -0.3**
MCLT Moule a Chique 30.27 21 P **P 00 19 56.4 -0.1**
NBPN Ponto Novo - B 30.89 86 eP **P 00 20 01.7 -0.4**
NBPN Ponto Novo - B 30.89 86 eP **P 00 20 01.7 -0.4**
NBIT Itapeh - BA 31.11 94 eP **P 00 20 03.8 -0.1**
NBIT Itapeh - BA 31.11 94 eP **P 00 20 03.8 -0.1**
NBPB Pedra_Branca-C 32.83 77 eP **P 00 20 18.4 -0.7**
NBPB Pedra_Branca-C 32.83 77 eP **P 00 20 18.4 -0.7**
MLPR Magueyes Islan 32.91 8 P **P 00 20 18.3 -1.3**
MLPR IAmb IAmb 00 20 24.5
comp=Z,38nm,1.0s
CRPR Cabo Rojo, PR 32.94 8 P **P 00 20 18.9 -0.8**
NBMA Muriti-CE 33.07 81 eP **P 00 20 20.7 -0.4**
NBMA Muriti-CE 33.07 81 eP **P 00 20 20.7 -0.4**
PDPR Patillas Dam, 33.11 10 P **P 00 20 21.0 -0.3**
PDPR IAmb IAmb 00 20 29.3
comp=Z,13nm,1.0s
NBLA Lagarto - SE 33.19 87 eP **P 00 20 21.6 -0.6**
NBLA Lagarto - SE 33.19 87 eP **P 00 20 21.6 -0.6**
MTP Monte Pirata 33.27 11 P **P 00 20 21.0 -1.6**
MTP IAmb IAmb 00 20 22.8
comp=Z,23nm,1.1s
NBTA Tacaratu-PE 33.30 84 eP **P 00 20 22.2 -1.0**
NBTA Tacaratu-PE 33.30 84 eP **P 00 20 22.2 -1.0**
AOPR Arecibo Observ 33.32 8 P **P 00 20 22.0 -1.1**
AOPR IAmb IAmb 00 20 40.2
comp=Z,34nm,1.1s
GCPR Guaynabo City 33.38 10 P **P 00 20 22.5 -1.2**
CBYP Canovanas 33.38 10 P **P 00 20 22.4 -1.3**
CBYP IAmb IAmb 00 20 23.4
comp=Z,18nm,0.8s
ABVI Anegada Island 34.12 12 P **P 00 20 28.9 -1.2**
NBAN Anadia - AL 34.91 86 eP **P 00 20 36.6 -0.5**
NBAN Anadia - AL 34.91 86 eP **P 00 20 36.6 -0.5**
RCBR Riachuelo 36.23 79 P **P 00 20 47.2 -1.2**
RCBR IAmb IAmb 00 20 49.6
comp=Z,20nm,0.9s
RCBR Riachuelo 36.23 79 eP **P 00 20 47.2 -1.2**
NBRF Rio Formoso - 36.23 84 eP **P 00 20 47.4 -0.9**
NBRF Rio Formoso - 36.23 84 eP **P 00 20 47.4 -0.9**
NBPV Pedro Velho 36.64 81 eP **P 00 20 50.5 -1.3**
NBPV Pedro Velho 36.64 81 eP **P 00 20 50.5 -1.3**
USHA Ushuaia 39.39 177 P **P 00 21 20.6 +1.3**
comp=Z,13nm,0.9s,baz=4.0,slow=11,SNR=5.7
257A Skidaway Islan 47.40 349 P **P 00 22 20.0 +1.2**
baz=168
353A Camilla 47.48 345 P **P 00 22 20.6 +1.2**
baz=164
256A Glennville 47.57 348 P **P 00 22 20.9 +0.8**
baz=167
HOPE Hope Point 47.95 153 P **P 00 22 23.7 +0.8**
156A Sylvania 48.15 349 P **P 00 22 25.7 +1.1**
baz=167
NHSC New Hope 48.36 350 P **P 00 22 27.2 +1.0**
baz=169
NHSC New Hope 48.36 350 P **P 00 22 26.2 0.0**
154A Montrose 48.44 347 P **P 00 22 27.1 +0.3**
baz=165
Z58A St. Stephen 48.53 351 P **P 00 22 28.2 +0.7**
baz=170
153A Fort Valley 48.63 346 P **P 00 22 28.7 +0.4**
baz=164
Z57A Bowman 48.64 350 P **P 00 22 28.6 +0.3**
baz=168
152A Waverly Hall 48.86 345 P **P 00 22 30.1 0.0**
baz=163,SNR=6.7
152A Waverly Hall 48.86 345 IAmb IAmb 00 22 31.0
comp=Z,17nm,0.9s
Y60A Bolivia 48.97 353 P **P 00 22 30.9 0.0**
baz=172
Y60A Bolivia 48.97 353 P **P 00 22 30.8 0.0**
Z54A Sparta 48.98 348 P **P 00 22 31.2 +0.2**
baz=166
Y59A Loris 49.04 352 P **P 00 22 31.6 +0.3**
baz=171
Y58A Scranton 49.07 351 P **P 00 22 32.0 +0.4**
baz=170
Y58A Scranton 49.07 351 P **P 00 22 31.8 +0.2**
Z53A Monticello 49.18 347 P **P 00 22 32.3 -0.2**
baz=165
GOGA Godfrey 49.28 347 P **P 00 22 33.5 +0.3**
baz=165
GOGA Godfrey 49.28 347 P **P 00 22 33.2 -0.1**
GOGA IAmb IAmb 00 22 34.3
comp=Z,16nm,1.1s
Y57A Sumter 49.29 350 P **P 00 22 33.7 +0.4**
baz=169
Y57A Sumter 49.29 350 P **P 00 22 33.2 0.0**
Z52A Williamson 49.29 346 P **P 00 22 33.8 +0.5**
baz=164
Y55A Saluda 49.47 349 P **P 00 22 34.9 +0.3**
baz=167,SNR=5.8
X60A Albert Glenn T 49.50 353 P **P 00 22 35.1 +0.2**
baz=172
Y54A Tignall 49.55 348 P **P 00 22 35.5 +0.2**
baz=166
Z51A Franklin 49.59 345 P **P 00 22 35.8 +0.1**
baz=163
X58A Rowland 49.66 352 P **P 00 22 36.2 +0.2**
baz=170
X58A Rowland 49.66 352 IAmb IAmb 00 22 37.3
comp=Z,20nm,0.8s
X57A Johnson Farm, 49.68 351 P **P 00 22 36.7 +0.4**
baz=169
JSC Jenkinsville 49.69 350 P **P 00 22 36.5 +0.1**
Z50A Ashland 49.73 344 P **P 00 22 36.4 -0.3**
baz=162
Z50A Ashland 49.73 344 IAmb IAmb 00 22 37.5
comp=Z,18nm,0.9s
Y53A Monroe 49.74 347 P **P 00 22 37.3 +0.6**
baz=165
LRAL Lakeview Retre 49.81 343 P **P 00 22 37.5 +0.2**
baz=160
LRAL Lakeview Retre 49.81 343 P **P 00 22 36.5 -0.8**
HODGES Hodges 49.83 348 IAmb IAmb 00 22 38.0
comp=Z,31nm,1.4s
Y52A Lilburn 49.85 346 P **P 00 22 38.1 +0.5**
baz=164
Y52A Lilburn 49.85 346 IAmb IAmb 00 22 38.4
comp=Z,19nm,1.1s
X56A White Oak 49.86 350 P **P 00 22 38.1 +0.5**
baz=168
W60A Pink Hill 49.95 353 P **P 00 22 39.1 +0.8**
baz=172
W58A Raeford 50.10 352 P **P 00 22 39.6 +0.2**
baz=170,SNR=15
Y51A Rockmart 50.12 345 P **P 00 22 39.1 -0.5**
baz=163,SNR=5.6
X54A Belton 50.16 348 P **P 00 22 40.1 +0.2**
baz=166
X53A Estanollee 50.30 347 P **P 00 22 40.9 -0.1**
baz=165
W57A Gilead 50.34 351 P **P 00 22 41.4 +0.2**
baz=170,SNR=7.8
W56A Indian Trail 50.41 350 P **P 00 22 41.7 0.0**
baz=169,SNR=6.2
Y49A Blount Mountai 50.42 344 P **P 00 22 41.0 -0.9**
Y49A IAmb IAmb 00 22 42.3
comp=Z,8.0nm,0.8s
KMSC Kings Mountain 50.54 350 P **P 00 22 43.2 +0.4**
baz=168
833A Chaparral WMA, 50.62 328 P **P 00 22 43.8 +0.3**
baz=144
W54A Cherokee Point 50.64 349 P **P 00 22 44.0 +0.5**
baz=167,SNR=6.6
V59A Middlesex 50.71 353 P **P 00 22 44.4 +0.4**
baz=172
V58A Windy Hill, Pi 50.85 352 P **P 00 22 45.2 +0.2**
baz=171
V58A Windy Hill, Pi 50.85 352 IAmb IAmb 00 22 46.2
comp=Z,22nm,0.9s
FPAL Fort Paine 50.87 345 P **P 00 22 44.5 -0.8**
W53A Cullowhee 50.92 348 P **P 00 22 45.8 +0.1**
baz=166
W52A Murphy 51.00 347 P **P 00 22 46.3 0.0**
baz=165
V57A Coltrane Farms 51.03 351 P **P 00 22 46.4 0.0**
baz=170,SNR=7.6
V56A Mocksville 51.06 351 P **P 00 22 47.1 +0.4**
baz=169,SNR=10
X48A Hartselle 51.16 344 P **P 00 22 46.9 -0.4**
baz=161
X48A Hartselle 51.16 344 P **P 00 22 46.7 -0.7**
X48A IAmb IAmb 00 22 47.4
comp=Z,41nm,1.4s
V55A Taylorsville 51.22 350 P **P 00 22 48.4 +0.6**
baz=168,SNR=7.2
V54A Nebo 51.27 349 P **P 00 22 48.6 +0.3**
baz=167,SNR=5.2
V53A Saluda 51.33 348 P **P 00 22 48.8 +0.1**
baz=166
V53A Saluda 51.33 348 P **P 00 22 47.8 -0.9**
V53A IAmb IAmb 00 22 55.0
comp=Z,8.3nm,0.9s
U58A Oxford 51.37 353 P **P 00 22 49.1 +0.2**
baz=172
W50A Signal Mountai 51.42 346 P **P 00 22 50.0 +0.6**
baz=163
U57A Blanch 51.50 352 P **P 00 22 49.9 0.0**
baz=171,SNR=10
U56A King 51.57 351 P **P 00 22 51.1 +0.7**
baz=169,SNR=8.3
U56A King 51.57 351 P **P 00 22 51.2 +0.8**
V52A Sevierville 51.65 348 P **P 00 22 50.7 -0.3**
baz=165,SNR=5.3
V52A Sevierville 51.65 348 IAmb IAmb 00 22 52.0
comp=Z,22nm,1.1s
V51A Loudon 51.78 347 P **P 00 22 51.5 -0.4**
baz=164
V51A Loudon 51.78 347 P **P 00 22 51.6 -0.4**
V51A IAmb IAmb 00 22 52.6
comp=Z,13nm,1.1s
V50A Pikevile 51.82 346 P **P 00 22 52.2 -0.2**
baz=164
U55A TA2, Sparta 51.83 350 P **P 00 22 52.4 0.0**
baz=168
T59A Double "B" Far 51.83 354 P **P 00 22 52.2 -0.1**
baz=173
T59A Double "B" Far 51.83 354 IAmb IAmb 00 22 53.1
comp=Z,11nm,0.8s
OXF Oxford 51.90 341 P **P 00 22 52.8 -0.1**
baz=158
T58A Grand View Acr 51.91 353 P **P 00 22 53.1 +0.2**
baz=172,SNR=7.4
U53A Fall Branch 51.96 349 P **P 00 22 53.3 -0.1**
baz=167
U54A Nelsons Funny 51.97 350 P **P 00 22 53.8 +0.3**
baz=168
U54A Nelsons Funny 51.97 350 IAmb IAmb 00 22 54.8
comp=Z,24nm,0.9s
T57A Hurt 52.05 352 P **P 00 22 54.2 +0.3**
baz=171,SNR=12
U52A Thorn Hill 52.14 348 P **P 00 22 54.3 -0.4**
baz=166
T56A Rocky Mt 52.19 351 P **P 00 22 55.7 +0.7**
baz=170,SNR=13
U51A La Follette 52.26 347 P **P 00 22 55.1 -0.4**
baz=165
V48A Smith Brothers 52.31 344 P **P 00 22 55.7 -0.3**
baz=161
V48A Smith Brothers 52.31 344 P **P 00 22 55.1 -0.9**
V48A IAmb IAmb 00 22 56.4
comp=Z,22nm,1.2s
TZTN Tazewell 52.32 348 P **P 00 22 56.0 0.0**
baz=166
TZTN Tazewell 52.32 348 P **P 00 22 56.0 0.0**
TZTN IAmb IAmb 00 22 56.7
comp=Z,22nm,1.2s
T55A Pulaski 52.38 351 P **P 00 22 57.0 +0.5**
baz=169,SNR=11
WLAR White Oak Lake 52.42 337 P **P 00 22 58.1 +1.3**
BLA Blacksburg 52.42 351 P **P 00 22 57.5 +0.8**
baz=169
T54A Tazewell 52.46 350 P **P 00 22 57.6 +0.5**
baz=168
U50A Jamestown 52.48 347 P **P 00 22 57.8 +0.6**
baz=164
S58A Poland Farm, P 52.51 354 P **P 00 22 58.1 +0.7**
baz=172
T53A Wise 52.55 349 P **P 00 22 57.8 0.0**
baz=167
WHTX Lake Whitney, 52.73 332 P **P 00 22 59.0 -0.1**
baz=148
WHTX Lake Whitney, 52.73 332 P **P 00 22 58.9 -0.2**
WHTX IAmb IAmb 00 23 00.6
comp=Z,21nm,1.0s
T52A Hallie 52.76 349 P **P 00 22 59.2 -0.1**
baz=166
T52A Hallie 52.76 349 P **P 00 22 58.8 -0.4**
T52A IAmb IAmb 00 23 12.7
comp=Z,34nm,1.4s
S56A Natural Bridge 52.76 352 P **P 00 22 59.8 +0.6**
baz=170
S57A Dark Hollow, R 52.76 353 P **P 00 22 59.6 +0.4**
baz=171,SNR=8.8
U49A Red Boiling Sp 52.79 346 P **P 00 22 59.5 0.0**
baz=163
T51A Gray 52.81 348 P **P 00 22 59.7 +0.1**
baz=165
R58B Mineral 52.84 354 P **P 00 23 00.1 +0.3**
baz=172
WVT Waverly 52.95 344 P **P 00 22 59.0 -1.6**
WVT IAmb IAmb 00 23 02.0
comp=Z,10nm,1.1s
S55A Lewisburg 52.98 351 P **P 00 23 01.5 +0.5**
baz=169,SNR=14
UALR University of 53.11 339 P **P 00 23 01.5 -0.3**
UALR IAmb IAmb 00 23 02.5
comp=Z,12nm,0.8s
S54A Dingess, Beckl 53.14 350 P **P 00 23 02.0 0.0**
baz=168,SNR=5.7
S54A Dingess, Beckl 53.14 350 P **P 00 23 02.0 0.0**
S53A Williamson 53.16 350 P **P 00 23 01.8 -0.3**
baz=167
R58A Rapidan 53.19 354 P **P 00 23 02.2 -0.1**
baz=172
R57A Stanardsville 53.24 353 P **P 00 23 02.9 +0.2**
baz=172
T49A Edmonton 53.29 346 P **P 00 23 02.5 -0.7**
baz=163
MIAR Mount Ida 53.35 337 P **P 00 23 03.4 -0.2**
baz=153
MIAR Mount Ida 53.35 337 P **P 00 23 03.4 -0.2**
MIAR IAmb IAmb 00 23 04.6
comp=Z,13nm,0.9s
W41B Gary Mavity, V 53.44 339 P **P 00 23 03.8 -0.4**
baz=155
W41B Gary Mavity, V 53.44 339 P **P 00 23 03.2 -1.0**
R56A Bull Pasture M 53.46 352 P **P 00 23 04.6 +0.2**
baz=171
R54A Victor 53.46 351 P **P 00 23 04.7 +0.3**
baz=169,SNR=9.6
WHAR Wooly Hollow 53.56 339 P **P 00 23 04.4 -0.7**
WHAR IAmb IAmb 00 23 05.2
comp=Z,13nm,1.1s
T47A Sharon Grove 53.57 345 P **P 00 23 04.4 -0.7**
baz=161
S50A Richmond 53.59 347 P **P 00 23 04.5 -0.8**
baz=165
TXAR Lajitas Array 53.71 325 P **P 00 23 06.0 -0.4**
comp=Z,2.4nm,0.9s,baz=141,slow=6.4,SNR=3.6
TXAR pP **pP 00 23 37.6 +1.3**
comp=Z,3.5nm,1.1s,baz=160,slow=9.3,SNR=3.0
Q58A Fox Den Farm, 53.79 354 P **P 00 23 06.4 -0.3**
baz=173
LCAR Lake Charles 53.89 340 P **P 00 23 06.8 -0.7**
LCAR IAmb IAmb 00 23 07.7
comp=Z,12nm,1.0s
S49A Springfield 53.89 347 P **P 00 23 07.0 -0.4**
baz=164
Q57A Strasburg 53.96 353 P **P 00 23 08.4 +0.5**
baz=172
W39A Magazine 54.01 338 P **P 00 23 08.5 +0.1**
baz=153
W39A Magazine 54.01 338 P **P 00 23 08.2 -0.2**
W39A IAmb IAmb 00 23 09.9
comp=Z,18nm,1.1s
R51A Hillsboro 54.03 348 P **P 00 23 08.1 -0.3**
baz=166
Q56A Snyder Ridge, 54.05 353 P **P 00 23 09.6 +0.9**
baz=171,SNR=7.6
Q56A Snyder Ridge, 54.05 353 P **P 00 23 09.1 +0.4**
Q55A Buckhannon 54.12 352 P **P 00 23 10.1 +0.8**
baz=170,SNR=11
R50A Paris 54.16 348 P **P 00 23 08.9 -0.6**
baz=165
R50A Paris 54.16 348 IAmb IAmb 00 23 10.0
comp=Z,21nm,1.1s
Q53A Leroy 54.20 350 P **P 00 23 09.6 -0.2**
baz=168,SNR=8.0
Q54A Coxs Mills 54.22 351 P **P 00 23 09.9 0.0**
baz=169,SNR=7.4
ABTX Abilene, Hawle 54.27 331 P **P 00 23 10.1 -0.2**
baz=146
ABTX Abilene, Hawle 54.27 331 P **P 00 23 10.1 -0.2**
ABTX IAmb IAmb 00 23 11.7
comp=Z,24nm,0.9s
P58A Pank, Wackersv 54.30 355 P **P 00 23 10.1 -0.3**
baz=173
Q52A Bidwell 54.43 350 P **P 00 23 11.2 -0.1**
baz=167
P56A Dayton Farm, R 54.47 353 P **P 00 23 12.1 +0.4**
baz=172
WCI Wyandotte Cave 54.54 346 P **P 00 23 12.0 -0.2**
baz=163
WCI Wyandotte Cave 54.54 346 P **P 00 23 11.5 -0.7**
P55A Reedsville 54.59 352 P **P 00 23 13.2 +0.6**
baz=170,SNR=6.6
Q50A Georgetown 54.63 348 P **P 00 23 12.6 -0.2**
baz=165
Q51A Peebles 54.68 349 P **P 00 23 13.3 0.0**
baz=166
U40A Yellville 54.72 339 P **P 00 23 13.0 -0.5**
baz=155
MCWV Mont Chateau 54.75 352 P **P 00 23 14.1 +0.5**
baz=170,SNR=6.8
MCWV Mont Chateau 54.75 352 P **P 00 23 13.9 +0.3**
MCWV IAmb IAmb 00 23 15.3
comp=Z,23nm,0.9s
P54A Burton 54.78 352 P **P 00 23 14.3 +0.4**
baz=170,SNR=9.1
P53A Whipple 54.80 351 P **P 00 23 14.2 +0.2**
baz=168,SNR=7.5
S44A Carbondale 54.81 343 P **P 00 23 13.5 -0.6**
baz=159
Q49A Aurora 54.97 347 P **P 00 23 14.4 -0.9**
baz=164
HHAR Hobbs 55.03 338 IAmb IAmb 00 23 16.5
comp=Z,34nm,1.5s
P52A Corning 55.06 350 P **P 00 23 16.1 +0.2**
baz=168
X34A Smith Ranch, M 55.11 334 P **P 00 23 16.4 +0.1**
X34A IAmb IAmb 00 23 17.9
comp=Z,20nm,0.9s
W35A Tecumseh 55.18 335 P **P 00 23 16.1 -0.8**
O56A Blue Knob Stat 55.20 354 P **P 00 23 17.6 +0.7**
baz=172
O56A Blue Knob Stat 55.20 354 P **P 00 23 17.2 +0.3**
O56A IAmb IAmb 00 23 19.4
comp=Z,20nm,1.0s
O55A Ligonier 55.22 353 P **P 00 23 17.6 +0.5**
baz=171,SNR=9.3
MGMO Mountain Grove 55.24 340 IAmb IAmb 00 23 17.7
comp=Z,32nm,1.3s
P50A Jamestown 55.33 349 P **P 00 23 17.8 -0.1**
baz=166
N61A South Mountain 55.35 358 P **P 00 23 18.4 +0.4**
baz=177
TUL1 Leonard 55.40 336 P **P 00 23 18.4 0.0**
baz=151
TUL1 Leonard 55.40 336 P **P 00 23 18.6 +0.1**
TUL1 IAmb IAmb 00 23 19.6
comp=Z,25nm,1.1s
FVM French Village 55.42 342 IAmb IAmb 00 23 19.1
comp=Z,23nm,0.9s
O52A Adamsville 55.48 351 P **P 00 23 19.0 0.0**
baz=168
O52A Adamsville 55.48 351 P **P 00 23 18.1 -0.8**
O52A IAmb IAmb 00 23 20.6
comp=Z,23nm,1.2s
FNO Franklin 55.49 334 P **P 00 23 18.5 -0.6**
SSPA Standing Stone 55.49 354 P **P 00 23 19.4 +0.4**
baz=173
O53A New Philadelph 55.52 351 P **P 00 23 19.2 0.0**
baz=169
N57A Milroy 55.58 355 P **P 00 23 19.6 0.0**
baz=173
N58A Sunbury 55.59 355 P **P 00 23 19.7 0.0**
baz=174
O51A Pataskala 55.64 350 P **P 00 23 20.0 0.0**
baz=167
CCM Cathedral Cave 55.74 341 P **P 00 23 20.5 -0.3**
baz=157
CCM Cathedral Cave 55.74 341 P **P 00 23 20.1 -0.7**
CCM IAmb IAmb 00 23 21.1
comp=Z,17nm,1.1s
N55A Marion Center 55.75 353 P **P 00 23 21.4 +0.6**
baz=172,SNR=10
ACSO Alum Creek Sta 55.79 350 P **P 00 23 20.8 -0.3**
baz=167
ACSO Alum Creek Sta 55.79 350 IAmb IAmb 00 23 21.7
comp=Z,17nm,0.8s
N56A West Decatur 55.81 354 P **P 00 23 21.8 +0.5**
baz=172,SNR=5.3
N53A Lisbon 56.01 352 P **P 00 23 22.8 +0.1**
baz=169,SNR=5.6
N53A Lisbon 56.01 352 P **P 00 23 22.7 +0.1**
N54A Moraine State 56.05 352 P **P 00 23 23.5 +0.6**
baz=170,SNR=11
GDL2 Guadalupe Moun 56.30 327 P **P 00 23 24.9 -0.1**
N50A Nevada 56.34 350 P **P 00 23 25.2 +0.2**
baz=167
N51A Ashland 56.35 350 P **P 00 23 25.7 +0.5**
baz=168
M56A Emporium 56.36 354 P **P 00 23 25.5 +0.3**
baz=172
M55A Ridgway 56.40 354 P **P 00 23 25.7 +0.2**
baz=172,SNR=6.1
MNTX Cornudas Mount 56.47 325 P **P 00 23 25.7 -0.4**
baz=140
MNTX Cornudas Mount 56.47 325 P **P 00 23 25.2 -0.9**
MNTX IAmb IAmb 00 23 26.7
comp=Z,9.7nm,1.2s
M54A Oil Creek Stat 56.55 353 P **P 00 23 26.5 0.0**
baz=171,SNR=7.2
M54A Oil Creek Stat 56.55 353 P **P 00 23 26.1 -0.4**
M53A WI Miller and 56.61 352 P **P 00 23 27.0 0.0**

baz=170
N49A Columbus Grove 56.68 349 P P 00 23 26.6 -0.8
baz=166
ALLY Alegheny Colle 56.74 352 P P 00 23 28.0 +0.1
L59A Walton 56.82 357 P P 00 23 28.3 -0.2
baz=176
MSTX Muleshoe 56.88 329 P P 00 23 28.8 -0.3
baz=144
MSTX Muleshoe 56.88 329 IAmb IAmb 00 23 29.9
comp=Z,19nm,1.1s
BINY Binghamton 56.89 356 P P 00 23 29.1 +0.2
baz=175
L53A Girard 57.06 352 P P 00 23 30.2 +0.1
baz=170
L55A Hinsdale 57.08 354 P P 00 23 30.4 +0.2
baz=172
U32A Winter Ranch, 57.12 334 P P 00 23 30.6 -0.1
ERPA Erie 57.19 353 P P 00 23 31.2 +0.2
baz=170
L54A Sinclairville 57.22 353 P P 00 23 31.6 +0.4
baz=171
K61A Williamstown 57.23 359 P P 00 23 32.0 +0.7
baz=178
K56A Middlesex 57.48 355 P P 00 23 33.6 +0.5
baz=174
L50A Kingsville 57.52 350 P P 00 23 33.0 -0.3
baz=167
K54A Basiliko Farm, 57.52 354 P P 00 23 33.7 +0.3
baz=172
J58A Remsen 58.00 357 P P 00 23 36.7 0.0
baz=176
J54A Appleton 58.17 354 P P 00 23 37.9 +0.1
baz=172
K49A Clarkson 58.35 350 P P 00 23 38.2 -0.9
baz=167
J52A Paris 58.35 352 P P 00 23 38.7 -0.4
baz=170,SNR=6.0
I59A Olmsteadville 58.38 358 P P 00 23 39.3 0.0
baz=178
121A Cookes Peak, D 58.43 324 P P 00 23 40.2 +0.1
baz=138
121A Cookes Peak, D 58.43 324 P P 00 23 40.2 +0.1
121A IAmb IAmb 00 23 42.2
comp=Z,9.1nm,1.0s
319A Douglas 58.45 322 P P 00 23 40.2 0.0
319A IAmb IAmb 00 23 42.0
comp=Z,9.6nm,0.8s
J49A Marlette 58.86 350 P P 00 23 42.6 0.0
baz=167
J48A Bridge Port 58.91 350 P P 00 23 42.2 -0.7
baz=166
BNM Barren Site 59.01 326 P P 00 23 43.9 -0.2
J47A Sunmer 59.04 349 P P 00 23 42.8 -1.0
baz=165
J47A Sunmer 59.04 349 P P 00 23 42.7 -1.1
H57A Richville 59.11 357 P P 00 23 43.8 -0.5
baz=176
H60A Morristown 59.11 359 P P 00 23 43.7 -0.7
baz=179
LENM Lemitar 59.21 326 P P 00 23 45.3 -0.2
LONY Lake Ozonia 59.23 358 P P 00 23 44.7 -0.4
baz=177
LONY Lake Ozonia 59.23 358 P P 00 23 45.1 0.0
LONY IAmb IAmb 00 23 47.0
comp=Z,26nm,1.4s
H64A Troy 59.23 2 P P 00 23 44.6 -0.5
baz=183
K43A Burlington 59.27 346 P P 00 23 44.3 -1.1
H55A Tweed 59.31 355 P P 00 23 45.5 -0.2
baz=174
I49A Point Hope 59.37 351 P P 00 23 45.4 -0.7
L40A Anamosa 59.42 343 P P 00 23 45.6 -0.9
L40A IAmb IAmb 00 23 46.9
comp=Z,14nm,0.9s
H53A Bobcaygeon 59.46 354 P P 00 23 46.3 -0.4
baz=172
CBKS Cedar Bluff 59.49 335 P P 00 23 47.0 -0.2
baz=148
ANMO Albuquerque 59.53 327 P P 00 23 47.5 -0.2
baz=140
ANMO Albuquerque 59.53 327 P P 00 23 48.0 +0.4
H52A Wyevale 59.66 353 P P 00 23 47.8 -0.3
baz=171
G62A West of Eustis 59.77 1 P P 00 23 49.0 +0.2
baz=181
G62A West of Eustis 59.77 1 P P 00 23 49.1 +0.3
G61A St-Isidore-de- 59.83 0 P P 00 23 49.5 +0.2
baz=180
PKME Peaks-Kenny Pk 59.85 2 P P 00 23 49.6 +0.3
baz=183
PKME Peaks-Kenny Pk 59.85 2 P P 00 23 48.0 -1.3
G65A Princeton 59.86 3 P P 00 23 49.9 +0.5
baz=185
G53A Haliburton 60.01 354 P P 00 23 50.4 -0.1
baz=172
T25A Trinidad 60.21 330 P P 00 23 52.1 -0.2
baz=143
G54A Lake Saint Pet 60.23 355 P P 00 23 51.9 0.0
baz=173
F64A Sherman 60.48 3 P P 00 23 53.8 +0.2
baz=184
F60A Warwick 60.52 360 P P 00 23 53.5 -0.4
baz=180
F61A St Evariste 60.52 1 P P 00 23 53.8 -0.2
baz=181
LMN Caledonia Moun 60.71 5 P P 00 23 54.9 -0.4
LMN IAmb IAmb 00 23 57.3
comp=Z,16nm,1.1s
F52A Sundridge 60.74 354 P P 00 23 55.1 -0.3
baz=172
ALGO Algonquin Park 60.78 355 P P 00 23 55.6 0.0
baz=173
KSCO Kaye Shedlock' 60.90 333 P P 00 23 56.8 0.0
baz=145
E58A La Victoria 60.94 359 P P 00 23 56.4 -0.3
baz=178
F51A Arnstein 60.94 353 P P 00 23 56.2 -0.5
baz=171
214A Organ Pipe Nat 61.00 320 P P 00 23 57.8 +0.2
baz=133
BGNE Belgrade 61.10 337 P P 00 23 57.6 -0.3
baz=151
X18A Snowflake 61.12 324 P P 00 23 58.3 -0.2
X18A IAmb IAmb 00 24 00.7
comp=Z,9.0nm,1.1s
E55A Montcerf-Lytto 61.13 357 P P 00 23 57.8 -0.3
baz=175
E52A Mattawa 61.16 354 P P 00 23 57.8 -0.5
baz=172
E56A St. Veronique 61.17 357 P P 00 23 57.9 -0.4
baz=176
E54A Lac Daplat, Po 61.19 356 P P 00 23 58.4 0.0
baz=174
E62A Clayton Lake 61.20 2 P P 00 23 58.6 +0.1
baz=182
SDCO Great Sand Dun 61.22 330 P P 00 23 59.5 +0.3
baz=142
SDCO Great Sand Dun 61.22 330 P P 00 23 59.5 +0.3
SDCO IAmb IAmb 00 24 01.0
comp=Z,13nm,0.9s
E51A G1948 Merrick 61.49 354 P P 00 24 00.3 -0.1
baz=171
D57A Chemin Vers le 61.60 358 P P 00 24 00.9 -0.3
baz=178
D58A Chemin du LacG 61.65 359 P P 00 24 01.4 -0.2
baz=179
D56A ZEC Mazanza, M 61.66 358 P P 00 24 01.5 -0.1
baz=177
D55A Sainte-Anne-du 61.66 357 P P 00 24 01.5 -0.1
baz=176
D63A Stockholm 61.66 3 P P 00 24 01.6 0.0
baz=184
D62A Allapoint, All 61.67 2 P P 00 24 01.7 0.0
baz=183
D62A Allapoint, All 61.67 2 IAmb IAmb 00 24 02.6
comp=Z,18nm,0.8s
E48A Lockeyer 61.76 352 P P 00 24 02.0 -0.3
baz=168
D52A ZEK Kipawa Sen 61.82 355 P P 00 24 02.9 +0.2
baz=173
D54A Lac Fusel, La 61.86 356 P P 00 24 02.7 -0.3
baz=175
D53A Lac Vacive, Po 61.87 355 P P 00 24 02.8 -0.2
baz=173
D53A Lac Vacive, Po 61.87 355 P P 00 24 03.3 +0.3
D53A IAmb IAmb 00 24 03.4
comp=Z,14nm,1.0s

S22A 4UR Ranch, Cre 61.87 329 P P 00 24 03.5 -0.1
baz=141
X16A Lo Mia Camp, P 61.90 323 P P 00 24 03.8 +0.1
E47A Iron Bridge 61.90 351 P P 00 24 03.0 -0.2
baz=167
LATQ La Tuque 61.94 359 P P 00 24 03.9 +0.4
baz=179
Q24A Divide 62.01 331 P P 00 24 04.6 0.0
baz=143
BATG Bathurst New B 62.02 4 P P 00 24 04.3 +0.2
BATG IAmb IAmb 00 24 18.8
comp=Z,23nm,1.3s
D51A Lot 18 Range I 62.03 354 P P 00 24 03.7 -0.4
baz=172
D50A G1974 Best Tow 62.15 354 P P 00 24 04.6 -0.3
baz=171
MVCO Mesa Verde 62.32 327 P P 00 24 06.0 -0.5
baz=139
MVCO Mesa Verde 62.32 327 P P 00 24 06.8 +0.2
MVCO IAmb IAmb 00 24 08.2
comp=Z,14nm,1.2s
D48A Paudash Townsh 62.39 352 P P 00 24 06.7 +0.2
baz=169
D49A Beulah Townshi 62.43 353 P P 00 24 06.7 -0.1
baz=170
D46A Sault St. Mari 62.44 350 P P 00 24 06.3 -0.5
baz=166
D47A Chapleau 62.46 351 P P 00 24 05.9 -1.0
baz=168
E43A Lone Tree Farm 62.48 348 P P 00 24 06.3 -0.8
baz=163
E44A Grand Marais A 62.51 349 P P 00 24 07.3 0.0
baz=164
ECSD EROS Data Cent 62.60 340 P P 00 24 07.6 -0.4
baz=153
ECSD EROS Data Cent 62.60 340 IAmb IAmb 00 24 09.4
comp=Z,22nm,1.3s
WUAZ Wupatki 62.64 324 P P 00 24 09.0 +0.4
baz=136
WUAZ Wupatki 62.64 324 P P 00 24 09.3 +0.7
WUAZ IAmb IAmb 00 24 10.9
comp=Z,14nm,1.1s
ISCO Idaho Springs 62.89 331 P P 00 24 11.1 +0.7
baz=143
ISCO Idaho Springs 62.89 331 P P 00 24 10.4 0.0
PV01 Paradox Valley 63.05 328 P P 00 24 11.5 +0.1
PV01 IAmb IAmb 00 24 13.4
comp=Z,8.8nm,0.9s
SMCO Snowmass 63.05 330 P P 00 24 11.6 +0.1
PV02 Paradox Valley 63.20 328 P P 00 24 12.6 +0.2
PV13 Radium Mtn., P 63.20 328 P P 00 24 12.5 +0.1
PV13 IAmb IAmb 00 24 14.1
comp=Z,8.7nm,0.9s
PV05 Paradox Valley 63.28 327 P P 00 24 12.6 -0.3
PV05 IAmb IAmb 00 24 21.4
comp=Z,13nm,1.3s
PV12 Saucer Basin, 63.31 328 P P 00 24 13.5 +0.4
PV07 Paradox Valley 63.32 328 P P 00 24 13.0 -0.2
PV11 David Mesa, Pa 63.33 328 P P 00 24 13.3 +0.1
D41A Chassel 63.46 347 P P 00 24 13.6 0.0
baz=162
D41A Chassel 63.46 347 P P 00 24 13.2 -0.4
PV14 Lion Creek, Pa 63.47 328 P P 00 24 13.4 -0.7
PV22 Blue Mesa, Par 63.47 328 P P 00 24 14.4 +0.3
PV23 Carpenter Ridg 63.52 328 P P 00 24 14.0 -0.5
PV21 Cone Mtn., Par 63.58 328 P P 00 24 15.4 +0.5
E38A The Farm, Brul 63.73 345 P P 00 24 15.2 -0.1
baz=158
LSQQ Lebel-sur-Quev 63.78 356 P P 00 24 15.6 0.0
baz=174
BC3 Big Chuckawall 63.79 320 P P 00 24 16.9 +0.7
baz=132
MONP2 Monument Peak 63.90 319 P P 00 24 17.3 +0.3
baz=131
IRM Iron Mountain 63.93 321 P P 00 24 17.7 +0.7
baz=132
PFO Pinyon Flats O 64.39 319 P P 00 24 20.2 +0.1
baz=131
O20A White River Ci 64.41 330 P P 00 24 20.7 +0.4
baz=140
O20A White River Ci 64.41 330 P P 00 24 20.4 +0.2
O20A IAmb IAmb 00 24 22.1
comp=Z,7.6nm,0.8s
CHGQ Chibougamau 64.50 358 P P 00 24 20.4 +0.1
baz=177
MATQ Matagami 64.53 356 P P 00 24 20.6 +0.1
baz=174
KNB Kanab 64.53 324 P P 00 24 22.3 +1.3
GMRC Granite Mounta 64.67 321 P P 00 24 22.6 +0.7
baz=132
SRU San Rafael Swe 64.80 327 P P 00 24 22.9 +0.2
EYMN Ely 64.96 345 P P 00 24 23.4 0.0
baz=159
EYMN Ely 64.96 345 IAmb IAmb 00 24 24.2
comp=Z,15nm,1.2s
DRLN Deer Lake 65.02 10 P P 00 24 22.9 -0.8
SZCU Shurtz Canyon 65.09 325 P P 00 24 24.5 -0.2
HEC Hector,Ludlow 65.11 320 P P 00 24 25.9 +1.1
baz=132
P17A Butcher Ranch, 65.18 327 P P 00 24 25.8 +0.6
CCUT Cedar City 65.21 324 P P 00 24 25.9 +0.4
MSU Marysvale 65.24 326 P P 00 24 26.6 +1.0
TUQ Turquoise Moun 65.26 321 P P 00 24 26.4 +0.7
baz=132
RDMU Red Mountain 65.40 329 P P 00 24 26.1 -0.5
SHPR Sheep Range 65.52 322 P P 00 24 27.8 +0.3
K22A Casper 65.57 332 P P 00 24 27.9 +0.3
baz=143
RSSD Black Hills 65.69 335 P P 00 24 29.1 +0.7
baz=146
RSSD Black Hills 65.69 335 P P 00 24 28.4 0.0
GSC Goldstone, Bar 65.71 320 P P 00 24 29.5 +0.9
baz=131
EDW2 Edwards Air Fo 66.18 319 P P 00 24 32.1 +0.5
baz=130
PSUT Pine Spring 66.18 325 P P 00 24 32.1 +0.4
NLU North Lily Min 66.23 327 P P 00 24 32.0 0.0
JLU Jordanelle 66.38 328 P P 00 24 32.9 0.0
AGMN Agassiz Nation 66.45 343 P P 00 24 33.1 +0.2
baz=154
AGMN Agassiz Nation 66.45 343 P P 00 24 32.5 -0.4
AGMN IAmb IAmb 00 24 33.8
comp=Z,18nm,0.8s
TPNV Topopah Spring 66.47 322 P P 00 24 34.6 +1.1
baz=132
TPNV Topopah Spring 66.47 322 P P 00 24 33.5 0.0
TPNV IAmb IAmb 00 24 36.2
comp=Z,9.5nm,1.1s
FURC Furnace Creek, 66.52 321 P P 00 24 35.0 +1.5
baz=132
MPMC Manual Prospec 66.63 321 P P 00 24 35.1 +0.5
baz=131
TCUT Toone Canyon 66.74 328 P P 00 24 36.1 +0.8
DUG Dugway, Tooele 66.79 327 P P 00 24 36.7 +1.2
baz=136
DUG Dugway, Tooele 66.79 327 P P 00 24 35.3 -0.1
DUG IAmb IAmb 00 24 37.8
comp=Z,15nm,1.1s
DAC Darwin (Calif) 66.83 321 P P 00 24 36.5 +0.7
ISA Isabella, Lake 66.98 320 P P 00 24 37.9 +1.2
baz=130
ISA Isabella, Lake 66.98 320 P P 00 24 38.2 +1.6
R11A Troy Canyon, C 67.03 324 P P 00 24 38.6 +1.6
baz=133
BW06 Boulder Array 67.06 331 P P 00 24 37.6 +0.3
baz=140
PD31 Pinedale Array 67.06 331 P P 00 24 36.1 -1.1
PDAR Pinedale Array 67.06 331 P P 00 24 36.8 -0.5
comp=Z,1.4nm,0.8s,baz=140,slow=7.2,SNR=8.2
PDAR Pinedale Array 67.06 331 P P 00 24 36.4 -0.8
VNA3 Neumayer Olymp 67.19 162 P P 00 24 38.3 +0.9
MDND Maddock 67.21 340 P P 00 24 38.4 +0.6
baz=151
CWC Cottonwood Cre 67.24 321 P P 00 24 39.2 +0.8
baz=131
VNA1 Neumayer--Stat 67.40 161 P P 00 24 39.9 +1.3
VNA1 Neumayer--Stat 67.40 161 pP pP 00 25 13.0 +3.1
SPUT South Promonto 67.41 328 P P 00 24 40.0 +0.7
BGU Big Grassy Mou 67.44 327 P P 00 24 39.8 +0.2
SMMC Simmler 67.72 319 P P 00 24 42.2 +0.9
baz=129
VNA2 Neumayer--Watz 67.76 161 P P 00 24 42.1 +1.1
baz=271,slow=5.3
VNA2 Neumayer--Watz 67.76 161 pP pP 00 25 15.3 +3.0
baz=286,slow=6.9
HVU Hansel Valley 67.92 328 P P 00 24 42.7 +0.1

REDW Red Top Meadow 68.14 330 IAmb IAmb 00 24 46.4
comp=Z,14nm,1.5s
ULM Lac du Bonnet 68.22 344 P P 00 24 43.2 -0.7
comp=Z,11nm,0.8s,baz=154,slow=6.3,SNR=12
ULM pP **pP 00 25 16.3 +1.0**
comp=Z,8.2nm,1.1s,baz=309,slow=16,SNR=2.8
ULM Lac du Bonnet 68.22 344 IAmb IAmb 00 24 44.5
comp=Z,23nm,1.1s
ELK Elko 68.49 326 P P 00 24 46.2 0.0
OMMB Old Mammoth Mi 68.56 321 P P 00 24 48.2 +1.4
OMMB IAmb IAmb 00 24 49.1
comp=Z,14nm,1.1s
IMW Indian Meadow 68.58 331 IAmb IAmb 00 24 48.6
comp=Z,15nm,1.4s
NV11 Mina Array Sit 68.58 322 P P 00 24 47.1 +0.4
FLWY Flagg Ranch 68.61 331 IAmb IAmb 00 24 49.1
comp=Z,15nm,0.9s
MDPB Devils Postpil 68.62 321 P P 00 24 47.4 +0.3
NVAR Mina Array Bea 68.67 322 P P 00 24 48.5 +1.1
comp=Z,1.7nm,0.9s,baz=145,slow=7.1,SNR=13
NVAR PcP **PcP 00 25 12.2 +0.7**
comp=Z,2.3nm,0.8s,baz=142,slow=4.7,SNR=10
NVAR pP **pP 00 25 20.5 +1.9**
comp=Z,0.6nm,0.6s,baz=128,slow=6.5,SNR=4.6
LAO LASA Array 68.68 335 P P 00 24 47.7 +0.6
baz=144
LAO LASA Array 68.68 335 P P 00 24 47.0 -0.1
LAO IAmb IAmb 00 24 48.7
comp=Z,27nm,1.4s
RLMT Red Lodge 68.74 332 P P 00 24 48.4 +0.7
baz=141
RYN Ryan 68.93 322 P P 00 24 49.3 +0.4
KVN Kaiserville 68.96 323 P P 00 24 49.2 +0.1
YMR Madison River 69.17 331 P P 00 24 51.3 +0.9
YHH Holmes Hill 69.21 331 P P 00 24 51.8 +1.1
YHB Horse Butte 69.34 331 P P 00 24 49.5 -1.9
DGMT Dagmar 69.36 337 P P 00 24 52.2 +1.1
baz=146
DGMT Dagmar 69.36 337 P P 00 24 50.6 -0.6
DGMT IAmb IAmb 00 24 53.4
comp=Z,35nm,1.1s
SNAA Sanae 69.39 162 P P 00 24 52.1 +1.0
SNAA Sanae 69.39 162 pP pP 00 25 27.7 +5.1
SNAA Sanae 69.39 162 P P 00 24 51.9 +0.8
SNAA IAmb IAmb 00 24 53.4
comp=Z,25nm,1.4s
WAKR Walker 69.39 322 P P 00 24 52.3 +0.5
WAKR IAmb IAmb 00 24 54.2
comp=Z,14nm,1.3s
YHL Hebgen Lake 69.41 331 P P 00 24 52.5 +0.6
DBIC Dimbokro 69.55 77 P P 00 24 50.7 -2.3
comp=Z,5.9nm,0.7s,baz=251,slow=4.4,SNR=6.3
DBIC LR LR 00 53 55.7
comp=Z,39nm,18.4s,baz=230,slow=35
DBIC Dimbokro 69.55 77 IAmb IAmb 00 24 54.8
comp=Z,7.0nm,0.8s
YERR Yerington 69.59 322 P P 00 24 53.2 +0.2
YERR IAmb IAmb 00 24 55.5
comp=Z,17nm,1.3s
PNTR Pine Nut 69.87 322 P P 00 24 54.1 -0.7
PNTR IAmb IAmb 00 24 57.4
comp=Z,10nm,1.0s
PAHR Pah Rah Range 70.14 323 IAmb IAmb 00 24 58.9
comp=Z,19nm,1.0s
BOZ Bozeman (W) 70.18 331 P P 00 24 57.5 +1.0
baz=139
MFID Camas Ranch 70.67 327 P P 00 24 59.6 +0.2
MFID IAmb IAmb 00 25 01.8
comp=Z,20nm,1.1s
BEKR Beckworth 70.81 322 P P 00 24 59.6 -0.9
BEKR IAmb IAmb 00 25 02.9
comp=Z,19nm,1.5s
ORV Oroville 71.30 321 P P 00 25 04.4 +1.3
ORV IAmb IAmb 00 25 05.9
comp=Z,15nm,1.0s
PLID Pearl Lake 71.93 329 P P 00 25 06.8 -0.3
MOD Modoc Plateau 72.09 324 IAmb IAmb 00 25 10.3
comp=Z,12nm,0.9s
MSO Missoula 72.17 331 P P 00 25 09.5 +1.1
baz=137
MSO Missoula 72.17 331 P P 00 25 09.2 +0.8
M04C Macdoel 72.90 323 P P 00 25 13.5 +0.7
baz=129
N02D Trinity Center 72.90 322 P P 00 25 13.7 +0.9
baz=128
JTMT Jette 73.00 331 P P 00 25 13.7 +0.4
YBH Yreka Blue Hor 73.38 323 P P 00 25 15.2 -0.4
L04D Klamath Falls 73.44 323 P P 00 25 16.4 +0.4
baz=129
J05D Fort Rock, OR 73.50 325 P P 00 25 17.4 +1.0
baz=130
G08A Pilot Rock 73.59 327 P P 00 25 17.1 +0.4
PINE Pine Mountain 73.67 325 IAmb IAmb 00 25 20.1
comp=Z,15nm,1.1s
WALA Waterton Lakes 73.79 333 P P 00 25 18.2 +0.3
J04D Umpqua Nationa 73.97 324 P P 00 25 20.1 +1.0
baz=129
L02E Cave Junction 74.16 323 P P 00 25 21.1 +1.1
baz=128
I05D Terrebonne, OR 74.24 325 P P 00 25 21.7 +1.2
baz=130
K02D Willamette Mer 74.53 323 P P 00 25 23.6 +1.4
baz=128
G05D Wamic, OR 74.81 326 P P 00 25 25.3 +1.6
baz=130
QSPA South Pole Qui 75.32 180 P P 00 25 27.5 +0.9
QSPA IAmb IAmb 00 25 29.2
comp=Z,12nm,1.0s
B08A Colville Reser 75.84 329 P P 00 25 30.0 +0.4
F04A Amboy 75.84 326 P P 00 25 29.8 +0.2
F04A IAmb IAmb 00 25 31.7
comp=Z,17nm,1.1s
E04D Cinebar 76.32 327 P P 00 25 33.2 +1.0
baz=130
D05A Enumclaw 76.42 327 P P 00 25 32.6 -0.2
D05A IAmb IAmb 00 25 34.9
comp=Z,26nm,1.1s
E03A Lebam 76.85 326 P P 00 25 35.2 0.0
E03A IAmb IAmb 00 25 38.0
comp=Z,24nm,1.1s
B05A Bryant 77.17 328 P P 00 25 38.0 +1.0
baz=130
D03D Eldon 77.22 327 P P 00 25 38.4 +1.2
baz=129
NLWA Neilton Lookou 77.54 327 P P 00 25 39.7 +0.6
NLWA IAmb IAmb 00 25 42.0
comp=Z,19nm,1.2s
TOA0 Torodi Ar. Sit 77.72 73 P P 00 25 39.1 -1.7
TORD Torodi Ar. Bea 77.72 73 P P 00 25 39.0 -1.8
comp=Z,7.0nm,0.7s,baz=267,slow=5.3,SNR=50
TORD pP **pP 00 26 14.0 +1.3**
comp=Z,4.4nm,0.8s,baz=254,slow=6.0,SNR=3.2
TORD sP **sP 00 26 25.6 -0.6**
comp=Z,6.4nm,0.9s,baz=260,slow=5.0,SNR=4.0
TORD Torodi Ar. Bea 77.72 73 P P 00 25 37.9 -2.9
ESDC Sonseca Array 83.01 46 P P 00 26 09.0 +0.4
comp=Z,3.0nm,0.7s,baz=255,slow=5.1,SNR=18
ESDC Sonseca Array 83.01 46 P P 00 26 08.4 -0.3
WIN Windhoek 83.29 111 P P 00 26 09.5 -1.3
WIN IAmb IAmb 00 26 12.2
comp=Z,23nm,0.9s
SYO Syowa Base 83.62 160 *i* P **P 00 26 10.3 -0.9**
YKA Yellowknife Ar 84.07 341 P P 00 26 13.8 +0.4
comp=Z,11nm,0.9s,baz=134,slow=5.2,SNR=19
YKA pP **pP 00 26 47.5 +1.6**
comp=Z,4.9nm,0.8s,baz=135,slow=5.5,SNR=4.3
YKA Yellowknife Ar 84.07 341 P P 00 26 13.4 0.0
YKW3 Yellowknife Ar 84.13 341 IAmb IAmb 00 26 14.8
comp=Z,20nm,1.1s
TSUM Tsumeb 84.51 108 P P 00 26 17.3 +0.3
DLBC Dease Lake 87.12 333 P P 00 26 28.6 -0.2
DLBC IAmb IAmb 00 26 31.1
comp=Z,21nm,1.2s
BOSA Boshof 88.90 119 P P 00 26 38.3 +0.2
comp=Z,12nm,0.9s,baz=258,slow=3.4,SNR=18
BOSA Boshof 88.90 119 IAmb IAmb 00 26 39.1
comp=Z,17nm,1.1s
PUH Pauahi 88.96 290 P P 00 26 37.0 -1.4
SUMG Summit 89.93 9 *i* P **P 00 26 42.9 +0.8**
comp=Z,112nm,1.1s
SUMG Summit 89.93 9 P P 00 26 42.8 +0.8
SKAG Skagway 89.99 333 P P 00 26 43.5 +1.3
LBTB Lobatse 90.20 116 P P 00 26 44.0 -0.1
LBTB IAmb IAmb 00 26 45.1
comp=Z,5.9nm,0.8s
RES Resolute Bay 90.52 354 P P 00 26 45.2 +0.9

RES				IAmb	IAmb	00 26 55.8		
	comp=Z,14nm,1.4s							
MAW	**Mawson**	**91.42**	**164**	P	**P**	**00 26 50.0**	**+1.2**	
	comp=Z,5.9nm,1.0s,baz=239,slow=7.2,SNR=6.0							
MAW				pP	**pP**	**00 27 24.7**	**+3.0**	
	comp=Z,5.0nm,0.9s,baz=96,slow=15,SNR=4.7							
MAW	**Mawson**	**91.42**	**164**	P	**P**	**00 26 49.4**	**+0.6**	
A36M	**Sachs Harbour**	**93.63**	**345**	P	**P**	**00 26 58.6**	**-0.1**	
	baz=129							
INK	**Inuvik**	**93.83**	**341**	IAmb	IAmb	00 27 00.9		
	comp=Z,11nm,1.1s							
DAWY	**Dawson**	**93.87**	**336**	P	**P**	**00 26 58.9**	**-1.2**	
DAWY				IAmb	IAmb	00 27 01.2		
	comp=Z,6.8nm,1.1s							
VRDI	**Verde Repeater**	**94.39**	**333**	P	**P**	**00 27 02.9**	**+0.2**	
VRDI				IAmb	IAmb	00 27 12.3		
	comp=Z,9.6nm,1.0s							
BCAR	**Beaver Creek A**	**94.41**	**335**	P	**P**	**00 27 02.8**	**+0.2**	
DAVA	**Damuels**	**95.12**	**43**	*i* P	**P**	**00 27 05.9**	**-0.5**	
	comp=Z,1.9nm,0.5s							
FETA	**Feichten**	**95.60**	**43**	*i* P	**P**	**00 27 07.7**	**-0.8**	
	comp=Z,0.7nm,0.4s							
MOTA	**Moosalm**	**95.94**	**43**	*i* P	**P**	**00 27 09.3**	**-0.7**	
	comp=Z,2.0nm,0.8s							
SQTA	**Sankt Quirin**	**95.97**	**43**	*i* P	**P**	**00 27 09.6**	**-0.6**	
	comp=Z,1.2nm,0.4s							
WTTA	**Wattenberg**	**96.27**	**43**	*i* P	**P**	**00 27 11.3**	**-0.3**	
	comp=Z,1.7nm,0.5s							
ABTA	**Abfaltersbach**	**96.71**	**44**	*i* P	**P**	**00 27 13.1**	**-0.4**	
	comp=Z,2.5nm,1.0s							
ILAR	**Eielson Array**	**97.14**	**335**	P	**P**	**00 27 14.6**	**-0.4**	
	comp=Z,0.8nm,0.8s,baz=156,slow=3.0,SNR=8.6							
MYKA	**Terra Mystica**	**97.44**	**44**	*i* P	**P**	**00 27 16.1**	**-0.7**	
	comp=Z,0.9nm,0.4s							
GERES	**GERESS Array B**	**97.99**	**42**	P	**P**	**00 27 18.6**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=264,slow=4.0,SNR=6.7							
TOLK	**Toolik Lake Re**	**99.36**	**339**	P	**Pdif**	**00 27 25.0**	**+0.2**	
	baz=107							
NOA	**NORSAR Array B**	**99.42**	**29**	LR	LR	01 12 27.7		
	comp=Z,46nm,18.4s,baz=290,slow=35							
KBZ	**Khabaz**	**117.80**	**48**	PKP	**PKiKP**	**00 32 30.0**	**+1.1**	
	comp=Z,4.2nm,0.8s,baz=328,slow=0.3,SNR=11							
RAYN	**Ar Rayn**	**120.39**	**71**		**PKiKP**	**00 32 35.7**	**+1.0**	
STKA	**Stephens Creek**	**123.68**	**214**	PKP	**PKiKP**	**00 32 41.3**	**+0.3**	
	comp=Z,2.3nm,0.8s,baz=150,slow=5.8,SNR=3.9							
ABKAR	**Akbulak array**	**127.79**	**38**		**PKiKP**	**00 32 49.0**	**+0.6**	
GEYT	**Alibeck**	**130.15**	**53**	PKP	**PKiKP**	**00 32 53.9**	**+0.2**	
	comp=Z,2.3nm,0.8s,baz=354,slow=3.0,SNR=3.7							
HRA	**Herat**	**134.22**	**56**		**PKiKP**	**00 33 01.8**	**-0.4**	
ASAR	**Alice Springs**	**134.31**	**214**	PKP	**PKPdf**	**00 33 01.5**	**+0.3**	
	comp=Z,1.2nm,0.7s,baz=132,slow=2.2,SNR=12							
ASAR				SKPbc	**SKPbc**	**00 36 20.2**	**+0.4**	
	comp=Z,0.6nm,0.7s,baz=138,slow=3.3,SNR=3.8							
ASAR	**Alice Springs**	**134.31**	**214**		**PKPdf**	**00 33 01.1**	**0.0**	
ZALV	**Zalesovo Beam**	**136.82**	**20**	PKhKP	PKPpre	00 33 00.7		
	comp=Z,2.8nm,0.7s,baz=339,slow=2.1,SNR=6.0							
ZALV				PKP	**PKiKP**	**00 33 06.1**	**-0.5**	
	comp=Z,12nm,0.8s,baz=278,slow=2.5,SNR=22							
ZALV				pPKP	pPKPdf	00 33 40.7	+1.7	
	comp=Z,4.1nm,0.8s,baz=296,slow=2.5,SNR=2.5							
ZALV	**Zalesovo Beam**	**136.82**	**20**		PKPpre	00 32 57.2		
ZALV				PKPdf	**PKPdf**	**00 33 03.4**	**-1.4**	
KURK	**Kurchatov**	**136.90**	**27**		**PKiKP**	**00 33 06.6**	**-0.2**	
WRA	**Warramunga Arr**	**137.03**	**217**	PKP	**PKPdf**	**00 33 07.1**	**+0.9**	
	comp=Z,3.5nm,0.9s,baz=146,slow=1.7,SNR=17							
WRA				pPKP	**pPKPdf**	**00 33 42.0**	**+1.4**	
	comp=Z,1.9nm,0.9s,baz=148,slow=1.8,SNR=4.1							
WRA				SKPbc	**SKPbc**	**00 36 28.6**	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=149,slow=2.9,SNR=5.0							
WRA	**Warramunga Arr**	**137.03**	**217**	PKPdf	**PKPdf**	**00 33 05.8**	**-0.5**	
AAK	**Ala-Archa**	**139.84**	**40**		**PKiKP**	**00 33 13.2**	**-0.1**	
MK31	**Makanchi Array**	**141.42**	**29**	PKPdf	**PKPdf**	**00 33 13.7**	**+0.2**	
MKAR	**Makanchi Array**	**141.42**	**29**	PKhKP	PKPpre	00 33 07.6		
	comp=Z,2.1nm,0.8s,baz=338,slow=2.9,SNR=16							
MKAR	**Makanchi Array**	**141.42**	**29**		PKPpre	00 33 07.2		
MKAR				PKPdf	**PKPdf**	**00 33 13.7**	**+0.2**	
NRN	**Naryn**	**141.44**	**40**		**PKPdf**	**00 33 12.3**	**-1.7**	
KSH	**Kashi**	**142.46**	**43**	PKP	**PKPdf**	**00 33 16.4**	**+0.7**	
KSH				PP	**PP**	**00 36 27.1**	**+3.2**	
KSH				PKS	**PKSdf**	**00 36 50.8**	**-0.8**	
KSH				SS	SS	00 54 51.9	+1.9	
KSH				LR	LR			
	comp=Z,390nm,9.5s							
KSH				LR	LR			
	comp=Z,260nm,12.3s							
KSH				LR	LR			
	comp=Z,160nm,10.9s							
USRK	**Ussuriysk Ar.**	**144.49**	**330**	PKP	**PKPdf**	**00 33 18.5**	**-0.4**	
	comp=Z,15nm,0.8s,baz=58,slow=2.0,SNR=24							
USRK	**Ussuriysk Ar.**	**144.49**	**330**		PKPbc	00 33 18.1	+0.4	
MAJO	**Matsushiro**	**145.73**	**315**		**PKPab**	**00 33 22.5**	**+0.1**	
MAT	**Matsushiro**	**145.73**	**315**	PKP	**PKPab**	**00 33 22.2**	**-0.2**	
MJAR	**Matsushiro Arr**	**145.73**	**315**	PKPbc	**PKPbc**	**00 33 22.1**	**+0.2**	
	comp=Z,49nm,0.9s,baz=88,slow=0.5,SNR=56							
MJAR				pPKPbc	pPKPab	00 33 56.7	+0.8	
	comp=Z,13nm,1.1s,baz=252,slow=2.0,SNR=2.2							
MJAR	**Matsushiro Arr**	**145.73**	**315**		**PKPab**	**00 33 22.4**	**-0.1**	
WMQ	**Urumqi**	**146.15**	**27**	*e*PKPbc	**PKPdf**	**00 33 22.3**	**+0.4**	
POO	**Poona**	**146.77**	**79**	*ex*	**PKiKP**	**00 33 32.5**	**+4.4**	
ULN	**Ulaanbaatar**	**147.05**	**2**		**PKPbc**	**00 33 25.6**	**+0.1**	
SONM	**Songino Array**	**147.05**	**2**	PKP	**PKPbc**	**00 33 24.8**	**-0.8**	
	comp=Z,15nm,0.9s,baz=327,slow=1.0,SNR=70							
SONM				PKPbc	**PKPbc**	**00 33 26.8**	**+1.2**	
	comp=Z,15nm,0.9s,baz=316,slow=1.5,SNR=70							
SONM				pPKPbc	**pPKPab**	**00 34 01.1**	**+0.3**	
	comp=Z,5.5nm,0.9s,baz=338,slow=0.7,SNR=3.2							
HYB	**Hyderabad**	**151.26**	**81**	*i* PKP	**PKiKP**	**00 33 37.5**	**+0.1**	
KS19	**Wonju Array Si**	**151.55**	**326**		**PKPbc**	**00 33 38.5**	**+1.5**	
KSRS	**Korea Array**	**151.55**	**326**	PKP	**PKPdf**	**00 33 32.1**	**+1.5**	
	comp=Z,2.1nm,0.8s,baz=332,slow=1.0,SNR=8.1							
KSRS				PKPbc	**PKPbc**	**00 33 38.1**	**+1.2**	
	comp=Z,20nm,0.9s,baz=30,slow=1.7,SNR=41							
KSRS				PKPab	**PKPab**	**00 33 46.3**	**+0.5**	
	comp=Z,3.4nm,0.8s,baz=55,slow=5.0,SNR=4.5							
KSAR	**Wonju Array Be**	**151.58**	**326**		**PKPdf**	**00 33 31.8**	**+1.1**	
KSAR				PKPbc	**PKPbc**	**00 33 37.7**	**+0.7**	
HHC	**Hu-ho-hao-te**	**153.93**	**354**	*eP*	**PKiKP**	**00 33 42.3**	**0.0**	
HHC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GTA	**Gaotai**	**154.39**	**15**	PKPbc	**PKPdf**	**00 33 36.3**	**+1.4**	
GTA				pPKP	PKPab	00 34 02.6	+4.8	
GTA				sPKP		00 34 13.6		
LZH	**Lanzhou**	**158.45**	**10**	||PKP	**PKPdf**	**00 33 40.3**	**-0.1**	
LZH				pPKP	pPKPdf	00 34 10.5	-4.3	
LZH				PKPab	**PKPab**	**00 34 17.6**	**+2.2**	
LZH				sPKP		00 34 22.0		
LZH				LR	LR			
	comp=Z,85nm,17.9s							
LZH				LR	LR			
	comp=Z,79nm,18.2s							
LZH				LR	LR			
	comp=Z,100nm,20.1s							
NJ2	**Nanjing**	**160.37**	**333**	*e*PKP	**PKPdf**	**00 33 42.3**	**-0.1**	
XAN	**Xi'an**	**160.87**	**359**	PKP	**PKPdf**	**00 33 44.6**	**+1.6**	
WHN	**Wuhan**	**163.42**	**342**	PKPbc	PKPbc	00 33 55.3		
CMAR	**Chiang Mai Arr**	**170.28**	**67**	PKP	**PKPdf**	**00 33 52.0**	**+0.9**	
	comp=Z,0.9nm,0.4s,baz=275,slow=2.1,SNR=7.0							
CMAR				PKPab	**PKPab**	**00 35 07.2**	**-0.8**	
	comp=Z,1.2nm,0.4s,baz=283,slow=5.7,SNR=4.8							

*SJA **15** 00:14:59.8±0.6, 25°.16S×72°.03W, h35km, ML4.3, MW3.5*
*ISCJB **15** 00:15:19.3±1.3, 26°.30S±0°.05×71°.0W±0°.1, h31km, Error ellipse: s-maj=18.8km s-min=6.4km az=11.7*
*GUC **15** 00:15:19.2±0.4, 26°.34S×70°.84W, h50km±4km, ML3.8*
ISC 15 00:15:19.1±2.0, 26°.23S±0°.05×71°.1W±0°.1, h31km, n14, σ1§81/16, 2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**1.55**	**152**	||P	**Pn**	**00 15 43.0**	**-1.6**
GO03					*i* S	**Sn**	**00 16 00.6**	**-3.2**
GO03					IAML		00 16 03.5	
	comp=E,3μm,0.4s							
PB14	**IPOC Station P**	**1.70**	**21**	*i* P		**Pn**	**00 15 47.0**	**+0.1**
GO02	**Mina Guanaco**	**1.70**	**52**	||P	**Pn**	**00 15 46.8**	**-0.2**
GO02					*i* S	**Sn**	**00 16 08.1**	**+0.3**
GO02					IAML		00 16 16.0	
	comp=E,3μm,0.8s							
VCA	**Vinchina**	**3.57**	**135**	*i* P		**Pn**	**00 16 15.4**	**+3.0**
VCA					IAML		00 17 13.4	
	comp=Z,144nm,0.6s							
GO04	**Tololo Observa**	**3.94**	**177**	*e*P		**Pn**	**00 16 17.4**	**-0.3**
ACDV	**Cuesta del Vie**	**4.29**	**157**	*i* P		**Pn**	**00 16 25.0**	**+2.6**
ACCO	**Cerro Coronel**	**4.69**	**158**	*i* P		**Pn**	**00 16 30.2**	**+2.1**
CYA	**Choya**	**5.18**	**116**	*i* P		**Pn**	**00 16 35.1**	**+0.6**
CYA					IAML		00 17 40.9	
	comp=Z,53nm,0.8s							
RTLS	**Leoncito**	**5.77**	**165**	*i* P		**Pn**	**00 16 44.9**	**+2.1**
RTLS					IAML		00 17 51.0	
	comp=Z,85nm,0.8s							
CFA	**Coronel Fontan**	**5.91**	**156**	*i* P		**Pn**	**00 16 45.5**	**+1.0**
ASAL	**Salagasta**	**6.64**	**163**	*i* P		**Pn**	**00 16 55.6**	**+1.1**
ACAN	**Cantantal**	**6.92**	**152**	*i* P		**Pn**	**00 16 59.8**	**+1.5**
TCA	**Tanti**	**7.63**	**133**	*i* P		**Pn**	**00 17 08.2**	**+0.1**
TCA					IAML		00 17 55.0	
	comp=Z,15nm,0.5s							
MRA	**San Martin**	**7.74**	**144**	*i* P		**Pn**	**00 17 09.5**	**-0.3**
MRA					IAML		00 18 05.7	
	comp=Z,22nm,0.6s							

*ANF **15** 00:17:30.1±0.8, 35°.64N×97°.42W, ML3.8/7, Error ellipse: s-maj=14.4km s-min=2.7km az=159.0*
*ISCJB **15** 00:17:31.3±0.4, 35°.60N±0°.03×97°.40W±0°.02, h11km±2km, Error ellipse: s-maj=4.5km s-min=3.2km az=156.9*
*NEIC **15** 00:17:32.2±0.9, 35°.59N±0°.02×97°.38W±0°.03, h5km±1km, mb_Lg3.0/43*
ISC 15 00:17:32.0±0.9, 35°.57N±0°.03×97°.37W±0°.03, h5km±7km, n58, σ0§85/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.05**	**287**	Pg		**Pg**	**00 17 33.2**	**0.0**
ADOK	**Arcadia Dam**	**0.08**	**359**	Pg		**Pg**	**00 17 33.8**	**0.0**
ADOK				Sg		**Sg**	**00 17 34.9**	**-0.2**
ADOK						Pg	00 17 35.2	+1.4
OK005	**Luther M Schoo**	**0.17**	**59**			Pg	00 17 27.7	-7.7
OK005				Pg		Pg	00 17 35.7	+0.4
OK005						**Sg**	**00 17 38.5**	**+0.9**
OKCSW	**OKLAHOMA CITY**	**0.17**	**199**	Pg		**Pg**	**00 17 36.0**	**+0.6**
OKCSW				Sg		**Sg**	**00 17 38.4**	**+0.8**
OKCSW						Pg	00 17 39.1	+3.7
FNO	**Franklin**	**0.31**	**185**	Pg		**Pg**	**00 17 38.6**	**+0.6**
FNO						**Pb**	**00 17 38.8**	**-1.3**
FNO				Sg		**Sg**	**00 17 43.5**	**+1.4**
FNO						**Sb**	**00 17 43.7**	**-1.8**
W35A	**Tecumseh**	**0.58**	**136**	Pg		**Pg**	**00 17 43.5**	**+0.4**
W35A						**Pb**	**00 17 43.6**	**-1.0**
W35A				Sg		**Sg**	**00 17 51.2**	**+0.6**
W35A						**Sb**	**00 17 51.9**	**-1.3**
X34A	**Smith Ranch, M**	**1.04**	**202**			**Pb**	**00 17 52.1**	**-0.3**
X34A				Sg		**Sb**	**00 18 06.4**	**0.0**
TUL1	**Leonard**	**1.33**	**75**	P		**Pn**	**00 17 55.6**	**-1.6**
	baz=256							
TUL1				S		**Sn**	**00 18 14.2**	**-1.1**
	baz=256							
TUL1	**Leonard**	**1.33**	**75**			**Pn**	**00 17 55.6**	**-1.6**
TUL1						**Sg**	**00 18 15.6**	**+0.9**
WMOK	**Wichita Mounta**	**1.42**	**235**	P		**Pn**	**00 17 57.5**	**-1.1**
	baz=53							
WMOK				S		**Sn**	**00 18 17.0**	**-0.7**
	baz=53							
WMOK	**Wichita Mounta**	**1.42**	**235**			**Pn**	**00 17 57.5**	**-1.1**
WMOK						**Sn**	**00 18 16.6**	**-1.1**
U32A	**Winter Ranch,**	**1.55**	**302**	Pn		**Pg**	**00 18 03.7**	**+1.9**
HHAR	**Hobbs**	**2.87**	**75**			**Pn**	**00 18 18.3**	**-0.2**
W39A	**Magazine**	**2.95**	**96**	P		**Pn**	**00 18 19.5**	**-0.1**
	baz=279							
W39A				S		**Sn**	**00 18 56.1**	**+0.7**
	baz=279							
W39A	**Magazine**	**2.95**	**96**			**Pn**	**00 18 19.6**	**0.0**
MIAR	**Mount Ida**	**3.27**	**107**	P		**Pn**	**00 18 24.8**	**+0.8**
	baz=290							
MIAR				S		**Sn**	**00 19 04.4**	**+1.1**
	baz=290							
MIAR	**Mount Ida**	**3.27**	**107**			**Pn**	**00 18 24.6**	**+0.6**
ABTX	**Abilene, Hawle**	**3.49**	**213**	Pn		**Pn**	**00 18 25.5**	**-1.6**
ABTX				IAmb_Lg			00 19 28.9	
	comp=Z,29nm,0.9s							
WHTX	**Lake Whitney,**	**3.57**	**181**			**Pn**	**00 18 28.4**	**+0.4**
KSU1	**Kansas State U**	**3.58**	**10**	IAmb_Lg			00 19 30.8	
	comp=Z,29nm,0.8s							
AMTX	**Amarillo**	**3.59**	**260**			**Pn**	**00 18 27.7**	**-0.8**
U40A	**Yellville**	**3.75**	**77**	P		**Pn**	**00 18 30.3**	**-0.2**
	baz=260							
CBKS	**Cedar Bluff**	**3.75**	**330**			**Pn**	**00 18 30.0**	**-0.6**
X40A	**Basin Creek Fa**	**3.87**	**105**	P		**Pn**	**00 18 33.4**	**+1.2**
	baz=288							
X40A	**Basin Creek Fa**	**3.87**	**105**			**Pn**	**00 18 33.3**	**+1.1**
WLAR	**White Oak Lake**	**3.98**	**117**	Pn		**Pn**	**00 18 34.1**	**+0.4**
WLAR				IAmb_Lg			00 19 47.9	
	comp=Z,40nm,0.9s							
WHAR	**Wooly Hollow**	**4.16**	**92**			**Pn**	**00 18 36.1**	**-0.1**
WHAR				IAmb_Lg			00 19 52.9	
	comp=Z,34nm,0.9s							
UALR	**University of**	**4.19**	**99**	Pn		**Pn**	**00 18 37.3**	**+0.7**
UALR				IAmb_Lg			00 19 45.8	
	comp=Z,34nm,0.7s							
W41B	**Gary Mavity, V**	**4.20**	**94**	P		**Pn**	**00 18 36.8**	**0.0**
	baz=277							
W41B				S		**Sn**	**00 19 26.6**	**+0.3**
	baz=277							
W41B	**Gary Mavity, V**	**4.20**	**94**			**Pn**	**00 18 36.8**	**0.0**
FCAR	**Ozark Folk Cen**	**4.28**	**84**	Pn		**Pn**	**00 18 37.7**	**-0.1**
FCAR				IAmb_Lg			00 19 46.7	
	comp=Z,29nm,0.9s							
MGMO	**Mountain Grove**	**4.41**	**67**	Pn		**Pn**	**00 18 39.9**	**+0.3**
MGMO				IAmb_Lg			00 19 59.5	
	comp=Z,22nm,0.9s							
MSTX	**Muleshoe**	**4.72**	**252**	Pn		**Pn**	**00 18 44.4**	**+0.3**
435B	**Jarrell**	**4.78**	**182**	Pn		**Pn**	**00 18 44.9**	**+0.2**
CCAR	**Cane Creek**	**4.89**	**108**	Pn		**Pn**	**00 18 47.1**	**+0.8**
CCAR				IAmb_Lg			00 20 19.9	
	comp=Z,37nm,1.0s							
LCAR	**Lake Charles**	**5.08**	**83**	Pn		**Pn**	**00 18 48.6**	**-0.1**
KSCO	**Kaye Shedlock'**	**5.42**	**311**	Pn		**Pn**	**00 18 53.3**	**-0.4**
KSCO				IAmb_Lg			00 20 33.6	
	comp=Z,20nm,0.7s							
X43A	**Marvell**	**5.42**	**99**	Pn		**Pn**	**00 18 53.5**	**-0.1**
JCT	**Junction City**	**5.47**	**203**	Pn		**Pn**	**00 18 54.0**	**-0.2**
HBAR	**Harrisburg**	**5.47**	**88**	Pn		**Pn**	**00 18 55.4**	**+1.2**
CCM	**Cathedral Cave**	**5.50**	**61**	Pn		**Pn**	**00 18 55.0**	**+0.3**
PBMO	**Poplar Bluff**	**5.74**	**76**	IAmb_Lg			00 20 45.3	
	comp=Z,24nm,0.8s							
T25A	**Trinidad**	**5.89**	**287**	Pn		**Pn**	**00 19 01.0**	**+0.7**
FVM	**French Village**	**6.07**	**65**	IAmb_Lg			00 20 46.9	
	comp=Z,15nm,0.8s							
SLM	**Saint Louis**	**6.47**	**60**	IAmb_Lg			00 20 59.6	
	comp=Z,22nm,0.9s							
OGNE	**Ogallala**	**6.50**	**327**	IAmb_Lg			00 21 09.3	
	comp=Z,19nm,0.7s							
SDCO	**Great Sand Dun**	**6.89**	**291**			**Pn**	**00 19 14.6**	**+0.7**
SIUC	**Southern Illin**	**6.89**	**70**	IAmb_Lg			00 21 12.0	
	comp=Z,31nm,0.8s							
Q24A	**Divide**	**7.07**	**301**	IAmb_Lg			00 21 24.1	
	comp=Z,14nm,0.7s							
SCIA	**State Center**	**7.11**	**26**	IAmb_Lg			00 21 31.9	
	comp=Z,33nm,0.7s							
833A	**Chaparral WMA,**	**7.42**	**194**	IAmb_Lg			00 21 37.2	
	comp=Z,19nm,0.9s							
BNM	**Barren Site**	**7.74**	**262**	Pn		**Pn**	**00 19 25.9**	**+0.3**
ISCO	**Idaho Springs**	**7.78**	**305**	Pn		**Pn**	**00 19 26.5**	**+0.3**
N23A	**Red Feather La**	**8.59**	**311**	IAmb_Lg			00 22 15.4	
	comp=Z,14nm,0.8s							
SUSD	**Miller**	**8.95**	**353**	IAmb_Lg			00 22 30.9	
	comp=Z,24nm,0.8s							
JFWS	**Jewell Farm**	**9.18**	**35**	IAmb_Lg			00 22 45.7	
	comp=Z,19nm,0.8s							
T49A	**Edmonton**	**9.67**	**77**	IAmb_Lg			00 23 03.0	
	comp=Z,20nm,1.0s							
RWWY	**Rawlins**	**9.83**	**311**			**Pn**	**00 19 54.5**	**+0.3**

*IDC **15** 00:20:33.3±11.0, 21°.10S×178°.48W, h554km±106km, mb3.2/6, mb1 3.3/6, mb1mx3.0/24, mbtmp4.1/6, Error ellipse: s-maj=89.6km s-min=41.7km az=122.0*
*ISCJB **15** 00:20:34.5±2.5, 21°.1S±0°.5×178°.6W±0°.4, h579km, mb3.8/6, Error ellipse: s-maj=73.4km s-min=27.4km az=142.2*
ISC 15 00:20:34.9±1.8, 21°.1S±0°.4×178°.5W±0°.3, h579km, n9, σ1§05/10, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.99**	**265**	P		**P**	**00 26 23.1**	**-0.3**
	2.1nm,0.4s,baz=80,slow=11,SNR=4.1							
STKA	**Stephens Creek**	**37.12**	**245**	P		**P**	**00 26 57.9**	**+0.4**
	2.1nm,0.9s,baz=111,slow=8.3,SNR=2.9							
JAY	**Jayapura**	**43.82**	**289**	P		**P**	**00 27 51.4**	**+0.4**
	5.2nm,0.6s,baz=112,slow=5.1,SNR=4.3							
ASAR	**Alice Springs**	**43.95**	**257**	P		**P**	**00 27 51.8**	**-0.1**
	2.4nm,0.5s,baz=97,slow=7.8,SNR=29							
ASAR				PcP		**PcP**	**00 29 26.4**	**+1.5**
	0.4nm,0.6s,baz=101,slow=4.1,SNR=4.3							
WRA	**Warramunga Arr**	**44.08**	**263**	P		**P**	**00 27 52.2**	**-0.7**
	0.7nm,0.3s,baz=97,slow=7.3,SNR=45							
ILAR	**Eielson Array**	**89.01**	**13**	P		**P**	**00 32 28.9**	**+0.7**
	0.3nm,0.9s,baz=218,slow=5.4,SNR=3.0							
AKASG	**Malin Array Be**	**143.33**	**330**	PKP		**PKPdf**	**00 39 02.6**	**-1.2**
	0.8nm,0.3s,baz=43,slow=4.2,SNR=7.8							
BRTR	**Keskin Array B**	**146.92**	**311**	PKPbc		**PKiKP**	**00 39 13.7**	**-1.6**
	0.4nm,0.6s,baz=118,slow=3.7,SNR=3.4							
GERES	**GERESS Array B**	**150.67**	**343**	PKPbc		**PKiKP**	**00 39 22.9**	**+0.2**
	0.3nm,0.6s,baz=15,slow=4.1,SNR=3.2							

*ISK **15** 00:27:35.3, 39°.68N×25°.61E, h8km, ML2.7/15*
*ATH **15** 00:27:35.3, 39°.66N×25°.56E, h29km±1km, ML2.5/3, Error ellipse: s-maj=1.9km s-min=1.1km az=235.0*
*ISCJB **15** 00:27:36.1±0.4, 39°.67N±0°.02×25°.58E±0°.03, h17km±5km, Error ellipse: s-maj=4.2km s-min=3.4km az=36.0*
*THE **15** 00:27:36.1, 39°.62N×25°.49E, h13km, ML2.4/5, Error ellipse: s-maj=1.2km s-min=0.4km az=53.0*
*DDA **15** 00:27:36.5, 39°.70N×25°.71E, h26km±1km, ML2.7*
ISC 15 00:27:35.6±0.9, 39°.68N±0°.02×25°.60E±0°.02, h17km±7km, n51, σ0§57/65, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.38**	**65**	*i* P		**Pb**	**00 27 44.0**	**0.0**
BOZC				*i* S		**Sb**	**00 27 49.4**	**-0.3**
BOZC				IAML_P				
	comp=Z,5μm,0.2s							
BOZC	**Bozcaada**	**0.38**	**65**	PG		**Pg**	**00 27 43.4**	**-0.1**
BOZC				SG		**Sg**	**00 27 49.0**	**+0.1**
LIA	**Limnos Island**	**0.39**	**304**	P		**Pg**	**00 27 43.5**	**-0.1**
LIA				S		**Sg**	**00 27 48.8**	**-0.2**
	comp=Z,248nm,0.3s							
LIA	**Limnos Island**	**0.39**	**304**	P		**Pg**	**00 27 43.5**	**-0.1**
LIA				S		**Sg**	**00 27 49.1**	**+0.2**
LIA				AML	AML		00 27 52.3	
	comp=E,443μm,0.3s							
LIA				AML	AML		00 27 55.0	
	comp=N,384μm,0.3s							
GPNR	**Gulpinar-Canak**	**0.47**	**118**	PG		**Pg**	**00 27 44.7**	**-0.4**
EFSA	**Agios Efstrati**	**0.49**	**254**	P		**Pb**	**00 27 46.0**	**+0.2**
EFSA				S		**Sg**	**00 27 52.6**	**+0.5**
SIGR	**SIGRI**	**0.51**	**157**	P		**Pg**	**00 27 45.4**	**-0.4**
SIGR				S		**Sb**	**00 27 53.1**	**-0.1**
	comp=N,1μm,0.3s							
SIGR	**SIGRI**	**0.51**	**157**	P		**Pg**	**00 27 45.5**	**-0.4**
SIGR				S		**Sb**	**00 27 53.1**	**-0.1**
SIGR				AML	AML		00 27 53.6	
	comp=E,1992μm,0.2s							
SIGR				AML	AML		00 27 53.8	
	comp=N,2262μm,0.4s							
SIGR	**SIGRI**	**0.51**	**157**	PG		**Pg**	**00 27 45.7**	**-0.1**
SIGR				SG		**Sb**	**00 27 53.0**	**-0.1**
EZN	**Ezine**	**0.58**	**75**	P		**Pn**	**00 27 49.0**	**0.0**
EZN	**Ezine**	**0.58**	**75**	PG		**Pg**	**00 27 46.8**	**-0.3**
EZN				SG		**Sg**	**00 27 54.9**	**+0.1**
PRK	**Paraskevi**	**0.68**	**130**	P		**Pn**	**00 27 49.9**	**-0.5**
PRK				S		**Sn**	**00 28 00.1**	**-0.5**
	comp=N,612nm,0.4s							
PRK	**Paraskevi**	**0.68**	**130**	P		**Pn**	**00 27 49.8**	**-0.7**
PRK				S		**

162nm,0.8s,1μm
SOEI Soe 6.23 243 Pn 00 46 13.3 +0.5
SOEI Sn 00 47 22.9 -0.4
RKPI Ransiki, Papua 6.88 39 P **Pn 00 46 23.9 +2.4**
BATI Baumata 6.96 242 P **Pn 00 46 22.8 +0.1**
17nm,0.3s,baz=20,slow=1.0,SNR=9.1
BATI S **Sn 00 47 36.7 -4.0**
19nm,0.3s,baz=288,slow=23,SNR=14
BATI Baumata 6.96 242 P **Pn 00 46 23.1 +0.5**
43nm,0.9s
KNRA Kununurra 8.75 187 Pn 00 46 44.9 -1.5
WBSI Waikabubak, Su 10.73 255 P Pn 00 47 18.0 +5.2
FITZ Fitzroy Crossi 11.84 200 P **Pn 00 47 24.9 -2.3**
0.6nm,0.3s,baz=24,slow=9.8,SNR=38
FITZ S Sn 00 49 25.9 -12
2.4nm,0.3s,baz=157,slow=16,SNR=9.5
FITZ Fitzroy Crossi 11.84 200 Pn **Pn 00 47 26.3 -0.9**
PLAI Plampang 12.15 260 P **Pn 00 47 30.0 -1.3**
WRAB Tennant Creek 13.62 162 Pn 00 47 47.5 -2.6
WRA Warramunga Arr 13.62 162 P **Pn 00 47 47.2 -3.0**
1.6nm,0.3s,baz=345,slow=13,SNR=34
WRA S Sn 00 50 08.5 -13
2.4nm,0.3s,baz=334,slow=22,SNR=9.0
WB2 Warramunga Arr 13.63 162 Pn 00 47 47.4 -2.9
COEN Coen 14.80 119 P **P 00 48 06.7 -0.4**
JAGI Jajag, Banyuwa 15.68 263 Pn **Pn 00 48 14.5 -1.4**
AS31 Alice Springs 17.07 167 P **Pn 00 48 33.4 +0.7**
AS31 IAmb IAmb 00 48 39.8
comp=Z,3.0nm,0.4s
ASAR Alice Springs 17.07 167 P **Pn 00 48 33.7 +0.9**
comp=Z,1.4nm,0.3s,baz=342,slow=9.0,SNR=53
ASAR S S 00 51 30.8 -12
comp=Z,0.3nm,0.3s,baz=324,slow=16,SNR=4.1
ASAR Alice Springs 17.07 167 P **Pn 00 48 33.2 +0.4**
PSA00 Pilbara Seismi 17.49 213 P **P 00 48 37.4 +0.7**
PSA00 Pilbara Seismi 17.49 213 P **Pn 00 48 37.6 -0.1**
PSA00 IAmb IAmb 00 48 50.5
comp=Z,16nm,1.1s
SBUM Sibu 19.96 297 P **P 00 49 04.2 +0.5**
SBUM IAmb IAmb 00 49 08.1
comp=Z,4.9nm,0.6s
CTA Charters Tower 20.55 131 P Pn 00 49 13.2 -0.7
comp=Z,3.5nm,0.7s,baz=329,slow=13,SNR=4.0
CTAO Charters Tower 20.55 131 P **P 00 49 11.0 +1.0**
CTAO IAmb IAmb 00 49 18.6
comp=Z,4.6nm,0.9s
STKA Stephens Creek 27.10 158 P **P 00 50 13.8 +1.9**
comp=Z,2.2nm,0.3s,baz=339,slow=9.2,SNR=6.2
CMAR Chiang Mai Arr 39.62 310 P **P 00 52 01.7 +1.5**
comp=Z,1.0nm,0.3s,baz=139,slow=9.4,SNR=4.6
LZH Lanzhou 49.31 332 ||P **P 00 53 19.0 +2.0**
LZH pP pP 00 53 49.3 -0.8
LZH sP sP 00 54 04.5 -1.8
LZH PP **PP 00 55 16.3 +3.8**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,43nm,6.7s
SONM Songino Array 58.36 342 P **P 00 54 25.1 +2.6**
comp=Z,0.3nm,0.6s,baz=133,slow=7.8,SNR=2.5
WMQ Urumqi 63.29 327 *e*P **P 00 54 58.0 +2.1**
MKAR Makanchi Array 68.12 327 P **P 00 55 29.4 +2.7**
comp=Z,2.3nm,0.7s,baz=123,slow=7.8,SNR=21
ZALV Zalesovo Beam 71.49 334 P **P 00 55 48.4 +1.2**
comp=Z,0.9nm,0.6s,baz=103,slow=4.8,SNR=4.1
ZALV Zalesovo Beam 71.49 334 P **P 00 55 47.1 0.0**
XMAS Kiritimati 73.06 86 P **P 00 55 56.0 -1.3**
KKAR Karatay Array 73.23 319 P **P 00 55 57.0 -0.7**
SOCY Socotra 77.81 284 P **P 00 56 23.6 -0.9**
SOCY IAmb IAmb 00 56 40.9
comp=Z,6.5nm,1.1s
NIKH Nikolski High 78.86 33 P **P 00 56 27.9 -1.4**
ABKAR Akbulak array 82.40 322 P **P 00 56 47.5 -0.8**
BPAW Bear Paw Mtn. 91.47 26 P **P 00 57 31.2 -0.8**
DOT Dot Lake 94.41 27 P **P 00 57 43.7 -1.9**
MCARA McCarthy VSAT 94.64 29 P **P 00 57 44.7 -2.0**

BJI ***15*** *01:09:01.9±0.0, 12°.60N×142°.75E, h161km, mb5.2/65, mB4.9/45*
DJA ***15*** *01:09:03.0±0.4, 13°N±3°×14°2E±°, h134km±4km, M4.9/63, mB5.5/28, mb5.2/63, Mw(mB)4.9/28*
MOS ***15*** *01:09:04.1±0.8, 12°.69N×142°.44E, h170km, mb5.1/30, Error ellipse: s-maj=11.5km s-min=5.8km az=108.2*
IDC ***15*** *01:09:04.9±0.5, 12°.67N×142°.54E, h160km±4km, mb4.6/31, mb1 4.7/33, mb1mx4.7/38, mbtmp5.1/33, MS3.6/6, Ms1 3.6/6, ms1mx3.3/26, Error ellipse: s-maj=8.7km s-min=6.8km az=90.0*
GCMT ***15*** *01:09:04.9±0.3, 12°.63N±0°.02×142°.55E±0°.02, h164km±3km, MW5.0/99, Moment Tensor Solution. s30,c33; s99,c128; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.97±.12; Mθθ1.16±.13; Mφφ1.81±.14; Mrθ1.15±.10; Mφφ-1.65±.13; Mφr-1.87±.12; Best double couple: M=3.77400×10^16 NP1:φs325.00000°, δ63.00000°, λ-85.00000°. NP2:φs135.00000°, δ28.00000°, λ-99.00000°. Principal axes: T 3.8610, Plg18.0000°, Azm52.0000°; N -0.1750, Plg4.0000°, Azm143.0000°; P -3.6860, Plg72.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***15*** *01:09:06.0±1.5, 12°.71N±0°.08×142°.45E±0°.10, h168km±4km, mb4.9/178*
ISCJB ***15*** *01:09:05.0±0.5, 12°.68N±0°.02×142°.51E±0°.03, h175km±5km, mb5.1/108, Error ellipse: s-maj=5.3km s-min=3.7km az=16.9*
ISC 15 01:09:05.4±0.5,**12°.68N**±0°.04×**142°.53E**±0°.05,**h167**km±4km, **h167**km:**pP-P,n393,**σ**1932**/384,**mb5.0**/176,**8C-17D,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.45**	**68**	P	**Pn**	**01 09 47.2**	**+0.4**
	394nm,0.3s,baz=208,slow=3.4,SNR=92						
GUMO				S	**Sn**	**01 10 17.6**	**-1.2**
	984nm,0.3s,baz=242,slow=23,SNR=30						
GUMO				LR	LR	01 10 42.0	
	comp=Z,3μm,18.2s,baz=192,slow=40						
GUMO	**Guam**	**2.45**	**68**		**Pn**	**01 09 47.0**	**+0.2**
ANA2	**Anatahan**	**4.77**	**40**		**Pn**	**01 10 17.6**	**+1.4**
SARN	**Sarigan**	**5.09**	**38**		**Pn**	**01 10 21.9**	**+1.6**
JCJ	**Chichijima**	**14.35**	**359**	P	**Pn**	**01 12 21.5**	**+0.5**
	22nm,0.3s,baz=187,slow=10,SNR=12						
JCJ				LR	LR	01 16 22.5	
	comp=Z,270nm,19.1s,baz=106,slow=30						
SMPI	**Sarmi**	**15.06**	**195**	P	**P**	**01 12 31.6**	**+0.4**
	98nm,1.5s,2μm						
JAY	**Jayapura**	**15.20**	**187**	P	**P**	**01 12 35.3**	**+2.4**
	1.4nm,0.3s,baz=336,slow=5.7,SNR=22						
JAY	**Jayapura**	**15.20**	**187**	P	**P**	**01 12 34.4**	**+1.5**
MANU	**Manus Island**	**15.39**	**161**	P	**P**	**01 12 36.1**	**+1.2**
MANU				IAmb	IAmb	01 12 38.6	
	comp=Z,63nm,0.9s						
BUTP	**Butuan**	**17.01**	**259**	*e*P	**P**	**01 12 47.5**	**-5.4**
SWI	**Sorong**	**17.49**	**221**	P	**Pn**	**01 12 59.3**	**-0.1**
	comp=Z,80nm,0.9s,comp=Z,1μm						
SIJI	**Sorong**	**17.49**	**221**	P	**Pn**	**01 13 00.3**	**+0.8**
	comp=Z,4.3nm,0.3s,baz=38,slow=12,SNR=6.1						
DDMP	**Don Marcelino,**	**17.82**	**250**	*e*P	**P**	**01 13 02.4**	**+0.6**
BUKP	**Musuan**	**17.83**	**256**	*e*P	**P**	**01 13 02.5**	**+0.6**
KCP	**Kidapawan**	**18.08**	**253**	↑*e*P	**P**	**01 13 04.5**	**-0.1**
FAKI	**Fak Fak**	**18.56**	**214**	P	**Pn**	**01 13 11.1**	**-0.8**
	comp=Z,384nm,0.9s,comp=Z,3μm						
FAKI	**Fak Fak**	**18.56**	**214**	P	**Pn**	**01 13 10.9**	**-1.0**
TNTI	**Ternate**	**19.13**	**233**	P	**Pn**	**01 13 19.2**	**+0.6**
TNTI	**Ternate**	**19.13**	**233**	P	**P**	**01 13 13.4**	**-2.5**
TNTI				IAmb	IAmb	01 13 36.8	
	comp=Z,49nm,0.9s						
KRVT	**Keravat (AS076**	**19.33**	**150**	P	**Pn**	**01 13 20.2**	**-0.8**
	comp=Z,7.5nm,0.3s,baz=142,slow=3.1,SNR=31						
RCP	**Roxas**	**19.38**	**269**	||*e*P	**P**	**01 13 19.1**	**+0.5**
JOW	**Kunigami**	**19.43**	**319**	P	**Pn**	**01 13 20.9**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=155,slow=12,SNR=24						
JOW	**Kunigami**	**19.43**	**319**	P	**P**	**01 13 19.5**	**+0.5**
JOW				IAmb	IAmb	01 13 24.2	
	comp=Z,61nm,0.7s						
PAGZ	**Pagadian**	**19.44**	**258**	*e*P	**P**	**01 13 20.0**	**+0.7**
MSAI	**Masohi**	**20.88**	**221**	P	**P**	**01 13 35.5**	**+0.8**
	comp=Z,74nm,0.9s,comp=Z,731nm						
TGY	**Tagaytay City**	**21.06**	**276**	P	**P**	**01 13 37.8**	**+1.1**
	comp=Z,274nm,0.5s,baz=316,slow=6.0,SNR=15						
AAI	**Ambon**	**21.61**	**222**	P	**P**	**01 13 41.7**	**-0.8**
	comp=Z,190nm,0.9s,comp=Z,2μm						
YOJ	**Yonaguni jima**	**21.87**	**305**	P	**P**	**01 13 44.5**	**-0.6**
SANI	**Sanana**	**22.00**	**229**	P	**P**	**01 13 42.4**	**-4.0**
	comp=Z,28nm,0.8s						
PMG	**Port Moresby**	**22.41**	**168**	P	**P**	**01 13 50.9**	**+0.4**
	comp=Z,88nm,0.7s,baz=9.4,slow=6.1,SNR=25						
PMG	**Port Moresby**	**22.41**	**168**	P	**P**	**01 13 50.3**	**-0.1**
TWG	**Pinlang**	**22.76**	**299**	P	**P**	**01 13 52.8**	**-0.8**
YULB	**Yu-li**	**22.80**	**301**	P	**P**	**01 13 53.7**	**-0.3**
YULB				IAmb	IAmb	01 13 55.8	
	comp=Z,52nm,0.7s						
NACB	**Ninganchiao**	**22.89**	**303**	P	**P**	**01 13 54.4**	**-0.4**
NACB				IAmb	IAmb	01 14 01.0	
	comp=Z,52nm,0.7s						
JNU	**Nakatsue**	**22.97**	**334**	P	**P**	**01 13 55.7**	**+0.2**
	comp=Z,58nm,0.7s,baz=181,slow=2.1,SNR=29						
JNU	**Nakatsue**	**22.97**	**334**	P	**P**	**01 13 55.9**	**+0.4**
JNU				IAmb	IAmb	01 13 58.0	
	comp=Z,69nm,0.8s						
SSLB	**Suanglung**	**23.25**	**301**	P	**P**	**01 13 58.2**	**+0.1**
YHNB	**Yeheng**	**23.28**	**304**	P	**P**	**01 13 58.2**	**-0.3**
TPUB	**Ta-pu**	**23.32**	**300**	P	**P**	**01 13 58.6**	**-0.2**
TPUB				IAmb	IAmb	01 14 03.1	
	comp=Z,61nm,0.9s						
SAUI	**Saumlaki**	**23.36**	**209**	P	**P**	**01 13 57.6**	**-1.5**
	comp=Z,303nm,0.9s						
SAUI	**Saumlaki**	**23.36**	**209**	P	**P**	**01 13 59.4**	**+0.3**
MRSI	**Marisa**	**23.74**	**241**	P	**P**	**01 14 01.6**	**-1.0**
	comp=Z,157nm,1.2s,comp=Z,2μm						
LUWI	**Luwuk**	**23.88**	**237**	P	**P**	**01 14 01.8**	**-2.1**
	comp=Z,307nm,1.2s						
LUWI	**Luwuk**	**23.88**	**237**	P	**P**	**01 14 03.2**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**23.96**	**73**	T	T	01 37 29.9	
	baz=266,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**23.98**	**73**	T	T	01 38 12.1	
	baz=266						
H11S2	**WAKE ISLAND Hy**	**23.98**	**73**	T	T	01 38 15.7	
	baz=266,SNR=9.9						
MJA0	**Matsu Arr-Jizo**	**24.08**	**352**	*e*P	**P**	**01 14 05.8**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MJAR	**Matsushiro Arr**	**24.08**	**351**	P	**P**	**01 14 04.3**	**-1.2**
	comp=Z,6.4nm,0.6s,baz=162,slow=8.7,SNR=14						
MJAR				LR	LR	01 21 43.6	
	comp=Z,132nm,20.5s,baz=120,slow=32						
MJAR	**Matsushiro Arr**	**24.08**	**351**	P	**P**	**01 14 05.9**	**+0.4**
MAJO	**Matsushiro**	**24.08**	**351**	P	**P**	**01 14 06.2**	**+0.7**
MAT	**Matsushiro**	**24.08**	**351**	P	**P**	**01 14 03.9**	**-1.6**
H11N1	**WAKE ISLAND Hy**	**24.40**	**70**	T	T	01 38 16.3	
	baz=254,slow=74,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**24.41**	**70**	T	T	01 38 32.7	
	baz=254,slow=74,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**24.42**	**70**	T	T	01 37 44.7	
	baz=254,SNR=6.8						
APSI	**Ampana**	**24.73**	**238**	P	**P**	**01 14 12.6**	**+1.0**
MPSI	**Mapaga**	**25.57**	**243**	P	**P**	**01 14 18.6**	**-0.6**
COEN	**Coen**	**26.47**	**179**	P	**P**	**01 14 27.8**	**+0.6**
COEN				IAmb	IAmb	01 14 28.8	
	comp=Z,27nm,0.8s						
KKM	**Kota Kinabalu**	**26.77**	**258**	P	**P**	**01 14 30.2**	**0.0**
KKM				IAmb	IAmb	01 14 33.5	
	comp=Z,25nm,1.1s						
TJN	**Taejon**	**27.26**	**333**	*c*eP	**P**	**01 14 34.4**	**+0.3**
TTSI	**Tana Toraja**	**27.44**	**237**	P	**P**	**01 14 33.7**	**-2.2**
	comp=Z,20nm,0.8s,comp=Z,736nm						
MTN	**Manton Dam**	**27.76**	**204**	IAmb	IAmb	01 14 39.1	
	comp=Z,18nm,0.7s						
KSRS	**Korea Array**	**27.92**	**335**	P	**P**	**01 14 39.6**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=155,slow=9.5,SNR=13						
KSRS				pP	**pP**	**01 15 14.1**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=143,slow=9.3,SNR=3.0						
KSAR	**Wonju Array Be**	**27.93**	**335**	P	**P**	**01 14 39.4**	**-0.6**
KS19	**Wonju Array Si**	**27.99**	**335**	P	**P**	**01 14 40.2**	**-0.4**
KS19				IAmb	IAmb	01 14 41.8	
	comp=Z,85nm,1.9s						
KAPI	**Kappang**	**28.66**	**234**	P	**P**	**01 14 45.9**	**-0.8**
	comp=Z,3.7nm,0.3s,baz=71,slow=6.3,SNR=3.5						
KAPI	**Kappang**	**28.66**	**234**	IAmb	IAmb	01 15 32.8	
	comp=Z,20nm,1.1s						
SOEI	**Soe**	**28.73**	**220**	P	**P**	**01 14 43.6**	**-4.0**
	comp=Z,33nm,0.8s						
SOEI	**Soe**	**28.73**	**220**	P	**P**	**01 14 46.9**	**-0.7**
SOEI				IAmb	IAmb	01 15 36.3	
	comp=Z,30nm,0.8s						
NJ2	**Nanjing**	**29.06**	**315**	*e*P	**P**	**01 14 51.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ERM	**Erimo**	**29.24**	**1**	P	**P**	**01 14 51.3**	**-0.2**
MMRI	**Maumere**	**29.24**	**225**	P	**P**	**01 14 51.1**	**-0.8**
BATI	**Baumata**	**29.46**	**220**	P	**P**	**01 14 52.6**	**-1.3**
	comp=Z,44nm,0.6s,baz=30,slow=0.9,SNR=7.6						
BATI	**Baumata**	**29.46**	**220**	P	**P**	**01 14 52.2**	**-1.7**
	comp=Z,23nm,1.0s						
KNRA	**Kununurra**	**31.29**	**206**	P	**P**	**01 15 10.3**	**+0.4**
WHN	**Wuhan**	**31.52**	**309**	||P	**P**	**01 15 12.6**	**+0.7**
WHN				pmax	pmax		
	comp=Z,76nm,0.7s						
SBUM	**Sibu**	**31.68**	**254**	P	**P**	**01 15 14.0**	**+0.6**
SBUM	**Sibu**	**31.68**	**254**	P	**P**	**01 15 13.8**	**+0.3**
SBUM				IAmb	IAmb	01 15 14.9	
	comp=Z,23nm,0.9s						
DL2	**Dalian**	**32.04**	**328**	P	**P**	**01 15 16.8**	**+0.6**
DL2				pmax	pmax		
	comp=Z,41nm,0.8s						
USA0B	**Ussuriysk Arra**	**32.69**	**346**	*d*P	**P**	**01 15 22.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**32.69**	**346**	IAmb	IAmb	01 15 23.6	
	comp=Z,29nm,0.7s						
USRK	**Ussuriysk Ar.**	**32.69**	**346**	P	**P**	**01 15 22.8**	**+0.9**
	comp=Z,24nm,0.6s,baz=178,slow=9.0,SNR=88						
USRK				pP	**pP**	**01 15 55.5**	**-0.3**
	comp=Z,8.3nm,0.8s,baz=103,slow=6.2,SNR=1.3						
TIA	**Tai'an**	**32.74**	**320**	P	**P**	**01 15 22.8**	**+0.4**
TIA				pmax	pmax		
	comp=Z,25nm,0.7s						
CTAO	**Charters Tower**	**32.76**	**174**	P	**P**	**01 15 24.0**	**+1.2**
WRAB	**Tennant Creek**	**33.39**	**194**	*de*P	**P**	**01 15 28.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,164nm,0.6s						
WRAB	**Tennant Creek**	**33.39**	**194**	P	**P**	**01 15 28.5**	**+0.3**
WRA	**Warramunga Arr**	**33.40**	**194**	P	**P**	**01 15 28.8**	**+0.4**
	comp=Z,136nm,0.5s,baz=10,slow=9.5,SNR=238						
WRA				PcP	**PcP**	**01 18 06.9**	**+0.9**
	comp=Z,6.6nm,0.7s,baz=4.4,slow=3.1,SNR=6.1						
WRA				S	**S**	**01 20 36.2**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=16,slow=16,SNR=5.0						
WRA				ScP	**ScP**	**01 21 35.4**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=4.6,slow=3.7,SNR=9.3						
WRA				PKiKP	**PKiKP**	**01 25 30.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=323,slow=1.4,SNR=7.0						
WRA	**Warramunga Arr**	**33.40**	**194**		**ScP**	**01 21 35.8**	**+0.8**
WRA	**Warramunga Arr**	**33.40**	**194**	P	**P**	**01 15 28.0**	**-0.3**
KSM	**Kuching**	**33.81**	**253**	P	**P**	**01 15 32.0**	**+0.1**
KSM	**Kuching**	**33.81**	**253**	P	**P**	**01 15 31.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**34.83**	**209**	P	**P**	**01 15 40.5**	**-0.1**
FITZ				IAmb	IAmb	01 15 41.5	
	comp=Z,47nm,0.9s						
ENH	**Enshi**	**35.21**	**305**	P	**P**	**01 15 44.2**	**+0.4**
GMJI	**Gumukmas**	**35.62**	**236**	P	**P**	**01 15 44.2**	**-3.2**
BJT	**Baijiatuao**	**35.79**	**324**	P	**P**	**01 15 48.5**	**-0.1**
BJI	**Beijing**	**35.80**	**324**	P	**P**	**01 15 49.3**	**+0.6**
BJI				pmax	pmax		
	comp=Z,61nm,0.6s						
GYA	**Guiyang**	**36.33**	**298**	↑*i*P	**P**	**01 15 54.9**	**+1.3**
GYA				pP	pP	01 16 29.6	+1.7
GYA				sP	sP	01 16 47.9	+1.4
GYA				PP	**PnPn**	**01 17 24.8**	**+3.2**
GYA				S	**S**	**01 21 25.4**	**+3.0**
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
TIY	**Taiyuan**	**36.64**	**318**	*e*P	**P**	**01 15 57.1**	**+1.1**
TIY				S	**S**	**01 21 27.8**	**+1.1**
TIY				pmax	pmax		
	comp=Z,130nm,0.6s						
PWJI	**Pagerwojo**	**36.81**	**238**	P	**P**	**01 15 57.1**	**-0.5**
AS31	**Alice Springs**	**37.09**	**193**	P	**P**	**01 16 00.2**	**+0.4**
ASAR	**Alice Springs**	**37.09**	**193**	P	**P**	**01 16 00.2**	**+0.4**
	comp=Z,34nm,0.5s,baz=21,slow=12,SNR=462						
ASAR				PP	**PnPn**	**01 17 36.4**	**+5.7**
	comp=Z,12nm,1.2s,baz=16,slow=10,SNR=4.0						
ASAR				PcP	**PcP**	**01 18 18.4**	**+1.6**
	comp=Z,6.0nm,0.8s,baz=8.9,slow=3.0,SNR=7.4						
ASAR				S	**S**	**01 21 34.2**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=17,slow=20,SNR=7.8						
ASAR				ScP	**ScP**	**01 21 49.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=3.6,slow=5.2,SNR=5.2						
ASAR	**Alice Springs**	**37.09**	**193**	P	**P**	**01 15 59.7**	**-0.1**
XAN	**Xi'an**	**37.21**	**311**	P	**P**	**01 16 01.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,41nm,0.6s						
XAN	**Xi'an**	**37.21**	**311**	P	**P**	**01 16 00.2**	**-0.6**
KLR	**Kul'dur**	**37.52**	**348**	*d*P	**P**	**01 16 03.7**	**+0.6**
KLR				pmax	pmax		
	comp=Z,16nm,0.6s						
KLR	**Kul'dur**	**37.52**	**348**	P	**P**	**01 16 03.9**	**+0.8**
	comp=Z,22nm,0.6s,baz=168,slow=6.7,SNR=93						
SLVN	**Son La**	**37.84**	**288**	IAmb	IAmb	01 16 08.6	
	comp=Z,21nm,0.7s						
TPI	**Tanjungpandan**	**37.88**	**248**	P	**P**	**01 16 06.1**	**-0.5**
	comp=Z,116nm,0.9s,comp=Z,894nm						
NONG	**Nongkai**	**38.30**	**283**	P	**P**	**01 16 12.1**	**+2.0**
	comp=Z,0.6nm,2.4s,comp=Z,87nm						
EIDS	**Eidsvold**	**38.72**	**168**	P	**P**	**01 16 13.9**	**+0.4**
KPJI	**Karang Pucung**	**38.86**	**241**	P	**P**	**01 16 14.0**	**-0.8**
HHC	**Hu-ho-hao-te**	**39.02**	**322**	*e*P	**P**	**01 16 17.4**	**+1.4**
HHC				pP	pP	01 16 49.1	-1.8
HHC				sP	sP	01 17 09.3	-0.1
HHC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CHAI	**Chaiyaphum**	**39.38**	**280**	P	**P**	**01 16 20.0**	**+0.9**
	comp=Z,67μm,0.9s						
KMI	**Kunming**	**39.48**	**294**	P	**P**	**01 16 21.8**	**+1.7**
KMI				S	**S**	**01 22 10.9**	**+0.8**
KMI				pmax	pmax		
	comp=Z,39nm,1.1s						
KMI				pmax	pmax		
	comp=Z,110nm,3.2s						
KMI				LR	LR		
	comp=Z,250nm,23.5s						
KMI				LR	LR		
	comp=Z,210nm,21.4s						
KMI				LR	LR		
	comp=Z,110nm,16.5s						
LEM	**Lembang**	**39.74**	**243**	P	**P**	**01 16 21.6**	**-0.7**
	comp=Z,1μm,0.9s						
MYKOM	**Kota Tinggi**	**39.80**	**257**	P	**P**	**01 16 23.0**	**+0.4**
MYKOM	**Kota Tinggi**	**39.80**	**257**	P	**P**	**01 16 22.7**	**+0.1**
BTO	**Baotou**	**39.83**	**320**	*e*P	**P**	**01 16 24.3**	**+1.7**
CISI	**Cisompet, Garu**	**39.93**	**242**	P	**P**	**01 16 21.9**	**-1.8**
CD2	**Chengdu**	**40.06**	**303**	||P	**P**	**01 16 25.1**	**+0.5**
PBKT	**Sadao Pong**	**40.35**	**281**	P	**P**	**01 16 28.6**	**+1.5**
	comp=Z,25nm,0.9s						
PBKT	**Sadao Pong**	**40.35**	**281**	IAmb	IAmb	01 16 29.2	
	comp=Z,23nm,0.7s						
MBWA	**Marble Bar**	**40.40**	**214**	P	**P**	**01 16 27.0**	**-0.4**
MBWA				IAmb	IAmb	01 16 27.7	
	comp=Z,38nm,0.8s						
JRMM	**Jerantut**	**40.54**	**261**	P	**P**	**01 16 30.0**	**+1.3**
PSA00	**Pilbara Seismi**	**40.67**	**213**	P	**P**	**01 16 29.7**	**+0.1**
HIA	**Hailar**	**41.05**	**337**	*d*P	**P**	**01 16 32.8**	**+0.4**
HIA				pmax	pmax		
	comp=Z,58nm,0.6s						
HIA	**Hailar**	**41.05**	**337**	P	**P**	**01 16 32.9**	**+0.4**
BLSI	**Bandar Lampung**	**41.16**	**246**	P	**P**	**01 16 35.1**	**+1.3**
SKLT	**Songkhla**	**41.61**	**267**	P	**P**	**01 16 38.9**	**+1.5**
	comp=Z,70nm,0.9s,comp=Z,614nm						
DZM	**Mont Dzumac**	**41.74**	**146**	P	**P**	**01 16 39.0**	**+0.6**
IPM	**Ipoh**	**41.79**	**262**	P	**P**	**01 16 40.0**	**+1.1**
IPM	**Ipoh**	**41.79**	**262**	P	**P**	**01 16 38.8**	**-0.1**
IPM				IAmb	IAmb	01 16 40.4	
	comp=Z,67nm,1.3s						
UTHA	**Uthaitani**	**41.83**	**279**	P	**P**	**01 16 40.8**	**+1.6**
	comp=Z,59μm,0.7s						
LZH	**Lanzhou**	**41.85**	**311**	||P	**P**	**01 16 40.4**	**+1.1**
LZH				sP	sP	01 17 34.3	+1.4
LZH				PP	**PP**	**01 18 22.5**	**+2.9**
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,5.0s						
KASI	**Kota Agung**	**41.90**	**247**	P	**P**	**01 16 39.7**	**-0.1**
	comp=Z,100nm,1.3s						
KULM	**Kulim**	**41.97**	**264**	P	**P**	**01 16 40.6**	**+0.2**
LHSI	**Lahat**	**42.08**	**250**	P	**P**	**01 16 41.7**	**+0.5**
	comp=Z,53nm,0.9s						
PEA0B	**Petropavlovsk-**	**42.11**	**14**	*i*P	**P**	**01 16 41.0**	**0.0**
PETK	**Petropavlovsk-**	**42.11**	**14**	P	**P**	**01 16 41.9**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=182,slow=6.2,SNR=11						
PETK				LR	LR	01 34 49.6	
	comp=Z,26nm,19.8s,baz=231,slow=37						
PETK	**Petropavlovsk-**	**42.11**	**14**	P	**P**	**01 16 42.1**	**+1.1**
SRDT	**SRDT**	**42.20**	**277**	P	**P**	**01 16 44.7**	**+2.5**
	comp=Z,10nm,1.0s,comp=Z,2μm						
CM31	**Chiang Mai Arr**	**42.30**	**284**	P	**P**	**01 16 43.8**	**+0.7**
CM31				IAmb	IAmb	01 16 45.4	
	comp=Z,35nm,0.8s						
CMAR	**Chiang Mai Arr**	**42.30**	**284**	P	**P**	**01 16 44.4**	**+1.3**
	comp=Z,25nm,0.8s,baz=86,slow=6.5,SNR=90						
CMAR				PcP	**PcP**	**01 18 34.5**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=85,slow=1.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**42.30**	**284**	P	**P**	**01 16 43.6**	**+0.6**
CMMT	**Chiang Mai**	**42.31**	**284**	P	**P**	**01 16 44.8**	**+1.7**
	comp=Z,5.2nm,1.7s						
CHTO	**Chiang Mai**	**42.31**	**284**	P	**P**	**01 16 43.2**	**+0.1**
UMPA	**Umpang Tak**	**42.38**	**280**	P	**P**	**01 16 45.5**	**+1.8**
	comp=Z,

CAN Canberra 48.12 173 P **P** **01 17 29.4 +0.8**
CAN IAmb IAmb 01 17 30.9
comp=Z,55nm,1.2s
MORW Morawa 48.76 211 P **P** **01 17 33.7 +0.3**
ZAK Zakamensk 49.36 328 *eP* **P** **01 17 38.6 +0.7**
ZAK *e* 01 18 13.7
ZAK pmax pmax
comp=Z,49nm,1.1s
ZAK pmax pmax
comp=Z,7.0nm,1.1s
TLY Talaya 49.94 329*d iP* **P** **01 17 42.8 +0.6**
TLY pmax pmax
comp=Z,20nm,1.4s
TLY Talaya 49.94 329 P **P** **01 17 43.2 +1.0**
comp=Z,8.5nm,0.7s,baz=147,slow=5.1,SNR=6.6
TLY Talaya 49.94 329 P **P** **01 17 42.9 +0.6**
BOD Bodaibo 49.98 341 *eP* **P** **01 17 42.3 0.0**
BOD pmax pmax
comp=Z,18nm,0.9s
TOO Toolangi 50.06 177 P **P** **01 17 44.5 +1.3**
YAK Yakutsk 50.14 352 *eP* **P** **01 17 42.9 -0.6**
YAK *e* 01 18 18.2
YAK *e*PPP PPP 01 20 40.1
YAK *e*S **S** **01 24 40.6 -1.5**
YAK *e**SS sS 01 24 51.1 -55
YAK *e*SS SS 01 25 51.2 -146
YAK pmax pmax
comp=Z,43nm,1.1s
YAK pmax pmax
comp=N,22nm,1.3s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,87nm,2.8s
YAK pmax pmax
comp=N,30nm,2.8s
YAK pmax pmax
comp=E,47nm,2.5s
YAK smax smax
comp=N,40nm,1.3s
YAK smax smax
comp=E,86nm,1.4s
YAK Yakutsk 50.14 352 P **P** **01 17 43.4 -0.1**
YAK IAmb IAmb 01 17 44.8
comp=Z,64nm,1.2s
LSA Lhasa 50.40 298 *i* P **P** **01 17 47.8 +1.2**
SNR=9.5
LSA Lhasa 50.40 298 P **P** **01 17 47.6 +1.0**
LSA IAmb IAmb 01 17 48.8
comp=Z,36nm,0.6s
SEY Seymchan 50.67 6*d iP* **P** **01 17 47.7 +0.2**
KIWB Kanaga Island 50.76 31 P **P** **01 17 49.6 +1.3**
MOY Mondy 51.28 328 *eP* **P** **01 17 53.3 +1.0**
MOY pmax pmax
comp=Z,26nm,1.4s
WMQ Urumqi 56.13 315 *eP* **P** **01 18 29.1 +1.4**
WMQ pP pwP 01 19 09.4 -0.2
WMQ sP PcP 01 19 24.3 +0.6
WMQ pmax pmax
comp=Z,40nm,1.1s
WMQ pmax pmax
comp=Z,48nm,3.8s
WMQ LR LR
comp=Z,200nm,28.1s
WMQ LR LR
comp=Z,210nm,28.8s
WMQ LR LR
comp=Z,140nm,25.3s
BILL Bilibino 57.45 10*de*P **P** **01 18 36.6 +0.2**
BILL *i* *PP **pP** **01 19 14.5 +0.7**
BILL pmax pmax
comp=Z,11nm,0.6s
BILL Bilibino 57.45 10 P **P** **01 18 36.5 0.0**
BILL IAmb IAmb 01 18 38.1
comp=Z,14nm,0.6s
DGZ Jazzator, Alta 58.10 321*d iP* **P** **01 18 42.4 +0.9**
TIXI Tiksi 59.52 355 *i* P **P** **01 18 50.3 -0.4**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 59.52 355 P **P** **01 18 50.1 -0.6**
URZ Urewera 60.12 149 IAmb IAmb 01 18 56.6
comp=Z,19nm,0.9s
BKZ Black Stump Fm 60.52 150 IAmb IAmb 01 18 59.3
comp=Z,20nm,0.6s
MK31 Makanchi Array 60.58 317 *i* P **P** **01 18 58.7 +0.3**
MK31 pmax pmax
comp=Z,33nm,1.1s
MK31 Makanchi Array 60.58 317 P **P** **01 18 58.9 +0.5**
MK31 IAmb IAmb 01 19 00.2
comp=Z,19nm,1.0s
MKAR Makanchi Array 60.58 317 P **P** **01 18 59.1 +0.7**
comp=Z,20nm,0.8s,baz=93,slow=8.9,SNR=116
MKAR PcP **PcP** **01 19 40.4 -0.8**
comp=Z,2.3nm,0.6s,baz=101,slow=6.3,SNR=3.7
MKAR PKPPKP 01 48 24.4
comp=Z,0.9nm,0.9s,baz=268,slow=4.4,SNR=4.3
MKAR Makanchi Array 60.58 317 P **P** **01 18 58.2 -0.2**
MAKZ Makanchi 60.79 317 P **P** **01 18 59.5 -0.3**
MAKZ pmax pmax
comp=Z,35nm,1.0s
MAKZ Makanchi 60.79 317 P **P** **01 18 59.9 0.0**
THZ Tophouse 60.97 154 P **P** **01 19 01.2 +0.2**
THZ IAmb IAmb 01 19 03.5
comp=Z,16nm,0.7s
PALK Pallekele 61.02 271 P **P** **01 19 02.3 +0.3**
PALK Pallekele 61.02 271 *i* P **P** **01 19 01.4 -0.6**
PALK pmax pmax
comp=Z,31nm,0.9s
ZAA0 Zalesovo Array 61.05 325 P **P** **01 19 01.4 0.0**
ZAA0 IAmb IAmb 01 19 01.8
comp=Z,18nm,0.6s
ZALV Zalesovo Beam 61.05 325 P **P** **01 19 01.4 -0.1**
comp=Z,23nm,0.6s,baz=110,slow=7.1,SNR=61
ZALV PcP **PcP** **01 19 41.9 -1.0**
comp=Z,8.3nm,0.6s,baz=133,slow=4.3,SNR=9.6
ZALV LR LR 01 46 14.5
comp=Z,39nm,19.3s,baz=36,slow=36
ZALV Zalesovo Beam 61.05 325 P **P** **01 19 01.2 -0.2**
PDGK Podgornoye 61.84 312 P **P** **01 19 06.6 -0.5**
PDGK pmax pmax
comp=Z,27nm,1.2s
TARG Taragay, Kyrgy 62.84 310 IAmb IAmb 01 19 41.5
comp=Z,18nm,1.1s
KDJ Kajisay 63.35 311 P **P** **01 19 17.6 +0.3**
KURK Kurchatov 63.82 320*de*P **P** **01 19 20.1 +0.3**
KURK pmax pmax
comp=Z,97nm,1.0s
KURK Kurchatov 63.82 320 P **P** **01 19 20.1 +0.3**
KSH Kashi 63.99 308 P **P** **01 19 24.4 +3.0**
KSH PP **PP** **01 21 49.8 +5.7**
KSH S **S** **01 27 44.3 -0.1**
KSH sS sS 01 28 51.8 +1.7
KSH pmax pmax
comp=Z,77nm,0.6s
KSH pmax pmax
comp=Z,440nm,6.8s
KSH LR LR
comp=Z,220nm,11.2s
KSH LR LR
comp=Z,430nm,11.3s
KSH LR LR
comp=Z,250nm,10.5s
NRN Naryn 64.15 310 IAmb IAmb 01 19 24.2
comp=Z,23nm,1.1s
TKM2 Tokmak 2 64.61 312 *i* P **P** **01 19 24.4 -1.0**
TKM2 pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 64.61 312 P **P** **01 19 25.7 +0.2**
SNR=12
KZA Kyzart 64.78 311 P **P** **01 19 28.2 +1.4**
SNR=17
KBK Karagaybulak 65.06 311 P **P** **01 19 28.9 +0.6**
SNR=12
CHMS Chumysh 65.23 312 P **P** **01 19 29.6 +0.4**
SNR=9.8
UCH Uchtor 65.33 311 P **P** **01 19 31.6 +1.1**
SNR=27
AAK Ala-Archa 65.39 311 *i* P **P** **01 19 30.7 +0.2**
SNR=6.9
AAK Ala-Archa 65.39 311*ce*P **P** **01 19 30.6 +0.2**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 65.39 311 P **P** **01 19 30.9 +0.5**
SNR=5.0
AAK Ala-Archa 65.39 311 P **P** **01 19 30.2 -0.2**
USP Ospenovka 65.44 312 P **P** **01 19 30.9 +0.3**
SNR=7.4
NIL Nilore 65.90 301 P **P** **01 19 33.8 +0.1**
AML Almayashu 65.93 311 P **P** **01 19 35.2 +1.0**
SNR=14
KDAK Kodiak Island 66.05 32*ce*P **P** **01 19 34.9 +0.8**
NRIK Noril'sk 66.26 341 P **P** **01 19 35.3 +0.1**
comp=Z,18nm,0.6s,baz=115,slow=7.5,SNR=32
PPLA Purkeypile 67.62 27 IAmb IAmb 01 20 21.6
comp=Z,23nm,1.2s
IMAR Indian Mountai 67.93 23 P **P** **01 19 46.5 +0.7**
BTK Batken 67.99 308 IAmb IAmb 01 19 47.6
comp=Z,15nm,0.7s
SEW Seward 68.18 30 P **P** **01 19 48.7 +1.3**
SEW IAmb IAmb 01 19 56.9
comp=Z,58nm,1.5s
KK31 Karatay Array 68.34 311 *i* P **P** **01 19 48.6 -0.3**
KK31 pmax pmax
comp=Z,15nm,0.9s
KK31 Karatay Array 68.34 311 IAmb IAmb 01 19 50.2
comp=Z,24nm,1.0s
KKAR Karatay Array 68.34 311 P **P** **01 19 48.5 -0.4**
BPAW Bear Paw Mtn. 68.47 26 P **P** **01 19 50.1 +0.8**
BPAW IAmb IAmb 01 19 50.9
comp=Z,14nm,0.8s
TRF Thorofare Moun 68.60 26 IAmb IAmb 01 19 51.5
comp=Z,17nm,1.0s
PMR Palmer 68.67 28 P **P** **01 19 50.7 +0.2**
PMR IAmb IAmb 01 19 53.8
comp=Z,12nm,0.8s
MLY Manley 68.83 25 IAmb IAmb 01 19 53.4
comp=Z,22nm,0.9s
SML Sawmill 69.09 28 IAmb IAmb 01 20 35.1
comp=Z,29nm,1.0s
TAS Tashkent 69.19 310 P **P** **01 19 54.3 +0.2**
RND Reindeer 69.22 27 P **P** **01 19 54.2 +0.3**
CHGR Chuyangaron 69.25 307 P **P** **01 19 54.1 -0.6**
MCK McKinley 69.26 26 P **P** **01 19 55.4 +1.3**
MCK IAmb IAmb 01 20 31.5
comp=Z,57nm,2.0s
BRVK Borovoye 69.30 322*d iP* **P** **01 19 54.8 +0.2**
BRVK pmax pmax
comp=Z,53nm,0.8s
BRVK Borovoye 69.30 322 P **P** **01 19 54.9 +0.2**
KBL Kabul 69.39 302 P **P** **01 19 55.3 -0.4**
KBL IAmb IAmb 01 19 57.8
comp=Z,31nm,0.9s
WRH Wood River Hil 69.79 26 IAmb IAmb 01 19 58.6
comp=Z,11nm,0.8s
COLA College 69.98 25 *i* P **P** **01 19 58.9 +0.4**
COLA pmax pmax
comp=Z,6.0nm,0.8s
HDA Harding Lake 70.26 26 IAmb IAmb 01 20 02.1
comp=Z,13nm,0.7s
ILAR Eielson Array 70.36 25 P **P** **01 20 00.1 -0.7**
comp=Z,14nm,0.6s,baz=248,slow=5.8,SNR=180
ILAR Eielson Array 70.36 25 P **P** **01 20 00.3 -0.6**
PAX Paxson 70.63 27 IAmb IAmb 01 20 03.7
comp=Z,10nm,0.6s
GLB Gilahina Butte 71.15 29 IAmb IAmb 01 20 08.1
comp=Z,28nm,1.4s
DOT Dot Lake 71.37 27 IAmb IAmb 01 20 08.3
comp=Z,23nm,0.9s
BMAR Burnt Mountain 71.82 23 P **P** **01 20 10.9 +1.3**
CTGM Chitina Glacie 72.28 30 IAmb IAmb 01 20 14.7
comp=Z,16nm,0.8s
BCAR Beaver Creek A 72.30 28 P **P** **01 20 12.6 +0.1**
H08S2 Diego Garcia H 72.46 258 P **P** **01 20 14.8 +0.8**
baz=29,slow=7.8,SNR=9.4
H08S3 Diego Garcia H 72.46 258 P **P** **01 20 14.9 +0.9**
baz=29,slow=7.8,SNR=14
H08S1 Diego Carcia H 72.47 258 P **P** **01 20 14.8 +0.7**
baz=29,slow=7.8,SNR=13
DAWY Dawson 73.47 27 P **P** **01 20 20.5 +1.1**
DAWY IAmb IAmb 01 20 21.6
comp=Z,19nm,1.1s
H08N1 Diego Carcia H 73.53 259 P **P** **01 20 16.7 -3.5**
baz=120,slow=1.8,SNR=10
H08N2 Diego Garcia H 73.53 259 P **P** **01 20 16.8 -3.5**
baz=120,slow=1.8,SNR=13
H08N3 Diego Garcia H 73.55 259 P **P** **01 20 16.8 -3.5**
baz=120,slow=1.8,SNR=7.6
EPYK Eagle Plains 74.77 24 P **P** **01 20 27.8 +0.9**
HRA Herat 75.00 302 IAmb IAmb 01 20 30.4
comp=Z,31nm,0.9s
SVE Sverdlovsk 75.06 326*eP* **P** **01 20 28.9 +0.2**
SVE pmax pmax
comp=Z,36nm,0.9s
AB31 Akbulak array 75.69 318 P **P** **01 20 32.1 -0.3**
AB31 pmax pmax
comp=Z,24nm,0.7s
ABKAR Akbulak array 75.69 318 P **P** **01 20 32.2 -0.2**
INK Inuvik 76.07 22 P **P** **01 20 34.5 +0.3**
comp=Z,7.9nm,0.8s,baz=286,slow=5.4,SNR=27
INK pP **pP** **01 21 12.0 -1.6**
comp=Z,7.7nm,0.8s,baz=274,slow=7.8,SNR=5.5
INK Inuvik 76.07 22 P **P** **01 20 34.6 +0.5**
ARU Arti 76.22 325*c iP* **P** **01 20 34.9 -0.4**
ARU 01 23 24.7
ARU S **S** **01 30 08.3 +2.6**
ARU SS **SS** **01 34 57.5 -5.1**
ARU pmax pmax
comp=Z,33nm,0.8s
ARU Arti 76.22 325 P **P** **01 20 34.6 -0.7**
ARU IAmb IAmb 01 20 35.9
comp=Z,32nm,0.8s
AKTO Aktyubinsk 76.86 319 P **P** **01 20 37.9 -1.1**
AKTO pmax pmax
comp=Z,12nm,0.7s
GEYT Alibeck 77.96 306 P **P** **01 20 46.1 +0.6**
comp=Z,18nm,0.8s,baz=70,slow=1.7,SNR=45
GEYT Alibeck 77.96 306 P **P** **01 20 45.7 +0.3**
DLBC Dease Lake 77.97 32 P **P** **01 20 46.4 +1.2**
BANOM Banah 81.22 295 P **P** **01 21 03.8 +0.5**
MDH Madha 81.33 294 P **P** **01 21 04.0 +0.2**
SHME Shamm 81.34 295 P **P** **01 21 04.7 +0.8**
MSFE Esma-Masafi 81.45 294 *i* P **P** **01 21 04.7 +0.2**
SNR=5.5
UOSS Minazif 81.48 294 *i* P **P** **01 21 04.2 -0.4**
SNR=8.5
UOSS Minazif 81.48 294 P **P** **01 21 04.4 -0.2**
UOSS IAmb IAmb 01 21 05.0
comp=Z,24nm,0.7s
HATD Hatta, Dubai 81.56 294 *i* P **P** **01 21 05.2 +0.2**
SNR=8.9
ASHO Ashiyiah 81.65 293 *i* P **P** **01 21 05.6 0.0**
SNR=7.0
NAZ Nazva, Dubai 81.95 294 P **P** **01 21 06.7 -0.3**
ALNE Al Ain 82.04 293 *i* P **P** **01 21 07.8 +0.2**
SNR=14
PRGR Permogore 82.21 331 *eP* **P** **01 21 06.7 -0.9**
PRGR pmax pmax
comp=Z,51nm,0.6s
ASUD Al Ashush, Dub 82.32 293 P **P** **01 21 09.4 +0.4**
E03A Lebam 83.58 44 IAmb IAmb 01 21 18.8
comp=Z,28nm,1.0s
D05A Enumclaw 84.50 43 IAmb IAmb 01 21 23.9
comp=Z,12nm,0.8s
YKA Yellowknife Ar 84.71 27 P **P** **01 21 20.8 +0.4**
comp=Z,5.0nm,0.6s,baz=287,slow=5.0,SNR=9.3
YKA Yellowknife Ar 84.71 27 P **P** **01 21 20.5 +0.1**
HUMO Hull Mountain 84.81 48 IAmb IAmb 01 22 51.8
comp=Z,33nm,1.9s
AKT Akhty 85.27 311 ‖ *iP* **P** **01 21 23.3 -0.5**
AKT pmax pmax
comp=Z,50nm,0.7s
B08A Colville Reser 85.97 41 IAmb IAmb 01 21 29.3
comp=Z,15nm,0.8s
PINE Pine Mountain 85.99 46 IAmb IAmb 01 21 30.2
comp=Z,29nm,0.7s
SOCY Socotra 85.99 282 P **P** **01 21 26.6 -1.2**
SOCY IAmb IAmb 01 21 27.7
comp=Z,23nm,0.9s
HAWA Hanford 86.33 43 IAmb IAmb 01 21 30.9
comp=Z,9.0nm,0.7s
E08A Dider Farm, El 86.62 43 IAmb IAmb 01 21 32.6
comp=Z,27nm,1.6s
VRH Novokhopyorsk 86.89 322 *eP* **P** **01 21 29.0 -2.3**
VRH pmax pmax
comp=Z,50nm,0.7s
G08A Pilot Rock 86.99 44 IAmb IAmb 01 21 35.0
comp=Z,26nm,1.7s
ARCES ARCESS Array B 87.24 342 P **P** **01 21 32.2 -0.5**
comp=Z,11nm,0.7s,baz=67,slow=6.9,SNR=70
ARCES ARCESS Array B 87.24 342 P **P** **01 21 32.5 -0.3**
BEKR Beckworth 87.35 50 IAmb IAmb 01 21 36.4
comp=Z,9.9nm,0.8s
NEW Newport 87.42 41 P **P** **01 21 35.0 +1.0**
ZEI Tsey 87.72 313 *eP* **P** **01 21 32.3 -3.5**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
GNI Garni 87.79 311 P **P** **01 21 35.6 -0.5**
GNI IAmb IAmb 01 21 37.9
comp=Z,15nm,1.3s
MOS Moscow 87.83 327 *eP* **P** **01 21 33.4 -2.3**
MOS pmax pmax
comp=Z,36nm,0.9s
WVOR Wild Horse Val 87.96 47 IAmb IAmb 01 21 38.9
comp=Z,8.4nm,0.7s
LPSR Galich'ya Gora 88.12 324 *eP* **P** **01 21 35.7 -1.5**
LPSR pmax pmax
comp=Z,40nm,0.8s
KBZ Khabaz 88.18 314 P **P** **01 21 36.6 -1.0**
comp=Z,3.0nm,0.7s,baz=144,slow=5.1,SNR=9.5
BMO Blue Mountains 88.24 44 IAmb IAmb 01 21 40.4
comp=Z,12nm,0.9s
KIV Kislovodsk 88.27 315 *eP* **P** **01 21 35.5 -2.7**
KIV pmax pmax
comp=Z,18nm,0.9s
VSR Storozhevoye 88.42 322*d iP* **P** **01 21 36.6 -2.0**
VSR pmax pmax
comp=Z,57nm,0.5s
VORD Divnogorie 88.42 322 *eP* **P** **01 21 36.8 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.4s
OBN Obninsk 88.61 326 *eP* **P** **01 21 38.4 -1.0**
OBN *e**PP **pP** **01 22 19.6 -0.9**
OBN pmax pmax
comp=Z,21nm,0.9s
OBN Obninsk 88.61 326 P **P** **01 21 38.2 -1.2**
OBN IAmb IAmb 01 21 39.1
comp=Z,18nm,0.9s
MDPB Devils Postpil 88.88 52 IAmb IAmb 01 22 28.3
comp=Z,10nm,1.1s
RYN Ryan 89.04 51 P **P** **01 21 43.4 +1.4**
KVN Kaiserville 89.25 50 IAmb IAmb 01 22 28.4
comp=Z,11nm,1.2s
NVAR Mina Array Bea 89.26 51 P **P** **01 21 44.7 +1.5**
comp=Z,8.6nm,0.6s,baz=267,slow=5.6,SNR=77
NVAR pP **pP** **01 22 22.4 -1.5**
comp=Z,3.5nm,0.8s,baz=263,slow=7.1,SNR=3.2
NVAR Mina Array Bea 89.26 51 P **P** **01 21 44.5 +1.3**
BMN Battle Mountai 89.52 49 P **P** **01 21 45.8 +1.5**
BMN **pP** **01 22 24.1 -0.9**
MFID Camas Ranch 89.67 46 IAmb IAmb 01 21 47.9
comp=Z,13nm,1.1s
DAG Danmarks Havn 90.03 356 *i* P **P** **01 21 45.1 -0.6**
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 90.03 356 *i* P **P** **01 21 45.1 -0.6**
comp=Z,9.5nm,0.8s
FIA1 FINESS Array S 91.01 335 P **P** **01 21 49.3 -1.2**
FINES FINESS Array B 91.01 335 P **P** **01 21 49.1 -1.3**
comp=Z,21nm,0.6s,baz=68,slow=5.0,SNR=116
FINES FINESS Array B 91.01 335 P **P** **01 21 48.7 -1.8**
TPNV Topopah Spring 91.24 52 IAmb IAmb 01 21 54.9
comp=Z,6.8nm,0.7s
RAYN Ar Rayn 91.32 294 P **P** **01 21 51.9 -0.9**
RAYN IAmb IAmb 01 21 55.9
comp=Z,6.8nm,0.7s
VSU Vasula 92.16 332*ce*P **P** **01 21 55.1 -0.8**
VSU pmax pmax
comp=Z,54nm,1.3s
YHH Holmes Hill 92.62 43 P **P** **01 21 59.8 +1.1**
H17A Grant Village 92.94 43 IAmb IAmb 01 22 04.5
comp=Z,5.3nm,0.8s
FLWY Flagg Ranch 92.97 44 IAmb IAmb 01 22 03.3
comp=Z,12nm,1.1s
TPAW Teton Pass 93.00 44 IAmb IAmb 01 24 03.1
comp=Z,24nm,1.9s
MOOW Moose Ponds 93.06 44 IAmb IAmb 01 23 11.6
comp=Z,14nm,1.6s
RLMT Red Lodge 93.55 42 IAmb IAmb 01 22 06.0
comp=Z,4.5nm,0.8s
PDAR Pinedale Array 94.22 45 P **P** **01 22 05.2 -0.9**
comp=Z,0.4nm,0.5s,baz=280,slow=0.9,SNR=5.1
PDAR Pinedale Array 94.22 45 P **P** **01 22 06.1 0.0**
AKASG Malin Array Be 94.43 324 P **P** **01 22 05.2 -1.2**
comp=Z,0.6nm,0.4s,baz=51,slow=5.6,SNR=4.1
LAO LASA Array 94.89 40 IAmb IAmb 01 22 12.2
comp=Z,10nm,0.9s
BRTR Keskin Array B 96.02 313 P **P** **01 22 12.5 -1.7**
comp=Z,1.3nm,0.6s,baz=77,slow=2.9,SNR=5.0
NB2 NORSAR Subarra 97.07 338 P **P** **01 22 16.4 -1.9**
comp=Z,21nm,1.2s,baz=49,slow=4.4
NB2 NORSAR Subarra 97.07 338 P **P** **01 22 16.4 -1.9**
baz=49,slow=4.4
NOA NORSAR Array B 97.07 338 P **P** **01 22 16.6 -1.7**
comp=Z,2.6nm,0.7s,baz=48,slow=4.6,SNR=7.8
MAW Mawson 97.72 202 P Pdif 01 22 21.3 +0.4
comp=Z,8.6nm,1.1s,baz=68,slow=3.1,SNR=6.2
MAW PP **PP** **01 26 19.7 -1.3**
comp=Z,4.6nm,1.0s,baz=60,slow=9.1,SNR=4.6
MAW Mawson 97.72 202 IAmb IAmb 01 22 34.8
comp=Z,6.7nm,1.8s
BUR08 Bucovina Ar. S 98.19 323 P **P** **01 22 22.7 -1.1**
BURAR Bucovina Array 98.19 323 P **P** **01 22 22.8 -1.0**
VYHS Vyhne 101.38 326 *eP* **Pdif** **01 22 37.5 -0.3**
VYHS Vyhne 101.38 326 *e*PDIFF **Pdif** **01 22 37.5 -0.3**
CONA Conrad Observa 103.33 326 *i* Pdiff **Pdif** **01 22 45.9 -0.7**
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 103.75 55 PP **PKiKP** **01 27 04.9 -1.3**
comp=Z,0.4nm,0.9s,baz=297,slow=8.3,SNR=4.2
TXAR PKKPbc **PKKPbc** **01 38 41.1 +1.0**
comp=Z,0.3nm,0.6s,baz=142,slow=6.3,SNR=3.9
GERES GERESS Array B 103.92 328 Pdiff **Pdif** **01 22 48.6 -0.6**
comp=Z,0.8nm,0.7s,baz=20,slow=4.3,SNR=5.6
GERES PKKPbc **PKKPbc** **01 38 39.0 -1.4**
comp=Z,0.6nm,0.6s,baz=208,slow=2.6,SNR=5.2
ARSA Arzberg 103.92 326 *i* Pdiff **Pdif** **01 22 48.5 -0.7**
comp=Z,8.6nm,1.9s
MOA Molln 104.24 327 *i* Pdiff **Pdif** **01 22 49.8 -0.7**
comp=Z,3.7nm,0.8s
SNAA Sanae 117.44 192 PKPdf **PKPdf** **01 27 30.3 -0.4**
VNA2 Neumayer--Watz 118.92 191 PKPdf **PKPdf** **01 27 33.5 0.0**
VNA3 Neumayer Olymp 119.05 190 PKPdf **PKPdf** **01 27 33.4 -0.4**
ESDC Sonseca Array 119.30 331 PP PP 01 28 58.7 +1.2
comp=Z,0.1nm,0.3s,baz=18,slow=6.2,SNR=4.4
ESDC PKKPbc **PKKPab** **01 37 52.3 -0.2**
comp=Z,0.5nm,0.6s,baz=220,slow=4.9,SNR=4.3
VNA1 Neumayer--Stat 119.31 191 PKPdf **PKiKP** **01 27 34.5 +0.2**
TORD Torodi Ar. Bea 133.46 302 PKP **PKPdf** **01 28 02.4 -0.5**
comp=Z,1.2nm,0.5s,baz=37,slow=2.0,SNR=12
TORD PP **PP** **01 30 28.0 -4.2**
comp=Z,2.7nm,1.1s,baz=107,slow=5.0,SNR=3.9
TORD SKPbc **SKPbc** **01 31 15.2 -0.8**
comp=Z,2.4nm,0.9s,baz=47,slow=2.8,SNR=6.0
TORD Torodi Ar. Bea 133.46 302 **PKPdf** **01 28 02.9 +0.1**
PLCA Paso Flores 139.74 140 PKP **PKiKP** **01 28 15.7 -0.6**
comp=Z,5.3nm,0.8s,baz=280,slow=2.1,SNR=6.9
PLCA SKPbc **SKPbc** **01 31 35.3 +1.2**
comp=Z,3.9nm,0.8s,baz=266,slow=3.5,SNR=4.7
DBIC Dimbokro 142.32 299 PKhKP **PKPdf** **01 28 14.2 -5.0**
comp=Z,4.8nm,0.9s,baz=49,slow=3.6,SNR=7.1
KIC Kosan Boka 142.38 298 *e*PKP1 **PKPdf** **01 28 14.8 -4.5**
comp=Z,26nm,1.0s
TIC Toumodi 142.47 299 *e*PKP1 **PKPdf** **01 28 15.0 -4.5**
LIC Lamto 142.69 298 *e*PKP1 **PKPdf** **01 28 15.8 -4.0**
comp=Z,26nm,0.5s
PEL Peldehue 143.48 129 PKPbc 01 28 19.6 +1.1
GO04 Tololo Observa 144.60 125 **PKPdf** **01 28 22.8 -0.2**
AAGR Agrelo 144.90 131 *eP* **PKPdf** **01 28 24.6 +1.2**
ASAL Salagasta 145.12 130 *eP* **PKPab** **01 28 24.8 +1.0**
RTLS Leoncito 145.12 128 *eP* **PKPab** **01 28 25.3 +1.3**
AROD Rodeo 145.66 126 *eP* **PKPab** **01 28 27.6 +1.5**
RTCV Cerro Valdivia 145.67 129 *eP* **PKPab** **01 28 26.6 +0.8**
ACCO Cerro Coronel 145.81 126 *eP* **PKPab** **01 28 27.3 +0.6**
GO03 Copiap 145.98 121 **PKPab** **01 28 27.6 +0.6**
AMOG MOGNA 146.11 127 *eP* **PKPdf** **01 28 25.2 -0.2**
TRQA Tornquist 146.60 143 **PKPab** **01 28 28.6 -0.5**
VCA Vinchina 147.24 124 *eP* **PKPbc** **01 28 29.8 -0.2**
GO02 Mina Guanaco 147.27 117 **PKPbc** **01 28 30.2 -0.2**
PB11 IPOC Station P 148.34 107 **PKPdf** **01 28 29.8 +0.2**
PB11 PKPbc **PKiKP** **01 28 34.6 -0.1**
MNMC Minye Minye 148.48 106 PKPbc **PKiKP** **01 28 34.5 -0.6**
LVC Limon Verde 148.51 113 **PKiKP** **01 28 35.6 +0.4**
GO01 Chusmiza 148.78 107 PKPbc **PKPbc** **01 28 33.6 -1.1**
CYA Choya 149.29 125 *eP* **PKiKP** **01 28 36.1 -0.1**
LPAZ La Paz 150.11 101 PKP **PKPdf** **01 28 34.9 +1.9**
comp=Z,11nm,1.1s,baz=222,slow=1.8,SNR=6.8
LPAZ PKPbc **PKiKP** **01 28 39.7 +0.7**
comp=Z,15nm,0.7s,baz=283,slow=2.4,SNR=61

LPAZ				pPKPbc	**pPKPbc**	01 29 21.0	+0.4
	comp=Z,10.0nm,1.0s,baz=346,slow=3.6,SNR=3.4						
LPAZ	**La Paz**	**150.11**	**101**		**PKPdf**	01 28 33.8	+0.8
LPAZ				PKPbc	**PKiKP**	01 28 40.1	+1.1
CPUP	**Villa Florida**	**156.92**	**129**	PKPab	**PKPab**	01 29 12.8	+0.4
	comp=Z,9.2nm,1.0s,baz=263,slow=4.6,SNR=12						
CPUP	**Villa Florida**	**156.92**	**129**	PKPdf	**PKPdf**	01 28 41.9	+0.2
CPUP					**PKPab**	01 29 13.9	+1.5

*KRNET **15** 01:12:01.1±0.1, 41°.16N×73°.62E, h11km, mb2.5*
*KNET **15** 01:12:02.8±0.5, 41°.23N×73°.76E, h1km±3km, ml2.1, Error ellipse: s-maj=3.9km s-min=1.6km az=55.0*
*SOME **15** 01:12:02.5, 41°.15N×73°.60E, h15km*
*NNC **15** 01:12:07.6±2.4, 41°.45N×73°.70E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=25.3km s-min=12.0km az=139.0*

ISC 15 01:12:01.6±1.4, 41°.20N±0°.05×73°.66E±0°.02, h2km±11km, n33, σ1§09/61, 29C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.53**	**284**	⇑*eP*	**Pg**	**01 12 11.3**	**-0.4**
	baz=89						
ARSB				⇑*iS*	**Sg**	01 12 17.5	-1.0
	baz=89						
ARLS	**Aral**	**0.82**	**37**	⇓*iP*	**Pg**	01 12 17.7	+0.2
	baz=36						
ARLS				⇓*iS*	**Sb**	01 12 29.8	-0.7
	baz=36						
AML	**Almayashu**	**0.93**	**2**	⇑*iP*	**Pg**	01 12 19.9	+0.5
	baz=3.0						
AML				⇑*iS*	**Sb**	01 12 33.5	-0.2
	baz=3.0						
AML	**Almayashu**	**0.93**	**2**	⇑P	**Pg**	01 12 20.1	+0.7
	5.3nm,0.1s,SNR=16						
AML				⇑S	**Sb**	01 12 34.1	+0.4
	86nm,0.4s						
UCH	**Uchtor**	**1.21**	**32**	⇑*iP*	**Pg**	01 12 25.0	+0.2
	baz=32						
UCH				⇑*iS*	**Sn**	01 12 42.5	-0.7
	baz=32						
UCH	**Uchtor**	**1.21**	**32**	⇑P	**Pg**	01 12 25.2	+0.4
	3.5nm,0.1s,SNR=18						
UCH				⇑S	**Sn**	01 12 42.8	-0.4
	39nm,0.3s						
ARK	**Arkit**	**1.41**	**296**	⇓*iP*	**Pn**	01 12 27.0	-1.5
	baz=97						
ARK				⇓*iS*	**Sb**	01 12 46.0	-1.2
	baz=97						
EKS2	**Erkin-Say**	**1.46**	**3**	⇑*iP*	**Pb**	01 12 29.4	-0.2
	baz=4.0						
EKS2				⇑*iS*	**Sg**	01 12 49.7	+1.1
	baz=4.0						
KZA	**Kyzart**	**1.48**	**53**	⇓*iP*	**Pb**	01 12 29.7	-0.4
	baz=52						
KZA				⇓*iS*	**Sn**	01 12 50.9	+1.1
	baz=52						
KZA	**Kyzart**	**1.48**	**53**	⇓P	**Pb**	01 12 29.7	-0.4
	4.9nm,0.2s,SNR=17						
AAK	**Ala-Archa**	**1.56**	**23**	⇑P	**Pg**	01 12 31.7	+0.2
	2.0nm,0.6s						
AAK				⇓S	**Sn**	01 12 50.9	-0.7
	4.7nm,0.2s						
AAK	**Ala-Archa**	**1.56**	**23**	⇑*iP*	**Pb**	01 12 31.5	+0.1
	baz=24						
AAK				⇑*iS*	**Sg**	01 12 53.0	+1.1
	baz=24						
AAK	**Ala-Archa**	**1.56**	**23**	⇑P	**Pg**	01 12 31.8	+0.2
	2.0nm,0.1s						
AAK				⇑S	**Sg**	01 12 53.9	+2.0
	20nm,0.3s						
MRKS	**Merke**	**1.57**	**348**	*eP*	**Pg**	01 12 32.6	+0.8
	13nm,0.3s						
MRKS				*eS*	**Sg**	01 12 53.7	+1.5
	32nm,0.3s						
KBK	**Karagaybulak**	**1.74**	**33**	⇑*iP*	**Pg**	01 12 34.8	-0.2
	baz=33						
KBK				⇑*iS*	**Sg**	01 12 58.5	+0.9
	baz=33						
KBK	**Karagaybulak**	**1.74**	**33**	⇑P	**Pg**	01 12 35.2	+0.2
	3.0nm,0.2s,SNR=10						
BOOM	**Boomskoye usch**	**2.13**	**52**	⇑*iP*	**Pb**	01 12 40.2	-1.0
	baz=52						
BOOM				⇑*iS*	**Sb**	01 13 08.6	+0.4
	baz=52						
ULHL	**Ulahol**	**2.19**	**61**	⇑*iP*	**Pb**	01 12 41.4	-0.8
	baz=60						
ULHL				⇑*iS*	**Sb**	01 13 10.1	+0.1
	baz=60						
TKM2	**Tokmak 2**	**2.24**	**39**	⇑Pn	**Pb**	01 12 43.6	+0.6
	3.0nm,0.6s						
TKM2				⇑Lg	Lg	01 13 13.9	
	6.5nm,0.6s						
TKM2	**Tokmak 2**	**2.24**	**39**	⇓P	**Pb**	01 12 43.8	+0.7
	4.8nm,0.2s,SNR=5.9						
BTK	**Batken**	**2.45**	**243**	⇓*iP*	**Pn**	01 12 42.7	0.0
	baz=44						
BTK				⇓*iS*	**Sn**	01 13 14.4	+1.1
	baz=44						
KST	**Kastek**	**2.51**	**42**	*eP*	**Pg**	01 12 50.0	+0.2
	4.1nm,0.2s						
KST				*eS*	**Sg**	01 13 24.1	+1.8
	8.3nm,0.5s						
DGS	**Degeres**	**2.57**	**37**	*eP*	**Pg**	01 12 50.4	-0.6
	4.4nm,0.5s						
DGS				*eS*	**Sg**	01 13 24.2	0.0
	7.3nm,0.5s						
KDJ	**Kajisay**	**2.79**	**69**	⇑*iP*	**Pn**	01 12 49.5	+1.9
	baz=69						
KDJ				⇑*iS*	**Sb**	01 13 24.9	-2.3
	baz=69						
IZV	**Izvestkoviy**	**2.86**	**49**	*eP*	**Pg**	01 12 55.5	-1.0
	4.5nm,0.2s						
IZV				*eS*	**Sg**	01 13 33.0	-0.5
	8.0nm,0.4s						
IUG	**Iuzhnay**	**2.88**	**290**	*eP*	**Pb**	01 12 54.7	+0.9
	1.1nm,0.2s						
IUG				*eS*	**Sb**	01 13 31.8	+2.3
	39nm,0.4s						
KK31	**Karatay Array**	**3.01**	**310**	⇑Pn	**Pb**	01 12 56.1	+0.1
	1.1nm,0.3s,baz=125,slow=16,SNR=6.8						
KK31				⇓Lg	Lg	01 13 37.3	
	1.1nm,0.2s,baz=132,slow=29,SNR=5.6						
TNSS	**Tian-Shan**	**3.06**	**52**	*eP*	**Pg**	01 13 00.3	+0.1
	3.2nm,0.4s						
TNSS				*eS*	**Sg**	01 13 42.1	+2.3
	7.0nm,0.6s						
MDOK	**Medeo**	**3.19**	**51**	*eP*	**Pg**	01 13 02.2	-0.5
	2.8nm,0.5s						
MDOK				*eS*	**Sg**	01 13 45.3	+1.2
	5.7nm,0.6s						
KUU	**Kurty**	**3.34**	**35**	*eP*	**Pg**	01 13 04.2	-1.4
	2.0nm,0.3s						
KUU				*eS*	**Sg**	01 13 48.1	-0.8
	7.8nm,0.5s						
KTBS	**Karatobe**	**3.36**	**41**	*eP*	**Pg**	01 13 04.3	-1.7
	2.2nm,0.2s						
KTBS				*eS*	**Sg**	01 13 49.2	-0.4
	18nm,0.4s						
CHKK	**Chushkaly**	**3.62**	**42**	*eP*	**Pg**	01 13 09.2	-1.7
	1.3nm,0.1s						
CHKK				*eS*	**Sg**	01 13 57.2	-0.6
	6.5nm,0.2s						
BTLS	**Baital**	**3.85**	**4**	*eP*	**Pg**	01 13 13.0	-2.4
	0.6nm,0.2s						
BTLS				*eS*	**Sg**	01 14 03.2	-2.0
	4.0nm,0.4s						

*SFS **15** 01:27:20.0, 35°.52N×3°.79W, ML2.4, ALBORAN SUR*
*INMG **15** 01:27:21.4±1.5, 35°.50N×3°.76W, h14km±11km, ML2.2, Error ellipse: s-maj=7.2km s-min=4.6km az=144.0*
*MDD **15** 01:27:21.4±0.4, 35°.55N×3°.76W, h0km, mbLg2.4/22, Error ellipse: s-maj=4.1km s-min=3.1km az=165.0, PRXIMO*
*ISCJB **15** 01:27:21.1±0.4, 35°.53N±0°.02×3°.78W±0°.02, h25km±4km, Error ellipse: s-maj=3.2km s-min=2.6km az=2.9*
*CNRM **15** 01:27:22.7, 35°.39N×3°.71W, h17km, ml2.8*
*IGIL **15** 01:27:22.2, 35°.52N×3°.80W, h0km, ML2.0*

ISC 15 01:27:20.0±1.0, 35°.51N±0°.02×3°.74W±0°.02, h14km±9km, n64, σ1§54/125, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**209**	P	**Pb**	**01 27 28.5**	**+0.7**
PALE				S	**Sb**	**01 27 33.7**	**+0.6**
PVLZ	**Peæn de**	**0.57**	**234**	*eP*	**Pb**	**01 27 32.1**	**+0.4**
PVLZ				*eS*	**Sb**	**01 27 40.6**	**+0.9**
PVLZ	**Peæn de**	**0.57**	**234**	P	**Pb**	**01 27 32.1**	**+0.4**
PVLZ				S	**Sb**	**01 27 40.6**	**+0.9**
EMEL	**Melilla**	**0.68**	**108**	P	**Pg**	**01 27 30.1**	**-3.0**
	71nm,0.3s,SNR=7.9						
EMEL				S	**Sg**	**01 27 38.9**	**-3.2**
	1μm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**0.68**	**115**	P	**Pb**	**01 27 34.1**	**+0.5**
GOG				S	**Sg**	**01 27 42.7**	**+0.6**
MELI	**Melilla**	**0.69**	**108**	*iP*	**Pb**	**01 27 34.7**	**+0.8**
MELI				*eS*	**Sg**	**01 27 43.1**	**+0.4**
MELI	**Melilla**	**0.69**	**108**	P	**Pb**	**01 27 34.4**	**+0.5**
	238nm,0.5s,SNR=7.9						
MELI				S	**Sg**	**01 27 43.3**	**+0.6**
	325nm,0.1s,SNR=7.9						
EALB	**Alboran**	**0.72**	**53**	P	**Pg**	**01 27 34.7**	**+0.8**
	133nm,0.4s,SNR=62						
EALB				S	**Sg**	**01 27 44.3**	**+0.9**
	174nm,0.2s,SNR=15						
EMIJ	**Mijas**	**1.34**	**322**	P	**Pn**	**01 27 43.5**	**-0.8**
	5.3nm,0.3s,SNR=48						
EMIJ				S	**Sb**	**01 28 00.6**	**-1.4**
	53nm,0.2s,SNR=13						
SMIR	**Smir Dam**	**1.35**	**278**	P	**Pg**	**01 27 46.8**	**+1.0**
SMIR				S	**Sg**	**01 28 04.5**	**+1.1**
ELGU	**Los Guajares,**	**1.36**	**4**	P	**Pn**	**01 27 43.9**	**-0.7**
	1.1nm,0.2s,SNR=7.9						
ELGU				S	**Sb**	**01 28 02.9**	**+0.4**
	88nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.36**	**336**	⇑*iP*	**Pn**	**01 27 44.6**	**0.0**
EMAL				*eS*	**Sn**	**01 28 00.9**	**-1.6**
CHEFC	**Chefchaouen**	**1.37**	**253**	P	**Pb**	**01 27 45.9**	**+0.5**
CHEFC				S	**Sg**	**01 28 05.4**	**+1.3**
CEU	**Ceuta**	**1.38**	**287**	*eP*	**Pn**	**01 27 43.4**	**-1.4**
CEU				*eS*	**Sn**	**01 27 58.4**	**-4.5**
ECEU	**Ceuta**	**1.38**	**287**	P	**Pn**	**01 27 44.6**	**-0.3**
	2.9nm,0.4s,SNR=4.8						
ECEU				S	**Sn**	**01 28 01.9**	**-1.1**
	11nm,0.1s,SNR=6.7						
JBK	**JBK**	**1.52**	**140**	P	**Pn**	**01 27 47.2**	**+0.2**
JBK				S	**Sn**	**01 28 05.2**	**-1.4**
EBER	**Berja**	**1.54**	**26**	P	**Pn**	**01 27 46.9**	**-0.4**
	4.3nm,0.4s,SNR=18						
EBER				S	**Sn**	**01 28 07.3**	**0.0**
	29nm,0.4s,SNR=8.7						
EGOR	**Sierra Gorda,**	**1.62**	**350**	P	**Pn**	**01 27 48.5**	**+0.2**
	2.6nm,0.5s,SNR=7.9						
EGOR				S	**Sn**	**01 28 09.4**	**+0.3**
	5.7nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.71**	**8**	P	**Pn**	**01 27 50.7**	**+1.3**
	1.8nm,0.3s,SNR=14						
EQUE				S	**Sn**	**01 28 10.9**	**-0.2**
	5.2nm,0.3s,SNR=4.0						
SICH	**Sidi Chahed**	**1.91**	**223**	P	**Pb**	**01 27 54.0**	**-0.6**
SICH				S	**Sb**	**01 28 18.4**	**0.0**
ENIJ	**Nijar**	**1.91**	**40**	P	**Pn**	**01 27 53.2**	**+1.0**
	3.6nm,0.6s,SNR=7.9						
ENIJ				S	**Sn**	**01 28 13.3**	**-2.8**
	20nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**2.04**	**16**	P	**Pb**	**01 27 57.3**	**+0.3**
	1.3nm,0.5s,SNR=7.9						
GORA				S	**Sb**	**01 28 22.7**	**+0.5**
	13nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.18**	**309**	P	**Pb**	**01 27 59.0**	**-0.2**
	0.7nm,1.6s,SNR=7.9						
ESPR				S	**Sb**	**01 28 25.9**	**-0.2**
	10nm,0.3s,SNR=4.6						
IFR	**Ifrane**	**2.29**	**210**	*eP*	**Pn**	**01 27 58.6**	**+1.0**
IFR				*eS*	**Sn**	**01 28 26.2**	**+0.5**
EQES	**Quesada**	**2.35**	**13**	P	**Pb**	**01 28 01.1**	**-1.1**
	6.2nm,0.6s,SNR=65						
EQES				S	**Sb**	**01 28 30.0**	**-1.1**
	8.5nm,0.2s						
HORN	**Hornachuelos**	**2.63**	**333**	P	**Pb**	**01 28 07.6**	**+0.8**
HORN				S	**Sb**	**01 28 39.4**	**+0.4**
CZD	**Col de Zad**	**2.70**	**204**	P	**Pn**	**01 28 04.9**	**+1.6**
CZD				S	**Sn**	**01 28 37.7**	**+1.9**
EADA	**Adamuz**	**2.73**	**346**	P	**Pn**	**01 28 05.7**	**+2.2**
	1.7nm,0.3s,SNR=12						
EADA				S	**Sn**	**01 28 37.3**	**+0.9**
	2.5nm,0.2s,SNR=7.9						
MD31	**MD31**	**2.77**	**198**	P	**Pn**	**01 28 06.0**	**+1.9**
MD31				S	**Sn**	**01 28 36.8**	**-0.6**
SESP	**Santiago Espad**	**2.77**	**20**	P	**Pn**	**01 28 07.3**	**+3.1**
SESP				S	**Sb**	**01 28 45.0**	**+1.6**
SESP	**Santiago Espad**	**2.77**	**20**	P	**Pn**	**01 28 07.0**	**+2.8**
	3.9nm,0.6s,SNR=7.9						
SESP				S	**Sn**	**01 28 40.1**	**+2.6**
	4.1nm,0.2s,SNR=7.9						
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**01 28 05.7**	**+1.4**
MDT				S	**Sn**	**01 28 37.1**	**-0.6**
TDRA	**Tendrara**	**2.84**	**150**	P	**Pn**	**01 28 05.0**	**-0.1**
TDRA				S	**Sn**	**01 28 42.0**	**+2.6**
ECAB	**El Cabril**	**2.89**	**333**	P	**Pn**	**01 28 07.2**	**+1.5**
	3.8nm,0.9s,SNR=6.4						
ECAB				S	**Sn**	**01 28 41.4**	**+1.1**
	2.5nm,0.2s,SNR=6.0						
EMUR	**La Murta**	**3.07**	**40**	P	**Pb**	**01 28 12.8**	**-1.7**
	0.5nm,1.2s,SNR=7.9						
EMUR				S	**Sn**	**01 28 41.1**	**-3.7**
	9.8nm,0.4s,SNR=7.9						
ZHG	**ZHG**	**3.16**	**230**	P	**Pb**	**01 28 13.8**	**-2.2**
ZHG				S	**Sb**	**01 28 51.3**	**-3.1**
EMIN	**Mina Concepcio**	**3.26**	**315**	P	**Pn**	**01 28 11.3**	**+0.6**
	0.8nm,0.6s,SNR=7.7						
EMIN				S	**Sn**	**01 28 47.7**	**-1.5**
	1.5nm,0.2s						
ETOB	**Tobarra**	**3.58**	**29**	P	**Pn**	**01 28 17.8**	**+2.5**
	4.4nm,1.1s,SNR=12						
ETOB				S	**Sn**	**01 28 57.7**	**+0.2**
	2.2nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.63**	**305**	P	**Pn**	**01 28 16.6**	**+0.9**
	1.8nm,0.3s,SNR=11						
EGRO				S	**Sn**	**01 28 57.1**	**-1.2**
	2.4nm,0.2s						
PVAQ	**Vaqueiros**	**3.72**	**302**	*eP*n	**Pn**	**01 28 17.9**	**+0.9**
PVAQ				*eS*n	**Sn**	**01 28 59.5**	**-1.1**
PVAQ				A	A	01 29 02.6	
	4.0nm,1.0s						
PVAQ	**Vaqueiros**	**3.72**	**302**	P	**Pn**	**01 28 17.9**	**+0.9**
PVAQ				S	**Sn**	**01 28 59.5**	**-1.1**
	4.0nm,1.0s						
PBDV	**Barranco-do-Ve**	**3.79**	**298**	*eP*n	**Pn**	**01 28 18.9**	**+0.8**
PBDV				*eS*n	**Sn**	**01 29 01.2**	**-1.4**
PBDV				A	A	01 29 07.9	
	3.7nm,1.0s						
PBDV	**Barranco-do-Ve**	**3.79**	**298**	P	**Pn**	**01 28 18.9**	**+0.8**
PBDV				S	**Sn**	**01 29 01.2**	**-1.4**
	3.7nm,1.0s						
FIGM	**Figuig**	**3.95**	**148**	P	**Pn**	**01 28 19.3**	**-1.1**
FIGM				S	**Sn**	**01 29 07.1**	**+0.5**
PAB	**San Pablo**	**4.05**	**353**	P	**Pn**	**01 28 23.3**	**+1.6**
	1.0nm,0.9s,SNR=7.9						
PAB				S	**Sn**	**01 29 09.2**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.16**	**358**	P	**Pn**	**01 28 25.1**	**+2.0**
	0.3nm,0.2s,baz=176,slow=12,SNR=23						
ESDC				S	**Sn**	**01 29 09.4**	**-2.1**
	0.2nm,0.1s,baz=176,slow=25,SNR=3.9						
EBAD	**Badajoz**	**4.16**	**322**	P	**Pn**	**01 28 24.0**	**+0.9**
	1.2nm,0.3s,SNR=9.5						
EBAD				S	**Sn**	**01 29 10.1**	**-1.4**
	2.3nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**4.28**	**304**	*eP*	**Pn**	**01 28 26.1**	**+1.3**
MESJ				*eS*	**Sn**	**01 29 12.8**	**-1.7**
MESJ				AML	AML	01 29 19.1	
	comp=N,2.9nm,0.2s						
MESJ	**Messejana**	**4.28**	**304**	*eP*n	**Pn**	**01 28 26.2**	**+1.4**
MESJ				*eS*n	**Sn**	**01 29 13.3**	**-1.2**
MESJ				A	A	01 29 25.8	
	comp=N,2.2nm,0.4s						
MESJ	**Messejana**	**4.28**	**304**	P	**Pn**	**01 28 26.1**	**+1.3**
MESJ				S	**Sn**	**01 29 12.8**	**-1.7**
	comp=N,2.9nm,0.2s						
PESTR	**Estremoz**	**4.54**	**319**	*eP*n	**Pn**	**01 28 29.9**	**+1.5**
PESTR				*eS*n	**Sn**	**01 29 19.4**	**-1.6**
EVO	**Evora**	**4.56**	**313**	*eP*n	**Pn**	**01 28 30.1**	**+1.6**
EVO				*eS*n	**Sn**	**01 29 19.6**	**-1.7**
EVO				A	A	01 29 23.1	
	comp=N,3.7nm,0.7s						
EVO	**Evora**	**4.56**	**313**	P	**Pn**	**01 28 30.1**	**+1.6**
EVO				S	**Sn**	**01 29 19.6**	**-1.7**
	comp=N,3.7nm,0.7s						
PNCL	**Nicolau / Gran**	**4.63**	**305**	*eP*n	**Pn**	**01 28 30.3**	**+0.7**
PNCL				*eS*n	**Sn**	**01 29 21.3**	**-1.9**
PNCL				A	A	01 29 22.5	
	comp=N,2.8nm,0.5s						
PNCL	**Nicolau / Gran**	**4.63**	**305**	P	**Pn**	**01 28 30.3**	**+0.7**
PNCL				S	**Sn**	**01 29 21.3**	**-1.9**
	comp=N,2.8nm,0.5s						
PMRV	**Marv??o**	**4.87**	**324**	*e*Pn	**Pn**	**01 28 33.2**	**+0.4**
PMRV				*e*Sn	**Sn**	**01 29 27.6**	**-1.4**
PMRV				A	A	01 29 46.9	
	comp=N,2.2nm,0.6s						
PMRV	**Marv??o**	**4.87**	**324**	P	**Pn**	**01 28 33.2**	**+0.4**
PMRV				S	**Sn**	**01 29 27.6**	**-1.4**
	comp=N,2.2nm,0.6s						
EPLA	**Plasencia**	**4.91**	**339**	P	**Pn**	**01 28 35.9**	**+2.5**
	comp=N,0.2nm,2.9s,SNR=7.9						
EPLA				S	**Sn**	**01 29 30.8**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**5.04**	**316**	*e*Pn	**Pn**	**01 28 37.4**	**+2.3**
PMTG				*e*Sn	**Sn**	**01 29 33.2**	**+0.1**
PMTG				A	A	01 29 38.9	
	comp=N,2.6nm,0.6s						
PMTG	**Montargil**	**5.04**	**316**	P	**Pn**	**01 28 37.4**	**+2.3**
PMTG				S	**Sn**	**01 29 33.2**	**+0.1**
	comp=N,2.6nm,0.6s						
GUD	**Guadarrama**	**5.13**	**356**	S	**Sn**	**01 29 33.0**	**-2.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.24**	**327**	*e*Pn	**Pn**	**01 28 40.1**	**+2.2**
PCBR	**Castelo Branco**	**5.24**	**327**	P	**Pn**	**01 28 40.1**	**+2.2**
MVO	**Moncorvo**	**6.21**	**336**	P	**Pn**	**01 28 53.3**	**+2.1**
	comp=N,3.9nm,1.3s,SNR=7.9						
MVO				S	**Sn**	**01 29 59.2**	**-2.8**
	comp=N,1.3nm,0.2s,SNR=7.9						

*IDC **15** 01:58:28.6±1.0, 46°.58N×153°.72E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/57, mbtmp3.7/11, ML2.7/1, Error ellipse: s-maj=27.9km s-min=22.3km az=166.0*
*ISCJB **15** 01:58:30.6±0.9, 46°.7N±0°.2×153°.7E±0°.2, h24km, mb3.6/10, Error ellipse: s-maj=24.0km s-min=17.8km az=142.0*

ISC 15 01:58:32.4±1.1, 46°.6N±0°.2×153°.7E±0°.2, h24km, n12, σ1§03/12, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.99**	**20**	Pn	**Pn**	**02 00 13.3**	**+0.1**
	0.7nm,0.3s,baz=171,slow=11,SNR=11						
ILAR	**Eielson Array**	**36.40**	**38**	P	**P**	**02 05 32.6**	**-1.8**
	0.6nm,1.1s,baz=236,slow=-6.4,SNR=3.1						
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**	**02 07 03.9**	**-0.5**
	0.4nm,0.7s,baz=67,slow=9.5,SNR=4.7						
KURBB	**Kurchatov Arra**	**47.88**	**304**	P	**P**	**02 07 07.6**	**-0.6**
	0.6nm,0.6s,baz=69,slow=9.0,SNR=3.4						
FINES	**FINESS Array B**	**64.34**	**335**	P	**P**	**02 09 05.5**	**0.0**
	2.0nm,0.8s,baz=30,slow=8.8,SNR=4.7						
PDAR	**Pinedale Array**	**64.49**	**54**	P	**P**	**02 09 08.3**	**+1.1**
	0.1nm,0.4s,baz=250,slow=1.8,SNR=3.2						
NB2	**NORSAR Subarra**	**68.50**	**341**	P	**P**	**02 09 33.1**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**02 09 33.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=27,slow=6.4,SNR=5.7						
AKASG	**Malin Array Be**	**71.89**	**327**	P	**P**	**02 09 52.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=26,slow=5.5,SNR=4.3						
ASAR	**Alice Springs**	**72.21**	**199**	P	**P**	**02 09 55.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=11,slow=5.6,SNR=5.9						
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**02 10 24.4**	**0.0**
	comp=Z,1.0nm,0.7s,baz=304,slow=4.2,SNR=17						
GERES	**GERESS Array B**	**78.76**	**334**	P	**P**	**02 10 34.3**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=14,slow=4.4,SNR=2.7						

*NIED **15** 02:00:00, 41°.50N×142°.00E, h53km, Mw5.5 Best double couple: M0 1.99000×10^17 NP1:φs175.00000°, δ18.00000°, λ63.00000°. NP2:φs23.00000°, δ74.00000°, λ98.00000°.*
*BJI **15** 02:00:30.2±0.0, 41°.34N×142°.50E, h51km, mb5.2/80, mB5.2/62, Ms5.0/89, Ms7 4.9/81*
*MOS **15** 02:00:32.2±0.9, 41°.37N×142°.05E, h45km, mb5.6/81, MS5.1/18, Error ellipse: s-maj=5.5km s-min=3.7km az=103.4*
*ISCJB **15** 02:00:34.0±0.2, 41°.44N±0°.01×142°.11E±0°.02, h57km±1km, mb5.4/166, MS5.0/63, Error ellipse: s-maj=2.7km s-min=1.8km az=142.6*
*NEIC **15** 02:00:34.0±1.6, 41°.43N±0°.06×142°.18E±0°.09, h46km±1km, mb5.2/353, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.05; Mθθ-0.57; Mφφ-1.48; Mrθ0.76; Mθφ-0.11; Mφr1.53; Fault plane solution: M0 2.51000×10^17 NP1:φs184.08000°, δ23.80000°, λ75.62000°. NP2:φs19.73000°, δ66.99000°, λ96.25000°. Principal axes: T 2.7614, Plg67.0000°, Azm301.0000°; N -0.6186, Plg6.0000°, Azm197.0000°; P -2.1428, Plg22.0000°, Azm105.0000°;*
*JMA **15** 02:00:34.4±0.1, 41°.46N×142°.06E, h63km±2km, M5.3 Broadband fault plane solution: P waves. NP1: φs18.00000°, δ79.00000°, λ98.00000°. NP2:φs161.00000°, δ13.00000°, λ55.00000°. Principal axes: T Plg55.0000°, Azm297.0000°; N Plg8.0000°, Azm196.0000°; P Plg34.0000°, Azm101.0000°;*
JMA Felt IV J1.
*GCMT **15** 02:00:36.0±0.1, 41°.51N±0°.01×142°.26E±0°.01, h56km, MW5.5/125, Moment Tensor Solution. s117,c212; s125,c239; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr1.96±.03; Mθθ-0.07±.03; Mφφ-1.89±.03; Mrθ0.64±.02; Mθφ-0.77±.02; Mφr1.19±.03; Best double couple: M0 2.47100×10^17 NP1:φs25.00000°, δ62.00000°, λ95.00000°. NP2:φs195.00000°, δ29.00000°, λ81.00000°. Principal axes: T 2.3720, Plg73.0000°, Azm307.0000°; N 0.1940, Plg4.0000°, Azm203.0000°; P -2.5700, Plg17.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **15** 02:00:37.2±1.3, 41°.48N×142°.08E, h75km±10km, mb5.0/39

JYM2	**Yakumo 2**	**1.51 298**	⇓P	**Pn**	**02 00 58.9**	**-0.2**
JHHS	**Hirosakihykuz**	**1.57 241**	⇓P	**Pn**	**02 01 00.7**	**+0.7**
JKZ	**Kuzumaki**	**1.58 204**	P	**Pn**	**02 01 00.8**	**+0.7**
JOMM	**Oshimamatsumae**	**1.63 274**	P	**Pn**	**02 01 00.1**	**-0.6**
JOMM			*e*S	**Sn**	**02 01 19.1**	**-1.4**
JFR	**Furan**	**1.76 10**	P	**Pn**	**02 01 02.7**	**+0.1**
JIW	**Iwasaki**	**1.84 244**	⇓P	**Pn**	**02 01 03.7**	**+0.1**
MIYJ	**Miyakonagasawa**	**1.87 188**	P	**Pn**	**02 01 04.4**	**+0.3**
JNTW	**Noshirotokiwa**	**1.91 233**	P	**Pn**	**02 01 05.5**	**+0.9**
JOM	**Ohasama**	**2.07 199**	P	**Pn**	**02 01 07.6**	**+0.9**
JOSM	**Okushiri--Mats**	**2.12 289**	P	**Pn**	**02 01 06.3**	**-1.1**
ASAJ	**Asahikawa**	**2.70 7**	P	**Pn**	**02 01 17.4**	**+2.0**
	306nm,0.3s,baz=212,slow=14,SNR=198					
ASAJ			S	**Sn**	**02 01 49.8**	**+2.8**
	152nm,0.3s,baz=127,slow=26,SNR=11					
JKA	**Kamikawa-asahi**	**2.70 7**		**Pn**	**02 01 17.4**	**+2.0**
JKA				**Sn**	**02 01 49.8**	**+2.8**
NMR	**Nemuro--Hokkai**	**3.27 52**	⇓*i*P	**Pn**	**02 01 22.4**	**-0.8**
NMR			*i* S	**Sn**	**02 01 58.4**	**-2.5**
GLVR	**Golovnino**	**3.38 46**	*e*P	**Pn**	**02 01 25.2**	**+0.5**
GLVR			*i* S	**Sn**	**02 02 03.2**	**-0.4**
GLVR			pmax	pmax		
	comp=E,1μm,0.3s					
GLVR			pmax	pmax		
	comp=Z,8μm,0.3s					
GLVR			pmax	pmax		
	comp=N,618nm,0.2s					
GLVR			smax	smax		
	comp=N,17μm,0.3s					
GLVR			smax	smax		
	comp=E,6μm,0.2s					
GRPR	**Tuman**	**3.69 45**	*e*P	**Pn**	**02 01 29.2**	**+0.3**
GRPR			*i* S	**Sn**	**02 02 10.6**	**-0.5**
GRPR			pmax	pmax		
	comp=Z,2μm,0.3s					
GRPR			pmax	pmax		
	comp=N,1μm,0.2s					
GRPR			pmax	pmax		
	comp=E,692nm,0.2s					
GRPR			smax	smax		
	comp=E,11μm,0.3s					
GRPR			smax	smax		
	comp=N,13μm,0.4s					
LAGR	**Lagunnoye**	**3.74 44**	*d i*P	**Pn**	**02 01 30.2**	**+0.6**
LAGR			*i* S	**Sn**	**02 02 11.8**	**-0.5**
LAGR			pmax	pmax		
	comp=Z,4μm,0.4s					
LAGR			pmax	pmax		
	comp=N,3μm,0.3s					
LAGR			pmax	pmax		
	comp=E,1μm,0.3s					
LAGR			smax	smax		
	comp=N,5μm,0.2s					
LAGR			smax	smax		
	comp=E,13μm,0.4s					
YUK	**Yuzh-Kuril'sk**	**3.77 45**	*d i*P	**Pn**	**02 01 31.2**	**+1.2**
YUK			*i* S	**Sn**	**02 02 11.6**	**-1.4**
YUK			pmax	pmax		
	comp=N,918nm,0.4s					
YUK			pmax	pmax		
	comp=Z,5μm,0.4s					
YUK			pmax	pmax		
	comp=E,304nm,0.2s					
YUK			smax	smax		
	comp=E,8μm,0.2s					
YUK			smax	smax		
	comp=N,12μm,0.6s					
TEY	**Ternei**	**5.43 313**	⇑*e*P	**Pn**	**02 01 52.4**	**-0.4**
TEY			*e*S	**Sn**	**02 02 49.5**	**-4.4**
TEY			pmax	pmax		
	comp=E,20nm,0.8s					
TEY			pmax	pmax		
	comp=N,20nm,0.5s					
TEY			pmax	pmax		
	comp=Z,20nm,0.7s					
TEY			MLR	MLR		
	comp=E,9μm,19.0s					
TEY			MLR	MLR		
	comp=N,9μm,21.0s					
TEY			MLR	MLR		
	comp=Z,14μm,19.0s					
YSS	**Yuzh-Sakhalins**	**5.54 4**	*e*P	**Pn**	**02 01 56.9**	**+2.6**
YSS			*e*S	**Sn**	**02 02 58.5**	**+1.9**
YSS			pmax	pmax		
	comp=Z,240nm,1.0s					
YSS	**Yuzh-Sakhalins**	**5.54 4**		**Pn**	**02 01 55.9**	**+1.6**
KUR	**Kuril'sk**	**5.63 46**	*d i*P	**Pn**	**02 01 56.6**	**+1.1**
KUR			*i* S	**Sn**	**02 02 58.3**	**-0.5**
KUR			pmax	pmax		
	comp=Z,807nm,1.1s					
KUR			pmax	pmax		
	comp=E,411nm,0.7s					
KUR			pmax	pmax		
	comp=N,346nm,0.5s					
KUR			smax	smax		
	comp=N,987nm,0.3s					
KUR			smax	smax		
	comp=E,703nm,0.2s					
KUR			MLR	MLR		
	comp=Z,7μm,14.0s					
MJA0	**Matsu Arr-Jizo**	**5.76 213**	*e*P	**Pn**	**02 02 01.0**	**+3.6**
MJA0			pmax	pmax		
	comp=Z,4.0nm,0.3s					
MAJO	**Matsushiro**	**5.77 214**	P	**Pn**	**02 01 59.8**	**+2.2**
MAJO	**Matsushiro**	**5.77 214**		**Pn**	**02 01 59.8**	**+2.2**
MAT	**Matsushiro**	**5.77 214**	P	**Pn**	**02 02 00.0**	**+2.4**
MAT			*e*S	**Sn**	**02 03 03.5**	**+1.0**
MJAR	**Matsushiro Arr**	**5.77 214**	P	**Pn**	**02 02 01.0**	**+3.4**
	comp=Z,3.5nm,0.3s,baz=25,slow=16,SNR=69					
MJAR			LR	LR	02 04 37.7	
	comp=Z,7μm,20.9s,baz=40,slow=42					
MJAR	**Matsushiro Arr**	**5.77 214**		**Pn**	**02 01 59.7**	**+2.2**
INU	**Inuyama**	**7.29 215**	Pn	**Pn**	**02 02 20.4**	**+2.0**
UGL	**Uglegorsk**	**7.65 359**	*e*P	**Pn**	**02 02 24.7**	**+1.6**
UGL			S	**Sn**	**02 03 47.3**	**-1.0**
UGL			pmax	pmax		
	comp=Z,140nm,1.2s					
UGL			smax	smax		
	comp=E,1μm,8.0s					
UGL			MLR	MLR		
	comp=Z,6μm,22.0s					
UGL			MLR	MLR		
	comp=E,8μm,19.0s					
UGL			MLR	MLR		
	comp=N,7μm,19.0s					
VLA	**Vladivostok**	**7.81 286**	*i* P	**Pn**	**02 02 26.0**	**+0.6**
USA0B	**Ussuriysk Arra**	**7.98 294**	*i* P	**Pn**	**02 02 28.2**	**+0.5**
USA0B	**Ussuriysk Arra**	**7.98 294**		**Pn**	**02 02 28.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**7.98 294**	P	**Pn**	**02 02 29.2**	**+1.5**
	baz=97,slow=16,SNR=106					
USRK			LR	LR	02 05 35.3	
	comp=N,9μm,18.9s,baz=106,slow=38					
USRK	**Ussuriysk Ar.**	**7.98 294**		**Pn**	**02 02 28.1**	**+0.4**
MSHR	**Mys Shultsa**	**8.28 282**	*i* P	**Pn**	**02 02 32.7**	**+0.9**
JHJ	**Hachijo jima 2**	**8.51 194**	P	**Pn**	**02 02 35.0**	**-0.1**
	comp=N,41nm,0.3s,baz=336,slow=23,SNR=8.4					
JHJ			S	**Sn**	**02 04 07.6**	**-2.1**
	comp=N,85nm,0.3s,baz=63,slow=23,SNR=3.9					
JHJ			LR	LR	02 06 36.2	
	comp=N,2μm,19.7s,baz=70,slow=42					
JHJ2	**Mitsune**	**8.51 193**	Pn	**Pn**	**02 02 35.1**	**+0.1**
TYV	**Tymovskoe**	**9.44 2**	*e*P	**Pn**	**02 02 48.8**	**+1.1**
TYV			*e*S	**Sn**	**02 04 27.4**	**-4.9**
TYV			pmax	pmax		
	comp=Z,600nm,6.3s					
TYV			pmax	pmax		
	comp=Z,34nm,0.8s					
TYV			smax	smax		
	comp=N,23nm,0.7s					
TYV			smax	smax		
	comp=E,1μm,8.1s					
TYV			MLR	MLR		
	comp=Z,6μm,20.0s					
MDJ	**Mudanjiang**	**9.74 293**	P	**Pn**	**02 02 54.1**	**+2.2**
MDJ			sP		02 03 13.4	
MDJ			S	**Sn**	**02 04 40.4**	**+0.6**
MDJ			pmax	pmax		
	comp=Z,200nm,0.8s					
MDJ			pmax	pmax		
	comp=Z,510nm,2.9s					
MDJ			LR	LR		
	comp=Z,4μm,14.2s					
MDJ			LR	LR		
	comp=Z,8μm,17.8s					
MDJ			LR	LR		
	comp=Z,13μm,19.9s					

MDJ	**Mudanjiang**	**9.74 293**		**Pn**	**02 02 56.0**	**+4.1**
GRNR	**Gornyy**	**10.15 339**	⇑*i*P	**Pn**	**02 03 00.5**	**+3.1**
GRNR			*e*S	**Sn**	**02 04 52.0**	**+2.2**
GRNR			pmax	pmax		
	comp=E,40nm,0.9s					
GRNR			pmax	pmax		
	comp=Z,70nm,0.9s					
GRNR			MLR	MLR		
	comp=N,3μm,19.0s					
GRNR			MLR	MLR		
	comp=Z,3μm,19.0s					
KLR	**Kul'dur**	**10.70 320**	*c i*P	**Pn**	**02 03 05.2**	**+0.3**
KLR	**Kul'dur**	**10.70 320**	P	**Pn**	**02 03 07.8**	**+2.9**
	comp=Z,1.3nm,0.3s,baz=127,slow=14,SNR=78					
KLR			LR	LR	02 07 15.8	
	comp=Z,9μm,20.4s,baz=134,slow=38					
KSRS	**Korea Array**	**11.71 255**	P	**Pn**	**02 03 22.6**	**+3.9**
	comp=Z,13nm,0.3s,baz=64,slow=13,SNR=76					
KSRS			S	**Sn**	**02 05 36.0**	**+8.2**
	comp=Z,3.8nm,0.3s,baz=67,slow=24,SNR=19					
KSRS			LR	LR	02 07 34.5	
	comp=Z,5μm,18.3s,baz=72,slow=36					
KS19	**Wonju Array Si**	**11.73 255**		**Pn**	**02 03 22.4**	**+3.4**
KSAR	**Wonju Array Be**	**11.74 255**	P	**Pn**	**02 03 21.8**	**+2.6**
KSAR	**Wonju Array Be**	**11.74 255**		**Pn**	**02 03 21.8**	**+2.6**
NKL	**Nikolayevsk**	**11.77 356**	*e*P	**Pn**	**02 03 19.7**	**+0.3**
NKL			*e*S	**Sn**	**02 05 25.5**	**-3.6**
NKL			pmax	pmax		
	comp=N,8.0nm,0.8s					
NKL			pmax	pmax		
	comp=Z,50nm,0.9s					
NKL			pmax	pmax		
	comp=E,3.0nm,0.6s					
NKL			smax	smax		
	comp=E,93nm,2.5s					
NKL			MLR	MLR		
	comp=Z,5μm,21.0s					
OKH	**Okha**	**12.14 2**	*d i*P	**Pn**	**02 03 23.5**	**-1.0**
OKH			*i* S	**Sn**	**02 05 41.6**	**+3.5**
OKH			pmax	pmax		
	comp=Z,400nm,10.3s					
OKH			smax	smax		
	comp=E,900nm,12.8s					
OKH			smax	smax		
	comp=N,600nm,10.3s					
OKH			MLR	MLR		
	comp=Z,4μm,20.0s					
JNU	**Nakatsue**	**12.22 231**	P	**Pn**	**02 03 27.6**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=10,slow=2.8,SNR=25					
JNU			LR	LR	02 08 00.5	
	comp=Z,5μm,21.2s,baz=42,slow=36					
JNU	**Nakatsue**	**12.22 231**		**Pn**	**02 03 27.3**	**+1.4**
CN2	**Changchun**	**12.54 286**	*e*P	**Pn**	**02 03 33.3**	**+3.2**
CN2			*es*P	P	02 03 48.3	+8.1
CN2			*e*S	**Sn**	**02 05 51.1**	**+2.9**
CN2			pmax	pmax		
	comp=Z,20nm,0.8s					
CN2			pmax	pmax		
	comp=Z,1μm,9.0s					
CN2			LR	LR		
	comp=Z,2μm,16.0s					
CN2			LR	LR		
	comp=Z,7μm,16.0s					
CN2			LR	LR		
	comp=Z,8μm,17.0s					
TJN	**Taejon**	**12.58 251**	*ce*P	**Pn**	**02 03 35.0**	**+4.3**
SKR	**Severo-Kuril's**	**13.38 42**	*e*P	**Pn**	**02 03 44.0**	**+2.6**
SKR			pmax	pmax		
	comp=Z,400nm,4.3s					
SKR			MLR	MLR		
	comp=Z,2μm,16.0s					
SKR			MLR	MLR		
	comp=Z,3μm,14.0s					
SNY	**Shenyang**	**13.91 278**	⇓P	**Pn**	**02 03 51.1**	**+2.3**
SNY			pmax	pmax		
	comp=Z,33nm,1.0s					
SNY			pmax	pmax		
	comp=Z,2μm,10.6s					
SNY			LR	LR		
	comp=Z,2μm,14.5s					
SNY			LR	LR		
	comp=Z,4μm,27.8s					
SNY			LR	LR		
	comp=Z,10μm,27.0s					
JCJ	**Chichijima**	**14.30 180**	P	**Pn**	**02 03 52.4**	**-1.7**
	comp=Z,16nm,0.3s,baz=96,slow=24,SNR=11					
JCJ			S	Sn	02 06 17.8	-13
	comp=Z,8.7nm,0.3s,baz=231,slow=18,SNR=4.1					
PEA0B	**Petropavlovsk-**	**15.69 37**	*i* P	**Pn**	**02 04 11.7**	**-0.2**
PEA0B	**Petropavlovsk-**	**15.69 37**	Pn	**Pn**	**02 04 11.3**	**-0.6**
PETK	**Petropavlovsk-**	**15.69 37**	P	**Pn**	**02 04 09.9**	**-2.1**
PETK	**Petropavlovsk-**	**15.69 37**	P	**Pn**	**02 04 08.8**	**-3.2**
	comp=Z,1.7nm,0.3s,baz=212,slow=7.1,SNR=20					
PETK			LR	LR	02 10 26.0	
	comp=Z,3μm,20.6s,baz=221,slow=38					
PETK	**Petropavlovsk-**	**15.69 37**		**Pn**	**02 04 09.9**	**-2.1**
ZEA	**Zeya**	**15.86 326**	*e*P	**Pn**	**02 04 12.0**	**-2.1**
ZEA			*e*S	**Sn**	**02 07 06.0**	**-2.7**
ZEA			pmax	pmax		
	comp=N,110nm,1.0s					
ZEA			pmax	pmax		
	comp=E,71nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,170nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,700nm,11.0s					
ZEA			pmax	pmax		
	comp=E,400nm,12.0s					
ZEA			smax	smax		
	comp=N,400nm,11.0s					
ZEA			MLR	MLR		
	comp=Z,5μm,18.0s					
ZEA			MLR	MLR		
	comp=E,4μm,19.0s					
ZEA			MLR	MLR		
	comp=N,4μm,15.0s					
DL2	**Dalian**	**15.90 268**	P	**Pn**	**02 04 16.3**	**+1.6**
DL2			pP	**P**	**02 04 23.3**	**+5.8**
DL2			sP	**pP**	**02 04 31.3**	**+2.2**
DL2			S	**Sn**	**02 07 13.8**	**+3.9**
DL2			SS	S	02 07 34.3	+13
DL2			pmax	pmax		
	comp=N,150nm,0.7s					
DL2			pmax	pmax		
	comp=N,980nm,5.3s					
DL2			LR	LR		
	comp=N,2μm,19.5s					
DL2			LR	LR		
	comp=N,2μm,24.7s					
DL2			LR	LR		
	comp=N,4μm,28.7s					
PET	**Petropavlovsk**	**16.07 38**	*e*P	**P**	**02 04 20.1**	**+0.8**
PET			*e*S	**Sn**	**02 07 14.3**	**+0.4**
PET			pmax	pmax		
	comp=Z,27nm,0.5s					
PET			pmax	pmax		
	comp=Z,300nm,7.9s					
PET			MLR	MLR		
	comp=Z,3μm,19.0s					
PET			MLR	MLR		
	comp=Z,3μm,16.0s					
PET	**Petropavlovsk**	**16.07 38**	Pn	**Pn**	**02 04 16.9**	**+0.1**
HIA	**Hailar**	**17.56 304**	*i* P	**Pn**	**02 04 34.8**	**-0.6**
HIA			pmax	pmax		
	comp=Z,295nm,1.1s					
HIA	**Hailar**	**17.56 304**	Pn	**Pn**	**02 04 34.1**	**-1.3**
JOW	**Kunigami**	**18.52 222**	P	**Pn**	**02 04 47.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=117,slow=13,SNR=7.5					
MA2	**Magadan**	**18.94 14**	*ce*P	**P**	**02 04 50.5**	**-0.4**
MA2			pmax	pmax		
	comp=Z,39nm,1.0s					
MA2	**Magadan**	**18.94 14**	P	**Pn**	**02 04 51.9**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=201,slow=8.2,SNR=10					
MA2	**Magadan**	**18.94 14**	P	**P**	**02 04 50.2**	**-0.7**
BJI	**Beijing**	**19.73 275**	P	**P**	**02 04 58.4**	**-1.2**
BJI			S	**S**	**02 08 34.1**	**-5.0**
BJI			LR	LR		
	comp=Z,2μm,16.1s					
BJI			LR	LR		
	comp=Z,3μm,16.9s					
BJI			LR	LR		
	comp=Z,5μm,29.0s					
BJT	**Baijiatuau**	**19.74 275**	P	**P**	**02 04 59.2**	**-0.5**
BJT			pmax	pmax		
	comp=Z,103nm,0.8s					
BJT	**Baijiatuau**	**19.74 275**	P	**P**	**02 04 59.2**	**-0.5**

BJT			IAmb	IAmb	02 05 01.8	
	comp=Z,103nm,0.8s					
SSE	**Sheshan**	**19.77 245**	P	**Pn**	**02 05 01.8**	**-0.2**
SSE			S	**S**	**02 08 35.9**	**-4.1**
SSE			sS	**sS**	**02 08 51.8**	**-6.8**
SSE			pmax	pmax		
	comp=Z,46nm,0.7s					
SSE			LR	LR		
	comp=Z,1μm,17.6s					
TIA	**Tai'an**	**20.17 263**	P	**P**	**02 05 02.8**	**-1.7**
TIA			sP	**sP**	**02 05 23.4**	**+0.8**
TIA			S	**S**	**02 08 42.5**	**-5.5**
TIA			pmax	pmax		
	comp=Z,95nm,0.6s					
TIA			LR	LR		
	comp=Z,2μm,18.7s					
TIA			LR	LR		
	comp=Z,1μm,17.5s					
TIA			LR	LR		
	comp=Z,4μm,28.4s					
NJ2	**Nanjing**	**20.84 251**	⇑*i*P	**P**	**02 05 11.3**	**-0.5**
NJ2			pP	**pP**	**02 05 24.0**	**+0.5**
NJ2			sP	**sP**	**02 05 30.1**	**+0.1**
NJ2			S	**S**	**02 09 00.9**	**-0.4**
NJ2			pmax	pmax		
	comp=Z,91nm,0.7s					
NJ2			pmax	pmax		
	comp=Z,550nm,3.5s					
NJ2			LR	LR		
	comp=Z,4μm,17.5s					
NJ2			LR	LR		
	comp=Z,3μm,17.0s					
NJ2			LR	LR		
	comp=Z,4μm,18.0s					
YAK	**Yakutsk**	**21.95 344**	*e*P	**P**	**02 05 19.6**	**-3.8**
YAK			*e*S	**S**	**02 09 15.1**	**-7.5**
YAK			pmax	pmax		
	comp=Z,97nm,0.9s					
YAK			pmax	pmax		
	comp=N,47nm,0.9s					
YAK			pmax	pmax		
	comp=E,12nm,0.9s					
YAK			pmax	pmax		
	comp=Z,103nm,1.1s					
YAK			pmax	pmax		
	comp=N,115nm,1.4s					
YAK			pmax	pmax		
	comp=E,31nm,0.9s					
YAK			smax	smax		
	comp=N,414nm,2.9s					
YAK			smax	smax		
	comp=E,283nm,2.3s					
YAK			MLR	MLR		
	comp=Z,3μm,22.0s					
YAK			MLR	MLR		
	comp=N,2μm,19.0s					
YAK	**Yakutsk**	**21.95 344**	P	**P**	**02 05 19.4**	**-4.0**
	comp=N,48nm,0.5s,baz=186,slow=6.4,SNR=31					
YAK	**Yakutsk**	**21.95 344**	P	**P**	**02 05 20.5**	**-2.9**
YAK			IAmb	IAmb	02 05 21.4	
	comp=Z,113nm,0.6s					
SEY	**Seymchan**	**22.37 12**	*i* P	**P**	**02 05 25.6**	**-2.3**
SEY	**Seymchan**	**22.37 12**	P	**P**	**02 05 23.6**	**-4.3**
	comp=Z,14nm,0.6s,baz=202,slow=7.8,SNR=19					
HHC	**Hu-ho-hao-te**	**23.00 279**	*e*P	**P**	**02 05 33.8**	**-1.1**
HHC			pP	pP	02 05 46.3	-0.5
HHC			sP	sP	02 05 54.6	+1.3
HHC			PP		02 06 08.0	
HHC			*e*S	**S**	**02 09 39.4**	**-2.1**
HHC			pmax	pmax		
	comp=Z,16nm,1.2s					
TIY	**Taiyuan**	**23.16 271**	*e*P	**P**	**02 05 34.8**	**-1.6**
TIY			PP	**PnPn**	**02 06 10.0**	**+6.4**
TIY			S	**S**	**02 09 40.8**	**-3.3**
TIY			pmax	pmax		
	comp=Z,53nm,0.4s					
TIY			pmax	pmax		
	comp=Z,320nm,5.9s					
TIY			LR	LR		
	comp=Z,1μm,14.8s					
TIY			LR	LR		
	comp=Z,730nm,12.9s					
TIY			LR	LR		
	comp=Z,3μm,31.5s					
TATO	**Taipei**	**23.75 233**	P	**P**	**02 05 42.3**	**+0.3**
YHNB	**Yeheng**	**24.05 232**	P	**P**	**02 05 44.4**	**-0.4**
YHNB			IAmb	IAmb	02 05 49.3	
	comp=Z,87nm,0.6s					
BTO	**Baotou**	**24.20 279**	*e*P	**P**	**02 05 44.0**	**-2.1**
BTO			S	**S**	**02 09 53.0**	**-7.8**
BOD	**Bodaibo**	**24.27 322**	*e*P	**P**	**02 05 44.6**	**-1.8**
BOD			pmax	pmax		
	comp=Z,50nm,0.7s					
NACB	**Ninganchiao**	**24.30 231**	P	**P**	**02 05 45.4**	**-1.6**
WHN	**Wuhan**	**24.89 253**	⇑P	**P**	**02 05 51.8**	**-0.5**
WHN			S	S	02 10 00.4	-11
WHN			LR	LR		
	comp=Z,4μm,14.1s					
WHN			LR	LR		
	comp=Z,5μm,16.0s					
WHN			LR	LR		
	comp=Z,8μm,17.0s					
SSLB	**Suanglung**	**24.97 232**	P	**P**	**02 05 52.6**	**-0.5**
SSLB			IAmb	IAmb	02 06 00.2	
	comp=Z,30nm,0.8s					
YULB	**Yu-li**	**25.07 231**	P	**P**	**02 05 53.4**	**-0.6**
YULB			IAmb	IAmb	02 05 57.0	
	comp=Z,28nm,0.7s					
TPUB	**Ta-pu**	**25.53 232**	P	**P**	**02 05 57.6**	**-0.6**
TPUB			IAmb	IAmb	02 06 09.4	
	comp=Z,43nm,0.7s					
QZH	**Quanzhou**	**25.56 237**	⇑*i*P	**P**	**02 05 56.5**	**-1.9**
QZH			S	**S**	**02 10 23.0**	**+0.5**
QZH			LR	LR		
	comp=Z,1μm,19.2s					
QZH			LR	LR		
	comp=Z,880nm,19.8s					
QZH			LR	LR		
	comp=Z,1μm,24.0s					
ULN	**Ulaanbaatar**	**25.64 296**	P	**P**	**02 05 58.5**	**-0.7**
ULN			pmax	pmax		
	comp=Z,48nm,0.7s					
ULN	**Ulaanbaatar**	**25.64 296**	P	**P**	**02 05 58.5**	**-0.7**
ULN			IAmb	IAmb	02 06 01.7	
	comp=Z,48nm,0.7s					
TWG	**Pinlang**	**25.64 230**	P	**P**	**02 05 59.0**	**-0.2**
KNMB	**Chin-men Tao**	**26.03 237**	P	**P**	**02 06 03.4**	**+0.7**
KNMB			IAmb	IAmb	02 06 08.8	
	comp=Z,114nm,0.8s					
SONM	**Songino Array**	**26.08 296**	P	**P**	**02 06 03.1**	**-0.1**
SONM			pmax	pmax		
	comp=Z,59nm,1.0s					
SONM	**Songino Array**	**26.08 296**	P	**P**	**02 06 02.5**	**-0.7**
	comp=Z,64nm,0.8s,baz=94,slow=7.4,SNR=114					
SONM			LR	LR	02 17 03.3	
	comp=Z,4μm,18.9s,baz=84,slow=38					
SONM	**Songino Array**	**26.08 296**	P	**P**	**02 06 03.1**	**-0.1**
XAN	**Xi'an**	**27.19 265**	P	**P**	**02 06 11.8**	**-1.4**
XAN			S	**S**	**02 10 46.9**	**-1.3**
XAN			SS	**SnSn**	**02 12 12.8**	**+13**
XAN			pmax	pmax		
	comp=Z,22nm,0.7s					
XAN			pmax	pmax		
	comp=Z,370nm,8.0s					
XAN			LR	LR		
	comp=Z,460nm,19.5s					
XAN			LR	LR		
	comp=Z,1μm,19.8s					
XAN			LR	LR		
	comp=Z,700nm,19.8s					
XAN	**Xi'an**	**27.19 265**	P	**P**	**02 06 11.7**	**-1.4**
XAN			pmax	pmax		
	comp=Z,35nm,0.7s					
XAN	**Xi'an**	**27.19 265**	P	**P**	**02 06 11.7**	**-1.4**
XAN			IAmb	IAmb	02 06 14.8	
	comp=Z,35nm,0.7s					
IRK	**Irkutsk**	**27.78 306**	*e*P	**P**	**02 06 17.1**	**-1.1**
IRK			*e*		02 06 33.1	
IRK			pmax	pmax		
	comp=Z,117nm,3.2s					
TLY	**Talaya**	**28.10 305**	*c i*P	**P**	**02 06 21.2**	**+0.1**
TLY			*e*S	**S**	**02 10 59.5**	**-2.7**
TLY			*e*SSS	SSS	02 12 26.4	
TLY			pmax	pmax		
	comp=Z,86nm,0.9s					

TLY MLR MLR
comp=Z,6μm,16.0s
TLY Talaya 28.10 305 P P 02 06 22.0 +0.9
comp=Z,28nm,0.7s,baz=86,slow=5.2,SNR=17
TLY LR LR 02 18 07.1
comp=Z,3μm,18.4s,baz=91,slow=38
TLY Talaya 28.10 305 P P 02 06 20.8 -0.3
TLY IAmb IAmb 02 06 23.0
comp=Z,46nm,1.0s
ZAK Zakamensk 28.22 302 *e*P **P 02 06 21.2 -1.1**
ZAK pmax pmax
comp=Z,26nm,1.3s
ENH Enshi 28.57 258 P P 02 06 25.0 -0.6
ENH IAmb IAmb 02 06 27.2
comp=Z,88nm,0.7s
BILL Bilibino 29.66 18*ce*P **P 02 06 34.7 0.0**
BILL *e* 02 07 33.0
BILL *e* 02 09 39.3
BILL *e*S **S 02 11 27.0 +0.7**
BILL *e*SS **SnSn 02 13 00.8 +1.7**
BILL pmax pmax
comp=Z,16nm,0.7s
BILL MLR MLR
comp=Z,2μm,19.0s
BILL Bilibino 29.66 18 P P 02 06 34.8 +0.1
MOY Mondy 29.74 304 *e*P **P 02 06 36.2 +0.4**
MOY pmax pmax
comp=Z,73nm,1.8s
H11N2 WAKE ISLAND Hy 30.16 128 T T 02 38 13.6
baz=323,slow=75,SNR=502
H11N1 WAKE ISLAND Hy 30.17 128 T T 02 38 23.3
baz=323,slow=75,SNR=649
H11N3 WAKE ISLAND Hy 30.18 128 T T 02 37 55.2
baz=323,slow=75,SNR=702
LZH Lanzhou 30.18 273 *e*P **P 02 06 39.8 -0.1**
LZH pP pP 02 06 56.5 +3.5
LZH S **S 02 11 32.3 -3.2**
LZH pmax pmax
comp=Z,47nm,1.1s
LZH pmax pmax
comp=Z,320nm,5.2s
LZH LR LR
comp=Z,1μm,12.5s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,3μm,16.3s
HKPS Hong Kong Po S 30.31 240 P **P 02 06 41.2 +0.3**
HKPS IAmb IAmb 02 06 43.7
comp=Z,76nm,0.8s
H11S1 WAKE ISLAND Hy 31.00 130 T T 02 39 17.4
baz=300,slow=74,SNR=356
H11S3 WAKE ISLAND Hy 31.01 130 T T 02 39 14.2
baz=300
H11S2 WAKE ISLAND Hy 31.02 130 T T 02 39 23.7
baz=300,slow=74,SNR=244
GTA Gaotai 32.08 281 *e*P **P 02 06 55.8 -0.7**
GTA pP pP 02 07 06.9 -2.7
GTA sP sP 02 07 11.4 -4.3
GTA PcP **PcP 02 09 46.1 +1.3**
GTA S **S 02 11 59.8 -5.2**
GTA PcS **PcS 02 13 31.1 +1.3**
GTA pmax pmax
comp=Z,39nm,0.9s
GTA pmax pmax
comp=Z,160nm,4.4s
GTA LR LR
comp=Z,1μm,18.2s
GTA LR LR
comp=Z,3μm,17.5s
GTA LR LR
comp=Z,4μm,18.2s
CD2 Chengdu 32.50 264 ⇑P **P 02 06 59.3 -0.9**
CD2 sP sP 02 07 18.9 -0.5
CD2 S **S 02 12 03.6 -8.0**
CD2 sS sS 02 12 34.8 +1.2
CD2 pmax pmax
comp=Z,110nm,0.6s
CD2 pmax pmax
comp=Z,300nm,5.3s
CD2 LR LR
comp=Z,2μm,21.4s
CD2 LR LR
comp=Z,2μm,23.5s
CD2 LR LR
comp=Z,2μm,27.5s
GYA Guiyang 32.77 254⇓*i*P **P 02 07 01.3 -1.3**
GYA pP pP 02 07 12.9 -2.9
GYA sP sP 02 07 17.4 -4.4
GYA PP **PnPn 02 08 10.0 -2.3**
GYA S **S 02 12 07.9 -8.0**
GYA pmax pmax
comp=Z,30nm,0.5s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,1μm,17.9s
GYA LR LR
comp=Z,2μm,17.6s
GYA LR LR
comp=Z,3μm,17.9s
QIZ Qiongzhong 35.43 241 P **P 02 07 25.4 -0.3**
QIZ S **S 02 12 58.6 +1.6**
QIZ PcS **PcS 02 13 43.6 +1.8**
QIZ LR LR
comp=Z,1μm,20.1s
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,1μm,20.6s
KMI Kunming 36.40 256 P **P 02 07 34.5 +0.3**
KMI pP pP 02 07 46.1 -1.3
KMI sP sP 02 07 53.0 -0.5
KMI PP **PnPn 02 08 58.3 +0.6**
KMI S **S 02 13 11.4 -0.8**
KMI sS sS 02 13 36.3 +1.9
KMI pmax pmax
comp=Z,33nm,0.6s
KMI pmax pmax
comp=Z,430nm,4.1s
KMI LR LR
comp=Z,1μm,21.1s
KMI LR LR
comp=Z,1μm,23.0s
KMI LR LR
comp=Z,2μm,23.9s
KCP Kidapawan 37.49 209⇑*e*P **P 02 07 45.2 +2.0**
KCP *i*S **pP 02 07 58.0 +1.4**
SLVN Son La 37.92 250 P **P 02 07 46.9 0.0**
SLVN IAmb IAmb 02 07 49.5
comp=Z,51nm,0.8s
DGZ Jazzator, Alta 38.44 301 *i*P **P 02 07 51.5 +0.4**
ZAA0 Zalesovo Array 39.51 309 P **P 02 07 59.3 -0.5**
ZALV Zalesovo Beam 39.51 309 P **P 02 07 58.8 -0.9**
comp=Z,92nm,0.7s,baz=91,slow=8.0,SNR=153
ZALV PcP **PcP 02 10 06.0 -0.4**
comp=Z,14nm,0.6s,baz=99,slow=3.3,SNR=3.8
ZALV LR LR 02 25 17.3
comp=Z,3μm,18.7s,baz=78,slow=38
ZALV Zalesovo Beam 39.51 309 P **P 02 07 59.1 -0.6**
WMQ Urumqi 39.55 292 *e*P **P 02 08 01.3 +1.0**
WMQ pP pP 02 08 15.8 +2.1
WMQ S **S 02 14 00.3 +1.2**
WMQ sS sS 02 14 22.8 +1.3
WMQ pmax pmax
comp=Z,44nm,0.6s
WMQ pmax pmax
comp=Z,370nm,3.7s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,3μm,15.9s
WMQ LR LR
comp=Z,3μm,16.9s
WMQ Urumqi 39.55 292 P **P 02 07 59.9 -0.4**
WMQ pmax pmax
comp=Z,115nm,0.7s
WMQ Urumqi 39.55 292 P **P 02 07 59.9 -0.4**
NRIK Noril'sk 39.57 333 P **P 02 07 59.9 -0.2**
comp=Z,30nm,0.5s,baz=110,slow=10.0,SNR=25
NRIK LR LR 02 25 13.6
comp=Z,5μm,20.8s,baz=105,slow=37
TTA Tatalina 41.53 37 P **P 02 08 16.5 +0.1**
TTA pmax pmax
comp=Z,27nm,1.2s
TTA Tatalina 41.53 37 P **P 02 08 16.5 +0.1**
SVW2 Sparrevohn 41.73 40 P **P 02 08 18.9 +0.9**
SVW2 IAmb IAmb 02 08 23.1
comp=Z,30nm,1.1s
PAYA Payao 42.07 252 P **P 02 08 22.7 +1.5**
comp=Z,91μm,0.7s,comp=Z,787μm
MK31 Makanchi Array 42.42 298 P **P 02 08 23.2 -0.6**
MK31 pmax pmax
comp=Z,53nm,0.8s
MK31 Makanchi Array 42.42 298 P **P 02 08 23.1 -0.6**
MK31 IAmb IAmb 02 08 29.2
comp=Z,53nm,0.8s
MKAR Makanchi Array 42.42 298 P **P 02 08 23.8 0.0**
MKAR Makanchi Array 42.42 298 P **P 02 08 22.6 -1.2**
comp=Z,34nm,0.8s,baz=83,slow=9.6,SNR=147
MKAR LR LR 02 27 19.3
comp=Z,2μm,19.9s,baz=82,slow=38
MKAR Makanchi Array 42.42 298 P **P 02 08 23.8 0.0**
LSA Lhasa 42.56 271 P **P 02 08 26.2 +0.5**
LSA Lhasa 42.56 271 P **P 02 08 26.3 +0.6**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 42.56 271 P **P 02 08 26.3 +0.6**
LSA IAmb IAmb 02 08 29.1
comp=Z,34nm,0.8s
IMAR Indian Mountai 42.61 33 P **P 02 08 25.1 0.0**
MAKZ Makanchi 42.62 298 P **P 02 08 25.4 -0.1**
MAKZ pmax pmax
comp=Z,81nm,0.8s
MAKZ Makanchi 42.62 298 P **P 02 08 25.4 -0.1**
LAMP Lampang 42.79 251 P **P 02 08 29.2 +2.1**
comp=Z,133μm,0.7s
CMMT Chiang Mai 43.08 252 P **P 02 08 30.0 +0.5**
CHTO Chiang Mai 43.09 252 P **P 02 08 29.0 -0.5**
CHTO pmax pmax
comp=Z,61nm,0.8s
CHTO Chiang Mai 43.09 252 P **P 02 08 29.0 -0.5**
CHTO IAmb IAmb 02 08 37.1
comp=Z,61nm,0.8s
RSO Redoubt South 43.15 41 P **P 02 08 29.5 -0.2**
PBKT Sadao Pong 43.16 247 P **P 02 08 31.0 +1.0**
comp=Z,18nm,0.9s,comp=Z,854nm
PBKT Sadao Pong 43.16 247 IAmb IAmb 02 08 32.0
comp=Z,19nm,0.8s
OHAK Old Harbor 43.20 46 P **P 02 08 28.9 -1.0**
OHAK IAmb IAmb 02 08 45.0
comp=Z,89nm,1.5s
SIJI Sorong 43.25 196 P **P 02 08 32.2 +1.5**
comp=Z,44nm,0.7s,baz=15,slow=11,SNR=5.0
PPLA Purkeypile 43.28 37 P **P 02 08 32.9 +2.2**
PPLA IAmb IAmb 02 08 45.1
comp=Z,35nm,1.0s
CM31 Chiang Mai Arr 43.32 251 P **P 02 08 32.9 +1.5**
SNR=9.4
CM31 Chiang Mai Arr 43.32 251 P **P 02 08 31.9 +0.6**
CM31 IAmb IAmb 02 08 37.7
comp=Z,30nm,1.0s
CMAR Chiang Mai Arr 43.32 251 P **P 02 08 32.2 +0.8**
comp=Z,17nm,0.7s,baz=43,slow=8.0,SNR=38
CMAR PcP **PcP 02 10 20.2 +0.8**
comp=Z,7.0nm,0.7s,baz=27,slow=2.1,SNR=6.7
CMAR LR LR 02 27 00.8
comp=Z,925nm,19.9s,baz=54,slow=37
CMAR Chiang Mai Arr 43.32 251 P **P 02 08 31.9 +0.6**
KDAK Kodiak Island 43.51 45*ce*P **P 02 08 33.5 +1.1**
KDAK Kodiak Island 43.51 45 P **P 02 08 33.1 +0.7**
comp=Z,24nm,0.7s,baz=61,slow=4.6,SNR=20
KDAK Kodiak Island 43.51 45 P **P 02 08 31.7 -0.7**
KDAK IAmb IAmb 02 08 36.4
comp=Z,73nm,1.3s
BPAW Bear Paw Mtn. 43.77 36 P **P 02 08 35.8 +1.2**
BPAW IAmb IAmb 02 08 37.8
comp=Z,25nm,0.9s
KURK Kurchatov 43.80 305 P **P 02 08 33.8 -1.1**
SNR=33
KURK Kurchatov 43.80 305*ce*P **P 02 08 33.5 -1.3**
KURK pmax pmax
comp=Z,80nm,0.6s
KURK Kurchatov 43.80 305 P **P 02 08 33.7 -1.1**
KTH Kantishna Hill 43.82 37 IAmb IAmb 02 08 39.0
comp=Z,80nm,1.2s
MLY Manley 43.85 34 IAmb IAmb 02 08 39.0
comp=Z,38nm,0.9s
KMSI Cibinong 43.87 207 P **P 02 08 34.6 -1.1**
KURBB Kurchatov Arra 43.87 305 P **P 02 08 34.1 -1.3**
comp=Z,106nm,0.6s,baz=78,slow=8.7,SNR=143
SUA Susitna One 44.04 40 IAmb IAmb 02 08 41.3
comp=Z,26nm,0.6s
TRF Thorofare Moun 44.11 37 IAmb IAmb 02 08 42.9
comp=Z,20nm,0.8s
SHL Shillong 44.20 265 P **P 02 08 38.9 +0.3**
SHL pmax pmax
comp=Z,44nm,0.8s
SHL Shillong 44.20 265 P **P 02 08 38.9 +0.3**
SHL IAmb IAmb 02 08 40.9
comp=Z,44nm,0.8s
MHMT Maesarieng 44.23 252 P **P 02 08 40.0 +1.4**
comp=Z,92nm,0.7s,comp=Z,4μm
TOLK Toolik Lake Re 44.32 29 P **P 02 08 38.7 -0.2**
baz=268,SNR=6.7
BWN Browne 44.44 36 P **P 02 08 39.9 +0.1**
RC01 Rabbit Creek A 44.56 40 IAmb IAmb 02 08 59.7
comp=Z,26nm,1.0s
MRSI Marisa 44.68 209 P **P 02 08 43.9 +1.7**
MCK McKinley 44.70 36 P **P 02 08 43.2 +1.3**
MCK pmax pmax
comp=Z,32nm,1.2s
MCK McKinley 44.70 36 P **P 02 08 43.1 +1.3**
MCK IAmb IAmb 02 08 56.0
comp=Z,32nm,1.2s
RND Reindeer 44.76 37 IAmb IAmb 02 08 46.4
comp=Z,21nm,0.8s
PMR Palmer 44.80 39 IAmb IAmb 02 08 45.4
comp=Z,20nm,1.0s
SEW Seward 44.82 41 IAmb IAmb 02 09 03.4
comp=Z,22nm,0.8s
GHO Glory Hole Cre 44.88 39 IAmb IAmb 02 08 56.6
comp=Z,48nm,1.0s
UMPA Umpang Tak 44.88 249 P **P 02 08 46.6 +2.7**
comp=Z,95μm,0.8s
UTHA Uthaitani 44.91 248 P **P 02 08 45.7 +1.6**
comp=Z,49μm,0.7s,comp=Z,495μm
MDM Murphy Dome 44.92 34 IAmb IAmb 02 08 46.8
comp=Z,45nm,0.9s
WRH Wood River Hil 45.02 35 IAmb IAmb 02 08 48.8
comp=Z,67nm,1.4s
FAKI Fak Fak 45.05 194 P **P 02 08 46.2 +1.0**
FAKI Fak Fak 45.05 194 P **P 02 08 45.5 +0.3**
TCOL CIGO, UAF Yank 45.08 35 P **P 02 08 45.6 +0.7**
baz=274,SNR=7.4
COLA College 45.09 35*d i*P **P 02 08 46.6 +1.7**
COLA pmax pmax
comp=Z,85nm,1.0s
COLA College 45.09 35 P **P 02 08 46.1 +1.2**
CCB Clear Creek Bu 45.12 35 IAmb IAmb 02 08 48.7
comp=Z,32nm,1.3s
KNK Knik Glacier 45.14 39 IAmb IAmb 02 09 04.0
comp=Z,44nm,1.1s
SML Sawmill 45.16 39 IAmb IAmb 02 08 49.3
comp=Z,27nm,0.7s
DHY Denali Highway 45.46 37 IAmb IAmb 02 08 50.4
comp=Z,26nm,0.7s
IL31 45.51 35 IAmb IAmb 02 08 52.3
comp=Z,62nm,1.0s
ILAR Eielson Array 45.51 35 P **P 02 08 48.6 +0.3**
comp=Z,51nm,1.1s,baz=261,slow=4.7,SNR=176
ILAR LR LR 02 30 17.6
comp=Z,567nm,18.6s,baz=278,slow=39
HDA Harding Lake 45.51 35 P **P 02 08 48.2 -0.1**
baz=275,SNR=12
HDA Harding Lake 45.51 35 IAmb IAmb 02 08 52.8
comp=Z,65nm,1.4s
MPSI Mapaga 45.60 212 P **P 02 08 51.0 +1.5**
SANI Sanana 45.71 203 P **P 02 08 51.0 +0.6**
GLI Glacier Island 45.87 40 IAmb IAmb 02 09 11.0
comp=Z,18nm,0.8s
SRDT SRDT 45.98 247 P **P 02 08 55.3 +2.8**
comp=Z,9.3nm,0.6s
KHLT Khaolaem Dam 46.04 248 P **P 02 08 51.5 -1.5**
comp=Z,25nm,1.0s
FYU Fort Yukon 46.04 32 IAmb IAmb 02 08 56.0
comp=Z,53nm,1.0s
APSI Ampana 46.07 209 P **P 02 08 55.3 +2.1**
MSAI Masohi 46.17 198 P **P 02 08 57.9 +3.9**
BMAR Burnt Mountain 46.23 31 P **P 02 08 55.1 +1.1**
TAPN Taplejung 46.37 270 *e*P **P 02 08 55.7 -0.2**
comp=Z,129nm,0.7s
EYAK Cordova Ski Ar 46.57 40 P **P 02 08 58.5 +1.8**
EYAK IAmb IAmb 02 09 00.7
comp=Z,45nm,1.3s
SIMRM Sittwe 46.65 258 P **P 02 08 58.5 +0.8**
ODAN Odare 46.87 270 *e*P **P 02 08 59.8 0.0**
comp=Z,187nm,0.8s
BNDI Bandanaira 47.09 197 P **P 02 09 03.6 +2.5**
SBUM Sibu 47.24 223 P **P 02 09 03.0 +0.6**
SBUM Sibu 47.24 223 P **P 02 09 02.7 +0.4**
JIRN Jiri 47.34 272 *e*P **P 02 09 03.7 +0.1**
comp=Z,262nm,0.8s
GLB Gilahina Butte 47.35 39 IAmb IAmb 02 09 12.9
comp=Z,11nm,0.7s
RAMN Ramite 47.41 270 *e*P **P 02 09 03.4 -0.6**
comp=Z,510nm,0.7s
GUN Gumba 47.45 272 *e*P **P 02 09 04.2 -0.2**
comp=Z,585nm,0.8s
VRDI Verde Repeater 47.55 39 IAmb IAmb 02 09 21.5
comp=Z,21nm,1.0s
CRQM Cirque 47.80 40 IAmb IAmb 02 09 22.8
comp=Z,48nm,1.1s
EGAK Eagle 47.94 34 IAmb IAmb 02 09 12.2
comp=Z,25nm,0.9s
TGL Tana Glacier 47.95 40 IAmb IAmb 02 09 26.7
comp=Z,24nm,0.8s
KKN Kakani 47.96 272 *e*P **P 02 09 08.0 -0.2**
comp=Z,329nm,0.8s
BCAR Beaver Creek A 47.98 37 P **P 02 09 08.5 +0.9**
PKI Pulchoki 47.98 272 *e*P **P 02 09 08.5 0.0**
comp=Z,164nm,0.7s
PKIN Phulchoki 47.98 272 *e*P **P 02 09 08.5 0.0**
comp=Z,85nm,0.7s
ULHL Ulahol 47.99 294 P **P 02 09 09.3 +1.1**
SNR=7.4
BALM Baldy 48.12 39 IAmb IAmb 02 09 29.5
comp=Z,16nm,0.6s
BVAR Borovoye Array 48.13 310 P **P 02 09 08.3 -0.7**
comp=Z,40nm,0.5s,baz=77,slow=6.2,SNR=173
BVAR PcP **PcP 02 10 36.9 +1.2**
comp=Z,14nm,0.7s,baz=107,slow=2.0,SNR=3.9
TKM2 Tokmak 2 48.17 295 P **P 02 09 09.2 -0.4**
SNR=177
DMN Daman 48.19 272 *e*P **P 02 09 09.7 -0.3**
comp=Z,208nm,0.7s
BRVK Borovoye 48.19 310*ce*P **P 02 09 09.1 -0.2**
BRVK pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 48.19 310 P **P 02 09 09.0 -0.4**
GKN Gorkha 48.33 273 *e*P **P 02 09 10.5 -0.5**
comp=Z,286nm,0.7s
TARA Tarawa 48.59 137 P **P 02 09 12.7 -0.1**
TARA IAmb IAmb 02 09 15.5
comp=Z,33nm,0.8s
CTGM Chitina Glacie 48.62 39 IAmb IAmb 02 09 34.3
comp=Z,63nm,1.4s
KBK Karagaybulak 48.71 295 P **P 02 09 15.1 +1.3**
SNR=106
CHMS Chumysh 48.72 296 P **P 02 09 14.2 +0.6**
SNR=13
KZA Kyzart 48.73 294 P **P 02 09 15.8 +1.6**
SNR=24
USP Ospenovka 48.78 296 P **P 02 09 13.3 -0.8**
SNR=37
DANN Dangsing 48.81 274 *e*P **P 02 09 14.6 -0.2**
comp=Z,2μm,0.7s
DAWY Dawson 48.83 35 P **P 02 09 14.4 +0.2**
AAK Ala-Archa 49.03 295 *i*P **P 02 09 15.3 -0.9**
SNR=37
AAK Ala-Archa 49.03 295 P **P 02 09 16.9 +0.7**
SNR=11
AAK Ala-Archa 49.03 295*ce*P **P 02 09 16.5 +0.3**
AAK pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 49.03 295 P **P 02 09 15.8 -0.3**
comp=Z,12nm,0.3s,baz=108,slow=5.4,SNR=58
AAK LR LR 02 31 43.0
comp=Z,2μm,19.7s,baz=72,slow=38
AAK Ala-Archa 49.03 295 P **P 02 09 17.1 +0.9**
SNR=25
AAK Ala-Archa 49.03 295 P **P 02 09 16.0 -0.2**
KSM Kuching 49.06 224 P **P 02 09 17.0 +0.6**
KSM Kuching 49.06 224 P **P 02 09 17.1 +0.6**
UCH Uchtor 49.18 295 P **P 02 09 18.3 +0.6**
SNR=14
KOLN Koldanda 49.23 273 *e*P **P 02 09 17.3 -0.7**
comp=Z,234nm,0.8s
KSH Kashi 49.27 291 P P 02 09 22.8 +4.8
KSH PP **PP 02 11 17.3 +5.3**
KSH S **S 02 16 25.9 +5.6**
KSH sS sS 02 16 47.9 +4.6
KSH SS **SS 02 19 53.3 +1.4**
KSH pmax pmax
comp=Z,63nm,0.8s
KSH pmax pmax
comp=Z,650nm,9.1s
KSH LR LR
comp=Z,690nm,12.6s
KSH LR LR
comp=Z,430nm,9.8s
KSH LR LR
comp=Z,350nm,11.7s
EPYK Eagle Plains 49.45 32 P **P 02 09 19.7 +0.8**
baz=282,SNR=54
EKS2 Erkin-Say 49.51 296 P **P 02 09 20.6 +0.8**
SNR=7.5
AML Almayashu 49.77 295 P **P 02 09 23.6 +1.4**
SNR=24
SURT Suratani 50.06 242 P **P 02 09 25.8 +1.7**
comp=Z,45nm,0.7s,comp=Z,647nm
SKLT Songkhla 50.20 239 P **P 02 09 29.3 +4.2**
comp=Z,17nm,1.0s,comp=Z,348nm
INK Inuvik 50.23 29 P **P 02 09 25.0 +0.3**
comp=Z,40nm,0.5s,baz=292,slow=6.6,SNR=167
TRTT Trang 50.30 240 P **P 02 09 27.8 +1.9**
comp=Z,22nm,0.8s,comp=Z,765nm
KAPI Kappang 50.56 209 P **P 02 09 27.9 +0.1**
KAPI pmax pmax
comp=Z,23nm,0.8s
KAPI Kappang 50.56 209 P **P 02 09 27.9 +0.1**
KAPI IAmb IAmb 02 09 30.3
comp=Z,22nm,0.8s
PKDT Phuket 51.15 242 P **P 02 09 34.4 +2.1**
comp=Z,74nm,0.9s,comp=Z,3μm
KK31 Karatay Array 51.53 297 P **P 02 09 33.8 -1.1**
KK31 pmax pmax
comp=Z,41nm,0.6s
KK31 Karatay Array 51.53 297 P **P 02 09 33.9 -1.1**
KKAR Karatay Array 51.53 297 P **P 02 09 33.4 -1.5**
KKAR Karatay Array 51.53 297 P **P 02 09 33.4 -1.5**
JRMM Jerantut 51.56 234 P **P 02 09 36.0 +0.6**
KULM Kulim 51.61 237 P **P 02 09 37.0 +1.3**
KULM Kulim 51.61 237 P **P 02 09 35.5 -0.2**
SKAG Skagway 51.91 40 P **P 02 09 38.8 +1.4**
SKAG IAmb IAmb 02 09 45.2
comp=Z,18nm,1.0s
A36M Sachs Harbour 51.98 23 P **P 02 09 38.1 +0.3**
baz=288,SNR=79
IPM Ipoh 52.00 236 P **P 02 09 40.0 +1.4**
IPM Ipoh 52.00 236 IAmb IAmb 02 09 40.7
comp=Z,36nm,0.7s
SVE Sverdlovsk 52.30 317⇓*e*P **P 02 09 41.5 +1.1**
SVE pmax pmax
comp=Z,54nm,0.7s
SVE MLR MLR
comp=Z,4μm,18.0s
MYKOM Kota Tinggi 52.40 231 P **P 02 09 42.0 +0.4**
MYKOM Kota Tinggi 52.40 231 P **P 02 09 41.9 +0.4**
MYKOM IAmb IAmb 02 09 44.3
comp=Z,25nm,0.5s
TAS Tashkent 53.10 296 P **P 02 09 46.7 +0.1**
TAS pmax pmax
comp=Z,102nm,1.2s
TAS Tashkent 53.10 296 P **P 02 09 46.7 +0.1**
C36M Paulatuk 53.21 26 P **P 02 09 47.3 +0.4**
baz=290,SNR=18
GAR Garm 53.44 293 P **P 02 09 48.8 -0.5**
ARU Arti 53.51 317*d i*P **P 02 09 48.5 -0.8**
ARU *PP **pP 02 10 02.4 -0.8**
ARU 02 10 52.8
ARU S **S 02 17 18.3 +0.2**
ARU pmax pmax
comp=Z,50nm,1.1s
ARU MLR MLR
comp=Z,4μm,18.0s
ARU Arti 53.51 317 P **P 02 09 47.1 -2.2**

comp=Z,11nm,0.7s,baz=46,slow=4.4,SNR=43
ARU PcP **PcP** **02 10 56.4 +0.9**
comp=Z,4.2nm,0.5s,baz=353,slow=1.2,SNR=4.0
ARU Arti 53.51 317 P **P** **02 09 49.2 -0.1**
ARU IAmb IAmb 02 09 51.0
comp=Z,34nm,0.8s
NDI New Delhi 53.52 278 *e*P **P** **02 09 49.0 -0.8**
SOEI Soe 53.53 202 P **P** **02 09 49.2 -0.8**
NIL Nilore 53.90 286 P **P** **02 09 52.6 0.0**
NIL pmax pmax
comp=Z,122nm,0.8s
NIL Nilore 53.90 286 P **P** **02 09 52.6 0.0**
LHMI Lhok Sumawe 54.04 241 P **P** **02 09 55.7 +2.0**
CHGR Chuyangaron 54.40 293 P **P** **02 09 55.6 -0.6**
PSI Prapat 54.61 237 P **P** **02 09 58.0 0.0**
PSI pmax pmax
comp=Z,33nm,0.7s
RPSI Rantau Prapat 54.69 237 P **P** **02 09 58.0 -0.4**
RPSI IAmb IAmb 02 10 00.2
comp=Z,33nm,0.7s
DLBC Dease Lake 54.84 40 P **P** **02 09 59.0 0.0**
MTN Manton Dam 54.95 193 IAmb IAmb 02 10 12.6
comp=Z,19nm,0.7s
COEN Coen 55.12 179 P **P** **02 10 01.9 +0.6**
COEN IAmb IAmb 02 10 05.0
comp=Z,23nm,1.4s
BKNI Bangkinang 55.24 233 P **P** **02 10 03.7 +1.3**
ABKAR Akbulak array 55.62 308 P **P** **02 10 03.6 -1.1**
AKTO Aktyubinsk 56.23 310 P **P** **02 10 08.0 -1.1**
comp=Z,21nm,0.7s,baz=68,slow=8.6,SNR=62
SMRI Semarang 56.33 219 P **P** **02 10 10.6 +0.5**
SPA0 Spitsbergen Ar 56.34 348 *e*P **P** **02 10 10.2 +0.8**
KBS Kingsbay 56.44 350 P **P** **02 10 11.2 +1.1**
KBS pmax pmax
comp=Z,41nm,0.9s
KBS Kingsbay 56.44 350 P **P** **02 10 11.2 +1.1**
KBS IAmb IAmb 02 10 12.9
comp=Z,41nm,0.8s
KBL Kabul 56.48 289 P **P** **02 10 10.7 -0.6**
KBL pmax pmax
comp=Z,58nm,0.8s
KBL Kabul 56.48 289 P **P** **02 10 10.7 -0.6**
GSI Gunungsitoli 56.62 237 P **P** **02 10 12.8 +0.6**
KIRV Kirov 57.14 321 P **P** **02 10 15.1 -0.2**
comp=Z,129nm,0.7s,baz=13,slow=0.4,SNR=25
PRGR Permogore 57.43 326⇑*i*P **P** **02 10 17.9 +0.5**
PRGR pmax pmax
comp=Z,60nm,0.8s
LEM Lembang 57.51 222 LR LR 02 35 04.9
comp=Z,206nm,21.9s,baz=46,slow=36
KNRA Kununurra 58.16 195 P **P** **02 10 22.8 -0.1**
RES Resolute Bay 58.21 15 P **P** **02 10 22.8 +0.2**
RES pmax pmax
comp=Z,61nm,0.9s
RES Resolute Bay 58.21 15 P **P** **02 10 22.0 -0.6**
comp=Z,46nm,0.7s,baz=308,slow=6.4,SNR=63
RES Resolute Bay 58.21 15 P **P** **02 10 22.8 +0.2**
APA Apatity 58.94 335⇓*i*P **P** **02 10 27.6 -0.2**
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,3μm,21.0s
HYB Hyderabad 58.99 266 *i*P **P** **02 10 27.0 -1.9**
HYB *e*PcP **PcP** **02 11 17.0 -0.5**
TMCR Tamitsa 59.20 330 *e*P **P** **02 10 29.5 -0.1**
TMCR pmax pmax
comp=Z,56nm,0.8s
YKA Yellowknife Ar 59.74 32 P **P** **02 10 34.6 +1.2**
comp=Z,2.6nm,0.5s,baz=304,slow=6.7,SNR=14
YKA LR LR 02 40 30.5
comp=Z,36nm,18.2s,baz=294,slow=40
YKA Yellowknife Ar 59.74 32 P **P** **02 10 33.8 +0.4**
ARCES ARCESS Array B 60.10 339 P **P** **02 10 36.2 +0.4**
comp=Z,7.3nm,0.7s,baz=52,slow=7.9,SNR=32
ARCES LR LR 02 39 28.5
comp=Z,944nm,21.7s,baz=48,slow=39
ARCES ARCESS Array B 60.10 339 P **P** **02 10 35.8 -0.1**
ARE0 ARCESS Array S 60.10 339 *e*P **P** **02 10 36.6 +0.7**
KTK1 Kautokeino 61.06 339 *e*P **P** **02 10 42.8 +0.5**
FITZ Fitzroy Crossi 61.17 198 P **P** **02 10 43.7 0.0**
FITZ IAmb IAmb 02 10 46.2
comp=Z,15nm,1.1s
CTAO Charters Tower 61.32 176 P **P** **02 10 44.8 +0.2**
CTAO pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 61.32 176 P **P** **02 10 44.8 +0.2**
HRA Herat 61.35 292 IAmb IAmb 02 10 47.2
comp=Z,31nm,0.8s
DAG Danmarks Havn 61.45 355⇑*i*P **P** **02 10 45.4 +0.6**
DAG pmax pmax
comp=Z,29nm,0.8s
DAG Danmarks Havn 61.45 355⇑*i*P **P** **02 10 45.4 +0.6**
comp=Z,39nm,0.8s
WRAB Tennant Creek 61.48 188 *ce*P **P** **02 10 45.9 +0.2**
WRAB pmax pmax
comp=Z,26nm,1.0s
WRAB Tennant Creek 61.48 188 P **P** **02 10 45.3 -0.4**
WRAB IAmb IAmb 02 10 47.7
comp=Z,30nm,1.1s
WB2 Warramunga Arr 61.49 188 P **P** **02 10 44.8 -1.0**
WB2 IAmb IAmb 02 10 47.8
comp=Z,27nm,1.1s
WRA Warramunga Arr 61.49 188 P **P** **02 10 45.3 -0.5**
WRA Warramunga Arr 61.49 188 P **P** **02 10 44.5 -1.3**
comp=Z,15nm,0.4s,baz=5.4,slow=6.8,SNR=203
WRA Warramunga Arr 61.49 188 P **P** **02 10 45.3 -0.5**
TRO Tromso 61.76 341 *e*P **P** **02 10 47.5 +0.5**
POO Poona 61.85 270⇑*i*P pP 02 11 07.0 +4.4
comp=Z,70nm,1.0s
GEYT Alibeck 62.28 297 P **P** **02 10 49.9 -1.2**
comp=Z,61nm,0.7s,baz=29,slow=3.4,SNR=95
GEYT LR LR 02 40 12.0
comp=Z,2μm,18.1s,baz=50,slow=38
GEYT Alibeck 62.28 297 P **P** **02 10 50.0 -1.2**
NLWA Neilton Lookou 63.36 49 IAmb IAmb 02 11 18.9
comp=Z,58nm,1.5s
D03D Eldon 63.73 49 P **P** **02 11 01.6 +1.2**
baz=303
B05A Bryant 63.88 48 P **P** **02 11 02.7 +1.2**
baz=304
STEI Steigen 63.92 340 *e*P **P** **02 11 01.4 +0.1**
PALK Pallekele 63.94 256 LR LR 02 40 03.5
comp=Z,804nm,21.5s,baz=113,slow=37
E03A Lebam 64.00 50 IAmb IAmb 02 11 23.0
comp=Z,38nm,1.0s
B06A Marblemount 64.08 47 P **P** **02 11 03.5 +0.8**
MOS Moscow 64.10 323 *e*P **P** **02 11 02.7 0.0**
MOS *e* 02 11 25.2
MOS *e* 02 11 39.2
MOS pmax pmax
comp=Z,56nm,1.0s
MOS MLR MLR
comp=N,700nm,17.0s
MOS MLR MLR
comp=E,600nm,17.0s
MOS MLR MLR
comp=Z,1μm,17.0s
D04E Lakebay 64.10 49 P **P** **02 11 04.4 +1.4**
baz=304
E04D Cinebar 64.56 50 P **P** **02 11 07.2 +1.2**
baz=304,SNR=5.5
VRH Novokhopyorsk 64.75 317 *e*P **P** **02 11 06.6 -0.5**
VRH pmax pmax
comp=Z,90nm,0.6s
G03D McMinnville, O 64.92 51 P **P** **02 11 09.7 +1.4**
baz=304
OBN Obninsk 64.95 322 *ce*P **P** **02 11 08.7 +0.4**
OBN *e* 02 11 41.7
OBN *e* 02 13 32.2
OBN *e*S **S** **02 19 52.1 +6.3**
OBN *e*SS **SS** **02 23 53.5 -3.9**
OBN pmax pmax
comp=Z,59nm,0.9s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 64.95 322 P **P** **02 11 08.1 -0.2**
F04A Amboy 65.00 50 IAmb IAmb 02 11 29.1
comp=Z,28nm,1.1s
FIA1 FINESS Array S 65.21 332 P **P** **02 11 09.7 -0.3**
FINES FINESS Array B 65.22 332 P **P** **02 11 09.0 -0.9**
FINES FINESS Array B 65.22 332 P **P** **02 11 08.8 -1.2**
comp=Z,66nm,0.7s,baz=58,slow=5.2,SNR=134
FINES LR LR 02 41 42.2
comp=Z,3μm,20.9s,baz=40,slow=38
FINES FINESS Array B 65.22 332 P **P** **02 11 09.0 -0.9**

AS31 Alice Springs 65.22 188 P **P** **02 11 10.4 0.0**
ASAR Alice Springs 65.22 188 P **P** **02 11 10.2 -0.2**
ASAR Alice Springs 65.22 188 P **P** **02 11 09.9 -0.4**
comp=Z,16nm,0.7s,baz=4.8,slow=5.2,SNR=96
ASAR Alice Springs 65.22 188 P **P** **02 11 10.2 -0.2**
LPSR Galich'ya Gora 65.33 319 *e*P **P** **02 11 10.9 +0.1**
LPSR pmax pmax
comp=Z,90nm,0.8s
MOR8 Moi Rana 65.45 339 *e*P **P** **02 11 09.8 -1.7**
F05D White Salmon 65.58 50 P **P** **02 11 13.5 +0.9**
baz=305
H04D Lebanon 65.61 51 P **P** **02 11 13.7 +0.9**
baz=305
J01E Myrtle Point 65.68 53 P **P** **02 11 13.3 +0.1**
baz=305
I03D Drain, OR 65.72 52 P **P** **02 11 15.1 +1.6**
baz=305
G05D Wamic, OR 66.03 50 P **P** **02 11 16.7 +1.1**
baz=305
VSR Storozhevoye 66.04 318 *i*P **P** **02 11 15.5 +0.1**
K02D Willamette Mer 66.10 54 P **P** **02 11 17.6 +1.4**
baz=305
VORD Divnogorie 66.13 318 *e*P **P** **02 11 15.3 -0.7**
VORD pmax pmax
comp=Z,50nm,0.8s
C09A Chrisman Ranch 66.25 47 P **P** **02 11 18.4 +1.4**
SUMG Summit 66.29 0 *i*P **P** **02 11 18.6 +1.4**
SUMG pmax pmax
comp=Z,180nm,0.7s
SUMG Summit 66.29 0 *i*P **P** **02 11 18.6 +1.4**
comp=Z,176nm,0.7s
SUMG Summit 66.29 0 P **P** **02 11 17.4 +0.2**
L02E Cave Junction 66.45 54 P **P** **02 11 19.4 +1.2**
baz=305
I05D Terrebonne, OR 66.54 51 P **P** **02 11 19.9 +1.0**
baz=306
NEW Newport 66.60 46 P **P** **02 11 20.1 +0.9**
baz=306,SNR=6.8
J04D Umpqua Nationa 66.72 52 P **P** **02 11 20.8 +0.6**
baz=306,SNR=5.7
AKT Akhty 66.97 306 *e*P **P** **02 11 20.9 -0.8**
AKT *e* 02 11 48.3
AKT pmax pmax
comp=Z,135nm,0.8s
EIDS Eidsvold 66.97 171 P **P** **02 11 22.4 +0.9**
EIDS IAmb IAmb 02 11 25.0
comp=Z,11nm,0.8s
VSU Vasula 66.98 329 *ce*P **P** **02 11 21.8 +0.5**
VSU pmax pmax
comp=Z,119nm,0.7s
VSU Vasula 66.98 329 *e*P **P** **02 11 21.3 +0.1**
DZM Mont Dzumac 67.07 156 *e*S **S** **02 20 04.2 -8.2**
comp=Z,310nm,28.2s
DZM Mont Dzumac 67.07 156 *e*LR LR 02 31 36.7
comp=Z,1μm,22.8s
PINE Pine Mountain 67.09 51 IAmb IAmb 02 11 43.4
comp=Z,33nm,1.2s
GROC Groznyy 67.13 308 *e*P **P** **02 11 20.8 -1.7**
GROC *e**PP **pP** **02 11 33.8 -3.0**
GROC *e* 02 11 48.1
GROC *e* 02 13 50.0
GROC *e**SS **sS** **02 20 33.9 -3.1**
GROC pmax pmax
comp=Z,16nm,0.7s
L04D Klamath Falls 67.20 53 P **P** **02 11 24.8 +1.6**
baz=306,SNR=7.4
J05D Fort Rock, OR 67.22 52 P **P** **02 11 24.1 +0.8**
baz=306
YBH Yreka Blue Hor 67.24 54 IAmb IAmb 02 11 43.5
comp=Z,11nm,0.9s
M02C Callahan 67.35 54 P **P** **02 11 25.4 +1.3**
baz=306
NSS Namsos 67.39 339 *e*P **P** **02 11 23.8 0.0**
GOF Gofitskoye 67.64 311⇓*i*P **P** **02 11 26.6 +0.9**
GOF pmax pmax
comp=Z,154nm,0.8s
N02D Trinity Center 67.68 55 P **P** **02 11 27.5 +1.4**
baz=306,SNR=6.2
M04C Macdoel 67.74 53 P **P** **02 11 27.6 +1.0**
baz=306,SNR=5.7
SCO Scoresbysund 67.80 354 *i*P **P** **02 11 27.6 +1.3**
SCO Scoresbysund 67.80 354 *i*P **P** **02 11 27.6 +1.3**
WDC Whiskeytown Da 68.02 55 IAmb IAmb 02 11 48.7
comp=Z,32nm,1.2s
O02D Mt. Diablo Mer 68.10 55 P **P** **02 11 29.4 +0.6**
baz=306,SNR=5.8
KVAR Kislovodsk Arr 68.50 310 P **P** **02 11 32.5 +1.2**
comp=Z,52nm,0.8s,baz=260,slow=19,SNR=51
ZEI Tsey 68.50 308 *e*P **P** **02 11 30.7 -0.7**
ZEI pmax pmax
comp=Z,35nm,0.6s
KIV Kislovodsk 68.50 310 *i*P **P** **02 11 32.0 +0.7**
SNR=77
KIV Kislovodsk 68.50 310 P **P** **02 11 32.0 +0.7**
SNR=43
KIV P **02 11 32.0 +0.7**
SNR=43
KIV Kislovodsk 68.50 310 *e*P **P** **02 11 31.9 +0.7**
KIV *e*S **S** **02 20 30.3 +1.0**
KIV pmax pmax
comp=Z,286nm,4.1s
KIV MLR MLR
comp=Z,3μm,17.0s
KIV Kislovodsk 68.50 310⇑P **P** **02 11 32.1 +0.9**
KIV mb 02 11 34.6
KIV Kislovodsk 68.50 310 P **P** **02 11 31.5 +0.2**
KBZ Khabaz 68.52 310 P **P** **02 11 31.8 +0.6**
comp=Z,57nm,0.8s,baz=43,slow=5.0,SNR=110
KBZ LR LR 02 44 21.7
comp=Z,958nm,20.9s,baz=37,slow=38
O03E Paynes Creek 68.64 55 P **P** **02 11 32.1 -0.1**
baz=307,SNR=11
TBLU Trondheim 68.86 339 *e*P **P** **02 11 32.5 -0.5**
MNCI Minicoy 68.92 262 P **P** **02 11 35.0 +0.8**
IZAR Zarasai 69.03 327 *e*P **P** **02 11 34.9 +0.6**
IZAR IAmb IAmb 02 11 35.8
comp=Z,24nm,0.5s
PLID Pearl Lake 69.14 48 IAmb IAmb 02 11 55.3
comp=Z,30nm,1.5s
MSO Missoula 69.19 45 P **P** **02 11 35.9 +0.3**
baz=309
ISAL Salakas 69.20 327 *e*P **P** **02 11 36.3 +1.0**
ISAL IAmb IAmb 02 11 37.1
comp=Z,29nm,0.6s
SLIT Slitere, Latvi 69.26 330 *e*P **P** **02 11 35.7 +0.2**
SLIT IAmb IAmb 02 11 36.5
comp=Z,266nm,0.5s
ORV Oroville 69.27 55 IAmb IAmb 02 11 38.2
comp=Z,11nm,0.8s
IIGN Ignalina 69.32 327 *e*P **P** **02 11 36.6 +0.6**
IIGN IAmb IAmb 02 11 37.8
comp=Z,33nm,0.5s
NACGM Naroch 69.39 326 *e* **P** **02 11 36.0 -0.5**
AFI Afiamalu 69.56 132 LR LR 02 36 00.8
comp=Z,487nm,21.5s,baz=329,slow=30
AKH Akhalkalaki 69.57 307 P **P** **02 11 38.7 +0.6**
AKH pmax pmax
comp=Z,35nm,0.8s
AKH Akhalkalaki 69.57 307⇑P **P** **02 11 38.9 +0.8**
AKH Akhalkalaki 69.57 307 P **P** **02 11 38.7 +0.6**
AKH IAmb IAmb 02 11 41.0
comp=Z,35nm,0.8s
GNI Garni 69.58 306 P **P** **02 11 39.0 +0.8**
GNI Garni 69.58 306 P **P** **02 11 39.3 +1.1**
GNI pmax pmax
comp=Z,35nm,0.8s
GNI Garni 69.58 306 P **P** **02 11 39.7 +1.5**
comp=Z,14nm,0.7s,baz=356,slow=4.1,SNR=17
GNI Garni 69.58 306 P **P** **02 11 39.3 +1.1**
GNI IAmb IAmb 02 11 46.1
comp=Z,35nm,0.8s
FFC Flin Flon 69.71 34 *i*P **P** **02 11 40.6 +2.1**
FFC Flin Flon 69.71 34 P **P** **02 11 39.1 +0.7**
BEKR Beckworth 69.78 54 IAmb IAmb 02 11 59.5
comp=Z,28nm,1.1s
HMDM Hanimaadhoo 69.82 261 P **P** **02 11 40.2 +0.6**
TASB TASBURUN-IGDIR 69.99 306 P **P** **02 11 42.0 +1.5**
PABE Paberze 70.12 328 *e*P **P** **02 11 41.8 +0.9**
MOL Molde 70.14 339 *e*P **P** **02 11 40.9 0.0**
NC405 NORSAR Array S 70.16 337 P **P** **02 11 40.4 -0.8**
DOMB Dombas 70.17 339 *e*P **P** **02 11 41.3 +0.1**
KARS Kars 70.30 307 P **P** **02 11 44.1 +1.6**
NB201 NORSAR Array S 70.34 337 P **P** **02 11 42.3 0.0**
WSAR Wadi Sarin 70.34 284 P **P** **02 11 43.5 +0.7**
comp=Z,13nm,0.8s,baz=85,slow=6.9,SNR=7.7

NB2 NORSAR Subarra 70.37 337 P **P** **02 11 41.4 -1.0**
comp=Z,16nm,0.5s,baz=36,slow=6.5
NB2 NORSAR Subarra 70.37 337 P **P** **02 11 41.4 -1.0**
baz=36,slow=6.5
NOA NORSAR Array B 70.37 337 P **P** **02 11 41.1 -1.4**
comp=Z,25nm,0.7s,baz=37,slow=6.1,SNR=96
NOA LR LR 02 45 45.8
comp=Z,838nm,21.8s,baz=35,slow=38
HRY Holter Researc 70.39 45 P **P** **02 11 43.9 +1.0**
RUBR Rubicon Trail 70.40 55 P **P** **02 11 44.5 +1.2**
RUBR IAmb IAmb 02 11 46.5
comp=Z,33nm,0.8s
BANOM Banah 70.40 288 *i*P **P** **02 11 42.6 -0.7**
SNR=9.3
SOC Sochi 70.42 311 *e*P **P** **02 11 41.5 -1.5**
SOC *e**PP **pP** **02 11 51.8 -5.6**
SOC *e* 02 14 14.8
SOC *e*PPP PPP 02 16 00.4
SOC *e*S **S** **02 20 50.4 -1.3**
SOC pmax pmax
comp=Z,78nm,0.6s
SOC MLR MLR
comp=Z,741nm,17.0s
SHME Shamm 70.44 288 *i*P **P** **02 11 42.9 -0.5**
SNR=16
PAHR Pah Rah Range 70.47 54 IAmb IAmb 02 12 03.9
comp=Z,32nm,1.3s
BATM Batumi 70.52 309⇑P **P** **02 11 44.9 +1.2**
PBUR Paburg 70.56 329 *e*P **P** **02 11 44.6 +1.0**
VCNR Virginia City 70.56 55 P **P** **02 11 45.4 +1.2**
VCNR IAmb IAmb 02 11 48.0
comp=Z,13nm,0.9s
EGMT Eagleton 70.61 43 P **P** **02 11 44.6 +0.4**
baz=311
EGMT Eagleton 70.61 43 IAmb IAmb 02 12 01.9
comp=Z,16nm,1.1s
AKN Aaknes 70.61 339 *e*P **P** **02 11 45.0 +1.2**
NAO01 NORSAR Array S 70.62 337 *e*P **P** **02 11 44.0 +0.1**
NAO01 NORSAR Array S 70.62 337 P **P** **02 11 44.0 +0.1**
NAO01 IAmb IAmb 02 11 45.2
comp=Z,51nm,1.0s
BCA Borcka 70.66 308⇑P **P** **02 11 45.9 +1.4**
BCA mb 02 11 46.9
BCA Borcka 70.66 308 P **P** **02 11 44.5 0.0**
CLDR Caldiran 70.70 305 P **P** **02 11 46.3 +1.2**
PNTR Pine Nut 70.72 55 IAmb IAmb 02 12 05.9
comp=Z,34nm,1.2s
SENK Senkaya-Erzuru 70.77 307 P **P** **02 11 46.5 +1.0**
MDH Madha 70.78 287 P **P** **02 11 44.8 -0.6**
DLMT Dillon 70.84 46 IAmb IAmb 02 11 48.3
comp=Z,13nm,0.8s
MSFE Esma-Masafi 70.84 287 *i*P **P** **02 11 46.1 +0.2**
SNR=12
ANN Anapa 70.93 313 *e*P **P** **02 11 46.0 0.0**
ANN pmax pmax
comp=Z,96nm,0.8s
ANN MLR MLR
comp=Z,1μm,21.0s
SAO San Andreas Ge 70.99 58 P **P** **02 11 46.2 -0.4**
SAO pmax pmax
comp=Z,18nm,1.0s
SAO San Andreas Ge 70.99 58 P **P** **02 11 46.2 -0.4**
SAO IAmb IAmb 02 12 05.7
comp=Z,18nm,1.0s
YERR Yerington 71.00 55 P **P** **02 11 48.1 +1.2**
YERR IAmb IAmb 02 12 07.4
comp=Z,39nm,1.1s
MCMT McKenzie Canyo 71.05 47 P **P** **02 11 47.6 +0.5**
UOSS Minazif 71.06 287 *i*P **P** **02 11 46.5 -0.7**
SNR=9.5
UOSS Minazif 71.06 287 P **P** **02 11 48.4 +1.2**
SNR=5.2
UOSS Minazif 71.06 287 P **P** **02 11 46.6 -0.7**
WAKR Walker 71.18 55 P **P** **02 11 48.4 +0.4**
HATD Hatta, Dubai 71.19 287 *i*P **P** **02 11 47.8 -0.1**
SNR=24
AKASG Malin Array Be 71.19 322 P **P** **02 11 47.0 -0.6**
AKASG pmax pmax
comp=Z,17nm,1.1s
AKASG Malin Array Be 71.19 322 P **P** **02 11 46.3 -1.2**
comp=Z,34nm,0.5s,baz=44,slow=6.0,SNR=105
AKASG LR LR 02 45 48.0
comp=Z,1μm,18.4s,baz=30,slow=38
AKASG Malin Array Be 71.19 322 P **P** **02 11 47.0 -0.6**
AKBB Malin Array Si 71.20 322 P **P** **02 11 46.9 -0.6**
AKBB pmax pmax
comp=Z,56nm,0.8s
AKBB Malin Array Si 71.20 322 P **P** **02 11 46.9 -0.6**
BOZ Bozeman (W) 71.21 45 P **P** **02 11 48.9 +0.9**
baz=310,SNR=19
BOZ Bozeman (W) 71.21 45 IAmb IAmb 02 11 50.5
comp=Z,13nm,0.8s
ASHO Ashiyiah 71.33 287 *i*P **P** **02 11 48.5 -0.3**
SNR=12
BMN Battle Mountai 71.33 52 IAmb IAmb 02 12 08.7
comp=Z,20nm,1.4s
VANB Van 71.36 305 P **P** **02 11 50.6 +1.6**
CHOM Cayeli-Rize 71.38 309 P **P** **02 11 49.9 +1.0**
OSL Oslo 71.40 337 *e*P **P** **02 11 49.6 +1.0**
KOPR Koprukoy-ERZUR 71.42 307 P **P** **02 11 49.9 +0.5**
NAZ Nazwa, Dubai 71.43 287 P **P** **02 11 49.5 +0.1**
SFJD Kangerlussuaq 71.46 5 P **P** **02 11 49.7 +0.8**
SFJD pmax pmax
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 71.46 5 *i*P **P** **02 11 49.2 +0.3**
SFJD Kangerlussuaq 71.46 5 P **P** **02 11 49.7 +0.8**
SFJD IAmb IAmb 02 11 51.1
comp=Z,34nm,0.8s
SKAR Skarslia 71.50 338 *e*P **P** **02 11 50.3 +1.0**
SUW Suwalki 71.51 327 P **P** **02 11 49.8 +0.4**
SUW pmax pmax
comp=Z,44nm,0.5s
SUW Suwalki 71.51 327 *e*P **P** **02 11 49.6 +0.2**
SUW *e*P **P** **02 11 49.6 +0.2**
SUW Suwalki 71.51 327 P **P** **02 11 49.8 +0.4**
MLAZ Malazgirt-MUS 71.53 306 P **P** **02 11 51.2 +1.1**
FAQ Al Faqa, Dubai 71.62 287 P **P** **02 11 51.4 +0.8**
KVN Kaiserville 71.66 54 IAmb IAmb 02 12 10.7
comp=Z,16nm,0.9s
RYN Ryan 71.67 55 P **P** **02 11 51.8 +1.0**
HYA Hoyanger 71.67 339 *e*P **P** **02 11 50.9 +0.7**
AKDM Akdamar-Van 71.78 305 P **P** **02 11 52.9 +1.4**
ASUD Al Ashush, Dub 71.89 287 *i*P **P** **02 11 51.9 -0.2**
SNR=9.6
NVAR Mina Array Bea 71.92 55 P **P** **02 11 53.4 +0.9**
comp=Z,9.1nm,0.8s,baz=294,slow=5.9,SNR=59
ALNE Al Ain 71.93 286 *i*P **P** **02 11 51.7 -0.8**
SNR=31
KONO Kongsberg 71.97 337 P **P** **02 11 52.3 +0.3**
KONO pmax pmax
comp=Z,26nm,0.9s
KONO Kongsberg 71.97 337 P **P** **02 11 52.3 +0.3**
KONO IAmb IAmb 02 11 53.5
comp=Z,26nm,0.9s
CUKT Cukurca 72.06 304 P **P** **02 11 53.3 +0.1**
MLAC Mammoth, Mammo 72.09 55 P **P** **02 11 54.3 +0.7**
baz=309
GCMT Greycliff 72.12 44 P **P** **02 11 53.8 +0.3**
VRTB Varto-Mus 72.19 307 P **P** **02 11 56.5 +2.6**
GURO Guroymak-BITLI 72.22 306 P **P** **02 11 55.2 +1.1**
ELK Elko 72.30 51 P **P** **02 11 55.3 +0.6**
ELK pmax pmax
comp=Z,3.0nm,0.7s
ELK Elko 72.30 51 P **P** **02 11 55.3 +0.6**
KARO Karliova-Bingo 72.34 307 P **P** **02 11 55.7 +0.8**
PAGB Antelope Grade 72.39 58 P **P** **02 11 55.2 +0.1**
PAGB IAmb IAmb 02 12 00.9
comp=Z,22nm,1.1s
ASK Askoy 72.51 339 *e*P **P** **02 11 56.1 +0.9**
BER Bergen 72.56 339 *e*P **P** **02 11 56.6 +1.1**
YMP Mirror Lake Pl 72.56 45 P **P** **02 11 57.1 +0.8**
H17A Grant Village 72.56 46 P **P** **02 11 57.1 +0.8**
baz=311,SNR=15
H17A Grant Village 72.56 46 IAmb IAmb 02 12 18.4
comp=Z,40nm,1.4s
ODD1 Odda 72.60 338 *e*P **P** **02 11 56.7 +0.8**
SIM Simferopol' 72.62 315 *d*P **P** **02 11 57.7 +1.5**
SIM S **S** **02 21 17.2 +0.2**
SIM pmax pmax
comp=Z,88nm,0.8s
SIM MLR MLR
comp=Z,690nm,19.0s
SIRT Sirnak 72.63 305 P **P** **02 11 57.1 +0.6**
IMW Indian Meadow 72.69 46 IAmb IAmb 02 12 00.4
comp=Z,12nm,0.8s

BNGB	Bingl	72.76	307	P	P	02 11 58.2 +0.9
RLMT	Red Lodge	72.78	45	P	P	02 11 57.5 +0.1
	baz=312					
RLMT	Red Lodge	72.78	45	IAmb	IAmb	02 12 18.2
	comp=Z,24nm,1.4s					
SMMC	Simmler	72.81	58	P	P	02 11 57.6 0.0
	baz=309					
MOOW	Moose Ponds	72.89	46	IAmb	IAmb	02 12 19.2
	comp=Z,33nm,1.5s					
STKA	Stephens Creek	72.95	181	P	P	02 11 59.5 +1.4
	comp=Z,9.5nm,0.8s,baz=343,slow=7.4,SNR=16					
STKA	Stephens Creek	72.95	181	P	P	02 11 58.7 +0.7
SVAN	Silvan-Diyarba	72.98	306	P	P	02 11 59.6 +1.1
FORT	Forrest	73.02	193	P	P	02 11 59.0 +0.5
FORT				IAmb	IAmb	02 12 18.2
	comp=Z,27nm,0.7s					
DGMT	Dagmar	73.06	40	P	P	02 11 59.3 +0.5
	baz=314					
DGMT	Dagmar	73.06	40	IAmb	IAmb	02 12 18.7
	comp=Z,21nm,1.1s					
BLS5	Blasjo	73.06	338	eP	P	02 11 59.6 +1.0
SNOW	Snow King Moun	73.08	47	P	P	02 12 00.2 +0.9
PKM	Mcpherson Peak	73.19	58	P	P	02 12 00.1 +0.1
	baz=309					
LAO	LASA Array	73.29	42	P	P	02 12 00.8 +0.5
	baz=313					
LAO	LASA Array	73.29	42	IAmb	IAmb	02 12 20.8
	comp=Z,40nm,1.4s					
CWC	Cottonwood Cre	73.31	56	P	P	02 12 01.1 +0.4
	baz=309					
SORM	Soroca	73.38	320	⇑P	P	02 12 00.5 -0.1
GRAC	Grapevine Rang	73.40	55	P	P	02 12 01.6 +0.5
	baz=310,SNR=9.8					
HOMB	Homborsund	73.42	336	eP	P	02 12 01.3 +0.7
SPUT	South Promonto	73.55	49	P	P	02 12 03.1 +1.1
ISA	Isabella, Lake	73.56	57	P	P	02 12 03.0 +1.0
ISA				pmax	pmax	
	comp=Z,4.0nm,1.1s					
ISA	Isabella, Lake	73.56	57	P	P	02 12 03.0 +1.0
R11A	Troy Canyon, C	73.63	53	P	P	02 12 02.4 -0.1
	baz=310,SNR=9.8					
ILIC	Ilic-Erzincan	73.72	308	P	P	02 12 11.1 +8.1
DYBB	Diyarbakir	73.75	306	P	P	02 12 04.4 +1.3
SNART	Snartemo	73.75	337	eP	P	02 12 03.7 +1.0
BSD	Bornholm Skovb	73.86	332	*i* P	P	02 12 03.4 +0.1
BSD				pmax	pmax	
	comp=Z,41nm,0.9s					
BSD	Bornholm Skovb	73.86	332	*i* P	P	02 12 03.4 +0.1
	comp=Z,41nm,0.9s					
MAZI	Mazidag	73.88	306	P	P	02 12 03.7 -0.2
MPMC	Manual Prospec	73.92	56	P	P	02 12 04.8 +0.5
	baz=310					
KIS	Kishinev	73.94	319	eP	P	02 12 04.0 0.0
	comp=Z,140nm,1.6s					
KIS				eL	L	02 38 20.0
KIS				LRM	MLR	02 47 40.0
	comp=Z,2μm,16.0s					
KIS	Kishinev	73.94	319	eP	P	02 12 04.0 0.0
KIS				pmax	pmax	
	comp=Z,140nm,1.6s					
KIS				MLR	MLR	
	comp=Z,2μm,16.0s					
KIS				MLR	MLR	
	comp=N,1μm,17.0s					
SVRC	Sivrice-ELAZID	73.98	307	P	P	02 12 05.9 +1.3
MILM	Milestii Mici	74.00	319	⇑P	P	02 12 04.7 +0.4
FURC	Furnace Creek,	74.05	55	P	P	02 12 05.4 +0.7
	baz=310,SNR=7.9					
DUG	Dugway, Tooele	74.07	50	P	P	02 12 05.9 +0.9
	baz=311,SNR=14					
BBOO	Buckleboo	74.09	185	P	P	02 12 06.0 +1.3
BBOO				IAmb	IAmb	02 12 18.4
	comp=Z,31nm,1.2s					
BEL	Belsk	74.10	327	eP	P	02 12 06.0 +1.3
BEL	Belsk	74.10	327	eP	P	02 12 06.0 +1.3
BEL				eP	P	02 12 06.0 +1.3
TPNV	Topopah Spring	74.12	55	P	P	02 12 05.6 +0.2
	baz=310,SNR=13					
TPNV	Topopah Spring	74.12	55	IAmb	IAmb	02 12 25.3
	comp=Z,21nm,1.1s					
DIKM	Dikmen	74.19	312	⇑P	P	02 12 06.6 +1.1
DIKM				mb		02 12 08.4
DIKM	Dikmen	74.19	312	P	P	02 12 06.8 +1.3
MORW	Morawa	74.19	204	P	P	02 12 05.5 +0.1
MORW				IAmb	IAmb	02 12 13.2
	comp=Z,13nm,0.8s					
BW06	Boulder Array	74.19	47	P	P	02 12 05.0 -0.8
	baz=312,SNR=13					
PD31	Pinedale Array	74.20	47	P	P	02 12 06.2 +0.4
PDAR	Pinedale Array	74.20	47	P	P	02 12 05.8 0.0
	comp=Z,8.7nm,0.7s,baz=240,slow=0.7,SNR=67					
PDAR				LR	LR	02 45 23.0
	comp=Z,346nm,21.2s,baz=335,slow=36					
PDAR	Pinedale Array	74.20	47	P	P	02 12 05.3 -0.5
COP	Copenhagen	74.27	333	*i* P	P	02 12 06.1 +0.4
COP				pmax	pmax	
	comp=Z,36nm,0.7s					
COP	Copenhagen	74.27	333	*i* P	P	02 12 06.1 +0.4
	comp=Z,36nm,0.7s					
TOKT	Tokat	74.33	310	P	P	02 12 06.7 +0.3
SVSK	Karacayir	74.34	310	P	P	02 12 07.7 +1.3
EDW2	Edwards Air Fo	74.36	57	P	P	02 12 07.5 +0.8
	baz=310					
IAS	Iasi	74.42	320	⇑P	P	02 12 07.5 +0.8
GKP	Gorka Klasztor	74.43	329	eP	P	02 12 07.1 +0.4
GKP	Gorka Klasztor	74.43	329	eP	P	02 12 07.1 +0.4
GKP				eP	P	02 12 07.1 +0.4
MALT	Malatya	74.55	308	P	P	02 12 08.5 +0.7
MUD	Monsted U'grnd	74.72	335	*i* P	P	02 12 09.0 +0.8
MUD				pmax	pmax	
	comp=Z,28nm,0.9s					
MUD	Monsted U'grnd	74.72	335	*i* P	P	02 12 09.0 +0.8
	comp=Z,28nm,0.9s					
GSC	Goldstone, Bar	74.83	56	P	P	02 12 09.1 -0.4
	baz=310					
URFA	Urfa	74.88	307	P	P	02 12 10.4 +0.7
KWP	Kalwaria Pacla	74.91	324	eP	P	02 12 10.8 +1.2
KWP	Kalwaria Pacla	74.91	324	eP	P	02 12 10.8 +1.2
KWP				eP	P	02 12 10.8 +1.2
DARE	Darende-Malaty	74.94	308	P	P	02 12 11.6 +1.6
BFSC	Mount Baldy Ra	74.98	58	P	P	02 12 10.7 +0.3
	baz=310					
BIR	Birlad	75.04	319	⇓P	P	02 12 11.9 +1.5
BIR				mb		02 12 14.4
TLCR		75.21	318	⇑P	P	02 12 11.0 -0.3
TLCR				mb		02 12 12.7
BUR08	Bucovina Ar. S	75.22	321	P	P	02 12 11.5 -0.1
BUR08				IAmb	IAmb	02 12 13.7
	comp=Z,32nm,0.8s					
BURAR	Bucovina Array	75.24	321	⇑P	P	02 12 11.6 0.0
BURAR				mb		02 12 13.8
BURAR	Bucovina Array	75.24	321	P	P	02 12 11.4 -0.2
TUQ	Turquoise Moun	75.30	56	P	P	02 12 12.2 0.0
	baz=311,SNR=5.5					
BIZ	Bicaz	75.30	320	⇑P	P	02 12 12.1 +0.2
TESR	Tescani	75.34	320	⇓P	P	02 12 13.0 +0.8
HEC	Hector,Ludlow	75.43	56	P	P	02 12 13.6 +0.7
	baz=310					
ULM	Lac du Bonnet	75.53	34	P	P	02 12 12.4 -0.7
	comp=Z,2.1nm,0.4s,baz=315,slow=6.3,SNR=6.7					
ULM				LR	LR	02 47 49.4
	comp=Z,354nm,19.0s,baz=328,slow=38					
ULM	Lac du Bonnet	75.53	34	P	P	02 12 14.4 +1.3
MSU	Marysvale	75.55	51	P	P	02 12 15.3 +1.6
MSU	Marysvale	75.55	51	P	P	02 12 15.3 +1.6
CFR	Carcaliu	75.56	318	⇑P	P	02 12 13.0 -0.3
KOLS	Kolonicke sedl	75.62	324	eP	P	02 12 14.8 +1.2
KOLS				pmax	pmax	
	comp=Z,16nm,1.0s					
KOLS	Kolonicke sedl	75.62	324	eP	P	02 12 14.8 +1.2
TOPG	Topolog	75.65	318	⇑P	P	02 12 14.0 +0.2
MDND	Maddock	75.66	38	P	P	02 12 13.3 -0.6
	baz=317					
ODBI	Odobesti	75.68	319	⇑P	P	02 12 15.3 +1.3
ODBI				mb		02 12 16.9
BNN	Bunyan	75.71	309	P	P	02 12 15.4 +0.9
OJC	Ojcow	75.72	326	eP	P	02 12 14.0 -0.2
OJC	Ojcow	75.72	326	eP	P	02 12 14.0 -0.2
OJC				eP	P	02 12 14.0 -0.2
OJC	Ojcow	75.72	326	P	P	02 12 14.0 -0.2
VRI	Vrincioaia	75.77	319	⇑P	P	02 12 15.3 +0.8
UZH	Uzhgorod	75.83	324	⇓*i* P	P	02 12 15.6 +0.8
UZH				*e*		02 12 28.8
UZH				*e*		02 12 33.7
GMRC	Granite Mounta	75.89	56	P	P	02 12 16.1 +0.5
	baz=311,SNR=8.0					
K22A	Casper	75.91	45	P	P	02 12 15.6 0.0
	baz=314					
K22A	Casper	75.91	45	IAmb	IAmb	02 12 17.8
	comp=Z,20nm,1.4s					
KMRS	Kahramanmaras	75.98	308	P	P	02 12 16.7 +0.7
BISRR	Bisoca	76.00	319	⇓P	P	02 12 17.6 +1.7
HARR	Harsova	76.00	318	⇓P	P	02 12 17.3 +1.4
HARR				mb		02 12 17.4
TLB	Topalu	76.02	318	⇑P	P	02 12 17.0 +1.0
ARCR	ARCALIA	76.03	321	⇓P	P	02 12 16.5 +0.5
OZUR		76.06	320	⇑P	P	02 12 18.0 +1.7
TRPA	Tarpa	76.09	323	⇓P	P	02 12 16.5 +0.2
TRPA				mb		02 12 18.9
NIE	Niedzica	76.12	325	eP	P	02 12 17.8 +1.3
NIE	Niedzica	76.12	325	eP	P	02 12 17.8 +1.3
NIE				eP	P	02 12 17.8 +1.3
PFO	Pinyon Flats O	76.14	57	P	P	02 12 18.3 +1.2
	baz=311					
PFO	Pinyon Flats O	76.14	57	P	P	02 12 18.6 +1.5
PFO				pmax	pmax	
	comp=Z,12nm,1.2s					
PFO	Pinyon Flats O	76.14	57	P	P	02 12 18.6 +1.5
BELC	Belle Mtn. Jos	76.18	57	P	P	02 12 18.1 +0.8
	baz=311					
RSSD	Black Hills	76.18	43	P	P	02 12 17.6 +0.4
	baz=315					
RSSD	Black Hills	76.18	43	P	P	02 12 17.2 0.0
RSSD				pmax	pmax	
	comp=Z,8.0nm,0.8s					
RSSD	Black Hills	76.18	43	P	P	02 12 17.2 0.0
RWWY	Rawlins	76.21	46	IAmb	IAmb	02 12 18.6
	comp=Z,14nm,0.8s					
DOPR	Dopca	76.34	320	⇓P	P	02 12 19.4 +1.6
BR131	Keskin Array S	76.39	311	P	P	02 12 19.6 +1.2
	SNR=9.1					
BR131	Keskin Array S	76.39	311	P	P	02 12 18.0 -0.4
BR131				pmax	pmax	
	comp=Z,27nm,0.8s					
BR131	Keskin Array S	76.39	311	P	P	02 12 18.0 -0.4
BR131				IAmb	IAmb	02 12 20.5
	comp=Z,27nm,0.8s					
BRTR	Keskin Array B	76.39	311	P	P	02 12 17.8 -0.6
	comp=Z,22nm,0.7s,baz=74,slow=3.0,SNR=83					
MLR	Muntele Rosu	76.42	320	⇓P	P	02 12 18.8 +0.4
MLR	Muntele Rosu	76.42	320	IAmb	IAmb	02 12 20.9
	comp=Z,19nm,1.2s					
ICOR	Ion Corvin	76.48	318	⇓P	P	02 12 20.0 +1.4
IRM	Iron Mountain	76.62	56	P	P	02 12 20.6 +1.0
	baz=311					
CJR	Cluj-Napoca	76.65	322	⇑P	P	02 12 21.5 +1.9
LANS	Liptovska Anna	76.67	325	eP	P	02 12 21.8 +2.1
LANS				pmax	pmax	
	comp=Z,18nm,0.7s					
LANS	Liptovska Anna	76.67	325	eP	P	02 12 21.8 +2.1
KSP	Ksiaz	76.68	328	eP	P	02 12 20.6 +1.0
KSP	Ksiaz	76.68	328	eP	P	02 12 20.6 +1.0
KSP				eP	P	02 12 20.6 +1.0
O20A	White River Ci	76.71	48	P	P	02 12 20.5 +0.3
	baz=313,SNR=6.1					
O20A	White River Ci	76.71	48	IAmb	IAmb	02 12 25.3
	comp=Z,12nm,0.9s					
OKC	Ostrava-Krasne	76.71	327	eP	P	02 12 20.9 +1.1
OKC				MLR	MLR	
	comp=Z,1μm,18.0s					
OKC	Ostrava-Krasne	76.71	327	eP	P	02 12 20.9 +1.1
OKC				AMS	AMS	02 48 40.0
	comp=Z,1μm,18.0s					
BC3	Big Chuckawall	76.75	57	P	P	02 12 20.5 0.0
	baz=311					
ANTO	Ankara	76.77	312	P	P	02 12 20.9 +0.5
ANTO				pmax	pmax	
	comp=Z,78nm,0.8s					
ANTO	Ankara	76.77	312	⇑P	P	02 12 21.0 +0.6
ANTO				mb		02 12 23.0
ANTO	Ankara	76.77	312	P	P	02 12 20.9 +0.5
LOD	Lodumlu	76.77	312	P	P	02 12 21.4 +1.0
BR231	Keskin MP Arra	76.80	312	P	P	02 12 21.4 +0.8
U15A	North Rim	76.86	53	IAmb	IAmb	02 12 41.6
	comp=Z,14nm,1.0s					
VOIR		76.89	320	⇑P	P	02 12 21.6 +0.6
AFSR	Afar-Bala (An	76.90	311	P	P	02 12 22.0 +0.8
OSTC	Ostas	76.93	328	eP	P	02 12 21.8 +0.7
CHVC	Chvalec	76.97	328	eP	P	02 12 21.3 0.0
CHVC				eP	P	02 12 21.3 0.0
IKP	In-Ko-Pah, Jac	76.99	58	P	P	02 12 22.4 +0.6
	baz=311					
CEYT	Ceyhan	77.00	308	P	P	02 12 22.8 +1.2
MORC	Moravsky Berou	77.00	327	P	P	02 12 21.4 -0.1
MORC				pmax	pmax	
	comp=Z,42nm,0.8s					
MORC	Moravsky Berou	77.00	327	⇑P	P	02 12 21.9 +0.4
MORC				mb		02 12 24.0
MORC	Moravsky Berou	77.00	327	eP	P	02 12 21.7 +0.2
MORC	Moravsky Berou	77.00	327	P	P	02 12 21.4 -0.1
MORC				IAmb	IAmb	02 12 24.0
	comp=Z,42nm,0.8s					
DRGR		77.00	322	⇑P	P	02 12 21.7 +0.1
AGMN	Agassiz Nation	77.01	36	P	P	02 12 21.5 0.0
	baz=319					
DPC	Dobruska-Polom	77.05	328	eP	P	02 12 21.9 +0.1
DPC				MLR	MLR	
	comp=Z,1μm,19.2s					
DPC	Dobruska-Polom	77.05	328	eP	P	02 12 21.9 +0.1
DPC				AMS	AMS	02 49 00.0
	comp=Z,1μm,19.2s					
UPC	Upice	77.05	328	eP	P	02 12 23.2 +1.5
UPC				MLR	MLR	
	comp=Z,1μm,17.3s					
UPC	Upice	77.05	328	eP	P	02 12 23.2 +1.5
UPC				AMS	AMS	02 49 30.0
	comp=Z,1μm,17.3s					
KRLC	Kraliky	77.08	327	eP	P	02 12 23.4 +1.4
KRLC				MLR	MLR	
	comp=Z,3μm,17.8s					
KRLC	Kraliky	77.08	327	eP	P	02 12 23.4 +1.4
KRLC				AMS	AMS	02 48 40.0
	comp=Z,1μm,17.8s					
ARR	Arges	77.14	320	⇑P	P	02 12 23.8 +1.4
PDMCI	Parker Dam,Lak	77.14	56	P	P	02 12 23.7 +1.2
	baz=312					
KARA	Karaisali	77.24	309	P	P	02 12 23.9 +0.9
Y12C	Blythe	77.27	56	P	P	02 12 23.9 +0.7
	baz=312					
PV21	Cone Mtn., Par	77.37	49	IAmb	IAmb	02 12 27.4
	comp=Z,12nm,0.9s					
PSZ	Piszkesteto	77.43	324	P	P	02 12 25.5 +1.6
PSZ				pmax	pmax	
	comp=Z,36nm,0.9s					
PSZ	Piszkesteto	77.43	324	⇓P	P	02 12 25.6 +1.6
PSZ				mb		02 12 26.6
PSZ	Piszkesteto	77.43	324	P	P	02 12 25.5 +1.6
PSZ				IAmb	IAmb	02 12 26.6
	comp=Z,36nm,0.9s					
N23A	Red Feather La	77.44	46	P	P	02 12 24.8 +0.4
	baz=314					
VYHS	Vyhne	77.45	325	eP	P	02 12 25.2 +1.2
VYHS				pmax	pmax	
	comp=Z,22nm,1.1s					
VYHS	Vyhne	77.45	325	eP	P	02 12 25.2 +1.2
NWAO	Narrogin (SRO)	77.48	201	P	P	02 12 24.5 +0.4
NWAO				pmax	pmax	
	comp=Z,21nm,0.8s					
NWAO	Narrogin (SRO)	77.48	201	P	P	02 12 24.5 +0.4
NWAO				IAmb	IAmb	02 12 25.7
	comp=Z,20nm,0.8s					
LOT	Lotru	77.50	321	⇑P	P	02 12 25.5 +1.0
KRTS	Karatas	77.52	308	P	P	02 12 25.6 +1.1
PV20	West Nyswonger	77.52	50	P	P	02 12 25.6 +0.8
PV20				IAmb	IAmb	02 12 44.8
	comp=Z,23nm,1.1s					
GLA	Glamis	77.54	57	P	P	02 12 25.1 +0.3
	baz=312,SNR=6.1					
GLA	Glamis	77.54	57	P	P	02 12 25.9 +1.1
GLA				pmax	pmax	
	comp=Z,9.0nm,0.8s					
GLA	Glamis	77.54	57	P	P	02 12 25.9 +1.1
BRG	Berggiesshubel	77.57	329	*i* P	P	02 12 25.1 +0.5
	comp=Z,15nm,0.9s					
BRG				ePKPPKP		02 39 22.0
	comp=Z,16nm,1.9s					
	comp=N,955nm,24.7s					
	comp=E,820nm,21.9s					
	comp=Z,1μm,24.8s					
BRG	Berggiesshubel	77.57	329	*i* P	P	02 12 25.1 +0.5
BRG				pmax	pmax	
	comp=Z,15nm,0.9s					
BRG				MLR	MLR	
	comp=N,955nm,24.7s					
BRG				MLR	MLR	
	comp=E,820nm,21.9s					
BRG				MLR	MLR	
	comp=Z,1μm,24.8s					
CLL	Collm	77.58	330	*i* P	P	02 12 25.1 +0.5
	comp=Z,36nm,0.8s					
CLL				*i*		02 12 28.4
	comp=Z,16nm,0.7s					
CLL				*i* pP	PcP	02 12 36.8 +2.1
	comp=Z,19nm,1.0s					
CLL				*e*S	S	02 22 14.0 +2.1
CLL				*e*SP	SPn	02 23 06.0 +16
CLL				L	L	02 49 00.0
	comp=Z,1μm,20.7s					
CLL	Collm	77.58	330	IAmb	IAmb	02 12 26.3
	comp=Z,34nm,0.8s					
CHBY	Cihanbeyli	77.59	311	P	P	02 12 25.2 +0.1
PVCC	Panska Ves	77.61	329	eP	P	02 12 25.1 +0.3
PVCC	Panska Ves	77.61	329	eP	P	02 12 25.1 +0.3
PV07	Paradox Valley	77.64	49	P	P	02 12 26.7 +1.2
PV07				IAmb	IAmb	02 12 45.3
	comp=Z,18nm,1.3s					
JAVC	Velka Javorina	77.66	326	eP	P	02 12 26.5 +1.3
VRAC	Vranov	77.76	327	⇑P	P	02 12 26.5 +0.8
VRAC				mb		02 12 28.4
VRAC	Vranov	77.76	327	eP	P	02 12 26.1 +0.4
COPA	Copaceanca	77.76	319	⇑P	P	02 12 26.4 +0.7
SVRH	Sivrihisar-ESK	77.77	312	P	P	02 12 26.5 +0.5
MERS	Mersin	77.82	309	P	P	02 12 26.8 +0.5
SRCK	Saricakaya, Es	77.85	313	P	P	02 12 26.0 -0.4
KIZT	Kizilcal	77.96	312	P	P	02 12 25.9 -1.3
GOPC	GO Pecny, Ondr	78.01	328	eP	P	02 12 28.2 +1.1
GOPC	GO Pecny, Ondr	78.01	328	eP	P	02 12 28.2 +1.1
GZR	Gura Zlata	78.01	321	⇓P	P	02 12 27.0 -0.3
PRA	Prague	78.02	329	AMS	AMS	02 49 40.0
	comp=Z,1μm,18.2s					
WUAZ	Wupatki	78.03	53	P	P	02 12 27.5 -0.2
	baz=313,SNR=8.7					
WUAZ	Wupatki	78.03	53	IAmb	IAmb	02 12 31.3
	comp=Z,10nm,0.8s					
SMOL	Smolenice	78.03	326	eP	P	02 12 29.2 +2.0
SMOL				pmax	pmax	
	comp=Z,28nm,0.9s					
SMOL	Smolenice	78.03	326	eP	P	02 12 29.2 +2.0
KRUC	Moravsky	78.03	327	eP	P	02 12 26.9 -0.3
SZH	Strazhica	78.03	318	P	P	02 12 28.2 +0.9
PRU	Pruhonice	78.04	328	eP	P	02 12 28.5 +1.2
PRU				MLR	MLR	
	comp=Z,2μm,19.5s					
PRU	Pruhonice	78.04	328	eP	P	02 12 28.5 +1.2
PRU				AMS	AMS	02 49 40.0
	comp=Z,2μm,19.5s					
ADVT	Abdulvahap	78.06	314	P	P	02 12 27.2 -0.3
SMCO	Snowmass	78.07	48	P	P	02 12 28.8 +0.6
LADK	Ladik-KONYA	78.16	311	eP	P	02 12 28.4 +0.2
SRO	Srobarova	78.19	325	eP	P	02 12 29.9 +1.8
SRO				pmax	pmax	
	comp=Z,60nm,0.8s					
SRO	Srobarova	78.19	325	eP	P	02 12 29.9 +1.8
MODS	Modra-Piesok	78.20	326	eP	P	02 12 29.2 +1.0
MODS				pmax	pmax	
	comp=Z,29nm,1.0s					
MODS	Modra-Piesok	78.20	326	eP	P	02 12 29.2 +1.0
TREC	Trest	78.22	328	eP	P	02 12 29.5 +1.2
TREC				MLR	MLR	
	comp=Z,1μm,19.9s					
TREC	Trest	78.22	328	eP	P	02 12 29.5 +1.2
TREC				AMS	AMS	02 49 20.0
	comp=Z,1μm,19.9s					
VLAD	Vladila	78.26	319	⇑P	P	02 12 29.5 +0.9
KIZK	Mersin	78.31	308	eP	P	02 12 28.9 0.0
KONT	Konya--Tatoy	78.33	311	eP	P	02 12 29.8 +0.7
BZS	Buzias	78.39	322	⇓P	P	02 12 29.9 +0.7
ISCO	Idaho Springs	78.39	47	P	P	02 12 29.9 +0.1
	baz=315,SNR=6.3					
ISCO	Idaho Springs	78.39	47	P	P	02 12 30.5 +0.7
ISCO				pmax	pmax	
	comp=Z,5.0nm,0.8s					
ISCO	Idaho Springs	78.39	47	P	P	02 12 30.5 +0.7
PHSR	Pinarhisar	78.39	316	⇑P	P	02 12 29.6 +0.3
PHSR				mb		02 12 31.9
SUSD	Miller	78.47	40	P	P	02 12 29.9 +0.1
	baz=318					
SUSD	Miller	78.47	40	IAmb	IAmb	02 12 32.9
	comp=Z,50nm,0.9s					
PBCC	Pribram	78.50	329	eP	P	02 12 30.8 +1.0
SILI	Silifke-Mersin	78.51	309	eP	P	02 12 29.7 -0.4
HERR	Herculane	78.56	321	⇑P	P	02 12 30.9 +0.7
MVCO	Mesa Verde	78.57	50	P	P	02 12 31.5 +0.8
	baz=314					
MVCO	Mesa Verde	78.57	50	P	P	02 12 31.8 +1.1
KEBE	Keben-Mersin	78.58	309	eP	P	02 12 30.5 -0.1
PLVB	Pleven	78.60	319	⇑P	P	02 12 30.4 -0.1
NKC	Novy Kostel	78.66	330	eP	P	02 12 30.8 +0.1
NKC	Novy Kostel	78.66	330	eP	P	02 12 30.8 +0.1
IKL	Isikli	78.74	309	eP	P	02 12 31.6 +0.3
TEVE	Tevekalti-Mers	78.75	309	eP	P	02 12 31.3 -0.2
BAIL	Bailesti	78.76	320	⇑P	P	02 12 32.2 +0.9
EBL	Broad Law	78.76	341	eP	P	02 12 32.0 +0.9
AKKU	Akkuyu-Mersin	78.87	309	eP	P	02 12 31.9 -0.2
LAWE	Loch Awe, Argy	78.88	342	eP	P	02 12 32.4 +0.7
SHUT	Suhut-Afyon	78.93	312	eP	P	02 12 31.3 -1.2
EREN	Erenkoy	78.94	308	eP	P	02 12 31.9 -0.5
MPEP	Malo Peshtene	79.06	319	P	P	02 12 33.6 +0.6
PGBU	Glenifferbraes	79.07	342	eP	P	02 12 33.3 +0.5
PGBU				IAmb	IAmb	02 12 35.7
	comp=Z,80nm,1.1s					
KHC	Kasperske Hory	79.11	328	P	P	02 12 33.7 +0.5
KHC				pmax	pmax	
	comp=Z,14nm,0.8s					
KHC	Kasperske Hory	79.11	328	eP	P	02 12 33.1 -0.1
KHC				*e*PCP	PcP	02 12 41.5 0.0
KHC	Kasperske Hory	79.11	328	P	P	02 12 33.7 +0.5
KHC				IAmb	IAmb	02 12 35.6
	comp=Z,14nm,0.8s					
EYMN	Ely	79.14	33	P	P	02 12 32.9 -0.5
	baz=322,SNR=5.6					
CONA	Conrad Observa	79.14	327	*i* P	P	02 12 34.8 +1.4
	comp=Z,18nm,0.9s,SNR=9.4					
TEKE	Tekeli-Mersin	79.14	309	eP	P	02 12 33.6 +0.1
BHL	Bhannes	79.15	306	eP	P	02 12 33.4 -0.3
S22A	4UR Ranch, Cre	79.15	49	P	P	02 12 34.5 +0.6
	baz=314					
ESK	Eskdalemuir	79.21	341	eP	P	02 12 33.5 0.0
ESK				IAmb	IAmb	02 12 35.5
	comp=Z,30nm,0.9s					
ESK	Eskdalemuir	79.21	341	*i* P	P	02 12 35.6 +2.0
ESK	Eskdalemuir	79.21	341	P	P	02 12 34.5 +0.9
ESK				IAmb	IAmb	02 12 35.3
	comp=Z,26nm,0.9s					
Q24A	Divide	79.23	47	P	P	02 12 33.9 -0.5
	baz=315					
W18A	Petrified Fore	79.28	52

RAYN IAmb IAmb 02 12 37.8
comp=Z,37nm,0.8s
FRGS Fruska Gora 79.57 323⇑ iP P 02 12 35.5 -0.2
ALN Alexandroupoli 79.69 316 P P 02 12 37.5 +1.1
RDO Rodhopi 79.77 317 P P 02 12 38.3 +1.4
ARSA Arzberg 79.82 326 i P P 02 12 38.2 +1.1
comp=Z,11nm,0.8s,SNR=6.2
CSS Mathiatis 79.83 308 P P 02 12 37.2 -0.1
CSS Mathiatis 79.83 308 P P 02 12 36.9 -0.4
KESW Keswick, Cumbr 79.84 340 eP P 02 12 38.0 +0.9
KESW IAmb IAmb 02 12 40.0
comp=Z,72nm,1.3s
VTS Vitosha 79.85 319 P P 02 12 37.9 +0.4
VTS Vitosha 79.85 319 P P 02 12 38.7 +1.2
VTS Vitosha 79.85 319 P P 02 12 37.8 +0.3
VTS pmax pmax
comp=Z,52nm,0.8s
VTS Vitosha 79.85 319 ⇓P P 02 12 37.8 +0.3
VTS mb 02 12 39.8
VTS Vitosha 79.85 319 P P 02 12 37.8 +0.3
MOA Molln 79.86 327 i P P 02 12 38.4 +1.1
comp=Z,7.6nm,0.7s
SDCO Great Sand Dun 79.90 48 P P 02 12 39.0 +1.0
baz=315,SNR=5.3
SDCO Great Sand Dun 79.90 48 P P 02 12 38.2 +0.1
LEF Lefka 79.98 308 ⇓P P 02 12 39.1 +1.0
LEF mb 02 12 41.8
GAL1 Galloway 79.99 341 eP P 02 12 38.0 +0.2
GAL1 IAmb IAmb 02 12 39.7
comp=Z,45nm,0.7s
KULA Kula-Manisa 80.01 313 P P 02 12 39.2 +0.9
KULA Kula-Manisa 80.01 313 eP P 02 12 38.3 0.0
HPK Haverah Park 80.03 339 eP P 02 12 38.4 +0.4
MANT Manisa 80.08 313 P P 02 12 39.2 +0.3
ECSD EROS Data Cent 80.12 39 P P 02 12 38.8 0.0
baz=319,SNR=8.8
CLGH Cloghs, Cushen 80.12 342 eP P 02 12 39.4 +0.9
CLGH IAmb IAmb 02 12 40.0
comp=Z,30nm,0.7s
E38A The Farm, Brul 80.17 34 P P 02 12 39.3 +0.3
baz=322
H08N2 Diego Garcia H 80.26 253 P P 02 12 35.1 -4.3
baz=335,slow=1.5,SNR=3.6
H08N1 Diego Carcia H 80.26 253 P P 02 12 30.3 -9.2
baz=335,slow=1.5,SNR=3.9
H08N3 Diego Garcia H 80.28 253 P P 02 12 36.0 -3.6
baz=335,slow=1.5,SNR=4.5
DIVS Divibare 80.29 322 eP P 02 12 38.9 -0.9
KALN Kalnik 80.30 325 i P P 02 12 38.3 -1.4
MMB Musomiste 80.37 318 P P 02 12 41.6 +1.4
KAVA Kavala 80.41 317 P P 02 12 41.6 +1.3
PERS Pernice 80.47 326 eP P 02 12 40.0 -0.6
SOKA Soboth 80.47 326 i P P 02 12 41.7 +1.0
comp=Z,41nm,0.7s,SNR=16
NVR Nevrokopi 80.48 318 P P 02 12 41.6 +0.8
KKB Krupnik 80.49 319 P P 02 12 37.3 -3.5
LBWR Ladybower, Pea 80.55 339 eP P 02 12 41.8 +1.0
LBWR IAmb IAmb 02 12 42.6
comp=Z,50nm,0.7s
TUC Tucson 80.56 55 P P 02 12 41.9 +0.4
baz=313
TUC Tucson 80.56 55 P P 02 12 42.0 +0.6
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 80.56 55 P P 02 12 42.0 +0.6
ELL Elmali 80.57 311 P P 02 12 41.1 -0.3
ELL pmax pmax
comp=Z,162nm,0.8s
ELL Elmali 80.57 311 P P 02 12 41.1 -0.3
BEBN Eben Emael 80.60 334 P P 02 12 40.3 -0.9
MEM Membach 80.65 333 P P 02 12 41.8 +0.4
comp=Z,18nm,0.9s
DOB Doboj 80.67 323 eP P 02 12 41.8 +0.2
SOCY Socotra 80.70 278 P P 02 12 41.2 -1.1
SNR=6.1
SPMN Marine on St. 80.71 36 P P 02 12 42.6 +0.7
baz=322
BBLS Lazići 80.74 322 eP P 02 12 41.9 -0.3
HAPS Han Pijesak,BI 80.78 322 eP P 02 12 42.3 -0.1
OBKA Obir 80.81 326 i P P 02 12 42.6 +0.1
comp=Z,34nm,0.7s,SNR=9.2
BSTI Sart Tilman 80.82 334 P P 02 12 43.2 +0.9
T25A Trinidad 80.94 48 P P 02 12 43.7 +0.2
baz=316,SNR=7.2
RUDO Rudo 80.95 322⇑ iP P 02 12 43.4 +0.2
SCHQ Schefferville 80.96 17 P P 02 12 43.4 +0.4
comp=Z,22nm,0.8s,baz=343,slow=4.4,SNR=9.9
SCHQ LR LR 02 51 38.6
comp=Z,320nm,22.0s,baz=332,slow=38
SCHQ Schefferville 80.96 17 P P 02 12 43.6 +0.5
SCHQ IAmb IAmb 02 12 44.5
comp=Z,15nm,0.8s
CRES Cresnjev 80.97 325⇑ iP P 02 12 43.4 +0.1
CWF Charnwood Fore 81.03 339 eP P 02 12 44.1 +0.7
BCLA Clavier 81.05 334 P P 02 12 44.0 +0.5
comp=Z,14nm,0.7s
STIP Stip 81.06 319 i P P 02 12 44.0 +0.2
BLY Banja Luka 81.07 324 eP P 02 12 43.6 -0.2
BLY Banja Luka 81.07 324 ⇑P P 02 12 44.4 +0.7
BLY mb 02 12 46.2
BLY Banja Luka 81.07 324 IAmb IAmb 02 12 46.2
comp=Z,14nm,0.8s
STU Stuttgart 81.07 331 P P 02 12 44.2 +0.5
STU pmax pmax
comp=Z,45nm,0.7s
STU Stuttgart 81.07 331 P P 02 12 44.2 +0.5
MYKA Terra Mystica 81.09 327 i P P 02 12 44.4 +0.5
comp=Z,32nm,1.1s,SNR=9.9
FETY Fethiye 81.11 312 P P 02 12 44.2 0.0
FETY Fethiye 81.11 312 eP P 02 12 43.9 -0.3
BGNE Belgrade 81.13 41 P P 02 12 44.7 +0.5
baz=319
BGNE Belgrade 81.13 41 P P 02 12 44.6 +0.4
BGNE IAmb IAmb 02 13 03.9
comp=Z,27nm,0.7s
VAY Valandovo 81.15 318 i P P 02 12 45.6 +1.3
LJU Ljubljana 81.19 326 i P P 02 12 45.1 +0.7
LJU Ljubljana 81.19 326 eP P 02 12 43.7 -0.7
YER Yerkesik 81.20 312 P P 02 12 45.5 +0.8
SKO Skopje 81.22 320 i P P 02 12 46.5 +1.8
SNF Seneffe 81.31 334 P P 02 12 45.5 +0.7
comp=Z,24nm,0.9s
BMRD Maredsous 81.32 334 P P 02 12 45.1 +0.1
comp=Z,33nm,1.1s
ANMO Albuquerque 81.33 51 P P 02 12 46.0 +0.4
baz=315
ANMO Albuquerque 81.33 51 P P 02 12 46.1 +0.5
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 81.33 51 P P 02 12 46.1 +0.5
WATA Walderalm 81.35 329 i PcP P 02 12 46.5 +1.1
comp=Z,16nm,0.5s,SNR=7.3
MGRS Mrkonjic Grad 81.37 324⇑ iP P 02 12 45.9 +0.5
CADS Cadrg 81.37 327 i P P 02 12 45.2 -0.2
GCAM G?zelcaml? 81.38 313 eP P 02 12 46.4 +0.9
WTTA Wattenberg 81.38 328 i P P 02 12 45.9 +0.3
comp=Z,32nm,0.7s,SNR=9.7
FOEL Foel Wylfa 81.40 340 eP P 02 12 46.5 +1.1
FOEL IAmb IAmb 02 12 47.2
comp=Z,54nm,0.8s
WLF Walferdange 81.40 333 P P 02 12 45.9 +0.5
WLF pmax pmax
comp=Z,13nm,0.8s
WLF Walferdange 81.40 333 P P 02 12 46.8 +1.3
WLF Walferdange 81.40 333 P P 02 12 45.9 +0.5
WLF IAmb IAmb 02 12 48.7
comp=Z,13nm,0.8s
PLG Polygyros 81.42 317 P P 02 12 46.7 +0.9
ABTA Abfaltersbach 81.45 328 i P P 02 12 46.5 +0.6
comp=Z,14nm,0.7s
CEY Cerknica 81.48 326 eP P 02 12 44.6 -1.4
UPM Unac-Piva 81.48 322 eP P 02 12 46.6 +0.3
CHOS Chios island 81.52 314 P P 02 12 46.8 +0.4
MOTA Moosalm 81.52 329 i PcP P 02 12 47.4 +1.1
comp=Z,55nm,0.8s,SNR=21
RETA Reutte 81.54 329 i PcP P 02 12 47.3 +1.0
comp=Z,38nm,0.8s,SNR=9.7
SQTA Sankt Quirin 81.58 329 i PcP P 02 12 47.7 +1.1
comp=Z,34nm,1.0s,SNR=9.3
BFO Black Forest 81.76 331 i P P 02 12 48.3 +0.9
BFO Black Forest 81.76 331 P P 02 12 48.0 +0.6
BFO IAmb IAmb 02 12 51.0
comp=Z,23nm,0.8s
STAL STALIGIAL 81.77 327 IAmb IAmb 02 12 48.1
comp=Z,47nm,1.0s
TRI Trieste 81.78 326 P P 02 12 47.6 +0.1
TRI pmax pmax
comp=Z,44nm,0.8s
TRI Trieste 81.78 326 P P 02 12 47.6 +0.1
TRI IAmb IAmb 02 12 48.5
comp=Z,44nm,0.8s
BNM Barren Site 81.79 51 P P 02 12 48.9 +0.8
UDBI Udbina 81.87 324 i P P 02 12 48.2 +0.1
BRY Bratogost 81.89 322 eP P 02 12 46.9 -1.4
PDG Podgorica 81.92 321 eP P 02 12 47.6 -0.7
PDG Podgorica 81.92 321 ⇑P P 02 12 48.1 -0.2
PDG mb 02 12 50.1
PDG Podgorica 81.92 321 P P 02 12 48.3 +0.1
PHP Peshkopia 81.92 320 P P 02 12 49.3 +0.9
FETA Feichten 81.94 329 i PcP P 02 12 49.4 +0.8
comp=Z,35nm,0.8s,SNR=12
DAVA Damuels 82.05 329 i P P 02 12 48.5 -0.6
comp=Z,61nm,0.9s,SNR=13
LIT Litokhoron 82.11 318 P P 02 12 48.7 -0.7
TREB Trebinje 82.12 322⇑ iP P 02 12 49.1 -0.3
STRD Stroud 82.13 339 eP P 02 12 49.7 +0.5
STRD IAmb IAmb 02 12 54.1
comp=Z,111nm,0.9s
319A Douglas 82.13 55 IAmb IAmb 02 13 10.5
comp=Z,17nm,1.1s
DRME Dracevica, Mon 82.14 321 eP P 02 12 48.8 -0.7
FNA Florina 82.15 319 P P 02 12 50.4 +0.8
FNA Florina 82.15 319 P P 02 12 49.5 -0.1
FNA Florina 82.15 319 P P 02 12 49.5 -0.1
FNA IAmb IAmb 02 12 52.2
comp=Z,14nm,0.8s
MCH1 Michaelchurch 82.15 339 eP P 02 12 50.3 +1.0
MCH1 IAmb IAmb 02 12 52.2
comp=Z,44nm,0.7s
OHR Ohrid 82.18 319 i P P 02 12 50.4 +0.6
E43A Lone Tree Farm 82.23 32 P P 02 12 49.5 -0.4
baz=325
121A Cookes Peak, D 82.24 53 P P 02 12 50.9 +0.5
baz=315,SNR=8.6
MONM Monmouth 82.25 339 eP P 02 12 50.9 +1.1
MONM IAmb IAmb 02 12 52.9
comp=Z,34nm,0.7s
CBKS Cedar Bluff 82.25 44 P P 02 12 50.0 -0.2
baz=318
HCY Herceg Novi 82.26 322 eP P 02 12 50.2 +0.1
SWN1 Swindon 82.26 338 eP P 02 12 49.9 0.0
SWN1 IAmb IAmb 02 12 52.2
comp=Z,66nm,0.8s
ECH Echery 82.28 331 P P 02 12 49.4 -0.7
ECH pmax pmax
comp=Z,19nm,0.9s
ECH Echery 82.28 331 P P 02 12 49.4 -0.7
ECH IAmb IAmb 02 12 51.8
comp=Z,19nm,0.9s
WOL Wolverton 82.28 338 eP P 02 12 50.4 +0.4
WOL IAmb IAmb 02 12 50.6
comp=Z,90nm,1.1s
MAKA Makarska 82.28 323 i P P 02 12 49.7 -0.5
RAR Rarotonga 82.30 127 LR LR 02 41 17.5
comp=Z,620nm,21.8s,baz=318,slow=30
STON Ston 82.30 322 eP P 02 12 49.2 -1.1
KZN Kozani 82.31 318 P P 02 12 48.0 -2.5
CTI Castel Tesino 82.37 328 P P 02 12 50.2 -0.5
CTI pmax pmax
comp=Z,33nm,0.9s
CTI Castel Tesino 82.37 328 P P 02 12 50.2 -0.5
CTI IAmb IAmb 02 12 51.5
comp=Z,33nm,0.9s
MORI Morici 82.42 324 i P P 02 12 49.9 -1.0
TIR Tirane 82.46 320 P P 02 12 50.9 -0.3
TIR pmax pmax
comp=Z,72nm,1.3s
TIR Tirane 82.46 320 ⇓P P 02 12 50.7 -0.5
TIR Tirane 82.46 320 P P 02 12 50.9 -0.3
NEST Nestorio 82.59 319 P P 02 12 53.2 +1.2
DUGI Dugi Otok 82.60 325 i P P 02 12 51.2 -0.6
ZIRJ Zirje 82.61 324 i P P 02 12 51.0 -0.9
HVAR Hvar 82.63 323 i P P 02 12 50.5 -1.5
MATQ Matagami 82.70 25 P P 02 12 52.5 +0.3
baz=331
HSIG 82.71 58 P P 02 12 53.1 +0.4
PENT Pentalofos 82.71 319 P P 02 12 52.8 +0.2
THL Klokotos Trika 82.75 318 P P 02 12 51.5 -1.2
APE Apeiranthos 82.76 314 P P 02 12 51.2 -1.7
TUE Stuetta 82.92 329 P P 02 12 54.0 +0.3
TUE IAmb IAmb 02 12 55.7
comp=Z,29nm,0.7s
PTL Penteli 82.93 316 P P 02 12 53.3 -0.4
LKR Lokris 82.93 316 P P 02 12 52.4 -1.3
D46A Sault St. Mari 82.94 30 P P 02 12 53.4 -0.2
baz=327
KARP Karpathos 82.97 312 P P 02 12 54.1 +0.1
AGG Agios Georgios 83.00 317 P P 02 12 52.8 -1.2
AGG Agios Georgios 83.00 317 IAmb IAmb 02 12 55.2
comp=Z,19nm,0.9s
ANAF Anafi Island 83.15 313 P P 02 12 52.3 -2.6
D47A Chapleau 83.15 29 P P 02 12 54.1 -0.6
baz=328
JAN Janina 83.26 318 P P 02 12 56.4 +1.0
E46A Sault Ste Mari 83.28 30 P P 02 12 55.5 +0.1
baz=327
EVR Evrytania 83.34 317 P P 02 12 55.7 -0.2
DSF Desfina 83.36 317 P P 02 12 55.3 -0.6
LTK Loutraki 83.42 316 P P 02 12 53.5 -2.7
I42A Draeger Farm, 83.46 34 P P 02 12 56.4 +0.1
baz=324
SRN Sarande 83.52 319 P P 02 12 57.1 +0.5
LSQQ Lebel-sur-Quev 83.52 25 P P 02 12 56.8 +0.3
baz=332
CHGQ Chibougamau 83.55 23 P P 02 12 57.1 +0.4
baz=333
KALE Kalithea 83.57 317 P P 02 12 56.5 -0.6
SERG Sergoula 83.60 317 P P 02 12 57.1 0.0
D49A Beulah Townshi 83.60 28 P P 02 12 57.1 +0.1
baz=329
IGT Igoumenitsa 83.62 319 P P 02 12 56.8 -0.4
TRIZ Trizonia 83.62 317 P P 02 12 57.0 -0.2
KSU1 Kansas State U 83.64 42 P P 02 12 57.3 0.0
baz=320
DID Didima 83.66 316 P P 02 12 55.0 -2.5
EFP Efpalio 83.66 317 P P 02 12 57.6 +0.2
PVO Paravola 83.71 317 P P 02 12 58.1 +0.4
KEK Kerkira 83.74 319 P P 02 12 56.9 -0.9
LAKA Lakka 83.77 317 P P 02 12 58.0 0.0
SENIN Lac Senin/Sane 83.79 330 P P 02 12 58.0 -0.2
SENIN IAmb IAmb 02 12 59.9
comp=Z,12nm,0.8s
ZKR Zakros 83.82 312 P P 02 12 58.8 +0.5
STIA Sitia Lasithi 83.82 312 P P 02 12 59.8 +1.5
KLV Kalavryta, Ach 83.83 317 P P 02 12 56.8 -1.6
PDO Prodromos 83.90 318 P P 02 12 58.0 -0.7
L40A Anamosa 83.91 37 P P 02 12 58.3 -0.4
baz=323
G46A Petoskey 83.94 31 P P 02 12 58.5 -0.2
baz=326
TSLK Tsoukalades, L 84.00 318 P P 02 12 58.4 -0.7
ZCCA Zocca 84.03 327 IAmb IAmb 02 13 09.9
comp=Z,39nm,0.9s
NPS Neapolis 84.04 313 P P 02 12 58.5 -1.0
H45A Beulah 84.05 32 P P 02 12 59.6 +0.3
baz=326
AMTX Amarillo 84.10 48 P P 02 13 00.3 +0.5
baz=317
SCTE Santa Cesarea 84.11 320 P P 02 12 59.7 0.0
DRO Drossia 84.12 317 P P 02 13 00.6 +0.8
MSTX Muleshoe 84.15 49 P P 02 13 00.8 +0.6
baz=317
MSTX Muleshoe 84.15 49 IAmb IAmb 02 13 20.3
comp=Z,22nm,1.4s
EVGI Lefkada island 84.15 318 P P 02 13 00.5 +0.6
RLS Riolos of Patr 84.17 317 P P 02 13 00.9 +0.9
VLDQ Val d'Or 84.20 25 IAmb IAmb 02 13 00.6
comp=Z,23nm,0.7s
D50A G1974 Best Tow 84.22 27 P P 02 12 59.7 -0.4
baz=330
MNTX Cornudas Mount 84.27 52 P P 02 13 01.3 +0.6
baz=316,SNR=8.9
MNTX Cornudas Mount 84.27 52 P P 02 13 01.2 +0.6
MURB Monte Urbino 84.28 326 P P 02 13 01.4 +0.9
AMT Artemida-Makis 84.44 316 P P 02 13 01.7 +0.2
D51A Lot 18 Range I 84.45 27 P P 02 13 00.7 -0.6
baz=330
H46A Fife Lake 84.46 32 P P 02 13 01.1 -0.2
baz=326
KFL Anninata 84.47 317 P P 02 13 01.5 -0.1
MATE Matera 84.50 321 ⇓P P 02 13 02.4 +0.8
MATE mb 02 13 02.6
E50A Wahnapitae 84.55 28 P P 02 13 01.0 -0.8
baz=329
ITM Ithomi 84.59 316 P P 02 13 01.5 -0.7
ITM Ithomi 84.59 316 P P 02 13 01.7 -0.6
OSSC Osservatorio P 84.60 326 IAmb IAmb 02 13 04.4
comp=Z,29nm,0.9s
AQU L'Aquila 84.64 325 P P 02 13 02.6 +0.2
AQU pmax pmax
comp=Z,35nm,0.7s
AQU L'Aquila 84.64 325 eP P 02 13 02.5 +0.2
AQU L'Aquila 84.64 325 P P 02 13 02.6 +0.2
SIVA Sivas 84.67 313 P P 02 13 03.7 +1.1
VAM Vamos 84.71 314 P P 02 13 03.7 +0.9
ACER Acerenza 84.75 322 P P 02 13 02.6 -0.3
IMMV Iera Moni Meta 84.79 314 P P 02 13 02.3 -0.9
H47A Mio 84.80 31 P P 02 13 03.6 +0.5
baz=327
ANKY Antikythira Is 84.86 314 P P 02 13 03.8 +0.3
D52A ZEK Kipawa Sen 84.87 27 P P 02 13 03.7 +0.3
baz=331
E51A G1948 Merrick 84.89 27 P P 02 13 03.6 +0.1
baz=330
PYL PYLOS 84.91 316 P P 02 13 03.5 -0.3
D53A Lac Vacive, Po 85.02 26 P P 02 13 03.4 -0.8
baz=331
BNI Bardonecchia 85.13 330 P P 02 13 05.8 +0.8
BNI pmax pmax
comp=Z,28nm,0.8s
BNI Bardonecchia 85.13 330 P P 02 13 05.8 +0.8
BNI IAmb IAmb 02 13 06.9
comp=Z,28nm,0.8s
PAOL Paolisi 85.18 323 IAmb IAmb 02 13 06.2
comp=Z,16nm,0.9s
GVDS Gavdos 85.19 313 P P 02 13 06.0 +0.8
GVD Gavdhos 85.20 313 P P 02 13 05.8 +0.5
F51A Arnstein 85.27 28 P P 02 13 05.3 -0.1
baz=330
L44A Lake County Fo 85.28 35 P P 02 13 05.5 0.0
baz=325
D54A Lac Fusel, La 85.30 25 P P 02 13 05.1 -0.4
baz=332
E52A Mattawa 85.39 27 P P 02 13 05.8 -0.2
baz=330
PMOR Pomariorio Ree 85.43 114 eT T 03 46 34.9
comp=Z,33nm,0.2s
URZ Urewera 85.48 153 LR LR 02 48 56.2
comp=Z,364nm,19.1s,baz=0.0,slow=34
F52A Sundridge 85.59 28 P P 02 13 06.9 -0.1
baz=330
TIP Timpagrande 85.64 321 P P 02 13 05.2 -2.3
TIP Timpagrande 85.64 321 ⇑P P 02 13 08.5 +1.0
TIP mb 02 13 10.3
TIP Timpagrande 85.64 321 P P 02 13 07.3 -0.2
E53A Dumoine, Ponti 85.65 26 P P 02 13 07.0 -0.3
baz=331
J47A Sunmer 85.69 32 P P 02 13 07.9 +0.3
baz=327
J47A Sunmer 85.69 32 P P 02 13 08.2 +0.6
E54A Lac Daplat, Po 85.76 26 P P 02 13 07.4 -0.4
baz=332
K46A Dorr 85.76 33 P P 02 13 07.5 -0.4
baz=326
D55A Sainte-Anne-du 85.79 25 P P 02 13 08.1 +0.1
baz=333
WMOK Wichita Mounta 85.80 46 P P 02 13 08.4 +0.1
baz=319,SNR=6.6
D56A ZEC Mazanza, M 85.99 24 P P 02 13 08.8 -0.2
baz=333,SNR=5.1
PPT Papeete 86.10 117 LR LR 02 45 39.6
comp=Z,1µm,20.4s,baz=340,slow=31
E55A Montcerf-Lytto 86.11 25 P P 02 13 10.0 +0.5
baz=332
PPT2 Papeete2 86.12 117 eS S 02 23 37.6 -3.0
comp=Z,334nm,25.2s
PPT2 Papeete2 86.12 117 eLR LR 02 40 30.1
comp=Z,3µm,26.0s,baz=313
PPT2 Papeete2 86.12 117 eT T 03 47 22.7
comp=Z,14nm,0.3s
PAE Paea 86.17 117 eT T 03 47 26.5
comp=Z,2.3nm,0.4s
DAMY Dhamar 86.20 286 P P 02 13 11.4 +0.5
TIAR Tiarei 86.25 117 eT T 03 47 33.3
comp=Z,5.0nm,0.3s
D57A Chemin Vers le 86.29 24 P P 02 13 09.9 -0.5
baz=334,SNR=7.5
LATQ La Tuque 86.29 23 P P 02 13 10.7 +0.3
baz=334
K48A Perry 86.34 32 P P 02 13 11.1 +0.3
baz=327
E56A St. Veronique 86.36 25 P P 02 13 10.3 -0.5
baz=333,SNR=5.4
H52A Wyevale 86.38 29 P P 02 13 10.5 -0.4
baz=330
G53A Haliburton 86.42 28 P P 02 13 11.4 +0.3
baz=331
TUL1 Leonard 86.50 44 P P 02 13 12.2 +0.6
baz=320
TUL1 Leonard 86.50 44 P P 02 13 12.3 +0.6
TUL1 IAmb IAmb 02 13 13.1
comp=Z,9.4nm,0.7s
D58A Chemin du LacG 86.52 23 P P 02 13 12.0 +0.4
baz=334
F55A Otter Lake 86.56 26 P P 02 13 11.6 -0.2
baz=332
TAOE Nuku Hiva Isla 86.69 105 eS S 02 23 42.5 -4.0
comp=Z,273nm,25.1s
E57A Chemin Saint G 86.75 24 P P 02 13 12.5 -0.3
baz=334,SNR=7.6
CEL Celeste 86.78 321 P P 02 13 12.9 -0.1
CEL IAmb IAmb 02 13 18.5
comp=Z,25nm,1.0s
L48A N Adams 86.93 33 P P 02 13 13.1 -0.6
baz=327
G55A Calabogie 86.95 26 P P 02 13 13.3 -0.4
baz=332
TXAR Lajitas Array 86.99 53 P P 02 13 15.6 +1.2
comp=Z,4.0nm,0.8s,baz=291,slow=3.4,SNR=38
TXAR PKKPbc **PKKPbc 02 31 08.1 +3.0**
comp=Z,0.3nm,0.6s,baz=160,slow=4.0,SNR=4.4
TXAR Lajitas Array 86.99 53 P P 02 13 14.8 +0.5
E58A La Victoria 87.05 24 P P 02 13 13.9 -0.2
baz=334
CCM Cathedral Cave 87.09 39 P P 02 13 14.1 -0.4
baz=323
CCM Cathedral Cave 87.09 39 P P 02 13 14.6 +0.1
CCM pmax pmax
comp=Z,13nm,0.9s
CCM Cathedral Cave 87.09 39 P P 02 13 14.6 +0.1
CCM IAmb IAmb 02 13 16.2
comp=Z,13nm,0.8s
SFIN Lafayette 87.10 35 P P 02 13 14.2 -0.3
baz=325
ORIO Orleans, Innes 87.17 26 P P 02 13 14.4 -0.4
baz=333
D60A Saint Jean D'O 87.25 22 P P 02 13 15.2 +0.1
baz=336
MGMO Mountain Grove 87.31 41 IAmb IAmb 02 13 17.0
comp=Z,7.1nm,0.8s
MEH Mehetia 87.33 117 eT T 03 48 55.0
comp=Z,62nm,0.2s
H55A Tweed 87.41 27 P P 02 13 15.7 -0.2
baz=332
HPIG 87.49 56 P P 02 13 17.2 +0.2
N48A Decatur 87.59 34 P P 02 13 17.1 +0.3
baz=327
D62A Allapoint, All 87.61 21 P P 02 13 17.1 +0.3
baz=337
D62A Allapoint, All 87.61 21 IAmb IAmb 02 13 18.5
comp=Z,15nm,0.7s
U40A Yellville 87.64 41 P P 02 13 17.2 -0.1
baz=322,SNR=10
U40A Yellville 87.64 41 IAmb IAmb 02 13 18.7
comp=Z,15nm,0.8s
G57A Newington 87.65 25 P P 02 13 17.6 +0.5
baz=333
F59A Saint Guilaume 87.67 24 P P 02 13 17.6 +0.5
baz=334
P46A Rosedale 87.68 36 P P 02 13 17.3 0.0
baz=325
H56A Elgin 87.69 26 P P 02 13 17.7 +0.5
baz=332
E61A Lac Etchemin 87.81 22 P P 02 13 17.9 +0.1
baz=336

N49A	Columbus Grove	87.89	33	P	P	02 13 18.8	+0.5
	baz=327						
D63A	Stockholm	87.90	20	P	P	02 13 18.1	-0.1
	baz=338						
E62A	Clayton Lake	87.90	21	P	P	02 13 18.0	-0.3
	baz=337						
G58A	Ormstown	87.91	25	P	P	02 13 18.1	-0.2
	baz=334						
F61A	St Evariste	88.08	22	P	P	02 13 19.6	+0.4
	baz=336						
W39A	Magazine	88.08	43	P	P	02 13 19.2	-0.1
	baz=322						
H57A	Richville	88.09	26	P	P	02 13 19.5	+0.3
	baz=333						
S44A	Carbondale	88.31	38	P	P	02 13 20.7	+0.4
	baz=324						
J55A	Hilton	88.32	28	P	P	02 13 20.2	0.0
	baz=331						
M51A	Elyria	88.35	32	P	P	02 13 20.1	-0.4
	baz=328						
FCAR	Ozark Folk Cen	88.38	41	IAmb	IAmb	02 13 22.1	
	comp=Z,8.2nm,0.8s						
E63A	Oxbow	88.38	21	P	P	02 13 20.3	-0.2
	baz=338						
JCT	Junction City	88.42	50	P	P	02 13 21.3	+0.2
JCT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JCT	Junction City	88.42	50	P	P	02 13 21.2	+0.2
N50A	Nevada	88.44	33	P	P	02 13 20.9	0.0
	baz=328						
O49A	Covington	88.44	34	P	P	02 13 21.4	+0.5
	baz=327						
F62A	Pittston Farm,	88.44	22	P	P	02 13 20.9	+0.1
	baz=336						
H59A	Cadyville	88.47	25	P	P	02 13 20.8	-0.3
	baz=334						
PBMO	Poplar Bluff	88.50	40	IAmb	IAmb	02 13 23.2	
	comp=Z,12nm,0.8s						
H58A	Gabriels	88.52	25	P	P	02 13 21.3	+0.1
	baz=334						
E64A	Bridgewater	88.54	20	P	P	02 13 21.6	+0.3
	baz=338						
G61A	St-Isidore-de-	88.56	23	P	P	02 13 22.0	+0.6
	baz=335						
L53A	Girard	88.56	30	P	P	02 13 21.8	+0.3
	baz=330						
K54A	Basiliko Farm,	88.58	29	P	P	02 13 21.7	+0.1
	baz=331						
P48A	Milroy	88.58	35	P	P	02 13 21.8	+0.1
	baz=326						
MIAR	Mount Ida	88.70	43	P	P	02 13 22.9	+0.7
	baz=322,SNR=7.3						
MIAR	Mount Ida	88.70	43	IAmb	IAmb	02 13 24.4	
	comp=Z,10nm,0.9s						
WHAR	Wooly Hollow	88.77	42	IAmb	IAmb	02 13 24.7	
	comp=Z,14nm,1.0s						
O50A	Cable	88.77	33	P	P	02 13 22.9	+0.3
	baz=328,SNR=5.9						
P49A	Miami Univ. Ec	88.83	34	P	P	02 13 22.9	+0.1
	baz=327						
W41B	Gary Mavity, V	88.88	42	P	P	02 13 23.1	+0.1
	baz=322						
W41B	Gary Mavity, V	88.88	42	IAmb	IAmb	02 13 41.4	
	comp=Z,16nm,1.3s						
Q48A	North Vernon	88.89	35	P	P	02 13 23.4	+0.3
	baz=326						
F64A	Sherman	88.92	21	P	P	02 13 23.3	+0.3
	baz=338						
ACSO	Alum Creek Sta	88.96	33	P	P	02 13 24.1	+0.7
	baz=328						
ACSO	Alum Creek Sta	88.96	33	IAmb	IAmb	02 13 25.3	
	comp=Z,20nm,0.8s						
K56A	Middlesex	88.99	28	P	P	02 13 23.9	+0.4
	baz=332						
L55A	Hinsdale	89.04	29	P	P	02 13 23.7	-0.1
	baz=331						
J58A	Remsen	89.11	26	P	P	02 13 24.1	+0.1
	baz=333						
H61A	Lyndonville	89.12	24	P	P	02 13 24.7	+0.6
	baz=335						
P50A	Jamestown	89.15	34	P	P	02 13 24.6	+0.3
	baz=327						
M54A	Oil Creek Stat	89.17	30	P	P	02 13 24.5	+0.1
	baz=330						
O51A	Pataskala	89.19	33	P	P	02 13 24.9	+0.5
	baz=328						
Q49A	Aurora	89.19	35	P	P	02 13 25.0	+0.5
	baz=327						
WCI	Wyandotte Cave	89.22	36	P	P	02 13 24.1	-0.5
	baz=326						
WCI	Wyandotte Cave	89.22	36	P	P	02 13 24.5	-0.2
WCI				pmax	pmax		
	comp=Z,12nm,0.9s						
WCI	Wyandotte Cave	89.22	36	P	P	02 13 24.5	-0.2
WCI				IAmb	IAmb	02 13 26.5	
	comp=Z,12nm,0.8s						
J59A	Piesco	89.27	26	P	P	02 13 24.5	-0.3
	baz=333						
H62A	Milan	89.31	23	P	P	02 13 25.0	+0.1
	baz=336,SNR=5.3						
I60A	Shoreham	89.32	25	P	P	02 13 25.0	0.0
	baz=334						
N53A	Lisbon	89.33	31	P	P	02 13 25.6	+0.5
	baz=329						
ATD	Arta Tunnel	89.34	285	P	P	02 13 26.7	+1.1
G64A	Maxfield	89.37	21	P	P	02 13 25.6	+0.5
	baz=337						
L56A	Greenwood	89.40	28	P	P	02 13 25.3	-0.2
	baz=331						
K58A	Earlville	89.51	27	P	P	02 13 26.1	+0.2
	baz=333						
N54A	Moraine State	89.52	31	P	P	02 13 25.8	-0.3
	baz=330,SNR=5.2						
O52A	Adamsville	89.53	32	P	P	02 13 25.5	-0.6
	baz=329						
M55A	Ridgway	89.54	29	P	P	02 13 26.0	-0.2
	baz=331,SNR=6.5						
WLAR	White Oak Lake	89.61	43	IAmb	IAmb	02 13 28.8	
	comp=Z,14nm,0.8s						
O53A	New Philadelph	89.66	32	P	P	02 13 27.0	+0.3
	baz=329						
Q50A	Georgetown	89.72	34	P	P	02 13 27.3	+0.3
	baz=327						
M56A	Emporium	89.75	29	P	P	02 13 27.3	+0.2
	baz=331						
K59A	Cooperstown	89.77	26	P	P	02 13 27.6	+0.4
	baz=333						
H64A	Troy	89.81	22	P	P	02 13 27.5	+0.3
	baz=337						
P52A	Corning	89.82	33	P	P	02 13 27.3	-0.1
	baz=328						
J60A	Lant Hill Farm	89.82	25	P	P	02 13 27.4	+0.1
	baz=334						
Q51A	Peebles	89.83	34	P	P	02 13 27.8	+0.3
	baz=328,SNR=6.7						
T47A	Sharon Grove	89.88	37	P	P	02 13 27.4	-0.3
	baz=325						
T47A	Sharon Grove	89.88	37	IAmb	IAmb	02 13 29.7	
	comp=Z,14nm,0.8s						
BINY	Binghamton	89.90	27	P	P	02 13 27.6	-0.2
	baz=332						
I63A	Otisfield	89.96	23	P	P	02 13 27.6	-0.4
	baz=336						
J61A	Chester	90.00	25	P	P	02 13 28.6	+0.4
	baz=335						
S49A	Springfield	90.04	36	P	P	02 13 28.0	-0.4
	baz=326						
R50A	Paris	90.04	35	P	P	02 13 28.6	+0.1
	baz=327						
N55A	Marion Center	90.06	30	P	P	02 13 29.0	+0.4
	baz=330						
L58A	Harry Jones Me	90.08	27	P	P	02 13 28.3	-0.3
	baz=332						
N56A	West Decatur	90.20	29	P	P	02 13 29.4	+0.2
	baz=331						
L59A	Walton	90.23	27	P	P	02 13 29.9	+0.5
	baz=333						
K60A	Five Rivers En	90.23	26	P	P	02 13 29.9	+0.6
	baz=334						
WVT	Waverly	90.25	38	P	P	02 13 29.6	+0.2
	baz=325						
M57A	Sunshine Farm,	90.26	28	P	P	02 13 29.7	+0.3
	baz=332,SNR=5.8						
TBI	Tubuai	90.29	121	*e*S	S	02 24 17.0	-2.8
	comp=Z,361nm,27.8s						
TBI	Tubuai	90.29	121	*e*LR	LR	02 41 52.4	
	comp=Z,1μm,32.2s						
TBI	Tubuai	90.29	121	*e*T	T	03 52 31.6	
	comp=Z,38nm,0.3s						
J62A	Henniker	90.34	24	P	P	02 13 29.3	-0.4
	baz=335						
K61A	Williamstown	90.38	25	P	P	02 13 29.8	-0.2
	baz=334						
O55A	Ligonier	90.44	30	P	P	02 13 30.7	+0.4
	baz=330						
M58A	Price's Panora	90.46	28	P	P	02 13 30.0	-0.4
	baz=332						
T49A	Edmonton	90.49	36	P	P	02 13 30.3	-0.3
	baz=326						
P54A	Burton	90.50	32	P	P	02 13 31.1	+0.4
	baz=330						
S50A	Richmond	90.51	35	P	P	02 13 30.2	-0.5
	baz=327						
J63A	Strafford	90.51	24	P	P	02 13 30.2	-0.4
	baz=336						
SSPA	Standing Stone	90.59	29	P	P	02 13 31.1	+0.1
	baz=331						
N57A	Milroy	90.61	29	P	P	02 13 30.5	-0.6
	baz=331,SNR=6.5						
O56A	Blue Knob Stat	90.66	30	P	P	02 13 31.4	0.0
	baz=331						
O56A	Blue Knob Stat	90.66	30	IAmb	IAmb	02 13 34.0	
	comp=Z,11nm,0.8s						
M59A	Waymart	90.67	27	P	P	02 13 31.3	-0.1
	baz=333						
Q53A	Leroy	90.72	33	P	P	02 13 31.9	+0.3
	baz=329						
N58A	Sunbury	90.84	28	P	P	02 13 32.6	+0.4
	baz=332						
T50A	Nancy	90.87	36	P	P	02 13 32.5	+0.1
	baz=327						
U49A	Red Boiling Sp	90.87	37	P	P	02 13 32.5	+0.1
	baz=326						
Q54A	Coxs Mills	90.89	32	P	P	02 13 32.5	+0.1
	baz=329						
S51A	Beattyville	90.89	35	P	P	02 13 32.8	+0.3
	baz=328						
V48A	Smith Brothers	91.04	38	P	P	02 13 33.3	+0.1
	baz=326						
N59A	State Game Lan	91.11	28	P	P	02 13 33.6	+0.2
	baz=332						
N59A	State Game Lan	91.11	28	IAmb	IAmb	02 13 36.2	
	comp=Z,16nm,0.9s						
M60A	Port Jervis	91.14	27	P	P	02 13 34.1	+0.6
	baz=333						
Q55A	Buckhannon	91.18	32	P	P	02 13 34.4	+0.6
	baz=330						
P56A	Dayton Farm, R	91.22	31	P	P	02 13 34.7	+0.8
	baz=330						
N60A	Cedar Hill Far	91.38	27	P	P	02 13 35.3	+0.6
	baz=333						
R54A	Victor	91.52	33	P	P	02 13 35.4	0.0
	baz=329						
P57A	Homestead Farm	91.56	30	P	P	02 13 35.9	+0.4
	baz=331						
KEST	Kesra	91.87	323	P	P	02 13 37.3	+0.2
	comp=Z,13nm,0.8s,baz=20,slow=1.2,SNR=12						
KEST				LR	LR	02 59 39.1	
	comp=Z,1μm,19.7s,baz=340,slow=39						
KEST	Kesra	91.87	323	P	P	02 13 37.2	+0.2
KEST				IAmb	IAmb	02 13 41.3	
	comp=Z,13nm,0.8s						
R56A	Bull Pasture M	91.96	31	P	P	02 13 36.9	-0.5
	baz=330						
W50A	Signal Mountai	92.17	37	P	P	02 13 38.7	+0.2
	baz=326						
T54A	Tazewell	92.23	34	P	P	02 13 39.0	+0.2
	baz=329						
U53A	Fall Branch	92.40	35	P	P	02 13 39.6	+0.1
	baz=328						
PBRG	Braganca	92.50	337	*e*P	P	02 13 40.2	+0.3
T55A	Pulaski	92.51	33	P	P	02 13 39.7	-0.3
	baz=329						
T56A	Rocky Mt	92.90	33	P	P	02 13 42.0	+0.3
	baz=330						
MVO	Moncorvo	93.18	337	*e*P	P	02 13 43.6	+0.6
	comp=Z,32nm,1.6s						
MVO	Moncorvo	93.18	337	*e*LR	LR	02 49 30.6	
	comp=Z,601nm,20.0s						
POLO	Lamas de Olo	93.20	338	*e*P	P	02 13 43.6	+0.4
PVRL	Vila Real	93.27	338	*e*P	P	02 13 44.1	+0.7
	comp=Z,37nm,1.9s						
Z50A	Ashland	93.50	39	P	P	02 13 44.5	-0.1
	baz=326,SNR=6.9						
Z50A	Ashland	93.50	39	IAmb	IAmb	02 13 46.0	
	comp=Z,14nm,0.7s						
ESBB	Sonseca Array	93.59	334	P	P	02 13 45.0	+0.1
ESBB				IAmb	IAmb	02 13 46.6	
	comp=Z,6.8nm,0.8s						
ESDC	Sonseca Array	93.59	334	P	P	02 13 45.6	+0.6
	comp=Z,6.1nm,0.7s,baz=17,slow=4.3,SNR=36						
ESDC				PP	PP	02 17 29.3	+0.1
	comp=Z,0.8nm,0.7s,baz=23,slow=8.4,SNR=5.1						
ESDC				LR	LR	03 01 21.5	
	comp=Z,503nm,19.3s,baz=30,slow=39						
ESDC	Sonseca Array	93.59	334	P	P	02 13 44.6	-0.4
X53A	Estanollee	93.66	36	P	P	02 13 45.6	+0.3
	baz=328						
PVIS	Viseu	93.84	338	*e*P	P	02 13 46.5	+0.4
	comp=Z,27nm,1.4s						
MTE	Manteigas	94.03	337	*e*P	P	02 13 46.1	-0.9
MTE	Manteigas	94.03	337	*e*LR	LR	02 48 03.2	
	comp=Z,447nm,22.0s						
U58A	Oxford	94.04	32	P	P	02 13 46.6	-0.4
	baz=331						
Y53A	Monroe	94.08	37	P	P	02 13 47.3	+0.1
	baz=327						
Y54A	Tignall	94.47	36	P	P	02 13 48.5	-0.5
	baz=328						
PMRV	Marv??o	94.88	337	*e*LR	LR	02 49 24.9	
	comp=Z,548nm,20.0s						
W61A	Ground Anchor	95.72	31	P	P	02 13 54.2	-0.5
	baz=332						
255A	Hazlehurst	96.20	37	P	P	02 13 56.5	-0.5
	baz=328						
355A	Pearson	96.52	38	P	P	02 13 57.2	-1.2
	baz=328						
PVAQ	Vaqueiros	96.85	336	*e*LR	LR	02 50 28.1	
	comp=Z,1μm,20.0s						
KMBO	Kilima Mbogo	101.91	279	P	Pdif	02 14 24.1	+1.0
	comp=Z,4.0nm,0.8s,baz=42,slow=7.6,SNR=18						
TORD	Torodi Ar. Bea	114.58	317	PKP	PKiKP	02 19 08.3	-0.9
	comp=Z,0.4nm,0.6s,baz=24,slow=1.8,SNR=5.7						
TORD				PP	PP	02 19 57.5	-8.4
	comp=Z,1.3nm,0.7s,baz=27,slow=8.0,SNR=4.5						
TORD				PKKPbc	PKKPbc	02 29 48.2	+2.2
	comp=Z,0.9nm,0.8s,baz=238,slow=2.7,SNR=5.0						
DBIC	Dimbokro	123.41	320	PKP	PKPdf	02 19 26.2	0.0
	comp=Z,2.8nm,0.7s,baz=359,slow=11,SNR=3.8						
TIC	Toumodi	123.51	320	*e*PKP2	sPKPdf	02 19 48.7	+1.4
KIC	Kosan Boka	123.62	319	*e*PKP2	sPKPdf	02 19 47.6	+0.1
	comp=Z,47nm,1.4s						
MAW	Mawson	123.74	207	PKP	PKiKP	02 19 25.7	+0.4
	comp=Z,2.6nm,0.7s,baz=59,slow=5.2,SNR=7.3						
LIC	Lamto	123.87	320	*e*PKP2	sPKPdf	02 19 47.5	-0.5
	comp=Z,73nm,1.5s						
BOSA	Boshof	127.83	263	PKP	PKPdf	02 19 33.3	-1.0
	comp=Z,2.9nm,0.7s,baz=164,slow=2.9,SNR=4.2						
BOSA				PP	PP	02 21 36.4	-0.9
	comp=Z,2.3nm,0.8s,baz=68,slow=3.7,SNR=3.8						
QSPA	South Pole Qui	131.17	180		PKiKP	02 19 40.1	-0.3
SYO	Syowa Base	132.37	208⇑	*e*Pdiff	Pdif	02 16 39.0	+2.2
LPAZ	La Paz	143.83	55	PKP	PKPbc	02 20 02.4	-0.2
	comp=Z,1.5nm,0.6s,baz=331,slow=1.9,SNR=10						
LPAZ	La Paz	143.83	55		PKPdf	02 20 04.1	-0.8
MNMC	Minye Minye	145.01	60		PKPdf	02 20 06.8	+0.3
SNAA	Sanae	145.11	198	PKPdf	PKPbc	02 20 03.9	-0.6
SNAA	Sanae	145.11	198	PKIKP	PKPbc	02 20 04.2	-0.2
SNAA	Sanae	145.11	198		PKPbc	02 20 04.2	-0.2
PB11	IPOC Station P	145.42	61		PKPab	02 20 07.3	+0.1
VNA2	Neumayer--Watz	146.69	198	PKPdf	PKPdf	02 20 08.0	+0.6
VNA3	Neumayer Olymp	146.95	196	PKPdf	PKPdf	02 20 08.6	+0.7
VNA1	Neumayer--Stat	147.09	198	PKPdf	PKPbc	02 20 10.1	-0.2
BDFB	Brasilia	152.83	22	PKIKP	PKPdf	02 20 15.8	-3.1
BDFB						02 20 26.4	
BDFB	Brasilia	152.83	22	PKP	PKPdf	02 20 15.8	-3.1
	comp=Z,2.2nm,0.8s,baz=184,slow=5.6,SNR=3.1						
BDFB				PKPbc	PKiKP	02 20 26.8	+0.5
	comp=Z,6.6nm,0.8s,baz=209,slow=2.0,SNR=8.3						
BDFB				PKPab	PKPab	02 20 37.1	0.0
	comp=Z,9.6nm,0.8s,baz=244,slow=1.7,SNR=5.8						
BDFB	Brasilia	152.83	22		PKiKP	02 20 26.4	+0.1
BDFB					PKPab	02 20 38.4	+1.3
PLCA	Paso Flores	155.40	99	PKPab	PKPab	02 20 46.3	-1.3
	comp=Z,2.1nm,0.9s,baz=243,slow=2.3,SNR=2.5						
CPUP	Villa Florida	157.97	53	PKP2	PKPab	02 20 58.0	-0.8
CPUP	Villa Florida	157.97	53	PKPab	PKPab	02 20 58.0	-0.8
	comp=Z,1.1nm,0.5s,baz=309,slow=5.0,SNR=4.2						

IDC ***15*** *02:08:54.9±0.9, 41°.64N×79°.49E, h0km, mb4.0/8, mb1 4.2/11, mb1mx3.9/38, mbtmp4.1/11, ML3.7/3, Error ellipse: s-maj=16.2km s-min=14.4km az=5.0*
BJI ***15*** *02:08:57.0±0.0, 41°.78N×79°.36E, h7km, mb3.9/1, ML4.0/9, Ms7 3.5/1*
SOME ***15*** *02:08:57.0, 41°.72N×79°.50E, h25km, MS3.6*
MOS ***15*** *02:08:58.4±1.3, 41°.71N×79°.63E, h28km, mb4.3/3, Error ellipse: s-maj=9.4km s-min=7.3km az=95.8*
KRNET ***15*** *02:08:58.3±0.1, 41°.74N×79°.35E, h16km, mb4.5*
NNC ***15*** *02:08:58.2±1.1, 41°.80N×79°.42E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=7.2km s-min=4.2km az=153.0*
NEIC ***15*** *02:08:59.9±1.8, 41°.74N±0°.07×79°.37E±0°.07, h33km±5km, mb4.2/3*
ISC 15 02:08:55.7±1.4,**41°.68N**±0°.04×**79°.48E**±0°.03,**h0**km±9km,
n123,σ1°**44**/175,**mb4.0**/7,**30C-35D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.13	315	⇓*i*P	Pb	02 09 17.5	-0.8
	baz=17						
PRZ				⇓*i*S	Sb	02 09 32.0	-1.7
	baz=17						
PRZ	Przheval'sk	1.13	315	PG	Pb	02 09 17.7	-0.6
PRZ	Przheval'sk	1.13	315	Pn	Pb	02 09 17.7	-0.6
PRZ				Sn	Sb	02 09 31.6	-2.1
TARG	Taragay, Kyrgy	1.25	273	Pn	Pn	02 09 20.0	-0.9
SHLS	Shalkode	1.48	360	P	Pb	02 09 24.4	+0.2
	145nm,0.2s						
SHLS				S	Sg	02 09 44.3	+1.0
	3μm,0.4s						
SHLS	Shalkode	1.48	360	⇓*i*P	Pb	02 09 24.3	+0.2
	154nm,0.3s						
SHLS				⇓*i*S	Sg	02 09 44.1	+0.9
	3μm,0.4s						
UZB	Uzynbulak	1.50	347	P	Pn	02 09 23.5	-0.5
	685nm,0.4s						
UZB				S	Sb	02 09 42.6	-1.7
	1μm,0.4s						
UZB	Uzynbulak	1.50	347	⇓*i*P	Pn	02 09 23.6	-0.5
	380nm,0.5s						
UZB				*e*S	Sb	02 09 42.6	-1.7
	1μm,0.5s						
SATY	Saty	1.59	330	P	Pn	02 09 25.2	0.0
	666nm,0.4s						
SATY				S	Sb	02 09 45.5	-1.2
	2μm,0.3s						
SATY	Saty	1.59	330	⇓*i*P	Pn	02 09 25.0	-0.2
	706nm,0.5s						
SATY				⇑*i*S	Sb	02 09 45.6	-1.2
	2μm,0.4s						
PDGK	Podgornoye	1.65	0	P	Pn	02 09 26.0	0.0
	559nm,0.3s						
PDGK				S	Sb	02 09 47.0	-1.4
	2μm,0.6s						
PDGK	Podgornoye	1.65	0	⇓P	Pn	02 09 26.1	0.0
	422nm,0.4s						
PDGK				⇑S	Sb	02 09 47.4	-1.0
	799nm,0.5s						
PDGK	Podgornoye	1.65	0	PN	Pn	02 09 25.8	-0.3
PDGK				S	Sg	02 09 48.8	+0.1
PDGK				pmax	pmax		
	comp=Z,422nm,0.4s						
PDGK				smax	smax		
	comp=N,989nm,0.7s						
ZHN	Zhinishke	1.68	333	P	Pn	02 09 26.6	+0.1
	comp=N,743nm,0.2s						
ZHN				S	Sb	02 09 48.1	-1.1
	comp=N,1μm,0.2s						
ZHN	Zhinishke	1.68	333	⇓*i*P	Pn	02 09 26.6	+0.1
	comp=N,758nm,0.3s						
ZHN				⇓*i*S	Sb	02 09 48.7	-0.5
	comp=N,1μm,0.2s						
ANVS	Anan'yevo	1.74	310	⇑*i*P	Pb	02 09 28.7	+0.1
	baz=11						
ANVS				⇑*i*S	Sg	02 09 50.8	-0.8
	baz=11						
KDJ	Kajisay	1.77	286	⇑*i*P	Pb	02 09 29.0	-0.1
	baz=84						
KDJ				⇑*i*S	Sb	02 09 51.4	-0.6
	baz=84						
KDJ	Kajisay	1.77	286	PN	Pb	02 09 29.1	-0.1
KDJ	Kajisay	1.77	286	Pn	Pb	02 09 29.1	-0.1
KPKS	Kokpek	1.88	342	⇑*i*P	Pb	02 09 30.6	-0.3
	comp=N,2μm,0.4s						
KPKS				⇓*i*S	Sb	02 09 54.8	-0.3
	comp=N,4μm,0.5s						
KTMS	Ketmen	1.88	20	P	Pn	02 09 30.4	+1.1
	comp=N,121nm,0.1s						
KTMS				S	Sb	02 09 54.5	-0.6
	comp=N,1μm,0.5s						
KTMS	Ketmen	1.88	20	⇑*e*P	Pn	02 09 30.4	+1.1
	comp=N,121nm,0.1s						
KTMS				⇓*i*S	Sb	02 09 54.5	-0.6
	comp=N,1μm,0.6s						
KURS	Kuram	2.05	332	Pg	Pb	02 09 33.5	-0.3
	comp=N,1μm,0.5s						
KURS				Lg	Lg	02 09 59.8	
	comp=N,768nm,0.6s						
KURS	Kuram	2.05	332	⇓*i*P	Pb	02 09 33.5	-0.3
	comp=N,1μm,0.5s						
KURS				*e*S	Sb	02 09 59.8	0.0
	comp=N,696nm,0.6s						
TNSS	Tian-Shan	2.31	307	Pg	Pb	02 09 37.8	-0.8
	comp=N,246nm,0.2s						
TNSS				Lg	Lg	02 10 07.2	
	comp=N,1μm,0.7s						
TNSS	Tian-Shan	2.31	307	*e*P	Pb	02 09 38.0	-0.5
	comp=N,372nm,0.4s						
TNSS				*e*S	Sb	02 10 07.2	-0.6
	comp=N,1μm,0.7s						
MDOK	Medeo	2.33	310	⇓P	Pb	02 09 37.6	-1.1
	comp=N,248nm,0.5s						
MDOK				S	Sb	02 10 07.4	-0.6
	comp=N,2μm,0.5s						
MDOK	Medeo	2.33	310	Pg	Pb	02 09 38.1	-0.6
	comp=N,339nm,0.5s						
MDOK				Lg	Lg	02 10 08.0	
	comp=N,3μm,0.8s						
MDOK	Medeo	2.33	310	*e*P	Pb	02 09 38.5	-0.1
	comp=N,323nm,0.2s						
MDOK				*e*S	Sb	02 10 08.1	+0.1
	comp=N,3μm,0.6s						
KOTS	Kotyrbulak	2.34	312	Pg	Pb	02 09 38.3	-0.6
	comp=N,885nm,0.3s						
KOTS				Lg	Lg	02 10 08.1	
	comp=N,4μm,0.5s						
KOTS	Kotyrbulak	2.34	312	*e*P	Pb	02 09 38.4	-0.4
	comp=N,885nm,0.3s						
KOTS				*e*S	Sb	02 10 08.3	0.0
	comp=N,4μm,0.5s						
KNDC	Almaty	2.41	310	⇓Pg	Pb	02 09 39.4	-0.6
	comp=N,251nm,0.6s						
KNDC				⇑Lg	Lg	02 10 10.7	
	comp=N,785nm,0.6s						
AAA	Alma-Ata	2.44	310	Pg	Pb	02 09 40.7	+0.2
	comp=N,444nm,0.4s						
AAA				Lg	Lg	02 10 12.2	
	comp=N,2μm,0.5s						
AAA	Alma-Ata	2.44	310	*e*P	Pb	02 09 40.9	+0.5
	comp=N,511nm,0.4s						
AAA				*e*S	Sg	02 10 12.2	-1.8
	comp=N,2μm,0.5s						
AAA	Alma-Ata	2.44	310	*e*PN	Pb	02 09 40.6	+0.2
AAA				*e*S	Sg	02 10 12.2	-1.8
AAA				pmax	pmax		
	comp=Z,444nm,0.4s						
AAA				smax	smax		
	comp=N,2μm,0.5s						
ULHL	Ulahol	2.48	284	⇑*i*P	Pb	02

MNBS Baschi 2.52 342 Pg Pb 02 09 41.1 -0.8
comp=N,218nm,0.3s
MNBS Lg Lg 02 10 13.7
comp=N,1μm,0.5s
MNBS Baschi 2.52 342 *e*P **Pb 02 09 41.2 -0.8**
comp=N,228nm,0.4s
MNBS *e*S **Sb 02 10 13.7 +0.1**
comp=N,2μm,0.5s
NRN Naryn 2.62 266⇓*e*P **Pb 02 09 43.0 -0.7**
baz=64
NRN ⇓*i*S **Sb 02 10 15.2 -1.3**
baz=64
NRN Naryn 2.62 266 PN **Pb 02 09 44.5 +0.8**
NRN Naryn 2.62 266 Pn **Pb 02 09 44.5 +0.8**
DJR Jarkent 2.66 5 *e*P **Pb 02 09 42.4 -1.9**
comp=N,280nm,0.4s
DJR *e*S **Sb 02 10 14.8 -2.7**
comp=N,638nm,0.6s
MTBS Maitube 2.68 304 Pg **Pb 02 09 44.3 -0.3**
comp=N,151nm,0.5s
MTBS Lg Lg 02 10 18.4
comp=N,838nm,0.3s
MTBS Maitube 2.68 304 *e*P **Pb 02 09 44.4 -0.3**
comp=N,223nm,0.6s
MTBS ⇑*i*S **Sb 02 10 18.4 +0.3**
comp=N,863nm,0.5s
BOOM Boomskoye usch 2.75 288⇓*i*P **Pb 02 09 43.6 -2.3**
baz=88
BOOM ⇓*i*S **Sb 02 10 17.3 -2.9**
baz=88
ARXS Arharly 2.81 335 Pg **Pb 02 09 45.5 -1.3**
comp=N,223nm,0.4s
ARXS Lg Lg 02 10 20.7
comp=N,569nm,0.5s
ARXS Arharly 2.81 335 *e*P **Pb 02 09 45.4 -1.3**
comp=N,223nm,0.4s
ARXS *e*S **Sb 02 10 20.7 -1.0**
comp=N,587nm,0.5s
CHKK Chushkaly 2.84 321 Pg **Pb 02 09 47.2 -0.1**
comp=N,303nm,0.3s
CHKK Lg Lg 02 10 22.5
comp=N,1μm,0.3s
CHKK Chushkaly 2.84 321 *e*P **Pb 02 09 47.2 -0.1**
comp=N,311nm,0.4s
CHKK *e*S **Sb 02 10 23.5 +0.8**
comp=N,2μm,0.4s
KTBS Karatobe 2.89 316 Pg **Pb 02 09 48.5 +0.3**
comp=N,168nm,0.3s
KTBS Lg Lg 02 10 25.0
comp=N,2μm,0.7s
KTBS Karatobe 2.89 316 *e*P **Pb 02 09 48.5 +0.3**
comp=N,178nm,0.4s
KTBS *e*S **Sb 02 10 25.0 +0.8**
comp=N,2μm,0.6s
KST Kastek 2.94 299 Pg **Pb 02 09 48.0 -1.0**
comp=N,387nm,0.5s
KST Lg Lg 02 10 23.9
comp=N,783nm,0.6s
KST Kastek 2.94 299 *e*P **Pb 02 09 48.0 -1.0**
comp=N,390nm,0.6s
KST *e*S **Sb 02 10 23.9 -1.6**
comp=N,783nm,0.6s
TKM2 Tokmak 2 3.13 295⇓Pg **Pg 02 09 56.7 +0.9**
comp=N,101nm,0.5s
TKM2 ⇓Lg Lg 02 10 38.0
comp=N,235nm,0.6s
TKM2 Tokmak 2 3.13 295⇑*i*P **Pb 02 09 49.6 -2.8**
baz=94
TKM2 ⇑*i*S **Sb 02 10 26.8 -4.4**
baz=94
TKM2 Tokmak 2 3.13 295 PN **Pg 02 09 56.6 +0.9**
TKM2 02 10 32.7
TKM2 pmax pmax
comp=Z,101nm,0.5s
TKM2 pmax pmax
comp=Z,235nm,0.6s
DGS Degeres 3.15 301 Pg **Pb 02 09 51.0 -1.7**
comp=Z,172nm,0.5s
DGS Lg Lg 02 10 31.1
comp=Z,630nm,0.7s
DGS Degeres 3.15 301 *e*P **Pb 02 09 51.5 -1.2**
comp=Z,178nm,0.5s
DGS *e*S **Sb 02 10 31.1 -0.6**
comp=Z,630nm,0.7s
KZA Kyzart 3.18 279⇑*i*P **Pn 02 09 50.1 +2.8**
baz=78
KZA ⇑*i*S **Sn 02 10 27.9 +1.8**
baz=78
KUU Kurty 3.20 315 Pg **Pb 02 09 53.2 -0.2**
comp=Z,53nm,0.3s
KUU Lg Lg 02 10 33.9
comp=Z,537nm,0.6s
KUU Kurty 3.20 315⇓*i*P **Pb 02 09 53.2 -0.2**
comp=Z,83nm,0.5s
KUU *e*S **Sb 02 10 33.9 +1.1**
comp=Z,537nm,0.6s
TDK Taldyqorghan 3.41 347 *e*P **Pb 02 09 56.0 -1.0**
comp=Z,330nm,0.3s
TDK *e*S **Sb 02 10 38.8 -0.2**
comp=Z,726nm,0.5s
KBK Karagaybulak 3.50 288⇑*e*P **Pn 02 09 54.5 +2.9**
baz=87
KBK ⇑*i*S **Sn 02 10 35.3 +1.5**
baz=87
KAPS Kapalarasan 3.61 359 *e*P **Pb 02 10 01.1 +0.8**
comp=Z,144nm,0.4s
KAPS *e*S **Sb 02 10 47.6 +3.0**
comp=Z,582nm,0.7s
CHMS Chumysh 3.74 292⇓*i*P **Pn 02 09 57.6 +2.9**
baz=92
CHMS ⇓*i*S **Sn 02 10 40.8 +1.3**
baz=92
UCH Uchtor 3.74 280⇓*i*P **Pn 02 09 58.1 +3.0**
baz=79
UCH ⇓*i*S **Sn 02 10 41.6 +1.6**
baz=79
FRU1 Bishkek 3.77 289⇑*i*P **Pn 02 09 58.1 +3.0**
baz=89
FRU1 ⇑*i*S **Sn 02 10 41.7 +1.5**
baz=89
FRU1 Bishkek 3.77 289 PN **Pn 02 09 57.0 +1.8**
FRU1 Bishkek 3.77 289 Pn **Pn 02 09 57.0 +1.8**
AAK Ala-Archa 3.82 286⇑Pg **Pg 02 10 09.1 +0.1**
comp=Z,32nm,0.4s
AAK ⇓Lg Lg 02 10 58.4
comp=Z,127nm,0.9s
AAK Ala-Archa 3.82 286⇓*i*P **Pn 02 09 58.7 +2.7**
baz=86
AAK ⇓*i*S **Sn 02 10 43.4 +1.7**
baz=86
AAK Ala-Archa 3.82 286 *i* PN **Pn 02 09 58.1 +2.1**
AAK pmax pmax
comp=Z,78nm,0.7s
AAK Ala-Archa 3.82 286 Pn **Pn 02 09 59.3 +3.4**
comp=Z,2.5nm,0.3s,baz=97,slow=6.7,SNR=4.8
AAK Lg Lg 02 10 55.6
comp=Z,18nm,0.3s,baz=191,slow=22,SNR=8.4
ARLS Aral 3.86 274⇑*i*P **Pn 02 09 59.4 +3.0**
baz=74
ARLS ⇑*i*S **Sn 02 10 44.2 +1.7**
baz=74
USP Ospenovka 4.01 295⇑*i*P **Pn 02 10 01.2 +2.8**
baz=95
USP ⇑*i*S **Sn 02 10 47.5 +1.5**
baz=95
AML Almayashu 4.34 278⇑*e*P **Pn 02 10 06.6 +3.4**
baz=77
AML ⇑*i*S **Sn 02 10 55.9 +1.2**
baz=77
EKS2 Erkin-Say 4.35 285⇓*e*P **Pn 02 10 06.6 +3.5**
baz=84
EKS2 ⇓*i*S **Sn 02 10 55.9 +1.4**
baz=84
MAKZ Makanchi 5.43 18 ⇓Pn **Pn 02 10 18.7 +0.8**
comp=Z,28nm,1.1s
MAKZ ⇑Sn **Sn 02 11 21.0 -0.1**
comp=Z,53nm,0.8s
MAKZ Makanchi 5.43 18 PN **Pn 02 10 18.7 +0.8**
MAKZ pmax pmax
comp=Z,9.0nm,0.5s
MAKZ Makanchi 5.43 18 Pn **Pn 02 10 17.7 -0.2**
MK31 Makanchi Array 5.50 21 Pn **Pn 02 10 20.2 +1.3**
comp=Z,6.2nm,0.3s,baz=203,slow=14,SNR=43
MK31 ⇑Sn **Sn 02 11 23.0 +0.3**
comp=Z,107nm,0.7s,baz=210,slow=24,SNR=11
MK31 Makanchi Array 5.50 21 PN **Pn 02 10 20.1 +1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 5.50 21 Pn **Pn 02 10 19.5 +0.7**
MKAR Makanchi Array 5.50 21 Pn **Pn 02 10 20.3 +1.5**
comp=Z,8.0nm,0.3s,baz=209,slow=14,SNR=27
MKAR Sn **Sn 02 11 24.2 +1.4**
comp=Z,10nm,0.3s,baz=202,slow=22,SNR=24
MKAR Lg Lg 02 11 51.5
comp=Z,6.6nm,0.3s,baz=202,slow=29,SNR=4.1
WMQ Urumqi 6.42 68 Pn Pg 02 11 06.4 +7.7
WMQ Sg **Sg 02 12 20.3 -1.6**
WMQ smax smax
comp=N,150nm,0.7s
WMQ smax smax
comp=E,190nm,0.8s
WMQ Urumqi 6.42 68 *e*Pn **Pn 02 10 33.3 +1.8**
WMQ Sn **Sn 02 11 45.6 +0.1**
WMQ smax smax
comp=E,78nm,1.1s
WMQ Urumqi 6.42 68 PN **Pn 02 10 32.5 +1.0**
WMQ Urumqi 6.42 68 Pn **Pn 02 10 32.5 +1.0**
KK31 Karatay Array 6.79 285⇓Pg **Pg 02 11 03.2 -2.5**
comp=E,6.1nm,0.5s,baz=90,slow=16,SNR=6.6
KK31 ⇓Lg Lg 02 12 34.5
comp=E,19nm,0.5s,baz=84,slow=30,SNR=3.8
KK31 Karatay Array 6.79 285 *e*P* **Pg 02 11 06.6 +0.8**
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KK31 pmax pmax
comp=Z,19nm,0.5s
KURBB Kurchatov Arra 8.97 356⇓Lg Lg 02 13 38.2
comp=Z,120nm,0.9s
KURBB Kurchatov Arra 8.97 356 Lg Lg 02 13 35.2
comp=Z,0.5nm,0.3s,baz=185,slow=30,SNR=4.7
KURK Kurchatov 9.06 357⇑Lg Lg 02 13 43.2
comp=Z,61nm,1.0s
DGZ Jazzator, Alta 9.76 32 *i* P **Pn 02 11 18.5 +1.1**
ZALV Zalesovo Beam 12.79 14 P **Pn 02 12 00.0 +1.4**
ZALV 02 14 14.2
ZALV Zalesovo Beam 12.79 14 Pn **Pn 02 12 00.0 +1.4**
comp=Z,1.4nm,0.3s,baz=202,slow=13,SNR=9.9
ZALV Sn **Sn 02 14 18.2 -3.3**
comp=Z,1.2nm,0.3s,baz=198,slow=23,SNR=6.5
BVAR Borovoye Array 12.90 335 Lg Lg 02 15 36.4
comp=Z,0.5nm,0.3s,baz=157,slow=23,SNR=3.3
BRVK Borovoye 12.96 335 *i* P **Pn 02 12 03.4 +2.4**
GTA Gaotai 15.63 92 *e*P **P 02 12 42.5 +0.8**
GTA pP 02 12 47.9
GTA sP 02 12 51.4
GTA pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 19.28 51 *i* P **Pn 02 13 23.1 +0.3**
TLY pmax pmax
comp=Z,5.0nm,1.1s
ARU Arti 20.02 325 *d i*P **P 02 13 29.9 +0.1**
ARU 02 13 44.5
ARU S **Sn 02 17 14.5 -2.5**
ARU SS **SnSn 02 17 30.1 -1.2**
ARU pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 20.02 63 P **P 02 13 30.2 +0.1**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 20.02 63 P **P 02 13 30.5 +0.4**
comp=Z,4.6nm,0.8s,baz=265,slow=11,SNR=12
SONM Songino Array 20.02 63 P **P 02 13 30.2 +0.1**
ULN Ulaanbaatar 20.47 63 P **P 02 13 34.7 -0.3**
ULN pmax pmax
comp=Z,18nm,1.6s
ULN Ulaanbaatar 20.47 63 P **P 02 13 34.7 -0.3**
ULN IAmb IAmb 02 13 35.9
comp=Z,18nm,1.6s
BRTR Keskin Array B 34.49 282 P **P 02 15 45.7 +0.2**
comp=Z,2.1nm,0.8s,baz=95,slow=8.3,SNR=4.5
KSAR Wonju Array Be 37.17 80 P **P 02 16 08.1 -0.2**
KSAR Wonju Array Be 37.17 80 P **P 02 16 08.1 -0.2**
FINES FINESS Array B 37.29 320 P **P 02 16 07.8 -1.2**
comp=Z,1.6nm,0.6s,baz=98,slow=10.0,SNR=4.1
ARCES ARCESS Array B 39.19 333 P **P 02 16 24.6 -0.3**
comp=Z,3.8nm,0.9s,baz=98,slow=8.7,SNR=4.6
KOLS Kolonicke sedl 40.04 300 *e*P **P 02 16 36.0 +3.7**
KOLS Kolonicke sedl 40.04 300 *e*P **P 02 16 36.0 +3.7**
LANS Liptovska Anna 41.80 301 *e*P **P 02 16 47.3 +0.5**
LANS Liptovska Anna 41.80 301 *e*P **P 02 16 47.2 +0.5**
VYHS Vyhne 42.36 301 *e*P P 02 16 59.4 +8.0
NOA NORSAR Array B 44.46 320 P **P 02 17 06.8 -1.4**
comp=Z,0.9nm,0.6s,baz=84,slow=7.9,SNR=3.6
ILAR Eielson Array 67.85 20 P **P 02 19 53.4 -1.9**
comp=Z,0.8nm,0.8s,baz=314,slow=4.4,SNR=6.3
WRA Warramunga Arr 79.57 129 P **P 02 21 03.8 -0.9**
comp=Z,1.9nm,0.8s,baz=330,slow=5.3,SNR=17
WRA Warramunga Arr 79.57 129 IAmb IAmb 02 21 04.8
comp=Z,0.2nm,1.0s
ASAR Alice Springs 82.23 131 P **P 02 21 17.9 -1.0**
comp=Z,1.7nm,0.8s,baz=323,slow=5.7,SNR=14

IDC 15 02:29:37.8±9.9, 19°.43S×178°.08W, h465km±116km, mb2.9/5, mb1 3.3/5, mb1mx2.9/32, mbtmp3.7/5, Error ellipse: s-maj=131.3km s-min=36.0km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.68**	**261**	P	P	02 37 08.0	-0.3
	0.5nm,0.3s,baz=97,slow=7.5,SNR=44						
ASAR	**Alice Springs**	**44.70**	**256**	P	P	02 37 08.5	+0.1
	1.1nm,0.7s,baz=88,slow=8.6,SNR=12						
TXAR	**Lajitas Array**	**86.54**	**57**	P	P	02 41 31.0	0.0
	0.0nm,0.4s,baz=197,slow=3.9,SNR=3.5						
ILAR	**Eielson Array**	**87.29**	**13**	P	P	02 41 33.7	+0.1
	0.4nm,0.8s,baz=224,slow=6.3,SNR=3.6						
PDAR	**Pinedale Array**	**88.24**	**43**	P	P	02 41 38.6	-0.3
	0.4nm,0.6s,baz=132,slow=2.2,SNR=4.0						
BRTR	**Keskin Array B**	**146.06**	**313**	PKPbc	PKPdf	02 48 24.3	+0.9
	0.5nm,0.7s,baz=119,slow=5.1,SNR=3.0						
GERES	**GERESS Array B**	**149.15**	**345**	PKPbc	PKPbc	02 48 32.7	-0.2
	0.8nm,0.8s,baz=343,slow=2.8,SNR=5.1						

*NNC **15** 02:49:57.8±1.9, 41°.74N×79°.45E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=14.2km s-min=8.1km az=140.0*
*SOME **15** 02:49:58.5, 41°.78N×79°.45E, h15km*
*KRNET **15** 02:49:58.2±0.1, 41°.75N×79°.45E, h13km, mb2.5*
ISC 15 02:49:57.7±2.2, 41°.68N±0°.07×79°.31E±0°.06, h8km±12km, n21, σ0s90/40, 11C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.05**	**320**	⇓*i*P	**Pg**	**02 50 18.0**	**0.0**
	baz=14						
PRZ				⇓*i*S	**Sb**	**02 50 32.8**	**+0.5**
	baz=14						
TARG	**Taragay, Kyrgy**	**1.13**	**273**	⇑*i*P	**Pn**	**02 50 20.7**	**+0.5**
	baz=69						
TARG				⇑*i*S	**Sn**	**02 50 37.3**	**+1.2**
	baz=69						
SHLS	**Shalkode**	**1.48**	**4**	*e*P	**Pb**	**02 50 25.6**	**0.0**
	7.0nm,0.1s						
SHLS				*e*S	**Sb**	**02 50 45.0**	**+0.3**
	26nm,0.4s						
UZB	**Uzymbulak**	**1.49**	**352**	⇓*i*P	**Pn**	**02 50 24.5**	**-0.4**
	6.2nm,0.1s						
UZB				*e*S	**Sn**	**02 50 43.7**	**-0.8**
	13nm,0.2s						
SATY	**Saty**	**1.54**	**335**	⇓*i*P	**Pb**	**02 50 26.4**	**-0.1**
	12nm,0.2s						
SATY				*e*S	**Sb**	**02 50 46.5**	**+0.3**
	26nm,0.1s						
ZHN	**Zhinishke**	**1.63**	**337**	⇑*i*P	**Pb**	**02 50 27.9**	**-0.1**
	12nm,0.2s						
ZHN				*e*S	**Sb**	**02 50 49.0**	**+0.3**
	12nm,0.3s						
ANVS	**Anan'yevo**	**1.65**	**313**	⇑*i*P	**Pg**	**02 50 29.1**	**-0.2**
	baz=8.0						
ANVS				⇑*i*S	**Sg**	**02 50 51.4**	**+0.7**
	baz=8.0						
KDJ	**Kajisay**	**1.65**	**287**	⇑*i*P	**Pg**	**02 50 30.2**	**+0.8**
	baz=83						
KDJ				⇑*i*S	**Sg**	**02 50 53.4**	**+2.6**
	baz=83						
PDGK	**Podgornoye**	**1.66**	**5**	⇑P	**Pn**	**02 50 26.9**	**-0.4**
	4.7nm,0.4s						
PDGK				⇓S	**Sn**	**02 50 48.8**	**0.0**
	28nm,0.5s						
KPKS	**Kokpek**	**1.85**	**346**	*e*P	**Pb**	**02 50 31.5**	**-0.3**
	30nm,0.2s						
KPKS				*e*S	**Sb**	**02 50 55.4**	**+0.3**
	57nm,0.4s						
KTMS	**Ketmen**	**1.93**	**23**	*e*P	**Pn**	**02 50 31.5**	**+0.5**
	2.4nm,0.1s						
KTMS				*e*S	**Sn**	**02 50 54.6**	**-0.9**
	3.4nm,0.4s						
KURS	**Kuram**	**2.00**	**336**	⇓*i*P	**Pb**	**02 50 34.5**	**+0.2**
	11nm,0.3s						
KURS				*e*S	**Sb**	**02 51 00.4**	**+1.0**
	8.4nm,0.4s						
TNSS	**Tian-Shan**	**2.22**	**309**	*e*P	**Pg**	**02 50 39.8**	**-0.5**
	1.5nm,0.2s						
TNSS				*e*S	**Sg**	**02 51 09.3**	**+0.3**
	13nm,0.7s						
MDOK	**Medeo**	**2.24**	**312**	⇑Pg	**Pg**	**02 50 39.6**	**-1.0**
	3.1nm,0.5s						
MDOK				Lg	Lg	02 51 09.0	
	28nm,0.6s						
MDOK	**Medeo**	**2.24**	**312**	*e*P	**Pg**	**02 50 39.6**	**-1.0**
	5.5nm,0.2s						
MDOK				*e*S	**Sg**	**02 51 09.1**	**-0.6**
	29nm,0.6s						
ULHL	**Ulahol**	**2.36**	**285**	⇓*i*P	**Pb**	**02 50 40.0**	**-0.6**
	baz=83						
ULHL				⇓*i*S	**Sb**	**02 51 10.6**	**+0.7**
	baz=83						
NRN	**Naryn**	**2.49**	**266**	⇓*i*P	**Pb**	**02 50 43.4**	**+0.4**
	baz=64						
NRN				⇓*i*S	**Sg**	**02 51 16.2**	**-1.7**
	baz=64						
BOOM	**Boomskoye usch**	**2.63**	**289**	⇓*i*P	**Pb**	**02 50 43.4**	**-1.9**
	baz=87						
BOOM				⇓*i*S	**Sb**	**02 51 16.8**	**-1.1**
	baz=87						
TKM2	**Tokmak 2**	**3.02**	**296**	⇓Pg	**Pg**	**02 50 54.8**	**-0.8**
	1.8nm,0.7s						
TKM2				⇓Lg	Lg	02 51 35.0	
	3.8nm,0.4s						
KAPS	**Kapalarasan**	**3.61**	**1**	*e*P	**Pb**	**02 51 02.2**	**+0.4**
	1.6nm,0.4s						
KAPS				*e*S	**Sb**	**02 51 47.6**	**+1.8**
	2.4nm,0.3s						
MK31	**Makanchi Array**	**5.55**	**22**	⇑Pn	**Pn**	**02 51 20.7**	**+0.1**
	1.9nm,1.0s,baz=180,slow=15,SNR=3.1						
MK31				⇑Sn	**Sn**	**02 52 23.8**	**-0.7**
	2.6nm,0.9s,baz=201,slow=22,SNR=4.9						

*MOS **15** 02:53:17.8±1.2, 43°.29N×147°.33E, h53km, mb4.5/1, Error ellipse: s-maj=17.7km s-min=11.2km az=132.6*
*ISCJB **15** 02:53:18.2±1.0, 43°.36N±0°.07×147°.37E±0°.07, h53km±8km, mb3.6/9, Error ellipse: s-maj=12.3km s-min=7.0km az=148.7*
*JMA **15** 02:53:18.4±0.2, 43°.31N×147°.32E, h30km, M3.7*
*SKHL **15** 02:53:18.2±0.6, 43°.33N×147°.36E, h31km±3km, mb5.0/5*
*IDC **15** 02:53:23.3±3.5, 43°.27N×147°.22E, h87km±30km, mb3.3/9, mb1 3.5/10, mb1mx3.3/32, mbtmp3.6/10, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=27.0km s-min=22.4km az=153.0*
ISC 15 02:53:18.6±2.0, 43°.34N±0°.09×147°.40E±0°.08, h41km±17km, n38, σ1s02/51, mb3.6/9, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.21**	**272**	P	**Pn**	**02 53 38.7**	**-0.2**
NEM2				*e*S	**Sn**	**02 53 53.7**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.22**	**272**	*e*PN	**Pn**	**02 53 38.8**	**-0.3**
NMR				*e*S	**Sn**	**02 53 53.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.22**	**272**	*e*P	**Pn**	**02 53 38.0**	**-1.1**
NMR				*e*S	**Sn**	**02 53 53.0**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**1.31**	**302**	*e*PN	**Pn**	**02 53 40.4**	**0.0**
YUK				*e*S	**Sn**	**02 53 56.9**	**+0.3**
YUK				pmax	pmax		
	comp=N,240nm,0.1s						
YUK				pmax	pmax		
	comp=E,543nm,0.1s						
YUK				pmax	pmax		
	comp=Z,891nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,734nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.31**	**302**	*e*P	**Pn**	**02 53 40.0**	**-0.4**
YUK				AMB	AMB	02 53 42.0	
	comp=E,710nm,0.3s						
YUK				*e*S	**Sn**	**02 53 56.0**	**-0.6**
YUK				A	A	02 54 00.0	
	comp=E,2μm,0.3s						
YUK				A	A	02 54 00.0	
	comp=E,734nm,0.3s						
GRPR	**Tuman**	**1.35**	**299**	*e*PN	**Pn**	**02 53 40.6**	**-0.2**
GRPR				*e*S	**Sn**	**02 53 56.9**	**-0.6**
GRPR				pmax	pmax		
	comp=Z,830nm,0.2s						
GRPR				pmax	pmax		
	comp=N,304nm,0.1s						
GRPR				pmax	pmax		
	comp=E,255nm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.4s						
GRPR				smax	smax		
	comp=N,3μm,0.2s						
GRPR	**Tuman**	**1.35**	**299**	*e*P	**Pn**	**02 53 40.0**	**-0.8**
GRPR				AMB	AMB	02 53 41.0	
	comp=N,730nm,0.4s						
GRPR				*e*S	**Sn**	**02 53 56.0**	**-1.5**
GRPR				A	A	02 53 58.0	
	comp=N,3μm,0.4s						
GRPR				A	A	02 53 58.0	
	comp=N,2μm,0.4s						
LAGR	**Lagunnoye**	**1.37**	**302**	*e*PN	**Pn**	**02 53 40.9**	**-0.2**
LAGR				*e*S	**Sn**	**02 53 57.6**	**-0.4**
LAGR				pmax	pmax		
	comp=Z,519nm,0.1s						
LAGR				smax	smax		
	comp=N,2μm,0.3s						
LAGR				smax	smax		
	comp=E,873nm,0.3s						
LAGR	**Lagunnoye**	**1.37**	**302**	*e*P	**Pn**	**02 53 40.0**	**-1.1**
LAGR				AMB	AMB	02 53 42.0	
	comp=E,519nm,0.3s						
LAGR				*e*S	**Sn**	**02 53 57.0**	**-1.0**
LAGR				A	A	02 54 02.0	
	comp=E,2μm,0.3s						
LAGR				A	A	02 54 02.0	
	comp=E,873nm,0.3s						
GLVR	**Golovnino**	**1.42**	**287**	*e*PN	**Pn**	**02 53 41.9**	**0.0**
GLVR				*e*S	**Sn**	**02 54 00.2**	**+0.9**
GLVR				pmax	pmax		
	comp=N,61nm,0.1s						
GLVR				pmax	pmax		
	comp=E,114nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,294nm,0.1s						
GLVR				smax	smax		
	comp=N,1μm,0.1s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR	**Golovnino**	**1.42**	**287**	*e*P	**Pn**	**02 53 41.0**	**-0.9**
GLVR				AMB	AMB	02 53 43.0	
	comp=E,294nm,0.2s						
GLVR				*e*S	**Sn**	**02 53 57.7**	**-1.6**
GLVR				A	A	02 54 04.0	
	comp=E,1μm,0.2s						
GLVR				A	A	02 54 04.0	
	comp=E,1μm,0.2s						
JRA	**Rausu**	**1.76**	**291**	P	**Pn**	**02 53 46.9**	**+0.5**
JRA				*e*S	**Sn**	**02 54 07.9**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.79**	**285**	P	**Pn**	**02 53 47.5**	**+0.5**
JNSB				*e*S	**Sn**	**02 54 09.0**	**+0.5**
KUR	**Kuril'sk**	**1.92**	**10**	*c i*PN	**Pn**	**02 53 49.2**	**+0.5**
KUR				*i* S	**Sn**	**02 54 11.0**	**-0.6**
KUR				pmax	pmax		
	comp=Z,115nm,0.4s						
KUR				pmax	pmax		
	comp=N,42nm,0.1s						
KUR				pmax	pmax		
	comp=E,44nm,0.1s						
KUR				smax	smax		
	comp=N,317nm,0.3s						
KUR				smax	smax		
	comp=E,213nm,0.3s						
KUR	**Kuril'sk**	**1.92**	**10**	*e*P	**Pn**	**02 53 49.0**	**+0.3**
KUR				AMB	AMB	02 53 51.0	
	comp=E,41nm,0.2s						

KUR AMB AMB 02 53 51.0
comp=E,124nm,0.2s
KUR eS Sn 02 54 11.9 +0.3
KUR A A 02 54 13.0
comp=E,317nm,0.2s
KUR A A 02 54 13.0
comp=E,297nm,0.2s
JNK Nakash 1.96 278 P Pn 02 53 49.4 +0.1
JNK eS Sn 02 54 12.2 -0.6
JAK Akkeshi 2.01 261 P Pn 02 53 50.5 +0.6
JAK eS Sn 02 54 13.4 -0.3
JTKR Abashiri--Toko 2.61 285 P Pn 02 53 59.6 +1.4
JTKR eS Sn 02 54 29.9 +1.3
JAR Ashorobuto 2.65 270 P Pn 02 53 59.7 +1.0
JAR eS Sn 02 54 30.1 +0.5
JMP Maruseppu 3.00 284 P Pn 02 54 05.2 +1.6
ASAJ Asahikawa 3.56 284 P Pn 02 54 13.3 +2.0
comp=E,0.8nm,0.3s,baz=81,slow=19,SNR=2.4
ASAJ S Sn 02 54 55.8 +3.6
comp=E,1.3nm,0.3s,baz=135,slow=17,SNR=2.1
JCJ Chichijima 16.75 196 LR LR 03 02 40.5
comp=E,65nm,20.9s,baz=112,slow=34
H11N2 WAKE ISLAND Hy 28.68 139 T T 03 29 59.7
baz=330,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 28.69 139 T T 03 29 58.5
baz=330,slow=76,SNR=25
H11N3 WAKE ISLAND Hy 28.69 139 T T 03 30 00.7
baz=330,slow=76,SNR=24
SONM Songino Array 28.80 293 P P 02 59 13.0 +0.4
SONM Songino Array 28.80 293 P P 02 59 13.0 +0.4
comp=E,0.4nm,0.7s,baz=77,slow=9.0,SNR=4.6
H11S1 WAKE ISLAND Hy 29.64 141 T T 03 31 07.4
baz=331,slow=76,SNR=43
H11S3 WAKE ISLAND Hy 29.64 141 T T 03 31 07.9
baz=331,slow=76,SNR=34
H11S2 WAKE ISLAND Hy 29.66 141 T T 03 31 11.2
baz=331,slow=76,SNR=34
ILAR Eielson Array 41.71 36 P P 03 01 04.5 +1.5
comp=E,0.3nm,0.8s,baz=289,slow=8.5,SNR=2.9
MKAR Makanchi Array 44.93 298 P P 03 01 28.4 -0.8
comp=E,0.4nm,0.6s,baz=101,slow=5.1,SNR=3.1
INK Inuvik 46.66 30 P P 03 01 43.7 +1.2
comp=E,0.5nm,0.6s,baz=291,slow=6.3,SNR=5.0
ARCES ARCESS Array B 59.69 340 P P 03 03 18.1 -0.2
comp=E,3.6nm,0.9s,baz=46,slow=7.7,SNR=4.1
WRA Warramunga Arr 64.11 194 P P 03 03 47.5 -1.0
comp=E,0.3nm,0.9s,baz=15,slow=6.9,SNR=4.7
FINES FINESS Array B 65.32 333 P P 03 03 54.9 -1.0
comp=E,1.7nm,0.9s,baz=35,slow=7.9,SNR=3.9
NOA NORSAR Array B 70.05 339 P P 03 04 25.1 -0.8
comp=E,0.5nm,0.4s,baz=32,slow=6.6,SNR=5.4
TXAR Lajitas Array 82.73 56 P P 03 05 38.4 +0.1
comp=E,0.3nm,0.6s,baz=302,slow=3.5,SNR=4.5

*NNC **15** 02:57:59.9±11.0, 36°.86N×69°.11E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=94.9km s-min=71.3km az=164.0*
*IDC **15** 02:58:04.0±9.4, 36°.16N×68°.86E, h230km±139km, mb3.4/1, mb1 3.1/3, mb1mx2.6/38, mbtmp3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/37, Error ellipse: s-maj=164.4km s-min=57.8km az=175.0*
ISC 15 02:57:58.7±2.5, 36°.5N±0°.2×69°.3E±0°.1, h43km, n12, σ1§82/14, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.61**	**30**	P	**Pn**	**02 59 34.3**	**+0.7**
SNR=13							
KK31	**Karatay Array**	**6.69**	**8**	Pn	**Pn**	**02 59 36.2**	**+1.9**
2.2nm,0.3s,baz=186,slow=13,SNR=42							
KK31				⇑Sn	**Sn**	**03 00 49.7**	**+0.5**
0.5nm,0.2s,baz=195,slow=25,SNR=4.3							
UCH	**Uchtor**	**7.03**	**34**	P	**Pn**	**02 59 40.0**	**+0.6**
SNR=7.8							
EKS2	**Erkin-Say**	**7.09**	**28**	P	**Pn**	**02 59 41.1**	**+1.2**
SNR=9.2							
AAK	**Ala-Archa**	**7.36**	**32**	⇑Pn	**Pn**	**02 59 44.0**	**+0.4**
2.8nm,0.4s							
AAK				⇑Sn	**Sn**	**03 01 06.2**	**+0.4**
3.4nm,0.5s							
AAK	**Ala-Archa**	**7.36**	**32**	P	**Pn**	**02 59 44.2**	**+0.5**
SNR=6.7							
USP	**Ospenovka**	**7.88**	**29**	P	**Pn**	**02 59 51.4**	**+0.7**
SNR=14							
GEYT	**Alibeck**	**9.01**	**283**	P	**Pn**	**03 00 07.3**	**+1.0**
0.8nm,0.3s,baz=103,slow=13,SNR=4.3							
GEYT				S	**Sn**	**03 01 46.2**	**-0.3**
0.5nm,0.3s,baz=284,slow=37,SNR=2.9							
MKAR	**Makanchi Array**	**14.16**	**39**	P	**Pn**	**03 01 20.0**	**+3.5**
0.2nm,0.3s,baz=210,slow=8.3,SNR=4.9							
AB31	**Akbulak array**	**14.47**	**335**	⇑Pn	**Pn**	**03 01 20.0**	**-0.6**
0.3nm,0.3s,baz=158,slow=13,SNR=32							
ZALV	**Zalesovo Beam**	**20.54**	**27**	P	**P**	**03 02 29.3**	**-3.9**
2.7nm,0.5s,baz=225,slow=11,SNR=11							
TGY	**Tagaytay City**	**51.07**	**102**	LR	LR	03 30 30.4	
comp=Z,128nm,21.1s,baz=1.0,slow=38							

BJI 15 03:11:57.3±0.0, 30°.37N×102°.94E, h14km, ML3.5/11, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.89**	**52**	Pg	Pg	03 12 13.5	-1.0
CD2				Sg	Sg	03 12 25.9	-0.3
CD2				smax	smax		
comp=N,910nm,0.6s							
CD2				smax	smax		
comp=E,1μm,0.7s							
GYA	**Guiyang**	**5.09**	**139**	*e*Pg	Pb	03 13 22.4	-3.9
GYA				Sg	Sg	03 14 38.1	-2.8
GYA				smax	smax		
comp=N,50nm,0.6s							
GYA				smax	smax		
comp=E,60nm,0.7s							
XAN	**Xi'an**	**6.25**	**53**	Pg	Pg	03 13 52.9	-4.1
XAN				Sn	Sn	03 14 35.9	-4.5
XAN				Sg	Sg	03 15 11.5	-6.4
XAN				smax	smax		
comp=N,39nm,0.7s							
XAN				smax	smax		
comp=E,36nm,0.8s							
WMQ	**Urumqi**	**18.07**	**322**	*e*P	Pn	03 16 08.1	+0.1
WMQ				sP	sP	03 16 14.9	-0.2

*ISCJB **15** 03:17:37.0±0.2, 12°.12N±0°.02×82°.08W±0°.02, h13km, mb3.6/7, Error ellipse: s-maj=3.6km s-min=3.0km az=177.3*
*IDC **15** 03:17:36.8±0.8, 12°.13N×82°.23W, h0km, mb3.7/7, mb1 4.2/10, mb1mx3.9/35, mbtmp3.9/10, ML4.2/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/36, Error ellipse: s-maj=22.1km s-min=17.7km az=56.0*
*NEIC **15** 03:17:39.7±1.8, 12°.11N±0°.06×82°.09W±0°.05, h20km±2km, mb4.0/8*
*UCR **15** 03:17:41.4±1.9, 12°.08N×82°.26W, h20km±63km, MW4.7*
ISC 15 03:17:38.7±0.6, 12°.13N±0°.05×82°.10W±0°.05, h13km, n80, σ1§38/82, mb3.6/9, 4C-6D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**1.43**	**30**	*e*P	**Pn**	**03 18 02.9**	**-1.5**
PRVC	**Isla de Provid**	**1.43**	**30**	*e*P	**Pn**	**03 18 01.5**	**-2.9**
ESPN	**Las Esperanzas**	**2.15**	**272**	⇓*e*P	**Pn**	**03 18 13.5**	**-0.8**
ESPN	**Las Esperanzas**	**2.15**	**272**		**Pn**	**03 18 14.6**	**+0.2**
ESPN				Sn	**Sn**	**03 18 40.7**	**-0.2**
CVTR	**Volcan Turrial**	**2.66**	**218**	*e*P	**Pn**	**03 18 20.5**	**-1.2**
HDC	**Heredia**	**2.90**	**223**	⇓*e*P	**Pn**	**03 18 25.0**	**+0.3**
HDC				*e*S	**Sn**	**03 18 58.6**	**-1.0**
HDC	**Heredia**	**2.90**	**223**		**Pn**	**03 18 24.6**	**-0.1**
HDC				Sn	**Sn**	**03 18 58.5**	**-1.0**
ACON	**Acoyapa**	**3.01**	**267**	*e*P	**Pn**	**03 18 27.8**	**+1.6**
ACON	**Acoyapa**	**3.01**	**267**		**Pn**	**03 18 25.7**	**-0.5**
ACON				Sn	**Sn**	**03 19 02.5**	**+0.4**
LCR2	**La Lucha 2**	**3.02**	**218**	⇑*e*P	**Pn**	**03 18 26.9**	**+0.4**
CEDE	**Laguna Cedeo**	**3.03**	**238**	⇓*e*P	**Pn**	**03 18 26.5**	**0.0**
EDBA	**Buenos Aires**	**3.17**	**201**	*e*P	**Pn**	**03 18 27.9**	**-0.4**
CUI	**Cuipilapa**	**3.34**	**244**	*e*P	**Pn**	**03 18 30.3**	**-0.5**
JTS	**Las Juntas de**	**3.34**	**237**	Pn	**Pn**	**03 18 30.4**	**-0.4**
19nm,0.3s,baz=25,slow=19,SNR=75							
JTS				Sn	**Sn**	**03 19 08.2**	**-2.2**
51nm,0.3s,baz=305,slow=18,SNR=13							
JTS	**Las Juntas de**	**3.34**	**237**	⇓*e*P	**Pn**	**03 18 30.4**	**-0.4**
JTS	**Las Juntas de**	**3.34**	**237**		**Pn**	**03 18 30.2**	**-0.6**
JTS				Sn	**Sn**	**03 19 09.6**	**-0.7**
EDDO	**Dominical**	**3.34**	**211**	⇑*e*P	**Pn**	**03 18 31.6**	**+0.8**
EDDO				*e*S	**Sn**	**03 19 10.2**	**-0.2**
BRU2	**Volcan**	**3.37**	**190**	*e*S	**Sn**	**03 19 08.0**	**-3.1**
BCIP	**Isla Barro Col**	**3.69**	**143**	*e*P	**Pn**	**03 18 33.1**	**-2.4**
BCIP	**Isla Barro Col**	**3.69**	**143**		**Pn**	**03 18 34.2**	**-1.3**
BCIP				Sn	**Sn**	**03 19 16.7**	**-2.2**
PNME	**Penonome**	**4.02**	**154**	*e*P	**Pn**	**03 18 38.0**	**-2.1**
UPA	**Univ. de Panam**	**4.02**	**141**	*e*P	**Pn**	**03 18 38.0**	**-2.1**
ESTN	**Estel**	**4.28**	**283**	*e*P	**Pn**	**03 18 43.3**	**-0.3**
ESTN	**Estel**	**4.28**	**283**		**Pn**	**03 18 43.4**	**-0.3**
ESTN				Sn	**Sn**	**03 19 31.8**	**-1.7**
CNGN	**Cerro Negro**	**4.51**	**275**	*e*P	**Pn**	**03 18 50.9**	**+4.1**
AZU	**Azuero**	**4.67**	**157**	*e*P	**Pn**	**03 18 48.5**	**-0.5**
AZU	**Azuero**	**4.67**	**157**	*e*P	**Pn**	**03 18 47.4**	**-1.7**
UPD2	**Meteti**	**5.37**	**131**	*e*P	**Pn**	**03 18 58.4**	**-0.3**
TGUH	**Tegucigalpa,Un**	**5.39**	**291**		**Pn**	**03 18 59.0**	**-0.1**
PTAC	**Punta Ardita,**	**6.51**	**139**	*e*P	**Pn**	**03 19 13.8**	**-0.5**
SJCC	**San Jacinto, C**	**7.15**	**107**	*e*P	**Pn**	**03 19 24.4**	**+1.2**
PCJ	**Portland Cotta**	**7.34**	**40**	⇓*i*P	**Pn**	**03 19 26.6**	**+0.9**
MTDJ	**Mount Denham**	**7.49**	**35**	*e*P	**Pn**	**03 19 28.6**	**+0.7**
BBJ	**Bamboo Saint A**	**7.77**	**36**	⇓*i*P	**Pn**	**03 19 33.0**	**+1.3**
STH	**Stony Hill**	**7.81**	**40**	⇑*i*P	**Pn**	**03 19 33.0**	**+0.8**
BNJ	**Bonny Gate**	**7.91**	**38**	⇑*i*P	**Pn**	**03 19 34.7**	**+1.1**
ZARC	**Zaragoza, Cauc**	**8.50**	**122**	*e*P	**Pn**	**03 19 40.5**	**-1.1**
SMLC	**San Martn de**	**8.56**	**112**	*e*P	**Pn**	**03 19 44.7**	**+2.2**
CBOC	**Ciudad Bolivar**	**8.66**	**135**	*e*P	**Pn**	**03 19 45.4**	**+1.5**
PTBC	**PUERTO BERRIO,**	**9.37**	**126**	*e*P	**Pn**	**03 19 53.9**	**+0.3**
OCAC	**Ocana**	**9.47**	**113**	*e*P	**Pn**	**03 19 55.3**	**+0.2**
BRRC	**Barranca, Sant**	**9.66**	**120**	*e*P	**Pn**	**03 19 57.4**	**-0.2**
NORC	**Norcasia**	**9.68**	**132**	*e*P	**Pn**	**03 20 00.2**	**+2.4**
RREF	**El Recreo**	**9.81**	**137**	*e*P	**Pn**	**03 20 02.3**	**+2.2**
YOTC	**Yotoco, Valle**	**9.90**	**144**	*e*P	**Pn**	**03 20 03.7**	**+2.8**
TEIG	**Tepich**	**10.00**	**324**		**Pn**	**03 20 01.4**	**-0.8**
GTBY	**Guantanamo Bay**	**10.26**	**40**	*e*P	**Pn**	**03 20 05.8**	**+0.1**
GTBY	**Guantanamo Bay**	**10.26**	**40**	Pn	**Pn**	**03 20 07.0**	**+1.3**
BARC	**Barichara**	**10.38**	**121**	*e*P	**Pn**	**03 20 08.6**	**+1.0**
PAMC	**Pamplona, Colo**	**10.42**	**116**	*e*P	**Pn**	**03 20 07.9**	**-0.5**
ROSC	**El Rosal**	**10.57**	**133**	LR	LR	03 26 04.5	
comp=Z,199nm,19.1s,baz=21,slow=48							
ROSC	**El Rosal**	**10.57**	**133**	Pn	**Pn**	**03 20 09.9**	**-0.4**
ORTC	**Ortega, Tolima**	**10.62**	**140**	*e*P	**Pn**	**03 20 12.1**	**+1.4**
LGNH	**Logne**	**11.14**	**54**		**Pn**	**03 20 19.1**	**+1.3**
OTAV	**Otavalo**	**12.36**	**163**		**Pn**	**03 20 36.3**	**+1.4**
SDDR	**Presa de Saban**	**12.44**	**55**		**Pn**	**03 20 37.5**	**+1.7**
BANI	**BANI**	**12.92**	**60**	Pn	**Pn**	**03 20 44.2**	**+1.8**
SC01	**Santiago de Io**	**13.13**	**55**		**Pn**	**03 20 42.7**	**-2.3**
CMIG	**Matias Romero**	**13.31**	**293**	LR	LR	03 25 15.7	
comp=Z,108nm,20.3s,baz=104,slow=35							
SJG	**San Juan**	**16.50**	**67**	Pn	**P**	**03 21 32.8**	**+0.1**
2.5nm,0.3s,baz=282,slow=7.1,SNR=5.2							
SJG	**San Juan**	**16.50**	**67**	IAmb	IAmb	03 21 35.4	
comp=Z,13nm,0.8s							
PCRV	**Puerto La Cruz**	**17.25**	**95**	P	**P**	**03 21 43.0**	**+2.0**
comp=Z,0.4nm,0.3s,baz=268,slow=8.2,SNR=3.6							
PLCV	**Puerto La Cruz**	**17.29**	**95**	P	**P**	**03 21 43.0**	**+1.5**
HKT	**Hockley**	**21.84**	**326**	P	**P**	**03 22 30.9**	**0.0**
HKT				IAmb	IAmb	03 22 49.6	
comp=Z,7.4nm,1.0s							
JCT	**Junction City**	**24.54**	**321**	P	**P**	**03 22 57.8**	**-0.5**
ABTX	**Abilene, Hawle**	**25.98**	**325**	P	**P**	**03 23 11.6**	**+0.3**
TX32	**Lajitas Array**	**26.37**	**314**	P	**P**	**03 23 15.6**	**+0.6**
TX32				IAmb	IAmb	03 23 24.5	
comp=Z,1.8nm,1.1s							
TXAR	**Lajitas Array**	**26.37**	**314**	P	**P**	**03 23 15.2**	**+0.2**
comp=Z,1.1nm,0.8s,baz=137,slow=9.8,SNR=13							
LPAZ	**La Paz**	**31.44**	**154**	P	**P**	**03 24 01.3**	**+0.6**
comp=Z,0.3nm,0.4s,baz=302,slow=15,SNR=3.6							
PDAR	**Pinedale Array**	**38.71**	**327**	P	**P**	**03 25 03.0**	**+0.1**
comp=Z,0.9nm,0.8s,baz=115,slow=11,SNR=7.4							
NVAR	**Mina Array Bea**	**41.49**	**316**	P	**P**	**03 25 24.2**	**-1.7**
comp=Z,0.6nm,0.9s,baz=120,slow=5.8,SNR=3.7							
PLCA	**Paso Flores**	**53.67**	**169**	P	**P**	**03 27 00.9**	**+0.7**
comp=Z,5.3nm,0.9s,baz=7.0,slow=8.1,SNR=13							
PLCA	**Paso Flores**	**53.67**	**169**	IAmb	IAmb	03 27 01.6	
comp=Z,5.0nm,0.8s							
ILAR	**Eielson Array**	**68.46**	**335**	P	**P**	**03 28 40.0**	**-0.3**
comp=Z,0.3nm,0.7s,baz=90,slow=4.8,SNR=3.1							
ESDC	**Sonseca Array**	**73.27**	**52**	P	**P**	**03 29 10.5**	**+0.4**
comp=Z,0.3nm,0.5s,baz=280,slow=7.7,SNR=3.3							
ESDC	**Sonseca Array**	**73.27**	**52**	IAmb	IAmb	03 29 12.1	
comp=Z,1.6nm,1.1s							
LZH	**Lanzhou**	**131.72**	**354**	*e*PKP	**PKPdf**	**03 36 50.8**	**-1.5**
LZH				pPKP	pPKPdf	03 36 55.4	-1.0
LZH				sPKP		03 36 57.1	
CTA	**Charters Tower**	**133.01**	**254**	PKP	**PKPdf**	**03 36 52.8**	**-2.1**
comp=Z,1.3nm,0.5s,baz=122,slow=3.8,SNR=3.7							
ASAR	**Alice Springs**	**143.97**	**246**	PKP	PKPab	03 37 12.6	+0.4
comp=Z,0.9nm,0.6s,baz=116,slow=3.7,SNR=12							
WRA	**Warramunga Arr**	**144.19**	**253**	PKP	PKPbc	03 37 13.8	+0.3
comp=Z,0.8nm,1.0s,baz=89,slow=3.6,SNR=7.6							

*IDC **15** 03:26:12.8±1.3, 23°.81N×120°.97E, h0km, mb3.7/5, mb1 3.6/6, mb1mx3.4/57, mbtmp3.6/6, ML2.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/46, Error ellipse: s-maj=45.1km s-min=24.6km az=59.0*
*TAP **15** 03:26:15.7, 23°.95N×120°.98E, h13km, ML4.0, B*
*JMA **15** 03:26:15.2±0.2, 23°.96N×120°.97E, h2km, M3.5*
*ASIES **15** 03:26:15.9, 23°.97N×121°.01E, h20km, MW3.3*
*ISCJB **15** 03:26:16.4±0.2, 23°.945N±0°.008×121°.00E±0°.01, h12km±1km, mb3.5/5, Error ellipse: s-maj=1.7km s-min=1.1km az=33.0*
ISC 15 03:26:15.9±0.7, 23°.96N±0°.01×120°.98E±0°.01, h14km±4km, n143, σ0§86/236, mb3.5/5, 21C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPDB	**Guoxing**	**0.09**	**328**	⇑*i*P	**Pg**	**03 26 19.2**	**+0.2**
DPDB				S	**Sg**	**03 26 21.4**	**+0.3**
baz=328							
TYC	**Yuchr**	**0.12**	**243**	⇑*i*P	**Pg**	**03 26 19.4**	**0.0**
baz=245							
TYC				*i* S	**Sg**	**03 26 21.8**	**+0.1**
baz=245							
SSLB	**Suanglung**	**0.17**	**187**	⇑P	**Pg**	**03 26 19.8**	**-0.3**
baz=183							
SSLB				S	**Sg**	**03 26 22.4**	**-0.5**
baz=183							
OWD	**Renai**	**0.18**	**92**	⇓*i*P	**Pb**	**03 26 20.5**	**-0.6**
baz=89							
OWD				S	**Sg**	**03 26 23.5**	**+0.2**
baz=89							
CHGB	**Renai**	**0.21**	**61**	⇑P	**Pb**	**03 26 20.9**	**-0.6**
baz=65							
CHGB				S	**Sg**	**03 26 24.2**	**+0.2**
baz=65							
VWDT	**VWDT**	**0.26**	**144**	⇓P	**Pb**	**03 26 21.7**	**-0.6**
baz=139							
VWDT				S	**Sg**	**03 26 25.1**	**0.0**
baz=139							
WJS	**Zhushan**	**0.27**	**239**	⇓*i*P	**Pb**	**03 26 22.5**	**+0.1**
baz=235							
WJS				S	**Sb**	**03 26 27.4**	**+0.6**
baz=235							
WNT	**Mingjian**	**0.28**	**253**	⇓P	**Pb**	**03 26 22.9**	**+0.2**
baz=254							
WNT				S	**Sb**	**03 26 28.1**	**+0.9**
baz=254							
WHYT	**Xinyi Township**	**0.29**	**203**	*e*P	**Pg**	**03 26 22.1**	**+0.2**
baz=200							
WHYT				S	**Sb**	**03 26 27.2**	**-0.2**
baz=200							
WHP	**Taichung City**	**0.32**	**355**	⇑*i*P	**Pb**	**03 26 22.8**	**-0.5**
baz=354							
WHP				*e*S	**Sb**	**03 26 28.4**	**0.0**
baz=354							
WHF	**Hehuan Shan**	**0.32**	**55**	⇑*i*P	**Pb**	**03 26 23.3**	**-0.4**
baz=63							
WHF				*i* S	**Sb**	**03 26 27.9**	**-1.0**
baz=63							
TCU	**Taichung**	**0.33**	**304**	⇓*i*P	**Pb**	**03 26 24.3**	**+0.8**
baz=305							
TCU				S	**Sb**	**03 26 30.5**	**+1.8**
baz=305							
TDCB	**Techi**	**0.34**	**30**	⇑P	**Pg**	**03 26 22.8**	**-0.1**
baz=33							
TDCB				S	**Sg**	**03 26 27.0**	**-0.7**
baz=33							
TWT	**Tachien**	**0.34**	**32**	⇑*i*P	**Pg**	**03 26 22.8**	**-0.2**
baz=34							
TWT				*e*S	**Sg**	**03 26 26.9**	**-1.0**
baz=34							
WCHH	**Zhanghua**	**0.40**	**287**	⇓*i*P	**Pb**	**03 26 25.4**	**+0.7**
baz=287							
WCHH				*e*S	**Sb**	**03 26 32.4**	**+1.7**
baz=287							
TWQ1	**Liyutan**	**0.43**	**334**	P	**Pb**	**03 26 25.8**	**+0.6**
baz=345							
TWQ1				S	**Sb**	**03 26 33.1**	**+1.5**
baz=345							
ESL	**Shilin**	**0.44**	**109**	⇓*i*P	**Pb**	**03 26 24.9**	**-0.5**
baz=100							
ESL				*e*S	**Sg**	**03 26 30.7**	**0.0**
baz=100							
CHN5	**Tsauling**	**0.45**	**217**	⇓*i*P	**Pb**	**03 26 25.6**	**-0.1**
baz=217							
CHN5				*i* S	**Sb**	**03 26 32.8**	**+0.5**
baz=217							
WGK	**Gukeng**	**0.47**	**234**	P	**Pb**	**03 26 26.1**	**+0.2**
baz=233							
WGK				S	**Sb**	**03 26 33.8**	**+1.2**
baz=233							
YUS	**Yu-Shan**	**0.47**	**183**	P	**Pg**	**03 26 25.1**	**-0.2**
baz=179							
WDLH	**Douliu**	**0.48**	**236**	*e*P	**Pb**	**03 26 26.4**	**+0.3**
baz=235							
WDLH				*e*S	**Sb**	**03 26 34.4**	**+1.3**
baz=235							
WDJ	**Dajia District**	**0.49**	**322**	P	**Pn**	**03 26 27.6**	**-0.9**
baz=322							
WDJ				S	**Sn**	**03 26 35.7**	**-1.1**
baz=322							
NSY	**Sanyi**	**0.49**	**337**	⇑*i*P	**Pn**	**03 26 27.5**	**-1.1**
baz=338							
NSY				S	**Sn**	**03 26 35.6**	**-1.2**
baz=338							
EGFH	**Guangfu**	**0.51**	**125**	⇓*e*P	**Pg**	**03 26 25.9**	**0.0**
baz=117							
EGFH				S	**Sg**	**03 26 32.8**	**+0.1**
baz=117							
ETLH	**Xiulin Townshi**	**0.52**	**62**	⇓P	**Pg**	**03 26 26.2**	**0.0**
baz=62							
ETLH				*e*S	**Sg**	**03 26 33.2**	**-0.1**
baz=62							
PTSB	**Yuanli**	**0.54**	**333**	⇑P	**Pn**	**03 26 28.3**	**-0.9**
baz=333							
PTSB				*i* S	**Sn**	**03 26 37.3**	**-0.8**
baz=333							
EHY	**Hungye**	**0.55**	**145**	⇓P	**Pg**	**03 26 26.8**	**0.0**
baz=140							
EHY				*e*S	**Sg**	**03 26 33.7**	**-0.5**
baz=140							
RLNB	**Erlin**	**0.57**	**263**	⇓P	**Pb**	**03 26 27.8**	**+0.2**
baz=263							
RLNB				*e*S	**Sb**	**03 26 36.4**	**+0.9**
baz=263							
ENLB	**Shoufeng**	**0.58**	**96**	⇓*e*P	**Pg**	**03 26 26.4**	**-0.8**
baz=95							
ENLB				*e*S	**Sg**	**03 26 34.7**	**-0.2**
baz=95							
HWA	**Hwalien**	**0.58**	**88**	⇓*i*P	**Pb**	**03 26 27.7**	**0.0**
baz=88							
HWA				*e*S	**Sb**	**03 26 36.3**	**+0.5**
baz=88							
TWD	**Chiawan**	**0.58**	**78**	⇓*i*P	**Pg**	**03 26 27.1**	**-0.2**
baz=85							
TWD				*e*S	**Sg**	**03 26 34.8**	**-0.2**
baz=85							
NNSB	**Datong**	**0.60**	**39**	⇑P	**Pg**	**03 26 27.2**	**-0.5**
baz=45							
NNSB				*e*S	**Sg**	**03 26 34.9**	**-0.7**
baz=45							
NMLH	**Miaoli**	**0.60**	**344**	P	**Pn**	**03 26 29.2**	**-0.7**
baz=343							
NMLH				*e*S	**Sn**	**03 26 38.5**	**-0.9**
baz=343							
NNS	**Nan Shan**	**0.60**	**37**	*e*P	**Pg**	**03 26 27.4**	**-0.3**
baz=45							
NNS				*e*S	**Sg**	**03 26 34.9**	**-0.8**
baz=45							
NACB	**Ninganchiao**	**0.60**	**69**	⇓P	**Pg**	**03 26 27.5**	**-0.3**
baz=79							
NACB				S	**Sg**	**03 26 35.5**	**-0.3**
baz=79							
HGSD	**Ruisui**	**0.62**	**139**	⇓P	**Pb**	**03 26 28.4**	**-0.1**
baz=139							
HGSD				*e*S	**Sb**	**03 26 37.0**	**0.0**
baz=139							
YULB	**Yu-li**	**0.64**	**152**	⇓P	**Pg**	**03 26 28.1**	**-0.3**
baz=153							
YULB				*e*S	**Sg**	**03 26 36.8**	**-0.1**
baz=153							
WTCT	**Ta-ch'eng**	**0.64**	**262**	*e*P	**Pb**	**03 26 28.8**	**0.0**
baz=261							
WTCT				*e*S	**Sb**	**03 26 38.3**	**+0.7**
baz=261							
NSTT	**Nanjuang**	**0.67**	**2**	*e*P	**Pb**	**03 26 29.5**	**+0.2**
baz=2.0							
NSTT				S	**Sb**	**03 26 38.7**	**+0.3**
baz=2.0							
TWF1	**Yuli**	**0.67**	**154**	P	**Pg**	**03 26 28.9**	**-0.2**
baz=154							
TWF1				*e*S	**Sb**	**03 26 38.1**	**-0.4**
baz=154							
LIOB	**Emei**	**0.68**	**3**	⇑P	**Pb**	**03 26 29.9**	**+0.4**
baz=3.0							
LIOB				S	**Sb**	**03 26 39.7**	**+0.8**
baz=3.0							
CHY	**Chiayi**	**0.68**	**228**	*e*P	**Pb**	**03 26 29.9**	**+0.4**
baz=227							
CHY				*e*S	**Sb**	**03 26 40.0**	**+1.1**
baz=227							
WMLT	**Mailiao**	**0.71**	**257**	*e*P	**Pg**	**03 26 29.4**	**-0.3**
baz=258							
TPUB	**Ta-pu**	**0.73**	**206**	⇑P	**Pg**	**03 26 30.1**	**0.0**
baz=206							
TPUB				*e*S	**Sb**	**03 26 40.6**	**+0.4**
baz=206							
WSF	**Szhu**	**0.76**	**245**	*e*P	**Pg**	**03 26 29.5**	**-1.2**
baz=244							
WSF				*e*S	**Sb**	**03 26 42.1**	**+1.0**
baz=244							
ELDTW	**Lidau**	**0.77**	**177**	*e*P	**Pg**	**03 26 30.8**	**-0.1**
baz=183							
ELDTW				*e*S	**Sg**	**03 26 40.9**	**-0.1**
baz=183					

NANB	**Nanao**	**0.85**	**57**	⇓P	**Pg**	**03 26 31.8**	**-0.6**
	baz=57						
NANB				eS	**Sg**	**03 26 42.6**	**-0.9**
	baz=57						
SNST	**Tainan City**	**0.86**	**211**	eP	**Pg**	**03 26 32.4**	**-0.1**
	baz=210						
SNST				eS	**Sn**	**03 26 45.0**	**-0.8**
	baz=210						
ENTT	**Nioudou**	**0.86**	**38**	⇑eP	**Pg**	**03 26 32.2**	**-0.4**
	baz=32						
ENTT				eS	**Sg**	**03 26 43.4**	**-0.7**
	baz=32						
CHN1	**Nanshi**	**0.87**	**208**	eP	**Pg**	**03 26 32.4**	**-0.4**
	baz=218						
CHN1				eS	**Sb**	**03 26 45.0**	**+0.7**
	baz=218						
WLTB	**Daxi**	**0.92**	**16**	eP	**Pn**	**03 26 34.6**	**+0.2**
	baz=25						
CHKT	**Chengkung**	**0.93**	**157**	eP	**Pn**	**03 26 34.3**	**-0.1**
	baz=158						
CHKT				eS	**Sn**	**03 26 48.2**	**+0.7**
	baz=158						
CHN8	**Yiju**	**0.93**	**229**	eP	**Pb**	**03 26 33.5**	**-0.3**
	baz=239						
CHN8				eS	**Sn**	**03 26 47.1**	**-0.4**
	baz=239						
NWLT	**Wulai**	**0.94**	**30**	eP	**Pb**	**03 26 33.6**	**-0.4**
	baz=31						
NWLT				eS	**Sg**	**03 26 46.0**	**-0.6**
	baz=31						
SGST	**Jiashian**	**0.95**	**202**	eP	**Pb**	**03 26 33.4**	**-0.6**
	baz=211						
SGST				eS	**Sn**	**03 26 48.0**	**0.0**
	baz=211						
TWE	**Neicheng**	**0.98**	**40**	eP	**Pb**	**03 26 34.6**	**-0.1**
	baz=41						
TWE				eS	**Sn**	**03 26 48.3**	**-0.7**
	baz=41						
SLGT	**Liugui**	**1.01**	**198**	eP	**Pn**	**03 26 35.7**	**+0.1**
	baz=188						
SLGT				eS	**Sn**	**03 26 50.1**	**+0.5**
	baz=188						
NCUH	**Zhongli**	**1.02**	**11**	eP	**Pn**	**03 26 36.2**	**+0.5**
	baz=12						
NCU	**National Centr**	**1.02**	**11**	eP	**Pn**	**03 26 36.5**	**+0.8**
	baz=13						
NCU				eS	**Sn**	**03 26 51.5**	**+1.6**
	baz=13						
TWC	**Suao**	**1.03**	**51**	⇑eP	**Pb**	**03 26 35.2**	**-0.1**
	baz=52						
TWC				eS	**Sn**	**03 26 49.5**	**-0.5**
	baz=52						
CHN3	**Shinhua**	**1.04**	**213**	eP	**Pn**	**03 26 36.2**	**+0.1**
	baz=223						
CHN3				eS	**Sn**	**03 26 51.9**	**+1.5**
	baz=223						
SCLT	**Jiali**	**1.06**	**223**	eP	**Pb**	**03 26 36.0**	**+0.1**
	baz=221						
SCLT				eS	**Sn**	**03 26 52.5**	**+1.7**
	baz=221						
ILA	**Ilan**	**1.07**	**41**	eP	**Pn**	**03 26 36.7**	**+0.3**
	baz=49						
NHDH	**Xindian Distri**	**1.12**	**27**	eP	**Pg**	**03 26 38.2**	**+0.8**
	baz=31						
NHDH				eS	**Sn**	**03 26 52.1**	**-0.1**
	baz=31						
TWG	**Pinlang**	**1.14**	**176**	⇑P	**Pn**	**03 26 37.5**	**+0.1**
	baz=168						
TWG				eS	**Sn**	**03 26 53.1**	**+0.4**
	baz=168						
TWGBT	**Beinan**	**1.14**	**175**	⇑P	**Pg**	**03 26 37.6**	**-0.4**
	baz=168						
TWGBT				eS	**Sn**	**03 26 53.2**	**+0.4**
	baz=168						
TWA	**Mucha**	**1.16**	**28**	eP	**Pg**	**03 26 38.5**	**+0.2**
	baz=44						
TWA				eS	**Sn**	**03 26 54.6**	**+1.4**
	baz=44						
TAP	**Taipei**	**1.18**	**24**	eP	**Pg**	**03 26 38.6**	**0.0**
	baz=31						
NTC	**Toucheng**	**1.18**	**41**	eP	**Pg**	**03 26 38.6**	**-0.1**
	baz=32						
TAP1	**Taipei**	**1.18**	**25**	eP	**Pg**	**03 26 38.7**	**-0.1**
	baz=32						
TAP1				eS	**Sg**	**03 26 55.9**	**+1.8**
	baz=32						
EOS1	**EOS1**	**1.21**	**61**	eP	**Pg**	**03 26 39.0**	**-0.1**
	baz=61						
TWS1	**Kuangyinshan**	**1.21**	**19**	eP	**Pg**	**03 26 39.7**	**+0.6**
	baz=8.0						
TWS1				eS	**Sg**	**03 26 56.4**	**+1.5**
	baz=8.0						
TTN	**Taitung**	**1.21**	**172**	eP	**Pn**	**03 26 38.1**	**-0.2**
	baz=171						
EGS		**1.24**	**45**	eP	**Pg**	**03 26 39.8**	**0.0**
	baz=55						
TWM1	**Shoushan**	**1.24**	**204**	eP	**Pn**	**03 26 38.4**	**-0.4**
	baz=203						
SSD	**Sandimen**	**1.25**	**195**	eP	**Pb**	**03 26 39.5**	**+0.2**
	baz=195						
SSD				eS	**Sg**	**03 26 56.4**	**+0.1**
	baz=195						
TIPB	**Shuangxi**	**1.27**	**37**	⇑P	**Pb**	**03 26 39.7**	**+0.1**
	baz=38						
TIPB				eS	**Sg**	**03 26 56.6**	**-0.4**
	baz=38						
NTST	**Danshui**	**1.27**	**20**	eP	**Pg**	**03 26 40.3**	**-0.2**
	baz=19						
NTST				eS	**Sg**	**03 26 58.1**	**+1.1**
	baz=19						
YM04	**YM04**	**1.29**	**23**	eP	**Pb**	**03 26 40.0**	**+0.1**
	baz=23						
YM04				eS	**Sg**	**03 26 58.4**	**+0.7**
	baz=23						
YM01	**YM01**	**1.30**	**25**	eP	**Pg**	**03 26 40.4**	**-0.5**
	baz=24						
YM01				eS	**Sg**	**03 26 58.5**	**+0.6**
	baz=24						
YM10	**YM10**	**1.30**	**24**	eP	**Pb**	**03 26 39.9**	**-0.3**
	baz=24						
YM10				eS	**Sg**	**03 26 58.0**	**0.0**
	baz=24						
YM05	**YM05**	**1.31**	**24**	eP	**Pb**	**03 26 40.0**	**-0.3**
	baz=24						
YM05				eS	**Sg**	**03 26 58.0**	**-0.3**
	baz=24						
ANP	**Anpu**	**1.32**	**22**	eP	**Pg**	**03 26 41.4**	**+0.1**
	baz=33						
ANP				eS	**Sg**	**03 26 59.0**	**+0.5**
	baz=33						
YM11	**YM11**	**1.32**	**24**	eP	**Pg**	**03 26 41.6**	**+0.3**
	baz=26						
NWF	**Wu-fen Shan**	**1.33**	**33**	eP	**Pg**	**03 26 41.3**	**-0.2**
	baz=35						
WFSB	**Wu-fen Shan**	**1.33**	**33**	eP	**Pg**	**03 26 41.2**	**-0.2**
	baz=33						
WFSB				eS	**Sg**	**03 26 59.5**	**+0.8**
	baz=33						
YM08	**YM08**	**1.34**	**24**	eP	**Pg**	**03 26 41.7**	**0.0**
	baz=25						
ECL	**Taimali**	**1.36**	**181**	eP	**Pb**	**03 26 40.8**	**-0.2**
	baz=181						
ECL				eS	**Sb**	**03 26 58.8**	**+0.5**
	baz=181						
PNG	**Penghu**	**1.36**	**254**	eP	**Pn**	**03 26 40.0**	**-0.4**
	baz=244						
PNG				eS	**Sn**	**03 26 58.2**	**+0.1**
	baz=244						
PHUB	**P'eng-hu**	**1.36**	**251**	⇓eP	**Pn**	**03 26 39.9**	**-0.5**
	baz=249						
PHUB				eS	**Sn**	**03 26 57.8**	**-0.5**
	baz=249						
MASBT	**Mashibuluo**	**1.38**	**193**	⇓eP	**Pb**	**03 26 41.6**	**+0.2**
	baz=194						
MASBT				eS	**Sg**	**03 27 00.1**	**-0.3**
	baz=194						
TWB1	**Santiao Chiao**	**1.39**	**41**	eP	**Pb**	**03 26 41.5**	**-0.1**
	baz=34						
WDGT	**Dungji**	**1.39**	**240**	eP	**Pn**	**03 26 40.9**	**0.0**
	baz=230						
WDGT				eS	**Sn**	**03 26 59.0**	**0.0**
	baz=230						
EAST	**Anshuo**	**1.57**	**184**	eP	**Pn**	**03 26 43.9**	**+0.6**
	baz=175						
VCHM	**Qimei**	**1.60**	**242**	eP	**Pn**	**03 26 43.4**	**-0.4**
	baz=230						
VCHM				eS	**Sn**	**03 27 04.4**	**+0.2**
	baz=230						
SCZT	**Fangliau**	**1.61**	**192**	eP	**Pn**	**03 26 44.5**	**+0.6**
	baz=180						
VWUC	**VWUC**	**1.73**	**307**	eP	**Pn**	**03 26 44.0**	**-1.4**
	baz=306						
JYNG	**Yonaunijimaku**	**1.86**	**74**	P	**Pb**	**03 26 48.8**	**-0.9**
PTTC	**Pingtan**	**1.89**	**325**	eP	**Pn**	**03 26 46.9**	**-0.7**
	baz=324						
YOJ	**Yonaguni jima**	**1.92**	**75**	eP	**Pn**	**03 26 48.8**	**+0.7**
	baz=89						
YOJ	**Yonaguni jima**	**1.92**	**75**	P	**Pn**	**03 26 48.7**	**+0.6**
YOJ				eS	**Sb**	**03 27 14.6**	**0.0**
PCYT	**Pengchaiyu**	**1.94**	**31**	eP	**Pb**	**03 26 49.9**	**-1.0**
	baz=34						
LAY	**Lan-yu**	**1.98**	**164**	eP	**Pn**	**03 26 48.9**	**-0.1**
	baz=150						
PTMZ	**Houxiangcun**	**2.00**	**303**	eP	**Pn**	**03 26 48.2**	**-1.1**
	baz=301						
TWK1	**Hengchun**	**2.01**	**185**	eP	**Pn**	**03 26 50.2**	**+0.8**
	baz=198						
TWKBT	**Hengchun**	**2.02**	**184**	eP	**Pn**	**03 26 50.4**	**+1.0**
	baz=198						
TSEB	**Hengchuen, Pin**	**2.05**	**182**	eP	**Pn**	**03 26 50.7**	**+0.8**
	baz=196						
KNM	**Kinmen**	**2.37**	**282**	eP	**Pn**	**03 26 56.2**	**+2.0**
	baz=278						
MATB	**Ma-tsu**	**2.37**	**337**	eP	**Pn**	**03 26 53.2**	**-1.1**
	baz=337						
KNMB	**Chin-men Tao**	**2.42**	**283**	eP	**Pn**	**03 26 54.3**	**-0.6**
	baz=280						
IRIF	**Iriomote-Funau**	**2.54**	**81**	P	**Pn**	**03 26 58.2**	**+1.5**
HATJ	**Hateruma jima**	**2.59**	**87**	P	**Pn**	**03 26 58.5**	**+1.2**
HATJ				eS	**Sb**	**03 27 31.3**	**-2.4**
MHZQ	**Yeshan**	**2.77**	**321**	eP	**Pn**	**03 26 59.9**	**+0.1**
	baz=319						
JKRS	**Kuro-shima**	**2.79**	**84**	eS	**Sn**	**03 27 36.1**	**+2.7**
LYJJ	**Jianjiangzhen**	**2.80**	**337**	eP	**Pn**	**03 26 59.8**	**-0.4**
	baz=337						
AXDP	**Jialang**	**2.90**	**289**	eP	**Pn**	**03 27 00.4**	**-1.1**
	baz=287						
JIJ	**Ishigaki jima**	**2.92**	**81**	P	**Pn**	**03 27 02.2**	**+0.3**
JIJ				S	**Sn**	**03 27 38.5**	**+1.8**
ZPLA	**Ao Xicun**	**2.95**	**270**	eP	**Pn**	**03 27 01.9**	**-0.3**
	baz=267						
XPSS	**Dashiqiu**	**3.04**	**347**	eP	**Pn**	**03 27 02.5**	**-1.0**
	baz=348						
ZZJH	**Jiuhuzhen**	**3.10**	**280**	eP	**Pn**	**03 27 04.2**	**0.0**
	baz=277						
JISG	**Ishigakijimahi**	**3.11**	**78**	P	**Pn**	**03 27 05.0**	**+0.6**
JTJ	**Tarama**	**3.47**	**78**	P	**Pn**	**03 27 11.0**	**+1.6**
JTJ				eS	**Sn**	**03 27 54.0**	**+3.8**
JIRB	**Irabujima**	**3.92**	**76**	eS	**Sn**	**03 28 05.1**	**+3.6**
JIKM	**Ikemajima**	**4.01**	**75**	eS	**Sn**	**03 28 07.2**	**+3.6**
JMJ2	**Miyako jima3**	**4.04**	**78**	eS	**Sn**	**03 28 07.0**	**+2.5**
JOW	**Kunigami**	**7.19**	**65**	Pn	**Pn**	**03 28 00.3**	**-0.3**
	0.2nm,0.3s,baz=184,slow=14,SNR=5.5						
JNU	**Nakatsue**	**12.61**	**41**	LR	LR	03 34 08.6	
	comp=Z,58nm,19.9s,baz=265,slow=37						
SONM	**Songino Array**	**26.50**	**338**	P	**P**	**03 31 53.3**	**+0.4**
	0.8nm,1.0s,baz=152,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**38.37**	**316**	P	**P**	**03 33 37.2**	**+0.8**
	0.5nm,0.6s,baz=110,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.33**	**327**	P	**P**	**03 33 51.1**	**-1.6**
	0.6nm,0.4s,baz=123,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**45.54**	**162**	P	**P**	**03 34 33.0**	**-2.2**
	0.4nm,0.7s,baz=344,slow=8.4,SNR=6.1						
FINES	**FINESS Array B**	**71.54**	**330**	P	**P**	**03 37 37.1**	**+1.1**
	1.2nm,0.8s,baz=56,slow=5.9,SNR=4.3						

BJI ***15*** *03:35:11.3±0.0,51°.69N×179°.08W,h9km,mb5.1/64, mB5.4/48,Ms5.2/61,Ms7 4.9/56*

NEIC ***15*** *03:35:16.7,51°.46N×178°.90W,h11km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.54; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$0.67; $M_{r\theta}$0.55; $M_{\theta\phi}$-0.56; $M_{\phi r}$0.38; Fault plane solution: $M_0$1.07000×10^{17} NP1:ϕ_s299.30000°, δ55.26000°,λ-144.86000°. NP2:ϕ_s187.44000°, δ61.77000°,λ-40.30000°. Principal axes: T 0.9694, Plg4.0000°, Azm245.0000°; N 0.1822, Plg42.0000°, Azm338.0000°; P -1.1516, Plg48.0000°, Azm150.0000°;*

NEIC ***15*** *03:35:16.7±1.7,51°.46N±0°.07×178°.90W±0°.08,h25km±2km, mb5.5/398,Ms_20 5.1/353,Mwb5.3,ML5.4(AEIC)*

ISCJB ***15*** *03:35:18.0±0.3,51°.61N±0°.03×178°.87W±0°.02,h48km±2km, mb5.1/155,MS4.9/88,Error ellipse: s-maj=5.0km s-min=2.1km az=177.4*

GCMT ***15*** *03:35:17.7±0.1,51°.50N±0°.01×178°.84W±0°.01,h21km, MW5.4/119,Moment Tensor Solution. s95,c168; s119,c223; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.81±.03; $M_{\theta\theta}$-0.36±.02; $M_{\phi\phi}$1.17±.02; $M_{r\theta}$0.88±.04; $M_{\theta\phi}$-0.66±.01; $M_{\phi r}$0.60±.04; Best double couple: $M_0$1.60500×10^{17} NP1:ϕ_s195.00000°,δ65.00000°, λ-44.00000°. NP2:ϕ_s307.00000°,δ51.00000°, λ-147.00000°. Principal axes: T 1.4540, Plg9.0000°, Azm254.0000°; N 0.3060, Plg41.0000°, Azm351.0000°; P -1.7570, Plg48.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***15*** *03:35:17.9±1.0,51°.66N×178°.92W,h46km,mb5.5/73, MS4.9/35 Error ellipse: s-maj=6.8km s-min=5.3km az=115.0*

IDC ***15*** *03:35:18.4±1.4,51°.67N×179°.00W,h35km±10km,mb4.6/45, mb1 4.7/47,mb1mx4.7/53,mbtmp4.8/47,ML5.4/1,MS4.7/38, Ms1 4.7/38,ms1mx4.7/46,Error ellipse: s-maj=10.8km s-min=8.2km az=169.0*

ISC 15 03:35:17.5±0.6,51°.48N±0°.04×178°.88W±0°.03,h30km±3km, n1267,σ1°.26/1048,mb5.4/287,MS5.1/251,34C-19D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.31**	**15**		**Pb**	**03 35 25.1**	**0.0**
GANE	**Gareloi Northe**	**0.34**	**10**		**Pb**	**03 35 25.7**	**+0.2**
GANE					**Sb**	**03 35 30.8**	**-0.2**
TASE	**Tanaga Southea**	**0.63**	**56**		**Pb**	**03 35 29.7**	**-0.4**
TAFP	**Tanaga Falls P**	**0.70**	**53**		**Pb**	**03 35 30.5**	**-0.7**
TAPA	**Tanaga Point A**	**0.74**	**63**		**Pn**	**03 35 31.2**	**-0.7**
KIMD	**Kanaga Island**	**1.06**	**74**		**Pn**	**03 35 35.8**	**-0.5**
KICM	**Kanaga Island**	**1.13**	**67**		**Pn**	**03 35 37.5**	**+0.3**
KIKV	**Kanaga Island**	**1.13**	**69**		**Pn**	**03 35 37.0**	**-0.3**
KIWB	**Kanaga Island**	**1.14**	**70**		**Pn**	**03 35 36.7**	**-0.6**
KIRH	**Kanaga Island**	**1.19**	**69**		**Pn**	**03 35 38.2**	**+0.2**
ADK	**Adak**	**1.42**	**73**	P	**Pn**	**03 35 40.9**	**-0.3**
ADK	**Adak**	**1.42**	**73**		**Pn**	**03 35 40.9**	**-0.3**
ADAG	**Mount Adagdak**	**1.50**	**70**		**Pn**	**03 35 42.8**	**+0.5**
GSCK	**Great Sitkin C**	**1.77**	**71**		**Pn**	**03 35 47.2**	**+1.2**
GSCK					**Sb**	**03 36 10.6**	**-0.4**
GSTD	**Great Sitkin T**	**1.79**	**70**		**Pn**	**03 35 46.6**	**+0.2**
GSMY	**Great Sitkin M**	**1.84**	**71**		**Pn**	**03 35 47.3**	**+0.3**
GSTR	**Great Sitkin T**	**1.85**	**70**		**Pn**	**03 35 47.2**	**0.0**
KOKL	**Mount Kliuchef**	**3.02**	**72**		**Pn**	**03 36 03.9**	**+0.8**
KOFP	**Korovin Flat P**	**3.07**	**73**		**Pn**	**03 36 04.9**	**+1.1**
KOSE	**Korovin Southe**	**3.11**	**72**		**Pn**	**03 36 05.3**	**+0.9**
SMY	**Shemya**	**4.51**	**289**	P	**Pn**	**03 36 23.8**	**+0.2**
SMY	**Shemya**	**4.51**	**289**		**Pn**	**03 36 23.8**	**+0.2**
NIKH	**Nikolski High**	**6.34**	**72**		**Pn**	**03 36 49.3**	**+0.6**
OKSP	**Okmok Steeple**	**6.72**	**71**		**Pn**	**03 36 57.1**	**+3.1**
OKWE	**Okmok W'ng Wal**	**6.80**	**69**		**Pn**	**03 36 56.8**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**6.89**	**70**		**Pn**	**03 36 59.0**	**+2.6**
OKFG	**Magazine Ridge**	**6.97**	**70**		**Pn**	**03 37 00.5**	**+3.0**
SPIA	**Saint Paul Isl**	**7.61**	**38**		**Pn**	**03 37 07.7**	**+1.6**
MCIR	**Makushin Cirqu**	**7.69**	**67**		**Pn**	**03 37 09.5**	**+2.2**
MREP	**Makushin Rep't**	**7.74**	**68**		**Pn**	**03 37 10.4**	**+2.4**
MSW	**Makushin Switc**	**7.74**	**67**		**Pn**	**03 37 09.9**	**+1.9**
MSW					**Sn**	**03 38 37.0**	**+2.5**
UNV	**Unalaska Valle**	**7.89**	**68**		**Sn**	**03 38 42.6**	**+4.5**
UNV	**Unalaska Valle**	**7.89**	**68**		**Pn**	**03 37 10.9**	**+0.9**
AKRB	**Akutan Reef Bi**	**8.20**	**66**		**Pn**	**03 37 16.7**	**+2.4**
AKMO	**Akutan Morgan**	**8.22**	**66**		**Pn**	**03 37 17.9**	**+3.3**
LVA	**Lava Point**	**8.23**	**66**		**Pn**	**03 37 17.4**	**+2.8**
AKGG	**Akutan Green G**	**8.26**	**66**		**Pn**	**03 37 17.5**	**+2.3**
AKGG					**Sn**	**03 38 50.2**	**+2.9**
AKBBA	**Akutan Broad B**	**8.27**	**66**		**Pn**	**03 37 17.6**	**+2.4**
AKUT	**Akutan**	**8.37**	**66**		**Pn**	**03 37 18.4**	**+1.8**
AKSA	**Akutan Strait**	**8.42**	**66**		**Pn**	**03 37 19.2**	**+2.0**
WESP	**Westdahl Peak**	**9.05**	**65**		**Pn**	**03 37 29.1**	**+3.0**
SSBA	**Shishaldin**	**9.46**	**64**		**Pn**	**03 37 33.6**	**+2.1**
FALS	**False Pass**	**9.88**	**64**		**Pn**	**03 37 38.7**	**+1.5**
SDPT	**Sand Point**	**11.63**	**63**		**Pn**	**03 38 01.7**	**+0.4**
CNBA	**Chernabura Isl**	**12.04**	**66**		**Pn**	**03 38 07.0**	**+0.2**
CHGN	**Chignik**	**12.98**	**60**		**Pn**	**03 38 19.9**	**+0.4**
PET	**Petropavlovsk**	**13.84**	**285**	eP	**Pn**	**03 38 31.9**	**+0.5**
PET				eS	**Sn**	**03 41 06.5**	**+2.6**
PET				pmax	pmax		
	comp=Z,73nm,1.5s						
PET	**Petropavlovsk**	**13.84**	**285**	Pn	**Pn**	**03 38 34.6**	**+3.2**
PEA0B	**Petropavlovsk-**	**14.41**	**286**	P	**Pn**	**03 38 40.3**	**+1.1**
PEA0B	**Petropavlovsk-**	**14.41**	**286**		**Pn**	**03 38 40.3**	**+1.1**
PETK	**Petropavlovsk-**	**14.41**	**286**	Pn	**Pn**	**03 38 39.6**	**+0.4**
	baz=96,slow=15,SNR=5.1						
PETK				LR	LR	03 43 52.0	
	comp=Z,5μm,21.6s,baz=100,slow=36						
SII	**Sitkinak Islan**	**15.33**	**61**		**Pn**	**03 38 51.5**	**0.0**
SII				IAmb	IAmb	03 39 07.5	
	comp=Z,198nm,0.8s						
SKR	**Severo-Kuril's**	**15.72**	**277**	*i* P	**Pn**	**03 38 58.0**	**+1.5**
OHAK	**Old Harbor**	**15.93**	**59**		**Pn**	**03 38 58.5**	**-0.6**
OHAK				IAmb	IAmb	03 39 13.5	
	comp=Z,184nm,0.7s						
KDAK	**Kodiak Island**	**16.41**	**57**	P	**Pn**	**03 39 03.4**	**-1.8**
KDAK				pmax	pmax		
	comp=Z,820nm,1.9s						
KDAK	**Kodiak Island**	**16.41**	**57**	Pn	**Pn**	**03 39 03.1**	**-2.1**
	comp=Z,13nm,0.3s,baz=253,slow=5.5,SNR=81						
KDAK				LR	LR	03 46 08.1	
	comp=Z,6μm,18.9s,baz=246,slow=40						
KDAK	**Kodiak Island**	**16.41**	**57**		**Pn**	**03 39 03.4**	**-1.8**
KDAK				IAmb	IAmb	03 39 26.2	
	comp=Z,820nm,1.9s						
TTA	**Tatalina**	**16.76**	**38**	P	**P**	**03 39 12.2**	**+0.4**
TTA				pmax	pmax		
	comp=Z,239nm,1.3s						
TTA	**Tatalina**	**16.76**	**38**	P	**P**	**03 39 12.2**	**+0.4**
RSO	**Redoubt South**	**17.05**	**48**	P	**P**	**03 39 16.4**	**+1.3**
BILL	**Bilibino**	**18.12**	**342**	*ce*P	**P**	**03 39 29.1**	**+2.5**
BILL				eS	**Sn**	**03 42 47.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,115nm,1.3s						
BILL				MLR	MLR		
	comp=Z,5μm,16.0s						
BILL	**Bilibino**	**18.12**	**342**	Pn	**P**	**03 39 28.9**	**+2.2**
SKT	**Skwentna**	**18.16**	**44**		**P**	**03 39 28.9**	**+1.7**
SKT				IAmb	IAmb	03 39 44.0	
	comp=Z,564nm,1.2s						
PPLA	**Purkeypile**	**18.27**	**41**	IAmb	IAmb	03 39 52.8	
	comp=Z,340nm,0.9s						
SUA	**Susitna One**	**18.32**	**46**	P	**Pn**	**03 39 30.7**	**+1.6**
SUA					**PcP**	**03 43 59.1**	**-0.3**
MA2	**Magadan**	**18.85**	**307**	*i* P	**P**	**03 39 34.5**	**-0.2**
MA2				pmax	pmax		
	comp=Z,34nm,1.3s						
MA2	**Magadan**	**18.85**	**307**	P	**Pn**	**03 39 36.5**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=96,slow=11,SNR=2.2						
KTH	**Kantishna Hill**	**19.07**	**40**	IAmb	IAmb	03 39 56.7	
	comp=Z,322nm,0.9s						
SEY	**Seymchan**	**19.14**	**318**	*i* P	**Pn**	**03 39 39.0**	**+0.2**
SEY	**Seymchan**	**19.14**	**318**	P	**Pn**	**03 39 39.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=111,slow=9.3,SNR=8.3						
SEY				PcP	**PcP**	**03 44 00.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=143,slow=4.0,SNR=4.3						
TRF	**Thorofare Moun**	**19.29**	**41**	IAmb	IAmb	03 39 53.0	
	comp=Z,412nm,1.2s						
BPAW	**Bear Paw Mtn.**	**19.30**	**38**	IAmb	IAmb	03 39 54.2	
	comp=Z,704nm,1.9s						
IMAR	**Indian Mountai**	**19.31**	**32**	P	**Pn**	**03 39 40.4**	**-0.6**
KNK	**Knik Glacier**	**19.34**	**47**	IAmb	IAmb	03 40 16.0	
	comp=Z,253nm,1.3s						
GLI	**Glacier Island**	**19.84**	**49**	P	**P**	**03 39 45.0**	**-0.5**
MLY	**Manley**	**19.84**	**36**	P	**Pn**	**03 39 46.4**	**-0.9**
MLY				IAmb	IAmb	03 39 58.1	
	comp=Z,617nm,1.8s						
RND	**Reindeer**	**19.86**	**42**	P	**P**	**03 39 45.3**	**-0.5**
RND				pmax	pmax		
	comp=Z,128nm,0.7s						
RND	**Reindeer**	**19.86**	**42**	P	**P**	**03 39 45.3**	**-0.5**
RND				IAmb	IAmb	03 40 02.2	
	comp=Z,128nm,0.7s						
BWN	**Browne**	**19.93**	**39**	IAMs_20	IAMs_20	03 47 36.4	
	comp=Z,6μm,19.0s						
SCM	**Sheep Creek Mo**	**19.98**	**47**	P	**P**	**03 39 46.1**	**-1.1**
SCM				pmax	pmax		
	comp=Z,241nm,1.1s						
SCM				MLR	MLR		
	comp=Z,6μm,19.0s						
SCM	**Sheep Creek Mo**	**19.98**	**47**	P	**P**	**03 39 46.1**	**-1.1**
SCM				IAmb	IAmb	03 40 13.9	
	comp=Z,241nm,1.1s						
SCM				IAMs_20	IAMs_20	03 48 23.3	
	comp=Z,6μm,19.0s						
HIN	**Hinchinbrook I**	**20.02**	**51**	IAMs_20	IAMs_20	03 48 18.6	
	comp=Z,8μm,18.0s						
FID	**Port Fidalgo**	**20.10**	**50**	IAMs_20	IAMs_20	03 48 19.9	
	comp=Z,6μm,18.0s						
NEA	**Nenana**	**20.26**	**38**	IAMs_20	IAMs_20	03 48 01.8	
	comp=Z,6μm,18.0s						
DHY	**Denali Highway**	**20.36**	**43**	IAMs_20	IAMs_20	03 48 09.1	
	comp=Z,6μm,18.0s						
MDM	**Murphy Dome**	**20.75**	**38**	P	**P**	**03 39 55.6**	**+0.2**
MDM				IAmb	IAmb	03 40 11.1	
	comp=Z,160nm,0.9s						
TCOL	**CIGO, UAF Yank**	**20.86**	**38**	P	**P**	**03 39 56.0**	**-0.5**
	baz=245,SNR=11						
COLA	**College**	**20.86**	**38**	P	**P**	**03 39 57.0**	**+0.5**
COLA				pmax	pmax		
	comp=Z,143nm,0.9s						
COLA				MLR	MLR		
	comp=Z,5μm,19.0s						
COLA	**College**	**20.86**	**38**	P	**P**	**03 39 57.0**	**+0.5**
COLA				IAmb	IAmb	03 40 16.4	
	comp=Z,143nm,0.8s						
RAGM	**Ragged Mountai**	**20.90**	**51**	IAMs_20	IAMs_20	03 49 23.1	
	comp=Z,10μm,18.0s						
HDA	**Harding Lake**	**21.02**	**40**	P	**P**	**03 39 57.4**	**-0.9**

CTGM IAMs_20 IAMs_20 03 50 19.0
comp=Z,5μm,18.0s
BCAR Beaver Creek A 22.79 45 P **P 03 40 16.4 -0.9**
KUR Kuril'sk 22.83 267 *e*P **P 03 40 24.0 +6.3**
KUR MLR MLR
comp=Z,1μm,15.0s
BMAR Burnt Mountain 23.18 34 P **P 03 40 20.9 -0.3**
YKU2 Yakutat 23.31 55 IAMs_20 IAMs_20 03 51 04.8
comp=Z,5μm,18.0s
BCPM Bancas Point 23.35 53 IAMs_20 IAMs_20 03 50 37.9
comp=Z,6μm,18.0s
EGAK Eagle 23.50 41 IAmb IAmb 03 40 52.3
comp=Z,171nm,1.0s
EGAK IAMs_20 IAMs_20 03 49 58.2
comp=Z,6μm,19.0s
TYV Tymovskoe 23.95 284 *e*P **P 03 40 31.1 +2.4**
TYV pmax pmax
comp=Z,1μm,3.6s
TYV pmax pmax
comp=Z,110nm,1.2s
TYV MLR MLR
comp=Z,3μm,18.0s
DAWY Dawson 24.06 43 IAmb IAmb 03 41 05.5
comp=Z,153nm,1.4s
NKL Nikolayevsk 24.55 290 *e*P **P 03 40 32.7 -1.5**
NKL pmax pmax
comp=N,9.0nm,0.7s
NKL pmax pmax
comp=E,40nm,0.9s
NKL pmax pmax
comp=Z,84nm,0.9s
NKL MLR MLR
comp=E,1μm,17.0s
NKL MLR MLR
comp=N,137nm,15.0s
NKL MLR MLR
comp=Z,2μm,16.0s
YUK Yuzh-Kuril'sk 24.66 266 *e*P P 03 40 26.9 -8.4
YUK PPP PPP 03 41 18.8
YUK *e*S **S 03 44 51.9 -2.8**
YUK pmax pmax
comp=Z,1μm,1.2s
YSS Yuzh-Sakhalins 25.26 275 *e*P **P 03 40 41.8 +1.0**
YSS *e* 03 41 19.0
YSS *e*S **S 03 45 05.7 +1.4**
YSS *e* 03 45 24.6
YSS MLR MLR
comp=N,900nm,18.0s
YSS MLR MLR
comp=E,1μm,18.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 25.26 275 P **P 03 40 41.7 +1.0**
SKAG Skagway 25.52 55 IAMs_20 IAMs_20 03 51 10.0
comp=Z,5μm,20.0s
EPYK Eagle Plains 25.71 39 P **P 03 40 43.7 -1.0**
baz=255,SNR=6.7
BESE Bessie Mountai 25.80 57 IAMs_20 IAMs_20 03 51 18.4
comp=Z,4μm,19.0s
ASAJ Asahikawa 26.66 269 P **P 03 40 54.9 +1.5**
comp=Z,162nm,1.1s,baz=78,slow=9.1,SNR=14
WRAK Wrangell Islan 27.39 61 IAMs_20 IAMs_20 03 52 15.6
comp=Z,4μm,18.0s
INK Inuvik 27.40 35 P **P 03 40 59.9 +0.1**
INK 03 44 17.3
INK pmax pmax
comp=Z,41nm,1.0s
INK Inuvik 27.40 35 P **P 03 41 00.1 +0.4**
comp=Z,19nm,0.9s,baz=253,slow=7.8,SNR=16
INK PcP **PcP 03 44 17.3 -0.4**
comp=Z,8.3nm,0.8s,baz=344,slow=2.6,SNR=4.8
INK ScP **ScP 03 47 54.7 -1.1**
comp=Z,5.8nm,1.0s,baz=269,slow=4.8,SNR=8.5
INK LR LR 03 52 28.9
comp=Z,3μm,19.4s,baz=242,slow=38
INK Inuvik 27.40 35 P **P 03 40 59.9 +0.1**
GRNR Gornyy 27.74 286 ||*i*P **P 03 41 06.2 +3.1**
GRNR 03 45 39.0
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR MLR MLR
comp=Z,1μm,17.0s
DLBC Dease Lake 28.34 57 P **P 03 41 08.9 +0.5**
comp=Z,1.7nm,0.6s,baz=300,slow=14,SNR=3.1
DLBC PcP **PcP 03 44 20.6 +0.3**
comp=Z,12nm,0.8s,baz=288,slow=3.9,SNR=6.7
DLBC Dease Lake 28.34 57 P **P 03 41 08.9 +0.5**
YAK Yakutsk 29.32 311 *e*P **P 03 41 19.8 +2.9**
YAK *e*PPP PPP 03 42 22.8
YAK *e* 03 44 18.0
YAK *e*S **S 03 46 13.0 +5.1**
YAK *e**SS sS 03 46 38.2 +17
YAK *e*SS **SnSn 03 47 34.6 -0.1**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,14nm,1.5s
YAK pmax pmax
comp=Z,69nm,1.7s
YAK pmax pmax
comp=N,55nm,1.9s
YAK pmax pmax
comp=E,74nm,1.6s
YAK smax smax
comp=N,132nm,3.8s
YAK smax smax
comp=E,21nm,1.7s
YAK MLR MLR
comp=Z,2μm,21.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,1μm,18.0s
YAK Yakutsk 29.32 311 P **P 03 41 20.4 +3.6**
comp=E,6.6nm,0.3s,baz=303,slow=3.4,SNR=4.7
YAK LR LR 03 52 38.4
comp=E,2μm,20.4s,baz=100,slow=36
YAK Yakutsk 29.32 311 P **P 03 41 17.0 +0.1**
TEY Ternei 29.96 275 ||*e*P **P 03 41 25.4 +2.7**
TEY *e* 03 41 34.4
TEY pmax pmax
comp=Z,20nm,1.2s
TEY pmax pmax
comp=E,20nm,0.8s
TIXI Tiksi 30.52 330 *ce*P **P 03 41 26.6 -0.9**
TIXI pmax pmax
comp=Z,14nm,1.1s
TIXI Tiksi 30.52 330 P **P 03 41 26.2 -1.3**
comp=Z,1.4nm,0.3s,baz=114,slow=11,SNR=2.7
TIXI PcP **PcP 03 44 24.0 -1.6**
comp=Z,7.3nm,0.8s,baz=180,slow=24,SNR=5.2
TIXI ScP **ScP 03 48 03.3 -2.4**
comp=Z,5.4nm,0.7s,baz=180,slow=24,SNR=7.8
TIXI LR LR 03 54 38.9
comp=Z,1μm,18.1s,baz=136,slow=38
TIXI Tiksi 30.52 330 ScP 03 48 02.4 -3.2
C36M Paulatuk 30.97 34 P **P 03 41 31.2 -0.2**
baz=263
A36M Sachs Harbour 31.02 29 P **P 03 41 31.9 0.0**
baz=258,SNR=59
KLR Kul'dur 31.11 286 *i*P **P 03 41 32.3 -0.6**
KLR pmax pmax
comp=Z,152nm,0.9s
KLR Kul'dur 31.11 286 P **P 03 41 32.4 -0.5**
comp=Z,36nm,0.9s,baz=58,slow=8.4,SNR=57
KLR LR LR 03 54 01.6
comp=Z,2μm,20.4s,baz=74,slow=36
ZEA Zeya 32.14 296 *e*P **P 03 41 40.4 -1.5**
ZEA *e*S **S 03 46 50.0 -2.3**
ZEA pmax pmax
comp=Z,64nm,1.0s
ZEA pmax pmax
comp=Z,400nm,7.0s
ZEA smax smax
comp=E,300nm,14.0s
ZEA smax smax
comp=N,400nm,12.0s
ZEA MLR MLR
comp=N,1μm,15.0s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
USA0B Ussuriysk Arra 33.24 277 *i*P **P 03 41 52.1 +0.5**
USA0B Ussuriysk Arra 33.24 277 IAmb IAmb 03 41 59.5
comp=Z,41nm,0.9s
USRK Ussuriysk Ar. 33.24 277 P **P 03 41 51.1 -0.5**
comp=Z,20nm,0.8s,baz=63,slow=7.2,SNR=22
USRK PcP **PcP 03 44 33.5 +0.1**
comp=Z,6.6nm,0.8s,baz=78,slow=2.1,SNR=5.8
USRK LR LR 03 54 33.7
comp=Z,838nm,21.1s,baz=60,slow=35
USRK Ussuriysk Ar. 33.24 277 P **P 03 41 50.8 -0.8**
H11N2 WAKE ISLAND Hy 33.60 205 T T 04 18 37.7
baz=18,slow=76,SNR=7418
H11N3 WAKE ISLAND Hy 33.61 205 T T 04 18 42.0
baz=18,slow=76,SNR=6695
H11N1 WAKE ISLAND Hy 33.62 205 T T 04 18 34.3
baz=18,slow=76,SNR=5100
MJAR Matsushiro Arr 33.75 261 P **P 03 41 56.6 +0.4**
MJAR pmax pmax
comp=Z,44nm,1.3s
MJAR Matsushiro Arr 33.75 261 P **P 03 41 56.6 +0.4**
comp=Z,12nm,0.8s,baz=54,slow=8.6,SNR=27
MJAR PcP **PcP 03 44 35.2 +0.2**
comp=Z,8.3nm,0.8s,baz=67,slow=0.8,SNR=8.9
MJAR LR LR 03 54 03.7
comp=Z,573nm,21.2s,baz=70,slow=33
MJAR Matsushiro Arr 33.75 261 P **P 03 41 56.6 +0.4**
MAJO Matsushiro 33.76 261 P **P 03 41 57.0 +0.8**
MAJO pmax pmax
comp=Z,107nm,1.2s
MAJO Matsushiro 33.76 261 P **P 03 41 57.0 +0.8**
MAJO IAmb IAmb 03 42 04.2
comp=Z,107nm,1.2s
MAT Matsushiro 33.76 261 P **P 03 41 57.6 +1.4**
VLA Vladivostok 33.86 275 *i*P **P 03 41 59.2 +2.2**
VLA pmax pmax
comp=Z,164nm,1.3s
KIP Kipapa 34.12 144 *ce*P **P 03 42 01.3 +1.8**
KIP pmax pmax
comp=Z,138nm,1.1s
KIP Kipapa 34.12 144 P **P 03 42 00.8 +1.3**
MDJ Mudanjiang 34.51 279 IAmb IAmb 03 42 08.7
comp=Z,49nm,1.0s
MSHR Mys Shultsa 34.60 275 *i*P **P 03 42 04.3 +0.9**
H11S1 WAKE ISLAND Hy 34.82 204 T T 04 18 51.3
baz=16,slow=76
H11S2 WAKE ISLAND Hy 34.84 204 T T 04 18 52.5
baz=16,slow=76,SNR=3157
H11S3 WAKE ISLAND Hy 34.84 204 T T 04 18 53.5
baz=16,slow=76,SNR=4255
YKA Yellowknife Ar 35.20 47 P **P 03 42 08.0 -0.3**
comp=Z,7.0nm,0.7s,baz=73,slow=7.4,SNR=14
YKA PcP **PcP 03 44 38.8 +0.1**
comp=Z,2.5nm,0.7s,baz=280,slow=3.0,SNR=8.4
YKA ScP **ScP 03 48 20.8 -1.2**
comp=Z,6.7nm,0.9s,baz=285,slow=3.2,SNR=5.8
YKA LR LR 03 57 54.5
comp=Z,725nm,18.0s,baz=280,slow=39
YKA Yellowknife Ar 35.20 47 P **P 03 42 08.8 +0.4**
NLWA Neilton Lookou 35.29 74 IAmb IAmb 03 42 13.3
comp=Z,102nm,1.0s
A04D Lummi Island 35.38 72 P **P 03 42 11.4 +1.3**
baz=296
D03D Eldon 35.69 74 P **P 03 42 14.4 +1.6**
baz=298,SNR=63
B05A Bryant 35.95 72 P **P 03 42 16.2 +1.1**
baz=297,SNR=48
D04E Lakebay 36.05 74 P **P 03 42 17.0 +1.2**
baz=298,SNR=9.7
B06A Marblemount 36.20 71 P **P 03 42 17.5 +0.4**
B06A IAmb IAmb 03 42 37.9
comp=Z,44nm,0.9s
F04D Rainier, OR 36.43 76 P **P 03 42 20.6 +1.4**
baz=299,SNR=6.2
E04D Cinebar 36.47 75 P **P 03 42 21.1 +1.6**
baz=299,SNR=55
KKH Kailua Kona 36.49 142 P **P 03 42 21.3 +1.5**
KKH Kailua Kona 36.49 142 P **P 03 42 21.3 +1.5**
G03D McMinnville, O 36.71 77 P **P 03 42 22.9 +1.3**
baz=300,SNR=9.6
C06D Leavenworth 36.83 72 P **P 03 42 23.4 +0.8**
baz=298,SNR=6.3
LON Longmire 36.83 74 IAmb IAmb 03 42 37.9
comp=Z,40nm,0.8s
I02D Swisshome 36.92 79 P **P 03 42 24.5 +1.2**
baz=302,SNR=8.5
COR Corvallis 37.01 78 P **P 03 42 26.0 +1.9**
COR pmax pmax
comp=Z,176nm,1.0s
COR MLR MLR
comp=Z,2μm,19.0s
COR Corvallis 37.01 78 P **P 03 42 26.0 +1.9**
LTY Liberty 37.27 73 IAmb IAmb 03 42 29.0
comp=Z,52nm,0.9s
KEBM Edson Butte 37.28 81 IAMs_20 IAMs_20 04 00 03.5
comp=Z,2μm,18.0s
J01E Myrtle Point 37.37 81 P **P 03 42 28.8 +1.6**
baz=303,SNR=12
H04D Lebanon 37.39 78 P **P 03 42 28.3 +1.0**
baz=301,SNR=24
I03D Drain, OR 37.45 80 P **P 03 42 29.4 +1.6**
baz=302,SNR=21
F05D White Salmon 37.47 75 P **P 03 42 29.0 +1.0**
baz=300,SNR=7.9
CN2 Changchun 37.48 281 *e*P **P 03 42 26.8 -1.3**
CN2 *es*P pP 03 42 32.6 -4.2
CN2 *e*S S 03 48 04.0 -11
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,18.0s
B08A Colville Reser 37.55 71 IAmb IAmb 03 42 37.3
comp=Z,63nm,0.9s
H04A Detroit Lake 37.64 77 P **P 03 42 30.7 +1.2**
K02D Willamette Mer 37.79 81 P **P 03 42 31.9 +1.1**
baz=303,SNR=26
BOD Bodaibo 37.88 307 *e*P **P 03 42 29.2 -2.1**
BOD pmax pmax
comp=Z,40nm,1.3s
G05D Wamic, OR 37.88 76 P **P 03 42 32.8 +1.2**
baz=301,SNR=30
E07A Sunnyside 38.10 73 IAmb IAmb 03 42 36.3
comp=Z,56nm,0.9s
L02E Cave Junction 38.12 82 P **P 03 42 34.8 +1.3**
baz=304,SNR=25
HIA Hailar 38.20 292 *i*P **P 03 42 34.7 +0.5**
HIA pmax pmax
comp=Z,415nm,1.0s
HIA Hailar 38.20 292 P **P 03 42 33.8 -0.3**
HIA IAmb IAmb 03 42 39.9
comp=Z,56nm,1.0s
HIA Hailar 38.20 292 IAMs_20 IAMs_20 03 58 25.6
comp=Z,2μm,20.0s
HUMO Hull Mountain 38.27 81 P **P 03 42 35.9 +1.1**
HUMO IAmb IAmb 03 42 38.7
comp=Z,60nm,0.9s
KRMB Red Mountain 38.29 83 IAmb IAmb 03 42 38.9
comp=Z,94nm,1.2s
I05D Terrebonne, OR 38.34 77 P **P 03 42 36.2 +0.8**
baz=302,SNR=49
HAWA Hanford 38.38 74 IAmb IAmb 03 42 38.5
comp=Z,131nm,1.0s
F07A Phinny Hill Vi 38.39 74 P **P 03 42 36.9 +1.1**
F07A IAmb IAmb 03 42 38.8
comp=Z,111nm,1.0s
C09A Chrisman Ranch 38.44 71 IAmb IAmb 03 42 44.5
comp=Z,55nm,0.9s
J04D Umpqua Nationa 38.45 79 P **P 03 42 38.2 +1.7**
baz=303,SNR=52
E08A Dider Farm, El 38.61 73 IAmb IAmb 03 42 40.2
comp=Z,81nm,1.0s
JCC Jacoby Creek, 38.61 84 IAmb IAmb 03 42 41.5
comp=Z,198nm,1.4s
KHMM Horse Mountain 38.77 84 IAmb IAmb 03 42 50.4
comp=Z,106nm,1.0s
L04D Klamath Falls 38.89 81 P **P 03 42 41.8 +1.7**
baz=304,SNR=39
NEW Newport 38.89 70 P **P 03 42 40.2 +0.3**
baz=299,SNR=53
NEW Newport 38.89 70 P **P 03 42 40.5 +0.5**
comp=Z,32nm,0.6s,baz=296,slow=8.1,SNR=47
NEW Newport 38.89 70 IAmb IAmb 03 42 46.1
comp=Z,42nm,0.7s
YBH Yreka Blue Hor 38.91 82 P **P 03 42 42.5 +2.2**
comp=Z,77nm,0.9s,baz=321,slow=6.0,SNR=129
YBH Yreka Blue Hor 38.91 82 P **P 03 42 41.7 +1.4**
YBH IAmb IAmb 03 42 44.4
comp=Z,104nm,1.0s
J05D Fort Rock, OR 38.96 79 P **P 03 42 42.6 +1.8**
baz=303,SNR=69
K04D Chiloquin, OR 39.01 80 P **P 03 42 42.2 +1.1**
baz=304
M02C Callahan 39.02 82 P **P 03 42 43.2 +2.1**
baz=305,SNR=27
KMRM Mail Ridge 39.16 84 IAmb IAmb 03 42 46.5
comp=Z,121nm,0.9s
N02D Trinity Center 39.34 83 P **P 03 42 46.1 +2.2**
baz=305,SNR=35
M04C Macdoel 39.42 81 P **P 03 42 46.3 +1.7**
baz=304,SNR=102
KCPM Cahto Peak 39.55 85 IAmb IAmb 03 42 49.2
comp=Z,120nm,0.9s
KSRS Korea Array 39.59 271 P **P 03 42 46.6 +0.8**
comp=Z,18nm,0.8s,baz=57,slow=8.0,SNR=25
KSRS PcP **PcP 03 44 53.4 +0.8**
comp=Z,4.8nm,0.9s,baz=64,slow=3.7,SNR=4.9
KSRS LR LR 03 59 12.8
comp=Z,447nm,18.9s,baz=90,slow=36
KS19 Wonju Array Si 39.59 271 P **P 03 42 46.8 +0.9**
KSAR Wonju Array Be 39.62 271 P **P 03 42 45.9 -0.2**
KSAR Wonju Array Be 39.62 271 P **P 03 42 45.9 -0.2**
RES Resolute Bay 39.67 24 P **P 03 42 48.1 +2.0**
comp=Z,2.2nm,0.7s,baz=281,slow=3.7,SNR=11
WDC Whiskeytown Da 39.67 83 P **P 03 42 47.7 +1.2**
WDC pmax pmax
comp=Z,89nm,1.1s
WDC Whiskeytown Da 39.67 83 P **P 03 42 47.7 +1.2**
WDC IAmb IAmb 03 42 57.4
comp=Z,89nm,1.1s
SNY Shenyang 39.71 279 ⇑P **P 03 42 49.3 +2.5**
SNY S **S 03 48 43.9 -4.4**
SNY pmax pmax
comp=Z,120nm,1.0s
SNY pmax pmax
comp=Z,420nm,3.1s
SNY LR LR
comp=Z,850nm,16.4s
SNY LR LR
comp=Z,840nm,17.5s
SNY LR LR
comp=Z,2μm,17.9s
O02D Mt. Diablo Mer 39.76 84 P **P 03 42 49.0 +1.7**
baz=306,SNR=45
HOPS Hopland Field 40.28 86 IAmb IAmb 03 43 02.1
comp=Z,131nm,1.2s
O03E Paynes Creek 40.30 83 P **P 03 42 52.6 +0.7**
baz=306,SNR=73
MOD Modoc Plateau 40.30 80 IAmb IAmb 03 42 55.3
comp=Z,112nm,1.1s
JNU Nakatsue 40.54 263 P **P 03 42 54.8 +1.0**
JNU IAmb IAmb 03 43 01.5
comp=Z,94nm,1.0s
GDXM Geysers 40.56 86 IAmb IAmb 03 42 58.3
comp=Z,117nm,1.2s
TJN Taejon 40.61 270 *ce*P **P 03 42 55.3 +1.0**
JTMT Jette 40.81 69 IAmb IAmb 03 43 13.1
comp=Z,97nm,1.5s
WVOR Wild Horse Val 41.03 78 IAmb IAmb 03 43 01.1
comp=Z,107nm,0.9s
MSO Missoula 41.48 70 P **P 03 43 01.5 0.0**
baz=301,SNR=38
MSO Missoula 41.48 70 P **P 03 43 01.6 +0.2**
MSO IAmb IAmb 03 43 16.9
comp=Z,70nm,1.0s
RUBR Rubicon Trail 42.06 83 IAmb IAmb 03 43 21.1
comp=Z,122nm,1.0s
PAHR Pah Rah Range 42.14 82 IAmb IAmb 03 43 20.5
comp=Z,120nm,1.1s
MFID Camas Ranch 42.19 75 IAmb IAmb 03 43 10.8
comp=Z,107nm,1.5s
CMB Columbia Colle 42.53 85 P **P 03 43 10.5 +0.4**
CMB pmax pmax
comp=Z,130nm,1.5s
CMB Columbia Colle 42.53 85 P **P 03 43 10.5 +0.4**
CMB IAmb IAmb 03 43 23.1
comp=Z,130nm,1.5s
DL2 Dalian 42.63 277 P **P 03 43 11.9 +1.1**
DL2 pP **pP 03 43 16.4 -2.9**
DL2 S **S 03 49 37.6 +5.9**
DL2 pmax pmax
comp=Z,40nm,1.0s
DL2 pmax pmax
comp=Z,210nm,5.2s
DL2 LR LR
comp=Z,660nm,16.7s
DL2 LR LR
comp=Z,630nm,17.4s
DL2 LR LR
comp=Z,830nm,17.5s
SAO San Andreas Ge 42.66 87 IAmb IAmb 03 43 21.1
comp=Z,63nm,1.0s
YERR Yerington 42.67 83 IAmb IAmb 03 43 21.9
comp=Z,81nm,1.0s
WAKR Walker 42.84 84 IAmb IAmb 03 43 16.1
comp=Z,66nm,1.0s
DLMT Dillon 43.05 71 P **P 03 43 14.8 +0.4**
BMN Battle Mountai 43.05 80 IAmb IAmb 03 43 17.4
comp=Z,75nm,1.1s
EGMT Eagleton 43.28 66 P **P 03 43 16.1 0.0**
baz=302,SNR=13
RYN Ryan 43.33 83 IAmb IAmb 03 43 19.6
comp=Z,58nm,0.9s
KVN Kaiserville 43.33 82 IAmb IAmb 03 43 30.3
comp=Z,117nm,1.4s
PMPB Monarch Peak 43.41 87 IAmb IAmb 03 43 26.3
comp=Z,75nm,1.0s
BOZ Bozeman (W) 43.49 70 P **P 03 43 17.8 -0.1**
baz=303,SNR=100
BOZ Bozeman (W) 43.49 70 IAmb IAmb 03 43 22.4
comp=Z,53nm,0.8s
NVAR Mina Array Bea 43.59 83 P **P 03 43 20.0 +1.1**
comp=Z,42nm,0.9s,baz=290,slow=7.4,SNR=189
NVAR PcP **PcP 03 45 06.9 +0.8**
comp=Z,4.1nm,0.8s,baz=309,slow=5.7,SNR=2.5
NVAR ScP **ScP 03 48 54.3 -0.8**
comp=Z,1.9nm,0.8s,baz=291,slow=5.6,SNR=4.9
NVAR LR LR 04 00 06.4
comp=Z,644nm,19.2s,baz=308,slow=34
NVAR Mina Array Bea 43.59 83 P **P 03 43 19.4 +0.5**
NVAR Mina Array Bea 43.59 83 **ScP 03 48 54.4 -0.7**
MDPB Devils Postpil 43.59 84 IAmb IAmb 03 43 22.3
comp=Z,78nm,0.9s
OMMB Old Mammoth Mi 43.66 84 IAmb IAmb 03 43 23.6
comp=Z,78nm,1.3s
NV11 Mina Array Sit 43.68 83 IAmb IAmb 03 43 33.0
comp=Z,100nm,1.2s
MLAC Mammoth, Mammo 43.75 84 P **P 03 43 20.5 +0.3**
baz=308
PAGB Antelope Grade 44.06 87 IAmb IAmb 03 43 25.4
comp=Z,100nm,1.1s
ELK Elko 44.08 78 P **P 03 43 23.6 +0.8**
ELK pmax pmax
comp=Z,98nm,0.9s
ELK MLR MLR
comp=Z,1μm,18.0s
ELK Elko 44.08 78 P **P 03 43 23.6 +0.8**
ELK IAmb IAmb 03 43 25.7
comp=Z,98nm,0.9s
FFC Flin Flon 44.12 54 IAMs_20 IAMs_20 04 03 16.5
comp=Z,3μm,19.0s
VOG Valley Oaks Go 44.23 86 P **P 03 43 23.7 -0.1**
baz=310
NRIK Noril'sk 44.30 330 P **P 03 43 23.6 -0.3**
comp=Z,6.8nm,0.7s,baz=117,slow=8.0,SNR=3.1
NRIK LR LR 04 03 41.0
comp=Z,1μm,18.0s,baz=60,slow=39
TIN Tinemaha, Big 44.48 84 P **P 03 43 27.2 +1.3**
baz=309,SNR=17
SMMC Simmler 44.49 88 P **P 03 43 27.1 +1.2**
baz=310
YPP Pitchstone Pla 44.71 71 P **P 03 43 28.6 +0.7**
VES Vestal, Richgr 44.72 86 P **P 03 43 27.9 +0.3**
baz=310,SNR=27
H17A Grant Village 44.78 71 P **P 03 43 29.9 +1.6**
baz=304,SNR=90
LKWY Lake 44.79 71 IAmb IAmb 03 43 36.7
comp=Z,106nm,1.0s
PKM Mcpherson Peak 44.88 88 P **P 03 43 30.1 +0.9**
baz=311,SNR=6.0
FLWY Flagg Ranch 44.88 71 IAmb IAmb 03 43 31.9

	comp=Z,97nm,1.1s							
CWC	**Cottonwood Cre**	**44.96**	**85**	P	**P**	**03 43 30.2**	**+0.3**	
	baz=310							
HVU	**Hansel Valley**	**44.97**	**75**	P	**P**	**03 43 30.3**	**+0.5**	
HVU				pmax	pmax			
	comp=Z,57nm,0.7s							
HVU	**Hansel Valley**	**44.97**	**75**	P	**P**	**03 43 30.3**	**+0.5**	
GRAC	**Grapevine Rang**	**45.06**	**84**	P	**P**	**03 43 31.7**	**+1.3**	
	baz=309,SNR=33							
RLMT	**Red Lodge**	**45.14**	**69**	P	**P**	**03 43 31.2**	**0.0**	
	baz=304,SNR=73							
RLMT	**Red Lodge**	**45.14**	**69**	IAmb	IAmb	03 43 34.2		
	comp=Z,89nm,0.9s							
REDW	**Red Top Meadow**	**45.20**	**72**	IAmb	IAmb	03 43 46.9		
	comp=Z,99nm,1.4s							
SNOW	**Snow King Moun**	**45.20**	**72**	IAmb	IAmb	03 43 34.6		
	comp=Z,46nm,1.1s							
ISA	**Isabella, Lake**	**45.21**	**86**	P	**P**	**03 43 31.8**	**0.0**	
	baz=310,SNR=35							
ISA	**Isabella, Lake**	**45.21**	**86**	P	**P**	**03 43 32.1**	**+0.4**	
ISA				pmax	pmax			
	comp=Z,54nm,1.0s							
ISA	**Isabella, Lake**	**45.21**	**86**	P	**P**	**03 43 32.1**	**+0.4**	
ISA				IAmb	IAmb	03 43 33.8		
	comp=Z,54nm,1.0s							
SBC	**Santa Barbara**	**45.23**	**88**	P	**P**	**03 43 32.4**	**+0.7**	
	baz=311							
R11A	**Troy Canyon, C**	**45.32**	**81**	P	**P**	**03 43 33.3**	**+0.7**	
	baz=308,SNR=144							
R11A	**Troy Canyon, C**	**45.32**	**81**	IAmb	IAmb	03 43 35.2		
	comp=Z,72nm,0.9s							
BJT	**Baijiatuau**	**45.32**	**282**	P	**P**	**03 43 33.0**	**+0.6**	
BJT				pmax	pmax			
	comp=Z,40nm,1.0s							
BJT				MLR	MLR			
	comp=Z,1μm,20.0s							
BJT	**Baijiatuau**	**45.32**	**282**	P	**P**	**03 43 33.0**	**+0.6**	
ARVC	**Arvin**	**45.34**	**87**	P	**P**	**03 43 32.7**	**+0.1**	
	baz=310,SNR=7.4							
IRK	**Irkutsk**	**45.34**	**303**	*e*P	**P**	**03 43 36.8**	**+4.3**	
IRK				pmax	pmax			
	comp=Z,52nm,1.9s							
DAC	**Darwin (Calif)**	**45.37**	**85**	IAmb	IAmb	03 43 37.9		
	comp=Z,54nm,1.1s							
AHID	**Auburn Hatcher**	**45.40**	**73**	IAmb	IAmb	03 43 35.8		
	comp=Z,71nm,1.0s							
SCZ2	**Santa Cruz Isl**	**45.57**	**89**	P	**P**	**03 43 34.2**	**-0.3**	
	baz=311							
MPMC	**Manual Prospec**	**45.58**	**85**	P	**P**	**03 43 35.2**	**+0.4**	
	baz=310,SNR=38							
FURC	**Furnace Creek,**	**45.70**	**84**	P	**P**	**03 43 36.1**	**+0.7**	
	baz=310,SNR=66							
OSI	**Osito Audit: C**	**45.74**	**87**	P	**P**	**03 43 35.7**	**-0.1**	
	baz=311							
TPNV	**Topopah Spring**	**45.78**	**83**	P	**P**	**03 43 37.2**	**+0.9**	
	baz=309,SNR=122							
LRMC	**Laurel Mtn Rad**	**45.83**	**86**	P	**P**	**03 43 36.6**	**0.0**	
	baz=310							
BLG	**Laguna Peak, P**	**45.85**	**88**	P	**P**	**03 43 37.0**	**+0.3**	
	baz=311,SNR=11							
DUG	**Dugway, Tooele**	**45.89**	**77**	P	**P**	**03 43 38.1**	**+0.9**	
	baz=307,SNR=179							
TLY	**Talaya**	**45.97**	**302**	P	P	03 43 43.8	+6.4	
	SNR=6.0							
TLY	**Talaya**	**45.97**	**302**	*e*P	**P**	**03 43 41.2**	**+3.8**	
TLY				*e*		03 45 23.1		
TLY				*e*S	**S**	**03 50 21.1**	**+1.0**	
TLY				*e*SS	**ScS**	**03 53 28.8**	**-1.7**	
TLY				pmax	pmax			
	comp=Z,72nm,1.1s							
TLY				MLR	MLR			
	comp=Z,2μm,14.0s							
TLY	**Talaya**	**45.97**	**302**	P	**P**	**03 43 40.1**	**+2.7**	
	comp=Z,8.1nm,0.5s,baz=36,slow=7.5,SNR=9.5							
TLY				PcP	**PcP**	**03 45 14.3**	**+0.6**	
	comp=Z,7.7nm,0.6s,baz=126,slow=1.9,SNR=4.4							
TLY	**Talaya**	**45.97**	**302**	P	**P**	**03 43 37.7**	**+0.3**	
EDW2	**Edwards Air Fo**	**46.02**	**87**	P	**P**	**03 43 38.5**	**+0.4**	
	baz=311,SNR=22							
LAO	**LASA Array**	**46.02**	**66**	P	**P**	**03 43 38.2**	**+0.2**	
	baz=304,SNR=18							
LAO	**LASA Array**	**46.02**	**66**	IAmb	IAmb	03 45 16.5		
	comp=Z,56nm,0.9s							
SNCC	**San Nicolas Is**	**46.13**	**89**	P	**P**	**03 43 39.3**	**+0.4**	
	baz=312							
ULN	**Ulaanbaatar**	**46.17**	**296**	P	**P**	**03 43 39.5**	**+0.3**	
	SNR=40							
ULN	**Ulaanbaatar**	**46.17**	**296**	P	**P**	**03 43 39.4**	**+0.1**	
ULN				MLR	MLR			
	comp=Z,2μm,20.0s							
ULN	**Ulaanbaatar**	**46.17**	**296**	P	**P**	**03 43 39.4**	**+0.1**	
ULN	**Ulaanbaatar**	**46.17**	**296**	IAMs_20	IAMs_20	04 03 38.4		
	comp=Z,2μm,20.0s							
DGMT	**Dagmar**	**46.18**	**63**	P	**P**	**03 43 38.7**	**-0.4**	
	baz=303							
DGMT	**Dagmar**	**46.18**	**63**	P	**P**	**03 43 39.7**	**+0.6**	
DGMT				IAmb	IAmb	03 45 16.4		
	comp=Z,59nm,0.8s							
DGMT	**Dagmar**	**46.18**	**63**	IAMs_20	IAMs_20	04 02 19.9		
	comp=Z,2μm,21.0s							
DECC	**Green Verdugo**	**46.22**	**87**	P	**P**	**03 43 40.1**	**+0.5**	
	baz=311,SNR=5.5							
BW06	**Boulder Array**	**46.32**	**72**	P	**P**	**03 43 40.7**	**+0.1**	
	baz=306,SNR=125							
PDAR	**Pinedale Array**	**46.32**	**72**	P	**P**	**03 43 40.8**	**+0.2**	
	comp=Z,110nm,0.8s,baz=303,slow=3.7,SNR=412							
PDAR				LR	LR	04 01 02.8		
	comp=Z,876nm,21.7s,baz=308,slow=33							
PDAR	**Pinedale Array**	**46.32**	**72**	P	**P**	**03 43 40.6**	**0.0**	
PASC	**Pasadena Art C**	**46.36**	**87**	IAmb	IAmb	03 43 42.9		
	comp=Z,47nm,1.0s							
SHOC	**Shoshone, Teco**	**46.43**	**84**	P	**P**	**03 43 41.8**	**+0.5**	
	baz=310,SNR=12							
GSC	**Goldstone, Bar**	**46.49**	**85**	P	**P**	**03 43 42.5**	**+0.7**	
	baz=310,SNR=75							
SONM	**Songino Array**	**46.56**	**296**	P	**P**	**03 43 42.4**	**+0.1**	
	comp=Z,9.8nm,0.8s,baz=57,slow=8.8,SNR=46							
SONM				ScP	**ScP**	**03 49 06.5**	**-0.6**	
	comp=Z,11nm,1.0s,baz=63,slow=2.4,SNR=16							
SONM				LR	LR	04 04 21.5		
	comp=Z,2μm,18.7s,baz=58,slow=38							
SONM	**Songino Array**	**46.56**	**296**	P	**P**	**03 43 41.9**	**-0.3**	
SONM					**ScP**	**03 49 06.2**	**-0.9**	
FMP	**Fort Macarthur**	**46.60**	**88**	P	**P**	**03 43 42.2**	**-0.3**	
	baz=312							
RRX	**Edison Barstow**	**46.64**	**86**	P	**P**	**03 43 42.2**	**-0.7**	
	baz=311							
BFSC	**Mount Baldy Ra**	**46.65**	**87**	P	**P**	**03 43 43.5**	**+0.3**	
	baz=311,SNR=29							
CIS	**Catalina Islan**	**46.73**	**88**	P	**P**	**03 43 43.4**	**-0.2**	
	baz=312							
ZAK	**Zakamensk**	**46.86**	**301**	*e*P	P	03 43 50.6	+6.1	
ZAK				*e*		03 45 22.6		
ZAK				pmax	pmax			
	comp=Z,34nm,1.3s							
ZAK				pmax	pmax			
	comp=Z,15nm,1.3s							
SCI2	**San Clemente I**	**46.92**	**89**	P	**P**	**03 43 45.2**	**+0.1**	
	baz=312							
TUQ	**Turquoise Moun**	**46.95**	**84**	P	**P**	**03 43 45.7**	**+0.3**	
	baz=310,SNR=14							
HEC	**Hector,Ludlow**	**47.09**	**85**	P	**P**	**03 43 46.8**	**+0.4**	
	baz=311,SNR=21							
TCRU	**Three Creeks R**	**47.09**	**79**	P	**P**	**03 43 47.4**	**+0.7**	
BBRC	**Big Bear Solar**	**47.09**	**86**	P	**P**	**03 43 47.1**	**+0.4**	
	baz=311,SNR=7.5							
TIA	**Tai'an**	**47.10**	**277**	P	**P**	**03 43 46.5**	**0.0**	
TIA				S	**S**	**03 50 34.3**	**-2.3**	
TIA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
TIA				LR	LR			
	comp=Z,680nm,16.2s							
TIA				LR	LR			
	comp=Z,360nm,15.2s							
TIA				LR	LR			
	comp=Z,930nm,19.0s							
MURC	**Murrieta**	**47.36**	**87**	P	**P**	**03 43 48.9**	**+0.4**	
	baz=312,SNR=9.6							
MOY	**Mondy**	**47.37**	**303**	*e*P	P	03 43 33.1	-15	
MOY				pmax	pmax			
	comp=Z,49nm,2.0s							
GMRC	**Granite Mounta**	**47.54**	**85**	P	**P**	**03 43 50.4**	**+0.4**	
	baz=311,SNR=49							
MTPU	**Mount Pierson**	**47.60**	**79**	P	**P**	**03 43 51.2**	**+0.4**	
PFO	**Pinyon Flats O**	**47.81**	**87**	P	**P**	**03 43 52.3**	**+0.1**	
	baz=312,SNR=21							
PFO	**Pinyon Flats O**	**47.81**	**87**	*i* P	**P**	**03 43 52.8**	**+0.6**	

PFO	**Pinyon Flats O**	**47.81**	**87**	P	**P**	**03 43 52.5**	**+0.3**	
BELC	**Belle Mtn. Jos**	**47.84**	**86**	P	**P**	**03 43 52.3**	**-0.1**	
	baz=311,SNR=19							
109C	**Camp Elliot, M**	**47.89**	**88**	P	**P**	**03 43 52.9**	**+0.3**	
	baz=312,SNR=7.1							
109C	**Camp Elliot, M**	**47.89**	**88**	IAmb	IAmb	03 43 55.1		
	comp=Z,69nm,1.1s							
SSE	**Sheshan**	**47.95**	**269**	P	**P**	**03 43 53.1**	**0.0**	
SSE				S	**S**	**03 50 48.3**	**-0.4**	
SSE				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SSE				LR	LR			
	comp=Z,210nm,12.7s							
SSE				LR	LR			
	comp=Z,190nm,13.6s							
SRU	**San Rafael Swe**	**47.95**	**77**	P	**P**	**03 43 54.0**	**+0.7**	
SRU				pmax	pmax			
	comp=Z,197nm,1.2s							
SRU	**San Rafael Swe**	**47.95**	**77**	P	**P**	**03 43 54.0**	**+0.7**	
K22A	**Casper**	**48.19**	**71**	P	**P**	**03 43 54.4**	**-0.6**	
	baz=307,SNR=42							
NEE2	**Needles Airpor**	**48.20**	**84**	P	**P**	**03 43 54.7**	**-0.2**	
	baz=311,SNR=5.5							
IRM	**Iron Mountain**	**48.27**	**85**	P	**P**	**03 43 55.7**	**+0.1**	
	baz=311,SNR=26							
BAR	**Barrett**	**48.30**	**88**	IAmb	IAmb	03 43 58.2		
	comp=Z,64nm,1.0s							
MONP2	**Monument Peak**	**48.31**	**87**	P	**P**	**03 43 56.5**	**+0.4**	
	baz=312,SNR=26							
BC3	**Big Chuckawall**	**48.41**	**86**	P	**P**	**03 43 56.4**	**-0.3**	
	baz=312,SNR=17							
W13A	**Hualapai Mount**	**48.44**	**83**	IAmb	IAmb	03 43 59.3		
	comp=Z,53nm,1.1s							
SWSC	**Sam W. Stewart**	**48.66**	**87**	P	**P**	**03 43 58.8**	**+0.2**	
	baz=312,SNR=14							
IKP	**In-Ko-Pah, Jac**	**48.67**	**87**	P	**P**	**03 43 59.4**	**+0.7**	
	baz=312,SNR=20							
BTO	**Baotou**	**48.69**	**286**	*e*P	**P**	**03 43 59.6**	**+0.7**	
BTO				S	**S**	**03 50 56.0**	**-3.2**	
O20A	**White River Ci**	**48.70**	**74**	P	**P**	**03 43 59.2**	**+0.1**	
	baz=308,SNR=96							
NJ2	**Nanjing**	**48.76**	**272**	*e*P	**P**	**03 43 59.9**	**+0.6**	
NJ2				pP	**pP**	**03 44 05.0**	**-3.3**	
NJ2				S	**S**	**03 51 01.0**	**+0.9**	
NJ2				pmax	pmax			
	comp=Z,11nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,370nm,4.6s							
NJ2				LR	LR			
	comp=Z,470nm,15.2s							
NJ2				LR	LR			
	comp=Z,900nm,16.6s							
NJ2				LR	LR			
	comp=Z,630nm,16.6s							
RSSD	**Black Hills**	**48.76**	**68**	P	**P**	**03 43 59.1**	**-0.4**	
	baz=307							
RSSD	**Black Hills**	**48.76**	**68**	P	**P**	**03 43 59.3**	**-0.2**	
RSSD				pmax	pmax			
	comp=Z,36nm,1.0s							
RSSD	**Black Hills**	**48.76**	**68**	P	**P**	**03 43 59.3**	**-0.2**	
RSSD				IAmb	IAmb	03 45 25.6		
	comp=Z,36nm,0.9s							
PDMCI	**Parker Dam,Lak**	**48.80**	**84**	P	**P**	**03 43 59.8**	**+0.2**	
	baz=311,SNR=28							
Y12C	**Blythe**	**48.92**	**85**	P	**P**	**03 44 01.1**	**+0.5**	
	baz=312,SNR=42							
Y12C	**Blythe**	**48.92**	**85**	IAmb	IAmb	03 44 03.5		
	comp=Z,76nm,0.9s							
TIY	**Taiyuan**	**49.04**	**282**	*e*P	P	03 44 06.8	+5.3	
TIY				S	**S**	**03 51 07.0**	**+2.9**	
TIY				ScS	**ScS**	**03 53 52.6**	**+1.3**	
TIY	**Taiyuan**	**49.04**	**282**	SS	SS	03 54 33.1	-1.7	
TIY				pmax	pmax			
	comp=Z,72nm,0.5s							
TIY				pmax	pmax			
	comp=Z,310nm,4.8s							
TIY				LR	LR			
	comp=N,720nm,14.0s							
TIY				LR	LR			
	comp=E,430nm,13.6s							
TIY				LR	LR			
	comp=Z,930nm,16.3s							
MDND	**Maddock**	**49.07**	**61**	P	**P**	**03 44 00.9**	**-0.6**	
	baz=306							
MDND	**Maddock**	**49.07**	**61**	IAmb	IAmb	03 44 03.6		
	comp=Z,81nm,1.1s							
MDND				IAMs_20	IAMs_20	04 03 54.0		
	comp=Z,2μm,20.0s							
GLA	**Glamis**	**49.20**	**86**	P	**P**	**03 44 03.1**	**+0.3**	
	baz=312,SNR=27							
N23A	**Red Feather La**	**49.60**	**72**	P	**P**	**03 44 06.2**	**+0.2**	
	baz=308,SNR=47							
N23A	**Red Feather La**	**49.60**	**72**	IAmb	IAmb	03 44 08.3		
	comp=Z,89nm,1.1s							
PV02	**Paradox Valley**	**49.61**	**77**	P	**P**	**03 44 06.5**	**+0.5**	
ULM	**Lac du Bonnet**	**49.67**	**57**	P	**P**	**03 44 05.2**	**-0.8**	
	comp=Z,2.6nm,0.4s,baz=306,slow=6.2,SNR=7.0							
ULM				LR	LR	04 06 33.1		
	comp=Z,2μm,18.3s,baz=315,slow=38							
ULM	**Lac du Bonnet**	**49.67**	**57**	IAMs_20	IAMs_20	04 06 13.3		
	comp=Z,3μm,19.0s							
WUAZ	**Wupatki**	**49.72**	**81**	P	**P**	**03 44 07.8**	**+0.9**	
	baz=311,SNR=74							
Y14A	**Wickenburg**	**49.74**	**84**	IAmb	IAmb	03 44 09.2		
	comp=Z,53nm,0.9s							
113A	**Mohawk Valley,**	**50.05**	**86**	IAmb	IAmb	03 44 21.9		
	comp=Z,124nm,1.6s							
SMCO	**Snowmass**	**50.06**	**74**		pP	03 44 17.8	-0.9	
SPA0	**Spitsbergen Ar**	**50.27**	**356**	P	**P**	**03 44 10.1**	**-0.2**	
SPA0				IAmb	IAmb	03 44 18.1		
	comp=Z,56nm,0.9s							
MVCO	**Mesa Verde**	**50.39**	**77**	P	**P**	**03 44 11.8**	**-0.2**	
	baz=310,SNR=49							
X16A	**Lo Mia Camp, P**	**50.40**	**82**	IAmb	IAmb	03 44 14.9		
	comp=Z,70nm,1.1s							
ISCO	**Idaho Springs**	**50.48**	**73**	P	**P**	**03 44 12.4**	**-0.4**	
	baz=309,SNR=67							
ISCO	**Idaho Springs**	**50.48**	**73**	IAmb	IAmb	03 44 15.3		
	comp=Z,65nm,1.1s							
ISCO				IAMs_20	IAMs_20	04 03 38.3		
	comp=Z,1μm,20.0s							
AGMN	**Agassiz Nation**	**50.83**	**59**	P	**P**	**03 44 14.1**	**-0.8**	
	baz=307							
AGMN	**Agassiz Nation**	**50.83**	**59**	IAMs_20	IAMs_20	04 06 40.6		
	comp=Z,3μm,18.0s							
W18A	**Petrified Fore**	**50.99**	**80**	P	**P**	**03 44 17.3**	**+0.8**	
	baz=311,SNR=41							
S22A	**UR Ranch, Cre**	**51.06**	**76**	P	**P**	**03 44 18.0**	**+0.9**	
	baz=310,SNR=44							
214A	**Organ Pipe Nat**	**51.19**	**86**	P	**P**	**03 44 18.1**	**+0.3**	
	baz=313,SNR=35							
214A	**Organ Pipe Nat**	**51.19**	**86**	P	**P**	**03 44 18.1**	**+0.3**	
214A				IAmb	IAmb	03 44 20.1		
	comp=Z,52nm,1.0s							
X18A	**Snowflake**	**51.25**	**81**	IAmb	IAmb	03 44 20.7		
	comp=Z,69nm,0.7s							
Q24A	**Divide**	**51.29**	**74**	P	**P**	**03 44 19.0**	**+0.1**	
	baz=310							
DAG	**Danmarks Havn**	**51.40**	**6**	*i* P	**P**	**03 44 17.5**	**-1.2**	
DAG	**Danmarks Havn**	**51.40**	**6**	*i* P	**P**	**03 44 17.5**	**-1.2**	
SUSD	**Miller**	**51.47**	**64**	P	**P**	**03 44 19.2**	**-0.6**	
	baz=308,SNR=10							
SUSD	**Miller**	**51.47**	**64**	IAMs_20	IAMs_20	04 06 35.7		
	comp=Z,2μm,19.0s							
SDCO	**Great Sand Dun**	**51.86**	**75**	P	**P**	**03 44 23.6**	**+0.5**	
	baz=310,SNR=87							
OGNE	**Ogallala**	**51.88**	**70**	P	**P**	**03 44 23.1**	**+0.1**	
	baz=309							
TUC	**Tucson**	**52.22**	**84**	P	**P**	**03 44 26.3**	**+0.7**	
	baz=313							
TUC	**Tucson**	**52.22**	**84**	P	**P**	**03 44 26.1**	**+0.6**	
TUC				pmax	pmax			
	comp=Z,82nm,1.1s							
TUC	**Tucson**	**52.22**	**84**	P	**P**	**03 44 26.1**	**+0.6**	
TUC				IAmb	IAmb	03 44 28.0		
	comp=Z,82nm,1.1s							
WHN	**Wuhan**	**52.60**	**274**	⇑P	**P**	**03 44 27.8**	**-0.5**	
WHN				S	**S**	**03 51 44.8**	**-8.6**	
WHN				LR	LR			
	comp=Z,1μm,15.8s							
WHN				LR	LR			
	comp=Z,2μm,14.4s							
WHN				LR	LR			
	comp=Z,880nm,12.9s							
KSCO	**Kaye Shedlock'**	**52.77**	**72**	P	**P**	**03 44 30.1**	**+0.5**	
	baz=310,SNR=23							
T25A	**Trinidad**	**52.92**	**75**	P	**P**	**03 44 31.2**	**+0.4**	

	baz=311,SNR=74							
ANMO	**Albuquerque**	**53.12**	**78**	P	**P**	**03 44 32.9**	**+0.5**	
	baz=312							
ANMO	**Albuquerque**	**53.12**	**78**	*ce*P	**P**	**03 44 32.8**	**+0.5**	
ANMO				pmax	pmax			
	comp=Z,37nm,1.3s							
ANMO	**Albuquerque**	**53.12**	**78**	P	**P**	**03 44 32.7**	**+0.4**	
ANMO				IAmb	IAmb	03 44 45.4		
	comp=Z,56nm,1.2s							
SUMG	**Summit**	**53.21**	**14**	*i* P	**P**	**03 44 32.6**	**-0.1**	
SUMG				pmax	pmax			
	comp=Z,94nm,1.4s							
SUMG	**Summit**	**53.21**	**14**	*i* P	**P**	**03 44 32.6**	**-0.1**	
	comp=Z,94nm,1.4s							
ECSD	**EROS Data Cent**	**53.23**	**64**	P	**P**	**03 44 31.8**	**-1.0**	
	baz=309,SNR=13							
ECSD	**EROS Data Cent**	**53.23**	**64**	IAMs_20	IAMs_20	04 07 50.3		
	comp=Z,2μm,19.0s							
SSLB	**Suanglung**	**53.28**	**262**	P	**P**	**03 44 32.9**	**-0.5**	
SSLB				IAmb	IAmb	03 44 40.0		
	comp=Z,62nm,1.0s							
EYMN	**Ely**	**53.35**	**57**	P	**P**	**03 44 33.6**	**-0.1**	
	baz=309,SNR=6.9							
EYMN	**Ely**	**53.35**	**57**	P	**P**	**03 44 33.6**	**-0.1**	
EYMN				IAmb	IAmb	03 44 52.0		
	comp=Z,68nm,1.8s							
EYMN	**Ely**	**53.35**	**57**	IAMs_20	IAMs_20	04 08 43.4		
	comp=Z,2μm,19.0s							
Y22D	**IRIS PASSCAL I**	**53.42**	**79**	P	**P**	**03 44 35.2**	**+0.7**	
	baz=312							
XAN	**Xi'an**	**53.59**	**281**	P	**P**	**03 44 38.8**	**+3.1**	
XAN				S	**S**	**03 52 09.0**	**+2.0**	
XAN				pmax	pmax			
	comp=Z,16nm,0.8s							
XAN				pmax	pmax			
	comp=Z,370nm,6.0s							
XAN				LR	LR			
	comp=Z,570nm,19.1s							
XAN				LR	LR			
	comp=Z,670nm,20.3s							
XAN				LR	LR			
	comp=Z,700nm,20.2s							
XAN	**Xi'an**	**53.59**	**281**	P	**P**	**03 44 34.4**	**-1.2**	
XAN				pmax	pmax			
	comp=Z,46nm,0.9s							
XAN	**Xi'an**	**53.59**	**281**	P	**P**	**03 44 34.4**	**-1.2**	
XAN				IAmb	IAmb	03 44 41.8		
	comp=Z,46nm,0.9s							
BGNE	**Belgrade**	**53.84**	**67**	P	**P**	**03 44 37.2**	**-0.2**	
	baz=310							
BGNE	**Belgrade**	**53.84**	**67**	IAmb	IAmb	03 45 44.2		
	comp=Z,74nm,0.9s							
121A	**Cookes Peak, D**	**53.92**	**81**	P	**P**	**03 44 38.8**	**+0.5**	
	baz=313,SNR=67							
121A	**Cookes Peak, D**	**53.92**	**81**	IAmb	IAmb	03 44 40.2		
	comp=Z,54nm,0.8s							
ZAA0	**Zalesovo Array**	**53.93**	**313**	P	**P**	**03 44 40.0**	**+2.2**	
ZALV	**Zalesovo Beam**	**53.93**	**313**	P	**P**	**03 44 37.9**	**+0.2**	
ZALV						03 45 44.1		
ZALV	**Zalesovo Beam**	**53.93**	**313**	P	**P**	**03 44 36.4**	**-1.3**	
	comp=Z,0.7nm,0.5s,baz=4.6,slow=7.2,SNR=2.8							
ZALV				PcP	**PcP**	**03 45 44.1**	**+1.4**	
	comp=Z,3.9nm,0.6s,baz=55,slow=2.8,SNR=5.6							
ZALV				ScP	**ScP**	**03 49 36.8**	**-1.5**	
	comp=Z,2.2nm,0.9s,baz=63,slow=6.6,SNR=3.4							
ZALV				LR	LR	04 09 33.6		
	comp=Z,838nm,18.0s,baz=46,slow=38							
ZALV	**Zalesovo Beam**	**53.93**	**313**	P	**P**	**03 44 37.9**	**+0.2**	
E38A	**The Farm, Brul**	**54.17**	**58**	P	**P**	**03 44 38.5**	**-1.1**	
	baz=310,SNR=9.3							
HSIG		**54.38**	**87**	P	**P**	**03 44 41.2**	**-0.2**	
HSIG				IAmb	IAmb	03 44 53.3		
	comp=Z,107nm,1.6s							
SPMN	**Marine on St.**	**54.38**	**60**	P	**P**	**03 44 40.6**	**-0.6**	
	baz=310							
SPMN	**Marine on St.**	**54.38**	**60**	IAMs_20	IAMs_20	04 07 07.1		
	comp=Z,2μm,21.0s							
CBKS	**Cedar Bluff**	**54.61**	**70**	P	**P**	**03 44 43.0**	**0.0**	
	baz=311,SNR=58							
SRIG	**Santa Rosalia**	**54.77**	**89**	IAmb	IAmb	03 44 56.0		
	comp=Z,42nm,1.1s							
LZH	**Lanzhou**	**55.31**	**286**	⇓P	**P**	**03 44 48.8**	**+0.6**	
LZH				sP	pP	03 44 54.8	-2.5	
LZH				PP	**PP**	**03 46 53.1**	**+1.4**	
LZH				S	**S**	**03 52 28.8**	**-1.5**	
LZH				sS	pS	03 52 36.0	-4.8	
LZH				SS	**SS**	**03 56 12.0**	**-2.4**	
LZH				pmax	pmax			
	comp=Z,120nm,1.4s							
LZH				pmax	pmax			
	comp=Z,500nm,6.3s							
LZH				LR	LR			
	comp=Z,2μm,13.5s							
LZH				LR	LR			
	comp=Z,1μm,13.6s							
LZH				LR	LR			
	comp=Z,2μm,16.5s							
DGZ	**Jazzator, Alta**	**55.44**	**308**	*i* P	**P**	**03 44 47.2**	**-1.8**	
GTA	**Gaotai**	**55.48**	**292**	⇓P	**P**	**03 44 49.0**	**-0.4**	
GTA				pP	pP	03 44 53.3	-5.2	
GTA				sP	sP	03 44 55.5	-6.5	
GTA				ScP	**ScP**	**03 49 45.3**	**-0.4**	
GTA				S	**S**	**03 52 32.3**	**-0.2**	
GTA				ScS	**ScS**	**03 54 34.1**	**-2.2**	
GTA				pmax	pmax			
	comp=Z,31nm,0.8s							
GTA				pmax	pmax			
	comp=Z,440nm,5.0s							
GTA				LR	LR			
	comp=Z,1μm,19.6s							
GTA				LR	LR			
	comp=Z,2μm,19.6s							
GTA				LR	LR			
	comp=Z,1μm,16.8s							
G40A	**Rib Lake**	**55.75**	**59**	P	**P**	**03 44 51.2**	**+0.1**	
	baz=311							
COWI	**Conover**	**55.77**	**57**	IAMs_20	IAMs_20	04 10 17.1		
	comp=Z,2μm,18.0s							
ENH	**Enshi**	**55.82**	**277**	P	**

WMOK				MLR	MLR			
	comp=Z,1μm,20.0s							
WMOK	**Wichita Mounta**	**57.91**	**73**	P	**P**	**03 45 06.8**	**+0.2**	
WMOK	**Wichita Mounta**	**57.91**	**73**	IAMs_20	IAMs_20	04 10 34.6		
	comp=Z,1μm,20.0s							
ARCES	**ARCESS Array B**	**57.98**	**350**	P	**P**	**03 45 05.8**	**-0.8**	
	comp=Z,5.1nm,0.7s,baz=39,slow=7.8,SNR=8.1							
ARCES				LR	LR	04 13 07.2		
	comp=Z,670nm,18.8s,baz=14,slow=39							
D47A	**Chapleau**	**58.23**	**53**	P	**P**	**03 45 07.9**	**-0.8**	
	baz=313							
G45A	**Suttons Bay**	**58.30**	**56**	IAMs_20	IAMs_20	04 13 04.8		
	comp=Z,1μm,19.0s							
K43A	**Burlington**	**58.47**	**60**	P	**P**	**03 45 09.5**	**-0.8**	
	baz=313							
G46A	**Petoskey**	**58.52**	**56**	P	**P**	**03 45 10.4**	**-0.2**	
	baz=313							
I45A	**Fountain**	**58.68**	**57**	IAMs_20	IAMs_20	04 11 47.9		
	comp=Z,2μm,19.0s							
TX32	**Lajitas Array**	**58.68**	**81**	IAmb	IAmb	03 45 14.1		
	comp=Z,61nm,1.1s							
TXAR	**Lajitas Array**	**58.68**	**81**	P	**P**	**03 45 12.2**	**0.0**	
	comp=Z,35nm,0.8s,baz=298,slow=4.5,SNR=317							
TXAR				ScP	**ScP**	**03 49 59.9**	**+0.1**	
	comp=Z,1.2nm,0.9s,baz=297,slow=3.6,SNR=3.6							
TXAR				PKPPKP	**P'P'df**	**04 14 48.1**	**-3.1**	
	comp=Z,0.9nm,0.9s,baz=149,slow=5.8,SNR=3.9							
TXAR	**Lajitas Array**	**58.68**	**81**	P	**P**	**03 45 11.6**	**-0.5**	
D48A	**Paudash Townsh**	**58.80**	**52**	P	**P**	**03 45 12.9**	**+0.4**	
	baz=314							
APA	**Apatity**	**58.82**	**346**	↓*i*P	P	03 45 05.9	-6.5	
APA				pmax	pmax			
	comp=Z,13nm,1.1s							
APA				MLR	MLR			
	comp=Z,2μm,17.0s							
ABTX	**Abilene, Hawle**	**58.85**	**76**	P	**P**	**03 45 13.2**	**0.0**	
	baz=314,SNR=21							
ABTX	**Abilene, Hawle**	**58.85**	**76**	IAMs_20	IAMs_20	04 13 03.7		
	comp=Z,960nm,18.0s							
H46A	**Fife Lake**	**58.88**	**56**	P	**P**	**03 45 13.7**	**+0.6**	
	baz=313							
TUL1	**Leonard**	**58.88**	**70**	P	**P**	**03 45 12.5**	**-0.8**	
	baz=314,SNR=43							
TUL1	**Leonard**	**58.88**	**70**	P	**P**	**03 45 13.1**	**-0.2**	
TUL1				IAMs_20	IAMs_20	04 14 47.2		
	comp=Z,995nm,18.0s							
CD2	**Chengdu**	**58.91**	**282**	P	**P**	**03 45 13.0**	**-0.6**	
CD2				pP	pP	03 45 17.3	-5.5	
CD2				S	**S**	**03 53 16.6**	**-0.9**	
CD2				sS	pS	03 53 23.4	-4.9	
CD2				SS	**SS**	**03 57 13.3**	**+2.4**	
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,330nm,5.7s							
CD2				LR	LR			
	comp=Z,750nm,12.6s							
CD2				LR	LR			
	comp=Z,1μm,16.1s							
CD2				LR	LR			
	comp=Z,740nm,13.3s							
KURK	**Kurchatov**	**58.91**	**314**	P	P	03 45 19.7	+6.4	
	SNR=8.6							
KURK	**Kurchatov**	**58.91**	**314**	*ce*P	**P**	**03 45 12.2**	**-1.1**	
KURK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KURK	**Kurchatov**	**58.91**	**314**	P	**P**	**03 45 12.3**	**-1.1**	
KURK				IAmb	IAmb	03 45 21.1		
	comp=Z,53nm,1.3s							
KURK	**Kurchatov**	**58.91**	**314**	IAMs_20	IAMs_20	04 11 51.6		
	comp=Z,2μm,19.0s							
D49A	**Beulah Townshi**	**58.95**	**52**	P	**P**	**03 45 13.6**	**0.0**	
	baz=314							
GLMI	**Grayling**	**58.99**	**56**	IAMs_20	IAMs_20	04 12 22.9		
	comp=Z,2μm,19.0s							
J45A	**Montague**	**59.01**	**58**	IAMs_20	IAMs_20	04 11 59.6		
	comp=Z,2μm,19.0s							
KURBB	**Kurchatov Arra**	**59.02**	**314**	P	**P**	**03 45 12.1**	**-1.9**	
	comp=Z,4.3nm,0.7s,baz=42,slow=6.7,SNR=18							
HPIG		**59.15**	**85**	P	**P**	**03 45 15.2**	**-0.3**	
HPIG				IAmb	IAmb	03 45 17.3		
	comp=Z,44nm,1.1s							
I46A	**Reed City**	**59.16**	**57**	P	**P**	**03 45 14.8**	**-0.3**	
	baz=314							
WMQ	**Urumqi**	**59.25**	**303**	*e*P	**pP**	**03 45 23.0**	**-1.9**	
WMQ				sP	sP	03 45 32.8	+4.4	
WMQ				pmax	pmax			
	comp=Z,22nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,190nm,7.9s							
WMQ				LR	LR			
	comp=N,1μm,18.3s							
WMQ				LR	LR			
	comp=E,910nm,18.3s							
WMQ				LR	LR			
	comp=Z,1μm,19.7s							
WMQ	**Urumqi**	**59.25**	**303**	*e*P	**P**	**03 45 18.6**	**+2.8**	
WMQ				pP	pP	03 45 23.0	-1.9	
WMQ				pmax	pmax			
	comp=Z,170nm,4.3s							
WMQ				LR	LR			
	comp=Z,1μm,17.9s							
WMQ				LR	LR			
	comp=Z,910nm,19.5s							
WMQ				LR	LR			
	comp=Z,1μm,22.7s							
WMQ	**Urumqi**	**59.25**	**303**	P	**P**	**03 45 15.3**	**-0.5**	
WMQ				pmax	pmax			
	comp=Z,43nm,1.2s							
WMQ				MLR	MLR			
	comp=Z,1μm,21.0s							
WMQ	**Urumqi**	**59.25**	**303**	P	**P**	**03 45 15.3**	**-0.5**	
WMQ				IAmb	IAmb	03 45 23.9		
	comp=Z,43nm,1.2s							
WMQ	**Urumqi**	**59.25**	**303**	IAMs_20	IAMs_20	04 10 30.4		
	comp=Z,1μm,21.0s							
F48A	**Evansville**	**59.32**	**54**	P	**P**	**03 45 15.9**	**-0.3**	
	baz=314							
H47A	**Mio**	**59.36**	**56**	P	**P**	**03 45 16.2**	**-0.2**	
	baz=314							
HDIL	**Hopedale**	**59.41**	**62**	P	**P**	**03 45 15.7**	**-1.2**	
	baz=314							
HDIL	**Hopedale**	**59.41**	**62**	IAMs_20	IAMs_20	04 09 38.8		
	comp=Z,1μm,20.0s							
J46A	**Howard City**	**59.47**	**58**	P	**P**	**03 45 16.5**	**-0.8**	
	baz=314							
I47A	**Gladwin**	**59.60**	**57**	P	**P**	**03 45 17.0**	**-1.1**	
	baz=314							
F49A	**Sandfield**	**59.66**	**54**	P	**P**	**03 45 18.0**	**-0.5**	
	baz=314							
HHAR	**Hobbs**	**59.71**	**69**	IAmb	IAmb	03 45 19.5		
	comp=Z,37nm,0.8s							
H48A	**Harrisville**	**59.74**	**55**	P	**P**	**03 45 18.8**	**-0.3**	
	baz=314							
D50A	**G1974 Best Tow**	**59.77**	**51**	P	**P**	**03 45 19.8**	**+0.6**	
	baz=314							
E50A	**Wahnapitae**	**59.85**	**52**	P	**P**	**03 45 20.3**	**+0.5**	
	baz=314							
K46A	**Dorr**	**59.85**	**58**	P	**P**	**03 45 20.1**	**+0.2**	
	baz=314							
MK31	**Makanchi Array**	**59.93**	**308**	P	**P**	**03 45 18.2**	**-2.2**	
MK31				pmax	pmax			
	comp=Z,11nm,0.8s							
MK31	**Makanchi Array**	**59.93**	**308**	P	**P**	**03 45 18.2**	**-2.2**	
MKAR	**Makanchi Array**	**59.93**	**308**	P	**P**	**03 45 18.4**	**-2.1**	
	comp=Z,4.2nm,0.8s,baz=57,slow=6.6,SNR=18							
MKAR				LR	LR	04 11 31.8		
	comp=Z,799nm,21.9s,baz=40,slow=36							
MKAR				PKPPKP		04 14 50.6		
	comp=Z,2.9nm,1.2s,baz=151,slow=2.8,SNR=5.7							
SCHQ	**Schefferville**	**59.95**	**38**	LR	LR	04 12 50.1		
	comp=Z,2μm,18.0s,baz=314,slow=38							
J47A	**Sunmer**	**59.98**	**57**	P	**P**	**03 45 21.1**	**+0.4**	
	baz=314							
J47A	**Sunmer**	**59.98**	**57**	IAMs_20	IAMs_20	04 12 55.1		
	comp=Z,2μm,18.0s							
CCM	**Cathedral Cave**	**60.04**	**66**	P	**P**	**03 45 21.0**	**-0.2**	
	baz=314							
CCM	**Cathedral Cave**	**60.04**	**66**	P	**P**	**03 45 20.1**	**-1.1**	
CCM				pmax	pmax			
	comp=Z,20nm,0.8s							
CCM	**Cathedral Cave**	**60.04**	**66**	P	**P**	**03 45 20.1**	**-1.1**	
CCM				IAmb	IAmb	03 46 07.8		
	comp=Z,20nm,0.8s							
L46A	**Eue Claire**	**60.04**	**59**	P	**P**	**03 45 21.1**	**-0.1**	
	baz=314							
D51A	**Lot 18 Range I**	**60.05**	**51**	P	**P**	**03 45 21.4**	**+0.2**	
	baz=315							
MGMO	**Mountain Grove**	**60.08**	**67**	IAmb	IAmb	03 45 22.0		
	comp=Z,46nm,0.8s							
MGMO				IAMs_20	IAMs_20	04 14 02.6		
	comp=Z,2μm,18.0s							
MAKZ	**Makanchi**	**60.08**	**309**	P	**P**	**03 45 19.5**	**-1.9**	
MAKZ				pmax	pmax			
	comp=Z,15nm,0.9s							
MAKZ				MLR	MLR			
	comp=Z,900nm,21.0s							
MAKZ	**Makanchi**	**60.08**	**309**	P	**P**	**03 45 19.5**	**-1.9**	
SLM	**Saint Louis**	**60.21**	**64**	IAmb	IAmb	03 45 44.7		
	comp=Z,29nm,0.7s							
SLM				IAMs_20	IAMs_20	04 13 52.0		
	comp=Z,2μm,20.0s							
JCT	**Junction City**	**60.25**	**78**	P	**P**	**03 45 22.0**	**-0.9**	
	baz=315,SNR=11							
JCT	**Junction City**	**60.25**	**78**	IAMs_20	IAMs_20	04 09 08.0		
	comp=Z,959nm,21.0s							
GYA	**Guiyang**	**60.27**	**276**	↓*i*P	P	03 45 28.1	+5.0	
GYA				PP	**PP**	**03 47 43.4**	**+7.5**	
GYA				S	S	03 53 48.9	+14	
GYA	**Guiyang**	**60.27**	**276**	SS	SS	03 57 49.0	+16	
GYA				pmax	pmax			
	comp=Z,30nm,0.9s							
GYA				pmax	pmax			
	comp=Z,170nm,5.3s							
GYA				LR	LR			
	comp=N,360nm,15.3s							
GYA				LR	LR			
	comp=E,580nm,17.1s							
GYA				LR	LR			
	comp=Z,720nm,15.6s							
K47A	**Vermontville**	**60.28**	**58**	P	**P**	**03 45 21.8**	**-1.0**	
	baz=314,SNR=5.3							
U40A	**Yellville**	**60.29**	**68**	P	**P**	**03 45 21.3**	**-1.7**	
	baz=314,SNR=38							
U40A	**Yellville**	**60.29**	**68**	IAMs_20	IAMs_20	04 14 16.4		
	comp=Z,1μm,18.0s							
E51A	**G1948 Merrick**	**60.38**	**52**	P	**P**	**03 45 22.3**	**-1.2**	
	baz=315							
CHGQ	**Chibougamau**	**60.39**	**46**	P	**P**	**03 45 22.7**	**-0.8**	
	baz=316							
J48A	**Bridge Port**	**60.48**	**57**	P	**P**	**03 45 23.8**	**-0.4**	
	baz=314							
J48A	**Bridge Port**	**60.48**	**57**	IAMs_20	IAMs_20	04 15 03.3		
	comp=Z,2μm,18.0s							
FVM	**French Village**	**60.55**	**65**	IAMs_20	IAMs_20	04 14 17.2		
	comp=Z,1μm,18.0s							
W39A	**Magazine**	**60.55**	**70**	P	**P**	**03 45 24.7**	**-0.1**	
	baz=314,SNR=24							
D52A	**ZEK Kipawa Sen**	**60.60**	**51**	P	**P**	**03 45 25.5**	**+0.6**	
	baz=315							
F51A	**Arnstein**	**60.60**	**52**	P	**P**	**03 45 25.5**	**+0.5**	
	baz=315							
WHTX	**Lake Whitney,**	**60.61**	**75**	P	**P**	**03 45 25.4**	**+0.2**	
	baz=315,SNR=25							
K48A	**Perry**	**60.65**	**57**	P	**P**	**03 45 25.3**	**-0.1**	
	baz=314							
SFIN	**Lafayette**	**60.74**	**61**	P	**P**	**03 45 25.7**	**-0.3**	
	baz=314,SNR=16							
SFIN	**Lafayette**	**60.74**	**61**	IAMs_20	IAMs_20	04 11 02.9		
	comp=Z,2μm,20.0s							
BVAR	**Borovoye Array**	**60.78**	**320**	P	**P**	**03 45 24.5**	**-1.6**	
	comp=Z,3.5nm,0.6s,baz=50,slow=7.9,SNR=18							
BRVK	**Borovoye**	**60.80**	**320**	P	**P**	**03 45 29.9**	**+3.7**	
	SNR=5.7							
BRVK	**Borovoye**	**60.80**	**320**	*ce*P	**P**	**03 45 25.4**	**-0.8**	
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BRVK	**Borovoye**	**60.80**	**320**	P	**P**	**03 45 24.8**	**-1.4**	
BRVK	**Borovoye**	**60.80**	**320**	IAMs_20	IAMs_20	04 12 37.4		
	comp=Z,1μm,22.0s							
M47A	**Cromwell**	**60.86**	**59**	P	**P**	**03 45 26.2**	**-0.6**	
	baz=314							
D53A	**Lac Vacive, Po**	**60.87**	**50**	P	**P**	**03 45 26.4**	**-0.3**	
	baz=316							
D53A	**Lac Vacive, Po**	**60.87**	**50**	IAMs_20	IAMs_20	04 12 22.3		
	comp=Z,1μm,19.0s							
F52A	**Sundridge**	**60.99**	**52**	P	**P**	**03 45 27.2**	**-0.4**	
	baz=315							
K49A	**Clarkson**	**61.01**	**57**	P	**P**	**03 45 28.3**	**+0.5**	
	baz=315							
L48A	**N Adams**	**61.08**	**58**	P	**P**	**03 45 27.7**	**-0.6**	
	baz=315							
MIAR	**Mount Ida**	**61.13**	**70**	P	**P**	**03 45 27.8**	**-1.0**	
	baz=315,SNR=50							
N47A	**Urbana**	**61.15**	**60**	P	**P**	**03 45 27.6**	**-1.2**	
	baz=315							
P46A	**Rosedale**	**61.21**	**62**	P	**P**	**03 45 28.5**	**-0.7**	
	baz=315,SNR=9.3							
AAM	**Ann Arbor**	**61.24**	**57**	P	**P**	**03 45 28.9**	**-0.5**	
	baz=315							
AAM	**Ann Arbor**	**61.24**	**57**	IAMs_20	IAMs_20	04 12 32.6		
	comp=Z,941nm,20.0s							
M48A	**Edgerton**	**61.26**	**59**	P	**P**	**03 45 28.9**	**-0.6**	
	baz=315,SNR=5.5							
M48A	**Edgerton**	**61.26**	**59**	IAmb	IAmb	03 45 52.0		
	comp=Z,48nm,0.8s							
L49A	**Milan**	**61.32**	**58**	P	**P**	**03 45 29.9**	**0.0**	
	baz=315							
OLIL	**Olney**	**61.34**	**63**	IAmb	IAmb	03 45 33.4		
	comp=Z,46nm,0.8s							
OLIL				IAMs_20	IAMs_20	04 13 16.8		
	comp=Z,2μm,18.0s							
435B	**Jarrell**	**61.39**	**76**	P	**P**	**03 45 30.3**	**-0.2**	
	baz=315,SNR=15							
PBMO	**Poplar Bluff**	**61.39**	**66**	P	**P**	**03 45 30.0**	**-0.4**	
S44A	**Carbondale**	**61.42**	**65**	P	**P**	**03 45 29.6**	**-1.0**	
	baz=315,SNR=15							
SIUC	**Southern Illin**	**61.42**	**65**	IAmb	IAmb	03 45 33.9		
	comp=Z,44nm,0.8s							
SIUC				IAMs_20	IAMs_20	04 12 43.0		
	comp=Z,2μm,20.0s							
K50A	**Casco**	**61.45**	**56**	IAMs_20	IAMs_20	04 14 01.1		
	comp=Z,1μm,18.0s							
W41B	**Gary Mavity, V**	**61.47**	**69**	P	**P**	**03 45 29.9**	**-1.1**	
	baz=315,SNR=48							
LCAR	**Lake Charles**	**61.47**	**67**	IAmb	IAmb	03 45 33.0		
	comp=Z,42nm,0.8s							
LCAR				IAMs_20	IAMs_20	04 14 55.6		
	comp=Z,2μm,19.0s							
SVE	**Sverdlovsk**	**61.48**	**327**	*e*P	P	03 45 36.4	+5.6	
SVE				pmax	pmax			
	comp=Z,21nm,1.1s							
SVE				MLR	MLR			
	comp=Z,1μm,15.0s							
N48A	**Decatur**	**61.53**	**59**	P	**P**	**03 45 30.5**	**-0.8**	
	baz=315							
E54A	**Lac Daplat, Po**	**61.58**	**50**	P	**P**	**03 45 31.4**	**-0.2**	
	baz=316							
X40A	**Basin Creek Fa**	**61.61**	**70**	P	**P**	**03 45 31.5**	**-0.5**	
	baz=315,SNR=21							
UALR	**University of**	**61.69**	**69**	IAmb	IAmb	03 45 33.8		
	comp=Z,62nm,1.1s							
H06N1	**SOCORRO T-PHAS**	**61.73**	**95**	T	T	04 52 49.2		
	SNR=41							
PRGR	**Permogore**	**61.79**	**338**	*e*P	**P**	**03 45 31.0**	**-1.8**	
PRGR				pmax	pmax			
	comp=Z,34nm,0.9s							
G53A	**Haliburton**	**61.81**	**52**	P	**P**	**03 45 32.4**	**-0.9**	
	baz=316							
H06E1	**SOCORRO T-PHAS**	**61.83**	**95**	T	T	04 52 55.1		
	SNR=47							
BLO	**Bloomington**	**61.90**	**62**	P	**P**	**03 45 34.1**	**+0.2**	
BLO				pmax	pmax			
	comp=Z,31nm,0.8s							
BLO	**Bloomington**	**61.90**	**62**	P	**P**	**03 45 34.1**	**+0.2**	
BLO				IAmb	IAmb	03 45 37.1		
	comp=Z,31nm,0.8s							
BLO				IAMs_20	IAMs_20	04 11 28.6		
	comp=Z,2μm,21.0s							
N49A	**Columbus Grove**	**61.94**	**59**	P	**P**	**03 45 33.9**	**-0.2**	
	baz=315							
D55A	**Sainte-Anne-du**	**61.97**	**49**	P	**P**	**03 45 33.6**	**-0.6**	
	baz=316							
833A	**Chaparral WMA,**	**62.03**	**79**	P	**P**	**03 45 34.7**	**-0.2**	
	baz=316,SNR=11							
833A	**Chaparral WMA,**	**62.03**	**79**	IAmb	IAmb	03 45 37.6		
	comp=Z,56nm,0.9s							
PENMO	**Penman**	**62.08**	**66**	IAMs_20	IAMs_20	04 16 02.6		
	comp=Z,1μm,18.0s							
HBAR	**Harrisburg**	**62.12**	**67**	IAMs_20	IAMs_20	04 15 05.8		
	comp=Z,2μm,19.0s							
M50A	**Fremont**	**62.20**	**58**	IAMs_20	IAMs_20	04 14 05.0		
	comp=Z,2μm,18.0s							
H53A	**Bobcaygeon**	**62.23**	**53**	P	**P**	**03 45 35.2**	**-0.8**	
	baz=316							
D56A	**ZEC Mazanza, M**	**62.28**	**49**	P	**P**	**03 45 35.8**	**-0.6**	
	baz=317							
P48A	**Milroy**	**62.30**	**61**	P	**P**	**03 45 35.2**	**-1.3**	
	baz=315,SNR=12							
P48A	**Milroy**	**62.30**	**61**	IAMs_20	IAMs_20	04 12 23.2		
	comp=Z,2μm,21.0s							
GLAT	**Glass**	**62.40**	**66**	IAMs_20	IAMs_20	04 16 43.1		
	comp=Z,1μm,20.0s							
K52A	**Tillsonburg**	**62.44**	**55**	P	**P**	**03 45 36.3**	**-1.1**	
	baz=316							
NATX	**Nacogdoches**	**62.45**	**73**	P	**P**	**03 45 37.9**	**+0.2**	
	baz=316,SNR=8.7							
ARU	**Arti**	**62.49**	**328**	*c i*P	**P**	**03 45 36.4**	**-1.1**	
ARU						03 46 12.2		
ARU						03 47 51.8		
ARU				S	**S**	**03 54 04.4**	**+1.9**	
ARU				SS	**SS**	**03 58 00.4**	**-5.3**	
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ARU				MLR	MLR			
	comp=Z,1μm,22.0s							
ARU	**Arti**	**62.49**	**328**	P	**P**	**03 45 36.4**	**-1.1**	
	comp=Z,2.4nm,0.2s,baz=18,slow=7.9,SNR=7.1							
ARU	**Arti**	**62.49**	**328**	P	**P**	**03 45 36.1**	**-1.4**	
Q48A	**North Vernon**	**62.51**	**61**	P	**P**	**03 45 37.5**	**-0.5**	
	baz=315							
E56A	**St. Veronique**	**62.52**	**49**	P	**P**	**03 45 37.5**	**-0.4**	
	baz=317							
N50A	**Nevada**	**62.60**	**58**	P	**P**	**03 45 37.7**	**-0.8**	
	baz=316							
P49A	**Miami Univ. Ec**	**62.63**	**60**	P	**P**	**03 45 37.8**	**-1.0**	
	baz=316,SNR=7.2							
G55A	**Calabogie**	**62.65**	**51**	P	**P**	**03 45 37.6**	**-1.2**	
	baz=317							
WCI	**Wyandotte Cave**	**62.70**	**62**	P	**P**	**03 45 38.3**	**-0.9**	
	baz=315							
WCI	**Wyandotte Cave**	**62.70**	**62**	P	**P**	**03 45 39.2**	**0.0**	
WCI				pmax	pmax			
	comp=Z,30nm,0.9s							
WCI				MLR	MLR			
	comp=Z,2μm,18.0s							
WCI	**Wyandotte Cave**	**62.70**	**62**	P	**P**	**03 45 39.2**	**0.0**	
WCI				IAmb	IAmb	03 46 02.5		
	comp=Z,30nm,0.9s							
WCI	**Wyandotte Cave**	**62.70**	**62**	IAMs_20	IAMs_20	04 15 30.7		
	comp=Z,1μm,18.0s							
X43A	**Marvell**	**62.73**	**68**	P	**P**	**03 45 38.4**	**-1.1**	
	baz=315,SNR=11							
O50A	**Cable**	**62.79**	**59**	P	**P**	**03 45 38.9**	**-0.9**	
	baz=316,SNR=7.8							
MET	**Memphis--Engin**	**62.84**	**67**	IAMs_20	IAMs_20	04 15 35.9		
	comp=Z,2μm,19.0s							
N51A	**Ashland**	**62.90**	**58**	P	**P**	**03 45 39.8**	**-0.7**	
	baz=316							
N51A	**Ashland**	**62.90**	**58**	IAMs_20	IAMs_20	04 14 27.5		
	comp=Z,2μm,19.0s							
Q49A	**Aurora**	**62.91**	**61**	P	**P**	**03 45 40.2**	**-0.4**	
	baz=316							
H55A	**Tweed**	**62.94**	**52**	P	**P**	**03 45 39.2**	**-1.5**	
	baz=317							
LATQ	**La Tuque**	**62.95**	**47**	P	**P**	**03 45 40.3**	**-0.4**	
	baz=318							
LATQ	**La Tuque**	**62.95**	**47**	IAMs_20	IAMs_20	04 14 09.7		
	comp=Z,1μm,18.0s							
M52A	**Chesterland**	**62.99**	**57**	IAMs_20	IAMs_20	04 14 49.9		
	comp=Z,2μm,18.0s							
E57A	**Chemin Saint G**	**63.04**	**49**	P	**P**	**03 45 40.3**	**-1.0**	
	baz=317							
HKT	**Hockley**	**63.04**	**75**	P	**P**	**03 45 42.1**	**+0.6**	
HKT				pmax	pmax			
	comp=Z,113nm,1.3s							
HKT				MLR	MLR			
	comp=Z,1μm,18.0s							
HKT	**Hockley**	**63.04**	**75**	P	**P**	**03 45 42.1**	**+0.6**	
HKT	**Hockley**	**63.04**	**75**	IAMs_20	IAMs_20	04 13 55.4		
	comp=Z,958nm,18.0s							
ACSO	**Alum Creek Sta**	**63.07**	**59**	P	**P**	**03 45 42.1**	**+0.4**	
	baz=316							
P50A	**Jamestown**	**63.08**	**60**	P	**P**	**03 45 41.1**	**-0.7**	
	baz=316,SNR=5.9							
ORIO	**Orleans, Innes**	**63.09**	**50**	P	**P**	**03 45 42.0**	**+0.3**	
	baz=317							
D58A	**Chemin du LacG**	**63.12**	**47**	P	**P**	**03 45 42.1**	**+0.2**	
	baz=318							
T47A	**Sharon Grove**	**63.13**	**64**	P	**P**	**03 45 41.5**	**-0.5**	
	baz=316,SNR=40							
T47A	**Sharon Grove**	**63.13**	**64**	IAMs_20	IAMs_20	04 14 06.2		
	comp=Z,2μm,18.0s							
J54A	**Appleton**	**63.14**	**54**	IAMs_20	IAMs_20	04 14 24.1		
	comp=Z,2μm,19.0s							
MEDO	**Medina**	**63.31**	**54**	IAMs_20	IAMs_20	04 14 38.6		
	comp=Z,2μm,19.0s							
WVT	**Waverly**	**63.33**	**65**	P	**P**	**03 45 43.7**	**+0.3**	
	baz=316							
WVT	**Waverly**	**63.33**	**65**	P	**P**	**03 45 43.4**	**0.0**	
WVT				pmax	pmax			
	comp=Z,43nm,0.8s							
WVT				MLR	MLR			
	comp=Z,1μm,18.0s							
WVT	**Waverly**	**63.33**	**65**	P	**P**	**03 45 43.4**	**0.0**	
WVT				IAmb	IAmb	03 45 47.4		
	comp=Z,43nm,0.8s							
WVT	**Waverly**	**63.33**	**65**	IAMs_20	IAMs_20	04 15 49.7		
	comp=Z,1μm,18.0s							
O51A	**Pataskala**	**63.33**	**58**	P	**P**	**03 45 43.6**	**+0.2**	
	baz=316							
N52A	**McGinn's Farm,**	**63.34**	**57**	P	**P**	**03 45 44.1**	**+0.7**	
	baz=316							
HNR	**Honiara**	**63.37**	**204**	P	**P**	**03 45 45.4**	**+1.7**	
	comp=Z,53nm,0.3s,baz=168,slow=11,SNR=4.5							
HNR	**Honiara**	**63.37**	**204**	P	**P**	**03 45 44.3**	**+0.5**	
M53A	**WI Miller and**	**63.42**	**56**	P	**P**	**03 45 44.8**	**+0.9**	
	baz=316							
KIRV	**Kirov**	**63.46**	**334**	P	**P**	**03 45 42.9**	**-1.0**	
	comp=Z,9.1nm,0.6s,baz=184,slow=3.2,SNR=3.9							
E58A	**La Victoria**	**63.47**	**48**	P	**P**	**03 45 43.6**	**-0.7**	
	baz=318							
Q50A	**Georgetown**	**63.53**	**60**	P	**P**	**03 45 44.2**	**-0.5**	
	baz=316,SNR=8.3							
ALLY	**Alegheny Colle**	**63.54**	**56**	IAmb	IAmb	03 45 51.5		
	comp=Z,52nm,0.9s							
J55A	**Hilton**	**63.56**	**53**	P	**P**	**03 45 44.7**	**-0.1**	
	baz=317				

O52A	Adamsville	63.76	58	P	P	03 45 45.2	-1.0	
	baz=316,SNR=5.8							
N53A	Lisbon	63.79	57	P	P	03 45 45.9	-0.5	
	baz=316							
PDGK	Podgornoye	63.80	307	P	P	03 45 44.3	-2.3	
PDGK				pmax	pmax			
	comp=Z,19nm,0.9s							
K55A	Perry	63.82	54	P	P	03 45 46.6	0.0	
	baz=317							
H57A	Richville	63.88	51	P	P	03 45 46.0	-0.9	
	baz=318							
M54A	Oil Creek Stat	63.89	56	P	P	03 45 46.3	-0.9	
	baz=317							
MMNY	Mt. Morris Dam	63.90	54	IAmb	IAmb	03 45 50.0		
	comp=Z,26nm,0.7s							
T49A	Edmonton	63.92	63	P	P	03 45 46.8	-0.6	
	baz=316,SNR=14							
T49A	Edmonton	63.92	63	IAms_20	IAms_20	04 12 19.2		
	comp=Z,1µm,20.0s							
O53A	New Philadelph	64.00	58	P	P	03 45 47.1	-0.7	
	baz=316							
PLAL	Pickwick Lake	64.01	66	IAms_20	IAms_20	04 12 56.7		
	comp=Z,903nm,21.0s							
G58A	Ormstown	64.01	50	P	P	03 45 47.4	-0.3	
	baz=318							
ZAIG	Zacatecas	64.09	86	P	P	03 45 48.6	-0.4	
N54A	Moraine State	64.12	56	P	P	03 45 48.1	-0.5	
	baz=317							
R51A	Hillsboro	64.13	61	P	P	03 45 48.6	-0.1	
	baz=316,SNR=25							
S50A	Richmond	64.13	62	P	P	03 45 48.6	-0.1	
	baz=316							
LONY	Lake Ozonia	64.15	50	IAms_20	IAms_20	04 12 24.7		
	comp=Z,1µm,20.0s							
V48A	Smith Brothers	64.18	65	P	P	03 45 48.2	-0.8	
	baz=316,SNR=20							
V48A	Smith Brothers	64.18	65	IAms_20	IAms_20	04 16 14.1		
	comp=Z,1µm,20.0s							
CLTN	Cedars of Leba	64.20	64	IAmb	IAmb	03 45 53.9		
	comp=Z,44nm,0.8s							
U49A	Red Boiling Sp	64.21	63	P	P	03 45 48.6	-0.6	
	baz=316,SNR=11							
K56A	Middlesex	64.22	53	P	P	03 45 48.5	-0.7	
	baz=317,SNR=6.9							
Q52A	Bidwell	64.37	59	P	P	03 45 49.8	-0.4	
	baz=317							
T50A	Nancy	64.37	62	P	P	03 45 50.0	-0.2	
	baz=316,SNR=17							
M55A	Ridgway	64.39	55	P	P	03 45 50.4	0.0	
	baz=317							
P53A	Whipple	64.46	58	P	P	03 45 50.1	-0.7	
	baz=317							
L56A	Greenwood	64.51	54	P	P	03 45 50.5	-0.7	
	baz=317,SNR=8.6							
L56A	Greenwood	64.51	54	P	P	03 45 50.8	-0.4	
H59A	Cadyville	64.56	50	P	P	03 45 50.9	-0.5	
	baz=318							
VBMS	Vicksburg	64.58	70	P	P	03 45 51.8	+0.2	
	baz=316,SNR=18							
K57A	Scipio Center	64.60	53	P	P	03 45 51.0	-0.7	
	baz=318							
S51A	Beattyville	64.61	61	P	P	03 45 52.0	+0.2	
	baz=316							
R52A	Catlettsburg	64.62	60	P	P	03 45 52.1	+0.2	
	baz=317							
I58A	Old Forge	64.65	51	P	P	03 45 52.6	+0.5	
	baz=318							
M56A	Emporium	64.67	55	P	P	03 45 52.5	+0.3	
	baz=317							
M56A	Emporium	64.67	55	IAms_20	IAms_20	04 14 50.2		
	comp=Z,2µm,18.0s							
V49A	McMinnville	64.68	64	P	P	03 45 51.8	-0.5	
	baz=316,SNR=20							
N55A	Marion Center	64.77	56	P	P	03 45 52.6	-0.3	
	baz=317							
U50A	Jamestown	64.80	63	P	P	03 45 52.2	-0.9	
	baz=316,SNR=9.3							
F61A	St Evariste	64.83	47	P	P	03 45 52.6	-0.6	
	baz=319							
Q53A	Leroy	64.84	59	P	P	03 45 52.8	-0.5	
	baz=317,SNR=8.8							
P54A	Burton	64.85	58	P	P	03 45 53.2	-0.2	
	baz=317							
D62A	Allapoint, All	64.86	45	P	P	03 45 52.6	-0.7	
	baz=320							
T51A	Gray	64.90	62	P	P	03 45 53.2	-0.6	
	baz=317,SNR=8.0							
W49A	Belvidere	64.94	65	P	P	03 45 53.3	-0.7	
	baz=316,SNR=26							
PRZ	Przheval'sk	64.96	307	IAms_20	IAms_20	04 14 28.6		
	comp=Z,898nm,20.0s							
L57A	Andrews Acres	64.97	54	P	P	03 45 53.8	-0.4	
	baz=318,SNR=6.2							
X48A	Hartselle	64.98	66	P	P	03 45 53.4	-0.9	
	baz=316,SNR=20							
X48A	Hartselle	64.98	66	IAms_20	IAms_20	04 16 53.4		
	comp=Z,967nm,18.0s							
R53A	Hurricane	65.00	59	P	P	03 45 55.1	+0.8	
	baz=317							
O55A	Ligonier	65.03	56	P	P	03 45 54.3	-0.2	
	baz=317							
J59A	Piesco	65.05	51	P	P	03 45 54.0	-0.7	
	baz=318							
J59A	Piesco	65.05	51	IAms_20	IAms_20	04 17 19.4		
	comp=Z,2µm,19.0s							
SWET	Sewanee	65.06	64	IAmb	IAmb	03 45 58.2		
	comp=Z,44nm,0.8s							
SWET				IAms_20	IAms_20	04 14 45.4		
	comp=Z,1µm,19.0s							
Q54A	Coxs Mills	65.12	58	P	P	03 45 56.2	+1.0	
	baz=317							
V50A	Pikevile	65.20	64	P	P	03 45 55.2	-0.5	
	baz=317,SNR=12							
BINY	Binghamton	65.25	53	P	P	03 45 55.7	-0.3	
	baz=318							
BINY	Binghamton	65.25	53	IAmb	IAmb	03 46 13.9		
	comp=Z,93nm,1.6s							
P55A	Reedsville	65.27	57	P	P	03 45 56.5	+0.4	
	baz=317							
U51A	La Follette	65.29	62	P	P	03 45 56.8	+0.5	
	baz=317							
D63A	Stockholm	65.32	45	P	P	03 45 55.2	-1.0	
	baz=320							
M57A	Sunshine Farm,	65.32	54	P	P	03 45 56.7	+0.3	
	baz=318							
T52A	Hallie	65.32	61	P	P	03 45 56.8	+0.3	
	baz=317							
I60A	Shoreham	65.35	50	P	P	03 45 56.8	+0.3	
	baz=319							
F62A	Pittston Farm,	65.35	47	P	P	03 45 56.7	+0.2	
	baz=320							
O56A	Blue Knob Stat	65.37	56	P	P	03 45 56.8	0.0	
	baz=318							
S53A	Williamson	65.37	60	P	P	03 45 56.7	-0.2	
	baz=317							
K59A	Cooperstown	65.39	52	P	P	03 45 56.6	-0.3	
	baz=318							
AFI	Afiamalu	65.41	172	P	P	03 45 58.3	+1.1	
AFI				pmax	pmax			
	comp=Z,27nm,0.9s							
AFI	Afiamalu	65.41	172	P	P	03 45 58.0	+0.8	
	comp=Z,15nm,0.5s,baz=257,slow=7.4,SNR=5.1							
AFI	Afiamalu	65.41	172	P	P	03 45 58.3	+1.1	
AFI				IAmb	IAmb	03 45 59.5		
	comp=Z,26nm,0.9s							
W50A	Signal Mountai	65.42	64	P	P	03 45 56.8	-0.4	
	baz=317,SNR=15							
W50A	Signal Mountai	65.42	64	IAms_20	IAms_20	04 15 34.9		
	comp=Z,2µm,19.0s							
TZTN	Tazewell	65.42	62	P	P	03 45 57.4	+0.2	
	baz=317							
TZTN	Tazewell	65.42	62	IAmb	IAmb	03 46 20.4		
	comp=Z,93nm,1.4s							
TZTN				IAms_20	IAms_20	04 13 17.9		
	comp=Z,2µm,20.0s							
L58A	Harry Jones Me	65.44	53	P	P	03 45 56.3	-0.9	
	baz=318,SNR=6.8							
SSPA	Standing Stone	65.45	55	P	P	03 45 56.7	-0.5	
	baz=318							
SSPA	Standing Stone	65.45	55	P	P	03 45 57.5	+0.2	
Q55A	Buckhannon	65.51	58	P	P	03 45 57.5	-0.3	
	baz=317,SNR=6.0							
V51A	Loudon	65.52	63	P	P	03 45 57.2	-0.5	
	baz=317,SNR=12							
V51A	Loudon	65.52	63	IAms_20	IAms_20	04 15 05.5		
	comp=Z,1µm,20.0s							
N57A	Milroy	65.53	55	P	P	03 45 57.5	-0.2	
	baz=318							
147A	Livingston	65.56	68	P	P	03 45 57.6	-0.5	
	baz=317,SNR=6.7							
G62A	West of Eustis	65.61	47	P	P	03 45 57.5	-0.7	
	baz=319							
R54A	Victor	65.62	59	P	P	03 45 57.8	-0.6	
	baz=317,SNR=6.6							
M58A	Price's Panora	65.63	54	P	P	03 45 58.7	+0.3	
	baz=318							
U52A	Thorn Hill	65.63	62	P	P	03 45 58.8	+0.2	
	baz=317							
E63A	Oxbow	65.65	45	P	P	03 45 57.7	-0.7	
	baz=320							
T53A	Wise	65.66	61	P	P	03 45 58.4	-0.3	
	baz=317,SNR=6.6							
FIA1	FINESS Array S	65.67	347	P	P	03 45 58.8	+0.5	
FIA1				IAmb	IAmb	03 46 03.3		
	comp=Z,94nm,2.0s							
FINES	FINESS Array B	65.67	347	*ce*P	P	03 45 56.5	-1.8	
FINES				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FINES	FINESS Array B	65.67	347	P	P	03 45 56.6	-1.7	
	comp=Z,6.1nm,0.8s,baz=26,slow=4.9,SNR=14							
FINES				PKPPKP		04 14 36.2		
	comp=Z,3.6nm,0.9s,baz=72,slow=6.2,SNR=6.2							
FINES				LR	LR	04 18 14.0		
	comp=Z,490nm,18.7s,baz=22,slow=39							
FINES	FINESS Array B	65.67	347	P	P	03 45 57.1	-1.2	
CPCT	Cooper Cave	65.68	63	IAmb	IAmb	03 46 08.7		
	comp=Z,21nm,0.6s							
CPCT				IAms_20	IAms_20	04 15 51.8		
	comp=Z,2µm,18.0s							
SLVN	Son La	65.72	274	P	P	03 45 60.0	+0.7	
SLVN				IAmb	IAmb	03 46 07.3		
	comp=Z,51nm,1.2s							
S54A	Dingess, Beckl	65.73	59	P	P	03 45 59.6	+0.4	
	baz=317							
FPAL	Fort Paine	65.73	65	IAmb	IAmb	03 46 02.1		
	comp=Z,46nm,0.7s							
L59A	Walton	65.73	52	P	P	03 45 59.3	+0.2	
	baz=318							
J60A	Lant Hill Farm	65.73	51	P	P	03 45 58.7	-0.3	
	baz=319							
W51A	Cleveland	65.76	64	P	P	03 45 58.9	-0.4	
	baz=317,SNR=10							
Y49A	Blount Mountai	65.77	66	P	P	03 45 58.5	-0.9	
	baz=317,SNR=23							
P56A	Dayton Farm, R	65.79	57	P	P	03 45 59.6	+0.1	
	baz=318							
H62A	Milan	65.81	48	P	P	03 45 58.2	-1.3	
	baz=319							
TARG	Taragay, Kyrgy	65.82	307	IAms_20	IAms_20	04 18 18.3		
	comp=Z,910nm,18.0s							
KDJ	Kajisay	65.83	308	P	P	03 46 01.6	+1.7	
KDJ				pmax	pmax			
	comp=Z,24nm,1.0s							
KDJ	Kajisay	65.83	308	P	P	03 46 01.6	+1.7	
KDJ				IAmb	IAmb	03 46 35.9		
	comp=Z,24nm,0.9s							
O57A	Amberson	65.89	55	P	P	03 46 00.2	+0.1	
	baz=318							
F63A	Nahmakanta, Br	65.89	46	P	P	03 45 59.9	-0.1	
	baz=320							
N58A	Sunbury	65.89	54	P	P	03 45 59.9	-0.2	
	baz=318							
N58A	Sunbury	65.89	54	IAms_20	IAms_20	04 15 47.6		
	comp=Z,2µm,18.0s							
V52A	Sevierville	65.91	62	P	P	03 46 00.3	0.0	
	baz=317							
E64A	Bridgewater	65.91	45	P	P	03 45 59.7	-0.4	
	baz=320							
TKL	Tuckaleechee C	65.94	63	LR	LR	04 15 49.0		
	comp=Z,1µm,18.6s,baz=336,slow=37							
Q56A	Snyder Ridge,	65.95	57	IAms_20	IAms_20	04 17 08.1		
	comp=Z,2µm,18.0s							
TKM2	Tokmak 2	66.01	309	*i*P	P	03 45 59.7	-1.4	
TKM2				pmax	pmax			
	comp=Z,24nm,0.9s							
TKM2	Tokmak 2	66.01	309	P	P	03 46 06.9	+5.8	
	SNR=7.1							
M59A	Waymart	66.02	53	P	P	03 45 59.9	-1.0	
	baz=318,SNR=7.0							
LRAL	Lakeview Retre	66.03	67	P	P	03 46 00.3	-0.8	
	baz=317,SNR=31							
U53A	Fall Branch	66.09	61	P	P	03 46 01.3	-0.1	
	baz=317							
F64A	Sherman	66.11	46	P	P	03 46 00.4	-1.0	
	baz=320							
T54A	Tazewell	66.13	60	P	P	03 46 01.2	-0.6	
	baz=317,SNR=11							
X51A	Calhoun	66.14	64	P	P	03 46 01.6	-0.1	
	baz=317,SNR=9.8							
X51A	Calhoun	66.14	64	IAms_20	IAms_20	04 15 56.9		
	comp=Z,2µm,19.0s							
BOOM	Boomskoye usch	66.17	309	P	P	03 46 02.3	+0.2	
BOOM				pmax	pmax			
	comp=Z,26nm,1.0s							
BOOM	Boomskoye usch	66.17	309	P	P	03 46 02.3	+0.2	
BOOM				IAmb	IAmb	03 46 10.0		
	comp=Z,26nm,0.9s							
S55A	Lewisburg	66.18	59	P	P	03 46 00.7	-1.4	
	baz=318							
W52A	Murphy	66.27	63	P	P	03 46 02.5	-0.2	
	baz=317							
W52A	Murphy	66.27	63	IAms_20	IAms_20	04 15 27.5		
	comp=Z,1µm,20.0s							
USP	Ospenovka	66.28	310	P	P	03 46 01.7	-0.9	
	SNR=9.3							
L60A	Shokan	66.28	52	P	P	03 46 01.7	-0.9	
	baz=319							
R56A	Bull Pasture M	66.30	58	P	P	03 46 02.9	0.0	
	baz=318							
N59A	State Game Lan	66.32	54	P	P	03 46 01.6	-1.2	
	baz=318,SNR=6.1							
O58A	Lewisberry	66.32	55	P	P	03 46 02.9	+0.1	
	baz=318							
PAGS	Pennsylvania G	66.35	55	IAms_20	IAms_20	04 15 33.7		
	comp=Z,1µm,19.0s							
Q57A	Strasburg	66.36	57	P	P	03 46 02.9	-0.2	
	baz=318							
U54A	Nelsons Funny	66.39	61	P	P	03 46 03.0	-0.5	
	baz=318							
U54A	Nelsons Funny	66.39	61	IAms_20	IAms_20	04 14 49.4		
	comp=Z,2µm,20.0s							
V53A	Saluda	66.47	62	P	P	03 46 03.7	-0.3	
	baz=317							
V53A	Saluda	66.47	62	IAms_20	IAms_20	04 15 52.6		
	comp=Z,2µm,18.0s							
Z50A	Ashland	66.49	66	P	P	03 46 03.1	-1.0	
	baz=317,SNR=57							
Z50A	Ashland	66.49	66	IAms_20	IAms_20	04 17 41.4		
	comp=Z,937nm,18.0s							
Y51A	Rockmart	66.51	65	P	P	03 46 02.8	-1.4	
	baz=317,SNR=23							
T55A	Pulaski	66.51	60	P	P	03 46 04.3	+0.1	
	baz=318,SNR=6.3							
KBK	Karagaybulak	66.53	309	P	P	03 46 11.3	+6.9	
	SNR=6.2							
O59A	Robesonia	66.56	54	P	P	03 46 03.2	-1.1	
	baz=318							
FRU1	Bishkek	66.56	310	P	P	03 46 04.1	-0.4	
FRU1				pmax	pmax			
	comp=Z,46nm,0.9s							
FRU1				MLR	MLR			
	comp=Z,1µm,21.0s							
FRU1	Bishkek	66.56	310	P	P	03 46 04.1	-0.4	
FRU1				IAmb	IAmb	03 46 13.0		
	comp=Z,46nm,0.8s							
FRU1				IAms_20	IAms_20	04 15 58.0		
	comp=Z,978nm,21.0s							
M60A	Port Jervis	66.58	53	P	P	03 46 03.6	-0.9	
	baz=319,SNR=5.9							
BLA	Blacksburg	66.64	59	P	P	03 46 04.1	-0.9	
	baz=318							
BLA	Blacksburg	66.64	59	IAmb	IAmb	03 46 18.5		
	comp=Z,34nm,1.1s							
W53A	Cullowhee	66.64	63	P	P	03 46 05.1	-0.1	
	baz=317,SNR=6.5							
X52A	Dahlonega	66.65	64	P	P	03 46 04.8	-0.3	
	baz=317,SNR=13							
N60A	Cedar Hill Far	66.69	53	P	P	03 46 04.3	-0.8	
	baz=319,SNR=7.1							
K62A	Royalston	66.74	50	IAms_20	IAms_20	04 15 22.3		
	comp=Z,1µm,21.0s							
S56A	Natural Bridge	66.75	58	P	P	03 46 05.7	0.0	
	baz=318							
AAK	Ala-Archa	66.76	310	P	P	03 46 09.7	+3.8	
	SNR=9.2							
AAK	Ala-Archa	66.76	310	*ce*P	P	03 46 05.5	-0.3	
AAK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
AAK	Ala-Archa	66.76	310	P	P	03 46 04.6	-1.3	
	comp=Z,7.9nm,0.8s,baz=91,slow=1.9,SNR=10							
AAK	Ala-Archa	66.76	310	P	P	03 46 09.5	+3.6	
	SNR=7.8							
AAK	Ala-Archa	66.76	310	P	P	03 46 05.0	-0.8	
AAK	Ala-Archa	66.76	310	IAms_20	IAms_20	04 17 16.1		
	comp=Z,973nm,20.0s							
Q58A	Fox Den Farm,	66.81	56	P	P	03 46 06.1	+0.1	
	baz=318							
U55A	TA2, Sparta	66.82	60	P	P	03 46 05.7	-0.6	
	baz=318,SNR=13							
R57A	Stanardsville	66.85	57	P	P	03 46 05.7	-0.5	
	baz=318							
V54A	Nebo	66.87	61	P	P	03 46 05.8	-0.7	
	baz=318,SNR=7.8							
Z51A	Franklin	66.87	65	P	P	03 46 05.7	-0.8	
	baz=317,SNR=10.0							
BG3	Lake Jocassee	66.90	63	IAmb	IAmb	03 46 14.9		
	comp=Z,28nm,1.1s							
BG3				IAms_20	IAms_20	04 16 09.0		
	comp=Z,1µm,18.0s							
NRN	Naryn	66.94	308	P	P	03 46 07.0	-0.2	
NRN				pmax	pmax			
	comp=Z,15nm,0.9s							
NRN				MLR	MLR			
	comp=Z,900nm,18.0s							
NRN	Naryn	66.94	308	P	P	03 46 07.0	-0.2	
NRN				IAms_20	IAms_20	04 18 53.4		
	comp=Z,864nm,18.0s							
O60A	Telford	66.95	54	P	P	03 46 06.3	-0.5	
	baz=319							
P59A	Jarrettsville	66.95	55	P	P	03 46 05.8	-1.1	
	baz=318							
S57A	Dark Hollow, R	67.02	58	P	P	03 46 07.2	-0.1	
	baz=318							
X53A	Estanollee	67.05	63	P	P	03 46 07.3	-0.4	
	baz=318							
UCH	Uchtor	67.06	309	P	P	03 46 14.1	+6.0	
	SNR=6.6							
EKS2	Erkin-Say	67.08	310	P	P	03 46 11.6	+3.7	
	SNR=9.6							
Y52A	Lilburn	67.10	64	P	P	03 46 07.3	-0.6	
	baz=318,SNR=14							
Y52A	Lilburn	67.10	64	IAms_20	IAms_20	04 16 18.4		
	comp=Z,2µm,18.0s							
R58A	Rapidan	67.12	57	P	P	03 46 07.4	-0.5	
	baz=318							
N61A	South Mountain	67.18	53	P	P	03 46 08.1	-0.2	
	baz=319							
PAL	Palisades	67.18	52	P	P	03 46 08.7	+0.4	
	baz=319							
HRV	Adam Dziewonsk	67.19	50	IAms_20	IAms_20	04 16 15.1		
	comp=Z,1µm,20.0s							
P60A	Greenville	67.21	54	IAms_20	IAms_20	04 16 12.4		
	comp=Z,1µm,19.0s							
V55A	Taylorsville	67.21	61	P	P	03 46 08.0	-0.7	
	baz=318,SNR=7.2							
250A	Grady	67.23	67	P	P	03 46 08.5	-0.2	
	baz=318,SNR=29							
W54A	Cherokee Point	67.25	62	P	P	03 46 09.1	+0.3	
	baz=318							
U56A	King	67.30	60	P	P	03 46 08.6	-0.6	
	baz=318,SNR=6.3							
PMG	Port Moresby	67.35	217	P	P	03 46 09.9	+0.3	
	comp=Z,11nm,0.7s,baz=27,slow=4.5,SNR=2.7							
PMG	Port Moresby	67.35	217	P	P	03 46 09.8	+0.2	
LSA	Lhasa	67.36	289	P	P	03 46 10.8	+0.6	
LSA				pmax	pmax			
	comp=Z,117nm,0.9s							
LSA				MLR	MLR			
	comp=Z,600nm,19.0s							
LSA	Lhasa	67.36	289	P	P	03 46 10.8	+0.6	
BRAL	Brewton	67.37	68	P	P	03 46 09.6	-0.1	
	baz=318,SNR=13							
Y53A	Monroe	67.37	64	P	P	03 46 09.3	-0.3	
	baz=318,SNR=15							
Z52A	Williamson	67.39	65	P	P	03 46 09.4	-0.4	
	baz=318,SNR=11							
T57A	Hurt	67.42	59	P	P	03 46 09.6	-0.4	
	baz=318,SNR=6.5							
R58B	Mineral	67.43	57	P	P	03 46 09.8	-0.1	
	baz=318							
R58B	Mineral	67.43	57	IAms_20	IAms_20	04 17 18.4		
	comp=Z,1µm,19.0s							
BCX	Boston College	67.50	50	IAms_20	IAms_20	04 18 44.4		
	comp=Z,988nm,21.0s							
NB201	NORSAR Array S	67.52	355	P	P	03 46 10.5	+0.3	
AML	Almayashu	67.53	310	P	P	03 46 14.7	+3.7	
	SNR=6.5							
X54A	Belton	67.54	63	P	P	03 46 10.2	-0.5	
	baz=318,SNR=7.7							
NB2	NORSAR Subarra	67.54	355	P	P	03 46 08.8	-1.5	
	comp=Z,1.9nm,0.8s,baz=5.4,slow=6.5							
NOA	NORSAR Array B	67.54	355	P	P	03 46 09.1	-1.2	
	comp=Z,3.6nm,0.8s,baz=6.2,slow=6.3,SNR=10							
NOA				LR	LR	04 16 52.7		
	comp=Z,329nm,19.6s,baz=5.0,slow=37							
O61A	Allentown	67.55	54	P	P	03 46 10.7	+0.1	
	baz=319							
NBO00	NORSAR Array S	67.57	355	P	P	03 46 11.4	+0.9	
AKTO	Aktyubinsk	67.57	325	P	P	03 46 09.2	-1.4	
	comp=Z,5.0nm,0.8s,baz=71,slow=5.5,SNR=9.0							
S58A	Poland Farm, P	67.60	58	P	P	03 46 10.3	-0.7	
	baz=318							
S58A	Poland Farm, P	67.60	58	IAms_20	IAms_20	04 17 45.2		
	comp=Z,2µm,18.0s							
152A	Waverly Hall	67.61	65	P	P	03 46 10.4	-0.7	
	baz=318,SNR=12							
152A	Waverly Hall	67.61	65	IAms_20	IAms_20	04 18 14.9		
	comp=Z,1µm,18.0s							
V56A	Mocksville	67.64	60	P	P	03 46 11.2	-0.1	
	baz=318,SNR=5.5							
BRYW	Bryant College	67.65	50	IAms_20	IAms_20	04 18 40.2		
	comp=Z,2µm,18.0s							
R59A	King George, V	67.66	57	P	P	03 46 11.6	+0.3	
	baz=319							
TNTI	Ternate	67.66	241	P	P	03 46 11.9	+0.3	
TNTI				IAmb	IAmb	03 46 28.1		
	comp=Z,51nm,1.2s							
KMSC	Kings Mountain	67.67	61	P	P	03 46 11.3	-0.2	
	baz=318,SNR=11							
KMSC	Kings Mountain	67.67	61	IAmb	IAmb	03 46 15.3		
	comp=Z,28nm,0.7s							
KMSC				IAms_20	IAms_20	04 15 40.4		
	comp=Z,2µm,20.0s							
GOGA	Godfrey	67.77	64	P	P	03 46 11.1	-1.0	
	baz=318,SNR=8.7							
GOGA	Godfrey	67.77	64	IAmb	IAmb	03 46 25.5		
	comp=Z,37nm,1.1s							
GOGA	Godfrey	67.77	64	IAms_20	IAms_20	04 16 48.1		
	comp=Z,1µm,18.0s							
U57A	Blanch	67.80	59	P	P	03 46 11.5	-0.8	
	baz=318,SNR=5.7							
Z53A	Monticello	67.80	64	P	P	03 46 12.1	-0.3	
	baz=318,SNR=25							
AB31	Akbulak array	67.83	323	*e*P	P	03 46 10.5	-1.8	
AB31				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ABKAR	Akbulak array	67.83	323	P	P	03 46 10.7	-1.6	
HODGE	Hodges	67.83	63	IAmb	IAmb	03 46 24.0		
	comp=Z,23nm,0.7s							
T58A	Grand View Acr	67.85	58	P	P	03 46 12.0	-0.6	
	baz=318							
Y54A	Tignall	67.87	63	P	P	03 46 12.3	-0.5	
	baz=318,SNR=17							

T59A	**Double "B" Far**	68.35	58	P	P	03 46 15.2	-0.5
	baz=319						
T59A	**Double "B" Far**	68.35	58	IAMs_20	IAMs_20	04 15 57.6	
	comp=Z,1μm,18.0s						
M65A	**Busby, Falmout**	68.35	50	IAMs_20	IAMs_20	04 16 50.7	
	comp=Z,1μm,21.0s						
JSC	**Jenkinsville**	68.35	62	IAMs_20	IAMs_20	04 15 08.4	
	comp=Z,864nm,21.0s						
352A	**Blakely**	68.36	66	P	P	03 46 15.0	-0.9
	baz=318,SNR=6.6						
253A	**Americus**	68.39	66	P	P	03 46 15.7	-0.4
	baz=318,SNR=7.7						
253A	**Americus**	68.39	66	IAMs_20	IAMs_20	04 18 39.6	
	comp=Z,1μm,19.0s						
V58A	**Windy Hill, Pi**	68.39	60	P	P	03 46 15.3	-0.8
	baz=319						
W57A	**Gilead**	68.40	61	P	P	03 46 15.7	-0.4
	baz=318						
KSH	**Kashi**	68.40	307	P	P	03 46 18.5	+2.3
KSH				sP	pP	03 46 25.4	0.0
KSH				PcP	PcP	03 46 43.4	+1.9
KSH				S	S	03 55 19.3	+3.7
KSH				sS	pS	03 55 27.8	+1.0
KSH				SS	SS	03 59 45.4	+6.9
KSH				pmax	pmax		
	comp=Z,25nm,0.9s						
KSH				pmax	pmax		
	comp=Z,820nm,8.6s						
KSH				LR	LR		
	comp=Z,1μm,13.3s						
KSH				LR	LR		
	comp=Z,1μm,14.6s						
KSH				LR	LR		
	comp=Z,800nm,15.2s						
ARSB	**Arslanbob**	68.49	310	IAmb	IAmb	03 46 24.7	
	comp=Z,33nm,1.1s						
ARSB				IAMs_20	IAMs_20	04 21 31.0	
	comp=Z,1μm,20.0s						
BIRD	**Birdtown, Kers**	68.52	61	P	P	03 46 17.4	+0.5
154A	**Montrose**	68.56	64	P	P	03 46 16.3	-0.9
	baz=318,SNR=8.3						
154A	**Montrose**	68.56	64	IAMs_20	IAMs_20	04 17 14.1	
	comp=Z,1μm,20.0s						
NONG	**Nongkai**	68.63	272	P	P	03 46 20.1	+2.4
T60A	**Surry**	68.65	57	P	P	03 46 17.6	0.0
	baz=319						
Z55A	**Blythe**	68.65	63	P	P	03 46 17.6	-0.1
	baz=318						
U59A	**Littleton**	68.68	58	P	P	03 46 17.8	-0.1
	baz=319						
TAOE	**Nuku Hiva Isla**	68.73	138	eT	T	05 00 57.8	
	comp=Z,284nm,0.3s						
X57A	**Johnson Farm,**	68.86	61	P	P	03 46 18.4	-0.5
	baz=319						
353A	**Camilla**	68.87	66	P	P	03 46 18.3	-0.7
	baz=318						
V59A	**Middlesex**	68.89	59	P	P	03 46 18.7	-0.4
	baz=319,SNR=10						
W58A	**Raeford**	68.91	60	P	P	03 46 18.6	-0.6
	baz=319						
155A	**Kite**	68.91	64	P	P	03 46 18.7	-0.6
	baz=318						
U60A	**Pendleton**	68.93	58	P	P	03 46 18.6	-0.8
	baz=319						
MOS	**Moscow**	68.94	339	eP	P	03 46 22.4	+3.3
MOS				e		03 46 32.5	
MOS				e		03 48 53.8	
MOS				pmax	pmax		
	comp=Z,38nm,0.8s						
MOS				MLR	MLR		
	comp=Z,1μm,17.0s						
254A	**Abbeville**	68.95	65	P	P	03 46 19.1	-0.5
	baz=318						
Z56A	**Williston**	69.00	63	P	P	03 46 19.2	-0.7
	baz=318						
Y57A	**Sumter**	69.03	62	P	P	03 46 19.1	-0.9
	baz=319						
Y57A	**Sumter**	69.03	62	IAMs_20	IAMs_20	04 16 01.3	
	comp=Z,2μm,21.0s						
TIGA	**Tifton**	69.16	66	P	P	03 46 20.5	-0.4
	baz=318						
453A	**Whigham**	69.17	67	P	P	03 46 21.1	+0.2
	baz=318						
X58A	**Rowland**	69.20	61	P	P	03 46 20.9	-0.1
	baz=319						
Z57A	**Bowman**	69.39	62	P	P	03 46 22.2	-0.1
	baz=319						
U61A	**Possum Corner**	69.41	57	IAMs_20	IAMs_20	04 18 37.9	
	comp=Z,1μm,20.0s						
255A	**Hazlehurst**	69.43	64	P	P	03 46 22.2	-0.3
	baz=318						
255A	**Hazlehurst**	69.43	64	IAMs_20	IAMs_20	04 17 59.1	
	comp=Z,1μm,20.0s						
Y58A	**Scranton**	69.51	61	P	P	03 46 22.5	-0.5
	baz=319,SNR=6.1						
X59A	**McDuffie Farm,**	69.59	60	P	P	03 46 22.4	-1.1
	baz=319						
553A	**Crawfordville**	69.61	67	P	P	03 46 22.4	-1.2
	baz=318						
355A	**Pearson**	69.65	65	P	P	03 46 23.0	-0.9
	baz=319						
454A	**Quitman**	69.67	66	P	P	03 46 23.9	-0.1
	baz=318						
PAYA	**Payao**	69.70	276	P	P	03 46 25.3	+0.9
W60A	**Pink Hill**	69.70	59	P	P	03 46 24.4	+0.3
	baz=319						
V61A	**Roper**	69.75	58	IAMs_20	IAMs_20	04 16 40.9	
	comp=Z,1μm,20.0s						
OBN	**Obninsk**	69.76	339	ceP	P	03 46 23.8	-0.3
OBN				i		03 46 47.7	
OBN				e		03 49 00.1	
OBN				pmax	pmax		
	comp=Z,87nm,2.5s						
OBN	**Obninsk**	69.76	339	P	P	03 46 22.9	-1.2
	comp=Z,6.3nm,0.4s,baz=322,slow=7.0,SNR=4.7						
OBN	**Obninsk**	69.76	339	P	P	03 46 25.1	+1.0
KKM	**Kota Kinabalu**	69.80	254	P	P	03 46 24.7	-0.4
KKM				IAmb	IAmb	03 46 32.5	
	comp=Z,88nm,1.4s						
NHSC	**New Hope**	69.83	62	P	P	03 46 25.6	+0.7
	baz=319						
Z58A	**St. Stephen**	69.86	62	P	P	03 46 24.5	-0.7
	baz=319						
Y59A	**Loris**	69.88	61	P	P	03 46 24.0	-1.3
	baz=319						
Y59A	**Loris**	69.88	61	IAMs_20	IAMs_20	04 16 15.8	
	comp=Z,2μm,20.0s						
X60A	**Albert Glenn T**	69.92	60	P	P	03 46 25.5	0.0
	baz=319						
SHL	**Shillong**	69.98	286	P	P	03 46 25.7	-0.5
SHL	**Shillong**	69.98	286	P	P	03 46 25.7	-0.5
W61A	**Ground Anchor**	70.00	59	P	P	03 46 25.6	-0.3
	baz=320						
455A	**Stateville**	70.00	66	P	P	03 46 25.5	-0.6
	baz=319,SNR=6.0						
356A	**Blackshear**	70.07	65	P	P	03 46 26.4	-0.1
	baz=319						
257A	**Skidaway Islan**	70.20	63	IAMs_20	IAMs_20	04 18 48.6	
	comp=Z,1μm,19.0s						
Z59A	**Georgetown, SC**	70.22	61	P	P	03 46 27.4	+0.1
	baz=319						
Y60A	**Bolivia**	70.22	60	P	P	03 46 26.9	-0.5
	baz=319						
357A	**Townsend**	70.36	64	P	P	03 46 27.9	-0.4
	baz=319						
TLIG	**Tlapa**	70.46	86	P	P	03 46 29.7	+0.5
BTK	**Batken**	70.51	310	P	P	03 46 28.5	-0.7
BTK				pmax	pmax		
	comp=Z,33nm,1.0s						
BTK				MLR	MLR		
	comp=Z,800nm,18.0s						
BTK	**Batken**	70.51	310	P	P	03 46 28.5	-0.7
BTK				IAmb	IAmb	03 46 38.1	
	comp=Z,33nm,1.0s						
BTK				IAMs_20	IAMs_20	04 19 33.3	
	comp=Z,844nm,18.0s						
456A	**Hilliard**	70.58	65	P	P	03 46 29.5	-0.1
	baz=319						
CMMT	**Chiang Mai**	70.69	276	P	P	03 46 34.7	+4.3
CHTO	**Chiang Mai**	70.69	276	P	P	03 46 36.6	+6.2
	SNR=8.8						
CHTO	**Chiang Mai**	70.69	276	P	P	03 46 30.5	+0.1
CHTO				pmax	pmax		
	comp=Z,41nm,1.2s						
CHTO				MLR	MLR		
	comp=Z,500nm,18.0s						
CHTO	**Chiang Mai**	70.69	276	P	P	03 46 30.5	+0.1
CHTO				IAmb	IAmb	03 46 36.9	
	comp=Z,41nm,1.2s						
SPMM	**Sapulut**	70.71	253	P	P	03 46 33.0	+2.4
CM31	**Chiang Mai Arr**	70.95	276	P	P	03 46 36.5	+4.4
	SNR=9.5						
CM31	**Chiang Mai Arr**	70.95	276	P	P	03 46 31.3	-0.8
CM31				IAmb	IAmb	03 46 38.9	
	comp=Z,30nm,0.9s						
CMAR	**Chiang Mai Arr**	70.95	276	P	P	03 46 32.0	-0.1
	comp=Z,13nm,0.8s,baz=28,slow=6.8,SNR=20						
CMAR				LR	LR	04 20 17.8	
	comp=Z,364nm,19.0s,baz=22,slow=38						
CMAR	**Chiang Mai Arr**	70.95	276	P	P	03 46 31.6	-0.5
CHAI	**Chaiyaphum**	70.98	272	P	P	03 46 33.7	+1.5
PBKT	**Sadao Pong**	71.11	273	P	P	03 46 33.4	+0.4
PBKT	**Sadao Pong**	71.11	273	P	P	03 46 32.8	-0.2
PBKT				IAmb	IAmb	03 46 40.1	
	comp=Z,26nm,0.9s						
TAPN	**Taplejung**	71.13	290	eP	P	03 46 33.4	0.0
557A	**Orange Park**	71.28	65	P	P	03 46 34.6	+0.7
	baz=319						
PMOR	**Pomariorio Ree**	71.50	148	eT	T	05 04 24.3	
	comp=Z,85nm,0.2s						
LPSR	**Galich'ya Gora**	71.52	337	eP	P	03 46 33.5	-1.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GAR	**Garm**	71.58	310	P	P	03 46 35.8	+0.1
GAR				IAmb	IAmb	03 46 43.5	
	comp=Z,57nm,0.9s						
ODAN	**Odare**	71.68	290	eP	P	03 46 36.4	-0.2
	comp=Z,285nm,1.2s						
LUWI	**Luwuk**	71.70	244	P	P	03 46 35.1	-1.4
GUN	**Gumba**	71.77	292	eP	P	03 46 37.3	0.0
	comp=Z,759nm,0.8s						
JIRN	**Jiri**	71.78	292	⇓iP	P	03 46 37.5	+0.1
MHMT	**Maesarieng**	71.80	276	P	P	03 46 38.6	+1.5
VAH	**Vaihoa**	71.81	148	eT	T	05 04 46.6	
	comp=Z,28nm,0.4s						
VRH	**Novokhopyorsk**	72.07	335	eP	P	03 46 35.8	-2.5
VRH				pmax	pmax		
	comp=Z,30nm,1.0s						
RAMN	**Ramite**	72.08	291	eP	P	03 46 38.5	-0.5
KKN	**Kakani**	72.21	292	⇓iP	P	03 46 39.6	-0.2
	comp=Z,224nm,0.8s						
PKI	**Pulchoki**	72.30	292	⇓iP	P	03 46 40.1	-0.4
	comp=Z,366nm,1.0s						
PKIN	**Phulchoki**	72.31	292	⇓iP	P	03 46 40.0	-0.4
CHGR	**Chuyangaron**	72.40	310	P	P	03 46 39.4	-1.2
CHGR				IAmb	IAmb	03 46 48.3	
	comp=Z,74nm,0.9s						
GKN	**Gorkha**	72.42	293	⇓iP	P	03 46 40.5	-0.5
	comp=Z,383nm,1.0s						
DMN	**Daman**	72.45	292	⇓iP	P	03 46 41.2	-0.1
DANN	**Dangsing**	72.66	294	⇓iP	P	03 46 42.1	-0.5
	comp=Z,522nm,0.8s						
UMPA	**Umpang Tak**	72.70	274	P	P	03 46 43.8	+1.2
VSR	**Storozhevoye**	72.72	336	eP	P	03 46 44.7	+2.5
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UTHA	**Uthaitani**	72.83	273	P	P	03 46 43.9	+0.6
DWPF	**Disney Wildern**	72.89	66	P	P	03 46 44.1	+0.6
	baz=320						
DWPF	**Disney Wildern**	72.89	66	P	P	03 46 43.6	+0.1
COEN	**Coen**	73.04	219	P	P	03 46 44.4	0.0
CMIG	**Matias Romero**	73.11	84	LR	LR	04 14 51.0	
	comp=Z,280nm,21.2s,baz=290,slow=32						
KOLN	**Koldanda**	73.19	293	⇓iP	P	03 46 45.0	-0.6
	comp=Z,253nm,1.0s						
PPT	**Papeete**	73.38	151	LR	LR	04 09 47.8	
	comp=Z,451nm,21.7s,baz=328,slow=28						
PPT2	**Papeete2**	73.39	151	eS	S	03 56 11.8	-1.8
	comp=Z,921nm,28.0s						
PPT2	**Papeete2**	73.39	151	eLR	LR	04 09 18.2	
	comp=Z,1μm,28.2s,baz=343						
PPT2	**Papeete2**	73.39	151	eT	T	05 06 46.0	
	comp=Z,26nm,0.2s						
TIAR	**Tiarei**	73.44	151	eT	T	05 06 48.5	
	comp=Z,9.4nm,0.3s						
PAE	**Paea**	73.46	151	eT	T	05 06 50.4	
	comp=Z,7.1nm,0.2s						
TVO	**Taravao**	73.68	151	eT	T	05 07 05.9	
	comp=Z,2.2nm,0.3s						
KHLT	**Khaolaem Dam**	73.94	274	P	P	03 46 49.8	-0.1
SRDT	**SRDT**	73.95	273	P	P	03 46 55.5	+5.6
MEH	**Mehetia**	74.13	150	eT	T	05 07 41.3	
	comp=Z,35nm,0.4s						
NIL	**Nilore**	74.32	304	P	P	03 46 51.2	-0.7
NIL				pmax	pmax		
	comp=Z,39nm,0.8s						
NIL				MLR	MLR		
	comp=Z,900nm,20.0s						
NIL	**Nilore**	74.32	304	P	P	03 46 51.2	-0.7
NIL				IAmb	IAmb	03 47 00.3	
	comp=Z,39nm,0.8s						
NIL	**Nilore**	74.32	304	IAMs_20	IAMs_20	04 22 37.1	
	comp=Z,920nm,20.0s						
DZM	**Mont Dzumac**	74.36	194	eP	P	03 46 52.4	+0.3
	comp=Z,151nm,1.1s						
DZM				eS	S	03 56 24.5	+0.2
	comp=Z,178nm,25.9s						
DZM	**Mont Dzumac**	74.36	194	eLR	LR	04 09 39.0	
	comp=Z,1μm,23.1s						
DZM	**Mont Dzumac**	74.36	194	P	P	03 46 52.5	+0.3
DZM				IAmb	IAmb	03 47 01.4	
	comp=Z,72nm,1.0s						
PHET	**Kaeng Krachan**	74.73	272	P	P	03 46 56.6	+2.2
061Z	**Ochoppi**	74.90	68	P	P	03 46 55.9	+0.6
	baz=320						
SBUM	**Sibu**	75.05	255	P	P	03 46 55.0	-1.3
SBUM	**Sibu**	75.05	255	P	P	03 46 56.3	0.0
SBUM				IAmb	IAmb	03 47 03.7	
	comp=Z,55nm,1.7s						
CCIG	**Comitan**	75.43	82	P	P	03 46 58.6	-0.1
AKASG	**Malin Array Be**	75.44	342	P	P	03 46 58.3	+0.3
AKASG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AKASG	**Malin Array Be**	75.44	342	P	P	03 46 56.6	-1.3
	comp=Z,3.6nm,0.5s,baz=22,slow=6.2,SNR=16						
AKASG				LR	LR	04 23 41.6	
	comp=Z,376nm,19.1s,baz=355,slow=39						
AKASG	**Malin Array Be**	75.44	342	P	P	03 46 58.3	+0.3
AKBB	**Malin Array Si**	75.44	342	P	P	03 46 57.0	-1.0
AKBB				pmax	pmax		
	comp=Z,33nm,1.3s						
AKBB	**Malin Array Si**	75.44	342	P	P	03 46 57.0	-1.0
KBL	**Kabul**	75.74	308	P	P	03 46 58.7	-1.6
KBL				pmax	pmax		
	comp=Z,40nm,1.1s						
KBL	**Kabul**	75.74	308	P	P	03 46 58.7	-1.6
KBL				IAmb	IAmb	03 47 07.9	
	comp=Z,40nm,1.1s						
KSM	**Kuching**	76.98	256	P	P	03 47 07.0	-0.3
KSM	**Kuching**	76.98	256	P	P	03 47 06.9	-0.3
KSM				IAmb	IAmb	03 47 14.4	
	comp=Z,50nm,1.1s						
CLL	**Collm**	77.09	352	eP	P	03 47 07.0	-0.4
	comp=Z,36nm,2.1s						
CLL				eSS	SS	04 02 12.0	+22
CLL				L	L	04 30 00.0	
	comp=Z,500nm,18.1s						
KSP	**Ksiaz**	77.24	350	eP	P	03 47 03.1	-5.2
KSP	**Ksiaz**	77.24	350	eP	P	03 47 03.1	-5.2
KSP				eP	P	03 47 03.1	-5.2
GOF	**Gofitskoye**	77.25	331	⇑iP	P	03 47 12.9	+4.5
GOF				pmax	pmax		
	comp=Z,57nm,0.8s						
MTN	**Manton Dam**	77.31	230	P	P	03 47 08.6	-0.4
MTN				IAmb	IAmb	03 47 15.8	
	comp=Z,55nm,0.8s						
OJC	**Ojcow**	77.44	348	P	P	03 47 09.6	+0.2
OJC				pmax	pmax		
	comp=Z,25nm,1.5s						
OJC	**Ojcow**	77.44	348	P	P	03 47 09.6	+0.2
BRG	**Berggiesshubel**	77.44	352	eP	P	03 47 12.1	+2.7
	comp=Z,27nm,2.0s						
BRG				e		03 47 43.2	
	comp=Z,18nm,1.4s						
BRG	**Berggiesshubel**	77.44	352	eP	P	03 47 12.1	+2.7
BRG				pmax	pmax		
	comp=Z,27nm,2.0s						
BRG				pmax	pmax		
	comp=Z,18nm,1.4s						
CHVC	**Chvalec**	77.52	350	eP	P	03 47 13.2	+3.3
CTA	**Charters Tower**	77.54	213	P	P	03 47 10.3	+0.1
	comp=Z,18nm,0.8s,baz=25,slow=7.1,SNR=28						
CTAO	**Charters Tower**	77.54	213	P	P	03 47 10.1	-0.1
CTAO				pmax	pmax		
	comp=Z,50nm,1.0s						
CTAO	**Charters Tower**	77.54	213	P	P	03 47 10.1	-0.1
CTAO				IAmb	IAmb	03 47 18.2	
	comp=Z,50nm,0.9s						
KWP	**Kalwaria Pacla**	77.60	346	eP	P	03 47 10.3	0.0
KWP	**Kalwaria Pacla**	77.60	346	eP	P	03 47 10.3	0.0
KWP				eP	P	03 47 10.3	0.0
DPC	**Dobruska-Polom**	77.72	350	eP	P	03 47 11.4	+0.4
DPC	**Dobruska-Polom**	77.72	350	eP	P	03 47 11.4	+0.4
ASHT	**Ashkhabad**	77.85	317	IAMs_20	IAMs_20	04 25 42.7	
	comp=Z,992nm,20.0s						
GEYT	**Alibeck**	77.98	317	P	P	03 47 11.6	-1.1
	comp=Z,2.9nm,0.9s,baz=14,slow=6.6,SNR=4.7						
GEYT				LR	LR	04 25 48.2	
	comp=Z,1μm,19.1s,baz=25,slow=39						
GEYT	**Alibeck**	77.98	317	P	P	03 47 11.0	-1.6
OKC	**Ostrava-Krasne**	78.02	349	AMS	AMS	04 27 20.0	
	comp=Z,900nm,17.7s						
GROC	**Groznyy**	78.05	328	eP	P	03 47 12.4	-0.5
GROC				e		03 47 20.8	
GROC				eS	S	03 57 04.4	-0.1
GROC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SORM	**Soroca**	78.06	342	⇑P	P	03 47 12.2	-0.7
SOEI	**Soe**	78.13	238	P	P	03 47 13.5	-0.3
SOEI				IAmb	IAmb	03 49 02.2	
	comp=Z,49nm,0.6s						
SURT	**Suratani**	78.28	270	P	P	03 47 20.4	+5.9
GOPC	**GO Pecny, Ondr**	78.31	351	AMS	AMS	04 28 20.0	
	comp=Z,900nm,21.3s						
KOLS	**Kolonicke sedl**	78.34	346	eP	P	03 47 14.5	0.0
KOLS	**Kolonicke sedl**	78.34	346	eP	P	03 47 14.5	0.0
KIV	**Kislovodsk**	78.36	331	eP	P	03 47 15.1	+0.4
KIV				pmax	pmax		
	comp=Z,45nm,1.0s						
KIV				MLR	MLR		
	comp=Z,2μm,18.0s						
KIV	**Kislovodsk**	78.36	331	P	P	03 47 14.1	-0.6
KBZ	**Khabaz**	78.50	330	P	P	03 47 14.8	-0.6
	comp=Z,3.7nm,0.9s,baz=31,slow=6.0,SNR=6.7						
KBZ				LR	LR	04 25 09.0	
	comp=Z,921nm,21.9s,baz=16,slow=38						
SKLT	**Songkhla**	78.52	267	P	P	03 47 23.2	+7.4
LANS	**Liptovska Anna**	78.53	348	eP	P	03 47 16.6	+1.1
LANS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LANS	**Liptovska Anna**	78.53	348	eP	P	03 47 16.6	+1.1
TRTT	**Trang**	78.58	268	P	P	03 47 22.2	+6.0
UZH	**Uzhgorod**	78.64	346	eP	P	03 47 16.7	+0.7
UZH				i		03 47 30.2	
UZH				i		03 47 34.2	
TBI	**Tubuai**	78.87	153	eS	S	03 57 11.9	-1.4
	comp=Z,389nm,31.2s						
TBI	**Tubuai**	78.87	153	eLR	LR	04 11 40.8	
	comp=Z,1μm,23.2s,baz=338						
TBI	**Tubuai**	78.87	153	eT	T	05 13 34.9	
	comp=Z,22nm,0.3s						
AKT	**Akhty**	78.92	326	eP	P	03 47 16.8	-1.1
AKT				e		03 47 24.8	
AKT				pmax	pmax		
	comp=Z,16nm,1.0s						
ZEI	**Tsey**	79.03	329	eP	P	03 47 16.3	-2.3
ZEI				pmax	pmax		
	comp=Z,14nm,0.8s						
KIS	**Kishinev**	79.05	341	eP	P	03 47 22.0	+3.7
KIS				LRM	MLR	04 27 16.0	
	comp=Z,900nm,16.0s						
KIS	**Kishinev**	79.05	341	eP	P	03 47 22.0	+3.7
KIS				e		03 47 29.0	
KIS				e		03 47 44.0	
HRA	**Herat**	79.11	312	P	P	03 47 17.7	-1.5
HRA				IAMs_20	IAMs_20	04 27 02.0	
	comp=Z,981nm,18.0s						
BUR08	**Bucovina Ar. S**	79.11	344	P	P	03 47 18.4	-0.5
BUR08				IAmb	IAmb	03 47 32.2	
	comp=Z,55nm,1.6s						
BURAR	**Bucovina Array**	79.14	344	⇑P	P	03 47 18.4	-0.6
BURAR	**Bucovina Array**	79.14	344	P	P	03 47 18.0	-1.0
KHC	**Kasperske Hory**	79.20	352	P	P	03 47 18.9	-0.3
KHC				pmax	pmax		
	comp=Z,12nm,1.8s						
KHC	**Kasperske Hory**	79.20	352	eP	P	03 47 18.8	-0.4
KHC	**Kasperske Hory**	79.20	352	P	P	03 47 18.9	-0.3
VYHS	**Vyhne**	79.26	348	eP	P	03 47 19.9	+0.4
VYHS	**Vyhne**	79.26	348	eP	P	03 47 19.9	+0.4
PKDT	**Phuket**	79.39	269	P	P	03 47 24.3	+3.7
GERES	**GERESS Array B**	79.47	352	P	P	03 47 19.9	-0.9
	comp=Z,0.7nm,0.6s,baz=35,slow=4.9,SNR=7.1						
GERES				PKKPbc	**PKKPbc**	**04 06 07.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=134,slow=3.9,SNR=5.2						
GERES				LR	LR	04 26 41.8	
	comp=Z,295nm,19.0s,baz=22,slow=39						
GERES	**GERESS Array B**	79.47	352	P	P	03 47 19.6	-1.2
MODS	**Modra-Piesok**	79.57	349	eP	P	03 47 23.1	+1.9
MODS				pmax	pmax		
	comp=Z,21nm,1.3s						
MODS	**Modra-Piesok**	79.57	349	eP	P	03 47 23.1	+1.9
SOC	**Sochi**	79.58	333	eP	P	03 47 20.1	-1.2
SOC				e		03 50 21.4	
SOC				eS	S	03 57 20.3	-0.5
SOC				MLR	MLR		
	comp=Z,1μm,18.0s						
BIZ	**Bicaz**	79.63	343	⇑P	P	03 47 21.4	-0.1
PSZ	**Piszkesteto**	79.68	347	P	P	03 47 20.3	-1.6
PSZ				pmax	pmax		
	comp=Z,28nm,1.5s						
PSZ	**Piszkesteto**	79.68	347	P	P	03 47 20.3	-1.6
TBLG	**Delisi**	79.71	328	P	P	03 47 22.2	+0.1
TBLG				pmax	pmax		
	comp=Z,26nm,1.0s						
TBLG	**Delisi**	79.71	328	P	P	03 47 22.1	+0.1
JRMM	**Jerantut**	79.90	264	P	P	03 47 23.0	-0.4
TESR	**Tescani**	79.94	342	⇑P	P	03 47 22.5	-0.7
KULM	**Kulim**	79.95	266	P	P	03 47 23.0	-0.7
KULM	**Kulim**	79.95	266	P	P	03 47 23.3	-0.4
TGUH	**Tegucigalpa,Un**	80.13	80	P	P	03 47 25.7	+0.9
CONA	**Conrad Observa**	80.17	350	iP	P	03 47 23.5	-1.0
	comp=Z,4.9nm,0.9s						
IPM	**Ipoh**	80.34	265	P	P	03 47 25.0	-0.8
IPM	**Ipoh**	80.34	265	P	P	03 47 24.7	-1.2
DRGR		80.36	345	⇑P	P	03 47 24.8	-0.8
AKH	**Akhalkalaki**	80.41	329	P	P	03 47 26.0	0.0
AKH				pmax	pmax		
	comp=Z,19nm,1.1s						
AKH	**Akhalkalaki**	80.41	329	P	P	03 47 26.0	0.0
AKH				IAMs_20	IAMs_20	04 28 26.0	
	comp=Z,1μm,19.0s						
VRI	**Vrincioaia**	80.55	342	⇑P	P	03 47 26.3	-0.2
PLOR	**Plostina**	80.58	342	⇑P	P	03 47 22.9	-3.8
ODBI	**Odobesti**	80.58	342	⇑P	P	03 47 27.6	+1.0
MYKOM	**Kota Tinggi**	80.68	261	P	P	03 47 26.0	-1.6
DOPR	**Dopca**	80.70	343	⇓P	P	03 47 28.0	+0.6

SOKA	**Soboth**	81.49	350	*i* P	P	03 47 31.0	-0.6
	comp=Z,14nm,1.0s						
TLB	**Topalu**	81.52	341	⇑P	P	03 47 30.7	-1.0
FETA	**Feichten**	81.53	353	*i* P	P	03 47 29.5	-2.4
	comp=Z,3.8nm,0.8s						
ABTA	**Abfaltersbach**	81.66	352	*i* P	P	03 47 31.8	-0.7
	comp=Z,14nm,1.2s						
MYKA	**Terra Mystica**	81.68	351	*i* P	P	03 47 30.9	-1.7
	comp=Z,7.4nm,1.0s						
BZS	**Buzias**	81.68	346	⇓P	P	03 47 31.4	-1.1
OBKA	**Obir**	81.71	351	*i* P	P	03 47 31.5	-1.2
	comp=Z,16nm,0.9s						
GZR	**Gura Zlata**	81.71	345	⇑P	P	03 47 32.2	-0.5
WRAB	**Tennant Creek**	82.04	224	*ce*P	P	03 47 34.1	-0.5
WRAB				pmax	pmax		
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	82.04	224	P	P	03 47 33.7	-0.9
WRAB				IAmb	IAmb	03 47 41.2	
	comp=Z,37nm,1.1s						
WB2	**Warramunga Arr**	82.05	224	P	P	03 47 33.8	-0.9
WC3	**Warramunga Arr**	82.06	224	IAMs_20	IAMs_20	04 29 22.6	
	comp=Z,636nm,21.0s						
WRA	**Warramunga Arr**	82.06	224	P	P	03 47 33.8	-0.9
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	82.06	224	P	P	03 47 33.7	-0.9
	comp=Z,12nm,0.9s,baz=35,slow=6.0,SNR=80						
WRA				PKKPbc	PKKPbc	04 06 03.3	+0.6
	comp=Z,0.5nm,0.8s,baz=222,slow=2.1,SNR=4.5						
WRA				LR	LR	04 19 17.7	
	comp=Z,173nm,21.9s,baz=20,slow=32						
WRA	**Warramunga Arr**	82.06	224	P	P	03 47 33.8	-0.9
HERR	**Herculane**	82.27	345	⇑P	P	03 47 34.7	-0.9
LHMI	**Lhok Sumawe**	82.31	269	P	P	03 47 35.9	-0.4
PSI	**Prapat**	82.96	266	P	P	03 47 38.9	-0.9
PSI				pmax	pmax		
	comp=Z,72nm,1.0s						
ACON	**Acoyapa**	83.03	80	IAmb	IAmb	03 47 41.8	
	comp=Z,32nm,1.0s						
RPSI	**Rantau Prapat**	83.04	266	P	P	03 47 38.9	-1.1
TEOL	**Teolo**	83.11	353	IAmb	IAmb	03 48 03.3	
	comp=Z,39nm,0.9s						
PLVB	**Pleven**	83.33	343	⇑P	P	03 47 40.6	-0.6
BKNI	**Bangkinang**	83.56	262	P	P	03 47 42.5	-0.2
ILGA	**Ilgaz**	83.56	336	IAMs_20	IAMs_20	04 28 43.6	
	comp=Z,590nm,22.0s						
PMBI	**Palembang**	83.81	257	IAMs_20	IAMs_20	04 21 50.2	
	comp=Z,778nm,21.0s						
HYB	**Hyderabad**	84.13	290	*i* P	P	03 47 44.0	-1.7
VTS	**Vitosha**	84.33	344	P	P	03 47 45.4	-1.0
VTS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VTS				MLR	MLR		
	comp=Z,900nm,20.0s						
VTS	**Vitosha**	84.33	344	⇑P	P	03 47 45.4	-1.0
VTS	**Vitosha**	84.33	344	P	P	03 47 45.4	-1.0
VTS				IAMs_20	IAMs_20	04 29 40.7	
	comp=Z,911nm,20.0s						
JTS	**Las Juntas de**	84.47	81	P	P	03 47 46.5	-0.9
JTS				pmax	pmax		
	comp=Z,19nm,1.0s						
JTS	**Las Juntas de**	84.47	81	P	P	03 47 46.5	-0.9
FITZ	**Fitzroy Crossi**	84.49	232	P	P	03 47 47.0	-0.3
BR131	**Keskin Array S**	84.83	335	P	P	03 47 48.1	-1.0
BR131				pmax	pmax		
	comp=Z,12nm,0.8s						
BR131	**Keskin Array S**	84.83	335	P	P	03 47 48.1	-1.0
BRTR	**Keskin Array B**	84.83	335	P	P	03 47 48.0	-1.0
	comp=Z,10nm,0.7s,baz=59,slow=2.6,SNR=47						
BRTR				LR	LR	04 28 21.3	
	comp=Z,254nm,21.1s,baz=358,slow=38						
BRTR	**Keskin Array B**	84.83	335	P	P	03 47 47.5	-1.5
LHI	**Lord Howe Isla**	84.90	199	IAMs_20	IAMs_20	04 17 34.9	
	comp=Z,602nm,21.0s						
ANTO	**Ankara**	84.91	336	P	P	03 47 49.5	+0.1
ANTO				pmax	pmax		
	comp=Z,31nm,1.2s						
ANTO				MLR	MLR		
	comp=Z,600nm,20.0s						
ANTO	**Ankara**	84.91	336	P	P	03 47 49.5	+0.1
ANTO				IAmb	IAmb	03 47 56.0	
	comp=Z,31nm,1.2s						
ANTO	**Ankara**	84.91	336	IAMs_20	IAMs_20	04 29 31.3	
	comp=Z,643nm,20.0s						
BR231	**Keskin MP Arra**	84.94	336	P	P	03 47 49.7	+0.1
MURB	**Monte Urbino**	85.12	352	IAmb	IAmb	03 48 21.7	
	comp=Z,41nm,1.1s						
PDG	**Podgorica**	85.15	347	⇓P	P	03 47 49.6	-0.8
PDG	**Podgorica**	85.15	347	P	P	03 47 49.6	-0.8
PDG				IAmb	IAmb	03 47 50.7	
	comp=Z,18nm,0.8s						
PDG				IAMs_20	IAMs_20	04 31 46.4	
	comp=Z,833nm,19.0s						
ALN	**Alexandroupoli**	85.47	341	IAMs_20	IAMs_20	04 31 37.9	
	comp=Z,548nm,19.0s						
NRCA	**Norcia**	85.49	351	P	P	03 47 51.9	-0.3
NRCA				IAmb	IAmb	03 48 14.3	
	comp=Z,24nm,0.9s						
AS31	**Alice Springs**	85.53	222	P	P	03 47 51.9	-0.5
ASAR	**Alice Springs**	85.53	222	P	P	03 47 52.2	-0.2
	comp=Z,15nm,0.9s,baz=28,slow=4.8,SNR=95						
ASAR				LR	LR	04 21 04.6	
	comp=Z,304nm,22.0s,baz=42,slow=32						
ASAR	**Alice Springs**	85.53	222	P	P	03 47 51.6	-0.8
ARMA	**Armidale**	85.58	205	P	P	03 47 53.5	+0.9
CASP	**Castiglione de**	85.73	353	IAMs_20	IAMs_20	04 14 36.8	
	comp=Z,468nm,18.0s						
SDDR	**Presa de Saban**	85.78	65	P	P	03 47 54.4	+0.4
SDDR				IAmb	IAmb	03 47 57.3	
	comp=Z,24nm,0.8s						
AQU	**L'Aquila**	85.94	351	P	P	03 47 54.0	-0.4
AQU				pmax	pmax		
	comp=Z,40nm,1.2s						
AQU	**L'Aquila**	85.94	351	P	P	03 47 54.0	-0.4
AQU				IAmb	IAmb	03 48 19.3	
	comp=Z,40nm,1.2s						
TIR	**Tirane**	86.12	346	IAMs_20	IAMs_20	04 33 07.3	
	comp=Z,1μm,19.0s						
OUZ	**Omahuta**	86.59	186	P	P	03 47 57.7	+0.5
OUZ				IAmb	IAmb	03 48 08.9	
	comp=Z,48nm,1.2s						
LIT	**Litokhoron**	86.91	344	IAMs_20	IAMs_20	04 33 41.9	
	comp=Z,663nm,18.0s						
DR12	**Loma Pena Alta**	87.01	63	P	P	03 48 00.0	0.0
TIP	**Timpagrande**	88.69	348	IAMs_20	IAMs_20	04 29 04.0	
	comp=Z,559nm,21.0s						
MXZ	**Matakaoa Point**	88.70	182	IAMs_20	IAMs_20	04 18 23.8	
	comp=Z,921nm,21.0s						
ESDC	**Sonseca Array**	89.11	4	P	P	03 48 07.9	-1.8
	comp=Z,3.1nm,0.9s,baz=359,slow=4.1,SNR=9.6						
ESDC				PKKPbc	PKKPbc	04 05 45.4	+0.4
	comp=Z,0.7nm,0.7s,baz=132,slow=2.2,SNR=4.4						
ESDC				LR	LR	04 27 11.7	
	comp=Z,158nm,21.9s,baz=350,slow=35						
ESDC	**Sonseca Array**	89.11	4	P	P	03 48 07.9	-1.8
SJG	**San Juan**	89.35	61	IAMs_20	IAMs_20	04 30 54.6	
	comp=Z,1μm,20.0s						
CSS	**Mathiatis**	89.39	334	P	P	03 48 10.6	-0.5
URZ	**Urewera**	89.44	183	P	P	03 48 09.5	-1.2
	comp=Z,7.2nm,0.9s,baz=9.4,slow=3.1,SNR=3.8						
URZ				LR	LR	04 30 39.8	
	comp=Z,98nm,18.2s,baz=0.0,slow=37						
URZ	**Urewera**	89.44	183	IAmb	IAmb	03 48 20.3	
	comp=Z,21nm,1.1s						
CEL	**Celeste**	89.70	348	IAMs_20	IAMs_20	04 34 10.9	
	comp=Z,422nm,18.0s						
HIZ	**Hauiti**	89.79	185	P	P	03 48 12.8	+0.4
SANT	**Santorini**	89.95	341	IAMs_20	IAMs_20	04 35 11.5	
	comp=Z,540nm,19.0s						
STKA	**Stephens Creek**	89.99	213	P	P	03 48 14.2	+0.7
	comp=Z,34nm,0.8s,baz=340,slow=7.5,SNR=61						
STKA				LR	LR	04 23 44.6	
	comp=Z,494nm,21.4s,baz=25,slow=32						
STKA	**Stephens Creek**	89.99	213	P	P	03 48 13.9	+0.4
PSAA2	**Pilbara Seismi**	90.31	235	IAMs_20	IAMs_20	04 22 45.2	
	comp=Z,602nm,21.0s						
PSA00	**Pilbara Seismi**	90.32	235	P	P	03 48 14.6	-0.8
PSAB1	**Pilbara Seismi**	90.33	235	IAMs_20	IAMs_20	04 20 14.6	
	comp=Z,476nm,20.0s						
BKZ	**Black Stump Fm**	90.36	184	IAmb	IAmb	03 48 28.1	
	comp=Z,82nm,1.8s						
BKZ				IAMs_20	IAMs_20	04 25 06.0	
	comp=Z,699nm,19.0s						
SABA	**Saba**	91.33	59	IAMs_20	IAMs_20	04 29 32.4	
	comp=Z,1μm,20.0s						
SKI	**Saint Kitts**	91.84	59	IAMs_20	IAMs_20	04 29 23.3	
	comp=Z,772nm,21.0s						
ANWB	**Willy Bob**	92.07	58	IAMs_20	IAMs_20	04 32 15.0	
	comp=Z,999nm,19.0s						
QRZ	**Quartz Range**	92.23	187	IAMs_20	IAMs_20	04 24 10.2	
	comp=Z,659nm,19.0s						
KEST	**Kesra**	92.86	353	P	P	03 48 25.1	-2.2
	comp=Z,7.5nm,0.9s,baz=344,slow=4.7,SNR=3.9						
KEST				LR	LR	04 33 39.7	
	comp=Z,304nm,19.0s,baz=310,slow=38						
KEST	**Kesra**	92.86	353	IAmb	IAmb	03 48 54.2	
	comp=Z,42nm,1.6s						
SDV	**Santo Domingo**	94.22	70	P	P	03 48 34.5	+0.6
FDF	**Fort de France**	94.83	59	IAMs_20	IAMs_20	04 32 36.3	
	comp=Z,756nm,19.0s						
MQZ	**McQueen's Vall**	95.09	186	IAMs_20	IAMs_20	04 22 39.8	
	comp=Z,903nm,20.0s						
RPZ	**Rata Peaks**	95.22	187	P	P	03 48 39.6	+2.2
	comp=Z,9.1nm,0.8s,baz=122,slow=11,SNR=4.1						
ROSC	**El Rosal**	95.23	76	P	P	03 48 40.6	+1.8
	comp=Z,6.8nm,0.4s,baz=252,slow=22,SNR=5.0						
ROSC				LR	LR	04 36 39.2	
	comp=Z,158nm,18.3s,baz=9.0,slow=39						
ROSC	**El Rosal**	95.23	76	P	P	03 48 38.9	+0.1
RAYN	**Ar Rayn**	95.77	320	IAMs_20	IAMs_20	04 39 07.1	
	comp=Z,606nm,20.0s						
OTAV	**Otavalo**	96.31	82	P	P	03 48 44.7	+0.9
OTAV				pmax	pmax		
	comp=Z,17nm,1.7s						
OTAV	**Otavalo**	96.31	82	P	P	03 48 44.7	+0.9
TOSP	**Speyside**	98.00	61	IAMs_20	IAMs_20	04 33 31.4	
	comp=Z,1μm,22.0s						
DAMY	**Dhamar**	104.23	317	IAMs_20	IAMs_20	04 41 35.2	
	comp=Z,432nm,22.0s						
ATD	**Arta Tunnel**	107.61	317	IAMs_20	IAMs_20	04 38 07.7	
	comp=Z,529nm,22.0s						
FURI	**Furi**	111.71	320	IAMs_20	IAMs_20	04 45 40.6	
	comp=Z,572nm,22.0s						
LPAZ	**La Paz**	115.48	84	PKP	PKPdf	03 53 56.7	-0.4
	comp=Z,1.1nm,0.9s,baz=0.9,slow=4.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	115.64	359	PKP	PKiKP	03 53 55.1	-1.7
	comp=Z,1.4nm,0.6s,baz=15,slow=1.5,SNR=8.3						
TORD				PKKPbc	PKKPbc	04 04 27.2	-0.1
	comp=Z,2.3nm,0.8s,baz=167,slow=3.1,SNR=11						
TORD	**Torodi Ar. Bea**	115.64	359		PKiKP	03 53 55.7	-1.1
KMBO	**Kilima Mbogo**	121.35	316	PKIKP	PKiKP	03 54 08.5	+0.3
KMBO	**Kilima Mbogo**	121.35	316	PKP	PKPdf	03 54 07.8	-0.4
	comp=Z,5.2nm,0.9s,baz=5.6,slow=3.8,SNR=14						
KMBO	**Kilima Mbogo**	121.35	316		PKiKP	03 54 08.5	+0.3
KMBO				IAMs_20	IAMs_20	04 52 38.0	
	comp=Z,441nm,19.0s						
DBIC	**Dimbokro**	121.85	7	PKP	PKPdf	03 54 07.4	-1.4
	comp=Z,2.9nm,0.4s,baz=350,slow=2.9,SNR=9.7						
TIC	**Toumodi**	121.86	7	*e*PKIKP	PKPdf	03 54 07.4	-1.4
KIC	**Kosan Boka**	122.17	7	*e*PKIKP	PKPdf	03 54 07.9	-1.5
	comp=Z,12nm,0.7s						
LIC	**Lamto**	122.28	7	*e*PKIKP	PKPdf	03 54 08.1	-1.5
	comp=Z,52nm,1.5s						
MBAR	**Mbarara**	123.49	324	IAMs_20	IAMs_20	04 53 19.5	
	comp=Z,465nm,21.0s						
RCBR	**Riachuelo**	125.13	47	IAMs_20	IAMs_20	04 46 51.7	
	comp=Z,409nm,19.0s						
BDFB	**Brasilia**	127.10	66	PKIKP	PKPdf	03 54 18.4	-0.4
BDFB	**Brasilia**	127.10	66	PKP	PKPdf	03 54 18.1	-0.7
	comp=Z,6.6nm,0.8s,baz=269,slow=3.8,SNR=9.7						
BDFB	**Brasilia**	127.10	66		PKPdf	03 54 18.4	-0.4
CPUP	**Villa Florida**	129.63	83	PKIKP	PKPdf	03 54 23.1	-0.1
CPUP	**Villa Florida**	129.63	83	PKP	PKPdf	03 54 22.6	-0.6
	comp=Z,4.7nm,0.8s,baz=296,slow=3.3,SNR=8.8						
CPUP				SKPbc	SKPbc	03 57 44.0	+1.1
	comp=Z,2.3nm,0.8s,baz=360,slow=4.3,SNR=3.8						
CPUP	**Villa Florida**	129.63	83		PKPdf	03 54 23.1	-0.1
PLCA	**Paso Flores**	131.04	107	PKIKP	PKPdf	03 54 25.8	+0.3
PLCA	**Paso Flores**	131.04	107	PKP	PKPdf	03 54 25.1	-0.5
	comp=Z,3.8nm,0.8s,baz=281,slow=3.3,SNR=7.6						
PLCA				SKPbc	SKPab	03 57 48.4	+0.4
	comp=Z,1.4nm,0.5s,baz=342,slow=20,SNR=5.0						
PLCA	**Paso Flores**	131.04	107		PKPdf	03 54 25.8	+0.3
PMSA	**Palmer Station**	144.84	138		PKPbc	03 54 49.3	+0.3
TSUM	**Tsumeb**	145.27	332		PKPbc	03 54 51.1	-0.9
MAW	**Mawson**	146.54	218	PKP2	PKPbc	03 54 53.9	-0.4
MAW	**Mawson**	146.54	218	PKP	PKPdf	03 54 53.1	+0.4
	comp=Z,31nm,0.8s,baz=53,slow=3.1,SNR=41						
MAW				PKPbc	PKPbc	03 54 54.0	-0.2
	comp=Z,31nm,0.8s,baz=77,slow=4.0,SNR=43						
MAW	**Mawson**	146.54	218	PKPbc	PKPbc	03 54 53.9	-0.4
LBTB	**Lobatse**	147.62	315	PKP2	PKPbc	03 54 58.5	-0.3
LBTB	**Lobatse**	147.62	315	PKPbc	PKPbc	03 54 58.5	-0.3
WIN	**Windhoek**	148.59	331	PKP2	PKPbc	03 55 00.8	-0.7
WIN	**Windhoek**	148.59	331		PKPbc	03 55 00.8	-0.7
WIN				IAMs_20	IAMs_20	04 55 01.8	
	comp=Z,278nm,19.0s						
BOSA	**Boshof**	150.87	312	PKP	PKPdf	03 55 00.7	-0.5
	comp=Z,3.0nm,0.8s,baz=22,slow=1.7,SNR=25						
BOSA				PKPbc	PKPbc	03 55 06.2	-0.7
	comp=Z,35nm,0.9s,baz=27,slow=2.6,SNR=42						
SYO	**Syowa Base**	154.74	212	⇑*e*X	PKPdf	03 55 03.4	-1.9
SYO	**Syowa Base**	154.74	212	⇑*ep*PKPbc	pPKPbc	03 55 24.8	+1.1
SYO	**Syowa Base**	154.74	212	⇓*e*PKPab	PKPab	03 55 31.0	+1.8
VNA3	**Neumayer Olymp**	159.57	170	PKPab	PKPab	03 55 49.3	-0.7
VNA3	**Neumayer Olymp**	159.57	170	PKPdf	PKPdf	03 55 09.3	-2.2
SNAA	**Sanae**	159.66	176	PKPab	PKPab	03 55 49.3	-1.2
SNAA	**Sanae**	159.66	176	PKPdf	PKPdf	03 55 10.0	-1.6
VNA2	**Neumayer--Watz**	160.10	172	PKPab	PKPab	03 55 52.0	-0.3
	baz=185,slow=2.2						
VNA2	**Neumayer--Watz**	160.10	172	PKPdf	PKPdf	03 55 10.3	-1.7
	baz=185,slow=1.3						
VNA1	**Neumayer--Stat**	160.28	171	PKPab	PKPab	03 55 52.7	-0.3
VNA1	**Neumayer--Stat**	160.28	171	PKPdf	PKPdf	03 55 12.3	+0.1

KRNET 15 03:43:06.7±0.1, 42°.54N×74°.46E, mb1.8, 6C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	0.11	14	⇑*i*P	Pg	03 43 09.5	+0.7
	baz=14						
AAK				⇑*i*S	Sg	03 43 11.5	+1.4
	baz=14						
UCH	**Uchtor**	0.31	172	⇑*i*P	Pg	03 43 12.8	+0.2
	baz=72						
UCH				⇑*i*S	Sg	03 43 17.5	+0.9
	baz=72						
CHMS	**Chumysh**	0.51	25	⇑*i*P	Pg	03 43 16.7	+0.2
	baz=25						
CHMS				⇑*i*S	Sg	03 43 23.8	+0.6
	baz=25						

*IDC **15** 03:46:52.4±3.9, 7°.49S×67°.32E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/39, mbtmp3.7/3, Error ellipse: s-maj=112.7km s-min=74.6km az=157.0*

ISC 15 03:46:56.8±1.9, 7°.9S±0°.2×68°.9E±0°.2, h10km, n10, σ2°31/10, mb3.8/3, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	2.58	54	Pn	Pb	03 47 42.2	-0.7
H08N3				T	T	03 51 28.7	
	baz=236,slow=76,SNR=77						
H08N2	**Diego Garcia H**	2.59	54	Pn	Pb	03 47 42.4	-0.9
H08N2				T	T	03 51 33.4	
	baz=236,slow=76,SNR=80						
H08N1	**Diego Carcia H**	2.60	55	Pn	Pb	03 47 42.6	-0.8
H08N1				T	T	03 51 33.5	
	baz=236,slow=76,SNR=83						
H08S1	**Diego Carcia H**	3.56	87	Pn	Pb	03 47 58.8	-1.1
	baz=279,slow=15,SNR=20						
H08S1				T	T	03 53 21.1	
	baz=255,slow=74,SNR=12						
H08S3	**Diego Garcia H**	3.57	87	Pn	Pb	03 47 59.0	-1.0
	baz=279,slow=15,SNR=15						
H08S3				T	T	03 53 12.1	
	baz=255,slow=74,SNR=11						
H08S2	**Diego Garcia H**	3.58	87	Pn	Pb	03 47 59.1	-1.1
	baz=279,slow=15,SNR=21						
H08S2				T	T	03 53 11.1	
	baz=255,slow=74,SNR=10						
CMAR	**Chiang Mai Arr**	39.54	48	P	P	03 54 33.0	+4.7
	0.9nm,0.4s,baz=248,slow=9.7,SNR=5.3						
MKAR	**Makanchi Array**	55.70	11	P	P	03 56 30.3	-3.2
	0.3nm,0.6s,baz=190,slow=7.3,SNR=2.7						
SONM	**Songino Array**	64.59	27	P	P	03 57 34.3	-0.2
	1.2nm,0.9s,baz=220,slow=6.7,SNR=7.0						
NVAR	**Mina Array Bea**	148.88	11	PKPbc	PKPdf	04 06 42.0	+0.2
	0.4nm,0.7s,baz=274,slow=3.5,SNR=3.3						

*ISCJB **15** 03:58:50.2±0.8, 60°.7S±0°.1×48°.1W±0°.3, h10km, mb3.7/2, Error ellipse: s-maj=21.6km s-min=13.0km az=156.7*

*IDC **15** 03:58:50.9±2.1, 60°.60S×47°.45W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.6/26, mbtmp3.9/2, Error ellipse: s-maj=106.0km s-min=40.5km az=22.0*

*NEIC **15** 03:58:51.8±1.9, 60°.7S±0°.1×47°.7W±0°.2, h10km±2km, mb4.3/6*

ISC 15 03:58:51.4±0.7, 60°.6S±0°.1×47°.7W±0°.1, h10km, n13, σ1°46/12, mb4.2/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	8.59	234	Pn	Pn	04 00 53.2	-2.2
HOPE	**Hope Point**	8.75	48	Pn	Pn	04 00 55.4	-2.4
EFI	**East Falkland**	10.65	323	Pn	Pn	04 01 23.3	-0.5
SNAA	**Sanae**	20.63	141	P	P	04 03 31.7	+1.2
TRQA	**Tornquist**	24.32	332	P	P	04 04 10.2	+1.4
PLCA	**Paso Flores**	24.38	314	P	P	04 04 11.3	+1.7
	2.9nm,0.9s,baz=198,slow=9.6,SNR=3.3						
PLCA	**Paso Flores**	24.38	314	IAmb	IAmb	04 04 59.8	
	comp=Z,20nm,1.6s						
QSPA	**South Pole Qui**	29.62	180	P	P	04 04 57.0	+0.5
QSPA				IAmb	IAmb	04 05 05.7	
	comp=Z,4.2nm,0.9s						
SAML	**Samuel**	52.84	341	P	P	04 08 08.0	+1.0
SAML				IAmb	IAmb	04 08 08.8	
	comp=Z,4.5nm,1.2s						
TORD	**Torodi Ar. Bea**	83.33	48	P	P	04 11 18.8	+0.6
	comp=Z,0.4nm,0.6s,baz=213,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	145.06	312	PKPbc	PKPab	04 18 27.2	+0.5
	comp=Z,1.0nm,0.5s,baz=140,slow=1.5,SNR=21						
BVAR	**Borovoye Array**	146.46	75	PKPbc	PKPbc	04 18 31.7	+0.3
	comp=Z,0.5nm,0.5s,baz=267,slow=2.9,SNR=4.3						
MKAR	**Makanchi Array**	148.19	93	PKPbc	PKPbc	04 18 36.4	0.0
	comp=Z,0.8nm,0.7s,baz=202,slow=1.3,SNR=5.1						

*ISCJB **15** 04:09:31.1±0.6, 13°.66N±0°.06×91°.11W±0°.04, h82km±5km, mb3.7/6, Error ellipse: s-maj=11.4km s-min=3.2km az=28.6*

*NEIC **15** 04:09:32.2±2.6, 13°.67N±0°.09×90°.99W±0°.07, h73km±9km*

*SNET **15** 04:09:32.2±1.4, 13°.73N×91°.01W, h22km±7km, ML4.3*

*MEX **15** 04:09:34.1±0.5, 13°.82N×90°.99W, h78km±37km, MD3.9*

*IDC **15** 04:09:35.8±2.0, 13°.97N×90°.64W, h94km±14km, mb3.4/6, mb1 3.7/8, mb1mx3.4/50, mbtmp3.7/8, MS4.0/1, Ms1 3.9/1, ms1mx3.0/24, Error ellipse: s-maj=39.6km s-min=15.6km az=47.0*

*GCG **15** 04:09:36.1±0.8, 14°.05N×91°.02W, h60km±16km, MD4.2*

ISC 15 04:09:33.0±0.9, 13°.74N±0°.08×91°.05W±0°.05, h79km±8km, n65, σ1°12/88, mb3.8/9, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	0.73	54	⇑*e*P	Pn	04 09 47.4	-1.6
FUG	**Fuego 3**	0.73	16	⇓*e*P	Pn	04 09 48.2	-0.9
PCG	**Pacaya**	0.78	33	*e*P	Pn	04 09 48.6	-1.0
ERG	**Entre ros, C**	0.86	324	*e*P	Pn	04 09 50.0	-0.3
NBG	**Las Nubes**	1.08	39	⇑*e*P	Pn	04 09 53.5	+0.3
STG3	**Santiaguito 3,**	1.09	332	*e*P	Pn	04 09 52.7	-0.6
RTR	**El Retiro**	1.37	83	*e*P	Pn	04 09 56.2	-0.5
APG	**El Apazote**	1.38	24	P	Pn	04 09 56.4	-0.5
	124nm,0.3s,baz=200,slow=12,SNR=874						
APG				S	Sn	04 10 16.2	+1.4
	344nm,0.3s,baz=224,slow=17,SNR=26						
SBLS	**San Blas**	1.39	86	⇓*i*P	Pn	04 09 56.0	-1.0
SNJE	**San Jose**	1.41	85	*e*P	Pn	04 09 56.5	-0.8
UNIC	**Universidad Ca**	1.48	80	*e*P	Pn	04 09 56.9	-1.1
UNIC				*e*S	Sn	04 10 17.1	+0.2
THIG		1.66	315	*e*P	Pn	04 10 00.1	-0.2
THIG				*e*S	Sn	04 10 20.4	-0.5
THIG		1.66	315		Pn	04 10 00.1	-0.2
THIG					Sn	04 10 20.4	-0.5
UEES	**Universidad Ev**	1.76	91	*e*P	Pn	04 10 01.2	-0.5
UEES				*e*S	Sn	04 10 23.1	-0.4
UEES				IAML		04 10 25.3	
	comp=Z,4μm,0.3s						
MTO3	**Montecristo**	1.76	68	*e*P	Pn	04 10 00.7	-1.2
MTO3				*e*S	Sn	04 10 25.7	+1.9
SNET	**Serv Nac Est T**	1.77	92	*e*P	Pn	04 10 01.7	-0.1
SNET				*e*S	Sn	04 10 23.1	-0.6
SNET				IAML		04 10 26.7	
	comp=Z,6μm,0.2s						
SNET	**Serv Nac Est T**	1.77	92		Pn	04 10 00.4	-1.4
UESS	**Universidad de**

T47A	**Sharon Grove**	23.42	8	P		**P**	04 14 34.1	-1.0
T47A						**pP**	04 14 53.6	+1.2
T47A					IAmb	IAmb	04 14 56.1	
	comp=Z,12nm,0.8s							
PDAR	**Pinedale Array**	33.04	335	P		**P**	04 16 01.4	+0.2
	comp=Z,0.2nm,0.3s,baz=124,slow=7.9,SNR=2.4							
NVAR	**Mina Array Bea**	34.46	321	P		**P**	04 16 16.1	+2.6
	comp=Z,0.8nm,0.6s,baz=133,slow=7.7,SNR=7.7							
NVAR				PcP		**PcP**	04 18 49.5	+2.2
	comp=Z,0.4nm,0.7s,baz=151,slow=2.1,SNR=3.6							
NVAR				pPcP			04 19 09.0	
	comp=Z,0.8nm,0.7s,baz=148,slow=3.9,SNR=5.4							
NVAR	**Mina Array Bea**	34.46	321	P		**P**	04 16 16.3	+2.8
SAML	**Samuel**	35.68	128	P		**P**	04 16 22.6	-1.4
WVOR	**Wild Horse Val**	37.23	325	P		P	04 16 42.3	+5.3
LPAZ	**La Paz**	37.46	142	pP		pP	04 16 59.0	+0.8
	comp=Z,0.6nm,0.7s,baz=333,slow=10,SNR=5.3							
SCHQ	**Schefferville**	45.15	20	P		**P**	04 17 40.2	-1.4
	comp=Z,3.3nm,0.5s,baz=228,slow=15,SNR=3.4							
PLCA	**Paso Flores**	57.43	162	LR		LR	04 40 13.0	
	comp=Z,117nm,19.9s,baz=344,slow=32							
INK	**Inuvik**	60.95	343	P		**P**	04 19 36.5	-0.9
	comp=Z,0.6nm,0.6s,baz=99,slow=4.0,SNR=4.0							
ILAR	**Eielson Array**	63.44	337	P		**P**	04 19 54.8	+0.6
	comp=Z,0.1nm,0.4s,baz=124,slow=5.0,SNR=3.9							
KSH	**Kashi**	125.65	12	*e*PKP		**PKiKP**	04 28 24.9	-1.5
CMAR	**Chiang Mai Arr**	146.52	343	PKPbc		**PKiKP**	04 29 06.6	-2.5
	comp=Z,0.8nm,0.4s,baz=337,slow=3.9,SNR=3.0							

*IDC **15** 04:11:43.0±1.6, 55.°15N×161.°97E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/54, mbtmp3.8/8, ML2.4/1, Error ellipse: s-maj=40.8km s-min=25.9km az=142.0*
*KRSC **15** 04:11:46.0±1.0, 54.°60N×162.°38E, h48km±11km, ML3.9*
*ISCJB **15** 04:11:47.1±0.5, 54.°61N±0.°02×162.°46E±0.°07, h60km±6km, mb3.9/7, Error ellipse: s-maj=6.7km s-min=3.1km az=17.9*

ISC 15 04:11:47.4±1.1, 54.°63N±0.°03×162.°38E±0.°05, h48km±9km, n52, σ1§65/77, mb3.9/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.39**	**260**	*e*P	**Pn**	**04 11 56.6**	**-0.6**
MKZ				*e*S	**Sn**	**04 12 03.1**	**-1.0**
TUMD	**Tumrok D**	**1.28**	**298**	*e*P	**Pn**	**04 12 08.5**	**-0.4**
TUMD				*e*S	**Sn**	**04 12 25.3**	**+0.3**
KZV	**Kizimen**	**1.30**	**293**	*e*P	**Pn**	**04 12 08.8**	**-0.5**
KZV				*e*S	**Sn**	**04 12 25.8**	**+0.2**
TUMR	**Tumrok**	**1.45**	**298**	*e*P	**Pn**	**04 12 11.4**	**+0.1**
TUMR				*e*S	**Sn**	**04 12 30.0**	**+0.8**
KBTR	**Krutoberegovo**	**1.61**	**9**	*e*P	**Pn**	**04 12 13.2**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.63**	**325**	*e*P	**Pn**	**04 12 14.4**	**+0.6**
BZGR				*e*S	**Sn**	**04 12 35.2**	**+1.5**
KBG	**Krutoberegovo**	**1.64**	**6**	*e*P	**Pn**	**04 12 16.6**	**+2.8**
KBG				*e*S	**Sn**	**04 12 35.5**	**+1.7**
ZLN	**Zelenaya**	**1.66**	**328**	*e*P	**Pn**	**04 12 15.1**	**+0.9**
ZLN				*e*S	**Sn**	**04 12 36.1**	**+1.7**
KMNR	**Kamenistaya**	**1.67**	**314**	*e*P	**Pn**	**04 12 14.7**	**+0.4**
KMNR				*e*S	**Sn**	**04 12 36.8**	**+2.2**
BZMR	**Bezymyannaya**	**1.70**	**321**	*e*P	**Pn**	**04 12 15.5**	**+0.7**
BZMR				*e*S	**Sn**	**04 12 37.3**	**+1.9**
BZWR	**Bezymyannyi-We**	**1.72**	**322**	*e*P	**Pn**	**04 12 15.6**	**+0.5**
LGNR	**Loginova**	**1.75**	**327**	*e*P	**Pn**	**04 12 16.8**	**+1.2**
LGNR				*e*S	**Sn**	**04 12 39.4**	**+2.6**
CIRR	**Tsirk**	**1.76**	**329**	*e*P	**Pn**	**04 12 16.5**	**+0.9**
KIRR	**Kirishev**	**1.77**	**320**	*e*P	**Pn**	**04 12 16.6**	**+0.9**
KIRR				*e*S	**Sn**	**04 12 39.2**	**+2.1**
KII	**Karymskiy**	**1.82**	**252**	*e*P	**Pn**	**04 12 16.7**	**+0.4**
KPT	**Kopyto**	**1.82**	**318**	*e*P	**Pn**	**04 12 17.3**	**+0.9**
KPT				*e*S	**Sn**	**04 12 39.9**	**+1.5**
KRSR	**Krestovskiy**	**1.90**	**328**	*e*P	**Pn**	**04 12 17.9**	**+0.4**
KRSR				*e*S	**Sn**	**04 12 41.0**	**+0.7**
KLY	**Klyuchi**	**1.96**	**331**	*e*P	**Pn**	**04 12 18.3**	**+0.2**
KLY				*e*S	**Sn**	**04 12 42.0**	**+0.6**
KOZ	**Kozyrevsk**	**2.03**	**316**	*e*P	**Pn**	**04 12 20.3**	**+1.2**
KOZ				*e*S	**Sn**	**04 12 46.1**	**+2.9**
BDR	**Baidarnaya**	**2.06**	**342**	*e*P	**Pn**	**04 12 20.7**	**+1.1**
BDR				*e*S	**Sn**	**04 12 46.5**	**+2.4**
SPN	**Mys Shipunski**	**2.07**	**223**	*e*P	**Pn**	**04 12 19.6**	**-0.1**
SPN				*e*S	**Sn**	**04 12 43.5**	**-0.8**
SRKR	**Sorokina**	**2.15**	**342**	*e*P	**Pn**	**04 12 21.6**	**+0.8**
BKI	**Bering**	**2.15**	**73**	*e*P	**Pn**	**04 12 21.4**	**+0.6**
NLC	**Nalytchevo**	**2.31**	**232**	*e*P	**Pn**	**04 12 23.7**	**+0.7**
SDLR	**Sedlovina**	**2.47**	**238**	*e*P	**Pn**	**04 12 26.7**	**+1.5**
SDLR				*e*S	**Sn**	**04 12 55.5**	**+1.3**
ESO	**Esso**	**2.48**	**303**	*e*P	**Pn**	**04 12 26.5**	**+1.2**
SMAR	**Somma**	**2.52**	**239**	*e*P	**Pn**	**04 12 27.5**	**+1.5**
SMAR				*e*S	**Sn**	**04 12 57.2**	**+1.7**
KRER	**Koryakskii**	**2.52**	**240**	*e*P	**Pn**	**04 12 27.9**	**+1.9**
KRER				*e*S	**Sn**	**04 12 58.6**	**+3.0**
UGLR	**Uglovaya**	**2.54**	**237**	*e*P	**Pn**	**04 12 27.8**	**+1.6**
KRX	**Arik**	**2.54**	**242**	*e*P	**Pn**	**04 12 27.7**	**+1.4**
KRX				*e*S	**Sn**	**04 12 57.5**	**+1.4**
AVH	**Avacha**	**2.55**	**239**	*e*P	**Pn**	**04 12 28.4**	**+2.1**
AVH				*e*S	**Sn**	**04 12 58.5**	**+2.4**
KOK	**Koryaka**	**2.58**	**240**	*e*P	**Pn**	**04 12 28.6**	**+1.8**
KOK				*e*S	**Sn**	**04 12 59.2**	**+2.2**
DALK	**Dalny**	**2.68**	**235**	*e*P	**Pn**	**04 12 29.1**	**+1.1**
DALK				*e*S	**Sn**	**04 13 00.2**	**+1.1**
PET	**Petropavlovsk**	**2.73**	**236**	*e*P	**Pn**	**04 12 30.2**	**+1.5**
PET				*e*S	**Sn**	**04 13 01.9**	**+1.5**
GNL	**Ganaly**	**2.77**	**252**	*e*P	**Pn**	**04 12 31.0**	**+1.6**
KRMR	**Karymshinskiy**	**3.10**	**236**	*e*P	**Pn**	**04 12 36.5**	**+2.7**
KRMR				*e*S	**Sn**	**04 13 12.8**	**+3.3**
PETK	**Petropavlovsk-**	**3.16**	**243**	Pn	**Pn**	**04 12 36.2**	**+1.5**
	2.2nm,0.3s,baz=77,slow=18,SNR=42						
PETK				Sn	**Sn**	**04 13 15.0**	**+3.9**
	4.5nm,0.3s,baz=90,slow=39,SNR=12						
RUS	**Russkaya**	**3.19**	**228**	*e*P	**Pn**	**04 12 35.7**	**+0.8**
MTVR	**Mutnovka**	**3.30**	**231**	*e*P	**Pn**	**04 12 38.3**	**+1.7**
GRL	**Gorelyy**	**3.30**	**233**	*e*P	**Pn**	**04 12 38.7**	**+2.0**
ASAK	**Asacha**	**3.49**	**232**	*e*P	**Pn**	**04 12 41.6**	**+2.3**
ASAK				*e*S	**Sn**	**04 13 21.4**	**+2.0**
KDTR	**Khodutka, Kamc**	**3.83**	**224**	*e*S	**Sn**	**04 13 26.1**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**35.00**	**173**	T	T	04 55 57.7	
	baz=355,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**35.02**	**173**	T	T	04 55 59.3	
	baz=355,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**35.02**	**173**	T	T	04 55 56.9	
	baz=355,slow=76,SNR=26						
KURBB	**Kurchatov Arra**	**48.18**	**302**	P	**P**	**04 20 20.0**	**-2.5**
	0.5nm,0.5s,baz=58,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**59.24**	**337**	P	**P**	**04 21 42.6**	**-0.6**
	1.8nm,0.6s,baz=37,slow=7.4,SNR=6.7						
NOA	**NORSAR Array B**	**62.44**	**345**	P	**P**	**04 22 02.9**	**-2.2**
	0.3nm,0.5s,baz=7.4,slow=5.0,SNR=2.9						
HFS	**Hagfors**	**62.89**	**343**	P	**P**	**04 22 07.2**	**-0.8**
	2.3nm,0.8s,baz=12,slow=7.6,SNR=5.8						
AKASG	**Malin Array Be**	**67.98**	**330**	P	**P**	**04 22 40.1**	**-0.9**
	0.8nm,0.5s,baz=27,slow=6.1,SNR=3.1						
TXAR	**Lajitas Array**	**68.81**	**69**	P	**P**	**04 22 49.1**	**+2.4**
	0.1nm,0.3s,baz=293,slow=8.9,SNR=3.8						
BRTR	**Keskin Array B**	**76.28**	**322**	P	**P**	**04 23 29.4**	**-1.6**
	1.3nm,1.0s,baz=348,slow=12,SNR=3.2						

*ISCJB **15** 04:14:54.4±1.0, 30.°45S±0.°04×71.°81W±0.°06, h24km±6km, Error ellipse: s-maj=9.0km s-min=5.6km az=16.6*
*SJA **15** 04:14:56.0±1.1, 30.°30S×71.°58W, h55km±8km, ML3.4, MW3.4*
*GUC **15** 04:14:57.1±0.7, 30.°50S×71.°48W, h28km±3km, ML3.8*

ISC 15 04:14:52.5±2.0, 30.°43S±0.°04×71.°84W±0.°08, h9km±10km, n27, σ1§48/44, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.73**	**45**	⇑*i*P	**Pn**	**04 15 09.6**	**+0.6**
LSCH				*i* S	**Sn**	**04 15 19.4**	**-0.8**
GO04	**Tololo Observa**	**0.94**	**74**	⇓*i*P	**Pg**	**04 15 10.9**	**+0.3**
GO04				*i* S	**Sg**	**04 15 22.1**	**-0.6**
GO04				IAML		04 15 25.1	
	comp=N,8μm,0.4s						
GO04	**Tololo Observa**	**0.94**	**74**	*e*P	**Pg**	**04 15 11.1**	**+0.6**
GO04				*e*S	**Sg**	**04 15 22.2**	**-0.6**
CO02	**Combarbal**	**1.06**	**137**	⇓*i*P	**Pg**	**04 15 13.1**	**+0.3**
CO02				*i* S	**Sg**	**04 15 25.5**	**-1.1**
CO02				IAML		04 15 26.3	
	comp=E,11μm,0.1s						
AROD	**Rodeo**	**2.06**	**83**	⇑*i*P	**Pn**	**04 15 28.5**	**+0.9**
AROD				*e*S	**Sn**	**04 15 52.2**	**-1.5**
ACCO	**Cerro Coronel**	**2.40**	**94**	*i* P	**Pn**	**04 15 33.8**	**+1.5**
ACCO				*e*S	**Sn**	**04 16 02.6**	**+0.6**
RTLS	**Leoncito**	**2.57**	**123**	*i* P	**Pn**	**04 15 36.2**	**+1.5**
RTLS				*e*S	**Sn**	**04 16 06.1**	**-0.1**
RTLS				IAML		04 16 07.3	
	comp=Z,285nm,0.5s						
ROCH	**El Roble**	**2.63**	**165**	*i* P	**Pn**	**04 15 35.4**	**0.0**
PEL	**Peldehue**	**2.88**	**160**	*i* P	**Pn**	**04 15 38.9**	**+0.3**
AMOG	**MOGNA**	**2.93**	**101**	*i* P	**Pn**	**04 15 40.7**	**+1.4**
AMOG				*e*S	**Sn**	**04 16 15.2**	**+0.5**
ZON	**Zonda**	**2.94**	**113**	*i* P	**Pn**	**04 15 40.2**	**+0.9**
ZON				*e*S	**Sn**	**04 16 14.4**	**-0.4**
ZON				IAML		04 16 18.0	
	comp=Z,114nm,0.3s						
RTLL	**Cerro Villicun**	**3.03**	**108**	*i* P	**Pn**	**04 15 41.1**	**+0.4**
RTLL				*e*S	**Sn**	**04 16 14.8**	**-2.3**
RTLL				IAML		04 16 21.1	
	comp=Z,163nm,0.4s						
GO03	**Copiap**	**3.16**	**27**	*i* P	**Pn**	**04 15 42.7**	**+0.3**
RTCV	**Cerro Valdivia**	**3.17**	**118**	*i* P	**Pn**	**04 15 44.2**	**+1.6**
FCH	**Farellones**	**3.18**	**156**	*i* P	**Pn**	**04 15 43.8**	**+0.9**
FCH				*i* S	**Sn**	**04 16 20.8**	**-0.3**
FCH				IAML		04 16 33.0	
	comp=E,119nm,0.2s						
CFA	**Coronel Fontan**	**3.31**	**112**	*i* P	**Pn**	**04 15 45.1**	**+0.6**
CFA				*e*S	**Sn**	**04 16 21.7**	**-2.3**
ASAL	**Salagasta**	**3.35**	**131**	*i* P	**Pn**	**04 15 47.4**	**+2.3**
ASAL				*e*S	**Sn**	**04 16 26.1**	**+1.0**
ARCO	**CERRO ARCO**	**3.46**	**135**	*e*P	**Pn**	**04 15 49.8**	**+3.1**
ARCO				*e*S	**Sn**	**04 16 29.9**	**+2.2**
ARCO				IAML		04 16 34.9	
	comp=Z,83nm,0.8s						
VCA	**Vinchina**	**3.59**	**63**	*i* P	**Pn**	**04 15 50.8**	**+2.4**
VCA				*i* S	**Sn**	**04 16 31.9**	**+0.8**
VCA				IAML		04 16 34.9	
	comp=N,352nm,0.4s						
VCA	**Vinchina**	**3.59**	**63**	*i* P	**Pn**	**04 15 51.0**	**+2.5**
VCA				*e*S	**Sn**	**04 16 31.9**	**+0.8**
VCA				IAML		04 16 32.7	
	comp=Z,230nm,0.3s						
AAGR	**Agrelo**	**3.69**	**137**	*i* P	**Pn**	**04 15 52.3**	**+2.5**
ACLC	**CERRO LA CRUZ**	**4.36**	**78**	*i* P	**Pn**	**04 15 59.6**	**+0.5**
GO05	**Huala**	**4.57**	**181**	*i* P	**Pn**	**04 16 00.8**	**-1.0**
APLL	**PUNTA DE LOS L**	**4.59**	**91**	*i* P	**Pn**	**04 16 01.9**	**-0.2**
APLL				*e*S	**Sn**	**04 16 52.1**	**-3.5**
APLL				IAML		04 16 53.7	
	comp=Z,22nm,0.3s						
MRA	**San Martin**	**5.60**	**112**	⇑*i*P	**Pn**	**04 16 15.1**	**-0.9**
MRA				IAML		04 17 43.2	
	comp=Z,23nm,0.5s						
CYA	**Choya**	**5.63**	**71**	*i* P	**Pn**	**04 16 15.7**	**-0.7**
CYA				IAML		04 17 17.0	
	comp=Z,10nm,0.3s						
TCA	**Tanti**	**6.29**	**100**	*i* P	**Pn**	**04 16 23.8**	**-1.8**

*ISCJB **15** 04:28:36.4±0.6, 18.°95S±0.°08×172.°47W±0.°09, h10km, mb3.9/8, MS3.5/1, Error ellipse: s-maj=13.7km s-min=9.9km az=135.6*
*IDC **15** 04:28:39.8±0.9, 18.°84S×172.°85W, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.0/29, mbtmp4.0/10, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/34, Error ellipse: s-maj=39.8km s-min=18.0km az=142.0*
*NEIC **15** 04:28:40.5±0.8, 19.°05±0.°1×172.°36W±0.°06, h34km±6km, mb4.2/6*

ISC 15 04:28:39.6±0.7, 18.°92S±0.°08×172.°38W±0.°09, h10km, n22, σ2§85/20, mb4.0/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.33**	**94**	Pn	**Pn**	**04 29 16.2**	**-1.8**
AFI	**Afiamalu**	**5.02**	**7**	Pn	**Pn**	**04 29 55.1**	**0.0**
	2.7nm,0.3s,baz=217,slow=20,SNR=3.1						
AFI				Sn	**Sn**	**04 30 47.5**	**-5.7**
	17nm,0.3s,baz=119,slow=20,SNR=8.4						
AFI				LR	LR	04 31 30.5	
	comp=Z,78nm,19.4s,baz=291,slow=34						
AFI				T	T	04 35 07.3	
	5.8nm,0.3s,baz=71,slow=14,SNR=4.1						
AFI	**Afiamalu**	**5.02**	**7**		**Sn**	**04 30 52.1**	**-1.2**
RAR	**Rarotonga**	**12.07**	**103**	Pn	**Pn**	**04 31 29.6**	**-2.1**
	2.0nm,0.3s,baz=252,slow=6.4,SNR=3.4						
DZM	**Mont Dzumac**	**20.08**	**257**	P	**P**	**04 33 12.1**	**-1.4**
	0.6nm,0.3s,baz=84,slow=24,SNR=7.5						
DZM	**Mont Dzumac**	**20.08**	**257**	IAmb	IAmb	04 33 13.0	
	comp=Z,11nm,0.9s						
URZ	**Urewera**	**21.33**	**203**	P	**P**	**04 33 27.4**	**+0.6**
	comp=Z,7.3nm,0.6s,baz=56,slow=0.6,SNR=7.4						
URZ	**Urewera**	**21.33**	**203**	IAmb	IAmb	04 33 36.2	
	comp=Z,13nm,1.0s						
KRVT	**Keravat (AS076**	**37.66**	**288**	LR	LR	04 49 17.6	
	comp=Z,62nm,18.2s,baz=145,slow=33						
AS31	**Alice Springs**	**50.03**	**255**	P	**P**	**04 37 32.1**	**-2.7**
ASAR	**Alice Springs**	**50.03**	**255**	P	**P**	**04 37 32.3**	**-2.5**
	comp=Z,7.7nm,0.8s,baz=87,slow=8.7,SNR=68						
ASAR	**Alice Springs**	**50.03**	**255**	P	**P**	**04 37 31.9**	**-2.9**
WB2	**Warramunga Arr**	**50.06**	**260**	P	**P**	**04 37 32.5**	**-2.5**
WRAB	**Tennant Creek**	**50.07**	**260**	P	**P**	**04 37 32.4**	**-2.7**
WRA	**Warramunga Arr**	**50.08**	**260**	P	**P**	**04 37 32.5**	**-2.6**
	comp=Z,3.6nm,0.8s,baz=97,slow=7.8,SNR=46						
WRA	**Warramunga Arr**	**50.08**	**260**	P	**P**	**04 37 32.0**	**-3.2**
NVAR	**Mina Array Bea**	**76.31**	**41**	P	**P**	**04 40 32.2**	**+3.0**
	comp=Z,0.1nm,0.4s,baz=233,slow=14,SNR=2.4						
KSRS	**Korea Array**	**79.34**	**316**	P	**P**	**04 40 47.5**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=126,slow=6.4,SNR=5.0						
TXAR	**Lajitas Array**	**81.78**	**55**	P	**P**	**04 41 03.5**	**+4.3**
	comp=Z,0.6nm,1.1s,baz=228,slow=3.5,SNR=3.1						
PDAR	**Pinedale Array**	**84.24**	**41**	P	**P**	**04 41 14.7**	**+2.8**
	comp=Z,0.3nm,0.6s,baz=228,slow=9.1,SNR=3.3						
ILAR	**Eielson Array**	**85.70**	**11**	P	**P**	**04 41 18.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=232,slow=4.9,SNR=6.6						
BRTR	**Keskin Array B**	**149.46**	**318**	PKPbc	**PKPbc**	**04 48 31.1**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=131,slow=3.8,SNR=4.7						

*GRAL **15** 04:38:03.8±0.3, 33.°59N×35.°41E, h22km±2km, MD2.9*
*GII **15** 04:38:03.6±0.0, 33.°56N×35.°46E, h1km, MD1.3/4*
*ISCJB **15** 04:38:04.4±0.6, 33.°62N±0.°03×35.°50E±0.°06, h19km±6km, Error ellipse: s-maj=8.5km s-min=4.6km az=13.7*

ISC 15 04:38:04.0±1.0, 33.°59N±0.°04×35.°47E±0.°05, h17km±8km, n17, σ0§53/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.15**	**36**	*e*P	**Pb**	**04 38 08.5**	**+0.1**
DQRL				*e*S	**Sg**	**04 38 11.9**	**+1.0**
QRWL	**Qaraoun**	**0.18**	**102**	*e*P	**Pb**	**04 38 09.1**	**+0.1**
RCY	**Rachaya**	**0.32**	**106**	*e*P	**Pb**	**04 38 11.2**	**-0.2**
RCY				*e*S	**Sb**	**04 38 16.5**	**+0.1**
BHL	**Bhannes**	**0.35**	**26**	*e*P	**Pg**	**04 38 11.1**	**-0.3**
BHL				*e*S	**Sg**	**04 38 16.6**	**+0.1**
NATI	**Neve Ativ**	**0.39**	**145**	Pg	**Pb**	**04 38 12.3**	**-0.2**
NATI				Sg	**Sb**	**04 38 18.1**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.41**	**156**	Pg	**Pb**	**04 38 12.6**	**-0.2**
GEM				Sg	**Sb**	**04 38 18.9**	**+0.1**
KSDI	**Kefar Szold**	**0.42**	**158**	Pg	**Pb**	**04 38 13.0**	**-0.1**
KSDI				Sg	**Sg**	**04 38 18.7**	**+0.3**
HNTI	**Hanita**	**0.56**	**206**	Pg	**Pb**	**04 38 15.0**	**-0.4**
HNTI				Sg	**Sb**	**04 38 24.3**	**+1.2**
MMA0B	**Mount Meron ar**	**0.57**	**185**	Pg	**Pb**	**04 38 15.3**	**-0.3**
MMA0B				Sg	**Sb**	**04 38 24.2**	**+0.7**
KSHT	**Keshet**	**0.67**	**154**	Pg	**Pb**	**04 38 17.7**	**+0.4**
HWQ	**Hawqa**	**0.80**	**30**	*e*P	**Pg**	**04 38 18.2**	**-1.4**
BLGI	**Bet Lehem HaGe**	**0.88**	**195**	Sg	**Sn**	**04 38 33.7**	**-0.4**
OFRI	**`Ofer**	**1.04**	**203**	Pg	**Pb**	**04 38 23.4**	**-0.3**
OFRI				Sg	**Sn**	**04 38 38.7**	**+0.5**
MMLI	**Mount Malkishu**	**1.15**	**182**	Pg	**Pb**	**04 38 25.0**	**-0.4**
MMLI				Sg	**Sn**	**04 38 41.4**	**+0.7**
HMDT	**Nahal Hemdat**	**1.33**	**178**	Pn	**Pn**	**04 38 27.8**	**0.0**
HMDT				Sn	**Sg**	**04 38 46.9**	**-0.1**
SLTI	**Sal'it**	**1.39**	**195**	Pn	**Pb**	**04 38 29.3**	**-0.2**
SLTI				Sn	**Sg**	**04 38 48.9**	**0.0**
DSI	**Dead Sea**	**2.01**	**182**	Pn	**Pn**	**04 38 37.8**	**+0.6**
DSI				Sn	**Sb**	**04 39 04.8**	**-0.1**

IDC 15 04:38:06.8±5.1, 53.°35N×91.°06E, h0km, mb1 2.9/3, mb1mx2.8/45, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=54.9km s-min=27.8km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.76**	**282**	Pn	Pn	04 39 06.5	+0.5
	0.6nm,0.3s,baz=98,slow=10,SNR=5.2						
ZALV				Lg	Lg	04 40 07.5	
	0.8nm,0.3s,baz=101,slow=27,SNR=5.6						
KURBB	**Kurchatov Arra**	**8.20**	**256**	Pn	Pn	04 40 06.0	-0.9
	0.1nm,0.3s,baz=70,slow=14,SNR=6.3						
KURBB				Lg	Lg	04 42 26.4	
	baz=69,slow=33,SNR=2.6						
MKAR	**Makanchi Array**	**8.65**	**224**	Pn	Pn	04 40 14.3	+1.2
	0.1nm,0.3s,baz=46,slow=10,SNR=2.6						
I34MN	**SONGINO INFRAS**	**11.22**	**113**	*i*		05 43 50.0	
	baz=309,slow=329,SNR=0.8						

IDC 15 04:40:37.6±2.9, 16.°67S×175.°21E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/36, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/34, Error ellipse: s-maj=172.8km s-min=26.4km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.86**	**236**	LR	LR	04 46 18.2	
	comp=Z,133nm,18.6s,baz=234,slow=34						
WRA	**Warramunga Arr**	**38.87**	**259**	P	P	04 48 04.1	-1.1
	0.9nm,1.1s,baz=80,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**39.29**	**253**	P	P	04 48 08.8	+0.3
	1.7nm,0.9s,baz=83,slow=9.0,SNR=12						
NVAR	**Mina Array Bea**	**82.89**	**47**	P	P	04 53 02.9	-1.8
	0.8nm,0.9s,baz=218,slow=9.3,SNR=5.6						
ILAR	**Eielson Array**	**86.18**	**15**	P	P	04 53 22.2	+1.8
	0.7nm,1.0s,baz=185,slow=4.3,SNR=3.2						
GERES	**GERESS Array B**	**144.54**	**339**	PKP	PKPdf	05 00 16.6	+0.3
	0.4nm,0.7s,baz=30,slow=8.0,SNR=2.9						

*ASRS **15** 04:42:02.8, 53.°71N×90.°98E, M3.0, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **15** 04:42:10.7±3.8, 53.°76N×90.°50E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=28.5km s-min=22.2km az=50.0, Suspected Mining explosion.*

IDC 15 04:42:08.3±4.2, 53.°73N×90.°93E, h0km, mb1 3.1/3, mb1mx3.0/47, mbtmp3.1/3, ML2.4/3, 7C-4D, Error ellipse: s-maj=46.2km s-min=25.1km az=22.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.63**	**276**	⇓Pg	Pb	04 43 10.4	-2.9
	1.0nm,0.7s						
ZAA0				⇓Lg	Lg	04 43 59.9	
	6.2nm,1.2s						
ZALV	**Zalesovo Beam**	**3.63**	**276**	Pn	Pn	04 43 06.0	+0.3
	0.2nm,0.3s,baz=117,slow=12,SNR=2.3						
ZALV				Lg	Lg	04 44 01.6	
	2.7nm,0.3s,baz=81,slow=27,SNR=8.3						
KURK	**Kurchatov**	**8.14**	**253**	⇓Pn	Pn	04 44 08.4	+0.8
	1.8nm,0.8s						
KURK				⇑Sn	Sn	04 45 39.9	-0.3
	2.3nm,0.6s						
KURK				⇑Lg	Lg	04 46 21.0	
	12nm,1.0s						
KURBB	**Kurchatov Arra**	**8.23**	**253**	⇑Pn	Pn	04 44 09.2	+0.3
	1.6nm,0.6s						
KURBB				⇑Sn	Sn	04 45 38.8	-3.6
	16nm,1.1s						
KURBB				⇑Lg	Lg	04 46 26.7	
	9.6nm,0.8s						
KURBB	**Kurchatov Arra**	**8.23**	**253**	Pn	Pn	04 44 08.7	-0.1
	0.1nm,0.3s,baz=64,slow=15,SNR=5.2						
KURBB				Sn	Sn	04 45 41.5	-1.0
	0.1nm,0.3s,baz=69,slow=27,SNR=9.8						
KURBB				Lg	Lg	04 46 29.1	
	0.1nm,0.3s,baz=61,slow=32,SNR=6.7						
MK31

FINES	**FINESS Array B**	**19.88**	**85**	P	**Pn**	**05 37 27.1**	**-0.4**
FRB	**Frobisher Bay**	**20.51**	**284**	LR	LR	05 43 48.9	
	comp=Z,82nm,21.3s,baz=45,slow=32						
RES	**Resolute Bay**	**24.21**	**321**	LR	LR	05 47 56.9	
	comp=Z,64nm,19.8s,baz=189,slow=37						
SCHQ	**Schefferville**	**25.59**	**265**	LR	LR	05 47 08.1	
	comp=Z,78nm,19.0s,baz=324,slow=33						
TEOL	**Teolo**	**27.06**	**128**	P	**P**	**05 38 38.7**	**+1.4**
OBN	**Obninsk**	**28.23**	**88**	LR	LR	05 48 31.1	
	comp=Z,41nm,18.3s,baz=352,slow=33						
MLR	**Muntele Rosu**	**31.82**	**110**	LR	LR	05 51 19.2	
	comp=Z,86nm,19.6s,baz=299,slow=35						
NRIK	**Noril'sk**	**34.78**	**37**	LR	LR	05 54 18.6	
	comp=Z,64nm,18.8s,baz=14,slow=37						
INK	**Inuvik**	**37.50**	**326**		**P**	**05 40 08.5**	**+0.2**
TOLK	**Toolik Lake Re**	**40.31**	**335**	P	**P**	**05 40 32.3**	**+0.5**
TOLK				IAmb	IAmb	05 40 35.0	
	comp=Z,4.2nm,1.0s						
ULM	**Lac du Bonnet**	**40.39**	**285**	LR	LR	05 56 47.9	
	comp=Z,106nm,19.1s,baz=9,5,slow=36						
ILAR	**Eielson Array**	**43.29**	**331**	P	**P**	**05 40 56.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=34,slow=8.2,SNR=5.6						
ILAR				LR	LR	06 03 37.4	
	comp=Z,35nm,18.9s,baz=49,slow=43						
IMAR	**Indian Mountai**	**43.41**	**335**	P	**P**	**05 40 59.0**	**+1.9**
BCAR	**Beaver Creek A**	**43.77**	**326**	P	**P**	**05 41 01.1**	**+0.9**
MLY	**Manley**	**43.77**	**333**	P	**P**	**05 41 01.3**	**+1.2**
MLY				IAmb	IAmb	05 41 04.1	
	comp=Z,7.1nm,1.4s						
WRH	**Wood River Hil**	**43.79**	**331**	P	**P**	**05 41 01.2**	**+1.0**
WRH				IAmb	IAmb	05 41 03.2	
	comp=Z,3.6nm,0.8s						
KURK	**Kurchatov**	**47.28**	**59**	P	**P**	**05 41 28.4**	**+0.4**
KURK				IAmb	IAmb	05 41 32.4	
	comp=Z,3.0nm,1.4s						
KURBB	**Kurchatov Arra**	**47.33**	**59**	P	**P**	**05 41 28.0**	**-0.4**
	comp=Z,1.3nm,0.2s,baz=323,slow=7.4,SNR=4.7						
KKAR	**Karatay Array**	**50.94**	**71**	P	**P**	**05 41 57.3**	**+1.2**
PDAR	**Pinedale Array**	**51.79**	**290**	P	**P**	**05 42 02.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=46,slow=7.7,SNR=6.1						
PDAR	**Pinedale Array**	**51.79**	**290**	P	**P**	**05 42 02.2**	**-0.5**
WVOR	**Wild Horse Val**	**55.32**	**298**	P	**P**	**05 42 28.7**	**+0.2**
R11A	**Troy Canyon, C**	**57.85**	**293**	P	**P**	**05 42 47.2**	**+0.4**
R11A				IAmb	IAmb	05 42 51.8	
	comp=Z,3.1nm,1.4s						
NVAR	**Mina Array Bea**	**58.76**	**295**	LR	LR	06 08 57.9	
	comp=Z,68nm,20.1s,baz=39,slow=37						
TXAR	**Lajitas Array**	**61.39**	**278**	P	**P**	**05 43 10.6**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=19,slow=5.7,SNR=2.3						
TXAR				LR	LR	06 10 04.7	
	comp=Z,42nm,18.8s,baz=0.0,slow=36						

*SJA **15** 05:36:13.7±0.4, 34°.77S×79°.76W, h5km±999km, ML4.8*
*GUC **15** 05:37:37.1±0.6, 33°.44S×72°.36W, h38km±3km, ML3.0*

ISC 15 05:37:38.4±3.2, 33°.4S±0°.1×72°.3W±0°.2, h10km, n14, σ1§19/20, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.66**	**51**	*eP*	**Pg**	**05 37 50.6**	**-0.5**
VA01				*i S*	**Sb**	**05 38 01.3**	**+0.1**
VA01				IAML		05 38 03.0	
	comp=N,902nm,0.1s						
ROC1	**El Roble**	**1.14**	**66**	*eP*	**Pb**	**05 37 59.0**	**-1.3**
ROC1				*eS*	**Sb**	**05 38 15.5**	**+0.2**
ROCH	**El Roble**	**1.14**	**66**	⇑*iP*	**Pb**	**05 37 58.7**	**-1.7**
ROCH				*i S*	**Sb**	**05 38 15.1**	**-0.3**
ROCH				IAML		05 38 19.0	
	comp=N,436nm,0.4s						
PEL	**Peldehue**	**1.35**	**78**	⇓*eP*	**Pn**	**05 38 02.3**	**-1.1**
PEL				*eS*	**Sn**	**05 38 20.6**	**-0.8**
CLCH	**Cerro Calan**	**1.44**	**89**	⇑*iP*	**Pn**	**05 38 03.7**	**-0.9**
CLCH				*i S*	**Sn**	**05 38 23.5**	**-0.1**
CLCH				IAML		05 38 36.2	
	comp=E,387nm,0.4s						
FCH	**Farellones**	**1.65**	**87**	*i P*	**Pn**	**05 38 07.0**	**-0.7**
FCH				*i S*	**Sn**	**05 38 30.3**	**+1.1**
FCH				IAML		05 38 37.5	
	comp=N,230nm,0.5s						
ARCO	**CERRO ARCO**	**2.85**	**79**	*eP*	**Pb**	**05 38 30.0**	**+0.5**
ARCO				IAML		05 38 33.7	
	comp=Z,36nm,0.3s						
AAGR	**Agrelo**	**2.89**	**84**	*eP*	**Pb**	**05 38 30.7**	**+0.5**
RTLS	**Leoncito**	**2.98**	**58**	*eP*	**Pb**	**05 38 31.3**	**-0.6**
RTLS				IAML		05 39 17.1	
	comp=Z,33nm,0.5s						
ASAL	**Salagasta**	**3.00**	**75**	*eP*	**Pb**	**05 38 32.7**	**+0.7**
RTCV	**Cerro Valdivia**	**3.51**	**64**	*eP*	**Pb**	**05 38 43.2**	**+2.5**
ACCO	**Cerro Coronel**	**3.93**	**44**	*eP*	**Pn**	**05 38 40.6**	**+1.5**
VCA	**Vinchina**	**5.83**	**38**	*eP*	**Pn**	**05 39 04.5**	**-0.6**
VCA				IAML		05 39 18.2	
	comp=Z,11nm,0.4s						
TCA	**Tanti**	**6.81**	**74**	*eP*	**Pn**	**05 39 20.5**	**+2.0**

*JMA **15** 05:40:36.8±0.1, 33°.80N×137°.03E, h396km, M2.9*
*ISCJB **15** 05:40:39.7±0.7, 33°.66N±0°.09×137°.07E±0°.09, h350km, mb3.1/3, Error ellipse: s-maj=14.3km s-min=8.3km az=146.8*
*IDC **15** 05:40:39.5±1.0, 33°.88N×137°.00E, h364km±13km, mb2.9/3, mb1 3.0/6, mb1mx2.7/58, mbtmp3.5/6, Error ellipse: s-maj=26.7km s-min=20.1km az=89.0*

ISC 15 05:40:39.7±1.0, 33°.8N±0°.1×136°.96E±0°.09, h350km, n15, σ1§90/17, mb3.0/3, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.52**	**67**	P	**Pn**	**05 41 26.5**	**+2.9**
JIE	**Ise**	**0.62**	**340**	P	**Pn**	**05 41 26.7**	**+2.5**
JTNC	**Tanabenakahech**	**1.12**	**271**	P	**Pn**	**05 41 28.4**	**+2.4**
JWY	**Kouya**	**1.21**	**290**	P	**Pn**	**05 41 28.7**	**+2.3**
JWT	**Wachi**	**1.95**	**319**	P	**Pn**	**05 41 32.6**	**+2.0**
JRY	**Ryogami san**	**2.72**	**35**	*eS*	**S**	**05 42 24.7**	**+2.4**
MJAR	**Matsushiro Arr**	**2.91**	**20**	P	**Pn**	**05 41 39.1**	**+0.9**
	0.2nm,0.3s,baz=196,slow=9.3,SNR=10						
MJAR				S	**S**	**05 42 26.0**	**+0.7**
	0.1nm,0.3s,baz=211,slow=18,SNR=4.6						
JAG	**Ashikaga**	**3.31**	**37**	P	**Pn**	**05 41 42.2**	**+0.3**
JAG				*eS*	**S**	**05 42 30.5**	**-1.5**
JHS	**Saijyo**	**3.39**	**292**	P	**Pn**	**05 41 44.3**	**+1.6**
BSO1	**Boso 1**	**3.43**	**75**	*eS*	**S**	**05 42 33.1**	**0.0**
JNU	**Nakatsue**	**5.13**	**264**	P	**Pn**	**05 42 02.0**	**+1.2**
	0.8nm,0.3s,baz=139,slow=5.2,SNR=6.8						
KSRS	**Korea Array**	**8.21**	**299**	P	**Pn**	**05 42 37.0**	**+0.8**
	0.3nm,0.3s,baz=117,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**53.51**	**183**	P	**P**	**05 49 23.6**	**-1.8**
	0.3nm,0.4s,baz=358,slow=7.5,SNR=6.8						
ASAR	**Alice Springs**	**57.23**	**183**	P	**P**	**05 49 51.0**	**-0.6**
	0.2nm,0.5s,baz=12,slow=14,SNR=4.3						
FINES	**FINESS Array B**	**69.93**	**331**	P	**P**	**05 51 11.6**	**-1.8**
	0.6nm,0.4s,baz=64,slow=6.3,SNR=8.2						

NEIC 15 05:56:54.2±0.7, 38°.39N±0°.01×122°.37W±0°.01, h11km±2km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAPC	**Atlas Peak**	**0.11**	**61**		Pg	05 56 57.0	-0.1
NSHM	**Saint Helena R**	**0.23**	**305**		Pg	05 56 59.0	0.0
NTYM	**Taylor**	**0.23**	**270**		Pg	05 56 58.9	-0.1
NLHM	**Lake Herman**	**0.32**	**147**		Pg	05 57 00.9	+0.2
MAC	**Mark West Spri**	**0.32**	**301**		Pg	05 57 00.9	+0.2
MCCM	**Marconi Confer**	**0.47**	**239**	Pg	Pg	05 57 03.5	+0.1
NMCNC	**Mill Creek, So**	**0.47**	**296**		Pg	05 57 03.6	+0.1
GDXM	**Geysers**	**0.54**	**322**	Pg	Pg	05 57 04.6	-0.1
GSSM	**Skaggs Springs**	**0.59**	**302**		Pb	05 57 06.5	-0.1
JSBM	**San Bruno Moun**	**0.71**	**182**		Pg	05 57 07.9	0.0
AFDM	**Forest Hills D**	**1.23**	**63**		Pn	05 57 15.8	-1.6
AFDM				Sg	Sb	05 57 31.8	-1.7

*IDC **15** 06:19:11.9±2.3, 32°.68S×67°.56W, h17km±14km, mb5.2/21, mb1 5.2/26, mb1mx5.2/29, mbtmp5.2/26, ML4.9/5, MS4.5/24, Ms1 4.5/24, ms1mx4.4/31, Error ellipse: s-maj=13.7km s-min=8.6km az=73.0*
*MOS **15** 06:19:11.7±1.0, 32°.61S×67°.48W, h21km, mb5.7/34, MS4.7/4, Error ellipse: s-maj=11.8km s-min=6.8km az=94.1*
*VAO **15** 06:19:11.8±0.3, 32°.60S×67°.53W, h10km, mb5.3*
*NEIC **15** 06:19:12.8±1.6, 32°.66S±0°.06×67°.48W±0°.07, h22km±3km, mb5.5/384, Mwr4.9, Md5.4(SJA), Mwc5.1(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 1.89; Mθθ 0.12; Mφφ -2.01; Mrθ 0.31; Mθφ -1.00; Mφr 2.18; Fault plane solution: M0 3.11000×10^16 NP1: φs 10.65000°, δ 68.32000°, λ 79.80000°. NP2: φs 216.61000°, δ 23.85000°, λ 114.00000°. Principal axes: T 2.8730, Plg65.0000°, Azm263.0000°; N 0.4282, Plg9.0000°, Azm14.0000°; P -3.3012, Plg23.0000°, Azm108.0000°;*
*ISCJB **15** 06:19:13.8±0.3, 32°.63S±0°.02×67°.46W±0°.02, h43km±2km, mb5.4/47, MS4.6/27 Error ellipse: s-maj=3.5km s-min=3.0km az=171.7*
*SJA **15** 06:19:13.4±1.1, 32°.66S×67°.66W, h19km±3km, ML5.4, MW5.2*
*BJI **15** 06:19:14.0±0.0, 32°.60S×67°.50W, h25km, mB5.5/13, Ms5.4/9, Ms7 5.1/10*
*GCMT **15** 06:19:17.8±0.3, 32°.72S±0°.02×67°.54W±0°.02, h35km, MW5.1/65, Moment Tensor Solution. s54,c65; s65,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.94±.21; Mθθ -0.26±.13; Mφφ -4.68±.16; Mrθ -0.45±.15; Mθφ -1.69±.11; Mφr 1.01±.22; Best double couple: M0 5.21900×10^16 NP1: φs 10.00000°, δ 50.00000°, λ 79.00000°. NP2: φs 208.00000°, δ 41.00000°, λ 103.00000°. Principal axes: T 5.1200, Plg80.0000°, Azm225.0000°; N 0.2010, Plg9.0000°, Azm17.0000°; P -5.3170, Plg5.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 06:19:18, 32°.80S×67°.58W, h33km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 3.94; Mθθ -0.31; Mφφ -3.63; Mrθ -0.39; Mθφ -2.14; Mφr 0.00; Fault plane solution: M0 4.37000×10^16 NP1: φs 20.00000°, δ 44.00000°, λ 81.00000°. NP2: φs 212.00000°, δ 46.00000°, λ 99.00000°. Principal axes: T 3.9812, Plg84.0000°, Azm196.0000°; N 0.7005, Plg6.0000°, Azm26.0000°; P -4.6817, Plg1.0000°, Azm296.0000°;*

ISC 15 06:19:11.3±0.7, 32°.66S±0°.02×67°.61W±0°.02, h13km±4km, n1299, σ0§98/1219, mb5.5/209, MS4.6/27, 52C-30D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.52**	**43**	⇑*eP*	**Pn**	**06 19 25.1**	**+0.7**
ASAL	**Salagasta**	**1.04**	**273**	⇓*iP*	**Pn**	**06 19 32.8**	**+1.1**
UTNM	**Universidad Te**	**1.08**	**257**	⇓*iP*	**Pg**	**06 19 33.9**	**+1.8**
UTNM				*i S*	**Sn**	**06 19 48.4**	**+1.3**
AAGR	**Agrelo**	**1.12**	**247**	⇓*iP*	**Pg**	**06 19 34.1**	**+1.3**
RTCV	**Cerro Valdivia**	**1.12**	**315**	⇓*iP*	**Pg**	**06 19 34.1**	**+1.2**
RTCV				*eS*	**Sn**	**06 19 49.9**	**+1.9**
ARCO	**CERRO ARCO**	**1.13**	**260**	⇓*eP*	**Pg**	**06 19 34.6**	**+1.4**
ARCO				*eS*	**Sn**	**06 19 49.0**	**+0.5**
ARCO				IAML		06 19 54.3	
	comp=Z,179μm,0.6s						
CFA	**Coronel Fontan**	**1.18**	**333**	Pg	**Pg**	**06 19 34.9**	**+0.9**
	comp=Z,3μm,0.3s,baz=155,slow=15,SNR=4929						
CFA				Lg	Lg	06 19 51.4	
	comp=Z,10μm,0.3s,baz=304,slow=3.6,SNR=87						
CFA	**Coronel Fontan**	**1.18**	**333**	⇓*iP*	**Pg**	**06 19 35.2**	**+1.2**
CFA				⇑*i S*	**Sn**	**06 19 52.1**	**+2.6**
SJA	**San Juan**	**1.39**	**324**	⇓*eP*	**Pg**	**06 19 39.3**	**+1.3**
SJA				*eS*	**Sg**	**06 19 58.3**	**+2.2**
ZON	**Zonda**	**1.44**	**320**	*i P*	**Pg**	**06 19 39.4**	**+0.5**
ZON				IAML		06 20 01.9	
	comp=Z,60μm,0.7s						
RTLL	**Cerro Villicun**	**1.52**	**331**	⇑*iP*	**Pg**	**06 19 40.9**	**+0.5**
RTLL				*i S*	**Sg**	**06 20 02.1**	**+1.9**
RTLL				IAML		06 20 05.4	
	comp=E,61μm,0.6s						
RTLL	**Cerro Villicun**	**1.52**	**331**	⇓*iP*	**Pg**	**06 19 41.4**	**+0.9**
RTLL				*eS*	**Sg**	**06 20 02.3**	**+2.1**
RTLL				IAML		06 20 05.0	
	comp=Z,34μm,0.6s						
MRA	**San Martin**	**1.61**	**82**	⇓*iP*	**Pg**	**06 19 43.9**	**+1.6**
MRA				*i S*	**Sg**	**06 20 05.6**	**+2.3**
MRA				IAML		06 20 08.7	
	comp=Z,28μm,0.5s						
RTLS	**Leoncito**	**1.67**	**300**	⇓*iP*	**Pg**	**06 19 43.8**	**+0.4**
RTLS				*eS*	**Sg**	**06 20 06.4**	**+1.3**
AMOG	**MOGNA**	**1.87**	**336**	⇑*iP*	**Pg**	**06 19 47.2**	**-0.1**
FCH	**Farellones**	**2.35**	**253**	⇓*iP*	**Pb**	**06 19 53.4**	**-0.4**
FCH				*i S*	**Sg**	**06 20 26.2**	**-0.8**
FCH				IAML		06 20 27.4	
	comp=N,29μm,0.5s						
ACCO	**Cerro Coronel**	**2.41**	**328**	⇑*eP*	**Pb**	**06 19 54.9**	**+0.2**
APLL	**PUNTA DE LOS L**	**2.44**	**22**	⇑*iP*	**Pb**	**06 19 54.7**	**-0.3**
LMEL	**Las Melosas**	**2.48**	**241**	⇓*iP*	**Pb**	**06 19 55.4**	**-0.4**
LMEL				*i S*	**Sg**	**06 20 29.7**	**-1.4**
LMEL				IAML		06 20 32.6	
	comp=E,14μm,0.3s						
PEL	**Peldehue**	**2.64**	**259**	P	**Pb**	**06 19 57.1**	**-1.3**
PEL						06 20 28.1	
PEL	**Peldehue**	**2.64**	**259**	⇓*iP*	**Pb**	**06 19 57.2**	**-1.3**
PEL				*i S*	**Sb**	**06 20 31.9**	**+1.1**
PEL				IAML		06 20 36.3	
	comp=N,22μm,0.5s						
PEL	**Peldehue**	**2.64**	**259**	⇑*eP*	**Pb**	**06 19 57.1**	**-1.3**
PEL				⇓*iS*	**Sb**	**06 20 32.3**	**+1.6**
PEL	**Peldehue**	**2.64**	**259**		**Pb**	**06 19 57.1**	**-1.3**
PEL				Sn	**Sn**	**06 20 28.1**	**+2.6**
ACDV	**Cuesta del Vie**	**2.80**	**332**	⇑*eP*	**Pb**	**06 20 00.5**	**-0.7**
TCA	**Tanti**	**2.88**	**64**	⇑*iP*	**Pn**	**06 19 59.4**	**+2.4**
ROC1	**El Roble**	**2.89**	**263**	⇑*eP*	**Pb**	**06 20 00.8**	**-2.1**
ROC1				*eS*	**Sb**	**06 20 37.1**	**-1.1**
ROC1	**El Roble**	**2.89**	**263**		**Pb**	**06 20 00.8**	**-2.1**
ROC1				Sn	**Sb**	**06 20 37.1**	**-1.1**
AROD	**Rodeo**	**2.95**	**327**	⇑*eP*	**Pb**	**06 20 03.1**	**-0.9**
COIS	**El Sosneado**	**2.95**	**214**	⇑*eP*	**Pn**	**06 19 59.1**	**+1.2**
COIS				⇑*iPg*	**Pg**	**06 20 09.4**	**+1.5**
PUMA	**Malargue**	**3.22**	**208**	*i P*	**Pn**	**06 20 04.2**	**+2.7**
ACLC	**CERRO LA CRUZ**	**3.27**	**10**	⇑*eP*	**Pb**	**06 20 05.9**	**-3.5**
PIL	**Pilar**	**3.31**	**74**	*i P*	**Pb**	**06 20 11.5**	**+1.7**
EDS3	**Malargue**	**3.44**	**205**	⇑*eP*	**Pn**	**06 20 06.0**	**+1.2**
GO04	**Tololo Observa**	**3.69**	**311**		**Pn**	**06 20 12.0**	**+3.8**
GO05	**Huala**	**4.30**	**236**		**Pn**	**06 20 18.3**	**+1.9**
CYA	**Choya**	**4.48**	**21**	⇑*iP*	**Pn**	**06 20 21.7**	**+2.8**
CCHI	**Chillan**	**5.39**	**222**	⇑*eP*	**Pn**	**06 20 34.4**	**+3.0**
GO03	**Copiap**	**5.54**	**335**		**Pn**	**06 20 36.4**	**+2.9**
AHML	**Horco Molle**	**6.18**	**19**	⇑*iP*	**Pn**	**06 20 44.3**	**+2.0**
TRQA	**Tornquist**	**7.08**	**141**	P	**Pn**	**06 20 55.9**	**+1.3**
TRQA	**Tornquist**	**7.08**	**141**	⇑*eP*	**Pn**	**06 20 55.4**	**+0.8**
TRQA	**Tornquist**	**7.08**	**141**		**Pn**	**06 20 55.9**	**+1.3**
TRQA	**Tornquist**	**7.08**	**141**	*eP*	**Pn**	**06 20 55.6**	**+0.9**
GO06	**Curarrehue**	**7.59**	**203**		**Pn**	**06 21 06.3**	**+4.6**
GO02	**Mina Guanaco**	**7.67**	**346**		**Pn**	**06 21 05.5**	**+2.5**
SLA	**San Lorenzo**	**8.12**	**14**	⇑*eP*	**Pn**	**06 21 12.2**	**+3.2**
PLCA	**Paso Flores**	**8.40**	**196**	P	**Pn**	**06 21 15.0**	**+2.2**
PLCA	**Paso Flores**	**8.40**	**196**	Pn	**Pn**	**06 21 14.2**	**+1.4**
	comp=N,5.3nm,0.3s,baz=32,slow=11,SNR=50						
PLCA				Lg	Lg	06 23 34.0	
	comp=N,12nm,0.3s,baz=331,slow=23,SNR=4.7						
PLCA				LR	LR	06 24 46.9	
	comp=N,5μm,18.2s,baz=37,slow=40						
PLCA	**Paso Flores**	**8.40**	**196**		**Pn**	**06 21 15.0**	**+2.2**
PLCA	**Paso Flores**	**8.40**	**196**	*eP*	**Pn**	**06 21 15.8**	**+3.0**
AZAP	**Zapla**	**8.69**	**16**	⇑*eP*	**Pn**	**06 21 18.2**	**+1.2**
PB10	**IPOC Station P**	**9.47**	**343**		**Pn**	**06 21 27.1**	**-0.4**
PB15	**IPOC Station P**	**9.56**	**350**	⇑*eP*	**Pn**	**06 21 30.3**	**+1.4**
PB06	**IPOC Station P**	**10.06**	**350**	⇑*eP*	**Pn**	**06 21 36.2**	**+0.4**
LVC	**Limon Verde**	**10.07**	**353**	P	**Pn**	**06 21 37.2**	**+1.1**
LVC	**Limon Verde**	**10.07**	**353**	Pn	**Pn**	**06 21 36.2**	**+0.2**
	comp=N,8.3nm,0.3s,baz=160,slow=9.7,SNR=40						
LVC				Lg	Lg	06 24 28.0	
	comp=N,7.6nm,0.3s,baz=321,slow=16,SNR=3.6						
LVC				LR	LR	06 26 00.7	
	comp=N,9μm,18.7s,baz=182,slow=40						
LVC	**Limon Verde**	**10.07**	**353**		**Pn**	**06 21 37.2**	**+1.1**
LVC	**Limon Verde**	**10.07**	**353**	*eP*	**Pn**	**06 21 36.7**	**+0.6**
PB04	**IPOC Station P**	**10.53**	**347**	⇑*eP*	**Pn**	**06 21 41.0**	**-1.1**
PB04	**IPOC Station P**	**10.53**	**347**		**Pn**	**06 21 40.9**	**-1.3**
YJA	**Yavi**	**10.60**	**11**	⇑*iP*	**Pn**	**06 21 46.7**	**+3.3**
OGAUY	**Aigu**	**10.89**	**102**	*eP*	**Pn**	**06 21 47.8**	**+0.9**
OGAUY	**Aigu**	**10.89**	**102**	*eP*	**Pn**	**06 21 47.8**	**+0.9**
PB09	**IPOC Station P**	**10.92**	**352**	⇑*eP*	**Pn**	**06 21 48.0**	**+0.6**
CPUP	**Villa Florida**	**10.95**	**57**	Pn	**Pn**	**06 21 47.0**	**-0.6**
	comp=N,1.0nm,0.3s,baz=232,slow=12,SNR=37						
CPUP				Lg	Lg	06 24 55.8	
	comp=N,11nm,0.3s,baz=343,slow=20,SNR=3.1						
CPUP				LR	LR	06 26 54.1	
	comp=N,2μm,21.5s,baz=240,slow=42						
CPUP	**Villa Florida**	**10.95**	**57**		**Pn**	**06 21 47.1**	**-0.5**
CPUP	**Villa Florida**	**10.95**	**57**	*eP*	**Pn**	**06 21 47.9**	**+0.2**
PB01	**IPOC Station P**	**11.69**	**351**		**Pn**	**06 21 56.3**	**-1.6**
PLTB	**Pedras Altas**	**11.89**	**89**	*eP*	**Pn**	**06 22 01.1**	**+0.5**
PLTB	**Pedras Altas**	**11.89**	**89**	*eP*	**Pn**	**06 22 01.1**	**+0.5**
CPSB	**Cacapava Do Su**	**12.29**	**83**	*eP*	**Pn**	**06 22 06.4**	**+0.3**
CPSB	**Cacapava Do Su**	**12.29**	**83**	*eP*	**Pn**	**06 22 06.4**	**+0.3**
PB11	**IPOC Station P**	**12.97**	**351**		**Pn**	**06 22 14.6**	**-1.0**
GO01	**Chusmiza**	**13.01**	**353**		**Pn**	**06 22 15.4**	**-0.9**
MNMC	**Minye Minye**	**13.59**	**352**		**Pn**	**06 22 22.4**	**-1.7**
ITAB	**Concordia**	**14.46**	**72**	*eP*	**Pn**	**06 22 36.7**	**+1.0**
ITAB	**Concordia**	**14.46**	**72**	*eP*	**Pn**	**06 22 36.7**	**+1.0**
CNLB	**Canela**	**14.75**	**81**	*eP*	**Pn**	**06 22 39.0**	**-0.7**
CNLB	**Canela**	**14.75**	**81**	*eP*	**Pn**	**06 22 39.0**	**-0.7**
PTGB	**Pitanga**	**15.75**	**64**	*eP*	**Pn**	**06 22 53.8**	**+0.8**
PTGB	**Pitanga**	**15.75**	**64**	*eP*	**Pn**	**06 22 53.8**	**+0.8**
AQDB	**Aquidauana**	**16.13**	**44**	*eP*	**Pn**	**06 22 57.6**	**-0.1**
AQDB	**Aquidauana**	**16.13**	**44**	*eP*	**Pn**	**06 22 57.6**	**-0.1**
LPAZ	**La Paz**	**16.30**	**358**	Pn	**Pn**	**06 23 00.8**	**+0.2**
	comp=N,1.8nm,0.3s,baz=169,slow=7.4,SNR=59						
LPAZ				LR	LR	06 30 35.8	
	comp=N,3μm,20.4s,baz=194,slow=42						
LPAZ	**La Paz**	**16.30**	**358**		**Pn**	**06 23 00.7**	**+0.1**
LPAZ				IAmb	IAmb	06 23 08.5	
	comp=Z,643nm,1.8s						
LPAZ	**La Paz**	**16.30**	**358**	*eP*	**Pn**	**06 23 00.9**	**+0.3**
TRCB	**Terra Rica**	**16.48**	**57**	*eP*	**Pn**	**06 23 03.0**	**+0.6**
TRCB	**Terra Rica**	**16.48**	**57**	*eP*	**Pn**	**06 23 03.0**	**+0.6**
SIV	**San Ignacio**	**17.62**	**21**	P	**Pn**	**06 23 15.6**	**-1.0**
	comp=Z,6.9nm,0.3s,baz=220,slow=12,SNR=114						
SIV				LR	LR	06 31 08.9	
	comp=Z,982nm,20.4s,baz=229,slow=41						
PCMB	**Pacaembu**	**18.22**	**57**	*eP*	**Pn**	**06 23 23.5**	**-0.5**
PCMB	**Pacaembu**	**18.22**	**57**	*eP*	**Pn**	**06 23 23.5**	**-0.5**
FRTB	**Fartura**	**18.41**	**64**	*eP*	**Pn**	**06 23 27.3**	**+0.9**
FRTB	**Fartura**	**18.41**	**64**	*eP*	**Pn**	**06 23 27.3**	**+0.9**
PP1B	**Ponte de Pedra**	**18.88**	**40**	*eP*	**Pn**	**06 23 31.6**	**-0.4**
PP1B	**Ponte de Pedra**	**18.88**	**40**	*eP*	**Pn**	**06 23 31.6**	**-0.4**
SALV	**Santo Antonio**	**19.88**	**36**	*eP*	**P**	**06 23 42.2**	**-0.1**
SALV	**Santo Antonio**	**19.88**	**36**	*eP*	**P**	**06 23 42.2**	**-0.1**
SPB	**Sao Paulo**	**19.93**	**68**	P	**P**	**06 23 42.8**	**-0.1**
SPB	**Sao Paulo**	**19.93**	**68**	*eP*	**Pn**	**06 23 44.4**	**-0.2**
ITRB	**Iturama**	**20.11**	**54**	*eP*	**P**	**06 23 45.1**	**+0.2**
ITRB	**Iturama**	**20.11**	**54**	*eP*	**P**	**06 23 45.1**	**+0.2**
EFI	**East Falkland**	**20.25**	**163**	*dP*	**P**	**06 23 46.2**	**+0.1**
EFI				pmax	pmax		
	comp=Z,185nm,0.9s						
EFI	**East Falkland**	**20.25**	**163**	P	**P**	**06 23 46.1**	**0.0**
EFI				IAmb	IAmb	06 23 48.0	
	comp=Z,183nm,0.8s						
RCLB	**Rio Claro- Sao**	**20.48**	**65**	*eP*	**P**	**06 23 49.7**	**+0.7**
RCLB	**Rio Claro- Sao**	**20.48**	**65**	*eP*	**P**	**06 23 49.7**	**+0.7**
BB19B	**Bebedouro**	**20.53**	**61**	*eP*	**P**	**06 23 49.3**	**-0.2**
BB19B	**Bebedouro**	**20.53**	**61**	*eP*	**P**	**06 23 49.3**	**-0.2**
VAO	**Valinhos**	**20.60**	**67**	*eP*	**P**	**06 23 50.9**	**+0.6**
VAO	**Valinhos**	**20.60**	**67**	*eP*	**P**	**06 23 50.9**	**+0.6**
ARAG	**Araguaiana, MT**	**22.14**	**44**	*eP*	**P**	**06 24 05.7**	**-1.1**
ARAG	**Araguaiana, MT**	**22.14**	**44**	*eP*	**P**	**06 24 05.7**	**-1.1**
USHA	**Ushuaia**	**22.18**	**181**	P	**P**	**06 24 07.0**	**+0.1**
	comp=Z,68nm,1.0s,baz=360,slow

comp=Z,654nm,18.8s,baz=206,slow=38
ROSC El Rosal 37.83 349 P **P 06 26 29.8 +1.7**
RREF El Recreo 38.07 347 eP **P 06 26 34.0 +3.6**
RREF El Recreo 38.07 347 eP **P 06 26 34.0 +3.6**
PLMC San Jos del P 38.26 346 eP **P 06 26 32.7 +1.3**
PLMC San Jos del P 38.26 346 eP **P 06 26 32.7 +1.3**
NBRF Rio Formoso - 38.36 59 eP **P 06 26 31.1 -1.1**
NBRF Rio Formoso - 38.36 59 eP **P 06 26 31.1 -1.1**
GUY2C Guyana, Caldas 38.39 347 eP **P 06 26 34.0 +1.1**
GUY2C eP **P 06 26 35.4 +2.4**
GUY2C Guyana, Caldas 38.39 347 eP **P 06 26 34.0 +1.1**
GUY2C eP **P 06 26 35.4 +2.4**
SPBC San Pablo de B 38.59 350 eP **P 06 26 33.4 -0.9**
SPBC San Pablo de B 38.59 350 eP **P 06 26 33.4 -0.9**
NORC Norcasia 38.63 348 eP **P 06 26 35.4 +0.8**
NORC Norcasia 38.63 348 eP **P 06 26 35.4 +0.8**
RUSC La Rusia 38.69 351 eP **P 06 26 36.0 +0.5**
RUSC La Rusia 38.69 351 eP **P 06 26 36.0 +0.5**
NBPA Parau_RN 39.04 53 eP **P 06 26 38.0 +0.1**
NBPA Parau_RN 39.04 53 eP **P 06 26 38.0 +0.1**
TAMC Tame, Arauca 39.08 353 eP **P 06 26 38.0 -0.2**
TAMC Tame, Arauca 39.08 353 eP **P 06 26 38.0 -0.2**
CBOC Ciudad Bolivar 39.13 347 eP **P 06 26 39.3 +0.5**
CBOC Ciudad Bolivar 39.13 347 eP **P 06 26 39.3 +0.5**
HELC Santa Helena 39.36 348 eP **P 06 26 42.0 +1.0**
HELC Santa Helena 39.36 348 eP **P 06 26 42.0 +1.0**
NBCL Cascavel-CE 39.39 50 eP **P 06 26 40.7 -0.2**
NBCL Cascavel-CE 39.39 50 eP **P 06 26 40.7 -0.2**
BARC Barichara 39.39 351 eP **P 06 26 39.3 -1.7**
BARC Barichara 39.39 351 eP **P 06 26 39.3 -1.7**
ELOV Elorza 39.48 357 eP **P 06 26 40.0 -1.5**
ELOV Elorza 39.48 357 eP **P 06 26 40.0 -1.5**
PTBC PUERTO BERRIO, 39.52 349 eP **P 06 26 40.7 -1.3**
PTBC PUERTO BERRIO, 39.52 349 eP **P 06 26 40.7 -1.3**
RCBR Riachuelo 39.81 55 P **P 06 26 45.0 +0.6**
comp=Z,36nm,0.7s,baz=224,slow=3.1,SNR=4.1
RCBR Riachuelo 39.81 55 P **P 06 26 43.8 -0.6**
RCBR Riachuelo 39.81 55 eP **P 06 26 44.4 0.0**
NBPV Pedro Velho 39.81 56 eP **P 06 26 44.4 0.0**
NBPV Pedro Velho 39.81 56 eP **P 06 26 44.4 0.0**
BRRC Barranca, Sant 39.97 351 eP **P 06 26 43.3 -2.3**
BRRC Barranca, Sant 39.97 351 eP **P 06 26 43.3 -2.3**
PAMC Pamplona, Colo 40.07 352 eP **P 06 26 46.6 -0.4**
PAMC Pamplona, Colo 40.07 352 eP **P 06 26 46.6 -0.4**
MDP Montagnes des 40.15 24 P **P 06 26 47.0 -0.2**
comp=Z,37nm,0.7s,baz=199,slow=9.3,SNR=42
MDP LR LR 06 45 40.4
comp=Z,1µm,18.9s,baz=201,slow=40
DBBC Dabeiba 40.30 347 eP **P 06 26 50.0 +1.5**
DBBC Dabeiba 40.30 347 eP **P 06 26 50.0 +1.5**
CAPV Capacho 40.55 353 eP **P 06 26 50.0 -0.7**
CAPV Capacho 40.55 353 eP **P 06 26 50.0 -0.7**
OCAC Ocana 41.03 351 eP **P 06 26 52.6 -2.0**
OCAC Ocana 41.03 351 eP **P 06 26 52.6 -2.0**
BAUV El Baul 41.37 359⇓ *e* **P 06 26 55.4 -1.8**
SDV Santo Domingo 41.41 355 P **P 06 26 57.0 -0.7**
comp=Z,26nm,0.4s,baz=182,slow=6.0,SNR=7.7
SDV Santo Domingo 41.41 355 P **P 06 26 57.2 -0.6**
SDV Santo Domingo 41.41 355 eP **P 06 26 57.6 -0.1**
SMLC San Martn de 41.69 350 eP **P 06 26 57.9 -1.8**
SMLC San Martn de 41.69 350 eP **P 06 26 57.9 -1.8**
ORIV Oritupano 41.69 6 *e* **P 06 26 58.1 -1.6**
PCRV Puerto La Cruz 42.69 4 LR LR 06 46 40.4
comp=Z,1µm,21.6s,slow=39
CODC Agustn Codazz 42.72 352 eP **P 06 27 06.6 -1.6**
CODC Agustn Codazz 42.72 352 eP **P 06 27 06.6 -1.6**
SJCC San Jacinto, C 42.93 349 eP **P 06 27 08.6 -1.4**
SJCC San Jacinto, C 42.93 349 eP **P 06 27 08.6 -1.4**
ZANG Zanguenga, Cho 43.00 342 eP **P 06 27 11.6 +1.1**
BCIP Isla Barro Col 43.20 342 IAmb IAmb 06 27 14.7
comp=Z,89nm,0.7s
GUIV Guiria 43.37 8 *e* **P 06 27 13.1 -0.3**
BRU2 Volcan 43.66 338⇑ *iP* **P 06 27 18.1 +2.1**
SMRC Santa Marta, M 44.03 351 eP **P 06 27 18.5 -0.2**
SMRC Santa Marta, M 44.03 351 eP **P 06 27 18.5 -0.2**
EDBA Buenos Aires 44.19 338 eP **P 06 27 22.7 +2.6**
TOSP Speyside 44.23 10 *e* **P 06 27 21.0 +0.7**
TOSP Speyside 44.23 10 IAmb IAmb 06 27 22.0
comp=Z,100nm,0.8s
GRGR Grenville 44.90 8 *e* **P 06 27 25.7 -0.1**
LCR2 La Lucha 2 44.97 337 eP **P 06 27 28.5 +1.9**
CVTR Volcan Turrial 45.15 337⇑ eP **P 06 27 30.6 +2.4**
HDC Heredia 45.25 337⇑ *iP* **P 06 27 31.2 +2.5**
SRA1 San Ramn 45.45 336 eP **P 06 27 32.8 +2.5**
JTS Las Juntas de 45.81 336 *c iP* **P 06 27 34.6 +1.6**
JTS pmax pmax
comp=Z,51nm,1.1s
JTS Las Juntas de 45.81 336 eP **P 06 27 33.3 +0.3**
JTS Las Juntas de 45.81 336 P **P 06 27 34.9 +1.9**
JTS IAmb IAmb 06 27 44.0
comp=Z,63nm,1.1s
ARE1 Arenal 1 45.88 336 eP **P 06 27 36.3 +2.7**
PLVR Palo Verde 46.00 335⇑ *iP* **P 06 27 36.6 +2.0**
SVB Belmont 46.07 9 *e* **P 06 27 34.6 -0.4**
SVB Belmont 46.07 9 eP **P 06 27 35.0 -0.1**
SVB Belmont 46.07 9 P **P 06 27 34.8 -0.2**
SVB IAmb IAmb 06 27 37.7
comp=Z,82nm,0.8s
SVCV St. Vincent, C 46.09 9 *e* **P 06 27 36.9 +1.8**
CUI Cuipilapa 46.22 336⇑ eP **P 06 27 38.1 +1.8**
BUEV Buena Vista 46.44 336⇑ eP **P 06 27 39.7 +1.7**
MCLT Moule a Chique 46.54 9 *e* **P 06 27 38.6 -0.1**
SLBI Saint Lucia, B 46.85 9 *e* **P 06 27 38.5 -2.5**
SLBI Saint Lucia, B 46.85 9 eP **P 06 27 40.9 -0.2**
MPOM Morne Pois Mar 47.28 9 eP **P 06 27 43.4 -1.0**
BIM Bigot 47.32 9 eP **P 06 27 44.4 -0.5**
TRMF Trois Ilets 47.34 9 eP **P 06 27 44.8 -0.2**
ESPN Las Esperanzas 47.37 338⇑ *iP* **P 06 27 46.1 +1.0**
ZAM Aeronautique 47.38 9 eP **P 06 27 45.0 -0.2**
LPMF Morne Lapointe 47.39 9 eP **P 06 27 44.8 -0.6**
ACON Acoyapa 47.45 336 eP **P 06 27 46.3 +0.5**
ACON Acoyapa 47.45 336 IAmb IAmb 06 27 47.5
comp=Z,135nm,1.7s
FDF Fort de France 47.52 8 eP **P 06 27 45.5 -0.9**
PML Morne Lenard 47.57 8 eP **P 06 27 46.5 -0.2**
GBMF Grand Be 47.59 8 eP **P 06 27 47.3 +0.3**
PCM Pelee Case Pet 47.60 8 eP **P 06 27 47.7 +0.7**
CXM Morne La Croix 47.60 8 eP **P 06 27 47.4 +0.3**
BAMF Morne Balai 47.61 8 eP **P 06 27 46.4 -0.6**
SVN Savane Anatole 47.63 8 eP **P 06 27 46.6 -0.6**
MATN Matagalpa 48.60 336 eP **P 06 27 55.7 +0.9**
ESTN Estel 48.91 335⇑ *iP* **P 06 27 57.6 +0.4**
ESTN Estel 48.91 335 P **P 06 27 58.0 +0.8**
ESTN IAmb IAmb 06 27 59.9
comp=Z,44nm,0.7s
RCON San Juan de Ri 49.19 336⇑ *iP* **P 06 27 59.7 +0.3**
VNA3 Neumayer Olymp 49.23 159 P **P 06 27 58.8 -0.2**
VNA1 Neumayer--Stat 49.48 158 P **P 06 28 00.6 -0.3**
VNA2 Neumayer--Watz 49.84 158 P **P 06 28 03.5 -0.1**
baz=289,slow=8.8
TGUH Tegucigalpa,Un 50.12 335 P **P 06 28 07.6 +1.1**
MLPR Magueyes Islan 50.34 1 P **P 06 28 08.0 +0.1**
CRPR Cabo Rojo, PR 50.38 1 P **P 06 28 08.0 -0.2**
PDPR Patillas Dam, 50.41 2 IAmb IAmb 06 28 08.6
comp=Z,72nm,1.1s
SJG San Juan 50.50 2 P **P 06 28 09.2 +0.1**
SJG pmax pmax
comp=Z,75nm,0.9s
SJG San Juan 50.50 2 P **P 06 28 09.2 +0.1**
SJG IAmb IAmb 06 28 16.9
comp=Z,75nm,0.9s
HUMP Col San Antoni 50.54 2 P **P 06 28 08.7 -0.8**
MPR Mayaguez 50.58 1 IAmb IAmb 06 28 10.1
comp=Z,98nm,1.1s
CBYP Canovanas 50.67 2 IAmb IAmb 06 28 18.2
comp=Z,94nm,1.1s
GCPR Guaynabo City 50.70 2 P **P 06 28 09.2 -1.4**
AOPR Arecibo Observ 50.72 1 IAmb IAmb 06 28 18.4
comp=Z,86nm,1.2s
SDD Santo Domingo 50.87 357 P **P 06 28 12.1 +0.2**
SNAA Sanae 51.45 159 P **P 06 28 15.6 -0.3**
SNAA Sanae 51.45 159 *c iP* **P 06 28 16.0 +0.2**
SNAA Sanae 51.45 159 P **P 06 28 15.8 0.0**
comp=Z,44nm,0.6s,baz=283,slow=7.0,SNR=278
SNAA PcP **PcP 06 29 30.0 -0.1**
comp=Z,19nm,0.7s,baz=238,slow=5.2,SNR=5.1
SNAA LR LR 06 50 45.5
comp=Z,332nm,18.2s,baz=288,slow=37
SNAA Sanae 51.45 159 P **P 06 28 15.2 -0.7**
SNAA IAmb IAmb 06 28 17.9
comp=Z,77nm,0.8s
SNAA **PcP 06 29 29.5 -0.6**

SDDR Presa de Saban 51.47 356 P **P 06 28 16.4 -0.1**
SDDR IAmb IAmb 06 28 28.6
comp=Z,52nm,1.1s
SC01 Santiago de lo 51.88 356 P **P 06 28 19.6 +0.1**
CCIG Comitan 54.03 330 P **P 06 28 35.7 +0.1**
CCIG IAmb IAmb 06 28 37.4
comp=Z,65nm,1.2s
TEIG Tepich 56.18 336 P **P 06 28 50.9 0.0**
QSPA South Pole Qui 57.58 180 LR LR 06 53 14.7
comp=Z,338nm,19.9s,baz=162,slow=36
QSPA South Pole Qui 57.58 180 P **P 06 29 01.0 +0.4**
061Z Ochoppi 59.56 346 P **P 06 29 15.0 +0.5**
baz=167
DWPF Disney Wildern 61.85 346 P **P 06 29 30.1 0.0**
baz=167
658A Bunnell 63.09 347 P **P 06 29 38.1 -0.2**
baz=167
656A Willston 63.29 345 P **P 06 29 39.8 +0.1**
baz=166
557A Orange Park 63.75 346 P **P 06 29 42.8 +0.1**
baz=167
456A Hilliard 64.50 346 P **P 06 29 48.0 +0.4**
baz=166
553A Crawfordville 64.51 344 P **P 06 29 47.7 0.0**
baz=164
455A Stateville 64.72 345 P **P 06 29 49.0 -0.1**
baz=166
454A Quitman 64.83 345 P **P 06 29 49.7 -0.1**
baz=165
357A Towsend 65.07 347 P **P 06 29 51.3 0.0**
baz=167
356A Blackshear 65.10 346 P **P 06 29 51.5 -0.1**
baz=166
453A Whigham 65.12 344 P **P 06 29 51.8 +0.1**
baz=164
451A Vernon 65.23 343 P **P 06 29 52.5 +0.1**
baz=163
355A Pearson 65.27 346 P **P 06 29 52.3 -0.3**
baz=166
TIGA Tifton 65.52 345 P **P 06 29 54.0 -0.2**
baz=165
353A Camilla 65.57 344 P **P 06 29 54.0 -0.6**
baz=165,SNR=5.9
256A Glennville 65.69 347 P **P 06 29 55.3 -0.1**
baz=167
SYO Syowa Base 65.73 158⇓ *iP* **P 06 29 53.8 -1.4**
SYO Syowa Base 65.73 158⇓ *pP* pP 06 29 58.0 -1.7
255A Hazlehurst 65.75 346 P **P 06 29 55.6 -0.1**
baz=166
352A Blakely 65.86 344 P **P 06 29 56.1 -0.4**
baz=164,SNR=7.0
254A Abbeville 65.94 345 P **P 06 29 56.6 -0.4**
baz=166
BRAL Brewton 66.09 342 P **P 06 29 57.9 -0.1**
baz=162
158A Hollywood 66.12 348 P **P 06 29 57.9 -0.2**
baz=168
253A Americus 66.24 345 P **P 06 29 58.4 -0.5**
baz=165
156A Sylvania 66.27 347 P **P 06 29 59.0 0.0**
baz=167
RGRS Roger Stewart 66.29 348 P **P 06 29 59.6 +0.4**
252A Lumpkin 66.31 344 P **P 06 29 58.9 -0.4**
baz=164
155A Kite 66.43 346 P **P 06 30 00.0 0.0**
baz=166
Z59A Georgetown, SC 66.47 349 P **P 06 30 00.7 +0.4**
baz=159
NHSC New Hope 66.48 349 P **P 06 30 01.0 +0.6**
baz=168
154A Montrose 66.55 346 P **P 06 30 00.4 -0.5**
baz=166,SNR=5.1
Z58A St. Stephen 66.64 349 P **P 06 30 01.7 +0.3**
baz=169,SNR=8.6
250A Grady 66.66 343 P **P 06 30 01.2 -0.4**
baz=163
153A Fort Valley 66.74 345 P **P 06 30 01.7 -0.3**
baz=165,SNR=5.4
Z57A Bowman 66.75 348 P **P 06 30 01.8 -0.3**
baz=168,SNR=7.9
Z56A Williston 66.90 347 P **P 06 30 03.1 0.0**
baz=167
Z55A Blythe 66.94 347 P **P 06 30 03.3 -0.1**
baz=167
152A Waverly Hall 66.95 344 P **P 06 30 03.0 -0.4**
baz=164,SNR=6.8
152A Waverly Hall 66.95 344 IAmb IAmb 06 30 03.4
comp=Z,20nm,0.6s
Y60A Bolivia 67.06 350 P **P 06 30 04.5 +0.5**
baz=170,SNR=6.8
Y60A Bolivia 67.06 350 P **P 06 30 04.3 +0.3**
Z54A Sparta 67.10 346 P **P 06 30 03.8 -0.6**
baz=166
Y59A Loris 67.14 350 P **P 06 30 04.8 +0.3**
baz=170
Y59A Loris 67.14 350 IAmb IAmb 06 30 05.3
comp=Z,31nm,0.8s
Y58A Scranton 67.18 349 P **P 06 30 05.1 +0.3**
baz=169
Z53A Monticello 67.29 346 P **P 06 30 04.9 -0.7**
baz=165,SNR=5.2
Y56A Pelion 67.34 348 P **P 06 30 05.8 -0.1**
baz=167
Z52A Williamson 67.39 345 P **P 06 30 06.0 -0.2**
baz=165,SNR=11
GOGA Godfrey 67.39 346 P **P 06 30 05.8 -0.4**
baz=166,SNR=8.0
Y57A Sumter 67.40 349 P **P 06 30 06.4 +0.1**
baz=168
Y57A Sumter 67.40 349 P **P 06 30 06.3 0.0**
Y57A **pP 06 30 06.6 -4.1**
Y57A IAmb IAmb 06 30 07.3
comp=Z,29nm,0.7s
X60A Albert Glenn T 67.59 351 P **P 06 30 07.6 +0.2**
baz=170,SNR=7.8
Y55A Saluda 67.59 347 P **P 06 30 07.2 -0.2**
baz=167,SNR=5.9
X59A McDuffie Farm, 67.67 350 P **P 06 30 08.2 +0.3**
baz=170
Y54A Tignall 67.67 346 P **P 06 30 07.7 -0.3**
baz=166,SNR=5.6
Z51A Franklin 67.68 344 P **P 06 30 07.8 -0.2**
baz=164
833A Chaparral WMA, 67.75 330 P **P 06 30 09.7 +1.1**
baz=151,SNR=48
X58A Rowland 67.76 350 P **P 06 30 08.8 +0.3**
baz=169
HKT Hockley 67.77 334 P **P 06 30 09.3 +0.7**
HKT pmax pmax
comp=Z,87nm,1.7s
HKT Hockley 67.77 334 P **P 06 30 09.3 +0.7**
HKT IAmb IAmb 06 30 11.1
comp=Z,87nm,1.7s
X57A Johnson Farm, 67.79 349 P **P 06 30 08.9 +0.1**
baz=169
Z50A Ashland 67.80 343 P **P 06 30 08.6 -0.2**
baz=163,SNR=13
Z50A Ashland 67.80 343 IAmb IAmb 06 30 09.5
comp=Z,34nm,0.8s
Y53A Monroe 67.85 346 P **P 06 30 08.8 -0.3**
baz=165,SNR=10
LRAL Lakeview Retre 67.85 342 P **P 06 30 08.9 -0.2**
baz=162,SNR=5.7
LRAL Lakeview Retre 67.85 342 IAmb IAmb 06 30 10.0
comp=Z,37nm,1.2s
Y52A Lilburn 67.96 345 P **P 06 30 09.4 -0.4**
baz=165,SNR=12
Y52A Lilburn 67.96 345 IAmb IAmb 06 30 10.5
comp=Z,43nm,1.0s
X56A White Oak 67.98 348 P **P 06 30 09.9 0.0**
baz=168
W60A Pink Hill 68.02 351 P **P 06 30 10.7 +0.6**
baz=171
W61A Ground Anchor 68.05 352 P **P 06 30 10.9 +0.6**
baz=171,SNR=6.5
VBMS Vicksburg 68.06 339 P **P 06 30 11.2 +0.8**
baz=159,SNR=7.7
VBMS Vicksburg 68.06 339 P **P 06 30 11.1 +0.6**
W58A Raeford 68.20 350 P **P 06 30 11.7 +0.4**
baz=169,SNR=12
Y51A Rockmart 68.21 344 P **P 06 30 10.9 -0.5**
baz=164,SNR=12
CNNC Cliffs of the 68.23 351 P **P 06 30 11.7 +0.3**
baz=171
W59A Clinton 68.23 350 P **P 06 30 11.8 +0.3**
baz=170
X54A Belton 68.28 347 P **P 06 30 11.8 0.0**
baz=167,SNR=5.4

V62A Hyde County Ai 68.31 353 P **P 06 30 11.9 0.0**
baz=172
X53A Estanollee 68.42 346 P **P 06 30 12.3 -0.3**
baz=166
PAULI Pauline 68.44 347 P **P 06 30 12.5 -0.3**
PAULI IAmb IAmb 06 30 13.9
comp=Z,45nm,1.2s
W57A Gilead 68.45 349 P **P 06 30 12.9 0.0**
baz=169,SNR=7.6
W57A Gilead 68.45 349 IAmb IAmb 06 30 13.4
comp=Z,25nm,0.7s
Y49A Blount Mountai 68.49 343 P **P 06 30 12.7 -0.5**
baz=163,SNR=5.9
W56A Indian Trail 68.53 349 P **P 06 30 13.1 -0.2**
baz=168,SNR=7.0
V61A Roper 68.61 352 P **P 06 30 13.9 +0.1**
baz=172
X52A Dahlonega 68.64 346 P **P 06 30 13.8 -0.3**
baz=165,SNR=14
KMSC Kings Mountain 68.66 348 P **P 06 30 14.1 -0.1**
baz=168,SNR=5.6
V60A Jim Taylor Roa 68.67 352 P **P 06 30 14.6 +0.5**
baz=171
V60A Jim Taylor Roa 68.67 352 IAmb IAmb 06 30 15.8
comp=Z,52nm,1.3s
W54A Cherokee Point 68.76 347 P **P 06 30 14.9 +0.1**
baz=167,SNR=12
V59A Middlesex 68.79 351 P **P 06 30 15.6 +0.6**
baz=170,SNR=9.6
X51A Calhoun 68.81 345 P **P 06 30 15.1 0.0**
baz=164,SNR=21
X51A Calhoun 68.81 345 P **P 06 30 15.0 -0.1**
V58A Windy Hill, Pi 68.94 350 P **P 06 30 15.9 0.0**
baz=170,SNR=13
FPAL Fort Paine 68.95 344 IAmb IAmb 06 30 16.7
comp=Z,23nm,0.8s
NATX Nacogdoches 68.98 335 P **P 06 30 17.5 +1.2**
baz=156,SNR=8.5
NATX Nacogdoches 68.98 335 P **P 06 30 17.1 +0.9**
W53A Cullowhee 69.03 346 P **P 06 30 16.6 0.0**
baz=166,SNR=9.3
W52A Murphy 69.11 346 P **P 06 30 17.0 -0.1**
baz=165,SNR=9.8
W52A Murphy 69.11 346 IAmb IAmb 06 30 17.5
comp=Z,24nm,0.8s
U61A Possum Corner 69.13 352 P **P 06 30 17.7 +0.7**
baz=172,SNR=7.1
V57A Coltrane Farms 69.14 349 P **P 06 30 17.1 0.0**
baz=169,SNR=5.8
V56A Mocksville 69.17 349 P **P 06 30 17.7 +0.4**
baz=168,SNR=13
435B Jarrell 69.19 333 P **P 06 30 18.2 +0.6**
baz=153,SNR=7.4
435B Jarrell 69.19 333 IAmb IAmb 06 30 19.5
comp=Z,64nm,1.1s
X48A Hartselle 69.21 343 P **P 06 30 17.6 0.0**
baz=162,SNR=17
U59A Littleton 69.31 351 P **P 06 30 18.8 +0.6**
baz=171,SNR=10.0
U59A Littleton 69.31 351 IAmb IAmb 06 30 19.9
comp=Z,38nm,1.1s
V55A Taylorsville 69.33 348 P **P 06 30 18.6 +0.2**
baz=168,SNR=12
V55A Taylorsville 69.33 348 IAmb IAmb 06 30 19.6
comp=Z,49nm,1.0s
U60A Pendleton 69.35 352 P **P 06 30 18.8 +0.4**
baz=171
W51A Cleveland 69.36 345 P **P 06 30 18.5 0.0**
baz=164,SNR=12
V54A Nebo 69.39 348 P **P 06 30 18.5 -0.2**
baz=167,SNR=15
V53A Saluda 69.45 347 P **P 06 30 18.8 -0.3**
baz=166,SNR=15
V53A Saluda 69.45 347 P **P 06 30 18.5 -0.6**
V53A IAmb IAmb 06 30 20.0
comp=Z,48nm,1.1s
U58A Oxford 69.45 351 P **P 06 30 19.5 +0.5**
baz=170,SNR=14
W50A Signal Mountai 69.52 345 P **P 06 30 19.6 +0.1**
baz=164,SNR=19
W50A Signal Mountai 69.52 345 IAmb IAmb 06 30 20.4
comp=Z,56nm,0.9s
CPCT Cooper Cave 69.58 345 IAmb IAmb 06 30 20.7
comp=Z,48nm,1.0s
U57A Blanch 69.60 350 P **P 06 30 20.2 +0.3**
baz=169,SNR=14
W49A Belvidere 69.66 344 P **P 06 30 20.2 -0.1**
baz=163,SNR=16
SWET Sewanee 69.67 344 P **P 06 30 20.2 -0.3**
U56A King 69.68 349 P **P 06 30 20.9 +0.5**
baz=168,SNR=9.0
U56A King 69.68 349 IAmb IAmb 06 30 21.5
comp=Z,35nm,0.7s
V52A Sevierville 69.77 346 P **P 06 30 20.6 -0.5**
baz=166,SNR=10
V52A Sevierville 69.77 346 IAmb IAmb 06 30 21.0
comp=Z,31nm,0.8s
JCT Junction City 69.81 331 P **P 06 30 22.0 +0.5**
baz=151,SNR=36
JCT Junction City 69.81 331 P **P 06 30 21.9 +0.5**
JCT pmax pmax
comp=Z,80nm,1.0s
JCT Junction City 69.81 331 P **P 06 30 21.9 +0.5**
OXF Oxford 69.89 341 P **P 06 30 21.4 -0.3**
baz=160,SNR=9.3
V51A Loudon 69.89 346 P **P 06 30 21.2 -0.6**
baz=165,SNR=10
V51A Loudon 69.89 346 IAmb IAmb 06 30 22.3
comp=Z,37nm,1.1s
T59A Double "B" Far 69.89 352 P **P 06 30 22.0 +0.3**
baz=171,SNR=8.7
T59A Double "B" Far 69.89 352 IAmb IAmb 06 30 23.4
comp=Z,67nm,1.4s
V50A Pikevile 69.92 345 P **P 06 30 21.8 -0.2**
baz=164,SNR=27
U55A TA2, Sparta 69.94 348 P **P 06 30 22.0 -0.2**
baz=168,SNR=5.9
T60A Surry 69.96 352 P **P 06 30 23.1 +0.9**
baz=172
T58A Grand View Acr 69.99 351 P **P 06 30 22.6 +0.3**
baz=170,SNR=15
CCAR Cane Creek 70.02 339 P **P 06 30 23.4 +0.8**
CCAR IAmb IAmb 06 30 24.6
comp=Z,54nm,0.9s
U53A Fall Branch 70.08 347 P **P 06 30 22.4 -0.6**
baz=167,SNR=7.1
U54A Nelsons Funny 70.09 348 P **P 06 30 22.9 -0.2**
baz=167,SNR=5.5
T57A Hurt 70.15 350 P **P 06 30 23.6 +0.3**
baz=170,SNR=9.5
T57A Hurt 70.15 350 IAmb IAmb 06 30 24.6
comp=Z,24nm,0.8s
V49A McMinnville 70.19 344 P **P 06 30 23.1 -0.6**
baz=164,SNR=16
WHTX Lake Whitney, 70.21 333 P **P 06 30 24.2 +0.3**
baz=154,SNR=9.0
WHTX Lake Whitney, 70.21 333 IAmb IAmb 06 30 25.4
comp=Z,50nm,1.1s
U52A Thorn Hill 70.26 347 P **P 06 30 23.4 -0.7**
baz=166
T56A Rocky Mt 70.29 349 P **P 06 30 24.7 +0.5**
baz=169,SNR=12
X43A Marvell 70.31 340 P **P 06 30 25.3 +0.9**
baz=159,SNR=15
X43A Marvell 70.31 340 P **P 06 30 25.0 +0.6**
U51A La Follette 70.37 346 P **P 06 30 24.2 -0.6**
baz=165,SNR=11
V48A Smith Brothers 70.38 343 P **P 06 30 24.4 -0.5**
baz=163,SNR=29
TZTN Tazewell 70.44 346 P **P 06 30 24.5 -0.7**
baz=166,SNR=5.5
TZTN Tazewell 70.44 346 IAmb IAmb 06 30 25.8
comp=Z,119nm,1.8s
T55A Pulaski 70.50 349 P **P 06 30 25.7 +0.2**
baz=168,SNR=8.6
TXAR Lajitas Array 70.51 327 P **P 06 30 26.3 +0.5**
TXAR Lajitas Array 70.51 327 P **P 06 30 26.6 +0.8**
comp=Z,17nm,0.7s,baz=148,slow=8.2,SNR=238
TXAR PKPPKP **P'P'df 06 58 24.6 +4.1**
comp=Z,1.2nm,1.0s,baz=300,slow=2.7,SNR=8.2
TXAR Lajitas Array 70.51 327 P **P 06 30 26.3 +0.5**
S60A Water View 70.51 352 P **P 06 30 26.2 +0.8**
baz=172
BLA Blacksburg 70.53 349 P **P 06 30 25.9 +0.2**
baz=168,SNR=5.6
BLA Blacksburg 70.53 349 IAmb IAmb 06 30 26.6
comp=Z,24nm,0.8s
T54A Tazewell 70.58 348 P **P 06 30 25.7 -0.3**

baz=168,SNR=12
U50A Jamestown 70.58 345 P P 06 30 25.3 -0.7
baz=165,SNR=11
S58A Poland Farm, P 70.58 351 P P 06 30 26.5 +0.5
baz=171,SNR=11
S58A Poland Farm, P 70.58 351 IAmb IAmb 06 30 27.8
comp=Z,70nm,1.1s
TAOE Nuku Hiva Isla 70.60 272 *e*S **S 06 39 39.2 -1.5**
TAOE comp=Z,210nm,28.6s *e*LQ LQ 06 48 58.7
TAOE comp=Z,160nm,23.8s *e*LR LR 06 51 57.0
comp=Z,468nm,22.7s
MET Memphis--Engin 70.61 341 P P 06 30 26.6 +0.5
S59A Mechanicsville 70.64 352 P P 06 30 26.9 +0.6
baz=171,SNR=8.0
T53A Wise 70.67 347 P P 06 30 25.9 -0.7
baz=167,SNR=7.9
LIC Lamto 70.83 69 *e*P **P 06 30 27.5 -0.5**
comp=Z,375nm,1.1s
S57A Dark Hollow, R 70.85 350 P P 06 30 28.1 +0.5
baz=170,SNR=14
S57A Dark Hollow, R 70.85 350 IAmb IAmb 06 30 29.2
comp=Z,58nm,1.1s
S56A Natural Bridge 70.86 350 P P 06 30 28.1 +0.5
baz=169,SNR=8.3
X40A Basin Creek Fa 70.88 338 P P 06 30 27.9 +0.1
baz=158
T52A Hallie 70.88 347 P P 06 30 27.4 -0.4
baz=166
U49A Red Boiling Sp 70.88 345 P P 06 30 27.2 -0.6
baz=164,SNR=9.7
R58B Mineral 70.91 351 P P 06 30 28.8 +0.9
baz=171,SNR=10
R58B Mineral 70.91 351 P P 06 30 28.2 +0.3
R58B IAmb IAmb 06 30 30.0
comp=Z,63nm,1.3s
T51A Gray 70.93 346 P P 06 30 27.7 -0.4
baz=165,SNR=21
WVT Waverly 71.00 343 P P 06 30 28.2 -0.3
baz=162
WVT Waverly 71.00 343 P P 06 30 28.2 -0.3
WVT pmax pmax
comp=Z,115nm,0.8s
WVT Waverly 71.00 343 P P 06 30 28.2 -0.3
R59A King George, V 71.05 352 P P 06 30 29.6 +0.8
baz=171,SNR=5.7
CBN Corbin Frederi 71.08 352 P P 06 30 29.3 +0.3
baz=171
TIC Toumodi 71.09 69 *e*P **P 06 30 29.3 -0.4**
S55A Lewisburg 71.09 349 P P 06 30 29.6 +0.4
baz=168,SNR=20
KIC Kosan Boka 71.14 69 *e*P **P 06 30 29.2 -0.7**
comp=Z,348nm,0.9s
T50A Nancy 71.16 345 P P 06 30 28.7 -0.8
baz=165,SNR=7.6
MIAR Mount Ida 71.17 338 P P 06 30 29.6 +0.1
baz=157,SNR=14
MIAR Mount Ida 71.17 338 IAmb IAmb 06 30 31.1
comp=Z,42nm,1.2s
HALT Halls 71.19 341 P P 06 30 29.3 -0.3
DBIC Dimbokro 71.23 69 P P 06 30 30.7 +0.3
comp=Z,117nm,0.8s,baz=209,slow=6.8,SNR=81
DBIC LR LR 06 59 48.9
comp=Z,206nm,19.0s,baz=208,slow=34
DBIC Dimbokro 71.23 69 P P 06 30 30.8 +0.3
TBI Tubuai 71.25 254 *e*LR LR 06 52 14.0
comp=Z,701nm,23.0s,baz=109
S54A Dingess, Beckl 71.25 349 P P 06 30 29.9 -0.2
baz=168,SNR=9.3
S54A Dingess, Beckl 71.25 349 IAmb IAmb 06 30 30.9
comp=Z,60nm,0.9s
R58A Rapidan 71.25 351 P P 06 30 30.2 +0.2
baz=171,SNR=6.0
S53A Williamson 71.28 348 P P 06 30 29.6 -0.6
baz=167,SNR=6.0
R57A Stanardsville 71.32 351 P P 06 30 31.1 +0.7
baz=170,SNR=16
W41B Gary Mavity, V 71.33 339 P P 06 30 30.5 0.0
baz=158,SNR=13
T49A Edmonton 71.39 345 P P 06 30 30.4 -0.6
baz=164,SNR=20
T49A Edmonton 71.39 345 IAmb IAmb 06 30 30.9
comp=Z,40nm,0.6s
S52A Salyersville 71.45 347 P P 06 30 30.8 -0.5
baz=166
WHAR Wooly Hollow 71.45 339 IAmb IAmb 06 30 32.6
comp=Z,53nm,1.4s
S51A Beattyville 71.51 347 P P 06 30 31.1 -0.5
baz=166,SNR=12
S51A Beattyville 71.51 347 IAmb IAmb 06 30 32.3
comp=Z,43nm,0.9s
GLAT Glass 71.51 342 P P 06 30 31.7 +0.1
R56A Bull Pasture M 71.55 350 P P 06 30 32.5 +0.6
baz=170,SNR=7.1
R54A Victor 71.57 349 P P 06 30 31.9 -0.1
baz=168,SNR=13
ABTX Abilene, Hawle 71.62 332 P P 06 30 32.6 +0.2
baz=152,SNR=14
ABTX Abilene, Hawle 71.62 332 P P 06 30 32.8 +0.3
T47A Sharon Grove 71.64 344 P P 06 30 31.8 -0.7
baz=163,SNR=17
Q60A Greensboro 71.71 353 P P 06 30 33.8 +1.1
baz=173
S50A Richmond 71.71 346 P P 06 30 32.4 -0.4
baz=165,SNR=14
W39A Magazine 71.83 338 P P 06 30 34.2 +0.6
baz=157,SNR=40
LCAR Lake Charles 71.84 340 P P 06 30 33.4 -0.2
LCAR IAmb IAmb 06 30 34.6
comp=Z,60nm,0.8s
Q58A Fox Den Farm, 71.85 352 P P 06 30 34.2 +0.6
baz=171
R53A Hurricane 71.88 348 P P 06 30 33.3 -0.5
baz=167,SNR=7.3
R53A Hurricane 71.88 348 IAmb IAmb 06 30 34.1
comp=Z,31nm,0.7s
S49A Springfield 72.00 345 P P 06 30 33.5 -1.0
baz=164,SNR=8.3
PARMO Parma 72.00 341 P P 06 30 35.0 +0.4
R52A Catlettsburg 72.01 348 P P 06 30 34.3 -0.3
baz=167
Q57A Strasburg 72.03 351 P P 06 30 35.6 +0.8
baz=170,SNR=14
Q56A Snyder Ridge, 72.14 351 P P 06 30 36.4 +1.0
baz=170,SNR=5.8
R51A Hillsboro 72.15 347 P P 06 30 35.2 -0.2
baz=166,SNR=20
SUR Sutherland 72.18 117 P P 06 30 37.0 +0.7
comp=Z,53nm,0.8s,baz=234,slow=6.7,SNR=48
SUR Sutherland 72.18 117 P P 06 30 37.3 +1.0
SUR IAmb IAmb 06 30 38.5
comp=Z,48nm,0.8s
Q55A Buckhannon 72.23 350 P P 06 30 36.2 +0.3
baz=169,SNR=6.4
R50A Paris 72.27 346 IAmb IAmb 06 30 58.5
comp=Z,49nm,0.6s
Q53A Leroy 72.32 349 P P 06 30 36.3 -0.1
baz=168,SNR=6.6
Q54A Coxs Mills 72.33 349 P P 06 30 36.0 -0.5
baz=168,SNR=7.7
Q54A Coxs Mills 72.33 349 P P 06 30 36.0 -0.5
P58A Pank, Wackersv 72.34 352 P P 06 30 37.4 +0.9
baz=171,SNR=6.4
P59A Jarrettsville 72.37 353 P P 06 30 37.7 +1.0
baz=172,SNR=17
P57A Homestead Farm 72.42 352 P P 06 30 38.0 +0.9
baz=171,SNR=10
P57A Homestead Farm 72.42 352 IAmb IAmb 06 30 39.1
comp=Z,36nm,0.9s
P60A Greenville 72.49 354 P P 06 30 37.9 +0.5
baz=173
Q52A Bidwell 72.55 348 P P 06 30 37.2 -0.5
baz=167,SNR=9.5
P56A Dayton Farm, R 72.55 351 P P 06 30 38.6 +0.8
baz=170,SNR=6.5
U40A Yellville 72.61 339 P P 06 30 38.1 -0.1
baz=158,SNR=22
U40A Yellville 72.61 339 IAmb IAmb 06 30 39.3
comp=Z,54nm,1.1s
WCI Wyandotte Cave 72.64 345 P P 06 30 37.6 -0.7
baz=164
WCI Wyandotte Cave 72.64 345 P P 06 30 37.3 -1.0
WCI pmax pmax
comp=Z,46nm,0.9s
WCI Wyandotte Cave 72.64 345 P P 06 30 37.4 -1.0
WCI IAmb IAmb 06 30 38.5
comp=Z,46nm,0.8s

O61A Allentown 72.67 354 P P 06 30 39.4 +1.0
baz=174
P55A Reedsville 72.69 350 P P 06 30 38.7 0.0
baz=169,SNR=5.6
Q50A Georgetown 72.75 347 P P 06 30 38.4 -0.6
baz=166,SNR=7.9
Q51A Peebles 72.81 347 P P 06 30 38.9 -0.5
baz=166,SNR=11
Q51A Peebles 72.81 347 P P 06 30 38.8 -0.5
Q51A IAmb IAmb 06 30 40.0
comp=Z,44nm,0.9s
MCWV Mont Chateau 72.84 350 P P 06 30 39.8 +0.3
baz=169
S44A Carbondale 72.84 342 P P 06 30 39.1 -0.5
baz=161,SNR=7.5
P54A Burton 72.88 350 P P 06 30 39.7 -0.1
baz=169,SNR=11
P53A Whipple 72.91 349 P P 06 30 39.8 -0.1
baz=168,SNR=6.5
P53A Whipple 72.91 349 P P 06 30 39.6 -0.4
O58A Lewisberry 72.93 353 P P 06 30 40.3 +0.2
baz=172,SNR=5.6
O60A Telford 72.97 354 P P 06 30 40.9 +0.7
baz=173,SNR=6.8
O59A Robesonia 73.04 353 P P 06 30 41.4 +0.7
baz=172,SNR=7.3
Q49A Aurora 73.09 346 P P 06 30 40.5 -0.5
baz=165,SNR=16
O57A Amberson 73.10 352 P P 06 30 41.6 +0.6
baz=171,SNR=5.8
TUL1 Leonard 73.14 336 P P 06 30 41.2 -0.2
baz=155,SNR=12
TUL1 Leonard 73.14 336 IAmb IAmb 06 30 42.5
comp=Z,56nm,1.2s
WMOK Wichita Mounta 73.16 334 P P 06 30 41.1 -0.4
baz=153,SNR=20
MGMO Mountain Grove 73.17 340 P P 06 30 41.6 +0.1
MGMO IAmb IAmb 06 30 42.8
comp=Z,59nm,1.1s
P52A Corning 73.18 348 P P 06 30 41.1 -0.4
baz=167,SNR=10
Q48A North Vernon 73.19 345 P P 06 30 41.0 -0.5
baz=164,SNR=18
P51A Williamsport 73.19 348 P P 06 30 41.2 -0.5
baz=166,SNR=9.9
P51A Williamsport 73.19 348 IAmb IAmb 06 30 42.1
comp=Z,47nm,0.9s
SRIG Santa Rosalia 73.21 319 P P 06 30 42.9 +0.9
SRIG IAmb IAmb 06 30 44.4
comp=Z,83nm,1.5s
BRNJ Basking Ridge 73.26 354 P P 06 30 42.9 +1.0
BRNJ IAmb IAmb 06 30 43.9
comp=Z,37nm,0.9s
O56A Blue Knob Stat 73.27 351 P P 06 30 42.5 +0.4
baz=170,SNR=5.3
MNTX Cornudas Mount 73.29 327 P P 06 30 42.1 -0.3
baz=147,SNR=74
MNTX Cornudas Mount 73.29 327 IAmb IAmb 06 30 43.1
comp=Z,41nm,0.8s
O55A Ligonier 73.31 351 P P 06 30 42.4 +0.1
baz=170,SNR=6.4
N61A South Mountain 73.31 355 P P 06 30 43.0 +0.8
baz=174
MAW Mawson 73.37 162 P P 06 30 42.1 -0.3
MAW pmax pmax
comp=Z,12nm,1.2s
MAW Mawson 73.37 162 P P 06 30 42.5 +0.1
comp=Z,28nm,0.8s,baz=209,slow=6.8,SNR=45
MAW LR LR 07 03 14.0
comp=Z,335nm,18.6s,baz=236,slow=36
MAW Mawson 73.37 162 P P 06 30 42.1 -0.3
FVM French Village 73.43 341 P P 06 30 42.7 -0.3
FVM pmax pmax
comp=Z,79nm,1.0s
FVM French Village 73.43 341 P P 06 30 42.7 -0.3
FVM IAmb IAmb 06 30 43.9
comp=Z,79nm,1.0s
P50A Jamestown 73.45 347 P P 06 30 42.8 -0.4
baz=166,SNR=12
N60A Cedar Hill Far 73.49 354 P P 06 30 44.0 +0.7
baz=173,SNR=11
PAL Palisades 73.53 355 P P 06 30 43.9 +0.3
baz=174
OLIL Olney 73.54 343 IAmb IAmb 06 30 43.8
comp=Z,38nm,0.8s
SSPA Standing Stone 73.55 352 P P 06 30 43.9 +0.3
baz=171
SSPA Standing Stone 73.55 352 P P 06 30 44.1 +0.4
P49A Miami Univ. Ec 73.56 346 P P 06 30 43.1 -0.6
baz=165,SNR=12
BLO Bloomington 73.59 345 IAmb IAmb 06 30 43.8
comp=Z,40nm,0.6s
N59A State Game Lan 73.60 354 P P 06 30 45.0 +1.0
baz=173,SNR=11
N59A State Game Lan 73.60 354 IAmb IAmb 06 30 46.1
comp=Z,44nm,0.9s
O52A Adamsville 73.60 349 P P 06 30 43.5 -0.5
baz=168,SNR=7.2
O52A Adamsville 73.60 349 IAmb IAmb 06 30 44.7
comp=Z,34nm,0.8s
N58A Sunbury 73.61 353 P P 06 30 44.7 +0.7
baz=172,SNR=5.6
N57A Milroy 73.62 352 P P 06 30 44.4 +0.2
baz=171,SNR=7.3
O53A New Philadelph 73.63 349 P P 06 30 43.8 -0.3
baz=168
P48A Milroy 73.64 346 P P 06 30 43.3 -0.9
baz=164,SNR=12
P48A Milroy 73.64 346 IAmb IAmb 06 30 44.4
comp=Z,72nm,1.1s
CCM Cathedral Cave 73.72 341 P P 06 30 44.7 0.0
baz=159
CCM Cathedral Cave 73.72 341 P P 06 30 44.5 -0.2
CCM pmax pmax
comp=Z,65nm,1.1s
CCM Cathedral Cave 73.72 341 P P 06 30 44.5 -0.2
CCM IAmb IAmb 06 30 45.8
comp=Z,65nm,1.1s
O51A Pataskala 73.76 348 P P 06 30 44.3 -0.7
baz=167,SNR=8.6
M63A Gales Ferry 73.81 357 P P 06 30 45.1 -0.1
baz=176
M61A Granite Spring 73.82 355 P P 06 30 45.9 +0.6
baz=174
N55A Marion Center 73.83 351 P P 06 30 45.7 +0.4
baz=170,SNR=13
HSIG 73.85 321 IAmb IAmb 06 30 48.1
comp=Z,45nm,1.0s
N56A West Decatur 73.87 352 P P 06 30 46.0 +0.4
baz=171
M62A Hamden 73.89 356 P P 06 30 46.7 +1.0
baz=175
M60A Port Jervis 73.90 355 P P 06 30 46.4 +0.7
baz=174,SNR=7.6
ACSO Alum Creek Sta 73.91 348 P P 06 30 45.3 -0.6
baz=166,SNR=15
ACSO Alum Creek Sta 73.91 348 IAmb IAmb 06 30 46.5
comp=Z,61nm,0.8s
O50A Cable 73.94 347 P P 06 30 45.4 -0.7
baz=166,SNR=10
SLM Saint Louis 73.99 342 P P 06 30 45.8 -0.5
SLM pmax pmax
comp=Z,53nm,1.2s
SLM Saint Louis 73.99 342 P P 06 30 45.8 -0.5
SLM IAmb IAmb 06 30 47.0
comp=Z,53nm,1.1s
MSTX Muleshoe 74.07 330 P P 06 30 47.2 +0.1
baz=150,SNR=54
N53A Lisbon 74.11 350 P P 06 30 47.1 +0.1
baz=168
M58A Price's Panora 74.11 353 P P 06 30 47.8 +0.8
baz=172,SNR=6.2
O49A Covington 74.12 347 P P 06 30 46.6 -0.5
baz=165,SNR=8.3
O49A Covington 74.12 347 IAmb IAmb 06 30 47.6
comp=Z,60nm,0.9s
PPT2 Papeete2 74.12 259 *e*S **SKiKP 06 40 16.2 +0.6**
comp=Z,94nm,28.2s
PPT2 Papeete2 74.12 259 *e*LR LR 06 53 32.8
comp=Z,263nm,24.0s,baz=124
N54A Moraine State 74.14 350 P P 06 30 47.5 +0.3
baz=169,SNR=5.7
N54A Moraine State 74.14 350 P P 06 30 47.4 +0.2
M57A Sunshine Farm, 74.15 353 P P 06 30 47.8 +0.6
baz=172
P46A Rosedale 74.17 344 P P 06 30 46.5 -0.9
baz=163,SNR=8.9
M59A Waymart 74.19 354 P P 06 30 48.2 +0.8

baz=173,SNR=12
L63A North Scituate 74.25 357 P P 06 30 48.6 +0.9
baz=176
N52A McGinn's Farm, 74.25 349 P P 06 30 47.5 -0.3
baz=168
L64A Middleborough 74.29 357 P P 06 30 48.8 +0.9
baz=177
BRYW Bryant College 74.30 357 IAmb IAmb 06 30 50.0
comp=Z,50nm,0.9s
AMTX Amarillo 74.42 331 P P 06 30 49.4 +0.4
baz=151
AMTX Amarillo 74.42 331 IAmb IAmb 06 30 50.5
comp=Z,58nm,0.9s
M56A Emporium 74.42 352 P P 06 30 49.1 +0.3
baz=171,SNR=8.4
M56A Emporium 74.42 352 IAmb IAmb 06 30 50.1
comp=Z,58nm,1.2s
N50A Nevada 74.46 348 P P 06 30 48.5 -0.5
baz=166,SNR=11
N51A Ashland 74.47 348 P P 06 30 48.5 -0.6
baz=167
M55A Ridgway 74.47 351 P P 06 30 49.3 +0.2
baz=170,SNR=9.3
M55A Ridgway 74.47 351 IAmb IAmb 06 30 50.4
comp=Z,46nm,0.9s
L60A Shokan 74.53 355 P P 06 30 50.3 +0.9
baz=174
M54A Oil Creek Stat 74.63 351 P P 06 30 49.9 -0.1
baz=169
M54A Oil Creek Stat 74.63 351 IAmb IAmb 06 30 51.1
comp=Z,54nm,1.1s
L61A Hillsdale 1, H 74.69 355 P P 06 30 51.0 +0.7
baz=175
M53A Wl Miller and 74.71 350 P P 06 30 50.4 -0.1
baz=168
L58A Harry Jones Me 74.72 354 P P 06 30 51.1 +0.6
baz=173,SNR=14
L57A Andrews Acres 74.78 353 P P 06 30 51.2 +0.4
baz=172
L59A Walton 74.80 354 P P 06 30 51.8 +0.9
baz=173,SNR=7.3
L59A Walton 74.80 354 P P 06 30 52.0 +1.1
L59A IAmb IAmb 06 30 53.0
comp=Z,48nm,0.9s
N49A Columbus Grove 74.80 347 P P 06 30 50.5 -0.4
baz=166,SNR=14
N49A Columbus Grove 74.80 347 P P 06 30 50.5 -0.4
M51A Elyria 74.84 349 P P 06 30 51.0 -0.2
baz=167
SFIN Lafayette 74.88 345 P P 06 30 50.3 -1.1
baz=163,SNR=6.5
HRV Adam Dziewonsk 74.89 357 P P 06 30 52.3 +0.9
baz=176
HRV Adam Dziewonsk 74.89 357 P P 06 30 52.3 +0.9
HRV pmax pmax
comp=Z,27nm,0.9s
HRV Adam Dziewonsk 74.89 357 P P 06 30 52.3 +0.9
L61B Northampton 74.89 356 P P 06 30 52.4 +0.9
baz=176,SNR=7.2
BINY Binghamton 74.89 354 P P 06 30 51.7 +0.2
baz=173,SNR=7.1
BINY Binghamton 74.89 354 IAmb IAmb 06 30 53.1
comp=Z,38nm,0.9s
N48A Decatur 74.90 346 P P 06 30 50.8 -0.7
baz=165,SNR=11
M52A Chesterland 74.91 349 P P 06 30 51.5 -0.1
baz=168
L56A Greenwood 74.99 352 P P 06 30 52.5 +0.4
baz=171,SNR=8.4
L56A Greenwood 74.99 352 IAmb IAmb 06 30 53.5
comp=Z,56nm,1.0s
N47A Urbana 75.06 346 P P 06 30 51.6 -0.8
baz=164,SNR=11
N47A Urbana 75.06 346 P P 06 30 51.7 -0.8
N47A IAmb IAmb 06 30 52.1
comp=Z,54nm,0.7s
M50A Fremont 75.06 348 P P 06 30 52.1 -0.4
baz=166
M50A Fremont 75.06 348 IAmb IAmb 06 30 53.0
comp=Z,42nm,0.8s
K62A Royalston 75.08 356 P P 06 30 53.6 +1.0
baz=176
121A Cookes Peak, D 75.11 326 P P 06 30 54.7 +1.5
baz=146,SNR=44
K60A Five Rivers En 75.13 355 P P 06 30 53.7 +0.9
baz=174,SNR=6.5
L55A Hinsdale 75.14 352 P P 06 30 53.3 +0.4
baz=170,SNR=5.3
K61A Williamstown 75.14 356 P P 06 30 53.9 +1.0
baz=175
L53A Girard 75.15 350 P P 06 30 52.8 -0.2
baz=169
ERPA Erie 75.28 351 P P 06 30 53.7 0.0
baz=169
L54A Sinclairville 75.30 351 P P 06 30 54.2 +0.3
baz=170,SNR=6.8
K59A Cooperstown 75.36 354 P P 06 30 54.7 +0.5
baz=174,SNR=9.4
WVNY West Valley, N 75.38 352 IAmb IAmb 06 30 55.9
comp=Z,59nm,0.9s
K58A Earlville 75.42 354 P P 06 30 55.1 +0.5
baz=173,SNR=13
K58A Earlville 75.42 354 IAmb IAmb 06 30 56.0
comp=Z,55nm,0.8s
M48A Edgerton 75.44 347 P P 06 30 53.9 -0.8
baz=165
M48A Edgerton 75.44 347 IAmb IAmb 06 30 55.0
comp=Z,63nm,1.0s
K57A Scipio Center 75.47 353 P P 06 30 54.6 -0.2
baz=172
M47A Cromwell 75.50 346 P P 06 30 54.4 -0.7
baz=164
K56A Middlesex 75.52 353 P P 06 30 55.4 +0.3
baz=172
HDIL Hopedale 75.56 343 P P 06 30 54.9 -0.5
baz=161,SNR=7.3
HDIL Hopedale 75.56 343 IAmb IAmb 06 30 55.9
comp=Z,58nm,0.9s
K54A Basiliko Farm, 75.59 352 P P 06 30 55.7 +0.2
baz=170
J62A Henniker 75.61 357 P P 06 30 56.7 +1.1
baz=176,SNR=5.9
MMNY Mt. Morris Dam 75.62 352 P P 06 30 55.6 -0.1
MMNY IAmb IAmb 06 30 57.0
comp=Z,63nm,1.2s
K55A Perry 75.63 352 P P 06 30 55.9 +0.2
baz=171
J63A Strafford 75.64 357 P P 06 30 56.7 +0.9
baz=177
L50A Kingsville 75.64 348 P P 06 30 55.1 -0.6
baz=167
J60A Lant Hill Farm 75.72 356 P P 06 30 57.0 +0.7
baz=175
J61A Chester 75.77 356 P P 06 30 57.4 +0.9
baz=176,SNR=7.2
L48A N Adams 75.83 347 P P 06 30 56.3 -0.6
baz=165
L49A Milan 75.87 348 P P 06 30 56.7 -0.4
baz=166
ACCN Adirondack Com 75.88 355 IAmb IAmb 06 30 59.1
comp=Z,51nm,1.4s
TSUM Tsumeb 75.97 104 P P 06 30 58.7 +0.2
J58A Remsen 75.98 354 P P 06 30 58.0 +0.3
baz=173
J59A Piesco 76.02 355 P P 06 30 58.4 +0.4
baz=174,SNR=9.0
J59A Piesco 76.02 355 P P 06 30 58.5 +0.6
J59A IAmb IAmb 06 30 59.7
comp=Z,60nm,1.1s
K52A Tillsonburg 76.03 350 P P 06 30 58.0 0.0
baz=169
AAM Ann Arbor 76.04 348 P P 06 30 57.5 -0.5
baz=166
J56A Wolcott 76.04 353 P P 06 30 58.1 +0.1
baz=172
LPM Los Pinos Moun 76.05 328 P P 06 30 59.5 +0.9
J57A Williamstown 76.09 354 P P 06 30 58.4 +0.1
baz=173,SNR=5.0
J57A Williamstown 76.09 354 IAmb IAmb 06 30 59.7
comp=Z,51nm,0.9s
HNH Hanover 76.12 357 IAmb IAmb 06 31 00.9
comp=Z,48nm,0.9s
J55A Hilton 76.13 352 P P 06 30 58.7 +0.2
baz=171
I64A Boothbay 76.23 358 P P 06 31 00.1 +1.1
baz=178
J54A Appleton 76.24 352 P P 06 30 59.2 0.0
baz=170

L46A	**Eue Claire**	76.27 346	P	P	06 30 58.5 -0.9
	baz=164				
L46A	**Eue Claire**	76.27 346	IAmb	IAmb	06 30 58.9
	comp=Z,40nm,0.7s				
I58A	**Old Forge**	76.28 355	P	P	06 30 59.9 +0.4
	baz=174,SNR=7.1				
I59A	**Olmsteadville**	76.30 355	P	P	06 30 59.9 +0.4
	baz=174,SNR=6.8				
KSU1	**Kansas State U**	76.31 337	P	P	06 30 59.5 -0.2
	baz=155				
I60A	**Shoreham**	76.31 356	P	P	06 31 00.4 +0.9
	baz=175,SNR=7.8				
K50A	**Casco**	76.32 349	P	P	06 30 59.1 -0.5
	baz=167				
K50A	**Casco**	76.32 349	IAmb	IAmb	06 31 00.1
	comp=Z,71nm,0.9s				
I61A	**Oroboro, Fairl**	76.34 357	P	P	06 31 00.8 +1.1
	baz=176,SNR=8.6				
I63A	**Otisfield**	76.39 358	P	P	06 31 01.5 +1.5
	baz=177,SNR=10				
I63A	**Otisfield**	76.39 358	P	P	06 31 01.9 +1.9
TUC	**Tucson**	76.40 323	P	P	06 31 01.3 +0.8
	baz=144				
TUC	**Tucson**	76.40 323	P	P	06 31 01.2 +0.8
TUC			pmax	pmax	
	comp=Z,15nm,1.1s				
TUC	**Tucson**	76.40 323	P	P	06 31 01.2 +0.8
J52A	**Paris**	76.45 350	P	P	06 31 00.1 -0.3
	baz=169,SNR=5.5				
ANMO	**Albuquerque**	76.50 328	P	P	06 31 02.3 +1.2
	baz=147				
ANMO	**Albuquerque**	76.50 328*c i*	P	P	06 31 02.2 +1.1
ANMO			pmax	pmax	
	comp=Z,51nm,1.3s				
ANMO	**Albuquerque**	76.50 328	P	P	06 31 01.8 +0.7
ANMO			IAmb	IAmb	06 31 03.5
	comp=Z,46nm,1.1s				
I57A	**Carthage**	76.58 354	P	P	06 31 01.7 +0.6
	baz=173,SNR=5.6				
K48A	**Perry**	76.61 348	P	P	06 31 00.6 -0.6
	baz=166,SNR=7.0				
LBNH	**Lisbon**	76.63 357	P	P	06 31 02.5 +1.2
	baz=176,SNR=10				
LBNH	**Lisbon**	76.63 357	IAmb	IAmb	06 31 03.6
	comp=Z,61nm,0.8s				
K47A	**Vermontville**	76.64 347	P	P	06 31 00.6 -0.9
	baz=165,SNR=7.9				
L44A	**Lake County Fo**	76.78 345	P	P	06 31 01.6 -0.6
	baz=162				
K46A	**Dorr**	76.81 346	P	P	06 31 01.5 -1.0
	baz=164				
WVL	**Waterville**	76.88 358	IAmb	IAmb	06 31 05.0
	comp=Z,53nm,0.9s				
I53A	**Kortright Cn E**	76.90 351	P	P	06 31 02.9 0.0
	baz=170,SNR=5.7				
H61A	**Lyndonville**	76.92 357	P	P	06 31 04.0 +1.0
	baz=176,SNR=20				
H62A	**Milan**	76.93 357	P	P	06 31 04.2 +1.1
	baz=177				
H58A	**Gabriels**	76.94 355	P	P	06 31 03.7 +0.5
	baz=174,SNR=13				
H64A	**Troy**	76.95 359	P	P	06 31 04.3 +1.2
	baz=178,SNR=5.4				
J49A	**Marlette**	76.98 348	P	P	06 31 03.3 0.0
	baz=166				
H63A	**New Sharon**	76.98 358	P	P	06 31 04.8 +1.4
	baz=178				
H65A	**Eastbrook**	76.99 360	P	P	06 31 04.3 +1.0
	baz=179,SNR=9.3				
H60A	**Morristown**	76.99 356	P	P	06 31 04.4 +1.0
	baz=176				
J48A	**Bridge Port**	77.03 348	P	P	06 31 03.1 -0.6
	baz=166,SNR=7.2				
J48A	**Bridge Port**	77.03 348	P	P	06 31 03.0 -0.6
J48A			IAmb	IAmb	06 31 04.2
	comp=Z,76nm,0.9s				
I55A	**Frankford**	77.06 353	P	P	06 31 03.9 +0.2
	baz=171,SNR=5.2				
I51A	**Listowel**	77.08 350	P	P	06 31 03.9 0.0
	baz=168				
H66A	**Whiting**	77.08 0	P	P	06 31 05.2 +1.3
	baz=180,SNR=9.1				
H57A	**Richville**	77.08 354	P	P	06 31 04.2 +0.3
	baz=173				
CBKS	**Cedar Bluff**	77.12 335	P	P	06 31 05.0 +0.6
	baz=153,SNR=16				
H59A	**Cadyville**	77.14 356	P	P	06 31 04.6 +0.4
	baz=175,SNR=12				
214A	**Organ Pipe Nat**	77.15 322	P	P	06 31 05.9 +1.2
	baz=142,SNR=19				
214A	**Organ Pipe Nat**	77.15 322	IAmb	IAmb	06 31 07.3
	comp=Z,52nm,1.1s				
J47A	**Sunmer**	77.16 347	P	P	06 31 03.6 -0.7
	baz=165,SNR=7.1				
J47A	**Sunmer**	77.16 347	IAmb	IAmb	06 31 04.8
	comp=Z,45nm,0.8s				
LONY	**Lake Ozonia**	77.17 355	P	P	06 31 04.9 +0.5
	baz=174,SNR=6.8				
LONY	**Lake Ozonia**	77.17 355	IAmb	IAmb	06 31 06.1
	comp=Z,39nm,0.9s				
H56A	**Elgin**	77.29 354	P	P	06 31 05.4 +0.3
	baz=172,SNR=8.1				
FRNY	**Flat Rock**	77.32 356	IAmb	IAmb	06 31 07.0
	comp=Z,58nm,0.8s				
H55A	**Tweed**	77.33 353	P	P	06 31 05.6 +0.2
	baz=172,SNR=7.2				
DELO	**Deloro Mine**	77.35 353	IAmb	IAmb	06 31 06.6
	comp=Z,40nm,1.1s				
BOSA	**Boshof**	77.36 116	P	P	06 31 05.9 -0.4
BOSA			pmax	pmax	
	comp=Z,68nm,0.9s				
BOSA	**Boshof**	77.36 116	P	P	06 31 05.8 -0.4
	comp=Z,60nm,0.8s,baz=239,slow=4.4,SNR=75				
BOSA			LR	LR	07 00 33.9
	comp=Z,313nm,19.2s,baz=212,slow=32				
BOSA	**Boshof**	77.36 116	P	P	06 31 05.9 -0.4
BOSA			IAmb	IAmb	06 31 07.3
	comp=Z,68nm,0.8s				
K43A	**Burlington**	77.37 344	P	P	06 31 05.3 -0.3
	baz=162				
GGN	**Saint George**	77.41 1	P	P	06 31 06.8 +1.1
GGN			IAmb	IAmb	06 31 07.9
	comp=Z,45nm,1.1s				
J46A	**Howard City**	77.42 347	P	P	06 31 04.9 -0.9
	baz=164				
G63A	**Kingsbury**	77.43 359	P	P	06 31 07.0 +1.1
	baz=178,SNR=11				
L40A	**Anamosa**	77.46 342	P	P	06 31 05.9 -0.2
	baz=160,SNR=39				
T25A	**Trinidad**	77.47 331	P	P	06 31 07.9 +1.3
	baz=149,SNR=35				
T25A	**Trinidad**	77.47 331	IAmb	IAmb	06 31 09.0
	comp=Z,52nm,0.8s				
G65A	**Princeton**	77.49 0	P	P	06 31 07.0 +0.9
	baz=180				
G65A	**Princeton**	77.49 0	IAmb	IAmb	06 31 08.5
	comp=Z,36nm,0.9s				
G60A	**Masonville**	77.51 357	P	P	06 31 08.2 +1.9
	baz=176				
H53A	**Bobcaygeon**	77.51 352	P	P	06 31 06.5 +0.1
	baz=170,SNR=5.7				
G64A	**Maxfield**	77.55 359	P	P	06 31 07.6 +1.1
	baz=179,SNR=8.4				
G62A	**West of Eustis**	77.55 358	P	P	06 31 07.9 +1.3
	baz=177,SNR=13				
G62A	**West of Eustis**	77.55 358	IAmb	IAmb	06 31 08.8
	comp=Z,62nm,0.8s				
PKME	**Peaks-Kenny Pk**	77.57 359	P	P	06 31 07.8 +1.2
	baz=178,SNR=9.4				
PKME	**Peaks-Kenny Pk**	77.57 359	IAmb	IAmb	06 31 08.7
	comp=Z,58nm,0.9s				
MACI	**Morro de la Ar**	77.61 45	P	P	06 31 07.6 +0.1
G61A	**St-Isidore-de-**	77.66 357	P	P	06 31 08.3 +1.2
	baz=176,SNR=8.3				
G58A	**Ormstown**	77.66 355	P	P	06 31 07.7 +0.6
	baz=174,SNR=6.8				
G57A	**Newington**	77.68 355	P	P	06 31 07.8 +0.5
	baz=174,SNR=6.3				
H52A	**Wyevale**	77.74 351	P	P	06 31 07.6 0.0
	baz=169,SNR=5.4				
SADO	**Sadowa**	77.77 352	IAmb	IAmb	06 31 08.8
	comp=Z,48nm,0.9s				
X18A	**Snowflake**	77.78 325	P	P	06 31 09.6 +1.3
PLVO	**Plevna**	77.81 353	IAmb	IAmb	06 31 09.4
	comp=Z,52nm,0.9s				
SCIA	**State Center**	77.85 341	P	P	06 31 08.1 -0.2
	baz=158,SNR=5.7				
SCIA	**State Center**	77.85 341	IAmb	IAmb	06 31 09.3
	comp=Z,39nm,0.8s				
I47A	**Gladwin**	77.86 348	P	P	06 31 07.6 -0.6
	baz=165,SNR=7.4				
I47A	**Gladwin**	77.86 348	IAmb	IAmb	06 31 08.7
	comp=Z,59nm,0.8s				
I46A	**Reed City**	77.95 347	P	P	06 31 07.9 -0.9
	baz=165				
G55A	**Calabogie**	77.98 353	P	P	06 31 09.2 +0.2
	baz=172,SNR=5.5				
F63A	**Nahmakanta, Br**	78.00 359	P	P	06 31 10.2 +1.1
	baz=179,SNR=8.3				
F63A	**Nahmakanta, Br**	78.00 359	P	P	06 31 10.3 +1.2
F63A			IAmb	IAmb	06 31 11.3
	comp=Z,52nm,0.8s				
JFWS	**Jewell Farm**	78.02 343	P	P	06 31 09.1 -0.1
	baz=161,SNR=10				
JFWS	**Jewell Farm**	78.02 343	IAmb	IAmb	06 31 10.1
	comp=Z,49nm,0.9s				
G53A	**Haliburton**	78.06 352	P	P	06 31 09.6 +0.2
	baz=170,SNR=12				
ORIO	**Orleans, Innes**	78.07 354	P	P	06 31 09.5 +0.1
	baz=173,SNR=6.2				
W18A	**Petrified Fore**	78.15 326	P	P	06 31 11.5 +1.1
	baz=145,SNR=15				
W18A	**Petrified Fore**	78.15 326	IAmb	IAmb	06 31 12.8
	comp=Z,65nm,1.1s				
F64A	**Sherman**	78.16 359	P	P	06 31 10.9 +1.1
	baz=179,SNR=6.6				
F64A	**Sherman**	78.16 359	IAmb	IAmb	06 31 12.1
	comp=Z,47nm,1.0s				
LMN	**Caledonia Moun**	78.18 2	P	P	06 31 10.6 +0.6
LMN			IAmb	IAmb	06 31 11.8
	comp=Z,40nm,0.8s				
F62A	**Pittston Farm,**	78.22 358	P	P	06 31 11.5 +1.3
	baz=178,SNR=10				
G54A	**Lake Saint Pet**	78.27 352	P	P	06 31 10.7 +0.2
	baz=171,SNR=7.7				
F59A	**Saint Guilaume**	78.28 356	P	P	06 31 11.8 +1.2
	baz=175				
F61A	**St Evariste**	78.33 358	P	P	06 31 11.2 +0.4
	baz=177				
F60A	**Warwick**	78.36 357	P	P	06 31 11.4 +0.4
	baz=176,SNR=16				
F58A	**St-Lin Laurent**	78.36 356	P	P	06 31 11.1 +0.1
	baz=175				
H47A	**Mio**	78.36 348	P	P	06 31 10.7 -0.4
	baz=166				
KSCO	**Kaye Shedlock'**	78.37 333	P	P	06 31 12.4 +1.0
	baz=150,SNR=12				
X16A	**Lo Mia Camp, P**	78.41 324	IAmb	IAmb	06 31 14.4
	comp=Z,64nm,1.1s				
SDCO	**Great Sand Dun**	78.44 330	P	P	06 31 13.2 +1.2
	baz=148,SNR=32				
SDCO	**Great Sand Dun**	78.44 330	P	P	06 31 13.0 +1.0
H46A	**Fife Lake**	78.49 347	P	P	06 31 11.0 -0.7
	baz=165,SNR=8.8				
F55A	**Otter Lake**	78.53 354	P	P	06 31 12.2 +0.3
	baz=172,SNR=6.6				
I42A	**Draeger Farm,**	78.63 344	P	P	06 31 12.2 -0.3
	baz=162,SNR=6.9				
GLMI	**Grayling**	78.65 348	P	P	06 31 12.5 -0.2
	baz=165				
E64A	**Bridgewater**	78.71 360	P	P	06 31 13.4 +0.5
	baz=180				
E63A	**Oxbow**	78.72 359	P	P	06 31 13.8 +0.9
	baz=179,SNR=5.7				
E63A	**Oxbow**	78.72 359	IAmb	IAmb	06 31 14.5
	comp=Z,28nm,0.8s				
E60A	**Ste Agathe de**	78.74 357	P	P	06 31 13.5 +0.5
	baz=177,SNR=7.2				
F52A	**Sundridge**	78.81 352	P	P	06 31 13.7 +0.2
	baz=170,SNR=9.3				
ALGO	**Algonquin Park**	78.81 353	P	P	06 31 13.5 0.0
	baz=171,SNR=15				
Y14A	**Wickenburg**	78.81 323	P	P	06 31 14.9 +1.0
E58A	**La Victoria**	78.83 356	P	P	06 31 14.1 +0.6
	baz=175,SNR=12				
G47A	**Hillman**	78.86 348	P	P	06 31 14.0 +0.2
	baz=166				
BGNE	**Belgrade**	78.89 337	P	P	06 31 14.5 +0.4
	baz=154,SNR=8.9				
E59A	**St. Maurice**	78.89 357	P	P	06 31 14.6 +0.7
	baz=176				
E57A	**Chmin Saint G**	78.92 355	P	P	06 31 14.5 +0.3
	baz=174				
E62A	**Clayton Lake**	78.93 359	P	P	06 31 15.3 +1.1
	baz=178,SNR=6.3				
E62A	**Clayton Lake**	78.93 359	IAmb	IAmb	06 31 15.8
	comp=Z,31nm,0.8s				
H43A	**Windswept, Lux**	78.93 345	P	P	06 31 14.1 -0.1
	baz=163				
F51A	**Arnstein**	79.01 351	P	P	06 31 14.6 0.0
	baz=169				
S22A	**4UR Ranch, Cre**	79.01 329	P	P	06 31 16.2 +1.0
	baz=147,SNR=27				
S22A	**4UR Ranch, Cre**	79.01 329	P	P	06 31 16.0 +0.8
G45A	**Suttons Bay**	79.05 347	P	P	06 31 14.8 -0.1
	baz=164				
GLA	**Glamis**	79.07 321	P	P	06 31 16.4 +1.1
	baz=141				
E55A	**Montcerf-Lytto**	79.11 354	P	P	06 31 15.4 +0.3
	baz=173				
E56A	**St. Veronique**	79.12 355	P	P	06 31 15.4 +0.2
	baz=174,SNR=13				
F49A	**Sandfield**	79.14 350	P	P	06 31 15.1 -0.2
	baz=168				
G46A	**Petoskey**	79.17 348	P	P	06 31 15.3 -0.2
	baz=165				
E53A	**Dumoine, Ponti**	79.19 353	P	P	06 31 15.9 +0.3
	baz=171				
E54A	**Lac Daplat, Po**	79.20 353	P	P	06 31 15.8 +0.2
	baz=172				
E52A	**Mattawa**	79.21 352	P	P	06 31 15.4 -0.2
	baz=170				
D60A	**Saint Jean D'O**	79.26 358	P	P	06 31 16.5 +0.6
	baz=177				
WUAZ	**Wupatki**	79.26 325	P	P	06 31 17.9 +1.4
	baz=144,SNR=20				
WUAZ	**Wupatki**	79.26 325	IAmb	IAmb	06 31 19.0
	comp=Z,43nm,1.1s				
F48A	**Evansville**	79.30 349	P	P	06 31 16.0 -0.1
	baz=167				
MVCO	**Mesa Verde**	79.30 328	P	P	06 31 17.6 +0.9
	baz=146,SNR=25				
MVCO	**Mesa Verde**	79.30 328	IAmb	IAmb	06 31 18.9
	comp=Z,62nm,1.4s				
D63A	**Stockholm**	79.33 360	P	P	06 31 17.3 +1.0
	baz=180				
Q24A	**Divide**	79.33 331	P	P	06 31 18.0 +1.0
	baz=148,SNR=18				
Q24A	**Divide**	79.33 331	P	P	06 31 17.8 +0.8
Q24A			IAmb	IAmb	06 31 19.1
	comp=Z,74nm,1.0s				
D62A	**Allapoint, All**	79.38 359	P	P	06 31 17.4 +0.8
	baz=179,SNR=11				
D62A	**Allapoint, All**	79.38 359	IAmb	IAmb	06 31 18.4
	comp=Z,43nm,0.9s				
D59A	**Saint-Raymond**	79.39 357	P	P	06 31 17.2 +0.6
	baz=176				
IKP	**In-Ko-Pah, Jac**	79.45 320	P	P	06 31 19.0 +1.6
	baz=140,SNR=9.6				
LBTB	**Lobatse**	79.45 113	P	P	06 31 17.7 -0.2
LBTB			pmax	pmax	
	comp=Z,77nm,0.7s				
LBTB	**Lobatse**	79.45 113	P	P	06 31 17.7 -0.2
Y12C	**Blythe**	79.45 322	P	P	06 31 18.6 +1.3
	baz=141,SNR=19				
Y12C	**Blythe**	79.45 322	IAmb	IAmb	06 31 19.9
	comp=Z,42nm,1.1s				
SWSC	**Sam W. Stewart**	79.51 320	P	P	06 31 18.7 +1.1
	baz=140,SNR=7.3				
D57A	**Chemin Vers le**	79.51 356	P	P	06 31 17.8 +0.5
	baz=174				
D61A	**St Aubert, Com**	79.53 358	P	P	06 31 18.4 +1.0
	baz=178				
D58A	**Chemin du LacG**	79.53 356	P	P	06 31 18.0 +0.6
	baz=175,SNR=16				
E51A	**G1948 Merrick**	79.55 352	P	P	06 31 17.6 0.0
	baz=170,SNR=12				
D56A	**ZEC Mazanza, M**	79.60 355	P	P	06 31 17.9 +0.1
	baz=174				
E50A	**Wahnapitae**	79.60 351	P	P	06 31 17.8 0.0
	baz=169				
D55A	**Sainte-Anne-du**	79.63 355	P	P	06 31 17.7 -0.2
	baz=173,SNR=21				
PDMCI	**Parker Dam,Lak**	79.68 322	P	P	06 31 19.4 +0.8
	baz=142				
BAR	**Barrett**	79.78 320	IAmb	IAmb	06 31 21.5
	comp=Z,45nm,1.1s				
MONP2	**Monument Peak**	79.80 320	P	P	06 31 20.8 +1.3
	baz=140,SNR=13				
LATQ	**La Tuque**	79.81 356	P	P	06 31 19.4 +0.5
	baz=176				
OGNE	**Ogallala**	79.83 334	P	P	06 31 20.0 +0.7
	baz=151				
D54A	**Lac Fusel, La**	79.86 354	P	P	06 31 18.7 -0.5
	baz=172,SNR=9.4				
E48A	**Lockeyer**	79.86 350	P	P	06 31 19.3 +0.1
	baz=168,SNR=7.2				
D52A	**ZEK Kipawa Sen**	79.86 353	P	P	06 31 19.7 +0.5
	baz=171				
BC3	**Big Chuckawall**	79.87 321	P	P	06 31 20.7 +1.0
	baz=141,SNR=12				
D53A	**Lac Vacive, Po**	79.89 353	P	P	06 31 19.4 +0.1
	baz=171				
D53A	**Lac Vacive, Po**	79.89 353	IAmb	IAmb	06 31 20.5
	comp=Z,56nm,0.9s				
E47A	**Iron Bridge**	80.01 349	P	P	06 31 19.9 -0.1
	baz=167,SNR=8.2				
D51A	**Lot 18 Range I**	80.09 352	P	P	06 31 20.5 +0.1
	baz=170,SNR=5.7				
IRM	**Iron Mountain**	80.09 322	P	P	06 31 22.1 +1.2
	baz=141,SNR=15				
E46A	**Sault Ste Mari**	80.09 348	P	P	06 31 20.2 -0.2
	baz=166,SNR=8.6				
109C	**Camp Elliot, M**	80.17 320	P	P	06 31 22.2 +0.9
	baz=139				
109C	**Camp Elliot, M**	80.17 320	P	P	06 31 22.8 +1.5
D50A	**G1974 Best Tow**	80.22 352	P	P	06 31 21.3 +0.2
	baz=170,SNR=16				
G40A	**Rib Lake**	80.23 344	P	P	06 31 21.3 +0.1
	baz=161,SNR=7.9				
ISCO	**Idaho Springs**	80.23 331	P	P	06 31 22.7 +0.9
	baz=148,SNR=44				
F42A	**Maple Grove Fa**	80.24 346	P	P	06 31 21.1 -0.2
	baz=162				
TORD	**Torodi Ar. Bea**	80.27 68	P	P	06 31 22.4 +0.2
	comp=Z,58nm,0.8s,baz=269,slow=4.7,SNR=250				
TORD			PKKPbc	PKKPbc	06 50 05.2 +0.9
	comp=Z,1.0nm,1.1s,baz=90,slow=1.8,SNR=4.0				
TORD			LR	LR	07 04 19.4
	comp=Z,316nm,20.3s,baz=295,slow=34				
TORD	**Torodi Ar. Bea**	80.27 68	P	P	06 31 20.4 -1.8
PV18	**Skein Mesa, Pa**	80.34 328	P	P	06 31 22.8 +0.5
PFO	**Pinyon Flats O**	80.37 320	P	P	06 31 24.0 +1.5
	baz=140,SNR=15				
PFO	**Pinyon Flats O**	80.37 320*c i*	P	P	06 31 23.8 +1.3
PFO			pmax	pmax	
	comp=Z,67nm,1.0s				
PFO	**Pinyon Flats O**	80.37 320	LR	LR	07 00 40.1
	comp=Z,137nm,19.4s,baz=159,slow=31				
PFO	**Pinyon Flats O**	80.37 320	P	P	06 31 23.7 +1.2
PFO			IAmb	IAmb	06 31 25.1
	comp=Z,40nm,1.0s				
BELC	**Belle Mtn. Jos**	80.42 321	P	P	06 31 24.2 +1.4
	baz=140,SNR=9.6				
D48A	**Paudash Townsh**	80.49 350	P	P	06 31 22.3 -0.3
	baz=168,SNR=8.2				
ECSD	**EROS Data Cent**	80.52 339	P	P	06 31 22.7 -0.2
	baz=156,SNR=47				
ECSD	**EROS Data Cent**	80.52 339	P	P	06 31 22.7 -0.2
D49A	**Beulah Townshi**	80.52 351	P	P	06 31 22.8 0.0
	baz=168,SNR=16				
D46A	**Sault St. Mari**	80.56 349	P	P	06 31 22.5 -0.5
	baz=166				
D47A	**Chapleau**	80.57 349	P	P	06 31 22.6 -0.4
	baz=167				
E43A	**Lone Tree Farm**	80.60 347	P	P	06 31 23.2 0.0
	baz=164,SNR=7.6				
E43A	**Lone Tree Farm**	80.60 347	IAmb	IAmb	06 31 25.6
	comp=Z,42nm,0.8s				
PV21	**Cone Mtn., Par**	80.62 328	P	P	06 31 24.5 +0.6
E44A	**Grand Marais A**	80.63 347	P	P	06 31 23.9 +0.6
	baz=164				
MURC	**Murrieta**	80.76 320	P	P	06 31 25.6 +1.2
	baz=140				
SPMN	**Marine on St.**	80.83 342	P	P	06 31 23.9 -0.6
	baz=159,SNR=9.1				
GMRC	**Granite Mounta**	80.84 322	P	P	06 31 26.3 +1.3
	baz=141,SNR=31				
VLDQ	**Val d'Or**	80.89 353	P	P	06 31 24.6 -0.1
VLDQ			IAmb	IAmb	06 31 26.1
	comp=Z,32nm,0.8s				
HEC	**Hector,Ludlow**	81.23 321	P	P	06 31 28.4 +1.4
	baz=140,SNR=15				
CIS	**Catalina Islan**	81.28 319	P	P	06 31 28.4 +1.2
	baz=139				
N23A	**Red Feather La**	81.30 332	P	P	06 31 28.6 +1.2
	baz=148,SNR=26				
N23A	**Red Feather La**	81.30 332	IAmb	IAmb	06 31 29.6
	comp=Z,77nm,1.2s				
LCMT	**Little Creek M**	81.36 325	P	P	06 31 28.4 +0.7
FMP	**Fort Macarthur**	81.44 319	P	P	06 31 29.3 +1.3
	baz=139				
PHWY	**Pilot Hill**	81.45 332	IAmb	IAmb	06 31 30.1
	comp=Z,60nm,0.8s				
TUQ	**Turquoise Moun**	81.48 322	P	P	06 31 29.5 +1.2
	baz=140				
BFSC	**Mount Baldy Ra**	81.49 320	P	P	06 31 29.7 +1.2
	baz=139,SNR=14				
D41A	**Chassel**	81.57 346	P	P	06 31 28.8 +0.5
	baz=162,SNR=24				
O20A	**White River Ci**	81.61 330	P	P	06 31 29.8 +0.8
	baz=146,SNR=19				
O20A	**White River Ci**	81.61 330	IAmb	IAmb	06 31 31.0
	comp=Z,137nm,1.8s				
RRX	**Edison Barstow**	81.62 321	P	P	06 31 30.4 +1.4
	baz=140				
MTPU	**Mount Pierson**	81.67 326	P	P	06 31 30.3 +0.7
MWC	**Mount Wilson**	81.70 320	IAmb	IAmb	06 31 31.9
	comp=Z,56nm,1.1s				
PASC	**Pasadena Art C**	81.73 320	P	P	06 31 30.5 +1.0
PASC			IAmb	IAmb	06 31 31.9
	comp=Z,54nm,1.1s				
LSQQ	**Lebel-sur-Quev**	81.78 354	P	P	06 31 29.5 +0.1
	baz=172				
SNCC	**San Nicolas Is**	81.78 318	P	P	06 31 30.5 +0.6
	baz=138				
E38A	**The Farm, Brul**	81.81 344	P	P	06 31 29.5 -0.1
	baz=160,SNR=11				
E38A	**The Farm, Brul**	81.81 344	P	P	06 31 29.1 -0.5
E38A			IAmb	IAmb	06 31 30.4
	comp=Z,53nm,0.8s				
GSC	**Goldstone, Bar**	81.84 321	P	P	06 31 31.3 +1.0
	baz=140,SNR=10				
DECC	**Green Verdugo**	81.87 320	P	P	06 31 31.5 +1.2
	baz=139				
SUSD	**Miller**	81.88 338	P	P	06 31 29.9 -0.2
	baz=154,SNR=7.9				
SUSD	**Miller**	81.88 338	IAmb	IAmb	06 31 30.9
	comp=Z,66nm,0.8s				
SHPR	**Sheep Range**	81.92 323	P	P	06 31 31.8 +1.1
SHOC	**Shoshone, Teco**	82.02 322	P	P	06 31 31.8 +0.7
	baz=140				
DRLN	**Deer Lake**	82.04 7	P	P	06 31 31.4 +0.6
EDW2	**Edwards Air Fo**	82.16 320	P	P	06 31 32.6 +0.8
	baz=139,SNR=11				
BLG	**Laguna Peak, P**	82.17 319	P	P	06 31 32.9 +1.1
	baz=138				
TCRU	**Three Creeks R**	82.25 326	P	P	06 31 33.5 +1.0
OSI	**Osito Audit: C**	82.36 320	P	P	06 31 34.1 +1.2
	baz=139				
OSI	**Osito Audit: C**	82.36 320	P	P	06 31 34.1 +1.2
OSI			IAmb	IAmb	06 31 35.1
	comp=Z,52nm,0.9s				
SCZ2	**Santa Cruz Isl**	82.40 319	P	P	06 31 34.0 +1.0
	baz=138				
CHGQ	**Chibougamau**	82.42 356	P	P	06 31 32.6 -0.1
	baz=174,SNR=7.9				
LRMC	**Laurel Mtn Rad**	82.44 321	P	P	06 31 34.4 +1.0
	baz=139				
MATQ	**Matagami**	82.53 353	P	P	06 31 33.4 +0.1
	baz=171,SNR=6.4				
FURC	**Furnace Creek,**	82.76 322	P	P	06 31 36.1 +1.3
	baz=140,SNR=12				
MPMC	**Manual Prospec**	82.78 321	P	P	06 31 36.1 +0.9
	baz=140,SNR=13				
ARVC	**Arvin**	82.80 320	P	P	06 31 36.2 +1.1
	baz=138				
TPNV	**Topopah Spring**	82.81 323	P	P	06 31 36.7 +1.3
	baz=140,SNR=27				
TPNV	**Topopah Spring**	82.81 323	IAmb	IAmb	06 31 37.9
	comp=Z,34nm,1.0s				
DAC	**Darwin (Calif)**	83.00 321	IAmb	IAmb	06 31 40.7
	comp=Z,37nm,0.9s				
ISA	**Isabella, Lake**	83.00 320	P	P	06 31 37.7 +1.4

baz=139,SNR=13
ISA Isabella, Lake 83.00 320 IAmb IAmb 06 31 38.7
comp=Z,33nm,1.0s
K22A Casper 83.01 332 P **P** **06 31 37.2 +0.9**
baz=148,SNR=33
EYMN Ely 83.05 344 P **P** **06 31 35.8 -0.3**
baz=160,SNR=19
EYMN Ely 83.05 344 P **P** **06 31 35.8 -0.3**
EYMN IAmb IAmb 06 31 37.0
comp=Z,40nm,0.8s
PKM Mcpherson Peak 83.16 319 P **P** **06 31 38.6 +1.3**
baz=138,SNR=15
RSSD Black Hills 83.33 334 P **P** **06 31 38.3 +0.3**
baz=150
RSSD Black Hills 83.33 334 P **P** **06 31 38.2 +0.3**
RSSD pmax pmax
comp=Z,41nm,1.0s
RSSD Black Hills 83.33 334 P **P** **06 31 38.1 +0.2**
RSSD IAmb IAmb 06 31 39.4
comp=Z,41nm,0.9s
CWC Cottonwood Cre 83.38 321 P **P** **06 31 39.1 +0.8**
baz=139
GRAC Grapevine Rang 83.43 322 P **P** **06 31 39.7 +1.3**
baz=140,SNR=17
VES Vestal, Richgr 83.47 320 P **P** **06 31 39.6 +1.0**
baz=138,SNR=22
R11A Troy Canyon, C 83.56 324 P **P** **06 31 40.2 +1.0**
baz=141,SNR=44
R11A Troy Canyon, C 83.56 324 P **P** **06 31 40.2 +1.0**
R11A IAmb IAmb 06 31 41.6
comp=Z,34nm,1.2s
SMMC Simmler 83.57 319 P **P** **06 31 40.7 +1.5**
baz=138,SNR=5.8
CTU Camp Tracy 83.60 328 P **P** **06 31 39.4 +0.1**
DUG Dugway, Tooele 83.69 327 P **P** **06 31 40.6 +0.8**
baz=143,SNR=24
TIN Tinemaha, Big 83.92 322 P **P** **06 31 42.1 +1.1**
baz=139,SNR=5.9
PAGB Antelope Grade 84.02 319 IAmb IAmb 06 31 43.9
comp=Z,42nm,0.8s
BW06 Boulder Array 84.34 330 P **P** **06 31 43.0 -0.1**
baz=146,SNR=12
PDAR Pinedale Array 84.34 330 P **P** **06 31 43.0 -0.1**
comp=Z,8.1nm,0.7s,baz=129,slow=6.8,SNR=47
PDAR PKKPbc **PKKPbc** **06 49 55.0 -1.9**
comp=Z,0.6nm,0.6s,baz=231,slow=1.4,SNR=5.7
PDAR LR LR 07 06 20.2
comp=Z,143nm,20.1s,baz=161,slow=34
PDAR Pinedale Array 84.34 330 P **P** **06 31 42.8 -0.4**
SPUT South Promonto 84.41 328 P **P** **06 31 43.7 +0.2**
AGMN Agassiz Nation 84.47 341 P **P** **06 31 43.3 0.0**
baz=156,SNR=17
MLAC Mammoth, Mammo 84.67 322 P **P** **06 31 46.2 +1.2**
baz=139,SNR=7.0
OMMB Old Mammoth Mi 84.75 321 P **P** **06 31 46.2 +0.8**
OMMB IAmb IAmb 06 31 47.4
comp=Z,34nm,0.9s
AHID Auburn Hatcher 84.99 329 IAmb IAmb 06 31 47.9
comp=Z,78nm,1.6s
NVAR Mina Array Bea 85.00 322 P **P** **06 31 47.2 +0.6**
comp=Z,14nm,0.8s,baz=156,slow=5.6,SNR=71
NVAR LR LR 07 03 19.3
comp=Z,108nm,21.6s,baz=162,slow=31
NVAR Mina Array Bea 85.00 322 P **P** **06 31 47.0 +0.4**
MDND Maddock 85.13 339 P **P** **06 31 47.0 +0.3**
baz=153,SNR=22
RYN Ryan 85.26 322 IAmb IAmb 06 31 49.8
comp=Z,28nm,1.2s
KVN Kaiserville 85.36 323 IAmb IAmb 06 31 50.0
comp=Z,31nm,1.1s
REDW Red Top Meadow 85.37 330 IAmb IAmb 06 31 49.8
comp=Z,36nm,1.2s
SNOW Snow King Moun 85.41 330 P **P** **06 31 48.7 +0.1**
TPAW Teton Pass 85.52 330 IAmb IAmb 06 31 50.7
comp=Z,24nm,1.0s
WAKR Walker 85.64 322 IAmb IAmb 06 31 52.4
comp=Z,41nm,1.2s
IMW Indian Meadow 85.84 330 P **P** **06 31 51.1 +0.4**
IMW IAmb IAmb 06 31 52.4
comp=Z,37nm,0.9s
FLWY Flagg Ranch 85.89 330 IAmb IAmb 06 31 52.8
comp=Z,39nm,0.8s
H17A Grant Village 86.10 331 P **P** **06 31 53.2 +1.2**
baz=145,SNR=12
LKWY Lake 86.17 331 P **P** **06 31 52.5 +0.2**
LKWY pmax pmax
comp=Z,19nm,1.0s
LKWY Lake 86.17 331 P **P** **06 31 52.5 +0.2**
RLMT Red Lodge 86.17 332 P **P** **06 31 52.8 +0.6**
baz=146,SNR=18
RLMT Red Lodge 86.17 332 P **P** **06 31 52.4 +0.2**
RLMT IAmb IAmb 06 31 53.4
comp=Z,32nm,0.8s
ULM Lac du Bonnet 86.26 342 *c i*P **P** **06 31 51.7 -0.5**
ULM Lac du Bonnet 86.26 342 P **P** **06 31 52.0 -0.3**
comp=Z,45nm,0.8s,baz=159,slow=4.1,SNR=59
ULM PKKPbc **PKKPbc** **06 49 49.6 -2.7**
comp=Z,2.4nm,0.6s,baz=323,slow=4.9,SNR=5.3
ULM LR LR 07 10 53.3
comp=Z,88nm,21.9s,baz=156,slow=36
ULM Lac du Bonnet 86.26 342 P **P** **06 31 52.0 -0.3**
LAO LASA Array 86.32 334 P **P** **06 31 53.1 +0.3**
baz=148,SNR=20
LAO LASA Array 86.32 334 IAmb IAmb 06 31 54.2
comp=Z,49nm,0.9s
VCNR Virginia City 86.34 322 IAmb IAmb 06 31 55.4
comp=Z,41nm,1.5s
PAHR Pah Rah Range 86.51 323 IAmb IAmb 06 31 56.1
comp=Z,30nm,1.0s
LSZ Lusaka 86.65 106 P **P** **06 31 56.2 +0.9**
LSZ pmax pmax
comp=Z,45nm,1.2s
LSZ Lusaka 86.65 106 P **P** **06 31 56.2 +0.9**
LSZ IAmb IAmb 06 31 57.9
comp=Z,44nm,1.2s
YHL Hebgen Lake 86.72 331 P **P** **06 31 56.0 +0.9**
OXZ Oxford 86.79 219 IAmb IAmb 06 31 57.6
comp=Z,32nm,1.0s
RPZ Rata Peaks 87.04 218 P **P** **06 31 56.8 +0.3**
SCHQ Schefferville 87.14 0 P **P** **06 31 55.8 -0.6**
comp=Z,24nm,0.9s,baz=164,slow=3.7,SNR=7.9
SCHQ LR LR 07 12 46.4
comp=Z,81nm,20.9s,baz=316,slow=37
SCHQ Schefferville 87.14 0 IAmb IAmb 06 31 57.4
comp=Z,59nm,1.2s
DGMT Dagmar 87.14 337 P **P** **06 31 57.5 +0.8**
baz=150,SNR=17
THZ Tophouse 87.38 221 P **P** **06 31 59.2 +0.9**
ORV Oroville 87.50 321 IAmb IAmb 06 32 00.8
comp=Z,44nm,1.4s
BOZ Bozeman (W) 87.51 331 P **P** **06 31 58.9 +0.3**
baz=144,SNR=21
O03E Paynes Creek 88.20 322 P **P** **06 32 01.8 -0.2**
baz=137,SNR=8.1
QRZ Quartz Range 88.22 221 P **P** **06 32 02.1 -0.2**
MOD Modoc Plateau 88.61 324 IAmb IAmb 06 32 05.8
comp=Z,22nm,0.8s
O02D Mt. Diablo Mer 88.63 321 P **P** **06 32 04.5 +0.4**
baz=136
EGMT Eagleton 88.75 333 P **P** **06 32 04.3 -0.1**
baz=146,SNR=16
EGMT Eagleton 88.75 333 IAmb IAmb 06 32 05.5
comp=Z,42nm,1.0s
WDC Whiskeytown Da 88.79 321 IAmb IAmb 06 32 05.2
comp=Z,70nm,1.9s
PTEO Sao Teotonio 88.82 43 *e*P **P** **06 32 05.5 +0.6**
TAM Tamanrasset 88.91 62 P **P** **06 32 06.0 +0.2**
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 88.91 62 P **P** **06 32 06.0 +0.2**
PLID Pearl Lake 88.98 328 IAmb IAmb 06 32 07.5
comp=Z,37nm,0.8s
N02D Trinity Center 89.16 322 P **P** **06 32 06.5 0.0**
baz=136
M04C Macdoel 89.30 323 P **P** **06 32 07.8 +0.6**
baz=137,SNR=8.3
MESJ Messejana 89.31 43 *e*P **P** **06 32 07.3 +0.1**
MESJ AMb AMB 06 32 20.0
comp=Z,42nm,0.8s
MESJ Messejana 89.31 43 *e*P **P** **06 32 08.3 +1.1**
MESJ Messejana 89.31 43 *e*P **P** **06 32 07.3 +0.1**
PNCL Nicolau / Gran 89.32 43 *e*P **P** **06 32 07.5 +0.3**
comp=Z,56nm,1.8s
MSO Missoula 89.46 330 P **P** **06 32 08.8 +1.0**
baz=142,SNR=8.0
MSO Missoula 89.46 330 P **P** **06 32 08.2 +0.4**
M02C Callahan 89.54 322 P **P** **06 32 08.7 +0.4**
baz=136
PBEJ Beja 89.64 43 *e*P **P** **06 32 09.6 +0.9**
L04D Klamath Falls 89.85 323 P **P** **06 32 09.9 +0.1**
baz=136
K04D Chiloquin, OR 89.87 323 P **P** **06 32 10.5 +0.6**
baz=137
EVO Evora 89.90 43 *e*P **P** **06 32 10.9 +1.0**
comp=Z,22nm,1.3s
ALMR Almeirim 90.01 42 *e*P **P** **06 32 10.6 +0.2**
ALMR AMb AMB 06 32 12.3
comp=Z,48nm,1.0s
ALMR Almeirim 90.01 42 *e*P **P** **06 32 10.8 +0.4**
comp=Z,64nm,0.8s
ALMR Almeirim 90.01 42 *e*P **P** **06 32 10.6 +0.2**
J05D Fort Rock, OR 90.09 324 P **P** **06 32 11.9 +1.0**
baz=137,SNR=22
PMTG Montargil 90.15 42 *e*P **P** **06 32 13.3 +2.2**
comp=Z,35nm,0.9s
JTMT Jette 90.33 331 IAmb IAmb 06 32 13.2
comp=Z,24nm,0.7s
PTOM Tomar 90.42 42 *e*P **P** **06 32 13.1 +0.8**
L02E Cave Junction 90.48 322 P **P** **06 32 13.4 +0.9**
baz=136
J04D Umpqua Nationa 90.50 323 P **P** **06 32 13.5 +0.7**
baz=137,SNR=7.2
PMRV Marv??o 90.87 42 *e*P **P** **06 32 14.6 +0.2**
comp=Z,30nm,1.3s
K02D Willamette Mer 90.90 322 P **P** **06 32 15.5 +0.9**
baz=136
I05D Terrebonne, OR 90.92 325 P **P** **06 32 15.7 +1.1**
baz=137,SNR=10
PCBR Castelo Branco 91.10 42 *e*P **P** **06 32 15.8 +0.3**
WALA Waterton Lakes 91.21 332 P **P** **06 32 15.9 0.0**
WALA IAmb IAmb 06 32 17.3
comp=Z,30nm,0.8s
J01E Myrtle Point 91.36 322 P **P** **06 32 17.2 +0.7**
baz=135
I03D Drain, OR 91.45 323 P **P** **06 32 17.9 +0.9**
baz=136
G05D Wamic, OR 91.57 325 P **P** **06 32 18.5 +0.9**
baz=137,SNR=5.7
HAWA Hanford 91.58 327 IAmb IAmb 06 32 19.3
comp=Z,20nm,1.1s
H04D Lebanon 91.74 324 P **P** **06 32 18.4 +0.1**
baz=136
FFC Flin Flon 91.92 341 *c e*P **P** **06 32 19.4 +0.5**
FFC Flin Flon 91.92 341 P **P** **06 32 18.6 -0.3**
FFC IAmb IAmb 06 32 19.8
comp=Z,16nm,1.1s
NEW Newport 91.93 329 P **P** **06 32 18.7 -0.5**
baz=140
PVRL Vila Real 91.95 41 *e*P **P** **06 32 19.9 +0.5**
MVO Moncorvo 92.25 41 *e*P **P** **06 32 21.6 +0.7**
comp=Z,38nm,1.9s
G03D McMinnville, O 92.49 324 P **P** **06 32 23.2 +1.4**
baz=136
ESDC Sonseca Array 93.01 44 P **P** **06 32 24.4 0.0**
comp=Z,8.6nm,1.0s,baz=241,slow=4.1,SNR=14
ESDC LR LR 07 12 47.4
comp=Z,159nm,20.2s,baz=355,slow=35
ESDC Sonseca Array 93.01 44 P **P** **06 32 24.6 +0.2**
E04D Cinebar 93.12 326 P **P** **06 32 25.2 +0.6**
baz=136
D05A Enumclaw 93.31 326 IAmb IAmb 06 32 26.6
comp=Z,18nm,0.9s
B06A Marblemount 94.05 327 IAmb IAmb 06 32 29.2
comp=Z,12nm,0.7s
D03D Eldon 94.08 326 P **P** **06 32 29.2 +0.1**
baz=136
B05A Bryant 94.14 327 P **P** **06 32 28.7 -0.6**
baz=136
A04D Lummi Island 94.75 327 P **P** **06 32 31.2 -0.8**
baz=136
KEST Kesra 99.05 53 LR LR 07 18 50.4
comp=Z,954nm,19.6s,baz=194,slow=36
YKA Yellowknife Ar 102.04 340 P **Pdif** **06 33 04.1 -0.4**
comp=Z,3.5nm,0.6s,baz=139,slow=4.0,SNR=9.7
GERES GERESS Array B 108.60 44 PKiKP **PKiKP** **06 37 39.2 -0.4**
comp=Z,1.6nm,0.6s,baz=199,slow=2.1,SNR=10.0
GERES PKKP **PKKPab** **06 49 02.0 +2.2**
comp=Z,1.1nm,0.7s,baz=53,slow=5.2,SNR=6.1
GERES GERESS Array B 108.60 44 **PKiKP** **06 37 38.9 -0.7**
GERES **PKKPab** **06 49 02.4 +2.7**
MODS Modra-Piesok 110.49 45 *e*P **Pdif** **06 33 42.9 +0.4**
MODS Modra-Piesok 110.49 45 *e*PDIFF **Pdif** **06 33 42.9 +0.4**
A36M Sachs Harbour 111.71 344 P **PKiKP** **06 37 44.0 -0.6**
baz=130
INK Inuvik 111.75 339 P **Pdif** **06 33 49.6 +2.0**
INK Inuvik 111.75 339 PKKPbc PKKPbc 06 48 38.2 -1.6
comp=Z,2.0nm,0.9s,baz=177,slow=3.8,SNR=4.7
INK Inuvik 111.75 339 Pdif **Pdif** **06 33 49.6 +2.0**
NB2 NORSAR Subarra 112.93 31 PKPdf **PKiKP** **06 37 47.4 +0.1**
comp=Z,14nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra 112.93 31 PKPdf **PKiKP** **06 37 47.4 +0.1**
baz=248,slow=1.9
NOA NORSAR Array B 112.93 31 PKiKP **PKiKP** **06 37 46.9 -0.4**
comp=Z,2.3nm,0.9s,baz=248,slow=1.9,SNR=4.7
NOA PKKPbc **PKKPab** **06 48 40.5 +0.4**
comp=Z,2.6nm,0.7s,baz=66,slow=4.5,SNR=10
ILAR Eielson Array 114.71 332 PKP PKPdf 06 37 50.0 -0.6
comp=Z,1.4nm,0.8s,baz=180,slow=0.8,SNR=13
ILAR PP **PP** **06 38 49.9 +0.9**
comp=Z,1.7nm,0.9s,baz=123,slow=3.8,SNR=6.0
ILAR PKKPbc **PKKPbc** **06 48 27.7 -2.1**
comp=Z,0.4nm,0.8s,baz=304,slow=4.1,SNR=6.3
SUW Suwalki 116.13 41 PKIKP **PKPdf** **06 37 52.9 -0.7**
SUW Suwalki 116.13 41 **PKPdf** **06 37 52.9 -0.7**
TOLK Toolik Lake Re 117.16 336 P **PKiKP** **06 37 55.6 +0.3**
baz=110
TOLK Toolik Lake Re 117.16 336 **PKiKP** **06 37 55.4 +0.1**
IMAR Indian Mountai 117.83 332 **PKiKP** **06 37 56.6 0.0**
BRTR Keskin Array B 117.95 59 *c i*PKIKP **PKPdf** **06 37 57.0 -0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 117.95 59 PKP **PKPdf** **06 37 56.4 -1.4**
comp=Z,1.9nm,0.7s,baz=184,slow=3.5,SNR=8.9
BRTR Keskin Array B 117.95 59 **PKPdf** **06 37 57.4 -0.4**
CTA Charters Tower 118.36 217 PKP **PKPdf** **06 37 57.2 -1.8**
comp=Z,1.9nm,0.6s,baz=27,slow=4.5,SNR=3.9
CTA PKKPbc **PKKPbc** **06 48 14.7 -1.4**
comp=Z,3.4nm,0.7s,baz=263,slow=3.7,SNR=5.7
AKASG Malin Array Be 118.57 46 *c i*PKIKP **PKPdf** **06 37 57.5 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 118.57 46 PKP **PKPdf** **06 37 57.1 -1.3**
comp=Z,4.9nm,0.5s,baz=261,slow=2.6,SNR=33
AKBB Malin Array Si 118.57 46 ↑*i*PKIKP **PKPdf** **06 37 57.1 -1.3**
AKBB Malin Array Si 118.57 46 **PKPdf** **06 37 57.6 -0.8**
VSU Vasula 119.37 37 ↓↓*i*PKIKP **PKPdf** **06 37 59.6 0.0**
VSU pmax pmax
comp=Z,139nm,2.5s
FINES FINESS Array B 119.80 34 *c i*PKIKP **PKPdf** **06 38 00.4 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 119.80 34 PKP **PKPdf** **06 37 59.5 -0.9**
comp=Z,5.9nm,0.8s,baz=28,slow=0.6,SNR=12
FINES PKKPbc **PKKPab** **06 48 10.4 +0.5**
comp=Z,2.3nm,0.6s,baz=73,slow=4.7,SNR=13
FINES FINESS Array B 119.80 34 PKKPab 06 48 10.1 +0.2
ASAR Alice Springs 120.35 203 PKP **PKPdf** **06 38 01.4 -1.5**
comp=Z,6.0nm,0.8s,baz=134,slow=1.8,SNR=45
ASAR PKKPbc **PKKPbc** **06 48 09.3 +0.3**
comp=Z,2.8nm,0.7s,baz=338,slow=3.2,SNR=24
ASAR Alice Springs 120.35 203 **PKPdf** **06 38 01.5 -1.4**
AS31 Alice Springs 120.35 203 **PKPdf** **06 38 01.5 -1.4**
ARCES ARCESS Array B 121.25 24 PKIKP **PKPdf** **06 38 02.3 -0.7**
ARCES ARCESS Array B 121.25 24 PKP **PKPdf** **06 38 02.6 -0.5**
comp=Z,6.6nm,0.7s,baz=245,slow=4.1,SNR=42
ARCES PKKPbc **PKKPab** **06 48 04.8 +1.4**
comp=Z,2.9nm,0.7s,baz=67,slow=4.1,SNR=7.1
ARCES ARCESS Array B 121.25 24 **PKPdf** **06 38 02.4 -0.7**
SOC Sochi 123.47 56 *e*PKIKP **PKPdf** **06 38 07.4 -0.6**
SOC *e* 06 39 48.4
SOC *e*PPP PPP 06 42 31.5
SOC *e*PS **PS** **06 49 41.8 -5.1**
SOC *e*SS SS 06 56 42.1 +5.3
SOC *e*SSS SSS 07 01 10.2
SOC MLR MLR
comp=Z,161nm,13.0s
WB2 Warramunga Arr 123.64 205 **PKPdf** **06 38 07.9 -1.3**
WRA Warramunga Arr 123.64 205 PKIKP **PKPdf** **06 38 07.7 -1.5**
WRA Warramunga Arr 123.64 205 PKP **PKPdf** **06 38 08.3 -1.0**
comp=Z,15nm,0.6s,baz=171,slow=1.7,SNR=281
WRA PKKPbc **PKKPbc** **06 47 56.1 -0.2**
comp=Z,2.3nm,0.7s,baz=343,slow=4.3,SNR=27
WRA Warramunga Arr 123.64 205 **PKPdf** **06 38 07.7 -1.5**
WRAB Tennant Creek 123.65 205 *c i*PKIKP **PKPdf** **06 38 08.3 -1.0**
WRAB Tennant Creek 123.65 205 **PKPdf** **06 38 08.2 -1.0**
APA Apatity 123.90 27 ↓↓*i*PKIKP **PKPdf** **06 38 06.4 -1.7**
APA pmax pmax
comp=Z,18nm,0.7s
OBN Obninsk 123.93 42 ↓↓*i*PKIKP **PKPdf** **06 38 08.6 +0.1**
OBN *i* 06 38 16.6
OBN *e* 06 39 51.3
OBN pmax pmax
comp=Z,47nm,1.1s
OBN MLR MLR
comp=Z,232nm,18.0s
LVZ Lovozero 124.39 27 ↓↓*i*PKIKP **PKiKP** **06 38 09.4 0.0**
DOMR Dombai 124.74 57 ↑↑*i*PKIKP **PKiKP** **06 38 11.9 +0.9**
VSR Storozhevoye 124.79 47 *d i*PKIKP **PKPdf** **06 38 09.6 -0.7**
VORD Divnogorie 124.83 47 *e*PKIKP **PKPdf** **06 38 09.6 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 124.89 45 *e*PKIKP **PKPdf** **06 38 09.7 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.9s
COEN Coen 125.09 217 **PKPdf** **06 38 11.4 -0.7**
TMCR Tamitsa 125.62 31 *e*PKIKP **PKiKP** **06 38 11.8 -0.1**
TMCR pmax pmax
comp=Z,32nm,0.6s
KIV Kislovodsk 125.64 56 *i* PKIKP **PKiKP** **06 38 12.7 0.0**
KIV pmax pmax
comp=Z,47nm,1.1s
KBZ Khabaz 125.74 57 *c i*PKIKP **PKPdf** **06 38 12.4 0.0**
KBZ Khabaz 125.74 57 PKP **PKPdf** **06 38 12.1 -0.3**
comp=Z,6.7nm,1.0s,baz=187,slow=3.6,SNR=9.2
KLMR Klimovskoe 126.15 35 *e*PKIKP **PKPdf** **06 38 11.9 -0.7**
KLMR pmax pmax
comp=Z,46nm,1.0s
KLMR Klimovskoe 126.15 35 *e*PKPdf **PKPdf** **06 38 12.0 -0.7**
KLMR AMP 06 38 13.8
comp=Z,46nm,1.0s
GNI Garni 126.21 61 ↓↓*i*PKIKP **PKPdf** **06 38 12.7 -1.0**
ZEI Tsey 126.24 58 *e*PKIKP **PKPdf** **06 38 13.5 -0.2**
ZEI pmax pmax
comp=Z,8.0nm,1.3s
VRH Novokhopyorsk 126.38 48 *e*PKIKP **PKPdf** **06 38 12.7 -0.6**
VRH pmax pmax
comp=Z,20nm,0.9s
PMG Port Moresby 126.63 225 ↑↑*i*PKIKP **PKiKP** **06 38 15.9 +0.4**
PMG Port Moresby 126.63 225 PKP **PKPdf** **06 38 14.9 -0.2**
comp=Z,15nm,0.9s,baz=207,slow=6.8,SNR=3.5
FITZ Fitzroy Crossi 127.97 196 PKP **PKPdf** **06 38 16.9 -0.6**
comp=Z,11nm,0.8s,baz=296,slow=1.6,SNR=21
FITZ Fitzroy Crossi 127.97 196 **PKPdf** **06 38 16.6 -0.9**
PRGR Permogore 129.11 34 *e*PKIKP **PKPdf** **06 38 17.0 -1.2**
PRGR pmax pmax
comp=Z,39nm,0.9s
BILL Bilibino 133.21 335 *d i*PKIKP **PKiKP** **06 38 26.6 -0.5**
BILL *i* 06 38 30.2
BILL *e* 06 40 52.8
BILL pmax pmax
comp=Z,16nm,1.1s
BILL MLR MLR
comp=Z,152nm,19.0s
BILL Bilibino 133.21 335 **PKiKP** **06 38 26.7 -0.3**
GEYT Alibeck 135.91 67 PKP **PKPdf** **06 38 30.3 -1.6**
comp=Z,4.6nm,0.7s,baz=244,slow=6.3,SNR=6.7
ARU Arti 136.31 40 *i* PKIKP **PKPdf** **06 38 32.7 +0.7**
ARU 06 41 11.8
ARU Arti 136.31 40 PKP **PKPdf** **06 38 32.2 +0.2**
comp=Z,6.2nm,0.6s,baz=320,slow=1.4,SNR=20
ARU Arti 136.31 40 **PKPdf** **06 38 32.5 +0.5**
AKTO Aktyubinsk 136.64 49 PKIKP **PKPdf** **06 38 31.8 -1.0**
AKTO pmax pmax
comp=Z,12nm,0.9s
AKTO Aktyubinsk 136.64 49 PKP **PKPdf** **06 38 33.0 +0.1**
comp=Z,6.7nm,0.7s,baz=306,slow=1.7,SNR=18
AB31 Akbulak array 137.95 51 PKIKP **PKPdf** **06 38 29.6 -5.6**
AB31 pmax pmax
comp=Z,16nm,0.8s
ABKAR Akbulak array 137.95 51 PKPpre 06 38 23.8
ABKAR PKPdf **PKPdf** **06 38 35.6 +0.3**
ABKAR Akbulak array 137.95 51 PKPpre 06 38 23.9
ABKAR PKPdf **PKPdf** **06 38 35.6 +0.3**
HRA Herat 138.50 73 **PKPdf** **06 38 37.8 +0.7**
CISI Cisompet, Garu 139.77 173 **PKPdf** **06 38 39.0 -0.8**
TIXI Tiksi 139.96 352 ↑↑*e*PKIKP **PKPdf** **06 38 37.6 -0.7**
TIXI MLR MLR
comp=Z,132nm,19.0s
TIXI Tiksi 139.96 352 PKP **PKPdf** **06 38 37.9 -0.4**
comp=Z,6.0nm,0.6s,baz=360,slow=24,SNR=9.1
TIXI Tiksi 139.96 352 PKPpre 06 38 28.6
TIXI **PKPdf** **06 38 38.1 -0.1**
SEY Seymchan 140.64 332 ↓↓*i*PKIKP **PKiKP** **06 38 41.3 -1.0**
SEY Seymchan 140.64 332 PKhKP PKPpre 06 38 31.4
comp=Z,6.2nm,0.8s,baz=103,slow=5.4,SNR=13
SEY PKP **PKPdf** **06 38 38.9 -0.8**
comp=Z,17nm,0.8s,baz=106,slow=4.7,SNR=20
NRIK Noril'sk 140.69 14 PKP **PKPdf** **06 38 39.3 -0.3**
comp=Z,8.0nm,0.8s,baz=48,slow=2.4,SNR=8.3
PET Petropavlovsk 141.29 316 *i* PKIKP **PKiKP** **06 38 44.4 +0.5**
NLAI Namlea 141.67 204 PKP PKPpre 06 38 36.6
PEA0B Petropavlovsk- 141.83 316 ↓↓*i*PKIKP **PKiKP** **06 38 46.1 +1.0**
PETK Petropavlovsk- 141.83 316 PKHKP PKPpre 06 38 36.4
PETK Petropavlovsk- 141.83 316 PKhKP PKPpre 06 38 35.7
comp=Z,3.8nm,0.6s,baz=77,slow=8.6,SNR=22
PETK Petropavlovsk- 141.83 316 PKPpre 06 38 36.4
KAPI Kappang 141.89 192 PKHKP PKPpre 06 38 38.3
KAPI Kappang 141.89 192 PKhKP PKPpre 06 38 38.4
comp=Z,8.3nm,0.7s,baz=326,slow=10.0,SNR=4.6
KAPI Kappang 141.89 192 PKPpre 06 38 38.3
MA2 Magadan 143.02 328 PKhKP PKPpre 06 38 39.0
comp=Z,9.1nm,0.7s,baz=70,slow=4.7,SNR=5.8
BRVK Borovoye 143.70 43 ↓↓*e*PKIKP PKPbc 06 38 43.9 +0.9
BRVK Borovoye 143.70 43 PKPbc 06 38 43.8 +0.8
BVAR Borovoye Array 143.77 43 PKP PKPbc 06 38 43.8 +0.5
comp=Z,13nm,0.8s,baz=290,slow=2.6,SNR=21
KBL Kabul 144.04 75 PKIKP **PKPab** **06 38 44.2 -0.3**
KBL Kabul 144.04 75 **PKPab** **06 38 44.2 -0.3**
TAS Tashkent 144.80 63 PKIKP **PKPdf** **06 38 47.6 -0.3**
TAS Tashkent 144.80 63 **PKPdf** **06 38 47.6 -0.3**
GUMO Guam 144.82 245 PKP **PKPab** **06 38 47.0 -0.5**
comp=Z,283nm,0.9s,baz=190,slow=6.8,SNR=7.7
GUMO Guam 144.82 245 **PKPab** **06 38 47.4 -0.2**
TNTI Ternate 145.29 207 **PKPbc** **06 38 47.7 -1.5**
KK31 Karatay Array 145.65 60 *i* PKIKP **PKPdf** **06 38 49.1 -0.2**
KK31 pmax pmax
comp=Z,26nm,0.8s
KKAR Karatay Array 145.65 60 PKIKP **PKPdf** **06 38 48.9 -0.3**
KKAR Karatay Array 145.65 60 **PKPdf** **06 38 48.9 -0.3**
HYB Hyderabad 145.96 108 *i* PKP **PKPdf** **06 38 50.0 -0.5**
HYB *e* 06 38 58.0
NIL Nilore 147.34 77 PKIKP **PKPdf** **06 38 52.2 -0.3**
NIL Nilore 147.34 77 **PKPdf** **06 38 52.1 -0.3**
PSI Prapat 147.72 154 PKPbc **PKPdf** **06 38 54.8 +1.0**
comp=Z,49nm,0.9s,baz=230,slow=1.1,SNR=43
AML Almayashu 148.06 62 P **PKPdf** **06 38 55.4 +1.5**
SNR=32
EKS2 Erkin-Say 148.08 61 P **PKiKP** **06 38 57.6 -0.8**
SNR=38
USP Ospenovka 148.54 59 P **PKiKP** **06 38 58.5 -0.8**
SNR=43
YAK Yakutsk 148.58 344 *e*PKIKP **PKPdf** **06 38 54.3 +0.8**
YAK pmax pmax
comp=Z,129nm,1.0s
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=N,54nm,1.6s
YAK pmax pmax
comp=E,14nm,1.3s
YAK Yakutsk 148.58 344 PKPbc **PKPbc** **06 38 56.3 -0.8**
comp=E,61nm,0.7s,baz=16,slow=0.6,SNR=23
YAK Yakutsk 148.58 344 **PKPdf** **06 38 54.0 +0.6**
AAK Ala-Archa 148.61 60 ↓↓*i*PKIKP **PKPdf** **06 38 56.0 +1.6**
AAK pmax pmax
comp=Z,133nm,1.7s
AAK Ala-Archa 148.61 60 PKPbc **PKPdf** **06 38 55.9 +1.6**
comp=Z,44nm,0.7s,baz=142,slow=2.9,SNR=14
AAK Ala-Archa 148.61 60 P **PKiKP** **06 38 59.3 -0.3**
SNR=51
AAK Ala-Archa 148.61 60 **PKPdf** **06 38 55.2 +0.8**
AAK PKPbc **pPKPdf** **06 38 59.2 0.0**
UCH Uchtor 148.66 61 P **PKPdf** **06 38 56.2 +1.4**
SNR=78
CHMS Chumysh 148.76 60 P **PKiKP** **06 38 59.2 -0.5**

SNR=24
KBK Karagaybulak 148.94 60 P **PKiKP 06 39 00.2 -0.1**
SNR=8.1
LHMI Lhok Sumawe 149.13 149 PKP **PKPdf 06 38 56.0 +0.1**
KZA Kyzart 149.22 61 P **PKiKP 06 39 01.3 +0.1**
SNR=16
KURBB Kurchatov Arra 149.34 44 PP PP 06 42 32.6 +0.8
comp=Z,4.2nm,0.9s,baz=292,slow=5.8,SNR=5.4
KURK Kurchatov 149.35 44*c i* PKP2 **PKPbc 06 39 00.0 +0.5**
KURK pmax pmax
comp=Z,137nm,1.0s
KURK Kurchatov 149.35 44 PKPdf 06 38 55.6 +0.6
KURK PKPbc **PKPbc 06 38 60.0 +0.5**
TKM2 Tokmak 2 149.38 60 PKIKP **PKPbc 06 38 58.0 -2.1**
TKM2 pmax pmax
comp=Z,63nm,0.7s
TKM2 Tokmak 2 149.38 60 P **PKiKP 06 39 00.8 -0.4**
SNR=6.1
KSH Kashi 149.93 66 PKPbc **PKPdf 06 38 57.6 +1.0**
KSH sPKP 06 39 12.1
KSH PKS **PP 06 42 34.0 -2.1**
KSH PP PP 06 42 39.1 +3.0
KSH SS SS 07 01 51.9 -0.8
KSH AMB AMB
comp=Z,360nm,5.6s
KSH LR LR
comp=Z,520nm,13.9s
KSH LR LR
comp=Z,700nm,10.1s
KSH LR LR
comp=Z,290nm,13.4s
ULHL Ulahol 149.94 61 P **PKiKP 06 39 02.7 +0.3**
SNR=17
SBUM Sibu 149.95 180 PKPbc 06 39 01.4 -0.7
ZALV Zalesovo Beam 151.06 34 PKIKP **PKPdf 06 38 57.3 -0.4**
ZALV 06 39 03.9
ZALV 06 39 11.1
ZALV Zalesovo Beam 151.06 34 PKP **PKPdf 06 38 57.8 +0.2**
comp=Z,4.2nm,0.6s,baz=279,slow=2.9,SNR=19
ZALV PKPbc **PKiKP 06 39 04.0 -0.1**
comp=Z,220nm,0.6s,baz=309,slow=3.1,SNR=313
ZALV PKPab **PKPab 06 39 11.1 0.0**
comp=Z,121nm,0.8s,baz=318,slow=2.8,SNR=14
ZALV Zalesovo Beam 151.06 34 PKPdf 06 38 57.3 -0.4
ZALV PKPbc **PKiKP 06 39 03.9 -0.1**
ZALV PKPab **PKPab 06 39 11.1 0.0**
KCP Kidapawan 151.88 208⇓*iP* **PKPdf 06 39 00.6 +0.4**
KCP *i* S **PKPbc 06 39 07.1 +0.4**
PDGK Podgornoye 152.13 58 PKIKP **PKPbc 06 39 06.2 -0.3**
PDGK pmax pmax
comp=Z,39nm,1.0s
SKLT Songkhla 152.38 154 PKP **PKPbc 06 39 07.4 -0.3**
TRTT Trang 152.63 152 PKP **PKPbc 06 39 07.9 -0.4**
YSS Yuzh-Sakhalins 152.86 311*e*PKIKP **PKPbc 06 39 07.8 0.0**
YSS pmax pmax
comp=Z,60nm,0.8s
MAKZ Makanchi 152.87 50 PKIKP **PKPdf 06 39 00.5 -0.2**
MAKZ 06 39 07.8
MAKZ Makanchi 152.87 50 PKPdf 06 39 00.5 -0.2
MAKZ PKPbc **PKPbc 06 39 07.8 -0.1**
MK31 Makanchi Array 153.08 50 *i* PKIKP **PKPdf 06 39 03.1 +2.1**
MK31 pmax pmax
comp=Z,27nm,0.7s
MKAR Makanchi Array 153.08 50 PKP **PKPdf 06 39 00.5 -0.5**
comp=Z,2.5nm,0.8s,baz=285,slow=2.4,SNR=12
MKAR PKPbc **PKPbc 06 39 08.2 -0.1**
comp=Z,22nm,0.7s,baz=299,slow=2.1,SNR=68
MKAR PKPab **PKPab 06 39 18.8 -1.1**
comp=Z,9.0nm,0.8s,baz=273,slow=3.0,SNR=4.4
MKAR Makanchi Array 153.08 50 PKPdf 06 39 00.8 -0.2
MKAR **PKPbc 06 39 08.0 -0.4**
MKAR **PKPab 06 39 19.4 -0.5**
SURT Suratani 153.27 149 PKP **PKiKP 06 39 10.0 +0.2**
ASAJ Asahikawa 153.85 305 PKPbc **PKPbc 06 39 09.2 -0.8**
comp=Z,20nm,0.9s,baz=240,slow=8.1,SNR=5.0
KOLN Koldanda 154.68 93*e*P **PKPdf 06 39 03.9 -0.2**
comp=Z,27nm,1.0s
BOD Bodaibo 154.81 358*e*PKIKP **PKPdf 06 39 01.1 -1.9**
BOD pmax pmax
comp=Z,25nm,0.9s
DANN Dangsing 154.99 92*e*P **PKPdf 06 39 04.9 +0.3**
comp=Z,66nm,0.8s
GKN Gorkha 155.63 94*e*P **PKPdf 06 39 05.1 -0.2**
DMN Daman 155.90 95*e*P **PKPdf 06 39 05.3 -0.5**
KKN Kakani 156.10 95*e*P **PKPdf 06 39 05.9 -0.1**
PKIN Phulchoki 156.13 95*e*P **PKPdf 06 39 05.6 -0.5**
PKI Pulchoki 156.14 95*e*P **PKPdf 06 39 05.8 -0.4**
comp=Z,19nm,1.0s
GUN Gumba 156.65 95*e*P **PKPdf 06 39 07.1 +0.2**
JIRN Jiri 156.83 96*e*P **PKPdf 06 39 07.0 -0.2**
RAMN Ramite 156.93 98*e*P **PKPdf 06 39 07.5 +0.3**
comp=Z,30nm,0.8s
ODAN Odare 157.56 98*e*P **PKPdf 06 39 08.2 +0.2**
comp=Z,34nm,0.8s
WMQ Urumqi 157.71 53*e*PKP **PKPdf 06 39 07.8 +0.4**
TAPN Taplejung 158.00 97*e*P **PKPdf 06 39 08.7 +0.1**
comp=Z,42nm,1.2s
KLR Kul'dur 158.02 325 PKP **PKPdf 06 39 06.2 -1.2**
comp=Z,2.3nm,0.7s,baz=25,slow=3.0,SNR=10
KLR PKPab **PKPab 06 39 40.1 -0.8**
comp=Z,4.2nm,0.7s,baz=33,slow=3.4,SNR=9.1
MJAR Matsushiro Arr 158.42 288 PKIKP **PKPdf 06 39 07.1 -1.3**
MJAR 06 39 43.3
MJAR Matsushiro Arr 158.42 288 PKP **PKPdf 06 39 07.5 -1.0**
comp=Z,0.8nm,0.4s,baz=222,slow=1.7,SNR=4.5
MJAR PKPab **PKPab 06 39 43.2 +0.1**
comp=Z,13nm,0.8s,baz=98,slow=3.2,SNR=13
MJAR Matsushiro Arr 158.42 288 PKPdf **PKPdf 06 39 07.1 -1.3**
MJAR **PKPab 06 39 43.3 +0.1**
MOY Mondy 159.25 20*e*PKP2 **PKPab 06 39 47.6 +1.3**
MOY pmax pmax
comp=Z,44nm,1.7s
TLY Talaya 159.94 16 *i* PKIKP **PKPdf 06 39 10.4 +0.7**
TLY Talaya 159.94 16 PKPab **PKPab 06 39 50.4 +1.3**
comp=Z,13nm,0.8s,baz=292,slow=5.3,SNR=9.6
TLY Talaya 159.94 16 PKPdf 06 39 10.4 +0.7
TLY **PKPab 06 39 49.8 +0.7**
MHMT Maesarieng 160.57 134 PKP **PKPdf 06 39 12.7 +1.3**
USRK Ussuriysk Ar. 160.86 313 PKIKP **PKPdf 06 39 08.3 -2.6**
USRK 06 39 53.9
USRK Ussuriysk Ar. 160.86 313 PKPab **PKPab 06 39 54.0 +0.6**
comp=Z,4.0nm,0.7s,baz=64,slow=3.4,SNR=7.3
USRK Ussuriysk Ar. 160.86 313 PKPdf **PKPdf 06 39 08.3 -2.6**
USRK **PKPab 06 39 53.9 +0.5**
PBKT Sadao Pong 160.94 144 PKP **PKPdf 06 39 12.9 +1.1**
ZAK Zakamensk 161.05 18*e*PKP2 **PKPab 06 39 54.4 +0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 161.39 136 PKIKP **PKPdf 06 39 11.7 -0.6**
CMAR 06 39 54.8
CMAR Chiang Mai Arr 161.39 136 PKP **PKPdf 06 39 12.1 -0.2**
comp=Z,4.2nm,0.9s,baz=249,slow=2.8,SNR=21
CMAR PKPab **PKPab 06 39 55.1 -1.2**
comp=Z,3.3nm,0.9s,baz=243,slow=3.5,SNR=6.9
CMAR Chiang Mai Arr 161.39 136 PKPdf 06 39 11.7 -0.6
CMAR **PKPab 06 39 54.8 -1.5**
LSA Lhasa 161.59 94 PKIKP **PKPdf 06 39 13.4 +0.6**
LSA Lhasa 161.59 94 PKPdf **PKPdf 06 39 13.4 +0.6**
LSA **PKPab 06 39 58.0 +0.3**
CMMT Chiang Mai 161.67 136 PKP **PKPdf 06 39 13.0 +0.4**
NONG Nongkai 163.25 148 PKP **PKPdf 06 39 15.5 +1.4**
SONM Songino Array 164.17 15 PKIKP **PKPdf 06 39 13.5 -0.8**
SONM 06 40 08.2
SONM Songino Array 164.17 15 PKP **PKPdf 06 39 14.3 0.0**
comp=Z,5.0nm,0.9s,baz=207,slow=0.9,SNR=22
SONM PKPab **PKPab 06 40 08.3 +0.5**
comp=Z,9.8nm,0.7s,baz=320,slow=4.5,SNR=22
SONM Songino Array 164.17 15 PKPdf 06 39 13.5 -0.8
SONM **PKPab 06 40 08.2 +0.4**
KSRS Korea Array 166.41 295 PKP **PKPdf 06 39 15.2 -1.1**
comp=Z,4.0nm,1.1s,baz=185,slow=1.2,SNR=11
KSRS PKPab **PKPab 06 40 19.3 +1.3**
comp=Z,1.3nm,0.6s,baz=84,slow=3.4,SNR=4.9
KSAR Wonju Array Be 166.44 295 PKIKP **PKPdf 06 39 15.3 -1.0**
KSAR 06 40 19.1
KSAR Wonju Array Be 166.44 295 PKPdf 06 39 15.3 -1.0
KSAR **PKPab 06 40 19.1 +0.9**
GTA Gaotai 167.80 53 PKP **PKPdf 06 39 17.9 +0.4**
GTA pPKP sPKPdf 06 39 23.8 0.0
GTA sPKP 06 39 26.6
GTA PKPab **PKPab 06 40 25.3 +1.0**
GTA AMB AMB
comp=Z,100nm,6.2s
GTA LR LR
comp=Z,150nm,19.2s
GTA LR LR
comp=Z,180nm,18.9s
GTA LR LR
comp=Z,250nm,21.3s
KMI Kunming 168.69 129 PKP **PKPdf 06 39 17.9 -0.7**
HHC Hu-ho-hao-te 171.80 4*e*PKP **PKPdf 06 39 21.3 +1.6**
GYA Guiyang 172.06 140 PKP **PKPdf 06 39 17.3 -3.0**
GYA PP **PP 06 44 37.9 +3.9**
GYA AMB AMB
comp=Z,140nm,8.5s
LZH Lanzhou 172.15 62*e*PKP **PKPdf 06 39 19.8 -0.3**
LZH pPKP sPKPdf 06 39 25.8 -0.7
LZH sPKP 06 39 27.9
LZH PKPab **PKPab 06 40 45.3 +1.6**
CD2 Chengdu 172.44 101 PKP **PKPdf 06 39 19.0 -1.3**
NJ2 Nanjing 174.50 265*e*PKP **PKPdf 06 39 22.4 +1.5**
TIA Tai'an 174.72 314 PKP **PKPdf 06 39 21.0 +0.1**
XAN Xi'an 176.78 64 PKP **PKPdf 06 39 21.8 +0.3**
XAN pPKP sPKPdf 06 39 30.0 +2.1
XAN Xi'an 176.78 64 PKIKP **PKPdf 06 39 21.4 -0.1**
XAN Xi'an 176.78 64 PKPdf 06 39 21.4 -0.1
WHN Wuhan 177.31 219 PKPbc PKPbc 06 39 12.8

SOME ***15*** *06:20:45.9, 41°.82N×79°.37E, h0km*
NNC ***15*** *06:20:47.0±1.0, 41°.78N×79°.38E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=6.6km s-min=4.0km az=153.0
KRNET ***15*** *06:20:47.6±0.1, 41°.71N×79°.29E, h13km, mb2.6*
ISC 15 06:20:44.4±1.9,**41°.64N**±0°.07×**79°.50E**±0°.06,**h4**km±11km,
n47,σ1§**03**/81,**28C-13D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.17**	**316**	⇑*iP*	**Pb**	**06 21 07.0**	**-0.4**
PRZ	baz=20			⇑*iS*	**Sb**	**06 21 21.1**	**-2.0**
TARG	**Taragay, Kyrgy**	**1.27**	**275**	⇑*iP*	**Pg**	**06 21 08.7**	**-0.1**
TARG	baz=71			⇑*iS*	**Sb**	**06 21 24.7**	**-1.4**
SHLS	**Shalkode**	**1.52**	**359**	P	**Pg**	**06 21 13.4**	**-0.1**
SHLS	5.7nm,0.1s			S	**Sg**	**06 21 33.5**	**+0.3**
SHLS	**Shalkode**	**1.52**	**359**	⇓*iP*	**Pg**	**06 21 13.4**	**-0.1**
SHLS	5.7nm,0.1s			⇑*iS*	**Sg**	**06 21 33.2**	**+0.1**
UZB	**Uzynbulak**	**1.54**	**347**	P	**Pb**	**06 21 12.6**	**-1.2**
UZB	10nm,0.2s			S	**Sn**	**06 21 31.5**	**-2.0**
UZB	**Uzynbulak**	**1.54**	**347**	⇓*iP*	**Pb**	**06 21 12.6**	**-1.2**
UZB	10nm,0.2s			⇑*iS*	**Sn**	**06 21 31.6**	**-2.0**
SATY	**Saty**	**1.63**	**331**	P	**Pb**	**06 21 14.1**	**-1.1**
SATY	16nm,0.2s			S	**Sn**	**06 21 34.3**	**-1.4**
SATY	**Saty**	**1.63**	**331**	⇓*iP*	**Pb**	**06 21 14.1**	**-1.1**
SATY	5.3nm,0.3s			⇓*iS*	**Sn**	**06 21 34.2**	**-1.5**
PDGK	**Podgornoye**	**1.69**	**360**	P	**Pb**	**06 21 15.1**	**-1.0**
PDGK	11nm,0.2s			S	**Sb**	**06 21 36.5**	**-1.3**
PDGK	**Podgornoye**	**1.69**	**360**	⇑P	**Pb**	**06 21 15.0**	**-1.2**
PDGK	10nm,0.4s			⇓S	**Sb**	**06 21 36.7**	**-1.1**
ZHN	**Zhinishke**	**1.72**	**333**	P	**Pb**	**06 21 15.8**	**-0.8**
ZHN	22nm,0.1s			S	**Sn**	**06 21 37.5**	**-0.3**
ZHN	**Zhinishke**	**1.72**	**333**	⇓*iP*	**Pb**	**06 21 15.8**	**-0.8**
ZHN	22nm,0.1s			⇓*iS*	**Sn**	**06 21 37.5**	**-0.3**
ANVS	**Anan'yevo**	**1.77**	**311**	⇑*iP*	**Pg**	**06 21 18.0**	**-0.5**
ANVS	baz=12			⇑*iS*	**Sn**	**06 21 39.5**	**+0.2**
KDJ	**Kajisay**	**1.80**	**287**	⇑*iP*	**Pb**	**06 21 18.2**	**+0.1**
KDJ	baz=86			⇑*iS*	**Sb**	**06 21 40.7**	**-0.3**
KPKS	**Kokpek**	**1.92**	**342**	*eP*	**Pb**	**06 21 19.3**	**-0.8**
KPKS	35nm,0.4s			*eS*	**Sb**	**06 21 43.2**	**-1.3**
KURS	**Kuram**	**2.09**	**332**	Pg	**Pb**	**06 21 22.5**	**-0.4**
KURS	20nm,0.3s			Lg	Lg	06 21 48.8	
KURS	**Kuram**	**2.09**	**332**	⇓*iP*	**Pb**	**06 21 22.6**	**-0.4**
KURS	20nm,0.3s			⇑*iS*	**Sb**	**06 21 48.9**	**-0.5**
TNSS	**Tian-Shan**	**2.35**	**307**	Pg	**Pb**	**06 21 27.2**	**-0.4**
TNSS	3.1nm,0.1s			Lg	Lg	06 21 57.0	
TNSS	**Tian-Shan**	**2.35**	**307**	*eP*	**Pb**	**06 21 27.2**	**-0.4**
TNSS	3.1nm,0.1s			*eS*	**Sb**	**06 21 57.0**	**-0.1**
MDOK	**Medeo**	**2.37**	**311**	⇓Pg	**Pb**	**06 21 27.4**	**-0.3**
MDOK	4.2nm,0.5s			⇑Lg	Lg	06 21 57.0	
MDOK	**Medeo**	**2.37**	**311**	Pg	**Pb**	**06 21 27.0**	**-0.7**
MDOK	6.2nm,0.2s			Lg	Lg	06 21 57.1	
MDOK	**Medeo**	**2.37**	**311**	⇓*iP*	**Pb**	**06 21 27.3**	**-0.5**
MDOK	6.6nm,0.2s			⇑*iS*	**Sb**	**06 21 57.2**	**-0.2**
KOTS	**Kotyrbulak**	**2.38**	**313**	Pg	**Pb**	**06 21 27.7**	**-0.3**
KOTS	11nm,0.3s			Lg	Lg	06 21 56.8	
KOTS	**Kotyrbulak**	**2.38**	**313**	⇑*iP*	**Pb**	**06 21 27.5**	**-0.4**
KOTS	18nm,0.2s			⇓*iS*	**Sb**	**06 21 57.8**	**+0.1**
ULHL	**Ulahol**	**2.50**	**285**	⇑*iP*	**Pb**	**06 21 29.6**	**-0.5**
ULHL	baz=84			⇑*iS*	**Sb**	**06 22 00.3**	**-1.1**
IZV	**Izvestkoviy**	**2.55**	**304**	Pg	**Pb**	**06 21 30.5**	**-0.4**
IZV	3.2nm,0.1s			Lg	Lg	06 22 03.2	
IZV	**Izvestkoviy**	**2.55**	**304**	*eP*	**Pb**	**06 21 30.6**	**-0.4**
IZV	3.5nm,0.1s			⇓*iS*	**Sb**	**06 22 03.2**	**+0.5**
MNBS	**Baschi**	**2.57**	**342**	Pg	**Pb**	**06 21 30.0**	**-1.1**
MNBS	58nm,0.3s			Lg	Lg	06 22 02.6	
MNBS	**Baschi**	**2.57**	**342**	*eP*	**Pb**	**06 21 30.3**	**-0.8**
MNBS	31nm,0.3s			*eS*	**Sb**	**06 22 02.9**	**-0.2**
NRN	**Naryn**	**2.63**	**267**	⇑*iP*	**Pb**	**06 21 31.8**	**-0.6**
NRN	baz=64			⇑*iS*	**Sb**	**06 22 03.3**	**-1.9**
MTBS	**Maitube**	**2.72**	**304**	Pg	**Pb**	**06 21 33.4**	**-0.3**
MTBS	1.8nm,0.1s			Lg	Lg	06 22 07.7	
MTBS	**Maitube**	**2.72**	**304**	*eP*	**Pb**	**06 21 33.4**	**-0.3**
MTBS	3.5nm,0.1s			*eS*	**Sb**	**06 22 07.7**	**+0.4**
BOOM	**Boomskoye usch**	**2.78**	**289**	⇑*eP*	**Pb**	**06 21 33.0**	**-1.8**
BOOM	baz=88			⇑*iS*	**Sb**	**06 22 06.8**	**-2.5**
ARXS	**Arharly**	**2.85**	**335**	*eP*	**Pb**	**06 21 36.2**	**+0.3**
ARXS	3.3nm,0.3s			*eS*	**Sb**	**06 22 12.2**	**+1.1**
CHKK	**Chushkaly**	**2.88**	**321**	Pg	**Pb**	**06 21 36.4**	**0.0**
CHKK	5.3nm,0.3s			Lg	Lg	06 22 12.3	
CHKK	**Chushkaly**	**2.88**	**321**	*eP*	**Pb**	**06 21 36.4**	**0.0**
CHKK	5.7nm,0.3s			*eS*	**Sb**	**06 22 12.6**	**+0.5**
KTBS	**Karatobe**	**2.93**	**316**	Pg	**Pb**	**06 21 37.3**	**0.0**
KTBS	3.3nm,0.2s			Lg	Lg	06 22 14.1	
KTBS	**Karatobe**	**2.93**	**316**	*eP*	**Pb**	**06 21 37.3**	**0.0**
KTBS	3.3nm,0.2s			*eS*	**Sb**	**06 22 14.1**	**+0.6**
KST	**Kastek**	**2.97**	**299**	Pg	**Pb**	**06 21 37.0**	**-1.1**
KST	2.9nm,0.2s			Lg	Lg	06 22 13.7	
KST	**Kastek**	**2.97**	**299**	*eP*	**Pb**	**06 21 36.8**	**-1.2**
KST	3.7nm,0.4s			*eS*	**Sb**	**06 22 13.7**	**-1.1**
TKM2	**Tokmak 2**	**3.16**	**295**	⇑Pg	**Pg**	**06 21 45.5**	**+0.4**
TKM2	1.6nm,0.5s			⇑Lg	Lg	06 22 22.9	
TKM2	**Tokmak 2**	**3.16**	**295**	⇑*iP*	**Pb**	**06 21 39.1**	**-2.3**
TKM2	baz=95			⇑*iS*	**Sn**	**06 22 15.9**	**+2.3**
DGS	**Degeres**	**3.19**	**301**	*eP*	**Pb**	**06 21 41.7**	**0.0**
DGS	2.8nm,0.3s			*eS*	**Sb**	**06 22 22.0**	**+1.1**
KUU	**Kurty**	**3.24**	**315**	Pg	**Pb**	**06 21 42.0**	**-0.4**
KUU	1.7nm,0.1s			Lg	Lg	06 22 22.6	
KUU	**Kurty**	**3.24**	**315**	*eP*	**Pb**	**06 21 42.0**	**-0.4**
KUU	1.7nm,0.1s			*eS*	**Sb**	**06 22 23.1**	**+0.8**
MAKZ	**Makanchi**	**5.46**	**18**	⇑Pn	**Pn**	**06 22 08.3**	**+1.7**
MAKZ	3.1nm,1.1s			⇑Sn	**Sn**	**06 23 09.7**	**-0.3**
MK31	**Makanchi Array**	**5.53**	**20**	⇑Pn	**Pn**	**06 22 10.0**	**+2.5**
MK31	0.2nm,0.3s,baz=208,slow=16,SNR=5.5			⇓Sn	**Sn**	**06 23 11.8**	**+0.2**
	2.2nm,0.7s,baz=206,slow=27,SNR=4.3						

ISCJB ***15*** *06:20:53.4±0.8, 9°.79N±0°.03×125°.47E±0°.04, h28km±6km,*
mb4.4/24, MS3.3/15, Error ellipse: s-maj=6.4km
s-min=3.9km az=152.3
MAN ***15*** *06:20:53.7, 9°.73N×125°.32E, h13km, mb5.1, ML4.1, MS4.2*
NEIC ***15*** *06:20:56.2±3.0, 9°.89N±0°.07×125°.5E±0°.1, h36km±5km,*
mb4.5/20
IDC ***15*** *06:20:59.9±1.9, 9°.75N×125°.28E, h84km±19km, mb3.8/22,*
mb1 3.9/23, mb1mx3.8/54, mbtmp4. 1/23, MS3.4/17,
Ms1 3.4/17, ms1mx3.2/56, Error ellipse: s-maj=22.3km
s-min=10.8km az=77.0
DJA ***15*** *06:21:01.8±1.8, 10°N±16°×12°6E±°, h40km, M4.8/12,*
mB5.6/3, mb4.6/12, MLv4.9/2, Mw(mB)5.2/3
ISC 15 06:20:52.9±1.4,**9°.74N**±0°.03×**125°.35E**±0°.04,**h15**km±9km,
n105,σ1§**59**/102,**mb4.3**/32,**MS3.2**/15,**3C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.62**	**309**	*eP*	**Pb**	**06 21 06.0**	**+0.5**
MSLP				*eS*	**Sn**	**06 21 16.7**	**-0.2**
BUTP	**Butuan**	**0.82**	**161**	*eP*	**Pg**	**06 21 08.2**	**-0.6**
BUTP				*eS*	**Sn**	**06 21 23.9**	**+2.1**
CGP	**Cagayan de Oro**	**1.43**	**207**	⇑*eP*	**Pn**	**06 21 17.7**	**-0.7**
CGP				*i* S	**Sg**	**06 21 39.0**	**-0.2**
LLP	**Lapu-Lapu**	**1.48**	**293**	⇓*eP*	**Pn**	**06 21 18.9**	**-0.2**
LLP				*eS*	**Sn**	**06 21 38.3**	**+0.3**
BIPH	**Bislig**	**1.85**	**147**	⇓*eP*	**Pn**	**06 21 23.7**	**-0.4**
BIPH				*eS*	**Sn**	**06 21 47.1**	**-0.1**
BESP	**Borongan**	**1.85**	**3**	*eP*	**Pn**	**06 21 23.9**	**-0.3**
BUKP	**Musuan**	**1.88**	**189**	*eP*	**Pn**	**06 21 24.4**	**-0.2**
BUKP				*eS*	**Sg**	**06 21 52.3**	**-1.1**
SNPH	**Sibulan**	**2.12**	**259**	*eP*	**Pb**	**06 21 30.4**	**-0.8**
DCPH	**Dipolog City**	**2.28**	**240**	⇓*iP*	**Pn**	**06 21 32.0**	**+1.9**
DCPH				*i* S	**Sb**	**06 22 00.6**	**-1.3**
DAV	**Davao City (W)**	**2.67**	**175**	P	**Pb**	**06 21 40.1**	**-0.4**
DAV	100nm,0.3s,baz=30,slow=3.6,SNR=13			S	**Sb**	**06 22 14.1**	**+1.1**
DAV	124nm,0.3s,baz=323,slow=21,SNR=4.3			LR	LR	06 23 03.6	
DAV	**Davao City (W)**	**2.67**	**175**		**Pb**	**06 21 40.9**	**+0.4**
DAV					**Sb**	**06 22 11.7**	**-1.3**
PAGZ	**Pagadian**	**2.71**	**226**	*eP*	**Pn**	**06 21 36.3**	**+0.3**
KCP	**Kidapawan**	**2.73**	**185**	⇓*eP*	**Pn**	**06 21 37.3**	**+0.9**
KCP				*i* S	**Sn**	**06 22 06.1**	**-3.1**
CTBH	**Cotabato--PC H**	**2.73**	**204**	⇓*iP*	**Pn**	**06 21 37.0**	**+0.7**
CNP	**Catarman**	**2.83**	**346**	*eP*	**Pn**	**06 21 39.5**	**+1.9**
CNP				*eS*	**Sb**	**06 22 15.9**	**-1.8**
GUIM	**Jordan**	**2.85**	**288**	*eP*	**Pn**	**06 21 39.1**	**+1.1**
MATI	**Mati**	**2.92**	**162**	*eP*	**Pb**	**06 21 42.8**	**-2.0**
MATI				*eS*	**Sb**	**06 22 22.8**	**+2.4**
RCP	**Roxas**	**3.13**	**305**	⇑*eP*	**Pn**	**06 21 43.6**	**+1.8**
JAP	**San Jose, Anti**	**3.49**	**287**	⇑*eP*	**Pn**	**06 21 48.2**	**+1.4**
DDMP	**Don Marcelino,**	**3.63**	**174**	*eP*	**Pn**	**06 21 50.7**	**+1.9**
PVCP	**Virac**	**4.00**	**343**	*eP*	**Pn**	**06 21 57.2**	**+3.4**
I39PW	**PALAU INFRASON**	**9.36**	**103**	*i*		07 23 20.0	
	baz=282,slow=307,SNR=0.9						
LUWI	**Luwuk**	**11.02**	**194**	Pn	Pn	06 23 36.5	+6.3
SANI	**Sanana**	**11.73**	**177**	P	**Pn**	**06 23 40.1**	**+0.1**
SIJI	**Sorong**	**12.08**	**150**	P	**Pn**	**06 23 45.4**	**+0.6**
	2.0nm,0.3s,baz=314,slow=18,SNR=4.0						
NLAI	**Namlea**	**13.02**	**172**	P	**Pn**	**06 23 58.1**	**+0.6**
TTSI	**Tana Toraja**	**13.85**	**204**	P	**P**	**06 24 17.0**	**-0.2**
FAKI	**Fak Fak**	**14.34**	**151**	P	**Pn**	**06 24 18.1**	**+2.5**
	58nm,0.7s,3μm						
FAKI	**Fak Fak**	**14.34**	**151**	P	**P**	**06 24 23.5**	**+0.9**
SPSI	**Sidrap Palu**	**14.71**	**202**	P	**P**	**06 24 27.3**	**+0.5**
SBUM	**Sibu**	**14.92**	**242**	P	**P**	**06 24 31.8**	**+2.6**
BNSI	**Bone**	**14.99**	**201**	P	P	06 24 38.6	+8.7
JAY	**Jayapura**	**19.55**	**128**	LR	LR	06 35 04.4	
	comp=Z,44nm,18.0s,baz=164,slow=43						
PPBI	**Pangkal Pinang**	**22.50**	**239**	P	**P**	**06 25 46.0**	**-6.2**
MTN	**Manton Dam**	**23.16**	**166**	P	**P**	**06 26 00.8**	**+1.7**
MTN				IAmb	IAmb	06 26 03.8	
	comp=Z,12nm,0.6s						
JCJ	**Chichijima**	**23.47**	**40**	LR	LR	06 35 36.4	
	comp=Z,68nm,19.2s,baz=127,slow=37						
JNU	**Nakatsue**	**23.82**	**12**	P	**P**	**06 26 05.9**	**+0.4**
JNU				IAmb	IAmb	06 26 07.2	
	comp=Z,18nm,1.2s						
LEM	**Lembang**	**24.14**	**228**	LR	LR	06 38 10.3	
	comp=Z,67nm,18.2s,baz=52,slow=43						
NANT	**Nan**	**25.50**	**293**	P	P	06 26 30.6	+10
	comp=Z,65μm,0.5s						
PAYA	**Payao**	**26.41**	**294**	P	P	06 26 39.3	+10
	comp=Z,24μm,0.9s						
CMAR	**Chiang Mai Arr**	**27.00**	**292**	P	**P**	**06 26 34.0**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=109,slow=7.1,SNR=8.3						
CMAR				LR	LR	06 37 27.7	
	comp=Z,46nm,18.2s,baz=324,slow=37						
CMAR	**Chiang Mai Arr**	**27.00**	**292**	P	**P**	**06 26 36.3**	**+1.6**
PSI	**Prapat**	**27.14**	**257**	LR	LR	06 39 08.8	
	comp=Z,148nm,19.9s,baz=80,slow=40						
FITZ	**Fitzroy Crossi**	**27.67**	**179**	P	**P**	**06 26 39.2**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=24,slow=12,SNR=9.1						
FITZ				LR	LR	06 38 06.7	
	comp=Z,32nm,19.9s,baz=20,slow=37						
FITZ	**Fitzroy Crossi**	**27.67**	**179**	P	**P**	**06 26 39.5**	**-1.0**
FITZ				IAmb	IAmb	06 26 51.0	
	comp=Z,4.9nm,0.9s						
KSRS	**Korea Array**	**27.69**	**4**	P	**P**	**06 26 39.5**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=184,slow=9.5,SNR=7.6						
KSRS				LR	LR	06 36 16.5	
	comp=Z,65nm,21.8s,baz=201,slow=33						
MJAR	**Matsushiro Arr**	**29.12**	**22**	LR	LR	06 36 57.3	
	comp=Z,75nm,21.0s,baz=245,slow=33						
COEN	**Coen**	**29.45**	**143**	P	**P**	**06 26 55.4**	**-1.1**

COEN				IAmb	IAmb	06 27 01.5	
	comp=Z,7.7nm,0.8s						
WRAB	**Tennant Creek**	**30.79**	**163**	P	**P**	**06 27 08.4**	**+0.1**
WRA	**Warramunga Arr**	**30.80**	**163**	P	**P**	**06 27 08.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=349,slow=9.2,SNR=16						
WRA	**Warramunga Arr**	**30.80**	**163**	P	**P**	**06 27 08.2**	**-0.2**
WB2	**Warramunga Arr**	**30.80**	**163**	P	**P**	**06 27 08.6**	**+0.2**
PSA00	**Pilbara Seismi**	**31.59**	**190**	P	**P**	**06 27 17.5**	**+2.3**
PSA00				IAmb	IAmb	06 27 21.5	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**34.24**	**166**	P	**P**	**06 27 40.0**	**+1.5**
ASAR	**Alice Springs**	**34.24**	**166**	P	**P**	**06 27 37.4**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=352,slow=6.7,SNR=24						
ASAR	**Alice Springs**	**34.24**	**166**	P	**P**	**06 27 39.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**34.81**	**8**	P	**P**	**06 27 42.5**	**-0.6**
	comp=Z,9.5nm,0.8s,baz=194,slow=7.7,SNR=23						
USRK	**Ussuriysk Ar.**	**34.81**	**8**	P	**P**	**06 27 43.6**	**+0.5**
CTA	**Charters Tower**	**36.09**	**145**	P	**P**	**06 27 53.9**	**-0.5**
	comp=Z,4.4nm,0.7s,baz=331,slow=12,SNR=5.5						
CTAO	**Charters Tower**	**36.09**	**145**	P	**P**	**06 27 55.3**	**+0.8**
CTAO				IAmb	IAmb	06 27 56.5	
	comp=Z,4.0nm,0.8s						
ASAJ	**Asahikawa**	**37.37**	**21**	LR	LR	06 41 37.8	
	comp=Z,46nm,21.9s,baz=285,slow=33						
TAPN	**Taplejung**	**39.54**	**301**	*e*P	**P**	**06 28 26.2**	**+2.2**
	comp=Z,39nm,1.1s						
ODAN	**Odare**	**39.66**	**301**	*e*P	**P**	**06 28 28.0**	**+3.1**
KLR	**Kul'dur**	**39.72**	**7**	P	**P**	**06 28 22.8**	**-2.0**
	comp=Z,2.0nm,0.6s,baz=189,slow=4.6,SNR=8.7						
KLR				LR	LR	06 47 46.0	
	comp=Z,53nm,18.1s,baz=196,slow=40						
RAMN	**Ramite**	**40.35**	**300**	*e*P	**P**	**06 28 33.9**	**+3.2**
	comp=Z,27nm,1.1s						
JIRN	**Jiri**	**40.92**	**301**	*e*P	**P**	**06 28 37.2**	**+1.7**
SONM	**Songino Array**	**41.20**	**341**	P	**P**	**06 28 37.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=146,slow=7.9,SNR=3.4						
SONM	**Songino Array**	**41.20**	**341**	P	**P**	**06 28 36.7**	**-0.6**
GUN	**Gumba**	**41.26**	**301**	*e*P	**P**	**06 28 40.0**	**+1.8**
	comp=Z,44nm,1.0s						
DMN	**Daman**	**41.82**	**301**	*e*P	**P**	**06 28 45.5**	**+2.7**
	comp=Z,33nm,1.3s						
EIDS	**Eidsvold**	**42.97**	**145**	P	**P**	**06 28 51.0**	**-0.8**
EIDS				IAmb	IAmb	06 28 53.0	
	comp=Z,5.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**43.13**	**190**	P	**P**	**06 28 54.4**	**+1.5**
KOLN	**Koldanda**	**43.14**	**300**	*e*P	**P**	**06 28 55.3**	**+1.8**
	comp=Z,21nm,1.0s						
DANN	**Dangsing**	**43.17**	**301**	*e*P	**P**	**06 28 54.5**	**+0.7**
	comp=Z,44nm,1.4s						
BBOO	**Buckleboo**	**43.53**	**167**	P	**P**	**06 28 58.4**	**+2.2**
BBOO				IAmb	IAmb	06 29 15.3	
	comp=Z,9.1nm,0.8s						
STKA	**Stephens Creek**	**44.21**	**160**	P	**P**	**06 29 01.1**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=339,slow=9.2,SNR=14						
STKA				LR	LR	06 50 56.0	
	comp=Z,26nm,20.4s,baz=20,slow=41						
STKA	**Stephens Creek**	**44.21**	**160**	P	**P**	**06 29 02.4**	**+0.8**
TLY	**Talaya**	**45.43**	**341**	LR	LR	06 51 21.3	
	comp=Z,65nm,19.4s,baz=134,slow=40						
ARMA	**Armidale**	**47.25**	**149**	P	**P**	**06 29 27.4**	**+1.6**
ARMA				IAmb	IAmb	06 29 43.6	
	comp=Z,7.0nm,1.1s						
CAN	**Canberra**	**50.09**	**155**	P	**P**	**06 29 49.7**	**+2.2**
PEA0B	**Petropavlovsk-**	**50.49**	**25**	P	**P**	**06 29 51.1**	**+0.8**
PEA0B				IAmb	IAmb	06 30 10.4	
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**50.49**	**25**	P	**P**	**06 29 48.7**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=231,slow=1.2,SNR=5.9						
PETK				LR	LR	06 49 08.4	
	comp=Z,51nm,21.7s,baz=243,slow=33						
PETK	**Petropavlovsk-**	**50.49**	**25**	P	**P**	**06 29 51.2**	**+0.9**
DZM	**Mont Dzumac**	**51.23**	**129**	LR	LR	06 50 21.1	
	comp=Z,24nm,19.6s,baz=193,slow=34						
MKAR	**Makanchi Array**	**51.90**	**323**	P	**P**	**06 29 58.9**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=119,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**51.90**	**323**	P	**P**	**06 30 01.3**	**+0.2**
YAK	**Yakutsk**	**52.29**	**3**	LR	LR	06 55 15.7	
	comp=Z,27nm,18.2s,baz=233,slow=39						
KSH	**Kashi**	**52.91**	**313**	*e*P	P	06 30 14.1	+5.3
KURBB	**Kurchatov Arra**	**55.99**	**326**	P	**P**	**06 30 28.5**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=125,slow=7.3,SNR=2.6						
SEY	**Seymchan**	**56.55**	**14**	P	**P**	**06 30 34.8**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=180,slow=7.4,SNR=5.4						
BVAR	**Borovoye Array**	**61.58**	**326**	P	**P**	**06 31 07.0**	**-2.7**
	comp=Z,0.7nm,0.7s,baz=103,slow=6.5,SNR=3.2						
TIXI	**Tiksi**	**61.89**	**1**	P	**P**	**06 31 10.0**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=0.0,slow=24,SNR=6.1						
GEYT	**Alibeck**	**66.13**	**307**	P	**P**	**06 31 39.0**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=132,slow=8.0,SNR=2.5						
GEYT				LR	LR	07 03 12.2	
	comp=Z,60nm,18.4s,baz=295,slow=38						
ABKAR	**Akbulak array**	**66.68**	**320**	P	**P**	**06 31 43.8**	**+0.6**
ODZ	**Otahua Downs**	**68.10**	**147**	P	**P**	**06 31 53.7**	**+1.5**
AKTO	**Aktyubinsk**	**68.15**	**321**	P	**P**	**06 31 51.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=106,slow=7.4,SNR=3.6						
BFZ	**Birch Farm**	**68.68**	**141**	P	**P**	**06 31 54.5**	**-1.5**
ILAR	**Eielson Array**	**80.31**	**26**	P	**P**	**06 33 02.1**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=241,slow=4.9,SNR=6.6						
ILAR	**Eielson Array**	**80.31**	**26**	P	**P**	**06 33 02.4**	**-0.8**
ARCES	**ARCESS Array B**	**84.37**	**340**	P	**P**	**06 33 22.9**	**-1.5**
	comp=Z,4.4nm,0.9s,baz=55,slow=4.7,SNR=3.1						
INK	**Inuvik**	**85.10**	**21**	P	**P**	**06 33 27.8**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=273,slow=4.3,SNR=3.9						
FINES	**FINESS Array B**	**85.92**	**332**	P	**P**	**06 33 30.8**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=97,slow=5.7,SNR=5.4						
FINES	**FINESS Array B**	**85.92**	**332**	P	**P**	**06 33 31.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**119.61**	**291**	PKP	**PKPdf**	**06 39 40.8**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=51,slow=3.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**119.61**	**291**		**PKPdf**	**06 39 41.8**	**-1.6**

MAN 15 06:22:14.5, 14.80N×122.17E, h59km, mb3.5, ML2.2, MS1.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LQP	**Lukban**	**0.91**	**222**	⇑*e*P	Pn	06 22 38.8	+7.1
BOAC	**Boac**	**1.37**	**193**	*e*P	Pn	06 22 38.5	+1.1
BOAC				*e*S	Sn	06 22 48.5	-6.1
LUBP	**Lubang**	**2.14**	**241**	*e*P	Pn	06 22 48.9	+0.9
LUBP				*e*S	Sn	06 23 03.4	-10
PVCP	**Virac**	**2.26**	**122**	*e*P	Pn	06 22 50.7	+1.1
QTRP	**Odiongan**	**2.42**	**183**	*e*P	Pn	06 22 54.4	+2.6
SJMP	**San Jose**	**2.54**	**204**	*e*P	Pn	06 22 50.9	-2.4
SJMP				*e*S	Sn	06 23 08.0	-15
ENPP	**El Nido**	**4.46**	**217**	*e*P	Pn	06 23 35.4	+16
SNPH	**Sibulan**	**5.52**	**169**	*i* P	Pn	06 23 36.0	+1.7

IDC 15 06:29:53.1±2.3, 54.15N×86.38E, h0km, mb1 3.3/3, mb1mx3.1/56, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=20.3km s-min=13.8km az=28.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.94**	**258**	Pg	Pg	06 30 09.6	-1.5
	8.2nm,0.3s,baz=75,slow=17,SNR=30						
ZALV				Lg	Lg	06 30 24.7	
	12nm,0.3s,baz=80,slow=29,SNR=27						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	06 31 23.8	+1.3
	0.2nm,0.3s,baz=52,slow=13,SNR=5.4						
KURBB				Lg	Lg	06 33 02.0	
	0.0nm,0.3s,baz=51,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 31 49.3	+1.3
	0.4nm,0.3s,baz=24,slow=14,SNR=9.9						
MKAR				Lg	Lg	06 34 00.5	
	baz=29,slow=30,SNR=3.6						
SONM	**Songino Array**	**14.08**	**109**	Pn	Pn	06 33 11.9	-1.8
	0.2nm,0.3s,baz=291,slow=34,SNR=2.9						

ISK 15 06:51:50.9, 38.93N×26.61E, h10km, ML2.4/9
ATH 15 06:51:50.3, 38.97N×26.72E, h24km±5km, ML2.1/2, Error ellipse: s-maj=7.1km s-min=1.3km az=271.0
ISCJB 15 06:51:51.7±0.4, 38.93N±0.02×26.61E±0.03, h6km±5km, Error ellipse: s-maj=4.3km s-min=3.0km az=179.3
DDA 15 06:51:51.3, 38.96N×26.57E, h7km±5km, ML2.7
THE 15 06:51:51.0, 38.91N×26.64E, h0km±1km, ML1.9/4, Error ellipse: s-maj=1.5km s-min=0.4km az=68.0
ISC 15 06:51:51.3±1.0, 38.95N±0.02×26.63E±0.03, h11km±8km, n26, σ0.64/43, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.25**	**160**	PG	**Pg**	**06 51 56.0**	**-0.4**
FOCM				SG	**Sg**	**06 52 00.2**	**+0.4**
DKL	**Dikili**	**0.25**	**60**	PG	**Pb**	**06 51 57.0**	**-0.9**
DKL				SG	**Sg**	**06 52 01.1**	**+1.2**
ZEDA	**zmir-Bergama**	**0.35**	**87**	*i* P	**Pb**	**06 51 59.3**	**-0.3**
ZEDA				*i* S	**Sb**	**06 52 04.5**	**-0.7**
ZEDA				IAML_P			
	comp=Z,5μm,0.2s						
KRBN	**Karaburun**	**0.36**	**189**	PG	**Pg**	**06 51 58.2**	**-0.2**
AYVA	**Ayvalik**	**0.36**	**8**	*i* P	**Pb**	**06 51 59.0**	**-0.8**
AYVA				*i* S	**Sb**	**06 52 05.8**	**+0.3**
AYVA				IAML_P			
	comp=Z,1μm,0.1s						
PRK	**Paraskevi**	**0.41**	**317**	P	**Pb**	**06 51 59.6**	**-0.9**
PRK				S	**Sb**	**06 52 06.7**	**0.0**
	comp=Z,218nm,0.5s						
PRK	**Paraskevi**	**0.41**	**317**	P	**Pb**	**06 51 59.6**	**-0.9**
PRK				S	**Sb**	**06 52 06.7**	**0.0**
PRK				AML	AML	06 52 07.5	
	comp=N,397μm,0.3s						
PRK				AML	AML	06 52 09.3	
	comp=E,464μm,0.5s						
URLA	**Izmir**	**0.59**	**182**	*i* P	**Pg**	**06 52 02.0**	**-0.7**
URLA				*i* S	**Sg**	**06 52 10.3**	**-0.1**
URLA	**Izmir**	**0.59**	**182**	PG	**Pg**	**06 52 02.3**	**-0.4**
SIGR	**SIGRI**	**0.65**	**294**	P	**Pg**	**06 52 04.1**	**+0.1**
SIGR				S	**Sb**	**06 52 14.9**	**+1.0**
	comp=E,235nm,0.5s						
SIGR	**SIGRI**	**0.65**	**294**	P	**Pg**	**06 52 03.9**	**0.0**
SIGR				S	**Sb**	**06 52 15.2**	**+1.3**
SIGR				AML	AML	06 52 16.6	
	comp=E,549μm,0.5s						
SIGR				AML	AML	06 52 16.9	
	comp=N,404μm,0.4s						
SIGR	**SIGRI**	**0.65**	**294**	PG	**Pg**	**06 52 03.8**	**-0.2**
ZEY	**zmir**	**0.71**	**188**	*i* P	**Pb**	**06 52 05.5**	**-0.3**
ZEY				*i* S	**Sn**	**06 52 17.9**	**-0.4**
ZEY				IAML_P			
	comp=Z,2μm,0.2s						
CHOS	**Chios island**	**0.72**	**219**	P	**Pg**	**06 52 04.8**	**-0.3**
CHOS				S	**Sg**	**06 52 15.2**	**+0.7**
	comp=Z,108nm,0.8s						
CHOS	**Chios island**	**0.72**	**219**	P	**Pg**	**06 52 04.8**	**-0.3**
CHOS				S	**Sb**	**06 52 16.4**	**+0.7**
CHOS	**Chios island**	**0.72**	**219**	PG	**Pg**	**06 52 04.8**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.80**	**356**	*i* P	**Pn**	**06 52 07.4**	**-1.1**
BAYC				*i* S	**Sb**	**06 52 18.2**	**+0.3**
BAYC				IAML_P			
	comp=Z,868nm,0.2s						
EZN	**Ezine**	**0.91**	**345**	PG	**Pn**	**06 52 09.6**	**-0.4**
DGB	**zmir**	**0.92**	**167**	*i* P	**Pn**	**06 52 09.8**	**-0.4**
DGB				*i* S	**Sb**	**06 52 22.1**	**+0.7**
BOZC	**Bozcaada**	**1.00**	**334**	PG	**Pn**	**06 52 11.1**	**-0.1**
BALY	**Balya**	**1.10**	**44**	*i* P	**Pn**	**06 52 13.9**	**+1.1**
BALY				*i* S	**Sn**	**06 52 28.7**	**+0.7**
BALY				IAML_P			
	comp=Z,288nm,0.2s						
SMG	**Samos**	**1.25**	**172**	P	**Pn**	**06 52 14.0**	**-0.7**
SMG				S	**Sg**	**06 52 31.5**	**0.0**
	comp=Z,52nm,0.5s						
SMG	**Samos**	**1.25**	**172**	P	**Pb**	**06 52 14.8**	**-0.1**
SMG				S	**Sn**	**06 52 32.5**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**135**	PN	**Pn**	**06 52 17.1**	**+0.1**
LIA	**Limnos Island**	**1.47**	**311**	P	**Pb**	**06 52 18.2**	**-0.4**
LIA	**Limnos Island**	**1.47**	**311**	P	**Pn**	**06 52 17.4**	**-0.2**

IDC 15 06:57:08.7±0.5, 40.38N×73.22E, h0km, mb4.4/25, mb1 4.5/33, mb1mx4.3/49, mbtmp4.3/33, ML3.5/7, MS3.5/16, Ms1 3.5/16, ms1mx3.3/42, Error ellipse: s-maj=11.4km s-min=8.5km az=151.0
SOME 15 06:57:09.8, 40.47N×73.13E, h5km, MS3.9
BJI 15 06:57:11.2±0.0, 40.65N×73.01E, h15km, mb4.5/28, mB4.8/23, ML4.5/6, Ms4.3/16, Ms7 4.0/7
KRNET 15 06:57:11.6±0.1, 40.50N×73.17E, h17km, mb4.9
MOS 15 06:57:13.4±1.4, 40.59N×73.12E, h33km, mb4.8/27, Error ellipse: s-maj=5.8km s-min=4.7km az=85.2
NNC 15 06:57:14.5±0.8, 40.69N×73.20E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=7.3km s-min=3.4km az=173.0
NEIC 15 06:57:15.9±2.2, 40.58N±0.06×73.08E±0.07, h41km±4km, mb4.7/58
ISCJB 15 06:57:15.9±0.3, 40.47N±0.02×73.17E±0.02, h60km±3km, mb4.5/62, MS3.5/13, Error ellipse: s-maj=3.4km s-min=2.6km az=144.8
ISC 15 06:57:10.7±1.1, 40.49N±0.02×73.18E±0.02, h8km±6km, n361, σ2.00/413, mb4.6/76, MS3.5/14, 70C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.84**	**350**	⇑*i* P	**Pb**	**06 57 27.6**	**-0.1**
ARSB				⇑*i* S	**Sb**	**06 57 38.7**	**-0.6**
	baz=50						
ARSB	**Arslanbob**	**0.84**	**350**		**Pb**	**06 57 27.6**	**-0.1**
ARK	**Arkit**	**1.59**	**325**	⇑*i* P	**Pb**	**06 57 40.9**	**+0.4**
ARK				⇑*i* S	**Sb**	**06 58 00.8**	**-0.1**
	baz=25						
ARLS	**Aral**	**1.62**	**32**	⇑*i* P	**Pb**	**06 57 41.4**	**+0.5**
ARLS				⇑*i* S	**Sb**	**06 58 02.4**	**+0.8**
	baz=32						
AML	**Almayashu**	**1.68**	**13**	⇑*i* P	**Pb**	**06 57 43.0**	**+0.8**
AML				⇑*i* S	**Sg**	**06 58 05.6**	**+0.8**
	baz=14						
AML	**Almayashu**	**1.68**	**13**	P	**Pb**	**06 57 43.0**	**+0.8**
	SNR=3594						
BTK	**Batken**	**1.86**	**257**	⇑*i* P	**Pb**	**06 57 45.6**	**+0.6**
BTK				⇑*i* S	**Sg**	**06 58 10.1**	**-0.3**
	baz=57						
BTK	**Batken**	**1.86**	**257**	PN	**Pb**	**06 57 45.7**	**+0.8**
BTK	**Batken**	**1.86**	**257**		**Pb**	**06 57 45.7**	**+0.8**
UCH	**Uchtor**	**2.00**	**30**	⇑*i* P	**Pb**	**06 57 48.0**	**+0.3**
UCH				⇑*i* S	**Sg**	**06 58 14.5**	**-0.6**
	baz=30						
UCH	**Uchtor**	**2.00**	**30**	P	**Pb**	**06 57 48.0**	**+0.3**
	SNR=1620						
EKS2	**Erkin-Say**	**2.21**	**11**	⇑*i* P	**Pb**	**06 57 51.0**	**0.0**
EKS2				⇑*i* S	**Sb**	**06 58 19.2**	**+0.5**
	baz=12						
EKS2	**Erkin-Say**	**2.21**	**11**	P	**Pb**	**06 57 51.1**	**0.0**
	SNR=462						
KZA	**Kyzart**	**2.22**	**44**	⇑*i* P	**Pb**	**06 57 51.1**	**-0.3**
KZA				⇑*i* S	**Sb**	**06 58 19.9**	**+0.7**
	baz=44						
KZA	**Kyzart**	**2.22**	**44**	P	**Pb**	**06 57 51.2**	**-0.3**
	SNR=211						
MRKS	**Merke**	**2.25**	**1**	Pg	**Pb**	**06 57 52.6**	**+0.9**
MRKS				Lg	Lg	06 58 21.7	
	787nm,0.3s						
MRKS	**Merke**	**2.25**	**1**	*e*P	**Pb**	**06 57 52.4**	**+0.8**
MRKS				*e*S	**Sg**	**06 58 21.7**	**-1.3**
	857nm,0.4s						
NRN	**Naryn**	**2.33**	**65**	⇑*i* P	**Pb**	**06 57 52.1**	**-1.1**
NRN				⇑*i* S	**Sb**	**06 58 21.6**	**-0.7**
	baz=66						
NRN	**Naryn**	**2.33**	**65**	PN	**Pb**	**06 57 51.9**	**-1.3**
NRN	**Naryn**	**2.33**	**65**		**Pb**	**06 57 51.9**	**-1.3**
KSH	**Kashi**	**2.36**	**114**	Pg	**Pb**	**06 57 53.8**	**+0.3**
KSH				Sn	**Sn**	**06 58 18.3**	**-0.7**
KSH				smax	smax		
	comp=N,12μm,0.5s						
KSH				smax	smax		
	comp=E,8μm,0.4s						
AAK	**Ala-Archa**	**2.36**	**24**	⇑Pn	**Pb**	**06 57 53.4**	**-0.2**
AAK				⇑Lg	Lg	06 58 23.4	
	743nm,0.5s						
AAK	**Ala-Archa**	**2.36**	**24**	*e*P	**Pb**	**06 57 53.2**	**-0.4**
	1μm,0.5s						
AAK	**Ala-Archa**	**2.36**	**24**	⇑*i* P	**Pb**	**06 57 53.2**	**-0.4**
AAK				⇑*i* S	**Sb**	**06 58 22.8**	**-0.1**
	baz=25						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**2.36**	**24**	Pn	**Pb**	**06 57 52.8**	**-0.7**
	287nm,0.3s,baz=159,slow=6.0,SNR=1394						
AAK				Sn	**Sb**	**06 58 23.9**	**+1.0**
	584nm,0.3s,baz=167,slow=23,SNR=28						
AAK				LR	LR	06 59 04.7	
	comp=Z,773nm,20.6s,baz=207,slow=47						
AAK	**Ala-Archa**	**2.36**	**24**	P	**Pb**	**06 57 53.4**	**-0.2**
	SNR=1217						
AAK	**Ala-Archa**	**2.36**	**24**		**Pb**	**06 57 53.4**	**-0.2**
AAK					**Sb**	**06 58 23.5**	**+0.6**
KBK	**Karagaybulak**	**2.54**	**31**	⇑*i* P	**Pb**	**06 57 55.5**	**-1.1**
KBK				⇑*i* S	**Sb**	**06 58 27.4**	**-0.6**
	baz=31						
KBK	**Karagaybulak**	**2.54**	**31**	P	**Pb**	**06 57 56.2**	**-0.4**
	SNR=204						
FRU1	**Bishkek**	**2.56**	**25**	⇓*i* P	**Pb**	**06 57 55.9**	**-1.0**
FRU1				⇓*i* S	**Sb**	**06 58 27.8**	**-0.8**
	baz=25						
FRU1	**Bishkek**	**2.56**	**25**	PN	**Pb**	**06 57 56.3**	**-0.6**
FRU1	**Bishkek**	**2.56**	**25**		**Pb**	**06 57 56.3**	**-0.6**
GAR	**Garm**	**2.66**	**237**		**Pb**	**06 57 59.3**	**+0.6**
CHMS	**Chumysh**	**2.77**	**25**	⇑*i* P	**Pb**	**06 57 58.8**	**-1.6**
CHMS				⇑*i* S	**Sb**	**06 58 32.7**	**-1.8**
	baz=25						
CHMS	**Chumysh**	**2.77**	**25**	P	**Pb**	**06 57 59.0**	**-1.5**
	SNR=251						
DZA	**Taraz**	**2.77**	**331**	Pg	**Pg**	**06 58 03.3**	**-0.5**
	956nm,0.4s						
DZA				Lg	Lg	06 58 38.2	
	5μm,0.4s						
DZA	**Taraz**	**2.77**	**331**	*e*P	**Pb**	**06 58 02.4**	**+2.0**
	1μm,0.5s						
DZA				*e*S	**Sg**	**06 58 38.1**	**-1.5**
	5μm,0.4s						
BOOM	**Boomskoye usch**	**2.88**	**45**	⇑*i* P	**Pb**	**06 58 00.1**	**-2.3**
	baz=45						
BOOM				⇑*i* S	**Sb**	**06 58 35.3**	**-2.6**
	baz=45						
BOOM	**Boomskoye usch**	**2.88**	**45**	PN	**Pb**	**06 58 00.1**	**-2.3**
BOOM	**Boomskoye usch**	**2.88**	**45**		**Pb**	**06 58 00.1**	**-2.3**
IUG	**Iuzhnay**	**2.89**	**306**	Pg	**Pg**	**06 58 05.8**	**-0.3**
	176nm,0.4s						
IUG				Lg	Lg	06 58 42.1	
	881nm,0.5s						
IUG	**Iuzhnay**	**2.89**	**306**	*e*P	**Pb**	**06 58 04.0**	**+1.4**
	176nm,0.4s						
IUG				*e*S	**Sg**	**06 58 41.5**	**-2.1**
	3μm,0.5s						
ULHL	**Ulahol**	**2.90**	**52**	*i* P	**Pb**	**06 58 00.2**	**-2.5**
	baz=52						
ULHL				*i* S	**Sb**	**06 58 35.9**	**-2.5**
	baz=52						
ULHL	**Ulahol**	**2.90**	**52**	P	**Pb**	**06 58 00.2**	**-2.5**
	SNR=105						
USP	**Ospenovka**	**2.94**	**19**	⇓*i* P	**Pb**	**06 58 00.8**	**-2.6**
	baz=19						
USP				⇓*i* S	**Sb**	**06 58 36.7**	**-2.9**
	baz=19						
USP	**Ospenovka**	**2.94**	**19**	P	**Pb**	**06 58 00.9**	**-2.5**
	SNR=115						
TKM2	**Tokmak 2**	**3.03**	**36**	⇓Pn	**Pb**	**06 58 02.0**	**-2.9**
	543nm,1.0s						
TKM2				⇑Lg	Lg	06 58 44.4	
	469nm,0.6s						
TKM2	**Tokmak 2**	**3.03**	**36**	⇑*i* P	**Pb**	**06 58 02.3**	**-2.6**
	baz=36						
TKM2				⇑*i* S	**Sb**	**06 58 38.8**	**-3.4**
	baz=36						
TKM2	**Tokmak 2**	**3.03**	**36**	P	**Pb**	**06 58 02.4**	**-2.6**
	SNR=51						
TAS	**Tashkent**	**3.07**	**287**	⇑*i* P	**Pb**	**06 58 02.4**	**-3.1**
	baz=87						
TAS				⇑*i* S	**Sb**	**06 58 39.4**	**-3.7**
	baz=87						
CHM	**Chimkent**	**3.25**	**305**	*e*P	**Pb**	**06 58 10.3**	**+1.7**
	356nm,0.3s						
CHM				*e*S	**Sg**	**06 58 52.2**	**-2.9**
	4μm,0.6s						
KK31	**Karatay Array**	**3.28**	**323**	⇑Pn	**Pn**	**06 58 04.7**	**+2.2**
	11nm,0.6s,baz=119,slow=14,SNR=1758						
KK31				⇓Pg	**Pb**	**06 58 11.4**	**+2.1**
	171nm,0.5s,baz=120,slow=15,SNR=7.2						
KK31				⇑Lg	Lg	06 58 52.2	
	296nm,0.3s,baz=136,slow=30,SNR=7.1						
KK31	**Karatay Array**	**3.28**	**323**	PN	**Pn**	**06 58 04.7**	**+2.2**
KK31	**Karatay Array**	**3.28**	**323**		**Pn**	**06 58 04.7**	**+2.2**
KKAR	**Karatay Array**	**3.28**	**323**	PN	**Pn**	**06 58 05.5**	**+3.0**
KKAR	**Karatay Array**	**3.28**	**323**		**Pn**	**06 58 04.5**	**+2.0**
KKAR	**Karatay Array**	**3.28**	**323**		**Pn**	**06 58 05.5**	**+3.0**
KST	**Kastek**	**3.29**	**38**	*e*P	**Pb**	**06 58 10.8**	**+1.3**
	188nm,0.5s						
KST				*e*S	**Sb**	**06 58 51.9**	**+2.2**
	902nm,0.7s						
DGS	**Degeres**	**3.36**	**34**	Pg	**Pb**	**06 58 13.3**	**+2.7**
	298nm,0.4s						
DGS				Lg	Lg	06 58 55.8	
	818nm,0.7s						
DGS	**Degeres**	**3.36**	**34**	*e*P	**Pb**	**06 58 12.8**	**+2.3**
	542nm,0.7s						
DGS				*e*S	**Sg**	**06 58 56.3**	**-2.3**
	833nm,0.6s						
KDJ	**Kajisay**	**3.43**	**60**	⇓*i* P	**Pn**	**06 58 08.1**	**+3.5**
	baz=61						
KDJ				⇓*i* S	**Sn**	**06 58 48.5**	**+2.9**
	baz=61						
KDJ	**Kajisay**	**3.43**	**60**	PN	**Pn**	**06 58 08.2**	**+3.6**
KDJ	**Kaj

comp=N,810nm,0.7s
KOTS Kotyrbulak 4.02 46 Pg Pb 06 58 24.9 +3.2
comp=N,591nm,0.5s
KOTS Lg Lg 06 59 17.3
comp=N,889nm,0.6s
KOTS Kotyrbulak 4.02 46 eP Pb 06 58 24.9 +3.2
comp=N,664nm,0.7s
KOTS eS Sg 06 59 17.3 -2.4
comp=N,889nm,0.6s
ANVS Anan'yevo 4.07 54⇓iP Pn 06 58 16.4 +3.0
baz=54
ANVS iS Sn 06 59 03.7 +2.4
baz=54
KUU Kurty 4.13 34 Pg Pb 06 58 26.3 +2.7
comp=N,222nm,0.4s
KUU Lg Lg 06 59 19.2
comp=N,788nm,0.6s
KUU Kurty 4.13 34⇑iP Pb 06 58 26.3 +2.7
comp=N,222nm,0.4s
KUU eS Sg 06 59 19.2 -4.1
comp=N,788nm,0.6s
KTBS Karatobe 4.14 38 eP Pg 06 58 27.5 -2.5
comp=N,163nm,0.5s
KTBS eS Sg 06 59 21.0 -2.6
comp=N,1μm,0.4s
CHKK Chushkaly 4.39 39 Pg Pg 06 58 32.6 -2.2
comp=N,95nm,0.6s
CHKK Lg Lg 06 59 28.6
comp=N,649nm,0.6s
CHKK Chushkaly 4.39 39 eP Pg 06 58 33.0 -1.7
comp=N,95nm,0.6s
CHKK eS Sg 06 59 28.4 -3.3
comp=N,509nm,0.5s
PRZ Przheval'sk 4.40 61⇑iP Pn 06 58 20.7 +2.8
baz=62
PRZ ⇑iS Sn 06 59 12.3 +2.8
baz=62
PRZ Przheval'sk 4.40 61 PN Pn 06 58 21.9 +4.0
PRZ Przheval'sk 4.40 61 Pn 06 58 21.9 +4.0
BTLS Baital 4.59 8 eP Pb 06 58 34.4 +3.0
comp=N,30nm,0.5s
BTLS eS Sg 06 59 33.2 -4.8
comp=N,549nm,0.8s
SATY Saty 4.67 55 Pg Pg 06 58 37.4 -2.8
comp=N,225nm,0.8s
SATY Lg Lg 06 59 37.2
comp=N,751nm,0.8s
SATY Saty 4.67 55 eP Pg 06 58 37.3 -2.9
comp=N,218nm,0.6s
SATY eS Sg 06 59 37.7 -3.1
comp=N,751nm,0.8s
ZHN Zhinishke 4.75 54 Pg Pb 06 58 37.8 +3.5
comp=N,55nm,0.5s
ZHN Lg Lg 06 59 39.6
comp=N,206nm,0.2s
ZHN Zhinishke 4.75 54 eP Pb 06 58 37.7 +3.5
comp=N,63nm,0.5s
ZHN eS Sg 06 59 38.8 -4.3
comp=N,211nm,0.3s
KURS Kuram 4.77 50 Pg Pg 06 58 39.5 -2.6
comp=N,101nm,0.8s
KURS Lg Lg 06 59 40.8
comp=N,309nm,1.1s
KURS Kuram 4.77 50 eP Pg 06 58 39.2 -2.9
comp=N,97nm,0.7s
KURS eS Sg 06 59 40.5 -3.5
comp=N,308nm,0.6s
KPKS Kokpek 5.07 52 eP Pb 06 58 44.0 +4.4
comp=N,161nm,0.6s
KPKS eS Sg 06 59 48.7 -4.5
comp=N,732nm,0.7s
ARXS Arharly 5.07 41 Pg Pb 06 58 44.2 +4.5
comp=N,67nm,0.4s
ARXS Lg Lg 06 59 49.6
comp=N,674nm,0.6s
ARXS Arharly 5.07 41 eP Pg 06 58 44.7 -3.0
comp=N,128nm,0.6s
ARXS eS Sg 06 59 49.9 -3.4
comp=N,674nm,0.6s
UZB Uzynbulak 5.11 57 Pg Pg 06 58 45.6 -2.9
comp=N,43nm,0.3s
UZB Lg Lg 06 59 50.9
comp=N,241nm,0.6s
UZB Uzynbulak 5.11 57 eP Pg 06 58 45.2 -3.3
comp=N,59nm,0.6s
UZB eS Sg 06 59 50.8 -3.9
comp=N,252nm,0.8s
SHLS Shalkode 5.40 58 Pg Pg 06 58 54.3 +0.3
comp=N,40nm,0.4s
SHLS Lg Lg 07 00 07.4
comp=N,596nm,0.7s
SHLS Shalkode 5.40 58 eP Pg 06 58 54.3 +0.3
comp=N,56nm,0.7s
SHLS eS Sg 07 00 06.5 +2.6
comp=N,601nm,0.8s
PDGK Podgornoye 5.50 57 ⇓Pn Pn 06 58 34.6 +1.6
comp=N,33nm,0.6s
PDGK ⇑Lg Lg 07 00 05.4
comp=N,401nm,1.0s
CEP Cherat 6.73 189 P Pn 06 58 55.8 +5.8
KBL Kabul 6.79 210 PN Pn 06 58 56.6 +5.8
KBL Kabul 6.79 210 Pn 06 58 56.6 +5.7
CHCP Chirah Chowk 6.82 179 P Pn 06 58 56.4 +5.3
NIL Nilore 6.83 179 PN Pn 06 58 56.8 +5.6
NIL Nilore 6.83 179 Pn 06 58 56.8 +5.5
THW Thamme Wali 7.77 189 P Pn 06 59 09.0 +4.9
JMU Jammu 7.88 169 eP Pb 06 59 35.0 +7.5
JMU eS **Sn 07 00 30.0 -5.0**
SARP Sargodha 8.56 183 P Pn 06 59 18.3 +3.3
DHRM DHARAMSHALA 8.60 162 eP Pn 06 59 19.4 +3.7
DHRM eS **Sn 07 00 51.5 -1.6**
DHRM IAML 07 01 03.0
comp=E,197nm,0.9s
DHRM IAML 07 01 08.0
comp=N,184nm,0.4s
MAKZ Makanchi 8.97 42 ⇑Pn Pn 06 59 22.1 +1.6
comp=N,14nm,0.9s
MAKZ ⇑Lg Lg 07 01 56.5
comp=N,21nm,0.7s
MAKZ Makanchi 8.97 42 P Pn 06 59 21.9 +1.4
MAKZ Makanchi 8.97 42 Pn 06 59 21.9 +1.4
MK31 Makanchi Array 9.12 43 Pn Pn 06 59 24.1 +1.5
comp=N,7.5nm,0.6s,baz=220,slow=13,SNR=31
MK31 ⇓Lg Lg 07 01 58.7
comp=N,25nm,0.7s,baz=224,slow=28,SNR=3.7
MK31 Makanchi Array 9.12 43 P Pn 06 59 24.2 +1.5
MK31 Makanchi Array 9.12 43 Pn 06 59 24.2 +1.5
MKAR Makanchi Array 9.12 43 P Pn 06 59 23.4 +0.8
MKAR Makanchi Array 9.12 43 Pn Pn 06 59 24.5 +1.9
comp=N,1.1nm,0.3s,baz=225,slow=14,SNR=31
MKAR Sn **Sn 07 01 09.7 +4.2**
comp=N,0.5nm,0.3s,baz=228,slow=15,SNR=2.4
MKAR Lg Lg 07 01 56.3
comp=N,2.3nm,0.3s,baz=242,slow=15,SNR=5.3
MKAR LR LR 07 03 16.4
comp=N,246nm,20.3s,baz=227,slow=40
MKAR Makanchi Array 9.12 43 Pn 06 59 23.4 +0.8
SMLA Simla 9.89 160 eP Pn 06 59 37.8 +4.7
SMLA eS **Sn 07 01 18.1 -6.2**
SMLA IAML 07 01 23.0
comp=N,88nm,0.6s
SMLA IAML 07 01 24.9
comp=E,132nm,0.1s
HRA Herat 10.61 238 Pn 06 59 43.9 +0.7
KURBB Kurchatov Arra 10.80 18 ⇑Pn Pn 06 59 44.8 -0.7
comp=E,11nm,0.5s
KURBB ⇓Lg Lg 07 02 48.9
comp=E,259nm,0.7s
KURBB Kurchatov Arra 10.80 18 Pn Pn 06 59 45.2 -0.3
comp=E,0.7nm,0.3s,baz=210,slow=12,SNR=34
KURBB Sn **Sn 07 01 50.9 +4.4**
comp=E,0.1nm,0.3s,baz=208,slow=29,SNR=4.0
KURBB Lg Lg 07 02 50.4
comp=E,1.2nm,0.3s,baz=202,slow=30,SNR=14
KURK Kurchatov 10.91 19 ⇓Pn Pn 06 59 46.0 -0.9
comp=E,7.4nm,1.0s
KURK ⇑Lg Lg 07 02 52.8
comp=E,202nm,0.9s
KURK Kurchatov 10.91 19 P Pn 06 59 46.2 -0.8
KURK Kurchatov 10.91 19 Pn 06 59 46.2 -0.8
WMQ Urumqi 11.28 68 eP Pn 06 59 58.6 +6.4
WMQ LR LR
comp=E,640nm,7.5s
WMQ LR LR
comp=E,200nm,6.7s
GEYT Alibeck 11.96 262 Pn Pn 06 59 59.3 -2.2
comp=E,0.9nm,0.3s,baz=90,slow=7.4,SNR=5.6
GEYT Sn **Sn 07 02 15.8 +0.6**
comp=E,3.5nm,0.3s,baz=248,slow=27,SNR=5.6
GEYT Alibeck 11.96 262 Pn 07 00 00.6 -0.9
GEYT **Sn 07 02 15.1 -0.1**
GYA0B ALIBECK ARRAY 11.96 262 ⇑Pn Pn 07 00 07.2 +5.6
GYA0B ⇑Sn **Sn 07 02 21.7 +6.5**
BVAR Borovoye Array 12.68 352 Pn Pn 07 00 10.7 -0.6
comp=E,0.6nm,0.3s,baz=162,slow=15,SNR=18
BVAR Sn **Sn 07 02 35.4 +2.8**
comp=E,1.0nm,0.3s,baz=165,slow=18,SNR=2.9
BVAR Lg Lg 07 03 52.0
comp=E,3.6nm,0.3s,baz=155,slow=25,SNR=4.5
BRVK Borovoye 12.72 352⇓iP Pn 07 00 11.4 -0.4
BRVK Borovoye 12.72 352 Pn 07 00 11.5 -0.3
AB31 Akbulak array 12.82 317 ⇓Pn Pn 07 00 14.6 +1.4
comp=E,17nm,0.7s,baz=125,slow=12,SNR=146
ABKAR Akbulak array 12.82 317 Pn 07 00 11.7 -1.6
DGZ Jazzator, Alta 13.62 43⇑iP Pn 07 00 26.5 +2.2
AKTO Aktyubinsk 14.53 318 ⇑Pn Pn 07 00 36.2 -0.4
comp=E,13nm,0.7s
AKTO Aktyubinsk 14.53 318 Pn Pn 07 00 36.0 -0.6
comp=E,0.3nm,0.3s,baz=128,slow=14,SNR=9.6
AKTO Sn **Sn 07 03 09.6 -8.2**
comp=E,1.1nm,0.3s,baz=165,slow=20,SNR=2.7
AKTO Lg Lg 07 04 55.2
comp=E,0.7nm,0.3s,baz=214,slow=17,SNR=2.2
AKTO LR LR 07 05 52.4
comp=E,80nm,21.9s,baz=125,slow=36
DANN Dangsing 14.91 141 eP Pn 07 00 39.4 -2.8
comp=E,38nm,0.4s
KOLN Koldanda 15.33 143 eP Pn 07 00 45.0 -2.6
comp=E,30nm,0.5s
ZAA0 Zalesovo Array 15.58 26 Pn 07 00 51.9 +1.3
ZALV Zalesovo Beam 15.58 26 Pn Pn 07 00 49.8 -0.7
comp=E,1.2nm,0.3s,baz=226,slow=12,SNR=17
ZALV Sn **Sn 07 03 37.0 -6.2**
comp=E,0.6nm,0.3s,baz=236,slow=13,SNR=2.7
ZALV Lg Lg 07 05 23.8
comp=E,0.4nm,0.3s,baz=211,slow=25,SNR=2.9
ZALV LR LR 07 07 08.0
comp=E,329nm,19.0s,baz=260,slow=38
ZALV Zalesovo Beam 15.58 26 Pn 07 00 50.1 -0.4
GKN Gorkha 15.63 139 eP Pn 07 00 48.9 -2.6
KKN Kakani 16.13 138 eP Pn 07 00 55.6 -2.4
comp=E,27nm,0.6s
DMN Daman 16.19 139 eP Pn 07 00 55.6 -3.2
comp=E,37nm,0.7s
GUN Gumba 16.34 136 eP Pn 07 00 58.2 -2.7
PKIN Phulchoki 16.36 138 eP Pn 07 00 58.1 -2.9
comp=E,20nm,0.5s
PKI Pulchoki 16.37 138 eP Pn 07 00 58.1 -3.1
comp=E,27nm,0.5s
JIRN Jiri 16.71 136 eP Pn 07 01 03.4 -2.1
RAMN Ramite 17.49 136 eP Pn 07 01 12.3 -3.0
comp=E,40nm,0.7s
BHPL Bhopal 17.57 167 eP P 07 01 20.8 +3.7
BHPL eS **Sn 07 04 24.2 -7.7**
TAPN Taplejung 17.78 133 eP Pn 07 01 17.0 -1.9
ODAN Odare 17.99 135 eP Pn 07 01 19.3 -2.1
SVE Sverdlovsk 18.27 338 eP Pn 07 01 23.2 -1.3
SVE eS **Sn 07 04 48.6 +0.1**
ARU Arti 18.60 334 P P 07 01 27.7 -0.5
comp=E,0.0nm,0.3s,baz=149,slow=10,SNR=12
ARU Lg Lg 07 06 59.4
baz=0.0,slow=20,SNR=3.0
ARU LR LR 07 09 18.9
comp=E,162nm,18.1s,baz=118,slow=39
ARU Arti 18.60 334 P P 07 01 27.2 -1.0
LKRN Lenkeran, Azer 18.88 273 P Pn 07 01 32.7 +0.8
AKT Akhty 19.22 281 eP Pn 07 01 37.5 +1.3
AKT eS **S 07 05 12.3 -1.0**
AKT pmax pmax
comp=Z,10.0nm,0.4s
AKT smax smax
comp=E,14nm,0.6s
AKT smax smax
comp=N,14nm,1.0s
SEKA Sheki 19.65 281 P Pn 07 01 41.5 +0.2
SHME Shamm 20.21 230 P Pn 07 01 47.8 -0.2
BANOM Banah 20.21 229 P Pn 07 01 48.1 +0.1
GANJ Ganja 20.38 279 P Pn 07 01 51.1 +1.2
GTA Gaotai 20.43 84 P Pn 07 01 50.4 -0.1
GTA pP pP 07 01 54.1 +2.9
GTA sP sP 07 01 57.6 +5.3
GTA pmax pmax
comp=N,16nm,1.2s
GTA pmax pmax
comp=N,110nm,4.7s
GTA LR LR
comp=N,180nm,8.9s
GTA LR LR
comp=N,130nm,11.3s
GROC Groznyy 20.55 287 eP P 07 01 47.5 -2.1
GROC e 07 02 05.8
GROC eS **S 07 05 35.1 -4.4**
GROC pmax pmax
comp=Z,85nm,1.0s
UOSS Minazif 21.02 228 P P 07 01 56.3 +1.5
WSAR Wadi Sarin 21.13 220 LR LR 07 12 31.3
comp=Z,87nm,19.9s,baz=42,slow=44
HATD Hatta, Dubai 21.16 228 P P 07 01 58.1 +1.8
ASHO Ashiyiah 21.31 227 i P **P 07 01 59.7 +1.8**
SNR=7.0
SHL Shillong 21.55 128 P P 07 02 02.9 +2.1
SHL pmax pmax
comp=Z,14nm,0.7s
SHL Shillong 21.55 128 P P 07 02 02.9 +2.1
GNI Garni 21.65 278⇑eP P 07 02 01.9 +0.2
GNI pmax pmax
comp=Z,14nm,0.4s
GNI Garni 21.65 278 P P 07 02 02.0 +0.2
comp=Z,5.6nm,0.5s,baz=221,slow=11,SNR=2.3
GNI Garni 21.65 278 P P 07 02 04.2 +2.5
GNI IAmb IAmb 07 02 15.1
comp=Z,62nm,1.0s
ZEI Tsey 21.95 286 eP P 07 02 04.9 -0.1
ZEI pmax pmax
comp=Z,10.0nm,0.7s
ALNE Al Ain 21.97 227 i P **P 07 02 06.5 +1.4**
SNR=6.9
AKH Akhalkalaki 22.39 282 P P 07 02 11.6 +1.9
AKH pmax pmax
comp=Z,24nm,1.1s
AKH Akhalkalaki 22.39 282 P P 07 02 11.6 +1.9
AKH IAmb IAmb 07 02 19.3
comp=Z,24nm,1.1s
KBZ Khabaz 22.64 288⇑eP P 07 02 10.8 -1.2
KBZ Khabaz 22.64 288 P P 07 02 12.8 +0.8
comp=Z,2.0nm,0.6s,baz=135,slow=11,SNR=2.3
KBZ S **S 07 06 19.7 -0.3**
comp=Z,1.6nm,0.6s,baz=246,slow=20,SNR=2.1
KBZ LR LR 07 12 47.4
comp=Z,128nm,19.2s,baz=84,slow=41
KVAR Kislovodsk Arr 22.77 289 P P 07 02 14.6 +1.0
comp=Z,2.3nm,0.3s,baz=90,slow=20,SNR=3.0
KVAR LR LR 07 13 08.3
comp=Z,219nm,19.6s,baz=240,slow=42
KIV Kislovodsk 22.78 289 eP P 07 02 13.6 -0.1
KIV eS **S 07 06 20.2 -2.7**
KIV pmax pmax
comp=Z,31nm,0.9s
KIV MLR MLR
comp=Z,225nm,14.0s
KIV Kislovodsk 22.78 289 P P 07 02 13.1 -0.6
KIV IAmb IAmb 07 02 31.9
comp=Z,13nm,0.6s
ZAK Zakamensk 23.18 55 eP P 07 02 18.3 +0.6
ZAK pmax pmax
comp=Z,8.0nm,1.1s
HYB Hyderabad 23.46 167 i P **P 07 02 22.5 +1.8**
TLY Talaya 23.73 52ceP **P 07 02 24.6 +1.4**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY Talaya 23.73 52 LR LR 07 11 31.5
comp=Z,35nm,18.1s,baz=240,slow=36
VRH Novokhopyorsk 24.21 307 eP P 07 02 31.8 +4.2
VRH pmax pmax
comp=Z,20nm,0.9s
LZH Lanzhou 24.40 90 eP P 07 02 31.6 +1.8
LZH pP sP 07 02 39.6 +5.8
LZH sP pP 07 02 45.0 +12
LZH PP **PnPn 07 03 07.3 +7.4**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,86nm,5.7s
LZH LR LR
comp=Z,290nm,13.6s
LZH LR LR
comp=Z,260nm,14.6s
LZH LR LR
comp=Z,310nm,15.7s
SONM Songino Array 24.79 62 P P 07 02 33.8 +0.7
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 24.79 62 P P 07 02 33.9 +0.7
comp=Z,0.4nm,0.3s,baz=86,slow=22,SNR=5.0
SONM LR LR 07 13 12.1
comp=Z,181nm,19.0s,baz=114,slow=39
SONM Songino Array 24.79 62 P P 07 02 33.8 +0.7
ULN Ulaanbaatar 25.23 62 P P 07 02 39.0 +1.9
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 25.23 62 P P 07 02 39.0 +1.9
VSR Storozhevoye 25.78 306 eP **P 07 02 39.1 -2.8**
VSR pmax pmax
comp=Z,8.0nm,0.7s
LPSR Galich'ya Gora 26.23 309 eP P 07 02 43.6 -2.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 26.50 101 eP P 07 02 51.0 +2.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 28.22 314⇑eP P 07 03 01.2 -2.6
OBN e 07 03 52.2
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 28.22 314 LR LR 07 14 58.4
comp=Z,53nm,19.0s,baz=4.5,slow=38
RAYN Ar Rayn 28.76 242 i P **P 07 03 10.4 +1.4**
SNR=7.2
RAYN Ar Rayn 28.76 242 P P 07 03 10.0 +1.0
RAYN pmax pmax
comp=Z,10.0nm,1.3s
RAYN Ar Rayn 28.76 242 P P 07 03 10.0 +1.0
HHC Hu-ho-hao-te 28.96 77 eP P 07 03 13.6 +2.9
HHC pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 28.98 326 eP P 07 03 15.9 +5.4
KLMR pmax pmax
comp=Z,23nm,1.6s
KLMR Klimovskoe 28.98 326 eP P 07 03 15.9 +5.4
KLMR AMP 07 03 29.3
comp=Z,23nm,1.6s
KMI Kunming 29.02 113 P P 07 03 15.0 +3.5
KMI pmax pmax
comp=Z,20nm,0.5s
BRTR Keskin Array B 30.08 282 P P 07 03 21.2 +0.6
comp=Z,1.4nm,0.6s,baz=82,slow=7.9,SNR=5.9
BRTR Keskin Array B 30.08 282 P P 07 03 21.7 +1.0
CMAR Chiang Mai Arr 31.19 127 LR LR 07 16 51.7
comp=Z,42nm,19.4s,baz=359,slow=38
BOD Bodaibo 31.21 42 eP P 07 03 30.0 -0.3
BOD pmax pmax
comp=Z,13nm,1.0s
AKASG Malin Array Be 31.97 304 P P 07 03 36.7 -0.3
comp=Z,0.8nm,0.5s,baz=81,slow=7.3,SNR=11
AKASG PcP **PcP 07 06 24.7 -2.2**
comp=Z,0.4nm,0.4s,baz=76,slow=3.2,SNR=3.2
AKASG Malin Array Be 31.97 304 IAmb IAmb 07 03 37.4
comp=Z,0.9nm,0.9s
AKBB Malin Array Si 31.97 304 P P 07 03 36.6 -0.4
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 31.97 304 P P 07 03 36.6 -0.4
AKBB IAmb IAmb 07 03 38.3
comp=Z,5.7nm,0.8s
PALK Pallekele 33.76 166 LR LR 07 17 26.3
comp=Z,97nm,20.9s,baz=295,slow=36
VRI Vrincioaia 33.91 295 ⇑P P 07 03 56.0 +1.9
PLOR Plostina 33.97 295 ⇑P P 07 03 56.2 +1.6
BIZ Bicaz 34.21 297 ⇑P P 07 03 57.5 +0.9
MLR Muntele Rosu 34.51 294 P P 07 04 01.5 +2.1
MLR pmax pmax
comp=Z,11nm,0.8s
MLR Muntele Rosu 34.51 294 ⇑P P 07 04 00.7 +1.3
MLR Muntele Rosu 34.51 294 P P 07 04 01.5 +2.1
MLR IAmb IAmb 07 04 15.4
comp=Z,11nm,0.8s
BURAR Bucovina Array 34.73 298 ⇑P P 07 04 02.2 +1.0
DOPR Dopca 34.83 295 ⇑P P 07 04 03.3 +1.3
VOIR 35.14 294 ⇑P P 07 04 03.4 -1.4
FIA1 FINESS Array S 35.24 322 P P 07 04 05.9 +0.6
FIA1 IAmb IAmb 07 04 20.6
comp=Z,11nm,1.1s
FINES FINESS Array B 35.24 322 P P 07 04 05.1 -0.2
comp=Z,3.9nm,0.6s,baz=107,slow=10,SNR=22
FINES FINESS Array B 35.24 322 P P 07 04 05.8 +0.4
ARR Arges 35.44 294 ⇑P P 07 04 08.7 +1.3
LOT Lotru 36.03 295 ⇑P P 07 04 14.6 +2.1
KWP Kalwaria Pacla 36.19 302 P P 07 04 15.5 +1.8
KWP pmax pmax
comp=Z,319nm,1.5s
KWP Kalwaria Pacla 36.19 302 P P 07 04 15.5 +1.8
TRPA Tarpa 36.46 299 ⇑P P 07 04 17.1 +1.2
TRPA mb 07 04 18.1
DRGR 36.53 297 ⇑P P 07 04 18.0 +1.3
GZR Gura Zlata 36.73 295 ⇑P P 07 04 19.8 +1.4
NJ2 Nanjing 37.43 88 eP P 07 04 26.9 +2.5
NJ2 pmax pmax
comp=Z,14nm,0.5s
OJC Ojcow 38.01 303 P P 07 04 29.6 +0.5
OJC pmax pmax
comp=Z,16nm,1.2s
OJC Ojcow 38.01 303 P P 07 04 29.6 +0.5
OJC IAmb IAmb 07 04 30.4
comp=Z,16nm,1.2s
ARCES ARCESS Array B 38.18 335 P P 07 04 30.1 -0.2
comp=Z,3.7nm,0.5s,baz=110,slow=8.6,SNR=34
ARCES PcP **PcP 07 06 44.6 -0.1**
comp=Z,5.1nm,0.9s,baz=83,slow=2.8,SNR=3.8
ARCES ARCESS Array B 38.18 335 P P 07 04 30.6 +0.3
ARCES **PcP 07 06 45.0 +0.4**
ARE0 ARCESS Array S 38.18 335 P P 07 04 30.8 +0.5
VYHS Vyhne 38.86 301 eP P 07 04 34.7 -1.6
VYHS Vyhne 38.86 301 eP P 07 04 34.7 -1.6
MORC Moravsky Berou 39.51 303 P P 07 04 42.4 +0.7
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 39.51 303 P P 07 04 42.4 +0.7
MORC IAmb IAmb 07 04 43.5
comp=Z,8.1nm,1.0s
YAK Yakutsk 39.75 38 eP P 07 04 42.1 -1.4
YAK pmax pmax
comp=Z,48nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK Yakutsk 39.75 38 P P 07 04 43.1 -0.3
comp=E,9.1nm,0.4s,baz=321,slow=1.0,SNR=11
YAK Yakutsk 39.75 38 P P 07 04 43.2 -0.3
KRLC Kraliky 39.95 303 eP P 07 04 45.8 +0.4
KRLC Kraliky 39.95 303 eP P 07 04 45.8 +0.4
DPC Dobruska-Polom 40.20 304 eP P 07 04 48.3 +0.8
DPC Dobruska-Polom 40.20 304 eP P 07 04 48.3 +0.8
CHVC Chvalec 40.34 304 eP P 07 04 49.7 +1.1
UPC Upice 40.38 304 eP P 07 04 49.7 +0.8
UPC Upice 40.38 304 eP P 07 04 49.7 +0.8
PRU Pruhonice 41.39 304 eP P 07 04 57.3 +0.1
PRU Pruhonice 41.39 304 eP P 07 04 57.3 +0.1
TIXI Tiksi 41.44 23⇑eP P 07 04 57.2 -0.1
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 41.44 23 P P 07 04 56.9 -0.4
comp=Z,12nm,1.0s,baz=360,slow=24,SNR=13
TIXI PcP **PcP 07 06 53.5 -1.5**
comp=Z,3.9nm,0.5s,baz=0.0,slow=24,SNR=3.9
TIXI Tiksi 41.44 23 P P 07 04 57.1 -0.1
TIXI IAmb IAmb 07 04 58.9
comp=Z,10nm,0.9s
KLR Kul'dur 41.48 58 P P 07 04 57.0 -1.0
comp=Z,0.6nm,0.5s,baz=270,slow=8.0,SNR=3.7
KLR PcP **PcP 07 06 54.4 -1.2**
comp=Z,0.5nm,0.4s,baz=265,slow=5.8,SNR=3.9
BRG Berggiesshubel 41.62 305 eP P 07 04 59.9 +0.8
comp=Z,4.7nm,0.6s
BRG Berggiesshubel 41.62 305 eP P 07 04 59.9 +0.8
BRG pmax pmax
comp=Z,5.0nm,0.6s

KSRS	Korea Array	42.10	76	P		P	07 05 02.0	-1.1
	comp=Z,0.6nm,0.3s,baz=296,slow=7.0,SNR=3.9							
KSRS				LR		LR	07 25 41.1	
	comp=Z,45nm,18.8s,baz=300,slow=41							
GEC2	GERESS Array S	42.14	302	P		P	07 05 04.3	+0.7
GERES	GERESS Array B	42.14	302	P		P	07 05 03.7	+0.1
GERES	GERESS Array B	42.14	302	P		P	07 05 03.9	+0.4
	comp=Z,2.8nm,0.5s,baz=69,slow=7.4,SNR=22							
GERES	GERESS Array B	42.14	302	P		P	07 05 03.6	+0.1
KHC	Kasperske Hory	42.17	302	eP		P	07 05 03.9	+0.2
KHC				pmax		pmax		
	comp=Z,13nm,0.8s							
KHC	Kasperske Hory	42.17	302	eP		P	07 05 04.7	+1.0
NB2	NORSAR Subarra	42.31	320	P		P	07 05 04.0	-0.7
	comp=Z,1.4nm,0.5s,baz=89,slow=8.6							
NOA	NORSAR Array B	42.31	320	P		P	07 05 04.3	-0.3
	comp=Z,3.2nm,0.7s,baz=90,slow=8.1,SNR=13							
NOA				LR		LR	07 22 17.0	
	comp=Z,105nm,20.8s,baz=250,slow=36							
MJAR	Matsushiro Arr	50.01	72	P		P	07 06 04.2	-1.3
MJAR				pmax		pmax		
	comp=Z,8.0nm,1.5s							
MJAR	Matsushiro Arr	50.01	72	P		P	07 06 04.4	-1.1
	comp=Z,3.5nm,0.8s,baz=282,slow=10,SNR=5.7							
MJAR	Matsushiro Arr	50.01	72	P		P	07 06 04.2	-1.3
SEY	Seymchan	50.17	36⇑	eP		P	07 06 05.9	-0.5
KMBO	Kilima Mbogo	52.78	227	i P		P	07 06 26.2	-0.6
KMBO				pmax		pmax		
	comp=Z,7.0nm,0.2s							
BILL	Bilibino	54.28	28⇓	eP		P	07 06 38.0	+1.2
BILL				i			07 06 44.8	
BILL				e			07 08 38.7	
BILL				pmax		pmax		
	comp=Z,7.0nm,1.3s							
BILL	Bilibino	54.28	28	P		P	07 06 37.7	+0.9
BILL				IAmb		IAmb	07 06 38.7	
	comp=Z,18nm,1.3s							
PETK	Petropavlovsk-	55.95	46	P		P	07 06 49.7	+0.5
	comp=Z,1.8nm,0.7s,baz=316,slow=6.0,SNR=4.0							
PETK				LR		LR	07 30 37.6	
	comp=Z,95nm,20.0s,baz=60,slow=36							
PETK	Petropavlovsk-	55.95	46	P		P	07 06 49.9	+0.8
ESDC	Sonseca Array	57.16	296	P		P	07 06 57.4	-0.6
	comp=Z,0.7nm,0.5s,baz=59,slow=7.6,SNR=6.9							
ESDC	Sonseca Array	57.16	296	P		P	07 06 57.1	-0.9
SUMG	Summit	57.85	341	i P		P	07 07 03.8	+1.0
SUMG	Summit	57.85	341	i P		P	07 07 03.8	+1.0
SFJD	Kangerlussuaq	64.66	339	P		P	07 07 48.9	+0.4
SFJD				pmax		pmax		
	comp=Z,38nm,1.4s							
SFJD	Kangerlussuaq	64.66	339	P		P	07 07 48.9	+0.4
RES	Resolute Bay	64.83	357	P		P	07 07 50.0	+0.5
RES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
RES	Resolute Bay	64.83	357	P		P	07 07 50.0	+0.5
ANM	Nome	65.70	24	P		P	07 07 56.7	+1.4
ANM				pmax		pmax		
	comp=Z,40nm,1.4s							
ANM	Nome	65.70	24	P		P	07 07 56.7	+1.4
TOLK	Toolik Lake Re	66.63	16	P		P	07 08 01.6	+0.3
TOA0	Torodi Ar. Sit	67.53	268	P		P	07 08 07.1	-0.7
TOA0				IAmb		IAmb	07 08 07.8	
	comp=Z,6.5nm,0.9s							
TORD	Torodi Ar. Bea	67.53	268	P		P	07 08 06.7	-1.1
	comp=Z,4.1nm,0.5s,baz=50,slow=5.3,SNR=42							
TORD	Torodi Ar. Bea	67.53	268	P		P	07 08 06.4	-1.4
COLD	Coldfoot	67.67	17	P		P	07 08 08.2	+0.4
COLD				IAmb		IAmb	07 08 09.1	
	comp=Z,10nm,1.0s							
IMAR	Indian Mountai	67.85	19	P		P	07 08 08.6	-0.5
BMAR	Burnt Mountain	68.66	15	P		P	07 08 14.8	+0.7
MLY	Manley	69.36	18	P		P	07 08 19.1	+0.6
MLY				IAmb		IAmb	07 08 19.6	
	comp=Z,9.1nm,1.2s							
INK	Inuvik	69.69	10	P		P	07 08 20.6	+0.2
	comp=Z,16nm,0.7s,baz=1.7,slow=6.2,SNR=36							
INK	Inuvik	69.69	10	P		P	07 08 20.9	+0.5
TTA	Tatalina	69.69	22	P		P	07 08 21.2	+0.6
TTA				pmax		pmax		
	comp=Z,13nm,1.4s							
TTA	Tatalina	69.69	22	P		P	07 08 21.2	+0.6
TTA				IAmb		IAmb	07 08 22.0	
	comp=Z,12nm,1.4s							
BPAW	Bear Paw Mtn.	70.07	19	P		P	07 08 22.4	-0.5
BPAW				IAmb		IAmb	07 08 24.0	
	comp=Z,14nm,1.5s							
COLA	College	70.17	17	c i P		P	07 08 23.4	0.0
COLA				pmax		pmax		
	comp=Z,12nm,0.8s							
IL31		70.47	17	P		P	07 08 25.0	-0.2
IL31				IAmb		IAmb	07 08 25.6	
	comp=Z,5.4nm,0.8s							
ILAR	Eielson Array	70.47	17	P		P	07 08 24.6	-0.7
	comp=Z,4.2nm,0.8s,baz=321,slow=5.2,SNR=47							
ILAR	Eielson Array	70.47	17	P		P	07 08 25.0	-0.3
KTH	Kantishna Hill	70.54	19	P		P	07 08 25.9	0.0
KTH				IAmb		IAmb	07 08 26.2	
	comp=Z,7.8nm,0.8s							
PPLA	Purkeypile	70.76	20	P		P	07 08 27.2	-0.1
PPLA				IAmb		IAmb	07 08 28.0	
	comp=Z,6.4nm,0.6s							
TRF	Thorofare Moun	70.79	19	P		P	07 08 28.1	+0.7
RND	Reindeer	71.18	19	P		P	07 08 29.2	-0.5
RND				pmax		pmax		
	comp=Z,11nm,1.4s							
RND	Reindeer	71.18	19	P		P	07 08 29.1	-0.5
RND				IAmb		IAmb	07 08 48.0	
	comp=Z,11nm,1.4s							
SUA	Susitna One	72.33	20	P		P	07 08 36.0	-0.6
GHO	Glory Hole Cre	72.54	20	P		P	07 08 37.3	-0.6
GHO				IAmb		IAmb	07 08 45.2	
	comp=Z,19nm,1.2s							
SML	Sawmill	72.66	19	P		P	07 08 38.6	0.0
BCAR	Beaver Creek A	73.07	16	P		P	07 08 41.6	+0.6
GLI	Glacier Island	73.77	19	P		P	07 08 45.0	-0.1
FID	Port Fidalgo	74.03	19	P		P	07 08 46.9	+0.3
EYAK	Cordova Ski Ar	74.39	19	P		P	07 08 49.4	+0.7
EYAK				IAmb		IAmb	07 08 60.0	
	comp=Z,15nm,1.3s							
KDAK	Kodiak Island	74.86	23	P		P	07 08 51.1	-0.4
KDAK				pmax		pmax		
	comp=Z,45nm,1.3s							
KDAK	Kodiak Island	74.86	23	P		P	07 08 51.1	-0.4
CTGM	Chitina Glacie	75.05	17	P		P	07 08 53.1	+0.4
CTGM				IAmb		IAmb	07 08 58.1	
	comp=Z,11nm,1.1s							
OHAK	Old Harbor	75.11	24	P		P	07 08 53.7	+0.9
HYT	Haines Junctio	75.97	15	P		P	07 08 58.8	+0.8
HYT				IAmb		IAmb	07 08 59.5	
	comp=Z,9.0nm,0.8s							
FITZ	Fitzroy Crossi	75.98	129	P		P	07 08 58.4	0.0
DBIC	Dimbokro	76.60	267	P		P	07 09 01.0	-1.1
	comp=Z,6.1nm,0.7s,baz=43,slow=6.1,SNR=7.7							
DBIC	Dimbokro	76.60	267	P		P	07 09 01.9	-0.2
DBIC				IAmb		IAmb	07 09 02.2	
	comp=Z,8.3nm,0.7s							
KIC	Kosan Boka	76.71	267	eP		P	07 09 02.3	-0.5
	comp=Z,16nm,0.6s							
TIC	Toumodi	76.75	267	eP		P	07 09 02.4	-0.6
LIC	Lamto	77.02	267	eP		P	07 09 03.9	-0.6
	comp=Z,30nm,0.6s							
YKW3	Yellowknife Ar	77.10	4	P		P	07 09 04.3	+0.2
YKA	Yellowknife Ar	77.17	4	P		P	07 09 04.5	0.0
	comp=Z,7.7nm,0.5s,baz=349,slow=5.6,SNR=32							
YKA	Yellowknife Ar	77.17	4	P		P	07 09 04.8	+0.3
BOSA	Boshof	81.88	221	P		P	07 09 30.4	-0.3
BOSA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BOSA	Boshof	81.88	221	P		P	07 09 30.4	-0.3
WRA	Warramunga Arr	82.72	124	P		P	07 09 34.2	-0.9
	comp=Z,2.4nm,0.6s,baz=330,slow=5.0,SNR=45							
WRA	Warramunga Arr	82.72	124	P		P	07 09 34.5	-0.7
WRAB	Tennant Creek	82.72	124	d i P		P	07 09 34.7	-0.4
WRAB				pmax		pmax		
	comp=Z,6.0nm,1.0s							
WRAB	Tennant Creek	82.72	124	P		P	07 09 35.0	-0.1
WRAB				IAmb		IAmb	07 09 35.5	
	comp=Z,5.4nm,0.8s							
WB2	Warramunga Arr	82.72	124	P		P	07 09 34.5	-0.6
COEN	Coen	84.36	114	P		P	07 09 43.0	-0.7
COEN				IAmb		IAmb	07 09 44.3	
	comp=Z,2.9nm,0.7s							
FFC	Flin Flon	85.06	357	i P		P	07 09 47.4	+0.7
AS31	Alice Springs	85.19	127	P		P	07 09 47.0	-0.8
ASAR	Alice Springs	85.19	127	P		P	07 09 46.9	-0.9
	comp=Z,2.8nm,0.7s,baz=317,slow=5.1,SNR=40							
ASAR	Alice Springs	85.19	127	P		P	07 09 47.3	-0.4
STKA	Stephens Creek	95.81	127	P		P	07 10 35.7	-1.8
	comp=Z,1.0nm,0.5s,baz=308,slow=7.0,SNR=4.1							
STKA	Stephens Creek	95.81	127	P		P	07 10 36.2	-1.3
MTDJ	Mount Denham	115.54	329	PKPdf		PKPdf	07 15 55.4	+1.5
LPAZ	La Paz	138.76	294	PKP		PKPdf	07 16 38.1	-0.5
	comp=Z,0.8nm,0.7s,baz=272,slow=2.1,SNR=4.3							
EFI	East Falkland	145.00	235	PKIKP		PKPdf	07 16 47.0	-0.8
EFI	East Falkland	145.00	235			PKPdf	07 16 47.0	-0.8
TRQA	Tornquist	145.48	259	PKIKP		PKPab	07 16 49.0	-0.5
TRQA	Tornquist	145.48	259	PKPdf		PKPab	07 16 49.0	-0.5
PMSA	Palmer Station	145.52	211	PKPdf		PKPab	07 16 48.6	-0.1
GO03	Copiap	147.30	282	PKPbc		PKPbc	07 16 55.0	0.0
PLCA	Paso Flores	152.59	258	PKPbc		PKiKP	07 17 07.3	-0.5
	comp=Z,1.6nm,0.6s,baz=15,slow=5.0,SNR=6.5							
PLCA	Paso Flores	152.59	258	PKPbc		PKiKP	07 17 07.7	-0.1

UCR ***15*** *07:22:07.8±1.3, 7°.07N×82°.26W, h0km±8km, MW3.3*
UPA ***15*** *07:22:08.5±1.2, 6°.83N×82°.36W, h23km±31km, MW3.9*

ISC 15 07:22:06.8±3.2, 6°.9N±0°.1×82°.33W±0°.05, h9km±17km, n28, σ1$00/43, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	Guarumal, Vera	1.38	52	eP	Pn	07 22 32.5	+0.2
GMAL				eS	Sg	07 22 51.3	-0.1
REME3	Remedios, Chir	1.40	20	eP	Pb	07 22 33.3	0.0
CACAO	El Cacao, Vera	1.52	73	eP	Pn	07 22 34.0	-0.2
CACAO				eS	Sn	07 22 53.2	-1.0
DVD	David	1.53	355	eP	Pn	07 22 34.1	-0.3
DVD				eS	Sn	07 22 53.9	-0.5
MESA3	La Mesa, Verag	1.68	42	eP	Pn	07 22 37.2	+0.8
MESA3				eS	Sn	07 22 58.0	-0.1
STIA3	Santiago, Vera	1.79	48	eP	Pn	07 22 39.1	+1.1
STIA3				eS	Sb	07 23 02.8	+0.2
BCO2	Palmira	1.81	354	eP	Pn	07 22 37.8	-0.7
BCO2				eS	Sn	07 23 01.7	-0.1
PTJ1	Puerto Jimnez	1.89	329	eP	Pn	07 22 40.2	+0.8
PTJ1				eS	Sn	07 23 02.9	-0.4
SFRA3	San Francisco,	1.90	45	eP	Pn	07 22 40.1	+0.7
BRU2	Volcan	1.91	349	eP	Pn	07 22 39.6	-0.2
BRU2				eS	Sn	07 23 04.4	+0.2
BRU2	Volcan	1.91	349	eP	Pn	07 22 41.3	+1.4
BRU2				eS	Sn	07 23 04.2	+0.1
EDSV	San Vito	2.01	342	eP	Pn	07 22 41.0	-0.1
CHGR2	Aguacate	2.03	5	eP	Pn	07 22 42.7	+1.4
CHGR2				eS	Sb	07 23 09.5	+0.1
CALO3	Calobre, Verag	2.04	46	eP	Pn	07 22 42.7	+1.3
CALO3				eS	Sb	07 23 09.6	0.0
AZU	Azuero	2.22	66	eP	Pn	07 22 44.6	+0.7
AZU				eS	Sn	07 23 11.8	+0.3
AZU	Azuero	2.22	66	eP	Pn	07 22 45.0	+1.1
AZU				eS	Sn	07 23 09.5	-2.0
EDPN	Palmar Norte	2.33	331	eP	Pn	07 22 45.2	-0.2
DRK0	Durika	2.52	339	eP	Pn	07 22 48.1	0.0
DRK0				eS	Sb	07 23 21.2	-2.3
DRK0	Durika	2.52	339	i P	Pn	07 22 48.2	0.0
DRK0				eS	Sn	07 23 20.7	+1.6
EDLM	Las Mercedes	2.67	332	eP	Pn	07 22 50.3	+0.1
CHOR3	La Chorrera	3.22	52	eS	Sb	07 23 41.3	-2.4
LCR2	La Lucha 2	3.27	330	eP	Pn	07 22 58.9	+0.3
BCIP	Isla Barro Col	3.34	47	eS	Sb	07 23 46.5	-0.5
CVTR	Volcan Turrial	3.41	336	eP	Pn	07 23 01.4	+0.8
UPA	Univ. de Panam	3.45	53	eS	Sn	07 23 44.0	+2.1
JTS	Las Juntas de	4.25	323	eP	Pn	07 23 12.6	+0.7
ARE1	Arenal 1	4.25	326	eP	Pn	07 23 13.3	+1.4
CUI	Cuipilapa	4.67	323	eP	Pn	07 23 18.4	+0.8

NNC 15 07:31:49.6±3.2, 38°.72N×68°.68E, h0km, mb3.6, mpv3.2, 5C-6D, Error ellipse: s-maj=25.0km s-min=18.0km az=2.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.59	17	⇓Pn	Pn	07 33 01.9	+1.5
	0.3nm,0.2s,baz=197,slow=16,SNR=6.4						
KK31				⇑Pg	Pb	07 33 13.8	+2.7
	3.0nm,0.6s,baz=195,slow=19,SNR=7.7						
KK31				⇑Sn	Sn	07 33 54.3	-0.2
	2.4nm,0.5s						
KK31				⇓Lg	Lg	07 34 16.5	
	8.3nm,0.5s,baz=198,slow=29,SNR=8.5						
AAK	Ala-Archa	5.90	47	⇓Pn	Pn	07 33 18.5	0.0
	1.8nm,0.6s						
AAK				⇑Sn	Sn	07 34 29.1	+2.2
	4.8nm,0.6s						
AAK				⇓Lg	Lg	07 34 58.9	
	9.4nm,0.8s						
TKM2	Tokmak 2	6.72	49	⇓Pn	Pn	07 33 26.8	-2.9
	1.1nm,0.4s						
TKM2				⇑Sn	Sn	07 34 48.9	+1.9
	3.7nm,0.7s						
TKM2				⇑Lg	Lg	07 35 25.1	
	4.3nm,0.8s						
AB31	Akbulak array	12.26	332	⇓Pn	Pn	07 34 45.8	+0.4
	0.3nm,0.3s,baz=155,slow=12,SNR=23						

NNC 15 07:42:20.9±1.9, 54°.07N×86°.46E, h0km, mb3.7, mpv3.0, 6C-4D, Error ellipse: s-maj=20.0km s-min=8.7km az=9.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	0.98	264	⇑P	Pg	07 42 39.4	-0.2
	0.7nm,0.4s						
ZAA0				⇑S	Sb	07 42 53.3	-0.8
	7.1nm,1.0s						
KURK	Kurchatov	5.86	238	⇓Pn	Pn	07 43 49.6	+0.7
	2.7nm,0.8s						
KURK				⇑Lg	Lg	07 45 29.6	
	5.0nm,0.8s						
KURBB	Kurchatov Arra	5.96	238	⇑Pn	Pn	07 43 52.3	+2.0
	3.1nm,0.4s						
KURBB				⇑Sn	Sn	07 44 57.7	-1.4
	2.9nm,0.7s						
KURBB				⇓Lg	Lg	07 45 32.6	
	9.7nm,1.1s						
MK31	Makanchi Array	7.75	202	⇓Pn	Pn	07 44 16.2	+1.3
	0.4nm,0.5s,baz=27,slow=13,SNR=16						
MK31				⇑Sn	Sn	07 45 44.2	+0.9
	0.6nm,0.6s						
MK31				⇓Lg	Lg	07 46 28.4	
	3.8nm,0.9s,baz=20,slow=33,SNR=3.6						

VLA ***15*** *08:00:19.0, 52°.31N×35°.42E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 15 08:00:24.2±3.6, 52°.39N×35°.48E, h0km, mb1 3.7/3, mb1mx3.2/43, mbtmp3.6/3, ML2.8/4, Error ellipse: s-maj=41.6km s-min=13.1km az=117.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.81	13	Lg	Lg	08 01 46.4	
	2.8nm,0.3s,baz=158,slow=19,SNR=3.3						
AKASG	Malin Array Be	4.25	249	Pn	Pn	08 01 28.4	-1.7
	1.1nm,0.3s,baz=56,slow=13,SNR=3.6						
AKASG				Pg	Pb	08 01 37.8	-1.9
	1.7nm,0.3s,baz=66,slow=16,SNR=6.7						
AKASG				Sn	Sn	08 02 18.4	-2.1
	2.4nm,0.3s,baz=174,slow=8.5,SNR=4.8						
AKASG				Lg	Lg	08 02 32.6	
	2.1nm,0.3s,baz=64,slow=29,SNR=4.4						
I43RU	DUBNA INFRASON	4.46	12	i		08 27 00.0	
	baz=187,slow=323,SNR=2.4						
FINES	FINESS Array B	10.42	334	Pn	Pn	08 02 49.6	-5.1
	0.1nm,0.3s,baz=148,slow=13,SNR=5.6						
FINES				Sn	Sn	08 04 40.9	-11
	0.2nm,0.3s,baz=152,slow=19,SNR=2.9						
NOA	NORSAR Array B	15.80	313	Pn	Pn	08 04 00.1	-7.8
	0.0nm,0.3s,baz=115,slow=12,SNR=2.3						
ARCES	ARCESS Array B	17.83	349	Pn	Pn	08 04 29.1	-4.3
	0.1nm,0.3s,baz=156,slow=11,SNR=4.1						

IDC ***15*** *08:08:21.8±2.1, 6°.66S×154°.92E, h29km±14km, mb4.5/26, mb1 4.6/31, mb1mx4.5/40, mbtmp4.7/31, ML4.2/4, MS4.2/34, Ms1 4.2/34, ms1mx4.2/36, Error ellipse: s-maj=13.6km s-min=10.3km az=56.0*
MOS ***15*** *08:08:21.8±0.8, 6°.50S×154°.83E, h33km, mb5.1/20, Error ellipse: s-maj=9.5km s-min=8.1km az=94.8*
ISCJB ***15*** *08:08:22.2±1.0, 6°.65S±0°.04×154°.94E±0°.03, h43km±9km, mb5.0/57, MS4.2/39, Error ellipse: s-maj=6.2km s-min=5.5km az=10.0*
NEIC ***15*** *08:08:22.6±1.8, 6°.67S±0°.08×154°.99E±0°.06, h35km±1km, mb4.9/98*
BJI ***15*** *08:08:24.1±0.0, 6°.51S×155°.14E, h61km, mb5.0/41, mB5.2/30, Ms4.9/21, Ms7 4.6/15*
GCMT ***15*** *08:08:24.6±0.2, 6°.96S±0°.01×154°.78E±0°.01, h31km, MW5.2/80, Moment Tensor Solution. s77,c105; s80,c116; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr6.02±.17; Mθθ-3.47±.12; Mφφ-2.55±.12; Mrθ3.39±.20; Mθφ3.63±.11; Mφr-2.71±.19; Best double couple: M0 7.68700×10^16 NP1:φs130.00000°, δ62.00000°, λ88.00000°. NP2:φs313.00000°, δ28.00000°, λ93.00000°. Principal axes: T 7.3650, Plg73.0000°, Azm36.0000°; N 0.6440, Plg2.0000°, Azm130.0000°; P -8.0090, Plg17.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***15*** *08:08:24.9±0.7, 7°.S±4°×15°.5E±°, h59km±7km, M4.7/16, mB5.2/8, mb4.8/16, Mw(mB)4.6/8*

ISC 15 08:08:25.2±0.8, 6°.69S±0°.05×154°.99E±0°.04, h58km±7km, n315, σ1$22/299, mb4.9/95, MS4.3/39, 9C-8D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.78	309	Pn	Pn	08 09 18.8	-2.2
	47nm,0.3s,baz=113,slow=1.4,SNR=16						
KRVT				Pg		08 09 29.4	
	140nm,0.3s,baz=58,slow=2.0,SNR=31						
KRVT				Lg	Lg	08 10 21.5	
	293nm,0.3s,baz=93,slow=20,SNR=11						
KRVT				LR	LR	08 10 54.8	
	comp=Z,2μm,19.9s,baz=123,slow=41						
HNR	Honiara	5.62	119	P	Pn	08 09 48.9	+2.6
HNR	Honiara	5.62	119	Pn	Pn	08 09 46.0	-0.3
	5.9nm,0.3s,baz=246,slow=10.0,SNR=2.1						
HNR				Sn	Sn	08 10 53.0	+3.4
	25nm,0.3s,baz=157,slow=3.1,SNR=2.6						
HNR				Lg	Lg	08 11 12.5	
	33nm,0.3s,baz=85,slow=16,SNR=5.6						
HNR				LR	LR	08 11 57.8	
	comp=Z,7μm,19.0s,baz=278,slow=38						
HNR	Honiara	5.62	119	eP	Pn	08 09 51.0	+4.7
HNR	Honiara	5.62	119		Pn	08 09 48.9	+2.6
HNR					Sn	08 10 45.1	-4.5
PMG	Port Moresby	8.21	250	deP	Pn	08 10 21.5	-0.2
PMG				pmax	pmax		
	comp=Z,476nm,1.0s						
PMG	Port Moresby	8.21	250	Pn	Pn	08 10 20.4	-1.3
	comp=Z,5.1nm,0.3s,baz=50,slow=9.7,SNR=21						
PMG				Pg		08 10 49.6	
	comp=Z,10nm,0.3s,baz=98,slow=5.8,SNR=6.3						
PMG				Sn	Sn	08 11 54.3	+1.2
	comp=Z,8.0nm,0.3s,baz=83,slow=20,SNR=6.4						
PMG				LR	LR	08 13 39.7	
	comp=Z,3μm,18.9s,baz=45,slow=39						
PMG	Port Moresby	8.21	250		Pn	08 10 21.7	0.0
PMG					Sn	08 11 53.0	-0.1
COEN	Coen	13.68	237		Pn	08 11 34.7	-1.8
PATS	Pohnpei	13.84	14		Pn	08 11 38.2	-0.5
JAY	Jayapura	14.82	286	LR	LR	08 18 33.0	
	comp=Z,2μm,18.4s,baz=54,slow=41						
CTA	Charters Tower	15.79	212	Pn	Pn	08 12 03.6	-0.5
	comp=Z,0.6nm,0.3s,baz=35,slow=12,SNR=16						
CTA				LR	LR	08 17 38.9	
	comp=Z,2μm,19.5s,baz=15,slow=35						
CTAO	Charters Tower	15.79	212	P	Pn	08 12 03.7	-0.4
CTAO				pmax	pmax		
	comp=Z,22nm,1.0s						
CTAO	Charters Tower	15.79	212		Pn	08 12 03.7	-0.4
DZM	Mont Dzumac	18.88	145	eP	P	08 12 40.5	-0.6
	comp=Z,51nm,1.1s						
DZM				eLQ	LQ	08 16 20.6	
	comp=Z,2μm,27.2s						
DZM				eLR	LR	08 17 13.9	
	comp=Z,2μm,25.3s						
DZM	Mont Dzumac	18.88	145	P	P	08 12 40.4	-0.6
	comp=Z,0.6nm,0.3s,baz=359,slow=8.6,SNR=6.5						
DZM	Mont Dzumac	18.88	145	P	Pn	08 12 41.7	-0.5
EIDS	Eidsvold	18.95	191	P	P	08 12 41.4	-0.4
GUMO	Guam	22.51	334	LR	LR	08 21 01.9	
	comp=Z,173nm,21.9s,baz=144,slow=34						
FAKI	Fak Fak	22.96	278	P	P	08 13 24.6	-0.5
FAKI	Fak Fak	22.96	278	P	P	08 13 24.3	-0.8
FAKI				IAmb	IAmb	08 13 28.9	
	comp=Z,23nm,0.6s						
ARMA	Armidale	23.82	187	P	P	08 13 34.1	+1.0
WRAB	Tennant Creek	23.97	235⇑	eP	P	08 13 34.3	-0.2
WRAB				pmax	pmax		
	comp=Z,53nm,1.7s						
WRAB	Tennant Creek	23.97	235	P	P	08 13 33.4	-1.1
WRAB				IAmb	IAmb	08 13 48.3	
	comp=Z,59nm,1.4s						
WB2	Warramunga Arr	23.98	235	P	P	08 13 33.5	-1.1
WRA	Warramunga Arr	23.98	235	P	P	08 13 32.8	-1.9
WRA						08 17 15.6	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	23.98	235	P	P	08 13 33.2	-1.5
	comp=Z,11nm,0.7s,baz=56,slow=9.2,SNR=79						
WRA				PcP	PcP	08 17 16.3	+0.5
	comp=Z,4.5nm,0.6s,baz=58,slow=2.1,SNR=11						
WRA				S	S	08 17 47.0	-0.7
	comp=Z,0.7nm,0.8s,baz=56,slow=12,SNR=3.1						
WRA				ScP	ScP	08 20 53.4	+3

comp=Z,1µm,19.1s,baz=17,slow=36
STKA Stephens Creek 28.01 205 P **P** **08 14 10.1 -0.8**
H11N1 WAKE ISLAND Hy 28.73 24 T T 08 43 53.3
baz=204,slow=76
H11N3 WAKE ISLAND Hy 28.74 24 T T 08 43 54.3
baz=204,slow=76
H11N2 WAKE ISLAND Hy 28.75 24 T T 08 43 58.8
baz=204,slow=76
SANI Sanana 29.27 278 P **P** **08 14 22.7 +0.4**
FITZ Fitzroy Crossi 30.77 246 LR LR 08 27 33.3
comp=Z,1µm,18.2s,baz=76,slow=38
FITZ Fitzroy Crossi 30.77 246 P **P** **08 14 34.8 -0.7**
FITZ IAmb IAmb 08 14 47.3
comp=Z,14nm,0.7s
BATI Baumata 31.17 261 LR LR 08 29 25.1
comp=Z,721nm,19.2s,baz=116,slow=41
BBOO Buckleboo 31.39 212 **P** **08 14 39.8 -1.0**
DAV Davao City (W) 32.36 294 LR LR 08 28 45.6
comp=Z,237nm,18.0s,baz=96,slow=38
AFI Afiamalu 33.45 105 P **P** **08 14 58.0 -1.2**
AFI pmax pmax
comp=Z,34nm,0.9s
AFI Afiamalu 33.45 105 P **P** **08 14 58.3 -0.8**
comp=Z,27nm,0.7s,baz=25,slow=7.2,SNR=6.1
AFI Afiamalu 33.45 105 P **P** **08 14 58.0 -1.2**
APSI Ampana 33.74 278 P **P** **08 14 59.5 -2.1**
KAPI Kappang 35.09 271 LR LR 08 32 00.3
comp=Z,132nm,19.6s,baz=298,slow=40
SPSI Sidrap Palu 35.16 273 P **P** **08 15 12.0 -1.9**
URZ Urewera 37.28 151 P **P** **08 15 33.4 +1.7**
comp=Z,3.1nm,0.6s,baz=230,slow=4.2,SNR=2.4
URZ Urewera 37.28 151 IAmb IAmb 08 15 39.3
comp=Z,26nm,1.4s
QRZ Quartz Range 37.44 158 **P** **08 15 33.8 +0.9**
QRZ IAmb IAmb 08 15 42.8
comp=Z,31nm,1.2s
BKZ Black Stump Fm 37.71 152 P **P** **08 15 35.6 +0.2**
BKZ IAmb IAmb 08 15 43.3
comp=Z,16nm,1.1s
THZ Tophouse 38.39 158 P **P** **08 15 45.2 +4.2**
THZ IAmb IAmb 08 15 48.7
comp=Z,16nm,0.8s
LTZ Lake Taylor 39.06 160 P **P** **08 15 47.4 +0.7**
KHZ Kahutara 39.19 158 P **P** **08 15 49.1 +1.4**
KHZ IAmb IAmb 08 15 59.9
comp=Z,45nm,1.3s
RPZ Rata Peaks 39.49 162 P **P** **08 15 51.2 +1.0**
comp=Z,12nm,0.8s,baz=146,slow=3.4,SNR=4.1
RPZ LR LR 08 31 27.4
comp=Z,910nm,18.0s,baz=318,slow=35
RPZ Rata Peaks 39.49 162 P **P** **08 15 51.3 +1.1**
RPZ IAmb IAmb 08 16 01.6
comp=Z,22nm,0.9s
TGY Tagaytay City 39.60 302 LR LR 08 30 29.7
comp=Z,462nm,21.0s,baz=132,slow=34
NWAO Narrogin (SRO) 43.69 228 LR LR 08 34 09.5
comp=Z,890nm,20.8s,baz=66,slow=35
YULB Yu-li 44.46 313 P **P** **08 16 30.8 -0.2**
YULB IAmb IAmb 08 16 44.1
comp=Z,45nm,1.4s
NACB Ninganchiao 44.73 314 P **P** **08 16 34.2 +1.1**
TPUB Ta-pu 44.89 313 P **P** **08 16 34.6 +0.2**
SSLB Suanglung 44.95 313 P **P** **08 16 35.7 +0.7**
SSLB IAmb IAmb 08 16 51.2
comp=Z,36nm,1.2s
YHNB Yeheng 45.20 315 P **P** **08 16 39.3 +2.3**
JNU Nakatsue 45.74 331 LR LR 08 35 22.7
comp=Z,83nm,18.6s,baz=124,slow=36
JNU Nakatsue 45.74 331 P **P** **08 16 39.7 -1.2**
JNU IAmb IAmb 08 16 46.6
comp=Z,25nm,1.1s
MJAR Matsushiro Arr 45.79 341 P **P** **08 16 39.9 -1.4**
MJAR pmax pmax
comp=Z,4.0nm,1.4s
MJAR Matsushiro Arr 45.79 341 LR LR 08 36 13.5
comp=Z,73nm,18.1s,baz=165,slow=37
MJAR Matsushiro Arr 45.79 341 P **P** **08 16 39.9 -1.4**
RAR Rarotonga 46.04 113 P **P** **08 16 43.1 -0.4**
RAR pmax pmax
comp=Z,66nm,1.5s
RAR Rarotonga 46.04 113 P **P** **08 16 43.7 +0.2**
comp=Z,17nm,0.7s,baz=19,slow=16,SNR=2.8
RAR Rarotonga 46.04 113 P **P** **08 16 43.1 -0.4**
CISI Cisompet, Garu 46.80 266 P **P** **08 16 48.1 -1.6**
LEM Lembang 47.02 267 LR LR 08 38 59.3
comp=Z,102nm,20.5s,baz=75,slow=39
KSRS Korea Array 50.66 332 P **P** **08 17 18.5 -0.3**
comp=Z,3.0nm,0.8s,baz=146,slow=7.9,SNR=11
KSRS LR LR 08 38 25.1
comp=Z,56nm,18.2s,baz=138,slow=36
KSAR Wonju Array Be 50.67 332 P **P** **08 17 18.3 -0.6**
KSAR Wonju Array Be 50.67 332 P **P** **08 17 18.3 -0.6**
QIZ Qiongzhong 51.29 301 P **P** **08 17 23.8 -0.1**
QIZ LR LR
comp=Z,500nm,23.5s
NJ2 Nanjing 51.67 320 *e*P **P** **08 17 28.3 +1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WHN Wuhan 53.71 316 *e*P **P** **08 17 44.8 +3.2**
USA0B Ussuriysk Arra 54.74 340‖*e*P **P** **08 17 48.3 -0.5**
USRK Ussuriysk Ar. 54.74 340 P **P** **08 17 48.4 -0.4**
USRK Ussuriysk Ar. 54.74 340 P **P** **08 17 48.7 -0.1**
comp=Z,2.6nm,0.7s,baz=157,slow=6.0,SNR=6.2
USRK LR LR 08 37 59.4
comp=Z,59nm,22.0s,baz=146,slow=32
USRK Ussuriysk Ar. 54.74 340 P **P** **08 17 48.4 -0.4**
IPM Ipoh 54.99 280 P **P** **08 17 50.0 -1.3**
IPM IAmb IAmb 08 17 52.3
comp=Z,14nm,0.7s
KHU Kahuku 55.05 61 P **P** **08 17 52.9 +1.1**
KHU pmax pmax
comp=Z,27nm,0.9s
KHU Kahuku 55.05 61 **P** **08 17 52.9 +1.1**
PPT Papeete 55.09 107 LR LR 08 37 38.6
comp=Z,186nm,19.4s,baz=274,slow=32
PPT2 Papeete2 55.10 107 *e*S **S** **08 25 25.8 -5.2**
comp=Z,128nm,24.5s
PPT2 *e*LQ LQ 08 31 40.3
comp=Z,612nm,31.5s
PPT2 *e*LR LR 08 34 03.6
comp=Z,192nm,21.0s,baz=263
KULM Kulim 55.52 281 P **P** **08 17 55.3 +0.2**
KULM IAmb IAmb 08 17 55.9
comp=Z,11nm,0.8s
TBI Tubuai 55.81 114 *e*LQ LQ 08 31 59.0
comp=Z,879nm,32.5s
TBI *e*LR LR 08 34 18.7
comp=Z,416nm,24.5s,baz=281
SKLT Songkhla 55.95 283 P **P** **08 17 59.4 +1.3**
comp=Z,7.2nm,0.7s
PSI Prapat 56.75 278 P **P** **08 18 03.7 -0.3**
comp=Z,2.9nm,0.5s,baz=55,slow=7.5,SNR=4.5
NONG Nongkai 56.76 297 P **P** **08 18 05.3 +1.5**
comp=Z,0.8nm,0.7s
CN2 Changchun 56.91 335 *e*P **P** **08 18 03.6 -0.8**
CN2 *e*S **S** **08 25 51.9 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
TRTT Trang 57.00 284 P **P** **08 18 06.9 +1.3**
comp=Z,9.3nm,0.8s
SLVN Son La 57.32 300 P **P** **08 18 08.7 +0.9**
SLVN IAmb IAmb 08 18 09.5
comp=Z,13nm,0.9s
PBKT Sadao Pong 58.20 294 P P 08 18 18.6 +4.7
comp=Z,8.1nm,2.0s,comp=Z,414nm
NANT Nan 59.19 296 P **P** **08 18 21.9 +1.1**
comp=Z,372µm,0.5s
KLR Kul'dur 59.27 342 *c i*P **P** **08 18 20.3 -0.5**
KLR pmax pmax
comp=Z,7.0nm,1.5s
UTHA Uthaitani 59.28 292 P **P** **08 18 23.8 +2.3**
comp=Z,25µm,0.8s
XAN Xi'an 59.48 316 P P 08 18 28.0 +5.4
XAN pP sP 08 18 40.6 -3.3
XAN pmax pmax
comp=Z,11nm,0.5s
PET Petropavlovsk 59.56 3 *e*P **P** **08 18 22.0 -0.7**
PET *e* 08 20 40.3
PET *e*S **S** **08 26 27.6 -0.6**
PET pmax pmax
comp=Z,16nm,1.1s
PET pmax pmax

comp=Z,100nm,14.6s
PEA0B Petropavlovsk- 59.61 2‖*e*P **P** **08 18 23.2 +0.2**
PEA0B Petropavlovsk- 59.61 2 P **P** **08 18 23.8 +0.8**
PETK Petropavlovsk- 59.61 2 P **P** **08 18 23.4 +0.4**
comp=Z,6.2nm,0.7s,baz=154,slow=6.2,SNR=11
PETK LR LR 08 39 47.5
comp=Z,274nm,22.0s,baz=228,slow=32
PETK Petropavlovsk- 59.61 2 P **P** **08 18 23.5 +0.5**
KMI Kunming 59.84 304 P **P** **08 18 26.8 +1.4**
KMI pP pP 08 18 37.3 -3.5
KMI sP sP 08 18 43.6 -3.6
KMI S **S** **08 26 33.6 +0.3**
KMI pmax pmax
comp=Z,36nm,1.0s
KMI pmax pmax
comp=Z,140nm,4.1s
KMI LR LR
comp=Z,220nm,20.1s
KMI LR LR
comp=Z,220nm,17.8s
PAYA Payao 60.12 297 P **P** **08 18 29.2 +2.0**
comp=Z,46µm,0.7s,comp=Z,450µm
CM31 Chiang Mai Arr 60.64 295 P **P** **08 18 31.6 +0.8**
CMAR Chiang Mai Arr 60.64 295 *ce*P **P** **08 18 32.5 +1.7**
CMAR pmax pmax
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 60.64 295 P **P** **08 18 30.9 +0.1**
comp=Z,9.5nm,0.6s,baz=121,slow=5.4,SNR=28
CMAR PcP **PcP** **08 19 15.2 +0.5**
comp=Z,3.8nm,0.7s,baz=109,slow=4.7,SNR=2.3
CMAR LR LR 08 45 09.4
comp=Z,98nm,19.1s,baz=156,slow=36
CMAR Chiang Mai Arr 60.64 295 P **P** **08 18 31.5 +0.7**
CMAR **PcP** **08 19 14.7 0.0**
CMMT Chiang Mai 60.75 296 P **P** **08 18 32.9 +1.3**
comp=Z,11nm,1.7s
CHTO Chiang Mai 60.76 296 P **P** **08 18 32.0 +0.4**
CHTO pmax pmax
comp=Z,39nm,1.5s
CHTO Chiang Mai 60.76 296 P **P** **08 18 32.0 +0.4**
CD2 Chengdu 61.61 310 *e*P **P** **08 18 37.0 -0.2**
HHC Hu-ho-hao-te 61.84 324 *e*P P 08 18 43.4 +4.8
HHC pmax pmax
comp=Z,8.0nm,1.1s
LZH Lanzhou 64.09 315 *e*P **P** **08 18 54.8 +1.1**
LZH pP sP 08 19 10.3 -4.9
LZH sP PcP 08 19 17.1 -11
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,81nm,7.5s
LZH LR LR
comp=Z,240nm,16.2s
LZH LR LR
comp=Z,250nm,16.0s
LZH LR LR
comp=Z,370nm,18.3s
TAOE Nuku Hiva Isla 64.24 97 *e*S **S** **08 27 22.4 -6.5**
comp=Z,59nm,25.3s
TAOE *e*LQ LQ 08 35 23.0
comp=Z,175nm,27.1s
TAOE *e*LR LR 08 38 08.2
comp=Z,299nm,21.8s,baz=266
ZEA Zeya 64.58 342 *e*P **P** **08 18 56.2 -0.1**
ZEA pmax pmax
comp=Z,17nm,1.0s
MA2 Magadan 66.13 358 P **P** **08 19 06.5 +0.2**
MA2 pmax pmax
comp=Z,27nm,1.0s
MA2 Magadan 66.13 358 P **P** **08 19 06.5 +0.2**
GTA Gaotai 68.51 317 P **P** **08 19 22.8 +0.9**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,92nm,4.9s
GTA LR LR
comp=Z,100nm,19.6s
GTA LR LR
comp=Z,190nm,22.3s
ULN Ulaanbaatar 68.74 328‖*e*P **P** **08 19 23.8 +0.6**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 68.74 328 P **P** **08 19 23.6 +0.4**
ULN IAmb IAmb 08 19 25.6
comp=Z,6.1nm,0.6s
SONM Songino Array 69.07 327 P **P** **08 19 24.7 -0.6**
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 69.07 327 P **P** **08 19 25.4 +0.1**
comp=Z,4.9nm,0.6s,baz=138,slow=5.5,SNR=26
SONM PKPPKP **P'P'df** **08 47 35.6 0.0**
comp=Z,0.5nm,0.6s,baz=320,slow=3.0,SNR=3.7
SONM LR LR 08 51 11.5
comp=Z,107nm,18.4s,baz=128,slow=37
SONM Songino Array 69.07 327 P **P** **08 19 24.7 -0.6**
SHL Shillong 69.13 300 P **P** **08 19 25.6 -0.5**
SHL pmax pmax
comp=Z,58nm,0.7s
SHL Shillong 69.13 300 P **P** **08 19 25.6 -0.5**
SEY Seymchan 69.45 359‖*e*P **P** **08 19 26.2 -0.8**
YAK Yakutsk 71.25 348 P **P** **08 19 38.4 +0.4**
YAK IAmb IAmb 08 19 46.1
comp=Z,12nm,0.6s
ZAK Zakamensk 72.23 328 *e*P **P** **08 19 44.0 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,0.8s
TAPN Taplejung 73.23 301 *e*P **P** **08 19 51.6 +0.5**
comp=Z,74nm,0.7s
ODAN Odare 73.37 300 *e*P **P** **08 19 52.3 +0.5**
comp=Z,188nm,0.6s
RAMN Ramite 74.07 300 *e*P **P** **08 19 56.3 +0.4**
comp=Z,60nm,0.6s
JIRN Jiri 74.62 301 *e*P **P** **08 19 59.8 +0.6**
comp=Z,129nm,0.7s
GUN Gumba 74.95 301 *e*P **P** **08 20 01.6 +0.5**
comp=Z,191nm,0.7s
BILL Bilibino 74.97 4‖*e*P **P** **08 20 00.4 +0.5**
BILL *e* 08 20 14.0
BILL *e* 08 22 48.9
BILL *e*S **S** **08 29 33.9 +1.0**
BILL *e*SS **SS** **08 34 22.8 +0.1**
BILL pmax pmax
comp=Z,8.0nm,0.7s
BILL MLR MLR
comp=Z,135nm,19.0s
BILL Bilibino 74.97 4 P **P** **08 20 00.5 +0.5**
BILL IAmb IAmb 08 20 16.5
comp=Z,29nm,1.4s
PKI Pulchoki 75.26 301 *e*P **P** **08 20 02.9 0.0**
comp=Z,43nm,0.6s
PKIN Phulchoki 75.27 301 *e*P **P** **08 20 03.0 +0.1**
comp=Z,34nm,0.5s
KKN Kakani 75.43 301 *e*P **P** **08 20 04.0 +0.3**
comp=Z,75nm,0.6s
DMN Daman 75.53 301 *e*P **P** **08 20 04.6 +0.3**
comp=Z,90nm,0.6s
GKN Gorkha 76.03 301 *e*P **P** **08 20 07.1 0.0**
comp=Z,88nm,0.7s
OHAK Old Harbor 76.25 26 P **P** **08 20 08.0 +0.5**
KOLN Koldanda 76.86 300 *e*P **P** **08 20 11.9 +0.1**
comp=Z,86nm,0.8s
DANN Dangsing 76.87 301 *e*P **P** **08 20 11.5 -0.5**
comp=Z,85nm,0.7s
KDAK Kodiak Island 76.89 26 *i*P **P** **08 20 11.9 +0.8**
SVW2 Sparrevohn 77.72 22 P **P** **08 20 16.9 +1.2**
SVW2 IAmb IAmb 08 20 20.0
comp=Z,18nm,1.3s
WMQ Urumqi 78.59 317 *e*P **P** **08 20 21.6 +0.6**
WMQ LR LR
comp=Z,530nm,29.2s
WMQ LR LR
comp=Z,2µm,28.9s
PPLA Purkeypile 80.09 22 P **P** **08 20 28.8 0.0**
PMR Palmer 80.51 24 IAmb IAmb 08 20 33.1
comp=Z,9.7nm,0.8s
KNK Knik Glacier 80.68 24 P **P** **08 20 32.5 +0.7**
GHO Glory Hole Cre 80.69 24 IAmb IAmb 08 20 45.5
comp=Z,19nm,1.0s
DGZ Jazzator, Alta 80.89 323‖*e*P **P** **08 20 33.0 -0.4**
TRF Thorofare Moun 81.11 22 P **P** **08 20 33.7 -0.6**
TRF IAmb IAmb 08 20 39.4
comp=Z,8.0nm,0.7s
IMAR Indian Mountai 81.44 19 P **P** **08 20 35.7 -0.1**
RND Reindeer 81.62 22 IAmb IAmb 08 20 40.3
comp=Z,11nm,0.9s
MLY Manley 81.87 20 P **P** **08 20 38.4 +0.3**

WRH Wood River Hil 82.49 21 P **P** **08 20 40.7 -0.6**
GLB Gilahina Butte 82.62 25 IAmb IAmb 08 20 43.8
comp=Z,12nm,0.8s
CCB Clear Creek Bu 82.69 21 P **P** **08 20 41.6 -0.7**
HDA Harding Lake 82.88 22 P **P** **08 20 43.6 +0.3**
HDA IAmb IAmb 08 20 44.3
comp=Z,21nm,1.4s
IL31 83.09 22 IAmb IAmb 08 20 49.8
comp=Z,4.8nm,0.6s
ILAR Eielson Array 83.09 22 P **P** **08 20 43.5 -0.9**
ILAR Eielson Array 83.09 22 P **P** **08 20 43.7 -0.7**
comp=Z,2.6nm,0.6s,baz=234,slow=6.1,SNR=42
ILAR LR LR 08 55 04.7
comp=Z,389nm,20.1s,baz=255,slow=34
ILAR Eielson Array 83.09 22 P **P** **08 20 43.5 -0.9**
MK31 Makanchi Array 83.17 319 IAmb IAmb 08 20 47.1
comp=Z,6.6nm,0.7s
MKAR Makanchi Array 83.17 319 P **P** **08 20 45.5 +0.2**
MKAR Makanchi Array 83.17 319 P **P** **08 20 45.2 0.0**
comp=Z,9.3nm,0.7s,baz=105,slow=5.2,SNR=68
MKAR LR LR 08 59 07.5
comp=Z,134nm,19.1s,baz=101,slow=37
MKAR Makanchi Array 83.17 319 P **P** **08 20 45.5 +0.2**
QSPA South Pole Qui 83.29 180 P **P** **08 20 45.6 -0.1**
comp=Z,11nm,0.7s,baz=1.5,slow=0.6,SNR=58
QSPA South Pole Qui 83.29 180 P **P** **08 20 44.9 -0.7**
QSPA IAmb IAmb 08 20 47.3
comp=Z,11nm,0.7s
MENT Mentasta 83.38 24 IAmb IAmb 08 20 52.7
comp=Z,8.0nm,0.6s
MAKZ Makanchi 83.38 319 P **P** **08 20 45.9 -0.4**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 83.38 319 P **P** **08 20 45.9 -0.4**
MAKZ IAmb IAmb 08 20 48.1
comp=Z,10nm,0.8s
ZAA0 Zalesovo Array 83.92 326 P **P** **08 20 47.4 -1.5**
ZALV Zalesovo Beam 83.92 326 *i*P **P** **08 20 49.4 +0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 83.92 326 P **P** **08 20 48.3 -0.5**
comp=Z,2.9nm,0.5s,baz=106,slow=5.3,SNR=7.9
ZALV LR LR 09 01 18.2
comp=Z,86nm,18.1s,baz=121,slow=38
ZALV Zalesovo Beam 83.92 326 P **P** **08 20 47.1 -1.8**
BCAR Beaver Creek A 84.22 24 P **P** **08 20 49.9 -0.4**
TOLK Toolik Lake Re 84.33 18 IAmb IAmb 08 20 53.1
comp=Z,5.2nm,0.7s
MAW Mawson 84.68 203 P **P** **08 20 52.3 -0.2**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 84.68 203 P **P** **08 20 52.1 -0.4**
comp=Z,5.1nm,0.7s,baz=98,slow=10.0,SNR=12
MAW LR LR 08 55 41.1
comp=Z,162nm,19.3s,baz=63,slow=34
MAW Mawson 84.68 203 P **P** **08 20 52.3 -0.2**
EGAK Eagle 85.24 23 IAmb IAmb 08 21 02.0
comp=Z,6.4nm,0.7s
BMAR Burnt Mountain 85.27 20 P **P** **08 20 55.7 +0.2**
DAWY Dawson 85.62 24 IAmb IAmb 08 21 00.1
comp=Z,11nm,1.0s
KURK Kurchatov 86.58 322‖*e*P **P** **08 21 00.7 -1.5**
KURK pmax pmax
comp=Z,2.0nm,1.1s
KURK Kurchatov 86.58 322 P **P** **08 21 00.9 -1.3**
KURBB Kurchatov Arra 86.61 322 P **P** **08 21 01.3 -1.1**
comp=Z,0.9nm,0.5s,baz=109,slow=4.0,SNR=7.0
NIL Nilore 86.83 304 P **P** **08 21 03.5 -0.4**
NIL pmax pmax
comp=Z,16nm,0.6s
NIL Nilore 86.83 304 P **P** **08 21 03.5 -0.4**
AAK Ala-Archa 87.53 313‖*e*P **P** **08 21 06.5 -0.8**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 87.53 313 P **P** **08 21 06.0 -1.3**
comp=Z,2.4nm,0.6s,baz=116,slow=7.1,SNR=7.5
AAK Ala-Archa 87.53 313 P **P** **08 21 05.9 -1.4**
NRIK Noril'sk 88.44 341 P **P** **08 21 09.8 -1.0**
comp=Z,1.9nm,0.2s,baz=141,slow=4.3,SNR=2.8
NRIK LR LR 09 00 01.2
comp=Z,65nm,21.3s,baz=95,slow=35
INK Inuvik 89.43 21 IAmb IAmb 08 21 16.2
comp=Z,15nm,1.4s
AFDM Forest Hills D 89.54 51 IAmb IAmb 08 21 20.5
comp=Z,8.4nm,1.5s
PINE Pine Mountain 90.31 46 IAmb IAmb 08 21 27.9
comp=Z,8.7nm,1.4s
KKAR Karatay Array 90.50 313 P **P** **08 21 21.3 +0.3**
KKAR Karatay Array 90.50 313 P **P** **08 21 21.4 +0.3**
PNTR Pine Nut 90.62 51 IAmb IAmb 08 21 24.7
comp=Z,6.8nm,0.7s
RYN Ryan 91.39 51 IAmb IAmb 08 21 27.0
comp=Z,4.4nm,1.0s
NVAR Mina Array Bea 91.54 52 P **P** **08 21 26.8 +0.5**
comp=Z,2.8nm,0.7s,baz=256,slow=6.4,SNR=13
NVAR PKPPKP **P'P'df** **08 46 59.1 +2.4**
comp=Z,0.3nm,0.5s,baz=147,slow=3.0,SNR=3.8
NVAR LR LR 08 58 24.4
comp=Z,182nm,19.1s,baz=272,slow=33
NVAR Mina Array Bea 91.54 52 P **P** **08 21 26.3 0.0**
NV11 Mina Array Sit 91.65 52 IAmb IAmb 08 21 28.3
comp=Z,7.6nm,1.1s
KVN Kaiserville 91.77 51 IAmb IAmb 08 21 28.8
comp=Z,3.8nm,0.8s
BVAR Borovoye Array 92.04 323 P **P** **08 21 26.6 -1.3**
comp=Z,1.5nm,0.7s,baz=101,slow=5.3,SNR=4.7
PFO Pinyon Flats O 92.45 57‖*e*P **P** **08 21 30.3 -0.2**
PFO pmax pmax
comp=Z,7.0nm,1.3s
SYO Syowa Base 92.61 199‖*e*X **P** **08 21 34.2 +3.9**
TPNV Topopah Spring 92.98 53 IAmb IAmb 08 21 35.6
comp=Z,4.3nm,0.8s
R11A Troy Canyon, C 93.65 52 IAmb IAmb 08 21 39.2
comp=Z,4.3nm,1.1s
SHPR Sheep Range 93.81 54 P **P** **08 21 38.1 +1.4**
SHPR IAmb IAmb 08 21 38.7
comp=Z,3.4nm,0.9s
YKA Yellowknife Ar 96.07 28 P **P** **08 21 46.5 +0.4**
comp=Z,3.1nm,0.6s,baz=265,slow=4.5,SNR=13
RDMU Red Mountain 98.44 50 P Pdif 08 21 58.5 +0.7
PDAR Pinedale Array 98.50 48 P **P** **08 21 57.8 -0.2**
comp=Z,0.9nm,0.7s,baz=246,slow=4.0,SNR=6.9
PDAR LR LR 09 02 52.0
comp=Z,118nm,18.9s,baz=296,slow=33
PDAR Pinedale Array 98.50 48 P **P** **08 21 57.1 -0.9**
GEYT Alibeck 99.48 307 LR LR 09 08 25.1
comp=Z,85nm,21.6s,baz=285,slow=36
TXAR Lajitas Array 103.12 62 Pdiff **Pdif** **08 22 24.5 +5.8**
comp=Z,0.2nm,0.6s,baz=260,slow=5.4,SNR=2.9
WCI Wyandotte Cave 116.56 51 PKIKP **PKiKP** **08 27 03.3 +0.1**
WCI Wyandotte Cave 116.56 51 PKPdf **PKiKP** **08 27 03.3 +0.1**
P48A Milroy 116.93 49 PKPdf **PKiKP** **08 27 04.0 +0.1**
PLCA Paso Flores 116.97 143 PKIKP **PKiKP** **08 27 04.7 +0.6**
PLCA Paso Flores 116.97 143 PKP **PKPdf** **08 27 03.8 -0.3**
comp=Z,2.1nm,0.7s,baz=303,slow=1.7,SNR=5.9
PLCA Paso Flores 116.97 143 PKPdf **PKiKP** **08 27 04.7 +0.6**
CLTN Cedars of Leba 117.00 53 PKPdf **PKPdf** **08 27 03.7 -0.4**
LRAL Lakeview Retre 117.04 56 PKPdf **PKiKP** **08 27 04.3 +0.1**
J48A Bridge Port 117.07 45 PKPdf **PKiKP** **08 27 04.2 +0.2**
AKASG Malin Array Be 117.28 325 PKIKP **PKPdf** **08 27 03.6 -0.6**
AKASG Malin Array Be 117.28 325 PKP **PKPdf** **08 27 03.8 -0.4**
comp=Z,2.8nm,0.6s,baz=60,slow=2.1,SNR=8.0
AKASG Malin Array Be 117.28 325 **PKPdf** **08 27 03.6 -0.6**
AKBB Malin Array Si 117.28 325 PKIKP **PKPdf** **08 27 04.1 0.0**
AKBB Malin Array Si 117.28 325 PKPdf **PKPdf** **08 27 04.1 0.0**
N49A Columbus Grove 117.47 47 PKPdf **PKiKP** **08 27 05.0 +0.2**
O49A Covington 117.55 48 PKPdf **PKPdf** **08 27 04.9 -0.1**
Z50A Ashland 117.89 56 PKPdf **PKPdf** **08 27 05.7 -0.2**
BRTR Keskin Array B 118.17 312 PKP **PKPdf** **08 27 06.2 -0.3**
comp=Z,2.1nm,0.7s,baz=123,slow=2.7,SNR=7.7
S51A Beattyville 118.78 51 PKPdf **PKiKP** **08 27 07.5 0.0**
TZTN Tazewell 119.08 52 PKPdf **PKiKP** **08 27 08.4 +0.3**
NOA NORSAR Array B 119.41 341 PKP **PKPdf** **08 27 07.5 -0.6**
comp=Z,0.6nm,0.7s,baz=49,slow=2.2,SNR=2.7
VLDQ Val d'Or 119.45 38 PKPdf **PKPdf** **08 27 07.5 -0.9**
GOGA Godfrey 119.87 55 PKIKP **PKiKP** **08 27 10.3 +0.5**
GOGA Godfrey 119.87 55 PKPdf **PKiKP** **08 27 10.2 +0.5**
KLNR Kaliningrad 120.07 331‖*i*PKIKP **PKPdf** **08 27 08.1 -1.3**
BOSA Boshof 120.20 231 PKIKP **PKiKP** **08 27 11.4 +0.6**
BOSA Boshof 120.20 231 PKP **PKPdf** **08 27 10.4 -0.3**
comp=Z,3.2nm,0.7s,baz=98,slow=1.5,SNR=6.6
BOSA Boshof 120.20 231 PKPdf **PKiKP** **08 27 11.4 +0.6**
S54A Dingess, Beckl 120.48 50 PKPdf **PKPdf** **08 27 10.8 0.0**
Q54A Coxs Mills 120.49 48 **PKiKP** **08 27 10.9 0.0**
HODGE Hodges 120.67 54 PKPdf **PKiKP** **08 27 11.7 +0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURAR	**Bucovina Array**	**121.00**	**323**		**PKiKP**	**08 27 13.0**	**+1.3**
M55A	**Ridgway**	**121.18**	**45**	PKPdf	**PKiKP**	**08 27 12.2**	**0.0**
BLA	**Blacksburg**	**121.32**	**50**	PKIKP	**PKPdf**	**08 27 11.9**	**-0.6**
BLA	**Blacksburg**	**121.32**	**50**	PKPdf	**PKPdf**	**08 27 11.9**	**-0.6**
JSC	**Jenkinsville**	**121.46**	**54**	PKIKP	**PKiKP**	**08 27 13.9**	**+1.0**
JSC	**Jenkinsville**	**121.46**	**54**	PKPdf	**PKiKP**	**08 27 13.9**	**+1.0**
MLR	**Muntele Rosu**	**121.48**	**320**	PKP	**PKPdf**	**08 27 12.1**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=253,slow=10,SNR=3.1						
L56A	**Greenwood**	**121.78**	**44**	PKPdf	**PKPdf**	**08 27 13.3**	**+0.1**
KOLS	**Kolonicke sedl**	**122.09**	**325**	*e*PKIKP	**PKiKP**	**08 27 14.6**	**+0.9**
KOLS	**Kolonicke sedl**	**122.09**	**325**	*e*PKP	**PKiKP**	**08 27 14.6**	**+0.9**
SSPA	**Standing Stone**	**122.09**	**46**		**PKPdf**	**08 27 13.8**	**0.0**
T57A	**Hurt**	**122.28**	**50**	PKPdf	**PKPdf**	**08 27 13.8**	**-0.5**
M57A	**Sunshine Farm,**	**122.37**	**45**	PKPdf	**PKiKP**	**08 27 14.6**	**+0.1**
BINY	**Binghamton**	**122.83**	**43**	PKPdf	**PKiKP**	**08 27 15.5**	**+0.1**
N58A	**Sunbury**	**122.85**	**45**		**PKPdf**	**08 27 14.8**	**-0.4**
PAGS	**Pennsylvania G**	**123.07**	**46**		**PKPdf**	**08 27 15.6**	**-0.1**
SDMD	**Soldier's Deli**	**123.28**	**47**	PKPdf	**PKiKP**	**08 27 16.4**	**+0.1**
FRNY	**Flat Rock**	**123.29**	**40**	PKPdf	**PKPdf**	**08 27 16.0**	**0.0**
LANS	**Liptovska Anna**	**123.54**	**326**	*e*PKIKP	**PKiKP**	**08 27 18.4**	**+1.8**
LANS	**Liptovska Anna**	**123.54**	**326**	*e*PKP	**PKiKP**	**08 27 18.4**	**+1.8**
T59A	**Double "B" Far**	**123.58**	**50**		**PKiKP**	**08 27 17.2**	**+0.3**
PSUB	**Penn St. - Bra**	**124.08**	**46**		**PKPdf**	**08 27 17.1**	**-0.5**
VYHS	**Vyhne**	**124.25**	**326**	*e*PKIKP	**PKiKP**	**08 27 18.4**	**+0.4**
VYHS	**Vyhne**	**124.25**	**326**	*e*PKP	**PKiKP**	**08 27 18.4**	**+0.4**
BRNJ	**Basking Ridge**	**124.41**	**45**	PKPdf	**PKiKP**	**08 27 19.0**	**+0.5**
LBNH	**Lisbon**	**124.62**	**40**	PKIKP	**PKiKP**	**08 27 19.3**	**+0.5**
LBNH	**Lisbon**	**124.62**	**40**	PKPdf	**PKiKP**	**08 27 19.3**	**+0.5**
PAL	**Palisades**	**124.74**	**44**	PKIKP	**PKiKP**	**08 27 19.4**	**+0.3**
PAL	**Palisades**	**124.74**	**44**	PKPdf	**PKiKP**	**08 27 19.4**	**+0.3**
BRG	**Berggiesshubel**	**125.37**	**331**	*e*P	**PKPdf**	**08 27 19.8**	**+0.1**
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**125.37**	**331**	*e*PKIKP	**PKPdf**	**08 27 19.8**	**+0.1**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**125.54**	**332**	*i* PKPdf	**PKPdf**	**08 27 20.1**	**+0.1**
	comp=Z,5.0nm,0.5s						
E63A	**Oxbow**	**125.64**	**36**	PKPdf	**PKPdf**	**08 27 20.4**	**+0.1**
PQI	**Presque Isle**	**125.74**	**35**	PKPdf	**PKPdf**	**08 27 20.2**	**-0.4**
FNA	**Florina**	**126.55**	**317**	PKIKP	**PKPdf**	**08 27 22.5**	**+0.1**
FNA	**Florina**	**126.55**	**317**		**PKPdf**	**08 27 22.5**	**+0.1**
KHC	**Kasperske Hory**	**126.67**	**329**	⇓*i*PKIKP	**PKiKP**	**08 27 23.0**	**+0.2**
GERES	**GERESS Array B**	**126.78**	**329**	PKIKP	**PKiKP**	**08 27 23.3**	**+0.2**
GERES	**GERESS Array B**	**126.78**	**329**	PKP	**PKPdf**	**08 27 22.7**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=75,slow=1.5,SNR=17						
GERES	**GERESS Array B**	**126.78**	**329**		**PKiKP**	**08 27 23.3**	**+0.2**
MNMC	**Minye Minye**	**129.14**	**121**		**PKiKP**	**08 27 29.3**	**+0.4**
LPAZ	**La Paz**	**131.61**	**119**	PKP	**PKPdf**	**08 27 33.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=291,slow=2.3,SNR=8.3						
CPUP	**Villa Florida**	**134.62**	**138**	PKP	**PKPdf**	**08 27 38.2**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=231,slow=1.8,SNR=6.4						
BDFB	**Brasilia**	**148.20**	**134**	PKIKP	**PKPdf**	**08 28 03.8**	**+1.2**
BDFB						08 28 06.7	
BDFB	**Brasilia**	**148.20**	**134**	PKP	**PKPdf**	**08 28 03.4**	**+0.7**
	comp=Z,14nm,0.7s,baz=204,slow=2.7,SNR=22						
BDFB				PKPbc	**PKPbc**	**08 28 05.4**	**-0.5**
	comp=Z,19nm,0.6s,baz=209,slow=3.1,SNR=22						
BDFB				PKPab	**PKPab**	**08 28 09.8**	**+0.8**
	comp=Z,8.3nm,0.6s,baz=214,slow=2.9,SNR=6.4						
BDFB	**Brasilia**	**148.20**	**134**		**PKPdf**	**08 28 03.8**	**+1.2**
BDFB					**PKPbc**	**08 28 06.7**	**+0.7**
TOA0	**Torodi Ar. Sit**	**152.93**	**286**		**PKPdf**	**08 28 09.9**	**0.0**
TOA0				PKPbc	**PKPbc**	**08 28 16.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.93**	**286**	PKP	**PKPdf**	**08 28 09.2**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=36,slow=1.3,SNR=7.8						
TORD				PKPbc	**PKPbc**	**08 28 16.6**	**-0.6**
	comp=Z,18nm,0.7s,baz=63,slow=2.4,SNR=74						
TORD				PKPab	**PKPab**	**08 28 28.3**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=86,slow=4.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**152.93**	**286**		**PKPdf**	**08 28 09.2**	**-0.6**
TORD				PKPbc	**PKPbc**	**08 28 15.8**	**-1.4**
DBIC	**Dimbokro**	**159.98**	**271**	PKPab	**PKPab**	**08 28 59.2**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=65,slow=6.0,SNR=3.8						

*ISCJB **15** 08:10:15.3±0.4, 60.°40S±0.°05×47.°7W±0.°1, h10km, mb4.1/9, MS3.3/4, Error ellipse: s-maj=9.2km s-min=6.9km az=150.5*
*IDC **15** 08:10:15.3±0.7, 60.°32S×47.°41W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx3.2/16, Error ellipse: s-maj=30.8km s-min=15.0km az=70.0*
*NEIC **15** 08:10:16.5±3.0, 60.°31S±0.°08×47.°5W±0.°2, h10km±1km, mb4.4/15*
ISC 15 08:10:16.7±0.5, 60.°33S±0.°06×47.°50W±0.°07, h10km, n48, σ1º07/51, mb4.3/14, MS3.3/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.49**	**49**	Pn	**Pn**	**08 12 17.1**	**-2.5**
HOPE				Sn	**Sn**	**08 13 55.4**	**+0.1**
PMSA	**Palmer Station**	**8.84**	**233**	Pn	**Pn**	**08 12 24.2**	**-0.1**
	1.3nm,0.3s,baz=68,slow=9.2,SNR=12						
PMSA				Sn	**Sn**	**08 14 02.6**	**-1.1**
	0.1nm,0.3s,baz=292,slow=18,SNR=2.5						
PMSA				LR	LR	08 15 19.4	
	comp=Z,115nm,18.4s,baz=48,slow=34						
PMSA	**Palmer Station**	**8.84**	**233**		**Pn**	**08 12 24.1**	**-0.2**
PMSA					**Sn**	**08 14 03.5**	**-0.3**
EFI	**East Falkland**	**10.48**	**321**	Pn	**Pn**	**08 12 48.1**	**+1.2**
GO09	**Cerro Castillo**	**16.55**	**292**		**Pn**	**08 14 07.8**	**-0.9**
GO09				IAmb	IAmb	08 14 20.2	
	comp=Z,26nm,1.2s						
VNA3	**Neumayer Olymp**	**18.57**	**141**	P	**Pn**	**08 14 35.1**	**+1.5**
VNA1	**Neumayer--Stat**	**18.86**	**139**	P	**Pn**	**08 14 37.5**	**+0.4**
VNA2	**Neumayer--Watz**	**19.21**	**140**	P	**Pn**	**08 14 41.7**	**+0.4**
	baz=288,slow=10.0						
SNAA	**Sanae**	**20.80**	**141**	P	**P**	**08 14 58.8**	**+1.1**
SNAA	**Sanae**	**20.80**	**141**	P	**P**	**08 14 58.6**	**+0.9**
	comp=Z,6.3nm,0.9s,baz=262,slow=11,SNR=16						
SNAA	**Sanae**	**20.80**	**141**	P	Pn	08 14 59.4	-0.7
SNAA				IAmb	IAmb	08 15 03.5	
	comp=Z,9.7nm,1.0s						
TRQA	**Tornquist**	**24.11**	**331**	P	**P**	**08 15 33.4**	**+1.1**
TRQA				IAmb	IAmb	08 15 34.6	
	comp=Z,32nm,0.8s						
PLCA	**Paso Flores**	**24.25**	**314**	P	**P**	**08 15 34.0**	**+0.3**
	comp=Z,8.9nm,0.9s,baz=184,slow=8.3,SNR=14						
PLCA				LR	LR	08 24 14.4	
	comp=Z,105nm,18.0s,baz=178,slow=35						
PLCA	**Paso Flores**	**24.25**	**314**	P	**P**	**08 15 34.3**	**+0.6**
PLCA				IAmb	IAmb	08 15 35.1	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**08 16 24.9**	**+0.5**
	comp=Z,15nm,0.9s,baz=169,slow=4.7,SNR=29						
QSPA				LR	LR	08 27 36.1	
	comp=Z,61nm,20.7s,baz=146,slow=35						
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**08 16 23.6**	**-0.8**
QSPA				IAmb	IAmb	08 16 28.3	
	comp=Z,15nm,0.9s						
CPUP	**Villa Florida**	**34.65**	**344**	P	**P**	**08 17 07.3**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=207,slow=9.0,SNR=2.2						
CPUP				LR	LR	08 30 18.5	
	comp=Z,51nm,21.1s,baz=213,slow=35						
CPUP	**Villa Florida**	**34.65**	**344**	P	**P**	**08 17 06.8**	**+0.8**
CPUP				IAmb	IAmb	08 17 19.4	
	comp=Z,7.5nm,1.4s						
MAW	**Mawson**	**42.70**	**148**	P	**P**	**08 18 13.8**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=286,slow=17,SNR=7.4						
MAW	**Mawson**	**42.70**	**148**		**P**	**08 18 15.6**	**+2.4**
MAW				IAmb	IAmb	08 18 19.9	
	comp=Z,2.0nm,1.3s						
GO01	**Chusmiza**	**43.46**	**330**		**P**	**08 18 21.0**	**+0.7**
GO01				IAmb	IAmb	08 18 21.5	
	comp=Z,4.0nm,0.9s						
MNMC	**Minye Minye**	**44.07**	**329**	P	**P**	**08 18 25.1**	**+0.1**
MNMC				IAmb	IAmb	08 18 27.8	
	comp=Z,9.7nm,0.8s						
BDFB	**Brasilia**	**44.62**	**359**	P	**P**	**08 18 29.7**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=176,slow=11,SNR=5.4						
BDFB	**Brasilia**	**44.62**	**359**	P	**P**	**08 18 30.1**	**+0.9**
BDFB				IAmb	IAmb	08 18 30.4	
	comp=Z,5.2nm,0.9s						
SIV	**San Ignacio**	**45.36**	**342**	P	**P**	**08 18 35.1**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=171,slow=7.4,SNR=19						
LPAZ	**La Paz**	**46.45**	**332**	P	**P**	**08 18 44.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=151,slow=6.6,SNR=6.5						
LPAZ				LR	LR	08 40 43.9	
	comp=Z,32nm,18.3s,baz=202,slow=39						
LPAZ	**La Paz**	**46.45**	**332**		**P**	**08 18 45.3**	**+1.1**
LPAZ				IAmb	IAmb	08 18 46.2	
	comp=Z,1.9nm,0.8s						
SAML	**Samuel**	**52.60**	**340**	P	**P**	**08 19 30.8**	**+0.3**
SAML				IAmb	IAmb	08 19 31.3	
	comp=Z,7.9nm,0.9s						
LBTB	**Lobatse**	**60.26**	**89**	P	**P**	**08 20 24.6**	**-0.5**
LBTB				IAmb	IAmb	08 20 31.5	
	comp=Z,1.5nm,0.8s						
OTAV	**Otavalo**	**64.97**	**325**	P	**P**	**08 20 57.5**	**+0.5**
OTAV				IAmb	IAmb	08 20 58.1	
	comp=Z,6.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.07**	**48**	P	**P**	**08 22 41.6**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=214,slow=5.5,SNR=6.9						
TORD	**Torodi Ar. Bea**	**83.07**	**48**	P	**P**	**08 22 42.3**	**+0.1**
TORD				IAmb	IAmb	08 22 42.8	
	comp=Z,1.4nm,0.9s						
WRA	**Warramunga Arr**	**100.00**	**182**	P	**Pdif**	**08 24 01.4**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=180,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**100.00**	**182**		**Pdif**	**08 24 00.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**131.80**	**135**	PKP	**PKPdf**	**08 29 29.7**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=203,slow=3.9,SNR=3.3						
KSH	**Kashi**	**139.64**	**95**	*e*PKP	**PKiKP**	**08 29 46.6**	**+0.4**
IL31	**Kashi**	**144.94**	**313**		**PKPab**	**08 29 50.2**	**-1.4**
ILAR	**Eielson Array**	**144.94**	**313**	PKP	**PKPab**	**08 29 50.5**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=138,slow=1.2,SNR=34						
ILAR	**Eielson Array**	**144.94**	**313**		**PKPab**	**08 29 50.1**	**-1.5**
RND	**Reindeer**	**144.96**	**310**		**PKPab**	**08 29 50.8**	**-1.0**
CCB	**Clear Creek Bu**	**145.21**	**312**		**PKPbc**	**08 29 50.8**	**-1.6**
WRH	**Wood River Hil**	**145.22**	**312**		**PKPbc**	**08 29 51.2**	**-1.3**
KTH	**Kantishna Hill**	**145.83**	**309**		**PKPdf**	**08 29 53.0**	**-0.9**
BPAW	**Bear Paw Mtn.**	**146.13**	**310**		**PKPdf**	**08 29 53.5**	**-0.9**
IMAR	**Indian Mountai**	**148.04**	**312**		**PKPbc**	**08 29 59.9**	**-0.8**
MKAR	**Makanchi Array**	**148.11**	**92**	PKPbc	**PKPdf**	**08 29 59.5**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=234,slow=1.3,SNR=8.6						
MKAR	**Makanchi Array**	**148.11**	**92**		**PKPdf**	**08 29 59.3**	**+1.0**
LZH	**Lanzhou**	**149.58**	**130**	*e*PKPbc	**PKPbc**	**08 30 03.3**	**-2.5**
LZH				sPKP		08 30 07.8	
LZH				PKPbc	**sPKPab**	**08 30 15.1**	**+0.3**

*UPA **15** 08:13:16.0±1.7, 6.°77N×82.°36W, h22km±59km, MW3.7*
*UCR **15** 08:13:16.7±0.8, 6.°84N×82.°25W, h36km±999km, MW3.3*
ISC 15 08:13:13.8±3.2, 6.°8N±0.°1×82.°35W±0.°06, h9km±16km, n23, σ1º10/34, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**1.46**	**49**	*e*P	**Pb**	**08 13 41.0**	**-0.1**
GMAL				*e*S	**Sn**	**08 13 59.6**	**-0.1**
REME3	**Remedios, Chir**	**1.50**	**20**	*e*P	**Pb**	**08 13 41.5**	**-0.3**
REME3				*e*S	**Sn**	**08 14 00.5**	**-0.2**
PEDE3	**Pedregal, Chir**	**1.57**	**357**	*e*S	**Sg**	**08 14 04.0**	**-0.3**
CACAO	**El Cacao, Vera**	**1.57**	**70**	*e*P	**Pn**	**08 13 42.1**	**+0.2**
CACAO				*e*S	**Sn**	**08 14 00.6**	**-1.8**
CHIR3	**Chiriqui UPA,**	**1.58**	**1**	*e*P	**Pn**	**08 13 42.2**	**+0.1**
DVD	**David**	**1.62**	**356**	*e*S	**Sn**	**08 14 01.9**	**-1.8**
BAGA3	**Bagala, Chiriq**	**1.66**	**354**	*e*P	**Pn**	**08 13 43.5**	**+0.3**
PONU3	**Ponuga, Veragu**	**1.73**	**52**	*e*S	**Sb**	**08 14 08.2**	**+0.5**
MESA3	**La Mesa, Verag**	**1.76**	**41**	*e*S	**Sn**	**08 14 06.0**	**-1.2**
STIA3	**Santiago, Vera**	**1.88**	**47**	*e*S	**Sb**	**08 14 12.1**	**+0.2**
CNAZ3	**Canazas, Verag**	**1.91**	**36**	*e*S	**Sn**	**08 14 11.1**	**+0.4**
BCO2	**Palmira**	**1.91**	**355**	*e*P	**Pn**	**08 13 47.1**	**+0.4**
BCO2				*e*S	**Sn**	**08 14 08.8**	**-2.2**
SFRA3	**San Francisco,**	**1.98**	**44**	*e*S	**Sb**	**08 14 14.2**	**-0.7**
BRU2	**Volcan**	**2.00**	**350**	*e*P	**Pn**	**08 13 48.5**	**+0.5**
BRU2				*e*S	**Sn**	**08 14 13.0**	**-0.3**
BRU2	**Volcan**	**2.00**	**350**	*e*P	**Pn**	**08 13 49.4**	**+1.3**
BRU2				*e*S	**Sn**	**08 14 13.2**	**-0.1**
EDSV	**San Vito**	**2.09**	**343**	*e*P	**Pn**	**08 13 50.1**	**+0.9**
CALO3	**Calobre, Verag**	**2.12**	**45**	*e*P	**Pb**	**08 13 51.6**	**-0.9**
CALO3				*e*S	**Sn**	**08 14 16.9**	**+0.9**
CHGR2	**Aguacate**	**2.13**	**5**	*e*P	**Pn**	**08 13 50.8**	**+1.2**
CHGR2				*e*S	**Sn**	**08 14 17.3**	**+1.1**
AZU	**Azuero**	**2.28**	**64**	*e*P	**Pn**	**08 13 52.8**	**+1.2**
AZU				*e*S	**Sn**	**08 14 17.6**	**-2.3**
EDPN	**Palmar Norte**	**2.41**	**333**	*e*P	**Pn**	**08 13 53.7**	**+0.2**
PNME	**Penonome**	**2.61**	**50**	*e*P	**Pn**	**08 13 58.2**	**+2.0**
PNME				*e*S	**Sn**	**08 14 29.3**	**+1.2**
EDLM	**Las Mercedes**	**2.75**	**334**	*e*P	**Pn**	**08 13 59.1**	**+0.9**
EDLM				*e*S	**Sn**	**08 14 31.7**	**+0.2**
LCR2	**La Lucha 2**	**3.34**	**331**	*e*P	**Pn**	**08 14 07.6**	**+1.1**

*NSSP **15** 08:34:11.3, 38.°75N×43.°25E, h10km, Ms3.1*
*ISK **15** 08:34:12.3, 38.°73N×43.°19E, h5km, ML3.4/14*
*DDA **15** 08:34:12.1, 38.°72N×43.°20E, h24km±1km, ML3.7*
ISC 15 08:34:13.1±0.9, 38.°73N±0.°02×43.°21E±0.°02, h16km±7km, n37, σ1º01/60, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**133**	PG	**Pg**	**08 34 18.1**	**+0.2**
VANB				SG	**Sg**	**08 34 22.5**	**+1.4**
TVAN	**Van**	**0.26**	**142**	*i* P	**Pg**	**08 34 18.0**	**-0.8**
TVAN				*i* S	**Sb**	**08 34 23.2**	**-0.5**
TVAN				IAML_P			
	comp=Z,188μm,0.3s						
ADCV	**BITLIS_Adilcev**	**0.38**	**282**	*i* P	**Pb**	**08 34 21.6**	**0.0**
ADCV				*i* S	**Sb**	**08 34 28.6**	**+1.2**
ADCV				IAML_P			
	comp=Z,14μm,0.1s						
VMUR	**Van-Muradiye**	**0.39**	**48**	*i* P	**Pb**	**08 34 21.7**	**+0.1**
VMUR				*i* S	**Sb**	**08 34 28.5**	**+1.1**
GEVA	**Gevas**	**0.43**	**195**	*i* P	**Pb**	**08 34 21.7**	**-0.7**
GEVA				*i* S	**Sb**	**08 34 28.8**	**0.0**
AKDM	**Akdamar-Van**	**0.44**	**204**	PG	**Pg**	**08 34 20.9**	**-1.1**
AKDM				SG	**Sb**	**08 34 27.9**	**-1.1**
MLAZ	**Malazgirt-MUS**	**0.66**	**309**	PG	**Pb**	**08 34 25.6**	**-0.7**
CLDR	**Caldiran**	**0.69**	**53**	*i* P	**Pb**	**08 34 26.3**	**-0.6**
CLDR				*i* S	**Sb**	**08 34 36.2**	**-0.1**
CLDR				IAML_P			
	comp=Z,16μm,0.1s						
CLDR	**Caldiran**	**0.69**	**53**	PG	**Pg**	**08 34 26.0**	**-0.7**
TUTA	**Tutak**	**0.74**	**336**	*i* P	**Pb**	**08 34 27.7**	**+0.1**
TUTA				*i* S	**Sb**	**08 34 37.5**	**-0.2**
DYDN	**Diyadin**	**0.90**	**25**	*i* P	**Pn**	**08 34 30.7**	**-0.5**
DYDN				IAML_P			
	comp=Z,18μm,0.2s						
BLIS	**Bitlis-Merkez**	**0.91**	**250**	*i* P	**Pb**	**08 34 30.3**	**-0.3**
BLIS				*i* S	**Sb**	**08 34 43.0**	**+0.4**
BLIS				IAML_P			
	comp=Z,19μm,0.2s						
BASK	**Baskale_VAN**	**0.92**	**137**	*i* P	**Pg**	**08 34 29.9**	**-1.2**
BASK				*i* S	**Sn**	**08 34 44.4**	**-0.3**
BASK				IAML_P			
	comp=Z,18μm,0.2s						
GURO	**Guroymak-BITLI**	**0.94**	**259**	PG	**Pg**	**08 34 30.1**	**-1.2**
GURO				SG	**Sb**	**08 34 42.9**	**-0.4**
EKAR	**Karacoban**	**1.03**	**301**	*i* P	**Pn**	**08 34 33.3**	**+0.1**
HAKT	**HAKKARI**	**1.24**	**161**	*i* P	**Pb**	**08 34 35.1**	**-1.1**
HAKT				*i* S	**Sn**	**08 34 55.9**	**+3.5**
HAKT				IAML_P			
	comp=Z,4μm,0.2s						
SRTM	**Siirt_Merkez**	**1.25**	**234**	*i* P	**Pg**	**08 34 36.7**	**-0.5**
SRTM				*i* S	**Sn**	**08 34 54.6**	**+2.0**
SRTM				IAML_P			
	comp=Z,8μm,0.4s						
EATA	**Eleskirt**	**1.26**	**334**	*i* P	**Pg**	**08 34 36.4**	**-1.0**
EATA				*i* S	**Sn**	**08 34 54.4**	**+1.3**
EATA				IAML_P			
	comp=Z,15μm,0.2s						
MUSM	**Mu-Merkez**	**1.32**	**270**	*i* P	**Pn**	**08 34 36.4**	**-0.7**
MUSM				*i* S	**Sg**	**08 34 54.7**	**-1.2**
MUSM				IAML_P			
	comp=Z,2μm,0.2s						
SIRT	**Sirnak**	**1.37**	**206**	PN	**Pg**	**08 34 39.0**	**-0.4**
SIRN	**Sırnak**	**1.38**	**207**	*i* P	**Pg**	**08 34 39.7**	**0.0**
SIRN				*i* S	**Sg**	**08 34 58.7**	**+1.0**
YOVA	**Hakkari_Yksek**	**1.43**	**143**	*i* P	**Pn**	**08 34 38.1**	**-0.5**
YOVA				*i* S	**Sg**	**08 34 59.4**	**+0.2**
YOVA				IAML_P			
	comp=Z,2μm,0.3s						
VNNZ	**Vanand**	**1.45**	**19**	⇑*i*P	**Pg**	**08 34 40.3**	**-0.7**
VNNZ				⇑S	**Sg**	**08 35 00.9**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.49**	**32**	PN	**Pg**	**08 34 41.1**	**-0.6**
CUKT	**Cukurca**	**1.51**	**168**	*i* P	**Pg**	**08 34 40.7**	**-1.6**
CUKT				*i* S	**Sg**	**08 35 03.2**	**+1.3**
CUKT				IAML_P			
	comp=Z,11μm,0.4s						
CUKT	**Cukurca**	**1.51**	**168**	PN	**Pb**	**08 34 40.2**	**-0.7**
METS	**Metsamor**	**1.57**	**25**	*i* P	**Pg**	**08 34 42.9**	**-0.4**
METS				*i* S	**Sg**	**08 35 05.1**	**+1.4**
KOPR	**Koprukoy-ERZUR**	**1.64**	**321**	PN	**Pb**	**08 34 42.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.68**	**250**	PN	**Pb**	**08 34 43.6**	**0.0**
ARUZ	**Aruch**	**1.69**	**24**	⇓*i*P	**Pg**	**08 34 44.3**	**-1.4**
ARUZ				⇓S	**Sg**	**08 35 07.8**	**+0.1**
GNI	**Garni**	**1.85**	**40**	*i* P	**Pg**	**08 34 47.1**	**-1.6**
GNI				*i* S	**Sg**	**08 35 12.4**	**-0.3**
GNI	**Garni**	**1.85**	**40**	PN	**Pg**	**08 34 47.2**	**-1.4**
KARS	**Kars**	**1.90**	**357**	PN	**Pn**	**08 34 44.6**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.94**	**340**	PN	**Pn**	**08 34 46.2**	**+0.6**
KAPZ	**Kaputan**	**1.96**	**36**	⇑*i*P	**Pb**	**08 34 49.0**	**+0.4**
KAPZ				⇑S	**Sg**	**08 35 14.9**	**-1.4**
BNGB	**Bingl**	**1.99**	**278**	PN	**Pb**	**08 34 47.5**	**-1.5**
MAZI	**Mazidag**	**2.52**	**241**	PN	**Pn**	**08 34 53.9**	**+0.4**

*MAN **15** 08:43:34.3, 2.°71N×126.°70E, h69km, mb5.0, ML3.9, MS4.0*
*IDC **15** 08:43:38.5±1.8, 2.°19N×125.°29E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/24, mbtmp4.0/4, Error ellipse: s-maj=174.3km s-min=20.2km az=65.0*
*ISCJB **15** 08:43:41.7±0.5, 3.°04N±0.°03×126.°36E±0.°05, h63km, mb3.9/4, Error ellipse: s-maj=7.3km s-min=4.6km az=165.5*
*DJA **15** 08:43:41.6±0.6, 3.°N±4.°×12.°6E±.°, h46km±30km, M4.4/10, mb4.7/5, mB4.8/4, MLv4.3/10, Mw(mB)4.1/4*
*NEIC **15** 08:43:45.7±2.5, 2.°8N±0.°1×126.°3E±0.°2, h63km±9km, mb4.0/12*
ISC 15 08:43:44.0±0.7, 3.°04N±0.°05×126.°33E±0.°07, h63km, n33, σ2º13/39, mb4.0/9, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.03**	**309**	P	**Pn**	**08 43 59.1**	**-3.5**
SGSI				S	**Sn**	**08 44 13.2**	**-3.1**
TNTI	**Ternate**	**2.48**	**155**	P	**Pn**	**08 44 20.8**	**-1.2**
TNTI	**Ternate**	**2.48**	**155**		**Pn**	**08 44 21.1**	**-0.9**
DDMP	**Don Marcelino,**	**3.11**	**349**	*e*P	**Pn**	**08 44 27.8**	**-2.9**
KMSI	**Cibinong**	**3.39**	**224**	P	**Pn**	**08 44 34.9**	**+0.4**
KMSI				S	**Sn**	**08 45 15.7**	**+2.1**
SKMP	**Bagumbayan, Su**	**3.89**	**333**	*e*P	**Pn**	**08 44 39.8**	**-1.6**
KCP	**Kidapawan**	**4.13**	**343**	⇓*i*P	**Pn**	**08 44 44.8**	**+0.1**
KCP				*e*S	**Sn**	**08 45 33.9**	**+1.9**
SANI	**Sanana**	**5.06**	**184**	P	**Pn**	**08 44 54.1**	**-3.3**
SANI				S	**Sn**	**08 45 52.8**	**-1.8**
MRSI	**Marisa**	**5.07**	**240**	P	**Pn**	**08 44 57.3**	**-0.2**
	38nm,0.5s,830nm						
MRSI				S	**Sn**	**08 45 55.2**	**+0.4**
	38nm,0.5s,830nm						
LUWI	**Luwuk**	**5.39**	**221**	P	**Pn**	**08 45 00.6**	**-1.3**
PAGZ	**Pagadian**	**5.61**	**329**	*e*P	**Pn**	**08 45 03.6**	**-1.3**
APSI	**Ampana**	**6.11**	**230**	P	**Pn**	**08 45 12.6**	**+0.9**
FAKI	**Fak Fak**	**8.37**	**135**	Pn	**Pn**	**08 45 45.6**	**

comp=Z,16nm,1.1s
WB0 Warramunga Arr 24.40 236 P **P 09 09 38.7 -0.1**
WB0 IAmb IAmb 09 09 41.3
comp=Z,16nm,1.2s
WC3 Warramunga Arr 24.50 236 P **P 09 09 39.9 +0.1**
WRAB Tennant Creek 24.51 236 P **P 09 09 39.9 0.0**
WRAB IAmb IAmb 09 09 42.5
comp=Z,23nm,1.3s
WB2 Warramunga Arr 24.52 236 P **P 09 09 39.8 -0.1**
WB2 IAmb IAmb 09 09 42.6
comp=Z,21nm,1.2s
WRA Warramunga Arr 24.52 236 P **P 09 09 40.3 +0.3**
comp=Z,8.4nm,0.9s,baz=59,slow=9.9,SNR=41
WRA PcP **PcP 09 13 23.7 +5.2**
comp=Z,0.3nm,0.6s,baz=60,slow=2.8,SNR=4.5
WRA ScP **ScP 09 17 00.9 +3.3**
comp=Z,0.8nm,0.9s,baz=55,slow=2.5,SNR=3.9
WRA LR LR 09 18 42.4
comp=Z,136nm,19.4s,baz=55,slow=36
WRA Warramunga Arr 24.52 236 P **P 09 09 39.8 -0.2**
MTN Manton Dam 25.02 255 P **P 09 09 44.6 +0.1**
SIJI Sorong 25.24 283 P **P 09 09 45.9 -0.6**
comp=Z,18nm,0.7s,baz=109,slow=6.6,SNR=7.1
SIJI LR LR 09 20 08.8
comp=Z,94nm,21.6s,baz=315,slow=38
AS31 Alice Springs 26.82 229 P **P 09 10 00.8 0.0**
ASAR Alice Springs 26.82 229 P **P 09 10 01.8 +0.9**
comp=Z,3.4nm,0.7s,baz=61,slow=8.6,SNR=40
ASAR ScP **ScP 09 17 08.1 +4.0**
comp=Z,0.7nm,0.9s,baz=179,slow=29,SNR=3.1
ASAR Alice Springs 26.82 229 P **P 09 09 59.7 -1.1**
H11S3 WAKE ISLAND Hy 27.47 23 T T 09 38 42.0
baz=203,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 27.47 23 T T 09 38 44.3
baz=203,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 27.49 23 T T 09 38 44.6
baz=203,slow=75,SNR=9.8
KNRA Kununurra 27.89 250 P **P 09 10 10.7 +0.3**
STKA Stephens Creek 28.12 206 P **P 09 10 15.4 +3.0**
comp=Z,1.0nm,0.3s,baz=156,slow=21,SNR=2.6
STKA ScP **ScP 09 17 12.6 +4.7**
comp=Z,0.6nm,0.4s,baz=178,slow=4.1,SNR=2.9
STKA LR LR 09 20 36.3
comp=Z,125nm,22.0s,baz=23,slow=35
FITZ Fitzroy Crossi 31.43 247 P **P 09 10 41.6 -0.2**
comp=Z,4.3nm,0.8s,baz=54,slow=8.7
FITZ LR LR 09 23 18.8
comp=Z,134nm,18.7s,baz=63,slow=37
FITZ Fitzroy Crossi 31.43 247 P **P 09 10 41.5 -0.2**
FITZ IAmb IAmb 09 10 45.7
comp=Z,8.0nm,1.1s
BATI Baumata 31.97 262 LR LR 09 25 48.3
comp=Z,90nm,18.1s,baz=118,slow=41
AFI Afiamalu 32.56 105 P P 09 10 46.5 -5.3
DAV Davao City (W) 33.25 294 LR LR 09 21 51.1
comp=Z,61nm,21.8s,baz=98,slow=32
CMWZ Cape Campbell 38.29 158 P **P 09 11 36.3 -4.4**
NJ2 Nanjing 52.43 320 *eP* **P 09 13 32.3 -0.7**
NJ2 pmax pmax
comp=Z,11nm,0.6s
PETK Petropavlovsk- 59.86 1 P P 09 14 32.7 +6.9
comp=Z,3.0nm,0.7s,baz=176,slow=7.2,SNR=6.0
PETK Petropavlovsk- 59.86 1 P **P 09 14 23.3 -2.4**
CMAR Chiang Mai Arr 61.53 295 P **P 09 14 39.3 +1.5**
comp=Z,2.2nm,0.8s,baz=118,slow=5.2,SNR=7.4
CMAR Chiang Mai Arr 61.53 295 P **P 09 14 36.1 -1.7**
LZH Lanzhou 64.88 315 *eP* **P 09 14 58.8 -1.1**
LZH pP sP 09 15 08.3 +3.9
LZH sP pP 09 15 12.0 +8.8
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,59nm,7.8s
LZH LR LR
comp=N,79nm,16.5s
LZH LR LR
comp=E,85nm,16.2s
LZH LR LR
comp=Z,110nm,18.1s
SONM Songino Array 69.77 327 P **P 09 15 33.7 +3.1**
comp=Z,0.4nm,0.5s,baz=105,slow=3.8,SNR=2.8
WMQ Urumqi 79.38 317 *eP* **P 09 16 26.4 -0.1**
WMQ pP PcP 09 16 34.9 +0.3
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ pmax pmax
comp=Z,87nm,3.8s
WMQ LR LR
comp=N,150nm,28.8s
WMQ LR LR
comp=E,640nm,29.0s
WMQ LR LR
comp=Z,93nm,29.0s
QSPA South Pole Qui 83.01 180 P **P 09 16 47.1 +1.6**
QSPA IAmb IAmb 09 17 00.1
comp=Z,3.7nm,0.9s
IL31 83.04 21 P **P 09 16 42.8 -2.5**
ILAR Eielson Array 83.04 21 P P 09 16 52.8 +7.3
comp=Z,0.9nm,0.8s,baz=240,slow=5.6,SNR=6.7
ILAR LR LR 09 52 12.4
comp=Z,28nm,18.8s,baz=274,slow=34
ILAR Eielson Array 83.04 21 P **P 09 16 43.7 -1.7**
MKAR Makanchi Array 83.94 318 P **P 09 16 52.8 +2.3**
comp=Z,0.9nm,0.7s,baz=105,slow=8.2,SNR=6.9
MAW Mawson 84.75 203 LR LR 09 51 28.5
comp=Z,20nm,18.1s,baz=239,slow=33
KSH Kashi 86.63 310 P **P 09 17 02.6 -1.7**
KSH PP **PP 09 20 28.0 +1.6**
KSH Kashi 86.63 310 S **S 09 27 35.3 -6.4**
KSH Kashi 86.63 310 sS sS 09 27 52.8 +5.6
KSH pmax pmax
comp=Z,410nm,5.0s
KSH LR LR
comp=N,790nm,21.1s
KSH LR LR
comp=E,440nm,11.5s
KSH LR LR
comp=Z,170nm,11.9s
INK Inuvik 89.40 21 LR LR 09 54 20.2
comp=Z,31nm,21.8s,baz=282,slow=33
NVAR Mina Array Bea 91.05 52 P P 09 17 34.6 +9.2
comp=Z,0.7nm,0.7s,baz=260,slow=6.4,SNR=4.6
GERES GERESS Array B 127.46 329 PKP **PKiKP 09 23 30.6 +4.5**
comp=Z,0.2nm,0.3s,baz=57,slow=3.6,SNR=2.1
TORD Torodi Ar. Bea 153.82 286 PKPbc **PKiKP 09 24 24.2 +3.5**
comp=Z,1.7nm,0.7s,baz=71,slow=2.6,SNR=9.8

NIED ***15*** *09:09:00.24'.00N×122'.60E,h29km,Mw3.9 Best double couple: M0:8.89000×10^14 NP1:φ=293.00000°,δ=23.00000°, λ=137.00000°. NP2:φ=64.00000°,δ=74.00000°,λ=72.00000°.*
NEIC ***15*** *09:09:02.6±2.9,23'.94N±0'.03×122'.58E±0'.06,h10km±2km, mb4.2/1*
TAP ***15*** *09:09:03.7,23'.99N×122'.69E,h27km,ML4.0,D*
ISCJB ***15*** *09:09:03.2±0.3,23'.91N±0'.02×122'.68E±0'.01,h15km±2km, mb3.8/8,MS2.9/2,Error ellipse: s-maj=2.7km s-min=1.9km az=160.3*
JMA ***15*** *09:09:04.0±0.2,23'.99N×122'.64E,h25km±4km,M3.6*
IDC ***15*** *09:09:25.5±10.0,24'.47N×123'.30E,h265km±119km, mb3.2/8,mb1 3.3/9,mb1mx3.1/52,mbtmp3.9/9,MS2.9/4, Ms1 2.9/4,ms1mx2.7/22,Error ellipse: s-maj=56.5km s-min=15.4km az=61.0*
ISC 15 09:09:03.4±1.0,23'.94N±0'.02×122'.65E±0'.02,h31km±8km, n129,σ1$11/215,mb3.6/9,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**28**	P	**Pb**	**09 09 14.7**	**-0.5**
JYNG				S	**Sb**	**09 09 21.8**	**-1.4**
YOJ	**Yonaguni jima**	**0.62**	**32**	P	**Pb**	**09 09 15.1**	**-0.7**
	baz=36						
YOJ				S	**Sb**	**09 09 22.9**	**-1.3**
	baz=36						
YOJ	**Yonaguni jima**	**0.62**	**32**	P	**Pb**	**09 09 15.4**	**-0.4**
YOJ				S	**Sb**	**09 09 23.0**	**-1.3**
YOJ	**Yonaguni jima**	**0.62**	**32**		**Pb**	**09 09 15.4**	**-0.4**
YOJ					**Sb**	**09 09 24.1**	**-0.2**
EOS1	**EOS1**	**0.77**	**322**	*eP*	**Pb**	**09 09 18.8**	**+0.4**
	baz=317						
EOS1				*eS*	**Sn**	**09 09 29.6**	**+1.0**
	baz=317						
NANB	**Nanao**	**0.95**	**301**	P	**Pb**	**09 09 21.5**	**0.0**
	baz=296						
NANB				*eS*	**Sb**	**09 09 34.1**	**+0.3**
	baz=296						
HWA	**Hwalien**	**0.96**	**272**	*eP*	**Pb**	**09 09 21.7**	**+0.3**
	baz=255						
HWA				*eS*	**Sb**	**09 09 35.2**	**+1.4**
	baz=255						
ENLB	**Shoufeng**	**0.96**	**268**	*eP*	**Pn**	**09 09 21.0**	**+0.3**
	baz=251						
ENLB				*eS*	**Sn**	**09 09 34.1**	**+0.8**
	baz=251						
ENA	**Nanau**	**0.96**	**301**	*eP*	**Pb**	**09 09 21.7**	**+0.1**
	baz=296						
ENA				*eS*	**Sb**	**09 09 35.5**	**+1.5**
	baz=296						
TWD	**Chiawan**	**0.97**	**278**	*eP*	**Pn**	**09 09 21.5**	**+0.5**
	baz=275						
TWD				*eS*	**Sn**	**09 09 33.5**	**-0.2**
	baz=275						
TWC	**Suao**	**0.99**	**313**	P	**Pb**	**09 09 21.8**	**-0.2**
	baz=317						
TWC				*eS*	**Sb**	**09 09 34.7**	**0.0**
	baz=317						
NACB	**Ninganchiao**	**0.99**	**284**	*eP*	**Pn**	**09 09 21.6**	**+0.4**
	baz=265						
NACB				*eS*	**Sn**	**09 09 33.1**	**-1.0**
	baz=265						
NACB	**Ninganchiao**	**0.99**	**284**	Pn	**Pn**	**09 09 21.8**	**+0.6**
NACB				Sn	**Sb**	**09 09 35.1**	**+0.3**
HATJ	**Hateruma jima**	**1.06**	**83**	P	**Pb**	**09 09 23.3**	**0.0**
HATJ				S	**Sb**	**09 09 38.3**	**+1.5**
IRIF	**Iriomote-Funau**	**1.06**	**68**	P	**Pb**	**09 09 23.2**	**-0.1**
IRIF				*eS*	**Sb**	**09 09 38.1**	**+1.3**
ETLH	**Xiulin Townshi**	**1.10**	**284**	*eP*	**Pn**	**09 09 23.5**	**+0.7**
	baz=267						
ETLH				*eS*	**Sn**	**09 09 37.4**	**+0.4**
	baz=267						
EGS		**1.11**	**324**	*eP*	**Pb**	**09 09 23.9**	**-0.2**
	baz=333						
ESL	**Shilin**	**1.12**	**264**	*eP*	**Pn**	**09 09 23.5**	**+0.5**
	baz=261						
ESL				*eS*	**Sn**	**09 09 37.5**	**+0.2**
	baz=261						
EGFH	**Guangfu**	**1.15**	**257**	*eP*	**Pn**	**09 09 24.3**	**+0.9**
	baz=254						
EGFH				*eS*	**Sb**	**09 09 39.8**	**+0.4**
	baz=254						
ILA	**Ilan**	**1.16**	**315**	*eS*	**Sb**	**09 09 41.7**	**+2.0**
	baz=311						
NTC	**Toucheng**	**1.18**	**321**	P	**Pb**	**09 09 25.2**	**0.0**
	baz=333						
NTC				*eS*	**Sb**	**09 09 40.7**	**+0.6**
	baz=333						
TWE	**Neicheng**	**1.19**	**311**	*eP*	**Pb**	**09 09 25.3**	**-0.1**
	baz=308						
TWE				*eS*	**Sb**	**09 09 41.3**	**+1.0**
	baz=308						
HGSD	**Ruisui**	**1.21**	**249**	*eP*	**Pn**	**09 09 24.9**	**+0.7**
	baz=246						
HGSD				*eS*	**Sn**	**09 09 39.4**	**-0.1**
	baz=246						
ENTT	**Nioudou**	**1.21**	**305**	*eP*	**Pb**	**09 09 25.8**	**0.0**
	baz=287						
ENTT				*eS*	**Sb**	**09 09 43.0**	**+1.9**
	baz=287						
TWB1	**Santiao Chiao**	**1.22**	**331**	*eP*	**Pn**	**09 09 24.9**	**+0.5**
	baz=327						
TWB1				*eS*	**Sb**	**09 09 40.6**	**-0.8**
	baz=327						
NDT	**Datong Townshi**	**1.23**	**303**	*eP*	**Pb**	**09 09 26.6**	**+0.5**
	baz=284						
NDT				*eS*	**Sb**	**09 09 42.2**	**+0.6**
	baz=284						
NNSB	**Datong**	**1.25**	**293**	*eP*	**Pn**	**09 09 25.9**	**+1.0**
	baz=277						
NNSB				*eS*	**Sb**	**09 09 42.3**	**-0.1**
	baz=277						
NNS	**Nan Shan**	**1.27**	**293**	*eP*	**Pn**	**09 09 26.2**	**+1.1**
	baz=290						
NNS				*eS*	**Sn**	**09 09 41.8**	**+0.7**
	baz=290						
TIPB	**Shuangxi**	**1.27**	**324**	*eP*	**Pb**	**09 09 27.2**	**+0.3**
	baz=336						
TIPB				*eS*	**Sb**	**09 09 42.5**	**-0.3**
	baz=336						
JKRS	**Kuro-shima**	**1.28**	**76**	P	**Pb**	**09 09 26.6**	**-0.3**
JKRS				S	**Sb**	**09 09 43.8**	**+0.8**
WHF	**Hehuan Shan**	**1.28**	**279**	*eP*	**Pn**	**09 09 26.4**	**+0.8**
	baz=276						
WHF				*eS*	**Sn**	**09 09 42.3**	**+0.4**
	baz=276						
EHY	**Hungye**	**1.29**	**251**	*eP*	**Pn**	**09 09 26.2**	**+0.9**
	baz=248						
EHY				*eS*	**Sn**	**09 09 42.6**	**+1.1**
	baz=248						
NWLT	**Wulai**	**1.34**	**309**	*eP*	**Pb**	**09 09 28.3**	**+0.3**
	baz=305						
NWLT				*eS*	**Sb**	**09 09 46.3**	**+1.5**
	baz=305						
YULB	**Yu-li**	**1.35**	**247**	*eP*	**Pn**	**09 09 27.3**	**+1.1**
	baz=232						
YULB				*eS*	**Sn**	**09 09 44.6**	**+1.5**
	baz=232						
YULB	**Yu-li**	**1.35**	**247**	Pn	**Pn**	**09 09 27.3**	**+1.1**
YULB				Sn	**Sn**	**09 09 41.8**	**-1.3**
CHGB	**Renai**	**1.35**	**275**	*i P*	**Pn**	**09 09 27.5**	**+1.2**
	baz=273						
TWF1	**Yuli**	**1.37**	**245**	*eP*	**Pn**	**09 09 27.7**	**+1.3**
	baz=243						
TWF1				*eS*	**Sn**	**09 09 45.2**	**+1.7**
	baz=243						
YHNB	**Yeheng**	**1.37**	**302**	P	**Pb**	**09 09 28.0**	**-0.6**
	baz=299						
YHNB				*eS*	**Sb**	**09 09 46.7**	**+1.0**
	baz=299						
YHNB	**Yeheng**	**1.37**	**302**	Pn	**Pb**	**09 09 28.0**	**-0.6**
YHNB				Sn	**Sn**	**09 09 42.5**	**-1.2**
NWF	**Wu-fen Shan**	**1.38**	**325**	*eP*	**Pb**	**09 09 27.7**	**-0.9**
	baz=322						
NWF				*eS*	**Sb**	**09 09 45.0**	**-0.9**
	baz=322						
WFSB	**Wu-fen Shan**	**1.38**	**325**	*eP*	**Pn**	**09 09 27.5**	**+1.0**
	baz=322						
WFSB				*eS*	**Sn**	**09 09 44.6**	**+1.0**
	baz=322						
NSK	**Sanguang**	**1.39**	**302**	*eP*	**Pn**	**09 09 27.9**	**+1.2**
	baz=299						
NSK				*eS*	**Sb**	**09 09 48.3**	**+2.1**
	baz=299						
VWDT	**VWDT**	**1.39**	**263**	P	**Pn**	**09 09 28.1**	**+1.4**
	baz=260						
VWDT				S	**Sn**	**09 09 45.4**	**+1.3**
	baz=260						
TDCB	**Techi**	**1.40**	**283**	*eP*	**Pb**	**09 09 28.7**	**-0.3**
	baz=280						
TWA	**Mucha**	**1.42**	**317**	*eP*	**Pb**	**09 09 29.2**	**-0.1**
	baz=314						
TWA				*eS*	**Sb**	**09 09 46.7**	**-0.4**
	baz=314						
JIJ	**Ishigaki jima**	**1.43**	**73**	P	**Pn**	**09 09 28.1**	**+0.9**
JIJ				S	**Sb**	**09 09 46.4**	**-0.9**
CHKT	**Chengkung**	**1.45**	**235**	*eP*	**Pn**	**09 09 27.9**	**+0.5**
	baz=221						
CHKT				*eS*	**Sn**	**09 09 44.9**	**-0.4**
	baz=221						
NHDH	**Xindian Distri**	**1.45**	**315**	*eP*	**Pb**	**09 09 29.9**	**+0.2**
	baz=328						
NHDH				*eS*	**Sb**	**09 09 48.7**	**+0.9**
	baz=328						
FULB	**Fuli**	**1.45**	**240**	*eP*	**Pn**	**09 09 28.1**	**+0.6**
	baz=225						
FULB				*eS*	**Sn**	**09 09 45.7**	**+0.3**
	baz=225						
TATO	**Taipei**	**1.48**	**314**	*eP*	**Pb**	**09 09 29.9**	**-0.3**
	baz=327						
TATO				*eS*	**Sb**	**09 09 49.0**	**+0.4**
	baz=327						
TATO	**Taipei**	**1.48**	**314**	Pn	**Pb**	**09 09 29.7**	**-0.6**
TATO				Sn	**Sn**	**09 09 45.6**	**-0.5**
TAP	**Taipei**	**1.51**	**317**	*eS*	**Sb**	**09 09 51.1**	**+1.5**
	baz=330						
YM01	**YM01**	**1.55**	**321**	*eP*	**Pb**	**09 09 31.0**	**-0.6**
	baz=318						
YM01				*eS*	**Sb**	**09 09 51.1**	**+0.2**
	baz=318						
SSLB	**Suanglung**	**1.56**	**265**	*eP*	**Pb**	**09 09 31.0**	**-0.7**
	baz=262						
SSLB				*eS*	**Sn**	**09 09 49.6**	**+1.4**
	baz=262						
SSLB	**Suanglung**	**1.56**	**265**	Pn	**Pn**	**09 09 30.5**	**+1.5**
SSLB				Sn	**Sn**	**09 09 46.1**	**-2.1**
WLTB	**Daxi**	**1.56**	**306**	*eP*	**Pb**	**09 09 34.3**	**+2.6**
	baz=289						
WLTB				*eS*	**Sb**	**09 09 53.3**	**+2.2**
	baz=289						
YM10	**YM10**	**1.56**	**321**	*eP*	**Pb**	**09 09 30.9**	**-0.8**
	baz=318						
YM11	**YM11**	**1.56**	**321**	*eP*	**Pb**	**09 09 31.0**	**-0.8**
	baz=318						
YM05	**YM05**	**1.57**	**321**	*eP*	**Pb**	**09 09 30.9**	**-1.0**
	baz=318						
YM05				*eS*	**Sb**	**09 09 51.9**	**+0.5**
	baz=318						
YM08	**YM08**	**1.57**	**322**	*eP*	**Pb**	**09 09 32.4**	**+0.5**
	baz=319						
YM04	**YM04**	**1.58**	**320**	*eP*	**Pb**	**09 09 31.1**	**-0.9**
	baz=317						
YM04				*eS*	**Sb**	**09 09 51.1**	**-0.5**
	baz=317						
DPDB	**Guoxing**	**1.58**	**274**	*eP*	**Pb**	**09 09 31.3**	**-0.8**
	baz=271						
DPDB				*eS*	**Sb**	**09 09 51.8**	**+0.1**
	baz=271						
WHP	**Taichung City**	**1.59**	**283**	*eP*	**Pb**	**09 09 32.8**	**+0.5**
	baz=269						
WHP				*eS*	**Sb**	**09 09 53.6**	**+1.5**
	baz=269						
ANP	**Anpu**	**1.61**	**321**	*eP*	**Pb**	**09 09 33.3**	**+0.7**
	baz=318						
YUS	**Yu-Shan**	**1.62**	**254**	*eP*	**Pn**	**09 09 31.8**	**+1.6**
	baz=252						
YUS				*eS*	**Sn**	**09 09 51.7**	**+1.4**
	baz=252						
TWY	**Chenhua**	**1.64**	**325**	*eP*	**Pb**	**09 09 32.2**	**-0.7**
	baz=321						
TYC	**Yuchr**	**1.64**	**269**	*eP*	**Pb**	**09 09 32.0**	**-1.0**
	baz=267						
TYC				*eS*	**Sn**	**09 09 50.9**	**+0.8**
	baz=267						
JISG	**Ishigakijimahi**	**1.65**	**67**	P	**Pn**	**09 09 30.9**	**+0.7**
JISG				S	**Sn**	**09 09 51.2**	**+0.9**
LIOB	**Emei**	**1.65**	**296**	*eP*	**Pb**	**09 09 32.8**	**-0.4**
	baz=293						
LIOB				*eS*	**Sb**	**09 09 53.3**	**-0.3**
	baz=293						
NSTT	**Nanjuang**	**1.65**	**295**	*eP*	**Pb**	**09 09 32.7**	**-0.5**
	baz=292						
WHYT	**Xinyi Township**	**1.66**	**262**	*eP*	**Pb**	**09 09 32.7**	**-0.8**
	baz=249						
WHYT				*eS*	**Sn**	**09 09 52.2**	**+1.4**
	baz=249						
ELDTW	**Lidau**	**1.67**	**244**	*eP*	**Pn**	**09 09 31.8**	**+1.1**
	baz=242						
ELDTW				*eS*	**Sn**	**09 09 51.3**	**+0.2**
	baz=242						
TWQ1	**Liyutan**	**1.76**	**284**	P	**Pb**	**09 09 34.9**	**-0.3**
	baz=281						
TWQ1				*eS*	**Sb**	**09 09 57.5**	**+0.7**
	baz=281						
WJS	**Zhushan**	**1.76**	**267**	*eP*	**Pb**	**09 09 36.1**	**+1.0**
	baz=264						
WJS				*eS*	**Sb**	**09 09 58.6**	**+1.8**
	baz=264						
WNT	**Mingjian**	**1.80**	**268**	*eP*	**Pb**	**09 09 35.8**	**0.0**
	baz=266						
WNT				*eS*	**Sb**	**09 09 57.9**	**0.0**
	baz=266						
TCU	**Taichung**	**1.82**	**277**	*eP*	**Pb**	**09 09 35.3**	**-0.7**
	baz=274						
TCU				*eS*	**Sb**	**09 09 58.9**	**+0.6**
	baz=274						
TTN	**Taitung**	**1.82**	**230**	*eS*	**Sb**	**09 09 58.3**	**-0.1**
	baz=228						
TWGBT	**Beinan**	**1.82**	**233**	*eP*	**Pn**	**09 09 33.6**	**+0.9**
	baz=222						
TWGBT				*eS*	**Sn**	**09 09 54.5**	**-0.2**
	baz=222						
TWG	**Pinlang**	**1.83**	**233**	*eP*	**Pn**	**09 09 33.5**	**+0.8**
	baz=222						
TWG				*eS*	**Sn**	**09 09 54.8**	**0.0**
	baz=222						
TWG	**Pinlang**	**1.83**	**233**	Pn	**Pn**	**09 09 33.8**	**+1.1**
TWG				Sn	**Sn**	**09 09 55.9**	**+1.2**
CHN5	**Tsauling**	**1.84**	**260**	*eP*	**Pb**	**09 09 35.7**	**-0.8**
	baz=247						
CHN5				*eS*	**Sb**	**09 09 59.4**	**+0.3**
	baz=247						
WDJ	**Dajia District**	**1.88**	**283**	*eP*	**Pb**	**09 09 36.4**	**-0.7**
	baz=281						
STYT	**Tauyuan**	**1.90**	**246**	*eP*	**Pb**	**09 09 36.4**	**-1.1**
	baz=235						
STYT				*eS*	**Sn**	**09 09 58.8**	**+2.1**
	baz=235						
WCHH	**Zhanghua**	**1.92**	**275**	*eP*	**Pb**	**09 09 37.2**	**-0.6**
	baz=272						
WCHH				*eS*	**Sb**	**09 10 01.0**	**-0.3**
	baz=272						
WGK	**Gukeng**	**1.93**	**263**	*eS*	**Sb**	**09 10 02.8**	**+1.2**
	baz=260						
WDLH	**Douliu**	**1.95**	**263**	*eP*	**Pb**	**09 09 38.6**	**+0.4**
	baz=261						
WDLH				*eS*	**Sb**	**09 10 02.7**	**+0.5**
	baz=261						
TPUB	**Ta-pu**	**1.96**	**251**	*eP*	**Pb**	**09 09 37.7**	**-0.8**
	baz=239						
TPUB				*eS*	**Sb**	**09 10 02.4**	**-0.1**
	baz=239						
TPUB	**Ta-pu**	**1.96**	**251**	Pn	**Pb**	**09 09 37.5**	**-1.0**
TPUB				Sn	**Sn**	**09 09 58.3**	**+0.3**
CHN4	**Tsaushan**	**1.98**	**253**	*eP*	**Pb**	**09 09 38.5**	**-0.2**
	baz=241						
CHN4				*eS*	**Sb**	**09 10 03.0**	**+0.1**
	baz=241						
WTP	**Ta-pu**	**1.99**	**250**	*eP*	**Pb**	**09 09 38.2**	**-0.8**
	baz=238						
WTP				*eS*	**Sb**	**09 10 04.3**	**+0.8**
	baz=238						
JTJ	**Tarama**	**2.00**	**69**	P	**Pn**	**09 09 36.5**	**+1.5**
CHN2	**Minshiung**	**2.03**	**259**	*eS*	**Sb**	**09 10 05.1**	**+0.5**
	baz=257						
ECL	**Taimali**	**2.05**	**230**	*eP*	**Pn**	**09 09 36.4**	**+0.6**
	baz=228						
ECL				*eS*	**Sn**	**09 10 00.6**	**+0.2**
	baz=228						
SLGT	**Liugui**	**2.07**	**243**	*eP*	**Pb**	**09 09 40.5**	**+0.2**
	baz=233						
SLGT				*eS*	**Sb**	**09 10 04.4**	**-1.1**
	baz=233						
SGST	**Jiashian**	**2.08**	**246**	*eP*	**Pb**	**09 09 39.5**	**-1.0**
	baz=234						
SGST				*eS*	**Sb**	**09 10 04.8**	**-1.2**
	baz=234						
CHY	**Chiayi**	**2.09**	**258**	*eS*	**Sb**	**09 10 05.5**	**-0.7**
	baz=256						
TWK	**Hsinying**	**2.09**	**252**	*eP*	**Pb**	**09 09 39.7**	**-1.1**
	baz=249						
TWK				*eS*	**Sb**	**09 10 06.0**	**-0.4**
	baz=249						
RLNB	**Erlin**	**2.10**	**269**	*eS*	**Sb**	**09 10 06.2**	**-0.2**
	baz=281						
SNST	**Tainan City**	**2.10**	**250**	*eP*	**Pb**	**09 09 40.5**	**-0.3**
	baz=249						
SNST				*eS*	**Sb**	**09 10 06.3**	**-0.2**
	baz=249						
LAY	**Lan-yu**	**2.15**	**208**	*eP*	**Pn**	**09 09 37.1**	**0.0**
	baz=207						
LAY				*eS*	**Sn**	**09 10 01.4**	**-1.3**
	baz=207						
WTCT	**Ta-ch'eng**	**2.17**	**268**	*eS*	**Sb**	**09 10 08.6**	**+0.1**
	baz=280						
SSD	**Sandimen**	**2.20**	**238**	*eS*	**Sn**	**09 10 07.3**	**+3.3**
	baz=230						
EAST	**Anshuo**	**2.27**	**227**	*eP*	**Pn**	**09 09 39.8**	**+1.0**
	baz=236						
EAST				*eS*	**Sn**	**09 10 06.8**	**+1.1**
	baz=236						
MASBT	**Mashibuluo**	**2.28**	**235**	*eP*	**Pn**	**09 09 41.2**	**+2.3**
	baz=226						
MASBT				*eS*	**Sb**	**09 10 09.6**	**-2.0**
	baz=226						
CHN8	**Yiju**	**2.31**	**256**	*eS*	**Sb**	**09 10 11.0**	**-1.6**
	baz=253						
TWM1	**Shoushan**	**2.33**	**242**	*eS*	**Sb**	**09 10 15.5**	**+2.4**
	baz=240						
SNJT	**Kaohsiung City**	**2.43**	**241**	*eS*	**Sb**	**09 10 16.1**	**+0.1**
	baz=239						
SCZT	**Fangliau**	**2.43**	**231**	*eP*	**Pb**	**09 09 44.5**	**-2.0**
	baz=222						

SCZT					*e*S	**Sb**	**09 10 13.9**	**-2.2**
	baz=222							
JIRB	**Irabujima**	**2.46**	**68**	P		**Pn**	**09 09 43.0**	**+1.6**
JIKM	**Ikemajima**	**2.56**	**67**	*e*S		**Sn**	**09 10 14.3**	**+1.4**
JMJ2	**Miyako jima3**	**2.57**	**71**	P		**Pn**	**09 09 45.2**	**+2.3**
JMJ2				*e*S		**Sn**	**09 10 15.0**	**+1.9**
HEN	**Hengchun**	**2.61**	**223**	*e*S		**Sn**	**09 10 17.5**	**+3.4**
	baz=222							
TWK1	**Hengchun**	**2.62**	**221**	*e*P		**Pn**	**09 09 46.8**	**+3.3**
	baz=220							
TWK1				*e*S		**Sn**	**09 10 16.4**	**+2.2**
	baz=220							
KNMB	**Chin-men Tao**	**3.93**	**279**	Pn		**Pn**	**09 10 03.3**	**+1.8**
KNMB				Sn		**Sn**	**09 10 47.4**	**+0.9**
JNU	**Nakatsue**	**11.66**	**36**	LR		LR	09 16 47.8	
	comp=Z,29nm,21.4s,baz=216,slow=41							
KSRS	**Korea Array**	**14.21**	**17**	P		**P**	**09 12 26.8**	**-2.7**
	0.4nm,0.3s,baz=197,slow=12,SNR=16							
KSRS				LR		LR	09 18 57.8	
	comp=Z,51nm,19.1s,baz=196,slow=42							
USRK	**Ussuriysk Ar.**	**21.61**	**18**	P		**P**	**09 13 47.9**	**-2.8**
	1.8nm,0.8s,baz=206,slow=10,SNR=5.5							
CMAR	**Chiang Mai Arr**	**22.75**	**261**	LR		LR	09 23 27.9	
	comp=Z,25nm,19.1s,baz=120,slow=36							
SONM	**Songino Array**	**27.13**	**336**	P		**P**	**09 14 43.0**	**-0.8**
	1.0nm,0.8s,baz=146,slow=11,SNR=4.0							
SONM				LR		LR	09 26 06.8	
	comp=Z,55nm,19.8s,baz=163,slow=37							
MKAR	**Makanchi Array**	**39.45**	**316**	P		**P**	**09 16 30.9**	**+0.2**
	0.6nm,0.6s,baz=102,slow=10,SNR=6.7							
MKAR	**Makanchi Array**	**39.45**	**316**	P		**P**	**09 16 31.5**	**+0.8**
ZALV	**Zalesovo Beam**	**41.18**	**327**	P		**P**	**09 16 43.7**	**-1.2**
	0.6nm,0.5s,baz=97,slow=12,SNR=2.7							
KURBB	**Kurchatov Arra**	**43.16**	**320**	P		**P**	**09 16 59.0**	**-2.1**
	2.1nm,0.2s,baz=110,slow=4.0,SNR=3.3							
WRA	**Warramunga Arr**	**45.08**	**164**	P		**P**	**09 17 18.4**	**+1.7**
	1.0nm,0.7s,baz=345,slow=8.4,SNR=5.0							
ASAR	**Alice Springs**	**48.57**	**166**	P		**P**	**09 17 45.3**	**+1.3**
	0.4nm,0.7s,baz=346,slow=7.0,SNR=4.3							
ASAR	**Alice Springs**	**48.57**	**166**	P		**P**	**09 17 45.0**	**+1.0**
ABKAR	**Abkulak array**	**54.57**	**314**	P		**P**	**09 18 28.9**	**+0.3**
ABKAR	**Abkulak array**	**54.57**	**314**	P		**P**	**09 18 29.3**	**+0.7**
ABKAR				IAmb		IAmb	09 18 29.6	
	comp=Z,3.7nm,1.6s							
GEYT	**Alibeck**	**56.08**	**301**	P		**P**	**09 18 39.0**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=90,slow=8.6,SNR=3.4							

*ISCJB **15** 09:10:08.2±0.7,5.°18S±0.°06×153.°07E±0.°07, h43km, mb4.0/9, Error ellipse: s-maj=10.5km s-min=8.9km az=172.9*
*NEIC **15** 09:10:08.8±1.1,5.°0S±0.°2×153.°1E±0.°1, h43km±8km, mb4.4/11*
*IDC **15** 09:10:11.3±2.5,5.°15S×153.°02E, h58km±18km, mb3.8/9, mb1 4.0/10, mb1mx3.6/44, mbtmp4.1/10, ML2.4/1, Error ellipse: s-maj=30.1km s-min=15.1km az=72.0*

ISC 15 09:10:09.5±0.8,5.°06S±0.°07×153.°14E±0.°10, h43km, n26, σ1°93/30, mb4.2/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.34**	**304**	P		**Pn**	**09 10 31.5**	**-0.3**
	225nm,0.3s,baz=152,slow=1.6,SNR=77							
KRVT				S		**Sn**	**09 10 49.7**	**+1.3**
	322nm,0.3s,baz=30,slow=22,SNR=24							
KRVT				Lg		Lg	09 11 00.9	
	373nm,0.3s,baz=20,slow=23,SNR=7.6							
PMG	**Port Moresby**	**7.33**	**234**	P		**Pn**	**09 11 54.5**	**+0.4**
	3.7nm,0.3s,baz=48,slow=13,SNR=11							
PMG				S		**Sn**	**09 13 13.9**	**-2.2**
	5.0nm,0.3s,baz=172,slow=9.5,SNR=7.1							
PMG	**Port Moresby**	**7.33**	**234**			**Pn**	**09 11 54.9**	**+0.8**
PMG						**Sn**	**09 13 13.7**	**-2.4**
DZM	**Mont Dzumac**	**21.26**	**144**	P		**P**	**09 14 54.1**	**+1.7**
	4.5nm,0.5s,baz=259,slow=16,SNR=8.3							
DZM	**Mont Dzumac**	**21.26**	**144**	P		**P**	**09 14 52.6**	**+0.2**
DZM				IAmb		IAmb	09 15 07.0	
	comp=Z,17nm,1.1s							
WB0	**Warramunga Arr**	**23.38**	**230**	P		**P**	**09 15 13.4**	**-1.2**
WB0				IAmb		IAmb	09 15 15.1	
	comp=Z,8.9nm,1.1s							
WRAB	**Tennant Creek**	**23.51**	**229**	P		**P**	**09 15 14.7**	**-1.2**
WRAB				IAmb		IAmb	09 15 16.2	
	comp=Z,6.4nm,0.8s							
WB2	**Warramunga Arr**	**23.52**	**229**	P		**P**	**09 15 14.6**	**-1.3**
WRA	**Warramunga Arr**	**23.52**	**229**	P		**P**	**09 15 14.8**	**-1.2**
	comp=Z,4.4nm,0.8s,baz=52,slow=9.6,SNR=26							
WRA				S		**S**	**09 19 35.0**	**+7.9**
	comp=Z,0.5nm,0.7s,baz=47,slow=16,SNR=5.4							
WRA	**Warramunga Arr**	**23.52**	**229**	P		**P**	**09 15 14.8**	**-1.2**
KNRA	**Kununurra**	**26.16**	**244**	P		**P**	**09 15 39.0**	**-1.1**
KNRA				IAmb		IAmb	09 15 44.0	
	comp=Z,42nm,1.6s							
AS31	**Alice Springs**	**26.18**	**223**	P		**P**	**09 15 39.5**	**-0.9**
ASAR	**Alice Springs**	**26.18**	**223**	P		**P**	**09 15 39.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=59,slow=9.0,SNR=15							
ASAR	**Alice Springs**	**26.18**	**223**	P		**P**	**09 15 39.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**29.83**	**242**	P		**P**	**09 16 11.3**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=64,slow=8.9,SNR=6.1							
FITZ	**Fitzroy Crossi**	**29.83**	**242**	P		**P**	**09 16 11.4**	**-1.5**
FITZ				IAmb		IAmb	09 16 26.9	
	comp=Z,5.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**58.29**	**295**	P		**P**	**09 20 01.4**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=122,slow=6.5,SNR=2.8							
PPLA	**Purkeypile**	**79.29**	**22**	P		**P**	**09 22 09.7**	**-0.7**
MKAR	**Makanchi Array**	**80.74**	**319**	P		**P**	**09 22 18.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=104,slow=6.1,SNR=3.5							
ZALV	**Zalesovo Beam**	**81.56**	**326**	P		**P**	**09 22 22.1**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=121,slow=5.9,SNR=4.0							
QSPA	**South Pole Qui**	**84.90**	**180**	P		**P**	**09 22 40.7**	**+0.9**
MAW	**Mawson**	**85.46**	**203**	P		**P**	**09 22 42.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=97,slow=12,SNR=4.1							
MAW	**Mawson**	**85.46**	**203**	P		**P**	**09 22 42.6**	**+0.2**
MAW				IAmb		IAmb	09 25 46.6	
	comp=Z,10nm,2.0s							
BVAR	**Borovoye Array**	**89.65**	**323**	P		**P**	**09 23 02.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=83,slow=13,SNR=3.7							
TORD	**Torodi Ar. Bea**	**150.71**	**288**	PKPbc		**PKPbc**	**09 29 57.2**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=65,slow=2.1,SNR=13							
TORD	**Torodi Ar. Bea**	**150.71**	**288**			**PKPbc**	**09 29 56.9**	**-1.3**

JMA 15 09:14:15.8±0.3, 37.°22N×144.°47E, h56km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakiboku**	**2.62**	**295**	P		Pn	09 14 56.9	+1.3
JIO	**Ouri**	**2.76**	**297**	P		Pn	09 14 59.1	+1.5
JIO				*e*S		Sn	09 15 31.4	+1.7
JKMT	**Kesennumamotoy**	**2.85**	**305**	P		Pn	09 15 00.0	+1.2
JKMT				S		Sn	09 15 33.1	+1.2
JFK	**Kawauchi**	**2.87**	**274**	P		Pn	09 15 00.0	+0.9
OFUJ	**Ofunato**	**2.88**	**311**	P		Pn	09 15 00.4	+1.1
OFUJ				S		Sn	09 15 34.0	+1.2
JMK	**Ichinoseki**	**3.09**	**305**	P		Pn	09 15 03.8	+1.7
JMK				S		Sn	09 15 39.4	+1.6
JFT	**Otama**	**3.31**	**276**	P		Pn	09 15 07.4	+2.3
JFT				S		Sn	09 15 45.3	+2.2
JRY	**Ryogami san**	**4.64**	**257**	P		Pn	09 15 23.7	+0.4
JRY				*e*S		Sn	09 16 14.2	-1.7
JOD2	**Odawara 2**	**4.77**	**247**	*e*S		Sn	09 16 17.9	-1.2
JCH	**Churui**	**5.46**	**351**	P		Pn	09 15 33.8	-0.7
JTKR	**Abashiri--Toko**	**6.76**	**357**	P		Pn	09 15 51.3	-1.0
JTKR				S		Sn	09 17 03.7	-4.1

*NEIC **15** 09:39:43.4±1.4, 51.°4N±0.°4×179.°1W±0.°2, h42km±75km*

AEIC 15 09:39:43.9±1.7, 51.°38N×0.°04×178.°85W±0.°07, h13km±6km, ML3.5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.41**	**9**		Pb	09 39 52.8	-0.1
GAEA					Sb	09 39 59.2	+0.3
TASE	**Tanaga Southea**	**0.68**	**48**		Pg	09 39 57.1	0.0
TANO	**Tanaga North**	**0.70**	**40**		Pg	09 39 57.5	0.0
TANO					Sb	09 40 08.0	+0.5
TAFP	**Tanaga Falls P**	**0.75**	**46**		Pg	09 39 58.2	-0.2
TAFP					Sb	09 40 08.6	-0.2
TAPA	**Tanaga Point A**	**0.78**	**56**		Pg	09 39 58.7	-0.2
KIMD	**Kanaga Island**	**1.08**	**69**		Pb	09 40 03.4	-0.9
KIMD					Sb	09 40 18.3	0.0
KIKV	**Kanaga Island**	**1.16**	**64**		Pb	09 40 04.7	-1.0
KIWB	**Kanaga Island**	**1.16**	**65**		Pb	09 40 04.7	-1.0
KIWB					Sb	09 40 19.1	-1.5
KICM	**Kanaga Island**	**1.16**	**62**		Pb	09 40 05.1	-0.7
KIRH	**Kanaga Island**	**1.21**	**64**		Pn	09 40 05.7	-0.7
ADK	**Adak**	**1.44**	**69**		Pn	09 40 08.9	-0.7
ADK				Sn	Sn	09 40 26.9	-1.4
ADAG	**Mount Adagdak**	**1.52**	**66**		Pn	09 40 10.7	0.0
GSTD	**Great Sitkin T**	**1.81**	**67**		Pn	09 40 14.8	+0.1
GSTD					Sb	09 40 38.9	-0.5
GSMY	**Great Sitkin M**	**1.86**	**68**		Pn	09 40 15.2	-0.1
GSTR	**Great Sitkin T**	**1.88**	**67**		Pn	09 40 14.6	-1.0
GSTR					Sn	09 40 38.2	-0.9
GSIG	**Igitkin Island**	**1.92**	**70**		Pn	09 40 16.2	+0.1
KOWE	**Korovin West**	**3.02**	**69**		Pn	09 40 31.4	+0.2

*ISCJB **15** 09:52:09.8±0.4, 33.°15N±0.°03×35.°77E±0.°04, h17km±5km, Error ellipse: s-maj=6.4km s-min=3.2km az=33.3*
*GII **15** 09:52:09.8±0.5, 33.°10N×35.°74E, h8km±3km, MD1.8/3*
*NSSC **15** 09:52:10.1±0.4, 33.°08N×35.°87E, h10km±5km, ML1.8*
*GRAL **15** 09:52:13.3±0.2, 33.°28N×35.°77E, h6km±1km, MD2.7*

ISC 15 09:52:09.3±1.0, 33.°14N±0.°02×35.°76E±0.°03, h19km±2km, n21, σ0°65/37, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDI	**Kefar Szold**	**0.10**	**303**	Pg		**Pg**	**09 52 13.5**	**+0.3**
KSDI				Sg		**Sg**	**09 52 15.7**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.11**	**311**	Pg		**Pg**	**09 52 13.7**	**+0.4**
GEM				Sg		**Sg**	**09 52 16.3**	**+0.4**
NATI	**Neve Ativ**	**0.13**	**350**	Pg		**Pg**	**09 52 14.0**	**+0.6**
NATI				Sg		**Sg**	**09 52 16.9**	**+0.7**
KSHT	**Keshet**	**0.16**	**166**	Pg		**Pg**	**09 52 13.9**	**+0.1**
SHBL	**Chebaa**	**0.21**	**355**	*e*P		**Pg**	**09 52 15.1**	**+0.4**
SHBL				*e*S		**Sb**	**09 52 16.5**	**-0.9**
BRBR	**Barbar**	**0.32**	**30**	*e*P		**Pb**	**09 52 16.8**	**+0.4**
BRBR				*e*S		**Sb**	**09 52 22.2**	**+0.9**
BRBR				AML		AML	09 52 23.1	
	comp=N,74nm,0.5s							
BRBR				AML		AML	09 52 23.5	
	comp=E,82nm,0.3s							
MMA0B	**Mount Meron ar**	**0.33**	**249**	Pg		**Pg**	**09 52 16.6**	**+0.2**
MMA0B				Sg		**Sb**	**09 52 22.0**	**+0.6**
RCY	**Rachaya**	**0.36**	**9**	*e*P		**Pb**	**09 52 17.5**	**+0.1**
RCY				*e*S		**Sg**	**09 52 20.6**	**-1.9**
QRWL	**Qaraoun**	**0.42**	**351**	*e*P		**Pb**	**09 52 18.4**	**+0.2**
QRWL				*e*S		**Sg**	**09 52 22.2**	**-1.7**
HNTI	**Hanita**	**0.50**	**264**	Pg		**Pg**	**09 52 19.4**	**0.0**
HNTI				Sg		**Sb**	**09 52 26.6**	**+0.2**
QASN	**Qassioun**	**0.58**	**47**	*e*P		**Pg**	**09 52 21.6**	**+0.5**
QASN				*e*S		**Sg**	**09 52 29.1**	**+0.1**
QASN				AML		AML	09 52 30.7	
	comp=N,33nm,0.5s							
QASN				AML		AML	09 52 34.3	
	comp=E,78nm,0.1s							
DQRL	**Deir Qamar**	**0.59**	**344**	*e*P		**Pg**	**09 52 21.6**	**+0.4**
TOTH	**TOTAH**	**0.60**	**68**	*e*P		**Pg**	**09 52 21.4**	**+0.1**
TOTH				*e*S		**Sb**	**09 52 28.7**	**-0.6**
TOTH				AML		AML	09 52 30.3	
	comp=E,112nm,0.2s							
TOTH				AML		AML	09 52 30.4	
	comp=N,133nm,0.6s							
MMLI	**Mount Malkishu**	**0.75**	**203**	Pg		**Pb**	**09 52 23.5**	**-0.3**
MMLI				Sg		**Sb**	**09 52 34.0**	**+0.3**
BHL	**Bhannes**	**0.77**	**353**	*e*P		**Pg**	**09 52 24.7**	**+0.2**
OFRI	**`Ofer**	**0.83**	**232**	Pg		**Pb**	**09 52 24.8**	**-0.4**
HMDT	**Nahal Hemdat**	**0.90**	**193**	Pg		**Pb**	**09 52 25.8**	**-0.5**
HMDT				Sg		**Sb**	**09 52 38.3**	**+0.3**
SLTI	**Sal'it**	**1.08**	**215**	Pg		**Pb**	**09 52 28.9**	**-0.5**
SLTI				Sg		**Sn**	**09 52 44.2**	**+0.3**
HWQ	**Hawqa**	**1.15**	**8**	*e*P		**Pg**	**09 52 31.5**	**-0.2**
DSI	**Dead Sea**	**1.59**	**192**	Pn		**Pn**	**09 52 36.3**	**-0.2**
DSI				Sn		**Sb**	**09 52 57.6**	**-0.3**
AMAZ	**Amatzia**	**1.75**	**204**	Pn		**Pb**	**09 52 40.5**	**-0.4**
AMAZ				Sn		**Sb**	**09 53 03.9**	**+1.4**

MAN 15 10:00:57.6, 9.°79N×123.°83E, h8km, mb3.7, ML2.4, MS1.9, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.54**	**15**	*e*P		Pg	10 01 07.9	-0.1
LLP				*i* S		Sg	10 01 15.2	+0.2
SNPH	**Sibulan**	**0.74**	**233**	⇑*i*P		Pb	10 01 12.7	0.0
SNPH				*i* S		Sb	10 01 24.2	+1.3
MSLP	**Maasin**	**1.07**	**72**	*e*P		Pg	10 01 17.5	-0.7
MSLP				*e*S		Sn	10 01 33.5	-0.5
DCPH	**Dipolog City**	**1.29**	**201**	⇓*i*P		Pn	10 01 22.0	0.0
DCPH				*i* S		Sn	10 01 39.6	+0.2
GUIM	**Jordan**	**1.47**	**304**	*e*P		Pn	10 01 23.9	-0.5
GUIM				*e*S		Sb	10 01 44.1	0.0
PAGZ	**Pagadian**	**1.98**	**193**	*e*P		Pn	10 01 32.0	+0.5
PAGZ				*e*S		Sn	10 01 57.5	+1.0
RCP	**Roxas**	**2.05**	**329**	⇓*e*P		Pn	10 01 33.5	+1.1

*SJA **15** 10:03:34.5±1.0, 30.°30S×72.°00W, h10km, ML3.9, MW3.9*
*GUC **15** 10:03:39.0±0.6, 30.°54S×71.°61W, h23km±6km, ML4.2*
*IDC **15** 10:03:40.3±1.2, 30.°26S×71.°73W, h0km, mb3.0/1, mb1 3.7/6, mb1mx3.6/28, mbtmp3.5/6, ML3.5/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/11, Error ellipse: s-maj=39.5km s-min=26.4km az=82.0*

ISC 15 10:03:37.5±1.9, 30.°58S±0.°04×71.°68W±0.°07, h1km±12km, n35, σ2°08/38, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.77**	**29**	⇑*i*P		**Pg**	**10 03 53.0**	**+0.7**
LSCH				*e*S		**Sb**	**10 04 03.1**	**-1.6**
CO02	**Combarbal**	**0.85**	**137**	*e*P		**Pb**	**10 03 55.6**	**+0.4**
CO02				*e*S		**Sb**	**10 04 08.0**	**+0.8**
CO02				IAML			10 04 24.9	
	comp=N,14μm,0.5s							
GO04	**Tololo Observa**	**0.87**	**62**	*e*P		**Pb**	**10 03 55.4**	**-0.1**
GO04				*e*S		**Sn**	**10 04 07.5**	**-2.9**
GO04				IAML			10 04 09.9	
	comp=N,24μm,0.3s							
AROD	**Rodeo**	**1.95**	**78**	*i* P		**Pg**	**10 04 14.6**	**-0.4**
ACDV	**Cuesta del Vie**	**2.25**	**80**	*i* P		**Pg**	**10 04 19.9**	**-0.8**
ACDV				*e*S		**Sg**	**10 04 51.4**	**+1.5**
ACCO	**Cerro Coronel**	**2.26**	**91**	⇓*i*P		**Pb**	**10 04 19.9**	**+0.6**
ACCO				*e*S		**Sg**	**10 04 52.2**	**+2.1**
ROCH	**El Roble**	**2.45**	**167**	⇑*i*P		**Pn**	**10 04 19.4**	**+0.6**
ROCH				*e*S		**Sb**	**10 04 53.5**	**+0.2**
ROCH				IAML			10 05 20.1	
	comp=E,984nm,0.8s							
PEL	**Peldehue**	**2.69**	**162**	*i* P		**Pn**	**10 04 23.9**	**+1.9**
PEL				*e*S		**Sg**	**10 05 03.7**	**-0.3**
ZON	**Zonda**	**2.75**	**111**	*i* P		**Pb**	**10 04 27.8**	**+0.3**
ZON				*e*S		**Sg**	**10 05 08.8**	**+2.9**
ZON				IAML			10 05 29.9	
	comp=Z,250nm,0.4s							
RTLL	**Cerro Villicun**	**2.85**	**106**	*i* P		**Pb**	**10 04 27.4**	**-1.9**
RTLL				IAML			10 05 31.6	
	comp=Z,430nm,0.4s							
RTCV	**Cerro Valdivia**	**2.98**	**116**	*i* P		**Pb**	**10 04 30.0**	**-1.4**
CFA	**Coronel Fontan**	**3.13**	**110**	Pn		**Pb**	**10 04 31.4**	**-2.5**
	comp=Z,11nm,0.3s,baz=293,slow=11,SNR=83							
CFA				Sn		**Sg**	**10 05 17.9**	**-0.1**
	comp=Z,50nm,0.3s,baz=182,slow=2.0,SNR=16							
CFA				Lg		Lg	10 05 32.6	
	comp=Z,77nm,0.3s,baz=347,slow=21,SNR=3.5							
CFA				LR		LR	10 06 10.1	
	comp=Z,331nm,19.6s,baz=268,slow=46							
CFA	**Coronel Fontan**	**3.13**	**110**	*i* P		**Pn**	**10 04 30.8**	**+2.9**
ASAL	**Salagasta**	**3.15**	**130**	*i* P		**Pb**	**10 04 32.4**	**-2.0**
ARCO	**CERRO ARCO**	**3.25**	**135**	*i* P		**Pb**	**10 04 34.4**	**-1.7**
ARCO				IAML			10 05 44.8	
	comp=Z,258nm,0.7s							
AAGR	**Agrelo**	**3.48**	**136**	*i* P		**Pb**	**10 04 37.3**	**-2.7**
ACAN	**Cantantal**	**4.20**	**115**	*i* P		**Pn**	**10 04 46.2**	**+3.6**
COIS	**El Sosneado**	**4.84**	**159**	*i* P		**Pn**	**10 04 50.5**	**-1.0**
CYA	**Choya**	**5.55**	**69**	*i* P		**Pn**	**10 05 03.0**	**+1.7**
CYA				IAML			10 05 24.0	
	comp=Z,44nm,0.5s							
TCA	**Tanti**	**6.13**	**99**	*i* P		**Pn**	**10 05 10.5**	**+1.1**
TCA				IAML			10 05 30.9	
	comp=Z,124nm,0.4s							
FSA	**Cafayete**	**6.72**	**50**	⇑*i*P		**Pn**	**10 05 19.2**	**+1.8**
FSA				IAML			10 06 07.0	
	comp=Z,7.7nm,0.5s							
LVC	**Limon Verde**	**8.32**	**18**	Pn		**Pn**	**10 05 37.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=104,slow=20,SNR=3.9							
LVC				Lg		Lg	10 07 38.9	
	comp=Z,0.7nm,0.3s,baz=302,slow=15,SNR=3.1							
PLCA	**Paso Flores**	**10.17**	**175**	Pn		Pn	10 06 11.0	+6.3
	comp=Z,0.2nm,0.3s,baz=2.8,slow=12,SNR=4.6							
CPUP	**Villa Florida**	**13.32**	**75**	Pn		**P**	**10 06 53.1**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=235,slow=16,SNR=2.5							
CPUP				LR		LR	10 12 37.7	
	comp=Z,140nm,21.0s,baz=224,slow=40							
LPAZ	**La Paz**	**14.60**	**14**	Pn		**Pn**	**10 07 05.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=39,slow=5.8,SNR=2.8							
SIV	**San Ignacio**	**17.47**	**36**	P		**Pn**	**10 07 42.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=7.2							
TXAR	**Lajitas Array**	**66.92**	**330**	P		**P**	**10 14 30.9**	**-0.8**
	comp=Z,0.1nm,0.7s,baz=156,slow=6.9,SNR=2.3							
WRA	**Warramunga Arr**	**123.88**	**210**	PKP		**PKiKP**	**10 22 41.2**	**+3.0**
	comp=Z,0.2nm,0.6s,baz=154,slow=1.8,SNR=1.8							
H11S2	**WAKE ISLAND Hyl**	**26.06**	**271**	T		T	12 41 32.4	
	baz=116,slow=75,SNR=124							
H11S1	**WAKE ISLAND Hyl**	**26.07**	**271**	T		T	12 41 32.9	
	baz=116,slow=75,SNR=133							
H11S3	**WAKE ISLAND Hyl**	**26.07**	**271**	T		T	12 41 33.6	
	baz=116,slow=75,SNR=121							
H11N3	**WAKE ISLAND Hyl**	**26.38**	**273**	T		T	12 41 58.2	
	baz=117,slow=75,SNR=9.9							
H11N1	**WAKE ISLAND Hyl**	**26.40**	**273**	T		T	12 42 01.0	
	baz=117,slow=75,SNR=4.0							
H11N2	**WAKE ISLAND Hyl**	**26.40**	**273**	T		T	12 41 59.4	
	baz=117,slow=75,SNR=20							
ZALV	**Zalesovo Beam**	**151.14**	**29**	PKP		**PKPdf**	**10 23 28.3**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=323,slow=2.9,SNR=5.6							
ZALV				PKPbc		**PKPbc**	**10 23 36.3**	**+4.4**
	comp=Z,2.9nm,0.6s,baz=297,slow=3.3,SNR=11							

IDC 15 10:12:21.7±2.2, 6.°28S×148.°84E, h204km±21km, mb3.3/3, mb1 3.5/6, mb1mx3.2/26, mbtmp4.0/6, Error ellipse: s-maj=33.7km s-min=19.6km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**208**	P		Pn	10 13 19.1	+1.3
	2.9nm,0.3s,baz=338,slow=16,SNR=7.2							
PMG				S		S	10 14 02.5	+1.2
	4.2nm,0.3s,baz=89,slow=23,SNR=11							
HNR	**Honiara**	**11.44**	**107**	P		Pn	10 14 58.1	-1.3
	12nm,0.3s,baz=270,slow=8.1,SNR=3.5							
WRA	**Warramunga Arr**	**19.57**	**225**	P		P	10 16 32.9	-1.5
	0.5nm,0.3s,baz=48,slow=11,SNR=53							
ASAR	**Alice Springs**	**22.48**	**218**	P		P	10 17 05.1	+0.9
	0.9nm,0.4s,baz=46,slow=9.3,SNR=38							
FITZ	**Fitzroy Crossi**	**25.50**	**241**	P		P	10 17 31.9	+0.3
	2.0nm,1.0s,baz=38,slow=16,SNR=3.5							
SONM	**Songino Array**	**65.55**	**330**	P		P	10 22 43.8	+0.2
	0.4nm,0.5s,baz=145,slow=5.3,SNR=12							

*BJI **15** 10:32:34.4±0.0, 38.°92N×70.°72E, h12km, mb4.4/14, mB4.5/5, ML4.5/3, Ms4.0/6, Ms7 3.8/4*
*ISCJB **15** 10:32:37.3±0.6, 38.°93N±0.°02×70.°85E±0.°03, h27km±4km, mb4.2/44, MS3.5/3, Error ellipse: s-maj=4.1km s-min=2.8km az=141.8*
*NNC **15** 10:32:37.0±1.1, 38.°88N×70.°78E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=8.8km s-min=6.1km az=13.0*
*MOS **15** 10:32:38.7±1.0, 38.°97N×70.°85E, h33km, mb4.6/16, Error ellipse: s-maj=8.7km s-min=5.1km az=84.8*
*NEIC **15** 10:32:38.2±2.6, 39.°03N±0.°04×70.°76E±0.°06, h19km±4km, mb4.7/45*
*KRNET **15** 10:32:39.1±0.1, 39.°19N×71.°00E, mb4.6*
*IDC **15** 10:32:39.7±3.2, 38.°89N×70.°95E, h33km±23km, mb3.9/21, mb1 4.1/27, mb1mx3.9/65, mbtmp4.1/27, ML4.1/7, MS3.3/6, Ms1 3.3/6, ms1mx3.0/45, Error ellipse: s-maj=17.1km s-min=9.7km az=0.0*

**ISC 15 10:32:35.6±0.9, 38.°98N±0.°03×70.°88E±0.°03, h3km±6km, n215

76nm,0.3s,baz=202,slow=6.2,SNR=319
AAK Sn **Sn** 10 34 42.0 +2.7
12nm,0.3s,baz=218,slow=16,SNR=2.5
AAK Lg Lg 10 34 47.2
14nm,0.3s,baz=194,slow=23,SNR=3.7
AAK LR LR 10 35 54.9
comp=Z,206nm,18.9s,baz=225,slow=42
AAK Ala-Archa 4.57 36 P **Pn 10 33 49.8 +4.1**
SNR=217
AAK Ala-Archa 4.57 36 Pn 10 33 50.2 +4.5
AAK **Sn 10 34 39.7 +0.3**
NRN Naryn 4.62 56⇓*iP* **Pn 10 33 49.9 +3.3**
baz=58
NRN ⇓*iS* **Sn 10 34 41.6 +0.7**
baz=58
NRN Naryn 4.62 56 PN **Pn 10 33 48.5 +2.0**
NRN Naryn 4.62 56 Pn 10 33 48.5 +2.0
KBL Kabul 4.67 199 PN **Pn 10 33 50.8 +3.6**
KBL 10 34 42.0
KBL Kabul 4.67 199 Pn **Pn 10 33 50.8 +3.6**
KBL Sn **Sn 10 34 42.0 0.0**
FRU1 Bishkek 4.76 35⇑*iP* **Pn 10 33 51.6 +3.3**
baz=36
FRU1 ⇑*iS* **Sn 10 34 44.7 +0.6**
baz=36
FRU1 Bishkek 4.76 35 PN **Pn 10 33 52.2 +3.9**
FRU1 Bishkek 4.76 35 Pn **Pn 10 33 52.2 +3.9**
KBK Karagaybulak 4.79 39⇑*iP* **Pn 10 33 52.0 +3.2**
baz=40
KBK ⇑*iS* **Sn 10 34 45.9 +0.9**
baz=40
KBK Karagaybulak 4.79 39 P **Pn 10 33 53.2 +4.4**
SNR=143
CHMS Chumysh 4.97 35⇑*iP* **Pn 10 33 54.7 +3.6**
baz=35
CHMS ⇑*iS* **Sn 10 34 49.4 +0.4**
baz=35
CHMS Chumysh 4.97 35 P **Pn 10 33 54.9 +3.8**
SNR=52
USP Ospenovka 5.08 31⇑*iP* **Pn 10 33 56.0 +3.4**
baz=32
USP ⇑*iS* **Sn 10 34 52.0 +0.2**
baz=32
USP Ospenovka 5.08 31 P **Pn 10 33 56.1 +3.5**
SNR=234
BOOM Boomskoye usch 5.20 46⇑*iP* **Pn 10 33 57.8 +3.4**
baz=47
BOOM ⇑*iS* **Sn 10 34 55.1 +0.1**
baz=47
BOOM Boomskoye usch 5.20 46 PN **Pn 10 33 57.4 +3.0**
BOOM Boomskoye usch 5.20 46 Pn 10 33 57.4 +3.0
CEP Cherat 5.21 171 P Pn 10 33 59.4 +4.9
ULHL Ulahol 5.22 50⇑*eP* **Pn 10 33 57.6 +2.9**
baz=51
ULHL ⇑*iS* **Sn 10 34 55.5 0.0**
baz=51
ULHL Ulahol 5.22 50 P **Pn 10 33 57.8 +3.1**
SNR=43
TKM2 Tokmak 2 5.31 41 ⇑Pn **Pn 10 33 59.5 +3.5**
72nm,0.6s
TKM2 ⇑Sn **Sn 10 35 03.0 +5.2**
72nm,0.6s
TKM2 ⇓Lg Lg 10 35 30.1
147nm,1.1s
TKM2 Tokmak 2 5.31 41⇑*iP* **Pn 10 33 58.8 +2.8**
baz=42
TKM2 ⇑*iS* **Sn 10 34 58.0 +0.2**
baz=42
TKM2 Tokmak 2 5.31 41 P **Pn 10 33 59.6 +3.7**
SNR=220
CHCP Chirah Chowk 5.65 159 P Pn 10 34 05.1 +4.7
NIL Nilore 5.65 160 PN **Pn 10 34 03.6 +3.1**
NIL Nilore 5.65 160 Pn 10 34 03.6 +3.1
KDJ Kajisay 5.74 55⇑*eP* **Pn 10 34 05.2 +3.4**
baz=56
KDJ ⇑*iS* **Sn 10 35 08.5 +0.3**
baz=56
KDJ Kajisay 5.74 55 PN **Pn 10 34 05.1 +3.4**
KDJ Kajisay 5.74 55 Pn 10 34 05.1 +3.4
TARG Taragay, Kyrgy 5.96 60⇓*eP* **Pn 10 34 08.1 +3.1**
baz=62
TARG ⇓*iS* **Sn 10 35 14.4 +0.5**
baz=62
TARG Taragay, Kyrgy 5.96 60 Pn 10 34 07.9 +2.9
THW Thamme Wali 6.21 173 P **Pn 10 34 12.4 +4.2**
MDOK Medeo 6.26 46 ⇑Pn **Pn 10 34 13.3 +4.4**
22nm,0.5s
MDOK Pg **Pg 10 34 33.8 -1.6**
20nm,0.5s
MDOK ⇑Lg Lg 10 36 01.1
66nm,1.0s
PDGK Podgornoye 7.81 53 ⇑Pn **Pn 10 34 33.5 +3.3**
9.0nm,0.7s
PDGK ⇓Pg **Pg 10 35 01.9 -3.2**
11nm,0.6s
PDGK ⇓Lg Lg 10 36 47.7
55nm,1.1s
HRA Herat 8.32 239 Pn **Pn 10 34 37.5 +0.3**
GEYT Alibeck 10.07 268 Pn **Pn 10 35 02.3 +1.2**
0.8nm,0.3s,baz=48,slow=16,SNR=3.7
GEYT Sn **Sn 10 36 49.8 -4.7**
1.0nm,0.3s,baz=91,slow=15,SNR=2.6
GEYT Lg Lg 10 38 15.6
baz=77,slow=19,SNR=2.3
GEYT Alibeck 10.07 268 Pn 10 35 01.4 +0.3
GEYT **Sn 10 36 52.8 -1.8**
GYA0B ALIBECK ARRAY 10.07 268 Pn **Pn 10 34 58.5 -2.6**
GYA0B Sn **Sn 10 36 52.6 -1.9**
MAKZ Makanchi 11.28 43 ⇑Pn **Pn 10 35 21.0 +3.4**
9.7nm,0.8s
MAKZ ⇑Lg Lg 10 38 40.1
17nm,1.4s
MK31 Makanchi Array 11.44 43 Pn **Pn 10 35 21.9 +2.2**
8.9nm,0.7s,baz=232,slow=15,SNR=48
MK31 ⇑Lg Lg 10 38 42.4
11nm,1.2s,baz=233,slow=25,SNR=3.7
MKAR Makanchi Array 11.44 43 Pn **Pn 10 35 22.4 +2.6**
0.9nm,0.3s,baz=229,slow=13,SNR=50
MKAR Lg Lg 10 38 40.7
0.2nm,0.3s,baz=239,slow=25,SNR=4.7
MKAR LR LR 10 40 23.1
comp=Z,48nm,20.6s,baz=200,slow=40
KURBB Kurchatov Arra 12.84 22 Pn **Pn 10 35 38.3 -0.5**
0.5nm,0.3s,baz=216,slow=13,SNR=17
KURBB Lg Lg 10 39 21.9
0.2nm,0.3s,baz=213,slow=30,SNR=4.9
AB31 Akbulak array 12.92 326 Pn **Pn 10 35 41.2 +1.3**
20nm,0.8s,baz=132,slow=14,SNR=212
AB31 ⇑Sn **Sn 10 38 06.9 +2.7**
21nm,0.6s
ABKAR Akbulak array 12.92 326 Pn 10 35 39.4 -0.5
KURK Kurchatov 12.94 22 P **Pn 10 35 39.1 -1.2**
KURK Kurchatov 12.94 22 Pn 10 35 39.1 -1.2
WMQ Urumqi 13.51 64 *eP* **Pn 10 35 52.0 +3.9**
WMQ sP P 10 35 59.6 +2.0
WMQ LR LR
comp=N,340nm,6.5s
WMQ LR LR
comp=E,290nm,5.9s
BVAR Borovoye Array 14.05 359 Pn **Pn 10 35 56.4 +1.0**
1.0nm,0.3s,baz=152,slow=12,SNR=9.9
BRVK Borovoye 14.09 359 P **Pn 10 35 55.8 -0.1**
BRVK Borovoye 14.09 359 Pn 10 35 55.8 -0.1
AKTO Aktyubinsk 14.63 326 ⇓Pn **Pn 10 36 05.1 +1.7**
9.1nm,0.6s
AKTO ⇓Sn **Sn 10 38 49.1 +3.2**
58nm,1.4s
AKTO Aktyubinsk 14.63 326 Pn **Pn 10 36 03.8 +0.5**
1.2nm,0.3s,baz=139,slow=17,SNR=13
AKTO Sn **Sn 10 38 43.5 -2.5**
1.0nm,0.3s,baz=4.1,slow=8.9,SNR=3.8
AKTO LR LR 10 42 11.7
comp=Z,156nm,18.2s,baz=129,slow=39
DANN Dangsing 15.06 131 *eP* **Pn 10 36 06.6 -2.9**
22nm,0.4s
KOLN Koldanda 15.40 133 *eP* **Pn 10 36 11.9 -2.1**
25nm,0.6s
GKN Gorkha 15.84 130 *eP* **Pn 10 36 15.9 -3.7**
KKN Kakani 16.38 129 *eP* **Pn 10 36 24.1 -2.6**
DMN Daman 16.41 129 *eP* **Pn 10 36 23.8 -3.3**
7.1nm,0.3s
PKIN Phulchoki 16.61 129 *eP* **Pn 10 36 27.5 -2.1**
JIRN Jiri 17.04 127 *eP* **Pn 10 36 32.2 -3.0**
ZAA0 Zalesovo Array 17.73 28 Pn **Pn 10 36 43.1 -0.2**
ZALV Zalesovo Beam 17.73 28 P **Pn 10 36 43.3 0.0**
2.2nm,0.3s,baz=220,slow=12,SNR=23
ZALV LR LR 10 44 05.6
comp=Z,108nm,19.4s,baz=293,slow=39
ZALV Zalesovo Beam 17.73 28 Pn **Pn 10 36 42.4 -0.9**
RAMN Ramite 17.80 128 *eP* **Pn 10 36 41.6 -2.9**
ODAN Odare 18.35 126 *eP* **Pn 10 36 50.2 -1.2**
GNI Garni 20.17 282 P **P 10 37 11.4 +0.1**
5.6nm,0.3s,baz=124,slow=13,SNR=1.8
KBZ Khabaz 21.49 292 P **P 10 37 26.6 +1.4**
1.7nm,0.7s,baz=168,slow=6.1,SNR=3.8
KIV Kislovodsk 21.65 292 *eP* P 10 37 40.3 +13
KIV pmax pmax
comp=Z,44nm,1.1s
SHL Shillong 22.16 121 P **P 10 37 32.6 -0.2**
SHL pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 22.16 121 P **P 10 37 32.6 -0.2**
GTA Gaotai 22.39 80 P **P 10 37 37.5 +2.3**
GTA pP sP 10 37 41.6 +3.9
GTA sP pP 10 37 44.6 +7.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,72nm,5.0s
GTA LR LR
comp=Z,160nm,13.7s
GTA LR LR
comp=Z,160nm,13.7s
GTA LR LR
comp=Z,190nm,14.4s
VRH Novokhopyorsk 23.77 310 *eP* P 10 37 57.8 +8.8
VRH pmax pmax
comp=Z,8.0nm,0.9s
KIRV Kirov 23.99 332 P **P 10 37 52.9 +1.8**
comp=Z,12nm,0.5s,baz=186,slow=0.9,SNR=3.8
KIRV LR LR 10 47 31.7
comp=Z,124nm,19.3s,baz=212,slow=37
KEMA Kemaliye 25.06 281 *i* P **P 10 38 02.8 +1.6**
KEMA IAML_P
comp=Z,769nm,0.1s
VORD Divnogorie 25.15 309 *eP* **P 10 38 03.8 +2.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 25.30 309 *eP* **P 10 38 04.0 +0.9**
VSR pmax pmax
comp=Z,10.0nm,1.3s
ZAK Zakamensk 25.50 53 *eP* **P 10 38 05.3 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
HEKM Malatya_Hekimh 25.54 280 *i* P **P 10 38 05.5 -0.2**
HEKM IAML_P
comp=Z,168nm,0.1s
CUKAN kangal_SIVAS 25.84 281 *i* P **P 10 38 04.0 -4.4**
CUKAN *i* S **pP 10 38 10.5 +0.4**
LPSR Galich'ya Gora 25.86 312 *eP* **P 10 38 02.6 -5.6**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
TLY Talaya 26.06 50 P **P 10 38 11.4 +1.4**
comp=Z,5.8nm,0.5s,baz=239,slow=9.9,SNR=2.8
TLY Talaya 26.06 50 P **P 10 38 11.5 +1.4**
TLY IAmb IAmb 10 38 12.1
comp=Z,7.0nm,0.6s
LZH Lanzhou 26.22 86 *eP* **P 10 38 13.0 +1.2**
LZH pP sP 10 38 16.3 +1.9
LZH sP pP 10 38 17.8 +4.1
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,53nm,4.9s
RAYN Ar Rayn 26.49 242 P **P 10 38 15.5 +1.3**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 26.49 242 P **P 10 38 15.5 +1.3**
SONM Songino Array 27.07 59 P **P 10 38 20.2 +0.8**
comp=Z,1.2nm,0.6s,baz=265,slow=10,SNR=6.6
SONM LR LR 10 50 07.9
comp=Z,115nm,18.7s,baz=270,slow=39
SONM Songino Array 27.07 59 P **P 10 38 18.5 -0.9**
BR131 Keskin Array S 28.68 283 P **P 10 38 30.3 -3.5**
BR131 pmax pmax
comp=Z,6.0nm,1.2s
BR131 Keskin Array S 28.68 283 P **P 10 38 30.3 -3.5**
BRTR Keskin Array B 28.68 283 P **P 10 38 30.2 -3.5**
BRTR Keskin Array B 28.68 283 P **P 10 38 37.4 +3.6**
comp=Z,1.1nm,0.7s,baz=104,slow=9.5,SNR=4.9
BRTR Keskin Array B 28.68 283 P **P 10 38 30.2 -3.6**
KMI Kunming 30.16 108 P **P 10 38 47.8 +0.7**
KMI pmax pmax
comp=Z,11nm,1.2s
XAN Xi'an 30.82 87 P **P 10 38 52.9 +0.2**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 30.82 87 P **P 10 38 52.9 +0.2**
XAN IAmb IAmb 10 38 53.5
comp=Z,7.9nm,1.1s
HHC Hu-ho-hao-te 31.06 73 *eP* **P 10 38 53.4 -1.5**
HHC pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 31.37 306 P **P 10 38 57.5 +0.2**
comp=Z,0.5nm,0.4s,baz=83,slow=7.1,SNR=6.7
CMAR Chiang Mai Arr 31.79 122 P **P 10 39 00.8 -0.5**
CMAR Chiang Mai Arr 31.79 122 P **P 10 39 00.3 -1.0**
comp=Z,0.7nm,0.3s,baz=304,slow=9.7,SNR=2.7
CMAR Chiang Mai Arr 31.79 122 P **P 10 39 00.8 -0.5**
BURAR Bucovina Array 33.92 300 P **P 10 39 19.1 -0.7**
BUR08 Bucovina Ar. S 33.93 300 P **P 10 39 18.7 -1.2**
FIA1 FINESS Array S 35.40 324 P **P 10 39 32.0 -0.2**
FINES FINESS Array B 35.40 324 P **P 10 39 32.3 +0.1**
comp=Z,1.9nm,0.7s,baz=119,slow=9.8,SNR=9.1
FINES FINESS Array B 35.40 324 P **P 10 39 31.8 -0.4**
ARCES ARCESS Array B 38.83 336 P **P 10 40 02.2 +0.8**
ARCES ARCESS Array B 38.83 336 P **P 10 40 01.9 +0.5**
comp=Z,7.0nm,1.0s,baz=108,slow=7.3,SNR=8.3
ARCES ARCESS Array B 38.83 336 P **P 10 40 02.2 +0.8**
GERES GERESS Array B 41.46 303 P **P 10 40 25.0 +1.4**
GERES GERESS Array B 41.46 303 P **P 10 40 25.0 +1.4**
comp=Z,0.4nm,0.3s,baz=148,slow=40,SNR=4.1
GERES GERESS Array B 41.46 303 P **P 10 40 24.2 +0.6**
NC405 NORSAR Array S 42.13 322 P **P 10 40 29.2 +0.5**
NC405 IAmb IAmb 10 40 30.4
comp=Z,15nm,1.1s
NC303 NORSAR Array S 42.30 322 P **P 10 40 30.6 +0.4**
NB201 NORSAR Array S 42.33 321 P **P 10 40 30.7 +0.3**
NB2 NORSAR Subarra 42.37 321 P **P 10 40 30.7 0.0**
comp=Z,3.7nm,0.7s,baz=90,slow=7.9
NOA NORSAR Array B 42.37 321 P **P 10 40 30.8 0.0**
comp=Z,1.7nm,0.6s,baz=93,slow=7.9,SNR=7.0
NBO00 NORSAR Array S 42.58 321 P **P 10 40 32.7 +0.2**
NBO00 IAmb IAmb 10 40 36.9
comp=Z,46nm,1.4s
NC204 NORSAR Array S 42.60 322 P **P 10 40 32.7 +0.1**
NC204 IAmb IAmb 10 40 44.6
comp=Z,26nm,1.1s
TIXI Tiksi 43.52 23 P **P 10 40 39.7 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 43.52 23 P **P 10 40 39.7 -0.2**
KLR Kul'dur 43.79 56 P **P 10 40 42.5 +0.2**
comp=Z,1.8nm,0.4s,baz=275,slow=7.4,SNR=9.6
DAVOX Davos/Dischmat 44.38 301 P **P 10 40 47.3 0.0**
comp=Z,1.7nm,0.5s,baz=70,slow=17,SNR=2.6
SPA0 Spitsbergen Ar 45.06 346 P **P 10 40 52.2 +0.1**
USRK Ussuriysk Ar. 45.08 63 P **P 10 40 52.2 -0.5**
comp=Z,2.0nm,0.7s,baz=142,slow=41,SNR=3.2
USRK Ussuriysk Ar. 45.08 63 P **P 10 40 52.4 -0.4**
DGAR Diego Garcia 46.18 178 P **P 10 41 01.9 +0.3**
DGAR pmax pmax
comp=Z,40nm,0.8s
DGAR Diego Garcia 46.18 178 P **P 10 41 01.9 +0.3**
MJAR Matsushiro Arr 52.17 70 P **P 10 41 47.0 -0.4**
MJAR Matsushiro Arr 52.17 70 P **P 10 41 47.0 -0.4**
comp=Z,2.7nm,0.9s,baz=300,slow=10,SNR=5.0
DAG Danmarks Havn 52.33 343 *i* P **P 10 41 48.3 +0.3**
DAG pmax pmax
comp=Z,4.0nm,0.5s
DAG Danmarks Havn 52.33 343 *i* P **P 10 41 48.3 +0.3**
comp=Z,4.9nm,0.5s
ESDC Sonseca Array 56.25 296 P **P 10 42 16.8 -0.4**
comp=Z,0.2nm,0.3s,baz=62,slow=7.9,SNR=2.6
SUMG Summit 58.69 341 *i* P **P 10 42 35.2 +0.9**
SUMG Summit 58.69 341 *i* P **P 10 42 35.2 +0.9**
SUMG Summit 58.69 341 P **P 10 42 34.7 +0.3**
SUMG IAmb IAmb 10 42 42.4
comp=Z,11nm,1.2s
TOA0 Torodi Ar. Sit 65.71 267 P **P 10 43 21.6 -0.2**
TOA0 IAmb IAmb 10 43 33.6
comp=Z,5.2nm,1.1s
TORD Torodi Ar. Bea 65.71 267 P **P 10 43 20.8 -0.9**
comp=Z,0.4nm,0.4s,baz=52,slow=5.9,SNR=8.1
TORD Torodi Ar. Bea 65.71 267 P **P 10 43 21.4 -0.3**
LSZ Lusaka 67.12 225 P **P 10 43 31.1 +0.3**
LSZ pmax pmax
comp=Z,13nm,0.8s
LSZ Lusaka 67.12 225 P **P 10 43 31.1 +0.3**
TOLK Toolik Lake Re 68.55 15 P **P 10 43 39.0 -0.1**
TOLK IAmb IAmb 10 43 45.4
comp=Z,4.0nm,0.6s
COLD Coldfoot 69.61 16 P **P 10 43 45.9 +0.2**
COLD IAmb IAmb 10 43 46.6
comp=Z,4.6nm,1.1s
IMAR Indian Mountai 69.84 18 P **P 10 43 46.3 -0.8**
BMAR Burnt Mountain 70.56 14 P **P 10 43 51.8 +0.3**
INK Inuvik 71.48 9 P **P 10 43 57.3 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 71.48 9 P **P 10 43 56.9 0.0**
comp=Z,1.3nm,0.6s,baz=8.9,slow=8.5,SNR=6.3
INK Inuvik 71.48 9 P **P 10 43 57.3 +0.4**
INK IAmb IAmb 10 43 57.7
comp=Z,2.5nm,0.6s
TTA Tatalina 71.73 21 P **P 10 43 58.7 0.0**
TTA pmax pmax
comp=Z,6.0nm,1.2s
TTA Tatalina 71.73 21 P **P 10 43 58.7 0.0**
TTA IAmb IAmb 10 44 03.7
comp=Z,6.1nm,1.2s
WRH Wood River Hil 72.42 17 P **P 10 44 00.8 -1.9**
ILAR Eielson Array 72.42 16 P **P 10 44 01.5 -1.2**
ILAR Eielson Array 72.42 16 P **P 10 44 01.1 -1.6**
comp=Z,1.1nm,0.9s,baz=260,slow=5.4,SNR=8.7
ILAR Eielson Array 72.42 16 P **P 10 44 01.5 -1.2**
PPLA Purkeypile 72.78 19 P **P 10 44 05.0 0.0**
PPLA IAmb IAmb 10 44 07.5
comp=Z,11nm,1.4s
SUA Susitna One 74.35 19 P **P 10 44 14.1 -0.2**
SUA IAmb IAmb 10 44 17.0
comp=Z,10nm,1.3s
DAWY Dawson 74.53 13 P **P 10 44 14.8 -0.4**
GHO Glory Hole Cre 74.55 18 P **P 10 44 15.5 +0.1**
GHO IAmb IAmb 10 44 28.2
comp=Z,8.7nm,1.0s
PMR Palmer 74.65 19 P **P 10 44 15.8 0.0**
PMR pmax pmax
comp=Z,2.0nm,0.7s
PMR Palmer 74.65 19 P **P 10 44 15.8 0.0**
SML Sawmill 74.66 18 P **P 10 44 16.0 0.0**
SML IAmb IAmb 10 44 17.2
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 74.88 18 P **P 10 44 17.2 -0.1**
SCM pmax pmax
comp=Z,12nm,1.3s
SCM Sheep Creek Mo 74.88 18 P **P 10 44 17.2 -0.1**
SCM IAmb IAmb 10 44 21.1
comp=Z,12nm,1.3s
RC01 Rabbit Creek A 74.93 19 P **P 10 44 17.5 0.0**
RC01 IAmb IAmb 10 44 17.5
comp=Z,24nm,1.4s
KNK Knik Glacier 74.97 18 P **P 10 44 16.8 -1.0**
KNK IAmb IAmb 10 44 24.1
comp=Z,9.8nm,1.1s
BCAR Beaver Creek A 74.99 15 P **P 10 44 18.7 +0.8**
PSAD1 Pilbara Seismi 75.58 134 P **P 10 44 21.7 0.0**
PSAD1 IAmb IAmb 10 44 25.0
comp=Z,7.8nm,1.1s
BRLK Bradley Lake 75.75 20 P **P 10 44 21.6 -0.6**
GLI Glacier Island 75.76 18 P **P 10 44 22.2 0.0**
KNRA Kununurra 76.65 123 P **P 10 44 26.9 -0.9**
BALM Baldy 76.71 16 P **P 10 44 27.6 -0.2**
KDAK Kodiak Island 76.94 22 P **P 10 44 29.3 +0.3**
KDAK pmax pmax
comp=Z,42nm,1.3s
KDAK Kodiak Island 76.94 22 P **P 10 44 29.3 +0.3**
CTGM Chitina Glacie 76.99 15 P **P 10 44 28.1 -1.3**
YKA Yellowknife Ar 78.78 3 P **P 10 44 39.2 +0.1**
comp=Z,2.0nm,0.7s,baz=350,slow=5.1,SNR=5.0
WB0 Warramunga Arr 83.29 122 P **P 10 45 02.9 -0.9**
WB0 IAmb IAmb 10 45 15.2
comp=Z,5.7nm,1.4s
WRA Warramunga Arr 83.38 122 P **P 10 45 03.4 -0.8**
comp=Z,1.7nm,0.6s,baz=322,slow=4.9,SNR=34
WRA Warramunga Arr 83.38 122 P **P 10 45 02.9 -1.4**
WRAB Tennant Creek 83.38 122 P **P 10 45 03.7 -0.6**
WRAB pmax pmax
comp=Z,3.0nm,0.9s
WRAB Tennant Creek 83.38 122 P **P 10 45 03.7 -0.6**
WRAB IAmb IAmb 10 45 09.5
comp=Z,3.0nm,0.8s
WB2 Warramunga Arr 83.39 122 P **P 10 45 03.5 -0.8**
WB2 IAmb IAmb 10 45 04.0
comp=Z,5.0nm,1.1s
ASAR Alice Springs 85.75 125 P **P 10 45 15.7 -0.5**
ASAR Alice Springs 85.75 125 P **P 10 45 15.4 -0.8**
comp=Z,1.2nm,0.7s,baz=311,slow=4.8,SNR=18
ASAR Alice Springs 85.75 125 P **P 10 45 15.7 -0.5**

NEIC ***15*** *10:34:07.1±2.7,27°.60N±0°.10×140°.55E±0°.08,h10km±1km, mb4.4/7*
IDC ***15*** *10:34:07.1±0.8,27°.59N×140°.60E,h0km,mb3.8/11, mb1 4.1/13,mb1mx3.9/65,mbtmp3.9/13,ML5.0/1,Error ellipse: s-maj=23.2km s-min=17.4km az=64.0*
ISCJB ***15*** *10:34:09.3±0.4,27°.56N±0°.07×140°.60E±0°.07,h33km, mb3.8/10,Error ellipse: s-maj=10.9km s-min=7.4km az=43.6*
ISC 15 10:34:11.6±0.7,27°.6N±0°.1×140°.7E±0°.1,h35km,n30, σ1§29/31,mb4.0/14,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.41**	**111**	Pn	**Pn**	**10 34 34.5**	**-0.3**
	115nm,0.3s,baz=27,slow=12,SNR=89						
JCJ				Sn	**Sn**	**10 34 52.6**	**+0.4**
	200nm,0.3s,baz=336,slow=23,SNR=32						
MJAR	**Matsushiro Arr**	**9.15**	**347**	Pn	**Pn**	**10 36 20.6**	**-0.6**
	baz=163,slow=12,SNR=2.6						
MJAR	**Matsushiro Arr**	**9.15**	**347**		**Pn**	**10 36 19.0**	**-2.1**
KSRS	**Korea Array**	**14.56**	**316**	Pn	**Pn**	**10 37 36.5**	**+1.3**
	baz=124,slow=12,SNR=2.8						
KLR	**Kul'dur**	**22.66**	**345**	P	**P**	**10 39 09.4**	**-0.3**
	1.5nm,0.6s,baz=166,slow=11,SNR=6.7						
PATS	**Pohnpei**	**26.57**	**138**	P	**P**	**10 39 45.8**	**-0.7**
WB0	**Warramunga Arr**	**47.50**	**188**	P	**P**	**10 42 40.3**	**-3.1**
WB0				IAmb	IAmb	10 42 42.9	
	comp=Z,5.5nm,1.4s						
WRAB	**Tennant Creek**	**47.67**	**188**	P	**P**	**10 42 43.3**	**-1.4**
WRAB				IAmb	IAmb	10 42 47.4	
	comp=Z,4.4nm,1.1s						
WR0	**Warramunga Arr**	**47.67**	**188**	P	**P**	**10 42 43.8**	**-1.0**
WR0				IAmb	IAmb	10 42 54.9	
	comp=Z,5.5nm,1.2s						
WB2	**Warramunga Arr**	**47.68**	**188**	P	**P**	**10 42 45.3**	**+0.5**
WB2				IAmb	IAmb	10 42 56.3	
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**47.68**	**188**	P	**P**	**10 42 45.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=7.0,slow=7.9,SNR=24						
WRA	**Warramunga Arr**	**47.68**	**188**	P	**P**	**10 42 44.8**	**-0.1**
MKAR	**Makanchi Array**	**49.13**	**309**	P	**P**	**10 42 56.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=72,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**51.41**	**188**	P	**P**	**10 43 13.7**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=7.3,slow=5.0,SNR=3.4						
ASAR	**Alice Springs**	**51.41**	**188**	P	**P**	**10 43 12.5**	**-0.7**
BVAR	**Borovoye Array**	**56.77**	**317**	P	**P**	**10 43 51.7**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=91,slow=9.1,SNR=2.4						
IL31		**57.89**	**29**	P	**P**	**10 43 59.5**	**-0.2**
ILAR	**Eielson Array**	**57.89**	**29**	P	**P**	**10 43 58.6**	**-1.2**
BCAR	**Beaver Creek A**	**60.14**	**31**	P	**P**	**10 44 16.4**	**+0.9**
INK	**Inuvik**	**63.10**	**25**	P	**P**	**10 44 36.3**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=297,slow=11,SNR=3.8						
INK	**Inuvik**	**63.10**	**25**	P	**P**	**10 44 35.9**	**+0.7**
ABKAR	**Akbulak array**	**63.79**	**314**	P	**P**	**10 44 38.4**	**-1.7**
FINES	**FINESS Array B**	**76.90**	**333**	P	**P**	**10 46 01.4**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=59,slow=5.4,SNR=2.3						
FINES	**FINESS Array B**	**76.90**	**333**	P	**P**	**10 45 58.1**	**-1.9**
NVAR	**Mina Array Bea**	**81.22**	**51**	P	**P**	**10 46 26.2**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=308,slow=4.4,SNR=3.0						
NVAR	**Mina Array Bea**	**81.22**	**51**	P	**P**	**10 46 23.5**	**-0.9**
PDAR	**Pinedale Array**	**84.76**	**44**	P	**P**	**10 46 44.3**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=252,slow=0.3,SNR=4.4						

PDAR	**Pinedale Array**	**84.76**	**44**	P	**P**		**10 46 42.7**	**0.0**
TXAR	**Lajitas Array**	**96.33**	**52**	P	**P**		**10 47 38.5**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=296,slow=4.1,SNR=5.2							
TXAR	**Lajitas Array**	**96.33**	**52**	P	**P**		**10 47 39.3**	**+2.1**

JMA 15 10:36:25.3,33°.03N×130°.74E,h12km,M1.1,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.15**	**52**	P	Pg	10 36 28.9	0.0
JNU				*e*S	Sg	10 36 31.5	+0.1
JNU	**Nakatsue**	**0.15**	**52**	Pn	Pb	10 36 31.4	+1.4
	12nm,0.3s,baz=149,slow=18,SNR=296						
JNU	**Nakatsue**	**0.15**	**52**		Pg	10 36 29.1	+0.2
JTA	**Tamana**	**0.19**	**249**	P	Pg	10 36 29.4	0.0
JTA				*e*S	Sg	10 36 32.3	0.0

BJI ***15*** *10:42:37.9±0.0,29°.97N×67°.40E,h9km,mb4.6/42, mB4.9/34,Ms4.5/31,Ms7 4.3/31*
IDC ***15*** *10:42:38.1±0.4,29°.86N×67°.53E,h0km,mb4.5/46, mb1 4.6/49,mb1mx4.6/63,mbtmp4.5/49,ML4.3/3,MS3.9/26, Ms1 3.9/26,ms1mx3.8/39,Error ellipse: s-maj=10.6km s-min=9.1km az=8.0*
ISCJB ***15*** *10:42:38.3±0.1,29°.79N±0°.02×67°.59E±0°.02,h18km, mb4.8/124,MS4.1/34,Error ellipse: s-maj=3.2km s-min=2.2km az=170.6*
NEIC ***15*** *10:42:40.5±1.8,29°.83N±0°.07×67°.50E±0°.07,h18km±3km, mb4.9/104*
MOS ***15*** *10:42:41.0±1.1,29°.87N×67°.57E,h33km,mb5.0/57, MS4.3/4,Error ellipse: s-maj=5.5km s-min=3.9km az=110.2*
NNC ***15*** *10:42:42.9±2.5,30°.30N×67°.83E,h0km,mb4.8,Error ellipse: s-maj=35.5km s-min=22.4km az=147.0*
ISC 15 10:42:42.4±0.9,29°.83N±0°.04×67°.54E±0°.03,h32km±6km, n453,σ1§45/471,mb4.8/150,**MS4.1**/34,**31C-15D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**4.66**	**49**	⇑P	**Pn**		**10 43 51.4**	**+0.9**
KBL	**Kabul**	**4.87**	**15**	P	**Pn**		**10 43 55.5**	**+1.9**
KBL						10 44 46.5	
KBL	**Kabul**	**4.87**	**15**		**Pn**		**10 43 55.5**	**+1.9**
KBL				Sn	**Sn**		**10 44 46.5**	**-2.5**
SARP	**Sargodha**	**4.88**	**63**	P	**Pn**		**10 43 53.6**	**+0.1**
CEP	**Cherat**	**5.45**	**42**	⇑P	**Pn**		**10 44 02.6**	**+1.1**
CEP				S	**Sn**		**10 45 03.0**	**-0.2**
NIL	**Nilore**	**6.18**	**50**	P	**Pn**		**10 44 12.6**	**+1.2**
NIL						10 45 20.9	
NIL	**Nilore**	**6.18**	**50**		**Pn**		**10 44 12.6**	**+1.2**
NIL				Sn	**Sn**		**10 45 20.9**	**-0.1**
CHCP	**Chirah Chowk**	**6.19**	**50**	P	**Pn**		**10 44 12.5**	**+0.9**
HRA	**Herat**	**6.39**	**317**		**Pn**		**10 44 13.6**	**-0.9**
HRA				Sn	**Sn**		**10 45 24.3**	**-2.1**
JMU	**Jammu**	**6.93**	**64**	*e*P	**Pb**		**10 44 43.0**	**+1.1**
JMU				*e*S	**Sn**		**10 45 36.5**	**-2.8**
AJM	**Ajmer**	**7.10**	**116**	*e*P	**Pn**		**10 44 23.0**	**-1.1**
AJM				*e*S	**Sn**		**10 45 41.0**	**-2.8**
DHRM	**DHARAMSHALA**	**7.89**	**70**	*e*P	**Pn**		**10 44 35.9**	**+0.7**
DHRM				*e*S	**Sn**		**10 46 01.4**	**-2.1**
DHRM				IAML		10 46 08.0	
	comp=N,870nm,0.3s						
DHRM				IAML		10 46 08.4	
	comp=E,871nm,0.5s						
KUDL	**Kundal**	**8.02**	**100**	*e*P	Pn	10 44 27.5	-9.1
KUDL				*e*S	Sn	10 45 53.8	-12
SMLA	**Simla**	**8.41**	**79**	*e*P	**Pn**		**10 44 42.2**	**+0.3**
SMLA				*e*S	**Sn**		**10 46 13.4**	**-2.4**
SMLA				IAML		10 46 17.6	
	comp=N,587nm,0.7s						
SMLA				IAML		10 46 18.2	
	comp=E,538nm,0.2s						
NDI	**New Delhi**	**8.53**	**95**	*e*P	**Pn**		**10 44 42.5**	**-1.2**
NDI				*e*S	**Sn**		**10 46 16.5**	**-2.3**
CHGR	**Chuyangaron**	**8.91**	**8**		**Pn**		**10 44 48.9**	**0.0**
CHGR				Sn	**Sn**		**10 46 27.1**	**-1.1**
GAR	**Garm**	**9.43**	**13**		**Pn**		**10 44 56.5**	**+0.4**
GAR				Sn	**Sn**		**10 46 40.3**	**-0.8**
KALG	**Kalgarh**	**9.76**	**89**	*e*P	Pn	10 44 47.6	-13
KALG				*e*S	Sn	10 46 29.4	-20
KALG				IAML		10 46 35.5	
	comp=E,421nm,0.9s						
KALG				IAML		10 47 06.3	
WSAR	**Wadi Sarin**	**10.33**	**233**	Pn	**Pn**		**10 45 05.9**	**-2.4**
	comp=E,1.8nm,0.3s,baz=114,slow=9.9,SNR=23						
WSAR				Sn	Sn	10 46 50.4	-13
	comp=E,4.3nm,0.3s,baz=227,slow=18,SNR=12						
WSAR				LR	LR	10 50 21.2	
	comp=E,340nm,19.1s,baz=54,slow=45						
JOSI	**Joshimath**	**10.43**	**83**	*e*P	**Pn**		**10 45 09.8**	**0.0**
JOSI				*e*S	**Sn**		**10 47 02.4**	**-3.2**
JOSI				IAML		10 47 14.1	
	comp=E,432nm,1.6s						
BIDO	**Bidbid**	**10.50**	**235**	P	**Pn**		**10 45 08.0**	**-2.7**
BIDO				S	Sn	10 46 59.3	-7.9
WBK	**Wadi Bani Khal**	**10.53**	**229**	P	**Pn**		**10 45 09.2**	**-1.9**
	SNR=48						
WBK				S	Sn	10 46 56.3	-12
BTK	**Batken**	**10.55**	**14**	P	**Pn**		**10 45 12.3**	**+0.9**
BTK	**Batken**	**10.55**	**14**		**Pn**		**10 45 12.3**	**+0.9**
JLN	**Jalan Bani Buh**	**10.57**	**226**	P	**Pn**		**10 45 09.8**	**-1.9**
	SNR=7.6						
JLN				S	Sn	10 46 59.1	-10
BANOM	**Banah**	**10.68**	**251**	*i* P	**Pn**		**10 45 12.1**	**-1.0**
	SNR=30						
BANOM	**Banah**	**10.68**	**251**	P	**Pn**		**10 45 12.3**	**-0.9**
BANOM				S	Sn	10 47 02.8	-8.8
SHME	**Shamm**	**10.76**	**252**	P	**Pn**		**10 45 14.1**	**-0.2**
SMDO	**Samad**	**10.85**	**234**	P	**Pn**		**10 45 13.0**	**-2.5**
SMDO				S	Sn	10 47 06.3	-10
MDH	**Madha**	**10.95**	**248**	P	**Pn**		**10 45 14.6**	**-2.2**
MDH	**Madha**	**10.95**	**248**	P	**Pn**		**10 45 14.3**	**-2.4**
MDH				S	Sn	10 47 06.9	-11
MSFE	**Esma-Masafi**	**11.03**	**249**	*i* P	**Pn**		**10 45 18.1**	**+0.1**
	SNR=20						
HOQ	**Hoqain**	**11.06**	**238**	P	**Pn**		**10 45 15.7**	**-2.6**
UOSS	**Minazif**	**11.18**	**247**	*i* P	**Pn**		**10 45 17.9**	**-2.1**
	SNR=14						
UOSS	**Minazif**	**11.18**	**247**		**Pn**		**10 45 18.0**	**-2.1**
GEYT	**Alibeck**	**11.25**	**318**	Pn	**Pn**		**10 45 21.1**	**+0.3**
	comp=E,0.4nm,0.3s,baz=141,slow=13,SNR=8.0						
GEYT				LR	LR	10 50 12.6	
	comp=E,986nm,19.0s,baz=155,slow=40						
GEYT	**Alibeck**	**11.25**	**318**		**Pn**		**10 45 20.6**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**11.25**	**318**		**Pn**		**10 45 20.4**	**-0.5**
JMDO	**Jabal Madar**	**11.27**	**231**	P	**Pn**		**10 45 20.5**	**-0.7**
JMDO				S	Sn	10 47 17.1	-9.0
HATD	**Hatta, Dubai**	**11.30**	**247**	P	**Pn**		**10 45 20.1**	**-1.5**
ASHO	**Ashiyiah**	**11.43**	**246**	*i* P	**Pn**		**10 45 21.5**	**-1.9**
	SNR=8.1						
ASHO	**Ashiyiah**	**11.43**	**246**	P	**Pn**		**10 45 21.7**	**-1.7**
	SNR=8.2						
ASHO				S	Sn	10 47 19.0	-11
NAZ	**Nazwa, Dubai**	**11.60**	**248**	P	**Pn**		**10 45 26.9**	**+1.2**
BSY	**Bisya**	**11.65**	**235**	P	**Pn**		**10 45 26.8**	**+0.3**
	SNR=10						
BSY				S	Sn	10 47 27.5	-7.9
ARQ	**Araqi**	**11.79**	**239**	P	**Pn**		**10 45 29.2**	**+0.9**
	SNR=27						
ARQ				S	**Sn**		**10 47 32.8**	**-6.0**
KSH	**Kashi**	**11.89**	**33**	P	Pn	10 45 24.6	-5.2
KSH				pP		10 45 28.1	
KSH				PP	**PnPn**		**10 45 33.1**	**-4.6**
KSH				S	Sn	10 47 30.8	-11
KSH				sS		10 47 37.9	
KSH				SS	**SnSn**		**10 47 46.8**	**-6.9**
KSH				pmax	pmax			
	comp=E,72nm,0.8s						
KSH				LR	LR			
	comp=E,510nm,15.2s						
KSH				LR	LR			
	comp=E,480nm,10.8s						
KSH				LR	LR			
	comp=E,420nm,12.6s						
ALNE	**Al Ain**	**11.98**	**244**	P	**Pn**		**10 45 31.1**	**+0.1**
ASUD	**Al Ashush, Dub**	**12.04**	**247**	*i* P	**Pn**		**10 45 32.4**	**+0.7**
	SNR=27							
ARSB	**Arslanbob**	**12.29**	**20**		**Pn**		**10 45 34.1**	**-1.1**
POO	**Poona**	**12.63**	**152**	*e*P	P	10 45 47.0	-3.9
AML	**Almayashu**	**13.24**	**20**	P	**Pn**		**10 45 47.3**	**-1.2**
	SNR=36							
NRN	**Naryn**	**13.46**	**28**	P	Pn	10 45 48.8	-2.6
NRN	**Naryn**	**13.46**	**28**		Pn	10 45 48.8	-2.6
KK31	**Karatay Array**	**13.46**	**9**	⇑P	Pn	10 45 48.6	-2.6
	comp=E,7.2nm,0.5s,baz=185,slow=12,SNR=66						
KK31				⇓S	Sn	10 48 13.4	-6.2
	comp=E,4.8nm,0.5s,baz=185,slow=22,SNR=6.0						
KK31	**Karatay Array**	**13.46**	**9**	P	Pn	10 45 48.5	-2.6
KK31	**Karatay Array**	**13.46**	**9**		Pn	10 45 48.5	-2.6
KKAR	**Karatay Array**	**13.46**	**9**	P	Pn	10 45 48.7	-2.4
KKAR	**Karatay Array**	**13.46**	**9**		Pn	10 45 48.7	-2.4
KKAR	**Karatay Array**	**13.46**	**9**		Pn	10 45 48.3	-2.8
UCH	**Uchtor**	**13.59**	**23**	P	**Pn**		**10 45 52.0**	**-1.3**
	SNR=54							
KZA	**Kyzart**	**13.72**	**25**	P	Pn	10 45 52.6	-2.4
	SNR=11							
EKS2	**Erkin-Say**	**13.75**	**20**	P	**Pn**		**10 45 54.2**	**-1.0**
	SNR=41							
AAK	**Ala-Archa**	**13.95**	**22**	⇓P	**Pn**		**10 45 56.5**	**-1.4**
	comp=E,31nm,0.6s							
AAK				⇓S	Sn	10 48 25.4	-6.4
	comp=E,32nm,1.4s							
AAK	**Ala-Archa**	**13.95**	**22**	*i* P	**Pn**		**10 45 57.4**	**-0.6**
	SNR=17							
AAK	**Ala-Archa**	**13.95**	**22**	Pn	**Pn**		**10 45 57.1**	**-0.8**
	comp=E,8.2nm,0.3s,baz=195,slow=7.4,SNR=64							
AAK				Sn	**Sn**		**10 48 26.0**	**-5.8**
	comp=E,0.8nm,0.3s,baz=348,slow=18,SNR=4.8							
AAK				LR	LR	10 52 04.9		
	comp=E,451nm,20.0s,baz=208,slow=41							
AAK	**Ala-Archa**	**13.95**	**22**	P	**Pn**		**10 45 57.3**	**-0.6**
	SNR=8.9							
AAK	**Ala-Archa**	**13.95**	**22**		**Pn**		**10 45 57.0**	**-1.0**
KBK	**Karagaybulak**	**14.12**	**23**	P	**Pn**		**10 46 01.1**	**+0.8**
	SNR=12							
KOLN	**Koldanda**	**14.23**	**94**	*e*P	**Pn**		**10 45 59.4**	**-2.5**
	comp=E,38nm,0.5s							
KOLN				*e*S	Sn	10 48 27.3	-11
DANN	**Dangsing**	**14.26**	**92**	*e*P	Pn	10 45 59.5	-2.9
	comp=E,267nm,0.7s							
BOOM	**Boomskoye usch**	**14.33**	**26**	P	**Pn**		**10 46 01.0**	**-2.1**
BOOM	**Boomskoye usch**	**14.33**	**26**		**Pn**		**10 46 01.0**	**-2.1**
CHMS	**Chumysh**	**14.36**	**22**	P	**Pn**		**10 46 01.9**	**-1.5**
	SNR=23							
TARG	**Taragay, Kyrgy**	**14.49**	**32**		Pn	10 46 03.2	-2.4
USP	**Ospenovka**	**14.52**	**21**	P	**Pn**		**10 46 04.1**	**-1.5**
	SNR=13							
KDJ	**Kajisay**	**14.53**	**30**	P	**Pn**		**10 46 03.8**	**-2.1**
KDJ	**Kajisay**	**14.53**	**30**		**Pn**		**10 46 03.8**	**-2.1**
TKM2	**Tokmak 2**	**14.58**	**24**	⇓P	**Pn**		**10 46 05.0**	**-1.6**
	comp=E,86nm,1.1s							
TKM2				⇑S	**Sn**		**10 48 41.6**	**-5.5**
	comp=E,12nm,1.2s							
TKM2	**Tokmak 2**	**14.58**	**24**	P	**Pn**		**10 46 05.2**	**-1.3**
	SNR=70							
GKN	**Gorkha**	**15.09**	**93**	*e*P	**Pn**		**10 46 09.4**	**-4.0**
	comp=E,81nm,0.6s							
MDOK	**Medeo**	**15.33**	**27**	⇑P	**Pn**		**10 46 14.4**	**-2.1**
	comp=E,15nm,0.6s							
MDOK				⇑S	**Sn**		**10 49 00.6**	**-4.8**
	comp=E,17nm,1.0s							
PRZ	**Przheval'sk**	**15.36**	**32**	P	**Pn**		**10 46 15.2**	**-1.7**
PRZ				pmax	pmax			
	comp=Z,39nm,0.9s							
PRZ	**Przheval'sk**	**15.36**	**32**		**Pn**		**10 46 15.2**	**-1.7**
PRZ				IAmb	IAmb	10 46 33.3		
	comp=Z,39nm,0.9s							
DMN	**Daman**	**15.57**	**94**	*e*P	**Pn**		**10 46 15.3**	**-4.5**
	comp=Z,67nm,0.8s							
KKN	**Kakani**	**15.68**	**93**	*e*P	**Pn**		**10 46 17.1**	**-4.1**
	comp=Z,48nm,0.5s							
PKIN	**Phulchoki**	**15.83**	**94**	*e*P	**Pn**		**10 46 18.8**	**-4.4**
	comp=Z,90nm,0.8s							
PKI	**Pulchoki**	**15.84**	**94**	*e*P	**Pn**		**10 46 18.9**	**-4.5**
	comp=Z,42nm,0.5s							
HYB	**Hyderabad**	**15.94**	**138**	*i* P	**Pn**		**10 46 21.0**	**-3.4**
HYB				*e*S	S	10 50 22.0	+49
GUN	**Gumba**	**16.18**	**92**	*e*P	**Pn**		**10 46 23.9**	**-3.8**
	comp=Z,161nm,0.4s							
JIRN	**Jiri**	**16.50**	**93**	*e*P	**Pn**		**10 46 28.7**	**-3.1**
	comp=Z,187nm,0.5s							
PDGK	**Podgornoye**	**16.52**	**32**	⇑P	**Pn**		**10 46 28.4**	**-3.3**
	comp=Z,18nm,1.1s							
PDGK				⇓S	**Sn**		**10 49 27.4**	**-6.7**
	comp=Z,13nm,0.9s							
RAMN	**Ramite**	**17.02**	**95**	*e*P	**Pn**		**10 46 35.0**	**-3.2**
	comp=Z,72nm,0.5s							
ODAN	**Odare**	**17.72**	**95**	*e*P	**Pn**		**10 46 44.3**	**-2.7**
	comp=Z,121nm,0.7s							
TAPN	**Taplejung**	**17.89**	**93**	*e*P	**Pn**		**10 46 45.6**	**-3.4**
	comp=Z,160nm,0.9s							
AKT	**Akhty**	**19.81**	**311**	*e*P	**P**		**10 47 10.2**	**-0.1**
AKT				pmax	pmax			
	comp=Z,11nm,0.6s							
AB31	**Akbulak array**	**20.25**	**346**	P	**P**		**10 47 15.3**	**+0.5**
	comp=Z,14nm,0.6s,baz=154,slow=12,SNR=175							
ABKAR	**Akbulak array**	**20.25**	**346**	P	**P**		**10 47 14.7**	**-0.1**
ABKAR	**Akbulak array**	**20.25**	**346**	P	**P**		**10 47 15.6**	**+0.7**
ABKAR				IAmb	IAmb	10 47 16.7		
	comp=Z,50nm,1.1s							
MAKZ	**Makanchi**	**20.33**	**30**	⇓P	**P**		**10 47 15.6**	**-0.3**
	comp=Z,33nm,1.0s							
MAKZ	**Makanchi**	**20.33**	**30**	P	**P**		**10 47 15.7**	**-0.1**
MAKZ				pmax	pmax			
	comp=Z,28nm,1.0s							
MAKZ	**Makanchi**	**20.33**	**30**	P	**P**		**10 47 15.7**	**-0.1**
MK31	**Makanchi Array**	**20.46**	**30**	⇑P	**P**		**10 47 16.5**	**-0.7**
	comp=Z,17nm,0.7s,baz=209,slow=11,SNR=110							
MK31	**Makanchi Array**	**20.46**	**30**	P	**P**		**10 47 16.4**	**-0.7**
MK31				pmax	pmax			
	comp=Z,17nm,0.7s							
MK31	**Makanchi Array**	**20.46**	**30**	P	**P**		**10 47 16.4**	**-0.7**
MKAR	**Makanchi Array**	**20.46**	**30**	P	**P**		**10 47 16.3**	**-0.9**
MKAR	**Makanchi Array**	**20.46**	**30**	P	**P**		**10 47 16.7**	**-0.5**
	comp=Z,18nm,0.8s,baz=211,slow=9.9,SNR=60							
MKAR				LR	LR	10 56 40.3		
	comp=Z,486nm,20.9s,baz=222,slow=41							
MKAR	**Makanchi Array**	**20.46**	**30**	P	**P**		**10 47 16.3**	**-0.9**
LSA	**Lhasa**	**20.49**	**84**	P	**P**		**10 47 16.9**	**-1.3**
LSA				pmax	pmax			
	comp=Z,30nm,0.8s							
LSA	**Lhasa**	**20.49**	**84**	P	**P**		**10 47 16.9**	**-1.3**
LSA				IAmb	IAmb	10 47 28.0		
	comp=Z,30nm,0.8s							
RAYN	**Ar Rayn**	**20.65**	**258**	P	**P**		**10 47 18.4**	**-1.1**
RAYN				pmax	pmax			
	comp=Z,41nm,1.1s							
RAYN	**Ar Rayn**	**20.65**	**258**	P	**P**		**10 47 18.4**	**-1.1**
RAYN				IAmb	IAmb	10 47 20.9		
	comp=Z,41nm,1.1s							
WMQ	**Urumqi**	**21.26**	**43**	*e*P	**P**		**10 47 28.1**	**+2.1**
WMQ				sP	sP	10 47 37.5	-1.4
WMQ				pmax	pmax			
	comp=Z,16nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,77nm,3.8s							
WMQ				LR	LR			
	comp=Z,630nm,22.1s							
WMQ				LR	LR			
	comp=Z,370nm,15.9s							
WMQ				LR	LR			
	comp=Z,630nm,19.1s							
GNI	**Garni**	**21.27**	**305**	P	**P**		**10 47 25.8**	**-0.4**
GNI				pmax	pmax			
	comp=Z,51nm,1.0s							
GNI	**Garni**	**21.27**	**305**	P	**P**		**10 47 26.8**	**+0.6**
	comp=Z,6.3nm,0.4s,baz=184,slow=3.2,SNR=4.0							
GNI				LR	LR	10 56 55.6		
	comp=Z,196nm,20.6s,baz=120,slow=40							
GNI	**Garni**	**21.27**	**305**	P	**P**		**10 47 25.8**	**-0.4**
GNI				IAmb	IAmb	10 47 32.3		
	comp=Z,51nm,1.0s							
SOCY	**Socotra**	**21.60**	**218**	P	**P**		**10 47 27.3**	**-2.4**
AKTO	**Aktyubinsk**	**21.80**	**343**	⇓P	**P**		**10 47 31.8**	**+0.3**
	comp=Z,38nm,0.7s							
AKTO	**Aktyubinsk**	**21.80**	**343**	P	**P**		**10 47 32.0**	**+0.5**
	comp=Z,33nm,0.6s,baz=151,slow=11,SNR=25							
AKTO				LR	LR	10 57 23.8		
	comp=Z,532nm,18.9s,baz=152,slow=41							
GROC	**Groznyy**	**21.91**	**313**	*e*P	**P**		**10 47 33.5**	**+0.7**
GROC				*e*		10 47 55.0		
GROC				*e*S	**S**		**10 51 34.3**	**+1.2**
GROC				pmax	pmax			
	comp=Z,127nm,1.4s							
TBLG	**Delisi**	**21.91**	**309**	P	**P**		**10 47 32.9**	**0.0**
TBLG				pmax	pmax			
	comp=Z,25nm,0.8s							
TBLG	**Delisi**	**21.91**	**309**	P	**P**		**10 47 32.9**	**0.0**
TBLG				IAmb	IAmb	10 47 39.0		
	comp=Z,25nm,0.8s							
SHL	**Shillong**	**21.95**	**95**	P	**P**		**10 47 34.7**	**+1.1**
SHL	**Shillong**	**21.95**	**95**	P	**P**		**10 47 34.7**	**+1.1**
KURBB	**Kurchatov Arra**	**22.36**	**19**	⇑P	**P**		**10 47 36.7**	**-0.8**
	comp=Z,23nm,0.8s							
KURBB	**Kurchatov Arra**	**22.36**	**19**	P	**P**		**10 47 36.7**	**-0.8**
	comp=Z,12nm,0.6s,baz=210,slow=9.6,SNR=44							
KURK	**Kurchatov**	**22.46**	**19**	⇑P	**P**		**10 47 37.6**	**-1.0**
	comp=Z,26nm,0.9s							
KURK	**Kurchatov**	**22.46**	**19**	P	**P**		**10 47 36.7**	**-2.0**
KURK	**Kurchatov**	**22.46**	**19**	P	**P**		**10 47 37.6**	**-1.0**
KURK				IAmb	IAmb	10 47 49.3		
	comp=Z,27nm,0.9s							
AKH	**Akhalkalaki**	**22.63**	**307**	P	**P**		**10 47 41.2**	**+0.4**
AKH				pmax	pmax			
	comp=Z,16nm,0.9s							
AKH	**Akhalkalaki**	**22.63**	**307**	P	**P**		**10 47 41.1**	**+0.4**
ZEI	**Tsey**	**22.93**	**311**	*e*P	**P**		**10 47 46.4**	**+2.4**
ZEI				pmax	pmax			
	comp=Z,14nm,0.8s							
BVAR	**Borovoye Array**	**23.27**	**4**	P	**P**		**10 47 46.9**	**-0.1**
	comp=Z,15nm,0.7s,baz=180,slow=10,SNR=31							
BRVK	**Borovoye**	**23.30**	**4**	⇑P	**P**		**10 47 46.8**	**-0.5**
	comp=Z,28nm,0.7s							
BRVK	**Borovoye**	**23.30**	**4**	*c i* P	**P**		**10 47 47.0**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,26nm,1.0s							
BRVK	**Borovoye**	**23.30**	**4**	P	**P**		**10 47 46.8**	**-0.5**
BRVK				IAmb	IAmb	10 47 56.6		
	comp=Z,31nm,0.8s							
KBZ	**Khabaz**	**24.01**	**312**	*c i* P	**P**		**10 47 55.0**	**+0.8**
KBZ	**Khabaz**	**24.01**	**312**	P	**P**		**10 47 54.5**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=133,slow=9.2,SNR=11							
KIV	**Kislovodsk**	**24.25**	**312**	*e*P	**P**		**10 47 57.8**	**+1.3**
KIV				pmax	pmax			
	comp=Z,43nm,0.9s							
KIV	**Kislovodsk**	**24.25**	**312**	P	**P**		**10 47 56.6**	**+0.1**
DGZ	**Jazzator, Alta**	**24.92**	**32**	*c i* P	**P**		**10 48 04.3**	**+1.7**
PALK	**Pallekele**	**25.62**	**149**	P	**P**		**10 48 09.5**	**+0.4**
PALK				pmax	pmax			
	comp=Z,38nm,1.5s							
PALK	**Pallekele**	**25.62**	**149**	P	**P**		**10 48 10.0**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=295,slow=12,SNR=2.0							
PALK	**Pallekele**	**25.62**	**149**	P	**P**		**10 48 09.5**	**+0.4**
PALK				IAmb	IAmb	10 48 25.3		
	comp=Z,38nm,1.4s							
DAMY	**Dhamar**	**26.19**	**240**	P	**P**		**10 48 16.0**	**+1.4**
DAMY				IAmb	IAmb	10 48 24.5		
	comp=Z,18nm,0.8s							
ASF	**Jabal al Asfar**	**26.33**	**283**	P	**P**		**10 48 15.5**	**0.0**
	comp=Z,14nm,0.9s,baz=39,slow=5.6,SNR=25							
ZAA0	**Zalesovo Array**	**27.17**	**23**	P	**P**		**10 48 21.1**	**-1.6**
ZALV	**Zalesovo Beam**	**27.17**	**23**	P	**P**		**10 48 21.5**	**-1.2**
ZALV	**Zalesovo Beam**	**27.17**	**23**	P	**P**		**10 48 22.6**	**-0.1**
	comp=Z,8.7nm,0.5s,baz=226,slow=10,SNR=24							
ZALV				LR	LR	11 00 58.2		
	comp=Z,210nm,21.7s,baz=218,slow=40							
ZALV	**Zalesovo Beam**	**27.17**	**23**	P	**P**		**10 48 21.5**	**-1.2**
ARU	**Arti**	**27.34**	**349**	P	**P**		**10 48 24.2**	**0.0**
	comp=Z,2.6nm,0.2s,baz=171,slow=11,SNR=5.5							
SVE	**Sverdlovsk**	**27.42**	**352**	*e*P	**P**		**10 48 25.5**	**+0.6**
SVE				pmax	pmax			
	comp=Z,11nm,0.9s							
MMAI	**Mount Meron Ar**	**27.55**	**285**	P	**P**		**10 48 27.4**	**+1.0**
	comp=Z,2.9nm,0.3s,baz=235,slow=49,SNR=5.2							
MMAI				LR	LR	11 01 16.5		
	comp=Z,481nm,18.2s,baz=75,slow=41							
GTA	**Gaotai**	**28.10**	**61**	P	**P**		**10 48 33.8**	**+2.4**
GTA				pP	pP	10 48 37.8	-3.0
GTA				sP	sP	10 48 41.1	-3.7
GTA				pmax	pmax			
	comp=Z,48nm,5.6s							
GTA				LR	LR			
	comp=Z,300nm,14.4s							
GTA				LR	LR			
	comp=Z,250nm,13.4s							
GTA				LR	LR			
	comp=Z,270nm,13.7s							
EIL	**Elat**	**28.25**	**278**	P	**P**		**10 48 33.5**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=67,slow=7.7,SNR=2.3							
EIL				LR	LR	11 01 47.2		
	comp=Z,376nm,18.6s,baz=92,slow=41							
VRH	**Novokhopyorsk**	**28.74**	**325**	*e*P	**P**		**10 48 35.3**	**-1.4**
VRH				pmax	pmax			
	comp=Z,20nm,0.9s							
BR131	**Keskin Array S**	**29.39**	**299**	P	**P**		**10 48 43.2**	**+0.3**
BR131				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BR131	**Keskin Array S**	**29.39**	**299**	P	**P**		**10 48 43.2**	**+0.3**
BRTR	**Keskin Array B**	**29.39**	**299**	P	**P**		**10 48 42.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=119,slow=8.8,SNR=6.4							

comp=Z,119µm,0.7s
ELL Elmali 32.05 292 P P 10 49 06.2 -0.2
ELL pmax pmax
comp=Z,92nm,0.6s
ELL Elmali 32.05 292 P P 10 49 06.2 -0.2
MOS Moscow 33.48 329 *e*P **P 10 49 17.4 -1.0**
MOS MLR MLR
comp=Z,600nm,17.0s
OBN Obninsk 33.58 328 *de*P **P 10 49 20.2 +0.9**
OBN *e* 10 50 31.1
OBN *e* 10 52 00.3
OBN *e*S **S 10 54 41.3 +1.9**
OBN *e*SS SS 10 56 45.7 -19
OBN pmax pmax
comp=Z,21nm,0.4s
OBN MLR MLR
comp=Z,258nm,16.0s
OBN Obninsk 33.58 328 P **P 10 49 20.1 +0.9**
comp=Z,7.5nm,0.4s,baz=19,slow=18,SNR=4.8
OBN Obninsk 33.58 328 P **P 10 49 19.8 +0.6**
KARP Karpathos 34.29 290 P **P 10 49 25.7 -0.1**
NONG Nongkai 34.45 102 P P 10 49 32.6 +5.3
comp=Z,0.5nm,0.8s
TLY Talaya 34.48 40 *e*P **P 10 49 27.7 +0.5**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,669nm,14.0s
GYA Guiyang 34.55 86⇑*e*P **P 10 49 31.5 +3.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 34.75 48 P **P 10 49 29.8 +0.1**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 34.75 48 P **P 10 49 31.3 +1.5**
comp=Z,2.2nm,0.9s,baz=244,slow=9.1,SNR=11
SONM LR LR 11 04 58.6
comp=Z,185nm,18.6s,baz=252,slow=39
SONM Songino Array 34.75 48 P **P 10 49 29.8 +0.1**
ULN Ulaanbaatar 35.19 48⇓*e*P **P 10 49 34.7 +1.2**
ULN pmax pmax
comp=Z,2.0nm,1.0s
XAN Xi'an 35.20 72 P **P 10 49 36.9 +3.2**
XAN pP pP 10 49 42.9 -0.3
XAN pmax pmax
comp=Z,7.0nm,0.5s
XAN LR LR
comp=Z,450nm,18.2s
XAN LR LR
comp=Z,160nm,6.5s
XAN LR LR
comp=Z,510nm,16.4s
AKASG Malin Array Be 35.37 317 P **P 10 49 33.8 -1.0**
AKASG 10 52 04.6
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 35.37 317 P **P 10 49 35.1 +0.3**
comp=Z,17nm,0.9s,baz=102,slow=7.5,SNR=33
AKASG PcP **PcP 10 52 04.8 +0.4**
comp=Z,0.4nm,0.3s,baz=82,slow=2.0,SNR=4.2
AKASG LR LR 11 05 50.4
comp=Z,77nm,19.4s,baz=310,slow=39
AKASG Malin Array Be 35.37 317 P **P 10 49 33.8 -1.0**
AKASG **PcP 10 52 04.6 +0.3**
AKBB Malin Array Si 35.37 317⇑*e*P **P 10 49 35.0 +0.2**
AKBB Malin Array Si 35.37 317 P **P 10 49 34.1 -0.7**
MLR Muntele Rosu 36.02 307 P **P 10 49 40.4 -0.2**
MLR pmax pmax
comp=Z,14nm,0.9s
MLR Muntele Rosu 36.02 307 P **P 10 49 41.4 +0.7**
comp=Z,12nm,0.8s,baz=118,slow=5.4,SNR=10
MLR Muntele Rosu 36.02 307 ⇓P **P 10 49 40.4 -0.2**
MLR Muntele Rosu 36.02 307 P **P 10 49 40.4 -0.2**
MLR IAmb IAmb 10 49 45.0
comp=Z,14nm,0.9s
ENH Enshi 36.16 79 P **P 10 49 39.2 -2.7**
ENH IAmb IAmb 10 49 53.8
comp=Z,15nm,0.6s
KLMR Klimovskoe 36.19 337 *e*P **P 10 49 40.4 -1.3**
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 36.19 337 *e*P **P 10 49 40.4 -1.3**
KLMR AMP 10 49 52.6
comp=Z,23nm,1.4s
PKDT Phuket 36.20 121 P P 10 49 50.0 +7.7
comp=Z,22nm,0.9s
DOPR Dopca 36.49 308 ⇑P **P 10 49 43.8 -0.7**
VOIR 36.62 307 ⇑P **P 10 49 45.7 0.0**
ARR Arges 36.90 307 ⇓P **P 10 49 47.7 -0.4**
BURAR Bucovina Array 36.96 311 ⇑P **P 10 49 49.6 +1.0**
BURAR mb 10 49 50.3
BURAR Bucovina Array 36.96 311 P **P 10 49 48.5 -0.1**
BUR08 Bucovina Ar. S 36.97 311 P **P 10 49 49.8 +1.0**
BUR08 IAmb IAmb 10 49 50.8
comp=Z,21nm,1.4s
LOT Lotru 37.51 307 ⇑P **P 10 49 50.3 -3.1**
ITM Ithomi 38.44 293 P **P 10 50 00.6 -0.6**
ITM IAmb IAmb 10 50 11.3
comp=Z,36nm,1.4s
FNA Florina 38.83 299 P **P 10 50 03.3 -1.2**
FNA pmax pmax
comp=Z,9.0nm,0.9s
FNA Florina 38.83 299 P **P 10 50 03.3 -1.2**
BZS Buzias 39.03 307 ⇑P **P 10 50 05.6 -0.4**
KWP Kalwaria Pacla 39.04 313 *e*P **P 10 50 07.2 +1.1**
KWP Kalwaria Pacla 39.04 313 *e*P **P 10 50 07.2 +1.1**
KWP *e*P **P 10 50 07.2 +1.1**
KWP Kalwaria Pacla 39.04 313 P **P 10 50 07.4 +1.3**
UZH Uzhgorod 39.09 312⇓*i*P **P 10 50 07.8 +1.4**
UZH *i* 10 50 19.7
UZH *i* 10 50 23.5
KOLS Kolonicke sedl 39.16 312 *e*P **P 10 50 08.9 +1.8**
KOLS pmax pmax
comp=Z,21nm,1.1s
KOLS Kolonicke sedl 39.16 312 *e*P **P 10 50 08.9 +1.8**
KULM Kulim 39.63 121 P **P 10 50 12.6 +1.2**
KULM IAmb IAmb 10 50 13.5
comp=Z,9.9nm,0.7s
VSU Vasula 39.94 328 *d i*P **P 10 50 13.8 +0.5**
VSU pmax pmax
comp=Z,58nm,0.6s
PSI Prapat 40.09 126 P **P 10 50 15.6 +0.3**
PSI pmax pmax
comp=Z,7.0nm,1.0s
PSI Prapat 40.09 126 P **P 10 50 16.0 +0.7**
comp=Z,2.3nm,0.3s,baz=156,slow=12,SNR=4.1
RPSI Rantau Prapat 40.17 126 P **P 10 50 15.6 -0.2**
RPSI Rantau Prapat 40.17 126 P **P 10 50 16.0 +0.3**
IPM Ipoh 40.45 122 P **P 10 50 15.3 -2.9**
NIE Niedzica 40.53 312 *e*P **P 10 50 20.2 +1.7**
NIE Niedzica 40.53 312 *e*P **P 10 50 20.2 +1.7**
NIE *e*P **P 10 50 20.2 +1.7**
PSZ Piszkesteto 40.54 310 P **P 10 50 19.0 +0.4**
PSZ pmax pmax
comp=Z,21nm,0.9s
PSZ Piszkesteto 40.54 310 P **P 10 50 19.0 +0.4**
PSZ IAmb IAmb 10 50 21.1
comp=Z,21nm,0.9s
OJC Ojcow 41.01 314 P **P 10 50 23.1 +0.8**
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 41.01 314 *e*P **P 10 50 23.2 +0.9**
OJC *e*P **P 10 50 23.2 +0.9**
OJC Ojcow 41.01 314 P **P 10 50 23.1 +0.8**
LANS Liptovska Anna 41.02 312 *e*P **P 10 50 24.2 +1.7**
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 41.02 312 *e*P **P 10 50 24.2 +1.7**
NRIK Noril'sk 41.20 11 P **P 10 50 24.7 +1.1**
comp=Z,3.7nm,0.6s,baz=240,slow=5.1,SNR=4.7
VYHS Vyhne 41.33 311 *e*P **P 10 50 26.4 +1.4**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 41.33 311 *e*P **P 10 50 26.4 +1.4**
FIA1 FINESS Array S 41.68 331 P **P 10 50 26.4 -1.2**
FIA1 IAmb IAmb 10 50 28.8
comp=Z,12nm,0.8s
FINES FINESS Array B 41.68 331 P **P 10 50 27.4 -0.2**
FINES FINESS Array B 41.68 331 P **P 10 50 27.8 +0.1**
comp=Z,9.9nm,0.8s,baz=121,slow=14,SNR=18
FINES LR LR 11 11 10.4
comp=Z,792nm,18.3s,baz=105,slow=41
FINES FINESS Array B 41.68 331 P **P 10 50 27.4 -0.2**
OKC Ostrava-Krasne 41.98 313 *e*P **P 10 50 31.4 +1.1**

OKC Ostrava-Krasne 41.98 313 *e*P **P 10 50 31.4 +1.1**
BLY Banja Luka 42.08 305 P **P 10 50 30.1 -1.0**
JAVC Velka Javorina 42.14 311 *e*P **P 10 50 33.3 +1.6**
KMBO Kilima Mbogo 42.22 229 P **P 10 50 32.2 -0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 42.22 229 P **P 10 50 34.9 +2.0**
comp=Z,0.9nm,0.3s,baz=68,slow=12,SNR=4.1
KMBO Kilima Mbogo 42.22 229 P **P 10 50 32.2 -0.8**
MODS Modra-Piesok 42.34 310 *e*P **P 10 50 33.7 +0.4**
MODS pmax pmax
comp=Z,25nm,1.0s
MODS Modra-Piesok 42.34 310 *e*P **P 10 50 33.7 +0.4**
MORC Moravsky Berou 42.36 313 P **P 10 50 33.7 +0.2**
MORC pmax pmax
comp=Z,20nm,0.8s
MORC Moravsky Berou 42.36 313⇑P **P 10 50 34.7 +1.2**
MORC mb 10 50 35.1
MORC Moravsky Berou 42.36 313 *e*P **P 10 50 34.5 +1.0**
MORC Moravsky Berou 42.36 313 P **P 10 50 33.7 +0.2**
MORC IAmb IAmb 10 50 35.5
comp=Z,20nm,0.8s
APA Apatity 42.86 342⇑*i*P **P 10 50 38.7 +1.5**
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,2µm,21.0s
KRLC Kraliky 42.89 313 *e*P **P 10 50 38.9 +1.1**
KRLC Kraliky 42.89 313 *e*P **P 10 50 38.9 +1.1**
VRAC Vranov 42.91 312 *e*P **P 10 50 38.7 +0.8**
ACER Acerenza 42.95 299 P **P 10 50 37.1 -1.4**
ACER IAmb IAmb 10 50 45.8
comp=Z,20nm,1.1s
KRUC Moravsky 43.00 311 *e*P **P 10 50 39.4 +0.8**
DPC Dobruska-Polom 43.22 313 *e*P **P 10 50 42.2 +1.7**
DPC Dobruska-Polom 43.22 313 *e*P **P 10 50 42.2 +1.7**
CONA Conrad Observa 43.23 310 *i* P **P 10 50 41.4 +0.8**
comp=Z,2.2nm,0.9s
KSP Ksiaz 43.32 314 *e*P **P 10 50 42.6 +1.5**
KSP Ksiaz 43.32 314 *e*P **P 10 50 42.6 +1.5**
KSP *e*P **P 10 50 42.6 +1.5**
ARSA Arzberg 43.40 309 *i* pP **P 10 50 43.4 +1.5**
comp=Z,16nm,1.1s
CHVC Chvalec 43.43 313 *e*P **P 10 50 43.3 +1.2**
UPC Upice 43.44 313 *e*P **P 10 50 43.6 +1.4**
UPC Upice 43.44 313 *e*P **P 10 50 43.6 +1.4**
TREC Trest 43.62 312 *e*P **P 10 50 44.5 +0.8**
TREC Trest 43.62 312 *e*P **P 10 50 44.5 +0.8**
SOKA Soboth 43.69 308 *i* pP **P 10 50 45.7 +1.3**
comp=Z,16nm,1.6s
NJ2 Nanjing 43.73 74 *e*P **P 10 50 43.3 -1.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
MOA Molln 44.29 309 *i* P **P 10 50 50.1 +1.0**
comp=Z,24nm,1.0s
PRU Pruhonice 44.31 312 *e*P **P 10 50 49.9 +0.7**
PRU Pruhonice 44.31 312 *e*P **P 10 50 49.9 +0.7**
MYKOM Kota Tinggi 44.34 122 P **P 10 50 51.1 +1.4**
MYKOM IAmb IAmb 10 51 01.2
comp=Z,16nm,0.8s
TRI Trieste 44.53 306 P **P 10 50 51.6 +0.7**
TRI pmax pmax
comp=Z,37nm,1.1s
TRI Trieste 44.53 306 P **P 10 50 51.6 +0.7**
GEC2 GERESS Array S 44.74 311 P **P 10 50 53.3 +0.5**
GEC2 IAmb IAmb 10 50 54.4
comp=Z,12nm,0.9s
GERES GERESS Array B 44.74 311 P **P 10 50 52.7 -0.1**
GERES GERESS Array B 44.74 311 P **P 10 50 53.4 +0.6**
comp=Z,8.1nm,0.8s,baz=96,slow=8.2,SNR=40
GERES PcP **PcP 10 52 35.4 +0.8**
comp=Z,1.9nm,0.7s,baz=105,slow=3.2,SNR=5.3
GERES GERESS Array B 44.74 311 P **P 10 50 52.7 -0.1**
BRG Berggiesshubel 44.80 314 *i* P **P 10 50 54.4 +1.4**
comp=Z,22nm,0.9s
BRG *i* 10 51 00.1
comp=Z,16nm,1.0s
BRG Berggiesshubel 44.80 314 *i* P **P 10 50 54.4 +1.4**
BRG *i* 10 51 00.1
BRG pmax pmax
comp=Z,22nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.0s
KHC Kasperske Hory 44.85 311 *c i*P **P 10 50 53.8 +0.3**
KHC pmax pmax
comp=Z,15nm,1.0s
KHC Kasperske Hory 44.85 311 *e*P **P 10 50 54.0 +0.5**
KHC Kasperske Hory 44.85 311 P **P 10 50 53.1 -0.4**
KBA Koelnbreinsper 44.87 308 *i* P **P 10 50 54.6 +0.7**
comp=Z,18nm,1.3s
BSD Bornholm Skovb 44.92 320 *i* P **P 10 50 53.2 -0.7**
BSD pmax pmax
comp=Z,40nm,0.7s
BSD Bornholm Skovb 44.92 320 *i* P **P 10 50 53.2 -0.7**
comp=Z,40nm,0.7s
NRCA Norcia 45.00 302 P **P 10 50 53.6 -1.2**
NRCA IAmb IAmb 10 51 00.9
comp=Z,20nm,1.4s
ABTA Abfaltersbach 45.43 308 *i* P **P 10 50 57.4 -0.8**
comp=Z,14nm,1.1s
CLL Collm 45.44 314 P **P 10 50 58.8 +0.7**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 45.44 314⇑*i i*P **P 10 50 59.1 +1.0**
comp=Z,11nm,1.0s
CLL *i* 10 51 12.5
CLL Collm 45.44 314 P **P 10 50 58.8 +0.7**
CLL IAmb IAmb 10 51 00.1
comp=Z,8.5nm,0.9s
NKC Novy Kostel 45.68 313 *e*P **P 10 51 01.0 +0.9**
NKC Novy Kostel 45.68 313 *e*P **P 10 51 01.0 +0.9**
WTTA Wattenberg 46.04 308 *i* P **P 10 51 02.7 -0.5**
comp=Z,13nm,0.8s
WATA Walderalm 46.09 309 *i* P **P 10 51 03.4 0.0**
comp=Z,22nm,1.5s
MBAR Mbarara 46.32 236 P **P 10 51 05.5 -0.2**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
MBAR Mbarara 46.32 236 P **P 10 51 06.6 +0.9**
comp=Z,3.4nm,0.2s,baz=56,slow=8.6,SNR=4.1
MBAR Mbarara 46.32 236 P **P 10 51 05.5 -0.2**
SQTA Sankt Quirin 46.33 308 *i* P **P 10 51 05.4 +0.1**
comp=Z,28nm,1.5s
ARCES ARCESS Array B 46.35 341 P **P 10 51 05.2 +0.1**
ARCES ARCESS Array B 46.35 341 P **P 10 51 05.4 +0.4**
comp=Z,8.4nm,0.8s,baz=131,slow=8.1,SNR=24
ARCES LR LR 11 12 49.2
comp=Z,275nm,19.2s,baz=136,slow=39
ARCES ARCESS Array B 46.35 341 P **P 10 51 05.2 +0.1**
MOTA Moosalm 46.41 309 *i* P **P 10 51 05.4 -0.6**
comp=Z,23nm,1.1s
GRA1 Grafenberg Arr 46.43 312 P **P 10 51 07.0 +1.1**
GRF Grafenberg Arr 46.43 312 P **P 10 51 07.0 +1.1**
GRF pmax pmax
comp=Z,26nm,0.8s
RETA Reutte 46.64 309 *i* P **P 10 51 07.6 -0.2**
comp=Z,17nm,1.5s
FETA Feichten 46.66 308 *i* P **P 10 51 07.5 -0.5**
comp=Z,20nm,1.1s
HFS Hagfors 46.76 326 P **P 10 51 08.3 -0.1**
comp=Z,12nm,0.6s,baz=117,slow=8.6,SNR=38
DAVA Damuels 47.24 308 *i* P **P 10 51 12.0 -0.5**
comp=Z,12nm,0.6s
DAVOX Davos/Dischmat 47.24 308 P **P 10 51 12.4 -0.1**
comp=Z,3.8nm,0.4s,baz=139,slow=4.7,SNR=7.5
DAVOX PcP **PcP 10 52 44.4 +0.9**
comp=Z,4.3nm,0.8s,baz=95,slow=12,SNR=4.7
STU Stuttgart 47.72 310 P **P 10 51 16.2 +0.2**
STU pmax pmax
comp=Z,27nm,0.8s
STU Stuttgart 47.72 310 P **P 10 51 16.2 +0.2**
NC602 NORSAR Array S 47.95 327 P **P 10 51 16.6 -1.0**
NC602 IAmb IAmb 10 51 27.0
comp=Z,18nm,1.2s
NC405 NORSAR Array S 47.96 327 P **P 10 51 17.3 -0.4**
NB201 NORSAR Array S 48.14 327 P **P 10 51 18.5 -0.7**
NC303 NORSAR Array S 48.15 327 P **P 10 51 18.7 -0.5**
NB2 NORSAR Subarra 48.18 327 P **P 10 51 18.4 -1.0**
comp=Z,5.1nm,0.6s,baz=106,slow=7.9
NOA NORSAR Array B 48.18 327 P **P 10 51 18.8 -0.6**
comp=Z,9.4nm,0.8s,baz=107,slow=7.5,SNR=30
NOA LR LR 11 14 46.5
comp=Z,325nm,18.6s,baz=105,slow=40
BFO Black Forest 48.29 310 P **P 10 51 19.6 -0.9**
BFO pmax pmax

comp=Z,16nm,1.0s
BFO Black Forest 48.29 310 P **P 10 51 19.6 -0.9**
BFO IAmb IAmb 10 51 21.3
comp=Z,16nm,1.0s
NAO01 NORSAR Array S 48.29 327 P **P 10 51 19.2 -1.1**
NBO00 NORSAR Array S 48.38 327 P **P 10 51 20.3 -0.7**
NC204 NORSAR Array S 48.45 327 P **P 10 51 20.8 -0.7**
NC204 IAmb IAmb 10 51 27.9
comp=Z,16nm,1.1s
KONO Kongsberg 48.66 325⇑*e*P **P 10 51 23.4 +0.3**
KONO pmax pmax
comp=Z,22nm,1.3s
KONO Kongsberg 48.66 325 P **P 10 51 23.1 +0.1**
KONO IAmb IAmb 10 51 23.5
comp=Z,18nm,0.9s
KEST Kesra 48.67 293 P **P 10 51 24.7 +1.0**
comp=Z,11nm,0.6s,baz=18,slow=1.6,SNR=14
KEST LR LR 11 14 48.1
comp=Z,50nm,19.3s,baz=206,slow=40
KEST Kesra 48.67 293 P **P 10 51 24.1 +0.5**
KEST IAmb IAmb 10 51 25.5
comp=Z,12nm,0.7s
SENIN Lac Senin/Sane 49.03 307 P **P 10 51 26.7 +0.3**
SENIN IAmb IAmb 10 51 27.4
comp=Z,10nm,0.8s
ECH Echery 49.07 310 P **P 10 51 26.2 -0.3**
ECH pmax pmax
comp=Z,23nm,1.1s
ECH Echery 49.07 310 P **P 10 51 26.2 -0.3**
KSAR Wonju Array Be 50.07 64 P **P 10 51 33.6 -0.6**
KSAR Wonju Array Be 50.07 64 P **P 10 51 33.6 -0.6**
KSRS Korea Array 50.10 64 P **P 10 51 34.8 +0.4**
comp=Z,3.3nm,0.8s,baz=269,slow=6.6,SNR=9.8
KSRS PcP **PcP 10 52 55.1 +1.4**
comp=Z,1.1nm,0.8s,baz=289,slow=3.5,SNR=4.4
KSRS LR LR 11 16 23.4
comp=Z,97nm,21.8s,baz=283,slow=40
SBUM Sibu 50.33 114 P **P 10 51 36.4 0.0**
BMRD Maredsous 50.60 312 P **P 10 51 39.7 +1.6**
DOU Dourbes 50.72 312 P **P 10 51 40.4 +1.4**
SNF Seneffe 50.91 313 P **P 10 51 41.5 +1.2**
SSB Saint Sauveur 51.02 306 P **P 10 51 40.6 -0.8**
SSB pmax pmax
comp=Z,7.0nm,0.9s
SSB Saint Sauveur 51.02 306 P **P 10 51 40.6 -0.8**
YAK Yakutsk 51.11 32 *e*P **P 10 51 41.4 -0.2**
YAK *e*S S 10 58 49.4 -7.6
YAK *e**SS **sS 10 59 16.4 +3.1**
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=Z,31nm,1.8s
YAK pmax pmax
comp=N,59nm,2.3s
YAK pmax pmax
comp=E,51nm,2.8s
YAK smax smax
comp=N,77nm,3.9s
YAK smax smax
comp=E,159nm,3.2s
YAK Yakutsk 51.11 32 P **P 10 51 41.3 -0.3**
STKI Sintang 51.22 117 P **P 10 51 45.5 +2.4**
KLR Kul'dur 51.57 49 *c i*P **P 10 51 46.0 +0.7**
KLR pmax pmax
comp=Z,8.0nm,0.9s
USRK Ussuriysk Ar. 52.16 55 P **P 10 51 49.3 -0.5**
USRK Ussuriysk Ar. 52.16 55 P **P 10 51 51.4 +1.6**
comp=Z,1.7nm,0.6s,baz=149,slow=43,SNR=4.0
USRK Ussuriysk Ar. 52.16 55 P **P 10 51 49.3 -0.5**
TIXI Tiksi 53.02 20⇑*e*P **P 10 51 55.8 0.0**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 53.02 20 P **P 10 51 55.5 -0.2**
EKA Eskdalemuir Ar 55.23 319 P **P 10 52 11.9 -0.2**
comp=Z,2.7nm,0.5s,baz=96,slow=8.2,SNR=19
EKA PcP **PcP 10 53 13.2 +0.5**
comp=Z,2.9nm,0.9s,baz=103,slow=3.7,SNR=3.5
ESK Eskdalemuir 55.26 319 P **P 10 52 11.8 -0.5**
ESK pmax pmax
comp=Z,28nm,1.4s
ESK Eskdalemuir 55.26 319 P **P 10 52 11.8 -0.5**
ESDC Sonseca Array 58.17 301 P **P 10 52 33.1 -0.2**
comp=Z,2.8nm,0.6s,baz=63,slow=7.1,SNR=18
ESDC PcP **PcP 10 53 25.8 +1.2**
comp=Z,0.9nm,0.6s,baz=52,slow=5.5,SNR=3.2
ESDC Sonseca Array 58.17 301 P **P 10 52 32.5 -0.8**
ESDC **PcP 10 53 23.1 -1.5**
MJAR Matsushiro Arr 58.33 63 P **P 10 52 34.9 +0.4**
comp=Z,2.4nm,0.9s,baz=287,slow=8.8,SNR=5.0
MJAR Matsushiro Arr 58.33 63 P **P 10 52 35.3 +0.9**
PAB San Pablo 58.49 300 P **P 10 52 35.8 +0.2**
PAB San Pablo 58.49 300 P **P 10 52 35.8 +0.2**
LSZ Lusaka 58.74 226 P **P 10 52 37.4 -0.2**
LSZ pmax pmax
comp=Z,2.0nm,0.9s
LSZ Lusaka 58.74 226 P **P 10 52 39.1 +1.6**
comp=Z,2.2nm,0.4s,baz=170,slow=9.9,SNR=3.2
LSZ Lusaka 58.74 226 P **P 10 52 37.4 -0.2**
MVO Moncorvo 60.06 303 *e*P **P 10 52 46.8 +0.4**
comp=Z,33nm,1.7s
DAG Danmarks Havn 60.34 345 *i* P **P 10 52 47.9 +0.3**
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 60.34 345 *i* P **P 10 52 47.9 +0.3**
comp=Z,12nm,1.0s
POLO Lamas de Olo 60.56 303 *e*P **P 10 52 50.7 +0.8**
comp=Z,24nm,1.5s
MDT Midelt 60.58 293 P **P 10 52 50.3 +0.2**
comp=Z,6.3nm,0.8s,baz=79,slow=10.0,SNR=11
MTE Manteigas 60.64 302 *e*P **P 10 52 51.5 +1.1**
comp=Z,45nm,1.9s
PCBR Castelo Branco 60.74 302 *e*P **P 10 52 51.6 +0.6**
comp=Z,36nm,1.3s
PVIS Viseu 60.81 303 *e*P **P 10 52 52.3 +0.8**
comp=Z,48nm,1.7s
SEY Seymchan 61.59 31⇑*e*P **P 10 52 56.9 +0.6**
TOA0 Torodi Ar. Sit 62.73 270 P **P 10 53 04.3 -0.4**
TORD Torodi Ar. Bea 62.73 270 P **P 10 53 04.2 -0.5**
comp=Z,17nm,0.9s,baz=57,slow=6.3,SNR=75
TORD LR LR 11 23 25.0
comp=Z,88nm,18.1s,baz=340,slow=39
TORD Torodi Ar. Bea 62.73 270 P **P 10 53 02.8 -1.9**
BILL Bilibino 65.86 24 *de*P **P 10 53 25.8 +1.4**
BILL *i* 10 53 56.5
BILL *e* 10 55 51.3
BILL pmax pmax
comp=Z,5.0nm,1.7s
BILL MLR MLR
comp=Z,157nm,16.0s
BILL Bilibino 65.86 24 P **P 10 53 25.4 +0.9**
BILL IAmb IAmb 10 53 26.8
comp=Z,6.0nm,1.1s
SUMG Summit 66.44 342 P **P 10 53 29.0 +0.5**
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 66.44 342 *i* P **P 10 53 29.4 +0.9**
comp=Z,27nm,0.8s
SUMG Summit 66.44 342 P **P 10 53 29.0 +0.5**
SUMG IAmb IAmb 10 53 30.4
comp=Z,9.8nm,0.7s
SKR Severo-Kuril's 66.70 44⇑*e*P **P 10 53 30.9 +0.9**
PETK Petropavlovsk- 66.83 41 P **P 10 53 30.5 -0.4**
comp=Z,2.6nm,0.7s,baz=294,slow=1.5,SNR=4.9
PETK LR LR 11 24 35.4
comp=Z,168nm,19.6s,baz=248,slow=38
PETK Petropavlovsk- 66.83 41 P **P 10 53 30.6 -0.3**
TULEG Thule 70.50 350 P **P 10 53 53.8 +0.4**
BOSA Boshof 70.76 219 P **P 10 53 55.8 +0.1**
BOSA pmax pmax
comp=Z,11nm,1.0s
BOSA Boshof 70.76 219 P **P 10 53 55.8 +0.1**
comp=Z,0.9nm,0.5s,baz=53,slow=2.7,SNR=3.1
BOSA Boshof 70.76 219 P **P 10 53 55.8 +0.1**
BOSA IAmb IAmb 10 54 06.2
comp=Z,11nm,1.0s
DBIC Dimbokro 71.45 267 P **P 10 53 59.9 -0.2**
DBIC pmax pmax
comp=Z,10.0nm,0.9s
DBIC Dimbokro 71.45 267 P **P 10 54 00.3 +0.2**
comp=Z,7.1nm,0.7s,baz=47,slow=6.6,SNR=6.9
DBIC LR LR 11 27 05.6

comp=Z,100nm,18.4s,baz=37,slow=37
DBIC Dimbokro 71.45 267 P **P 10 53 59.9 -0.2**
DBIC IAmb IAmb 10 54 01.2
comp=Z,10nm,0.8s
KIC Kosan Boka 71.50 267 *eP* **P 10 54 00.6 +0.2**
comp=Z,30nm,0.9s
KIC Kosan Boka 71.50 267 P **P 10 54 00.6 +0.2**
TIC Toumodi 71.60 267 *eP* **P 10 54 01.1 0.0**
TIC Toumodi 71.60 267 P **P 10 54 01.1 0.0**
TIC Toumodi 71.60 267 P **P 10 54 01.1 0.0**
LIC Lamto 71.81 267 *eP* **P 10 54 02.4 +0.1**
comp=Z,58nm,1.2s
LIC Lamto 71.81 267 P **P 10 54 02.4 +0.1**
TOLK Toolik Lake Re 78.08 13 P **P 10 54 38.6 +1.0**
COLD Coldfoot 79.14 14 P **P 10 54 44.6 +1.1**
COLD IAmb IAmb 10 54 46.1
comp=Z,9.3nm,0.8s
IMAR Indian Mountai 79.38 16 P **P 10 54 45.2 +0.4**
BMAR Burnt Mountain 80.07 12 P **P 10 54 50.3 +1.7**
MLY Manley 80.88 15 P **P 10 54 52.3 -0.7**
MLY IAmb IAmb 10 54 54.8
comp=Z,11nm,0.9s
INK Inuvik 80.91 8 P **P 10 54 53.6 +0.7**
comp=Z,6.5nm,0.6s,baz=5.5,slow=7.0,SNR=18
INK Inuvik 80.91 8 P **P 10 54 53.7 +0.7**
INK IAmb IAmb 10 54 54.6
comp=Z,8.2nm,0.7s
WB0 Warramunga Arr 81.06 119 P **P 10 54 55.4 +0.8**
WRA Warramunga Arr 81.13 119 P **P 10 54 55.5 +0.6**
WRA pmax pmax
comp=Z,1.0nm,1.4s
WRA Warramunga Arr 81.13 119 P **P 10 54 55.7 +0.8**
comp=Z,2.0nm,0.8s,baz=321,slow=4.9,SNR=34
WRA LR LR 11 35 26.3
comp=Z,25nm,18.4s,baz=95,slow=39
WRA Warramunga Arr 81.13 119 P **P 10 54 55.5 +0.6**
WRAB Tennant Creek 81.13 119 P **P 10 54 55.9 +1.0**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 81.13 119 P **P 10 54 55.9 +1.0**
WRAB IAmb IAmb 10 55 04.5
comp=Z,6.9nm,0.9s
WB2 Warramunga Arr 81.14 119 P **P 10 54 56.2 +1.3**
MDM Murphy Dome 81.50 15 P **P 10 54 57.3 +1.0**
MDM IAmb IAmb 10 54 58.1
comp=Z,18nm,0.9s
BPAW Bear Paw Mtn. 81.60 16 P **P 10 54 57.6 +0.8**
BPAW IAmb IAmb 10 54 59.4
comp=Z,8.7nm,0.9s
COLA College 81.66 14 *d iP* **P 10 54 58.1 +1.1**
COLA pmax pmax
comp=Z,17nm,1.0s
COLA College 81.66 14 P **P 10 54 58.1 +1.1**
COLA IAmb IAmb 10 54 58.8
comp=Z,18nm,1.0s
CCB Clear Creek Bu 81.87 15 P **P 10 54 58.6 +0.4**
CCB IAmb IAmb 10 54 59.3
comp=Z,8.8nm,1.3s
BWN Browne 81.90 15 P **P 10 54 58.7 +0.4**
WRH Wood River Hil 81.95 15 P **P 10 54 58.5 -0.1**
WRH IAmb IAmb 10 54 59.6
comp=Z,6.0nm,0.9s
IL31 81.96 14 P **P 10 54 58.8 +0.3**
IL31 IAmb IAmb 10 55 00.2
comp=Z,11nm,1.4s
ILAR Eielson Array 81.96 14 P **P 10 54 58.4 -0.2**
ILAR Eielson Array 81.96 14 P **P 10 54 58.5 -0.1**
comp=Z,2.4nm,0.6s,baz=316,slow=4.3,SNR=35
ILAR Eielson Array 81.96 14 P **P 10 54 58.4 -0.2**
HDA Harding Lake 82.26 14 P **P 10 54 59.4 -0.8**
PPLA Purkeypile 82.31 17 P **P 10 55 02.1 +1.5**
PPLA IAmb IAmb 10 55 05.5
comp=Z,11nm,1.1s
TRF Thorofare Moun 82.32 16 P **P 10 55 01.3 +0.5**
TRF IAmb IAmb 10 55 17.1
comp=Z,7.2nm,1.0s
EPYK Eagle Plains 82.33 10 P **P 10 55 01.4 +0.9**
EPYK IAmb IAmb 10 55 02.3
comp=Z,15nm,1.2s
MCK McKinley 82.40 15 P **P 10 55 01.7 +0.7**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 82.40 15 P **P 10 55 01.7 +0.7**
MCK IAmb IAmb 10 55 02.4
comp=Z,8.1nm,0.8s
RND Reindeer 82.70 16 P **P 10 55 01.6 -1.0**
RND pmax pmax
comp=Z,15nm,0.9s
RND Reindeer 82.70 16 P **P 10 55 01.6 -1.0**
AS31 Alice Springs 83.00 122 P **P 10 55 04.8 +0.1**
ASAR Alice Springs 83.00 122 P **P 10 55 05.2 +0.5**
ASAR Alice Springs 83.00 122 P **P 10 55 05.5 +0.8**
comp=Z,1.6nm,0.7s,baz=306,slow=5.1,SNR=28
ASAR LR LR 11 33 11.3
comp=Z,61nm,21.8s,baz=287,slow=36
ASAR Alice Springs 83.00 122 P **P 10 55 05.2 +0.5**
EGAK Eagle 83.08 12 P **P 10 55 05.3 +0.9**
EGAK IAmb IAmb 10 55 09.8
comp=Z,7.1nm,1.0s
DAWY Dawson 84.04 12 P **P 10 55 10.3 +0.8**
DAWY IAmb IAmb 10 55 11.4
comp=Z,12nm,1.0s
GHO Glory Hole Cre 84.08 17 P **P 10 55 10.2 +0.5**
SML Sawmill 84.20 16 P **P 10 55 11.1 +0.8**
SCM Sheep Creek Mo 84.42 16 P **P 10 55 12.8 +1.3**
SCM pmax pmax
comp=Z,20nm,1.3s
SCM Sheep Creek Mo 84.42 16 P **P 10 55 12.8 +1.3**
RC01 Rabbit Creek A 84.46 17 P **P 10 55 12.3 +0.8**
KNK Knik Glacier 84.51 16 P **P 10 55 13.1 +1.3**
BCAR Beaver Creek A 84.52 13 P **P 10 55 13.1 +1.2**
YKA Yellowknife Ar 87.99 1 P **P 10 55 29.5 +0.7**
comp=Z,3.9nm,0.7s,baz=352,slow=4.8,SNR=14
STKA Stephens Creek 93.27 125 LR LR 11 43 07.2
comp=Z,63nm,18.4s,baz=210,slow=39
MAW Mawson 97.19 182 LR LR 11 34 39.5
comp=Z,35nm,18.1s,baz=50,slow=32
ULM Lac du Bonnet 98.93 349 LR LR 11 47 12.5
comp=Z,103nm,18.0s,baz=108,slow=39
TXAR Lajitas Array 120.57 351 PKIKP **PKPdf 11 01 32.1 +0.7**
TXAR Lajitas Array 120.57 351 PKP **PKPdf 11 01 32.2 +0.9**
comp=Z,0.7nm,1.1s,baz=66,slow=2.7,SNR=5.0
GO06 Curarrehue 145.18 243 **PKPbc 11 02 17.5 +1.0**

ISK ***15*** *11:18:25.7,37.°25N×28.°19E,h2km,ML2.0/6*
DDA ***15*** *11:18:26.8,37.°26N×28.°21E,h7km±4km,ML2.5*
ISCJB ***15*** *11:18:27.1±0.6,37.°25N±0.°04×28.°21E±0.°04,h2km±11km,*
Error ellipse: s-maj=7.6km s-min=4.3km az=40.7
ISC 15 11:18:26.5±1.1,37.°26N±0.°05×28.°21E±0.°04,h7km±10km,
n13,σ0.9°51/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**156**	PG	**Pg**	**11 18 29.1**	**-0.4**
YER				SG	**Sg**	**11 18 31.5**	**0.0**
MLSB	**Milas**	**0.35**	**276**	PG	**Pg**	**11 18 33.2**	**-0.1**
MLSB				SG	**Sg**	**11 18 38.7**	**+0.7**
AYDN	**Tasoluk**	**0.48**	**326**	*i* P	**Pb**	**11 18 37.1**	**-0.3**
AYDN				*i* S	**Sb**	**11 18 43.9**	**-0.8**
TURN	**Turunc**	**0.50**	**141**	*i* P	**Pg**	**11 18 35.9**	**-0.2**
TURN				IAML_P			
comp=Z,936nm,0.2s							
TURN	**Turunc**	**0.50**	**141**	PG	**Pg**	**11 18 35.5**	**-0.6**
TURN				SG	**Sg**	**11 18 43.4**	**+0.7**
DALY	**Dalyan (Mula)**	**0.57**	**141**	*i* P	**Pb**	**11 18 38.7**	**-0.1**
DALY				*i* S	**Sb**	**11 18 46.9**	**-0.2**
DALY	**Dalyan (Mula)**	**0.57**	**141**	PG	**Pg**	**11 18 37.8**	**+0.3**
DALY				SG	**Sb**	**11 18 46.6**	**-0.5**
TAVA	**DENIZLI_Tavas**	**0.59**	**70**	*i* P	**Pb**	**11 18 40.0**	**+0.7**
TAVA				IAML_P			
comp=Z,413nm,0.1s							
DAT	**Datca**	**0.74**	**224**	*i* P	**Pg**	**11 18 40.4**	**-0.3**
DAT				*i* S	**Sb**	**11 18 52.9**	**+0.8**
DAT	**Datca**	**0.74**	**224**	PG	**Pg**	**11 18 40.5**	**-0.2**
FETY	**Fethiye**	**0.94**	**132**	*i* P	**Pn**	**11 18 46.1**	**-0.1**
GOLH	**Golhisar**	**1.08**	**91**	*i* P	**Pn**	**11 18 48.3**	**+0.1**
AKAS	**Kas**	**1.52**	**132**	PN	**Pb**	**11 18 54.8**	**-0.3**

BJI ***15*** *11:26:24.4±0.0,26.°14N×126.°85E,h92km,mb4.2/16,*
mB4.6/11
ISCJB ***15*** *11:26:28.2±0.2,26.°47N±0.°03×126.°62E±0.°03,*
h104km±2km,mb4.0/23,Error ellipse: s-maj=6.2km
s-min=3.2km az=144.8
IDC ***15*** *11:26:29.4±1.8,26.°56N×126.°55E,h101km±17km,*
mb3.8/20,mb1 4.0/21,mb1mx3.9/31,mbtmp4.1/21,MS3.0/6,
Ms1 3.0/6,ms1mx2.7/41,Error ellipse: s-maj=18.1km
s-min=12.5km az=71.0
NEIC ***15*** *11:26:29.4±1.5,26.°44N±0.°08×126.°65E±0.°07,*
h101km±7km,mb4.4/41
JMA ***15*** *11:26:29.3±0.2,26.°50N×126.°59E,h94km±2km,M3.9*
JMA Felt I J1.
ISC 15 11:26:29.5±0.6,26.°47N±0.°05×126.°63E±0.°04,h101km±5km,
n112,σ1.9°06/132,mb4.2/40,4C-1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.20**	**135**	P	**Pn**	**11 26 43.0**	**-0.8**
JKE				S	**Sn**	**11 26 53.4**	**-1.1**
JAGN	**Aguni-jima**	**0.56**	**78**	P	**Pn**	**11 26 45.3**	**-0.5**
JAGN				S	**Sn**	**11 26 57.1**	**-1.0**
JJT3	**Tamagusuku3**	**1.09**	**107**	P	**Pn**	**11 26 51.6**	**+0.7**
JJT3				S	**Sn**	**11 27 07.8**	**+0.7**
JNTH	**Nagotoyohara**	**1.25**	**87**	P	**Pn**	**11 26 52.9**	**+0.1**
JNTH				S	**Sn**	**11 27 09.4**	**-1.0**
JIH	**Iheya**	**1.32**	**65**	P	**Pn**	**11 26 53.8**	**+0.2**
JIH				S	**Sn**	**11 27 11.2**	**-0.7**
JOW	**Kunigami**	**1.52**	**76**	P	**Pn**	**11 26 55.9**	**-0.1**
JOW				S	**Sn**	**11 27 14.6**	**-1.5**
JOW	**Kunigami**	**1.52**	**76**	P	**Pn**	**11 26 56.0**	**-0.1**
18nm,0.3s,baz=139,slow=13,SNR=462							
JOW				S	**Sn**	**11 27 14.7**	**-1.4**
177nm,0.3s,baz=98,slow=17,SNR=35							
JYRO	**Yoronjima**	**1.72**	**71**	P	**Pn**	**11 26 58.3**	**-0.2**
JYRO				S	**Sn**	**11 27 19.3**	**-1.3**
JOKE	**Okinoerabujima**	**1.95**	**62**	P	**Pn**	**11 27 01.1**	**-0.3**
JOKE				S	**Sn**	**11 27 24.4**	**-1.4**
JIKM	**Ikemajima**	**1.98**	**219**	P	**Pn**	**11 27 01.8**	**-0.1**
JIKM				S	**Sn**	**11 27 25.7**	**-0.9**
JOGS	**Gusukube**	**2.03**	**213**	P	**Pn**	**11 27 02.5**	**0.0**
JOGS				*e*S	**Sn**	**11 27 27.3**	**-0.4**
JMJ2	**Miyako jima3**	**2.08**	**215**	P	**Pn**	**11 27 03.0**	**-0.2**
JMJ2				S	**Sn**	**11 27 27.7**	**-1.3**
JIRB	**Irabujima**	**2.10**	**219**	P	**Pn**	**11 27 02.7**	**-0.7**
JIRB				S	**Sn**	**11 27 27.4**	**-1.9**
YOJ	**Yonaguni jima**	**3.83**	**239**	Pn	**Pn**	**11 27 26.2**	**-0.2**
TATO	**Taipei**	**4.87**	**253**	Pn	**Pn**	**11 27 40.7**	**+0.3**
YHNB	**Yeheng**	**5.07**	**250**	Pn	**Pn**	**11 27 45.5**	**+2.2**
YHNB				Sn	**Sn**	**11 28 41.3**	**+0.6**
NACB	**Ninganchiao**	**5.10**	**244**	Pn	**Pn**	**11 27 42.9**	**-0.6**
NACB				Sn	**Sn**	**11 28 38.7**	**-2.5**
SSLB	**Suanglung**	**5.79**	**244**	Pn	**Pn**	**11 27 52.4**	**-0.7**
SSLB				Sn	**Sn**	**11 28 58.4**	**+0.2**
JNU	**Nakatsue**	**7.59**	**28**	P	**Pn**	**11 28 18.2**	**+0.9**
1.4nm,0.3s,baz=222,slow=5.7,SNR=14							
JNU				LR	LR	11 31 17.5	
comp=Z,79nm,20.6s,baz=166,slow=38							
KSAR	**Wonju Array Be**	**10.99**	**5**	Pn	**Pn**	**11 29 04.9**	**+1.3**
KSRS	**Korea Array**	**11.01**	**5**	P	**Pn**	**11 29 05.0**	**+1.3**
0.0nm,0.3s,baz=181,slow=14,SNR=14							
KSRS				LR	LR	11 33 06.8	
comp=Z,42nm,19.9s,baz=175,slow=36							
WHN	**Wuhan**	**11.54**	**293**	P	**Pn**	**11 29 13.4**	**+2.5**
MJAR	**Matsushiro Arr**	**14.07**	**42**	LR	LR	11 34 31.7	
comp=Z,46nm,19.0s,baz=240,slow=34							
BJT	**Baijiatuan**	**16.08**	**330**		**P**	**11 30 10.7**	**-0.3**
XAN	**Xi'an**	**17.05**	**300**	P	**P**	**11 30 24.8**	**+3.0**
XAN				pmax	pmax		
comp=Z,6.0nm,0.7s							
XAN	**Xi'an**	**17.05**	**300**		**P**	**11 30 22.1**	**+0.4**
XAN				IAmb	IAmb	11 30 38.1	
comp=Z,19nm,1.5s							
KMI	**Kunming**	**21.55**	**272**	P	**P**	**11 31 13.4**	**+2.4**
KMI				pmax	pmax		
comp=Z,12nm,0.9s							
LZH	**Lanzhou**	**21.66**	**302**	*e*P	**P**	**11 31 11.0**	**-1.1**
LZH				pP	pP	11 31 31.5	0.0
LZH				PP	**PnPn**	**11 31 40.3**	**+2.0**
LZH				sP	sP	11 31 43.5	-0.5
LZH				pmax	pmax		
comp=Z,20nm,1.0s							
LZH				pmax	pmax		
comp=Z,56nm,4.7s							
KLR	**Kul'dur**	**23.07**	**9**	P	**P**	**11 31 26.2**	**+0.1**
comp=Z,1.0nm,0.6s,baz=124,slow=7.3,SNR=4.2							
PBKT	**Sadao Pong**	**25.78**	**253**	P	**P**	**11 31 52.0**	**+0.9**
PBKT				IAmb	IAmb	11 31 52.8	
comp=Z,12nm,0.8s							
GTA	**Gaotai**	**25.83**	**307**	*e*P	**P**	**11 31 50.0**	**-1.5**
GTA				pP	pP	11 32 13.3	-0.2
GTA				sP	sP	11 32 23.3	-1.9
GTA				pmax	pmax		
comp=Z,5.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,68nm,5.3s							
GTA				LR	LR		
comp=Z,140nm,13.1s							
GTA				LR	LR		
comp=Z,120nm,15.5s							
GTA				LR	LR		
comp=Z,140nm,12.4s							
SONM	**Songino Array**	**26.59**	**329**	P	**P**	**11 31 57.1**	**-1.2**
comp=Z,2.4nm,0.7s,baz=149,slow=11,SNR=7.7							
SONM				LR	LR	11 43 46.8	
comp=Z,35nm,18.1s,baz=319,slow=39							
SONM	**Songino Array**	**26.59**	**329**	P	**P**	**11 31 57.9**	**-0.3**
CHTO	**Chiang Mai**	**26.62**	**259**	P	**P**	**11 31 58.4**	**-0.3**
CHTO				IAmb	IAmb	11 32 00.4	
comp=Z,4.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**26.76**	**258**	P	**P**	**11 32 00.0**	**+0.1**
comp=Z,1.3nm,0.7s,baz=64,slow=8.3,SNR=9.5							
CMAR	**Chiang Mai Arr**	**26.76**	**258**	P	**P**	**11 31 59.7**	**-0.2**
FAKI	**Fak Fak**	**29.72**	**169**	P	**P**	**11 32 26.4**	**+0.2**
FAKI				IAmb	IAmb	11 32 39.4	
comp=Z,9.4nm,1.0s							
PEA0B	**Petropavlovsk-**	**35.26**	**33**	P	**P**	**11 33 15.3**	**+1.1**
WMQ	**Urumqi**	**35.85**	**309**	*e*P	**P**	**11 33 20.8**	**+1.3**
WMQ				sP	sP	11 33 54.0	+0.5
CISI	**Cisompet, Garu**	**38.44**	**211**	P	**P**	**11 33 41.0**	**-0.6**
MTN	**Manton Dam**	**39.32**	**173**	P	**P**	**11 33 48.8**	**-0.1**
MTN				IAmb	IAmb	11 33 49.2	
comp=Z,10nm,1.1s							
MK31	**Makanchi Array**	**40.31**	**312**	P	**P**	**11 33 55.8**	**-1.0**
MKAR	**Makanchi Array**	**40.31**	**312**	P	**P**	**11 33 55.2**	**-1.6**
comp=Z,2.1nm,0.5s,baz=95,slow=10.0,SNR=27							
MKAR				PcP	**PcP**	**11 35 58.7**	**+0.2**
comp=Z,1.2nm,0.5s,baz=107,slow=0.9,SNR=7.4							
MKAR				LR	LR	11 52 23.9	
comp=Z,54nm,18.4s,baz=336,slow=39							
ZAA0	**Zalesovo Array**	**41.19**	**323**	P	**P**	**11 34 02.9**	**-1.0**
ZAA0				IAmb	IAmb	11 34 03.4	
comp=Z,2.9nm,0.5s							
ZALV	**Zalesovo Beam**	**41.19**	**323**	P	**P**	**11 34 02.5**	**-1.5**
comp=Z,3.2nm,0.5s,baz=116,slow=8.6,SNR=14							
ZALV				PcP	**PcP**	**11 36 00.4**	**-0.7**
comp=Z,0.7nm,0.4s,baz=106,slow=5.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**41.19**	**323**	P	**P**	**11 34 02.6**	**-1.3**
KNRA	**Kununurra**	**41.95**	**177**	P	**P**	**11 34 10.3**	**0.0**
COEN	**Coen**	**43.29**	**156**	P	**P**	**11 34 22.0**	**+0.7**
COEN				IAmb	IAmb	11 34 27.8	
comp=Z,5.1nm,1.2s							
KSH	**Kashi**	**43.90**	**300**	*e*P	**P**	**11 34 30.6**	**+4.4**
FITZ	**Fitzroy Crossi**	**44.31**	**181**	P	**P**	**11 34 29.4**	**0.0**
WRAB	**Tennant Creek**	**46.73**	**170**	P	**P**	**11 34 48.6**	**+0.1**
WRA	**Warramunga Arr**	**46.74**	**170**	P	**P**	**11 34 48.9**	**+0.3**
comp=Z,2.6nm,0.8s,baz=352,slow=8.5,SNR=22							
WRA	**Warramunga Arr**	**46.74**	**170**	P	**P**	**11 34 48.9**	**+0.3**
WB2	**Warramunga Arr**	**46.74**	**170**	P	**P**	**11 34 48.8**	**+0.2**
KK31	**Karatay Array**	**48.10**	**305**	P	**P**	**11 34 58.7**	**-0.3**
KKAR	**Karatay Array**	**48.10**	**305**	P	**P**	**11 34 59.0**	**0.0**
KKAR				PcP	**PcP**	**11 36 25.2**	**0.0**
BRVK	**Borovoye**	**49.21**	**318**	P	**P**	**11 35 07.3**	**0.0**
BRVK				IAmb	IAmb	11 35 08.4	
comp=Z,5.7nm,1.1s							
BRVK				PcP	**PcP**	**11 36 29.1**	**+0.1**
KBL	**Kabul**	**49.70**	**294**	P	**P**	**11 35 10.8**	**-0.8**
AS31	**Alice Springs**	**50.34**	**171**	P	**P**	**11 35 16.7**	**+0.6**
ASAR	**Alice Springs**	**50.34**	**171**	P	**P**	**11 35 16.8**	**+0.6**
comp=Z,1.0nm,0.5s,baz=356,slow=8.5,SNR=42							
ASAR	**Alice Springs**	**50.34**	**171**	P	**P**	**11 35 16.5**	**+0.3**
MNCI	**Minicoy**	**53.82**	**261**	P	**P**	**11 35 42.3**	**+0.1**
ABKAR	**Akbulak array**	**55.44**	**313**	P	**P**	**11 35 53.2**	**-0.2**
ABKAR				IAmb	IAmb	11 35 53.8	
comp=Z,3.0nm,0.7s							
ABKAR	**Akbulak array**	**55.44**	**313**	P	**P**	**11 35 53.2**	**-0.2**
ABKAR				PcP	**PcP**	**11 36 51.8**	**-0.6**
ANM	**Nome**	**56.98**	**29**	P	**P**	**11 36 04.7**	**+0.5**
GEYT	**Alibeck**	**57.93**	**300**	P	**P**	**11 36 11.3**	**0.0**
comp=Z,1.6nm,0.5s,baz=71,slow=9.3,SNR=2.9							
GEYT	**Alibeck**	**57.93**	**300**	P	**P**	**11 36 10.7**	**-0.6**
STKA	**Stephens Creek**	**59.75**	**165**	P	**P**	**11 36 24.6**	**+0.9**
comp=Z,2.4nm,0.7s,baz=352,slow=7.6,SNR=4.4							
STKA	**Stephens Creek**	**59.75**	**165**	P	**P**	**11 36 24.5**	**+0.8**
TTA	**Tatalina**	**61.06**	**31**	P	**P**	**11 36 33.1**	**+0.7**
TTA				IAmb	IAmb	11 36 33.6	
comp=Z,2.3nm,0.8s							
SVW2	**Sparrevohn**	**61.34**	**33**	P	**P**	**11 36 35.3**	**+1.0**
SVW2				IAmb	IAmb	11 36 47.1	
comp=Z,6.9nm,1.3s							
IMAR	**Indian Mountai**	**61.93**	**27**	P	**P**	**11 36 38.5**	**+0.4**
KDAK	**Kodiak Island**	**63.18**	**36**	P	**P**	**11 36 46.7**	**+0.2**
MLY	**Manley**	**63.24**	**28**	P	**P**	**11 36 47.6**	**+0.7**
MLY				IAmb	IAmb	11 36 48.5	
comp=Z,4.0nm,0.6s							
ILAR	**Eielson Array**	**64.91**	**28**	P	**P**	**11 36 57.1**	**-0.7**
comp=Z,0.9nm,0.8s,baz=228,slow=4.9,SNR=16							
ILAR	**Eielson Array**	**64.91**	**28**	P	**P**	**11 36 57.5**	**-0.3**
HDA	**Harding Lake**	**64.94**	**29**	P	**P**	**11 36 57.6**	**-0.3**
HDA				IAmb	IAmb	11 36 58.8	
comp=Z,4.8nm,0.8s							
BMAR	**Burnt Mountain**	**65.40**	**25**	P	**P**	**11 37 02.2**	**+1.2**
EGAK	**Eagle**	**67.31**	**28**	P	**P**	**11 37 13.5**	**+0.4**
EGAK				IAmb	IAmb	11 37 13.8	
comp=Z,2.4nm,0.8s							
BCAR	**Beaver Creek A**	**67.46**	**30**	P	**P**	**11 37 14.8**	**+0.7**
KBZ	**Khabaz**	**67.89**	**309**	P	**P**	**11 37 17.2**	**+0.1**
comp=Z,2.6nm,0.8s,baz=106,slow=2.5,SNR=3.8							
INK	**Inuvik**	**69.23**	**23**	P	**P**	**11 37 25.6**	**+0.6**
INK				IAmb	IAmb	11 37 27.0	
comp=Z,14nm,1.4s							
SOCY	**Socotra**	**69.24**	**274**	P	**P**	**11 37 24.8**	**-1.3**
ARCES	**ARCESS Array B**	**69.26**	**338**	P	**P**	**11 37 24.2**	**-1.0**
comp=Z,7.2nm,1.0s,baz=80,slow=6.9,SNR=2.9							
FINES	**FINESS Array B**	**71.94**	**330**	P	**P**	**11 37 40.5**	**-1.1**
comp=Z,1.1nm,0.4s,baz=65,slow=5.2,SNR=10.0							
FINES	**FINESS Array B**	**71.94**	**330**	P	**P**	**11 37 40.8**	**-0.8**
RAYN	**Ar Rayn**	**72.37**	**288**	P	**P**	**11 37 44.9**	**0.0**
RAYN				IAmb	IAmb	11 37 45.6	
comp=Z,5.3nm,1.1s							
AKASG	**Malin Array Be**	**74.41**	**319**	P	**P**	**11 37 55.2**	**-1.1**
comp=Z,2.4nm,0.5s,baz=56,slow=6.1,SNR=10							
AKASG	**Malin Array Be**	**74.41**	**319**	P	**P**	**11 37 55.6**	**-0.8**
RES	**Resolute Bay**	**75.58**	**10**	P	**P**	**11 38 02.9**	**+0.3**
RES				IAmb	IAmb	11 38 03.4	
comp=Z,6.9nm,1.0s							
BRTR	**Keskin Array B**	**75.75**	**307**	P	**P**	**11 38 04.0**	**-0.5**
comp=Z,2.6nm,1.0s,baz=15,slow=5.1,SNR=4.7							
BRTR	**Keskin Array B**	**75.75**	**307**	P	**P**	**11 38 04.2**	**-0.3**
TIRR	**Tirgusor**	**77.43**	**313**	⇑P	**P**	**11 38 13.2**	**-0.4**
VRI	**Vrincioaia**	**77.91**	**315**	⇑P	**P**	**11 38 17.1**	**+0.8**
BURAR	**Bucovina Array**	**78.08**	**317**	⇑P	**P**	**11 38 17.2**	**-0.2**
BURAR	**Bucovina Array**	**78.08**	**317**	P	**P**	**11 38 17.7**	**+0.3**
NC405	**NORSAR Array S**	**78.22**	**333**	P	**P**	**11 38 16.8**	**-0.9**
NB2	**NORSAR Subarra**	**78.46**	**333**	P	**P**	**11 38 18.0**	**-1.1**
comp=Z,0.9nm,0.6s,baz=54,slow=5.6							
NOA	**NORSAR Array B**	**78.46**	**333**	P	**P**	**11 38 18.0**	**-1.1**
comp=Z,0.9nm,0.6s,baz=54,slow=5.7,SNR=5.8							
KWP	**Kalwaria Pacla**	**78.66**	**320**	P	**P**	**11 38 20.7**	**+0.4**
YKA	**Yellowknife Ar**	**78.91**	**25**	P	**P**	**11 38 21.3**	**-0.2**
comp=Z,2.7nm,0.7s,baz=306,slow=5.3,SNR=5.2							
ELL	**Elmali**	**79.64**	**306**	P	**P**	**11 38 25.5**	**-0.6**
LOT	**Lotru**	**79.95**	**316**	⇑P	**P**	**11 38 27.5**	**-0.1**
VYHS	**Vyhne**	**81.44**	**320**	*e*P	**P**	**11 38 35.9**	**+0.5**
VTS	**Vitosha**	**81.61**	**313**	⇓P	**P**	**11 38 36.6**	**0.0**
MODS	**Modra-Piesok**	**82.39**	**321**	*e*P	**P**	**11 38 44.8**	**+4.4**
GERES	**GERESS Array B**	**84.14**	**322**	P	**P**	**11 38 49.0**	**-0.4**
comp=Z,0.6nm,0.6s,baz=56,slow=6.1,SNR=4.6							
GERES	**GERESS Array B**	**84.14**	**322**	P	**P**	**11 38 49.5**	**+0.1**
LON	**Longmire**	**84.53**	**40**	P	**P**	**11 38 51.9**	**+0.6**
LON				IAmb	IAmb	11 38 56.2	
comp=Z,3.1nm,1.0s							
KMBO	**Kilima Mbogo**	**89.94**	**269**	LR	LR	12 23 60.0	
comp=Z,8.9nm,18.0s,baz=90,slow=38							
NVAR	**Mina Array Bea**	**91.37**	**45**	P	**P**	**11 39 25.6**	**+1.1**
comp=Z,0.4nm,0.7s,baz=310,slow=3.4,SNR=2.4							
PDAR	**Pinedale Array**	**93.86**	**38**	P	**P**	**11 39 35.6**	**-0.3**
comp=Z,0.4nm,0.6s,baz=321,slow=7.0,SNR=3.3							

ISCJB ***15*** *12:27:18.7±0.6,37.°23N±0.°04×138.°85E±0.°05,h23km±7km,*
mb3.5/1,Error ellipse: s-maj=7.6km s-min=5.5km az=24.8
IDC ***15*** *12:27:18.6±3.3,36.°86N×138.°89E,h0km,mb3.3/1,*
mb1 3.6/2,mb1mx3.2/27,mbtmp3.3/2,ML3.3/1,Error
ellipse: s-maj=59.4km s-min=28.5km az=170.0
JMA ***15*** *12:27:19.4,37.°22N×138.°88E,h11km±1km,M3.2*
Broadband fault plane solution: P waves. NP1:
ϕ_s231.00000°,δ72.00000°,λ117.00000°. NP2:
ϕ_s352.00000°,δ33.00000°,λ36.00000°. Principal axes: T
Plg55.0000°, Azm175.0000°; N Plg26.0000°,
Azm41.0000°; P Plg22.0000°, Azm300.0000°;
JMA Felt II J1.
ISC 15 12:27:18.6±1.4,37.°13N±0.°07×138.°87E±0.°04,h5km±15km,
n13,σ0.9°96/21,5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.17**	**44**	⇓P	**Pg**	**12 27 22.2**	**+0.3**
JHK				S	**Sg**	**12 27 24.6**	**+0.4**
JIZZ	**Izumozaki**	**0.42**	**342**	⇓P	**Pg**	**12 27 26.6**	**-0.1**
JKT	**Katashina**	**0.47**	**140**	⇓P	**Pb**	**12 27 29.9**	**+0.5**
JKT				S	**Sb**	**12 27 37.6**	**+0.9**
JGK	**Kuni**	**0.59**	**198**	P	**Pn**	**12 27 32.4**	**-1.4**
JFY	**Yanaizu**	**0.72**	**67**	⇓P	**Pg**	**12 27 32.3**	**-0.1**
JFY				S	**Sg**	**12 27 41.4**	**-0.4**
JNS	**Sasagaw

*ISCJB **15** 12:52:17.2±0.4, 15°.50S±0°.04×69°.92W±0°.09, h250km, mb3.9/6, Error ellipse: s-maj=12.0km s-min=5.1km az=169.7*
*NEIC **15** 12:52:18.3±1.8, 15°.53S±0°.09×69°.9W±0°.1, h244km±6km, mb4.1/15*
*IDC **15** 12:52:18.4±1.2, 15°.56S×69°.86W, h251km±11km, mb3.7/6, mb1 3.8/7, mb1mx3.4/30, mbtmp4.2/7, Error ellipse: s-maj=22.4km s-min=16.3km az=94.0*

ISC 15 12:52:18.0±0.5, 15°.58S±0°.06×69°.97W±0°.10, h250km, n44, σ1§28/50, mb4.0/11, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.91**	**112**	P	**Pn**	**12 53 01.4**	**+1.1**
	40nm,0.3s,baz=333,slow=7.8,SNR=832						
LPAZ				S	**S**	**12 53 33.2**	**-0.3**
	4.2nm,0.3s,baz=143,slow=22,SNR=3.5						
LPAZ	**La Paz**	**1.91**	**112**		**Pn**	**12 53 01.5**	**+1.2**
LPAZ					**S**	**12 53 33.5**	**-0.1**
MNMC	**Minye Minye**	**3.55**	**174**	Pn	**Pn**	**12 53 17.1**	**+0.2**
MNMC					**S**	**12 54 02.9**	**-0.7**
GO01	**Chusmiza**	**4.14**	**170**	Pn	**Pn**	**12 53 24.3**	**+0.5**
GO01					**S**	**12 54 15.7**	**-0.4**
PB11	**IPOC Station P**	**4.17**	**176**		**Pn**	**12 53 23.6**	**-0.3**
PB11					**S**	**12 54 13.7**	**-2.7**
PB01	**IPOC Station P**	**5.46**	**175**	Pn	**Pn**	**12 53 39.2**	**-0.3**
PB04	**IPOC Station P**	**6.72**	**181**	Pn	**Pn**	**12 53 56.8**	**+1.5**
LVC	**Limon Verde**	**7.07**	**172**	P	**Pn**	**12 54 01.0**	**+1.2**
	1.4nm,0.3s,baz=322,slow=9.9,SNR=21						
LVC				S	**S**	**12 55 17.1**	**-4.4**
	2.4nm,0.3s,baz=120,slow=18,SNR=12						
LVC	**Limon Verde**	**7.07**	**172**		**Pn**	**12 54 01.1**	**+1.3**
SIV	**San Ignacio**	**8.58**	**94**	P	**Pn**	**12 54 17.6**	**-1.1**
	0.1nm,0.3s,baz=275,slow=12,SNR=2.2						
GO02	**Mina Guanaco**	**9.54**	**178**	Pn	**Pn**	**12 54 32.3**	**+1.2**
PLCA	**Paso Flores**	**25.07**	**181**	P	**P**	**12 57 21.4**	**+1.6**
	2.1nm,0.8s,baz=25,slow=11,SNR=5.5						
PLCA	**Paso Flores**	**25.07**	**181**	P	**P**	**12 57 21.6**	**+1.8**
PLCA				IAmb	IAmb	12 57 26.3	
	comp=Z,5.5nm,1.1s						
CBYP	**Canovanas**	**33.88**	**7**	P	**P**	**12 58 35.9**	**-1.6**
PBMO	**Poplar Bluff**	**55.54**	**340**	P	**P**	**13 01 26.3**	**-1.2**
FVM	**French Village**	**56.64**	**341**	P	**P**	**13 01 34.2**	**-1.0**
SDCO	**Great Sand Dun**	**62.67**	**329**	P	**P**	**13 02 17.5**	**+0.8**
PV01	**Paradox Valley**	**64.54**	**327**	P	**P**	**13 02 30.1**	**+1.4**
PV01				IAmb	IAmb	13 02 31.6	
	comp=Z,3.5nm,0.9s						
DBIC	**Dimbokro**	**68.16**	**76**	P	**P**	**13 02 51.2**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=250,slow=7.7,SNR=6.3						
DBIC	**Dimbokro**	**68.16**	**76**	P	**P**	**13 02 51.0**	**-0.9**
DBIC				IAmb	IAmb	13 02 53.4	
	comp=Z,6.4nm,1.1s						
SNAA	**Sanae**	**68.18**	**162**	P	**P**	**13 02 52.5**	**+1.3**
PD31	**Pinedale Array**	**68.51**	**330**	P	**P**	**13 02 54.5**	**+0.8**
PDAR	**Pinedale Array**	**68.51**	**330**	P	**P**	**13 02 54.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=126,slow=9.3,SNR=7.6						
PDAR	**Pinedale Array**	**68.51**	**330**	P	**P**	**13 02 54.7**	**+1.0**
ULM	**Lac du Bonnet**	**69.39**	**343**	P	**P**	**13 02 57.5**	**-1.2**
	comp=Z,6.4nm,0.5s,baz=160,slow=6.1,SNR=11						
ULM	**Lac du Bonnet**	**69.39**	**343**	P	**P**	**13 02 57.6**	**-1.0**
ULM				IAmb	IAmb	13 02 58.4	
	comp=Z,5.2nm,0.7s						
IMW	**Indian Meadow**	**70.02**	**330**	P	**P**	**13 03 04.3**	**+1.3**
IMW				IAmb	IAmb	13 03 05.2	
	comp=Z,1.8nm,0.7s						
MCMT	**McKenzie Canyo**	**71.64**	**329**	P	**P**	**13 03 13.8**	**+1.1**
MFID	**Camas Ranch**	**72.16**	**327**	P	**P**	**13 03 17.0**	**+1.3**
MFID				IAmb	IAmb	13 03 18.5	
	comp=Z,3.1nm,0.9s						
PLID	**Pearl Lake**	**73.40**	**328**	P	**P**	**13 03 24.3**	**+1.3**
PLID				IAmb	IAmb	13 03 25.4	
	comp=Z,2.9nm,0.9s						
MOD	**Modoc Plateau**	**73.64**	**323**	P	**P**	**13 03 26.7**	**+2.3**
QSPA	**South Pole Qui**	**74.58**	**180**	P	**P**	**13 03 31.4**	**+2.0**
TOA0	**Torodi Ar. Sit**	**76.41**	**72**	P	**P**	**13 03 40.0**	**-0.5**
TOA0				IAmb	IAmb	13 03 41.0	
	comp=Z,3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.41**	**72**	P	**P**	**13 03 39.8**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=256,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**76.41**	**72**	P	**P**	**13 03 40.1**	**-0.4**
YKA	**Yellowknife Ar**	**85.29**	**341**	P	**P**	**13 04 26.7**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=137,slow=5.5,SNR=3.4						
ASAR	**Alice Springs**	**134.55**	**211**	PKP	**PKiKP**	**13 11 09.3**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=151,slow=2.1,SNR=4.3						
ASAR	**Alice Springs**	**134.55**	**211**		**PKiKP**	**13 11 09.1**	**+0.3**
ZALV	**Zalesovo Beam**	**136.94**	**22**	PKP	**PKiKP**	**13 11 12.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=306,slow=3.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**136.94**	**22**		**PKiKP**	**13 11 12.0**	**-0.6**
WRA	**Warramunga Arr**	**137.37**	**215**	PKP	**PKiKP**	**13 11 14.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=148,slow=1.8,SNR=4.3						
WRA	**Warramunga Arr**	**137.37**	**215**		**PKPdf**	**13 11 12.6**	**0.0**
SONM	**Songino Array**	**147.69**	**5**	PKPbc	**PKiKP**	**13 11 34.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=357,slow=0.8,SNR=8.0						
SONM	**Songino Array**	**147.69**	**5**		**PKiKP**	**13 11 34.9**	**-0.2**

*DRS **15** 12:52:47.8±0.0, 41°.48N×44°.35E, h22km*
*NSSP **15** 12:52:50.4, 41°.73N×45°.03E, h10km, Ms3.1*
*MOS **15** 12:52:50.3±0.0, 41°.76N×44°.93E, h23km, MPVA4.0*
*NORS **15** 12:52:50.4±0.0, 41°.74N×44°.96E, h6km, MPVA4.0*
*TIF **15** 12:52:51.7, 41°.79N×44°.97E, h29km*
*ISK **15** 12:52:51.7, 41°.78N×45°.02E, h24km, ML3.0/4*
*DDA **15** 12:52:51.5, 41°.82N×44°.90E, h32km±1km, ML3.1*
*ISCJB **15** 12:52:53.3±0.3, 41°.76N±0°.02×44°.97E±0°.02, h21km±2km, mb3.5/2, Error ellipse: s-maj=2.9km s-min=2.7km az=8.7*

ISC 15 12:52:52.8±0.7, 41°.76N±0°.02×44°.92E±0°.02, h26km±4km, n90, σ1§50/157, 20C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEAG	**Tbilisi Sea**	**0.09**	**271**	P	**Pb**	**12 52 57.1**	**-0.5**
SEAG				S	**Sb**	**12 53 01.5**	**+0.6**
SEAG	**Tbilisi Sea**	**0.09**	**271**	⇑PG	**Pb**	**12 52 57.1**	**-0.5**
SEAG				S	**Sb**	**12 53 01.5**	**+0.6**
BTNK	**Botanikuri**	**0.12**	**229**	P	**Pb**	**12 52 57.4**	**-0.5**
BTNK				S	**Sb**	**12 53 01.9**	**+0.6**
BTNK	**Botanikuri**	**0.12**	**229**	PG	**Pb**	**12 52 57.4**	**-0.5**
BTNK				S	**Sb**	**12 53 01.9**	**+0.6**
BTNK	**Botanikuri**	**0.12**	**229**	*i* P	**Pb**	**12 52 57.8**	**0.0**
BTNK				*i* S	**Sb**	**12 53 02.9**	**+1.7**
BTNK				IAML_P			
	comp=Z,42μm,0.1s						
TBLG	**Delisi**	**0.14**	**257**	P	**Pb**	**12 52 57.7**	**-0.4**
TBLG				S	**Sb**	**12 53 02.4**	**+0.9**
TBLG	**Delisi**	**0.14**	**257**	⇑PG	**Pb**	**12 52 57.7**	**-0.4**
TBLG				S	**Sb**	**12 53 02.4**	**+0.9**
TBLG	**Delisi**	**0.14**	**257**	*i* P	**Pb**	**12 52 58.4**	**+0.3**
TBLG	**Delisi**	**0.14**	**257**	PG	**Pb**	**12 52 57.6**	**-0.4**
TBLG				SG	**Sb**	**12 53 02.5**	**+0.9**
DGRG	**David-gareji**	**0.46**	**132**	P	**Pb**	**12 53 01.9**	**-0.6**
DGRG				S	**Sn**	**12 53 10.6**	**-0.5**
DGRG	**David-gareji**	**0.46**	**132**	⇑PG	**Pb**	**12 53 01.9**	**-0.6**
DGRG				S	**Sn**	**12 53 10.6**	**-0.5**
DGRG	**David-gareji**	**0.46**	**132**	*i* P	**Pb**	**12 53 02.8**	**+0.4**
DGRG				*i* S	**Sn**	**12 53 11.5**	**+0.4**
DGRG	**David-gareji**	**0.46**	**132**	*i* Pg	**Pb**	**12 53 01.9**	**-0.6**
DGRG				*e*Sg	**Sb**	**12 53 08.4**	**-0.6**
KZRT	**Kazreti**	**0.54**	**226**	P	**Pb**	**12 53 03.5**	**-0.3**
KZRT				S	**Sn**	**12 53 12.3**	**-0.8**
KZRT	**Kazreti**	**0.54**	**226**	PG	**Pb**	**12 53 03.5**	**-0.3**
KZRT				S	**Sn**	**12 53 12.4**	**-0.8**
KZRT	**Kazreti**	**0.54**	**226**	*i* P	**Pb**	**12 53 03.9**	**+0.1**
KZRT				*i* S	**Sn**	**12 53 12.4**	**-0.8**
STEZ	**Stepenevan**	**0.86**	**207**	⇓*e*P	**Pn**	**12 53 07.5**	**-1.8**
STEZ				⇓*e*S	**Sn**	**12 53 21.0**	**0.0**
DDFL	**Dedoflistskaro**	**0.95**	**109**	P	**Pb**	**12 53 11.4**	**+0.7**
DDFL				S	**Sn**	**12 53 27.8**	**+4.5**
DDFL	**Dedoflistskaro**	**0.95**	**109**	PG	**Pb**	**12 53 11.4**	**+0.7**
DDFL				S	**Sn**	**12 53 27.8**	**+4.5**
DDFL	**Dedoflistskaro**	**0.95**	**109**	*i* P	**Pb**	**12 53 11.8**	**+1.1**
DDFL				*i* S	**Sn**	**12 53 28.4**	**+5.1**
LGD	**Lagodekhi**	**0.99**	**85**	P	Pn	12 53 04.2	-6.8
LGD				S	**Sn**	**12 53 17.4**	**-6.7**
LGD	**Lagodekhi**	**0.99**	**85**	PG	Pn	12 53 04.3	-6.7
LGD	**Lagodekhi**	**0.99**	**85**	*e*Pg	Pn	12 53 04.3	-6.7
LGD				*e*Sg	**Sn**	**12 53 17.5**	**-6.7**
AKH	**Akhalkalaki**	**1.13**	**252**	P	**Pn**	**12 53 13.0**	**-0.1**
AKH				S	**Sb**	**12 53 29.4**	**+1.3**
AKH	**Akhalkalaki**	**1.13**	**252**	PG	**Pn**	**12 53 13.0**	**-0.1**
AKH				S	**Sb**	**12 53 29.4**	**+1.3**
AKH	**Akhalkalaki**	**1.13**	**252**	*e*Pg	**Pn**	**12 53 12.7**	**-0.3**
AKH				*e*Sg	**Sb**	**12 53 29.4**	**+1.3**
AKH	**Akhalkalaki**	**1.13**	**252**	PN	**Pn**	**12 53 13.1**	**0.0**
AKH				SN	**Sb**	**12 53 29.3**	**+1.2**
LACR	**Lac**	**1.16**	**337**	⇑*i*PG	**Pn**	**12 53 12.9**	**-0.6**
LACR				*e*S	**Sn**	**12 53 28.7**	**+0.2**
LACR	**Lac**	**1.16**	**337**	*e*Pg	**Pn**	**12 53 12.7**	**-0.8**
LACR				*e*Sg	**Sn**	**12 53 28.8**	**+0.2**
ZEI	**Tsey**	**1.27**	**324**	⇑*i*PG	**Pn**	**12 53 15.4**	**+0.3**
ZEI				*e*S	**Sb**	**12 53 32.8**	**+0.5**
ZEI	**Tsey**	**1.27**	**324**	*i* Pg	**Pn**	**12 53 15.3**	**+0.3**
ZEI				*e*Sg	**Sb**	**12 53 32.5**	**+0.2**
KMGR	**Komgaron**	**1.29**	**358**	*i* PG	**Pn**	**12 53 15.5**	**+0.2**
KMGR				*e*S	**Sb**	**12 53 34.3**	**+1.5**
KMGR	**Komgaron**	**1.29**	**358**	*i* Pg	**Pn**	**12 53 15.5**	**+0.9**
KMGR				*e*Sg	**Sb**	**12 53 34.4**	**+1.5**
ONI	**Oni**	**1.37**	**308**	P	**Pn**	**12 53 16.9**	**+0.6**
ONI				S	**Sb**	**12 53 36.1**	**+1.2**
ONI	**Oni**	**1.37**	**308**	PG	**Pn**	**12 53 16.9**	**+0.6**
ONI				S	**Sb**	**12 53 36.1**	**+1.2**
ONI	**Oni**	**1.37**	**308**	*e*Pg	**Pn**	**12 53 16.8**	**+0.5**
ONI				*e*Sg	**Sb**	**12 53 36.2**	**+1.2**
ONI	**Oni**	**1.37**	**308**	PN	**Pn**	**12 53 16.8**	**+0.5**
ONI				SN	**Sb**	**12 53 34.7**	**-0.2**
KAPZ	**Kaputan**	**1.45**	**187**	⇑*i*P	**Pb**	**12 53 18.3**	**-0.9**
KAPZ				⇑*i*S	**Sb**	**12 53 38.3**	**+1.0**
EAK	**Akyaka**	**1.46**	**223**	*i* P	**Pb**	**12 53 19.7**	**+0.2**
EAK				*i* S	**Sb**	**12 53 40.1**	**+2.4**
EAK				IAML_P			
	comp=Z,3μm,0.3s						
KORR	**Kora**	**1.47**	**335**	*e*PG	**Pb**	**12 53 19.1**	**-0.3**
KORR				*e*S	**Sb**	**12 53 39.6**	**+1.9**
KORR	**Kora**	**1.47**	**335**	*e*Pg	**Pn**	**12 53 17.8**	**+0.2**
KORR				*e*Sg	**Sb**	**12 53 39.4**	**+1.7**
ARNR	**Ardon**	**1.49**	**342**	*e*PG	**Pb**	**12 53 19.7**	**-0.2**
ARNR				*e*S	**Sb**	**12 53 40.6**	**+2.2**
ARNR	**Ardon**	**1.49**	**342**	*e*Pg	**Pb**	**12 53 19.4**	**-0.5**
ARNR				*e*Sg	**Sb**	**12 53 40.2**	**+1.8**
DIGR	**Digorskoe uzhe**	**1.51**	**319**	⇓*i*PG	**Pb**	**12 53 19.3**	**-1.0**
DIGR				*e*S	**Sb**	**12 53 39.6**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.51**	**319**	*i* Pg	**Pb**	**12 53 19.2**	**-1.0**
DIGR				*e*Sg	**Sb**	**12 53 39.6**	**+0.5**
TKB	**Tkibuli**	**1.55**	**293**	P	**Pn**	**12 53 19.5**	**+0.8**
TKB				S	**Sb**	**12 53 40.8**	**+0.7**
TKB	**Tkibuli**	**1.55**	**293**	PN	**Pn**	**12 53 19.5**	**+0.8**
TKB				S	**Sb**	**12 53 40.8**	**+0.7**
GROC	**Groznyy**	**1.58**	**24**	*i* PG	**Pb**	**12 53 20.4**	**-0.9**
GROC				*e*S	**Sb**	**12 53 42.4**	**+1.6**
GROC	**Groznyy**	**1.58**	**24**	*i* Pg	**Pb**	**12 53 20.4**	**-0.9**
GROC				*e*Sg	**Sb**	**12 53 42.4**	**+1.6**
ARUZ	**Aruch**	**1.61**	**203**	⇑*i*P	**Pb**	**12 53 21.3**	**-0.6**
ARUZ				⇑*i*S	**Sb**	**12 53 43.6**	**+1.9**
GNI	**Garni**	**1.62**	**185**	*de*PN	**Pb**	**12 53 21.2**	**-0.9**
GNI	**Garni**	**1.62**	**185**	⇑*i*P	**Pb**	**12 53 21.4**	**-0.6**
GNI				⇑*i*S	**Sb**	**12 53 44.2**	**+2.1**
GNI	**Garni**	**1.62**	**185**	PN	**Pn**	**12 53 20.1**	**+0.3**
BTKR	**Batakoyurt**	**1.63**	**350**	*e*PN	**Pb**	**12 53 24.5**	**+2.2**
BTKR				*e*S	**Sb**	**12 53 43.9**	**+1.4**
BTKR	**Batakoyurt**	**1.63**	**350**	*e*Pg	**Pb**	**12 53 24.5**	**+2.2**
BTKR				*e*Sg	**Sb**	**12 53 43.9**	**+1.4**
GNBR	**Gunib**	**1.65**	**67**	*e*PG	**Pn**	**12 53 20.0**	**-0.1**
GNBR				*e*S	**Sn**	**12 53 41.4**	**+1.0**
GNBR	**Gunib**	**1.65**	**67**	*e*Pg	**Pn**	**12 53 19.7**	**-0.4**
GNBR				*e*Sg	**Sn**	**12 53 40.4**	**+0.1**
EPOS	**Posof**	**1.66**	**262**	*i* P	**Pn**	**12 53 20.2**	**-0.3**
KMKR	**Kumukh**	**1.67**	**76**	*i* PG	**Pn**	**12 53 20.0**	**-0.5**
KMKR				*e*S	**Sn**	**12 53 41.0**	**-0.1**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
UNCR	**Uncukul**	**1.69**	**55**	*e*PN	**Pn**	**12 53 21.0**	**+0.4**
UNCR				*e*S	**Sn**	**12 53 42.0**	**+0.7**
UNCR				pmax	pmax		
	comp=Z,66nm,0.5s						
VADZ	**Vardenis**	**1.71**	**158**	⇑*i*P	**Pn**	**12 53 21.9**	**+0.8**
VADZ				⇑*i*S	**Sb**	**12 53 44.8**	**+0.1**
LSNR	**Lesken**	**1.72**	**332**	*e*PN	**Pb**	**12 53 23.2**	**-0.6**
LSNR				*e*S	**Sb**	**12 53 46.6**	**+1.7**
LSNR	**Lesken**	**1.72**	**332**	*e*Pg	**Pb**	**12 53 23.1**	**-0.6**
LSNR				*e*Sg	**Sb**	**12 53 45.7**	**+0.8**
STDR	**Stavd-Durt**	**1.73**	**339**	*e*PN	**Pb**	**12 53 23.7**	**-0.1**
STDR				*e*S	**Sb**	**12 53 46.5**	**+1.4**
STDR	**Stavd-Durt**	**1.73**	**339**	*e*Pg	**Pb**	**12 53 23.1**	**-0.7**
STDR				*e*Sg	**Sb**	**12 53 46.3**	**+1.2**
ARKR	**Arakani**	**1.75**	**61**	*e*PN	**Pn**	**12 53 22.0**	**+0.4**
ARKR				*e*S	**Sb**	**12 53 45.0**	**-1.0**
ARKR				pmax	pmax		
	comp=Z,48nm,0.3s						
DIGO	**Kars**	**1.78**	**221**	*i* P	**Pb**	**12 53 23.6**	**-1.3**
KRNR	**Karanay**	**1.82**	**53**	*e*PN	**Pn**	**12 53 23.0**	**+0.5**
KRNR				*i* S	**Sn**	**12 53 45.5**	**+0.8**
KRNR				pmax	pmax		
	comp=Z,19nm,0.3s						
DBC	**Dubki**	**1.89**	**48**	*e*PN	**Pn**	**12 53 24.6**	**+1.1**
DBC				*e*S	**Sb**	**12 53 49.1**	**-0.8**
DBC	**Dubki**	**1.89**	**48**	*e*Pg	**Pn**	**12 53 24.6**	**+1.1**
DBC				*e*Sg	**Sb**	**12 53 49.1**	**-0.8**
NCK	**Nalchik**	**1.99**	**331**	*e*PN	**Pb**	**12 53 28.5**	**+0.2**
NCK	**Nalchik**	**1.99**	**331**	*e*Pg	**Pb**	**12 53 28.5**	**+0.2**
NCK				*e*Sg	**Sb**	**12 53 53.6**	**+0.9**
IGDI	**IGDIR**	**2.00**	**199**	*i* P	**Pb**	**12 53 26.9**	**-1.6**
AKT	**Akhty**	**2.12**	**97**	*e*PN	**Pn**	**12 53 27.6**	**+0.9**
AKT	**Akhty**	**2.12**	**97**	*e*Pg	**Pn**	**12 53 27.6**	**+0.9**
AKT				*e*Sg	**Sn**	**12 53 53.7**	**+1.4**
KBTC	**Kuba-Taba**	**2.34**	**332**	*e*PN	**Pn**	**12 53 30.9**	**+1.3**
KBTC				*e*S	**Sb**	**12 54 04.2**	**+1.5**
KBTC	**Kuba-Taba**	**2.34**	**332**	*e*Pn	**Pn**	**12 53 30.9**	**+1.3**
KBTC				*e*Sn	**Sb**	**12 54 04.2**	**+1.5**
DAGI	**Agillar**	**2.36**	**254**	*i* P	**Pb**	**12 53 32.8**	**-1.9**
DAGI				*i* S	**Sb**	**12 54 08.2**	**+4.7**
BATM	**Batumi**	**2.42**	**267**	PN	**Pn**	**12 53 32.0**	**+1.3**
KBZ	**Khabaz**	**2.47**	**323**	⇓*e*PN	**Pn**	**12 53 31.5**	**+0.2**
BCA	**Borcka**	**2.49**	**264**	PN	**Pn**	**12 53 33.1**	**+1.4**
DBAD	**Bademkaya**	**2.54**	**254**	*i* P	**Pn**	**12 53 34.6**	**+2.2**
DBAD				*i* S	**Sb**	**12 54 10.2**	**+1.6**
DBAD				IAML_P			
	comp=Z,216nm,0.2s						
PYA1	**Pyatigorsk**	**2.66**	**330**	⇑*e*PN	**Pb**	**12 53 37.6**	**-2.2**
KIV	**Kishinev**	**2.74**	**324**	⇑*e*PN	**Pn**	**12 53 34.4**	**-0.7**
DOMR	**Dombai**	**2.88**	**303**	⇑*e*PN	**Pn**	**12 53 38.3**	**+1.2**
AKBB	**Malin Array Si**	**14.04**	**315**	⇑*e*P	**P**	**12 56 14.2**	**-3.3**
BRVK	**Borovoye**	**20.43**	**48**	⇓*e*P	**P**	**12 57 28.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KHC	**Kasperske Hory**	**23.07**	**299**	⇑*e*P	**P**	**12 57 57.4**	**+1.2**
KHC				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK	**Kurchatov**	**24.78**	**57**	⇑*e*P	**P**	**12 58 12.7**	**+0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	**Makanchi Array**	**27.05**	**67**	⇑*e*P	**P**	**12 58 32.7**	**-0.1**

IDC 15 13:21:38.3±1.3, 12°.19N×144°.09E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=57.1km s-min=18.6km az=111.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.58**	**29**	Pn	Pn	13 22 07.6	-0.1
	18nm,0.3s,baz=148,slow=15,SNR=18						
GUMO				LR	LR	13 22 25.0	
	comp=Z,99nm,18.5s,baz=268,slow=30						
GUMO				Sn	Sg	13 22 30.7	+1.4
	38nm,0.3s,baz=170,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**33.34**	**197**	P	P	13 28 17.8	-0.5
	0.4nm,0.8s,baz=22,slow=9.7,SNR=5.0						
ASAR	**Alice Springs**	**37.00**	**196**	P	P	13 28 50.4	+0.5
	0.3nm,0.7s,baz=17,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**61.97**	**317**	P	P	13 31 59.9	-0.4
	0.3nm,0.7s,baz=93,slow=7.2,SNR=2.2						

*ISCJB **15** 13:25:24.8±1.5, 14°.1N±0°.1×92°.1W±0°.1, h96km±19km, Error ellipse: s-maj=24.7km s-min=9.8km az=40.3*
*GCG **15** 13:25:26.7±0.3, 14°.62N×91°.74W, h114km±3km, MD4.0*
*MEX **15** 13:25:28.9±0.3, 14°.10N×92°.21W, h20km±21km, MD3.7*

ISC 15 13:25:26.2±2.4, 14°.1N±0°.2×92°.16W±0°.10, h69km±21km, n9, σ1§86/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.68**	**57**	*e*P	**Pn**	**13 25 41.4**	**+0.7**
ERG				*i* S	**Sn**	**13 25 55.3**	**+3.8**
THIG		**0.84**	**353**	*i* P	**Pn**	**13 25 42.4**	**-0.3**
THIG				*i* S	**Sn**	**13 25 50.6**	**-4.1**
STG3	**Santiaguito 3,**	**0.85**	**42**	*e*P	**Pn**	**13 25 43.3**	**+0.3**
FUG	**Fuego 3**	**1.33**	**74**	*e*P	**Pn**	**13 25 49.1**	**+0.1**
FUG				*i* S	**Sn**	**13 26 04.3**	**-1.8**
IXG	**Ixpaco**	**1.67**	**86**	*e*P	**Pn**	**13 25 52.7**	**-0.8**
PCIG		**1.92**	**328**	*e*P	**Pn**	**13 25 57.0**	**+0.3**
CCIG	**Comitan**	**2.20**	**0**	*e*P	**Pn**	**13 26 01.5**	**+0.8**
CCIG				*i* S	**Sn**	**13 26 26.7**	**-0.2**
TGIG		**2.85**	**341**	*e*P	**Pn**	**13 26 10.1**	**+0.7**
TGIG				*i* S	**Sn**	**13 26 42.7**	**+0.1**
CMIG	**Matias Romero**	**3.99**	**319**	*e*P	**Pn**	**13 26 25.8**	**+0.9**
CMIG				*i* S	**Sn**	**13 27 10.2**	**-0.2**

UCR 15 13:26:15.0±2.1, 10°.18N×83°.91W, h5km±52km, MW2.8, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.22**	**138**	*e*P	Pg	13 26 21.7	+2.4
CVTR				*e*S	Sg	13 26 24.2	+1.9
CVTR	**Volcan Turrial**	**0.22**	**138**	*e*P	Pg	13 26 21.8	+2.4
CVTR				*e*S	Sg	13 26 24.2	+1.9
SJS	**Escuela Geolog**	**0.28**	**211**	*e*P	Pg	13 26 20.7	+0.1
SJS	**Escuela Geolog**	**0.28**	**211**	*e*P	Pn	13 26 25.2	-0.7
SJS				*e*S	Sb	13 26 26.6	-1.1
LCR2	**La Lucha 2**	**0.45**	**192**	⇓*i*P	Pb	13 26 25.5	0.0
LCR2				*e*S	Sb	13 26 31.5	-1.1
LCR2	**La Lucha 2**	**0.45**	**192**	⇓*i*P	Pb	13 26 25.6	0.0
LCR2				*e*S	Sb	13 26 31.7	-0.9

*ISCJB **15** 13:39:50.7±0.4, 68°.37N±0°.03×148°.70W±0°.08, h10km, mb3.5/4, MS3.2/1, Error ellipse: s-maj=4.4km s-min=3.9km az=165.4*
*IDC **15** 13:39:50.8±1.2, 68°.54N×149°.26W, h0km, mb3.4/4, mb1 3.8/7, mb1mx3.5/33, mbtmp3.5/7, ML3.3/3, MS2.7/3, Ms1 2.7/3, ms1mx2.5/33, Error ellipse: s-maj=25.1km s-min=17.9km az=42.0*
*NEIC **15** 13:39:51.8±2.1, 68°.38N±0°.04×148°.8W±0°.1, h8km±5km*
*AEIC **15** 13:39:51±2.4, 68°.36N±0°.03×148°.7W±0°.1, h1km±5km, ML3.2*

ISC 15 13:39:52.0±0.7, 68°.41N±0°.04×148°.80W±0°.04, h10km, n50, σ1§16/55, mb3.5/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLK	**Toolik Lake Re**	**0.36**	**309**		**Pg**	**13 39 58.7**	**-0.5**
TOLK					**Sg**	**13 40 05.9**	**+1.8**
COLD	**Coldfoot**	**1.30**	**205**		**Pn**	**13 40 13.8**	**-2.4**
COLD					**Sn**	**13 40 33.6**	**0.0**
PS05	**TAPS Pump Stn5**	**1.76**	**205**		**Pn**	**13 40 22.6**	**+0.1**
PS05					**Sb**	**13 40 46.5**	**+0.1**
PS01	**TAPS Pump Stn**	**1.86**	**2**		**Pn**	**13 40 23.9**	**+0.1**
PS01					**Sb**	**13 40 49.9**	**+0.7**
BM03	**Burnt Mountain**	**1.87**	**120**		**Pn**	**13 40 23.6**	**-0.5**
BMAR	**Burnt Mountain**	**1.88**	**120**		**Pn**	**13 40 23.9**	**-0.3**
BM01	**Burnt Mountain**	**1.88**	**119**		**Pn**	**13 40 24.0**	**-0.2**
PS06	**TAPS

SAUI				Sn	Sn	13 44 49.3	-3.6
FAKI	Fak Fak	4.66	30		Pn	13 44 53.1	-7.0
MTN	Manton Dam	5.94	169	Pn	Pn	13 45 19.3	+2.9
SOEI	Soe	6.24	243		Pn	13 45 21.6	+1.2
KNRA	Kununurra	8.71	187		Pn	13 45 54.8	+2.4
KNRA					Sn	13 47 29.9	-0.4
FITZ	Fitzroy Crossi	11.81	200		P	13 46 35.2	-2.3
FITZ					Sn	13 48 42.0	-2.1
WB0	Warramunga Arr	13.42	162	Pn	Pn	13 46 51.8	-1.0
WRAB	Tennant Creek	13.57	162	P	P	13 46 56.2	-0.8
WRAB					S	13 49 23.6	-2.3
WRA	Warramunga Arr	13.57	162	Pn	P	13 46 56.2	-0.9
	0.9nm,0.3s,baz=338,slow=13,SNR=9.9						
WRA				Sn	S	13 49 23.9	-2.1
	2.0nm,0.3s,baz=332,slow=23,SNR=12						
WRA	Warramunga Arr	13.57	162	P	P	13 46 56.9	-0.2
WRA					Sn	13 49 26.1	-0.2
WB2	Warramunga Arr	13.58	162		P	13 46 58.0	+0.8
WB2					Sn	13 49 26.1	-0.3
COEN	Coen	14.75	119	Pn	Pn	13 47 08.3	-0.9
JAGI	Jajag, Banyuwa	15.70	264		Pn	13 47 19.7	-1.1
JAGI				IAmb	IAmb	13 47 26.9	
	comp=Z,37nm,1.3s						
AS31	Alice Springs	17.02	167		Pn	13 47 41.8	+5.2
ASAR	Alice Springs	17.02	167	P	Pn	13 47 42.1	+5.6
	comp=Z,0.4nm,0.3s,baz=342,slow=11,SNR=22						
ASAR				S	S	13 50 47.4	+5.1
	comp=Z,0.4nm,0.3s,baz=360,slow=29,SNR=6.0						
ASAR	Alice Springs	17.02	167		Pn	13 47 41.8	+5.2
PSAB2	Pilbara Seismi	17.44	213	Pn	Pn	13 47 42.6	+1.1
PSAB2				IAmb	IAmb	13 47 45.7	
	comp=Z,12nm,1.3s						
PSA00	Pilbara Seismi	17.47	213		P	13 47 37.5	-2.6
PSA00	Pilbara Seismi	17.47	213	P	P	13 47 36.7	-3.4
PSA00				IAmb	IAmb	13 47 52.8	
	comp=Z,2.7nm,0.7s						
GIRL	Giralia	21.70	223	P	P	13 48 24.8	-0.5
CISI	Cisompet, Garu	21.94	267	P	P	13 48 27.3	-0.5
CISI				IAmb	IAmb	13 48 28.8	
	comp=Z,33nm,1.2s						
MORW	Morawa	25.57	209	P	P	13 48 59.6	-1.1
MORW				IAmb	IAmb	13 49 07.3	
	comp=Z,14nm,1.4s						
EIDS	Eidsvold	27.25	135	P	P	13 49 17.5	+1.8
EIDS				IAmb	IAmb	13 49 28.0	
	comp=Z,9.2nm,1.4s						
ANA2	Anatahan	27.95	34	P	P	13 49 22.8	+0.7
QIZ	Qiongzhong	32.56	323	P	P	13 50 02.0	-0.6
TOO	Toolangi	33.57	157	P	P	13 50 10.7	-0.5
TOO				IAmb	IAmb	13 50 18.7	
	comp=Z,16nm,1.5s						
USA0B	Ussuriysk Arra	50.98	2	P	P	13 52 30.8	-0.4
WMQ	Urumqi	63.34	327	PcP	PcP	13 54 27.7	-5.4
PEA0B	Petropavlovsk-	64.34	18	P	P	13 54 05.0	+1.0
MK31	Makanchi Array	68.17	327	P	P	13 54 30.0	+1.4
MK31				IAmb	IAmb	13 54 30.5	
	comp=Z,6.9nm,1.4s						
MKAR	Makanchi Array	68.17	327	P	P	13 54 30.0	+1.4
	comp=Z,3.1nm,0.5s,baz=121,slow=7.9,SNR=45						
MKAR	Makanchi Array	68.17	327	P	P	13 54 30.4	+1.8
MAKZ	Makanchi	68.35	327	P	P	13 54 31.4	+1.6
MAKZ				IAmb	IAmb	13 54 32.2	
	comp=Z,4.6nm,1.2s						
KDJ	Kajisay	68.52	320	PcP	PcP	13 54 54.7	-0.1
BOOM	Boomskoye usch	69.49	320	P	P	13 54 36.6	-0.5
BOOM				PcP	PcP	13 54 56.2	-2.7
KKAR	Karatay Array	73.28	319	P	P	13 54 59.8	+0.3

ISCJB ***15*** *14:00:03.6±0.6,42°.19N±0°.05×86°.99E±0°.06,h10km, mb3.7/11,Error ellipse: s-maj=6.8km s-min=6.7km az=27.1*

IDC ***15*** *14:00:03.4±0.8,42°.12N×86°.90E,h0km,mb3.8/11, mb1 3.9/15,mb1mx3.7/53,mbtmp3.8/15,ML3.3/4,MS2.8/2, Ms1 2.8/2,ms1mx2.4/38,Error ellipse: s-maj=29.5km s-min=13.3km az=52.0*

BJI ***15*** *14:00:06.9±0.0,42°.10N×86°.89E,h8km,mb3.9/1,mB3.9/1, ML3.8/7*

NNC ***15*** *14:00:07.3±2.7,42°.56N×87°.09E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=23.7km s-min=15.2km az=145.0*

ISC 15 14:00:06.3±0.7,42°.30N±0°.07×87°.03E±0°.06,h10km,n29, σ**2§55/36,mb3.6/11,15C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.60	17	Pg	Pn	14 00 38.5	+3.8
WMQ				Sg	Sn	14 01 01.4	+6.0
WMQ				smax	smax		
	comp=N,770nm,0.5s						
WMQ				smax	smax		
	comp=E,770nm,0.7s						
MK31	Makanchi Array	5.63	325	⇓Pn	Pn	14 01 31.0	+1.0
	1.1nm,0.2s,baz=144,slow=15,SNR=213						
MK31				⇑Lg	Lg	14 02 58.2	
	17nm,0.6s,baz=138,slow=27,SNR=5.7						
MKAR	Makanchi Array	5.63	325	Pn	Pn	14 01 30.9	+0.8
	3.5nm,0.3s,baz=146,slow=13,SNR=140						
MKAR				Sn	Sn	14 02 38.5	+3.8
	3.3nm,0.3s,baz=140,slow=17,SNR=3.6						
MKAR				Lg	Lg	14 02 59.1	
	5.8nm,0.3s,baz=146,slow=26,SNR=6.0						
MKAR				LR	LR	14 04 07.0	
	comp=Z,71nm,18.1s,baz=86,slow=43						
PDGK	Podgornoye	5.64	283	⇑Pn	Pn	14 01 30.4	+0.1
	4.2nm,0.5s						
PDGK				⇑Sn	Sn	14 02 40.4	+5.2
	38nm,0.7s						
PDGK				⇓Lg	Lg	14 03 03.9	
	56nm,0.6s						
MAKZ	Makanchi	5.78	323	⇓Pn	Pn	14 01 33.0	+1.0
	2.2nm,0.5s						
MAKZ				⇑Lg	Lg	14 03 06.5	
	14nm,0.5s						
MDOK	Medeo	7.40	280	⇑Pn	Pn	14 01 56.3	+1.8
	2.5nm,0.5s						
MDOK				⇑Sn	Sn	14 03 20.0	+1.4
	5.6nm,0.6s						
MDOK				⇑Lg	Lg	14 04 02.7	
	18nm,0.6s						
TKM2	Tokmak 2	8.46	278	⇑Pn	Pn	14 02 08.7	-0.3
	5.1nm,0.5s						
TKM2				⇑Sn	Sn	14 03 51.5	+6.9
	7.1nm,0.6s						
TKM2				⇑Lg	Lg	14 04 34.1	
	20nm,0.8s						
AAK	Ala-Archa	9.28	276	⇑Pn	Pn	14 02 24.0	+3.8
	1.2nm,0.4s						
AAK				Lg	Lg	14 05 02.6	
	16nm,1.1s						
AAK	Ala-Archa	9.28	276	Pn	Pn	14 02 18.2	-2.0
	0.4nm,0.3s,baz=132,slow=7.1,SNR=4.3						
AAK				Lg	Lg	14 04 53.0	
	0.3nm,0.3s,baz=232,slow=19,SNR=2.5						
GTA	Gaotai	10.11	102	eP	Pn	14 02 34.0	+2.5
GTA				pP		14 02 38.1	
GTA				sP		14 02 41.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURBB	Kurchatov Arra	10.18	328	⇑Pn	Pn	14 02 31.6	-0.7
	1.8nm,0.4s						
KURBB				⇓Lg	Lg	14 05 24.8	
	30nm,0.8s						
KURBB	Kurchatov Arra	10.18	328	Pn	Pn	14 02 32.2	-0.1
	0.2nm,0.3s,baz=140,slow=13,SNR=12						
KURBB				Sn	Sn	14 04 24.2	-2.3
	0.2nm,0.3s,baz=109,slow=14,SNR=4.6						
KURBB				Lg	Lg	14 05 30.5	
	0.2nm,0.3s,baz=4.0,slow=18,SNR=5.8						
KURK	Kurchatov	10.22	328	⇑Pn	Pn	14 02 32.3	-0.6
	3.0nm,0.9s						
KURK				⇑Sn	Sn	14 04 24.8	-2.6
	2.6nm,0.5s						
KURK				⇑Lg	Lg	14 05 25.3	
	17nm,1.1s						
ZALV	Zalesovo Beam	11.75	354	Pn	Pn	14 02 53.7	-0.2
	0.4nm,0.3s,baz=174,slow=14,SNR=7.5						
ZALV				Sn	Sn	14 05 00.7	-4.2
	1.8nm,0.3s,baz=172,slow=25,SNR=16						
ZALV				LR	LR	14 07 50.9	
	comp=Z,42nm,18.4s,baz=334,slow=39						
SONM	Songino Array	14.75	61	Pn	P	14 03 43.3	+2.3
	0.1nm,0.3s,baz=240,slow=12,SNR=2.9						
BVAR	Borovoye Array	15.48	320	Pn	Pn	14 03 42.7	-1.8
	0.3nm,0.3s,baz=127,slow=12,SNR=12						
AKTO	Aktyubinsk	21.51	302	P	P	14 04 54.0	-1.1
	1.0nm,0.4s,baz=96,slow=12,SNR=5.3						
ARU	Arti	23.10	318	P	P	14 05 11.5	-0.5
	2.2nm,0.3s,baz=101,slow=10,SNR=10						
CMAR	Chiang Mai Arr	25.84	153	P	P	14 05 36.5	-1.3
	0.4nm,0.6s,baz=333,slow=9.1,SNR=4.2						
BRTR	Keskin Array B	39.82	285	P	P	14 07 39.1	-0.7
	0.3nm,0.5s,baz=103,slow=11,SNR=2.8						
FINES	FINESS Array B	40.44	320	P	P	14 07 43.2	-1.2
	1.8nm,0.9s,baz=102,slow=8.6,SNR=4.0						
ARCES	ARCESS Array B	41.23	332	P	P	14 07 50.3	-0.6
	6.8nm,1.1s,baz=93,slow=7.5,SNR=5.7						
NB2	NORSAR Subarra	47.61	320	P	P	14 08 40.7	-1.3
	comp=Z,4.2nm,0.5s,baz=78,slow=7.9						
NOA	NORSAR Array B	47.61	320	P	P	14 08 40.8	-1.3
	comp=Z,2.1nm,0.4s,baz=73,slow=8.6,SNR=14						
ILAR	Eielson Array	65.26	22	P	P	14 10 47.1	-0.5
	comp=Z,0.3nm,0.6s,baz=317,slow=5.2,SNR=4.8						
WRA	Warramunga Arr	75.76	134	P	P	14 11 51.2	-1.1
	comp=Z,0.4nm,0.7s,baz=336,slow=6.1,SNR=4.4						
TORD	Torodi Ar. Bea	77.86	277	P	P	14 12 01.6	-2.7
	comp=Z,0.7nm,0.5s,baz=27,slow=5.6,SNR=6.6						
ASAR	Alice Springs	78.61	137	P	P	14 12 06.8	-1.5
	comp=Z,0.4nm,0.8s,baz=328,slow=5.7,SNR=4.8						
LPAZ	La Paz	146.46	313	PKPbc	PKPdf	14 19 46.4	-0.9
	comp=Z,0.5nm,0.4s,baz=63,slow=9.0,SNR=2.9						

GUC ***15*** *14:29:43.6±0.6,32°.34S×70°.49W,h25km±13km,ML2.9*
SJA ***15*** *14:29:48.9±1.1,32°.27S×70°.09W,h9km±11km,ML3.0, MW3.3*

ISC 15 14:29:43.9±1.1,32°.34S±0°.03×70°.58W±0°.04,h30km±13km, n22,σ**1§56/29,2C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.73	210	⇓iP	Pb	14 29 57.9	-0.4
ROCH				iS	Sb	14 30 08.8	+0.7
ROCH				IAML		14 30 11.3	
	comp=E,839nm,0.4s						
PEL	Peldehue	0.81	186	⇓iP	Pb	14 29 58.9	-0.6
PEL				iS	Sb	14 30 10.1	-0.1
PEL				IAML		14 30 17.5	
	comp=E,311nm,0.5s						
FCH	Farellones	1.02	166	⇑iP	Pn	14 30 02.0	-0.5
FCH				iS	Sn	14 30 15.8	-0.2
FCH				IAML		14 30 16.3	
	comp=E,2μm,0.2s						
CLCH	Cerro Calan	1.06	178	⇓iP	Pn	14 30 02.6	-0.2
CLCH				iS	Sn	14 30 16.9	+0.3
CLCH				IAML		14 30 21.6	
	comp=N,552nm,0.7s						
VA01	Torpederas	1.13	232	eP	Pn	14 30 04.3	+0.5
VA01				iS	Sb	14 30 20.3	+1.1
CO02	Combarbal	1.19	342	⇑iP	Pn	14 30 04.9	+0.3
CO02				iS	Sn	14 30 21.1	+1.3
RTLS	Leoncito	1.21	64	iP	Pb	14 30 05.2	-1.3
RTLS				eS	Sn	14 30 18.3	-2.5
RTLS				IAML		14 30 20.8	
	comp=Z,180nm,0.3s						
ARCO	CERRO ARCO	1.48	110	iP	Pb	14 30 10.7	-0.2
ARCO				IAML		14 30 32.8	
	comp=Z,342nm,0.7s						
ASAL	Salagasta	1.50	100	iP	Pb	14 30 10.7	-0.5
ASAL				eS	Sn	14 30 25.2	-2.3
LMEL	Las Melosas	1.54	168	IAML		14 30 40.8	
	comp=N,509nm,0.2s						
AAGR	Agrelo	1.65	117	iP	Pb	14 30 14.2	+0.3
AAGR				eS	Sb	14 30 33.8	-0.5
RTCV	Cerro Valdivia	1.79	75	iP	Pb	14 30 18.0	+1.8
RTLL	Cerro Villicun	2.05	61	iP	Pb	14 30 21.8	+1.2
RTLL				IAML		14 30 52.3	
	comp=Z,151nm,0.5s						
CFA	Coronel Fontan	2.12	70	iP	Pb	14 30 21.1	-0.6
GO04	Tololo Observa	2.17	355	iP	Pb	14 30 21.6	-1.0
ACCO	Cerro Coronel	2.17	37	iP	Pb	14 30 22.6	-0.2
AMOG	MOGNA	2.26	52	iP	Pb	14 30 24.7	+0.5
AROD	Rodeo	2.36	24	iP	Pb	14 30 27.9	+1.9
AGUA	GUANDACOL	3.36	33	iP	Pb	14 30 41.0	-1.8
MRA	San Martin	4.12	92	iP	Pn	14 30 48.8	+3.9
MRA				IAML		14 31 53.5	
	comp=Z,64nm,0.4s						
VCA	Vinchina	4.13	30	iP	Pb	14 30 52.0	-4.1
TCA	Tanti	5.19	81	iP	Pn	14 31 03.2	+3.5

ISCJB ***15*** *14:39:15.7±0.3,26°.74S±0°.07×13°.82W±0°.06,h10km, mb4.4/27,MS4.1/23,Error ellipse: s-maj=10.7km s-min=7.1km az=163.2*

NEIC ***15*** *14:39:16.5±2.1,26°.7S±0°.1×13°.8W±0°.1,h10km±1km, mb4.8/20*

IDC ***15*** *14:39:17.3±0.5,26°.45S×13°.77W,h0km,mb4.4/20, mb1 4.5/20,mb1mx4.4/31,mbtmp4.4/20,MS4.1/20, Ms1 4.1/20,ms1mx4.0/23,Error ellipse: s-maj=18.8km s-min=12.1km az=169.0*

GCMT ***15*** *14:39:20.5±0.3,26°.30S±0°.03×13°.63W±0°.02,h12km, MW5.0/84,Moment Tensor Solution. s31,c34; s84,c108; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.58±.09; $M_{\theta\theta}$-0.03±.10; $M_{\phi\phi}$2.61±.07; $M_{r\theta}$2.33±.43; $M_{\theta\phi}$-0.40±.09; $M_{\phi r}$-0.57±.29; Best double couple: $M_0$3.42800×10^16^ NP1:ϕ_s320.00000°,δ63.00000°,λ-120.00000°. NP2: ϕ_s193.00000°,δ40.00000°,λ-45.00000°. Principal axes: T 2.8820, Plg13.0000°, Azm72.0000°; N 1.0910, Plg27.0000°, Azm335.0000°; P -3.9740, Plg60.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 14:39:17.4±0.4,26°.66S±0°.08×13°.83W±0°.07,h10km,n101, σ**1§47/93,mb4.6/33,MS4.2/23,2C,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	13.03	37	Pn	Pn	14 42 20.0	-2.8
ASCN	Ascension	18.63	358	P	P	14 43 34.1	-1.2
RCBR	Riachuelo	29.53	311	P	P	14 45 22.0	-0.3
RCBR				IAmb	IAmb	14 45 29.6	
	comp=Z,41nm,1.4s						
TSUM	Tsumeb	29.81	82	P	P	14 45 24.3	-0.7
	comp=Z,6.5nm,1.0s,baz=232,slow=5.1,SNR=5.5						
TSUM				LR	LR	14 54 54.2	
	comp=Z,639nm,21.8s,baz=316,slow=32						
TSUM	Tsumeb	29.81	82	P	P	14 45 24.2	-0.7
TSUM				IAmb	IAmb	14 45 28.9	
	comp=Z,10nm,1.1s						
HOPE	Hope Point	32.25	205	P	P	14 45 44.6	-1.3
BDFB	Brasilia	33.61	282	P	P	14 45 59.2	+0.8
	comp=Z,6.0nm,0.6s,baz=124,slow=9.3,SNR=8.0						
BDFB				LR	LR	14 57 51.0	
	comp=Z,560nm,18.6s,baz=119,slow=33						
BDFB	Brasilia	33.61	282	P	P	14 45 55.8	-2.6
BDFB				IAmb	IAmb	14 46 00.2	
	comp=Z,9.2nm,0.8s						
DBIC	Dimbokro	34.25	16	LR	LR	14 56 25.9	
	comp=Z,266nm,21.2s,baz=170,slow=30						
BOSA	Boshof	34.58	102	P	P	14 46 07.6	+0.9
	comp=Z,6.8nm,0.8s,baz=251,slow=8.9,SNR=8.0						
BOSA				LR	LR	14 58 03.9	
	comp=Z,547nm,18.8s,baz=256,slow=33						
BOSA	Boshof	34.58	102	P	P	14 46 06.0	-0.7
BOSA				IAmb	IAmb	14 46 20.1	
	comp=Z,14nm,1.1s						
LBTB	Lobatse	35.43	96	P	P	14 46 14.8	+0.7
	comp=Z,15nm,1.0s,baz=267,slow=8.4,SNR=11						
LBTB	Lobatse	35.43	96	P	P	14 46 12.1	-1.9
LBTB				IAmb	IAmb	14 46 16.8	
	comp=Z,26nm,1.1s						
CPUP	Villa Florida	38.79	260	P	P	14 46 44.2	+1.7
	comp=Z,4.9nm,1.0s,baz=82,slow=13,SNR=4.6						
CPUP				LR	LR	15 00 24.6	
	comp=Z,345nm,19.3s,baz=90,slow=33						
CPUP	Villa Florida	38.79	260	P	P	14 46 42.0	-0.5
CPUP				IAmb	IAmb	14 46 46.4	
	comp=Z,16nm,1.3s						
LSZ	Lusaka	40.66	82	P	P	14 46 59.1	+0.8
	comp=Z,6.2nm,0.7s,baz=257,slow=10,SNR=8.1						
TRQA	Tornquist	41.82	242	P	P	14 47 08.6	+1.1
TRQA				IAmb	IAmb	14 47 14.3	
	comp=Z,10nm,0.9s						
TOA0	Torodi Ar. Sit	42.34	23	P	P	14 47 11.0	-0.8
TORD	Torodi Ar. Bea	42.34	23	P	P	14 47 11.1	-0.7
	comp=Z,8.5nm,0.9s,baz=202,slow=7.9,SNR=23						
TORD				LR	LR	15 00 56.5	
	comp=Z,343nm,21.9s,baz=230,slow=31						
TORD	Torodi Ar. Bea	42.34	23	P	P	14 47 10.6	-1.3
SIV	San Ignacio	45.05	274	P	P	14 47 36.6	+2.8
	comp=Z,3.3nm,0.9s,baz=118,slow=8.9,SNR=11						
SNAA	Sanae	45.47	175	P	P	14 47 40.4	+3.9
	comp=Z,0.9nm,0.7s,baz=347,slow=5.8,SNR=3.8						
SNAA	Sanae	45.47	175	P	P	14 47 35.3	-1.2
CFA	Coronel Fontan	47.38	251	P	P	14 47 53.4	+1.3
	comp=Z,10nm,0.7s,baz=90,slow=9.2,SNR=12						
PLCA	Paso Flores	48.46	238	P	P	14 48 02.3	+2.0
	comp=Z,4.4nm,1.0s,baz=127,slow=4.1,SNR=4.6						
PLCA				LR	LR	15 05 20.0	
	comp=Z,220nm,22.0s,baz=118,slow=32						
PLCA	Paso Flores	48.46	238	P	P	14 47 55.8	-4.5
PLCA				IAmb	IAmb	14 48 15.4	
	comp=Z,8.2nm,1.1s						
PMSA	Palmer Station	49.57	206	P	P	14 48 03.5	-4.8
PMSA				IAmb	IAmb	14 48 18.5	
	comp=Z,8.3nm,0.8s						
GO04	Tololo Observa	49.79	252	P	P	14 48 08.9	-2.0
SAML	Samuel	49.84	281	P	P	14 48 10.3	-0.8
LVC	Limon Verde	49.92	262	P	P	14 48 11.0	-1.0
PB04	IPOC Station P	51.09	262	P	P	14 48 19.1	-1.6
LPAZ	La Paz	51.25	270	P	P	14 48 23.7	+1.2
	comp=Z,1.5nm,0.7s,baz=105,slow=7.9,SNR=6.0						
LPAZ				LR	LR	15 08 17.1	
	comp=Z,562nm,21.5s,baz=114,slow=34						
SYO	Syowa Base	52.52	159	eP	P	14 48 27.0	-3.5
SYO	Syowa Base	52.52	159	epP	P	14 48 30.0	-0.5
KMBO	Kilima Mbogo	55.19	71	P	P	14 48 51.6	+0.5
	comp=Z,0.6nm,0.3s,baz=162,slow=20,SNR=1.8						
KMBO				LR	LR	15 10 05.6	
	comp=Z,413nm,21.1s,baz=280,slow=34						
MAW	Mawson	60.59	155	P	P	14 49 31.5	+3.6
	comp=Z,6.5nm,1.0s,baz=275,slow=9.3,SNR=8.7						
MAW				LR	LR	15 11 30.1	
	comp=Z,88nm,18.0s,baz=240,slow=32						
MAW	Mawson	60.59	155	P	P	14 49 26.6	-1.2
QSPA	South Pole Qui	63.57	180	P	P	14 49 47.0	-1.1
QSPA				IAmb	IAmb	14 49 54.1	
	comp=Z,11nm,0.9s						
GUVC	San Jose del G	63.67	288	eP	P	14 49 48.5	-1.0
GUVC	San Jose del G	63.67	288	eP	P	14 49 48.5	-1.0
SOCV	Socops	65.28	294	eP	P	14 50 01.3	+1.4
SOCV	Socops	65.28	294	eP	P	14 50 01.3	+1.4
CHIC	Chingaza	65.70	289	eP	P	14 50 03.6	+0.4
CHIC	Chingaza	65.70	289	eP	P	14 50 03.6	+0.4
KEST	Kesra	65.80	21	P	P	14 50 04.2	+1.4
	comp=Z,10.0nm,1.0s,baz=202,slow=5.2,SNR=5.3						
KEST				LR	LR	15 16 27.6	
	comp=Z,179nm,19.4s,baz=193,slow=34						
RUSC	La Rusia	65.82	290	eP	P	14 50 06.2	+2.2
RUSC	La Rusia	65.82	290	eP	P	14 50 06.2	+2.2
BETC	Betania	66.16	286	eP	P	14 50 05.3	-0.3
BETC	Betania	66.16	286	eP	P	14 50 05.3	-0.3
CAPV	Capacho	66.25	293	eP	P	14 50 08.0	+1.6
CAPV	Capacho	66.25	293	eP	P	14 50 08.0	+1.6
BARC	Barichara	66.28	291	eP	P	14 50 05.5	-1.2
BARC	Barichara	66.28	291	eP	P	14 50 05.5	-1.2
PAMC	Pamplona, Colo	66.28	292	eP	P	14 50 08.0	+1.0
PAMC	Pamplona, Colo	66.28	292	eP	P	14 50 08.0	+1.0
ROSC	El Rosal	66.31	289	P	P	14 50 08.6	+1.6
	comp=Z,5.1nm,0.3s,baz=142,slow=14,SNR=4.5						
ROSC				LR	LR	15 17 54.8	
	comp=Z,332nm,19.1s,baz=89,slow=35						
ORTC	Ortega, Tolima	66.61	287	eP	P	14 50 08.9	+0.3
ORTC	Ortega, Tolima	66.61	287	eP	P	14 50 08.9	+0.3
ESDC	Sonseca Array	66.62	8	LR	LR	15 17 49.4	
	comp=Z,70nm,18.1s,baz=105,slow=35						
CRUC	La Cruz	66.90	284	eP	P	14 50 11.5	+0.7
CRUC	La Cruz	66.90	284	eP	P	14 50 11.5	+0.7
NORC	Norcasia	67.15	289	eP	P	14 50 10.7	-1.4
NORC	Norcasia	67.15	289	eP	P	14 50 10.7	-1.4
RREF	El Recreo	67.21	288	eP	P	14 50 14.1	+1.0
RREF	El Recreo	67.21	288	eP	P	14 50 14.1	+1.0
OCAC	Ocana	67.28	292	eP	P	14 50 12.4	-0.5
OCAC	Ocana	67.28	292	eP	P	14 50 12.4	-0.5
PTBC	PUERTO BERRIO,	67.32	290	eP	P	14 50 12.4	-0.6
PTBC	PUERTO BERRIO,	67.32	290	eP	P	14 50 12.4	-0.6
GUY2C	Guyana, Caldas	67.39	288	eP	P	14 50 14.2	+0.1
GUY2C	Guyana, Caldas	67.39	288	eP	P	14 50 14.2	+0.1
SMLC	San Martn de	68.21	292	eP	P	14 50 18.6	0.0
SMLC	San Martn de	68.21	292	eP	P	14 50 18.6	0.0
FETA	Feichten	76.62	17	eP	P	14 51 09.8	+1.6
	comp=Z,7.1nm,1.1s						
ABTA	Abfaltersbach	76.85	18	epP	P	14 51 12.2	+2.7
	comp=Z,12nm,1.3s						
OBKA	Obir	77.22	20	epP	P	14 51 14.3	+2.7
	comp=Z,22nm,1.6s						
KBA	Koelnbreinsper	77.39	19	eP	P	14 51 12.7	+0.1
	comp=Z,7.8nm,1.1s						
SOKA	Soboth	77.52	20	eP	P	14 51 15.1	+1.8
	comp=Z,9.7nm,1.2s						
ARSA	Arzberg	78.19	20	eP	P	14 51 18.8	+1.9
	comp=Z,6.6nm,0.9s						
MOA	Molln	78.35	19	eP	P	14 51 17.6	-0.2
	comp=Z,7.7nm,1.2s						
CONA	Conrad Observa	78.89	20	eP	P	14 51 21.7	+0.9
	comp=Z,7.2nm,1.1s						
GERES	GERESS Array B	79.09	18	P	P	14 51 21.1	-0.8
	comp=Z,1.0nm,0.8s,baz=204,slow=2.9,SNR=5.1						
GERES				LR	LR	15 26 21.7	
	comp=Z,59nm,18.3s,baz=300,slow=36						
BRTR	Keskin Array B	79.48	35	P	P	14 51 26.6	+2.2
	comp=Z,2.3nm,1.0s,baz=197,slow=3.9,SNR=5.1						
BRTR				LR	LR	15 29 10.8	
	comp=Z,9.4nm,18.1s,

JTSR				*e*S	**Sg**	**14 49 04.3**	**-0.6**
JTN	**Tanegashima 3**	**1.27**	**251**	P	**Pg**	**14 48 48.9**	**0.0**
JTN				*e*S	**Sg**	**14 49 04.7**	**-0.8**
JTZ	**Takazaki**	**1.38**	**307**	P	**Pn**	**14 48 50.0**	**+0.5**
JTZ				*e*S	**Sg**	**14 49 06.9**	**-2.1**
JTSN	**Tsuno**	**1.39**	**328**	P	**Pn**	**14 48 50.0**	**+0.4**
JTSN				*e*S	**Sg**	**14 49 06.8**	**-2.5**
JMTN	**Minamitane**	**1.44**	**243**	P	**Pn**	**14 48 51.1**	**+0.8**
JMTN				*e*S	**Sg**	**14 49 08.9**	**-1.9**
JYAK	**Yakushimahirau**	**1.81**	**243**	P	**Pn**	**14 48 56.4**	**+1.0**
JYAK				*e*S	**Sn**	**14 49 17.8**	**-0.4**
JTO	**Tosashimizu**	**1.82**	**11**	P	**Pn**	**14 48 55.3**	**-0.2**
JTO				*e*S	**Sn**	**14 49 15.2**	**-3.3**
JIU3	**Izumi3**	**1.99**	**318**	P	**Pn**	**14 48 59.1**	**+1.2**
JIU3				*e*S	**Sn**	**14 49 22.0**	**-0.7**
UWA2	**Uwa jima 2**	**2.15**	**5**	P	**Pn**	**14 49 00.3**	**+0.2**
UWA2				S	**Sn**	**14 49 23.2**	**-3.4**
JSJ	**Shimokoshiki**	**2.36**	**286**	P	**Pn**	**14 49 02.6**	**-0.3**
JNU	**Nakatsue**	**2.41**	**328**	Pn	**Pn**	**14 49 05.5**	**+1.8**
	3.3nm,0.3s,baz=182,slow=3.2,SNR=42						
JNU				Sn	**Sn**	**14 49 32.2**	**-0.9**
	10nm,0.3s,baz=168,slow=4.2,SNR=16						
JNA	**Nagahama**	**2.48**	**2**	P	**Pn**	**14 49 05.3**	**+0.7**
JNN	**Nakanoshima**	**2.48**	**241**	P	**Pn**	**14 49 05.6**	**+0.9**
JNN				S	**Sn**	**14 49 33.4**	**-1.5**
JOW	**Kunigami**	**5.54**	**221**	Pn	**Pn**	**14 49 47.5**	**+0.8**
	0.3nm,0.3s,baz=94,slow=20,SNR=7.1						
JOW				Sn	**Sn**	**14 50 46.4**	**-4.0**
	0.6nm,0.3s,baz=224,slow=24,SNR=10						
JHJ	**Hachijo jima 2**	**6.61**	**70**	LR	LR	14 52 07.2	
	comp=Z,52nm,18.2s,baz=18,slow=34						
MJAR	**Matsushiro Arr**	**7.30**	**40**	Pn	**Pn**	**14 50 13.5**	**+2.7**
	0.2nm,0.3s,baz=246,slow=14,SNR=21						
WRA	**Warramunga Arr**	**50.75**	**178**	P	**P**	**14 57 24.6**	**+0.3**
	0.6nm,0.9s,baz=356,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**54.44**	**178**	P	**P**	**14 57 53.5**	**+1.9**
	0.3nm,0.6s,baz=13,slow=13,SNR=15						
NVAR	**Mina Array Bea**	**84.55**	**48**	P	**P**	**15 00 58.7**	**+0.8**
	0.4nm,0.5s,baz=286,slow=4.6,SNR=3.7						

*ISCJB **15** 15:05:26.0±1.6, 53˚.71N±0˚.06×163˚.34W±0˚.04, h18km±11km, mb3.7/9, Error ellipse: s-maj=10.9km s-min=3.8km az=166.6*
*IDC **15** 15:05:26.9±1.2, 53˚.74N×163˚.77W, h0km, mb3.6/10, mb1 3.9/11, mb1mx3.6/53, mbtmp3.6/11, ML2.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/47, Error ellipse: s-maj=30.8km s-min=18.2km az=1.0*
*AEIC **15** 15:05:28±2.4, 53˚.78N±0˚.04×163˚.41W±0˚.06, h34km±5km, mb4.3/5(NEIC)*
*NEIC **15** 15:05:28.2±1.5, 53˚.85N±0˚.08×163˚.51W±0˚.08, h17km±4km*
ISC 15 15:05:27.8±2.3, 53˚.82N±0˚.10×163˚.47W±0˚.04, h11km±13km, n61, σ1°58/60, mb3.7/10, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.93**	**316**		**Pg**	**15 05 45.9**	**+0.2**
WESN	**West Dahl Nort**	**1.00**	**320**		**Pg**	**15 05 47.0**	**0.0**
WESP	**Westdahl Peak**	**1.00**	**313**		**Pg**	**15 05 46.8**	**-0.2**
WESP					**Sg**	**15 06 01.6**	**+1.5**
SSBA	**Shishaldin**	**1.03**	**338**		**Pg**	**15 05 47.0**	**-0.6**
SSBA					**Sg**	**15 06 02.0**	**+0.9**
FALS	**False Pass**	**1.04**	**2**		**Pb**	**15 05 46.7**	**-1.1**
FALS					**Sg**	**15 06 02.1**	**+0.7**
WEBT	**Westdahl Beart**	**1.08**	**316**		**Pb**	**15 05 48.1**	**-0.4**
AKSA	**Akutan Strait**	**1.35**	**285**		**Pn**	**15 05 51.7**	**-0.9**
AKSA					**Sn**	**15 06 09.3**	**-1.2**
AKSA	**Akutan Strait**	**1.35**	**285**		**Pn**	**15 05 51.5**	**-1.1**
AKUT	**Akutan**	**1.40**	**284**		**Pn**	**15 05 52.3**	**-0.9**
AKBBA	**Akutan Broad B**	**1.48**	**282**		**Pn**	**15 05 53.5**	**-0.9**
ZRO	**Akutan Zero**	**1.51**	**282**		**Pn**	**15 05 53.9**	**-0.8**
UNV	**Unalaska Valle**	**1.80**	**272**		**Pn**	**15 05 57.6**	**-1.1**
UNV	**Unalaska Valle**	**1.80**	**272**		**Sn**	**15 06 21.5**	**0.0**
MTBL	**Makushin Table**	**1.90**	**276**		**Pn**	**15 05 59.8**	**-0.4**
MREP	**Makushin Rep't**	**1.94**	**271**		**Pn**	**15 05 60.0**	**-0.8**
MSW	**Makushin Switc**	**1.96**	**274**		**Pn**	**15 06 00.2**	**-0.9**
MSW					**Sn**	**15 06 25.2**	**-0.4**
MGOD	**Makushin Gods**	**2.02**	**271**		**Pn**	**15 06 01.3**	**-0.5**
SDPT	**Sand Point**	**2.32**	**47**		**Pn**	**15 06 05.1**	**-0.8**
SDPT					**Sn**	**15 06 34.0**	**-0.4**
CNBA	**Chernabura Isl**	**2.49**	**65**	Pn	**Pn**	**15 06 07.8**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**2.76**	**263**		**Pn**	**15 06 11.7**	**-0.2**
NIKH	**Nikolski High**	**3.33**	**257**		**Pn**	**15 06 18.7**	**-1.1**
VNSS	**Veniaminof 8**	**3.34**	**42**		**Pn**	**15 06 18.1**	**-2.0**
CHGN	**Chignik**	**3.83**	**47**		**Pn**	**15 06 26.9**	**+0.4**
CHIR	**Chirikof Islan**	**4.96**	**63**	Pn	**Pn**	**15 06 42.3**	**+0.1**
KDAK	**Kodiak Island**	**7.31**	**53**	Pn	**Pn**	**15 07 14.2**	**-0.1**
	0.8nm,0.3s,baz=209,slow=10,SNR=1.3						
KDAK				Sn	**Sn**	**15 08 34.3**	**-2.9**
	baz=300,slow=18,SNR=2.2						
KDAK				LR	LR	15 09 51.2	
	comp=Z,48nm,19.5s,baz=231,slow=35						
TTA	**Tatalina**	**9.94**	**20**	Pn	**Pn**	**15 07 51.6**	**+1.2**
SUA	**Susitna One**	**10.24**	**36**	Pn	**Pn**	**15 07 55.3**	**+0.6**
RC01	**Rabbit Creek A**	**10.37**	**40**	Pn	**Pn**	**15 07 57.0**	**+0.7**
HIN	**Hinchinbrook I**	**11.32**	**48**	Pn	**Pn**	**15 08 08.7**	**-0.6**
KTH	**Kantishna Hill**	**11.72**	**29**	Pn	**Pn**	**15 08 14.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**11.72**	**48**	Pn	**Pn**	**15 08 15.7**	**+1.0**
SCM	**Sheep Creek Mo**	**11.74**	**40**	Pn	**Pn**	**15 08 16.0**	**+0.9**
RND	**Reindeer**	**12.23**	**32**	Pn	**Pn**	**15 08 22.7**	**+0.9**
HMT	**Hamilton**	**12.29**	**50**	Pn	**Pn**	**15 08 20.1**	**-2.5**
PAX	**Paxson**	**13.11**	**38**	Pn	**Pn**	**15 08 34.9**	**+1.1**
MCARA	**McCarthy VSAT**	**13.28**	**47**	Pn	**Pn**	**15 08 35.6**	**-0.5**
YAH	**Yahtse**	**13.47**	**52**	Pn	**Pn**	**15 08 40.2**	**+1.4**
ILAR	**Eielson Array**	**13.81**	**31**	Pn	**Pn**	**15 08 44.1**	**+0.9**
	0.0nm,0.3s,baz=216,slow=12,SNR=1.8						
PCA	**Pinnacle**	**14.09**	**54**	Pn	**Pn**	**15 08 44.6**	**-2.6**
BCAR	**Beaver Creek A**	**14.58**	**42**	Pn	**Pn**	**15 08 51.1**	**-2.7**
BESE	**Bessie Mountai**	**16.55**	**62**	Pn	**Pn**	**15 09 15.6**	**-4.0**
BESE				IAmb	IAmb	15 09 25.4	
	comp=Z,33nm,1.3s						
INK	**Inuvik**	**20.19**	**33**	P	Pn	15 10 04.5	+0.5
	comp=Z,0.9nm,0.7s,baz=240,slow=8.1,SNR=2.4						
INK	**Inuvik**	**20.19**	**33**		**P**	**15 10 02.8**	**+0.7**
INK				IAmb	IAmb	15 10 10.8	
	comp=Z,4.2nm,1.2s						
PETK	**Petropavlovsk-**	**22.94**	**284**	P	**P**	**15 10 30.4**	**-1.2**
	comp=Z,1.6nm,1.0s,baz=85,slow=13,SNR=6.3						
PGC	**Sidney**	**25.33**	**85**	P	**P**	**15 10 50.2**	**-4.1**
PGC				IAmb	IAmb	15 11 04.0	
	comp=Z,25nm,1.2s						
MA2	**Magadan**	**25.35**	**302**	P	**P**	**15 10 50.5**	**-3.9**
YKA	**Yellowknife Ar**	**26.58**	**51**	P	**P**	**15 11 08.2**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=271,slow=9.5,SNR=1.3						
NVAR	**Mina Array Bea**	**34.23**	**98**	P	**P**	**15 12 15.7**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=304,slow=9.7,SNR=4.2						
PDAR	**Pinedale Array**	**36.68**	**85**	P	**P**	**15 12 38.4**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=300,slow=4.1,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**40.91**	**225**	T	T	15 57 01.3	
	baz=26,slow=76,SNR=255						
H11N3	**WAKE ISLAND Hy**	**40.91**	**225**	T	T	15 57 01.8	
	baz=26,slow=76,SNR=215						
H11N1	**WAKE ISLAND Hy**	**40.93**	**225**	T	T	15 56 49.7	
	baz=26,slow=76,SNR=240						
H11S1	**WAKE ISLAND Hy**	**42.08**	**225**	T	T	15 58 29.3	
	baz=26,slow=76,SNR=391						
H11S2	**WAKE ISLAND Hy**	**42.09**	**225**	T	T	15 58 26.5	
	baz=26,slow=76,SNR=359						
H11S3	**WAKE ISLAND Hy**	**42.10**	**225**	T	T	15 58 28.2	
	baz=26,slow=76,SNR=293						
TXAR	**Lajitas Array**	**49.24**	**95**	P	**P**	**15 14 17.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=300,slow=5.9,SNR=5.1						
SONM	**Songino Array**	**53.55**	**303**	P	**P**	**15 14 50.0**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=56,slow=6.1,SNR=1.8						
SONM	**Songino Array**	**53.55**	**303**	IAmb	IAmb	15 14 56.2	
	comp=Z,1.4nm,1.4s						
ARCES	**ARCESS Array B**	**56.78**	**356**	P	**P**	**15 15 12.3**	**+1.1**
	comp=Z,4.4nm,1.0s,baz=15,slow=11,SNR=1.4						
FINES	**FINESS Array B**	**64.84**	**355**	P	**P**	**15 16 06.3**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=13,slow=13,SNR=4.5						
CMAR	**Chiang Mai Arr**	**79.68**	**287**	P	**P**	**15 17 35.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=17,slow=4.1,SNR=6.3						

WEL 15 15:08:02.1±0.7, 33˚S±6˚×18˚0E±1˚5, h125km±37km, M4.1/18, mB4.7/8, MLv4.3/18, Mw(mB)3.9/8, Error ellipse: s-maj=0.0km s-min=0.0km az=109.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.73**	**29**	P	Pn	15 08 56.9	-1.2
GLKZ				S	Sn	15 09 41.0	-0.6
MXZ	**Matakaoa Point**	**5.19**	**195**	P	Pn	15 09 19.4	+1.8
MXZ				S	Sn	15 10 17.9	+1.4
WMGZ	**Waiomatatini S**	**5.42**	**193**	P	Pn	15 09 21.8	+1.2
WMGZ				S	Sn	15 10 25.2	+3.3
HAZ	**Te Kaha**	**5.50**	**198**	P	Pn	15 09 22.8	+1.0
HAZ				S	Sn	15 10 26.7	+2.8
PKGZ	**Pakihiroa**	**5.56**	**196**	P	Pn	15 09 24.3	+1.7
PKGZ				S	Sn	15 10 26.9	+1.6
PUZ	**Puketiti**	**5.69**	**194**	P	Pn	15 09 25.4	+1.0
PUZ				S	Sn	15 10 28.9	+0.3
RUGZ	**Raukumara Rang**	**5.73**	**199**	P	Pn	15 09 26.1	+1.2
RUGZ				S	Sn	15 10 28.3	-1.3
TWGZ	**Tauwhareparae**	**5.86**	**196**	P	Pn	15 09 27.4	+0.8
TWGZ				S	Sn	15 10 34.7	+2.2
OUZ	**Omahuta**	**5.95**	**242**	P	Pn	15 09 27.2	-0.6
CNGZ	**Carnagh Statio**	**6.10**	**193**	P	Pn	15 09 30.7	+0.9
MWZ	**Matawai**	**6.12**	**198**	P	Pn	15 09 30.4	+0.4
MWZ				S	Sn	15 10 37.5	-1.2
TKGZ	**Te Karaka**	**6.14**	**196**	P	Pn	15 09 30.3	0.0
TKGZ				S	Sn	15 10 39.6	+0.4
URZ	**Urewera**	**6.17**	**202**	P	Pn	15 09 30.8	+0.1
URZ				S	Sn	15 10 40.2	+0.2
RIGZ	**Rimuhau**	**6.41**	**196**	P	Pn	15 09 34.3	+0.2
RIGZ				S	Sn	15 10 44.9	-1.0
MUGZ	**Murupara**	**6.47**	**203**	P	Pn	15 09 34.7	-0.2
MUGZ				S	Sn	15 10 46.3	-1.1
RTZ	**Ruatahuna**	**6.53**	**201**	P	Pn	15 09 34.8	-1.0
RTZ				S	Sn	15 10 47.6	-1.4
SNGZ	**Shannon Statio**	**6.59**	**198**	P	Pn	15 09 36.6	+0.2
SNGZ				S	Sn	15 10 49.4	-0.7
KNZ	**Kokohu**	**6.73**	**196**	P	Pn	15 09 37.3	-1.0
KNZ				S	Sn	15 10 49.3	-4.3
RAHZ	**Arahi**	**6.78**	**200**	P	Pn	15 09 38.5	-0.5
RAHZ				S	Sn	15 10 54.6	-0.2
MTHZ	**Maungataniwha**	**6.79**	**201**	P	Pn	15 09 38.2	-1.0
MTHZ				S	Sn	15 10 55.1	-0.1
MHGZ	**Mahia Peninsul**	**6.81**	**194**	P	Pn	15 09 39.6	+0.2
TLZ	**Tolley Road**	**6.82**	**211**	P	Pn	15 09 41.7	+2.2
NMHZ	**Naumai**	**7.03**	**201**	P	Pn	15 09 42.0	-0.5
ARHZ	**Aropaoanui**	**7.13**	**199**	P	Pn	15 09 42.9	-0.8
BKZ	**Black Stump Fm**	**7.19**	**202**	P	Pn	15 09 43.1	-1.5
HIZ	**Hauiti**	**7.28**	**214**	P	Pn	15 09 48.4	+2.7
MCHZ	**McNeill Hill**	**7.38**	**200**	P	Pn	15 09 45.4	-1.7
FWVZ	**Far West T-bar**	**7.60**	**207**	P	Pn	15 09 48.5	-1.8
BHHZ	**Black Hill Sta**	**7.62**	**203**	P	Pn	15 09 47.7	-2.7
TRVZ	**Turoa**	**7.64**	**207**	P	Pn	15 09 48.6	-2.2
MOVZ	**Moawhango**	**7.66**	**205**	P	Pn	15 09 48.1	-2.8
KAHZ	**Kahuranaki**	**7.66**	**198**	P	Pn	15 09 48.6	-2.3
KRHZ	**Kereru**	**7.67**	**201**	P	Pn	15 09 48.0	-3.0
PKVZ	**Pokaka**	**7.71**	**208**	P	Pn	15 09 49.6	-2.0
VRZ	**Vera Road**	**7.82**	**211**	P	Pn	15 09 53.1	+0.2
PNHZ	**Pukenui**	**7.96**	**201**	P	Pn	15 09 51.5	-3.5
PRHZ	**Porangahau**	**8.17**	**198**	P	Pn	15 09 54.3	-3.3
TSZ	**Takapari Road**	**8.17**	**202**	P	Pn	15 09 49.7	-8.1
DVHZ	**Dannevirke**	**8.33**	**201**	P	Pn	15 09 55.9	-4.0
ANWZ	**Angora Road**	**8.39**	**199**	P	Pn	15 09 57.3	-3.4
POWZ	**Post Office Ro**	**8.54**	**202**	P	Pn	15 09 58.2	-4.5
PRWZ	**Pori Road**	**8.62**	**201**	P	Pn	15 10 00.0	-3.8
HOWZ	**Holdsworth Sta**	**9.07**	**202**	P	Pn	15 10 04.0	-5.9

WEL 15 15:24:16.8±0.8, 38˚S±7˚×18˚0E±˚, h33km, M3.3/29, ML3.6/23, MLv3.3/29, Error ellipse: s-maj=0.0km s-min=0.0km az=167.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.23**	**263**	P	Pn	15 24 37.6	-0.1
WMGZ				S	Sn	15 24 53.5	+0.3
MXZ	**Matakaoa Point**	**1.32**	**275**	P	Pn	15 24 38.6	-0.2
MXZ				S	Sn	15 24 56.0	+0.7
PUZ	**Puketiti**	**1.41**	**253**	P	Pn	15 24 39.8	-0.3
PUZ				S	Sn	15 24 57.9	+0.4
PKGZ	**Pakihiroa**	**1.51**	**261**	P	Pn	15 24 41.5	0.0
PKGZ				S	Sn	15 25 00.0	-0.1
TWGZ	**Tauwhareparae**	**1.65**	**252**	P	Pn	15 24 43.5	+0.1
TWGZ				S	Sn	15 25 04.7	+1.3
HAZ	**Te Kaha**	**1.73**	**267**	P	Pn	15 24 44.6	+0.1
HAZ				S	Sn	15 25 06.6	+1.2
RUGZ	**Raukumara Rang**	**1.83**	**260**	P	Pn	15 24 45.8	-0.3
TKGZ	**Te Karaka**	**1.83**	**245**	P	Pn	15 24 45.8	-0.1
TKGZ				S	Sn	15 25 08.9	+0.9
RIGZ	**Rimuhau**	**2.02**	**239**	P	Pn	15 24 48.5	0.0
RIGZ				S	Sn	15 25 12.9	+0.4
MWZ	**Matawai**	**2.03**	**250**	P	Pn	15 24 48.1	-0.6
MWZ				S	Sn	15 25 13.2	+0.2
PRGZ	**Paritu Road**	**2.05**	**232**	P	Pn	15 24 49.0	0.0
RAGZ	**Rawiri**	**2.17**	**247**	P	Pn	15 24 51.0	+0.4
RAGZ				S	Sn	15 25 16.9	+0.5
MHGZ	**Mahia Peninsul**	**2.19**	**227**	P	Pn	15 24 50.3	-0.5
KNZ	**Kokohu**	**2.25**	**233**	P	Pn	15 24 51.0	-0.6
URZ	**Urewera**	**2.33**	**255**	P	Pn	15 24 53.1	+0.4
URZ				S	Sn	15 25 20.7	+0.5
SNGZ	**Shannon Statio**	**2.34**	**241**	P	Pn	15 24 53.0	+0.1
SNGZ				S	Sn	15 25 21.1	+0.5
WHRZ	**Whale Island**	**2.38**	**265**	P	Pn	15 24 54.3	+0.9
RTZ	**Ruatahuna**	**2.53**	**247**	P	Pn	15 24 55.9	+0.3
RTZ				S	Sn	15 25 26.4	+1.0
WHHZ	**Waihua**	**2.56**	**236**	P	Pn	15 24 56.2	+0.3
WHHZ				S	Sn	15 25 27.2	+1.3
RAHZ	**Arahi**	**2.58**	**240**	P	Pn	15 24 56.4	+0.2
RAHZ				S	Sn	15 25 27.4	+1.0
MUGZ	**Murupara**	**2.64**	**251**	P	Pn	15 24 57.0	0.0
MUGZ				S	Sn	15 25 28.1	+0.1
OPRZ	**Ohinepanea**	**2.71**	**265**	P	Pn	15 24 57.9	0.0
MTHZ	**Maungataniwha**	**2.72**	**244**	P	Pn	15 24 58.5	+0.3
MTHZ				S	Sn	15 25 30.5	+0.5
TARZ	**Mount Tarawera**	**2.79**	**257**	P	Pn	15 24 59.8	+0.6
ARHZ	**Aropaoanui**	**2.81**	**235**	P	Pn	15 25 00.3	+0.8
NMHZ	**Naumai**	**2.86**	**239**	P	Pn	15 25 00.2	+0.1
BKZ	**Black Stump Fm**	**3.10**	**240**	P	Pn	15 25 03.2	-0.3
MCHZ	**McNeill Hill**	**3.11**	**234**	P	Pn	15 25 03.4	-0.1
KAHZ	**Kahuranaki**	**3.21**	**228**	P	Pn	15 25 04.2	-0.6
PXZ	**Pawanui**	**3.37**	**225**	P	Pn	15 25 05.2	-1.8
KRHZ	**Kereru**	**3.43**	**234**	P	Pn	15 25 07.1	-0.8
KUZ	**Kuaotunu**	**3.51**	**284**	P	Pn	15 25 08.6	-0.4
BHHZ	**Black Hill Sta**	**3.55**	**238**	P	Pn	15 25 09.0	-0.6
PRHZ	**Porangahau**	**3.66**	**224**	P	Pn	15 25 09.8	-1.3
PNHZ	**Pukenui**	**3.69**	**232**	P	Pn	15 25 10.4	-1.1
MOVZ	**Moawhango**	**3.73**	**241**	P	Pn	15 25 12.9	+0.9
MKAZ	**Moumakai**	**3.87**	**277**	P	Pn	15 25 13.7	-0.2
ANWZ	**Angora Road**	**3.88**	**223**	P	Pn	15 25 13.3	-0.8
MTVZ	**Mangateitei**	**3.91**	**243**	P	Pn	15 25 16.3	+1.7
TSZ	**Takapari Road**	**3.92**	**232**	P	Pn	15 25 13.3	-1.5
DVHZ	**Dannevirke**	**3.95**	**227**	P	Pn	15 25 13.5	-1.5
MBAZ	**Mototupu North**	**4.14**	**281**	P	Pn	15 25 18.8	+1.2
PRWZ	**Pori Road**	**4.23**	**226**	P	Pn	15 25 17.6	-1.3
POWZ	**Post Office Ro**	**4.24**	**229**	P	Pn	15 25 18.0	-1.1
MRZ	**Mangatainoka R**	**4.53**	**227**	P	Pn	15 25 20.8	-2.1
WCZ	**Waipu Caves**	**4.83**	**289**	P	Pn	15 25 28.3	+1.2
OGWZ	**Otaki Gorge**	**4.86**	**228**	P	Pn	15 25 26.7	-0.9
OUZ	**Omahuta**	**5.69**	**294**	P	Pn	15 25 40.2	+1.2
QRZ	**Quartz Range**	**6.57**	**239**	P	Pn	15 25 48.7	-2.3

*MOS **15** 15:43:04.8±1.1, 5˚.45N×94˚.47E, h33km, mb5.1/50, Error ellipse: s-maj=8.2km s-min=5.1km az=118.3*
*ISCJB **15** 15:43:06.6±0.5, 5˚.30N±0˚.03×94˚.42E±0˚.03, h53km±4km, mb4.9/127, MS4.0/34, Error ellipse: s-maj=5.2km s-min=3.0km az=135.5*
*BJI **15** 15:43:07.0±0.0, 5˚.27N×94˚.46E, h64km, mb5.1/70, mB5.0/43, Ms4.5/42, Ms7 4.2/34*
*GCMT **15** 15:43:07.2±0.6, 5˚.20N±0˚.03×94˚.20E±0˚.04, h49km±2km, MW4.8/62, Moment Tensor Solution. s23,c32; s62,c80; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.76±.18; Mθθ -0.49±.11; Mφφ -1.27±.12; Mrθ 1.19±.09; Mrφ 1.01±.09; Mθφ -0.47±.09; Best double couple: M=2.26500×10^16 NP1:φs 127.00000°, δ63.00000°, λ71.00000°. NP2: φs 344.00000°, δ33.00000°, λ122.00000°. Principal axes: T 2.2730, Plg67.0000°, Azm1.0000°; N -0.0140, Plg17.0000°, Azm136.0000°; P -2.2570, Plg16.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **15** 15:43:07.8±0.3, 5˚N±3˚×9˚4E±˚, h51km±3km, M4.9/49, mB5.4/19, mb5.1/49, MLv5.2/7, Mw(mB)4.8/19*
*IDC **15** 15:43:08.3±0.5, 5˚.39N×94˚.48E, h49km±4km, mb4.4/27, mb1 4.5/29, mb1mx4.4/38, mbtmp4.7/29, MS3.8/24, Ms1 3.8/24, ms1mx3.7/36, Error ellipse: s-maj=13.3km s-min=7.3km az=43.0*
*NEIC **15** 15:43:08.2±2.1, 5˚.39N±0˚.07×94˚.46E±0˚.07, h48km±5km, mb5.0/77*
*KLM **15** 15:43:12.0, 5˚.29N×94˚.61E, h79km, mb4.9*
ISC 15 15:43:07.6±0.4, 5˚.36N±0˚.04×94˚.39E±0˚.04, h47km±3km, h47km:pP-P, n426, σ1°43/455, mb5.0/148, MS4.0/35, 39C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.70**	**344**	*e*P	**Pn**	**15 43 36.2**	**+1.3**
CMBY				*e*S	**Sn**	**15 44 01.3**	**+5.8**
CMBY				IAML		15 44 06.3	
	comp=E,6μm,0.2s						
CMBY				IAML		15 44 06.4	
	comp=N,8μm,1.3s						
MLSI	**Meulaboh, Aceh**	**2.28**	**118**	P	**Pn**	**15 43 43.5**	**+0.7**
LHMI	**Lhok Sumawe**	**2.55**	**93**	P	**Pn**	**15 43 48.1**	**+1.6**
LHMI				S	**Sn**	**15 44 20.2**	**+3.9**
LHMI	**Lhok Sumawe**	**2.55**	**93**	Pn	**Pn**	**15 43 48.1**	**+1.6**
SNSI	**Sinabang, Aceh**	**3.51**	**147**	P	**Pn**	**15 43 58.4**	**-1.3**
PKDT	**Phuket**	**4.66**	**57**	P	**Pn**	**15 44 17.0**	**+1.5**
	comp=N,861nm,0.7s,comp=N,20μmcomp=N,4.9nm						
PSI	**Prapat**	**5.19**	**119**	P	**Pn**	**15 44 24.9**	**+2.0**
PSI						15 45 21.3	
PSI	**Prapat**	**5.19**	**119**	P	**Pn**	**15 44 25.2**	**+2.3**
	comp=N,16nm,0.3s,baz=308,slow=12,SNR=54						
PSI				S	**Sn**	**15 45 21.3**	**-0.2**
	comp=N,17nm,0.3s,baz=3.2,slow=18,SNR=2.0						
PSI				LR	LR	15 46 50.1	
	comp=N,1μm,19.2s,baz=285,slow=43						
RPSI	**Rantau Prapat**	**5.24**	**120**		**Pn**	**15 44 24.9**	**+1.4**
RPSI	**Rantau Prapat**	**5.24**	**120**		**Pn**	**15 44 25.2**	**+1.7**
RPSI					**Sn**	**15 45 21.3**	**-1.3**
SURT	**Suratani**	**5.65**	**50**	P	**Pn**	**15 44 31.0**	**+1.9**
	comp=N,465nm,0.6s,comp=N,7μmcomp=N,1.7nm						
TRTT	**Trang**	**5.81**	**65**	P	**Pn**	**15 44 32.3**	**+1.0**
	comp=N,410nm,0.5s,comp=N,6μmcomp=N,1.7nm						
SKLT	**Songkhla**	**6.45**	**73**	P	**Pn**	**15 44 41.9**	**+1.8**
	comp=N,120nm,0.6s,comp=N,1μmcomp=N,0.5nm						
IPM	**Ipoh**	**6.67**	**97**	P	**Pn**	**15 44 44.0**	**+0.9**
IPM	**Ipoh**	**6.67**	**97**		**Pn**	**15 44 43.5**	**+0.3**
IPM				Sn	**Sn**	**15 45 57.4**	**-0.5**
DGPR	**DIGLIPUR**	**7.90**	**350**	*e*P	**Pn**	**15 44 59.7**	**-0.3**
DGPR				*e*S	**Sn**	**15 46 25.3**	**-2.8**
SISI	**Saibi**	**8.13**	**145**	P	**Pn**	**15 45 01.8**	**-1.4**
	comp=N,51nm,0.8s						
JRMM	**Jerantut**	**8.19**	**100**	P	**Pn**	**15 45 05.0**	**+1.0**
BKNI	**Bangkinang**	**8.31**	**127**	P	**Pn**	**15 45 06.3**	**+0.7**
	comp=N,152nm,0.7s,comp=N,2μm						
PDSI	**Padang**	**8.69**	**136**	P	**Pn**	**15 45 09.7**	**-1.2**
	comp=N,35nm,0.5s,comp=N,633nm						
PHET	**Kaeng Krachan**	**9.11**	**34**	P	**Pn**	**15 45 19.5**	**+2.9**
	comp=N,161μm,0.5s						
PATY	**Pattaya**	**9.86**	**40**	P

comp=Z,80nm,0.5s
TAPN Taplejung 22.78 344 *e*P **P 15 48 04.5 -2.1**
KBKI Kotabaru 23.39 111 P **P 15 48 14.3 +1.7**
comp=Z,19nm,0.9s
JIRN Jiri 23.51 342 *e*P **P 15 48 12.6 -1.4**
PKI Pulchoki 23.69 340 *e*P **P 15 48 14.5 -1.1**
comp=Z,55nm,0.5s
PKIN Phulchoki 23.70 340 *e*P **P 15 48 14.5 -1.1**
comp=Z,39nm,0.5s
DMN Daman 23.83 339 *e*P **P 15 48 16.0 -0.8**
GUN Gumba 23.84 341 *e*P **P 15 48 16.0 -1.1**
comp=Z,67nm,0.5s
KKN Kakani 23.93 340 *e*P **P 15 48 16.8 -0.9**
comp=Z,78nm,0.8s
JAGI Jajag, Banyuwa 24.02 125 P **P 15 48 18.5 0.0**
comp=Z,32nm,0.8s
GYA Guiyang 24.04 28⇓*i*P **P 15 48 19.3 +0.7**
GYA pP pwP 15 48 33.5 +1.0
GYA sP sP 15 48 40.9 +5.3
GYA PP **PnPn 15 48 57.4 +8.2**
GYA S **S 15 52 34.0 +1.2**
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,360nm,16.3s
GYA LR LR
comp=Z,230nm,15.8s
GYA LR LR
comp=Z,490nm,14.8s
BHPL Bhopal 24.16 319 *i*P **P 15 48 20.9 +1.2**
BHPL IAmb IAmb 15 48 23.6
comp=Z,24nm,0.6s
GKN Gorkha 24.35 339 *e*P **P 15 48 21.6 +0.1**
comp=Z,74nm,0.3s
LSA Lhasa 24.40 353 P **P 15 48 22.6 +0.3**
LSA pmax pmax
comp=Z,60nm,0.6s
LSA Lhasa 24.40 353 P **P 15 48 22.6 +0.3**
KOLN Koldanda 24.54 336 *e*P **P 15 48 23.8 +0.5**
SRBI Singaraja 24.69 123 P **P 15 48 25.5 +1.0**
comp=Z,102nm,0.8s,comp=Z,769nm
DANN Dangsing 24.99 337 *e*P **P 15 48 27.9 +0.4**
comp=Z,220nm,0.6s
DGAR Diego Garcia 25.30 240⇑*e*P **P 15 48 31.5 +1.4**
DGAR pmax pmax
comp=Z,34nm,0.9s
H08S2 Diego Garcia H 25.38 240 T T 16 14 32.2
baz=59,slow=74
H08S3 Diego Garcia H 25.38 240 T T 16 14 34.5
baz=59,slow=74
H08S1 Diego Carcia H 25.40 240 T T 16 14 38.2
baz=59
MPSI Mapaga 25.95 100 P **P 15 48 36.2 +0.2**
comp=Z,27nm,1.0s,comp=Z,260nm
H08N1 Diego Carcia H 26.07 244 T T 16 15 38.0
baz=59
H08N2 Diego Garcia H 26.07 244 T T 16 15 37.6
baz=59
H08N3 Diego Garcia H 26.09 244 T T 16 15 51.3
baz=59
TWSI Taliwang, Sumb 26.44 122 P **P 15 48 39.2 -1.2**
TTSI Tana Toraja 26.74 108 P **P 15 48 44.3 +1.2**
comp=Z,31nm,1.2s
CD2 Chengdu 26.90 18 P **P 15 48 44.1 -0.3**
CD2 S **S 15 53 18.6 +0.4**
CD2 pmax pmax
comp=Z,50nm,0.4s
CD2 LR LR
comp=Z,460nm,14.7s
CD2 LR LR
comp=Z,290nm,12.3s
KAPI Kappang 27.34 112 P **P 15 48 47.1 -1.5**
KAPI pmax pmax
comp=Z,22nm,0.8s
KAPI Kappang 27.34 112 P **P 15 48 48.8 +0.3**
comp=Z,17nm,0.4s,baz=266,slow=12,SNR=14
KAPI LR LR 15 59 39.2
comp=Z,118nm,21.3s,baz=118,slow=36
KAPI Kappang 27.34 112 P **P 15 48 47.1 -1.5**
KAPI IAmb IAmb 15 48 50.8
comp=Z,22nm,0.8s
TGY Tagaytay City 27.54 70 P **P 15 48 51.6 +1.2**
comp=Z,140nm,0.3s,baz=21,slow=4.8,SNR=3.8
BKSI Bulukumba 27.80 112 P **P 15 48 53.1 +0.5**
APSI Ampana 27.93 102 P **P 15 48 55.2 +1.4**
comp=Z,33nm,0.9s
MRSI Marisa 27.93 99 P **P 15 48 53.7 -0.1**
comp=Z,22nm,0.7s
ENH Enshi 28.57 28 P **P 15 48 59.0 -0.4**
ENH IAmb IAmb 15 48 59.2
comp=Z,22nm,0.6s
LUWI Luwuk 29.05 102 P **P 15 49 04.3 +0.5**
comp=Z,79nm,0.6s
KMSI Cibinong 29.92 98 P **P 15 49 12.8 +1.3**
comp=Z,94nm,0.5s
BBSI Bau Bau 30.13 111 P **P 15 49 13.6 +0.2**
comp=Z,16nm,0.9s
WHN Wuhan 31.31 35⇓P **P 15 49 24.1 +0.5**
WHN S **S 15 54 27.0 -0.4**
WHN pmax pmax
comp=Z,72nm,1.1s
WHN LR LR
comp=Z,620nm,13.2s
WHN LR LR
comp=Z,690nm,12.8s
WHN LR LR
comp=Z,1μm,11.7s
XAN Xi'an 31.56 23 P **P 15 49 25.3 -0.5**
XAN pP pP 15 49 38.1 +0.7
XAN pmax pmax
comp=Z,64nm,0.7s
XAN pmax pmax
comp=Z,50nm,3.7s
XAN LR LR
comp=Z,250nm,17.9s
XAN LR LR
comp=Z,320nm,14.9s
XAN LR LR
comp=Z,410nm,20.2s
XAN Xi'an 31.56 23 P **P 15 49 23.7 -2.1**
XAN pmax pmax
comp=Z,53nm,0.7s
XAN Xi'an 31.56 23 P **P 15 49 23.7 -2.1**
LZH Lanzhou 31.79 15 *e*P **P 15 49 27.8 -0.1**
LZH pP sP 15 49 46.5 +1.6
LZH sP pwP 15 49 54.3 +12
LZH PP **PP 15 50 39.6 -0.8**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,340nm,11.9s
LZH LR LR
comp=Z,280nm,13.1s
LZH LR LR
comp=Z,360nm,16.5s
SANI Sanana 32.41 102 P **P 15 49 32.4 -1.0**
comp=Z,24nm,1.0s
SOEI Soe 33.34 117 P **P 15 49 41.1 -0.6**
comp=Z,44nm,0.8s
SOEI Soe 33.34 117 P **P 15 49 39.4 -2.3**
NLAI Namlea 33.77 104 P **P 15 49 45.8 +0.5**
comp=Z,26nm,0.6s,comp=Z,3μm
GTA Gaotai 34.25 7⇑P **P 15 49 49.1 -0.2**
GTA pP pP 15 50 01.0 -0.1
GTA PcP **PcP 15 52 26.4 +1.3**
GTA S **S 15 55 07.0 -6.2**
GTA ScS **ScS 16 00 08.3 -0.7**
GTA pmax pmax
comp=Z,23nm,1.0s
GTA pmax pmax
comp=Z,95nm,5.0s
GTA LR LR
comp=Z,180nm,17.2s
GTA LR LR
comp=Z,150nm,16.1s
GTA LR LR
comp=Z,240nm,18.2s
AAI Ambon 34.94 104 P **P 15 49 55.0 -0.5**
comp=Z,34nm,0.8s
NJ2 Nanjing 35.05 38 *e*P **P 15 49 57.4 +1.2**
NJ2 pmax pmax
comp=Z,36nm,0.7s
NJ2 LR LR
comp=Z,520nm,16.1s
NJ2 LR LR
comp=Z,340nm,13.3s
NJ2 LR LR
comp=Z,690nm,14.2s
PSA00 Pilbara Seismi 36.59 138 P **P 15 50 08.7 -0.9**
TIA Tai'an 37.13 31 P **P 15 50 14.3 +0.4**
TIA pmax pmax
comp=Z,28nm,0.7s
SWI Sorong 37.34 98 P **P 15 50 15.4 -0.6**
comp=Z,50nm,0.9s
BTO Baotou 37.80 20 *e*P **P 15 50 19.4 -0.2**
KSH Kashi 37.86 337 P **P 15 50 21.5 +1.3**
KSH PcP **PcP 15 52 37.8 +1.9**
KSH S **S 15 56 07.4 -0.9**
KSH sS sS 15 56 33.9 +5.9
KSH SS **SnSn 15 58 44.8 -7.8**
KSH pmax pmax
comp=Z,25nm,0.6s
KSH LR LR
comp=Z,460nm,10.4s
KSH LR LR
comp=Z,240nm,10.1s
KSH LR LR
comp=Z,350nm,14.8s
HHC Hu-ho-hao-te 38.55 21 *e*P **P 15 50 30.6 +4.7**
HHC pmax pmax
comp=Z,4.0nm,1.0s
FITZ Fitzroy Crossi 38.65 128 P **P 15 50 26.3 -0.7**
baz=39,SNR=26
FITZ Fitzroy Crossi 38.65 128 P **P 15 50 26.2 -0.7**
FAKI Fak Fak 38.70 101 P **P 15 50 26.6 -0.9**
FAKI IAmb IAmb 15 50 40.8
comp=Z,20nm,0.5s
JOW Kunigami 38.72 53 P **P 15 50 27.8 +0.3**
JOW IAmb IAmb 15 50 31.3
comp=Z,15nm,0.6s
WMQ Urumqi 38.76 352 *e*P **P 15 50 29.0 +1.4**
WMQ pP pwP 15 50 42.6 -0.1
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,47nm,3.7s
WMQ LR LR
comp=Z,330nm,23.1s
WMQ LR LR
comp=Z,470nm,28.9s
TARG Taragay, Kyrgy 39.12 340 P **P 15 50 32.6 +1.5**
NRN Naryn 39.50 338 P **P 15 50 34.5 +0.3**
NRN pmax pmax
comp=Z,8.0nm,0.8s
NRN Naryn 39.50 338 P **P 15 50 34.5 +0.3**
PRZ Przheval'sk 39.60 341 P **P 15 50 35.7 +0.9**
PRZ pmax pmax
comp=Z,20nm,0.7s
PRZ Przheval'sk 39.60 341 P **P 15 50 35.7 +0.9**
PRZ IAmb IAmb 15 50 42.7
comp=Z,20nm,0.7s
BJT Baijiatuau 39.69 26 P **P 15 50 34.1 -1.3**
BJT pmax pmax
comp=Z,23nm,0.5s
BJT Baijiatuau 39.69 26 P **P 15 50 34.1 -1.3**
BJT IAmb IAmb 15 50 37.9
comp=Z,23nm,0.5s
KDJ Kajisay 39.69 340 P **P 15 50 36.7 +1.1**
KDJ pmax pmax
comp=Z,32nm,0.7s
KDJ Kajisay 39.69 340 P **P 15 50 36.7 +1.1**
BJI Beijing 39.71 26 P **P 15 50 36.9 +1.4**
BJI pmax pmax
comp=Z,17nm,0.5s
KNRA Kununurra 39.94 122 P **P 15 50 36.7 -1.1**
baz=40,SNR=17
KNRA Kununurra 39.94 122 P **P 15 50 36.6 -1.1**
KNRA IAmb IAmb 15 50 39.0
comp=Z,16nm,0.8s
GAR Garm 39.96 330 P **P 15 50 37.3 -0.5**
GAR IAmb IAmb 15 50 54.0
comp=Z,15nm,0.7s
PDGK Podgornoye 40.04 343 P **P 15 50 37.6 -0.8**
PDGK pmax pmax
comp=Z,22nm,0.6s
CHGR Chuyangaron 40.28 329 P **P 15 50 39.5 -0.9**
CHGR IAmb IAmb 15 50 43.7
comp=Z,23nm,0.6s
BTK Batken 40.54 332 P **P 15 50 43.7 +1.2**
BTK pmax pmax
comp=Z,17nm,1.0s
BTK Batken 40.54 332 P **P 15 50 43.7 +1.2**
BTK IAmb IAmb 15 50 48.6
comp=Z,17nm,0.9s
ARSB Arslanbob 40.60 335 P **P 15 50 44.2 +1.1**
MTN Manton Dam 40.74 117 P **P 15 50 43.4 -1.0**
baz=41,SNR=5.8
MTN Manton Dam 40.74 117 P **P 15 50 41.9 -2.4**
MTN IAmb IAmb 15 50 44.0
comp=Z,23nm,0.5s
UCH Uchtor 40.75 337 P **P 15 50 45.4 +0.7**
SNR=9.1
TKM2 Tokmak 2 40.94 339 *i*P **P 15 50 45.8 -0.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.5s
TKM2 Tokmak 2 40.94 339 P **P 15 50 46.7 +0.8**
SNR=13
KBK Karagaybulak 40.95 338 P **P 15 50 47.4 +1.4**
SNR=22
AML Almayashu 40.99 336 P **P 15 50 47.7 +1.1**
SNR=18
AAK Ala-Archa 41.11 338*ce*P **P 15 50 47.9 +0.7**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 41.11 338 P **P 15 50 49.1 +1.9**
SNR=6.2
AAK Ala-Archa 41.11 338 P **P 15 50 49.0 +1.8**
AAK IAmb IAmb 15 51 06.0
comp=Z,23nm,1.1s
AAK **S 15 56 58.5 +1.4**
EKS2 Erkin-Say 41.40 337 P **P 15 50 50.9 +1.2**
SNR=9.7
USP Ospenovka 41.64 338 P **P 15 50 52.3 +0.8**
SNR=19
KDU Kakadu 41.88 116 P **P 15 50 52.5 -1.2**
baz=42,SNR=13
MK31 Makanchi Array 42.58 348 P **P 15 50 59.7 +0.7**
MK31 pmax pmax
comp=Z,51nm,0.7s
MK31 Makanchi Array 42.58 348 P **P 15 50 59.7 +0.7**
MKAR Makanchi Array 42.58 348 P **P 15 50 59.7 +0.6**
comp=Z,71nm,0.6s,baz=170,slow=7.8,SNR=480
MKAR LR LR 16 11 12.2
comp=Z,165nm,20.9s,baz=150,slow=40
MAKZ Makanchi 42.66 347 P **P 15 51 00.2 +0.5**
MAKZ pmax pmax
comp=Z,89nm,0.6s
MAKZ Makanchi 42.66 347 P **P 15 51 00.2 +0.5**
KK31 Karatay Array 43.11 334 P **P 15 51 02.5 -0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KK31 Karatay Array 43.11 334 P **P 15 51 02.5 -0.9**
KKAR Karatay Array 43.11 334 P **P 15 51 02.9 -0.5**
KKAR pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 43.11 334 P **P 15 51 02.2 -1.2**
KKAR Karatay Array 43.11 334 P **P 15 51 02.9 -0.5**
KKAR IAmb IAmb 15 51 20.3
comp=Z,8.2nm,0.7s
TJN Taejon 43.20 40*c i*P **P 15 51 04.3 +0.1**
SONM Songino Array 43.55 12 P **P 15 51 06.8 -0.2**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 43.55 12 P **P 15 51 06.8 -0.2**
comp=Z,111nm,0.7s,baz=192,slow=8.5,SNR=101
SONM PcP **PcP 15 52 54.8 +0.7**
comp=Z,4.9nm,0.5s,baz=190,slow=3.5,SNR=12
SONM pPcP 15 53 10.2
comp=Z,2.8nm,0.5s,baz=193,slow=4.0,SNR=4.7
SONM ScP **ScP 15 56 41.7 -0.3**
comp=Z,1.7nm,0.8s,baz=200,slow=4.1,SNR=6.4
SONM LR LR 16 11 24.0
comp=Z,182nm,20.6s,baz=182,slow=39
SONM Songino Array 43.55 12 P **P 15 51 06.8 -0.2**
ULN Ulaanbaatar 43.72 12*c i*P **P 15 51 07.9 -0.5**
ULN pmax pmax
comp=Z,8.0nm,0.6s
ULN Ulaanbaatar 43.72 12 P **P 15 51 07.3 -1.0**
JNU Nakatsue 43.76 46 P **P 15 51 08.2 -0.6**
JNU IAmb IAmb 15 51 12.5
comp=Z,13nm,0.8s
H01W3 Cape Leeuwin H 44.14 156 T T 16 39 06.1
baz=331,slow=76,SNR=3.4
H01W2 Cape Leeuwin H 44.16 157 T T 16 39 10.5
baz=331,slow=76,SNR=4.2
H01W1 Cape Leeuwin H 44.16 156 T T 16 38 53.1
baz=331,slow=76,SNR=3.4
KSAR Wonju Array Be 44.19 39 P **P 15 51 11.2 -0.9**
KSAR Wonju Array Be 44.19 39 P **P 15 51 11.2 -0.9**
KS19 Wonju Array Si 44.21 39 P **P 15 51 11.9 -0.4**
KS19 IAmb IAmb 15 51 27.8
comp=Z,31nm,1.4s
KSRS Korea Array 44.22 39 P **P 15 51 12.2 -0.2**
comp=Z,5.8nm,0.8s,baz=212,slow=9.1,SNR=22
KSRS LR LR 16 10 38.6
comp=Z,162nm,19.1s,baz=234,slow=37
DGZ Jazzator, Alta 44.58 354*ce*P **P 15 51 16.0 +0.8**
WRKA Warakurna 44.72 134 P **P 15 51 16.9 +0.3**
baz=45,SNR=13
ZAK Zakamensk 45.49 8 *e*P **P 15 51 22.3 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
GEYT Alibeck 46.25 320 P **P 15 51 29.7 +1.2**
comp=Z,12nm,0.6s,baz=151,slow=9.5,SNR=20
GEYT LR LR 16 12 46.7
comp=Z,67nm,19.3s,baz=340,slow=38
GEYT Alibeck 46.25 320 P **P 15 51 29.4 +0.9**
GYA0B ALIBECK ARRAY 46.25 320 P **P 15 51 28.7 +0.2**
GYA0B IAmb IAmb 15 51 30.1
comp=Z,12nm,0.6s
WRA Warramunga Arr 46.63 124 P **P 15 51 31.8 0.0**
comp=Z,19nm,0.8s,baz=302,slow=9.3,SNR=176
WRA pP **pP 15 51 44.3 +0.5**
comp=Z,27nm,0.7s,baz=302,slow=9.3,SNR=13
WRA PcP **PcP 15 53 03.8 -1.4**
comp=Z,2.2nm,0.6s,baz=314,slow=2.7,SNR=1.4
WRA S **S 15 58 16.1 -1.9**
comp=Z,0.9nm,0.8s,baz=297,slow=16,SNR=4.4
WRA LR LR 16 12 09.9
comp=Z,81nm,21.2s,baz=265,slow=37
WRAB Tennant Creek 46.64 124*c i*P **P 15 51 31.7 -0.1**
WRAB pmax pmax
comp=Z,29nm,0.8s
WRAB Tennant Creek 46.64 124 P **P 15 51 32.1 +0.3**
WB2 Warramunga Arr 46.65 124 P **P 15 51 32.0 +0.1**
TLY Talaya 46.81 8⇑*e*P **P 15 51 32.8 +0.2**
TLY pmax pmax
comp=Z,13nm,1.4s
CN2 Changchun 47.03 31 *e*P **P 15 51 34.4 -0.1**
CN2 *ep*P pP 15 51 47.4 +0.7
CN2 *e*S **S 15 58 21.4 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,17.0s
KURK Kurchatov 47.10 346*c i*P **P 15 51 35.7 +0.8**
KURK pmax pmax
comp=Z,162nm,2.5s
KURK Kurchatov 47.10 346 P **P 15 51 35.9 +1.0**
AS31 Alice Springs 48.14 128 P **P 15 51 43.1 -0.4**
AS31 IAmb IAmb 15 51 60.0
comp=Z,5.9nm,0.4s
ASAR Alice Springs 48.14 128 P **P 15 51 43.3 -0.2**
ASAR Alice Springs 48.14 128 P **P 15 51 43.5 +0.1**
comp=Z,7.0nm,0.5s,baz=302,slow=8.1,SNR=162
ASAR pP **pwP 15 51 57.3 -1.6**
comp=Z,9.8nm,0.5s,baz=304,slow=8.0,SNR=9.9
ASAR ScP **ScP 15 57 01.6 +0.1**
comp=Z,0.6nm,0.7s,baz=310,slow=4.3,SNR=3.5
ASAR S **S 15 58 37.9 -1.5**
comp=Z,1.3nm,0.9s,baz=302,slow=15,SNR=6.2
ASAR LR LR 16 12 28.1
comp=Z,75nm,21.0s,baz=304,slow=37
ASAR Alice Springs 48.14 128 P **P 15 51 43.4 -0.2**
ZAA0 Zalesovo Array 49.06 353 P **P 15 51 50.5 +0.5**
ZALV Zalesovo Beam 49.06 353 P **P 15 51 50.7 +0.7**
comp=Z,44nm,0.6s,baz=188,slow=6.7,SNR=162
ZALV S **S 15 58 51.5 +0.1**
comp=Z,0.5nm,0.3s,baz=161,slow=14,SNR=4.4
ZALV LR LR 16 14 21.5
comp=Z,82nm,18.5s,baz=180,slow=38
MDJ Mudanjiang 49.76 33 P **P 15 51 56.4 +0.9**
MDJ pP sP 15 52 12.4 -0.6
MDJ sP pwP 15 52 19.8 +10
MDJ S **S 15 59 02.3 +0.8**
MDJ sS sS 15 59 29.3 +7.6
MDJ pmax pmax
comp=Z,18nm,0.7s
MDJ pmax pmax
comp=Z,210nm,3.0s
MDJ LR LR
comp=Z,250nm,21.4s
MDJ LR LR
comp=Z,250nm,17.1s
MDJ LR LR
comp=Z,240nm,19.9s
RAYN Ar Rayn 50.38 296 P **P 15 52 02.3 +1.7**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
RAYN Ar Rayn 50.38 296 P **P 15 52 02.3 +1.7**
MJAR Matsushiro Arr 50.69 46 P **P 15 52 01.3 -1.4**
MJAR 15 53 19.8
MJAR pmax pmax
comp=Z,5.0nm,1.5s
MJAR Matsushiro Arr 50.69 46 P **P 15 52 03.3 +0.6**
comp=Z,1.4nm,0.4s,baz=228,slow=8.1,SNR=8.0
MJAR PcP **PcP 15 53 19.8 +0.3**
comp=Z,0.8nm,0.6s,baz=248,slow=5.4,SNR=4.3
MJAR LR LR 16 16 34.5
comp=Z,134nm,18.4s,baz=260,slow=40
MJAR Matsushiro Arr 50.69 46 P **P 15 52 01.3 -1.4**
USA0B Ussuriysk Arra 50.81 34⇑*e*P **P 15 52 03.0 -0.5**
USRK Ussuriysk Ar. 50.81 34 P **P 15 52 03.0 -0.5**
USRK Ussuriysk Ar. 50.81 34 P **P 15 52 03.7 +0.2**
comp=Z,3.8nm,0.7s,baz=246,slow=7.2,SNR=26
USRK LR LR 16 16 08.4
comp=Z,212nm,18.3s,baz=219,slow=39
USRK Ussuriysk Ar. 50.81 34 P **P 15 52 03.0 -0.5**
QIS Mount Isa 51.33 122 P **P 15 52 07.6 -0.1**
baz=52,SNR=8.5
BRVK Borovoye 51.50 342 P **P 15 52 08.5 +0.1**
BRVK pmax pmax
comp=Z,21nm,0.6s
BRVK Borovoye 51.50 342 P **P 15 52 08.5 +0.1**
COEN Coen 52.07 112 P **P 15 52 12.3 -1.0**
baz=52,SNR=7.4
COEN Coen 52.07 112 P **P 15 52 11.5 -1.9**
COEN IAmb IAmb 15 52 13.5
comp=Z,14nm,1.5s
AB31 Akbulak array 52.55 332 P **P 15 52 16.5 +0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 52.55 332 P **P 15 52 16.8 +0.4**
ABKAR Akbulak array 52.55 332 P **P 15 52 16.9 +0.5**
ABKAR IAmb IAmb 15 52 34.8
comp=Z,22nm,0.9s
MANU Manus Island 53.42 97 P **P 15 52 24.4 +0.9**
MANU IAmb IAmb 15 52 38.9
comp=Z,11nm,0.8s
KLR Kul'dur 53.92 29⇑*e*P **P 15 52 26.2 -0.2**
KLR pmax pmax
comp=Z,24nm,1.9s
MTSU Mount Surprise 54.49 117 P **P 15 52 31.1 0.0**
baz=55,SNR=13
BOD Bodaibo 54.53 13 *e*P **P 15 52 29.2 -1.5**
BOD pmax pmax
comp=Z,29nm,1.2s
PMG Port Moresby 54.59 105 P **P 15 52 31.8 -0.1**
PMG pmax pmax
comp=Z,18nm,1.0s
PMG Port Moresby 54.59 105 P **P 15 52 31.8 -0.1**
PMG IAmb IAmb 15 52 33.6
comp=Z,18nm,1.0s
CTAO Charters Tower 56.89 118 P **P 15 52 47.4 -0.9**
CTAO pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 56.89 118 P **P 15 52 47.4 -0.9**
HTT Hallett 57.13 136 P **P 15 52 50.4 +0.6**

baz=57,SNR=4.4
KMBO Kilima Mbogo 57.43 265 P P 15 52 54.5 +2.0
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 57.43 265 P P 15 52 54.5 +2.0
comp=Z,1.0nm,0.3s,baz=59,slow=10,SNR=5.4
QLP Quilpie 57.74 126 P P 15 52 55.0 +0.8
baz=58,SNR=4.8
SVE Sverdlovsk 57.82 339⇓ eP P 15 52 54.6 +0.4
SVE pmax pmax
comp=Z,24nm,0.6s
ZEI Tsey 58.05 318 eP P 15 52 55.7 -0.7
ZEI pmax pmax
comp=Z,9.0nm,0.6s
STKA Stephens Creek 58.22 133 P P 15 52 57.6 +0.2
baz=58,SNR=6.9
STKA Stephens Creek 58.22 133 P P 15 52 57.8 +0.4
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 58.22 133 P P 15 52 57.6 +0.2
comp=Z,3.6nm,0.7s,baz=318,slow=10,SNR=6.5
STKA LR LR 16 20 20.2
comp=Z,32nm,20.2s,baz=18,slow=38
STKA Stephens Creek 58.22 133 P P 15 52 57.8 +0.4
ARU Arti 58.29 338c i P P 15 52 57.4 -0.1
ARU *PP sP 15 53 15.0 +0.1
ARU S S 16 00 56.4 +0.1
ARU SS SS 16 04 46.2 -2.6
ARU pmax pmax
comp=Z,27nm,1.9s
ARU Arti 58.29 338 P P 15 52 57.6 +0.1
ARU IAmb IAmb 15 53 14.2
comp=Z,11nm,0.8s
KBZ Khabaz 59.12 319⇑ iP P 15 53 03.1 -0.3
KBZ Khabaz 59.12 319 P P 15 53 03.5 0.0
comp=Z,4.9nm,0.8s,baz=148,slow=5.6,SNR=9.4
KBZ PcP PcP 15 53 52.9 +1.2
comp=Z,5.0nm,0.8s,baz=92,slow=4.7,SNR=3.7
KIV Kislovodsk 59.35 319 eP P 15 53 05.0 -0.2
KIV pmax pmax
comp=Z,32nm,1.1s
CMSA Cobar Meteorol 61.10 130 P P 15 53 18.1 +0.8
baz=61,SNR=64
RMQ Roma 61.40 124 P P 15 53 20.4 +1.0
baz=62,SNR=8.0
YAK Yakutsk 62.29 18 eP P 15 53 22.0 -2.7
YAK pmax pmax
comp=Z,24nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.6s
YAK pmax pmax
comp=E,17nm,1.6s
YAK Yakutsk 62.29 18 P P 15 53 24.1 -0.6
VRH Novokhopyorsk 63.13 326 eP P 15 53 29.3 -1.2
VRH pmax pmax
comp=Z,40nm,1.4s
MBAR Mbarara 63.84 267⇓ eP P 15 53 36.3 +0.2
MBAR pmax pmax
comp=Z,3.0nm,1.1s
TOO Toolangi 63.87 136 P P 15 53 37.4 +1.7
baz=64,SNR=6.8
BR131 Keskin Array S 64.26 312 P P 15 53 37.8 -0.6
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 64.26 312 P P 15 53 37.8 -0.6
BR131 IAmb IAmb 15 53 38.7
comp=Z,7.3nm,0.8s
BRTR Keskin Array B 64.26 312 P P 15 53 38.2 -0.2
comp=Z,5.8nm,0.7s,baz=129,slow=7.6,SNR=28
BRTR LR LR 16 24 02.8
comp=Z,32nm,19.5s,baz=116,slow=38
BRTR Keskin Array B 64.26 312 P P 15 53 38.3 -0.1
VSR Storozhevoye 64.58 325⇓ i P P 15 53 38.7 -1.3
VSR pmax pmax
comp=Z,15nm,0.8s
LPSR Galich'ya Gora 65.30 326 eP P 15 53 43.8 -0.9
LPSR pmax pmax
comp=Z,20nm,0.8s
PRGR Permogore 66.74 337 eP P 15 53 48.3 -5.5
PRGR pmax pmax
comp=Z,21nm,0.6s
HNR Honiara 66.96 103 P P 15 53 55.7 -0.3
comp=Z,26nm,0.4s,baz=201,slow=7.0,SNR=3.1
MOS Moscow 67.35 329 eP P 15 53 55.1 -2.6
MOS pmax pmax
comp=Z,53nm,0.7s
OBN Obninsk 67.63 328c i P P 15 53 59.1 -0.4
OBN i 15 54 12.3
OBN i 15 54 25.8
OBN e 15 56 28.7
OBN pmax pmax
comp=Z,10.0nm,0.7s
OBN MLR MLR
comp=Z,164nm,17.0s
SKR Severo-Kuril's 68.18 37 eP P 15 54 10.5 +7.4
SKR eS **S 16 03 07.1 +7.2**
SKR pmax pmax
comp=Z,100nm,5.4s
SKR MLR MLR
comp=Z,100nm,15.0s
MILM Milestii Mici 69.53 318 ⇓P P 15 54 11.3 -0.3
TIXI Tiksi 69.64 11c i P P 15 54 10.7 -1.0
TIXI pmax pmax
comp=Z,37nm,1.3s
TIXI Tiksi 69.64 11 P P 15 54 11.0 -0.8
TIXI IAmb IAmb 15 54 11.8
comp=Z,20nm,0.7s
PETK Petropavlovsk- 69.90 35 P P 15 54 12.8 -1.0
comp=Z,3.3nm,1.0s,baz=232,slow=3.7,SNR=4.2
PETK LR LR 16 25 14.7
comp=Z,80nm,21.9s,baz=240,slow=36
SORM Soroca 70.14 319 ⇑P P 15 54 15.3 0.0
AKASG Malin Array Be 70.27 322 P P 15 54 14.1 -2.0
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 70.27 322 P P 15 54 15.2 -0.9
comp=Z,8.2nm,0.6s,baz=87,slow=5.3,SNR=25
AKASG pP **pP 15 54 29.0 +0.2**
comp=Z,1.4nm,0.4s,baz=90,slow=5.0,SNR=3.6
AKASG LR LR 16 28 02.7
comp=Z,25nm,20.0s,baz=335,slow=38
AKASG Malin Array Be 70.27 322 P P 15 54 14.1 -2.0
AKBB Malin Array Si 70.27 322 P P 15 54 14.0 -2.1
AKBB pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 70.27 322 P P 15 54 14.0 -2.1
AKBB IAmb IAmb 15 54 15.6
comp=Z,9.5nm,0.6s
BISRR Bisoca 70.63 316 ⇑P P 15 54 19.0 +0.6
VRI Vrincioaia 70.68 317 ⇑P P 15 54 19.6 +0.9
PLOR Plostina 70.73 317 ⇑P P 15 54 19.9 +0.8
TESR Tescani 70.88 317 ⇑P P 15 54 20.3 +0.4
SECR 70.96 316 ⇑P P 15 54 21.2 +0.8
SECR mb 15 54 22.1
MLR Muntele Rosu 71.14 316 ⇑P P 15 54 22.4 +0.8
BIZ Bicaz 71.34 318 ⇑P P 15 54 22.9 +0.2
PLVB Pleven 71.67 314 ⇑P P 15 54 25.2 +0.5
VOIR 71.75 316 ⇑P P 15 54 24.9 -0.4
ARR Arges 72.02 316 ⇑P P 15 54 26.9 0.0
BURAR Bucovina Array 72.07 318 ⇑P P 15 54 28.0 +0.8
BURAR mb 15 54 36.1
BURAR Bucovina Array 72.07 318 P P 15 54 28.0 +0.8
BUR08 Bucovina Ar. S 72.09 318 P P 15 54 28.1 +0.8
VTS Vitosha 72.54 313 P P 15 54 29.6 -0.6
VTS pmax pmax
comp=Z,8.0nm,0.8s
VTS Vitosha 72.54 313 ⇑P P 15 54 30.3 +0.2
VTS mb 15 54 30.9
VTS Vitosha 72.54 313 P P 15 54 29.6 -0.6
NACGM Naroch 72.85 326 e P 15 54 30.0 -1.5
HERR Herculane 73.48 315 ⇓P P 15 54 36.1 +0.6
DRGR 73.59 317 ⇑P P 15 54 37.0 +0.8
VSU Vasula 73.86 330⇑ eP P 15 54 37.0 -0.4
VSU pmax pmax
comp=Z,31nm,0.8s
TRPA Tarpa 73.94 319 ⇑P P 15 54 38.4 +0.4
TRPA mb 15 54 39.3
KWP Kalwaria Pacla 74.10 320 P P 15 54 39.8 +0.8
KWP pmax pmax
comp=Z,152nm,0.5s
KWP Kalwaria Pacla 74.10 320 eP P 15 54 39.6 +0.6
KWP eP **P 15 54 39.6 +0.6**
KWP Kalwaria Pacla 74.10 320 P P 15 54 39.9 +0.8
SIRR Siria 74.22 316 ⇑P P 15 54 40.5 +0.7
KOLS Kolonicke sedl 74.25 319 eP P 15 54 40.8 +0.9
KOLS pmax pmax
comp=Z,9.0nm,1.2s
KOLS Kolonicke sedl 74.25 319 eP P 15 54 40.8 +0.9
BOSA Boshof 74.48 239 P P 15 54 41.2 -0.5
BOSA pmax pmax
comp=Z,16nm,1.2s
BOSA Boshof 74.48 239 P P 15 54 43.4 +1.6
comp=Z,6.1nm,0.7s,baz=103,slow=6.6,SNR=6.9
BOSA LR LR 16 21 08.9
comp=Z,116nm,20.2s,baz=52,slow=31
BOSA Boshof 74.48 239 P P 15 54 41.2 -0.5
BOSA IAmb IAmb 15 54 45.7
comp=Z,16nm,1.2s
SUW Suwalki 74.68 325 P P 15 54 42.0 -0.3
SUW pmax pmax
comp=Z,100nm,1.3s
SUW Suwalki 74.68 325 P P 15 54 42.0 -0.3
FINES FINESS Array B 75.04 332 P P 15 54 44.0 -0.2
FINES FINESS Array B 75.04 332 P P 15 54 44.0 -0.2
comp=Z,3.5nm,0.5s,baz=93,slow=5.0,SNR=23
FINES pP **PcP 15 54 57.9 +0.2**
comp=Z,2.9nm,0.5s,baz=104,slow=5.8,SNR=3.2
FINES LR LR 16 32 11.9
comp=Z,81nm,18.9s,baz=346,slow=39
KECS Kecovo 75.35 319 eP P 15 54 47.0 +0.8
KECS pmax pmax
comp=Z,7.0nm,0.7s
KECS Kecovo 75.35 319 eP P 15 54 47.0 +0.8
PDG Podgorica 75.44 312 ⇑P P 15 54 46.2 -0.6
NIE Niedzica 75.61 320 eP P 15 54 48.7 +0.9
NIE Niedzica 75.61 320 eP P 15 54 48.7 +0.9
NIE eP **P 15 54 48.7 +0.9**
PSZ Piszkesteto 75.66 318 ⇑P P 15 54 48.8 +0.7
PSZ mb 15 55 07.2
OJC Ojcow 76.05 320 P P 15 54 51.2 +1.0
OJC pmax pmax
comp=Z,30nm,0.6s
OJC Ojcow 76.05 320 eP P 15 54 50.9 +0.6
OJC eP **P 15 54 50.9 +0.6**
OJC Ojcow 76.05 320 P P 15 54 51.2 +1.0
LANS Liptovska Anna 76.11 319 eP P 15 54 51.7 +1.1
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 76.11 319 eP P 15 54 51.7 +1.1
MAW Mawson 76.14 192 P P 15 54 52.5 +2.2
comp=Z,2.5nm,0.9s,baz=350,slow=13,SNR=4.5
VYHS Vyhne 76.44 318 eP P 15 54 53.1 +0.6
VYHS pmax pmax
comp=Z,7.0nm,0.7s
VYHS Vyhne 76.44 318 eP P 15 54 53.0 +0.6
JAVC Velka Javorina 77.25 319 eP P 15 54 58.5 +1.4
MORC Moravsky Berou 77.44 320 P P 15 54 58.9 +0.8
MORC pmax pmax
comp=Z,9.0nm,0.7s
MORC Moravsky Berou 77.44 320 ⇑P P 15 54 59.2 +1.0
MORC mb 15 54 59.6
MORC Moravsky Berou 77.44 320 eP P 15 54 58.9 +0.8
MORC Moravsky Berou 77.44 320 P P 15 54 58.9 +0.8
MORC IAmb IAmb 15 54 59.6
comp=Z,9.2nm,0.7s
MODS Modra-Piesok 77.45 318 eP P 15 54 58.0 -0.2
MODS Modra-Piesok 77.45 318 eP P 15 54 58.0 -0.2
ARCES ARCESS Array B 77.70 340 P P 15 54 59.0 -0.1
ARCES ARCESS Array B 77.70 340 P P 15 54 59.4 +0.3
comp=Z,3.6nm,0.5s,baz=92,slow=5.6,SNR=29
ARCES ARCESS Array B 77.70 340 P P 15 54 59.0 -0.1
KRLC Kraliky 77.96 320 eP P 15 55 02.0 +1.0
KRLC Kraliky 77.96 320 eP P 15 55 02.0 +1.0
VRAC Vranov 78.00 319 ⇑P P 15 55 01.9 +0.7
VRAC mb 15 55 02.4
VRAC Vranov 78.00 319 eP P 15 55 01.7 +0.5
KRUC Moravsky 78.11 319 eP P 15 55 02.3 +0.5
DPC Dobruska-Polom 78.28 320 eP P 15 55 04.0 +1.2
DPC Dobruska-Polom 78.28 320 eP P 15 55 04.0 +1.2
BILL Bilibino 78.32 21 de P P 15 55 02.3 -0.3
BILL i 15 55 11.1
BILL e 15 58 01.0
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,253nm,19.0s
KSP Ksiaz 78.35 321 eP P 15 55 04.3 +1.2
KSP Ksiaz 78.35 321 eP P 15 55 04.3 +1.2
KSP eP **P 15 55 04.3 +1.2**
CONA Conrad Observa 78.36 318 eP P 15 55 04.5 +1.1
comp=Z,7.9nm,1.0s
CHVC Chvalec 78.47 320 eP P 15 55 04.4 +0.6
UPC Upice 78.49 320 eP P 15 55 05.1 +1.2
UPC Upice 78.49 320 eP P 15 55 05.1 +1.2
ARSA Arzberg 78.53 317 eP P 15 55 05.3 +1.1
comp=Z,4.8nm,0.7s
SOKA Soboth 78.82 316 eP P 15 55 06.8 +0.9
comp=Z,10nm,0.8s
GOPC GO Pecny, Ondr 79.22 320 eP P 15 55 08.8 +0.8
GOPC GO Pecny, Ondr 79.22 320 eP P 15 55 08.8 +0.8
PRU Pruhonice 79.39 320 eP P 15 55 09.6 +0.8
PRU Pruhonice 79.39 320 eP P 15 55 09.6 +0.8
PVCC Panska Ves 79.41 320 eP P 15 55 10.2 +1.3
PVCC Panska Ves 79.41 320 eP P 15 55 10.2 +1.3
MOA Molln 79.42 318 eP P 15 55 10.2 +1.2
comp=Z,5.6nm,1.0s
BSD Bornholm Skovb 79.61 325 i P P 15 55 09.8 0.0
BSD pmax pmax
comp=Z,6.0nm,0.4s
BSD Bornholm Skovb 79.61 325 i P P 15 55 09.8 0.0
comp=Z,5.8nm,0.4s
PBCC Pribram 79.72 319 eP P 15 55 11.7 +1.1
MYKA Terra Mystica 79.77 316 i P P 15 55 11.4 +0.3
comp=Z,8.2nm,1.1s
BRG Berggiesshubel 79.83 321 i PKP P 15 55 12.0 +0.8
comp=Z,9.7nm,0.7s
BRG Berggiesshubel 79.83 321 i P P 15 55 12.0 +0.8
BRG pmax pmax
comp=Z,10.0nm,0.7s
GEC2 GERESS Array S 79.86 319 P P 15 55 12.6 +1.1
GEC2 IAmb IAmb 15 55 13.4
comp=Z,19nm,0.8s
GERES GERESS Array B 79.86 319 P P 15 55 12.5 +1.0
GERES GERESS Array B 79.86 319 P P 15 55 12.3 +0.8
comp=Z,14nm,0.7s,baz=97,slow=5.2,SNR=88
GERES pP **pwP 15 55 27.1 -0.6**
comp=Z,13nm,1.0s,baz=91,slow=5.3,SNR=7.5
GERES GERESS Array B 79.86 319 P P 15 55 12.5 +1.0
KHC Kasperske Hory 79.96 319 eP P 15 55 12.6 +0.6
KHC e 15 55 27.0
KHC Kasperske Hory 79.96 319 eP P 15 55 12.6 +0.6
KHC epP **pwP 15 55 27.0 -1.2**
KHC Kasperske Hory 79.96 319 P P 15 55 12.2 +0.2
KBA Koelnbreinsper 80.00 317 eP P 15 55 12.5 +0.1
comp=Z,14nm,1.2s
CLL Collm 80.45 321 i P P 15 55 14.9 +0.4
comp=Z,8.0nm,1.1s
ABTA Abfaltersbach 80.56 316 i P P 15 55 15.4 0.0
CTI Castel Tesino 81.13 316 P P 15 55 19.3 +0.9
CTI pmax pmax
comp=Z,17nm,1.1s
CTI Castel Tesino 81.13 316 P P 15 55 19.3 +0.9
CTI IAmb IAmb 15 55 24.5
comp=Z,17nm,1.1s
WTTA Wattenberg 81.17 317 eP P 15 55 18.8 +0.1
comp=Z,14nm,0.5s,SNR=8.1
WATA Walderalm 81.22 317 i P P 15 55 18.8 -0.1
comp=Z,6.7nm,0.5s,SNR=4.5
SQTA Sankt Quirin 81.46 317 P P 15 55 20.3 +0.1
comp=Z,18nm,0.5s,SNR=6.1
MOTA Moosalm 81.54 317 eP P 15 55 20.7 +0.1
comp=Z,14nm,0.7s,SNR=8.4
RETA Reutte 81.77 317 eP P 15 55 22.1 +0.4
comp=Z,20nm,0.5s,SNR=17
FETA Feichten 81.78 317 P P 15 55 22.4 +0.5
comp=Z,5.4nm,0.6s,SNR=7.9
NB2 NORSAR Subarra 82.03 331 P P 15 55 20.7 -2.1
comp=Z,21nm,1.4s,baz=93,slow=5.9
NOA NORSAR Array B 82.03 331 P P 15 55 22.2 -0.5
comp=Z,1.5nm,0.7s,baz=97,slow=5.5,SNR=3.9
NOA LR LR 16 35 03.2
comp=Z,49nm,20.3s,baz=0.0,slow=38
DAVA Damuels 82.37 317 i P P 15 55 25.7 +0.7
comp=Z,8.0nm,0.5s
TUE Stuetta 82.73 316 P P 15 55 27.0 +0.1
TUE IAmb IAmb 15 55 46.4
comp=Z,7.5nm,0.8s
KEST Kesra 82.88 305 P P 15 55 28.8 +0.9
comp=Z,3.8nm,0.7s,baz=274,slow=5.9,SNR=3.8
KEST Kesra 82.88 305 IAmb IAmb 15 55 46.1
comp=Z,14nm,1.0s
SYO Syowa Base 83.09 197⇑ eP P 15 55 29.4 +1.4
BFO Black Forest 83.41 318 i P P 15 55 31.4 +1.2
BFO Black Forest 83.41 318 P P 15 55 29.4 -0.8
BFO IAmb IAmb 15 55 31.2
comp=Z,8.4nm,0.6s
SENIN Lac Senin/Sane 84.15 316 P P 15 55 34.4 +0.2
SENIN IAmb IAmb 15 55 36.7
comp=Z,12nm,0.8s
BNI Bardonecchia 84.63 315 P P 15 55 35.3 -1.3
BNI pmax pmax
comp=Z,11nm,0.9s
BNI Bardonecchia 84.63 315 P P 15 55 35.3 -1.3
BNI IAmb IAmb 15 55 41.6
comp=Z,11nm,0.9s
URZ Urewera 87.59 129 P P 15 55 50.0 -1.1
comp=Z,4.5nm,0.5s,baz=261,slow=7.2,SNR=11
URZ Urewera 87.59 129 IAmb IAmb 15 56 03.5
comp=Z,11nm,1.0s
RDOG Red Dog Mine 89.79 22 P P 15 56 01.6 +0.6
RDOG IAmb IAmb 15 56 17.1
comp=Z,18nm,1.4s
TORD Torodi Ar. Bea 91.41 283 P P 15 56 10.2 +0.6
comp=Z,0.4nm,0.6s,baz=62,slow=6.7,SNR=2.8
TORD PKKPbc **PKKPbc 16 13 31.0 +0.6**
comp=Z,0.4nm,0.4s,baz=260,slow=1.6,SNR=5.9
TORD LR LR 16 35 53.3
comp=Z,58nm,19.8s,baz=340,slow=35
TORD Torodi Ar. Bea 91.41 283 IAmb IAmb 15 56 16.9
comp=Z,0.6nm,0.8s
ESDC Sonseca Array 93.02 310 P P 15 56 17.7 +1.1
comp=Z,0.6nm,0.5s,baz=63,slow=4.1,SNR=4.6
ESDC pP **pwP 15 56 31.8 -1.3**
comp=Z,1.1nm,0.6s,baz=62,slow=4.7,SNR=3.7
ESDC Sonseca Array 93.02 310 P P 15 56 16.6 0.0
IMAR Indian Mountai 93.85 22 P P 15 56 20.4 +0.7
TOLK Toolik Lake Re 94.23 19 P P 15 56 22.3 +0.8
BMAR Burnt Mountain 96.46 19 P P 15 56 32.5 +0.8
ILAR Eielson Array 96.96 22 P P 15 56 34.1 +0.2
comp=Z,0.8nm,0.5s,baz=310,slow=4.1,SNR=20
ILAR PP **PP 16 00 28.9 -0.6**
comp=Z,0.5nm,0.9s,baz=303,slow=6.7,SNR=4.9
ILAR LR LR 16 45 35.4
comp=Z,56nm,18.8s,baz=306,slow=39
KDAK Kodiak Island 97.49 30 i P Pdif 15 56 38.3 +1.8
DBIC Dimbokro 98.52 278 LR LR 16 38 30.3
comp=Z,35nm,21.9s,baz=74,slow=34
PLID Pearl Lake 122.88 25 PKiKP 16 01 59.8 +0.3
ULM Lac du Bonnet 123.91 8 PKP **PKPdf 16 02 00.7 -0.1**
comp=Z,3.0nm,0.4s,baz=308,slow=1.3,SNR=5.6
FXWY Fox Creek 126.09 23 PKiKP 16 02 07.3 +1.4
NVAR Mina Array Bea 126.92 32 PKP **PKiKP 16 02 08.7 +1.0**
comp=Z,1.7nm,0.6s,baz=312,slow=1.9,SNR=14
NVAR Mina Array Bea 126.92 32 PKiKP 16 02 08.9 +1.2
BW06 Boulder Array 127.40 22 PKiKP 16 02 08.4 -0.1
PD31 Pinedale Array 127.40 22 PKiKP 16 02 08.5 -0.1
PDAR Pinedale Array 127.40 22 PKP **PKiKP 16 02 08.4 -0.1**
comp=Z,1.1nm,0.5s,baz=94,slow=2.0,SNR=14
DUG Dugway, Tooele 128.22 26 PKIKP **PKiKP 16 02 11.2 +1.0**
DUG Dugway, Tooele 128.22 26 PKiKP 16 02 11.2 +1.0
R11A Troy Canyon, C 128.38 30 PKiKP 16 02 11.6 +1.0
PFO Pinyon Flats O 131.47 35⇓ i PKIKP PKiKP 16 02 17.2 +0.4
ANMO Albuquerque 135.36 25⇑ i PKIKP PKPdf 16 02 23.9 +0.7
ANMO pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 141.39 26 PKhKP PKPpre 16 02 28.2
comp=Z,1.2nm,0.6s,baz=116,slow=1.4,SNR=15
TXAR PP **PP 16 05 38.4 +2.5**
comp=Z,0.7nm,0.8s,baz=4.3,slow=5.0,SNR=4.3
PLCA Paso Flores 142.28 199 PKhKP PKPpre 16 02 30.4
comp=Z,1.4nm,0.7s,baz=13,slow=3.2,SNR=4.3
CPUP Villa Florida 145.88 229 PKP2 **PKPab 16 02 43.7 +0.5**
CPUP Villa Florida 145.88 229 PKPbc **PKPab 16 02 43.5 +0.3**
comp=Z,4.6nm,0.7s,baz=128,slow=3.4,SNR=7.4
CPUP Villa Florida 145.88 229 PKPab 16 02 43.7 +0.5
MTP Monte Pirata 149.42 320 PKiKP 16 02 53.5 -0.2
HUMP Col San Antoni 149.58 321 PKiKP 16 02 54.0 0.0
LPAZ La Paz 159.71 236 PKPab **PKPab 16 03 42.5 +0.6**
comp=Z,1.1nm,0.6s,baz=109,slow=9.2,SNR=3.6

NEIC ***15*** *15:54:55.6±1.2,20°.8S±0°.2×178°.6W±0°.2, h579km±19km, mb4.2/13*
IDC ***15*** *15:55:01.8±13.0,20°.31S×179°.19W, h624km±134km, mb3.1/4, mb1 3.2/5, mb1mx2.8/32, mbtmp4.2/5, Error ellipse: s-maj=121.4km s-min=79.6km az=111.0*
ISC 15 15:54:57.2±1.8, 20°.8S±0°.2×178°.6W±0°.2, h600km, n21, σ0$62/19, **mb4.0/8, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.95**	**262**	P	**P**	**15 57 55.4**	**-0.3**
	0.4nm,0.3s,baz=70,slow=23,SNR=5.6						
OUZ	**Omahuta**	**15.88**	**204**	P	**P**	**15 58 12.5**	**-0.7**
OUZ				IAmb	IAmb	15 58 18.0	
	comp=Z,13nm,1.4s						
MXZ	**Matakaoa Point**	**16.88**	**188**	P	**P**	**15 58 21.3**	**-1.1**
THZ	**Tophouse**	**22.06**	**197**	P	**P**	**15 59 10.3**	**+1.1**
EIDS	**Eidsvold**	**28.18**	**255**	P	**P**	**16 00 03.7**	**+0.3**
EIDS				IAmb	IAmb	16 00 11.8	
	comp=Z,11nm,1.4s						
CTA	**Charters Tower**	**32.86**	**265**	P	**P**	**16 00 43.4**	**0.0**
	comp=Z,2.2nm,0.4s,baz=89,slow=9.2,SNR=8.8						
CTAO	**Charters Tower**	**32.86**	**265**	P	**P**	**16 00 43.5**	**+0.1**
CTAO				IAmb	IAmb	16 01 00.6	
	comp=Z,11nm,1.4s						
TOO	**Toolangi**	**35.22**	**234**	P	**P**	**16 01 03.2**	**+0.3**
TOO				IAmb	IAmb	16 01 13.3	
	comp=Z,9.7nm,1.3s						
COEN	**Coen**	**37.01**	**274**	P	**P**	**16 01 17.7**	**-0.1**
STKA	**Stephens Creek**	**37.11**	**244**	P	**P**	**16 01 18.9**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=88,slow=14,SNR=6.5						
STKA	**Stephens Creek**	**37.11**	**244**	P	**P**	**16 01 18.8**	**+0.4**
BBOO	**Buckleboo**	**41.86**	**244**	P	**P**	**16 01 57.0**	**+0.6**
WR0	**Warramunga Arr**	**43.77**	**263**	P	P	16 02 15.4	+4.0
WR0				IAmb	IAmb	16 02 27.3	
	comp=Z,7.2nm,1.4s						
ASAR	**Alice Springs**	**43.86**	**257**	P	**P**	**16 02 12.4**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=88,slow=8.5,SNR=37						
ASAR	**Alice Springs**	**43.86**	**257**	P	**P**	**16 02 11.8**	**-0.2**
WB2	**Warramunga Arr**	**43.95**	**263**	P	**P**	**16 02 12.6**	**-0.2**
WB2				IAmb	IAmb	16 02 15.0	
	comp=Z,7.8nm,1.5s						
WRAB	**Tennant Creek**	**43.95**	**263**	P	**P**	**16 02 11.7**	**-1.1**
WRA	**Warramunga Arr**	**43.96**	**263**	P	**P**	**16 02 12.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=97,slow=7.6,SNR=48						
WRA	**Warramunga Arr**	**43.96**	**263**	IAmb	IAmb	16 02 13.0	
	comp=Z,0.2nm,1.2s						
GERES	**GERESS Array B**	**150.35**	**343**	PKPbc	**PKiKP**	**16 13 42.2**	**0.0**
	comp=Z,0.7nm,0.9s,baz=46,slow=4.2,SNR=3.4						
GERES	**GERESS Array B**	**150.35**	**343**	PKPdf	**PKPdf**	**16 13 36.1**	**+0.3**

NEIC ***15*** *16:00:48.4±2.6, 19°.3S±0°.1×169°.51E±0°.07, h183km±9km, mb4.5/15*
IDC ***15*** *16:00:48.9±5.2, 19°.17S×169°.36E, h167km±61km, mb3.4/4, mb1 3.6/5, mb1mx3.3/34, mbtmp3.8/5, Error ellipse: s-maj=112.8km s-min=33.5km az=158.0*
ISCJB ***15*** *16:00:49.1±0.7, 19°.43S±0°.10×169°.48E±0°.09, h200km, mb3.6/4, Error ellipse: s-maj=13.8km s-min=10.7km az=155.1*
ISC 15 16:00:50.0±0.8, 19°.4S±0°.1×169°.5E±0°.1, h200km, n24, σ1$57/25, **mb4.4/10, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.89**	**226**	P	**Pn**	**16 01 50.6**	**+0.2**
	1.1nm,0.3s,baz=18,slow=9.2,SNR=56						
DZM				S	**Sn**	**16 02 36.2**	**-1.8**
	4.7nm,0.3s,baz=116,slow=24,SNR=7.0						
DZM	**Mont Dzumac**	**3.89**	**226**	Sn	**Sn**	**16 02 35.0**	**-3.0**
LHI	**Lord Howe Isla**	**15.29**	**216**	P	P	**16 04 16.5**	**+0.5**
EIDS	**Eidsvold**	**18.00**	**247**	Pn	**Pn**	**16 04 49.3**	**+1.2**
HIZ	**Hauiti**	**19.63**	**167**	P	P	**16 05 03.0**	**-0.3**
HIZ				IAmb	IAmb	16 05 10.9	
	comp=Z,34nm,1.4s						
CTA	**Charters Tower**	**21.85**	**264**	P	P	**16 05 29.2**	**+2.3**
	comp=Z,1.4nm,0.4s,baz=105,slow=14,SNR=1.6						
CTAO	**Charters Tower**	**21.85**	**264**	P	P	**16 05 27.8**	**+0.9**
CTAO				IAmb	IAmb	16 05 44.1	
	comp=Z,10nm,1.4s						
CRLZ	**Canterbury Las**	**24.26**	**174**	P	P	**16 05 49.2**	**+0.5**
TOO	**Toolangi**	**27.66**	**224**	P	P	**16 06 19.5**	**+0.3**

TOO IAmb IAmb 16 06 32.7
comp=Z,24nm,1.5s
RAR Rarotonga 28.89 99 P **P 16 06 31.4 +1.1**
RAR IAmb IAmb 16 06 35.3
comp=Z,26nm,1.0s
WR0 Warramunga Arr 32.85 263 P **P 16 07 01.9 -3.2**
WB2 Warramunga Arr 33.03 263 P **P 16 07 07.2 +0.5**
WB2 IAmb IAmb 16 07 25.0
comp=Z,9.8nm,1.5s
WRAB Tennant Creek 33.03 263 P **P 16 07 07.2 +0.5**
WRA Warramunga Arr 33.04 263 P **P 16 07 07.5 +0.8**
comp=Z,0.5nm,0.6s,baz=81,slow=6.1,SNR=14
WRA Warramunga Arr 33.04 263 P **P 16 07 07.4 +0.6**
AS31 Alice Springs 33.29 256 P **P 16 07 10.8 +1.9**
AS31 IAmb IAmb 16 07 11.2
comp=Z,4.0nm,0.4s
ASAR Alice Springs 33.30 256 P **P 16 07 10.7 +1.7**
comp=Z,5.2nm,0.5s,baz=83,slow=8.8,SNR=89
ASAR Alice Springs 33.30 256 P **P 16 07 10.5 +1.5**
MTN Manton Dam 37.33 274 P **P 16 07 42.8 -0.6**
MTN IAmb IAmb 16 07 54.7
comp=Z,16nm,1.4s
KNRA Kununurra 38.92 269 P **P 16 07 56.0 -0.6**
KNRA IAmb IAmb 16 08 00.4
comp=Z,27nm,1.4s
FITZ Fitzroy Crossi 41.43 264 P **P 16 08 18.7 +1.4**
HMH Humu'ula Sheep 51.80 44 P **P 16 09 35.2 -2.7**
ILAR Eielson Array 90.31 17 P **P 16 13 28.8 +1.1**
comp=Z,0.2nm,0.6s,baz=234,slow=4.4,SNR=4.6
GERES GERESS Array B 144.72 332 PKP **PKiKP 16 20 05.6 -1.1**
comp=Z,0.4nm,0.4s,baz=47,slow=2.4,SNR=3.6

IDC 15 17:03:05.2±999.0, 50°.70N×42°.29E, h0km, Error ellipse: s-maj=1514.0km s-min=201.3km az=82.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**10.03**	**86**	*i*		18 01 30.0	
	baz=278,slow=318,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**25.91**	**66**	*i*		19 43 31.8	
	baz=281,slow=340						
I34MN	**SONGINO INFRAS**	**40.79**	**68**	*i*		21 12 20.0	
	baz=300,slow=328,SNR=0.6						

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*IDC **15** 17:18:54.3±1.6, 11°.72S×118°.88E, h0km, mb3.8/2, mb1 3.5/6, mb1mx3.4/27, mbtmp3.4/6, ML3.1/4, Error ellipse: s-maj=31.5km s-min=24.1km az=52.0*
*ISCJB **15** 17:18:57.0±1.2, 11°.79S±0°.08×118°.89E±0°.09, h33km, mb3.8/2, Error ellipse: s-maj=12.3km s-min=11.2km az=160.7*
ISC 15 17:18:59.4±1.4, **11°.80S**±0°.09×**119°.0E**±0°.1, **h35**km, **n6**, σ2**85**/10, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.86**	**71**	Pn	**Pn**	**17 20 09.3**	**-0.8**
	1.5nm,0.3s,baz=203,slow=3.5,SNR=3.7						
BATI				Sn	**Sn**	**17 21 08.9**	**+3.7**
	3.3nm,0.3s,baz=343,slow=20,SNR=5.3						
FITZ	**Fitzroy Crossi**	**8.97**	**135**	Pn	**Pn**	**17 21 06.3**	**-0.3**
	0.2nm,0.3s,baz=304,slow=15,SNR=7.1						
FITZ				Sn	**Sn**	**17 22 49.0**	**+2.5**
	0.8nm,0.3s,baz=175,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	**16.83**	**121**	Pn	**P**	**17 22 54.1**	**-0.3**
	0.1nm,0.3s,baz=286,slow=11,SNR=5.8						
WRA				Sn	**Sn**	**17 25 53.3**	**-5.3**
	0.1nm,0.3s,baz=296,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**18.45**	**132**	P	**Pn**	**17 23 13.2**	**+0.7**
	0.1nm,0.3s,baz=321,slow=14,SNR=5.9						
ASAR				S	**Sn**	**17 26 35.6**	**-2.2**
	0.1nm,0.3s,baz=299,slow=23,SNR=3.8						
NWAO	**Narrogin (SRO)**	**21.09**	**184**	P	**P**	**17 23 42.4**	**+1.5**
	3.5nm,0.4s,baz=18,slow=15,SNR=11						
NWAO				S	S	17 27 18.5	-15
	4.7nm,0.9s,baz=270,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**66.93**	**333**	P	**P**	**17 29 47.5**	**-0.8**
	0.2nm,0.4s,baz=134,slow=5.6,SNR=4.1						

IDC 15 17:33:25.7±959.0, **31°.09N**×**131°.71E**, **h0**km, **Error ellipse: s-maj=363.6km s-min=157.0km az=42.0, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**8.35**	**57**	*i*		18 27 00.0	
	baz=241,slow=327,SNR=12						
I45RU	**USSURIYSK INFR**	**13.09**	**1**	*i*		18 56 50.0	
	baz=180,slow=330,SNR=1.9						
I44RU	**PETROPAVLOVSK**	**28.98**	**33**	*i*		20 29 40.0	
	baz=236,slow=335,SNR=2.5						

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*MAN **15** 17:44:02.6, 6°.62N×126°.80E, h47km, mb5.2, ML4.1, MS4.3*
*ISCJB **15** 17:44:04.5±0.5, 6°.68N±0°.03×126°.68E±0°.04, h63km±4km, mb4.0/12, Error ellipse: s-maj=7.3km s-min=3.9km az=158.6*
*DJA **15** 17:44:05.1±0.9, 7°N±4°×12°7E±°, h20km±8km, M4.6/24, mB5.0/11, mb4.8/24, MLv4.9/9, Mw(mB)4.4/11*
*NEIC **15** 17:44:06.8±1.4, 6°.68N±0°.09×126°.56E±0°.10, h74km±4km, mb4.4/25*
*IDC **15** 17:44:06.5±1.8, 6°.68N×126°.63E, h71km±15km, mb3.6/8, mb1 4.0/11, mb1mx3.6/44, mbtmp4.2/11, MS3.0/10, Ms1 3.0/10, ms1mx2.7/43, Error ellipse: s-maj=30.0km s-min=10.7km az=62.0*
ISC 15 17:44:06.3±0.8, **6°.66N**±0°.04×**126°.63E**±0°.06, **h61**km±7km, **n109**, σ1**975**/110, **mb4.4**/20, **6C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.46**	**307**	*e*P	**Pn**	**17 44 16.4**	**-1.6**
MATI				*e*S	**Sn**	**17 44 24.7**	**-1.8**
DDMP	**Don Marcelino,**	**1.06**	**239**	*e*P	**Pn**	**17 44 23.3**	**-2.0**
DDMP				*e*S	**Sn**	**17 44 36.8**	**-2.5**
DAV	**Davao City (W)**	**1.11**	**291**	P	**Pn**	**17 44 25.6**	**-0.3**
	670nm,0.3s,baz=103,slow=2.1,SNR=186						
DAV				S	**Sn**	**17 44 41.7**	**+1.2**
	324nm,0.3s,baz=272,slow=23,SNR=38						
DAV	**Davao City (W)**	**1.11**	**291**	⇑*i*P	**Pn**	**17 44 25.9**	**-0.1**
DAV	**Davao City (W)**	**1.11**	**291**		**Pn**	**17 44 25.7**	**-0.3**
DAV					**Sn**	**17 44 40.0**	**-0.5**
DMPH	**Davao City--Mi**	**1.19**	**291**	⇓*e*P	**Pn**	**17 44 26.4**	**-0.4**
DMPH				*i* S	**Sn**	**17 44 43.6**	**+1.4**
BIPH	**Bislig**	**1.53**	**350**	⇑*e*P	**Pn**	**17 44 30.4**	**-1.2**
BIPH				*e*S	**Sn**	**17 44 51.5**	**+1.0**
KCP	**Kidapawan**	**1.56**	**283**	⇓*e*P	**Pn**	**17 44 30.4**	**-1.5**
KCP				*i* S	**Sn**	**17 44 50.2**	**-1.1**
GSPH	**General Santos**	**1.76**	**251**	⇑*i*P	**Pn**	**17 44 32.0**	**-2.7**
GSPH				*i* S	**Sn**	**17 44 50.8**	**-5.4**
BUKP	**Musuan**	**1.96**	**308**	*e*P	**Pn**	**17 44 36.8**	**-0.6**
BUKP				*e*S	**Sn**	**17 44 59.2**	**-1.8**
SKMP	**Bagumbayan, Su**	**2.07**	**266**	*e*P	**Pn**	**17 44 37.5**	**-1.3**
SKMP				*e*S	**Sn**	**17 45 06.8**	**+3.2**
CTBH	**Cotabato--PC H**	**2.43**	**283**	⇑*i*P	**Pn**	**17 44 42.2**	**-1.4**
BUTP	**Butuan**	**2.50**	**337**	*e*P	**Pn**	**17 44 47.4**	**+2.8**
BUTP				*e*S	Sn	17 45 23.3	+9.4
CGP	**Cagayan de Oro**	**2.61**	**313**	⇓*i*P	**Pn**	**17 44 46.4**	**+0.2**
CGP				*i* S	**Sn**	**17 45 18.8**	**+2.0**
SGSI	**Sangihe**	**3.15**	**200**	P	**Pn**	**17 44 54.2**	**+0.6**
SGSI				S	**Sn**	**17 45 32.3**	**+2.3**
PAGZ	**Pagadian**	**3.42**	**290**	*e*P	**Pn**	**17 44 56.6**	**-0.7**
MSLP	**Maasin**	**3.87**	**333**	*e*P	**Pn**	**17 45 03.6**	**+0.2**
TNTI	**Ternate**	**5.90**	**173**	P	**Pn**	**17 45 32.0**	**+0.8**
	86nm,0.7s,1μm0.3nm						
TNTI	**Ternate**	**5.90**	**173**		**Pn**	**17 45 32.6**	**+1.4**
RCP	**Roxas**	**6.19**	**322**	⇑*e*P	**Pn**	**17 45 36.6**	**+1.4**
KMSI	**Cibinong**	**6.60**	**204**	P	**Pn**	**17 45 40.7**	**-0.1**
	160nm,0.7s,1μm						
MRSI	**Marisa**	**7.72**	**217**	P	**Pn**	**17 45 55.4**	**-0.8**
LUWI	**Luwuk**	**8.57**	**207**	P	**Pn**	**17 46 09.7**	**+2.0**
	227nm,1.1s,2μm						
LUWI	**Luwuk**	**8.57**	**207**		**Pn**	**17 46 09.8**	**+2.1**
SANI	**Sanana**	**8.68**	**184**	P	**Pn**	**17 46 08.3**	**-1.0**
SWI	**Sorong**	**8.79**	**148**	P	**Pn**	**17 46 11.6**	**+0.8**
	65nm,0.9s,719nm						
SIJI	**Sorong**	**8.80**	**148**	P	**Pn**	**17 46 12.1**	**+1.1**
	6.7nm,0.3s,baz=229,slow=17,SNR=40						
SIJI				S	**Sn**	**17 47 47.0**	**-1.7**
	0.1nm,0.3s,baz=31,slow=19,SNR=3.1						
LQP	**Lukban**	**8.93**	**326**	⇑*e*P	**Pn**	**17 46 08.3**	**-4.6**
APSI	**Ampana**	**9.02**	**214**	P	**Pn**	**17 46 16.8**	**+2.9**
	79nm,0.7s,666nm						
MPSI	**Mapaga**	**9.20**	**227**	P	**Pn**	**17 46 17.1**	**+0.8**
NLAI	**Namlea**	**9.85**	**177**	P	**Pn**	**17 46 24.9**	**-0.4**
AAI	**Ambon**	**10.40**	**171**	P	Pn	17 46 48.6	+16
FAKI	**Fak Fak**	**11.05**	**149**	P	**Pn**	**17 46 43.4**	**+1.7**
	17nm,0.7s						
FAKI	**Fak Fak**	**11.05**	**149**	Pn	**Pn**	**17 46 43.7**	**+2.0**
TTSI	**Tana Toraja**	**11.80**	**215**	P	**Pn**	**17 46 54.6**	**+2.7**
	58nm,0.8s,1μm						
BNSI	**Bone**	**12.77**	**211**	P	**Pn**	**17 47 07.0**	**+1.8**
KAPI	**Kappang**	**13.48**	**211**	P	**Pn**	**17 47 14.1**	**-0.7**
	1.4nm,0.3s,baz=25,slow=8.8,SNR=14						
KAPI				LR	LR	17 52 03.4	
	comp=Z,50nm,21.3s,baz=2.5,slow=35						
KAPI	**Kappang**	**13.48**	**211**		**Pn**	**17 47 14.3**	**-0.5**
KBKI	**Kotabaru**	**14.39**	**227**	P	**P**	**17 47 36.3**	**+4.1**
SBUM	**Sibu**	**14.95**	**254**	P	**Pn**	**17 47 35.9**	**+1.6**
MMRI	**Maumere**	**15.82**	**196**		**P**	**17 47 49.6**	**+1.6**
MMRI				IAmb	IAmb	17 47 53.6	
	comp=Z,69nm,1.4s						
SOEI	**Soe**	**16.48**	**188**	P	P	17 48 12.5	+17
SOEI	**Soe**	**16.48**	**188**	P	**Pn**	**17 47 54.5**	**+0.7**
SOEI				IAmb	IAmb	17 48 22.5	
	comp=Z,26nm,0.8s						
JAY	**Jayapura**	**16.75**	**123**	LR	LR	17 54 52.6	
	comp=Z,40nm,18.6s,baz=44,slow=39						
BATI	**Baumata**	**17.02**	**190**	P	**P**	**17 48 01.1**	**-0.4**
	comp=Z,4.4nm,0.3s,baz=16,slow=0.8,SNR=16						
BATI				S	**Sn**	**17 51 09.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=74,slow=15,SNR=1.7						
BATI	**Baumata**	**17.02**	**190**	P	**P**	**17 48 01.5**	**+0.1**
KSM	**Kuching**	**17.07**	**253**	P	**Pn**	**17 48 01.1**	**+0.1**
KSM				IAmb	IAmb	17 48 05.4	
	comp=Z,20nm,1.3s						
PLAI	**Plampang**	**17.74**	**210**	P	**P**	**17 48 10.4**	**+1.1**
TWSI	**Taliwang, Sumb**	**18.12**	**213**	P	**Pn**	**17 48 15.9**	**+2.0**
	comp=Z,26nm,1.0s						
MTN	**Manton Dam**	**19.89**	**167**	P	**P**	**17 48 33.4**	**+0.4**
MTN				IAmb	IAmb	17 48 46.7	
	comp=Z,9.4nm,0.9s						
NGJI	**Ngawi**	**20.57**	**228**	P	Pn	17 48 49.3	+6.3
KNRA	**Kununurra**	**22.30**	**175**	P	**P**	**17 48 58.7**	**-0.1**
KNRA				IAmb	IAmb	17 49 04.6	
	comp=Z,16nm,0.8s						
DSRI	**Dabo**	**23.12**	**253**	P	**P**	**17 49 09.8**	**+2.4**
LEM	**Lembang**	**23.22**	**235**	P	**P**	**17 49 07.8**	**-0.8**
	comp=Z,21nm,0.8s,baz=296,slow=19,SNR=5.0						
LEM				LR	LR	17 58 33.4	
	comp=Z,38nm,21.5s,baz=110,slow=37						
BLSI	**Bandar Lampung**	**24.46**	**241**	P	**P**	**17 49 22.5**	**+2.7**
KLI	**Kotabumi**	**24.56**	**243**	P	**P**	**17 49 23.7**	**+3.0**
FITZ	**Fitzroy Crossi**	**24.62**	**182**	P	**P**	**17 49 20.7**	**-0.5**
	comp=Z,4.2nm,0.7s,baz=5.6,slow=9.4,SNR=23						
FITZ				LR	LR	17 59 25.0	
	comp=Z,22nm,18.1s,baz=350,slow=37						
FITZ	**Fitzroy Crossi**	**24.62**	**182**	P	**P**	**17 49 20.5**	**-0.7**
FITZ				IAmb	IAmb	17 49 27.0	
	comp=Z,9.8nm,0.7s						
CGJI	**Cibinong**	**24.70**	**238**	P	**P**	**17 49 25.5**	**+3.5**
IPM	**Ipoh**	**25.57**	**266**	P	**P**	**17 49 28.1**	**-1.8**
IPM				IAmb	IAmb	17 49 31.9	
	comp=Z,12nm,0.9s						
COEN	**Coen**	**26.26**	**141**	P	**P**	**17 49 37.7**	**+1.6**
WRAB	**Tennant Creek**	**27.50**	**164**	P	**P**	**17 49 46.6**	**-0.6**
WRA	**Warramunga Arr**	**27.51**	**164**	P	**P**	**17 49 46.6**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=340,slow=11,SNR=17						
WRA	**Warramunga Arr**	**27.51**	**164**	P	**P**	**17 49 46.1**	**-1.2**
WB2	**Warramunga Arr**	**27.51**	**164**	P	**P**	**17 49 46.5**	**-0.8**
KRVT	**Keravat (AS076**	**27.60**	**113**	LR	LR	17 59 59.6	
	comp=Z,27nm,20.7s,baz=100,slow=34						
PSI	**Prapat**	**27.87**	**263**	LR	LR	18 03 26.3	
	comp=Z,34nm,21.2s,baz=132,slow=42						
PSA00	**Pilbara Seismi**	**28.84**	**193**	P	**P**	**17 49 57.6**	**-1.4**
PSA00				IAmb	IAmb	17 50 03.1	
	comp=Z,12nm,0.9s						
KMI	**Kunming**	**29.31**	**311**	P	**P**	**17 50 02.4**	**-1.1**
KMI				pP	pP	17 50 16.1	-2.1
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.40**	**296**	LR	LR	18 01 36.5	
	comp=Z,24nm,21.8s,baz=182,slow=36						
AS31	**Alice Springs**	**30.97**	**167**	P	**P**	**17 50 17.2**	**-0.8**
ASAR	**Alice Springs**	**30.97**	**167**	P	**P**	**17 50 17.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=347,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**30.97**	**167**	P	**P**	**17 50 17.1**	**-0.9**
LZH	**Lanzhou**	**35.96**	**328**	*e*P	**P**	**17 51 01.3**	**-0.1**
LZH				pP	sP	17 51 20.3	-2.9
LZH				sP	pP	17 51 29.5	+13
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,53nm,5.2s						
LZH				LR	LR		
	comp=N,170nm,12.9s						
LZH				LR	LR		
	comp=E,180nm,13.2s						
LZH				LR	LR		
	comp=Z,250nm,16.5s						
HHC	**Hu-ho-hao-te**	**36.60**	**341**	*e*P	**P**	**17 51 10.3**	**+3.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MORW	**Morawa**	**36.96**	**196**	P	**P**	**17 51 07.3**	**-2.5**
MORW				IAmb	IAmb	17 51 30.1	
	comp=Z,17nm,1.4s						
FORT	**Forrest**	**37.26**	**178**	P	**P**	**17 51 11.7**	**-0.5**
SHL	**Shillong**	**38.12**	**304**	P	**P**	**17 51 18.4**	**-1.5**
EIDS	**Eidsvold**	**39.75**	**144**	P	**P**	**17 51 34.1**	**+0.8**
EIDS				IAmb	IAmb	17 51 42.0	
	comp=Z,4.9nm,1.1s						
BBOO	**Buckleboo**	**40.27**	**168**	P	**P**	**17 51 37.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**40.37**	**192**	P	**P**	**17 51 37.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**40.37**	**192**	P	**P**	**17 51 37.6**	**-0.8**
NWAO				IAmb	IAmb	17 51 40.4	
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**40.56**	**327**	*e*P	**P**	**17 51 40.5**	**+0.5**
GTA				pP	sP	17 52 01.8	-0.3
GTA				sP	pP	17 52 12.6	+17
GTA				pmax	pmax		
	comp=Z,1.0nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**40.73**	**69**	T	T	18 35 53.5	
	baz=258,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**40.74**	**69**	T	T	18 35 49.2	
	baz=258,slow=75,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**40.74**	**69**	T	T	18 35 47.9	
	baz=258,slow=75,SNR=9.9						
STKA	**Stephens Creek**	**40.90**	**160**	P	**P**	**17 51 42.5**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=332,slow=8.8,SNR=5.3						
STKA				LR	LR	18 11 45.4	
	comp=Z,17nm,19.6s,baz=24,slow=40						
STKA	**Stephens Creek**	**40.90**	**160**	P	**P**	**17 51 41.4**	**-1.3**
H11N1	**WAKE ISLAND Hy**	**41.17**	**68**	T	T	18 36 21.4	
	baz=265,slow=75,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**41.18**	**68**	T	T	18 36 40.9	
	baz=265,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**41.19**	**68**	T	T	18 36 15.0	
	baz=265,slow=75,SNR=7.0						
ARMA	**Armidale**	**43.98**	**148**	P	**P**	**17 52 08.4**	**+0.5**
SONM	**Songino Array**	**44.51**	**341**	P	**P**	**17 52 12.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=163,slow=5.4,SNR=3.6						
SONM	**Songino Array**	**44.51**	**341**	P	**P**	**17 52 11.6**	**-0.4**
PALK	**Pallekele**	**45.57**	**274**	LR	LR	18 13 03.1	
	comp=Z,25nm,19.2s,baz=116,slow=38						
TOO	**Toolangi**	**47.40**	**160**	P	**P**	**17 52 33.3**	**-1.4**
TOO				IAmb	IAmb	17 52 58.0	
	comp=Z,10.0nm,1.3s						
WMQ	**Urumqi**	**50.29**	**324**	*e*P	**P**	**17 52 57.0**	**+0.1**
MK31	**Makanchi Array**	**55.12**	**324**	P	**P**	**17 53 31.4**	**-1.0**
MK31				IAmb	IAmb	17 53 54.7	
	comp=Z,5.2nm,1.4s						
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**	**17 53 29.9**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.6,SNR=6.4						
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**	**17 53 30.6**	**-1.8**
KSH	**Kashi**	**55.93**	**314**	P	**P**	**17 53 41.4**	**+2.9**
KSH				PP	**PP**	**17 55 48.6**	**+4.8**
KSH				S	**S**	**18 01 22.8**	**+0.7**
KSH				sS	sS	18 01 55.1	+5.7
KSH	**Kashi**	**55.93**	**314**	SS	**SS**	**18 05 09.6**	**+0.8**
KSH				pmax	pmax		
	comp=Z,340nm,4.5s						
KSH				LR	LR		
	comp=N,110nm,8.8s						
KSH				LR	LR		
	comp=E,340nm,11.2s						
KSH				LR	LR		
	comp=Z,250nm,11.5s						
ZALV	**Zalesovo Beam**	**57.95**	**332**	P	**P**	**17 53 51.3**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=116,slow=9.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**57.95**	**332**	P	**P**	**17 53 50.8**	**-1.5**
AAK	**Ala-Archa**	**58.15**	**317**	LR	LR	18 19 43.6	
	comp=Z,24nm,20.5s,baz=106,slow=37						
KURK	**Kurchatov**	**59.24**	**327**	P	**P**	**17 54 00.1**	**-1.2**
KURK				IAmb	IAmb	17 54 22.5	
	comp=Z,3.7nm,1.1s						
KKAR	**Karatay Array**	**61.05**	**316**	P	**P**	**17 54 11.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**121.87**	**290**	PKP	**PKPdf**	**18 02 53.3**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=102,slow=2.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**121.87**	**290**		**PKPdf**	**18 02 53.1**	**-1.7**

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*IDC **15** 17:58:29.3±3.9, 15°.46S×173°.27W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/44, mbtmp4.1/5, ML4.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=197.4km s-min=21.4km az=141.0*
*NEIC **15** 17:58:30.7±2.0, 15°.15S±0°.09×173°.5W±0°.1, h9km±4km, mb4.5/14*
ISC 15 17:58:29.3±0.7, **15°.25S**±0°.08×**173°.24W**±0°.09, **h10**km, **n34**, σ1**971**/25, **mb4.3**/10, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**47**	Pn	**Pn**	**17 59 04.3**	**+1.7**
	181nm,0.3s,baz=199,slow=2.6,SNR=150						
AFI				Sn	**Sn**	**17 59 23.0**	**-4.1**
	72nm,0.3s,baz=208,slow=7.1,SNR=7.5						
AFI				LR	LR	17 59 51.8	
	comp=Z,346nm,19.4s,baz=254,slow=39						
AFI	**Afiamalu**	**1.95**	**47**		**Pn**	**17 59 04.2**	**+1.7**
AFI					**Sn**	**17 59 24.0**	**-3.1**
NIUE	**Niue**	**4.95**	**141**	Pn	Pb	17 59 48.6	-7.6
NIUE				Sn	**Sn**	**18 00 39.5**	**-1.7**
KNTN	**Kanton**	**12.49**	**7**	Pn	**Pn**	**18 01 28.4**	**+1.2**
DZM	**Mont Dzumac**	**20.39**	**248**		**P**	**18 03 04.0**	**-2.6**
DZM				IAmb	IAmb	18 03 10.0	
	comp=Z,35nm,1.4s						
URZ	**Urewera**	**24.45**	**199**	P	**P**	**18 03 50.6**	**+2.2**
URZ				IAmb	IAmb	18 03 55.4	
	comp=Z,30nm,1.4s						
WHZ	**Wether Hill Ro**	**34.39**	**203**	P	P	18 05 20.9	+4.2
H11S2	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	18 46 40.8	
	baz=146,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.92**	**329**	T	T	18 46 38.6	
	baz=146,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**38.93**	**329**	T	T	18 46 45.9	
	baz=146,slow=76,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	18 48 34.8	
	baz=150,slow=76,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	18 48 36.9	
	baz=150,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	18 48 36.1	
	baz=150,slow=76,SNR=2.6						
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**18 06 39.5**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=80,slow=9.2,SNR=3.7						
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**18 06 38.5**	**-0.6**
WR0	**Warramunga Arr**	**49.84**	**257**	P	P	18 07 29.4	+6.3
WR0				IAmb	IAmb	18 07 40.4	
	comp=Z,3.7nm,1.1s						
WB0	**Warramunga Arr**	**49.99**	**257**	P	P	18 07 29.2	+5.0
WB2	**Warramunga Arr**	**50.02**	**257**	P	**P**	**18 07 24.1**	**-0.3**
WRAB	**Tennant Creek**	**50.02**	**257**	P	**P**	**18 07 22.9**	**-1.5**
WRAB				IAmb	IAmb	18 07 42.2	
	comp=Z,3.5nm,1.2s						
WRA	**Warramunga Arr**	**50.03**	**257**	P	**P**	**18 07 24.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=98,slow=6.0,SNR=28						
WRA	**Warramunga Arr**	**50.03**	**257**	P	**P**	**18 07 24.2**	**-0.3**
AS31	**Alice Springs**	**50.30**	**252**	P	**P**	**18 07 27.2**	**+0.6**
ASAR	**Alice Springs**	**50.30**	**252**	P	**P**	**18 07 26.9**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=88,slow=8.2,SNR=91						
ASAR	**Alice Springs**	**50.30**	**252**		**P**	**18 07 26.5**	**-0.1**
MTN	**Manton Dam**	**53.90**	**265**	P	**P**	**18 07 51.9**	**-1.5**
MTN				IAmb	IAmb	18 07 59.2	
	comp=Z,5.6nm,1.1s						
FAKI	**Fak Fak**	**55.05**	**277**	P	**P**	**18 08 01.2**	**-0.6**
FAKI				IAmb	IAmb	18 08 14.2	
	comp=Z,12nm,1.2s						
SOEI	**Soe**	**61.09**	**267**	P	**P**	**18 08 43.5**	**-0.8**
QSPA	**South Pole Qui**	**74.79**	**180**	P	P	18 10 13.6	+3.9
	comp=Z,2.4nm,0.7s,baz=32,slow=4.1,SNR=16						
QSPA	**South Pole Qui**	**74.79**	**180**	P	P	18 10 13.3	+3.6
QSPA				IAmb	IAmb	18 10 14.3	
	comp=Z,3.6nm,0.9s						
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**18 10 52.7**	**+2.1**
	comp=Z,0.6nm,1.0s,baz=216,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**18 10 52.6**	**+2.0**
GERES	**GERESS Array B**	**146.01**	**352**	PKPbc	**PKiKP**	**18 18 12.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=359,slow=3.9,SNR=4.4						
GERES	**GERESS Array B**	**146.01**	**352**		**PKiKP**	**18 18 12.1**	**-0.9**
BRTR	**Keskin Array B**	**146.13**	**321**	PKPbc	**PKiKP**	**18 18 13.4**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=112,slow=2.0,SNR=4.3		

*PRE **15** 18:35:23.3±1.2,28.°03N×26.°72E,h2km,ML3.3*
*ISCJB **15** 18:35:24.1±0.5,28.°06S±0.°03×26.°71E±0.°05,h10km,Error ellipse: s-maj=7.1km s-min=3.8km az=33.7*
*EAF **15** 18:35:27.4±0.9,27.°41S×24.°35E,h0km±26km,MD4.1*
ISC 15 18:35:23.6±0.8,27.99S±0.04×26.74E±0.05,h10km,n21,σ1§78/40,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**1.19**	**28**	*e*P	**Pn**	**18 35 46.8**	**+0.3**
PRYS				*e*S	**Sn**	**18 36 03.9**	**+1.1**
PRYS				AML	AML	18 36 07.8	
comp=Z,715nm,0.3s							
BOSA	**Boshof**	**1.45**	**244**	*i* P	**Pg**	**18 35 53.2**	**+1.8**
BOSA				*i* S	**Sg**	**18 36 12.2**	**+2.0**
BOSA	**Boshof**	**1.45**	**244**	*e*P	**Pb**	**18 35 50.1**	**-0.6**
BOSA				*e*S	**Sg**	**18 36 09.4**	**-0.8**
BOSA				AML	AML	18 36 13.6	
comp=Z,250nm,0.4s							
BOSA	**Boshof**	**1.45**	**244**	*i* P	**Pg**	**18 35 53.2**	**+1.8**
BOSA				*i* S	**Sg**	**18 36 12.2**	**+2.0**
SWZ	**Schweizer**	**1.48**	**302**	*e*P	**Pg**	**18 35 51.6**	**-0.4**
SWZ				*e*S	**Sg**	**18 36 12.2**	**+0.9**
SWZ				AML	AML	18 36 16.1	
comp=Z,578nm,0.3s							
WDLM	**Western Deep L**	**1.67**	**22**	*e*P	**Pb**	**18 35 55.3**	**+0.7**
WDLM				*e*S	**Sb**	**18 36 17.0**	**+1.2**
WDLM				AML	AML	18 36 19.9	
comp=Z,468nm,0.4s							
KLOF	**Kloof**	**1.81**	**26**	*e*P	**Pb**	**18 35 56.9**	**0.0**
KLOF				*e*S	**Sb**	**18 36 20.8**	**+1.2**
KLOF				AML	AML	18 36 24.3	
comp=Z,709nm,0.4s							
ERPM	**east rand prop**	**2.12**	**40**	*e*P	**Pb**	**18 36 02.8**	**+0.6**
ERPM				*e*S	**Sb**	**18 36 29.9**	**+1.3**
ERPM				AML	AML	18 36 42.4	
comp=Z,237nm,0.5s							
KSR	**Koster**	**2.13**	**4**	*e*P	**Pb**	**18 36 01.8**	**-0.6**
KSR				*e*S	**Sb**	**18 36 29.6**	**+0.6**
KSR				AML	AML	18 36 33.1	
comp=Z,230nm,0.2s							
HVD	**Gariep Dam**	**2.83**	**202**	*e*P	**Pn**	**18 36 10.3**	**+1.3**
HVD				*e*S	**Sn**	**18 36 43.4**	**+0.2**
HVD				AML	AML	18 36 58.7	
comp=Z,98nm,0.6s							
LBTB	**Lobatse**	**3.13**	**341**	*e*P	**Pn**	**18 36 14.7**	**+1.6**
LBTB				*e*S	**Sn**	**18 36 53.2**	**+2.6**
LBTB				AML	AML	18 37 09.7	
comp=Z,246nm,0.8s							
MOPA	**Mopani**	**6.12**	**44**	*e*P	**Pn**	**18 36 56.0**	**+1.8**
MOPA				*e*S	**Sn**	**18 38 03.9**	**-0.4**
MOPA				AML	AML	18 38 40.1	
comp=Z,23nm,0.7s							
ARMS	**Ukamas**	**6.18**	**268**	*e*P	**Pn**	**18 36 57.1**	**+2.0**
ARMS				*e*S	**Sn**	**18 38 03.6**	**-2.4**
ARMS				AML	AML	18 38 45.9	
comp=Z,85nm,0.4s							
MSNA	**Messina**	**6.36**	**29**	*i* P	**Pb**	**18 37 11.9**	**-2.5**
MSNA				*i* S	**Sb**	**18 38 29.8**	**-0.7**
MSNA	**Messina**	**6.36**	**29**	*e*P	**Pn**	**18 36 58.5**	**+1.1**
MSNA				*e*S	**Sn**	**18 38 06.9**	**-3.2**
MSNA				AML	AML	18 38 48.6	
comp=Z,30nm,0.6s							
MSNA	**Messina**	**6.36**	**29**	*i* P	**Pb**	**18 37 11.9**	**-2.5**
MSNA				*i* S	**Sb**	**18 38 29.8**	**-0.7**
BUFB	**Buffelsbos**	**6.38**	**195**	*e*P	**Pn**	**18 36 58.4**	**+0.8**
BUFB				*e*S	**Sn**	**18 38 07.3**	**-3.3**
BUFB				AML	AML	18 38 54.5	
comp=Z,26nm,0.5s							
KOMG	**Komaggas**	**8.31**	**255**	*e*P	**Pn**	**18 37 26.0**	**+1.8**
KOMG				*e*S	**Sn**	**18 38 54.7**	**-3.5**
KOMG				AML	AML	18 39 47.0	
comp=Z,40nm,0.4s							
AUSN	**Aus**	**9.41**	**276**	*e*P	**Pn**	**18 37 40.8**	**+1.4**
AUSN				*e*S	**Sn**	**18 39 21.5**	**-4.0**
AUSN				AML	AML	18 39 50.8	
comp=Z,5.2nm,0.3s							
LSZ	**Lusaka**	**12.72**	**6**	*i* P	**Pn**	**18 38 24.4**	**-0.3**
LSZ				*i* S	Sn	18 40 33.8	-13
LSZ	**Lusaka**	**12.72**	**6**	*i* P	**Pn**	**18 38 24.4**	**-0.3**
LSZ				*i* S	Sn	18 40 33.8	-13

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*ISK **15** 18:38:45.4,38.°65N×31.°00E,h7km,ML1.9/6*
*DDA **15** 18:38:45.9,38.°63N×30.°98E,h7km±3km,ML2.5*
*ISCJB **15** 18:38:46.2±0.5,38.°65N±0.°04×31.°01E±0.°04,h12km±4km, Error ellipse: s-maj=6.5km s-min=4.9km az=160.7*
ISC 15 18:38:46.2±0.9,38.°64N±0.°04×31.°00E±0.°03,h15km±7km, n15,σ0§40/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.09**	**335**	*i* P	**Pg**	**18 38 49.8**	**+0.4**
BOLV				*i* S	**Sg**	**18 38 51.3**	**-0.3**
BOLV				IAML_P			
comp=Z,31μm,0.2s							
SHUT	**Suhut-Afyon**	**0.36**	**256**	PG	**Pg**	**18 38 53.3**	**-0.3**
SHUT				SG	**Sg**	**18 38 58.1**	**-0.5**
AFYO	**Afyonkarahisar**	**0.56**	**285**	*i* P	**Pb**	**18 38 57.8**	**-0.1**
AFYO				*i* S	**Sb**	**18 39 05.9**	**+0.1**
BAGO	**Egridir - ISPA**	**0.67**	**194**	*i* P	**Pb**	**18 38 59.6**	**0.0**
BAGO				*i* S	**Sb**	**18 39 09.4**	**+0.6**
BAGO				IAML_P			
comp=Z,1μm,0.2s							
CIFT	**Cifteler, Eski**	**0.72**	**4**	*i* P	**Pb**	**18 39 00.2**	**-0.3**
CIFT				IAML_P			
comp=Z,766nm,0.2s							
CIFT	**Cifteler, Eski**	**0.72**	**4**	PG	**Pg**	**18 38 59.8**	**-0.5**
KIZT	**Kizilcal**	**0.73**	**71**	PG	**Pg**	**18 39 00.2**	**-0.2**
KIZT				SG	**Sg**	**18 39 10.1**	**0.0**
DOGA	**KONYA_Doganhis**	**0.75**	**135**	*i* P	**Pb**	**18 39 00.8**	**-0.3**
DOGA				IAML_P			
comp=Z,1μm,0.1s							
KZIL	**AFYON_Kizioren**	**0.77**	**241**	*i* P	**Pg**	**18 39 00.9**	**-0.3**
KHAL	**Karahalli**	**1.21**	**258**	*i* P	**Pn**	**18 39 09.0**	**+0.3**
KHAL				IAML_P			
comp=Z,270nm,0.2s							
KONT	**Konya--Tatoy**	**1.28**	**122**	PN	**Pg**	**18 39 10.5**	**-0.3**
BORA	**Eskisehir**	**1.31**	**341**	*i* P	**Pn**	**18 39 10.2**	**+0.2**
BORA				IAML_P			
comp=Z,411nm,0.1s							
BORA	**Eskisehir**	**1.31**	**341**	PN	**Pn**	**18 39 10.5**	**+0.5**
SRCK	**Saricakaya, Es**	**1.43**	**349**	PN	**Pn**	**18 39 12.2**	**+0.6**
TVSB	**Tavsanli**	**1.44**	**305**	PN	**Pn**	**18 39 12.2**	**+0.3**

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*ISCJB **15** 18:50:42.5±0.2,31.°60N±0.°02×51.°09E±0.°03,h10km, mb3.9/18,MS2.9/3,Error ellipse: s-maj=4.1km s-min=3.2km az=139.0*
*IDC **15** 18:50:42.5±0.8,31.°59N×51.°01E,h0km,mb3.8/14, mb1 3.9/21,mb1mx3.7/71,mbtmp3.8/21,ML3.7/7,MS2.8/7, Ms1 2.8/7,ms1mx2.6/45,Error ellipse: s-maj=18.5km s-min=15.4km az=153.0*
*TEH **15** 18:50:43.6,31.°77N×51.°10E,h10km,ML3.8*
*NEIC **15** 18:50:43.7±2.6,31.°70N±0.°05×51.°11E±0.°06,h7km±2km, mb4.2/23,mb_Lg3.7(TEH)*
*THR **15** 18:50:47.9,31.°86N×51.°20E,h14km,ML3.7*
*DSN **15** 18:50:49.8±1.1,31.°36N×51.°43E,h10km,ML4.3/4,Error ellipse: s-maj=47.5km s-min=9.2km az=51.0*
ISC 15 18:50:43.4±0.4,31.°69N±0.°03×51.°10E±0.°03,h10km,n139, σ1§94/138,mb4.0/27,MS2.9/3,8C,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNGN	**Zangian**	**0.47**	**334**	*e*Pg	**Pg**	**18 50 52.0**	**-0.7**
ZNGN				*e*Sg	**Sb**	**18 50 58.8**	**-2.4**
ZNGN				IAMB	IAmb	18 51 03.1	
comp=Z,0.0nm,0.4s							
JHBN	**Jahan bin**	**0.65**	**325**	*e*Pg	**Pg**	**18 50 55.2**	**-0.9**
JHBN				IAMB	IAmb	18 51 17.5	
comp=Z,0.0nm,0.4s							
ROKH	**ROKH**	**0.65**	**355**	*e*Pg	**Pg**	**18 50 55.0**	**-1.1**
ROKH				*e*Sg	**Sb**	**18 51 05.7**	**-0.6**
ROKH				IAMB	IAmb	18 51 10.2	
comp=Z,0.0nm,0.4s							
IPIR	**Pirpir**	**1.00**	**350**	*e*Pg	**Pb**	**18 51 02.1**	**-1.0**
IPIR				IAMB	IAmb	18 51 26.7	
comp=Z,23μm,0.5s							
IPIR	**Pirpir**	**1.00**	**350**	Pg	**Pb**	**18 51 01.9**	**-1.2**
IGAR	**Gharneh**	**1.07**	**48**	IAMB	IAmb	18 51 18.4	
comp=Z,45μm,0.6s							
IGAR				*e*Pg	**Pg**	**18 51 02.5**	**-1.5**
IRAM	**Ramesheh**	**1.10**	**84**	*e*Pg	**Pg**	**18 51 02.2**	**-2.3**
IRAM				IAMB	IAmb	18 51 23.4	
comp=Z,14μm,0.4s							
IRAM	**Ramesheh**	**1.10**	**84**	Pg	**Pg**	**18 51 02.2**	**-2.3**
IZEF	**Zefreh**	**1.59**	**41**	*e*Pn	**Pn**	**18 51 11.1**	**-0.8**
IZEF				IAMB	IAmb	18 51 16.0	
comp=Z,8μm,0.4s							
IZEF	**Zefreh**	**1.59**	**41**	Pn	**Pn**	**18 51 11.3**	**-0.6**
IKLH	**Kolahrood**	**1.67**	**14**	*e*Pn	**Pb**	**18 51 13.3**	**-1.1**
IKLH				IAMB	IAmb	18 51 20.5	
comp=Z,11μm,0.3s							
IKLH	**Kolahrood**	**1.67**	**14**	Pn	**Pb**	**18 51 13.0**	**-1.4**
IKAZ	**Kazeroun**	**2.01**	**161**	*e*Pn	**Pb**	**18 51 21.2**	**+0.9**
IKAZ				IAMB	IAmb	18 51 59.0	
comp=Z,10μm,0.6s							
IKAZ	**Kazeroun**	**2.01**	**161**	Pn	**Pn**	**18 51 19.7**	**+1.9**
QAM	**Ghamsar**	**2.08**	**8**	*e*Pn	**Pb**	**18 51 20.8**	**-0.6**
QAM				IAMB	IAmb	18 51 56.7	
comp=Z,4μm,0.5s							
ISAD	**Sadrabad**	**2.21**	**84**	*e*Pn	**Pb**	**18 51 22.7**	**-1.0**
ISAD				IAMB	IAmb	18 52 03.1	
comp=Z,5μm,0.7s							
KHMZ	**Khomeyn**	**2.25**	**335**	*e*Pg	**Pg**	**18 51 26.7**	**0.0**
KHMZ	**Khomeyn**	**2.25**	**335**	*e*AML	AML	18 52 01.6	
comp=N,409nm,0.6s							
KHMZ				*e*AML	AML	18 52 01.0	
comp=E,577nm,0.6s							
KHMZ	**Khomeyn**	**2.25**	**335**	*e*Sg	**Sg**	**18 51 55.6**	**-0.3**
KHMZ	**Khomeyn**	**2.25**	**335**	*e*Pg	**Pg**	**18 51 26.7**	**0.0**
SHI	**Shiraz**	**2.38**	**149**	*e*Pn	**Pn**	**18 51 25.1**	**+2.4**
SHI				IAMB	IAmb	18 52 15.7	
comp=Z,3μm,0.9s							
KRSH	**Karshahi**	**2.43**	**21**	*e*Pn	**Pb**	**18 51 26.6**	**-0.8**
ANAR	**Anarak**	**2.67**	**55**	*e*Pn	**Pb**	**18 51 29.8**	**-1.7**
ANAR				IAMB	IAmb	18 51 37.4	
comp=Z,0.0nm,0.5s							
GHVR	**GHOM**	**2.78**	**3**	*e*Pn	**Pb**	**18 51 31.9**	**-1.4**
GHVR	**GHOM**	**2.78**	**3**	*e*Pn	**Pb**	**18 51 31.9**	**-1.4**
ISFB	**Sefidab**	**2.82**	**20**	*e*Pn	**Pb**	**18 51 31.3**	**-2.6**
ICHK	**Chekchek**	**2.86**	**78**	*e*Pn	**Pb**	**18 51 32.4**	**-2.4**
ICHK				IAMB	IAmb	18 52 17.7	
comp=Z,3μm,0.6s							
IKMR	**Kamar-syah**	**2.93**	**309**	*e*Pn	**Pb**	**18 51 32.7**	**-3.0**
IKMR				IAMB	IAmb	18 52 30.3	
comp=Z,0.0nm,0.5s							
IMEH	**Mehriz**	**3.01**	**95**	*e*Pn	**Pb**	**18 51 34.8**	**-2.5**
IMEH				IAMB	IAmb	18 52 34.9	
comp=Z,2μm,0.6s							
YZKH	**Yazd**	**3.04**	**76**	*e*Pn	**Pb**	**18 51 36.4**	**-1.4**
YZKH	**Yazd**	**3.04**	**76**	*e*Pn	**Pb**	**18 51 36.4**	**-1.4**
YZKH	**Yazd**	**3.04**	**76**	*e*Sg	**Sg**	**18 52 19.4**	**-1.8**
IQOM	**Qom**	**3.14**	**360**	*e*Pn	**Pb**	**18 51 36.2**	**-3.3**
IQOM				IAMB	IAmb	18 51 49.9	
comp=Z,0.0nm,0.5s							
IDOB	**Doab**	**3.23**	**311**	*e*Pn	**Pn**	**18 51 36.3**	**+1.9**
HSAM	**Samen**	**3.27**	**321**	*e*Pn	**Pn**	**18 51 37.6**	**+2.5**
HSAM				IAMB	IAmb	18 52 48.1	
comp=Z,0.0nm,0.9s							
IKFM	**Kafar-mosalman**	**3.30**	**304**	*e*Pn	**Pn**	**18 51 37.4**	**+2.3**
IKFM	**Kafar-mosalman**	**3.30**	**304**	Pn	**Pn**	**18 51 37.2**	**+2.1**
IVRN	**Varamin**	**3.33**	**9**	*e*Pn	**Pb**	**18 51 38.5**	**-4.2**
IVRN				IAMB	IAmb	18 52 07.0	
comp=Z,0.0nm,0.7s							
HAGD	**Aghdareh**	**3.53**	**333**	*e*Pn	**Pn**	**18 51 41.0**	**+2.5**
HAGD				IAMB	IAmb	18 52 42.0	
comp=Z,0.0nm,0.6s							
IHSB	**Hasanabad**	**3.74**	**2**	*e*Pn	**Pn**	**18 51 44.0**	**+2.7**
IHSB				IAMB	IAmb	18 52 53.8	
comp=Z,0.0nm,0.9s							
IBAF	**Bafgh**	**3.81**	**90**	*e*Pn	**Pn**	**18 51 45.8**	**+3.5**
IBAF				IAMB	IAmb	18 51 59.0	
comp=Z,2μm,0.8s							
IRAZ	**Razeghan**	**3.83**	**345**	*e*Pn	**Pn**	**18 51 45.4**	**+2.8**
IKOM	**Komasi**	**3.90**	**310**	*e*Pn	**Pn**	**18 51 45.8**	**+2.2**
IKOM				IAMB	IAmb	18 53 13.3	
comp=Z,0.0nm,0.9s							
ILAS	**Lasjerd**	**3.99**	**22**	IAMB	IAmb	18 53 05.4	
comp=Z,968nm,0.7s							
IMHD	**Mahdasht**	**4.00**	**355**	*e*Pn	**Pn**	**18 51 47.9**	**+3.0**
IMHD				IAMB	IAmb	18 52 06.2	
comp=Z,994nm,0.4s							
QABG	**Abgarm-Qazvin**	**4.20**	**343**	*e*Pn	**Pn**	**18 51 50.6**	**+2.8**
HSRG	**Sareghieh**	**4.25**	**327**	*e*Pn	**Pn**	**18 51 51.1**	**+2.6**
HSRG				IAMB	IAmb	18 53 08.9	
comp=Z,0.0nm,0.9s							
KCHF	**Cheshme Sefid,**	**4.27**	**308**	*e*Pn	**Pn**	**18 51 51.2**	**+2.5**
KER	**Kermanshah**	**4.28**	**310**	*e*Pn	**Pn**	**18 51 50.8**	**+2.0**
ISHM	**Shahmirzad**	**4.49**	**23**	*e*Pn	**Pn**	**18 51 54.1**	**+2.3**
IGHG	**Ghaleghazi**	**4.63**	**306**	*e*Pn	**Pn**	**18 51 54.7**	**+1.1**
IGHG				IAMB	IAmb	18 53 43.1	
comp=Z,2μm,0.8s							
IGZV	**Ghazvin**	**4.74**	**351**	*e*Pn	**Pn**	**18 51 56.5**	**+1.4**
QALM	**Alamut, Qazvin**	**4.74**	**356**	*e*Pn	**Pn**	**18 51 58.1**	**+2.9**
IDHR	**Dehrash**	**4.96**	**308**	*e*Pn	**Pn**	**18 51 59.7**	**+1.5**
IGLO	**Ghaloghah**	**5.30**	**25**	*e*Pn	**Pn**	**18 52 04.5**	**+1.6**
SHME	**Shamm**	**7.15**	**141**	P	**Pn**	**18 52 29.1**	**+0.9**
IHRS	**Heris**	**7.40**	**334**	*e*Pn	**Pn**	**18 52 32.8**	**+1.1**
MSFE	**Esma-Masafi**	**7.72**	**144**	*i* P	**Pn**	**18 52 36.2**	**+0.2**
SNR=5.8							
MSFE				S	**Sn**	**18 54 00.7**	**-2.8**
NAZ	**Nazwa, Dubai**	**7.79**	**148**	*i* P	**Pn**	**18 52 38.2**	**+1.3**
SNR=8.8							
ASUD	**Al Ashush, Dub**	**7.97**	**151**	*i* P	**Pn**	**18 52 40.5**	**+1.2**
SNR=19							
UOSS	**Minazif**	**8.09**	**145**	*i* P	**Pn**	**18 52 40.7**	**-0.2**
SNR=7.7							
UOSS	**Minazif**	**8.09**	**145**		**Pn**	**18 52 40.9**	**-0.1**
UOSS					**Sn**	**18 54 08.3**	**-4.2**
GEYT	**Alibeck**	**8.48**	**41**	Pn	**Pn**	**18 52 50.1**	**+3.7**
comp=Z,0.5nm,0.3s,baz=230,slow=12,SNR=7.8							
GEYT				Lg	Lg	18 55 22.8	
baz=225,slow=26,SNR=1.6							
GEYT				LR	LR	18 55 40.4	
comp=Z,76nm,18.3s,baz=350,slow=35							
GEYT	**Alibeck**	**8.48**	**41**		**Pn**	**18 52 45.5**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**8.48**	**41**		**Pn**	**18 52 49.0**	**+2.6**
ALNE	**Al Ain**	**8.65**	**150**	*i* P	**Pn**	**18 52 49.2**	**+0.5**
SNR=9.6							
RAYN	**Ar Rayn**	**9.53**	**213**		**Pn**	**18 53 00.4**	**-0.4**
HRA	**Herat**	**9.73**	**71**	Pn	**Pn**	**18 53 05.9**	**+2.2**
GNI	**Garni**	**9.88**	**330**	LR	LR	18 56 26.9	
comp=Z,19nm,21.5s,baz=154,slow=35							
WSAR	**Wadi Sarin**	**10.75**	**140**	Pn	**Pn**	**18 53 16.5**	**-1.0**
comp=Z,0.8nm,0.3s,baz=345,slow=14,SNR=10							
WSAR				Sn	Sn	18 55 10.3	-7.6
comp=Z,0.2nm,0.3s,baz=134,slow=6.6,SNR=2.5							
ASF	**Jabal al Asfar**	**12.08**	**276**	Pn	**Pn**	**18 53 34.8**	**-0.9**
comp=Z,0.8nm,0.3s,baz=43,slow=13,SNR=7.0							
ASF				Sn	**Sn**	**18 55 42.3**	**-8.2**
comp=Z,0.2nm,0.3s,baz=235,slow=15,SNR=2.0							
ASF				Lg	Lg	18 57 21.5	
comp=Z,0.2nm,0.3s,baz=98,slow=21,SNR=1.4							
MMAI	**Mount Meron Ar**	**13.34**	**280**	Pn	**Pn**	**18 53 52.8**	**-0.1**
comp=Z,0.7nm,0.3s,baz=86,slow=12,SNR=4.6							
MMAI				LR	LR	18 59 24.4	
comp=Z,26nm,20.6s,baz=205,slow=39							
KBZ	**Khabaz**	**13.65**	**334**	LR	LR	18 59 43.4	
comp=Z,81nm,19.9s,baz=185,slow=40							
EIL	**Elat**	**14.05**	**266**	Pn	**Pn**	**18 54 02.8**	**+0.2**
comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=2.7							
BR131	**Keskin Array S**	**16.27**	**304**	Pn	**P**	**18 54 34.0**	**-1.2**
BRTR	**Keskin Array B**	**16.27**	**304**	Pn	**P**	**18 54 34.2**	**-1.1**
comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=9.7							
BRTR	**Keskin Array B**	**16.27**	**304**		**P**	**18 54 35.3**	**0.0**
ELL	**Elmali**	**18.23**	**292**	P	**P**	**18 54 56.9**	**0.0**
ELL				IAmb	IAmb	18 55 07.3	
comp=Z,54nm,1.2s							
NIL	**Nilore**	**18.75**	**78**	P	**Pn**	**18 55 03.8**	**+0.9**
ABKAR	**Akbulak array**	**18.76**	**18**	P	**Pn**	**18 55 03.4**	**+0.4**
ABKAR	**Akbulak array**	**18.76**	**18**	P	**Pn**	**18 55 03.3**	**+0.4**
KK31	**Karatay Array**	**19.12**	**48**	P	**Pn**	**18 55 06.9**	**-0.5**
KKAR	**Karatay Array**	**19.12**	**48**	P	**Pn**	**18 55 08.5**	**+1.1**
KKAR	**Karatay Array**	**19.12**	**48**	P	**Pn**	**18 55 07.3**	**-0.1**
KKAR				IAmb	IAmb	18 55 15.4	
comp=Z,3.3nm,1.2s							
AKTO	**Aktyubinsk**	**19.42**	**13**	P	**Pn**	**18 55 12.5**	**+1.6**
comp=Z,0.2nm,0.3s,baz=157,slow=12,SNR=6.1							
AAK	**Ala-Archa**	**21.54**	**53**	P	**P**	**18 55 33.6**	**+0.6**
AAK				IAmb	IAmb	18 55 52.8	
comp=Z,6.1nm,1.4s							
NRN	**Naryn**	**22.17**	**57**	P	**P**	**18 55 44.0**	**+4.1**
NRN				IAmb	IAmb	18 55 51.3	
comp=Z,2.8nm,0.8s							
SORM	**Soroca**	**23.82**	**320**	⇑P	**P**	**18 55 56.5**	**0.0**
MLR	**Muntele Rosu**	**23.89**	**312**	P	**P**	**18 55 59.9**	**+2.6**
comp=Z,1.5nm,0.6s,baz=49,slow=9.3,SNR=2.1							
MLR	**Muntele Rosu**	**23.89**	**312**	⇑P	**P**	**18 55 59.1**	**+1.9**
MLR	**Muntele Rosu**	**23.89**	**312**	P	**P**	**18 56 00.4**	**+3.1**
MLR				IAmb	IAmb	18 56 07.6	
comp=Z,10nm,1.0s							
TESR	**Tescani**	**23.93**	**315**	⇑P	**P**	**18 55 58.7**	**+1.1**
VOIR		**24.43**	**312**	⇑P	**P**	**18 56 04.5**	**+2.3**
DOPR	**Dopca**	**24.45**	**313**	⇑P	**P**	**18 56 04.2**	**+1.8**
AGG	**Agios Georgios**	**24.51**	**295**	P	**P**	**18 56 04.3**	**+1.3**
ITM	**Ithomi**	**24.62**	**291**	P	**P**	**18 56 04.8**	**+0.8**
ITM				IAmb	IAmb	18 56 38.9	
comp=Z,17nm,1.1s							
ARR	**Arges**	**24.67**	**311**	⇑P	**P**	**18 56 06.4**	**+2.0**
AKASG	**Malin Array Be**	**24.97**	**326**	P	**P**	**18 56 07.0**	**+0.1**
comp=Z,0.6nm,0.3s,baz=122,slow=7.9,SNR=9.0							
AKASG				LR	LR	19 08 37.0	
comp=Z,36nm,20.0s,baz=325,slow=43							
AKASG	**Malin Array Be**	**24.97**	**326**	P	**P**	**18 56 07.9**	**+0.9**
AKBB	**Malin Array Si**	**24.97**	**326**	P	**P**	**18 56 07.2**	**+0.2**
AKBB				IAmb	IAmb	18 56 17.5	
comp=Z,4.3nm,0.8s							
ARU	**Arti**	**25.27**	**10**	LR	LR	19 07 23.1	
comp=Z,30nm,21.6s,baz=250,slow=39							
BURAR	**Bucovina Array**	**25.33**	**316**	⇑P	**P**	**18 56 12.3**	**+1.9**
BURAR	**Bucovina Array**	**25.33**	**316**	P	**P**	**18 56 12.2**	**+1.9**
BUR08	**Bucovina Ar. S**	**25.35**	**316**	P	**P**	**18 56 12.6**	**+2.0**
BUR08				IAmb	IAmb	18 56 23.1	
comp=Z,13nm,1.3s							
BVAR	**Borovoye Array**	**25.49**	**28**	P	**P**	**18 56 13.1**	**+1.4**
comp=Z,1.0nm,0.6s,baz=213,slow=11,SNR=6.4							
GZR	**Gura Zlata**	**25.88**	**310**	⇑P	**P**	**18 56 17.3**	**+1.9**
KURBB	**Kurchatov Arra**	**27.75**	**39**	P	**P**	**18 56 33.6**	**+1.5**
comp=Z,0.7nm,0.7s,baz=242,slow=9.3,SNR=5.9							
KURK	**Kurchatov**	**27.85**	**39**	P	**P**	**18 56 33.2**	**+0.3**
KURK				IAmb	IAmb	18 56 39.4	
comp=Z,2.7nm,1.1s							
MK31	**Makanchi Array**	**28.25**	**49**	P	**P**	**18 56 38.3**	**+1.7**
MK31				IAmb	IAmb	18 57 07.9	
comp=Z,1.8nm,1.0s							
MKAR	**Makanchi Array**	**28.25**	**49**	P	**P**	**18 56 39.0**	**+2.3**
comp=Z,0.2nm,0.4s,baz=247,slow=8.2,SNR=5.7							
MKAR	**Makanchi Array**	**28.25**	**49**	P	**P**	**18 56 38.6**	**+1.9**
VYHS	**Vyhne**	**29.56**	**314**	*e*P	**P**	**18 56 51.0**	**+2.8**
WMQ	**Urumqi**	**31.11**	**57**	*e*P	**P**	**18 57 05.3**	**+3.2**
WMQ				LR	LR		
comp=N,170nm,4.5s							
WMQ				LR	LR		
comp=E,98nm,5.5s							
WMQ				LR	LR		
comp=Z,180nm,6.1s							
ZALV	**Zalesovo Beam**	**32.77**	**37**	P	**P**	**18 57 18.4**	**+2.0**
comp=Z,0.6nm,0.3s,baz=240,slow=10,SNR=5.0							
ZALV	**Zalesovo Beam**	**32.77**	**37**	P	**P**	**18 57 17.5**	**+1.0**
GERES	**GERESS Array B**	**32.88**	**312**	P	**P**	**18 57 18.9**	**+1.3**
comp=Z,0.3nm,0.4s,baz=122,slow=7.1,SNR=3.1							
GERES	**GERESS Array B**	**32.88**	**312**	P	**P**	**18 57 16.5**	**-1.0**
FINES	**FINESS Array B**	**33.94**	**339**	P	**P**	**18 57 26.0**	**-0.5**
comp=Z,1.8nm,0.6s,baz=158,slow=7.8,SNR=5.4							
FINES	**FINESS Array B**	**33.94**	**339**	P	**P**	**18 57 27.0**	**+0.5**
BNI	**Bardonecchia**	**36.84**	**304**	P	**P**	**18 57 50.9**	**-1.0**
BNI				IAmb	IAmb	18 57 54.2	
comp=Z,22nm,1.5s							
NC405	**NORSAR Array S**	**39.02**	**331**	P	**P**	**18 58 10.5**	**+0.6**
NB201	**NORSAR Array S**	**39.16**	**330**	P	**P**	**18 58 12.1**	**+0.9**
NOA	**NORSAR Array B**	**39.19**	**330**	P	**P**	**18 58 12.2**	**+0.8**
comp=Z,0.5nm,0.6s,baz=122,slow=8.3,SNR=3.4							
GTA	**Gaotai**	**39.97**	**65**	*e*P	**P**	**18 58 21.4**	**+3.1**
GTA				pP	sP	18 58 29.3	+5.5
GTA				sP	pP	18 58 33.6	+11
GTA				pmax	pmax		
comp=Z,1.0nm,1.0s							
ARCES	**ARCESS Array B**	**40.55**	**346**	P	**P**	**18 58 23.1**	**+0.6**
comp=Z,4.3nm,1.0s,baz=151,slow=

Ms1 3.3/4,ms1mx2.8/41,Error ellipse: s-maj=32.7km s-min=19.7km az=17.0
NEIC ***15*** *18:55:05.8±1.7,53.°83N±0.°04×163.°51W±0.°07,h9km±5km, mb4.0/11,ML3.5(AEIC)*
AEIC ***15*** *18:55:06±3.0,53.°76N±0.°06×163.°36W±0.°08,h30km±6km*
ISC 15 18:55:06.0±2.0,53.°83N±0.°08×163.°43W±0.°04, h10km±11km,n104,σ1$40/104,mb4.1/15,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.93**	**314**		**Pb**	**18 55 24.4**	**+0.1**
WESP	**Westdahl Peak**	**1.01**	**311**		**Pb**	**18 55 25.5**	**0.0**
WESP					**Sn**	**18 55 40.4**	**-0.1**
FALS	**False Pass**	**1.02**	**0**		**Pg**	**18 55 25.4**	**-0.3**
FALS	**False Pass**	**1.02**	**0**		**Sg**	**18 55 38.4**	**-0.6**
SSBA	**Shishaldin**	**1.02**	**337**		**Pg**	**18 55 25.6**	**-0.1**
SSBA					**Sb**	**18 55 40.6**	**+1.2**
WEBT	**Westdahl Beart**	**1.09**	**315**		**Pb**	**18 55 26.7**	**-0.2**
AKSA	**Akutan Strait**	**1.37**	**284**		**Pn**	**18 55 30.0**	**-1.2**
AKSA					**Sb**	**18 55 48.1**	**-1.2**
AKSA	**Akutan Strait**	**1.37**	**284**		**Pn**	**18 55 29.9**	**-1.2**
AKSA					**Sn**	**18 55 48.6**	**-0.8**
AKUT	**Akutan**	**1.42**	**283**		**Pn**	**18 55 30.8**	**-1.0**
AKBBA	**Akutan Broad B**	**1.50**	**281**		**Pn**	**18 55 32.1**	**-0.8**
AKBBA					**Sn**	**18 55 51.7**	**-0.9**
AKLV	**Akutan Long Va**	**1.53**	**283**		**Pn**	**18 55 32.5**	**-0.8**
ZRO	**Akutan Zero**	**1.53**	**281**		**Pn**	**18 55 32.6**	**-0.7**
AKMO	**Akutan Morgan**	**1.55**	**281**		**Pn**	**18 55 32.8**	**-0.8**
AKGG	**Akutan Green G**	**1.56**	**285**		**Pn**	**18 55 33.1**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.59**	**282**		**Pn**	**18 55 33.5**	**-0.6**
UNV	**Unalaska Valle**	**1.82**	**272**		**Pn**	**18 55 35.9**	**-1.5**
MTBL	**Makushin Table**	**1.93**	**275**		**Pn**	**18 55 38.4**	**-0.4**
MREP	**Makushin Rep't**	**1.97**	**271**		**Pn**	**18 55 38.6**	**-0.8**
MSW	**Makushin Switc**	**1.99**	**274**		**Pn**	**18 55 38.8**	**-0.8**
MSW					**Sb**	**18 56 06.1**	**-0.9**
MCIR	**Makushin Cirqu**	**2.05**	**275**		**Pn**	**18 55 40.5**	**-0.1**
SDPT	**Sand Point**	**2.29**	**47**		**Pn**	**18 55 43.8**	**0.0**
CNBA	**Chernabura Isl**	**2.46**	**65**		**Pn**	**18 55 46.5**	**+0.5**
OKID	**Okmok Mt. Idak**	**2.64**	**264**		**Pn**	**18 55 47.5**	**-1.0**
NIKH	**Nikolski High**	**3.36**	**257**	Pn	**Pn**	**18 55 58.1**	**-0.4**
CHGN	**Chignik**	**3.80**	**47**		**Pn**	**18 56 06.2**	**+1.8**
CHIR	**Chirikof Islan**	**4.93**	**63**	Pn	**Pn**	**18 56 20.6**	**+0.5**
SII	**Sitkinak Islan**	**5.96**	**59**	Pn	**Pn**	**18 56 34.2**	**+0.1**
OHAK	**Old Harbor**	**6.68**	**55**	Pn	**Pn**	**18 56 43.9**	**-0.1**
KDAK	**Kodiak Island**	**7.28**	**53**	Pn	**Pn**	**18 56 51.7**	**-0.5**
	0.5nm,0.3s,baz=231,slow=11,SNR=4.6						
KDAK				Sn	**Sn**	**18 58 09.3**	**-5.5**
	baz=254,slow=8.5,SNR=2.3						
KDAK				LR	LR	18 59 53.7	
	comp=Z,89nm,20.6s,baz=236,slow=39						
GSTR	**Great Sitkin T**	**7.83**	**262**	Pn	**Pn**	**18 56 59.3**	**-0.5**
ADK	**Adak**	**8.26**	**262**	Pn	**Pn**	**18 57 04.8**	**-0.9**
SVW2	**Sparrevohn**	**8.41**	**27**	Pn	**Pn**	**18 57 09.2**	**+1.3**
CNPM	**China Poot**	**8.80**	**45**	Pn	**Pn**	**18 57 14.8**	**+1.7**
RSO	**Redoubt South**	**8.81**	**37**	Pn	**Pn**	**18 57 16.9**	**+3.4**
BRLK	**Bradley Lake**	**9.08**	**44**	Pn	**Pn**	**18 57 18.4**	**+1.3**
TTA	**Tatalina**	**9.91**	**20**	Pn	**Pn**	**18 57 30.1**	**+1.7**
SUA	**Susitna One**	**10.21**	**36**	Pn	**Pn**	**18 57 33.6**	**+1.0**
SKT	**Skwentna**	**10.31**	**33**	Pn	**Pn**	**18 57 35.5**	**+1.7**
RC01	**Rabbit Creek A**	**10.34**	**40**	Pn	**Pn**	**18 57 34.7**	**+0.5**
PPLA	**Purkeypile**	**10.81**	**28**	Pn	**Pn**	**18 57 44.0**	**+3.2**
KNK	**Knik Glacier**	**11.03**	**41**	Pn	**Pn**	**18 57 46.5**	**+2.9**
GHO	**Glory Hole Cre**	**11.07**	**38**	Pn	**Pn**	**18 57 45.0**	**+0.7**
GLI	**Glacier Island**	**11.27**	**45**	Pn	**Pn**	**18 57 49.4**	**+2.5**
HIN	**Hinchinbrook I**	**11.29**	**48**	Pn	**Pn**	**18 57 47.1**	**0.0**
FID	**Port Fidalgo**	**11.47**	**46**	Pn	**Pn**	**18 57 49.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**11.69**	**48**	Pn	**Pn**	**18 57 51.6**	**-0.9**
SCM	**Sheep Creek Mo**	**11.71**	**40**	Pn	**Pn**	**18 57 52.6**	**-0.4**
TRF	**Thorofare Moun**	**11.79**	**30**	Pn	**Pn**	**18 57 56.5**	**+2.3**
RND	**Reindeer**	**12.20**	**32**	Pn	**Pn**	**18 58 00.5**	**+0.8**
DHY	**Denali Highway**	**12.47**	**36**	Pn	**Pn**	**18 58 03.6**	**+0.2**
GLB	**Gilahina Butte**	**12.94**	**46**	Pn	**Pn**	**18 58 10.3**	**+0.6**
CRQM	**Cirque**	**12.94**	**50**	Pn	**Pn**	**18 58 09.1**	**-0.8**
VRDI	**Verde Repeater**	**13.00**	**47**	Pn	**Pn**	**18 58 10.6**	**0.0**
IMAR	**Indian Mountai**	**13.09**	**18**		**Pn**	**18 58 13.2**	**+1.4**
WRH	**Wood River Hil**	**13.21**	**30**	Pn	**Pn**	**18 58 14.7**	**+1.4**
MCARA	**McCarthy VSAT**	**13.25**	**47**	Pn	**Pn**	**18 58 14.0**	**+0.1**
BALM	**Baldy**	**13.40**	**49**	Pn	**Pn**	**18 58 14.2**	**-1.9**
HDA	**Harding Lake**	**13.51**	**32**	Pn	**Pn**	**18 58 15.7**	**-1.7**
BARN	**Barnard Glacie**	**13.72**	**49**	Pn	**Pn**	**18 58 22.8**	**+2.2**
MENT	**Mentasta**	**13.72**	**41**	Pn	**Pn**	**18 58 21.9**	**+1.5**
IL31		**13.78**	**31**	Pn	**Pn**	**18 58 21.1**	**0.0**
ILAR	**Eielson Array**	**13.78**	**31**	Pn	**Pn**	**18 58 20.6**	**-0.5**
	0.0nm,0.3s,baz=225,slow=14,SNR=3.3						
ILAR				LR	LR	19 03 56.0	
	comp=Z,59nm,21.3s,baz=322,slow=38						
ILAR	**Eielson Array**	**13.78**	**31**	Pn	**Pn**	**18 58 22.1**	**+1.0**
CTGM	**Chitina Glacie**	**13.84**	**50**	Pn	**Pn**	**18 58 21.2**	**-0.8**
DOT	**Dot Lake**	**14.00**	**38**	Pn	**Pn**	**18 58 24.7**	**+0.6**
BCPM	**Bancas Point**	**14.32**	**55**	Pn	**Pn**	**18 58 28.0**	**-0.5**
BCAR	**Beaver Creek A**	**14.55**	**42**	Pn	**Pn**	**18 58 30.6**	**-1.1**
COLD	**Coldfoot**	**14.87**	**20**	Pn	**Pn**	**18 58 36.5**	**+0.4**
HYT	**Haines Junctio**	**15.57**	**53**	Pn	**Pn**	**18 58 45.2**	**-0.2**
HYT				IAmb	IAmb	18 58 57.8	
	comp=Z,24nm,1.6s						
EGAK	**Eagle**	**15.69**	**37**	Pn	**Pn**	**18 58 47.4**	**+0.6**
DAWY	**Dawson**	**15.97**	**41**		**Pn**	**18 58 49.6**	**-0.9**
DAWY				IAmb	IAmb	18 59 04.1	
	comp=Z,13nm,1.6s						
TOLK	**Toolik Lake Re**	**16.21**	**18**	Pn	**Pn**	**18 58 54.2**	**+0.6**
TOLK				IAmb	IAmb	18 59 04.4	
	comp=Z,16nm,1.6s						
BMAR	**Burnt Mountain**	**16.36**	**26**	Pn	**Pn**	**18 58 55.0**	**-0.4**
WHY	**Whitehorse**	**16.79**	**55**		**P**	**18 59 02.9**	**-0.3**
WHY				IAmb	IAmb	18 59 14.7	
	comp=Z,6.0nm,0.8s						
INK	**Inuvik**	**20.16**	**33**	P	**P**	**18 59 41.6**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=214,slow=7.3,SNR=3.2						
INK				LR	LR	19 08 47.2	
	comp=Z,58nm,18.3s,baz=30,slow=40						
INK	**Inuvik**	**20.16**	**33**	P	**P**	**18 59 38.1**	**-1.9**
PETK	**Petropavlovsk-**	**22.96**	**284**	P	**P**	**19 00 11.3**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=76,slow=15,SNR=2.8						
SEY	**Seymchan**	**24.41**	**310**	LR	LR	19 09 10.5	
	comp=Z,382nm,19.2s,baz=331,slow=35						
YKA	**Yellowknife Ar**	**26.55**	**51**	P	**P**	**19 00 46.7**	**+3.2**
	comp=Z,1.1nm,0.6s,baz=269,slow=9.2,SNR=3.6						
YKA	**Yellowknife Ar**	**26.55**	**51**	P	**P**	**19 00 45.5**	**+2.0**
NVAR	**Mina Array Bea**	**34.21**	**98**	P	**P**	**19 01 53.8**	**+2.1**
	comp=Z,1.2nm,0.7s,baz=300,slow=8.1,SNR=8.1						
NVAR	**Mina Array Bea**	**34.21**	**98**	P	**P**	**19 01 52.2**	**+0.5**
ELK	**Elko**	**34.52**	**92**	P	**P**	**19 01 56.2**	**+1.7**
ELK				IAmb	IAmb	19 01 57.6	
	comp=Z,1.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**40.94**	**225**	T	T	19 46 33.4	
	baz=26,slow=76,SNR=194						
H11N3	**WAKE ISLAND Hy**	**40.95**	**225**	T	T	19 46 31.8	
	baz=26,slow=76,SNR=193						
H11N1	**WAKE ISLAND Hy**	**40.96**	**225**	T	T	19 46 33.5	
	baz=26,slow=76,SNR=126						
H11S1	**WAKE ISLAND Hy**	**42.11**	**225**	T	T	19 47 59.3	
	baz=26,slow=76,SNR=414						
H11S2	**WAKE ISLAND Hy**	**42.13**	**225**	T	T	19 48 06.2	
	baz=26,slow=76,SNR=254						
H11S3	**WAKE ISLAND Hy**	**42.13**	**225**	T	T	19 48 02.1	
	baz=26,slow=76,SNR=171						
TX32	**Lajitas Array**	**49.22**	**95**	P	**P**	**19 03 55.5**	**+1.0**
TX32				IAmb	IAmb	19 04 08.5	
	comp=Z,5.0nm,1.6s						
TXAR	**Lajitas Array**	**49.22**	**95**	P	**P**	**19 03 55.9**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=300,slow=5.8,SNR=15						
TXAR	**Lajitas Array**	**49.22**	**95**	P	**P**	**19 03 55.7**	**+1.3**
M56A	**Emporium**	**55.36**	**66**	P	**P**	**19 04 36.1**	**-3.7**
HHC	**Hu-ho-hao-te**	**55.67**	**294**	*eP*	**P**	**19 04 44.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,7.0nm,5.8s						
R58B	**Mineral**	**58.01**	**68**	P	**P**	**19 04 58.8**	**+0.1**
KURBB	**Kurchatov Arra**	**63.68**	**321**	P	**P**	**19 05 36.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=32,slow=6.7,SNR=3.7						
BVAR	**Borovoye Array**	**64.50**	**327**	P	**P**	**19 05 42.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=42,slow=7.2,SNR=10.0						
FINES	**FINESS Array B**	**64.82**	**355**	P	**P**	**19 05 44.9**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=16,slow=8.5,SNR=3.6						
ARU	**Arti**	**64.85**	**336**	P	**P**	**19 05 45.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=357,slow=9.3,SNR=3.4						
WMQ	**Urumqi**	**65.36**	**311**	*eP*	**P**	**19 05 45.3**	**-2.9**
WMQ				pP	sP	19 05 58.3	+5.6
WMQ				sP	pP	19 06 03.3	+12
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.7s						
WMQ				LR	LR		
	comp=N,260nm,8.1s						
WMQ				LR	LR		
	comp=E,320nm,6.3s						
WMQ				LR	LR		
	comp=Z,180nm,8.7s						
AKTO	**Aktyubinsk**	**70.42**	**333**	P	**P**	**19 06 19.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=37,slow=6.6,SNR=5.1						
ABKAR	**Akbulak array**	**70.96**	**332**	P	**P**	**19 06 23.3**	**+0.1**
ABKAR	**Akbulak array**	**70.96**	**332**	P	**P**	**19 06 23.1**	**0.0**
ABKAR				IAmb	IAmb	19 06 24.7	
	comp=Z,1.8nm,0.8s						
AKASG	**Malin Array Be**	**75.30**	**352**	P	**P**	**19 06 48.1**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=9.2,slow=5.5,SNR=2.9						

NIED ***15*** *18:57:00,29.°00N×129.°70E,h47km,Mw5.2 Best double couple: M0:8.20000×10¹⁶ NP1:φs:223.00000°,δ37.00000°, λ:127.00000°. NP2:φs:360.00000°,δ:62.00000°,λ:66.00000°.*
MOS ***15*** *18:57:52.6±0.9,28.°92N×129.°67E,h46km,mb5.6/29, MS4.5/12,Error ellipse: s-maj=5.6km s-min=3.7km az=110.2*
BJI ***15*** *18:57:52.3±0.0,28.°77N×129.°84E,h54km,mb5.2/78, mB5.1/51,Ms4.7/81,Ms7 4.5/74*
ISCJB ***15*** *18:57:53.3±0.2,28.°92N±0.°01×129.°77E±0.°02,h52km±2km, mb5.3/216,MS4.4/45,Error ellipse: s-maj=2.6km s-min=1.8km az=26.5*
JMA ***15*** *18:57:53.9±0.2,28.°96N×129.°71E,h55km±5km,M5.0*
JMA Felt III J1.
NEIC ***15*** *18:57:55.2±1.7,28.°92N±0.°05×129.°66E±0.°07,h56km±4km, mb5.3/308,Mwb5.2,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr5.25; Mθθ-0.05; Mφφ-5.20; Mrθ-2.20; Mrφ-3.36; Mθφ4.38; Fault plane solution: M0:7.91000×10¹⁶ NP1:φs:232.83000°,δ38.95000°, λ:138.11000°. NP2:φs:357.73000°,δ:65.18000°,λ:58.97000°. Principal axes: T 8.1653, Plg58.0000°, Azm224.0000°; N -0.5314, Plg28.0000°, Azm12.0000°; P -7.6339, Plg15.0000°, Azm110.0000°;*
IDC ***15*** *18:57:55.2±0.9,28.°92N×129.°69E,h55km±8km,mb4.7/45, mb1 4.8/51,mb1mx4.8/59,mbtmp5.0/51,MS4.2/25, Ms1 4.2/25,ms1mx4.1/33 Error ellipse: s-maj=8.9km s-min=5.4km az=93.0*
GCMT ***15*** *18:57:56.2±0.2,28.°90N±0.°01×129.°81E±0.°01,h44km, MW5.2/104,Moment Tensor Solution. s89,c131; s104,c190; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.66±.02; Mθθ0.07±.01; Mφφ-0.72±.01; Mrθ-0.24±.01; Mθφ-0.32±.01; Mφr0.39±.01; Best double couple: M0:0.89400×10¹⁷ NP1:φs:355.00000°,δ61.00000°, λ:61.00000°. NP2:φs:224.00000°,δ40.00000°,λ:132.00000°. Principal axes: T 0.8880, Plg62.0000°, Azm218.0000°; N 0.0120, Plg25.0000°, Azm10.0000°; P -0.9000, Plg11.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 18:57:54.0±0.4,28.°90N±0.°02×129.°80E±0.°03,h45km±3km, h45km:pP-P,n999,σ1$38/1100,mb5.3/322,MS4.5/45, 53C-64D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.52**	**199**	⇓P	**Pn**	**18 58 05.5**	**+0.3**
JAM				*eS*	**Sn**	**18 58 13.8**	**+0.7**
JTAJ	**Takarajima**	**0.58**	**296**	⇓P	**Pn**	**18 58 05.5**	**-0.4**
JTAJ				*eS*	**Sn**	**18 58 13.9**	**-0.6**
JZK	**Kikaishima**	**0.61**	**165**	⇓P	**Pn**	**18 58 08.7**	**+2.4**
JZK				*eS*	**Sn**	**18 58 20.6**	**+5.5**
JAMN	**Amaminishikomi**	**0.86**	**220**	⇓P	**Pn**	**18 58 09.8**	**+0.2**
JAMN				*eS*	**Sn**	**18 58 21.8**	**+0.8**
JNN	**Nakanoshima**	**0.94**	**4**	⇑P	**Pn**	**18 58 10.3**	**-0.5**
JNN				*eS*	**Sn**	**18 58 22.3**	**-0.7**
JTK	**Tokunoshima**	**1.34**	**214**	⇓P	**Pn**	**18 58 16.8**	**+0.5**
JTK				*eS*	**Sn**	**18 58 33.6**	**+0.7**
JYAK	**Yakushimahirau**	**1.47**	**25**	⇑P	**Pn**	**18 58 17.6**	**-0.4**
JYAK				*eS*	**Sn**	**18 58 35.2**	**-0.8**
JKC	**Kuchinoerabu**	**1.59**	**12**	⇑P	**Pn**	**18 58 19.6**	**-0.1**
JKC				*eS*	**Sn**	**18 58 38.3**	**-0.7**
JMTN	**Minamitane**	**1.77**	**33**	⇑P	**Pn**	**18 58 22.4**	**+0.2**
JMTN				*eS*	**Sn**	**18 58 43.5**	**0.0**
JOKE	**Okinoerabujima**	**1.88**	**216**	⇓P	**Pn**	**18 58 24.5**	**+0.8**
JOKE				*eS*	**Sn**	**18 58 47.4**	**+1.2**
JTN	**Tanegashima 3**	**2.02**	**30**	⇑P	**Pn**	**18 58 25.9**	**+0.3**
JTN				*eS*	**Sn**	**18 58 49.8**	**+0.1**
JYRO	**Yoronjima**	**2.22**	**213**	⇓P	**Pn**	**18 58 29.5**	**+1.2**
JYRO				*eS*	**Sn**	**18 58 56.4**	**+1.9**
JOW	**Kunigami**	**2.47**	**214**	P	**Pn**	**18 58 32.6**	**+0.9**
JOW				*eS*	**Sn**	**18 59 02.1**	**+1.5**
JOW	**Kunigami**	**2.47**	**214**	P	**Pn**	**18 58 33.1**	**+1.4**
	30nm,0.3s,baz=94,slow=18,SNR=312						
JOW				S	**Sn**	**18 59 01.4**	**+0.8**
	85nm,0.3s,baz=217,slow=21,SNR=7.0						
JIH	**Iheya**	**2.47**	**221**	P	**Pn**	**18 58 32.4**	**+0.7**
JIH				*eS*	**Sn**	**18 59 01.2**	**+0.6**
JNTH	**Nagotoyohara**	**2.85**	**214**	⇑P	**Pn**	**18 58 38.0**	**+1.0**
JNTH				*eS*	**Sn**	**18 59 11.6**	**+1.5**
JKDJ	**Kitadaitoujima**	**3.23**	**155**	⇓P	**Pn**	**18 58 41.8**	**-0.4**
JKDJ				*eS*	**Sn**	**18 59 18.5**	**-0.9**
JAGN	**Aguni-jima**	**3.23**	**225**	P	**Pn**	**18 58 43.4**	**+1.2**
JAGN				*eS*	**Sn**	**18 59 19.2**	**-0.3**
JMZ	**Minamidaito 2**	**3.32**	**157**	P	**Pn**	**18 58 42.8**	**-0.7**
JMZ				*eS*	**Sn**	**18 59 20.3**	**-1.4**
JKE	**Kume jima 2**	**3.71**	**227**	⇑P	**Pn**	**18 58 50.0**	**+1.3**
JKE				*eS*	**Sn**	**18 59 33.3**	**+2.1**
JNU	**Nakatsue**	**4.31**	**12**	P	**Pn**	**18 58 59.0**	**+2.1**
	42nm,0.3s,baz=211,slow=4.4,SNR=242						
JNU				S	**Sn**	**18 59 49.0**	**+3.1**
	34nm,0.3s,baz=178,slow=14,SNR=1.4						
MRT2	**Murotomisaki 2**	**5.82**	**39**	P	**Pn**	**18 59 17.7**	**0.0**
JAI	**Aioi**	**6.29**	**38**	P	**Pn**	**18 59 24.6**	**+0.4**
YOJ	**Yonaguni jima**	**7.51**	**235**	P	**Pn**	**18 59 39.4**	**-1.6**
YOJ	**Yonaguni jima**	**7.51**	**235**		**Pn**	**18 59 39.4**	**-1.6**
TJN	**Taejon**	**7.73**	**345**	*dP*	**Pn**	**18 59 46.8**	**+2.9**
SSE	**Sheshan**	**7.78**	**288**	P	**Pn**	**18 59 46.1**	**+1.5**
SSE				S	**Sn**	**19 01 16.8**	**+5.4**
SSE				pmax	pmax		
	comp=Z,59nm,0.7s						
SSE				LR	LR		
	comp=N,1μm,15.9s						
SSE				LR	LR		
	comp=E,2μm,17.8s						
SSE	**Sheshan**	**7.78**	**288**		**Pn**	**18 59 44.0**	**-0.6**
JWT	**Wachi**	**7.94**	**35**	P	**Pn**	**18 59 47.5**	**+0.7**
TATO	**Taipei**	**8.38**	**244**		**Pn**	**18 59 52.2**	**-0.7**
YHNB	**Yeheng**	**8.63**	**243**		**Pn**	**18 59 56.9**	**+0.5**
KSAR	**Wonju Array Be**	**8.66**	**350**	P	**Pn**	**18 59 59.1**	**+2.4**
KSAR	**Wonju Array Be**	**8.66**	**350**		**Pn**	**18 59 59.1**	**+2.4**
KSRS	**Korea Array**	**8.67**	**350**	P	**Pn**	**18 59 59.4**	**+2.6**
	4.4nm,0.3s,baz=174,slow=14,SNR=121						
NACB	**Ninganchiao**	**8.72**	**239**		**Pn**	**18 59 57.4**	**-0.2**
KS19	**Wonju Array Si**	**8.73**	**350**		**Pn**	**18 59 59.8**	**+2.3**
INU	**Inuyama**	**8.87**	**42**		**Pn**	**19 00 00.8**	**+1.3**
YULB	**Yu-li**	**9.40**	**236**		**Pn**	**19 00 04.8**	**-2.1**
SSLB	**Suanglung**	**9.43**	**239**		**Pn**	**19 00 06.9**	**-0.4**
JHJ	**Hachijo jima 2**	**9.54**	**61**	P	**Pn**	**19 00 11.2**	**+2.5**
	100nm,0.3s,baz=29,slow=15,SNR=12						
JHJ				LR	LR	19 03 42.0	
	comp=Z,1μm,19.5s,baz=250,slow=36						
JHJ2	**Mitsune**	**9.56**	**61**	Pn	**Pn**	**19 00 10.8**	**+1.7**
TWG	**Pinlang**	**9.92**	**234**		**Pn**	**19 00 11.8**	**-2.2**
TPUB	**Ta-pu**	**9.95**	**238**		**Pn**	**19 00 14.1**	**-0.3**
NJ2	**Nanjing**	**9.95**	**291**	*eP*	**Pn**	**19 00 16.3**	**+2.0**
NJ2				S	**Sn**	**19 02 12.1**	**+7.5**
NJ2				pmax	pmax		
	comp=Z,91nm,1.2s						
NJ2				LR	LR		
	comp=N,2μm,14.2s						
NJ2				LR	LR		
	comp=E,3μm,16.1s						
NJ2				LR	LR		
	comp=Z,4μm,17.5s						
MAJO	**Matsushiro**	**10.40**	**41**	*cePP*	**Pn**	**19 00 21.6**	**+1.1**
MAJO	**Matsushiro**	**10.40**	**41**		**Pn**	**19 00 21.5**	**+1.0**
MAT	**Matsushiro**	**10.40**	**41**	P	**Pn**	**19 00 21.7**	**+1.2**
MAT				S	**Sn**	**19 02 17.7**	**+2.1**
MJAR	**Matsushiro Arr**	**10.40**	**41**	P	**Pn**	**19 00 22.0**	**+1.5**
	0.7nm,0.3s,baz=232,slow=14,SNR=38						
MJAR	**Matsushiro Arr**	**10.40**	**41**		**Pn**	**19 00 21.3**	**+0.8**
MJB9	**Matsu-Tunnel**	**10.40**	**41**		**Pn**	**19 00 21.7**	**+1.2**
QZH	**Quanzhou**	**10.75**	**251**	P	**Pn**	**19 00 27.8**	**+2.5**
QZH				S	**Sn**	**19 02 30.4**	**+6.1**
QZH				LR	LR		
	comp=N,2μm,14.1s						
QZH				LR	LR		
	comp=E,2μm,18.0s						
QZH				LR	LR		
	comp=Z,2μm,20.4s						
JCJ	**Chichijima**	**11.09**	**96**	P	**Pn**	**19 00 30.8**	**+0.8**
	134nm,0.3s,baz=271,slow=3.5,SNR=46						
JCJ				LR	LR	19 04 25.5	
	comp=Z,1μm,19.5s,baz=296,slow=35						
KNMB	**Chin-men Tao**	**11.12**	**249**	Pn	**Pn**	**19 00 28.6**	**-1.7**
DL2	**Dalian**	**12.06**	**328**	P	**Pn**	**19 00 46.6**	**+3.5**
DL2				sP	P	19 00 59.8	+4.9
DL2				S	**Sn**	**19 03 04.8**	**+8.6**
DL2				pmax	pmax		
	comp=Z,57nm,0.9s						
DL2				pmax	pmax		
	comp=Z,750nm,4.0s						
DL2				LR	LR		
	comp=N,2μm,17.7s						
DL2				LR	LR		
	comp=E,3μm,17.8s						
DL2				LR	LR		
	comp=Z,2μm,18.1s						
TIA	**Tai'an**	**12.93**	**308**	P	**Pn**	**19 00 56.4**	**+1.3**
TIA				S	**Sn**	**19 03 25.6**	**+8.1**
TIA				pmax	pmax		
	comp=Z,85nm,1.5s						
TIA				LR	LR		
	comp=N,910nm,18.5s						
TIA				LR	LR		
	comp=E,2μm,16.1s						
TIA				LR	LR		
	comp=Z,2μm,17.5s						
WHN	**Wuhan**	**13.53**	**281**	⇓P	**Pn**	**19 01 05.5**	**+2.3**
WHN				pmax	pmax		
	comp=Z,120nm,1.2s						
WHN				LR	LR		
	comp=N,6μm,17.6s						
WHN				LR	LR		
	comp=E,4μm,17.3s						
WHN				LR	LR		
	comp=Z,5μm,18.5s						
MSHR	**Mys Shultsa**	**13.69**	**4**	⇑*eP*	**Pn**	**19 01 09.2**	**+3.8**
SNY	**Shenyang**	**13.85**	**340**	⇑P	**Pn**	**19 01 10.4**	**+2.8**
SNY				pmax	pmax		
	comp=Z,39nm,1.7s						
SNY				pmax	pmax		
	comp=Z,380nm,4.5s						
SNY				LR	LR		
	comp=N,1μm,17.3s						
SNY				LR	LR		
	comp=E,3μm,16.9s						
SNY				LR	LR		
	comp=Z,2μm,20.8s						
CAUP	**Cauayan**	**13.98**	**213**	*eP*	**Pn**	**19 01 10.0**	**+0.5**
VLA	**Vladivostok**	**14.29**	**6**	*deP*	**P**	**19 01 17.4**	**-2.3**
SMPP	**San Manuel, Pa**	**15.22**	**215**	*eP*	**Pn**	**19 01 25.9**	**-0.1**
CN2	**Changchun**	**15.27**	**348**	⇓*iP*	**P**	**19 01 32.0**	**+1.4**
CN2				*es*P	sP	19 01 48.3	+1.8
CN2				*eS*	**Sn**	**19 04 19.8**	**+5.4**
CN2				pmax	pmax		
	comp=Z,200nm,1.0s						
CN2				pmax	pmax		
	comp=Z,400nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,900nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
USA0B	**Ussuriysk Arra**	**15.37**	**6**	⇓*iP*	**P**	**19 01 30.8**	**-0.9**
USA0B	**Ussuriysk Arra**	**15.37**	**6**	P	**P**	**19 01 31.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**15.37**	**6**	P	**P**	**19 01 30.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**15.37**	**6**	P	**Pn**	**19 01 27.0**	**-0.7**
	baz=183,slow=11,SNR=2.4						
USRK	**Ussuriysk Ar.**	**15.37**	**6**	P	**P**	**19 01 30.9**	**-0.8**
MDJ	**Mudanjiang**	**15.68**	**359**	P	**P**	**19 01 34.3**	**-0.9**
BJT	**Baijiatuau**

GYA LR LR
comp=Z,1μm,15.0s
GYA LR LR
comp=Z,1μm,16.1s
GYA LR LR
comp=Z,2μm,17.4s
YSS Yuzh-Sakhalins 20.67 26 *e*P Pn 19 02 34.8 +2.2
YSS *e**SP sP 19 02 56.0 +10
YSS *e*S **S** **19 06 20.4 +2.2**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS MLR MLR
comp=Z,800nm,19.0s
YSS Yuzh-Sakhalins 20.67 26 P Pn 19 02 32.9 +0.3
YSS IAmb IAmb 19 02 45.7
comp=Z,118nm,1.0s
GUMO Guam 20.69 134 P Pn 19 02 32.3 -0.8
GUMO pmax pmax
comp=Z,334nm,1.2s
GUMO Guam 20.69 134 P **P** **19 02 31.1 +0.8**
comp=Z,151nm,0.8s,baz=181,slow=19,SNR=4.6
GUMO LR LR 19 09 03.9
comp=Z,665nm,21.1s,baz=312,slow=32
GUMO Guam 20.69 134 P Pn 19 02 32.4 -0.7
QIZ Qiongzhong 20.69 246 P Pn 19 02 32.3 -0.8
QIZ S **S** **19 06 17.0 -2.1**
QIZ pmax pmax
comp=Z,59nm,0.7s
QIZ LR LR
comp=Z,950nm,22.6s
QIZ LR LR
comp=Z,1μm,24.5s
QIZ LR LR
comp=Z,1μm,33.3s
QIZ Qiongzhong 20.69 246 P **P** **19 02 31.6 +1.3**
QIZ IAmb IAmb 19 02 36.4
comp=Z,94nm,0.9s
BUKP Musuan 21.39 193 *e*P **P** **19 02 38.6 +0.7**
KUR Kuril'sk 21.68 36⇓*e*P **P** **19 02 41.1 +0.3**
HIA Hailar 21.74 342 P **P** **19 02 40.1 -1.4**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 21.74 342 P **P** **19 02 40.1 -1.4**
PAGZ Pagadian 21.80 197 *e*P **P** **19 02 42.1 -0.2**
DAV Davao City (W) 22.08 191 LR LR 19 11 26.4
comp=Z,767nm,20.2s,baz=8.0,slow=37
DAV Davao City (W) 22.08 191 P **P** **19 02 44.3 -1.0**
CTBH Cotabato--PC H 22.20 195⇑*i*P **P** **19 02 47.3 +0.7**
KCP Kidapawan 22.23 192⇓*i*P **P** **19 02 47.6 +0.6**
KCP *i*S **pP** **19 02 50.6 -7.2**
GRNR Gornyy 22.41 11⇓*i*P **P** **19 02 50.5 +1.9**
GRNR *e* 19 03 02.1
GRNR *e*S **S** **19 06 49.5 -2.2**
GRNR pmax pmax
comp=Z,6.0nm,0.6s
GRNR MLR MLR
comp=N,420nm,15.0s
GRNR MLR MLR
comp=Z,520nm,17.0s
CD2 Chengdu 22.65 282 P **P** **19 02 51.9 +0.5**
CD2 pP pP 19 03 04.5 +2.5
CD2 sP sP 19 03 12.8 +5.2
CD2 S **S** **19 06 50.8 -5.6**
CD2 sS sS 19 07 16.6 +1.5
CD2 pmax pmax
comp=Z,190nm,0.8s
CD2 pmax pmax
comp=Z,240nm,3.7s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,2μm,13.7s
BATP Bataraza 22.96 212 *e*P **P** **19 02 55.9 +1.2**
LZH Lanzhou 22.99 295⇑P **P** **19 02 54.4 -0.7**
LZH pP pP 19 03 08.3 +2.6
LZH PP **PnPn** **19 03 25.8 +4.7**
LZH S **S** **19 06 55.8 -6.6**
LZH sS Sn 19 07 16.8 -4.1
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,480nm,5.2s
LZH LR LR
comp=Z,1μm,12.0s
LZH LR LR
comp=Z,1μm,12.0s
LZH LR LR
comp=Z,1μm,14.2s
TYV Tymovskoe 23.98 20 *e*P **P** **19 03 07.5 +3.4**
TYV pmax pmax
comp=Z,400nm,4.5s
TYV pmax pmax
comp=Z,46nm,1.0s
KMI Kunming 24.38 268 P **P** **19 03 09.9 +1.6**
KMI pP pP 19 03 22.9 +2.9
KMI sP sP 19 03 29.4 +4.1
KMI PP **PnPn** **19 03 47.8 +7.6**
KMI S **S** **19 07 24.4 -0.7**
KMI sS sS 19 07 47.3 +2.6
KMI SS **SnSn** **19 08 14.9 +3.5**
KMI pmax pmax
comp=Z,140nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.1s
KMI LR LR
comp=Z,650nm,19.4s
KMI LR LR
comp=Z,1μm,18.9s
KMI LR LR
comp=Z,1μm,20.2s
KMI Kunming 24.38 268 P **P** **19 03 08.8 +0.5**
KMI pmax pmax
comp=Z,103nm,0.8s
KMI Kunming 24.38 268 P **P** **19 03 08.8 +0.5**
KMI IAmb IAmb 19 03 10.5
comp=Z,103nm,0.8s
SLVN Son La 24.59 258 P **P** **19 03 09.8 -0.3**
ZEA Zeya 24.88 356 *e*P **P** **19 03 10.2 -2.1**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA MLR MLR
comp=N,500nm,17.0s
ZEA MLR MLR
comp=Z,600nm,17.0s
ULN Ulaanbaatar 25.84 323 P **P** **19 03 19.8 -1.6**
ULN pmax pmax
comp=Z,28nm,0.8s
ULN Ulaanbaatar 25.84 323 P **P** **19 03 19.8 -1.6**
ULN **P** **19 03 19.9 -1.4**
DLV T Lat 26.07 234 P **P** **19 03 24.2 +0.6**
DLV IAmb IAmb 19 03 26.8
comp=Z,81nm,1.2s
CIT Chita 26.07 337 *e*P **P** **19 03 23.8 +0.6**
CIT *e* 19 03 37.3
CIT *e* 19 03 58.4
CIT pmax pmax
comp=Z,53nm,1.0s
KKM Kota Kinabalu 26.12 212 P **P** **19 03 24.2 +0.2**
KKM IAmb IAmb 19 03 39.7
comp=Z,86nm,1.2s
SONM Songino Array 26.17 323 P **P** **19 03 23.5 -0.8**
comp=Z,24nm,0.8s,baz=139,slow=10,SNR=64
SONM ScP **ScP** **19 10 26.4 -0.1**
comp=Z,2.7nm,1.0s,baz=129,slow=2.2,SNR=9.0
SONM Songino Array 26.17 323 P **P** **19 03 22.1 -2.2**
SONM **ScP** **19 10 25.8 -0.7**
UBPT Khong Chiam 26.23 244 P **P** **19 03 26.7 +1.7**
comp=Z,65nm,1.3s
UBPT Khong Chiam 26.23 244 P **P** **19 03 25.3 +0.3**
UBPT IAmb IAmb 19 03 27.5
comp=Z,126nm,1.1s
NONG Nongkai 26.66 252 P **P** **19 03 29.9 +1.1**
comp=Z,0.9nm,0.9s,comp=Z,177nm
GTA Gaotai 26.82 301⇑P **P** **19 03 29.8 -0.4**
GTA pP pP 19 03 42.3 +0.5
GTA sP sP 19 03 47.3 +0.2
GTA PcP **PcP** **19 06 53.0 +0.9**
GTA S **S** **19 08 01.8 -1.8**
GTA sS sS 19 08 19.3 -4.1
GTA ScP **ScP** **19 10 27.9 -0.7**
GTA PcS **PcS** **19 10 33.3 -0.3**

GTA ScS **ScS** **19 14 19.8 +0.3**
GTA pmax pmax
comp=Z,63nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.6s
GTA LR LR
comp=Z,1μm,16.2s
GTA LR LR
comp=Z,1μm,17.5s
GTA LR LR
comp=Z,2μm,17.9s
SPMM Sapulut 27.18 210 P **P** **19 03 34.0 +0.5**
TNTI Ternate 28.07 185 P **P** **19 03 42.1 +0.7**
comp=Z,88nm,1.5s,comp=Z,788nm
TNTI Ternate 28.07 185 P **P** **19 03 41.3 -0.1**
TNTI IAmb IAmb 19 03 44.3
comp=Z,61nm,0.8s
CHAI Chaiyaphum 28.70 249 P **P** **19 03 47.7 +0.7**
comp=Z,228μm,1.0s
KMSI Cibinong 28.71 192 P **P** **19 03 48.3 +1.2**
PAYA Payao 28.85 257 P **P** **19 03 49.2 +0.8**
comp=Z,38μm,0.9s
PBKT Sadao Pong 29.20 251 P **P** **19 03 52.1 +0.6**
comp=Z,33nm,1.4s
PBKT Sadao Pong 29.20 251 P **P** **19 03 51.5 0.0**
PBKT IAmb IAmb 19 03 53.1
comp=Z,47nm,0.9s
MRSI Marisa 29.25 196 P **P** **19 03 52.8 +0.9**
comp=Z,33nm,1.3s,comp=Z,446nm
ZAK Zakamensk 29.35 324 *e*P **P** **19 03 51.6 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
SKR Severo-Kuril's 29.43 35 *e*P P 19 03 41.1 -12
SKR pmax pmax
comp=Z,12nm,0.7s
SKR pmax pmax
comp=Z,300nm,4.7s
SKR pmax pmax
comp=Z,100nm,4.9s
SKR MLR MLR
comp=Z,400nm,16.0s
SKR MLR MLR
comp=Z,500nm,15.0s
SWI Sorong 29.63 177 P **P** **19 03 56.5 +1.3**
comp=Z,31nm,1.4s
SWI pP **pP** **19 04 01.7 -5.4**
comp=Z,31nm,1.4s
SIJI Sorong 29.64 177 P **P** **19 03 55.4 0.0**
comp=Z,12nm,0.6s,baz=358,slow=9.7,SNR=9.0
CMMT Chiang Mai 29.87 257 P **P** **19 03 57.4 0.0**
comp=Z,21nm,1.0s,comp=Z,244nm
CHTO Chiang Mai 29.87 257 P **P** **19 03 57.0 -0.5**
CHTO pmax pmax
comp=Z,32nm,0.9s
CHTO Chiang Mai 29.87 257 P **P** **19 03 57.0 -0.5**
MPSI Mapaga 29.94 200 P **P** **19 03 58.8 +0.8**
TLY Talaya 29.97 327 *e*P **P** **19 03 57.8 -0.2**
TLY *e* 19 05 10.1
TLY *e*S **S** **19 08 57.2 +4.6**
TLY *e*SS **SnSn** **19 10 31.7 +4.6**
TLY pmax pmax
comp=Z,52nm,1.2s
TLY MLR MLR
comp=Z,2μm,14.0s
TLY Talaya 29.97 327 P **P** **19 03 58.2 +0.2**
comp=Z,5.5nm,0.6s,baz=123,slow=11,SNR=5.5
TLY LR LR 19 17 16.1
comp=Z,920nm,19.9s,baz=126,slow=39
TLY Talaya 29.97 327 P **P** **19 03 57.5 -0.5**
CM31 Chiang Mai Arr 30.03 257 P **P** **19 03 58.6 -0.2**
CMAR Chiang Mai Arr 30.03 257 P **P** **19 03 58.7 -0.1**
comp=Z,8.2nm,0.9s,baz=57,slow=6.8,SNR=66
CMAR PcP **PcP** **19 07 01.1 +0.9**
comp=Z,5.7nm,0.9s,baz=43,slow=1.1,SNR=17
CMAR LR LR 19 17 38.0
comp=Z,812nm,18.2s,baz=84,slow=40
CMAR Chiang Mai Arr 30.03 257 P **P** **19 03 58.3 -0.5**
CMAR **PcP** **19 07 01.0 +0.8**
IRK Irkutsk 30.04 328 *e*P **P** **19 03 57.2 -1.4**
IRK pmax pmax
comp=Z,38nm,1.4s
LUWI Luwuk 30.53 194 P **P** **19 04 02.8 -0.4**
LUWI Luwuk 30.53 194 P **P** **19 04 00.5 -2.7**
LUWI IAmb IAmb 19 05 06.1
comp=Z,42nm,1.0s
APSI Ampana 30.66 196 P **P** **19 04 04.9 +0.6**
UTHA Uthaitani 30.97 251 P **P** **19 04 08.3 +1.1**
comp=Z,73μm,0.9s,comp=Z,607μm
SANI Sanana 30.99 187 P **P** **19 04 06.3 -1.0**
comp=Z,104nm,1.1s,comp=Z,1μm
MHMT Maesarieng 31.02 257 P **P** **19 04 09.0 +1.5**
comp=Z,25nm,1.1s
UMPA Umpang Tak 31.14 253 P **P** **19 04 10.7 +2.0**
comp=Z,115μm,0.9s,comp=Z,809μm
SBUM Sibu 31.18 216 P **P** **19 04 10.0 +1.0**
SBUM Sibu 31.18 216 P **P** **19 04 09.2 +0.2**
SRPI Serui, Papua 31.22 168 P **P** **19 04 10.3 +1.0**
comp=Z,21nm,0.6s,comp=Z,2μm
SRPI pP **pP** **19 04 17.1 -4.0**
comp=Z,21nm,0.6s,comp=Z,2μm
MOY Mondy 31.27 325 *e*P **P** **19 04 10.2 +0.6**
MOY pmax pmax
comp=Z,201nm,1.2s
SMKI Samarinda 31.57 205 P **P** **19 04 13.2 +0.8**
PEA0B Petropavlovsk- 31.70 32*c e*P **P** **19 04 13.8 +0.6**
PEA0B Petropavlovsk- 31.70 32 P **P** **19 04 13.2 0.0**
PEA0B IAmb IAmb 19 05 03.5
comp=Z,62nm,1.4s
PETK Petropavlovsk- 31.70 32 P **P** **19 04 13.9 +0.7**
comp=Z,13nm,0.7s,baz=209,slow=4.0,SNR=14
PETK LR LR 19 18 25.3
comp=Z,498nm,20.1s,baz=225,slow=39
PETK Petropavlovsk- 31.70 32 P **P** **19 04 13.1 -0.1**
FAKI Fak Fak 31.73 175 P **P** **19 04 14.5 +0.7**
comp=Z,188nm,1.0s,comp=Z,1μm
FAKI Fak Fak 31.73 175 P **P** **19 04 14.2 +0.4**
SRDT SRDT 31.86 250 P **P** **19 04 16.0 +1.0**
comp=Z,44nm,1.4s,comp=Z,3μm
SMPI Sarmi 31.88 163 P **P** **19 04 16.3 +1.2**
comp=Z,32nm,0.9s
NLAI Namlea 32.06 185 P **P** **19 04 16.9 +0.2**
comp=Z,99nm,1.0s
KHLT Khaolaem Dam 32.07 251 P **P** **19 04 14.7 -2.1**
comp=Z,49nm,1.1s,comp=Z,699nm
MSAI Masohi 32.08 182 P **P** **19 04 17.8 +1.0**
comp=Z,46nm,1.0s,comp=Z,354nm
PET Petropavlovsk 32.10 33 *e*P **P** **19 04 19.6 +2.9**
PET *e**PP **sP** **19 04 32.9 -0.6**
PET *e*S **S** **19 09 27.3 +1.5**
PET *e**SS **sS** **19 09 49.9 +4.2**
PET 19 11 39.2
PET pmax pmax
comp=Z,31nm,0.9s
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,700nm,18.0s
PET Petropavlovsk 32.10 33 P **P** **19 04 17.4 +0.7**
PET IAmb IAmb 19 04 35.0
comp=Z,113nm,1.7s
PHET Kaeng Krachan 32.23 247 P **P** **19 04 20.0 +1.7**
comp=Z,201μm,1.0s
AAI Ambon 32.44 183 P **P** **19 04 20.8 +0.8**
comp=Z,170nm,1.0s,comp=Z,1μm
GENI Genyem 32.86 161 P **P** **19 04 25.3 +1.6**
comp=Z,43nm,0.5s
JAY Jayapura 32.95 160 P **P** **19 04 25.1 +0.6**
comp=Z,22nm,1.1s,baz=267,slow=7.1,SNR=4.6
JAY Jayapura 32.95 160 P **P** **19 04 25.7 +1.2**
comp=Z,158nm,1.5s
KSM Kuching 33.01 218 P **P** **19 04 26.0 +1.0**
KSM Kuching 33.01 218 P **P** **19 04 26.3 +1.3**
KSM IAmb IAmb 19 04 27.0
comp=Z,44nm,0.9s
YAK Yakutsk 33.13 360 *e*P **P** **19 04 25.5 -0.1**
YAK *e* 19 05 52.8
YAK *e* 19 07 06.4
YAK *e*S **S** **19 09 38.2 -3.4**
YAK *e* 19 14 40.6
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=Z,70nm,3.0s
YAK pmax pmax
comp=N,127nm,3.5s
YAK pmax pmax
comp=E,93nm,3.0s
YAK smax smax
comp=N,179nm,3.9s
YAK smax smax
comp=E,88nm,3.0s
YAK Yakutsk 33.13 360 P **P** **19 04 26.4 +0.9**
comp=E,7.0nm,0.6s,baz=179,slow=1.9,SNR=7.5
YAK Yakutsk 33.13 360 P **P** **19 04 26.2 +0.7**
TTSI Tana Toraja 33.18 198 P **P** **19 04 26.8 +0.3**
BNDI Bandanaira 33.23 180 P **P** **19 04 27.6 +0.7**
comp=E,106nm,1.0s
STKI Sintang 33.60 215 P **P** **19 04 31.9 +1.7**
comp=E,12nm,1.1s,comp=E,1μm
LSA Lhasa 33.61 281 *i* P **P** **19 04 31.9 +1.2**
SNR=18
LSA Lhasa 33.61 281 P **P** **19 04 30.7 0.0**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 33.61 281 P **P** **19 04 30.7 0.0**
SHL Shillong 33.78 273 P **P** **19 04 30.9 -1.0**
SHL 19 07 10.0
SHL pmax pmax
comp=Z,64nm,0.8s
SHL Shillong 33.78 273 P **P** **19 04 30.9 -1.0**
SHL **PcP** **19 07 10.0 -0.5**
BNSI Bone 34.40 197 P **P** **19 04 37.6 +0.5**
SIMRM Sittwe 34.59 264 P **P** **19 04 39.3 +0.6**
SIMRM IAmb IAmb 19 04 41.5
comp=Z,56nm,1.7s
KBKI Kotabaru 34.59 204 P **P** **19 04 39.4 +0.7**
comp=Z,26nm,0.9s,comp=Z,246nm
BBSI Bau Bau 34.89 193 P **P** **19 04 43.6 +2.3**
comp=Z,16nm,1.1s
H11N2 WAKE ISLAND Hy 34.90 97 T T 19 41 43.3
baz=297,slow=74,SNR=21
H11N1 WAKE ISLAND Hy 34.90 97 T T 19 41 46.5
baz=297,slow=74,SNR=18
H11N3 WAKE ISLAND Hy 34.92 97 T T 19 41 41.2
baz=297,slow=74,SNR=20
MANU Manus Island 35.08 148 P **P** **19 04 43.4 +0.4**
KAPI Kappang 35.08 198 P **P** **19 04 42.2 -0.8**
KAPI pmax pmax
comp=Z,59nm,1.6s
KAPI Kappang 35.08 198 P **P** **19 04 42.2 -0.8**
KAPI IAmb IAmb 19 04 45.6
comp=Z,59nm,1.6s
H11S3 WAKE ISLAND Hy 35.20 99 T T 19 42 15.2
baz=281,slow=74,SNR=11
H11S1 WAKE ISLAND Hy 35.21 99 T T 19 42 16.3
SNR=12
H11S2 WAKE ISLAND Hy 35.22 99 T T 19 42 15.3
baz=287,slow=74,SNR=6.5
SURT Suratani 35.23 242 P **P** **19 04 45.7 +1.4**
comp=Z,95nm,0.8s,comp=Z,850nm
TRTT Trang 35.25 239 P **P** **19 04 46.1 +1.6**
comp=Z,44nm,0.9s,comp=Z,737nm
BKSI Bulukumba 35.28 197 P **P** **19 04 45.2 +0.5**
JRMM Jerantut 35.94 231 P **P** **19 04 51.0 +0.6**
PKDT Phuket 36.25 241 P **P** **19 04 54.4 +1.4**
comp=Z,90nm,0.8s,comp=Z,1μmcomp=Z,8μm
IPM Ipoh 36.53 234 P **P** **19 04 56.0 +0.5**
IPM Ipoh 36.53 234 P **P** **19 04 55.6 +0.2**
MYKOM Kota Tinggi 36.59 227 P **P** **19 04 57.0 +1.1**
MYKOM Kota Tinggi 36.59 227 P **P** **19 04 56.9 +1.0**
MYKOM IAmb IAmb 19 04 58.6
comp=Z,49nm,1.1s
WMQ Urumqi 36.62 306 P **P** **19 04 56.4 +0.4**
WMQ pP pP 19 05 10.6 +2.8
WMQ sP sP 19 05 17.4 +4.4
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,250nm,5.9s
WMQ LR LR
comp=Z,370nm,13.3s
WMQ LR LR
comp=Z,450nm,14.7s
WMQ LR LR
comp=Z,960nm,16.9s
WMQ Urumqi 36.62 306 P **P** **19 04 55.1 -0.9**
WMQ pmax pmax
comp=Z,52nm,1.6s
WMQ Urumqi 36.62 306 P **P** **19 04 55.1 -0.9**
WMQ IAmb IAmb 19 05 14.1
comp=Z,52nm,1.6s
SAUI Saumlaki 36.70 178 P **P** **19 04 57.2 +0.4**
TPRI Tanjung Pinang 36.83 225 P **P** **19 04 59.4 +1.4**
TAPN Taplejung 37.01 278 *e*P **P** **19 04 59.8 0.0**
comp=Z,86nm,1.1s
SEY Seymchan 37.07 17⇓*i*P **P** **19 04 59.0 -0.5**
SEY Seymchan 37.07 17 P **P** **19 04 58.4 -1.1**
comp=Z,5.3nm,0.7s,baz=193,slow=5.7,SNR=11
ODAN Odare 37.40 277 *e*P **P** **19 05 03.2 +0.2**
comp=Z,204nm,0.8s
TPI Tanjungpandan 37.98 218 P **P** **19 05 09.3 +1.6**
comp=Z,61nm,0.9s,comp=Z,585nm
MMRI Maumere 38.03 192 P **P** **19 05 08.2 +0.1**
comp=Z,107nm,1.1s,comp=Z,1μm
MMRI Maumere 38.03 192 P **P** **19 05 06.8 -1.2**
RAMN Ramite 38.06 278 *e*P **P** **19 05 08.3 -0.4**
comp=Z,82nm,1.0s
DGZ Jazzator, Alta 38.16 315⇑*e*P **P** **19 05 08.1 -1.0**
JIRN Jiri 38.26 279 *e*P **P** **19 05 10.6 +0.1**
comp=Z,113nm,0.8s
GUN Gumba 38.48 279 *e*P **P** **19 05 13.0 +0.7**
comp=Z,313nm,0.9s
SOEI Soe 38.80 189 P **P** **19 05 13.6 -1.1**
comp=Z,148nm,1.1s,comp=Z,1μm
SOEI Soe 38.80 189 P **P** **19 05 13.0 -1.7**
PKI Pulchoki 38.96 279 *e*P **P** **19 05 16.1 -0.2**
comp=Z,205nm,0.9s
PKIN Phulchoki 38.97 279 *e*P **P** **19 05 16.1 -0.2**
comp=Z,145nm,0.9s
LHMI Lhok Sumawe 39.01 239 P **P** **19 05 17.7 +1.4**
LHMI Lhok Sumawe 39.01 239 P **P** **19 05 16.7 +0.3**
KKN Kakani 39.02 279 *e*P **P** **19 05 16.8 +0.1**
comp=Z,217nm,0.9s
PSI Prapat 39.19 234 P **P** **19 05 18.5 +0.4**
PSI pmax pmax
comp=Z,28nm,0.8s
DMN Daman 39.21 279 *e*P **P** **19 05 18.2 -0.1**
comp=Z,183nm,1.1s
PLAI Plampang 39.26 199 P **P** **19 05 18.2 -0.2**
comp=Z,160nm,1.5s,comp=Z,2μm
RPSI Rantau Prapat 39.27 234 P **P** **19 05 18.4 -0.1**
RPSI IAmb IAmb 19 05 19.4
comp=Z,28nm,0.8s
GRJI Gresik 39.33 208 P **P** **19 05 21.2 +2.2**
comp=Z,199nm,1.0s,comp=Z,2μm
KRVT Keravat (AS076 39.33 143 P **P** **19 05 20.8 +1.8**
comp=Z,77nm,1.0s,baz=115,slow=2.7,SNR=16
BATI Baumata 39.33 190 P **P** **19 05 17.6 -1.5**
comp=Z,217nm,0.7s,baz=310,slow=0.9,SNR=114
BATI Baumata 39.33 190 P **P** **19 05 17.7 -1.3**
SRBI Singaraja 39.37 203 P **P** **19 05 19.5 +0.2**
comp=Z,20nm,1.0s,comp=Z,411nm
TWSI Taliwang, Sumb 39.44 200 P **P** **19 05 19.9 0.0**
comp=Z,242nm,1.1s,comp=Z,2μm
BKNI Bangkinang 39.52 229 P **P** **19 05 22.3 +1.6**
comp=Z,162nm,1.1s,comp=Z,2μm
BKNI Bangkinang 39.52 229 P **P** **19 05 21.4 +0.7**
GKN Gorkha 39.53 280 *e*P **P** **19 05 20.8 -0.1**
comp=Z,200nm,0.8s
WBSI Waikabubak, Su 39.62 196 P **P** **19 05 23.3 +1.9**
comp=Z,61nm,1.1s
PMBI Palembang 39.73 221 P **P** **19 05 23.7 +1.3**
PMBI Palembang 39.73 221 P **P** **19 05 24.5 +2.1**
MLSI Meulaboh, Aceh 40.04 239 P **P** **19 05 25.6 +0.6**
comp=Z,87nm,1.3s
JAGI Jajag, Banyuwa 40.11 204 P **P** **19 05 26.0 +0.6**
comp=Z,102nm,1.2s
JAGI Jajag, Banyuwa 40.11 204 P **P** **19 05 25.5 0.0**
NGJI Ngawi 40.16 209 P **P** **19 05 28.7 +2.8**
comp=Z,210nm,1.2s
SDSI Sungai Dareh 40.22 227 P **P** **19 05 29.2 +2.8**
comp=Z,26nm,0.9s
DANN Dangsing 40.22 281 *e*P **P** **19 05 27.1 +0.4**
comp=Z,299nm,0.8s
SMRI Semarang 40.32 211 P **P** **19 05 29.3 +2.1**
comp=Z,157nm,1.6s
SMRI Semarang 40.32 211 P **P** **19 05 26.8 -0.5**
PWJI Pagerwojo 40.61 208 P **P** **19 05 29.6 0.0**
comp=Z,122nm,1.0s
PWJI pP **pP** **19 05 37.7 -4.0**

comp=Z,122nnm,1.0s
WOJI Wonogiri, Jawa 40.81 209 P P 19 05 31.3 0.0
comp=Z,112nnm,1.6s
WOJI pP **pP 19 05 37.8 -5.6**
comp=Z,112nnm,1.6s
PDSI Padang 40.83 229 P **P 19 05 31.4 -0.1**
MK31 Makanchi Array 40.86 309 *i* P **P 19 05 30.9 -0.6**
MK31 pmax pmax
comp=Z,17nnm,0.7s
MK31 Makanchi Array 40.86 309 P **P 19 05 29.8 -1.7**
MKAR Makanchi Array 40.86 309 P **P 19 05 30.7 -0.8**
comp=Z,22nm,0.7s,baz=96,slow=9.7,SNR=103
MKAR PP **PP 19 07 09.0 +2.9**
comp=Z,8.3nnm,1.0s,baz=100,slow=11,SNR=4.3
MKAR PcP **PcP 19 07 31.2 -0.3**
comp=Z,4.9nnm,0.7s,baz=77,slow=3.6,SNR=6.8
MKAR ScP **ScP 19 11 17.2 -0.4**
comp=Z,3.5nm,0.9s,baz=93,slow=6.1,SNR=8.9
MKAR Makanchi Array 40.86 309 P **P 19 05 29.8 -1.7**
MKAR **PP 19 07 04.5 -1.6**
MKAR **PcP 19 07 30.2 -1.3**
MKAR **ScP 19 11 16.7 -0.9**
ZAA0 Zalesovo Array 41.02 320 P **P 19 05 31.3 -1.4**
ZAA0 **PcP 19 07 30.7 -1.2**
ZALV Zalesovo Beam 41.02 320 P **P 19 05 31.7 -0.9**
comp=Z,22nm,0.6s,baz=107,slow=7.8,SNR=71
ZALV PcP **PcP 19 07 31.0 -0.9**
comp=Z,4.4nm,0.5s,baz=116,slow=3.4,SNR=7.2
ZALV ScP **ScP 19 11 16.3 -1.7**
comp=Z,2.2nm,0.8s,baz=153,slow=3.5,SNR=6.5
ZALV Zalesovo Beam 41.02 320 P **P 19 05 30.9 -1.8**
ZALV **PcP 19 07 30.0 -1.9**
ZALV **ScP 19 11 16.3 -1.7**
YOGI Yogyakarta 41.07 210 P **P 19 05 34.5 +1.1**
comp=Z,606nm,1.4s
MAKZ Makanchi 41.08 309 P **P 19 05 32.0 -1.3**
MAKZ pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 41.08 309 P **P 19 05 32.0 -1.3**
LHSI Lahat 41.18 222 P **P 19 05 35.0 +0.6**
comp=Z,39nm,0.9s
KPJI Karang Pucung 41.26 212 P **P 19 05 35.9 +0.9**
comp=Z,294nm,1.4s,comp=Z,3μm
KPJI pP **pP 19 05 41.1 -5.9**
comp=Z,294nm,1.4s,comp=Z,3μm
MASI Maura Aman, Be 41.41 224 P **P 19 05 37.2 +0.9**
comp=Z,216nm,1.1s
LEM Lembang 41.46 214 P **P 19 05 38.2 +1.5**
comp=Z,169nm,0.8s,baz=32,slow=4.4,SNR=52
LEM Lembang 41.46 214 P **P 19 05 38.9 +2.1**
MTN Manton Dam 41.52 178 P **P 19 05 36.4 -0.7**
PMG Port Moresby 41.61 154‖ *e*P **P 19 05 39.0 +1.2**
PMG pmax pmax
comp=Z,118nm,1.0s
PMG Port Moresby 41.61 154 P **P 19 05 38.3 +0.5**
comp=Z,27nm,1.0s,baz=333,slow=3.3,SNR=6.9
PMG Port Moresby 41.61 154 P **P 19 05 38.8 +1.0**
SBJI Serang 41.62 217 P **P 19 05 39.0 +1.1**
comp=Z,158nm,0.5s
SBJI pP **pP 19 05 43.4 -6.6**
comp=Z,158nm,0.5s
LWLI Liwa 41.84 220 P **P 19 05 41.8 +1.9**
comp=Z,65nm,0.8s,comp=Z,7μm
CISI Cisompet, Garu 41.99 214 P **P 19 05 40.8 -0.2**
CISI Cisompet, Garu 41.99 214 P **P 19 05 40.3 -0.7**
CISI IAmb IAmb 19 05 58.8
comp=Z,103nm,1.1s
SISI Saibi 42.05 230 P **P 19 05 41.0 -0.5**
PDGK Podgornoye 42.49 304 P **P 19 05 43.3 -1.7**
PDGK pmax pmax
comp=Z,31nm,0.8s
TIXI Tiksi 42.80 360‖ *e*P **P 19 05 47.0 +0.2**
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI MLR MLR
comp=Z,458nm,17.0s
TIXI Tiksi 42.80 360 P **P 19 05 46.5 -0.3**
comp=Z,9.0nm,0.8s,baz=180,slow=24,SNR=19
TIXI Tiksi 42.80 360 P **P 19 05 45.6 -1.2**
PRZ Przheval'sk 43.26 302 P **P 19 05 51.3 0.0**
PRZ pmax pmax
comp=Z,44nm,0.8s
PRZ Przheval'sk 43.26 302 P **P 19 05 51.3 0.0**
PRZ IAmb IAmb 19 05 53.2
comp=Z,44nm,0.8s
TARG Taragay, Kyrgy 43.70 301 P **P 19 05 55.1 0.0**
TARG IAmb IAmb 19 05 57.2
comp=Z,64nm,0.8s
TARG **PP 19 07 36.0 -1.3**
KURK Kurchatov 43.90 314 P **P 19 05 55.3 -0.7**
KURK Kurchatov 43.90 314 P **P 19 05 54.1 -1.9**
KURK **PP 19 07 39.6 +0.9**
KURBB Kurchatov Arra 43.94 314 P **P 19 05 55.3 -1.0**
comp=Z,16nm,0.7s,baz=103,slow=8.9,SNR=78
KURBB PP **PP 19 07 40.2 +1.1**
comp=Z,5.1nm,1.0s,baz=106,slow=11,SNR=5.4
KDJ Kajisay 44.16 302 P **P 19 05 57.7 -0.9**
KDJ 19 07 41.6
KDJ pmax pmax
comp=Z,32nm,0.9s
KDJ Kajisay 44.16 302 P **P 19 05 57.7 -0.9**
KDJ IAmb IAmb 19 06 00.5
comp=Z,32nm,0.8s
KDJ PcP **PP 19 07 41.6 -0.3**
KNRA Kununurra 44.33 181 P **P 19 05 59.7 0.0**
COEN Coen 44.53 161 P **P 19 06 02.3 +0.9**
BILL Bilibino 44.70 19‖ *e*P **P 19 06 02.6 +0.3**
BILL *i* 19 06 15.4
BILL *i* 19 07 43.9
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,580nm,22.0s
BILL Bilibino 44.70 19 P **P 19 06 01.4 -0.8**
BILL PcP **PcP 19 07 44.3 +0.4**
NRN Naryn 45.06 301 P **P 19 06 05.4 -0.5**
NRN 19 07 46.0
NRN pmax pmax
comp=Z,26nm,0.7s
NRN Naryn 45.06 301 P **P 19 06 05.4 -0.5**
NRN IAmb IAmb 19 06 07.1
comp=Z,26nm,0.7s
NRN PcP **PcP 19 07 46.0 -0.1**
KSH Kashi 45.16 298 P **P 19 06 10.3 +3.8**
KSH sP sP 19 06 32.6 +8.9
KSH PcP **PcP 19 07 49.3 +3.0**
KSH S **S 19 12 47.1 +3.9**
KSH sS sS 19 13 13.9 +10
KSH SS **ScS 19 16 01.8 +2.0**
KSH pmax pmax
comp=Z,59nm,0.6s
KSH pmax pmax
comp=Z,500nm,5.6s
KSH LR LR
comp=Z,790nm,13.2s
KSH LR LR
comp=Z,630nm,11.3s
KSH LR LR
comp=Z,1μm,18.1s
KIWB Kanaga Island 45.24 44 P **P 19 06 06.9 +0.1**
TKM2 Tokmak 2 45.33 303 *i* P **P 19 06 07.5 -0.4**
TKM2 pmax pmax
comp=Z,45nm,0.7s
TKM2 Tokmak 2 45.33 303 P **P 19 06 08.3 +0.5**
SNR=58
ADK Adak 45.53 44 P **P 19 06 08.2 -0.8**
ADK pmax pmax
comp=Z,43nm,1.1s
ADK Adak 45.53 44 P **P 19 06 08.2 -0.8**
ADK IAmb IAmb 19 06 37.7
comp=Z,43nm,1.1s
XMIS Christmas Isla 45.57 214 P **P 19 06 08.4 -1.3**
KZA Kyzart 45.60 302 P **P 19 06 10.8 +0.5**
SNR=25
KBK Karagaybulak 45.81 303 P **P 19 06 12.0 +0.4**
SNR=27
GSTR Great Sitkin T 45.95 44 P **P 19 06 11.6 -0.8**
CHMS Chumysh 45.95 303 P **P 19 06 12.6 +0.1**
SNR=25
FRU1 Bishkek 46.04 303 P **P 19 06 13.5 +0.1**
FRU1 pmax pmax
comp=Z,42nm,1.0s
FRU1 Bishkek 46.04 303 P **P 19 06 13.5 +0.1**
FRU1 IAmb IAmb 19 06 15.0
comp=Z,42nm,1.0s
USP Ospenovka 46.13 304 P **P 19 06 14.8 +0.8**
SNR=10.0
UCH Uchtor 46.15 302 P **P 19 06 15.6 +1.0**
SNR=111
AAK Ala-Archa 46.15 303 *i* P **P 19 06 14.4 +0.1**
SNR=23
AAK Ala-Archa 46.15 303‖ *e*P **P 19 06 13.9 -0.4**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 46.15 303 P **P 19 06 14.3 +0.1**
comp=Z,10nm,0.6s,baz=113,slow=6.8,SNR=47
AAK Ala-Archa 46.15 303 P **P 19 06 14.4 +0.1**
SNR=16
AAK Ala-Archa 46.15 303 P **P 19 06 13.5 -0.8**
AML Almayashu 46.76 302 P **P 19 06 20.5 +1.1**
SNR=15
FITZ Fitzroy Crossi 46.90 185 P **P 19 06 20.2 +0.1**
ARSB Arslanbob 47.33 301 P **P 19 06 23.4 -0.1**
ARSB IAmb IAmb 19 06 27.1
comp=Z,45nm,1.1s
HNR Honiara 47.95 138 P **P 19 06 29.4 +1.1**
HNR pmax pmax
comp=Z,38nm,0.8s
HNR Honiara 47.95 138 P **P 19 06 29.4 +1.1**
HNR IAmb IAmb 19 06 55.9
comp=Z,38nm,0.8s
NIL Nilore 48.06 291 P **P 19 06 28.9 -0.2**
NIL Nilore 48.06 291 P **P 19 06 28.9 -0.2**
HYB Hyderabad 48.16 268 *i* P **P 19 06 29.0 -1.1**
WRAB Tennant Creek 48.75 174 *c i* P **P 19 06 34.7 +0.3**
WRAB pmax pmax
comp=Z,72nm,1.3s
WRAB Tennant Creek 48.75 174 P **P 19 06 34.4 0.0**
WRAB IAmb IAmb 19 06 35.9
comp=Z,54nm,1.0s
WRA Warramunga Arr 48.76 174 P **P 19 06 33.6 -0.9**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 48.76 174 P **P 19 06 33.6 -0.9**
comp=Z,32nm,0.9s,baz=354,slow=8.2,SNR=172
WRA S **S 19 13 32.8 -1.5**
comp=Z,3.5nm,1.1s,baz=355,slow=14,SNR=8.9
WRA Warramunga Arr 48.76 174 P **P 19 06 33.6 -0.9**
WB2 Warramunga Arr 48.76 174 P **P 19 06 34.4 -0.1**
KK31 Karatay Array 49.05 304 *i* P **P 19 06 36.6 0.0**
KK31 pmax pmax
comp=Z,16nm,0.7s
KK31 Karatay Array 49.05 304 P **P 19 06 35.4 -1.2**
KK31 IAmb IAmb 19 06 38.1
comp=Z,26nm,0.9s
KK31 PcP **PcP 19 07 58.4 -1.4**
KKAR Karatay Array 49.05 304 P **P 19 06 35.6 -1.0**
KKAR 19 07 58.1
KKAR pmax pmax
comp=Z,26nm,0.9s
KKAR Karatay Array 49.05 304 P **P 19 06 35.4 -1.2**
KKAR PcP **PcP 19 07 59.0 -0.9**
KKAR Karatay Array 49.05 304 P **P 19 06 35.6 -1.0**
KKAR IAmb IAmb 19 06 38.1
comp=Z,26nm,0.9s
KKAR PcP **PcP 19 07 58.1 -1.7**
BTK Batken 49.08 299 P **P 19 06 36.7 -0.3**
BTK pmax pmax
comp=Z,36nm,1.3s
BTK Batken 49.08 299 P **P 19 06 36.7 -0.3**
BTK IAmb IAmb 19 06 38.5
comp=Z,36nm,1.2s
BVAR Borovoye Array 49.25 317 P **P 19 06 37.5 -0.5**
comp=Z,23nm,0.7s,baz=89,slow=9.0,SNR=97
BVAR PcP **PcP 19 07 59.6 -0.7**
comp=Z,13nm,0.8s,baz=112,slow=3.6,SNR=5.7
BRVK Borovoye 49.32 317 *c i* P **P 19 06 37.5 -1.0**
BRVK pmax pmax
comp=Z,45nm,0.9s
BRVK Borovoye 49.32 317 P **P 19 06 37.3 -1.2**
BRVK IAmb IAmb 19 06 39.8
comp=Z,46nm,0.8s
TARA Tarawa 49.38 116 P **P 19 06 40.6 +1.2**
GAR Garm 49.59 298 P **P 19 06 40.6 -0.3**
TAS Tashkent 50.10 301 P **P 19 06 44.7 +0.1**
TAS pmax pmax
comp=Z,44nm,0.8s
TAS Tashkent 50.10 301 P **P 19 06 44.7 +0.1**
CHGR Chuyangaron 50.53 298 P **P 19 06 46.9 -1.1**
MBWA Marble Bar 50.71 192 P **P 19 06 49.2 -0.1**
PALK Pallekele 50.95 255 P **P 19 06 51.9 +0.5**
PALK Pallekele 50.95 255 *d i* P **P 19 06 51.9 +0.5**
PALK Pallekele 50.95 255 P **P 19 06 51.1 -0.2**
PALK IAmb IAmb 19 06 52.7
comp=Z,29nm,0.9s
PALK PcP **PcP 19 08 07.9 +0.7**
PSA00 Pilbara Seismi 51.09 192 P **P 19 06 52.2 +0.1**
PSA00 Pilbara Seismi 51.09 192 P **P 19 06 50.5 -1.7**
PSA00 IAmb IAmb 19 06 51.9
comp=Z,44nm,0.8s
PSA00 PcP **PcP 19 08 07.1 -0.3**
CTAO Charters Tower 51.23 160 P **P 19 06 53.2 0.0**
CTAO 19 08 08.4
CTAO pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 51.23 160 P **P 19 06 53.2 0.0**
CTAO PcP **PcP 19 08 08.4 +0.4**
KBL Kabul 51.32 293 P **P 19 06 53.0 -1.2**
KBL 19 08 07.8
KBL Kabul 51.32 293 P **P 19 06 53.0 -1.2**
KBL PcP **PcP 19 08 07.8 -0.9**
POO Poona 51.85 272 *e*P P 19 07 05.0 +6.9
AS31 Alice Springs 52.41 175 P **P 19 07 01.8 -0.2**
ASAR Alice Springs 52.42 175 P **P 19 07 02.6 +0.6**
comp=Z,14nm,0.9s,baz=5.2,slow=13,SNR=126
ASAR S **S 19 14 24.9 -0.1**
comp=Z,1.0nm,0.9s,baz=16,slow=19,SNR=4.9
ASAR LR LR 19 28 35.0
comp=Z,156nm,20.8s,baz=358,slow=35
ASAR Alice Springs 52.42 175 P **P 19 07 01.9 -0.1**
ANM Nome 53.51 29 P **P 19 07 10.2 +0.6**
ANM pmax pmax
comp=Z,17nm,1.0s
ANM Nome 53.51 29 P **P 19 07 10.2 +0.6**
FALS False Pass 53.69 41 P **P 19 07 10.1 -1.0**
SVE Sverdlovsk 55.03 321 *e*P **P 19 07 21.1 +0.3**
SVE pmax pmax
comp=Z,42nm,1.4s
SVE MLR MLR
comp=Z,934nm,15.0s
AB31 Akbulak array 55.87 312 P **P 19 07 26.6 -0.4**
AB31 pmax pmax
comp=Z,24nm,0.9s
ABKAR Akbulak array 55.87 312 P **P 19 07 25.3 -1.6**
ABKAR Akbulak array 55.87 312 P **P 19 07 25.6 -1.4**
ABKAR IAmb IAmb 19 07 29.2
comp=Z,20nm,0.8s
CNBA Chernabura Isl 55.90 41 P **P 19 07 27.3 +0.2**
CNBA IAmb IAmb 19 07 43.1
comp=Z,50nm,1.0s
ARU Arti 56.19 321 *d i* P **P 19 07 28.7 -0.4**
ARU 19 08 22.4
ARU 19 09 31.0
ARU S **S 19 15 15.2 +0.1**
ARU SS **SS 19 18 57.5 -4.2**
ARU pmax pmax
comp=Z,62nm,1.0s
ARU Arti 56.19 321 P **P 19 07 28.3 -0.8**
comp=Z,8.4nm,0.7s,baz=96,slow=3.7,SNR=42
ARU Arti 56.19 321 P **P 19 07 27.8 -1.3**
ARU IAmb IAmb 19 07 30.2
comp=Z,49nm,0.9s
HRA Herat 56.83 294 P **P 19 07 33.8 -0.5**
HRA IAmb IAmb 19 07 35.7
comp=Z,31nm,0.9s
HRA PcP **PcP 19 08 27.9 -1.8**
AKTO Aktyubinsk 56.98 314 P **P 19 07 34.5 -0.4**
comp=Z,12nm,0.8s,baz=82,slow=7.7,SNR=11
MNCI Minicoy 56.99 261 P **P 19 07 35.2 -0.3**
TTA Tatalina 57.53 31 P **P 19 07 38.9 +0.3**
TTA pmax pmax
comp=Z,16nm,1.0s
TTA Tatalina 57.53 31 P **P 19 07 38.9 +0.3**
EIDS Eidsvold 57.71 157 P **P 19 07 40.2 0.0**
EIDS IAmb IAmb 19 07 41.9
comp=Z,19nm,1.0s
SVW2 Sparrevohn 57.77 34 P **P 19 07 41.3 +1.0**
SVW2 IAmb IAmb 19 08 01.0
comp=Z,25nm,1.3s
CHIR Chirikof Islan 58.09 40 P **P 19 07 42.0 -0.6**
IMAR Indian Mountai 58.48 28 P **P 19 07 45.6 +0.5**
SII Sitkinak Islan 58.82 39 P **P 19 07 48.2 +0.6**
ASHT Ashkhabad 58.98 299 P **P 19 07 49.4 +0.3**
ASHT pmax pmax
comp=Z,93nm,1.0s
ASHT Ashkhabad 58.98 299 P **P 19 07 49.4 +0.3**
MORW Morawa 59.13 194 P **P 19 07 49.7 -0.3**
MORW IAmb IAmb 19 07 51.2
comp=Z,42nm,1.2s
MORW PcP **PcP 19 08 38.1 -0.1**
GEYT Alibeck 59.19 299 P **P 19 07 50.7 +0.1**
comp=Z,19nm,0.7s,baz=56,slow=3.7,SNR=38
GEYT LR LR 19 36 53.3
comp=Z,483nm,19.8s,baz=100,slow=40
GEYT Alibeck 59.19 299 P **P 19 07 50.6 +0.1**
GYA0B ALIBECK ARRAY 59.19 299 P **P 19 07 50.8 +0.2**
GYA0B IAmb IAmb 19 07 51.8
comp=Z,28nm,1.0s
RSO Redoubt South 59.20 34 P **P 19 07 51.4 +0.9**
OHAK Old Harbor 59.24 38 P **P 19 07 50.6 +0.2**
PPLA Purkeypile 59.28 31 P **P 19 07 52.2 +1.3**
PPLA IAmb IAmb 19 08 08.8
comp=Z,51nm,1.4s
PPLA PcP **PcP 19 08 41.1 +2.4**
FORT Forrest 59.37 182 P **P 19 07 52.0 +0.3**
KDAK Kodiak Island 59.55 37 P **P 19 07 53.2 +0.5**
KDAK pmax pmax
comp=Z,68nm,1.3s
KDAK Kodiak Island 59.55 37 P **P 19 07 53.2 +0.5**
SKT Skwentna 59.66 32 P **P 19 07 54.5 +1.1**
SKT IAmb IAmb 19 08 18.7
comp=Z,20nm,1.2s
BPAW Bear Paw Mtn. 59.73 30 P **P 19 07 54.7 +0.8**
BPAW IAmb IAmb 19 08 12.2
comp=Z,18nm,1.0s
MLY Manley 59.77 29 P **P 19 07 54.5 +0.4**
MLY IAmb IAmb 19 08 12.6
comp=Z,19nm,1.1s
COLD Coldfoot 59.85 26 P **P 19 07 55.6 +1.0**
TOLK Toolik Lake Re 60.02 25 P **P 19 07 56.9 +1.1**
baz=273
TOLK Toolik Lake Re 60.02 25 P **P 19 07 56.5 +0.7**
TOLK IAmb IAmb 19 08 00.7
comp=Z,23nm,1.1s
CNPM China Poot 60.05 35 P **P 19 07 57.2 +1.1**
SUA Susitna One 60.08 33 P **P 19 07 56.4 0.0**
SUA IAmb IAmb 19 08 12.8
comp=Z,32nm,0.8s
TRF Thorofare Moun 60.09 31 P **P 19 07 57.7 +1.2**
TRF IAmb IAmb 19 08 15.1
comp=Z,53nm,1.8s
BRLK Bradley Lake 60.20 35 P **P 19 07 56.7 -0.5**
BWN Browne 60.39 30 P **P 19 07 55.7 -2.7**
BWN IAmb IAmb 19 08 20.8
comp=Z,46nm,1.1s
NEA Nenana 60.52 29 P **P 19 08 00.1 +0.9**
NEA IAmb IAmb 19 08 04.3
comp=Z,38nm,1.0s
RC01 Rabbit Creek A 60.60 33 P **P 19 08 00.3 +0.4**
RC01 IAmb IAmb 19 08 16.7
comp=Z,26nm,1.0s
MCK McKinley 60.67 30 P **P 19 08 00.5 +0.2**
MCK pmax pmax
comp=Z,23nm,0.9s
MCK McKinley 60.67 30 P **P 19 08 00.6 +0.2**
MCK IAmb IAmb 19 08 18.9
comp=Z,23nm,0.9s
RND Reindeer 60.74 31 P **P 19 08 00.3 -0.5**
RND pmax pmax
comp=Z,29nm,0.7s
RND Reindeer 60.74 31 P **P 19 08 00.3 -0.5**
RND IAmb IAmb 19 08 16.7
comp=Z,29nm,0.7s
PMR Palmer 60.83 33 P **P 19 08 01.2 -0.1**
PMR pmax pmax
comp=Z,21nm,0.9s
PMR Palmer 60.83 33 P **P 19 08 01.2 -0.1**
PMR IAmb IAmb 19 08 17.7
comp=Z,21nm,0.9s
MDM Murphy Dome 60.84 29 P **P 19 08 02.0 +0.5**
MDM IAmb IAmb 19 08 06.6
comp=Z,41nm,1.0s
SEW Seward 60.87 34 P **P 19 08 01.7 +0.1**
KIRV Kirov 60.90 324 P **P 19 08 01.8 0.0**
comp=Z,32nm,0.7s,baz=113,slow=1.5,SNR=14
GHO Glory Hole Cre 60.91 33 P **P 19 08 02.3 +0.3**
GHO IAmb IAmb 19 08 29.7
comp=Z,60nm,1.6s
WRH Wood River Hil 60.95 29 P **P 19 08 02.3 +0.2**
COLA College 61.01 29 *de*P **P 19 08 04.1 +1.6**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 61.01 29 P **P 19 08 03.3 +0.8**
KAAM Kaadhehdhoo 61.04 253 P **P 19 08 03.2 -0.3**
CCB Clear Creek Bu 61.06 29 P **P 19 08 03.3 +0.5**
KNK Knik Glacier 61.17 33 P **P 19 08 04.2 +0.4**
KNK IAmb IAmb 19 08 20.9
comp=Z,35nm,1.0s
SML Sawmill 61.18 32 P **P 19 08 04.6 +0.8**
SML IAmb IAmb 19 08 42.6
comp=Z,69nm,1.6s
IL31 61.43 29 P **P 19 08 04.5 -0.8**
ILAR Eielson Array 61.43 29 P **P 19 08 05.2 -0.3**
comp=Z,3.5nm,0.7s,baz=276,slow=4.8,SNR=31
ILAR LR LR 19 36 05.9
comp=Z,93nm,20.0s,baz=288,slow=37
ILAR PKPPKP 19 37 20.4
comp=Z,1.3nm,1.1s,baz=93,slow=1.7,SNR=5.3
ILAR Eielson Array 61.43 29 P **P 19 08 04.3 -1.1**
DHY Denali Highway 61.45 31 P **P 19 08 06.1 +0.4**
HDA Harding Lake 61.45 29 P **P 19 08 05.6 0.0**
baz=278
HDA Harding Lake 61.45 29 P **P 19 08 05.2 -0.4**
HDA IAmb IAmb 19 08 09.4
comp=Z,29nm,0.8s
STKA Stephens Creek 61.48 169 P **P 19 08 06.8 +0.8**
comp=Z,16nm,0.6s,baz=340,slow=6.9,SNR=40
STKA PP **PP 19 10 21.1 -0.9**
comp=Z,7.9nm,1.1s,baz=343,slow=12,SNR=2.8
STKA LR LR 19 33 48.7
comp=Z,108nm,22.0s,baz=351,slow=35
STKA Stephens Creek 61.48 169 P **P 19 08 06.3 +0.2**
SCM Sheep Creek Mo 61.65 32 P **P 19 08 07.1 +0.1**
SCM pmax pmax
comp=Z,48nm,1.2s
SCM Sheep Creek Mo 61.65 32 P **P 19 08 07.1 +0.1**
SCM IAmb IAmb 19 08 35.1
comp=Z,48nm,1.2s
BBOO Buckleboo 61.66 174 P **P 19 08 07.3 0.0**
DZM Mont Dzumac 61.78 141 *e*P **P 19 08 09.4 +1.0**
comp=Z,56nm,1.0s
DZM *e*S **S 19 16 31.3 +2.8**
comp=Z,1μm,33.6s
DZM Mont Dzumac 61.78 141 P **P 19 08 09.3 +1.0**
BMAR Burnt Mountain 62.00 26 P **P 19 08 09.6 +0.3**
PAX Paxson 62.32 31 P **P 19 08 11.9 +0.4**
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 62.32 31 P **P 19 08 11.9 +0.4**
ARMA Armidale 62.56 159 P **P 19 08 14.2 +0.7**
ARMA IAmb IAmb 19 08 16.9
comp=Z,40nm,1.2s
EYAK Cordova Ski Ar 62.62 34 P **P 19 08 14.3 +0.9**
EYAK IAmb IAmb 19 08 45.9
comp=Z,29nm,1.1s
NWAO Narrogin (SRO) 62.64 192 P **P 19 08 13.7 -0.1**
NWAO pmax pmax
comp=Z,49nm,1.2s
NWAO Narrogin (SRO) 62.64 192 P **P 19 08 13.7 -0.1**
NWAO IAmb IAmb 19 08 15.0
comp=Z,49nm,1.2s
NWAO Narrogin (SRO) 62.64 192 P **P 19 08 13.7 -0.1**
NWAO IAmb IAmb 19 08 15.0
comp=Z,36nm,1.1s
DOT Dot Lake 62.83 30 P **P 19 08 14.3 -0.5**
DOT IAmb IAmb 19 08 19.0
comp=Z,24nm,1.0s
MENT Mentasta 63.11 31 P **P 19 08 16.1 -0.6**
MENT IAmb IAmb 19 08 24.4
comp=Z,29nm,0.8s
GLB Gilahina Butte 63.37 32 P **P 19 08 19.8 +1.3**
GLB IAmb IAmb 19 08 45.2
comp=Z,49nm,1.6s
VRDI Verde Repeater 63.58 33 P **P 19 08 20.6 +0.6**

CRQM Cirque 63.84 33 P P 19 08 22.6 +0.9
CRQM IAmb IAmb 19 08 40.7
comp=Z,35nm,1.1s
EGAK Eagle 63.85 29 P P 19 08 21.8 +0.3
BCAR Beaver Creek A 63.95 30 P P 19 08 23.0 +0.8
TGL Tana Glacier 63.98 33 P P 19 08 23.7 +1.1
TGL IAmb IAmb 19 08 42.6
comp=Z,28nm,0.9s
SHME Shamm 64.41 287 P P 19 08 26.5 +0.6
CTGM Chitina Glacie 64.65 33 P P 19 08 27.2 +0.2
CTGM IAmb IAmb 19 08 33.1
comp=Z,24nm,1.1s
UOSS Minazif 64.75 286 P P 19 08 29.0 +0.9
UOSS Minazif 64.75 286 P P 19 08 26.4 -1.7
UOSS IAmb IAmb 19 08 34.0
comp=Z,67nm,1.6s
DAWY Dawson 64.76 29 P P 19 08 27.9 +0.4
HATD Hatta, Dubai 64.86 286 P P 19 08 29.3 +0.5
TMCR Tamitsa 65.14 331 *eP* **P P 19 08 28.2 -1.7**
TMCR pmax pmax
comp=Z,39nm,1.1s
NAZ Nazwa, Dubai 65.20 286 P P 19 08 31.3 +0.4
EPYK Eagle Plains 65.25 26 P P 19 08 31.7 +1.0
baz=286
EPYK Eagle Plains 65.25 26 P P 19 08 31.1 +0.4
EPYK IAmb IAmb 19 08 35.0
comp=Z,54nm,1.2s
ALNE Al Ain 65.47 285 *i* P **P 19 08 33.1 +0.3**
SNR=20
ASUD Al Ashush, Dub 65.61 286 P P 19 08 34.1 +0.5
MSVF Nonsavu 65.74 129⇑ *eP* **P 19 08 37.8 +3.3**
MSVF pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 65.89 24 P P 19 08 35.2 +0.5
comp=Z,10nm,0.6s,baz=297,slow=6.2,SNR=67
INK Inuvik 65.89 24 P P 19 08 34.6 -0.1
INK IAmb IAmb 19 08 39.3
comp=Z,38nm,1.4s
AKT Akhty 65.91 305 *d i* P **P 19 08 35.0 -0.5**
APA Apatity 66.01 335⇓ *i* P **P 19 08 32.5 -3.0**
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,2μm,18.0s
CAN Canberra 66.40 163 P P 19 08 37.8 -0.6
CAN pmax pmax
comp=Z,24nm,1.1s
CAN Canberra 66.40 163 P P 19 08 37.8 -0.6
CAN IAmb IAmb 19 09 10.7
comp=Z,24nm,1.1s
HYT Haines Junctio 66.49 32 P P 19 08 39.2 +0.3
HYT IAmb IAmb 19 08 57.7
comp=Z,21nm,1.0s
H08N1 Diego Carcia H 66.49 248 P P 19 08 35.1 -3.9
baz=38,slow=3.6,SNR=5.9
H08N2 Diego Garcia H 66.49 248 P P 19 08 35.1 -3.8
baz=38,slow=3.6,SNR=4.5
H08N3 Diego Garcia H 66.51 248 P P 19 08 35.2 -3.9
baz=38,slow=3.6,SNR=3.5
VRH Novokhopyorsk 66.90 317 *eP* **P 19 08 40.3 -1.2**
VRH pmax pmax
comp=Z,70nm,0.8s
A36M Sachs Harbour 67.26 19 P P 19 08 44.0 +0.6
baz=293
KEV Kevo 67.47 338 P P 19 08 44.0 -0.7
KEV pmax pmax
comp=Z,59nm,1.2s
KEV Kevo 67.47 338 P P 19 08 44.0 -0.7
KEV IAmb IAmb 19 09 23.8
comp=Z,59nm,1.2s
TOO Toolangi 67.74 167 P P 19 08 47.7 +0.8
TOO pmax pmax
comp=Z,65nm,1.4s
TOO Toolangi 67.74 167 P P 19 08 47.7 +0.8
TOO IAmb IAmb 19 08 49.7
comp=Z,65nm,1.4s
WHY Whitehorse 67.76 32 P P 19 08 47.4 +0.5
WHY IAmb IAmb 19 09 12.0
comp=Z,45nm,1.6s
MOS Moscow 67.81 322 *eP* **P 19 08 45.4 -1.7**
MOS pmax pmax
comp=Z,42nm,0.7s
MOS MLR MLR
comp=Z,700nm,18.0s
TBLG Delisi 67.95 306 P P 19 08 47.7 -0.6
TBLG pmax pmax
comp=Z,27nm,1.0s
TBLG Delisi 67.95 306 P P 19 08 47.7 -0.6
TBLG IAmb IAmb 19 08 50.1
comp=Z,26nm,1.0s
GOF Gofitskoye 68.01 310⇓ *i* P **P 19 08 48.8 +0.2**
GOF pmax pmax
comp=Z,95nm,1.0s
ARCES ARCESS Array B 68.04 338 P P 19 08 47.3 -1.1
comp=Z,6.2nm,0.7s,baz=73,slow=9.0,SNR=13
ARCES ARCESS Array B 68.04 338 P P 19 08 47.0 -1.4
ARE0 ARCESS Array S 68.04 338 P P 19 08 47.3 -1.1
LPSR Galich'ya Gora 68.10 319 *eP* **P 19 08 48.2 -0.8**
LPSR pmax pmax
comp=Z,50nm,1.0s
NCK Nalchik 68.16 309⇓ *i* P **P 19 08 49.2 -0.4**
NCK pmax pmax
comp=Z,31nm,1.0s
ZEI Tsey 68.18 308 *eP* P 19 08 44.8 -5.2
ZEI pmax pmax
comp=Z,57nm,0.8s
PYA1 Pyatigorsk 68.31 309⇓ *i* P **P 19 08 50.1 -0.5**
VSR Storozhevoye 68.42 317 *eP* **P 19 08 49.7 -1.4**
VSR pmax pmax
comp=Z,60nm,0.9s
GNI Garni 68.49 305 *i* P **P 19 08 53.4 +1.5**
SNR=18
GNI Garni 68.49 305 *d i* P **P 19 08 52.8 +0.9**
GNI pmax pmax
comp=Z,288nm,1.7s
GNI Garni 68.49 305 P P 19 08 51.3 -0.6
GNI IAmb IAmb 19 08 54.4
comp=Z,54nm,1.0s
KBZ Khabaz 68.56 309 P P 19 08 51.8 -0.2
comp=Z,95nm,0.9s,baz=78,slow=4.6,SNR=114
OBN Obninsk 68.58 322⇓ *eP* **P 19 08 51.4 -0.5**
OBN *e* 19 09 16.7
OBN *e* 19 11 22.6
OBN pmax pmax
comp=Z,46nm,1.3s
OBN MLR MLR
comp=Z,448nm,19.0s
OBN Obninsk 68.58 322 P P 19 08 50.9 -1.1
KIV Kislovodsk 68.62 309 *i* P **P 19 08 53.1 +0.5**
SNR=33
KIV Kislovodsk 68.62 309 *eP* **P 19 08 51.9 -0.7**
KIV pmax pmax
comp=Z,352nm,1.1s
KIV Kislovodsk 68.62 309 ⇓P P 19 08 52.7 +0.1
KIV mb 19 08 54.5
KIV Kislovodsk 68.62 309 P P 19 08 52.4 -0.2
C36M Paulatuk 68.71 21 P P 19 08 53.0 +0.5
baz=296
AKH Akhalkalaki 68.94 306 P P 19 08 54.4 -0.3
AKH pmax pmax
comp=Z,47nm,0.9s
AKH Akhalkalaki 68.94 306 ⇓P P 19 08 55.4 +0.7
AKH Akhalkalaki 68.94 306 P P 19 08 54.4 -0.3
AKH IAmb IAmb 19 08 57.1
comp=Z,46nm,0.9s
TUTA Tutak 70.14 305 *i* P **P 19 09 03.3 +1.0**
TUTA IAML_P
comp=Z,1μm,0.9s
HAKT HAKKARI 70.16 303 *i* P **P 19 09 02.7 +0.3**
HAKT IAML_P
comp=Z,1μm,0.9s
BCA Borcka 70.24 307 ⇓P P 19 09 02.6 +0.1
BCA mb 19 09 03.6
CUKT Cukurca 70.35 302 *i* P **P 19 09 04.0 +0.6**
CUKT IAML_P
comp=Z,64nm,0.4s
SOC Sochi 70.77 310 *eP* **P 19 09 04.4 -1.2**
SOC *e* 19 11 45.1
SOC *e*PPP PPP 19 13 21.3
SOC *e*S **S 19 18 15.3 -1.8**
SOC *e*SS **SS 19 22 52.0 +2.7**
SOC pmax pmax
comp=Z,125nm,0.8s
SOC MLR MLR
comp=Z,199nm,15.0s

DLBC Dease Lake 70.88 33 P P 19 09 08.0 +1.8
comp=Z,3.6nm,0.3s,baz=283,slow=7.0,SNR=5.8
DLBC Dease Lake 70.88 33 P P 19 09 06.0 -0.2
DLBC IAmb IAmb 19 09 31.6
comp=Z,44nm,1.6s
SIRN Sirnak 71.14 303 *i* P **P 19 09 08.7 +0.5**
SIRN IAML_P
comp=Z,217nm,0.1s
FIA1 FINESS Array S 71.23 330 P P 19 09 06.6 -1.5
FIA1 IAmb IAmb 19 10 55.0
comp=Z,101nm,1.7s
FINES FINESS Array B 71.23 330 P P 19 09 06.6 -1.5
comp=Z,15nm,0.7s,baz=62,slow=5.5,SNR=35
FINES FINESS Array B 71.23 330 P P 19 09 06.5 -1.6
SRTM Siirt_Merkez 71.31 304 *i* P **P 19 09 09.9 +0.7**
SRTM IAML_P
comp=Z,1μm,0.8s
MUSM Mu-Merkez 71.33 304 *i* P **P 19 09 10.7 +1.3**
MUSM IAML_P
comp=Z,572nm,0.8s
SVAN Silvan-Diyarba 71.78 304 *i* P **P 19 09 12.6 +0.6**
SVAN IAML_P
comp=Z,810nm,0.8s
ANN Anapa 71.83 312 *d i* P **P 19 09 11.6 -0.4**
ANN pmax pmax
comp=Z,169nm,0.9s
BTMN Batman 71.83 304 *i* P **P 19 09 13.3 +1.0**
BTMN IAML_P
comp=Z,437nm,0.8s
SOCY Socotra 71.88 274 P P 19 09 10.9 -2.0
VSU Vasula 72.25 327 *de* P **P 19 09 14.0 -0.3**
VSU pmax pmax
comp=Z,127nm,1.3s
HANI Diyarbakir_Han 72.26 304 *i* P **P 19 09 15.7 +0.9**
HANI IAML_P
comp=Z,1μm,0.8s
RES Resolute Bay 72.67 11 P P 19 09 15.9 -0.6
RES pmax pmax
comp=Z,12nm,0.8s
RES Resolute Bay 72.67 11 P P 19 09 15.9 -0.6
DAG Danmarks Havn 72.79 353 *i* P **P 19 09 17.0 -0.2**
DAG pmax pmax
comp=Z,9.0nm,1.0s
DAG Danmarks Havn 72.79 353 *i* P **P 19 09 17.0 -0.2**
comp=Z,9.3nm,1.0s
NACGM Naroch 73.83 324 *e* **P 19 09 22.0 -1.7**
SIM Simferopol' 73.92 313 *d i* P **P 19 09 24.3 -0.2**
SIM S **SKiKP 19 18 48.0 -1.4**
SIM pmax pmax
comp=Z,49nm,0.8s
SIM MLR MLR
comp=Z,90nm,12.8s
TULEG Thule 74.17 4 P P 19 09 25.7 +0.4
RAYN Ar Rayn 74.29 288 *i* P **P 19 09 27.0 0.0**
SNR=76
RAYN Ar Rayn 74.29 288 P P 19 09 26.2 -0.8
RAYN pmax pmax
comp=Z,77nm,1.1s
RAYN Ar Rayn 74.29 288 P P 19 09 26.1 -0.8
AKASG Malin Array Be 74.41 320 P P 19 09 26.1 -1.0
comp=Z,20nm,0.7s,baz=56,slow=6.2,SNR=79
AKASG LR LR 19 44 39.2
comp=Z,424nm,18.0s,baz=45,slow=38
AKASG Malin Array Be 74.41 320 P P 19 09 26.0 -1.2
AKBB Malin Array Si 74.41 320 *d i* P **P 19 09 26.2 -1.0**
AKBB Malin Array Si 74.41 320 P P 19 09 26.0 -1.2
AKBB IAmb IAmb 19 09 28.0
comp=Z,28nm,0.8s
YKW3 Yellowknife Ar 75.48 26 P P 19 09 33.5 +0.4
YKA Yellowknife Ar 75.52 26 P P 19 09 33.9 +0.6
comp=Z,8.2nm,0.7s,baz=307,slow=5.4,SNR=19
YKA Yellowknife Ar 75.52 26 P P 19 09 33.5 +0.2
ILGA Ilgaz 75.86 309 P P 19 09 36.0 0.0
ILGA IAmb IAmb 19 09 37.7
comp=Z,50nm,0.9s
OUZ Omahuta 75.99 144 P P 19 09 36.4 +0.1
SORM Soroca 76.09 317 ⇑P P 19 09 35.7 -1.2
SUW Suwalki 76.10 324 *eP* **P 19 09 36.5 -0.3**
SUW Suwalki 76.10 324 *eP* **P 19 09 36.5 -0.3**
SUW *eP* **P 19 09 36.5 -0.3**
SUW Suwalki 76.10 324 P P 19 09 35.5 -1.3
BR131 Keskin Array S 76.50 308 P P 19 09 39.1 -0.5
BR131 pmax pmax
comp=Z,93nm,0.9s
BR131 Keskin Array S 76.50 308 P P 19 09 39.1 -0.5
BRTR Keskin Array B 76.50 308 P P 19 09 39.3 -0.3
comp=Z,67nm,0.8s,baz=96,slow=5.5,SNR=230
BRTR Keskin Array B 76.50 308 P P 19 09 38.9 -0.6
ANTO Ankara 77.01 308 P P 19 09 42.0 -0.4
ANTO pmax pmax
comp=Z,62nm,1.0s
ANTO Ankara 77.01 308 ⇑P P 19 09 42.1 -0.2
ANTO mb 19 09 43.3
ANTO Ankara 77.01 308 P P 19 09 42.0 -0.4
BR231 Keskin MP Arra 77.04 308 P P 19 09 42.3 -0.3
BR231 IAmb IAmb 19 09 43.4
comp=Z,49nm,0.8s
TLCR 77.18 315 ⇑P P 19 09 42.3 -0.8
TLCR mb 19 09 44.6
NC405 NORSAR Array S 77.30 334 P P 19 09 41.3 -2.1
NB2 NORSAR Subarra 77.53 334 P P 19 09 42.3 -2.5
comp=Z,2.8nm,0.7s,baz=54,slow=5.3
NOA NORSAR Array B 77.53 334 P P 19 09 42.7 -2.1
comp=Z,7.4nm,0.9s,baz=50,slow=5.5,SNR=13
NC204 NORSAR Array S 77.56 334 P P 19 09 43.2 -1.8
TOPG Topolog 77.60 314 ⇓P P 19 09 44.8 -0.7
CFR Carcaliu 77.61 315 ⇓P P 19 09 44.3 -1.2
PRAR RASCA 77.72 317 ⇑P P 19 09 45.3 -0.8
PRAR mb 19 09 47.4
TESR Tescani 77.88 317 ⇑P P 19 09 46.8 -0.2
PETR Petresti 77.91 316 ⇓P P 19 09 45.8 -1.3
KSDI Kefar Szold 77.94 301 P P 19 09 47.5 -0.1
comp=Z,65nm,1.3s,comp=Z,0.2nm
KSDI Kefar Szold 77.94 301 P P 19 09 47.5 -0.1
TLB Topalu 77.95 314 ⇑P P 19 09 46.9 -0.5
HARR Harsova 77.97 314 ⇑P P 19 09 47.5 0.0
HARR mb 19 09 49.9
ODBI Odobesti 78.00 316 ⇑P P 19 09 47.5 -0.1
ODBI mb 19 09 50.9
BIZ Bicaz 78.00 317 ⇑P P 19 09 47.6 -0.1
VRI Vrincioaia 78.14 316 ⇓P P 19 09 48.4 -0.1
BUR08 Bucovina Ar. S 78.18 318 P P 19 09 47.5 -1.3
BURAR Bucovina Array 78.19 318 ⇑P P 19 09 48.5 -0.3
BURAR mb 19 09 49.5
BURAR Bucovina Array 78.19 318 P P 19 09 47.5 -1.3
PLOR Plostina 78.20 316 ⇑P P 19 09 49.1 +0.2
BISRR Bisoca 78.31 316 ⇓P P 19 09 50.0 +0.5
ICOR Ion Corvin 78.33 314 ⇑P P 19 09 49.1 -0.4
MMLI Mount Malkishu 78.46 301 P P 19 09 50.9 +0.4
comp=Z,65nm,1.2s,comp=Z,0.2nm
MMLI Mount Malkishu 78.46 301 P P 19 09 50.9 +0.4
BEL Belsk 78.47 323 *eP* **P 19 09 50.5 +0.4**
BEL Belsk 78.47 323 *eP* **P 19 09 50.5 +0.4**
BEL *eP* **P 19 09 50.5 +0.4**
SUMG Summit 78.47 356 *i* P **P 19 09 49.8 -0.5**
SUMG pmax pmax
comp=Z,64nm,0.6s
SUMG Summit 78.47 356 *i* P **P 19 09 49.8 -0.5**
comp=Z,64nm,0.6s
SUMG Summit 78.47 356 P P 19 09 49.7 -0.6
SUMG IAmb IAmb 19 09 52.0
comp=Z,26nm,0.6s
WALJ Wala 78.56 300 P P 19 09 51.5 +0.5
comp=Z,59nm,0.9s
WALJ Wala 78.56 300 P P 19 09 51.1 +0.1
KWP Kalwaria Pacla 78.59 321 *eP* **P 19 09 51.3 +0.4**
KWP Kalwaria Pacla 78.59 321 *eP* **P 19 09 51.3 +0.4**
KWP *eP* **P 19 09 51.3 +0.4**
KWP Kalwaria Pacla 78.59 321 P P 19 09 49.6 -1.3
OZUR 78.60 316 ⇓P P 19 09 51.2 +0.1
MSEY Mahe Island 78.62 258 P P 19 09 52.4 +0.7
MLR Muntele Rosu 78.81 316 P P 19 09 50.9 -1.4
MLR pmax pmax
comp=Z,15nm,0.8s
MLR Muntele Rosu 78.81 316 ⇑P P 19 09 51.9 -0.4
MLR Muntele Rosu 78.81 316 P P 19 09 50.9 -1.4
CSS Mathiatis 78.86 304 P P 19 09 51.8 -0.9
CSS Mathiatis 78.86 304 P P 19 09 51.8 -0.9
DOPR Dopca 78.91 316 ⇑P P 19 09 52.7 0.0
LISJ El Lisan 78.95 300 P P 19 09 53.7 +0.6
comp=Z,92nm,1.2s
LISJ El Lisan 78.95 300 P P 19 09 53.7 +0.6
SECR 78.96 315 ⇑P P 19 09 52.6 -0.4

SECR mb 19 10 01.6
SULR 79.02 315 ⇑P P 19 09 52.5 -0.8
LEF Lefka 79.11 304 ⇑P P 19 09 53.0 -1.0
LEF mb 19 09 54.3
DAMY Dhamar 79.15 281 P P 19 09 53.4 -1.5
BMR Baia Mare 79.16 319 ⇑P P 19 09 54.2 +0.2
HIZ Hauiti 79.18 146 P P 19 09 55.2 +1.2
KOLS Kolonicke sedl 79.20 320 *eP* **P 19 09 53.9 -0.3**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 79.20 320 *eP* **P 19 09 53.9 -0.3**
AMAZ Amatzia 79.25 300 P P 19 09 54.9 0.0
AMAZ Amatzia 79.25 300 P P 19 09 55.1 +0.2
UZH Uzhgorod 79.35 320⇓ *eP* **P 19 09 57.5 +2.5**
UZH *e* 19 10 07.0
UZH *i* 19 10 17.5
VOIR 79.38 316 ⇓P P 19 09 54.9 -0.4
RAZG Razgrad 79.41 314 ⇓P P 19 09 54.6 -0.9
TRPA Tarpa 79.47 319 ⇑P P 19 09 55.8 +0.1
TRPA mb 19 10 00.1
GKP Gorka Klasztor 79.49 326 *eP* **P 19 09 55.7 0.0**
GKP Gorka Klasztor 79.49 326 *eP* **P 19 09 55.7 0.0**
GKP *eP* **P 19 09 55.7 0.0**
ISP Isparta 79.53 307 P P 19 09 55.2 -1.2
ISP pmax pmax
comp=Z,49nm,0.8s
ISP Isparta 79.53 307 ⇑P P 19 09 54.7 -1.7
ISP mb 19 09 56.4
ISP Isparta 79.53 307 P P 19 09 55.2 -1.2
ISP IAmb IAmb 19 09 56.3
comp=Z,49nm,0.8s
BSD Bornholm Skovb 79.54 328 *i* P **P 19 09 55.0 -0.9**
BSD pmax pmax
comp=Z,43nm,0.8s
BSD Bornholm Skovb 79.54 328 *i* P **P 19 09 55.0 -0.9**
comp=Z,43nm,0.8s
ARR Arges 79.67 316 ⇑P P 19 09 56.6 -0.3
HRFI Mount Harif 79.84 299 P P 19 09 58.0 -0.2
comp=Z,68nm,1.5s
HRFI Mount Harif 79.84 299 P P 19 09 57.9 -0.2
OJC Ojcow 79.87 322 *eP* **P 19 09 57.9 0.0**
OJC Ojcow 79.87 322 *eP* **P 19 09 57.9 0.0**
OJC *eP* **P 19 09 57.9 0.0**
OJC Ojcow 79.87 322 P P 19 09 56.9 -1.0
OJC IAmb IAmb 19 09 59.2
comp=Z,46nm,0.9s
COPA Copaceanca 79.94 315 ⇑P P 19 09 57.6 -0.7
AQBJ Aqaba 79.97 298 P P 19 09 58.9 +0.1
AQBJ Aqaba 79.97 298 P P 19 09 58.6 -0.2
NIE Niedzica 80.04 321 *eP* **P 19 09 59.4 +0.6**
NIE Niedzica 80.04 321 *eP* **P 19 09 59.4 +0.6**
NIE *eP* **P 19 09 59.4 +0.6**
DRGR 80.08 318 ⇑P P 19 09 58.2 -0.9
EIL Elat 80.08 298 P P 19 09 57.8 -1.5
comp=Z,41nm,1.1s
EIL Elat 80.08 298 P P 19 09 59.4 +0.1
ZIMR 80.09 314 ⇓P P 19 09 59.2 +0.1
URZ Urewera 80.13 144 P P 19 09 58.4 -0.8
comp=Z,12nm,1.0s,baz=332,slow=11,SNR=4.3
URZ Urewera 80.13 144 P P 19 09 59.6 +0.5
URZ IAmb IAmb 19 10 30.1
comp=Z,117nm,2.0s
ELND Elena 80.13 314 ⇓P P 19 09 59.4 0.0
ELL Elmali 80.47 307 P P 19 10 00.3 -1.2
ELL pmax pmax
comp=Z,199nm,0.7s
ELL Elmali 80.47 307 P P 19 10 00.3 -1.2
KULA Kula-Manisa 80.48 309 P P 19 10 00.1 -1.4
BKZ Black Stump Fm 80.50 145 P P 19 10 01.7 +0.4
BKZ IAmb IAmb 19 10 37.0
comp=Z,32nm,1.3s
MANT Manisa 80.57 309 P P 19 10 01.3 -0.8
LANS Liptovska Anna 80.64 321 *eP* **P 19 10 03.1 +1.0**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 80.64 321 *eP* **P 19 10 03.1 +1.0**
GZR Gura Zlata 80.77 317 ⇑P P 19 10 02.6 -0.2
LON Longmire 80.86 41 P P 19 10 04.7 +1.4
LON pmax pmax
comp=Z,8.0nm,1.0s
LON Longmire 80.86 41 P P 19 10 04.7 +1.4
F04A Amboy 80.94 42 P P 19 10 04.4 +0.7
F04A IAmb IAmb 19 10 21.2
comp=Z,28nm,1.1s
OKC Ostrava-Krasne 80.97 322 *eP* **P 19 10 04.2 +0.5**
OKC Ostrava-Krasne 80.97 322 *eP* **P 19 10 04.2 +0.5**
SIRR Siria 80.97 318 ⇑P P 19 10 03.4 -0.5
PSZ Piszkesteto 81.08 320 P P 19 10 04.1 -0.4
PSZ pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 81.08 320 ⇓P P 19 10 04.5 0.0
PSZ mb 19 10 07.2
PSZ Piszkesteto 81.08 320 P P 19 10 04.1 -0.4
FETY Fethiye 81.11 307 P P 19 10 03.4 -1.4
LTY Liberty 81.23 41 P P 19 10 05.4 +0.1
MUD Monsted U'grnd 81.26 331 *eP* **P 19 10 02.2 -2.9**
MUD Monsted U'grnd 81.26 331 *i* P **P 19 10 02.2 -2.9**
HERR Herculane 81.26 317 ⇑P P 19 10 04.8 -0.6
PUNG Punghina 81.27 316 ⇓P P 19 10 05.3 -0.1
MORC Moravsky Berou 81.33 323 P P 19 10 05.3 -0.4
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 81.33 323 ⇓P P 19 10 05.5 -0.2
MORC mb 19 10 06.8
MORC Moravsky Berou 81.33 323 *eP* **P 19 10 05.9 +0.2**
MORC Moravsky Berou 81.33 323 P P 19 10 05.3 -0.4
BZS Buzias 81.34 318 ⇑P P 19 10 04.6 -1.2
VYHS Vyhne 81.35 321 *eP* **P 19 10 06.1 +0.3**
VYHS pmax pmax
comp=Z,27nm,0.9s
VYHS Vyhne 81.35 321 *eP* **P 19 10 06.1 +0.3**
KSP Ksiaz 81.36 324 *eP* **P 19 10 06.2 +0.4**
KSP Ksiaz 81.36 324 *eP* **P 19 10 06.2 +0.4**
KSP *eP* **P 19 10 06.2 +0.4**
B08A Colville Reser 81.38 39 P P 19 10 06.0 +0.1
KEBM Edson Butte 81.39 46 P P 19 10 06.7 +0.5
YER Yerkesik 81.42 308 P P 19 10 06.3 -0.2
KOLL Kolacno 81.54 321 *eP* **P 19 10 07.7 +0.9**
KRLC Kraliky 81.56 323 *eP* **P 19 10 06.6 -0.3**
KRLC Kraliky 81.56 323 *eP* **P 19 10 06.6 -0.3**
RPZ Rata Peaks 81.56 151 P P 19 10 06.7 0.0
comp=Z,14nm,0.8s,baz=69,slow=5.2,SNR=5.0
RPZ Rata Peaks 81.56 151 P P 19 10 06.4 -0.3
RPZ IAmb IAmb 19 10 08.1
comp=Z,27nm,1.1s
I03D Drain, OR 81.57 45 P P 19 10 08.7 +1.7
baz=302
CHVC Chvalec 81.64 324 *eP* **P 19 10 07.6 +0.3**
DPC Dobruska-Polom 81.64 324 *eP* **P 19 10 07.2 -0.1**
DPC *e* 19 10 17.8
DPC Dobruska-Polom 81.64 324 *eP* **P 19 10 07.2 -0.1**
DPC *ex* x 19 10 17.8
UPC Upice 81.71 324 *eP* **P 19 10 08.1 +0.4**
UPC Upice 81.71 324 *eP* **P 19 10 08.1 +0.4**
LBZ Lake Benmore 81.74 152 P P 19 10 06.5 -1.1
LBZ IAmb IAmb 19 10 09.4
comp=Z,33nm,1.1s
H04A Detroit Lake 81.75 43 P P 19 10 07.6 -0.4
ATD Arta Tunnel 81.88 279 P P 19 10 06.8 -2.5
VTS Vitosha 81.96 314 P P 19 10 08.3 -1.0
VTS pmax pmax
comp=Z,99nm,1.9s
VTS Vitosha 81.96 314 ⇓P P 19 10 09.2 -0.1
VTS mb 19 10 13.1
VTS Vitosha 81.96 314 P P 19 10 08.3 -1.0
VTS IAmb IAmb 19 10 12.1
comp=Z,99nm,1.9s
E07A Sunnyside 82.09 41 P P 19 10 10.2 +0.5
VRAC Vranov 82.10 323 ⇓P P 19 10 10.0 +0.2
VRAC mb 19 10 11.1
VRAC Vranov 82.10 323 *eP* **P 19 10 10.1 +0.3**
SMOL Smolenice 82.11 322 *eP* **P 19 10 10.9 +1.1**
SMOL pmax pmax
comp=Z,32nm,0.8s
SMOL Smolenice 82.11 322 *eP* **P 19 10 10.9 +1.1**
BODT Bodrum 82.13 308 P P 19 10 09.2 -1.0
SMG Samos 82.13 309 P P 19 10 08.9 -1.2
MODS Modra-Piesok 82.27 322 *eP* **P 19 10 10.8 +0.1**
MODS pmax pmax
comp=Z,49nm,1.1s
MODS Modra-Piesok 82.27 322 *eP* **P 19 10 10.8 +0.1**
KRUC Moravsky 82.35 322 *eP* **P 19 10 11.2 +0.1**

HAWA Hanford 82.36 41 P **P 19 10 11.4 +0.2**
HUMO Hull Mountain 82.39 45 P **P 19 10 12.4 +1.0**
HUMO IAmb IAmb 19 10 29.7
comp=Z,47nm,1.7s
PVCC Panska Ves 82.44 324 *e*P **P 19 10 12.1 +0.6**
PVCC Panska Ves 82.44 324 *e*P **P 19 10 12.1 +0.6**
I05D Terrebonne, OR 82.44 43 P **P 19 10 12.8 +1.1**
baz=303
BRG Berggiesshubel 82.55 325 *e*P **P 19 10 12.2 +0.2**
comp=Z,61nm,1.9s
BRG *i* 19 10 16.7
comp=Z,11nm,1.0s
BRG Berggiesshubel 82.55 325 *e*P **P 19 10 12.2 +0.2**
BRG pmax pmax
comp=Z,61nm,1.9s
BRG pmax pmax
comp=Z,11nm,1.0s
E08A Dider Farm, El 82.58 41 P **P 19 10 12.4 +0.1**
NEW Newport 82.64 38 P **P 19 10 13.6 +0.9**
baz=306
NEW Newport 82.64 38 P **P 19 10 12.7 0.0**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 82.64 38 P **P 19 10 12.7 0.0**
FRGS Fruska Gora 82.66 318 *e*P **P 19 10 12.7 -0.1**
GOPC GO Pecny, Ondr 82.69 324 *e*P **P 19 10 13.0 +0.2**
GOPC GO Pecny, Ondr 82.69 324 *e*P **P 19 10 13.0 +0.2**
TREC Trest 82.69 323 *e*P **P 19 10 13.9 +1.0**
TREC Trest 82.69 323 *e*P **P 19 10 13.9 +1.0**
CLL Collm 82.75 326 P **P 19 10 11.5 -1.6**
CLL pmax pmax
comp=Z,31nm,0.9s
CLL Collm 82.75 326 ⇓ *i*P **P 19 10 13.2 +0.1**
CLL LmV 19 49 00.0
comp=Z,500nm,19.9s
CLL Collm 82.75 326 P **P 19 10 11.4 -1.6**
CLL IAmb IAmb 19 10 13.8
comp=Z,31nm,0.9s
PRU Pruhonice 82.77 324 *e*P **P 19 10 13.5 +0.3**
PRU Pruhonice 82.77 324 *e*P **P 19 10 13.5 +0.3**
PINE Pine Mountain 82.98 44 P **P 19 10 15.4 +0.7**
PINE IAmb IAmb 19 10 33.6
comp=Z,37nm,1.1s
KARP Karpathos 83.00 307 P **P 19 10 13.7 -1.0**
L04D Klamath Falls 83.01 45 P **P 19 10 15.7 +0.9**
baz=303
YBH Yreka Blue Hor 83.01 46 P **P 19 10 15.1 +0.3**
YBH pmax pmax
comp=Z,19nm,1.3s
YBH Yreka Blue Hor 83.01 46 P **P 19 10 15.1 +0.3**
VAY Valandovo 83.07 314 *i* P **P 19 10 14.7 -0.2**
J05D Fort Rock, OR 83.08 44 P **P 19 10 16.7 +1.5**
baz=304
STIP Stip 83.11 314 *i* P **P 19 10 13.7 -1.4**
DIVS Divibare 83.14 317 ⇓ *i*P **P 19 10 14.8 -0.6**
PBCC Pribram 83.24 324 *e*P **P 19 10 15.8 +0.1**
CONA Conrad Observa 83.30 322 *e*PcP **P 19 10 17.1 +1.0**
comp=Z,35nm,1.0s,SNR=11
G08A Pilot Rock 83.32 41 P **P 19 10 15.9 -0.4**
SKO Skopje 83.43 315 *i* P **P 19 10 17.1 +0.4**
M04C Macdoel 83.53 46 P **P 19 10 18.6 +1.1**
baz=303
BBLS Lazići 83.62 317 ⇓ *i*P **P 19 10 17.7 -0.1**
NKC Novy Kostel 83.69 325 *e*P **P 19 10 17.8 -0.2**
NKC Novy Kostel 83.69 325 *e*P **P 19 10 17.8 -0.2**
WDC Whiskeytown Da 83.74 47 P **P 19 10 18.7 +0.3**
WDC pmax pmax
comp=Z,23nm,1.2s
WDC Whiskeytown Da 83.74 47 P **P 19 10 18.7 +0.3**
WDC IAmb IAmb 19 10 36.1
comp=Z,23nm,1.2s
SANT Santorini 83.76 308 ⇑P **P 19 10 17.0 -1.6**
SANT mb 19 10 18.2
SANT Santorini 83.76 308 P **P 19 10 17.0 -1.6**
HAPS Han Pijesak,BI 83.77 317 *e*P **P 19 10 17.7 -0.9**
LIT Litokhoron 83.78 313 P **P 19 10 17.6 -1.0**
RUDO Rudo 83.78 317 *e*P **P 19 10 17.9 -0.7**
KHC Kasperske Hory 83.79 324 *e*P **P 19 10 18.8 +0.2**
KHC *e* 19 10 35.0
KHC Kasperske Hory 83.79 324 *e*P **P 19 10 18.8 +0.2**
KHC *e*pP **sP 19 10 35.0 -1.5**
KHC Kasperske Hory 83.79 324 P **P 19 10 17.9 -0.7**
WALA Waterton Lakes 83.87 36 P **P 19 10 19.5 +0.4**
ARSA Arzberg 83.89 321 *i* PcP **P 19 10 19.5 +0.4**
comp=Z,29nm,1.6s
GEC2 GERESS Array S 83.90 323 P **P 19 10 18.9 -0.4**
GEC2 IAmb IAmb 19 10 19.9
comp=Z,24nm,0.9s
GERES GERESS Array B 83.90 323 P **P 19 10 18.8 -0.4**
comp=Z,16nm,0.9s,baz=45,slow=4.2,SNR=70
GERES LR LR 19 51 25.3
comp=Z,416nm,19.0s,baz=68,slow=38
GERES GERESS Array B 83.90 323 P **P 19 10 18.1 -1.1**
F10A Beach Ranch, E 83.92 40 P **P 19 10 19.8 +0.5**
FNA Florina 84.12 314 P **P 19 10 19.2 -1.2**
FNA pmax pmax
comp=Z,26nm,1.0s
FNA Florina 84.12 314 P **P 19 10 19.2 -1.2**
FNA IAmb IAmb 19 10 19.9
comp=Z,26nm,1.0s
KZN Kozani 84.13 313 P **P 19 10 19.0 -1.5**
MOA Molln 84.21 322 *i* PcP **P 19 10 21.0 +0.3**
comp=Z,37nm,1.0s,SNR=11
OHR Ohrid 84.30 314 *i* P **P 19 10 20.5 -0.8**
O03E Paynes Creek 84.37 47 P **P 19 10 23.1 +1.4**
baz=304
SFJD Kangerlussuaq 84.40 0 *i* P **P 19 10 21.9 +0.7**
SFJD Kangerlussuaq 84.40 0 *i* P **P 19 10 21.9 +0.7**
SFJD Kangerlussuaq 84.40 0 LR LR 19 50 02.5
comp=Z,143nm,18.5s,baz=340,slow=37
MOD Modoc Plateau 84.42 45 P **P 19 10 22.0 -0.1**
BLY Banja Luka 84.43 319 ⇑P **P 19 10 19.9 -1.9**
AGG Agios Georgios 84.46 312 P **P 19 10 20.1 -2.0**
AGG pmax pmax
comp=Z,46nm,0.9s
AGG Agios Georgios 84.46 312 P **P 19 10 20.1 -2.0**
SOKA Soboth 84.50 321 *i* PcP **P 19 10 22.4 +0.2**
comp=Z,44nm,1.2s,SNR=12
PDG Podgorica 84.52 316 ⇓ *i*P **P 19 10 22.0 -0.3**
PDG Podgorica 84.52 316 ⇓P **P 19 10 21.8 -0.5**
PDG mb 19 10 23.2
PDG Podgorica 84.52 316 P **P 19 10 21.7 -0.6**
PDG IAmb IAmb 19 10 23.6
comp=Z,40nm,0.8s
BMO Blue Mountains 84.53 41 P **P 19 10 22.4 -0.1**
BMO pmax pmax
comp=Z,9.0nm,1.1s
BMO Blue Mountains 84.53 41 P **P 19 10 22.4 -0.1**
GDXM Geysers 84.54 48 P **P 19 10 23.5 +0.9**
GDXM IAmb IAmb 19 10 41.3
comp=Z,35nm,1.3s
GRA1 Grafenberg Arr 84.65 325 P **P 19 10 22.2 -0.6**
GRF Grafenberg Arr 84.65 325 P **P 19 10 22.3 -0.6**
GRF pmax pmax
comp=Z,66nm,1.1s
MGRS Mrkonjic Grad 84.68 318 ⇓ *i*P **P 19 10 23.7 +0.6**
BRY Bratogost 84.69 317 *e*P **P 19 10 22.5 -0.9**
DRME Dracevica, Mon 84.70 316 ⇓ *i*P **P 19 10 23.0 -0.3**
TIR Tirane 84.76 315 P **P 19 10 22.9 -0.7**
TIR Tirane 84.76 315 ⇑P **P 19 10 21.6 -1.9**
TIR Tirane 84.76 315 P **P 19 10 22.9 -0.7**
CRES Cresnjev 84.78 320 *e*P **P 19 10 23.2 -0.4**
OBKA Obir 84.87 321 *i* PcP **P 19 10 24.4 +0.2**
comp=Z,20nm,0.9s
TREB Trebinje 84.91 316 *e*P **P 19 10 23.5 -0.8**
SIVA Sivas 84.92 307 P **P 19 10 24.1 -0.4**
HCY Herceg Novi 84.98 316 *e*P **P 19 10 24.1 -0.5**
PLID Pearl Lake 85.14 40 P **P 19 10 25.4 -0.3**
WVOR Wild Horse Val 85.14 44 P **P 19 10 26.1 +0.5**
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 85.14 44 P **P 19 10 26.1 +0.5**
LJU Ljubljana 85.16 321 ⇓ *i*P **P 19 10 25.2 -0.3**
KBA Koelnbreinsper 85.18 322 *e*PcP **P 19 10 25.4 -0.4**
comp=Z,24nm,1.1s
IMMV Iera Moni Meta 85.26 308 P **P 19 10 25.0 -1.2**
RODP Rodopos 85.36 308 P **P 19 10 26.1 -0.6**
CEY Cerknica 85.40 321 ⇓ *i*P **P 19 10 26.3 -0.5**
IGT Igoumenitsa 85.48 313 P **P 19 10 25.4 -1.8**
DRUM Mains of Drumt 85.50 336 *e*P **P 19 10 26.1 -0.8**
DRUM IAmb IAmb 19 10 26.8
comp=Z,55nm,0.9s
GVDS Gavdos 85.51 307 P **P 19 10 26.8 -0.7**

BEKR Beckworth 85.53 47 P **P 19 10 27.7 0.0**
BEKR IAmb IAmb 19 10 45.7
comp=Z,28nm,1.1s
FFC Flin Flon 85.58 27 P **P 19 10 27.0 -0.4**
FFC pmax pmax
comp=Z,18nm,0.9s
FFC Flin Flon 85.58 27 P **P 19 10 27.0 -0.4**
FFC IAmb IAmb 19 10 43.2
comp=Z,18nm,0.8s
AFDM Forest Hills D 85.65 48 P **P 19 10 27.6 -0.5**
AFDM IAmb IAmb 19 10 45.6
comp=Z,18nm,1.3s
ITM Ithomi 85.73 310 P **P 19 10 26.7 -1.8**
ITM Ithomi 85.73 310 P **P 19 10 26.8 -1.8**
ABTA Abfaltersbach 85.83 322 *e*PcP **P 19 10 28.3 -0.6**
comp=Z,40nm,1.2s
WATA Walderalm 85.96 323 *e*PcP **P 19 10 29.3 -0.3**
comp=Z,17nm,0.9s
EDU Dundee 85.97 336 *e*P **P 19 10 28.8 -0.4**
WTTA Wattenberg 85.97 323 *i* PcP **P 19 10 29.6 -0.1**
SNR=6.7
KAC Achnashellach 86.02 338 *e*P **P 19 10 29.1 -0.4**
STAL STALIGIAL 86.03 322 P **P 19 10 28.0 -1.8**
MOTA Moosalm 86.20 323 *e*PcP **P 19 10 30.5 -0.4**
comp=Z,25nm,0.9s,SNR=8.2
SQTA Sankt Quirin 86.22 323 *i* PcP **P 19 10 30.6 -0.3**
comp=Z,18nm,1.2s
MFID Camas Ranch 86.24 42 P **P 19 10 31.0 0.0**
MFID IAmb IAmb 19 10 47.3
comp=Z,22nm,1.6s
PAHR Pah Rah Range 86.24 46 P **P 19 10 32.0 +0.8**
PAHR IAmb IAmb 19 10 49.4
comp=Z,30nm,1.2s
KPL Plockton 86.26 338 *e*P **P 19 10 30.1 -0.6**
KPL IAmb IAmb 19 10 32.2
comp=Z,69nm,0.8s
RETA Reutte 86.29 324 *i* PcP **P 19 10 30.9 -0.2**
comp=Z,6.7nm,0.9s
ESY Stoneypath 86.30 335 *e*P **P 19 10 30.4 -0.6**
INVG Invergeldie, C 86.42 336 *e*P **P 19 10 30.7 -0.8**
PNTR Pine Nut 86.45 47 P **P 19 10 32.9 +0.6**
PNTR IAmb IAmb 19 10 50.3
comp=Z,18nm,1.0s
CMB Columbia Colle 86.54 48 P **P 19 10 33.1 +0.5**
CMB pmax pmax
comp=Z,17nm,1.1s
CMB Columbia Colle 86.54 48 P **P 19 10 33.1 +0.5**
CMB IAmb IAmb 19 10 50.6
comp=Z,17nm,1.1s
EBL Broad Law 86.57 335 *e*P **P 19 10 31.9 -0.4**
FETA Feichten 86.61 323 *e*PcP **P 19 10 32.7 -0.2**
comp=Z,16nm,0.9s,SNR=6.1
EAU Auchinoon 86.66 336 *e*P **P 19 10 32.5 -0.3**
EAB Aberfoyle 86.71 336 *e*P **P 19 10 32.5 -0.4**
CTI Castel Tesino 86.73 322 P **P 19 10 32.3 -1.1**
CTI pmax pmax
comp=Z,27nm,0.8s
CTI Castel Tesino 86.73 322 P **P 19 10 32.3 -1.1**
CTI IAmb IAmb 19 10 33.9
comp=Z,27nm,0.8s
YERR Yerington 86.74 47 P **P 19 10 34.4 +0.6**
YERR IAmb IAmb 19 10 51.5
comp=Z,26nm,1.2s
DLMT Dillon 86.87 39 P **P 19 10 34.6 +0.5**
DLMT IAmb IAmb 19 10 36.2
comp=Z,12nm,0.8s
DAVA Damuels 86.88 324 *i* PcP **P 19 10 34.0 -0.2**
comp=Z,16nm,0.8s
EDMD Edmundbyers 86.89 334 *e*P **P 19 10 32.9 -0.9**
WAKR Walker 86.89 47 P **P 19 10 35.5 +1.0**
ESK Eskdalemuir 86.98 335 *e*P **P 19 10 33.6 -0.6**
ESK IAmb IAmb 19 10 34.2
comp=Z,21nm,0.7s
ESK Eskdalemuir 86.98 335 P **P 19 10 33.3 -0.9**
ESK pmax pmax
comp=Z,22nm,0.8s
ESK Eskdalemuir 86.98 335 P **P 19 10 33.3 -0.9**
ESK IAmb IAmb 19 10 35.5
comp=Z,22nm,0.8s
LAWE Loch Awe, Argy 87.03 337 *e*P **P 19 10 33.5 -0.9**
SGRT San Giovanni R 87.04 317 P **P 19 10 33.8 -1.2**
PGBU Glenifferbraes 87.06 336 *e*P **P 19 10 34.2 -0.5**
WLF Walferdange 87.14 327 P **P 19 10 34.8 -0.4**
WLF pmax pmax
comp=Z,28nm,1.0s
WLF Walferdange 87.14 327 P **P 19 10 34.8 -0.4**
WLF IAmb IAmb 19 10 37.7
comp=Z,28nm,1.0s
TEOL Teolo 87.16 321 P **P 19 10 34.6 -0.7**
RYN Ryan 87.41 47 P **P 19 10 36.6 -0.3**
RYN IAmb IAmb 19 10 54.9
comp=Z,18nm,1.2s
HPK Haverah Park 87.42 334 *e*P **P 19 10 36.0 -0.4**
KVN Kaiserville 87.43 46 P **P 19 10 37.4 +0.4**
KVN pmax pmax
comp=Z,22nm,1.0s
KVN Kaiserville 87.43 46 P **P 19 10 37.4 +0.4**
KVN IAmb IAmb 19 10 56.1
comp=Z,22nm,1.0s
SALO Salr 87.61 322 P **P 19 10 36.9 -0.7**
MDPB Devils Postpil 87.62 48 P **P 19 10 38.9 +0.8**
MDPB IAmb IAmb 19 10 55.2
comp=Z,18nm,1.4s
ECH Echery 87.64 326 P **P 19 10 36.3 -1.3**
ECH pmax pmax
comp=Z,12nm,0.9s
ECH Echery 87.64 326 P **P 19 10 36.3 -1.3**
ECH IAmb IAmb 19 10 39.5
comp=Z,12nm,0.9s
NVAR Mina Array Bea 87.66 47 P **P 19 10 39.2 +1.0**
comp=Z,2.3nm,0.8s,baz=296,slow=4.7,SNR=11
NVAR LR LR 19 46 39.4
comp=Z,47nm,19.4s,baz=272,slow=33
NVAR Mina Array Bea 87.66 47 P **P 19 10 38.9 +0.7**
OMMB Old Mammoth Mi 87.68 48 P **P 19 10 38.9 +0.4**
TUE Stuetta 87.68 323 P **P 19 10 36.9 -1.2**
TUE IAmb IAmb 19 10 42.6
comp=Z,16nm,0.8s
NV11 Mina Array Sit 87.75 47 P **P 19 10 38.8 +0.3**
LBWR Ladybower, Pea 87.88 333 *e*P **P 19 10 38.1 -0.5**
LBWR IAmb IAmb 19 10 40.2
comp=Z,36nm,0.9s
GAL1 Galloway 87.88 336 *e*P **P 19 10 37.8 -0.7**
GAL1 IAmb IAmb 19 10 40.2
comp=Z,28nm,0.8s
TIP Timpagrande 87.95 314 ⇑P **P 19 10 39.3 -0.1**
TIP mb 19 10 40.7
TIP Timpagrande 87.95 314 P **P 19 10 38.8 -0.5**
TIP IAmb IAmb 19 10 40.7
comp=Z,35nm,1.0s
YHL Hebgen Lake 87.97 38 P **P 19 10 40.4 +0.8**
INTR Introdacqua 87.98 318 P **P 19 10 39.0 -0.5**
INTR IAmb IAmb 19 10 40.3
comp=Z,42nm,1.2s
MURB Monte Urbino 88.00 319 P **P 19 10 40.5 +0.9**
YHB Horse Butte 88.03 39 P **P 19 10 40.7 +0.9**
YHH Holmes Hill 88.19 38 P **P 19 10 41.4 +0.7**
ELK Elko 88.19 44 P **P 19 10 40.6 -0.1**
ELK pmax pmax
comp=Z,27nm,2.0s
ELK Elko 88.19 44 LR LR 19 45 05.5
comp=Z,69nm,20.4s,baz=320,slow=32
ELK Elko 88.19 44 P **P 19 10 40.6 -0.1**
ELK IAmb IAmb 19 11 05.4
comp=Z,27nm,1.9s
YMR Madison River 88.20 39 P **P 19 10 42.0 +1.3**
H17A Grant Village 88.59 39 P **P 19 10 43.7 +1.1**
H17A IAmb IAmb 19 11 03.4
comp=Z,18nm,1.1s
IMW Indian Meadow 88.72 39 P **P 19 10 44.1 +0.9**
IMW IAmb IAmb 19 11 02.8
comp=Z,11nm,1.0s
FLWY Flagg Ranch 88.73 39 P **P 19 10 45.1 +2.0**
FLWY IAmb IAmb 19 11 03.1
comp=Z,16nm,0.8s
RLMT Red Lodge 88.83 37 P **P 19 10 44.8 +1.3**
baz=311
RLMT Red Lodge 88.83 37 P **P 19 10 44.6 +1.0**
RLMT IAmb IAmb 19 11 05.0
comp=Z,18nm,1.1s
FXWY Fox Creek 88.83 39 P **P 19 10 44.5 +0.9**
FOEL Foel Wylfa 88.84 334 *e*P **P 19 10 42.9 -0.4**
FOEL IAmb IAmb 19 10 44.7
comp=Z,19nm,0.7s
TPAW Teton Pass 88.97 39 P **P 19 10 45.6 +1.2**

HVU Hansel Valley 89.02 42 P **P 19 10 45.8 +1.3**
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 89.02 42 P **P 19 10 45.8 +1.3**
CEL Celeste 89.04 314 P **P 19 10 44.5 0.0**
LLW Llanuwychllyn 89.05 334 *e*P **P 19 10 43.4 -0.8**
STRD Stroud 89.28 332 *e*P **P 19 10 44.6 -0.6**
STRD IAmb IAmb 19 10 46.6
comp=Z,38nm,0.8s
LAO LASA Array 89.34 35 P **P 19 10 47.2 +1.5**
baz=314
R11A Troy Canyon, C 89.43 46 P **P 19 10 48.1 +1.6**
baz=307
R11A Troy Canyon, C 89.43 46 P **P 19 10 47.1 +0.6**
MCH1 Michaelchurch 89.45 333 *e*P **P 19 10 45.5 -0.5**
MCH1 IAmb IAmb 19 10 45.5
comp=Z,38nm,0.9s
MONM Monmouth 89.49 333 *e*P **P 19 10 45.5 -0.7**
MONM IAmb IAmb 19 10 48.1
comp=Z,466nm,2.8s
TPNV Topopah Spring 89.85 47 P **P 19 10 47.7 -0.8**
TPNV pmax pmax
comp=Z,38nm,1.9s
TPNV Topopah Spring 89.85 47 P **P 19 10 47.7 -0.8**
TPNV IAmb IAmb 19 11 04.4
comp=Z,38nm,1.9s
DUG Dugway, Tooele 89.99 43 P **P 19 10 50.5 +1.5**
baz=309
DUG Dugway, Tooele 89.99 43 P **P 19 10 49.2 +0.1**
DUG pmax pmax
comp=Z,14nm,1.3s
DUG Dugway, Tooele 89.99 43 P **P 19 10 49.2 +0.1**
DUG IAmb IAmb 19 11 15.3
comp=Z,14nm,1.2s
RSBS Rosebush, Pemb 90.17 334 *e*P **P 19 10 48.4 -1.0**
BW06 Boulder Array 90.22 39 P **P 19 10 50.5 +0.4**
baz=311
BW06 Boulder Array 90.22 39 P **P 19 10 49.2 -0.9**
PD31 Pinedale Array 90.22 39 P **P 19 10 49.5 -0.7**
PDAR Pinedale Array 90.22 39 P **P 19 10 50.6 +0.4**
comp=Z,2.9nm,0.7s,baz=332,slow=0.8,SNR=29
PDAR Pinedale Array 90.22 39 P **P 19 10 50.2 0.0**
TCUT Toone Canyon 90.23 41 P **P 19 10 50.5 +0.3**
PSUT Pine Spring 90.39 45 P **P 19 10 51.3 +0.3**
PPT Papeete 90.46 110 LR LR 19 43 53.4
comp=Z,83nm,21.2s,baz=331,slow=30
PPT2 Papeete2 90.47 110 *e*S **S 19 21 45.2 +1.7**
comp=Z,118nm,31.0s
PPT2 Papeete2 90.47 110 *e*LR LR 19 39 54.0
comp=Z,322nm,24.8s
RAFF Raffo Rosso 90.63 314 P **P 19 10 51.4 -0.5**
SHPR Sheep Range 90.81 47 P **P 19 10 52.9 -0.1**
SHPR IAmb IAmb 19 11 14.4
comp=Z,9.4nm,1.2s
ULM Lac du Bonnet 91.41 27 P **P 19 10 55.4 +0.2**
comp=Z,9.4nm,0.8s,baz=334,slow=4.2,SNR=7.3
ULM LR LR 19 55 16.4
comp=Z,52nm,18.9s,baz=290,slow=38
ULM Lac du Bonnet 91.41 27 P **P 19 10 55.2 0.0**
ULM IAmb IAmb 19 10 56.4
comp=Z,16nm,0.9s
MSU Marysvale 91.43 44 P **P 19 10 55.2 -0.7**
MSU Marysvale 91.43 44 P **P 19 10 55.2 -0.7**
TMUT Trail Mountain 91.52 43 P **P 19 10 57.3 +1.0**
RDMU Red Mountain 91.65 41 P **P 19 10 57.7 +0.8**
P17A Butcher Ranch, 91.68 42 P **P 19 10 56.6 -0.3**
PFO Pinyon Flats O 91.70 50 LR LR 19 46 08.2
comp=Z,61nm,20.7s,baz=276,slow=32
LCMT Little Creek M 91.72 46 P **P 19 10 58.3 +1.2**
MTPU Mount Pierson 91.73 44 P **P 19 10 58.0 +0.6**
Q16A Castle Valley 91.78 43 P **P 19 10 58.0 +0.6**
K22A Casper 91.95 38 P **P 19 10 58.8 +0.6**
baz=313
KNB Kanab 91.98 45 P **P 19 10 58.0 -0.4**
KNB pmax pmax
comp=Z,14nm,0.9s
KNB Kanab 91.98 45 P **P 19 10 58.0 -0.4**
SRU San Rafael Swe 92.04 43 P **P 19 10 59.8 +1.1**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 92.04 43 P **P 19 10 59.8 +1.1**
RSSD Black Hills 92.24 36 P **P 19 11 00.3 +0.8**
baz=315
RSSD Black Hills 92.24 36 P **P 19 10 59.7 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 92.24 36 P **P 19 10 59.7 +0.2**
RSSD IAmb IAmb 19 11 02.1
comp=Z,9.0nm,1.1s
W13A Hualapai Mount 92.49 47 P **P 19 11 01.3 +0.5**
W13A IAmb IAmb 19 11 19.4
comp=Z,11nm,1.1s
U15A North Rim 92.68 46 P **P 19 11 02.7 +1.0**
U15A IAmb IAmb 19 11 19.7
comp=Z,15nm,1.3s
O20A White River Ci 92.70 41 P **P 19 11 02.3 +0.7**
baz=312
O20A White River Ci 92.70 41 P **P 19 11 00.7 -0.9**
O20A IAmb IAmb 19 11 19.9
comp=Z,7.9nm,0.9s
KMBO Kilima Mbogo 92.77 270 P **P 19 11 02.5 0.0**
KMBO Kilima Mbogo 92.77 270 P **P 19 11 02.1 -0.3**
comp=Z,2.3nm,0.8s,baz=30,slow=5.3,SNR=8.8
KMBO LR LR 19 55 45.4
comp=Z,114nm,18.7s,baz=90,slow=37
KMBO Kilima Mbogo 92.77 270 P **P 19 11 01.8 -0.6**
KMBO IAmb IAmb 19 11 05.5
comp=Z,14nm,1.6s
ABPO Ambohimpanom 92.78 250 P **P 19 11 01.5 -0.7**
ABPO pmax pmax
comp=Z,26nm,1.1s
ABPO Ambohimpanom 92.78 250 P **P 19 11 01.5 -0.7**
PDMCI Parker Dam,Lak 92.81 48 P **P 19 11 03.3 +1.2**
baz=308
Y12C Blythe 92.90 49 P **P 19 11 03.2 +0.8**
Y12C IAmb IAmb 19 11 21.7
comp=Z,16nm,1.1s
GLA Glamis 93.13 49 P **P 19 11 05.1 +1.5**
baz=308
TBI Tubuai 93.43 115 *e*LR LR 19 41 08.8
comp=Z,300nm,24.0s
N23A Red Feather La 93.47 39 P **P 19 11 07.0 +1.7**
baz=314
N23A Red Feather La 93.47 39 P **P 19 11 06.2 +0.9**
N23A IAmb IAmb 19 11 24.9
comp=Z,12nm,1.1s
PV17 East Wray Mesa 93.51 42 P **P 19 11 05.0 -0.4**
Y14A Wickenburg 93.78 48 P **P 19 11 07.4 +0.8**
Y14A IAmb IAmb 19 11 25.7
comp=Z,17nm,1.0s
113A Mohawk Valley, 94.00 49 P **P 19 11 08.1 +0.5**
113A IAmb IAmb 19 11 26.1
comp=Z,15nm,1.1s
TAOE Nuku Hiva Isla 94.26 98 *e*LR LR 19 41 26.3
comp=Z,275nm,24.0s
ISCO Idaho Springs 94.41 40 P **P 19 11 10.1 +0.4**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 94.41 40 P **P 19 11 10.1 +0.4**
X16A Lo Mia Camp, P 94.49 47 P **P 19 11 09.3 -0.7**
X16A IAmb IAmb 19 11 29.1
comp=Z,8.6nm,1.1s
KEST Kesra 94.70 315 P **P 19 11 10.7 -0.2**
comp=Z,6.5nm,0.8s,baz=95,slow=5.7,SNR=5.6
KEST LR LR 19 59 04.3
comp=Z,218nm,18.3s,baz=306,slow=39
KEST Kesra 94.70 315 P **P 19 11 10.6 -0.2**
KEST IAmb IAmb 19 11 43.4
comp=Z,27nm,1.4s
SCHQ Schefferville 95.39 10 P **P 19 11 13.5 +0.1**
comp=Z,5.1nm,0.6s,baz=215,slow=10,SNR=3.7
SCHQ LR LR 19 57 38.2
comp=Z,158nm,19.8s,baz=352,slow=38
SCHQ Schefferville 95.39 10 P **P 19 11 13.3 -0.2**
ESDC Sonseca Array 99.34 326 P **Pdif 19 11 30.4 -1.3**
comp=Z,1.5nm,0.8s,baz=17,slow=4.1,SNR=5.6
ESDC LR LR 19 59 59.5
comp=Z,184nm,18.1s,baz=60,slow=38
ESDC Sonseca Array 99.34 326 P **Pdif 19 11 30.3 -1.3**
TXAR Lajitas Array 102.79 46 P **Pdif 19 11 46.9 -0.3**
comp=Z,0.4nm,0.8s,baz=256,slow=2.7,SNR=3.1
TXAR PKKPbc **PKKPdf 19 27 51.3 -0.5**
comp=Z,0.5nm,0.9s,baz=106,slow=2.7,SNR=4.0
TXAR Lajitas Array 102.79 46 **Pdif 19 11 46.5 -0.8**
TORD Torodi Ar. Bea 114.73 302 PKP **PKiKP 19 16 29.6 -0.7**

comp=Z,3.4nm,0.8s,baz=27,slow=2.5,SNR=17
TORD PP **PP** **19 17 24.1 -3.8**
comp=Z,1.7nm,0.9s,baz=32,slow=3.9,SNR=3.6
TORD PKKPbc **PKKPbc** **19 27 09.0 +2.1**
comp=Z,1.1nm,0.8s,baz=203,slow=3.8,SNR=5.5
TORD Torodi Ar. Bea 114.73 302 PKiKP 19 16 27.7 -2.6
QSPA South Pole Qui 118.67 180 PKPdf 19 16 35.8 -0.5
DBIC Dimbokro 123.82 302 PKP **PKPdf 19 16 47.4 -0.4**
comp=Z,11nm,0.8s,baz=11,slow=3.1,SNR=9.1
DBIC Dimbokro 123.82 302 PKPdf 19 16 46.6 -1.2
KIC Kosan Boka 123.94 301 *e*PKIKP **PKPdf 19 16 47.3 -0.7**
comp=Z,20nm,0.8s
TIC Toumodi 123.96 302 *e*PKIKP **PKPdf 19 16 47.2 -0.9**
LIC Lamto 124.24 301 *e*PKIKP **PKPdf 19 16 46.9 -1.7**
comp=Z,44nm,0.9s
SNAA Sanae 130.09 198 PKPdf **PKiKP 19 16 58.7 -0.2**
VNA2 Neumayer--Watz 131.73 197 PKPdf **PKPdf 19 17 00.4 -0.7**
VNA3 Neumayer Olymp 132.11 196 PKPdf **PKPdf 19 17 02.1 +0.3**
VNA1 Neumayer--Stat 132.12 197 PKPdf **PKPdf 19 17 02.2 +0.4**
SDV Santo Domingo 137.57 31 PKPdf 19 17 13.7 -0.3
NNA Nana 150.01 61 PKIKP **PKPbc 19 17 39.8 -0.6**
NNA Nana 150.01 61 PKPbc 19 17 39.8 -0.6
USHA Ushuaia 150.93 158 PKPbc **PKiKP 19 17 41.9 +0.1**
comp=Z,17nm,1.0s,baz=62,slow=1.6,SNR=6.0
USHA PKPab **PKPab 19 17 49.1 +0.4**
comp=Z,39nm,1.1s,baz=253,slow=1.0,SNR=4.9
LPAZ La Paz 159.26 57 PKP **PKPdf 19 17 48.8 0.0**
comp=Z,3.3nm,1.2s,baz=52,slow=1.7,SNR=5.1
LPAZ PKPab **PKPab 19 18 25.9 -0.2**
comp=Z,6.8nm,1.1s,baz=21,slow=8.5,SNR=6.0
LPAZ La Paz 159.26 57 PKPdf **PKPdf 19 17 46.8 -2.1**
LPAZ **PKPab 19 18 25.6 -0.5**
PLCA Paso Flores 159.60 131 PKP **PKPdf 19 17 47.2 -0.7**
comp=Z,3.7nm,1.1s,baz=295,slow=17,SNR=3.3
PLCA PKPab **PKPab 19 18 27.7 +1.3**
comp=Z,3.7nm,1.1s,baz=246,slow=11,SNR=3.5
PB11 IPOC Station P 160.09 67 PKPdf **PKPdf 19 17 48.7 -0.4**
PB11 **PKPab 19 18 30.2 +1.0**
SIV San Ignacio 163.70 40 PKP **PKPdf 19 17 53.0 +0.3**
comp=Z,2.5nm,0.9s,baz=5.3,slow=2.0,SNR=7.6
CFA Coronel Fontan 164.18 104 PKPab **PKPab 19 18 47.7 +0.9**
comp=Z,3.6nm,0.8s,baz=221,slow=8.5,SNR=4.1
BDFB Brasilia 166.65 351 PKP **PKPdf 19 17 54.8 -0.6**
comp=Z,1.9nm,0.6s,baz=336,slow=4.3,SNR=3.7
BDFB PKPab **PKPab 19 18 57.6 -0.1**
comp=Z,4.5nm,0.9s,baz=288,slow=5.3,SNR=4.7
BDFB Brasilia 166.65 351 PKPdf 19 17 54.3 -1.1
BDFB **PKPab 19 18 57.2 -0.5**
CPUP Villa Florida 173.18 70 PKP **PKPdf 19 17 58.5 -0.2**
comp=Z,3.1nm,0.9s,baz=133,slow=5.1,SNR=2.9

IDC ***15*** *19:34:43.8±1.8, 7.°04S×127.°27E, h0km, mb3.6/1, mb1 4.0/4, mb1mx3.5/37, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=56.6km s-min=29.6km az=74.0*
ISCJB ***15*** *19:34:59.1±0.5, 6.°85S±0.°04×129.°07E±0.°05, h200km, mb3.1/1, Error ellipse: s-maj=7.6km s-min=5.6km az=10.7*
NEIC ***15*** *19:35:00.2±2.8, 6.°82S±0.°07×129.°06E±0.°07, h191km±13km, mb4.2/6*
ISC 15 19:35:00.7±0.7, 6.°87S±0.°05×129.°14E±0.°06, h200km, n26, σ2§28/31, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.42**	**118**		**Pn**	**19 35 46.8**	**+3.2**
FAKI	**Fak Fak**	**5.00**	**38**		**Pn**	**19 36 14.7**	**-0.4**
FAKI					**Sn**	**19 37 09.8**	**-4.0**
SOEI	**Soe**	**5.61**	**239**		**Pn**	**19 36 22.6**	**-0.5**
SOEI					**Sn**	**19 37 26.1**	**-2.0**
MTN	**Manton Dam**	**6.26**	**162**		**Pn**	**19 36 32.6**	**+1.3**
MTN				Sn	**Sn**	**19 37 41.7**	**-1.4**
SIJI	**Sorong**	**6.32**	**20**	Pn	**Pn**	**19 36 32.1**	**-0.1**
	5.5nm,0.3s,baz=208,slow=22,SNR=40						
SIJI				Sn	**Sn**	**19 37 40.8**	**-3.9**
	1.1nm,0.3s,baz=260,slow=23,SNR=5.6						
MMRI	**Maumere**	**7.06**	**255**	Pn	Pn	19 36 45.5	+3.7
TNTI	**Ternate**	**7.79**	**347**	Pn	**Pn**	**19 36 54.8**	**+3.5**
KNRA	**Kununurra**	**8.77**	**182**		**Pn**	**19 37 04.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.67**	**197**		**Pn**	**19 37 40.4**	**-1.1**
WRAB	**Tennant Creek**	**13.94**	**159**	Pn	**Pn**	**19 38 09.4**	**-0.6**
WRA	**Warramunga Arr**	**13.95**	**159**	Pn	**Pn**	**19 38 09.9**	**-0.2**
	0.2nm,0.3s,baz=330,slow=14,SNR=15						
WRA				Sn	S	19 40 37.2	-8.2
	0.4nm,0.3s,baz=338,slow=21,SNR=6.1						
WRA	**Warramunga Arr**	**13.95**	**159**		**Pn**	**19 38 10.6**	**+0.6**
WRA					**S**	**19 40 41.3**	**-4.1**
WB2	**Warramunga Arr**	**13.95**	**159**	Pn	**Pn**	**19 38 10.6**	**+0.5**
WR0	**Warramunga Arr**	**14.03**	**159**		**P**	**19 38 15.1**	**+2.2**
JAGI	**Jajag, Banyuwa**	**14.94**	**263**		**Pn**	**19 38 21.1**	**-1.2**
COEN	**Coen**	**15.49**	**118**	Pn	**P**	**19 38 32.4**	**+3.2**
COEN				IAmb	IAmb	19 38 40.5	
	comp=Z,5.0nm,1.1s						
PSAB2	**Pilbara Seismi**	**17.14**	**211**	P	**Pn**	**19 38 47.7**	**-1.0**
PSAB2				IAmb	IAmb	19 38 59.8	
	comp=Z,17nm,1.2s						
PSAA2	**Pilbara Seismi**	**17.15**	**211**	P	**P**	**19 38 47.3**	**0.0**
PSAA3	**Pilbara Seismi**	**17.16**	**211**	P	**P**	**19 38 47.6**	**+0.2**
PSAA1	**Pilbara Seismi**	**17.17**	**211**	P	**P**	**19 38 46.9**	**-0.6**
PSAA1				IAmb	IAmb	19 39 00.4	
	comp=Z,9.5nm,1.1s						
PSAB1	**Pilbara Seismi**	**17.17**	**211**	P	**P**	**19 38 46.7**	**-0.8**
PSAB1				IAmb	IAmb	19 39 07.7	
	comp=Z,16nm,1.3s						
AS31	**Alice Springs**	**17.32**	**165**	P	**P**	**19 38 49.8**	**+0.6**
ASAR	**Alice Springs**	**17.32**	**165**	P	**Pn**	**19 38 53.0**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=337,slow=9.6,SNR=51						
ASAR				S	**S**	**19 41 53.4**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=65,slow=39,SNR=2.1						
ASAR	**Alice Springs**	**17.32**	**165**	P	**Pn**	**19 38 53.3**	**+2.4**
MKAR	**Makanchi Array**	**67.65**	**327**	P	**P**	**19 45 37.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=120,slow=8.1,SNR=6.7						
MKAR	**Makanchi Array**	**67.65**	**327**	P	**P**	**19 45 36.7**	**+0.6**

NIED ***15*** *19:39:00, 23.°90N×122.°40E, h35km, Mw4.8 Best double couple: M0 1.58000×10^16 NP1:φ=317.00000°, δ18.00000°, λ161.00000°. NP2:φ=65.00000°, δ84.00000°, λ72.00000°.*
BJI ***15*** *19:39:15.6±0.0, 24.°03N×122.°48E, h12km, mb4.7/61, mB4.7/46, ML4.7/9, Ms4.5/63, Ms7 4.4/62*
ASIES ***15*** *19:39:17.4, 23.°92N×122.°44E, h23km, MW4.2*
JMA ***15*** *19:39:17.8±0.2, 23.°92N×122.°43E, h23km±3km, M4.8*
ISCJB ***15*** *19:39:18.9±0.2, 23.°94N±0.°01×122.°46E±0.°01, h46km±1km, mb4.8/108, MS4.1/27, Error ellipse: s-maj=2.0km s-min=1.5km az=149.3*
TAP ***15*** *19:39:18.1, 23.°95N×122.°45E, h26km, ML5.2, C*
NEIC ***15*** *19:39:18.4±1.7, 24.°08N±0.°06×122.°47E±0.°02, h26km±4km, mb5.0/137, ML5.2(TAP)*
MOS ***15*** *19:39:18.1±1.0, 24.°09N×122.°57E, h39km, mb5.3/23, Error ellipse: s-maj=7.3km s-min=4.6km az=114.4*
IDC ***15*** *19:39:19.1±2.9, 24.°12N×122.°59E, h33km±22km, mb4.4/30, mb1 4.5/31, mb1mx4.4/52, mbtmp4.6/31, ML3.0/2, MS3.9/26, Ms1 4.0/26, ms1mx3.8/45, Error ellipse: s-maj=13.7km s-min=11.0km az=82.0*
ISC 15 19:39:17.5±0.3, 23.°94N±0.°02×122.°48E±0.°02, h22km±3km, n613, σ1§44/753, mb5.0/151, MS4.1/29, 92C-29D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.66**	**40**	⇓P	**Pn**	**19 39 31.2**	**-0.3**
JYNG				*e*S	**Sb**	**19 39 40.0**	**+0.8**
EOS1	**EOS1**	**0.69**	**332**	⇓P	**Pb**	**19 39 31.2**	**+0.4**
	baz=325						
EOS1				S	**Sn**	**19 39 41.4**	**-0.5**
	baz=325						
YOJ	**Yonaguni jima**	**0.71**	**43**	P	**Pn**	**19 39 32.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.71**	**43**	⇓P	**Pn**	**19 39 32.1**	**-0.1**
YOJ				*e*S	**Sn**	**19 39 41.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.71**	**43**		**Pn**	**19 39 32.1**	**-0.1**
HWA	**Hwalien**	**0.80**	**273**	⇑*i*P	**Pb**	**19 39 32.7**	**-0.1**
	baz=259						
HWA				S	**Sn**	**19 39 44.0**	**-0.7**
	baz=259						
ENLB	**Shoufeng**	**0.81**	**268**	⇑*i*P	**Pb**	**19 39 31.6**	**-1.3**
	baz=254						
ENLB				S	**Sb**	**19 39 42.3**	**-1.1**
	baz=254						
TWD	**Chiawan**	**0.82**	**280**	⇑*i*P	**Pb**	**19 39 32.6**	**-0.5**
	baz=279						
TWD				S	**Sb**	**19 39 43.2**	**-0.6**
	baz=279						
NANB	**Nanao**	**0.83**	**306**	⇓*i*P	**Pb**	**19 39 33.0**	**-0.2**
	baz=316						
NANB				S	**Sn**	**19 39 44.6**	**-0.7**
	baz=316						
ENA	**Nanau**	**0.83**	**306**	⇓*i*P	**Pb**	**19 39 33.0**	**-0.3**
	baz=316						
ENA				S	**Sb**	**19 39 44.6**	**+0.5**
	baz=316						
NACB	**Ninganchiao**	**0.84**	**286**	⇑P	**Pb**	**19 39 33.0**	**-0.5**
	baz=272						
NACB				S	**Sb**	**19 39 44.1**	**-0.3**
	baz=272						
NACB	**Ninganchiao**	**0.84**	**286**		**Pb**	**19 39 32.9**	**-0.6**
TWC	**Suao**	**0.88**	**319**	⇓*i*P	**Pb**	**19 39 33.7**	**-0.4**
	baz=321						
TWC				*e*S	**Sb**	**19 39 44.2**	**-1.3**
	baz=321						
ETLH	**Xiulin Townshi**	**0.95**	**286**	⇑P	**Pb**	**19 39 34.9**	**-0.6**
	baz=274						
ETLH				S	**Sb**	**19 39 47.5**	**-0.1**
	baz=274						
ESL	**Shilin**	**0.97**	**263**	⇑*i*P	**Pb**	**19 39 34.4**	**-1.3**
	baz=261						
ESL				S	**Sb**	**19 39 46.6**	**-1.4**
	baz=261						
EGFH	**Guangfu**	**1.00**	**255**	*e*P	**Pb**	**19 39 35.1**	**-1.1**
	baz=253						
EGFH				*e*S	**Sb**	**19 39 48.0**	**-1.0**
	baz=253						
EGS		**1.03**	**331**	⇓*i*P	**Pn**	**19 39 36.8**	**+0.2**
	baz=324						
EGS				S	**Sn**	**19 39 50.8**	**+0.4**
	baz=324						
ILA	**Ilan**	**1.06**	**321**	⇓*e*P	**Pb**	**19 39 37.4**	**+0.2**
	baz=322						
ILA				S	**Sn**	**19 39 51.5**	**+0.4**
	baz=322						
HGSD	**Ruisui**	**1.07**	**245**	P	**Pn**	**19 39 35.8**	**-1.4**
	baz=244						
HGSD				*e*S	**Sb**	**19 39 48.6**	**-2.3**
	baz=244						
TWE	**Neicheng**	**1.08**	**316**	⇓*i*P	**Pb**	**19 39 37.4**	**-0.1**
	baz=317						
TWE				*e*S	**Sn**	**19 39 51.7**	**+0.2**
	baz=317						
NTC	**Toucheng**	**1.09**	**327**	*e*P	**Pb**	**19 39 37.8**	**+0.1**
	baz=328						
NTC				*e*S	**Sb**	**19 39 51.5**	**+0.1**
	baz=328						
ENTT	**Nioudou**	**1.09**	**310**	⇑*i*P	**Pb**	**19 39 37.6**	**-0.1**
	baz=296						
ENTT				*e*S	**Sn**	**19 39 51.7**	**-0.2**
	baz=296						
NDT	**Datong Townshi**	**1.10**	**307**	⇑*i*P	**Pb**	**19 39 37.8**	**-0.1**
	baz=307						
NDT				*e*S	**Sb**	**19 39 51.4**	**-0.5**
	baz=307						
NNSB	**Datong**	**1.12**	**296**	⇑P	**Pn**	**19 39 37.7**	**-0.2**
	baz=284						
NNSB				*e*S	**Sb**	**19 39 51.0**	**-1.4**
	baz=284						
NNS	**Nan Shan**	**1.13**	**296**	⇑*i*P	**Pn**	**19 39 37.9**	**-0.2**
	baz=284						
NNS				S	**Sb**	**19 39 52.5**	**-0.2**
	baz=284						
WHF	**Hehuan Shan**	**1.13**	**281**	⇑*i*P	**Pn**	**19 39 37.6**	**-0.8**
	baz=267						
WHF				S	**Sb**	**19 39 51.8**	**-1.3**
	baz=267						
EHY	**Hungye**	**1.15**	**248**	⇑*i*P	**Pn**	**19 39 37.5**	**-0.8**
	baz=246						
EHY				*e*S	**Sb**	**19 39 50.6**	**-2.6**
	baz=246						
TWB1	**Santiao Chiao**	**1.15**	**337**	⇑P	**Pn**	**19 39 38.4**	**+0.1**
	baz=356						
TWB1				*e*S	**Sn**	**19 39 53.8**	**+0.3**
	baz=356						
TIPB	**Shuangxi**	**1.19**	**330**	⇑*i*P	**Pb**	**19 39 39.2**	**-0.2**
	baz=331						
TIPB				S	**Sn**	**19 39 54.4**	**+0.1**
	baz=331						
OWD	**Renai**	**1.20**	**271**	*e*P	**Pn**	**19 39 38.7**	**-0.3**
	baz=270						
CHGB	**Renai**	**1.20**	**276**	⇑P	**Pn**	**19 39 38.8**	**-0.4**
	baz=264						
CHGB				*e*S	**Sb**	**19 39 52.3**	**-2.7**
	baz=264						
IRIF	**Iriomote-Funau**	**1.21**	**71**	P	**Pb**	**19 39 40.5**	**+0.9**
IRIF				S	**Sb**	**19 39 56.7**	**+1.9**
HATJ	**Hateruma jima**	**1.21**	**84**	⇓P	**Pb**	**19 39 40.2**	**+0.4**
HATJ				*e*S	**Sb**	**19 39 57.1**	**+2.1**
YULB	**Yu-li**	**1.22**	**244**	⇓P	**Pn**	**19 39 38.5**	**-0.6**
	baz=242						
YULB				*e*S	**Sn**	**19 39 52.9**	**-2.1**
	baz=242						
YULB	**Yu-li**	**1.22**	**244**		**Pn**	**19 39 38.6**	**-0.6**
NWLT	**Wulai**	**1.22**	**313**	*e*P	**Pb**	**19 39 39.9**	**-0.1**
	baz=313						
NWLT				*e*S	**Sb**	**19 39 55.6**	**+0.2**
	baz=313						
TWT	**Tachien**	**1.23**	**285**	⇑P	**Pn**	**19 39 39.7**	**+0.1**
	baz=272						
TWT				S	**Sn**	**19 39 55.1**	**-0.6**
	baz=272						
TWF1	**Yuli**	**1.24**	**242**	⇓P	**Pn**	**19 39 38.7**	**-0.7**
	baz=240						
TWF1				*e*S	**Sn**	**19 39 54.4**	**-1.0**
	baz=240						
VWDT	**VWDT**	**1.24**	**262**	⇑P	**Pn**	**19 39 39.3**	**-0.2**
	baz=260						
VWDT				*e*S	**Sn**	**19 39 53.9**	**-1.7**
	baz=260						
YHNB	**Yeheng**	**1.24**	**306**	⇑P	**Pn**	**19 39 39.9**	**+0.2**
	baz=293						
YHNB				S	**Sn**	**19 39 55.7**	**0.0**
	baz=293						
YHNB	**Yeheng**	**1.24**	**306**		**Pn**	**19 39 39.7**	**0.0**
TDCB	**Techi**	**1.25**	**285**	⇑P	**Pn**	**19 39 39.7**	**-0.1**
	baz=272						
TDCB				S	**Sn**	**19 39 54.7**	**-1.3**
	baz=272						
NSK	**Sanguang**	**1.26**	**306**	⇑*i*P	**Pn**	**19 39 40.0**	**+0.2**
	baz=293						
NSK				*e*S	**Sn**	**19 39 56.1**	**0.0**
	baz=293						
NWF	**Wu-fen Shan**	**1.29**	**331**	⇑*i*P	**Pb**	**19 39 40.7**	**-0.5**
	baz=331						
NWF				*e*S	**Sb**	**19 39 58.8**	**+1.4**
	baz=331						
WFSB	**Wu-fen Shan**	**1.29**	**331**	⇑P	**Pb**	**19 39 40.8**	**-0.4**
	baz=331						
WFSB				S	**Sb**	**19 39 57.6**	**+0.2**
	baz=331						
FULB	**Fuli**	**1.32**	**236**	⇓*i*P	**Pn**	**19 39 39.3**	**-1.3**
	baz=222						
FULB				*e*S	**Sn**	**19 39 55.5**	**-2.0**
	baz=222						
TWA	**Mucha**	**1.32**	**322**	⇑P	**Pb**	**19 39 41.5**	**-0.1**
	baz=322						
TWA				*e*S	**Sb**	**19 39 58.9**	**+0.7**
	baz=322						
CHKT	**Chengkung**	**1.32**	**231**	⇓P	**Pn**	**19 39 39.3**	**-1.4**
	baz=229						
CHKT				*e*S	**Sn**	**19 39 54.7**	**-2.9**
	baz=229						
NHDH	**Xindian Distri**	**1.34**	**320**	⇑P	**Pb**	**19 39 42.0**	**0.0**
	baz=320						
NHDH				S	**Sb**	**19 39 59.7**	**+1.0**
	baz=320						
TATO	**Taipei**	**1.37**	**319**		**Pb**	**19 39 42.2**	**-0.3**
TAP1	**Taipei**	**1.40**	**322**	P	**Pb**	**19 39 42.4**	**-0.5**
	baz=321						
TAP1				S	**Sb**	**19 40 01.4**	**+1.0**
	baz=321						
SSLB	**Suanglung**	**1.41**	**264**	⇑P	**Pn**	**19 39 41.5**	**-0.3**
	baz=263						
SSLB				*e*S	**Sn**	**19 39 58.1**	**-1.7**
	baz=263						
SSLB	**Suanglung**	**1.41**	**264**		**Pn**	**19 39 41.3**	**-0.6**
TAP	**Taipei**	**1.41**	**321**	P	**Pb**	**19 39 42.5**	**-0.7**
	baz=321						
TAP				S	**Sb**	**19 40 01.7**	**+1.0**
	baz=321						
JKRS	**Kuro-shima**	**1.43**	**78**	P	**Pb**	**19 39 44.1**	**+0.7**
JKRS				S	**Sb**	**19 40 02.4**	**+1.3**
DPDB	**Guoxing**	**1.43**	**274**	⇑*i*P	**Pn**	**19 39 42.4**	**+0.3**
	baz=264						
DPDB				*e*S	**Sn**	**19 39 59.5**	**-0.7**
	baz=264						
WLTB	**Daxi**	**1.44**	**309**	⇑*i*P	**Pb**	**19 39 43.6**	**-0.1**
	baz=297						
WLTB				*e*S	**Sb**	**19 40 02.6**	**+0.9**
	baz=297						
WHP	**Taichung City**	**1.44**	**284**	⇑P	**Pn**	**19 39 42.9**	**+0.5**
	baz=271						
WHP				*e*S	**Sn**	**19 40 01.1**	**+0.4**
	baz=271						
SMLT	**Sun Moon Lake**	**1.45**	**268**	⇑*i*P	**Pn**	**19 39 42.6**	**+0.1**
	baz=267						
SMLT				*e*S	**Sn**	**19 40 00.4**	**-0.5**
	baz=267						
YM01	**YM01**	**1.46**	**325**	⇑P	**Pn**	**19 39 42.8**	**+0.2**
	baz=326						
YM10	**YM10**	**1.47**	**325**	⇑P	**Pn**	**19 39 43.0**	**+0.2**
	baz=326						
YM10				*e*S	**Sb**	**19 40 03.2**	**+0.6**
	baz=326						
YM11	**YM11**	**1.47**	**326**	⇑*i*P	**Pn**	**19 39 43.0**	**+0.1**
	baz=326						
YUS	**Yu-Shan**	**1.47**	**253**	⇑P	**Pn**	**19 39 43.0**	**-0.2**
	baz=251						
YUS				*e*S	**Sn**	**19 40 00.5**	**-1.5**
	baz=251						
YM05	**YM05**	**1.48**	**326**	P	**Pn**	**19 39 43.0**	**+0.1**
	baz=326						
YM04	**YM04**	**1.48**	**325**	⇑P	**Pn**	**19 39 43.1**	**+0.2**
	baz=325						
YM04				*e*S	**Sb**	**19 40 03.3**	**+0.5**
	baz=325						
YM08	**YM08**	**1.48**	**327**	⇑P	**Pn**	**19 39 42.8**	**-0.1**
	baz=327						
YM08				*e*S	**Sb**	**19 40 03.3**	**+0.4**
	baz=327						
TYC	**Yuchr**	**1.49**	**269**	⇑*i*P	**Pn**	**19 39 43.1**	**+0.2**
	baz=268						
TWS1	**Kuangyinshan**	**1.51**	**320**	*e*P	**Pb**	**19 39 44.0**	**-0.8**
	baz=321						
TWS1				*e*S	**Sb**	**19 40 04.2**	**+0.6**
	baz=321						
LIOB	**Emei**	**1.51**	**298**	⇑*i*P	**Pb**	**19 39 44.6**	**-0.3**
	baz=285						
LIOB				S	**Sn**	**19 40 02.9**	**+0.6**
	baz=285						
WHYT	**Xinyi Township**	**1.51**	**261**	⇑*e*P	**Pn**	**19 39 43.7**	**+0.4**
	baz=260						
NSTT	**Nanjuang**	**1.52**	**297**	⇑*i*P	**Pb**	**19 39 44.5**	**-0.4**
	baz=285						
NSTT				*e*S	**Sn**	**19 40 02.3**	**-0.1**
	baz=285						
ANP	**Anpu**	**1.52**	**325**	*e*P	**Pn**	**19 39 44.0**	**+0.6**
	baz=325						
ELDTW	**Lidau**	**1.54**	**241**	⇓*i*P	**Pn**	**19 39 43.0**	**-0.8**
	baz=240						
ELDTW				*e*S	**Sn**	**19 40 00.8**	**-2.3**
	baz=240						
NTST	**Danshui**	**1.54**	**323**	*e*P	**Pb**	**19 39 44.7**	**-0.6**
	baz=339						
TWY	**Chenhua**	**1.55**	**329**	*e*P	**Pn**	**19 39 44.6**	**+0.8**
	baz=329						
NCU	**National Centr**	**1.56**	**311**	*e*P	**Pb**	**19 39 45.0**	**-0.7**
	baz=311						
NCUH	**Zhongli**	**1.56**	**311**	*e*P	**Pb**	**19 39 44.9**	**-0.8**
	baz=311						
JIJ	**Ishigaki jima**	**1.57**	**74**	⇑P	**Pb**	**19 39 45.3**	**-0.6**
JIJ				S	**Sb**	**19 40 05.9**	**+0.5**
ALS	**Alishan**	**1.60**	**255**	⇑*i*P	**Pn**	**19 39 45.1**	**+0.5**
	baz=253						
ALS				S	**Sn**	**19 40 04.3**	**-0.5**
	baz=253						
SBCB	**Hsinchu**	**1.61**	**302**	⇑P	**Pb**	**19 39 45.9**	**-0.6**
	baz=301						
SBCB				S	**Sb**	**19 40 06.9**	**+0.5**
	baz=301						
WJS	**Zhushan**	**1.61**	**266**	⇑*e*P	**Pb**	**19 39 45.8**	**-0.7**
	baz=265						
WJS				*e*S	**Sb**	**19 40 06.2**	**-0.3**
	baz=265						
TWQ1	**Liyutan**	**1.61**	**285**	⇑*i*P	**Pb**	**19 39 46.3**	**-0.3**
	baz=284						
TWQ1				S	**Sb**	**19 40 06.4**	**-0.2**
	baz=284						
HSN	**Hsinchu**	**1.62**	**302**	*e*P	**Pn**	**19 39 45.6**	**+0.8**
	baz=303						
HSN				*e*S	**Sn**	**19 40 05.8**	**+0.8**
	baz=303						
NSY	**Sanyi**	**1.64**	**287**	⇑*i*P	**Pb**	**19 39 46.8**	**-0.3**
	baz=286						
NSY				*e*S	**Sb**	**19 40 06.5**	**-0.9**
	baz=286						
WNT	**Mingjian**	**1.65**	**268**	⇑*e*P	**Pb**	**19 39 46.5**	**-0.7**
	baz=267						
WNT				*e*S	**Sb**	**19 40 07.0**	**-0.5**
	baz=267						
NMLH	**Miaoli**	**1.66**	**291**	⇑P	**Pb**	**19 39 46.8**	**-0.5**
	baz=290						
NMLH				*e*S	**Sb**	**19 40 07.1**	**-0.7**
	baz=290						
TCU	**Taichung**	**1.67**	**277**	⇑P	**Pb**	**19 39 47.2**	**-0.3**
	baz=276						
TCU				*e*S	**Sb**	**19 40 08.1**	**0.0**
	baz=276						
CHN5	**Tsauling**	**1.69**	**259**	⇑*i*P	**Pb**	**19 39 46.8**	**-1.2**
	baz=247						
CHN5				*e*S	**Sn**	**19 40 07.6**	**+0.8**
	baz=247						
PTSB	**Yuanli**	**1.70**	**288**	⇑*e*P	**Pb**	**19 39 47.3**	**-0.8**
	baz=286						
PTSB				*e*S	**Sb**	**19 40 08.4**	**-0.6**
	baz=286						
TTN	**Taitung**	**1.70**	**226**	*e*P	**Pn**	**19 39 45.1**	**-0.8**
	baz=225						
TTN				*e*S	**Sn**	**19 40 05.3**	**-1.7**
	baz=225						
TWGBT	**Beinan**	**1.71**	**229**	⇓P	**Pn**	**19 39 45.1**	**-0.8**
	baz=239						
TWG	**Pinlang**	**1.71**	**230**	⇓*e*P	**Pn**	**19 39 45.1**	**-0.9**
	baz=218						
TWG				*e*S	**Sn**	**19 40 04.6**	**-2.6**
	baz=218						
TWG	**Pinlang**	**1.71**	**230**		**Pn**	**19 39 45.0**	**-0.9**
PCYT	**Pengchaiyu**	**1.72**	**348**	⇑P	**Pn**	**19 39 46.6**	**+0.5**
	baz=333						
WDJ	**Dajia District**	**1.73**	**284**	⇑*i*P	**Pb**	**19 39 47.8**	**-0.9**
	baz=283						
WDJ				*e*S	**Sb**	**19 40 09.5**	**-0.5**
	baz=283						
STYT	**Tauyuan**	**1.76**	**244**	⇓*e*P	**Pn**	**19 39 47.1**	**+0.4**
	baz=233						
STYT				*e*S	**Sn**	**19 40 07.5**	**-1.0**
	baz=233						
WCHH	**Zhanghua**	**1.77**	**275**	⇑P	**Pb**	**19 39 48.4**	**-0.8**
	baz=273						
WCHH				S	**Sb**	**19 40 10.5**	**-0.4**
	baz=273						
WGK	**Gukeng**	**1.78**	**262**	*e*P	**Pb**	**19 39 48.3**	**-1.1**
	baz=261						
JISG	**Ishigakijimahi**	**1.79**	**69**	⇑P	**Pn**	**19 39 48.1**	**+1.1**
JISG				*e*S	**Sb**	**19 40 11.4**	**-0.2**
WDLH

	baz=256					
ECL	**Taimali**	**1.94 227**	⇓*i*P		**Pn**	**19 39 48.1 -1.0**
	baz=226					
ECL			*e*S		**Sn**	**19 40 09.8 -3.0**
	baz=226					
SGST	**Jiashian**	**1.94 244**	*e*P		**Pn**	**19 39 49.8 +0.6**
	baz=243					
SGST			S		**Sn**	**19 40 14.1 +1.1**
	baz=243					
RLNB	**Erlin**	**1.94 269**	⇑P		**Pb**	**19 39 51.0 -1.2**
	baz=267					
RLNB			*e*S		**Sb**	**19 40 14.7 -1.3**
	baz=267					
CHN1	**Nanshi**	**1.95 248**	*e*P		**Pb**	**19 39 50.7 -1.6**
	baz=237					
CHN1			*e*S		**Sb**	**19 40 15.2 -0.9**
	baz=237					
TWK	**Hsinying**	**1.95 250**	*e*P		**Pn**	**19 39 50.6 +1.3**
	baz=249					
TWK			*e*S		**Sb**	**19 40 15.1 -1.2**
	baz=249					
SNST	**Tainan City**	**1.96 249**	*e*P		**Pb**	**19 39 50.9 -1.6**
	baz=248					
SNST			*e*S		**Sb**	**19 40 14.9 -1.6**
	baz=248					
WTCT	**Ta-ch'eng**	**2.02 268**	⇑*i*P		**Pn**	**19 39 51.6 +1.5**
	baz=267					
WTCT			*e*S		**Sn**	**19 40 16.2 +1.5**
	baz=267					
WLGB	**Puzi**	**2.05 257**	*e*P		**Pb**	**19 39 52.3 -1.8**
	baz=256					
WMLT	**Mailiao**	**2.07 267**	*e*P		**Pn**	**19 39 52.4 +1.5**
	baz=265					
SSD	**Sandimen**	**2.08 235**	*e*P		**Pn**	**19 39 51.2 +0.2**
	baz=226					
LAY	**Lan-yu**	**2.08 205**	*e*P		**Pn**	**19 39 49.7 -1.4**
	baz=203					
WSF	**Szhu**	**2.09 262**	*e*P		**Pb**	**19 39 53.0 -1.8**
	baz=261					
WSF			*e*S		**Sb**	**19 40 18.5 -1.8**
	baz=261					
CHN3	**Shinhua**	**2.13 247**	*e*P		**Pb**	**19 39 54.3 -1.0**
	baz=245					
CHN3			*e*S		**Sb**	**19 40 20.7 -0.6**
	baz=245					
JTJ	**Tarama**	**2.14 71**	P		**Pn**	**19 39 53.5 +1.6**
JTJ			S		**Sb**	**19 40 20.2 -1.5**
TAW	**Tawu**	**2.15 223**	*e*P		**Pn**	**19 39 51.0 -0.9**
	baz=232					
MASBT	**Mashibuluo**	**2.15 233**	⇓*e*P		**Pn**	**19 39 52.4 +0.3**
	baz=225					
MASBT			*e*S		**Sn**	**19 40 19.1 +1.0**
	baz=225					
EAST	**Anshuo**	**2.16 224**	⇓P		**Pn**	**19 39 51.4 -0.8**
	baz=223					
CHN8	**Yiju**	**2.17 255**	*e*P		**Pn**	**19 39 53.7 +1.5**
	baz=253					
CHN8			*e*S		**Sn**	**19 40 19.7 +1.3**
	baz=253					
SGLT	**Jiouru**	**2.19 237**	*e*P		**Pb**	**19 39 55.5 -1.0**
	baz=229					
TWM1	**Shoushan**	**2.20 240**	*e*P		**Pb**	**19 39 55.5 -1.0**
	baz=238					
SCLT	**Jiali**	**2.23 251**	⇓*e*P		**Pn**	**19 39 54.8 +1.7**
	baz=249					
TAI1	**Yung-k'ang**	**2.26 247**	*e*P		**Pb**	**19 39 56.0 -1.6**
	baz=246					
TAI1			*e*S		**Sb**	**19 40 23.3 -1.7**
	baz=246					
SNJT	**Kaohsiung City**	**2.30 240**	*e*P		**Pb**	**19 39 56.5 -1.8**
	baz=239					
SNJT			*e*S		**Sb**	**19 40 26.2 -0.2**
	baz=239					
SCZT	**Fangliau**	**2.32 228**	*e*P		**Pn**	**19 39 54.8 +0.5**
	baz=219					
TSEB	**Hengchuen, Pin**	**2.50 216**	*e*P		**Pn**	**19 39 58.2 +1.4**
	baz=224					
TSEB			*e*S		**Sn**	**19 40 26.2 -0.5**
	baz=224					
WLCH	**Liuqiu**	**2.50 231**	*e*P		**Pb**	**19 39 59.8 -1.9**
	baz=244					
HEN	**Hengchun**	**2.51 220**	*e*P		**Pn**	**19 39 57.5 +0.5**
	baz=219					
HEN			*e*S		**Sn**	**19 40 26.1 -0.8**
	baz=219					
TWP	**Hsiaoliuchiu**	**2.52 231**	*e*P		**Pn**	**19 39 59.3 +2.2**
	baz=244					
TWKBT	**Hengchun**	**2.52 218**	*e*P		**Pn**	**19 39 56.8 -0.3**
	baz=217					
TWKBT			*e*S		**Sn**	**19 40 25.9 -1.2**
	baz=217					
TWK1	**Hengchun**	**2.52 218**	*e*P		**Pn**	**19 39 57.5 +0.4**
	baz=217					
TWK1			*e*S		**Sn**	**19 40 25.7 -1.4**
	baz=217					
JIRB	**Irabujima**	**2.61 70**	P		**Pn**	**19 40 00.4 +2.1**
JIRB			S		**Sb**	**19 40 32.6 -2.5**
WDGT	**Dungji**	**2.68 256**	*e*P		**Pn**	**19 39 59.9 +0.6**
	baz=254					
PHUB	**P'eng-hu**	**2.70 262**	⇑P		**Pn**	**19 40 00.3 +0.7**
	baz=260					
PHUB			*e*S		**Sn**	**19 40 30.9 -0.8**
	baz=260					
JIKM	**Ikemajima**	**2.70 68**	P		**Pb**	**19 40 02.5 -2.7**
JIKM			*e*S		**Sb**	**19 40 34.9 -3.0**
JMJ	**Miyako jima 2**	**2.71 71**	*e*P		**Pn**	**19 40 01.3 +1.6**
	baz=72					
PNG	**Penghu**	**2.71 263**	⇑P		**Pn**	**19 40 00.4 +0.7**
	baz=261					
PNG			*e*S		**Sn**	**19 40 31.3 -0.5**
	baz=261					
JMJ2	**Miyako jima3**	**2.71 72**	P		**Pn**	**19 40 02.1 +2.3**
JMJ2			*e*S		**Sb**	**19 40 35.7 -2.5**
JOGS	**Gusukube**	**2.79 72**	P		**Pb**	**19 40 03.9 -2.7**
JOGS			*e*S		**Sb**	**19 40 37.8 -2.6**
VCHM	**Qimei**	**2.90 256**	*e*P		**Pn**	**19 40 03.2 +0.9**
	baz=255					
VCHM			*e*S		**Sn**	**19 40 35.3 -1.1**
	baz=255					
PTTC	**Pingtan**	**2.92 303**	⇑*e*P		**Pn**	**19 40 02.1 -0.5**
	baz=302					
VWUC	**VWUC**	**2.96 291**	⇑*e*P		**Pn**	**19 40 03.0 -0.1**
	baz=289					
VWUC			*e*S		**Sn**	**19 40 35.7 -2.1**
	baz=289					
MATB	**Ma-tsu**	**3.19 314**	⇑*e*P		**Pn**	**19 40 05.8 -0.4**
	baz=313					
PTMZ	**Houxiangcun**	**3.25 290**	⇑*e*P		**Pn**	**19 40 07.1 -0.1**
	baz=288					
PTMZ			*e*S		**Sn**	**19 40 43.0 -2.2**
	baz=288					
LYJJ	**Jianjiangzhen**	**3.58 317**	*e*P		**Pn**	**19 40 11.3 -0.4**
	baz=315					
XPSS	**Dashiqiu**	**3.63 326**	⇑*e*P		**Pn**	**19 40 12.6 +0.2**
	baz=335					
QZH	**Quanzhou**	**3.68 287**	⇑*i*Pn		**Pn**	**19 40 12.8 -0.3**
QZH			Sn		**Sn**	**19 40 53.4 -2.5**
QZH			smax		smax	
	comp=N,1μm,0.3s					
QZH			smax		smax	
	comp=E,1μm,0.3s					
QZH			LR		LR	
	comp=N,3μm,11.1s					
QZH			LR		LR	
	comp=E,2μm,14.5s					
QZH			LR		LR	
	comp=Z,3μm,13.3s					
KNM	**Kinmen**	**3.73 278**	⇑*e*P		**Pn**	**19 40 15.3 +1.6**
	baz=277					
KNMB	**Chin-men Tao**	**3.77 279**	⇑*e*P		**Pn**	**19 40 14.2 -0.2**
	baz=276					
KNMB			*e*S		**Sn**	**19 40 55.1 -3.0**
	baz=276					
KNMB	**Chin-men Tao**	**3.77 279**			**Pn**	**19 40 14.1 -0.3**
MHZQ	**Yeshan**	**3.80 305**	⇑*e*P		**Pn**	**19 40 14.0 -0.7**
	baz=304					
AXDP	**Jialang**	**4.22 284**	⇑*e*P		**Pn**	**19 40 20.6 +0.1**
	baz=283					
ZPLA	**Ao Xicun**	**4.33 271**	⇑*e*P		**Pn**	**19 40 22.2 +0.2**
	baz=268					
ZPLA			*e*S		**Sn**	**19 41 09.2 -2.7**
	baz=268					
ZZJH	**Jiuhuzhen**	**4.46 278**	⇑*e*P		**Pn**	**19 40 23.7 -0.1**
	baz=275					
ZZJH			*e*S		**Sn**	**19 41 13.1 -2.0**
	baz=275					
JOW	**Kunigami**	**5.98 60**	*e*P		**Pn**	**19 40 44.9 +0.2**
	baz=62					
JOW	**Kunigami**	**5.98 60**	Pn		**Pn**	**19 40 44.6 -0.1**
	1.0nm,0.3s,baz=196,slow=17,SNR=11					
JOW	**Kunigami**	**5.98 60**			**Pn**	**19 40 44.2 -0.5**
VDOS	**Pratas Island**	**6.23 240**	*e*P		**Pn**	**19 40 50.2 +2.1**
	baz=239					
SSE	**Sheshan**	**7.22 351**	Pn		**Pn**	**19 41 01.9 +0.2**
SSE			LR		LR	
	comp=N,980nm,12.9s					
SSE			LR		LR	
	comp=E,350nm,13.6s					
SSE			LR		LR	
	comp=Z,1μm,13.7s					
SSE	**Sheshan**	**7.22 351**			**Pn**	**19 41 01.5 -0.2**
HKPS	**Hong Kong Po S**	**7.86 259**	Pn		**Pn**	**19 41 10.3 -0.2**
GZH	**Guangzhou**	**8.43 266**	P		**Pn**	**19 41 14.4 -3.9**
GZH			S		Sn	19 42 38.4 -14
GZH			smax		smax	
	comp=N,280nm,0.8s					
GZH			smax		smax	
	comp=E,220nm,0.8s					
NJ2	**Nanjing**	**8.69 339**	*e*P		**Pn**	**19 41 22.3 +0.4**
NJ2			S		**Sn**	**19 42 58.3 -0.9**
NJ2			pmax		pmax	
	comp=Z,30nm,0.5s					
NJ2			smax		smax	
	comp=N,160nm,1.0s					
NJ2			smax		smax	
	comp=E,160nm,1.2s					
NJ2			LR		LR	
	comp=N,3μm,12.8s					
NJ2			LR		LR	
	comp=E,2μm,11.8s					
NJ2			LR		LR	
	comp=Z,3μm,11.4s					
WHN	**Wuhan**	**9.78 314**	P		**Pn**	**19 41 37.4 +0.6**
WHN			S		**Sn**	**19 43 19.9 -6.0**
WHN			LR		LR	
	comp=N,3μm,10.6s					
WHN			LR		LR	
	comp=E,3μm,14.2s					
WHN			LR		LR	
	comp=Z,4μm,11.1s					
TGY	**Tagaytay City**	**9.90 189**	Pn		Pn	19 41 43.5 +5.0
	37nm,0.3s,baz=163,slow=8.3,SNR=4.2					
TGY			LR		LR	19 45 36.0
	comp=Z,495nm,20.5s,baz=80,slow=37					
JNU	**Nakatsue**	**11.75 37**	Pn		**Pn**	**19 42 05.2 +1.3**
	0.2nm,0.3s,baz=228,slow=15,SNR=2.4					
JNU			LR		LR	19 46 36.6
	comp=Z,534nm,20.8s,baz=216,slow=38					
JNU	**Nakatsue**	**11.75 37**	Pn		**Pn**	**19 42 00.6 -3.2**
QIZ	**Qiongzhong**	**12.74 250**	P		**Pn**	**19 42 17.3 -0.1**
QIZ			S		**Sn**	**19 44 37.4 -1.2**
QIZ			pmax		pmax	
	comp=Z,41nm,1.7s					
QIZ			LR		LR	
	comp=N,540nm,18.3s					
QIZ			LR		LR	
	comp=E,370nm,21.1s					
QIZ			LR		LR	
	comp=Z,470nm,20.0s					
QIZ	**Qiongzhong**	**12.74 250**	Pn		**Pn**	**19 42 20.2 +2.8**
TIA	**Tai'an**	**13.08 340**	P		**Pn**	**19 42 20.8 -1.1**
TIA			pmax		pmax	
	comp=Z,5.0nm,0.4s					
TIA			LR		LR	
	comp=N,1μm,10.9s					
TIA			LR		LR	
	comp=E,680nm,15.7s					
TIA			LR		LR	
	comp=Z,2μm,13.3s					
ENH	**Enshi**	**13.18 301**			**Pn**	**19 42 23.7 +0.4**
KSAR	**Wonju Array Be**	**14.23 18**	P		**Pn**	**19 42 40.7 +3.0**
KSAR	**Wonju Array Be**	**14.23 18**			**Pn**	**19 42 40.7 +3.0**
KSRS	**Korea Array**	**14.25 18**	Pn		**Pn**	**19 42 39.9 +1.9**
	3.6nm,0.3s,baz=197,slow=12,SNR=52					
KSRS			LR		LR	19 48 59.7
	comp=Z,682nm,18.2s,baz=201,slow=41					
KS19	**Wonju Array Si**	**14.28 18**			**Pn**	**19 42 40.7 +2.3**
GYA	**Guiyang**	**14.54 283**	⇑*i*P		**Pn**	**19 42 43.8 +1.7**
GYA			pP		P	19 42 51.3 +2.8
GYA			sP			19 42 56.0
GYA			S		**Sn**	**19 45 22.5 -0.2**
GYA			SS		**S**	**19 45 40.8 -1.0**
GYA			pmax		pmax	
	comp=Z,20nm,0.6s					
GYA			pmax		pmax	
	comp=Z,120nm,5.5s					
GYA			LR		LR	
	comp=N,480nm,10.6s					
GYA			LR		LR	
	comp=E,890nm,13.9s					
GYA			LR		LR	
	comp=Z,1μm,14.8s					
DL2	**Dalian**	**14.94 357**	P		**P**	**19 42 55.0 +2.3**
DL2			S		**S**	**19 45 42.3 -7.3**
DL2			pmax		pmax	
	comp=Z,65nm,1.1s					
DL2			pmax		pmax	
	comp=Z,290nm,6.1s					
DL2			LR		LR	
	comp=N,1μm,13.7s					
DL2			LR		LR	
	comp=E,440nm,14.2s					
DL2			LR		LR	
	comp=Z,1μm,12.9s					
XAN	**Xi'an**	**15.54 313**	P		**P**	**19 43 01.1 +1.6**
XAN			pP		pwP	19 43 09.4 +0.3
XAN			PP		sP	19 43 18.9 +12
XAN			S		**S**	**19 46 04.6 +2.4**
XAN			SS		**SbSb**	**19 46 40.5 -12**
XAN			pmax		pmax	
	comp=Z,27nm,0.9s					
XAN			pmax		pmax	
	comp=Z,140nm,3.5s					
XAN			LR		LR	
	comp=N,460nm,15.1s					
XAN			LR		LR	
	comp=E,700nm,16.9s					
XAN			LR		LR	
	comp=Z,980nm,16.6s					
XAN	**Xi'an**	**15.54 313**	P		**P**	**19 42 57.8 -1.7**
XAN			pmax		pmax	
	comp=Z,49nm,1.2s					
XAN	**Xi'an**	**15.54 313**	P		**P**	**19 42 57.8 -1.7**
BJT	**Baijiatuau**	**16.89 343**	P		**Pn**	**19 43 11.3 -1.2**
BJT			pmax		pmax	
	comp=Z,10.0nm,1.0s					
BJT	**Baijiatuau**	**16.89 343**	P		**Pn**	**19 43 11.3 -1.2**
DAV	**Davao City (W)**	**17.04 169**	LR		LR	19 49 39.0
	comp=Z,402nm,21.1s,baz=346,slow=36					
CD2	**Chengdu**	**18.00 297**	P		**Pn**	**19 43 25.8 -0.6**
CD2			pP		sP	19 43 33.8 -0.6
CD2			sP		pwP	19 43 37.8 +1.6
CD2			S		**Sn**	**19 46 38.0 -8.7**
CD2			pmax		pmax	
	comp=Z,50nm,0.5s					
CD2			pmax		pmax	
	comp=Z,160nm,5.7s					
CD2			LR		LR	
	comp=Z,730nm,9.8s					
CD2			LR		LR	
	comp=Z,1μm,13.7s					
CD2			LR		LR	
	comp=Z,2μm,12.8s					
KMI	**Kunming**	**18.00 278**	P		**P**	**19 43 26.9 -0.1**
KMI			pP		sP	19 43 33.6 -1.1
KMI			sP		pwP	19 43 37.6 +1.0
KMI			S		**Sn**	**19 46 45.5 -1.5**
KMI			sS		S	19 46 54.3 +1.5
KMI			SS		**SnSn**	**19 47 09.5 +8.8**
KMI			pmax		pmax	
	comp=Z,10.0nm,1.2s					
KMI			pmax		pmax	
	comp=Z,50nm,3.1s					
KMI			LR		LR	
	comp=Z,1μm,14.5s					
KMI			LR		LR	
	comp=Z,350nm,13.3s					
KMI			LR		LR	
	comp=Z,980nm,13.2s					
JCJ	**Chichijima**	**18.06 76**	LR		LR	19 50 05.8
	comp=Z,185nm,18.5s,baz=96,slow=36					
MJAR	**Matsushiro Arr**	**18.47 44**	P		**P**	**19 43 30.7 -1.2**
MJAR			pmax		pmax	
	comp=Z,2.0nm,0.9s					
MJAR	**Matsushiro Arr**	**18.47 44**	P		**P**	**19 43 30.2 -1.6**
	comp=Z,0.1nm,0.3s,baz=238,slow=9.8,SNR=5.7					
MJAR	**Matsushiro Arr**	**18.47 44**	P		**P**	**19 43 30.7 -1.2**
NONG	**Nongkai**	**18.97 256**	P		Pn	19 43 46.1 +7.9
HHC	**Hu-ho-hao-te**	**19.19 334**	*e*P		**P**	**19 43 39.6 -0.2**
HHC			sP		pwP	19 43 52.9 +3.3
HHC			*e*S		**Sn**	**19 47 04.8 -10**
BTO	**Baotou**	**19.64 331**	*e*P		**Pn**	**19 43 47.1 +0.9**
BTO			*e*pP		**pwP**	**19 43 57.1 +2.6**
MSHR	**Mys Shultsa**	**19.93 19**	*i*P		**P**	**19 43 47.8 0.0**
CN2	**Changchun**	**19.96 6**	*e*P		**P**	**19 43 47.9 -0.2**
CN2			*es*P		pwP	19 43 57.4 +1.0
CN2			pmax		pmax	
	comp=Z,10.0nm,0.7s					
CN2			pmax		pmax	
	comp=Z,200nm,3.0s					
CN2			LR		LR	
	comp=Z,1μm,12.0s					
CN2			LR		LR	
	comp=Z,300nm,12.0s					
CN2			LR		LR	
	comp=Z,1μm,13.0s					
LZH	**Lanzhou**	**20.13 311**	⇓P		**P**	**19 43 50.8 +0.6**
LZH			pP		sP	19 43 56.8 -1.3
LZH			sP		pwP	19 44 00.3 +0.4
LZH			sS		Sn	19 47 40.5 +2.3
LZH			SS		**SnSn**	**19 47 57.9 +5.0**
LZH			pmax		pmax	
	comp=Z,40nm,1.0s					
LZH			pmax		pmax	
	comp=Z,150nm,4.8s					
LZH			LR		LR	
	comp=Z,800nm,11.4s					
LZH			LR		LR	
	comp=Z,810nm,12.5s					
LZH			LR		LR	
	comp=Z,1μm,14.1s					
MDJ	**Mudanjiang**	**21.43 14**	P		**P**	**19 44 04.8 +0.9**
MDJ			S		**S**	**19 48 02.4 +1.8**
MDJ			pmax		pmax	
	comp=Z,11nm,1.1s					
MDJ			pmax		pmax	
	comp=Z,160nm,4.7s					
MDJ			LR		LR	
	comp=Z,830nm,14.9s					
MDJ			LR		LR	
	comp=Z,650nm,12.8s					
MDJ			LR		LR	
	comp=Z,1μm,16.4s					
MDJ	**Mudanjiang**	**21.43 14**			**P**	**19 44 04.3 +0.4**
PBKT	**Sadao Pong**	**21.46 254**	P		P	19 44 12.0 +7.5
	comp=Z,9.6nm,1.1s					
PBKT	**Sadao Pong**	**21.46 254**	P		**P**	**19 44 07.1 +2.6**
USA0B	**Ussuriysk Arra**	**21.66 19**	P		**P**	**19 44 04.6 -1.8**
USA0B			pmax		pmax	
	comp=Z,9.0nm,0.9s					
USA0B	**Ussuriysk Arra**	**21.66 19**	P		**P**	**19 44 04.6 -1.8**
USRK	**Ussuriysk Ar.**	**21.66 19**	P		**P**	**19 44 04.2 -2.2**
USRK	**Ussuriysk Ar.**	**21.66 19**	P		**P**	**19 44 04.6 -1.8**
	comp=Z,7.7nm,0.8s,baz=203,slow=9.7,SNR=27					
USRK			LR		LR	19 53 21.5
	comp=Z,469nm,18.1s,baz=184,slow=39					
USRK	**Ussuriysk Ar.**	**21.66 19**	P		**P**	**19 44 04.2 -2.2**
LAMP	**Lampang**	**21.96 260**	P		P	19 44 16.9 +7.0
	comp=Z,37μm,1.1s					
CMMT	**Chiang Mai**	**22.49 261**	P		**P**	**19 44 18.5 +2.9**
	comp=Z,4.7nm,1.0s					
CHTO	**Chiang Mai**	**22.49 261**	P		**P**	**19 44 16.7 +1.0**
CHTO			pmax		pmax	
	comp=Z,30nm,1.6s					
CHTO	**Chiang Mai**	**22.49 261**	P		**P**	**19 44 16.6 +1.0**
CM31	**Chiang Mai Arr**	**22.60 261**	P		**P**	**19 44 18.1 +1.3**
CMAR	**Chiang Mai Arr**	**22.60 261**	P		**P**	**19 44 17.0 +0.2**
CMAR						19 48 09.5
CMAR	**Chiang Mai Arr**	**22.60 261**	P		**P**	**19 44 17.9 +1.1**
	comp=Z,2.0nm,0.6s,baz=65,slow=9.0,SNR=20					
CMAR			PcP		**PcP**	**19 48 09.2 -0.5**
	comp=Z,1.1nm,0.9s,baz=42,slow=1.2,SNR=7.7					
CMAR			LR		LR	19 52 26.5
	comp=Z,60nm,19.2s,baz=5.0,slow=35					
CMAR	**Chiang Mai Arr**	**22.60 261**	P		**P**	**19 44 17.0 +0.2**
CMAR					**PcP**	**19 48 09.5 -0.2**
MRSI	**Marisa**	**23.33 181**	P		**P**	**19 44 25.9 +1.6**
UMPA	**Umpang Tak**	**23.46 255**	P		**P**	**19 44 30.2 +4.6**
	comp=Z,21μm,0.9s					
TNTI	**Ternate**	**23.51 168**	P		**P**	**19 44 27.8 +1.7**
TNTI	**Ternate**	**23.51 168**	P		**P**	**19 44 28.0 +2.0**
TNTI			IAmb		IAmb	19 44 44.2
	comp=Z,66nm,1.2s					
SBUM	**Sibu**	**23.56 206**	P		**P**	**19 44 26.9 +0.4**
MPSI	**Mapaga**	**23.60 186**	P		**P**	**19 44 27.3 +0.4**
GTA	**Gaotai**	**24.60 314**	⇑P		**P**	**19 44 35.9 -0.4**
GTA			pP		pP	19 44 42.4 +0.4
GTA			sP		pwP	19 44 45.0 -1.1
GTA			PcP		**PcP**	**19 48 14.3 +0.6**
GTA			ScS		ScS	19 55 37.8 -1.4
GTA			pmax		pmax	
	comp=Z,36nm,0.8s					
GTA			pmax		pmax	
	comp=Z,120nm,7.0s					
GTA			LR		LR	
	comp=Z,200nm,13.1s					
GTA			LR		LR	
	comp=Z,480nm,15.1s					
GTA			LR		LR	
	comp=Z,670nm,14.8s					
APSI	**Ampana**	**24.72 182**	P		**P**	**19 44 38.4 +1.1**
	comp=Z,18nm,0.8s					
ERM	**Erimo**	**24.90 39**	P		**P**	**19 44 38.0 -0.7**
ERM			pmax		pmax	
	comp=Z,230nm,1.7s					
ERM	**Erimo**	**24.90 39**	P		**P**	**19 44 38.0 -0.7**
KSM	**Kuching**	**25.26 210**	P		**P**	**19 44 42.1 -0.1**
HIA	**Hailar**	**25.37 356**	P		**P**	**19 44 42.4 -0.6**
HIA			pmax		pmax	
	comp=Z,19nm,1.3s					
HIA	**Hailar**	**25.37 356**	P		**P**	**19 44 42.4 -0.6**
BKB	**Balikpapan**	**25.63 193**	P		**P**	**19 44 46.4 +0.8**
ASAJ	**Asahikawa**	**26.01 34**	P		**P**	**19 44 46.2 -2.6**
	comp=Z,3.2nm,0.4s,baz=248,slow=10.0,SNR=9.8					
SANI	**Sanana**	**26.06 172**	P		**P**	**19 44 49.6 +0.2**
	comp=Z,13nm,1.1s					
SWI	**Sorong**	**26.09 160**	P		**P**	**19 44 52.8 +3.1**
	comp=Z,23nm,1.0s					
SIJI	**Sorong**	**26.10 160**	P		**P**	**19 44 51.2 +1.4**
	comp=Z,6.0nm,0.6s,baz=0.3,slow=8.8,SNR=5.1					
KLR	**Kul'dur**	**26.27 14**	*i*P		**P**	**19 44 51.1 0.0**
KLR	**Kul'dur**	**26.27 14**	P		**P**	**19 44 50.0 -1.1**
	comp=Z,2.4nm,0.6s,baz=221,slow=3.0,SNR=8.0					
KLR			PcP		**PcP**	**19 48 16.8 -0.3**
	comp=Z,2.6nm,0.7s,baz=179,slow=3.6,SNR=8.4					
ULN	**Ulaanbaatar**	**26.85 337**	*ce*P		**P**	**19 44 55.4 -1.1**
ULN			pmax		pmax	
	comp=Z,17nm,1.0s					
ULN	**Ulaanbaatar**	**26.85 337**	P		**P**	**19 44 55.7 -0.8**
SONM	**Songino Array**	**27.06 336**	P		**P**	**19 44 57.1 -1.3**
SONM						19 48 18.8
SONM			pmax		pmax	
	comp=Z,22nm,0.8s					
SONM	**Songino Array**	**27.06 336**	P		**P**	**19 44 57.4 -1.0**
	comp=Z,28nm,0.9s,baz=150,slow=8.7,SNR=143					
SONM			PcP		**PcP**	**19 48 19.1 -0.1**
	comp=Z,1.1nm,0.6s,baz=162,slow=4.0,SNR=5.0					
SONM			ScP		**ScP**	**19 51 56.7 -1.6**
	comp=Z,1.5nm,1.1s,baz=123,slow=11,SNR=5.2					
SONM			LR		LR	19 56 52.4
	comp=Z,800nm,18.1s,baz=170,slow=39					
SONM	**Songino Array**	**27.06 336**	P		**P**	**19 44 57.1 -1.3**
SONM					**PcP**	**19 48 18.8 -0.4**
SONM					**ScP**	**19 51 56.2 -2.1**
NLAI	**Namlea**	**27.39 170**	P		**P**	**19 45 02.5 +1.1**
SHL	**Shillong**	**27.81 280**	P		**P**	**19 45 05.4 0.0**
SHL			pmax		pmax	
	comp=Z,11nm,0.9s					
SHL	**Shillong**	**27.81 280**	P		**P**	**19 45 05.4 0.0**
AAI	**Ambon**	**28.02 168**	P		**P**	**19 45 10.2 +3.1**
	comp=Z,16nm,1.0s					
FAKI	**Fak Fak**	**28.34 159**	P		**P**	**19 45 11.5 +1.6**
FAKI			IAmb		IAmb	19 45 27.1
	comp=Z,15nm,0.8s					
MYKOM	**Kota Tinggi**	**28.46 222**	P		**P**	**19 45 11.9 +0.8**
MYKOM			IAmb		IAmb	19 45 38.9
	comp=Z,34nm,1.7s					
LSA	**Lhasa**	**28.49 288**	P		**P**	**19 45 13.4 +1.6**
LSA	**Lhasa**	**28.49 288**	P		**P**	**19 45 12.6 +0.8**

LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 28.49 288 P **P 19 45 12.6 +0.8**
ZEA Zeya 29.97 6 *e*P **P 19 45 22.2 -1.9**
ZEA *e* 19 55 56.0
ZEA pmax pmax
comp=Z,24nm,1.0s
ZEA MLR MLR
comp=Z,500nm,12.0s
ZEA MLR MLR
comp=N,400nm,13.0s
ZAK Zakamensk 30.33 335 *e*P **P 19 45 26.0 -1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
PSI Prapat 30.98 231 P **P 19 45 34.4 +0.8**
PSI pmax pmax
comp=Z,6.0nm,0.9s
RPSI Rantau Prapat 31.06 231 P **P 19 45 34.4 +0.3**
TLY Talaya 31.25 337 *e*P **P 19 45 35.4 0.0**
TLY *e*S **S 19 50 38.0 -2.6**
TLY pmax pmax
comp=Z,22nm,1.0s
TLY MLR MLR
comp=Z,1μm,11.0s
TLY Talaya 31.25 337 P **P 19 45 34.5 -0.9**
TAPN Taplejung 31.47 284 *e*P **P 19 45 38.9 +0.9**
ODAN Odare 31.77 283 *e*P **P 19 45 41.2 +0.6**
RAMN Ramite 32.48 283 *e*P **P 19 45 47.5 +0.7**
comp=Z,32nm,1.0s
JIRN Jiri 32.81 284 *e*P **P 19 45 50.4 +0.5**
GUN Gumba 33.08 285 *e*P **P 19 45 52.8 +0.6**
PKI Pulchoki 33.51 284 *e*P **P 19 45 55.7 -0.2**
PKIN Phulchoki 33.52 284 *e*P **P 19 45 55.7 -0.2**
KKN Kakani 33.61 285 *e*P **P 19 45 56.9 +0.2**
DMN Daman 33.77 284 *e*P **P 19 45 58.2 +0.1**
comp=Z,15nm,0.8s
GKN Gorkha 34.17 285 *e*P **P 19 46 01.4 -0.1**
comp=Z,32nm,0.9s
WMQ Urumqi 34.68 313 *e*P **P 19 46 06.3 +0.7**
WMQ pP pwP 19 46 16.5 +1.0
WMQ S **S 19 51 41.1 +6.8**
WMQ SS **SnSn 19 53 48.4 +0.9**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,100nm,3.9s
WMQ LR LR
comp=Z,110nm,29.1s
WMQ LR LR
comp=Z,590nm,23.9s
WMQ LR LR
comp=Z,190nm,15.9s
DANN Dangsing 34.94 286 *e*P **P 19 46 08.5 +0.3**
comp=Z,19nm,0.6s
KOLN Koldanda 35.10 285 *e*P **P 19 46 09.8 +0.2**
comp=Z,32nm,1.1s
DGZ Jazzator, Alta 37.51 322⇑ *i*P **P 19 46 29.0 -0.8**
MTN Manton Dam 37.52 166 P **P 19 46 29.3 -0.7**
MTN IAmb IAmb 19 46 30.2
comp=Z,47nm,1.4s
PATS Pohnpei 38.34 110 P **P 19 46 36.1 -0.9**
YAK Yakutsk 38.39 5 *e*P **P 19 46 33.5 -3.3**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK Yakutsk 38.39 5 P **P 19 46 33.9 -2.9**
YAK IAmb IAmb 19 46 36.3
comp=Z,17nm,0.7s
MK31 Makanchi Array 39.34 316 P **P 19 46 44.4 -0.7**
MK31 pmax pmax
comp=Z,35nm,1.3s
MK31 Makanchi Array 39.34 316 P **P 19 46 44.4 -0.7**
MK31 IAmb IAmb 19 46 45.9
comp=Z,35nm,1.2s
MKAR Makanchi Array 39.34 316 P **P 19 46 44.9 -0.2**
comp=Z,14nm,0.5s,baz=102,slow=9.6,SNR=196
MKAR LR LR 20 04 21.5
comp=Z,222nm,19.3s,baz=92,slow=38
MKAR Makanchi Array 39.34 316 P **P 19 46 44.4 -0.7**
PEA0B Petropavlovsk- 39.41 33 P **P 19 46 44.6 -1.0**
PEA0B pmax pmax
comp=Z,74nm,1.8s
PEA0B Petropavlovsk- 39.41 33 P **P 19 46 44.6 -1.0**
PEA0B IAmb IAmb 19 47 10.4
comp=Z,74nm,1.8s
PETK Petropavlovsk- 39.41 33 P **P 19 46 44.5 -1.1**
PETK Petropavlovsk- 39.41 33 P **P 19 46 43.3 -2.2**
comp=Z,2.3nm,0.7s,baz=205,slow=6.4,SNR=3.3
PETK LR LR 20 03 16.7
comp=Z,159nm,19.5s,baz=237,slow=37
PETK Petropavlovsk- 39.41 33 P **P 19 46 44.5 -1.1**
MAKZ Makanchi 39.55 316 P **P 19 46 46.5 -0.3**
MAKZ pmax pmax
comp=Z,40nm,1.1s
MAKZ Makanchi 39.55 316 P **P 19 46 46.5 -0.3**
MAKZ IAmb IAmb 19 46 47.7
comp=Z,40nm,1.1s
KNRA Kununurra 39.85 171 P **P 19 46 49.3 -0.2**
KNRA IAmb IAmb 19 46 51.0
comp=Z,48nm,1.6s
PDGK Podgornoye 40.16 310 P **P 19 46 52.2 +0.1**
PDGK pmax pmax
comp=Z,62nm,0.9s
PRZ Przheval'sk 40.74 308 P **P 19 46 58.0 +1.0**
PRZ pmax pmax
comp=Z,34nm,1.0s
PRZ Przheval'sk 40.74 308 P **P 19 46 58.0 +1.0**
PRZ IAmb IAmb 19 46 59.7
comp=Z,34nm,0.9s
TARG Taragay, Kyrgy 41.01 307 P **P 19 47 00.3 +0.8**
ZAA0 Zalesovo Array 41.10 327 P **P 19 46 58.2 -1.3**
ZAA0 IAmb IAmb 19 46 58.8
comp=Z,30nm,0.6s
ZALV Zalesovo Beam 41.10 327 P **P 19 46 58.1 -1.4**
ZALV Zalesovo Beam 41.10 327 P **P 19 46 58.2 -1.3**
comp=Z,32nm,0.6s,baz=113,slow=7.7,SNR=120
ZALV PcP **PcP 19 48 57.4 -1.4**
comp=Z,2.8nm,0.6s,baz=118,slow=4.7,SNR=3.8
ZALV LR LR 20 04 46.4
comp=Z,217nm,20.0s,baz=124,slow=37
ZALV Zalesovo Beam 41.10 327 P **P 19 46 58.1 -1.4**
KDJ Kajisay 41.55 307 P **P 19 47 04.6 +1.0**
KDJ pmax pmax
comp=Z,35nm,1.1s
KDJ Kajisay 41.55 307 P **P 19 47 04.6 +1.0**
KDJ IAmb IAmb 19 47 05.8
comp=Z,35nm,1.1s
FITZ Fitzroy Crossi 41.90 176 P **P 19 47 06.1 -0.3**
KSH Kashi 42.03 303 P **P 19 47 11.4 +3.9**
KSH PP PP 19 48 53.0 +8.1
KSH PcS **PcS 19 52 56.9 +2.8**
KSH S **S 19 53 29.5 +4.0**
KSH SS **SS 19 56 32.1 -0.7**
KSH pmax pmax
comp=Z,61nm,1.1s
KSH pmax pmax
comp=Z,400nm,5.8s
KSH LR LR
comp=Z,320nm,9.7s
KSH LR LR
comp=Z,95nm,11.2s
KSH LR LR
comp=Z,180nm,9.5s
ULHL Ulahol 42.26 307 P **P 19 47 11.0 +1.6**
SNR=6.8
NRN Naryn 42.29 306 P **P 19 47 11.1 +1.2**
NRN pmax pmax
comp=Z,39nm,0.8s
NRN Naryn 42.29 306 P **P 19 47 11.1 +1.2**
NRN IAmb IAmb 19 47 12.0
comp=Z,39nm,0.8s
COEN Coen 42.75 150 P **P 19 47 14.7 +1.3**
TKM2 Tokmak 2 42.85 308 *i*P **P 19 47 15.1 +0.8**
TKM2 pmax pmax
comp=Z,48nm,0.9s
TKM2 Tokmak 2 42.85 308 P **P 19 47 15.4 +1.2**
SNR=50
KZA Kyzart 42.95 307 P **P 19 47 17.0 +1.6**
SNR=17
KURK Kurchatov 43.04 320 P **P 19 47 14.5 -0.9**
KURK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 43.04 320 P **P 19 47 14.5 -0.9**
KURK IAmb IAmb 19 47 15.7
comp=Z,19nm,0.7s
KBK Karagaybulak 43.27 307 P **P 19 47 18.8 +1.2**
SNR=28
CHMS Chumysh 43.47 308 P **P 19 47 19.9 +0.8**
SNR=17
UCH Uchtor 43.52 307 P **P 19 47 21.7 +1.7**
SNR=58
FRU1 Bishkek 43.53 308 P **P 19 47 20.6 +1.0**
FRU1 pmax pmax
comp=Z,34nm,1.1s
FRU1 Bishkek 43.53 308 P **P 19 47 20.6 +1.0**
FRU1 IAmb IAmb 19 47 21.5
comp=Z,34nm,1.1s
AAK Ala-Archa 43.60 307 *i*P **P 19 47 21.1 +0.9**
SNR=22
AAK Ala-Archa 43.60 307 *c i*P **P 19 47 21.1 +0.9**
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 43.60 307 P **P 19 47 21.2 +1.0**
SNR=15
AAK Ala-Archa 43.60 307 P **P 19 47 20.9 +0.6**
AAK IAmb IAmb 19 47 22.1
comp=Z,14nm,0.8s
USP Ospenovka 43.70 308 P **P 19 47 21.6 +0.7**
SNR=9.3
NIL Nilore 43.87 294 P **P 19 47 22.5 +0.1**
NIL pmax pmax
comp=Z,14nm,1.0s
NIL Nilore 43.87 294 P **P 19 47 22.5 +0.1**
NIL IAmb IAmb 19 47 23.7
comp=Z,14nm,0.9s
AML Almayashu 44.10 306 P **P 19 47 26.1 +1.5**
SNR=35
EKS2 Erkin-Say 44.12 307 P **P 19 47 25.4 +1.0**
SNR=16
ARSB Arslanbob 44.52 305 P **P 19 47 28.5 +0.8**
ARSB IAmb IAmb 19 47 29.7
comp=Z,33nm,1.1s
WRAB Tennant Creek 45.12 164 *i*P **P 19 47 32.9 +0.6**
WRAB Tennant Creek 45.12 164 P **P 19 47 32.8 +0.4**
WRAB IAmb IAmb 19 47 34.1
comp=Z,16nm,1.1s
WRA Warramunga Arr 45.12 164 P **P 19 47 32.8 +0.4**
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 45.12 164 P **P 19 47 32.7 +0.4**
comp=Z,8.7nm,1.0s,baz=344,slow=8.7,SNR=40
WRA Warramunga Arr 45.12 164 P **P 19 47 32.8 +0.4**
WB2 Warramunga Arr 45.13 164 P **P 19 47 32.6 +0.1**
WB2 IAmb IAmb 19 47 34.1
comp=Z,19nm,1.1s
PSA00 Pilbara Seismi 45.31 183 P **P 19 47 34.6 +0.8**
BTK Batken 46.03 303 P **P 19 47 41.1 +1.5**
BTK pmax pmax
comp=Z,24nm,1.3s
BTK Batken 46.03 303 P **P 19 47 41.1 +1.5**
BTK IAmb IAmb 19 47 42.9
comp=Z,24nm,1.3s
GAR Garm 46.35 302 P **P 19 47 42.6 +0.4**
GAR **P 19 47 43.2 +1.1**
KK31 Karatay Array 46.56 307 P **P 19 47 44.4 +0.8**
KK31 pmax pmax
comp=Z,16nm,0.6s
KK31 Karatay Array 46.56 307 P **P 19 47 44.4 +0.8**
KK31 IAmb IAmb 19 47 45.2
comp=Z,16nm,0.6s
KKAR Karatay Array 46.56 307 P **P 19 47 43.8 +0.1**
KKAR 19 49 17.4
KKAR Karatay Array 46.56 307 P **P 19 47 43.8 +0.1**
KKAR PcP **PcP 19 49 17.4 -0.2**
KKAR Karatay Array 46.56 307 P **P 19 47 43.3 -0.3**
KKAR IAmb IAmb 19 47 45.2
comp=Z,16nm,0.6s
KKAR PcP **PcP 19 49 17.4 -0.2**
CHGR Chuyangaron 47.24 301 P **P 19 47 49.4 +0.3**
KBL Kabul 47.34 296 P **P 19 47 50.9 +0.8**
KBL pmax pmax
comp=Z,21nm,0.7s
KBL Kabul 47.34 296 P **P 19 47 50.9 +0.8**
TIXI Tiksi 47.87 3 *i*P **P 19 47 50.8 -2.6**
TIXI Tiksi 47.87 3 P **P 19 47 50.3 -3.1**
TIXI IAmb IAmb 19 47 52.9
comp=Z,8.2nm,0.6s
TIXI PcP **PcP 19 49 21.6 -0.1**
AS31 Alice Springs 48.60 166 P **P 19 48 00.6 +0.9**
ASAR Alice Springs 48.60 166 P **P 19 48 00.4 +0.8**
ASAR Alice Springs 48.60 166 P **P 19 48 00.8 +1.2**
comp=Z,3.5nm,0.5s,baz=343,slow=7.4,SNR=62
ASAR Alice Springs 48.60 166 P **P 19 48 00.4 +0.8**
BRVK Borovoye 48.68 321 P **P 19 47 59.3 -0.6**
BRVK pmax pmax
comp=Z,15nm,0.5s
BRVK Borovoye 48.68 321 P **P 19 47 59.3 -0.6**
BRVK IAmb IAmb 19 48 00.8
comp=Z,15nm,0.5s
CTA Charters Tower 49.52 150 P **P 19 48 08.4 +1.8**
comp=Z,4.6nm,0.8s,baz=324,slow=12,SNR=4.2
CTAO Charters Tower 49.52 150 P **P 19 48 08.4 +1.8**
CTAO pmax pmax
comp=Z,10.0nm,1.2s
CTAO Charters Tower 49.52 150 P **P 19 48 08.4 +1.8**
CTAO IAmb IAmb 19 48 21.1
comp=Z,9.8nm,1.1s
HMDM Hanimaadhoo 50.22 258 P **P 19 48 12.1 0.0**
HRA Herat 52.95 296 P **P 19 48 32.6 0.0**
AB31 Akbulak array 54.46 314 P **P 19 48 42.9 -0.3**
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 54.46 314 P **P 19 48 42.8 -0.3**
ABKAR PcP **PcP 19 49 45.4 -1.2**
ABKAR Akbulak array 54.46 314 P **P 19 48 42.8 -0.3**
ABKAR PcP **PcP 19 49 45.1 -1.4**
SVE Sverdlovsk 54.94 324 *e*P **P 19 48 45.8 -0.7**
SVE pmax pmax
comp=Z,17nm,0.6s
AKTO Aktyubinsk 55.78 316 LR LR 20 14 00.1
comp=Z,116nm,18.7s,baz=99,slow=37
GEYT Alibeck 55.94 301 P **P 19 48 55.3 +1.1**
comp=Z,18nm,0.8s,baz=75,slow=3.4,SNR=39
GEYT LR LR 20 17 26.2
comp=Z,136nm,18.5s,baz=340,slow=41
GEYT Alibeck 55.94 301 P **P 19 48 55.3 +1.1**
GYA0B ALIBECK ARRAY 55.94 301 P **P 19 48 55.0 +0.8**
GYA0B IAmb IAmb 19 48 56.4
comp=Z,23nm,0.9s
ARU Arti 56.02 323 *c i*P **P 19 48 53.0 -1.3**
ARU 19 49 51.6
ARU S **S 19 56 38.4 -2.8**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 56.02 323 P **P 19 48 52.8 -1.5**
ARU IAmb IAmb 19 48 53.8
comp=Z,13nm,0.6s
BBOO Buckleboo 57.90 167 P **P 19 49 08.6 +0.8**
BBOO IAmb IAmb 19 49 24.7
comp=Z,22nm,1.1s
STKA Stephens Creek 58.44 161 P **P 19 49 12.1 +0.5**
STKA pmax pmax
comp=Z,4.0nm,1.5s
STKA Stephens Creek 58.44 161 P **P 19 49 11.2 -0.3**
comp=Z,3.9nm,1.0s,baz=341,slow=3.3,SNR=4.1
STKA LR LR 20 15 18.3
comp=Z,60nm,20.4s,baz=23,slow=37
STKA Stephens Creek 58.44 161 P **P 19 49 12.1 +0.5**
SHME Shamm 59.57 287 P **P 19 49 20.9 +1.1**
MSFE Esma-Masafi 59.72 286 P **P 19 49 23.0 +2.2**
UOSS Minazif 59.78 286 P **P 19 49 20.8 -0.4**
HATD Hatta, Dubai 59.87 286 P **P 19 49 23.1 +1.3**
NAZ Nazwa, Dubai 60.24 286 P **P 19 49 25.4 +1.0**
ASUD Al Ashush, Dub 60.62 286 P **P 19 49 28.1 +1.0**
DZM Mont Dzumac 62.60 134 LR LR 20 11 53.3
comp=Z,151nm,19.6s,baz=294,slow=31
PRGR Permogore 63.01 329 *e*P **P 19 49 39.9 -2.5**
PRGR pmax pmax
comp=Z,11nm,0.6s
AKT Akhty 63.45 306 *e*P **P 19 49 46.1 +0.3**
AKT *e* 19 50 22.8
AKT pmax pmax
comp=Z,20nm,0.7s
TOO Toolangi 64.90 160 P P 19 50 01.5 +6.4
TOO pmax pmax
comp=Z,62nm,2.0s
TOO Toolangi 64.90 160 P P 19 50 01.5 +6.4
TTA Tatalina 65.12 30 P **P 19 49 56.4 0.0**
TTA pmax pmax
comp=Z,24nm,1.8s
TTA Tatalina 65.12 30 P **P 19 49 56.4 0.0**
TTA IAmb IAmb 19 50 08.2
comp=Z,24nm,1.8s
SVW2 Sparrevohn 65.48 32 P **P 19 49 59.2 +0.6**
SVW2 IAmb IAmb 19 50 00.3
comp=Z,19nm,1.4s
TBLG Delisi 65.61 307 P **P 19 50 00.4 +0.5**
TBLG pmax pmax
comp=Z,9.0nm,0.9s
TBLG Delisi 65.61 307 P **P 19 50 00.4 +0.5**
TBLG IAmb IAmb 19 50 13.5
comp=Z,8.6nm,0.9s
SOCY Socotra 65.63 273 P **P 19 49 59.3 -1.2**
SOCY IAmb IAmb 19 50 14.2
comp=Z,8.4nm,0.8s
IMAR Indian Mountai 65.87 26 P **P 19 50 00.9 -0.2**
GNI Garni 65.92 305 P **P 19 50 03.1 +1.0**
GNI Garni 65.92 305 *d i*P **P 19 50 03.3 +1.2**
GNI pmax pmax
comp=Z,58nm,1.3s
GNI Garni 65.92 305 P **P 19 50 01.7 -0.4**
GNI IAmb IAmb 19 50 09.6
comp=Z,15nm,0.9s
ZEI Tsey 66.02 308 *e*P **P 19 50 00.9 -1.8**
ZEI pmax pmax
comp=Z,16nm,0.7s
VRH Novokhopyorsk 66.04 317 *e*P **P 19 50 01.5 -0.9**
VRH pmax pmax
comp=Z,20nm,1.0s
NCK Nalchik 66.10 309⇓ *i*P **P 19 50 02.8 -0.2**
NCK pmax pmax
comp=Z,8.0nm,0.9s
GOF Gofitskoye 66.20 310 *d i*P **P 19 50 04.1 +0.5**
GOF pmax pmax
comp=Z,35nm,1.1s
TMCR Tamitsa 66.33 332 *e*P **P 19 50 00.3 -3.7**
TMCR pmax pmax
comp=Z,26nm,1.0s
KBZ Khabaz 66.56 309 *d i*P **P 19 50 06.3 +0.5**
KBZ Khabaz 66.56 309 P **P 19 50 05.8 0.0**
comp=Z,14nm,0.9s,baz=110,slow=3.5,SNR=19
KBZ LR LR 20 24 22.5
comp=Z,121nm,18.8s,baz=44,slow=41
AKH Akhalkalaki 66.59 306 P **P 19 50 07.0 +0.6**
AKH pmax pmax
comp=Z,27nm,0.9s
AKH Akhalkalaki 66.59 306⇑ P **P 19 50 07.6 +1.2**
AKH Akhalkalaki 66.59 306 P **P 19 50 07.0 +0.6**
KIV Kislovodsk 66.66 309 *i*P **P 19 50 07.1 +0.4**
SNR=10
KIV Kislovodsk 66.66 309 *e*P **P 19 50 06.9 +0.2**
KIV pmax pmax
comp=Z,84nm,1.0s
KIV MLR MLR
comp=Z,306nm,17.0s
KIV Kislovodsk 66.66 309⇑ P **P 19 50 07.0 +0.4**
KIV mb 19 50 07.7
KIV Kislovodsk 66.66 309 P **P 19 50 06.7 0.0**
PPLA Purkeypile 66.87 30 P **P 19 50 08.0 +0.3**
PPLA IAmb IAmb 19 50 24.9
comp=Z,18nm,1.4s
COLD Coldfoot 67.15 25 P **P 19 50 10.0 +0.8**
TOLK Toolik Lake Re 67.20 23 P **P 19 50 09.8 +0.2**
TOLK IAmb IAmb 19 50 35.5
comp=Z,27nm,1.9s
MLY Manley 67.22 27 P **P 19 50 09.6 -0.2**
BPAW Bear Paw Mtn. 67.24 28 P **P 19 50 10.1 +0.1**
BPAW IAmb IAmb 19 50 15.7
comp=Z,15nm,1.6s
KDAK Kodiak Island 67.42 35 *i*P **P 19 50 10.6 -0.5**
KDAK Kodiak Island 67.42 35 P **P 19 50 10.4 -0.6**
comp=Z,7.9nm,0.8s,baz=126,slow=17,SNR=5.9
KDAK Kodiak Island 67.42 35 P **P 19 50 10.0 -1.1**
LPSR Galich'ya Gora 67.52 319 *e*P **P 19 50 10.5 -1.3**
LPSR pmax pmax
comp=Z,20nm,1.2s
VSR Storozhevoye 67.62 318 *e*P **P 19 50 11.4 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
TRF Thorofare Moun 67.64 29 P **P 19 50 13.0 +0.4**
TRF IAmb IAmb 19 50 27.8
comp=Z,37nm,1.8s
SUA Susitna One 67.75 31 P **P 19 50 13.4 +0.1**
CNPM China Poot 67.83 33 P **P 19 50 13.6 0.0**
BRLK Bradley Lake 67.96 33 P **P 19 50 14.2 -0.4**
MCK McKinley 68.19 29 P **P 19 50 15.4 -0.5**
MCK pmax pmax
comp=Z,31nm,1.8s
MCK McKinley 68.19 29 P **P 19 50 15.4 -0.5**
MCK IAmb IAmb 19 50 31.3
comp=Z,31nm,1.8s
RND Reindeer 68.29 29 P **P 19 50 15.7 -0.9**
RND pmax pmax
comp=Z,7.0nm,0.7s
RND Reindeer 68.29 29 P **P 19 50 15.7 -0.9**
RND IAmb IAmb 19 50 17.7
comp=Z,6.5nm,0.7s
RC01 Rabbit Creek A 68.29 32 P **P 19 50 16.7 +0.2**
RC01 IAmb IAmb 19 50 43.1
comp=Z,32nm,1.6s
KNK Knik Glacier 68.84 31 P **P 19 50 19.8 -0.2**
IL31 68.88 27 P **P 19 50 20.4 +0.2**
ILAR Eielson Array 68.88 27 P **P 19 50 18.1 -2.1**
ILAR Eielson Array 68.88 27 P **P 19 50 18.9 -1.3**
comp=Z,0.6nm,0.5s,baz=265,slow=5.4,SNR=12
ILAR LR LR 20 22 43.0
comp=Z,36nm,18.1s,baz=286,slow=38
ILAR Eielson Array 68.88 27 P **P 19 50 18.1 -2.1**
BMAR Burnt Mountain 69.26 24 P **P 19 50 22.6 0.0**
SCM Sheep Creek Mo 69.28 30 P **P 19 50 22.2 -0.6**
SCM pmax pmax
comp=Z,55nm,1.6s
SCM Sheep Creek Mo 69.28 30 P **P 19 50 22.2 -0.6**
RAYN Ar Rayn 69.55 287 *i*P **P 19 50 25.2 0.0**
SNR=16
RAYN Ar Rayn 69.55 287 P **P 19 50 25.1 0.0**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 69.55 287 P **P 19 50 25.1 0.0**
RAYN IAmb IAmb 19 50 26.1
comp=Z,9.4nm,0.9s
GLI Glacier Island 69.59 31 P **P 19 50 21.7 -3.0**
GLI IAmb IAmb 19 50 35.3
comp=Z,25nm,1.1s
KEV Kevo 69.64 338 P **P 19 50 23.7 -1.0**
KEV pmax pmax
comp=Z,136nm,1.8s
KEV Kevo 69.64 338 P **P 19 50 23.7 -1.0**
SPA0 Spitsbergen Ar 69.97 348 P **P 19 50 26.1 -0.7**
ANN Anapa 70.15 311 *e*P **P 19 50 27.9 -0.4**
ANN *e*S **S 19 59 42.7 +4.3**
ANN pmax pmax
comp=Z,43nm,1.0s
ARCES ARCESS Array B 70.20 338 P **P 19 50 27.4 -0.9**
ARCES ARCESS Array B 70.20 338 P **P 19 50 27.1 -1.2**
comp=Z,1.6nm,0.4s,baz=83,slow=4.0,SNR=16
ARCES LR LR 20 24 44.1
comp=Z,111nm,18.6s,baz=94,slow=39
ARCES ARCESS Array B 70.20 338 P **P 19 50 27.4 -0.9**
ARE0 ARCESS Array S 70.20 338 P **P 19 50 27.6 -0.7**
DOT Dot Lake 70.34 28 P **P 19 50 29.2 0.0**
DOT IAmb IAmb 19 50 56.0
comp=Z,22nm,1.9s
GLB Gilahina Butte 71.01 30 P **P 19 50 33.5 +0.2**
GLB IAmb IAmb 19 50 51.5
comp=Z,12nm,1.3s
MSEY Mahe Island 71.12 256 P **P 19 50 35.6 +0.8**
MSEY Mahe Island 71.12 256 *i*P **P 19 50 37.9 +3.1**
VRDI Verde Repeater 71.23 31 P **P 19 50 34.2 -0.7**
VRDI IAmb IAmb 19 50 40.4
comp=Z,15nm,1.3s
EGAK Eagle 71.27 27 P **P 19 50 33.6 -1.2**
EGAK IAmb IAmb 19 50 43.1
comp=Z,15nm,1.6s
BCAR Beaver Creek A 71.48 29 P **P 19 50 36.1 0.0**
CRQM Cirque 71.50 31 P **P 19 50 36.6 0.0**
TGL Tana Glacier 71.65 31 P **P 19 50 36.5 -0.8**
TGL IAmb IAmb 19 50 48.8
comp=Z,22nm,1.2s
BARN Barnard Glacie 72.11 31 P **P 19 50 40.2 0.0**
BARN IAmb IAmb 19 51 05.9

comp=Z,43nm,1.7s
DAWY Dawson 72.21 27 P **P 19 50 40.2 -0.3**
FIA1 FINESS Array S 72.25 330 P **P 19 50 40.2 -0.5**
FINES FINESS Array B 72.25 330 P **P 19 50 40.1 -0.6**
FINES FINESS Array B 72.25 330 P **P 19 50 39.5 -1.2**
comp=Z,3.2nm,0.5s,baz=64,slow=7.2,SNR=38
FINES LR LR 20 25 44.5
comp=Z,300nm,20.3s,baz=70,slow=39
FINES FINESS Array B 72.25 330 P **P 19 50 40.1 -0.6**
CTGM Chitina Glacie 72.29 31 P **P 19 50 41.0 -0.2**
INK Inuvik 73.00 22 P **P 19 50 44.2 -0.9**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 73.00 22 P **P 19 50 43.6 -1.5**
comp=Z,3.9nm,0.8s,baz=302,slow=6.5,SNR=11
INK Inuvik 73.00 22 P **P 19 50 44.1 -0.9**
YKU2 Yakutat 73.53 32 P **P 19 50 47.5 -0.8**
AKASG Malin Array Be 73.84 319 P **P 19 50 49.2 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 73.84 319 P **P 19 50 49.3 -1.1**
comp=Z,2.3nm,0.6s,baz=59,slow=6.2,SNR=13
AKASG LR LR 20 24 12.8
comp=Z,71nm,18.9s,baz=295,slow=36
AKASG Malin Array Be 73.84 319 P **P 19 50 49.2 -1.1**
AKBB Malin Array Si 73.84 319 P **P 19 50 49.1 -1.2**
AKBB pmax pmax
comp=Z,6.0nm,1.1s
AKBB Malin Array Si 73.84 319 P **P 19 50 49.1 -1.2**
HYT Haines Junctio 74.11 30 P **P 19 50 52.7 +0.8**
HYT IAmb IAmb 19 51 14.0
comp=Z,29nm,1.8s
BR131 Keskin Array S 74.27 307 P **P 19 50 52.5 -0.8**
BR131 pmax pmax
comp=Z,22nm,1.0s
BR131 Keskin Array S 74.27 307 P **P 19 50 52.5 -0.8**
BR131 IAmb IAmb 19 50 54.2
comp=Z,22nm,0.9s
BRTR Keskin Array B 74.27 307 P **P 19 50 53.6 +0.3**
comp=Z,15nm,0.8s,baz=109,slow=4.5,SNR=49
BRTR LR LR 20 26 51.4
comp=Z,44nm,19.9s,baz=358,slow=38
BRTR Keskin Array B 74.27 307 P **P 19 50 52.9 -0.4**
AFI Afiamalu 74.42 113 LR LR 20 22 25.7
comp=Z,68nm,18.5s,baz=278,slow=35
ANTO Ankara 74.84 307 P **P 19 50 56.5 0.0**
ANTO pmax pmax
comp=Z,20nm,0.7s
ANTO Ankara 74.84 307 P **P 19 50 56.5 0.0**
ANTO IAmb IAmb 19 50 57.5
comp=Z,20nm,0.7s
SORM Soroca 75.20 316 ⇑P **P 19 50 57.0 -1.3**
CSS Mathiatis 76.04 302 P **P 19 51 02.8 -0.6**
TOPG Topolog 76.28 313 ⇑P **P 19 51 03.8 -0.8**
CFR Carcaliu 76.34 313 ⇑P **P 19 51 04.2 -0.7**
DAG Danmarks Havn 76.78 351 *i* P **P 19 51 05.3 -1.5**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 76.78 351 *i* P **P 19 51 05.3 -1.5**
comp=Z,2.4nm,0.8s
TESR Tescani 76.84 315 ⇑P **P 19 51 06.5 -1.2**
ICOR Ion Corvin 76.93 313 ⇓P **P 19 51 08.5 +0.2**
VRI Vrincioaia 77.02 314 ⇑P **P 19 51 08.5 -0.3**
BIZ Bicaz 77.04 316 ⇑P **P 19 51 08.2 -0.7**
BUR08 Bucovina Ar. S 77.36 317 P **P 19 51 10.6 -0.1**
BURAR Bucovina Array 77.36 317 ⇑P **P 19 51 10.4 -0.4**
BURAR Bucovina Array 77.36 317 P **P 19 51 10.0 -0.8**
MLR Muntele Rosu 77.67 314 P **P 19 51 12.5 -0.1**
MLR pmax pmax
comp=Z,7.0nm,0.6s
MLR Muntele Rosu 77.67 314 ⇓P **P 19 51 12.4 -0.2**
MLR Muntele Rosu 77.67 314 P **P 19 51 12.5 -0.1**
MLR IAmb IAmb 19 51 14.0
comp=Z,6.7nm,0.6s
ELL Elmali 78.03 305 P **P 19 51 14.3 -0.4**
ELL pmax pmax
comp=Z,49nm,0.7s
ELL Elmali 78.03 305 P **P 19 51 14.3 -0.4**
ARR Arges 78.57 315 ⇑P **P 19 51 17.0 -0.5**
KOLS Kolonicke sedl 78.67 319 *e*P **P 19 51 18.0 +0.1**
KOLS Kolonicke sedl 78.67 319 *e*P **P 19 51 18.0 +0.1**
RES Resolute Bay 78.71 9 P **P 19 51 16.1 -1.5**
RES pmax pmax
comp=Z,11nm,1.4s
RES Resolute Bay 78.71 9 P **P 19 51 16.2 -1.4**
comp=Z,4.6nm,1.1s,baz=260,slow=4.6,SNR=6.3
RES Resolute Bay 78.71 9 P **P 19 51 16.1 -1.5**
NC405 NORSAR Array S 78.74 332 P **P 19 51 17.2 -0.9**
TRPA Tarpa 78.83 318 ⇑P **P 19 51 17.3 -1.4**
TRPA mb 19 51 19.9
NB2 NORSAR Subarra 78.99 332 P **P 19 51 18.1 -1.3**
comp=Z,37nm,1.4s,baz=61,slow=5.6
NB2 NORSAR Subarra 78.99 332 P **P 19 51 18.1 -1.3**
baz=61,slow=5.6
NOA NORSAR Array B 78.99 332 P **P 19 51 18.1 -1.3**
comp=Z,4.9nm,0.8s,baz=54,slow=5.7,SNR=11
NOA LR LR 20 30 04.9
comp=Z,249nm,18.8s,baz=65,slow=39
OJC Ojcow 79.62 320 P **P 19 51 22.6 -0.5**
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 79.62 320 P **P 19 51 22.6 -0.5**
OJC IAmb IAmb 19 51 23.8
comp=Z,8.7nm,0.8s
HERR Herculane 80.21 315 ⇑P **P 19 51 25.8 -0.5**
VTS Vitosha 80.58 312 P **P 19 51 28.6 0.0**
VTS pmax pmax
comp=Z,8.0nm,0.8s
VTS Vitosha 80.58 312 ⇑P **P 19 51 27.9 -0.7**
VTS mb 19 51 31.4
VTS Vitosha 80.58 312 P **P 19 51 28.6 0.0**
VTS IAmb IAmb 19 51 29.6
comp=Z,7.7nm,0.8s
VYHS Vyhne 80.93 319 *e*P **P 19 51 29.9 -0.2**
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS Vyhne 80.93 319 *e*P **P 19 51 29.9 -0.2**
DPC Dobruska-Polom 81.56 322 *e*P **P 19 51 33.9 +0.4**
DPC Dobruska-Polom 81.56 322 *e*P **P 19 51 33.9 +0.4**
VRAC Vranov 81.89 321 ⇑P **P 19 51 32.9 -2.3**
YKA Yellowknife Ar 82.73 23 P **P 19 51 38.6 -0.7**
comp=Z,1.7nm,0.6s,baz=312,slow=5.0,SNR=8.2
PRU Pruhonice 82.75 322 *e*P **P 19 51 39.6 -0.1**
PRU Pruhonice 82.75 322 *e*P **P 19 51 39.6 -0.1**
SUMG Summit 82.86 354 *i* P **P 19 51 39.9 -0.5**
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 82.86 354 *i* P **P 19 51 39.9 -0.5**
comp=Z,21nm,1.1s
CONA Conrad Observa 82.96 320 *e*P **P 19 51 40.2 -0.8**
comp=Z,6.9nm,1.3s
CLL Collm 82.96 323 P **P 19 51 40.4 -0.3**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 82.96 323 *e*P **P 19 51 41.0 +0.3**
CLL Collm 82.96 323 P **P 19 51 40.4 -0.3**
KHC Kasperske Hory 83.71 321 *e*P **P 19 51 45.2 +0.5**
KHC Kasperske Hory 83.71 321 *e*P **P 19 51 45.2 +0.5**
GEC2 GERESS Array S 83.78 321 P **P 19 51 44.3 -0.9**
GEC2 IAmb IAmb 19 51 45.8
comp=Z,8.6nm,1.0s
GERES GERESS Array B 83.78 321 P **P 19 51 44.7 -0.5**
GERES GERESS Array B 83.78 321 P **P 19 51 45.4 +0.2**
comp=Z,4.0nm,0.8s,baz=64,slow=6.1,SNR=18
GERES LR LR 20 32 30.7
comp=Z,121nm,18.8s,baz=76,slow=38
GERES GERESS Array B 83.78 321 P **P 19 51 44.7 -0.5**
SOKA Soboth 84.05 319 *e*P **P 19 51 45.6 -0.9**
comp=Z,5.1nm,0.7s
OBKA Obir 84.42 319 *e*PcP **P 19 51 48.6 +0.1**
comp=Z,7.1nm,0.8s
KBA Koelnbreinsper 84.86 320 *e*PcP **P 19 51 51.6 +0.8**
comp=Z,8.9nm,1.1s
ABTA Abfaltersbach 85.52 320 *e*P **P 19 51 53.0 -1.0**
comp=Z,9.0nm,1.0s
WTTA Wattenberg 85.77 320 *e*PcP **P 19 51 55.2 -0.1**
comp=Z,8.8nm,1.0s
MOTA Moosalm 86.04 321 *e*PcP **P 19 51 56.4 -0.2**
comp=Z,5.7nm,1.1s
SQTA Sankt Quirin 86.05 320 *e*PcP **P 19 51 56.4 -0.2**
comp=Z,6.8nm,0.9s
KMBO Kilima Mbogo 86.09 267 P **P 19 51 57.4 -0.2**
KMBO pmax pmax
comp=Z,4.0nm,1.2s
KMBO Kilima Mbogo 86.09 267 P **P 19 51 57.8 +0.3**
comp=Z,1.8nm,0.8s,baz=41,slow=5.7,SNR=4.4
KMBO Kilima Mbogo 86.09 267 P **P 19 51 57.4 -0.2**
FETA Feichten 86.43 320 *e*PcP **P 19 51 58.4 -0.1**
comp=Z,6.9nm,1.1s
WLF Walferdange 87.53 324 P **P 19 52 03.6 -0.1**
WLF pmax pmax
comp=Z,18nm,1.0s
WLF Walferdange 87.53 324 P **P 19 52 03.6 -0.1**
RAR Rarotonga 87.93 114 LR LR 20 22 45.1
comp=Z,25nm,20.9s,baz=318,slow=30
B06A Marblemount 88.03 37 P **P 19 52 05.6 -0.4**
LON Longmire 88.85 38 P **P 19 52 10.6 +0.5**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 88.85 38 P **P 19 52 10.6 +0.5**
LON IAmb IAmb 19 52 11.9
comp=Z,7.2nm,0.9s
SFJD Kangerlussuaq 89.19 357 P **P 19 52 10.2 -0.9**
SFJD pmax pmax
comp=Z,61nm,1.6s
SFJD Kangerlussuaq 89.19 357 P **P 19 52 10.3 -0.9**
comp=Z,7.5nm,0.8s,baz=104,slow=4.2,SNR=2.9
SFJD Kangerlussuaq 89.19 357 P **P 19 52 10.2 -0.9**
LTY Liberty 89.20 37 P **P 19 52 11.8 +0.1**
LTY IAmb IAmb 19 52 12.9
comp=Z,8.8nm,0.9s
B08A Colville Reser 89.29 36 P **P 19 52 12.3 +0.3**
E07A Sunnyside 90.06 38 P **P 19 52 16.0 +0.3**
C09A Chrisman Ranch 90.19 36 P **P 19 52 16.8 +0.6**
C09A IAmb IAmb 19 52 18.6
comp=Z,25nm,1.4s
HAWA Hanford 90.34 38 P **P 19 52 17.9 +1.0**
HAWA IAmb IAmb 19 52 18.9
comp=Z,8.1nm,0.8s
NEW Newport 90.52 35 P **P 19 52 18.2 +0.4**
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 90.52 35 P **P 19 52 17.9 +0.1**
comp=Z,13nm,0.9s,baz=299,slow=4.2,SNR=14
NEW Newport 90.52 35 P **P 19 52 18.2 +0.4**
NEW IAmb IAmb 19 52 19.9
comp=Z,11nm,0.8s
E08A Dider Farm, El 90.54 37 P **P 19 52 18.9 +1.0**
E08A IAmb IAmb 19 52 19.7
comp=Z,7.0nm,0.8s
PINE Pine Mountain 91.04 40 P **P 19 52 20.9 +0.4**
PINE IAmb IAmb 19 52 23.3
comp=Z,7.5nm,1.0s
WALA Waterton Lakes 91.67 33 P **P 19 52 24.1 +0.8**
BMO Blue Mountains 92.51 38 P **P 19 52 27.1 -0.1**
BMO pmax pmax
comp=Z,12nm,1.7s
BMO Blue Mountains 92.51 38 P **P 19 52 27.1 -0.1**
BMO IAmb IAmb 19 52 41.5
comp=Z,12nm,1.6s
MOD Modoc Plateau 92.51 42 P **P 19 52 27.8 +0.4**
MOD IAmb IAmb 19 52 28.9
comp=Z,4.4nm,0.8s
FFC Flin Flon 92.87 24 P **P 19 52 28.4 -0.1**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 92.87 24 P **P 19 52 28.4 -0.1**
MSO Missoula 93.10 35 P **P 19 52 30.3 +0.4**
MSO IAmb IAmb 19 52 30.9
comp=Z,4.3nm,0.9s
NVAR Mina Array Bea 95.79 44 P **P 19 52 40.9 -1.7**
comp=Z,2.3nm,1.1s,baz=298,slow=5.4,SNR=4.0
NVAR Mina Array Bea 95.79 44 P **P 19 52 41.9 -0.6**
ESDC Sonseca Array 99.38 321 LR LR 20 42 55.9
comp=Z,69nm,18.2s,baz=30,slow=38
DBIC Dimbokro 120.31 294 PKIKP **PKiKP 19 58 08.9 +1.0**
DBIC Dimbokro 120.31 294 PKP **PKiKP 19 58 08.8 +0.8**
comp=Z,3.3nm,0.9s,baz=110,slow=3.9,SNR=3.6
DBIC Dimbokro 120.31 294 **PKiKP 19 58 08.9 +1.0**
ZARC Zaragoza, Cauc 144.46 31 *e*P **PKPab 19 58 50.0 -1.2**
ZARC Zaragoza, Cauc 144.46 31 *e*P **PKPab 19 58 50.0 -1.2**
SDV Santo Domingo 144.95 23 *e*P **PKPab 19 58 52.1 -1.1**
SDV Santo Domingo 144.95 23 *e*P **PKPab 19 58 52.1 -1.1**
SDV Santo Domingo 144.95 23 **PKPab 19 58 52.7 -0.5**
CAPV Capacho 145.24 26 *e*P **PKPbc 19 58 52.5 -1.7**
CAPV Capacho 145.24 26 *e*P **PKPbc 19 58 52.5 -1.7**
PTBC PUERTO BERRIO 145.49 31 *e*P **PKPbc 19 58 52.9 -1.9**
PTBC PUERTO BERRIO 145.49 31 *e*P **PKPbc 19 58 52.9 -1.9**
PAMC Pamplona, Colo 145.56 27 *e*P **PKPdf 19 58 55.0 -0.5**
PAMC Pamplona, Colo 145.56 27 *e*P **PKPdf 19 58 55.0 -0.5**
BARC Barichara 146.02 29 *e*P **PKPdf 19 58 55.3 -0.6**
BARC Barichara 146.02 29 *e*P **PKPdf 19 58 55.3 -0.6**
NORC Norcasia 146.14 32 *e*P **PKPdf 19 58 55.8 -0.1**
NORC Norcasia 146.14 32 *e*P **PKPdf 19 58 55.8 -0.1**
GUY2C Guyana, Caldas 146.19 33 *e*P **PKPdf 19 58 56.6 0.0**
GUY2C Guyana, Caldas 146.19 33 *e*P **PKPdf 19 58 56.6 0.0**
SPBC San Pablo de B 146.44 31 *e*P **PKPbc 19 58 57.2 -0.6**
SPBC San Pablo de B 146.44 31 *e*P **PKPbc 19 58 57.2 -0.6**
RUSC La Rusia 146.69 29 *e*P **PKPdf 19 58 57.9 +0.5**
RUSC La Rusia 146.69 29 *e*P **PKPdf 19 58 57.9 +0.5**
YOTC Yotoco, Valle 146.73 36 *e*P **PKPdf 19 58 57.5 +0.4**
YOTC Yotoco, Valle 146.73 36 *e*P **PKPdf 19 58 57.5 +0.4**
ANIL Santa Ana 146.80 34 *e*P **PKPbc 19 58 58.8 -0.3**
ANIL Santa Ana 146.80 34 *e*P **PKPbc 19 58 58.8 -0.3**
ORTC Ortega, Tolima 147.37 34 *e*P **PKPdf 19 58 58.4 +0.3**
ORTC Ortega, Tolima 147.37 34 *e*P **PKPdf 19 58 58.4 +0.3**
CHIC Chingaza 147.50 31 *e*P **PKPdf 19 58 59.6 +0.9**
CHIC Chingaza 147.50 31 *e*P **PKPdf 19 58 59.6 +0.9**
POPC Popayan, Colom 147.75 38 *e*P **PKPbc 19 59 01.7 0.0**
POPC Popayan, Colom 147.75 38 *e*P **PKPbc 19 59 01.7 0.0**
VILC Villavicencio, 147.97 32 *e*P **PKPbc 19 59 01.4 -0.7**
VILC Villavicencio, 147.97 32 *e*P **PKPbc 19 59 01.4 -0.7**
SOTA Rioblanco 148.12 38 *e*P **PKPbc 19 59 02.5 -0.5**
SOTA Rioblanco 148.12 38 *e*P **PKPbc 19 59 02.5 -0.5**
PTLC Puerto Leguiza 150.75 37 *e*P **PKPbc 19 59 08.4 -0.5**
PTLC Puerto Leguiza 150.75 37 *e*P **PKPbc 19 59 08.4 -0.5**
SAML Samuel 164.14 21 PKP2 **PKPab 20 00 10.3 -2.9**
SAML Samuel 164.14 21 **PKPab 20 00 10.3 -2.9**

*NNC **15** 19:40:09.6±3.7, 37°.88N×72°.07E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=30.0km s-min=25.9km az=35.0*
ISC 15 19:40:08.4±4.9, 37°.7N±0°.3×72°.2E±0°.2, h10km, n11, σ0s83/13, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=32	**4.60**	**14**	P	**Pn**	**19 41 19.4**	**+1.1**
UCH	**Uchtor** SNR=21	**4.89**	**21**	P	**Pn**	**19 41 22.9**	**+0.5**
KZA	**Kyzart** SNR=6.8	**4.99**	**27**	P	**Pn**	**19 41 23.6**	**-0.2**
EKS2	**Erkin-Say** SNR=6.7	**5.13**	**13**	P	**Pn**	**19 41 26.1**	**+0.7**
AAK	**Ala-Archa** 3.1nm,0.3s	**5.26**	**19**	⇑Pn	**Pn**	**19 41 27.6**	**+0.3**
AAK				⇓Sn	**Sn**	**19 42 28.7**	**+0.6**
AAK	**Ala-Archa** SNR=10	**5.26**	**19**	P	**Pn**	**19 41 27.8**	**+0.5**
KBK	**Karagaybulak** SNR=6.8	**5.41**	**22**	P	**Pn**	**19 41 30.3**	**+1.0**
ULHL	**Ulahol** SNR=9.3	**5.53**	**33**	P	**Pn**	**19 41 30.6**	**-0.4**
KK31	**Karatay Array** 1.1nm,0.4s,baz=161,slow=12,SNR=20	**5.56**	**347**	⇓Pn	**Pn**	**19 41 31.5**	**+0.3**
KK31				⇓Sn	**Sn**	**19 42 33.7**	**-1.5**
TKM2	**Tokmak 2** 4.7nm,0.5s	**5.86**	**26**	⇑Pn	**Pn**	**19 41 34.8**	**-0.7**
TKM2	**Tokmak 2** SNR=11	**5.86**	**26**	P	**Pn**	**19 41 34.9**	**-0.5**

JMA 15 19:52:54.3±0.1, 38°.35N×142°.28E, h26km±2km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.64**	**267**	P	Pb	19 53 06.4	-0.5
JIKH				*e*S	Sb	19 53 14.8	-0.7
JIO	**Ouri**	**0.74**	**278**	P	Pb	19 53 08.2	-0.3
JIO				*e*S	Sb	19 53 17.9	-0.3
JKMT	**Kesennumamotoy**	**0.78**	**306**	P	Pb	19 53 09.1	-0.2
JKMT				S	Sb	19 53 19.4	-0.1
OFUJ	**Ofunato**	**0.87**	**327**	P	Pb	19 53 10.4	-0.4
OFUJ				S	Sb	19 53 22.0	-0.1
JMK	**Ichinoseki**	**1.02**	**306**	P	Pn	19 53 12.8	-0.2
JMK				S	Sn	19 53 26.6	+0.1
JMM	**Marumori**	**1.27**	**248**	P	Pn	19 53 16.0	-0.3
JMM				*e*S	Sn	19 53 31.1	-1.4
JOU	**Okura**	**1.27**	**271**	P	Pb	19 53 17.0	-0.6
JOU				*e*S	Sb	19 53 33.3	-0.2
JOM	**Ohasama**	**1.36**	**326**	P	Pn	19 53 18.2	+0.6
JOM				S	Sn	19 53 35.3	+0.5
JFK	**Kawauchi**	**1.48**	**229**	P	Pn	19 53 18.5	-0.8
JFK				*e*S	Sn	19 53 35.6	-2.3
JYK	**Kaneyama**	**1.61**	**291**	P	Pn	19 53 21.8	+0.8
JYK				S	Sb	19 53 43.0	-0.2
JRG	**Rokugo**	**1.66**	**310**	P	Pb	19 53 23.0	-1.1
JFT	**Otama**	**1.75**	**242**	P	Pn	19 53 23.9	+1.0
JFT				*e*S	Sn	19 53 45.1	+0.7
JYS	**Shiratake**	**1.75**	**266**	*e*S	Sb	19 53 46.1	-1.1
MAT	**Matsushiro**	**3.71**	**242**	P	Pb	19 53 54.7	-4.4
MAT				S	Sb	19 54 39.1	-4.5

*MDD **15** 19:56:46.6±2.0, 36°.77N×12°.10W, h0km, mb3.5/8, Error ellipse: s-maj=20.2km s-min=15.7km az=2.0, PRXIMO*
*INMG **15** 19:56:48.9±1.2, 36°.58N×12°.43W, h10km, ML2.3, Error ellipse: s-maj=12.1km s-min=11.4km az=115.0*
ISC 15 19:56:47.7±3.9, 36°.8N±0°.1×12°.0W±0°.2, h10km, n37, σ0s79/53, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.55**	**83**	*e*Sn	**Sn**	**19 58 00.5**	**+0.2**
PFVI				A	A	19 58 04.9	
6.1nm,0.4s							
PFVI	**Vila Bisbo**	**2.55**	**83**	P	**Pn**	**19 57 28.1**	**-1.1**
0.4nm,0.0s,SNR=7.9							
PFVI				S	**Sn**	**19 58 00.4**	**0.0**
9.7nm,0.1s,SNR=7.9							
PTEO	**Sao Teotonio**	**2.71**	**74**	*e*Sn	**Sn**	**19 58 04.1**	**+0.1**
PTEO				A	A	19 58 07.2	
9.6nm,0.6s							
PTEO	**Sao Teotonio**	**2.71**	**74**	S	**Sn**	**19 58 04.1**	**+0.1**
4.8nm,0.6s							
MORF	**Marmelete**	**2.71**	**79**	*e*Sn	**Sn**	**19 58 04.4**	**0.0**
MORF				A	A	19 58 05.4	
5.2nm,0.1s							
MORF	**Marmelete**	**2.71**	**79**	S	**Sn**	**19 58 04.4**	**0.0**
5.2nm,0.1s							
PMAFR	**Mafra**	**3.01**	**45**	*e*Sn	**Sn**	**19 58 12.4**	**+0.8**
PMAFR				A	A	19 58 16.4	
17nm,0.8s							
PMAFR	**Mafra**	**3.01**	**45**	S	**Sn**	**19 58 12.0**	**+0.4**
12nm,0.2s,SNR=7.9							
PNCL	**Nicolau / Gran**	**3.04**	**64**	*e*Pn	**Pn**	**19 57 36.9**	**+1.1**
PNCL				*e*Sn	**Sn**	**19 58 13.0**	**+0.8**
PNCL				A	A	19 58 16.5	
4.2nm,0.1s							
PNCL	**Nicolau / Gran**	**3.04**	**64**	P	**Pn**	**19 57 36.9**	**+1.1**
PNCL				S	**Sn**	**19 58 13.0**	**+0.8**
4.2nm,0.1s							
MESJ	**Messejana**	**3.17**	**71**	*e*Sn	**Sn**	**19 58 16.1**	**+0.6**
MESJ				A	A	19 58 17.1	
3.4nm,0.6s							
MESJ	**Messejana**	**3.17**	**71**	S	**Sn**	**19 58 16.1**	**+0.6**
3.4nm,0.6s							
PCVE	**Castro Verde**	**3.25**	**75**	*e*Pn	**Pn**	**19 57 39.4**	**+0.6**
PCVE				*e*Sn	**Sn**	**19 58 17.8**	**+0.2**
PCVE				A	A	19 58 21.1	
3.8nm,0.9s							
PCVE	**Castro Verde**	**3.25**	**75**	P	**Pn**	**19 57 39.4**	**+0.6**
PCVE				S	**Sn**	**19 58 17.8**	**+0.2**
3.8nm,0.9s							
PBDV	**Barranco-do-Ve**	**3.28**	**82**	*e*Sn	**Sn**	**19 58 19.1**	**+0.9**
PBDV				A	A	19 58 22.4	
4.5nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.28**	**82**	S	**Sn**	**19 58 19.1**	**+0.9**
4.5nm,0.6s							
PVAQ	**Vaqueiros**	**3.46**	**79**	*e*Pn	**Pn**	**19 57 42.4**	**+0.7**
PVAQ				*e*Sn	**Sn**	**19 58 22.8**	**0.0**
PVAQ				A	A	19 58 26.8	
4.0nm,0.8s							
PVAQ	**Vaqueiros**	**3.46**	**79**	P	**Pn**	**19 57 42.4**	**+0.7**
PVAQ				S	**Sn**	**19 58 22.8**	**0.0**
4.0nm,0.8s							
PBEJ	**Beja**	**3.49**	**69**	*e*Sn	**Sn**	**19 58 22.8**	**-0.7**
PBEJ				A	A	19 58 26.8	
2.9nm,0.2s							
PBEJ	**Beja**	**3.49**	**69**	S	**Sn**	**19 58 22.8**	**-0.7**
1.4nm,0.2s							
EVO	**Evora**	**3.58**	**61**	*e*Sn	**Sn**	**19 58 25.5**	**-0.2**
EVO				A	A	19 58 32.9	
8.0nm,0.2s							
EVO	**Evora**	**3.58**	**61**	S	**Sn**	**19 58 25.5**	**-0.2**
8.0nm,0.2s							
EGRO	**El Granado**	**3.67**	**78**	P	**Pn**	**19 57 45.3**	**+0.8**
0.6nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**19 58 27.5**	**-0.3**
2.1nm,0.2s,SNR=7.9							
PMTG	**Montargil**	**3.72**	**52**	*e*Pn	**Pn**	**19 57 46.5**	**+1.3**
PMTG				*e*Sn	**Sn**	**19 58 29.9**	**+0.9**
PMTG				A	A	19 58 33.7	
2.1nm,0.4s							
PMTG	**Montargil**	**3.72**	**52**	P	**Pn**	**19 57 46.5**	**+1.3**
PMTG				S	**Sn**	**19 58 29.9**	**+0.9**
2.1nm,0.4s							
PESTR	**Estremoz**	**4.03**	**59**	*e*Sn	**Sn**	**19 58 35.9**	**-0.9**
PESTR				A	A	19 58 39.7	
2.9nm,0.5s							
PCAS	**Casmilo, Conde**	**4.22**	**40**	*e*Pn	**Pn**	**19 57 51.8**	**-0.3**
PCAS	**Casmilo, Conde**	**4.22**	**40**	P	**Pn**	**19 57 51.8**	**-0.3**
EMIN	**Mina Concepcio**	**4.34**	**76**	P	**Pn**	**19 57 53.7**	**-0.1**
0.2nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**19 58 42.8**	**-1.6**
0.5nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.38**	**63**	P	**Pn**	**19 57 54.1**	**-0.2**
0.6nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**19 58 44.0**	**-1.4**
0.1nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**4.45**	**53**	*e*Pn	**Pn**	**19 57 55.4**	**+0.1**
PMRV				*e*Sn	**Sn**	**19 58 46.0**	**-1.2**
PMRV				A	A	19 58 47.1	
2.3nm,0.3s							
PMRV	**Marv??o**	**4.45**	**53**	P	**Pn**	**19 57 55.4**	**+0.1**
PMRV				S	**Sn**	**19 58 46.0**	**-1.2**
2.3nm,0.3s							
ESPR	**Espera**	**4.92**	**88**	P	**Pn**	**19 58 01.6**	**-0.2**
0.5nm,0.1s,SNR=4.0							
ESPR				S	**Sn**	**19 58 58.7**	**-0.1**
1.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.38**	**75**	P	**Pn**	**19 58 08.2**	**+0.2**
0.1nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**19 59 08.2**	**-1.8**
1.0nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**5.65**	**54**	P	**Pn**	**19 58 11.7**	**-0.1**
0.1nm,0.0s,SNR=7.9							
MVO	**Moncorvo**	**5.79**	**40**	S	**Sn**	**19 59 18.9**	**-1.4**
0.4nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.87**	**30**	P	**Pn**	**19 58 14.9**	**0.0**
0.7nm,0.1s,SNR=7.9							

*ISCJB **15** 20:11:48.8±0.6, 54°.5S±0°.2×136°.6W±0°.2, h10km, mb4.0/7, MS3.9/11, Error ellipse: s-maj=25.3km s-min=15.1km az=166.1*
*IDC **15** 20:11:49.1±0.8, 54°.48S×136°.66W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/25, mbtmp4.0/7, MS3.8/11, Ms1 3.8/11, ms1mx3.6/20, Error ellipse: s-maj=35.0km s-min=23.8km az=164.0*
*NEIC **15** 20:11:51.2±0.8, 54°.3S±0°.3×136°.7W±0°.2, h14km±4km, mb4.5/9*
ISC 15 20:11:50.7±0.7, 54°.5S±0°.2×136°.5W±0°.2, h10km, n41, σ0s78/22, mb4.3/10, MS3.7/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** comp=Z,155nm,21.6s,baz=179,slow=30	**35.12**	**278**	LR	LR	20 29 17.5	
RPZ	**Rata Peaks** comp=Z,118nm,21.1s,baz=86,slow=30	**35.18**	**266**	LR	LR	20 29 08.0	
QSPA	**South Pole Qui** 1.1nm,0.3s,baz=85,slow=7.6,SNR=5.6	**35.71**	**180**	P	**P**	**20 18 48.4**	**-0.7**
PLCA	**Paso Flores** comp=Z,120nm,19.9s,baz=192,slow=30	**44.91**	**100**	LR	LR	20 34 04.8	
SNAA	**Sanae** comp=Z,69nm,21.6s,baz=188,slow=33	**50.02**	**163**	LR	LR	20 39 04.6	
MAW	**Mawson** 2.3nm,0.9s,baz=153,slow=11,SNR=3.0	**57.40**	**189**	P	**P**	**20 21 38.9**	**+0.3**

MAW LR LR 20 43 58.6
comp=Z,57nm,18.8s,baz=232,slow=34
MAW Mawson 57.40 189 P **P 20 21 39.5 +0.9**
MAW IAmb IAmb 20 21 45.9
comp=Z,2.8nm,1.5s
STKA Stephens Creek 60.20 256 LR LR 20 44 37.1
comp=Z,38nm,18.4s,baz=32,slow=33
CPUP Villa Florida 62.86 98 LR LR 20 45 49.5
comp=Z,139nm,19.1s,baz=48,slow=32
LPAZ La Paz 64.37 82 P **P 20 22 27.9 +0.4**
comp=Z,1.9nm,1.0s,baz=189,slow=9.8,SNR=3.0
LPAZ La Paz 64.37 82 P **P 20 22 27.5 0.0**
LPAZ IAmb IAmb 20 22 42.0
comp=Z,5.4nm,1.4s
HNR Honiara 67.10 287 LR LR 20 45 19.0
comp=Z,51nm,19.7s,baz=146,slow=30
SIV San Ignacio 68.70 88 P **P 20 22 54.8 +0.3**
comp=Z,2.6nm,1.0s,baz=235,slow=6.8,SNR=3.2
AS31 Alice Springs 70.84 256 P **P 20 23 07.3 -0.3**
ASAR Alice Springs 70.84 256 P **P 20 23 06.8 -0.9**
comp=Z,0.8nm,0.9s,baz=142,slow=7.5,SNR=8.6
ASAR Alice Springs 70.84 256 P **P 20 23 07.0 -0.6**
H01W1 Cape Leeuwin H 72.32 235 T T 21 43 08.3
baz=144,slow=76,SNR=9.8
H01W2 Cape Leeuwin H 72.33 234 T T 21 43 08.4
baz=144,slow=76,SNR=12
H01W3 Cape Leeuwin H 72.34 235 T T 21 43 15.9
baz=144,slow=76,SNR=11
SAML Samuel 73.10 82 P **P 20 23 20.5 -0.7**
SAML IAmb IAmb 20 23 26.9
comp=Z,11nm,1.6s
COEN Coen 73.13 270 P **P 20 23 21.5 +0.1**
COEN IAmb IAmb 20 23 29.1
comp=Z,6.6nm,1.3s
WR0 Warramunga Arr 73.39 259 P **P 20 23 21.8 -1.1**
WR0 IAmb IAmb 20 23 29.8
comp=Z,4.3nm,1.1s
WB2 Warramunga Arr 73.51 259 P **P 20 23 23.2 -0.4**
WRA Warramunga Arr 73.52 259 P **P 20 23 22.3 -1.4**
comp=Z,0.7nm,0.6s,baz=144,slow=5.5,SNR=13
WRA Warramunga Arr 73.52 259 P **P 20 23 22.6 -1.1**
PSA00 Pilbara Seismi 80.28 247 P **P 20 24 01.9 +0.1**
H11S2 WAKE ISLAND Hy 87.26 307 T T 22 01 03.8
baz=148,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 87.27 307 T T 22 01 14.3
baz=148,slow=76,SNR=8.4
H11S1 WAKE ISLAND Hy 87.28 307 T T 22 01 10.3
baz=148,slow=76,SNR=8.6
TXAR Lajitas Array 88.14 28 P **P 20 24 41.1 -0.3**
comp=Z,0.4nm,0.7s,baz=210,slow=5.2,SNR=2.7
H11N3 WAKE ISLAND Hy 88.23 308 T T 22 02 13.3
baz=148,slow=76,SNR=4.7
H11N1 WAKE ISLAND Hy 88.23 308 T T 22 02 12.2
baz=148,slow=76,SNR=4.1
H11N2 WAKE ISLAND Hy 88.25 308 T T 22 02 23.8
baz=148,slow=76,SNR=5.2
NVAR Mina Array Bea 93.84 14 LR LR 20 59 19.5
comp=Z,84nm,18.3s,baz=96,slow=30
BOSA Boshof 95.79 164 LR LR 21 02 19.4
comp=Z,51nm,19.1s,baz=208,slow=32
PDAR Pinedale Array 99.56 20 LR LR 21 02 25.7
comp=Z,73nm,19.6s,baz=188,slow=30
CMAR Chiang Mai Arr 124.72 252 PKP **PKiKP 20 30 51.4 +0.6**
comp=Z,0.2nm,0.4s,baz=95,slow=1.9,SNR=1.9
SONM Songino Array 141.16 287 PKP **PKPdf 20 31 20.7 +0.1**
comp=Z,0.2nm,0.3s,baz=72,slow=4.7,SNR=1.7
ESDC Sonseca Array 145.20 95 PKPbc **PKPbc 20 31 27.0 -0.6**
comp=Z,1.6nm,0.9s,baz=242,slow=2.7,SNR=4.1
ESDC Sonseca Array 145.20 95 **PKPbc 20 31 27.9 +0.4**
MKAR Makanchi Array 154.47 269 PKPab **PKPab 20 32 06.8 +1.7**
comp=Z,0.6nm,0.9s,baz=115,slow=5.1,SNR=2.0

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*ISCJB **15** 20:28:58.2±1.3, 0°.8N±0°.3×123°.3E±0°.4, h10km, mb3.7/5, Error ellipse: s-maj=73.4km s-min=15.2km az=150.3*
*IDC **15** 20:28:58.5±1.5, 0°.81N×123°.43E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.6/35, mbtmp3.9/6, ML4.4/1, Error ellipse: s-maj=95.7km s-min=18.7km az=59.0*
ISC 15 20:29:00.5±1.1, **0.7N**±0°.2×**123°.2E**±0°.3, **h10**km, **n7**, σ0°**64**/7, **mb3.9**/5, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**6.61**	**131**	P	**Pb**	**20 30 56.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.80**	**173**	P	**Pn**	**20 33 21.0**	**+0.2**
0.8nm,0.3s,baz=12,slow=7.1,SNR=12							
WRA	**Warramunga Arr**	**23.21**	**153**	P	**P**	**20 34 07.6**	**-0.3**
2.9nm,0.7s,baz=329,slow=10,SNR=12							
ASAR	**Alice Springs**	**26.33**	**157**	P	**P**	**20 34 36.5**	**-0.4**
0.7nm,0.6s,baz=344,slow=14,SNR=7.1							
CMAR	**Chiang Mai Arr**	**29.66**	**308**	P	**P**	**20 35 07.3**	**+0.8**
0.4nm,0.7s,baz=122,slow=6.3,SNR=5.5							
STKA	**Stephens Creek**	**36.76**	**153**	P	**P**	**20 36 07.9**	**-0.5**
1.6nm,0.5s,baz=344,slow=9.6,SNR=5.3							
MKAR	**Makanchi Array**	**58.15**	**328**	P	**P**	**20 38 54.0**	**-0.6**
0.8nm,0.7s,baz=126,slow=8.1,SNR=5.5							

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*ISCJB **15** 20:52:49.6±1.3, 14°.8N±0°.1×93°.3W±0°.1, h81km±10km, mb3.5/3, Error ellipse: s-maj=24.1km s-min=6.7km az=39.9*
*IDC **15** 20:52:49.4±4.5, 14°.69N×93°.41W, h69km±28km, mb3.2/3, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, Error ellipse: s-maj=57.8km s-min=9.3km az=26.0*
*MEX **15** 20:52:51.2±0.8, 14°.70N×93°.23W, h59km±23km, MD3.8*
*GCG **15** 20:52:52.0±0.7, 14°.96N×93°.12W, h36km±999km, MD4.2*
ISC 15 20:52:51.1±1.3, **14°.89N**±0°.09×**93°.18W**±0°.07, **h77**km±10km, **n14**, σ1°**81**/22, **mb3.7**/3, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.82**	**357**	*e*P	**Pn**	**20 53 07.7**	**-0.1**
PCIG				*e*S	**Sn**	**20 53 20.4**	**+0.2**
THIG		**0.89**	**88**	*e*P	**Pn**	**20 53 07.5**	**-1.2**
THIG				*i* S	**Sn**	**20 53 20.6**	**-1.1**
STG3	**Santiaguito 3,**	**1.57**	**96**	*e*P	**Pn**	**20 53 17.2**	**-0.2**
TGIG		**1.88**	**2**	*e*P	**Pn**	**20 53 22.8**	**+1.3**
TGIG				*i* S	**Sn**	**20 53 47.0**	**+2.4**
FUG	**Fuego 3**	**2.31**	**101**	*e*P	**Pn**	**20 53 28.4**	**+1.2**
FUG				*e*S	**Sn**	**20 53 55.4**	**+0.6**
APG	**El Apazote**	**2.63**	**87**	P	**Pn**	**20 53 32.4**	**+0.7**
2.5nm,0.3s,baz=207,slow=14,SNR=19							
APG				S	**Sn**	**20 54 07.5**	**+4.8**
10nm,0.3s,baz=347,slow=17,SNR=5.8							
CMIG	**Matias Romero**	**2.74**	**323**	P	**Pn**	**20 53 33.2**	**+0.3**
6.4nm,0.3s,baz=150,slow=17,SNR=49							
CMIG				S	**Sn**	**20 54 04.5**	**-0.5**
35nm,0.3s,baz=115,slow=18,SNR=11							
CMIG	**Matias Romero**	**2.74**	**323**	*e*P	**Pn**	**20 53 33.6**	**+0.7**
CMIG				*i* S	**Sn**	**20 54 06.8**	**+1.8**
IXG	**Ixpaco**	**2.75**	**105**	*e*P	**Pn**	**20 53 33.8**	**+0.6**
TEIG	**Tepich**	**7.08**	**41**	P	**Pn**	**20 54 32.7**	**+0.6**
2.1nm,0.3s,baz=318,slow=1.7,SNR=12							
TEIG				S	**Sn**	**20 55 47.4**	**-3.7**
5.2nm,0.3s,baz=319,slow=21,SNR=12							
NVAR	**Mina Array Bea**	**32.27**	**321**	P	**P**	**20 59 11.4**	**-1.4**
0.2nm,0.5s,baz=126,slow=9.0,SNR=2.8							
YKA	**Yellowknife Ar**	**49.91**	**347**	P	**P**	**21 01 36.6**	**-0.2**
1.4nm,1.0s,baz=157,slow=6.9,SNR=2.8							
ILAR	**Eielson Array**	**61.58**	**337**	P	**P**	**21 03 01.1**	**+0.9**
0.5nm,0.8s,baz=146,slow=4.5,SNR=4.8							
CMAR	**Chiang Mai Arr**	**144.78**	**340**	PKP	**PKPab**	**21 12 17.9**	**-1.2**
0.8nm,0.3s,baz=12,slow=4.9,SNR=4.1							

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*ISCJB **15** 20:53:06.2±0.6, 36°.34N±0°.03×31°.87E±0°.04, h17km±6km, Error ellipse: s-maj=6.6km s-min=4.1km az=143.6*
*ISK **15** 20:53:06.7, 36°.46N×31°.91E, h21km, ML2.2/12*
*DDA **15** 20:53:07.5, 36°.51N×31°.94E, h7km±1km, ML2.6*
*NIC **15** 20:53:08.4±0.0, 36°.11N×32°.09E, h0km±5km, MI1.9/3*
ISC 15 20:53:06.4±1.2, **36°.37N**±0°.04×**31°.93E**±0°.04, **h20**km±5km, **n28**, σ0°**86**/37, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.21**	**24**	PG	**Pg**	**20 53 11.5**	**-0.1**
ALAN				SG	**Sg**	**20 53 14.6**	**-0.6**
GAZI	**Gazipasa**	**0.34**	**113**	*i* P	**Pn**	**20 53 16.2**	**0.0**
GAZI				*i* S	**Sn**	**20 53 22.6**	**0.0**
GAZI				IAML_P			
comp=Z,2μm,0.1s							
GAZI	**Gazipasa**	**0.34**	**113**	PG	**Pn**	**20 53 15.8**	**-0.5**
GAZI				SG	**Sn**	**20 53 22.1**	**-0.5**
MNVG	**Manavgat-Antal**	**0.59**	**316**	PG	**Pb**	**20 53 17.6**	**-0.4**
MNVG				SG	**Sb**	**20 53 25.4**	**-0.5**
KEPZ	**Antalya-Kepez**	**0.59**	**334**	*i* P	**Pb**	**20 53 17.1**	**-0.9**
KEPZ				IAML_P			
comp=Z,2μm,0.2s							
ERMK	**Ermenek**	**0.84**	**71**	*i* P	**Pn**	**20 53 23.9**	**+0.6**
ERMK				IAML_P			
comp=Z,797nm,0.1s							
TEKE	**Tekeli-Mersin**	**0.99**	**103**	PG	**Pg**	**20 53 25.9**	**+0.3**
BERE	**Bereket-Mersin**	**1.05**	**91**	PG	**Pn**	**20 53 26.6**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.23**	**86**	PN	**Pg**	**20 53 30.2**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.32**	**98**	*i* P	**Pg**	**20 53 32.2**	**+0.3**
ALFC	**Alefka**	**1.33**	**155**	P	**Pn**	**20 53 28.8**	**-1.0**
ALFC				S	**Sn**	**20 53 45.4**	**-1.6**
ALFC				AML	AML	20 53 48.6	
comp=Z,0.1nm,0.2s							
ALFC				AML	AML	20 53 48.6	
comp=Z,0.1nm,0.2s							
ALFC				AML	AML	20 53 49.5	
comp=Z,0.1nm,0.2s							
ALFC				AML	AML	20 53 49.5	
comp=Z,0.1nm,0.2s							
AKKU	**Akkuyu-Mersin**	**1.33**	**99**	PN	**Pb**	**20 53 30.9**	**+0.3**
AKMS	**Akamas**	**1.39**	**166**	P	**Pn**	**20 53 29.8**	**-0.8**
AKMS				S	**Sn**	**20 53 47.1**	**-1.3**
AKMS				AML	AML	20 53 54.2	
comp=Z,0.1nm,0.5s							
AKMS				AML	AML	20 53 54.2	
comp=Z,0.1nm,0.5s							
AKMS				AML	AML	20 53 54.9	
comp=Z,0.1nm,0.5s							
AKMS				AML	AML	20 53 54.9	
comp=Z,0.1nm,0.5s							
IKL	**Isikli**	**1.43**	**95**	PN	**Pb**	**20 53 32.1**	**-0.2**
KEBE	**Keben-Mersin**	**1.44**	**86**	PN	**Pn**	**20 53 32.0**	**+0.5**
KONT	**Konya--Tatoy**	**1.61**	**12**	PN	**Pn**	**20 53 33.9**	**+0.1**
NATA	**Nata**	**1.67**	**162**	P	**Pn**	**20 53 34.7**	**+0.1**
SZAC	**Souni**	**1.79**	**154**	P	**Pn**	**20 53 37.7**	**+1.5**
SZAC				S	**Sn**	**20 53 59.1**	**+0.8**
KIZK	**Mersin**	**1.79**	**86**	PN	**Pn**	**20 53 37.6**	**+1.4**
CSS	**Mathiatis**	**1.81**	**140**	PN	**Pn**	**20 53 37.8**	**+1.3**
CSS	**Mathiatis**	**1.81**	**140**	P	**Pn**	**20 53 37.6**	**+1.1**
CSS				S	**Sn**	**20 53 60.0**	**+1.1**
LADK	**Ladik-KONYA**	**1.86**	**11**	PN	**Pn**	**20 53 37.5**	**+0.2**
AKAS	**Kas**	**1.88**	**267**	PN	**Pn**	**20 53 38.6**	**+1.1**
MVOU	**Mavrovouni**	**1.94**	**134**	P	**Pn**	**20 53 38.4**	**+0.2**
MVOU				S	**Sn**	**20 54 01.9**	**0.0**
MVOU				AML	AML	20 54 02.4	
MVOU				AML	AML	20 54 02.4	
MERS	**Mersin**	**2.15**	**76**	PN	**Pn**	**20 53 41.9**	**+0.8**
FETY	**Fethiye**	**2.31**	**277**	PN	**Pn**	**20 53 44.5**	**+1.2**
KIZT	**Kizilcal**	**2.51**	**359**	PN	**Pn**	**20 53 46.7**	**+0.5**
DALY	**Dalyan (Mula)**	**2.67**	**281**	PN	**Pn**	**20 53 49.9**	**+1.6**

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*IDC **15** 21:07:59.0±1.9, 9°.17S×126°.10E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=178.2km s-min=32.3km az=59.0*
*ISCJB **15** 21:08:01.3±0.9, 9°.36S±0°.08×126°.25E±0°.06, h33km, mb3.6/1, Error ellipse: s-maj=11.4km s-min=8.2km az=179.0*
*DJA **15** 21:08:04.7±0.9, 9°S±4°×12°6E±°, h14km±7km, M4.3/9, mb4.5/6, mB4.9/1, MLv4.2/9, Mw(mB)4.2/1*
ISC 15 21:08:03.4±0.9, **9°.43S**±0°.08×**126°.23E**±0°.08, **h35**km, **n9**, σ1°**69**/13, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.97**	**260**	P	**Pn**	**21 08 34.6**	**+0.3**
SOEI				S	**Sn**	**21 08 57.6**	**-0.3**
BATI	**Baumata**	**2.65**	**253**	P	**Pn**	**21 08 43.9**	**+0.2**
BATI				S	**Sn**	**21 09 14.9**	**+0.3**
MMRI	**Maumere**	**4.03**	**281**	P	**Pn**	**21 09 01.3**	**-1.3**
BASI	**Baing, Sumba**	**5.63**	**262**	P	**Pn**	**21 09 23.6**	**-1.0**
WBSI	**Waikabubak, Su**	**6.75**	**268**	P	**Pn**	**21 09 40.8**	**+0.7**
LBMI	**Labuha**	**8.82**	**8**	P	**Pn**	**21 10 08.7**	**+0.2**
WRA	**Warramunga Arr**	**13.06**	**144**	Pn	**Pn**	**21 11 09.2**	**+2.6**
0.6nm,0.3s,baz=322,slow=13,SNR=54							
WRA				Sn	**Sn**	**21 13 27.1**	**-3.6**
1.8nm,0.3s,baz=331,slow=25,SNR=14							
ASAR	**Alice Springs**	**15.94**	**154**	Pn	**P**	**21 11 49.2**	**+0.8**
0.5nm,0.3s,baz=320,slow=11,SNR=37							
ASAR				Sn	**Sn**	**21 14 39.0**	**-2.0**
0.6nm,0.3s,baz=316,slow=21,SNR=6.4							
MKAR	**Makanchi Array**	**68.29**	**329**	P	**P**	**21 19 00.2**	**-0.7**
0.5nm,0.8s,baz=122,slow=5.9,SNR=5.3							

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*IDC **15** 21:13:01.5±3.3, 36°.04S×179°.26E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=70.2km s-min=37.0km az=107.0*
*WEL **15** 21:13:12.3±0.8, 36°S±4°×17°9E±°, h33km, M3.8/45, ML4.0/37, MLv3.8/45, Error ellipse: s-maj=0.0km s-min=0.0km az=78.8*
ISC 15 21:13:06.2±2.2, **36°.30S**±0°.06×**179°.12E**±0°.09, **h14**km±11km, **n88**, σ2°**02**/104, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.42**	**207**	P	**Pg**	**21 13 33.4**	**0.0**
MXZ				S	**Sb**	**21 13 49.3**	**-1.0**
WMGZ	**Waiomatatini S**	**1.61**	**200**	P	**Pg**	**21 13 38.0**	**+0.8**
WMGZ				S	**Sg**	**21 13 57.6**	**-0.6**
PKGZ	**Pakihiroa**	**1.79**	**207**	P	**Pb**	**21 13 39.4**	**+0.6**
PKGZ				S	**Sn**	**21 14 01.1**	**+2.0**
HAZ	**Te Kaha**	**1.80**	**216**	P	**Pn**	**21 13 37.8**	**+1.1**
HAZ				S	**Sb**	**21 14 02.1**	**+0.8**
PUZ	**Puketiti**	**1.90**	**201**	P	**Pb**	**21 13 41.2**	**+0.7**
PUZ				S	**Sn**	**21 14 02.5**	**+0.8**
WIZ	**White Island**	**1.97**	**231**	P	**Pn**	**21 13 40.5**	**+1.5**
WIZ				S	**Sn**	**21 14 01.0**	**-2.5**
RUGZ	**Raukumara Rang**	**2.02**	**214**	P	**Pb**	**21 13 42.6**	**-0.1**
TWGZ	**Tauwhareparae**	**2.08**	**206**	P	**Pb**	**21 13 43.9**	**+0.3**
TWGZ				S	**Sb**	**21 14 08.9**	**-0.4**
CNGZ	**Carnagh Statio**	**2.29**	**198**	P	**Pb**	**21 13 46.8**	**-0.6**
WHRZ	**Whale Island**	**2.31**	**227**	P	**Pb**	**21 13 47.1**	**-0.5**
WHRZ				S	**Sn**	**21 14 10.7**	**-1.3**
TKGZ	**Te Karaka**	**2.36**	**205**	P	**Pb**	**21 13 47.3**	**-1.2**
TKGZ				S	**Sn**	**21 14 13.9**	**+0.8**
MWZ	**Matawai**	**2.39**	**212**	P	**Pb**	**21 13 47.7**	**-1.3**
MWZ				S	**Sn**	**21 14 15.2**	**+1.2**
URZ	**Urewera**	**2.52**	**219**	Pn	**Pn**	**21 13 48.6**	**+1.9**
32nm,0.3s,baz=274,slow=4.0,SNR=378							
URZ				Sn	**Sn**	**21 14 16.9**	**-0.4**
30nm,0.3s,baz=225,slow=23,SNR=8.1							
URZ	**Urewera**	**2.52**	**219**	P	**Pn**	**21 13 48.7**	**+2.0**
URZ				S	**Sn**	**21 14 17.1**	**-0.1**
OPRZ	**Ohinepanea**	**2.56**	**232**	P	**Pn**	**21 13 48.8**	**+1.6**
MARZ	**Manawahe**	**2.58**	**229**	P	**Pn**	**21 13 49.3**	**+1.9**
RAGZ	**Rawiri**	**2.58**	**211**	P	**Pn**	**21 13 50.0**	**+2.5**
EDRZ	**Edgecumbe**	**2.62**	**226**	P	**Pn**	**21 13 50.8**	**+2.8**
RIGZ	**Rimuhau**	**2.63**	**204**	P	**Pn**	**21 13 50.3**	**+2.1**
RIGZ				S	**Sn**	**21 14 20.2**	**+0.3**
TGRZ	**Tauranga**	**2.69**	**237**	P	**Pn**	**21 13 50.9**	**+1.9**
KUZ	**Kuaotunu**	**2.77**	**260**	P	**Pn**	**21 13 51.5**	**+1.4**
PRGZ	**Paritu Road**	**2.79**	**200**	P	**Pn**	**21 13 52.3**	**+1.9**
OMRZ	**Omania**	**2.84**	**230**	P	**Pn**	**21 13 53.9**	**+2.9**
TARZ	**Mount Tarawera**	**2.84**	**226**	P	**Pn**	**21 13 54.1**	**+2.9**
SNGZ	**Shannon Statio**	**2.85**	**209**	P	**Pn**	**21 13 53.5**	**+2.3**
SNGZ				S	**Sn**	**21 14 25.7**	**+0.4**
MUGZ	**Murupara**	**2.86**	**220**	P	**Pn**	**21 13 53.5**	**+2.1**
MUGZ				S	**Sn**	**21 14 25.3**	**-0.3**
KARZ	**Kaharoa**	**2.87**	**232**	P	**Pn**	**21 13 53.5**	**+2.1**
RTZ	**Ruatahuna**	**2.87**	**216**	P	**Pn**	**21 13 53.3**	**+1.8**
RRRZ	**Republican Roa**	**2.90**	**225**	P	**Pn**	**21 13 54.4**	**+2.4**
HLRZ	**Highlands Stat**	**2.94**	**228**	P	**Pn**	**21 13 55.9**	**+3.5**
KNZ	**Kokohu**	**2.95**	**202**	P	**Pn**	**21 13 53.6**	**+1.2**
NGRZ	**Ngongotaha**	**2.95**	**232**	P	**Pn**	**21 13 55.4**	**+2.8**
GRZ	**Great Barrier**	**2.96**	**270**	P	**Pn**	**21 13 54.4**	**+1.8**
GRZ				S	**Sn**	**21 14 27.4**	**-0.4**
KMRZ	**Kaimai**	**2.97**	**238**	P	**Pn**	**21 13 54.7**	**+1.9**
UTU	**Utuhina**	**2.99**	**230**	P	**Pn**	**21 13 55.3**	**+2.2**
MHGZ	**Mahia Peninsul**	**3.00**	**198**	P	**Pn**	**21 13 55.0**	**+1.8**
RAHZ	**Arahi**	**3.07**	**211**	P	**Pn**	**21 13 56.3**	**+2.1**
RAHZ				S	**Sn**	**21 14 30.9**	**+0.2**
PRRZ	**Plateau Road**	**3.08**	**224**	P	**Pn**	**21 13 56.7**	**+2.3**
MTHZ	**Maungataniwha**	**3.12**	**215**	P	**Pn**	**21 13 56.7**	**+1.7**
MTHZ				S	**Sn**	**21 14 32.9**	**+0.8**
WHHZ	**Waihua**	**3.15**	**208**	P	**Pn**	**21 13 57.3**	**+2.1**
ALRZ	**Allen Road**	**3.16**	**224**	P	**Pn**	**21 13 57.6**	**+2.2**
TOZ	**Tahuroa Road**	**3.23**	**243**	P	**Pn**	**21 13 58.4**	**+2.1**
WIAZ	**Waiheke Island**	**3.24**	**260**	P	**Pn**	**21 13 58.7**	**+2.1**
MKAZ	**Moumakai**	**3.28**	**255**	P	**Pn**	**21 13 59.1**	**+2.1**
MRHZ	**Matea Rd**	**3.31**	**220**	P	**Pn**	**21 13 59.1**	**+1.5**
NMHZ	**Naumai**	**3.34**	**213**	P	**Pn**	**21 13 59.6**	**+1.6**
ARHZ	**Aropaoanui**	**3.40**	**209**	P	**Pn**	**21 14 00.0**	**+1.3**
KUTZ	**Kaahu Road**	**3.41**	**229**	P	**Pn**	**21 14 00.3**	**+1.3**
MBAZ	**Motutapu North**	**3.43**	**261**	P	**Pn**	**21 14 02.9**	**+3.8**
TLZ	**Tolley Road**	**3.50**	**234**	P	**Pn**	**21 14 03.1**	**+3.0**
BKZ	**Black Stump Fm**	**3.54**	**215**	P	**Pn**	**21 14 02.6**	**+2.0**
AWAZ	**Awhitu Peninsu**	**3.67**	**257**	P	**Pn**	**21 14 06.2**	**+3.7**
MCHZ	**McNeill Hill**	**3.67**	**211**	P	**Pn**	**21 14 04.1**	**+1.6**
RATZ	**Rangitukua**	**3.69**	**225**	P	**Pb**	**21 14 07.8**	**-3.3**
WTAZ	**Waiatarua**	**3.71**	**259**	P	**Pn**	**21 14 06.4**	**+3.4**
RITZ	**Rihia Road**	**3.72**	**223**	P	**Pn**	**21 14 05.3**	**+2.2**
CKHZ	**Cape Kidnapper**	**3.72**	**205**	P	**Pn**	**21 14 03.6**	**+0.5**
KWHZ	**Kaweka Forest**	**3.78**	**214**	P	**Pn**	**21 14 06.4**	**+2.5**
WCZ	**Waipu Caves**	**3.88**	**274**	P	**Pn**	**21 14 07.7**	**+2.3**
KAHZ	**Kahuranaki**	**3.91**	**206**	P	**Pn**	**21 14 06.2**	**+0.4**
KRVZ	**Karewarewa**	**3.92**	**224**	P	**Pn**	**21 14 10.6**	**+4.6**
WTVZ	**West Tongariro**	**3.96**	**224**	P	**Pn**	**21 14 11.0**	**+4.4**
KRHZ	**Kereru**	**3.98**	**212**	P	**Pn**	**21 14 06.9**	**+0.2**
BHHZ	**Black Hill Sta**	**4.00**	**216**	P	**Pn**	**21 14 07.4**	**+0.4**
NGZ	**Ngauruhoe**	**4.00**	**223**	P	**Pn**	**21 14 08.8**	**+1.6**
TWVZ	**Taurewa**	**4.02**	**225**	P	**Pn**	**21 14 09.7**	**+2.4**
TUVZ	**Tukino**	**4.04**	**222**	P	**Pn**	**21 14 09.5**	**+1.9**
HIZ	**Hauiti**	**4.05**	**236**	P	**Pn**	**21 14 11.0**	**+3.4**
FWVZ	**Far West T-bar**	**4.08**	**223**	P	**Pn**	**21 14 09.4**	**+1.1**
WHVZ	**Whangaehu Hut**	**4.08**	**222**	P	**Pn**	**21 14 10.9**	**+2.5**
MOVZ	**Moawhango**	**4.08**	**220**	P	**Pn**	**21 14 08.5**	**+0.2**
TRVZ	**Turoa**	**4.12**	**222**	P	**Pn**	**21 14 09.7**	**+0.9**
PXZ	**Pawanui**	**4.12**	**205**	P	**Pn**	**21 14 08.4**	**-0.3**
MTVZ	**Mangateitei**	**4.22**	**222**	P	**Pn**	**21 14 10.6**	**+0.6**
PKVZ	**Pokaka**	**4.22**	**224**	P	**Pn**	**21 14 14.6**	**+4.5**
PNHZ	**Pukenui**	**4.28**	**212**	P	**Pn**	**21 14 10.8**	**0.0**
VRZ	**Vera Road**	**4.46**	**230**	P	**Pn**	**21 14 16.7**	**+3.5**
DVHZ	**Dannevirke**	**4.62**	**209**	P	**Pn**	**21 14 14.9**	**-0.5**
WAZ	**Wanganui**	**4.75**	**222**	P	**Pn**	**21 14 20.9**	**+3.7**
POWZ	**Post Office Ro**	**4.86**	**212**	P	**Pn**	**21 14 20.4**	**+1.6**
PKE	**Pukeiti**	**4.99**	**233**	P	Pn	21 14 25.5	+4.9
KHEZ	**Kahui Hut**	**5.02**	**232**	P	Pn	21 14 26.3	+5.1
DUWZ	**D'Urville Isla**	**6.06**	**221**	P	**Pn**	**21 14 35.9**	**+0.6**
CTZ	**Chatham Island**	**8.11**	**158**	P	**Pn**	**21 15 05.5**	**+2.1**
RPZ	**Rata Peaks**	**9.64**	**217**	Pn	**Pn**	**21 15 23.3**	**-1.1**
0.7nm,0.3s,baz=183,slow=21,SNR=2.6							
RPZ				Sn	Sn	21 16 59.8	-13
1.1nm,0.3s,baz=31,slow=20,SNR=1.4							
ASAR	**Alice Springs**	**40.79**	**275**	P	**P**	**21 20 45.0**	**-2.2**
0.5nm,0.5s,baz=118,slow=7.8,SNR=9.2							
WRA	**Warramunga Arr**	**42.33**	**280**	P	**P**	**21 20 58.2**	**-1.6**
0.3nm,0.3s,baz=120,slow=7.6,SNR=9.2							
FINES	**FINESS Array B**	**149.65**	**334**	PKPbc	**PKPdf**	**21 32 51.3**	**+1.6**
2.7nm,0.9s,baz=51,slow=5.5,SNR=0.8							

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*ISCJB **15** 21:13:43.4±0.7, 36°.71N±0°.08×139°.3E±0°.1, h134km±4km, mb3.4/4, Error ellipse: s-maj=13.9km s-min=12.8km az=44.3*
*JMA **15** 21:13:44.0±0.1, 36°.73N×139°.31E, h128km±2km, M2.6*
*IDC **15** 21:13:45.4±1.2, 36°.62N×139°.01E, h135km±7km, mb3.2/5, mb1 3.3/6, mb1mx3.0/41, mbtmp3.6/6, Error ellipse: s-maj=30.3km s-min=19.4km az=75.0*
ISC 15 21:13:44.0±1.0, **36°.73N**±0°.08×**139°.31E**±0°.09, **h130**km±7km, **n15**, σ0°**60**/19, **mb3.5**/4, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.07**	**310**	P	**Pn**	**21 14 01.5**	**-0.2**
JAG	**Ashikaga**	**0.32**	**159**	P	**Pn**	**21 14 02.0**	**-0.2**
JAG				S	**Sn**	**21 14 16.0**	**+0.1**
JHK	**Hiroka**	**0.57**	**336**	P	**Pn**	**21 14 02.8**	**-0.7**
JHK				S	**Sn**	**21 14 17.8**	**-0.5**
JRY	**Ryogami san**	**0.78**	**205**	P	**Pn**	**21 14 05.3**	**+0.3**
MJAR	**Matsushiro Arr**	**0.91**	**259**	P	**Pn**	**21 14 05.9**	**-0.2**
2.3nm,0.3s,baz=71,slow=7.3,SNR=122							
MJAR				S	**Sn**	**21 14 22.8**	**0.0**
0.7nm,0.3s,baz=82,slow=29,SNR=3.7							
MAT	**Matsushiro**	**0.91**	**259**	P	**Pn**	**21 14 06.0**	**

0.2nm,0.3s,baz=194,slow=12,SNR=7.4
MKAR Sn **Sn** **21 26 25.3 -4.3**
0.1nm,0.3s,baz=182,slow=22,SNR=2.9
KURBB **Kurchatov Arra 15.34 2** Pn **Pn** **21 24 59.4 -1.4**
0.1nm,0.3s,baz=188,slow=12,SNR=3.0
BVAR **Borovoye Array 18.46 346** P **P** **21 25 37.0 -3.1**
0.2nm,0.3s,baz=150,slow=12,SNR=7.1
ZALV **Zalesovo Beam 19.32 13** P **P** **21 25 48.9 -0.6**
0.1nm,0.3s,baz=211,slow=9.3,SNR=2.8
AKTO **Aktyubinsk 20.79 323** P **P** **21 26 03.8 -1.8**
1.0nm,0.5s,baz=110,slow=15,SNR=3.0
SONM **Songino Array 24.73 51** P **P** **21 26 45.6 -0.4**
1.0nm,0.8s,baz=244,slow=11,SNR=5.8
ARU **Arti 24.81 334** P **P** **21 26 44.7 -1.7**
0.4nm,0.3s,baz=341,slow=9.3,SNR=3.2
CMAR **Chiang Mai Arr 25.25 126** P **P** **21 26 49.9 -0.9**
0.6nm,0.5s,baz=308,slow=9.3,SNR=2.9
BRTR **Keskin Array B 34.93 291** P **P** **21 28 13.7 -2.8**
0.5nm,0.7s,baz=72,slow=6.4,SNR=2.3
FINES **FINESS Array B 41.52 325** P **P** **21 29 09.4 -2.1**
2.9nm,0.7s,baz=121,slow=9.2,SNR=8.3
ARCES **ARCESS Array B 44.36 337** P **P** **21 29 33.6 -0.9**
7.9nm,1.1s,baz=114,slow=11,SNR=2.5
NOA **NORSAR Array B 48.57 323** P P 21 30 05.2 -2.5
1.0nm,0.8s,baz=91,slow=7.5,SNR=2.5
TORD **Torodi Ar. Bea 71.13 273** P P 21 32 38.1 -5.4
0.6nm,0.6s,baz=50,slow=6.2,SNR=6.6
WRA **Warramunga Arr 76.84 126** P P 21 33 15.1 -1.7
0.4nm,0.7s,baz=308,slow=4.8,SNR=5.7
ASAR **Alice Springs 79.22 129** P **P** **21 33 28.9 -1.0**
0.3nm,0.7s,baz=332,slow=5.2,SNR=3.2
DBIC **Dimbokro 80.07 271** P P 21 33 31.8 -3.0
7.0nm,1.2s,baz=44,slow=6.4,SNR=2.4

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*NNC **15** 21:32:52.8±2.6, 32°.94N×77°.88E, h0km, mb4.1, Error ellipse: s-maj=26.9km s-min=20.3km az=84.0*
*IDC **15** 21:33:20.8±0.9, 35°.19N×76°.94E, h0km, mb3.7/9, mb1 3.7/13, mb1mx3.5/47, mbtmp3.6/13, ML2.9/4, MS3.0/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=23.4km s-min=17.1km az=38.0*
*ISCJB **15** 21:33:23.9±0.4, 35°.37N±0°.04×77°.73E±0°.07, h10km, mb3.7/8, Error ellipse: s-maj=8.4km s-min=4.8km az=167.5*
*BJI **15** 21:33:27.6±0.0, 35°.68N×77°.15E, h6km, ML3.7/3*
ISC 15 21:33:25.5±0.7, 35°.35N±0°.05×77°.63E±0°.08, h10km, n36, σ2°04/35, mb3.7/8, 4C-6D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**3.47**	**222**	*e*P	**Pn**	**21 34 20.0**	**+0.4**
JMU				*e*S	**Sn**	**21 35 02.5**	**+1.7**
KSH	**Kashi**	**4.36**	**343**	Pg	**Pn**	**21 34 32.1**	**+0.1**
KSH				Sg	**Sn**	**21 35 22.8**	**-0.2**
KSH				smax	smax		
	comp=N,280nm,0.7s						
KSH				smax	smax		
	comp=E,370nm,0.9s						
AAK	**Ala-Archa**	**7.67**	**342**	⇓P	**Pn**	**21 35 17.6**	**+0.1**
	10.0nm,1.4s						
AAK				⇓S	**Sb**	**21 37 12.3**	**+1.9**
	14nm,1.1s						
AAK	**Ala-Archa**	**7.67**	**342**	Pn	**Pn**	**21 35 17.2**	**-0.3**
	0.1nm,0.3s,baz=170,slow=12,SNR=2.7						
AAK				Lg	Lg	21 37 15.5	
	0.1nm,0.3s,baz=8.4,slow=20,SNR=2.1						
AAK				LR	LR	21 38 16.3	
	comp=Z,68nm,19.8s,baz=234,slow=38						
TKM2	**Tokmak 2**	**7.72**	**349**	⇓P	**Pn**	**21 35 20.1**	**+1.9**
	3.2nm,1.1s						
TKM2				⇑S	**Sb**	**21 37 17.7**	**+5.9**
	8.7nm,0.8s						
MDOK	**Medeo**	**7.81**	**357**	⇑P	**Pn**	**21 35 21.2**	**+1.7**
	11nm,1.3s						
MDOK				S	**Sb**	**21 37 17.2**	**+2.8**
	75nm,1.4s						
PDGK	**Podgornoye**	**8.10**	**10**	⇓P	**Pn**	**21 35 25.5**	**+2.2**
	6.4nm,1.2s						
PDGK				⇓S	Sb	21 37 22.6	+0.2
	14nm,1.3s						
DANN	**Dangsing**	**8.71**	**142**	*e*P	**Pn**	**21 35 33.8**	**+2.0**
	8.6nm,0.4s						
KOLN	**Koldanda**	**9.11**	**144**	*e*P	**Pn**	**21 35 39.3**	**+2.0**
	8.2nm,0.5s						
GKN	**Gorkha**	**9.45**	**139**	*e*P	**Pn**	**21 35 43.0**	**+1.2**
KK31	**Karatay Array**	**9.51**	**327**	P	Pn	21 35 39.5	-3.0
	0.3nm,0.3s,baz=130,slow=8.7,SNR=7.6						
KK31				⇑S	Sn	21 37 54.5	+25
	1.7nm,0.8s						
KKN	**Kakani**	**9.96**	**137**	*e*P	**Pn**	**21 35 49.8**	**+0.8**
	8.6nm,0.6s						
DMN	**Daman**	**10.01**	**138**	*e*P	**Pn**	**21 35 50.0**	**+0.3**
	7.1nm,0.5s						
PKIN	**Phulchoki**	**10.19**	**137**	*e*P	**Pn**	**21 35 53.2**	**+1.0**
	5.7nm,0.5s						
PKI	**Pulchoki**	**10.21**	**137**	*e*P	**Pn**	**21 35 53.5**	**+1.1**
	7.0nm,0.6s						
GUN	**Gumba**	**10.21**	**134**	*e*P	**Pn**	**21 35 52.9**	**+0.4**
JIRN	**Jiri**	**10.58**	**134**	*e*P	**Pn**	**21 35 57.5**	**-0.1**
	17nm,0.4s						
RAMN	**Ramite**	**11.36**	**135**	*e*P	**Pn**	**21 36 07.7**	**-0.4**
	6.8nm,0.5s						
WMQ	**Urumqi**	**11.47**	**39**	*e*P	Pn	21 36 15.3	+5.9
WMQ				pP		21 36 17.6	
TAPN	**Taplejung**	**11.73**	**130**	*e*P	**Pn**	**21 36 12.4**	**-0.9**
ODAN	**Odare**	**11.89**	**133**	*e*P	**Pn**	**21 36 14.4**	**-1.0**
MK31	**Makanchi Array**	**11.96**	**16**	⇓P	**Pn**	**21 36 16.1**	**+0.1**
	4.1nm,1.2s,baz=197,slow=13,SNR=8.2						
MK31				⇑S	Sn	21 38 54.0	+25
	7.1nm,1.1s,baz=202,slow=24,SNR=7.5						
MKAR	**Makanchi Array**	**11.96**	**16**	Pn	**Pn**	**21 36 14.9**	**-1.1**
	0.2nm,0.3s,baz=200,slow=13,SNR=6.7						
MKAR				Sn	**Sn**	**21 38 27.3**	**-2.1**
	0.1nm,0.3s,baz=198,slow=23,SNR=6.4						
KURBB	**Kurchatov Arra**	**15.28**	**2**	Pn	**Pn**	**21 37 01.0**	**-0.2**
	0.0nm,0.3s,baz=191,slow=10,SNR=5.4						
GEYT	**Alibeck**	**15.88**	**285**	LR	LR	21 43 38.9	
	comp=Z,73nm,18.7s,baz=315,slow=40						
BVAR	**Borovoye Array**	**18.40**	**346**	P	**Pn**	**21 37 36.1**	**-4.5**
	0.1nm,0.3s,baz=147,slow=8.5,SNR=6.8						
ZALV	**Zalesovo Beam**	**19.27**	**13**	P	**P**	**21 37 51.7**	**+1.6**
	0.1nm,0.3s,baz=208,slow=10.0,SNR=2.9						
AKTO	**Aktyubinsk**	**20.73**	**323**	P	**P**	**21 38 01.0**	**-5.1**
	1.4nm,0.7s,baz=122,slow=4.2,SNR=4.5						
SONM	**Songino Array**	**24.71**	**51**	P	**P**	**21 38 48.4**	**+1.4**
	1.6nm,0.9s,baz=246,slow=9.6,SNR=8.8						
CMAR	**Chiang Mai Arr**	**25.29**	**126**	P	**P**	**21 38 52.9**	**+0.6**
	0.9nm,0.8s,baz=310,slow=12,SNR=6.1						
BRTR	**Keskin Array B**	**34.90**	**291**	P	P	21 40 11.0	-6.4
	0.9nm,0.8s,baz=66,slow=4.9,SNR=3.0						
FINES	**FINESS Array B**	**41.47**	**325**	P	P	21 41 06.1	-6.1
	3.9nm,0.9s,baz=113,slow=9.2,SNR=3.6						
NOA	**NORSAR Array B**	**48.52**	**323**	P	P	21 42 05.2	-3.3
	0.9nm,0.7s,baz=98,slow=16,SNR=1.6						
PETK	**Petropavlovsk-**	**57.00**	**45**	P	**P**	**21 43 10.7**	**-0.5**
	1.4nm,0.7s,baz=278,slow=10.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**71.12**	**273**	P	P	21 44 37.2	-7.3
	0.7nm,0.9s,baz=38,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**76.89**	**126**	P	**P**	**21 45 17.4**	**-0.7**
	0.4nm,1.1s,baz=309,slow=4.0,SNR=3.2						

MAN 15 21:58:13.3, 9°.80N×123°.56E, h3km, mb3.9, ML2.7, MS2.3, 3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.55**	**215**	⇓*i*P	Pg	21 58 24.2	+0.3
SNPH				*i* S	Sg	21 58 32.3	+1.3
LLP	**Lapu-Lapu**	**0.66**	**38**	⇓*i*P	Pg	21 58 26.2	+0.3
LLP				*i* S	Sb	21 58 36.0	-0.9
DCPH	**Dipolog City**	**1.22**	**190**	⇓*e*P	Pg	21 58 35.6	-1.1
DCPH				*e*S	Sg	21 58 50.2	-2.4
GUIM	**Jordan**	**1.26**	**311**	*e*P	Pg	21 58 37.1	-0.3
GUIM				*e*S	Sn	21 58 55.3	0.0
MSLP	**Maasin**	**1.33**	**75**	*e*P	Pn	21 58 37.5	-1.2
MSLP				*e*S	Sn	21 58 57.1	+0.2

ANF 15 22:00:29.7±0.4, 37°.56N×82°.77W, h1km±4km, ML2.5/10, ML2.2/10, Error ellipse: s-maj=3.9km s-min=2.9km az=144.0, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T52A	**Hallie**	**0.49**	**201**	P	Pb	22 00 40.1	-1.0
	baz=21						
T52A				S	Sg	22 00 46.0	+0.6
	baz=21						
S53A	**Williamson**	**0.52**	**77**	P	Pg	22 00 40.0	+0.3
	baz=257						
T53A	**Wise**	**0.61**	**162**	P	Pg	22 00 41.2	-0.2
	baz=343						
T51A	**Gray**	**1.12**	**238**	P	Pg	22 00 50.6	-0.5
	baz=57						
T51A				S	Sb	22 01 06.5	-0.3
	baz=57						
TZTN	**Tazewell**	**1.20**	**212**	P	Pg	22 00 52.7	+0.1
	baz=31						
S50A	**Richmond**	**1.30**	**276**	P	Pg	22 00 54.2	-0.5
	baz=95						
Q52A	**Bidwell**	**1.45**	**16**	P	Pb	22 00 57.4	-0.1
	baz=196						
U55A	**TA2, Sparta**	**1.74**	**127**	P	Pn	22 01 01.7	+0.7
	baz=308						
U55A				S	Sn	22 01 23.2	-0.7
	baz=308						
V52A	**Sevierville**	**1.84**	**201**	P	Pn	22 01 02.9	+0.5
	baz=21						
V52A				S	Sb	22 01 28.2	+0.4
	baz=21						
V53A	**Saluda**	**1.89**	**181**	P	Pn	22 01 03.5	+0.4
	baz=1.1						

ANF 15 22:00:39.5±0.5, 37°.94N×81°.55W, h5km±3km, Error ellipse: s-maj=3.8km s-min=2.7km az=51.0, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S54A	**Dingess, Beckl**	**0.23**	**125**	P	Pg	22 00 43.4	-0.7
	baz=306						
S54A				S	Sg	22 00 47.0	-0.1
	baz=306						
R53A	**Hurricane**	**0.50**	**322**	P	Pg	22 00 49.6	+0.4
	baz=141						
R53A				S	Sg	22 00 56.7	+0.9
	baz=141						
R54A	**Victor**	**0.51**	**61**	P	Pg	22 00 49.4	+0.2
	baz=240						
R54A				S	Sg	22 00 56.8	+0.9
	baz=240						
Q54A	**Coxs Mills**	**1.19**	**28**	P	Pn	22 01 02.9	+0.1
	baz=208						
Q54A				S	Sn	22 01 21.2	+1.9
	baz=208						
T52A	**Hallie**	**1.41**	**234**	S	Sn	22 01 26.5	+1.8
	baz=54						
P53A	**Whipple**	**1.55**	**5**	S	Sn	22 01 27.7	-0.6
	baz=185						
Q55A	**Buckhannon**	**1.57**	**47**	P	Pn	22 01 07.7	-0.3
	baz=228						
Q55A				S	Sg	22 01 30.9	+1.1
	baz=228						
P52A	**Corning**	**1.75**	**345**	S	Sb	22 01 34.0	-0.5
	baz=165						
U56A	**King**	**1.84**	**149**	Sb	Sg	22 01 38.7	+0.1
	baz=330						
P54A	**Burton**	**1.86**	**26**	P	Pn	22 01 12.5	+0.4
	baz=207						
P54A				Sb	Sg	22 01 39.1	-0.2
	baz=207						
S57A	**Dark Hollow, R**	**2.06**	**94**	S	Sb	22 01 42.7	-0.7
	baz=276						

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*IDC **15** 22:01:54.0±7.1, 6°.49S×130°.63E, h80km±70km, mb3.7/3, mb1 3.6/5, mb1mx3.3/28, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=100.2km s-min=34.7km az=67.0*
*DJA **15** 22:01:58.5±0.5, 6°.5±3°×13°.1E±°, h118km±12km, M4.1/12, mb3.9/7, mB5.2/3, MLv4.1/12, Mw(mB)4.6/3*
ISC 15 22:01:57.7±0.8, 6°.32S±0°.05×130°.56E±0°.08, h100km, n14, σ1°68/16, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**156**	P	**Pn**	**22 02 28.9**	**+1.0**
SAUI				S	**Sn**	**22 02 54.2**	**+3.4**
BNDI	**Bandanaira**	**1.90**	**340**	P	**Pn**	**22 02 30.2**	**+1.2**
MSAI	**Masohi**	**3.37**	**331**	P	**Pn**	**22 02 49.6**	**+1.1**
FAKI	**Fak Fak**	**3.77**	**27**	P	**Pn**	**22 02 55.1**	**+1.2**
FAKI				S	**Sn**	**22 03 38.1**	**+0.7**
SWI	**Sorong**	**5.46**	**7**	P	**Pn**	**22 03 17.7**	**+0.9**
RKPI	**Ransiki, Papua**	**5.99**	**37**	P	**Pn**	**22 03 24.9**	**+1.0**
RKPI				S	**Sn**	**22 04 31.8**	**+0.7**
SANI	**Sanana**	**6.23**	**313**	P	**Pn**	**22 03 29.5**	**+2.4**
SOEI	**Soe**	**7.11**	**241**	P	**Pn**	**22 03 39.9**	**+0.7**
WRA	**Warramunga Arr**	**14.03**	**165**	P	Pn	22 05 05.2	-6.9
	0.2nm,0.3s,baz=347,slow=13,SNR=18						
WRA				S	Sn	22 07 30.3	-16
	1.0nm,0.3s,baz=335,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**17.55**	**170**	P	**P**	**22 05 53.0**	**-2.8**
	0.1nm,0.3s,baz=345,slow=10,SNR=6.5						
ASAR				S	Sn	22 08 54.2	-17
	0.2nm,0.3s,baz=353,slow=27,SNR=4.1						
CMAR	**Chiang Mai Arr**	**39.73**	**309**	P	**P**	**22 09 20.2**	**-0.6**
	0.7nm,0.3s,baz=129,slow=7.1,SNR=4.5						
SONM	**Songino Array**	**57.98**	**341**	P	**P**	**22 11 39.7**	**-0.2**
	0.7nm,0.9s,baz=147,slow=6.7,SNR=2.8						
MKAR	**Makanchi Array**	**67.97**	**326**	P	**P**	**22 12 45.7**	**-0.4**
	2.4nm,0.5s,baz=116,slow=8.3,SNR=41						
TORD	**Torodi Ar. Bea**	**129.22**	**282**	PKP	**PKPdf**	**22 20 53.7**	**-1.7**
	0.7nm,1.0s,baz=82,slow=1.5,SNR=3.2						

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*BER **15** 22:19:50.2±0.6, 71°.18N×8°.64W, h0km±29km, ML2.9*
ISC 15 22:19:49.9±1.5, 71°.2N±0°.1×8°.7W±0°.4, h18km±6km, n5, σ0°18/8, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.21**	**159**	*e*P	**Pg**	**22 19 55.0**	**+0.1**
JNW				*e*S	**Sg**	**22 19 58.5**	**+0.2**
JMIC	**Jan Mayen**	**0.24**	**168**	*e*P	**Pg**	**22 19 55.4**	**0.0**
JMIC				*e*S	**Sg**	**22 19 59.0**	**-0.2**
JMIC				IAML		22 19 59.7	
	comp=Z,1μm,0.3s						
JNE	**Jan Mayen East**	**0.26**	**153**	*e*P	**Pg**	**22 19 55.5**	**-0.2**
JMI	**Jan Mayen**	**0.29**	**185**	*e*P	**Pb**	**22 19 56.6**	**+0.1**
JMI				*e*S	**Sb**	**22 20 00.9**	**-0.1**
JMI				IAML		22 20 03.6	
	comp=Z,1μm,0.3s						
DAG	**Danmarks Havn**	**6.21**	**338**	⇑*i*P	**Pn**	**22 21 20.4**	**0.0**
DAG				*e*S	Sn	22 22 25.9	-4.9

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*ISCJB **15** 22:20:59.6±0.5, 43°.81N±0°.03×8°.58E±0°.03, h19km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=174.1*
*ROM **15** 22:20:59.8±0.1, 43°.849N±0°.004×8°.563E±0°.004, h11km, ML2.4/17, Error ellipse: s-maj=0.7km s-min=0.6km az=299.0*
*GEN **15** 22:20:59.9, 43°.84N×8°.56E, h3km, Ml2.2*
*LDG **15** 22:20:59.9±0.1, 43°.78N×8°.56E, h5km, Md2.7/1, Ml2.6/16, Error ellipse: s-maj=2.7km s-min=2.1km az=176.0*
*STR **15** 22:21:02.5±0.8, 44°.N±6°.×±°, h0km, MLv2.3/7*
ISC 15 22:20:58.6±1.0, 43°.79N±0°.03×8°.58E±0°.02, h16km±8km, n65, σ0°65/105, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINB	**Finale Ligure**	**0.42**	**335**	P	**Pb**	**22 21 07.5**	**-0.2**
FINB				AML	AML		
	comp=N,700μm,0.2s						
FINB				AML	AML		
	comp=E,500μm,1.3s						
RORO	**Rocca Rossa**	**0.49**	**311**	P	**Pg**	**22 21 08.6**	**+0.2**
RORO				S	**Sg**	**22 21 14.7**	**-0.3**
RORO	**Rocca Rossa**	**0.49**	**311**	P	**Pb**	**22 21 08.7**	**-0.1**
RORO				S	**Sb**	**22 21 15.4**	**-0.3**
RORO				AML	AML		
	comp=E,772μm,0.6s						
RORO				AML	AML		
	comp=N,642μm,0.6s						
RORO				AML	AML		
	comp=E,772μm,0.6s						
IMI	**Imperia**	**0.51**	**283**	P	**Pb**	**22 21 09.4**	**+0.2**
IMI				S	**Sb**	**22 21 16.3**	**-0.1**
IMI	**Imperia**	**0.51**	**283**	P	**Pb**	**22 21 09.4**	**+0.2**
IMI				S	**Sb**	**22 21 16.4**	**0.0**
IMI				AML	AML		
	comp=N,752μm,1.3s						
IMI				AML	AML		
	comp=E,413μm,0.3s						
QLNO	**Quiliano**	**0.56**	**343**	P	**Pg**	**22 21 09.8**	**+0.1**
QLNO				S	**Sg**	**22 21 16.5**	**-0.6**
QLNO				AML	AML		
	comp=N,774μm,0.2s						
QLNO				AML	AML		
	comp=E,634μm,0.8s						
MGRO	**Montegrosso**	**0.61**	**294**	P	**Pb**	**22 21 10.9**	**-0.1**
MGRO				S	**Sb**	**22 21 19.1**	**-0.2**
MGRO	**Montegrosso**	**0.61**	**294**	P	**Pb**	**22 21 10.9**	**-0.1**
MGRO				S	**Sb**	**22 21 19.6**	**+0.2**
MGRO				AML	AML		
	comp=E,492μm,0.3s						
MGRO				AML	AML		
	comp=N,388μm,1.3s						
NEGI	**Seborga**	**0.63**	**275**	P	**Pb**	**22 21 11.9**	**+0.5**
NEGI				S	**Sb**	**22 21 20.0**	**0.0**
NEGI	**Seborga**	**0.63**	**275**	P	**Pb**	**22 21 11.9**	**+0.5**
NEGI				S	**Sb**	**22 21 20.4**	**+0.4**
NEGI				AML	AML		
	comp=E,270μm,0.2s						
NEGI				AML	AML		
	comp=N,304μm,1.3s						
NEGI				AML	AML		
	comp=E,269μm,0.2s						
GBOS	**Grotte di Boss**	**0.69**	**310**	P	**Pg**	**22 21 12.3**	**0.0**
GBOS				S	**Sg**	**22 21 21.0**	**-0.5**
GBOS	**Grotte di Boss**	**0.69**	**310**	P	**Pg**	**22 21 12.3**	**0.0**
GBOS				S	**Sg**	**22 21 21.2**	**-0.3**
GBOS				AML	AML		
	comp=N,374μm,0.3s						
GBOS				AML	AML		
	comp=E,198μm,0.1s						
PCP	**Piancastagn**	**0.75**	**358**	P	**Pg**	**22 21 13.0**	**-0.3**
PCP				S	**Sg**	**22 21 22.3**	**-0.9**
PCP	**Piancastagn**	**0.75**	**358**	P	**Pg**	**22 21 13.0**	**-0.3**
PCP				S	**Sg**	**22 21 22.7**	**-0.5**
PCP				AML	AML		
	comp=N,173μm,0.4s						
PCP				AML	AML		
	comp=E,206μm,0.8s						
SAOF	**Saorge**	**0.76**	**285**	Pg	**Pb**	**22 21 14.1**	**+0.5**
SAOF				*e*Pg	**Sb**	**22 21 24.0**	**+0.3**
SAOF	**Saorge**	**0.76**	**285**	P	**Pb**	**22 21 14.1**	**+0.5**
SBF	**Sospel**	**0.83**	**275**	*e*Pg	**Pn**	**22 21 15.6**	**-0.1**
SBF	**Sospel**	**0.83**	**275**	*e*Pn	**Pn**	**22 21 16.8**	**+1.1**
SBF				*e*Sg	**Sb**	**22 21 26.2**	**+0.6**
	comp=E,168nm,0.2s						
MSSA	**Maissana**	**0.86**	**52**	P	**Pb**	**22 21 15.2**	**0.0**
TURF	**col de Turini**	**0.88**	**282**	Pg	**Pg**	**22 21 15.3**	**-0.4**
TURF				Sg	**Sb**	**22 21 27.1**	**+0.1**
ENR	**Entracque**	**0.94**	**298**	P	**Pg**	**22 21 17.0**	**+0.1**
ENR				S	**Sb**	**22 21 28.7**	**-0.2**
ENR	**Entracque**	**0.94**	**298**	P	**Pg**	**22 21 16.9**	**+0.1**
ENR				S	**Sg**	**22 21 29.3**	**0.0**
ENR				AML	AML		
	comp=N,419μm,0.5s						
ENR				AML	AML		
	comp=E,180μm,1.5s						
PLMA	**Palmaria, Port**	**0.95**	**74**	P	**Pn**	**22 21 18.2**	**+0.9**
GORR	**Gorreto**	**0.96**	**32**	P	**Pg**	**22 21 17.3**	**0.0**
GORR				S	**Sg**	**22 21 30.1**	**+0.2**
GORR	**Gorreto**	**0.96**	**32**	P	**Pb**	**22 21 17.2**	**+0.2**
STV	**Sant Anna di V**	**1.01**	**297**	P	**Pg**	**22 21 18.1**	**-0.1**
STV				S	**Sb**	**22 21 30.7**	**-0.1**
STV	**Sant Anna di V**	**1.01**	**297**	P	**Pg**	**22 21 18.1**	**-0.1**
STV				AML	AML		
	comp=E,149μm,0.6s						
STV				AML	AML		
	comp=N,176μm,0.2s						
ISO	**Isola**	**1.17**	**290**	Pg	**Pg**	**22 21 21.3**	**+0.1**
ISO				Sg	**Sg**	**22 21 36.4**	**-0.1**
DOI	**San Damiano**	**1.19**	**307**	AML	AML		
	comp=N,318μm,0.3s						
DOI				AML	AML		
	comp=E,414μm,0.5s						
EQUI	**Equi**	**1.20**	**71**	P	**Pb**	**22 21 21.3**	**+0.4**
EQUI				AML	AML		
	comp=N,91μm,1.6s						
EQUI				AML	AML		
	comp=E,69μm,1.6s						
CALF	**Calern**	**1.20**	**269**	Pg	**Pg**	**22 21 22.4**	**+0.6**
CALF				Sg	**Sg**	**22 21 38.4**	**+0.9**
PZZ	**Stroppo**	**1.27**	**305**	P	**Pb**	**22 21 22.7**	**+0.4**
PZZ				S	**Sn**	**22 21 38.9**	**+0.3**
PZZ				AML	AML		
	comp=E,230μm,1.4s						
PZZ				AML	AML		
	comp=N,278μm,0.4s						
PGF	**Pioggiola**	**1.28**	**166**	*e*Pn	**Pn**	**22 21 22.0**	**0.0**
PGF				*e*Sn	**Sb**	**22 21 38.0**	**-0.7**
	comp=N,2.9nm,0.2s						
VLC	**Villacollemand**	**1.36**	**74**	P	**Pg**	**22 21 25.1**	**+0.4**
MONC	**Moncucco Torin**	**1.36**	**340**	P	**Pg**	**22 21 24.7**	**-0.2**
MONC				AML	AML		
	comp=E,196μm,1.1s						
MONC				AML	AML		
	comp=N,137μm,1.6s						
CARD	**Cardoso**	**1.40**	**80**	P	**Pb**	**22 21 24.1**	**-0.2**
CARD				AML	AML		
	comp=N,110μm,1.0s						
CARD				AML	AML		
	comp=E,73μm,1.4s						
BHB	**Bricherasio**	**1.41**	**318**	P	**Pb**	**22 21 24.8**	**+0.2**
BHB				S	**Sb**	**22 21 42.8**	**+0.5**
BHB				AML	AML		
	comp=N,166μm,1.1s						
BHB				AML	AML		
	comp=E,119μm,1.5s						
FRF	**La Foret Royal**	**1.42**	**261**	*e*Pn	**Pn**	**22 21 23.8**	**+0.1**
FRF	**La Foret Royal**	**1.42**	**261**	*e*Pg	**Pg**	**22 21 26.5**	**+0.5**
FRF				*e*Sn	**Sn**	**22 21 42.2**	**+0.1**
	comp=E,17nm,0.2s						
SURF	**Saint Ours**	**1.44**	**299**	Pg	**Pg**	**22 21 26.3**	**-0.2**
SURF				Sg	**Sg**	**22 21 44.5**	**-0.8**
LMR	**La Mourre**	**1.57**	**254**	*e*Pn	**Pn**	**22 21 25.5**	**-0.3**
LMR	**La Mourre**	**1.57**	**254**	*e*Pg	**Pg**	**22 21 28.8**	**-0.1**
LMR				*e*Sn	**Sn**	**22 21 44.5**	**-1.3**
	comp=E,5.6nm,0.2s						
MBDF	**Montbardon**	**1.60**	**306**	*e*Pn	**Pb**	**22 21 27.7**	**-0.1**
MBDF	**Montbardon**	**1.60**	**306**	*e*P	**Pg**	**22 21 29.4**	**0.0**
MBDF				*e*Sn	**Sn**	**22 21 46.8**	**+0.1**
MBDF				*e*Sg	**Sg**	**22 21 49.9**	**-0.3**
	comp=E,31nm,0.3s						
OGAG	**Argentiere**	**1.61**	**295**	Pn	**Pg**	**22 21 31.3**	**+1.7**
RSP	**Reno Superiore**	**1.65**	**326**	P	**Pb**	**22 21 28.7**	**0.0**
RSP				AML	AML		
	comp=N,64μm,0.5s						
RSP				AML	AML		
	comp=E,58μm,1.0s						
OGDI	**Digne**	**1.67**	**282**	Pg	**Pg**	**22 21 33.0**	**+2.2**
BLAF	**les Blancs**	**1.84**	**276**	Pn	**Pb**	**22 21 32.8**	**+1.0**
MLYF	**Mely**	**2.04**	**276**	Pn	**Pb**	**22 21 35.7**	**+0.3**
LPG	**La Plagne**	**2.15**	**323**	*e*P	**Pb**	**22 21 37.5**	**+0.3**
	SNR=1.0						
LPG	**La Plagne**	**2.15**	**323**	*e*Pg	**Pg**	**22 21 40.6**	**+0.8**
LPG	

VIVF				*e*Sg	**Sg**	**22 22 33.0**	**-1.9**
	comp=E,2.2nm,0.3s						
LASF	**Ste Croix**	**3.42 276**		*e*Pn	**Pn**	**22 21 52.1**	**+0.8**
LASF	**Ste Croix**	**3.42 276**		*e*Pg	**Pg**	**22 22 03.7**	**-0.5**
LASF				*e*Sn	**Sn**	**22 22 30.6**	**-0.9**
	comp=E,1.7nm,0.3s						
HINF	**Hinteralfeld**	**4.20 344**		*e*Pn	**Pn**	**22 22 02.8**	**+0.8**
HAU	**Haudompre**	**4.49 341**		*e*Pn	**Pn**	**22 22 06.9**	**+0.9**
BGF	**Bois d'Agland**	**4.90 306**		*e*Pn	**Pn**	**22 22 12.3**	**+0.7**
FLN	**La Foliniere**	**8.00 312**		*e*Sn	**Sn**	**22 24 23.3**	**-0.9**
	comp=E,1.9nm,0.2s,SNR=1.0						

NNC ***15*** *22:20:40.9±3.3, 32°57N×77°77E, h0km, mb4.5, Error ellipse: s-maj=31.8km s-min=25.8km az=83.0*
IDC ***15*** *22:21:01.1±0.8, 34°33N×77°92E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.7/59, mbtmp3.8/17, ML3.6/4, MS3.2/11, Ms1 3.2/11, ms1mx2.9/36, Error ellipse: s-maj=25.1km s-min=14.8km az=52.0*
NDI ***15*** *22:21:01.8±1.6, 34°88N×78°18E, h15km±37km, ML4.0, mb4.2(NEIC)*
ISCJB ***15*** *22:21:02.7±0.3, 34°48N±0°03×77°91E±0°04, h10km, mb3.8/15, MS3.2/8, Error ellipse: s-maj=5.1km s-min=3.9km az=166.3*
BJI ***15*** *22:21:04.4±0.0, 34°41N×78°03E, h5km, mb4.3/10, mB4.5/12, ML4.2/2*
NEIC ***15*** *22:21:08.7±2.7, 34°54N±0°08×77°75E±0°09, h31km±6km, mb4.2/17*

ISC 15 22:21:04.3±0.4, 34°44N±0°04×77°86E±0°05, h10km, n97, σ2§26/96, mb4.0/19, MS3.1/8, 7C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**2.54 211**		*e*P	**Pb**	**22 21 49.3**	**-0.7**
DHRM				*e*S	**Sg**	**22 22 25.8**	**-0.1**
DHRM				IAML		22 22 32.9	
	comp=N,1μm,0.4s						
DHRM				IAML		22 22 33.8	
	comp=E,927nm,0.5s						
JMU	**Jammu**	**3.00 236**		*e*P	**Pn**	**22 21 55.0**	**+3.1**
JMU				*e*S	**Sb**	**22 22 35.0**	**+0.4**
SMLA	**Simla**	**3.35 190**		*e*P	**Pn**	**22 22 00.1**	**+3.5**
SMLA				*e*S	**Sb**	**22 22 43.5**	**-1.1**
SMLA				IAML		22 22 51.3	
	comp=N,722nm,0.4s						
SMLA				IAML		22 22 54.0	
	comp=E,792nm,0.6s						
CHCP	**Chirah Chowk**	**3.89 260**		P	**Pn**	**22 22 07.0**	**+2.8**
NIL	**Nilore**	**3.90 260**			**Pn**	**22 22 06.8**	**+2.5**
DDI	**Dehra Dun**	**4.11 178**		*e*P	**Pn**	**22 22 10.3**	**+3.1**
DDI				*e*S	**Sn**	**22 23 00.1**	**+4.9**
DDI				IAML		22 23 17.9	
	comp=N,166nm,0.2s						
DDI				IAML		22 23 23.3	
	comp=E,206nm,0.4s						
JOSI	**Joshimath**	**4.13 159**		*e*P	**Pn**	**22 22 08.9**	**+1.3**
JOSI				*e*S	**Sn**	**22 22 58.4**	**+2.4**
CEP	**Cherat**	**4.97 265**		P	**Pn**	**22 22 20.8**	**+1.7**
SARP	**Sargodha**	**5.02 241**		P	**Pn**	**22 22 20.3**	**+0.7**
THW	**Thamme Wali**	**5.36 254**		P	**Pn**	**22 22 25.7**	**+1.4**
KUDL	**Kundal**	**6.38 191**		*e*P	Pn	22 22 31.6	-6.8
KUDL				*e*S	**Sn**	**22 23 42.8**	**-8.4**
NRN	**Naryn**	**7.14 349**			**Pn**	**22 22 50.8**	**+1.7**
KBL	**Kabul**	**7.28 273**		Pn	**Pn**	**22 22 50.7**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.28 360**		Pn	**Pn**	**22 22 52.9**	**+1.8**
GAR	**Garm**	**7.57 309**			**Pn**	**22 22 54.0**	**-0.9**
ARSB	**Arslanbob**	**7.88 332**			**Pn**	**22 22 59.4**	**+0.4**
DANN	**Dangsing**	**7.89 139**		*e*P	**Pn**	**22 22 57.9**	**-1.4**
	comp=E,48nm,0.6s						
BTK	**Batken**	**7.93 317**			**Pn**	**22 22 59.8**	**0.0**
PRZ	**Przheval'sk**	**8.05 3**		Pn	**Pn**	**22 23 03.8**	**+2.4**
CHGR	**Chuyangaron**	**8.17 304**			**Pn**	**22 23 01.9**	**-1.0**
KOLN	**Koldanda**	**8.27 142**		*e*P	**Pn**	**22 23 04.8**	**+0.3**
	comp=E,23nm,0.5s						
AAK	**Ala-Archa**	**8.60 343**		P	**Pn**	**22 23 12.2**	**+3.2**
	comp=E,14nm,0.8s						
AAK				S	Sn	22 25 07.0	+21
	comp=E,42nm,1.5s						
AAK	**Ala-Archa**	**8.60 343**		Pn	**Pn**	**22 23 11.5**	**+2.5**
	comp=E,0.5nm,0.3s,baz=150,slow=9.2,SNR=11						
AAK				Lg	Lg	22 25 31.2	
	comp=E,0.3nm,0.3s,baz=252,slow=20,SNR=2.6						
AAK				LR	LR	22 27 05.8	
	comp=E,73nm,21.8s,baz=133,slow=42						
AAK	**Ala-Archa**	**8.60 343**		Pn	**Pn**	**22 23 10.3**	**+1.4**
GKN	**Gorkha**	**8.65 136**		*e*P	**Pn**	**22 23 08.3**	**-1.3**
TKM2	**Tokmak 2**	**8.65 349**		⇑P	**Pn**	**22 23 13.8**	**+4.1**
	comp=E,5.9nm,0.8s						
TKM2				⇓S	Sn	22 25 14.0	+27
	comp=E,35nm,1.4s						
FRU1	**Bishkek**	**8.73 344**		Pn	**Pn**	**22 23 12.3**	**+1.6**
MDOK	**Medeo**	**8.74 356**		⇑P	**Pn**	**22 23 14.5**	**+3.7**
	comp=E,11nm,0.7s						
MDOK				S	Sn	22 25 12.9	+23
	comp=E,50nm,1.0s						
PDGK	**Podgornoye**	**8.97 8**		⇓P	**Pn**	**22 23 16.0**	**+2.0**
	comp=E,14nm,0.6s						
PDGK				⇑S	Sn	22 25 22.2	+27
	comp=E,83nm,1.4s						
KKN	**Kakani**	**9.18 134**		*e*P	**Pn**	**22 23 14.3**	**-2.7**
DMN	**Daman**	**9.22 136**		*e*P	**Pn**	**22 23 15.2**	**-2.3**
	comp=E,10nm,0.3s						
PKIN	**Phulchoki**	**9.41 135**		*e*P	**Pn**	**22 23 17.2**	**-3.0**
PKI	**Pulchoki**	**9.42 135**		*e*P	**Pn**	**22 23 17.2**	**-3.2**
	comp=E,19nm,0.4s						
GUN	**Gumba**	**9.46 131**		*e*P	**Pn**	**22 23 17.9**	**-3.0**
	comp=E,24nm,0.5s						
JIRN	**Jiri**	**9.83 131**		*e*P	**Pn**	**22 23 22.5**	**-3.5**
	comp=E,57nm,0.5s						
KK31	**Karatay Array**	**10.38 329**		⇑P	**Pn**	**22 23 32.0**	**-1.1**
	comp=E,5.7nm,0.7s,baz=139,slow=14,SNR=45						
KK31				⇑S	Sn	22 25 49.6	+20
	comp=E,4.0nm,0.6s,baz=143,slow=23,SNR=3.7						
KK31	**Karatay Array**	**10.38 329**			**Pn**	**22 23 32.5**	**-0.6**
KKAR	**Karatay Array**	**10.38 329**			**Pn**	**22 23 32.1**	**-1.1**
KKAR	**Karatay Array**	**10.38 329**			**Pn**	**22 23 32.6**	**-0.5**
RAMN	**Ramite**	**10.59 132**		*e*P	**Pn**	**22 23 33.0**	**-3.4**
TAPN	**Taplejung**	**11.02 127**		*e*P	Pn	22 23 37.2	-5.1
ODAN	**Odare**	**11.15 130**		*e*P	Pn	22 23 39.0	-5.0
WMQ	**Urumqi**	**12.08 36**		*e*P	Pn	22 24 02.4	+5.9
WMQ				pP		22 24 08.1	
WMQ				sP		22 24 11.3	
WMQ				pmax	pmax		
	comp=E,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=E,87nm,4.1s						
LSA	**Lhasa**	**12.22 109**		Pn	**Pn**	**22 24 01.2**	**+2.3**
MAKZ	**Makanchi**	**12.75 13**		⇓P	**Pn**	**22 24 07.0**	**+1.4**
	comp=E,6.2nm,0.8s						
MAKZ				⇓S	Sn	22 26 52.6	+25
	comp=E,6.7nm,0.9s						
MAKZ	**Makanchi**	**12.75 13**			**Pn**	**22 24 06.4**	**+0.9**
MK31	**Makanchi Array**	**12.79 14**		⇑P	**Pn**	**22 24 07.7**	**+1.6**
	comp=E,0.4nm,0.2s,baz=196,slow=13,SNR=46						
MK31				⇑S	Sn	22 26 51.4	+23
	comp=E,0.2nm,0.3s,baz=197,slow=26,SNR=6.4						
MK31	**Makanchi Array**	**12.79 14**			**Pn**	**22 24 06.7**	**+0.5**
MK31					**Sn**	**22 26 28.9**	**+0.3**
MKAR	**Makanchi Array**	**12.79 14**		Pn	**Pn**	**22 24 04.9**	**-1.2**
	comp=E,0.2nm,0.3s,baz=192,slow=13,SNR=10						
MKAR				Sn	**Sn**	**22 26 24.9**	**-3.7**
	comp=E,0.3nm,0.3s,baz=194,slow=25,SNR=6.3						
MKAR				LR	LR	22 29 39.5	
	comp=E,52nm,18.8s,baz=204,slow=40						
MKAR	**Makanchi Array**	**12.79 14**			**Pn**	**22 24 06.3**	**+0.2**
MKAR					**Sn**	**22 26 27.0**	**-1.6**
SHL	**Shillong**	**15.02 122**		Pn	**P**	**22 24 40.9**	**-1.3**
SHL				IAmb	IAmb	22 24 54.5	
	comp=Z,4.8nm,0.5s						
KURBB	**Kurchatov Arra**	**16.18 2**		Pn	**Pn**	**22 24 50.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=188,slow=11,SNR=9.3						
KURK	**Kurchatov**	**16.28 2**		Pn	**Pn**	**22 24 54.4**	**+1.6**
KURK				IAmb	IAmb	22 25 03.3	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**16.31 288**		Pn	**Pn**	**22 24 55.7**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=80,slow=10,SNR=3.0						
GEYT				LR	LR	22 31 55.2	
	comp=Z,38nm,18.6s,baz=335,slow=40						
GEYT	**Alibeck**	**16.31 288**		Pn	**Pn**	**22 24 54.0**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**16.31 288**		Pn	**Pn**	**22 24 54.0**	**+0.5**
GTA	**Gaotai**	**18.23 68**		P	**P**	**22 25 16.8**	**-0.9**
GTA				pP	pP	22 25 19.8	-2.3
GTA				sP	sP	22 25 22.8	-1.4
BVAR	**Borovoye Array**	**19.33 346**		P	**P**	**22 25 29.0**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=158,slow=12,SNR=15						
BRVK	**Borovoye**	**19.38 346**		P	**P**	**22 25 31.0**	**+0.9**
BRVK				IAmb	IAmb	22 25 36.9	
	comp=Z,9.4nm,0.7s						
ABKAR	**Akbulak array**	**19.86 324**		P	**P**	**22 25 35.9**	**+0.6**
ABKAR	**Akbulak array**	**19.86 324**		P	**P**	**22 25 34.9**	**-0.4**
ABKAR				IAmb	IAmb	22 25 51.8	
	comp=Z,3.7nm,0.7s						
ZAA0	**Zalesovo Array**	**20.12 12**		P	Pn	22 25 39.9	0.0
ZALV	**Zalesovo Beam**	**20.12 12**		P	**P**	**22 25 36.5**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=207,slow=10.0,SNR=3.5						
ZALV				LR	LR	22 34 45.3	
	comp=Z,32nm,18.1s,baz=210,slow=41						
ZALV	**Zalesovo Beam**	**20.12 12**		P	Pn	22 25 40.6	+0.7
LZH	**Lanzhou**	**21.27 78**		*e*P	**P**	**22 25 54.5**	**+3.6**
LZH				pP	sP	22 26 02.6	+5.2
LZH				sP	pP	22 26 06.3	+11
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,54nm,4.7s						
AKTO	**Aktyubinsk**	**21.57 324**		P	**P**	**22 25 52.8**	**-1.1**
	comp=Z,3.6nm,0.5s,baz=119,slow=9.6,SNR=12						
AKTO				LR	LR	22 34 01.7	
	comp=Z,70nm,19.7s,baz=155,slow=36						
KMI	**Kunming**	**23.46 107**		P	**P**	**22 26 18.0**	**+3.8**
KMI				pP	sP	22 26 24.9	+4.1
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,40nm,4.0s						
CMAR	**Chiang Mai Arr**	**24.61 125**		P	**P**	**22 26 21.4**	**-3.4**
	comp=Z,1.3nm,0.8s,baz=310,slow=11,SNR=9.0						
CMAR	**Chiang Mai Arr**	**24.61 125**		P	**P**	**22 26 28.1**	**+3.2**
SONM	**Songino Array**	**25.15 49**		P	**P**	**22 26 27.6**	**-2.1**
	comp=Z,1.6nm,0.9s,baz=249,slow=9.6,SNR=9.5						
SONM	**Songino Array**	**25.15 49**		P	**P**	**22 26 28.5**	**-1.2**
TLY	**Talaya**	**25.33 39**		LR	LR	22 37 31.2	
	comp=Z,39nm,19.5s,baz=290,slow=39						
ULN	**Ulaanbaatar**	**25.58 50**		P	**P**	**22 26 36.6**	**+3.0**
ULN				IAmb	IAmb	22 26 37.6	
	comp=Z,2.5nm,0.9s						
ARU	**Arti**	**25.65 335**		P	**P**	**22 26 34.8**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=51,slow=5.5,SNR=4.3						
GNI	**Garni**	**26.86 292**		LR	LR	22 38 48.1	
	comp=Z,49nm,18.8s,baz=14,slow=40						
GNI	**Garni**	**26.86 292**		P	**P**	**22 26 45.7**	**+0.5**
GNI				IAmb	IAmb	22 27 40.8	
	comp=Z,12nm,1.2s						
HHC	**Hu-ho-hao-te**	**27.33 66**		*e*P	**P**	**22 26 54.6**	**+5.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RAYN	**Ar Rayn**	**30.20 258**		P	**P**	**22 27 15.6**	**+0.6**
RAYN				IAmb	IAmb	22 27 28.7	
	comp=Z,12nm,2.0s						
KULM	**Kulim**	**35.87 139**		P	**P**	**22 28 06.2**	**+1.7**
KULM				IAmb	IAmb	22 28 14.5	
	comp=Z,7.5nm,1.1s						
IPM	**Ipoh**	**36.75 139**		P	**P**	**22 28 15.4**	**+3.3**
AKASG	**Malin Array Be**	**38.58 310**		P	**P**	**22 28 26.1**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=86,slow=6.8,SNR=5.0						
AKASG				LR	LR	22 47 17.1	
	comp=Z,51nm,19.6s,baz=310,slow=41						
ATD	**Arta Tunnel**	**39.17 243**		P	**P**	**22 28 32.1**	**-0.4**
KSRS	**Korea Array**	**40.27 71**		LR	LR	22 48 14.5	
	comp=Z,29nm,18.3s,baz=124,slow=41						
MLR	**Muntele Rosu**	**40.65 302**		P	**P**	**22 28 46.2**	**+1.6**
FIA1	**FINESS Array S**	**42.32 326**		P	**P**	**22 28 56.9**	**-1.1**
FINES	**FINESS Array B**	**42.32 326**		P	**P**	**22 28 56.6**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=125,slow=10.0,SNR=12						
FINES	**FINESS Array B**	**42.32 326**		P	**P**	**22 28 57.3**	**-0.6**
VYHS	**Vyhne**	**45.31 307**		*e*P	P	22 29 35.2	+13
NB2	**NORSAR Subarra**	**49.37 324**		P	**P**	**22 29 51.9**	**-1.7**
	comp=Z,3.9nm,0.8s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**49.37 324**		P	**P**	**22 29 52.5**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=91,slow=7.5,SNR=5.2						
NOA				LR	LR	22 51 29.3	
	comp=Z,43nm,19.0s,baz=5.0,slow=37						
TORD	**Torodi Ar. Bea**	**71.35 273**		P	**P**	**22 32 23.1**	**-1.6**
	comp=Z,1.9nm,1.0s,baz=48,slow=5.2,SNR=6.0						
TORD				LR	LR	23 08 58.7	
	comp=Z,35nm,18.5s,baz=350,slow=40						
TORD	**Torodi Ar. Bea**	**71.35 273**		P	**P**	**22 32 25.5**	**+0.8**
ILAR	**Eielson Array**	**75.11 18**		P	**P**	**22 32 46.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=310,slow=4.5,SNR=5.5						
ILAR	**Eielson Array**	**75.11 18**		P	**P**	**22 32 47.1**	**+1.0**
WRA	**Warramunga Arr**	**76.20 126**		P	**P**	**22 32 50.3**	**-2.7**
	comp=Z,0.6nm,0.9s,baz=319,slow=6.5,SNR=6.1						
ASAR	**Alice Springs**	**78.55 129**		P	**P**	**22 33 05.0**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=324,slow=6.2,SNR=3.4						
YKA	**Yellowknife Ar**	**82.89 6**		P	**P**	**22 33 28.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=346,slow=4.9,SNR=2.7						

ISCJB ***15*** *22:21:40.6±0.9, 31°20S±0°07×138°64E±0°09, h17km, Error ellipse: s-maj=11.6km s-min=9.8km az=16.9*
IDC ***15*** *22:21:41.4±4.3, 31°05S×138°86E, h0km, mb1 2.8/3, mb1mx2.8/29, mbtmp2.5/3, ML2.3/3, Error ellipse: s-maj=97.6km s-min=17.6km az=35.0*
AUST ***15*** *22:21:41.9±0.5, 31°31S×138°62E, h10km, Error ellipse: s-maj=6.5km s-min=4.0km az=80.0*

ISC 15 22:21:41.2±0.9, 31°23S±0°06×138°66E±0°06, h17km, n8, σ2§50/13, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.87 334**		P	**Pg**	**22 21 59.7**	**+1.6**
	baz=0.9						
LCRK				S	**Sn**	**22 22 13.1**	**+2.2**
	baz=0.9						
HTT	**Hallett**	**2.20 174**		P	**Pn**	**22 22 17.2**	**+0.1**
	baz=2.1						
STKA	**Stephens Creek**	**2.59 105**		P	**Pn**	**22 22 23.3**	**+1.0**
	baz=2.6						
STKA	**Stephens Creek**	**2.59 105**		Pn	**Pn**	**22 22 23.1**	**+0.9**
	0.1nm,0.3s,baz=291,slow=12,SNR=2.3						
STKA				Pg	**Pb**	**22 22 26.5**	**-0.6**
	0.9nm,0.3s,baz=288,slow=13,SNR=11						
STKA				Lg	Lg	22 23 00.6	
	1.8nm,0.3s,baz=210,slow=20,SNR=3.9						
BBOO	**Buckleboo**	**2.71 234**		P	**Pn**	**22 22 24.7**	**+0.7**
	baz=2.6						
BBOO				S	**Sn**	**22 22 56.7**	**+0.2**
	baz=2.6						
MULG	**Mulgathing**	**4.07 282**		P	**Pn**	**22 22 44.2**	**+1.4**
	baz=4.1						
ASAR	**Alice Springs**	**8.64 330**		Pn	**Pn**	**22 23 47.4**	**+1.9**
	0.1nm,0.3s,baz=153,slow=12,SNR=2.8						
ASAR				Sn	**Sn**	**22 25 18.4**	**-4.2**
	0.2nm,0.3s,baz=154,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**11.90 340**		Pn	**Pn**	**22 24 30.3**	**+0.1**
	0.0nm,0.3s,baz=159,slow=13,SNR=3.7						
WRA				Sn	**Sn**	**22 26 37.1**	**-5.5**
	baz=158,slow=26,SNR=2.5						

SNET ***15*** *22:37:16.4±0.5, 13°28N×90°18W, h25km±6km, MD2.7*
GCG ***15*** *22:37:24.2±0.4, 14°21N×90°10W, h36km±999km, MD3.5*

ISC 15 22:37:18.7±4.3, 13°5N±0°4×90°17W±0°07, h58km, n6, σ1§22/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.65 55**		*e*P	**Pn**	**22 37 31.4**	**-1.0**
SBLS				*e*S	**Sn**	**22 37 43.7**	**+1.2**
RTR	**El Retiro**	**0.66 50**		*e*P	**Pn**	**22 37 32.0**	**-0.6**
RTR				*e*S	**Sn**	**22 37 43.9**	**+1.2**
SNJE	**San Jose**	**0.68 54**		*e*P	**Pn**	**22 37 31.9**	**-0.9**
SNJE				*e*S	**Sn**	**22 37 43.9**	**+0.9**
IXG	**Ixpaco**	**0.75 339**		*e*P	**Pn**	**22 37 33.1**	**-0.5**
FUG	**Fuego 3**	**1.17 326**		*e*P	**Pn**	**22 37 38.7**	**-0.5**
STG3	**Santiaguito 3,**	**1.84 312**		*e*P	**Pn**	**22 37 49.4**	**+1.3**
STG3				*e*S	**Sn**	**22 38 09.0**	**-1.4**

ISCJB ***15*** *22:38:14.8±1.4, 35°47N±0°07×77°7E±0°2, h33km, mb3.6/2, Error ellipse: s-maj=26.9km s-min=8.2km az=167.5*
IDC ***15*** *22:38:14.8±3.6, 35°70N×77°15E, h0km, mb3.9/2, mb1 3.7/3, mb1mx3.3/27, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=59.4km s-min=42.3km az=169.0*

ISC 15 22:38:17.4±1.6, 35°42N±0°10×77°5E±0°2, h35km, n8, σ1§70/9, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**8.83 141**		*e*P	**Pn**	**22 40 23.7**	**+0.8**
	5.3nm,0.3s						
GKN	**Gorkha**	**9.57 139**		*e*P	**Pn**	**22 40 33.6**	**+0.7**
	4.3nm,0.3s						
JIRN	**Jiri**	**10.71 134**		*e*P	**Pn**	**22 40 47.7**	**-1.0**
RAMN	**Ramite**	**11.48 135**		*e*P	**Pn**	**22 40 57.6**	**-1.6**
TAPN	**Taplejung**	**11.86 130**		*e*P	**Pn**	**22 41 02.5**	**-1.9**
	7.7nm,0.8s						
MKAR	**Makanchi Array**	**11.92 16**		Pn	**Pn**	**22 41 04.6**	**-0.2**
	0.1nm,0.3s,baz=197,slow=13,SNR=3.6						
MKAR				Sn	**Sn**	**22 43 15.9**	**-0.5**
	0.1nm,0.3s,baz=204,slow=23,SNR=3.2						
SONM	**Songino Array**	**24.75 51**		P	**P**	**22 43 38.6**	**+2.9**
	0.5nm,0.6s,baz=255,slow=8.8,SNR=3.7						
FINES	**FINESS Array B**	**41.34 325**		P	**P**	**22 45 58.8**	**-0.7**
	3.8nm,1.0s,baz=112,slow=8.8,SNR=4.1						

TAP 15 22:55:28.1, 24°33N×121°46E, h8km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.12 325**		*i* P	Pg	22 55 31.9	+1.0
	baz=325						
NNSB				S	Sg	22 55 33.8	+1.0
	baz=325						
ETLH	**Xiulin Townshi**	**0.12 170**		P	Pg	22 55 31.8	+0.9
	baz=169						
ETLH				S	Sg	22 55 33.7	+0.9
	baz=169						
NNS	**Nan Shan**	**0.14 325**		*e*P	Pg	22 55 31.7	+0.6
	baz=326						
NNS				*e*S	Sg	22 55 34.0	+0.8
	baz=326						
NACB	**Ninganchiao**	**0.20 141**		*e*P	Pg	22 55 33.1	+0.9
	baz=141						
WHF	**Hehuan Shan**	**0.25 224**		*e*P	Pb	22 55 34.4	-0.8
	baz=222						
WHF				*e*S	Sb	22 55 38.7	-1.3
	baz=222						
NDT	**Datong Townshi**	**0.28 10**		*e*P	Pb	22 55 34.6	-0.8
	baz=10.0						
TWD	**Chiawan**	**0.28 153**		*e*P	Pb	22 55 34.8	-0.6
	baz=151						
TDCB	**Techi**	**0.28 255**		*e*P	Pb	22 55 34.9	-0.7
	baz=254						
TDCB				*e*S	Sg	22 55 38.9	+1.3
	baz=254						
ENTT	**Nioudou**	**0.33 18**		*e*P	Pb	22 55 35.5	-0.7
	baz=18						
YHNB	**Yeheng**	**0.35 348**		*e*P	Pb	22 55 36.0	-0.6
	baz=347						

TAP 15 22:55:31.2, 24°41N×121°79E, h13km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.04 299**		*e*P	Pg	22 55 34.2	+0.6
	baz=298						
NANB				*e*S	Sg	22 55 36.0	+0.7
	baz=298						
TWC	**Suao**	**0.21 15**		P	Pb	22 55 36.5	-0.4
	baz=17						
TWC				S	Sg	22 55 39.6	+0.7
	baz=17						
NACB	**Ninganchiao**	**0.29 217**		*e*P	Pb	22 55 37.9	-0.5
	baz=217						
NACB				*e*S	Sb	22 55 42.6	-0.6
	baz=217						
ENTT	**Nioudou**	**0.31 319**		*e*P	Pb	22 55 38.8	+0.1
	baz=319						
ENTT				*e*S	Sb	22 55 43.4	-0.3
	baz=319						
NDT	**Datong Townshi**	**0.32 308**		*e*P	Pb	22 55 39.1	+0.2
	baz=307						
NDT				*e*S	Sb	22 55 43.9	-0.1
	baz=307						
NDT	**Datong Townshi**	**0.32 308**		*e*S	Pb	22 55 39.1	+0.3
	baz=10.0						
TWE	**Neicheng**	**0.33 340**		*e*P	Pb	22 55 39.1	+0.1
	baz=342						
TWE				*e*S	Sb	22 55 43.7	-0.6
	baz=342						
ETLH	**Xiulin Townshi**	**0.34 235**		*e*P	Pb	22 55 39.0	-0.3
	baz=234						
ETLH				*e*S	Sb	22 55 44.4	-0.4
	baz=234						
NNSB	**Datong**	**0.37 273**		*e*S	Sb	22 55 45.0	-0.6
	baz=273						
TWD	**Chiawan**	**0.37 208**		*e*P	Pb	22 55 39.4	-0.4
	baz=207						
TWD				*e*S	Sg	22 55 44.3	+0.6
	baz=207						
NNS	**Nan Shan**	**0.38 275**		*e*P	Pb	22 55 40.2	+0.3
	baz=274						
NNS				*e*S	Sb	22 55 45.2	-0.7
	baz=274						
NWLT	**Wulai**	**0.45 325**		*e*P	Pb	22 55 41.1	0.0
	baz=324						
NWLT				*e*S	Sb	22 55 47.3	-0.5
	baz=324						
YHNB	**Yeheng**	**0.46 305**		*e*P	Pb	22 55 41.7	+0.4
	baz=304						
YHNB				*e*S	Sb	22 55 47.9	-0.2
	baz=304						
NSK	**Sanguang**	**0.47 304**		*e*P	Pb	22 55 41.9	+0.4
	baz=304						
NSK				*e*S	Sb	22 55 48.4	-0.2
	baz=304						
WHF	**Hehuan Shan**	**0.55 241**		*e*P	Pb	22 55 42.9	0.0
	baz=240						
WHF				*e*S	Sb	22 55 50.8	-0.1
	baz=240						

VNA1	Neumayer--Stat	18.80	139	P		Pn	23 21 57.4 +2.5
VNA2	Neumayer--Watz	19.14	140	P		Pn	23 22 00.8 +1.8
	baz=285,slow=12						
SNAA	Sanae	20.73	141	P		Pn	23 22 21.1 +3.2
SNAA	Sanae	20.73	141	P		Pn	23 22 17.7 -0.2
	16nm,0.9s,baz=284,slow=9.6,SNR=38						
SNAA				S		S	23 26 02.5 -4.2
	2.5nm,0.8s,baz=295,slow=17,SNR=5.4						
SNAA	Sanae	20.73	141	P		Pn	23 22 18.2 +0.3
SNAA				IAmb		IAmb	23 22 22.2
	comp=Z,19nm,0.9s						
TRQA	Tornquist	24.15	331	P		P	23 22 52.2 +0.9
TRQA				IAmb		IAmb	23 22 54.2
	comp=Z,18nm,0.9s						
PLCA	Paso Flores	24.33	313	P		P	23 22 53.1 +0.1
	comp=Z,3.3nm,0.7s,baz=186,slow=9.2,SNR=11						
PLCA				LR		LR	23 31 37.8
	comp=Z,100nm,19.5s,baz=196,slow=35						
PLCA	Paso Flores	24.33	313	P		P	23 22 53.6 +0.6
GO06	Curarrehue	25.68	313	P		P	23 23 04.5 -0.8
QSPA	South Pole Qui	29.93	180	P		P	23 23 44.7 +1.6
	comp=Z,22nm,0.9s,baz=174,slow=4.7,SNR=53						
QSPA	South Pole Qui	29.93	180	P		P	23 23 44.9 +1.7
CPUP	Villa Florida	34.67	344	LR		LR	23 37 31.0
	comp=Z,54nm,21.9s,baz=177,slow=35						
GO02	Mina Guanaco	38.37	326	P		P	23 24 56.9 +0.2
GO02				IAmb		IAmb	23 25 11.0
	comp=Z,10nm,1.1s						
MAW	Mawson	42.65	148	P		P	23 25 32.6 +1.3
	comp=Z,2.6nm,0.7s,baz=212,slow=9.5,SNR=5.1						
MAW				LR		LR	23 42 34.8
	comp=Z,89nm,18.5s,baz=238,slow=35						
MAW	Mawson	42.65	148	IAmb		IAmb	23 25 35.4
	comp=Z,1.0nm,0.9s						
MNMC	Minye Minye	44.12	329	P		P	23 25 44.8 +0.8
MNMC				IAmb		IAmb	23 25 59.0
	comp=Z,12nm,0.8s						
BDFB	Brasilia	44.60	359	P		P	23 25 46.7 -1.0
BDFB				IAmb		IAmb	23 25 56.7
	comp=Z,8.7nm,1.1s						
SIV	San Ignacio	45.38	341	P		P	23 25 54.0 +0.2
	comp=Z,1.2nm,0.7s,baz=158,slow=8.3,SNR=7.5						
LPAZ	La Paz	46.49	332	LR		LR	23 48 38.8
	comp=Z,27nm,18.3s,baz=211,slow=40						
LPAZ	La Paz	46.49	332	P		P	23 26 03.3 +0.1
SUR	Sutherland	51.71	89	P		P	23 26 44.3 +1.7
	comp=Z,18nm,1.1s,baz=204,slow=8.1,SNR=3.1						
SUR	Sutherland	51.71	89	P		P	23 26 42.3 -0.2
SAML	Samuel	52.63	340	P		P	23 26 49.8 +0.6
SAML				IAmb		IAmb	23 26 57.2
	comp=Z,4.4nm,0.8s						
BOSA	Boshof	56.99	91	P		P	23 27 20.6 -0.3
	comp=Z,2.2nm,0.8s,baz=196,slow=7.4,SNR=2.4						
BOSA	Boshof	56.99	91	IAmb		IAmb	23 27 29.1
	comp=Z,6.5nm,1.1s						
H10N3	ASCENSION HYDR	57.83	39	T		T	00 30 19.6
	baz=199,slow=75,SNR=32						
H10N1	ASCENSION HYDR	57.83	39	T		T	00 30 17.6
	baz=199,slow=75,SNR=28						
H10N2	ASCENSION HYDR	57.85	39	T		T	00 30 19.3
	baz=199,slow=75,SNR=31						
OTAV	Otavalo	65.03	325	P		P	23 28 16.0 0.0
OTAV				IAmb		IAmb	23 28 18.7
	comp=Z,3.4nm,0.8s						
PTCN	Pitcairn Islan	65.06	263	P		P	23 28 13.8 -1.8
BHW	Baring Head	72.92	212	P		P	23 29 04.5 +0.3
THZ	Tophouse	73.09	210	P		P	23 29 05.9 +0.6
NNZ	Nelson	73.49	211	P		P	23 29 08.4 +0.8
DBIC	Dimbokro	74.62	44	LR		LR	23 54 39.8
	comp=Z,39nm,18.2s,baz=160,slow=30						
DBIC	Dimbokro	74.62	44	P		P	23 29 14.2 -0.2
DBIC				IAmb		IAmb	23 29 28.1
	comp=Z,9.2nm,1.1s						
TORD	Torodi Ar. Bea	82.96	48	P		P	23 30 00.8 +0.5
	comp=Z,0.8nm,0.8s,baz=201,slow=6.0,SNR=5.2						
TORD				LR		LR	00 00 16.0
	comp=Z,41nm,20.0s,baz=335,slow=31						
TORD	Torodi Ar. Bea	82.96	48	P		P	23 30 00.6 +0.4
GTBY	Guantanamo Bay	83.09	334	P		P	23 30 00.7 0.0
KMBO	Kilima Mbogo	86.29	86	LR		LR	00 03 49.6
	comp=Z,22nm,18.3s,baz=92,slow=32						
ASAR	Alice Springs	96.33	181	P		P	23 31 02.5 -1.6
	comp=Z,0.6nm,0.9s,baz=174,slow=3.5,SNR=4.8						
WRA	Warramunga Arr	100.03	182	P		Pdif	23 31 19.5 -1.2
	comp=Z,0.5nm,1.0s,baz=180,slow=4.2,SNR=6.3						
AKASG	Malin Array Be	126.53	50	PKP		PKPdf	23 36 35.7 -1.5
	comp=Z,0.6nm,0.5s,baz=240,slow=1.9,SNR=3.0						
CMAR	Chiang Mai Arr	131.72	135	PKP		PKPdf	23 36 47.9 -0.2
	comp=Z,0.8nm,0.4s,baz=229,slow=3.5,SNR=3.8						
AAK	Ala-Archa	141.13	90	PKP		PKiKP	23 37 06.6 -1.2
	comp=Z,0.7nm,0.5s,baz=252,slow=6.4,SNR=3.4						
IL31		145.02	313			PKiKP	23 37 16.9 +2.1
ILAR	Eielson Array	145.02	313	PKP		PKPbc	23 37 09.9 -0.6
	comp=Z,1.5nm,0.6s,baz=155,slow=1.5,SNR=18						
ILAR	Eielson Array	145.02	313			PKPbc	23 37 09.8 -0.7
ILAR						sPKPdf	23 37 17.2 +2.8
RND	Reindeer	145.04	310			PKiKP	23 37 15.5 +0.5
CCB	Clear Creek Bu	145.29	312			PKiKP	23 37 16.9 +1.5
WRH	Wood River Hil	145.31	312			PKiKP	23 37 17.6 +2.2
BMAR	Burnt Mountain	145.55	317			PKPdf	23 37 11.6 -0.3
BMAR				pPKPdf		sPKPab	23 37 18.7 +2.9
BWN	Browne	145.67	311	pPKPdf		PKiKP	23 37 19.6 +3.5
BRVK	Borovoye	146.13	74			PKPab	23 37 14.7 -0.2
BVAR	Borovoye Array	146.16	74	PKPbc		PKPbc	23 37 13.9 -0.5
	comp=Z,3.0nm,0.8s,baz=253,slow=1.5,SNR=11						
MKAR	Makanchi Array	147.98	92	PKPbc		PKPbc	23 37 18.5 -1.2
	comp=Z,1.5nm,0.5s,baz=200,slow=1.9,SNR=24						
MKAR	Makanchi Array	147.98	92			PKPbc	23 37 18.8 -1.0
IMAR	Indian Mountai	148.12	312			PKPbc	23 37 19.2 -0.3
KURBB	Kurchatov Arra	148.64	83	PKPbc		PKPbc	23 37 20.6 -0.6
	comp=Z,1.1nm,0.7s,baz=234,slow=3.1,SNR=7.8						
KURK	Kurchatov	148.75	83			PKPbc	23 37 20.6 -0.9
ZALV	Zalesovo Beam	153.72	82	PKPbc		PKPbc	23 37 31.2 -1.8
	comp=Z,0.4nm,0.3s,baz=224,slow=4.0,SNR=3.3						

*ISCJB **15** 23:42:27.8±3.0, 18°.5S±0°.3×169°.6E±0°.3, h246km, mb3.7/4, Error ellipse: s-maj=52.6km s-min=24.4km az=39.2*
*IDC **15** 23:42:31.4±5.6, 18°.82S×169°.54E, h252km±38km, mb3.4/5, mb1 3.5/6, mb1mx3.2/40, mbtmp4.0/6, Error ellipse: s-maj=66.8km s-min=20.8km az=30.0*
ISC 15 23:42:30.2±2.1, 18°.7S±0°.2×169°.6E±0°.2, h246km, n7, σ0.9 41/7, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.46	221	P	Pn	23 43 39.4	+0.1
	2.7nm,0.3s,baz=53,slow=16,SNR=41						
URZ	Urewera	20.55	163	P	P	23 46 50.0	-0.2
	2.3nm,0.5s,baz=344,slow=2.6,SNR=3.7						
STKA	Stephens Creek	26.41	237	P	P	23 48 02.5	+0.3
	1.4nm,0.6s,baz=55,slow=9.4,SNR=5.9						
WRA	Warramunga Arr	33.26	262	P	P	23 48 44.1	-0.6
	0.4nm,0.5s,baz=95,slow=8.4,SNR=17						
ASAR	Alice Springs	33.59	255	P	P	23 48 47.4	-0.2
	3.7nm,0.5s,baz=83,slow=9.0,SNR=81						
FITZ	Fitzroy Crossi	41.63	264	P	P	23 49 55.0	+0.2
	1.5nm,0.7s,baz=118,slow=3.5,SNR=3.8						
GERES	GERESS Array B	144.19	333	PKP	PKPdf	00 01 37.0	+0.2
	0.4nm,0.6s,baz=21,slow=3.7,SNR=3.7						

*NNC **15** 23:42:13.3±3.2, 33°.43N×76°.84E, h0km, mb4.2, Error ellipse: s-maj=31.5km s-min=24.7km az=87.0*
*ISCJB **15** 23:42:33.7±0.5, 35°.21N±0°.05×77°.16E±0°.09, h10km, mb3.7/10, MS2.4/1, Error ellipse: s-maj=11.9km s-min=3.9km az=152.5*
*IDC **15** 23:42:33.6±0.8, 35°.22N×77°.16E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.6/56, mbtmp3.7/16, ML3.5/4, MS2.5/1, Ms1 2.7/1, ms1mx2.3/44, Error ellipse: s-maj=22.4km s-min=14.6km az=50.0*
*BJI **15** 23:42:37.3±0.0, 35°.46N×77°.21E, h6km, mb4.1/1, ML3.9/3*
ISC 15 23:42:36.6±0.8, 35°.34N±0°.06×77°.38E±0°.10, h10km, n36, σ1.9 93/40, mb3.7/10, 3C-5D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	4.32	345	Pg	Pn	23 43 45.5	+3.1
KSH				Sn	Sn	23 44 34.8	+1.9
KSH				smax	smax		
	comp=N,520nm,0.8s						
KSH				smax	smax		
	comp=E,360nm,0.4s						
AAK	Ala-Archa	7.62	344	⇓P	Pn	23 44 30.7	+2.8
	4.5nm,0.9s						
AAK				⇑S	Sb	23 46 17.9	-2.1
	13nm,0.8s						
AAK	Ala-Archa	7.62	344	Pn	Pn	23 44 32.1	+4.2
	0.3nm,0.3s,baz=164,slow=7.4,SNR=6.2						
AAK				Sn	Sn	23 45 57.5	+3.1
	0.5nm,0.3s,baz=162,slow=20,SNR=3.9						
AAK				Lg	Lg	23 46 30.0	
	0.9nm,0.3s,baz=228,slow=22,SNR=5.2						
TKM2	Tokmak 2	7.70	350	⇑P	Pn	23 44 32.4	+3.5
	5.1nm,1.2s						
TKM2				⇓S	Sb	23 46 20.4	-1.6
	6.3nm,0.6s						
MDOK	Medeo	7.82	358	P	Pn	23 44 34.6	+4.1
	8.6nm,1.0s						
MDOK				S	Sb	23 46 24.7	-0.7
	50nm,1.1s						
PDGK	Podgornoye	8.14	11	⇓P	Pn	23 44 38.1	+3.1
	6.4nm,0.6s						
PDGK				⇓S	Sb	23 46 37.6	+2.8
	11nm,0.7s						
DANN	Dangsing	8.83	140	*e*P	Pn	23 44 45.2	+0.6
KOLN	Koldanda	9.22	143	*e*P	Pn	23 44 51.8	+1.9
	7.9nm,0.3s						
KK31	Karatay Array	9.40	328	P	Pn	23 44 51.2	-0.9
	1.3nm,0.5s,baz=127,slow=12,SNR=11						
KK31				⇑S	Sn	23 46 51.2	+13
	1.6nm,0.6s						
GKN	Gorkha	9.58	138	*e*P	Pn	23 44 55.4	+0.7
KKN	Kakani	10.10	136	*e*P	Pn	23 45 02.6	+0.7
DMN	Daman	10.14	137	*e*P	Pn	23 45 04.0	+1.5
PKIN	Phulchoki	10.33	136	*e*P	Pn	23 45 05.2	+0.1
PKI	Pulchoki	10.34	136	*e*P	Pn	23 45 06.1	+0.8
	13nm,0.5s						
GUN	Gumba	10.36	133	*e*P	Pn	23 45 06.5	+1.0
	18nm,0.4s						
JIRN	Jiri	10.73	133	*e*P	Pn	23 45 10.9	+0.3
	27nm,0.4s						
RAMN	Ramite	11.50	134	*e*P	Pn	23 45 20.6	-0.5
	7.6nm,0.3s						
WMQ	Urumqi	11.62	40	*e*P	Pn	23 45 24.4	+2.0
WMQ				pP		23 45 28.9	
WMQ				sP		23 45 33.1	
TAPN	Taplejung	11.89	129	*e*P	Pn	23 45 25.8	-0.6
MK31	Makanchi Array	12.03	16	P	Pn	23 45 30.2	+2.2
	1.5nm,0.7s,baz=197,slow=12,SNR=24						
MK31				⇓S	Sn	23 48 09.3	+27
	15nm,1.4s,baz=198,slow=26,SNR=7.5						
MKAR	Makanchi Array	12.03	16	Pn	Pn	23 45 28.4	+0.4
	0.4nm,0.3s,baz=200,slow=12,SNR=20						
MKAR				Sn	Sn	23 47 39.7	-2.5
	0.2nm,0.3s,baz=196,slow=21,SNR=3.6						
ODAN	Odare	12.04	132	*e*P	Pn	23 45 28.2	-0.2
	9.6nm,0.4s						
KURBB	Kurchatov Arra	15.30	3	Pn	Pn	23 46 10.9	-1.6
	baz=192,slow=12,SNR=2.8						
BVAR	Borovoye Array	18.36	347	P	Pn	23 46 49.3	-1.8
	0.4nm,0.3s,baz=154,slow=11,SNR=10.0						
ZALV	Zalesovo Beam	19.32	13	P	P	23 47 02.8	+1.1
	0.4nm,0.3s,baz=212,slow=11,SNR=6.8						
AKTO	Aktyubinsk	20.62	323	P	P	23 47 14.9	-1.0
	1.4nm,0.6s,baz=115,slow=14,SNR=4.9						
ARU	Arti	24.67	335	P	P	23 47 56.1	-1.2
	0.7nm,0.4s,baz=149,slow=12,SNR=2.9						
SONM	Songino Array	24.88	51	P	P	23 48 00.3	+0.8
	1.3nm,0.7s,baz=248,slow=9.6,SNR=10						
CMAR	Chiang Mai Arr	25.46	126	P	P	23 48 05.2	+0.5
	1.0nm,0.5s,baz=312,slow=10,SNR=5.6						
CMAR				LR	LR	00 00 39.0	
	comp=Z,11nm,18.3s,baz=310,slow=42						
BRTR	Keskin Array B	34.70	291	P	P	23 49 26.0	-0.8
	0.5nm,0.7s,baz=91,slow=12,SNR=3.0						
FINES	FINESS Array B	41.35	325	P	P	23 50 20.2	-2.2
	4.7nm,0.8s,baz=121,slow=9.4,SNR=13						
ARCES	ARCESS Array B	44.23	337	P	P	23 50 44.0	-1.5
	3.2nm,0.8s,baz=106,slow=9.5,SNR=5.0						
NOA	NORSAR Array B	48.41	323	P	P	23 51 18.0	-0.6
	0.8nm,0.5s,baz=93,slow=7.6,SNR=3.7						
TORD	Torodi Ar. Bea	70.91	273	P	P	23 53 50.8	-3.5
	0.6nm,0.5s,baz=46,slow=3.9,SNR=16						
WRA	Warramunga Arr	77.05	126	P	P	23 54 28.9	-1.2
	0.4nm,0.6s,baz=330,slow=5.4,SNR=10.0						
ASAR	Alice Springs	79.42	129	P	P	23 54 42.0	-1.1
	0.3nm,0.6s,baz=324,slow=5.2,SNR=4.0						

IDC 16 00:15:00.1±4.4, 24°.53S×176°.39W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/34, mbtmp4.2/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=212.0km s-min=45.3km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	Tubuai	24.63	93	*e*T	T	00 45 21.3	
	11nm,0.3s						
PAE	Paea	25.90	80	*e*T	T	00 46 52.0	
	5.9nm,0.3s						
PPT2	Papeete2	25.93	80	*e*LR	LR	00 26 53.3	
	comp=Z,63nm,25.5s						
PPT	Papeete	25.93	80	LR	LR	00 27 51.8	
	comp=Z,24nm,19.6s,baz=82,slow=30						
MEH	Mehetia	27.19	81	*e*T	T	00 48 29.2	
	20nm,0.3s						
CTA	Charters Tower	34.77	270	P	P	00 21 53.7	+1.1
	1.3nm,0.3s,baz=88,slow=11,SNR=4.1						
STKA	Stephens Creek	37.57	249	LR	LR	00 35 52.0	
	comp=Z,32nm,20.6s,baz=25,slow=33						
ASAR	Alice Springs	45.18	260	P	P	00 23 18.8	-0.3
	1.6nm,0.8s,baz=95,slow=8.3,SNR=15						
WRA	Warramunga Arr	45.65	266	P	P	00 23 21.4	-1.4
	0.7nm,0.4s,baz=103,slow=8.3,SNR=22						
WRA				LR	LR	00 41 45.7	
	comp=Z,32nm,18.1s,baz=65,slow=35						
CMAR	Chiang Mai Arr	92.84	289	P	P	00 28 17.1	+1.9
	0.7nm,0.3s,baz=132,slow=1.3,SNR=4.4						
AKASG	Malin Array Be	147.23	329	PKPbc	PKPdf	00 34 43.6	+0.8
	0.9nm,0.5s,baz=37,slow=3.8,SNR=6.3						
BRTR	Keskin Array B	150.57	308	PKPbc	PKPbc	00 34 53.8	-0.5
	0.9nm,0.8s,baz=40,slow=2.5,SNR=3.6						

IDC 16 00:19:28.9±1.8, 1°.07S×126°.03E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, Error ellipse: s-maj=169.7km s-min=24.9km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.44	157	P	P	00 24 08.1	-0.1
	1.1nm,0.4s,baz=336,slow=11,SNR=14						
ASAR	Alice Springs	23.72	162	P	P	00 24 43.0	+0.1
	0.8nm,0.3s,baz=343,slow=12,SNR=13						
MKAR	Makanchi Array	61.13	327	P	P	00 29 45.1	-0.1
	0.4nm,0.7s,baz=118,slow=8.3,SNR=2.3						

IDC 16 00:26:29.6±2.2, 7°.11S×130°.24E, h89km±28km, mb3.1/1, mb1 3.5/5, mb1mx3.2/33, mbtmp3.7/5, Error ellipse: s-maj=40.0km s-min=17.4km az=99.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.29	9	P	Pn	00 28 01.2	+1.3
	1.2nm,0.3s,baz=204,slow=20,SNR=14						
SIJI				S	Sn	00 29 10.4	+0.1
	2.2nm,0.3s,baz=199,slow=22,SNR=4.2						
BATI	Baumata	7.19	244	P	Pn	00 28 11.4	-0.8
	9.5nm,0.3s,baz=159,slow=2.7,SNR=7.7						
FITZ	Fitzroy Crossi	11.80	202	P	Pn	00 29 11.6	-3.4
	1.9nm,0.3s,baz=35,slow=12,SNR=56						
FITZ				S	Sn	00 31 12.4	-12
	1.6nm,0.3s,baz=157,slow=19,SNR=7.6						
WRA	Warramunga Arr	13.36	163	P	Pn	00 29 34.4	-1.3
	0.4nm,0.3s,baz=349,slow=13,SNR=30						
WRA				S	Sn	00 31 54.3	-8.4
	1.6nm,0.3s,baz=329,slow=22,SNR=12						
ASAR	Alice Springs	16.83	168	P	P	00 30 21.5	+0.9
	0.2nm,0.3s,baz=345,slow=10,SNR=9.5						
ASAR				S	Sn	00 33 14.9	-12
	0.2nm,0.3s,baz=356,slow=27,SNR=3.8						
MKAR	Makanchi Array	68.45	327	P	P	00 37 22.2	0.0
	0.1nm,0.3s,baz=116,slow=7.0,SNR=4.2						

IDC 16 00:52:12.1±0.8, 56°.77S×150°.87W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/26, mbtmp4.0/5, MS3.1/1, Ms1 3.1/1, ms1mx2.8/22, Error ellipse: s-maj=113.1km s-min=21.6km az=7.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	27.23	282	LR	LR	01 06 10.1	
	comp=Z,40nm,19.4s,baz=240,slow=31						
PLCA	Paso Flores	52.20	109	P	P	01 01 24.7	+0.2
	1.5nm,0.7s,baz=237,slow=6.0,SNR=3.2						
ASAR	Alice Springs	62.49	268	P	P	01 02 37.1	-0.2
	1.4nm,0.7s,baz=146,slow=6.8,SNR=14						
H01W1	Cape Leeuwin H	64.14	246	T	T	02 13 01.1	
	baz=141,slow=76,SNR=5.5						
H01W2	Cape Leeuwin H	64.15	245	T	T	02 12 54.8	
	baz=141,slow=76,SNR=6.4						
H01W3	Cape Leeuwin H	64.16	246	T	T	02 12 54.5	
	baz=141,slow=76,SNR=6.9						
WRA	Warramunga Arr	65.23	271	P	P	01 02 55.6	+0.2
	0.7nm,0.9s,baz=149,slow=5.8,SNR=4.6						
CPUP	Villa Florida	70.26	108	P	P	01 03 26.4	-0.6
	3.0nm,0.8s,baz=212,slow=3.1,SNR=3.4						
LPAZ	La Paz	72.57	93	P	P	01 03 42.2	+0.4
	2.1nm,0.9s,baz=246,slow=2.2,SNR=5.6						
H10S3	ASCENSION HYDR	105.28	135	T	T	03 04 27.8	
	baz=205,slow=74,SNR=8.5						
H10S2	ASCENSION HYDR	105.28	135	T	T	03 04 28.0	
	baz=15,slow=74,SNR=14						
H10N3	ASCENSION HYDR	106.36	135	T	T	03 05 48.4	
	baz=204,slow=75,SNR=14						
H10N1	ASCENSION HYDR	106.36	135	T	T	03 05 56.0	
	baz=204,slow=75,SNR=16						
H10N2	ASCENSION HYDR	106.38	135	T	T	03 05 53.1	
	baz=204,slow=75,SNR=12						
ILAR	Eielson Array	121.26	2	PKP	PKPdf	01 11 05.1	-0.3
	0.8nm,0.8s,baz=227,slow=2.3,SNR=8.9						
MKAR	Makanchi Array	146.44	276	PKPbc	PKPbc	01 11 53.9	-0.3
	1.6nm,0.7s,baz=115,slow=5.5,SNR=8.1						
ZALV	Zalesovo Beam	148.96	289	PKPbc	PKPbc	01 11 59.6	-1.1
	0.8nm,0.6s,baz=113,slow=3.7,SNR=3.3						

IDC 16 00:59:30.6±2.2, 2°.39N×89°.73E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/38, mbtmp3.7/5, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=63.4km s-min=27.5km az=49.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	10.21	299	Pn	Pn	01 01 58.5	-0.1
	0.9nm,0.3s,baz=116,slow=13,SNR=6.7						
PALK				LR	LR	01 05 33.3	
	comp=Z,90nm,19.6s,baz=116,slow=36						
MKAR	Makanchi Array	44.70	353	P	P	01 07 45.4	0.0
	0.5nm,0.8s,baz=174,slow=10,SNR=3.4						
SONM	Songino Array	47.50	15	P	P	01 08 08.0	+0.4
	1.5nm,0.8s,baz=195,slow=9.2,SNR=12						
WRA	Warramunga Arr	49.07	119	P	P	01 08 19.8	-0.2
	0.6nm,0.9s,baz=300,slow=8.8,SNR=2.8						
ZALV	Zalesovo Beam	51.55	356	P	P	01 08 37.4	-0.8
	0.6nm,0.6s,baz=187,slow=9.0,SNR=4.0						

*ISCJB **16** 01:00:03.5±0.6, 2°.16N±0°.09×89°.77E±0°.06, h10km, mb4.0/9, MS3.4/1, Error ellipse: s-maj=13.5km s-min=6.9km az=27.1*
*IDC **16** 01:00:04.0±0.9, 2°.22N×89°.68E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/39, mbtmp4.1/10, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/35, Error ellipse: s-maj=30.4km s-min=19.9km az=47.0*
*NEIC **16** 01:00:05.5±1.3, 2°.2N±0°.1×89°.71E±0°.09, h10km±2km, mb4.3/21*
ISC 16 01:00:05.5±0.8, 2°.2N±0°.1×89°.67E±0°.09, h10km, n61, σ0.99/53, mb4.2/17, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	7.87	67	Pn	Pn	01 01 58.9	-1.1
RPSI	Rantau Prapat	9.26	87	Pn	Pn	01 02 18.3	-0.9
PSI	Prapat	9.27	86	LR	LR	01 05 51.5	
	comp=Z,300nm,19.5s,baz=227,slow=38						
PALK	Pallekele	10.26	300	Pn	Pn	01 02 32.5	-0.4
	2.9nm,0.3s,baz=116,slow=14,SNR=9.4						
PALK				Sn	Sn	01 04 19.1	-9.0
	13nm,0.3s,baz=296,slow=3.0,SNR=11						
KULM	Kulim	11.38	74		Pn	01 02 46.9	-1.4
IPM	Ipoh	11.56	78	Pn	Pn	01 02 49.3	-1.5
CMAR	Chiang Mai Arr	18.54	29	P	Pn	01 04 26.6	+4.0
	0.8nm,0.3s,baz=225,slow=11,SNR=5.2						
HYB	Hyderabad	18.65	325	*i* P	P	01 04 23.5	-0.2
HYB				*e*S	Sn	01 07 50.0	-2.8
H08S3	Diego Garcia H	19.73	240	T	T	01 24 44.1	
	baz=60,slow=75,SNR=240						
H08S2	Diego Garcia H	19.73	240	T	T	01 24 44.0	
	baz=60,slow=75,SNR=264						
H08S1	Diego Carcia H	19.74	240	T	T	01 24 44.0	
	baz=60,slow=75,SNR=196						
SHL	Shillong	23.33	5	P	P	01 05 14.2	0.0
ODAN	Odare	24.62	355	*e*P	P	01 05 26.9	+0.4
	14nm,0.6s						
RAMN	Ramite	24.79	353	*e*P	P	01 05 28.8	+0.8
JIRN	Jiri	25.54	353	*e*P	P	01 05 35.5	+0.6
	54nm,1.0s						
PKI	Pulchoki	25.56	351	*e*P	P	01 05 35.2	+0.1
	8.2nm,0.6s						
DMN	Daman	25.64	351	*e*P	P	01 05 36.5	+0.7
	21nm,0.8s						
K

ZALV PcP **PcP** **01 10 25.1 -1.1**
comp=Z,0.7nm,0.6s,baz=163,slow=1.5,SNR=4.0
ZALV Zalesovo Beam 51.74 356 P **P** **01 09 11.8 -1.2**
ABKAR Abkulak array 53.32 336 P **P** **01 09 24.5 -0.3**
TBLG Delisi 56.30 321 P **P** **01 09 46.6 0.0**
BR131 Keskin Array S 62.94 314 P **P** **01 10 33.2 +0.6**
BR131 IAmb IAmb 01 10 34.3
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 62.94 314 P **P** **01 10 32.7 +0.1**
comp=Z,1.1nm,0.7s,baz=103,slow=5.5,SNR=6.5
ANTO Ankara 63.60 314 P **P** **01 10 38.0 +1.2**
BOSA Boshof 68.82 238 P **P** **01 11 10.8 +0.1**
comp=Z,1.0nm,0.5s,baz=84,slow=9.2,SNR=3.7
BOSA Boshof 68.82 238 IAmb IAmb 01 11 30.3
comp=Z,2.4nm,1.1s
AKASG Malin Array Be 69.95 324 LR LR 01 45 05.7
comp=Z,18nm,18.0s,baz=0.0,slow=39
GERES GERESS Array B 79.12 319 P **P** **01 12 11.0 +0.5**
comp=Z,0.8nm,0.7s,baz=120,slow=5.4,SNR=6.4
TXAR Lajitas Array 146.15 21 PKPbc **PKPab** **01 19 46.8 -0.6**
comp=Z,0.4nm,0.8s,baz=135,slow=0.7,SNR=4.9
TXAR Lajitas Array 146.15 21 **PKPab** **01 19 47.0 -0.4**

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*HEL **16** 01:01:42.5, 67°.78N×20°.15E, h0km, ML2.0, Explosion*
UPP 16 01:01:42.5±0.0, 67°.82N×20°.20E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	01 01 45.4	+0.2
KUA				S	Sg	01 01 47.4	+0.4
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	01 01 45.4	+0.2
KUA				*i* S	Sg	01 01 47.4	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	01 01 47.2	+0.3
RATU				S	Sg	01 01 50.4	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	01 01 47.2	+0.3
RATU				*i* S	Sg	01 01 50.4	+0.5
KOVU	**Salmi**	**0.40**	**358**	P	Pg	01 01 50.2	+0.1
KOVU				S	Sg	01 01 55.5	+0.1
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	01 01 50.2	+0.1
KOVU				*i* S	Sg	01 01 55.5	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	01 01 55.9	-0.2
LANU				S	Sg	01 02 05.3	0.0
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	01 01 55.8	-0.3
LANU				*e*S	Sg	01 02 05.8	+0.5
DUNU	**Dundret**	**0.72**	**168**	P	Pg	01 01 56.0	-0.2
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	01 01 56.0	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	01 01 57.2	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	01 01 57.2	-0.2
KIF	**Kilpisjarvi** baz=196	**1.21**	**10**	*e*PB	Pb	01 02 06.1	-0.1
KIF				MSG		01 02 21.4	
comp=Z,18nm,0.2s							
KIF				*e*S	Sg	01 02 21.6	+0.4
PAJU	**Pajala**	**1.38**	**124**	P	Pg	01 02 07.9	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	01 02 07.9	-1.1
HEF	**Hetta** baz=250	**1.42**	**64**	*e*PG	Pn	01 02 08.5	-1.1
HEF				MSG		01 02 26.3	
comp=Z,9.7nm,0.2s							
HEF				*e*SN	Sn	01 02 30.7	+1.7
KALU	**Kalix**	**2.33**	**146**	*e*PB	Pn	01 02 23.2	+1.1
KALU				*e*SG	Sb	01 02 54.3	-0.3
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	01 02 24.2	+1.4
TOF				MSG		01 02 52.7	
comp=Z,8.9nm,0.2s							
TOF				*e*SG	Sb	01 02 56.1	-0.1
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	01 02 24.5	+0.8
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	01 02 27.0	+1.7
RNF				*e*SG	Sb	01 03 01.8	+0.3
ARE0	**ARCESS Array S** baz=229	**2.59**	**46**	*e*P	Pn	01 02 26.9	+1.3
ARE0				*e*SB	Sb	01 03 00.0	-2.1
KEV	**Kevo** baz=231	**3.14**	**49**	*e*PB	Pb	01 02 37.3	-1.8
KEV				MSG		01 03 16.0	
comp=Z,3.1nm,0.2s							
KEV				*e*SG	Sb	01 03 18.9	+0.9
KU6	**Riekki** baz=300	**4.22**	**111**	*e*PG	Pb	01 02 58.1	+0.6

UPP 16 01:01:54.1±0.1, 67°.83N×20°.21E, h0km, ML2.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	01 01 57.0	+0.2
KUA				S	Sg	01 01 58.8	+0.3
RATU	**Laukkuluspa**	**0.24**	**270**	P	Pg	01 01 58.8	+0.2
KOVU	**Salmi**	**0.40**	**357**	P	Pg	01 02 01.8	0.0
KOVU				S	Sg	01 02 07.5	+0.6
PAJU	**Pajala**	**1.38**	**124**	P	Pg	01 02 19.5	-1.0

SOME 16 01:03:20.2, 42°.40N×81°.05E, h5km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek** 5.3nm,0.2s	**2.04**	**302**	*e*P	Pb	01 03 58.2	+0.4
KPKS				*e*S	Sg	01 04 25.1	-0.6
SATY	**Saty** 1.7nm,0.2s	**2.06**	**290**	*e*P	Pg	01 03 59.1	-0.5
SATY				*e*S	Sg	01 04 26.6	+0.4
KAPS	**Kapalarasan** 0.5nm,0.2s	**3.13**	**338**	*e*P	Pg	01 04 18.6	-1.6
KAPS				*e*S	Sg	01 05 00.2	-0.6
2.0nm,0.2s							

KRNET 16 01:03:43.8±0.1, 43°.38N×78°.02E, h23km, mb1.8, 8C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo** baz=4.0	**0.65**	**203**	⇑*i*P	Pb	01 03 56.3	-0.3
ANVS				⇑*i*S	Sb	01 04 05.7	+0.4
baz=4.0							
PRZ	**Przheval'sk** baz=62	**0.94**	**163**	⇑*i*P	Pb	01 04 01.3	-0.2
PRZ				⇑*i*S	Sn	01 04 14.3	-0.2
baz=62							
KDJ	**Kajisay** baz=6.0	**1.39**	**207**	⇑*i*P	Pb	01 04 09.2	0.0
KDJ				⇑*i*S	Sb	01 04 27.2	+0.6
baz=6.0							
TARG	**Taragay, Kyrgy** baz=86	**1.66**	**186**	⇑*i*P	Pb	01 04 13.7	-0.1
TARG				⇑*i*S	Sb	01 04 35.8	+1.4
baz=86							

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*ISCJB **16** 01:11:33.4±0.4, 59°.83N±0°.03×153°.17W±0°.06, h127km±3km, mb3.0/1, Error ellipse: s-maj=4.8km s-min=4.3km az=170.8*
*NEIC **16** 01:11:33.7±1.5, 59°.81N±0°.04×153°.3W±0°.1, h126km±4km*
*IDC **16** 01:11:34.0±3.3, 59°.80N×153°.09W, h113km±20km, mb2.8/1, mb1 3.5/5, mb1mx3.0/47, mbtmp3.6/5, Error ellipse: s-maj=64.8km s-min=12.0km az=97.0*
*AEIC **16** 01:11:35.4±2.0, 59°.81N±0°.04×153°.3W±0°.1, h116km±4km, ML3.2*
ISC 16 01:11:33.2±1.1, 59°.81N±0°.04×153°.26W±0°.06, h128km±6km, n93, σ1°.09/113, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.17**	**34**		**Pn**	**01 11 51.0**	**+0.1**
IVE	**Iliamna Volcan**	**0.24**	**31**		**Pn**	**01 11 51.1**	**+0.1**
IVE					**Sn**	**01 12 03.8**	**-0.7**
ILW	**Iliamna West**	**0.25**	**14**		**Pn**	**01 11 51.0**	**-0.1**
ILW					**Sn**	**01 12 03.8**	**-0.9**
AUP	**Augustine Pinn**	**0.46**	**190**		**Pn**	**01 11 52.3**	**+0.4**
AUQ	**Augustine Qik'**	**0.47**	**190**		**Pn**	**01 11 52.3**	**+0.4**
AUQ					**Sn**	**01 12 05.4**	**-0.6**
RED	**Redoubt Volcan**	**0.65**	**22**		**Pn**	**01 11 53.4**	**+0.3**
RED					**Sn**	**01 12 07.6**	**-0.6**
RSO	**Redoubt South**	**0.70**	**21**		**Pn**	**01 11 54.2**	**+0.7**
NCT	**North Crescent**	**0.77**	**12**		**Pn**	**01 11 54.4**	**+0.4**
NCT					**Sn**	**01 12 09.4**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.81**	**16**		**Pn**	**01 11 54.8**	**+0.4**
RDJH					**Sn**	**01 12 10.0**	**-0.4**
DFR	**Drift River**	**0.83**	**20**		**Pn**	**01 11 54.9**	**+0.4**
DFR					**Sn**	**01 12 10.1**	**-0.6**
HOM	**Homer**	**0.83**	**100**		**Pn**	**01 11 55.2**	**+0.9**
HOM					**Sn**	**01 12 11.1**	**+0.7**
FOSS	**Fourpeaked Sta**	**1.04**	**193**		**Pn**	**01 11 56.8**	**+0.4**
CNPM	**China Poot**	**1.07**	**105**		**Pn**	**01 11 57.0**	**+0.5**
CNPM					**Sn**	**01 12 13.9**	**-0.4**
BRLK	**Bradley Lake**	**1.20**	**91**		**Pn**	**01 11 58.4**	**+0.5**
BRSE	**Bradley Lake S**	**1.27**	**92**		**Pn**	**01 11 59.2**	**+0.6**
BRSE					**Sn**	**01 12 17.6**	**-0.4**
CKL	**Chakachamna La**	**1.46**	**18**		**Pn**	**01 12 01.8**	**+1.0**
SPWE	**Spurr West**	**1.50**	**13**		**Pn**	**01 12 02.5**	**+1.2**
SPBG	**Spurr Blockage**	**1.52**	**16**		**Pn**	**01 12 02.5**	**+1.1**
SPBG					**Sn**	**01 12 23.8**	**+0.9**
SVW2	**Sparrevohn**	**1.73**	**319**		**Pn**	**01 12 03.8**	**+0.1**
SEW	**Seward**	**1.94**	**80**		**Pn**	**01 12 07.0**	**+0.8**
SUA	**Susitna One**	**2.07**	**36**		**Pn**	**01 12 09.1**	**+1.2**
KDAK	**Kodiak Island** 5.9nm,0.3s,baz=354,slow=8.6,SNR=94	**2.07**	**170**	P	**Pn**	**01 12 07.7**	**-0.1**
KDAK				S	**Sn**	**01 12 33.7**	**-0.6**
66nm,0.3s,baz=144,slow=21,SNR=6.0							
KDAK	**Kodiak Island**	**2.07**	**170**		**Pn**	**01 12 07.6**	**-0.2**
RC01	**Rabbit Creek A**	**2.16**	**52**		**Pn**	**01 12 09.8**	**+0.8**
SKT	**Skwentna**	**2.33**	**20**		**Pn**	**01 12 12.1**	**+0.9**
OHAK	**Old Harbor**	**2.60**	**180**		**Pn**	**01 12 14.0**	**-0.5**
PWL	**Port Wells**	**2.66**	**65**		**Pn**	**01 12 15.5**	**+0.2**
PMR	**Palmer**	**2.70**	**47**		**Pn**	**01 12 16.0**	**+0.2**
KNK	**Knik Glacier**	**2.86**	**54**		**Pn**	**01 12 17.9**	**+0.1**
KNK	**Knik Glacier**	**2.86**	**54**	Sn	**Sn**	**01 12 51.0**	**-1.3**
GHO	**Glory Hole Cre**	**2.89**	**45**		**Pn**	**01 12 18.4**	**0.0**
SML	**Sawmill**	**3.13**	**48**		**Pn**	**01 12 21.5**	**0.0**
PPLA	**Purkeypile**	**3.14**	**9**		**Pn**	**01 12 23.1**	**+1.5**
GLI	**Glacier Island**	**3.24**	**68**		**Pn**	**01 12 22.9**	**+0.1**
SII	**Sitkinak Islan**	**3.30**	**189**	Pn	**Pn**	**01 12 23.9**	**+0.3**
TTA	**Tatalina**	**3.40**	**338**		**Pn**	**01 12 25.2**	**+0.3**
HIN	**Hinchinbrook I**	**3.43**	**77**		**Pn**	**01 12 25.9**	**+0.5**
FID	**Port Fidalgo**	**3.50**	**72**		**Pn**	**01 12 26.0**	**-0.3**
JPK	**Jack Peak**	**3.53**	**66**		**Pn**	**01 12 27.2**	**+0.6**
SCM	**Sheep Creek Mo**	**3.54**	**53**		**Pn**	**01 12 27.1**	**+0.3**
HUR	**Hurricane**	**3.62**	**27**		**Pn**	**01 12 28.4**	**+0.6**
WAT1	**Susitna Watana**	**3.78**	**35**		**Pn**	**01 12 30.2**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.82**	**76**		**Sn**	**01 13 12.9**	**-1.9**
EYAK	**Cordova Ski Ar**	**3.82**	**76**		**Pn**	**01 12 30.8**	**+0.4**
TRF	**Thorofare Moun**	**3.91**	**20**		**Pn**	**01 12 32.5**	**+0.7**
RND	**Reindeer**	**4.17**	**28**		**Pn**	**01 12 35.8**	**+0.7**
DHY	**Denali Highway**	**4.32**	**38**		**Pn**	**01 12 37.1**	**-0.1**
RAGM	**Ragged Mountai**	**4.33**	**79**	Pn	**Pn**	**01 12 38.3**	**+1.0**
BPAW	**Bear Paw Mtn.**	**4.43**	**13**		**Pn**	**01 12 39.0**	**+0.4**
MCK	**McKinley**	**4.43**	**26**	Pn	**Pn**	**01 12 39.4**	**+0.8**
CHGN	**Chignik**	**4.46**	**220**	Pn	**Pn**	**01 12 39.5**	**+0.5**
HMT	**Hamilton**	**4.54**	**79**	Pn	**Pn**	**01 12 41.2**	**+1.2**
HMT					**Sn**	**01 13 30.5**	**-1.4**
BWN	**Browne**	**4.72**	**21**		**Pn**	**01 12 43.7**	**+1.3**
SUCK	**Suckling Hills**	**4.78**	**83**	Pn	**Pn**	**01 12 45.0**	**+1.9**
PAX	**Paxson**	**4.90**	**46**		**Pn**	**01 12 45.8**	**+0.9**
GLB	**Gilahina Butte**	**4.93**	**67**		**Pn**	**01 12 47.1**	**+1.8**
VRDI	**Verde Repeater**	**5.05**	**69**	Pn	**Pn**	**01 12 48.2**	**+1.3**
VRDI					**Sn**	**01 13 43.2**	**-1.2**
CRQM	**Cirque**	**5.12**	**75**	Pn	**Pn**	**01 12 49.6**	**+1.6**
CRQM					**Sn**	**01 13 44.7**	**-1.5**
NEA	**Nenana**	**5.17**	**20**	Pn	**Pn**	**01 12 48.8**	**+0.5**
WAX	**Waxell Ridge**	**5.24**	**79**	Pn	**Pn**	**01 12 50.9**	**+1.4**
WAX					**Sn**	**01 13 46.8**	**-2.0**
WRH	**Wood River Hil**	**5.26**	**25**		**Pn**	**01 12 49.9**	**+0.3**
TGL	**Tana Glacier**	**5.28**	**75**	Pn	**Pn**	**01 12 51.3**	**+1.4**
TGL					**Sn**	**01 13 48.3**	**-1.4**
MCARA	**McCarthy VSAT**	**5.28**	**68**	Pn	**Pn**	**01 12 52.0**	**+2.1**
MLY	**Manley**	**5.37**	**12**		**Pn**	**01 12 51.4**	**+0.3**
CCB	**Clear Creek Bu**	**5.48**	**25**		**Pn**	**01 12 52.6**	**+0.1**
HDA	**Harding Lake**	**5.48**	**30**		**Pn**	**01 12 52.9**	**+0.4**
BALM	**Baldy**	**5.54**	**73**	Pn	**Pn**	**01 12 55.1**	**+1.5**
MENT	**Mentasta**	**5.55**	**52**		**Pn**	**01 12 55.7**	**+2.1**
COLA	**College**	**5.67**	**24**		**Pn**	**01 12 55.2**	**+0.2**
MDM	**Murphy Dome**	**5.67**	**22**	Pn	**Pn**	**01 12 55.4**	**+0.3**
MESA	**MESA**	**5.69**	**81**	Pn	**Pn**	**01 12 57.4**	**+1.8**
YAH	**Yahtse**	**5.79**	**80**	Pn	**Pn**	**01 12 58.7**	**+1.7**
IL31		**5.79**	**28**		**Pn**	**01 12 57.0**	**+0.2**
ILAR	**Eielson Array** 4.9nm,0.3s,baz=216,slow=13,SNR=303	**5.79**	**28**	P	**Pn**	**01 12 56.8**	**0.0**
ILAR				S	**Sn**	**01 14 01.5**	**-0.4**
1.8nm,0.3s,baz=203,slow=17,SNR=8.2							
ILAR	**Eielson Array**	**5.79**	**28**	Pn	**Pn**	**01 12 56.2**	**-0.6**
DOT	**Dot Lake**	**5.82**	**45**		**Pn**	**01 12 58.2**	**+1.1**
BARN	**Barnard Glacie**	**5.88**	**73**	Pn	**Pn**	**01 13 00.1**	**+2.0**
CTGM	**Chitina Glacie**	**6.03**	**74**		**Pn**	**01 13 02.4**	**+2.4**
CTGM					**Sn**	**01 14 06.8**	**-1.0**
IMAR	**Indian Mountai**	**6.20**	**358**	Pn	**Pn**	**01 13 02.7**	**+0.6**
BCAR	**Beaver Creek A**	**6.39**	**54**	Pn	**Pn**	**01 13 05.3**	**+0.4**
PCA	**Pinnacle**	**6.54**	**82**	Pn	**Pn**	**01 13 08.6**	**+1.7**
BCPM	**Bancas Point**	**6.86**	**83**	Pn	**Pn**	**01 13 13.3**	**+2.2**
EGAK	**Eagle**	**7.51**	**43**	Pn	**Pn**	**01 13 20.5**	**+0.6**
DHAK	**Deception Hill**	**7.70**	**89**	Pn	**Pn**	**01 13 23.7**	**+1.2**
DHAK					**Sn**	**01 14 49.0**	**+0.9**
DAWY	**Dawson**	**7.80**	**51**	Pn	**Pn**	**01 13 24.9**	**+1.2**
BMAR	**Burnt Mountain**	**8.55**	**23**	Pn	**Pn**	**01 13 32.8**	**-1.2**
TOLK	**Toolik Lake Re**	**9.01**	**9**	Pn	**Pn**	**01 13 41.8**	**+1.8**
SKAG	**Skagway**	**9.09**	**84**	Pn	**Pn**	**01 13 43.6**	**+2.5**
JIS	**Juneau Island**	**9.84**	**91**	Pn	**Pn**	**01 13 54.3**	**+3.0**
DLBC	**Dease Lake** 1.3nm,0.3s,baz=267,slow=5.9,SNR=10	**12.00**	**86**	P	**P**	**01 14 25.2**	**-2.1**
INK	**Inuvik** 0.2nm,0.3s,baz=249,slow=15,SNR=6.5	**12.06**	**37**	P	**Pn**	**01 14 22.3**	**+1.6**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=278,slow=10.0,SNR=5.2	**18.65**	**65**	P	**Pn**	**01 15 43.5**	**+0.9**
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=300,slow=11,SNR=2.2	**31.48**	**103**	P	**P**	**01 17 43.4**	**+0.7**

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*IDC **16** 01:13:13.8±3.6, 36°.22N×71°.26E, h75km±32km, mb3.7/7, mb1 3.8/11, mb1mx3.4/48, mbtmp4.1/11, Error ellipse: s-maj=29.0km s-min=21.4km az=180.0*
*ISCJB **16** 01:13:15.5±0.3, 36°.42N±0°.03×71°.31E±0°.04, h100km, mb3.9/7, Error ellipse: s-maj=4.7km s-min=3.4km az=155.1*
*NEIC **16** 01:13:18.6±2.0, 36°.57N±0°.06×71°.2E±0°.1, h112km±5km, mb4.0/9*
*NNC **16** 01:13:19.1±1.3, 36°.73N×70°.94E, h103km±35km, mb3.9, mpv4.4, Error ellipse: s-maj=12.6km s-min=8.3km az=166.0*
ISC 16 01:13:16.6±0.6, 36°.51N±0°.05×71°.19E±0°.05, h100km, n89, σ2°.13/96, mb4.1/9, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.58**	**345**		**Pn**	**01 13 59.3**	**+2.4**
KBL	**Kabul**	**2.64**	**222**		**Pn**	**01 14 01.0**	**+3.3**
CHGR	**Chuyangaron**	**2.68**	**324**		**Pn**	**01 14 00.1**	**+1.9**
NIL	**Nilore**	**3.32**	**149**		**Pn**	**01 14 09.9**	**+3.3**
BTK	**Batken**	**3.55**	**355**		**Pn**	**01 14 13.0**	**+3.2**
ARSB	**Arslanbob**	**5.00**	**16**		**Pn**	**01 14 30.8**	**+1.3**
TAS	**Tashkent**	**5.03**	**343**	Pn	**Pn**	**01 14 31.4**	**+1.6**
AML	**Almayashu** SNR=214	**5.93**	**18**	P	**Pn**	**01 14 44.0**	**+1.7**
DHRM	**DHARAMSHALA**	**5.99**	**134**	*e*P	**Pn**	**01 14 44.5**	**+1.5**
DHRM				*e*S	**Sn**	**01 15 47.5**	**-2.9**
DHRM				IAML		01 15 51.9	
comp=N,481nm,0.2s							
DHRM				IAML		01 15 52.1	
comp=E,531nm,0.1s							
NRN	**Naryn**	**6.17**	**36**		**Pn**	**01 14 46.1**	**+0.6**
UCH	**Uchtor** SNR=77	**6.26**	**23**	P	**Pn**	**01 14 48.4**	**+1.7**
KZA	**Kyzart** SNR=31	**6.38**	**28**	P	**Pn**	**01 14 49.8**	**+1.3**
EKS2	**Erkin-Say** SNR=59	**6.46**	**17**	P	**Pn**	**01 14 51.0**	**+1.9**
BRLS	**Borolday** comp=E,13nm,0.3s	**6.59**	**351**	Pg	**Pn**	**01 14 48.8**	**-2.1**
BRLS				Lg	Lg	01 15 55.8	
comp=E,24nm,0.2s							
KK31	**Karatay Array** comp=E,20nm,0.3s,baz=178,slow=12,SNR=771	**6.60**	**356**	⇓P	**Pn**	**01 14 52.0**	**+1.0**
KK31				⇑S	**Sn**	**01 16 02.4**	**-2.4**
comp=E,9.1nm,0.5s,baz=183,slow=23,SNR=5.2							
KK31	**Karatay Array**	**6.60**	**356**		**Pn**	**01 14 52.4**	**+1.3**
KKAR	**Karatay Array**	**6.60**	**356**		**Pn**	**01 14 52.4**	**+1.3**
AAK	**Ala-Archa**	**6.62**	**22**	P	**Pn**	**01 14 53.7**	**+2.2**
AAK				⇑S	**Sn**	**01 16 06.4**	**+0.9**
comp=E,24nm,0.8s							
AAK	**Ala-Archa** comp=E,36nm,0.3s,baz=170,slow=6.0,SNR=410	**6.62**	**22**	P	**Pn**	**01 14 53.7**	**+2.2**
AAK				S	**Sn**	**01 16 04.6**	**-0.9**
comp=E,0.8nm,0.3s,baz=309,slow=22,SNR=2.6							
AAK	**Ala-Archa** SNR=131	**6.62**	**22**	P	**Pn**	**01 14 53.4**	**+1.9**
AAK	**Ala-Archa**	**6.62**	**22**		**Pn**	**01 14 53.4**	**+1.9**
KBK	**Karagaybulak** SNR=39	**6.78**	**24**	P	**Pn**	**01 14 55.6**	**+1.9**
FRU1	**Bishkek**	**6.82**	**22**		**Pn**	**01 14 56.0**	**+1.9**
ULHL	**Ulahol** SNR=12	**6.93**	**33**	P	**Pn**	**01 14 57.0**	**+1.3**
CHMS	**Chumysh** SNR=53	**7.03**	**22**	P	**Pn**	**01 14 58.3**	**+1.4**
USP	**Ospenovka** SNR=62	**7.21**	**20**	P	**Pn**	**01 15 00.5**	**+1.2**
TKM2	**Tokmak 2** comp=E,21nm,0.5s	**7.24**	**27**	⇓P	**Pn**	**01 15 01.2**	**+1.3**
TKM2				⇑S	**Sn**	**01 16 21.6**	**+0.9**
comp=E,7.5nm,0.8s							
TKM2	**Tokmak 2** SNR=17	**7.24**	**27**	P	**Pn**	**01 15 01.3**	**+1.3**
TARG	**Taragay, Kyrgy**	**7.31**	**43**		**Pn**	**01 15 01.3**	**+0.2**
SMLA	**Simla**	**7.32**	**136**	*e*P	**Pn**	**01 15 01.5**	**+0.7**
SMLA				*e*S	**Sn**	**01 16 17.7**	**-4.5**
SMLA				IAML		01 16 24.3	
comp=N,146nm,0.1s							
SMLA				IAML		01 16 24.3	
comp=E,105nm,0.6s							
KST	**Kastek** comp=E,23nm,0.6s	**7.48**	**28**	P	**Pn**	**01 15 04.5**	**+1.4**
DGS	**Degeres** comp=E,17nm,0.4s	**7.58**	**26**	P	**Pn**	**01 15 06.0**	**+1.5**
HRA	**Herat**	**7.61**	**256**		**Pn**	**01 15 07.1**	**+2.2**
IZV	**Izvestkoviy** comp=E,12nm,0.4s	**7.73**	**31**	P	**Pn**	**01 15 08.1**	**+1.6**
MTBS	**Maitube** comp=E,28nm,0.3s	**7.74**	**30**	P	**Pn**	**01 15 08.2**	**+1.7**
TNSS	**Tian-Shan** comp=E,8.8nm,0.5s	**7.88**	**32**	P	**Pn**	**01 15 09.5**	**+0.8**
MDOK	**Medeo** comp=E,6.8nm,0.6s	**8.02**	**32**	P	**Pn**	**01 15 11.9**	**+1.5**
KTBS	**Karatobe** comp=E,2.9nm,0.5s	**8.33**	**29**	P	**Pn**	**01 15 14.6**	**+0.1**
KUU	**Kurty** comp=E,4.3nm,0.5s	**8.35**	**27**	P	**Pn**	**01 15 14.3**	**-0.5**
CHKK	**Chushkaly** comp=E,7.9nm,0.3s	**8.56**	**29**	P	**Pn**	**01 15 18.6**	**+0.8**
SATY	**Saty** comp=E,5.5nm,0.6s	**8.57**	**38**	P	**Pn**	**01 15 19.1**	**+1.1**
KURS	**Kuram** comp=E,12nm,1.0s	**8.78**	**35**	P	**Pn**	**01 15 22.0**	**+1.3**
BTLS	**Baital** comp=E,2.2nm,0.4s	**8.79**	**13**	P	**Pn**	**01 15 21.0**	**+0.3**
JOSI	**Joshimath**	**9.16**	**128**	*e*P	**Pn**	**01 15 25.3**	**-0.9**
JOSI				*e*S	Sn	01 16 59.9	-7.7
JOSI				IAML		01 17 09.2	
comp=N,118nm,0.5s							
JOSI				IAML		01 17 09.3	
comp=E,100nm,0.7s							
KUDL	**Kundal**	**9.47**	**150**	*e*P	Pn	01 15 20.2	-10
KUDL				*e*S	Sn	01 16 57.8	-17
GEYT	**Alibeck** comp=E,0.6nm,0.3s,baz=120,slow=8.7,SNR=6.7	**10.53**	**282**	P	**Pn**	**01 15 42.9**	**-1.5**
GEYT				S	**Sn**	**01 17 34.5**	**-5.8**
comp=E,2.2nm,0.3s,baz=123,slow=7.7,SNR=7.5							
GEYT	**Alibeck**	**10.53**	**282**	Pn	**Pn**	**01 15 46.4**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**10.53**	**282**	⇓P	**Pn**	**01 15 44.7**	**+0.3**
GYA0B				⇑S	**Sn**	**01 17 35.8**	**-4.5**
GYA0B	**ALIBECK ARRAY**	**10.53**	**282**		**Pn**	**01 15 46.6**	**+2.2**
KAPS	**Kapalarasan** comp=E,1.9nm,0.4s	**10.71**	**33**	P	**Pn**	**01 15 47.1**	**+0.1**
MAKZ	**Makanchi** comp=E,4.8nm,0.8s	**13.05**	**35**	⇑P	**Pn**	**01 16 18.9**	**+0.8**
MK31	**Makanchi Array** comp=E,0.7nm,0.3s,baz=208,slow=8.7,SNR=23	**13.19**	**35**	P	**Pn**	**01 16 23.3**	**+3.4**
MK31	**Makanchi Array**	**13.19**	**35**	Pn	**Pn**	**01 16 20.9**	**+1.0**
MKAR	**Makanchi Array** comp=E,0.2nm,0.3s,baz=221,slow=14,SNR=9.1	**13.19**	**35**	P	**Pn**	**01 16 19.7**	**-0.2**
DANN	**Dangsing** comp=E,21nm,0.3s	**13.37**	**124**	*e*P	**Pn**	**01 16 20.0**	**-2.6**
KOLN	**Koldanda** comp=E,10.0nm,0.3s	**13.64**	**126**	*e*P	**Pn**	**01 16 23.4**	**-2.7**
GKN	**Gorkha** comp=E,32nm,0.3s	**14.18**	**123**	*e*P	**Pn**	**01 16 30.5**	**-2.5**
DMN	**Daman**	**14.75**	**123**	*e*P	**Pn**	**01 16 38.5**	**-1.9**
KKN	**Kakani**	**14.75**	**122**	*e*P	**Pn**	**01 16 37.8**	**-2.6**
PKIN	**Phulchoki** comp=E,21nm,0.4s	**14.97**	**123**	*e*P	**Pn**	**01 16 41.2**	**-2.0**
PKI	**Pulchoki** comp=E,14nm,0.4s	**14.98**	**123**	*e*P	**Pn**	**01 16 41.4**	**-2.0**
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.3s,baz=207,slow=10,SNR=7.2	**15.06**	**18**	P	**Pn**	**01 16 45.1**	**+1.2**
GUN	**Gumba**	**15.09**	**120**	*e*P	**Pn**	**01 16 42.3**	**-2.5**
AB31	**Abkulak array** comp=E,1.5nm,0.3s,baz=142,slow=13,SNR=97	**15.15**	**331**	⇑P	**Pn**	**01 16 44.5**	**-0.5**
AB31				⇑S	**Sn**	**01 19 25.9**	**-6.2**
comp=E,6.4nm,0.6s,baz=150,slow=22,SNR=12							
ABKAR	**Abkulak array**	**15.15**	**

WMGZ	Waiomatatini S	1.68	229	P	Pg	01 24 21.4 +2.0
WMGZ				S	Sg	01 24 45.0 +3.8
PKGZ	Pakihiroa	1.93	232	P	Pg	01 24 24.2 0.0
PKGZ				S	Sg	01 24 50.7 +1.4
PUZ	Puketiti	1.94	225	P	Pg	01 24 24.8 +0.4
PUZ				S	Sg	01 24 50.2 +0.6
HAZ	Te Kaha	2.05	239	P	Pg	01 24 25.9 -0.7
HAZ				S	Sg	01 24 54.0 +0.8
TWGZ	Tauwhareparae	2.17	227	P	Pg	01 24 28.3 -0.5
TWGZ				S	Sg	01 24 57.1 +0.1
RUGZ	Raukumara Rang	2.23	235	P	Pg	01 24 29.0 -1.0
RUGZ				S	Sg	01 24 58.0 -1.0
CNGZ	Carnagh Statio	2.27	218	P	Pg	01 24 29.8 -0.9
TKGZ	Te Karaka	2.43	224	P	Pg	01 24 31.5 -2.3
TKGZ				S	Sb	01 25 02.1 +0.9
MWZ	Matawai	2.55	230	P	Pb	01 24 32.7 -0.5
MWZ				S	Sb	01 25 05.2 +0.5
RIGZ	Rimuhau	2.67	221	P	Pb	01 24 34.3 -1.0
RIGZ				S	Sb	01 25 08.8 +0.6
WHRZ	Whale Island	2.67	244	P	Pb	01 24 34.8 -0.5
WHRZ				S	Sb	01 25 08.2 -0.1
RAGZ	Rawiri	2.72	228	P	Pb	01 24 35.2 -1.0
RAGZ				S	Sb	01 25 09.4 -0.2
URZ	Urewera	2.77	235	Pn	Pb	01 24 35.5 -1.5
	51nm,0.3s,baz=330,slow=0.5,SNR=346					
URZ				Sn	Sb	01 25 10.3 -0.8
	37nm,0.3s,baz=254,slow=18,SNR=14					
URZ	Urewera	2.77	235	P	Pb	01 24 35.5 -1.5
URZ				S	Sb	01 25 10.0 -1.1
URZ	Urewera	2.77	235		Pb	01 24 35.2 -1.7
PRGZ	Paritu Road	2.77	217	P	Pb	01 24 35.7 -1.3
PRGZ				S	Sb	01 25 10.6 -0.5
MARZ	Manawahe	2.94	243	P	Pb	01 24 37.6 -2.3
MHGZ	Mahia Peninsul	2.94	214	P	Pb	01 24 38.3 -1.7
EDRZ	Edgecumbe	2.95	241	P	Pb	01 24 38.1 -1.9
EDRZ				S	Sb	01 25 14.2 -2.1
KNZ	Kokohu	2.95	218	P	Pb	01 24 37.5 -2.6
SNGZ	Shannon Statio	2.95	225	P	Pb	01 24 38.4 -1.7
SNGZ				S	Sb	01 25 14.8 -1.5
OPRZ	Ohinepanea	2.97	247	P	Pb	01 24 37.7 -2.7
RTZ	Ruatahuna	3.06	231	P	Pb	01 24 40.1 -1.9
TGRZ	Tauranga	3.15	250	P	Pb	01 24 40.4 -3.1
TARZ	Mount Tarawera	3.17	240	P	Pb	01 24 41.4 -2.5
RAHZ	Arahi	3.19	226	P	Pb	01 24 41.6 -2.5
OMRZ	Omania	3.21	243	P	Pb	01 24 41.9 -2.6
RRRZ	Republican Roa	3.21	239	P	Pb	01 24 41.8 -2.8
WHRZ	Waihua	3.22	222	P	Pb	01 24 41.7 -2.9
KARZ	Kaharoa	3.27	245	P	Pb	01 24 42.2 -3.3
HLRZ	Highlands Stat	3.28	241	P	Pb	01 24 42.9 -2.9
MTHZ	Maungataniwha	3.29	229	P	Pb	01 24 42.7 -3.2
UTU	Utuhina	3.36	243	P	Pb	01 24 45.2 -2.0
HSRZ	Hossack Road	3.39	241	P	Pb	01 24 43.8 -3.7
ALRZ	Allen Road	3.44	237	P	Pb	01 24 45.2 -3.3
NMHZ	Naumai	3.47	226	P	Pb	01 24 45.4 -3.6
ARHZ	Aropaoanui	3.48	222	P	Pb	01 24 45.1 -4.0
GRZ	Great Barrier	3.69	276	P	Pn	01 24 46.5 +1.9
BKZ	Black Stump Fm	3.70	228	P	Pn	01 24 47.7 +2.9
BKZ	Black Stump Fm	3.70	228		Pb	01 24 48.0 -4.9
CKHZ	Cape Kidnapper	3.73	217	P	Pn	01 24 47.8 +2.6
TOZ	Tahuroa Road	3.73	253	P	Pn	01 24 48.0 +2.8
MCHZ	McNeill Hill	3.77	223	P	Pb	01 24 49.0 -5.1
MKAZ	Moumakai	3.90	263	P	Pn	01 24 50.1 +2.6
KWHZ	Kaweka Forest	3.91	225	P	Pn	01 24 50.6 +2.9
WIAZ	Waiheke Island	3.91	267	P	Pn	01 24 50.2 +2.6
KAHZ	Kahuranaki	3.94	218	P	Pn	01 24 50.4 +2.4
KRHZ	Kereru	4.09	223	P	Pn	01 24 52.4 +2.2
MBAZ	Motutapu North	4.10	268	P	Pn	01 24 53.2 +2.9
ABAZ	Army Bay	4.16	270	P	Pn	01 24 54.0 +3.0
BHHZ	Black Hill Sta	4.16	227	P	Pn	01 24 54.0 +2.8
KRVZ	Karewarewa	4.19	234	P	Pn	01 24 54.0 +2.4
MOVZ	Moawhango	4.30	230	P	Pn	01 24 55.4 +2.4
TWVZ	Taurewa	4.31	236	P	Pn	01 24 56.4 +3.2
FWVZ	Far West T-bar	4.33	233	P	Pn	01 24 56.8 +3.1
WPHZ	Waipukurau	4.36	219	P	Pn	01 24 55.8 +2.0
HIZ	Hauiti	4.46	245	Pn	Pn	01 24 58.5 +3.2
TSZ	Takapari Road	4.61	222	P	Pn	01 24 58.5 +1.2
OUZ	Omahuta	5.41	284		Pn	01 25 10.5 +2.3
TUWZ	Tuamarina	6.66	223	Pn	Pn	01 25 27.5 +2.1
THZ	Tophouse	7.46	225	Pn	Pn	01 25 38.0 +1.5
KHZ	Kahutara	7.57	219	Pn	Pn	01 25 40.8 +3.0
LTZ	Lake Taylor	8.49	222	Pn	Pn	01 25 53.2 +2.6
OXZ	Oxford	8.99	220	Pn	Pn	01 25 58.2 +0.9
AS31	Alice Springs	41.54	275	P	P	01 31 34.7 -0.7
ASAR	Alice Springs	41.54	275	P	P	01 31 35.2 -0.2
	2.4nm,0.6s,baz=118,slow=7.7,SNR=33					
ASAR	Alice Springs	41.54	275	P	P	01 31 33.5 -2.0
WRA	Warramunga Arr	43.10	280	P	P	01 31 47.5 -0.7
	1.6nm,0.7s,baz=121,slow=7.6,SNR=27					
WRA	Warramunga Arr	43.10	280	P	P	01 31 47.8 -0.4
FINES	FINESS Array B	150.32	335	PKPbc	PKiKP	01 43 39.0 0.0
	1.6nm,0.6s,baz=24,slow=2.3,SNR=7.8					
BRTR	Keskin Array B	153.49	287	PKPbc	PKiKP	01 43 47.3 +0.8
	1.0nm,0.8s,baz=94,slow=2.4,SNR=5.0					

ISCJB ***16*** *01:28:23.2±0.2, 15°.91S±0°.03×75°.22W±0°.04, h10km, mb4.6/17, MS5.1/27, Error ellipse: s-maj=6.6km s-min=2.5km az=150.3*

IDC ***16*** *01:28:23.4±0.6, 15°.88S×75°.22W, h0km, mb4.4/14, mb1 4.6/18, mb1mx4.4/42, mbtmp4.5/18, ML4.3/4, MS5.1/22, Ms1 5.0/22, ms1mx5.0/24, Error ellipse: s-maj=25.4km s-min=12.4km az=60.0*

BJI ***16*** *01:28:25.8±0.0, 16°.10S×75°.30W, h15km, mB5.2/5, Ms5.3/10, Ms7 5.2/13*

NEIC ***16*** *01:28:25.7±1.6, 16°.11S±0°.08×75°.3W±0°.1, h15km±3km, mb4.9/100*

VAO ***16*** *01:28:27.1±0.5, 16°.04S×75°.02W, h10km, mb5.0*

SJA ***16*** *01:28:27.6±0.9, 15°.88S×75°.15W, h21km, MW4.9(GFZ)*

GCMT ***16*** *01:28:27.7±0.2, 15°.98S±0°.01×75°.31W±0°.01, h12km, MW5.3/112, Moment Tensor Solution. s79,c113; s112,c209; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.26±.02; Mθθ1.04±.01; Mφφ-1.31±.02; Mrθ0.14±.04; Mθφ0.58±.02; Mφr0.03±.05; Best double couple: M0=1.32100×10^17 NP1:φs122.00000°, δ84.00000°, λ6.00000°. NP2:φs32.00000°, δ84.00000°, λ174.00000°. Principal axes: T 1.1960, Plg8.0000°, Azm347.0000°; N 0.2430, Plg82.0000°, Azm166.0000°; P -1.4450, Plg0.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 01:28:24.6±0.3, 16°.14S±0°.05×75°.40W±0°.07, h10km, n417, σ1s89/356, mb4.9/57, MS5.1/26, 4C-2D, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	Nana	4.36	341	Pn		Pn		01 29 27.5	-3.6
	10nm,0.3s,baz=126,slow=13,SNR=11								
NNA					Lg		Lg	01 30 35.1	
	71nm,0.3s,baz=184,slow=20,SNR=6.8								
NNA	Nana	4.36	341	Pn		Pn		01 29 31.0	-0.1
MNMC	Minye Minye	6.28	119			Pn		01 29 57.6	0.0
PB11	IPOC Station P	6.54	124			Pn		01 30 01.1	-0.1
GO01	Chusmiza	6.87	122			Pn		01 30 06.1	+0.2
LPAZ	La Paz	6.98	92	Pn		Pn		01 30 09.7	+2.1
	12nm,0.3s,baz=286,slow=8.6,SNR=266								
LPAZ	La Paz	6.98	92			Pn		01 30 09.0	+1.4
PB01	IPOC Station P	7.43	132			Pn		01 30 12.7	-0.5
PB04	IPOC Station P	7.91	142			Pn		01 30 19.3	-0.6
PB10	IPOC Station P	8.63	149			Pn		01 30 28.4	-1.3
LVC	Limon Verde	8.88	137	Pn		Pn		01 30 35.2	+1.8
	10nm,0.3s,baz=310,slow=9.3,SNR=123								
LVC					Sn		Sn	01 32 12.9	-0.9
	8.3nm,0.3s,baz=110,slow=23,SNR=5.7								
LVC					Lg		Lg	01 33 18.5	
	baz=214,slow=16,SNR=4.6								
LVC	Limon Verde	8.88	137			Pn		01 30 34.8	+1.4
LVC	Limon Verde	8.88	137	eP		Pn		01 30 34.5	+1.1
ATAH	Atahualpa	9.42	342	Pn		Pn		01 30 45.1	+4.2
	0.6nm,0.3s,baz=138,slow=13,SNR=5.8								
ATAH					LR		LR	01 34 45.1	
	comp=Z,11μm,20.3s,baz=197,slow=41								
GO02	Mina Guanaco	10.49	150			Pn		01 30 55.8	+0.4
GO03	Copiap	12.36	158			Pn		01 31 21.3	+0.5
FSA	Cafayete	13.24	140	eP		Pn		01 31 35.9	+2.9
SIV	San Ignacio	13.77	91	Pn		Pn		01 31 34.7	-5.4
	0.7nm,0.3s,baz=296,slow=11,SNR=27								
SAML	Samuel	13.89	60			Pn		01 31 39.6	-2.2
AHML	Horco Molle	14.13	140	eP		Pn		01 31 46.5	+1.5
VCA	Vinchina	14.18	153	eP		Pn		01 31 49.8	+4.0
GO04	Tololo Observa	14.59	164			Pn		01 31 51.6	+0.1
AGUA	GUANDACOL	14.72	156	eP		P		01 32 00.2	+0.8
AROD	Rodeo	14.98	160	eP		P		01 32 03.8	+1.4
CYA	Choya	15.11	146	eP		Pn		01 32 00.7	+2.3
ACLC	CERRO LA CRUZ	15.33	151	eP		Pn		01 32 04.3	+2.9
ACCO	Cerro Coronel	15.50	159	eP		P		01 32 07.9	-0.3
AMOG	MOGNA	16.02	158	eP		P		01 32 16.8	+3.1
PTLC	Puerto Leguiza	16.22	2	eP		Pn		01 32 08.9	-3.9
PTLC	Puerto Leguiza	16.22	2	eP		Pn		01 32 08.9	-3.9
APLL	PUNTA DE LOS L	16.35	152	eP		P		01 32 16.8	-0.5
RTLS	Leoncito	16.55	161	eP		P		01 32 23.9	+4.1
OTAV	Otavalo	16.55	349	Pn		Pn		01 32 18.2	+0.7
OTAV	Otavalo	16.55	349	eP		P		01 32 20.2	+0.1
CFA	Coronel Fontan	16.72	158	Pn		P		01 32 21.8	+0.3
	0.5nm,0.3s,baz=338,slow=12,SNR=28								
CFA					LR		LR	01 37 52.5	
	comp=Z,6μm,20.2s,baz=338,slow=34								
RTCV	Cerro Valdivia	16.85	159	eP		P		01 32 23.4	+0.6
ROC1	El Roble	17.22	167			Pn		01 32 24.3	-1.4
ASAL	Salagasta	17.43	161	eP		P		01 32 31.6	+2.4
CRUC	La Cruz	17.66	355	eP		P		01 32 32.8	+0.5
CRUC	La Cruz	17.66	355	eP		P		01 32 32.8	+0.5
ACAN	Cantantal	17.71	157	eP		P		01 32 34.4	+2.1
AAGR	Agrelo	17.89	162	eP		P		01 32 35.4	+1.0
TCA	Tanti	18.05	149	eP		P		01 32 39.3	+3.1
BBAC	Balboa, Cauca	18.14	354	eP		Pn		01 32 36.1	-0.9
BBAC	Balboa, Cauca	18.14	354	eP		Pn		01 32 36.1	-0.9
MACC	Macarena, Meta	18.23	5	eP		P		01 32 44.8	+6.6
MACC	Macarena, Meta	18.23	5	eP		P		01 32 44.8	+6.6
MRA	San Martin	18.43	153	eP		Pn		01 32 42.0	+1.5
POPC	Popayan, Colom	18.61	356	eP		P		01 32 40.1	-2.4
POPC	Popayan, Colom	18.61	356	eP		P		01 32 40.1	-2.4
BETC	Betania	18.70	360	eP		Pn		01 32 49.4	+5.7
BETC	Betania	18.70	360	eP		Pn		01 32 49.4	+5.7
GO05	Huala	19.05	171	P		P		01 32 45.8	-1.3
AQDB	Aquidauana	19.19	106	eP		P		01 32 47.5	-1.2
AQDB	Aquidauana	19.19	106	eP		P		01 32 47.5	-1.2
CPUP	Villa Florida	19.63	124	P		Pn		01 32 55.0	+0.2
	0.2nm,0.3s,baz=300,slow=11,SNR=12								
CPUP					LR		LR	01 41 42.5	
	comp=Z,5μm,18.6s,baz=302,slow=41								
CPUP	Villa Florida	19.63	124	P		P		01 32 53.9	+0.3
CPUP	Villa Florida	19.63	124	eP		Pn		01 32 54.5	-0.4
PP1B	Ponte de Pedra	19.69	97	eP		P		01 32 53.9	-0.3
PP1B	Ponte de Pedra	19.69	97	eP		P		01 32 53.9	-0.3
CLDB	Colider	19.76	77	eP		P		01 32 51.6	-3.3
CLDB	Colider	19.76	77	eP		P		01 32 51.6	-3.3
ORTC	Ortega, Tolima	19.92	0	eP		Pn		01 33 02.7	+4.3
ORTC	Ortega, Tolima	19.92	0	eP		Pn		01 33 02.7	+4.3
YOTC	Yotoco, Valle	20.02	357	eP		P		01 32 52.8	-5.1
YOTC	Yotoco, Valle	20.02	357	eP		P		01 32 52.8	-5.1
MALC	Bahia Malaga	20.12	354	eP		P		01 32 58.7	-0.1
MALC	Bahia Malaga	20.12	354	eP		P		01 32 58.7	-0.1
VILC	Villavicencio,	20.19	5	eP		Pn		01 33 03.4	+1.7
VILC	Villavicencio,	20.19	5	eP		Pn		01 33 03.4	+1.7
TOLC	Tolima	20.59	0	eP		Pn		01 33 12.0	+5.4
TOLC	Tolima	20.59	0	eP		Pn		01 33 12.0	+5.4
ROSC	El Rosal	20.87	3	LR		LR		01 42 48.1	
	comp=Z,19μm,18.1s,baz=217,slow=42								
ROSC	El Rosal	20.87	3	P		P		01 33 07.1	-0.4
RREF	El Recreo	20.91	0	eP		Pn		01 33 12.7	+2.1
RREF	El Recreo	20.91	0	eP		Pn		01 33 12.7	+2.1
GUY2C	Guyana, Caldas	21.23	0	eP		P		01 33 12.0	+0.7
GUY2C	Guyana, Caldas	21.23	0	eP		P		01 33 12.0	+0.7
PAYG	Puerto Ayora	21.26	315	P		P		01 33 12.5	+1.3
PAYG					IAmb		IAmb	01 33 29.0	
	comp=Z,54nm,1.1s								
NORC	Norcasia	21.57	1	eP		P		01 33 11.4	-3.3
NORC	Norcasia	21.57	1	eP		P		01 33 11.4	-3.3
C2SB	Chapadao do Su	21.68	100	eP		P		01 33 15.5	-0.2
C2SB	Chapadao do Su	21.68	100	eP		P		01 33 15.5	-0.2
SPBC	San Pablo de B	21.69	4	eP		P		01 33 16.7	+0.7
SPBC	San Pablo de B	21.69	4	eP		P		01 33 16.7	+0.7
CBOC	Ciudad Bolivar	21.87	358	eP		P		01 33 22.0	+4.0
CBOC	Ciudad Bolivar	21.87	358	eP		P		01 33 22.0	+4.0
RUSC	La Rusia	22.01	6	eP		P		01 33 23.3	+3.5
RUSC	La Rusia	22.01	6	eP		P		01 33 23.3	+3.5
HELC	Santa Helena	22.19	360	eP		P		01 33 19.3	-2.3
HELC	Santa Helena	22.19	360	eP		P		01 33 19.3	-2.3
TRCB	Terra Rica	22.44	111	eP		P		01 33 24.6	+0.6
TRCB	Terra Rica	22.44	111	eP		P		01 33 24.6	+0.6
PTBC	PUERTO BERRIO,	22.55	2	eP		P		01 33 24.6	-0.5
PTBC	PUERTO BERRIO,	22.55	2	eP		P		01 33 24.6	-0.5
ARAG	Araguaiana, MT	22.68	92	eP		P		01 33 23.8	-2.8
ARAG	Araguaiana, MT	22.68	92	eP		P		01 33 23.8	-2.8
BARC	Barichara	22.69	6	eP		P		01 33 37.3	+10
BARC	Barichara	22.69	6	eP		P		01 33 37.3	+10
TAMC	Tame, Arauca	22.71	9	eP		P		01 33 26.0	-0.9
TAMC	Tame, Arauca	22.71	9	eP		P		01 33 26.0	-0.9
DBBC	Dabeiba	23.02	358	eP		P		01 33 37.9	+7.8
DBBC	Dabeiba	23.02	358	eP		P		01 33 37.9	+7.8
BRRC	Barranca, Sant	23.16	4	eP		P		01 33 34.6	+3.2
BRRC	Barranca, Sant	23.16	4	eP		P		01 33 34.6	+3.2
PTGB	Pitanga	23.44	115	eP		P		01 33 34.9	+0.5
PTGB	Pitanga	23.44	115	eP		P		01 33 34.9	+0.5
PCMB	Pacaembu	23.46	107	eP		P		01 33 33.2	-1.4
PCMB	Pacaembu	23.46	107	eP		P		01 33 33.2	-1.4
PAMC	Pamplona, Colo	23.48	7	eP		P		01 33 44.6	+9.4
PAMC	Pamplona, Colo	23.48	7	eP		P		01 33 44.6	+9.4
GO06	Curarrehue	23.61	172	P		P		01 33 37.1	+1.2
ELOV	Elorza	23.73	15	eP		P		01 33 35.3	-1.8
ELOV	Elorza	23.73	15	eP		P		01 33 35.3	-1.8
ITRB	Iturama	24.07	102	eP		P		01 33 39.2	-1.3
ITRB	Iturama	24.07	102	eP		P		01 33 39.2	-1.3
ITAB	Concordia	24.23	121	eP		P		01 33 41.9	+0.1
ITAB	Concordia	24.23	121	eP		P		01 33 41.9	+0.1
AZU	Azuero	24.26	348	eP		P		01 33 39.9	-2.2
AZU	Azuero	24.26	348	eP		P		01 33 39.9	-2.2
OCAC	Ocana	24.31	5	eP		P		01 33 38.6	-4.2
OCAC	Ocana	24.31	5	eP		P		01 33 38.6	-4.2
LPA	La Plata	24.38	143	i P		P		01 33 38.9	-4.1
LPA					PPP		PPP	01 34 23.7	
LPA					PPP		PPP	01 36 07.8	
LPA					sS		sS	01 38 21.9	+17
CPSB	Cacapava Do Su	24.60	129	eP		P		01 33 44.5	-0.6
CPSB	Cacapava Do Su	24.60	129	eP		P		01 33 44.5	-0.6
SOCV	Socops	24.68	11	eP		P		01 33 41.3	-4.7
SOCV	Socops	24.68	11	eP		P		01 33 41.3	-4.7
SMLC	San Martn de	24.82	3	eP		P		01 33 43.3	-3.9
SMLC	San Martn de	24.82	3	eP		P		01 33 43.3	-3.9
TRQA	Tornquist	24.83	154	P		P		01 33 47.2	+0.1
TRQA					IAmb		IAmb	01 33 57.7	
	comp=Z,25nm,1.1s								
TRQA	Tornquist	24.83	154	eP		P		01 33 49.3	+2.1
PLCA	Paso Flores	24.86	171	P		P		01 33 49.5	+2.0
	comp=Z,8.0nm,0.8s,baz=2.2,slow=12,SNR=16								
PLCA					LR		LR	01 41 40.2	
	comp=Z,2μm,20.8s,baz=8.5,slow=32								
PLCA	Paso Flores	24.86	171	P		P		01 33 47.8	+0.3
PLCA					IAmb		IAmb	01 34 04.2	
	comp=Z,37nm,1.1s								
PLCA	Paso Flores	24.86	171	eP		P		01 33 50.0	+2.5
PLTB	Pedras Altas	25.19	132	eP		P		01 33 49.5	-1.1
PLTB	Pedras Altas	25.19	132	eP		P		01 33 49.5	-1.1
SDV	Santo Domingo	25.31	11	P		P		01 33 51.1	-0.8
	comp=Z,6.7nm,0.8s,baz=250,slow=5.6,SNR=9.0								
SDV					LR		LR	01 45 32.1	
	comp=Z,6μm,19.5s,baz=204,slow=41								
SDV	Santo Domingo	25.31	11	P		P		01 33 51.4	-0.4
SDV	Santo Domingo	25.31	11	eP		P		01 33 52.7	+0.8
FRTB	Fartura	25.32	111	eP		P		01 33 51.7	-0.1
FRTB	Fartura	25.32	111	eP		P		01 33 51.7	-0.1
SJCC	San Jacinto, C	25.87	0	eP		P		01 34 07.2	+10
SJCC	San Jacinto, C	25.87	0	eP		P		01 34 07.2	+10
BB19B	Bebedouro	25.91	105	eP		P		01 33 58.0	+0.8
BB19B	Bebedouro	25.91	105	eP		P		01 33 58.0	+0.8
BDFB	Brasilia	26.33	93	P		P		01 33 58.9	-2.2
	comp=Z,12nm,0.9s,baz=266,slow=11,SNR=14								
BDFB					LR		LR	01 44 18.1	
	comp=Z,3μm,19.5s,baz=266,slow=36								
BDFB	Brasilia	26.33	93	P		P		01 34 00.8	-0.4
RCLB	Rio Claro- Sao	27.01	108	eP		P		01 34 07.8	+0.8
RCLB	Rio Claro- Sao	27.01	108	eP		P		01 34 07.8	+0.8
SPB	Sao Paulo	27.29	110	P		P		01 34 09.2	-0.3
SPB	Sao Paulo	27.29	110	eP		P		01 34 09.4	-0.2
VAO	Valinhos	27.61	109	eP		P		01 34 12.6	0.0
VAO	Valinhos	27.61	109	eP		P		01 34 12.6	0.0
JTS	Las Juntas de	27.91	340	LR		LR		01 45 18.2	
	comp=Z,5μm,18.6s,baz=233,slow=37								
PCRV	Puerto La Cruz	28.23	23	LR		LR		01 47 57.2	
	comp=Z,2μm,18.0s,slow=42								
BSCB	Bom Sucesso	29.40	104	eP		P		01 34 28.1	-0.4
BSCB	Bom Sucesso	29.40	104	eP		P		01 34 28.1	-0.4
SJMB	Sao Joao De Ma	32.71	100	eP		P		01 34 57.9	+0.2
SJMB	Sao Joao De Ma	32.71	100	eP		P		01 34 57.9	+0.2
BSFB	Barra de Sao F	33.03	100	eP		P		01 34 59.4	-1.0
BSFB	Barra de Sao F	33.03	100	eP		P		01 34 59.4	-1.0
RPN	Rapa Nui	33.29	245	LR		LR		01 44 59.7	
	comp=Z,4μm,19.8s,baz=68,slow=30								
RIB01	Linhares ES	33.45	101	eP		P		01 35 04.0	-0.2
RIB01	Linhares ES	33.45	101	eP		P		01 35 04.0	-0.2
NBPN	Ponto Novo - B	34.60	86	eP		P		01 35 11.7	-2.4
NBPN	Ponto Novo - B	34.60	86	eP		P		01 35 11.7	-2.4
NBIT	Itapeh - BA	34.64	93	eP		P		01 35 14.6	+0.1
NBIT	Itapeh - BA	34.64	93	eP		P		01 35 14.6	+0.1
AOPR	Arecibo Observ	35.31	14	P		P		01 35 20.1	-0.1
NBPS	Pedro II - PI	35.32	74	eP		P		01 35 20.3	-0.2
NBPS	Pedro II - PI	35.32	74	eP		P		01 35 20.3	-0.2
ANWB	Willy Bob	36.17	22	P		P		01 35 27.2	-0.3
NBPB	Pedra_Branca-C	36.65	77	eP		P		01 35 31.1	-0.7
NBPB	Pedra_Branca-C	36.65	77	eP		P		01 35 31.1	-0.7
NBMA	Muriti-CE	36.85	81	eP		P		01 35 32.4	-1.2
NBMA	Muriti-CE	36.85	81	eP		P		01 35 32.4	-1.2
NBLA	Lagarto - SE	36.88	87	eP		P		01 35 31.9	-1.8
NBLA	Lagarto - SE	36.88	87	eP		P		01 35 31.9	-1.8
EFI	East Falkland	38.05	162	P		P		01 35 42.3	-0.9
EFI					IAmb		IAmb	01 35 43.4	
	comp=Z,48nm,1.1s								
TEIG	Tepich	38.29	340	P		P		01 35 45.1	-0.4
TEIG					IAmb		IAmb	01 35 53.8	
	comp=Z,29nm,1.1s								
RCBR	Riachuelo	40.03	80	P		P		01 35 59.0	-1.2
RCBR					IAmb		IAmb	01 36 07.0	
	comp=Z,44nm,1.1s								
RCBR	Riachuelo	40.03	80	eP		P		01 35 58.4	-1.9
061Z	Ochoppi	42.10	353	P		P		01 36 17.8	+0.8
154A	Montrose	49.04	351	P		P		01 37 11.9	+0.1
PMSA	Palmer Station	49.20	174	eP		P		01 37 14.4	+1.7
PMSA	Palmer Station	49.20	174	eP		P		01 37 14.4	+1.7
152A	Waverly Hall	49.35	350	P		P		01 37 14.6	+0.4
152A					IAmb		IAmb	01 37 21.2	
	comp=Z,9.5nm,0.9s								
HKT	Hockley	49.88	337	P		P		01 37 19.0	+0.7
833A	Chaparral WMA,	49.94	332	P		P		01 37 19.2	+0.4
Y57A	Sumter	50.10	355	P		P		01 37 19.6	-0.3
Z50A	Ashland	50.14	348	IAmb		IAmb		01 37 38.5	
	comp=Z,12nm,1.1s								
LRAL	Lakeview Retre	50.14	347	P		P		01 37 19.0	-1.2
	baz=165								
LRAL	Lakeview Retre	50.14	347	IAmb		IAmb		01 37 34.2	
	comp=Z,12nm,1.1s								
Y55A	Saluda	50.18	353	P		P		01 37 18.8	-1.8

S51A Beattyville 54.05 352 P **P** **01 37 47.9 -1.4**
S51A IAmb IAmb 01 38 00.0
comp=Z,12nm,0.9s
S50A Richmond 54.20 351 P **P** **01 37 48.1 -2.3**
baz=169
R58A Rapidan 54.21 357 P **P** **01 37 49.5 -0.9**
baz=177
R57A Stanardsville 54.23 357 P **P** **01 37 49.5 -1.1**
baz=176
R54A Victor 54.29 355 P **P** **01 37 49.8 -1.3**
baz=173
R51A Hillsboro 54.70 352 P **P** **01 37 51.5 -2.5**
baz=170
U40A Yellville 54.76 343 P **P** **01 37 52.7 -1.8**
baz=159
U40A Yellville 54.76 343 P **P** **01 37 53.5 -1.1**
U40A IAmb IAmb 01 38 01.6
comp=Z,8.7nm,0.8s
R50A Paris 54.78 351 P **P** **01 37 52.5 -2.2**
baz=169
R50A Paris 54.78 351 IAmb IAmb 01 37 54.9
comp=Z,14nm,1.1s
X34A Smith Ranch, M 54.79 337 IAmb IAmb 01 38 02.6
comp=Z,18nm,0.9s
Q58A Fox Den Farm, 54.83 358 P **P** **01 37 53.9 -1.0**
baz=177
Q57A Strasburg 54.96 357 P **P** **01 37 56.2 +0.3**
baz=176
Q56A Snyder Ridge, 55.01 356 P **P** **01 37 56.8 +0.5**
baz=175
Q56A Snyder Ridge, 55.01 356 IAmb IAmb 01 38 03.0
comp=Z,23nm,1.1s
WCI Wyandotte Cave 55.04 350 P **P** **01 37 54.4 -2.1**
baz=167
WCI Wyandotte Cave 55.04 350 P **P** **01 37 55.8 -0.7**
TUL1 Leonard 55.25 340 P **P** **01 37 56.6 -1.5**
baz=156
Q50A Georgetown 55.28 352 P **P** **01 37 57.9 -0.3**
baz=170
MGMO Mountain Grove 55.34 344 IAmb IAmb 01 38 15.9
comp=Z,17nm,1.1s
Q51A Peebles 55.38 352 P **P** **01 37 57.0 -1.9**
baz=171
Q51A Peebles 55.38 352 IAmb IAmb 01 37 59.1
comp=Z,19nm,1.1s
P56A Dayton Farm, R 55.45 357 P **P** **01 37 59.4 0.0**
baz=176
Q49A Aurora 55.57 351 P **P** **01 37 57.9 -2.4**
baz=169
P53A Whipple 55.62 354 P **P** **01 38 00.2 -0.5**
baz=173
Q48A North Vernon 55.63 350 P **P** **01 37 57.9 -2.8**
baz=168
P54A Burton 55.66 355 P **P** **01 37 59.6 -1.4**
baz=174
P51A Williamsport 55.79 353 P **P** **01 38 01.0 -0.9**
baz=171
CCM Cathedral Cave 55.93 345 P **P** **01 38 02.7 -0.2**
baz=161
O57A Amberson 56.10 358 P **P** **01 38 03.3 -0.8**
baz=177
P48A Milroy 56.10 351 P **P** **01 38 01.2 -2.9**
baz=168
O51A Pataskala 56.40 353 P **P** **01 38 03.4 -2.8**
baz=172
ACSO Alum Creek Sta 56.52 353 P **P** **01 38 05.0 -2.1**
baz=171
ACSO Alum Creek Sta 56.52 353 P **P** **01 38 06.6 -0.5**
N59A State Game Lan 56.77 360 P **P** **01 38 08.8 -0.1**
baz=179
N56A West Decatur 56.83 357 P **P** **01 38 08.8 -0.5**
baz=176
N50A Nevada 57.08 353 P **P** **01 38 10.6 -0.5**
baz=171
319A Douglas 57.37 326 P **P** **01 38 13.9 +0.4**
319A IAmb IAmb 01 38 31.6
comp=Z,9.1nm,0.9s
M56A Emporium 57.39 358 P **P** **01 38 12.3 -1.0**
baz=177
M54A Oil Creek Stat 57.49 356 P **P** **01 38 11.8 -2.2**
baz=175
N47A Urbana 57.53 351 P **P** **01 38 11.5 -2.8**
baz=168
M50A Fremont 57.69 353 P **P** **01 38 13.8 -1.5**
baz=171
M49A Liberty Center 57.87 352 P **P** **01 38 15.7 -0.9**
baz=170
L56A Greenwood 58.02 358 P **P** **01 38 18.2 +0.5**
L56A IAmb IAmb 01 38 23.9
comp=Z,20nm,1.0s
L59A Walton 58.04 0 P **P** **01 38 16.9 -0.9**
baz=180
L59A Walton 58.04 0 P **P** **01 38 17.3 -0.6**
BINY Binghamton 58.05 359 P **P** **01 38 17.4 -0.5**
baz=179
ANMO Albuquerque 58.75 330 P **P** **01 38 24.3 +1.1**
ANMO IAmb IAmb 01 38 37.5
comp=Z,8.1nm,1.1s
K48A Perry 59.20 353 P **P** **01 38 23.5 -2.3**
baz=170
J48A Bridge Point 59.65 353 P **P** **01 38 26.3 -2.6**
baz=170
J47A Sunmer 59.72 352 P **P** **01 38 26.8 -2.6**
baz=169
SDCO Great Sand Dun 60.62 333 P **P** **01 38 36.0 -0.1**
baz=146
X16A Lo Mia Camp, P 60.86 326 IAmb IAmb 01 38 53.0
comp=Z,8.4nm,1.1s
MVCO Mesa Verde 61.55 330 P **P** **01 38 43.3 +0.9**
MVCO IAmb IAmb 01 38 56.1
comp=Z,6.9nm,1.1s
E56A St. Veronique 62.39 0 P **P** **01 38 46.8 -0.7**
baz=180
ECSD EROS Data Cent 62.67 343 P **P** **01 38 47.7 -1.8**
baz=157
ECSD EROS Data Cent 62.67 343 IAmb IAmb 01 39 03.7
comp=Z,12nm,1.1s
D58A Chemin du LacG 62.98 2 P **P** **01 38 50.7 -0.8**
baz=183
SPMN Marine on St. 63.09 346 P **P** **01 38 50.7 -1.5**
baz=161
SPMN Marine on St. 63.09 346 P **P** **01 38 51.7 -0.5**
D47A Chapleau 63.28 354 P **P** **01 38 52.5 -1.0**
baz=172
DUG Dugway, Tooele 65.98 329 P **P** **01 39 11.4 0.0**
baz=140
DUG Dugway, Tooele 65.98 329 IAmb IAmb 01 39 20.8
comp=Z,5.5nm,0.9s
R11A Troy Canyon, C 66.01 326 P **P** **01 39 12.3 +0.6**
baz=137
R11A Troy Canyon, C 66.01 326 P **P** **01 39 13.1 +1.3**
PDAR Pinedale Array 66.50 333 P **P** **01 39 13.6 -1.3**
comp=Z,0.7nm,0.8s,baz=149,slow=3.5,SNR=5.6
PDAR Pinedale Array 66.50 333 P **P** **01 39 15.1 +0.2**
AGMN Agassiz Nation 66.70 345 P **P** **01 39 16.1 +0.4**
baz=158
AGMN Agassiz Nation 66.70 345 IAmb IAmb 01 39 22.5
comp=Z,13nm,0.9s
DRLN Deer Lake 67.01 13 P **P** **01 39 17.0 -0.7**
VNA3 Neumayer Olymp 67.09 161 P **P** **01 39 21.8 +3.8**
HVU Hansel Valley 67.18 330 P **P** **01 39 19.5 +0.4**
MDND Maddock 67.28 343 P **P** **01 39 20.2 +0.8**
NVAR Mina Array Bea 67.55 325 P **P** **01 39 20.8 -0.8**
comp=Z,0.6nm,0.8s,baz=151,slow=6.6,SNR=6.5
NVAR LR LR 02 05 06.8
comp=Z,779nm,21.1s,baz=136,slow=33
NVAR Mina Array Bea 67.55 325 P **P** **01 39 23.2 +1.6**
VNA2 Neumayer--Watz 67.71 161 P **P** **01 39 21.9 0.0**
baz=277,slow=2.6
FLWY Flagg Ranch 68.06 333 P **P** **01 39 25.3 +0.6**
FLWY IAmb IAmb 01 39 33.6
comp=Z,9.6nm,0.9s
LAO LASA Array 68.42 338 P **P** **01 39 28.3 +1.6**
baz=148
YERR Yerington 68.46 325 P **P** **01 39 27.3 0.0**
ULM Lac du Bonnet 68.52 346 P **P** **01 39 27.2 +0.1**
comp=Z,5.7nm,0.9s,baz=160,slow=8.1,SNR=6.9
ULM LR LR 02 11 11.2
comp=Z,603nm,19.8s,baz=142,slow=38
ULM Lac du Bonnet 68.52 346 IAmb IAmb 01 39 33.6
comp=Z,15nm,0.9s
YHL Hebgen Lake 68.88 334 P **P** **01 39 30.7 +0.8**
PAHR Pah Rah Range 69.05 325 P **P** **01 39 32.6 +1.7**
PAHR IAmb IAmb 01 39 46.2
comp=Z,6.2nm,1.0s
DGMT Dagmar 69.25 340 P **P** **01 39 33.0 +1.2**
SNAA Sanae 69.31 161 P **P** **01 39 33.8 +1.8**
SNAA Sanae 69.31 161 P **P** **01 39 31.7 -0.3**
SNAA IAmb IAmb 01 39 46.5
comp=Z,8.8nm,1.0s
TBI Tubuai 69.43 251 *e*S **S** **01 48 38.9 -2.2**
comp=Z,1μm,27.8s
TBI *e*LQ LQ 01 57 47.4
comp=Z,370nm,30.2s
TBI *e*LR LR 02 00 38.9
comp=Z,2μm,27.2s,baz=90
MCMT McKenzie Canyo 69.59 333 P **P** **01 39 35.8 +1.6**
PPT2 Papeete2 70.56 257 *e*S **S** **01 48 49.9 -4.8**
comp=Z,2μm,28.0s
PPT2 Papeete2 70.56 257 *e*LR LR 02 01 11.0
comp=Z,2μm,23.8s,baz=102
PPT Papeete 70.56 257 LR LR 02 02 36.9
comp=Z,882nm,20.9s,baz=124,slow=29
SCHQ Schefferville 71.06 5 LR LR 02 12 07.3
comp=Z,602nm,20.2s,baz=188,slow=37
MSO Missoula 71.62 333 P **P** **01 39 48.9 +2.5**
baz=141
LIC Lamto 73.07 78 *e*P **P** **01 39 53.5 -2.1**
comp=Z,56nm,1.1s
TIC Toumodi 73.21 78 *e*P **P** **01 39 54.7 -1.8**
DBIC Dimbokro 73.37 78 P **P** **01 39 56.2 -1.2**
comp=Z,28nm,1.2s,baz=235,slow=5.4,SNR=5.3
DBIC LR LR 02 11 03.1
comp=Z,2μm,18.3s,baz=223,slow=35
DBIC Dimbokro 73.37 78 P **P** **01 39 56.6 -0.8**
KIC Kosan Boka 73.38 78 *e*P **P** **01 39 55.6 -1.9**
comp=Z,111nm,1.2s
QSPA South Pole Qui 74.02 180 P **P** **01 40 02.7 +2.2**
comp=Z,3.7nm,0.7s,baz=162,slow=4.3,SNR=4.2
QSPA South Pole Qui 74.02 180 P **P** **01 40 02.0 +1.5**
QSPA IAmb IAmb 01 40 11.8
comp=Z,14nm,0.9s
TOA0 Torodi Ar. Sit 81.56 74 P **P** **01 40 42.2 -1.0**
TORD Torodi Ar. Bea 81.56 74 P **P** **01 40 42.1 -1.1**
comp=Z,26nm,0.9s,baz=257,slow=4.6,SNR=75
TORD LR LR 02 15 31.3
comp=Z,2μm,19.1s,baz=300,slow=35
TORD Torodi Ar. Bea 81.56 74 P **P** **01 40 41.2 -2.0**
PVAQ Vaqueiros 82.90 48 *e*LR LR 02 10 05.0
comp=Z,778nm,20.0s
PMRV Marv??o 84.03 46 *e*LR LR 02 11 10.5
comp=Z,737nm,18.0s
YKA Yellowknife Ar 84.20 343 P **P** **01 40 55.2 -0.7**
comp=Z,1.3nm,0.8s,baz=139,slow=5.7,SNR=3.4
YKA LR LR 02 20 03.4
comp=Z,76nm,18.9s,baz=126,slow=37
MTE Manteigas 84.36 45 *e*LR LR 02 11 50.0
comp=Z,826nm,20.0s
MVO Moncorvo 85.05 45 *e*LR LR 02 12 28.2
comp=Z,674nm,18.0s
ESDC Sonseca Array 86.53 47 LR LR 02 16 17.2
comp=Z,726nm,20.1s,baz=245,slow=33
ESDC Sonseca Array 86.53 47 P **P** **01 41 07.5 -0.7**
DLBC Dease Lake 86.70 335 P **P** **01 41 08.0 -0.6**
comp=Z,3.3nm,0.9s,baz=148,slow=11,SNR=4.3
DLBC Dease Lake 86.70 335 IAmb IAmb 01 41 11.7
comp=Z,5.1nm,0.9s
TAM Tamanrasset 88.08 66 P **P** **01 41 16.9 +0.8**
MAW Mawson 91.12 165 LR LR 02 19 57.8
comp=Z,1μm,20.7s,baz=238,slow=34
BOSA Boshof 91.41 120 LR LR 02 20 12.7
comp=Z,607nm,18.8s,baz=242,slow=34
SUMG Summit 91.83 10 *i*P P 01 41 38.6 +5.7
comp=Z,53nm,1.1s
EPYK Eagle Plains 93.84 339 P **P** **01 41 45.5 +3.7**
baz=122
INK Inuvik 93.89 342 P **P** **01 41 41.3 -0.6**
comp=Z,2.2nm,1.0s,baz=99,slow=8.3,SNR=5.5
A36M Sachs Harbour 94.00 346 P **P** **01 41 43.0 +0.6**
baz=132
BCAR Beaver Creek A 94.05 335 P **P** **01 41 42.4 -0.5**
KEST Kesra 95.10 54 LR LR 02 24 41.9
comp=Z,868nm,20.4s,baz=188,slow=36
ILAR Eielson Array 96.83 336 P **P** **01 41 55.4 -0.1**
comp=Z,0.6nm,0.9s,baz=147,slow=3.3,SNR=4.8
ILAR LR LR 02 27 33.4
comp=Z,389nm,21.6s,baz=115,slow=37
VYHS Vyhne 104.68 43 *e*PDIFF **Pdif** **01 42 31.4 +0.5**
DZM Mont Dzumac 108.51 240 *e*LR LR 02 18 48.7
comp=Z,2μm,27.9s
AKASG Malin Array Be 111.56 41 PP **PP** **01 47 41.0 +0.3**
comp=Z,0.2nm,0.3s,baz=272,slow=6.2,SNR=5.6
H11N3 WAKE ISLAND Hy120.89 284 T T 03 59 51.9
baz=98,slow=74,SNR=5.0
H11N2 WAKE ISLAND Hy120.91 284 T T 03 59 48.0
baz=176,slow=74,SNR=5.3
H11S2 WAKE ISLAND Hy120.92 282 T T 04 00 08.7
baz=99,slow=75,SNR=11
H11S1 WAKE ISLAND Hy120.93 282 T T 04 00 01.6
baz=99,slow=75,SNR=7.3
H11S3 WAKE ISLAND Hy120.94 282 T T 04 00 07.9
baz=99,slow=75,SNR=7.8
ABKAR Akbulak array 131.04 38 **PKPdf** **01 47 37.3 +0.6**
ABKAR Akbulak array 131.04 38 **PKPdf** **01 47 37.1 +0.5**
ASAR Alice Springs 131.16 217 PKP **PKPdf** **01 47 38.8 +1.0**
comp=Z,1.1nm,0.8s,baz=140,slow=2.5,SNR=8.9
ASAR Alice Springs 131.16 217 **PKPdf** **01 47 38.7 +0.9**
WRA Warramunga Arr 133.74 220 PKP **PKPdf** **01 47 43.6 +0.9**
comp=Z,1.0nm,0.7s,baz=147,slow=1.6,SNR=12
WRA Warramunga Arr 133.74 220 **PKPdf** **01 47 42.7 0.0**
ZAA0 Zalesovo Array 139.24 18 **PKPdf** **01 47 52.0 +0.2**
ZALV Zalesovo Beam 139.24 18 PKP **PKPdf** **01 47 51.9 +0.1**
comp=Z,2.3nm,0.6s,baz=282,slow=2.7,SNR=11
ZALV Zalesovo Beam 139.24 18 **PKPdf** **01 47 51.2 -0.6**
USRK Ussuriysk Ar. 143.68 326 PKP PKPbc 01 47 58.5 +1.0
comp=Z,2.3nm,0.9s,baz=29,slow=3.8,SNR=7.3
USRK Ussuriysk Ar. 143.68 326 PKPbc 01 47 58.8 +1.3
MJAR Matsushiro Arr 143.94 311 PKP PKPbc 01 47 59.7 +1.1
comp=Z,2.2nm,0.5s,baz=117,slow=3.1,SNR=6.1
MJAR Matsushiro Arr 143.94 311 **PKPab** **01 47 59.3 +1.3**
MKAR Makanchi Array 144.25 27 PKP PKPbc 01 48 01.0 +1.7
comp=Z,2.1nm,1.0s,baz=336,slow=3.2,SNR=4.5
MKAR Makanchi Array 144.25 27 **PKPdf** **01 48 01.7 +0.7**
NRN Naryn 144.75 39 **PKPab** **01 48 01.9 +0.7**
KDJ Kajisay 145.01 37 **PKPdf** **01 48 03.7 +1.0**
TARG Taragay, Kyrgy 145.62 37 **PKPab** **01 48 05.2 +0.7**
KSH Kashi 145.85 41 PKPbc **PKPdf** **01 48 05.3 +1.1**
KSH PP **PP** **01 51 31.3 +5.8**
KSH SS SS 02 10 22.4 +2.4
FAKI Fak Fak 146.75 238 **PKPdf** **01 48 06.8 +0.5**
NIL Nilore 146.82 52 **PKPbc** **01 48 07.7 0.0**
CN2 Changchun 147.24 332 *e*PKPbc **PKPdf** **01 48 04.3 -1.9**
CN2 LR LR
comp=Z,320nm,16.0s
CN2 LR LR
comp=Z,220nm,16.0s
CN2 LR LR
comp=Z,370nm,16.0s
ULN Ulaanbaatar 148.30 357 **PKPbc** **01 48 11.8 +0.3**
SONM Songino Array 148.36 358 PKPbc **PKPbc** **01 48 11.2 -0.4**
comp=Z,5.7nm,1.0s,baz=341,slow=2.1,SNR=15
WMQ Urumqi 148.89 24 *e*PKPbc **PKPdf** **01 48 08.4 -0.6**
WMQ LR LR
comp=Z,390nm,27.9s
KSRS Korea Array 150.42 320 PKPbc **PKPbc** **01 48 17.6 +0.8**
comp=Z,7.1nm,1.0s,baz=42,slow=1.1,SNR=16
KSAR Wonju Array Be 150.45 320 **PKPbc** **01 48 17.5 +0.7**
HHC Hu-ho-hao-te 154.65 348 *e*PKPbc **PKPdf** **01 48 14.5 -3.3**
GTA Gaotai 156.44 9 *e*PKP **PKPdf** **01 48 18.9 -1.4**
GTA pPKP sPKPdf 01 48 28.3 +6.1
GTA LR LR
comp=Z,300nm,21.3s
GTA LR LR
comp=Z,150nm,20.9s
GTA LR LR
comp=Z,530nm,24.0s
NJ2 Nanjing 159.54 323 *e*PKP **PKPdf** **01 48 24.5 +0.4**
LZH Lanzhou 160.12 2 *e*PKP **PKPdf** **01 48 23.0 -1.9**
LZH pPKP sPKPdf 01 48 29.8 +3.0
LZH sPKP 01 48 31.8
LZH PKPab **PKPab** **01 49 05.6 +0.9**
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,230nm,20.1s
WHN Wuhan 163.12 330 PKP **PKPdf** **01 48 22.0 -6.0**
CD2 Chengdu 165.28 3 PKP **PKPdf** **01 48 28.3 -1.7**
GYA Guiyang 169.56 350 *e*PKP **PKPdf** **01 48 38.0 +4.7**
GYA AMB AMB
comp=Z,120nm,7.9s
KMI Kunming 170.89 11 PKP **PKPdf** **01 48 32.8 -1.4**
KMI LR LR
comp=Z,250nm,23.1s
KMI LR LR
comp=Z,380nm,21.9s
CMAR Chiang Mai Arr 174.12 66 PP PP 01 54 06.5 +7.3
comp=Z,0.8nm,0.3s,baz=297,slow=7.3,SNR=6.0

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*IDC **16** 01:28:35.9±1.9, 31°.60S×177°.87W, h0km, mb4.6/3, mb1 4.7/5, mb1mx4.1/45, mbtmp4.5/5, ML4.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=52.7km s-min=26.2km az=127.0*
*NEIC **16** 01:28:41.0±1.9, 31°.63S±0°.10×177°.8W±0°.2, h45km±14km, mb4.5/7*
ISC 16 01:28:38.9±1.3, 31°.67S±0°.08×177°.6W±0°.2, h35km, n23, σ2.9 21/23, mb4.5/7, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.42**	**354**	Pn	**Pn**	**01 29 15.9**	**0.0**
	160nm,0.3s,baz=228,slow=22,SNR=7.7						
RAO				Sn	**Sn**	**01 29 39.7**	**-4.7**
	424nm,0.3s,baz=96,slow=22,SNR=6.4						
RAO	**Raoul Island**	**2.42**	**354**		**Pn**	**01 29 17.3**	**+1.3**
URZ	**Urewera**	**7.87**	**212**	Pn	**Pn**	**01 30 30.7**	**-0.1**
	1.0nm,0.3s,baz=265,slow=4.5,SNR=8.8						
URZ				Sn	**Sn**	**01 31 58.3**	**-0.3**
	3.6nm,0.3s,baz=41,slow=22,SNR=7.1						
URZ	**Urewera**	**7.87**	**212**		**Sn**	**01 31 59.2**	**+0.6**
OUZ	**Omahuta**	**8.14**	**242**		**Pn**	**01 30 37.8**	**+3.2**
THZ	**Tophouse**	**12.61**	**214**		**Sn**	**01 33 48.1**	**-6.8**
RAR	**Rarotonga**	**19.05**	**61**	LR	LR	01 41 11.9	
	comp=Z,38nm,18.9s,baz=282,slow=39						
CTAO	**Charters Tower**	**34.33**	**281**	P	**P**	**01 35 22.6**	**+0.2**
STKA	**Stephens Creek**	**34.52**	**259**	P	**P**	**01 35 25.4**	**+1.5**
	4.1nm,0.8s,baz=98,slow=6.6,SNR=6.0						
STKA	**Stephens Creek**	**34.52**	**259**	IAmb	IAmb	01 35 26.3	
	comp=Z,1.7nm,1.1s						
COEN	**Coen**	**39.93**	**287**	P	**P**	**01 36 10.0**	**0.0**
COEN				IAmb	IAmb	01 36 12.0	
	comp=Z,4.8nm,0.9s						
AS31	**Alice Springs**	**43.37**	**268**	P	**P**	**01 36 37.7**	**-0.5**
AS31				IAmb	IAmb	01 36 38.9	
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**43.37**	**268**	P	**P**	**01 36 38.2**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=106,slow=7.6,SNR=84						
ASAR	**Alice Springs**	**43.37**	**268**	P	**P**	**01 36 37.0**	**-1.1**
MANU	**Manus Island**	**44.23**	**305**	P	**P**	**01 36 44.2**	**-0.9**
WB2	**Warramunga Arr**	**44.46**	**273**	P	**P**	**01 36 46.4**	**-0.5**
WB2				IAmb	IAmb	01 36 47.6	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**44.47**	**273**	P	**P**	**01 36 46.5**	**-0.4**
WRAB				IAmb	IAmb	01 36 47.6	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**44.47**	**273**	P	**P**	**01 36 46.9**	**-0.1**
	comp=Z,13nm,0.7s,baz=113,slow=7.7,SNR=108						
SYO	**Syowa Base**	**75.96**	**193**	*e*PcP	**PcP**	**01 40 32.0**	**-2.0**
FINES	**FINESS Array B**	**146.44**	**340**	PKPbc	**PKPbc**	**01 48 17.1**	**+1.5**
	comp=Z,6.4nm,0.8s,baz=50,slow=2.8,SNR=15						
NB2	**NORSAR Subarra**	**150.04**	**351**	PKP	**PKiKP**	**01 48 27.4**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=12,slow=2.5						
NOA	**NORSAR Array B**	**150.04**	**351**	PKPbc	**PKiKP**	**01 48 27.4**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=14,slow=4.1,SNR=3.8						
AKASG	**Malin Array Be**	**152.49**	**322**	PKPbc	**PKiKP**	**01 48 32.8**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=49,slow=2.2,SNR=5.3						

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*IDC **16** 01:35:05.4±3.0, 38°.38N×145°.41E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/58, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=75.6km s-min=31.4km az=55.0*
*JMA **16** 01:35:21.1±0.2, 37°.17N×144°.33E, h58km, M3.9*
ISC 16 01:35:16.0±3.5, 37°.24N±0°.05×144°.30E±0°.08, h7km±22km, n26, σ2.9 30/33, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.48**	**296**	P	**Pb**	**01 36 01.1**	**+0.2**
JIKH				S	**Sb**	**01 36 30.9**	**-0.8**
JIO	**Ouri**	**2.63**	**298**	P	**Pb**	**01 36 03.3**	**-0.1**
JIO				S	**Sb**	**01 36 34.8**	**-1.0**
JKMT	**Kesennumamotoy**	**2.72**	**306**	P	**Pn**	**01 36 04.2**	**+4.1**
JKMT				S	**Sb**	**01 36 36.2**	**-2.4**
JFK	**Kawauchi**	**2.73**	**274**	P	**Pb**	**01 36 04.1**	**-1.1**
JFK				*e*S	**Sb**	**01 36 36.1**	**-2.8**
JMST	**Minamisoumatoc**	**2.75**	**281**	P	**Pb**	**01 36 04.4**	**-1.1**
JMST				*e*S	**Sb**	**01 36 36.8**	**-2.7**
OFUJ	**Ofunato**	**2.77**	**312**	P	**Pn**	**01 36 04.8**	**+4.1**
OFUJ				S	**Sb**	**01 36 38.1**	**-1.7**
ONAJ	**Iwakimizuishiy**	**2.80**	**268**	P	**Pb**	**01 36 04.8**	**-1.5**
ONAJ				*e*S	**Sb**	**01 36 37.8**	**-3.0**
JMK	**Ichinoseki**	**2.97**	**306**	P	**Pb**	**01 36 08.1**	**-1.0**
JMK				*e*S	**Sb**	**01 36 43.3**	**-2.3**
JFT	**Otama**	**3.17**	**276**	P	**Pb**	**01 36 11.3**	**-1.3**
JFT				*e*S	**Sb**	**01 36 48.7**	**-2.7**
BSO1	**Boso 1**	**3.73**	**227**	P	**Pn**	**01 36 14.8**	**+1.3**
BSO1				*e*S	**Sn**	**01 36 58.3**	**+0.9**
JRY	**Ryogami san**	**4.51**	**256**	P	**Pn**	**01 36 27.9**	**+3.2**
JRY				*e*S	**Sn**	**01 37 18.4**	**+1.0**
JOD2	**Odawara 2**	**4.65**	**246**	P	**Pn**	**01 36 29.5**	**+2.9**
JOD2				*e*S	**Sn**	**01 37 21.0**	**+0.2**
MJAR	**Matsushiro Arr**	**4.93**	**264**	Pn	Pn	01 36 35.9	+5.4
	0.4nm,0.3s,baz=71,slow=13,SNR=13						
MAT	**Matsushiro**	**4.93**	**264**	P	**Pn**	**01 36 34.4**	**+3.9**
MAT				*e*S	**Sn**	**01 37 28.1**	**+0.3**
JKB	**Kayabe**	**5.28**	**332**	*e*S	**Sn**	**01 37 39.7**	**+3.4**
JCH	**Churui**	**5.41**	**353**	P	**Pn**	**01 36 39.1**	**+2.1**
JCH				*e*S	**Sn**	**01 37 37.2**	**-2.4**
JTKR	**Abashiri--Toko**	**6.73**	**358**	P	**Pn**	**01 36 56.5**	**+1.4**
JTKR				*e*S	**Sn**	**01 38 10.1**	**-1.8**
H11N2	**WAKE ISLAND Hy**	**26.33**	**125**	T	T	02 07 43.7	
	baz=317,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**26.34**	**125**	T	T	02 07 39.6	
	baz=317,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**26.35**	**125**	T	T	02 07 39.4	
	baz=317,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**27.09**	**127**	T	T	02 08 38.6	
	baz=318,slow=76,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**27.10**	**127**	T	T	02 08 41.0	
	baz=318,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**27.11**	**127**	T	T	02 08 39.3	
	baz=318,slow=76,SNR=9.8						
SONM	**Songino Array**	**29.59**	**303**	P	P	01 41 13.4	-8.3
	0.3nm,0.6s,baz=106,slow=9.3,SNR=2.7						
WRA	**Warramunga Arr**	**57.65**	**191**	P	**P**	**01 45 05.9**	**-1.0**
	0.6nm,0.5s,baz=10,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**61.37**	**191**	P	**P**	**01 45 32.2**	**-0.3**
	0.7nm,0.8s,baz=16,slow=11,SNR=4.8						

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*NEIC **16** 01:52:30.3±1.9, 13°.29N±0°.09×144°.7E±0°.2, h80km±5km, mb4.5/13*
*IDC **16** 01:52:30.1±0.7, 13°.35N×144°.81E, h78km±4km, mb3.7/15, mb1 3.9/15, mb1mx3.6/47, mbtmp4.0/15, Error ellipse: s-maj=26.6km s-min=13.7km az=100.0*
*ISCJB **16** 01:52:31.2±0.5, 13°.33N±0°.08×144°.6E±0°.1, h100km, mb3.9/15, Error ellipse: s-maj=18.9km s-min=10.2km az=16.6*
ISC 16 01:52:31.7±0.7, 13°.2N±0°.1×144°.8E±0°.2, h100km, n41, σ1.9 75/32, mb4.0/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**16**	P	**Pn**	**01 52 43.1**	**-3.5**
	324nm,0.3s,baz=194,slow=22,SNR=54						
GUMO				S	**Sn**	**01 52 52.4**	**-5.3**
	2μm,0.3s,baz=339,slow=23,SNR=183						
GUMO	**Guam**	**0.36**	**16**		**Pn**	**01 52 43.0**	**-3.6**
ANA2	**Anatahan**	**3.21**	**16**	Pn	**Pn**	**01 53 20.7**	**+0.4**
SARN	**Sarigan**	**3.57**	**16**		**Pn**	**01 53 25.3**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**21.71**	**73**	T	T	02 19 56.6	
	baz=260,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**21.73**	**73**	T	T	02 20 03.4	
	baz=260,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**21.73**	**73**	T	T	02 19 59.6	
	baz=260,slow=75,SNR=2.2						
H11N1	**WAKE ISLAND Hy**	**22.16**	**70**	T	T	02 20 29.9	
	baz=257,slow=75,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**22.16**	**70**	T	T	02 20 23.4	
	baz=257,slow=75,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**22.17**	**70**	T	T	02 20 32.3	
	baz=257,slow=75,SNR=7.6						
MJAR	**Matsushiro Arr**	**23.94**	**347**	P	**P**	**01 57 36.3**	**-0.2**
	1.4nm,0.4s,baz=99,slow=14,SNR=6.1						
MJAR	**Matsushiro Arr**	**23.94**	**347**	IAmb	IAmb	01 57 44.8	
	comp=Z,3.8nm,1.3s						

USRK Ussuriysk Ar. 32.74 343 P **P 01 58 56.0 +1.1**
comp=Z,0.9nm,0.7s,baz=155,slow=14,SNR=3.0
WRA Warramunga Arr 34.54 197 P **P 01 59 11.4 +0.7**
comp=Z,0.4nm,0.6s,baz=21,slow=9.5,SNR=11
WRA Warramunga Arr 34.54 197 IAmb IAmb 01 59 16.7
comp=Z,0.2nm,1.1s
FITZ Fitzroy Crossi 36.41 212 P **P 01 59 28.3 +1.5**
comp=Z,1.8nm,0.8s,baz=38,slow=9.0,SNR=5.6
FITZ Fitzroy Crossi 36.41 212 IAmb IAmb 01 59 29.3
comp=Z,1.1nm,1.4s
KLR Kul'dur 37.46 346 P **P 01 59 35.1 -0.2**
comp=Z,1.5nm,0.5s,baz=161,slow=4.2,SNR=5.4
ASAR Alice Springs 38.19 196 P **P 01 59 43.1 +1.3**
comp=Z,0.4nm,0.6s,baz=25,slow=12,SNR=5.3
SONM Songino Array 46.96 325 P **P 02 00 53.2 +0.6**
comp=Z,0.7nm,0.7s,baz=143,slow=7.3,SNR=4.5
SONM Songino Array 46.96 325 IAmb IAmb 02 00 54.7
comp=Z,0.6nm,0.6s
TIXI Tiksi 59.17 354 P **P 02 02 20.7 -0.9**
MKAR Makanchi Array 61.67 316 P **P 02 02 39.9 +0.7**
comp=Z,0.4nm,0.3s,baz=89,slow=9.1,SNR=8.4
IL31 68.92 25 P **P 02 03 24.4 -1.1**
ILAR Eielson Array 68.92 25 P **P 02 03 24.0 -1.6**
comp=Z,1.3nm,0.4s,baz=250,slow=5.5,SNR=24
DOT Dot Lake 69.88 27 P **P 02 03 31.9 +0.3**
DOT IAmb IAmb 02 03 32.8
comp=Z,3.9nm,0.8s
BMAR Burnt Mountain 70.46 23 P **P 02 03 36.0 +1.0**
BCAR Beaver Creek A 70.79 28 P **P 02 03 37.8 +0.6**
INK Inuvik 74.72 22 P **P 02 04 00.2 0.0**
comp=Z,1.0nm,0.5s,baz=289,slow=6.6,SNR=6.8
YKA Yellowknife Ar 83.21 27 P **P 02 04 47.0 +0.3**
comp=Z,1.2nm,0.8s,baz=285,slow=5.2,SNR=3.4
PINE Pine Mountain 84.02 47 P **P 02 04 53.6 +2.1**
B08A Colville Reser 84.09 42 P **P 02 04 52.7 +1.1**
B08A IAmb IAmb 02 04 54.2
comp=Z,5.3nm,0.8s
BMO Blue Mountains 86.30 45 P **P 02 05 04.2 +1.5**
BMO IAmb IAmb 02 05 05.5
comp=Z,3.7nm,0.9s
NVAR Mina Array Bea 87.21 51 P **P 02 05 09.4 +2.0**
comp=Z,0.8nm,0.5s,baz=273,slow=4.5,SNR=6.0
ARCES ARCESS Array B 87.38 342 P **P 02 05 07.6 +0.2**
comp=Z,3.6nm,0.8s,baz=81,slow=8.3,SNR=4.6
MFID Camas Ranch 87.71 46 P **P 02 05 11.1 +1.5**
ELK Elko 88.88 48 P **P 02 05 17.4 +2.1**
ELK IAmb IAmb 02 05 18.4
comp=Z,3.2nm,0.9s
FINES FINESS Array B 91.43 335 P **P 02 05 25.8 -0.7**
comp=Z,4.6nm,0.9s,baz=46,slow=4.0,SNR=7.1
PDAR Pinedale Array 92.28 45 P **P 02 05 32.8 +1.7**
comp=Z,0.3nm,0.6s,baz=252,slow=1.6,SNR=3.5
DBIC Dimbokro 143.92 301 PKP **PKPdf 02 11 55.6 -0.8**
comp=Z,1.3nm,0.4s,baz=45,slow=3.7,SNR=9.7
LPAZ La Paz 148.06 100 PKPbc **PKPab 02 12 10.0 -0.4**
comp=Z,1.0nm,0.7s,baz=225,slow=2.6,SNR=4.2

*IDC **16** 01:54:50.9±0.7, 7.39N×136.13E, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.3/42, mbtmp4.5/14, ML4.1/1, MS3.8/18, Ms1 3.8/18, ms1mx3.7/37, Error ellipse: s-maj=28.9km s-min=14.1km az=84.0*
*BJI **16** 01:54:50.9±0.0, 6.94N×136.38E, h33km, mb4.8/46, mB5.0/31, Ms4.6/12, Ms7 4.4/12*
*MOS **16** 01:54:53.7±0.9, 7.37N×136.02E, h33km, mb5.0/32, Error ellipse: s-maj=12.8km s-min=6.8km az=113.7*
*ISCJB **16** 01:54:54.2±0.2, 7.33N±0.03×136.04E±0.04, h35km, mb4.7/53, MS3.9/21, Error ellipse: s-maj=6.0km s-min=4.7km az=173.5*
*NEIC **16** 01:54:56.2±1.2, 7.34N±0.08×135.96E±0.08, h35km±3km, mb4.7/66*
*DJA **16** 01:54:57.7±1.5, 7°N±5°×13°6E±°, h33km±13km, M4.6/17, mB5.3/6, mb4.5/17, Mw(mB)4.7/6*
ISC 16 01:54:56.2±0.4, 7.36N±0.05×135.99E±0.07, h35km, n191, σ1°27/178, mb4.8/70, MS3.9/21, 12C-5D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**1.44**	**277**		Pn		**Pn**	**01 55 18.0**	**-1.8**
I39PW	baz=93,slow=38,SNR=0.5				Sn		**Sn**	**01 55 36.7**	**-0.8**
	baz=104,slow=14								
SIJI	**Sorong**	**9.44**	**210**	Pn			**Pn**	**01 57 08.9**	**-0.8**
SIJI	1.9nm,0.3s,baz=45,slow=16,SNR=4.1				LR		LR	02 00 14.5	
	comp=Z,376nm,21.2s,baz=5.0,slow=34								
SMPI	**Sarmi**	**9.68**	**164**	P			**Pn**	**01 57 14.2**	**+1.1**
GUMO	**Guam**	**10.70**	**54**	LR			LR	02 00 36.0	
	comp=Z,252nm,19.6s,baz=291,slow=33								
JAY	**Jayapura**	**10.88**	**154**	LR			LR	02 00 52.1	
	comp=Z,843nm,20.4s,baz=3.5,slow=33								
MSAI	**Masohi**	**12.76**	**214**	P			P	01 58 18.3	+12
SANI	**Sanana**	**13.67**	**227**	P			**P**	**01 58 13.9**	**-2.1**
NLAI	**Namlea**	**13.77**	**220**	P			**P**	**01 58 14.7**	**-2.4**
MRSI	**Marisa**	**15.59**	**245**	P			**P**	**01 58 39.2**	**+1.9**
LUWI	**Luwuk**	**15.61**	**238**	P			P	01 58 51.5	+14
LUWI	**Luwuk**	**15.61**	**238**	Pn			**Pn**	**01 58 33.8**	**+0.2**
APSI	**Ampana**	**16.50**	**241**	P			P	01 59 07.1	+20
MPSI	**Mapaga**	**17.50**	**247**	P			P	01 59 15.0	+17
TTSI	**Tana Toraja**	**19.16**	**238**	P			**Pn**	**01 59 21.9**	**+4.0**
KKM	**Kota Kinabalu**	**19.68**	**267**	P			**P**	**01 59 22.8**	**+0.2**
KKM					IAmb		IAmb	01 59 26.1	
	comp=Z,35nm,0.9s								
BNSI	**Bone**	**19.69**	**234**	P			**Pn**	**01 59 27.9**	**+3.7**
SPSI	**Sidrap Palu**	**19.71**	**236**	P			**Pn**	**01 59 27.9**	**+3.4**
PMG	**Port Moresby**	**20.03**	**146**	↓*eP*			Pn	01 59 28.6	+0.4
PMG					pmax		pmax		
	comp=Z,80nm,1.7s								
PMG	**Port Moresby**	**20.03**	**146**	P			**P**	**01 59 25.3**	**-1.0**
BKSI	**Bulukumba**	**20.23**	**232**	P			Pn	01 59 33.1	+2.5
KAPI	**Kappang**	**20.34**	**233**	P			**P**	**01 59 29.1**	**-0.5**
KAPI					pmax		pmax		
	comp=Z,19nm,1.2s								
KAPI	**Kappang**	**20.34**	**233**	LR			LR	02 06 52.5	
	comp=Z,56nm,21.6s,baz=338,slow=35								
KAPI	**Kappang**	**20.34**	**233**	P			**P**	**01 59 29.1**	**-0.5**
JCJ	**Chichijima**	**20.49**	**16**	LR			LR	02 05 55.9	
	comp=Z,270nm,18.0s,baz=170,slow=33								
SOEI	**Soe**	**20.63**	**215**	P			Pn	01 59 37.3	+2.0
SOEI	**Soe**	**20.63**	**215**	P			**P**	**01 59 33.3**	**+0.4**
SOEI					IAmb		IAmb	01 59 50.9	
	comp=Z,36nm,0.9s								
MTN	**Manton Dam**	**20.64**	**194**	P			**P**	**01 59 32.4**	**-0.6**
MTN					IAmb		IAmb	01 59 44.3	
	comp=Z,46nm,1.5s								
JOW	**Kunigami**	**20.71**	**340**	P			**P**	**01 59 34.4**	**+0.8**
JOW					IAmb		IAmb	01 59 39.7	
	comp=Z,42nm,0.8s								
MMRI	**Maumere**	**20.99**	**221**	P			**P**	**01 59 37.0**	**+0.3**
YULB	**Yu-li**	**21.29**	**320**	P			**P**	**01 59 40.3**	**+0.5**
YULB					IAmb		IAmb	01 59 46.5	
	comp=Z,69nm,1.4s								
BATI	**Baumata**	**21.34**	**215**	LR			LR	02 07 16.2	
	comp=Z,311nm,21.7s,baz=52,slow=35								
TPUB	**Ta-pu**	**21.66**	**319**	P			**P**	**01 59 43.8**	**0.0**
TPUB					IAmb		IAmb	01 59 52.2	
	comp=Z,28nm,0.9s								
NACB	**Ninganchiao**	**21.67**	**322**	P			**P**	**01 59 45.1**	**+1.1**
NACB					IAmb		IAmb	02 00 04.6	
	comp=Z,21nm,0.9s								
SSLB	**Suanglung**	**21.79**	**320**	P			**P**	**01 59 45.5**	**+0.3**
SSLB					IAmb		IAmb	01 59 53.4	
	comp=Z,44nm,1.2s								
YHNB	**Yeheng**	**22.18**	**323**	P			**P**	**01 59 49.8**	**+0.4**
YHNB					IAmb		IAmb	02 00 08.8	
	comp=Z,33nm,0.8s								
COEN	**Coen**	**22.35**	**161**	P			**P**	**01 59 51.2**	**-0.1**
KNRA	**Kununurra**	**23.98**	**197**	P			**P**	**02 00 08.0**	**+0.4**
SBUM	**Sibu**	**24.17**	**260**	P			**P**	**02 00 10.7**	**+1.2**
SBUM					IAmb		IAmb	02 00 14.9	
	comp=Z,16nm,1.2s								
JHJ	**Hachijo jima 2**	**25.87**	**7**	LR			LR	02 08 18.1	
	comp=Z,385nm,19.1s,baz=223,slow=31								
JNU	**Nakatsue**	**26.07**	**350**	LR			LR	02 10 39.9	
	comp=Z,220nm,18.6s,baz=166,slow=36								
KSM	**Kuching**	**26.25**	**258**	P			**P**	**02 00 28.0**	**-0.4**
KSM					IAmb		IAmb	02 00 33.9	
	comp=Z,14nm,1.0s								
WRAB	**Tennant Creek**	**27.17**	**183**	↑*eP*			**P**	**02 00 36.2**	**-0.4**
WRAB					pmax		pmax		
	comp=Z,28nm,1.7s								
WRAB	**Tennant Creek**	**27.17**	**183**	P			**P**	**02 00 35.7**	**-0.9**
WRAB					IAmb		IAmb	02 00 39.7	
	comp=Z,28nm,1.4s								
WB2	**Warramunga Arr**	**27.18**	**183**	P			**P**	**02 00 36.4**	**-0.2**
WRA	**Warramunga Arr**	**27.18**	**183**	*i* P			**P**	**02 00 36.0**	**-0.6**
WRA					pmax		pmax		
	comp=Z,6.0nm,0.6s								
WRA	**Warramunga Arr**	**27.18**	**183**	P			**P**	**02 00 36.1**	**-0.6**
	comp=Z,5.4nm,0.6s,baz=0.8,slow=10,SNR=38								
WRA					LR		LR	02 12 02.7	
	comp=Z,202nm,20.1s,baz=5.0,slow=38								
WRA	**Warramunga Arr**	**27.18**	**183**	P			**P**	**02 00 35.6**	**-1.1**
MJAR	**Matsushiro Arr**	**29.11**	**4**	LR			LR	02 10 31.9	
	comp=Z,254nm,19.3s,baz=175,slow=32								
HNR	**Honiara**	**29.12**	**125**	LR			LR	02 12 09.6	
	comp=Z,146nm,18.1s,baz=301,slow=36								
NJ2	**Nanjing**	**29.30**	**329**	*eP*			**P**	**02 00 56.5**	**+1.1**
NJ2					pmax		pmax		
	comp=Z,13nm,0.5s								
TJN	**Taejon**	**29.94**	**346**	↓*eP*			**P**	**02 01 00.6**	**-0.4**
KSRS	**Korea Array**	**30.84**	**347**	LR			LR	02 13 57.2	
	comp=Z,135nm,18.1s,baz=174,slow=37								
AS31	**Alice Springs**	**30.90**	**184**	P			**P**	**02 01 09.7**	**-0.1**
ASAR	**Alice Springs**	**30.91**	**184**	P			**P**	**02 01 09.2**	**-0.6**
ASAR								02 04 06.5	
ASAR	**Alice Springs**	**30.91**	**184**	P			**P**	**02 01 10.7**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=24,slow=11,SNR=13								
ASAR					PcP		**PcP**	**02 04 06.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=351,slow=1.5,SNR=5.0								
ASAR					LR		LR	02 14 08.1	
	comp=Z,87nm,21.3s,baz=354,slow=37								
ASAR	**Alice Springs**	**30.91**	**184**	P			**P**	**02 01 09.2**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**31.84**	**67**	T			T	02 34 40.2	
	baz=253,slow=74,SNR=11								
H11S2	**WAKE ISLAND Hy**	**31.86**	**67**	T			T	02 34 44.2	
	baz=253,slow=74,SNR=8.8								
H11S1	**WAKE ISLAND Hy**	**31.86**	**67**	T			T	02 34 41.8	
	baz=253,slow=74,SNR=15								
ENH	**Enshi**	**33.72**	**316**	P			**P**	**02 01 34.5**	**+0.1**
ERM	**Erimo**	**35.09**	**9**	↑*eP*			**P**	**02 01 46.0**	**0.0**
ERM					pmax		pmax		
	comp=Z,66nm,1.1s								
KULM	**Kulim**	**35.18**	**269**	P			**P**	**02 01 47.1**	**0.0**
KULM					IAmb		IAmb	02 01 49.0	
	comp=Z,12nm,1.2s								
MSHR	**Mys Shultsa**	**35.33**	**354**	↑*eP*			**P**	**02 01 46.6**	**-1.5**
PBKT	**Sadao Pong**	**35.41**	**288**	P			**P**	**02 01 50.6**	**+1.5**
	comp=Z,12nm,0.9s								
KMI	**Kunming**	**36.32**	**303**	P			**P**	**02 01 59.5**	**+2.3**
KMI					pmax		pmax		
	comp=Z,11nm,0.7s								
XAN	**Xi'an**	**36.45**	**321**	P			**P**	**02 01 59.6**	**+1.7**
XAN					pmax		pmax		
	comp=Z,12nm,0.8s								
XAN					LR		LR		
	comp=Z,130nm,15.3s								
XAN					LR		LR		
	comp=Z,220nm,14.7s								
XAN					LR		LR		
	comp=Z,190nm,14.1s								
USRK	**Ussuriysk Ar.**	**36.86**	**355**	P			**P**	**02 02 01.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**36.86**	**355**	P			**P**	**02 02 01.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=167,slow=7.7,SNR=7.2								
USRK					LR		LR	02 15 54.3	
	comp=Z,194nm,19.4s,baz=164,slow=34								
USRK	**Ussuriysk Ar.**	**36.86**	**355**	P			**P**	**02 02 01.4**	**+0.2**
PSI	**Prapat**	**37.18**	**265**	P			**P**	**02 02 04.4**	**-0.1**
PSI					pmax		pmax		
	comp=Z,12nm,0.8s								
RPSI	**Rantau Prapat**	**37.20**	**265**	P			**P**	**02 02 04.4**	**-0.1**
RPSI					IAmb		IAmb	02 02 05.8	
	comp=Z,12nm,0.8s								
KHLT	**Khaolaem Dam**	**37.40**	**285**	P			**P**	**02 02 04.6**	**-1.5**
	comp=Z,28nm,1.4s								
CN2	**Changchun**	**37.45**	**347**	*eP*			**P**	**02 02 08.4**	**+2.2**
CM31	**Chiang Mai Arr**	**37.67**	**291**	P			**P**	**02 02 09.1**	**+0.6**
CM31					IAmb		IAmb	02 02 22.4	
	comp=Z,16nm,1.1s								
CMAR	**Chiang Mai Arr**	**37.67**	**291**	P			**P**	**02 02 09.6**	**+1.1**
	comp=Z,3.5nm,0.7s,baz=107,slow=7.2,SNR=16								
CMAR					LR		LR	02 18 24.0	
	comp=Z,36nm,19.4s,baz=105,slow=37								
CMAR	**Chiang Mai Arr**	**37.67**	**291**	P			**P**	**02 02 09.2**	**+0.8**
CHTO	**Chiang Mai**	**37.75**	**291**	P			**P**	**02 02 08.9**	**-0.2**
CHTO					pmax		pmax		
	comp=Z,5.0nm,1.1s								
CHTO	**Chiang Mai**	**37.75**	**291**	P			**P**	**02 02 08.9**	**-0.2**
CD2	**Chengdu**	**38.17**	**312**	P			**P**	**02 02 12.8**	**+0.3**
CD2					pmax		pmax		
	comp=Z,50nm,0.8s								
FORT	**Forrest**	**38.68**	**191**	P			**P**	**02 02 17.2**	**+0.5**
STKA	**Stephens Creek**	**39.38**	**172**	P			**P**	**02 02 21.9**	**-0.7**
STKA					pmax		pmax		
	comp=Z,2.0nm,1.1s								
STKA	**Stephens Creek**	**39.38**	**172**	P			**P**	**02 02 22.7**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=11,slow=7.6,SNR=5.6								
STKA					LR		LR	02 19 13.9	
	comp=Z,188nm,19.6s,baz=19,slow=37								
STKA	**Stephens Creek**	**39.38**	**172**	P			**P**	**02 02 21.9**	**-0.7**
HHC	**Hu-ho-hao-te**	**39.82**	**331**	*eP*			**P**	**02 02 28.4**	**+2.1**
HHC					pmax		pmax		
	comp=Z,8.0nm,0.9s								
YSS	**Yuzh-Sakhalins**	**39.87**	**7**	*eP*			P	02 02 41.7	+15
YSS					MLR		MLR		
	comp=Z,600nm,18.0s								
LZH	**Lanzhou**	**40.98**	**319**	*eP*			**P**	**02 02 37.0**	**+0.9**
LZH					pP		sP	02 02 48.3	-0.4
LZH					sP		pwP	02 02 52.1	+1.5
LZH					pmax		pmax		
	comp=Z,23nm,1.3s								
LZH					pmax		pmax		
	comp=Z,110nm,5.7s								
LZH					LR		LR		
	comp=Z,260nm,13.5s								
LZH					LR		LR		
	comp=Z,270nm,13.2s								
LZH					LR		LR		
	comp=Z,380nm,16.7s								
KLR	**Kul'dur**	**41.88**	**356**	P			**P**	**02 02 43.9**	**+0.9**
	comp=Z,6.9nm,0.6s,baz=225,slow=2.6,SNR=23								
HIA	**Hailar**	**43.95**	**345**	↑*eP*			**P**	**02 03 00.4**	**+0.6**
HIA					pmax		pmax		
	comp=Z,60nm,1.0s								
HIA	**Hailar**	**43.95**	**345**	P			**P**	**02 03 00.1**	**+0.3**
HIA					IAmb		IAmb	02 03 16.9	
	comp=Z,18nm,1.2s								
GTA	**Gaotai**	**45.51**	**320**	↑P			**P**	**02 03 13.1**	**+0.5**
GTA					pP		pP	02 03 23.4	+1.8
GTA					sP		pwP	02 03 27.6	+0.4
GTA					ScP		**ScP**	**02 08 36.6**	**-4.8**
GTA					pmax		pmax		
	comp=Z,8.0nm,1.0s								
GTA					pmax		pmax		
	comp=Z,190nm,7.6s								
GTA					LR		LR		
	comp=Z,140nm,17.1s								
GTA					LR		LR		
	comp=Z,160nm,16.8s								
GTA					LR		LR		
	comp=Z,170nm,17.8s								
ULN	**Ulaanbaatar**	**47.27**	**334**	↑*eP*			**P**	**02 03 26.9**	**+0.7**
ULN					pmax		pmax		
	comp=Z,11nm,1.3s								
ULN	**Ulaanbaatar**	**47.27**	**334**	P			**P**	**02 03 26.3**	**+0.1**
ULN					IAmb		IAmb	02 03 28.1	
	comp=Z,6.2nm,0.8s								
SONM	**Songino Array**	**47.53**	**333**	P			**P**	**02 03 28.4**	**+0.1**
SONM								02 04 58.1	
SONM					pmax		pmax		
	comp=Z,7.0nm,0.8s								
SONM	**Songino Array**	**47.53**	**333**	P			**P**	**02 03 29.0**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=149,slow=9.5,SNR=37								
SONM					PcP		**PcP**	**02 04 58.1**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=136,slow=3.7,SNR=2.8								
SONM					LR		LR	02 25 29.6	
	comp=Z,180nm,18.2s,baz=154,slow=39								
SONM	**Songino Array**	**47.53**	**333**	P			**P**	**02 03 28.4**	**+0.1**
TAPN	**Taplejung**	**49.81**	**300**	*eP*			**P**	**02 03 47.3**	**+1.0**
	comp=Z,28nm,1.1s								
ODAN	**Odare**	**49.97**	**299**	*eP*			**P**	**02 03 48.6**	**+1.1**
	comp=Z,32nm,0.7s								
RAMN	**Ramite**	**50.68**	**299**	*eP*			**P**	**02 03 54.0**	**+1.2**
	comp=Z,21nm,0.8s								
JIRN	**Jiri**	**51.20**	**300**	*eP*			**P**	**02 03 58.0**	**+1.1**
	comp=Z,31nm,0.8s								
GUN	**Gumba**	**51.52**	**300**	*eP*			**P**	**02 04 00.4**	**+1.1**
	comp=Z,46nm,0.8s								
PKI	**Pulchoki**	**51.85**	**299**	*eP*			**P**	**02 04 02.1**	**+0.4**
PKIN	**Phulchoki**	**51.86**	**299**	*eP*			**P**	**02 04 02.1**	**+0.4**
KKN	**Kakani**	**52.01**	**300**	*eP*			**P**	**02 04 03.5**	**+0.7**
DMN	**Daman**	**52.12**	**299**	*eP*			**P**	**02 04 04.5**	**+0.8**
	comp=Z,42nm,1.2s								
GKN	**Gorkha**	**52.61**	**300**	*eP*			**P**	**02 04 07.9**	**+0.7**
DANN	**Dangsing**	**53.44**	**300**	*eP*			**P**	**02 04 14.2**	**+0.7**
	comp=Z,35nm,0.9s								
KOLN	**Koldanda**	**53.46**	**299**	*eP*			**P**	**02 04 14.5**	**+1.0**
	comp=Z,45nm,0.8s								
YAK	**Yakutsk**	**54.76**	**356**	*eP*			**P**	**02 04 21.9**	**-0.1**
YAK				*e*				02 05 24.7	
YAK				*e*S			**S**	**02 12 01.1**	**+1.0**
YAK				*e**SS			**sS**	**02 12 18.0**	**+2.5**
YAK				*e*SS			**SS**	**02 15 48.6**	**+5.1**
YAK					pmax		pmax		
	comp=Z,14nm,0.8s								
YAK					pmax		pmax		
	comp=N,8.0nm,1.0s								
YAK					pmax		pmax		
	comp=Z,74nm,2.8s								
YAK					pmax		pmax		
	comp=N,106nm,2.8s								
YAK					smax		smax		
	comp=N,84nm,2.6s								
YAK					smax		smax		
	comp=E,29nm,2.1s								
YAK	**Yakutsk**	**54.76**	**356**	P			**P**	**02 04 22.1**	**+0.1**
WMQ	**Urumqi**	**55.56**	**319**	*eP*			**P**	**02 04 29.6**	**+1.3**
WMQ					sP		pwP	02 04 44.9	+1.9
WMQ					pmax		pmax		
	comp=E,22nm,0.7s								
WMQ					pmax		pmax		
	comp=E,100nm,4.9s								
WMQ					LR		LR		
	comp=E,200nm,5.9s								
WMQ					LR		LR		
	comp=E,260nm,7.1s								
WMQ					LR		LR		
	comp=E,190nm,7.1s								
WMQ	**Urumqi**	**55.56**	**319**	P			**P**	**02 04 29.1**	**+0.7**
WMQ					pmax		pmax		
	comp=Z,19nm,0.7s								
WMQ	**Urumqi**	**55.56**	**319**	P			**P**	**02 04 29.1**	**+0.7**
SEY	**Seymchan**	**56.74**	**9**	↑*eP*			**P**	**02 04 35.7**	**-0.5**
MK31	**Makanchi Array**	**60.27**	**320**	P			**P**	**02 05 00.5**	**-0.7**
MK31					pmax		pmax		
	comp=Z,12nm,0.7s								
MK31	**Makanchi Array**	**60.27**	**320**	P			**P**	**02 05 01.3**	**+0.1**
MKAR	**Makanchi Array**	**60.27**	**320**	P			**P**	**02 05 01.2**	**-0.1**
MKAR	**Makanchi Array**	**60.27**	**320**	P			**P**	**02 05 01.8**	**+0.6**
	comp=Z,17nm,0.6s,baz=106,slow=8.5,SNR=96								
MKAR	**Makanchi Array**	**60.27**	**320**	P			**P**	**02 05 01.1**	**-0.1**
MAKZ	**Makanchi**	**60.47**	**320**	P			**P**	**02 05 01.9**	**-0.7**
MAKZ					pmax		pmax		
	comp=Z,13nm,0.8s								
MAKZ	**Makanchi**	**60.47**	**320**	P			**P**	**02 05 02.9**	**+0.2**
PDGK	**Podgornoye**	**60.89**	**316**	P			**P**	**02 05 04.6**	**-1.1**
PDGK					pmax		pmax		
	comp=Z,11nm,1.1s								
TARG	**Taragay, Kyrgy**	**61.59**	**314**	IAmb			IAmb	02 05 31.2	
	comp=Z,5.8nm,1.0s								
ZAA0	**Zalesovo Array**	**61.95**	**329**	P			**P**	**02 05 11.9**	**-0.5**
ZAA0					IAmb		IAmb	02 05 12.7	
	comp=Z,6.1nm,0.8s								
ZALV	**Zalesovo Beam**	**61.95**	**329**	P			**P**	**02 05 11.6**	**-0.8**
ZALV	**Zalesovo Beam**	**61.95**	**329**	P			**P**	**02 05 11.8**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=110,slow=5.9,SNR=18								
ZALV	**Zalesovo Beam**	**61.95**	**329**	P			**P**	**02 05 11.6**	**-0.8**
KSH	**Kashi**	**62.35**	**311**	P			**P**	**02 05 18.4**	**+2.8**
KSH				sP			pwP	02 05 32.5	+2.3
KSH				PcP			**PcP**	**02 05 58.0**	**+3.0**
KSH				S			**S**	**02 13 40.9**	**+0.9**
KSH				sS			sS	02 13 57.8	+2.1
KSH				ScS			**SKSac**	**02 15 02.3**	**-3.2**
KSH					pmax		pmax		
	comp=Z,21nm,1.0s								
KSH					pmax		pmax		
	comp=Z,610nm,6.7s								
KSH					LR		LR		
	comp=Z,360nm,10.7s								
KSH					LR		LR		
	comp=Z,240nm,10.3s								
KSH					LR		LR		
	comp=Z,200nm,12.8s								
NRN	**Naryn**	**62.81**	**313**	P			**P**	**02 05 18.7**	**-0.2**
NRN					pmax		pmax		
	comp=Z,4.0nm,0.8s								
NRN	**Naryn**	**62.81**	**313**	P			**P**	**02 05 18.7**	**-0.2**
NRN					IAmb		IAmb	02 05 25.7	
	comp=Z,4.1nm,0.8s								
NIL	**Nilore**	**63.31**	**304**	P			**P**	**02 05 22.5**	**+0.5**
NIL					pmax		pmax		
	comp=Z,18nm,0.9s								
NIL	**Nilore**	**63.31**	**304**	P			**P**	**02 05 22.5**	**+0.5**
TKM2	**Tokmak 2**	**63.49**	**314**	*i* P			**P**	**02 05 22.3**	**-0.9**
TKM2					pmax		pmax		
	comp=Z,4.0nm,0.7s								
BILL	**Bilibino**	**63.89**	**12**	↓*eP*			**P**	**02 05 22.7**	**-2.4**
BILL				*e*				02 05 29.6	
BILL				*PP			**pP**	**02 05 36.0**	**+1.9**
BILL								02 06 02.0	
BILL				*e*SS			SS	02 18 06.5	-0.1
BILL					pmax		pmax		
	comp=Z,2.0nm,1.0s								
BILL					MLR		MLR		
	comp=Z,243nm,19.0s								
KURK	**Kurchatov**	**64.01**	**323**	*c i*P			**P**	**02 05 26.1**	**-0.1**
KURK					pmax		pmax		
	comp=Z,23nm,0.7s								
**KURK

KNK	Knik Glacier	76.67	29	P	P	02 06 43.0	-0.3
ARU	Arti	76.95	326	*i* P	P	02 06 43.8	-1.2
ARU				S	S	02 16 31.6	+0.9
ARU				SS	SS	02 21 21.8	-5.8
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	Arti	76.95	326	P	P	02 06 44.2	-0.8
GLI	Glacier Island	77.24	29	P	P	02 06 46.5	-0.2
SCM	Sheep Creek Mo	77.26	28	P	P	02 06 46.3	-0.5
SCM				pmax	pmax		
	comp=Z,29nm,1.2s						
SCM	Sheep Creek Mo	77.26	28	P	P	02 06 46.3	-0.5
DHY	Denali Highway	77.43	27	P	P	02 06 47.2	-0.6
DHY				IAmb	IAmb	02 06 50.9	
	comp=Z,6.4nm,1.1s						
TOLK	Toolik Lake Re	77.53	21	P	P	02 06 48.9	+0.7
HDA	Harding Lake	77.81	26	IAmb	IAmb	02 06 58.0	
	comp=Z,4.8nm,1.0s						
ILAR	Eielson Array	77.89	25	P	P	02 06 49.0	-1.2
ILAR	Eielson Array	77.89	25	P	P	02 06 48.9	-1.3
	comp=Z,1.6nm,0.8s,baz=243,slow=6.2,SNR=13						
ILAR	Eielson Array	77.89	25	P	P	02 06 49.0	-1.2
BMAR	Burnt Mountain	79.18	23	P	P	02 06 57.7	+0.4
BCAR	Beaver Creek A	79.95	27	P	P	02 07 01.5	-0.1
TBLG	Delisi	86.09	311	P	P	02 07 33.7	0.0
TBLG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TBLG	Delisi	86.09	311	P	P	02 07 33.7	0.0
ZEI	Tsey	86.58	313	*e* P	P	02 07 35.3	-1.1
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NCK	Nalchik	86.72	313⇑	*e* P	P	02 07 37.4	+0.6
NCK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLMR	Klimovskoe	86.77	331	*e* P	P	02 07 34.7	-1.9
KLMR				pmax	pmax		
	comp=Z,30nm,1.6s						
KLMR	Klimovskoe	86.77	331	*e* P	P	02 07 34.7	-1.9
KLMR				AMP		02 07 41.5	
	comp=Z,30nm,1.6s						
KIV	Kislovodsk	87.32	314	*e* P	P	02 07 39.4	-0.4
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
RAYN	Ar Rayn	87.55	293	P	P	02 07 40.7	-0.5
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RAYN	Ar Rayn	87.55	293	P	P	02 07 40.7	-0.5
ARCES	ARCESS Array B	90.17	341	P	P	02 07 51.7	-0.9
ARCES	ARCESS Array B	90.17	341	P	P	02 07 51.6	-1.0
	comp=Z,6.7nm,0.8s,baz=54,slow=6.2,SNR=5.7						
ARCES	ARCESS Array B	90.17	341	P	P	02 07 51.7	-0.9
NVAR	Mina Array Bea	97.59	50	P	Pdif	02 08 28.0	+0.3
	comp=Z,1.4nm,0.7s,baz=262,slow=5.8,SNR=8.8						
NVAR	Mina Array Bea	97.59	50	P	P	02 08 26.8	-0.9
NOA	NORSAR Array B	99.45	336	LR	LR	02 56 46.2	
	comp=Z,48nm,19.9s,baz=350,slow=37						
KONO	Kongsberg	100.91	335⇑	*e* P	Pdif	02 08 43.5	+1.9
KONO				pmax	pmax		
	comp=Z,19nm,1.1s						

RSNC 16 02:08:07.5±1.0, 6°.81N×73°.14W, h144km±5km, ML2.1, Mw2.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.22	192	*e* P	Pn	02 08 27.1	-0.3
BARC				*e* S	Sn	02 08 42.3	-0.2
BARC				*i*		02 08 42.9	
	comp=Z,44nm,0.2s						
BRRC	Barranca, Sant	0.64	298	⇑ *i* P	Pn	02 08 28.9	-0.1
BRRC				*e* S	Sn	02 08 45.2	-0.1
BRRC				*i*		02 08 46.6	
	comp=Z,23nm,0.1s						
PAMC	Pamplona, Colo	0.68	39	*e* P	Pn	02 08 29.8	-0.1
PAMC				*e* S	Sn	02 08 46.3	-0.5
PAMC				*i*		02 08 48.5	
	comp=Z,22nm,0.5s						
RUSC	La Rusia	0.91	177	*e* P	Pn	02 08 31.1	-0.4
RUSC				*e* S	Sn	02 08 49.5	-0.3
RUSC				*i*		02 08 51.5	
	comp=Z,16nm,0.3s						
PTBC	PUERTO BERRIO,	1.34	259	*e* P	Pn	02 08 33.9	-1.0
PTBC				*e* S	Sn	02 08 54.9	-0.9
PTBC				*i*		02 08 59.6	
	comp=Z,16nm,0.3s						
OCAC	Ocana	1.43	353	*e* P	Pn	02 08 35.0	-1.0
OCAC				*e* S	Sn	02 08 56.5	-1.4
OCAC				*i*		02 09 00.2	
	comp=Z,13nm,0.2s						
OCAC				*i*		02 09 00.5	
	comp=Z,12nm,0.3s						
SPBC	San Pablo de B	1.48	219	*e* P	Pn	02 08 36.0	-0.4
SPBC				*e* S	Sn	02 08 58.0	-0.6
SPBC				*i*		02 09 03.9	
	comp=Z,21nm,0.3s						
ZARC	Zaragoza, Cauc	1.84	292	*e* P	Pn	02 08 40.9	+0.5
ZARC				*e* S	Sn	02 09 04.8	-0.7
ZARC				*i*		02 09 10.6	
	comp=Z,18nm,0.4s						
NORC	Norcasia	2.12	234	*e* P	Pn	02 08 43.4	-0.3
NORC				*e* S	Sn	02 09 11.5	-0.1
NORC				*i*		02 09 15.2	
	comp=Z,9.1nm,0.2s						
NORC				*i*		02 09 17.5	
	comp=Z,6.5nm,0.2s						
SMLC	San Martn de	2.19	335	*e* P	Pn	02 08 44.6	+0.1
SMLC				*e* S	Sn	02 09 11.9	-1.0
SMLC				*i*		02 09 16.7	
	comp=Z,24nm,0.1s						
CHIC	Chingaza	2.24	195	*e* P	Pn	02 08 44.7	-0.9
CHIC				*e* S	Sn	02 09 13.9	-1.0
ROSC	El Rosal	2.28	211	*e* P	Pn	02 08 46.0	0.0
ROSC				*e* S	Sn	02 09 14.6	-1.0
GUY2C	Guyana, Caldas	2.72	235	*e* P	Pn	02 08 51.6	0.0
GUY2C				*e* S	Sn	02 09 25.2	-0.2
RREF	El Recreo	2.90	229	*e* P	Pn	02 08 55.3	+1.3
RREF				*i*		02 09 30.8	
	comp=Z,1.8nm,0.2s						
RREF				*e* S	Sn	02 09 32.1	+2.3
CBOC	Ciudad Bolivar	3.01	252	*e* P	Pn	02 08 55.6	+0.7
CBOC				*e* S	Sn	02 09 30.6	-0.9
SJCC	San Jacinto, C	3.67	327	*e* P	Pn	02 09 01.5	-1.9
SJCC				*e* S	Sn	02 09 42.5	-4.3

*ISK **16** 02:16:13.2, 39°.04N×41°.41E, h20km, ML1.8/7*
*DDA **16** 02:16:13.4, 39°.06N×41°.46E, h7km±2km, ML2.9*
*ISCJB **16** 02:16:14.0±0.8, 39°.03N±0°.04×41°.42E±0°.05, h20km±14km, Error ellipse: s-maj=7.2km s-min=6.2km az=34.0*
ISC 16 02:16:13.9±1.1, 39°.04N±0°.04×41°.41E±0°.04, h19km±3km, n14, σ0§36/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	Varto-Mus	0.12	16	*i* P	Pg	02 16 18.7	+0.5
VRTB				IAML_P			
	comp=Z,37μm,0.2s						
VRTB	Varto-Mus	0.12	16	PG	Pg	02 16 17.8	-0.4
BNGL	BINGOL	0.22	247	*i* P	Pg	02 16 19.7	+0.2
BNGL				*i* S	Sg	02 16 23.4	+0.1
MUSM	Mu-Merkez	0.33	166	*i* P	Pg	02 16 20.5	-0.5
KARO	Karliova-Bingo	0.39	314	PG	Pg	02 16 21.8	-0.4
KARO				SG	Sg	02 16 27.7	-0.1
BNGB	Bingl	0.57	265	PG	Pb	02 16 25.1	-0.2
BNGB				SG	Sg	02 16 33.5	+0.3
BGOL	Bingol	0.58	265	*i* P	Pb	02 16 25.4	0.0
BGOL				IAML_P			
	comp=Z,531nm,0.1s						
ECAT	Cat-ERZURUM	0.66	329	*i* P	Pb	02 16 26.2	-0.6
ECAT				*i* S	Sb	02 16 36.2	+0.5
GURO	Guroymak-BITLI	0.69	135	PG	Pb	02 16 27.1	-0.2
MLAZ	Malazgirt-MUS	0.89	83	PG	Pb	02 16 30.9	+0.1
SVAN	Silvan-Diyarba	0.90	191	PG	Pb	02 16 30.9	-0.1
KOPR	Koprukoy-ERZUR	1.01	20	PG	Pb	02 16 32.8	-0.1
AKDA	Akdag	1.06	358	*i* P	Pg	02 16 42.0	+7.4
TUTA	Tutak	1.15	71	*i* P	Pn	02 16 35.3	+0.1
TUTA				IAML_P			
	comp=Z,580nm,0.1s						

*KRNET **16** 02:34:47.2±0.1, 42°.30N×71°.33E, h15km, mb3.0*
*SOME **16** 02:34:47.4, 42°.28N×71°.33E, h10km*

*NNC **16** 02:34:47.5±0.3, 42°.37N×71°.30E, h6km±4km, mb3.6, mpv3.3, Error ellipse: s-maj=3.0km s-min=1.6km az=10.0*
*ISCJB **16** 02:34:48.5±0.4, 42°.32N±0°.03×71°.26E±0°.03, h10km, Error ellipse: s-maj=4.2km s-min=2.8km az=14.7*
ISC 16 02:34:47.4±0.8, 42°.33N±0°.02×71°.35E±0°.02, h10km, n49, σ1§84/85, 18C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	Taraz	0.56	359	P	Pb	02 34 59.4	0.0
DZA				S	Sb	02 35 08.0	+0.6
	94nm,0.1s						
	269nm,0.2s						
DZA	Taraz	0.56	359	*e* P	Pb	02 34 59.4	0.0
DZA				*e* S	Sb	02 35 08.1	+0.6
	baz=0.0						
	baz=0.0						
DZA	Taraz	0.56	359	*e* P	Pb	02 34 59.4	0.0
DZA				*e* S	Sb	02 35 08.0	+0.6
	94nm,0.1s						
	315nm,0.1s						
ARK	Arkit	0.70	139	⇓ *i* P	Pg	02 35 00.7	-0.2
ARK				⇓ *i* S	Sb	02 35 11.3	-0.2
	baz=37						
	baz=37						
KK31	Karatay Array	0.99	322	⇓ P	Pg	02 35 05.7	-0.7
KK31				⇓ S	Sg	02 35 18.5	-0.8
	2.6nm,0.3s,baz=154,slow=18,SNR=41						
	11nm,0.3s,baz=144,slow=30,SNR=15						
IUG	Iuzhnay	0.99	260	P	Pg	02 35 05.4	-1.1
IUG				S	Sg	02 35 18.7	-0.7
	5.5nm,0.2s						
	70nm,0.4s						
IUG	Iuzhnay	0.99	260	*e* P	Pg	02 35 05.4	-1.1
IUG				*e* S	Sg	02 35 18.7	-0.7
	baz=61						
	baz=61						
IUG	Iuzhnay	0.99	260	*e* P	Pg	02 35 05.4	-1.1
IUG				*e* S	Sg	02 35 18.7	-0.7
	5.5nm,0.2s						
	70nm,0.4s						
BRLS	Borolday	1.32	303	P	Pn	02 35 11.3	-0.5
BRLS				S	Sb	02 35 28.7	-0.4
	1.1nm,0.1s						
	34nm,0.3s						
BRLS	Borolday	1.32	303	*e* P	Pn	02 35 11.3	-0.5
BRLS				*e* S	Sb	02 35 28.7	-0.4
	baz=4.0						
	baz=4.0						
BRLS	Borolday	1.32	303	*e* P	Pn	02 35 11.3	-0.5
BRLS				*e* S	Sb	02 35 28.7	-0.4
	0.4nm,0.1s						
	28nm,0.3s						
MRKS	Merke	1.45	73	P	Pb	02 35 14.9	+0.4
MRKS				S	Sg	02 35 34.6	+0.6
	17nm,0.2s						
	14nm,0.2s						
MRKS	Merke	1.45	73	*e* P	Pb	02 35 15.0	+0.4
MRKS				⇑ *i* S	Sg	02 35 34.6	+0.6
	baz=72						
	baz=72						
MRKS	Merke	1.45	73	*e* P	Pb	02 35 15.0	+0.4
MRKS				⇑ *i* S	Sg	02 35 34.6	+0.6
	18nm,0.1s						
	18nm,0.3s						
ARSB	Arslanbob	1.58	129	⇓ *i* P	Pb	02 35 16.0	-0.8
ARSB				⇓ *i* S	Sg	02 35 37.2	-1.1
	baz=28						
	baz=28						
AML	Almayashu	1.75	96	⇓ *i* P	Pb	02 35 19.5	-0.4
AML				⇓ *i* S	Sg	02 35 43.7	-0.1
	baz=95						
	baz=95						
EKS2	Erkin-Say	1.83	79	⇑ *e* P	Pb	02 35 21.2	+0.2
EKS2				⇑ *i* S	Sg	02 35 46.3	+0.1
	baz=78						
	baz=78						
TAS	Tashkent	1.83	238	⇑ *i* P	Pg	02 35 21.4	-1.2
TAS				⇑ *i* S	Sg	02 35 46.8	+0.5
	baz=38						
	baz=38						
ARLS	Aral	2.26	101	⇑ *i* P	Pb	02 35 27.5	-0.9
ARLS				⇑ *i* S	Sb	02 35 56.6	0.0
	baz=0.0						
	baz=0.0						
BTK	Batken	2.30	190	⇓ *i* P	Pb	02 35 28.0	-1.1
BTK				⇓ *i* S	Sb	02 35 57.6	0.0
	baz=90						
	baz=90						
AAK	Ala-Archa	2.35	81	⇑ Pg	Pb	02 35 31.0	+1.1
AAK				⇓ Lg	Lg	02 36 02.6	
	4.5nm,0.3s						
	4.6nm,0.5s						
AAK	Ala-Archa	2.35	81	⇑ *i* P	Pb	02 35 29.4	-0.5
AAK				⇑ *i* S	Sb	02 36 00.1	+1.1
	baz=81						
	baz=81						
UCH	Uchtor	2.35	91	⇓ *i* P	Pb	02 35 29.4	-0.7
UCH				⇓ *i* S	Sb	02 36 00.1	+0.7
	baz=91						
	baz=91						
USP	Ospenovka	2.50	67	⇓ *i* P	Pb	02 35 31.5	-0.9
USP				⇓ *i* S	Sb	02 36 03.2	-0.1
	baz=66						
	baz=66						
SGDS	Sogindy	2.66	64	Pg	Pb	02 35 36.6	+1.5
SGDS				Lg	Lg	02 36 11.6	
	6.5nm,0.3s						
	9.0nm,0.2s						
KZA	Kyzart	2.91	94	⇑ *i* P	Pb	02 35 37.0	-2.6
KZA				⇑ *i* S	Sb	02 36 13.2	-2.2
	baz=93						
	baz=93						
TKM2	Tokmak 2	3.19	78	⇑ Pg	Pb	02 35 45.8	+1.5
TKM2				⇓ Lg	Lg	02 36 29.0	
	1.3nm,0.4s						
	5.2nm,0.5s						
TKM2	Tokmak 2	3.19	78	⇓ *i* P	Pn	02 35 41.0	+3.2
TKM2				⇓ *i* S	Sb	02 36 20.0	-3.3
	baz=77						
	baz=77						
BTLS	Baital	3.34	35	Pg	Pb	02 35 48.8	+2.1
BTLS				Lg	Lg	02 36 33.2	
	1.2nm,0.3s						
	2.8nm,0.4s						
BTLS	Baital	3.34	35	*e* P	Pb	02 35 48.8	+2.1
BTLS				*e* S	Sg	02 36 33.2	-1.5
	1.0nm,0.1s						
	6.9nm,0.5s						
DGS	Degeres	3.38	73	Pg	Pb	02 35 49.4	+2.0
DGS				Lg	Lg	02 36 34.0	
	5.3nm,0.5s						
	8.3nm,0.6s						
DGS	Degeres	3.38	73	*e* P	Pb	02 35 49.4	+2.0
DGS				*e* S	Sg	02 36 34.0	-2.1
	5.3nm,0.5s						
	8.3nm,0.6s						
BOOM	Boomskoye usch	3.41	86	⇑ *i* P	Pn	02 35 43.4	+2.7
BOOM				⇑ *i* S	Sn	02 36 24.7	+3.5
	baz=85						
	baz=85						
KST	Kastek	3.48	77	Pg	Pb	02 35 51.5	+2.4
KST				Lg	Lg	02 36 37.0	
	4.3nm,0.3s						
	8.0nm,0.5s						
KST	Kastek	3.48	77	*e* P	Pb	02 35 51.5	+2.4
KST				*e* S	Sg	02 36 37.0	-2.1
	4.3nm,0.3s						
	8.4nm,0.5s						
NRN	Naryn	3.59	103	⇑ *i* P	Pn	02 35 46.2	+2.8
NRN				⇑ *i* S	Sn	02 36 28.3	+2.3
	baz=3.0						
	baz=3.0						
IZV	Izvestkoviy	3.95	78	Pg	Pg	02 36 00.6	-2.4
IZV				Lg	Lg	02 36 53.4	
	7.0nm,0.6s						
	7.0nm,0.3s						
IZV	Izvestkoviy	3.95	78	*e* P	Pg	02 36 00.8	-2.2
IZV				*e* S	Sg	02 36 53.4	-0.8
	7.0nm,0.6s						
	7.0nm,0.3s						
KUU	Kurty	3.98	65	Pg	Pb	02 35 59.9	+2.3
KUU				Lg	Lg	02 36 51.6	
	2.4nm,0.3s						
	5.6nm,0.3s						
KUU	Kurty	3.98	65	*e* P	Pb	02 35 59.9	+2.3
KUU				*e* S	Sg	02 36 51.8	-3.2
	1.8nm,0.1s						
	3.1nm,0.4s						
KTBS	Karatobe	4.15	69	Pg	Pb	02 36 02.9	+2.4
KTBS				Lg	Lg	02 36 57.1	
	1.6nm,0.3s						
	10nm,0.8s						
KTBS	Karatobe	4.15	69	*e* P	Pb	02 36 03.1	+2.6
KTBS				*e* S	Sg	02 36 57.1	-3.5
	1.6nm,0.3s						
	10nm,0.8s						
TNSS	Tian-Shan	4.19	78	Pg	Pb	02 36 04.5	+3.1
TNSS				Lg	Lg	02 36 59.5	
	5.0nm,0.5s						
	6.2nm,0.5s						
TNSS	Tian-Shan	4.19	78	*e* P	Pb	02 36 04.5	+3.1
TNSS				*e* S	Sg	02 36 59.7	-2.3
	5.0nm,0.5s						
	4.6nm,0.6s						
CHKK	Chushkaly	4.40	68	Pg	Pg	02 36 09.1	-2.6
CHKK				Lg	Lg	02 37 07.9	
	1.2nm,0.0s						
	4.6nm,0.2s						
CHKK	Chushkaly	4.40	68	*e* P	Pg	02 36 09.3	-2.4
CHKK				*e* S	Sg	02 37 08.0	-0.7
	1.2nm,0.0s						
	4.6nm,0.2s						
ARXS	Arharly	5.09	66	Pg	Pg	02 36 21.1	-3.8
ARXS				Lg	Lg	02 37 28.7	
	1.7nm,0.4s						
	4.8nm,0.5s						
ARXS	Arharly	5.09	66	*e* P	Pg	02 36 21.1	-3.8
ARXS				*e* S	Sg	02 37 28.5	-2.4
	1.7nm,0.4s						
	4.8nm,0.5s						
KAPS	Kapalarasan	6.51	60	Pg	Pg	02 36 47.4	-4.5
KAPS				Lg	Lg	02 38 13.6	
	0.8nm,0.6s						
	1.9nm,0.5s						

*SJA **16** 02:44:33.9±1.2, 34°.50S×72°.50W, h17km±10km, ML3.2, MW3.2*
*GUC **16** 02:44:37.7±0.8, 34°.82S×71°.68W, h50km±4km, ML3.5*
*IDC **16** 02:44:46.1±2.9, 35°.20S×69°.55W, h52km±30km, mb3.3/2, mb1 3.5/4, mb1mx3.4/17, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=54.9km s-min=29.5km az=98.0*
ISC 16 02:44:38.4±1.7, 34°.87S±0°.05×71°.49W±0°.06, h13km±14km, n27, σ1§99/42, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.39	249	⇑ *i* P	Pb	02 44 47.5	+0.4
GO05				*e* S	Sb	02 44 54.3	+1.2
GO05				IAML		02 44 55.3	
	comp=N,3μm,0.1s						
GO05	Huala	0.39	249	*i* P	Pb	02 44 47.8	+0.6
LMEL	Las Melosas	1.47	46	⇑ *i* P	Pn	02 45 05.4	+0.6
LMEL				*e* S	Sg	02 45 26.3	+0.4
LMEL				IAML		02 45 28.0	
	comp=N,1μm,0.2s						
COCH	Cobquecura	1.65	220	⇑ *i* P	Pn	02 45 04.7	-2.2
COCH				*e* S	Sn	02 45 25.6	-2.4
COCH	Cobquecura	1.65	220	*i* P	Pn	02 45 04.3	-2.6
COCH				*e* S	Sn	02 45 26.8	-1.2
CLCH	Cerro Calan	1.67	28	⇑ *i* P	Pn	02 45 07.2	-0.2
CLCH				*e* S	Sn	02 45 28.8	+0.1
CLCH				IAML		02 45 33.3	
	comp=E,836nm,0.4s						
CCHI	Chillan	1.79	195	*i* P	Pn	02 45 10.1	+1.1
CCHI				*e* S	Sg	02 45 38.2	+2.1
FCH	Farellones	1.83	33	⇑ *i* P	Pn	02 45 10.1	+0.2
FCH				*e* S	Sb	02 45 34.6	-0.3
FCH				IAML		02 45 36.7	
	comp=E,447nm,0.2s						
PEL	Peldehue	1.85	21	*e* P	Pn	02 45 09.7	-0.1
PEL				*e* S	Sn	02 45 32.6	-0.5
PEL				IAML		02 45 39.8	
	comp=N,460nm,0.5s						
ROCH	El Roble	1.94	12	⇑ *i* P	Pn	02 45 10.9	-0.3
ROCH				*e* S	Sn	02 45 35.9	+0.4
ROCH				IAML		02 45 40.5	
	comp=N,569nm,0.5s						
AAGR	Agrelo	2.84	52	*i* P	Pb	02 45 26.6	-2.4
ASAL	Salagasta	3.17	45	*i* P	Pb	02 45 32.0	-2.7
ASAL				*e* S	Sg	02 46 20.7	+0.4
RTLS	Leoncito	3.57	31	*i* P	Pn	02 45 35.9	+2.2
RTLS				*e* S	Sb	02 46 28.8	+3.8
RTLS				IAML		02 46 33.1	
	comp=Z,30nm,0.5s						
RTCV	Cerro Valdivia	3.88	40	*i* P	Pn	02 45 42.1	+4.3
ZON	Zonda	4.07	36	*i* P	Pb	02 45 46.6	-3.3
ZON				IAML		02 46 50.3	
	comp=Z,11nm,0.3s						
CFA	Coronel Fontan	4.25	41	P	Pn	02 45 41.4	-1.4
	comp=Z,0.4nm,0.3s,baz=225,slow=16,SNR=9.8						
CFA				S	Sn	02 46 38.4	+6.1
	comp=Z,3.5nm,0.3s,baz=99,slow=20,SNR=3.6						
RTLL	Cerro Villicun	4.34	36	*i* P	Pn	02 45 45.4	+1.3
RTLL				*e* S	Sb	02 46 46.2	-0.8
RTLL				IAML		02 46 48.5	
	comp=Z,42nm,0.5s						
ACAN	Cantantal	4.42	55	*i* P	Pn	02 45 47.4	+2.2
AMOG	MOGNA	4.66	34	*i* P	Pn	02 45 49.2	+0.6
AMOG				*e* S	Sb	02 46 52.8	-3.3
ACCO	Cerro Coronel	4.73	26	*i* P	Pn	02 45 50.2	+0.4
ACCO				*e* S	Sb	02 46 58.5	0.0
AROD	Rodeo	4.99	20	*i* P	Pn	02 45 54.1	+0.9
AROD				*e* S	Sb	02 47 05.4	-0.4
PLCA	Paso Flores	5.90	173	P	Pn	02 46 06.5	+1.1
	comp=Z,0.4nm,0.3s,baz=8.8,slow=11,SNR=10						
APLL	PUNTA DE LOS L	6.12	44	*i* P	Pn	02 46 07.6	-0.9
APLL				IAML		02 47 28.5	
	comp=Z,7.4nm,0.5s						
ACLC	CERRO LA CRUZ	6.65	37	*i* P	Pn	02 46 17.1	+1.1
ACLC				*e* S	Sn	02 47 31.5	-0.3
TCA	Tanti	6.77	61	*i* P	Pn	02 46 17.7	+0.2
TCA				IAML		02 46 22.8	
	comp=Z,3.6nm,0.6s						
TXAR	Lajitas Array	70.72	330	P	P	02 56 03.3	+9.1
	comp=Z,0.1nm,0.5s,baz=154,slow=8.0,SNR=5.5						
TORD	Torodi Ar. Bea	84.08	70	P	P	02 57 04.5	-4.7
	comp=Z,1.3nm,1.2s,baz=215,slow=6.5,SNR=3.1						

*IDC **16** 02:53:48.5±2.1, 2°.25S×134°.39E, h0km, mb4.1/2, mb1 4.3/5, mb1mx3.8/31, mbtmp4.2/5, ML3.9/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/54, Error ellipse: s-maj=58.7km s-min=23.3km az=75.0*
*ISCJB **16** 02:53:49.1±0.5, 2°.29S±0°.05×134°.29E±0°.04, h10km, mb4.1/2, MS4.0/1, Error ellipse: s-maj=6.8km s-min=5.9km az=173.5*
*DJA **16** 02:53:52.3±0.8, 2°.S±4°.×13°.4E±°., h17km±7km, M4.1/8, MLv4.1/8*
ISC 16 02:53:50.2±0.8, 2°.22S±0°.06×134°.30E±0°.06, h10km, n15, σ1§20/17, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	0.71	350	P	Pb	02 54 04.8	+0.1
RKPI				S	Sb	02 54 14.6	0.0
SRPI	Serui, Papua	1.97	80	P	Pn	02 54 23.5	-0.2
SRPI				S	Sn	02 54 48.8	+0.4
BAKI	Biak	2.07	61	P	Pn	02 54 25.7	+0.6
FAKI	Fak Fak	2.17	251	P	Pn	02 54 26.5	+0.1
SIJI	Sorong	3.32	294	Pn	Pn	02 54 43.7	+1.5
	15nm,0.3s,baz=94,slow=12,SNR=67						
SIJI				Sn	Sn	02 55 21.7	-0.1
	25nm,0.3s,baz=145,slow=23,SNR=10						
SWI	Sorong	3.33	294	P	Pn	02 54 43.3	+1.0
BNDI	Bandanaira	4.95	242	P	Pn	02 55 08.0	+3.3
MSAI	Masohi	5.48	258	P	Pn	02 55 13.4	+1.3
NLAI	Namlea	7.27	262	P	Pn	02 55 36.6	+0.1
WRA	Warramunga Arr	17.62

comp=Z,159nm,21.7s,baz=48,slow=33
MKAR Makanchi Array 66.75 324 P **P 03 04 42.1 +0.3**
1.3nm,0.4s,baz=116,slow=6.2,SNR=19

IDC 16 03:05:02.2±10.0, 16°28S×178°09W, h157km±94km, mb3.5/4, mb1 3.9/5, mb1mx3.4/33, mbtmp4.0/5, MS3.9/3, Ms1 3.9/3, ms1mx3.4/17, Error ellipse: s-maj=104.7km s-min=30.7km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.70**	**246**	P	P	03 08 36.3	+0.4
	0.2nm,0.3s,baz=81,slow=19,SNR=4.0						
DZM				LR	LR	03 13 40.0	
	comp=Z,480nm,19.6s,baz=35,slow=33						
URZ	**Urewera**	**22.30**	**190**	LR	LR	03 16 27.9	
	comp=Z,467nm,20.9s,baz=43,slow=31						
HNR	**Honiara**	**22.46**	**285**	LR	LR	03 17 59.4	
	comp=Z,214nm,19.6s,baz=107,slow=35						
WRA	**Warramunga Arr**	**45.25**	**258**	P	P	03 13 04.3	0.0
	2.5nm,0.9s,baz=96,slow=8.0,SNR=22						
ASAR	**Alice Springs**	**45.55**	**253**	P	P	03 13 06.0	-0.6
	6.1nm,0.8s,baz=85,slow=8.4,SNR=65						
ILAR	**Eielson Array**	**84.24**	**13**	P	P	03 17 15.4	-0.3
	0.7nm,1.0s,baz=224,slow=5.0,SNR=3.5						
TXAR	**Lajitas Array**	**84.87**	**58**	P	P	03 17 19.7	-0.1
	0.4nm,1.0s,baz=206,slow=5.9,SNR=3.2						
BRTR	**Keskin Array B**	**143.84**	**317**	PKP	PKPdf	03 24 19.3	+0.1
	1.3nm,0.8s,baz=87,slow=2.4,SNR=5.1						
GERES	**GERESS Array B**	**146.12**	**346**	PKPbc	PKPdf	03 24 23.1	+0.2
	0.6nm,0.7s,baz=7.4,slow=3.1,SNR=4.1						
DAVOX	**Davos/Dischmat**	**148.88**	**349**	PKPbc	PKPbc	03 24 31.8	+0.1
	1.1nm,0.6s,baz=24,slow=17,SNR=2.5						

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*IDC **16** 03:14:55.6±1.9, 20°60S×178°14W, h473km±22km, mb3.3/8, mb1 3.6/10, mb1mx3.4/24, mbtmp4.2/10, Error ellipse: s-maj=26.9km s-min=14.0km az=140.0*
*ISCJB **16** 03:14:56.8±0.5, 20°8S±0°1×178°1W±0°1, h500km, mb3.6/8, Error ellipse: s-maj=19.4km s-min=11.3km az=27.6*
*NEIC **16** 03:14:57.5±1.9, 20°8S±0°2×178°1W±0°2, h499km±7km, mb4.5/7*
ISC 16 03:14:57.5±0.7, 20°7S±0°2×178°0W±0°1, h500km, n34, σ1.9±12/30, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.81**	**308**	P	P	03 16 23.7	+0.8
AFI	**Afiamalu**	**9.00**	**42**	P	P	03 17 02.0	-2.5
	5.0nm,0.3s,baz=70,slow=9.9,SNR=4.4						
AFI	**Afiamalu**	**9.00**	**42**	P	P	03 17 02.7	-1.8
URZ	**Urewera**	**17.97**	**193**	P	P	03 18 37.0	-0.4
	2.0nm,0.3s,baz=274,slow=2.3,SNR=11						
URZ	**Urewera**	**17.97**	**193**	IAmb	IAmb	03 18 37.6	
	comp=Z,13nm,0.9s						
CMWZ	**Cape Campbell**	**21.96**	**196**	P	P	03 19 12.1	-1.6
RPZ	**Rata Peaks**	**24.67**	**199**	P	P	03 19 38.4	+0.5
	comp=Z,3.3nm,0.5s,baz=217,slow=5.1,SNR=2.9						
RPZ	**Rata Peaks**	**24.67**	**199**	IAmb	IAmb	03 19 42.0	
	comp=Z,15nm,1.2s						
TAOE	**Nuku Hiva Isla**	**38.32**	**78**	*e*LR	LR	03 21 30.5	
	comp=Z,121nm,25.3s						
ASAR	**Alice Springs**	**44.49**	**257**	P	P	03 22 23.6	-0.5
	comp=Z,1.6nm,0.8s,baz=94,slow=7.9,SNR=17						
ASAR				PcP	PcP	03 23 57.0	+0.1
	comp=Z,0.7nm,0.5s,baz=106,slow=3.7,SNR=10						
ASAR				ScP	ScP	03 27 03.2	+2.1
	comp=Z,0.2nm,0.7s,baz=98,slow=4.6,SNR=2.8						
WRA	**Warramunga Arr**	**44.60**	**262**	P	P	03 22 23.5	-1.3
	comp=Z,0.2nm,0.3s,baz=98,slow=7.4,SNR=10						
WRA				PcP	PcP	03 23 57.0	-0.3
	comp=Z,0.2nm,0.4s,baz=93,slow=3.4,SNR=3.2						
WRA	**Warramunga Arr**	**44.60**	**262**	IAmb	IAmb	03 22 26.3	
	comp=Z,0.1nm,1.2s						
NVAR	**Mina Array Bea**	**81.18**	**43**	P	P	03 26 21.6	+0.8
	comp=Z,0.8nm,0.7s,baz=224,slow=8.5,SNR=6.5						
NVAR	**Mina Array Bea**	**81.18**	**43**	P	P	03 26 22.9	+2.0
TXAR	**Lajitas Array**	**87.16**	**57**	P	P	03 26 52.2	+1.8
	comp=Z,0.5nm,0.7s,baz=215,slow=7.3,SNR=6.8						
HDA	**Harding Lake**	**88.21**	**13**	P	P	03 26 54.3	0.0
HDA				IAmb	IAmb	03 26 55.0	
	comp=Z,5.0nm,0.6s						
CCB	**Clear Creek Bu**	**88.25**	**12**	P	P	03 26 54.5	0.0
IMAR	**Indian Mountai**	**88.39**	**10**	P	P	03 26 55.5	+0.3
MDM	**Murphy Dome**	**88.44**	**12**	P	P	03 26 54.3	-1.1
MDM				IAmb	IAmb	03 26 55.8	
	comp=Z,7.6nm,0.8s						
IL31		**88.54**	**13**	P	P	03 26 55.5	-0.3
ILAR	**Eielson Array**	**88.54**	**13**	P	P	03 26 55.6	-0.3
	comp=Z,1.2nm,0.4s,baz=214,slow=5.3,SNR=18						
ILAR	**Eielson Array**	**88.54**	**13**	P	P	03 26 55.4	-0.5
PDAR	**Pinedale Array**	**89.12**	**43**	P	P	03 27 00.8	+1.4
	comp=Z,0.6nm,0.6s,baz=210,slow=4.0,SNR=6.5						
CMAR	**Chiang Mai Arr**	**90.23**	**290**	P	P	03 27 04.5	-0.3
	comp=Z,1.1nm,0.3s,baz=134,slow=2.6,SNR=7.6						
BMAR	**Burnt Mountain**	**91.33**	**12**	P	P	03 27 09.8	+1.1
MKAR	**Makanchi Array**	**111.39**	**313**	PKiKP	**PKiKP**	03 32 33.3	-1.0
	comp=Z,0.3nm,0.5s,baz=81,slow=3.2,SNR=3.2						
HFS	**Hagfors**	**139.78**	**351**	PKhKP	PKPpre	03 33 19.9	
	comp=Z,5.9nm,1.0s,baz=48,slow=2.2,SNR=11						
AKASG	**Malin Array Be**	**143.24**	**331**	PKhKP	PKPab	03 33 31.3	-0.6
	comp=Z,4.1nm,0.5s,baz=41,slow=4.2,SNR=24						
AKASG	**Malin Array Be**	**143.24**	**331**	PKPdf	PKPab	03 33 31.5	-0.4
EKA	**Eskdalemuir Ar**	**145.24**	**5**	PKPbc	**PKPbc**	03 33 38.0	-0.3
	comp=Z,1.0nm,0.5s,baz=315,slow=2.9,SNR=6.7						
BRTR	**Keskin Array B**	**147.03**	**312**	PKPbc	**PKPbc**	03 33 43.8	-0.3
	comp=Z,1.4nm,0.5s,baz=140,slow=5.2,SNR=9.0						
CLL	**Collm**	**148.31**	**347**		**PKPbc**	03 33 47.2	+0.4
GERES	**GERESS Array B**	**150.44**	**344**	PKPbc	**PKPbc**	03 33 52.4	+0.2
	comp=Z,1.2nm,0.6s,baz=29,slow=3.0,SNR=10						
DAVOX	**Davos/Dischmat**	**153.25**	**348**	PKPbc	**PKPbc**	03 33 58.6	0.0
	comp=Z,1.1nm,0.5s,baz=163,slow=20,SNR=5.5						

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*IDC **16** 03:34:29.6±0.3, 60°33S×47°09W, h0km, mb5.2/24, mb1 5.2/25, mb1mx5.2/27, mbtmp5.2/25, ML5.7/1, MS6.6/29, Ms1 6.6/29, ms1mx6.5/37, Error ellipse: s-maj=14.1km s-min=9.9km az=58.0*
*MOS **16** 03:34:30.1±1.0, 60°28S×47°27W, h10km, mb6.4/40, MS6.8/36, Error ellipse: s-maj=20.6km s-min=7.9km az=98.8*
*ISCJB **16** 03:34:30.2±0.1, 60°19S±0°02×47°06W±0°07, h6km, mb5.8/55, MS6.8/86, Error ellipse: s-maj=5.2km s-min=3.5km az=169.4*
*BJI **16** 03:34:31.2±0.0, 60°18S×46°99W, h10km, mB6.6/54, Ms6.9/70, Ms7 6.9/65*
*NEIC **16** 03:34:31.2, 60°26S×47°06W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=0.07; $M_{\theta\theta}$=0.18; $M_{\phi\phi}$=-0.12; $M_{r\theta}$=-0.18; $M_{\theta\phi}$=2.08; $M_{\phi r}$=-0.35; Fault plane solution: M_0=2.13000×10^{19} NP1:ϕ_s=181.74000°, δ=86.25000°, λ=-170.50000°. NP2:ϕ_s=272.37000°, δ=80.52000°, λ=-3.80000°. Principal axes: T 2.1817, Plg9.0000°, Azm137.0000°; N -0.1167, Plg80.0000°, Azm340.0000°; P -2.0650, Plg4.0000°, Azm227.0000°;*
*NEIC **16** 03:34:31.2±1.7, 60°26S±0°07×47°1W±0°1, h10km±1km, mb6.2/99, Ms_20 6.8/845, Mwb6.8, Mwc6.9, Mww6.9, Mwc6.9(GCMT)*
*GCMT **16** 03:34:43.2±0.0, 60°54S×47°00W, h17km, MW6.9/146, Moment Tensor Solution. s146,c385; s143,c671; Duration: 6s7 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.39±.01; $M_{\theta\theta}$=0.60±.01; $M_{\phi\phi}$=-0.21±.01; $M_{r\theta}$=0.49±.03; $M_{\theta\phi}$=2.33±.01; $M_{\phi r}$=1.04±.03; Best double couple: M_0=2.60300×10^{19} NP1:ϕ_s=6.00000°, δ=89.00000°, λ=156.00000°. NP2:ϕ_s=96.00000°, δ=66.00000°, λ=2.00000°. Principal axes: T 2.8980, Plg18.0000°, Azm318.0000°; N -0.5910, Plg66.0000°, Azm182.0000°; P -2.3070, Plg16.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **16** 03:34:43, 60°01S×46°50W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=0.45; $M_{\theta\theta}$=0.45; $M_{\phi\phi}$=-0.01; $M_{r\theta}$=-0.23; $M_{\theta\phi}$=2.50; $M_{\phi r}$=0.01; Fault plane solution: M_0=2.55000×10^{19} NP1:ϕ_s=183.00000°, δ=84.00000°, λ=-178.00000°. NP2:ϕ_s=92.00000°, δ=89.00000°, λ=-5.00000°. Principal axes: T 2.7463, Plg3.0000°, Azm138.0000°; N -0.4408, Plg84.0000°, Azm259.0000°; P -2.3055, Plg5.0000°, Azm47.0000°;*
*NEIC **16** 03:34:43, 60°49S×46°95W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=0.36; $M_{\theta\theta}$=0.58; $M_{\phi\phi}$=-0.22; $M_{r\theta}$=0.61; $M_{\theta\phi}$=2.19; $M_{\phi r}$=0.76; Fault plane solution: M_0=2.45000×10^{19} NP1:ϕ_s=97.00000°, δ=72.00000°, λ=7.00000°. NP2:ϕ_s=5.00000°, δ=83.00000°, λ=162.00000°. Principal axes: T 2.7048, Plg17.0000°, Azm319.0000°; N -0.6341, Plg71.0000°, Azm164.0000°; P -2.0707, Plg7.0000°, Azm52.0000°;*
*NEIC **16** 03:34:49.2, 60°56S×46°90W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=0.41; $M_{\theta\theta}$=0.60; $M_{\phi\phi}$=-0.19; $M_{r\theta}$=1.18; $M_{\theta\phi}$=2.14; $M_{\phi r}$=0.41; Fault plane solution: M_0=2.46000×10^{19} NP1:ϕ_s=94.29000°, δ=88.16000°, λ=27.20000°. NP2:ϕ_s=3.34000°, δ=62.82000°, λ=177.93000°. Principal axes: T 2.8111, Plg20.0000°, Azm322.0000°; N -0.7067, Plg63.0000°, Azm98.0000°; P -2.1044, Plg17.0000°, Azm226.0000°;*
ISC 16 03:34:34.8±0.4, 60°31S±0°04×47°20W±0°04, h24km±2km, h24km:pP-P, n1398, σ2.9±89/958, mb6.1/86, MS6.8/503, 41C-20D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.37**	**49**	*i*P	**Pn**	03 36 31.0	-3.4
HOPE	**Hope Point**	**8.37**	**49**		**Pn**	03 36 31.5	-2.9
PMSA	**Palmer Station**	**8.97**	**233**	Pn	**Pn**	03 36 40.3	-2.3
	85nm,0.3s,baz=62,slow=9.8,SNR=218						
PMSA				Sn	**Sn**	03 38 23.3	+0.7
	6.8nm,0.3s,baz=261,slow=20,SNR=0.9						
PMSA				LR	LR	03 40 23.6	
	comp=Z,858μm,20.2s,baz=43,slow=39						
PMSA	**Palmer Station**	**8.97**	**233**	Pn	**Pn**	03 36 41.7	-0.9
PMSA	**Palmer Station**	**8.97**	**233**	*e*P	**Pn**	03 36 39.5	-3.0
EFI	**East Falkland**	**10.56**	**320**	*ce*P	**Pn**	03 37 03.4	-1.1
EFI	**East Falkland**	**10.56**	**320**		**Pn**	03 37 03.3	-1.1
USHA	**Ushuaia**	**12.62**	**286**	Pn	**Pn**	03 37 33.5	+1.0
	1.9nm,0.3s,baz=120,slow=14,SNR=23						
USHA				Sn	Sn	03 40 07.0	+15
	3.5nm,0.3s,baz=53,slow=9.8,SNR=1.3						
USHA				LR	LR	03 40 58.3	
	comp=Z,321μm,20.6s,baz=130,slow=31						
GO10	**Punta Arenas**	**14.86**	**288**	Pn	**Pn**	03 38 03.7	+0.6
GO09	**Cerro Castillo**	**16.68**	**292**	Pn	**Pn**	03 38 25.3	-1.4
GO09				IAmb	IAmb	03 38 50.8	
	comp=Z,2μm,1.3s						
VNA3	**Neumayer Olymp**	**18.50**	**142**	P	**Pn**	03 38 49.0	0.0
VNA1	**Neumayer--Stat**	**18.78**	**139**	P	**Pn**	03 38 53.6	+1.1
VNA2	**Neumayer--Watz**	**19.13**	**140**	P	**Pn**	03 38 57.5	+0.9
	baz=285,slow=11						
SNAA	**Sanae**	**20.72**	**141**	P	Pn	03 39 17.8	+2.4
SNAA	**Sanae**	**20.72**	**141**	*e*P	**P**	03 39 12.1	-0.9
SNAA	**Sanae**	**20.72**	**141**	P	**P**	03 39 12.5	-0.6
	comp=Z,65nm,0.9s,baz=278,slow=8.7,SNR=50						
SNAA				S	**S**	03 43 00.5	-2.4
	comp=Z,64nm,1.0s,baz=256,slow=11,SNR=1.1						
SNAA				LR	LR	03 46 37.8	
	comp=Z,287μm,18.4s,baz=284,slow=35						
SNAA	**Sanae**	**20.72**	**141**	P	**P**	03 39 13.5	+0.5
SNAA	**Sanae**	**20.72**	**141**	IAMs_20	IAMs_20	03 46 17.8	
	comp=Z,311μm,18.0s						
TRQA	**Tornquist**	**24.16**	**331**	P	**P**	03 39 47.5	-1.4
TRQA				pmax	pmax		
	comp=Z,1μm,1.1s						
TRQA	**Tornquist**	**24.16**	**331**	P	**P**	03 39 47.5	-1.4
TRQA				IAmb	IAmb	03 40 03.9	
	comp=Z,1μm,1.1s						
TRQA	**Tornquist**	**24.16**	**331**	*e*P	**P**	03 39 48.7	-0.2
PLCA	**Paso Flores**	**24.35**	**313**	P	**P**	03 39 49.4	-1.2
	comp=Z,98nm,1.0s,baz=185,slow=8.9,SNR=115						
PLCA				LR	LR	03 49 07.0	
	comp=Z,226μm,21.8s,baz=192,slow=36						
PLCA	**Paso Flores**	**24.35**	**313**	P	**P**	03 39 48.1	-2.5
PLCA				IAmb	IAmb	03 40 17.1	
	comp=Z,868nm,1.2s						
PLCA	**Paso Flores**	**24.35**	**313**	*e*P	**P**	03 39 48.7	-1.9
GO06	**Curarrehue**	**25.69**	**313**	P	**P**	03 40 00.9	-2.0
GO06				IAmb	IAmb	03 40 28.5	
	comp=Z,573nm,1.1s						
LPA	**La Plata**	**26.35**	**340**	*i*P	**P**	03 40 12.9	+4.2
LPA				pPP		03 40 50.0	
OGAUY	**Aigu**	**26.45**	**346**	*e*P	**P**	03 40 10.1	+0.5
OGAUY	**Aigu**	**26.45**	**346**	*e*P	**P**	03 40 10.1	+0.5
PLTB	**Pedras Altas**	**28.87**	**349**	*e*P	**P**	03 40 31.1	-0.1
PLTB	**Pedras Altas**	**28.87**	**349**	*e*P	**P**	03 40 31.1	-0.1
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	03 40 40.1	-0.5
QSPA	**South Pole Qui**	**29.93**	**180**	IAMs_20	IAMs_20	03 53 35.2	
	comp=Z,175μm,20.0s						
GO05	**Huala**	**29.95**	**317**	P	**P**	03 40 39.0	-1.8
GO05				IAmb	IAmb	03 41 07.5	
	comp=Z,479nm,1.2s						
CPSB	**Cacapava Do Su**	**30.20**	**349**	*e*P	**P**	03 40 42.9	-0.1
CPSB	**Cacapava Do Su**	**30.20**	**349**	*e*P	**P**	03 40 42.9	-0.1
ACAN	**Cantantal**	**31.00**	**326**	*e*P	**P**	03 40 47.0	-3.2
CNLB	**Canela**	**31.09**	**354**	*e*P	**P**	03 40 50.3	-0.7
CNLB	**Canela**	**31.09**	**354**	*e*P	**P**	03 40 50.3	-0.7
PEL	**Peldehue**	**31.24**	**320**	P	**P**	03 40 50.4	-1.9
PEL				pmax	pmax		
	comp=Z,746nm,1.1s						
PEL				MLR	MLR		
	comp=Z,113μm,20.0s						
PEL	**Peldehue**	**31.24**	**320**	P	**P**	03 40 50.4	-1.9
ROC1	**El Roble**	**31.50**	**319**	P	**P**	03 40 53.0	-1.8
RTCV	**Cerro Valdivia**	**31.77**	**324**	*e*P	**P**	03 40 54.8	-2.2
CFA	**Coronel Fontan**	**31.92**	**325**	P	**P**	03 40 56.6	-1.7
	comp=Z,18nm,0.9s,baz=180,slow=7.5,SNR=16						
CFA				LR	LR	03 53 41.5	
	comp=Z,142μm,21.3s,baz=161,slow=36						
RTLL	**Cerro Villicun**	**32.25**	**324**	*e*P	**P**	03 40 59.1	-2.1
APLL	**PUNTA DE LOS L**	**32.59**	**328**	*e*P	**P**	03 41 02.7	-1.5
AMOG	**MOGNA**	**32.62**	**325**	*e*P	**P**	03 41 04.2	-0.3
ACCO	**Cerro Coronel**	**33.12**	**324**	*e*P	**P**	03 41 09.0	-0.1
ITAB	**Concordia**	**33.23**	**352**	*e*P	**P**	03 41 09.7	0.0
ITAB	**Concordia**	**33.23**	**352**	*e*P	**P**	03 41 09.7	0.0
ACDV	**Cuesta del Vie**	**33.52**	**324**	*e*P	**P**	03 41 13.0	+0.5
ACLC	**CERRO LA CRUZ**	**33.62**	**328**	*e*P	**P**	03 41 11.9	-1.5
GO04	**Tololo Observa**	**34.03**	**322**	P	**P**	03 41 14.8	-2.1
GO04				IAmb	IAmb	03 41 40.5	
	comp=Z,285nm,0.8s						
CPUP	**Villa Florida**	**34.67**	**344**	P	**P**	03 41 21.4	-0.9
	comp=Z,20nm,0.8s,baz=178,slow=8.3,SNR=26						
CPUP				LR	LR	03 54 24.1	
	comp=Z,143μm,22.0s,baz=172,slow=34						
CPUP	**Villa Florida**	**34.67**	**344**	P	**P**	03 41 21.1	-1.1
CPUP	**Villa Florida**	**34.67**	**344**	*e*P	**P**	03 41 21.8	-0.5
SYO	**Syowa Base**	**35.01**	**141**	*e*P	**P**	03 41 20.9	-3.8
SYO	**Syowa Base**	**35.01**	**141**	*i,i*pP	**P**	03 41 22.8	-1.9
PTGB	**Pitanga**	**35.73**	**352**	*e*P	**P**	03 41 31.4	-0.1
PTGB	**Pitanga**	**35.73**	**352**	*e*P	**P**	03 41 31.4	-0.1
GO03	**Copiap**	**36.27**	**324**	P	**P**	03 41 34.8	-1.2
GO03				IAmb	IAmb	03 42 00.3	
	comp=Z,357nm,0.9s						
GO03				IAMs_20	IAMs_20	03 56 06.7	
	comp=Z,155μm,21.0s						
FSA	**Cafayete**	**36.54**	**331**	*e*P	P	03 41 45.0	+6.5
SPB	**Sao Paulo**	**36.69**	**360**	P	**P**	03 41 37.4	-2.2
SPB				IAmb	IAmb	03 41 54.9	
	comp=Z,386nm,0.9s						
SPB	**Sao Paulo**	**36.69**	**360**	*e*P	**P**	03 41 39.7	+0.1
FRTB	**Fartura**	**36.98**	**356**	*e*P	**P**	03 41 42.7	+0.6
FRTB	**Fartura**	**36.98**	**356**	*e*P	**P**	03 41 42.7	+0.6
VAO	**Valinhos**	**37.28**	**0**	*e*P	**P**	03 41 45.1	+0.4
VAO	**Valinhos**	**37.28**	**0**	*e*P	**P**	03 41 45.1	+0.4
ESAR	**Angra dos Reis**	**37.31**	**4**	*e*P	**P**	03 41 44.9	+0.1
ESAR	**Angra dos Reis**	**37.31**	**4**	*e*P	**P**	03 41 44.9	+0.1
MAN01	**Angra dos Reis**	**37.48**	**5**	*e*P	**P**	03 41 46.9	+0.5
MAN01	**Angra dos Reis**	**37.48**	**5**	*e*P	**P**	03 41 46.9	+0.5
TRCB	**Terra Rica**	**37.68**	**352**	*e*P	**P**	03 41 48.4	+0.4
TRCB	**Terra Rica**	**37.68**	**352**	*e*P	**P**	03 41 48.4	+0.4
RCLB	**Rio Claro- Sao**	**37.86**	**359**	*e*P	**P**	03 41 50.1	+0.5
RCLB	**Rio Claro- Sao**	**37.86**	**359**	*e*P	**P**	03 41 50.1	+0.5
VAS01	**Vassouras-RJ**	**38.09**	**6**	*e*P	**P**	03 41 52.3	+0.9
VAS01	**Vassouras-RJ**	**38.09**	**6**	*e*P	**P**	03 41 52.3	+0.9
AZAP	**Zapla**	**38.14**	**333**	*e*P	**P**	03 41 50.3	-1.9
DUB01	**Friburgo-RJ**	**38.35**	**7**	*e*P	**P**	03 41 54.1	+0.5
DUB01	**Friburgo-RJ**	**38.35**	**7**	*e*P	**P**	03 41 54.1	+0.5
GO02	**Mina Guanaco**	**38.38**	**326**	P	**P**	03 41 53.0	-1.2
GO02				IAmb	IAmb	03 42 12.8	
	comp=Z,290nm,0.8s						
CAM01	**Campos-RJ**	**38.65**	**8**	*e*P	**P**	03 41 57.0	+0.9
CAM01	**Campos-RJ**	**38.65**	**8**	*e*P	**P**	03 41 57.0	+0.9
PCMB	**Pacaembu**	**38.77**	**354**	*e*P	**P**	03 41 56.4	-0.8
PCMB	**Pacaembu**	**38.77**	**354**	*e*P	**P**	03 41 56.4	-0.8
BB19B	**Bebedouro**	**39.22**	**358**	*e*P	**P**	03 42 00.5	-0.5
BB19B	**Bebedouro**	**39.22**	**358**	*e*P	**P**	03 42 00.5	-0.5
BSCB	**Bom Sucesso**	**39.31**	**4**	*e*P	**P**	03 42 02.4	+0.6
BSCB	**Bom Sucesso**	**39.31**	**4**	*e*P	**P**	03 42 02.4	+0.6
ALF01	**Guarapari-ES**	**39.92**	**9**	*e*P	**P**	03 42 07.7	+1.0
ALF01	**Guarapari-ES**	**39.92**	**9**	*e*P	**P**	03 42 07.7	+1.0
PB10	**IPOC Station P**	**40.22**	**326**	P	**P**	03 42 07.9	-1.3
PB10				IAMs_20	IAMs_20	03 58 21.9	
	comp=Z,124μm,22.0s						
AQDB	**Aquidauana**	**40.25**	**348**	*e*P	**P**	03 42 09.3	-0.1
AQDB	**Aquidauana**	**40.25**	**348**	*e*P	**P**	03 42 09.3	-0.1
SBA	**Scott Base**	**40.53**	**190**	P	**P**	03 42 11.2	0.0
SBA				MLR	MLR		
	comp=Z,214μm,18.0s						
SBA	**Scott Base**	**40.53**	**190**	P	**P**	03 42 11.2	0.0
ITRB	**Iturama**	**40.62**	**355**	*e*P	**P**	03 42 12.7	0.0
ITRB	**Iturama**	**40.62**	**355**	*e*P	**P**	03 42 12.7	0.0
LVC	**Limon Verde**	**40.63**	**328**	P	**P**	03 42 11.8	-1.3
LVC				pmax	pmax		
	comp=Z,158nm,1.1s						
LVC				MLR	MLR		
	comp=Z,87μm,20.0s						
LVC	**Limon Verde**	**40.63**	**328**	P	**P**	03 42 12.2	-0.8
	comp=Z,29nm,0.9s,baz=191,slow=3.9,SNR=16						
LVC				LR	LR	03 59 23.4	
	comp=Z,90μm,20.4s,baz=188,slow=37						
LVC	**Limon Verde**	**40.63**	**328**	P	**P**	03 42 11.8	-1.3
LVC	**Limon Verde**	**40.63**	**328**	*e*P	**P**	03 42 12.5	-0.6
RIB01	**Linhares ES**	**41.24**	**10**	*e*P	**P**	03 42 17.8	+0.1
RIB01	**Linhares ES**	**41.24**	**10**	*e*P	**P**	03 42 17.8	+0.1
BSFB	**Barra de Sao F**	**41.68**	**9**	*e*P	**P**	03 42 21.5	+0.3
BSFB	**Barra de Sao F**	**41.68**	**9**	*e*P	**P**	03 42 21.5	+0.3
C2SB	**Chapadao do Su**	**41.69**	**352**	*e*P	**P**	03 42 21.8	+0.5
C2SB	**Chapadao do Su**	**41.69**	**352**	*e*P	**P**	03 42 21.8	+0.5
PMNB	**Patos De Minas**	**41.72**	**1**	*e*P	**P**	03 42 20.6	-1.1
PMNB	**Patos De Minas**	**41.72**	**1**	*e*P	**P**	03 42 20.6	-1.1
SJMB	**Sao Joao De Ma**	**41.78**	**9**	*e*P	**P**	03 42 21.8	-0.3
SJMB	**Sao Joao De Ma**	**41.78**	**9**	*e*P	**P**	03 42 21.8	-0.3
PB01	**IPOC Station P**	**42.28**	**328**	IAMs_20	IAMs_20	03 59 33.4	
	comp=Z,118μm,22.0s						
MAW	**Mawson**	**42.64**	**148**	P	**P**	03 42 28.0	-0.6
MAW	**Mawson**	**42.64**	**148**	P	**P**	03 42 28.0	-0.6
	comp=Z,52nm,0.9s,baz=236,slow=9.3,SNR=29						
MAW				LR	LR	03 58 50.2	
	comp=Z,169μm,20.7s,baz=242,slow=34						
MAW	**Mawson**	**42.64**	**148**	P	**P**	03 42 28.7	+0.1
PP1B	**Ponte de Pedra**	**43.01**	**349**	*e*P	**P**	03 42 31.9	-0.2
PP1B	**Ponte de Pedra**	**43.01**	**349**	*e*P	**P**	03 42 31.9	-0.2
GO01	**Chusmiza**	**43.52**	**329**	P	**P**	03 42 35.8	-0.9
GO01				IAmb	IAmb	03 42 50.3	
	comp=Z,764nm,1.6s						
PB11	**IPOC Station P**	**43.55**	**329**	IAMs_20	IAMs_20	04 00 35.1	
	comp=Z,120μm,22.0s						
MNMC	**Minye Minye**	**44.13**	**329**	IAmb	IAmb	03 43 03.1	
	comp=Z,446nm,0.7s						
MNMC				IAMs_20	IAMs_20	04 01 05.6	
	comp=Z,141μm,22.0s						
BDFB	**Brasilia**	**44.60**	**359**	P	**P**	03 42 44.0	-1.0
	comp=Z,41nm,0.9s,baz=162,slow=6.2,SNR=38						
BDFB				LR	LR	03 59 49.7	
	comp=Z,28μm,20.4s,baz=176,slow=34						
BDFB	**Brasilia**	**44.60**	**359**	P	**P**	03 42 44.1	-1.0
BDFB				IAmb	IAmb	03 43 02.0	
	comp=Z,544nm,1.3s						
ARAG	**Araguaiana, MT**	**44.66**	**354**	*e*P	**P**	03 42 44.7	-0.7
ARAG	**Araguaiana, MT**	**44.66**	**354**

comp=Z,63µm,20.0s
H10N3 ASCENSION HYDR 57.82 39 T T 04 47 20.3
baz=199,slow=75,SNR=246
H10N1 ASCENSION HYDR 57.82 39 T T 04 47 24.1
baz=199,slow=75,SNR=509
H10N2 ASCENSION HYDR 57.83 39 T T 04 47 21.6
baz=199,slow=75,SNR=208
ATAH Atahualpa 58.02 323 P **P** **03 44 25.1 -0.8**
comp=Z,20nm,0.7s,baz=200,slow=3.5,SNR=19
LBTB Lobatse 60.11 88 P **P** **03 44 38.1 -2.0**
LBTB pmax pmax
comp=Z,978nm,1.1s
LBTB Lobatse 60.11 88 P **P** **03 44 38.1 -2.0**
TSUM Tsumeb 61.05 78 P **P** **03 44 45.1 -1.4**
comp=Z,40nm,1.0s,baz=209,slow=13,SNR=1.8
TSUM Tsumeb 61.05 78 IAms_20 IAms_20 04 05 23.8
comp=Z,68µm,21.0s
TSUM Tsumeb 61.05 78 IAmb IAmb 03 45 01.3
comp=Z,410nm,1.4s
MCQ Macquarie Isla 63.66 197 IAms_20 IAms_20 04 09 27.7
comp=Z,63µm,20.0s
OTAV Otavalo 65.04 325 P **P** **03 45 12.0 -1.4**
OTAV pmax pmax
comp=Z,612nm,1.3s
OTAV MLR MLR
comp=Z,55µm,21.0s
OTAV Otavalo 65.04 325 P **P** **03 45 12.0 -1.4**
OTAV Otavalo 65.04 325 IAms_20 IAms_20 04 13 06.7
comp=Z,55µm,21.0s
OTAV Otavalo 65.04 325 *e*P **P** **03 45 12.7 -0.7**
MDP Montagnes des 65.35 354 P **P** **03 45 12.9 -1.9**
comp=Z,17nm,0.5s,baz=198,slow=6.9,SNR=26
FLOC Florencia 65.56 328 *e*P P 03 45 21.6 +5.3
FLOC Florencia 65.56 328 *e*P **P** 03 45 21.6 +5.3
MACC Macarena, Meta 65.64 331 *e*P **P** **03 45 20.3 +3.5**
MACC Macarena, Meta 65.64 331 *e*P **P** **03 45 20.3 +3.5**
GUVC San Jose del G 65.74 332 *e*P **P** **03 45 21.6 +4.2**
GUVC *e*P **sP** **03 45 28.2 +1.6**
GUVC San Jose del G 65.74 332 *e*P **P** **03 45 21.6 +4.2**
GUVC *e*P **sP** **03 45 28.2 +1.6**
CRUC La Cruz 65.89 327 *e*P **P** **03 45 22.9 +4.1**
CRUC La Cruz 65.89 327 *e*P **P** **03 45 22.9 +4.1**
SOTA Rioblanco 66.34 328 *e*P P 03 45 26.9 +5.1
SOTA Rioblanco 66.34 328 *e*P P 03 45 26.9 +5.1
BBAC Balboa, Cauca 66.40 327 *e*P P 03 45 28.2 +6.3
BBAC Balboa, Cauca 66.40 327 *e*P P 03 45 28.2 +6.3
PCON Cinco Dias 66.47 328 *e*P P 03 45 30.2 +7.5
PCON Cinco Dias 66.47 328 *e*P P 03 45 30.2 +7.5
BETC Betania 66.56 329 *e*P P 03 45 29.6 +6.9
BETC Betania 66.56 329 *e*P P 03 45 29.6 +6.9
PTGC Puerto Gaitan, 67.22 333 *e*P **P** **03 45 31.6 +4.7**
PTGC Puerto Gaitan, 67.22 333 *e*P **P** **03 45 31.6 +4.7**
VILC Villavicencio, 67.50 331 *e*P P 03 45 35.5 +6.8
VILC *e*P sP 03 45 38.2 +0.2
VILC Villavicencio, 67.50 331 *e*P P 03 45 35.5 +6.8
VILC *e*P sP 03 45 38.2 +0.2
GRGC Isla de Gorgon 67.59 326 *e*P **P** **03 45 24.9 -4.3**
GRGC *e*P **P** **03 45 27.6 -1.6**
GRGC Isla de Gorgon 67.59 326 *e*P **P** **03 45 24.9 -4.3**
GRGC *e*P **P** **03 45 27.6 -1.6**
ORTC Ortega, Tolima 67.69 330 *e*P **P** **03 45 33.5 +3.7**
ORTC Ortega, Tolima 67.69 330 *e*P **P** **03 45 33.5 +3.7**
CHIC Chingaza 68.01 331 *e*P **P** **03 45 36.9 +4.6**
CHIC Chingaza 68.01 331 *e*P **P** **03 45 36.9 +4.6**
YOTC Yotoco, Valle 68.04 328 *e*P P 03 45 25.6 -6.6
YOTC *e*P **P** **03 45 30.2 -1.9**
YOTC Yotoco, Valle 68.04 328 *e*P P 03 45 25.6 -6.6
YOTC *e*P **P** **03 45 30.2 -1.9**
PAYG Puerto Ayora 68.06 313 IAms_20 IAms_20 04 10 06.2
comp=Z,61µm,20.0s
ITZ Itezhi-Tezhi 68.14 83 *i*P **P** **03 45 29.3 -3.6**
MALC Bahia Malaga 68.33 327 *e*P P 03 45 40.9 +7.0
MALC Bahia Malaga 68.33 327 *e*P P 03 45 40.9 +7.0
ROSC El Rosal 68.35 331 *e*P P 03 45 39.5 +5.1
ROSC El Rosal 68.35 331 *e*P P 03 45 39.5 +5.1
ROSC El Rosal 68.35 331 P **P** **03 45 33.9 -0.5**
comp=Z,14nm,0.5s,baz=165,slow=5.4,SNR=8.7
ROSC El Rosal 68.35 331 P **P** **03 45 34.1 -0.3**
TOLC Tolima 68.36 330 *e*P P 03 45 40.9 +6.5
TOLC Tolima 68.36 330 *e*P P 03 45 40.9 +6.5
RREF El Recreo 68.67 330 *e*P **P** **03 45 35.5 -1.1**
RREF El Recreo 68.67 330 *e*P **P** **03 45 35.5 -1.1**
PLMC San Jos del P 68.91 329 *e*P **P** **03 45 41.5 +4.0**
PLMC San Jos del P 68.91 329 *e*P **P** **03 45 41.5 +4.0**
GUY2C Guyana, Caldas 68.98 330 *e*P **P** **03 45 34.2 -4.2**
GUY2C *e*P **P** **03 45 41.5 +3.1**
GUY2C Guyana, Caldas 68.98 330 *e*P **P** **03 45 34.2 -4.2**
GUY2C *e*P **P** **03 45 41.5 +3.1**
RUSC La Rusia 69.08 332 *e*P **P** **03 45 43.5 +4.5**
RUSC La Rusia 69.08 332 *e*P **P** **03 45 43.5 +4.5**
SPBC San Pablo de B 69.08 331 *e*P **P** **03 45 41.5 +3.0**
SPBC San Pablo de B 69.08 331 *e*P **P** **03 45 41.5 +3.0**
NORC Norcasia 69.19 330 *e*P **P** **03 45 41.5 +2.3**
NORC Norcasia 69.19 330 *e*P **P** **03 45 41.5 +2.3**
TAMC Tame, Arauca 69.31 334 *e*P **P** **03 45 40.2 +0.2**
TAMC Tame, Arauca 69.31 334 *e*P **P** **03 45 40.2 +0.2**
ELOV Elorza 69.37 336 *e*P P 03 45 46.2 +5.9
ELOV Elorza 69.37 336 *e*P P 03 45 46.2 +5.9
LSZ Lusaka 69.62 85 *i*P P 03 45 28.5 -14
LSZ Lusaka 69.62 85 P **P** **03 45 40.8 -1.3**
LSZ pmax pmax
comp=Z,933nm,1.2s
LSZ Lusaka 69.62 85 *i*P P 03 45 28.5 -14
LSZ Lusaka 69.62 85 P **P** **03 45 40.8 -1.3**
CBOC Ciudad Bolivar 69.76 329 *e*P P 03 45 48.2 +5.3
CBOC Ciudad Bolivar 69.76 329 *e*P P 03 45 48.2 +5.3
BARC Barichara 69.78 332 *e*P **P** **03 45 46.2 +3.1**
BARC Barichara 69.78 332 *e*P **P** **03 45 46.2 +3.1**
HELC Santa Helena 69.95 330 *e*P **P** **03 45 48.8 +4.5**
HELC Santa Helena 69.95 330 *e*P **P** **03 45 48.8 +4.5**
PTBC PUERTO BERRIO, 70.03 331 *e*P P 03 45 50.2 +5.8
PTBC PUERTO BERRIO, 70.03 331 *e*P P 03 45 50.2 +5.8
ORIV Oritupano 70.35 343 *e* P 03 45 53.7 +7.5
PAMC Pamplona, Colo 70.39 333 *e*P **P** **03 45 51.5 +4.4**
PAMC Pamplona, Colo 70.39 333 *e*P **P** **03 45 51.5 +4.4**
BRRC Barranca, Sant 70.40 332 *e*P **P** **03 45 49.5 +2.9**
BRRC Barranca, Sant 70.40 332 *e*P **P** **03 45 49.5 +2.9**
MLZ Mavora Lakes 70.81 206 P **P** **03 45 50.0 +1.1**
MLZ IAmb IAmb 03 46 02.0
comp=Z,527nm,1.9s
CAPV Capacho 70.81 334 *e*P **P** **03 45 53.5 +4.1**
CAPV Capacho 70.81 334 *e*P **P** **03 45 53.5 +4.1**
DBBC Dabeiba 70.92 329 *e*P **P** **03 45 48.8 -1.0**
DBBC Dabeiba 70.92 329 *e*P **P** **03 45 48.8 -1.0**
BAUV El Baul 70.99 338 *e* P 03 45 56.1 +6.0
ZARC Zaragoza, Cauc 71.04 331 *e*P P 03 45 45.5 -5.0
ZARC *e*P **P** **03 45 46.8 -3.7**
ZARC Zaragoza, Cauc 71.04 331 *e*P P 03 45 45.5 -5.0
ZARC *e*P **P** **03 45 46.8 -3.7**
MQZ McQueen's Vall 71.34 209 P **P** **03 45 53.0 +1.0**
MQZ IAms_20 IAms_20 04 15 17.3
comp=Z,53µm,18.0s
OCAC Ocana 71.40 333 *e*P **P** **03 45 56.1 +3.3**
OCAC Ocana 71.40 333 *e*P **P** **03 45 56.1 +3.3**
SDV Santo Domingo 71.44 336 P **P** **03 45 51.6 -1.5**
SDV IAmb IAmb 03 46 20.5
comp=Z,157nm,1.1s
SDV Santo Domingo 71.44 336 IAms_20 IAms_20 04 15 46.1
comp=Z,68µm,22.0s
SDV Santo Domingo 71.44 336 *e*P **P** **03 45 51.7 -1.4**
PTAC Punta Ardita, 71.46 328 *e*P **P** **03 45 57.5 +4.5**
PTAC *e*P P 03 45 58.1 +5.1
PTAC Punta Ardita, 71.46 328 *e*P **P** **03 45 57.5 +4.5**
PTAC *e*P P 03 45 58.1 +5.1
PCRV Puerto La Cruz 71.62 342 P **P** **03 45 53.4 -0.6**
comp=Z,26nm,0.8s,baz=137,slow=0.4,SNR=11
TRN Trinidad (W) 71.63 345 *e* **P** **03 45 55.5 +1.5**
RPZ Rata Peaks 71.72 208 P **P** **03 45 54.7 +0.3**
RPZ IAmb IAmb 03 46 13.8
comp=Z,205nm,0.9s
RPZ IAms_20 IAms_20 04 15 56.2
comp=Z,55µm,19.0s
GUIV Guiria 71.73 344 *e* **P** **03 45 54.1 -0.5**
OXZ Oxford 71.85 209 IAms_20 IAms_20 04 12 39.2
comp=Z,53µm,21.0s
SMLC San Martn de 72.11 332 *e*P **P** **03 45 52.8 -4.1**
SMLC San Martn de 72.11 332 *e*P **P** **03 45 52.8 -4.1**
LTZ Lake Taylor 72.30 209 IAmb IAmb 03 46 18.0
comp=Z,259nm,0.9s
KHZ Kahutara 72.33 210 IAms_20 IAms_20 04 12 52.6
comp=Z,63µm,20.0s
PLWZ Palliser 72.68 212 P **P** **03 46 00.8 +0.6**

AZU Azuero 72.75 326 *e*P **P** **03 45 60.0 -0.8**
CODC Agustn Codazz 73.07 333 *e*P P 03 46 07.4 +4.8
CODC Agustn Codazz 73.07 333 *e*P P 03 46 07.4 +4.8
SNZO South Karori 73.07 212 IAms_20 IAms_20 04 16 09.2
comp=Z,57µm,18.0s
THZ Tophouse 73.11 210 P **P** **03 46 03.0 +0.3**
THZ IAmb IAmb 03 46 22.8
comp=Z,267nm,0.8s
GRGR Grenville 73.12 345 *e* **P** **03 46 04.2 +1.3**
GRGR Grenville 73.12 345 IAms_20 IAms_20 04 19 18.4
comp=Z,57µm,22.0s
BFZ Birch Farm 73.25 213 P P 03 46 09.5 +6.0
GRSS Sisters 73.28 345 *e* P 03 46 11.0 +7.2
SJCC San Jacinto, C 73.44 331 *e*P P 03 46 10.1 +5.3
SJCC San Jacinto, C 73.44 331 *e*P P 03 46 10.1 +5.3
KIW Kapiti Island 73.44 212 P P 03 46 18.5 +14
NNZ Nelson 73.50 211 IAms_20 IAms_20 04 13 17.5
comp=Z,62µm,21.0s
PRHZ Porangahau 73.53 214 P **P** **03 46 07.3 +2.2**
DVHZ Dannevirke 73.62 213 P **P** **03 46 09.0 +3.2**
UPA Univ. de Panam 73.68 327 *e*P P 03 46 11.9 +5.7
ZANG Zanguenga, Cho 73.74 326 *e*P **P** **03 46 07.0 +0.4**
BBGH Gun Hill 73.87 347 *e* **P** **03 46 11.0 +3.7**
BCIP Isla Barro Col 73.94 326 P **P** **03 46 06.0 -1.7**
BCIP pmax pmax
comp=Z,708nm,2.0s
BCIP Isla Barro Col 73.94 326 *e*P **P** **03 46 12.4 +4.7**
BCIP Isla Barro Col 73.94 326 P **P** **03 46 06.0 -1.7**
BCIP IAmb IAmb 03 47 04.9
comp=Z,708nm,2.0s
QRZ Quartz Range 74.08 210 P **P** **03 46 07.8 -0.6**
QRZ IAmb IAmb 03 46 28.6
comp=Z,283nm,1.0s
LIC Lamto 74.13 44 *e*P **P** **03 46 07.1 -1.8**
comp=Z,1µm,1.0s
SVCV St. Vincent, C 74.18 346 *e* P 03 46 14.4 +5.3
KRHZ Kereru 74.18 214 P **P** **03 46 10.6 +1.5**
SVB Belmont 74.19 346 *e* P 03 46 15.6 +6.4
SVB Belmont 74.19 346 P **P** **03 46 08.2 -1.0**
SVV Soufriere Volc 74.23 346 *e* **P** **03 46 08.1 -1.4**
PTJ1 Puerto Jimnez 74.34 323 *e*P P 03 46 19.3 +9.3
KIC Kosan Boka 74.36 44 *e*P **P** **03 46 08.7 -1.5**
comp=Z,2µm,1.4s
KNZ Kokohu 74.40 215 P **P** **03 46 13.1 +2.9**
BRU2 Volcan 74.40 323 *e*P **P** **03 46 06.6 -4.0**
BHHZ Black Hill Sta 74.41 213 P **P** **03 46 12.1 +1.6**
SMRC Santa Marta, M 74.43 332 *e*P P 03 46 16.1 +5.5
SMRC Santa Marta, M 74.43 332 *e*P P 03 46 16.1 +5.5
WAZ Wanganui 74.45 213 P P 03 46 18.1 +7.5
TIC Toumodi 74.53 44 *e*P **P** **03 46 09.2 -2.0**
MOVZ Moawhango 74.57 213 P P 03 46 17.7 +6.3
MCLT Moule a Chique 74.59 346 *e* **P** **03 46 13.2 +1.7**
BKZ Black Stump Fm 74.59 214 P **P** **03 46 12.6 +1.1**
BKZ IAmb IAmb 03 46 25.8
comp=Z,669nm,1.8s
BKZ IAms_20 IAms_20 04 21 11.6
comp=Z,48µm,18.0s
DBIC Dimbokro 74.61 44 P **P** **03 46 10.4 -1.2**
comp=Z,63nm,0.9s,baz=185,slow=6.3,SNR=39
DBIC LR LR 04 12 56.6
comp=Z,56µm,20.9s,baz=186,slow=31
DBIC Dimbokro 74.61 44 P **P** **03 46 10.8 -0.9**
RAHZ Arahi 74.66 214 P **P** **03 46 13.0 +1.2**
RIGZ Rimuhau 74.66 215 P **P** **03 46 16.0 +4.1**
SLB Belfond 74.72 346 *e* P 03 46 17.7 +5.4
TRVZ Turoa 74.73 213 P **P** **03 46 14.1 +1.6**
FWVZ Far West T-bar 74.77 213 P **P** **03 46 14.4 +1.6**
PKVZ Pokaka 74.79 213 P **P** **03 46 16.9 +4.3**
NGZ Ngauruhoe 74.83 213 P **P** **03 46 16.5 +3.5**
WTVZ West Tongariro 74.89 213 P **P** **03 46 16.6 +3.4**
SLBI Saint Lucia, B 74.90 346 *e* **P** **03 46 12.2 -1.0**
RAGZ Rawiri 74.96 215 P **P** **03 46 16.2 +2.6**
TWVZ Taurewa 74.97 213 P P 03 46 20.4 +6.7
DRK0 Durika 75.01 323 *e*P P 03 46 19.9 +5.7
MWZ Matawai 75.08 215 P **P** **03 46 18.8 +4.5**
URZ Urewera 75.27 215 P **P** **03 46 15.5 +0.2**
URZ Urewera 75.27 215 IAmb IAmb 03 46 41.3
comp=Z,192nm,1.0s
RUGZ Raukumara Rang 75.38 215 P **P** **03 46 17.9 +1.8**
KSMZ Kasama 75.49 85 *i*P **P** **03 46 17.1 0.0**
KSMZ *i* 03 46 18.7
baz=230,slow=7.9
KSMZ *i*S **S** **03 55 56.3 +0.2**
MXZ Matakaoa Point 75.57 216 IAms_20 IAms_20 04 19 00.5
comp=Z,52µm,18.0s
OMRZ Omania 75.62 214 P **P** **03 46 20.3 +2.9**
FDF Fort de France 75.62 346 P **P** **03 46 16.5 -1.0**
FDF pmax pmax
comp=Z,382nm,1.0s
FDF MLR MLR
comp=Z,44µm,21.0s
FDF Fort de France 75.62 346 *e* **P** **03 46 18.9 +1.4**
FDF Fort de France 75.62 346 P **P** **03 46 16.5 -1.0**
FDF IAmb IAmb 03 46 38.9
comp=Z,382nm,1.0s
FDF IAms_20 IAms_20 04 21 10.7
comp=Z,44µm,21.0s
HIZ Hauiti 75.65 213 P **P** **03 46 17.7 +0.2**
HIZ Hauiti 75.65 213 IAms_20 IAms_20 04 14 43.5
comp=Z,54µm,20.0s
LCR2 La Lucha 2 75.69 322 *e*P **P** **03 46 16.1 -2.0**
TBI Tubuai 75.84 248 *e*P **P** **03 46 20.6 +1.8**
comp=Z,575nm,1.3s
TBI *e*S **S** **03 56 02.9 +3.5**
comp=Z,30µm,28.0s
TBI Tubuai 75.84 248 *e*LQ LQ 04 06 29.4
comp=Z,42µm,34.2s
TBI *e*LR LR 04 09 43.0
comp=Z,216µm,27.5s,baz=153
TBI Tubuai 75.84 248 *e*T T 05 10 10.9
comp=Z,5.2nm,0.4s
ABPO Ambohimpanom 75.84 103 P **P** **03 46 18.6 -0.5**
ABPO pmax pmax
comp=Z,681nm,1.8s
ABPO Ambohimpanom 75.84 103 P **P** **03 46 18.6 -0.5**
ABPO IAmb IAmb 03 46 35.3
comp=Z,681nm,1.8s
CVTR Volcan Turrial 75.88 323 *e*P **P** **03 46 21.5 +2.1**
HDC Heredia 75.97 322 *e*P **P** **03 46 18.4 -1.2**
SRA1 San Ramn 76.16 322 *e*P **P** **03 46 25.1 +4.4**
BBL Barber's Block 76.44 346 *e* **P** **03 46 26.9 +4.8**
DWS Wesley 76.47 346 *e* **P** **03 46 20.2 -2.0**
MDPO Dominica; Chan 76.49 346 *e* **P** **03 46 22.8 +0.4**
JTS Las Juntas de 76.50 322 P **P** **03 46 20.9 -1.6**
JTS pmax pmax
comp=Z,146nm,1.1s
JTS Las Juntas de 76.50 322 P **P** **03 46 20.6 -1.9**
comp=Z,27nm,1.0s,baz=141,slow=2.1,SNR=8.3
JTS LR LR 04 17 33.4
comp=Z,23µm,21.5s,baz=217,slow=34
JTS Las Juntas de 76.50 322 P **P** **03 46 20.9 -1.6**
ARE1 Arenal 1 76.59 322 *e*P **P** **03 46 21.6 -1.4**
CEDE Laguna Cedeo 76.61 322 *e*P **P** **03 46 27.9 +4.8**
PLVR Palo Verde 76.68 321 *e*P **P** **03 46 23.9 +0.2**
CUI Cuipilapa 76.91 322 *e*P **P** **03 46 23.0 -1.8**
BUEV Buena Vista 77.12 321 *e*P **P** **03 46 24.8 -1.3**
GB1A Borinquen Arri 77.14 321 *e*P **P** **03 46 25.1 -1.0**
MLYT Lee's Yard 77.71 345 *e* P 03 46 35.8 +6.6
BPA Boggy Peak 77.99 346 *e* P 03 46 38.2 +7.4
RER Riviere de l'E 78.05 112 IAmb IAmb 03 46 47.1
comp=Z,353nm,1.0s
RER IAms_20 IAms_20 04 14 06.7
comp=Z,34µm,20.0s
ESPN Las Esperanzas 78.10 323 *e*P **P** **03 46 29.2 -2.2**
ACON Acoyapa 78.15 322 *e*P **P** **03 46 29.2 -2.5**
ACON Acoyapa 78.15 322 IAms_20 IAms_20 04 16 23.3
comp=Z,36µm,22.0s
NVBH Bath Hotel, Ne 78.16 345 *e* **P** **03 46 34.0 +2.4**
NEV Hard Times 78.17 345 *e* P 03 46 39.6 +7.9
NVRH Round Hill, Ne 78.22 345 *e* **P** **03 46 33.3 +1.3**
PRVC Isla de Provid 78.37 326 *e*P P 03 46 38.7 +5.8
PRVC Isla de Provid 78.37 326 *e*P P 03 46 38.7 +5.8
SKI Saint Kitts 78.39 345 *e* **P** **03 46 32.5 -0.4**
SEUS St. Eustatius 78.57 345 *e* P 03 46 40.7 +6.8
SEUS St. Eustatius 78.57 345 IAms_20 IAms_20 04 21 52.9
comp=Z,47µm,22.0s
ANWB Willy Bob 78.59 346 *e* P 03 46 27.5 -6.5
ANWB Willy Bob 78.59 346 IAms_20 IAms_20 04 22 46.5
comp=Z,33µm,21.0s
SABA Saba 78.73 344 *e* P 03 46 41.6 +6.7
SABA Saba 78.73 344 IAms_20 IAms_20 04 22 49.2
comp=Z,38µm,20.0s
OUZ Omahuta 79.09 213 IAmb IAmb 03 46 56.5

comp=Z,349nm,1.0s
CNGN Cerro Negro 79.13 321 *e*P **P** **03 46 34.6 -2.5**
MATN Matagalpa 79.29 322 *e*P **P** **03 46 34.8 -3.3**
CRIN San Cristobal 79.42 320 *e*P P 03 46 28.3 -10
ESTN Estel 79.59 321 *e*P **P** **03 46 36.2 -3.5**
ESTN Estel 79.59 321 IAms_20 IAms_20 04 21 27.5
comp=Z,33µm,21.0s
SJG San Juan 79.64 342 P **P** **03 46 38.0 -1.7**
SJG pmax pmax
comp=Z,235nm,1.7s
SJG MLR MLR
comp=Z,40µm,22.0s
SJG San Juan 79.64 342 LR LR 04 24 20.4
comp=Z,17µm,20.6s,baz=159,slow=38
SJG San Juan 79.64 342 P **P** **03 46 38.0 -1.7**
SJG San Juan 79.64 342 IAms_20 IAms_20 04 21 18.2
comp=Z,40µm,22.0s
MLPR Magueyes Islan 79.64 341 IAmb IAmb 03 46 51.8
comp=Z,547nm,1.2s
OBIP Obispado Ponce 79.64 341 P **P** **03 46 38.5 -1.2**
RCON San Juan de Ri 79.88 322 *e*P **P** **03 46 37.8 -3.6**
MEH Mehetia 79.91 252 *e*P **P** **03 46 42.8 +1.3**
comp=Z,66nm,1.1s
AOPR Arecibo Observ 79.97 341 P **P** **03 46 39.0 -2.5**
TVO Taravao 80.55 251 *e*P **P** **03 46 46.5 +1.5**
comp=Z,90nm,0.9s
TVO Taravao 80.55 251 *e*T T 05 16 02.1
comp=Z,0.8nm,0.3s
SDD Santo Domingo 80.62 338 IAms_20 IAms_20 04 24 46.5
comp=Z,52µm,20.0s
BANI BANI 80.64 338 P **P** **03 46 44.6 -0.7**
TIAR Tiarei 80.79 251 *e*P **P** **03 46 47.6 +1.4**
comp=Z,41nm,0.9s
PAE Paea 80.81 251 *e*P **P** **03 46 47.6 +1.3**
comp=Z,17nm,1.1s
PAE Paea 80.81 251 *e*T T 05 16 21.7
comp=Z,0.8nm,0.3s
PPT2 Papeete2 80.87 251 *e*P **P** **03 46 48.0 +1.3**
comp=Z,130nm,1.3s
PPT2 Papeete2 80.87 251 *e*S **S** **03 56 54.9 +1.2**
comp=Z,31µm,24.0s
PPT2 Papeete2 80.87 251 *e*LQ LQ 04 08 35.2
comp=Z,105µm,35.8s
PPT2 *e*LR LR 04 12 01.4
comp=Z,184µm,27.0s,baz=152
PPT Papeete 80.89 251 LR LR 04 14 11.7
comp=Z,14µm,22.0s,baz=154,slow=29
SNET Serv Nac Est T 81.05 319 P **P** **03 46 47.0 -0.6**
SNET IAmb IAmb 03 47 38.1
comp=Z,222nm,1.2s
SNET IAms_20 IAms_20 04 16 40.1
comp=Z,31µm,21.0s
SDDR Presa de Saban 81.39 337 IAmb IAmb 03 47 15.6
comp=Z,314nm,1.5s
SDDR IAms_20 IAms_20 04 24 38.8
comp=Z,37µm,21.0s
SC01 Santiago de lo 81.72 338 IAms_20 IAms_20 04 25 25.3
comp=Z,37µm,20.0s
TOO Toolangi 81.91 190 P **P** **03 46 51.6 -0.4**
TOO pmax pmax
comp=Z,159nm,1.2s
TOO Toolangi 81.91 190 P **P** **03 46 51.6 -0.4**
VAH Vaihoa 81.98 253 *e*P **P** **03 46 54.0 +1.5**
comp=Z,269nm,1.2s
MTDJ Mount Denham 82.02 331 IAms_20 IAms_20 04 24 27.5
comp=Z,49µm,21.0s
PMOR Pomariorio Ree 82.31 253 *e*P **P** **03 46 55.5 +1.3**
comp=Z,186nm,1.2s
RAR Rarotonga 82.32 240 P **P** **03 46 53.4 -0.8**
comp=Z,12nm,0.7s,baz=138,slow=18,SNR=3.1
RAR LR LR 04 14 48.5
comp=Z,16µm,21.2s,baz=190,slow=29
RAR Rarotonga 82.32 240 P **P** **03 46 53.6 -0.7**
RAR IAmb IAmb 03 47 07.7
comp=Z,231nm,1.5s
RAR Rarotonga 82.32 240 IAms_20 IAms_20 04 27 01.8
comp=Z,29µm,18.0s
APG El Apazote 82.69 318 LR LR 04 18 19.2
comp=Z,38µm,21.6s,baz=136,slow=32
TOA0 Torodi Ar. Sit 82.94 48 P **P** **03 46 56.4 -1.0**
TORD Torodi Ar. Bea 82.94 48 P **P** **03 46 56.2 -1.2**
comp=Z,57nm,0.9s,baz=211,slow=3.9,SNR=122
TORD PKKPbc **PKKPbc** **04 05 18.0 +0.3**
comp=Z,1.6nm,1.1s,baz=9.0,slow=1.2,SNR=3.1
TORD LR LR 04 19 16.0
comp=Z,82µm,18.1s,baz=285,slow=32
TORD Torodi Ar. Bea 82.94 48 P **P** **03 46 55.1 -2.3**
GTBY Guantanamo Bay 83.10 334 P **P** **03 46 57.0 -1.1**
GTBY IAmb IAmb 03 47 15.5
comp=Z,207nm,1.1s
MBAR Mbarara 83.51 80 *e*P **P** **03 47 00.6 -0.1**
MBAR pmax pmax
comp=Z,400nm,1.6s
MBAR Mbarara 83.51 80 P **P** **03 47 00.3 -0.4**
CAN Canberra 83.79 193 P **P** **03 47 01.8 0.0**
CAN pmax pmax
comp=Z,524nm,1.8s
CAN Canberra 83.79 193 P **P** **03 47 01.8 0.0**
CAN IAms_20 IAms_20 04 20 10.5
comp=Z,39µm,20.0s
TAOE Nuku Hiva Isla 83.84 263 *e*P **P** **03 47 03.3 +1.0**
comp=Z,716nm,1.3s
TAOE Nuku Hiva Isla 83.84 263 *e*S **S** **03 57 26.6 +2.4**
comp=Z,22µm,25.8s
TAOE *e*SS **SS** **04 02 54.7 +3.2**
comp=Z,18µm,25.9s
TAOE *e*LQ LQ 04 09 54.7
comp=Z,108µm,34.8s
TAOE *e*LR LR 04 13 15.2
comp=Z,34µm,25.8s
TAOE Nuku Hiva Isla 83.84 263 P **P** **03 47 01.4 -0.9**
TAOE IAmb IAmb 03 47 17.6
comp=Z,190nm,1.0s
TAOE IAms_20 IAms_20 04 16 52.6
comp=Z,27µm,19.0s
H01W2 Cape Leeuwin H 83.90 165 P **P** **03 47 03.2 +1.2**
baz=188,slow=8.3,SNR=4.9
H01W1 Cape Leeuwin H 83.91 165 P **P** **03 47 04.0 +2.0**
baz=188,slow=8.3,SNR=4.3
H01W3 Cape Leeuwin H 83.92 165 P **P** **03 47 04.6 +2.5**
baz=188,slow=8.3,SNR=7.9
CBCY The Bluff, Cay 84.03 329 P **P** **03 47 02.4 -0.4**
CCIG Comitan 84.44 317 P **P** **03 47 02.9 -2.3**
CCIG IAmb IAmb 03 47 25.7
comp=Z,165nm,1.2s
CCIG IAms_20 IAms_20 04 19 22.1
comp=Z,48µm,22.0s
KIBK Kibwezi 85.62 87 *i*P P 03 47 02.6 -8.7
LHI Lord Howe Isla 85.99 202 IAms_20 IAms_20 04 19 19.1
comp=Z,39µm,22.0s
CMIG Matias Romero 86.15 315 LR LR 04 19 50.1
comp=Z,36µm,20.7s,baz=144,slow=32
NWAO Narrogin (SRO) 86.22 167 P **P** **03 47 11.9 -2.1**
NWAO MLR MLR
comp=Z,87µm,18.0s
NWAO Narrogin (SRO) 86.22 167 P **P** **03 47 11.9 -2.1**
NWAO IAmb IAmb 03 47 23.7
comp=Z,181nm,1.1s
NWAO Narrogin (SRO) 86.22 167 P **P** **03 47 11.9 -2.1**
KMBO Kilima Mbogo 86.27 86 P **P** **03 47 14.7 +0.1**
comp=Z,9.5nm,1.1s,baz=197,slow=3.8,SNR=18
KMBO LR LR 04 21 30.3
comp=Z,64µm,20.2s,baz=190,slow=33
KMBO Kilima Mbogo 86.27 86 *i*P P 03 47 02.6 -12
KMBO *i*S **S** **03 57 45.7 -2.9**
KMBO *i*S **ScS** **03 58 07.1 +10**
TEIG Tepich 86.88 322 LR LR 04 24 53.0
comp=Z,12µm,20.6s,baz=50,slow=35
TEIG Tepich 86.88 322 P **P** **03 47 15.3 -1.8**
BBOO Buckleboo 87.18 183 P **P** **03 47 17.3 -1.4**
STKA Stephens Creek 87.87 187 P **P** **03 47 20.3 -1.7**
comp=Z,4.6nm,1.0s,baz=132,slow=6.2,SNR=8.0
STKA LR LR 04 27 00.2
comp=Z,70µm,18.4s,baz=177,slow=36
STKA Stephens Creek 87.87 187 P **P** **03 47 20.9 -1.1**
TLIG Tlapa 87.91 312 P **P** **03 47 20.7 -1.6**
TLIG IAmb IAmb 03 47 35.2
comp=Z,373nm,1.7s
TLIG IAms_20 IAms_20 04 23 27.5
comp=Z,32µm,19.0s
ARMA Armidale 88.29 196 IAmb IAmb 03 47 39.2
comp=Z,114nm,0.9s
ARMA IAms_20 IAms_20 04 23 29.8
comp=Z,47µm,20.0s
LODK Lodwar 89.26 82 *i*P **P** **03 47 24.0 -4.7**
LODK *i*S **SKSac** **03 57 56.4 -0.8**

MORW Morawa 89.89 165 P **P 03 47 30.4 -1.1**
061Z Ochoppi 90.18 330 IAms_20 IAms_20 04 27 25.7
comp=Z,32µm,22.0s
060A Indiantown 91.17 331 IAms_20 IAms_20 04 29 36.8
comp=Z,38µm,21.0s
MSEY Mahe Island 92.22 103 P **P 03 47 41.7 -0.9**
MSEY pmax pmax
comp=Z,166nm,1.5s
MSEY Mahe Island 92.22 103 P **P 03 47 41.7 -0.9**
MSEY IAmb IAmb 03 47 50.3
comp=Z,166nm,1.4s
DWPF Disney Wildern 92.46 330 IAms_20 IAms_20 04 29 33.0
comp=Z,28µm,21.0s
TAM Tamanrasset 93.20 47 P **P 03 47 45.9 -1.0**
TAM pmax pmax
comp=Z,40nm,1.2s
TAM Tamanrasset 93.20 47 P **P 03 47 45.9 -1.0**
EIDS Eidsvold 93.33 197 P **P 03 47 46.3 -1.2**
EIDS IAms_20 IAms_20 04 36 34.0
comp=Z,36µm,18.0s
BBSR BB Station 93.46 345 IAms_20 IAms_20 04 28 40.0
comp=Z,31µm,22.0s
DZM Mont Dzumac 93.47 211 *e*P **P 03 47 49.2 +0.9**
comp=Z,164nm,1.3s
DZM Mont Dzumac 93.47 211 *e*SKSac **SKSac 03 58 22.0 +0.8**
DZM comp=Z,13µm,26.6s *e*S **S 03 58 55.2 +0.3**
comp=Z,10µm,27.1s
DZM Mont Dzumac 93.47 211 *e*PS PS 04 00 11.4 +1.4
DZM comp=Z,41µm,30.9s *e*SS SS 04 05 15.3 +5.0
comp=Z,51µm,28.4s
DZM *e*LQ LQ 04 14 06.4
comp=Z,155µm,33.9s
DZM *e*LR LR 04 17 52.4
comp=Z,78µm,22.0s
DZM Mont Dzumac 93.47 211 P **P 03 47 47.6 -0.7**
AFI Afiamalu 93.85 233 P **P 03 47 48.2 -1.9**
AFI pmax pmax
comp=Z,86nm,1.2s
AFI Afiamalu 93.85 233 LR LR 04 22 28.8
comp=Z,34µm,19.1s,baz=158,slow=31
AFI Afiamalu 93.85 233 P **P 03 47 48.2 -1.9**
AFI Afiamalu 93.85 233 IAms_20 IAms_20 04 22 17.4
comp=Z,33µm,20.0s
656A Willston 93.94 330 IAms_20 IAms_20 04 30 10.2
comp=Z,27µm,22.0s
MSVF Nonsavu 94.10 223⇑ *e*P **P 03 47 47.6 -3.6**
MSVF Nonsavu 94.10 223 P **P 03 47 50.4 -0.8**
MSVF IAmb IAmb 03 48 29.1
comp=Z,156nm,1.9s
MSVF Nonsavu 94.10 223 IAms_20 IAms_20 04 29 56.2
comp=Z,24µm,19.0s
456A Hilliard 95.10 330 IAms_20 IAms_20 04 30 28.0
comp=Z,32µm,22.0s
455A Stateville 95.37 330 P P 03 48 01.4 +5.0
baz=163
453A Whigham 95.81 329 IAms_20 IAms_20 04 28 42.7
comp=Z,27µm,22.0s
451A Vernon 95.96 327 IAms_20 IAms_20 04 31 50.8
comp=Z,36µm,22.0s
PMOZ Porto Moniz, M 96.02 25 *e*P P 03 48 07.7 +8.2
PMOZ Porto Moniz, M 96.02 25 *e*SKS S 03 59 31.9 +16
TIGA Tifton 96.18 329 IAms_20 IAms_20 04 28 51.5
comp=Z,28µm,22.0s
353A Camilla 96.25 329 P P 03 48 06.4 +6.0
baz=162
ASAR Alice Springs 96.33 181 P **P 03 47 58.8 -2.6**
comp=Z,5.9nm,1.0s,baz=174,slow=3.5,SNR=34
ASAR PP **PP 03 51 58.2 +4.3**
comp=Z,36nm,1.1s,baz=171,slow=7.6,SNR=7.8
ASAR PKKP **PKKPbc 04 04 44.1 +0.4**
comp=Z,2.2nm,0.6s,baz=5.5,slow=2.2,SNR=6.4
ASAR PKPPKP **P'P'df 04 12 59.0 -6.1**
comp=Z,2.0nm,1.1s,baz=17,slow=1.0,SNR=5.8
ASAR LR LR 04 31 38.9
comp=Z,56µm,18.9s,baz=181,slow=36
ASAR Alice Springs 96.33 181 P **P 03 47 58.3 -3.0**
AS31 Alice Springs 96.33 181 P **P 03 47 59.1 -2.2**
255A Hazlehurst 96.36 330 IAms_20 IAms_20 04 31 14.4
comp=Z,34µm,22.0s
PMPST Porto Santo, M 96.45 26 *e*P P 03 48 15.4 +14
352A Blakely 96.56 328 P P 03 48 08.2 +6.4
baz=162
KVTX Kingsville 96.83 316 IAms_20 IAms_20 04 36 14.2
comp=Z,23µm,20.0s
253A Americus 96.91 329 P P 03 48 08.6 +5.2
baz=162
253A Americus 96.91 329 IAms_20 IAms_20 04 28 10.8
comp=Z,26µm,21.0s
252A Lumpkin 97.00 329 P P 03 48 09.7 +5.9
baz=162
154A Montrose 97.17 330 IAms_20 IAms_20 04 31 50.9
comp=Z,38µm,22.0s
Y60A Bolivia 97.37 334 IAms_20 IAms_20 04 32 30.0
comp=Z,37µm,21.0s
250A Grady 97.39 327 P Pdif 03 48 10.7 +5.0
baz=162
250A Grady 97.39 327 P **P 03 48 04.5 -1.1**
250A IAms_20 IAms_20 04 34 04.6
comp=Z,25µm,21.0s
Z56A Williston 97.43 332 IAms_20 IAms_20 04 31 58.7
comp=Z,33µm,22.0s
H08S1 Diego Carcia H 97.45 120 T T 05 36 21.0
baz=204,slow=76,SNR=50
H08S2 Diego Garcia H 97.46 120 T T 05 36 13.3
baz=204,slow=76,SNR=27
H08S3 Diego Garcia H 97.47 120 T T 05 36 26.9
baz=204,slow=76,SNR=33
Y59A Loris 97.50 334 IAms_20 IAms_20 04 30 39.4
comp=Z,39µm,22.0s
Y58A Scranton 97.60 333 IAms_20 IAms_20 04 30 57.0
comp=Z,35µm,22.0s
152A Waverly Hall 97.63 329 P Pdif 03 48 12.4 +5.7
baz=162
DGAR Diego Garcia 97.65 120⇑ *e*P **P 03 48 05.2 -2.1**
DGAR pmax pmax
comp=Z,89nm,0.9s
Z54A Sparta 97.70 330 P Pdif 03 48 12.6 +5.6
baz=163
PSA00 Pilbara Seismi 97.73 168 P **P 03 48 05.8 -1.8**
Y57A Sumter 97.87 333 IAms_20 IAms_20 04 32 18.4
comp=Z,25µm,22.0s
X60A Albert Glenn T 97.88 335 P Pdif 03 48 13.0 +5.3
baz=165
Z53A Monticello 97.92 330 P Pdif 03 48 11.8 +3.9
baz=163
GOGA Godfrey 98.02 330 P Pdif 03 48 13.5 +5.1
baz=163
GOGA Godfrey 98.02 330 IAms_20 IAms_20 04 33 59.4
comp=Z,33µm,21.0s
Z52A Williamson 98.05 329 P Pdif 03 48 14.0 +5.4
baz=162
Y55A Saluda 98.13 331 P Pdif 03 48 15.2 +6.3
baz=163
HKT Hockley 98.35 319 P **P 03 48 08.6 -1.3**
HKT pmax pmax
comp=Z,66nm,1.5s
HKT MLR MLR
comp=Z,19µm,21.0s
HKT Hockley 98.35 319 P **P 03 48 08.6 -1.3**
HKT IAmb IAmb 03 48 23.1
comp=Z,66nm,1.4s
V62A Hyde County Ai 98.41 337 IAms_20 IAms_20 04 32 06.4
comp=Z,28µm,21.0s
LPIG La Paz 98.42 305 LR LR 04 24 57.2
comp=Z,15µm,21.6s,baz=146,slow=31
Y53A Monroe 98.47 330 P Pdif 03 48 16.1 +5.6
baz=163
BIRD Birdtown, Kers 98.49 333 IAms_20 IAms_20 04 31 26.5
comp=Z,36µm,22.0s
Z50A Ashland 98.50 328 P Pdif 03 48 16.4 +5.8
baz=162
Z50A Ashland 98.50 328 IAmb IAmb 03 48 25.4
comp=Z,40nm,0.9s
Z50A IAms_20 IAms_20 04 32 18.1
comp=Z,25µm,22.0s
HODGE Hodges 98.51 331 IAmb IAmb 03 48 22.5
comp=Z,62nm,1.5s
HODGE IAms_20 IAms_20 04 35 27.4
comp=Z,26µm,19.0s
W58A Raeford 98.57 334 P Pdif 03 48 17.7 +6.9
baz=164
LRAL Lakeview Retre 98.58 327 P Pdif 03 48 16.8 +5.9
baz=161
LRAL Lakeview Retre 98.58 327 IAmb IAmb 03 48 36.8
comp=Z,91nm,1.5s
LRAL IAms_20 IAms_20 04 32 41.3
comp=Z,24µm,22.0s
Y52A Lilburn 98.60 330 IAms_20 IAms_20 04 34 29.0
comp=Z,36µm,20.0s
PSMN Pico do Norte, 98.66 18 *e*Pdif **P 03 48 09.3 -1.9**
PSMN Pico do Norte, 98.66 18 *e*SKS **SKSac 03 58 53.5 +6.5**
PSMN Pico do Norte, 98.66 18 *e*LQ LQ 04 15 29.8
PSMN *e*LR LR 04 20 12.8
comp=Z,16µm,22.2s
X54A Belton 98.84 331 P Pdif 03 48 18.5 +6.5
baz=163
V60A Jim Taylor Roa 98.87 336 IAms_20 IAms_20 04 33 24.9
comp=Z,24µm,21.0s
Y51A Rockmart 98.89 329 P Pdif 03 48 17.7 +5.4
baz=162
PAULI Pauline 98.97 332 IAms_20 IAms_20 04 34 30.3
comp=Z,23µm,20.0s
W56A Indian Trail 98.98 333 P P 03 48 18.1 +5.4
baz=164
V59A Middlesex 99.08 335 P **Pdif 03 48 19.2 +6.2**
baz=165
HPIG 99.11 310 IAms_20 IAms_20 04 27 46.8
comp=Z,34µm,19.0s
CTA Charters Tower 99.15 193 LR LR 04 28 44.5
comp=Z,19µm,21.9s,baz=178,slow=33
CTAO Charters Tower 99.15 193 P **Pdif 03 48 13.4 -0.6**
CTAO pmax pmax
comp=Z,35nm,1.0s
CTAO Charters Tower 99.15 193 P **Pdif 03 48 13.4 -0.6**
CTAO Charters Tower 99.15 193 IAms_20 IAms_20 04 28 22.0
comp=Z,29µm,21.0s
MDT Midelt 99.16 35 PP **PP 03 52 15.0 -1.8**
comp=Z,9.5nm,1.2s,baz=187,slow=9.7,SNR=3.7
KMSC Kings Mountain 99.16 332 P **Pdif 03 48 20.0 +6.6**
baz=164
KMSC Kings Mountain 99.16 332 IAms_20 IAms_20 04 32 26.7
comp=Z,30µm,22.0s
Y49A Blount Mountai 99.20 328 P **Pdif 03 48 19.3 +5.6**
baz=161
X52A Dahlonega 99.26 330 P **Pdif 03 48 19.6 +5.6**
baz=162
V58A Windy Hill, Pi 99.29 334 IAms_20 IAms_20 04 33 57.0
comp=Z,29µm,21.0s
W54A Cherokee Point 99.31 332 P **Pdif 03 48 20.5 +6.4**
baz=163
CMLA Cha da Macela 99.34 17 *e*Pdif **Pdif 03 48 17.0 +2.8**
CMLA Cha da Macela 99.34 17 *e*SKS **SKSac 03 58 55.4 +5.1**
CMLA Cha da Macela 99.34 17 *e*LQ LQ 04 15 26.1
CMLA *e*LR LR 04 20 16.5
comp=Z,14µm,24.7s
PSET Sete Cidades 99.36 17 *e*Pdif **Pdif 03 48 16.6 +2.3**
PSET Sete Cidades 99.36 17 *e*SKS **SKSac 03 58 55.4 +4.9**
PSET Sete Cidades 99.36 17 *e*LQ LQ 04 15 31.0
PSET *e*LR LR 04 20 22.7
comp=Z,15µm,24.7s
BART Pico Bartolome 99.40 18 *e*Pdif **Pdif 03 48 17.4 +2.9**
BART Pico Bartolome 99.40 18 *e*SKS **SKSac 03 58 56.8 +6.0**
X51A Calhoun 99.47 329 IAms_20 IAms_20 04 34 47.9
comp=Z,36µm,21.0s
U59A Littleton 99.55 335 IAms_20 IAms_20 04 32 14.7
comp=Z,31µm,22.0s
V56A Mocksville 99.61 333 P **Pdif 03 48 22.4 +7.0**
baz=164
W53A Cullowhee 99.62 331 P **Pdif 03 48 21.1 +5.4**
baz=163
IFR Ifrane 99.67 35 Pdif **Pdif 03 48 21.9 +6.0**
IFR *i* S S 04 00 09.0 +21
W52A Murphy 99.74 330 P **Pdif 03 48 22.1 +6.1**
baz=162
W52A Murphy 99.74 330 IAms_20 IAms_20 04 33 07.0
comp=Z,34µm,22.0s
V55A Taylorsville 99.81 333 IAms_20 IAms_20 04 32 16.9
comp=Z,36µm,22.0s
ROSA Rosais 99.90 15 *e*Pdif **Pdif 03 48 18.5 +1.9**
ROSA Rosais 99.90 15 *e*SKS **SKSac 03 58 58.7 +5.6**
ROSA Rosais 99.90 15 *e*LQ LQ 04 15 32.3
ROSA *e*LR LR 04 20 49.9
comp=Z,28µm,24.7s
ROSA Rosais 99.90 15 IAms_20 IAms_20 04 32 33.4
comp=Z,23µm,21.0s
ADH Angra Heroismo 99.97 16 *e*Pdif **Pdif 03 48 12.5 -4.4**
W51A Cleveland 100.01 330 P **Pdif 03 48 23.2 +6.0**
baz=162
V53A Saluda 100.02 331 P **Pdif 03 48 24.3 +7.0**
baz=163
V53A Saluda 100.02 331 IAms_20 IAms_20 04 32 11.3
comp=Z,27µm,22.0s
WRA Warramunga Arr 100.03 181 P **Pdif 03 48 16.0 -1.9**
WRA Warramunga Arr 100.03 181 P **Pdif 03 48 16.0 -1.9**
comp=Z,6.8nm,0.9s,baz=182,slow=4.2,SNR=27
WRA PP **PP 03 52 27.6 +5.4**
comp=Z,4.5nm,0.8s,baz=184,slow=5.1,SNR=4.9
WRA PKKP **PKKPdf 04 04 35.4 -1.2**
comp=Z,0.8nm,0.5s,baz=353,slow=3.2,SNR=7.9
WRA PKPPKP P'P'df 04 12 46.8 -11
comp=Z,0.4nm,0.8s,baz=10,slow=2.2,SNR=3.8
WRA Warramunga Arr 100.03 181 **Pdif 03 48 15.3 -2.7**
WRAB Tennant Creek 100.04 181⇓ *e*P **Pdif 03 48 15.1 -2.9**
WRAB pmax pmax
comp=Z,43nm,1.1s
WRAB MLR MLR
comp=Z,78µm,17.0s
T59A Double "B" Far 100.10 336 IAms_20 IAms_20 04 31 15.2
comp=Z,27µm,22.0s
U56A King 100.10 333 P **Pdif 03 48 24.6 +7.0**
baz=164
W50A Signal Mountai 100.19 329 P **Pdif 03 48 24.4 +6.3**
baz=162
W50A Signal Mountai 100.19 329 IAms_20 IAms_20 04 35 19.9
comp=Z,27µm,20.0s
CPCT Cooper Cave 100.22 330 IAms_20 IAms_20 04 35 24.9
comp=Z,26µm,20.0s
PGRA Graciosa 100.24 15 *e*Pdif **Pdif 03 48 20.0 +1.9**
PGRA Graciosa 100.24 15 *e*SKS **SKSac 03 59 00.7 +6.0**
PGRA Graciosa 100.24 15 *e*LQ LQ 04 15 28.6
PGRA *e*LR LR 04 20 46.2
comp=Z,27µm,22.2s
W49A Belvidere 100.36 328 P **Pdif 03 48 25.0 +6.3**
baz=161
SWET Sewanee 100.36 329 IAms_20 IAms_20 04 35 30.6
comp=Z,26µm,21.0s
V52A Sevierville 100.37 331 IAms_20 IAms_20 04 32 53.9
comp=Z,24µm,21.0s
T57A Hurt 100.48 334 IAms_20 IAms_20 04 31 34.4
comp=Z,35µm,22.0s
V51A Loudon 100.52 330 IAms_20 IAms_20 04 33 17.4
comp=Z,34µm,22.0s
TXAR Lajitas Array 100.52 312 P **Pdif 03 48 18.0 -1.8**
TXAR Lajitas Array 100.52 312 P **Pdif 03 48 17.7 -2.1**
comp=Z,0.7nm,0.9s,baz=157,slow=5.0,SNR=4.6
TXAR PP **PP 03 52 31.8 +4.6**
comp=Z,1.5nm,0.9s,baz=148,slow=8.6,SNR=2.8
TXAR PKiKP **PKiKP 03 52 44.6 -1.6**
comp=Z,4.0nm,1.1s,baz=160,slow=5.6,SNR=3.2
TXAR PKKP **PKKPdf 04 04 36.6 -2.0**
comp=Z,1.0nm,0.8s,baz=339,slow=0.5,SNR=7.9
TXAR Lajitas Array 100.52 312 **Pdif 03 48 18.0 -1.8**
V50A Pikevile 100.58 329 P **Pdif 03 48 25.4 +5.7**
baz=162
U54A Nelsons Funny 100.59 332 IAms_20 IAms_20 04 32 31.5
comp=Z,31µm,22.0s
OXF Oxford 100.64 326 IAms_20 IAms_20 04 35 03.0
comp=Z,23µm,22.0s
PLAL Pickwick Lake 100.71 327 IAms_20 IAms_20 04 35 00.8
comp=Z,24µm,22.0s
S58A Poland Farm, P 100.82 336 IAms_20 IAms_20 04 31 38.3
comp=Z,23µm,22.0s
U52A Thorn Hill 100.84 331 P **Pdif 03 48 27.2 +6.3**
baz=163
V49A McMinnville 100.88 329 P **Pdif 03 48 26.6 +5.5**
baz=162
R61A Willards 100.97 338 IAms_20 IAms_20 04 32 41.5
comp=Z,22µm,22.0s
U51A La Follette 100.98 330 P **Pdif 03 48 27.8 +6.3**
baz=162
V48A Smith Brothers 101.09 328 P **Pdif 03 48 27.7 +5.7**
baz=161
V48A Smith Brothers 101.09 328 IAms_20 IAms_20 04 35 46.8
comp=Z,33µm,22.0s
U50A Jamestown 101.22 330 P **Pdif 03 48 28.4 +5.8**
baz=162
CBN Corbin Frederi 101.25 336 IAms_20 IAms_20 04 36 20.8
comp=Z,21µm,20.0s
T52A Hallie 101.43 332 IAms_20 IAms_20 04 33 03.6
comp=Z,22µm,20.0s
PVLZ Peæn de 101.45 35 Pdif **Pdif 03 48 31.3 +7.7**
PVLZ SKS 03 59 21.8
U49A Red Bolling Sp 101.55 329 P **Pdif 03 48 29.6 +5.6**
baz=162
S54A Dingess, Beckl 101.70 333 IAms_20 IAms_20 04 33 32.8
comp=Z,35µm,22.0s
Q60A Greensboro 101.72 338 IAms_20 IAms_20 04 34 15.5
comp=Z,28µm,22.0s
WVT Waverly 101.73 327 IAms_20 IAms_20 04 35 32.7
comp=Z,23µm,22.0s
T50A Nancy 101.80 330 P **Pdif 03 48 31.3 +6.2**
baz=162
CEU Ceuta 101.83 34 Pdif **Pdif 03 48 28.5 +3.2**
CEU SKS 03 59 20.0
MELI Melilla 101.96 36 *i* S Sdif 04 00 58.6 +53
HBAR Harrisburg 101.97 325 IAms_20 IAms_20 04 35 57.2
comp=Z,23µm,22.0s
T49A Edmonton 102.05 330 IAms_20 IAms_20 04 35 30.2
comp=Z,33µm,22.0s
SRIG Santa Rosalia 102.06 304 IAms_20 IAms_20 04 28 36.4
comp=Z,21µm,20.0s
W41B Gary Mavity, V 102.08 324 IAms_20 IAms_20 04 35 21.0
comp=Z,24µm,22.0s
S51A Beattyville 102.08 331 IAms_20 IAms_20 04 33 36.9
comp=Z,26µm,22.0s
PFVI Vila Bisbo 102.08 30 *e*Pdif Pdif 03 49 06.3 +40
PFVI Vila Bisbo 102.08 30 *e*SKS Sdif 04 00 25.8 +19
PFVI Vila Bisbo 102.08 30 IAms_20 IAms_20 04 29 37.0
comp=Z,27µm,20.0s
SFS San Fernando 102.14 33 IAms_20 IAms_20 04 33 28.4
comp=Z,28µm,19.0s
P61A Hammonton 102.18 339 IAms_20 IAms_20 04 30 43.2
comp=Z,23µm,22.0s
GLAT Glass 102.25 326 IAms_20 IAms_20 04 35 11.7
comp=Z,22µm,22.0s
MORF Marmelete 102.29 31 *e*Pdif Pdif 03 49 10.2 +43
MORF Marmelete 102.29 31 *e*SKS Sdif 04 00 35.9 +27
T47A Sharon Grove 102.34 328 IAms_20 IAms_20 04 36 43.0
comp=Z,26µm,22.0s
PBDV Barranco-do-Ve 102.42 31 *e*Pdif Pdif 03 49 11.0 +43
PBDV Barranco-do-Ve 102.42 31 *e*SKS Sdif 04 00 31.8 +22
Q56A Snyder Ridge, 102.43 335 IAms_20 IAms_20 04 32 39.0
comp=Z,27µm,22.0s
P60A Greenville 102.47 338 IAms_20 IAms_20 04 34 00.9
comp=Z,22µm,22.0s
PTEO Sao Teotonio 102.50 30 *e*Pdif **Pdif 03 48 44.5 +16**
PVMO Portageville 102.50 326 IAms_20 IAms_20 04 35 21.3
comp=Z,22µm,22.0s
PSUB Penn St. - Bra 102.54 338 IAms_20 IAms_20 04 33 51.0
comp=Z,25µm,22.0s
PVAQ Vaqueiros 102.62 31 *e*Pdif Pdif 03 49 09.5 +41
PVAQ Vaqueiros 102.62 31 *e*SKS Sdif 04 00 29.9 +18
PVAQ Vaqueiros 102.62 31 *e*LR LR 04 20 07.8
comp=Z,19µm,20.0s
PVAQ Vaqueiros 102.62 31 IAms_20 IAms_20 04 34 16.3
comp=Z,21µm,19.0s
FCAR Ozark Folk Cen 102.71 324 IAms_20 IAms_20 04 36 52.7
comp=Z,22µm,22.0s
Q54A Coxs Mills 102.73 334 IAms_20 IAms_20 04 35 44.0
comp=Z,23µm,20.0s
PCVE Castro Verde 102.76 31 *e*Pdif Pdif 03 49 10.7 +41
PCVE Castro Verde 102.76 31 *e*SKS Sdif 04 00 31.4 +19
MVL Millersville 102.78 337 IAms_20 IAms_20 04 37 13.3
comp=Z,22µm,20.0s
R50A Paris 102.87 331 IAms_20 IAms_20 04 32 55.8
comp=Z,30µm,22.0s
EMAL Malaga-Limoner 102.90 34 Pdif **Pdif 03 48 31.0 +1.0**
EMAL *i* S **Sdif 04 00 25.4 +12**
MESJ Messejana 102.91 31 *e*Pdif Pdif 03 49 14.0 +44
HSIG 103.04 306 IAms_20 IAms_20 04 37 43.2
comp=Z,21µm,20.0s
PBMO Poplar Bluff 103.05 326 IAms_20 IAms_20 04 35 52.0
comp=Z,27µm,22.0s
PAGS Pennsylvania G 103.08 337 IAms_20 IAms_20 04 37 01.1
comp=Z,28µm,22.0s
PNCL Nicolau / Gran 103.09 30 *e*Pdif Pdif 03 49 15.5 +45
PNCL Nicolau / Gran 103.09 30 *e*SKS Sdif 04 00 34.5 +19
CPNY Central Park 103.11 339 IAms_20 IAms_20 04 38 03.3
comp=Z,22µm,20.0s
BRNJ Basking Ridge 103.12 339 IAms_20 IAms_20 04 34 18.1
comp=Z,34µm,22.0s
PBEJ Beja 103.17 31 *e*Pdif Pdif 03 49 21.3 +50
MNTX Cornudas Mount 103.28 312 IAms_20 IAms_20 04 30 33.4
comp=Z,26µm,20.0s
WCI Wyandotte Cave 103.31 329 IAms_20 IAms_20 04 36 30.4
comp=Z,32µm,22.0s
PAL Palisades 103.31 340 IAms_20 IAms_20 04 38 07.3
comp=Z,22µm,19.0s
M65A Busby, Falmout 103.32 342 IAms_20 IAms_20 04 35 46.5
comp=Z,27µm,21.0s
P53A Whipple 103.33 333 IAms_20 IAms_20 04 34 44.0
comp=Z,25µm,22.0s
Q51A Peebles 103.34 332 IAms_20 IAms_20 04 34 44.1
comp=Z,31µm,22.0s
USIN University of 103.41 328 IAms_20 IAms_20 04 37 25.2
comp=Z,35µm,20.0s
YLE Yale 103.45 340 IAms_20 IAms_20 04 34 48.8
comp=Z,24µm,22.0s
ODNJ Ogdensburg 103.51 339 IAms_20 IAms_20 04 34 28.5
comp=Z,29µm,22.0s
N59A State Game Lan 103.56 338 IAms_20 IAms_20 04 31 27.9
comp=Z,24µm,21.0s
EVO Evora 103.61 31 *e*Pdif Pdif 03 49 16.6 +43
EVO Evora 103.61 31 Pdif **Pdif 03 48 43.7 +11**
EVO *i* S Sdif 04 00 43.1 +23
N58A Sunbury 103.67 337 IAms_20 IAms_20 04 34 37.7
comp=Z,22µm,22.0s
PMAFR Mafra 103.70 30 *e*Pdif Pdif 03 49 21.2 +48
PMAFR Mafra 103.70 30 *e*SKS 04 00 35.9
EPT El Paso 103.77 311 IAms_20 IAms_20 04 36 31.5
comp=Z,26µm,19.0s
O54A Avella 103.78 334 IAms_20 IAms_20 04 36 41.7
comp=Z,26µm,21.0s
BRYW Bryant College 103.81 342 IAms_20 IAms_20 04 37 03.3
comp=Z,21µm,20.0s
KNTN Kanton 103.89 238 IAms_20 IAms_20 04 32 14.5
comp=Z,24µm,18.0s
KSCT Kent School, K 103.94 340 IAms_20 IAms_20 04 35 26.1
comp=Z,21µm,21.0s
O52A Adamsville 104.03 333 IAms_20 IAms_20 04 35 16.5
comp=Z,32µm,22.0s
ALMR Almeirim 104.06 30 *e*Pdif Pdif 03 49 16.7 +42
PMTG Montargil 104.07 30 *e*Pdif Pdif 03 49 16.9 +42
PMTG Montargil 104.07 30 *e*SKS Sdif 04 00 42.8 +19
BCX Boston College 104.16 342 IAms_20 IAms_20 04 36 11.6
comp=Z,27µm,20.0s
KSPA Keystone Colle 104.18 338 IAms_20 IAms_20 04 34 52.3
comp=Z,29µm,22.0s
M57A Sunshine Farm, 104.23 337 IAms_20 IAms_20 04 35 54.5
comp=Z,25µm,22.0s
WES Weston 104.23 342 IAms_20 IAms_20 04 36 23.5
comp=Z,30µm,20.0s
OLIL Olney 104.25 328 IAms_20 IAms_20 04 37 59.4
comp=Z,34µm,20.0s
BLO Bloomington 104.25 329 IAms_20 IAms_20 04 37 10.5
comp=Z,22µm,22.0s
MSTX Muleshoe 104.39 315 IAms_20 IAms_20 04 33 00.5
comp=Z,22µm,19.0s
HRV Adam Dziewonsk 104.39 342 IAms_20 IAms_20 04 36 38.6
comp=Z,29µm,20.0s
ACSO Alum Creek Sta 104.40 332 IAms_20 IAms_20 04 34 45.4
comp=Z,32µm,22.0s
N54A Moraine State 104.44 335 IAms_20 IAms_20 04 34 03.3
comp=Z,22µm,22.0s
N53A Lisbon 104.47 334 IAms_20 IAms_20 04 36 55.2
comp=Z,21µm,20.0s
319A Douglas 104.47 309 IAms_20 IAms_20 04 30 47.1
comp=Z,27µm,21.0s
M56A Emporium 104.57 336 IAms_20 IAms_20 04 38 14.7
comp=Z,23µm,21.0s
PMRV Marv??o 104.62 31 *e*Pdif Pdif 03 49 21.2 +44
PMRV Marv??o 104.62 31 *e*SKS Sdif 04 00 50.0 +22
PMRV Marv??o 104.62 31 *e*LR LR 04 22 59.2
comp=Z,15µm,18.0s
K62A Royalston 104.65 341 IAms_20 IAms_20 04 30 45.6
comp=Z,34µm,22.0s
CART Cartagena 104.66 36 Pdif Pdif 03 49 07.2 +29
CART *i* S Sdif 04 00 48.5 +20
BINY Binghamton 104.84 338 IAms_20 IAms_20 04 35 22.8
comp=Z,29µm,22.0s
M54A Oil Creek Stat 104.90 335 IAms_20 IAms_20 04 34 41.4
comp=Z,26µm,22.0s
N51A Ashland 104.92 333 IAms_20 IAms_20 04 35 43.0
comp=Z,28µm,22.0s
121A Cookes Peak, D 104.93 310 IAms_20 IAms_20 04 30 00.0
comp=Z,23µm,20.0s
PCAS Casmilo, Conde 104.93 30 *e*Pdif Pdif 03 49 22.4 +43
PCAS Casmilo, Conde 104.93 30 *e*SKS Sdif 04 00 50.6 +20

TRY Troy 104.95 340 IAMs_20 IAMs_20 04 35 44.6
comp=Z,23µm,22.0s
L56A Greenwood 105.08 337 IAMs_20 IAMs_20 04 33 07.0
comp=Z,22µm,21.0s
COI Coimbra 105.10 30 *e*Pdif Pdif 03 49 19.2 +40
COI Coimbra 105.10 30 IAMs_20 IAMs_20 04 35 20.8
comp=Z,21µm,18.0s
M52A Chesterland 105.29 334 IAMs_20 IAMs_20 04 37 10.8
comp=Z,20µm,20.0s
U32A Winter Ranch, 105.29 319 IAMs_20 IAMs_20 04 39 22.3
comp=Z,22µm,22.0s
FFD Franklin Falls 105.34 342 IAMs_20 IAMs_20 04 37 14.9
comp=Z,26µm,20.0s
HAL Halifax 105.44 348 IAMs_20 IAMs_20 04 34 06.4
comp=Z,22µm,20.0s
MTE Manteigas 105.50 30 *e*Pdif Pdif 03 49 26.7 +45
MTE Manteigas 105.50 30 *e*SKS Sdif 04 00 58.9 +23
MTE Manteigas 105.50 30 *e*LR LR 04 23 15.4
comp=Z,25µm,20.0s
MTE Manteigas 105.50 30 IAMs_20 IAMs_20 04 33 06.3
comp=Z,27µm,21.0s
PAB San Pablo 105.53 33 IAMs_20 IAMs_20 04 34 17.2
comp=Z,23µm,20.0s
WVNY West Valley, N 105.55 336 IAMs_20 IAMs_20 04 36 24.5
comp=Z,29µm,21.0s
N47A Urbana 105.66 331 IAMs_20 IAMs_20 04 33 27.8
comp=Z,21µm,22.0s
HNH Hanover 105.67 341 IAMs_20 IAMs_20 04 37 17.7
comp=Z,24µm,20.0s
MMNY Mt. Morris Dam 105.72 337 IAMs_20 IAMs_20 04 32 54.1
comp=Z,32µm,22.0s
I63A Otisfield 105.75 343 IAMs_20 IAMs_20 04 36 18.6
comp=Z,25µm,22.0s
ESDC Sonseca Array 105.76 33 Pdiff **Pdif 03 48 44.1 +1.3**
comp=Z,0.8nm,0.8s,baz=202,slow=3.8,SNR=2.4
ESDC PKIKP **PKiKP 03 52 53.9 -1.4**
comp=Z,3.9nm,1.2s,baz=205,slow=3.2,SNR=3.1
ESDC PKKPab **PKKPdf 04 04 30.6 +1.4**
comp=Z,1.3nm,1.0s,baz=19,slow=3.2,SNR=3.7
ESBB Sonseca Array 105.76 33 IAMs_20 IAMs_20 04 35 04.2
comp=Z,26µm,19.0s
J59A Piesco 105.81 340 IAMs_20 IAMs_20 04 36 23.3
comp=Z,24µm,22.0s
TUC Tucson 105.89 308 IAMs_20 IAMs_20 04 39 11.5
comp=Z,27µm,22.0s
Y22D IRIS PASSCAL I 105.98 312 IAMs_20 IAMs_20 04 35 25.9
comp=Z,33µm,19.0s
M48A Edgerton 106.00 332 IAMs_20 IAMs_20 04 33 49.7
comp=Z,26µm,22.0s
GBN Guysborough 106.00 350 IAMs_20 IAMs_20 04 36 31.2
comp=Z,33µm,21.0s
J56A Wolcott 106.05 338 IAMs_20 IAMs_20 04 36 11.7
comp=Z,24µm,22.0s
WVL Waterville 106.12 343 IAMs_20 IAMs_20 04 35 07.4
comp=Z,31µm,20.0s
LBNH Lisbon 106.14 342 IAMs_20 IAMs_20 04 37 38.0
comp=Z,20µm,20.0s
XMIS Christmas Isla 106.20 152 IAMs_20 IAMs_20 04 35 25.5
comp=Z,28µm,20.0s
J55A Hilton 106.22 337 IAMs_20 IAMs_20 04 36 44.3
comp=Z,33µm,22.0s
MEDO Medina 106.25 337 IAMs_20 IAMs_20 04 33 11.0
comp=Z,33µm,22.0s
HDIL Hopedale 106.27 328 IAMs_20 IAMs_20 04 38 44.0
comp=Z,22µm,21.0s
GGN Saint George 106.29 346 IAMs_20 IAMs_20 04 37 36.7
comp=Z,20µm,21.0s
KEST Kesra 106.32 45 PP **PP 03 53 12.5 +2.1**
comp=Z,51nm,1.3s,baz=248,slow=6.8,SNR=3.7
H62A Milan 106.35 342 IAMs_20 IAMs_20 04 36 56.7
comp=Z,23µm,22.0s
MVO Moncorvo 106.35 30 *e*Pdif Pdif 03 49 28.4 +43
MVO Moncorvo 106.35 30 *e*SKS Sdif 04 01 03.2 +21
MVO Moncorvo 106.35 30 *e*LR LR 04 23 38.8
comp=Z,19µm,20.0s
POLO Lamas de Olo 106.35 30 *e*Pdif Pdif 03 49 25.1 +40
POLO Lamas de Olo 106.35 30 *e*SKS Sdif 04 01 01.4 +19
VT1 Waterbury 106.36 341 IAMs_20 IAMs_20 04 31 35.5
comp=Z,28µm,21.0s
214A Organ Pipe Nat 106.38 306 IAMs_20 IAMs_20 04 40 27.7
comp=Z,21µm,22.0s
J54A Appleton 106.39 337 IAMs_20 IAMs_20 04 33 15.7
comp=Z,32µm,22.0s
AAM Ann Arbor 106.53 333 IAMs_20 IAMs_20 04 38 38.6
comp=Z,23µm,21.0s
UCM Universidad Co 106.54 34 Pdif Pdif 03 49 25.9 +40
UCM SKS SKSac 03 59 44.8 +21
ANMO Albuquerque 106.59 313 IAMs_20 IAMs_20 04 32 39.9
comp=Z,26µm,21.0s
K50A Casco 106.75 334 IAMs_20 IAMs_20 04 35 34.3
comp=Z,32µm,22.0s
PKME Peaks-Kenny Pk 106.75 344 IAMs_20 IAMs_20 04 35 13.0
comp=Z,28µm,21.0s
LMN Caledonia Moun 106.78 347 IAMs_20 IAMs_20 04 38 13.7
comp=Z,28µm,21.0s
L46A Eue Claire 106.88 331 IAMs_20 IAMs_20 04 36 45.0
comp=Z,23µm,22.0s
G62A West of Eustis 106.88 343 IAMs_20 IAMs_20 04 37 14.7
comp=Z,30µm,22.0s
FRNY Flat Rock 106.98 341 IAMs_20 IAMs_20 04 32 09.4
comp=Z,27µm,22.0s
PBRG Braganca 107.02 30 *e*Pdif Pdif 03 49 34.3 +46
F63A Nahmakanta, Br 107.16 344 IAMs_20 IAMs_20 04 31 48.9
comp=Z,31µm,22.0s
F64A Sherman 107.21 345 IAMs_20 IAMs_20 04 31 37.3
comp=Z,30µm,22.0s
L44A Lake County Fo 107.44 329 IAMs_20 IAMs_20 04 39 00.8
comp=Z,22µm,21.0s
F62A Pittston Farm, 107.47 344 IAMs_20 IAMs_20 04 35 37.1
comp=Z,34µm,21.0s
J48A Bridge Port 107.50 333 IAMs_20 IAMs_20 04 35 48.4
comp=Z,27µm,22.0s
X18A Snowflake 107.53 310 IAMs_20 IAMs_20 04 32 13.8
comp=Z,25µm,20.0s
J47A Sumner 107.69 332 IAMs_20 IAMs_20 04 37 11.3
comp=Z,28µm,22.0s
E63A Oxbow 107.77 345 IAMs_20 IAMs_20 04 32 14.1
comp=Z,28µm,22.0s
I49A Point Hope 107.90 334 IAMs_20 IAMs_20 04 36 18.9
comp=Z,28µm,22.0s
SADO Sadowa 107.92 337 IAMs_20 IAMs_20 04 37 47.4
comp=Z,34µm,22.0s
PQI Presque Isle 107.96 345 IAMs_20 IAMs_20 04 35 10.2
comp=Z,24µm,22.0s
X16A Lo Mia Camp, P 108.00 308 IAMs_20 IAMs_20 04 33 09.5
comp=Z,23µm,22.0s
K43A Burlington 108.04 329 IAMs_20 IAMs_20 04 39 27.7
comp=Z,19µm,20.0s
E62A Clayton Lake 108.11 344 IAMs_20 IAMs_20 04 32 17.2
comp=Z,33µm,22.0s
L40A Anamosa 108.20 327 IAMs_20 IAMs_20 04 40 16.0
comp=Z,30µm,20.0s
J45A Montague 108.25 331 IAMs_20 IAMs_20 04 34 55.1
comp=Z,32µm,22.0s
I47A Gladwin 108.36 333 IAMs_20 IAMs_20 04 36 27.9
comp=Z,30µm,22.0s
MAHO Mahon 108.39 39 Pdif Pdif 03 49 12.8 +18
MAHO SKS **SKSac 03 59 25.3 -6.7**
D62A Allapoint, All 108.50 344 IAMs_20 IAMs_20 04 35 39.5
comp=Z,24µm,21.0s
BAR Barrett 108.59 304 IAMs_20 IAMs_20 04 33 39.2
comp=Z,21µm,19.0s
SCIA State Center 108.60 325 IAMs_20 IAMs_20 04 41 12.8
comp=Z,21µm,21.0s
Y12C Blythe 108.64 306 IAMs_20 IAMs_20 04 41 22.5
comp=Z,19µm,19.0s
JFWS Jewell Farm 108.73 328 IAMs_20 IAMs_20 04 38 08.8
comp=Z,32µm,22.0s
H48A Harrisville 108.73 334 IAMs_20 IAMs_20 04 36 53.8
comp=Z,25µm,21.0s
SDCO Great Sand Dun 108.74 315 IAMs_20 IAMs_20 04 37 24.8
comp=Z,21µm,19.0s
I45A Fountain 108.77 331 IAMs_20 IAMs_20 04 37 59.1
comp=Z,35µm,22.0s
WUAZ Wupatki 108.94 309 IAMs_20 IAMs_20 04 32 23.4
comp=Z,21µm,22.0s
I42A Draeger Farm, 109.30 329 IAMs_20 IAMs_20 04 37 52.0
comp=Z,26µm,22.0s
MVCO Mesa Verde 109.35 312 IAMs_20 IAMs_20 04 34 44.1
comp=Z,34µm,22.0s
RAFF Raffo Rosso 109.46 48 IAMs_20 IAMs_20 04 32 47.3
comp=Z,34µm,21.0s
DRLN Deer Lake 109.53 353 IAMs_20 IAMs_20 04 37 17.3
comp=Z,21µm,22.0s
W13A Hualapai Mount 109.56 307 IAMs_20 IAMs_20 04 41 04.9
comp=Z,21µm,21.0s
BGNE Belgrade 109.61 322 IAMs_20 IAMs_20 04 38 31.4
comp=Z,26µm,21.0s

Q24A Divide 109.71 315 IAMs_20 IAMs_20 04 42 58.4
comp=Z,20µm,22.0s
UGM Wanagama 109.74 156 IAMs_20 IAMs_20 04 33 48.3
comp=Z,24µm,21.0s
D53A Lac Vacive, Po 109.87 338 IAMs_20 IAMs_20 04 41 51.0
comp=Z,19µm,20.0s
U15A North Rim 110.10 309 IAMs_20 IAMs_20 04 33 39.0
comp=Z,24µm,22.0s
PV01 Paradox Valley 110.19 312 IAMs_20 IAMs_20 04 35 21.4
comp=Z,28µm,22.0s
SNCC San Nicolas Is 110.28 302 IAMs_20 IAMs_20 04 35 20.0
comp=Z,17µm,18.0s
PV13 Radium Mtn., P 110.31 312 IAMs_20 IAMs_20 04 35 13.4
comp=Z,29µm,22.0s
PV02 Paradox Valley 110.32 312 IAMs_20 IAMs_20 04 35 13.7
comp=Z,28µm,22.0s
PV03 Paradox Valley 110.40 312 IAMs_20 IAMs_20 04 35 16.7
comp=Z,28µm,22.0s
OGNE Ogallala 110.42 319 IAMs_20 IAMs_20 04 41 39.2
comp=Z,19µm,22.0s
PV12 Saucer Basin, 110.44 312 IAMs_20 IAMs_20 04 35 29.9
comp=Z,31µm,22.0s
PV11 David Mesa, Pa 110.45 312 IAMs_20 IAMs_20 04 35 18.2
comp=Z,31µm,22.0s
PV17 East Wray Mesa 110.47 312 IAMs_20 IAMs_20 04 35 17.8
comp=Z,31µm,22.0s
PV07 Paradox Valley 110.49 313 IAMs_20 IAMs_20 04 32 40.3
comp=Z,18µm,20.0s
E46A Sault Ste Mari 110.53 334 IAMs_20 IAMs_20 04 37 24.5
comp=Z,34µm,22.0s
SMCO Snowmass 110.54 314 IAMs_20 IAMs_20 04 33 14.5
comp=Z,23µm,22.0s
PV04 Paradox Valley 110.55 312 IAMs_20 IAMs_20 04 35 20.6
comp=Z,32µm,22.0s
PV14 Lion Creek, Pa 110.57 312 IAMs_20 IAMs_20 04 35 21.4
comp=Z,31µm,22.0s
ISCO Idaho Springs 110.61 315 IAMs_20 IAMs_20 04 43 48.3
comp=Z,18µm,20.0s
PV22 Blue Mesa, Par 110.63 313 IAMs_20 IAMs_20 04 35 24.8
comp=Z,24µm,22.0s
PV23 Carpenter Ridg 110.64 312 IAMs_20 IAMs_20 04 35 24.1
comp=Z,31µm,22.0s
VLDQ Val d'Or 110.82 339 IAMs_20 IAMs_20 04 42 18.5
comp=Z,22µm,19.0s
F42A Maple Grove Fa 110.85 331 IAMs_20 IAMs_20 04 36 22.1
comp=Z,27µm,22.0s
GSC Goldstone, Bar 110.92 305 IAMs_20 IAMs_20 04 42 46.8
comp=Z,20µm,22.0s
E44A Grand Marais A 111.14 332 IAMs_20 IAMs_20 04 38 14.6
comp=Z,33µm,22.0s
E43A Lone Tree Farm 111.16 332 IAMs_20 IAMs_20 04 39 30.2
comp=Z,22µm,22.0s
ECSD EROS Data Cent 111.26 324 IAMs_20 IAMs_20 04 41 38.2
comp=Z,17µm,19.0s
N23A Red Feather La 111.70 316 IAMs_20 IAMs_20 04 40 37.8
comp=Z,21µm,22.0s
O20A White River Ci 111.84 314 IAMs_20 IAMs_20 04 39 10.9
comp=Z,30µm,19.0s
D41A Chassel 112.18 331 IAMs_20 IAMs_20 04 40 24.1
comp=Z,23µm,22.0s
SUSD Miller 112.61 322 IAMs_20 IAMs_20 04 39 46.9
comp=Z,33µm,21.0s
PAGB Antelope Grade 112.71 302 IAMs_20 IAMs_20 04 31 01.4
comp=Z,19µm,22.0s
RWWY Rawlins 112.85 315 IAMs_20 IAMs_20 04 39 40.5
comp=Z,22µm,22.0s
R11A Troy Canyon, C 113.06 307 IAMs_20 IAMs_20 04 43 04.4
comp=Z,19µm,20.0s
KARP Karpathos 113.11 59 IAMs_20 IAMs_20 04 39 46.4
comp=Z,27µm,20.0s
CASP Castiglione de 113.15 43 IAMs_20 IAMs_20 04 37 49.0
comp=Z,28µm,19.0s
K22A Casper 113.46 316 IAMs_20 IAMs_20 04 38 02.6
comp=Z,19µm,21.0s
DUG Dugway, Tooele 113.58 310 IAMs_20 IAMs_20 04 36 50.1
comp=Z,20µm,21.0s
TARA Tarawa 113.64 225 IAMs_20 IAMs_20 04 40 00.3
comp=Z,17µm,19.0s
EYMN Ely 113.73 329 IAMs_20 IAMs_20 04 43 10.3
comp=Z,24µm,19.0s
OMMB Old Mammoth Mi 113.80 304 IAMs_20 IAMs_20 04 35 41.2
comp=Z,21µm,21.0s
KAPI Kappang 114.07 166 PKP **PKiKP 03 53 10.1 -1.7**
comp=Z,1.5nm,0.3s,baz=224,slow=2.2
KAPI PP **PP 03 54 09.2 +3.8**
comp=Z,22nm,1.0s,baz=208,slow=4.5,SNR=4.0
KAPI PKKPab **PKKPab 04 03 58.3 -3.1**
comp=Z,3.5nm,0.5s,baz=25,slow=16,SNR=5.4
VLC Villacollemand 114.21 42 IAMs_20 IAMs_20 04 38 41.8
comp=Z,28µm,19.0s
NVAR Mina Array Bea 114.22 305 PKP PKPdf 03 53 10.8 -0.7
comp=Z,1.3nm,1.0s,baz=180,slow=3.6,SNR=3.4
NVAR PKKPab **PKKPab 04 03 56.5 +0.6**
comp=Z,3.7nm,0.8s,baz=194,slow=0.9,SNR=5.3
NVAR PKPPKP **P'P'df 04 12 28.4 +4.5**
comp=Z,1.5nm,1.2s,baz=17,slow=0.9,SNR=2.9
PALK Pallekele 114.36 121 *i* PKIKP PKPdf 03 53 12.3 0.0
PALK MLR MLR
comp=Z,47µm,17.0s
ASF Jabal al Asfar 114.59 68 PKP PKPdf 03 53 11.5 -0.8
comp=Z,1.2nm,0.9s,baz=181,slow=3.8,SNR=2.1
ASF PKKP **PKKPdf 04 04 10.0 -2.0**
comp=Z,3.7nm,0.9s,baz=348,slow=2.2,SNR=5.1
MMAI Mount Meron Ar 114.61 66 PKP PKPdf 03 53 09.9 -2.3
comp=Z,0.3nm,0.3s,baz=270,slow=0.4,SNR=4.3
MMAI PP **PP 03 54 10.2 -0.1**
comp=Z,19nm,1.2s,baz=197,slow=4.5,SNR=6.1
MMAI PKKP **PKKPdf 04 04 09.2 -2.8**
comp=Z,3.5nm,0.8s,baz=24,slow=4.6,SNR=5.3
BW06 Boulder Array 114.62 314 IAMs_20 IAMs_20 04 41 10.6
comp=Z,26µm,20.0s
PDAR Pinedale Array 114.62 314 PKP PKPdf 03 53 10.9 -1.3
comp=Z,0.9nm,0.8s,baz=152,slow=4.1,SNR=4.3
PDAR PP **PP 03 54 15.5 +5.0**
comp=Z,3.6nm,0.9s,baz=141,slow=7.3,SNR=4.2
PDAR PKKPab **PKKPab 04 03 53.4 -0.4**
comp=Z,1.3nm,0.7s,baz=83,slow=2.8,SNR=5.3
PDAR PKPPKP 04 12 22.5
comp=Z,0.3nm,0.8s,baz=354,slow=2.7,SNR=2.4
BNSI Bone 114.72 166 PKP PKPdf 03 53 20.8 +7.8
BNSI PKP PKiKP 03 53 22.5 +9.5
WAKR Walker 114.74 305 IAMs_20 IAMs_20 04 46 29.1
comp=Z,18µm,20.0s
ELK Elko 114.99 309 IAMs_20 IAMs_20 04 36 20.4
comp=Z,25µm,22.0s
LIT Litokhoron 115.08 53 IAMs_20 IAMs_20 04 36 06.1
comp=Z,28µm,22.0s
SPSI Sidrap Palu 115.11 166 PKP **PKPdf 03 53 15.4 +1.6**
SPSI PKP PKiKP 03 53 27.6 +14
AHID Auburn Hatcher 115.18 313 IAMs_20 IAMs_20 04 46 49.3
comp=Z,19µm,19.0s
CLF Chambon-Foret 115.19 34 IAMs_20 IAMs_20 04 35 09.8
comp=Z,26µm,20.0s
AGMN Agassiz Nation 115.21 326 IAMs_20 IAMs_20 04 42 39.7
comp=Z,26µm,22.0s
FNA Florina 115.23 51 IAMs_20 IAMs_20 04 36 01.1
comp=Z,29µm,22.0s
KHU Kahuku 115.64 264 IAMs_20 IAMs_20 04 39 48.5
comp=Z,25µm,18.0s
SNOW Snow King Moun 115.66 314 IAMs_20 IAMs_20 04 45 05.2
comp=Z,17µm,19.0s
TEOL Teolo 115.69 42 IAMs_20 IAMs_20 04 36 52.3
comp=Z,23µm,22.0s
SCHQ Schefferville 115.85 348 PKP **PKPdf 03 53 13.5 -0.3**
comp=Z,3.1nm,0.5s,baz=179,slow=3.4,SNR=2.2
MLOA Mauna Loa Obse 115.87 264 IAMs_20 IAMs_20 04 35 23.5
comp=Z,26µm,18.0s
MDND Maddock 115.88 324 IAMs_20 IAMs_20 04 43 30.3
comp=Z,23µm,22.0s
MOOW Moose Ponds 115.91 314 IAMs_20 IAMs_20 04 40 50.7
comp=Z,17µm,20.0s
TTSI Tana Toraja 116.02 166 PKP PKiKP 03 53 29.3 +14
TTSI PKP sPKPdf 03 53 30.4 +4.8
FLWY Flagg Ranch 116.18 314 IAMs_20 IAMs_20 04 46 01.7
comp=Z,22µm,18.0s
CTI Castel Tesino 116.29 42 IAMs_20 IAMs_20 04 39 04.1
comp=Z,28µm,20.0s
STIP Stip 116.32 51 *i* Pn **PKiKP 03 53 19.2 +4.1**
HPAH Hawaii Prepara 116.35 264 IAMs_20 IAMs_20 04 40 18.2
comp=Z,26µm,18.0s
DAVOX Davos/Dischmat 116.36 40 PKP **PKPdf 03 53 13.9 -1.4**
comp=Z,3.4nm,0.5s,baz=246,slow=12,SNR=5.2
ISP Isparta 116.47 60 IAMs_20 IAMs_20 04 40 28.4
comp=Z,19µm,21.0s
NLAI Namlea 116.48 174 PKP **PKiKP 03 53 22.0 +5.6**
NLAI PKP sPKPdf 03 53 26.6 +0.1
RLMT Red Lodge 116.58 316 IAMs_20 IAMs_20 04 45 48.1
comp=Z,17µm,19.0s

MANU Manus Island 116.80 196 IAMs_20 IAMs_20 04 42 51.0
comp=Z,19µm,20.0s
DAVA Damuels 116.81 40 *e*PKPdf **PKPdf 03 53 14.9 -1.2**
comp=Z,44nm,1.3s
FETA Feichten 116.85 41 *e*PKiKP **PKiKP 03 53 17.2 +1.0**
comp=Z,12nm,1.0s
LAO LASA Array 116.92 319 IAMs_20 IAMs_20 04 47 07.0
comp=Z,19µm,20.0s
FAKI Fak Fak 116.96 179 PKP **PKiKP 03 53 22.4 +5.0**
FAKI PKP sPKPdf 03 53 31.8 +4.4
RPSI Rantau Prapat 116.96 141 **PKPdf 03 53 15.7 -1.6**
ULM Lac du Bonnet 116.99 327 ⇑ *i* PKIKP **PKPdf 03 53 13.8 -2.3**
ULM Lac du Bonnet 116.99 327 PKP **PKPdf 03 53 15.3 -0.8**
comp=Z,3.9nm,0.8s,baz=291,slow=8.6,SNR=3.3
ULM PP **PP 03 54 27.0 +0.3**
comp=Z,5.0nm,0.9s,baz=164,slow=9.7,SNR=2.3
ULM PKKPbc **PKKPbc 04 03 38.0 -2.6**
comp=Z,1.7nm,0.4s,baz=331,slow=9.3,SNR=3.5
PSI Prapat 117.06 141 PKP **PKPdf 03 53 15.7 -2.0**
comp=Z,2.7nm,0.7s,baz=157,slow=15,SNR=1.7
PSI PKKPab **PKKPab 04 03 47.5 -0.2**
comp=Z,5.1nm,0.8s,baz=3.6,slow=19,SNR=5.2
SQTA Sankt Quirin 117.18 41 *e*PKPdf **PKPdf 03 53 16.2 -0.6**
comp=Z,21nm,0.9s
MOTA Moosalm 117.26 41 PKPdf **PKPdf 03 53 16.6 -0.4**
comp=Z,31nm,1.5s
LJU Ljubljana 117.26 44 *e*PP PP 03 54 27.7 -0.9
LJU *e* 04 04 30.9
LJU *e*SS SS 04 10 45.9 +9.1
RETA Reutte 117.27 40 *e*PKPdf **PKPdf 03 53 16.0 -0.9**
comp=Z,13nm,0.6s
WTTA Wattenberg 117.36 41 *e*pPKPdf **PKiKP 03 53 18.9 +1.7**
comp=Z,31nm,1.0s
KCSI Kotacane, Aceh 117.38 140 PKP **PKiKP 03 53 21.0 +2.8**
KCSI PKP **pPKPdf 03 53 24.2 -1.4**
WATA Walderalm 117.40 41 *e*pPKPdf **PKiKP 03 53 18.9 +1.6**
comp=Z,28nm,1.5s
KHLH Kahului Airpor 117.44 264 IAMs_20 IAMs_20 04 35 26.2
comp=Z,24µm,19.0s
MYKA Terra Mystica 117.47 43 *e*pPKPdf **PKiKP 03 53 19.3 +2.0**
comp=Z,15nm,0.7s
MYKA *e*PP **PP 03 54 33.2 +3.0**
comp=Z,19nm,1.1s
VTS Vitosha 117.52 52 ⇓P **PKPdf 03 53 16.2 -1.5**
VTS Vitosha 117.52 52 IAMs_20 IAMs_20 04 40 55.6
comp=Z,22µm,20.0s
MYKOM Kota Tinggi 117.54 147 P **PKiKP 03 53 25.0 +6.6**
SANI Sanana 117.59 172 PKP **PKiKP 03 53 23.4 +4.8**
SANI PKP **sPKPdf 03 53 28.0 -0.6**
OBKA Obir 117.67 43 pPKPdf **PKiKP 03 53 20.3 +2.6**
comp=Z,24nm,1.1s
OBKA *e*PP **PP 03 54 33.2 +1.6**
comp=Z,33nm,1.6s
WSAR Wadi Sarin 117.72 91 PP PP 03 54 34.2 +2.2
comp=Z,9.2nm,1.0s,baz=226,slow=8.6,SNR=2.7
WVOR Wild Horse Val 117.76 308 IAMs_20 IAMs_20 04 38 51.7
comp=Z,17µm,20.0s
WLF Walferdange 117.78 36 IAMs_20 IAMs_20 04 40 59.4
comp=Z,25µm,19.0s
BOZ Bozeman (W) 117.82 314 IAMs_20 IAMs_20 04 37 52.1
comp=Z,22µm,21.0s
KMRM Mail Ridge 117.96 303 IAMs_20 IAMs_20 04 33 51.9
comp=Z,17µm,21.0s
DLMT Dillon 117.97 313 IAMs_20 IAMs_20 04 47 04.2
comp=Z,17µm,21.0s
MOD Modoc Plateau 117.97 306 **PKPdf 03 53 17.7 -0.8**
SOKA Soboth 117.98 44 *e*pPKiKP **PKiKP 03 53 25.5 +7.2**
comp=Z,20nm,1.5s
LLW Llanuwychllyn 118.08 28 *e*P **PKiKP 03 53 24.9 +6.8**
UCC Uccle 118.28 34 IAMs_20 IAMs_20 04 39 05.6
comp=Z,30µm,21.0s
LUWI Luwuk 118.33 169 PKP **PKiKP 03 53 21.6 +1.6**
LUWI PKP **sPKPdf 03 53 34.9 +4.9**
LUWI Luwuk 118.33 169 IAMs_20 IAMs_20 04 44 42.9
comp=Z,24µm,20.0s
CWF Charnwood Fore 118.54 30 *e*P **PKiKP 03 53 24.9 +5.8**
CWF IAMs_20 IAMs_20 04 44 47.1
comp=Z,29µm,18.1s
HON Honolulu 118.58 263 IAMs_20 IAMs_20 04 40 03.1
comp=Z,26µm,18.0s
ARSA Arzberg 118.65 44 *e*pPKPdf **PKiKP 03 53 22.4 +2.8**
comp=Z,26nm,1.3s
ARSA *e*PP **PP 03 54 40.4 +2.1**
comp=Z,34nm,1.7s
KIP Kipapa 118.67 263 IAMs_20 IAMs_20 04 40 14.6
comp=Z,25µm,18.0s
LHMI Lhok Sumawe 118.71 138 PKP **PKiKP 03 53 22.4 +1.7**
LHMI PKP **sPKiKP 03 53 35.0 +4.3**
PLVB Pleven 118.71 52 ⇑P **PKiKP 03 53 21.5 +1.8**
MOA Molln 118.74 42 *e*pPKPdf **PKiKP 03 53 22.6 +3.0**
comp=Z,25nm,1.2s
KSM Kuching 118.81 154 IAMs_20 IAMs_20 04 45 05.8
comp=Z,22µm,19.0s
OPA Opana 118.89 263 IAMs_20 IAMs_20 04 40 21.6
comp=Z,22µm,18.0s
SWI Sorong 118.99 178 PKP PKiKP 03 53 32.2 +11
HERR Herculane 119.12 50 ⇑P **PKPdf 03 53 18.1 -2.3**
VLAD Vladila 119.14 52 ⇑P **PKPdf 03 53 19.2 -1.3**
ANTO Ankara 119.15 60 IAMs_20 IAMs_20 04 41 59.0
comp=Z,23µm,21.0s
JRMM Jerantut 119.15 145 P **PKiKP 03 53 27.0 +5.4**
EGMT Eagleton 119.26 317 IAMs_20 IAMs_20 04 43 54.1
comp=Z,20µm,20.0s
BMO Blue Mountains 119.28 310 PKIKP **PKPdf 03 53 20.1 -0.8**
BMO Blue Mountains 119.28 310 **PKPdf 03 53 20.1 -0.8**
IPM Ipoh 119.29 143 P **PKiKP 03 53 28.0 +6.1**
IPM Ipoh 119.29 143 **PKPdf 03 53 20.0 -1.8**
CONA Conrad Observa 119.35 43 pPKPdf **PKiKP 03 53 23.8 +2.9**
comp=Z,17nm,1.0s
CONA *e*PP **PP 03 54 43.7 +0.5**
comp=Z,50nm,1.6s
GRA1 Grafenberg Arr 119.35 39 IAMs_20 IAMs_20 04 39 19.0
comp=Z,22µm,21.0s
MPSI Mapaga 119.36 165 PKP PKiKP 03 53 29.9 +7.9
BRTR Keskin Array B 119.40 61 PKP **PKPdf 03 53 19.2 -2.2**
comp=Z,2.6nm,0.6s,baz=200,slow=6.4,SNR=5.4
BRTR PP **PP 03 54 41.2 -2.5**
comp=Z,16nm,1.2s,baz=208,slow=7.0,SNR=4.3
BRTR PKKPbc **PKKPab 04 03 33.3 -0.2**
comp=Z,1.3nm,1.0s,baz=48,slow=2.6,SNR=2.9
BRTR Keskin Array B 119.40 61 **PKPdf 03 53 20.1 -1.2**
GERES GERESS Array B 119.42 42 PKP **PKPdf 03 53 18.9 -2.1**
comp=Z,2.2nm,0.6s,baz=183,slow=1.6,SNR=14
GERES PKKPab PKKPab 04 03 40.7 +8.2
comp=Z,1.3nm,0.8s,baz=32,slow=5.8,SNR=4.1
GERES GERESS Array B 119.42 42 **PKPdf 03 53 19.2 -1.8**
BZS Buzias 119.44 49 ⇑P **PKPdf 03 53 19.3 -1.7**
COPA Copaceanca 119.57 52 ⇑P **PKPdf 03 53 19.1 -2.2**
KHC Kasperske Hory 119.62 41 *e*PKIKP **PKPdf 03 53 19.9 -1.4**
KHC *e* 03 53 25.2
KHC *e*SP SP 04 04 39.1 +8.8
KHC MLR MLR
comp=Z,52µm,21.4s
KHC Kasperske Hory 119.62 41 *e*PKPDF **PKPdf 03 53 19.9 -1.4**
KHC *e*pPKP **pPKPdf 03 53 25.2 -3.5**
KHC *e*SP SP 04 04 39.1 +8.8
KHC AMS AMS 04 39 00.0
comp=Z,52µm,21.4s
KHC Kasperske Hory 119.62 41 **PKPdf 03 53 19.7 -1.7**
KHC IAMs_20 IAMs_20 04 39 23.2
comp=Z,22µm,22.0s
GZR Gura Zlata 119.69 50 ⇑P **PKPdf 03 53 17.8 -3.8**
MSO Missoula 119.70 313 **PKPdf 03 53 20.4 -1.3**
MSO IAMs_20 IAMs_20 04 43 29.0
comp=Z,23µm,20.0s
PINE Pine Mountain 119.81 307 IAMs_20 IAMs_20 04 38 29.1
comp=Z,17µm,20.0s
KULM Kulim 119.94 142 P **PKiKP 03 53 29.0 +5.9**
KULM Kulim 119.94 142 **PKPdf 03 53 20.8 -2.3**
KEKH Kekaha 119.98 262 IAMs_20 IAMs_20 04 37 34.4
comp=Z,16µm,18.0s
SIRR Siria 120.00 48 ⇑P **PKPdf 03 53 20.6 -1.5**
SBUM Sibu 120.16 156 P **PKiKP 03 53 29.0 +5.4**
NKC Novy Kostel 120.21 40 *e*SP SP 04 04 46.4 +11
NKC AMS AMS 04 42 20.0
comp=Z,21µm,19.4s
MODS Modra-Piesok 120.22 44 *e*PKIKP **PKiKP 03 53 24.1 +1.6**
MODS *e* 04 04 45.1
MODS MLR MLR
comp=Z,48µm,20.1s
MODS Modra-Piesok 120.22 44 *e*PKP **PKiKP 03 53 24.1 +1.6**
MODS *e*PP PP 03 55 00.6 +11
MODS *e* 04 04 45.1
MODS *e*SS SS 04 11 24.8 +10
MODS *e*L L 04 42 11.9

EDMD	**Edmundbyers**	**120.30**	**28**	*e*P	**PKiKP**	**03 53 28.5**	**+6.0**
EDMD				IAMs_20	IAMs_20	04 38 02.6	
	comp=Z,23μm,22.0s						
ARR	**Arges**	**120.38**	**51**	⇓P	**PKPdf**	**03 53 20.4**	**-2.5**
TREC	**Trest**	**120.40**	**42**	*e*PKIKP	**PKPdf**	**03 53 21.4**	**-1.4**
TREC				MLR	MLR		
	comp=Z,54μm,18.6s						
TREC	**Trest**	**120.40**	**42**	*e*PKPDF	**PKPdf**	**03 53 21.4**	**-1.4**
TREC				*ex*	x	04 04 51.8	
TREC				AMS	AMS	04 41 40.0	
	comp=Z,54μm,18.6s						
ESK	**Eskdalemuir**	**120.45**	**27**	*e*P	**PKiKP**	**03 53 29.2**	**+6.5**
ESK				IAMs_20	IAMs_20	04 44 10.5	
	comp=Z,32μm,19.0s						
EKA	**Eskdalemuir Ar**	**120.48**	**27**	PKP	**PKPdf**	**03 53 20.9**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=208,slow=1.9,SNR=5.3						
EKA				PKKPab	**PKKPbc**	**04 03 32.0**	**+4.0**
	comp=Z,0.8nm,0.6s,baz=13,slow=1.8,SNR=2.8						
KRUC	**Moravsky**	**120.50**	**43**	*e*PKP	**PKPdf**	**03 53 21.5**	**-1.5**
KRUC				*e*PS	**PS**	**04 04 49.4**	**+8.6**
KRUC				*e*SS	SS	04 11 19.9	+1.3
ILGA	**Ilgaz**	**120.53**	**60**	IAMs_20	IAMs_20	04 42 41.4	
	comp=Z,27μm,21.0s						
VOIR		**120.60**	**51**	⇑P	**PKPdf**	**03 53 20.5**	**-2.9**
JTMT	**Jette**	**120.61**	**314**	IAMs_20	IAMs_20	04 43 54.9	
	comp=Z,20μm,20.0s						
PRU	**Pruhonice**	**120.68**	**41**	*e*PKIKP	**PKPdf**	**03 53 21.9**	**-1.4**
PRU				*e*		03 53 27.0	
PRU				*e*SP	SP	04 04 46.7	+7.1
PRU				MLR	MLR		
	comp=Z,53μm,19.7s						
PRU	**Pruhonice**	**120.68**	**41**	*e*PKPDF	**PKPdf**	**03 53 21.9**	**-1.4**
PRU				*e*pPKP	**PKiKP**	**03 53 27.0**	**+3.6**
PRU				*ex*	x	03 55 03.3	
PRU				*e*SP	SP	04 04 46.7	+7.1
PRU				AMS	AMS	04 41 00.0	
	comp=Z,53μm,19.7s						
GOPC	**GO Pecny, Ondr**	**120.70**	**42**	*e*PKIKP	**PKPdf**	**03 53 22.3**	**-1.0**
GOPC				MLR	MLR		
	comp=Z,50μm,21.1s						
GOPC	**GO Pecny, Ondr**	**120.70**	**42**	*e*PKPDF	**PKPdf**	**03 53 22.3**	**-1.0**
GOPC				*e*SP	SP	04 04 54.1	+14
GOPC				AMS	AMS	04 39 40.0	
	comp=Z,50μm,21.1s						
PRA	**Prague**	**120.72**	**41**	*e*PP	PP	03 55 06.4	+14
PRA				*ex*	x	04 04 55.5	
PRA				AMS	AMS	04 41 00.0	
	comp=Z,47μm,19.4s						
PSZ	**Piszkesteto**	**120.76**	**46**	IAMs_20	IAMs_20	04 40 19.2	
	comp=Z,28μm,22.0s						
JAVC	**Velka Javorina**	**120.77**	**44**	*e*PKP	**PKPdf**	**03 53 22.8**	**-0.8**
JAVC				*e*PS	**PS**	**04 04 52.0**	**+8.7**
JAVC				*e*SS	SS	04 11 28.0	+5.8
VRAC	**Vranov**	**120.78**	**43**	PKP	**PKPdf**	**03 53 22.0**	**-1.5**
	comp=Z,2.8nm,0.3s,baz=207,slow=2.3,SNR=2.8						
VRAC				PP	**PP**	**03 54 51.5**	**-1.5**
	comp=Z,3.2nm,0.3s,baz=207,slow=6.8,SNR=2.4						
VRAC	**Vranov**	**120.78**	**43**	⇓P	**PKPdf**	**03 53 21.6**	**-1.9**
VRAC	**Vranov**	**120.78**	**43**	*e*PKP	**PKPdf**	**03 53 22.4**	**-1.1**
VRAC				*e*PS	**PS**	**04 04 50.2**	**+6.9**
VRAC				*e*SS	SS	04 11 22.4	+0.2
DRGR		**120.84**	**49**	⇑P	**PKPdf**	**03 53 18.6**	**-5.1**
VYHS	**Vyhne**	**120.87**	**45**	*e*PKIKP	**PKPdf**	**03 53 21.7**	**-2.0**
VYHS				*e*SS	SS	04 11 29.0	+5.7
VYHS	**Vyhne**	**120.87**	**45**	*e*PKP	**PKPdf**	**03 53 21.7**	**-2.0**
VYHS				*e*		04 04 55.2	
VYHS				*e*SS	SS	04 11 29.0	+5.7
VYHS				*e*L	L	04 37 27.9	
MLR	**Muntele Rosu**	**120.99**	**52**	PKP	**PKPdf**	**03 53 22.1**	**-2.0**
	comp=Z,4.1nm,0.6s,baz=200,slow=12,SNR=2.7						
MLR				PP	**PP**	**03 54 55.4**	**+0.8**
	comp=Z,14nm,0.9s,baz=207,slow=8.3,SNR=3.3						
MLR	**Muntele Rosu**	**120.99**	**52**	⇑P	**PKPdf**	**03 53 21.2**	**-3.0**
MLR	**Muntele Rosu**	**120.99**	**52**	IAMs_20	IAMs_20	04 39 51.5	
	comp=Z,21μm,21.0s						
TIRR	**Tirgusor**	**121.11**	**54**	⇑P	**PKPdf**	**03 53 22.2**	**-2.1**
PVCC	**Panska Ves**	**121.15**	**41**	*e*PKIKP	**PKPdf**	**03 53 23.1**	**-1.0**
PVCC				*e*		03 53 30.7	
PVCC				*e*SP	SP	04 04 51.9	+8.1
PVCC				MLR	MLR		
	comp=Z,36μm,20.9s						
PVCC	**Panska Ves**	**121.15**	**41**	*e*PKPDF	**PKPdf**	**03 53 23.1**	**-1.0**
PVCC				*ex*	x	03 53 30.7	
PVCC				*e*SP	SP	04 04 51.9	+8.1
PVCC				AMS	AMS	04 40 40.0	
	comp=Z,36μm,20.9s						
DOPR	**Dopca**	**121.17**	**51**	⇑P	**PKPdf**	**03 53 23.5**	**-0.9**
BRG	**Berggiesshubel**	**121.25**	**40**	PDIFF	Pdif	03 50 13.0	+22
BRG	**Berggiesshubel**	**121.25**	**40**	*e*PKP	**PKiKP**	**03 53 26.1**	**+1.7**
	comp=Z,6.5nm,1.4s						
BRG				*i*		03 53 32.1	
	comp=Z,83nm,1.8s						
BRG				*i*		03 53 37.6	
	comp=Z,45nm,1.4s						
BRG				PP	**PP**	**03 54 56.0**	**-0.1**
BRG				SKS	**SKKSac**	**04 02 01.0**	**+8.6**
BRG				SDIFF	**Sdif**	**04 02 47.0**	**+0.7**
BRG				PKKP	PKKPdf	04 04 36.0	+36
BRG				SS	SKKSdf	04 10 53.0	-17
	comp=N,29μm,23.9s						
	comp=E,16μm,21.3s						
	comp=Z,30μm,22.6s						
BRG	**Berggiesshubel**	**121.25**	**40**	*e*PKIKP	**PKiKP**	**03 53 26.1**	**+1.7**
BRG				*i*		03 53 32.1	
BRG						03 54 56.0	
BRG				MLR	MLR		
	comp=N,29μm,23.9s						
BRG				MLR	MLR		
	comp=E,16μm,21.3s						
BRG				MLR	MLR		
	comp=Z,30μm,22.6s						
CLL	**Collm**	**121.32**	**40**	*e*PKIKP	**PKPdf**	**03 53 23.0**	**-1.4**
CLL				*e*		03 53 30.0	
CLL				*e*		03 55 06.0	
CLL	**Collm**	**121.32**	**40**	*e*PKiKP	**PKPdf**	**03 53 23.0**	**-1.4**
CLL				*e*		03 53 30.0	
CLL				*i*		03 53 33.2	
	comp=Z,21nm,0.9s						
CLL				*e*PP	**PP**	**03 55 00.0**	**+3.4**
CLL				*e*SKKSac	SKKSac	04 02 00.0	+7.1
CLL				*e*Sdif	Sdif	04 03 00.0	+13
CLL				*e*		04 03 35.0	
CLL				*e*PKKPdf	**PKKPdf**	**04 04 00.0**	**+0.2**
CLL				*e*PS	PS	04 04 49.0	+1.0
CLL				*e*SKKPdf	SKKPbc	04 07 30.0	+17
CLL				*e*SS	SS	04 11 48.0	+19
CLL				*e*		04 13 18.0	
CLL				*e*SSS	SSS	04 15 54.0	
CLL				Lmax		04 43 00.0	
CLL	**Collm**	**121.32**	**40**	IAMs_20	IAMs_20	04 43 11.1	
	comp=Z,23μm,20.0s						
BISRR	**Bisoca**	**121.34**	**52**	⇓P	**PKiKP**	**03 53 27.6**	**+2.7**
OZUR		**121.43**	**51**	⇑P	**PKiKP**	**03 53 27.3**	**+2.3**
KRLC	**Kraliky**	**121.50**	**43**	*e*PKIKP	**PKPdf**	**03 53 24.1**	**-0.8**
KRLC				MLR	MLR		
	comp=Z,64μm,17.4s						
KRLC	**Kraliky**	**121.50**	**43**	*e*PKPDF	**PKPdf**	**03 53 24.1**	**-0.8**
KRLC				AMS	AMS	04 42 40.0	
	comp=Z,26μm,17.4s						
MORC	**Moravsky Berou**	**121.51**	**43**	⇑P	**PKPdf**	**03 53 22.7**	**-2.2**
MORC	**Moravsky Berou**	**121.51**	**43**	*e*PKP	**PKPdf**	**03 53 23.7**	**-1.2**
MORC				*e*PS	**PS**	**04 04 57.0**	**+7.1**
MORC				*e*SS	SS	04 11 37.6	+6.1
MORC	**Moravsky Berou**	**121.51**	**43**	IAMs_20	IAMs_20	04 41 07.0	
	comp=Z,21μm,21.0s						
PLOR	**Plostina**	**121.56**	**52**	⇑P	**PKPdf**	**03 53 23.8**	**-1.3**
DPC	**Dobruska-Polom**	**121.58**	**42**	*e*PKIKP	**PKPdf**	**03 53 23.5**	**-1.6**
DPC				*e*		03 53 29.4	
DPC				*e*		03 55 03.3	
DPC				*e*SP	SP	04 04 51.2	+3.5
DPC				MLR	MLR		
	comp=Z,29μm,20.4s						
DPC	**Dobruska-Polom**	**121.58**	**42**	*e*PKPDF	**PKPdf**	**03 53 23.5**	**-1.6**
DPC				*e*pPKP	**pPKPdf**	**03 53 29.4**	**-3.0**
DPC				*e*PP	**PP**	**03 55 03.3**	**+4.9**
DPC				*e*SP	SP	04 04 51.2	+3.5
DPC				AMS	AMS	04 41 40.0	
	comp=Z,29μm,20.4s						
WALA	**Waterton Lakes**	**121.58**	**315**	IAMs_20	IAMs_20	04 44 29.9	
	comp=Z,26μm,19.0s						
CFR	**Carcaliu**	**121.60**	**53**	⇑P	**PKPdf**	**03 53 22.4**	**-2.7**
VRI	**Vrincioaia**	**121.61**	**52**	⇓P	**PKPdf**	**03 53 22.6**	**-2.6**
UPC	**Upice**	**121.61**	**42**	*e*PP	PP	03 55 08.7	+10
UPC				*ex*	x	04 05 00.9	
UPC				AMS	AMS	04 43 10.0	
	comp=Z,24μm,18.1s						
LANS	**Liptovska Anna**	**121.65**	**45**	*e*PKIKP	**PKiKP**	**03 53 26.7**	**+1.3**
LANS	**Liptovska Anna**	**121.65**	**45**	*e*PKP	**PKiKP**	**03 53 26.7**	**+1.3**
PKDT	**Phuket**	**121.66**	**139**	PKP	PKiKP	03 53 37.8	+11
PETR	**Petresti**	**121.69**	**52**	⇓P	**PKPdf**	**03 53 25.2**	**-0.1**
CHVC	**Chvalec**	**121.70**	**42**	*e*PKPDF	**PKPdf**	**03 53 24.5**	**-0.7**
CHVC				AMS	AMS	04 38 20.0	
	comp=Z,28μm,22.9s						
ARCR	**ARCALIA**	**121.70**	**50**	⇑P	**PKPdf**	**03 53 24.9**	**-0.4**
SKLT	**Songkhla**	**121.71**	**142**	PKP	**PKiKP**	**03 53 33.0**	**+6.4**
OKC	**Ostrava-Krasne**	**121.77**	**44**	AMS	AMS	04 44 10.0	
	comp=Z,27μm,17.1s						
KPL	**Plockton**	**121.78**	**25**	*e*P	**PKiKP**	**03 53 31.8**	**+6.5**
KPL				IAMs_20	IAMs_20	04 48 42.1	
	comp=Z,23μm,17.2s						
BMR	**Baia Mare**	**121.87**	**49**	⇑P	**PKPdf**	**03 53 24.2**	**-1.4**
TRPA	**Tarpa**	**121.90**	**48**	⇑P	**PKPdf**	**03 53 24.2**	**-1.4**
KSP	**Ksiaz**	**121.99**	**42**	*e*PKIKP	**PKPdf**	**03 53 25.2**	**-0.6**
KSP	**Ksiaz**	**121.99**	**42**	*e*PKPdf	**PKPdf**	**03 53 25.2**	**-0.6**
KSP				*e*PKPdf	**PKPdf**	**03 53 25.2**	**-0.6**
KSP				*e*L	L	04 38 39.0	
	comp=Z,33μm,23.5s						
KSP				*e*L	L	04 38 39.0	
	comp=Z,33μm,23.5s						
KAC	**Achnashellach**	**122.00**	**25**	*e*P	**PKiKP**	**03 53 32.7**	**+7.0**
TRTT	**Trang**	**122.05**	**140**	PKP	**PKiKP**	**03 53 32.3**	**+5.1**
TESR	**Tescani**	**122.11**	**52**	⇑P	**PKPdf**	**03 53 23.8**	**-2.3**
NIE	**Niedzica**	**122.17**	**45**	*e*PKIKP	**PKPdf**	**03 53 23.8**	**-2.4**
NIE	**Niedzica**	**122.17**	**45**	*e*PKPdf	**PKPdf**	**03 53 23.8**	**-2.4**
NIE				*e*PKPdf	**PKPdf**	**03 53 23.8**	**-2.4**
NIE				*e*L	L	04 37 46.1	
	comp=Z,25μm,25.9s						
NIE				*e*L	L	04 37 46.1	
	comp=Z,25μm,25.9s						
F04A	**Amboy**	**122.17**	**307**	IAMs_20	IAMs_20	04 49 51.6	
	comp=Z,17μm,22.0s						
UZH	**Uzhgorod**	**122.22**	**47**	*i* PKIKP	**PKPdf**	**03 53 25.0**	**-1.2**
UZH				*i*		03 53 32.0	
UZH				*e*		03 55 00.0	
UZH				*e*		04 00 29.0	
UZH				*e*PS	**PS**	**04 04 55.0**	**-1.1**
UZH				*i* SS	SS	04 11 41.0	+0.4
UZH				MLR	MLR		
	comp=Z,5μm,17.0s						
BIZ	**Bicaz**	**122.25**	**51**	⇓P	**PKPdf**	**03 53 23.3**	**-3.1**
HYB	**Hyderabad**	**122.39**	**113**	*i* PKP	**PKPdf**	**03 53 24.0**	**-3.6**
HYB				*e*PP	**PP**	**03 55 08.0**	**+4.2**
HYB				*e*LR	LR		
	comp=Z,64nm,40.0s						
KWAJ	**Kwajalein Atol**	**122.40**	**222**	IAMs_20	IAMs_20	04 51 24.4	
	comp=Z,15μm,18.0s						
KOLS	**Kolonicke sedl**	**122.47**	**47**	*e*PKIKP	**PKiKP**	**03 53 28.7**	**+1.8**
KOLS	**Kolonicke sedl**	**122.47**	**47**	*e*PKP	**PKiKP**	**03 53 28.7**	**+1.8**
KOLS				*e*SS	SS	04 11 54.4	+11
KOLS				*e*L	L	04 37 23.7	
BURAR	**Bucovina Array**	**122.47**	**50**	⇑P	**PKPdf**	**03 53 24.8**	**-2.1**
BURAR	**Bucovina Array**	**122.47**	**50**		**PKPdf**	**03 53 25.2**	**-1.7**
MCD	**Coleburn Disti**	**122.52**	**26**	*e*P	**PKiKP**	**03 53 33.6**	**+6.9**
OJC	**Ojcow**	**122.66**	**45**	*e*PKIKP	**PKPdf**	**03 53 26.1**	**-1.0**
OJC	**Ojcow**	**122.66**	**45**	*e*PKPdf	**PKPdf**	**03 53 26.1**	**-1.0**
OJC				*e*PKPdf	**PKPdf**	**03 53 26.1**	**-1.0**
OJC				*e*L	L	04 39 07.2	
	comp=Z,21μm,24.0s						
OJC				*e*L	L	04 39 07.2	
	comp=Z,21μm,24.0s						
OJC	**Ojcow**	**122.66**	**45**		**PKPdf**	**03 53 26.1**	**-1.0**
FFC	**Flin Flon**	**122.67**	**326**	IAMs_20	IAMs_20	04 46 21.3	
	comp=Z,23μm,20.0s						
SURT	**Suratani**	**122.81**	**139**	PKP	PKiKP	03 53 37.4	+8.7
B08A	**Colville Reser**	**122.98**	**311**	IAMs_20	IAMs_20	04 38 39.0	
	comp=Z,17μm,22.0s						
D05A	**Enumclaw**	**123.03**	**308**	IAMs_20	IAMs_20	04 51 39.6	
	comp=Z,15μm,20.0s						
SPMM	**Sapulut**	**123.15**	**160**	P	**PKiKP**	**03 53 34.0**	**+4.5**
KWP	**Kalwaria Pacla**	**123.21**	**47**	*e*PKIKP	**PKiKP**	**03 53 32.9**	**+4.5**
KWP	**Kalwaria Pacla**	**123.21**	**47**	*e*PKPdf	**PKiKP**	**03 53 32.9**	**+4.5**
KWP				*e*PKPdf	**PKiKP**	**03 53 32.9**	**+4.5**
KWP				*e*L	L	04 37 48.9	
	comp=Z,38μm,26.7s						
KWP				*e*L	L	04 37 48.9	
	comp=Z,38μm,26.7s						
PATS	**Pohnpei**	**123.28**	**211**	IAMs_20	IAMs_20	04 42 52.8	
	comp=Z,18μm,20.0s						
MILM	**Milestii Mici**	**123.30**	**53**	⇑P	**PKPdf**	**03 53 26.2**	**-2.1**
KIS	**Kishinev**	**123.36**	**53**	*e*PKP	**PKiKP**	**03 53 34.0**	**+5.3**
KIS	**Kishinev**	**123.36**	**53**	*e*PP	PP	03 55 14.0	+3.5
KIS				*e*SKP		03 57 19.0	
KIS	**Kishinev**	**123.36**	**53**	*e*PPP	PPP	03 57 54.0	
KIS				*e*SKS	SKSdf	04 00 14.0	-24
KIS				*e*SKKS	SKKSac	04 01 30.0	-36
KIS	**Kishinev**	**123.36**	**53**	*e*PS	PS	04 05 14.0	+7.8
KIS	**Kishinev**	**123.36**	**53**	*e*PPS	PPS	04 06 38.0	
KIS				*e*SS	SS	04 12 16.0	+21
KIS				*e*SSS	SSS	04 16 42.0	
KIS				*e*L	L	04 33 12.0	
KIS				LRM	MLR	04 48 52.0	
	comp=Z,13μm,19.0s						
KIS	**Kishinev**	**123.36**	**53**	*e*PKIKP	**PKiKP**	**03 53 34.0**	**+5.3**
KIS				*e*		03 53 41.0	
KIS				*e*		03 55 14.0	
KIS				*e*PPP	PPP	03 57 54.0	
KIS				*e*PPS	PPS	04 06 38.0	
KIS				*e*SS	SS	04 12 16.0	+21
KIS				MLR	MLR		
	comp=Z,13μm,19.0s						
LVV	**L'vov**	**123.85**	**48**	*i* PKIKP	**PKiKP**	**03 53 34.3**	**+4.7**
SIM	**Simferopol'**	**123.87**	**58**	*ce*PKIKP	**PKiKP**	**03 53 35.4**	**+5.6**
SIM				pmax	pmax		
	comp=Z,58nm,1.1s						
SIM				pmax	pmax		
	comp=Z,2μm,9.3s						
SIM				MLR	MLR		
	comp=Z,24μm,21.0s						
B06A	**Marblemount**	**123.93**	**310**	IAMs_20	IAMs_20	04 39 10.2	
	comp=Z,19μm,21.0s						
SORM	**Soroca**	**124.11**	**52**	⇓P	**PKPdf**	**03 53 25.1**	**-4.7**
RGN	**Rugen**	**124.20**	**38**	IAMs_20	IAMs_20	04 43 40.2	
	comp=Z,21μm,20.0s						
BEL	**Belsk**	**124.36**	**44**	*e*PKIKP	**PKPdf**	**03 53 29.6**	**-0.6**
BEL	**Belsk**	**124.36**	**44**	*e*PKPdf	**PKPdf**	**03 53 29.6**	**-0.6**
BEL				*e*PKPdf	**PKPdf**	**03 53 29.6**	**-0.6**
BEL				*e*L	L	04 39 23.8	
	comp=Z,29μm,25.7s						
BEL				*e*L	L	04 39 23.8	
	comp=Z,29μm,25.7s						
GKP	**Gorka Klasztor**	**124.36**	**41**	*e*PKIKP	**PKPdf**	**03 53 29.6**	**-0.6**
GKP	**Gorka Klasztor**	**124.36**	**41**	*e*PKPdf	**PKPdf**	**03 53 29.6**	**-0.6**
GKP				*e*PKPdf	**PKPdf**	**03 53 29.6**	**-0.6**
GKP				*e*L	L	04 42 44.2	
	comp=Z,35μm,21.1s						
GKP				*e*L	L	04 42 44.2	
	comp=Z,35μm,21.1s						
KKM	**Kota Kinabalu**	**124.42**	**160**	IAMs_20	IAMs_20	04 53 51.0	
	comp=Z,20μm,21.0s						
MUD	**Monsted U'grnd**	**124.63**	**34**	*i* PKIKP	**PKiKP**	**03 53 35.8**	**+4.9**
MUD				pmax	pmax		
	comp=Z,180nm,1.3s						
MUD				MLR	MLR		
	comp=Z,21μm,16.0s						
MUD	**Monsted U'grnd**	**124.63**	**34**	*i* P	**PKiKP**	**03 53 35.8**	**+4.9**
	comp=Z,181nm,1.3s						
	comp=Z,21μm,16.0s						
GNI	**Garni**	**124.75**	**69**	IAMs_20	IAMs_20	04 46 21.9	
	comp=Z,25μm,20.0s						
ANN	**Anapa**	**125.16**	**60**	*e*P	**Pdif**	**03 50 10.4**	**+1.6**
ANN				*e*		03 55 21.3	
ANN				*e*		04 00 43.8	
ANN				*e*SP	SP	04 05 20.3	+0.7
ANN				*e*PS	PS	04 05 22.6	+0.5
ANN				pmax	pmax		
	comp=Z,120nm,1.0s						
SOC	**Sochi**	**125.19**	**63**	*e*PKIKP	**PKPdf**	**03 53 28.2**	**-3.9**
SOC				*e*		03 55 19.4	
SOC				*e*PPP	PPP	03 58 05.7	
SOC				*e*		04 00 29.0	
SOC				*e*SS	SS	04 12 19.4	+1.1
SOC				*e*SSS	SSS	04 16 57.5	
SNART	**Snartemo**	**125.73**	**32**	*e*PKPdf	**PKPdf**	**03 53 32.5**	**-0.1**
BLS5	**Blasjo**	**126.48**	**31**	*e*PKPdf	**PKPdf**	**03 53 33.3**	**-0.8**
KCP	**Kidapawan**	**126.50**	**170**	⇓*e*P	**PKPdf**	**03 53 34.3**	**-1.4**
KCP				*i* S	**pPKPdf**	**03 53 50.1**	**+6.9**
AKASG	**Malin Array Be**	**126.51**	**50**	PKP	**PKPdf**	**03 53 31.9**	**-2.5**
	comp=Z,6.6nm,0.7s,baz=243,slow=1.9,SNR=17						
AKASG				PP	**PP**	**03 55 32.6**	**+1.1**
	comp=Z,11nm,1.1s,baz=218,slow=6.8,SNR=8.2						
AKASG	**Malin Array Be**	**126.51**	**50**		**PKPdf**	**03 53 32.2**	**-2.2**
AKBB	**Malin Array Si**	**126.51**	**50**	PKIKP	**PKPdf**	**03 53 32.5**	**-1.9**
AKBB	**Malin Array Si**	**126.51**	**50**		**PKPdf**	**03 53 32.5**	**-1.9**
AKBB				IAMs_20	IAMs_20	04 43 52.5	
	comp=Z,23μm,22.0s						
DAV	**Davao City (W)**	**126.60**	**171**	IAMs_20	IAMs_20	04 50 35.0	
	comp=Z,20μm,20.0s						
KIV	**Kislovodsk**	**126.81**	**64**	*i* PKIKP	**PKiKP**	**03 53 36.8**	**+1.0**
KIV				*e*		03 55 34.1	
KIV				*e*PS	**PS**	**04 05 38.3**	**+1.4**
KIV				pmax	pmax		
	comp=Z,240nm,1.1s						
NCK	**Nalchik**	**126.86**	**65**	⇑*i* PKIKP	**PKPdf**	**03 53 35.3**	**-0.1**
ODD1	**Odda**	**126.95**	**31**	*e*PKPdf	**PKPdf**	**03 53 33.3**	**-1.7**
SUW	**Suwalki**	**126.97**	**44**	*e*PKIKP	**PKPdf**	**03 53 32.3**	**-2.9**
SUW	**Suwalki**	**126.97**	**44**	*e*PKPdf	**PKPdf**	**03 53 32.3**	**-2.9**
SUW				*e*PKPdf	**PKPdf**	**03 53 32.3**	**-2.9**
SUW				*e*L	L	04 41 26.5	
	comp=Z,36μm,24.9s						
SUW				*e*L	L	04 41 26.5	
	comp=Z,36μm,24.9s						
SUW	**Suwalki**	**126.97**	**44**	IAMs_20	IAMs_20	04 47 58.7	
	comp=Z,19μm,20.0s						
SFJD	**Kangerlussuaq**	**127.02**	**358**	*i* P	**PKiKP**	**03 53 40.0**	**+4.6**
	comp=Z,19μm,24.0s						
SFJD	**Kangerlussuaq**	**127.02**	**358**	PKP	**PKPdf**	**03 53 33.8**	**-1.1**
	comp=Z,9.9nm,0.9s,baz=211,slow=1.7,SNR=2.3						
AKT	**Akhty**	**127.19**	**70**	*e*PKIKP	**PKPdf**	**03 53 35.4**	**-0.8**
AKT				*e*		03 55 37.3	
AKT				pmax	pmax		
	comp=Z,314nm,1.1s						
SUE	**Sulen**	**127.48**	**29**	*e*PKPdf	**PKPdf**	**03 53 34.8**	**-1.1**
KONO	**Kongsberg**	**127.49**	**32**	⇑*i* PKIKP	**PKiKP**	**03 53 37.8**	**+1.3**
KONO	**Kongsberg**	**127.49**	**32**	*ep*PKPdf	**PKiKP**	**03 53 38.2**	**+1.7**
KONO	**Kongsberg**	**127.49**	**32**	IAMs_20	IAMs_20	04 42 43.2	
	comp=Z,22μm,21.0s						
GROC	**Groznyy**	**127.63**	**67**	*i* PKIKP	**PKPdf**	**03 53 35.0**	**-1.8**
GROC				*e*		03 55 41.3	
GROC				pmax	pmax		
	comp=Z,124nm,1.0s						
GOF	**Gofitskoye**	**127.83**	**64**	⇑*e*PKIKP	**PKiKP**	**03 53 43.7**	**+6.0**
GOF				pmax	pmax		
	comp=Z,116nm,1.0s						
HYA	**Hoyanger**	**127.92**	**30**	*e*PKPdf	**PKPdf**	**03 53 36.3**	**-0.4**
SKAR	**Skarslia**	**128.04**	**31**	*e*PKPdf	**PKiKP**	**03 53 37.5**	**-0.2**
KHLT	**Khaolaem Dam**	**128.19**	**136**	PKP	**PKPdf**	**03 53 34.3**	**-4.4**
MAK	**Makhachkala**	**128.24**	**69**	*e*P	**Pdif**	**03 50 18.2**	**-4.3**
MAK				*i*		03 53 36.0	
MAK				*e*		03 55 38.5	
MAK				*e*PPP	PPP	03 58 25.4	
MAK				*e*		04 00 39.8	
MAK				*e*PS	PS	04 05 48.0	-1.0
MAK				*e*SS	SS	04 12 53.2	-3.0
MAK				pmax	pmax		
	comp=Z,2μm,5.5s						
MAK				pmax	pmax		
	comp=Z,324nm,1.2s						
MAK				MLR	MLR		
	comp=E,11μm,16.0s						
MAK				MLR	MLR		
	comp=N,30μm,19.0s						
MAK				MLR	MLR		
	comp=Z,24μm,18.0s						
HRA	**Herat**	**128.65**	**87**		**PKPdf**	**03 53 37.5**	**-1.9**
NC602	**NORSAR Array S**	**128.93**	**33**	*e*PKPdf	**PKPdf**	**03 53 38.2**	**-0.5**
NACGM	**Naroch**	**128.95**	**46**	*e*PKP	PKiKP	03 53 52.0	+12
NACGM				*e*SKS	SKSdf	04 00 30.0	-18
NACGM				*e*SKKS	SKKSac	04 03 24.0	+43
NACGM				*e*SKSP	**SP**	**04 05 40.0**	**-12**
NACGM				*e*SS	SS	04 13 36.0	+31
NACGM				*e*SSS	SSS	04 17 44.0	
NACGM				*e*LQ	LQ	04 37 40.0	
NACGM				*e*LR	LR	04 43 14.0	
NACGM				LRM	MLR	04 48 18.0	
	comp=N,20nm,18.0s						
NACGM				LRM	MLR	04 48 22.0	
	comp=Z,43nm,19.0s						
NACGM				LRM	MLR	04 48 28.0	
	comp=E,26nm,20.0s						
HFS	**Hagfors**	**129.02**	**34**	PKP	**PKPdf**	**03 53 36.0**	**-2.8**
	comp=E,5.9nm,0.8s,baz=159,slow=4.1,SNR=15						
MICGM	**Minsk**	**129.03**	**47**	⇑*e*PKP	**PKiKP**	**03 53 44.0**	**+4.2**
MICGM				PKPM	

comp=Z,9μm,19.0s
CHTO Chiang Mai 132.04 135 PKIKP PKPdf 03 53 45.3 -0.7
CHTO Chiang Mai 132.04 135 PKPdf 03 53 45.3 -0.7
CMMT Chiang Mai 132.04 135 P PKSab 03 57 14.6 +0.1
KBL Kabul 132.16 93 IAMs_20 IAMs_20 04 50 00.5
comp=Z,20μm,22.0s
NSS Namsos 132.19 30 *e*PPKPdf **PKiKP 03 53 47.9 +2.1**
WAKE Wake Island 132.47 226 IAMs_20 IAMs_20 04 47 45.5
comp=Z,17μm,20.0s
GUMO Guam 132.52 196 IAMs_20 IAMs_20 05 00 14.6
comp=Z,13μm,18.0s
SUMG Summit 132.74 4 PKIKP **PKPdf 03 53 44.8 -1.3**
SUMG Summit 132.74 4 *i* P **PKPdf 03 53 45.7 -0.4**
SUMG Summit 132.74 4 PKPdf 03 53 44.8 -1.3
SUMG IAMs_20 IAMs_20 04 39 42.0
comp=Z,16μm,21.0s
OBN Obninsk 132.75 51⇑ *e*PKIKP **PKPdf 03 53 43.6 -2.5**
OBN *i* 03 53 50.0
OBN *i* 03 56 20.1
OBN *e*PPP PPP 03 59 08.9
OBN *e* 04 08 05.5
OBN pmax pmax
comp=Z,46nm,1.8s
OBN pmax pmax
comp=Z,194nm,2.7s
OBN MLR MLR
comp=Z,15μm,17.0s
OBN Obninsk 132.75 51 PKP **PKPdf 03 53 43.3 -2.7**
comp=Z,4.4nm,0.4s,baz=265,slow=1.8,SNR=2.5
OBN SKPab **SKPab 03 57 15.7 +2.6**
comp=Z,3.4nm,0.4s,baz=216,slow=3.3,SNR=3.5
OBN Obninsk 132.75 51 IAMs_20 IAMs_20 04 48 50.4
comp=Z,24μm,21.0s
NONG Nongkai 132.75 140 P **PKSab 03 57 18.3 +0.8**
YKA Yellowknife Ar 132.79 324 PKP **PKPdf 03 53 43.6 -2.3**
comp=Z,5.4nm,0.8s,baz=143,slow=2.6,SNR=4.2
YKA SKPab **SKPab 03 57 14.0 +0.9**
comp=Z,9.7nm,1.0s,baz=142,slow=3.7,SNR=2.6
YKA Yellowknife Ar 132.79 324 PKPdf 03 53 44.2 -1.7
PAYA Payao 132.87 136 P **PKSab 03 57 21.3 +3.3**
NIL Nilore 133.53 97 PKIKP **PKPdf 03 53 45.8 -2.6**
NIL MLR MLR
comp=Z,16μm,19.0s
NIL Nilore 133.53 97 PKPdf 03 53 45.8 -2.6
NIL Nilore 133.53 97 IAMs_20 IAMs_20 04 54 24.4
comp=Z,16μm,19.0s
MOS Moscow 133.62 51 *i* PKIKP **PKiKP 03 53 50.3 +1.3**
MOS *e* 03 56 22.2
MOS *e*SS SS 04 13 58.5 -3.3
MOS pmax pmax
comp=Z,95nm,1.2s
MOS MLR MLR
comp=N,13μm,19.0s
MOS MLR MLR
comp=Z,19μm,19.0s
MIDW Midway 133.73 249 IAMs_20 IAMs_20 04 41 05.7
comp=Z,22μm,21.0s
FINES FINESS Array B 133.77 40 PKhKP PKPpre 03 53 41.8
comp=Z,6.6nm,0.7s,baz=258,slow=0.2,SNR=9.9
FINES PKP **PKPdf 03 53 46.3 -1.6**
comp=Z,7.1nm,0.7s,baz=202,slow=1.5,SNR=12
FINES SKPbc **SKPbc 03 57 15.7 +0.9**
comp=Z,56nm,1.1s,baz=198,slow=1.3,SNR=5.3
FINES FINESS Array B 133.77 40 SKPab 03 57 19.6 +2.2
CRAG Craig 133.85 308 IAMs_20 IAMs_20 04 59 39.7
comp=Z,15μm,21.0s
MOR8 Moi Rana 134.14 30 *e*PKPdf **PKPdf 03 53 48.8 +0.4**
WRAK Wrangell Islan 134.24 309 IAMs_20 IAMs_20 04 56 54.8
comp=Z,20μm,21.0s
DLBC Dease Lake 134.82 313 IAMs_20 IAMs_20 04 52 38.1
comp=Z,18μm,22.0s
LOF Lofoten 135.47 28 *e*PKPdf **PKPdf 03 53 50.9 +0.1**
QIZ Qiongzhong 135.62 148 PKP **PKPdf 03 53 50.4 -2.3**
QIZ PP **PP 03 56 30.5 +0.6**
QIZ LR LR
comp=Z,12μm,17.5s
QIZ LR LR
comp=Z,19μm,17.2s
STEI Steigen 135.72 29 *e*PKPdf **PKPdf 03 53 51.5 +0.2**
SIT Sitka 135.85 308 IAMs_20 IAMs_20 04 56 59.4
comp=Z,17μm,22.0s
GAR Garm 136.28 90 PKPdf 03 53 51.2 -2.3
JIS Juneau Island 136.34 310 IAMs_20 IAMs_20 04 57 46.3
comp=Z,14μm,21.0s
TULEG Thule 137.28 353 PKPdf 03 53 51.5 -2.5
SKAG Skagway 137.51 311 IAMs_20 IAMs_20 04 59 53.2
comp=Z,13μm,20.0s
TRO Tromso 137.89 29 *e*pPKPdf **PKiKP 03 53 59.3 +2.0**
KLMR Klimovskoe 137.93 47 *e*PKIKP **PKPdf 03 53 53.5 -2.0**
KLMR *e* 03 56 41.8
KLMR *e*SS SS 04 14 53.2 0.0
KLMR *e*SSS SSS 04 20 00.7
KLMR pmax pmax
comp=Z,186nm,1.3s
KLMR Klimovskoe 137.93 47 *e*PKPdf **PKPdf 03 53 53.6 -2.0**
KLMR AMP 03 54 12.2
comp=Z,186nm,1.3s
KLMR *e*PP **PP 03 56 41.8 -2.8**
KLMR *e*SS **SS 04 14 53.3 +0.1**
KLMR *e*SS **SS 04 14 53.3 +0.1**
KLMR *e*SSS SSS 04 20 00.7
KLMR *e*SSS SSS 04 20 00.7
KLMR LQ LQ 04 43 21.8
KLMR LQ LQ 04 43 21.8
KLMR LR LR 04 46 36.4
DAG Danmarks Havn 138.01 9 *i* PKIKP **PKPdf 03 53 53.3 -2.0**
DAG pmax pmax
comp=Z,62nm,1.0s
DAG MLR MLR
comp=Z,27μm,23.0s
DAG Danmarks Havn 138.01 9 *i* P **PKPdf 03 53 53.3 -2.0**
comp=Z,62nm,1.0s
comp=Z,24μm,23.0s
RES Resolute Bay 138.33 343 IAMs_20 IAMs_20 04 51 02.4
comp=Z,14μm,20.0s
KTK1 Kautokeino 138.50 31 *e*PKPdf **PKPdf 03 53 55.7 -0.8**
IUG Iuzhnay 138.52 87 *e*PKP **PKPdf 03 53 58.3 +0.7**
IUG *e*PP **PP 03 56 53.0 +4.2**
IUG Iuzhnay 138.52 87 *e*PKIKP **PKPdf 03 53 58.2 +0.7**
IUG *e* 03 56 52.9
AKTO Aktyubinsk 138.62 69 PKhKP PKPpre 03 53 48.1
comp=Z,8.2nm,0.9s,baz=180,slow=3.8,SNR=5.1
AKTO PKP **PKPdf 03 53 54.7 -2.5**
comp=Z,7.4nm,0.8s,baz=234,slow=4.2,SNR=7.9
AKTO PP **PP 03 56 53.5 +4.3**
comp=Z,10.0nm,0.9s,baz=225,slow=2.9,SNR=3.7
LSA Lhasa 138.69 119 PKP **PKPdf 03 53 54.0 -4.7**
LSA PP **PP 03 56 47.1 -2.9**
LSA Lhasa 138.69 119 PKIKP **PKPdf 03 53 55.9 -2.8**
LSA Lhasa 138.69 119 PKPdf 03 53 55.9 -2.8
AB31 Akbulak array 138.71 72 *e*PKHKP PKPpre 03 53 45.3
AB31 pmax pmax
comp=Z,38nm,0.9s
JBG Jabagly 138.98 87 *e*PKIKP **PKPdf 03 53 55.9 -2.5**
JBG *e* 03 56 54.0
KMI Kunming 139.18 136 PKP **PKPdf 03 53 59.8 +0.4**
KMI sPKP 03 54 07.1
KMI PP **PP 03 56 57.9 +5.4**
KMI PKS 03 57 34.4
KMI AMB AMB
comp=Z,2μm,6.3s
KMI LR LR
comp=Z,15μm,27.2s
KMI LR LR
comp=Z,42μm,27.6s
HYT Haines Junctio 139.23 311 PKPdf 03 53 57.1 -1.0
ARCES ARCESS Array B 139.45 31 PKIKP **PKPdf 03 53 56.7 -1.5**
ARCES ARCESS Array B 139.45 31 PKhKP PKPpre 03 53 47.8
comp=Z,2.5nm,0.3s,baz=214,slow=2.6,SNR=22
ARCES SKPbc **SKiKP 03 57 34.2 -0.5**
comp=Z,10nm,0.8s,baz=242,slow=1.9,SNR=3.6
ARCES ARCESS Array B 139.45 31 PKPdf 03 53 56.6 -1.5
ARE0 ARCESS Array S 139.45 31 *e*PKPdf **PKPdf 03 53 57.9 -0.3**
KK31 Karatay Array 139.47 86 *i* PKHKP PKPpre 03 53 48.0
KK31 pmax pmax
comp=Z,46nm,1.1s
KKAR Karatay Array 139.47 86 PKHKP PKPpre 03 53 48.2
KKAR 03 53 56.4
KKAR Karatay Array 139.47 86 PKPpre 03 53 48.2
KKAR PKPdf **PKPdf 03 53 56.4 -2.6**
BCPM Bancas Point 139.47 309 IAMs_20 IAMs_20 04 57 19.3
comp=Z,16μm,22.0s
KSH Kashi 139.50 95 PKP **PKPdf 03 53 57.8 -1.6**
KSH PP **PP 03 56 54.1 -0.6**
KSH PKS 03 57 29.5
KSH SKS **SKSdf 04 01 03.1 -4.8**
KSH SKKS **SKKSac 04 03 41.0 -5.3**
KSH SS **SS 04 15 05.8 -6.6**
KSH LR LR
comp=Z,23μm,16.5s
TMCR Tamitsa 139.59 42 *e*PKIKP **PKiKP 03 54 01.0 +0.1**
TMCR pmax pmax
comp=Z,130nm,1.1s
DZA Taraz 139.72 87 *e*PKP **PKPdf 03 53 58.9 -0.7**
DZA *e*PP **PP 03 56 54.9 -1.2**
DZA Taraz 139.72 87 *e*PKIKP **PKPdf 03 53 58.8 -0.7**
DZA *e* 03 56 54.8
HAMF Hammerfest 139.75 29 *e*PKPdf **PKPdf 03 53 57.5 -1.2**
PCA Pinnacle 139.81 309 IAMs_20 IAMs_20 04 58 43.9
comp=Z,17μm,21.0s
KIRV Kirov 140.25 54 PKhKP PKPpre 03 53 49.4
comp=Z,8.9nm,0.5s,baz=177,slow=1.9,SNR=3.5
APA Apatity 140.32 36⇓ *i* PKHKP PKPpre 03 53 50.2
APA pmax pmax
comp=Z,21nm,1.3s
GZH Guangzhou 140.39 151 PKP **PKPdf 03 54 01.1 -0.2**
GZH SS SS 04 15 30.8 +9.2
GZH LR LR
comp=Z,15μm,17.4s
GZH LR LR
comp=Z,12μm,16.7s
MESA MESA 140.51 308 IAMs_20 IAMs_20 04 58 50.7
comp=Z,18μm,20.0s
YAH Yahtse 140.55 309 IAMs_20 IAMs_20 04 57 31.5
comp=Z,20μm,22.0s
PRGR Permogore 140.69 49 *e*PKHKP PKPpre 03 53 50.3
PRGR pmax pmax
comp=Z,62nm,0.8s
CTGM Chitina Glacie 140.77 310 IAMs_20 IAMs_20 05 00 24.5
comp=Z,17μm,21.0s
LVZ Lovozero 140.90 36⇑ *i* PKIKP **PKiKP 03 54 02.4 -1.1**
LVZ MLR MLR
comp=Z,28μm,19.0s
WAX Waxell Ridge 141.03 308 IAMs_20 IAMs_20 04 59 52.5
comp=Z,20μm,22.0s
AAK Ala-Archa 141.11 90 PKIKP **PKPdf 03 54 00.4 -1.9**
AAK MLR MLR
comp=Z,35μm,21.0s
AAK Ala-Archa 141.11 90 PKhKP PKPpre 03 53 56.2
comp=Z,12nm,0.9s,baz=217,slow=3.4,SNR=19
AAK Ala-Archa 141.11 90 PKPdf **PKPdf 03 54 00.4 -1.9**
SUCK Suckling Hills 141.16 307 IAMs_20 IAMs_20 05 04 45.0
comp=Z,17μm,19.0s
BALM Baldy 141.20 309 IAMs_20 IAMs_20 04 57 18.9
comp=Z,15μm,21.0s
TGL Tana Glacier 141.21 309 IAMs_20 IAMs_20 04 57 27.3
comp=Z,20μm,20.0s
CRQM Cirque 141.34 309 PKPdf 03 54 01.4 -0.6
HMT Hamilton 141.52 308 IAMs_20 IAMs_20 05 09 14.3
comp=Z,17μm,19.0s
MCARA McCarthy VSAT 141.67 309 IAMs_20 IAMs_20 05 00 55.4
comp=Z,19μm,21.0s
GYA Guiyang 141.72 140⇓ *i* PKP **PKPdf 03 53 56.5 -7.3**
GYA PP PP 03 57 24.4 +16
GYA PKS 03 57 24.5
VRDI Verde Repeater 141.74 309 IAMs_20 IAMs_20 05 01 34.3
comp=Z,16μm,20.0s
SGDS Sogindy 141.77 89 *e*PKP **PKPdf 03 53 56.2 -7.1**
SGDS *e*PP **PP 03 57 10.9 +2.3**
TKM2 Tokmak 2 141.86 91 PKHKP PKPpre 03 53 56.4
TKM2 pmax pmax
comp=Z,39nm,0.9s
DAWY Dawson 141.93 315 IAMs_20 IAMs_20 05 09 38.0
comp=Z,20μm,20.0s
GLB Gilahina Butte 142.01 309 IAMs_20 IAMs_20 05 01 40.4
comp=Z,17μm,22.0s
TPUB Ta-pu 142.05 162 IAMs_20 IAMs_20 04 59 24.3
comp=Z,14μm,19.0s
KDJ Kajisay 142.07 93 PKIKP **PKPdf 03 54 03.4 -0.6**
KDJ MLR MLR
comp=Z,24μm,21.0s
KDJ Kajisay 142.07 93 PKPdf 03 54 03.4 -0.6
BCAR Beaver Creek A 142.21 312 PKPpre 03 53 56.0
BCAR PKPdf **PKPdf 03 54 02.4 -1.0**
EYAK Cordova Ski Ar 142.24 307 IAMs_20 IAMs_20 05 00 41.5
comp=Z,22μm,21.0s
YULB Yu-li 142.24 163 IAMs_20 IAMs_20 04 56 28.4
comp=Z,15μm,21.0s
EPYK Eagle Plains 142.37 319 IAMs_20 IAMs_20 04 57 59.4
comp=Z,22μm,22.0s
A36M Sachs Harbour 142.39 330 P **PKPdf 03 53 59.1 -4.2**
baz=127
HIN Hinchinbrook I 142.44 306 IAMs_20 IAMs_20 04 59 20.0
comp=Z,17μm,21.0s
HSPB Hornsund (broa 142.48 19 *e*PKPdf **PKPdf 03 54 03.1 -0.3**
SSLB Suanglung 142.58 162 IAMs_20 IAMs_20 04 56 31.2
comp=Z,19μm,20.0s
BTLS Baital 142.63 87 *e*PKP **PKPdf 03 54 04.8 +0.2**
BTLS Baital 142.63 87 *e*PKIKP **PKPdf 03 54 04.8 +0.2**
AAA Alma-Ata 142.73 92 *e*PKP **PKPdf 03 54 06.0 +0.9**
AAA Alma-Ata 142.73 92 *e*PKIKP **PKPdf 03 54 05.9 +0.9**
MDOK Medeo 142.76 92 *e*PKP **PKPdf 03 53 58.2 -7.0**
ARU Arti 142.77 62 *i* PKIKP **PKPdf 03 54 05.5 +1.0**
ARU 03 57 09.3
ARU MLR MLR
comp=Z,21μm,22.0s
ARU Arti 142.77 62 PKhKP PKPpre 03 53 59.0
comp=Z,5.2nm,0.5s,baz=238,slow=2.0,SNR=13
ARU PP **PP 03 57 10.6 -3.9**
comp=Z,4.1nm,0.6s,baz=221,slow=11,SNR=2.1
ARU SKP **SKPdf 03 57 37.9 +0.8**
comp=Z,7.1nm,0.8s,baz=256,slow=4.2,SNR=2.8
ARU Arti 142.77 62 PKPdf **PKPdf 03 54 03.9 -0.6**
ARU Arti 142.77 62 IAMs_20 IAMs_20 05 02 01.8
comp=Z,20μm,21.0s
KNMB Chin-men Tao 142.80 158 IAMs_20 IAMs_20 04 57 53.2
comp=Z,16μm,20.0s
MENT Mentasta 142.85 311 IAMs_20 IAMs_20 04 57 55.5
comp=Z,17μm,22.0s
KUU Kurty 142.94 90 *e*PKP **PKPdf 03 54 01.2 -4.1**
KUU *e*PP PP 03 57 28.3 +13
KUU Kurty 142.94 90 *e*PKIKP **PKPdf 03 54 01.2 -4.1**
GLI Glacier Island 142.97 307 PKPdf 03 54 04.0 -0.8
GLI IAMs_20 IAMs_20 05 02 07.8
comp=Z,19μm,22.0s
NACB Ninganchiao 143.05 163 IAMs_20 IAMs_20 05 00 56.9
comp=Z,15μm,19.0s
CHKK Chushkaly 143.24 91 *e*PKP **PKPdf 03 54 07.4 +1.5**
CHKK Chushkaly 143.24 91 *e*PKIKP **PKPdf 03 54 07.3 +1.5**
KBS Kingsbay 143.28 16⇑ *e*PKIKP **PKPdf 03 54 03.9 -0.9**
KBS Kingsbay 143.28 16 *e*pPKPdf **PKiKP 03 54 08.8 +0.7**
KBS Kingsbay 143.28 16 IAMs_20 IAMs_20 04 52 49.0
comp=Z,20μm,21.0s
QZH Quanzhou 143.31 158 *i* PKP PKPbc 03 54 03.8 +0.2
QZH PP PP 03 57 26.1 +9.0
QZH LR LR
comp=Z,9μm,16.1s
QZH LR LR
comp=Z,20μm,17.2s
SATY Saty 143.36 93 *e*PKP PKPab 03 54 02.2 -0.1
SATY *e*PP PP 03 57 28.7 +10
SATY Saty 143.36 93 *e*PKIKP PKPab 03 54 02.1 -0.2
DOT Dot Lake 143.38 312 IAMs_20 IAMs_20 05 00 36.6
comp=Z,22μm,22.0s
SPA0 Spitsbergen Ar 143.41 18 *e*PKPdf **PKPdf 03 54 04.7 -0.4**
SPITS Spitsbergen Ar 143.41 18 PKP PKPab 03 54 01.6 +0.2
comp=Z,25nm,0.7s,baz=144,slow=7.2,SNR=17
ZHN Zhinishke 143.46 93 *e*PKP PKPbc 03 54 04.6 +0.9
ZHN *e*PP **PP 03 57 23.4 +4.5**
ZHN Zhinishke 143.46 93 *e*PKIKP PKPbc 03 54 04.6 +0.9
ZHN *e* 03 57 23.3
SEW Seward 143.47 305 IAMs_20 IAMs_20 04 59 27.2
comp=Z,16μm,22.0s
YHNB Yeheng 143.51 162 IAMs_20 IAMs_20 05 01 45.9
comp=Z,16μm,20.0s
PAX Paxson 143.53 310 IAMs_20 IAMs_20 05 03 56.5
comp=Z,20μm,20.0s
YOJ Yonaguni jima 143.53 165 IAMs_20 IAMs_20 04 59 27.2
comp=Z,18μm,19.0s
SCM Sheep Creek Mo 143.61 308 IAMs_20 IAMs_20 05 01 37.6
comp=Z,19μm,22.0s
UZB Uzynbulak 143.73 93 *e*PKP PKPab 03 54 03.8 0.0
UZB *e*PP **PP 03 57 22.3 +1.7**
UZB Uzynbulak 143.73 93 *e*PKIKP PKPab 03 54 03.7 -0.1
UZB *e* 03 57 22.2
KPKS Kokpek 143.80 93 *e*PKP PKPab 03 54 01.0 -2.9
KPKS *e*PP PP 03 57 32.7 +12
KNK Knik Glacier 143.81 307 IAMs_20 IAMs_20 05 01 45.2
comp=Z,18μm,21.0s
TATO Taipei 143.82 162 IAMs_20 IAMs_20 04 56 11.3
comp=Z,14μm,21.0s
HOPEN Hopen 143.83 22 *e*PKPdf **PKPdf 03 54 05.5 -0.3**
BRLK Bradley Lake 143.86 304 IAMs_20 IAMs_20 05 01 37.5
comp=Z,16μm,22.0s
CNPM China Poot 143.87 303 PKPdf 03 54 06.2 -0.2
CNPM IAMs_20 IAMs_20 05 02 43.7
comp=Z,16μm,20.0s
SVE Sverdlovsk 143.93 63⇓ *i* PKIKP PKPab 03 54 02.2 -1.7
SVE pmax pmax
comp=Z,504nm,1.4s
SVE MLR MLR
comp=N,19μm,23.0s
SVE MLR MLR
comp=Z,30μm,22.0s
SVE MLR MLR
comp=E,20μm,20.0s
SML Sawmill 143.99 308 IAMs_20 IAMs_20 05 12 52.4
comp=Z,17μm,19.0s
PDGK Podgornoye 144.10 94 PKIKP **PKPab 03 54 03.7 -1.4**
PDGK pmax pmax
comp=Z,326nm,1.2s
HOM Homer 144.12 303 IAMs_20 IAMs_20 04 58 18.3
comp=Z,16μm,22.0s
RC01 Rabbit Creek A 144.15 306 PKPab 03 54 04.4 -0.1
RC01 IAMs_20 IAMs_20 05 01 03.0
comp=Z,22μm,22.0s
PMR Palmer 144.18 307 IAMs_20 IAMs_20 05 09 30.9
comp=Z,16μm,19.0s
GHO Glory Hole Cre 144.20 307 IAMs_20 IAMs_20 05 04 09.1
comp=Z,17μm,20.0s
SUA Susitna One 144.76 306 IAMs_20 IAMs_20 05 01 19.0
comp=Z,19μm,22.0s
TDK Taldyqorghan 144.77 91 *e*PKP **PKPab 03 54 04.7 -2.8**
TDK *e*PP **PP 03 57 30.8 +4.2**
TDK Taldyqorghan 144.77 91 *e*PKIKP **PKPab 03 54 04.6 -2.8**
TDK *e* 03 57 30.7
CNBA Chernabura Isl 144.79 292 IAMs_20 IAMs_20 04 50 42.6
comp=Z,21μm,22.0s
CD2 Chengdu 144.82 134 PKP **PKPab 03 54 05.3 -2.8**
CD2 sPKP 03 54 12.4
CD2 PP **PP 03 57 25.9 -0.7**
CD2 SKKS 04 04 15.5
CD2 AMB AMB
comp=Z,3μm,8.5s
CD2 LR LR
comp=Z,17μm,18.6s
CD2 LR LR
comp=Z,34μm,29.4s
HDA Harding Lake 144.87 312 IAMs_20 IAMs_20 05 04 01.4
comp=Z,22μm,22.0s
PRP Porcupine Dome 144.93 314 PKPab 03 54 06.1 -1.4
RSO Redoubt South 145.03 304 PKPbc 03 54 06.0 -2.0
ILAR Eielson Array 145.03 313 PKPbc **PKPbc 03 54 05.8 -1.9**
comp=Z,24nm,0.6s,baz=149,slow=1.0,SNR=187
ILAR P4KP 04 25 59.1
comp=Z,1.2nm,0.9s,baz=142,slow=2.8,SNR=4.6
ILAR Eielson Array 145.03 313 PKPbc 03 54 04.4 -3.3
RND Reindeer 145.06 310 PKIKP **PKPbc 03 54 05.9 -2.0**
RND Reindeer 145.06 310 PKPbc 03 54 05.9 -2.0
CHGN Chignik 145.13 295 PKPab 03 54 08.4 +0.1
CHGN IAMs_20 IAMs_20 05 07 18.7
comp=Z,13μm,20.0s
MCK McKinley 145.26 310 IAMs_20 IAMs_20 05 08 00.9
comp=Z,17μm,20.0s
CCB Clear Creek Bu 145.31 312 IAMs_20 IAMs_20 05 03 41.1
comp=Z,21μm,21.0s
BRZS Berezniki 145.33 80 *e*PKP **PKPbc 03 54 06.9 -2.2**
BRZS *e*PP **PP 03 57 35.8 +5.9**
BRZS Berezniki 145.33 80 *e*PKIKP **PKPbc 03 54 06.9 -2.2**
BRZS *e* 03 57 35.7
SKT Skwentna 145.35 306 PKPbc 03 54 06.7 -2.1
SKT IAMs_20 IAMs_20 05 00 30.8
comp=Z,20μm,22.0s
COLA College 145.44 312 *c*ePKIKP **PKPdf 03 54 07.2 -1.6**
COLA College 145.44 312 PKPdf 03 54 07.3 -1.6
TCOL CIGO, UAF Yank 145.44 312 P **PKPdf 03 54 07.1 -1.8**
baz=120
SDPT Sand Point 145.51 292 IAMs_20 IAMs_20 05 01 44.8
comp=Z,13μm,20.0s
BMAR Burnt Mountain 145.56 317 PKPdf 03 54 07.6 -1.5
MDM Murphy Dome 145.62 312 IAMs_20 IAMs_20 05 01 40.4
comp=Z,19μm,21.0s
BWN Browne 145.69 311 IAMs_20 IAMs_20 05 04 43.5
comp=Z,16μm,21.0s
PPLA Purkeypile 146.09 308 PKPdf 03 54 09.2 -1.0
PPLA IAMs_20 IAMs_20 05 03 06.1
comp=Z,22μm,22.0s
BRVK Borovoye 146.11 74 PKP2 **PKPdf 03 54 09.2 -1.2**
BRVK pmax pmax
comp=Z,1μm,1.3s
BRVK Borovoye 146.11 74 PKPdf 03 54 08.8 -1.6
BVAR Borovoye Array 146.14 74 PKPbc **PKPdf 03 54 09.9 -0.6**
comp=Z,91nm,0.8s,baz=222,slow=2.0,SNR=120
BVAR P4KP 04 26 00.9
comp=Z,1.1nm,0.5s,baz=236,slow=2.6,SNR=5.8
ENH Enshi 146.15 142 PKPdf 03 54 09.4 -1.9
JCJ Chichijima 146.18 195 PKPbc **PKPdf 03 54 10.1 -1.3**
comp=Z,73nm,0.6s,baz=180,slow=5.1,SNR=2.6
BPAW Bear Paw Mtn. 146.23 310 IAMs_20 IAMs_20 05 03 46.6
comp=Z,15μm,22.0s
JOW Kunigami 146.39 173 PKPbc **PKPdf 03 54 11.6 -0.2**
comp=Z,1.4nm,0.8s,baz=129,slow=12,SNR=2.9
SVW2 Sparrevohn 146.54 303 IAMs_20 IAMs_20 05 02 45.9
comp=Z,18μm,20.0s
COLD Coldfoot 147.40 315 PKPbc 03 54 13.9 -0.8
UNV Unalaska Valle 147.46 286 PKPbc 03 54 15.1 -0.1
UNV IAMs_20 IAMs_20 05 05 21.4
comp=Z,16μm,22.0s
WHN Wuhan 147.78 149 PKPbc **PKPdf 03 54 14.8 +0.8**
TOLK Toolik Lake Re 147.78 318 P **PKPbc 03 54 14.5 -1.3**
baz=114
TOLK Toolik Lake Re 147.78 318 PKPdf 03 54 14.2 +1.3
MAKZ Makanchi 147.81 92 PKP2 **PKPdf 03 54 14.7 +1.2**
MAKZ MLR MLR
comp=Z,24μm,21.0s
MAKZ Makanchi 147.81 92 PKPbc **PKPdf 03 54 14.7 +1.2**
MAKZ PKPab **PKPab 03 54 21.7 +2.6**
MK31 Makanchi Array 147.96 92 PKIKP **PKPdf 03 54 10.9 -2.9**
MK31 03 54 15.2
MK31 Makanchi Array 147.96 92 PKPdf 03 54 10.9 -2.9
MK31 PKPbc **PKPbc 03 54 15.2 -1.7**
MKAR Makanchi Array 147.96 92 PKIKP **PKPdf 03 54 11.7 -2.1**
MKAR 03 57 52.1
MKAR Makanchi Array 147.96 92 PKPbc **PKPdf 03 54 14.5 +0.7**
comp=Z,30nm,0.6s,baz=223,slow=1.8,SNR=110
MKAR PP **PP 03 57 52.1 +6.7**
comp=Z,22nm,1.0s,baz=222,slow=5.8,SNR=3.3
MKAR P4KP 04 26 06.3
comp=Z,0.6nm,0.6s,baz=233,slow=3.5,SNR=4.4
MKAR Makanchi Array 147.96 92 PKPdf 03 54 11.7 -2.1
IMAR Indian Mountai 148.14 312 PKPbc **PKPbc 03 54 15.4 -1.3**
WMQ Urumqi 148.51 101 PKPbc **PKPdf 03 54 16.4 +1.6**
WMQ PKPab **pPKPdf 03 54 23.3 +1.0**
WMQ AMB AMB
comp=Z,7μm,11.7s
WMQ LR LR
comp=Z,28μm,29.1s
WMQ LR LR
comp=Z,28μm,26.5s
KURBB Kurchatov Arra 148.62 83 PKPbc **PKPdf 03 54 16.2 +1.5**
comp=Z,32nm,0.8s,baz=239,slow=2.9,SNR=49
KURK Kurchatov 148.72 83 PKPdf 03 54 11.9 -2.9
KURK PKPbc **PKPbc 03 54 18.2 -0.5**
SEM Semipalatinsk 149.34 85 *e*PKP **PKPdf 03 54 16.2 0.0**
SEM *e*PP **PP 03 57 55.9 +2.2**
SEM Semipalatinsk 149.34 85 *e*PKIKP **PKPdf 03 54 16.1 0.0**
SEM *e* 03 57 55.8
XAN Xi'an 149.46 139 PKPbc **PKPbc 03 54 18.9 -2.2**
XAN LR LR
comp=Z,24μm,30.4s
XAN LR LR
comp=Z,25μm,28.4s
XAN LR LR
comp=Z,30μm,28.4s
XAN Xi'an 149.46 139 PKP2 **PKPbc 03 54 18.9 -2.2**
XAN Xi'an 149.46 139 PKPbc 03 54 18.9 -2.2
LZH Lanzhou 149.48 129⇓ PKPbc **PKPdf 03 54 15.3 -1.5**
LZH pPKP PKPbc 03 54 18.9 -2.4
LZH PKPab **sPKPdf 03 54 26.9 +0.1**
LZH PP **PP 03 57 54.4 +0.3**
LZH SS SS 04 17 08.9 +2.6
LZH AMB AMB
comp=Z,7μm,9.8s
LZH LR LR

comp=Z,13μm,17.9s
LZH LR LR
comp=Z,16μm,19.0s
LZH LR LR
comp=Z,21μm,19.8s
ZSN Zaisan 149.69 93 *e*PKP **PKPbc 03 54 18.9 -2.3**
SSE Sheshan 149.77 160 PKPbc **PKPbc 03 54 21.0 -0.9**
SSE SS SS 04 17 07.9 -0.7
SSE LR LR
comp=Z,6μm,16.6s
SSE LR LR
comp=Z,5μm,16.9s
SSE Sheshan 149.77 160 IAMs_20 IAMs_20 04 57 46.1
comp=Z,19μm,21.0s
NJ2 Nanjing 150.20 156 *e*PKPbc **PKPbc 03 54 20.8 -2.3**
NJ2 PKPab **PKPab 03 54 34.3 +5.0**
NJ2 LR LR
comp=Z,13μm,14.2s
NJ2 LR LR
comp=Z,33μm,17.0s
GTA Gaotai 150.68 121 ⇓PKPbc **PKPdf 03 54 16.8 -1.7**
GTA PKPab **PKPab 03 54 30.3 -0.8**
GTA PP **PP 03 58 04.3 +3.2**
GTA SKS **SKSdf 04 01 24.0 -0.4**
GTA SKKS **SKKSac 04 04 51.0 +1.1**
GTA SS **SS 04 17 25.3 +5.5**
GTA AMB AMB
comp=Z,7μm,9.5s
GTA LR LR
comp=Z,11μm,22.2s
GTA LR LR
comp=Z,27μm,22.5s
GSTR Great Sitkin T 151.07 277 PKPbc **PKPbc 03 54 23.3 -1.1**
GSTR **PKPab 03 54 32.2 0.0**
ADK Adak 151.26 276 PKIKP **PKPbc 03 54 23.4 -1.4**
ADK 03 54 32.2
ADK Adak 151.26 276 **PKPbc 03 54 23.4 -1.4**
ADK PKPab **PKPab 03 54 32.2 -0.8**
ADK Adak 151.26 276 IAMs_20 IAMs_20 04 51 09.2
comp=Z,19μm,21.0s
KIWB Kanaga Island 151.47 275 **PKPdf 03 54 19.4 +0.2**
KIWB **sPKPdf 03 54 28.6 -0.6**
RDOG Red Dog Mine 152.23 313 **PKPbc 03 54 24.2 -2.4**
JNU Nakatsue 152.77 176 PKPbc **PKPbc 03 54 27.0 -1.9**
comp=Z,9.2nm,1.0s,baz=114,slow=5.5,SNR=5.5
JNU Nakatsue 152.77 176 **PKPbc 03 54 28.1 -0.8**
ZAA0 Zalesovo Array 153.70 82 **PKPdf 03 54 21.8 -0.6**
ZAA0 PKPbc **pPKPdf 03 54 27.7 -2.1**
ZALV Zalesovo Beam 153.70 82 **PKPdf 03 54 20.6 -1.8**
comp=Z,0.6nm,0.3s,baz=258,slow=1.4,SNR=4.2
ZALV PKPbc **pPKPdf 03 54 27.7 -2.1**
comp=Z,8.9nm,0.8s,baz=241,slow=4.0,SNR=14
ZALV PP **PP 03 58 24.2 +5.9**
comp=Z,8.6nm,0.9s,baz=246,slow=5.2,SNR=3.0
ZALV Zalesovo Beam 153.70 82 **PKPdf 03 54 18.0 -4.3**
TIA Tai'an 153.87 150 PKPbc **PKPdf 03 54 20.5 -2.7**
TIA AMB AMB
comp=Z,4μm,11.6s
TIA LR LR
comp=Z,7μm,21.1s
TIA LR LR
comp=Z,26μm,17.9s
TIY Taiyuan 153.95 141 *e*PKPbc **PKPdf 03 54 22.9 -0.5**
TIY PP **PP 03 58 25.8 +6.4**
TIY SS SS 04 17 58.3 +3.1
TIY AMB AMB
comp=Z,2μm,6.3s
TIY LR LR
comp=Z,27μm,17.0s
TIY LR LR
comp=Z,30μm,17.9s
INU Inuyama 154.88 188 **PKPbc 03 54 32.6 -0.7**
INU IAMs_20 IAMs_20 05 07 11.6
comp=Z,16μm,21.0s
BTO Baotou 155.75 134 *e*PKP **PKPdf 03 54 22.8 -3.0**
MJAR Matsushiro Arr 155.96 191 PKP **PKPdf 03 54 23.8 -2.3**
comp=Z,0.3nm,0.3s,baz=149,slow=0.9,SNR=3.4
MJAR PKPbc PKPbc 03 54 32.4
comp=Z,1.1nm,0.3s,baz=193,slow=4.7,SNR=6.6
MJAR PKPab **PKPab 03 54 50.4 -2.9**
comp=Z,18nm,0.9s,baz=168,slow=2.0,SNR=11
MAJO Matsushiro 155.97 191 PKIKP PKPdf 03 54 36.5 +10
MAJO Matsushiro 155.97 191 PKPdf 03 54 36.5 +10
MAJO Matsushiro 155.97 191 IAMs_20 IAMs_20 05 21 16.5
comp=Z,14μm,22.0s
MAT Matsushiro 155.97 191 PKP **PKPdf 03 54 25.0 -1.1**
MJB9 Matsu-Tunnel 155.97 191 IAMs_20 IAMs_20 05 21 07.5
comp=Z,14μm,22.0s
HHC Hu-ho-hao-te 156.50 136 *e*PKP **PKPdf 03 54 27.8 +1.0**
HHC PP **PP 03 58 34.1 +0.3**
HHC SS SS 04 18 28.3 +5.3
HHC LR LR
comp=Z,3μm,17.7s
HHC LR LR
comp=Z,3μm,16.9s
KSAR Wonju Array Be 156.90 170 PKIKP **PKPdf 03 54 25.1 -2.1**
KSAR Wonju Array Be 156.90 170 **PKPdf 03 54 25.1 -2.1**
KSRS Korea Array 156.92 170 PKP **PKPdf 03 54 26.0 -1.2**
comp=Z,0.7nm,0.5s,baz=183,slow=2.3,SNR=4.8
KSRS PKPab **PKPab 03 54 55.7 -1.6**
comp=Z,9.0nm,0.7s,baz=184,slow=2.3,SNR=7.4
KSRS PP **PP 03 58 43.0 +7.4**
comp=Z,11nm,1.1s,baz=183,slow=6.0,SNR=5.5
BJI Beijing 157.22 145 PKP **PKPdf 03 54 32.6 +5.1**
BJI PP **PP 03 58 39.9 +2.5**
BJI LR LR
comp=Z,11μm,18.7s
BJI LR LR
comp=Z,30μm,39.3s
DL2 Dalian 157.45 157 ⇓PKP **PKPdf 03 54 26.0 -1.9**
DL2 PKPab **PKPab 03 55 00.5 +0.9**
DL2 AMB AMB
comp=Z,4μm,7.4s
DL2 LR LR
comp=Z,12μm,17.6s
DL2 LR LR
comp=Z,12μm,20.1s
DL2 LR LR
comp=Z,24μm,19.3s
NRIK Noril'sk 159.26 45 PKP **PKPdf 03 54 32.5 +3.4**
comp=Z,1.7nm,0.4s,baz=234,slow=2.8,SNR=5.7
NRIK PKPab **PKPab 03 55 04.3 -2.4**
comp=Z,20nm,1.1s,baz=254,slow=7.2,SNR=4.1
NRIK PP **PP 03 58 53.9 +5.1**
comp=Z,39nm,1.2s,baz=281,slow=11,SNR=5.7
SONM Songino Array 160.27 117 PKP **PKPdf 03 54 29.3 -1.8**
comp=Z,0.7nm,0.8s,baz=183,slow=2.7,SNR=4.8
SONM PKPab **PKPab 03 55 09.6 -2.2**
comp=Z,8.6nm,0.9s,baz=218,slow=3.2,SNR=5.8
SONM PP **PP 03 58 59.0 +4.4**
comp=Z,14nm,1.2s,baz=231,slow=3.2,SNR=4.1
SONM Songino Array 160.27 117 **PKPdf 03 54 30.4 -0.8**
MOY Mondy 160.40 102 *e*PKIKP **PKPdf 03 54 37.0 +5.9**
MOY pmax pmax
comp=Z,235nm,3.1s
SNY Shenyang 160.65 159 ⇑PKP PKPdf 03 54 23.4 -8.1
SNY PP **PP 03 58 49.9 -6.1**
ZAK Zakamensk 160.66 108 *e*PKIKP **PKPdf 03 54 37.2 +5.8**
ZAK pmax pmax
comp=Z,50nm,1.6s
TLY Talaya 161.69 105 *e*PKIKP **PKPdf 03 54 30.0 -2.4**
TLY pmax pmax
comp=Z,228nm,1.4s
TLY Talaya 161.69 105 PKP **PKPdf 03 54 30.3 -2.0**
comp=Z,4.0nm,0.9s,baz=66,slow=2.1,SNR=3.2
TLY PP **PP 03 59 07.4 +5.2**
comp=Z,1.5nm,0.4s,baz=223,slow=7.3,SNR=3.9
YUK Yuzh-Kuril'sk 161.90 212 *e*PKIKP **PKPdf 03 54 31.2 -1.5**
IRK Irkutsk 162.34 104 *e*PKIKP **PKPdf 03 54 30.6 -2.4**
IRK pmax pmax
comp=Z,256nm,2.5s
KUR Kuril'sk 162.44 217 PKIKP **PKPdf 03 54 39.5 +6.3**
JKA Kamikawa-asahi 162.74 204 **PKPab 03 55 21.5 -1.0**
ASAJ Asahikawa 162.74 204 PKPab **PKPab 03 55 21.5 -1.0**
comp=Z,6.1nm,0.8s,baz=161,slow=10,SNR=2.1
CN2 Changchun 162.88 162 *e*PKP **PKPdf 03 54 31.0 -2.8**
CN2 *es*PKP 03 54 41.8
CN2 *e*PP **PP 03 59 08.8 +0.9**
CN2 LR LR
comp=Z,16μm,20.0s
CN2 LR LR
comp=Z,23μm,20.0s
BILL Bilibino 163.69 312⇑*e*PKIKP **PKPdf 03 54 27.7 -6.1**
BILL *i* 03 54 35.1
BILL *e* 03 55 25.5
BILL *e* 03 59 15.6
BILL *e*PPP PPP 04 03 01.2
BILL *e*SS SS 04 20 34.6 +56
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL pmax pmax
comp=Z,196nm,2.1s
SKR Severo-Kuril's 163.74 244 *i* PKIKP **PKPdf 03 54 35.2 +0.9**
SKR *e* 03 59 18.3
SKR *e*SS SS 04 19 32.6 -6.7
USRK Ussuriysk Ar. 163.86 178 PKPab **PKPab 03 55 26.5 -0.9**
comp=Z,7.1nm,0.8s,baz=204,slow=3.2,SNR=3.2
USRK PP **PP 03 59 11.1 -1.9**
comp=Z,1.8nm,0.8s,baz=190,slow=4.4,SNR=2.9
MDJ Mudanjiang 164.16 172 PKP **PKPdf 03 54 38.8 +3.9**
MDJ PP **PP 03 59 13.3 -1.3**
MDJ LR LR
comp=Z,8μm,32.7s
MDJ LR LR
comp=Z,12μm,27.0s
MDJ LR LR
comp=Z,32μm,27.0s
TEY Ternei 164.53 190⇑*e*PKIKP **PKPdf 03 54 40.9 +5.7**
TEY 04 19 49.3
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,10.0nm,1.9s
PETK Petropavlovsk- 164.62 253 PKP **PKPdf 03 54 34.9 -0.2**
comp=Z,18nm,1.0s,baz=134,slow=4.2,SNR=8.7
PETK PKPab **PKPab 03 55 29.4 -1.2**
comp=Z,14nm,1.0s,baz=89,slow=6.4,SNR=4.1
PETK PP **PP 03 59 17.7 +0.1**
comp=Z,3.2nm,0.9s,baz=134,slow=4.2,SNR=3.1
PETK Petropavlovsk- 164.62 253 **PKPdf 03 54 37.9 +2.8**
YSS Yuzh-Sakhalins 165.40 208 *i* PKIKP **PKPdf 03 54 36.9 +1.0**
YSS *e* 03 59 24.0
YSS pmax pmax
comp=Z,1μm,8.5s
TIXI Tiksi 168.50 6 PKP **PKPdf 03 54 36.0 -1.5**
comp=Z,0.9nm,0.3s,baz=180,slow=24,SNR=6.8
TIXI PKPab **PKPab 03 55 45.5 -1.7**
comp=Z,15nm,1.0s,baz=360,slow=24,SNR=6.1
TIXI PP **PP 03 59 43.6 +6.6**
comp=Z,13nm,1.0s,baz=356,slow=4.8,SNR=4.1
TIXI Tiksi 168.50 6 **PKPdf 03 54 38.6 +1.1**
TIXI **PKPab 03 55 44.6 -2.6**
KLR Kul'dur 168.88 176 PKP **PKPdf 03 54 37.4 -1.0**
comp=Z,2.2nm,0.9s,baz=27,slow=1.1,SNR=4.8
KLR PKPab **PKPab 03 55 47.4 -2.1**
comp=Z,5.9nm,0.9s,baz=186,slow=2.0,SNR=2.3
BOD Bodaibo 170.01 96 *e*PKIKP **PKPdf 03 54 36.5 -2.3**
BOD pmax pmax
comp=Z,44nm,1.4s
GRNR Gornyy 170.22 194 *e*PKIKP **PKPdf 03 54 44.4 +5.2**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 170.32 294 PKP **PKPdf 03 54 37.0 -1.8**
comp=Z,2.7nm,0.8s,baz=88,slow=1.0,SNR=3.0
SEY PKPab **PKPab 03 55 55.9 +0.3**
comp=Z,11nm,0.9s,baz=97,slow=3.2,SNR=4.6
MA2 Magadan 170.95 273 PKPab **PKPab 03 55 57.8 -0.7**
comp=Z,6.7nm,0.4s,baz=117,slow=14,SNR=2.9
NKL Nikolayevsk 171.62 215 *e*PKIKP **PKPdf 03 54 42.7 +2.9**
ZEA Zeya 172.75 153 *i* PKIKP **PKPdf 03 54 38.0 -2.3**
ZEA pmax pmax
comp=Z,46nm,1.4s
ZEA pmax pmax
comp=Z,2μm,10.0s
YAK Yakutsk 177.70 40 *e*PKIKP **PKPdf 03 54 42.7 +1.3**
YAK *e* 04 00 22.8
YAK pmax pmax
comp=Z,56nm,1.1s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,1μm,3.0s
YAK pmax pmax
comp=N,314nm,2.8s
YAK pmax pmax
comp=E,226nm,2.1s
YAK Yakutsk 177.70 40 PKPab PKPab 03 56 27.0 -1.3
comp=E,4.8nm,0.3s,baz=273,slow=1.0,SNR=2.7
YAK PP **PP 04 00 23.1 +0.9**
comp=E,6.4nm,0.3s,baz=325,slow=2.1,SNR=2.8

*ISCJB **16** 03:37:16.2±0.4, 60°.33S±0°.06×46°.8W±0°.1, h10km, mb5.3/12, MS6.4/1, Error ellipse: s-maj=10.8km s-min=7.7km az=44.0*
*IDC **16** 03:37:16.2±0.5, 60°.34S×46°.79W, h0km, mb5.2/12, mb1 5.3/13, mb1mx5.0/29, mbtmp5.3/13, MS6.4/1, Ms1 6.4/1, ms1mx5.4/29, Error ellipse: s-maj=20.4km s-min=17.9km az=55.0*
*NEIC **16** 03:37:17.8±1.4, 60°.28S±0°.09×46°.7W±0°.2, h10km±2km, mb5.4/17*
ISC 16 03:37:17.9±0.4**, 60°.32S**±0°.08×**46°.70W**±0°.09**, h10km, n68,** σ0°.**84**/58**, mb5.4**/13**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.19**	**47**	Pn	**Pn**	**03 39 16.2**	**-0.3**
PMSA	**Palmer Station**	**9.16**	**233**	Pn	**Pn**	**03 39 30.5**	**+0.7**
	baz=130,slow=18,SNR=1.4						
PMSA				Sn	**Sn**	**03 41 13.5**	**+0.7**
	4.4nm,0.3s,baz=241,slow=14,SNR=1.1						
SNAA	**Sanae**	**20.55**	**141**	P	**P**	**03 41 56.5**	**+0.3**
	52nm,1.0s,baz=266,slow=13,SNR=0.9						
SNAA	**Sanae**	**20.55**	**141**	IAmb	IAmb	03 42 02.9	
	comp=Z,115nm,0.8s						
TRQA	**Tornquist**	**24.30**	**330**	P	**P**	**03 42 36.3**	**+1.1**
QSPA	**South Pole Qui**	**29.92**	**180**	P	**P**	**03 43 27.6**	**+2.0**
	comp=Z,113nm,1.0s,baz=170,slow=12,SNR=2.4						
QSPA	**South Pole Qui**	**29.92**	**180**	IAmb	IAmb	03 43 34.8	
	comp=Z,238nm,1.1s						
MAW	**Mawson**	**42.50**	**148**	PcP	**PcP**	**03 47 05.4**	**+0.4**
	comp=Z,12nm,0.8s,baz=191,slow=5.2,SNR=2.4						
BDFB	**Brasilia**	**44.62**	**358**	P	**P**	**03 45 29.7**	**-0.7**
	comp=Z,50nm,1.0s,baz=149,slow=7.8,SNR=2.3						
BDFB	**Brasilia**	**44.62**	**358**	IAmb	IAmb	03 45 32.0	
	comp=Z,57nm,1.0s						
SIV	**San Ignacio**	**45.48**	**340**	P	**P**	**03 45 37.8**	**+0.7**
	comp=Z,24nm,0.8s,baz=175,slow=14,SNR=1.3						
SUR	**Sutherland**	**51.44**	**89**	P	**P**	**03 46 24.2**	**+1.1**
	comp=Z,41nm,0.7s,baz=203,slow=12,SNR=2.3						
SUR	**Sutherland**	**51.44**	**89**	IAmb	IAmb	03 46 25.5	
	comp=Z,55nm,0.8s						
SAML	**Samuel**	**52.73**	**339**	P	**P**	**03 46 33.2**	**+0.6**
SAML				IAmb	IAmb	03 46 34.7	
	comp=Z,33nm,0.8s						
NNA	**Nana**	**53.12**	**322**	P	**P**	**03 46 35.0**	**-0.5**
	comp=Z,20nm,0.8s,baz=201,slow=5.4,SNR=1.5						
NNA	**Nana**	**53.12**	**322**	IAmb	IAmb	03 46 43.7	
	comp=Z,49nm,1.1s						
SHEL	**Horse Pasture**	**53.23**	**52**	P	**P**	**03 46 37.8**	**+1.4**
BOSA	**Boshof**	**56.72**	**90**	P	**P**	**03 47 01.5**	**-0.1**
	comp=Z,20nm,0.6s,baz=219,slow=6.5,SNR=1.7						
BOSA	**Boshof**	**56.72**	**90**	IAmb	IAmb	03 47 15.5	
	comp=Z,47nm,1.1s						
ATAH	**Atahualpa**	**58.18**	**322**	LR	LR	04 12 31.6	
	comp=Z,35μm,21.7s,baz=161,slow=36						
LBTB	**Lobatse**	**59.86**	**88**	P	**P**	**03 47 23.8**	**+0.2**
	comp=Z,47nm,0.7s,baz=202,slow=6.2,SNR=3.6						
LBTB	**Lobatse**	**59.86**	**88**	IAmb	IAmb	03 47 25.1	
	comp=Z,67nm,0.8s						
PLCV	**Puerto La Cruz**	**71.69**	**341**	P	**P**	**03 48 40.6**	**+1.0**
PCRV	**Puerto La Cruz**	**71.71**	**341**	P	**P**	**03 48 40.6**	**+0.8**
	comp=Z,54nm,1.0s,baz=153,slow=2.3,SNR=2.6						
DBIC	**Dimbokro**	**74.44**	**43**	P	**P**	**03 48 56.4**	**+0.4**
	comp=Z,9.4nm,0.7s,baz=183,slow=6.2,SNR=1.2						
DBIC	**Dimbokro**	**74.44**	**43**	IAmb	IAmb	03 49 02.8	
	comp=Z,46nm,1.1s						
JTS	**Las Juntas de**	**76.66**	**321**	P	**P**	**03 49 08.0**	**-0.7**
	comp=Z,15nm,0.9s,baz=174,slow=10,SNR=2.3						
JTS	**Las Juntas de**	**76.66**	**321**	IAmb	IAmb	03 49 15.2	
	comp=Z,25nm,1.1s						
STVI	**Saint Thomas**	**79.78**	**342**	P	**P**	**03 49 25.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**82.77**	**47**	P	**P**	**03 49 43.0**	**+1.1**
	comp=Z,24nm,0.9s,baz=197,slow=8.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**82.77**	**47**	IAmb	IAmb	03 49 44.1	
	comp=Z,21nm,0.9s						
NWAO	**Narrogin (SRO)**	**86.16**	**167**	P	**P**	**03 49 58.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**86.16**	**167**	P	**P**	**03 49 59.0**	**0.0**
NWAO				IAmb	IAmb	03 49 59.9	
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**89.13**	**175**	P	**P**	**03 50 13.5**	**+0.3**
ASAR	**Alice Springs**	**96.32**	**181**	P	**P**	**03 50 45.9**	**-0.7**
	comp=Z,7.5nm,0.8s,baz=172,slow=4.7,SNR=3.2						
ASAR				PP	**PP**	**03 54 36.8**	**-2.2**
	comp=Z,2.4nm,0.9s,baz=173,slow=8.4,SNR=1.7						
ASAR				PKKP	**PKKPdf**	**04 07 28.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=350,slow=4.7,SNR=1.9						
ASAR	**Alice Springs**	**96.32**	**181**	P	**PP**	**03 54 36.8**	**-2.2**
H08N3	**Diego Garcia H**	**97.74**	**117**	T	T	05 39 50.3	
	baz=210						
H08N1	**Diego Garcia H**	**97.75**	**117**	T	T	05 39 59.7	
	baz=210						
H08N2	**Diego Garcia H**	**97.76**	**117**	T	T	05 39 56.1	
	baz=210						
WRA	**Warramunga Arr**	**100.02**	**181**	P	**Pdif**	**03 51 02.8**	**-0.4**
	comp=Z,6.1nm,0.9s,baz=182,slow=3.9,SNR=3.8						
WRA				PP	**PP**	**03 55 06.4**	**-1.0**
	comp=Z,2.9nm,1.1s,baz=181,slow=6.4,SNR=2.2						
WRA				PKKP	**PKKPbc**	**04 07 20.3**	**+1.4**
	comp=Z,3.0nm,1.1s,baz=338,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**100.71**	**312**	P	**Pdif**	**03 51 05.6**	**-0.4**
	comp=Z,1.3nm,1.1s,baz=153,slow=6.8,SNR=2.4						
NVAR	**Mina Array Bea**	**114.43**	**305**	PKP	**PKiKP**	**03 55 57.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=130,slow=3.6,SNR=0.8						
DAVOX	**Davos/Dischmat**	**116.21**	**40**	PKP	**PKPdf**	**03 55 59.9**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=198,slow=9.6,SNR=2.1						
BRTR	**Keskin Array B**	**119.19**	**61**	PKP	**PKPdf**	**03 56 05.2**	**-1.2**
	comp=Z,4.6nm,0.8s,baz=212,slow=3.1,SNR=1.7						
GERES	**GERESS Array B**	**119.26**	**41**	PKP	**PKPdf**	**03 56 05.6**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=222,slow=1.2,SNR=2.0						
EKA	**Eskdalemuir Ar**	**120.38**	**27**	PKP	**PKPdf**	**03 56 07.0**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=166,slow=1.5,SNR=2.5						
GNI	**Garni**	**124.52**	**68**	PKP	**PKPdf**	**03 56 16.6**	**0.0**
	comp=Z,17nm,0.9s,baz=202,slow=11,SNR=1.6						
AKASG	**Malin Array Be**	**126.33**	**50**	PKP	**PKPdf**	**03 56 18.8**	**-0.7**
	comp=Z,7.6nm,0.7s,baz=250,slow=1.7,SNR=5.3						
NOA	**NORSAR Array B**	**128.98**	**32**	PKP	**PKPdf**	**03 56 24.0**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=206,slow=1.9,SNR=2.2						
CMAR	**Chiang Mai Arr**	**131.52**	**134**	PKP	**PKPdf**	**03 56 30.5**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=222,slow=3.6,SNR=3.6						
SUMG	**Summit**	**132.74**	**3**		PKPpre	03 56 23.3	
YKA	**Yellowknife Ar**	**132.94**	**324**	PKP	**PKPdf**	**03 56 32.0**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=147,slow=2.0,SNR=2.7						
FINES	**FINESS Array B**	**133.62**	**39**	PKP	**PKPdf**	**03 56 32.7**	**-0.2**
	comp=Z,9.6nm,0.7s,baz=207,slow=1.6,SNR=3.4						
ARCES	**ARCESS Array B**	**139.33**	**31**	PKP	**PKPdf**	**03 56 42.8**	**-0.6**
	comp=Z,6.9nm,0.7s,baz=204,slow=2.0,SNR=2.6						
ILAR	**Eielson Array**	**145.22**	**312**	PKPbc	**PKPbc**	**03 56 53.1**	**-0.6**
	comp=Z,50nm,1.0s,baz=132,slow=2.2,SNR=4.8						
BVAR	**Borovoye Array**	**145.91**	**74**	PKPbc	**PKPbc**	**03 56 56.4**	**+0.2**
	comp=Z,55nm,0.7s,baz=208,slow=3.4,SNR=7.2						
JCJ	**Chichijima**	**146.23**	**194**	PKPbc	**PKPdf**	**03 56 57.0**	**+0.2**
	comp=Z,83nm,0.6s,baz=285,slow=8.4,SNR=1.7						
MKAR	**Makanchi Array**	**147.71**	**91**	PKPbc	**PKPbc**	**03 57 01.2**	**-0.4**
	comp=Z,30nm,0.7s,baz=242,slow=3.6,SNR=6.1						
KURBB	**Kurchatov Arra**	**148.38**	**83**	PKPbc	**PKPbc**	**03 57 03.1**	**0.0**
	comp=Z,10nm,0.7s,baz=245,slow=3.1,SNR=2.1						
KURK	**Kurchatov**	**148.48**	**83**		**PKPbc**	**03 57 03.1**	**-0.3**
JNU	**Nakatsue**	**152.75**	**176**	PKPbc	**PKPbc**	**03 57 12.8**	**-1.4**
	comp=Z,10nm,0.9s,baz=92,slow=2.7,SNR=1.6						
ZALV	**Zalesovo Beam**	**153.46**	**82**	PKPbc	**PKPbc**	**03 57 14.0**	**-1.1**
	comp=Z,9.4nm,0.7s,baz=235,slow=5.1,SNR=2.0						
MJAR	**Matsushiro Arr**	**156.00**	**190**	PKPab	**PKPab**	**03 57 39.0**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=166,slow=6.1,SNR=2.3						
KSRS	**Korea Array**	**156.86**	**169**	PKPab	**PKPab**	**03 57 42.5**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=188,slow=4.8,SNR=4.1						
SONM	**Songino Array**	**160.04**	**117**	PKPab	**PKPab**	**03 57 55.6**	**-0.6**
	comp=Z,10nm,0.9s,baz=239,slow=3.2,SNR=4.7						
TIXI	**Tiksi**	**168.48**	**7**	PKPab	**PKPab**	**03 58 32.3**	**-0.1**
	comp=Z,8.1nm,0.8s,baz=18,slow=2.1,SNR=3.4						
KLR	**Kul'dur**	**168.85**	**175**	PKPab	**PKPab**	**03 58 34.1**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=160,slow=4.0,SNR=1.4						
MA2	**Magadan**	**171.20**	**273**	PKPab	**PKPab**	**03 58 43.9**	**-1.0**
	comp=Z,9.1nm,0.9s,baz=37,slow=10,SNR=1.0						

*ISCJB **16** 03:41:11.3±0.8, 60°.8S±0°.3×46°.7W±0°.3, h10km, mb4.6/4, Error ellipse: s-maj=43.2km s-min=8.3km az=147.6*
*IDC **16** 03:41:12.3±1.2, 60°.81S×46°.61W, h0km, mb4.6/4, mb1 4.6/5, mb1mx4.3/30, mbtmp4.7/5, ML4.0/1, Error ellipse: s-maj=70.6km s-min=27.0km az=161.0*
*NEIC **16** 03:41:14.0±2.0, 61°.0S±0°.2×46°.3W±0°.4, h10km±2km, mb4.9/4*
ISC 16 03:41:13.7±0.8**, 61°.1S**±0°.2×**46°.1W**±0°.1**, h10km, n22,** σ1°**51**/15**, mb4.7**/4**, 2C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.56**	**41**	Pn	**Pn**	**03 43 16.5**	**-1.0**
PMSA	**Palmer Station**	**8.95**	**238**	Pn	**Pn**	**03 43 22.3**	**-0.5**
	1.7nm,0.3s,baz=156,slow=21,SNR=1.0						
PMSA				Sn	**Sn**	**03 45 04.6**	**+1.1**
	1.4nm,0.3s,baz=292,slow=20,SNR=1.5						
SYO	**Syowa Base**	**34.04**	**140**⇑*i*P		**P**	**03 47 54.1**	**-3.1**
SYO	**Syowa Base**	**34.04**	**140**⇑*i*pP		**P**	**03 47 57.8**	**+0.6**
SUR	**Sutherland**	**51.17**	**88**	P	**P**	**03 50 19.1**	**+2.2**
	17nm,1.1s,baz=216,slow=8.7,SNR=1.8						
SUR	**Sutherland**	**51.17**	**88**	IAmb	IAmb	03 50 28.9	
	comp=Z,14nm,0.8s						
BOSA	**Boshof**	**56.43**	**89**	P	**P**	**03 50 57.1**	**+1.8**
	comp=Z,5.6nm,1.0s,baz=239,slow=5.9,SNR=1.4						
BOSA	**Boshof**	**56.43**	**89**	IAmb	IAmb	03 51 01.7	
	comp=Z,13nm,1.1s						
LBTB	**Lobatse**	**59.60**	**87**	P	**P**	**03 51 18.6**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=200,slow=7.8,SNR=1.5						
TORD	**Torodi Ar. Bea**	**83.10**	**47**	P	**P**	**03 53 40.2**	**+0.9**
	comp=Z,4.0nm,1.0s,baz=192,slow=5.2,SNR=1.8						
H08S1	**Diego Garcia H**	**96.58**	**119**	T	T	05 43 12.6	
	baz=205						
H08S2	**Diego Garcia H**	**96.59**	**119**	T	T	05 43 19.1	
	baz=205						
H08S3	**Diego Garcia H**	**96.60**	**119**	T	T	05 43 13.8	
	baz=205						
H08N3	**Diego Garcia H**	**97.11**	**117**	T	T	05 44 01.8	
	baz=204						
H08N1	**Diego Carcia H**	**97.12**	**117**	T	T	05 44 10.2	
	baz=204						
H08N2	**Diego Garcia H**	**97.13**	**117**	T	T	05 44 09.6	
	baz=204						
ILAR	**Eielson Array**	**145.98**	**311**	PKPbc	**PKPdf**	**04 00 49.2**	**-1.9**
	comp=Z,3.8nm,0.8s,baz=120,slow=1.5,SNR=2.3						
ILAR	**Eielson Array**	**145.98**	**311**		**PKPab**	**04 00 53.1**	**+0.7**
RND	**Reindeer**	**145.99**	**308**		**PKPab**	**04 00 52.6**	**0.0**
MKAR	**Makanchi Array**	**147.39**	**92**	PKPbc	**PKPbc**	**04 00 57.0**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=230,slow=3.6,SNR=1.6						
KURBB	**Kurchatov Arra**	**148.17**	**84**	PKPbc	**PKiKP**	**04 00 59.7**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=235,slow=4.2,SNR=2.5						
KURK	**Kurchatov**	**148.28**	**84**		**PKiKP**	**04 00 59.7**	**-0.6**

*SOME **16** 03:42:40.6, 40°.90N×74°.35E, h5km*
*KRNET **16** 03:42:42.6±0.1, 41°.01N×74°.30E, h18km, mb3.2*
*KNET **16** 03:42:42.5±0.6, 41°.00N×74°.37E, h0km, ml2.6, Error ellipse: s-maj=4.5km s-min=3.2km az=37.0*
*NNC **16** 03:42:42.4±0.8, 40°.91N×74°.34E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=5.9km s-min=4.0km az=2.0*
ISC 16 03:42:41.5±1.3**, 40°.96N**±0°.04×**74°.31E**±0°.02**, h3km**±11km**, n71,** σ1°**52**/111**, 35C-22D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.90**	**1**⇓*e*P		**Pg**	**03 42 58.9**	**+0.2**
	baz=1.0						
ARLS				⇓*i*S	**Sb**	**03 43 11.5**	**-0.8**
	baz=1.0						
ARSB	**Arslanbob**	**1.06**	**290**⇑*i*P		**Pg**

KZA	Kyzart	1.32	32	⇑iP		Pg	03 43 07.2 +0.4
	baz=33						
KZA				⇑iS		Sn	03 43 25.7 +0.1
	baz=33						
KZA	Kyzart	1.32	32	⇓P		Pb	03 43 07.0 -0.2
	18nm,0.2s,SNR=34						
KZA				⇑S		Sn	03 43 25.4 -0.2
	46nm,0.1s						
NRN	Naryn	1.36	69	⇑iP		Pn	03 43 07.3 -0.4
	baz=71						
NRN				⇑iS		Sg	03 43 26.3 +1.1
	baz=71						
AAK	Ala-Archa	1.68	5	⇑P		Pg	03 43 14.2 +0.5
	14nm,0.6s						
AAK				⇑S		Sg	03 43 37.6 +2.2
	20nm,0.3s						
AAK	Ala-Archa	1.68	5	⇑iP		Pb	03 43 13.1 -0.1
	baz=5.0						
AAK				⇑iS		Sg	03 43 35.8 +0.4
	baz=5.0						
AAK	Ala-Archa	1.68	5	⇑P		Pg	03 43 14.2 +0.5
	14nm,0.2s,SNR=26						
AAK				⇑S		Sg	03 43 37.5 +2.0
	39nm,0.3s						
EKS2	Erkin-Say	1.74	347	⇑iP		Pb	03 43 14.1 -0.1
	baz=47						
EKS2				⇑iS		Sg	03 43 37.4 0.0
	baz=47						
EKS2	Erkin-Say	1.74	347	⇓P		Pg	03 43 14.8 -0.1
	6.6nm,0.2s,SNR=18						
KBK	Karagaybulak	1.76	16	⇑iP		Pb	03 43 14.4 -0.1
	baz=16						
KBK				⇑iS		Sg	03 43 38.5 +0.5
	baz=16						
KBK	Karagaybulak	1.76	16	P		Pg	03 43 15.6 +0.4
	15nm,0.1s,SNR=9.0						
ULHL	Ulahol	1.94	48	⇑iP		Pb	03 43 17.7 +0.1
	baz=49						
ULHL				⇑iS		Sg	03 43 43.9 +0.2
	baz=49						
ULHL	Ulahol	1.94	48	⇑P		Pb	03 43 17.7 +0.1
	14nm,0.1s,SNR=23						
ARK	Arkit	1.95	296	⇑iP		Pb	03 43 17.5 -0.3
	baz=94						
ARK				⇑iS		Sg	03 43 43.4 -0.8
	baz=94						
BOOM	Boomskoye usch	1.95	38	⇑eP		Pb	03 43 18.2 +0.3
	baz=39						
BOOM				⇑iS		Sg	03 43 44.9 +0.6
	baz=39						
MRKS	Merke	1.95	336	Pg		Pb	03 43 18.2 +0.4
	72nm,0.2s						
MRKS				Lg		Lg	03 43 45.1
	28nm,0.4s						
MRKS	Merke	1.95	336	eP		Pg	03 43 19.0 +0.1
	72nm,0.2s						
MRKS				eS		Sg	03 43 46.4 +2.1
	39nm,0.5s						
CHMS	Chumysh	2.06	9	⇑iP		Pb	03 43 19.3 -0.3
	baz=9.0						
CHMS				⇑iS		Sg	03 43 47.1 -0.6
	baz=9.0						
CHMS	Chumysh	2.06	9	⇑P		Pg	03 43 21.0 0.0
	25nm,0.4s,SNR=12						
TKM2	Tokmak 2	2.18	26	⇓Pn		Pb	03 43 22.0 +0.3
	3.9nm,0.3s						
TKM2				⇓Sn		Sg	03 43 51.2 -0.2
	50nm,0.6s						
TKM2	Tokmak 2	2.18	26	⇓iP		Pb	03 43 21.6 -0.1
	baz=26						
TKM2				⇓iS		Sg	03 43 50.3 -1.2
	baz=26						
TKM2	Tokmak 2	2.18	26	⇑P		Pg	03 43 22.6 -0.6
	10nm,0.2s,SNR=18						
USP	Ospenovka	2.31	3	⇓iP		Pb	03 43 22.9 -0.9
	baz=4.0						
USP				⇓iS		Sb	03 43 53.2 +0.5
	baz=4.0						
USP	Ospenovka	2.31	3	⇑P		Pg	03 43 24.7 -0.9
	17nm,0.3s,SNR=36						
KST	Kastek	2.42	30	Pg		Pg	03 43 26.9 -0.8
	15nm,0.3s						
KST				Lg		Lg	03 44 00.0
	56nm,0.5s						
KST	Kastek	2.42	30	eP		Pg	03 43 27.3 -0.5
	12nm,0.4s						
KST				eS		Sg	03 44 00.8 +1.7
	56nm,0.3s						
KDJ	Kajisay	2.45	61	⇓iP		Pb	03 43 25.0 -1.3
	baz=62						
KDJ				⇓iS		Sb	03 43 56.8 -0.2
	baz=62						
DGS	Degeres	2.52	25	Pg		Pg	03 43 29.4 -0.4
	20nm,0.5s						
DGS				Lg		Lg	03 44 04.2
	82nm,0.8s						
DGS	Degeres	2.52	25	eP		Pg	03 43 29.4 -0.4
	20nm,0.5s						
DGS				eS		Sg	03 44 04.7 +2.1
	82nm,0.8s						
MTBS	Maitube	2.68	35	Pg		Pg	03 43 31.8 -1.1
	10nm,0.3s						
MTBS				Lg		Lg	03 44 08.3
	66nm,0.3s						
MTBS	Maitube	2.68	35	eP		Pg	03 43 31.8 -1.1
	10nm,0.3s						
MTBS				⇓iS		Sg	03 44 08.3 +0.7
	66nm,0.3s						
IZV	Izvestkoviy	2.69	39	Pg		Pg	03 43 32.0 -1.0
	11nm,0.4s						
IZV				Lg		Lg	03 44 08.6
	92nm,0.4s						
IZV	Izvestkoviy	2.69	39	eP		Pg	03 43 32.0 -1.0
	11nm,0.4s						
IZV				eS		Sg	03 44 08.6 +0.6
	92nm,0.4s						
BTK	Batken	2.81	252	⇑iP		Pn	03 43 29.6 +2.2
	baz=51						
BTK				⇑iS		Sb	03 44 04.9 -2.4
	baz=51						
TNSS	Tian-Shan	2.86	43	Pg		Pb	03 43 34.7 +1.3
	19nm,0.2s						
TNSS				Lg		Lg	03 44 13.3
	36nm,0.4s						
TNSS	Tian-Shan	2.86	43	eP		Pb	03 43 34.7 +1.3
	19nm,0.3s						
TNSS				eS		Sg	03 44 13.4 +0.2
	36nm,0.5s						
AAA	Alma-Ata	2.97	40	Pg		Pg	03 43 37.4 -1.0
	48nm,0.2s						
AAA				Lg		Lg	03 44 17.8
	93nm,0.3s						
AAA	Alma-Ata	2.97	40	eP		Pg	03 43 37.4 -1.0
	48nm,0.2s						
AAA				eS		Sg	03 44 17.8 +1.1
	93nm,0.3s						
MDOK	Medeo	3.00	42	⇑Lg		Lg	03 44 18.2
	37nm,0.6s						
MDOK	Medeo	3.00	42	Pg		Pb	03 43 37.2 +1.5
	9.9nm,0.5s						
MDOK				Lg		Lg	03 44 17.5
	38nm,0.6s						
MDOK	Medeo	3.00	42	eP		Pb	03 43 37.2 +1.5
	10nm,0.4s						
MDOK				eS		Sg	03 44 17.5 -0.3
	39nm,0.6s						
KOTS	Kotyrbulak	3.08	42	Pg		Pb	03 43 38.8 +1.7
	29nm,0.4s						
KOTS				Lg		Lg	03 44 20.3
	56nm,0.4s						
KOTS	Kotyrbulak	3.08	42	eP		Pb	03 43 38.8 +1.7
	29nm,0.4s						
KOTS				eS		Sg	03 44 20.3 -0.2
	141nm,0.5s						
ANVS	Anan'yevo	3.10	53	⇓iP		Pn	03 43 34.2 +2.7
	baz=54						
ANVS				⇓iS		Sb	03 44 12.5 -3.2
	baz=54						
KUU	Kurty	3.29	27	Pg		Pb	03 43 42.2 +1.7
	3.2nm,0.2s						
KUU				Lg		Lg	03 44 25.9
	23nm,0.4s						
KUU	Kurty	3.29	27	eP		Pb	03 43 42.2 +1.7
	3.4nm,0.3s						
KUU				eS		Sg	03 44 26.3 -0.9
	29nm,0.6s						
CHKK	Chushkaly	3.50	34	Pg		Pb	03 43 46.4 +2.2
	2.7nm,0.2s						
CHKK				Lg		Lg	03 44 33.4
	31nm,0.5s						
CHKK	Chushkaly	3.50	34	eP		Pb	03 43 46.4 +2.2
	2.9nm,0.3s						
CHKK				eS		Sg	03 44 33.4 -0.6
	31nm,0.5s						
KK31	Karatay Array	3.54	308	⇓Pg		Pg	03 43 47.4 -2.0
	0.5nm,0.2s,baz=136,slow=16,SNR=10						
KK31				⇑Lg		Lg	03 44 35.4
	3.7nm,0.4s,baz=126,slow=28,SNR=14						
SATY	Saty	3.70	54	Pg		Pb	03 43 50.0 +2.4
	6.6nm,0.2s						
SATY				Lg		Lg	03 44 40.0
	22nm,0.3s						
SATY	Saty	3.70	54	eP		Pb	03 43 50.0 +2.4
	6.6nm,0.2s						
SATY				eS		Sg	03 44 40.0 -0.4
	19nm,0.4s						
KURS	Kuram	3.82	47	Pg		Pb	03 43 52.2 +2.6
	4.9nm,0.8s						
KURS				Lg		Lg	03 44 43.2
	7.7nm,0.9s						
KURS	Kuram	3.82	47	eP		Pb	03 43 52.1 +2.6
	4.9nm,0.6s						
KURS				eS		Sg	03 44 43.2 -1.0
	7.7nm,0.9s						
BRLS	Borolday	3.92	303	Pg		Pb	03 43 53.3 +2.0
	1.2nm,0.3s						
BRLS				Lg		Lg	03 44 45.4
	2.0nm,0.3s						
BRLS	Borolday	3.92	303	eP		Pb	03 43 53.3 +2.0
	1.2nm,0.5s						
BRLS				eS		Sg	03 44 45.4 -2.0
	8.8nm,0.6s						
BTLS	Baital	4.08	357	Pg		Pb	03 43 56.2 +2.2
	1.4nm,0.2s						
BTLS				Lg		Lg	03 44 50.2
	2.2nm,0.5s						
BTLS	Baital	4.08	357	eP		Pb	03 43 56.2 +2.2
	1.4nm,0.2s						
BTLS				eS		Sg	03 44 50.1 -2.4
	2.6nm,0.4s						
KPKS	Kokpek	4.10	51	eP		Pb	03 43 56.8 +2.4
	6.4nm,0.3s						
KPKS				eS		Sg	03 44 50.9 -2.2
	24nm,0.5s						
UZB	Uzynbulak	4.13	57	Pg		Pb	03 43 57.2 +2.3
	4.1nm,0.4s						
UZB				Lg		Lg	03 44 52.2
	9.9nm,0.3s						
ARXS	Arharly	4.16	38	Pg		Pb	03 43 57.7 +2.3
	3.6nm,0.6s						
ARXS				Lg		Lg	03 44 52.7
	24nm,0.5s						
ARXS	Arharly	4.16	38	eP		Pb	03 43 57.7 +2.3
	3.6nm,0.6s						
ARXS				eS		Sg	03 44 52.7 -2.3
	25nm,0.8s						
PDGK	Podgornoye	4.52	57	Pg		Pb	03 44 04.0 +2.4
	2.3nm,0.3s						
PDGK				Lg		Lg	03 45 03.6
	4.8nm,0.8s						
PDGK	Podgornoye	4.52	57	⇓Pg		Pg	03 44 06.7 -1.3
	4.1nm,0.7s						
PDGK				⇓Lg		Lg	03 45 06.4
	13nm,0.7s						
DJR	Jarkent	5.26	48	Pg		Pb	03 44 17.4 +3.3
	3.3nm,0.3s						
DJR				Lg		Lg	03 45 26.8
	3.7nm,0.4s						
DJR	Jarkent	5.26	48	eP		Pb	03 44 17.4 +3.3
	3.3nm,0.3s						
DJR				eS		Sg	03 45 26.8 -3.6
	3.7nm,0.4s						
KAPS	Kapalarasan	5.68	39	Pg		Pg	03 44 26.6 -3.7
	1.6nm,0.4s						
KAPS				Lg		Lg	03 45 42.6
	5.4nm,0.8s						

ISCJB ***16*** *03:43:09.3±0.6, 60°.62S±0°.09×46°.6W±0°.2, h10km, mb4.5/6, Error ellipse: s-maj=14.4km s-min=9.6km az=149.7*
IDC ***16*** *03:43:09.7±0.7, 60°.52S×46°.34W, h0km, mb4.5/7, mb1 4.6/8, mb1mx4.3/30, mbtmp4.6/8, ML4.2/1, Error ellipse: s-maj=24.9km s-min=24.1km az=22.0*
NEIC ***16*** *03:43:11.2±2.7, 60°.5S±0°.1×46°.4W±0°.2, h10km±2km, mb4.7/7*
ISC 16 03:43:11.0±0.6,**60°.6S**±0°.1×**46°.33W**±0°.10,**h10**km,**n29,**
σ1§**43**/26,**mb4.5/6,1C,Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	9.13	235	Pn	Pn	03 45 21.7	-0.9
	2.3nm,0.3s,baz=42,slow=12,SNR=6.7						
PMSA				Sn	Sn	03 47 04.8	-0.5
	0.7nm,0.3s,baz=12,slow=8.4,SNR=1.3						
SNAA	Sanae	20.21	141	P	P	03 47 47.4	+1.8
	10.0nm,1.1s,baz=298,slow=12,SNR=1.5						
SNAA	Sanae	20.21	141	IAmb	IAmb	03 47 54.7	
	comp=Z,37nm,0.9s						
TRQA	Tornquist	24.64	329	P	P	03 48 29.8	-1.7
PLCA	Paso Flores	24.87	312	P	P	03 48 33.4	-0.2
	comp=Z,8.3nm,0.9s,baz=194,slow=8.3,SNR=3.2						
QSPA	South Pole Qui	29.62	180	P	P	03 49 17.9	+1.7
	comp=Z,31nm,1.0s,baz=187,slow=5.2,SNR=3.1						
QSPA	South Pole Qui	29.62	180	IAmb	IAmb	03 49 24.3	
	comp=Z,50nm,1.1s						
SYO	Syowa Base	34.50	141	⇑eP	P	03 49 54.6	-4.0
BOSA	Boshof	56.54	90	P	P	03 52 52.7	-0.7
	comp=Z,3.7nm,0.8s,baz=236,slow=3.6,SNR=2.4						
BOSA	Boshof	56.54	90	IAmb	IAmb	03 53 05.0	
	comp=Z,9.1nm,1.1s						
LBTB	Lobatse	59.69	88	P	P	03 53 15.3	-0.2
	comp=Z,9.6nm,1.0s,baz=204,slow=11,SNR=3.5						
LBTB	Lobatse	59.69	88	IAmb	IAmb	03 53 23.0	
	comp=Z,9.4nm,0.8s						
OUZ	Omahuta	79.06	212	P	P	03 55 16.8	+1.7
TORD	Torodi Ar. Bea	82.84	47	P	P	03 55 35.8	+0.6
	comp=Z,3.1nm,1.1s,baz=190,slow=7.2,SNR=2.7						
ASAR	Alice Springs	96.03	180	P	P	03 56 38.5	+0.1
	comp=Z,1.5nm,0.9s,baz=181,slow=4.1,SNR=2.6						
BRTR	Keskin Array B	119.18	60	PKP	PKiKP	04 02 00.5	+1.0
	comp=Z,0.8nm,0.8s,baz=222,slow=3.9,SNR=3.3						
GERES	GERESS Array B	119.36	41	PKP	PKiKP	04 01 59.8	+0.3
	comp=Z,0.7nm,0.7s,baz=17,slow=1.4,SNR=3.7						
KULM	Kulim	119.44	141		PKPdf	04 02 00.5	0.0
AKASG	Malin Array Be	126.38	50	PKP	PKiKP	04 02 13.4	+0.3
	comp=Z,1.9nm,0.7s,baz=241,slow=1.7,SNR=6.2						
AKASG	Malin Array Be	126.38	50		PKiKP	04 02 16.4	+3.3
FINES	FINESS Array B	133.73	39	PKP	PKiKP	04 02 26.9	-0.7
	comp=Z,3.2nm,0.8s,baz=214,slow=0.5,SNR=3.8						
ILAR	Eielson Array	145.56	312	PKPbc	PKPdf	04 02 46.7	-0.9
	comp=Z,7.6nm,0.9s,baz=150,slow=1.4,SNR=9.8						
RND	Reindeer	145.58	309		PKPab	04 02 49.0	+0.6
BVAR	Borovoye Array	145.81	74	PKPbc	PKPbc	04 02 49.1	+0.1
	comp=Z,12nm,0.9s,baz=234,slow=4.0,SNR=6.8						
CCB	Clear Creek Bu	145.83	311	PKPbc	PKPab	04 02 50.4	+1.2
MLY	Manley	147.11	311	PKPbc	PKiKP	04 02 54.4	-0.5
MKAR	Makanchi Array	147.52	92	PKPbc	PKPbc	04 02 53.6	-0.6
	comp=Z,3.8nm,0.7s,baz=234,slow=3.1,SNR=5.7						
KURBB	Kurchatov Arra	148.23	83	PKPbc	PKPbc	04 02 55.4	-0.5
	comp=Z,0.6nm,0.4s,baz=235,slow=3.5,SNR=2.7						
KURK	Kurchatov	148.33	83		PKPbc	04 02 55.4	-0.8

JMA ***16*** *03:46:12.8±0.1, 24°.87N×122°.24E, h105km±2km, M2.2*
ISCJB ***16*** *03:46:13.3±0.4, 24°.87N±0°.02×122°.26E±0°.02, h102km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=162.9*
TAP ***16*** *03:46:13.3, 24°.88N×122°.25E, h104km, ML3.5, B*
ISC 16 03:46:13.6±1.4,**24°.87N**±0°.04×**122°.26E**±0°.03,**h102**km±7km,
n95,σ0§**48**/175,**1C-13D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.29	299	⇓iP	Pn	03 46 28.4	0.0
	baz=297						
TWB1				i S	Sn	03 46 39.4	0.0
	baz=297						
EGS		0.30	266	i P	Pn	03 46 28.7	+0.2
	baz=261						
EGS				i S	Sn	03 46 39.0	-0.5
	baz=261						
EOS1	EOS1	0.34	201	P	Pn	03 46 29.1	+0.5
	baz=198						
EOS1				S	Sn	03 46 40.9	+1.1
	baz=198						
NTC	Toucheng	0.40	268	eP	Pn	03 46 28.8	-0.1
	baz=265						
NTC				eS	Sn	03 46 39.9	-0.5
	baz=265						
TIPB	Shuangxi	0.41	285	⇓iP	Pn	03 46 29.1	0.0
	baz=282						
TIPB				i S	Sn	03 46 40.5	-0.1
	baz=282						
TWC	Suao	0.46	236	⇓iP	Pn	03 46 29.0	-0.4
	baz=232						
TWC				S	Sn	03 46 40.9	-0.2
	baz=232						
NWF	Wu-fen Shan	0.48	295	⇓iP	Pn	03 46 29.6	0.0
	baz=293						
NWF				i S	Sn	03 46 41.4	-0.2
	baz=293						
WFSB	Wu-fen Shan	0.48	295	eP	Pn	03 46 29.7	+0.2
	baz=293						
WFSB				S	Sn	03 46 41.9	+0.5
	baz=293						
TWE	Neicheng	0.56	255	i P	Pn	03 46 30.1	0.0
	baz=252						
TWE				i S	Sn	03 46 42.2	-0.2
	baz=252						
TWA	Mucha	0.63	280	P	Pn	03 46 30.5	-0.1
	baz=278						
TWA				i S	Sn	03 46 43.1	-0.3
	baz=278						
NANB	Nanao	0.64	227	⇓iP	Pn	03 46 30.9	+0.1
	baz=225						
NANB				i S	Sn	03 46 44.0	+0.4
	baz=225						
ENA	Nanau	0.65	227	i P	Pn	03 46 31.0	+0.2
	baz=225						
ENA				i S	Sn	03 46 44.3	+0.6
	baz=225						
ENTT	Nioudou	0.68	250	⇑iP	Pn	03 46 31.2	+0.2
	baz=248						
ENTT				i S	Sn	03 46 45.6	+1.5
	baz=248						
NHDH	Xindian Distri	0.68	278	⇓iP	Pn	03 46 31.0	-0.1
	baz=276						
YM01	YM01	0.69	294	⇓iP	Pn	03 46 31.1	-0.1
	baz=292						
YM01				i S	Sn	03 46 44.1	-0.2
	baz=292						
YM08	YM08	0.69	298	eP	Pn	03 46 30.7	-0.5
	baz=296						
YM08				S	Sn	03 46 44.3	-0.1
	baz=296						
YM11	YM11	0.69	295	eP	Pn	03 46 30.7	-0.6
	baz=294						
YM11				eS	Sn	03 46 44.3	-0.2
	baz=294						
TAP1	Taipei	0.69	284	P	Pn	03 46 31.2	0.0
	baz=282						
TAP1				eS	Sn	03 46 43.6	-0.7
	baz=282						
NWLT	Wulai	0.70	263	i P	Pn	03 46 31.0	-0.3
	baz=261						
NWLT				eS	Sn	03 46 45.0	+0.5
	baz=261						
YM05	YM05	0.70	295	P	Pn	03 46 30.9	-0.4
	baz=294						
YM05				S	Sn	03 46 44.3	-0.3
	baz=294						
YM10	YM10	0.70	294	i P	Pn	03 46 31.2	-0.1
	baz=293						
YM10				i S	Sn	03 46 44.6	0.0
	baz=293						
TAP	Taipei	0.71	284	i P	Pn	03 46 31.0	-0.3
	baz=282						
TAP				eS	Sn	03 46 43.4	-1.2
	baz=282						
TATO	Taipei	0.71	279	P	Pn	03 46 30.9	-0.5
	baz=277						
TATO				S	Sn	03 46 43.8	-0.8
	baz=277						
YM04	YM04	0.72	293	P	Pn	03 46 31.3	-0.1
	baz=292						
YM04				S	Sn	03 46 43.8	-1.0
	baz=292						
TWY	Chenhua	0.73	304	P	Pn	03 46 31.7	+0.2
	baz=303						
TWY				S	Sn	03 46 45.3	+0.5
	baz=303						
NDT	Datong Townshi	0.73	249	i P	Pn	03 46 31.9	+0.3
	baz=247						
NDT				i S	Sn	03 46 45.6	+0.6
	baz=247						
ANP	Anpu	0.75	295	i P	Pn	03 46 31.6	-0.2
	baz=294						
ANP				eS	Sn	03 46 45.9	+0.5
	baz=294						
JYNG	Yonagunijimaku	0.75	124	P	Pn	03 46 31.5	-0.1
JYNG				eS	Sn	03 46 45.0	-0.2
PCYT	Pengchaiyu	0.78	347	i P	Pn	03 46 32.2	+0.3
	baz=348						
PCYT				S	Sn	03 46 46.4	+0.7
	baz=348						
YOJ	Yonaguni jima	0.79	121	P	Pn	03 46 31.9	-0.2
	baz=121						
YOJ				S	Sn	03 46 46.3	+0.4
	baz=121						
YOJ	Yonaguni jima	0.79	121	P	Pn	03 46 32.0	-0.1
YOJ				eS	Sn	03 46 46.2	+0.3
NTST	Danshui	0.80	292	⇓iP	Pn	03 46 32.3	+0.2
	baz=290						
NTST				eS	Sn	03 46 46.4	+0.4
	baz=290						
TWS1	Kuangyinshan	0.80	287	⇓iP	Pn	03 46 32.3	+0.1
	baz=286						
TWS1				S	Sn	03 46 45.8	-0.3
	baz=286						
YHNB	Yeheng	0.83	256	P	Pn	03 46 32.4	-0.1
	baz=255						
YHNB				S	Sn	03 46 46.8	0.0
	baz=255						
NSK	Sanguang	0.85	257	i P	Pn	03 46 32.5	-0.2
	baz=255						
NSK				i S	Sn	03 46 46.8	-0.2
	baz=255						
NNSB	Datong	0.91	242	⇓P	Pn	03 46 33.8	+0.4
	baz=240						
NNSB				S	Sn	03 46 48.5	+0.1
	baz=240						
NNS	Nan Shan	0.92	242	⇓iP	Pn	03 46 33.8	+0.3
	baz=240						
NNS				i S	Sn	03 46 48.7	+0.3
	baz=240						
WLTB	Daxi	0.92	269	i P	Pn	03 46 33.6	+0.2
	baz=268						
WLTB				eS	Sn	03 46 47.7	-0.5
	baz=268						
NACB	Ninganchiao	0.92	222	P	Pn	03 46 32.8	-0.6
	baz=220						
NACB				S	Sn	03 46 47.5	-0.7
	baz=220						
ETLH	Xiulin Townshi	0.97	227	P	Pn	03 46 33.9	-0.1
	baz=226						
ETLH				S	Sn	03 46 49.2	-0.1
	baz=226						
NCU	National Centr	0.98	276	i P	Pn	03 46 34.1	+0.1
	baz=274						
NCU				S	Sn	03 46 49.4	0.0
	baz=274						
NCUH	Zhongli	0.98	276	P	Pn	03 46 34.2	+0.1
	baz=274						
NCUH				eS	Sn	03 46 49.2	-0.2
	baz=274						
TWD	Chiawan	0.99	218	i P	Pn	03 46 34.0	-0.2
	baz=216						
TWD				i S	Sn	03 46 49.1	-0.5
	baz=216						
NHW	Xinwu Township	1.11	277	P	Pn	03 46 35.8	+0.4
	baz=276						
NHW				eS	Sn	03 46 51.7	-0.2
	baz=276						
ENLB	Shoufeng	1.14	212	eP	Pn	03 46 35.3	-0.4
	baz=211						
ENLB				S	Sn	03 46 51.4	-0.9
	baz=211						
LIOB	Emei	1.16	259	⇓iP	Pn	03 46 35.9	0.0
	baz=258						
LIOB				S	Sn	03 46 52.6	-0.3
	baz=258						
WHF	Hehuan Shan	1.16	232	i P	Pn	03 46 36.3	-0.1

baz=230
WHF *i* S **Sn** **03 46 53.2 -0.4**
baz=230
SBCB Hsinchu 1.17 267 P **Pn** **03 46 36.1 +0.1**
baz=265
SBCB *e*S **Sn** **03 46 52.7 -0.2**
baz=265
TWT Tachien 1.17 238 P **Pn** **03 46 37.1 +0.8**
baz=237
TWT *i* S **Sn** **03 46 53.6 +0.3**
baz=237
NSTT Nanjuang 1.17 259 *i* P **Pn** **03 46 36.0 -0.1**
baz=257
NSTT *i* S **Sn** **03 46 52.6 -0.5**
baz=257
HSN Hsinchu 1.18 267 *e*P **Pn** **03 46 35.9 -0.2**
baz=267
TDCB Techi 1.18 239 ⇓P **Pn** **03 46 36.9 +0.5**
baz=237
TDCB S **Sn** **03 46 53.8 +0.3**
baz=237
CHGB Renai 1.28 231 P **Pn** **03 46 38.0 +0.4**
baz=230
CHGB S **Sn** **03 46 55.1 -0.5**
baz=230
ESL Shilin 1.30 216 P **Pn** **03 46 36.4 -1.2**
baz=214
WHP Taichung City 1.34 244 *i* P **Pn** **03 46 38.6 +0.5**
baz=243
WHP *i* S **Sn** **03 46 56.8 +0.1**
baz=243
EGFH Guangfu 1.42 213 *e*P **Pn** **03 46 38.6 -0.4**
baz=211
EGFH *e*S **Sn** **03 46 58.0 -0.3**
baz=211
IRIF Iriomote-Funau 1.44 111 P **Pn** **03 46 39.3 +0.1**
IRIF S **Sn** **03 46 58.4 -0.2**
NSY Sanyi 1.44 252 P **Pn** **03 46 39.6 +0.3**
baz=250
NSY S **Sn** **03 46 58.0 -0.8**
baz=250
TWQ1 Liyutan 1.45 249 P **Pn** **03 46 39.5 +0.1**
baz=248
TWQ1 S **Sn** **03 46 58.9 -0.1**
baz=248
DPDB Guoxing 1.48 236 P **Pn** **03 46 40.2 +0.5**
baz=234
DPDB *e*S **Sn** **03 47 00.1 +0.5**
baz=234
VWDT VWDT 1.51 223 P **Pn** **03 46 40.4 +0.3**
baz=221
VWDT S **Sn** **03 46 59.5 -0.7**
baz=221
WDJ Dajia District 1.57 251 P **Pn** **03 46 40.7 -0.1**
baz=249
HGSD Ruisui 1.57 209 P **Pn** **03 46 40.2 -0.7**
baz=208
HGSD S **Sn** **03 47 00.8 -0.7**
baz=208
SMLT Sun Moon Lake 1.58 232 P **Pn** **03 46 41.8 +0.6**
baz=230
SMLT *e*S **Sn** **03 47 02.3 +0.2**
baz=230
TYC Yuchr 1.60 233 P **Pn** **03 46 41.8 +0.5**
baz=232
TYC S **Sn** **03 47 02.9 +0.7**
baz=232
SSLB Suanglung 1.61 228 P **Pn** **03 46 41.9 +0.5**
baz=227
SSLB S **Sn** **03 47 02.9 +0.4**
baz=227
HATJ Hateruma jima 1.62 120 P **Pn** **03 46 41.2 -0.3**
HATJ *e*S **Sn** **03 47 03.2 +0.6**
JKRS Kuro-shima 1.71 111 P **Pn** **03 46 42.5 -0.1**
JKRS S **Sn** **03 47 04.8 +0.2**
YULB Yu-li 1.71 211 P **Pn** **03 46 41.8 -1.0**
baz=210
WHYT Xinyi Township 1.74 228 *e*P **Pn** **03 46 44.0 +0.9**
baz=227
WHYT *e*S **Sn** **03 47 06.6 +1.3**
baz=227
WCHH Zhanghua 1.74 244 *e*P **Pn** **03 46 43.1 +0.1**
baz=242
WNT Mingjian 1.75 236 *e*P **Pn** **03 46 43.2 +0.2**
baz=234
TWF1 Yuli 1.75 211 P **Pn** **03 46 43.7 +0.5**
baz=209
TWF1 *e*S **Sn** **03 47 05.4 -0.1**
baz=209
JIJ Ishigaki jima 1.78 106 P **Pn** **03 46 42.8 -0.7**
JIJ S **Sn** **03 47 06.0 -0.3**
YUS Yu-Shan 1.82 221 *e*P **Pn** **03 46 45.3 +0.8**
baz=220
YUS *e*S **Sn** **03 47 07.8 -0.1**
baz=220
JISG Ishigakijimahi 1.88 98 P **Pn** **03 46 45.0 +0.2**
JISG S **Sn** **03 47 08.2 -0.3**
FULB Fuli 1.89 208 *e*P **Pn** **03 46 44.1 -0.8**
baz=207
FULB S **Sn** **03 47 08.8 +0.1**
baz=207
CHN5 Tsauling 1.92 229 P **Pn** **03 46 46.1 +0.6**
baz=228
CHN5 S **Sn** **03 47 09.9 +0.3**
baz=228
CHKT Chengkung 1.94 205 *e*P **Pn** **03 46 46.2 +0.6**
baz=204
WDLH Douliu 1.96 234 *e*P **Pn** **03 46 46.5 +0.7**
baz=232
RLNB Erlin 1.99 241 *e*S **Sn** **03 47 11.2 +0.3**
baz=240
ELDTW Lidau 2.02 215 P **Pn** **03 46 45.9 -0.8**
baz=213
ELDTW S **Sn** **03 47 11.1 -0.9**
baz=213
CHN4 Tsaushan 2.15 226 *e*P **Pn** **03 46 48.5 +0.2**
baz=224
CHN4 *e*S **Sn** **03 47 14.7 0.0**
baz=224
TPUB Ta-pu 2.16 224 *e*P **Pn** **03 46 49.0 +0.6**
baz=223
TPUB *e*S **Sn** **03 47 15.6 +0.6**
baz=223
STYT Tauyuan 2.19 219 *e*S **Sn** **03 47 16.3 +0.6**
baz=218
JTJ Tarama 2.23 95 P **Pn** **03 46 49.3 +0.1**
JTJ S **Sn** **03 47 16.8 +0.3**
WSF Szhu 2.23 237 *e*S **Sn** **03 47 16.8 +0.2**
baz=236
TWK Hsinying 2.28 226 *e*P **Pn** **03 46 50.1 +0.1**
baz=224
TWK *e*S **Sn** **03 47 18.3 +0.5**
baz=224
CHN1 Nanshi 2.31 224 *e*P **Pn** **03 46 50.8 +0.5**
baz=222
CHN1 *e*S **Sn** **03 47 18.6 +0.1**
baz=222
TWG Pinlang 2.31 208 *e*S **Sn** **03 47 17.2 -1.3**
baz=207
SGST Jiashian 2.35 221 *e*S **Sn** **03 47 19.2 -0.3**
baz=220
SLGT Liugui 2.38 219 *e*P **Pn** **03 46 52.2 +0.9**
baz=217
SLGT *e*S **Sn** **03 47 20.5 +0.3**
baz=217
CHN3 Shinhua 2.49 225 *e*P **Pn** **03 46 52.9 +0.2**
baz=223
CHN3 *e*S **Sn** **03 47 22.6 -0.1**
baz=223
VWUC VWUC 2.56 273 *e*P **Pn** **03 46 52.6 -0.9**
baz=272
MASBT Mashibuluo 2.70 214 *e*P **Pn** **03 46 56.0 +0.6**
baz=213
MASBT *e*S **Sn** **03 47 27.4 -0.3**
baz=213

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*ISCJB **16** 03:46:51.8±0.4, 60°.26S±0°.07×46°.8W±0°.1, h10^km, mb4.6/14, MS6.0/1, Error ellipse: s-maj=11.3km s-min=8.4km az=139.5*
*IDC **16** 03:46:51.1±0.5, 60°.33S×47°.06W, h0^km, mb4.5/12, mb1 4.6/13, mb1mx4.4/26, mbtmp4.5/13, ML4.7/1, MS6.0/1, Ms1 6.0/1, ms1mx5.2/28, Error ellipse: s-maj=21.6km s-min=15.4km az=55.0*
*NEIC **16** 03:46:53.0±2.0, 60°.31S±0°.08×46°.8W±0°.2, h10^km±2^km, mb4.8/18*

ISC 16 03:46:52.8±0.4, 60°.35S±0°.07×46°.98W±0°.08, h10^km, n67, σ1§00/58, mb4.7/18, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.31**	**48**	Pn	**Pn**	**03 48 52.3**	**-0.9**
PMSA	**Palmer Station**	**9.03**	**233**	Pn	**Pn**	**03 49 02.6**	**-0.3**
	7.4nm,0.3s,baz=62,slow=9.8,SNR=21						
PMSA				Sn	**Sn**	**03 50 41.6**	**-2.8**
	2.5nm,0.3s,baz=31,slow=8.9,SNR=2.2						
PMSA	**Palmer Station**	**9.03**	**233**		**Pn**	**03 49 05.4**	**+2.5**
EFI	**East Falkland**	**10.66**	**320**	Pn	**Pn**	**03 49 26.9**	**+1.6**
SNAA	**Sanae**	**20.62**	**141**	P	Pn	03 51 35.1	+1.0
	28nm,0.9s,baz=280,slow=10.0,SNR=14						
SNAA	**Sanae**	**20.62**	**141**	IAmb	IAmb	03 51 39.8	
	comp=Z,19nm,0.8s						
TRQA	**Tornquist**	**24.25**	**330**	P	**P**	**03 52 10.7**	**+0.9**
TRQA				IAmb	IAmb	03 52 24.2	
	comp=Z,18nm,0.8s						
PLCA	**Paso Flores**	**24.46**	**313**	P	**P**	**03 52 11.2**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=164,slow=9.2,SNR=5.4						
PLCA	**Paso Flores**	**24.46**	**313**	P	**P**	**03 52 12.6**	**+0.9**
PLCA				IAmb	IAmb	03 52 25.0	
	comp=Z,17nm,1.1s						
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**03 53 02.7**	**+2.4**
CPUP	**Villa Florida**	**34.74**	**344**	P	**P**	**03 53 41.1**	**-1.7**
	comp=Z,3.7nm,1.0s,baz=166,slow=8.3,SNR=2.7						
MAW	**Mawson**	**42.55**	**148**	P	**P**	**03 54 49.1**	**+1.2**
	comp=Z,7.3nm,0.8s,baz=236,slow=8.5,SNR=7.6						
GO01	**Chusmiza**	**43.61**	**329**	P	**P**	**03 54 58.2**	**+0.7**
MNMC	**Minye Minye**	**44.23**	**329**	P	**P**	**03 55 03.2**	**+0.9**
MNMC				IAmb	IAmb	03 55 08.6	
	comp=Z,12nm,0.8s						
BDFB	**Brasilia**	**44.65**	**359**	P	**P**	**03 55 05.2**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=156,slow=3.9,SNR=6.1						
BDFB	**Brasilia**	**44.65**	**359**	IAmb	IAmb	03 55 14.6	
	comp=Z,30nm,1.5s						
SIV	**San Ignacio**	**45.47**	**341**	P	**P**	**03 55 12.3**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=173,slow=9.6,SNR=10						
LPAZ	**La Paz**	**46.59**	**332**	P	**P**	**03 55 22.2**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=187,slow=7.2,SNR=5.3						
SUR	**Sutherland**	**51.58**	**89**	P	**P**	**03 56 00.0**	**+0.9**
	comp=Z,12nm,0.8s,baz=202,slow=7.8,SNR=12						
SUR	**Sutherland**	**51.58**	**89**	IAmb	IAmb	03 56 01.4	
	comp=Z,11nm,0.8s						
SAML	**Samuel**	**52.71**	**340**	P	**P**	**03 56 07.9**	**+0.5**
SAML				IAmb	IAmb	03 56 18.2	
	comp=Z,9.7nm,1.0s						
NNA	**Nana**	**53.06**	**322**	LR	LR	04 19 19.5	
	comp=Z,13μm,18.1s,baz=87,slow=37						
H10S2	**ASCENSION HYDR**	**56.68**	**39**	T	T	04 58 09.7	
	baz=231,slow=74						
H10S3	**ASCENSION HYDR**	**56.68**	**39**	T	T	04 58 08.8	
	baz=349,slow=74						
BOSA	**Boshof**	**56.86**	**90**	P	**P**	**03 56 37.3**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=218,slow=10,SNR=6.2						
BOSA	**Boshof**	**56.86**	**90**	IAmb	IAmb	03 56 38.0	
	comp=Z,7.9nm,0.9s						
WIN	**Windhoek**	**57.86**	**79**	P	**P**	**03 56 45.5**	**+0.7**
LBTB	**Lobatse**	**60.01**	**88**	P	**P**	**03 56 59.6**	**+0.2**
	comp=Z,8.9nm,0.8s,baz=242,slow=9.4,SNR=8.1						
LBTB	**Lobatse**	**60.01**	**88**	IAmb	IAmb	03 57 00.5	
	comp=Z,21nm,1.1s						
OTAV	**Otavalo**	**65.14**	**325**	P	**P**	**03 57 35.0**	**+0.8**
OTAV				IAmb	IAmb	03 57 36.2	
	comp=Z,6.9nm,0.8s						
LSZ	**Lusaka**	**69.51**	**85**	P	**P**	**03 58 02.4**	**+0.8**
LIC	**Lamto**	**74.09**	**44**	*e*P	**P**	**03 58 28.9**	**+0.1**
	comp=Z,18nm,0.5s						
KIC	**Kosan Boka**	**74.31**	**44**	*e*P	**P**	**03 58 28.8**	**-1.4**
	comp=Z,28nm,1.1s						
TIC	**Toumodi**	**74.48**	**44**	*e*P	**P**	**03 58 31.9**	**+0.7**
DBIC	**Dimbokro**	**74.56**	**44**	P	**P**	**03 58 31.8**	**+0.2**
	comp=Z,8.3nm,1.2s,baz=228,slow=4.2,SNR=3.8						
DBIC	**Dimbokro**	**74.56**	**44**	IAmb	IAmb	03 58 48.5	
	comp=Z,6.7nm,1.1s						
OUZ	**Omahuta**	**79.11**	**213**	P	**P**	**03 58 57.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.89**	**47**	P	**P**	**03 59 18.2**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=206,slow=3.7,SNR=11						
TORD	**Torodi Ar. Bea**	**82.89**	**47**	IAmb	IAmb	03 59 18.8	
	comp=Z,3.6nm,0.9s						
ASAR	**Alice Springs**	**96.29**	**181**	P	**P**	**04 00 20.3**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=172,slow=4.2,SNR=6.8						
ASAR				PP	**PP**	**04 04 12.2**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=170,slow=7.2,SNR=4.7						
ASAR	**Alice Springs**	**96.29**	**181**	P	**P**	**04 00 20.5**	**-0.9**
WRA	**Warramunga Arr**	**99.99**	**181**	P	**Pdif**	**04 00 36.9**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=186,slow=4.4,SNR=6.4						
BRTR	**Keskin Array B**	**119.33**	**61**	PKP	**PKPdf**	**04 05 40.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=227,slow=2.8,SNR=4.6						
GERES	**GERESS Array B**	**119.38**	**41**	PKP	**PKPdf**	**04 05 39.8**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=194,slow=1.6,SNR=3.8						
AKASG	**Malin Array Be**	**126.46**	**50**	PKP	**PKPdf**	**04 05 53.3**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=246,slow=1.6,SNR=5.9						
AKASG	**Malin Array Be**	**126.46**	**50**		**PKPdf**	**04 05 53.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**131.60**	**135**	PKP	**PKPdf**	**04 06 04.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=226,slow=4.5,SNR=3.7						
YKA	**Yellowknife Ar**	**132.89**	**324**	PKP	**PKPdf**	**04 06 06.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=127,slow=2.0,SNR=3.9						
FINES	**FINESS Array B**	**133.73**	**40**	PKP	**PKPdf**	**04 06 07.1**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=267,slow=3.8,SNR=6.8						
AAK	**Ala-Archa**	**141.00**	**90**	PKP	**PKPdf**	**04 06 21.7**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=180,slow=2.0,SNR=5.0						
IL31		**145.14**	**312**		**PKPbc**	**04 06 28.0**	**-0.3**
ILAR	**Eielson Array**	**145.14**	**312**	PKPbc	**PKPbc**	**04 06 28.1**	**-0.2**
	comp=Z,11nm,0.9s,baz=147,slow=2.1,SNR=34						
ILAR	**Eielson Array**	**145.14**	**312**		**PKPbc**	**04 06 27.9**	**-0.5**
RSO	**Redoubt South**	**145.15**	**303**		**PKPbc**	**04 06 28.6**	**-0.2**
RND	**Reindeer**	**145.17**	**310**		**PKPdf**	**04 06 28.8**	**-0.1**
CCB	**Clear Creek Bu**	**145.42**	**312**		**PKPdf**	**04 06 29.1**	**0.0**
WRH	**Wood River Hil**	**145.43**	**311**		**PKPab**	**04 06 29.4**	**-0.1**
COLA	**College**	**145.55**	**312**		**PKPab**	**04 06 29.9**	**0.0**
BVAR	**Borovoye Array**	**146.05**	**74**	PKPbc	**PKPbc**	**04 06 31.5**	**0.0**
	comp=Z,15nm,0.8s,baz=221,slow=3.4,SNR=20						
MK31	**Makanchi Array**	**147.85**	**92**		**PKPbc**	**04 06 36.5**	**-0.4**
MKAR	**Makanchi Array**	**147.85**	**92**	PKPbc	**PKPbc**	**04 06 36.2**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=246,slow=3.8,SNR=34						
KURBB	**Kurchatov Arra**	**148.52**	**83**	PKPbc	**PKPbc**	**04 06 38.1**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=238,slow=3.5,SNR=10						
KURK	**Kurchatov**	**148.62**	**83**		**PKPbc**	**04 06 38.1**	**-0.6**
ZALV	**Zalesovo Beam**	**153.60**	**82**	PKPbc	**PKPbc**	**04 06 48.9**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=236,slow=4.5,SNR=3.5						
MJAR	**Matsushiro Arr**	**155.94**	**190**	PKPab	**PKPab**	**04 07 13.6**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=164,slow=6.8,SNR=3.2						
KSRS	**Korea Array**	**156.85**	**170**	PKPab	**PKPab**	**04 07 17.9**	**+0.6**
	comp=Z,3.0nm,1.1s,baz=183,slow=2.5,SNR=4.5						
SONM	**Songino Array**	**160.16**	**117**	PKPab	**PKPab**	**04 07 31.9**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=242,slow=2.3,SNR=3.5						

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*ISCJB **16** 03:48:04.9±0.4, 60°.39S±0°.06×46°.6W±0°.1, h10^km, mb4.7/16, Error ellipse: s-maj=9.4km s-min=7.5km az=42.9*
*IDC **16** 03:48:04.8±0.6, 60°.42S×46°.67W, h0^km, mb4.5/13, mb1 4.6/14, mb1mx4.4/25, mbtmp4.5/14, ML4.0/1, Error ellipse: s-maj=20.7km s-min=15.8km az=52.0*
*NEIC **16** 03:48:06.9±1.5, 60°.35S±0°.09×46°.6W±0°.2, h10^km±2^km, mb4.8/18*

ISC 16 03:48:06.5±0.4, 60°.34S±0°.08×46°.51W±0°.08, h10^km, n68, σ0§83/61, mb4.8/17, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.14**	**46**		**Pn**	**03 50 03.7**	**-0.8**
PMSA	**Palmer Station**	**9.22**	**234**	Pn	**Pn**	**03 50 19.4**	**+0.1**
	1.7nm,0.3s,baz=56,slow=7.3,SNR=2.8						
PMSA				Sn	**Sn**	**03 52 03.4**	**+0.4**
	0.5nm,0.3s,baz=107,slow=22,SNR=1.9						
SNAA	**Sanae**	**20.48**	**141**	P	**P**	**03 52 43.4**	**-0.7**
	8.4nm,1.2s,baz=282,slow=12,SNR=1.7						
SNAA	**Sanae**	**20.48**	**141**	IAmb	IAmb	03 52 52.0	
	comp=Z,12nm,0.9s						
TRQA	**Tornquist**	**24.36**	**329**	P	**P**	**03 53 24.9**	**+0.4**
PLCA	**Paso Flores**	**24.62**	**312**	P	**P**	**03 53 27.0**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=184,slow=8.7,SNR=6.5						
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**03 54 16.1**	**+2.0**
ROC1	**El Roble**	**31.75**	**319**	P	**P**	**03 54 31.0**	**+0.2**
CPUP	**Villa Florida**	**34.80**	**343**	P	**P**	**03 54 57.5**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=167,slow=8.7,SNR=7.2						
SPB	**Sao Paulo**	**36.73**	**359**	P	**P**	**03 55 14.1**	**+0.4**
SPB				IAmb	IAmb	03 55 16.1	
	comp=Z,24nm,1.1s						
BDFB	**Brasilia**	**44.65**	**358**	P	**P**	**03 56 19.7**	**+0.5**
	comp=Z,10nm,0.8s,baz=238,slow=3.6,SNR=6.5						
BDFB	**Brasilia**	**44.65**	**358**	IAmb	IAmb	03 56 23.6	
	comp=Z,14nm,1.0s						
SIV	**San Ignacio**	**45.53**	**340**	P	**P**	**03 56 26.7**	**+0.5**
	comp=Z,7.2nm,0.6s,baz=181,slow=7.9,SNR=9.0						
LPAZ	**La Paz**	**46.70**	**331**	P	**P**	**03 56 35.3**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=170,slow=8.2,SNR=1.9						
SUR	**Sutherland**	**51.35**	**89**	P	**P**	**03 57 12.9**	**+1.8**
	comp=Z,9.6nm,0.9s,baz=203,slow=11,SNR=4.4						
SUR	**Sutherland**	**51.35**	**89**	IAmb	IAmb	03 57 19.0	
	comp=Z,8.7nm,0.9s						
SAML	**Samuel**	**52.79**	**339**	P	**P**	**03 57 22.0**	**+0.3**
SAML				IAmb	IAmb	03 57 23.0	
	comp=Z,8.6nm,0.7s						
NNA	**Nana**	**53.20**	**322**	P	**P**	**03 57 25.1**	**+0.3**
RCBR	**Riachuelo**	**54.98**	**13**	P	**P**	**03 57 37.6**	**-0.2**
	comp=Z,50nm,0.5s,baz=167,slow=0.1,SNR=4.0						
RCBR	**Riachuelo**	**54.98**	**13**	IAmb	IAmb	03 57 39.3	
	comp=Z,20nm,1.1s						
BOSA	**Boshof**	**56.62**	**90**	P	**P**	**03 57 50.0**	**+0.4**
	comp=Z,6.1nm,0.9s,baz=204,slow=6.4,SNR=5.0						
BOSA	**Boshof**	**56.62**	**90**	IAmb	IAmb	03 57 59.6	
	comp=Z,9.4nm,1.1s						
LBTB	**Lobatse**	**59.77**	**88**	P	**P**	**03 58 12.2**	**+0.5**
	baz=217,slow=8.0						
LBTB	**Lobatse**	**59.77**	**88**	IAmb	IAmb	03 58 13.0	
	comp=Z,12nm,0.7s						
OTAV	**Otavalo**	**65.26**	**324**	P	**P**	**03 58 49.1**	**+0.3**
MDP	**Montagnes des**	**65.42**	**353**	P	**P**	**03 58 49.4**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=197,slow=8.6,SNR=1.6						
LSZ	**Lusaka**	**69.28**	**84**	P	**P**	**03 59 15.0**	**+1.1**
LSZ				IAmb	IAmb	03 59 18.3	
	comp=Z,4.8nm,0.8s						
LIC	**Lamto**	**73.92**	**43**	*e*P	**P**	**03 59 42.6**	**+1.0**
	comp=Z,56nm,0.9s						
LIC	**Lamto**	**73.92**	**43**	P	**P**	**03 59 42.6**	**+1.0**
KIC	**Kosan Boka**	**74.15**	**43**	*e*P	**P**	**03 59 43.8**	**+0.8**
	comp=Z,21nm,0.8s						
KIC	**Kosan Boka**	**74.15**	**43**	P	**P**	**03 59 43.8**	**+0.8**
TIC	**Toumodi**	**74.32**	**43**	*e*P	**P**	**03 59 44.8**	**+0.8**
DBIC	**Dimbokro**	**74.39**	**43**	P	**P**	**03 59 45.3**	**+0.9**
	comp=Z,8.9nm,0.8s,baz=182,slow=5.7,SNR=6.1						
DBIC	**Dimbokro**	**74.39**	**43**	IAmb	IAmb	03 59 45.9	
	comp=Z,13nm,1.0s						
OUZ	**Omahuta**	**79.24**	**212**	P	**P**	**04 00 12.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**82.72**	**47**	P	**P**	**04 00 31.4**	**+1.1**
	comp=Z,6.4nm,0.8s,baz=210,slow=5.5,SNR=10						
TORD	**Torodi Ar. Bea**	**82.72**	**47**	P	**P**	**04 00 31.2**	**+1.0**
ASAR	**Alice Springs**	**96.30**	**180**	P	**P**	**04 01 33.7**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=173,slow=3.8,SNR=3.6						
MDT	**Midelt**	**98.99**	**35**	P	**Pdif**	**04 01 47.4**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=250,slow=9.7,SNR=8.8						
WRA	**Warramunga Arr**	**100.00**	**181**	P	**Pdif**	**04 01 50.5**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=192,slow=4.3,SNR=4.1						
WRA	**Warramunga Arr**	**100.00**	**181**	IAmb	IAmb	04 01 54.5	
	comp=Z,0.2nm,1.1s						
BRTR	**Keskin Array B**	**119.12**	**60**	PKP	**PKPdf**	**04 06 53.7**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=191,slow=4.4,SNR=3.2						
GERES	**GERESS Array B**	**119.22**	**41**	PKP	**PKPdf**	**04 06 53.8**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=222,slow=1.8,SNR=4.5						
AKASG	**Malin Array Be**	**126.27**	**50**	PKP	**PKPdf**	**04 07 06.5**	**-1.5**
	comp=Z,2.4nm,0.6s,baz=244,slow=1.7,SNR=7.1						
AKASG	**Malin Array Be**	**126.27**	**50**		**PKPdf**	**04 07 07.4**	**-0.6**
NOA	**NORSAR Array B**	**128.95**	**32**	PKP	**PKPdf**	**04 07 12.4**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=202,slow=2.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**131.44**	**134**	PKP	**PKiKP**	**04 07 19.4**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=207,slow=1.8,SNR=5.1						
YKA	**Yellowknife Ar**	**133.02**	**324**	PKP	**PKPdf**	**04 07 19.8**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=150,slow=1.7,SNR=5.5						
FINES	**FINESS Array B**	**133.58**	**39**	PKP	**PKPdf**	**04 07 20.6**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=242,slow=3.2,SNR=6.9						
AAK	**Ala-Archa**	**140.77**	**89**	PKP	**PKPdf**	**04 07 33.7**	**-2.0**
	comp=Z,2.3nm,0.5s,baz=270,slow=6.1,SNR=2.0						
OHAK	**Old Harbor**	**143.71**	**298**		**PKPdf**	**04 07 39.2**	**-1.0**
PRP	**Porcupine Dome**	**145.19**	**314**		**PKPdf**	**04 07 42.9**	**+0.2**
IL31		**145.31**	**312**		**PKPab**	**04 07 42.6**	**-0.2**
ILAR	**Eielson Array**	**145.31**	**312**	PKPbc	**PKPbc**	**04 07 42.3**	**-0.4**
	comp=Z,20nm,1.0s,baz=140,slow=2.6,SNR=14						
RND	**Reindeer**	**145.34**	**309**		**PKPab**	**04 07 43.4**	**+0.3**
CCB	**Clear Creek Bu**	**145.58**	**312**		**PKPab**	**04 07 43.5**	**-0.4**
WRH	**Wood River Hil**	**145.60**	**311**		**PKPab**	**04 07 43.7**	**-0.2**
COLA	**College**	**145.72**	**312**		**PKPab**	**04 07 44.2**	**-0.1**
BVAR	**Borovoye Array**	**145.82**	**74**	PKPbc	**PKPdf**	**04 07 43.7**	**-0.4**
	comp=Z,17nm,0.7s,baz=242,slow=3.2,SNR=14						
MLY	**Manley**	**146.87**	**311**		**PKPbc**	**04 07 47.9**	**+0.4**
MK31	**Makanchi Array**	**147.62**	**91**		**PKPbc**	**04 07 49.8**	**-0.3**
MKAR	**Makanchi Array**	**147.62**	**91**	PKPbc	**PKPbc**	**04 07 49.3**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=242,slow=2.6,SNR=7.3						
MKAR	**Makanchi Array**	**147.62**	**91**		**PKPbc**	**04 07 49.5**	**-0.6**
KURBB	**Kurchatov Arra**	**148.29**	**83**	PKPbc	**PKPbc**	**04 07 51.0**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=241,slow=4.1,SNR=5.1						
KURK	**Kurchatov**	**148.39**	**83**		**PKPbc**	**04 07 51.0**	**-0.9**
ZALV	**Zalesovo Beam**	**153.37**	**82**	PKPbc	**PKPbc**	**04 08 02.4**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=260,slow=6.0,SNR=2.4						
SONM	**Songino Array**	**159.95**	**116**	PKPab	**PKPab**	**04 08 45.0**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=226,slow=2.4,SNR=3.3						
KLR	**Kul'dur**	**168.82**	**174**	PKPab	**PKPab**	**04 09 22.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=209,slow=6.5,SNR=3.2						

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*ISCJB **16** 03:49:44.6±0.4, 42°.41N±0°.01×40°.90E±0°.02, h6^km±3^km, Error ellipse: s-maj=2.4km s-min=2.1km az=145.7*
*TIF **16** 03:49:46.0, 42°.34N×40°.98E, h24^km±1^km*
*MOS **16** 03:49:45.3±0.0, 42°.42N×40°.97E, h5^km, MPVA4.7, FELT I=III MSK at Sochi*
*AZER **16** 03:49:45.6±3.1, 42°.80N×40°.41E, h11^km, ml4.1/6, Error ellipse: s-maj=37.0km s-min=19.9km az=54.0*
*IDC **16** 03:49:45.5±0.8, 42°.68N×40°.76E, h0^km, mb1 3.9/4, mb1mx3.6/65, mbtmp3.7/4, ML4.1/3, Error ellipse: s-maj=11.6km s-min=7.6km az=173.0*
*ISK **16** 03:49:45.1, 42°.37N×40°.93E, h10^km, ML3.8/29*
*DDA **16** 03:49:46.0, 42°.25N×40°.91E, h9^km±5^km, ML3.9*
*NEIC **16** 03:49:46.5±3.2, 42°.38N±0°.04×40°.91E±0°.03, h14^km±6^km, ML3.8(ISK), ML4.1(AZER)*

ISC 16 03:49:45.4±1.0, 42°.40N±0°.02×40°.92E±0°.02, h11^km±8^km, n168, σ1§60/248, 6C-13D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.98**	**144**	P	**Pb**	**03 50 04.3**	**-0.1**
BATM				S	**Sb**	**03 50 17.5**	**+0.1**
BATM	**Batumi**	**0.98**

DAGI *i* S **Sn** **03 50 29.8 -2.5**
DAGI IAML_P
comp=Z,21μm,0.2s
TKB Tkibuli 1.54 91 P **Pn** **03 50 11.9 -0.8**
TKB S **Sn** **03 50 31.9 -0.8**
EPOS Posof 1.62 123 *i* P **Pn** **03 50 14.7 +0.7**
DDEM Demirkent 1.63 157 *i* P **Pn** **03 50 14.1 0.0**
MACK Trabzon 1.69 211 *i* P **Pn** **03 50 15.7 +0.8**
MACK IAML_P
comp=Z,29μm,0.1s
GUZR Guzeripl' 1.70 340 *e*Pg **Pg** **03 50 17.7 -0.3**
ONI Oni 1.88 83 P **Pn** **03 50 17.2 -0.4**
ONI S **Sn** **03 50 41.4 +0.1**
ONI Oni 1.88 83⇓ *i*PN **Pn** **03 50 17.1 -0.4**
ONI Oni 1.88 83 *i* Pg **Pn** **03 50 17.1 -0.4**
ONI *e*Sg **Sn** **03 50 42.1 +0.8**
ONI Oni 1.88 83 PN **Pn** **03 50 17.2 -0.4**
KBZ Khabaz 1.96 47⇓ *i*PN **Pn** **03 50 19.2 +0.6**
KBZ Khabaz 1.96 47 Pg **Pb** **03 50 20.5 -0.6**
comp=Z,61nm,0.3s,baz=236,slow=10,SNR=214
KBZ Lg Lg 03 50 45.0
comp=Z,260nm,0.3s,baz=72,slow=18,SNR=14
KBZ Khabaz 1.96 47 *i* Pg **Pn** **03 50 19.2 +0.6**
KBZ *e*Sg **Sb** **03 50 45.0 -0.6**
KIV Kislovodsk 2.02 39 PN **Pb** **03 50 21.4 -0.8**
KIV Kislovodsk 2.02 39 PN **Pn** **03 50 20.3 +0.8**
KIV Kislovodsk 2.02 39 **Pb** **03 50 21.4 -0.8**
DIGR Digorskoe uzhe 2.02 75 *e*PN **Pn** **03 50 20.0 +0.3**
DIGR pmax pmax
comp=Z,54nm,0.6s
DIGR Digorskoe uzhe 2.02 75 *e*Pg **Pn** **03 50 19.9 +0.3**
DIGR *e*Sg **Sn** **03 50 46.4 +1.3**
KRIK Erzurum-spir 2.06 180 *i* P **Pb** **03 50 21.9 -1.0**
KRIK IAML_P
comp=Z,21μm,0.2s
BAYT Aydıntepe-Bayb 2.09 197 PN **Pn** **03 50 20.8 +0.3**
SENK Senkaya-Erzuru 2.13 149 PN **Pn** **03 50 21.4 +0.3**
BAYB BAYBURT 2.20 193 *i* P **Pn** **03 50 23.3 +1.3**
BAYB IAML_P
comp=Z,3μm,0.2s
AGYR Agha 2.22 322 *e*Pg **Pb** **03 50 24.5 -1.0**
AGYR *e*Sg **Sb** **03 50 52.3 -0.7**
ZEI Tsey 2.23 79 *e*PN **Pn** **03 50 23.0 +0.5**
ZEI *e*S **Sb** **03 50 52.6 -1.0**
ZEI pmax pmax
comp=Z,92nm,0.6s
ZEI smax smax
comp=N,757nm,0.6s
ZEI Tsey 2.23 79 *e*Pg **Pn** **03 50 23.0 +0.5**
ZEI *e*Sg **Sb** **03 50 52.4 -1.3**
NCK Nalchik 2.25 60⇓ *e*PN **Pn** **03 50 23.6 +1.1**
NCK *e*S **Sb** **03 50 55.4 +1.6**
NCK pmax pmax
comp=Z,265nm,0.6s
NCK smax smax
comp=E,462nm,0.6s
NCK Nalchik 2.25 60 *e*Pg **Pn** **03 50 23.5 +1.0**
NCK *e*Sg **Sn** **03 50 51.9 +1.6**
PYA1 Pyatigorsk 2.30 43 *e*PN **Pn** **03 50 24.3 +1.1**
PYA1 *e*S **Sb** **03 50 55.2 -0.1**
PYA1 Pyatigorsk 2.30 43 *e*Pn **Pn** **03 50 24.3 +1.1**
PYA1 *e*Sn **Sn** **03 50 53.4 +1.9**
KBTC Kuba-Taba 2.31 51 *i* PN **Pn** **03 50 24.6 +1.2**
KBTC *e*S **Sg** **03 50 57.8 -1.7**
KBTC Kuba-Taba 2.31 51 *i* Pn **Pn** **03 50 24.6 +1.2**
KBTC *e*Sn **Sn** **03 50 53.0 +1.2**
LSNR Lesken 2.31 67 *e*PN **Pn** **03 50 24.2 +0.8**
LSNR *e*S **Sb** **03 50 54.2 -1.4**
LSNR Lesken 2.31 67 *e*Pn **Pn** **03 50 24.2 +0.8**
LSNR *e*Sn **Sb** **03 50 54.2 -1.4**
AKDA Akdag 2.32 172 *i* P **Pg** **03 50 33.6 +3.8**
NVNR Nevinnomyssk 2.34 19 *e*Pn **Pn** **03 50 25.4 +1.7**
NVNR *e*Sn **Sb** **03 50 56.6 +0.2**
KARS Kars 2.40 137 PN **Pg** **03 50 33.8 +2.4**
KARS Kars 2.40 137 PN **Pn** **03 50 25.7 +0.9**
KARS Kars 2.40 137 **Pb** **03 50 29.6 +0.9**
KARS Pg **Pg** **03 50 33.8 +2.4**
KOPT Kop Dagi 2.40 188 *i* P **Pb** **03 50 28.6 -0.2**
KOPT IAML_P
comp=Z,3μm,0.2s
KORR Kora 2.42 72 *e*PN **Pn** **03 50 26.5 +1.6**
KORR *e*S **Sn** **03 50 56.4 +1.9**
KORR Kora 2.42 72 *e*Pn **Pn** **03 50 26.5 +1.6**
KORR *e*Sn **Sn** **03 50 56.4 +1.9**
HOMI Horasan 2.47 162 *i* P **Pb** **03 50 28.5 -1.4**
HOMI IAML_P
comp=Z,2μm,0.2s
STDR Stavd-Durt 2.50 66 *e*PN **Pn** **03 50 27.3 +1.3**
STDR *e*S **Sn** **03 50 58.2 +1.6**
STDR Stavd-Durt 2.50 66 *e*Pn **Pn** **03 50 27.3 +1.3**
STDR *e*Sn **Sn** **03 50 58.2 +1.6**
KOPR Koprukoy-ERZUR 2.51 163 PN **Pn** **03 50 26.9 +0.6**
ARNR Ardon 2.60 71 *e*PN **Pb** **03 50 32.2 +0.3**
ARNR *e*S **Sb** **03 51 03.8 0.0**
ARNR Ardon 2.60 71 *e*Pn **Pb** **03 50 32.2 +0.3**
ARNR *e*Sn **Sb** **03 51 03.8 0.0**
EAK Akyaka 2.65 129 *i* P **Pn** **03 50 29.9 +1.7**
EAK IAML_P
comp=Z,2μm,0.4s
KZRT Kazreti 2.79 110 P **Pn** **03 50 31.5 +1.5**
KZRT S **Sb** **03 51 07.3 -2.0**
EATA Eleskirt 2.80 154 *i* P **Pb** **03 50 33.4 -2.2**
PRTR Priterechnaya 2.81 60 *e*PN **Pb** **03 50 37.0 +1.5**
PRTR *e*S **Sn** **03 51 04.9 +0.8**
PRTR Priterechnaya 2.81 60 *e*Sn **Sn** **03 51 04.9 +0.8**
BTKR Batakoyurt 2.83 69 *e*PN **Pn** **03 50 32.0 +1.4**
BTKR *e*S **Sn** **03 51 07.6 +2.9**
BTKR Batakoyurt 2.83 69 *e*Pn **Pn** **03 50 32.0 +1.4**
BTKR *e*Sn **Sn** **03 51 07.6 +2.9**
TBLG Delisi 2.92 102 P **Pn** **03 50 32.9 +1.1**
TBLG S **Sn** **03 51 08.5 +1.7**
TBLG Delisi 2.92 102 PN **Pn** **03 50 32.7 +0.9**
TBLG Delisi 2.92 102 PN **Pn** **03 50 32.5 +0.7**
TBLG Delisi 2.92 102 **Pn** **03 50 32.7 +0.9**
ERZN Erzincan 2.95 198 PN **Pn** **03 50 33.2 +0.9**
SEAG Tbilisi Sea 2.96 101 P **Pn** **03 50 33.6 +1.3**
SEAG S **Sb** **03 51 14.4 0.0**
BTNK Botanikuri 2.98 103 P **Pn** **03 50 33.6 +1.0**
BTNK S **Sb** **03 51 14.2 -0.6**
GL1R Gelendzhik 2.98 317 *e*Pn **Pn** **03 50 35.1 +2.5**
GL1R *e*Sn **Sb** **03 51 12.0 -3.0**
GOF Gofitskoye 3.07 29⇓ *e*PN **Pn** **03 50 34.9 +1.1**
GOF *e*S **Sn** **03 51 11.1 +0.6**
GOF Gofitskoye 3.07 29 *e*Pn **Pn** **03 50 34.9 +1.1**
GOF *e*Sn **Sn** **03 51 11.1 +0.6**
KARO Karliova-Bingo 3.09 178 PN **Pn** **03 50 35.4 +1.1**
RSDY Resadiye-TOKAT 3.36 235 PN **Pn** **03 50 39.4 +1.5**
BNGB Bingl 3.41 183 PN **Pn** **03 50 39.8 +1.2**
DGRG David-gareji 3.46 104 P **Pn** **03 50 41.6 +2.4**
DGRG David-gareji 3.46 104 *e*PN **Pn** **03 50 42.1 +2.9**
DGRG David-gareji 3.46 104 *e*Pn **Pn** **03 50 42.1 +2.9**
TASB TASBURUN-IGDIR 3.48 133 PN **Pn** **03 50 40.8 +1.3**
MLAZ Malazgirt-MUS 3.48 159 PN **Pn** **03 50 40.7 +1.0**
ANN Anapa 3.49 315 *i* PN **Pn** **03 50 43.2 +3.7**
ANN Anapa 3.49 315 *e*Pn **Pn** **03 50 43.1 +3.7**
ANN *e*Sn **Sn** **03 51 24.9 +4.2**
BINT Bingol 3.54 185 PN **Pn** **03 50 39.7 -0.7**
QZX Qazax, Azerbai 3.59 110 P **Pb** **03 50 47.7 -1.2**
SNR=10
QZX S **Sb** **03 51 34.6 +2.1**
GNI Garni 3.65 127 PN **Pb** **03 50 48.7 -1.3**
GNI S **Sb** **03 51 37.6 +3.2**
GNI Garni 3.65 127 Pn **Pb** **03 50 49.1 -0.9**
comp=Z,5.4nm,0.3s,baz=305,slow=7,3,SNR=12
GNI Sn **Sb** **03 51 37.6 +3.2**
comp=Z,18nm,0.3s,baz=202,slow=22,SNR=4.0
GNI Garni 3.65 127 PN **Pn** **03 50 43.4 +1.4**
GNI Garni 3.65 127 **Pb** **03 50 48.7 -1.3**
GROC Groznyy 3.68 76 *e*PN **Pn** **03 50 43.2 +1.1**
GROC *e*S **Sn** **03 51 26.4 +0.9**
GROC Groznyy 3.68 76 *e*Pn **Pn** **03 50 43.2 +1.1**
GROC *e*Sn **Sn** **03 51 26.4 +0.9**
SVSK Karacayir 3.86 231 PN **Pn** **03 50 46.1 +1.4**
KVT Kavak 3.88 252 PN **Pn** **03 50 46.4 +1.4**
TOKT Tokat 3.89 239 PN **Pn** **03 50 46.8 +1.6**
GURO Guroymak-BITLI 3.94 167 PN **Pn** **03 50 47.1 +1.2**
CLDR Caldiran 3.97 144 PN **Pn** **03 50 47.7 +1.3**
DDFL Dedoflistskaro 3.99 102 P **Pb** **03 50 58.8 +3.0**
GDB GEDABAY 4.00 113 P **Pb** **03 50 54.4 -1.5**
SNR=6.4
GDB S **Sb** **03 51 45.0 +0.7**

LGD Lagodekhi 4.00 96 P **Pn** **03 50 43.6 -3.0**
LGD S **Sb** **03 51 39.3 -4.9**
LGD Lagodekhi 4.00 96 *e*PN **Pn** **03 50 44.2 -2.4**
LGD Lagodekhi 4.00 96 *e*Pn **Pn** **03 50 44.2 -2.4**
LGD *e*Sn **Sn** **03 51 30.6 -2.9**
SVRC Sivrice-ELAZID 4.20 198 PN **Pn** **03 50 50.9 +1.3**
SVAN Silvan-Diyarba 4.25 177 PN **Pn** **03 50 51.5 +1.4**
DIKM Dikmen 4.28 262 PN **Pn** **03 50 52.5 +2.0**
ZKTA Zakatala 4.32 98 P **Pb** **03 50 57.8 -3.5**
SNR=5.2
ZKTA S **Sb** **03 51 54.3 +1.0**
DBC Dubki 4.40 80⇓ *e*PN **Pn** **03 50 51.2 -0.9**
DBC Dubki 4.40 80 *e*Pn **Pn** **03 50 53.3 +1.2**
DBC *e*Sn **Sn** **03 51 43.3 -0.1**
GANJ Ganja 4.42 112 P **Pb** **03 50 59.9 -3.1**
SNR=6.5
GANJ S **Sb** **03 51 56.1 -0.2**
GNBR Gunib 4.48 88⇓ *e*PN **Pn** **03 50 53.7 +0.5**
GNBR Gunib 4.48 88 *e*Pn **Pn** **03 50 54.4 +1.2**
GNBR *e*Sn **Sn** **03 51 44.5 -0.8**
MALT Malatya 4.50 206 PN **Pn** **03 50 55.3 +1.7**
SBZ Shahbuz 4.62 129 P **Pb** **03 51 02.9 -3.6**
SNR=3.4
SBZ S **Sb** **03 52 03.7 +1.6**
DARE Darende-Malaty 4.64 216 PN **Pn** **03 50 56.9 +1.5**
SEKA Sheki 4.84 102 P Pb 03 51 05.3 -4.9
SNR=3.6
SEKA S **Sb** **03 52 09.2 +0.8**
MAK Makhachkala 4.89 81⇑ *e*PN **Pn** **03 50 57.9 -0.8**
MAZI Mazidag 4.95 184 PN **Pn** **03 51 01.5 +1.7**
SUDU Sudak 4.96 302⇓ *i*PN **Pn** **03 51 01.3 +1.5**
SUDU *i* S **Sn** **03 51 57.4 +0.2**
SUDU pmax pmax
comp=Z,13nm,0.2s
SUDU smax smax
comp=E,105nm,0.6s
SUDU smax smax
comp=N,54nm,0.7s
SUDU Sudak 4.96 302 *e*Pn **Pn** **03 51 01.3 +1.5**
SUDU *e*Sn **Sn** **03 51 57.4 +0.2**
YOZ Yozgat 5.05 239 PN **Pn** **03 51 03.3 +2.1**
BZK Bozkurt 5.16 267 PN **Pn** **03 51 04.6 +2.1**
AKT Akhty 5.16 98 *e*PN **Pn** **03 51 01.1 -1.6**
AKT *e* 03 51 19.1
AKT *e*S **Sn** **03 52 02.8 +0.5**
AKT *e* 03 52 22.3
AKT *e* 03 52 37.4
AKT pmax pmax
comp=Z,8.0nm,0.6s
AKT smax smax
comp=N,39nm,0.4s
AKT smax smax
comp=E,57nm,0.5s
AKT smax smax
comp=E,68nm,0.4s
AKT MLR MLR
comp=Z,78nm,8.0s
AKT Akhty 5.16 98 *e*Pn **Pn** **03 51 03.8 +1.2**
AKT *e*Sn **Sn** **03 51 59.6 -2.6**
ORD Ordubad 5.19 130 P **Pb** **03 51 11.8 -4.4**
ORD S **Sb** **03 52 17.8 -0.7**
CORM Corum 5.23 247 PN **Pn** **03 51 05.9 +2.3**
ALU Alushta 5.26 298⇓ *i*PN **Pn** **03 51 05.9 +2.1**
ALU *e*S **Sn** **03 52 04.4 0.0**
ALU pmax pmax
comp=Z,65nm,0.3s
ALU smax smax
comp=N,92nm,0.4s
ALU smax smax
comp=E,117nm,0.4s
ALU smax smax
comp=N,109nm,0.3s
ALU smax smax
comp=E,46nm,0.3s
ALU Alushta 5.26 298 *e*Pn **Pn** **03 51 05.9 +2.1**
ALU *e*Sn **Sn** **03 52 04.4 0.0**
YAL Yalta 5.35 295⇓ *e*PN **Pn** **03 51 06.6 +1.5**
YAL *i* S **Sn** **03 52 05.7 -0.9**
YAL Yalta 5.35 295 *e*Pn **Pn** **03 51 06.6 +1.5**
SIM Simferopol' 5.55 300 *e*P **Pn** **03 51 09.8 +1.9**
SIM *e*S **Sn** **03 52 11.1 -0.6**
SIM pmax pmax
comp=Z,36nm,0.3s
SIM smax smax
comp=E,42nm,1.0s
SIM smax smax
comp=N,46nm,0.9s
SIM Simferopol' 5.55 300 *e*Pn **Pn** **03 51 09.8 +1.9**
SIM *e*Sn **Sn** **03 52 11.1 -0.6**
SEV Sevastopol' 5.70 295⇓ *e*P **Pn** **03 51 10.1 +0.3**
SEV *i* S **Sn** **03 52 13.6 -1.6**
SEV pmax pmax
comp=Z,8.0nm,0.3s
SEV smax smax
comp=N,33nm,0.3s
SEV smax smax
comp=E,12nm,0.3s
SEV Sevastopol' 5.70 295 *e*Pn **Pn** **03 51 10.1 +0.3**
SEV *e*Sn **Sn** **03 52 13.6 -1.6**
BR131 Keskin Array S 6.12 247 P **Pn** **03 51 18.2 +2.4**
BR131 Keskin Array S 6.12 247 **Pn** **03 51 18.2 +2.4**
BRTR Keskin Array B 6.12 247 Pn **Pn** **03 51 18.5 +2.7**
comp=E,1.1nm,0.3s,baz=53,slow=11,SNR=6.4
BRTR Sn **Sn** **03 52 27.8 +2.0**
comp=E,0.9nm,0.3s,baz=45,slow=25,SNR=2.5
BRTR Keskin Array B 6.12 247 **Sn** **03 52 27.6 +1.7**
VSR Storozhevoye 8.90 353 *e*P **Pn** **03 51 52.1 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
ISP Isparta 9.18 244 P **Pn** **03 52 00.5 +2.7**
ISP Isparta 9.18 244 Pn **Pn** **03 52 00.5 +2.7**
TIRR Tirgusor 9.33 287 P **Pn** **03 51 58.5 -1.2**
TIRR Tirgusor 9.33 287 Pn **Pn** **03 51 58.5 -1.2**
CSS Mathiatis 9.50 221 Pn **Pn** **03 52 02.3 +0.2**
LPSR Galich'ya Gora 10.29 353 *e*P **Pn** **03 52 11.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,1.8s
MLR Muntele Rosu 11.23 291 Pn **Pn** **03 52 25.4 -0.5**
comp=Z,0.4nm,0.3s,baz=105,slow=20,SNR=1.9
MLR Sn **Sn** **03 54 26.0 -5.4**
baz=74,slow=9.5,SNR=0.7
AKASG Malin Array Be 11.55 320 *i* P **Pn** **03 52 29.3 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 11.55 320 Pn **Pn** **03 52 27.4 -2.7**
comp=Z,2.9nm,0.3s,baz=138,slow=13,SNR=8.4
AKASG Malin Array Be 11.55 320 **Pn** **03 52 29.3 -0.8**
AKBB Malin Array Si 11.55 320⇑ *e*P **Pn** **03 52 29.0 -1.1**
BUR08 Bucovina Ar. S 12.29 301 **Pn** **03 52 39.4 -0.9**
OBN Obninsk 13.04 349⇓ *e*P **Pn** **03 52 54.4 +4.0**
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,3μm,19.0s
ABKAR Abkulak array 14.91 56 **Pn** **03 53 16.2 +0.3**
ARU Arti 18.05 33⇑ *e*P **P** **03 53 57.6 +1.2**
ARU pmax pmax
comp=Z,2.0nm,0.3s
ARU Arti 18.05 33 **P** **03 53 57.2 +0.8**
KLNR Kaliningrad 18.28 319⇑ *e*P **Pn** **03 53 57.7 -1.1**
KHC Kasperske Hory 20.16 299⇓ *e*P **P** **03 54 18.8 -0.8**
AAK Ala-Archa 24.66 78⇓ *e*P **P** **03 55 03.2 -3.0**

*ISCJB **16** 03:52:10.4±1.6, 60°.6S±0°.2×46°.5W±0°.4, h10km, mb4.2/4, Error ellipse: s-maj=38.0km s-min=11.6km az=42.9*
*IDC **16** 03:52:10.7±1.2, 60°.45S×46°.30W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/27, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=41.4km s-min=29.1km az=2.0*
ISC 16 03:52:11.9±1.1, 60°.5S±0°.2×46°.4W±0°.2, h10km, n9, σ0°67/10, mb3.9/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**9.19**	**235**	Pn	**Pn**		**03 54 24.9**		**+0.5**
	1.0nm,0.3s,baz=53,slow=12,SNR=3.3								
PMSA				Sn	**Sn**		**03 56 07.1**		**-0.6**
	1.0nm,0.3s,baz=22,slow=10,SNR=5.5								
PLCA	**Paso Flores**	**24.79**	**312**	P	**P**		**03 57 34.4**		**+0.6**
	1.2nm,0.5s,baz=174,slow=7.4,SNR=6.3								
SIV	**San Ignacio**	**45.71**	**340**	P	**P**		**04 00 32.2**		**-0.8**
	1.0nm,0.5s,baz=198,slow=8.8,SNR=2.9								
RPN	**Rapa Nui**	**53.53**	**279**	P	**P**		**04 01 32.9**		**+0.4**
	25nm,0.4s,baz=135,slow=7.1,SNR=2.0								
TORD	**Torodi Ar. Bea**	**82.76**	**47**	P	**P**		**04 04 36.6**		**+0.8**
	0.5nm,0.7s,baz=213,slow=6.1,SNR=2.1								
ILAR	**Eielson Array**	**145.47**	**312**	PKPbc	**PKPdf**		**04 11 48.1**		**-0.4**
	1.2nm,0.8s,baz=128,slow=3.9,SNR=3.5								
BVAR	**Borovoye Array**	**145.79**	**74**	PKPbc	**PKPdf**		**04 11 48.9**		**-0.5**
	0.9nm,0.5s,baz=219,slow=5.0,SNR=5.0								
MKAR	**Makanchi Array**	**147.53**	**91**	PKPbc	**PKPbc**		**04 11 54.6**		**-0.6**
	0.5nm,0.5s,baz=235,slow=4.5,SNR=2.5								
KURBB	**Kurchatov Arra**	**148.22**	**83**	PKPbc	**PKPbc**		**04 11 56.8**		**0.0**
	0.4nm,0.6s,baz=233,slow=3.5,SNR=1.8								

*ISCJB **16** 03:53:41.9±0.7, 60°.52S±0°.10×46°.6W±0°.2, h10km, mb4.1/9, Error ellipse: s-maj=16.7km s-min=8.9km az=140.0*
*IDC **16** 03:53:42.6±0.9, 60°.44S×46°.52W, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.1/27, mbtmp4.2/9, ML4.0/1, Error ellipse: s-maj=28.3km s-min=19.5km az=28.0*
*NEIC **16** 03:53:43.8±1.6, 60°.4S±0°.1×46°.5W±0°.2, h10km±2km, mb4.3/6*
ISC 16 03:53:44.1±0.7, 60°.4S±0°.1×46°.5W±0°.1, h10km, n22, σ1°24/20, mb4.1/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.18**	**45**	Pn	**Pn**		**03 55 41.5**		**-1.1**
PMSA	**Palmer Station**	**9.19**	**234**	Pn	**Pn**		**03 55 56.0**		**-0.5**
	1.7nm,0.3s,baz=59,slow=10,SNR=6.1								
PMSA				Sn	**Sn**		**03 57 39.7**		**-0.2**
	0.7nm,0.3s,baz=284,slow=22,SNR=2.7								
PLCA	**Paso Flores**	**24.70**	**312**	P	**P**		**03 59 04.3**		**-0.9**
	3.5nm,0.9s,baz=170,slow=8.8,SNR=4.0								
CFA	**Coronel Fontan**	**32.24**	**324**	P	**P**		**04 00 13.3**		**+0.9**
	0.8nm,0.5s,baz=161,slow=11,SNR=2.8								
CPUP	**Villa Florida**	**34.90**	**343**	P	**P**		**04 00 35.2**		**-0.3**
	1.6nm,0.9s,baz=171,slow=13,SNR=2.3								
BDFB	**Brasilia**	**44.74**	**358**	P	**P**		**04 01 56.8**		**-0.7**
	0.8nm,0.4s,baz=190,slow=6.1,SNR=1.7								
BDFB	**Brasilia**	**44.74**	**358**	IAmb	IAmb		04 02 04.8		
	comp=Z,7.5nm,1.1s								
SIV	**San Ignacio**	**45.63**	**340**	P	**P**		**04 02 04.4**		**-0.1**
	comp=Z,2.9nm,0.7s,baz=180,slow=8.3,SNR=8.8								
LPAZ	**La Paz**	**46.79**	**331**	P	**P**		**04 02 17.6**		**+3.3**
	comp=Z,1.1nm,0.8s,baz=178,slow=12,SNR=2.8								
LPAZ	**La Paz**	**46.79**	**331**	P	**P**		**04 02 13.2**		**-1.1**
SUR	**Sutherland**	**51.32**	**89**	P	**P**		**04 02 48.4**		**-0.1**
	comp=Z,14nm,1.0s,baz=225,slow=10.0,SNR=2.8								
SAML	**Samuel**	**52.88**	**339**	P	**P**		**04 03 02.0**		**+2.0**
SAML				IAmb	IAmb		04 03 07.0		
	comp=Z,3.3nm,0.8s								
BOSA	**Boshof**	**56.59**	**90**	P	**P**		**04 03 27.3**		**+0.4**
	comp=Z,4.5nm,0.9s,baz=210,slow=7.0,SNR=4.1								
BOSA	**Boshof**	**56.59**	**90**	IAmb	IAmb		04 03 27.5		
	comp=Z,3.5nm,1.0s								
TORD	**Torodi Ar. Bea**	**82.75**	**47**	P	**P**		**04 06 09.0**		**+1.0**
	comp=Z,1.7nm,0.8s,baz=197,slow=5.8,SNR=4.1								
TORD	**Torodi Ar. Bea**	**82.75**	**47**	IAmb	IAmb		04 06 14.6		
	comp=Z,1.7nm,0.8s								
ILAR	**Eielson Array**	**145.39**	**312**	PKPbc	**PKPbc**		**04 13 19.6**		**-0.8**
	comp=Z,1.6nm,0.8s,baz=139,slow=2.6,SNR=8.2								
ILAR	**Eielson Array**	**145.39**	**312**		**PKiKP**		**04 13 23.4**		**-1.0**
BVAR	**Borovoye Array**	**145.82**	**74**	PKPbc	**PKPdf**		**04 13 21.8**		**+0.2**
	comp=Z,2.9nm,0.6s,baz=219,slow=6.9,SNR=8.3								
MKAR	**Makanchi Array**	**147.58**	**91**	PKPbc	**PKPdf**		**04 13 26.5**		**+1.7**
	comp=Z,1.6nm,0.8s,baz=237,slow=3.0,SNR=4.9								
KURBB	**Kurchatov Arra**	**148.27**	**83**	PKPbc	**PKPbc**		**04 13 29.0**		**-0.2**
	comp=Z,0.5nm,0.5s,baz=234,slow=3.1,SNR=4.1								
KURK	**Kurchatov**	**148.37**	**83**		**PKPbc**		**04 13 29.0**		**-0.4**

*ISCJB **16** 03:56:03.5±0.6, 60°.52S±0°.07×47°.2W±0°.2, h10km, mb4.1/11, Error ellipse: s-maj=12.2km s-min=9.2km az=40.4*
*IDC **16** 03:56:04.0±0.7, 60°.46S×47°.21W, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/28, mbtmp4.2/12, ML3.6/1, Error ellipse: s-maj=23.7km s-min=17.9km az=41.0*
*NEIC **16** 03:56:04.9±1.6, 60°.48S±0°.06×47°.1W±0°.2, h10km±2km, mb4.4/8*
ISC 16 03:56:04.8±0.6, 60°.49S±0°.10×47°.01W±0°.09, h10km, n33, σ0°94/30, mb4.3/12, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.42**	**47**	Pn	**Pn**		**03 58 05.2**		**-1.5**
PMSA	**Palmer Station**	**8.93**	**234**	Pn	**Pn**		**03 58 11.8**		**-1.9**
	0.7nm,0.3s,baz=9.5,slow=6.1,SNR=6.0								
PMSA				Sn	**Sn**		**03 59 55.7**		**+1.5**
	0.9nm,0.3s,baz=62,slow=19,SNR=1.6								
TRQA	**Tornquist**	**24.37**	**330**	P	**P**		**04 01 22.6**		**-0.2**
TRQA				IAmb	IAmb		04 01 25.4		
	comp=Z,12nm,1.0s								
PLCA	**Paso Flores**	**24.54**	**313**	P	**P**		**04 01 24.7**		**+0.2**
	comp=Z,4.0nm,1.0s,baz=177,slow=10,SNR=5.0								
PLCA	**Paso Flores**	**24.54**	**313**	IAmb	IAmb		04 01 30.4		
	comp=Z,1.8nm,1.0s								
CFA	**Coronel Fontan**	**32.12**	**324**	P	**P**		**04 02 32.0**		**-0.2**
	comp=Z,1.3nm,0.4s,baz=180,slow=11,SNR=4.8								
CPUP	**Villa Florida**	**34.87**	**344**	P	**P**		**04 02 55.9**		**-0.1**
	comp=Z,1.4nm,0.6s,baz=138,slow=5.8,SNR=4.1								
MAW	**Mawson**	**42.44**	**148**	P	**P**		**04 03 57.4**		**-1.7**
BDFB	**Brasilia**	**44.79**	**359**	P	**P**		**04 04 18.5**		**-0.2**
	comp=Z,2.9nm,0.6s,baz=160,slow=1.1,SNR=5.9								
BDFB	**Brasilia**	**44.79**	**359**	IAmb	IAmb		04 04 26.2		
	comp=Z,3.3nm,1.1s								
SIV	**San Ignacio**	**45.59**	**341**	P	**P**		**04 04 25.3**		**+0.3**
	comp=Z,2.3nm,0.7s,baz=166,slow=8.4,SNR=11								
LPAZ	**La Paz**	**46.71**	**332**	P	**P**		**04 04 35.1**		**+0.7**
	comp=Z,1.2nm,0.7s,baz=156,slow=5.6,SNR=3.7								
LPAZ	**La Paz**	**46.71**	**332**	IAmb	IAmb		04 04 39.3		
	comp=Z,1.2nm,0.7s								
SUR	**Sutherland**	**51.60**	**89**	P	**P**		**04 05 13.4**		**+2.1**
	comp=Z,6.8nm,0.9s,baz=203,slow=7.4,SNR=4.7								
SAML	**Samuel**	**52.84**	**340**	P	**P**		**04 05 21.1**		**+0.7**
SAML				IAmb	IAmb		04 05 21.8		
	comp=Z,4.4nm,0.7s								
BOSA	**Boshof**	**56.87**	**90**	P	**P**		**04 05 50.7**		**+1.0**
	comp=Z,4.0nm,0.9s,baz=212,slow=6.4,SNR=3.4								
BOSA	**Boshof**	**56.87**	**90**	IAmb	IAmb		04 05 51.4		
	comp=Z,15nm,1.2s								
TORD	**Torodi Ar. Bea**	**83.00**	**48**	P	**P**		**04 08 30.9**		**+1.0**
	comp=Z,0.9nm,0.7s,baz=207,slow=5.9,SNR=5.4								
ASAR	**Alice Springs**	**96.15**	**181**	P	**P**		**04 09 33.9**		**+1.1**
	comp=Z,0.9nm,0.9s,baz=180,slow=4.6,SNR=4.4								
WRA	**Warramunga Arr**	**99.85**	**181**	P	**Pdif**		**04 09 50.2**		**+0.8**
	comp=Z,0.5nm,1.0s,baz=185,slow=4.1,SNR=3.3								
AKASG	**Malin Array Be**	**126.56**	**50**	PKP	**PKPdf**		**04 15 06.5**		**-0.3**
	comp=Z,0.6nm,0.5s,baz=236,slow=2.8,SNR=3.1								
FINES	**FINESS Array B**	**133.85**	**40**	PKP	**PKPdf**		**04 15 19.9**		**-0.4**
	comp=Z,3.9nm,0.9s,baz=192,slow=4.1,SNR=3.7								
IL31		**145.22**	**312**		**PKPbc**		**04 15 40.4**		**-0.2**
ILAR	**Eielson Array**	**145.22**	**312**	PKPbc	**PKPdf**		**04 15 41.0**		**0.0**
	comp=Z,3.2nm,0.5s,baz=142,slow=1.8,SNR=35								
ILAR	**Eielson Array**	**145.22**	**312**		**PKPbc**		**04 15 40.4**		**-0.3**
RND	**Reindeer**	**145.24**	**309**		**PKPbc**		**04 15 39.4**		**-1.5**
CCB	**Clear Creek Bu**	**145.50**	**312**		**PKPab**		**04 15 42.0**		**+0.2**
WRH	**Wood River Hil**	**145.51**	**311**		**PKPab**		**04 15 42.3**		**+0.4**
BVAR	**Borovoye Array**	**146.10**	**74**	PKPbc	**PKPab**		**04 15 44.5**		**+0.1**
	comp=Z,2.7nm,0.5s,baz=217,slow=4.7,SNR=7.0								
MK31

QSPA	**South Pole Qui**	**29.69**	**180**	P		**P**	**04 02 41.5**	**-1.7**
QSPA				IAmb		IAmb	04 02 43.6	
comp=Z,2.8nm,0.7s								
CPUP	**Villa Florida**	**35.05**	**342**	P		**P**	**04 03 29.4**	**-0.8**
comp=Z,1.5nm,0.7s,baz=172,slow=8.6,SNR=4.3								
SIV	**San Ignacio**	**45.78**	**340**	P		**P**	**04 04 58.6**	**-0.5**
comp=Z,2.5nm,0.6s,baz=172,slow=8.9,SNR=4.9								
SAML	**Samuel**	**53.04**	**339**	P		**P**	**04 05 54.4**	**0.0**
SAML				IAmb		IAmb	04 05 54.9	
comp=Z,4.9nm,0.9s								
H10N3	**ASCENSION HYDR**	**57.68**	**38**	T		T	05 08 43.5	
baz=199								
H10N1	**ASCENSION HYDR**	**57.68**	**38**	T		T	05 08 42.5	
baz=199								
H10N2	**ASCENSION HYDR**	**57.70**	**38**	T		T	05 08 46.5	
baz=199								
TORD	**Torodi Ar. Bea**	**82.73**	**47**	P		**P**	**04 09 01.2**	**0.0**
comp=Z,1.6nm,0.9s,baz=208,slow=5.7,SNR=4.1								
TORD	**Torodi Ar. Bea**	**82.73**	**47**	IAmb		IAmb	04 09 04.5	
comp=Z,1.7nm,1.0s								
IL31		**145.57**	**312**			**PKPbc**	**04 16 13.9**	**-0.4**
ILAR	**Eielson Array**	**145.57**	**312**	PKPbc		**PKPbc**	**04 16 14.0**	**-0.4**
comp=Z,3.9nm,1.0s,baz=150,slow=3.2,SNR=6.5								
ILAR	**Eielson Array**	**145.57**	**312**			**PKPdf**	**04 16 13.6**	**-0.5**
BVAR	**Borovoye Array**	**145.72**	**74**	PKPbc		**PKPdf**	**04 16 14.6**	**-0.1**
comp=Z,2.6nm,0.5s,baz=225,slow=1.9,SNR=4.5								
MKAR	**Makanchi Array**	**147.44**	**91**	PKPbc		**PKPbc**	**04 16 21.1**	**+0.7**
comp=Z,1.4nm,0.6s,baz=232,slow=2.7,SNR=3.5								
KURBB	**Kurchatov Arra**	**148.14**	**83**	PKPbc		**PKPbc**	**04 16 22.8**	**+0.7**
comp=Z,1.7nm,0.3s,baz=235,slow=3.4,SNR=2.0								
KURK	**Kurchatov**	**148.24**	**83**			**PKPbc**	**04 16 22.9**	**+0.4**
ZALV	**Zalesovo Beam**	**153.23**	**82**	PKPbc		**PKiKP**	**04 16 34.6**	**+0.3**
comp=Z,0.6nm,0.3s,baz=215,slow=1.8,SNR=1.2								

*IDC **16** 04:01:16.2±0.5, 60°.24S×46°.87W, h0km, mb4.7/12, mb1 4.7/13, mb1mx4.5/32, mbtmp4.7/13, ML4.2/1, Error ellipse: s-maj=19.2km s-min=14.5km az=67.0*
*ISCJB **16** 04:01:17.0±0.3, 60°.26S±0°.05×46°.6W±0°.1, h10km, mb4.8/13, MS4.8/1, Error ellipse: s-maj=10.5km s-min=6.2km az=153.2*
*NEIC **16** 04:01:18.3±1.8, 60°.20S±0°.09×46°.6W±0°.2, h10km±2km, mb4.9/19*
*BJI **16** 04:01:21.0±0.0, 60°.20S×46°.50W, h30km, Ms5.0/1, Ms7 4.8/1*
ISC 16 04:01:18.2±0.3, 60°.23S±0°.06×46°.62W±0°.07, h10km, n156, σ1§26/156, **mb4.9**/18, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**47**		**Pn**	**04 03 13.8**	**-1.9**
HOPE				Sn	**Sn**	**04 04 44.5**	**-2.6**
PMSA	**Palmer Station**	**9.24**	**233**	Pn	**Pn**	**04 03 30.2**	**-1.1**
2.3nm,0.3s,baz=69,slow=10,SNR=6.6							
PMSA				Sn	**Sn**	**04 05 12.4**	**-2.8**
2.4nm,0.3s,baz=209,slow=16,SNR=7.6							
PMSA	**Palmer Station**	**9.24**	**233**		**Pn**	**04 03 31.8**	**+0.5**
PMSA	**Palmer Station**	**9.24**	**233**	*eP*	**Pn**	**04 03 35.2**	**+3.9**
GO09	**Cerro Castillo**	**16.93**	**291**	P	**P**	**04 05 17.8**	**+1.0**
VNA3	**Neumayer Olymp**	**18.38**	**142**	P	**P**	**04 05 33.6**	**+0.9**
VNA1	**Neumayer--Stat**	**18.65**	**140**	P	**Pn**	**04 05 39.2**	**+3.2**
VNA2	**Neumayer--Watz**	**19.00**	**140**	P	**Pn**	**04 05 40.6**	**+0.4**
baz=289,slow=14							
SNAA	**Sanae**	**20.60**	**142**	P	Pn	04 05 59.0	-0.3
SNAA	**Sanae**	**20.60**	**142**	P	Pn	04 05 59.0	-0.3
28nm,0.9s,baz=272,slow=10,SNR=7.3							
SNAA	**Sanae**	**20.60**	**142**	P	Pn	04 05 59.0	-0.3
SNAA				IAmb	IAmb	04 06 04.2	
comp=Z,63nm,1.1s							
TRQA	**Tornquist**	**24.24**	**329**	P	**P**	**04 06 35.0**	**0.0**
TRQA	**Tornquist**	**24.24**	**329**	*eP*	**P**	**04 06 36.4**	**+1.3**
PLCA	**Paso Flores**	**24.51**	**312**	P	**P**	**04 06 37.2**	**-0.3**
comp=Z,14nm,0.9s,baz=181,slow=9.1,SNR=17							
PLCA	**Paso Flores**	**24.51**	**312**	P	**P**	**04 06 37.3**	**-0.3**
PLCA	**Paso Flores**	**24.51**	**312**	*eP*	**P**	**04 06 37.8**	**+0.2**
OGAUY	**Aigu**	**26.45**	**345**	*eP*	**P**	**04 06 54.5**	**-0.5**
OGAUY	**Aigu**	**26.45**	**345**	*eP*	**P**	**04 06 54.5**	**-0.5**
PLTB	**Pedras Altas**	**28.85**	**348**	*eP*	**P**	**04 07 18.0**	**+1.4**
PLTB	**Pedras Altas**	**28.85**	**348**	*eP*	**P**	**04 07 18.0**	**+1.4**
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**04 07 26.6**	**-0.2**
comp=Z,44nm,0.9s,baz=163,slow=6.2,SNR=14							
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**04 07 26.4**	**-0.3**
CPSB	**Cacapava Do Su**	**30.18**	**348**	*eP*	**P**	**04 07 29.6**	**+1.2**
CPSB	**Cacapava Do Su**	**30.18**	**348**	*eP*	**P**	**04 07 29.6**	**+1.2**
PEL	**Peldehue**	**31.37**	**319**	P	**P**	**04 07 38.8**	**-0.1**
CPUP	**Villa Florida**	**34.68**	**343**	P	**P**	**04 08 07.9**	**+0.1**
comp=Z,5.1nm,0.7s,baz=172,slow=8.3,SNR=14							
CPUP	**Villa Florida**	**34.68**	**343**	P	**P**	**04 08 07.6**	**-0.1**
CPUP	**Villa Florida**	**34.68**	**343**	*eP*	**P**	**04 08 08.9**	**+1.1**
PTGB	**Pitanga**	**35.70**	**351**	*eP*	**P**	**04 08 17.6**	**+0.9**
PTGB	**Pitanga**	**35.70**	**351**	*eP*	**P**	**04 08 17.6**	**+0.9**
SPB	**Sao Paulo**	**36.62**	**359**	*eP*	**P**	**04 08 25.8**	**+1.4**
SPB	**Sao Paulo**	**36.62**	**359**	*eP*	**P**	**04 08 25.8**	**+1.4**
VAO	**Valinhos**	**37.20**	**359**	*eP*	**P**	**04 08 30.9**	**+1.4**
VAO	**Valinhos**	**37.20**	**359**	*eP*	**P**	**04 08 30.9**	**+1.4**
TRCB	**Terra Rica**	**37.65**	**351**	*eP*	**P**	**04 08 34.0**	**+0.7**
TRCB	**Terra Rica**	**37.65**	**351**	*eP*	**P**	**04 08 34.0**	**+0.7**
RCLB	**Rio Claro- Sao**	**37.79**	**359**	*eP*	**P**	**04 08 35.9**	**+1.5**
RCLB	**Rio Claro- Sao**	**37.79**	**359**	*eP*	**P**	**04 08 35.9**	**+1.5**
PCMB	**Pacaembu**	**38.73**	**353**	*eP*	**P**	**04 08 43.2**	**+0.9**
PCMB	**Pacaembu**	**38.73**	**353**	*eP*	**P**	**04 08 43.2**	**+0.9**
BB19B	**Bebedouro**	**39.15**	**357**	*eP*	**P**	**04 08 46.6**	**+0.7**
BB19B	**Bebedouro**	**39.15**	**357**	*eP*	**P**	**04 08 46.6**	**+0.7**
ALF01	**Guarapari-ES**	**39.80**	**9**	*eP*	**P**	**04 08 53.2**	**+2.0**
ALF01	**Guarapari-ES**	**39.80**	**9**	*eP*	**P**	**04 08 53.2**	**+2.0**
AQDB	**Aquidauana**	**40.24**	**347**	*eP*	**P**	**04 08 55.3**	**+0.4**
AQDB	**Aquidauana**	**40.24**	**347**	*eP*	**P**	**04 08 55.3**	**+0.4**
ITRB	**Iturama**	**40.57**	**355**	*eP*	**P**	**04 08 58.5**	**+0.8**
ITRB	**Iturama**	**40.57**	**355**	*eP*	**P**	**04 08 58.5**	**+0.8**
C2SB	**Chapadao do Su**	**41.65**	**351**	*eP*	**P**	**04 09 07.8**	**+1.2**
C2SB	**Chapadao do Su**	**41.65**	**351**	*eP*	**P**	**04 09 07.8**	**+1.2**
PP1B	**Ponte de Pedra**	**42.99**	**348**	*eP*	**P**	**04 09 19.0**	**+1.5**
PP1B	**Ponte de Pedra**	**42.99**	**348**	*eP*	**P**	**04 09 19.0**	**+1.5**
MNMC	**Minye Minye**	**44.22**	**328**	P	**P**	**04 09 28.0**	**+0.3**
BDFB	**Brasilia**	**44.54**	**358**	P	**P**	**04 09 30.5**	**+0.5**
comp=Z,6.6nm,0.7s,baz=201,slow=7.3,SNR=10							
BDFB	**Brasilia**	**44.54**	**358**	P	**P**	**04 09 29.9**	**-0.2**
BDFB				IAmb	IAmb	04 09 32.9	
comp=Z,9.3nm,0.8s							
ARAG	**Araguaiana, MT**	**44.62**	**353**	*eP*	**P**	**04 09 32.3**	**+1.7**
ARAG	**Araguaiana, MT**	**44.62**	**353**	*eP*	**P**	**04 09 32.3**	**+1.7**
SALV	**Santo Antonio**	**44.76**	**348**	*eP*	**P**	**04 09 32.5**	**+0.8**
SALV	**Santo Antonio**	**44.76**	**348**	*eP*	**P**	**04 09 32.5**	**+0.8**
NBIT	**Itapeh - BA**	**45.53**	**10**	*eP*	**P**	**04 09 39.3**	**+1.4**
NBIT	**Itapeh - BA**	**45.53**	**10**	*eP*	**P**	**04 09 39.3**	**+1.4**
LPAZ	**La Paz**	**46.58**	**331**	P	**P**	**04 09 46.0**	**-0.8**
comp=Z,1.8nm,0.7s,baz=215,slow=4.9,SNR=7.3							
LPAZ	**La Paz**	**46.58**	**331**	P	**P**	**04 09 46.5**	**-0.3**
LPAZ	**La Paz**	**46.58**	**331**	*eP*	**P**	**04 09 47.3**	**+0.5**
PEXB	**Peixe**	**48.05**	**358**	*eP*	**P**	**04 09 59.0**	**+1.4**
PEXB	**Peixe**	**48.05**	**358**	*eP*	**P**	**04 09 59.0**	**+1.4**
NBPN	**Ponto Novo - B**	**49.52**	**8**	*eP*	**P**	**04 10 09.7**	**+0.8**
NBPN	**Ponto Novo - B**	**49.52**	**8**	*eP*	**P**	**04 10 09.7**	**+0.8**
NBLA	**Lagarto - SE**	**49.58**	**11**	*eP*	**P**	**04 10 11.3**	**+2.0**
NBLA	**Lagarto - SE**	**49.58**	**11**	*eP*	**P**	**04 10 11.3**	**+2.0**
CLDB	**Colider**	**49.74**	**348**	*eP*	**P**	**04 10 09.0**	**-1.5**
CLDB	**Colider**	**49.74**	**348**	*eP*	**P**	**04 10 09.0**	**-1.5**
NBAN	**Anadia - AL**	**51.05**	**13**	*eP*	**P**	**04 10 22.3**	**+1.9**
NBAN	**Anadia - AL**	**51.05**	**13**	*eP*	**P**	**04 10 22.3**	**+1.9**
SUR	**Sutherland**	**51.40**	**89**	P	**P**	**04 10 24.7**	**+1.6**
comp=Z,12nm,0.7s,baz=198,slow=9.9,SNR=11							
NBTA	**Tacaratu-PE**	**51.41**	**11**	*eP*	**P**	**04 10 22.9**	**-0.3**
NBTA	**Tacaratu-PE**	**51.41**	**11**	*eP*	**P**	**04 10 22.9**	**-0.3**
SAML	**Samuel**	**52.66**	**339**	P	**P**	**04 10 32.3**	**-0.2**
SAML				IAmb	IAmb	04 10 33.4	
comp=Z,12nm,0.9s							
SAML	**Samuel**	**52.66**	**339**	*eP*	**P**	**04 10 32.8**	**+0.4**
NBMA	**Muriti-CE**	**53.08**	**10**	*eP*	**P**	**04 10 37.4**	**+1.8**
NBMA	**Muriti-CE**	**53.08**	**10**	*eP*	**P**	**04 10 37.4**	**+1.8**
NBPB	**Pedra_Branca-C**	**54.82**	**9**	*eP*	**P**	**04 10 50.2**	**+2.0**
NBPB	**Pedra_Branca-C**	**54.82**	**9**	*eP*	**P**	**04 10 50.2**	**+2.0**
NBPS	**Pedro II - PI**	**55.84**	**6**	*eP*	**P**	**04 10 57.1**	**+1.4**
NBPS	**Pedro II - PI**	**55.84**	**6**	*eP*	**P**	**04 10 57.1**	**+1.4**
BOSA	**Boshof**	**56.68**	**90**	P	**P**	**04 11 02.3**	**+0.7**
comp=Z,12nm,1.0s,baz=201,slow=8.6,SNR=13							
BOSA	**Boshof**	**56.68**	**90**	IAmb	IAmb	04 11 02.9	
comp=Z,8.2nm,0.8s							
H10N3	**ASCENSION HYDR**	**57.58**	**39**	T	T	05 13 54.5	
baz=199,slow=75,SNR=15							
H10N1	**ASCENSION HYDR**	**57.58**	**39**	T	T	05 13 53.8	
baz=199,slow=75,SNR=15							
H10N2	**ASCENSION HYDR**	**57.59**	**39**	T	T	05 13 55.0	
baz=199,slow=75,SNR=19							
LBTB	**Lobatse**	**59.82**	**88**	P	**P**	**04 11 23.5**	**-0.1**
OTAV	**Otavalo**	**65.14**	**324**	P	**P**	**04 11 59.7**	**+0.1**
OTAV				IAmb	IAmb	04 12 07.1	
comp=Z,13nm,0.9s							
OTAV	**Otavalo**	**65.14**	**324**	*eP*	**P**	**04 12 00.1**	**+0.5**
LSZ	**Lusaka**	**69.32**	**85**	P	**P**	**04 12 26.6**	**+0.7**
LSZ				IAmb	IAmb	04 12 28.1	
comp=Z,7.4nm,0.8s							
SDV	**Santo Domingo**	**71.49**	**335**	P	**P**	**04 12 38.0**	**-1.1**
comp=Z,1.4nm,0.3s,baz=219,slow=13,SNR=3.3							
SDV	**Santo Domingo**	**71.49**	**335**	*eP*	**P**	**04 12 41.0**	**+1.9**
LIC	**Lamto**	**73.88**	**43**	*eP*	**P**	**04 12 53.4**	**+0.4**
comp=Z,68nm,0.8s							
KIC	**Kosan Boka**	**74.10**	**44**	*eP*	**P**	**04 12 53.8**	**-0.6**
comp=Z,26nm,0.7s							
TIC	**Toumodi**	**74.27**	**43**	*eP*	**P**	**04 12 55.6**	**+0.2**
DBIC	**Dimbokro**	**74.35**	**43**	P	**P**	**04 12 55.7**	**-0.1**
comp=Z,8.1nm,0.8s,baz=170,slow=6.1,SNR=9.0							
DBIC	**Dimbokro**	**74.35**	**43**	P	**P**	**04 12 55.9**	**+0.1**
DBIC				IAmb	IAmb	04 12 58.0	
comp=Z,9.9nm,0.8s							
OUZ	**Omahuta**	**79.31**	**213**	P	**P**	**04 13 23.4**	**-0.2**
OUZ				IAmb	IAmb	04 13 26.6	
comp=Z,13nm,1.0s							
TOA0	**Torodi Ar. Sit**	**82.68**	**47**	P	**P**	**04 13 41.4**	**-0.3**
TOA0				IAmb	IAmb	04 13 44.5	
comp=Z,9.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P	**P**	**04 13 42.0**	**+0.3**
comp=Z,6.7nm,0.8s,baz=207,slow=5.4,SNR=24							
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P	**P**	**04 13 42.5**	**+0.8**
ASAR	**Alice Springs**	**96.41**	**180**	P	**P**	**04 14 45.0**	**-2.3**
comp=Z,2.1nm,1.0s,baz=173,slow=4.8,SNR=8.7							
ASAR				PP	PP	04 18 30.1	-10
comp=Z,0.7nm,0.9s,baz=180,slow=8.3,SNR=4.1							
ASAR	**Alice Springs**	**96.41**	**180**	P	**P**	**04 14 47.6**	**+0.2**
WRA	**Warramunga Arr**	**100.11**	**181**	P	**Pdif**	**04 15 01.4**	**-2.6**
comp=Z,1.8nm,1.1s,baz=183,slow=4.2,SNR=6.7							
WRA	**Warramunga Arr**	**100.11**	**181**		**Pdif**	**04 15 03.3**	**-0.7**
BRTR	**Keskin Array B**	**119.11**	**60**	PKP	**PKPdf**	**04 20 04.8**	**-1.8**
comp=Z,0.5nm,0.6s,baz=143,slow=0.6,SNR=3.5							
GERES	**GERESS Array B**	**119.17**	**41**	PKP	**PKPdf**	**04 20 04.7**	**-1.6**
comp=Z,0.6nm,0.7s,baz=225,slow=1.1,SNR=5.2							
CLL	**Collm**	**121.08**	**39**	*e*(PKiKP)	pPKiKP	04 20 15.0	+2.2
AKASG	**Malin Array Be**	**126.24**	**50**	PKP	**PKPdf**	**04 20 18.0**	**-1.6**
comp=Z,1.5nm,0.5s,baz=238,slow=1.9,SNR=6.4							
CMAR	**Chiang Mai Arr**	**131.56**	**134**	PKP	**PKPdf**	**04 20 30.5**	**-0.3**
comp=Z,1.2nm,0.4s,baz=206,slow=3.5,SNR=2.9							
FINES	**FINESS Array B**	**133.53**	**39**	PKP	**PKPdf**	**04 20 31.6**	**-1.5**
comp=Z,3.8nm,0.7s,baz=178,slow=6.7,SNR=4.3							
ABKAR	**Akbulak array**	**138.41**	**71**		**PKPdf**	**04 20 41.5**	**-1.1**
ABKAR	**Akbulak array**	**138.41**	**71**		**PKPdf**	**04 20 42.4**	**-0.1**
KSH	**Kashi**	**139.21**	**94**	PKP	**PKiKP**	**04 20 46.8**	**-0.1**
KSH				PP	**PP**	**04 23 41.4**	**+2.8**
KSH				PKS	**PKSdf**	**04 24 20.5**	**-0.2**
AAK	**Ala-Archa**	**140.82**	**89**	PKP	**PKPdf**	**04 20 44.8**	**-2.6**
comp=Z,1.4nm,0.5s,baz=86,slow=1.7,SNR=3.8							
BCAR	**Beaver Creek A**	**142.37**	**312**		**PKPdf**	**04 20 48.7**	**-0.7**
INK	**Inuvik**	**142.61**	**322**	PKP	**PKPdf**	**04 20 46.6**	**-2.9**
comp=Z,0.9nm,0.7s,baz=67,slow=2.7,SNR=4.4							
CD2	**Chengdu**	**144.66**	**133**	PKP	**PKPdf**	**04 20 54.4**	**-0.1**
PRP	**Porcupine Dome**	**145.08**	**314**		**PKPbc**	**04 20 52.8**	**-0.9**
IL31		**145.20**	**312**		**PKPbc**	**04 20 52.6**	**-1.3**
ILAR	**Eielson Array**	**145.20**	**312**	PKPbc	**PKPbc**	**04 20 52.5**	**-1.5**
comp=Z,9.9nm,1.1s,baz=147,slow=2.7,SNR=17							
RND	**Reindeer**	**145.23**	**310**		**PKPbc**	**04 20 53.3**	**-0.9**
CCB	**Clear Creek Bu**	**145.47**	**312**		**PKPdf**	**04 20 53.8**	**-0.9**
SKT	**Skwentna**	**145.54**	**306**	PKPbc	**PKPab**	**04 20 56.8**	**+1.3**
COLA	**College**	**145.60**	**312**		**PKPdf**	**04 20 54.8**	**-0.1**
BMAR	**Burnt Mountain**	**145.70**	**317**		**PKPdf**	**04 20 54.8**	**-0.3**
BRVK	**Borovoye**	**145.81**	**73**		**PKPdf**	**04 20 55.6**	**0.0**
BVAR	**Borovoye Array**	**145.84**	**73**	PKPbc	**PKPdf**	**04 20 55.6**	**-0.2**
comp=Z,14nm,0.6s,baz=222,slow=2.0,SNR=38							
BWN	**Browne**	**145.86**	**310**		**PKPbc**	**04 20 55.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**146.40**	**310**		**PKPdf**	**04 20 56.3**	**-0.1**
MLY	**Manley**	**146.75**	**311**	PKPbc	**PKPbc**	**04 20 58.5**	**-0.3**
MK31	**Makanchi Array**	**147.67**	**91**	PKPbc	**PKPdf**	**04 21 00.4**	**+1.3**
MKAR	**Makanchi Array**	**147.67**	**91**	PKPbc	**PKPdf**	**04 21 00.4**	**+1.3**
comp=Z,4.6nm,0.6s,baz=227,slow=2.3,SNR=21							
WHN	**Wuhan**	**147.69**	**148**	PKPbc	**PKiKP**	**04 21 03.4**	**-1.0**
WMQ	**Urumqi**	**148.24**	**100**	*e*PKPbc	**PKPdf**	**04 21 00.9**	**+0.8**
IMAR	**Indian Mountai**	**148.31**	**312**		**PKPdf**	**04 20 58.9**	**-0.6**
IMAR				PKPbc	**PKiKP**	**04 21 04.0**	**-0.5**
KURBB	**Kurchatov Arra**	**148.32**	**83**	PKPbc	**PKPbc**	**04 21 02.2**	**-1.2**
comp=Z,2.4nm,0.6s,baz=231,slow=3.7,SNR=8.5							
KURK	**Kurchatov**	**148.43**	**83**		**PKPbc**	**04 21 03.0**	**-0.7**
LZH	**Lanzhou**	**149.30**	**129**	*e*PKPbc	**PKPdf**	**04 21 02.5**	**+0.2**
LZH				PKPab	**pPKPab**	**04 21 14.0**	**-0.3**
LZH				LR	LR		
comp=Z,100nm,18.2s							
LZH				LR	LR		
comp=Z,110nm,18.0s							
LZH				LR	LR		
comp=Z,140nm,20.3s							
XAN	**Xi'an**	**149.32**	**138**	PKPbc	**PKiKP**	**04 21 07.3**	**-0.4**
XAN				pPKP	pPKPab	04 21 14.1	-0.2
NJ2	**Nanjing**	**150.21**	**155**	*e*PKPbc	**PKPdf**	**04 21 03.6**	**0.0**
GTA	**Gaotai**	**150.47**	**120**	*e*PKPbc	**PKPbc**	**04 21 08.3**	**-1.0**
ZALV	**Zalesovo Beam**	**153.41**	**82**	PKPbc	**PKPbc**	**04 21 15.1**	**-0.1**
comp=Z,1.0nm,0.6s,baz=246,slow=4.1,SNR=5.1							
ZALV	**Zalesovo Beam**	**153.41**	**82**		**PKPbc**	**04 21 14.8**	**-0.5**
MJAR	**Matsushiro Arr**	**156.09**	**190**	PKPab	**PKPab**	**04 21 40.6**	**+1.1**
comp=Z,1.0nm,0.4s,baz=174,slow=4.9,SNR=3.6							
HHC	**Hu-ho-hao-te**	**156.36**	**135**	*e*PKP	**PKPdf**	**04 21 14.5**	**+2.2**
KSAR	**Wonju Array Be**	**156.92**	**169**	PKPdf	**PKPdf**	**04 21 14.4**	**+1.4**
KSAR					**PKPab**	**04 21 43.9**	**+0.9**
KSRS	**Korea Array**	**156.94**	**169**	PKPab	**PKPab**	**04 21 43.0**	**0.0**
comp=Z,1.8nm,0.8s,baz=198,slow=3.7,SNR=6.1							
SONM	**Songino Array**	**160.05**	**116**	PKPab	**PKPab**	**04 21 56.7**	**+0.1**
comp=Z,2.2nm,1.0s,baz=235,slow=4.1,SNR=6.7							
SONM	**Songino Array**	**160.05**	**116**	PKPdf	**PKPdf**	**04 21 17.5**	**+0.9**
SONM					**PKPab**	**04 21 56.5**	**-0.1**
CN2	**Changchun**	**162.86**	**160**	*e*PKP	**PKPdf**	**04 21 16.4**	**-3.1**
TIXI	**Tiksi**	**168.39**	**7**	PKPab	**PKPab**	**04 22 31.6**	**-0.8**
comp=Z,2.2nm,0.7s,baz=19,slow=5.6,SNR=4.1							

*ISCJB **16** 04:02:02.9±0.5, 60°.53S±0°.09×46°.7W±0°.2, h10km, mb4.3/5, Error ellipse: s-maj=15.1km s-min=13.0km az=16.3*
*IDC **16** 04:02:02.6±0.7, 60°.46S×46°.59W, h0km, mb4.5/6, mb1 4.6/7, mb1mx4.3/31, mbtmp4.5/7, ML4.2/1, Error ellipse: s-maj=32.1km s-min=26.2km az=45.0*
*NEIC **16** 04:02:04.2±2.0, 60°.45S±0°.09×46°.5W±0°.2, h10km±2km, mb4.7/10*
ISC 16 04:02:04.0±0.5, 60°.5S±0°.1×46°.5W±0°.1, h10km, n46, σ0§79/39, **mb4.5/6, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.23**	**45**	Pn	**Pn**	**04 04 01.8**	**-1.4**
PMSA	**Palmer Station**	**9.14**	**234**	Pn	**Pn**	**04 04 15.4**	**-0.3**
2.5nm,0.3s,baz=42,slow=9.6,SNR=5.6							
PMSA	**Palmer Station**	**9.14**	**234**		**Pn**	**04 04 15.4**	**-0.3**
SNAA	**Sanae**	**20.37**	**141**	P	Pn	04 06 42.8	+0.4
34nm,1.1s,baz=256,slow=9.9,SNR=1.6							
SNAA	**Sanae**	**20.37**	**141**		Pn	04 06 42.8	+0.4
SNAA	**Sanae**	**20.37**	**141**	IAmb	IAmb	04 06 47.5	
comp=Z,38nm,1.0s							
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**04 08 10.6**	**+0.3**
BDFB	**Brasilia**	**44.78**	**358**	P	**P**	**04 10 18.9**	**+1.1**
BDFB				IAmb	IAmb	04 10 24.5	
comp=Z,15nm,1.1s							
LPAZ	**La Paz**	**46.82**	**331**	P	**P**	**04 10 35.7**	**+1.2**
comp=Z,2.0nm,0.7s,baz=178,slow=8.3,SNR=2.9							
LPAZ	**La Paz**	**46.82**	**331**	P	**P**	**04 10 35.6**	**+1.2**
SAML	**Samuel**	**52.92**	**339**	P	**P**	**04 11 20.8**	**+0.8**
SAML				IAmb	IAmb	04 11 22.6	
comp=Z,6.3nm,0.9s							
BOSA	**Boshof**	**56.62**	**90**	P	**P**	**04 11 47.7**	**+0.6**
comp=Z,5.1nm,0.9s,baz=228,slow=5.9,SNR=3.2							
BOSA	**Boshof**	**56.62**	**90**	P	**P**	**04 11 47.7**	**+0.6**
BOSA	**Boshof**	**56.62**	**90**	IAmb	IAmb	04 11 50.1	
comp=Z,9.6nm,1.1s							
H10N3	**ASCENSION HYDR**	**57.73**	**38**	T	T	05 14 42.1	
baz=199,slow=74							
H10N1	**ASCENSION HYDR**	**57.74**	**38**	T	T	05 14 42.0	
baz=199							
H10N2	**ASCENSION HYDR**	**57.75**	**38**	T	T	05 14 43.5	
baz=199,slow=74							
LBTB	**Lobatse**	**59.78**	**88**	P	**P**	**04 12 09.9**	**+0.8**
LSZ	**Lusaka**	**69.29**	**84**	P	**P**	**04 13 12.9**	**+1.5**
OUZ	**Omahuta**	**79.13**	**212**	P	**P**	**04 14 09.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**82.81**	**47**	P	**P**	**04 14 28.7**	**+0.6**
comp=Z,2.6nm,0.8s,baz=204,slow=6.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**82.81**	**47**	P	**P**	**04 14 28.7**	**+0.6**
ASAR	**Alice Springs**	**96.16**	**180**	P	**P**	**04 15 31.7**	**-0.3**
comp=Z,1.0nm,0.8s,baz=167,slow=3.7,SNR=3.0							
ASAR	**Alice Springs**	**96.16**	**180**	P	**P**	**04 15 31.7**	**-0.3**
WRA	**Warramunga Arr**	**99.86**	**181**	P	**Pdif**	**04 15 48.8**	**+0.1**
comp=Z,1.0nm,0.8s,baz=187,slow=4.0,SNR=5.0							
GERES	**GERESS Array B**	**119.32**	**41**	PKP	**PKPdf**	**04 20 51.6**	**-0.7**
comp=Z,0.7nm,0.7s,baz=204,slow=2.9,SNR=4.9							
GERES	**GERESS Array B**	**119.32**	**41**		**PKPdf**	**04 20 51.6**	**-0.7**
AKASG	**Malin Array Be**	**126.36**	**50**	PKP	**PKPdf**	**04 21 04.6**	**-1.0**
comp=Z,1.6nm,0.6s,baz=245,slow=1.8,SNR=5.4							
AKASG	**Malin Array Be**	**126.36**	**50**		**PKPdf**	**04 21 04.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**131.34**	**134**	PKP	**PKiKP**	**04 21 16.8**	**-0.3**
comp=Z,0.8nm,0.3s,baz=205,slow=4.0,SNR=4.2							
CMAR	**Chiang Mai Arr**	**131.34**	**134**		**PKiKP**	**04 21 16.8**	**-0.3**
YKA	**Yellowknife Ar**	**133.13**	**324**	PKP	**PKPdf**	**04 21 18.0**	**-0.1**
comp=Z,0.8nm,0.6s,baz=121,slow=2.6,SNR=3.9							
YKA	**Yellowknife Ar**	**133.13**	**324**		**PKPdf**	**04 21 18.0**	**-0.1**
FINES	**FINESS Array B**	**133.68**	**39**	PKP	**PKPdf**	**04 21 18.5**	**-0.6**
comp=Z,4.4nm,0.8s,baz=183,slow=3.8,SNR=5.3							

MSWZ	Moikau Station	72.90	212	P		P	04 27 35.1	+2.6
OUZ	Omahuta	79.16	213	P		P	04 28 08.7	+0.5
OUZ				IAmb		IAmb	04 28 13.0	
	comp=Z,11nm,0.8s							
TOA0	Torodi Ar. Sit	82.83	47	P		P	04 28 27.4	-0.5
TOA0				IAmb		IAmb	04 28 28.6	
	comp=Z,5.9nm,1.0s							
TORD	Torodi Ar. Bea	82.83	47	P		P	04 28 27.6	-0.3
	comp=Z,2.9nm,0.8s,baz=211,slow=4.7,SNR=10							
TORD	Torodi Ar. Bea	82.83	47	P		P	04 28 26.9	-0.9
ASAR	Alice Springs	96.31	181	P		P	04 29 30.9	-1.4
	comp=Z,0.9nm,0.9s,baz=170,slow=3.0,SNR=5.6							
ASAR				PP		PP	04 33 24.4	-0.3
	comp=Z,0.4nm,0.7s,baz=172,slow=9.8,SNR=4.6							
WRA	Warramunga Arr	100.01	181	P		Pdif	04 29 47.7	-1.2
	comp=Z,0.6nm,0.9s,baz=184,slow=4.3,SNR=3.7							
BRTR	Keskin Array B	119.26	61	PKP		PKPdf	04 34 52.0	-0.3
	comp=Z,1.0nm,0.8s,baz=250,slow=2.5,SNR=3.1							
GERES	GERESS Array B	119.32	41	PKP		PKiKP	04 34 52.0	0.0
	comp=Z,0.6nm,0.7s,baz=193,slow=2.3,SNR=5.4							
AKASG	Malin Array Be	126.40	50	PKP		PKPdf	04 35 03.7	-1.6
	comp=Z,1.9nm,0.8s,baz=246,slow=2.1,SNR=3.7							
AKASG	Malin Array Be	126.40	50			PKPdf	04 35 05.3	0.0
CMAR	Chiang Mai Arr	131.57	135	PKP		PKPdf	04 35 15.8	-0.4
	comp=Z,1.0nm,0.3s,baz=215,slow=3.0,SNR=2.9							
FINES	FINESS Array B	133.68	39	PKP		PKPdf	04 35 17.8	-1.0
	comp=Z,4.0nm,0.8s,baz=20,slow=1.6,SNR=4.3							
ABKAR	Akbulak array	138.55	71			PKPdf	04 35 28.3	+0.1
KSH	Kashi	139.32	94	ePKP		PKiKP	04 35 32.3	-0.2
CD2	Chengdu	144.69	133	PKP		PKPdf	04 35 40.3	+0.4
IL31		145.17	312			PKPbc	04 35 39.0	-0.2
ILAR	Eielson Array	145.17	312	PKPbc		PKPbc	04 35 38.5	-0.7
	comp=Z,4.4nm,0.7s,baz=149,slow=3.3,SNR=18							
CCB	Clear Creek Bu	145.45	312			PKPdf	04 35 39.8	-0.2
WRH	Wood River Hil	145.47	311			PKPab	04 35 41.0	+0.5
BMAR	Burnt Mountain	145.69	317			PKPdf	04 35 40.4	0.0
BRVK	Borovoye	145.96	74			PKPdf	04 35 41.1	-0.1
BPAW	Bear Paw Mtn.	146.37	310			PKPdf	04 35 42.4	+0.7
MLY	Manley	146.73	311			PKPbc	04 35 44.8	+0.7
WHN	Wuhan	147.67	149	PKPbc		PKPab	04 35 51.3	+1.4
MKAR	Makanchi Array	147.79	92	PKPbc		PKPbc	04 35 45.9	-1.6
	comp=Z,2.9nm,0.6s,baz=241,slow=2.4,SNR=13							
MKAR	Makanchi Array	147.79	92	PKPbc		PKPbc	04 35 46.1	-1.5
TOLK	Toolik Lake Re	147.92	318			PKPbc	04 35 47.4	+0.1
IMAR	Indian Mountai	148.28	312			PKPbc	04 35 49.0	+0.7
WMQ	Urumqi	148.34	101	ePKPbc		PKPdf	04 35 47.0	+1.3
LZH	Lanzhou	149.33	129	ePKPbc		PKPdf	04 35 48.5	+0.8
LZH				pPKP		PKPbc	04 35 51.8	-0.3
LZH				PKPab		sPKPab	04 36 00.3	-0.9
LZH				LR		LR		
	comp=Z,92nm,18.1s							
LZH				LR		LR		
	comp=Z,97nm,17.9s							
LZH				LR		LR		
	comp=Z,120nm,20.2s							
NJ2	Nanjing	150.17	155	ePKPbc		PKPdf	04 35 49.8	+0.9
GTA	Gaotai	150.52	120	ePKPbc		PKPdf	04 35 48.0	-1.4
ZALV	Zalesovo Beam	153.54	82	PKPbc		PKPbc	04 35 59.1	-1.8
	comp=Z,1.0nm,0.7s,baz=294,slow=1.5,SNR=4.3							
HHC	Hu-ho-hao-te	156.37	136	ePKP		PKPdf	04 36 00.4	+2.7
SONM	Songino Array	160.11	117	PKPab		PKPab	04 36 40.9	-1.3
	comp=Z,0.8nm,0.9s,baz=242,slow=3.1,SNR=3.9							
CN2	Changchun	162.80	161	ePKP		PKPdf	04 36 02.4	-2.4

*ISCJB **16** 04:27:07.0±0.6, 60°.32S±0°.09×46°.5W±0°.2, h10km, mb4.1/7, Error ellipse: s-maj=15.7km s-min=12.0km az=165.0*
*IDC **16** 04:27:07.4±0.8, 60°.24S×46°.44W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/22, mbtmp4.1/9, ML4.0/1, Error ellipse: s-maj=28.3km s-min=18.5km az=66.0*
*NEIC **16** 04:27:08.5±1.9, 60°.31S±0°.10×46°.4W±0°.2, h10km±2km, mb4.3/8*
ISC 16 04:27:08.8±0.6, 60°.26S±0°.09×46°.63W±0°.10, h10km, n28, σ1°.15/23, mb4.2/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.12	47		Pn	04 29 04.6	-2.0
PMSA	Palmer Station	9.22	233	Pn	Pn	04 29 21.4	-0.2
	1.3nm,0.3s,baz=66,slow=12,SNR=14						
PMSA				Sn	Sn	04 31 03.1	-2.2
	0.7nm,0.3s,baz=296,slow=21,SNR=4.8						
SNAA	Sanae	20.58	141	P	P	04 31 47.9	+0.4
	7.3nm,0.9s,baz=266,slow=10,SNR=7.8						
SNAA	Sanae	20.58	141	P	P	04 31 48.3	+0.8
SNAA				IAmb	IAmb	04 31 54.9	
	comp=Z,13nm,1.0s						
TRQA	Tornquist	24.26	329	P	P	04 32 26.9	+1.0
PLCA	Paso Flores	24.52	312	P	P	04 32 29.0	+0.7
	comp=Z,3.1nm,0.8s,baz=184,slow=8.7,SNR=5.8						
QSPA	South Pole Qui	29.98	180	P	P	04 33 18.1	+0.9
	comp=Z,3.9nm,0.7s,baz=179,slow=9.5,SNR=11						
QSPA	South Pole Qui	29.98	180	P	P	04 33 18.1	+0.9
QSPA				IAmb	IAmb	04 33 24.8	
	comp=Z,2.7nm,0.8s						
CPUP	Villa Florida	34.71	343	P	P	04 33 59.0	+0.4
	comp=Z,1.8nm,0.8s,baz=172,slow=9.0,SNR=3.2						
CPUP	Villa Florida	34.71	343	IAmb	IAmb	04 33 59.8	
	comp=Z,1.4nm,0.7s						
BDFB	Brasilia	44.56	358	P	P	04 35 21.4	+0.5
	comp=Z,2.2nm,0.8s,baz=162,slow=8.0,SNR=3.5						
BDFB	Brasilia	44.56	358	IAmb	IAmb	04 35 31.9	
	comp=Z,6.5nm,1.1s						
SIV	San Ignacio	45.44	340	P	P	04 35 28.0	+0.3
	comp=Z,1.8nm,0.6s,baz=173,slow=8.4,SNR=9.8						
SAML	Samuel	52.69	339	P	P	04 36 23.5	+0.2
SAML				IAmb	IAmb	04 36 25.1	
	comp=Z,2.4nm,0.8s						
BOSA	Boshof	56.68	90	P	P	04 36 51.1	-1.2
	comp=Z,3.1nm,0.9s,baz=223,slow=6.0,SNR=3.8						
BOSA	Boshof	56.68	90	IAmb	IAmb	04 37 03.7	
	comp=Z,5.0nm,1.1s						
H10N3	ASCENSION HYDR	57.60	39	T	T	05 39 45.8	
	baz=199,slow=75,SNR=16						
H10N1	ASCENSION HYDR	57.60	39	T	T	05 39 45.4	
	baz=199,slow=75,SNR=10						
H10N2	ASCENSION HYDR	57.62	39	T	T	05 39 46.3	
	baz=199,slow=75,SNR=13						
TORD	Torodi Ar. Bea	82.70	47	P	P	04 39 32.7	+0.2
	comp=Z,0.8nm,0.8s,baz=207,slow=2.9,SNR=2.9						
BOZ	Bozeman (W)	117.99	314		PKPdf	04 45 53.7	-1.1
IL31		145.21	312		PKPbc	04 46 44.0	-0.6
ILAR	Eielson Array	145.21	312	PKPbc	PKPbc	04 46 44.0	-0.7
	comp=Z,1.2nm,0.6s,baz=128,slow=1.6,SNR=18						
ILAR	Eielson Array	145.21	312		PKPbc	04 46 43.6	-1.0
RND	Reindeer	145.25	310		PKPab	04 46 45.3	+0.3
MKAR	Makanchi Array	147.68	91	PKPbc	PKPdf	04 46 51.3	+1.6
	comp=Z,1.0nm,0.8s,baz=222,slow=1.6,SNR=6.1						
KURBB	Kurchatov Arra	148.34	83	PKPbc	PKPdf	04 46 52.4	+1.8
	comp=Z,0.5nm,0.2s,baz=204,slow=2.0,SNR=3.3						
KURK	Kurchatov	148.44	83		PKPdf	04 46 52.4	+1.6

*ISCJB **16** 04:34:44.0±0.6, 60°.35S±0°.06×47°.1W±0°.2, h10km, mb4.1/10, Error ellipse: s-maj=11.5km s-min=8.8km az=21.5*
*IDC **16** 04:34:44.2±0.7, 60°.32S×47°.01W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/19, mbtmp4.2/10, ML4.6/1, Error ellipse: s-maj=25.2km s-min=17.4km az=68.0*
*NEIC **16** 04:34:45.2±1.0, 60°.33S±0°.06×46°.8W±0°.2, h10km±2km, mb4.5/12*
ISC 16 04:34:45.4±0.5, 60°.30S±0°.07×46°.85W±0°.08, h10km, n44, σ0°.86/38, mb4.3/11, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.23	47		Pn	04 36 43.8	-0.9
HOPE					Sn	04 38 16.9	-0.7
PMSA	Palmer Station	9.11	233	Pn	Pn	04 36 56.4	-0.3
	6.3nm,0.3s,baz=58,slow=9.8,SNR=45						
PMSA				Sn	Sn	04 38 37.5	-1.7
	1.5nm,0.3s,baz=114,slow=22,SNR=8.0						
PMSA	Palmer Station	9.11	233		Pn	04 36 56.6	-0.2
PMSA					Sn	04 38 40.3	+1.1
EFI	East Falkland	10.67	319	Pn	Pn	04 37 18.5	+0.4
SNAA	Sanae	20.62	141	P	Pn	04 39 30.1	+3.3
	8.4nm,0.7s,baz=290,slow=11,SNR=21						
SNAA	Sanae	20.62	141	P	P	04 39 23.9	-0.5
TRQA	Tornquist	24.24	330	P	P	04 40 03.2	+0.9
TRQA				IAmb	IAmb	04 40 11.4	
	comp=Z,19nm,1.1s						
PLCA	Paso Flores	24.47	312	P	P	04 40 04.4	0.0
	comp=Z,3.8nm,0.9s,baz=192,slow=6.4,SNR=8.5						
PLCA	Paso Flores	24.47	312	IAmb	IAmb	04 40 18.5	
	comp=Z,12nm,1.0s						
QSPA	South Pole Qui	29.94	180	P	P	04 40 54.8	+1.4
	comp=Z,2.5nm,0.7s,baz=203,slow=2.0,SNR=12						
QSPA	South Pole Qui	29.94	180	P	P	04 40 55.3	+2.0
QSPA				IAmb	IAmb	04 41 06.8	
	comp=Z,3.2nm,0.8s						
CFA	Coronel Fontan	32.02	324	P	P	04 41 10.9	-0.9
	comp=Z,1.7nm,0.5s,baz=157,slow=10,SNR=7.8						
CPUP	Villa Florida	34.71	343	P	P	04 41 36.1	+0.8
	comp=Z,2.0nm,0.6s,baz=189,slow=8.1,SNR=6.0						
CPUP	Villa Florida	34.71	343	IAmb	IAmb	04 41 36.5	
	comp=Z,2.0nm,0.6s						
SYO	Syowa Base	34.91	141	∥eX	P	04 41 27.0	-10
MNMC	Minye Minye	44.22	328	P	P	04 42 55.0	+0.2
BDFB	Brasilia	44.60	358	P	P	04 42 58.6	+0.9
	comp=Z,3.9nm,0.5s,baz=196,slow=3.3,SNR=11						
BDFB	Brasilia	44.60	358	P	P	04 42 57.8	+0.1
BDFB				IAmb	IAmb	04 43 00.1	
	comp=Z,4.2nm,0.6s						
LPAZ	La Paz	46.58	331	P	P	04 43 14.4	+0.4
	comp=Z,2.8nm,1.1s,baz=158,slow=8.1,SNR=6.4						
LPAZ	La Paz	46.58	331	IAmb	IAmb	04 43 30.1	
	comp=Z,3.8nm,1.0s						
SUR	Sutherland	51.51	89	P	P	04 43 52.7	+1.5
	comp=Z,7.5nm,0.8s,baz=200,slow=8.9,SNR=4.7						
SUR	Sutherland	51.51	89	IAmb	IAmb	04 44 02.7	
	comp=Z,9.0nm,0.9s						
SAML	Samuel	52.69	340	P	P	04 44 00.1	+0.2
SAML				IAmb	IAmb	04 44 01.2	
	comp=Z,4.4nm,0.7s						
H10N3	ASCENSION HYDR	57.70	39	T	T	05 47 30.0	
	baz=199						
H10N1	ASCENSION HYDR	57.70	39	T	T	05 47 28.4	
	baz=199						
H10N2	ASCENSION HYDR	57.72	39	T	T	05 47 29.9	
	baz=199						
OTAV	Otavalo	65.13	325	P	P	04 45 27.2	+0.4
TORD	Torodi Ar. Bea	82.81	47	P	P	04 47 10.5	+0.9
	comp=Z,1.1nm,0.7s,baz=197,slow=7.1,SNR=7.4						
ASAR	Alice Springs	96.34	181	P	P	04 48 13.1	-1.2
	comp=Z,0.3nm,0.6s,baz=177,slow=5.6,SNR=2.9						
WRA	Warramunga Arr	100.04	181	P	Pdif	04 48 30.4	-0.5
	comp=Z,0.2nm,0.6s,baz=181,slow=4.2,SNR=4.0						
YHL	Hebgen Lake	117.14	314		PKPdf	04 53 28.6	-1.3
FINES	FINESS Array B	133.65	39	PKP	PKPdf	04 53 59.3	-1.2
	comp=Z,1.6nm,0.7s,baz=278,slow=1.3,SNR=3.7						
IL31		145.16	312		PKPdf	04 54 21.0	-0.3
ILAR	Eielson Array	145.16	312	PKPbc	PKPbc	04 54 20.8	-0.3
	comp=Z,3.0nm,0.6s,baz=147,slow=1.9,SNR=37						
ILAR	Eielson Array	145.16	312		PKPbc	04 54 20.6	-0.5
RND	Reindeer	145.19	310		PKPdf	04 54 21.3	-0.3
CCB	Clear Creek Bu	145.43	312		PKPdf	04 54 21.3	-0.5
WRH	Wood River Hil	145.45	311		PKPdf	04 54 21.6	-0.3
BWN	Browne	145.81	310		PKPab	04 54 23.4	-0.2
BPAW	Bear Paw Mtn.	146.36	310	PKPbc	PKPdf	04 54 23.9	+0.4
MKAR	Makanchi Array	147.78	92	PKPbc	PKPbc	04 54 28.6	-0.8
	comp=Z,1.7nm,0.5s,baz=226,slow=2.0,SNR=12						
MKAR	Makanchi Array	147.78	92		PKPbc	04 54 28.5	-0.9
KURBB	Kurchatov Arra	148.45	83	PKPbc	PKPbc	04 54 30.8	-0.1
	comp=Z,0.8nm,0.3s,baz=237,slow=4.0,SNR=5.4						
KURK	Kurchatov	148.55	83		PKPbc	04 54 30.8	-0.4

DJA 16 04:36:59.1±1.5, 0°.N±6°.×12°.4E±°, h22km±10km, M4.0/6, mb4.3/1, MLv3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.68	322	P	Pn	04 37 14.0	+0.6
KMSI				S	Sb	04 37 21.8	+0.6
LUWI	Luwuk	1.95	237	P	Pn	04 37 30.2	-0.7
MRSI	Marisa	2.50	280	P	Pn	04 37 37.3	-1.1
SANI	Sanana	2.61	143	P	Pn	04 37 30.6	-9.4
APSI	Ampana	2.91	251	P	Pn	04 37 45.0	+0.9
MPSI	Mapaga	4.51	274	P	Pn	04 38 06.6	+0.4
SPSI	Sidrap Palu	6.10	229	P	Pn	04 38 27.2	-0.8

IDC 16 04:37:42.1±1.4, 60°.22S×46°.76W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/23, mbtmp3.9/3, Error ellipse: s-maj=58.0km s-min=31.7km az=87.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	20.65	142	P	P	04 42 23.7	+0.8
	2.9nm,0.8s,baz=271,slow=13,SNR=5.1						
QSPA	South Pole Qui	30.02	180	P	P	04 43 52.1	-0.1
	2.5nm,1.0s,baz=166,slow=9.8,SNR=4.1						
H10N3	ASCENSION HYDR	57.61	39	T	T	05 50 20.4	
	baz=199,slow=75,SNR=23						
H10N1	ASCENSION HYDR	57.62	39	T	T	05 50 20.8	
	baz=199,slow=75,SNR=13						
H10N2	ASCENSION HYDR	57.63	39	T	T	05 50 22.0	
	baz=199,slow=75,SNR=19						
TORD	Torodi Ar. Bea	82.73	47	P	P	04 50 07.7	+0.2
	0.5nm,0.8s,baz=212,slow=4.1,SNR=3.3						
ILAR	Eielson Array	145.13	312	PKPbc	PKPbc	04 57 19.1	-0.3
	0.9nm,0.8s,baz=150,slow=3.8,SNR=5.6						
MKAR	Makanchi Array	147.75	91	PKPbc	PKPdf	04 57 26.0	+1.2
	0.5nm,0.5s,baz=212,slow=1.4,SNR=3.0						

*ISCJB **16** 04:40:52.4±0.4, 60°.39S±0°.06×46°.8W±0°.1, h10km, mb4.3/13, Error ellipse: s-maj=10.0km s-min=8.4km az=136.5*
*IDC **16** 04:40:52.4±0.6, 60°.34S×46°.73W, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.3/25, mbtmp4.4/13, ML4.0/1, Error ellipse: s-maj=20.5km s-min=15.3km az=68.0*
*NEIC **16** 04:40:54.0±2.1, 60°.33S±0°.09×46°.6W±0°.2, h11km±2km, mb4.7/16*
ISC 16 04:40:53.9±0.4, 60°.34S±0°.08×46°.60W±0°.08, h10km, n60, σ0°.96/51, mb4.5/15, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.17	46		Pn	04 42 51.6	-0.7
PMSA	Palmer Station	9.19	234	Pn	Pn	04 43 06.1	-0.1
	1.7nm,0.3s,baz=66,slow=11,SNR=10						
PMSA				Sn	Sn	04 44 48.0	-1.4
	0.9nm,0.3s,baz=120,slow=20,SNR=4.6						
PMSA	Palmer Station	9.19	234		Pn	04 43 06.6	+0.4
USHA	Ushuaia	12.91	286	Pn	Pn	04 43 59.1	+1.9
	0.4nm,0.3s,baz=119,slow=12,SNR=3.1						
SNAA	Sanae	20.51	141	P	Pn	04 45 36.6	+2.7
	20nm,0.9s,baz=286,slow=9.6,SNR=38						
SNAA	Sanae	20.51	141	P	Pn	04 45 37.0	+3.1
SNAA				IAmb	IAmb	04 45 38.2	
	comp=Z,24nm,0.9s						
TRQA	Tornquist	24.34	329	P	P	04 46 12.2	+0.6
TRQA				IAmb	IAmb	04 46 16.8	
	comp=Z,14nm,1.0s						
PLCA	Paso Flores	24.59	312	P	P	04 46 14.4	+0.5
	comp=Z,4.3nm,1.0s,baz=182,slow=8.9,SNR=6.8						
PLCA	Paso Flores	24.59	312	IAmb	IAmb	04 46 18.8	
	comp=Z,4.9nm,1.0s						
QSPA	South Pole Qui	29.90	180	P	P	04 47 03.0	+1.5
	comp=Z,13nm,0.9s,baz=172,slow=8.2,SNR=25						
QSPA	South Pole Qui	29.90	180	P	P	04 47 02.6	+1.2
CPUP	Villa Florida	34.79	343	P	P	04 47 44.8	+0.4
	comp=Z,2.8nm,0.8s,baz=169,slow=12,SNR=5.2						
MAW	Mawson	42.46	148	P	P	04 48 50.2	+2.0
	comp=Z,2.6nm,0.8s,baz=250,slow=8.6,SNR=4.7						
MAW	Mawson	42.46	148	IAmb	IAmb	04 48 51.9	
	comp=Z,0.6nm,0.9s						
BDFB	Brasilia	44.64	358	P	P	04 49 06.8	+0.2
	comp=Z,4.9nm,0.9s,baz=210,slow=3.7,SNR=7.0						
BDFB	Brasilia	44.64	358	IAmb	IAmb	04 49 08.7	
	comp=Z,4.4nm,0.9s						
SIV	San Ignacio	45.52	340	P	P	04 49 13.7	+0.3
	comp=Z,4.1nm,0.5s,baz=183,slow=7.9,SNR=30						
LPAZ	La Paz	46.67	331	P	P	04 49 23.4	+0.2
	comp=Z,1.2nm,0.7s,baz=182,slow=8.6,SNR=5.4						
SUR	Sutherland	51.39	89	P	P	04 50 00.5	+1.7
	comp=Z,9.3nm,0.9s,baz=221,slow=11,SNR=7.1						
SAML	Samuel	52.77	339	P	P	04 50 08.8	-0.1
BOSA	Boshof	56.67	90	P	P	04 50 37.9	+0.6
	comp=Z,4.3nm,0.8s,baz=218,slow=7.8,SNR=6.8						
BOSA	Boshof	56.67	90	IAmb	IAmb	04 50 50.8	
	comp=Z,9.3nm,1.1s						
H10N3	ASCENSION HYDR	57.66	39	T	T	05 53 32.0	
	baz=199,slow=75,SNR=13						
H10N1	ASCENSION HYDR	57.66	39	T	T	05 53 31.3	
	baz=199,slow=75,SNR=11						
H10N2	ASCENSION HYDR	57.67	39	T	T	05 53 32.5	
	baz=199,slow=75,SNR=10						
OTAV	Otavalo	65.23	324	P	P	04 51 35.6	-0.3
OTAV				IAmb	IAmb	04 51 43.5	
	comp=Z,6.7nm,1.1s						
LSZ	Lusaka	69.33	85	P	P	04 52 02.0	+0.5
DBIC	Dimbokro	74.42	43	P	P	04 52 32.6	+0.7
	comp=Z,2.4nm,0.7s,baz=180,slow=7.1,SNR=3.7						
DBIC	Dimbokro	74.42	43	IAmb	IAmb	04 52 43.1	
	comp=Z,9.9nm,1.1s						
OUZ	Omahuta	79.22	213	P	P	04 52 58.3	-0.6
TOA0	Torodi Ar. Sit	82.75	47	P	P	04 53 18.4	+0.7
TOA0				IAmb	IAmb	04 53 19.5	
	comp=Z,6.0nm,1.0s						
TORD	Torodi Ar. Bea	82.75	47	P	P	04 53 18.4	+0.7
	comp=Z,2.7nm,0.7s,baz=207,slow=5.6,SNR=15						
TORD	Torodi Ar. Bea	82.75	47	P	P	04 53 16.9	-0.9
ASAR	Alice Springs	96.30	180	P	P	04 54 21.5	-1.1
	comp=Z,1.1nm,0.8s,baz=178,slow=5.1,SNR=8.0						
ASAR	Alice Springs	96.30	180	P	P	04 54 20.6	-1.9
WRA	Warramunga Arr	100.00	181	P	Pdif	04 54 37.8	-1.4
	comp=Z,0.9nm,0.8s,baz=183,slow=4.1,SNR=8.4						
BRTR	Keskin Array B	119.16	61	PKP	PKPdf	04 59 41.1	-1.2
	comp=Z,0.6nm,0.5s,baz=204,slow=2.7,SNR=3.7						
GERES	GERESS Array B	119.24	41	PKP	PKPdf	04 59 40.8	-1.3
	comp=Z,0.4nm,0.6s,baz=233,slow=1.3,SNR=3.6						
AKASG	Malin Array Be	126.31	50	PKP	PKPdf	04 59 54.2	-1.2
	comp=Z,1.4nm,0.7s,baz=243,slow=1.7,SNR=5.4						
AKASG	Malin Array Be	126.31	50		PKPdf	04 59 54.4	-1.0
CMAR	Chiang Mai Arr	131.48	134	PKP	PKPdf	05 00 06.2	-0.1
	comp=Z,0.9nm,0.3s,baz=220,slow=3.9,SNR=5.1						
FINES	FINESS Array B	133.60	39	PKP	PKPdf	05 00 07.5	-1.4
	comp=Z,4.5nm,1.0s,baz=190,slow=1.2,SNR=6.0						
INK	Inuvik	142.69	322	PKP	PKPdf	05 00 25.7	+0.3
	comp=Z,1.5nm,0.8s,baz=211,slow=2.8,SNR=4.1						
PRP	Porcupine Dome	145.16	314		PKPdf	05 00 29.8	-0.2
IL31		145.27	312		PKPbc	05 00 29.2	-0.6
ILAR	Eielson Array	145.27	312	PKPbc	PKPbc	05 00 29.1	-0.8
	comp=Z,6.1nm,0.9s,baz=152,slow=2.5,SNR=38						
ILAR	Eielson Array	145.27	312		PKPbc	05 00 28.5	-1.4
RND	Reindeer	145.31	309		PKPbc	05 00 29.9	-0.3
CCB	Clear Creek Bu	145.55	312		PKPdf	05 00 30.1	-0.4
WRH	Wood River Hil	145.56	311		PKPdf	05 00 30.3	-0.3
BWN	Browne	145.93	310		PKPbc	05 00 32.0	+0.1
BPAW	Bear Paw Mtn.	146.48	310		PKPbc	05 00 32.9	-0.8
MLY	Manley	146.83	311		PKPbc	05 00 34.1	-0.6
MK31	Makanchi Array	147.66	91		PKPbc	05 00 36.8	-0.7
MKAR	Makanchi Array	147.66	91	PKPbc	PKPbc	05 00 37.0	-0.6
	comp=Z,5.0nm,0.6s,baz=235,slow=2.0,SNR=24						
MKAR	Makanchi Array	147.66	91		PKPbc	05 00 36.5	-1.0
KURBB	Kurchatov Arra	148.33	83	PKPbc	PKPbc	05 00 38.8	-0.2
	comp=Z,4.1nm,0.9s,baz=229,slow=3.7,SNR=6.3						
KURK	Kurchatov	148.43	83		PKPbc	05 00 38.9	-0.5
ZALV	Zalesovo Beam	153.41	82	PKPbc	PKPbc	05 00 49.7	-1.3
	comp=Z,1.2nm,0.7s,baz=244,slow=4.8,SNR=5.8						
SONM	Songino Array	159.99	117	PKPab	PKPab	05 01 32.1	+0.1
	comp=Z,0.8nm,0.6s,baz=225,slow=4.1,SNR=5.7						

*IDC **16** 04:42:41.3±1.5, 26°.41N×98°.47E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/50, mbtmp3.8/4, Error ellipse: s-maj=92.4km s-min=26.2km az=63.0*
*ISCJB **16** 04:42:55.5±0.8, 24°.97N±0°.04×95°.16E±0°.05, h147km±5km, mb3.8/3, Error ellipse: s-maj=8.1km s-min=6.5km az=0.0*
*NDI **16** 04:42:55.7±2.0, 24°.93N×95°.30E, h15km, ML3.7*
ISC 16 04:42:55.8±1.5, 24°.97N±0°.05×95°.18E±0°.09, h143km±10km, n26, σ1°.21/41, mb4.0/3, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.13	263	eP	Pn	04 43 22.3	+1.2
IMP				eS	Sn	04 43 39.0	-1.4
IMP				IAML		04 43 43.8	
	comp=N,1μm,0.1s						
IMP				IAML		04 43 44.2	
	comp=E,332nm,0.1s						
KOHI	KOHIMA	1.23	308	eP	Pn	04 43 23.1	+1.0
KO

0.5nm,0.3s,baz=246,slow=18,SNR=2.6
PMSA Palmer Station 8.73 234 Pn 04 47 41.5 +1.8
PMSA Palmer Station 8.73 234 *e*P Pn 04 47 44.2 +4.5
USHA Ushuaia 12.57 288 Pn **Pn 04 48 32.8 +0.5**
0.3nm,0.3s,baz=128,slow=17,SNR=3.6
GO09 Cerro Castillo 16.67 293 P 04 49 28.4 -1.0
VNA3 Neumayer Olymp 18.38 141 P 04 49 49.3 +1.1
VNA1 Neumayer--Stat 18.68 139 P **Pn 04 49 53.5 +1.8**
VNA2 Neumayer--Watz 19.02 140 P **Pn 04 49 57.0 +1.1**
baz=288,slow=12
SNAA Sanae 20.61 141 P Pn 04 50 15.8 +1.0
SNAA Sanae 20.61 141 P **P 04 50 12.9 +0.3**
SNAA pmax pmax
comp=Z,124nm,1.0s
SNAA Sanae 20.61 141 P Pn 04 50 13.4 -1.4
comp=Z,90nm,1.0s,baz=283,slow=9.6,SNR=63
SNAA LR LR 04 57 21.8
comp=Z,6μm,18.9s,baz=340,slow=34
SNAA Sanae 20.61 141 P **P 04 50 12.9 +0.3**
TRQA Tornquist 24.31 331 P **P 04 50 49.7 -1.4**
TRQA pmax pmax
comp=Z,95nm,1.1s
TRQA Tornquist 24.31 331 P **P 04 50 49.7 -1.4**
TRQA IAmb IAmb 04 50 59.8
comp=Z,95nm,1.1s
TRQA Tornquist 24.31 331 *e*P **P 04 50 49.7 -1.4**
PLCA Paso Flores 24.43 314 P **P 04 50 50.0 -2.2**
PLCA pmax pmax
comp=Z,42nm,1.0s
PLCA Paso Flores 24.43 314 P **P 04 50 50.0 -2.2**
comp=Z,6.5nm,0.8s,baz=189,slow=8.4,SNR=17
PLCA Paso Flores 24.43 314 P **P 04 50 50.0 -2.2**
PLCA IAmb IAmb 04 51 01.6
comp=Z,42nm,1.0s
PLCA Paso Flores 24.43 314 *e*P **P 04 50 50.2 -2.0**
GO06 Curarrehue 25.77 314 P **P 04 51 03.3 -1.1**
OGAUY Aigu 26.65 346 *e*P **P 04 51 15.1 +2.8**
OGAUY Aigu 26.65 346 *e*P **P 04 51 15.1 +2.8**
PLTB Pedras Altas 29.08 349 *e*P **P 04 51 33.6 -0.3**
PLTB Pedras Altas 29.08 349 *e*P **P 04 51 33.6 -0.3**
QSPA South Pole Qui 29.69 180 P **P 04 51 40.9 +1.5**
comp=Z,29nm,0.9s,baz=171,slow=4.3,SNR=17
QSPA South Pole Qui 29.69 180 P **P 04 51 40.7 +1.4**
CPSB Cacapava Do Su 30.41 350 *e*P **P 04 51 47.6 +1.9**
CPSB Cacapava Do Su 30.41 350 *e*P **P 04 51 47.6 +1.9**
CNLB Canela 31.31 354 *e*P **P 04 51 56.8 +3.0**
CNLB Canela 31.31 354 *e*P **P 04 51 56.8 +3.0**
PEL Peldehue 31.35 320 P **P 04 51 53.7 -0.4**
PEL pmax pmax
comp=Z,57nm,1.1s
PEL Peldehue 31.35 320 P **P 04 51 53.7 -0.4**
CFA Coronel Fontan 32.05 325 P **P 04 51 59.3 -0.9**
comp=Z,2.3nm,0.6s,baz=170,slow=11,SNR=12
ITAB Concordia 33.45 352 *e*P **P 04 52 15.2 +2.7**
ITAB Concordia 33.45 352 *e*P **P 04 52 15.2 +2.7**
CPUP Villa Florida 34.87 344 P **P 04 52 24.3 -0.5**
CPUP pmax pmax
comp=Z,20nm,1.2s
CPUP Villa Florida 34.87 344 P **P 04 52 23.5 -1.3**
comp=Z,8.1nm,1.0s,baz=178,slow=7.6,SNR=8.1
CPUP Villa Florida 34.87 344 P **P 04 52 24.3 -0.5**
CPUP Villa Florida 34.87 344 *e*P **P 04 52 26.5 +1.8**
SYO Syowa Base 34.90 141⇑ *e*P **P 04 52 23.4 -1.2**
SYO Syowa Base 34.90 141⇓ *e*sP sP 04 52 28.6 -0.1
PTGB Pitanga 35.95 353 *e*P **P 04 52 36.1 +1.9**
PTGB Pitanga 35.95 353 *e*P **P 04 52 36.1 +1.9**
GO03 Copiap 36.40 325 P **P 04 52 38.3 +0.3**
GO03 IAmb IAmb 04 52 50.2
comp=Z,34nm,0.9s
SPB Sao Paulo 36.93 360 P **P 04 52 41.1 -1.3**
SPB IAmb IAmb 04 52 51.7
comp=Z,43nm,0.9s
SPB Sao Paulo 36.93 360 *e*P **P 04 52 46.3 +3.8**
FRTB Fartura 37.20 357 *e*P **P 04 52 47.0 +2.2**
FRTB Fartura 37.20 357 *e*P **P 04 52 47.0 +2.2**
VAO Valinhos 37.52 1 *e*P **P 04 52 50.0 +2.4**
VAO Valinhos 37.52 1 *e*P **P 04 52 50.0 +2.4**
ESAR Angra dos Reis 37.55 5 *e*P **P 04 52 51.4 +3.7**
ESAR Angra dos Reis 37.55 5 *e*P **P 04 52 51.4 +3.7**
MAN01 Angra dos Reis 37.73 5 *e*P **P 04 52 53.6 +4.3**
MAN01 Angra dos Reis 37.73 5 *e*P **P 04 52 53.6 +4.3**
RCLB Rio Claro- Sao 38.09 360 *e*P **P 04 52 54.2 +1.8**
RCLB Rio Claro- Sao 38.09 360 *e*P **P 04 52 54.2 +1.8**
VAS01 Vassouras-RJ 38.34 6 *e*P **P 04 52 58.6 +4.2**
VAS01 Vassouras-RJ 38.34 6 *e*P **P 04 52 58.6 +4.2**
GO02 Mina Guanaco 38.52 327 P **P 04 52 55.7 -0.5**
GO02 IAmb IAmb 04 53 12.5
comp=Z,31nm,1.1s
DUB01 Friburgo-RJ 38.59 8 *e*P **P 04 53 01.0 +4.4**
DUB01 Friburgo-RJ 38.59 8 *e*P **P 04 53 01.0 +4.4**
PCMB Pacaembu 39.00 354 *e*P **P 04 53 02.2 +2.2**
PCMB Pacaembu 39.00 354 *e*P **P 04 53 02.2 +2.2**
BB19B Bebedouro 39.45 358 *e*P **P 04 53 06.0 +2.3**
BB19B Bebedouro 39.45 358 *e*P **P 04 53 06.0 +2.3**
BSCB Bom Sucesso 39.55 4 *e*P **P 04 53 07.9 +3.2**
BSCB Bom Sucesso 39.55 4 *e*P **P 04 53 07.9 +3.2**
ALF01 Guarapari-ES 40.17 10 *e*P **P 04 53 13.7 +4.0**
ALF01 Guarapari-ES 40.17 10 *e*P **P 04 53 13.7 +4.0**
AQDB Aquidauana 40.45 348 *e*P **P 04 53 14.3 +2.2**
AQDB Aquidauana 40.45 348 *e*P **P 04 53 14.3 +2.2**
LVC Limon Verde 40.77 329 P **P 04 53 12.4 -2.7**
LVC pmax pmax
comp=Z,22nm,1.2s
LVC Limon Verde 40.77 329 P **P 04 53 14.1 -1.0**
comp=Z,9.3nm,0.9s,baz=145,slow=3.4,SNR=3.6
LVC Limon Verde 40.77 329 P **P 04 53 12.4 -2.7**
LVC Limon Verde 40.77 329 *e*P **P 04 53 14.3 -0.8**
ITRB Iturama 40.85 356 *e*P **P 04 53 17.8 +2.4**
ITRB Iturama 40.85 356 *e*P **P 04 53 17.8 +2.4**
C2SB Chapadao do Su 41.91 352 *e*P **P 04 53 26.1 +2.1**
C2SB Chapadao do Su 41.91 352 *e*P **P 04 53 26.1 +2.1**
BSFB Barra de Sao F 41.93 9 *e*P **P 04 53 28.1 +3.9**
BSFB Barra de Sao F 41.93 9 *e*P **P 04 53 28.1 +3.9**
PMNB Patos De Minas 41.96 1 *e*P **P 04 53 28.1 +3.5**
PMNB Patos De Minas 41.96 1 *e*P **P 04 53 28.1 +3.5**
SJMB Sao Joao De Ma 42.03 9 *e*P **P 04 53 28.1 +3.1**
SJMB Sao Joao De Ma 42.03 9 *e*P **P 04 53 28.1 +3.1**
PB01 IPOC Station P 42.42 329 P **P 04 53 26.2 -2.1**
PB01 IAmb IAmb 04 53 37.6
comp=Z,49nm,1.0s
MAW Mawson 42.50 148 P **P 04 53 29.2 +0.8**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 42.50 148 P **P 04 53 29.1 +0.8**
comp=Z,16nm,1.0s,baz=216,slow=8.0,SNR=14
MAW Mawson 42.50 148 P **P 04 53 29.2 +0.8**
PP1B Ponte de Pedra 43.22 350 *e*P **P 04 53 37.0 +2.2**
PP1B Ponte de Pedra 43.22 350 *e*P **P 04 53 37.0 +2.2**
GO01 Chusmiza 43.66 330 P **P 04 53 36.8 -2.0**
PB11 IPOC Station P 43.69 329 P **P 04 53 38.2 -0.4**
PB11 IAmb IAmb 04 53 53.0
comp=Z,40nm,1.1s
MNMC Minye Minye 44.28 329 P **P 04 53 41.9 -1.7**
MNMC IAmb IAmb 04 53 47.8
comp=Z,43nm,0.9s
BDFB Brasilia 44.84 359 P **P 04 53 46.5 -1.3**
BDFB pmax pmax
comp=Z,51nm,1.1s
BDFB Brasilia 44.84 359 P **P 04 53 46.0 -1.9**
comp=Z,5.7nm,0.7s,baz=205,slow=4.6,SNR=9.0
BDFB Brasilia 44.84 359 P **P 04 53 46.5 -1.3**
BDFB IAmb IAmb 04 53 55.5
comp=Z,51nm,1.1s
ARAG Araguaiana, MT 44.88 354 *e*P **P 04 53 50.5 +2.4**
ARAG Araguaiana, MT 44.88 354 *e*P **P 04 53 50.5 +2.4**
SALV Santo Antonio 44.98 349 *e*P **P 04 53 50.8 +2.0**
SALV Santo Antonio 44.98 349 *e*P **P 04 53 50.8 +2.0**
SIV San Ignacio 45.57 341 P **P 04 53 51.4 -2.2**
comp=Z,7.0nm,0.8s,baz=178,slow=6.9,SNR=14
NBIT Itapeh - BA 45.91 11 *e*P **P 04 53 59.0 +2.8**
NBIT Itapeh - BA 45.91 11 *e*P **P 04 53 59.0 +2.8**
LPAZ La Paz 46.66 332 P **P 04 54 01.5 -1.3**
LPAZ pmax pmax
comp=Z,20nm,1.2s
LPAZ La Paz 46.66 332 P **P 04 54 01.9 -0.9**
comp=Z,4.4nm,0.8s,baz=167,slow=10,SNR=7.9
LPAZ La Paz 46.66 332 P **P 04 54 01.6 -1.3**
LPAZ IAmb IAmb 04 54 20.7
comp=Z,20nm,1.1s
LPAZ La Paz 46.66 332 *e*P **P 04 54 02.6 -0.2**
PEXB Peixe 48.35 359 *e*P **P 04 54 18.2 +2.9**
PEXB Peixe 48.35 359 *e*P **P 04 54 18.2 +2.9**
NBPN Ponto Novo - B 49.89 9 *e*P **P 04 54 30.3 +3.2**
NBPN Ponto Novo - B 49.89 9 *e*P **P 04 54 30.3 +3.2**
CLDB Colider 49.96 349 *e*P **P 04 54 28.2 +0.6**
CLDB Colider 49.96 349 *e*P **P 04 54 28.2 +0.6**
NBLA Lagarto - SE 49.97 12 *e*P **P 04 54 31.2 +3.5**
NBLA Lagarto - SE 49.97 12 *e*P **P 04 54 31.2 +3.5**
NBAN Anadia - AL 51.45 14 *e*P **P 04 54 42.4 +3.6**
NBAN Anadia - AL 51.45 14 *e*P **P 04 54 42.4 +3.6**
NBTA Tacaratu-PE 51.79 12 *e*P **P 04 54 45.0 +3.6**
NBTA Tacaratu-PE 51.79 12 *e*P **P 04 54 45.0 +3.6**
SUR Sutherland 51.80 89 P **P 04 54 39.9 -1.7**
comp=Z,23nm,0.8s,baz=204,slow=9.2,SNR=17
SUR Sutherland 51.80 89 IAmb IAmb 04 54 46.2
comp=Z,38nm,0.9s
CASY Casey 52.44 169 P **P 04 54 48.3 +2.8**
CASY IAmb IAmb 04 54 55.6
comp=Z,23nm,1.1s
NBRF Rio Formoso - 52.57 15 *e*P **P 04 54 50.3 +3.2**
NBRF Rio Formoso - 52.57 15 *e*P **P 04 54 50.3 +3.2**
SAML Samuel 52.82 340 P **P 04 54 46.3 -2.7**
SAML pmax pmax
comp=Z,55nm,1.2s
SAML Samuel 52.82 340 P **P 04 54 46.3 -2.7**
NNA Nana 53.08 323 P **P 04 54 50.4 -0.6**
NNA pmax pmax
comp=Z,72nm,1.1s
NNA Nana 53.08 323 P **P 04 54 50.4 -0.6**
NBPV Pedro Velho 54.78 15 *e*P **P 04 55 06.8 +3.5**
NBPV Pedro Velho 54.78 15 *e*P **P 04 55 06.8 +3.5**
NBPB Pedra_Branca-C 55.19 10 *e*P **P 04 55 10.4 +4.0**
NBPB Pedra_Branca-C 55.19 10 *e*P **P 04 55 10.4 +4.0**
RCBR Riachuelo 55.28 14 *e*P **P 04 55 10.4 +3.4**
RCBR Riachuelo 55.28 14 *e*P **P 04 55 10.4 +3.4**
NBPS Pedro II - PI 56.20 7 *e*P **P 04 55 16.6 +2.9**
NBPS Pedro II - PI 56.20 7 *e*P **P 04 55 16.6 +2.9**
BOSA Boshof 57.08 91 P **P 04 55 18.4 -1.5**
BOSA pmax pmax
comp=Z,55nm,1.2s
BOSA Boshof 57.08 91 P **P 04 55 17.2 -2.7**
comp=Z,39nm,1.1s,baz=207,slow=7.1,SNR=16
BOSA Boshof 57.08 91 P **P 04 55 18.4 -1.5**
H10N3 ASCENSION HYDR 58.07 39 T T 05 58 21.9
baz=199,slow=75,SNR=14
H10N1 ASCENSION HYDR 58.07 39 T T 05 58 25.5
baz=199,slow=75,SNR=12
H10N2 ASCENSION HYDR 58.09 39 T T 05 58 23.2
baz=199,slow=75,SNR=11
LBTB Lobatse 60.23 89 P **P 04 55 40.6 -1.3**
LBTB pmax pmax
comp=Z,68nm,1.1s
LBTB Lobatse 60.23 89 P **P 04 55 40.6 -1.3**
OTAV Otavalo 65.17 325 P **P 04 56 12.9 -2.3**
OTAV pmax pmax
comp=Z,41nm,1.1s
OTAV Otavalo 65.17 325 P **P 04 56 12.9 -2.3**
ROSC El Rosal 68.50 331 P **P 04 56 36.5 +0.1**
comp=Z,2.4nm,0.3s,baz=203,slow=12,SNR=2.2
ROSC El Rosal 68.50 331 P **P 04 56 34.7 -1.7**
LSZ Lusaka 69.75 85 P **P 04 56 43.0 -0.9**
LSZ pmax pmax
comp=Z,46nm,1.1s
LSZ Lusaka 69.75 85 P **P 04 56 43.0 -0.9**
SDV Santo Domingo 71.61 336 P **P 04 56 54.5 -0.7**
SDV Santo Domingo 71.61 336 *e*P **P 04 56 55.6 +0.4**
LTZ Lake Taylor 72.04 210 P **P 04 56 58.6 +1.2**
LTZ IAmb IAmb 04 57 06.3
comp=Z,19nm,0.9s
THZ Tophouse 72.84 210 P **P 04 57 03.0 +0.8**
THZ IAmb IAmb 04 57 10.5
comp=Z,17nm,0.8s
LIC Lamto 74.38 44 *e*P P 04 57 07.2 -4.2
comp=Z,184nm,1.4s
KIC Kosan Boka 74.61 44 *e*P P 04 57 07.6 -5.1
comp=Z,75nm,1.1s
TIC Toumodi 74.78 44 *e*P **P 04 57 11.8 -1.9**
DBIC Dimbokro 74.86 44 P **P 04 57 13.8 -0.3**
DBIC pmax pmax
comp=Z,29nm,1.1s
DBIC Dimbokro 74.86 44 P **P 04 57 12.6 -1.6**
comp=Z,18nm,1.2s,baz=176,slow=7.3,SNR=6.5
DBIC Dimbokro 74.86 44 P **P 04 57 13.8 -0.3**
DBIC IAmb IAmb 04 57 22.2
comp=Z,29nm,1.1s
ABPO Ambohimpanom 75.90 104 P **P 04 57 20.8 +0.4**
ABPO pmax pmax
comp=Z,8.0nm,1.1s
ABPO Ambohimpanom 75.90 104 P **P 04 57 20.8 +0.4**
JTS Las Juntas de 76.61 322 P **P 04 57 27.1 +2.9**
JTS pmax pmax
comp=Z,28nm,1.0s
JTS Las Juntas de 76.61 322 P **P 04 57 27.1 +2.9**
JTS IAmb IAmb 04 57 33.1
comp=Z,28nm,1.0s
ESPN Las Esperanzas 78.22 323 P **P 04 57 31.8 -1.3**
ESPN IAmb IAmb 04 57 40.6
comp=Z,23nm,1.0s
ACON Acoyapa 78.27 322 P **P 04 57 33.2 -0.2**
ACON IAmb IAmb 04 57 41.2
comp=Z,26nm,1.0s
OUZ Omahuta 78.83 213 P **P 04 57 36.2 -0.2**
OUZ IAmb IAmb 04 57 44.2
comp=Z,26nm,1.0s
MLPR Magueyes Islan 79.83 341 P **P 04 57 39.6 -2.2**
TOA0 Torodi Ar. Sit 83.19 48 P **P 04 57 58.4 -1.4**
TORD Torodi Ar. Bea 83.19 48 P **P 04 57 57.4 -2.3**
comp=Z,15nm,1.1s,baz=211,slow=4.7,SNR=15
TORD Torodi Ar. Bea 83.19 48 P **P 04 57 56.8 -2.9**
CCIG Comitan 84.54 317 P **P 04 58 07.1 +0.3**
CCIG IAmb IAmb 04 58 15.2
comp=Z,20nm,1.1s
KMBO Kilima Mbogo 86.40 86 P **P 04 58 14.4 -2.0**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
KMBO Kilima Mbogo 86.40 86 P **P 04 58 15.6 -0.8**
comp=Z,0.8nm,0.4s,baz=219,slow=7.0,SNR=3.9
KMBO Kilima Mbogo 86.40 86 P **P 04 58 14.4 -2.0**
TLIG Tlapa 87.98 312 P **P 04 58 24.5 +0.8**
ASAR Alice Springs 96.09 181 P **P 04 58 59.4 -1.9**
ASAR Alice Springs 96.09 181 P **P 04 59 01.5 +0.2**
comp=Z,7.7nm,1.2s,baz=177,slow=3.4,SNR=9.1
ASAR PP **PP 05 02 49.7 -3.3**
comp=Z,0.5nm,0.6s,baz=172,slow=7.5,SNR=3.9
ASAR Alice Springs 96.09 181 P **P 04 58 59.4 -1.9**
WRA Warramunga Arr 99.79 182 P **Pdif 04 59 16.1 -1.8**
comp=Z,1.6nm,1.1s,baz=178,slow=4.1,SNR=6.9
WRA Warramunga Arr 99.79 182 IAmb IAmb 04 59 24.1
comp=Z,0.2nm,1.0s
TXAR Lajitas Array 100.59 312 P **Pdif 04 59 21.3 +0.2**
comp=Z,0.3nm,0.9s,baz=176,slow=2.6,SNR=2.7
TPRI Tanjung Pinang 116.75 148 PKP **PKiKP 05 04 24.4 +6.4**
BRTR Keskin Array B 119.62 61 PKIKP **PKiKP 05 04 23.0 +0.1**
BRTR Keskin Array B 119.62 61 PKP **PKPdf 05 04 22.0 -0.9**
comp=Z,1.8nm,0.9s,baz=215,slow=1.5,SNR=5.9
BRTR PP **PP 05 05 45.7 -0.5**
comp=Z,2.0nm,1.1s,baz=197,slow=9.0,SNR=3.9
BRTR Keskin Array B 119.62 61 PKiKP 05 04 23.1 +0.1
GERES GERESS Array B 119.67 42 PKP **PKPdf 05 04 21.0 -1.6**
comp=Z,0.6nm,0.7s,baz=222,slow=1.3,SNR=5.6
VYHS Vyhne 121.11 45 *e*PKIKP **PKPdf 05 04 23.1 -2.2**
VYHS Vyhne 121.11 45 *e*PKP **PKPdf 05 04 23.1 -2.2**
CLL Collm 121.58 40 *i* PKIKP **PKiKP 05 04 33.0 +6.8**
CLL pmax pmax
comp=Z,12nm,1.3s
CLL Collm 121.58 40 *i* PKiKP **PKiKP 05 04 33.0 +6.8**
comp=Z,11nm,1.3s
CLL *e*PP **PP 05 06 05.0 +5.7**
CLL Lmax 05 45 00.0
CLL LmH 05 47 00.0
comp=N,7μm,21.4s
CLL LmH 05 47 00.0
comp=E,2μm,21.9s
CLL LmH 05 47 00.0
comp=Z,7μm,21.9s
CLL LmV 05 55 00.0
comp=Z,7μm,19.3s
AKASG Malin Array Be 126.75 51 PKIKP **PKPdf 05 04 34.2 -1.8**
AKASG Malin Array Be 126.75 51 PKP **PKPdf 05 04 34.0 -2.0**
comp=Z,1.4nm,0.6s,baz=243,slow=1.9,SNR=4.7
AKASG Malin Array Be 126.75 51 PKPdf 05 04 34.2 -1.8
KBZ Khabaz 126.93 65 PKP **PKPdf 05 04 36.3 -0.2**
comp=Z,2.4nm,0.8s,baz=90,slow=1.0,SNR=3.2
HRA Herat 128.78 87 PKPdf 05 04 39.0 -1.7
NOA NORSAR Array B 129.36 33 PKP **PKPdf 05 04 40.6 -0.1**
comp=Z,5.3nm,1.1s,baz=216,slow=2.2,SNR=3.4
VSR Storozhevoye 131.10 56 *e*PKIKP **PKPdf 05 04 44.4 +0.2**
VSR pmax pmax
comp=Z,20nm,1.9s
CMAR Chiang Mai Arr 131.62 135 PKIKP **PKPdf 05 04 45.0 -1.3**
CMAR Chiang Mai Arr 131.62 135 PKP **PKiKP 05 04 47.3 0.0**
comp=Z,2.4nm,0.6s,baz=236,slow=3.5,SNR=9.3
CMAR Chiang Mai Arr 131.62 135 PKPdf 05 04 45.0 -1.3
LPSR Galich'ya Gora 132.05 55 *e*PKIKP **PKiKP 05 04 48.5 +1.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
VRH Novokhopyorsk 132.15 58 *e*PKIKP **PKPdf 05 04 46.3 +0.1**
VRH pmax pmax
comp=Z,30nm,1.9s
NIL Nilore 133.62 98 PKIKP **PKiKP 05 04 51.2 +0.3**
NIL Nilore 133.62 98 PKiKP 05 04 51.2 +0.3
FINES FINESS Array B 134.02 40 PKP **PKPdf 05 04 48.1 -1.3**
comp=Z,3.0nm,0.7s,baz=126,slow=3.8,SNR=4.3
ABKAR Akbulak array 138.89 72 PKPdf **PKPdf 05 04 56.8 -2.1**
KMI Kunming 139.09 136 PKP **PKPdf 05 04 56.8 -3.5**
KSH Kashi 139.59 95 *e*PKP **PKiKP 05 05 02.8 -0.2**
KSH PKS **PKSdf 05 08 39.0 +2.3**
KKAR Karatay Array 139.60 87 PKIKP **PKPdf 05 04 58.6 -1.8**
KKAR Karatay Array 139.60 87 PKPdf **PKPdf 05 04 58.6 -1.8**
AAK Ala-Archa 141.22 91 PKIKP **PKPdf 05 05 03.2 -0.4**
AAK Ala-Archa 141.22 91 PKP **PKPdf 05 05 02.7 -0.9**
comp=Z,3.1nm,0.7s,baz=180,slow=1.0,SNR=5.7
AAK Ala-Archa 141.22 91 PKPdf 05 05 03.1 -0.4
BCAR Beaver Creek A 142.28 312 PKPdf **PKPdf 05 05 02.7 -2.0**
INK Inuvik 142.61 322 PKhKP **PKPdf 05 05 00.7 -4.3**
comp=Z,1.1nm,0.8s,baz=141,slow=3.5,SNR=4.0
ARU Arti 142.98 63 PKIKP **PKPdf 05 05 05.5 -0.5**
ARU Arti 142.98 63 PKPdf 05 05 05.5 -0.5
PAX Paxson 143.60 310 PKIKP **PKPdf 05 05 07.3 +0.3**
PAX Paxson 143.60 310 PKPdf 05 05 07.3 +0.3
CD2 Chengdu 144.74 134 PKP **PKPdf 05 05 09.6 -0.4**
ILAR Eielson Array 145.11 312 PKPbc **PKPbc 05 05 06.0 -3.1**
comp=Z,5.5nm,0.5s,baz=142,slow=1.4,SNR=48
ILAR Eielson Array 145.11 312 PKPbc 05 05 04.7 -4.4
COLA College 145.51 312 PKP2 **PKPdf 05 05 07.1 -3.0**
COLA College 145.51 312 PKPdf 05 05 07.1 -3.0
BWN Browne 145.75 310 PKPdf 05 05 08.5 -2.1
ENH Enshi 146.04 143 PKPab 05 05 13.4 -0.2
PPLA Purkeypile 146.14 307 PKPdf 05 05 10.5 -1.0
BRVK Borovoye 146.29 74 PKP2 **PKPdf 05 05 11.8 0.0**
BRVK Borovoye 146.29 74 PKPdf 05 05 11.8 0.0
BPAW Bear Paw Mtn. 146.29 310 PKPdf 05 05 10.6 -1.0
TTA Tatalina 147.68 306 PKP2 **PKPbc 05 05 16.7 -0.1**
TTA Tatalina 147.68 306 PKPbc 05 05 16.7 -0.1
TOLK Toolik Lake Re 147.88 318 PKPdf 05 05 13.4 -0.8
MK31 Makanchi Array 148.07 92 PKIKP **PKPdf 05 05 15.3 +0.2**
MK31 05 05 20.2
MK31 Makanchi Array 148.07 92 PKPdf 05 05 15.3 +0.2
MK31 **PKiKP 05 05 20.2 +0.1**
MKAR Makanchi Array 148.07 92 PKIKP **PKPdf 05 05 14.0 -1.1**
MKAR 05 05 19.2
MKAR Makanchi Array 148.07 92 PKPbc **PKPdf 05 05 14.8 -0.2**
comp=Z,2.6nm,0.6s,baz=272,slow=1.7,SNR=18
MKAR Makanchi Array 148.07 92 PKPdf 05 05 13.9 -1.1
MKAR PKPbc **PKiKP 05 05 19.2 -0.8**
IMAR Indian Mountai 148.21 312 PKPdf 05 05 13.9 -0.7
IMAR PKPbc **PKPbc 05 05 18.8 +0.8**
WMQ Urumqi 148.58 102 *e*PKPbc **PKPdf 05 05 16.4 +0.3**
WMQ LR LR
comp=Z,1μm,21.7s
WMQ LR LR
comp=Z,1μm,21.7s
KURK Kurchatov 148.87 84 PKP2 **PKPbc 05 05 18.5 -1.6**
KURK Kurchatov 148.87 84 PKPbc 05 05 18.5 -1.6
XAN Xi'an 149.35 139 PKP2 **PKPbc 05 05 21.3 -0.7**
XAN Xi'an 149.35 139 PKPbc 05 05 21.3 -0.7
LZH Lanzhou 149.41 130 *e*PKPbc **PKPdf 05 05 17.9 +0.1**
NJ2 Nanjing 150.09 156 *e*PKPbc **PKPdf 05 05 18.8 0.0**
GTA Gaotai 150.66 121 PKPbc **PKPbc 05 05 23.6 -1.5**
ZAA0 Zalesovo Array 153.85 83 PKPbc 05 05 31.0 -0.6
ZALV Zalesovo Beam 153.85 83 PKIKP **PKPbc 05 05 28.8 -2.8**
ZALV Zalesovo Beam 153.85 83 PKPbc **PKPbc 05 05 29.5 -2.1**
comp=Z,3.6nm,0.8s,baz=228,slow=3.8,SNR=4.7
ZALV Zalesovo Beam 153.85 83 PKPbc 05 05 28.8 -2.8
HHC Hu-ho-hao-te 156.41 137 *e*PKP **PKPdf 05 05 29.5 +1.7**
KSRS Korea Array 156.70 171 PKPab **PKPab 05 05 58.7 +1.3**
comp=Z,2.9nm,0.9s,baz=190,slow=3.4,SNR=7.4
SONM Songino Array 160.26 118 PKIKP **PKPdf 05 05 32.6 +0.4**
SONM Songino Array 160.26 118 PKPab **PKPab 05 06 13.2 +0.4**
comp=Z,5.0nm,1.1s,baz=223,slow=5.4,SNR=12
SONM Songino Array 160.26 118 PKPdf **PKPdf 05 05 32.6 +0.4**
SONM **PKPab 05 06 14.1 +1.3**
CN2 Changchun 162.69 162 *e*PKP **PKPdf 05 05 31.6 -3.1**
BILL Bilibino 163.77 312⇑ *e*PKP2 **PKPab 05 06 30.9 +3.4**
BILL pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 168.75 6 PKIKP **PKPdf 05 05 38.6 -0.2**
TIXI 05 06 46.8
TIXI Tiksi 168.75 6 PKPab **PKPab 05 06 47.1 -2.3**
comp=Z,1.4nm,0.3s,baz=351,slow=1.3,SNR=4.6
TIXI Tiksi 168.75 6 PKPdf **PKPdf 05 05 38.6 -0.2**
TIXI **PKPab 05 06 46.8 -2.5**

IDC 16 04:48:38.2±1.5, 60°.83S×46°.43W, h0km, mb3.9/1, mb1 4.1/2, mb1mx3.8/25, mbtmp4.1/2, ML3.4/1, Error ellipse: s-maj=111.4km s-min=38.1km az=149.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.97**	**236**	Pn	Pn	04 50 49.4	+0.6
0.4nm,0.3s,baz=81,slow=11,SNR=6.3							
TORD	**Torodi Ar. Bea**	**83.02**	**47**	P	P	05 01 05.6	+0.5
0.9nm,0.8s,baz=195,slow=7.0,SNR=3.0							
ILAR	**Eielson Array**	**145.67**	**312**	PKPbc	PKPdf	05 08 15.8	-0.9
2.2nm,0.7s,baz=149,slow=2.2,SNR=6.7							
MKAR	**Makanchi Array**	**147.56**	**92**	PKPbc	PKPbc	05 08 22.1	-1.2
0.7nm,0.5s,baz=222,slow=1.9,SNR=4.1							

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*ISCJB **16** 04:51:34.6±0.8, 60°.1S±0°.1×46°.7W±0°.3, h10km, mb3.7/3, Error ellipse: s-maj=18.9km s-min=14.9km az=152.2*
*IDC **16** 04:51:35.1±1.1, 60°.19S×46°.65W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/23, mbtmp3.9/4, Error ellipse: s-maj=44.0km s-min=25.5km az=61.0*
*NEIC **16** 04:51:36.7±1.5, 60°.1S±0°.1×46°.9W±0°.2, h10km±3km, mb4.2/6*

ISC 16 04:51:36.3±0.9, 60°.1S±0°.1×46°.9W±0°.1, h10km, n16, σ1§22/10, mb3.8/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.11**	**48**	Pn	**Pn**	**04 53 34.0**	**0.0**
SNAA	**Sanae**	**20.76**	**142**	P	**P**	**04 56 16.0**	**-0.9**
5.3nm,0.8s,baz=276,slow=11,SNR=7.0							
SNAA	**Sanae**	**20.76**	**142**	P	**P**	**04 56 18.6**	**+1.7**
SNAA				IAmb	IAmb	04 56 28.5	
comp=Z,11nm,1.1s							
PLCA	**Paso Flores**	**24.34**	**312**	P	**P**	**04 56 55.8**	**+1.6**
comp=Z,1.0nm,0.7s,baz=165,slow=7.3,SNR=2.8							
PLCA	**Paso Flores**	**24.34**	**312**	IAmb	IAmb	04 57 14.7	
comp=Z,2.8nm,0.8s							
QSPA	**South Pole Qui**	**30.12**	**180**	P	**P**	**04 57 45.6**	**-0.3**
comp=Z,4.0nm,0.8s,baz=179,slow=9.7,SNR=6.0							
QSPA	**South Pole Qui**	**30.12**	**180**	IAmb	IAmb	04 57 47.8	
comp=Z,6.5nm,1.0s							
GO04	**Tololo Observa**	**33.98**	**321**	P	**P**	**04 58 20.4**	**+0.2**
GO02	**Mina Guanaco**	**38.32**	**326**	P	**P**	**04 58 55.5**	**-1.8**
H10N3	**ASCENSION HYDR**	**57.56**	**39**	T	T	06 04 18.5	
baz=197,slow=74							
H10N1	**ASCENSION HYDR**	**57.56**	**39**	T	T	06 04 17.8	
baz=197							
H10N2	**ASCENSION HYDR**	**57.58**	**39**	T	T	06 04 17.4	
baz=197,slow=74							
TORD	**Torodi Ar. Bea**	**82.69**	**47**	P	**P**	**05 04 00.3**	**+0.4**
comp=Z,0.6nm,0.8s,baz=208,slow=3.4,SNR=2.8							
TORD	**Torodi Ar. Bea**	**82.69**	**47**	IAmb	IAmb	05 04 09.1	
comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**145.03**	**313**	PKPbc	**PKPbc**	**05 11 11.4**	**-0.1**
comp=Z,0.6nm,0.6s,baz=138,slow=3.4,SNR=4.1							
MKAR	**Makanchi Array**	**147.79**	**91**	PKPbc	**PKPbc**	**05 11 19.5**	**-0.8**
comp=Z,0.3nm,0.5s,baz=220,slow=2.3,SNR=2.7							

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*ISCJB **16** 04:52:13.8±1.1, 60°.3S±0°.2×46°.7W±0°.3, h10km, mb3.9/2, Error ellipse: s-maj=28.8km s-min=13.8km az=44.6*
*IDC **16** 04:52:15.6±1.3, 60°.24S×46°.43W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/23, mbtmp4.0/4, ML3.6/1, Error*

ellipse: s-maj=41.2km s-min=31.8km az=109.0
*NEIC **16** 04:52:16.3±0.4, 60°.4S±0°.2×46°.6W±0°.3, h10km±2km, mb4.1/3*
ISC 16 04:52:16.2±0.9, 60°.3S±0°.2×46°.8W±0°.1, h10km, n12, σ1§51/11, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.21	47	Pn	Pn	04 54 14.8	-0.4
PMSA	Palmer Station	9.13	233	Pn	Pn	04 54 29.6	+1.8
0.6nm,0.3s,baz=209,slow=19,SNR=3.0							
PMSA				Sn	Sn	04 56 07.8	-2.6
1.2nm,0.3s,baz=295,slow=13,SNR=17							
PMSA	Palmer Station	9.13	233		Pn	04 54 28.2	+0.4
SNAA	Sanae	20.62	141	P	P	04 56 54.2	-1.1
2.9nm,1.0s,baz=261,slow=13,SNR=2.0							
SNAA	Sanae	20.62	141	IAmb	IAmb	04 57 01.5	
comp=Z,8.8nm,0.9s							
QSPA	South Pole Qui	29.95	180	P	P	04 58 26.7	+2.4
comp=Z,2.6nm,0.9s,baz=176,slow=6.4,SNR=3.3							
QSPA	South Pole Qui	29.95	180	P	P	04 58 24.0	-0.3
QSPA				IAmb	IAmb	04 58 38.0	
comp=Z,2.5nm,0.9s							
TORD	Torodi Ar. Bea	82.79	47	P	P	05 04 39.9	-0.4
comp=Z,1.0nm,0.8s,baz=210,slow=6.8,SNR=3.4							
TORD	Torodi Ar. Bea	82.79	47	IAmb	IAmb	05 04 41.9	
comp=Z,0.9nm,1.0s							
ILAR	Eielson Array	145.16	312	PKPbc	PKPbc	05 11 52.5	+0.7
comp=Z,1.2nm,0.9s,baz=147,slow=2.0,SNR=3.3							
BVAR	Borovoye Array	145.95	74	PKPbc	PKPab	05 11 55.1	-0.2
comp=Z,1.6nm,0.5s,baz=253,slow=1.5,SNR=4.5							
MKAR	Makanchi Array	147.77	91	PKPbc	PKPbc	05 11 59.8	-0.3
comp=Z,0.8nm,0.6s,baz=209,slow=2.2,SNR=3.6							

KRSC 16 04:53:21.1±1.2, 51°.87N×160°.33E, h60km±20km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.24	352	eP	Pn	04 53 43.1	+0.8
SPN				eS	Sn	04 54 00.5	+2.4
RUS	Russkaya	1.25	297	eP	Pn	04 53 42.6	+0.2
KDTR	Khodutka, Kamc	1.40	268	eP	Pn	04 53 45.1	+0.8
KDTR				eS	Sn	04 54 02.8	+1.0
NLC	Nalytchevo	1.43	336	eP	Pn	04 53 46.6	+1.8
NLC				eS	Sn	04 54 04.8	+2.2
MTVR	Mutnovka	1.45	296	eP	Pn	04 53 46.2	+0.9
MTVR				eS	Sn	04 54 05.1	+1.7
DALK	Dalny	1.51	321	eP	Pn	04 53 47.1	+1.3
DALK				eS	Sn	04 54 06.5	+2.1
PET	Petropavlovsk	1.54	319	eP	Pn	04 53 47.8	+1.5
PET				eS	Sn	04 54 07.6	+2.3
GRL	Gorelyy	1.54	297	eP	Pn	04 53 48.4	+2.0
ASAK	Asacha	1.58	290	eP	Pn	04 53 48.6	+1.7
ASAK				eS	Sn	04 54 09.0	+2.6
UGLR	Uglovaya	1.62	326	eP	Pn	04 53 49.9	+2.4
KRMR	Karymshinskiy	1.65	306	eP	Pn	04 53 49.0	+1.2
KRMR				eS	Sn	04 54 09.9	+1.9
SDLR	Sedlovina	1.66	329	eP	Pn	04 53 49.5	+1.5
SMAR	Somma	1.67	327	eP	Pn	04 53 50.1	+1.8
AVH	Avacha	1.70	326	eP	Pn	04 53 50.7	+2.2
KRER	Koryakskii	1.73	327	eP	Pn	04 53 51.6	+2.6
KOK	Koryaka	1.76	325	eP	Pn	04 53 52.9	+3.6
KRX	Arik	1.81	326	eP	Pn	04 53 52.4	+2.4
PAU	Pauzhetka	2.23	261	eP	Pn	04 53 58.7	+3.1
KII	Karymskiy	2.23	347	eP	Pn	04 53 58.5	+2.8
GNL	Ganaly	2.33	323	eP	Pn	04 54 00.0	+2.9
MKZ	Mys Kozlova	2.82	17	eP	Pn	04 54 05.2	+1.6
KZV	Kizimen	3.25	360	eP	Pn	04 54 12.4	+2.8
TUMD	Tumrok D	3.34	1	eP	Pn	04 54 13.2	+2.5
TUMD				eS	Sn	04 54 51.2	+2.1
TUMR	Tumrok	3.42	358	eP	Pn	04 54 15.4	+3.5
KBTR	Krutoberegovo	4.58	18	eP	Pn	04 54 30.9	+3.1
BDR	Baidarnaya	4.73	6	eP	Pn	04 54 34.0	+4.1
SRKR	Sorokina	4.82	6	eP	Pn	04 54 34.9	+3.9

*ISCJB **16** 04:56:02.1±1.1, 30°.34S±0°.04×72°.01W±0°.08, h10km, Error ellipse: s-maj=10.1km s-min=5.3km az=19.2*
*SJA **16** 04:56:02.1±0.8, 30°.21S×72°.02W, h33km, ML3.6, MW3.5*
*GUC **16** 04:56:04.9±0.7, 30°.45S×71°.59W, h24km±6km, ML3.7*
ISC 16 04:56:00.0±1.7, 30°.33S±0°.06×72°.05W±0°.09, h10km, n28, σ2§68/37, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.82	59	↑iP	Pb	04 56 17.5	+1.2
LSCH				eS	Sb	04 56 26.7	-0.6
GO04	Tololo Observa	1.10	82	↑iP	Pg	04 56 20.4	-0.7
GO04				eS	Sg	04 56 31.6	-3.8
GO04				IAML		04 56 33.1	
comp=N,6μm,0.5s							
CO02	Combarbal	1.26	134	↓↓eP	Pn	04 56 22.4	-1.4
CO02				eS	Sb	04 56 35.8	-4.4
CO02				IAML		04 56 40.0	
comp=N,7μm,0.6s							
AROD	Rodeo	2.24	86	iP	Pn	04 56 39.5	+2.1
AROD				eS	Sn	04 57 06.0	+0.6
ACDV	Cuesta del Vie	2.54	87	iP	Pn	04 56 44.8	+3.3
ACDV				eS	Sn	04 57 15.4	+2.8
ACCO	Cerro Coronel	2.59	96	iP	Pn	04 56 45.0	+2.7
ACCO				eS	Sn	04 57 16.5	+2.4
ROCH	El Roble	2.78	162	eS	Sn	04 57 21.5	+3.0
ROCH				IAML		04 57 27.8	
comp=N,295nm,0.5s							
RTLS	Leoncito	2.78	122	iP	Pn	04 56 47.9	+3.0
RTLS				IAML		04 56 56.5	
comp=Z,194nm,0.4s							
RTLS				eS	Sn	04 57 22.8	+4.1
PEL	Peldehue	3.04	158	eP	Pn	04 56 51.1	+2.9
PEL				IAML		04 57 33.7	
comp=N,241nm,0.4s							
PEL	Peldehue	3.04	158	iP	Pn	04 56 49.5	+1.3
ZON	Zonda	3.14	114	iP	Pn	04 56 53.0	+3.3
GO03	Copiap	3.16	31	iP	Pb	04 56 54.2	-2.1
RTLL	Cerro Villicun	3.23	109	iP	Pn	04 56 52.9	+2.0
RTLL				IAML		04 57 42.2	
comp=Z,154nm,0.4s							
FCH	Farellones	3.34	154	↓↓eP	Pn	04 56 54.9	+2.3
FCH				eS	Sn	04 57 34.0	+1.4
FCH				IAML		04 57 49.3	
comp=E,102nm,0.2s							
RTCV	Cerro Valdivia	3.38	118	↓iP	Pn	04 56 56.3	+3.4
RTCV				eS	Sn	04 57 35.4	+2.3
CFA	Coronel Fontan	3.52	112	iP	Pn	04 56 56.9	+2.2
ASAL	Salagasta	3.56	130	iP	Pn	04 56 59.0	+3.7
ARCO	CERRO ARCO	3.66	134	iP	Pn	04 57 01.3	+4.5
ARCO				IAML		04 57 54.5	
comp=Z,65nm,0.5s							
VCA	Vinchina	3.71	66	iP	Pb	04 57 02.6	-3.1
VCA				IAML		04 57 59.7	
comp=Z,124nm,0.4s							
AAGR	Agrelo	3.89	136	iP	Pn	04 57 03.7	+3.8
ACLC	CERRO LA CRUZ	4.52	80	iP	Pn	04 57 11.4	+2.7
ACAN	Cantantal	4.59	116	iP	Pn	04 57 11.3	+1.7
GO05	Huala	4.67	179	iP	Pn	04 57 10.7	+0.1
APLL	PUNTA DE LOS L	4.78	92	iP	Pn	04 57 14.1	+2.0
CYA	Choya	5.77	73	iP	Pn	04 57 27.6	+1.8
MRA	San Martin	5.80	113	↓↓iP	Pn	04 57 27.0	+0.7
MRA				IAML		04 58 40.4	
comp=Z,32nm,0.5s							
TCA	Tanti	6.49	101	iP	Pn	04 57 36.1	+0.4
TCA				IAML		04 57 40.2	
comp=Z,20nm,0.5s							
TRQA	Tornquist	11.35	135	iP	Pn	04 58 43.3	+1.0

IDC 16 04:59:03.3±4.9, 3°.92S×70°.38E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/70, mbtmp3.8/4, ML4.6/1, Error ellipse: s-maj=129.7km s-min=28.1km az=79.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	2.47	165	Pn	Pn	04 59 39.2	-5.3
baz=335,slow=14							
H08N2				T	T	05 02 14.9	
baz=2.2,slow=27,SNR=39							
H08N3	Diego Garcia H	2.49	166	Pn	Pn	04 59 39.5	-5.3
baz=335,slow=14							
H08N3				T	T	05 02 14.9	
baz=2.2,slow=27,SNR=34							
H08N1	Diego Carcia H	2.49	165	Pn	Pn	04 59 39.5	-5.3
baz=335,slow=14							
H08N1				T	T	05 02 14.9	
baz=2.2,slow=27,SNR=34							
H08S3	Diego Garcia H	4.24	150	Pn	Pn	05 00 08.5	-0.4
baz=331,slow=19,SNR=973							
H08S1	Diego Carcia H	4.25	151	Pn	Pn	05 00 08.7	-0.3
baz=331,slow=19,SNR=1124							
H08S1				Sn	Sn	05 00 58.2	-1.1
H08S2	Diego Garcia H	4.26	150	Pn	Pn	05 00 09.0	-0.2
baz=331,slow=19,SNR=1223							
PALK	Pallekele	15.16	43	Pn	Pn	05 02 38.5	-0.4
2.6nm,0.3s,baz=295,slow=5.3,SNR=7.5							
PALK				Sn	Sn	05 05 14.6	-13
0.6nm,0.3s,baz=296,slow=16,SNR=3.2							
SONM	Songino Array	60.43	27	P	P	05 09 14.3	-0.5
0.8nm,0.6s,baz=210,slow=8.3,SNR=4.6							
WRA	Warramunga Arr	64.21	110	P	P	05 09 41.0	+0.4
0.4nm,0.7s,baz=285,slow=6.3,SNR=5.6							
ASAR	Alice Springs	64.22	114	P	P	05 09 40.8	+0.2
0.2nm,0.6s,baz=275,slow=6.5,SNR=4.8							

*ATH **16** 05:04:12.7, 37°.29N×20°.52E, h13km±1km, ML3.4/21, Error ellipse: s-maj=2.3km s-min=1.0km az=52.0*
*THE **16** 05:04:13.5, 37°.24N×20°.42E, h4km, ML3.4/8, Error ellipse: s-maj=0.9km s-min=0.5km az=60.0*
*BEO **16** 05:04:20.2±0.9, 37°.60N×20°.81E, h15km±5km, ML3.6/6*
ISC 16 05:04:12.4±1.4, 37°.26N±0°.04×20°.41E±0°.04, h16km±8km, n112, σ1§82/150, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	Volimes, Zakyn	0.65	18	P	Pg	05 04 24.7	-0.6
VLMS				S	Sg	05 04 33.0	-1.0
VLMS				AML	AML	05 04 37.5	
comp=E,21900μm,0.4s							
VLMS				AML	AML	05 04 41.0	
comp=N,13334μm,0.4s							
KFL	Anninata	0.90	20	P	Pg	05 04 29.6	-0.4
KFL				S	Sn	05 04 44.1	+1.0
KFL	Anninata	0.90	20	P	Pg	05 04 28.8	-1.2
KFL				S	Sg	05 04 40.9	-1.0
KFL				AML	AML	05 04 45.9	
comp=E,16945μm,0.4s							
KFL				AML	AML	05 04 47.2	
comp=N,14728μm,0.3s							
VLS	Valsamata	0.93	9	P	Pn	05 04 30.9	+0.1
VLS				S	Sn	05 04 44.5	+0.7
VLS	Valsamata	0.93	9	P	Pb	05 04 29.8	-0.4
VLS				S	Sg	05 04 42.5	-0.2
VLS				AML	AML	05 04 50.8	
comp=E,6349μm,0.6s							
VLS				AML	AML	05 04 52.0	
comp=N,6884μm,0.7s							
AMT	Artemida-Makis	1.07	75	P	Pn	05 04 33.8	+1.0
AMT				S	Sn	05 04 49.9	+2.5
comp=N,2μm,0.7s							
AMT	Artemida-Makis	1.07	75	P	Pb	05 04 31.4	-1.2
AMT				S	Sb	05 04 44.7	-1.7
AMT				AML	AML	05 04 51.4	
comp=E,3687μm,0.7s							
AMT				AML	AML	05 04 51.9	
comp=N,4975μm,0.7s							
PYL	PYLOS	1.13	108	P	Pg	05 04 34.2	0.0
PYL				S	Sn	05 04 50.5	+1.9
PYL	PYLOS	1.13	108	P	Pb	05 04 32.7	-0.8
RLS	Riolos of Patr	1.16	46	P	Pg	05 04 35.5	+0.6
RLS				S	Sn	05 04 52.5	+3.0
RLS	Riolos of Patr	1.16	46	P	Pb	05 04 32.3	-1.8
RLS				S	Sb	05 04 47.8	-1.1
RLS				AML	AML	05 04 52.7	
comp=N,2310μm,0.6s							
RLS				AML	AML	05 04 58.9	
comp=E,2448μm,0.9s							
FSK	Fiskardo	1.21	6	P	Pg	05 04 36.5	+0.8
FSK				S	Sg	05 04 54.1	+2.6
comp=E,2μm,0.3s							
FSK	Fiskardo	1.21	6	P	Pn	05 04 34.7	+0.1
ITM	Ithomi	1.22	93	P	Pg	05 04 36.3	+0.4
ITM				S	Sg	05 04 52.7	+0.9
ITM	Ithomi	1.22	93	P	Pn	05 04 34.0	-0.7
ITM				S	Sb	05 04 50.1	-0.4
ITM				AML	AML	05 05 01.1	
comp=E,2209μm,0.9s							
ITM				AML	AML	05 05 01.4	
comp=N,1617μm,0.9s							
DRO	Drossia	1.25	56	P	Pg	05 04 37.2	+0.7
DRO				S	Sg	05 04 55.1	+2.3
DRO	Drossia	1.25	56	P	Pn	05 04 34.1	-1.1
DRO				S	Sb	05 04 50.4	-0.9
DRO				AML	AML	05 05 06.3	
comp=N,4299μm,0.7s							
DRO				AML	AML	05 05 13.6	
comp=E,4313μm,0.6s							
KLMT	Kalamata	1.34	98	P	Pg	05 04 38.0	-0.2
EVGI	Lefkada island	1.38	8	P	Pg	05 04 38.8	-0.1
EVGI				S	Sg	05 04 58.2	+1.3
EVGI	Lefkada island	1.38	8	P	Pn	05 04 37.5	+0.5
EVGI				S	Sg	05 04 56.5	-0.4
MGNA	Meganis	1.43	12	P	Pb	05 04 38.5	-0.1
PDO	Prodromos	1.47	24	P	Pg	05 04 40.7	-0.1
PDO				S	Sg	05 05 00.7	+0.7
PDO	Prodromos	1.47	24	P	Pn	05 04 38.6	+0.3
PDO				AML	AML	05 05 05.5	
comp=N,4626μm,0.3s							
PDO				AML	AML	05 05 08.8	
comp=E,5912μm,0.7s							
UPR	University Cam	1.50	46	P	Pb	05 04 40.2	+0.4
UPR	University Cam	1.50	46	P	Pb	05 04 39.7	-0.1
TSLK	Tsoukalades, L	1.58	7	P	Pb	05 04 41.6	+0.4
TSLK				S	Sg	05 05 03.7	+0.4
comp=E,2μm,0.4s							
TSLK	Tsoukalades, L	1.58	7	P	Pb	05 04 41.4	+0.2
TSLK				S	Sg	05 05 02.8	-0.5
TSLK				AML	AML	05 05 08.8	
comp=N,4850μm,0.5s							
TSLK				AML	AML	05 05 13.6	
comp=E,3337μm,0.6s							
VLX	Vlachokerasia	1.58	85	P	Pb	05 04 41.0	-0.3
VLX	Vlachokerasia	1.58	85	P	Pb	05 04 40.9	-0.3
VLX				AML	AML	05 05 13.1	
comp=N,1505μm,0.7s							
VLX				AML	AML	05 05 15.6	
comp=E,2197μm,0.7s							
LAKA	Lakka	1.59	51	P	Pb	05 04 40.9	-0.5
LAKA	Lakka	1.59	51	P	Pn	05 04 40.7	+0.8
LAKA				AML	AML	05 05 13.6	
comp=N,1643μm,0.9s							
LAKA				AML	AML	05 05 14.2	
comp=E,1413μm,0.9s							
KLV	Kalavryta, Ach	1.59	60	P	Pb	05 04 41.3	-0.2
KLV	Kalavryta, Ach	1.59	60	P	Pn	05 04 40.2	+0.2
KLV				AML	AML	05 05 18.9	
comp=N,873μm,0.8s							
KLV				AML	AML	05 05 27.4	
comp=E,855μm,0.8s							
PVO	Paravola	1.62	33	P	Pb	05 04 41.6	-0.3
PVO				S	Sg	05 05 05.2	+0.5
comp=E,1μm,0.6s							
PVO	Paravola	1.62	33	P	Pn	05 04 41.3	+1.0
PVO				AML	AML	05 05 07.0	
comp=N,2943μm,0.7s							
PVO				AML	AML	05 05 14.0	
comp=E,2034μm,1.1s							
EFP	Efpalio	1.67	45	P	Pb	05 04 43.0	+0.3
EFP	Efpalio	1.67	45	P	Pb	05 04 42.8	+0.1
TRIZ	Trizonia	1.72	50	P	Pb	05 04 44.0	+0.4
TRIZ				S	Sg	05 05 06.4	-1.5
TRIZ	Trizonia	1.72	50	P	Pb	05 04 43.3	-0.3
SERG	Sergoula	1.74	48	P	Pb	05 04 44.4	+0.4
SERG				S	Sg	05 05 06.8	-1.8
SERG	Sergoula	1.74	48	P	Pn	05 04 42.8	+0.8
SERG				AML	AML	05 05 13.8	
comp=E,1223μm,0.4s							
SERG				AML	AML	05 05 23.7	
comp=N,1782μm,0.7s							
KALE	Kalithea	1.78	50	P	Pb	05 04 44.4	-0.3
KALE				S	Sg	05 05 07.9	-1.9
comp=N,372nm,0.5s							
KALE	Kalithea	1.78	50	P	Pb	05 04 43.9	-0.8
KALE				AML	AML	05 05 25.2	
comp=N,1961μm,0.6s							
KALE				AML	AML	05 05 25.9	
comp=E,1082μm,0.6s							
EVR	Evrytania	1.99	33	P	Pb	05 04 48.0	-0.3
EVR				S	Sg	05 05 14.6	-2.0
comp=E,552nm,0.7s							
EVR	Evrytania	1.99	33	P	Pb	05 04 47.8	-0.5
EVR				AML	AML	05 05 17.9	
comp=E,1206μm,0.7s							
EVR				AML	AML	05 05 30.2	
comp=N,1409μm,1.1s							
DSF	Desfina	2.04	55	P	Pb	05 04 48.2	-0.9
DSF	Desfina	2.04	55	P	Pn	05 04 47.6	+1.5
VLI	Veliai	2.10	104	P	Pb	05 04 48.7	-1.3
VLI	Veliai	2.10	104	P	Pb	05 04 48.7	-1.3
LOUT	Loutraki	2.17	70	P	Pb	05 04 50.2	-1.0
LOUT	Loutraki	2.17	70	P	Pb	05 04 49.8	-1.4
LTK	Loutraki	2.17	69	P	Pn	05 04 49.5	+1.6
LTK	Loutraki	2.17	69	P	Pn	05 04 49.2	+1.3
MAKR	Makrakomi, Fth	2.22	37	P	Pb	05 04 50.7	-1.5
MAKR				S	Sb	05 05 20.3	+0.9
comp=N,782nm,0.6s							
MAKR	Makrakomi, Fth	2.22	37	P	Pb	05 04 50.9	-1.2
MAKR				AML	AML	05 05 29.5	
comp=E,2266μm,0.8s							
MAKR				AML	AML	05 05 36.6	
comp=N,1738μm,1.0s							
DID	Didima	2.27	83	P	Pb	05 04 51.5	-1.5
DID				S	Sb	05 05 21.1	+0.3
comp=N,280nm,0.7s							
DID	Didima	2.27	83	P	Pn	05 04 50.1	+0.9
IGT	Igoumenitsa	2.27	359	ePg	Pg	05 04 55.2	-0.8
IGT				eSg	Sb	05 05 22.7	+1.8
IGT	Igoumenitsa	2.27	359	P	Pb	05 04 52.2	-0.8
IGT	Igoumenitsa	2.27	359	P	Pb	05 04 51.7	-1.3
KTHR	Kythira	2.31	115	P	Pb	05 04 52.3	-1.4
AGG	Agios Georgios	2.33	40	P	Pb	05 04 52.5	-1.5
AGG				S	Sb	05 05 21.6	-0.8
AGG	Agios Georgios	2.33	40	P	Pb	05 04 52.5	-1.5
AGG				AML	AML	05 05 34.8	
comp=E,817μm,0.7s							
AGG				AML	AML	05 05 36.1	
comp=N,585μm,1.3s							
AXAR	Agios Charalam	2.33	49	P	Pb	05 04 52.5	-1.5
AXAR				AML	AML	05 05 34.8	
comp=N,2066μm,0.9s							
AXAR				AML	AML	05 05 35.4	
comp=E,2043μm,1.0s							
KTHA	Kythira Island	2.35	114	P	Pn	05 04 52.1	+1.7
JAN	Janina	2.42	8	P	Pb	05 04 54.3	-1.3
VIL2	Platees	2.46	66	P	Pn	05 04 53.0	+1.1
VILL	Villia	2.48	68	P	Pn	05 04 53.6	+1.5
LKR	Lokris	2.48	55	P	Pn	05 04 54.1	+2.0
LKR	Lokris	2.48	55	P	Pn	05 04 53.5	+1.5
KEK	Kerkira	2.50	349	P	Pb	05 04 55.4	-1.5
KEK	Kerkira	2.50	349	P	Pb	05 04 55.2	-1.6
THL	Klokotos Trika	2.63	28	P	Pn	05 04 56.6	+2.5
THL	Klokotos Trika	2.63	28	P	Pn	05 04 56.1	+2.0
THL				S	Sn	05 05 27.7	+2.0
THL				AML	AML	05 05 49.3	
comp=E,629μm,1.8s							
THL				AML	AML	05 05 50.2	
comp=N,407μm,0.9s							
SRN	Sarande	2.64	353	P	Pn	05 04 56.3	+2.0
KPRO	Kipourio	2.80	15	P	Pn	05 04 59.3	+2.8
KPRO	Kipourio	2.80	15	P	Pb	05 04 59.8	-2.2
KPRO				AML	AML	05 06 00.2	
comp=N,638μm,1.1s							
KPRO				AML	AML	05 06 02.3	
comp=E,744μm,1.1s							
PENT	Pentalofos	2.99	11	P	Pn	05 05 01.2	+2.0
NEO	Neokhori	3.02	46	P	Pn	05 05 02.5	+3.0
EREA	Eretria	3.02	66	P	Pn	05 05 02.3	+2.7
NEST	Nestorio	3.19	9	P	Pn	05 05 04.5	+2.5
NEST	Nestorio	3.19	9	P	Pn	05 05 05.1	+3.1
KZN	Kozani	3.23	19	P	Pn	05 05 05.2	+2.8
KZN	Kozani	3.23	19	P	Pn	05 05 04.8	+2.4
LIT	Litokhoron	3.27	29	P	Pn	05 05 05.9	+2.8
LIT				S	Sb	05 05 46.2	-3.5
LIT	Litokhoron	3.27	29	P	Pn	05 05 04.6	+1.5
FNA	Florina	3.60	12	ePn	Pn	05 05 10.0	+2.4
FNA	Florina	3.60	12	P	Pn	05 05 09.7	+2.1
FNA				S	Sn	05 05 53.4	+3.6
OHR	Ohrid	3.86	4	ePn	Pb	05 05 23.0	+2.9
PLG	Polygyros	3.91	36	P	Pn	05 05 14.6	+2.7
HORT	Hortiatis	3.94	31	P	Pn	05 05 14.3	+2.0
GRG	Griva	4.01	22	P	Pn	05 05 15.2	+2.1
KNT	Kendrikon	4.35	26	P	Pn	05 05 19.9	+2.0
VAY	Valandovo	4.39	22	ePn	Pn	05 05 20.5	+2.1
VAY	Valandovo	4.39	22	iPn	Pn	05 05 20.5	+2.1
STIP	Stip	4.64	17	iPn	Pn	05 05 25.6	+3.8
BARS	Barje	5.66	11	ePn	Pn	05 05 38.4	+2.6
VTS	Vitosha	5.78	21	ePn	Pn	05 05 39.2	+1.6
VTS				eSn	Sn	05 06 37.1	-6.5
STON	Ston	5.98	341	ePn	Pn	05 05 40.6	+0.4
SELS	Selova	5.98	5	ePn	Pn	05 05 41.8	+1.6
SJES	Sjenica	6.01	357	ePn	Pn	05 05 44.2	+3.5
SJES				eSn	Sn	05 06 46.6	-2.5
IVAS	Ivanjica	6.32	358	ePn	Pn	05 05 47.3	+2.4
IVAS				eSn	Sn	05 06 54.1	-2.6
BOVS	Bovan	6.45	8	ePn	Pn	05 05 48.2	+1.6
MAKA	Makarska	6.56	338	iPn	Pn	05 05 50.7	+2.6
MAKA				Sn	Sn	05 06 59.7	-2.7
BBLS	Lazići	6.65	354	ePn	Pn	05 05 51.9	+2.5
BBLS				eSn	Sn	05 07 02.5	-2.3
ZAGS	Zajecar	6.70	11	ePn	Pn	05 05 51.5	+1.5
DIVS	Divibare	6.84	357	ePn	Pn	05 05 54.8	+2.7
DIVS				eSn	Sn	05 07 05.2	-4.4
HAPS	Han Pijesak,Bl	6.91	351	ePn	Pn	05 05 56.8	+3.7
TRUS	Trudelj	6.96	0	ePn	Pn	05 05 55.8	+2.2
ZIRJ	Zirje	7.35	332	Sn	Sn	05 07 21.0	-0.9
MORI	Morici	7.51	333	iPn	Pn	05 06 04.3	+3.2
DUGI	Dugi Otok	7.86	331	ePn	Pn	05 06 07.4	+1.4

IDC 16 05:10:53.0±2.2, 60°.49S×46°.85W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.4/16, mbtmp3.5/1, Error ellipse: s-maj=126.7km s-min=70.3km az=179.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	82.94	47	P	P	05 23 19.5	0.0
0.3nm,0.6s,baz=212,slow=6.8,SNR=3.0							
ILAR	Eielson Array	145.28	312	PKPbc	PKPbc	05 30 29.9	-0.9
1.0nm,0.8s,baz=136,slow=1.9,SNR=10							
BVAR	Borovoye Array	146.03	74	PKPbc	PKPdf	05 30 32.9	+0.3
1.

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**47**		**Pn**	**05 40 45.5**	**-0.9**
PMSA	**Palmer Station**	**9.25**	**233**	Pn	**Pn**	**05 41 00.6**	**-1.5**
1.2nm,0.3s,baz=55,slow=10,SNR=9.0							
PMSA	**Palmer Station**	**9.25**	**233**		**Pn**	**05 41 00.5**	**-1.7**
GO09	**Cerro Castillo**	**16.92**	**291**	P	**P**	**05 42 48.4**	**+0.9**
GO09				IAmb	IAmb	05 43 04.2	
comp=Z,36nm,1.1s							
SNAA	**Sanae**	**20.61**	**142**	P	Pn	05 43 30.9	+0.6
comp=Z,9.2nm,1.1s,baz=277,slow=8.7,SNR=15							
SNAA	**Sanae**	**20.61**	**142**		Pn	05 43 31.3	+1.0
TRQA	**Tornquist**	**24.23**	**329**	P	**P**	**05 44 06.9**	**+1.2**
TRQA				IAmb	IAmb	05 44 07.7	
comp=Z,7.4nm,0.7s							
PLCA	**Paso Flores**	**24.49**	**312**	P	**P**	**05 44 08.1**	**-0.2**
comp=Z,1.3nm,0.8s,baz=213,slow=9.4,SNR=3.3							
PLCA	**Paso Flores**	**24.49**	**312**	P	**P**	**05 44 08.4**	**+0.1**
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**05 44 57.6**	**0.0**
comp=Z,8.7nm,1.0s,baz=160,slow=5.0,SNR=13							
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**05 44 57.7**	**0.0**
CPUP	**Villa Florida**	**34.67**	**343**	P	**P**	**05 45 38.6**	**+0.2**
comp=Z,1.4nm,0.6s,baz=153,slow=5.2,SNR=5.2							
CPUP	**Villa Florida**	**34.67**	**343**	P	**P**	**05 45 38.5**	**0.0**
SYO	**Syowa Base**	**34.90**	**141**	*ep*P	**P**	**05 45 39.0**	**-1.1**
SYO	**Syowa Base**	**34.90**	**141**	*es*P	**P**	**05 45 42.0**	**+1.9**
SBA	**Scott Base**	**40.67**	**190**	P	**P**	**05 46 32.2**	**+3.6**
SBA				IAmb	IAmb	05 46 46.2	
comp=Z,6.9nm,1.1s							
MNMC	**Minye Minye**	**44.20**	**328**	P	**P**	**05 46 59.2**	**+0.8**
MNMC				IAmb	IAmb	05 47 12.8	
comp=Z,6.5nm,0.8s							
BDFB	**Brasilia**	**44.52**	**358**	P	**P**	**05 47 01.2**	**+0.4**
comp=Z,3.1nm,0.7s,baz=201,slow=5.6,SNR=5.8							
BDFB	**Brasilia**	**44.52**	**358**	P	**P**	**05 47 01.4**	**+0.7**
SIV	**San Ignacio**	**45.40**	**340**	P	**P**	**05 47 07.7**	**+0.1**
comp=Z,2.6nm,0.6s,baz=181,slow=8.0,SNR=23							
SUR	**Sutherland**	**51.40**	**89**	P	**P**	**05 47 54.4**	**+0.3**
comp=Z,16nm,1.1s,baz=180,slow=11,SNR=5.2							
SUR	**Sutherland**	**51.40**	**89**	P	**P**	**05 47 54.7**	**+0.7**
SAML	**Samuel**	**52.65**	**339**	P	**P**	**05 48 03.0**	**-0.2**
SAML				IAmb	IAmb	05 48 03.6	
comp=Z,3.6nm,0.8s							
BOSA	**Boshof**	**56.68**	**90**	P	**P**	**05 48 31.8**	**-0.7**
comp=Z,1.6nm,0.7s,baz=212,slow=7.3,SNR=4.3							
BOSA	**Boshof**	**56.68**	**90**	P	**P**	**05 48 32.0**	**-0.5**
BOSA				IAmb	IAmb	05 48 38.6	
comp=Z,5.5nm,1.1s							
H10N3	**ASCENSION HYDR**	**57.57**	**39**	T	T	06 51 25.0	
baz=199,slow=75,SNR=47							
H10N1	**ASCENSION HYDR**	**57.57**	**39**	T	T	06 51 26.9	
baz=199,slow=75,SNR=16							
H10N2	**ASCENSION HYDR**	**57.59**	**39**	T	T	06 51 28.0	
baz=199,slow=75,SNR=19							
LBTB	**Lobatse**	**59.83**	**88**	P	**P**	**05 48 53.8**	**-0.7**
OTAV	**Otavalo**	**65.13**	**324**	P	**P**	**05 49 30.8**	**+0.4**
OTAV				IAmb	IAmb	05 49 33.3	
comp=Z,2.4nm,0.8s							
THZ	**Tophouse**	**73.33**	**210**	P	**P**	**05 50 22.1**	**+1.7**
OUZ	**Omahuta**	**79.31**	**213**	P	**P**	**05 50 52.8**	**-1.7**
OUZ				IAmb	IAmb	05 51 00.7	
comp=Z,7.9nm,1.1s							
TOA0	**Torodi Ar. Sit**	**82.67**	**47**	P	**P**	**05 51 12.4**	**-0.1**
TOA0				IAmb	IAmb	05 51 18.0	
comp=Z,4.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**82.67**	**47**	P	**P**	**05 51 12.5**	**0.0**
comp=Z,1.6nm,0.7s,baz=211,slow=5.5,SNR=8.0							
TORD	**Torodi Ar. Bea**	**82.67**	**47**	P	**P**	**05 51 12.8**	**+0.3**
ASAR	**Alice Springs**	**96.42**	**180**	P	**P**	**05 52 15.8**	**-2.4**
comp=Z,0.6nm,1.0s,baz=165,slow=1.9,SNR=4.4							
ABKAR	**Akbulak array**	**138.41**	**71**	PKPpre	PKPpre	05 58 01.7	
IL31		**145.18**	**312**		**PKPbc**	**05 58 23.5**	**-1.1**
ILAR	**Eielson Array**	**145.18**	**312**	PKPbc	**PKPbc**	**05 58 23.5**	**-1.2**
comp=Z,3.1nm,1.0s,baz=159,slow=2.3,SNR=21							
ILAR	**Eielson Array**	**145.18**	**312**		**PKPbc**	**05 58 22.8**	**-2.0**
RND	**Reindeer**	**145.22**	**310**		**PKPbc**	**05 58 23.7**	**-1.3**
CCB	**Clear Creek Bu**	**145.46**	**312**		**PKPdf**	**05 58 23.9**	**-1.6**
WRH	**Wood River Hil**	**145.47**	**311**		**PKPdf**	**05 58 24.4**	**-1.1**
BMAR	**Burnt Mountain**	**145.69**	**317**		**PKPdf**	**05 58 24.9**	**-1.0**
BRVK	**Borovoye**	**145.82**	**73**	PKPdf	**PKPdf**	**05 58 25.6**	**-0.8**
MK31	**Makanchi Array**	**147.68**	**91**		**PKPdf**	**05 58 30.9**	**+1.0**
MKAR	**Makanchi Array**	**147.68**	**91**	PKPbc	**PKPdf**	**05 58 30.8**	**+0.9**
comp=Z,2.7nm,0.6s,baz=238,slow=3.5,SNR=17							
MKAR	**Makanchi Array**	**147.68**	**91**		**PKPdf**	**05 58 30.5**	**+0.6**
IMAR	**Indian Mountai**	**148.29**	**312**		**PKPbc**	**05 58 32.5**	**-1.2**
KURBB	**Kurchatov Arra**	**148.33**	**83**	PKPbc	**PKPdf**	**05 58 32.5**	**+1.8**
comp=Z,0.8nm,0.5s,baz=237,slow=3.8,SNR=7.1							
KURK	**Kurchatov**	**148.43**	**83**		**PKPdf**	**05 58 32.0**	**+1.1**
SONM	**Songino Array**	**160.06**	**116**	PKPab	**PKPab**	**05 59 26.7**	**-0.8**
comp=Z,0.9nm,0.9s,baz=205,slow=3.0,SNR=3.2							
PET	**Petropavlovsk**	**164.41**	**254**		**PKPdf**	**05 58 53.7**	**+2.3**
PEA0B	**Petropavlovsk-**	**164.91**	**253**		**PKPdf**	**05 58 53.1**	**+1.2**

*IDC **16** 05:42:14.4±0.5, 38°.56N×144°.13E, h0km, mb4.5/26, mb1 4.7/34, mb1mx4.6/49, mbtmp4.6/34, ML4.1/8, Error ellipse: s-maj=13.6km s-min=11.2km az=145.0*
*BJI **16** 05:42:15.4±0.0, 38°.85N×144°.00E, h13km, mb4.7/50, mB5.4/19, Ms4.9/11, Ms7 4.8/9*
*ISCJB **16** 05:42:16.0±0.2, 38°.76N±0°.03×144°.02E±0°.02, h14km, mb4.6/63, Error ellipse: s-maj=3.8km s-min=2.6km az=156.1*
*JMA **16** 05:42:18.6±0.1, 38°.71N×143°.98E, h47km, M4.7*
*MOS **16** 05:42:18.6±1.0, 38°.85N×144°.01E, h32km, mb5.0/27, Error ellipse: s-maj=7.3km s-min=4.4km az=100.5*
*NEIC **16** 05:42:19.1±1.8, 38°.60N±0°.06×144°.1E±0°.1, h30km±4km, mb4.8/109*

ISC 16 05:42:16.8±0.4, 38°.66N±0°.04×144°.19E±0°.05, h14km, n317, σ2s**16**/315**, mb4.8**/107**, 35C-9D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.01**	**283**	⇑P	**Pn**	**05 42 48.8**	**-1.5**
OFUJ				S	**Sn**	**05 43 11.1**	**-4.1**
MIYJ	**Miyakonagasawa**	**2.06**	**297**	⇑P	**Pn**	**05 42 49.4**	**-1.5**
MIYJ				S	**Sn**	**05 43 11.7**	**-4.6**
JKMT	**Kesennumamotoy**	**2.13**	**275**	⇑P	**Pn**	**05 42 50.3**	**-1.6**
JKMT				S	**Sn**	**05 43 13.9**	**-4.2**
JMK	**Ichinoseki**	**2.34**	**278**	⇑P	**Pn**	**05 42 53.6**	**-1.2**
JMK				*e*S	**Sn**	**05 43 20.1**	**-3.2**
JOM	**Ohasama**	**2.40**	**291**	⇑P	**Pn**	**05 42 54.5**	**-1.1**
JOM				S	**Sn**	**05 43 21.1**	**-3.6**
JANG	**Nango**	**2.68**	**310**	⇑P	**Pn**	**05 42 57.5**	**-2.0**
JANG				*e*S	**Sn**	**05 43 27.4**	**-4.4**
JYK	**Kaneyama**	**3.00**	**276**	⇑P	**Pn**	**05 43 03.1**	**-0.8**
JYK				*e*S	**Sn**	**05 43 38.0**	**-1.7**
JFT	**Otama**	**3.25**	**251**	⇑P	**Pn**	**05 43 06.6**	**-0.7**
JFT				S	**Sn**	**05 43 42.1**	**-3.7**
ERM	**Erimo**	**3.44**	**347**	*ce*P	**Pn**	**05 43 08.6**	**-1.3**
ERM				pmax	pmax		
comp=Z,100nm,0.8s							
ERM	**Erimo**	**3.44**	**347**		**Pn**	**05 43 09.7**	**-0.2**
JOT	**Ohata**	**3.63**	**319**	P	**Pn**	**05 43 11.6**	**-0.9**
JOT				*e*S	**Sn**	**05 43 50.2**	**-5.0**
JNBK	**Urakawa-nobuka**	**3.77**	**344**	P	**Pn**	**05 43 14.0**	**-0.5**
JNBK				S	**Sn**	**05 43 56.1**	**-2.6**
JAW	**Awa shima**	**3.88**	**268**	P	**Pn**	**05 43 15.3**	**-0.6**
JNS	**Sasagawa**	**3.93**	**259**	⇑P	**Pn**	**05 43 15.9**	**-0.7**
JNS				*e*S	**Sn**	**05 44 00.0**	**-2.5**
JCH	**Churui**	**4.00**	**351**	P	**Pn**	**05 43 16.3**	**-1.3**
JCH				S	**Sn**	**05 43 59.0**	**-5.2**
JKB	**Kayabe**	**4.03**	**324**	P	**Pn**	**05 43 17.0**	**-0.9**
JKB				S	**Sn**	**05 43 59.5**	**-5.4**
BSO1	**Boso 1**	**4.76**	**214**	P	**Pn**	**05 43 25.8**	**-1.8**
BSO1				*e*S	**Sn**	**05 44 18.3**	**-4.0**
NEM2	**Nemuro 2**	**4.84**	**14**	P	**Pn**	**05 43 27.1**	**-2.1**
NEM2				*e*S	**Sn**	**05 44 18.7**	**-6.3**
NMR	**Nemuro--Hokkai**	**4.84**	**13**	*d i*P	**Pn**	**05 43 27.1**	**-2.1**
NMR				*i* S	**Sn**	**05 44 18.7**	**-6.4**
JOSM	**Okushiri--Mats**	**4.96**	**315**	P	**Pn**	**05 43 29.9**	**-0.9**
JOSM				*e*S	**Sn**	**05 44 22.2**	**-5.8**
JRY	**Ryogami san**	**4.97**	**240**	P	**Pn**	**05 43 29.8**	**-1.2**
JRY				S	**Sn**	**05 44 23.3**	**-5.0**
GLVR	**Golovnino**	**5.17**	**11**	*e*P	**Pn**	**05 43 31.7**	**-2.0**
GLVR				S	**Sn**	**05 44 24.8**	**-8.3**
GLVR				pmax	pmax		
comp=N,952nm,0.3s							
GLVR				pmax	pmax		
comp=E,52nm,0.2s							
GLVR				smax	smax		
comp=N,2μm,0.2s							
GLVR				smax	smax		
comp=E,6μm,0.3s							
MJAR	**Matsushiro Arr**	**5.20**	**248**	P	**Pn**	**05 43 33.4**	**-0.7**
MJAR						05 44 32.9	
MJAR	**Matsushiro Arr**	**5.20**	**248**	Pn	**Pn**	**05 43 34.0**	**-0.1**
comp=E,7.7nm,0.3s,baz=61,slow=9.7,SNR=148							
MJAR				Sn	**Sn**	**05 44 33.7**	**-0.2**
comp=E,1.3nm,0.3s,baz=195,slow=23,SNR=3.5							
MJAR	**Matsushiro Arr**	**5.20**	**248**		**Pn**	**05 43 33.4**	**-0.7**
MJAR					**Sn**	**05 44 32.9**	**-1.0**
MAJO	**Matsushiro**	**5.20**	**248**	*c i*P	**Pn**	**05 43 33.8**	**-0.3**
MAJO	**Matsushiro**	**5.20**	**248**		**Pn**	**05 43 34.1**	**0.0**
MAT	**Matsushiro**	**5.20**	**248**	P	**Pn**	**05 43 34.1**	**-0.1**
MAT				S	**Sn**	**05 44 29.7**	**-4.2**
MJB9	**Matsu-Tunnel**	**5.20**	**248**		**Pn**	**05 43 34.2**	**0.0**
GRPR	**Tuman**	**5.46**	**12**	*d i*P	**Pn**	**05 43 35.5**	**-2.1**
GRPR				*i* S	**Sn**	**05 44 32.6**	**-7.6**
GRPR				pmax	pmax		
comp=E,369nm,0.2s							
GRPR				pmax	pmax		
comp=Z,817nm,0.2s							
GRPR				smax	smax		
comp=N,4μm,0.2s							
GRPR				smax	smax		
comp=E,1μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**5.51**	**13**	*e*P	**Pn**	**05 43 36.3**	**-2.1**
YUK				*e*S	**Sn**	**05 44 34.2**	**-7.3**
YUK				pmax	pmax		
comp=N,200nm,0.3s							
YUK				pmax	pmax		
comp=E,132nm,0.3s							
YUK				pmax	pmax		
comp=Z,2μm,0.3s							
YUK				smax	smax		
comp=E,2μm,0.3s							
YUK				smax	smax		
comp=N,3μm,0.5s							
LAGR	**Lagunnoye**	**5.52**	**12**	*e*P	**Pn**	**05 43 36.2**	**-2.3**
LAGR				*e*S	**Sn**	**05 44 34.4**	**-7.3**
LAGR				pmax	pmax		
comp=Z,1μm,0.3s							
LAGR				pmax	pmax		
comp=N,149nm,0.2s							
LAGR				pmax	pmax		
comp=E,999nm,0.4s							
LAGR				smax	smax		
comp=N,3μm,0.5s							
LAGR				smax	smax		
comp=E,6μm,0.4s							
JKA	**Kamikawa-asahi**	**5.58**	**348**		**Pn**	**05 43 39.4**	**+0.1**
JKA					**Sn**	**05 44 39.1**	**-4.0**
ASAJ	**Asahikawa**	**5.58**	**348**	Pn	**Pn**	**05 43 39.4**	**+0.1**
comp=E,26nm,0.3s,baz=199,slow=9.7,SNR=70							
ASAJ				Sn	**Sn**	**05 44 39.1**	**-4.0**
comp=E,31nm,0.3s,baz=153,slow=17,SNR=7.0							
JHJ2	**Mitsune**	**6.58**	**214**	Pn	**Pn**	**05 43 51.7**	**-1.4**
JHJ2				Sn	**Sn**	**05 45 00.8**	**-7.0**
JHJ	**Hachijo jima 2**	**6.59**	**214**	Pn	**Pn**	**05 43 51.2**	**-1.9**
comp=E,53nm,0.3s,baz=12,slow=16,SNR=5.7							
JHJ				Sn	**Sn**	**05 44 59.6**	**-8.5**
comp=E,102nm,0.3s,baz=77,slow=22,SNR=7.5							
INU	**Inuyama**	**6.62**	**242**		**Pn**	**05 43 53.1**	**-0.6**
KUR	**Kuril'sk**	**7.11**	**21**	*c i*P	**Pn**	**05 43 59.0**	**-1.4**
KUR				*i* S	**Sn**	**05 45 13.7**	**-7.2**
KUR				pmax	pmax		
comp=Z,135nm,0.3s							
KUR				pmax	pmax		
comp=N,34nm,0.2s							
KUR				pmax	pmax		
comp=E,75nm,0.3s							
KUR				smax	smax		
comp=N,674nm,0.2s							
KUR				smax	smax		
comp=E,390nm,0.2s							
YSS	**Yuzh-Sakhalins**	**8.35**	**353**	*e*P	**Pn**	**05 44 17.1**	**-0.3**
YSS				*e*S	**Sn**	**05 45 50.3**	**-1.1**
YSS				pmax	pmax		
comp=Z,40nm,0.9s							
YSS				smax	smax		
comp=N,60nm,1.2s							
YSS	**Yuzh-Sakhalins**	**8.35**	**353**		**Pn**	**05 44 16.7**	**-0.7**
TEY	**Ternei**	**8.52**	**321**	⇑*e*P	**Pn**	**05 44 20.4**	**+0.8**
TEY				*e*		05 45 52.1	
TEY				pmax	pmax		
comp=Z,70nm,0.7s							
TEY				pmax	pmax		
comp=N,60nm,0.7s							
TEY				pmax	pmax		
comp=E,50nm,0.7s							
TEY				MLR	MLR		
comp=Z,100nm,16.0s							
VLA	**Vladivostok**	**10.32**	**299**	*i* P	**Pn**	**05 44 45.1**	**+0.7**
UGL	**Uglegorsk**	**10.52**	**352**	P	**Pn**	**05 44 43.0**	**-4.1**
UGL				S	Sn	05 46 35.3	-9.4
UGL				smax	smax		
comp=N,71nm,0.4s							
MSHR	**Mys Shultsa**	**10.65**	**296**	*i* P	**Pn**	**05 44 47.9**	**-0.9**
USRK	**Ussuriysk Ar.**	**10.70**	**305**	Pn	**Pn**	**05 44 50.0**	**+0.6**
baz=98,slow=16,SNR=34							
USRK	**Ussuriysk Ar.**	**10.70**	**305**		**Pn**	**05 44 50.4**	**+0.9**
USA0B	**Ussuriysk Arra**	**10.70**	**305**	*i* P	**Pn**	**05 44 49.0**	**-0.5**
USA0B	**Ussuriysk Arra**	**10.70**	**305**		**Pn**	**05 44 50.6**	**+1.2**
JCJ	**Chichijima**	**11.66**	**189**	Sn	Sn	05 47 00.1	-13
comp=N,8.8nm,0.3s,baz=209,slow=19,SNR=2.3							
JNU	**Nakatsue**	**12.12**	**247**	Pn	**Pn**	**05 45 07.9**	**-1.2**
comp=N,0.7nm,0.3s,baz=46,slow=7.9,SNR=13							
JNU	**Nakatsue**	**12.12**	**247**		**Pn**	**05 45 08.5**	**-0.6**
TYV	**Tymovskoe**	**12.25**	**355**	*e*P	**Pn**	**05 45 10.7**	**0.0**
TYV				*e*S	**Sn**	**05 47 32.5**	**+5.6**
TYV				pmax	pmax		
comp=Z,17nm,1.0s							
TYV				smax	smax		
comp=N,11nm,1.1s							
MDJ	**Mudanjiang**	**12.43**	**303**		**Pn**	**05 45 13.4**	**+0.3**
KSRS	**Korea Array**	**12.88**	**270**	Pn	**Pn**	**05 45 19.5**	**+0.1**
comp=N,1.3nm,0.3s,baz=81,slow=13,SNR=12							
KS19	**Wonju Array Si**	**12.91**	**270**		**Pn**	**05 45 19.8**	**-0.1**
GRNR	**Gornyy**	**13.29**	**338**	*e*P	**Pn**	**05 45 20.6**	**-4.4**
TJN	**Taejon**	**13.55**	**266**	*ce*P	**Pn**	**05 45 28.3**	**-0.2**
KLR	**Kul'dur**	**13.83**	**324**	*i* P	**Pn**	**05 45 30.4**	**-1.9**
KLR				pmax	pmax		
comp=Z,6.0nm,1.0s							
KLR	**Kul'dur**	**13.83**	**324**	Pn	**Pn**	**05 45 31.8**	**-0.5**
comp=Z,0.6nm,0.3s,baz=129,slow=12,SNR=12							
CN2	**Changchun**	**15.00**	**296**	*e*P	**Pn**	**05 45 49.3**	**+1.1**
PEA0B	**Petropavlovsk-**	**17.19**	**28**	*i* P	**Pn**	**05 46 17.0**	**+0.6**
PETK	**Petropavlovsk-**	**17.19**	**28**	P	**P**	**05 46 18.6**	**+0.6**
comp=Z,0.4nm,0.3s,baz=213,slow=9.6,SNR=13							
PETK	**Petropavlovsk-**	**17.19**	**28**	P	**P**	**05 46 19.5**	**+1.6**
PET	**Petropavlovsk**	**17.49**	**30**	P	**P**	**05 46 23.1**	**+1.9**
PET				pmax	pmax		
comp=Z,42nm,1.1s							
PET	**Petropavlovsk**	**17.49**	**30**	P	**P**	**05 46 23.1**	**+1.9**
DL2	**Dalian**	**17.59**	**278**	P	**Pn**	**05 46 19.4**	**-2.0**
DL2				pmax	pmax		
comp=Z,50nm,1.1s							
ZEA	**Zeya**	**19.02**	**328**	*e*P	**P**	**05 46 36.0**	**-2.1**
ZEA				pmax	pmax		
comp=Z,29nm,0.6s							
HIA	**Hailar**	**20.45**	**309**	*i* P	**P**	**05 46 52.9**	**-0.9**
HIA				pmax	pmax		
comp=Z,95nm,0.9s							
HIA	**Hailar**	**20.45**	**309**	P	**P**	**05 46 52.6**	**-1.2**
MA2	**Magadan**	**21.35**	**9**	P	**P**	**05 47 05.8**	**+2.5**
MA2				pmax	pmax		
comp=Z,117nm,1.5s							
MA2	**Magadan**	**21.35**	**9**	P	**P**	**05 47 05.3**	**+2.1**
comp=Z,17nm,0.8s,baz=181,slow=16,SNR=4.2							
MA2	**Magadan**	**21.35**	**9**	P	**P**	**05 47 05.8**	**+2.5**
TIA	**Tai'an**	**21.60**	**272**	P	**P**	**05 47 03.6**	**-2.6**
TIA				pmax	pmax		
comp=Z,17nm,0.6s							
NJ2	**Nanjing**	**21.65**	**260**	*e*P	**P**	**05 47 05.8**	**-1.0**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
BJI	**Beijing**	**21.68**	**283**	P	**P**	**05 47 08.3**	**+1.4**
BJI				pmax	pmax		
comp=Z,6.0nm,0.6s							
SEY	**Seymchan**	**24.80**	**9**	*i* P	**P**	**05 47 38.0**	**-0.1**
SEY	**Seymchan**	**24.80**	**9**	P	**P**	**05 47 39.6**	**+1.5**
comp=Z,49nm,0.8s,baz=192,slow=7.0,SNR=58							
YAK	**Yakutsk**	**25.04**	**344**	*e*P	**P**	**05 47 40.2**	**0.0**
YAK				pmax	pmax		
comp=Z,19nm,0.8s							
YAK				pmax	pmax		
comp=N,9.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**25.10**	**285**	*e*P	**P**	**05 47 41.3**	**+0.2**
HHC				pmax	pmax		
comp=N,4.0nm,0.5s							
WHN	**Wuhan**	**25.78**	**261**	P	**P**	**05 47 54.1**	**+6.9**
H11N2	**WAKE ISLAND Hy**	**27.24**	**127**	T	T	06 16 40.1	
baz=319							
H11N1	**WAKE ISLAND Hy**	**27.25**	**127**	T	T	06 16 38.9	
baz=319							
H11N3	**WAKE ISLAND Hy**	**27.26**	**127**	T	T	06 16 40.1	
baz=319							
BOD	**Bodaibo**	**27.41**	**324**	*e*P	**P**	**05 48 01.2**	**-0.4**
BOD				pmax	pmax		
comp=Z,18nm,1.5s							
H11S1	**WAKE ISLAND Hy**	**28.04**	**129**	T	T	06 17 49.3	
baz=321,SNR=3.7							
H11S3	**WAKE ISLAND Hy**	**28.05**	**129**	T	T	06 17 41.6	
baz=321							
H11S2	**WAKE ISLAND Hy**	**28.06**	**129**	T	T	06 17 42.2	
baz=321							
ULN	**Ulaanbaatar**	**28.33**	**301**	*ce*P	**P**	**05 48 10.9**	**+0.7**
ULN				pmax	pmax		
comp=Z,8.0nm,1.0s							
XAN	**Xi'an**	**28.66**	**272**	P	**P**	**05 48 14.1**	**+0.9**
XAN				pP	sP	05 48 17.3	+1.3
XAN				pmax	pmax		
comp=Z,13nm,0.9s							
XAN				LR	LR		
comp=Z,2μm,19.5s							
XAN				LR	LR		
comp=Z,1μm,20.5s							
XAN				LR	LR		
comp=Z,2μm,19.5s							
XAN	**Xi'an**	**28.66**	**272**	P	**P**	**05 48 13.6**	**+0.4**
XAN				pmax	pmax		
comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	**28.66**	**272**	P	**P**	**05 48 13.6**	**+0.4**
SONM	**Songino Array**	**28.77**	**301**	P	**P**	**05 48 14.4**	**+0.3**
SONM				pmax	pmax		
comp=Z,8.0nm,1.3s							
SONM	**Songino Array**	**28.77**	**301**	P	**P**	**05 48 14.6**	**+0.5**
comp=Z,2.8nm,0.7s,baz=84,slow=9.6,SNR=12							
SONM	**Songino Array**	**28.77**	**301**	P	**P**	**05 48 14.4**	**+0.3**
ENH	**Enshi**	**29.67**	**264**		**P**	**05 48 22.0**	**-0.2**
TLY	**Talaya**	**30.99**	**308**	*i* P	**P**	**05 48 33.5**	**0.0**
TLY				pmax	pmax		
comp=Z,6.0nm,0.9s							
ZAK	**Zakamensk**	**31.05**	**306**	*e*P	**P**	**05 48 35.6**	**+1.4**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.4s							
BILL	**Bilibino**	**31.86**	**16**	*d i*P	**P**	**05 48 41.5**	**+0.5**
BILL				*e**SP	**sP**	**05 48 46.9**	**+3.0**
BILL				*e*		05 48 55.6	
BILL						05 51 32.0	
BILL				pmax	pmax		
comp=Z,39nm,1.0s							
BILL				MLR	MLR		
comp=Z,3μm,16.0s							
BILL	**Bilibino**	**31.86**	**16**	P	**P**	**05 48 41.8**	**+0.8**
LZH	**Lanzhou**	**31.99**	**278**	*e*P	**P**	**05 48 42.0**	**-0.7**
LZH				pP	pwP	05 48 50.5	-3.9
LZH				sP	sP	05 48 54.0	+8.5
LZH				pmax	pmax		
comp=Z,21nm,1.3s							
LZH				pmax	pmax		
comp=Z,110nm,5.2s							
LZH				LR	LR		
comp=Z,370nm,13.0s							
LZH				LR	LR		
comp=Z,370nm,13.2s							
LZH				LR	LR		
comp=Z,470nm,16.5s							
TIXI	**Tiksi**	**33.97**	**351**	*ce*P	**P**	**05 48 58.6**	**-0.8**
TIXI				pmax	pmax		
comp=Z,11nm,0.8s							
TIXI	**Tiksi**	**33.97**	**351**	P	**P**	**05 48 59.5**	**+0.1**
comp=Z,7.8nm,0.6s,baz=156,slow=7.0,SNR=13							
TIXI	**Tiksi**	**33.97**	**351**	P	**P**	**05 48 59.1**	**-0.2**
TIXI				IAmb	IAmb	05 49 00.2	
comp=Z,12nm,0.9s							
GTA	**Gaotai**	**34.21**	**286**	*e*P	**P**	**05 49 05.9**	**+3.8**
GTA				PcP	**PcP**	**05 51 39.4**	**+0.8**
GTA				ScP	**ScP**	**05 55 18.9**	**-4.2**
GTA				pmax	pmax		
comp=Z,7.0nm,1.3s							
KMI	**Kunming**	**37.38**	**261**	P	**P**	**05 49 30.3**	**+0.9**
KMI				sP	pwP	05 49 42.9	+1.7
KMI				pmax	pmax		
comp=Z,12nm,0.8s							
DGZ	**Jazzator, Alta**	**41.25**	**305**	*i* P	**P**	**05 50 01.7**	**+0.3**
WMQ	**Urumqi**	**42.09**	**296**	*e*P	**P**	**05 50 08.4**	**+0.1**
WMQ				pP	sP	05 50 14.3	+3.1
WMQ				LR	LR		
comp=Z,2μm,19.3s							
WMQ				LR	LR		
comp=Z,2μm,24.5s							
WMQ				LR	LR		
comp=Z,1μm,20.7s							
ZALV	**Zalesovo Beam**	**42.47**	**311**	P	**P**	**05 50 10.5**	**-0.6**
ZALV	**Zalesovo Beam**	**42.47**	**311**	P	**P**	**05 50 11.1**	**0.0**
comp=Z,0.9nm,0.4s,baz=93,slow=7.4,SNR=5.6							
ZALV				PcP	**PcP**	**05 52 03.7**	**-0.1**
comp=Z,4.9nm,0.4s,baz=77,slow=3.4,SNR=7.2

comp=Z,31nm,0.5s
BCAR Beaver Creek A 49.30 35 P **P 05 51 06.1 +1.1**
TARG Taragay, Kyrgy 49.66 296 IAmb IAmb 05 51 15.0
comp=Z,7.6nm,0.8s
KKN Kakani 49.70 276 *e*P **P 05 51 13.4 +4.7**
comp=Z,24nm,0.6s
PKI Pulchoki 49.71 276 *e*P **P 05 51 12.6 +3.7**
PKIN Phulchoki 49.72 276 *e*P **P 05 51 12.6 +3.7**
DANN Dangsing 50.62 277 *e*P **P 05 51 19.0 +3.2**
EPYK Eagle Plains 51.02 31 IAmb IAmb 05 51 20.6
comp=Z,16nm,0.9s
KOLN Koldanda 51.02 277 *e*P **P 05 51 20.3 +1.6**
BVAR Borovoye Array 51.11 312 P **P 05 51 18.9 +0.1**
comp=Z,1.6nm,0.6s,baz=91,slow=6.5,SNR=9.0
BRVK Borovoye 51.17 312 *ce*P **P 05 51 18.9 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 51.17 312 P **P 05 51 19.3 +0.1**
BRVK IAmb IAmb 05 51 30.5
comp=Z,10nm,1.1s
AAK Ala-Archa 51.66 298 *ce*P **P 05 51 21.9 -1.3**
AAK pmax pmax
comp=Z,1.0nm,0.6s
KSH Kashi 51.75 294 *e*P **P 05 51 27.8 +3.9**
KSH ScP **ScP 05 56 35.3 +1.9**
KSH S **S 05 58 48.1 +2.7**
KSH sS sS 05 59 00.9 +12
KSH SS **SS 06 02 23.3 +1.7**
KSH pmax pmax
comp=Z,370nm,7.8s
KSH LR LR
comp=Z,1μm,11.0s
KSH LR LR
comp=Z,3μm,17.2s
KSH LR LR
comp=Z,2μm,14.5s
INK Inuvik 51.93 28 P **P 05 51 25.5 +0.9**
INK pmax pmax
comp=Z,12nm,1.2s
INK Inuvik 51.93 28 P **P 05 51 25.6 +0.9**
comp=Z,4.3nm,0.5s,baz=284,slow=6.0,SNR=42
INK Inuvik 51.93 28 P **P 05 51 25.4 +0.9**
INK IAmb IAmb 05 51 26.7
comp=Z,12nm,1.1s
MTN Manton Dam 52.67 196 P **P 05 51 29.7 -1.0**
ARSB Arslanbob 53.18 297 P **P 05 51 34.9 +0.3**
ARSB IAmb IAmb 05 51 50.0
comp=Z,10.0nm,0.9s
KKAR Karatay Array 54.21 300 P **P 05 51 40.3 -1.6**
KKAR Karatay Array 54.21 300 P **P 05 51 40.3 -1.6**
SVE Sverdlovsk 55.38 318 *e*P **P 05 51 50.6 +0.5**
KNRA Kununurra 55.95 198 P **P 05 51 53.6 -1.0**
DLBC Dease Lake 55.98 39 P **P 05 51 55.5 +1.0**
comp=Z,6.4nm,1.0s,baz=279,slow=5.6,SNR=6.1
DLBC Dease Lake 55.98 39 IAmb IAmb 05 51 57.8
comp=Z,16nm,1.2s
NIL Nilore 56.19 288 P **P 05 51 55.2 -1.1**
NIL pmax pmax
comp=Z,18nm,1.0s
NIL Nilore 56.19 288 P **P 05 51 55.2 -1.1**
ARU Arti 56.60 318 *d i*P **P 05 51 58.8 0.0**
ARU 05 54 05.1
ARU S **S 05 59 53.3 +3.2**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU Arti 56.60 318 P **P 05 51 59.0 +0.2**
CHGR Chuyangaron 56.95 296 P **P 05 52 01.3 -0.4**
ABKAR Abkulak array 58.57 310 P **P 05 52 12.2 -0.6**
ABKAR Abkulak array 58.57 310 IAmb IAmb 05 52 31.2
comp=Z,3.7nm,0.6s
WRAB Tennant Creek 59.01 191 *ce*P **P 05 52 14.2 -1.9**
WRAB pmax pmax
comp=Z,14nm,0.8s
WRAB Tennant Creek 59.01 191 P **P 05 52 14.8 -1.3**
WRA Warramunga Arr 59.02 191 *i*P **P 05 52 14.8 -1.4**
WRA pmax pmax
comp=Z,11nm,0.8s
WRA Warramunga Arr 59.02 191 P **P 05 52 15.0 -1.2**
comp=Z,11nm,0.8s,baz=8.7,slow=6.9,SNR=71
FITZ Fitzroy Crossi 59.08 201 P **P 05 52 16.1 -0.5**
FITZ IAmb IAmb 05 52 32.2
comp=Z,10nm,1.1s
RES Resolute Bay 60.47 15 P **P 05 52 25.6 +0.1**
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 60.47 15 P **P 05 52 25.6 +0.1**
RES IAmb IAmb 05 52 26.2
comp=Z,6.0nm,0.8s
PRGR Permogore 60.59 327 *e*P P 05 52 21.3 -5.2
PRGR pmax pmax
comp=Z,15nm,0.9s
AS31 Alice Springs 62.74 191 P **P 05 52 40.2 -1.2**
ASAR Alice Springs 62.75 191 P **P 05 52 40.8 -0.7**
comp=Z,2.8nm,0.7s,baz=13,slow=6.9,SNR=25
TULEG Thule 63.19 8 IAmb IAmb 05 52 44.2
comp=Z,7.3nm,0.9s
DAG Danmarks Havn 64.33 356 *i*P **P 05 52 51.0 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.6s
DAG Danmarks Havn 64.33 356 *i*P **P 05 52 51.0 -0.3**
comp=Z,6.7nm,0.6s
GEYT Alibeck 64.96 299 P **P 05 52 55.9 -0.2**
comp=Z,1.2nm,0.5s,baz=35,slow=5.3,SNR=2.5
LTY Liberty 65.94 48 P **P 05 53 03.6 +1.3**
LTY IAmb IAmb 05 53 14.9
comp=Z,12nm,1.4s
PINE Pine Mountain 67.61 51 P **P 05 53 14.9 +1.7**
OBN Obninsk 68.09 324‖ *e*P **P 05 53 15.2 -0.5**
OBN 05 53 46.0
OBN *e* 06 03 06.9
OBN pmax pmax
comp=Z,31nm,1.7s
FINES FINESS Array B 68.38 333 P **P 05 53 17.3 -0.2**
comp=Z,5.6nm,0.8s,baz=42,slow=6.4,SNR=7.0
MOD Modoc Plateau 69.03 53 IAmb IAmb 05 53 24.4
comp=Z,5.3nm,0.8s
SUMG Summit 69.04 1 *i*P **P 05 53 22.0 +0.1**
SUMG pmax pmax
comp=Z,26nm,0.8s
SUMG Summit 69.04 1 *i*P **P 05 53 22.0 +0.1**
comp=Z,26nm,0.8s
JTMT Jette 69.30 45 P **P 05 53 25.0 +1.4**
JTMT IAmb IAmb 05 53 35.4
comp=Z,16nm,1.4s
WVOR Wild Horse Val 69.76 52 IAmb IAmb 05 53 29.0
comp=Z,7.5nm,1.1s
BEKR Beckworth 70.12 55 IAmb IAmb 05 53 31.0
comp=Z,7.4nm,0.9s
VSU Vasula 70.15 330 *ce*P **P 05 53 28.7 +0.3**
VSU pmax pmax
comp=Z,78nm,1.3s
PAHR Pah Rah Range 70.83 54 IAmb IAmb 05 53 35.4
comp=Z,6.9nm,1.0s
CMB Columbia Colle 71.14 56 IAmb IAmb 05 53 36.8
comp=Z,6.4nm,0.9s
YERR Yerington 71.34 55 IAmb IAmb 05 53 38.7
comp=Z,14nm,1.0s
KIV Kislovodsk 71.48 312 *e*P **P 05 53 36.5 -0.5**
KIV pmax pmax
comp=Z,56nm,1.0s
KBZ Khabaz 71.49 311 *i*P **P 05 53 36.8 -0.1**
KBZ Khabaz 71.49 311 P **P 05 53 37.5 +0.6**
comp=Z,11nm,0.8s,baz=50,slow=2.6,SNR=16
RYN Ryan 72.00 55 P **P 05 53 41.7 +1.4**
KVN Kaiserville 72.03 54 P **P 05 53 41.4 +0.9**
KVN pmax pmax
comp=Z,10.0nm,1.1s
KVN Kaiserville 72.03 54 P **P 05 53 41.4 +0.9**
KVN IAmb IAmb 05 53 42.9
comp=Z,9.9nm,1.1s
NVAR Mina Array Bea 72.25 55 P **P 05 53 43.2 +1.3**
comp=Z,5.3nm,0.8s,baz=286,slow=6.6,SNR=29
NVAR Mina Array Bea 72.25 55 P **P 05 53 43.0 +1.1**
NC405 NORSAR Array S 73.31 338 P **P 05 53 47.7 +0.2**
NC204 NORSAR Array S 73.45 339 P **P 05 53 48.5 +0.1**
NB2 NORSAR Subarra 73.51 338 P **P 05 53 48.4 -0.3**
comp=Z,2.6nm,0.8s,baz=38,slow=5.9
NOA NORSAR Array B 73.51 338 P **P 05 53 48.7 0.0**
comp=Z,5.4nm,0.9s,baz=38,slow=5.8,SNR=9.3
REDW Red Top Meadow 73.84 47 P **P 05 53 52.6 +1.4**
REDW IAmb IAmb 05 54 09.6
comp=Z,12nm,1.5s
R11A Troy Canyon, C 74.03 54 P **P 05 53 53.6 +1.3**
AKASG Malin Array Be 74.33 323 P **P 05 53 53.5 -0.2**
comp=Z,6.7nm,0.6s,baz=45,slow=6.1,SNR=27
AKBB Malin Array Si 74.33 323 P **P 05 53 53.3 -0.3**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 74.33 323 P **P 05 53 53.3 -0.3**
AKBB IAmb IAmb 05 53 54.1
comp=Z,9.0nm,0.8s
PD31 Pinedale Array 74.95 47 P **P 05 53 58.1 +0.3**
PDAR Pinedale Array 74.95 47 P **P 05 53 58.3 +0.6**
comp=Z,2.2nm,0.7s,baz=273,slow=1.7,SNR=21
ULM Lac du Bonnet 76.92 35 P **P 05 54 08.5 0.0**
comp=Z,4.9nm,0.9s,baz=284,slow=7.4,SNR=4.8
PV21 Cone Mtn., Par 77.97 50 IAmb IAmb 05 54 17.0
comp=Z,9.0nm,0.7s
PV23 Carpenter Ridg 78.02 50 IAmb IAmb 05 54 16.9
comp=Z,8.5nm,0.7s
PV22 Blue Mesa, Par 78.10 50 IAmb IAmb 05 54 17.7
comp=Z,6.8nm,1.0s
PV20 West Nyswonger 78.11 50 IAmb IAmb 05 54 17.8
comp=Z,11nm,0.9s
PV04 Paradox Valley 78.12 50 IAmb IAmb 05 54 17.4
comp=Z,11nm,1.0s
PV16 Nyswonger Mesa 78.16 50 IAmb IAmb 05 54 17.6
comp=Z,8.8nm,0.8s
PV11 David Mesa, Pa 78.20 50 IAmb IAmb 05 54 32.1
comp=Z,8.1nm,0.7s
PV18 Skein Mesa, Pa 78.21 50 IAmb IAmb 05 54 18.3
comp=Z,8.6nm,0.9s
PV12 Saucer Basin, 78.23 50 IAmb IAmb 05 54 36.9
comp=Z,6.4nm,0.8s
PV03 Paradox Valley 78.24 50 IAmb IAmb 05 54 18.5
comp=Z,6.9nm,0.8s
PV13 Radium Mtn., P 78.32 50 IAmb IAmb 05 54 19.0
comp=Z,13nm,0.9s
PV02 Paradox Valley 78.34 50 IAmb IAmb 05 54 35.5
comp=Z,10.0nm,1.3s
BUR08 Bucovina Ar. S 78.36 323 P **P 05 54 16.4 -0.2**
BUR08 IAmb IAmb 05 54 17.8
comp=Z,5.2nm,0.7s
BURAR Bucovina Array 78.37 323 ⇑P **P 05 54 16.8 0.0**
BURAR Bucovina Array 78.37 323 P **P 05 54 16.7 0.0**
BIZ Bicaz 78.43 322 ⇑P **P 05 54 16.9 -0.1**
TESR Tescani 78.46 321 ‖P **P 05 54 17.3 +0.2**
CFR Carcaliu 78.66 320 ⇑P **P 05 54 18.5 +0.3**
TOPG Topolog 78.75 319 ⇑P **P 05 54 17.6 -1.2**
KOLNS Kolonicke sedl 78.77 325 *e*P **P 05 54 19.3 +0.5**
KOLS Kolonicke sedl 78.77 325 *e*P **P 05 54 19.3 +0.5**
UZH Uzhgorod 78.98 325 ‖ *i*P **P 05 54 19.4 -0.5**
UZH *i* 05 54 26.1
X16A Lo Mia Camp, P 79.08 55 IAmb IAmb 05 54 23.5
comp=Z,7.6nm,1.1s
TLB Topalu 79.12 319 ⇑P **P 05 54 20.3 -0.5**
OZUR 79.18 321 ‖P **P 05 54 22.2 +1.0**
TRPA Tarpa 79.24 325 ⇑P **P 05 54 22.2 +0.9**
TRPA mb 05 54 22.4
BRTR Keskin Array B 79.39 313 P **P 05 54 22.2 -0.4**
BRTR Keskin Array B 79.39 313 P **P 05 54 22.7 +0.1**
comp=Z,1.1nm,0.5s,baz=104,slow=3.0,SNR=6.3
BRTR Keskin Array B 79.39 313 P **P 05 54 22.2 -0.4**
DOPR Dopca 79.47 322 ⇑P **P 05 54 23.1 +0.4**
ISR Istrita 79.50 320 ⇑P **P 05 54 23.8 +0.8**
MLR Muntele Rosu 79.53 321 ⇑P **P 05 54 23.5 +0.3**
ANTO Ankara 79.78 313 P **P 05 54 25.3 +0.7**
ANTO pmax pmax
comp=Z,13nm,0.9s
ANTO Ankara 79.78 313 P **P 05 54 25.3 +0.7**
ANTO IAmb IAmb 05 54 25.8
comp=Z,13nm,0.8s
VOIR 80.01 321 ⇑P **P 05 54 26.1 +0.4**
CHVC Chvalec 80.14 329 *e*P P 05 54 32.7 +6.4
DPC Dobruska-Polom 80.22 329 *e*P **P 05 54 27.5 +0.8**
DPC Dobruska-Polom 80.22 329 *e*P **P 05 54 27.5 +0.8**
KRLC Kraliky 80.25 329 *e*P **P 05 54 22.2 -4.7**
KRLC *e* 05 54 27.2
KRLC Kraliky 80.25 329 *e*P **P 05 54 27.2 +0.3**
ARR Arges 80.27 322 ⇑P **P 05 54 28.5 +1.4**
VYHS Vyhne 80.60 327 *e*P **P 05 54 29.2 +0.4**
VYHS Vyhne 80.60 327 *e*P **P 05 54 29.2 +0.4**
CLL Collm 80.75 331 *e*P **P 05 54 29.0 -0.5**
CLL Collm 80.75 331 *e*P **P 05 54 29.0 -0.5**
CLL *e*(sP) **pwP 05 54 45.0 +3.9**
GZR Gura Zlata 81.14 323 ⇑P P **05 54 31.9 +0.2**
ECSD EROS Data Cent 81.27 40 P **P 05 54 32.5 0.0**
ECSD IAmb IAmb 05 54 33.5
comp=Z,5.9nm,0.8s
E38A The Farm, Brul 81.56 35 P **P 05 54 33.7 -0.2**
ANMO Albuquerque 81.86 52 *ce*P **P 05 54 35.4 -0.5**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 81.86 52 P **P 05 54 36.8 +0.8**
MDVR Moldovita 82.10 323 ⇑P **P 05 54 36.8 0.0**
KHC Kasperske Hory 82.27 330 *e*P **P 05 54 38.0 +0.3**
KHC Kasperske Hory 82.27 330 *e*P **P 05 54 38.0 +0.3**
CONA Conrad Observa 82.30 328 *e*P **P 05 54 38.7 +0.8**
comp=Z,4.8nm,1.0s
GERES GERESS Array B 82.45 330 P **P 05 54 38.5 -0.2**
comp=Z,0.7nm,0.5s,baz=41,slow=5.8,SNR=7.8
VTS Vitosha 82.96 320 ‖P **P 05 54 41.5 0.0**
SOKA Soboth 83.64 328 *e*P **P 05 54 44.8 -0.1**
comp=Z,6.6nm,1.0s,SNR=4.4
MYKA Terra Mystica 84.25 328 *e*P **P 05 54 47.3 -0.6**
comp=Z,8.9nm,1.0s
MNTX Cornudas Mount 84.70 53 IAmb IAmb 05 54 52.1
comp=Z,6.3nm,0.9s
RETA Reutte 84.71 330 *e*PcP **P 05 54 50.7 +0.4**
comp=Z,5.4nm,0.7s,SNR=5.0
FETA Feichten 85.10 330 *e*PcP **P 05 54 52.5 +0.1**
comp=Z,6.2nm,0.9s,SNR=4.0
DAVA Damuels 85.21 331 *e*PcP **P 05 54 53.1 +0.2**
comp=Z,6.6nm,0.8s
WMOK Wichita Mounta 86.56 47 IAmb IAmb 05 55 00.5
comp=Z,4.5nm,0.9s
TX32 Lajitas Array 87.39 54 IAmb IAmb 05 55 06.2
comp=Z,3.9nm,0.9s
TXAR Lajitas Array 87.39 54 P **P 05 55 04.0 +0.1**
TXAR Lajitas Array 87.39 54 P **P 05 55 04.4 +0.6**
comp=Z,2.6nm,0.5s,baz=302,slow=3.2,SNR=51
TXAR Lajitas Array 87.39 54 P **P 05 55 04.0 +0.1**
HPIG 87.73 57 IAmb IAmb 05 55 06.9
comp=Z,4.1nm,0.8s
CCM Cathedral Cave 88.21 41 P **P 05 55 07.4 -0.1**
CCM pmax pmax
comp=Z,11nm,0.8s
CCM Cathedral Cave 88.21 41 P **P 05 55 07.4 -0.1**
MIAR Mount Ida 89.63 44 IAmb IAmb 05 55 15.5
comp=Z,4.6nm,0.9s
WVNY West Valley, N 90.43 30 P **P 05 55 18.2 +0.4**
TORD Torodi Ar. Bea 117.67 318 PKP **PKPdf 06 01 02.2 -0.8**
comp=Z,0.6nm,0.4s,baz=33,slow=1.7,SNR=4.6
TORD Torodi Ar. Bea 117.67 318 PKPdf 06 01 01.0 -2.0
DBIC Dimbokro 126.52 321 PKIKP **PKPdf 06 01 18.5 -1.5**
DBIC Dimbokro 126.52 321 PKP **PKPdf 06 01 19.1 -0.9**
comp=Z,2.8nm,0.7s,baz=305,slow=0.5,SNR=4.6
DBIC Dimbokro 126.52 321 PKPdf 06 01 18.4 -1.5
QSPA South Pole Qui 128.40 180 PKP **PKPdf 06 01 21.0 -1.0**
comp=Z,1.2nm,0.6s,baz=286,slow=1.0,SNR=6.0
SNAA Sanae 142.94 197 PKPdf **PKPdf 06 01 45.5 -3.3**
SNAA Sanae 142.94 197 PKIKP **PKPdf 06 01 45.9 -3.0**
SNAA Sanae 142.94 197 PKhKP **PKPdf 06 01 44.6 -4.2**
comp=Z,3.4nm,0.7s,baz=188,slow=5.2,SNR=9.1
SNAA Sanae 142.94 197 PKPdf **PKPdf 06 01 45.9 -3.0**
LPAZ La Paz 143.98 61 PKP **PKPdf 06 01 52.0 -1.0**
comp=Z,2.6nm,0.8s,baz=341,slow=3.4,SNR=5.3
VNA2 Neumayer--Watz 144.49 196 PKPdf **PKPab 06 01 49.6 -0.2**
baz=110,slow=2.5
VNA3 Neumayer Olymp 144.69 194 PKPdf **PKPab 06 01 49.8 -0.9**
MNMC Minye Minye 144.87 66 PKPdf 06 01 54.1 0.0
VNA1 Neumayer--Stat 144.88 196 PKPdf **PKPab 06 01 50.6 -0.7**
PB11 IPOC Station P 145.24 67 PKPdf 06 01 55.0 +0.5
LVC Limon Verde 147.55 70 PKP2 **PKPbc 06 02 00.7 -0.6**
LVC Limon Verde 147.55 70 PKPbc **PKPbc 06 02 01.6 +0.4**
comp=Z,8.3nm,0.9s,baz=45,slow=2.9,SNR=3.2
LVC Limon Verde 147.55 70 PKPbc 06 02 00.7 -0.6
CFA Coronel Fontan 152.66 85 PKPbc **PKPbc 06 02 12.6 -0.4**
comp=Z,2.2nm,0.6s,baz=276,slow=2.7,SNR=6.6
PLCA Paso Flores 153.29 106 PKPbc **PKPbc 06 02 14.0 -0.2**
comp=Z,1.1nm,0.7s,baz=315,slow=1.4,SNR=3.1

ISCJB ***16*** *05:47:10.6±1.1, 60°.4S±0°.1×47°.2W±0°.2, h10km, mb3.7/3, Error ellipse: s-maj=19.1km s-min=12.3km az=148.3*
IDC ***16*** *05:47:10.1±1.1, 60°.11S×46°.84W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=34.5km s-min=26.2km az=72.0*

ISC 16 05:47:11.7±1.1, 60°.2S±0°.1×47°.1W±0°.1, h10km, n9, σ1 36/7, mb3.7/3, Scotia Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMSA Palmer Station 9.09 232 Pn **Pn 05 49 23.7 +1.1**
1.3nm,0.3s,baz=60,slow=16,SNR=9.5
PMSA Sn **Sn 05 51 03.1 -1.7**
0.3nm,0.3s,baz=151,slow=19,SNR=4.5
SNAA Sanae 20.79 142 P **P 05 51 52.9 +0.3**
1.5nm,0.5s,baz=293,slow=11,SNR=5.9
PLCA Paso Flores 24.30 313 P **P 05 52 30.3 +1.2**
1.7nm,1.0s,baz=144,slow=8.7,SNR=3.3
QSPA South Pole Qui 30.06 180 P **P 05 53 21.1 +0.3**
3.1nm,0.9s,baz=181,slow=6.5,SNR=7.1
H10N3 ASCENSION HYDR 57.69 39 T T 06 59 50.2
baz=199,slow=75,SNR=9.0
H10N1 ASCENSION HYDR 57.69 39 T T 06 59 50.8
baz=199,slow=75,SNR=9.9
H10N2 ASCENSION HYDR 57.70 39 T T 06 59 53.3
baz=199,slow=75,SNR=11
TORD Torodi Ar. Bea 82.82 48 P **P 05 59 35.0 -0.9**
0.5nm,0.8s,baz=212,slow=4.1,SNR=2.8
ILAR Eielson Array 144.98 313 PKPbc **PKPbc 06 06 45.8 -1.0**
1.0nm,1.1s,baz=141,slow=2.0,SNR=3.4

IDC ***16*** *05:52:50.4±0.7, 60°.23S×46°.59W, h0km, mb4.4/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.4/12, ML3.8/1, Error ellipse: s-maj=23.1km s-min=16.9km az=43.0*
ISCJB ***16*** *05:52:51.1±0.5, 60°.13S±0°.07×46°.4W±0°.1, h10km, mb4.4/11, Error ellipse: s-maj=9.5km s-min=8.3km az=177.0*
NEIC ***16*** *05:52:52.3±2.2, 60°.22S±0°.09×46°.6W±0°.2, h10km±1km, mb4.6/21*
ISC 16 05:52:51.9±0.5, 60°.25S±0°.08×46°.63W±0°.08, h10km, n60, σ1 06/58, mb4.5/18, Scotia Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HOPE Hope Point 8.12 47 **Pn 05 54 48.2 -1.5**
HOPE **Sn 05 56 20.4 -1.0**
PMSA Palmer Station 9.22 233 Pn **Pn 05 55 05.1 +0.3**
1.0nm,0.3s,baz=63,slow=10,SNR=11
PMSA Sn **Sn 05 56 46.2 -2.2**
0.6nm,0.3s,baz=328,slow=23,SNR=7.8
PMSA Palmer Station 9.22 233 **Pn 05 55 05.0 +0.2**
PMSA **Sn 05 56 46.5 -2.0**
GO10 Punta Arenas 15.11 287 P **P 05 56 29.2 -1.3**
SNAA Sanae 20.59 141 P Pn 05 57 34.2 +1.3
17nm,0.9s,baz=287,slow=9.4,SNR=41
SNAA Sanae 20.59 141 P Pn 05 57 34.5 +1.6
SNAA IAmb IAmb 05 57 35.7
comp=Z,22nm,0.9s
TRQA Tornquist 24.25 329 P **P 05 58 09.2 +0.3**
TRQA IAmb IAmb 05 58 11.2
comp=Z,13nm,0.7s
PLCA Paso Flores 24.52 312 P **P 05 58 11.2 -0.1**
comp=Z,3.0nm,0.7s,baz=177,slow=10.0,SNR=12
PLCA Paso Flores 24.52 312 P **P 05 58 11.0 -0.3**
GO06 Curarrehue 25.86 312 P **P 05 58 23.5 -0.1**
QSPA South Pole Qui 29.98 180 P **P 05 59 01.1 +0.8**
comp=Z,11nm,0.9s,baz=172,slow=5.9,SNR=28
QSPA South Pole Qui 29.98 180 P **P 05 59 01.3 +1.0**
CFA Coronel Fontan 32.04 324 P **P 05 59 18.2 -0.4**
comp=Z,1.7nm,0.6s,baz=168,slow=7.5,SNR=4.2
CPUP Villa Florida 34.70 343 P **P 05 59 41.8 +0.1**
comp=Z,2.5nm,0.7s,baz=176,slow=7.6,SNR=13
CPUP Villa Florida 34.70 343 P **P 05 59 42.3 +0.6**
GO02 Mina Guanaco 38.50 325 P **P 06 00 14.9 +0.5**
GO02 IAmb IAmb 06 00 16.7
comp=Z,7.4nm,0.8s
SBA Scott Base 40.63 190 P **P 06 00 33.1 +1.8**
GO01 Chusmiza 43.62 328 P **P 06 00 57.6 +0.8**
PB11 IPOC Station P 43.65 328 P **P 06 00 57.0 +0.3**
PB11 IAmb IAmb 06 01 13.1
comp=Z,11nm,1.1s
MNMC Minye Minye 44.23 328 P **P 06 01 01.8 +0.3**
MNMC IAmb IAmb 06 01 03.4
comp=Z,9.1nm,0.7s
BDFB Brasilia 44.56 358 P **P 06 01 04.2 +0.2**
comp=Z,4.3nm,0.9s,baz=192,slow=6.2,SNR=6.2
BDFB Brasilia 44.56 358 P **P 06 01 04.7 +0.8**
BDFB IAmb IAmb 06 01 06.7
comp=Z,8.3nm,1.1s
LPAZ La Paz 46.59 331 P **P 06 01 20.6 0.0**
comp=Z,1.3nm,0.6s,baz=172,slow=7.2,SNR=7.7
LPAZ La Paz 46.59 331 P **P 06 01 21.1 +0.5**
SUR Sutherland 51.41 89 P **P 06 01 57.8 +0.8**
comp=Z,14nm,0.9s,baz=201,slow=8.6,SNR=6.5
SUR Sutherland 51.41 89 P **P 06 01 58.1 +1.2**
SAML Samuel 52.68 339 P **P 06 02 07.0 +0.6**
SAML IAmb IAmb 06 02 07.5
comp=Z,8.4nm,1.1s
BOSA Boshof 56.68 90 P **P 06 02 35.0 -0.5**
comp=Z,4.6nm,0.9s,baz=194,slow=8.1,SNR=4.9
BOSA Boshof 56.68 90 P **P 06 02 35.2 -0.3**
H10N3 ASCENSION HYDR 57.60 39 T T 07 05 30.4
baz=199,slow=75,SNR=17
H10N1 ASCENSION HYDR 57.60 39 T T 07 05 30.8
baz=199,slow=75,SNR=12
H10N2 ASCENSION HYDR 57.61 39 T T 07 05 31.8
baz=199,slow=75,SNR=18
LBTB Lobatse 59.83 88 P **P 06 02 57.0 -0.5**
comp=Z,6.5nm,0.7s,baz=212,slow=7.9,SNR=9.3
OTAV Otavalo 65.15 324 P **P 06 03 34.1 +0.6**
OTAV IAmb IAmb 06 03 34.7
comp=Z,4.8nm,0.8s
DBIC Dimbokro 74.37 43 P **P 06 04 29.8 +0.1**
comp=Z,2.6nm,0.6s,baz=153,slow=6.2,SNR=3.5
DBIC Dimbokro 74.37 43 P **P 06 04 29.5 -0.2**
DBIC IAmb IAmb 06 04 35.4
comp=Z,6.0nm,1.1s
TOA0 Torodi Ar. Sit 82.70 47 P **P 06 05 15.9 +0.4**
TOA0 IAmb IAmb 06 05 16.9
comp=Z,5.8nm,1.0s
TORD Torodi Ar. Bea 82.70 47 P **P 06 05 15.8 +0.3**
comp=Z,2.5nm,0.7s,baz=210,slow=5.8,SNR=14
TORD Torodi Ar. Bea 82.70 47 P **P 06 05 15.7 +0.2**
656A Willston 94.03 329 P **P 06 06 13.3 +3.6**
AKASG Malin Array Be 126.26 50 PKP **PKPdf 06 11 52.1 -1.3**
comp=Z,1.0nm,0.7s,baz=248,slow=1.5,SNR=5.0
CHGR Chuyangaron 135.16 89 **PKPdf 06 12 11.2 +0.4**
KKAR Karatay Array 139.18 86 **PKPdf 06 12 18.2 +0.2**
KKAR Karatay Array 139.18 86 **PKiKP 06 12 19.3 -1.0**
FRU1 Bishkek 141.02 89 **PKPdf 06 12 19.0 -2.5**
IL31 145.20 312 **PKPbc 06 12 26.6 -1.0**
ILAR Eielson Array 145.20 312 PKPbc **PKPbc 06 12 27.0 -0.7**
comp=Z,6.4nm,1.0s,baz=148,slow=2.1,SNR=37
ILAR Eielson Array 145.20 312 **PKPbc 06 12 25.9 -1.8**
RND Reindeer 145.24 310 **PKPbc 06 12 27.0 -0.9**
CCB Clear Creek Bu 145.48 312 **PKPdf 06 12 27.3 -1.1**
WRH Wood River Hil 145.50 311 **PKPdf 06 12 27.7 -0.8**
COLA College 145.61 312 **PKPdf 06 12 27.8 -0.8**
BMAR Burnt Mountain 145.71 317 **PKPdf 06 12 28.9 +0.1**
BWN Browne 145.86 310 **PKPdf 06 12 29.4 +0.2**
MLY Manley 146.76 311 **PKPbc 06 12 32.1 -0.5**
MK31 Makanchi Array 147.68 91 **PKPdf 06 12 33.9 +1.1**
MKAR Makanchi Array 147.68 91 PKPbc **PKPbc 06 12 34.2 -1.4**
comp=Z,3.9nm,0.7s,baz=231,slow=2.4,SNR=26
MKAR Makanchi Array 147.68 91 **PKPdf 06 12 33.9 +1.0**
IMAR Indian Mountai 148.31 312 **PKPbc 06 12 36.1 -0.5**
KURK Kurchatov 148.44 83 **PKPbc 06 12 35.9 -1.6**

NIED ***16*** *05:54:00, 39°.30N×142°.10E, h53km, Mw5.0 Best double couple: M0=3.47000×10^16 NP1:φs=195.00000°, δ17.00000°, λ84.00000°. NP2:φs=21.00000°, δ73.00000°, λ92.00000°.*
MOS ***16*** *05:54:33.2±1.0, 39°.25N×142°.07E, h36km, mb5.2/42, Error ellipse: s-maj=6.7km s-min=4.2km az=99.3*
BJI ***16*** *05:54:35.4±0.0, 39°.38N×142°.26E, h74km, mb5.0/62, mB5.5/27, Ms4.8/25, Ms7 4.6/19*
NEIC ***16*** *05:54:37.0±2.5, 39°.31N±0°.05×142°.10E±0°.07, h51km±5km, mb5.0/145*
JMA ***16*** *05:54:36.7, 39°.34N×142°.07E, h48km±1km, M4.9 Broadband fault plane solution: P waves. NP1: φs=28.00000°, δ68.00000°, λ95.00000°. NP2:φs=194.00000°, δ22.00000°, λ77.00000°. Principal axes: T Plg66.0000°, Azm307.0000°; N Plg5.0000°, Azm206.0000°; P Plg23.0000°, Azm114.0000°;*
JMA Felt III J1.
ISCJB ***16*** *05:54:36.3±0.3, 39°.36N±0°.02×142°.00E±0°.03, h53km±2km,*

mb4.9/89 Error ellipse: s-maj=4.6km s-min=2.9km az=34.3
*IDC **16** 05:54:39.7±1.5, 39°.31N×141°.94E, h73km±13km, mb4.4/32, mb1 4.5/39, mb1mx4.4/50, mbtmp4.7/39, MS4.5/5, Ms1 4.5/5, ms1mx4.0/42, Error ellipse: s-maj=11.9km s-min=8.7km az=112.0*
ISC 16 05:54:36.9±0.5, 39°.32N±0°.03×142°.15E±0°.04, h50km±3km, h50km:pP-P, n451, σ1°54/438, mb5.0/155, 32C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.36**	**315**	⇓P		**Pn**	**05 54 45.6**	**-1.1**
MIYJ				S		**Sn**	**05 54 51.8**	**-1.8**
OFUJ	**Ofunato**	**0.45**	**238**	⇓P		**Pn**	**05 54 46.7**	**-0.8**
OFUJ				S		**Sn**	**05 54 53.6**	**-1.5**
JTH	**Tanohata**	**0.66**	**340**	⇓P		**Pn**	**05 54 49.2**	**-0.9**
JTH				S		**Sn**	**05 54 58.5**	**-1.2**
JOM	**Ohasama**	**0.69**	**283**	⇓P		**Pn**	**05 54 49.2**	**-1.2**
JKMT	**Kesennumamotoy**	**0.73**	**226**	⇓P		**Pn**	**05 54 50.2**	**-0.8**
JKMT				S		**Sn**	**05 54 59.7**	**-1.6**
JMK	**Ichinoseki**	**0.81**	**244**	⇓P		**Pn**	**05 54 51.1**	**-1.0**
JMK				S		**Sn**	**05 55 01.3**	**-1.9**
JKZ	**Kuzumaki**	**0.92**	**317**	⇓P		**Pn**	**05 54 52.8**	**-0.8**
JKZ				S		**Sn**	**05 55 04.2**	**-1.7**
JIO	**Ouri**	**1.07**	**216**	⇓P		**Pn**	**05 54 54.7**	**-0.8**
JIO				S		**Sn**	**05 55 07.6**	**-1.7**
JANG	**Nango**	**1.16**	**335**	⇓P		**Pn**	**05 54 55.6**	**-1.2**
JRG	**Rokugo**	**1.18**	**274**	⇓P		**Pn**	**05 54 55.9**	**-1.1**
JYK	**Kaneyama**	**1.45**	**255**	⇓P		**Pn**	**05 54 59.9**	**-0.8**
JAH	**Hinai**	**1.46**	**307**	⇓P		**Pn**	**05 55 00.0**	**-0.8**
ERM	**Erimo**	**2.80**	**15**	P		**Pn**	**05 55 19.4**	**+0.2**
ERM							05 55 50.5	
ERM	**Erimo**	**2.80**	**15**			**Pn**	**05 55 19.4**	**+0.2**
ERM				Sn		**Sn**	**05 55 50.5**	**-1.1**
MAJO	**Matsushiro**	**4.17**	**230**	*c iP*		**Pn**	**05 55 40.0**	**+2.0**
MAJO	**Matsushiro**	**4.17**	**230**			**Pn**	**05 55 39.9**	**+1.8**
MAT	**Matsushiro**	**4.17**	**230**	P		**Pn**	**05 55 39.8**	**+1.8**
MAT				S		**Sn**	**05 56 25.1**	**-0.4**
MJAR	**Matsushiro Arr**	**4.17**	**230**	P		**Pn**	**05 55 40.0**	**+1.9**
MJAR	**Matsushiro Arr**	**4.17**	**230**	P		**Pn**	**05 55 40.0**	**+1.9**
	2.9nm,0.3s,baz=39,slow=12,SNR=165							
MJAR				S		Sn	05 56 41.1	+16
	1.7nm,0.3s,baz=76,slow=16,SNR=5.3							
MJAR	**Matsushiro Arr**	**4.17**	**230**			**Pn**	**05 55 39.3**	**+1.3**
MJB9	**Matsu-Tunnel**	**4.17**	**230**			**Pn**	**05 55 40.0**	**+1.9**
ASAJ	**Asahikawa**	**4.80**	**4**	P		**Pn**	**05 55 48.4**	**+1.7**
	13nm,0.3s,baz=209,slow=9.3,SNR=17							
ASAJ				S		**Sn**	**05 56 45.4**	**+4.4**
	14nm,0.3s,baz=284,slow=23,SNR=4.6							
ASAJ				LR		LR	05 57 45.1	
	comp=Z,3μm,21.9s,baz=184,slow=38							
JKA	**Kamikawa-asahi**	**4.80**	**4**			**Pn**	**05 55 48.4**	**+1.8**
JKA						**Sn**	**05 56 45.4**	**+4.4**
NMR	**Nemuro--Hokkai**	**4.86**	**32**	*e*P		**Pn**	**05 55 45.4**	**-2.0**
NMR				*e*S		**Sn**	**05 56 36.7**	**-5.6**
GLVR	**Golovnino**	**5.09**	**29**	*e*P		**Pn**	**05 55 50.3**	**-0.2**
GLVR				*e*S		**Sn**	**05 56 45.0**	**-2.9**
GLVR				pmax		pmax		
	comp=Z,627nm,0.5s							
GLVR				pmax		pmax		
	comp=N,144nm,0.3s							
GLVR				pmax		pmax		
	comp=E,198nm,0.3s							
GLVR				smax		smax		
	comp=E,4μm,0.4s							
GLVR				smax		smax		
	comp=N,2μm,0.3s							
GRPR	**Tuman**	**5.40**	**29**	*e*P		**Pn**	**05 55 54.2**	**-0.6**
GRPR				*e*S		**Sn**	**05 56 51.8**	**-3.8**
GRPR				pmax		pmax		
	comp=Z,830nm,0.3s							
GRPR				pmax		pmax		
	comp=N,136nm,0.2s							
GRPR				pmax		pmax		
	comp=E,254nm,0.3s							
GRPR				smax		smax		
	comp=E,1μm,0.3s							
GRPR				smax		smax		
	comp=N,4μm,0.6s							
LAGR	**Lagunnoye**	**5.46**	**29**	*e*P		**Pn**	**05 55 54.7**	**-0.9**
LAGR				*e*S		**Sn**	**05 56 54.0**	**-3.0**
LAGR				pmax		pmax		
	comp=N,218nm,0.2s							
LAGR				pmax		pmax		
	comp=Z,470nm,0.2s							
LAGR				pmax		pmax		
	comp=E,127nm,0.1s							
LAGR				smax		smax		
	comp=N,5μm,0.3s							
LAGR				smax		smax		
	comp=E,7μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.47**	**29**	*e*P		**Pn**	**05 55 55.2**	**-0.5**
YUK				*e*S		**Sn**	**05 56 53.7**	**-3.6**
YUK				pmax		pmax		
	comp=Z,320nm,0.2s							
YUK				pmax		pmax		
	comp=N,102nm,0.3s							
YUK				pmax		pmax		
	comp=E,195nm,0.2s							
YUK				smax		smax		
	comp=E,3μm,0.7s							
YUK				smax		smax		
	comp=N,3μm,0.8s							
INU	**Inuyama**	**5.70**	**228**			**Pn**	**05 56 00.9**	**+2.0**
JHJ	**Hachijo jima 2**	**6.48**	**198**	P		**Pn**	**05 56 11.4**	**+1.8**
	comp=N,31nm,0.3s,baz=22,slow=11,SNR=3.4							
JHJ				S		**Sn**	**05 57 18.4**	**-3.8**
	comp=N,37nm,0.3s,baz=60,slow=20,SNR=4.8							
TEY	**Ternei**	**7.04**	**326**	⇑*e*P		**Pn**	**05 56 20.5**	**+3.2**
TEY				pmax		pmax		
	comp=N,20nm,1.2s							
TEY				pmax		pmax		
	comp=E,20nm,1.2s							
TEY				pmax		pmax		
	comp=Z,20nm,1.3s							
TEY				pmax		pmax		
	comp=E,120nm,0.9s							
TEY				pmax		pmax		
	comp=N,140nm,0.8s							
TEY				pmax		pmax		
	comp=Z,2μm,0.8s							
TEY				MLR		MLR		
	comp=N,100nm,17.0s							
TEY				MLR		MLR		
	comp=Z,200nm,16.0s							
KUR	**Kuril'sk**	**7.27**	**34**	*e*P		**Pn**	**05 56 21.0**	**+0.6**
KUR				*e*S		**Sn**	**05 57 39.2**	**-2.3**
KUR				pmax		pmax		
	comp=Z,237nm,0.5s							
KUR				pmax		pmax		
	comp=E,91nm,0.3s							
KUR				pmax		pmax		
	comp=N,35nm,0.2s							
KUR				smax		smax		
	comp=E,443nm,0.5s							
KUR				smax		smax		
	comp=N,192nm,0.2s							
YSS	**Yuzh-Sakhalins**	**7.64**	**3**	*e*P		**Pn**	**05 56 26.4**	**+0.9**
YSS				*e*S		**Sn**	**05 57 51.4**	**+0.7**
YSS				pmax		pmax		
	comp=Z,60nm,0.8s							
YSS				smax		smax		
	comp=E,60nm,1.2s							
YSS	**Yuzh-Sakhalins**	**7.64**	**3**			**Pn**	**05 56 27.3**	**+1.7**
VLA	**Vladivostok**	**8.62**	**299**	*i P*		**Pn**	**05 56 40.6**	**+1.7**
MSHR	**Mys Shultsa**	**8.94**	**295**	*i P*		**Pn**	**05 56 43.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**9.03**	**306**	*c iP*		**Pn**	**05 56 46.8**	**+2.3**
USA0B	**Ussuriysk Arra**	**9.03**	**306**			**Pn**	**05 56 46.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**9.03**	**306**	P		**Pn**	**05 56 45.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.03**	**306**	P		**Pn**	**05 56 45.4**	**+1.0**
	baz=117,slow=14,SNR=128							
USRK				LR		LR	05 59 55.7	
	comp=E,3μm,19.6s,baz=72,slow=36							
USRK	**Ussuriysk Ar.**	**9.03**	**306**			**Pn**	**05 56 45.6**	**+1.2**
MDJ	**Mudanjiang**	**10.74**	**304**	P		**Pn**	**05 57 11.5**	**+3.5**
MDJ				pP			05 57 14.1	
MDJ				PP			05 57 19.3	
MDJ				S		**Sn**	**05 59 06.5**	**-0.2**
MDJ				sS			05 59 09.6	
MDJ				SS		**SnSn**	**05 59 18.5**	**-0.2**
MDJ				pmax		pmax		
	comp=E,170nm,0.9s							
MDJ				pmax		pmax		
	comp=E,2μm,3.1s							
MDJ				LR		LR		
	comp=E,1μm,16.4s							
MDJ				LR		LR		
	comp=E,3μm,18.5s							
MDJ				LR		LR		
	comp=E,4μm,19.2s							
MDJ	**Mudanjiang**	**10.74**	**304**			**Pn**	**05 57 11.7**	**+3.7**
JNU	**Nakatsue**	**11.00**	**239**	P		**Pn**	**05 57 12.7**	**+1.1**
	comp=E,0.8nm,0.3s,baz=58,slow=12,SNR=8.3							
JNU	**Nakatsue**	**11.00**	**239**			**Pn**	**05 57 12.9**	**+1.3**
KSRS	**Korea Array**	**11.32**	**265**	P		**Pn**	**05 57 19.5**	**+3.5**
	comp=E,1.2nm,0.3s,baz=66,slow=14,SNR=18							
KSRS				LR		LR	06 01 25.0	
	comp=E,2μm,19.1s,baz=69,slow=36							
KS19	**Wonju Array Si**	**11.36**	**265**			**Pn**	**05 57 19.9**	**+3.5**
KSAR	**Wonju Array Be**	**11.36**	**265**	P		**Pn**	**05 57 19.1**	**+2.7**
KSAR	**Wonju Array Be**	**11.36**	**265**			**Pn**	**05 57 19.1**	**+2.7**
TYV	**Tymovskoe**	**11.55**	**2**	*e*P		**Pn**	**05 57 19.5**	**+0.6**
TYV				pmax		pmax		
	comp=Z,15nm,1.1s							
TJN	**Taejon**	**12.06**	**261**	*i* P		**Pn**	**05 57 22.3**	**-3.6**
GRNR	**Gornyy**	**12.14**	**342**	*e*P		**Pn**	**05 57 26.2**	**-0.8**
GRNR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
JCJ	**Chichijima**	**12.19**	**180**	P		**Pn**	**05 57 28.6**	**+0.7**
	comp=Z,11nm,0.3s,baz=309,slow=19,SNR=3.1							
JCJ				S		**Sn**	**05 59 34.7**	**-7.6**
	comp=Z,6.8nm,0.3s,baz=306,slow=19,SNR=2.5							
KLR	**Kul'dur**	**12.39**	**327**	*i P*		**Pn**	**05 57 30.6**	**+0.2**
KLR	**Kul'dur**	**12.39**	**327**	P		**Pn**	**05 57 31.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=124,slow=13,SNR=9.7							
KLR				LR		LR	06 01 52.6	
	comp=Z,2μm,18.6s,baz=109,slow=35							
CN2	**Changchun**	**13.29**	**295**	*e*P		**Pn**	**05 57 44.4**	**+1.7**
CN2				*es*P		P	05 58 00.5	+9.5
CN2				*e*S		**Sn**	**06 00 10.3**	**+1.6**
CN2				pmax		pmax		
	comp=Z,20nm,1.2s							
DL2	**Dalian**	**15.94**	**275**	P		**P**	**05 58 19.4**	**-1.1**
DL2				pmax		pmax		
	comp=Z,98nm,1.1s							
PEA0B	**Petropavlovsk-**	**17.43**	**33**	*i* P		**Pn**	**05 58 35.1**	**-1.2**
PETK	**Petropavlovsk-**	**17.43**	**33**	P		**Pn**	**05 58 34.4**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=208,slow=7.1,SNR=5.0							
ZEA	**Zeya**	**17.64**	**330**	*e*P		**Pn**	**05 58 36.4**	**-2.4**
ZEA				pmax		pmax		
	comp=N,35nm,1.0s							
ZEA				pmax		pmax		
	comp=E,24nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,52nm,1.0s							
PET	**Petropavlovsk**	**17.78**	**34**	*i* P		**Pn**	**05 58 40.5**	**0.0**
HIA	**Hailar**	**18.81**	**309**	*i* P		**P**	**05 58 48.6**	**-3.6**
HIA				pmax		pmax		
	comp=Z,110nm,0.9s							
HIA	**Hailar**	**18.81**	**309**	P		**P**	**05 58 49.3**	**-2.9**
BJI	**Beijing**	**19.99**	**280**	P		**P**	**05 59 03.0**	**-2.1**
BJI				pmax		pmax		
	comp=Z,17nm,0.8s							
BJT	**Baijiatuau**	**20.00**	**280**	P		**P**	**05 59 03.3**	**-1.9**
BJT				pmax		pmax		
	comp=Z,28nm,0.9s							
BJT	**Baijiatuau**	**20.00**	**280**	P		**P**	**05 59 03.2**	**-1.9**
NJ2	**Nanjing**	**20.23**	**256**	*e*P		**P**	**05 59 07.1**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,34nm,0.8s							
MA2	**Magadan**	**21.00**	**12**	P		**P**	**05 59 16.9**	**+1.1**
	comp=Z,41nm,0.6s,baz=195,slow=10,SNR=16							
MA2	**Magadan**	**21.00**	**12**	P		**P**	**05 59 16.1**	**+0.3**
MA2				IAmb		IAmb	05 59 17.7	
	comp=Z,70nm,0.9s							
NACB	**Ninganchiao**	**23.02**	**235**	P		**P**	**05 59 35.5**	**-2.2**
HHC	**Hu-ho-hao-te**	**23.40**	**284**	*e*P		**P**	**05 59 40.3**	**-1.1**
SSLB	**Suanglung**	**23.71**	**235**	P		**P**	**05 59 41.3**	**-3.0**
YULB	**Yu-li**	**23.77**	**234**	P		**P**	**05 59 43.2**	**-1.6**
YAK	**Yakutsk**	**23.99**	**345**	*e*P		**P**	**05 59 44.4**	**-2.0**
YAK				*e**PP		**pP**	**05 59 58.9**	**-0.3**
YAK				*e*S		**S**	**06 03 55.8**	**-3.8**
YAK				*e**SS		**sS**	**06 04 14.2**	**-6.8**
YAK				pmax		pmax		
	comp=Z,66nm,0.6s							
YAK				pmax		pmax		
	comp=N,18nm,0.9s							
YAK				pmax		pmax		
	comp=E,12nm,0.9s							
YAK				smax		smax		
	comp=E,231nm,3.0s							
YAK				smax		smax		
	comp=N,299nm,2.2s							
YAK	**Yakutsk**	**23.99**	**345**	P		**P**	**05 59 46.8**	**+0.4**
	comp=N,58nm,0.6s,baz=193,slow=0.3,SNR=27							
YAK	**Yakutsk**	**23.99**	**345**	P		**P**	**05 59 44.7**	**-1.8**
TWG	**Pinlang**	**24.33**	**234**	P		**P**	**05 59 49.9**	**0.0**
WHN	**Wuhan**	**24.34**	**257**	P		**P**	**05 59 47.8**	**-2.2**
SEY	**Seymchan**	**24.44**	**11**	*i* P		**P**	**05 59 49.6**	**-0.9**
SEY	**Seymchan**	**24.44**	**11**	P		**P**	**05 59 51.8**	**+1.2**
	comp=N,12nm,0.6s,baz=192,slow=7.5,SNR=30							
BOD	**Bodaibo**	**25.95**	**325**	*e*P		**P**	**06 00 03.0**	**-1.3**
BOD				pmax		pmax		
	comp=Z,47nm,1.6s							
ULN	**Ulaanbaatar**	**26.63**	**300**	*ce*P		**P**	**06 00 08.5**	**-2.3**
ULN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**26.63**	**300**	P		**P**	**06 00 09.9**	**-0.8**
SONM	**Songino Array**	**27.07**	**300**	P		**P**	**06 00 14.1**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=88,slow=8.7,SNR=12							
SONM	**Songino Array**	**27.07**	**300**	P		**P**	**06 00 13.9**	**-0.8**
XAN	**Xi'an**	**27.07**	**269**	P		**P**	**06 00 15.1**	**+0.3**
XAN				pP		sP	06 00 34.3	+0.6
XAN				pmax		pmax		
	comp=Z,18nm,0.8s							
XAN				LR		LR		
	comp=Z,1μm,20.1s							
XAN				LR		LR		
	comp=Z,1μm,14.7s							
XAN				LR		LR		
	comp=Z,2μm,19.6s							
XAN	**Xi'an**	**27.07**	**269**	P		**P**	**06 00 13.3**	**-1.5**
XAN				pmax		pmax		
	comp=Z,15nm,0.8s							
XAN	**Xi'an**	**27.07**	**269**	P		**P**	**06 00 13.3**	**-1.5**
ENH	**Enshi**	**28.18**	**261**	P		**P**	**06 00 22.4**	**-2.3**
ENH				IAmb		IAmb	06 00 25.1	
	comp=Z,28nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.90**	**125**	T		T	06 30 56.4	
	baz=318,slow=75,SNR=2120							
H11N1	**WAKE ISLAND Hy**	**28.91**	**125**	T		T	06 30 56.7	
	baz=318,slow=75,SNR=1587							
H11N3	**WAKE ISLAND Hy**	**28.92**	**125**	T		T	06 30 57.7	
	baz=318,slow=75,SNR=1577							
TLY	**Talaya**	**29.34**	**308**	*e*P		**P**	**06 00 34.7**	**0.0**
TLY				pmax		pmax		
	comp=Z,54nm,1.4s							
TLY	**Talaya**	**29.34**	**308**	P		**P**	**06 00 34.7**	**0.0**
	comp=Z,8.7nm,0.7s,baz=104,slow=8.7,SNR=5.0							
TLY	**Talaya**	**29.34**	**308**	P		**P**	**06 00 34.6**	**0.0**
ZAK	**Zakamensk**	**29.37**	**305**	*e*P		**P**	**06 00 34.4**	**-0.7**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
H11S1	**WAKE ISLAND Hy**	**29.69**	**127**	T		T	06 31 54.7	
	baz=319,slow=76,SNR=183							
H11S3	**WAKE ISLAND Hy**	**29.70**	**127**	T		T	06 31 54.8	
	baz=319,slow=76,SNR=280							
H11S2	**WAKE ISLAND Hy**	**29.71**	**127**	T		T	06 31 56.2	
	baz=319,slow=76,SNR=167							
LZH	**Lanzhou**	**30.33**	**276**	*e*P		**P**	**06 00 42.8**	**-1.0**
LZH				pP		pP	06 00 57.0	+0.1
LZH				*e*PP		**PnPn**	**06 01 43.0**	**-0.4**
LZH				pmax		pmax		
	comp=Z,27nm,1.3s							
LZH				pmax		pmax		
	comp=Z,150nm,5.0s							
LZH				LR		LR		
	comp=Z,780nm,13.0s							
LZH				LR		LR		
	comp=Z,780nm,13.2s							
LZH				LR		LR		
	comp=Z,980nm,16.3s							
MOY	**Mondy**	**30.97**	**307**	*e*P		P	06 01 06.0	+17
MOY				pmax		pmax		
	comp=Z,57nm,1.8s							
BILL	**Bilibino**	**31.67**	**17**	⇓*i*P		**P**	**06 00 55.5**	**+0.4**
BILL				*e*			06 01 02.1	
BILL				*e**PP		**pP**	**06 01 10.8**	**+2.9**
BILL				SS		SS	06 07 55.0	-23
BILL				pmax		pmax		
	comp=Z,10.0nm,2.5s							
BILL				MLR		MLR		
	comp=Z,2μm,18.0s							
BILL	**Bilibino**	**31.67**	**17**	P		**P**	**06 00 55.5**	**+0.4**
BILL				IAmb		IAmb	06 01 13.7	
	comp=Z,25nm,1.3s							
GYA	**Guiyang**	**32.24**	**257**	⇑*i*P		**P**	**06 00 58.6**	**-2.0**
GYA				pP		pP	06 01 12.8	-0.9
GYA				PP		**PnPn**	**06 02 06.4**	**-1.7**
GYA				SS		SS	06 08 01.3	-29
GYA				pmax		pmax		
	comp=Z,50nm,1.1s							
GYA				pmax		pmax		
	comp=Z,130nm,5.3s							
GYA				LR		LR		
	comp=Z,620nm,11.8s							
GYA				LR		LR		
	comp=Z,960nm,19.0s							
GYA				LR		LR		
	comp=Z,1μm,18.9s							
CD2	**Chengdu**	**32.32**	**267**	P		**P**	**06 01 00.1**	**-1.1**
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
GTA	**Gaotai**	**32.52**	**284**	*e*P		**P**	**06 01 03.6**	**+0.6**
GTA				PcP		**PcP**	**06 03 49.8**	**+1.0**
GTA				PcS		**PcS**	**06 07 35.0**	**+1.0**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
TIXI	**Tiksi**	**33.10**	**352**	*ce*P		**P**	**06 01 05.5**	**-2.0**
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
TIXI	**Tiksi**	**33.10**	**352**	P		**P**	**06 01 06.7**	**-0.8**
	comp=Z,6.0nm,0.7s,baz=173,slow=6.9,SNR=6.1							
TIXI	**Tiksi**	**33.10**	**352**	P		**P**	**06 01 06.9**	**-0.6**
QIZ	**Qiongzhong**	**34.44**	**243**	P		**P**	**06 01 21.0**	**+1.3**
QIZ				S		**S**	**06 06 50.9**	**+6.4**
QIZ				LR		LR		
	comp=Z,870nm,15.7s							
QIZ				LR		LR		
	comp=Z,780nm,13.7s							
KMI	**Kunming**	**35.93**	**259**	P		**P**	**06 01 32.5**	**-0.3**
KMI				pP		pP	06 01 49.6	+3.6
KMI				pmax		pmax		
	comp=Z,40nm,1.1s							
KMI	**Kunming**	**35.93**	**259**	P		**P**	**06 01 32.2**	**-0.6**
KMI				pmax		pmax		
	comp=Z,43nm,1.0s							
KMI	**Kunming**	**35.93**	**259**	P		**P**	**06 01 32.1**	**-0.6**
SLVN	**Son La**	**37.23**	**253**	P		**P**	**06 01 43.8**	**+0.1**
SLVN				IAmb		IAmb	06 01 47.1	
	comp=Z,13nm,1.0s							
DGZ	**Jazzator, Alta**	**39.57**	**304**	*i* P		**P**	**06 02 02.5**	**-0.7**
NONG	**Nongkai**	**39.83**	**249**	P		P	06 02 12.7	+7.2
WMQ	**Urumqi**	**40.38**	**295**	*e*P		**P**	**06 02 10.4**	**+0.6**
WMQ				pP		pP	06 02 26.9	+3.8
WMQ				sP		sP	06 02 32.8	+3.8
WMQ				pmax		pmax		
	comp=Z,37nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,590nm,4.1s							
WMQ				LR		LR		
	comp=Z,850nm,17.9s							
WMQ				LR		LR		
	comp=Z,760nm,16.5s							
WMQ				LR		LR		
	comp=Z,1μm,23.9s							
ZALV	**Zalesovo Beam**	**40.84**	**310**	P		**P**	**06 02 12.9**	**-0.6**
	comp=Z,13nm,0.5s,baz=89,slow=7.9,SNR=54							
ZALV				PcP		**PcP**	**06 04 13.3**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=97,slow=3.3,SNR=4.0							
ZALV	**Zalesovo Beam**	**40.84**	**310**	P		**P**	**06 02 12.1**	**-1.3**
SIJI	**Sorong**	**41.22**	**197**	P		**P**	**06 02 17.5**	**+0.6**
	comp=Z,6.9nm,0.6s,baz=113,slow=10,SNR=4.6							
PAYA	**Payao**	**41.43**	**254**	P		P	06 02 25.5	+6.8
NRIK	**Noril'sk**	**41.45**	**334**	P		**P**	**06 02 18.2**	**0.0**
	comp=Z,2.8nm,0.5s,baz=115,slow=9.2,SNR=6.3							
CHAI	**Chaiyaphum**	**42.08**	**248**	P		**P**	**06 02 23.9**	**-0.1**
	comp=Z,45μm,0.9s							
PBKT	**Sadao Pong**	**42.38**	**250**	P		**P**	**06 02 28.0**	**+1.6**
	comp=Z,5.8nm,1.0s							
PBKT	**Sadao Pong**	**42.38**	**250**	P		**P**	**06 02 26.6**	**+0.2**
CMMT	**Chiang Mai**	**42.45**	**254**	P		**P**	**06 02 27.2**	**+0.2**
	comp=Z,6.5nm,0.8s							
CHTO	**Chiang Mai**	**42.45**	**254**	P		**P**	**06 02 26.4**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,19nm,1.2s							
CHTO	**Chiang Mai**	**42.45**	**254**	P		**P**	**06 02 26.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**42.67**	**254**	P		**P**	**06 02 28.8**	**0.0**
	comp=Z,4.4nm,0.8s,baz=50,slow=6.7,SNR=19							
MK31	**Makanchi Array**	**43.44**	**300**	*i* P		**P**	**06 02 33.4**	**-1.3**
MK31				pmax		pmax		
	comp=Z,76nm,1.3s							
MK31	**Makanchi Array**	**43.44**	**300**	IAmb		IAmb	06 02 53.1	
	comp=Z,45nm,1.2s							
MKAR	**Makanchi Array**	**43.44**	**300**	P		**P**	**06 02 34.1**	**-0.6**
	comp=Z,8.2nm,0.8s,baz=84,slow=8.9,SNR=35							
MKAR	**Makanchi Array**	**43.44**	**300**	P		**P**	**06 02 33.7**	**-1.1**
MHMT	**Maesarieng**	**43.60**	**254**	P		P	06 02 43.9	+7.6
MAKZ	**Makanchi**	**43.64**	**300**	P		**P**	**06 02 36.5**	**+0.1**
MAKZ				pmax		pmax		
	comp=Z,37nm,1.0s							
MAKZ	**Makanchi**	**43.64**	**300**	P		**P**	**06 02 36.5**	**+0.1**
MAKZ				IAmb		IAmb	06 02 54.3	
	comp=Z,37nm,1.0s							
IMAR	**Indian Mountai**	**44.40**	**32**	P		**P**	**06 02 43.5**	**+1.4**
KURK	**Kurchatov**	**45.02**	**306**	P		**P**	**06 02 47.0**	**-0.2**
KURK	**Kurchatov**	**45.02**	**306**	P		**P**	**06 02 45.6**	**-1.5**
KDAK	**Kodiak Island**	**45.03**	**43**	P		**P**	**06 02 48.7**	**+1.5**
	comp=Z,6.9nm,0.4s,baz=268,slow=3.0,SNR=19							
KDAK	**Kodiak Island**	**45.03**	**43**	P		**P**	**06 02 48.1**	**+1.0**
KURBB	**Kurchatov Arra**	**45.09**	**306**	P		**P**	**06 02 47.0**	**-0.8**
	comp=Z,34nm,0.8s,baz=82,slow=8.2,SNR=143							
BPAW	**Bear Paw Mtn.**	**45.50**	**34**	IAmb		IAmb	06 03 12.2	
	comp=Z,22nm,1.4s							
PHET	**Kaeng Krachan**	**45.77**	**247**	P		**P**	**06 02 54.8**	**+1.2**
	comp=Z,78μm,0.8s							
TRF	**Thorofare Moun**	**45.83**	**35**	IAmb		IAmb

TKM2 Tokmak 2 49.09 297 P **P** **06 03 19.3 -0.1**
SNR=49
NRN Naryn 49.32 295 IAmb IAmb 06 03 39.7
comp=Z,26nm,1.4s
KOLN Koldanda 49.38 275 *eP* **P** **06 03 21.1 -0.6**
comp=Z,101nm,0.9s
BRVK Borovoye 49.55 311 *ceP* **P** **06 03 21.9 -0.5**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 49.55 311 P **P** **06 03 21.5 -0.9**
BRVK IAmb IAmb 06 03 23.5
comp=Z,21nm,1.1s
KZA Kyzart 49.62 296 P **P** **06 03 24.9 +1.3**
SNR=9.6
KBK Karagaybulak 49.63 297 P **P** **06 03 23.5 +0.1**
SNR=36
BCAR Beaver Creek A 49.69 35 P **P** **06 03 25.0 +1.6**
USP Ospenovka 49.73 298 P **P** **06 03 23.8 -0.3**
SNR=12
FRU1 Bishkek 49.79 297 P **P** **06 03 25.0 +0.5**
FRU1 pmax pmax
comp=Z,74nm,1.4s
FRU1 Bishkek 49.79 297 P **P** **06 03 25.1 +0.5**
AAK Ala-Archa 49.95 297 *i* P **P** **06 03 25.1 -0.7**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 49.95 297 P **P** **06 03 24.7 -1.2**
SNR=8.4
AAK Ala-Archa 49.95 297 P **P** **06 03 24.6 -1.2**
KSH Kashi 50.04 293 P **P** **06 03 30.1 +3.6**
KSH sP sP 06 03 54.0 +8.0
KSH PP **PP** **06 05 27.8 +6.1**
KSH S **S** **06 10 36.4 +2.4**
KSH sS sS 06 11 04.8 +8.1
KSH ScS **ScS** **06 13 12.3 -1.2**
KSH pmax pmax
comp=Z,35nm,0.9s
KSH LR LR
comp=Z,1μm,10.0s
KSH LR LR
comp=Z,770nm,10.3s
KSH LR LR
comp=Z,1μm,19.9s
UCH Uchtor 50.08 296 P **P** **06 03 26.9 -0.3**
SNR=10
PKDT Phuket 50.17 243 P **P** **06 03 30.6 +3.0**
comp=Z,54nm,0.9s,comp=Z,4μm
EKS2 Erkin-Say 50.43 297 P **P** **06 03 28.8 -0.7**
SNR=17
AML Almayashu 50.68 297 P **P** **06 03 31.6 -0.1**
SNR=23
HNR Honiara 51.24 157 LR LR 06 25 12.2
comp=Z,731nm,18.3s,baz=343,slow=36
EPYK Eagle Plains 51.26 31 P **P** **06 03 37.5 +2.3**
baz=281
INK Inuvik 52.09 28 P **P** **06 03 42.8 +1.4**
comp=Z,5.9nm,0.7s,baz=272,slow=6.8,SNR=30
INK Inuvik 52.09 28 IAmb IAmb 06 04 02.0
comp=Z,16nm,0.8s
KK31 Karatay Array 52.51 299 *i* P **P** **06 03 43.7 -1.2**
KK31 pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 52.51 299 IAmb IAmb 06 03 45.6
comp=Z,19nm,0.9s
KKAR Karatay Array 52.51 299 P **P** **06 03 43.5 -1.3**
KKAR Karatay Array 52.51 299 P **P** **06 03 43.5 -1.3**
KKAR Karatay Array 52.51 299 IAmb IAmb 06 03 45.6
comp=Z,19nm,0.9s
BTK Batken 53.48 295 IAmb IAmb 06 04 10.4
comp=Z,30nm,1.3s
SVE Sverdlovsk 53.84 318 *eP* **P** **06 03 54.5 +0.1**
SVE pmax pmax
comp=Z,58nm,0.9s
A36M Sachs Harbour 53.93 23 P **P** **06 03 57.1 +2.3**
baz=287
NIL Nilore 54.48 287 P **P** **06 03 59.1 -0.3**
NIL pmax pmax
comp=Z,121nm,1.4s
NIL Nilore 54.48 287 P **P** **06 03 59.1 -0.3**
ARU Arti 55.05 318 *ci* P **P** **06 04 02.4 -0.7**
ARU *PP **pP** **06 04 18.1 +1.1**
ARU 06 04 59.7
ARU 06 06 01.6
ARU S **S** **06 11 40.1 -1.6**
ARU SS **SS** **06 15 20.8 -4.6**
ARU pmax pmax
comp=Z,43nm,0.8s
ARU Arti 55.05 318 P **P** **06 04 02.5 -0.7**
C36M Paulatuk 55.12 26 P **P** **06 04 04.9 +1.5**
baz=289
KNRA Kununurra 56.12 196 IAmb IAmb 06 04 12.6
comp=Z,14nm,0.8s
DLBC Dease Lake 56.48 39 P **P** **06 04 16.2 +2.7**
comp=Z,2.0nm,0.6s,baz=310,slow=7.9,SNR=3.3
DLBC Dease Lake 56.48 39 IAmb IAmb 06 04 29.9
comp=Z,19nm,1.5s
AB31 Akbulak array 56.93 309 *eP* **P** **06 04 15.5 -1.2**
AB31 pmax pmax
comp=Z,18nm,0.6s
ABKAR Akbulak array 56.93 309 P **P** **06 04 15.3 -1.4**
ABKAR Akbulak array 56.93 309 IAmb IAmb 06 04 17.4
comp=Z,29nm,0.6s
KBL Kabul 57.16 290 P **P** **06 04 18.5 -0.4**
KBL pmax pmax
comp=Z,40nm,1.4s
KBL Kabul 57.16 290 P **P** **06 04 18.5 -0.4**
HYB Hyderabad 58.87 268 *i* P **P** **06 04 30.0 -0.8**
FITZ Fitzroy Crossi 59.17 198 P **P** **06 04 32.4 -0.2**
PRGR Permogore 59.18 326 *eP* **P** **06 04 28.9 -3.3**
PRGR pmax pmax
comp=Z,26nm,1.0s
WRAB Tennant Creek 59.39 189 *ceP* **P** **06 04 32.9 -1.2**
WRAB pmax pmax
comp=Z,16nm,1.7s
WRAB Tennant Creek 59.39 189 P **P** **06 04 33.2 -0.9**
WRAB IAmb IAmb 06 04 35.1
comp=Z,18nm,1.4s
WRA Warramunga Arr 59.40 189 *i* P **P** **06 04 33.2 -1.0**
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA Warramunga Arr 59.40 189 P **P** **06 04 33.5 -0.7**
comp=Z,6.0nm,0.7s,baz=4.8,slow=7.0,SNR=74
WRA Warramunga Arr 59.40 189 P **P** **06 04 33.1 -1.0**
RES Resolute Bay 60.25 15 P **P** **06 04 39.6 +0.3**
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 60.25 15 P **P** **06 04 39.7 +0.3**
comp=Z,8.2nm,0.7s,baz=303,slow=5.7,SNR=18
RES Resolute Bay 60.25 15 P **P** **06 04 39.6 +0.3**
RES IAmb IAmb 06 04 58.9
comp=Z,11nm,0.8s
APA Apatity 60.85 335 ⇓ *iP* P 06 04 53.1 +10
APA pmax pmax
comp=Z,8.0nm,1.1s
APA MLR MLR
comp=Z,3μm,23.0s
POO Poona 61.87 272 *eP* P 06 05 02.5 +11
ARCES ARCESS Array B 62.07 339 P **P** **06 04 51.7 -0.1**
comp=Z,7.3nm,0.8s,baz=54,slow=8.2,SNR=8.6
HRA Herat 62.15 293 P **P** **06 04 52.8 -0.4**
HRA IAmb IAmb 06 04 54.7
comp=Z,18nm,1.0s
AS31 Alice Springs 63.13 188 P **P** **06 04 58.0 -1.3**
ASAR Alice Springs 63.13 188 P **P** **06 04 58.3 -1.1**
ASAR Alice Springs 63.13 188 P **P** **06 04 59.1 -0.3**
comp=Z,3.7nm,0.8s,baz=8.5,slow=5.6,SNR=40
ASAR Alice Springs 63.13 188 P **P** **06 04 58.3 -1.1**
GEYT Alibeck 63.26 298 P **P** **06 04 59.7 -0.6**
comp=Z,10nm,0.8s,baz=35,slow=5.4,SNR=12
DAG Danmarks Havn 63.55 355 *i* P **P** **06 05 01.0 -0.5**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 63.55 355 *i* P **P** **06 05 01.0 -0.5**
comp=Z,7.4nm,0.9s
MOS Moscow 65.77 323 *eP* **P** **06 05 16.0 -0.3**
MOS *e* 06 05 32.5
VRH Novokhopyorsk 66.29 317 *eP* **P** **06 05 19.1 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 66.62 323 ⇓ *eP* **P** **06 05 22.0 +0.3**
OBN *i* *PP **pP** **06 05 38.9 +3.1**
OBN *SP **sP** **06 05 44.0 +2.5**
OBN PPP PPP 06 09 34.0
OBN pmax pmax
comp=Z,39nm,1.7s
OBN MLR MLR
comp=Z,909nm,16.0s
LPSR Galich'ya Gora 66.93 320 *eP* **P** **06 05 23.3 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.7s
FINES FINESS Array B 67.07 332 P **P** **06 05 23.8 -0.7**
comp=Z,14nm,0.7s,baz=17,slow=10.0,SNR=23
VSR Storozhevoye 67.61 318 *eP* **P** **06 05 27.1 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
AKT Akhty 68.19 306 *eP* **P** **06 05 32.1 0.0**
AKT *e* 06 05 57.6
AKT pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 68.40 0 P **P** **06 05 33.3 +0.1**
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 68.40 0 *i* P **P** **06 05 33.0 -0.2**
comp=Z,22nm,0.7s
SUMG Summit 68.40 0 P **P** **06 05 33.4 +0.1**
SUMG IAmb IAmb 06 05 35.4
comp=Z,15nm,1.0s
VSU Vasula 68.78 329 *i* P **P** **06 05 33.9 -1.4**
VSU pmax pmax
comp=Z,49nm,0.8s
N02D Trinity Center 68.92 54 P **P** **06 05 39.5 +2.9**
baz=304
GOF Gofitskoye 69.01 311 ⇑ *eP* P 06 05 44.5 +7.5
ZEI Tsey 69.81 309 *eP* **P** **06 05 40.8 -1.4**
ZEI pmax pmax
comp=Z,17nm,1.5s
KIV Kislovodsk 69.86 311 *eP* **P** **06 05 41.9 -0.5**
KIV pmax pmax
comp=Z,137nm,1.1s
KBZ Khabaz 69.86 310 P **P** **06 05 42.5 +0.3**
comp=Z,14nm,0.8s,baz=65,slow=4.9,SNR=18
WVOR Wild Horse Val 70.59 51 IAmb IAmb 06 06 02.8
comp=Z,19nm,1.4s
MSO Missoula 70.68 45 P **P** **06 05 48.9 +1.6**
baz=307
BEKR Beckworth 71.03 54 IAmb IAmb 06 06 05.2
comp=Z,17nm,1.2s
PAHR Pah Rah Range 71.73 53 IAmb IAmb 06 06 09.6
comp=Z,20nm,1.3s
BBOO Buckleboo 71.99 185 P **P** **06 05 54.7 -0.4**
BBOO IAmb IAmb 06 05 56.5
comp=Z,25nm,1.1s
EGMT Eagleton 72.18 42 IAmb IAmb 06 06 11.7
comp=Z,23nm,1.2s
NB2 NORSAR Subarra 72.31 337 P **P** **06 05 55.8 -1.0**
comp=Z,4.1nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 72.31 337 P **P** **06 05 56.3 -0.5**
comp=Z,5.6nm,0.7s,baz=38,slow=6.0,SNR=18
DLMT Dillon 72.32 46 IAmb IAmb 06 06 12.8
comp=Z,25nm,1.5s
BOZ Bozeman (W) 72.70 45 P **P** **06 06 01.8 +2.1**
baz=309
AKASG Malin Array Be 72.85 322 P **P** **06 05 59.3 -0.9**
comp=Z,7.1nm,0.5s,baz=46,slow=6.1,SNR=28
AKBB Malin Array Si 72.85 322 P **P** **06 05 59.5 -0.6**
AKBB pmax pmax
comp=Z,18nm,0.9s
AKBB Malin Array Si 72.85 322 P **P** **06 05 59.5 -0.6**
AKBB IAmb IAmb 06 06 00.8
comp=Z,18nm,0.9s
KVN Kaiserville 72.92 53 IAmb IAmb 06 06 17.0
comp=Z,27nm,1.4s
NVAR Mina Array Bea 73.16 54 P **P** **06 06 04.6 +2.1**
comp=Z,2.9nm,0.8s,baz=286,slow=6.5,SNR=13
NVAR Mina Array Bea 73.16 54 P **P** **06 06 05.0 +2.5**
LAO LASA Array 74.87 42 IAmb IAmb 06 06 28.6
comp=Z,28nm,1.3s
R11A Troy Canyon, C 74.91 53 P **P** **06 06 14.8 +2.1**
baz=308
R11A Troy Canyon, C 74.91 53 IAmb IAmb 06 06 28.5
comp=Z,22nm,1.4s
SORM Soroca 75.00 321 ⇑ P **P** **06 06 12.1 -0.7**
TPNV Topopah Spring 75.36 54 P **P** **06 06 17.6 +2.4**
baz=308
TPNV Topopah Spring 75.36 54 IAmb IAmb 06 06 31.1
comp=Z,28nm,1.3s
DUG Dugway, Tooele 75.43 50 P **P** **06 06 18.0 +2.4**
baz=309
BW06 Boulder Array 75.66 46 P **P** **06 06 18.6 +1.7**
baz=311
PDAR Pinedale Array 75.66 46 P **P** **06 06 18.5 +1.5**
comp=Z,1.1nm,0.5s,baz=275,slow=1.2,SNR=13
PDAR Pinedale Array 75.66 46 P **P** **06 06 17.7 +0.8**
SHPR Sheep Range 76.32 54 IAmb IAmb 06 06 36.9
comp=Z,18nm,1.2s
KWP Kalwaria Pacla 76.61 324 *eP* **P** **06 06 22.7 +0.7**
KWP Kalwaria Pacla 76.61 324 *eP* **P** **06 06 22.6 +0.7**
KWP *eP* **P** **06 06 22.6 +0.7**
BUR08 Bucovina Ar. S 76.87 322 IAmb IAmb 06 06 25.0
comp=Z,12nm,0.8s
BURAR Bucovina Array 76.88 322 ⇑ P **P** **06 06 23.4 -0.2**
BURAR Bucovina Array 76.88 322 P **P** **06 06 23.2 -0.4**
BIZ Bicaz 76.92 321 ⇑ P **P** **06 06 24.3 +0.5**
TESR Tescani 76.95 320 ⇑ P **P** **06 06 23.6 -0.3**
TOPG Topolog 77.21 318 ⇑ P **P** **06 06 25.6 +0.3**
ULM Lac du Bonnet 77.28 34 P **P** **06 06 26.6 +0.9**
comp=Z,4.0nm,0.7s,baz=299,slow=8.3,SNR=5.7
KOLS Kolonicke sedl 77.32 324 *eP* **P** **06 06 26.2 +0.3**
KOLS Kolonicke sedl 77.32 324 *eP* **P** **06 06 26.2 +0.3**
VRI Vrincioaia 77.36 320 ⇑ P **P** **06 06 27.3 +1.0**
K22A Casper 77.41 45 P **P** **06 06 28.3 +1.5**
baz=312
OJC Ojcow 77.47 326 *eP* **P** **06 06 27.2 +0.5**
OJC Ojcow 77.47 326 *eP* **P** **06 06 27.2 +0.5**
OJC *eP* **P** **06 06 27.2 +0.5**
UZH Uzhgorod 77.53 324 *eP* **P** **06 06 27.7 +0.6**
UZH *i* 06 06 41.3
TLB Topalu 77.58 318 ⇑ P **P** **06 06 27.0 -0.4**
OZUR 77.67 320 ⇓ P **P** **06 06 28.8 +0.8**
RSSD Black Hills 77.74 42 P **P** **06 06 29.7 +1.1**
baz=314
RSSD Black Hills 77.74 42 P **P** **06 06 29.6 +0.9**
RSSD pmax pmax
comp=Z,16nm,1.4s
RSSD Black Hills 77.74 42 P **P** **06 06 29.6 +0.9**
RSSD IAmb IAmb 06 06 42.9
comp=Z,16nm,1.4s
BRTR Keskin Array B 77.78 312 P **P** **06 06 28.6 -0.2**
comp=Z,1.7nm,0.5s,baz=75,slow=3.6,SNR=12
BRTR Keskin Array B 77.78 312 P **P** **06 06 27.6 -1.2**
TRPA Tarpa 77.78 323 ⇑ P **P** **06 06 29.3 +0.8**
TRPA mb 06 06 30.9
NIE Niedzica 77.84 325 *eP* **P** **06 06 30.4 +1.5**
NIE Niedzica 77.84 325 *eP* **P** **06 06 30.4 +1.5**
NIE *eP* **P** **06 06 30.4 +1.5**
U15A North Rim 78.15 53 IAmb IAmb 06 06 48.1
comp=Z,13nm,1.0s
ANTO Ankara 78.17 312 P **P** **06 06 31.5 +0.6**
ANTO pmax pmax
comp=Z,17nm,0.8s
ANTO Ankara 78.17 312 P **P** **06 06 31.5 +0.6**
ANTO IAmb IAmb 06 06 32.5
comp=Z,17nm,0.8s
KSP Ksiaz 78.47 328 *eP* **P** **06 06 32.6 +0.3**
KSP Ksiaz 78.47 328 *eP* **P** **06 06 32.6 +0.3**
KSP *eP* **P** **06 06 32.6 +0.3**
VOIR 78.50 320 ⇑ P **P** **06 06 33.1 +0.5**
DRGR 78.67 322 ⇑ P **P** **06 06 33.4 -0.1**
PV21 Cone Mtn., Par 78.75 49 IAmb IAmb 06 06 50.3
comp=Z,36nm,1.5s
ARR Arges 78.76 320 ⇓ P **P** **06 06 35.2 +1.1**
CHVC Chvalec 78.76 328 *eP* **P** **06 06 34.7 +0.8**
MORC Moravsky Berou 78.76 327 ⇑ P **P** **06 06 33.8 -0.2**
MORC mb 06 06 35.3
MORC Moravsky Berou 78.76 327 *eP* **P** **06 06 34.0 0.0**
MORC Moravsky Berou 78.76 327 IAmb IAmb 06 06 35.7
comp=Z,12nm,1.0s
PV23 Carpenter Ridg 78.80 49 IAmb IAmb 06 06 51.3
comp=Z,26nm,1.3s
DPC Dobruska-Polom 78.83 328 *eP* **P** **06 06 34.9 +0.5**
DPC Dobruska-Polom 78.83 328 *eP* **P** **06 06 34.9 +0.5**
PV14 Lion Creek, Pa 78.85 49 IAmb IAmb 06 06 51.4
comp=Z,22nm,1.1s
KRLC Kraliky 78.86 328 *eP* **P** **06 06 34.7 +0.2**
KRLC Kraliky 78.86 328 *eP* **P** **06 06 34.7 +0.2**
PV22 Blue Mesa, Par 78.88 49 IAmb IAmb 06 06 50.9
comp=Z,23nm,1.4s
PV20 West Nyswonger 78.90 49 IAmb IAmb 06 06 51.6
comp=Z,18nm,1.0s
PV04 Paradox Valley 78.90 49 IAmb IAmb 06 06 51.1
comp=Z,34nm,1.3s
N23A Red Feather La 78.92 46 IAmb IAmb 06 06 51.4
comp=Z,30nm,1.4s
PV17 East Wray Mesa 78.95 49 IAmb IAmb 06 06 52.0
comp=Z,31nm,1.1s
PV16 Nyswonger Mesa 78.95 49 IAmb IAmb 06 06 52.0
comp=Z,16nm,1.1s
PV11 David Mesa, Pa 78.98 49 IAmb IAmb 06 06 52.3
comp=Z,20nm,1.0s
PV18 Skein Mesa, Pa 79.00 49 IAmb IAmb 06 06 51.5
comp=Z,39nm,1.5s
PV03 Paradox Valley 79.03 49 IAmb IAmb 06 06 51.7
comp=Z,34nm,1.5s
PV13 Radium Mtn., P 79.11 49 IAmb IAmb 06 06 53.0
comp=Z,24nm,1.1s
PV02 Paradox Valley 79.12 49 IAmb IAmb 06 06 53.2
comp=Z,15nm,1.2s
PSZ Piszkesteto 79.14 325 P **P** **06 06 37.0 +0.9**
PSZ pmax pmax
comp=Z,14nm,1.0s
PSZ Piszkesteto 79.14 325 ⇑ P **P** **06 06 35.9 -0.2**
PSZ mb 06 06 39.5
PSZ Piszkesteto 79.14 325 P **P** **06 06 37.0 +0.9**
PSZ IAmb IAmb 06 06 37.9
comp=Z,14nm,1.0s
VYHS Vyhne 79.18 326 *eP* **P** **06 06 36.3 +0.1**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 79.18 326 *eP* **P** **06 06 36.3 +0.1**
PV01 Paradox Valley 79.27 49 IAmb IAmb 06 06 53.2
comp=Z,18nm,1.3s
KOLL Kolacno 79.30 326 *eP* **P** **06 06 36.6 -0.3**
BRG Berggiesshubel 79.38 330 *eP* **P** **06 06 36.8 -0.5**
comp=Z,10nm,1.0s
BRG *e*pP **pP** **06 06 53.6 +1.9**
comp=Z,29nm,1.6s
BRG Berggiesshubel 79.38 330 *eP* **P** **06 06 36.8 -0.5**
BRG *e**PP **pP** **06 06 53.6 +1.9**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,29nm,1.6s
PVCC Panska Ves 79.41 329 *eP* **P** **06 06 38.5 +1.1**
PVCC *e* 06 06 47.2
PVCC Panska Ves 79.41 329 *eP* **P** **06 06 38.5 +1.1**
PVCC *e*PCP **PcP** **06 06 47.2 +1.8**
CLL Collm 79.41 330 *eP* **P** **06 06 37.0 -0.4**
CLL *e* 06 06 47.0
CLL *e* 06 06 55.0
CLL pmax pmax
comp=Z,11nm,0.9s
CLL MLR MLR
comp=Z,1μm,18.1s
CLL Collm 79.41 330 *eP* **P** **06 06 37.0 -0.4**
comp=Z,16nm,0.9s
CLL *e*PcP **PcP** **06 06 47.0 +1.6**
CLL *e*pP **pP** **06 06 55.0 +3.2**
CLL LmV 06 42 00.0
comp=Z,1μm,18.1s
CLL Collm 79.41 330 IAmb IAmb 06 06 38.5
comp=Z,13nm,0.8s
JAVC Velka Javorina 79.41 326 *eP* **P** **06 06 38.2 +0.7**
VRAC Vranov 79.52 327 ⇑ P **P** **06 06 38.1 0.0**
VRAC mb 06 06 40.2
VRAC Vranov 79.52 327 *eP* **P** **06 06 37.9 -0.2**
SIRR Siria 79.55 323 ⇑ P **P** **06 06 38.0 -0.3**
GZR Gura Zlata 79.65 321 ⇓ P **P** **06 06 38.8 -0.1**
SMOL Smolenice 79.77 326 *eP* **P** **06 06 40.7 +1.2**
SMOL pmax pmax
comp=Z,7.0nm,0.8s
SMOL Smolenice 79.77 326 *eP* **P** **06 06 40.7 +1.2**
KRUC Moravsky 79.79 327 *eP* **P** **06 06 39.4 -0.2**
GOPC GO Pecny, Ondr 79.80 329 *eP* **P** **06 06 40.4 +0.8**
GOPC GO Pecny, Ondr 79.80 329 *eP* **P** **06 06 40.4 +0.8**
PRU Pruhonice 79.84 329 *eP* **P** **06 06 40.5 +0.7**
PRU Pruhonice 79.84 329 *eP* **P** **06 06 40.5 +0.7**
ISCO Idaho Springs 79.85 46 P **P** **06 06 42.7 +2.3**
baz=313
MVCO Mesa Verde 79.93 50 P **P** **06 06 42.8 +2.0**
baz=312
MVCO Mesa Verde 79.93 50 IAmb IAmb 06 06 56.8
comp=Z,32nm,1.5s
MODS Modra-Piesok 79.95 326 *eP* **P** **06 06 40.7 +0.3**
MODS *e* 06 17 49.3
MODS pmax pmax
comp=Z,8.0nm,1.1s
MODS Modra-Piesok 79.95 326 *eP* **P** **06 06 40.7 +0.3**
MODS *e* 06 17 49.3
TREC Trest 79.99 328 *eP* **P** **06 06 41.6 +0.9**
TREC Trest 79.99 328 *eP* **P** **06 06 41.6 +0.9**
BZS Buzias 80.04 322 ⇑ P **P** **06 06 41.1 +0.1**
PLVB Pleven 80.18 319 ⇑ P **P** **06 06 41.3 -0.4**
HERR Herculane 80.20 321 ⇑ P **P** **06 06 41.6 -0.2**
PBCC Pribram 80.30 329 *eP* **P** **06 06 42.9 +0.6**
RAYN Ar Rayn 80.33 292 P **P** **06 06 41.7 -1.2**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 80.33 292 P **P** **06 06 41.7 -1.2**
MDVR Moldovita 80.61 322 ⇑ P **P** **06 06 43.4 -0.7**
CONA Conrad Observa 80.89 327 *e*PcP **P** **06 06 46.3 +0.7**
comp=Z,14nm,1.1s
KHC Kasperske Hory 80.90 329 *eP* **P** **06 06 45.6 0.0**
KHC Kasperske Hory 80.90 329 *eP* **P** **06 06 45.6 0.0**
KHC *e*PCP **PcP** **06 06 51.2 -0.8**
GERES GERESS Array B 81.08 328 P **P** **06 06 46.3 -0.3**
comp=Z,2.8nm,0.6s,baz=36,slow=5.0,SNR=25
VTS Vitosha 81.44 319 ⇑ P **P** **06 06 49.5 +0.8**
VTS mb 06 06 50.5
VTS Vitosha 81.44 319 IAmb IAmb 06 06 50.5
comp=Z,13nm,0.8s
ARSA Arzberg 81.56 326 *e*PcP **P** **06 06 49.8 +0.7**
comp=Z,5.5nm,0.7s
MOA Molln 81.63 328 *e*PcP **P** **06 06 50.7 +1.3**
comp=Z,7.9nm,1.3s
ECSD EROS Data Cent 81.77 39 P **P** **06 06 51.1 +0.8**
baz=318
SOKA Soboth 82.22 326 PcP **P** **06 06 53.2 +0.6**
comp=Z,14nm,0.6s,SNR=11
T25A Trinidad 82.36 48 P **P** **06 06 55.0 +1.3**
baz=314
OBKA Obir 82.56 327 *e*PcP **P** **06 06 54.4 -0.1**
comp=Z,12nm,0.9s
KBA Koelnbreinsper 82.62 328 *e*PcP **P** **06 06 55.7 +0.9**
comp=Z,10nm,0.8s
ANMO Albuquerque 82.68 50 P **P** **06 06 57.4 +2.0**
baz=313
ANMO Albuquerque 82.68 50 *ceP* **P** **06 06 55.1 -0.3**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
ANMO Albuquerque 82.68 50 P **P** **06 06 57.2 +1.8**
ANMO IAmb IAmb 06 07 12.3
comp=Z,14nm,1.2s
MYKA Terra Mystica 82.85 327 *e*PcP **P** **06 06 55.8 -0.1**
comp=Z,7.4nm,0.7s
STU Stuttgart 82.90 331 IAmb IAmb 06 06 57.4
comp=Z,16nm,0.8s
WATA Walderalm 83.14 329 *i* PcP **P** **06 06 58.1 +0.6**
comp=Z,4.5nm,0.6s
WTTA Wattenberg 83.17 329 *i* PcP **P** **06 06 58.5 +0.8**
comp=Z,8.2nm,0.8s
BMRD Maredsous 83.21 334 P **P** **06 06 57.6 0.0**
ABTA Abfaltersbach 83.23 328 *e*PcP **P** **06 06 57.7 -0.1**
comp=Z,5.7nm,0.7s
MOTA Moosalm 83.32 329 PcP **P** **06 06 58.9 +0.5**
comp=Z,18nm,0.9s,SNR=7.9
RETA Reutte 83.34 329 *i* PcP **P** **06 06 59.2 +0.7**
comp=Z,16nm,0.9s
SQTA Sankt Quirin 83.38 329 *i* PcP **P** **06 06 59.1 +0.4**
comp=Z,9.1nm,1.3s
PDG Podgorica 83.55 321 ⇑ P **P** **06 06 58.8 -0.6**
PDG mb 06 07 00.6
G40A Rib Lake 83.55 34 P **P** **06 07 00.3 +0.8**
baz=322
BFO Black Forest 83.59 331 P **P** **06 06 58.6 -1.1**
BFO pmax pmax
comp=Z,9.0nm,0.8s
BFO Black Forest 83.59 331 P **P** **06 06 58.6 -1.1**
BFO IAmb IAmb 06 07 02.3
comp=Z,9.2nm,0.8s
FETA Feichten 83.74 329 *e*PcP **P** **06 07 01.1 +0.5**
comp=Z,16nm,1.0s
DAVA Damuels 83.86 330 PcP **P** **06 07 01.7 +0.5**
comp=Z,17nm,0.8s,SNR=9.0
E43A Lone Tree Farm 84.03 32 P **P** **06 07 02.6 +0.7**
baz=324

TUE	Stuetta	84.73	329	IAmb	IAmb	06 07 07.0		
	comp=Z,8.2nm,0.8s							
D46A	Sault St. Mari	84.78	30	P	P	06 07 05.9	+0.2	
	baz=326							
D47A	Chapleau	85.00	29	P	P	06 07 06.6	-0.2	
	baz=326							
D49A	Beulah Townshi	85.47	28	P	P	06 07 09.4	+0.3	
	baz=328							
CHGQ	Chibougamau	85.50	23	P	P	06 07 09.8	+0.6	
	baz=332							
SENIN	Lac Senin/Sane	85.62	331	IAmb	IAmb	06 07 11.5		
	comp=Z,11nm,0.8s							
D50A	G1974 Best Tow	86.10	27	P	P	06 07 12.3	+0.1	
	baz=329							
K47A	Vermontville	87.87	33	P	P	06 07 22.1	+1.2	
	baz=325							
D57A	Chemin Vers le	88.22	24	P	P	06 07 22.6	+0.1	
	baz=333							
TXAR	Lajitas Array	88.27	53	P	P	06 07 24.5	+1.3	
	comp=Z,1.0nm,0.7s,baz=290,slow=3.8,SNR=3.9							
E57A	Chemin Saint G	88.68	24	P	P	06 07 26.2	+1.5	
	baz=333							
L48A	N Adams	88.71	33	P	P	06 07 26.1	+1.2	
	baz=326							
CCM	Cathedral Cave	88.72	39	P	P	06 07 26.0	+1.0	
	baz=322							
CCM	Cathedral Cave	88.72	39	P	P	06 07 25.8	+0.8	
CCM				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CCM	Cathedral Cave	88.72	39	P	P	06 07 25.8	+0.8	
CCM				IAmb	IAmb	06 07 40.0		
	comp=Z,9.4nm,0.8s							
L49A	Milan	88.85	32	P	P	06 07 27.0	+1.5	
	baz=326							
E58A	La Victoria	88.99	24	P	P	06 07 27.0	+0.9	
	baz=333							
N47A	Urbana	89.04	34	P	P	06 07 26.8	+0.3	
	baz=325							
D60A	Saint Jean D'O	89.21	22	P	P	06 07 27.8	+0.8	
	baz=335							
U40A	Yellville	89.23	41	P	P	06 07 27.9	+0.5	
	baz=321							
N48A	Decatur	89.35	34	P	P	06 07 28.5	+0.6	
	baz=325							
P46A	Rosedale	89.39	36	P	P	06 07 29.2	+1.0	
	baz=324							
MIAR	Mount Ida	90.25	43	P	P	06 07 33.5	+1.2	
	baz=320							
K54A	Basiliko Farm,	90.43	29	P	P	06 07 34.1	+1.1	
	baz=330							
L54A	Sinclairville	90.52	29	P	P	06 07 34.2	+0.9	
	baz=329							
O50A	Cable	90.54	33	P	P	06 07 34.4	+0.9	
	baz=326							
ACSO	Alum Creek Sta	90.74	33	P	P	06 07 35.6	+1.2	
	baz=327							
L56A	Greenwood	91.26	28	P	P	06 07 38.0	+1.2	
	baz=330							
N54A	Moraine State	91.34	31	P	P	06 07 38.8	+1.6	
	baz=329							
M57A	Sunshine Farm,	92.11	28	P	P	06 07 42.1	+1.4	
	baz=331							
M58A	Price's Panora	92.33	28	P	P	06 07 43.3	+1.5	
	baz=331							
ESDC	Sonseca Array	95.49	334	P	P	06 07 56.1	-0.3	
	comp=Z,0.8nm,0.7s,baz=30,slow=4.6,SNR=3.8							
ESDC	Sonseca Array	95.49	334	P	P	06 07 55.5	-0.9	
DBIC	Dimbokro	124.99	319	PKIKP	PKPdf	06 13 31.8	-0.2	
DBIC	Dimbokro	124.99	319	PKP	PKPdf	06 13 31.6	-0.3	
	comp=Z,4.9nm,0.9s,baz=201,slow=2.4,SNR=3.7							
DBIC	Dimbokro	124.99	319		PKPdf	06 13 31.8	-0.2	
SYO	Syowa Base	130.50	208⇑	*e*Pdiff	Pdif	06 10 36.0	+4.8	
LPAZ	La Paz	145.01	58	PKPbc	PKPbc	06 14 08.9	-0.1	
	comp=Z,1.5nm,0.4s,baz=47,slow=1.7,SNR=16							
LPAZ	La Paz	145.01	58		PKPdf	06 14 09.7	0.0	
MNMC	Minye Minye	146.02	63		PKPab	06 14 12.6	+0.2	
PB11	IPOC Station P	146.40	64		PKPab	06 14 13.7	0.0	
SIV	San Ignacio	149.14	48	PKPbc	PKPdf	06 14 17.7	+1.8	
	comp=Z,6.8nm,0.8s,baz=351,slow=1.2,SNR=15							
BDFB	Brasilia	154.78	24	PKPab	PKPab	06 14 47.9	-0.1	
	comp=Z,2.9nm,0.7s,baz=270,slow=4.0,SNR=5.0							
BDFB	Brasilia	154.78	24		PKPab	06 14 47.7	-0.4	

ISCJB ***16*** *06:00:58.5±0.5, 60˚.30S±0˚.06×46˚.3W±0˚.1, h10km, mb4.5/14, Error ellipse: s-maj=9.2km s-min=8.5km az=154.2*

IDC ***16*** *06:00:58.3±0.6, 60˚.32S×46˚.40W, h0km, mb4.4/13, mb1 4.4/14, mb1mx4.3/31, mbtmp4.4/14, ML3.6/1, Error ellipse: s-maj=21.3km s-min=15.0km az=56.0*

NEIC ***16*** *06:00:59.8±1.9, 60˚.34S±0˚.08×46˚.4W±0˚.1, h10km±1km, mb4.6/16*

ISC 16 06:00:59.7±0.5, 60˚.30S±0˚.06×46˚.55W±0˚.06, h10km, n70, σ1$29/68, mb4.6/18, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.12	46		Pn	06 02 56.7	-0.8
HOPE					Sn	06 04 28.1	-1.1
PMSA	Palmer Station	9.23	233	Pn	Pn	06 03 14.0	+1.4
	0.6nm,0.3s,baz=71,slow=10,SNR=5.6						
PMSA				Sn	Sn	06 04 54.9	-1.4
	1.3nm,0.3s,baz=288,slow=22,SNR=10						
PMSA	Palmer Station	9.23	233		Pn	06 03 13.6	+1.0
PMSA					Sn	06 04 53.4	-2.9
EFI	East Falkland	10.77	318	Pn	Pn	06 03 36.9	+3.2
EFI				Sn	Sn	06 05 28.1	-6.0
SNAA	Sanae	20.52	141	P	P	06 05 38.4	+0.7
	8.2nm,0.8s,baz=282,slow=11,SNR=17						
SNAA	Sanae	20.52	141	P	Pn	06 05 39.7	-0.2
SNAA				IAmb	IAmb	06 05 47.6	
	comp=Z,21nm,1.1s						
TRQA	Tornquist	24.32	329	P	P	06 06 19.1	+1.9
TRQA				IAmb	IAmb	06 06 20.6	
	comp=Z,15nm,0.8s						
PLCA	Paso Flores	24.58	312	P	P	06 06 20.7	+1.0
	comp=Z,1.7nm,0.7s,baz=186,slow=8.5,SNR=5.7						
PLCA	Paso Flores	24.58	312	P	P	06 06 20.7	+1.0
QSPA	South Pole Qui	29.94	180	P	P	06 07 08.6	+1.0
	comp=Z,6.0nm,1.0s,baz=177,slow=5.1,SNR=11						
QSPA	South Pole Qui	29.94	180	P	P	06 07 08.8	+1.2
QSPA				IAmb	IAmb	06 07 18.9	
	comp=Z,9.8nm,1.1s						
CPUP	Villa Florida	34.76	343	P	P	06 07 50.7	+0.9
	comp=Z,2.1nm,0.7s,baz=164,slow=7.9,SNR=5.8						
CPUP	Villa Florida	34.76	343	P	P	06 07 50.8	+0.9
MNMC	Minye Minye	44.30	328	P	P	06 09 11.4	+1.7
MNMC				IAmb	IAmb	06 09 19.7	
	comp=Z,9.1nm,0.7s						
BDFB	Brasilia	44.61	358	P	P	06 09 12.0	0.0
	comp=Z,4.8nm,0.7s,baz=181,slow=5.5,SNR=7.5						
BDFB	Brasilia	44.61	358	P	P	06 09 13.1	+1.0
BDFB				IAmb	IAmb	06 09 13.8	
	comp=Z,4.9nm,0.7s						
SIV	San Ignacio	45.49	340	P	P	06 09 19.7	+0.7
	comp=Z,3.4nm,0.5s,baz=183,slow=7.6,SNR=22						
LPAZ	La Paz	46.65	331	P	P	06 09 30.9	+2.1
	comp=Z,1.9nm,0.8s,baz=145,slow=5.4,SNR=8.2						
LPAZ	La Paz	46.65	331	P	P	06 09 30.7	+1.9
LPAZ				IAmb	IAmb	06 09 33.0	
	comp=Z,2.6nm,0.9s						
SUR	Sutherland	51.37	89	P	P	06 10 05.1	+0.8
	comp=Z,8.0nm,0.7s,baz=207,slow=9.6,SNR=4.7						
SUR	Sutherland	51.37	89	P	P	06 10 03.9	-0.5
SAML	Samuel	52.74	339	P	P	06 10 15.4	+1.0
SAML				IAmb	IAmb	06 10 15.7	
	comp=Z,4.8nm,0.6s						
BOSA	Boshof	56.64	90	P	P	06 10 42.7	-0.2
	comp=Z,5.7nm,0.8s,baz=214,slow=5.7,SNR=8.0						
BOSA	Boshof	56.64	90	P	P	06 10 42.4	-0.5
H10N3	ASCENSION HYDR	57.61	39	T	T	07 13 37.6	
	baz=199,slow=75,SNR=13						
H10N1	ASCENSION HYDR	57.61	39	T	T	07 13 38.2	
	baz=199,slow=75,SNR=10						
H10N2	ASCENSION HYDR	57.63	39	T	T	07 13 39.1	
	baz=199,slow=75,SNR=12						
LBTB	Lobatse	59.79	88	P	P	06 11 04.3	-0.6
	comp=Z,7.9nm,0.6s,baz=209,slow=7.3,SNR=15						
LBTB	Lobatse	59.79	88		P	06 11 04.6	-0.3
LSZ	Lusaka	69.30	84	P	P	06 12 07.5	+0.3
LSZ				IAmb	IAmb	06 12 07.9	
	comp=Z,4.8nm,0.8s						
LIC	Lamto	73.91	43	*e*P	P	06 12 34.9	+0.2
	comp=Z,60nm,1.2s						
LIC	Lamto	73.91	43	P	P	06 12 34.9	+0.2
KIC	Kosan Boka	74.13	44	*e*P	P	06 12 36.0	0.0
	comp=Z,12nm,0.7s						
KIC	Kosan Boka	74.13	44	P	P	06 12 36.0	0.0
TIC	Toumodi	74.30	43	*e*P	P	06 12 37.3	+0.3
TIC	Toumodi	74.30	43	P	P	06 12 37.3	+0.3
DBIC	Dimbokro	74.38	43	P	P	06 12 37.6	+0.2
	comp=Z,6.0nm,0.9s,baz=174,slow=5.0,SNR=5.5						
DBIC	Dimbokro	74.38	43	P	P	06 12 38.1	+0.7
DBIC				IAmb	IAmb	06 12 39.3	
	comp=Z,7.8nm,1.1s						
MLPR	Magueyes Islan	79.74	340	P	P	06 13 06.7	-0.7
TOA0	Torodi Ar. Sit	82.70	47	P	P	06 13 24.0	+0.8
TORD	Torodi Ar. Bea	82.70	47	P	P	06 13 23.9	+0.6
	comp=Z,4.3nm,0.7s,baz=204,slow=6.4,SNR=24						
TORD	Torodi Ar. Bea	82.70	47	P	P	06 13 22.4	-0.8
ASAR	Alice Springs	96.34	180	P	P	06 14 27.7	-0.8
	comp=Z,0.8nm,1.0s,baz=184,slow=5.0,SNR=5.5						
ASAR	Alice Springs	96.34	180	P	P	06 14 27.0	-1.5
WRA	Warramunga Arr	100.04	181	P	Pdif	06 14 44.0	-1.1
	comp=Z,0.6nm,0.9s,baz=186,slow=3.8,SNR=4.6						
GERES	GERESS Array B	119.20	41	PKP	PKPdf	06 19 46.2	-1.5
	comp=Z,0.5nm,0.7s,baz=267,slow=2.3,SNR=3.6						
AKASG	Malin Array Be	126.26	50	PKP	PKPdf	06 19 59.3	-1.8
	comp=Z,1.3nm,0.6s,baz=247,slow=1.7,SNR=5.4						
YKA	Yellowknife Ar	132.97	324	PKP	PKPdf	06 20 12.8	-0.7
	comp=Z,1.2nm,0.6s,baz=141,slow=2.2,SNR=5.9						
YKA	Yellowknife Ar	132.97	324		PKPdf	06 20 13.1	-0.4
FINES	FINESS Array B	133.56	39	PKhKP	PKPpre	06 20 10.0	
	comp=Z,1.8nm,0.6s,baz=207,slow=1.6,SNR=3.6						
ARCES	ARCESS Array B	139.27	31	PKhKP	PKPpre	06 20 14.5	
	comp=Z,11nm,1.1s,baz=183,slow=1.6,SNR=5.0						
ARCES	ARCESS Array B	139.27	31		PKPpre	06 20 15.1	
PRP	Porcupine Dome	145.15	314		PKPdf	06 20 35.7	-0.1
IL31		145.26	312		PKPbc	06 20 35.3	-0.3
ILAR	Eielson Array	145.26	312	PKPbc	PKPbc	06 20 35.0	-0.7
	comp=Z,4.9nm,0.7s,baz=148,slow=3.1,SNR=40						
ILAR	Eielson Array	145.26	312		PKPbc	06 20 35.2	-0.5
RND	Reindeer	145.30	309		PKPbc	06 20 35.8	-0.1
CCB	Clear Creek Bu	145.54	312		PKPdf	06 20 35.7	-0.6
WRH	Wood River Hil	145.56	311		PKPdf	06 20 36.2	-0.1
BMAR	Burnt Mountain	145.77	317		PKPbc	06 20 37.1	-0.1
BRVK	Borovoye	145.80	73		PKPdf	06 20 37.1	0.0
BWN	Browne	145.93	310		PKPbc	06 20 37.4	-0.3
BPAW	Bear Paw Mtn.	146.47	310		PKPdf	06 20 38.6	+0.7
MLY	Manley	146.82	311		PKPdf	06 20 39.3	+0.7
MK31	Makanchi Array	147.64	91		PKPbc	06 20 42.0	-1.2
MKAR	Makanchi Array	147.64	91	PKPbc	PKPbc	06 20 41.9	-1.3
	comp=Z,2.5nm,0.6s,baz=237,slow=2.1,SNR=14						
TOLK	Toolik Lake Re	148.00	318		PKPbc	06 20 43.6	0.0
IMAR	Indian Mountai	148.37	312		PKPdf	06 20 42.3	+1.3
IMAR					PKPbc	06 20 44.5	-0.1
SONM	Songino Array	159.99	116	PKPab	PKPab	06 21 37.2	-0.6
	comp=Z,1.0nm,0.9s,baz=270,slow=2.9,SNR=4.7						
SONM	Songino Array	159.99	116		PKPab	06 21 36.7	-1.1

ISCJB ***16*** *06:05:19.4±1.0, 37˚.24N±0˚.03×142˚.71E±0˚.03, h2km±6km, mb4.7/69, Error ellipse: s-maj=4.4km s-min=3.4km az=161.2*

IDC ***16*** *06:05:20.3±0.5, 37˚.17N×142˚.74E, h0km, mb4.6/27, mb1 4.7/35, mb1mx4.6/49, mbtmp4.6/35, ML4.1/6, Error ellipse: s-maj=13.7km s-min=11.0km az=104.0*

BJI ***16*** *06:05:20.7±0.0, 37˚.37N×142˚.71E, h15km, mb4.9/54, mB5.3/25, Ms4.5/8, Ms7 4.5/7*

JMA ***16*** *06:05:22.1±0.2, 37˚.20N×142˚.71E, h31km, M4.6*

JMA Felt I J1.

NEIC ***16*** *06:05:22.9±1.8, 37˚.15N±0˚.05×142˚.77E±0˚.10, h15km±3km, mb4.8/87*

MOS ***16*** *06:05:25.5±1.0, 37˚.57N×142˚.63E, h32km, mb5.1/36, Error ellipse: s-maj=7.0km s-min=4.4km az=103.8*

ISC 16 06:05:21.8±0.8, 37˚.23N±0˚.04×142.84E±0˚.05, h10km±4km, n294, σ1$79/303, mb4.8/100, 16C-17D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.54	315	P	Pn	06 05 47.2	-2.0
JIKH				*e*S	Sn	06 06 05.4	-3.8
JFK	Kawauchi	1.57	276	P	Pn	06 05 47.0	-2.7
JFK				*e*S	Sn	06 06 05.9	-4.2
JMST	Minamisoumatoc	1.63	288	P	Pn	06 05 47.9	-2.6
JMST				*e*S	Sn	06 06 06.9	-4.6
ONAJ	Iwakimizuishiy	1.64	266	P	Pn	06 05 48.1	-2.5
ONAJ				*e*S	Sn	06 06 06.5	-5.2
JIO	Ouri	1.70	317	P	Pn	06 05 49.8	-1.7
JIO				*e*S	Sn	06 06 10.4	-2.9
JMM	Marumori	1.75	292	P	Pn	06 05 49.8	-2.3
JFT	Otama	2.02	279	P	Pn	06 05 54.3	-1.5
JFT				*e*S	Sn	06 06 18.1	-2.9
JOU	Okura	2.07	304	P	Pn	06 05 55.3	-1.2
JOU				*e*S	Sn	06 06 19.4	-2.9
JMK	Ichinoseki	2.15	324	P	Pn	06 05 56.8	-0.8
JMK				*e*S	Sn	06 06 22.8	-1.4
JOM	Ohasama	2.55	332	P	Pn	06 06 02.4	-0.8
JYK	Kaneyama	2.59	312	P	Pn	06 06 03.0	-0.6
JAG	Ashikaga	2.83	255	P	Pn	06 06 05.6	-1.4
JNS	Sasagawa	2.86	283	P	Pn	06 06 07.1	-0.3
BSO1	Boso 1	2.98	211	P	Pn	06 06 07.5	-1.0
BSO1				*e*S	Sn	06 06 40.8	-3.2
JAW	Awa shima	3.10	294	P	Pn	06 06 10.0	-0.6
JANG	Nango	3.31	342	P	Pn	06 06 12.2	-1.4
JRY	Ryogami san	3.39	250	P	Pn	06 06 13.4	-1.3
MJAR	Matsushiro Arr	3.77	261	P	Pn	06 06 18.9	-1.1
MJAR	Matsushiro Arr	3.77	261	Pn	Pn	06 06 19.6	-0.4
	5.6nm,0.3s,baz=81,slow=16,SNR=97						
MJAR				Sn	Sn	06 07 03.6	-0.8
	1.6nm,0.3s,baz=71,slow=14,SNR=5.7						
MJAR	Matsushiro Arr	3.77	261		Pn	06 06 18.9	-1.1
MAJO	Matsushiro	3.78	261	*c iP*	Pn	06 06 19.6	-0.4
MAJO	Matsushiro	3.78	261		Pn	06 06 19.7	-0.4
MAT	Matsushiro	3.78	261	P	Pn	06 06 19.9	-0.1
MAT				S	Sn	06 07 01.0	-3.5
MJB9	Matsu-Tunnel	3.78	261		Pn	06 06 19.7	-0.4
ERM	Erimo	4.79	3	*c*eP	Pn	06 06 33.4	-0.5
ERM				pmax	pmax		
	comp=Z,54nm,0.6s						
ERM	Erimo	4.79	3		Pn	06 06 33.0	-0.9
ERM				Sn	Sn	06 07 29.2	-0.1
JHJ2	Mitsune	4.79	212	Pn	Pn	06 06 32.1	-1.9
JHJ	Hachijo jima 2	4.80	212	Pn	Pn	06 06 32.3	-1.8
	comp=Z,52nm,0.3s,baz=39,slow=18,SNR=4.9						
JHJ				Sn	Sn	06 07 23.6	-6.1
	comp=Z,66nm,0.3s,baz=307,slow=20,SNR=3.7						
INU	Inuyama	5.06	250		Pn	06 06 37.7	+0.1
NMR	Nemuro--Hokkai	6.52	19	*e*P	Pn	06 06 55.4	-2.3
NMR				*e*S	Sn	06 08 05.9	-6.1
JKA	Kamikawa-asahi	6.89	359		Pn	06 07 02.9	+0.2
JKA					Sn	06 08 19.1	-1.9
ASAJ	Asahikawa	6.89	359	Pn	Pn	06 07 02.9	+0.2
	comp=Z,12nm,0.3s,baz=218,slow=8.6,SNR=31						
ASAJ				Sn	Sn	06 08 19.1	-1.9
	comp=Z,3.0nm,0.3s,baz=45,slow=19,SNR=3.5						
GRPR	Tuman	7.12	17	*e*P	Pn	06 07 03.4	-2.5
GRPR				*e*S	Sn	06 08 20.1	-6.6
GRPR				pmax	pmax		
	comp=Z,204nm,0.4s						
GRPR				pmax	pmax		
	comp=N,150nm,0.2s						
GRPR				pmax	pmax		
	comp=E,93nm,0.3s						
YUK	Yuzh-Kuril'sk	7.18	18	*e*P	Pn	06 07 05.1	-1.6
YUK				S	Sn	06 08 22.4	-5.8
LAGR	Lagunnoye	7.18	17	P	Pn	06 07 04.9	-1.8
LAGR				*e*S	Sn	06 08 22.3	-6.0
LAGR				pmax	pmax		
	comp=Z,321nm,0.2s						
KUR	Kuril'sk	8.85	24	*e*P	Pn	06 07 30.3	+0.7
KUR				*e*S	Sn	06 09 04.4	-4.9
KUR				pmax	pmax		
	comp=Z,74nm,0.8s						
KUR				pmax	pmax		
	comp=E,40nm,0.9s						
KUR				pmax	pmax		
	comp=N,32nm,0.3s						
KUR				smax	smax		
	comp=N,77nm,0.5s						
KUR				smax	smax		
	comp=E,53nm,0.4s						
TEY	Ternei	9.11	331⇑	*e*P	Pn	06 07 35.5	+2.4
TEY				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=N,60nm,0.8s						
TEY				pmax	pmax		
	comp=E,50nm,0.8s						
TEY				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS	Yuzh-Sakhalins	9.72	360	*e*P	Pn	06 07 42.1	+0.6
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS	Yuzh-Sakhalins	9.72	360		Pn	06 07 42.5	+1.0
JCJ	Chichijima	10.12	183	Pn	Pn	06 07 45.4	-1.6
	comp=Z,26nm,0.3s,baz=288,slow=22,SNR=6.7						
JCJ				Sn	Sn	06 09 28.4	-12
	comp=Z,17nm,0.3s,baz=287,slow=19,SNR=4.6						
VLA	Vladivostok	10.24	308	*i P*	Pn	06 07 48.2	-0.4
MSHR	Mys Shultsa	10.44	304	*i P*	Pn	06 07 50.0	-1.4
JNU	Nakatsue	10.61	251	Pn	Pn	06 07 53.0	-0.8
	comp=Z,1.3nm,0.3s,baz=58,slow=8.4,SNR=27						
JNU	Nakatsue	10.61	251		Pn	06 07 53.6	-0.3
USA0B	Ussuriysk Arra	10.78	314	*i P*	Pn	06 07 55.7	-0.4
USA0B	Ussuriysk Arra	10.78	314		Pn	06 07 56.0	0.0
USRK	Ussuriysk Ar.	10.78	314	P	Pn	06 07 56.7	+0.6
USRK	Ussuriysk Ar.	10.78	314	Pn	Pn	06 07 57.3	+1.3
	baz=122,slow=13,SNR=30						
USRK	Ussuriysk Ar.	10.78	314		Pn	06 07 56.7	+0.6
KSRS	Korea Array	11.88	276	Pn	Pn	06 08 12.7	+1.6
	comp=Z,0.3nm,0.3s,baz=89,slow=14,SNR=15						
KSAR	Wonju Array Be	11.91	276	P	Pn	06 08 13.0	+1.4
KSAR	Wonju Array Be	11.91	276		Pn	06 08 13.0	+1.4
MDJ	Mudanjiang	12.44	311	P	Pn	06 08 22.0	+3.3
MDJ				pmax	pmax		
	comp=Z,17nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,860nm,11.8s						
TYV	Tymovskoe	13.63	360	*e*P	Pn	06 08 30.3	-4.7
TYV				*e*S	Sn	06 10 59.3	-7.1
TYV				pmax	pmax		
	comp=Z,200nm,3.1s						
TYV				pmax	pmax		
	comp=Z,14nm,1.3s						
TYV				smax	smax		
	comp=E,17nm,1.3s						
TYV				MLR	MLR		
	comp=Z,2μm,14.0s						
GRNR	Gornyy	14.30	343⇓	*i P*	P	06 08 52.8	+1.5
GRNR				pmax	pmax		
	comp=Z,30nm,0.7s						
KLR	Kul'dur	14.45	330	*i P*	Pn	06 08 44.1	-2.1
KLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KLR	Kul'dur	14.45	330	Pn	Pn	06 08 44.4	-1.8
	comp=Z,0.4nm,0.3s,baz=141,slow=14,SNR=6.0						
CN2	Changchun	14.76	302	*e*P	Pn	06 08 52.3	+1.9
PETK	Petropavlovsk-	18.96	28	P	Pn	06 09 44.5	+0.9
	comp=Z,0.1nm,0.3s,baz=238,slow=11,SNR=3.2						
PET	Petropavlovsk	19.27	30	*i P*	P	06 09 46.6	+0.4
PET				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZEA	Zeya	19.73	332	*e*P	P	06 09 49.4	-1.9
ZEA				pmax	pmax		
	comp=N,35nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,41nm,0.8s						
NJ2	Nanjing	20.38	262	*e*P	P	06 09 57.8	-0.7
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
HIA	Hailar	20.59	313	*i P*	P	06 09 59.4	-1.4
HIA				pmax	pmax		
	comp=Z,32nm,0.8s						
BJI	Beijing	20.99	286	P	P	06 10 04.5	-0.6
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MA2	Magadan	22.95	10	P	P	06 10 25.1	-0.7
	comp=Z,15nm,0.9s,baz=184,slow=15,SNR=2.7						
MA2	Magadan	22.95	10	P	P	06 10 26.7	+0.8
HHC	Hu-ho-hao-te	24.49	288	*e*P	P	06 10 40.1	-1.1
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WHN	Wuhan	24.52	263	P	P	06 10 39.9	-1.4
YAK	Yakutsk	26.15	346	*e*P	P	06 10 54.8	-0.9
YAK				*e*PP	pwP	06 11 12.0	+10
YAK				*e*S	S	06 15 23.6	-3.5
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				smax	smax		
	comp=N,103nm,2.3s						
YAK				smax	smax		
	comp=E,84nm,2.8s						
YAK	Yakutsk	26.15	346	P	P	06 10 54.3	-1.5
	comp=E,6.8nm,0.4s,baz=309,slow=0.5,SNR=7.3						
YAK	Yakutsk	26.15	346	P	P	06 10 55.0	-0.8
YAK				IAmb	IAmb	06 11 04.0	
	comp=Z,36nm,1.0s						
SEY	Seymchan	26.39	10	*i P*	P	06 10 58.7	+0.7
SEY	Seymchan	26.39	10	P	P	06 10 59.3	+1.3
	comp=Z,12nm,0.8s,baz=184,slow=8.4,SNR=18						
H11N2	WAKE ISLAND Hy	27.28	123	T	T	06 39 54.1	
	baz=315,slow=75,SNR=32						
H11N1	WAKE ISLAND Hy	27.29	123	T	T	06 39 57.3	
	baz=315,slow=75,SNR=32						
H11N3	WAKE ISLAND Hy	27.30	123	T	T	06 39 54.4	
	baz=315,slow=75,SNR=34						
XAN	Xi'an	27.67	274	P	P	06 11 10.3	+0.5
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=Z,840nm,20.5s						
XAN				LR	LR		
	comp=Z,340nm,21.6s						
XAN				LR	LR		
	comp=Z,1μm,19.6s				

BILL			*i* *PP		**pwP**	06 12 08.2 -0.1
BILL			*e*			06 12 18.5
BILL			pmax	pmax		
	comp=Z,4.0nm,1.2s					
BILL			MLR	MLR		
	comp=Z,953nm,17.0s					
GTA	**Gaotai**	**33.60 287**	P		**P**	**06 12 03.1 +0.9**
GTA			pP	pwP		06 12 11.8 +2.2
GTA			sP	sP		06 12 15.6 +11
GTA			PcP	**PcP**		**06 14 43.3 +0.8**
GTA			pmax	pmax		
	comp=Z,12nm,1.0s					
TIXI	**Tiksi**	**35.24 352**	*i* P		**P**	**06 12 14.9 -1.0**
TIXI			pmax	pmax		
	comp=Z,3.0nm,0.9s					
KMI	**Kunming**	**36.12 262**	P		**P**	**06 12 25.8 +1.6**
KMI			pP	pwP		06 12 34.3 +2.8
KMI			pmax	pmax		
	comp=Z,15nm,0.9s					
DGZ	**Jazzator, Alta**	**41.20 306**	*c i* P		**P**	**06 13 07.0 +0.4**
WMQ	**Urumqi**	**41.77 297**	*e*P		**P**	**06 13 14.0 +2.8**
WMQ			pP	pwP		06 13 18.5 -0.1
WMQ			pmax	pmax		
	comp=Z,27nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,440nm,4.3s					
WMQ			LR	LR		
	comp=Z,750nm,20.3s					
WMQ			LR	LR		
	comp=Z,620nm,20.3s					
WMQ			LR	LR		
	comp=Z,680nm,18.7s					
WMQ	**Urumqi**	**41.77 297**	P		**P**	**06 13 13.3 +2.1**
WMQ			pmax	pmax		
	comp=Z,25nm,0.7s					
WMQ	**Urumqi**	**41.77 297**	P		**P**	**06 13 13.3 +2.1**
LUWI	**Luwuk**	**42.38 211**	P		**P**	**06 13 17.6 +1.3**
ZAA0	**Zalesovo Array**	**42.63 312**	P		**P**	**06 13 18.0 0.0**
ZALV	**Zalesovo Beam**	**42.63 312**	P		**P**	**06 13 17.0 -0.9**
ZALV	**Zalesovo Beam**	**42.63 312**	P		**P**	**06 13 18.1 +0.2**
	comp=Z,24nm,0.8s,baz=87,slow=7.0,SNR=60					
ZALV			PcP		**PcP**	**06 15 09.7 -0.2**
	comp=Z,3.2nm,0.6s,baz=100,slow=2.5,SNR=4.0					
ZALV	**Zalesovo Beam**	**42.63 312**	P		**P**	**06 13 17.0 -0.9**
CMAR	**Chiang Mai Arr**	**42.65 256**	P		**P**	**06 13 18.1 -0.5**
	comp=Z,2.3nm,0.7s,baz=47,slow=6.7,SNR=10					
CMAR	**Chiang Mai Arr**	**42.65 256**	P		**P**	**06 13 18.4 -0.2**
NRIK	**Noril'sk**	**43.57 335**	P		**P**	**06 13 25.6 +0.2**
	comp=Z,4.3nm,0.4s,baz=112,slow=7.7,SNR=4.6					
SVW2	**Sparrevohn**	**44.68 37**	P		**P**	**06 13 36.0 +1.6**
SVW2			IAmb	IAmb		06 13 41.6
	comp=Z,29nm,1.3s					
MK31	**Makanchi Array**	**44.98 302**	P		**P**	**06 13 36.8 -0.3**
MK31			pmax	pmax		
	comp=Z,16nm,0.9s					
MK31	**Makanchi Array**	**44.98 302**	P		**P**	**06 13 36.8 -0.3**
MK31			IAmb	IAmb		06 13 40.2
	comp=Z,16nm,0.9s					
MKAR	**Makanchi Array**	**44.98 302**	*ce*P		**P**	**06 13 37.0 -0.1**
MKAR			pmax	pmax		
	comp=Z,18nm,0.9s					
MKAR	**Makanchi Array**	**44.98 302**	P		**P**	**06 13 37.1 +0.1**
	comp=Z,18nm,0.8s,baz=84,slow=10.0,SNR=40					
MKAR	**Makanchi Array**	**44.98 302**	P		**P**	**06 13 36.9 -0.2**
MAKZ	**Makanchi**	**45.19 302**	P		**P**	**06 13 39.0 +0.3**
MAKZ			pmax	pmax		
	comp=Z,22nm,1.0s					
MAKZ	**Makanchi**	**45.19 302**	P		**P**	**06 13 39.0 +0.3**
RSO	**Redoubt South**	**46.05 38**	P		**P**	**06 13 47.9 +2.4**
KDAK	**Kodiak Island**	**46.19 42**	P		**P**	**06 13 47.5 +1.1**
	comp=Z,14nm,0.7s,baz=275,slow=5.8,SNR=10					
KDAK	**Kodiak Island**	**46.19 42**	P		**P**	**06 13 47.8 +1.4**
KURK	**Kurchatov**	**46.71 308**	*ce*P		**P**	**06 13 49.7 -0.9**
KURK			pmax	pmax		
	comp=Z,69nm,0.6s					
KURK	**Kurchatov**	**46.71 308**	P		**P**	**06 13 49.9 -0.7**
BPAW	**Bear Paw Mtn.**	**46.94 33**	P		**P**	**06 13 54.7 +2.5**
TAPN	**Taplejung**	**47.06 275**	*e*P		**P**	**06 13 54.0 0.0**
MLY	**Manley**	**47.08 32**	P		**P**	**06 13 55.5 +2.1**
MLY			IAmb	IAmb		06 14 03.5
	comp=Z,9.7nm,1.0s					
RC01	**Rabbit Creek A**	**47.52 37**	P		**P**	**06 13 58.5 +1.8**
ODAN	**Odare**	**47.54 274**	*e*P		**P**	**06 13 57.5 -0.1**
PMR	**Palmer**	**47.79 37**	P		**P**	**06 14 00.3 +1.5**
PMR			pmax	pmax		
	comp=Z,16nm,1.2s					
PMR	**Palmer**	**47.79 37**	P		**P**	**06 14 00.3 +1.5**
PMR			IAmb	IAmb		06 14 01.3
	comp=Z,16nm,1.2s					
RND	**Reindeer**	**47.88 34**	P		**P**	**06 14 00.9 +1.3**
RND			pmax	pmax		
	comp=Z,11nm,1.0s					
RND	**Reindeer**	**47.88 34**	P		**P**	**06 14 00.9 +1.3**
RND			IAmb	IAmb		06 14 08.6
	comp=Z,11nm,1.0s					
KNK	**Knik Glacier**	**48.12 37**	P		**P**	**06 14 03.5 +2.1**
KNK			IAmb	IAmb		06 14 03.8
	comp=Z,11nm,1.0s					
RAMN	**Ramite**	**48.13 275**	*e*P		**P**	**06 14 01.5 -0.7**
	comp=Z,21nm,0.7s					
JIRN	**Jiri**	**48.13 276**	*e*P		**P**	**06 14 02.6 +0.2**
	comp=Z,17nm,0.5s					
WRH	**Wood River Hil**	**48.21 33**	P		**P**	**06 14 04.1 +2.1**
GUN	**Gumba**	**48.27 276**	*e*P		**P**	**06 14 03.2 -0.2**
	comp=Z,19nm,0.4s					
COLA	**College**	**48.31 32**	*i* P		**P**	**06 14 02.6 -0.2**
COLA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
SCM	**Sheep Creek Mo**	**48.64 36**	P		**P**	**06 14 07.1 +1.6**
SCM			pmax	pmax		
	comp=Z,13nm,1.0s					
SCM	**Sheep Creek Mo**	**48.64 36**	P		**P**	**06 14 07.1 +1.6**
SCM			IAmb	IAmb		06 14 08.1
	comp=Z,12nm,1.0s					
HDA	**Harding Lake**	**48.70 33**	P		**P**	**06 14 06.8 +0.9**
HDA			IAmb	IAmb		06 14 07.6
	comp=Z,5.7nm,0.7s					
IL31		**48.72 32**	P		**P**	**06 14 07.4 +1.4**
IL31			IAmb	IAmb		06 14 07.9
	comp=Z,7.2nm,0.8s					
ILAR	**Eielson Array**	**48.72 32**	P		**P**	**06 14 06.9 +0.9**
ILAR	**Eielson Array**	**48.72 32**	P		**P**	**06 14 07.2 +1.1**
	comp=Z,5.6nm,0.8s,baz=259,slow=5.8,SNR=39					
ILAR	**Eielson Array**	**48.72 32**	P		**P**	**06 14 06.9 +0.9**
PKI	**Pulchoki**	**48.79 276**	*e*P		**P**	**06 14 06.9 -0.6**
KKN	**Kakani**	**48.80 276**	*e*P		**P**	**06 14 07.1 -0.3**
PKIN	**Phulchoki**	**48.80 276**	*e*P		**P**	**06 14 06.7 -0.7**
DMN	**Daman**	**49.02 276**	*e*P		**P**	**06 14 08.4 -0.7**
GKN	**Gorkha**	**49.21 277**	*e*P		**P**	**06 14 10.0 -0.5**
BMAR	**Burnt Mountain**	**49.61 29**	P		**P**	**06 14 14.9 +2.0**
DANN	**Dangsing**	**49.76 278**	*e*P		**P**	**06 14 14.5 -0.3**
	comp=Z,47nm,0.5s					
DOT	**Dot Lake**	**50.01 34**	IAmb	IAmb		06 14 22.6
	comp=Z,14nm,1.4s					
MTN	**Manton Dam**	**51.01 195**	IAmb	IAmb		06 14 25.2
	comp=Z,16nm,0.9s					
BCAR	**Beaver Creek A**	**51.09 34**	P		**P**	**06 14 25.7 +1.6**
BRVK	**Borovoye**	**51.34 312**	*ce*P		**P**	**06 14 25.6 -0.4**
BRVK			pmax	pmax		
	comp=Z,7.0nm,0.7s					
BRVK	**Borovoye**	**51.34 312**	P		**P**	**06 14 26.7 +0.7**
BRVK			IAmb	IAmb		06 14 34.0
	comp=Z,18nm,1.2s					
KSH	**Kashi**	**51.37 294**	P		**P**	**06 14 30.9 +4.3**
KSH			PP		**PP**	**06 16 30.1 +6.6**
KSH			S		**S**	**06 21 48.4 +2.3**
KSH			ScS		**ScS**	**06 24 16.8 -0.5**
KSH			SS		**SS**	**06 25 23.3 +1.9**
KSH			pmax	pmax		
	comp=Z,27nm,0.9s					
KSH			pmax	pmax		
	comp=Z,1μm,9.5s					
KSH			LR	LR		
	comp=Z,730nm,11.3s					
KSH			LR	LR		
	comp=Z,830nm,11.6s					
KSH			LR	LR		
	comp=Z,1μm,14.8s					
AAK	**Ala-Archa**	**51.40 299**	*i* P		**P**	**06 14 27.5 +0.6**
AAK			pmax	pmax		
	comp=Z,10.0nm,0.8s					
EPYK	**Eagle Plains**	**52.79 30**	IAmb	IAmb		06 14 39.8
	comp=Z,12nm,0.9s					
INK	**Inuvik**	**53.69 27**	P		**P**	**06 14 44.1 +0.9**
	comp=Z,1.8nm,0.5s,baz=318,slow=4.4,SNR=9.8					
KKAR	**Karatay Array**	**54.01 300**	P		**P**	**06 14 47.3 +1.3**
KKAR	**Karatay Array**	**54.01 300**	P		**P**	**06 14 47.3 +1.3**
SVE	**Sverdlovsk**	**55.76 319**	⇓*e*P		**P**	**06 14 58.7 +0.3**
SVE			pmax	pmax		
	comp=Z,23nm,0.9s					
ARU	**Arti**	**56.97 319**	*c i* P		**P**	**06 15 06.9 -0.1**
ARU						06 15 58.4
ARU						06 17 11.1
ARU			S		**S**	**06 23 02.4 +1.5**
ARU			SS		**SS**	**06 26 48.1 -0.7**
ARU			pmax	pmax		
	comp=Z,14nm,0.7s					
ARU	**Arti**	**56.97 319**	P		**P**	**06 15 07.4 +0.3**
FITZ	**Fitzroy Crossi**	**57.37 200**	P		**P**	**06 15 10.4 +0.3**
FITZ			IAmb	IAmb		06 15 11.2
	comp=Z,5.4nm,0.6s					
WRAB	**Tennant Creek**	**57.41 189**	*ce*P		**P**	**06 15 08.0 -2.5**
WRAB			pmax	pmax		
	comp=Z,24nm,1.3s					
WRAB	**Tennant Creek**	**57.41 189**	P		**P**	**06 15 09.8 -0.7**
WRAB			IAmb	IAmb		06 15 11.2
	comp=Z,18nm,1.0s					
WRA	**Warramunga Arr**	**57.42 190**	P		**P**	**06 15 09.8 -0.7**
	comp=Z,12nm,0.8s,baz=5.8,slow=7.2,SNR=134					
WRA	**Warramunga Arr**	**57.42 190**	P		**P**	**06 15 09.2 -1.3**
ABKAR	**Abkulak array**	**58.69 310**	P		**P**	**06 15 19.1 -0.1**
ABKAR	**Abkulak array**	**58.69 310**	IAmb	IAmb		06 15 26.6
	comp=Z,12nm,0.8s					
AS31	**Alice Springs**	**61.15 189**	P		**P**	**06 15 35.8 -0.5**
ASAR	**Alice Springs**	**61.15 189**	P		**P**	**06 15 36.0 -0.4**
	comp=Z,7.5nm,0.8s,baz=2.7,slow=7.4,SNR=95					
PRGR	**Permogore**	**61.22 327**	*e*P		**P**	**06 15 35.5 -0.9**
PRGR			pmax	pmax		
	comp=Z,30nm,1.3s					
DZM	**Mont Dzumac**	**63.04 155**	P		**P**	**06 15 49.5 +0.4**
	comp=Z,7.3nm,1.0s,baz=324,slow=2.4,SNR=3.6					
YKA	**Yellowknife Ar**	**63.07 31**	*i* P		**P**	**06 15 49.5 +0.7**
YKA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
HRA	**Herat**	**63.48 294**	P		**P**	**06 15 52.7 +0.4**
HRA			IAmb	IAmb		06 15 54.4
	comp=Z,3.9nm,0.6s					
KLMR	**Klimovskoe**	**64.20 328**	*e*P		**P**	**06 15 55.1 -1.2**
KLMR			*e*			06 18 15.2
KLMR			pmax	pmax		
	comp=Z,28nm,1.5s					
KLMR	**Klimovskoe**	**64.20 328**	*e*P		**P**	**06 15 55.1 -1.2**
KLMR			AMP			06 16 04.3
	comp=Z,28nm,1.5s					
KLMR			*e*PP		**PP**	**06 18 15.2 -1.8**
ARCES	**ARCESS Array B**	**64.22 340**	P		**P**	**06 15 56.4 +0.1**
	comp=Z,6.2nm,0.9s,baz=50,slow=8.4,SNR=6.1					
ARCES	**ARCESS Array B**	**64.22 340**	P		**P**	**06 15 57.1 +0.9**
TULEG	**Thule**	**64.76 8**	P		**P**	**06 16 00.1 +0.4**
MOS	**Moscow**	**67.77 324**	*e*P		P	06 16 25.7 +6.4
VRH	**Novokhopyorsk**	**68.20 318**	*e*P		**P**	**06 16 20.3 -1.8**
VRH			pmax	pmax		
	comp=Z,20nm,1.6s					
OBN	**Obninsk**	**68.62 324**	⇓*e*P		**P**	**06 16 24.9 +0.3**
OBN			*i*			06 16 32.4
OBN			SS	SS		06 29 45.0 -5.4
OBN			pmax	pmax		
	comp=Z,10.0nm,1.0s					
OBN			MLR	MLR		
	comp=Z,437nm,16.0s					
STKA	**Stephens Creek**	**68.75 181**	P		**P**	**06 16 24.6 -1.0**
	comp=Z,2.6nm,0.7s,baz=353,slow=4.2,SNR=5.8					
STKA	**Stephens Creek**	**68.75 181**	P		**P**	**06 16 25.9 +0.3**
LPSR	**Galich'ya Gora**	**68.88 321**	*e*P		**P**	**06 16 25.4 -0.9**
LPSR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
FINES	**FINESS Array B**	**69.17 333**	P		**P**	**06 16 28.3 +0.3**
	comp=Z,9.3nm,0.6s,baz=35,slow=10,SNR=18					
VSR	**Storozhevoye**	**69.53 319**	*e*P		**P**	**06 16 29.9 -0.5**
VSR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
AKT	**Akhty**	**69.88 307**	*e*P		**P**	**06 16 34.8 +1.9**
AKT			*e*			06 16 55.0
AKT			pmax	pmax		
	comp=Z,18nm,1.0s					
SUMG	**Summit**	**70.49 0**	*i* P		**P**	**06 16 37.0 +0.6**
SUMG			pmax	pmax		
	comp=Z,28nm,0.7s					
SUMG	**Summit**	**70.49 0**	*i* P		**P**	**06 16 37.0 +0.6**
	comp=Z,28nm,0.7s					
SUMG	**Summit**	**70.49 0**	P		**P**	**06 16 37.4 +1.0**
KIV	**Kislovodsk**	**71.64 311**	*e*P		**P**	**06 16 43.6 +0.1**
KIV			pmax	pmax		
	comp=Z,81nm,1.1s					
KBZ	**Khabaz**	**71.64 311**	*i* P		**P**	**06 16 43.2 -0.2**
KBZ	**Khabaz**	**71.64 311**	P		**P**	**06 16 43.9 +0.6**
	comp=Z,3.9nm,0.9s,baz=68,slow=6.0,SNR=5.9					
BEKR	**Beckworth**	**71.83 54**	P		**P**	**06 16 46.6 +1.8**
BEKR			IAmb	IAmb		06 16 54.6
	comp=Z,4.8nm,0.8s					
GNI	**Garni**	**72.50 307**	*i* P		**P**	**06 16 48.9 0.0**
GNI			pmax	pmax		
	comp=Z,41nm,1.0s					
CMB	**Columbia Colle**	**72.83 55**	IAmb	IAmb		06 17 00.6
	comp=Z,4.8nm,0.8s					
YERR	**Yerington**	**73.04 54**	IAmb	IAmb		06 17 02.2
	comp=Z,8.0nm,1.0s					
BOZ	**Bozeman (W)**	**73.81 45**	P		**P**	**06 16 57.9 +1.5**
BOZ			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BOZ	**Bozeman (W)**	**73.81 45**	P		**P**	**06 16 57.9 +1.5**
NVAR	**Mina Array Bea**	**73.96 54**	P		**P**	**06 16 59.2 +1.6**
	comp=Z,2.7nm,0.8s,baz=281,slow=6.6,SNR=18					
NVAR	**Mina Array Bea**	**73.96 54**	P		**P**	**06 16 59.3 +1.8**
NB2	**NORSAR Subarra**	**74.44 338**	P		**P**	**06 17 00.0 +0.2**
	comp=Z,3.7nm,0.6s,baz=39,slow=6.2					
NOA	**NORSAR Array B**	**74.44 338**	P		**P**	**06 17 00.0 +0.2**
NOA	**NORSAR Array B**	**74.44 338**	P		**P**	**06 16 60.0 +0.2**
	comp=Z,5.5nm,0.7s,baz=39,slow=5.9,SNR=17					
AKASG	**Malin Array Be**	**74.84 323**	P		**P**	**06 17 02.0 -0.1**
	comp=Z,5.9nm,0.5s,baz=45,slow=6.2,SNR=29					
AKBB	**Malin Array Si**	**74.84 323**	P		**P**	**06 17 02.4 +0.3**
AKBB			pmax	pmax		
	comp=Z,22nm,0.9s					
AKBB	**Malin Array Si**	**74.84 323**	P		**P**	**06 17 02.4 +0.3**
SFJD	**Kangerlussuaq**	**75.59 5**	P		**P**	**06 17 06.4 +0.3**
	comp=Z,9.2nm,0.8s,baz=29,slow=5.2,SNR=3.3					
SFJD	**Kangerlussuaq**	**75.59 5**	P		**P**	**06 17 07.1 +1.0**
SFJD			IAmb	IAmb		06 17 07.4
	comp=Z,9.2nm,0.8s					
TPNV	**Topopah Spring**	**76.14 54**	IAmb	IAmb		06 17 19.6
	comp=Z,6.0nm,0.9s					
DUG	**Dugway, Tooele**	**76.36 50**	IAmb	IAmb		06 17 22.2
	comp=Z,8.9nm,1.3s					
PDAR	**Pinedale Array**	**76.72 46**	P		**P**	**06 17 14.4 +1.1**
	comp=Z,1.3nm,0.6s,baz=290,slow=1.6,SNR=15					
PDAR	**Pinedale Array**	**76.72 46**	P		**P**	**06 17 14.2 +0.9**
SORM	**Soroca**	**76.96 321**	⇓P		**P**	**06 17 14.5 +0.2**
ULM	**Lac du Bonnet**	**78.71 34**	P		**P**	**06 17 23.8 -0.3**
	comp=Z,1.3nm,0.4s,baz=306,slow=5.4,SNR=3.1					
BUR08	**Bucovina Ar. S**	**78.85 322**	P		**P**	**06 17 25.5 +0.5**
BUR08			IAmb	IAmb		06 17 33.1
	comp=Z,9.3nm,0.8s					
BURAR	**Bucovina Array**	**78.86 322**	⇓P		**P**	**06 17 26.0 +0.9**
BURAR	**Bucovina Array**	**78.86 322**	P		**P**	**06 17 25.7 +0.6**
BIZ	**Bicaz**	**78.89 321**	⇓P		**P**	**06 17 26.2 +1.1**
TOPG	**Topolog**	**79.13 319**	⇓P		**P**	**06 17 29.2 +2.8**
KOLS	**Kolonicke sedl**	**79.33 325**	*e*P		**P**	**06 17 28.7 +1.2**
KOLS			*e*			06 17 34.9
KOLS			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KOLS	**Kolonicke sedl**	**79.33 325**	*e*P		**P**	**06 17 28.7 +1.2**
KOLS			*e*			06 17 34.9
OJC	**Ojcow**	**79.51 327**	IAmb	IAmb		06 17 37.7
	comp=Z,18nm,1.0s					
UZH	**Uzhgorod**	**79.54 324**	*e*P		**P**	**06 17 29.6 +1.0**
UZH			*i*			06 17 36.4
BISRR	**Bisoca**	**79.54 320**	⇓P		**P**	**06 17 31.9 +3.2**
BRTR	**Keskin Array B**	**79.57 312**	P		**P**	**06 17 29.4 +0.2**
	comp=Z,0.6nm,0.6s,baz=84,slow=5.0,SNR=2.6					
OZUR		**79.63 321**	⇑P		**P**	**06 17 31.1 +1.9**
PV09	**Paradox Valley**	**79.65 49**	P		**P**	**06 17 31.4 +1.6**
PV23	**Carpenter Ridg**	**79.76 49**	IAmb	IAmb		06 17 33.1
	comp=Z,23nm,1.4s					
TRPA	**Tarpa**	**79.78 324**	⇓P		**P**	**06 17 31.1 +1.2**
PV14	**Lion Creek, Pa**	**79.80 49**	IAmb	IAmb		06 17 41.2
	comp=Z,25nm,1.4s					
PV20	**West Nyswonger**	**79.85 49**	IAmb	IAmb		06 17 33.4
	comp=Z,6.8nm,0.9s					
PV19	**Morning Glory**	**79.86 49**	IAmb	IAmb		06 17 33.5
	comp=Z,9.0nm,0.8s					
PV17	**East Wray Mesa**	**79.90 49**	IAmb	IAmb		06 17 33.8
	comp=Z,12nm,1.0s					
PV16	**Nyswonger Mesa**	**79.90 49**	IAmb	IAmb		06 17 41.8
	comp=Z,17nm,1.4s					
DOPR	**Dopca**	**79.92 321**	⇓P		**P**	**06 17 33.6 +2.8**
PV11	**David Mesa, Pa**	**79.94 49**	IAmb	IAmb		06 17 41.1
	comp=Z,7.4nm,0.7s					
PV05	**Paradox Valley**	**79.94 50**	IAmb	IAmb		06 17 34.1
	comp=Z,9.5nm,1.0s					
PV12	**Saucer Basin,**	**79.97 49**	IAmb	IAmb		06 17 47.6
	comp=Z,13nm,1.4s					
MLR	**Muntele Rosu**	**79.97 320**	⇑P		**P**	**06 17 34.5 +3.3**
PV03	**Paradox Valley**	**79.98 49**	IAmb	IAmb		06 17 41.4
	comp=Z,15nm,1.4s					
PV13	**Radium Mtn., P**	**80.06 49**	IAmb	IAmb		06 17 41.9
	comp=Z,7.7nm,0.8s					
LANS	**Liptovska Anna**	**80.44 326**	*e*P		**P**	**06 17 35.4 +1.9**
LANS			*e*			06 17 42.5
LANS			pmax	pmax		
	comp=Z,6.0nm,1.2s					
LANS	**Liptovska Anna**	**80.44 326**	*e*P		**P**	**06 17 35.4 +1.9**
LANS			*e*			06 17 42.5
VOIR		**80.46 321**	⇓P		**P**	**06 17 37.2 +3.4**
DRGR		**80.66 323**	⇑P		**P**	**06 17 37.9 +3.1**
ARR	**Arges**	**80.72 321**	⇓P		**P**	**06 17 38.5 +3.3**
MORC	**Moravsky Berou**	**80.81 328**	P		**P**	**06 17 36.1 +0.6**
MORC			pmax	pmax		
	comp=Z,12nm,1.1s					
MORC	**Moravsky Berou**	**80.81 328**	⇓P		**P**	**06 17 36.4 +0.9**
MORC	**Moravsky Berou**	**80.81 328**	P		**P**	**06 17 36.1 +0.6**
MORC			IAmb	IAmb		06 17 44.9
	comp=Z,12nm,1.1s					
DPC	**Dobruska-Polom**	**80.90 329**	*e*P		**P**	**06 17 37.0 +1.0**
DPC			*e*			06 17 44.2
DPC	**Dobruska-Polom**	**80.90 329**	*e*P		**P**	**06 17 37.0 +1.0**
DPC			*ep*P		**pwP**	**06 17 44.2 +0.9**
KRLC	**Kraliky**	**80.91 328**	*e*P		**P**	**06 17 36.4 +0.4**
KRLC			*e*			06 17 43.9
KRLC	**Kraliky**	**80.91 328**	*e*P		**P**	**06 17 36.4 +0.4**
KRLC			*ep*P		**pwP**	**06 17 43.9 +0.5**
PSZ	**Piszkesteto**	**81.16 325**	⇑P		**P**	**06 17 38.6 +1.2**
PSZ	**Piszkesteto**	**81.16 325**	IAmb	IAmb		06 17 46.3
	comp=Z,20nm,1.2s					
VYHS	**Vyhne**	**81.21 326**	*e*P		**P**	**06 17 38.2 +0.6**
VYHS			*e*			06 17 45.4
VYHS			pmax	pmax		
	comp=Z,14nm,1.3s					
VYHS	**Vyhne**	**81.21 326**	*e*P		**P**	**06 17 38.2 +0.6**
VYHS			*e*			06 17 45.4
CLL	**Collm**	**81.49 331**	*e*P		**P**	**06 17 39.0 0.0**
CLL			*e*			06 17 46.0
CLL	**Collm**	**81.49 331**	*e*P		**P**	**06 17 39.0 0.0**
CLL			*e*(sP)		**pwP**	**06 17 46.0 -0.4**
GZR	**Gura Zlata**	**81.62 322**	⇓P		**P**	**06 17 43.4 +3.4**
SMOL	**Smolenice**	**81.81 327**	*e*P		**P**	**06 17 41.8 +1.0**
SMOL			*e*			06 17 48.9
SMOL			pmax	pmax		
	comp=Z,7.0nm,0.9s					
SMOL	**Smolenice**	**81.81 327**	*e*P		**P**	**06 17 41.8 +1.0**
SMOL			*e*			06 17 48.9
GOPC	**GO Pecny, Ondr**	**81.86 329**	*e*P		**P**	**06 17 41.4 +0.3**
GOPC			*e*			06 17 48.7
GOPC	**GO Pecny, Ondr**	**81.86 329**	*e*P		**P**	**06 17 41.4 +0.3**
GOPC			*ep*P		**pwP**	**06 17 48.7 +0.2**
PRU	**Pruhonice**	**81.91 329**	*e*P		**P**	**06 17 41.8 +0.5**
PRU			*e*			06 17 48.4
PRU	**Pruhonice**	**81.91 329**	*e*P		**P**	**06 17 41.8 +0.5**
PRU			*ep*P		**pwP**	**06 17 48.4 -0.2**
BZS	**Buzias**	**82.03 323**	⇓P		**P**	**06 17 46.3 +4.3**
TREC	**Trest**	**82.05 328**	*e*P		**P**	**06 17 44.0 +1.9**
TREC			*e*			06 17 56.7
TREC	**Trest**	**82.05 328**	*e*P		**P**	**06 17 44.0 +1.9**
TREC			*ex*		x	06 17 56.7
MDVR	**Moldovita**	**82.59 322**	⇑P		**P**	**06 17 49.1 +4.1**
KHC	**Kasperske Hory**	**82.97 329**	*i* P		**P**	**06 17 46.1 -0.8**
KHC			pmax	pmax		
	comp=Z,6.0nm,0.9s					
KHC	**Kasperske Hory**	**82.97 329**	*e*P		**P**	**06 17 47.2 +0.3**
KHC			*ep*P		**pwP**	**06 17 54.1 -0.2**
GERES	**GERESS Array B**	**83.14 329**	P		**P**	**06 17 47.9 0.0**
	comp=Z,1.0nm,0.5s,baz=33,slow=5.3,SNR=11					
VTS	**Vitosha**	**83.38 320**	⇓P		P	06 17 55.9 +6.7
ANMO	**Albuquerque**	**83.59 51**	*ce*P		**P**	**06 17 50.9 +0.4**
ANMO			pmax	pmax		
	comp=Z,4.0nm,1.3s					
ANMO	**Albuquerque**	**83.59 51**	P		**P**	**06 17 52.5 +2.0**
ANMO			IAmb	IAmb		06 18 01.3
	comp=Z,5.5nm,1.1s					
SNF	**Seneffe**	**85.32 335**	pP		pP	06 18 06.2 +5.3
BMRD	**Maredsous**	**85.33 335**	P		**P**	**06 17 58.6 -0.2**
BMRD	**Maredsous**	**85.33 335**	PcP		**PcP**	**06 18 01.6 -0.3**
BMRD	**Maredsous**	**85.33 335**	pP		pP	06 18 06.4 +5.4
TXAR	**Lajitas Array**	**89.10 53**	P		**P**	**06 18 18.6 +1.1**
	comp=Z,1.6nm,0.7s,baz=297,slow=3.5,SNR=16					
TORD	**Torodi Ar. Bea**	**117.99 316**	PKP		**PKPdf**	**06 24 07.8 -1.4**
	comp=Z,0.7nm,0.9s,baz=6.4,slow=3.2,SNR=3.9					
TORD	**Torodi Ar. Bea**	**117.99 316**			**PKPdf**	**06 24 08.3 -1.0**
LPAZ	**La Paz**	**145.61 61**	PKPbc		**PKPab**	**06 25 02.2 +0.3**
	comp=Z,4.3nm,0.8s,baz=324,slow=3.4,SNR=18					
MNMC	**Minye Minye**	**146.43 66**			**PKPab**	**06 25 04.5 -0.1**
PB11	**IPOC Station P**	**146.78 67**			**PKPab**	**06 25 05.4 -0.3**
GO01	**Chusmiza**	**147.06 67**			**PKPab**	**06 25 07.3

AAK	**Ala-Archa**	**3.01 336**	⇓Pg		**Pb**	**06 11 35.9**	**+2.0**
	54nm,0.5s						
AAK			⇓Lg		Lg	06 12 15.1	
	112nm,0.7s						
AAK	**Ala-Archa**	**3.01 336**	⇓*eP*		**Pb**	**06 11 34.9**	**+1.0**
	baz=33						
AAK			⇓*iS*		**Sb**	**06 12 10.4**	**-0.5**
	baz=33						
AAK	**Ala-Archa**	**3.01 336**	P		**Pb**	**06 11 36.0**	**+2.2**
	SNR=60						
TKM2	**Tokmak 2**	**3.04 352**	⇑Pg		**Pb**	**06 11 36.7**	**+2.2**
	44nm,0.8s						
TKM2			⇓Lg		Lg	06 12 16.3	
	33nm,0.4s						
TKM2	**Tokmak 2**	**3.04 352**	⇓*iP*		**Pb**	**06 11 35.2**	**+0.7**
	baz=50						
TKM2			⇓*iS*		**Sb**	**06 12 10.4**	**-1.7**
	baz=50						
TKM2	**Tokmak 2**	**3.04 352**	P		**Pb**	**06 11 36.7**	**+2.2**
	SNR=15						
PRZ	**Przheval'sk**	**3.08 32**	⇑*iP*		**Pb**	**06 11 35.7**	**+0.6**
	baz=34						
PRZ			⇑*iS*		**Sb**	**06 12 11.4**	**-1.7**
	baz=34						
ANVS	**Anan'yevo**	**3.09 21**	⇓*eP*		**Pb**	**06 11 35.0**	**-0.3**
	baz=21						
ANVS			⇓*eS*		**Sb**	**06 12 10.7**	**-2.7**
	baz=21						
FRU1	**Bishkek**	**3.12 339**	⇓*iP*		**Pb**	**06 11 36.2**	**+0.4**
	baz=36						
FRU1			⇓*iS*		**Sb**	**06 12 13.0**	**-1.2**
	baz=36						
KST	**Kastek**	**3.14 357**	Pg		**Pb**	**06 11 37.7**	**+1.6**
	46nm,0.5s						
KST			Lg		Lg	06 12 20.4	
	60nm,0.6s						
KST	**Kastek**	**3.14 357**	*eP*		**Pb**	**06 11 37.7**	**+1.6**
	46nm,0.5s						
KST			*eS*		**Sg**	**06 12 20.4**	**-0.2**
	60nm,0.6s						
IZV	**Izvestkoviy**	**3.15 6**	Pg		**Pb**	**06 11 38.2**	**+1.9**
	20nm,0.6s						
IZV			Lg		Lg	06 12 21.2	
	50nm,0.7s						
IZV	**Izvestkoviy**	**3.15 6**	*eP*		**Pb**	**06 11 38.2**	**+1.9**
	34nm,0.6s						
IZV			*eS*		**Sg**	**06 12 21.2**	**+0.3**
	50nm,0.7s						
TNSS	**Tian-Shan**	**3.19 10**	Pg		**Pb**	**06 11 38.5**	**+1.5**
	52nm,0.6s						
TNSS			Lg		Lg	06 12 21.5	
	50nm,0.5s						
TNSS	**Tian-Shan**	**3.19 10**	*eP*		**Pb**	**06 11 38.5**	**+1.5**
	52nm,0.6s						
TNSS			*eS*		**Sg**	**06 12 21.5**	**-0.6**
	50nm,0.5s						
CHMS	**Chumysh**	**3.27 342**	⇓*iP*		**Pb**	**06 11 38.5**	**+0.3**
	baz=39						
CHMS			⇓*iS*		**Sb**	**06 12 16.2**	**-2.1**
	baz=39						
CHMS	**Chumysh**	**3.27 342**	P		**Sg**	**06 12 24.0**	**-0.7**
	SNR=5.6						
EKS2	**Erkin-Say**	**3.29 328**	⇑*eP*		**Pb**	**06 11 39.2**	**+0.5**
	baz=25						
EKS2			⇑*iS*		**Sb**	**06 12 17.7**	**-1.3**
	baz=25						
EKS2	**Erkin-Say**	**3.29 328**	P		**Pb**	**06 11 40.0**	**+1.4**
	SNR=20						
MDOK	**Medeo**	**3.32 11**	⇑Pg		**Pg**	**06 11 43.0**	**-0.5**
	44nm,0.4s						
MDOK			⇑Lg		Lg	06 12 24.5	
	51nm,0.8s						
MDOK	**Medeo**	**3.32 11**	Pg		**Pb**	**06 11 40.2**	**+1.0**
	38nm,0.5s						
MDOK			Lg		Lg	06 12 24.7	
	88nm,0.6s						
MDOK	**Medeo**	**3.32 11**	*eP*		**Pb**	**06 11 40.2**	**+1.0**
	44nm,0.5s						
MDOK			*eS*		**Sg**	**06 12 24.7**	**-1.8**
	114nm,0.6s						
DGS	**Degeres**	**3.35 355**	Pg		**Pb**	**06 11 41.1**	**+1.4**
	46nm,0.5s						
DGS			Lg		Lg	06 12 26.5	
	83nm,0.5s						
DGS	**Degeres**	**3.35 355**	*eP*		**Pb**	**06 11 41.1**	**+1.4**
	46nm,0.5s						
DGS			*eS*		**Sg**	**06 12 26.5**	**-0.8**
	83nm,0.5s						
KOTS	**Kotyrbulak**	**3.40 12**	Pg		**Pb**	**06 11 42.3**	**+1.7**
	66nm,0.4s						
KOTS			Lg		Lg	06 12 28.1	
	293nm,0.7s						
KOTS	**Kotyrbulak**	**3.40 12**	*eP*		**Pb**	**06 11 42.5**	**+1.9**
	66nm,0.4s						
KOTS			*eS*		**Sg**	**06 12 28.1**	**-0.9**
	293nm,0.7s						
SATY	**Saty**	**3.58 27**	Pg		**Pb**	**06 11 44.6**	**+1.1**
	62nm,0.5s						
SATY			Lg		Lg	06 12 32.2	
	66nm,0.5s						
SATY	**Saty**	**3.58 27**	*eP*		**Pb**	**06 11 44.6**	**+1.1**
	62nm,0.5s						
SATY			*eS*		**Sg**	**06 12 32.2**	**-2.4**
	66nm,0.5s						
USP	**Ospenovka**	**3.58 340**	⇓*iP*		**Pb**	**06 11 42.8**	**-0.8**
	baz=38						
USP			⇓*iS*		**Sb**	**06 12 23.9**	**-3.5**
	baz=38						
USP	**Ospenovka**	**3.58 340**	P		**Pb**	**06 11 43.9**	**+0.2**
	SNR=8.2						
MRKS	**Merke**	**3.60 323**	Pg		**Pb**	**06 11 45.6**	**+1.7**
	62nm,0.6s						
MRKS			Lg		Lg	06 12 33.5	
	22nm,0.4s						
MRKS	**Merke**	**3.60 323**	*eP*		**Pb**	**06 11 45.8**	**+1.9**
	62nm,0.6s						
MRKS			*eS*		**Sg**	**06 12 34.5**	**-0.8**
	23nm,0.4s						
ZHN	**Zhinishke**	**3.68 27**	Pg		**Pb**	**06 11 47.2**	**+1.9**
	6.6nm,0.2s						
ZHN			Lg		Lg	06 12 36.4	
	16nm,0.3s						
ZHN	**Zhinishke**	**3.68 27**	*eP*		**Pb**	**06 11 47.2**	**+1.9**
	6.6nm,0.2s						
ZHN			*eS*		**Sg**	**06 12 36.4**	**-1.5**
	16nm,0.3s						
ARK	**Arkit**	**3.71 302**	⇑*iP*		**Pb**	**06 11 46.1**	**+0.4**
	baz=99						
ARK			⇑*iS*		**Sb**	**06 12 29.3**	**-1.7**
	baz=99						
SGDS	**Sogindy**	**3.73 343**	Pg		**Pb**	**06 11 47.8**	**+1.7**
	21nm,0.3s						
SGDS			Lg		Lg	06 12 37.3	
	40nm,0.5s						
KTBS	**Karatobe**	**3.83 6**	Pg		**Pb**	**06 11 50.7**	**+3.0**
	24nm,0.8s						
KTBS			Lg		Lg	06 12 42.8	
	48nm,0.5s						
KTBS	**Karatobe**	**3.83 6**	*eP*		**Pb**	**06 11 50.7**	**+3.0**
	24nm,0.8s						
KTBS			*eS*		**Sg**	**06 12 42.8**	**+0.2**
	48nm,0.5s						
KURS	**Kuram**	**3.88 22**	Pg		**Pb**	**06 11 50.0**	**+1.3**
	15nm,0.7s						
KURS			Lg		Lg	06 12 43.2	
	43nm,1.2s						
KURS	**Kuram**	**3.88 22**	*eP*		**Pb**	**06 11 51.0**	**+2.3**
	13nm,0.6s						
KURS			*eS*		**Sg**	**06 12 43.2**	**-1.3**
	43nm,1.2s						
UZB	**Uzynbulak**	**3.89 33**	Pg		**Pb**	**06 11 50.5**	**+1.7**
	15nm,0.5s						
UZB			Lg		Lg	06 12 42.1	
	22nm,0.7s						
UZB	**Uzynbulak**	**3.89 33**	*eP*		**Pb**	**06 11 50.5**	**+1.7**
	15nm,0.5s						
UZB			*eS*		**Sg**	**06 12 42.1**	**-2.4**
	22nm,0.7s						
KUU	**Kurty**	**3.99 2**	Pg		**Pb**	**06 11 52.9**	**+2.4**
	29nm,0.3s						
KUU			Lg		Lg	06 12 46.1	
	70nm,0.9s						
KUU	**Kurty**	**3.99 2**	*eP*		**Pb**	**06 11 53.1**	**+2.6**
	12nm,0.5s						
KUU			*eS*		**Sg**	**06 12 46.1**	**-1.7**
	70nm,0.9s						
KPKS	**Kokpek**	**4.03 27**	*eP*		**Pb**	**06 11 53.5**	**+2.3**
	25nm,0.4s						
KPKS			*eS*		**Sg**	**06 12 47.4**	**-1.7**
	138nm,0.7s						
SHLS	**Shalkode**	**4.09 36**	Pg		**Pg**	**06 11 57.7**	**-0.4**
	33nm,0.4s						
SHLS			Lg		Lg	06 12 54.5	
	40nm,0.5s						
SHLS	**Shalkode**	**4.09 36**	*eP*		**Pg**	**06 11 57.7**	**-0.4**
	33nm,0.4s						
SHLS			*eS*		**Sg**	**06 12 54.5**	**+3.5**
	40nm,0.5s						
BTK	**Batken**	**4.11 274**	⇑*eP*		**Pb**	**06 11 53.3**	**+0.7**
	baz=71						
BTK			⇑*iS*		**Sb**	**06 12 41.7**	**-0.9**
	baz=71						
PDGK	**Podgornoye**	**4.24 35**	Pg		**Pb**	**06 11 57.0**	**+2.3**
	5.8nm,0.5s						
PDGK			Lg		Lg	06 12 53.5	
	13nm,0.5s						
PDGK	**Podgornoye**	**4.24 35**	⇓Pg		**Pg**	**06 11 59.5**	**-1.3**
	8.7nm,0.6s						
PDGK			⇑Lg		Lg	06 12 54.3	
	25nm,0.6s						
MNBS	**Baschi**	**4.49 21**	Pg		**Pb**	**06 12 02.8**	**+3.7**
	26nm,0.8s						
MNBS			Lg		Lg	06 13 03.4	
	42nm,0.8s						
IUG	**Iuzhnay**	**5.15 298**	Pg		**Pb**	**06 12 14.1**	**+3.8**
	1.1nm,0.3s						
IUG			Lg		Lg	06 13 22.8	
	27nm,0.9s						
IUG	**Iuzhnay**	**5.15 298**	*eP*		**Pb**	**06 12 14.1**	**+3.8**
	1.1nm,0.3s						
IUG			*eS*		**Sg**	**06 13 22.8**	**-2.4**
	27nm,0.9s						
DJR	**Jarkent**	**5.18 30**	Pg		**Pb**	**06 12 15.2**	**+4.3**
	13nm,0.5s						
DJR			Lg		Lg	06 13 24.7	
	7.6nm,0.4s						
DJR	**Jarkent**	**5.18 30**	*eP*		**Pb**	**06 12 15.2**	**+4.3**
	13nm,0.5s						
DJR			*eS*		**Sg**	**06 13 24.7**	**-1.4**
	7.6nm,0.4s						
KK31	**Karatay Array**	**5.31 309**	⇑Pg		**Pg**	**06 12 19.6**	**-1.9**
	2.8nm,0.6s,baz=135,slow=18,SNR=10						
KK31			⇑Lg		Lg	06 13 28.5	
	5.8nm,0.5s,baz=122,slow=26,SNR=6.1						
KK31	**Karatay Array**	**5.31 309**			**Pg**	**06 12 19.6**	**-1.9**
TDK	**Taldyqorghan**	**5.36 17**	Pg		**Pg**	**06 12 20.0**	**-2.4**
	43nm,0.1s						
TDK			Lg		Lg	06 13 32.8	
	71nm,0.5s						
BTLS	**Baital**	**5.37 344**	Pg		**Pg**	**06 12 20.1**	**-2.5**
	4.1nm,0.6s						
BTLS			Lg		Lg	06 13 33.1	
	3.1nm,0.4s						
BTLS	**Baital**	**5.37 344**	*eP*		**Pb**	**06 12 17.9**	**+3.9**
	4.1nm,0.6s						
BTLS			*eS*		**Sg**	**06 13 28.8**	**-3.3**
	17nm,0.4s						
BRLS	**Borolday**	**5.69 305**	Pg		Pb	06 12 24.8	+5.4
	0.8nm,0.2s						
BRLS			Lg		Lg	06 13 41.4	
	11nm,0.7s						
WMQ	**Urumqi**	**9.45 62**	*eP*		Pn	06 13 03.5	+7.0
ZSN	**Zaisan**	**9.82 37**	P		Pn	06 13 38.8	+37
	14nm,0.6s						

*IDC **16** 06:50:08.3±0.8,59°.94S×46°.23W,h0km,mb4.2/11, mb1 4.2/12,mb1mx4.1/19,mbtmp4.2/12,ML3.9/1,Error ellipse: s-maj=30.7km s-min=15.6km az=49.0*
*NEIC **16** 06:50:09.6±2.5,60°.13S±0°.08×46°.6W±0°.2,h10km±1km, mb4.5/17*

ISC 16 06:50:09.2±0.5,60°.20S±0°.07×46°.77W±0°.08,h10km,n56, σ1§60/52,mb4.4/16,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.13**	**48**		**Pn**	**06 52 05.2**	**-1.9**
PMSA	**Palmer Station**	**9.21**	**233**	Pn	**Pn**	**06 52 20.1**	**-1.8**
	4.4nm,0.3s,baz=33,slow=10,SNR=36						
PMSA				Sn	**Sn**	**06 54 00.5**	**-4.8**
	1.1nm,0.3s,baz=109,slow=21,SNR=6.9						
PMSA	**Palmer Station**	**9.21**	**233**		**Pn**	**06 52 19.6**	**-2.2**
EFI	**East Falkland**	**10.62**	**319**	Pn	**Pn**	**06 52 42.1**	**+0.8**
USHA	**Ushuaia**	**12.79**	**285**	Pn	**Pn**	**06 53 14.4**	**+3.5**
	0.6nm,0.3s,baz=126,slow=15,SNR=4.7						
SNAA	**Sanae**	**20.67**	**142**	P	Pn	06 54 51.1	-0.1
	11nm,0.8s,baz=283,slow=10,SNR=35						
SNAA	**Sanae**	**20.67**	**142**	P	Pn	06 54 51.1	-0.1
TRQA	**Tornquist**	**24.17**	**330**		**P**	**06 55 26.8**	**+1.3**
TRQA				IAmb	IAmb	06 55 27.6	
	comp=Z,12nm,0.8s						
PLCA	**Paso Flores**	**24.43**	**312**	P	**P**	**06 55 27.9**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=169,slow=8.6,SNR=7.5						
PLCA	**Paso Flores**	**24.43**	**312**	P	**P**	**06 55 28.1**	**+0.2**
QSPA	**South Pole Qui**	**30.04**	**180**	P	**P**	**06 56 18.0**	**-0.1**
CPUP	**Villa Florida**	**34.63**	**343**	P	**P**	**06 56 58.4**	**0.0**
	comp=Z,2.0nm,0.7s,baz=169,slow=9.5,SNR=5.3						
CPUP	**Villa Florida**	**34.63**	**343**	P	**P**	**06 56 58.9**	**+0.5**
CPUP				IAmb	IAmb	06 57 01.5	
	comp=Z,12nm,1.4s						
SBA	**Scott Base**	**40.67**	**190**	P	**P**	**06 57 50.6**	**+1.6**
SBA				IAmb	IAmb	06 57 54.2	
	comp=Z,11nm,1.1s						
MAW	**Mawson**	**42.62**	**148**	P	**P**	**06 58 07.1**	**+2.1**
	comp=Z,1.9nm,0.8s,baz=221,slow=11,SNR=4.1						
MAW	**Mawson**	**42.62**	**148**	P	**P**	**06 58 06.4**	**+1.4**
MNMC	**Minye Minye**	**44.15**	**328**	P	**P**	**06 58 18.5**	**+0.3**
BDFB	**Brasilia**	**44.50**	**358**	P	**P**	**06 58 20.8**	**0.0**
	comp=Z,2.6nm,0.7s,baz=64,slow=27,SNR=4.5						
BDFB	**Brasilia**	**44.50**	**358**	P	**P**	**06 58 21.5**	**+0.7**
BDFB				IAmb	IAmb	06 58 27.9	
	comp=Z,7.1nm,1.5s						
SIV	**San Ignacio**	**45.35**	**340**	P	**P**	**06 58 27.3**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=170,slow=7.8,SNR=20						
LPAZ	**La Paz**	**46.51**	**331**	P	**P**	**06 58 37.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=172,slow=6.5,SNR=3.8						
LPAZ	**La Paz**	**46.51**	**331**	P	**P**	**06 58 38.2**	**+0.9**
SUR	**Sutherland**	**51.47**	**89**	P	**P**	**06 59 14.1**	**-0.7**
	comp=Z,8.1nm,1.0s,baz=209,slow=13,SNR=3.7						
SUR	**Sutherland**	**51.47**	**89**	P	**P**	**06 59 14.6**	**-0.2**
SAML	**Samuel**	**52.61**	**339**	P	**P**	**06 59 23.0**	**-0.1**
SAML				IAmb	IAmb	06 59 24.0	
	comp=Z,5.9nm,1.0s						
BOSA	**Boshof**	**56.75**	**90**	P	**P**	**06 59 50.9**	**-2.3**
	comp=Z,4.0nm,1.0s,baz=231,slow=6.5,SNR=2.6						
BOSA	**Boshof**	**56.75**	**90**	P	**P**	**06 59 52.6**	**-0.7**
H10N3	**ASCENSION HYDR**	**57.59**	**39**	T	T	08 02 49.8	
	baz=199,slow=75,SNR=5.0						
H10N1	**ASCENSION HYDR**	**57.60**	**39**	T	T	08 02 49.7	
	baz=199,slow=75,SNR=4.3						
H10N2	**ASCENSION HYDR**	**57.61**	**39**	T	T	08 02 50.1	
	baz=199,slow=75,SNR=7.3						
LBTB	**Lobatse**	**59.89**	**88**	P	**P**	**07 00 13.8**	**-1.4**
OTAV	**Otavalo**	**65.07**	**325**	P	**P**	**07 00 50.0**	**-0.2**
OTAV				IAmb	IAmb	07 00 51.0	
	comp=Z,4.0nm,1.0s						
OUZ	**Omahuta**	**79.30**	**213**	P	**P**	**07 02 15.2**	**+0.6**
OUZ				IAmb	IAmb	07 02 15.4	
	comp=Z,3.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**82.71**	**47**	P	**P**	**07 02 32.6**	**-0.3**
TOA0				IAmb	IAmb	07 02 32.9	
	comp=Z,2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.71**	**47**	P	**P**	**07 02 32.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=207,slow=5.0,SNR=9.9						
TORD	**Torodi Ar. Bea**	**82.71**	**47**	P	**P**	**07 02 30.8**	**-2.1**
ASAR	**Alice Springs**	**96.44**	**181**	P	**P**	**07 03 40.6**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=181,slow=3.9,SNR=3.7						
ASAR	**Alice Springs**	**96.44**	**181**	P	**P**	**07 03 40.8**	**+2.3**
WRA	**Warramunga Arr**	**100.14**	**181**	P	**Pdif**	**07 03 58.6**	**+3.4**
	comp=Z,0.4nm,0.9s,baz=180,slow=4.2,SNR=3.4						
ABKAR	**Akbulak array**	**138.47**	**71**		**PKPdf**	**07 09 32.0**	**-1.7**
IL31		**145.12**	**312**		**PKPbc**	**07 09 43.0**	**-1.7**
ILAR	**Eielson Array**	**145.12**	**312**	PKPbc	**PKPbc**	**07 09 43.1**	**-1.6**
	comp=Z,2.7nm,1.0s,baz=149,slow=2.6,SNR=14						
ILAR	**Eielson Array**	**145.12**	**312**		**PKPbc**	**07 09 42.9**	**-1.8**
CCB	**Clear Creek Bu**	**145.39**	**312**		**PKPdf**	**07 09 43.5**	**-2.1**
WRH	**Wood River Hil**	**145.41**	**312**		**PKPdf**	**07 09 44.1**	**-1.5**
BMAR	**Burnt Mountain**	**145.62**	**317**		**PKPdf**	**07 09 45.2**	**-0.9**
BRVK	**Borovoye**	**145.88**	**73**		**PKPdf**	**07 09 45.8**	**-1.0**
BVAR	**Borovoye Array**	**145.91**	**73**	PKPbc	**PKPdf**	**07 09 45.7**	**-1.2**
	comp=Z,4.1nm,0.6s,baz=225,slow=4.0,SNR=21						
BPAW	**Bear Paw Mtn.**	**146.32**	**310**		**PKPdf**	**07 09 46.6**	**-0.7**
MK31	**Makanchi Array**	**147.75**	**91**		**PKPdf**	**07 09 50.7**	**+0.5**
MKAR	**Makanchi Array**	**147.75**	**91**	PKPbc	**PKPdf**	**07 09 50.6**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=238,slow=2.2,SNR=9.5						
IMAR	**Indian Mountai**	**148.22**	**312**		**PKPdf**	**07 09 52.2**	**+1.8**
KURBB	**Kurchatov Arra**	**148.39**	**83**	PKPbc	**PKPdf**	**07 09 52.3**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=236,slow=3.7,SNR=4.1						
MJAR	**Matsushiro Arr**	**156.11**	**190**	PKPdf	**PKPdf**	**07 10 04.4**	**+1.3**
MAJO	**Matsushiro**	**156.11**	**190**	PKPdf	**PKPdf**	**07 10 04.1**	**+1.0**
MJB9	**Matsu-Tunnel**	**156.12**	**190**	PKPdf	**PKPdf**	**07 10 04.1**	**+1.0**

*IDC **16** 06:52:07.9±1.4,60°.42S×47°.09W,h0km,mb4.1/7, mb1 4.2/7,mb1mx4.0/19,mbtmp4.1/7,Error ellipse: s-maj=65.7km s-min=21.7km az=53.0*
*ISCJB **16** 06:52:08.8±0.5,60°.11S±0°.08×46°.1W±0°.2,h10km,mb4.0/6, Error ellipse: s-maj=16.6km s-min=8.1km az=149.4*
*NEIC **16** 06:52:11.0±2.2,60°.07S±0°.06×46°.2W±0°.2,h10km±1km, mb4.4/10*

ISC 16 06:52:10.3±0.6,60°.17S±0°.09×46°.3W±0°.1,h10km,n35, σ1§19/30,mb4.2/10,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.95**	**46**	Pn	**Pn**	**06 54 03.9**	**-1.9**
VNA3	**Neumayer Olymp**	**18.33**	**142**	P	**Pn**	**06 56 24.1**	**-0.2**
VNA1	**Neumayer--Stat**	**18.60**	**140**	P	**P**	**06 56 27.1**	**-0.1**
VNA2	**Neumayer--Watz**	**18.95**	**141**	P	**P**	**06 56 31.6**	**+0.5**
	baz=295,slow=7.9						
SNAA	**Sanae**	**20.55**	**142**	P	Pn	06 56 51.0	+0.2
SNAA	**Sanae**	**20.55**	**142**	P	**P**	**06 56 49.2**	**+0.6**
	15nm,0.9s,baz=286,slow=9.9,SNR=13						
SNAA	**Sanae**	**20.55**	**142**	P	Pn	06 56 51.3	+0.5
SNAA				IAmb	IAmb	06 56 51.8	
	comp=Z,25nm,1.0s						
TRQA	**Tornquist**	**24.27**	**329**	P	**P**	**06 57 28.8**	**+1.4**
TRQA				IAmb	IAmb	06 57 29.4	
	comp=Z,8.8nm,0.8s						
PLCA	**Paso Flores**	**24.58**	**311**	P	**P**	**06 57 29.9**	**-0.4**
QSPA	**South Pole Qui**	**30.07**	**180**	P	**P**	**06 58 18.4**	**-1.0**
QSPA				IAmb	IAmb	06 58 20.7	
	comp=Z,8.9nm,1.1s						
CFA	**Coronel Fontan**	**32.07**	**323**	P	**P**	**06 58 37.3**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=189,slow=13,SNR=10						
CPUP	**Villa Florida**	**34.67**	**342**	P	**P**	**06 59 00.5**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=194,slow=11,SNR=3.2						
CPUP	**Villa Florida**	**34.67**	**342**	P	**P**	**06 59 01.1**	**+1.3**
BDFB	**Brasilia**	**44.48**	**358**	P	**P**	**07 00 22.1**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=167,slow=2.2,SNR=3.7						
BDFB	**Brasilia**	**44.48**	**358**	P	**P**	**07 00 22.8**	**+1.1**
SIV	**San Ignacio**	**45.41**	**340**	P	**P**	**07 00 28.6**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=172,slow=7.0,SNR=6.6						
LPAZ	**La Paz**	**46.60**	**331**	P	**P**	**07 00 37.2**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=121,slow=6.0,SNR=2.5						
LPAZ	**La Paz**	**46.60**	**331**	P	**P**	**07 00 37.9**	**-1.2**
SAML	**Samuel**	**52.66**	**339**	P	**P**	**07 01 24.9**	**+0.3**
SAML				IAmb	IAmb	07 01 25.4	
	comp=Z,3.8nm,1.0s						
H10N3	**ASCENSION HYDR**	**57.43**	**38**	T	T	08 04 47.8	
	baz=199,slow=75,SNR=38						
H10N1	**ASCENSION HYDR**	**57.44**	**38**	T	T	08 04 47.9	
	baz=199,slow=75,SNR=32						
H10N2	**ASCENSION HYDR**	**57.45**	**38**	T	T	08 04 49.5	
	baz=199,slow=75,SNR=32						
LBTB	**Lobatse**	**59.66**	**88**	P	**P**	**07 02 15.1**	**+0.4**
LBTB				IAmb	IAmb	07 02 23.2	
	comp=Z,2.2nm,0.8s						
OUZ	**Omahuta**	**79.44**	**212**	P	**P**	**07 04 17.7**	**+1.2**
TORD	**Torodi Ar. Bea**	**82.53**	**47**	P	**P**	**07 04 36.3**	**+3.3**
	comp=Z,1.1nm,0.8s,baz=221,slow=5.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**82.53**	**47**	P	**P**	**07 04 33.7**	**+0.7**
BOZ	**Bozeman (W)**	**118.04**	**314**		**PKPdf**	**07 10 55.3**	**-1.1**
ILAR	**Eielson Array**	**145.27**	**312**	PKPbc	**PKPbc**	**07 11 44.5**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=157,slow=2.9,SNR=8.9						
ILAR	**Eielson Array**	**145.27**	**312**		**PKPbc**	**07 11 45.3**	**-1.0**
BVAR	**Borovoye Array**	**145.68**	**73**	PKPbc	**PKPdf**	**07 11 46.8**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=232,slow=1.7,SNR=7.1						
MDM	**Murphy Dome**	**145.86**	**312**	PKPdf	**PKPab**	**07 11 48.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**146.48**	**310**	PKPdf	**PKPdf**	**07 11 48.5**	**-0.1**
MKAR	**Makanchi Array**	**147.52**	**91**	PKPbc	**PKPdf**	**07 11 51.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=205,slow=1.1,SNR=5.8						
MKAR	**Makanchi Array**	**147.52**	**91**		**PKPdf**	**07 11 51.3**	**+0.3**
IMAR	**Indian Mountai**	**148.38**	**312**		**PKPbc**	**07 11 53.5**	**-1.7**

NNC 16 07:04:01.5±0.2,50°.01N×78°.70E,h0km,mb3.8,mpv3.4, 20C-3D,Error ellipse: s-maj=2.5km s-min=1.1km az=68.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.58**	**349**	⇑P	Pg	07 04 13.0	+0.3
KUR07				⇑S	Sg	07 04 21.6	+1.3
KUR06	**Kurchatov Arra**	**0.60**	**349**	⇑P	Pg	07 04 13.4	+0.4
KUR06				⇑S	Sg	07 04 22.0	+1.1
KUR14	**Kurchatov Arra**	**0.61**	**354**	⇑P	Pg	07 04 13.3	+0.2
KUR14				⇑S	Sg	07 04 21.6	+0.6
KUR15	**Kurchatov Arra**	**0.61**	**352**	⇑P	Pg	07 04 13.5	+0.2
KUR15				⇑S	Sg	07 04 22.1	+0.8
KURBB	**Kurchatov Arra**	**0.62**	**350**	⇑P	Pg	07 04 13.8	+0.4
	32nm,0.3s						
KURBB				⇓S	Sg	07 04 22.4	+0.9
	132nm,0.5s						
KUR16	**Kurchatov Arra**	**0.63**	**348**	⇑P	Pg	07 04 13.7	+0.2
K

HRA	Herat	5.47	321		Pn	07 21 19.2	+1.8
CEP	Cherat	5.92	51	P	Pn	07 21 24.2	+0.7
NIL	Nilore	6.77	58		Pn	07 21 35.1	+0.1
CHCP	Chirah Chowk	6.78	58	P	Pn	07 21 35.2	-0.1
BHUJ	Bhuj	7.49	156	eP	Pn	07 21 46.8	+1.8
BHUJ				IAML		07 23 11.9	
	comp=E,33nm,0.1s						
BHUJ				IAML		07 23 11.9	
	comp=N,44nm,0.4s						
DHRM	DHARAMSHALA	8.72	74	eP	Pn	07 22 02.7	+0.6
DHRM				eS	Sn	07 23 37.0	-2.3
DHRM				IAML		07 23 47.0	
	comp=E,89nm,0.8s						
DHRM				IAML		07 23 50.5	
	comp=N,51nm,0.5s						
CHGR	Chuyangaron	8.75	14		Pn	07 22 02.8	+0.5
KUDL	Kundal	9.05	101	eP	Pn	07 21 57.5	-8.8
KUDL				eS	Sn	07 23 34.1	-13
KUDL				IAML		07 23 41.3	
	comp=E,19nm,0.6s						
KUDL				IAML		07 23 42.8	
	comp=N,15nm,0.4s						
SMLA	Simla	9.32	82	eP	Pn	07 22 12.1	+2.1
SMLA				eS	Sn	07 23 50.5	-3.1
SMLA				IAML		07 23 57.5	
	comp=N,93nm,0.4s						
SMLA				IAML		07 24 01.7	
	comp=E,285μm,2.2s						
GAR	Garm	9.36	19		Pn	07 22 10.5	-0.3
WSAR	Wadi Sarin	9.80	227	Pn	Pn	07 22 15.1	-1.6
	comp=E,2.0nm,0.3s,baz=58,slow=8.6,SNR=9.3						
UOSS	Minazif	10.44	242		Pn	07 22 24.4	-1.1
BTK	Batken	10.49	19		Pn	07 22 25.9	-0.2
JOSI	Joshimath	11.37	85	eP	Pn	07 22 38.9	+0.6
JOSI				eS	Sn	07 24 39.2	-5.0
JOSI				IAML		07 25 00.4	
	comp=N,53nm,0.9s						
JOSI				IAML		07 25 01.0	
	comp=E,80nm,0.8s						
ARSB	Arslanbob	12.32	24	Pn	Pn	07 22 54.0	+2.7
KK31	Karatay Array	13.30	13		Pn	07 23 04.0	-0.5
KKAR	Karatay Array	13.30	13		Pn	07 23 03.7	-0.8
KKAR	Karatay Array	13.30	13		Pn	07 23 04.0	-0.5
NRN	Naryn	13.65	32		Pn	07 23 07.2	-2.3
AAK	Ala-Archa	14.02	25	Pn	Pn	07 23 13.5	-0.9
	comp=E,0.7nm,0.3s,baz=251,slow=6.4,SNR=12						
AAK				Sn	Sn	07 25 48.8	0.0
	comp=E,0.2nm,0.3s,baz=281,slow=5.6,SNR=3.5						
AAK	Ala-Archa	14.02	25		Pn	07 23 12.4	-2.0
AAK					Sn	07 25 48.5	-0.3
BOOM	Boomskoye usch	14.47	29		Pn	07 23 20.0	-0.6
TARG	Taragay, Kyrgy	14.74	36		Pn	07 23 22.6	-1.9
KOLN	Koldanda	15.24	95	eP	Pn	07 23 30.2	-0.8
DANN	Dangsing	15.26	93	eP	Pn	07 23 30.3	-1.0
	comp=E,72nm,0.6s						
DMN	Daman	16.58	94	eP	Pn	07 23 47.7	-0.6
KKN	Kakani	16.69	94	eP	Pn	07 23 49.4	-0.2
PKIN	Phulchoki	16.84	94	eP	Pn	07 23 50.7	-0.8
PKI	Pulchoki	16.85	94	eP	Pn	07 23 50.6	-1.1
GUN	Gumba	17.18	93	eP	Pn	07 23 54.9	-1.0
	comp=E,68nm,0.5s						
JIRN	Jiri	17.51	93	eP	Pn	07 23 59.9	0.0
	comp=E,60nm,0.5s						
RAMN	Ramite	18.03	95	eP	Pn	07 24 05.0	-1.3
ODAN	Odare	18.74	95	eP	P	07 24 14.0	-0.3
	comp=E,17nm,0.6s						
TAPN	Taplejung	18.89	93	eP	Pn	07 24 17.1	+0.3
	comp=E,17nm,0.6s						
ABKAR	Akbulak array	19.67	347	P	P	07 24 23.7	-0.3
ABKAR	Akbulak array	19.67	347	P	P	07 24 23.9	-0.1
ABKAR				IAmb	IAmb	07 24 39.3	
	comp=Z,3.6nm,0.8s						
RAYN	Ar Rayn	19.78	255	P	P	07 24 23.9	-1.6
RAYN				IAmb	IAmb	07 24 24.9	
	comp=Z,4.3nm,0.7s						
MAKZ	Makanchi	20.53	32	P	P	07 24 34.4	+1.0
MAKZ				IAmb	IAmb	07 24 43.1	
	comp=Z,9.6nm,0.8s						
MK31	Makanchi Array	20.66	32	P	P	07 24 34.6	-0.3
MK31				IAmb	IAmb	07 24 45.5	
	comp=Z,5.7nm,0.8s						
MKAR	Makanchi Array	20.66	32	P	P	07 24 34.6	-0.2
	comp=Z,3.4nm,0.6s,baz=216,slow=9.5,SNR=18						
MKAR	Makanchi Array	20.66	32	P	P	07 24 34.5	-0.4
AKTO	Aktyubinsk	21.18	345	P	P	07 24 40.4	0.0
	comp=Z,0.8nm,0.4s,baz=174,slow=11,SNR=5.2						
LSA	Lhasa	21.44	85		P	07 24 46.2	+2.2
WMQ	Urumqi	21.70	45	eP	P	07 24 47.1	+1.0
WMQ				LR	LR		
	comp=N,340nm,9.9s						
WMQ				LR	LR		
	comp=E,260nm,7.5s						
WMQ				LR	LR		
	comp=Z,400nm,8.7s						
KURBB	Kurchatov Arra	22.35	21	P	P	07 24 53.5	+0.6
	comp=Z,2.6nm,0.8s,baz=212,slow=9.4,SNR=12						
KURK	Kurchatov	22.46	21	P	P	07 24 54.0	0.0
KURK				IAmb	IAmb	07 25 07.7	
	comp=Z,5.7nm,0.9s						
BVAR	Borovoye Array	23.01	6	P	P	07 24 59.6	-0.2
	comp=Z,1.3nm,0.5s,baz=171,slow=10,SNR=7.0						
BRVK	Borovoye	23.03	6	P	P	07 24 59.6	-0.5
BRVK				IAmb	IAmb	07 25 07.4	
	comp=Z,5.7nm,0.8s						
ZALV	Zalesovo Beam	27.23	24	P	P	07 25 40.5	+1.8
	comp=Z,1.3nm,0.6s,baz=224,slow=11,SNR=5.4						
ZALV	Zalesovo Beam	27.23	24	P	P	07 25 42.8	+4.1
GTA	Gaotai	28.80	62	eP	P	07 25 56.4	+3.3
GTA				pP	pP	07 26 03.8	+0.2
GTA				sP	sP	07 26 06.8	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELL	Elmali	31.00	292	P	P	07 26 12.4	-0.2
LZH	Lanzhou	31.76	69	eP	P	07 26 18.8	-0.5
LZH				pP	pP	07 26 25.6	-4.2
LZH				sP	sP	07 26 28.8	-5.5
LZH				ePP	PnPn	07 27 24.3	+0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				pmax	pmax		
	comp=Z,59nm,5.0s						
XAN	Xi'an	36.03	73	P	P	07 27 01.8	+5.5
XAN				pP	sP	07 27 14.3	+2.9
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HHC	Hu-ho-hao-te	37.90	61	eP	P	07 27 13.1	+1.0
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,9.0nm,5.8s						
WHN	Wuhan	41.12	77	P	P	07 27 50.3	+11
NOA	NORSAR Array B	47.34	327	P	P	07 28 29.0	+0.7
	comp=Z,1.9nm,1.0s,baz=109,slow=7.6,SNR=2.5						
TOA0	Torodi Ar. Sit	61.74	269	P	P	07 30 11.9	-1.6
TOA0				IAmb	IAmb	07 30 12.0	
	comp=Z,2.1nm,0.8s						
TORD	Torodi Ar. Bea	61.74	269	P	P	07 30 11.6	-1.9
	comp=Z,1.1nm,0.5s,baz=58,slow=6.4,SNR=10						
TORD	Torodi Ar. Bea	61.74	269	P	P	07 30 11.1	-2.4
INK	Inuvik	80.69	7	P	P	07 32 07.9	+0.7
	comp=Z,0.9nm,0.8s,baz=345,slow=7.1,SNR=2.7						
INK	Inuvik	80.69	7	P	P	07 32 08.5	+1.3
INK				IAmb	IAmb	07 32 14.8	
	comp=Z,3.0nm,1.1s						
ILAR	Eielson Array	81.85	14	P	P	07 32 14.5	+1.1
	comp=Z,1.0nm,1.0s,baz=320,slow=3.2,SNR=6.9						
WRA	Warramunga Arr	82.16	118	P	P	07 32 17.0	+1.2
	comp=Z,0.6nm,0.8s,baz=321,slow=4.9,SNR=6.6						
WB2	Warramunga Arr	82.17	118	P	P	07 32 17.0	+1.2
ASAR	Alice Springs	84.03	122	P	P	07 32 26.6	+1.2
	comp=Z,0.6nm,0.6s,baz=311,slow=5.4,SNR=9.4						
ASAR	Alice Springs	84.03	122	P	P	07 32 26.3	+1.0

*IDC **16** 07:32:44.1±2.2,60.°44S×46.°77W,h0km,mb4.1/2, mb1 4.2/2,mb1mx3.8/14,mbtmp4.1/2, Error ellipse: s-maj=127.6km s-min=50.9km az=11.0*
*ISCJB **16** 07:32:45.1±0.5,60.°26S±0.°07×46.°5W±0.°2,h10km,mb4.2/2, Error ellipse: s-maj=12.6km s-min=8.8km az=42.2*
*NEIC **16** 07:32:46.5±2.2,60.°3S±0.°1×46.°8W±0.°2,h10km±1km, mb4.6/13*
ISC 16 07:32:46.4±0.6,**60.°3S**±0.°1×**46.°7W**±0.°1,**h10km**,**n41**, σ0.91/37,**mb4.5**/7,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.18	47	Pn	Pn	07 34 43.9	-1.1
HOPE				Sn	Sn	07 36 18.4	+1.0
SNAA	Sanae	20.56	141	P	Pn	07 37 28.0	+0.9
TRQA	Tornquist	24.29	330		P	07 38 05.0	+1.4
TRQA				IAmb	IAmb	07 38 06.3	
	comp=Z,11nm,1.0s						
PLCA	Paso Flores	24.53	312	P	P	07 38 05.8	-0.2
QSPA	South Pole Qui	29.93	180	P	P	07 38 55.2	+1.0
QSPA				IAmb	IAmb	07 38 57.5	
	comp=Z,8.0nm,1.1s						
MNMC	Minye Minye	44.27	328	P	P	07 40 57.0	+0.8
MNMC				IAmb	IAmb	07 40 57.4	
	comp=Z,4.9nm,0.6s						
SAML	Samuel	52.73	339	P	P	07 42 01.3	+0.3
BOSA	Boshof	56.72	90	P	P	07 42 29.8	-0.3
	comp=Z,3.8nm,0.9s,baz=225,slow=5.7,SNR=3.1						
BOSA	Boshof	56.72	90	P	P	07 42 29.6	-0.5
BOSA				IAmb	IAmb	07 42 31.1	
	comp=Z,13nm,1.1s						
H10N3	ASCENSION HYDR	57.66	39	T	T	08 45 27.1	
	baz=199,slow=75,SNR=11						
H10N1	ASCENSION HYDR	57.66	39	T	T	08 45 24.5	
	baz=199,slow=75,SNR=6.8						
H10N2	ASCENSION HYDR	57.68	39	T	T	08 45 29.8	
	baz=199,slow=75,SNR=12						
LBTB	Lobatse	59.86	88	P	P	07 42 52.3	+0.2
LBTB				IAmb	IAmb	07 42 52.5	
	comp=Z,4.1nm,0.8s						
LTZ	Lake Taylor	72.42	209	P	P	07 44 12.4	-0.1
HIZ	Hauiti	75.78	212	P	P	07 44 34.1	+2.0
OUZ	Omahuta	79.22	213	P	P	07 44 50.5	-0.8
OUZ				IAmb	IAmb	07 44 51.2	
	comp=Z,4.9nm,0.9s						
TORD	Torodi Ar. Bea	82.76	47	P	P	07 45 10.3	0.0
	comp=Z,0.8nm,0.7s,baz=214,slow=6.2,SNR=4.4						
TORD	Torodi Ar. Bea	82.76	47	P	P	07 45 10.5	+0.2
TAOE	Nuku Hiva Isla	84.09	263	P	P	07 45 16.4	-1.0
YHL	Hebgen Lake	117.20	314	PKPdf	PKPdf	07 51 30.4	-0.6
NRS	Narsarsuaq	121.15	1	PKPdf	PKiKP	07 51 39.8	+2.1
PMR	Palmer	144.38	307	PKPdf	PKPab	07 52 18.7	-0.6
GHO	Glory Hole Cre	144.40	307	PKPdf	PKPbc	07 52 19.4	-0.3
IL31		145.22	312		PKPbc	07 52 21.4	-0.7
ILAR	Eielson Array	145.22	312	PKPbc	PKPbc	07 52 21.1	-1.1
	comp=Z,4.5nm,1.0s,baz=137,slow=2.2,SNR=32						
ILAR	Eielson Array	145.22	312		PKPbc	07 52 21.3	-0.9
RND	Reindeer	145.25	309		PKPab	07 52 22.3	-0.2
CCB	Clear Creek Bu	145.50	312		PKPdf	07 52 22.2	-0.7
WRH	Wood River Hil	145.51	311		PKPdf	07 52 22.5	-0.4
BMAR	Burnt Mountain	145.73	317		PKPdf	07 52 23.3	0.0
MDM	Murphy Dome	145.81	312	PKPdf	PKPab	07 52 24.7	+0.1
BRVK	Borovoye	145.87	73	PKPdf	PKPdf	07 52 24.1	+0.2
PPLA	Purkeypile	146.29	307	PKPdf	PKPdf	07 52 24.8	+0.2
BPAW	Bear Paw Mtn.	146.42	310		PKPdf	07 52 24.6	+0.1
MLY	Manley	146.78	311	PKPbc	PKPbc	07 52 27.3	+0.3
MK31	Makanchi Array	147.71	91	PKPdf	PKPbc	07 52 29.0	-1.2
MKAR	Makanchi Array	147.71	91	PKPbc	PKPbc	07 52 28.9	-1.3
	comp=Z,1.0nm,0.5s,baz=244,slow=2.1,SNR=6.8						
MKAR	Makanchi Array	147.71	91		PKPdf	07 52 28.6	+1.3
TOLK	Toolik Lake Re	147.96	318	PKPbc	PKPbc	07 52 29.4	-0.8
IMAR	Indian Mountai	148.33	312	PKPbc	PKPbc	07 52 30.3	-0.9
ADK	Adak	151.51	275	PKPab	PKPab	07 52 46.5	-1.3

*IGQ **16** 07:42:01.9±0.5,0.°S±2.°×7.°7W±.°,h5km,Mjma3.5,ML4.2, MLv3.8*
ISC 16 07:42:00.9±1.3,**0.°22S**±0.°03×**77.°17W**±0.°03,**h4km**±12**km**, **n41**,σ1.05/61,**Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASC	Dorado de Casc	0.40	334	P	Pg	07 42 09.1	+0.5
CASC				S	Sg	07 42 14.5	+0.7
REVS	Reventador Sur	0.47	284	P	Pg	07 42 10.4	+0.4
LAV4	Lava4-Reventad	0.48	285	P	Pg	07 42 10.5	+0.3
ARDO	Archidona, Ten	1.00	220	P	Pg	07 42 20.0	-0.1
ARDO				S	Sg	07 42 33.8	+0.7
ATEN	Tena	1.01	220	P	Pg	07 42 19.1	-1.3
ATEN				S	Sg	07 42 33.1	-0.4
YAHU	Yahuarcocha	1.08	303	P	Pg	07 42 20.9	-0.8
YAHU				S	Sg	07 42 35.1	-0.6
AIB2	Ibarra (Univer	1.09	301	P	Pg	07 42 21.5	-0.5
AIB2				S	Sg	07 42 36.2	+0.1
TULM	Tulcn-Chalpat	1.12	326	P	Pg	07 42 21.7	-0.8
ATUL	Tulcn	1.13	331	P	Pg	07 42 22.6	-0.1
ATUL				S	Sg	07 42 37.3	-0.1
IMBA	Imbabura, San	1.15	296	P	Pg	07 42 23.0	0.0
URCU	Urcuqui	1.27	301	P	Pg	07 42 24.9	-0.5
URCU				S	Sb	07 42 42.5	-0.1
CUSW	Cuicocha Oeste	1.29	293	P	Pg	07 42 25.4	-0.2
VC1	Cotopaxi 1	1.30	251	P	Pg	07 42 25.8	-0.2
BTAM	Cotopaxi Volca	1.31	250	P	Pg	07 42 26.0	-0.1
BVC2	Cotopaxi Volca	1.32	251	P	Pg	07 42 26.2	-0.1
CUSE	Cuicocha Este	1.34	293	P	Pg	07 42 25.9	-0.7
PULU	Pululahua	1.36	280	P	Pg	07 42 26.3	-0.8
OTAV	Otavalo	1.36	290	P	Pg	07 42 26.0	-1.1
BNAS	Cotopaxi Volca	1.39	251	P	Pn	07 42 27.6	0.0
YANA	Yana	1.41	274	P	Pn	07 42 27.5	-0.4
GGPC	Guagua Pichinc	1.43	272	P	Pn	07 42 27.7	-0.6
TERV	Terraza Guagua	1.44	272	P	Pn	07 42 28.1	-0.2
PISA	Pisayambo	1.48	236	P	Pn	07 42 28.6	-0.2
PIS1	Pisayambo	1.48	236	P	Pn	07 42 28.6	-0.2
PAC1	Pacto, Paraso	1.69	287	P	Pn	07 42 31.7	+0.2
BRUN	Tungurahua Vol	1.72	226	P	Pn	07 42 32.5	+0.4
BULB	Ulba Tungurahu	1.73	226	P	Pn	07 42 32.5	+0.2
CRUC	La Cruz	1.79	7	eP	Pn	07 42 33.2	+0.2
CRUC				eS	Sb	07 42 58.0	+0.5
CRUC				i		07 43 01.4	
	comp=Z,307nm,0.5s						
CRUC	La Cruz	1.79	7	eP	Pn	07 42 33.2	+0.2
CRUC				eS	Sb	07 42 58.0	+0.5
CRUC				i		07 43 01.4	
	comp=Z,307nm,0.5s						
BPAT	Tungurahua Vol	1.80	225	P	Pn	07 42 33.7	+0.5
BPAT				S	Sb	07 42 58.2	+0.4
BMAS	Trigal station	1.83	226	P	Pn	07 42 33.8	+0.3
BBAC	Balboa, Cauca	2.23	358	eP	Pn	07 42 39.0	+0.1
BBAC				eS	Sb	07 43 10.1	+0.1
BBAC				i		07 43 17.1	
	comp=Z,103nm,0.5s						
BBAC	Balboa, Cauca	2.23	358	eP	Pn	07 42 39.0	+0.1
BBAC				eS	Sb	07 43 10.1	+0.1
BBAC				i		07 43 17.1	
	comp=Z,103nm,0.5s						
FLOC	Florencia	2.35	40	eP	Pn	07 42 38.8	-1.6
FLOC				eS	Sb	07 43 13.3	+0.1
FLOC				i		07 43 15.6	
	comp=Z,244nm,0.3s						
FLOC	Florencia	2.35	40	eP	Pn	07 42 38.8	-1.6
FLOC				eS	Sb	07 43 13.3	+0.1
FLOC				i		07 43 15.6	
	comp=Z,244nm,0.3s						
PTLC	Puerto Leguiza	2.40	81	eP	Pn	07 42 39.6	-1.5
PTLC				eS	Sn	07 43 10.6	-0.4
PTLC				i		07 43 21.8	
	comp=Z,160nm,0.2s						
PTLC	Puerto Leguiza	2.40	81	eP	Pn	07 42 39.6	-1.5
PTLC				eS	Sn	07 43 10.6	-0.4
PTLC				i		07 43 21.8	
	comp=Z,160nm,0.2s						
MACC	Macarena, Meta	4.07	55	eP	Pn	07 43 03.0	-1.1
MACC				eS	Sb	07 44 03.9	+1.1
MACC				i		07 44 19.7	
	comp=Z,108nm,0.4s						
MACC	Macarena, Meta	4.07	55	eP	Pn	07 43 03.0	-1.1
MACC				eS	Sb	07 44 03.9	+1.1
MACC				i		07 44 19.7	
	comp=Z,108nm,0.4s						
GUVC	San Jose del G	5.30	59	eP	Pg	07 43 42.3	-0.4
GUVC				eS	Sb	07 44 42.8	+4.3
GUVC				i		07 44 55.0	
	comp=Z,89nm,0.3s						
GUVC	San Jose del G	5.30	59	eP	Pg	07 43 42.3	-0.4
GUVC				eS	Sb	07 44 42.8	+4.3
GUVC				i		07 44 55.0	
	comp=Z,89nm,0.3s						

*SOF **16** 07:42:26.2,43.°35N×21.°20E,h12km*
*NEIC **16** 07:42:31.5±2.5,43.°01N±0.°04×21.°15E±0.°08,h10km±2km, ML2.9(TIR)*

*TIR **16** 07:42:32.1,42.°83N×21.°10E,h11km,Md2.9/3*
*PDG **16** 07:42:34.0±0.3,42.°86N×20.°92E,h17km,ML3.0/10,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*SIK **16** 07:42:34.4,42.°87N×21.°03E,h0km,M2.9*
*BEO **16** 07:42:34.4±0.4,42.°89N×21.°06E,h5km,ML3.0/16*
ISC 16 07:42:32.8±1.1,**42.°86N**±0.°02×**20.°97E**±0.°01,**h6km**±9**km**, **n73**,σ1.48/117,**22C-15D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	Selova	0.37	17	ePg	Pg	07 42 40.0	0.0
SELS				eSg	Sg	07 42 45.3	+0.4
BARS	Barje	0.62	94	ePg	Pg	07 42 44.8	+0.1
BARS				eSg	Sg	07 42 52.7	-0.1
IVA	Berane	0.80	271	⇓iPg	Pg	07 42 47.4	-0.7
IVA				eSg	Sb	07 42 59.7	-0.5
PVY	Plav	0.80	251	⇑iPg	Pb	07 42 48.9	-0.2
BCI	Bajram Curri	0.83	234	iPG	Pb	07 42 49.8	+0.1
BCI				iSG	Sn	07 43 03.4	-0.4
SJES	Sjenica	0.83	299	ePg	Pb	07 42 49.6	-0.2
SJES				eSg	Sb	07 43 02.2	+0.8
IVAS	Ivanjica	0.93	320	ePg	Pb	07 42 51.7	+0.2
IVAS				eSg	Sb	07 43 03.9	-0.2
BOVS	Bovan	0.94	34	ePg	Pg	07 42 50.8	0.0
BOVS				eSg	Sg	07 43 03.0	0.0
SKO	Skopje	0.95	159	iPn	Pg	07 42 44.8	-6.3
GRUS	Gruza	1.04	350	ePg	Pb	07 42 53.4	+0.1
GRUS				eSg	Sb	07 43 07.1	-0.1
KOME	Kolasin	1.07	270	⇓iPg	Pg	07 42 52.9	-0.5
KOME				eSg	Sn	07 43 09.1	-0.2
PUK	Puka	1.15	225	iPN	Pn	07 42 55.4	-0.1
PUK				iSN	Sn	07 43 13.5	+2.0
BOSS	Bosilegrad	1.17	108	ePg	Pg	07 42 54.6	-0.6
BOSS				eSg	Sg	07 43 09.4	-1.0
PHP	Peshkopia	1.24	199	iPN	Pb	07 42 56.5	-0.2
PHP				iSN	Sn	07 43 14.4	+0.5
PLE	Pljevlja	1.25	292	⇑iPg	Pb	07 42 55.9	-1.0
PLE				eSg	Sn	07 43 16.1	+1.9
ZAGS	Zajecar	1.32	44	ePg	Pn	07 42 56.8	-1.0
ZAGS				eSg	Sb	07 43 14.8	-0.4
PDG	Podgorica	1.34	252	ePn	Pn	07 42 57.7	-0.4
PDG	Podgorica	1.34	252	⇑iP	Pg	07 42 59.1	+0.6
PDG				⇑S	Sn	07 43 19.3	+3.1
PDG				AML	AML	07 43 20.3	
PDG	Podgorica	1.34	252		Pg	07 42 58.4	-0.1
TTG	Podgorica	1.34	252	⇑iPg	Pg	07 42 58.4	-0.1
TTG				eSg	Sn	07 43 17.6	+1.4
SVIS	Svilajnac	1.41	7	ePg	Pb	07 42 59.4	-0.1
SVIS				eSg	Sg	07 43 18.3	+0.1
TRUS	Trudelj	1.42	343	ePg	Pg	07 43 00.5	+0.4
TRUS				eSg	Sg	07 43 19.9	+1.4
DIVS	Divibare	1.43	330	ePg	Pg	07 43 00.5	+0.3
DIVS				eSg	Sg	07 43 20.0	+1.3
DIVS	Divibare	1.43	330	ePn	Pn	07 42 54.1	-5.3
BLKB	Belogradchik	1.46	58	⇓S	Sg	07 43 21.6	+1.9
STIP	Stip	1.48	142	iPn	Pn	07 42 55.3	-4.7
STIP				iSn	Sg	07 43 24.0	+3.8
DRME	Dracevica, Mon	1.49	244	ePn	Pn	07 42 57.7	-2.4
DRME	Dracevica, Mon	1.49	244	⇓iPg	Pb	07 43 00.5	-0.3
DRME				eSg	Sg	07 43 21.4	+0.8
NKME	Niksic	1.49	267	⇓iPg	Pb	07 43 00.4	-0.6
NKME				eSg	Sg	07 43 21.2	+0.5
BBLS	Lazići	1.52	312	ePg	Pg	07 43 02.5	+0.5
BBLS				eSg	Sg	07 43 24.0	+2.3
CEME	Cevo	1.55	259	⇑iPg	Pn	07 43 02.1	+0.2
CEME				eSg	Sg	07 43 23.0	+0.4
UPM	Unac-Piva	1.56	283	ePn	Pn	07 42 58.1	-3.1
UPM	Unac-Piva	1.56	283	⇑iPg	Pn	07 43 01.4	+0.2
UPM				eSg	Sg	07 43 22.6	-0.2
ULC	Ulcinj	1.56	236	⇑iPg	Pb	07 43 01.8	-0.4
ULC				eSg	Sg	07 43 23.8	+0.7
KUBS	Kucevo	1.63	18	ePg	Pn	07 43 02.3	+0.2
KUBS				eSg	Sg	07 43 25.3	+0.1
BUM	Brajici-Budva	1.64	251	⇓iPn	Pb	07 43 02.9	-0.6
BUM				eSn	Sg	07 43 25.6	+0.2
VTS	Vitosha	1.68	98	P	Pn	07 42 56.7	-6.3
VTS	Vitosha	1.68	98	⇓P	Pg	07 43 05.0	-0.1
VTS				⇓S	Sg	07 43 27.0	+0.1
VTS				AML	AML	07 43 30.4	
VTS	Vitosha	1.68	98		Pn	07 42 58.8	-4.2
OHR	Ohrid	1.76	184	iPn	Pn	07 42 58.6	-5.2
OHR				iSn	Sg	07 43 29.6	+0.4
BRY	Bratogost	1.79	272	ePn	Pn	07 43 09.1	-2.4
BRY	Bratogost	1.79	272	⇓iPn	Pn	07 43 04.8	+0.4
BRY				eSn	Sb	07 43 28.6	-0.3
KKB	Krupnik	1.85	122	P	Pn	07 43 02.9	-2.3
HCY	Herceg Novi	1.88	258	ePn	Pn	07 43 02.2	-3.3
HCY	Herceg Novi	1.88	258	⇑iPn	Pn	07 43 06.0	+0.5
HCY				eSn	Sb	07 43 30.8	-0.4
TREB	Trebinje	1.94	267	ePn	Pn	07 43 03.0	-3.3
VAY	Valandovo	1.95	142	iPn	Pn	07 43 05.8	-0.6
VAY				iSn	Sg	07 43 36.1	+0.8
TEKS	Tekeris	1.98	329	ePg	Pg	07 43 11.2	+0.4
TEKS				eSg	Sg	07 43 37.9	+1.3
TEKS	Tekeris	1.98	329	ePn	Pn	07 43 04.0	-3.0
MDVR	Moldovita	1.99	15	⇑P	Pg	07 43 13.4	+2.4
MDVR				⇓S	Sg	07 43 37.1	+0.4
MDVR				AML	AML	07 43 38.0	

IVAS	**Ivanjica**	**0.95**	**319**	*e*Pg	**Pg**	**07 44 17.9**	**-0.7**
IVAS				*e*Sg	**Sg**	**07 44 31.0**	**+0.1**
SKO	**Skopje**	**0.95**	**160**	*e*Pg	**Pg**	**07 44 18.2**	**-0.4**
SKO				*e*Sg	**Sg**	**07 44 31.6**	**+0.7**
SKO	**Skopje**	**0.95**	**160**	*i* Pn	**Pg**	**07 44 18.3**	**-0.4**
GRUS	**Gruza**	**1.04**	**348**	*e*Pg	**Pg**	**07 44 20.6**	**+0.1**
GRUS				*e*Sg	**Sg**	**07 44 34.2**	**+0.2**
BOSS	**Bosilegrad**	**1.15**	**108**	*e*Pg	**Pg**	**07 44 22.4**	**0.0**
BOSS				*e*Sg	**Sg**	**07 44 36.9**	**-0.3**
ZAGS	**Zajecar**	**1.30**	**43**	*e*Pg	**Pg**	**07 44 24.2**	**-1.1**
ZAGS				*e*Sg	**Sg**	**07 44 41.9**	**-0.3**
SVIS	**Svilajnac**	**1.41**	**6**	*e*Pg	**Pn**	**07 44 27.0**	**-0.2**
SVIS				*e*Sg	**Sb**	**07 44 45.9**	**0.0**
TRUS	**Trudelj**	**1.43**	**342**	*e*Pg	**Pn**	**07 44 27.1**	**-0.4**
TRUS				*e*Sg	**Sn**	**07 44 47.3**	**+0.4**
DIVS	**Divibare**	**1.44**	**329**	*e*Pg	**Pn**	**07 44 27.3**	**-0.5**
DIVS				*e*Sg	**Sg**	**07 44 46.4**	**-0.2**
STIP	**Stip**	**1.46**	**143**	*i* Pn	**Pb**	**07 44 28.6**	**+0.1**
BBLS	**Lazići**	**1.54**	**311**	*e*Pg	**Pn**	**07 44 29.3**	**+0.2**
BBLS				*e*Sg	**Sn**	**07 44 50.1**	**+0.3**
KUBS	**Kucevo**	**1.62**	**17**	*e*Pg	**Pn**	**07 44 30.2**	**0.0**
KUBS				*e*Sg	**Sb**	**07 44 52.1**	**0.0**
VTS	**Vitosha**	**1.66**	**98**	*e*Pg	**Pn**	**07 44 30.1**	**-0.7**
VTS				*e*Sg	**Sb**	**07 44 53.4**	**+0.1**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pg	**Pb**	**07 44 37.8**	**+0.2**
TEKS				*e*Sg	**Sg**	**07 45 05.1**	**+0.5**

*BEO **16** 07:47:38.2±2.0, 39°.03N×16°.50E, h63km±4km, ML3.4/3*
ROM 16 07:47:31.6±0.2, 39°.705N±0°.009×15°.42E±0°.02, h24km±2km, ML2.9/29, Error ellipse: s-maj=1.4km s-min=1.0km az=272.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.42**	**47**	P	Pb	07 47 40.0	-0.5
CUC				S	Sb	07 47 46.4	-0.2
CUC				AML	AML		
	comp=E,2240μm,0.3s						
CUC				AML	AML		
	comp=E,2820μm,0.3s						
CUC				AML	AML		
	comp=N,2480μm,0.9s						
CUC				AML	AML		
	comp=E,2245μm,0.3s						
CUC				AML	AML		
	comp=N,2010μm,0.8s						
MGR	**Morigerati**	**0.45**	**14**	P	Pb	07 47 40.4	-0.5
MGR				S	Sb	07 47 48.1	+0.9
MGR				AML	AML		
	comp=E,1820μm,0.5s						
MGR				AML	AML		
	comp=N,1940μm,0.3s						
MGR				AML	AML		
	comp=N,2070μm,0.3s						
MGR				AML	AML		
	comp=E,1825μm,0.5s						
MGR				AML	AML		
	comp=N,1945μm,0.3s						
MGR				AML	AML		
	comp=E,2020μm,0.3s						
MMN	**Mormanno**	**0.48**	**67**	P	Pb	07 47 41.0	-0.5
MMN				AML	AML		
	comp=E,1055μm,0.2s						
MMN				AML	AML		
	comp=N,2150μm,0.2s						
T0702	**Acquaformosa (**	**0.52**	**88**	P	Pb	07 47 41.2	-0.9
T0702				S	Sb	07 47 48.6	-0.6
T0702				AML	AML		
	comp=E,1815μm,0.6s						
T0702				AML	AML		
	comp=N,1975μm,0.6s						
T0702				AML	AML		
	comp=N,1965μm,0.6s						
T0702				AML	AML		
	comp=N,1978μm,0.6s						
MTSN	**Montesano sull**	**0.62**	**25**	P	Pb	07 47 43.8	-0.1
MTSN				AML	AML		
	comp=E,1445μm,0.4s						
MTSN				AML	AML		
	comp=N,1395μm,0.7s						
MTSN				AML	AML		
	comp=N,1400μm,0.7s						
CMPR	**Campora**	**0.62**	**352**	P	Pb	07 47 43.4	-0.5
CMPR				S	Sb	07 47 53.1	+0.9
CMPR				AML	AML		
	comp=E,1425μm,1.2s						
CMPR				AML	AML		
	comp=N,1275μm,0.9s						
MCEL	**Monticello**	**0.69**	**25**	P	Pb	07 47 45.0	0.0
MCEL				AML	AML		
	comp=N,1285μm,1.4s						
MCEL				AML	AML		
	comp=E,1895μm,0.4s						
MCEL				AML	AML		
	comp=E,1870μm,0.4s						
MCEL				AML	AML		
	comp=N,1310μm,1.4s						
MCEL				AML	AML		
	comp=N,1280μm,1.4s						
SLCN	**Sala Consilina**	**0.70**	**14**	P	Pb	07 47 45.5	+0.2
SLCN				AML	AML		
	comp=E,2215μm,0.5s						
SLCN				AML	AML		
	comp=N,1560μm,0.3s						
SCHR	**S. Chirico Rap**	**0.71**	**46**	P	Pb	07 47 45.5	+0.1
SCHR				S	Sn	07 47 55.8	-0.6
SCHR				AML	AML		
	comp=E,742μm,0.6s						
SCHR				AML	AML		
	comp=E,742μm,0.6s						
SCHR				AML	AML		
	comp=N,692μm,0.3s						
SALB	**San Lorenzo Be**	**0.74**	**76**	P	Pb	07 47 45.9	+0.1
SALB				AML	AML		
	comp=E,1055μm,0.3s						
SALB				AML	AML		
	comp=N,662μm,0.3s						
SALB				AML	AML		
	comp=E,1085μm,0.3s						
SALB				AML	AML		
	comp=N,666μm,0.3s						
SALB				AML	AML		
	comp=E,1088μm,0.3s						
SALB				AML	AML		
	comp=N,665μm,0.3s						
CAR1	**CAROLEI**	**0.76**	**126**	P	Pb	07 47 46.4	+0.1
CAR1				S	Sb	07 47 56.2	0.0
CAR1				AML	AML		
	comp=E,4375μm,0.5s						
CAR1				AML	AML		
	comp=N,3680μm,0.3s						
CAR1				AML	AML		
	comp=N,3890μm,0.8s						
CAR1				AML	AML		
	comp=E,4375μm,0.5s						
CAR1				AML	AML		
	comp=N,3680μm,0.3s						
CAR1				AML	AML		
	comp=E,4385μm,1.5s						
IST3	**Stromboli F**	**0.92**	**189**	P	Pn	07 47 50.8	+1.8
IST3				AML	AML		
	comp=E,1044μm,0.7s						
IST3				AML	AML		
	comp=N,1105μm,1.1s						
IST3				AML	AML		
	comp=E,1042μm,0.7s						
IST3				AML	AML		
	comp=N,1110μm,1.1s						
ISTR	**Stromboli Gino**	**0.93**	**191**	P	Pn	07 47 51.1	+1.9
MCRV	**Calabrutti - M**	**1.09**	**350**	P	Pb	07 47 52.1	+0.2
MCRV				AML	AML		
	comp=N,348μm,1.6s						
MCRV				AML	AML		
	comp=E,268μm,0.4s						
PIPA	**Pietrapaola**	**1.10**	**101**	P	Pb	07 47 53.1	+1.1
PIPA				AML	AML		
	comp=N,696μm,0.3s						
PIPA				AML	AML		
	comp=E,772μm,0.3s						
PIPA				AML	AML		
	comp=N,759μm,0.3s						
PIPA				AML	AML		
	comp=E,782μm,0.3s						
PIPA				AML	AML		
	comp=N,696μm,0.3s						

ACER	**Acerenza**	**1.15**	**20**	P	Pb	07 47 54.6	+1.7
ACER				AML	AML		
	comp=N,790μm,0.9s						
ACER				AML	AML		
	comp=N,836μm,0.9s						
ACER				AML	AML		
	comp=E,1085μm,0.6s						
ACER				AML	AML		
	comp=E,1105μm,0.6s						
ACER				AML	AML		
	comp=N,836μm,0.9s						
JOPP	**Joppolo**	**1.16**	**161**	P	Pb	07 47 52.9	-0.1
JOPP				AML	AML		
	comp=E,582μm,0.4s						
JOPP				AML	AML		
	comp=N,318μm,0.5s						
JOPP				AML	AML		
	comp=E,582μm,0.4s						
TIP	**Timpagrande**	**1.17**	**116**	P	Pb	07 47 53.4	+0.3
TIP				AML	AML		
	comp=E,217μm,0.6s						
TIP				AML	AML		
	comp=N,147μm,1.1s						
TIP				AML	AML		
	comp=E,245μm,0.6s						
TIP				AML	AML		
	comp=N,194μm,0.6s						
TIP				AML	AML		
	comp=E,216μm,0.6s						
GRI	**Girifalco**	**1.18**	**138**	P	Pb	07 47 53.6	+0.3
GRI				AML	AML		
	comp=E,838μm,0.6s						
GRI				AML	AML		
	comp=N,474μm,0.3s						
GRI				AML	AML		
	comp=E,836μm,0.6s						
GRI				AML	AML		
	comp=N,474μm,0.3s						
SERS	**Sersale**	**1.19**	**124**	P	Pb	07 47 54.0	+0.4
SERS				AML	AML		
	comp=E,372μm,0.4s						
SERS				AML	AML		
	comp=N,288μm,1.1s						
SERS				AML	AML		
	comp=N,356μm,0.5s						
SERS				AML	AML		
	comp=E,304μm,1.1s						
SNAL	**S. Angelo Dei**	**1.23**	**353**	P	Pb	07 47 55.3	+1.0
SNAL				AML	AML		
	comp=E,462μm,0.6s						
SNAL				AML	AML		
	comp=N,566μm,1.4s						
SNAL				AML	AML		
	comp=N,565μm,1.4s						
SNAL				AML	AML		
	comp=E,530μm,0.9s						
MSRU	**Castanea**	**1.44**	**177**	P	Pn	07 47 56.4	+0.2
MSRU				AML	AML		
	comp=E,306μm,1.2s						
MSRU				AML	AML		
	comp=E,306μm,1.2s						
MSRU				AML	AML		
	comp=N,278μm,0.5s						
SG1	**Sgolgore (BA)**	**1.49**	**40**	*e*Pn	Pb	07 47 59.4	+0.8
SG1				Sn	Sb	07 48 22.1	+5.0
AMUR	**Altamura**	**1.50**	**37**	P	Pb	07 47 59.4	+0.5
AMUR				AML	AML		
	comp=E,265μm,0.5s						
AMUR				AML	AML		
	comp=N,251μm,0.5s						
AMUR				AML	AML		
	comp=E,264μm,0.5s						
ATN	**Antennamare**	**1.54**	**179**	P	Pn	07 47 57.8	+0.1
ATN				AML	AML		
	comp=N,263μm,1.0s						
ATN				AML	AML		
	comp=E,276μm,0.3s						
ATN				AML	AML		
	comp=N,262μm,1.0s						
MASS	**Massafra**	**1.62**	**54**	*e*Pn	Pb	07 48 01.2	+0.4
MCSR	**Castroreale**	**1.64**	**185**	P	Pn	07 47 59.3	+0.2
MCSR				AML	AML		
	comp=N,303μm,0.4s						
MCSR				AML	AML		
	comp=E,392μm,1.3s						
TAR1	**Taranto**	**1.65**	**60**	*e*Pn	Pb	07 48 01.6	+0.3
NOV	**Novara**	**1.69**	**188**	P	Pn	07 48 00.1	+0.4
NOV				AML	AML		
	comp=E,122μm,0.5s						
NOV				AML	AML		
	comp=N,93μm,0.6s						
NOV				AML	AML		
	comp=N,147μm,0.5s						
NOV				AML	AML		
	comp=E,146μm,0.4s						
MUCR	**Ucria**	**1.71**	**194**	P	Pn	07 48 00.8	+0.8
MUCR				AML	AML		
	comp=E,99μm,0.7s						
MUCR				AML	AML		
	comp=N,165μm,0.5s						
MUCR				AML	AML		
	comp=E,99μm,0.7s						
MUCR				AML	AML		
	comp=N,164μm,0.5s						
AIO	**Antillo**	**1.74**	**185**	P	Pn	07 48 00.9	+0.6
AIO				AML	AML		
	comp=E,76μm,1.3s						
AIO				AML	AML		
	comp=N,79μm,1.3s						
AIO				AML	AML		
	comp=E,76μm,1.3s						
AIO				AML	AML		
	comp=N,86μm,1.3s						
BAI	**Bari**	**1.79**	**38**	*e*Pn	Pb	07 48 03.7	0.0
BAI				Sn	Sb	07 48 29.5	+3.8
MPAZ	**Palizzi**	**1.81**	**165**	P	Pn	07 48 02.3	+1.0
MPAZ				AML	AML		
	comp=E,142μm,0.4s						
MPAZ				AML	AML		
	comp=N,180μm,0.5s						
MPAZ				AML	AML		
	comp=E,142μm,0.4s						
MPAZ				AML	AML		
	comp=N,179μm,0.5s						
FASA	**Fasano**	**1.85**	**53**	*e*Pn	Pb	07 48 04.2	-0.6
HLNI	**Lentini**	**2.39**	**190**	AML	AML		
	comp=N,56μm,1.5s						
HLNI				AML	AML		
	comp=E,49μm,1.6s						
TREB	**Trebinje**	**3.73**	**35**	*e*Pn	Pb	07 48 35.3	-1.5
SJES	**Sjenica**	**4.93**	**42**	*e*Pn	Pn	07 48 49.8	+5.5
SJES				*e*Sn	Sn	07 49 40.5	-0.1
BBLS	**Lazići**	**5.12**	**34**	*e*Pn	Pn	07 48 53.0	+6.2
BBLS				*e*Sn	Sn	07 49 48.3	+3.2
IVAS	**Ivanjica**	**5.25**	**41**	*e*Pn	Pn	07 48 54.7	+6.1
IVAS				*e*Sn	Sn	07 49 48.1	-0.2
SELS	**Selova**	**5.54**	**49**	*e*Pn	Pn	07 48 55.4	+2.9
DIVS	**Divibare**	**5.56**	**36**	*e*Pn	Pn	07 48 59.1	+6.2
GRUS	**Gruza**	**5.76**	**42**	*e*Pn	Pn	07 48 59.6	+4.1

*IDC **16** 08:03:24.4±2.7, 8°.06S×118°.18E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/29, mbtmp3.7/4, ML3.3.9/1, Error ellipse: s-maj=219.1km s-min=14.9km az=52.0*
*ISCJB **16** 08:03:44.5±0.5, 8°.26S±0°.06×118°.64E±0°.06, h200km, Error ellipse: s-maj=9.3km s-min=7.6km az=31.7*
*DJA **16** 08:03:46.5±0.5, 8°.S±3°×11°.9E±°, h175km±5km, M3.9/8, mb4.2/2, MLv3.7/8*
ISC 16 08:03:46.0±0.9, 8°.23S±0°.07×118°.61E±0°.07, h200km, n14, σ2°79/17, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.01**	**234**	P	**Pn**	**08 04 15.1**	**-0.7**
PLAI				S	**Sn**	**08 04 37.2**	**-1.8**
WBSI	**Waikabubak, Su**	**1.60**	**151**	P	**Pn**	**08 04 18.7**	**-1.9**
WBSI				S	**Sn**	**08 04 43.7**	**-4.0**
TWSI	**Taliwang, Sumb**	**1.78**	**253**	P	**Pn**	**08 04 22.1**	**-0.2**
BASI	**Baing, Sumba**	**2.77**	**136**	P	**Pn**	**08 04 31.7**	**-1.3**
BKSI	**Bulukumba**	**3.26**	**28**	P	**Pn**	**08 04 37.8**	**-0.9**
BKSI				S	**Sn**	**08 05 17.9**	**-2.2**
BNSI	**Bone**	**4.09**	**21**	P	**Pn**	**08 04 49.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.42**	**267**	P	**Pn**	**08 04 53.1**	**+0.1**
TTSI	**Tana Toraja**	**5.29**	**13**	P	Pn	08 05 15.8	+12
SOEI	**Soe**	**5.79**	**106**	P	**Pn**	**08 05 09.1**	**-1.6**

SANI	**Sanana**	**9.58**	**51**	P	**Pn**	**08 06 00.3**	**+0.5**
WRA	**Warramunga Arr**	**19.17**	**129**	P	**P**	**08 07 54.9**	**+0.3**
	0.3nm,0.3s,baz=303,slow=12,SNR=51						
WRA				S	**S**	**08 11 29.6**	**+8.4**
	0.3nm,0.3s,baz=310,slow=20,SNR=7.0						
ASAR	**Alice Springs**	**21.22**	**138**	P	**P**	**08 08 18.2**	**+1.7**
	0.4nm,0.4s,baz=314,slow=9.1,SNR=8.7						
ASAR				S	S	08 12 17.6	+17
	0.4nm,0.6s,baz=307,slow=22,SNR=3.1						
MKAR	**Makanchi Array**	**63.60**	**333**	P	**P**	**08 13 55.6**	**+0.1**
	0.6nm,0.6s,baz=147,slow=7.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**68.19**	**339**	P	**P**	**08 14 23.2**	**-1.4**
	1.0nm,0.3s,baz=133,slow=6.3,SNR=3.8						

*NIED **16** 08:14:00, 37°.80N×141°.60E, h56km, Mw4.7 Best double couple: M0 1.29000×10^16 NP1:φs 173.00000°, δ29.00000°, λ83.00000°. NP2:φs 1.00000°, δ61.00000°, λ94.00000°.*
*BJI **16** 08:14:50.2±0.0, 37°.65N×141°.86E, h55km, mb4.8/54, mB4.9/33, Ms4.2/26, Ms7 4.0/25*
*MOS **16** 08:14:51.2±1.1, 37°.84N×141°.63E, h41km, mb5.0/31, Error ellipse: s-maj=6.6km s-min=4.6km az=96.7*
*ISCJB **16** 08:14:52.9±0.3, 37°.81N±0°.02×141°.61E±0°.03, h55km±2km, mb4.7/74, MS3.9/15, Error ellipse: s-maj=4.8km s-min=2.8km az=26.4*
*JMA **16** 08:14:53.6, 37°.80N×141°.62E, h49km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs 340.00000°, δ71.00000°, λ74.00000°. NP2: φs 200.00000°, δ25.00000°, λ128.00000°. Principal axes: T Plg61.0000°, Azm227.0000°; N Plg15.0000°, Azm345.0000°; P Plg24.0000°, Azm82.0000°;*
JMA Felt II J1.
*NEIC **16** 08:14:53.4±2.2, 37°.79N±0°.06×141°.7E±0°.1, h46km±5km, mb4.8/111*
*IDC **16** 08:14:57.1±1.8, 37°.82N×141°.56E, h78km±15km, mb4.3/26, mb1 4.4/32, mb1mx4.3/47, mbtmp4.6/32, MS3.8/15, Ms1 3.8/15, ms1mx3.5/57, Error ellipse: s-maj=13.8km s-min=9.2km az=106.0*
ISC 16 08:14:52.8±0.6, 37°.83N±0°.04×141°.68E±0°.04, h40km±5km, n346, σ1°38/347, mb4.7/116, MS3.9/16, 25C-20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.51**	**341**	⇑P	**Pn**	**08 15 05.1**	**+1.4**
JIKH				S	**Sn**	**08 15 12.9**	**+1.5**
JMST	**Minamisoumatoc**	**0.64**	**261**	⇓P	**Pn**	**08 15 05.9**	**+0.5**
JMST				S	**Sn**	**08 15 14.5**	**+0.2**
JIO	**Ouri**	**0.68**	**338**	⇑P	**Pn**	**08 15 07.2**	**+1.2**
JIO				S	**Sn**	**08 15 16.6**	**+1.2**
JMM	**Marumori**	**0.70**	**274**	⇓P	**Pn**	**08 15 06.9**	**+0.6**
JMM				S	**Sn**	**08 15 16.1**	**+0.1**
JFK	**Kawauchi**	**0.79**	**235**	⇓P	**Pn**	**08 15 07.8**	**+0.3**
JFK				*e*S	**Sn**	**08 15 17.2**	**-0.9**
JOU	**Okura**	**0.97**	**304**	⇓P	**Pn**	**08 15 10.6**	**+0.7**
JOU				S	**Sn**	**08 15 23.2**	**+0.7**
JKMT	**Kesennumamotoy**	**1.00**	**351**	⇑P	**Pn**	**08 15 11.5**	**+1.2**
JKMT				S	**Sn**	**08 15 23.9**	**+0.7**
ONAJ	**Iwakimizuishiy**	**1.01**	**224**	⇓P	**Pn**	**08 15 10.6**	**+0.1**
ONAJ				S	**Sn**	**08 15 22.8**	**-0.7**
JFT	**Otama**	**1.11**	**254**	⇓P	**Pn**	**08 15 12.8**	**+0.9**
JFT				S	**Sn**	**08 15 26.8**	**+0.8**
JMK	**Ichinoseki**	**1.18**	**342**	⇑P	**Pn**	**08 15 14.3**	**+1.4**
JMK				S	**Sn**	**08 15 28.9**	**+1.2**
JYS	**Shiratake**	**1.33**	**288**	⇓P	**Pn**	**08 15 15.7**	**+0.7**
JYS				*e*S	**Sn**	**08 15 32.4**	**+0.9**
JYK	**Kaneyama**	**1.51**	**317**	⇓P	**Pn**	**08 15 18.5**	**+1.2**
JFY	**Yanaizu**	**1.62**	**256**	⇓P	**Pn**	**08 15 19.7**	**+0.8**
JOM	**Ohasama**	**1.67**	**350**	⇑P	**Pn**	**08 15 21.2**	**+1.6**
JYA	**Atsumi**	**1.73**	**297**	⇓P	**Pn**	**08 15 21.2**	**+0.8**
MJAR	**Matsushiro Arr**	**3.05**	**246**	P	**Pn**	**08 15 40.1**	**+1.5**
	7.7nm,0.3s,baz=70,slow=12,SNR=174						
MJAR				S	**Sn**	**08 16 17.7**	**+3.8**
	11nm,0.3s,baz=75,slow=21,SNR=6.4						
MJAR				LR	LR	08 17 03.7	
	comp=Z,2μm,19.8s,baz=70,slow=43						
MJAR	**Matsushiro Arr**	**3.05**	**246**		**Pn**	**08 15 39.9**	**+1.3**
MAJO	**Matsushiro**	**3.05**	**246**	*d i*P	**Pn**	**08 15 40.2**	**+1.6**
MAJO	**Matsushiro**	**3.05**	**246**		**Pn**	**08 15 40.4**	**+1.8**
MAT	**Matsushiro**	**3.05**	**246**	P	**Pn**	**08 15 40.4**	**+1.8**
MAT				*e*S	**Sn**	**08 16 19.5**	**+5.6**
MJB9	**Matsu-Tunnel**	**3.06**	**246**		**Pn**	**08 15 40.4**	**+1.8**
ERM	**Erimo**	**4.34**	**15**	*ce*P	**Pn**	**08 15 56.7**	**+0.5**
ERM				pmax	pmax		
	comp=Z,79nm,1.0s						
ERM	**Erimo**	**4.34**	**15**		**Pn**	**08 15 57.1**	**+1.0**
INU	**Inuyama**	**4.49**	**238**		**Pn**	**08 16 00.8**	**+2.4**
JHJ2	**Mitsune**	**4.94**	**198**		**Pn**	**08 16 04.9**	**+0.4**
JHJ2					**Sn**	**08 16 58.9**	**-1.5**
JHJ	**Hachijo jima 2**	**4.94**	**199**	P	**Pn**	**08 16 05.2**	**+0.6**
	comp=Z,98nm,0.3s,baz=18,slow=23,SNR=13						
JHJ				S	**Sn**	**08 16 57.7**	**-2.7**
	comp=Z,240nm,0.3s,baz=82,slow=23,SNR=11						
JKA	**Kamikawa-asahi**	**6.32**	**6**		**Pn**	**08 16 24.4**	**+0.9**
JKA					**Sn**	**08 17 35.8**	**+1.5**
ASAJ	**Asahikawa**	**6.32**	**6**	P	**Pn**	**08 16 24.4**	**+0.9**
	comp=Z,9.6nm,0.3s,baz=214,slow=13,SNR=42						
ASAJ				S	**Sn**	**08 17 35.8**	**+1.5**
	comp=Z,7.6nm,0.3s,baz=170,slow=33,SNR=3.9						
NMR	**Nemuro--Hokkai**	**6.34**	**28**	*d i*P	**Pn**	**08 16 22.6**	**-1.0**
NMR				*i* S	**Sn**	**08 17 29.6**	**-5.1**
GRPR	**Tuman**	**6.90**	**25**	*e*P	**Pn**	**08 16 30.2**	**-1.1**
GRPR				*e*S	**Sn**	**08 17 43.1**	**-5.3**
GRPR				pmax	pmax		
	comp=Z,290nm,0.2s						
GRPR				pmax	pmax		
	comp=N,67nm,0.0s						
GRPR				pmax	pmax		
	comp=E,123nm,0.1s						
LAGR	**Lagunnoye**	**6.96**	**25**	*e*P	**Pn**	**08 16 31.4**	**-0.7**
LAGR				*e*S	**Sn**	**08 17 45.4**	**-4.5**
LAGR				pmax	pmax		
	comp=Z,373nm,0.4s						
LAGR				pmax	pmax		
	comp=N,167nm,0.2s						
LAGR				pmax	pmax		
	comp=E,141nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.96**	**26**	*e*P	**Pn**	**08 16 31.3**	**-0.9**
YUK				*e*S	**Sn**	**08 17 45.3**	**-4.8**
YUK				pmax	pmax		
	comp=Z,321nm,0.2s						
YUK				pmax	pmax		
	comp=N,94nm,0.3s						
YUK				pmax	pmax		
	comp=E,33nm,0.1s						
TEY	**Ternei**	**8.15**	**334⇑**	*e*P	Pn	08 16 54.8	+6.3
TEY				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=N,20nm,0.6s						
KUR	**Kuril'sk**	**8.73**	**30**	*e*P	**Pn**	**08 16 56.7**	**+0.2**
KUR				*e*S	**Sn**	**08 18 29.8**	**-3.7**
KUR				pmax	pmax		
	comp=Z,63nm,0.3s						
KUR				pmax	pmax		
	comp=N,42nm,0.2s						
KUR				pmax	pmax		
	comp=E,29nm,0.3s						
KUR				smax	smax		
	comp=N,99nm,0.2s						
KUR				smax	smax		
	comp=E,47nm,0.3s						
VLA	**Vladivostok**	**9.14**	**308**	*i* P	**Pn**	**08 17 03.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**9.16**	**5**	*e*P	**Pn**	**08 17 04.1**	**+1.8**
YSS				*e*S	**Sn**	**08 18 44.1**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
YSS	**Yuzh-Sakhalins**	**9.16**	**5**		**Pn**	**08 17 03.0**	**+0.7**
MSHR	**Mys Shultsa**	**9.34**	**304**	*i* P	**Pn**	**08 17 05.0**	**+0.1**
USA0B	**Ussuriysk Arra**	**9.70**	**314**	*i* P	**Pn**	**08 17 12.7**	**+3.0**
USA0B	**Ussuriysk Arra**	**9.70**	**314**		**Pn**	**08 17 11.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.70**	**314**	P	**Pn**	**08 17 12.7**	**+3.0**
USRK	**Ussuriysk Ar.**	**9.70**	**314**	P	**Pn**	**08 17 11.7**	**+1.9**
	baz=119,slow=14,SNR=26						
USRK				LR	LR	08 20 41.8	
	comp=Z,355nm,20.3s,baz=113,slow=36						
USRK	**Ussuriysk Ar.**	**9.70**	**314**		**Pn**	**08 17 12.7**	**+3.0**
JNU	**Nakatsue**	**9.98**	**245**	P	**Pn**	**08 17 15.6**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=50,slow=7.8,SNR=19						

JNU LR LR 08 21 25.8
comp=Z,1μm,20.3s,baz=59,slow=39
JNU Nakatsue 9.98 245 Pn 08 17 15.4 +1.7
JCJ Chichijima 10.71 178 P **Pn 08 17 23.8 +0.2**
comp=Z,15nm,0.3s,baz=90,slow=20,SNR=4.0
JCJ S Sn 08 19 13.4 -8.8
comp=Z,22nm,0.3s,baz=274,slow=22,SNR=6.3
KSRS Korea Array 10.92 272 P **Pn 08 17 30.1 +3.6**
comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=33
KSRS LR LR 08 21 37.4
comp=Z,541nm,18.9s,baz=66,slow=37
KSAR Wonju Array Be 10.95 272 P **Pn 08 17 28.8 +1.9**
KSAR Wonju Array Be 10.95 272 Pn 08 17 28.8 +1.9
KS19 Wonju Array Si 10.96 273 Pn 08 17 28.3 +1.3
MDJ Mudanjiang 11.35 311 P Pn 08 17 38.3 +6.0
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,170nm,4.0s
MDJ Mudanjiang 11.35 311 Pn 08 17 33.2 +0.9
TJN Taejon 11.53 267 *i* P **Pn 08 17 34.1 -0.6**
KLR Kul'dur 13.47 331 *i* P **Pn 08 18 03.6 +2.4**
KLR pmax pmax
comp=Z,1.0nm,0.9s
KLR Kul'dur 13.47 331 P **Pn 08 18 03.7 +2.5**
comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=4.2
KLR LR LR 08 23 20.7
comp=Z,329nm,18.3s,baz=129,slow=38
CN2 Changchun 13.66 301 *eP* **Pn 08 18 07.0 +3.2**
DL2 Dalian 15.77 280 P **P 08 18 36.9 +1.6**
DL2 *eS* **S 08 21 35.9 -3.0**
DL2 sS **sS 08 21 48.6 -5.7**
DL2 pmax pmax
comp=Z,81nm,1.1s
DL2 LR LR
comp=Z,350nm,14.5s
DL2 LR LR
comp=Z,450nm,14.5s
DL2 LR LR
comp=Z,440nm,15.1s
ZEA Zeya 18.77 333 *eP* **P 08 19 07.2 -1.1**
ZEA pmax pmax
comp=Z,16nm,0.6s
ZEA MLR MLR
comp=Z,400nm,14.0s
PETK Petropavlovsk- 18.90 31 P **Pn 08 19 11.9 +1.2**
PETK Petropavlovsk- 18.90 31 P **Pn 08 19 11.8 +1.1**
comp=Z,0.1nm,0.3s,baz=239,slow=7.0,SNR=2.6
PETK LR LR 08 26 04.4
comp=Z,180nm,20.4s,baz=228,slow=35
PETK Petropavlovsk- 18.90 31 P **Pn 08 19 11.9 +1.2**
PET Petropavlovsk 19.23 32 *i* P **Pn 08 19 15.9 +1.3**
PET pmax pmax
comp=Z,15nm,1.2s
NJ2 Nanjing 19.56 260 *eP* **P 08 19 16.3 -0.9**
NJ2 pmax pmax
comp=Z,18nm,0.5s
TIA Tai'an 19.66 273 P **P 08 19 17.3 -1.0**
TIA pmax pmax
comp=Z,16nm,1.1s
BJI Beijing 19.95 284 P **P 08 19 21.5 +0.2**
BJI pmax pmax
comp=Z,13nm,1.4s
BJT Baijiatuau 19.95 284 P **P 08 19 20.8 -0.6**
BJT pmax pmax
comp=Z,14nm,0.6s
BJT Baijiatuau 19.95 284 P **P 08 19 20.8 -0.6**
MA2 Magadan 22.54 12 P **P 08 19 50.3 +1.3**
comp=Z,24nm,1.0s,baz=205,slow=18,SNR=3.9
MA2 Magadan 22.54 12 P **P 08 19 50.9 +1.9**
SSLB Suanglung 22.57 238 P **P 08 19 49.6 -0.2**
SSLB IAmb IAmb 08 19 54.2
comp=Z,26nm,0.9s
YULB Yu-li 22.62 236 P **P 08 19 49.8 -0.4**
HHC Hu-ho-hao-te 23.43 287 *eP* **P 08 19 59.5 +1.0**
HHC pmax pmax
comp=Z,11nm,0.8s
WHN Wuhan 23.69 260 P **P 08 19 59.3 -1.6**
GUMO Guam 24.30 172 LR LR 08 31 13.4
comp=Z,70nm,19.2s,baz=15,slow=40
YAK Yakutsk 25.35 347 *eP* **P 08 20 15.4 -0.2**
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 25.35 347 P **P 08 20 15.7 +0.1**
comp=E,5.8nm,0.4s,baz=318,slow=2.9,SNR=4.5
YAK Yakutsk 25.35 347 P **P 08 20 15.5 -0.2**
YAK IAmb IAmb 08 20 34.3
comp=Z,24nm,1.0s
SEY Seymchan 25.98 11 *i* P **P 08 20 21.0 -0.4**
SEY Seymchan 25.98 11 P **P 08 20 22.5 +1.2**
comp=Z,8.8nm,0.8s,baz=201,slow=10,SNR=16
XAN Xi'an 26.71 272 P **P 08 20 27.9 -0.5**
XAN pmax pmax
comp=Z,21nm,0.5s
XAN LR LR
comp=Z,250nm,20.5s
XAN LR LR
comp=Z,130nm,18.6s
XAN LR LR
comp=Z,160nm,17.3s
XAN Xi'an 26.71 272 P **P 08 20 27.5 -0.9**
XAN pmax pmax
comp=Z,17nm,0.5s
XAN Xi'an 26.71 272 P **P 08 20 27.5 -0.9**
XAN IAmb IAmb 08 20 31.6
comp=Z,17nm,0.5s
BOD Bodaibo 26.98 327 *eP* **P 08 20 29.9 -0.6**
BOD pmax pmax
comp=Z,12nm,1.4s
ULN Ulaanbaatar 27.09 303 *ceP* **P 08 20 31.0 -0.8**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 27.09 303 P **P 08 20 30.8 -1.0**
SONM Songino Array 27.53 303 P **P 08 20 35.4 -0.3**
comp=Z,3.2nm,0.6s,baz=100,slow=8.7,SNR=18
SONM Songino Array 27.53 303 P **P 08 20 34.7 -1.0**
ENH Enshi 27.62 264 P **P 08 20 35.2 -1.3**
H11N2 WAKE ISLAND Hy 28.38 122 T T 08 50 58.0
baz=315,slow=75,SNR=456
H11N1 WAKE ISLAND Hy 28.39 122 T T 08 50 58.3
baz=315,slow=75,SNR=648
H11N3 WAKE ISLAND Hy 28.40 122 T T 08 50 58.9
baz=315,slow=75,SNR=419
H11S1 WAKE ISLAND Hy 29.12 124 T T 08 52 02.8
baz=317,slow=76,SNR=404
H11S3 WAKE ISLAND Hy 29.12 124 T T 08 52 07.3
baz=317,slow=76,SNR=440
H11S2 WAKE ISLAND Hy 29.14 124 T T 08 51 55.0
baz=317,slow=76,SNR=324
ZAK Zakamensk 29.95 307 *eP* **P 08 20 55.8 -1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 29.98 310 *i* P **P 08 20 55.8 -1.5**
TLY pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 30.15 278 *eP* **P 08 20 58.6 -0.6**
LZH pP pP 08 21 11.8 +1.6
LZH sP sP 08 21 18.3 +3.4
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,92nm,4.9s
LZH LR LR
comp=Z,350nm,13.0s
LZH LR LR
comp=Z,420nm,13.2s
LZH LR LR
comp=Z,470nm,16.3s
GTA Gaotai 32.54 286 *eP* **P 08 21 20.0 -0.1**
GTA pP pP 08 21 31.8 +0.7
GTA sP sP 08 21 37.8 +1.9
GTA PcP **PcP 08 24 03.8 -2.2**
GTA S **S 08 26 32.3 -0.5**
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,93nm,6.4s
GTA LR LR
comp=Z,240nm,19.0s
GTA LR LR
comp=Z,270nm,19.0s
GTA LR LR
comp=Z,350nm,18.7s
BILL Bilibino 33.21 17[||] *eP* **P 08 21 26.3 +0.8**
BILL *e**PP **pP 08 21 38.3 +1.9**
BILL 08 24 08.0
BILL SS SS 08 28 40.0 -26
BILL pmax pmax
comp=Z,4.0nm,1.3s
BILL MLR MLR
comp=Z,135nm,20.0s
TIXI Tiksi 34.53 353 *ceP* **P 08 21 34.6 -2.3**
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI Tiksi 34.53 353 P **P 08 21 36.5 -0.4**
KMI Kunming 35.30 260 P **P 08 21 43.3 -1.0**
KMI pP sP 08 22 01.4 +1.3
KMI pmax pmax
comp=Z,34nm,1.1s
KMI pmax pmax
comp=Z,120nm,5.4s
KMI LR LR
comp=Z,140nm,24.5s
KMI LR LR
comp=Z,210nm,19.2s
KMI LR LR
comp=Z,320nm,32.5s
KMI Kunming 35.30 260 P **P 08 21 43.8 -0.5**
KMI pmax pmax
comp=Z,29nm,0.7s
KMI Kunming 35.30 260 P **P 08 21 43.8 -0.5**
SLVN Son La 36.45 254 P **P 08 21 53.4 -0.6**
SLVN IAmb IAmb 08 22 12.4
comp=Z,17nm,1.2s
DGZ Jazzator, Alta 40.11 305 *c i* P **P 08 22 25.0 +0.4**
JAY Jayapura 40.15 182 P **P 08 22 22.6 -2.4**
KMSI Cibinong 40.50 208 P **P 08 22 28.3 +0.4**
WMQ Urumqi 40.68 296 *eP* **P 08 22 30.1 +0.8**
WMQ pP sP 08 22 46.3 +1.1
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ LR LR
comp=Z,370nm,6.7s
WMQ LR LR
comp=Z,200nm,6.7s
WMQ LR LR
comp=Z,130nm,8.7s
FAKI Fak Fak 41.47 194 P **P 08 22 35.4 -0.5**
FAKI Fak Fak 41.47 194 P **P 08 22 35.4 -0.5**
FAKI IAmb IAmb 08 22 37.5
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 41.54 312 IAmb IAmb 08 22 36.6
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 41.54 312 P **P 08 22 36.0 -0.2**
comp=Z,8.6nm,0.6s,baz=91,slow=7.5,SNR=32
ZALV PcP **PcP 08 24 32.2 -0.6**
comp=Z,2.4nm,0.6s,baz=114,slow=3.4,SNR=3.7
ZALV LR LR 08 40 31.8
comp=Z,169nm,19.0s,baz=65,slow=37
CMMT Chiang Mai 41.69 255 P **P 08 22 40.7 +2.9**
comp=Z,4.3nm,0.9s
CMAR Chiang Mai Arr 41.91 255 P **P 08 22 39.5 -0.1**
comp=Z,1.3nm,0.3s,baz=47,slow=6.3,SNR=4.5
CMAR LR LR 08 43 04.2
comp=Z,72nm,20.1s,baz=12,slow=40
CMAR Chiang Mai Arr 41.91 255 P **P 08 22 39.0 -0.5**
SANI Sanana 42.25 204 P **P 08 22 41.1 -1.2**
MPSI Mapaga 42.36 213 P **P 08 22 45.2 +2.0**
LUWI Luwuk 42.44 209 P **P 08 22 45.0 +1.2**
NRIK Noril'sk 42.64 335 P **P 08 22 45.0 +0.1**
NRIK Noril'sk 42.64 335 P **P 08 22 45.0 +0.1**
comp=Z,1.3nm,0.3s,baz=96,slow=6.0,SNR=4.6
APSI Ampana 42.76 210 P **P 08 22 48.1 +1.7**
NLAI Namlea 43.04 202 P **P 08 22 49.2 +0.5**
AAI Ambon 43.16 200 P **P 08 22 50.3 +0.7**
BNDI Bandanaira 43.53 197 P **P 08 22 51.9 -0.7**
SHL Shillong 43.63 269 P **P 08 22 51.9 -1.8**
SHL Shillong 43.63 269 P **P 08 22 51.9 -1.8**
MK31 Makanchi Array 43.88 301 P **P 08 22 54.9 -0.4**
MK31 pmax pmax
comp=Z,17nm,1.2s
MK31 Makanchi Array 43.88 301 P **P 08 22 54.9 -0.4**
MK31 IAmb IAmb 08 22 56.7
comp=Z,17nm,1.2s
MKAR Makanchi Array 43.88 301 *ceP* **P 08 22 54.9 -0.4**
MKAR pmax pmax
comp=Z,62nm,1.3s
MKAR Makanchi Array 43.88 301 P **P 08 22 54.9 -0.4**
comp=Z,53nm,1.3s,baz=87,slow=9.8,SNR=32
MKAR Makanchi Array 43.88 301 P **P 08 22 54.0 -1.2**
MAKZ Makanchi 44.09 302 P **P 08 22 56.4 -0.5**
MAKZ pmax pmax
comp=Z,21nm,1.3s
MAKZ Makanchi 44.09 302 P **P 08 22 56.4 -0.5**
MAKZ IAmb IAmb 08 22 59.0
comp=Z,21nm,1.2s
SBUM Sibu 44.37 225 P **P 08 22 59.0 -0.4**
PHET Kaeng Krachan 44.85 248 P **P 08 23 06.8 +3.5**
comp=Z,47μm,0.8s
KDI Kendari 45.18 207 P **P 08 23 06.8 +0.9**
TTSI Tana Toraja 45.44 211 P **P 08 23 09.4 +1.5**
KURK Kurchatov 45.62 308 *ceP* **P 08 23 08.1 -0.8**
KURK pmax pmax
comp=Z,23nm,0.8s
KURK Kurchatov 45.62 308 P **P 08 23 08.4 -0.5**
IMAR Indian Mountai 45.87 31 P **P 08 23 12.0 +1.3**
TAPN Taplejung 46.10 273 *eP* **P 08 23 14.6 +1.1**
SPSI Sidrap Palu 46.29 211 P **P 08 23 14.8 +0.2**
KDAK Kodiak Island 46.37 42 *ceP* **P 08 23 15.9 +1.1**
KDAK Kodiak Island 46.37 42 P **P 08 23 15.6 +0.8**
PPLA Purkeypile 46.40 35 P **P 08 23 17.4 +2.3**
PPLA IAmb IAmb 08 23 19.8
comp=Z,18nm,1.4s
BNSI Bone 46.55 210 P **P 08 23 17.5 +0.9**
ODAN Odare 46.58 273 *eP* **P 08 23 16.6 -0.5**
STKI Sintang 46.76 224 P **P 08 23 19.3 +1.0**
BPAW Bear Paw Mtn. 46.95 34 P **P 08 23 22.0 +2.8**
BPAW IAmb IAmb 08 23 37.4
comp=Z,12nm,1.5s
JIRN Jiri 47.16 275 *eP* **P 08 23 22.0 +0.2**
RAMN Ramite 47.16 274 *eP* **P 08 23 21.2 -0.5**
KAPI Kappang 47.25 210 P **P 08 23 22.1 0.0**
comp=Z,17nm,0.8s,baz=12,slow=3.1,SNR=7.2
KAPI Kappang 47.25 210 P **P 08 23 22.1 0.0**
TRF Thorofare Moun 47.26 35 P **P 08 23 23.8 +1.9**
TRF IAmb IAmb 08 23 27.1
comp=Z,9.8nm,1.4s
GUN Gumba 47.29 275 *eP* **P 08 23 22.9 +0.1**
comp=Z,25nm,0.3s
BKSI Bulukumba 47.38 210 P **P 08 23 23.4 +0.3**
RC01 Rabbit Creek A 47.60 38 P **P 08 23 25.1 +0.7**
TOLK Toolik Lake Re 47.67 28 P **P 08 23 26.4 +1.6**
TOLK IAmb IAmb 08 23 41.2
comp=Z,7.3nm,1.1s
PKI Pulchoki 47.82 275 *eP* **P 08 23 26.2 -0.7**
KKN Kakani 47.82 275 *eP* **P 08 23 25.9 -0.9**
comp=Z,47nm,0.9s
PKIN Phulchoki 47.83 275 *eP* **P 08 23 26.2 -0.7**
PMR Palmer 47.87 37 P **P 08 23 27.5 +1.1**
PMR pmax pmax
comp=Z,11nm,1.2s
PMR Palmer 47.87 37 P **P 08 23 27.5 +1.1**
PMR IAmb IAmb 08 23 41.1
comp=Z,11nm,1.2s
GHO Glory Hole Cre 47.95 37 P **P 08 23 27.8 +0.6**
GHO IAmb IAmb 08 23 29.8
comp=Z,20nm,1.4s
BSSI Bau Bau, Buton 47.99 209 P **P 08 23 28.6 +0.7**
BBKI Banjar Baru 48.04 217 P **P 08 23 29.9 +1.7**
DMN Daman 48.04 275 *eP* **P 08 23 28.0 -0.5**
GKN Gorkha 48.23 276 *eP* **P 08 23 29.5 -0.4**
comp=Z,97nm,0.9s
SML Sawmill 48.23 37 P **P 08 23 31.1 +1.7**
SML IAmb IAmb 08 23 46.7
comp=Z,8.6nm,0.8s
TARG Taragay, Kyrgy 48.24 296 IAmb IAmb 08 23 31.5
comp=Z,9.7nm,0.7s
COLA College 48.30 33 *i* P **P 08 23 30.5 +0.8**
COLA pmax pmax
comp=Z,4.0nm,1.3s
CCB Clear Creek Bu 48.33 33 P **P 08 23 31.3 +1.4**
HDA Harding Lake 48.70 33 P **P 08 23 33.4 +0.6**
HDA IAmb IAmb 08 23 34.6
comp=Z,12nm,1.4s
SCM Sheep Creek Mo 48.70 37 P **P 08 23 34.4 +1.4**
SCM pmax pmax
comp=Z,22nm,1.4s
SCM Sheep Creek Mo 48.70 37 P **P 08 23 34.4 +1.4**
IL31 48.71 33 P **P 08 23 34.0 +1.1**
IL31 IAmb IAmb 08 23 34.5
comp=Z,14nm,1.5s
ILAR Eielson Array 48.71 33 P **P 08 23 33.7 +0.8**
ILAR Eielson Array 48.71 33 P **P 08 23 33.5 +0.6**
comp=Z,1.5nm,0.6s,baz=262,slow=5.9,SNR=21
ILAR Eielson Array 48.71 33 P **P 08 23 33.7 +0.8**
DANN Dangsing 48.76 277 *eP* **P 08 23 34.1 0.0**
comp=Z,97nm,0.6s
KOLN Koldanda 49.15 276 *eP* **P 08 23 34.7 -2.3**
comp=Z,88nm,1.2s
BOOM Boomskoye usch 49.33 297 IAmb IAmb 08 23 38.9
comp=Z,7.6nm,0.8s
TKM2 Tokmak 2 49.44 298 P **P 08 23 39.5 +0.5**
SNR=24
BMAR Burnt Mountain 49.54 29 P **P 08 23 41.6 +2.4**
MMRI Maumere 49.66 206 P **P 08 23 40.9 +0.2**
KZA Kyzart 49.95 297 P **P 08 23 44.1 +1.0**
SNR=6.0
KBK Karagaybulak 49.98 298 P **P 08 23 43.4 +0.2**
SNR=12
DOT Dot Lake 50.03 34 P **P 08 23 43.7 +0.7**
SOEI Soe 50.06 203 P **P 08 23 43.7 -0.1**
TPRI Tanjung Pinang 50.15 232 P **P 08 23 47.0 +2.6**
BRVK Borovoye 50.26 312 *ceP* **P 08 23 45.3 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
KSH Kashi 50.28 294 P **P 08 23 49.3 +3.9**
KSH S **S 08 30 56.9 +1.7**
KSH pmax pmax
comp=Z,21nm,0.6s
KSH pmax pmax
comp=Z,670nm,7.6s
KSH LR LR
comp=Z,380nm,13.0s
KSH LR LR
comp=Z,350nm,10.9s
KSH LR LR
comp=Z,400nm,10.1s
AAK Ala-Archa 50.30 298 *ceP* **P 08 23 45.4 -0.2**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 50.30 298 P **P 08 23 45.4 -0.2**
AAK IAmb IAmb 08 23 47.8
comp=Z,5.8nm,0.7s
EKS2 Erkin-Say 50.80 298 P **P 08 23 49.1 -0.1**
SNR=6.7
AML Almayashu 51.03 297 P **P 08 23 51.6 +0.3**
SNR=14
BCAR Beaver Creek A 51.12 35 P **P 08 23 53.0 +1.7**
MTN Manton Dam 51.36 193 P **P 08 23 53.0 -0.4**
COEN Coen 51.53 178 P **P 08 23 55.1 +0.4**
COEN IAmb IAmb 08 23 56.2
comp=Z,13nm,0.9s
PSI Prapat 52.38 239 LR LR 08 46 51.6
comp=Z,129nm,20.2s,baz=357,slow=37
EPYK Eagle Plains 52.74 30 P **P 08 24 04.6 +1.3**
EPYK IAmb IAmb 08 24 19.9
comp=Z,14nm,0.9s
KK31 Karatay Array 52.91 300 P **P 08 24 04.3 -0.6**
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KK31 Karatay Array 52.91 300 P **P 08 24 04.3 -0.6**
KK31 IAmb IAmb 08 24 05.5
comp=Z,9.1nm,1.1s
KKAR Karatay Array 52.91 300 P **P 08 24 04.4 -0.4**
KKAR pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 52.91 300 P **P 08 24 04.0 -0.8**
KKAR Karatay Array 52.91 300 P **P 08 24 04.4 -0.4**
KKAR IAmb IAmb 08 24 05.5
comp=Z,9.1nm,1.1s
BSI Banda Aceh 52.99 244 P **P 08 24 08.5 +2.8**
PWJI Pagerwojo 53.46 218 P **P 08 24 08.2 -0.9**
INK Inuvik 53.59 27 P **P 08 24 10.3 +1.0**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 53.59 27 LR LR 08 48 16.0
comp=Z,128nm,19.6s,baz=234,slow=37
INK Inuvik 53.59 27 P **P 08 24 10.3 +1.0**
INK IAmb IAmb 08 24 24.9
comp=Z,8.5nm,1.1s
GAR Garm 54.55 295 P **P 08 24 16.1 -1.0**
NIL Nilore 54.57 288 P **P 08 24 17.0 -0.1**
NIL pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 54.57 288 P **P 08 24 17.0 -0.1**
NIL IAmb IAmb 08 24 23.5
comp=Z,10.0nm,0.7s
KNRA Kununurra 54.59 195 P **P 08 24 17.0 -0.2**
SVE Sverdlovsk 54.70 318 *eP* **P 08 24 17.9 +0.3**
SVE pmax pmax
comp=Z,15nm,0.9s
CHGR Chuyangaron 55.52 295 P **P 08 24 23.3 -0.7**
ARU Arti 55.91 318 *c i* P **P 08 24 25.9 -0.5**
ARU 08 25 23.3
ARU S **S 08 32 10.4 -0.6**
ARU pmax pmax
comp=Z,25nm,1.3s
ARU Arti 55.91 318 P **P 08 24 25.8 -0.5**
KBL Kabul 57.33 291 P **P 08 24 36.1 -1.0**
KBL pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 57.33 291 P **P 08 24 36.1 -1.0**
ABKAR Akbulak array 57.59 310 P **P 08 24 38.0 -0.5**
ABKAR IAmb IAmb 08 24 38.9
comp=Z,12nm,1.4s
FITZ Fitzroy Crossi 57.63 198 P **P 08 24 39.2 +0.3**
comp=Z,10nm,0.7s,baz=18,slow=6.1,SNR=27
FITZ Fitzroy Crossi 57.63 198 P **P 08 24 39.5 +0.6**
WRAB Tennant Creek 57.86 188 *ceP* **P 08 24 40.0 -0.5**
WRAB pmax pmax
comp=Z,23nm,0.8s
WRAB Tennant Creek 57.86 188 P **P 08 24 39.9 -0.7**
WB2 Warramunga Arr 57.87 188 P **P 08 24 40.0 -0.6**
WRA Warramunga Arr 57.87 188 P **P 08 24 39.9 -0.7**
comp=Z,20nm,0.7s,baz=5.1,slow=7.2,SNR=157
WRA LR LR 08 47 12.0
comp=Z,54nm,21.9s,baz=30,slow=33
WRA Warramunga Arr 57.87 188 P **P 08 24 39.2 -1.4**
AS31 Alice Springs 61.60 188 P **P 08 25 05.4 -0.8**
ASAR Alice Springs 61.60 188 P **P 08 25 05.8 -0.4**
comp=Z,8.6nm,0.8s,baz=9.7,slow=6.0,SNR=81
ASAR Alice Springs 61.60 188 P **P 08 25 05.4 -0.8**
RES Resolute Bay 61.78 15 LR LR 08 53 16.8
comp=Z,69nm,18.6s,baz=14,slow=37
HRA Herat 62.39 293 P **P 08 25 11.4 -0.5**
HRA IAmb IAmb 08 25 12.9
comp=Z,14nm,1.3s
PALK Pallekele 62.75 257 LR LR 08 55 39.9
comp=Z,52nm,18.4s,baz=103,slow=39
YKA Yellowknife Ar 63.02 30 P **P 08 25 15.7 +0.5**
comp=Z,1.7nm,0.7s,baz=300,slow=6.2,SNR=3.5
ARCES ARCESS Array B 63.33 339 P **P 08 25 18.9 +1.7**
comp=Z,4.5nm,0.9s,baz=53,slow=8.0,SNR=4.0
GEYT Alibeck 63.64 299 P **P 08 25 19.4 -0.5**
comp=Z,4.2nm,0.6s,baz=64,slow=3.4,SNR=7.6
GEYT Alibeck 63.64 299 P **P 08 25 19.1 -0.7**
GYA0B ALIBECK ARRAY 63.64 299 P **P 08 25 19.5 -0.3**
GYA0B IAmb IAmb 08 25 21.4
comp=Z,20nm,1.4s
VRH Novokhopyorsk 67.14 318 *eP* **P 08 25 40.6 -1.6**
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 67.59 323[||] *eP* **P 08 25 45.0 +0.1**
OBN *e* 08 25 52.7
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,240nm,17.0s
LPSR Galich'ya Gora 67.83 320 *eP* **P 08 25 44.5 -2.0**
LPSR pmax pmax
comp=Z,20nm,1.0s
FINES FINESS Array B 68.21 332 P **P 08 25 48.5 -0.3**
comp=Z,8.1nm,0.7s,baz=43,slow=8.4,SNR=17
VSR Storozhevoye 68.48 319 *eP* **P 08 25 47.4 -3.2**
VSR pmax pmax
comp=Z,30nm,1.3s
STKA Stephens Creek 69.34 180 P **P 08 25 55.6 -0.4**
comp=Z,3.4nm,0.6s,baz=340,slow=12,SNR=7.1
STKA Stephens Creek 69.34 180 P **P 08 25 55.6 -0.4**
FORT Forrest 69.43 193 P **P 08 25 56.2 -0.4**
ZEI Tsey 70.46 309 *eP* **P 08 26 01.4 -1.9**

ZEI pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 70.55 311 P P 08 26 03.7 +0.2
comp=Z,10nm,0.9s,baz=71,slow=4.8,SNR=12
KIV Kislovodsk 70.55 311 *eP* **P 08 26 04.6 +0.9**
KIV pmax pmax
comp=Z,87nm,1.1s
KIV Kislovodsk 70.55 311 P **P 08 26 03.9 +0.2**
WALA Waterton Lakes 70.71 42 P **P 08 26 05.9 +1.3**
WALA IAmb IAmb 08 26 21.2
comp=Z,8.9nm,0.9s
BMO Blue Mountains 71.24 48 P **P 08 26 09.1 +1.2**
BMO pmax pmax
comp=Z,8.0nm,1.5s
BMO Blue Mountains 71.24 48 P **P 08 26 09.1 +1.2**
JTMT Jette 71.28 44 P **P 08 26 09.3 +1.3**
JTMT IAmb IAmb 08 26 10.4
comp=Z,12nm,1.2s
BEKR Beckworth 72.21 53 P **P 08 26 15.0 +1.1**
PAHR Pah Rah Range 72.92 53 P **P 08 26 18.7 +0.6**
PAHR IAmb IAmb 08 26 34.9
comp=Z,8.6nm,1.1s
FFC Flin Flon 72.93 33 *ceP* **P 08 26 19.4 +1.8**
MFID Camas Ranch 72.94 48 P **P 08 26 19.0 +0.9**
MFID IAmb IAmb 08 26 34.4
comp=Z,12nm,1.3s
YERR Yerington 73.43 53 P **P 08 26 23.1 +1.9**
YERR IAmb IAmb 08 26 38.2
comp=Z,12nm,1.2s
LRM Limekiln Ridge 73.43 45 P **P 08 26 21.7 +0.6**
EGMT Eagleton 73.54 42 P **P 08 26 22.6 +1.1**
EGMT IAmb IAmb 08 26 38.0
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 73.54 337 P **P 08 26 20.6 -0.6**
comp=Z,3.8nm,0.9s,baz=37,slow=6.2
NOA NORSAR Array B 73.54 337 P **P 08 26 20.8 -0.4**
comp=Z,5.5nm,0.8s,baz=39,slow=5.9,SNR=9.6
NOA LR LR 09 01 09.3
comp=Z,82nm,20.7s,baz=350,slow=38
DLMT Dillon 73.63 45 IAmb IAmb 08 26 39.0
comp=Z,8.1nm,0.8s
AKASG Malin Array Be 73.80 322 P **P 08 26 22.2 -0.6**
comp=Z,4.2nm,0.4s,baz=45,slow=5.9,SNR=32
AKASG Malin Array Be 73.80 322 P **P 08 26 22.2 -0.6**
AKBB Malin Array Si 73.80 322 IAmb IAmb 08 26 23.2
comp=Z,7.8nm,0.7s
KVN Kaiserville 74.11 53 P **P 08 26 26.4 +1.2**
KVN pmax pmax
comp=Z,12nm,1.2s
KVN Kaiserville 74.11 53 P **P 08 26 26.4 +1.2**
KVN IAmb IAmb 08 26 42.2
comp=Z,12nm,1.2s
NVAR Mina Array Bea 74.35 53 P **P 08 26 27.8 +1.3**
comp=Z,2.9nm,0.9s,baz=298,slow=5.5,SNR=16
NVAR Mina Array Bea 74.35 53 P **P 08 26 27.6 +1.1**
IMW Indian Meadow 75.47 45 IAmb IAmb 08 26 36.0
comp=Z,6.2nm,0.8s
R11A Troy Canyon, C 76.11 52 IAmb IAmb 08 26 52.9
comp=Z,10.0nm,1.4s
LAO LASA Array 76.24 41 IAmb IAmb 08 26 54.0
comp=Z,17nm,1.0s
PDAR Pinedale Array 76.96 46 P **P 08 26 42.1 +0.6**
comp=Z,2.0nm,0.7s,baz=280,slow=1.7,SNR=23
PDAR Pinedale Array 76.96 46 P **P 08 26 41.8 +0.3**
BURAR Bucovina Array 77.82 322 ⇑P **P 08 26 45.6 -0.4**
BURAR Bucovina Array 77.82 322 P **P 08 26 45.7 -0.4**
TOPG Topolog 78.07 318 ⇑P **P 08 26 47.3 0.0**
BR131 Keskin Array S 78.49 312 IAmb IAmb 08 26 50.2
comp=Z,11nm,1.4s
BRTR Keskin Array B 78.49 312 P **P 08 26 49.6 -0.3**
comp=Z,2.9nm,0.6s,baz=83,slow=4.2,SNR=13
OZUR 78.58 320 ⇓P **P 08 26 50.6 +0.4**
TRPA Tarpa 78.75 323 ⇑P **P 08 26 51.0 0.0**
DOPR Dopca 78.87 320 ⇓P **P 08 26 52.7 +1.0**
U15A North Rim 79.36 52 IAmb IAmb 08 27 11.7
comp=Z,9.3nm,1.2s
VOIR 79.41 320 ⇓P **P 08 26 55.1 +0.3**
LANS Liptovska Anna 79.43 326 *eP* **P 08 26 55.5 +0.7**
LANS pmax pmax
comp=Z,5.0nm,1.2s
LANS Liptovska Anna 79.43 326 *eP* **P 08 26 55.5 +0.7**
ARR Arges 79.67 320 ⇑P **P 08 26 56.7 +0.5**
MORC Moravsky Berou 79.81 327 ⇓P **P 08 26 56.9 +0.1**
MORC Moravsky Berou 79.81 327 IAmb IAmb 08 26 58.1
comp=Z,9.4nm,1.1s
DPC Dobruska-Polom 79.90 328 *eP* **P 08 26 58.0 +0.7**
DPC Dobruska-Polom 79.90 328 *eP* **P 08 26 58.0 +0.7**
KRLC Kraliky 79.91 328 *eP* **P 08 26 57.5 +0.1**
KRLC Kraliky 79.91 328 *eP* **P 08 26 57.5 +0.1**
PSZ Piszkesteto 80.14 325 ⇓P **P 08 26 58.9 +0.3**
PSZ Piszkesteto 80.14 325 IAmb IAmb 08 27 00.2
comp=Z,10nm,1.0s
VYHS Vyhne 80.19 325 *eP* **P 08 26 59.2 +0.3**
VYHS pmax pmax
comp=Z,22nm,1.8s
VYHS Vyhne 80.19 325 *eP* **P 08 26 59.2 +0.3**
BRG Berggiesshubel 80.48 329 *eP* **P 08 26 59.8 -0.5**
comp=Z,12nm,1.4s
BRG Berggiesshubel 80.48 329 *eP* **P 08 26 59.8 -0.5**
BRG pmax pmax
comp=Z,12nm,1.5s
WUAZ Wupatki 80.51 52 IAmb IAmb 08 27 18.3
comp=Z,13nm,1.1s
CLL Collm 80.52 330 *i* P **P 08 27 00.1 -0.4**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 80.52 330 *i* P **P 08 27 00.1 -0.4**
comp=Z,9.0nm,0.9s
CLL Collm 80.52 330 IAmb IAmb 08 27 01.3
comp=Z,8.1nm,0.9s
RAYN Ar Rayn 80.55 292 P **P 08 27 00.4 -0.9**
RAYN pmax pmax
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 80.55 292 P **P 08 27 00.4 -0.9**
GZR Gura Zlata 80.58 321 ⇓P **P 08 27 00.7 -0.4**
PRU Pruhonice 80.92 329 *eP* **P 08 27 03.2 +0.5**
PRU Pruhonice 80.92 329 *eP* **P 08 27 03.2 +0.5**
MDVR Moldovita 81.55 321 ⇓P **P 08 27 04.5 -1.7**
CONA Conrad Observa 81.94 327 *eP* **P 08 27 08.9 +0.6**
comp=Z,10nm,1.5s,SNR=4.1
KHC Kasperske Hory 81.98 329 *eP* **P 08 27 08.6 +0.2**
KHC Kasperske Hory 81.98 329 *eP* **P 08 27 08.6 +0.2**
GERES GERESS Array B 82.15 328 P **P 08 27 09.0 -0.4**
comp=Z,2.0nm,0.7s,baz=27,slow=6.1,SNR=15
GERES GERESS Array B 82.15 328 P **P 08 27 08.8 -0.6**
ARSA Arzberg 82.60 326 *eP* **P 08 27 11.9 +0.3**
comp=Z,9.2nm,1.2s
MOA Molln 82.69 327 *e*PcP **P 08 27 12.9 +0.8**
comp=Z,8.7nm,1.5s
ECSD EROS Data Cent 83.17 38 P **P 08 27 14.6 -0.1**
ECSD IAmb IAmb 08 27 30.6
comp=Z,8.3nm,0.9s
SOKA Soboth 83.26 326 *eP* **P 08 27 14.9 -0.3**
comp=Z,17nm,1.6s,SNR=5.4
MYKA Terra Mystica 83.90 327 *i* P **P 08 27 17.5 -1.0**
comp=Z,6.3nm,1.0s
ANMO Albuquerque 83.92 50 *ce*P **P 08 27 19.8 +0.9**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 83.92 50 P **P 08 27 20.4 +1.5**
ANMO IAmb IAmb 08 27 36.2
comp=Z,11nm,1.1s
BNM Barren Site 84.35 51 P **P 08 27 22.0 +0.8**
RETA Reutte 84.43 329 *eP* **P 08 27 20.9 -0.2**
comp=Z,20nm,1.3s
BFO Black Forest 84.72 331 *ce*P **P 08 27 22.8 +0.3**
BFO Black Forest 84.72 331 P **P 08 27 22.3 -0.2**
FETA Feichten 84.82 329 *e*PcP **P 08 27 23.2 0.0**
comp=Z,13nm,1.4s,SNR=4.5
DAVA Damuels 84.95 329 *e*PcP **P 08 27 23.4 -0.4**
comp=Z,13nm,1.2s
TUE Stuetta 85.83 329 IAmb IAmb 08 27 31.1
comp=Z,10nm,1.1s
TX32 Lajitas Array 89.47 53 IAmb IAmb 08 28 02.6
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 89.47 53 P **P 08 27 46.5 +0.5**
comp=Z,2.1nm,0.7s,baz=297,slow=3.0,SNR=38
TXAR Lajitas Array 89.47 53 P **P 08 27 46.1 +0.1**
TORD Torodi Ar. Bea 116.92 315 PKP **PKPdf 08 33 31.7 -2.0**
comp=Z,0.5nm,0.9s,baz=339,slow=3.7,SNR=2.5
TORD Torodi Ar. Bea 116.92 315 PKPdf 08 33 32.3 -1.3
QSPA South Pole Qui 127.57 180 PKP **PKPdf 08 33 51.6 -0.9**
comp=Z,3.4nm,0.8s,baz=292,slow=1.1,SNR=19
QSPA South Pole Qui 127.57 180 PKPdf 08 33 51.8 -0.7
SNAA Sanae 141.57 197 PKhKP PKPpre 08 34 11.7
comp=Z,1.4nm,0.6s,baz=315,slow=1.4,SNR=5.8
LPAZ La Paz 146.11 59 PKPbc **PKPbc 08 34 29.6 -0.1**
comp=Z,3.2nm,0.7s,baz=340,slow=2.7,SNR=15
LPAZ La Paz 146.11 59 PKPbc 08 34 29.5 -0.2
MNMC Minye Minye 147.02 64 PKPbc 08 34 32.4 +0.5
PB11 IPOC Station P 147.38 65 PKPbc 08 34 32.6 -0.2
SIV San Ignacio 150.41 49 PKPbc **PKPbc 08 34 40.2 -0.2**
comp=Z,1.1nm,0.4s,baz=316,slow=1.8,SNR=9.8

ISCJB ***16*** *08:18:10.7±0.2, 60°.41S±0°.04×46°.86W±0°.09, h10km, mb4.7/25, MS4.2/6, Error ellipse: s-maj=6.7km s-min=5.1km az=164.4*
NEIC ***16*** *08:18:12.0±2.0, 60°.31S±0°.08×46°.6W±0°.1, h10km±1km, mb5.0/33*
MOS ***16*** *08:18:11.7±1.3, 60°.26S×46°.50W, h15km, mb5.2/12, Error ellipse: s-maj=27.7km s-min=10.4km az=99.5*
BJI ***16*** *08:18:11.2±0.0, 60°.27S×47°.08W, h22km, mB5.3/3, Ms5.3/3, Ms7 5.2/3*
IDC ***16*** *08:18:17.3±2.9, 60°.42S×46°.95W, h51km±27km, mb4.4/16, mb1 4.4/18, mb1mx4.3/26, mbtmp4.6/18, ML4.0/2, MS3.9/4, Ms1 3.9/4, ms1mx3.5/26, Error ellipse: s-maj=18.9km s-min=11.5km az=62.0*
ISC 16 08:18:11.9±0.3, 60°.37S±0°.05×46°.67W±0°.06, h10km, n193, σ1§32/191, mb4.9/31, MS3.9/6, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.22**	**46**	*i* P	**Pn**	**08 20 09.3**	**-1.7**
HOPE	**Hope Point**	**8.22**	**46**		**Pn**	**08 20 08.1**	**-3.0**
HOPE					**Sn**	**08 21 41.2**	**-2.5**
PMSA	**Palmer Station**	**9.14**	**234**	P	**Pn**	**08 20 22.4**	**-1.1**
	7.4nm,0.3s,baz=65,slow=9.9,SNR=64						
PMSA				S	**Sn**	**08 22 05.6**	**-0.7**
	1.0nm,0.3s,baz=73,slow=20,SNR=4.2						
PMSA	**Palmer Station**	**9.14**	**234**		**Pn**	**08 20 22.3**	**-1.3**
PMSA					**Sn**	**08 22 06.7**	**+0.4**
PMSA	**Palmer Station**	**9.14**	**234**	*e*P	**Pn**	**08 20 22.1**	**-1.4**
EFI	**East Falkland**	**10.78**	**319**	P	**Pn**	**08 20 47.6**	**+1.4**
EFI	**East Falkland**	**10.78**	**319**	Pn	**Pn**	**08 20 47.6**	**+1.4**
USHA	**Ushuaia**	**12.89**	**286**	P	**Pn**	**08 21 14.2**	**-0.6**
	0.2nm,0.3s,baz=90,slow=19,SNR=2.0						
GO09	**Cerro Castillo**	**16.95**	**291**	P	**P**	**08 22 11.1**	**+0.3**
VNA3	**Neumayer Olymp**	**18.28**	**142**	P	**P**	**08 22 28.4**	**+3.0**
VNA1	**Neumayer--Stat**	**18.56**	**139**	P	**Pn**	**08 22 29.2**	**+0.6**
VNA2	**Neumayer--Watz**	**18.91**	**140**	P	**P**	**08 22 32.0**	**-0.3**
	baz=293,slow=13						
SNAA	**Sanae**	**20.50**	**141**	P	Pn	08 22 51.2	-0.7
SNAA	**Sanae**	**20.50**	**141**	P	Pn	08 22 51.0	-0.9
SNAA				pmax	pmax		
	comp=Z,95nm,1.1s						
SNAA	**Sanae**	**20.50**	**141**	P	Pn	08 22 51.1	-0.8
	comp=Z,51nm,0.9s,baz=276,slow=9.9,SNR=41						
SNAA				LR	LR	08 29 02.7	
	comp=Z,401nm,21.1s,baz=7.0,slow=31						
SNAA	**Sanae**	**20.50**	**141**	P	Pn	08 22 51.0	-0.9
SNAA				IAmb	IAmb	08 22 54.5	
	comp=Z,95nm,1.1s						
TRQA	**Tornquist**	**24.35**	**330**	P	**P**	**08 23 29.9**	**+0.1**
TRQA				pmax	pmax		
	comp=Z,61nm,1.3s						
TRQA	**Tornquist**	**24.35**	**330**	P	**P**	**08 23 29.9**	**+0.1**
TRQA				IAmb	IAmb	08 23 34.8	
	comp=Z,61nm,1.3s						
TRQA	**Tornquist**	**24.35**	**330**	*e*P	**P**	**08 23 31.1**	**+1.4**
PLCA	**Paso Flores**	**24.58**	**312**	P	**P**	**08 23 31.5**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,11nm,1.0s						
PLCA	**Paso Flores**	**24.58**	**312**	P	**P**	**08 23 31.9**	**-0.1**
	comp=Z,8.2nm,0.9s,baz=185,slow=9.4,SNR=15						
PLCA				LR	LR	08 32 49.4	
	comp=Z,352nm,19.8s,baz=188,slow=36						
PLCA	**Paso Flores**	**24.58**	**312**	P	**P**	**08 23 31.5**	**-0.4**
PLCA	**Paso Flores**	**24.58**	**312**	*e*P	**P**	**08 23 32.0**	**+0.1**
GO06	**Curarrehue**	**25.93**	**312**	P	**P**	**08 23 43.2**	**-1.0**
OGAUY	**Aigu**	**26.58**	**345**	*e*P	**P**	**08 23 51.4**	**+1.5**
OGAUY	**Aigu**	**26.58**	**345**	*e*P	**P**	**08 23 51.4**	**+1.5**
PLTB	**Pedras Altas**	**28.98**	**348**	*e*P	**P**	**08 24 13.4**	**+1.9**
PLTB	**Pedras Altas**	**28.98**	**348**	*e*P	**P**	**08 24 13.4**	**+1.9**
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**08 24 20.4**	**+1.2**
	comp=Z,23nm,1.0s,baz=177,slow=3.2,SNR=31						
QSPA				LR	LR	08 37 00.9	
	comp=Z,129nm,19.5s,baz=154,slow=38						
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**08 24 20.2**	**+1.0**
QSPA				IAmb	IAmb	08 24 24.8	
	comp=Z,36nm,1.1s						
CPSB	**Cacapava Do Su**	**30.31**	**348**	*e*P	**P**	**08 24 25.1**	**+1.8**
CPSB	**Cacapava Do Su**	**30.31**	**348**	*e*P	**P**	**08 24 25.1**	**+1.8**
PEL	**Peldehue**	**31.46**	**319**	P	**P**	**08 24 32.4**	**-1.0**
PEL				pmax	pmax		
	comp=Z,42nm,1.1s						
PEL	**Peldehue**	**31.46**	**319**	P	**P**	**08 24 32.4**	**-1.0**
CFA	**Coronel Fontan**	**32.13**	**324**	P	**P**	**08 24 39.1**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=204,slow=5.4,SNR=5.2						
GO04	**Tololo Observa**	**34.24**	**321**		**P**	**08 24 58.1**	**+0.2**
SYO	**Syowa Base**	**34.79**	**141**	⇓*e*X	P	08 25 07.0	+5.0
CPUP	**Villa Florida**	**34.81**	**343**	P	**P**	**08 25 02.3**	**-0.3**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CPUP	**Villa Florida**	**34.81**	**343**	P	**P**	**08 25 02.8**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=166,slow=7.4,SNR=13						
CPUP	**Villa Florida**	**34.81**	**343**	P	**P**	**08 25 02.2**	**-0.3**
CPUP	**Villa Florida**	**34.81**	**343**	*e*P	**P**	**08 25 03.0**	**+0.4**
PTGB	**Pitanga**	**35.83**	**352**	*e*P	**P**	**08 25 12.9**	**+1.4**
PTGB	**Pitanga**	**35.83**	**352**	*e*P	**P**	**08 25 12.9**	**+1.4**
SPB	**Sao Paulo**	**36.76**	**359**	*e*P	**P**	**08 25 20.7**	**+1.4**
SPB	**Sao Paulo**	**36.76**	**359**	*e*P	**P**	**08 25 20.7**	**+1.4**
FRTB	**Fartura**	**37.06**	**356**	*e*P	**P**	**08 25 23.4**	**+1.4**
FRTB	**Fartura**	**37.06**	**356**	*e*P	**P**	**08 25 23.4**	**+1.4**
VAO	**Valinhos**	**37.34**	**360**	*e*P	**P**	**08 25 25.9**	**+1.5**
VAO	**Valinhos**	**37.34**	**360**	*e*P	**P**	**08 25 25.9**	**+1.5**
TRCB	**Terra Rica**	**37.78**	**351**	*e*P	**P**	**08 25 28.7**	**+0.6**
TRCB	**Terra Rica**	**37.78**	**351**	*e*P	**P**	**08 25 28.7**	**+0.6**
DUB01	**Friburgo-RJ**	**38.38**	**6**	*e*P	**P**	**08 25 33.9**	**+0.8**
DUB01	**Friburgo-RJ**	**38.38**	**6**	*e*P	**P**	**08 25 33.9**	**+0.8**
AQDB	**Aquidauana**	**40.37**	**347**	*e*P	**P**	**08 25 51.3**	**+1.6**
AQDB	**Aquidauana**	**40.37**	**347**	*e*P	**P**	**08 25 51.3**	**+1.6**
SBA	**Scott Base**	**40.51**	**190**	P	**P**	**08 25 51.8**	**+1.6**
SBA				pmax	pmax		
	comp=Z,31nm,1.5s						
SBA	**Scott Base**	**40.51**	**190**	P	**P**	**08 25 51.8**	**+1.6**
ITRB	**Iturama**	**40.71**	**355**	*e*P	**P**	**08 25 54.3**	**+1.7**
ITRB	**Iturama**	**40.71**	**355**	*e*P	**P**	**08 25 54.3**	**+1.7**
PB04	**IPOC Station P**	**41.42**	**326**	P	**P**	**08 25 57.2**	**-1.4**
MAW	**Mawson**	**42.45**	**148**	P	**P**	**08 26 06.7**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=212,slow=8.0,SNR=3.2						
PB01	**IPOC Station P**	**42.47**	**328**	P	**P**	**08 26 06.2**	**-0.8**
PP1B	**Ponte de Pedra**	**43.13**	**349**	*e*P	**P**	**08 26 13.9**	**+1.6**
PP1B	**Ponte de Pedra**	**43.13**	**349**	*e*P	**P**	**08 26 13.9**	**+1.6**
MNMC	**Minye Minye**	**44.33**	**328**	P	**P**	**08 26 22.6**	**+0.4**
MNMC				IAmb	IAmb	08 26 27.8	
	comp=Z,24nm,0.7s						
BDFB	**Brasilia**	**44.68**	**358**	P	**P**	**08 26 26.8**	**+1.9**
BDFB				pmax	pmax		
	comp=Z,19nm,1.1s						
BDFB	**Brasilia**	**44.68**	**358**	P	**P**	**08 26 25.0**	**+0.1**
	comp=Z,7.9nm,0.8s,baz=123,slow=3.0,SNR=9.0						
BDFB	**Brasilia**	**44.68**	**358**	P	**P**	**08 26 26.8**	**+1.9**
BDFB				IAmb	IAmb	08 26 30.9	
	comp=Z,19nm,1.1s						
ARAG	**Araguaiana, MT**	**44.76**	**353**	*e*P	**P**	**08 26 27.2**	**+1.8**
ARAG	**Araguaiana, MT**	**44.76**	**353**	*e*P	**P**	**08 26 27.2**	**+1.8**
SALV	**Santo Antonio**	**44.89**	**348**	*e*P	**P**	**08 26 27.3**	**+0.9**
SALV	**Santo Antonio**	**44.89**	**348**	*e*P	**P**	**08 26 27.3**	**+0.9**
SIV	**San Ignacio**	**45.54**	**340**	P	**P**	**08 26 31.5**	**-0.1**
	comp=Z,6.8nm,0.6s,baz=176,slow=9.6,SNR=27						
LPAZ	**La Paz**	**46.69**	**331**	P	**P**	**08 26 42.4**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**46.69**	**331**	P	**P**	**08 26 41.5**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=196,slow=4.2,SNR=9.1						
LPAZ	**La Paz**	**46.69**	**331**	P	**P**	**08 26 42.4**	**+1.1**
LPAZ	**La Paz**	**46.69**	**331**	*e*P	**P**	**08 26 43.0**	**+1.6**
NBPN	**Ponto Novo - B**	**49.67**	**8**	*e*P	**P**	**08 27 04.8**	**+1.1**
NBPN	**Ponto Novo - B**	**49.67**	**8**	*e*P	**P**	**08 27 04.8**	**+1.1**
CLDB	**Colider**	**49.87**	**348**	*e*P	**P**	**08 27 04.2**	**-1.0**
CLDB	**Colider**	**49.87**	**348**	*e*P	**P**	**08 27 04.2**	**-1.0**
SUR	**Sutherland**	**51.43**	**89**	P	**P**	**08 27 18.7**	**+1.6**
	comp=Z,20nm,0.7s,baz=208,slow=10,SNR=13						
SUR	**Sutherland**	**51.43**	**89**	P	**P**	**08 27 19.0**	**+1.9**
NBTA	**Tacaratu-PE**	**51.55**	**11**	*e*P	**P**	**08 27 18.7**	**+0.8**
NBTA	**Tacaratu-PE**	**51.55**	**11**	*e*P	**P**	**08 27 18.7**	**+0.8**
NBRF	**Rio Formoso -**	**52.31**	**14**	*e*P	**P**	**08 27 24.8**	**+1.2**
NBRF	**Rio Formoso -**	**52.31**	**14**	*e*P	**P**	**08 27 24.8**	**+1.2**
SAML	**Samuel**	**52.79**	**339**	P	**P**	**08 27 26.8**	**-0.3**
SAML				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SAML	**Samuel**	**52.79**	**339**	P	**P**	**08 27 26.8**	**-0.3**
SAML				IAmb	IAmb	08 27 30.9	
	comp=Z,10nm,0.7s						
SAML	**Samuel**	**52.79**	**339**	*e*P	**P**	**08 27 27.1**	**0.0**
NNA	**Nana**	**53.17**	**322**	*i* P	**P**	**08 27 29.8**	**-0.2**
NBPB	**Pedra_Branca-C**	**54.97**	**9**	*e*P	**P**	**08 27 44.1**	**+1.1**
NBPB	**Pedra_Branca-C**	**54.97**	**9**	*e*P	**P**	**08 27 44.1**	**+1.1**
BOSA	**Boshof**	**56.70**	**90**	P	**P**	**08 27 54.7**	**-0.8**
BOSA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BOSA	**Boshof**	**56.70**	**90**	P	**P**	**08 27 56.5**	**+1.0**
	comp=Z,6.6nm,0.6s,baz=208,slow=6.1,SNR=13						
BOSA	**Boshof**	**56.70**	**90**	P	**P**	**08 27 54.7**	**-0.8**
BOSA				IAmb	IAmb	08 28 04.3	
	comp=Z,10nm,1.0s						
H10N3	**ASCENSION HYDR**	**57.70**	**39**	T	T	09 30 48.8	
	baz=199,slow=75						
H10N1	**ASCENSION HYDR**	**57.70**	**39**	T	T	09 30 48.3	
	baz=199,slow=75						
H10N2	**ASCENSION HYDR**	**57.72**	**39**	T	T	09 30 50.0	
	baz=199,slow=75						
ATAH	**Atahualpa**	**58.23**	**322**	P	**P**	**08 28 07.7**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=214,slow=3.6,SNR=3.1						
LBTB	**Lobatse**	**59.85**	**88**	P	**P**	**08 28 16.8**	**-0.8**
LBTB				pmax	pmax		
	comp=Z,19nm,0.7s						
LBTB	**Lobatse**	**59.85**	**88**	P	**P**	**08 28 16.8**	**-0.8**
OTAV	**Otavalo**	**65.24**	**325**	P	**P**	**08 28 54.4**	**+0.4**
OTAV				pmax	pmax		
	comp=Z,12nm,0.8s						
OTAV	**Otavalo**	**65.24**	**325**	P	**P**	**08 28 54.4**	**+0.4**
OTAV				IAmb	IAmb	08 28 57.6	
	comp=Z,12nm,0.8s						
OTAV	**Otavalo**	**65.24**	**325**	*e*P	**P**	**08 28 54.6**	**+0.6**
PAYG	**Puerto Ayora**	**68.30**	**312**	P	**P**	**08 29 13.3**	**+0.4**
LSZ	**Lusaka**	**69.36**	**85**	P	**P**	**08 29 20.0**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSZ	**Lusaka**	**69.36**	**85**	P	**P**	**08 29 19.9**	**+0.2**
LSZ				IAmb	IAmb	08 29 24.5	
	comp=Z,6.1nm,0.8s						
SDV	**Santo Domingo**	**71.61**	**335**	*e*P	**P**	**08 29 34.3**	**+0.8**
SDV	**Santo Domingo**	**71.61**	**335**	*e*P	**P**	**08 29 34.3**	**+0.8**
KHZ	**Kahutara**	**72.41**	**210**	P	**P**	**08 29 40.7**	**+2.9**
KHZ				IAmb	IAmb	08 29 48.0	
	comp=Z,23nm,1.2s						
THZ	**Tophouse**	**73.18**	**210**	P	**P**	**08 29 43.3**	**+0.8**
THZ				IAmb	IAmb	08 29 55.9	
	comp=Z,23nm,1.1s						
LIC	**Lamto**	**74.00**	**43**	*e*P	**P**	**08 29 49.2**	**+1.7**
	comp=Z,41nm,0.8s						
QRZ	**Quartz Range**	**74.16**	**210**	P	**P**	**08 29 49.9**	**+1.7**
QRZ				IAmb	IAmb	08 29 50.4	
	comp=Z,18nm,1.0s						
KIC	**Kosan Boka**	**74.22**	**44**	*e*P	**P**	**08 29 50.4**	**+1.6**
	comp=Z,17nm,0.8s						
TIC	**Toumodi**	**74.39**	**43**	*e*P	**P**	**08 29 51.3**	**+1.5**
DBIC	**Dimbokro**	**74.47**	**43**	P	**P**	**08 29 51.4**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,20nm,1.4s						
DBIC	**Dimbokro**	**74.47**	**43**	P	**P**	**08 29 51.0**	**+0.8**
	comp=Z,7.8nm,1.0s,baz=173,slow=4.0,SNR=6.2						
DBIC	**Dimbokro**	**74.47**	**43**	P	**P**	**08 29 51.4**	**+1.2**
DBIC				IAmb	IAmb	08 30 02.1	
	comp=Z,20nm,1.4s						
BKZ	**Black Stump Fm**	**74.68**	**213**	P	**P**	**08 29 52.0**	**+0.7**
BKZ				IAmb	IAmb	08 30 01.9	
	comp=Z,18nm,1.3s						
JTS	**Las Juntas de**	**76.72**	**321**	LR	LR	09 00 30.8	
	comp=Z,60nm,20.5s,baz=144,slow=33						
OUZ	**Omahuta**	**79.17**	**213**	P	**P**	**08 30 16.0**	**-0.6**
OUZ				IAmb	IAmb	08 30 16.8	
	comp=Z,10nm,0.8s						
MLPR	**Magueyes Islan**	**79.79**	**340**	P	**P**	**08 30 18.9**	**-1.1**
STVI	**Saint Thomas**	**79.83**	**342**	P	**P**	**08 30 21.5**	**+1.3**
STVI				IAmb	IAmb	08 30 25.2	
	comp=Z,21nm,0.9s						
TOA0	**Torodi Ar. Sit**	**82.80**	**47**	P	**P**	**08 30 35.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.80**	**47**	P	**P**	**08 30 36.2**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=204,slow=5.1,SNR=17						
TORD	**Torodi Ar. Bea**	**82.80**	**47**	P	**P**	**08 30 35.0**	**-1.0**
CCIG	**Comitan**	**84.67**	**317**	P	**P**	**08 30 45.9**	**+0.1**
ASAR	**Alice Springs**	**96.27**	**181**	P	**P**	**08 31 38.5**	**-1.9**
ASAR	**Alice Springs**	**96.27**	**181**	P	**P**	**08 31 38.3**	**-2.1**
	comp=Z,1.3nm,0.8s,baz=174,slow=3.7,SNR=10						
ASAR				PP	**PP**	**08 35 32.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=177,slow=7.8,SNR=7.1						
ASAR	**Alice Springs**	**96.27**	**181**	P	**P**	**08 31 38.5**	**-1.9**
WRA	**Warramunga Arr**	**99.97**	**181**	*i* P	**Pdif**	**08 31 57.6**	**+0.6**
WRA	**Warramunga Arr**	**99.97**	**181**	P	**Pdif**	**08 31 56.8**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=184,slow=4.0,SNR=6.8						
WRA				PP	**PP**	**08 35 58.8**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=186,slow=6.7,SNR=5.1						
WRA	**Warramunga Arr**	**99.97**	**181**		**Pdif**	**08 31 57.6**	**+0.6**
WRAB	**Tennant Creek**	**99.98**	**181**	*i* P	**Pdif**	**08 31 56.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**119.20**	**61**	PKIKP	**PKPdf**	**08 36 59.4**	**-1.0**
BRTR	**Keskin Array B**	**119.20**	**61**	PKP	**PKPdf**	**08 36 58.8**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=215,slow=3.5,SNR=3.4						
BRTR	**Keskin Array B**	**119.

```
MKAR Makanchi Array  147.69  91   PKP2      PKPdf   08 37 54.1 +1.3
MKAR Makanchi Array  147.69  91   PKPbc     PKPdf   08 37 53.8 +0.9
     comp=Z,3.0nm,0.6s,baz=247,slow=3.8,SNR=22
MKAR Makanchi Array  147.69  91             PKPdf   08 37 54.1 +1.3
WMQ  Urumqi          148.24 101   ePKPbc    PKPdf   08 37 53.9  0.0
IMAR Indian Mountai  148.38 312             PKPbc   08 37 56.2 -0.6
KURK Kurchatov       148.47  83   PKP2      PKPbc   08 37 57.3 -0.2
KURK Kurchatov       148.47  83             PKPbc   08 37 57.3 -0.2
LZH  Lanzhou         149.23 129   ePKPbc    PKPdf   08 37 55.1 -0.8
LZH                               pPKP      pPKPdf  08 37 58.3 -0.6
LZH                               sPKP              08 37 59.6
LZH                               PKPab     pPKPab  08 38 06.5 -1.2
LZH                               LR        LR
     comp=Z,140nm,18.0s
LZH                               LR        LR
     comp=Z,140nm,18.1s
LZH                               LR        LR
     comp=Z,170nm,20.0s
NJ2  Nanjing         150.09 155   ePKPbc    PKPdf   08 37 57.8 +0.7
GTA  Gaotai          150.42 120   ePKPbc    PKPab   08 38 09.5 +0.1
ZALV Zalesovo Beam   153.45  82   PKIKP     PKPbc   08 38 09.0 -0.1
ZALV Zalesovo Beam   153.45  82   PKPbc     PKPbc   08 38 08.8 -0.2
     comp=Z,1.0nm,0.5s,baz=247,slow=4.3,SNR=4.3
ZALV Zalesovo Beam   153.45  82             PKPbc   08 38 09.0 -0.1
HHC  Hu-ho-hao-te    156.28 136   ePKP      PKPdf   08 38 07.3 +1.4
KSRS Korea Array     156.80 169   PKPab     PKPab   08 38 35.1 -1.1
     comp=Z,1.5nm,0.8s,baz=190,slow=4.3,SNR=3.4
SONM Songino Array   160.01 117   PKIKP     PKPdf   08 38 12.6 +2.3
SONM                                                 08 38 50.6
SONM Songino Array   160.01 117   PKPab     PKPab   08 38 50.5 +0.4
     comp=Z,0.9nm,0.6s,baz=229,slow=4.6,SNR=6.6
SONM Songino Array   160.01 117   PKPdf     PKPdf   08 38 12.6 +2.3
SONM                                        PKPab   08 38 50.6 +0.5
CN2  Changchun       162.73 160   ePKP      PKPdf   08 38 09.3 -3.8
```

ISCJB ***16*** *08:24:26.9±1.4, 24°.09S±0°.06×67°.17W±0°.06, h175km±20km, Error ellipse: s-maj=10.8km s-min=8.1km az=23.7*

SJA ***16*** *08:24:26.1±0.8, 24°.12S×67°.12W, h175km±12km, ML3.0, MW3.3*

GUC ***16*** *08:24:26.9±0.7, 24°.08S×67°.44W, h197km±18km, ML3.8*

ISC 16 08:24:26.7±2.9, 24°.10S±0°.06×67°.15W±0°.06, h176km±31km, n16, σ0°62/26, 1C-5D, Chile-Argentina border region

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
HJA  Humahuaca       1.82  61⇓ eP        Pn      08 25 02.4 +0.3
HJA                             IAML              08 25 08.3
     comp=Z,24nm,0.4s
AZAP Zapla           1.90  94⇓ eP        Pn      08 25 02.6 -0.1
LVC  Limon Verde     2.20 312  i P       Pn      08 25 06.9 +0.8
LVC                             i S       Sn      08 25 36.8 +0.1
LVC  Limon Verde     2.20 312  i P       Pn      08 25 06.6 +0.5
LVC                             ⇓ eS      Sn      08 25 36.2 -0.5
LVC                             IAML              08 25 38.6
     comp=Z,78nm,0.7s
FSA  Cafayete        2.26 152⇓ eP        Pn      08 25 07.0 +0.4
FSA                             IAML              08 25 13.8
     comp=Z,1.2nm,0.4s
PB15 IPOC Station P  2.31 292  i P       Pn      08 25 07.8 +0.5
PB15                            i S       Sn      08 25 38.4 -0.2
PB15 IPOC Station P  2.31 292  eP        Pn      08 25 07.7 +0.5
PB15                            eS        Sn      08 25 38.4 -0.2
YJA  Yavi            2.44  38  i P       Pn      08 25 09.2 +0.3
YJA                             IAML              08 25 11.6
     comp=Z,14nm,0.4s
GO02 Mina Guanaco    2.46 244  eP        Pn      08 25 09.1 +0.1
GO02                            i S       Sn      08 25 42.0 +0.1
GO02                            IAML              08 25 45.7
     comp=E,260nm,0.3s
PB06 IPOC Station P  2.63 301 ⇑ iP        Pn      08 25 11.1 +0.3
PB06                            i S       Sn      08 25 44.3 -0.8
PB06                            IAML              08 25 46.8
     comp=E,414nm,0.4s
PB06 IPOC Station P  2.63 301  i P        Pn      08 25 11.1 +0.3
PB06                            eS        Sn      08 25 44.5 -0.7
PB06                            IAML              08 25 46.2
     comp=Z,268nm,0.4s
PB09 IPOC Station P  3.00 320  eP         Pn      08 25 16.1 +0.8
PB09                            i S       Sn      08 25 53.1 -0.1
PB09                            IAML              08 25 56.0
     comp=N,131nm,0.3s
PB09 IPOC Station P  3.00 320  eP         Pn      08 25 16.2 +0.8
PB09                            eS        Sn      08 25 53.3 +0.1
PB09                            IAML              08 25 56.1
     comp=Z,83nm,0.2s
PB14 IPOC Station P  3.02 259 ⇓ iP        Pn      08 25 16.0 +0.3
PB14                            IAML              08 25 16.2
     comp=Z,147nm,0.3s
PB03 IPOC Station P  3.15 310  i P        Pn      08 25 17.2 -0.1
PB03                            i S       Sn      08 25 54.6 -1.9
PB03                            IAML              08 25 56.8
     comp=E,226nm,0.3s
PB10 IPOC Station P  3.18 280  i P        Pn      08 25 17.5 +0.2
PB10                            IAML              08 25 18.2
     comp=Z,64nm,0.3s
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MOS ***16*** *08:35:04.8±1.0, 60°.30S×46°.34W, h12km, mb5.6/31, MS4.8/6, Error ellipse: s-maj=23.2km s-min=8.8km az=99.5*

NEIC ***16*** *08:35:05.4±2.1, 60°.35S±0°.03×46°.4W±0°.1, h10km±1km, mb5.4/72, Ms_20 5.1/265*

BJI ***16*** *08:35:06.0±0.0, 60°.40S×46°.40W, h10km, mB5.3/2, Ms5.2/9, Ms7 5.0/9*

GCMT ***16*** *08:35:08.4±0.2, 60°.58S±0°.02×46°.77W±0°.06, h18km, MW5.5/99, Moment Tensor Solution. s48,c61; s99,c150; Duration: 1±3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.95±.10; $M_{\theta\theta}$1.68±.07; $M_{\phi\phi}$0.26±.07; $M_{r\theta}$0.06±.14; $M_{\theta\phi}$0.60±.04; $M_{\phi r}$0.85±.19; Best double couple: $M_0$2.08800×10^{17} NP1:ϕ_s231.00000°, δ53.00000°, λ-113.00000°. NP2:ϕ_s87.00000°, δ43.00000°, λ-62.00000°. Principal axes: T 1.9340, Plg6.0000°, Azm338.0000°; N 0.3060, Plg18.0000°, Azm246.0000°; P -2.2420, Plg71.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***16*** *08:35:10.6±1.4, 60°.38S±0°.03×46°.60W±0°.09, h58km±12km, mb5.2/36, MS4.8/26 Error ellipse: s-maj=7.7km s-min=4.6km az=166.7*

IDC ***16*** *08:35:12.4±2.5, 60°.37S×46°.60W, h60km±22km, mb4.7/23, mb1 4.7/25, mb1mx4.7/28, mbtmp5.0/25, ML4.3/2, MS4.8/14, Ms1 4.8/14, ms1mx4.6/19, Error ellipse: s-maj=15.1km s-min=10.1km az=68.0*

ISC 16 08:35:06.0±0.7, 60°.35S±0°.05×46°.38W±0°.05, h14km±4km, n674, σ1°51/436, mb5.4/50, MS5.1/281, 8C-1D, Scotia Sea

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
HOPE Hope Point      8.09  46  i P       Pn      08 37 02.3 -0.6
HOPE Hope Point      8.09  46            Pn      08 37 02.4 -0.6
HOPE                            Sn        Sn      08 38 34.2 +0.1
PMSA Palmer Station  9.27 234  P         Pn      08 37 19.7 +0.7
     5.2nm,0.3s,baz=72,slow=10,SNR=60
PMSA                            S         Sn      08 39 03.2 +0.3
     6.6nm,0.3s,baz=177,slow=19,SNR=11
PMSA                            LR        LR      08 40 31.7
     comp=Z,5μm,18.4s,baz=67,slow=35
PMSA Palmer Station  9.27 234  eP        Pn      08 37 19.7 +0.7
EFI  East Falkland  10.86 318  P         Pn      08 37 41.1 +0.2
EFI  East Falkland  10.86 318            Pn      08 37 41.1 +0.2
USHA Ushuaia        13.02 285  P         Pn      08 38 13.3 +2.9
     0.8nm,0.3s,baz=124,slow=14,SNR=7.2
USHA                            LR        LR      08 42 02.9
     comp=Z,7μm,18.5s,baz=128,slow=32
GO10 Punta Arenas   15.26 287  P         P       08 38 45.5 -0.2
GO09 Cerro Castillo 17.08 291  P         P       08 39 07.8 +1.9
VNA3 Neumayer Olymp 18.21 142  P         P       08 39 20.8 +2.5
VNA1 Neumayer--Stat 18.49 140  P         Pn      08 39 22.9 +1.6
VNA2 Neumayer--Watz 18.84 140  P         Pn      08 39 27.7 +2.1
     baz=290,slow=12
SNAA Sanae          20.43 141  P         Pn      08 39 44.6  0.0
SNAA Sanae          20.43 141  P         Pn      08 39 44.7  0.0
SNAA                            pmax      pmax
     comp=Z,282nm,1.2s
SNAA Sanae          20.43 141  P         Pn      08 39 44.6  0.0
     comp=Z,70nm,1.0s,baz=281,slow=8.5,SNR=41
SNAA                            S         S       08 43 27.3 -3.4
     comp=Z,1.7nm,0.6s,baz=316,slow=18,SNR=2.9
SNAA Sanae          20.43 141  P         Pn      08 39 44.7  0.0
SNAA                            IAmb      IAmb    08 39 50.2
     comp=Z,282nm,1.2s
SNAA                            IAMs_20   IAMs_20 08 45 33.0
     comp=Z,6μm,21.0s
TRQA Tornquist      24.40 329  P         P       08 40 25.4 +1.6
TRQA                            MLR       MLR
     comp=Z,3μm,21.0s
TRQA Tornquist      24.40 329  P         P       08 40 25.4 +1.6
TRQA                            IAMs_20   IAMs_20 08 49 16.0
     comp=Z,3μm,21.0s
TRQA Tornquist      24.40 329  eP        P       08 40 26.1 +2.3
PLCA Paso Flores    24.68 312  P         P       08 40 26.8 +0.5
PLCA                            pmax      pmax
     comp=Z,150nm,1.4s
PLCA Paso Flores    24.68 312  P         P       08 40 27.2 +0.9
     comp=Z,21nm,0.8s,baz=188,slow=7.8,SNR=62
PLCA                            LR        LR      08 49 56.6
     comp=Z,3μm,20.2s,baz=172,slow=36
PLCA Paso Flores    24.68 312  P         P       08 40 26.8 +0.5
PLCA                            IAmb      IAmb    08 40 41.1
     comp=Z,150nm,1.4s
PLCA Paso Flores    24.68 312  eP        P       08 40 26.7 +0.4
GO06 Curarrehue     26.02 312  P         P       08 40 38.3 -0.3
GO06                            IAMs_20   IAMs_20 08 50 28.0
     comp=Z,4μm,20.0s
LPA  La Plata       26.54 338  i P       P       08 40 44.9 +1.9
PLTB Pedras Altas   28.99 347  eP        P       08 41 07.3 +2.2
PLTB Pedras Altas   28.99 347  eP        P       08 41 07.3 +2.2
QSPA South Pole Qui 29.89 180  P         P       08 41 14.7 +1.7
     comp=Z,68nm,1.1s,baz=179,slow=3.1,SNR=137
QSPA                            PcP       PcP     08 44 15.6 +0.4
     comp=Z,11nm,0.7s,baz=210,slow=0.8,SNR=7.0
QSPA                            PKiKP     PKiKP   08 51 45.7 -1.2
     comp=Z,2.1nm,0.9s,baz=302,slow=1.8,SNR=7.0
QSPA South Pole Qui 29.89 180  P         P       08 41 14.4 +1.4
QSPA                            IAmb      IAmb    08 41 19.6
     comp=Z,115nm,1.1s
QSPA                                      PcP     08 44 15.2 -0.1
GO05 Huala          30.26 315              P       08 41 16.6 +0.3
GO05                            IAmb      IAmb    08 41 19.6
     comp=Z,52nm,1.1s
GO05                            IAMs_20   IAMs_20 08 52 41.2
     comp=Z,3μm,20.0s
CPSB Cacapava Do Su 30.32 348  eP        P       08 41 19.0 +2.2
CPSB Cacapava Do Su 30.32 348  eP        P       08 41 19.0 +2.2
MRA  San Martin     30.71 327  eP        P       08 41 21.3 +0.9
CNLB Canela         31.18 352  eP        P       08 41 26.8 +2.3
CNLB Canela         31.18 352  eP        P       08 41 26.8 +2.3
TCA  Tanti          31.44 329  eP        P       08 41 27.4 +0.6
PEL  Peldehue       31.54 319  P         P       08 41 28.7 +1.1
PEL                             pmax      pmax
     comp=Z,152nm,1.3s
PEL                             MLR       MLR
     comp=Z,2μm,19.0s
PEL  Peldehue       31.54 319  P         P       08 41 28.7 +1.1
PEL                             IAMs_20   IAMs_20 08 54 04.9
     comp=Z,2μm,19.0s
ROC1 El Roble       31.80 318  eP        P       08 41 36.1 +6.0
ROC1 El Roble       31.80 318  P         P       08 41 31.6 +1.4
RTCV Cerro Valdivia 32.05 323  eP        P       08 41 32.8 +0.7
RTLS Leoncito       32.34 322  eP        P       08 41 35.9 +1.0
ITAB Concordia      33.34 351  eP        P       08 41 45.2 +1.8
ITAB Concordia      33.34 351  eP        P       08 41 45.2 +1.8
ACCO Cerro Coronel  33.39 323  eP        P       08 41 45.1 +0.9
ACDV Cuesta del Vie 33.80 323  eP        P       08 41 48.4 +0.8
AROD Rodeo          33.91 322  eP        P       08 41 50.4 +1.7
AGUA GUANDACOL      34.26 324  eP        P       08 41 53.8 +2.4
GO04 Tololo Observa 34.31 321  P         P       08 41 52.7 +0.6
CYA  Choya          34.51 329  eP        P       08 41 54.3 +0.7
SYO  Syowa Base     34.72 141 ⇑ iPP       P       08 41 55.0  0.0
CPUP Villa Florida  34.83 343  P         P       08 41 57.6 +1.3
CPUP                            pmax      pmax
     comp=Z,101nm,1.8s
CPUP Villa Florida  34.83 343  P         P       08 41 57.4 +1.1
     comp=Z,11nm,0.6s,baz=172,slow=7.0,SNR=40
CPUP                            PcP       PcP     08 44 29.1 -0.1
     comp=Z,3.5nm,0.6s,baz=177,slow=4.1,SNR=5.0
CPUP                            LR        LR      08 54 50.0
     comp=Z,3μm,21.5s,baz=174,slow=34
CPUP Villa Florida  34.83 343  P         P       08 41 57.6 +1.3
CPUP                            IAmb      IAmb    08 42 05.0
     comp=Z,101nm,1.8s
CPUP Villa Florida  34.83 343  eP        P       08 41 57.9 +1.6
VCA  Vinchina       34.88 325  eP        P       08 41 58.4 +1.5
PTGB Pitanga        35.83 351  eP        P       08 42 07.0 +2.0
PTGB Pitanga        35.83 351  eP        P       08 42 07.0 +2.0
GO03 Copiap         36.55 323  P         P       08 42 11.7 +0.6
GO03                            IAmb      IAmb    08 42 17.8
     comp=Z,132nm,1.6s
GO03                            IAMs_20   IAMs_20 08 58 02.7
     comp=Z,3μm,19.0s
SPB  Sao Paulo      36.74 358  P         P       08 42 14.9 +2.2
SPB                             IAmb      IAmb    08 42 17.7
     comp=Z,35nm,0.7s
SPB                             IAMs_20   IAMs_20 08 54 41.2
     comp=Z,3μm,22.0s
SPB  Sao Paulo      36.74 358  eP        P       08 42 14.9 +2.2
FRTB Fartura        37.05 355  eP        P       08 42 17.3 +1.9
FRTB Fartura        37.05 355  eP        P       08 42 17.3 +1.9
VAO  Valinhos       37.32 359  eP        P       08 42 20.0 +2.3
VAO  Valinhos       37.32 359  eP        P       08 42 20.0 +2.3
ESAR Angra dos Reis 37.32  3   eP        P       08 42 19.9 +2.2
ESAR Angra dos Reis 37.32  3   eP        P       08 42 19.9 +2.2
MAN01 Angra dos Reis 37.49 4   eP        P       08 42 20.9 +1.7
MAN01 Angra dos Reis 37.49 4   eP        P       08 42 20.9 +1.7
TRCB Terra Rica     37.78 351  eP        P       08 42 23.0 +1.4
TRCB Terra Rica     37.78 351  eP        P       08 42 23.0 +1.4
RCLB Rio Claro- Sao 37.91 358  eP        P       08 42 24.3 +1.6
RCLB Rio Claro- Sao 37.91 358  eP        P       08 42 24.3 +1.6
VAS01 Vassouras-RJ  38.09  4   eP        P       08 42 26.1 +1.9
VAS01 Vassouras-RJ  38.09  4   eP        P       08 42 26.1 +1.9
DUB01 Friburgo-RJ   38.34  6   eP        P       08 42 28.1 +1.8
DUB01 Friburgo-RJ   38.34  6   eP        P       08 42 28.1 +1.8
CAM01 Campos-RJ     38.63  7   eP        P       08 42 30.8 +2.1
CAM01 Campos-RJ     38.63  7   eP        P       08 42 30.8 +2.1
GO02 Mina Guanaco   38.65 325  P         P       08 42 29.8 +0.6
GO02                            IAMs_20   IAMs_20 08 57 43.3
     comp=Z,5μm,19.0s
PCMB Pacaembu       38.86 353  eP        P       08 42 32.6 +1.9
PCMB Pacaembu       38.86 353  eP        P       08 42 32.6 +1.9
BB19B Bebedouro     39.27 357  eP        P       08 42 35.4 +1.2
BB19B Bebedouro     39.27 357  eP        P       08 42 35.4 +1.2
BSCB Bom Sucesso    39.33  2   eP        P       08 42 36.5 +1.8
BSCB Bom Sucesso    39.33  2   eP        P       08 42 36.5 +1.8
AQDB Aquidauana     40.38 346  eP        P       08 42 43.8 +0.5
AQDB Aquidauana     40.38 346  eP        P       08 42 43.8 +0.5
PB10 IPOC Station P 40.48 325  IAMs_20   IAMs_20 08 58 47.9
     comp=Z,4μm,20.0s
SBA  Scott Base     40.56 190  P         P       08 42 46.5 +2.3
SBA                             pmax      pmax
     comp=Z,151nm,1.8s
SBA                             MLR       MLR
     comp=Z,900nm,19.0s
SBA  Scott Base     40.56 190  P         P       08 42 46.5 +2.3
SBA                             IAmb      IAmb    08 42 48.2
     comp=Z,151nm,1.8s
SBA                             IAMs_20   IAMs_20 09 00 59.5
     comp=Z,919nm,19.0s
ITRB Iturama        40.70 354  eP        P       08 42 47.1 +1.1
ITRB Iturama        40.70 354  eP        P       08 42 47.1 +1.1
LVC  Limon Verde    40.88 327  P         P       08 42 49.0 +1.1
LVC                             pmax      pmax
     comp=Z,31nm,1.2s
LVC  Limon Verde    40.88 327  P         P       08 42 49.0 +1.1
LVC  Limon Verde    40.88 327  eP        P       08 42 49.3 +1.4
RIB01 Linhares ES   41.21  9   eP        P       08 42 52.1 +2.0
RIB01 Linhares ES   41.21  9   eP        P       08 42 52.1 +2.0
PB04 IPOC Station P 41.48 326  P         P       08 42 53.7 +1.1
PB04                            IAmb      IAmb    08 42 59.7
     comp=Z,87nm,1.3s
PB04                            IAMs_20   IAMs_20 08 59 43.4
     comp=Z,3μm,20.0s
BSFB Barra de Sao F 41.66  8   eP        P       08 42 54.8 +1.0
BSFB Barra de Sao F 41.66  8   eP        P       08 42 54.8 +1.0
PMNB Patos De Minas 41.76 360  eP        P       08 42 56.0 +1.2
PMNB Patos De Minas 41.76 360  eP        P       08 42 56.0 +1.2
SJMB Sao Joao De Ma 41.76  7   eP        P       08 42 56.5 +1.8
SJMB Sao Joao De Ma 41.76  7   eP        P       08 42 56.5 +1.8
C2SB Chapadao do Su 41.79 351  eP        P       08 42 56.5 +1.6
C2SB Chapadao do Su 41.79 351  eP        P       08 42 56.5 +1.6
MAW  Mawson         42.39 148  P         P       08 43 00.9 +1.6
MAW                                               08 44 52.3
MAW                             pmax      pmax
     comp=Z,14nm,1.8s
MAW  Mawson         42.39 148  P         P       08 43 00.6 +1.3
     comp=Z,6.1nm,0.8s,baz=218,slow=11,SNR=11
MAW                             PcP       PcP     08 44 52.2  0.0
     comp=Z,6.5nm,0.7s,baz=157,slow=3.2,SNR=6.7
MAW                             LR        LR      08 59 23.0
     comp=Z,3μm,20.9s,baz=236,slow=34
MAW  Mawson         42.39 148  P         P       08 43 00.9 +1.6
MAW                                       PcP     08 44 52.3 +0.2
MAW                             IAMs_20   IAMs_20 08 59 01.3
     comp=Z,589nm,21.0s
PB01 IPOC Station P 42.53 327  P         P       08 43 02.2 +1.2
PP1B Ponte de Pedra 43.13 348  eP        P       08 43 07.0 +1.1
PP1B Ponte de Pedra 43.13 348  eP        P       08 43 07.0 +1.1
GO01 Chusmiza       43.76 328  P         P       08 43 12.7 +1.2
PB11 IPOC Station P 43.80 327  P         P       08 43 12.4 +1.0
MNMC Minye Minye    44.38 328  P         P       08 43 17.0 +0.8
MNMC                            IAmb      IAmb    08 43 36.1
     comp=Z,63nm,0.8s
MNMC                            IAMs_20   IAMs_20 09 01 20.2
     comp=Z,4μm,21.0s
BDFB Brasilia       44.66 358  P         P       08 43 19.0 +0.8
BDFB                            pmax      pmax
     comp=Z,49nm,1.1s
BDFB Brasilia       44.66 358  P         P       08 43 19.1 +0.9
     comp=Z,25nm,1.0s,baz=176,slow=4.1,SNR=20
BDFB                            LR        LR      09 00 01.0
     comp=Z,1μm,21.8s,baz=159,slow=33
BDFB Brasilia       44.66 358  P         P       08 43 19.0 +0.8
BDFB                            IAmb      IAmb    08 43 20.4
     comp=Z,49nm,1.1s
BDFB                            IAMs_20   IAMs_20 08 59 05.5
     comp=Z,2μm,21.0s
ARAG Araguaiana, MT 44.75 353  eP        P       08 43 20.0 +1.1
ARAG Araguaiana, MT 44.75 353  eP        P       08 43 20.0 +1.1
SALV Santo Antonio  44.90 347  eP        P       08 43 21.4 +1.4
SALV Santo Antonio  44.90 347  eP        P       08 43 21.4 +1.4
LPAZ La Paz         46.74 331  P         P       08 43 36.0 +0.7
LPAZ                            pmax      pmax
     comp=Z,43nm,1.4s
LPAZ La Paz         46.74 331  P         P       08 43 36.6 +1.4
     comp=Z,5.2nm,0.6s,baz=124,slow=5.4,SNR=28
LPAZ                            PcP       PcP     08 45 08.6  0.0
     comp=Z,3.4nm,0.6s,baz=27,slow=4.5,SNR=3.9
LPAZ                            LR        LR      09 04 33.0
     comp=Z,773nm,20.1s,baz=180,slow=38
LPAZ La Paz         46.74 331  P         P       08 43 36.0 +0.7
LPAZ                            IAmb      IAmb    08 43 50.7
     comp=Z,43nm,1.4s
LPAZ La Paz         46.74 331  eP        P       08 43 36.3 +1.0
CLDB Colider        49.88 348  eP        P       08 43 58.4 -0.4
CLDB Colider        49.88 348  eP        P       08 43 58.4 -0.4
CASY Casey          52.53 168  P         P       08 44 18.9 +0.9
CASY                            IAmb      IAmb    08 44 21.0
     comp=Z,68nm,1.4s
SAML Samuel         52.82 339  P         P       08 44 21.4 +0.6
SAML                            pmax      pmax
     comp=Z,134nm,1.6s
SAML                            MLR       MLR
     comp=Z,2μm,22.0s
SAML Samuel         52.82 339  P         P       08 44 21.4 +0.6
SAML Samuel         52.82 339  IAMs_20   IAMs_20 09 06 28.0
     comp=Z,2μm,22.0s
SAML Samuel         52.82 339  eP        P       08 44 21.4 +0.6
NNA  Nana           53.24 322  P         P       08 44 24.2 +0.2
NNA                             pmax      pmax
     comp=Z,113nm,1.7s
NNA  Nana           53.24 322  P         P       08 44 24.2 +0.2
NNA                             IAmb      IAmb    08 44 52.2
     comp=Z,113nm,1.6s
RCBR Riachuelo      54.97  13  IAMs_20   IAMs_20 09 05 57.6
     comp=Z,1μm,19.0s
BOSA Boshof         56.56  90  P         P       08 44 48.8 +0.8
BOSA                            pmax      pmax
     comp=Z,33nm,0.8s
BOSA Boshof         56.56  90  P         P       08 44 48.6 +0.6
     comp=Z,18nm,0.5s,baz=200,slow=6.7,SNR=48
BOSA                            LR        LR      09 05 03.4
     comp=Z,568nm,19.2s,baz=208,slow=32
BOSA Boshof         56.56  90  P         P       08 44 48.8 +0.8
BOSA                            IAmb      IAmb    08 44 50.0
     comp=Z,33nm,0.8s
ASCN Ascension      57.55  38  IAMs_20   IAMs_20 09 02 06.7
     comp=Z,11μm,19.0s
WIN  Windhoek       57.57  78  P         P       08 44 56.6 +1.3
WIN                             pmax      pmax
     comp=Z,46nm,1.3s
WIN  Windhoek       57.57  78  P         P       08 44 56.6 +1.3
WIN                             IAmb      IAmb    08 44 57.3
     comp=Z,46nm,1.3s
H10N3 ASCENSION HYDR57.59  38  T         T       09 47 42.1
     baz=199,slow=75,SNR=58
H10N1 ASCENSION HYDR57.59  38  T         T       09 47 43.5
     baz=199,slow=75,SNR=44
H10N2 ASCENSION HYDR57.61  38  T         T       09 47 43.9
     baz=199,slow=75,SNR=44
LBTB Lobatse        59.70  88  P         P       08 45 10.4 +0.3
LBTB                            pmax      pmax
     comp=Z,252nm,1.7s
LBTB Lobatse        59.70  88  P         P       08 45 10.4 +0.3
PTLC Puerto Leguiza 64.23 328  eP        P       08 45 36.9 -3.5
PTLC Puerto Leguiza 64.23 328  eP        P       08 45 36.9 -3.5
OTAV Otavalo        65.31 324  P         P       08 45 49.2 +1.2
OTAV                            pmax      pmax
     comp=Z,50nm,1.3s
OTAV                            MLR       MLR
     comp=Z,1μm,22.0s
OTAV Otavalo        65.31 324  P         P       08 45 49.2 +1.2
OTAV                            IAmb      IAmb    08 45 52.1
     comp=Z,50nm,1.2s
OTAV Otavalo        65.31 324  IAMs_20   IAMs_20 09 15 53.7
     comp=Z,1μm,22.0s
OTAV Otavalo        65.31 324  eP        P       08 45 49.0 +1.1
FLOC Florencia      65.81 328  eP        P       08 45 50.2 -0.5
FLOC Florencia      65.81 328  eP        P       08 45 50.2 -0.5
MACC Macarena, Meta 65.88 330  eP        P       08 45 50.2 -1.0
MACC Macarena, Meta 65.88 330  eP        P       08 45 50.2 -1.0
BBAC Balboa, Cauca  66.66 326  eP        P       08 45 54.8 -1.6
BBAC Balboa, Cauca  66.66 326  eP        P       08 45 54.8 -1.6
PCON Cinco Dias     66.72 327  eP        P       08 45 55.5 -1.7
PCON Cinco Dias     66.72 327  eP        P       08 45 55.5 -1.7
PTGC Puerto Gaitan, 67.45 332  eP        P       08 46 00.1 -1.0
PTGC Puerto Gaitan, 67.45 332  eP        P       08 46 00.1 -1.0
VILC Villavicencio, 67.74 330  eP        P       08 46 00.1 -2.9
VILC Villavicencio, 67.74 330  eP        P       08 46 00.1 -2.9
ORTC Ortega, Tolima 67.93 329  eP        P       08 46 00.1 -4.1
ORTC Ortega, Tolima 67.93 329  eP        P       08 46 00.1 -4.1
CHIC Chingaza       68.24 330  eP        P       08 46 04.8 -1.8
CHIC Chingaza       68.24 330  eP        P       08 46 04.8 -1.8
YOTC Yotoco, Valle  68.29 328  eP        P       08 46 02.1 -4.4
YOTC Yotoco, Valle  68.29 328  eP        P       08 46 02.1 -4.4
ROSC El Rosal       68.59 330  eP        P       08 46 08.1 -0.6
ROSC El Rosal       68.59 330  eP        P       08 46 08.1 -0.6
ROSC El Rosal       68.59 330  P         P       08 46 10.0 +1.3
     comp=Z,8.5nm,0.5s,baz=153,slow=5.0,SNR=5.2
ROSC El Rosal       68.59 330  P         P       08 46 09.7 +1.0
ROSC                            IAmb      IAmb    08 47 13.0
     comp=Z,36nm,1.6s
ROSC                            IAMs_20   IAMs_20 09 14 15.3
     comp=Z,411nm,21.0s
TOLC Tolima         68.60 329  eP        P       08 46 06.8 -1.9
TOLC Tolima         68.60 329  eP        P       08 46 06.8 -1.9
PLMC San Jos del P  69.16 328  eP        P       08 46 11.4 -0.5
PLMC San Jos del P  69.16 328  eP        P       08 46 11.4 -0.5
LSZ  Lusaka         69.21  84  P         P       08 46 13.2 +0.8
LSZ                             pmax      pmax
     comp=Z,98nm,1.4s
LSZ  Lusaka         69.21  84  P         P       08 46 13.2 +0.8
RUSC La Rusia       69.30 331  eP        P       08 46 11.4 -1.8
RUSC La Rusia       69.30 331  eP        P       08 46 11.4 -1.8
SPBC San Pablo de B 69.31 330  eP        P       08 46 10.1 -2.8
SPBC San Pablo de B 69.31 330  eP        P       08 46 10.1 -2.8
NORC Norcasia       69.42 330  eP        P       08 46 12.1 -1.4
NORC Norcasia       69.42 330  eP        P       08 46 12.1 -1.4
ELOV Elorza         69.58 335  eP        P       08 46 13.4 -0.9
ELOV Elorza         69.58 335  eP        P       08 46 13.4 -0.9
CBOC Ciudad Bolivar 70.01 328  eP        P       08 46 15.4 -1.8
CBOC Ciudad Bolivar 70.01 328  eP        P       08 46 15.4 -1.8
HELC Santa Helena   70.19 329  eP        P       08 46 12.8 -5.9
HELC Santa Helena   70.19 329  eP        P       08 46 12.8 -5.9
PTBC PUERTO BERRIO, 70.26 330  eP        P       08 46 15.4 -3.2
PTBC PUERTO BERRIO, 70.26 330  eP        P       08 46 15.4 -3.2
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BRRC Barranca, Sant 70.63 331 *e*P P 08 46 15.4 -5.4
BRRC Barranca, Sant 70.63 331 *e*P P 08 46 15.4 -5.4
MLZ Mavora Lakes 70.95 205 P **P 08 46 23.9 +1.4**
MQZ McQueen's Vall 71.50 209 P **P 08 46 26.6 +0.7**
MQZ IAMs_20 IAMs_20 09 18 16.1
comp=Z,571nm,20.0s
SDV Santo Domingo 71.65 335 IAMs_20 IAMs_20 09 22 46.7
comp=Z,1µm,18.0s
SDV Santo Domingo 71.65 335 *e*P **P 08 46 28.8 +1.6**
SDV Santo Domingo 71.65 335 *e*P **P 08 46 28.8 +1.6**
RPZ Rata Peaks 71.87 208 P **P 08 46 28.2 +0.1**
RPZ IAmb IAmb 08 47 16.3
comp=Z,73nm,1.7s
FOZ Fox Glacier 72.33 207 P **P 08 46 31.5 +0.7**
SMLC San Martn de 72.34 331 *e*P **P 08 46 27.4 -3.8**
SMLC San Martn de 72.34 331 *e*P **P 08 46 27.4 -3.8**
LTZ Lake Taylor 72.47 209 P **P 08 46 32.6 +0.8**
LTZ IAmb IAmb 08 46 33.6
comp=Z,84nm,1.5s
BSWZ Blackbirch Sta 73.08 210 P **P 08 46 36.2 +0.9**
GRGR Grenville 73.27 344 IAMs_20 IAMs_20 09 19 44.5
comp=Z,1µm,20.0s
THZ Tophouse 73.28 210 P **P 08 46 37.4 +0.9**
TUWZ Tuamarina 73.33 211 P **P 08 46 36.8 0.0**
SJCC San Jacinto, C 73.67 330 *e*P **P 08 46 36.7 -2.4**
SJCC San Jacinto, C 73.67 330 *e*P **P 08 46 36.7 -2.4**
LIC Lamto 73.88 43 *e*P **P 08 46 41.0 +0.7**
comp=Z,147nm,0.8s
KIC Kosan Boka 74.10 43 *e*P **P 08 46 42.1 +0.5**
comp=Z,302nm,1.7s
QRZ Quartz Range 74.25 210 IAMs_20 IAMs_20 09 14 56.9
comp=Z,750nm,21.0s
TIC Toumodi 74.27 43 *e*P **P 08 46 43.2 +0.6**
SVB Belmont 74.34 345 IAMs_20 IAMs_20 09 17 44.9
comp=Z,466nm,18.0s
DBIC Dimbokro 74.35 43 P **P 08 46 43.9 +0.9**
DBIC pmax pmax
comp=Z,67nm,1.3s
DBIC Dimbokro 74.35 43 P **P 08 46 44.1 +1.1**
comp=Z,17nm,0.6s,baz=178,slow=6.6,SNR=21
DBIC LR LR 09 12 08.6
comp=Z,736nm,20.6s,slow=30
DBIC Dimbokro 74.35 43 P **P 08 46 43.9 +0.9**
DBIC IAmb IAmb 08 46 45.5
comp=Z,67nm,1.3s
SMRC Santa Marta, M 74.66 332 *e*P **P 08 46 41.3 -3.4**
SMRC Santa Marta, M 74.66 332 *e*P **P 08 46 41.3 -3.4**
BKZ Black Stump Fm 74.79 213 P **P 08 46 46.6 +1.1**
ABPO Ambohimpanom 75.44 103 P **P 08 46 51.5 +1.9**
ABPO pmax pmax
comp=Z,71nm,1.9s
ABPO Ambohimpanom 75.44 103 P **P 08 46 51.5 +1.9**
ABPO IAmb IAmb 08 46 53.3
comp=Z,71nm,1.9s
URZ Urewera 75.46 214 P **P 08 46 50.2 +1.0**
FDF Fort de France 75.76 345 IAMs_20 IAMs_20 09 21 14.7
comp=Z,981nm,22.0s
HIZ Hauiti 75.84 212 P **P 08 46 51.5 +0.1**
HIZ IAmb IAmb 08 46 54.9
comp=Z,63nm,1.2s
TBI Tubuai 76.20 247 *e*LR LR 09 10 29.6
comp=Z,740nm,22.8s,baz=151
JTS Las Juntas de 76.79 321 P **P 08 46 57.1 +0.2**
JTS pmax pmax
comp=Z,44nm,1.5s
JTS Las Juntas de 76.79 321 P **P 08 46 57.2 +0.2**
comp=Z,9.7nm,1.0s,baz=321,slow=6.5,SNR=6.5
JTS Las Juntas de 76.79 321 P **P 08 46 57.1 +0.2**
JTS IAmb IAmb 08 47 50.3
comp=Z,44nm,1.5s
ESPN Las Esperanzas 78.38 322 P **P 08 47 05.8 0.0**
ESPN IAMs_20 IAMs_20 09 17 00.3
comp=Z,436nm,18.0s
SABA Saba 78.89 344 IAMs_20 IAMs_20 09 17 33.4
comp=Z,937nm,22.0s
OUZ Omahuta 79.27 212 P **P 08 47 10.6 0.0**
PDPR Patillas Dam, 79.69 341 P **P 08 47 12.5 -0.4**
PDPR IAmb IAmb 08 49 28.0
comp=Z,49nm,1.6s
MTP Monte Pirata 79.70 341 P **P 08 47 12.8 -0.1**
SJG San Juan 79.81 341 P **P 08 47 12.4 -1.1**
SJG pmax pmax
comp=Z,30nm,1.3s
SJG San Juan 79.81 341 P **P 08 47 12.8 -0.7**
comp=Z,2.9nm,0.3s,baz=153,slow=6.8,SNR=3.4
SJG San Juan 79.81 341 P **P 08 47 12.4 -1.1**
OBIP Obispado Ponce 79.81 340 P **P 08 47 12.9 -0.6**
OBIP IAMs_20 IAMs_20 09 16 24.1
comp=Z,485nm,21.0s
MLPR Magueyes Islan 79.82 340 P **P 08 47 13.5 0.0**
STVI Saint Thomas 79.85 342 P **P 08 47 14.4 +0.6**
STVI IAmb IAmb 08 47 30.8
comp=Z,61nm,1.1s
CRPR Cabo Rojo, PR 79.86 340 P **P 08 47 13.3 -0.5**
CRPR IAmb IAmb 08 47 14.5
comp=Z,68nm,1.1s
ESTN Estel 79.88 321 P **P 08 47 13.7 -0.5**
ESTN IAmb IAmb 08 47 14.9
comp=Z,62nm,1.7s
ESTN IAMs_20 IAMs_20 09 22 05.0
comp=Z,412nm,22.0s
DR12 Loma Pena Alta 81.03 338 P **P 08 47 19.5 -0.7**
TGUH Tegucigalpa,Un 81.06 320 IAMs_20 IAMs_20 09 18 35.4
comp=Z,438nm,21.0s
PPT2 Papeete2 81.24 250 *e*S **S 08 57 31.0 -0.5**
comp=Z,276nm,24.5s
PPT2 Papeete2 81.24 250 *e*LR LR 09 12 48.0
comp=Z,432nm,23.0s,baz=154
PPT Papeete 81.26 250 LR LR 09 17 00.5
comp=Z,74nm,18.8s,baz=162,slow=31
SNET Serv Nac Est T 81.36 318 IAMs_20 IAMs_20 09 23 17.1
comp=Z,694nm,20.0s
SDDR Presa de Saban 81.59 336 IAMs_20 IAMs_20 09 25 16.2
comp=Z,771nm,19.0s
TOO Toolangi 81.94 189 P **P 08 47 25.2 +0.2**
TOO pmax pmax
comp=Z,53nm,1.8s
TOO Toolangi 81.94 189 P **P 08 47 25.2 +0.2**
TOO IAmb IAmb 08 47 26.5
comp=Z,53nm,1.8s
TOO IAMs_20 IAMs_20 09 21 38.7
comp=Z,522nm,20.0s
MTDJ Mount Denham 82.26 330 IAMs_20 IAMs_20 09 24 54.0
comp=Z,902nm,21.0s
TOC5 Torodi Ar. Sit 82.65 47 IAMs_20 IAMs_20 09 16 39.6
comp=Z,773nm,19.0s
TOC4 Torodi Ar. Sit 82.65 47 IAMs_20 IAMs_20 09 16 39.6
comp=Z,679nm,20.0s
TOB4 Torodi Ar. Sit 82.66 47 IAMs_20 IAMs_20 09 16 30.9
comp=Z,660nm,20.0s
TOA3 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 16 39.1
comp=Z,670nm,20.0s
TOB3 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 16 40.1
comp=Z,677nm,20.0s
TOC3 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 16 39.2
comp=Z,691nm,20.0s
TOA0 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 16 40.2
comp=Z,671nm,19.0s
TOB5 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 17 10.2
comp=Z,697nm,20.0s
TORD Torodi Ar. Bea 82.67 47 P **P 08 47 30.1 +1.3**
comp=Z,33nm,1.1s,baz=208,slow=5.3,SNR=73
TORD LR LR 09 16 41.3
comp=Z,621nm,21.4s,baz=265,slow=30
TORD Torodi Ar. Bea 82.67 47 P **P 08 47 28.3 -0.5**
TOA2 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 16 39.3
comp=Z,694nm,20.0s
TOA1 Torodi Ar. Sit 82.67 47 IAMs_20 IAMs_20 09 16 38.3
comp=Z,704nm,20.0s
TOB2 Torodi Ar. Sit 82.68 47 IAMs_20 IAMs_20 09 16 31.5
comp=Z,717nm,21.0s
TOC7 Torodi Ar. Sit 82.68 47 IAMs_20 IAMs_20 09 17 09.5
comp=Z,673nm,20.0s
TOB1 Torodi Ar. Sit 82.68 47 IAMs_20 IAMs_20 09 29 07.6
comp=Z,55nm,20.0s
TOC2 Torodi Ar. Sit 82.69 47 IAMs_20 IAMs_20 09 16 31.7
comp=Z,688nm,20.0s
TOC1 Torodi Ar. Sit 82.70 47 IAMs_20 IAMs_20 09 16 30.9
comp=Z,832nm,20.0s
APG El Apazote 83.00 317 P **P 08 47 30.3 -0.5**
comp=Z,9.4nm,0.9s,baz=318,slow=11,SNR=8.0
MBAR Mbarara 83.11 79 P **P 08 47 34.8 +3.3**
MBAR pmax pmax
comp=Z,26nm,1.3s
MBAR Mbarara 83.11 79 P **P 08 47 34.8 +3.3**
MBAR IAmb IAmb 08 47 36.8
comp=Z,26nm,1.2s
MBAR IAMs_20 IAMs_20 09 21 51.8
comp=Z,634nm,21.0s
CAN Canberra 83.84 193 P **P 08 47 34.2 -0.7**
CAN pmax pmax
comp=Z,21nm,1.0s
CAN Canberra 83.84 193 P **P 08 47 34.2 -0.7**
CAN IAmb IAmb 08 47 36.8
comp=Z,21nm,1.0s
TAOE Nuku Hiva Isla 84.24 262 *e*LR LR 09 14 04.3
comp=Z,255nm,27.6s
CCIG Comitan 84.75 316 P **P 08 47 39.9 +0.2**
CCIG IAmb IAmb 08 47 46.6
comp=Z,40nm,1.5s
CCIG IAMs_20 IAMs_20 09 22 24.2
comp=Z,833nm,21.0s
KMBO Kilima Mbogo 85.86 85 *i* P P 08 47 50.5 +5.0
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 85.86 85 P **P 08 47 48.1 +2.5**
comp=Z,3.7nm,0.8s,baz=203,slow=4.1,SNR=20
KMBO Kilima Mbogo 85.86 85 P **P 08 47 49.1 +3.6**
KMBO Kilima Mbogo 85.86 85 IAMs_20 IAMs_20 09 21 19.5
comp=Z,440nm,21.0s
NWAO Narrogin (SRO) 86.09 166 P **P 08 47 46.5 +0.4**
comp=Z,16nm,1.1s,baz=283,slow=4.1,SNR=4.6
NWAO Narrogin (SRO) 86.09 166 IAmb IAmb 08 47 46.8
comp=Z,59nm,1.5s
NWAO Narrogin (SRO) 86.09 166 IAMs_20 IAMs_20 09 22 27.1
comp=Z,760nm,22.0s
CMIG Matias Romero 86.47 314 P **P 08 47 47.9 -0.1**
comp=Z,4.1nm,0.9s,baz=239,slow=3.8,SNR=3.6
BBOO Buckleboo 87.16 182 IAMs_20 IAMs_20 09 24 00.6
comp=Z,616nm,20.0s
TEIG Tepich 87.17 321 P **P 08 47 51.4 +0.1**
comp=Z,15nm,0.5s,baz=307,slow=0.3,SNR=28
TEIG Tepich 87.17 321 P **P 08 47 51.1 -0.2**
STKA Stephens Creek 87.88 187 P **P 08 47 54.2 -0.7**
STKA pmax pmax
comp=Z,7.0nm,1.5s
STKA Stephens Creek 87.88 187 P **P 08 47 55.1 +0.2**
comp=Z,8.6nm,1.1s,baz=179,slow=5.6,SNR=10
STKA LR LR 09 26 24.4
comp=Z,311nm,19.9s,baz=179,slow=35
STKA Stephens Creek 87.88 187 P **P 08 47 54.2 -0.7**
TLIG Tlapa 88.25 311 P **P 08 47 55.1 -1.7**
TLIG IAmb IAmb 08 47 59.0
comp=Z,17nm,1.0s
TLIG IAMs_20 IAMs_20 09 19 17.7
comp=Z,564nm,21.0s
FORT Forrest 89.09 175 P **P 08 48 00.5 -0.2**
MORW Morawa 89.75 165 IAMs_20 IAMs_20 09 24 08.9
comp=Z,854nm,21.0s
DWPF Disney Wildern 92.70 329 IAMs_20 IAMs_20 09 30 45.6
comp=Z,864nm,22.0s
TAM Tamanrasset 92.92 47 IAMs_20 IAMs_20 09 22 46.0
comp=Z,480nm,20.0s
DZM Mont Dzumac 93.64 210 *e*LQ LQ 09 14 38.0
comp=Z,916nm,34.4s
DZM *e*LR LR 09 18 33.3
comp=Z,338nm,22.4s
DZM Mont Dzumac 93.64 210 P **P 08 48 21.7 -0.3**
comp=Z,2.9nm,0.5s,baz=337,slow=24,SNR=8.5
DZM Mont Dzumac 93.64 210 IAmb IAmb 08 48 33.1
comp=Z,30nm,1.7s
FURI Furi 95.22 81 IAMs_20 IAMs_20 09 27 01.6
comp=Z,408nm,21.0s
ASAR Alice Springs 96.29 180 P **P 08 48 32.5 -1.5**
ASAR Alice Springs 96.29 180 P **P 08 48 33.2 -0.8**
comp=Z,4.0nm,0.7s,baz=174,slow=3.8,SNR=54
ASAR PP **PP 08 52 23.0 -3.4**
comp=Z,1.1nm,0.7s,baz=172,slow=7.9,SNR=9.2
ASAR PKiKP **PKiKP 08 53 11.3 -0.6**
comp=Z,0.3nm,0.6s,baz=156,slow=1.3,SNR=6.5
ASAR PKKPbc **PKKPbc 09 05 16.5 -0.3**
comp=Z,0.9nm,0.5s,baz=356,slow=2.1,SNR=21
ASAR LR LR 09 30 36.7
comp=Z,225nm,20.5s,baz=179,slow=34
ASAR Alice Springs 96.29 180 P **P 08 48 32.5 -1.5**
AS31 Alice Springs 96.29 180 P **P 08 48 32.2 -1.8**
DGAR Diego Garcia 97.27 119 *i* P **P 08 48 35.0 -3.5**
DGAR pmax pmax
comp=Z,79nm,1.0s
154A Montrose 97.41 329 IAMs_20 IAMs_20 09 33 59.4
comp=Z,701nm,21.0s
PSAD2 Pilbara Seismi 97.58 167 IAMs_20 IAMs_20 09 22 01.2
comp=Z,1µm,22.0s
PSAB3 Pilbara Seismi 97.59 167 IAMs_20 IAMs_20 09 29 09.5
comp=Z,750nm,21.0s
Y60A Bolivia 97.59 334 IAMs_20 IAMs_20 09 34 16.0
comp=Z,538nm,20.0s
PSAB1 Pilbara Seismi 97.61 167 IAMs_20 IAMs_20 09 35 56.1
comp=Z,974nm,21.0s
PSAC2 Pilbara Seismi 97.62 167 IAMs_20 IAMs_20 09 26 18.5
comp=Z,934nm,21.0s
250A Grady 97.64 327 IAMs_20 IAMs_20 09 35 07.6
comp=Z,565nm,21.0s
Z56A Williston 97.66 331 IAMs_20 IAMs_20 09 31 37.0
comp=Z,640nm,21.0s
Y59A Loris 97.72 333 IAMs_20 IAMs_20 09 31 19.5
comp=Z,572nm,22.0s
PSAD1 Pilbara Seismi 97.72 167 IAMs_20 IAMs_20 09 39 29.1
comp=Z,925nm,18.0s
Y58A Scranton 97.82 333 IAMs_20 IAMs_20 09 30 24.1
comp=Z,572nm,22.0s
152A Waverly Hall 97.88 328 IAMs_20 IAMs_20 09 37 59.8
comp=Z,574nm,18.0s
MBWA Marble Bar 98.00 167 IAMs_20 IAMs_20 09 29 34.5
comp=Z,647nm,20.0s
Y57A Sumter 98.09 332 IAMs_20 IAMs_20 09 31 46.4
comp=Z,541nm,22.0s
GOGA Godfrey 98.26 329 IAMs_20 IAMs_20 09 34 34.9
comp=Z,676nm,20.0s
X58A Rowland 98.37 333 IAMs_20 IAMs_20 09 31 48.6
comp=Z,596nm,21.0s
CNNC Cliffs of the 98.71 334 IAMs_20 IAMs_20 09 31 10.5
comp=Z,441nm,21.0s
LRAL Lakeview Retre 98.84 326 IAMs_20 IAMs_20 09 36 50.3
comp=Z,531nm,20.0s
Y52A Lilburn 98.85 329 IAMs_20 IAMs_20 09 34 33.3
comp=Z,775nm,21.0s
V60A Jim Taylor Roa 99.08 335 IAMs_20 IAMs_20 09 32 09.4
comp=Z,496nm,21.0s
W57A Gilead 99.09 333 IAMs_20 IAMs_20 09 31 49.7
comp=Z,642nm,22.0s
CTA Charters Tower 99.20 192 P **Pdif 08 48 46.2 -0.9**
comp=Z,2.2nm,0.5s,baz=327,slow=13,SNR=3.8
CTAO Charters Tower 99.20 192 IAMs_20 IAMs_20 09 33 35.7
comp=Z,462nm,21.0s
KMSC Kings Mountain 99.39 332 IAMs_20 IAMs_20 09 33 46.7
comp=Z,573nm,22.0s
HPIG 99.45 309 IAMs_20 IAMs_20 09 30 15.5
comp=Z,494nm,18.0s
U61A Possum Corner 99.46 336 IAMs_20 IAMs_20 09 31 11.4
comp=Z,665nm,22.0s
V58A Windy Hill, Pi 99.51 334 IAMs_20 IAMs_20 09 34 11.8
comp=Z,563nm,21.0s
X51A Calhoun 99.72 329 IAMs_20 IAMs_20 09 34 39.4
comp=Z,848nm,21.0s
U59A Littleton 99.76 335 IAMs_20 IAMs_20 09 31 30.4
comp=Z,497nm,22.0s
FPAL Fort Paine 99.89 328 IAMs_20 IAMs_20 09 34 17.0
comp=Z,354nm,21.0s
W52A Murphy 99.98 330 IAMs_20 IAMs_20 09 34 19.3
comp=Z,684nm,21.0s
WB1 Warramunga Ar. 99.98 181 IAMs_20 IAMs_20 09 31 06.1
comp=Z,78nm,20.0s
WC3 Warramunga Arr 99.98 181 IAMs_20 IAMs_20 09 31 19.1
comp=Z,72nm,22.0s
WR7 Warramunga Arr 99.98 181 IAMs_20 IAMs_20 09 33 07.2
comp=Z,64nm,20.0s
WR6 Warramunga Arr 99.98 181 IAMs_20 IAMs_20 09 33 07.2
comp=Z,63nm,20.0s
WR4 Warramunga Arr 99.99 181 IAMs_20 IAMs_20 09 32 37.3
comp=Z,63nm,20.0s
WR3 Warramunga Arr 99.99 181 IAMs_20 IAMs_20 09 32 36.4
comp=Z,66nm,20.0s
WR2 Warramunga Arr 99.99 181 IAMs_20 IAMs_20 09 30 55.4
comp=Z,72nm,22.0s
WB2 Warramunga Arr 100.00 181 **Pdif 08 48 49.5 -1.2**
WB2 IAMs_20 IAMs_20 09 31 00.5
comp=Z,93nm,22.0s
WRA Warramunga Arr 100.00 181 P **Pdif 08 48 49.0 -1.7**
WRA Warramunga Arr 100.00 181 P **Pdif 08 48 49.7 -0.9**
comp=Z,2.9nm,0.9s,baz=181,slow=4.2,SNR=49
WRA PKiKP **PKiKP 08 53 18.0 -0.5**
comp=Z,0.6nm,0.5s,baz=200,slow=1.2,SNR=12
WRA PKKPbc **PKKPbc 09 05 07.2 +0.6**
comp=Z,0.4nm,0.6s,baz=350,slow=2.8,SNR=11
WRA LR LR 09 32 30.3
comp=Z,429nm,21.7s,baz=175,slow=34
WRA Warramunga Arr 100.00 181 **Pdif 08 48 49.0 -1.7**
WRAB Tennant Creek 100.01 181 IAMs_20 IAMs_20 09 31 00.8
comp=Z,581nm,21.0s
WC1 Warramunga Arr 100.02 181 IAMs_20 IAMs_20 09 33 12.0
comp=Z,71nm,18.0s
WB4 Warramunga Arr 100.03 181 IAMs_20 IAMs_20 09 30 58.6
comp=Z,69nm,21.0s
V55A Taylorsville 100.04 332 IAMs_20 IAMs_20 09 34 00.9
comp=Z,478nm,22.0s
WB5 Warramunga Arr 100.06 181 IAMs_20 IAMs_20 09 32 40.2
comp=Z,67nm,18.0s
WB7 Warramunga Arr 100.10 181 IAMs_20 IAMs_20 09 32 41.2
comp=Z,51nm,19.0s
WB8 Warramunga Arr 100.12 181 IAMs_20 IAMs_20 09 35 32.9
comp=Z,60nm,20.0s
WB9 Warramunga Arr 100.15 181 IAMs_20 IAMs_20 09 35 33.5
comp=Z,62nm,20.0s
V53A Saluda 100.25 331 IAMs_20 IAMs_20 09 32 39.5
comp=Z,557nm,21.0s
T60A Surry 100.30 336 IAMs_20 IAMs_20 09 31 46.6
comp=Z,490nm,21.0s
T59A Double "B" Far 100.30 335 IAMs_20 IAMs_20 09 31 42.8
comp=Z,736nm,22.0s
U56A King 100.32 333 IAMs_20 IAMs_20 09 32 33.4
comp=Z,586nm,22.0s
W50A Signal Mountai 100.43 328 IAMs_20 IAMs_20 09 35 56.4
comp=Z,637nm,21.0s
CPCT Cooper Cave 100.47 329 IAMs_20 IAMs_20 09 37 31.3
comp=Z,763nm,21.0s
S61A Accomac 100.61 337 IAMs_20 IAMs_20 09 28 39.8
comp=Z,522nm,18.0s
V52A Sevierville 100.61 330 IAMs_20 IAMs_20 09 38 19.9
comp=Z,556nm,20.0s
SWET Sewanee 100.61 328 IAMs_20 IAMs_20 09 36 17.1
comp=Z,596nm,21.0s
T57A Hurt 100.69 334 IAMs_20 IAMs_20 09 34 58.2
comp=Z,632nm,20.0s
V51A Loudon 100.76 329 IAMs_20 IAMs_20 09 34 55.0
comp=Z,687nm,22.0s
TXAR Lajitas Array 100.85 312 P **Pdif 08 48 53.7 -0.4**
TXAR Lajitas Array 100.85 312 P **Pdif 08 48 54.2 +0.1**
comp=Z,0.5nm,1.0s,baz=123,slow=9.1,SNR=3.8
TXAR PKiKP **PKiKP 08 53 19.2 -0.4**
comp=Z,0.8nm,1.1s,baz=191,slow=0.9,SNR=2.7
TXAR Lajitas Array 100.85 312 **Pdif 08 48 53.7 -0.4**
S58A Poland Farm, P 101.02 335 IAMs_20 IAMs_20 09 36 38.9
comp=Z,593nm,19.0s
BLA Blacksburg 101.16 333 IAMs_20 IAMs_20 09 32 57.5
comp=Z,529nm,22.0s
TZTN Tazewell 101.26 330 IAMs_20 IAMs_20 09 34 10.7
comp=Z,548nm,22.0s
R58B Mineral 101.33 335 IAMs_20 IAMs_20 09 32 20.9
comp=Z,648nm,22.0s
V48A Smith Brothers 101.34 327 IAMs_20 IAMs_20 09 36 33.5
comp=Z,513nm,20.0s
S57A Dark Hollow, R 101.36 334 IAMs_20 IAMs_20 09 32 31.8
comp=Z,735nm,22.0s
CBN Corbin Frederi 101.45 336 IAMs_20 IAMs_20 09 31 20.3
comp=Z,430nm,21.0s
CLTN Cedars of Leba 101.54 328 IAMs_20 IAMs_20 09 36 56.8
comp=Z,347nm,22.0s
Q60A Greensboro 101.92 337 IAMs_20 IAMs_20 09 32 42.5
comp=Z,579nm,22.0s
T49A Edmonton 102.29 329 IAMs_20 IAMs_20 09 36 06.6
comp=Z,877nm,22.0s
Q56A Snyder Ridge, 102.64 334 IAMs_20 IAMs_20 09 38 18.8
comp=Z,495nm,20.0s
P60A Greenville 102.66 337 IAMs_20 IAMs_20 09 39 18.1
comp=Z,523nm,19.0s
PSUB Penn St. - Bra 102.74 337 IAMs_20 IAMs_20 09 38 59.2
comp=Z,491nm,20.0s
PENMO Penman 102.78 325 IAMs_20 IAMs_20 09 39 00.6
comp=Z,537nm,19.0s
DAMY Dhamar 102.91 83 IAMs_20 IAMs_20 09 36 00.8
comp=Z,458nm,18.0s
MVL Millersville 102.98 337 IAMs_20 IAMs_20 09 40 21.6
comp=Z,627nm,20.0s
HENM Henderson Moun 102.98 326 IAMs_20 IAMs_20 09 38 14.0
comp=Z,380nm,21.0s
PARMO Parma 103.02 325 IAMs_20 IAMs_20 09 38 04.8
comp=Z,376nm,19.0s
R50A Paris 103.10 330 IAMs_20 IAMs_20 09 33 57.0
comp=Z,598nm,22.0s
PAGS Pennsylvania G 103.27 337 IAMs_20 IAMs_20 09 41 05.4
comp=Z,591nm,20.0s
CPNY Central Park 103.30 339 IAMs_20 IAMs_20 09 45 13.0
comp=Z,778nm,21.0s
PAL Palisades 103.50 339 IAMs_20 IAMs_20 09 33 49.3
comp=Z,826nm,22.0s
WCI Wyandotte Cave 103.55 329 IAMs_20 IAMs_20 09 36 56.2
comp=Z,666nm,21.0s
P53A Whipple 103.55 333 IAMs_20 IAMs_20 09 34 50.9
comp=Z,655nm,22.0s
Q51A Peebles 103.57 331 IAMs_20 IAMs_20 09 35 11.4
comp=Z,530nm,22.0s
X34A Smith Ranch, M 103.58 318 IAMs_20 IAMs_20 09 33 12.9
comp=Z,491nm,22.0s
MNTX Cornudas Mount 103.61 311 IAMs_20 IAMs_20 09 31 42.8
comp=Z,441nm,21.0s
YLE Yale 103.63 340 IAMs_20 IAMs_20 09 34 24.7
comp=Z,1µm,22.0s
N58A Sunbury 103.86 337 IAMs_20 IAMs_20 09 32 38.0
comp=Z,733nm,22.0s
SSPA Standing Stone 103.90 336 IAMs_20 IAMs_20 09 34 26.0
comp=Z,488nm,22.0s
P51A Williamsport 103.94 332 IAMs_20 IAMs_20 09 34 17.0
comp=Z,792nm,22.0s
BRYW Bryant College 103.98 341 IAMs_20 IAMs_20 09 36 08.0
comp=Z,721nm,19.0s
KNRA Kununurra 104.14 175 IAMs_20 IAMs_20 09 33 57.2
comp=Z,647nm,20.0s
MGMO Mountain Grove 104.20 324 IAMs_20 IAMs_20 09 39 38.1
comp=Z,426nm,19.0s
O52A Adamsville 104.25 333 IAMs_20 IAMs_20 09 35 33.5
comp=Z,593nm,20.0s
BCX Boston College 104.33 341 IAMs_20 IAMs_20 09 35 43.2
comp=Z,634nm,20.0s
WES Weston 104.40 341 IAMs_20 IAMs_20 09 35 57.8
comp=Z,699nm,19.0s
M57A Sunshine Farm, 104.42 337 IAMs_20 IAMs_20 09 33 42.8
comp=Z,749nm,20.0s
BLO Bloomington 104.50 329 IAMs_20 IAMs_20 09 36 47.0
comp=Z,512nm,21.0s
OLIL Olney 104.50 327 IAMs_20 IAMs_20 09 38 03.0
comp=Z,796nm,18.0s
HRV Adam Dziewonsk 104.56 341 IAMs_20 IAMs_20 09 36 12.3
comp=Z,796nm,21.0s
ACSO Alum Creek Sta 104.63 332 IAMs_20 IAMs_20 09 38 12.4
comp=Z,430nm,20.0s
N51A Ashland 105.14 333 IAMs_20 IAMs_20 09 36 09.0
comp=Z,536nm,22.0s
M52A Chesterland 105.51 333 IAMs_20 IAMs_20 09 35 00.6
comp=Z,642nm,22.0s
FFD Franklin Falls 105.51 341 IAMs_20 IAMs_20 09 36 19.6
comp=Z,843nm,22.0s
COEN Coen 105.55 190 IAMs_20 IAMs_20 09 33 59.0
comp=Z,367nm,22.0s
SOCY Socotra 105.63 93 IAMs_20 IAMs_20 09 43 21.7
comp=Z,213nm,20.0s
WVNY West Valley, N 105.75 336 IAMs_20 IAMs_20 09 38 35.9
comp=Z,502nm,20.0s
M50A Fremont 105.76 332 IAMs_20 IAMs_20 09 34 42.3
comp=Z,785nm,22.0s
SFIN Lafayette 105.78 329 IAMs_20 IAMs_20 09 39 14.0
comp=Z,600nm,22.0s
HNH Hanover 105.84 341 IAMs_20 IAMs_20 09 35 08.3
comp=Z,692nm,22.0s
I63A Otisfield 105.91 342 IAMs_20 IAMs_20 09 37 29.1
comp=Z,830nm,22.0s
MMNY Mt. Morris Dam 105.92 336 IAMs_20 IAMs_20 09 40 52.0
comp=Z,517nm,20.0s
KEST Kesra 106.06 44 Pdiff **Pdif 08 49 17.6 +0.5**
comp=Z,5.4nm,0.5s,baz=52,slow=0.7,SNR=4.7
LBNH Lisbon 106.31 341 IAMs_20 IAMs_20 09 32 43.6
comp=Z,757nm,22.0s
Y22D IRIS PASSCAL I 106.31 311 IAMs_20 IAMs_20 09 32 51.6
comp=Z,504nm,21.0s
J55A Hilton 106.42 337 IAMs_20 IAMs_20 09 39 48.6
comp=Z,627nm,19.0s
GGN Saint George 106.43 345 IAMs_20 IAMs_20 09 35 54.7
comp=Z,959nm,20.0s
MEDO Medina 106.45 336 IAMs_20 IAMs_20 09 40 53.4
comp=Z,528nm,20.0s
H62A Milan 106.51 342 IAMs_20 IAMs_20 09 37 58.0
comp=Z,744nm,20.0s

HDIL Hopedale 106.53 327 IAMs_20 IAMs_20 09 38 10.7
comp=Z,668nm,22.0s
VT1 Waterbury 106.53 341 IAMs_20 IAMs_20 09 37 43.2
comp=Z,624nm,20.0s
J54A Appleton 106.59 336 IAMs_20 IAMs_20 09 33 26.2
comp=Z,632nm,21.0s
214A Organ Pipe Nat 106.74 306 IAMs_20 IAMs_20 09 41 03.5
comp=Z,444nm,22.0s
AAM Ann Arbor 106.75 332 IAMs_20 IAMs_20 09 36 47.6
comp=Z,701nm,21.0s
LMN Caledonia Moun 106.91 347 IAMs_20 IAMs_20 09 30 14.3
comp=Z,814nm,22.0s
PKME Peaks-Kenny Pk 106.91 343 IAMs_20 IAMs_20 09 35 27.4
comp=Z,784nm,21.0s
ANMO Albuquerque 106.92 312 IAMs_20 IAMs_20 09 33 33.2
comp=Z,534nm,22.0s
MTN Manton Dam 107.03 177 IAMs_20 IAMs_20 09 37 18.9
comp=Z,914nm,21.0s
G62A West of Eustis 107.04 342 IAMs_20 IAMs_20 09 37 19.1
comp=Z,1μm,21.0s
LONY Lake Ozonia 107.12 339 IAMs_20 IAMs_20 09 36 48.7
comp=Z,699nm,22.0s
FRNY Flat Rock 107.16 340 IAMs_20 IAMs_20 09 36 35.2
comp=Z,580nm,21.0s
F63A Nahmakanta, Br 107.31 344 IAMs_20 IAMs_20 09 35 29.1
comp=Z,936nm,21.0s
F62A Pittston Farm, 107.62 343 IAMs_20 IAMs_20 09 36 02.4
comp=Z,842nm,20.0s
J48A Bridge Port 107.73 332 IAMs_20 IAMs_20 09 35 52.4
comp=Z,1μm,22.0s
X18A Snowflake 107.87 309 IAMs_20 IAMs_20 09 32 44.5
comp=Z,472nm,20.0s
E63A Oxbow 107.92 344 IAMs_20 IAMs_20 09 35 21.2
comp=Z,837nm,19.0s
X16A Lo Mia Camp, P 108.35 308 IAMs_20 IAMs_20 09 33 40.2
comp=Z,399nm,20.0s
L40A Anamosa 108.45 326 IAMs_20 IAMs_20 09 40 21.8
comp=Z,906nm,21.0s
I45A Fountain 109.01 331 IAMs_20 IAMs_20 09 37 52.3
comp=Z,620nm,22.0s
SDCO Great Sand Dun 109.06 314 IAMs_20 IAMs_20 09 41 54.0
comp=Z,432nm,18.0s
CLTB Caltabellotta 109.08 46 IAMs_20 IAMs_20 09 31 57.8
comp=Z,540nm,22.0s
MVCO Mesa Verde 109.68 311 IAMs_20 IAMs_20 09 35 13.5
comp=Z,478nm,20.0s
SOEI Soe 109.73 170 IAMs_20 IAMs_20 09 37 34.3
comp=Z,1μm,22.0s
G45A Suttons Bay 109.81 332 IAMs_20 IAMs_20 09 38 06.6
comp=Z,710nm,22.0s
MMRI Maumere 110.65 168 IAMs_20 IAMs_20 09 43 10.0
comp=Z,329nm,19.0s
OGNE Ogallala 110.72 318 IAMs_20 IAMs_20 09 42 55.3
comp=Z,404nm,22.0s
PV16 Nyswonger Mesa 110.81 312 IAMs_20 IAMs_20 09 35 57.3
comp=Z,638nm,22.0s
PV14 Lion Creek, Pa 110.90 312 IAMs_20 IAMs_20 09 42 57.8
comp=Z,441nm,21.0s
VLDQ Val d'Or 111.01 338 IAMs_20 IAMs_20 09 39 15.6
comp=Z,817nm,22.0s
F42A Maple Grove Fa 111.09 330 IAMs_20 IAMs_20 09 39 08.4
comp=Z,722nm,22.0s
G40A Rib Lake 111.16 328 IAMs_20 IAMs_20 09 43 08.3
comp=Z,505nm,20.0s
E43A Lone Tree Farm 111.39 331 IAMs_20 IAMs_20 09 39 42.3
comp=Z,384nm,21.0s
COWI Conover 111.66 329 IAMs_20 IAMs_20 09 36 46.5
comp=Z,607nm,22.0s
SPMN Marine on St. 111.81 327 IAMs_20 IAMs_20 09 39 49.7
comp=Z,748nm,22.0s
D41A Chassel 112.41 330 IAMs_20 IAMs_20 09 37 13.1
comp=Z,763nm,21.0s
PAOL Paolisi 112.62 46 IAMs_20 IAMs_20 09 44 09.8
comp=Z,391nm,21.0s
SUSD Miller 112.89 322 IAMs_20 IAMs_20 09 40 14.7
comp=Z,417nm,19.0s
PMBI Palembang 113.01 148 IAMs_20 IAMs_20 09 35 27.7
comp=Z,949nm,21.0s
SSB Saint Sauveur 113.15 37 IAMs_20 IAMs_20 09 36 35.6
comp=Z,702nm,18.0s
R11A Troy Canyon, C 113.41 307 IAMs_20 IAMs_20 09 33 23.5
comp=Z,425nm,22.0s
DUG Dugway, Tooele 113.92 310 IAMs_20 IAMs_20 09 47 01.4
comp=Z,359nm,21.0s
KAPI Kappang 113.93 165 IAMs_20 IAMs_20 09 36 53.1
comp=Z,410nm,21.0s
EYMN Ely 113.98 329 IAMs_20 IAMs_20 09 41 41.5
comp=Z,545nm,21.0s
NVAR Mina Array Bea 114.58 305 PKP PKPdf 08 53 45.1 -0.1
comp=Z,0.8nm,0.7s,baz=119,slow=3.3,SNR=6.4
NVAR PKKPbc **PKKPbc 09 04 22.0 0.0**
comp=Z,0.2nm,0.5s,baz=227,slow=26,SNR=3.7
PDAR Pinedale Array 114.95 314 PKP PKPdf 08 53 44.7 -1.0
comp=Z,0.9nm,0.5s,baz=135,slow=4.8,SNR=14
PDAR PKKPbc **PKKPbc 09 04 20.5 -0.3**
comp=Z,0.3nm,0.6s,baz=345,slow=2.8,SNR=2.6
PDAR Pinedale Array 114.95 314 PKiKP PKPdf 08 53 44.1 -1.6
SALO Salr 115.31 41 IAMs_20 IAMs_20 09 53 24.8
comp=Z,439nm,22.0s
ELK Elko 115.33 308 PKP **PKPdf 08 53 46.2 -0.3**
comp=Z,0.9nm,0.6s,baz=201,slow=11,SNR=4.3
AGMN Agassiz Nation 115.48 326 IAMs_20 IAMs_20 09 43 31.2
comp=Z,505nm,21.0s
SCHQ Schefferville 115.98 347 PKP **PKPdf 08 53 46.3 -0.7**
comp=Z,3.1nm,0.5s,baz=185,slow=4.9,SNR=6.6
RPSI Rantau Prapat 116.67 140 IAMs_20 IAMs_20 09 38 19.8
comp=Z,540nm,20.0s
H17A Grant Village 116.73 314 IAMs_20 IAMs_20 09 42 07.4
comp=Z,666nm,19.0s
BLY Banja Luka 116.81 46 IAMs_20 IAMs_20 09 39 54.1
comp=Z,480nm,21.0s
ULM Lac du Bonnet 117.25 327 PKP **PKPdf 08 53 48.1 -1.4**
comp=Z,2.3nm,0.6s,baz=5.0,slow=2.1,SNR=2.8
MYKOM Kota Tinggi 117.28 146 IAMs_20 IAMs_20 09 39 31.2
comp=Z,291nm,20.0s
UOSS Minazif 117.53 88 IAMs_20 IAMs_20 09 45 17.7
comp=Z,248nm,20.0s
LUWI Luwuk 118.20 168 IAMs_20 IAMs_20 09 40 01.2
comp=Z,323nm,22.0s
KSM Kuching 118.60 153 IAMs_20 IAMs_20 09 41 44.9
comp=Z,387nm,20.0s
BRTR Keskin Array B 119.06 60 PKIKP **PKPdf 08 53 52.4 -1.2**
BRTR Keskin Array B 119.06 60 PKP **PKPdf 08 53 52.8 -0.8**
comp=Z,2.2nm,0.6s,baz=194,slow=4.7,SNR=12
BRTR Keskin Array B 119.06 60 **PKPdf 08 53 52.4 -1.2**
GERES GERESS Array B 119.18 41 PKIKP **PKPdf 08 53 52.5 -1.0**
GERES GERESS Array B 119.18 41 PKP **PKPdf 08 53 52.7 -0.8**
comp=Z,2.2nm,0.6s,baz=184,slow=2.0,SNR=14
GERES GERESS Array B 119.18 41 **PKPdf 08 53 52.5 -1.0**
PLID Pearl Lake 119.32 310 **PKPdf 08 53 54.1 +0.1**
KHC Kasperske Hory 119.39 41 *i* PKIKP **PKiKP 08 53 54.7 +0.9**
BMO Blue Mountains 119.62 309 IAMs_20 IAMs_20 09 50 01.3
comp=Z,442nm,18.0s
KULM Kulim 119.66 141 IAMs_20 IAMs_20 09 40 49.4
comp=Z,345nm,21.0s
SBUM Sibu 119.96 155 IAMs_20 IAMs_20 09 39 02.6
comp=Z,181nm,22.0s
MSO Missoula 120.03 313 **PKPdf 08 53 55.3 +0.1**
PINE Pine Mountain 120.16 306 IAMs_20 IAMs_20 09 34 18.3
comp=Z,534nm,22.0s
VOIR 120.30 51 ⇓P **PKPdf 08 53 55.0 -0.8**
DRGR 120.56 48 ⇑P **PKPdf 08 53 55.8 -0.4**
VYHS Vyhne 120.61 45 *e*PKIKP **PKPdf 08 53 55.8 -0.3**
VYHS Vyhne 120.61 45 *e*PKP **PKPdf 08 53 55.8 -0.3**
G08A Pilot Rock 120.63 308 **PKPdf 08 53 56.1 -0.3**
MLR Muntele Rosu 120.69 51 ⇑P **PKPdf 08 53 55.8 -0.7**
BRG Berggiesshubel 121.01 40 *e*PKP **PKPdf 08 53 56.6 -0.2**
comp=Z,12nm,1.6s
BRG Berggiesshubel 121.01 40 *e*PKIKP **PKPdf 08 53 56.6 -0.2**
BRG pmax pmax
comp=Z,12nm,1.6s
CLL Collm 121.09 39 PKIKP **PKPdf 08 53 56.5 -0.4**
CLL Collm 121.09 39 *i* PKiKP **PKPdf 08 53 56.3 -0.6**
CLL *e* 08 55 00.0
CLL Collm 121.09 39 **PKPdf 08 53 56.5 -0.4**
BURAR Bucovina Array 122.19 49 ⇑P **PKiKP 08 53 59.4 -0.1**
BURAR Bucovina Array 122.19 49 **PKPdf 08 53 59.2 -0.1**
NEW Newport 122.41 312 PKP **PKPdf 08 53 58.7 -1.0**
comp=Z,3.1nm,0.6s,baz=143,slow=4.6,SNR=8.8
MILM Milestii Mici 123.00 52 ⇑P **PKPdf 08 53 59.8 -0.9**
SIM Simferopol' 123.54 57 *e*PKIKP **PKPdf 08 54 01.7 -0.1**
SIM pmax pmax
comp=Z,16nm,0.8s
KKM Kota Kinabalu 124.24 159 IAMs_20 IAMs_20 09 42 23.9
comp=Z,515nm,22.0s
AKASG Malin Array Be 126.22 50 PKP **PKPdf 08 54 05.8 -1.0**
comp=Z,3.5nm,0.5s,baz=242,slow=1.6,SNR=20

KBZ Khabaz 126.37 64 PKP **PKPdf 08 54 07.0 -0.3**
comp=Z,1.6nm,0.6s,baz=208,slow=3.0,SNR=3.6
KIV Kislovodsk 126.46 64 *i* PKIKP **PKPdf 08 54 07.8 +0.2**
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,402nm,23.0s
KIV Kislovodsk 126.46 64 IAMs_20 IAMs_20 09 46 39.5
comp=Z,98nm,19.0s
AKT Akhty 126.82 69 *e*PKIKP **PKPdf 08 54 08.6 +0.2**
AKT *e* 08 56 06.2
AKT pmax pmax
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 127.08 358 *i* P **PKPdf 08 54 07.8 -0.1**
SFJD Kangerlussuaq 127.08 358 PKP **PKPdf 08 54 07.4 -0.5**
comp=Z,8.1nm,0.6s,baz=218,slow=2.7,SNR=5.2
NB2 NORSAR Subarra128.92 32 PKPdf **PKPdf 08 54 11.2 -0.5**
comp=Z,110nm,2.0s,baz=202,slow=1.9
NB2 NORSAR Subarra128.92 32 PKPdf **PKPdf 08 54 11.2 -0.5**
baz=202,slow=1.9
NOA NORSAR Array B 128.92 32 PKP **PKPdf 08 54 11.1 -0.5**
comp=Z,2.5nm,0.6s,baz=164,slow=1.4,SNR=6.0
GEYT Alibeck 129.01 80 PKP **PKPdf 08 54 12.8 +0.2**
comp=Z,3.2nm,0.5s,baz=247,slow=7.7,SNR=5.3
GEYT Alibeck 129.01 80 **PKPdf 08 54 12.4 -0.2**
NC303 NORSAR Array S 129.12 32 **PKiKP 08 54 12.9 +0.2**
VSR Storozhevoye 130.56 56 *e*PKIKP **PKPdf 08 54 12.8 -2.2**
VSR pmax pmax
comp=Z,30nm,1.3s
UBPT Khong Chiam 130.57 143 IAMs_20 IAMs_20 09 39 46.2
comp=Z,369nm,21.0s
CMAR Chiang Mai Arr 131.39 134 PKIKP **PKPdf 08 54 16.4 -1.3**
CMAR Chiang Mai Arr 131.39 134 PKP **PKPdf 08 54 17.6 -0.1**
comp=Z,3.2nm,0.5s,baz=212,slow=3.7,SNR=11
CMAR Chiang Mai Arr 131.39 134 **PKPdf 08 54 16.4 -1.3**
LPSR Galich'ya Gora 131.51 54 *e*PKIKP **PKPdf 08 54 15.7 -1.0**
LPSR pmax pmax
comp=Z,30nm,1.1s
VRH Novokhopyorsk 131.61 57 *e*PKIKP **PKPdf 08 54 15.6 -1.4**
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 132.46 51⇑ *e*PKIKP **PKPdf 08 54 18.4 0.0**
OBN pmax pmax
comp=Z,69nm,1.5s
OBN pmax pmax
comp=Z,8.0nm,0.4s
SUMG Summit 132.76 3 PKIKP **PKiKP 08 54 19.7 -0.5**
SUMG Summit 132.76 3 *i* P **PKPdf 08 54 19.0 -0.1**
SUMG Summit 132.76 3 **PKiKP 08 54 19.7 -0.5**
YKA Yellowknife Ar 133.06 324 PKIKP **PKPdf 08 54 19.1 -0.3**
YKA Yellowknife Ar 133.06 324 PKP **PKPdf 08 54 19.0 -0.3**
comp=Z,5.4nm,0.5s,baz=148,slow=2.1,SNR=39
YKA Yellowknife Ar 133.06 324 **PKPdf 08 54 19.1 -0.3**
NIL Nilore 133.12 97 PKIKP **PKPdf 08 54 19.9 -0.6**
NIL Nilore 133.12 97 **PKPdf 08 54 19.9 -0.6**
FINES FINESS Array B 133.54 39 PKP **PKPdf 08 54 19.6 -0.7**
comp=Z,8.0nm,0.6s,baz=182,slow=2.0,SNR=28
QIZ Qiongzhong 135.37 147 PKP **PKPdf 08 54 24.8 -0.3**
QIZ PP **PP 08 57 02.9 +1.7**
QIZ SS SS 09 14 56.6 +0.5
QIZ LR LR
comp=Z,350nm,23.5s
QIZ LR LR
comp=Z,410nm,20.6s
SLVN Son La 135.76 139 IAMs_20 IAMs_20 09 42 24.5
comp=Z,330nm,22.0s
TULEG Thule 137.37 352 **PKPdf 08 54 26.8 -0.3**
KLMR Klimovskoe 137.66 46 *e*PKIKP **PKPdf 08 54 26.8 -1.2**
KLMR pmax pmax
comp=Z,26nm,1.2s
KLMR Klimovskoe 137.66 46 *e*PKPdf **PKPdf 08 54 26.9 -1.1**
KLMR AMP 08 54 31.1
comp=Z,26nm,1.2s
KLMR *e*SKP 08 58 03.8
AKTO Aktyubinsk 138.25 68 PKHKP PKPpre 08 54 22.7
AKTO pmax pmax
comp=Z,12nm,1.4s
LSA Lhasa 138.31 118 IAMs_20 IAMs_20 09 45 29.0
comp=Z,183nm,20.0s
ABKAR Akbulak array 138.33 71 PKPpre 08 54 17.9
ABKAR PKPdf **PKPdf 08 54 30.3 +0.6**
ABKAR Akbulak array 138.33 71 PKPpre 08 54 18.8
ABKAR PKPdf **PKPdf 08 54 30.5 +0.9**
RES Resolute Bay 138.49 343 PKIKP **PKPdf 08 54 29.0 -0.2**
RES Resolute Bay 138.49 343 PKP **PKPdf 08 54 28.4 -0.8**
comp=Z,5.7nm,0.8s,baz=181,slow=9.2,SNR=8.7
RES Resolute Bay 138.49 343 **PKPdf 08 54 29.0 -0.2**
DHAK Deception Hill 138.70 309 IAMs_20 IAMs_20 09 58 08.0
comp=Z,174nm,22.0s
KMI Kunming 138.87 135 PKP **PKPdf 08 54 31.5 -0.2**
KMI LR LR
comp=Z,210nm,17.7s
KMI LR LR
comp=Z,130nm,23.8s
KMI LR LR
comp=Z,260nm,23.8s
KMI Kunming 138.87 135 IAMs_20 IAMs_20 09 46 16.3
comp=Z,285nm,22.0s
ARSB Arslanbob 138.97 89 IAMs_20 IAMs_20 10 05 25.2
comp=Z,2μm,22.0s
KK31 Karatay Array 139.06 86 PKHKP PKPpre 08 54 23.8
KK31 Karatay Array 139.06 86 PKPpre 08 54 23.8
KKAR Karatay Array 139.06 86 PKPpre 08 54 22.8
KSH Kashi 139.08 94 PKP **PKiKP 08 54 33.4 -0.4**
KSH PP **PP 08 57 29.4 +4.4**
KSH PKS **PKSdf 08 58 08.4 +0.8**
KSH SS SS 09 15 42.3 +0.8
ARCES ARCESS Array B 139.27 31 PKHKP PKPpre 08 54 20.9
ARCES ARCESS Array B 139.27 31 PKhKP PKPpre 08 54 21.2
comp=Z,5.2nm,0.5s,baz=214,slow=2.5,SNR=28
ARCES ARCESS Array B 139.27 31 PKPpre 08 54 20.9
HKPS Hong Kong Po S 139.57 152 IAMs_20 IAMs_20 10 02 27.6
comp=Z,358nm,18.0s
AAK Ala-Archa 140.70 89 *i* PKIKP **PKPdf 08 54 35.3 +0.9**
AAK Ala-Archa 140.70 89 **PKPdf 08 54 29.7 -4.7**
FRU1 Bishkek 140.89 89 IAMs_20 IAMs_20 09 45 01.2
comp=Z,523nm,20.0s
BOOM Boomskoye usch 141.31 91 IAMs_20 IAMs_20 10 07 03.3
comp=Z,304nm,20.0s
GYA Guiyang 141.43 139 PKP **PKiKP 08 54 40.3 +1.3**
GYA AMB AMB
comp=Z,140nm,8.2s
TKM2 Tokmak 2 141.46 90 PKHKP PKPpre 08 54 29.4
TKM2 pmax pmax
comp=Z,5.0nm,1.2s
HMT Hamilton 141.87 307 IAMs_20 IAMs_20 10 10 39.4
comp=Z,642nm,20.0s
VRDI Verde Repeater 142.09 309 IAMs_20 IAMs_20 10 02 51.4
comp=Z,513nm,21.0s
DAWY Dawson 142.25 314 IAMs_20 IAMs_20 10 04 43.6
comp=Z,640nm,18.0s
ARU Arti 142.43 62 **PKPdf 08 54 31.6 -5.2**
BCAR Beaver Creek A 142.54 312 **PKPdf 08 54 32.4 -4.6**
EYAK Cordova Ski Ar 142.59 307 IAMs_20 IAMs_20 10 03 47.9
comp=Z,678nm,20.0s
INK Inuvik 142.77 322 PKhKP **PKPdf 08 54 32.1 -4.9**
comp=Z,5.0nm,0.5s,baz=140,slow=1.6,SNR=34
INK Inuvik 142.77 322 **PKPdf 08 54 31.6 -5.4**
SVE Sverdlovsk 143.58 62 *e*PKIKP PKPab 08 54 35.8 +0.4
SVE pmax pmax
comp=Z,47nm,1.5s
PDGK Podgornoye 143.69 93 PKIKP PKPab 08 54 36.7 +0.2
PDGK pmax pmax
comp=Z,33nm,1.5s
DOT Dot Lake 143.72 312 IAMs_20 IAMs_20 10 01 05.5
comp=Z,544nm,21.0s
KDAK Kodiak Island 143.80 299 *i* PKIKP PKPbc 08 54 37.4 +0.5
KDAK Kodiak Island 143.80 299 PKP PKPab 08 54 36.5 +0.3
comp=Z,7.0nm,0.5s,baz=95,slow=4.5,SNR=15
PAX Paxson 143.87 310 IAMs_20 IAMs_20 10 03 42.7
comp=Z,454nm,18.0s
KNK Knik Glacier 144.17 307 IAMs_20 IAMs_20 10 02 13.5
comp=Z,571nm,21.0s
CD2 Chengdu 144.50 133 PKP **PKPdf 08 54 42.1 +0.7**
RC01 Rabbit Creek A 144.50 305 IAMs_20 IAMs_20 10 00 29.3
comp=Z,488nm,21.0s
PMR Palmer 144.53 306 IAMs_20 IAMs_20 09 57 35.2
comp=Z,376nm,22.0s
GHO Glory Hole Cre 144.55 307 IAMs_20 IAMs_20 10 03 15.6
comp=Z,470nm,20.0s
HDA Harding Lake 145.20 312 IAMs_20 IAMs_20 10 02 30.6
comp=Z,486nm,20.0s
PRP Porcupine Dome 145.25 314 IAMs_20 IAMs_20 10 02 50.8
comp=Z,429nm,20.0s
ILAR Eielson Array 145.36 312 PKP2 **PKPbc 08 54 40.5 -1.2**

ILAR Eielson Array 145.36 312 PKPbc **PKPbc 08 54 41.5 -0.2**
comp=Z,44nm,0.8s,baz=154,slow=1.9,SNR=235
ILAR Eielson Array 145.36 312 **PKPbc 08 54 40.5 -1.2**
MCK McKinley 145.60 310 IAMs_20 IAMs_20 10 03 57.2
comp=Z,438nm,21.0s
FYU Fort Yukon 145.67 316 IAMs_20 IAMs_20 09 59 39.9
comp=Z,430nm,22.0s
BRVK Borovoye 145.73 73 *i* PKP2 **PKPdf 08 54 42.5 -0.2**
BRVK Borovoye 145.73 73 **PKPdf 08 54 42.4 -0.2**
COLA College 145.77 312 PKP2 **PKPdf 08 54 42.5 +0.2**
COLA College 145.77 312 **PKPdf 08 54 42.5 +0.2**
BMAR Burnt Mountain 145.87 317 **PKPbc 08 54 43.4 +0.1**
ENH Enshi 145.87 141 **PKPdf 08 54 43.3 -0.4**
TRF Thorofare Moun 145.97 309 IAMs_20 IAMs_20 10 00 08.9
comp=Z,574nm,20.0s
JOW Kunigami 146.29 171 IAMs_20 IAMs_20 09 59 50.7
comp=Z,474nm,19.0s
CAST Castle Rocks 146.66 308 IAMs_20 IAMs_20 10 03 54.3
comp=Z,434nm,21.0s
MAKZ Makanchi 147.40 91 PKP2 **PKPbc 08 54 47.2 -1.1**
MAKZ Makanchi 147.40 91 **PKPbc 08 54 47.2 -1.1**
WHN Wuhan 147.53 148 PKPbc **PKPbc 08 54 48.8 -0.3**
MK31 Makanchi Array 147.55 91 *i* PKP2 **PKPdf 08 54 47.1 +1.1**
MK31 pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 147.55 91 PKP2 **PKPbc 08 54 48.3 -0.4**
MKAR Makanchi Array 147.55 91 PKPbc **PKPbc 08 54 48.1 -0.6**
comp=Z,14nm,0.7s,baz=235,slow=2.5,SNR=82
MKAR Makanchi Array 147.55 91 **PKPdf 08 54 45.4 -0.6**
MKAR PKPbc **PKPbc 08 54 48.3 -0.4**
TOLK Toolik Lake Re 148.09 318 IAMs_20 IAMs_20 09 59 37.8
comp=Z,647nm,21.0s
WMQ Urumqi 148.10 100 *e*PKPbc **PKPbc 08 54 48.8 -1.5**
WMQ LR LR
comp=Z,510nm,29.1s
WMQ Urumqi 148.10 100 PKP2 **PKPbc 08 54 50.2 -0.2**
WMQ Urumqi 148.10 100 **PKPbc 08 54 50.1 -0.2**
KURK Kurchatov 148.32 83 PKIKP **PKPdf 08 54 45.9 -1.2**
KURK 08 54 49.8
KURK Kurchatov 148.32 83 **PKPdf 08 54 45.9 -1.2**
KURK PKPbc **pPKPdf 08 54 49.8 -1.9**
LZH Lanzhou 149.13 128 *e*PKPbc **PKPdf 08 54 50.9 +1.7**
LZH pPKP PKPbc 08 54 53.4 0.0
LZH PKPab **sPKPab 08 55 02.3 -1.5**
LZH LR LR
comp=Z,170nm,18.1s
LZH LR LR
comp=Z,390nm,20.1s
XAN Xi'an 149.15 137 PKPbc **PKPbc 08 54 52.4 -0.9**
XAN pPKP pPKPbc 08 54 57.0 -0.8
XAN LR LR
comp=Z,220nm,31.4s
XAN LR LR
comp=Z,190nm,35.3s
XAN LR LR
comp=Z,310nm,24.5s
XAN Xi'an 149.15 137 PKP2 **PKPbc 08 54 52.4 -0.9**
XAN Xi'an 149.15 137 **PKPbc 08 54 52.4 -0.9**
NJ2 Nanjing 150.06 154 *e*PKPbc **PKPdf 08 54 50.6 +0.1**
GTA Gaotai 150.31 120 ⇑PKPbc **PKPdf 08 54 50.9 0.0**
GTA PKPab **pPKPab 08 55 05.8 -1.1**
GTA PP **PP 08 58 32.0 +0.2**
GTA SKKS 09 05 22.0
GTA SS **SS 09 17 48.4 -1.2**
GTA AMB AMB
comp=Z,160nm,6.2s
GTA LR LR
comp=Z,180nm,19.7s
GTA LR LR
comp=Z,150nm,20.0s
GTA LR LR
comp=Z,220nm,21.6s
ADK Adak 151.67 275 PKIKP **PKPbc 08 54 57.7 -0.9**
ADK Adak 151.67 275 **PKPbc 08 54 57.7 -0.9**
RDOG Red Dog Mine 152.56 313 IAMs_20 IAMs_20 10 04 31.0
comp=Z,602nm,22.0s
JNU Nakatsue 152.70 175 PKPbc **PKPbc 08 55 00.9 -0.8**
comp=Z,18nm,1.0s,baz=255,slow=5.1,SNR=6.8
ZALV Zalesovo Beam 153.30 82 PKIKP **PKPdf 08 54 52.1 -2.6**
ZALV 08 55 00.6
ZALV Zalesovo Beam 153.30 82 PKP **PKPdf 08 54 52.7 -2.0**
comp=Z,1.1nm,0.6s,baz=316,slow=6.2,SNR=4.7
ZALV PKPbc **PKPbc 08 55 01.0 -1.2**
comp=Z,5.5nm,0.6s,baz=253,slow=3.1,SNR=15
ZALV Zalesovo Beam 153.30 82 **PKPdf 08 54 52.1 -2.6**
ZALV **sPKPdf 08 55 00.6 -0.2**
BTO Baotou 155.42 133 *e*P **PKPab 08 55 23.6 -0.3**
MJAR Matsushiro Arr 156.00 189 PKIKP **PKPdf 08 54 58.0 -1.1**
MJAR Matsushiro Arr 156.00 189 PKP **PKPdf 08 54 58.8 -0.3**
comp=Z,1.6nm,1.0s,baz=218,slow=1.4,SNR=4.5
MJAR Matsushiro Arr 156.00 189 **PKPdf 08 54 58.0 -1.1**
HHC Hu-ho-hao-te 156.19 135 *e*PKP **PKPdf 08 55 02.1 +2.8**
KSAR Wonju Array Be 156.78 168 PKIKP **PKPdf 08 54 59.1 -0.9**
KSAR Wonju Array Be 156.78 168 **PKPdf 08 54 59.1 -0.9**
KSAR **PKPab 08 55 29.4 -0.2**
KSRS Korea Array 156.80 168 PKP **PKPdf 08 55 00.5 +0.5**
comp=Z,1.2nm,0.9s,baz=204,slow=2.7,SNR=4.7
KSRS PKPab **PKPab 08 55 29.8 +0.1**
comp=Z,3.5nm,0.8s,baz=193,slow=5.0,SNR=7.6
SONM Songino Array 159.89 116 PKIKP **PKPdf 08 55 02.7 -0.9**
SONM 08 55 43.2
SONM Songino Array 159.89 116 PKP **PKPdf 08 55 05.1 +1.5**
comp=Z,0.9nm,0.6s,baz=192,slow=0.9,SNR=7.8
SONM PKPab **PKPab 08 55 43.5 +0.4**
comp=Z,4.5nm,0.6s,baz=220,slow=4.4,SNR=19
SONM Songino Array 159.89 116 **PKPdf 08 55 02.6 -0.9**
SONM **PKPab 08 55 43.2 +0.2**
ULN Ulaanbaatar 160.20 117 PKIKP **PKPdf 08 55 02.6 -1.4**
ULN 08 55 44.5
ULN Ulaanbaatar 160.20 117 PKPdf **PKPdf 08 55 02.6 -1.4**
ULN **PKPab 08 55 44.5 +0.1**
TLY Talaya 161.28 104 *e*PKIKP **PKPdf 08 55 04.0 -0.8**
TLY pmax pmax
comp=Z,31nm,1.6s
TLY Talaya 161.28 104 PKP **PKPdf 08 55 05.3 +0.4**
comp=Z,1.2nm,0.5s,baz=215,slow=5.1,SNR=5.2
TLY Talaya 161.28 104 **PKPdf 08 55 03.6 -1.2**
CN2 Changchun 162.71 160 *e*PKP **PKPdf 08 55 04.3 -2.2**
JKA Kamikawa-asahi 162.87 202 **PKPab 08 55 56.6 +0.7**
ASAJ Asahikawa 162.87 202 PKPab **PKPab 08 55 56.6 +0.7**
comp=Z,3.5nm,0.9s,baz=141,slow=8.1,SNR=5.0
USRK Ussuriysk Ar. 163.80 176 PKIKP **PKPdf 08 55 06.9 -0.7**
USRK 08 55 59.7
USRK Ussuriysk Ar. 163.80 176 PKPab **PKPab 08 56 00.2 +0.3**
comp=Z,5.4nm,1.1s,baz=220,slow=1.5,SNR=7.9
USRK Ussuriysk Ar. 163.80 176 **PKPdf 08 55 06.9 -0.7**
USRK **PKPab 08 55 59.7 -0.3**
BILL Bilibino 164.02 313⇑ *e*PKIKP **PKPdf 08 55 02.2 -4.8**
BILL *e* 08 55 09.5
BILL *i* 08 56 00.8
BILL pmax pmax
comp=Z,12nm,1.5s
BILL pmax pmax
comp=Z,24nm,1.1s
PETK Petropavlovsk- 165.00 252 PKP2 **PKPab 08 56 06.0 +0.8**
PETK Petropavlovsk- 165.00 252 PKPab **PKPab 08 56 04.7 -0.5**
comp=Z,5.3nm,0.8s,baz=126,slow=7.5,SNR=4.3
PETK Petropavlovsk- 165.00 252 **PKPab 08 56 06.0 +0.8**
TIXI Tiksi 168.49 8 PKP2 **PKPab 08 56 19.6 -0.4**
TIXI Tiksi 168.49 8 **PKPab 08 56 19.6 -0.4**
KLR Kul'dur 168.81 174 PKP **PKPdf 08 55 11.9 +0.6**
comp=Z,2.2nm,0.8s,baz=296,slow=3.0,SNR=8.1
KLR PKPab **PKPab 08 56 21.5 -0.4**
comp=Z,1.9nm,0.7s,baz=164,slow=3.3,SNR=5.9
BOD Bodaibo 169.60 96 *e*PKP2 **PKPab 08 56 24.8 -0.6**
BOD pmax pmax
comp=Z,11nm,1.2s
SEY Seymchan 170.71 294 PKPab **PKPab 08 56 29.6 -0.5**
comp=Z,3.6nm,0.8s,baz=106,slow=9.3,SNR=4.5

ISK ***16*** *09:15:27.3, 38.63N×43.18E, h4km, ML2.5/3*
DDA ***16*** *09:15:27.8, 38.63N×43.17E, h7km±3km, ML3.1*
ISC 16 09:15:28.1±1.1, 38.65N±0.06×43.16E±0.05, h12km±13km, n7, σ0.53/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**108**	PG	**Pg**	**09 15 32.3**	**0.0**
VANB				SG	**Sg**	**09 15 36.1**	**+0.8**
TVAN	**Van**	**0.23**	**122**	*i* P	**Pg**	**09 15 32.5**	**-0.6**
TVAN				*i* S	**Sg**	**09 15 36.4**	**-0.1**
TVAN				IAML_P			
	comp=Z,12μm,0.1s						

ADCV	**BITLIS_Adilcev**	**0.37**	**295**	*i* P		**Pb**	**09 15 36.4**	**-0.3**
ADCV				IAML_P				
comp=Z,2μm,0.2s								
VMUR	**Van-Muradiye**	**0.47**	**44**	*i* P		**Pg**	**09 15 37.2**	**-0.1**
VMUR				*i* S		**Sb**	**09 15 45.7**	**+0.4**
VMUR				IAML_P				
comp=Z,2μm,0.2s								
CLDR	**Caldiran**	**0.77**	**50**	PG		**Pg**	**09 15 42.8**	**-0.2**
CLDR				SG		**Sb**	**09 15 54.0**	**0.0**
TUTA	**Tutak**	**0.80**	**340**	*i* P		**Pg**	**09 15 43.1**	**-0.4**
TUTA				IAML_P				
comp=Z,4μm,0.2s								
GURO	**Guroymak-BITLI**	**0.89**	**264**	PG		**Pb**	**09 15 45.3**	**-0.2**
GURO				SG		**Sb**	**09 15 58.2**	**+0.9**

NNC 16 09:21:02.8±2.2, 38°.39N×69°.00E, h2km±8km, mb4.0, mpv3.7, 9C-6D, Error ellipse: s-maj=15.9km s-min=11.9km az=178.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**4.67**	**8**	Pg	Pb	09 22 21.4	-4.2
6.9nm,0.4s							
BRLS				Lg	Lg	09 23 26.3	
5.1nm,0.6s							
KK31	**Karatay Array**	**4.84**	**13**	⇑Pn	Pn	09 22 18.2	+1.4
0.9nm,0.3s,baz=204,slow=18,SNR=15							
KK31				⇑Pg	Pg	09 22 32.5	-3.1
2.1nm,0.3s,baz=198,slow=16,SNR=8.0							
KK31				⇑Sn	Sn	09 23 14.8	+1.4
3.0nm,0.5s,baz=203,slow=32,SNR=5.8							
KK31				⇑Lg	Lg	09 23 36.3	
10nm,0.5s,baz=203,slow=32,SNR=5.8							
MRKS	**Merke**	**5.41**	**35**	Pg	Pb	09 22 34.7	-3.4
18nm,0.5s							
MRKS				Lg	Lg	09 23 49.0	
22nm,0.7s							
AAK	**Ala-Archa**	**5.96**	**43**	⇓Pn	Pn	09 22 31.6	-0.6
2.6nm,0.5s							
AAK				⇓Pg	Pb	09 22 51.2	+3.7
4.5nm,0.5s							
AAK				⇑Sn	Sn	09 23 42.8	+1.7
6.3nm,0.5s							
AAK				⇓Lg	Lg	09 24 11.2	
18nm,0.8s							
SGDS	**Sogindy**	**6.61**	**38**	Pg	Pb	09 22 57.0	-1.5
5.9nm,0.5s							
SGDS				Lg	Lg	09 24 28.6	
5.6nm,0.7s							
TKM2	**Tokmak 2**	**6.75**	**46**	⇑Pn	Pn	09 22 43.2	0.0
4.1nm,0.7s							
TKM2				⇑Pg	Pg	09 23 06.7	-5.4
3.4nm,0.6s							
TKM2				⇓Sn	Sn	09 24 00.8	+0.1
4.2nm,0.7s							
TKM2				⇑Lg	Lg	09 24 38.6	
9.0nm,0.8s							
TNSS	**Tian-Shan**	**7.61**	**50**	Pg	Pb	09 23 15.4	-0.3
2.2nm,0.6s							
TNSS				Lg	Lg	09 25 02.8	
5.6nm,0.5s							
AB31	**Akbulak array**	**12.66**	**332**	⇑Pn	Pn	09 24 03.5	-0.4
1.0nm,0.6s,baz=157,slow=12,SNR=26							
AB31				⇓Sn	Sn	09 26 24.3	-1.1
1.3nm,0.7s							
AKTO	**Aktyubinsk**	**14.35**	**331**	⇓Pn	Pn	09 24 26.9	-0.1
3.7nm,0.8s							

IDC ***16*** *09:35:44.5±0.4, 60°.30S×46°.48W, h0km, mb4.9/17, mb1 4.9/18, mb1mx4.8/28, mbtmp4.9/18, ML4.9/1, MS5.1/20, Ms1 5.1/20, ms1mx5.1/24, Error ellipse: s-maj=15.7km s-min=12.3km az=66.0*

BJI ***16*** *09:35:44.3±0.0, 59°.97S×46°.28W, h10km, mB5.4/4, Ms5.1/1, Ms7 4.9/1*

MOS ***16*** *09:35:44.8±1.0, 60°.25S×46°.36W, h9km, mb5.5/17, MS5.1/9, Error ellipse: s-maj=23.6km s-min=9.1km az=99.4*

ISCJB ***16*** *09:35:45.2±0.2, 60°.36S±0°.03×46°.62W±0°.09, h10km, mb5.0/27, MS5.2/31, Error ellipse: s-maj=6.4km s-min=4.3km az=158.4*

NEIC ***16*** *09:35:46.2±1.9, 60°.29S±0°.07×46°.4W±0°.1, h10km±2km, mb5.2/62, Ms_20 5.3/542, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.31; Mθθ=1.14; Mφφ=-0.83; Mrθ=0.43; Mφθ=1.77; Mφr=0.80; Fault plane solution: M0=2.23000×10^17 NP1: φs=105.16000°, δ=66.21000°, λ=-0.49000°. NP2: φs=195.36000°, δ=89.55000°, λ=-156.21000°. Principal axes: T 2.4013, Plg=16.0000°, Azm=328.0000°; N -0.3893, Plg=66.0000°, Azm=196.0000°; P -2.0120, Plg=17.0000°, Azm=63.0000°;*

NEIC ***16*** *09:35:49, 60°.55S×46°.62W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.28; Mθθ=1.89; Mφφ=-0.61; Mrθ=0.53; Mφθ=1.80; Mφr=1.33; Fault plane solution: M0=2.84000×10^17 NP1: φs=101.00000°, δ=48.00000°, λ=-25.00000°. NP2: φs=208.00000°, δ=72.00000°, λ=-136.00000°. Principal axes: T 3.1100, Plg=14.0000°, Azm=329.0000°; N -0.6480, Plg=43.0000°, Azm=226.0000°; P -2.4621, Plg=44.0000°, Azm=74.0000°;*

GCMT ***16*** *09:35:50.2±0.2, 60°.60S±0°.01×46°.81W±0°.02, h12km, MW5.5/117, Moment Tensor Solution. s64,c90; s117,c228; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=1.17±.04; Mθθ=1.89±.04; Mφφ=-0.72±.04; Mrθ=0.98±.13; Mφθ=1.71±.03; Mφr=1.07±.14; Best double couple: M0=2.62300×10^17 NP1: φs=211.00000°, δ=74.00000°, λ=-133.00000°. NP2: φs=105.00000°, δ=46.00000°, λ=-23.00000°. Principal axes: T 3.1650, Plg=18.0000°, Azm=332.0000°; N -1.0820, Plg=41.0000°, Azm=226.0000°; P -2.0820, Plg=44.0000°, Azm=79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 09:35:46.2±0.2, 60°.36S±0°.05×46°.52W±0°.05, h10km, n589, σ1§72/330, mb5.2/44, MS5.3/295, 2C-3D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.15**	**46**	P	**Pn**	**09 37 42.5**	**-1.9**
HOPE				S	**Sn**	**09 39 17.8**	**+1.3**
HOPE	**Hope Point**	**8.15**	**46**		**Pn**	**09 37 42.8**	**-1.7**
HOPE				Sn	**Sn**	**09 39 15.5**	**-1.0**
PMSA	**Palmer Station**	**9.21**	**234**	Pn	**Pn**	**09 37 57.8**	**-1.1**
13nm,0.3s,baz=69,slow=9.9,SNR=55							
PMSA				Sn	**Sn**	**09 39 38.0**	**-4.3**
0.4nm,0.3s,baz=131,slow=20,SNR=2.8							
PMSA				LR	LR	09 41 11.4	
comp=Z,15μm,18.8s,baz=62,slow=35							
PMSA	**Palmer Station**	**9.21**	**234**	Pn	**Pn**	**09 37 59.9**	**+1.0**
EFI	**East Falkland**	**10.82**	**318**	P	**Pn**	**09 38 21.2**	**+0.2**
EFI	**East Falkland**	**10.82**	**318**	Pn	**Pn**	**09 38 21.1**	**+0.2**
USHA	**Ushuaia**	**12.95**	**286**	Pn	**Pn**	**09 38 53.2**	**+3.1**
1.5nm,0.3s,baz=102,slow=14,SNR=5.8							
USHA				LR	LR	09 42 10.0	
comp=Z,7μm,19.7s,baz=120,slow=30							
GO10	**Punta Arenas**	**15.19**	**287**	P	**P**	**09 39 25.5**	**-0.2**
GO09	**Cerro Castillo**	**17.02**	**291**	P	**Pn**	**09 39 45.0**	**+1.0**
GO09				IAmb	IAmb	09 40 03.0	
comp=Z,209nm,1.3s							
VNA3	**Neumayer Olymp**	**18.25**	**142**	P	**P**	**09 40 02.6**	**+3.2**
VNA1	**Neumayer–Stat**	**18.53**	**139**	P	**Pn**	**09 40 05.7**	**+3.1**
VNA2	**Neumayer–Watz**	**18.87**	**140**	P	**Pn**	**09 40 08.6**	**+1.9**
baz=291,slow=12							
SNAA	**Sanae**	**20.47**	**141**	P	Pn	09 40 25.5	-0.3
SNAA	**Sanae**	**20.47**	**141**	P	Pn	09 40 25.2	-0.6
comp=Z,88nm,1.1s,baz=284,slow=10,SNR=40							
SNAA				S	**S**	**09 44 09.6**	**-2.8**
comp=Z,4.1nm,0.6s,baz=179,slow=22,SNR=5.1							
SNAA				LR	LR	09 46 37.4	
comp=Z,8μm,21.0s,baz=304,slow=32							
SNAA	**Sanae**	**20.47**	**141**	P	Pn	09 40 25.7	-0.1
TRQA	**Tornquist**	**24.37**	**329**	P	**P**	**09 41 05.1**	**+0.8**
TRQA				pmax	pmax		
comp=Z,129nm,1.1s							
TRQA				MLR	MLR		
comp=Z,6μm,22.0s							
TRQA	**Tornquist**	**24.37**	**329**	P	**P**	**09 41 05.1**	**+0.8**
TRQA	**Tornquist**	**24.37**	**329**	*e*P	**P**	**09 41 05.6**	**+1.3**
PLCA	**Paso Flores**	**24.63**	**312**	P	**P**	**09 41 06.4**	**-0.2**
comp=Z,14nm,0.8s,baz=188,slow=8.0,SNR=38							
PLCA				LR	LR	09 50 37.7	
comp=Z,7μm,20.1s,baz=174,slow=36							
PLCA	**Paso Flores**	**24.63**	**312**	P	**P**	**09 41 06.4**	**-0.2**
PLCA				IAmb	IAmb	09 41 20.7	
comp=Z,99nm,1.4s							
PLCA	**Paso Flores**	**24.63**	**312**	*e*P	**P**	**09 41 06.5**	**-0.2**
GO06	**Curarrehue**	**25.97**	**312**	P	**P**	**09 41 18.7**	**-0.2**
OGAUY	**Aigu**	**26.58**	**345**	*e*P	**P**	**09 41 27.4**	**+3.1**
OGAUY	**Aigu**	**26.58**	**345**	*e*P	**P**	**09 41 27.4**	**+3.1**
PLTB	**Pedras Altas**	**28.98**	**347**	*e*P	**P**	**09 41 47.7**	**+1.9**
PLTB	**Pedras Altas**	**28.98**	**347**	*e*P	**P**	**09 41 47.7**	**+1.9**
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**09 41 55.2**	**+1.6**
comp=Z,104nm,1.1s,baz=166,slow=3.1,SNR=41							
QSPA				LR	LR	09 54 05.9	
comp=Z,2μm,21.6s,baz=158,slow=37							
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**09 41 55.3**	**+1.6**
GO05	**Huala**	**30.21**	**316**	P	**P**	**09 41 55.5**	**-1.2**
GO05				IAMs_20	IAMs_20	09 53 22.2	
comp=Z,5μm,19.0s							
CPSB	**Cacapava Do Su**	**30.31**	**348**	*e*P	**P**	**09 41 59.1**	**+1.6**
CPSB	**Cacapava Do Su**	**30.31**	**348**	*e*P	**P**	**09 41 59.1**	**+1.6**
CNLB	**Canela**	**31.18**	**353**	*e*P	**P**	**09 42 08.1**	**+2.9**
CNLB	**Canela**	**31.18**	**353**	*e*P	**P**	**09 42 08.1**	**+2.9**
PEL	**Peldehue**	**31.50**	**319**	P	**P**	**09 42 06.7**	**-1.3**
PEL				pmax	pmax		
comp=Z,48nm,1.0s							
PEL				MLR	MLR		
comp=Z,3μm,21.0s							
PEL	**Peldehue**	**31.50**	**319**	P	**P**	**09 42 06.7**	**-1.3**
PEL				IAmb	IAmb	09 42 10.9	
comp=Z,48nm,1.0s							
TRIS	**Tristan da Cun**	**31.83**	**58**	IAMs_20	IAMs_20	09 51 36.3	
comp=Z,7μm,21.0s							
CFA	**Coronel Fontan**	**32.16**	**324**	P	**P**	**09 42 12.2**	**-1.7**
comp=Z,4.6nm,0.8s,baz=159,slow=8.9,SNR=10							
CFA				LR	LR	09 54 50.0	
comp=Z,6μm,21.5s,baz=166,slow=36							
RTLS	**Leoncito**	**32.30**	**322**	*e*P	**P**	**09 42 15.9**	**+0.5**
ACCO	**Cerro Coronel**	**33.36**	**323**	*e*P	**P**	**09 42 25.3**	**+0.6**
ACDV	**Cuesta del Vie**	**33.76**	**323**	*e*P	**P**	**09 42 28.8**	**+0.7**
AROD	**Rodeo**	**33.87**	**323**	*e*P	**P**	**09 42 29.7**	**+0.5**
AGUA	**GUANDACOL**	**34.22**	**325**	*e*P	**P**	**09 42 32.8**	**+0.8**
GO04	**Tololo Observa**	**34.28**	**321**	P	**P**	**09 42 31.9**	**-0.7**
GO04				IAmb	IAmb	09 42 42.2	
comp=Z,30nm,0.8s							
CYA	**Choya**	**34.48**	**329**	*e*P	**P**	**09 42 33.9**	**-0.2**
SYO	**Syowa Base**	**34.76**	**141⇑**	*e*pP	**P**	**09 42 35.0**	**-1.1**
SYO	**Syowa Base**	**34.76**	**141⇓**	*e*sP	**P**	**09 42 37.4**	**+1.3**
CPUP	**Villa Florida**	**34.81**	**343**	P	**P**	**09 42 37.1**	**+0.2**
comp=Z,9.9nm,0.7s,baz=170,slow=7.3,SNR=14							
CPUP				LR	LR	09 55 31.7	
comp=Z,5μm,21.6s,baz=171,slow=34							
CPUP	**Villa Florida**	**34.81**	**343**	P	**P**	**09 42 37.5**	**+0.6**
CPUP	**Villa Florida**	**34.81**	**343**	*e*P	**P**	**09 42 38.4**	**+1.4**
VCA	**Vinchina**	**34.85**	**325**	*e*P	**P**	**09 42 38.2**	**+0.8**
PTGB	**Pitanga**	**35.83**	**351**	*e*P	**P**	**09 42 47.1**	**+1.3**
PTGB	**Pitanga**	**35.83**	**351**	*e*P	**P**	**09 42 47.1**	**+1.3**
GO03	**Copiap**	**36.51**	**323**	P	**P**	**09 42 51.9**	**+0.3**
GO03				IAMs_20	IAMs_20	09 57 14.8	
comp=Z,6μm,21.0s							
SPB	**Sao Paulo**	**36.74**	**359**	P	**P**	**09 42 52.6**	**-0.9**
SPB				IAmb	IAmb	09 43 05.4	
comp=Z,42nm,1.0s							
SPB				IAMs_20	IAMs_20	09 55 12.0	
comp=Z,4μm,21.0s							
SPB	**Sao Paulo**	**36.74**	**359**	*e*P	**P**	**09 42 55.3**	**+1.8**
TRCB	**Terra Rica**	**37.78**	**351**	*e*P	**P**	**09 43 03.2**	**+0.9**
TRCB	**Terra Rica**	**37.78**	**351**	*e*P	**P**	**09 43 03.2**	**+0.9**
RCLB	**Rio Claro- Sao**	**37.91**	**358**	*e*P	**P**	**09 43 05.3**	**+1.8**
RCLB	**Rio Claro- Sao**	**37.91**	**358**	*e*P	**P**	**09 43 05.3**	**+1.8**
DUB01	**Friburgo-RJ**	**38.35**	**6**	*e*P	**P**	**09 43 09.7**	**+2.4**
DUB01	**Friburgo-RJ**	**38.35**	**6**	*e*P	**P**	**09 43 09.7**	**+2.4**
GO02	**Mina Guanaco**	**38.62**	**325**	P	**P**	**09 43 09.2**	**-0.6**
GO02				IAmb	IAmb	09 43 16.5	
comp=Z,36nm,1.1s							
PCMB	**Pacaembu**	**38.86**	**353**	*e*P	**P**	**09 43 14.3**	**+2.9**
PCMB	**Pacaembu**	**38.86**	**353**	*e*P	**P**	**09 43 14.3**	**+2.9**
BB19B	**Bebedouro**	**39.28**	**357**	*e*P	**P**	**09 43 17.8**	**+2.8**
BB19B	**Bebedouro**	**39.28**	**357**	*e*P	**P**	**09 43 17.8**	**+2.8**
AQDB	**Aquidauana**	**40.37**	**347**	*e*P	**P**	**09 43 24.2**	**+0.2**
AQDB	**Aquidauana**	**40.37**	**347**	*e*P	**P**	**09 43 24.2**	**+0.2**
PB10	**IPOC Station P**	**40.45**	**325**	IAMs_20	IAMs_20	09 59 29.0	
comp=Z,6μm,22.0s							
SBA	**Scott Base**	**40.54**	**190**	P	**P**	**09 43 25.8**	**+1.0**
SBA				pmax	pmax		
comp=Z,61nm,1.1s							
SBA				MLR	MLR		
comp=Z,3μm,19.0s							
SBA	**Scott Base**	**40.54**	**190**	P	**P**	**09 43 25.8**	**+1.0**
SBA				IAmb	IAmb	09 43 33.0	
comp=Z,61nm,1.1s							
ITRB	**Iturama**	**40.70**	**354**	*e*P	**P**	**09 43 27.6**	**+0.8**
ITRB	**Iturama**	**40.70**	**354**	*e*P	**P**	**09 43 27.6**	**+0.8**
LVC	**Limon Verde**	**40.85**	**327**	P	**P**	**09 43 28.7**	**+0.3**
LVC				pmax	pmax		
comp=Z,10.0nm,0.9s							
LVC				MLR	MLR		
comp=Z,4μm,19.0s							
LVC	**Limon Verde**	**40.85**	**327**	LR	LR	10 01 43.5	
comp=Z,3μm,18.4s,baz=191,slow=38							
LVC	**Limon Verde**	**40.85**	**327**	P	**P**	**09 43 28.7**	**+0.3**
LVC	**Limon Verde**	**40.85**	**327**	IAMs_20	IAMs_20	10 01 30.6	
comp=Z,4μm,19.0s							
LVC	**Limon Verde**	**40.85**	**327**	*e*P	**P**	**09 43 28.8**	**+0.3**
RIB01	**Linhares ES**	**41.23**	**9**	*e*P	**P**	**09 43 34.2**	**+3.1**
RIB01	**Linhares ES**	**41.23**	**9**	*e*P	**P**	**09 43 34.2**	**+3.1**
PB04	**IPOC Station P**	**41.45**	**326**	P	**P**	**09 43 33.5**	**+0.4**
PB04				IAmb	IAmb	09 43 39.9	
comp=Z,51nm,1.1s							
PB04				IAMs_20	IAMs_20	10 00 14.6	
comp=Z,5μm,21.0s							
BSFB	**Barra de Sao F**	**41.68**	**8**	*e*P	**P**	**09 43 37.1**	**+2.4**
BSFB	**Barra de Sao F**	**41.68**	**8**	*e*P	**P**	**09 43 37.1**	**+2.4**
PMNB	**Patos De Minas**	**41.77**	**0**	*e*P	**P**	**09 43 36.5**	**+0.9**
PMNB	**Patos De Minas**	**41.77**	**0**	*e*P	**P**	**09 43 36.5**	**+0.9**
SJMB	**Sao Joao De Ma**	**41.78**	**8**	*e*P	**P**	**09 43 38.1**	**+2.5**
SJMB	**Sao Joao De Ma**	**41.78**	**8**	*e*P	**P**	**09 43 38.1**	**+2.5**
C2SB	**Chapadao do Su**	**41.78**	**351**	*e*P	**P**	**09 43 37.5**	**+1.9**
C2SB	**Chapadao do Su**	**41.78**	**351**	*e*P	**P**	**09 43 37.5**	**+1.9**
IPMB	**Ipameri, GO**	**42.34**	**358**	*e*P	**P**	**09 43 40.5**	**+0.2**
IPMB	**Ipameri, GO**	**42.34**	**358**	*e*P	**P**	**09 43 40.5**	**+0.2**
MAW	**Mawson**	**42.42**	**148**	P	**P**	**09 43 42.3**	**+1.9**
comp=Z,12nm,1.1s,baz=215,slow=10,SNR=9.0							
MAW				LR	LR	10 00 41.8	
comp=Z,5μm,18.2s,baz=236,slow=35							
PB01	**IPOC Station P**	**42.50**	**327**	P	**P**	**09 43 41.7**	**+0.1**
PB01				IAmb	IAmb	09 43 49.4	
comp=Z,79nm,1.2s							
PB01				IAMs_20	IAMs_20	09 58 40.3	
comp=Z,3μm,21.0s							
PP1B	**Ponte de Pedra**	**43.12**	**348**	*e*P	**P**	**09 43 47.8**	**+1.2**
PP1B	**Ponte de Pedra**	**43.12**	**348**	*e*P	**P**	**09 43 47.8**	**+1.2**
GO01	**Chusmiza**	**43.73**	**328**	P	**P**	**09 43 52.5**	**+0.4**
GO01				IAmb	IAmb	09 43 59.9	
comp=Z,41nm,1.2s							
PB11	**IPOC Station P**	**43.77**	**328**	P	**P**	**09 43 51.5**	**-0.4**
PB11				IAmb	IAmb	09 43 59.9	
comp=Z,43nm,1.1s							
PB11				IAMs_20	IAMs_20	10 01 31.8	
comp=Z,5μm,22.0s							
MNMC	**Minye Minye**	**44.35**	**328**	P	**P**	**09 43 57.3**	**+0.5**
MNMC				IAMs_20	IAMs_20	10 02 02.3	
comp=Z,5μm,22.0s							
BDFB	**Brasilia**	**44.66**	**358**	P	**P**	**09 43 59.6**	**+0.6**
comp=Z,17nm,0.9s,baz=166,slow=4.7,SNR=16							
BDFB				LR	LR	10 00 43.4	
comp=Z,2μm,21.7s,baz=170,slow=34							
BDFB	**Brasilia**	**44.66**	**358**	P	**P**	**09 43 58.5**	**-0.5**
ARAG	**Araguaiana, MT**	**44.75**	**353**	*e*P	**P**	**09 44 00.1**	**+0.4**
ARAG	**Araguaiana, MT**	**44.75**	**353**	*e*P	**P**	**09 44 00.1**	**+0.4**
SALV	**Santo Antonio**	**44.89**	**347**	*e*P	**P**	**09 44 01.8**	**+1.1**
SALV	**Santo Antonio**	**44.89**	**347**	*e*P	**P**	**09 44 01.8**	**+1.1**
JANB	**Januaria**	**45.26**	**3**	*e*P	**P**	**09 44 03.7**	**0.0**
JANB	**Januaria**	**45.26**	**3**	*e*P	**P**	**09 44 03.7**	**0.0**
SIV	**San Ignacio**	**45.55**	**340**	LR	LR	10 02 31.7	
comp=Z,4μm,21.7s,baz=183,slow=35							
NBIT	**Itapeh - BA**	**45.65**	**10**	*e*P	**P**	**09 44 10.0**	**+3.2**
NBIT	**Itapeh - BA**	**45.65**	**10**	*e*P	**P**	**09 44 10.0**	**+3.2**
LPAZ	**La Paz**	**46.71**	**331**	P	**P**	**09 44 16.0**	**+0.1**
LPAZ				pmax	pmax		
comp=Z,22nm,1.3s							
LPAZ	**La Paz**	**46.71**	**331**	P	**P**	**09 44 16.5**	**+0.6**
comp=Z,5.8nm,0.7s,baz=165,slow=3.7,SNR=19							
LPAZ				LR	LR	10 05 14.2	
comp=Z,1μm,19.8s,baz=180,slow=38							
LPAZ	**La Paz**	**46.71**	**331**	P	**P**	**09 44 15.9**	**+0.1**
LPAZ				IAmb	IAmb	09 44 29.0	
comp=Z,22nm,1.2s							
LPAZ	**La Paz**	**46.71**	**331**	*e*P	**P**	**09 44 16.4**	**+0.6**
PEXB	**Peixe**	**48.18**	**358**	*e*P	**P**	**09 44 29.6**	**+3.0**
PEXB	**Peixe**	**48.18**	**358**	*e*P	**P**	**09 44 29.6**	**+3.0**
NBLA	**Lagarto - SE**	**49.70**	**11**	*e*P	**P**	**09 44 41.2**	**+3.1**
NBLA	**Lagarto - SE**	**49.70**	**11**	*e*P	**P**	**09 44 41.2**	**+3.1**
CLDB	**Colider**	**49.87**	**348**	*e*P	**P**	**09 44 39.1**	**-0.5**
CLDB	**Colider**	**49.87**	**348**	*e*P	**P**	**09 44 39.1**	**-0.5**
NBAN	**Anadia - AL**	**51.16**	**13**	*e*P	**P**	**09 44 52.1**	**+2.8**
NBAN	**Anadia - AL**	**51.16**	**13**	*e*P	**P**	**09 44 52.1**	**+2.8**
SUR	**Sutherland**	**51.35**	**89**	P	**P**	**09 44 51.9**	**+1.1**
comp=Z,18nm,0.7s,baz=196,slow=8.3,SNR=18							
SUR				LR	LR	10 02 32.5	
comp=Z,1μm,18.4s,baz=210,slow=31							
SMTB	**Santa Maria do**	**51.39**	**359**	*e*P	**P**	**09 44 51.0**	**0.0**
SMTB	**Santa Maria do**	**51.39**	**359**	*e*P	**P**	**09 44 51.0**	**0.0**
NBRF	**Rio Formoso -**	**52.27**	**14**	*e*P	**P**	**09 45 00.5**	**+3.0**
NBRF	**Rio Formoso -**	**52.27**	**14**	*e*P	**P**	**09 45 00.5**	**+3.0**
CASY	**Casey**	**52.53**	**169**	P	**P**	**09 45 00.6**	**+1.7**
CASY				IAmb	IAmb	09 45 05.7	
comp=Z,42nm,1.0s							
SAML	**Samuel**	**52.80**	**339**	P	**P**	**09 45 01.7**	**+0.2**
SAML				pmax	pmax		
comp=Z,30nm,1.0s							
SAML				MLR	MLR		
comp=Z,3μm,22.0s							
SAML	**Samuel**	**52.80**	**339**	P	**P**	**09 45 01.7**	**+0.2**
SAML				IAmb	IAmb	09 45 13.1	
comp=Z,30nm,1.0s							
SAML	**Samuel**	**52.80**	**339**	IAMs_20	IAMs_20	10 06 57.9	
comp=Z,3μm,22.0s							
SAML	**Samuel**	**52.80**	**339**	*e*P	**P**	**09 45 01.7**	**+0.2**
NNA	**Nana**	**53.21**	**322**	P	**P**	**09 45 04.7**	**+0.1**
NNA				pmax	pmax		
comp=Z,52nm,1.1s							
NNA				MLR	MLR		
comp=Z,2μm,19.0s							
NNA	**Nana**	**53.21**	**322**	P	**P**	**09 45 04.7**	**+0.1**
NNA	**Nana**	**53.21**	**322**	IAMs_20	IAMs_20	10 10 22.1	
comp=Z,2μm,19.0s							
PRPB	**Parauapebas**	**54.12**	**356**	*e*P	**P**	**09 45 11.2**	**0.0**
PRPB	**Parauapebas**	**54.12**	**356**	*e*P	**P**	**09 45 11.2**	**0.0**
NBPB	**Pedra_Branca-C**	**54.94**	**8**	*e*P	**P**	**09 45 19.8**	**+2.7**
NBPB	**Pedra_Branca-C**	**54.94**	**8**	*e*P	**P**	**09 45 19.8**	**+2.7**
NBPA	**Parau_RN**	**54.95**	**11**	*e*P	**P**	**09 45 18.1**	**+1.0**
NBPA	**Parau_RN**	**54.95**	**11**	*e*P	**P**	**09 45 18.1**	**+1.0**
NBPS	**Pedro II - PI**	**55.96**	**6**	*e*P	**P**	**09 45 26.9**	**+2.3**
NBPS	**Pedro II - PI**	**55.96**	**6**	*e*P	**P**	**09 45 26.9**	**+2.3**
NBCL	**Cascavel-CE**	**56.35**	**10**	*e*P	**P**	**09 45 30.1**	**+2.9**
NBCL	**Cascavel-CE**	**56.35**	**10**	*e*P	**P**	**09 45 30.1**	**+2.9**
H10S2	**ASCENSION HYDR**	**56.54**	**39**	T	T	10 47 02.8	
baz=20,slow=74,SNR=120							
H10S3	**ASCENSION HYDR**	**56.54**	**39**	T	T	10 47 01.2	
baz=200,slow=74,SNR=57							
BOSA	**Boshof**	**56.63**	**90**	P	**P**	**09 45 29.2**	**-0.2**
comp=Z,12nm,0.6s,baz=210,slow=5.3,SNR=22							
BOSA				LR	LR	10 05 45.9	
comp=Z,1μm,18.5s,baz=210,slow=32							
BOSA	**Boshof**	**56.63**	**90**	P	**P**	**09 45 29.0**	**-0.3**
BOSA				IAmb	IAmb	09 45 35.1	
comp=Z,28nm,0.9s							
WIN	**Windhoek**	**57.64**	**79**	P	**P**	**09 45 37.2**	**+0.6**
WIN				pmax	pmax		
comp=Z,38nm,1.4s							
WIN	**Windhoek**	**57.64**	**79**	P	**P**	**09 45 37.2**	**+0.6**
WIN				IAmb	IAmb	09 45 41.4	
comp=Z,38nm,1.4s							
H10N3	**ASCENSION HYDR**	**57.64**	**38**	T	T	10 48 24.4	
baz=199,slow=75,SNR=104							
H10N1	**ASCENSION HYDR**	**57.65**	**38**	T	T	10 48 24.0	
baz=199,slow=75,SNR=101							
H10N2	**ASCENSION HYDR**	**57.66**	**38**	T	T	10 48 25.7	
baz=199,slow=75,SNR=120							
LBTB	**Lobatse**	**59.78**	**88**	P	**P**	**09 45 51.0**	**-0.3**
comp=Z,24nm,0.6s,baz=213,slow=7.7,SNR=35							
LBTB	**Lobatse**	**59.78**	**88**	P	**P**	**09 45 50.9**	**-0.4**
TSUM	**Tsumeb**	**60.73**	**77**	P	**P**	**09 45 57.3**	**-0.7**
TSUM				IAmb	IAmb	09 46 02.6	
comp=Z,17nm,1.2s							
OTAV	**Otavalo**	**65.27**	**324**	P	**P**	**09 46 29.2**	**+0

comp=Z,1µm,19.0s
FDF Fort de France 75.75 345 IAMs_20 IAMs_20 10 21 56.1
comp=Z,2µm,22.0s
HIZ Hauiti 75.79 212 IAMs_20 IAMs_20 10 15 51.9
comp=Z,2µm,22.0s
TBI Tubuai 76.14 247 *e*S **S** **09 57 16.4 -1.4**
comp=Z,389nm,24.7s
TBI Tubuai 76.14 247 *e*LR LR 10 11 04.5
comp=Z,4µm,22.2s,baz=155
SACV Santiago Islan 77.30 23 P **P** **09 47 39.8 -0.8**
ACON Acoyapa 78.40 321 P **P** **09 47 45.7 -1.0**
SEUS St. Eustatius 78.71 344 IAMs_20 IAMs_20 10 22 37.5
comp=Z,2µm,20.0s
SABA Saba 78.87 344 IAMs_20 IAMs_20 10 24 41.8
comp=Z,2µm,20.0s
OUZ Omahuta 79.23 212 P **P** **09 47 51.4 +0.2**
PDPR Patillas Dam, 79.68 341 P **P** **09 47 53.1 -0.5**
SJG San Juan 79.79 341 IAMs_20 IAMs_20 10 20 13.2
comp=Z,1µm,22.0s
MLPR Magueyes Islan 79.80 340 P **P** **09 47 53.7 -0.6**
MLPR IAmb IAmb 09 47 54.7
comp=Z,38nm,1.0s
STVI Saint Thomas 79.84 342 P **P** **09 47 54.3 -0.2**
STVI IAmb IAmb 09 48 13.7
comp=Z,34nm,0.9s
CRPR Cabo Rojo, PR 79.85 340 P **P** **09 47 53.7 -0.9**
TGUH Tegucigalpa,Un 81.02 320 P **P** **09 47 59.9 -1.2**
PPT2 Papeete2 81.17 250 *e*S **S** **09 58 11.1 -0.8**
comp=Z,500nm,24.5s
PPT2 Papeete2 81.17 250 *e*LR LR 10 13 24.1
comp=Z,3µm,26.2s,baz=153
PPT Papeete 81.19 250 LR LR 10 15 18.0
comp=Z,609nm,22.0s,baz=164,slow=29
SNET Serv Nac Est T 81.31 318 IAMs_20 IAMs_20 10 21 30.2
comp=Z,1µm,20.0s
TOO Toolangi 81.92 190 IAMs_20 IAMs_20 10 23 30.5
comp=Z,1µm,19.0s
MTDJ Mount Denham 82.23 330 IAMs_20 IAMs_20 10 25 25.1
comp=Z,1µm,21.0s
TOC5 Torodi Ar. Sit 82.70 47 IAMs_20 IAMs_20 10 20 06.3
comp=Z,1µm,19.0s
TOC4 Torodi Ar. Sit 82.71 47 IAMs_20 IAMs_20 10 20 16.4
comp=Z,1µm,19.0s
TOB4 Torodi Ar. Sit 82.72 47 IAMs_20 IAMs_20 10 20 07.6
comp=Z,1µm,18.0s
TOA3 Torodi Ar. Sit 82.72 47 IAMs_20 IAMs_20 10 20 05.8
comp=Z,990nm,18.0s
TOB3 Torodi Ar. Sit 82.72 47 IAMs_20 IAMs_20 10 20 07.8
comp=Z,1µm,18.0s
TOC3 Torodi Ar. Sit 82.73 47 IAMs_20 IAMs_20 10 20 08.0
comp=Z,1µm,18.0s
TOA0 Torodi Ar. Sit 82.73 47 P **P** **09 48 10.3 +0.3**
TOA0 IAmb IAmb 09 48 17.4
comp=Z,18nm,0.9s
TOA0 IAMs_20 IAMs_20 10 20 08.0
comp=Z,1µm,18.0s
TOB5 Torodi Ar. Sit 82.73 47 IAMs_20 IAMs_20 10 20 08.0
comp=Z,1µm,18.0s
TORD Torodi Ar. Bea 82.73 47 P **P** **09 48 10.3 +0.3**
comp=Z,11nm,0.7s,baz=211,slow=4.4,SNR=37
TORD LR LR 10 20 18.7
comp=Z,950nm,18.3s,baz=265,slow=32
TORD Torodi Ar. Bea 82.73 47 P **P** **09 48 08.7 -1.2**
TOA2 Torodi Ar. Sit 82.73 47 IAMs_20 IAMs_20 10 20 08.0
comp=Z,1µm,18.0s
TOA1 Torodi Ar. Sit 82.73 47 IAMs_20 IAMs_20 10 20 08.1
comp=Z,1µm,18.0s
TOC7 Torodi Ar. Sit 82.74 47 IAMs_20 IAMs_20 10 20 05.2
comp=Z,1µm,19.0s
TOC2 Torodi Ar. Sit 82.75 47 IAMs_20 IAMs_20 10 20 08.4
comp=Z,1µm,19.0s
MBAR Mbarara 83.18 79 IAMs_20 IAMs_20 10 19 48.8
comp=Z,1µm,21.0s
TAOE Nuku Hiva Isla 84.17 262 *e*S **S** **09 58 44.2 +1.5**
comp=Z,412nm,25.8s
TAOE Nuku Hiva Isla 84.17 262 *e*LQ LQ 10 11 11.8
comp=Z,887nm,31.9s
TAOE *e*LR LR 10 14 50.5
comp=Z,665nm,27.7s,baz=159
CCIG Comitan 84.71 316 P **P** **09 48 20.1 -0.2**
CCIG IAmb IAmb 09 48 38.3
comp=Z,14nm,1.1s
CCIG IAMs_20 IAMs_20 10 23 07.2
comp=Z,1µm,20.0s
NWAO Narrogin (SRO) 86.10 166 IAMs_20 IAMs_20 10 27 42.6
comp=Z,1µm,19.0s
TEIG Tepich 87.13 321 P **P** **09 48 31.7 -0.3**
TEIG IAmb IAmb 09 48 32.6
comp=Z,24nm,1.1s
BBOO Buckleboo 87.15 182 P **P** **09 48 32.4 +0.2**
BBOO IAmb IAmb 09 48 42.3
comp=Z,24nm,1.1s
STKA Stephens Creek 87.86 187 P **P** **09 48 36.0 +0.4**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA MLR MLR
comp=Z,200nm,19.0s
STKA Stephens Creek 87.86 187 P **P** **09 48 37.0 +1.4**
comp=Z,1.9nm,0.8s,baz=207,slow=4.5,SNR=3.0
STKA Stephens Creek 87.86 187 P **P** **09 48 36.0 +0.4**
TLIG Tlapa 88.20 311 P **P** **09 48 37.4 +0.1**
TLIG IAMs_20 IAMs_20 10 19 58.8
comp=Z,1µm,22.0s
ARMA Armidale 88.33 196 P **P** **09 48 38.1 0.0**
ARMA IAmb IAmb 09 48 46.3
comp=Z,13nm,0.9s
MORW Morawa 89.76 165 P **P** **09 48 44.8 +0.2**
MORW IAmb IAmb 09 48 51.3
comp=Z,14nm,1.1s
MORW IAMs_20 IAMs_20 10 25 33.5
comp=Z,2µm,22.0s
DWPF Disney Wildern 92.67 330 IAMs_20 IAMs_20 10 31 02.7
comp=Z,1µm,22.0s
TAM Tamanrasset 92.98 47 IAMs_20 IAMs_20 10 23 44.7
comp=Z,1µm,20.0s
BBSR BB Station 93.59 345 IAMs_20 IAMs_20 10 29 58.7
comp=Z,1µm,22.0s
DZM Mont Dzumac 93.60 210 *e*LQ LQ 10 15 13.4
comp=Z,2µm,34.7s
DZM *e*LR LR 10 19 12.9
comp=Z,1µm,21.9s
DZM Mont Dzumac 93.60 210 IAMs_20 IAMs_20 10 36 42.3
comp=Z,1µm,21.0s
658A Bunnell 93.88 330 IAMs_20 IAMs_20 10 33 13.7
comp=Z,911nm,20.0s
656A Willston 94.15 329 IAMs_20 IAMs_20 10 35 33.9
comp=Z,978nm,19.0s
FURI Furi 95.29 81 IAMs_20 IAMs_20 10 28 03.7
comp=Z,1µm,20.0s
ASAR Alice Springs 96.28 180 P **P** **09 49 13.4 -1.4**
comp=Z,1.5nm,0.8s,baz=178,slow=4.4,SNR=14
ASAR PKiKP **PKiKP** **09 53 54.1 +1.4**
comp=Z,0.3nm,0.6s,baz=162,slow=1.6,SNR=3.2
ASAR PKKPbc **PKKPbc** **10 05 57.6 0.0**
comp=Z,0.4nm,0.6s,baz=359,slow=2.1,SNR=6.1
ASAR Alice Springs 96.28 180 P **P** **09 49 12.6 -2.3**
255A Hazlehurst 96.57 330 IAMs_20 IAMs_20 10 33 21.1
comp=Z,1µm,22.0s
352A Blakely 96.78 328 IAMs_20 IAMs_20 10 37 40.6
comp=Z,899nm,18.0s
253A Americus 97.12 329 IAMs_20 IAMs_20 10 35 02.7
comp=Z,891nm,20.0s
154A Montrose 97.39 330 IAMs_20 IAMs_20 10 34 42.6
comp=Z,1µm,20.0s
PSAC3 Pilbara Seismi 97.56 167 IAMs_20 IAMs_20 10 33 49.2
comp=Z,1µm,20.0s
Y60A Bolivia 97.56 334 IAMs_20 IAMs_20 10 33 56.2
comp=Z,911nm,20.0s
PSAA3 Pilbara Seismi 97.61 167 IAMs_20 IAMs_20 10 42 04.4
comp=Z,1µm,20.0s
250A Grady 97.61 327 IAMs_20 IAMs_20 10 35 09.7
comp=Z,848nm,20.0s
PSAB1 Pilbara Seismi 97.61 167 IAMs_20 IAMs_20 10 33 19.6
comp=Z,1µm,20.0s
Z56A Williston 97.64 331 IAMs_20 IAMs_20 10 32 18.2
comp=Z,1µm,22.0s
152A Waverly Hall 97.85 328 IAMs_20 IAMs_20 10 38 50.0
comp=Z,823nm,20.0s
MBWA Marble Bar 98.01 167 IAMs_20 IAMs_20 10 30 48.0
comp=Z,1µm,21.0s
Y57A Sumter 98.07 332 IAMs_20 IAMs_20 10 32 50.6
comp=Z,1µm,22.0s
GOGA Godfrey 98.23 329 IAMs_20 IAMs_20 10 35 26.1
comp=Z,1µm,20.0s
X58A Rowland 98.34 333 IAMs_20 IAMs_20 10 32 06.8
comp=Z,1µm,22.0s
HODGE Hodges 98.72 331 IAMs_20 IAMs_20 10 33 27.8
comp=Z,891nm,22.0s
Y52A Lilburn 98.82 329 IAMs_20 IAMs_20 10 35 36.5
comp=Z,1µm,20.0s
W57A Gilead 99.06 333 IAMs_20 IAMs_20 10 35 21.9
comp=Z,903nm,22.0s
PAULI Pauline 99.17 331 IAMs_20 IAMs_20 10 37 09.8
comp=Z,912nm,20.0s
CTAO Charters Tower 99.17 192 IAMs_20 IAMs_20 10 33 57.4
comp=Z,980nm,20.0s
V58A Windy Hill, Pi 99.48 334 IAMs_20 IAMs_20 10 34 42.0
comp=Z,832nm,21.0s
X51A Calhoun 99.69 329 IAMs_20 IAMs_20 10 36 15.5
comp=Z,1µm,21.0s
U59A Littleton 99.73 335 IAMs_20 IAMs_20 10 33 11.6
comp=Z,986nm,22.0s
W52A Murphy 99.95 330 IAMs_20 IAMs_20 10 35 02.5
comp=Z,1µm,22.0s
WC3 Warramunga Arr 99.97 181 IAMs_20 IAMs_20 10 33 20.2
comp=Z,1µm,20.0s
WR9 Warramunga Arr 99.97 181 IAMs_20 IAMs_20 10 33 09.2
comp=Z,1µm,20.0s
WR7 Warramunga Arr 99.97 181 IAMs_20 IAMs_20 10 33 29.3
comp=Z,1µm,20.0s
WR8 Warramunga Arr 99.97 181 IAMs_20 IAMs_20 10 33 29.3
comp=Z,1µm,20.0s
WR6 Warramunga Arr 99.97 181 IAMs_20 IAMs_20 10 33 29.3
comp=Z,1µm,20.0s
WR5 Warramunga Arr 99.98 181 IAMs_20 IAMs_20 10 33 10.4
comp=Z,1µm,20.0s
WR4 Warramunga Arr 99.98 181 IAMs_20 IAMs_20 10 33 20.4
comp=Z,1µm,19.0s
WR3 Warramunga Arr 99.98 181 IAMs_20 IAMs_20 10 33 30.5
comp=Z,1µm,20.0s
WB2 Warramunga Arr 99.99 181 IAMs_20 IAMs_20 10 33 21.6
comp=Z,1µm,20.0s
WR1 Warramunga Arr 99.99 181 IAMs_20 IAMs_20 10 33 30.6
comp=Z,1µm,21.0s
WRA Warramunga Arr 99.99 181 P **Pdif** **09 49 29.6 -1.9**
comp=Z,1.1nm,0.7s,baz=182,slow=4.1,SNR=16
WRA PKiKP **PKiKP** **09 54 01.1 +1.8**
comp=Z,1.0nm,0.9s,baz=189,slow=1.0,SNR=2.8
WRA PKKP **PKKPbc** **10 05 48.6 +1.2**
comp=Z,0.7nm,1.0s,baz=348,slow=3.1,SNR=3.9
WRA Warramunga Arr 99.99 181 **Pdif** **09 49 30.0 -1.5**
WRAB Tennant Creek 100.00 181 IAMs_20 IAMs_20 10 33 31.9
comp=Z,1µm,20.0s
V55A Taylorsville 100.02 332 IAMs_20 IAMs_20 10 32 52.1
comp=Z,858nm,22.0s
WB5 Warramunga Arr 100.05 181 IAMs_20 IAMs_20 10 33 12.3
comp=Z,1µm,20.0s
WB7 Warramunga Arr 100.09 181 IAMs_20 IAMs_20 10 33 03.3
comp=Z,1µm,20.0s
WB8 Warramunga Arr 100.11 181 IAMs_20 IAMs_20 10 33 05.0
comp=Z,1µm,20.0s
WB9 Warramunga Arr 100.14 181 IAMs_20 IAMs_20 10 33 05.6
comp=Z,1µm,21.0s
V53A Saluda 100.22 331 IAMs_20 IAMs_20 10 33 20.6
comp=Z,852nm,22.0s
U56A King 100.30 333 IAMs_20 IAMs_20 10 35 55.6
comp=Z,829nm,21.0s
W50A Signal Mountai 100.41 329 IAMs_20 IAMs_20 10 36 48.6
comp=Z,1µm,21.0s
CPCT Cooper Cave 100.44 329 IAMs_20 IAMs_20 10 36 23.4
comp=Z,881nm,20.0s
V52A Sevierville 100.58 330 IAMs_20 IAMs_20 10 38 53.1
comp=Z,904nm,19.0s
SWET Sewanee 100.58 328 IAMs_20 IAMs_20 10 36 58.3
comp=Z,1µm,20.0s
S61A Accomac 100.58 337 IAMs_20 IAMs_20 10 32 38.1
comp=Z,942nm,22.0s
T57A Hurt 100.67 334 IAMs_20 IAMs_20 10 35 39.4
comp=Z,912nm,21.0s
V51A Loudon 100.73 330 IAMs_20 IAMs_20 10 35 26.2
comp=Z,1µm,22.0s
U54A Nelsons Funny 100.80 332 IAMs_20 IAMs_20 10 33 28.8
comp=Z,882nm,22.0s
TXAR Lajitas Array 100.80 312 P **Pdif** **09 49 33.4 -1.3**
TXAR Lajitas Array 100.80 312 P **Pdif** **09 49 35.9 +1.2**
comp=Z,0.4nm,1.0s,baz=165,slow=4.7,SNR=3.6
TXAR PKKP **PKKPdf** **10 05 52.0 +0.1**
comp=Z,0.2nm,0.7s,baz=242,slow=1.9,SNR=3.6
TXAR Lajitas Array 100.80 312 **Pdif** **09 49 33.4 -1.3**
BLA Blacksburg 101.13 333 IAMs_20 IAMs_20 10 33 14.7
comp=Z,1µm,22.0s
R61A Willards 101.15 337 IAMs_20 IAMs_20 10 35 60.0
comp=Z,742nm,18.0s
TZTN Tazewell 101.23 330 IAMs_20 IAMs_20 10 33 10.5
comp=Z,900nm,21.0s
V48A Smith Brothers 101.31 328 IAMs_20 IAMs_20 10 36 53.6
comp=Z,1µm,22.0s
S57A Dark Hollow, R 101.34 334 IAMs_20 IAMs_20 10 34 00.0
comp=Z,930nm,22.0s
T52A Hallie 101.63 331 IAMs_20 IAMs_20 10 37 26.0
comp=Z,869nm,22.0s
HDBT Hernando Brdge 101.66 325 IAMs_20 IAMs_20 10 26 53.8
comp=Z,1µm,21.0s
S54A Dingess, Beckl 101.90 332 IAMs_20 IAMs_20 10 34 52.0
comp=Z,990nm,22.0s
HALT Halls 102.16 326 IAMs_20 IAMs_20 10 35 48.2
comp=Z,820nm,22.0s
T49A Edmonton 102.26 329 IAMs_20 IAMs_20 10 36 48.8
comp=Z,1µm,22.0s
S51A Beattyville 102.29 331 IAMs_20 IAMs_20 10 34 23.3
comp=Z,899nm,21.0s
P61A Hammonton 102.35 338 IAMs_20 IAMs_20 10 37 42.7
comp=Z,818nm,20.0s
LNXT Lenox 102.38 326 IAMs_20 IAMs_20 10 38 02.0
comp=Z,746nm,19.0s
R53A Hurricane 102.55 332 IAMs_20 IAMs_20 10 35 02.3
comp=Z,1µm,22.0s
T47A Sharon Grove 102.56 328 IAMs_20 IAMs_20 10 35 34.7
comp=Z,1µm,22.0s
Q56A Snyder Ridge, 102.62 334 IAMs_20 IAMs_20 10 38 40.9
comp=Z,790nm,20.0s
P60A Greenville 102.64 337 IAMs_20 IAMs_20 10 39 51.4
comp=Z,767nm,19.0s
PVMO Portageville 102.73 326 IAMs_20 IAMs_20 10 39 12.3
comp=Z,716nm,19.0s
MVL Millersville 102.96 337 IAMs_20 IAMs_20 10 41 00.9
comp=Z,768nm,19.0s
DAMY Dhamar 102.98 83 IAMs_20 IAMs_20 10 36 52.4
comp=Z,1µm,19.0s
R50A Paris 103.08 330 IAMs_20 IAMs_20 10 34 38.2
comp=Z,975nm,22.0s
BRNJ Basking Ridge 103.28 338 IAMs_20 IAMs_20 10 40 38.4
comp=Z,843nm,19.0s
M65A Busby, Falmout 103.47 342 IAMs_20 IAMs_20 10 36 02.4
comp=Z,1µm,21.0s
PAL Palisades 103.48 339 IAMs_20 IAMs_20 10 38 45.6
comp=Z,1µm,21.0s
WCI Wyandotte Cave 103.52 329 IAMs_20 IAMs_20 10 37 27.0
comp=Z,1µm,22.0s
MNTX Cornudas Mount 103.57 311 IAMs_20 IAMs_20 10 32 23.9
comp=Z,777nm,20.0s
USIN University of 103.63 328 IAMs_20 IAMs_20 10 40 53.0
comp=Z,1µm,19.0s
N59A State Game Lan 103.73 338 IAMs_20 IAMs_20 10 39 34.4
comp=Z,818nm,20.0s
SIUC Southern Illin 103.82 326 IAMs_20 IAMs_20 10 41 52.0
comp=Z,752nm,20.0s
SSPA Standing Stone 103.88 336 IAMs_20 IAMs_20 10 34 41.3
comp=Z,841nm,22.0s
P51A Williamsport 103.91 332 IAMs_20 IAMs_20 10 35 21.2
comp=Z,1µm,21.0s
BRYW Bryant College 103.96 341 IAMs_20 IAMs_20 10 36 59.3
comp=Z,927nm,20.0s
EPT El Paso 104.06 311 IAMs_20 IAMs_20 10 34 35.8
comp=Z,800nm,18.0s
KSCT Kent School, K 104.10 340 IAMs_20 IAMs_20 10 36 35.1
comp=Z,1µm,21.0s
O52A Adamsville 104.23 333 IAMs_20 IAMs_20 10 36 14.7
comp=Z,919nm,22.0s
KSPA Keystone Colle 104.35 338 IAMs_20 IAMs_20 10 38 32.8
comp=Z,1µm,21.0s
WES Weston 104.39 341 IAMs_20 IAMs_20 10 37 01.5
comp=Z,1µm,21.0s
M57A Sunshine Farm, 104.40 337 IAMs_20 IAMs_20 10 41 20.1
comp=Z,815nm,19.0s
P48A Milroy 104.46 330 IAMs_20 IAMs_20 10 40 22.0
comp=Z,762nm,20.0s
OLIL Olney 104.47 328 IAMs_20 IAMs_20 10 38 28.2
comp=Z,1µm,20.0s
HRV Adam Dziewonsk 104.54 341 IAMs_20 IAMs_20 10 32 46.6
comp=Z,1µm,21.0s
MSTX Muleshoe 104.66 314 IAMs_20 IAMs_20 10 34 21.7
comp=Z,889nm,18.0s
N53A Lisbon 104.67 334 IAMs_20 IAMs_20 10 34 53.2
comp=Z,840nm,22.0s
CCM Cathedral Cave 104.70 325 IAMs_20 IAMs_20 10 40 03.5
comp=Z,701nm,19.0s
M56A Emporium 104.75 336 IAMs_20 IAMs_20 10 39 20.5
comp=Z,774nm,20.0s
319A Douglas 104.77 308 IAMs_20 IAMs_20 10 32 07.8
comp=Z,782nm,19.0s
K62A Royalston 104.81 341 IAMs_20 IAMs_20 10 38 02.7
comp=Z,997nm,21.0s
L59A Walton 104.83 338 IAMs_20 IAMs_20 10 39 38.4
comp=Z,838nm,20.0s
O49A Covington 104.88 331 IAMs_20 IAMs_20 10 36 20.1
comp=Z,975nm,22.0s
TRY Troy 105.11 340 IAMs_20 IAMs_20 10 36 29.8
comp=Z,1µm,22.0s
N51A Ashland 105.12 333 IAMs_20 IAMs_20 10 36 40.2
comp=Z,1µm,22.0s
L56A Greenwood 105.26 337 IAMs_20 IAMs_20 10 33 30.8
comp=Z,866nm,22.0s
M52A Chesterland 105.48 334 IAMs_20 IAMs_20 10 35 41.8
comp=Z,850nm,20.0s
FFD Franklin Falls 105.50 341 IAMs_20 IAMs_20 10 37 20.9
comp=Z,984nm,21.0s
K58A Earlville 105.50 338 IAMs_20 IAMs_20 10 37 57.0
comp=Z,938nm,21.0s
COEN Coen 105.53 190 IAMs_20 IAMs_20 10 37 23.8
comp=Z,792nm,19.0s
N49A Columbus Grove 105.54 331 IAMs_20 IAMs_20 10 35 47.5
comp=Z,1µm,22.0s
HAL Halifax 105.56 347 IAMs_20 IAMs_20 10 35 43.5
comp=Z,921nm,20.0s
WVNY West Valley, N 105.73 336 IAMs_20 IAMs_20 10 37 22.2
comp=Z,809nm,22.0s
M50A Fremont 105.73 332 IAMs_20 IAMs_20 10 36 38.5
comp=Z,1µm,22.0s
SFIN Lafayette 105.75 329 IAMs_20 IAMs_20 10 40 08.1
comp=Z,807nm,22.0s
HNH Hanover 105.83 341 IAMs_20 IAMs_20 10 38 04.7
comp=Z,1µm,21.0s
I62A Tamworth 105.84 342 IAMs_20 IAMs_20 10 37 10.0
comp=Z,902nm,21.0s
I63A Otisfield 105.90 342 IAMs_20 IAMs_20 10 38 21.5
comp=Z,1µm,20.0s
MMNY Mt. Morris Dam 105.90 336 IAMs_20 IAMs_20 10 34 45.8
comp=Z,1µm,22.0s
J58A Remsen 106.01 339 IAMs_20 IAMs_20 10 35 59.6
comp=Z,877nm,22.0s
TUC Tucson 106.19 307 IAMs_20 IAMs_20 10 32 29.3
comp=Z,836nm,20.0s
J57A Williamstown 106.19 338 IAMs_20 IAMs_20 10 36 54.3
comp=Z,964nm,22.0s
J56A Wolcott 106.22 337 IAMs_20 IAMs_20 10 38 56.2
comp=Z,896nm,21.0s
Y22D IRIS PASSCAL I 106.27 311 IAMs_20 IAMs_20 10 33 34.3
comp=Z,853nm,20.0s
LBNH Lisbon 106.29 341 IAMs_20 IAMs_20 10 36 25.9
comp=Z,767nm,19.0s
J55A Hilton 106.40 337 IAMs_20 IAMs_20 10 40 02.9
comp=Z,899nm,21.0s
MEDO Medina 106.43 336 IAMs_20 IAMs_20 10 34 27.7
comp=Z,933nm,22.0s
HDIL Hopedale 106.50 327 IAMs_20 IAMs_20 10 37 53.8
comp=Z,1µm,22.0s
VT1 Waterbury 106.51 341 IAMs_20 IAMs_20 10 38 35.6
comp=Z,1µm,20.0s
J54A Appleton 106.57 336 IAMs_20 IAMs_20 10 34 56.4
comp=Z,1µm,22.0s
G65A Princeton 106.59 345 IAMs_20 IAMs_20 10 35 09.9
comp=Z,1µm,22.0s
AAM Ann Arbor 106.73 332 IAMs_20 IAMs_20 10 37 17.8
comp=Z,1µm,22.0s
ANMO Albuquerque 106.87 312 IAMs_20 IAMs_20 10 34 14.3
comp=Z,850nm,21.0s
L46A Eue Claire 107.09 330 IAMs_20 IAMs_20 10 37 29.4
comp=Z,883nm,22.0s
LONY Lake Ozonia 107.10 339 IAMs_20 IAMs_20 10 36 14.5
comp=Z,1µm,22.0s
FRNY Flat Rock 107.14 340 IAMs_20 IAMs_20 10 41 10.5
comp=Z,748nm,20.0s
F63A Nahmakanta, Br 107.30 344 IAMs_20 IAMs_20 10 36 30.5
comp=Z,1µm,21.0s
F64A Sherman 107.35 344 IAMs_20 IAMs_20 10 35 56.9
comp=Z,1µm,20.0s
DELO Deloro Mine 107.56 337 IAMs_20 IAMs_20 10 39 27.7
comp=Z,799nm,21.0s
F62A Pittston Farm, 107.61 343 IAMs_20 IAMs_20 10 35 17.8
comp=Z,1µm,22.0s
L44A Lake County Fo 107.65 329 IAMs_20 IAMs_20 10 38 31.4
comp=Z,860nm,22.0s
J48A Bridge Port 107.70 332 IAMs_20 IAMs_20 10 38 07.6
comp=Z,856nm,20.0s
X18A Snowflake 107.82 309 IAMs_20 IAMs_20 10 33 25.5
comp=Z,868nm,20.0s
E63A Oxbow 107.91 344 IAMs_20 IAMs_20 10 36 01.7
comp=Z,1µm,22.0s
PLVO Plevna 107.96 338 IAMs_20 IAMs_20 10 37 58.3
comp=Z,957nm,22.0s
SADO Sadowa 108.11 336 IAMs_20 IAMs_20 10 35 03.1
comp=Z,954nm,22.0s
K43A Burlington 108.25 329 IAMs_20 IAMs_20 10 41 09.3
comp=Z,843nm,21.0s
X16A Lo Mia Camp, P 108.30 308 IAMs_20 IAMs_20 10 34 20.3
comp=Z,694nm,20.0s
J45A Montague 108.45 331 IAMs_20 IAMs_20 10 40 47.5
comp=Z,764nm,22.0s
I47A Gladwin 108.55 332 IAMs_20 IAMs_20 10 38 23.2
comp=Z,1µm,22.0s
D62A Allapoint, All 108.64 344 IAMs_20 IAMs_20 10 33 45.0
comp=Z,1µm,22.0s
BAR Barrett 108.90 303 IAMs_20 IAMs_20 10 30 41.3
comp=Z,707nm,20.0s
H48A Harrisville 108.93 333 IAMs_20 IAMs_20 10 36 12.0
comp=Z,778nm,22.0s
JFWS Jewell Farm 108.95 328 IAMs_20 IAMs_20 10 39 04.8
comp=Z,1µm,22.0s
I45A Fountain 108.98 331 IAMs_20 IAMs_20 10 38 32.5
comp=Z,1µm,22.0s
CLTB Caltabellotta 109.14 47 IAMs_20 IAMs_20 10 35 19.5
comp=Z,854nm,20.0s
KSCO Kaye Shedlock' 109.15 317 IAMs_20 IAMs_20 10 38 46.4
comp=Z,806nm,20.0s
GLMI Grayling 109.34 332 IAMs_20 IAMs_20 10 43 08.0
comp=Z,672nm,20.0s
I42A Draeger Farm, 109.51 329 IAMs_20 IAMs_20 10 41 55.6
comp=Z,809nm,21.0s
PMG Port Moresby 109.62 194 IAMs_20 IAMs_20 10 49 09.2
comp=Z,1µm,21.0s
MVCO Mesa Verde 109.64 312 IAMs_20 IAMs_20 10 35 53.5
comp=Z,918nm,20.0s
BGNE Belgrade 109.85 321 IAMs_20 IAMs_20 10 44 28.9
comp=Z,758nm,21.0s
D53A Lac Vacive, Po 110.05 338 IAMs_20 IAMs_20 10 39 24.4
comp=Z,1µm,22.0s
U15A North Rim 110.39 308 IAMs_20 IAMs_20 10 39 55.7
comp=Z,707nm,21.0s
PV18 Skein Mesa, Pa 110.70 312 IAMs_20 IAMs_20 10 36 36.7
comp=Z,1µm,22.0s
CEL Celeste 110.72 48 IAMs_20 IAMs_20 10 40 19.5
comp=Z,654nm,18.0s
E46A Sault Ste Mari 110.73 333 IAMs_20 IAMs_20 10 38 54.6
comp=Z,1µm,21.0s
PV14 Lion Creek, Pa 110.86 312 IAMs_20 IAMs_20 10 46 39.8
comp=Z,790nm,22.0s
PV21 Cone Mtn., Par 111.00 312 IAMs_20 IAMs_20 10 36 59.7
comp=Z,1µm,20.0s
F42A Maple Grove Fa 111.06 330 IAMs_20 IAMs_20 10 37 42.6
comp=Z,725nm,22.0s
RAYN Ar Rayn 111.13 80 IAMs_20 IAMs_20 10 46 08.4
comp=Z,958nm,21.0s
G40A Rib Lake 111.13 328 IAMs_20 IAMs_20 10 44 29.4
comp=Z,661nm,20.0s
E44A Grand Marais A 111.34 332 IAMs_20 IAMs_20 10 39 00.8
comp=Z,889nm,21.0s
SPMN Marine on St. 111.78 327 IAMs_20 IAMs_20 10 40 55.8
comp=Z,1µm,22.0s
D41A Chassel 112.39 330 IAMs_20 IAMs_20 10 43 25.6
comp=Z,898nm,21.0s
TPNV Topopah Spring 112.42 306 IAMs_20 IAMs_20 10 34 23.4
comp=Z,619nm,18.0s
PAOL Paolisi 112.68 46 IAMs_20 IAMs_20 10 39 05.3
comp=Z,647nm,20.0s
E38A The Farm, Brul 112.72 328 IAMs_20 IAMs_20 10 45 26.6
comp=Z,767nm,20.0s
SUSD Miller 112.85 322 IAMs_20 IAMs_20 10 41 07.3
comp=Z,771nm,21.0s
INTR Introdacqua 113.31 45 IAMs_20 IAMs_20 10 38 40.9
comp=Z,747nm,18.0s
AQU L'Aquila 113.44 44 IAMs_20 IAMs_20 10 36 35.3
comp=Z,1µm,20.0s

DUG	Dugway, Tooele	113.87	310	IAMs_20	IAMs_20	10 47 39.7	
	comp=Z,658nm,19.0s						
TPI	Tanjungpandan	113.92	152	P	Pdif	09 50 48.0	+15
EYMN	Ely	113.95	329	IAMs_20	IAMs_20	10 43 36.0	
	comp=Z,726nm,20.0s						
RSSD	Black Hills	114.19	318	IAMs_20	IAMs_20	10 46 57.7	
	comp=Z,650nm,21.0s						
NVAR	Mina Array Bea	114.52	305	PKP	PKiKP	09 54 26.3	+0.4
	comp=Z,0.3nm,0.5s,baz=132,slow=1.3,SNR=3.1						
BW06	Boulder Array	114.90	314	IAMs_20	IAMs_20	10 41 22.8	
	comp=Z,830nm,19.0s						
PDAR	Pinedale Array	114.90	314	PKP	PKPdf	09 54 25.3	-1.2
	comp=Z,0.2nm,0.4s,baz=164,slow=3.6,SNR=2.5						
ELK	Elko	115.28	308	IAMs_20	IAMs_20	10 37 31.1	
	comp=Z,687nm,20.0s						
AGMN	Agassiz Nation	115.44	326	IAMs_20	IAMs_20	10 44 01.7	
	comp=Z,863nm,21.0s						
AHID	Auburn Hatcher	115.46	313	IAMs_20	IAMs_20	10 41 38.6	
	comp=Z,922nm,20.0s						
RUBR	Rubicon Trail	115.81	304	IAMs_20	IAMs_20	10 47 07.2	
	comp=Z,657nm,21.0s						
REDW	Red Top Meadow	115.89	313	IAMs_20	IAMs_20	10 42 10.9	
	comp=Z,741nm,18.0s						
SNOW	Snow King Moun	115.94	313	IAMs_20	IAMs_20	10 41 42.3	
	comp=Z,693nm,18.0s						
TPAW	Teton Pass	116.03	313	IAMs_20	IAMs_20	10 41 44.8	
	comp=Z,815nm,20.0s						
MDND	Maddock	116.12	323	IAMs_20	IAMs_20	10 49 04.6	
	comp=Z,774nm,20.0s						
MOOW	Moose Ponds	116.18	313	IAMs_20	IAMs_20	10 41 59.7	
	comp=Z,686nm,21.0s						
IMW	Indian Meadow	116.38	313	IAMs_20	IAMs_20	10 42 08.0	
	comp=Z,779nm,20.0s						
FLWY	Flagg Ranch	116.46	314	IAMs_20	IAMs_20	10 40 52.0	
	comp=Z,748nm,20.0s						
H17A	Grant Village	116.68	314	IAMs_20	IAMs_20	10 39 53.9	
	comp=Z,1μm,21.0s						
LKWY	Lake	116.77	314	IAMs_20	IAMs_20	10 45 32.2	
	comp=Z,901nm,19.0s						
LAO	LASA Array	117.17	318		PKiKP	09 54 30.7	+0.2
ULM	Lac du Bonnet	117.22	327	IAMs_20	IAMs_20	10 47 08.6	
	comp=Z,868nm,20.0s						
WVOR	Wild Horse Val	118.05	307	IAMs_20	IAMs_20	10 44 17.5	
	comp=Z,601nm,19.0s						
BOZ	Bozeman (W)	118.10	314	IAMs_20	IAMs_20	10 40 36.4	
	comp=Z,630nm,21.0s						
BRTR	Keskin Array B	119.13	60	PKP	PKPdf	09 54 33.1	-1.5
	comp=Z,1.1nm,0.6s,baz=186,slow=3.8,SNR=5.4						
BRTR	Keskin Array B	119.13	60		PKPdf	09 54 33.4	-1.2
GERES	GERESS Array B	119.23	41	PKP	PKPdf	09 54 32.8	-1.6
	comp=Z,1.9nm,0.7s,baz=202,slow=1.4,SNR=9.7						
BMO	Blue Mountains	119.57	309	IAMs_20	IAMs_20	10 51 43.6	
	comp=Z,574nm,20.0s						
F10A	Beach Ranch, E	120.48	310		PKiKP	09 54 38.3	+1.3
G08A	Pilot Rock	120.58	309	IAMs_20	IAMs_20	10 51 29.2	
	comp=Z,693nm,22.0s						
VYHS	Vyhne	120.66	45	*e*PKIKP	PKPdf	09 54 36.6	-0.5
VYHS	Vyhne	120.66	45	*e*PKP	PKPdf	09 54 36.6	-0.5
CLL	Collm	121.14	39	*e*PKIKP	PKPdf	09 54 37.0	-0.8
CLL				*i*		09 54 43.8	
CLL				MLR	MLR		
	comp=Z,600nm,19.6s						
CLL	Collm	121.14	39	*e*PKiKP	PKPdf	09 54 37.0	-0.8
CLL				*i*		09 54 43.8	
CLL				Lm	MLR	10 42 00.0	
	comp=Z,600nm,19.6s						
UZH	Uzhgorod	122.01	47⇑	*i*PKIKP	PKiKP	09 54 42.0	+2.2
FFC	Flin Flon	122.91	325	IAMs_20	IAMs_20	10 47 52.1	
	comp=Z,762nm,21.0s						
B08A	Colville Reser	123.27	310		PKPdf	09 54 42.0	-0.1
GNI	Garni	124.45	68	IAMs_20	IAMs_20	11 00 13.9	
	comp=Z,948nm,21.0s						
AKASG	Malin Array Be	126.28	50	PKP	PKPdf	09 54 46.0	-1.7
	comp=Z,3.1nm,0.6s,baz=240,slow=2.3,SNR=7.4						
AKBB	Malin Array Si	126.28	50	PKIKP	PKPdf	09 54 47.3	-0.4
AKBB	Malin Array Si	126.28	50		PKPdf	09 54 47.3	-0.4
KBZ	Khabaz	126.44	64	PKP	PKPdf	09 54 47.2	-1.0
	comp=Z,3.4nm,0.9s,baz=106,slow=3.1,SNR=5.1						
HRA	Herat	128.32	86		PKPdf	09 54 51.5	-1.0
HFS	Hagfors	128.87	34	PKP	PKPdf	09 54 50.7	-1.7
	comp=Z,1.7nm,0.6s,baz=134,slow=4.2,SNR=6.5						
NOA	NORSAR Array B	128.96	32	PKP	PKPdf	09 54 51.6	-1.0
	comp=Z,4.8nm,1.1s,baz=212,slow=2.1,SNR=3.0						
VSR	Storozhevoye	130.62	56	*e*PKIKP	PKPdf	09 54 53.1	-2.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CMAR	Chiang Mai Arr	131.43	134	PKP	PKPdf	09 54 58.3	-0.3
	comp=Z,1.0nm,0.3s,baz=219,slow=3.6,SNR=5.6						
LPSR	Galich'ya Gora	131.57	54	*e*PKIKP	PKPdf	09 54 56.2	-1.5
LPSR				pmax	pmax		
	comp=Z,20nm,1.2s						
VRH	Novokhopyorsk	131.67	57	*e*PKIKP	PKPdf	09 54 54.7	-3.2
VRH				pmax	pmax		
	comp=Z,30nm,1.6s						
OBN	Obninsk	132.52	51⇓	*i*PKIKP	PKiKP	09 55 02.8	+2.3
OBN						10 02 04.0	
OBN				SS	SS	10 15 22.0	+18
OBN				pmax	pmax		
	comp=Z,37nm,1.1s						
OBN				MLR	MLR		
	comp=Z,309nm,17.0s						
SUMG	Summit	132.77	3	*i* PKIKP	PKPdf	09 55 00.0	0.0
SUMG				pmax	pmax		
	comp=Z,39nm,1.1s						
SUMG	Summit	132.77	3	*i* P	PKPdf	09 55 00.0	0.0
	comp=Z,39nm,1.1s						
SUMG	Summit	132.77	3		PKPdf	09 55 00.2	+0.2
YKA	Yellowknife Ar	133.03	324	PKP	PKPdf	09 55 00.6	+0.4
	comp=Z,2.4nm,0.6s,baz=146,slow=2.0,SNR=8.2						
YKA	Yellowknife Ar	133.03	324		PKPdf	09 55 00.5	+0.3
FINES	FINESS Array B	133.59	39	PKhKP	PKPpre	09 54 52.0	
	comp=Z,4.7nm,1.0s,baz=205,slow=8.4,SNR=3.6						
FINES				PKP	PKPdf	09 54 59.7	-1.6
	comp=Z,5.5nm,0.7s,baz=132,slow=2.1,SNR=8.9						
FINES				SKPbc	SKPbc	09 58 27.0	-2.5
	comp=Z,6.9nm,1.1s,baz=222,slow=1.9,SNR=3.5						
TULEG	Thule	137.37	352		PKiKP	09 55 09.2	-0.6
KLMR	Klimovskoe	137.71	47	*e*PKIKP	PKPdf	09 55 09.8	+0.9
KLMR				pmax	pmax		
	comp=Z,31nm,1.5s						
KLMR	Klimovskoe	137.71	47	*e*	PKPdf	09 55 09.8	+0.9
KLMR				AMP		09 55 23.0	
	comp=Z,31nm,1.5s						
DAG	Danmarks Havn	138.00	9	*i* PKIKP	PKPdf	09 55 07.3	-1.8
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAG	Danmarks Havn	138.00	9	*i* P	PKPdf	09 55 07.3	-1.8
	comp=Z,3.7nm,0.9s						
KMI	Kunming	138.91	135	PKP	PKPdf	09 55 12.1	-0.5
KK31	Karatay Array	139.13	86	PKIKP	PKPdf	09 55 10.8	-1.4
KK31	Karatay Array	139.13	86	PKPdf	PKPdf	09 55 10.8	-1.4
KKAR	Karatay Array	139.13	86	PKIKP	PKPdf	09 55 10.7	-1.5
KKAR	Karatay Array	139.13	86		PKPdf	09 55 10.7	-1.5
ARCES	ARCESS Array B	139.31	31	PKhKP	PKPpre	09 55 01.4	
	comp=Z,3.5nm,0.7s,baz=188,slow=2.5,SNR=9.1						
AAK	Ala-Archa	140.77	89	PKhKP	PKPdf	09 55 11.2	-4.2
	comp=Z,4.1nm,0.6s,baz=290,slow=4.3,SNR=7.0						
CTGM	Chitina Glacie	141.06	309	IAMs_20	IAMs_20	11 10 19.9	
	comp=Z,712nm,19.0s						
BOOM	Boomskoye usch	141.38	91	PKIKP	PKPdf	09 55 14.9	-1.6
BOOM	Boomskoye usch	141.38	91		PKPdf	09 55 14.9	-1.6
GYA	Guiyang	141.47	140	PKP	PKiKP	09 55 20.3	+0.4
GYA				AMB	AMB		
	comp=Z,130nm,7.8s						
GLB	Gilahina Butte	142.30	309	IAMs_20	IAMs_20	10 49 45.8	
	comp=Z,705nm,19.0s						
ARU	Arti	142.50	62	PKIKP	PKPdf	09 55 13.1	-4.7
ARU	Arti	142.50	62	PKhKP	PKPdf	09 55 11.6	-6.1
	comp=Z,1.4nm,0.3s,baz=222,slow=4.8,SNR=8.1						
INK	Inuvik	142.73	322	PKhKP	PKPdf	09 55 11.6	-6.2
	comp=Z,3.8nm,0.8s,baz=88,slow=1.0,SNR=7.3						
MENT	Mentasta	143.14	311	IAMs_20	IAMs_20	11 09 47.8	
	comp=Z,664nm,20.0s						
GLI	Glacier Island	143.27	306	IAMs_20	IAMs_20	11 08 49.4	
	comp=Z,668nm,20.0s						
SPITS	Spitsbergen Ar	143.35	18	PKP	PKPbc	09 55 16.3	+0.3
	comp=Z,20nm,0.9s,baz=214,slow=4.2,SNR=3.6						
SVE	Sverdlovsk	143.65	62	*e*PKIKP	PKPbc	09 55 18.4	+1.0
SVE				pmax	pmax		
	comp=Z,37nm,1.6s						
PAX	Paxson	143.82	310	PKIKP	PKPbc	09 55 17.8	0.0
PAX	Paxson	143.82	310		PKPbc	09 55 17.8	-0.1
SCM	Sheep Creek Mo	143.90	308	IAMs_20	IAMs_20	10 58 22.2	
	comp=Z,770nm,22.0s						
SML	Sawmill	144.28	307		PKPab	09 55 19.1	+0.3
SML				IAMs_20	IAMs_20	11 03 58.3	
	comp=Z,736nm,20.0s						
PMR	Palmer	144.48	307	PKIKP	PKPab	09 55 19.5	0.0
PMR	Palmer	144.48	307		PKPab	09 55 19.5	0.0
GHO	Glory Hole Cre	144.50	307		PKPab	09 55 19.6	-0.1
GHO				IAMs_20	IAMs_20	11 00 37.0	
	comp=Z,655nm,20.0s						
CD2	Chengdu	144.54	133	PKP	PKPdf	09 55 22.3	0.0
DHY	Denali Highway	144.60	309	IAMs_20	IAMs_20	10 42 53.6	
	comp=Z,674nm,20.0s						
HDA	Harding Lake	145.15	312		PKPbc	09 55 21.4	-0.5
PRP	Porcupine Dome	145.20	314		PKPbc	09 55 21.4	-0.8
IL31		145.31	312		PKPbc	09 55 21.6	-0.6
ILAR	Eielson Array	145.31	312	PKIKP	PKPbc	09 55 21.0	-1.4
ILAR	Eielson Array	145.31	312	PKPbc	PKPbc	09 55 21.5	-0.9
	comp=Z,18nm,0.8s,baz=151,slow=3.1,SNR=126						
ILAR	Eielson Array	145.31	312		PKPbc	09 55 21.0	-1.4
RSO	Redoubt South	145.34	303		PKPbc	09 55 22.4	-0.4
RND	Reindeer	145.35	309	PKIKP	PKPbc	09 55 22.6	0.0
RND	Reindeer	145.35	309		PKPbc	09 55 22.6	0.0
CCB	Clear Creek Bu	145.59	312		PKPdf	09 55 21.2	-1.7
WRH	Wood River Hil	145.61	311		PKPdf	09 55 21.6	-1.4
FYU	Fort Yukon	145.63	316		PKPdf	09 55 22.5	-0.4
BRVK	Borovoye	145.80	73	PKP2	PKPdf	09 55 23.3	-0.4
BRVK				MLR	MLR		
	comp=Z,2μm,18.0s						
BRVK	Borovoye	145.80	73		PKPdf	09 55 23.3	-0.4
BVAR	Borovoye Array	145.83	74	PKP2	PKPdf	09 55 24.0	+0.3
BVAR	Borovoye Array	145.83	74	PKPbc	PKPdf	09 55 24.0	+0.3
	comp=Z,18nm,0.6s,baz=232,slow=3.3,SNR=74						
ENH	Enshi	145.91	141		PKPdf	09 55 23.9	-0.8
TRF	Thorofare Moun	145.93	309		PKPdf	09 55 23.7	-0.1
PPLA	Purkeypile	146.39	307		PKPab	09 55 27.4	+0.6
BPAW	Bear Paw Mtn.	146.52	310		PKPdf	09 55 24.9	+0.3
CAST	Castle Rocks	146.61	308	IAMs_20	IAMs_20	10 42 12.7	
	comp=Z,532nm,19.0s						
MLY	Manley	146.87	311		PKPbc	09 55 26.4	-0.7
MAKZ	Makanchi	147.47	91	PKP2	PKPdf	09 55 27.2	+0.5
MAKZ	Makanchi	147.47	91		PKPdf	09 55 27.2	+0.5
WHN	Wuhan	147.56	148	PKPbc	PKPdf	09 55 27.5	+0.1
MK31	Makanchi Array	147.62	91	PKP2	PKPdf	09 55 28.3	+1.3
MK31	Makanchi Array	147.62	91		PKPdf	09 55 28.3	+1.3
MKAR	Makanchi Array	147.62	91	PKPbc	PKPdf	09 55 28.4	+1.4
	comp=Z,9.3nm,0.7s,baz=241,slow=2.5,SNR=34						
COLD	Coldfoot	147.67	315		PKPbc	09 55 28.2	-1.0
TTA	Tatalina	147.93	306	PKP2	PKPbc	09 55 28.9	-1.2
TTA	Tatalina	147.93	306		PKPbc	09 55 28.9	-1.2
WMQ	Urumqi	148.17	100	*e*PKPbc	PKPdf	09 55 28.9	+0.8
KURBB	Kurchatov Arra	148.29	83	PKPbc	PKPbc	09 55 30.5	-0.8
	comp=Z,5.9nm,0.8s,baz=235,slow=3.0,SNR=15						
KURK	Kurchatov	148.40	83	PKIKP	PKPdf	09 55 27.8	-0.3
KURK	Kurchatov	148.40	83		PKPdf	09 55 27.8	-0.3
LZH	Lanzhou	149.19	129	*e*PKPbc	PKPdf	09 55 31.4	+1.3
LZH				pPKP	sPKPdf	09 55 34.6	+0.3
LZH				sPKP		09 55 36.0	
LZH				PKPab	sPKPab	09 55 42.8	-0.2
LZH				LR	LR		
	comp=Z,170nm,18.0s						
LZH				LR	LR		
	comp=Z,190nm,20.1s						
XAN	Xi'an	149.19	138	PKPbc	PKPbc	09 55 32.8	-1.5
XAN				pPKP	PKiKP	09 55 35.9	+0.4
XAN	Xi'an	149.19	138	PKIKP	PKPdf	09 55 31.7	+1.7
XAN	Xi'an	149.19	138		PKPdf	09 55 31.7	+1.7
NJ2	Nanjing	150.08	155	*e*PKPbc	PKPdf	09 55 32.3	+0.9
GTA	Gaotai	150.36	120	*e*PKPbc	PKPdf	09 55 29.8	-2.0
GTA				PKPab	PKPab	09 55 43.4	-0.1
ADK	Adak	151.60	275	PKIKP	PKPbc	09 55 38.0	-1.3
ADK	Adak	151.60	275		PKPbc	09 55 38.0	-1.3
JNU	Nakatsue	152.70	175	PKPbc	PKPbc	09 55 41.0	-1.5
	comp=Z,8.8nm,0.8s,baz=222,slow=5.3,SNR=6.6						
JNU	Nakatsue	152.70	175		PKPdf	09 55 35.6	+0.2
ZALV	Zalesovo Beam	153.38	82	PKPbc	PKPbc	09 55 41.1	-2.1
	comp=Z,2.6nm,0.7s,baz=228,slow=3.5,SNR=6.5						
BTO	Baotou	155.47	133	*e*P	PKPab	09 56 04.1	-0.8
MJAR	Matsushiro Arr	155.97	189	PKIKP	PKPdf	09 55 39.2	-0.7
MJAR	Matsushiro Arr	155.97	189	PKPbc	PKPbc	09 55 51.5	
	comp=Z,1.1nm,0.7s,baz=188,slow=3.3,SNR=3.6						
MJAR				PKPab	PKPab	09 56 06.5	-0.5
	comp=Z,1.6nm,0.7s,baz=168,slow=4.8,SNR=5.1						
MJAR	Matsushiro Arr	155.97	189		PKPdf	09 55 39.2	-0.7
MJAR					PKPab	09 56 07.7	+0.6
HHC	Hu-ho-hao-te	156.24	135	*e*PKP	PKPdf	09 55 42.3	+2.1
KSRS	Korea Array	156.81	169	PKP	PKPdf	09 55 44.2	+3.4
	comp=Z,1.9nm,0.9s,baz=212,slow=1.7,SNR=6.2						
KSRS				PKPab	PKPab	09 56 10.1	-0.4
	comp=Z,2.7nm,0.9s,baz=174,slow=2.5,SNR=3.3						
SONM	Songino Array	159.95	117	PKP	PKPdf	09 55 43.7	-0.8
	comp=Z,0.4nm,0.6s,baz=338,slow=1.6,SNR=4.1						
SONM				PKPab	PKPab	09 56 22.8	-1.3
	comp=Z,3.4nm,0.9s,baz=220,slow=3.3,SNR=9.2						
SONM	Songino Array	159.95	117		PKPdf	09 55 42.8	-1.7
CN2	Changchun	162.72	160	*e*PKP	PKPdf	09 55 44.3	-3.1
USRK	Ussuriysk Ar.	163.79	176	PKPab	PKPab	09 56 40.4	-0.4
	comp=Z,2.2nm,0.8s,baz=212,slow=5.1,SNR=6.5						
BILL	Bilibino	163.98	312⇓	*i*PKIKP	PKPdf	09 55 47.8	0.0
BILL						09 55 53.0	
BILL				*i*		09 56 40.9	
BILL				*e*		10 00 31.2	
BILL				pmax	pmax		
	comp=Z,11nm,1.5s						
BILL				pmax	pmax		
	comp=Z,13nm,1.3s						
BILL	Bilibino	163.98	312		PKPab	09 56 41.0	-0.1
PETK	Petropavlovsk-	164.93	252	PKPab	PKPab	09 56 47.9	+2.2
	comp=Z,3.8nm,0.8s,baz=120,slow=5.8,SNR=3.6						
TIXI	Tiksi	168.51	7	PKPab	PKPab	09 56 59.8	-1.2
	comp=Z,2.1nm,0.6s,baz=13,slow=2.5,SNR=5.6						
TIXI	Tiksi	168.51	7		PKPab	09 57 00.2	-0.7
BOD	Bodaibo	169.67	96	*e*PKIKP	PKPdf	09 55 49.6	-2.8
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SEY	Seymchan	170.65	294	PKPab	PKPab	09 57 11.5	+0.8
	comp=Z,3.2nm,0.3s,baz=28,slow=19,SNR=13						

ISCJB ***16*** *09:42:16.7±0.5, 60°.40S±0°.07×46°.6W±0°.1, h10km, mb4.1/7, Error ellipse: s-maj=10.4km s-min=8.5km az=135.3*
IDC ***16*** *09:42:17.3±0.8, 60°.31S×46°.42W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/22, mbtmp4.2/8, ML3.8/1, Error ellipse: s-maj=28.2km s-min=21.2km az=63.0*
NEIC ***16*** *09:42:18.4±1.6, 60°.33S±0°.09×46°.4W±0°.2, h10km±1km, mb4.6/17*

ISC 16 09:42:18.6±0.5, **60°.31S**±0°.08×**46°.47W**±0°.08, **h10**km, **n35**, σ1$**20**/37, **mb4.5**/10, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.10	46		Pn	09 44 15.1	-1.0
PMSA	Palmer Station	9.25	234	Pn	Pn	09 44 31.9	0.0
	1.0nm,0.3s,baz=49,slow=11,SNR=5.1						
PMSA				Sn	Sn	09 46 15.2	-0.7
	0.8nm,0.3s,baz=287,slow=24,SNR=7.0						
PMSA	Palmer Station	9.25	234		Pn	09 44 31.4	-0.5
PMSA					Sn	09 46 14.5	-1.3
SNAA	Sanae	20.49	141	P	P	09 46 57.6	+1.4
	14nm,1.0s,baz=283,slow=9.5,SNR=8.2						
SNAA	Sanae	20.49	141	P	P	09 46 55.4	-0.9
TRQA	Tornquist	24.35	329	P	P	09 47 35.5	-0.9
PLCA	Paso Flores	24.62	312	P	P	09 47 39.4	+0.5
	2.4nm,0.6s,baz=177,slow=9.2,SNR=9.0						
PLCA	Paso Flores	24.62	312	P	P	09 47 39.1	+0.1
PLCA				IAmb	IAmb	09 47 52.8	
	comp=Z,14nm,1.2s						
GO06	Curarrehue	25.96	312	P	P	09 47 51.0	-0.1
QSPA	South Pole Qui	29.92	180	P	P	09 48 27.6	+1.2
	comp=Z,9.2nm,1.2s,baz=141,slow=5.5,SNR=3.9						
QSPA	South Pole Qui	29.92	180	P	P	09 48 26.2	-0.2
CPUP	Villa Florida	34.78	343	P	P	09 49 10.0	+1.0
	comp=Z,1.2nm,0.7s,baz=173,slow=8.3,SNR=3.3						
CPUP	Villa Florida	34.78	343	P	P	09 49 08.1	-1.0
CPUP				IAmb	IAmb	09 49 08.8	
	comp=Z,12nm,1.4s						
MNMC	Minye Minye	44.33	328	P	P	09 50 31.0	+2.1
MNMC				IAmb	IAmb	09 50 48.5	
	comp=Z,7.8nm,0.8s						
BDFB	Brasilia	44.62	358	P	P	09 50 28.2	-2.9
BDFB				IAmb	IAmb	09 50 42.5	
	comp=Z,14nm,1.4s						
LPAZ	La Paz	46.68	331	P	P	09 50 50.9	+2.9
SUR	Sutherland	51.33	89	P	P	09 51 24.8	+1.8
SAML	Samuel	52.77	339	P	P	09 51 35.1	+1.5
SAML				IAmb	IAmb	09 51 35.9	
	comp=Z,3.6nm,0.6s						
BOSA	Boshof	56.60	90	P	P	09 52 01.2	-0.3
	comp=Z,5.1nm,1.0s,baz=233,slow=5.1,SNR=3.1						
BOSA	Boshof	56.60	90	P	P	09 52 00.8	-0.7
PAYG	Puerto Ayora	68.33	312	P	P	09 53 19.3	-0.5
LSZ	Lusaka	69.26	84	P	P	09 53 24.9	-0.9
OXZ	Oxford	72.02	209	P	P	09 53 42.1	0.0
TOA0	Torodi Ar. Sit	82.68	47	P	P	09 54 42.3	+0.2
TOA0				IAmb	IAmb	09 54 43.8	
	comp=Z,3.9nm,0.9s						
TORD	Torodi Ar. Bea	82.68	47	P	P	09 54 42.6	+0.5
	comp=Z,2.2nm,0.8s,baz=197,slow=4.5,SNR=10						
TORD	Torodi Ar. Bea	82.68	47	P	P	09 54 41.5	-0.6
ASAR	Alice Springs	96.33	180	P	P	09 55 46.9	-0.5
	comp=Z,0.5nm,0.8s,baz=193,slow=3.8,SNR=3.5						
WRA	Warramunga Arr	100.03	181	P	Pdif	09 56 02.3	-1.7
	comp=Z,0.4nm,0.8s,baz=189,slow=4.3,SNR=3.3						
IL31		145.30	312		PKPbc	10 01 54.9	+0.3
ILAR	Eielson Array	145.30	312	PKPbc	PKPbc	10 01 54.6	-0.1
	comp=Z,2.8nm,0.8s,baz=143,slow=1.6,SNR=20						
RND	Reindeer	145.34	309		PKPbc	10 01 55.0	+0.1
CCB	Clear Creek Bu	145.58	312		PKPdf	10 01 55.9	+0.6
WRH	Wood River Hil	145.60	311		PKPdf	10 01 56.3	+1.0
MKAR	Makanchi Array	147.60	91	PKPbc	PKPdf	10 02 00.9	+1.6
	comp=Z,1.6nm,0.7s,baz=239,slow=2.4,SNR=8.8						
MKAR	Makanchi Array	147.60	91		PKPdf	10 02 00.8	+1.5

ISCJB ***16*** *09:51:23.9±0.4, 60°.29S±0°.05×46°.3W±0°.1, h10km, mb4.2/7, Error ellipse: s-maj=8.4km s-min=7.5km az=22.6*
IDC ***16*** *09:51:24.1±0.7, 60°.36S×46°.36W, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx3.3/20, Error ellipse: s-maj=26.8km s-min=18.2km az=64.0*
NEIC ***16*** *09:51:25.4±1.1, 60°.36S±0°.07×46°.2W±0°.1, h10km±1km, mb4.7/16*

ISC 16 09:51:25.6±0.4, **60°.30S**±0°.07×**46°.40W**±0°.07, **h10**km, **n56**, σ1$**02**/59, **mb4.5**/13, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.07	46		Pn	09 53 21.7	-1.0
HOPE				Sn	Sn	09 54 53.1	-0.7
PMSA	Palmer Station	9.29	234	Pn	Pn	09 53 39.2	-0.2
	0.8nm,0.3s,baz=49,slow=10,SNR=9.4						
PMSA				Sn	Sn	09 55 20.7	-3.0
	0.1nm,0.3s,baz=124,slow=18,SNR=2.4						
PMSA	Palmer Station	9.29	234		Pn	09 53 39.8	+0.5
PMSA				Sn	Sn	09 55 24.8	+1.0
VNA3	Neumayer Olymp	18.26	142	P	P	09 55 40.0	+1.1
VNA1	Neumayer--Stat	18.53	140	P	Pn	09 55 43.1	+1.1
VNA2	Neumayer--Watz	18.88	140	P	Pn	09 55 47.6	+1.3
	baz=293,slow=13						
SNAA	Sanae	20.48	141	P	Pn	09 56 04.6	-0.7
SNAA	Sanae	20.48	141	P	P	09 56 03.6	+0.4
	33nm,1.2s,baz=283,slow=7.6,SNR=14						
SNAA				LR	LR	10 01 08.9	
	comp=Z,132nm,21.3s,baz=190,slow=29						
SNAA	Sanae	20.48	141		P	09 56 03.6	+0.4
SNAA				IAmb	IAmb	09 56 10.7	
	comp=Z,82nm,1.4s						
TRQA	Tornquist	24.35	329	P	P	09 56 45.1	+1.6
TRQA				IAmb	IAmb	09 56 49.4	
	comp=Z,26nm,1.4s						
PLCA	Paso Flores	24.63	312	P	P	09 56 45.9	-0.2
	comp=Z,4.7nm,1.1s,baz=165,slow=7.9,SNR=5.3						
PLCA	Paso Flores	24.63	312	P	P	09 56 46.5	+0.5
QSPA	South Pole Qui	29.94	180	P	P	09 57 34.2	+0.7
	comp=Z,

ellipse: s-maj=27.1km s-min=18.4km az=67.0
*NEIC **16** 09:56:09.8±1.8, 60°.30S±0°.09×46°.2W±0°.1, h10km±1km, mb4.6/16*
ISC 16 09:56:09.6±0.5, **60°.40S**±0°.09×**46°.15W**±0°.10, **h10**km, **n49**, σ1§**01**/45, **mb4.4**/14, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.05**	**45**		**Pn**	**09 58 05.7**	**-0.7**
PMSA	**Palmer Station**	**9.33**	**234**	Pn	**Pn**	**09 58 23.9**	**0.0**
	1.9nm,0.3s,baz=61,slow=10,SNR=16						
PMSA	**Palmer Station**	**9.33**	**234**		**Pn**	**09 58 23.8**	**-0.2**
SNAA	**Sanae**	**20.32**	**141**	P	Pn	10 00 50.3	+2.8
	11nm,0.9s,baz=285,slow=11,SNR=12						
SNAA	**Sanae**	**20.32**	**141**	P	Pn	10 00 48.1	+0.6
SNAA				IAmb	IAmb	10 00 55.1	
	comp=Z,43nm,1.4s						
TRQA	**Tornquist**	**24.50**	**329**	P	**P**	**10 01 29.7**	**+0.8**
TRQA				IAmb	IAmb	10 01 32.0	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**24.79**	**312**	P	**P**	**10 01 30.6**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=177,slow=8.1,SNR=6.3						
PLCA	**Paso Flores**	**24.79**	**312**	P	**P**	**10 01 31.1**	**-0.5**
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**10 02 18.7**	**+2.0**
	comp=Z,8.7nm,0.9s,baz=172,slow=5.9,SNR=13						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**10 02 17.0**	**+0.2**
QSPA				IAmb	IAmb	10 02 20.5	
	comp=Z,13nm,1.1s						
CPUP	**Villa Florida**	**34.91**	**342**	P	**P**	**10 03 02.1**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=157,slow=8.3,SNR=4.8						
SBA	**Scott Base**	**40.53**	**190**	P	**P**	**10 03 48.2**	**0.0**
LVC	**Limon Verde**	**40.98**	**327**	P	**P**	**10 03 52.2**	**-0.7**
LVC				IAmb	IAmb	10 04 01.4	
	comp=Z,9.4nm,1.1s						
MNMC	**Minye Minye**	**44.48**	**328**	P	**P**	**10 04 20.6**	**-0.6**
MNMC				IAmb	IAmb	10 04 27.7	
	comp=Z,6.4nm,0.7s						
SIV	**San Ignacio**	**45.65**	**340**	P	**P**	**10 04 30.4**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=174,slow=8.3,SNR=13						
LPAZ	**La Paz**	**46.83**	**330**	P	**P**	**10 04 41.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=163,slow=6.2,SNR=5.2						
LPAZ	**La Paz**	**46.83**	**330**	P	**P**	**10 04 39.0**	**-1.2**
SAML	**Samuel**	**52.90**	**339**	P	**P**	**10 05 24.1**	**-1.5**
SAML				IAmb	IAmb	10 05 27.1	
	comp=Z,3.3nm,0.6s						
BOSA	**Boshof**	**56.45**	**90**	P	**P**	**10 05 52.1**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=231,slow=6.5,SNR=3.5						
BOSA	**Boshof**	**56.45**	**90**	P	**P**	**10 05 51.9**	**+0.4**
H10N3	**ASCENSION HYDR**	**57.56**	**38**	T	T	11 08 46.2	
	baz=199,slow=75,SNR=23						
H10N1	**ASCENSION HYDR**	**57.56**	**38**	T	T	11 08 46.4	
	baz=199,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**57.58**	**38**	T	T	11 08 47.5	
	baz=199,slow=75,SNR=18						
LBTB	**Lobatse**	**59.60**	**87**	P	**P**	**10 06 14.4**	**+0.9**
OTAV	**Otavalo**	**65.41**	**324**	P	**P**	**10 06 55.4**	**+2.5**
OTAV				IAmb	IAmb	10 06 56.4	
	comp=Z,5.3nm,1.1s						
LSZ	**Lusaka**	**69.11**	**84**	P	**P**	**10 07 16.3**	**+0.3**
LSZ				IAmb	IAmb	10 07 18.3	
	comp=Z,4.5nm,0.8s						
ABVI	**Anegada Island**	**80.21**	**343**	P	**P**	**10 08 19.5**	**-0.4**
TGUH	**Tegucigalpa,Un**	**81.17**	**320**	P	**P**	**10 08 25.3**	**0.0**
TORD	**Torodi Ar. Bea**	**82.62**	**47**	P	**P**	**10 08 33.7**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=210,slow=5.8,SNR=8.8						
TORD	**Torodi Ar. Bea**	**82.62**	**47**	P	**P**	**10 08 32.3**	**-0.6**
ASAR	**Alice Springs**	**96.24**	**180**	P	**P**	**10 09 37.1**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=171,slow=4.5,SNR=4.9						
ASAR	**Alice Springs**	**96.24**	**180**	P	**P**	**10 09 37.4**	**-0.7**
WRA	**Warramunga Arr**	**99.95**	**180**	P	**Pdif**	**10 09 54.2**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=183,slow=4.2,SNR=4.7						
WRA	**Warramunga Arr**	**99.95**	**180**		**Pdif**	**10 09 51.5**	**-3.2**
IL31		**145.48**	**312**		**PKPdif**	**10 15 44.1**	**-2.0**
ILAR	**Eielson Array**	**145.48**	**312**	PKPbc	**PKPdf**	**10 15 45.4**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=149,slow=3.2,SNR=19						
ILAR	**Eielson Array**	**145.48**	**312**		**PKPdif**	**10 15 45.1**	**-1.1**
RND	**Reindeer**	**145.51**	**309**		**PKPdif**	**10 15 45.9**	**-0.5**
BRVK	**Borovoye**	**145.64**	**73**		**PKPdif**	**10 15 46.0**	**-0.8**
CCB	**Clear Creek Bu**	**145.75**	**311**		**PKPdif**	**10 15 46.3**	**-0.3**
WRH	**Wood River Hil**	**145.77**	**311**		**PKPdif**	**10 15 46.7**	**0.0**
COLA	**College**	**145.89**	**312**		**PKPbc**	**10 15 47.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**146.69**	**309**		**PKPdif**	**10 15 48.4**	**+0.1**
MLY	**Manley**	**147.04**	**311**		**PKPbc**	**10 15 50.5**	**-0.5**
MKAR	**Makanchi Array**	**147.44**	**91**	PKPbc	**PKPbc**	**10 15 51.9**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=218,slow=2.2,SNR=11						
MKAR	**Makanchi Array**	**147.44**	**91**		**PKPbc**	**10 15 51.8**	**-0.9**
TOLK	**Toolik Lake Re**	**148.20**	**317**		**PKPdif**	**10 15 51.0**	**+0.3**
TOLK					**pPKPab**	**10 15 59.5**	**-0.5**
SONM	**Songino Array**	**159.77**	**116**	PKPab	**PKPab**	**10 16 46.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=219,slow=4.0,SNR=3.0						
SONM	**Songino Array**	**159.77**	**116**		**PKPab**	**10 16 47.6**	**+0.8**

*ISCJB **16** 09:57:36.1±0.5, 60°.29S±0°.08×46°.6W±0°.1, h10km, mb3.8/3, Error ellipse: s-maj=13.3km s-min=6.9km az=138.4*
*IDC **16** 09:57:36.9±1.2, 60°.33S×46°.53W, h0km, mb3.9/3, mb1 3.8/4, mb1mx3.6/28, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=46.2km s-min=30.2km az=101.0*
*NEIC **16** 09:57:38.3±1.7, 60°.25±0°.1×46°.6W±0°.2, h10km±1km, mb4.2/7*
ISC 16 09:57:38.1±0.6, **60°.3S**±0°.1×**46°.6W**±0°.1, **h10**km, **n16**, σ1§**00**/17, **mb4.1**/6, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.12**	**47**		**Pn**	**09 59 35.2**	**-0.7**
HOPE				Sn	**Sn**	**10 01 08.6**	**+0.9**
PMSA	**Palmer Station**	**9.22**	**233**	Pn	**Pn**	**09 59 49.6**	**-1.4**
	0.6nm,0.3s,baz=8.0,slow=18,SNR=5.3						
PMSA	**Palmer Station**	**9.22**	**233**		**Pn**	**09 59 50.7**	**-0.2**
PMSA				Sn	**Sn**	**10 01 35.9**	**+1.3**
SNAA	**Sanae**	**20.57**	**141**	P	Pn	10 02 17.7	-1.1
TRQA	**Tornquist**	**24.27**	**329**	P	**P**	**10 02 54.9**	**-0.4**
TRQA				IAmb	IAmb	10 03 00.9	
	comp=Z,5.0nm,0.9s						
PLCA	**Paso Flores**	**24.53**	**312**	P	**P**	**10 02 58.9**	**+1.2**
PLCA				IAmb	IAmb	10 03 17.9	
	comp=Z,5.4nm,1.1s						
QSPA	**South Pole Qui**	**29.97**	**180**	P	**P**	**10 03 47.1**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=176,slow=8.3,SNR=3.0						
QSPA	**South Pole Qui**	**29.97**	**180**	P	**P**	**10 03 47.3**	**+1.0**
QSPA				IAmb	IAmb	10 03 49.0	
	comp=Z,5.7nm,1.2s						
SIV	**San Ignacio**	**45.45**	**340**	P	**P**	**10 05 58.5**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=130,slow=7.9,SNR=3.9						
LBTB	**Lobatse**	**59.82**	**88**	P	**P**	**10 07 43.7**	**+0.1**
OTAV	**Otavalo**	**65.17**	**324**	P	**P**	**10 08 18.4**	**-1.3**
OTAV				IAmb	IAmb	10 08 23.1	
	comp=Z,2.2nm,1.1s						
LSZ	**Lusaka**	**69.32**	**85**	P	**P**	**10 08 45.9**	**+0.2**
NNZ	**Nelson**	**73.68**	**210**	P	**P**	**10 09 10.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**82.70**	**47**	P	**P**	**10 10 01.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=222,slow=7.1,SNR=2.2						
ILAR	**Eielson Array**	**145.22**	**312**	PKPbc	**PKPbc**	**10 17 13.7**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=142,slow=2.6,SNR=4.1						
MKAR	**Makanchi Array**	**147.67**	**91**	PKPbc	**PKPbc**	**10 17 20.6**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=254,slow=4.2,SNR=3.7						

*SNET **16** 10:06:58.6±0.9, 13°.52N×91°.01W, h13km±6km, ML3.0*
*GCG **16** 10:06:58.9±0.5, 13°.57N×91°.21W, h32km±66km, MD3.8*
ISC 16 10:06:57.7±2.6, **13°.5N**±0°.1×**91°.2W**±0°.1, **h29**km, **n11**, σ0§**49**/14, **1C**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.99**	**46**	*eP*	**Pn**	**10 07 15.4**	**-0.4**
FUG	**Fuego 3**	**1.02**	**18**	*eP*	**Pn**	**10 07 16.6**	**+0.4**
STG3	**Santiaguito 3,**	**1.29**	**343**	*eP*	**Pn**	**10 07 19.7**	**-0.3**
STG3				*eS*	**Sn**	**10 07 36.4**	**+0.1**
NBG	**Las Nubes**	**1.36**	**36**	*eP*	**Pn**	**10 07 22.0**	**+0.9**
NBG				*eS*	**Sb**	**10 07 39.7**	**-0.3**
SBLS	**San Blas**	**1.55**	**76**	*eP*	**Pn**	**10 07 23.2**	**-0.3**
SNJE	**San Jose**	**1.57**	**75**	*eP*	**Pn**	**10 07 23.5**	**-0.3**
UEES	**Universidad Ev**	**1.89**	**83**	*eP*	**Pn**	**10 07 29.1**	**+0.9**
UEES				IAML		10 07 56.1	
	comp=Z,190nm,0.3s						
MTO3	**Montecristo**	**1.98**	**62**	*eP*	**Pn**	**10 07 29.6**	**+0.1**
PAVA	**Las Pavas**	**2.18**	**84**	*eP*	**Pn**	**10 07 32.4**	**+0.2**
COEG	**Centro de Oper**	**2.23**	**86**	*eP*	**Pn**	**10 07 33.1**	**+0.3**
COEG				*eS*	**Sn**	**10 07 59.1**	**-0.3**
COEG				IAML		10 08 12.2	
	comp=Z,87nm,0.5s						
LCND	**La Caada**	**3.20**	**93**	*eP*	**Pn**	**10 07 46.2**	**+0.2**

*ISCJB **16** 10:08:04.1±0.5, 18°.91S±0°.06×178°.83E±0°.08, h550km, mb4.0/14, Error ellipse: s-maj=9.7km s-min=8.3km az=9.4*
*NEIC **16** 10:08:05.9±1.8, 18°.86S±0°.09×178°.9E±0°.1, h562km±11km, mb4.4/22*
*IDC **16** 10:08:08.3±1.8, 18°.88S×178°.78E, h586km±22km, mb3.4/14, mb1 3.5/15, mb1mx3.3/34, mbtmp4.4/15, Error ellipse: s-maj=14.4km s-min=12.5km az=158.0*
ISC 16 10:08:05.6±0.6, **18°.83S**±0°.09×**178°.82E**±0°.09, **h550**km, **n51**, σ1§**23**/52, **mb4.2**/20, **Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.32**	**326**	P	**P**	**10 09 16.4**	**+3.5**
FUNA	**Funafuti**	**10.25**	**2**	P	**P**	**10 10 26.0**	**-0.3**
AFI	**Afiamalu**	**10.26**	**63**	P	**P**	**10 10 26.1**	**-0.3**
DZM	**Mont Dzumac**	**12.04**	**252**	P	**P**	**10 10 46.2**	**+1.5**
	0.3nm,0.3s,baz=90,slow=20,SNR=8.3						
DZM	**Mont Dzumac**	**12.04**	**252**	P	**P**	**10 10 46.7**	**+2.0**
OUZ	**Omahuta**	**16.97**	**195**	P	**P**	**10 11 36.0**	**+2.1**
OUZ				IAmb	IAmb	10 11 36.9	
	comp=Z,9.9nm,1.0s						
MXZ	**Matakaoa Point**	**18.66**	**181**	P	**P**	**10 11 49.4**	**0.0**
MSWZ	**Moikau Station**	**22.71**	**187**	P	**P**	**10 12 24.1**	**-1.8**
NNZ	**Nelson**	**22.79**	**191**	P	**P**	**10 12 25.3**	**-1.2**
TUWZ	**Tuamarina**	**22.91**	**189**	P	**P**	**10 12 26.4**	**-1.2**
KHZ	**Kahutara**	**23.93**	**190**	P	**P**	**10 12 34.9**	**-1.7**
LTZ	**Lake Taylor**	**24.51**	**192**	P	**P**	**10 12 40.3**	**-1.6**
RPZ	**Rata Peaks**	**25.65**	**193**	P	**P**	**10 12 50.8**	**-1.1**
	comp=Z,4.7nm,0.5s,baz=346,slow=5.6,SNR=6.2						
RPZ	**Rata Peaks**	**25.65**	**193**	P	**P**	**10 12 51.0**	**-0.9**
FOZ	**Fox Glacier**	**25.77**	**195**	P	**P**	**10 12 52.4**	**-0.4**
CTA	**Charters Tower**	**30.71**	**262**	P	**P**	**10 13 37.1**	**+0.8**
	comp=Z,5.2nm,0.4s,baz=92,slow=11,SNR=12						
CTAO	**Charters Tower**	**30.71**	**262**	P	**P**	**10 13 36.7**	**+0.3**
CTAO				IAmb	IAmb	10 13 37.6	
	comp=Z,6.9nm,0.5s						
CAN	**Canberra**	**31.06**	**232**	P	**P**	**10 13 39.1**	**-0.1**
PMG	**Port Moresby**	**32.05**	**283**	P	**P**	**10 13 45.4**	**-2.5**
PMG				IAmb	IAmb	10 13 49.8	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**34.50**	**273**	P	**P**	**10 14 09.2**	**+0.6**
COEN				IAmb	IAmb	10 14 10.1	
	comp=Z,6.1nm,0.8s						
MANU	**Manus Island**	**35.04**	**295**	P	**P**	**10 14 14.2**	**+1.2**
STKA	**Stephens Creek**	**35.88**	**241**	P	**P**	**10 14 20.2**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=84,slow=9.3,SNR=4.1						
STKA	**Stephens Creek**	**35.88**	**241**	P	**P**	**10 14 19.5**	**-0.3**
JAY	**Jayapura**	**40.67**	**289**	P	**P**	**10 14 59.4**	**+0.5**
	comp=Z,13nm,0.5s,baz=135,slow=4.2,SNR=12						
WR0	**Warramunga Arr**	**41.69**	**261**	P	**P**	**10 15 07.6**	**+0.7**
WB2	**Warramunga Arr**	**41.87**	**261**	P	**P**	**10 15 07.5**	**-0.8**
WB2				IAmb	IAmb	10 15 08.7	
	comp=Z,6.4nm,0.7s						
WRAB	**Tennant Creek**	**41.88**	**261**	P	**P**	**10 15 07.5**	**-0.9**
WRAB				IAmb	IAmb	10 15 08.7	
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**41.88**	**261**	P	**P**	**10 15 07.5**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=96,slow=7.5,SNR=95						
WRA				S	**S**	**10 20 44.2**	**-3.1**
	comp=Z,0.5nm,0.9s,baz=98,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**41.88**	**261**	P	**P**	**10 15 07.9**	**-0.5**
AS31	**Alice Springs**	**42.01**	**255**	P	**P**	**10 15 09.6**	**+0.2**
AS31				IAmb	IAmb	10 15 10.0	
	comp=Z,8.5nm,0.5s						
ASAR	**Alice Springs**	**42.01**	**255**	P	**P**	**10 15 09.4**	**0.0**
	comp=Z,20nm,0.4s,baz=90,slow=8.4,SNR=447						
ASAR				S	**S**	**10 20 47.0**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=89,slow=15,SNR=10						
ASAR	**Alice Springs**	**42.01**	**255**	P	**P**	**10 15 09.2**	**-0.2**
KNRA	**Kununurra**	**47.79**	**266**	P	**P**	**10 15 53.3**	**-0.4**
KNRA				IAmb	IAmb	10 15 53.9	
	comp=Z,7.6nm,0.8s						
SIJI	**Sorong**	**49.91**	**285**	P	**P**	**10 16 09.1**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=50,slow=12,SNR=6.7						
FITZ	**Fitzroy Crossi**	**50.29**	**262**	P	**P**	**10 16 12.3**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=136,slow=9.3,SNR=6.3						
FITZ	**Fitzroy Crossi**	**50.29**	**262**	P	**P**	**10 16 10.9**	**-1.3**
MJAR	**Matsushiro Arr**	**67.12**	**325**	P	**P**	**10 18 04.7**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=146,slow=6.5,SNR=8.7						
MJAR	**Matsushiro Arr**	**67.12**	**325**	P	**P**	**10 18 04.8**	**-0.1**
QSPA	**South Pole Qui**	**71.22**	**180**	P	**P**	**10 18 28.9**	**-0.3**
	comp=Z,5.5nm,0.6s,baz=319,slow=0.7,SNR=42						
QSPA	**South Pole Qui**	**71.22**	**180**	P	**P**	**10 18 29.3**	**+0.1**
QSPA				IAmb	IAmb	10 18 29.9	
	comp=Z,6.1nm,0.8s						
PETK	**Petropavlovsk-**	**73.94**	**347**	P	**P**	**10 18 44.4**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=159,slow=5.8,SNR=4.0						
PETK	**Petropavlovsk-**	**73.94**	**347**	P	**P**	**10 18 44.8**	**+0.1**
MAW	**Mawson**	**82.09**	**200**	P	**P**	**10 19 28.3**	**0.0**
	comp=Z,1.2nm,0.5s,baz=202,slow=4.9,SNR=5.4						
MAW	**Mawson**	**82.09**	**200**	P	**P**	**10 19 29.1**	**+0.7**
IMAR	**Indian Mountai**	**87.06**	**11**	P	**P**	**10 19 52.1**	**-0.3**
ILAR	**Eielson Array**	**87.40**	**14**	P	**P**	**10 19 51.9**	**-2.2**
	comp=Z,1.0nm,0.9s,baz=226,slow=6.0,SNR=7.2						
ILAR	**Eielson Array**	**87.40**	**14**	P	**P**	**10 19 52.9**	**-1.2**
TXAR	**Lajitas Array**	**88.71**	**59**	P	**P**	**10 20 01.5**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=218,slow=5.7,SNR=3.1						
BRTR	**Keskin Array B**	**143.51**	**312**	PKP	PKPab	10 26 35.9	-1.0
	comp=Z,0.9nm,0.6s,baz=99,slow=2.3,SNR=4.4						
CLL	**Collm**	**145.71**	**344**	*e*PKPbc	**PKPdf**	**10 26 42.0**	**+0.5**
GERES	**GERESS Array B**	**147.74**	**341**	PKPbc	**PKPbc**	**10 26 47.9**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=38,slow=2.4,SNR=5.1						

*ISCJB **16** 10:14:36.9±0.7, 60°.18S±0°.10×45°.8W±0°.2, h10km, mb3.8/2, Error ellipse: s-maj=16.7km s-min=11.5km az=136.3*
*IDC **16** 10:14:38.3±1.4, 60°.24S×45°.91W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/19, mbtmp4.0/2, Error ellipse: s-maj=68.7km s-min=31.0km az=64.0*
*NEIC **16** 10:14:38.7±2.1, 60°.16S±0°.10×46°.0W±0°.2, h10km±2km, mb4.3/9*
ISC 16 10:14:38.9±0.8, **60°.2S**±0°.1×**45°.9W**±0°.1, **h10**km, **n20**, σ1§**17**/16, **mb4.2**/4, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.81**	**45**	Pn	**Pn**	**10 16 32.9**	**+0.4**
PMSA	**Palmer Station**	**9.55**	**234**		Pn	10 16 49.3	-7.0
EFI	**East Falkland**	**10.90**	**316**	Pn	**Pn**	**10 17 15.6**	**+0.8**
SNAA	**Sanae**	**20.41**	**142**	P	**P**	**10 19 15.4**	**-0.3**
SNAA				IAmb	IAmb	10 19 23.2	
	comp=Z,10nm,1.0s						
TRQA	**Tornquist**	**24.39**	**328**	P	**P**	**10 19 58.1**	**+1.0**
TRQA				IAmb	IAmb	10 20 05.4	
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**24.75**	**311**	P	**P**	**10 20 02.1**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=193,slow=8.1,SNR=5.6						
PLCA	**Paso Flores**	**24.75**	**311**	P	**P**	**10 19 57.9**	**-2.5**
GO06	**Curarrehue**	**26.09**	**311**	P	**P**	**10 20 12.2**	**-0.5**
QSPA	**South Pole Qui**	**30.05**	**180**	P	**P**	**10 20 48.4**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=171,slow=3.4,SNR=4.5						
QSPA	**South Pole Qui**	**30.05**	**180**	P	**P**	**10 20 48.6**	**+0.7**
QSPA				IAmb	IAmb	10 20 53.4	
	comp=Z,3.2nm,0.8s						
BDFB	**Brasília**	**44.51**	**357**	P	**P**	**10 22 51.6**	**+1.1**
BDFB				IAmb	IAmb	10 22 57.4	
	comp=Z,6.0nm,1.1s						
LPAZ	**La Paz**	**46.71**	**330**	P	**P**	**10 23 06.7**	**-1.9**
BOSA	**Boshof**	**56.32**	**89**	P	**P**	**10 24 19.4**	**-0.4**
ASCN	**Ascension**	**57.28**	**38**	P	**P**	**10 24 25.9**	**-0.7**
H10N3	**ASCENSION HYDR**	**57.32**	**38**	T	T	11 27 16.5	
	baz=198,slow=75,SNR=33						
H10N1	**ASCENSION HYDR**	**57.32**	**38**	T	T	11 27 16.7	
	baz=198,slow=75,SNR=18						
H10N2	**ASCENSION HYDR**	**57.34**	**38**	T	T	11 27 17.8	
	baz=198,slow=75,SNR=30						
ILAR	**Eielson Array**	**145.43**	**312**	PKPbc	**PKPdf**	**10 34 14.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=149,slow=2.0,SNR=9.0						
ILAR	**Eielson Array**	**145.43**	**312**		**PKPdif**	**10 34 15.1**	**-0.3**
MKAR	**Makanchi Array**	**147.32**	**91**	PKPbc	**PKPbc**	**10 34 22.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=232,slow=3.5,SNR=2.8						

JMA 16 10:23:25.7±0.3, **37°.25N**×**144°.63E**, **h42**km, **M3.6**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.72**	**294**	P	Pn	10 24 08.2	+1.3
JIKH				*eS*	Sn	10 24 39.9	+1.4
JIO	**Ouri**	**2.86**	**296**	P	Pn	10 24 10.2	+1.4
JIO				*eS*	Sn	10 24 44.3	+2.3
JKMT	**Kesennumamotoy**	**2.94**	**303**	P	Pn	10 24 11.1	+1.2
JKMT				S	Sn	10 24 45.1	+1.2
OFUJ	**Ofunato**	**2.96**	**309**	P	Pn	10 24 12.3	+2.1
JFK	**Kawauchi**	**3.00**	**273**	*e*S	Sn	10 24 46.1	+0.7
JMK	**Ichinoseki**	**3.18**	**303**	P	Pn	10 24 14.9	+1.7
JMK				S	Sn	10 24 51.7	+1.8
JOU	**Okura**	**3.33**	**291**	P	Pn	10 24 17.6	+2.3
JFT	**Otama**	**3.43**	**276**	P	Pn	10 24 19.2	+2.6
JFT				*e*S	Sn	10 24 58.5	+2.4
JOM	**Ohasama**	**3.44**	**311**	P	Pn	10 24 18.2	+1.5
JOM				S	Sn	10 24 58.2	+2.0
JYK	**Kaneyama**	**3.76**	**298**	P	Pn	10 24 23.6	+2.5
JRG	**Rokugo**	**3.80**	**306**	S	Sn	10 25 08.2	+3.0
BSO1	**Boso 1**	**3.94**	**230**	*e*S	Sn	10 25 09.1	+1.4
JTM	**Tenmabayashi**	**4.49**	**323**	*e*S	Sn	10 25 22.1	0.0
JRY	**Ryogami san**	**4.77**	**257**	P	Pn	10 24 35.2	+0.1
JRY				*e*S	Sn	10 25 28.0	-1.1
JOD2	**Odawara 2**	**4.90**	**248**	P	Pn	10 24 37.4	+0.6
JCH	**Churui**	**5.45**	**350**	P	Pn	10 24 44.0	-0.3
JCH				*e*S	Sn	10 25 43.5	-2.1
NEM2	**Nemuro 2**	**6.17**	**8**	P	Pn	10 24 52.1	-2.1
JOSM	**Okushiri--Mats**	**6.25**	**322**	P	Pn	10 24 57.2	+1.9
JTKR	**Abashiri--Toko**	**6.74**	**356**	P	Pn	10 25 01.9	-0.1
JTKR				*e*S	Sn	10 26 13.9	-3.4

*BJI **16** 10:26:36.4±0.0, 3°.64N×89°.95E, h6km, mb5.2/78, mB5.4/65, Ms5.6/85, Ms7 5.3/79*
*MOS **16** 10:26:41.9±1.0, 4°.24N×90°.07E, h12km, mb5.5/85, MS5.1/24, Error ellipse: s-maj=6.4km s-min=4.1km az=111.6*
*ISCJB **16** 10:26:42.4±0.1, 4°.20N±0°.02×90°.08E±0°.02, h14km, mb5.1/145, MS5.2/62, Error ellipse: s-maj=2.9km s-min=2.0km az=24.4*
*IDC **16** 10:26:42.0±0.4, 4°.28N×90°.05E, h0km, mb4.9/33, mb1 5.0/36, mb1mx4.9/47, mbtmp4.9/36, ML5.0/3, MS5.0/22, Ms1 4.9/22, ms1mx4.7/42, Error ellipse: s-maj=12.7km s-min=10.8km az=33.0*
*NEIC **16** 10:26:43.3±1.6, 4°.21N±0°.07×90°.07E±0°.06, h10km±2km, mb5.4/145, Ms_20 5.4/284, Mwb5.7, Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}0.27; $M_{\theta\theta}$-1.63; $M_{\phi\phi}$1.36; $M_{r\theta}$0.06; $M_{\theta\phi}$-4.68; $M_{\phi r}$-0.70; Fault plane solution: $M_0$4.97000×10^17^ NP1:φ=98.72000°, δ81.96000°, λ177.52000°. NP2:φ=189.06000°, δ87.54000°, λ8.05000°. Principal axes: T 4.8585, Plg7.0000°, Azm54.0000°; N 0.2160, Plg82.0000°, Azm206.0000°; P -5.0745, Plg4.0000°, Azm324.0000°;*
*DJA **16** 10:26:44.5±0.1, 4°.N±3°×9°0E±°, h10km, M5.5/73, mB5.8/41, mb5.5/73, MLv6.2/3, Mw(mB)5.4/41, Mwp5.7/3*
*NEIC **16** 10:26:45, 4°.19N×89°.99E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}0.20; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$1.41; $M_{r\theta}$0.41; $M_{\theta\phi}$-4.33; $M_{\phi r}$0.16; Fault plane solution: $M_0$4.61000×10^17^ NP1:φ=190.00000°, δ86.00000°, λ-2.00000°. NP2:φ=280.00000°, δ88.00000°, λ-176.00000°. Principal axes: T 4.4874, Plg1.0000°, Azm55.0000°; N 0.2385, Plg85.0000°, Azm308.0000°; P -4.7259, Plg5.0000°, Azm145.0000°;*
*KLM **16** 10:26:45.0, 4°.26N×90°.09E, h10km, mb5.6*
*GCMT **16** 10:26:46.3±0.1, 4°.29N±0°.01×90°.01E±0°.01, h24km, MW5.7/126, Moment Tensor Solution. s108,c201; s126,c267; Duration: 1§8 Moment tensor: Scale 10^17^ Nm; M_{rr}-0

CMAR	**Chiang Mai Arr**	**16.58**	**31**		**Pn**	**10 30 34.1 -2.2**
LWLI	**Liwa**	**16.75**	**123**	P	**Pn**	**10 30 39.6 +1.0**
CHTO	**Chiang Mai**	**16.88**	**30**	P	**Pn**	**10 30 38.5 -1.6**
CHTO				pmax	pmax	
	comp=Z,425nm,1.5s					
CHTO	**Chiang Mai**	**16.88**	**30**		**Pn**	**10 30 38.5 -1.6**
CHTO				IAmb	IAmb	10 30 55.0
	comp=Z,424nm,1.4s					
CMMT	**Chiang Mai**	**16.88**	**30**	P	**Pn**	**10 30 39.4 -0.8**
	comp=Z,96nm,1.4s,comp=Z,2μm					
HMDM	**Hanimaadhoo**	**16.98**	**279**	P	**Pn**	**10 30 41.3 -0.2**
HMDM				IAmb	IAmb	10 30 56.8
	comp=Z,231nm,1.0s					
LAMP	**Lampang**	**17.00**	**33**	P	**Pn**	**10 30 42.0 +0.4**
	comp=Z,322μm,1.1s					
HYB	**Hyderabad**	**17.27**	**320**	*i* P	**Pn**	**10 30 41.0 -4.1**
	comp=Z,300nm,1.0s					
HYB				*e*S	**Sn**	**10 33 58.0 +0.7**
HYB	**Hyderabad**	**17.27**	**320**	*ex*	Pn	10 30 35.0 -10
HYD	**Hyderabad**	**17.35**	**320**	*e*P	**Pn**	**10 30 43.0 -3.1**
MNCI	**Minicoy**	**17.36**	**284**	P	**Pn**	**10 30 46.4 +0.2**
MNCI				IAmb	IAmb	10 31 00.7
	comp=Z,186nm,0.9s					
KASI	**Kota Agung**	**17.39**	**124**	P	**P**	**10 30 47.8 0.0**
	comp=Z,638nm,1.0s,comp=Z,10μm					
KAAM	**Kaadhehdhoo**	**17.45**	**258**		**Pn**	**10 30 45.6 -1.7**
KAAM				IAmb	IAmb	10 30 51.2
	comp=Z,589nm,1.2s					
PAYA	**Payao**	**17.81**	**32**	P	**P**	**10 30 52.3 -0.2**
	comp=Z,654μm,1.3s					
BLSI	**Bandar Lampung**	**17.93**	**122**	P	**P**	**10 30 54.6 +0.8**
SAIH	**SAIHA**	**18.35**	**9**	*e*P	**P**	**10 30 58.6 0.0**
UBPT	**Khong Chiam**	**18.71**	**53**	P	**Pn**	**10 31 03.5 +0.7**
	comp=Z,217nm,1.6s,comp=Z,5μm					
UBPT	**Khong Chiam**	**18.71**	**53**	P	**Pn**	**10 31 03.3 +0.5**
UBPT				IAmb	IAmb	10 31 04.8
	comp=Z,452nm,1.1s					
NONG	**Nongkai**	**18.78**	**42**	P	**Pn**	**10 31 03.7 +0.1**
	comp=Z,5.5nm,1.2s,comp=Z,178nm					
TPI	**Tanjungpandan**	**18.91**	**111**	P	**Pn**	**10 31 06.4 +1.1**
	comp=Z,141nm,0.8s,comp=Z,2μm					
CGJI	**Cibinong**	**18.98**	**125**	P	**Pn**	**10 31 06.6 +0.6**
	comp=Z,684nm,1.7s,comp=Z,9μm					
GOA	**Goa**	**19.48**	**306**	⇓*i*P	**P**	**10 31 10.5 -0.4**
GOA				*e*S	**Sn**	**10 34 47.5 -3.3**
AZL	**Aizawl**	**19.54**	**7**	*e*P	**P**	**10 31 12.1 +0.5**
AGT	**Agartala**	**19.55**	**3**	*e*P	**Pn**	**10 31 14.1 +1.2**
DLV	**T Lat**	**19.77**	**66**	P	**Pn**	**10 31 16.0 +0.2**
DLV				IAmb	IAmb	10 31 17.7
	comp=Z,398nm,1.2s					
BOK	**Bokaro**	**19.84**	**349**	*e*P	**Pn**	**10 31 17.4 +1.1**
BOK				IAmb	IAmb	10 31 21.8
	comp=Z,223nm,0.5s					
SKJI	**Sukabumi**	**19.91**	**124**	P	**Pn**	**10 31 16.7 -0.5**
NGP	**Nagpur**	**19.91**	**328**	*ex*	**P**	**10 31 15.9 +0.3**
NGP				*ex*	**S**	**10 34 54.8 -4.8**
KAD	**Karad**	**20.26**	**311**	*e*P	**P**	**10 31 19.8 +0.4**
KSM	**Kuching**	**20.41**	**97**	P	Pn	10 31 23.0 -0.2
KSM	**Kuching**	**20.41**	**97**	P	Pn	10 31 23.0 -0.2
KSM				IAmb	IAmb	10 31 40.8
	comp=Z,208nm,1.0s					
LEM	**Lembang**	**20.70**	**122**	P	**P**	**10 31 24.7 +0.4**
	comp=Z,91nm,1.0s,baz=210,slow=2.2,SNR=9.7					
LEM				LR	LR	10 39 05.9
	comp=Z,5μm,18.1s,baz=288,slow=36					
DGAR	**Diego Garcia**	**21.04**	**237**	P	**P**	**10 31 27.9 +0.1**
DGAR				pmax	pmax	
	comp=Z,309nm,0.9s					
DGAR	**Diego Garcia**	**21.04**	**237**	P	**P**	**10 31 27.9 +0.1**
H08S3	**Diego Garcia H**	**21.13**	**236**	P	**P**	**10 31 28.9 +0.3**
	baz=101,slow=76,SNR=25					
H08S3				T	T	10 53 22.0
	baz=56,slow=75,SNR=1094					
H08S2	**Diego Garcia H**	**21.13**	**236**	P	**P**	**10 31 27.7 -0.8**
	baz=101,slow=76,SNR=17					
H08S2				T	T	10 53 27.0
	baz=56,slow=75,SNR=1231					
H08S1	**Diego Carcia H**	**21.15**	**236**	P	**P**	**10 31 30.2 +1.4**
	baz=101,slow=76,SNR=39					
H08S1				T	T	10 53 23.3
	baz=56,slow=75,SNR=629					
CISI	**Cisompet, Garu**	**21.25**	**123**	P	**P**	**10 31 30.4 +0.2**
SHL	**Shillong**	**21.27**	**5**	P	**P**	**10 31 30.2 -0.2**
SHL	**Shillong**	**21.27**	**5**	*e*P	**P**	**10 31 29.6 -0.8**
SHL	**Shillong**	**21.27**	**5**	P	**P**	**10 31 30.1 -0.2**
POO	**Poona**	**21.27**	**313**	⇑*i*x	**P**	**10 31 37.0 +6.7**
	comp=Z,180nm,1.2s					
XMIS	**Christmas Isla**	**21.34**	**133**	P	**P**	**10 31 30.4 -0.7**
XMIS				IAmb	IAmb	10 31 44.4
	comp=Z,261nm,1.1s					
SLVN	**Son La**	**21.66**	**37**	P	**P**	**10 31 35.5 +1.0**
SLVN				IAmb	IAmb	10 31 48.6
	comp=Z,353nm,1.4s					
KOHI	**KOHIMA**	**21.70**	**10**	*e*P	**P**	**10 31 36.9 +1.9**
KOHI				*e*S	**S**	**10 35 36.7 +1.5**
H08N1	**Diego Carcia H**	**21.73**	**241**	P	**P**	**10 31 31.5 -3.4**
	baz=63,slow=6.5,SNR=158					
H08N2	**Diego Garcia H**	**21.73**	**241**	P	**P**	**10 31 31.6 -3.4**
	baz=63,slow=6.5,SNR=173					
H08N3	**Diego Garcia H**	**21.75**	**241**	P	**P**	**10 31 31.5 -3.6**
	baz=63,slow=6.5,SNR=199					
STKI	**Sintang**	**21.80**	**100**	P	**P**	**10 31 38.1 +2.0**
GUWA	**GUWAHATI**	**21.88**	**4**	*e*P	**P**	**10 31 37.2 +0.5**
CMJI	**Cimerak**	**21.90**	**123**	P	**P**	**10 31 39.0 +1.9**
KPJI	**Karang Pucung**	**22.07**	**121**	P	**P**	**10 31 40.3 +1.4**
SBUM	**Sibu**	**22.20**	**94**	P	**P**	**10 31 42.0 +1.7**
SBUM	**Sibu**	**22.20**	**94**	P	**P**	**10 31 41.6 +1.3**
BOM	**Bombay**	**22.26**	**312**	*ex*	**P**	**10 31 47.6 +6.7**
BHPL	**Bhopal**	**22.48**	**328**	*i* P	**P**	**10 31 44.7 +1.4**
BHPL				IAmb	IAmb	10 31 48.6
	comp=Z,281nm,1.3s					
ODAN	**Odare**	**22.63**	**354**	*e*P	**P**	**10 31 46.3 +1.3**
	comp=Z,302nm,1.0s					
PBKI	**Pangkalan Bun**	**22.68**	**107**	P	**P**	**10 31 45.9 +0.5**
RAMN	**Ramite**	**22.81**	**352**	*e*P	**P**	**10 31 48.7 +1.7**
	comp=Z,228nm,0.8s					
GTK	**Tadong**	**22.98**	**357**	*e*P	**P**	**10 31 47.0 -1.7**
TAPN	**Taplejung**	**23.08**	**355**	*e*P	**P**	**10 31 51.1 +1.3**
	comp=Z,248nm,0.8s					
SMRI	**Semarang**	**23.24**	**119**	P	**P**	**10 31 51.9 +0.7**
SMRI	**Semarang**	**23.24**	**119**	P	**P**	**10 31 50.9 -0.4**
SMRI				IAmb	IAmb	10 32 03.9
	comp=Z,187nm,1.0s					
JIRN	**Jiri**	**23.57**	**351**	*e*P	**P**	**10 31 56.0 +1.2**
	comp=Z,222nm,0.7s					
PKI	**Pulchoki**	**23.61**	**350**	*e*P	**P**	**10 31 55.9 +0.7**
	comp=Z,261nm,1.2s					
PKIN	**Phulchoki**	**23.62**	**350**	*e*P	**P**	**10 31 56.1 +0.9**
DMN	**Daman**	**23.70**	**349**	*e*P	**P**	**10 31 57.2 +1.2**
	comp=Z,160nm,1.0s					
UGM	**Wanagama**	**23.73**	**121**	P	**P**	**10 31 56.8 +0.7**
UGM	**Wanagama**	**23.73**	**121**	P	**P**	**10 31 56.4 +0.3**
UGM				IAmb	IAmb	10 32 07.1
	comp=Z,107nm,1.0s					
KKN	**Kakani**	**23.85**	**349**	*e*P	**P**	**10 31 58.3 +0.9**
GUN	**Gumba**	**23.86**	**351**	*e*P	**P**	**10 31 58.3 +0.6**
WOJI	**Wonogiri, Jawa**	**24.03**	**120**	P	**P**	**10 31 59.2 +0.2**
KMI	**Kunming**	**24.07**	**29**	P	**P**	**10 32 01.0 +1.5**
KMI				pP	pwP	10 32 10.1 +4.0
KMI				S	**S**	**10 36 14.5 -2.5**
KMI				sS	sS	10 36 28.0 +6.3
KMI				pmax	pmax	
	comp=Z,150nm,1.5s					
KMI				pmax	pmax	
	comp=Z,2μm,6.1s					
KMI				LR	LR	
	comp=Z,6μm,23.6s					
KMI				LR	LR	
	comp=Z,7μm,21.3s					
KMI				LR	LR	
	comp=Z,5μm,22.8s					
KMI	**Kunming**	**24.07**	**29**	P	**P**	**10 32 01.2 +1.7**
KMI				pmax	pmax	
	comp=Z,231nm,1.0s					
KMI				MLR	MLR	
	comp=Z,5μm,20.0s					
KMI	**Kunming**	**24.07**	**29**	P	**P**	**10 32 01.2 +1.7**
KMI	**Kunming**	**24.07**	**29**	IAMs_20	IAMs_20	10 42 05.4
	comp=Z,5μm,20.0s					
GKN	**Gorkha**	**24.18**	**348**	*e*P	**P**	**10 32 01.7 +1.3**
	comp=Z,302nm,1.0s					
KOLN	**Koldanda**	**24.19**	**346**	*e*P	**P**	**10 32 02.1 +1.6**
	comp=Z,211nm,0.7s					
QIZ	**Qiongzhong**	**24.27**	**51**	P	**P**	**10 32 01.6 +0.4**
QIZ				S	**S**	**10 36 19.1 -0.8**
QIZ				pmax	pmax	
	comp=Z,87nm,1.3s					
QIZ				pmax	pmax	
	comp=Z,2μm,3.7s					
QIZ				LR	LR	
	comp=Z,8μm,13.7s					
QIZ				LR	LR	
	comp=Z,4μm,16.7s					
QIZ				LR	LR	
	comp=Z,5μm,14.7s					
QIZ	**Qiongzhong**	**24.27**	**51**	P	**P**	**10 32 01.8 +0.6**
NGJI	**Ngawi**	**24.28**	**118**	P	P	10 32 13.2 +12
PCJI	**Pacitan**	**24.43**	**120**	P	**P**	**10 32 03.2 +0.6**
DANN	**Dangsing**	**24.70**	**347**	*e*P	**P**	**10 32 06.6 +1.2**
	comp=Z,476nm,0.8s					
PWJI	**Pagerwojo**	**24.89**	**119**	P	P	10 32 16.2 +9.4
LSA	**Lhasa**	**25.34**	**2**	P	**P**	**10 32 12.9 +1.7**
LSA				S	**S**	**10 36 37.9 +0.2**
LSA				pmax	pmax	
	comp=Z,190nm,0.6s					
LSA				LR	LR	
	comp=Z,4μm,15.7s					
LSA				LR	LR	
	comp=Z,9μm,12.1s					
LSA				LR	LR	
	comp=Z,9μm,14.2s					
LSA	**Lhasa**	**25.34**	**2**	P	**P**	**10 32 12.9 +1.7**
LSA	**Lhasa**	**25.34**	**2**	P	**P**	**10 32 12.7 +1.5**
LSA				pmax	pmax	
	comp=Z,164nm,0.7s					
LSA	**Lhasa**	**25.34**	**2**	P	**P**	**10 32 12.7 +1.5**
KKM	**Kota Kinabalu**	**26.11**	**85**	P	**P**	**10 32 19.0 +0.9**
KKM				IAmb	IAmb	10 32 33.8
	comp=Z,137nm,1.0s					
SPMM	**Sapulut**	**26.33**	**88**	P	**P**	**10 32 23.0 +3.0**
GMJI	**Gumukmas**	**26.44**	**118**	P	**P**	**10 32 30.4 +10**
AJM	**Ajmer**	**26.57**	**328**	*e*P	**P**	**10 32 23.0 +1.0**
JAGI	**Jajag, Banyuwa**	**27.15**	**118**	P	**P**	**10 32 25.3 -2.0**
JAGI	**Jajag, Banyuwa**	**27.15**	**118**	P	**P**	**10 32 25.2 -2.0**
JAGI				IAmb	IAmb	10 32 37.1
	comp=Z,56nm,1.0s					
NDI	**New Delhi**	**27.19**	**335**	*e*P	**P**	**10 32 29.0 +1.5**
GYA	**Guiyang**	**27.21**	**34**	⇑*i*P	**P**	**10 32 28.4 +0.5**
GYA				PP	**PnPn**	**10 33 16.3 +5.0**
GYA				PcP	**PcP**	**10 35 46.5 -1.6**
GYA				S	**S**	**10 37 06.9 +0.1**
GYA				SS	SS	10 38 26.8 -35
GYA				ScP	**ScP**	**10 39 26.0 -2.5**
GYA				pmax	pmax	
	comp=Z,150nm,1.2s					
GYA				pmax	pmax	
	comp=Z,580nm,7.1s					
GYA				LR	LR	
	comp=Z,5μm,17.5s					
GYA				LR	LR	
	comp=Z,3μm,17.8s					
GYA				LR	LR	
	comp=Z,5μm,15.6s					
BHUJ	**Bhuj**	**27.30**	**316**	*e*P	**P**	**10 32 28.3 -0.2**
BHUJ				IAmb	IAmb	10 32 32.2
	comp=Z,21nm,0.5s					
BKB	**Balikpapan**	**27.38**	**101**	IAMs_20	IAMs_20	10 42 39.5
	comp=Z,8μm,19.0s					
SRBI	**Singaraja**	**27.93**	**116**	P	**P**	**10 32 35.3 +1.1**
DDI	**Dehra Dun**	**28.30**	**338**	*e*P	**P**	**10 32 36.4 -1.1**
DDI				IAmb	IAmb	10 32 47.2
	comp=Z,121nm,1.0s					
SMLA	**Simla**	**29.36**	**337**	*e*P	**P**	**10 32 45.8 -1.0**
HKPS	**Hong Kong Po S**	**29.42**	**50**	P	**P**	**10 32 46.9 -0.5**
HKPS				IAmb	IAmb	10 33 05.6
	comp=Z,72nm,1.0s					
CD2	**Chengdu**	**29.50**	**24**	P	**P**	**10 32 49.0 +0.9**
CD2				sP	pwP	10 32 55.8 +0.9
CD2				S	**S**	**10 37 37.9 -4.6**
CD2				pmax	pmax	
	comp=Z,130nm,1.1s					
CD2				pmax	pmax	
	comp=Z,500nm,5.7s					
CD2				LR	LR	
	comp=Z,7μm,17.1s					
CD2				LR	LR	
	comp=Z,7μm,14.9s					
CD2				LR	LR	
	comp=Z,5μm,13.5s					
TWSI	**Taliwang, Sumb**	**29.70**	**116**	P	P	10 32 59.6 +10
MPSI	**Mapaga**	**30.07**	**97**	P	**P**	**10 32 53.5 +0.2**
PLAI	**Plampang**	**30.54**	**115**	P	**P**	**10 32 54.3 -3.2**
DHRM	**DHARAMSHALA**	**30.70**	**337**	*e*P	**P**	**10 33 00.3 +1.4**
KAPI	**Kappang**	**31.06**	**107**	*ce*P	**P**	**10 33 04.2 +2.1**
KAPI				pmax	pmax	
	comp=Z,34nm,2.5s					
KAPI	**Kappang**	**31.06**	**107**	P	**P**	**10 33 02.0 -0.1**
KAPI				IAmb	IAmb	10 33 14.1
	comp=Z,42nm,1.1s					
KAPI	**Kappang**	**31.06**	**107**	IAMs_20	IAMs_20	10 45 31.9
	comp=Z,5μm,18.0s					
BNSI	**Bone**	**31.23**	**106**	P	**P**	**10 33 04.7 +1.1**
BKSI	**Bulukumba**	**31.50**	**107**	P	**P**	**10 33 06.9 +0.9**
ENH	**Enshi**	**31.73**	**33**	P	**P**	**10 33 07.0 -0.8**
ENH				IAMs_20	IAMs_20	10 48 00.3
	comp=Z,5μm,20.0s					
TGY	**Tagaytay City**	**31.98**	**70**	P	**P**	**10 33 11.4 +1.2**
	comp=Z,125nm,0.3s,baz=311,slow=4.5,SNR=7.7					
MRSI	**Marisa**	**32.07**	**96**	P	**P**	**10 33 11.5 +0.5**
WBSI	**Waikabubak, Su**	**32.33**	**115**	P	**P**	**10 33 10.2 -3.1**
LUWI	**Luwuk**	**33.11**	**98**	P	**P**	**10 33 21.6 +1.5**
LUWI	**Luwuk**	**33.11**	**98**	P	**P**	**10 33 18.6 -1.5**
WSI	**Waingapu**	**33.16**	**115**	P	**P**	**10 33 24.0 +3.5**
NIL	**Nilore**	**33.18**	**334**	P	**P**	**10 33 20.9 +0.4**
NIL				pmax	pmax	
	comp=Z,109nm,0.7s					
NIL				MLR	MLR	
	comp=Z,3μm,20.0s					
NIL	**Nilore**	**33.18**	**334**	P	**P**	**10 33 20.9 +0.4**
NIL	**Nilore**	**33.18**	**334**	IAMs_20	IAMs_20	10 47 22.2
	comp=Z,3μm,20.0s					
KNMB	**Chin-men Tao**	**33.88**	**51**	P	**P**	**10 33 24.2 -2.4**
KNMB				IAmb	IAmb	10 33 38.0
	comp=Z,50nm,0.9s					
LZH	**Lanzhou**	**34.14**	**20**	⇓P	**P**	**10 33 29.3 +0.3**
LZH				sP	pwP	10 33 36.9 +1.1
LZH				PP	**PP**	**10 34 45.4 -1.0**
LZH				S	**S**	**10 38 51.6 -3.5**
LZH				pmax	pmax	
	comp=Z,93nm,1.2s					
LZH				pmax	pmax	
	comp=Z,350nm,5.4s					
LZH				LR	LR	
	comp=Z,8μm,14.1s					
LZH				LR	LR	
	comp=Z,5μm,14.0s					
LZH				LR	LR	
	comp=Z,9μm,17.2s					
LLP	**Lapu-Lapu**	**34.15**	**78**	⇓*e*P	**P**	**10 33 30.8 +1.6**
QZH	**Quanzhou**	**34.29**	**50**	⇑*i*P	**P**	**10 33 31.3 +1.1**
QZH				S	**S**	**10 38 58.3 +1.0**
QZH				LR	LR	
	comp=Z,4μm,15.9s					
QZH				LR	LR	
	comp=Z,4μm,17.9s					
QZH				LR	LR	
	comp=Z,5μm,15.2s					
XAN	**Xi'an**	**34.45**	**28**	P	**P**	**10 33 30.3 -1.3**
XAN				pP	pwP	10 33 39.3 +1.0
XAN				PP	**PP**	**10 34 50.4 +0.7**
XAN				S	**S**	**10 39 00.3 +0.6**
XAN				pmax	pmax	
	comp=Z,52nm,0.9s					
XAN				pmax	pmax	
	comp=Z,440nm,4.1s					
XAN				LR	LR	
	comp=Z,4μm,18.1s					
XAN				LR	LR	
	comp=Z,5μm,19.6s					
XAN				LR	LR	
	comp=Z,4μm,20.6s					
XAN	**Xi'an**	**34.45**	**28**	P	**P**	**10 33 30.2 -1.3**
XAN				pmax	pmax	
	comp=Z,60nm,0.9s					
XAN				MLR	MLR	
	comp=Z,4μm,19.0s					
XAN	**Xi'an**	**34.45**	**28**	P	**P**	**10 33 30.2 -1.3**
XAN				IAmb	IAmb	10 33 48.7
	comp=Z,60nm,0.9s					
XAN	**Xi'an**	**34.45**	**28**	IAMs_20	IAMs_20	10 49 35.6
	comp=Z,4μm,19.0s					
MMRI	**Maumere**	**34.55**	**112**	IAMs_20	IAMs_20	10 48 30.5
	comp=Z,4μm,21.0s					
WHN	**Wuhan**	**34.77**	**38**	⇓P	**P**	**10 33 36.0 +1.7**
WHN				S	**S**	**10 39 00.5 -4.2**
WHN				pmax	pmax	
	comp=Z,170nm,1.0s					
WHN				LR	LR	
	comp=Z,12μm,18.7s					
WHN				LR	LR	
	comp=Z,4μm,15.5s					
WHN				LR	LR	
	comp=Z,9μm,17.8s					
KCP	**Kidapawan**	**34.97**	**84**	⇓*i*P	**P**	**10 33 37.9 +1.6**
TPUB	**Ta-pu**	**35.08**	**54**	P	**P**	**10 33 37.8 +0.7**
TPUB				IAmb	IAmb	10 33 40.1
	comp=Z,85nm,1.2s					
TWG	**Pinlang**	**35.22**	**56**	P	**P**	**10 33 37.0 -1.3**
DAV	**Davao City (W)**	**35.45**	**84**	LR	LR	10 49 29.7
	comp=Z,4μm,20.4s,baz=226,slow=39					
SSLB	**Suanglung**	**35.57**	**54**	P	**P**	**10 33 41.5 +0.2**
SSLB				IAmb	IAmb	10 33 45.7
	comp=Z,90nm,1.1s					
MSEY	**Mahe Island**	**35.66**	**256**	IAMs_20	IAMs_20	10 44 19.4
	comp=Z,4μm,19.0s					
YULB	**Yu-li**	**35.66**	**55**	P	**P**	**10 33 42.7 +0.6**
YULB				IAmb	IAmb	10 33 57.9
	comp=Z,80nm,0.9s					
KBL	**Kabul**	**35.90**	**330**	P	**P**	**10 33 44.1 -0.2**
KBL				pmax	pmax	
	comp=Z,28nm,0.8s					
KBL				MLR	MLR	
	comp=Z,3μm,19.0s					
KBL	**Kabul**	**35.90**	**330**	P	**P**	**10 33 44.1 -0.2**
KBL				IAmb	IAmb	10 33 46.4
	comp=Z,28nm,0.8s					
GTA	**Gaotai**	**36.10**	**13**	⇑P	**P**	**10 33 46.3 +0.5**
GTA				pP	sP	10 33 50.6 +0.7
GTA				sP	pwP	10 33 53.3 +0.7
GTA				S	**S**	**10 39 25.5 +0.3**
GTA				pmax	pmax	
	comp=Z,21nm,1.5s					
GTA				pmax	pmax	
	comp=Z,240nm,6.8s					
GTA				LR	LR	
	comp=Z,3μm,18.4s					
GTA				LR	LR	
	comp=Z,4μm,20.6s					
GTA				LR	LR	
	comp=Z,3μm,19.0s					
YHNB	**Yeheng**	**36.33**	**53**	P	**P**	**10 33 47.1 -0.8**
BATI	**Baumata**	**36.42**	**113**	P	**P**	**10 33 49.1 +0.3**
	comp=Z,17nm,0.5s,baz=149,slow=5.9,SNR=3.8					
BATI	**Baumata**	**36.42**	**113**	P	**P**	**10 33 49.8 +1.0**
SANI	**Sanana**	**36.45**	**99**	P	**P**	**10 33 49.5 +0.5**
SOCY	**Socotra**	**36.52**	**285**	P	**P**	**10 33 50.3 +0.6**
SOEI	**Soe**	**36.82**	**112**	P	**P**	**10 33 52.0 -0.2**
SOEI	**Soe**	**36.82**	**112**	P	**P**	**10 33 50.6 -1.6**
SOEI				IAmb	IAmb	10 34 07.1
	comp=Z,57nm,1.0s					
KSH	**Kashi**	**37.35**	**342**	P	**P**	**10 33 55.3 -1.2**
KSH				pP	sP	10 34 00.3 -0.2
KSH				PP	**PnPn**	**10 35 23.8 +1.4**
KSH				S	**S**	**10 39 40.5 -3.8**
KSH				sS	sS	10 39 49.3 +0.2
KSH				pmax	pmax	
	comp=Z,97nm,1.2s					
KSH				pmax	pmax	
	comp=Z,2μm,4.5s					
KSH				LR	LR	
	comp=Z,5μm,15.2s					
KSH				LR	LR	
	comp=Z,6μm,14.7s					
KSH				LR	LR	
	comp=Z,4μm,18.8s					
TNTI	**Ternate**	**37.43**	**94**	P	P	10 34 08.6 +11
TNTI	**Ternate**	**37.43**	**94**	P	**P**	**10 33 56.0 -1.3**
NLAI	**Namlea**	**37.76**	**101**	P	P	10 34 14.4 +14
ALNE	**Al Ain**	**38.47**	**304**	*i* P	**P**	**10 34 07.9 +1.9**
	SNR=6.6					
UOSS	**Minazif**	**38.49**	**306**	P	**P**	**10 34 08.1 +1.9**
HATD	**Hatta, Dubai**	**38.49**	**305**	P	**P**	**10 34 06.5 +0.3**
NJ2	**Nanjing**	**38.65**	**41**	*e*P	**P**	**10 34 08.3 +0.9**
NJ2				pP	**sP**	**10 34 11.3 -0.1**
NJ2				sP	**pwP**	**10 34 14.6 +0.5**
NJ2				PP	**PnPn**	**10 35 38.3 +0.3**
NJ2				S	**S**	**10 40 05.9 +2.1**
NJ2				sS	sS	10 40 17.1 +8.5
NJ2				pmax	pmax	
	comp=Z,34nm,1.2s					
NJ2				pmax	pmax	
	comp=Z,530nm,5.6s					
NJ2				LR	LR	
	comp=Z,6μm,17.1s					
NJ2				LR	LR	
	comp=Z,6μm,18.0s					
NJ2				LR	LR	
	comp=Z,5μm,14.7s					
PSA00	**Pilbara Seismi**	**38.86**	**133**	P	**P**	**10 34 09.4 +0.2**
PSA00	**Pilbara Seismi**	**38.86**	**133**	P	**P**	**10 34 09.5 +0.2**
PSA00				IAmb	IAmb	10 34 24.4
	comp=Z,22nm,1.1s					
TARG	**Taragay, Kyrgy**	**38.90**	**345**	P	**P**	**10 34 11.2 +1.4**
AAI	**Ambon**	**38.92**	**101**	P	**P**	**10 34 11.8 +1.9**
GAR	**Garm**	**38.96**	**335**	P	**P**	**10 34 10.2 +0.1**
GAR				IAmb	IAmb	10 34 11.9
	comp=Z,100nm,1.0s					
GAR				IAMs_20	IAMs_20	10 51 29.4
	comp=Z,6μm,22.0s					
ASUD	**Al Ashush, Dub**	**39.06**	**305**	P	**P**	**10 34 12.6 +1.6**
TIY	**Taiyuan**	**39.09**	**29**	*e*P	**P**	**10 34 12.1 +1.0**
TIY				S	**S**	**10 40 11.8 +1.3**
TIY				pmax	pmax	
	comp=Z,350nm,8.6s					
TIY				LR	LR	
	comp=Z,5μm,18.3s					
TIY				LR	LR	
	comp=Z,4μm,18.1s					
TIY				LR	LR	
	comp=Z,4μm,18.8s					
NRN	**Naryn**	**39.11**	**343**	P	**P**	**10 34 12.7 +1.2**
NRN				pmax	pmax	
	comp=Z,49nm,1.4s					
NRN				MLR	MLR	
	comp=Z,4μm,19.0s					
NRN	**Naryn**	**39.11**	**343**	P	**P**	**10 34 12.7 +1.2**
NRN				IAMs_20	IAMs_20	10 51 31.8
	comp=Z,4μm,19.0s					
CHGR	**Chuyangaron**	**39.17**	**334**	P	**P**	**10 34 11.5 -0.3**
CHGR				IAmb	IAmb	10 34 24.8
	comp=Z,88nm,0.8s					
CHGR				IAMs_20	IAMs_20	10 51 46.0
	comp=Z,7μm,20.0s					
KDJ	**Kajisay**	**39.43**	**345**	P	**P**	**10 34 15.4 +1.4**
KDJ				pmax	pmax	
	comp=Z,42nm,1.0s					
KDJ				MLR	MLR	
	comp=Z,2μm,20.0s					
KDJ	**Kajisay**	**39.43**	**345**	P	**P**	**10 34 15.4 +1.4**
PRZ	**Przheval'sk**	**39.46**	**346**	P	**P**	**10 34 16.3 +2.0**
PRZ				pmax	pmax	
	comp=Z,171nm,1.4s					
PRZ				MLR	MLR	
	comp=Z,2μm,21.0s					
PRZ	**Przheval'sk**	**39.46**	**346**	P	**P**	**10 34 16.3 +2.0**
PRZ				IAmb	IAmb	10 34 29.2
	comp=Z,171nm,1.4s					
WMQ	**Urumqi**	**39.46**	**357**	*e*P	**P**	**10 34 15.3 +1.2**
WMQ				sP	pwP	10 34 23.6 +2.7
WMQ				PP	**PnPn**	**10 35 50.4 +2.7**
WMQ				pmax	pmax	
	comp=Z,28

WMQ	**Urumqi**	**39.46 357**	P	**P**	**10 34 15.5 +1.4**
WMQ			IAmb	IAmb	10 34 29.5
	comp=Z,57nm,0.8s				
WMQ	**Urumqi**	**39.46 357**	IAMs_20	IAMs_20	10 51 17.5
	comp=Z,3μm,20.0s				
HRA	**Herat**	**39.57 323**	P	**P**	**10 34 16.9 +1.6**
BTK	**Batken**	**39.66 337**	P	**P**	**10 34 16.6 +0.8**
BTK			pmax	pmax	
	comp=Z,36nm,0.9s				
BTK			MLR	MLR	
	comp=Z,3μm,21.0s				
BTK	**Batken**	**39.66 337**	P	**P**	**10 34 16.6 +0.8**
ULHL	**Ulahol**	**39.79 344**	P	**P**	**10 34 18.4 +1.3**
	SNR=19				
KZA	**Kyzart**	**39.92 343**	P	**P**	**10 34 19.9 +1.5**
	SNR=12				
ARSB	**Arslanbob**	**39.96 340**	P	**P**	**10 34 19.4 +1.0**
ARSB			IAmb	IAmb	10 34 33.2
	comp=Z,62nm,0.7s				
PDGK	**Podgornoye**	**40.03 348**	P	**P**	**10 34 18.9 0.0**
PDGK			pmax	pmax	
	comp=Z,47nm,1.2s				
BOOM	**Boomskoye usch**	**40.10 344**	P	**P**	**10 34 20.5 +0.9**
BOOM			pmax	pmax	
	comp=Z,72nm,1.4s				
BOOM			MLR	MLR	
	comp=Z,4μm,20.0s				
BOOM	**Boomskoye usch**	**40.10 344**	P	**P**	**10 34 20.5 +0.9**
BOOM			IAMs_20	IAMs_20	10 52 06.3
	comp=Z,4μm,20.0s				
UCH	**Uchtor**	**40.28 342**	P	**P**	**10 34 22.8 +1.4**
	SNR=54				
TIA	**Tai'an**	**40.41 35**	P	**P**	**10 34 23.1 +1.1**
TIA			S	**S**	**10 40 24.5 -5.7**
TIA			pmax	pmax	
	comp=Z,37nm,1.3s				
TIA			pmax	pmax	
	comp=Z,530nm,5.8s				
TIA			LR	LR	
	comp=Z,4μm,15.5s				
TIA			LR	LR	
	comp=Z,4μm,15.5s				
TIA			LR	LR	
	comp=Z,4μm,18.4s				
BTO	**Baotou**	**40.41 24**	*e*P	**P**	**10 34 21.5 -0.6**
BTO			S	**S**	**10 40 26.6 -3.8**
AML	**Almayashu**	**40.45 341**	P	**P**	**10 34 23.4 +0.7**
	SNR=62				
AAA	**Alma-Ata**	**40.51 345**	*e*P	**P**	**10 34 25.7 +2.9**
AAA			*e*S	**S**	**10 40 35.1 +3.4**
AAA			pmax	pmax	
	comp=Z,500nm,3.5s				
AAA			smax	smax	
	comp=E,1μm,8.9s				
AAA			MLR	MLR	
	comp=Z,900nm,13.0s				
KBK	**Karagaybulak**	**40.54 343**	P	**P**	**10 34 25.1 +1.9**
	SNR=27				
TKM2	**Tokmak 2**	**40.60 344**	*i* P	**P**	**10 34 23.7 0.0**
TKM2			pmax	pmax	
	comp=Z,50nm,1.2s				
TKM2	**Tokmak 2**	**40.60 344**	P	**P**	**10 34 25.0 +1.3**
	SNR=33				
AAK	**Ala-Archa**	**40.66 342**	*i* P	**P**	**10 34 25.8 +1.6**
	SNR=13				
AAK	**Ala-Archa**	**40.66 342**	P	**P**	**10 34 24.8 +0.6**
AAK			pmax	pmax	
	comp=Z,38nm,1.2s				
AAK	**Ala-Archa**	**40.66 342**	P	**P**	**10 34 26.0 +1.8**
	SNR=23				
AAK	**Ala-Archa**	**40.66 342**	P	**P**	**10 34 25.9 +1.8**
AAK			IAmb	IAmb	10 34 39.2
	comp=Z,100nm,1.4s				
FRU1	**Bishkek**	**40.77 343**	P	**P**	**10 34 26.9 +1.9**
FRU1			pmax	pmax	
	comp=Z,61nm,1.2s				
FRU1	**Bishkek**	**40.77 343**	P	**P**	**10 34 26.9 +1.9**
FRU1			IAmb	IAmb	10 34 41.0
	comp=Z,61nm,1.1s				
EKS2	**Erkin-Say**	**40.90 342**	P	**P**	**10 34 27.9 +1.8**
	SNR=32				
USP	**Ospenovka**	**41.23 343**	P	**P**	**10 34 30.1 +1.3**
	SNR=31				
HHC	**Hu-ho-hao-te**	**41.25 25**	*e*P	**P**	**10 34 29.6 +0.6**
HHC			pmax	pmax	
	comp=Z,5.0nm,0.6s				
TAS	**Tashkent**	**41.35 336**	P	**P**	**10 34 31.2 +1.5**
TAS			pmax	pmax	
	comp=Z,78nm,0.9s				
TAS			MLR	MLR	
	comp=Z,2μm,22.0s				
TAS	**Tashkent**	**41.35 336**	P	**P**	**10 34 31.2 +1.5**
TAS			IAmb	IAmb	10 34 32.4
	comp=Z,78nm,0.9s				
MORW	**Morawa**	**41.48 145**	P	**P**	**10 34 31.0 +0.1**
SWI	**Sorong**	**41.48 96**	P	P	10 34 41.0 +10
SIJI	**Sorong**	**41.49 96**	P	**P**	**10 34 34.9 +3.6**
	comp=Z,8.1nm,0.7s,baz=330,slow=3.6,SNR=7.0				
FITZ	**Fitzroy Crossi**	**41.52 123**	P	**P**	**10 34 30.8 -0.6**
RER	**Riviere de l'E**	**42.06 232**	P	**P**	**10 34 35.0 -0.8**
RER			IAmb	IAmb	10 34 39.5
	comp=Z,98nm,0.9s				
KK31	**Karatay Array**	**42.40 339**	*i* P	**P**	**10 34 38.6 +0.3**
KK31			pmax	pmax	
	comp=Z,32nm,0.9s				
KK31	**Karatay Array**	**42.40 339**	P	**P**	**10 34 38.9 +0.6**
KK31			IAmb	IAmb	10 34 50.4
	comp=Z,42nm,0.8s				
KKAR	**Karatay Array**	**42.40 339**	P	**P**	**10 34 38.9 +0.6**
KKAR			pmax	pmax	
	comp=Z,42nm,0.8s				
KKAR	**Karatay Array**	**42.40 339**	P	**P**	**10 34 39.3 +1.0**
KKAR	**Karatay Array**	**42.40 339**	P	**P**	**10 34 38.9 +0.6**
KKAR			IAmb	IAmb	10 34 50.4
	comp=Z,42nm,0.8s				
BJT	**Baijiatuau**	**42.71 30**	P	**P**	**10 34 42.1 +1.3**
BJT			pmax	pmax	
	comp=Z,53nm,1.0s				
BJT			MLR	MLR	
	comp=Z,4μm,19.0s				
BJT	**Baijiatuau**	**42.71 30**	P	**P**	**10 34 42.1 +1.3**
BJT			IAmb	IAmb	10 34 54.8
	comp=Z,53nm,1.0s				
BJT	**Baijiatuau**	**42.71 30**	IAMs_20	IAMs_20	10 54 18.8
	comp=Z,4μm,19.0s				
BJI	**Beijing**	**42.73 30**	P	**P**	**10 34 41.8 +0.9**
BJI			S	**S**	**10 41 07.0 +2.6**
BJI			pmax	pmax	
	comp=Z,29nm,1.3s				
BJI			LR	LR	
	comp=Z,3μm,20.8s				
BJI			LR	LR	
	comp=Z,4μm,22.5s				
BJI			LR	LR	
	comp=Z,3μm,23.9s				
FAKI	**Fak Fak**	**42.76 99**	P	P	10 34 49.8 +8.2
FAKI	**Fak Fak**	**42.76 99**	P	**P**	**10 34 41.0 -0.7**
MK31	**Makanchi Array**	**42.91 352**	*i* P	**P**	**10 34 42.4 0.0**
MK31			pmax	pmax	
	comp=Z,29nm,1.1s				
MK31	**Makanchi Array**	**42.91 352**	P	**P**	**10 34 41.6 -0.8**
MKAR	**Makanchi Array**	**42.91 352**	P	**P**	**10 34 42.4 0.0**
	comp=Z,7.0nm,0.7s,baz=176,slow=8.7,SNR=17				
MAKZ	**Makanchi**	**42.97 352**	P	**P**	**10 34 42.7 -0.2**
MAKZ			pmax	pmax	
	comp=Z,19nm,1.4s				
MAKZ	**Makanchi**	**42.97 352**	P	**P**	**10 34 40.9 -2.0**
KNRA	**Kununurra**	**43.12 118**	P	**P**	**10 34 44.5 0.0**
KNRA			IAmb	IAmb	10 34 56.5
	comp=Z,58nm,0.8s				
MTN	**Manton Dam**	**44.20 113**	P	**P**	**10 34 53.0 -0.2**
ASHT	**Ashkhabad**	**44.26 324**	IAMs_20	IAMs_20	10 52 50.1
	comp=Z,2μm,21.0s				
GEYT	**Alibeck**	**44.41 323**	P	**P**	**10 34 55.5 +0.8**
	comp=Z,53nm,0.6s,baz=148,slow=8.7,SNR=49				
GYA0B	**ALIBECK ARRAY**	**44.41 323**	P	**P**	**10 34 55.6 +1.0**
DL2	**Dalian**	**44.85 35**	P	**P**	**10 34 57.4 -0.6**
DL2			S	**S**	**10 41 32.8 -2.7**
DL2			pmax	pmax	
	comp=Z,74nm,1.2s				
DL2			pmax	pmax	
	comp=Z,640nm,4.9s				
DL2			LR	LR	
	comp=Z,2μm,17.2s				
DL2			LR	LR	
	comp=Z,2μm,15.4s				
DL2			LR	LR	
	comp=Z,3μm,15.4s				
H01W3	**Cape Leeuwin H**	**45.04 152**	T	T	11 22 59.2
	baz=326,slow=76,SNR=248				
H01W2	**Cape Leeuwin H**	**45.05 152**	T	T	11 23 00.1
	baz=326,slow=76,SNR=224				
H01W1	**Cape Leeuwin H**	**45.05 152**	T	T	11 23 00.6
	baz=326,slow=76,SNR=322				
NWAO	**Narrogin (SRO)**	**45.06 147**	P	**P**	**10 34 59.1 -0.8**
NWAO			pmax	pmax	
	comp=Z,25nm,0.9s				
NWAO	**Narrogin (SRO)**	**45.06 147**	P	**P**	**10 34 59.1 -0.8**
NWAO	**Narrogin (SRO)**	**45.06 147**	P	**P**	**10 34 58.6 -1.2**
NWAO			IAmb	IAmb	10 35 09.3
	comp=Z,20nm,0.8s				
DGZ	**Jazzator, Alta**	**45.34 358**	*i* P	**P**	**10 35 02.8 +0.8**
SONM	**Songino Array**	**45.64 15**	P	**P**	**10 35 04.7 +0.4**
	comp=Z,42nm,0.7s,baz=195,slow=9.4,SNR=201				
SONM			LR	LR	10 56 29.6
	comp=Z,6μm,19.1s,baz=188,slow=39				
SONM	**Songino Array**	**45.64 15**	P	**P**	**10 35 05.0 +0.6**
ULN	**Ulaanbaatar**	**45.84 16***c*	*i* P	**P**	**10 35 05.8 -0.2**
ULN			pmax	pmax	
	comp=Z,58nm,1.3s				
ULN	**Ulaanbaatar**	**45.84 16**	P	**P**	**10 35 06.1 +0.1**
ULN			IAmb	IAmb	10 35 18.5
	comp=Z,43nm,0.9s				
DAMY	**Dhamar**	**46.11 286**	P	**P**	**10 35 09.1 +0.3**
DAMY			IAmb	IAmb	10 35 25.2
	comp=Z,45nm,1.1s				
TJN	**Taejon**	**46.87 42**	*i* P	**P**	**10 35 13.5 -0.6**
RAYN	**Ar Rayn**	**47.04 298**	*i* P	**P**	**10 35 16.2 +0.5**
	SNR=12				
RAYN	**Ar Rayn**	**47.04 298**	P	**P**	**10 35 16.1 +0.5**
RAYN			pmax	pmax	
	comp=Z,20nm,0.9s				
RAYN	**Ar Rayn**	**47.04 298**	P	**P**	**10 35 16.1 +0.5**
RAYN			IAmb	IAmb	10 35 30.0
	comp=Z,20nm,0.9s				
RAYN			IAMs_20	IAMs_20	10 52 49.5
	comp=Z,4μm,21.0s				
KURBB	**Kurchatov Arra**	**47.22 350**	P	**P**	**10 35 16.8 +0.3**
	comp=Z,18nm,1.0s,baz=176,slow=7.3,SNR=20				
KURK	**Kurchatov**	**47.30 350**	*i* P	**P**	**10 35 16.3 -0.8**
KURK			pmax	pmax	
	comp=Z,31nm,1.0s				
KURK	**Kurchatov**	**47.30 350**	P	**P**	**10 35 17.0 -0.1**
KURK			IAmb	IAmb	10 35 32.5
	comp=Z,44nm,1.2s				
ZAK	**Zakamensk**	**47.31 11**	*e*P	**P**	**10 35 17.6 +0.2**
ZAK			pmax	pmax	
	comp=Z,12nm,1.4s				
ZAK			pmax	pmax	
	comp=Z,16nm,1.1s				
JNU	**Nakatsue**	**47.67 48**	LR	LR	10 56 37.5
	comp=Z,2μm,18.9s,baz=246,slow=38				
KSAR	**Wonju Array Be**	**47.82 41**	P	**P**	**10 35 21.3 -0.1**
KSAR	**Wonju Array Be**	**47.82 41**	P	**P**	**10 35 21.3 -0.1**
KS19	**Wonju Array Si**	**47.84 41**	P	**P**	**10 35 21.7 +0.1**
KS19			IAmb	IAmb	10 35 33.1
	comp=Z,45nm,1.4s				
KSRS	**Korea Array**	**47.85 41**	P	**P**	**10 35 21.1 -0.5**
	comp=Z,8.6nm,1.1s,baz=241,slow=8.8,SNR=17				
KSRS			LR	LR	10 57 31.3
	comp=Z,2μm,18.2s,baz=228,slow=39				
SNY	**Shenyang**	**47.91 34**	⇑P	**P**	**10 35 21.4 -0.7**
SNY			S	**S**	**10 42 17.8 -1.5**
SNY			pmax	pmax	
	comp=Z,52nm,1.2s				
SNY			pmax	pmax	
	comp=Z,610nm,5.0s				
SNY			LR	LR	
	comp=Z,3μm,19.2s				
SNY			LR	LR	
	comp=Z,3μm,17.1s				
SNY			LR	LR	
	comp=Z,4μm,17.2s				
ABPO	**Ambohimpanom**	**48.08 240**	P	**P**	**10 35 24.3 +0.4**
ABPO			pmax	pmax	
	comp=Z,38nm,1.0s				
ABPO	**Ambohimpanom**	**48.08 240**	P	**P**	**10 35 24.3 +0.4**
ABPO			IAmb	IAmb	10 35 25.7
	comp=Z,38nm,1.0s				
MOY	**Mondy**	**48.13 9**	*e*P	**P**	**10 35 24.8 +1.0**
MOY			pmax	pmax	
	comp=Z,31nm,1.7s				
TLY	**Talaya**	**48.61 11**	*e*P	**P**	**10 35 28.4 +1.0**
TLY			*e*S	**S**	**10 42 36.0 +7.0**
TLY			pmax	pmax	
	comp=Z,43nm,1.1s				
TLY			MLR	MLR	
	comp=Z,6μm,16.0s				
TLY	**Talaya**	**48.61 11**	P	**P**	**10 35 28.0 +0.6**
	comp=Z,5.0nm,0.7s,baz=197,slow=4.9,SNR=5.1				
TLY	**Talaya**	**48.61 11**	P	**P**	**10 35 27.2 -0.1**
TLY			IAMs_20	IAMs_20	10 56 19.8
	comp=Z,3μm,22.0s				
WB0	**Warramunga Arr**	**49.68 120**	P	**P**	**10 35 35.8 -0.3**
WB0			IAmb	IAmb	10 35 48.0
	comp=Z,50nm,0.8s				
WRA	**Warramunga Arr**	**49.71 121**	P	**P**	**10 35 35.8 -0.5**
	comp=Z,13nm,0.5s,baz=297,slow=8.8,SNR=215				
WRA	**Warramunga Arr**	**49.71 121**	P	**P**	**10 35 35.8 -0.5**
WRAB	**Tennant Creek**	**49.71 121**	P	**P**	**10 35 36.0 -0.3**
WRAB			pmax	pmax	
	comp=Z,61nm,0.8s				
WRAB			MLR	MLR	
	comp=Z,2μm,22.0s				
WRAB	**Tennant Creek**	**49.71 121**	P	**P**	**10 35 36.0 -0.3**
WB2	**Warramunga Arr**	**49.72 121**	P	**P**	**10 35 35.8 -0.6**
ZAA0	**Zalesovo Array**	**49.73 356**	P	**P**	**10 35 35.8 0.0**
ZAA0			IAmb	IAmb	10 35 50.2
	comp=Z,78nm,1.4s				
ZALV	**Zalesovo Beam**	**49.73 356**	P	**P**	**10 35 35.8 0.0**
	comp=Z,22nm,0.5s,baz=183,slow=7.4,SNR=47				
ZALV			LR	LR	10 59 26.3
	comp=Z,833nm,19.5s,baz=176,slow=40				
CN2	**Changchun**	**50.25 33**	*e*P	**P**	**10 35 39.8 -0.2**
CN2			*e*sP	pwP	10 35 46.5 -0.4
CN2			*e*S	**S**	**10 42 51.3 -0.9**
CN2			pmax	pmax	
	comp=Z,40nm,1.2s				
CN2			pmax	pmax	
	comp=Z,200nm,5.0s				
CN2			LR	LR	
	comp=Z,3μm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,18.0s				
CN2			LR	LR	
	comp=Z,3μm,20.0s				
FORT	**Forrest**	**50.29 136**	P	**P**	**10 35 39.2 -1.3**
AS31	**Alice Springs**	**50.95 125**	P	**P**	**10 35 44.5 -1.1**
ASAR	**Alice Springs**	**50.95 125**	P	**P**	**10 35 46.4 +0.8**
ASAR	**Alice Springs**	**50.95 125**	P	**P**	**10 35 45.4 -0.2**
	comp=Z,4.6nm,0.7s,baz=296,slow=7.3,SNR=73				
ASAR	**Alice Springs**	**50.95 125**	P	**P**	**10 35 46.4 +0.8**
FURI	**Furi**	**51.21 278**	P	**P**	**10 35 46.9 -1.2**
FURI			IAmb	IAmb	10 36 06.4
	comp=Z,31nm,0.8s				
BRVK	**Borovoye**	**51.31 345**	P	**P**	**10 35 47.7 -0.1**
BRVK			pmax	pmax	
	comp=Z,32nm,1.1s				
BRVK			MLR	MLR	
	comp=Z,2μm,18.0s				
BRVK	**Borovoye**	**51.31 345**	P	**P**	**10 35 47.7 -0.1**
BRVK	**Borovoye**	**51.31 345**	IAMs_20	IAMs_20	10 59 09.7
	comp=Z,2μm,18.0s				
HIA	**Hailar**	**51.45 25**	P	**P**	**10 35 48.5 -0.5**
HIA			pmax	pmax	
	comp=Z,86nm,1.4s				
HIA	**Hailar**	**51.45 25**	P	**P**	**10 35 48.5 -0.5**
HIA			IAmb	IAmb	10 36 06.0
	comp=Z,86nm,1.4s				
AB31	**Akbulak array**	**51.62 335**	*i* P	**P**	**10 35 50.2 0.0**
AB31			pmax	pmax	
	comp=Z,45nm,1.1s				
ABKAR	**Akbulak array**	**51.62 335**	P	**P**	**10 35 50.5 +0.3**
ABKAR			IAmb	IAmb	10 36 00.8
	comp=Z,79nm,1.4s				
ABKAR	**Akbulak array**	**51.62 335**	P	**P**	**10 35 50.1 -0.1**
AKT	**Akhty**	**52.94 321**	*e*P	**P**	**10 35 59.4 -0.9**
AKT			*e*		10 37 08.9
AKT			pmax	pmax	
	comp=Z,48nm,1.2s				
KMBO	**Kilima Mbogo**	**53.03 265**	*i* P	**P**	**10 36 02.3 +0.7**
	SNR=11				
KMBO	**Kilima Mbogo**	**53.03 265**	P	**P**	**10 36 01.7 +0.1**
KMBO			pmax	pmax	
	comp=Z,20nm,0.9s				
KMBO	**Kilima Mbogo**	**53.03 265**	P	**P**	**10 36 02.1 +0.5**
	comp=Z,9.4nm,0.8s,baz=57,slow=7.8,SNR=20				
KMBO			LR	LR	10 54 58.6
	comp=Z,2μm,18.5s,baz=87,slow=32				
KMBO	**Kilima Mbogo**	**53.03 265**	P	**P**	**10 36 01.7 +0.1**
KMBO	**Kilima Mbogo**	**53.03 265**	IAMs_20	IAMs_20	10 52 16.1
	comp=Z,3μm,22.0s				
MDJ	**Mudanjiang**	**53.07 35**	P	**P**	**10 36 01.6 +0.5**
MDJ			pP	sP	10 36 04.6 -0.6
MDJ			sP	pwP	10 36 06.3 -1.7
MDJ			PcP	**PcP**	**10 37 08.5 -1.0**
MDJ			PP	**PP**	**10 38 00.0 -1.0**
MDJ			PcS	**PcS**	**10 41 05.8 -2.3**
MDJ			ScP	**ScP**	**10 41 07.3 +0.2**
MDJ			S	**S**	**10 43 30.3 -0.7**
MDJ			ScS	**ScS**	**10 45 51.4 +0.6**
MDJ			SS	**SS**	**10 47 13.3 +2.8**
MDJ			pmax	pmax	
	comp=Z,73nm,1.3s				
MDJ			pmax	pmax	
	comp=Z,600nm,4.1s				
MDJ			LR	LR	
	comp=Z,940nm,14.2s				
MDJ			LR	LR	
	comp=Z,3μm,18.5s				
MDJ			LR	LR	
	comp=Z,4μm,18.5s				
MDJ	**Mudanjiang**	**53.07 35**	P	**P**	**10 36 01.6 +0.5**
AKTO	**Aktyubinsk**	**53.33 335**	P	**P**	**10 36 02.0 -0.9**
AKTO			pmax	pmax	
	comp=Z,23nm,1.0s				
GNI	**Garni**	**54.21 318**	P	**P**	**10 36 09.5 -0.2**
GNI			pmax	pmax	
	comp=Z,69nm,1.2s				
GNI	**Garni**	**54.21 318**	P	**P**	**10 36 09.5 -0.2**
GNI			IAmb	IAmb	10 36 19.8
	comp=Z,68nm,1.2s				
USA0B	**Ussuriysk Arra**	**54.22 36**	*i* P	**P**	**10 36 09.8 +0.4**
USA0B	**Ussuriysk Arra**	**54.22 36**	P	**P**	**10 36 09.2 -0.3**
USRK	**Ussuriysk Ar.**	**54.22 36**	P	**P**	**10 36 09.9 +0.5**
	comp=Z,20nm,1.1s,baz=241,slow=5.7,SNR=23				
USRK			LR	LR	11 02 14.1
	comp=Z,1μm,18.5s,baz=225,slow=39				
MJAR	**Matsushiro Arr**	**54.59 47**	LR	LR	11 01 32.6
	comp=Z,1μm,19.3s,baz=260,slow=38				
TBLG	**Delisi**	**54.99 319**	P	**P**	**10 36 16.0 +0.8**
TBLG			pmax	pmax	
	comp=Z,70nm,0.9s				
TBLG	**Delisi**	**54.99 319**	P	**P**	**10 36 16.0 +0.8**
GROC	**Groznyy**	**55.08 322**	*e*P	**P**	**10 36 14.9 -0.8**
GROC			*e*		10 37 15.3
GROC			pmax	pmax	
	comp=Z,70nm,1.0s				
AKH	**Akhalkalaki**	**55.65 319**	P	**P**	**10 36 20.6 +0.5**
AKH			pmax	pmax	
	comp=Z,39nm,1.4s				
AKH	**Akhalkalaki**	**55.65 319**	⇓P	**P**	**10 36 21.5 +1.4**
AKH	**Akhalkalaki**	**55.65 319**	P	**P**	**10 36 20.6 +0.5**
AKH			IAmb	IAmb	10 36 23.1
	comp=Z,39nm,1.4s				
ZEI	**Tsey**	**56.06 320**	*e*P	**P**	**10 36 22.7 -0.4**
ZEI			pmax	pmax	
	comp=Z,21nm,0.9s				
NCK	**Nalchik**	**56.60 321**	*i* P	**P**	**10 36 27.6 +0.9**
NCK			pmax	pmax	
	comp=Z,31nm,1.2s				
BOD	**Bodaibo**	**56.64 15**	*e*P	**P**	**10 36 26.6 0.0**
BOD			pmax	pmax	
	comp=Z,56nm,0.9s				
ASF	**Jabal al Asfar**	**56.90 306**	P	**P**	**10 36 30.8 +1.7**
BCA	**Borcka**	**56.91 318**	⇓P	**P**	**10 36 29.7 +0.8**
BATM	**Batumi**	**56.93 318**	⇓P	**P**	**10 36 30.0 +0.9**
KLR	**Kul'dur**	**57.06 31**	*i* P	**P**	**10 36 29.5 -0.3**
KLR			pmax	pmax	
	comp=Z,34nm,1.2s				
KLR	**Kul'dur**	**57.06 31**	P	**P**	**10 36 30.1 +0.3**
	comp=Z,29nm,1.2s,baz=241,slow=8.2,SNR=25				
KLR			LR	LR	11 04 02.1
	comp=Z,4μm,18.8s,baz=228,slow=39				
BBOO	**Buckleboo**	**57.07 134**	P	**P**	**10 36 30.1 -0.1**
BBOO			IAMs_20	IAMs_20	11 04 23.2
	comp=Z,2μm,18.0s				
KBZ	**Khabaz**	**57.16 321**	*i* P	**P**	**10 36 30.5 -0.1**
KBZ	**Khabaz**	**57.16 321**	P	**P**	**10 36 30.9 +0.3**
	comp=Z,27nm,1.0s,baz=117,slow=6.6,SNR=27				
KBZ			LR	LR	11 03 44.5
	comp=Z,322nm,19.9s,baz=94,slow=39				
SWQJ	**Swaqa**	**57.31 305**	P	**P**	**10 36 33.8 +1.8**
HSNJ	**Maan**	**57.34 303**	P	**P**	**10 36 33.9 +1.6**
SVE	**Sverdlovsk**	**57.38 341**⇓	*e*P	**P**	**10 36 32.1 +0.2**
SVE			pmax	pmax	
	comp=Z,80nm,1.3s				
KIV	**Kislovodsk**	**57.40 321**	*i* P	**P**	**10 36 33.1 +0.6**
	SNR=8.8				
KIV	**Kislovodsk**	**57.40 321**	*e*P	**P**	**10 36 32.3 -0.2**
KIV			*e*S	**S**	**10 44 29.6 +0.3**
KIV			pmax	pmax	
	comp=Z,187nm,1.0s				
KIV			pmax	pmax	
	comp=Z,238nm,3.6s				
KIV	**Kislovodsk**	**57.40 321**	P	**P**	**10 36 32.8 +0.3**
KIV			IAmb	IAmb	10 36 34.8
	comp=Z,68nm,1.1s				
HSUJ	**Al Zarqa**	**57.45 306**	P	**P**	**10 36 34.8 +1.8**
MANU	**Manus Island**	**57.61 95**	P	**P**	**10 36 34.4 0.0**
MANU			IAmb	IAmb	10 36 53.5
	comp=Z,38nm,0.8s				
ARU	**Arti**	**57.75 340***c*	*i* P	**P**	**10 36 34.5 0.0**
ARU			S	**S**	**10 44 35.9 +2.7**
ARU			SS	**SS**	**10 48 19.9 -3.9**
ARU			pmax	pmax	
	comp=Z,20nm,1.0s				
ARU	**Arti**	**57.75 340**	P	**P**	**10 36 34.1 -0.4**
ARU			IAmb	IAmb	10 36 46.4
	comp=Z,24nm,1.0s				
LISJ	**El Lisan**	**57.78 304**	P	**P**	**10 36 37.0 +1.8**
EIL	**Elat**	**57.80 302**	P	**P**	**10 36 36.4 +0.9**
HRFI	**Mount Harif**	**57.83 303**	P	**P**	**10 36 37.1 +1.5**
ZEA	**Zeya**	**57.92 25**	*e*P	**P**	**10 36 35.8 0.0**
ZEA			*e*S	**S**	**10 44 43.0 +7.5**
ZEA			pmax	pmax	
	comp=Z,35nm,1.0s				
ZEA			smax	smax	
	comp=N,700nm,16.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,20.0s				
ZEA			MLR	MLR	
	comp=N,1μm,16.0s				
SHMJ	**Saham**	**57.98 306**	P	**P**	**10 36 38.0 +1.4**
MMLI	**Mount Malkishu**	**58.17 306**	P	**P**	**10 36 39.5 +1.5**
KZIT	**Kziot**	**58.59 304**	P	**P**	**10 36 42.1 +1.2**
KAMA	**Osmaniye**	**58.71 311**	*i* P	**P**	**10 36 43.8 +2.0**
KAMA			IAML_P		
	comp=Z,280nm,0.5s				
MBAR	**Mbarara**	**59.46 267**	IAMs_20	IAMs_20	10 57 05.5
	comp=Z,3μm,22.0s				
AKO	**Adana**	**59.72 311**	*i* P	**P**	**10 36 50.5 +1.8**
AKO			IAML_P		
	comp=Z,61nm,0.3s				
DED	**Mersin**	**60.05 311**	*i* P	**P**	**10 36 52.1 +1.2**
DED			IAML_P		
	comp=Z,720nm,0.4s				
GULE	**Gulek**	**60.17 311**	*i* P	**P**	**10 36 53.8 +1.8**
GULE			IAML_P		
	comp=Z,38nm,0.2s				
CTAO	**Charters Tower**	**60.24 116**	P	**P**	**10 36 51.4 -1.1**
CTAO			pmax	pmax	
	comp=Z,68nm,1.0s				
CTAO	**Charters Tower**	**60.24 116**	P	**P**	**10 36 51.4 -1.1**
GRNR	**Gornyy**	**60.41 32**⇓	*i* P	**P**	**10 36 53.7 +0.6**
GRNR			pmax	pmax	
	comp=Z,20nm,1.2s				
CSS	**Mathiatis**	**60.57 308**	P	**P**	**10 36 55.4 +0.9**
CSS	**Mathiatis**	**60.57 308**	P	**P**	**10 36 54.5 0.0**
CSS			IAMs_20	IAMs_20	11 04 04.1
	comp=Z,2μm,20.0s				
KERG	**Konya-Eregli**	**60.70 311**	*i* P	**P**	**10 36 56.5 +1.0**
KERG			IAML_P		
	comp=Z,22nm,0.1s				
STKA	**Stephens Creek**	**60.72 130**	P	**P**	**10 36 55.6 +0.1**
	comp=Z,17nm,0.7s,baz=319,slow=6.1,SNR=25				
STKA			LR	LR	11 05 22.8

comp=Z,914nm,18.0s,baz=299,slow=38
STKA Stephens Creek 60.72 130 P **P 10 36 55.2 -0.4**
ANN Anapa 61.14 320 *e*P **P 10 37 00.0 +1.8**
ANN *e*S **S 10 45 23.1 +5.8**
ANN pmax pmax
comp=Z,26nm,0.7s
VRH Novokhopyorsk 61.69 328 *e*P **P 10 37 00.6 -1.1**
VRH pmax pmax
comp=Z,20nm,0.8s
BR131 Keskin Array S 61.82 313 P **P 10 37 03.0 0.0**
BR131 pmax pmax
comp=Z,14nm,0.8s
BR131 Keskin Array S 61.82 313 P **P 10 37 03.0 0.0**
BR131 IAmb IAmb 10 37 16.8
comp=Z,14nm,0.8s
BRTR Keskin Array B 61.82 313 P **P 10 37 02.8 -0.3**
comp=Z,6.2nm,0.8s,baz=125,slow=6.2,SNR=26
BRTR LR LR 11 06 32.2
comp=Z,940nm,18.4s,baz=98,slow=39
ILGA Ilgaz 62.21 315 P **P 10 37 06.3 +0.5**
ILGA IAmb IAmb 10 37 25.5
comp=Z,36nm,1.0s
ANTO Ankara 62.48 313 P **P 10 37 06.9 -0.5**
ANTO pmax pmax
comp=Z,24nm,0.9s
ANTO Ankara 62.48 313 ⇑P **P 10 37 08.6 +1.2**
ANTO mb 10 37 16.1
ANTO Ankara 62.48 313 P **P 10 37 06.9 -0.5**
ANTO IAmb IAmb 10 37 09.4
comp=Z,24nm,0.9s
VSR Storozhevoye 63.07 327 *e*P **P 10 37 10.4 -0.6**
VSR pmax pmax
comp=Z,20nm,1.1s
SIM Simferopol' 63.35 319 *ce*P **P 10 37 13.5 +0.4**
SIM pmax pmax
comp=Z,29nm,0.9s
SEVA Sevastopol 63.48 318 ⇑P **P 10 37 14.9 +1.0**
ISP Isparta 63.55 310 P **P 10 37 14.7 0.0**
ISP pmax pmax
comp=Z,17nm,0.8s
ISP MLR MLR
comp=Z,2μm,19.0s
ISP Isparta 63.55 310 P **P 10 37 14.7 0.0**
ISP IAmb IAmb 10 37 30.4
comp=Z,17nm,0.8s
ISP IAMs_20 IAMs_20 11 06 01.4
comp=Z,2μm,19.0s
ELL Elmali 63.73 309 P **P 10 37 15.6 -0.3**
ELL pmax pmax
comp=Z,157nm,0.8s
ELL Elmali 63.73 309 P **P 10 37 15.6 -0.3**
LPSR Galich'ya Gora 63.89 328 *e*P **P 10 37 15.5 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
NKL Nikolayevsk 63.91 31 *e*P **P 10 37 16.7 +0.2**
NKL *e* 10 37 54.9
NKL *e*SS SS 10 50 02.8 +2.4
NKL pmax pmax
comp=E,8.0nm,1.0s
NKL pmax pmax
comp=N,4.0nm,1.2s
NKL pmax pmax
comp=Z,45nm,1.2s
NKL pmax pmax
comp=Z,137nm,1.1s
LSZ Lusaka 64.24 251 P **P 10 37 19.0 -0.6**
LSZ pmax pmax
comp=Z,44nm,1.3s
LSZ Lusaka 64.24 251 P **P 10 37 19.0 -0.6**
LSZ IAmb IAmb 10 37 20.7
comp=Z,44nm,1.3s
YAK Yakutsk 64.72 19 *e*P **P 10 37 21.5 -0.2**
YAK *e**PP **pwP 10 37 27.4 -1.2**
YAK *e* 10 39 45.6
YAK *e*S **S 10 45 58.6 -3.0**
YAK *e**SS sS 10 46 24.4 +18
YAK pmax pmax
comp=Z,64nm,1.0s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,25nm,1.0s
YAK pmax pmax
comp=Z,57nm,1.6s
YAK pmax pmax
comp=N,31nm,1.2s
YAK pmax pmax
comp=E,31nm,1.5s
YAK smax smax
comp=E,599nm,3.7s
YAK smax smax
comp=N,432nm,3.8s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK Yakutsk 64.72 19 P **P 10 37 21.1 -0.5**
comp=Z,12nm,0.7s,baz=302,slow=1.9,SNR=21
YAK Yakutsk 64.72 19 P **P 10 37 21.5 -0.2**
NRIK Noril'sk 65.01 359 P **P 10 37 23.6 +0.1**
comp=Z,3.1nm,0.5s,baz=233,slow=4.1,SNR=5.2
MANT Manisa 65.22 311 P **P 10 37 25.8 0.0**
KARP Karpathos 65.60 307 P **P 10 37 28.4 +0.5**
KARP IAMs_20 IAMs_20 11 11 12.3
comp=Z,2μm,19.0s
EIDS Eidsvold 66.07 120 P **P 10 37 31.4 +0.3**
EIDS IAmb IAmb 10 37 44.8
comp=Z,30nm,0.8s
TOO Toolangi 66.12 134 P **P 10 37 33.3 +2.1**
TOO pmax pmax
comp=Z,52nm,1.0s
TOO MLR MLR
comp=Z,2μm,20.0s
TOO Toolangi 66.12 134 P **P 10 37 33.3 +2.1**
TOO IAMs_20 IAMs_20 11 09 44.4
comp=Z,2μm,20.0s
PRGR Permogore 66.12 339 *e*P **P 10 37 29.1 -1.6**
PRGR pmax pmax
comp=Z,33nm,0.6s
MOS Moscow 66.13 331 *e*P **P 10 37 29.2 -1.7**
MOS *e* 10 38 00.3
MOS pmax pmax
comp=Z,46nm,0.7s
OBN Obninsk 66.35 330 ⇓*e*P **P 10 37 30.7 -1.6**
OBN *PP **pP 10 37 34.0 -1.4**
OBN *SP **pwP 10 37 38.0 -1.3**
OBN S **S 10 46 16.0 -5.8**
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,1μm,18.0s
TLCR 66.96 318 ⇓P **P 10 37 36.8 +0.3**
TLCR mb 10 37 48.1
TIRR Tirgusor 67.01 317 P **P 10 37 36.8 0.0**
TIRR pmax pmax
comp=Z,77nm,1.1s
TIRR Tirgusor 67.01 317 ⇓P **P 10 37 37.3 +0.5**
TIRR Tirgusor 67.01 317 P **P 10 37 36.8 0.0**
TLB Topalu 67.30 317 ⇓P **P 10 37 40.1 +1.5**
HARR Harsova 67.41 317 ⇑P **P 10 37 39.4 +0.1**
HARR mb 10 37 46.9
CFR Carcaliu 67.41 317 ⇑P **P 10 37 39.5 +0.2**
MILM Milestii Mici 67.51 319 ⇑P **P 10 37 39.9 0.0**
CAN Canberra 67.77 131 P **P 10 37 41.5 -0.4**
CAN pmax pmax
comp=Z,21nm,0.9s
CAN MLR MLR
comp=Z,2μm,20.0s
CAN Canberra 67.77 131 P **P 10 37 41.5 -0.4**
CAN IAmb IAmb 10 37 57.7
comp=Z,21nm,0.9s
CAN IAMs_20 IAMs_20 11 07 21.1
comp=Z,2μm,20.0s
KLMR Klimovskoe 68.01 336 *e*P **P 10 37 41.9 -0.9**
KLMR *e* 10 40 13.6
KLMR pmax pmax
comp=Z,71nm,1.4s
KLMR Klimovskoe 68.01 336 *e*P **P 10 37 41.9 -0.9**
KLMR AMP 10 37 55.2
comp=Z,71nm,1.4s
KLMR *e*PP **PP 10 40 13.7 +0.9**
KLMR LQ LQ 11 01 58.9
KLMR LQ LQ 11 01 58.9
KLMR LR LR 11 07 23.2
ARMA Armidale 68.10 125 P **P 10 37 41.8 -2.3**
SORM Soroca 68.20 321 ⇑P **P 10 37 44.8 +0.5**
ELND Elena 68.35 315 ⇓P **P 10 37 45.9 +0.6**

ISR Istrita 68.47 317 ⇑P **P 10 37 46.7 +0.6**
BISRR Bisoca 68.48 318 ⇓P **P 10 37 47.1 +0.9**
AKASG Malin Array Be 68.54 323 *i* P **P 10 37 45.5 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 68.54 323 P **P 10 37 45.3 -1.0**
comp=Z,1.1nm,0.4s,baz=92,slow=4.9,SNR=19
AKBB Malin Array Si 68.54 323 P **P 10 37 45.6 -0.7**
AKBB pmax pmax
comp=Z,18nm,1.1s
AKBB Malin Array Si 68.54 323 P **P 10 37 45.6 -0.7**
AKBB IAmb IAmb 10 38 01.8
comp=Z,18nm,1.1s
VRI Vrincioaia 68.56 318 ⇑P **P 10 37 47.8 +1.2**
PLOR Plostina 68.61 318 ⇓P **P 10 37 48.1 +1.2**
TESR Tescani 68.80 319 ⇑P **P 10 37 48.6 +0.6**
LBTB Lobatse 68.95 241 P **P 10 37 49.8 +0.3**
LBTB pmax pmax
comp=Z,47nm,0.9s
LBTB Lobatse 68.95 241 P **P 10 37 49.8 +0.3**
MLR Muntele Rosu 68.98 317 P **P 10 37 49.5 +0.1**
MLR pmax pmax
comp=Z,75nm,0.9s
MLR Muntele Rosu 68.98 317 ⇑P **P 10 37 50.7 +1.3**
MLR Muntele Rosu 68.98 317 P **P 10 37 49.5 +0.1**
OZUR 69.26 318 ⇑P P 10 38 04.6 +14
BIZ Bicaz 69.29 319 ⇑P **P 10 37 51.6 +0.5**
PLVB Pleven 69.35 315 ⇑P **P 10 37 51.5 0.0**
DOPR Dopca 69.49 318 ⇑P **P 10 37 52.7 +0.3**
VOIR 69.58 317 ⇑P **P 10 37 52.9 -0.1**
ARR Arges 69.84 317 ⇑P **P 10 37 54.7 +0.1**
BURAR Bucovina Array 70.06 319 ⇓P **P 10 37 56.9 +1.0**
BURAR mb 10 38 09.2
BURAR Bucovina Array 70.06 319 P **P 10 37 56.2 +0.3**
BUR08 Bucovina Ar. S 70.08 319 P **P 10 37 56.3 +0.3**
BUR08 IAmb IAmb 10 38 11.9
comp=Z,22nm,0.9s
AGG Agios Georgios 70.08 310 IAMs_20 IAMs_20 11 10 17.8
comp=Z,1μm,19.0s
VTS Vitosha 70.16 314 P **P 10 37 56.1 -0.6**
VTS pmax pmax
comp=Z,18nm,0.9s
VTS Vitosha 70.16 314 ⇑P **P 10 37 56.8 +0.1**
VTS mb 10 38 10.9
VTS Vitosha 70.16 314 P **P 10 37 56.1 -0.6**
VTS IAmb IAmb 10 38 03.8
comp=Z,18nm,0.9s
BOSA Boshof 70.23 238 P **P 10 37 57.1 -0.2**
comp=Z,27nm,0.9s,baz=79,slow=5.2,SNR=23
BOSA LR LR 11 05 41.4
comp=Z,487nm,18.9s,baz=56,slow=33
BOSA Boshof 70.23 238 P **P 10 37 56.6 -0.7**
BOSA IAmb IAmb 10 38 07.2
comp=Z,30nm,0.9s
MICGM Minsk 70.65 327 *e* **P 10 38 01.0 +1.7**
MNK Minsk 70.65 327 *e*P **P 10 38 01.0 +1.7**
HNR Honiara 70.96 101 P **P 10 38 02.0 +0.1**
GZR Gura Zlata 71.12 317 ⇑P **P 10 38 02.4 0.0**
HERR Herculane 71.25 316 ⇑P **P 10 38 02.9 -0.2**
NACGM Naroch 71.39 327 *e* P 10 38 10.0 +6.3
DRGR 71.49 318 ⇑P **P 10 38 05.2 +0.5**
TIXI Tiksi 71.58 12 *ci* P **P 10 38 03.6 -1.0**
TIXI pmax pmax
comp=Z,27nm,1.2s
TIXI Tiksi 71.58 12 P **P 10 38 03.0 -1.6**
comp=Z,13nm,0.5s,baz=244,slow=5.8,SNR=42
TIXI Tiksi 71.58 12 P **P 10 38 03.3 -1.2**
MDVR Moldovita 71.71 316 ⇑P **P 10 38 05.7 -0.3**
MA2 Magadan 71.84 28 P **P 10 38 06.0 -0.4**
MA2 pmax pmax
comp=Z,113nm,1.5s
MA2 Magadan 71.84 28 P **P 10 38 05.9 -0.4**
comp=Z,11nm,0.7s,baz=248,slow=9.9,SNR=4.1
MA2 Magadan 71.84 28 P **P 10 38 06.0 -0.4**
TRPA Tarpa 71.93 319 ⇓P **P 10 38 08.2 +1.1**
TRPA mb 10 38 26.6
BZS Buzias 71.96 317 ⇓P **P 10 38 08.0 +0.6**
SIRR Siria 72.08 317 ⇑P **P 10 38 08.3 +0.2**
KOLS Kolonicke sedl 72.30 320 *e*P **P 10 38 10.5 +1.1**
KOLS pmax pmax
comp=Z,27nm,1.5s
KOLS Kolonicke sedl 72.30 320 *e*P **P 10 38 10.5 +1.1**
KOLS *e* 10 44 36.1
PDG Podgorica 73.00 313 ⇑P **P 10 38 14.1 +0.5**
PDG mb 10 38 24.6
PDG Podgorica 73.00 313 P **P 10 38 13.3 -0.3**
PDG IAmb IAmb 10 38 23.7
comp=Z,24nm,1.1s
SUW Suwalki 73.11 325 P **P 10 38 13.4 -0.6**
SUW pmax pmax
comp=Z,71nm,0.9s
SUW Suwalki 73.11 325 P **P 10 38 13.4 -0.6**
PETK Petropavlovsk- 73.30 36 P **P 10 38 14.0 -1.2**
PETK Petropavlovsk- 73.30 36 P **P 10 38 14.0 -1.2**
comp=Z,3.7nm,0.7s,baz=172,slow=4.4,SNR=5.3
PETK LR LR 11 12 18.0
comp=Z,1μm,18.3s,baz=222,slow=37
PET Petropavlovsk 73.83 36 P **P 10 38 18.0 -0.3**
PET pmax pmax
comp=Z,65nm,1.2s
PET Petropavlovsk 73.83 36 P **P 10 38 18.0 -0.3**
PET IAmb IAmb 10 38 20.0
comp=Z,65nm,1.2s
APA Apatity 73.84 341 ⇓*i*P P 10 38 23.9 +5.8
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,5μm,16.0s
SEY Seymchan 73.90 25 P **P 10 38 17.5 -1.0**
comp=Z,12nm,1.2s,baz=245,slow=10,SNR=5.8
FINES FINESS Array B 74.05 333 P **P 10 38 19.2 -0.2**
comp=Z,12nm,0.6s,baz=108,slow=7.5,SNR=45
LANS Liptovska Anna 74.15 320 *e*P **P 10 38 20.8 +0.5**
LANS Liptovska Anna 74.15 320 *e*P **P 10 38 20.8 +0.5**
OJC Ojcow 74.17 321 *e*P **P 10 38 21.1 +0.7**
OJC Ojcow 74.17 321 *e*P **P 10 38 21.1 +0.7**
OJC *e*P **P 10 38 21.1 +0.7**
OJC Ojcow 74.17 321 P **P 10 38 20.4 +0.1**
MAW Mawson 74.22 190 P **P 10 38 20.9 +0.7**
comp=Z,6.2nm,0.9s,baz=22,slow=6.6,SNR=8.0
MAW LR LR 11 03 36.1
comp=Z,889nm,20.9s,baz=28,slow=30
MAW Mawson 74.22 190 P **P 10 38 19.7 -0.5**
VYHS Vyhne 74.42 319 *e*P **P 10 38 22.4 +0.5**
VYHS *e* 10 38 28.2
VYHS pmax pmax
comp=Z,38nm,1.7s
VYHS Vyhne 74.42 319 *e*P **P 10 38 22.4 +0.5**
VYHS *e* 10 38 28.2
TSUM Tsumeb 74.94 249 P **P 10 38 25.1 -0.5**
TSUM Tsumeb 74.94 249 IAMs_20 IAMs_20 11 07 42.6
comp=Z,2μm,19.0s
CEL Celeste 74.95 308 P **P 10 38 25.1 -0.1**
CEL IAmb IAmb 10 38 33.8
comp=Z,33nm,0.8s
ACER Acerenza 75.22 311 P **P 10 38 25.7 -1.0**
JAVC Velka Javorina 75.25 319 *e*P **P 10 38 28.0 +1.2**
SMOL Smolenice 75.35 319 *e*P **P 10 38 28.5 +1.3**
SMOL pmax pmax
comp=Z,7.0nm,1.1s
SMOL Smolenice 75.35 319 *e*P **P 10 38 28.5 +1.3**
MODS Modra-Piesok 75.42 319 *e*P **P 10 38 27.2 -0.5**
MODS pmax pmax
comp=Z,30nm,1.1s
MODS Modra-Piesok 75.42 319 *e*P **P 10 38 27.2 -0.5**
MORC Moravsky Berou 75.50 320 P **P 10 38 29.1 +0.9**
MORC pmax pmax
comp=Z,20nm,1.5s
MORC Moravsky Berou 75.50 320 ⇓P **P 10 38 29.3 +1.1**
MORC mb 10 38 41.0
MORC Moravsky Berou 75.50 320 *e*P **P 10 38 29.8 +1.6**
MORC Moravsky Berou 75.50 320 P **P 10 38 29.1 +0.9**
VRAC Vranov 76.03 320 ⇑P **P 10 38 31.6 +0.5**
VRAC mb 10 38 39.5
VRAC Vranov 76.03 320 *e*P **P 10 38 31.6 +0.5**
KRLC Kraliky 76.04 321 *e*P **P 10 38 32.2 +0.9**
KRLC *e* 10 38 37.5
KRLC Kraliky 76.04 321 *e*P **P 10 38 32.2 +0.9**
KRLC *ex* x 10 38 37.5
KRUC Moravsky 76.11 319 *e*P **P 10 38 32.0 +0.4**
CONA Conrad Observa 76.28 318 *e*P **P 10 38 32.8 +0.1**
comp=Z,8.3nm,1.0s
DPC Dobruska-Polom 76.38 321 *e*P **P 10 38 34.3 +1.1**

DPC *e* 10 38 39.8
DPC Dobruska-Polom 76.38 321 *e*P **P 10 38 34.3 +1.1**
DPC *ex* x 10 38 39.8
ARSA Arzberg 76.40 318 *e*P **P 10 38 34.0 +0.6**
comp=Z,21nm,1.1s
KSP Ksiaz 76.48 321 *e*P **P 10 38 35.0 +1.3**
KSP Ksiaz 76.48 321 *e*P **P 10 38 35.0 +1.3**
KSP *e*P **P 10 38 35.0 +1.3**
CHVC Chvalec 76.59 321 *e*P **P 10 38 35.3 +1.0**
CHVC *ex* x 10 38 42.2
SOKA Soboth 76.65 317 P **P 10 38 35.0 +0.2**
comp=Z,20nm,1.6s
ARCES ARCESS Array B 77.31 341 P **P 10 38 38.0 0.0**
ARCES ARCESS Array B 77.31 341 P **P 10 38 37.5 -0.4**
comp=Z,3.3nm,0.6s,baz=119,slow=4.6,SNR=5.9
ARCES ARCESS Array B 77.31 341 P **P 10 38 38.0 0.0**
MOA Molln 77.33 318 *e*P **P 10 38 38.5 0.0**
comp=Z,11nm,1.3s
PRU Pruhonice 77.45 320 *e*P **P 10 38 40.2 +1.0**
PRU *e* 10 38 45.4
PRU Pruhonice 77.45 320 *e*P **P 10 38 40.2 +1.0**
PRU *ep*P **pwP 10 38 45.4 -0.8**
MYKA Terra Mystica 77.60 317 *e*P **P 10 38 40.1 0.0**
comp=Z,13nm,0.7s
GEC2 GERESS Array S 77.84 319 P **P 10 38 41.2 -0.2**
GEC2 IAmb IAmb 10 38 58.9
comp=Z,34nm,0.9s
GERES GERESS Array B 77.84 319 P **P 10 38 41.7 +0.2**
comp=Z,8.1nm,0.6s,baz=107,slow=6.0,SNR=59
KBA Koelnbreinsper 77.85 317 *e*P **P 10 38 42.4 +0.7**
comp=Z,6.4nm,0.7s
KHC Kasperske Hory 77.95 319 *e*P **P 10 38 42.5 +0.5**
KHC *e* 10 38 48.0
KHC Kasperske Hory 77.95 319 *e*P **P 10 38 42.5 +0.5**
KHC *ep*P **pwP 10 38 48.0 -1.1**
KHC Kasperske Hory 77.95 319 P **P 10 38 42.0 0.0**
BRG Berggiesshubel 77.96 321 *e*P **P 10 38 42.5 +0.5**
comp=Z,5.9nm,0.9s
BRG *e* 10 38 49.1
comp=Z,16nm,1.2s
BRG PP PP 10 41 03.0 -35
BRG S **S 10 48 32.0 -3.3**
BRG SS **SS 10 53 29.0 -7.2**
comp=N,709nm,18.1s
comp=E,886nm,23.6s
comp=Z,1μm,16.4s
BRG Berggiesshubel 77.96 321 *e*P **P 10 38 42.5 +0.5**
BRG *e* 10 38 49.1
BRG S **S 10 48 32.0 -3.3**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.2s
BRG MLR MLR
comp=N,709nm,23.6s
BRG MLR MLR
comp=Z,886nm,16.4s
STAL STALIGIAL 78.19 316 P **P 10 38 44.1 +0.7**
STAL IAmb IAmb 10 39 00.1
comp=Z,31nm,1.2s
ABTA Abfaltersbach 78.38 317 *e*P **P 10 38 44.3 -0.3**
comp=Z,16nm,1.6s
CLL Collm 78.61 321 *e*P **P 10 38 46.0 +0.5**
CLL *e*S **SKSac 10 48 57.0 -3.5**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 78.61 321 *e*P **P 10 38 46.0 +0.5**
comp=Z,11nm,1.2s
CLL *e* 10 38 56.0
comp=Z,15nm,0.9s
CLL *e*S **SKSac 10 48 54.0 -6.5**
CLL *e*SS **SS 10 53 54.0 +8.1**
CLL *e* 10 56 54.0
CLL *e*SSS SSS 10 57 18.0
CLL Collm 78.61 321 P **P 10 38 45.5 -0.1**
CTI Castel Tesino 78.91 316 P **P 10 38 47.5 +0.1**
CTI pmax pmax
comp=Z,28nm,0.7s
CTI Castel Tesino 78.91 316 P **P 10 38 47.5 +0.1**
CTI IAmb IAmb 10 39 02.6
comp=Z,28nm,0.7s
WTTA Wattenberg 79.03 317 *e*P **P 10 38 47.8 -0.4**
comp=Z,6.0nm,0.6s
WATA Walderalm 79.08 317 *e*P **P 10 38 49.0 +0.6**
comp=Z,10nm,0.9s
SQTA Sankt Quirin 79.32 317 *e*P **P 10 38 49.5 -0.2**
comp=Z,7.8nm,0.7s
MOTA Moosalm 79.40 317 *e*P **P 10 38 49.9 -0.3**
comp=Z,19nm,0.8s
GRA1 Grafenberg Arr 79.55 320 P **P 10 38 51.7 +0.9**
GRA1 IAmb IAmb 10 39 06.6
comp=Z,25nm,0.7s
GRF Grafenberg Arr 79.55 320 P **P 10 38 51.7 +0.9**
GRF pmax pmax
comp=Z,25nm,0.7s
FETA Feichten 79.63 317 *e*P **P 10 38 51.5 +0.1**
comp=Z,14nm,1.7s
RETA Reutte 79.64 317 *e*P **P 10 38 51.4 0.0**
comp=Z,16nm,1.0s
SALO Salr 79.65 315 IAMs_20 IAMs_20 11 11 17.1
comp=Z,1μm,20.0s
KEST Kesra 79.99 305 P **P 10 38 54.1 +0.6**
comp=Z,4.6nm,0.8s,baz=49,slow=2.9,SNR=2.3
KEST LR LR 11 15 34.0
comp=Z,485nm,21.8s,baz=53,slow=37
KEST Kesra 79.99 305 P **P 10 38 53.3 -0.2**
KEST **PcP 10 39 01.4 +0.4**
DAVA Damuels 80.23 317 *e*P **P 10 38 55.1 +0.4**
comp=Z,14nm,0.8s
SYO Syowa Base 80.79 196 ⇑*e*P **P 10 38 56.0 -0.9**
SYO Syowa Base 80.79 196 ⇑*es*P sP 10 39 03.2 +2.0
SYO Syowa Base 80.79 196 ⇓*e*PcP **PcP 10 39 05.0 +1.5**
NB2 NORSAR Subarra 80.89 331 P **P 10 38 58.0 +0.2**
comp=Z,60nm,2.0s,baz=96,slow=5.9
NB2 NORSAR Subarra 80.89 331 P **P 10 38 58.0 +0.2**
baz=96,slow=5.9
NOA NORSAR Array B 80.89 331 P **P 10 38 57.5 -0.3**
comp=Z,7.7nm,1.1s,baz=96,slow=5.9,SNR=4.0
BILL Bilibino 80.93 22 ⇓*e*P **P 10 38 57.7 -0.1**
BILL *e* 10 39 06.1
BILL pmax pmax
comp=Z,11nm,1.3s
BILL MLR MLR
comp=Z,1μm,19.0s
BILL Bilibino 80.93 22 P **P 10 38 56.6 -1.2**
BFO Black Forest 81.34 318 *ce*P **P 10 39 02.5 +2.1**
BFO pmax pmax
comp=Z,2.0nm,0.8s
MUD Monsted U'grnd 81.43 326 *i* P **P 10 39 02.0 +1.3**
MUD Monsted U'grnd 81.43 326 *i* P **P 10 39 02.0 +1.3**
SENIN Lac Senin/Sane 81.94 316 P **P 10 39 03.4 -0.5**
SENIN IAmb IAmb 10 39 19.2
comp=Z,38nm,0.7s
BNI Bardonecchia 82.33 315 P **P 10 39 05.6 -0.3**
BNI pmax pmax
comp=Z,16nm,0.8s
BNI Bardonecchia 82.33 315 P **P 10 39 05.6 -0.3**
BNI IAmb IAmb 10 39 17.8
comp=Z,16nm,0.8s
TAM Tamanrasset 83.34 292 P **P 10 39 10.3 -1.3**
TAM pmax pmax
comp=Z,13nm,0.9s
TAM MLR MLR
comp=Z,1μm,18.0s
TAM Tamanrasset 83.34 292 P **P 10 39 10.3 -1.3**
TAM IAMs_20 IAMs_20 11 15 58.4
comp=Z,1μm,18.0s
RPZ Rata Peaks 86.42 134 LR LR 11 16 29.5
comp=Z,737nm,20.3s,baz=296,slow=35
QRZ Quartz Range 87.07 131 IAMs_20 IAMs_20 11 19 46.5
comp=Z,2μm,22.0s
OXZ Oxford 87.07 134 IAMs_20 IAMs_20 11 14 02.5
comp=Z,1μm,20.0s
LTZ Lake Taylor 87.16 133 IAMs_20 IAMs_20 11 11 19.9
comp=Z,2μm,21.0s
TOC2 Torodi Ar. Sit 87.43 283 IAMs_20 IAMs_20 11 17 32.6
comp=Z,952nm,19.0s
TOC3 Torodi Ar. Sit 87.43 283 IAMs_20 IAMs_20 11 17 31.7
comp=Z,1μm,19.0s
TOB2 Torodi Ar. Sit 87.44 283 IAMs_20 IAMs_20 11 17 33.0
comp=Z,985nm,19.0s
TOB3 Torodi Ar. Sit 87.44 283 IAMs_20 IAMs_20 11 17 33.1
comp=Z,1μm,19.0s
TOC1 Torodi Ar. Sit 87.44 283 IAMs_20 IAMs_20 11 17 32.1
comp=Z,1μm,19.0s

TOA2	Torodi Ar. Sit	87.45 283	IAMs_20	IAMs_20	11 17 33.2		
	comp=Z,981nm,19.0s						
TOC4	Torodi Ar. Sit	87.45 283	IAMs_20	IAMs_20	11 17 32.2		
	comp=Z,1μm,20.0s						
TOA0	Torodi Ar. Sit	87.45 283	IAMs_20	IAMs_20	11 17 33.3		
	comp=Z,1μm,19.0s						
TORD	Torodi Ar. Bea	87.45 283	P	P	10 39 31.9	-0.2	
	comp=Z,1.8nm,0.9s,baz=92,slow=4.9,SNR=6.7						
TORD			LR	LR	11 14 35.4		
	comp=Z,846nm,21.8s,baz=5.0,slow=33						
TOA3	Torodi Ar. Sit	87.45 283	IAMs_20	IAMs_20	11 17 30.4		
	comp=Z,1μm,20.0s						
TOA1	Torodi Ar. Sit	87.46 283	IAMs_20	IAMs_20	11 17 32.4		
	comp=Z,1μm,20.0s						
TOB4	Torodi Ar. Sit	87.46 283	IAMs_20	IAMs_20	11 17 32.6		
	comp=Z,1μm,19.0s						
TOB5	Torodi Ar. Sit	87.47 283	IAMs_20	IAMs_20	11 22 58.7		
	comp=Z,1μm,19.0s						
TOC7	Torodi Ar. Sit	87.47 283	IAMs_20	IAMs_20	11 22 56.7		
	comp=Z,967nm,19.0s						
TOC5	Torodi Ar. Sit	87.47 283	IAMs_20	IAMs_20	11 17 33.9		
	comp=Z,1μm,19.0s						
NNZ	Nelson	87.76 131	IAMs_20	IAMs_20	11 20 16.9		
	comp=Z,1μm,20.0s						
SNZO	South Karori	88.76 131	IAMs_20	IAMs_20	11 20 45.4		
	comp=Z,2μm,22.0s						
ESDC	Sonseca Array	90.41 310	P	P	10 39 48.5	+2.9	
	comp=Z,2.5nm,0.8s,baz=61,slow=4.0,SNR=5.8						
SBA	Scott Base	91.34 168	IAMs_20	IAMs_20	11 15 40.5		
	comp=Z,952nm,21.0s						
QSPA	South Pole Qui	94.18 180	LR	LR	11 14 46.6		
	comp=Z,114nm,19.1s,baz=304,slow=31						
DBIC	Dimbokro	94.38 277	P	P	10 40 06.5	+2.1	
	comp=Z,3.9nm,0.9s,baz=284,slow=19,SNR=3.2						
DBIC			LR	LR	11 18 28.1		
	comp=Z,681nm,21.8s,slow=33						
MLY	Manley	98.04 22	IAMs_20	IAMs_20	11 30 08.9		
	comp=Z,1μm,20.0s						
TRF	Thorofare Moun	98.97 23	IAMs_20	IAMs_20	11 31 12.6		
	comp=Z,1μm,20.0s						
SKT	Skwentna	99.16 25	IAMs_20	IAMs_20	11 29 59.6		
	comp=Z,1μm,20.0s						
DHY	Denali Highway	100.30 23	IAMs_20	IAMs_20	11 31 11.2		
	comp=Z,1μm,20.0s						
INK	Inuvik	101.55 15	IAMs_20	IAMs_20	11 36 07.2		
	comp=Z,1μm,19.0s						
EPYK	Eagle Plains	102.00 17	IAMs_20	IAMs_20	11 32 38.2		
	comp=Z,1μm,21.0s						
SCHQ	Schefferville	118.08 345	IAMs_20	IAMs_20	11 35 49.4		
	comp=Z,1μm,20.0s						
GBN	Guysborough	124.44 336	IAMs_20	IAMs_20	11 50 00.6		
	comp=Z,818nm,21.0s						
BMO	Blue Mountains	125.33 24	IAMs_20	IAMs_20	11 44 48.6		
	comp=Z,891nm,22.0s						
PLID	Pearl Lake	125.64 23	IAMs_20	IAMs_20	11 48 56.8		
	comp=Z,845nm,22.0s						
HAL	Halifax	125.91 337	IAMs_20	IAMs_20	11 35 21.2		
	comp=Z,1μm,21.0s						
F64A	Sherman	126.53 341	IAMs_20	IAMs_20	11 35 09.5		
	comp=Z,823nm,20.0s						
MDND	Maddock	127.43 8	IAMs_20	IAMs_20	11 41 26.3		
	comp=Z,1μm,22.0s						
D53A	Lac Vacive, Po	127.76 349	IAMs_20	IAMs_20	11 44 15.0		
	comp=Z,1μm,22.0s						
H62A	Milan	128.56 343	IAMs_20	IAMs_20	11 50 29.9		
	comp=Z,821nm,21.0s						
MOOW	Moose Ponds	128.68 19	IAMs_20	IAMs_20	11 42 20.6		
	comp=Z,732nm,20.0s						
FXWY	Fox Creek	128.68 20	IAMs_20	IAMs_20	11 51 45.5		
	comp=Z,795nm,18.0s						
E43A	Lone Tree Farm	129.53 357	IAMs_20	IAMs_20	11 47 23.7		
	comp=Z,783nm,22.0s						
PLVO	Plevna	129.60 348	IAMs_20	IAMs_20	11 45 39.0		
	comp=Z,899nm,22.0s						
PDAR	Pinedale Array	129.94 19	PKP	PKPdf	10 45 54.1	0.0	
	comp=Z,1.1nm,0.8s,baz=305,slow=3.2,SNR=2.6						
NVAR	Mina Array Bea	130.07 29	PKP	PKiKP	10 45 56.0	+0.7	
	comp=Z,0.7nm,0.6s,baz=316,slow=2.5,SNR=1.8						
F42A	Maple Grove Fa	130.19 358	IAMs_20	IAMs_20	11 47 37.2		
	comp=Z,847nm,22.0s						
ACCN	Adirondack Com	130.36 344	IAMs_20	IAMs_20	11 44 24.4		
	comp=Z,750nm,19.0s						
J59A	Piesco	130.50 345	IAMs_20	IAMs_20	11 42 17.1		
	comp=Z,753nm,22.0s						
BCX	Boston College	130.60 342	IAMs_20	IAMs_20	11 51 55.9		
	comp=Z,829nm,18.0s						
G40A	Rib Lake	130.70 0	IAMs_20	IAMs_20	11 47 38.8		
	comp=Z,977nm,22.0s						
J58A	Remsen	130.79 346	IAMs_20	IAMs_20	11 50 42.8		
	comp=Z,632nm,20.0s						
M65A	Busby, Falmout	131.12 341	IAMs_20	IAMs_20	11 51 36.0		
	comp=Z,868nm,19.0s						
K58A	Earlville	131.44 346	IAMs_20	IAMs_20	11 52 10.0		
	comp=Z,656nm,20.0s						
J55A	Hilton	131.45 348	IAMs_20	IAMs_20	11 46 56.0		
	comp=Z,983nm,22.0s						
H43A	Windswept, Lux	131.46 358	IAMs_20	IAMs_20	11 48 11.9		
	comp=Z,742nm,21.0s						
I45A	Fountain	131.82 356	IAMs_20	IAMs_20	11 48 46.0		
	comp=Z,840nm,21.0s						
BINY	Binghamton	132.06 346	IAMs_20	IAMs_20	11 52 38.3		
	comp=Z,797nm,20.0s						
I42A	Draeger Farm,	132.07 359	IAMs_20	IAMs_20	11 52 28.0		
	comp=Z,897nm,20.0s						
J45A	Montague	132.43 356	IAMs_20	IAMs_20	11 47 24.5		
	comp=Z,914nm,22.0s						
L56A	Greenwood	132.48 348	IAMs_20	IAMs_20	11 45 51.3		
	comp=Z,938nm,22.0s						
KSPA	Keystone Colle	132.61 346	IAMs_20	IAMs_20	11 50 55.8		
	comp=Z,790nm,22.0s						
K50A	Casco	132.73 353	IAMs_20	IAMs_20	11 55 10.6		
	comp=Z,888nm,20.0s						
ERPA	Erie	132.97 350	IAMs_20	IAMs_20	11 49 43.9		
	comp=Z,708nm,20.0s						
N59A	State Game Lan	133.22 345	IAMs_20	IAMs_20	11 42 25.9		
	comp=Z,714nm,19.0s						
K43A	Burlington	133.24 358	IAMs_20	IAMs_20	11 50 59.4		
	comp=Z,904nm,20.0s						
AAM	Ann Arbor	133.32 354	IAMs_20	IAMs_20	11 53 00.2		
	comp=Z,627nm,19.0s						
M55A	Ridgway	133.37 348	IAMs_20	IAMs_20	11 50 33.8		
	comp=Z,886nm,20.0s						
OGNE	Ogallala	133.68 13	IAMs_20	IAMs_20	11 54 28.8		
	comp=Z,817nm,19.0s						
L40A	Anamosa	133.89 1	IAMs_20	IAMs_20	11 39 55.2		
	comp=Z,675nm,19.0s						
SSPA	Standing Stone	133.99 347	IAMs_20	IAMs_20	11 52 14.2		
	comp=Z,766nm,21.0s						
PV22	Blue Mesa, Par	133.99 21	IAMs_20	IAMs_20	11 55 19.4		
	comp=Z,823nm,19.0s						
PAGS	Pennsylvania G	134.10 346	IAMs_20	IAMs_20	11 53 17.4		
	comp=Z,793nm,20.0s						
P61A	Hammonton	134.12 344	IAMs_20	IAMs_20	11 53 11.0		
	comp=Z,786nm,20.0s						
M50A	Fremont	134.13 353	IAMs_20	IAMs_20	11 54 51.7		
	comp=Z,612nm,20.0s						
MVL	Millersville	134.23 345	IAMs_20	IAMs_20	11 52 59.7		
	comp=Z,881nm,21.0s						
U15A	North Rim	134.46 25	IAMs_20	IAMs_20	11 42 47.9		
	comp=Z,543nm,22.0s						
O56A	Blue Knob Stat	134.48 348	IAMs_20	IAMs_20	11 53 57.3		
	comp=Z,846nm,19.0s						
N51A	Ashland	134.52 352	IAMs_20	IAMs_20	11 54 58.0		
	comp=Z,820nm,20.0s						
N47A	Urbana	134.92 355	IAMs_20	IAMs_20	11 51 07.5		
	comp=Z,861nm,21.0s						
Q60A	Greensboro	135.03 344	IAMs_20	IAMs_20	11 53 06.1		
	comp=Z,894nm,20.0s						
P57A	Homestead Farm	135.11 347	IAMs_20	IAMs_20	11 54 24.1		
	comp=Z,762nm,20.0s						
ACSO	Alum Creek Sta	135.28 352	IAMs_20	IAMs_20	11 54 07.1		
	comp=Z,688nm,22.0s						
HDIL	Hopedale	135.41 359	IAMs_20	IAMs_20	11 56 45.9		
	comp=Z,764nm,19.0s						
SFIN	Lafayette	135.51 357	IAMs_20	IAMs_20	11 55 17.1		
	comp=Z,863nm,20.0s						
SDCO	Great Sand Dun	135.79 18	IAMs_20	IAMs_20	11 58 56.7		
	comp=Z,566nm,21.0s						
Q56A	Snyder Ridge,	135.79 348	IAMs_20	IAMs_20	11 58 36.0		
	comp=Z,724nm,20.0s						
CBN	Corbin Frederi	136.18 346	IAMs_20	IAMs_20	11 54 06.4		
	comp=Z,698nm,20.0s						
R58B	Mineral	136.53 346	IAMs_20	IAMs_20	11 49 57.7		
	comp=Z,851nm,21.0s						
W18A	Petrified Fore	136.65 24	IAMs_20	IAMs_20	11 50 22.1		
	comp=Z,563nm,21.0s						
T25A	Trinidad	136.67 17	IAMs_20	IAMs_20	11 47 30.8		
	comp=Z,849nm,22.0s						
S57A	Dark Hollow, R	136.97 347	IAMs_20	IAMs_20	11 59 55.3		
	comp=Z,729nm,20.0s						
R53A	Hurricane	136.99 351	IAMs_20	IAMs_20	11 53 48.5		
	comp=Z,909nm,21.0s						
T60A	Surry	137.02 344	IAMs_20	IAMs_20	11 54 36.7		
	comp=Z,779nm,21.0s						
R50A	Paris	137.37 353	IAMs_20	IAMs_20	11 54 20.3		
	comp=Z,822nm,19.0s						
T59A	Double "B" Far	137.39 345	IAMs_20	IAMs_20	11 53 27.5		
	comp=Z,779nm,21.0s						
U61A	Possum Corner	137.70 344	IAMs_20	IAMs_20	11 41 50.8		
	comp=Z,726nm,20.0s						
T57A	Hurt	137.77 347	IAMs_20	IAMs_20	11 52 42.4		
	comp=Z,848nm,21.0s						
BLA	Blacksburg	137.81 349	IAMs_20	IAMs_20	11 51 43.3		
	comp=Z,706nm,20.0s						
S51A	Beattyville	137.91 352	IAMs_20	IAMs_20	11 55 37.7		
	comp=Z,835nm,20.0s						
U59A	Littleton	138.04 345	IAMs_20	IAMs_20	11 50 57.6		
	comp=Z,694nm,21.0s						
V61A	Roper	138.24 344	IAMs_20	IAMs_20	11 59 44.2		
	comp=Z,668nm,18.0s						
SIUC	Southern Illin	138.25 359	IAMs_20	IAMs_20	11 55 35.6		
	comp=Z,817nm,19.0s						
U56A	King	138.64 348	IAMs_20	IAMs_20	11 57 28.2		
	comp=Z,614nm,19.0s						
U54A	Nelsons Funny	138.74 350	IAMs_20	IAMs_20	11 52 43.8		
	comp=Z,886nm,22.0s						
T47A	Sharon Grove	138.89 357	IAMs_20	IAMs_20	11 57 35.1		
	comp=Z,645nm,19.0s						
CNNC	Cliffs of the	139.12 345	IAMs_20	IAMs_20	11 55 46.2		
	comp=Z,804nm,20.0s						
HENM	Henderson Moun	139.25 359	IAMs_20	IAMs_20	11 50 44.9		
	comp=Z,860nm,22.0s						
PARMO	Parma	139.30 360	IAMs_20	IAMs_20	11 58 18.9		
	comp=Z,779nm,20.0s						
HHAR	Hopes	139.51 5	IAMs_20	IAMs_20	11 54 09.8		
	comp=Z,850nm,21.0s						
PENMO	Penman	139.51 360	IAMs_20	IAMs_20	12 00 10.9		
	comp=Z,758nm,20.0s						
GLAT	Glass	139.69 359	IAMs_20	IAMs_20	11 56 15.6		
	comp=Z,856nm,21.0s						
PLCA	Paso Flores	139.70 203	PKP	PKiKP	10 46 13.9	-0.7	
	comp=Z,1.7nm,1.0s,baz=63,slow=4.5,SNR=3.2						
CLTN	Cedars of Leba	139.73 355	IAMs_20	IAMs_20	11 55 10.8		
	comp=Z,470nm,20.0s						
V48A	Smith Brothers	140.11 356	IAMs_20	IAMs_20	11 53 41.0		
	comp=Z,673nm,22.0s						
BIRD	Birdtown, Kers	140.29 348	IAMs_20	IAMs_20	11 55 24.2		
	comp=Z,667nm,20.0s						
BG3	Lake Jocassee	140.41 351	IAMs_20	IAMs_20	11 57 10.1		
	comp=Z,762nm,21.0s						
W50A	Signal Mountai	140.52 354	IAMs_20	IAMs_20	12 00 21.8		
	comp=Z,725nm,21.0s						
JSC	Jenkinsville	140.81 349	IAMs_20	IAMs_20	11 56 12.5		
	comp=Z,466nm,20.0s						
X48A	Hartselle	141.41 356	IAMs_20	IAMs_20	12 01 23.3		
	comp=Z,646nm,20.0s						
Y52A	Lilburn	141.69 352	IAMs_20	IAMs_20	11 59 46.8		
	comp=Z,822nm,20.0s						
CPUP	Villa Florida	141.84 232	PKP	PKPdf	10 46 17.4	+1.1	
	comp=Z,1.9nm,0.8s,baz=100,slow=2.8,SNR=2.3						
GOGA	Godfrey	142.04 351	IAMs_20	IAMs_20	11 57 15.3		
	comp=Z,772nm,19.0s						
152A	Waverly Hall	142.95 353	IAMs_20	IAMs_20	11 58 54.2		
	comp=Z,845nm,21.0s						
TXAR	Lajitas Array	144.10 21	PKP	PKPbc	10 46 18.9	+0.6	
	comp=Z,0.5nm,0.5s,baz=282,slow=1.6,SNR=3.4						
TXAR	Lajitas Array	144.10 21		PKPab	10 46 18.1	+0.2	
JCT	Junction City	144.20 15	IAMs_20	IAMs_20	11 51 20.1		
	comp=Z,720nm,21.0s						
HPIG		145.47 25		PKPab	10 46 23.2	+0.1	
HKT	Hockley	145.53 9	PKIKP	PKPab	10 46 22.9	0.0	
HKT	Hockley	145.53 9		PKPab	10 46 22.9	0.0	
MPOM	Moore Pois Mar	145.70 303	*eP*	PKiKP	10 46 33.3	+5.9	
LPMF	Morne Lapointe	145.72 304	*eP*	PKiKP	10 46 32.1	+4.7	
BAMF	Morne Balai	145.75 304	*eP*	PKiKP	10 46 34.1	+6.5	
SVN	Savane Anatole	145.75 304	*eP*	PKiKP	10 46 34.2	+6.6	
FDF	Fort de France	145.79 304	*eP*	PKiKP	10 46 32.6	+5.0	
PCM	Pelee Case Pet	145.80 304	*eP*	PKiKP	10 46 34.2	+6.5	
TRMF	Trois Ilets	145.81 304	*eP*	PKiKP	10 46 32.8	+5.1	
BIM	Bigot	145.84 304	*eP*	PKiKP	10 46 33.9	+6.1	
SVB	Belmont	146.61 302	IAMs_20	IAMs_20	11 49 05.2		
	comp=Z,432nm,18.0s						
MTP	Monte Pirata	147.26 313		PKPdf	10 46 24.3	-1.7	
LPAZ	La Paz	155.46 239	PKP	PKPdf	10 46 39.7	+0.5	
	comp=Z,1.3nm,0.9s,baz=72,slow=3.2,SNR=3.1						
SDV	Santo Domingo	156.74 304	IAMs_20	IAMs_20	12 07 21.4		
	comp=Z,710nm,22.0s						
PTBC	PUERTO BERRIO	161.19 305	*eP*	PKPdf	10 46 46.0	+0.5	
PTBC	PUERTO BERRIO	161.19 305	*eP*	PKPdf	10 46 46.0	+0.5	
GUY2C	Guyana, Caldas	162.66 303	*eP*	PKPdf	10 47 01.1	+13	
GUY2C	Guyana, Caldas	162.66 303	*eP*	PKPdf	10 47 01.1	+13	
YOTC	Yotoco, Valle	164.14 301	*eP*	PKPdf	10 46 48.5	-0.1	
YOTC	Yotoco, Valle	164.14 301	*eP*	PKPdf	10 46 48.5	-0.1	

IDC ***16*** *10:31:20.4±0.4, 23°.51N×143°.32E, h0km, mb5.0/34, mb1 5.1/38, mb1mx5.0/51, mbtmp5.0/38, ML4.5/4, MS5.0/14, Ms1 5.0/14, ms1mx4.6/41, Error ellipse: s-maj=14.1km s-min=10.3km az=95.0*

ISCJB ***16*** *10:31:20.5±1.0, 23°.51N±0°.02×143°.20E±0°.02, h7km±6km, mb5.3/131, MS5.1/41, Error ellipse: s-maj=3.6km s-min=3.3km az=164.5*

MOS ***16*** *10:31:23.9±1.0, 23°.48N×143°.18E, h34km, mb5.5/40, MS4.8/5, Error ellipse: s-maj=9.0km s-min=5.0km az=108.7*

BJI ***16*** *10:31:23.7±0.0, 23°.55N×143°.32E, h32km, mb5.1/62, mB5.5/46, Ms5.3/47, Ms7 5.1/46*

JMA ***16*** *10:31:25.2±0.3, 23°.66N×143°.51E, h105km, M5.2*

NEIC ***16*** *10:31:26.4±1.4, 23°.52N±0°.06×143°.21E±0°.10, h38km±5km, mb5.3/197*

GCMT ***16*** *10:31:27.4±0.3, 23°.43N±0°.02×143°.41E±0°.02, h26km±1km, MW5.4/97, Moment Tensor Solution. s37,c44; s97,c141; Duration: 1s3 Moment tensor: Scale 10^17^Nm; M_{rr}0.37±.06; $M_{\theta\theta}$1.03±.04; $M_{\phi\phi}$-1.39±.04; $M_{r\theta}$0.69±.10; $M_{\theta\phi}$-0.08±.04; $M_{\phi r}$0.99±.10; Best double couple: $M_0$1.71600×10^17^ NP1:ϕ_s40.00000°, δ83.00000°, λ132.00000°. NP2:ϕ_s138.00000°, δ43.00000°, λ10.00000°. Principal axes: T 1.5520, Plg37.0000°, Azm347.0000°; N 0.3330, Plg42.0000°, Azm214.0000°; P -1.8800, Plg26.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 10:31:26.1±0.3, 23°.56N±0°.03×143°.23E±0°.05, h36km±2km, h36km:pP-P, n555, σ1s54/564, mb5.3/190, MS5.1/41, 15C-4D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	3.20	343	P	Pn	10 32 14.8	+0.9
JHH2				S	Sn	10 32 52.6	+1.8
CBIJ	Chichi jima	3.64	345	P	Pn	10 32 20.2	+0.3
CBIJ				S	Sn	10 33 02.5	+0.8
JCJ	Chichijima	3.64	345	Pn	Pn	10 32 20.3	+0.4
	97nm,0.3s,baz=94,slow=23,SNR=31						
JCJ				Sn	Sn	10 33 03.1	+1.4
	293nm,0.3s,baz=128,slow=20,SNR=12						
SARN	Sarigan	7.24	160		Pn	10 33 09.7	+0.3
ANA2	Anatahan	7.55	162	Pn	Pn	10 33 14.6	+0.8
JHCJ	Hachijojimakas	9.94	343	P	Pn	10 33 45.5	-0.9
JHCJ				S	Sn	10 35 35.6	-1.2
JHJ	Hachijo jima 2	9.99	343	Pn	Pn	10 33 47.8	+0.7
	20nm,0.3s,baz=184,slow=16,SNR=4.0						
JHJ				Sn	Sn	10 35 33.7	-4.3
	15nm,0.3s,baz=240,slow=20,SNR=1.9						
GUMO	Guam	10.04	171	P	Pn	10 33 48.7	+0.9
GUMO	Guam	10.04	171	Pn	Pn	10 33 53.2	+5.3
	4.9nm,0.3s,baz=177,slow=4.1,SNR=7.7						
GUMO				LR	LR	10 37 03.8	
	comp=Z,7μm,19.0s,baz=4.5,slow=34						
GUMO	Guam	10.04	171		Pn	10 33 48.7	+0.9
JMKN	Mikurajimanish	10.77	344	P	Pn	10 33 57.1	-0.7
JMZ	Minamidaito 2	11.15	284	P	Pn	10 34 07.0	+4.0
BSO1	Boso 1	11.22	350	P	Pn	10 34 03.4	-0.1
JOD2	Odawara 2	12.20	344	P	Pn	10 34 15.2	-2.2
JTNC	Tanabenakahech	12.21	329	P	Pn	10 34 18.1	+0.7
INU	Inuyama	12.93	337		Pn	10 34 26.9	-0.3
JRY	Ryogami san	12.96	344	P	Pn	10 34 25.6	-2.2
JTO	Tosashimizu	13.04	318	P	Pn	10 34 30.9	+2.1
JAMN	Amaminishikomi	13.48	293	P	Pn	10 34 38.9	+4.1
MJAR	Matsushiro Arr	13.64	343	P	Pn	10 34 33.4	-3.6
MJAR						10 37 06.0	
MJAR	Matsushiro Arr	13.64	343	Pn	Pn	10 34 34.1	-3.0
	0.7nm,0.3s,baz=163,slow=11,SNR=56						
MJAR				Sn	Sn	10 37 06.0	-1.3
	0.1nm,0.3s,baz=263,slow=21,SNR=3.5						
MJAR				LR	LR	10 40 00.9	
	comp=Z,6μm,18.9s,baz=185,slow=38						
MJAR	Matsushiro Arr	13.64	343		Pn	10 34 33.4	-3.6
MAJO	Matsushiro	13.64	343	P	Pn	10 34 34.4	-2.7
MAJO	Matsushiro	13.64	343		Pn	10 34 34.4	-2.7
MAT	Matsushiro	13.64	343	P	Pn	10 34 34.3	-2.7
MAT				*eS*	Sn	10 37 00.7	-6.6
MJB9	Matsu-Tunnel	13.65	343		Pn	10 34 34.8	-2.4
JOW	Kunigami	13.93	287	P	Pn	10 34 42.9	+2.0
JOW	Kunigami	13.93	287	P	Pn	10 34 43.1	+2.2
	2.4nm,0.5s,baz=127,slow=14,SNR=7.5						
JOW	Kunigami	13.93	287		Pn	10 34 40.6	-0.4
JHS	Saijyo	14.40	325	P	Pn	10 34 47.9	+0.5
JSJ	Shimokoshiki	14.44	307	P	P	10 34 52.3	-2.0
JNU	Nakatsue	14.44	314	Pn	Pn	10 34 50.5	+2.5
	0.6nm,0.3s,baz=124,slow=6.7,SNR=22						
JNU				LR	LR	10 39 58.8	
	comp=Z,3μm,18.9s,baz=137,slow=36						
JNU	Nakatsue	14.44	314		Pn	10 34 49.3	+1.3
JKE	Kume jima 2	15.17	284	P	P	10 35 04.6	+2.2
JOI	OKI	15.34	328	P	Pn	10 34 55.7	-4.2
JMK	Ichinoseki	15.44	354	P	Pn	10 34 59.2	-1.9
JTU	Tsushima	16.28	315	P	P	10 35 13.3	-1.3
ERM	Erimo	18.40	360	P	P	10 35 38.2	+0.2
ERM				pmax	pmax		
	comp=Z,88nm,0.8s						
ERM	Erimo	18.40	360	P	P	10 35 38.2	+0.2
YOJ	Yonaguni jima	18.50	277	P	P	10 35 39.0	-0.2
YOJ				pmax	pmax		
	comp=Z,397nm,0.8s						
YOJ	Yonaguni jima	18.50	277	P	P	10 35 39.0	-0.2
TJN	Taejon	18.73	317	*ceP*	P	10 35 41.7	0.0
KSRS	Korea Array	19.09	320	P	P	10 35 45.5	0.0
	comp=Z,0.9nm,0.3s,baz=130,slow=8.9,SNR=9.3						
KSRS				LR	LR	10 42 35.6	
	comp=Z,5μm,20.3s,baz=130,slow=35						
KSAR	Wonju Array Be	19.10	320	P	P	10 35 45.4	-0.3
KSAR	Wonju Array Be	19.10	320	P	P	10 35 45.4	-0.3
KS19	Wonju Array Si	19.15	320	P	P	10 35 46.2	-0.1
NACB	Ninganchiao	19.80	276	P	P	10 35 53.2	-0.3
YHNB	Yeheng	19.98	278	P	P	10 35 55.6	+0.1
YULB	Yu-li	20.12	274	P	P	10 35 56.6	-0.4
YULB				IAmb	IAmb	10 36 12.6	
	comp=Z,81nm,0.9s						
TWG	Pinlang	20.38	272	P	Pn	10 36 01.9	-0.2
SSLB	Suanglung	20.41	275	P	P	10 36 00.6	+0.5
SSLB				IAmb	IAmb	10 36 11.9	
	comp=Z,75nm,0.7s						
JKA	Kamikawa-asahi	20.51	359	P	Pn	10 36 03.6	+0.2
ASAJ	Asahikawa	20.51	359	P	Pn	10 36 03.6	+0.2
	comp=Z,38nm,0.7s,baz=215,slow=10,SNR=31						
ASAJ				LR	LR	10 43 54.2	
	comp=Z,2μm,21.4s,baz=199,slow=37						
YUK	Yuzh-Kuril'sk	20.53 5		*eP*	P	10 35 55.9	-5.4
YUK				*e*		10 36 14.2	
YUK				*eS*	S	10 39 42.7	-6.3
YUK				MLR	MLR		
	comp=Z,1μm,15.0s						
SSE	Sheshan	20.95 296		P	Pn	10 36 07.3	-1.3
SSE				S	S	10 39 58.8	+1.3
SSE				pmax	pmax		
	comp=Z,54nm,0.8s						
SSE				LR	LR		
	comp=Z,2μm,19.0s						
SSE				LR	LR		
	comp=Z,2μm,18.4s						
MSHR	Mys Shultsa	21.45 335		*i* P	P	10 36 11.3	+0.1
VLA	Vladivostok	21.65 337		*i* P	P	10 36 13.2	-0.1
VLA				pmax	pmax		
	comp=Z,76nm,0.7s						
KUR	Kuril'sk	21.95 9		*i* P	P	10 36 18.7	+2.3
PATS	Pohnpei	22.06 137		P	P	10 36 16.4	-1.5
TEY	Ternei	22.09 347	‖	*eP*	P	10 36 18.7	+0.7
TEY				*e*		10 36 33.6	
TEY				pmax	pmax		
	comp=Z,50nm,0.8s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=N,40nm,0.8s						
TEY				MLR	MLR		
	comp=E,200nm,14.0s						
TEY				MLR	MLR		
	comp=Z,200nm,18.0s						
H11S3	WAKE ISLAND Hy	22.46 99		T	T	11 00 05.2	
	baz=284,slow=75,SNR=7.8						
H11S1	WAKE ISLAND Hy	22.46 98		T	T	11 00 21.7	
	baz=284,slow=75,SNR=7.1						
H11S2	WAKE ISLAND Hy	22.47 99		T	T	11 00 01.4	
	baz=284,slow=75,SNR=7.0						

CN2 Changchun 24.93 328 *eP* **P 10 36 46.1 +0.3**
TIA Tai'an 25.82 305 P **P 10 36 53.1 -0.9**
TIA pmax pmax
comp=Z,84nm,0.8s
WHN Wuhan 26.60 291 P **P 10 37 01.5 +0.4**
WHN LR LR
comp=Z,12μm,13.8s
WHN LR LR
comp=Z,5μm,14.0s
WHN LR LR
comp=Z,11μm,15.9s
SIJI Sorong 26.93 207 P **P 10 37 04.8 +0.6**
comp=Z,8.8nm,0.6s,baz=40,slow=14,SNR=3.6
KLR Kul'dur 27.17 343 *i* P **P 10 37 07.2 +1.2**
KLR Kul'dur 27.17 343 P **P 10 37 06.9 +0.9**
comp=Z,76nm,0.8s,baz=148,slow=8.5,SNR=9.1
KLR LR LR 10 47 34.1
comp=Z,3μm,20.1s,baz=186,slow=36
TYV Tymovskoe 27.25 359 *eP* **P 10 37 07.6 +0.8**
TYV *eS* **S 10 41 46.6 +3.1**
TYV pmax pmax
comp=Z,300nm,2.5s
TYV pmax pmax
comp=Z,47nm,0.8s
TYV smax smax
comp=E,35nm,1.7s
TYV smax smax
comp=E,1μm,5.5s
TYV MLR MLR
comp=Z,2μm,20.0s
BJI Beijing 28.11 312 P **P 10 37 17.1 +2.6**
BJI pmax pmax
comp=Z,10.0nm,0.6s
TIY Taiyuan 29.86 305 *eP* **P 10 37 32.5 +2.3**
TIY S **S 10 42 25.1 +0.1**
TIY sS **sS 10 42 42.0 +2.5**
TIY pmax pmax
comp=Z,470nm,6.3s
TIY LR LR
comp=Z,2μm,12.9s
TIY LR LR
comp=Z,1μm,15.4s
TIY LR LR
comp=Z,4μm,18.8s
KKM Kota Kinabalu 31.29 240 P **P 10 37 40.7 -2.4**
KKM IAmb IAmb 10 37 56.8
comp=Z,48nm,1.0s
PETK Petropavlovsk- 31.48 17 P **P 10 37 44.5 +0.2**
comp=Z,9.6nm,1.1s,baz=188,slow=8.7,SNR=5.8
PETK Petropavlovsk- 31.48 17 P **P 10 37 45.0 +0.8**
LUWI Luwuk 31.53 222 P **P 10 37 44.9 -0.1**
HIA Hailar 31.61 330 P **P 10 37 45.4 -0.1**
HIA pmax pmax
comp=Z,14nm,0.8s
HIA Hailar 31.61 330 P **P 10 37 45.4 -0.1**
HHC Hu-ho-hao-te 31.63 311 *eP* **P 10 37 49.0 +3.1**
HHC pmax pmax
comp=Z,6.0nm,0.6s
PET Petropavlovsk 31.67 18 P **P 10 37 46.0 +0.1**
PET pmax pmax
comp=Z,42nm,1.3s
PET Petropavlovsk 31.67 18 P **P 10 37 46.0 +0.1**
PET IAmb IAmb 10 38 03.6
comp=Z,42nm,1.3s
XAN Xi'an 31.69 297 P **P 10 37 46.8 +0.4**
XAN S **S 10 42 52.3 -1.4**
XAN pmax pmax
comp=Z,15nm,0.9s
XAN pmax pmax
comp=Z,410nm,11.8s
XAN LR LR
comp=Z,3μm,18.6s
XAN LR LR
comp=Z,3μm,18.6s
XAN LR LR
comp=Z,4μm,20.1s
XAN Xi'an 31.69 297 P **P 10 37 45.8 -0.6**
XAN pmax pmax
comp=Z,21nm,0.9s
XAN Xi'an 31.69 297 P **P 10 37 45.8 -0.6**
SPMM Sapulut 31.90 238 P **P 10 37 52.0 +3.6**
ZEA Zeya 32.46 342 *eP* **P 10 37 53.2 +0.4**
ZEA pmax pmax
comp=N,52nm,0.8s
ZEA pmax pmax
comp=Z,77nm,0.8s
ZEA MLR MLR
comp=N,3μm,18.0s
ZEA MLR MLR
comp=Z,3μm,18.0s
PMG Port Moresby 32.99 173 P **P 10 37 57.3 -0.5**
PMG pmax pmax
comp=Z,30nm,0.9s
PMG Port Moresby 32.99 173 P **P 10 37 57.3 -0.5**
PMG IAmb IAmb 10 38 10.2
comp=Z,30nm,0.8s
GYA Guiyang 33.20 283 ⇑*iP* **P 10 38 03.1 +3.3**
GYA pP sP 10 38 13.3 +0.3
GYA sP pwP 10 38 18.9 +5.1
GYA PP **PP 10 39 14.6 -0.6**
GYA S **S 10 43 18.4 +1.0**
GYA sS sS 10 43 38.9 +7.5
GYA SS **SnSn 10 45 21.6 +3.0**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,4μm,17.7s
GYA LR LR
comp=Z,4μm,17.3s
GYA LR LR
comp=Z,4μm,17.6s
CD2 Chengdu 35.71 291 P **P 10 38 21.0 -0.4**
CD2 pmax pmax
comp=Z,60nm,1.0s
LZH Lanzhou 36.14 299 ⇓P **P 10 38 25.9 +0.7**
LZH pP sP 10 38 36.8 -1.6
LZH sP pwP 10 38 41.3 +1.0
LZH PP **PP 10 39 48.3 +0.6**
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,5μm,14.1s
LZH LR LR
comp=Z,3μm,13.0s
LZH LR LR
comp=Z,5μm,15.7s
KAPI Kappang 36.49 222 P **P 10 38 28.1 0.0**
KAPI pmax pmax
comp=Z,73nm,1.0s
KAPI Kappang 36.49 222 P **P 10 38 28.1 0.0**
SBUM Sibu 36.62 240 P P 10 38 34.0 +4.8
SBUM Sibu 36.62 240 P **P 10 38 29.9 +0.7**
KMI Kunming 36.83 281 P **P 10 38 29.0 -2.2**
KMI pP pP 10 38 39.9 -0.5
KMI sP pwP 10 38 45.5 +0.1
KMI pmax pmax
comp=Z,10.0nm,1.5s
COEN Coen 37.29 180 P **P 10 38 34.3 -0.6**
COEN IAmb IAmb 10 38 38.3
comp=Z,31nm,0.8s
ULN Ulaanbaatar 37.57 319 *ceP* **P 10 38 36.8 -0.3**
ULN pmax pmax
comp=Z,44nm,2.5s
ULN Ulaanbaatar 37.57 319 P **P 10 38 36.0 -1.2**
NONG Nongkai 37.78 269 P **P 10 38 41.1 +2.0**
comp=Z,2.1nm,0.8s
SONM Songino Array 37.95 319 P **P 10 38 38.3 -2.0**
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 37.95 319 P **P 10 38 39.8 -0.5**
comp=Z,8.4nm,0.7s,baz=133,slow=6.6,SNR=6.7
SONM Songino Array 37.95 319 P **P 10 38 38.3 -2.0**
SOEI Soe 37.96 211 P **P 10 38 40.4 -0.2**
SOEI IAmb IAmb 10 38 59.5
comp=Z,52nm,0.9s
SOEI **S 10 44 31.6 +1.2**
MMRI Maumere 38.02 215 P **P 10 38 39.3 -1.7**
MTN Manton Dam 38.07 199 P **P 10 38 40.9 -0.5**
MTN IAmb IAmb 10 38 54.6
comp=Z,68nm,1.4s
BATI Baumata 38.64 212 P **P 10 38 47.4 +1.2**
comp=Z,28nm,0.4s,baz=273,slow=2.2,SNR=4.3
KSM Kuching 38.73 240 P P 10 38 52.0 +4.9
CHAI Chaiyaphum 39.46 267 P P 10 38 58.4 +5.2
comp=Z,47μm,0.9s
YAK Yakutsk 39.55 350 *eP* **P 10 38 53.8 +0.6**
YAK pmax pmax
comp=Z,54nm,0.8s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK Yakutsk 39.55 350 P **P 10 38 54.2 +0.9**
comp=N,39nm,0.8s,baz=161,slow=1.4,SNR=6.8
YAK Yakutsk 39.55 350 P **P 10 38 53.9 +0.6**
GTA Gaotai 39.85 304 *eP* **P 10 38 57.6 +1.2**
GTA pP sP 10 39 07.9 -1.6
GTA sP pwP 10 39 12.3 +0.8
GTA pmax pmax
comp=N,7.0nm,1.1s
BOD Bodaibo 40.15 336 *eP* **P 10 38 59.0 +0.6**
BOD pmax pmax
comp=Z,49nm,0.9s
PBKT Sadao Pong 40.19 268 P P 10 39 05.3 +6.1
comp=Z,13nm,1.0s
PBKT Sadao Pong 40.19 268 P **P 10 38 59.5 +0.3**
PAYA Payao 40.46 273 P P 10 39 07.9 +6.4
comp=Z,46μm,0.7s
ZAK Zakamensk 40.91 321 *eP* **P 10 39 04.3 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.3s
TLY Talaya 41.29 323 *eP* **P 10 39 08.2 +0.2**
TLY pmax pmax
comp=Z,42nm,1.5s
TLY Talaya 41.29 323 P **P 10 39 08.1 +0.2**
CMMT Chiang Mai 41.44 272 P **P 10 39 10.9 +1.3**
comp=Z,22nm,0.8s
CHTO Chiang Mai 41.44 272 P **P 10 39 10.0 +0.4**
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO Chiang Mai 41.44 272 P **P 10 39 09.9 +0.4**
KNRA Kununurra 41.49 201 P **P 10 39 09.2 -0.7**
KNRA IAmb IAmb 10 39 22.1
comp=Z,60nm,0.9s
CM31 Chiang Mai Arr 41.53 272 P **P 10 39 10.7 +0.3**
CMAR Chiang Mai Arr 41.53 272 P **P 10 39 09.3 -1.1**
CMAR Chiang Mai Arr 41.53 272 P **P 10 39 11.3 +0.9**
comp=Z,12nm,0.7s,baz=63,slow=7.9,SNR=27
CMAR LR LR 10 55 36.2
comp=Z,2μm,20.2s,baz=100,slow=35
CMAR Chiang Mai Arr 41.53 272 P **P 10 39 09.2 -1.1**
UTHA Uthaitani 41.89 267 P P 10 39 17.9 +4.6
comp=Z,43μm,1.1s,comp=Z,427μm
UMPA Umpang Tak 42.23 268 P P 10 39 30.3 +14
MHMT Maesariang 42.53 272 P P 10 39 23.2 +4.7
comp=Z,85nm,0.9s
PHET Kaeng Krachan 42.60 263 P P 10 39 23.8 +4.8
comp=Z,60μm,0.8s
JAGI Jajag, Banyuwa 42.68 225 P **P 10 39 20.2 +0.5**
JAGI IAmb IAmb 10 39 33.3
comp=Z,76nm,0.9s
CTAO Charters Tower 43.49 176 P **P 10 39 24.8 -1.3**
CTAO pmax pmax
comp=Z,54nm,1.1s
CTAO Charters Tower 43.49 176 P **P 10 39 24.8 -1.3**
CTAO IAmb IAmb 10 39 39.9
comp=Z,54nm,1.1s
JRMM Jerantut 43.92 250 P **P 10 39 31.0 +1.2**
WRAB Tennant Creek 44.09 192 *ceP* **P 10 39 29.6 -1.3**
WRAB pmax pmax
comp=Z,34nm,1.0s
WRAB Tennant Creek 44.09 192 P **P 10 39 29.5 -1.4**
WRAB IAmb IAmb 10 39 47.6
comp=Z,52nm,0.8s
WB2 Warramunga Arr 44.10 192 P **P 10 39 29.9 -1.2**
WB2 IAmb IAmb 10 39 44.5
comp=Z,64nm,0.9s
WRA Warramunga Arr 44.10 192 P **P 10 39 29.4 -1.6**
comp=Z,11nm,0.5s,baz=17,slow=9.2,SNR=33
WRA S **S 10 45 55.7 -5.7**
comp=Z,2.2nm,1.0s,baz=14,slow=14,SNR=4.0
WRA Warramunga Arr 44.10 192 P **P 10 39 30.0 -1.0**
KULM Kulim 44.83 253 P **P 10 39 37.0 0.0**
KULM IAmb IAmb 10 39 41.3
comp=Z,22nm,0.7s
IPM Ipoh 44.89 252 P **P 10 39 41.0 +3.5**
IPM Ipoh 44.89 252 P **P 10 39 36.9 -0.6**
PKDT Phuket 45.72 258 P P 10 39 50.4 +6.3
comp=Z,31nm,0.7s
LEM Lembang 46.07 233 P **P 10 39 47.8 +0.9**
comp=Z,78nm,0.8s,baz=65,slow=9.7,SNR=12
SHL Shillong 46.51 284 P **P 10 39 50.5 +0.1**
SHL pmax pmax
comp=Z,58nm,0.7s
SHL Shillong 46.51 284 P **P 10 39 50.5 +0.1**
LSA Lhasa 46.64 289 P **P 10 39 53.1 +1.3**
LSA pmax pmax
comp=Z,41nm,1.0s
LSA Lhasa 46.64 289 P **P 10 39 53.1 +1.3**
LSA IAmb IAmb 10 40 02.7
comp=Z,41nm,1.0s
BILL Bilibino 46.69 12 *ceP* **P 10 39 54.7 +3.7**
BILL *e**PP **sP 10 40 03.9 +0.5**
BILL *e**SP **pwP 10 40 10.0 +3.9**
BILL pmax pmax
comp=Z,63nm,1.7s
BILL MLR MLR
comp=Z,1μm,19.0s
BILL Bilibino 46.69 12 P **P 10 39 51.5 +0.5**
BILL IAmb IAmb 10 39 58.4
comp=Z,55nm,1.3s
PSI Prapat 47.53 251 P **P 10 39 59.1 +0.7**
PSI pmax pmax
comp=Z,25nm,0.8s
RPSI Rantau Prapat 47.59 251 P **P 10 39 59.1 +0.4**
RPSI IAmb IAmb 10 40 02.6
comp=Z,25nm,0.8s
AS31 Alice Springs 47.81 192 P **P 10 39 58.6 -1.7**
ASAR Alice Springs 47.81 192 P **P 10 39 58.2 -2.1**
comp=Z,4.7nm,0.5s,baz=11,slow=7.1,SNR=21
ASAR ScP **ScP 10 45 23.6 +3.2**
comp=Z,1.6nm,0.8s,baz=8.3,slow=5.6,SNR=4.6
ASAR S **S 10 46 49.6 -5.2**
comp=Z,1.0nm,0.8s,baz=20,slow=17,SNR=4.7
ASAR Alice Springs 47.81 192 P **P 10 39 58.3 -2.0**
TIXI Tiksi 48.81 354 *i* P **P 10 40 07.7 +0.4**
TIXI pmax pmax
comp=Z,18nm,0.8s
TIXI Tiksi 48.81 354 P **P 10 40 07.7 +0.4**
comp=Z,17nm,0.7s,baz=177,slow=7.3,SNR=2.9
TIXI Tiksi 48.81 354 P **P 10 40 07.5 +0.2**
TIXI IAmb IAmb 10 40 09.6
comp=Z,17nm,0.8s
WMQ Urumqi 49.45 308 *eP* **P 10 40 13.9 +1.1**
WMQ pP sP 10 40 25.8 -0.2
WMQ sP pwP 10 40 31.1 +2.7
WMQ S **S 10 47 09.3 -8.4**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,190nm,5.3s
WMQ LR LR
comp=Z,930nm,12.3s
WMQ LR LR
comp=Z,1μm,17.1s
WMQ LR LR
comp=Z,2μm,18.9s
WMQ Urumqi 49.45 308 P **P 10 40 13.6 +0.8**
WMQ pmax pmax
comp=Z,38nm,0.9s
WMQ Urumqi 49.45 308 P **P 10 40 13.6 +0.8**
WMQ IAmb IAmb 10 40 31.3
comp=Z,38nm,0.9s
TAPN Taplejung 49.93 287 *eP* **P 10 40 18.2 +1.2**
comp=Z,181nm,1.0s
PSAD1 Pilbara Seismi 50.22 209 P **P 10 40 18.7 0.0**
PSAC2 Pilbara Seismi 50.28 209 P **P 10 40 19.3 +0.2**
PSAB2 Pilbara Seismi 50.29 209 P **P 10 40 18.4 -0.8**
ODAN Odare 50.29 286 *eP* **P 10 40 20.7 +1.1**
comp=Z,165nm,0.9s
PSAD2 Pilbara Seismi 50.30 209 P **P 10 40 19.3 0.0**
PSA00 Pilbara Seismi 50.31 209 P **P 10 40 19.0 -0.4**
DGZ Jazzator, Alta 50.42 316 *c iP* **P 10 40 20.8 +0.7**
DZM Mont Dzumac 50.67 152 *eP* P 10 40 31.9 +10
comp=Z,78nm,1.1s
DZM Mont Dzumac 50.67 152 *e*LR LR 10 54 51.2
comp=Z,3μm,23.0s
RAMN Ramite 50.97 286 *eP* **P 10 40 25.8 +1.0**
comp=Z,93nm,0.8s
JIRN Jiri 51.22 287 *eP* **P 10 40 28.3 +1.5**
comp=Z,206nm,0.8s
GUN Gumba 51.45 288 *eP* **P 10 40 29.9 +1.4**
comp=Z,968nm,1.6s
PKI Pulchoki 51.92 287 *eP* **P 10 40 32.6 +0.7**
comp=Z,55nm,0.7s
PKIN Phulchoki 51.93 287 *eP* **P 10 40 32.6 +0.7**
KKN Kakani 51.99 288 *eP* **P 10 40 33.2 +0.8**
comp=Z,195nm,1.0s
DMN Daman 52.18 287 *eP* **P 10 40 34.5 +0.7**
comp=Z,309nm,1.4s
GKN Gorkha 52.52 288 *eP* **P 10 40 37.3 +1.1**
comp=Z,411nm,1.3s
ZAA0 Zalesovo Array 52.79 321 P **P 10 40 36.9 -0.6**
ZALV Zalesovo Beam 52.79 321 P **P 10 40 36.9 -0.7**
ZALV Zalesovo Beam 52.79 321 P **P 10 40 37.2 -0.4**
comp=Z,11nm,0.5s,baz=114,slow=6.9,SNR=22
ZALV Zalesovo Beam 52.79 321 P **P 10 40 36.9 -0.7**
DANN Dangsing 53.23 289 *eP* **P 10 40 43.1 +1.5**
comp=Z,574nm,0.7s
KOLN Koldanda 53.47 288 *eP* **P 10 40 44.2 +0.9**
comp=Z,203nm,0.9s
MK31 Makanchi Array 53.48 312 P **P 10 40 42.8 -0.1**
MK31 pmax pmax
comp=Z,27nm,1.0s
MK31 Makanchi Array 53.48 312 P **P 10 40 42.8 -0.1**
MK31 IAmb IAmb 10 40 57.8
comp=Z,27nm,0.9s
MKAR Makanchi Array 53.48 312 P **P 10 40 43.0 +0.1**
MKAR Makanchi Array 53.48 312 P **P 10 40 43.1 +0.2**
comp=Z,18nm,0.7s,baz=89,slow=9.5,SNR=45
MAKZ Makanchi 53.70 312 P **P 10 40 44.7 +0.3**
MAKZ pmax pmax
comp=Z,41nm,1.0s
MAKZ Makanchi 53.70 312 P **P 10 40 44.8 +0.3**
STKA Stephens Creek 55.15 182 P **P 10 40 53.2 -1.8**
comp=Z,11nm,0.6s,baz=342,slow=7.8,SNR=7.3
STKA Stephens Creek 55.15 182 P **P 10 40 53.3 -1.7**
PDGK Podgornoye 55.39 307 P **P 10 40 57.0 +0.1**
PDGK pmax pmax
comp=Z,25nm,0.7s
FORT Forrest 55.96 196 P **P 10 40 59.0 -1.8**
KURK Kurchatov 56.15 316 ⇑*iP* **P 10 41 02.0 -0.1**
KURK pmax pmax
comp=Z,67nm,0.7s
KURK Kurchatov 56.15 316 P **P 10 41 02.1 +0.1**
KURBB Kurchatov Arra 56.21 316 P **P 10 41 02.4 -0.1**
comp=Z,84nm,0.8s,baz=93,slow=7.7,SNR=169
PRZ Przheval'sk 56.21 306 P **P 10 41 03.5 +0.6**
PRZ pmax pmax
comp=Z,60nm,0.7s
PRZ Przheval'sk 56.21 306 P **P 10 41 03.5 +0.6**
NRIK Noril'sk 56.27 339 P **P 10 41 03.4 +0.7**
comp=Z,37nm,0.8s,baz=105,slow=8.4,SNR=14
BBOO Buckleboo 56.48 187 P **P 10 41 03.4 -1.0**
KDAK Kodiak Island 56.65 35 *ceP* **P 10 41 08.2 +2.7**
TARG Taragay, Kyrgy 56.69 305 P **P 10 41 06.9 +0.3**
TARG IAmb IAmb 10 41 10.8
comp=Z,48nm,0.9s
KDJ Kajisay 57.13 306 P **P 10 41 08.8 -0.6**
KDJ pmax pmax
comp=Z,34nm,1.0s
KDJ Kajisay 57.13 306 P **P 10 41 08.8 -0.6**
KDJ IAmb IAmb 10 41 27.4
comp=Z,34nm,0.9s
AFI Afiamalu 57.64 126 LR LR 11 03 07.1
comp=Z,1μm,19.5s,baz=284,slow=33
IMAR Indian Mountai 57.79 26 P **P 10 41 14.3 +0.9**
ULHL Ulahol 57.82 306 P **P 10 41 15.6 +1.3**
SNR=9.8
BOOM Boomskoye usch 58.03 306 P **P 10 41 16.6 +0.9**
BOOM pmax pmax
comp=Z,39nm,0.7s
BOOM Boomskoye usch 58.03 306 P **P 10 41 16.6 +0.9**
NRN Naryn 58.06 305 P **P 10 41 16.1 0.0**
NRN pmax pmax
comp=Z,30nm,1.0s
NRN Naryn 58.06 305 P **P 10 41 16.1 0.0**
NRN IAmb IAmb 10 41 30.1
comp=Z,30nm,1.0s
KSH Kashi 58.24 303 P **P 10 41 21.8 +4.6**
KSH pP pwP 10 41 32.3 0.0
KSH sP sP 10 41 36.1 +5.4
KSH PcP **PcP 10 42 11.3 +3.0**
KSH S **S 10 49 19.8 +2.9**
KSH sS sS 10 49 37.6 +4.2
KSH SS **SS 10 53 14.9 +6.1**
KSH LR LR
comp=Z,2μm,15.6s
KSH LR LR
comp=Z,1μm,16.5s
KSH LR LR
comp=Z,1μm,19.7s
TKM2 Tokmak 2 58.25 307 P **P 10 41 18.5 +1.2**
TKM2 pmax pmax
comp=Z,46nm,0.8s
TKM2 Tokmak 2 58.25 307 P **P 10 41 18.7 +1.3**
SNR=36
BPAW Bear Paw Mtn. 58.50 28 P **P 10 41 19.4 +0.9**
BPAW IAmb IAmb 10 41 38.0
comp=Z,34nm,1.0s
MORW Morawa 58.51 208 P **P 10 41 19.1 +0.2**
MORW IAmb IAmb 10 41 30.8
comp=Z,39nm,1.0s
KZA Kyzart 58.57 306 P **P 10 41 22.1 +2.3**
SNR=26
TRF Thorofare Moun 58.69 29 P **P 10 41 20.9 +0.9**
TRF IAmb IAmb 10 41 33.2
comp=Z,29nm,0.8s
KBK Karagaybulak 58.75 307 P **P 10 41 22.2 +1.4**
SNR=17
MLY Manley 58.79 27 P **P 10 41 22.7 +2.2**
MLY IAmb IAmb 10 41 27.8
comp=Z,23nm,1.1s
CHMS Chumysh 58.87 307 P **P 10 41 22.0 +0.7**
SNR=9.5
PMR Palmer 58.93 31 P **P 10 41 22.0 +0.6**
PMR pmax pmax
comp=Z,37nm,1.0s
PMR Palmer 58.93 31 P **P 10 41 22.0 +0.6**
PMR IAmb IAmb 10 41 40.7
comp=Z,37nm,1.0s
FRU1 Bishkek 58.97 307 P **P 10 41 23.8 +1.6**
FRU1 pmax pmax
comp=Z,61nm,0.9s
FRU1 Bishkek 58.97 307 P **P 10 41 23.8 +1.6**
USP Ospenovka 59.03 307 P **P 10 41 23.5 +1.0**
SNR=21
GHO Glory Hole Cre 59.05 31 P **P 10 41 22.6 +0.2**
GHO IAmb IAmb 10 41 24.8
comp=Z,23nm,0.8s
AAK Ala-Archa 59.08 307 *ceP* **P 10 41 23.9 +0.9**
AAK pmax pmax
comp=Z,20nm,0.7s
AAK Ala-Archa 59.08 307 P **P 10 41 24.1 +1.1**
comp=Z,18nm,0.6s,baz=110,slow=4.5,SNR=24
AAK Ala-Archa 59.08 307 P **P 10 41 24.1 +1.1**
SNR=15
AAK Ala-Archa 59.08 307 P **P 10 41 24.0 +1.1**
AAK IAmb IAmb 10 41 41.3
comp=Z,29nm,0.9s
UCH Uchtor 59.10 306 P **P 10 41 25.3 +1.7**
SNR=40
BWN Browne 59.17 28 P **P 10 41 23.5 +0.4**
KNK Knik Glacier 59.23 31 P **P 10 41 24.7 +1.2**
KNK IAmb IAmb 10 41 29.2
comp=Z,36nm,0.9s
RND Reindeer 59.32 29 P **P 10 41 24.6 +0.4**
RND pmax pmax
comp=Z,16nm,0.7s
RND Reindeer 59.32 29 P **P 10 41 24.6 +0.4**
RND IAmb IAmb 10 41 37.3
comp=Z,16nm,0.7s
MCK McKinley 59.33 29 P **P 10 41 25.1 +0.8**
MCK pmax pmax
comp=Z,39nm,0.9s
MCK McKinley 59.33 29 P **P 10 41 25.1 +0.8**
MCK IAmb IAmb 10 41 43.8
comp=Z,39nm,0.9s
SML Sawmill 59.34 31 P **P 10 41 24.6 +0.2**
EKS2 Erkin-Say 59.61 307 P **P 10 41 27.6 +1.0**
SNR=21

AML Almayashu 59.72 306 P **P 10 41 29.2 +1.5**
SNR=52
SCM Sheep Creek Mo 59.81 31 P **P 10 41 28.3 +0.6**
SCM pmax pmax
comp=Z,65nm,0.9s
SCM Sheep Creek Mo 59.81 31 P **P 10 41 28.2 +0.6**
GLI Glacier Island 59.83 32 P **P 10 41 28.1 +0.4**
GLI IAmb IAmb 10 41 45.2
comp=Z,27nm,0.7s
TCOL CIGO, UAF Yank 59.97 27 P **P 10 41 30.9 +2.4**
baz=262
COLA College 59.97 27 *i* P **P 10 41 31.4 +2.8**
COLA pmax pmax
comp=Z,38nm,3.0s
HDA Harding Lake 60.29 28 P **P 10 41 31.2 +0.4**
baz=263
HDA Harding Lake 60.29 28 P **P 10 41 31.6 +0.8**
HDA IAmb IAmb 10 41 44.8
comp=Z,14nm,0.8s
ARSB Arslanbob 60.33 305 P **P 10 41 32.8 +1.1**
IL31 60.37 28 P **P 10 41 30.9 -0.3**
IL31 IAmb IAmb 10 41 35.3
comp=Z,26nm,1.1s
ILAR Eielson Array 60.37 28 P **P 10 41 30.4 -0.9**
comp=Z,14nm,0.9s,baz=259,slow=4.3,SNR=26
ILAR Eielson Array 60.37 28 P **P 10 41 30.8 -0.5**
HYB Hyderabad 60.47 277 *i* P **P 10 41 32.5 -0.3**
NIL Nilore 61.23 297 P **P 10 41 37.3 -0.5**
NIL pmax pmax
comp=Z,74nm,0.8s
NIL Nilore 61.23 297 P **P 10 41 37.3 -0.5**
FYU Fort Yukon 61.28 26 P **P 10 41 37.8 +0.3**
FYU IAmb IAmb 10 41 46.6
comp=Z,41nm,1.0s
BVAR Borovoye Array 61.30 319 P **P 10 41 38.4 +0.6**
comp=Z,136nm,0.8s,baz=91,slow=7.4,SNR=191
BRVK Borovoye 61.36 319 *c i* P **P 10 41 38.9 +0.7**
BRVK pmax pmax
comp=Z,131nm,0.8s
BRVK Borovoye 61.36 319 P **P 10 41 39.0 +0.8**
NWAO Narrogin (SRO) 61.41 205 P **P 10 41 37.9 -0.8**
NWAO pmax pmax
comp=Z,105nm,1.5s
NWAO Narrogin (SRO) 61.41 205 P **P 10 41 37.9 -0.8**
NWAO Narrogin (SRO) 61.41 205 P **P 10 41 37.9 -0.8**
DOT Dot Lake 61.48 29 P **P 10 41 39.0 +0.1**
DOT IAmb IAmb 10 41 58.1
comp=Z,17nm,0.9s
BMAR Burnt Mountain 61.64 25 P **P 10 41 41.1 +1.2**
CRQM Cirque 61.75 32 P **P 10 41 42.6 +1.7**
CRQM IAmb IAmb 10 41 47.1
comp=Z,32nm,0.8s
TGL Tana Glacier 61.90 32 P **P 10 41 43.5 +1.6**
KK31 Karatay Array 61.95 308 *i* P **P 10 41 43.3 +0.9**
KK31 pmax pmax
comp=Z,87nm,0.8s
KK31 Karatay Array 61.95 308 P **P 10 41 43.4 +1.0**
KKAR Karatay Array 61.95 308 P **P 10 41 43.4 +1.0**
KKAR Karatay Array 61.95 308 P **P 10 41 43.4 +1.0**
KKAR Karatay Array 61.95 308 P **P 10 41 43.6 +1.2**
KKAR IAmb IAmb 10 41 45.2
comp=Z,106nm,0.8s
BTK Batken 62.12 304 P **P 10 41 44.4 +0.7**
BTK pmax pmax
comp=Z,69nm,1.2s
BTK Batken 62.12 304 P **P 10 41 44.4 +0.7**
BCAR Beaver Creek A 62.47 30 P **P 10 41 46.2 +0.6**
GAR Garm 62.66 303 P **P 10 41 48.6 +1.2**
EGAK Eagle 62.81 28 P **P 10 41 48.5 +0.7**
TAS Tashkent 63.09 306 P **P 10 41 51.7 +1.6**
TAS pmax pmax
comp=Z,110nm,0.7s
TAS Tashkent 63.09 306 P **P 10 41 51.7 +1.6**
DAWY Dawson 63.56 29 P **P 10 41 54.1 +1.3**
CHGR Chuyangaron 63.61 303 P **P 10 41 54.8 +1.1**
POO Poona 64.40 280 *eP* P 10 42 05.0 +5.9
POO Poona 64.40 280 *eP* P 10 42 05.0 +5.9
KBL Kabul 64.48 298 P **P 10 42 00.6 +1.0**
KBL pmax pmax
comp=Z,182nm,1.1s
KBL Kabul 64.48 298 P **P 10 42 00.6 +1.0**
HYT Haines Junctio 64.52 32 P **P 10 42 01.2 +1.9**
HYT IAmb IAmb 10 42 19.7
comp=Z,31nm,1.1s
EPYK Eagle Plains 64.68 26 P **P 10 42 01.1 +1.1**
EPYK IAmb IAmb 10 42 17.9
comp=Z,42nm,1.1s
OUZ Omahuta 65.16 153 P **P 10 42 04.3 +0.8**
SKAG Skagway 65.70 34 P **P 10 42 07.7 +0.9**
SKAG IAmb IAmb 10 42 19.5
comp=Z,19nm,1.0s
WHY Whitehorse 65.81 32 P **P 10 42 09.6 +2.0**
INK Inuvik 65.85 24 P **P 10 42 07.8 +0.2**
comp=Z,18nm,1.1s,baz=291,slow=4.4,SNR=9.8
INK Inuvik 65.85 24 P **P 10 42 08.3 +0.8**
INK IAmb IAmb 10 42 14.3
comp=Z,33nm,1.3s
SVE Sverdlovsk 66.61 324 *de* P **P 10 42 13.2 +0.6**
SVE pmax pmax
comp=Z,71nm,0.9s
ARU Arti 67.80 323 *c i* P **P 10 42 20.4 +0.2**
ARU 10 42 47.0
ARU 10 44 45.7
ARU S **S 10 51 17.9 +2.3**
ARU SS **SS 10 55 36.0 -0.9**
ARU pmax pmax
comp=Z,72nm,0.8s
ARU Arti 67.80 323 P **P 10 42 20.5 +0.2**
AB31 Akbulak array 68.25 316 *i* P **P 10 42 23.1 -0.1**
AB31 pmax pmax
comp=Z,17nm,0.6s
ABKAR Akbulak array 68.25 316 P **P 10 42 23.2 0.0**
ABKAR Akbulak array 68.25 316 P **P 10 42 23.0 -0.1**
ABKAR IAmb IAmb 10 42 37.3
comp=Z,27nm,0.8s
DLBC Dease Lake 68.56 34 P **P 10 42 26.1 +1.0**
comp=Z,10nm,1.0s,baz=243,slow=7.4,SNR=4.8
URZ Urewera 69.23 152 P **P 10 42 28.6 -0.7**
QRZ Quartz Range 69.61 157 P **P 10 42 30.6 -1.0**
BKZ Black Stump Fm 69.73 153 P **P 10 42 30.5 -1.9**
HRA Herat 69.98 300 P **P 10 42 35.3 +0.8**
HRA IAmb IAmb 10 42 48.9
comp=Z,34nm,0.8s
THZ Tophouse 70.57 157 P **P 10 42 36.7 -0.7**
THZ IAmb IAmb 10 42 40.4
comp=Z,20nm,0.7s
RAR Rarotonga 71.13 124 LR LR 11 05 52.7
comp=Z,978nm,20.5s,baz=270,slow=29
GEYT Alibeck 72.23 304 P **P 10 42 49.5 +1.7**
comp=Z,25nm,0.8s,baz=66,slow=4.9,SNR=28
GEYT Alibeck 72.23 304 P **P 10 42 48.3 +0.4**
GYA0B ALIBECK ARRAY 72.23 304 P **P 10 42 48.5 +0.7**
GYA0B IAmb IAmb 10 43 07.9
comp=Z,43nm,0.8s
PRGR Permogore 73.07 330 *eP* **P 10 42 51.5 -0.7**
PRGR pmax pmax
comp=Z,48nm,0.8s
SPA0 Spitsbergen Ar 74.01 350 *eP* **P 10 42 58.0 +0.5**
YKA Yellowknife Ar 74.79 28 P **P 10 43 02.0 -0.3**
comp=Z,5.8nm,0.7s,baz=293,slow=5.9,SNR=8.0
RES Resolute Bay 75.26 13 P **P 10 43 05.2 +0.4**
RES pmax pmax
comp=Z,20nm,1.1s
RES Resolute Bay 75.26 13 P **P 10 43 05.2 +0.4**
APA Apatity 75.66 338 ‖ *i* P **P 10 43 07.3 +0.1**
APA pmax pmax
comp=Z,26nm,0.7s
APA MLR MLR
comp=Z,5μm,21.0s
KLMR Klimovskoe 76.11 331 *eP* **P 10 43 08.8 -1.1**
KLMR *e* 10 45 57.9
KLMR pmax pmax
comp=Z,23nm,0.9s
KLMR Klimovskoe 76.11 331 *eP* **P 10 43 08.8 -1.1**
KLMR AMP 10 43 21.2
comp=Z,23nm,0.9s
KLMR *e*PP **PP 10 45 57.9 -2.6**
F04A Amboy 76.34 46 P **P 10 43 12.5 +1.0**
F04A IAmb IAmb 10 43 16.6
comp=Z,29nm,0.9s
L02E Cave Junction 76.81 50 P **P 10 43 16.5 +2.2**
baz=290
HAMF Hammerfest 77.06 343 *eP* **P 10 43 15.2 +0.1**
ARCES ARCESS Array B 77.17 341 P **P 10 43 16.4 +0.5**
comp=Z,21nm,0.8s,baz=72,slow=7.6,SNR=19
ARCES LR LR 11 22 10.5
comp=Z,2μm,19.1s,baz=108,slow=40
ARE0 ARCESS Array S 77.17 341 *eP* **P 10 43 16.6 +0.8**
PPT Papeete 77.29 116 LR LR 11 12 40.9
comp=Z,647nm,18.6s,baz=270,slow=32
PPT2 Papeete2 77.30 116 *eS* **S 10 53 10.5 +5.2**
comp=Z,658nm,30.2s
PPT2 Papeete2 77.30 116 *e*LR LR 11 07 12.9
comp=Z,1μm,25.2s
B08A Colville Reser 77.47 43 P **P 10 43 18.4 +0.5**
B08A IAmb IAmb 10 43 33.4
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 77.58 50 P **P 10 43 18.9 +0.1**
comp=Z,6.8nm,0.7s,baz=319,slow=4.7,SNR=15
YBH Yreka Blue Hor 77.58 50 P **P 10 43 19.8 +1.0**
YBH IAmb IAmb 10 43 29.5
comp=Z,18nm,0.9s
L04D Klamath Falls 77.70 49 P **P 10 43 20.7 +1.3**
baz=291
E07A Sunnyside 77.79 44 P **P 10 43 20.1 +0.4**
E07A IAmb IAmb 10 43 27.7
comp=Z,14nm,0.8s
N02D Trinity Center 77.85 51 P **P 10 43 21.7 +1.5**
baz=291
O02D Mt. Diablo Mer 78.07 51 P **P 10 43 23.0 +1.5**
baz=291
KTK1 Kautokeino 78.14 341 *eP* **P 10 43 21.9 +0.7**
M04C Macdoel 78.18 50 P **P 10 43 23.0 +0.9**
baz=291
TULEG Thule 78.22 7 P **P 10 43 21.8 +0.3**
TULEG IAmb IAmb 10 43 36.0
comp=Z,23nm,1.0s
AKT Akhty 78.69 310 *eP* **P 10 43 25.5 +0.6**
AKT *e* 10 43 33.8
AKT pmax pmax
comp=Z,43nm,0.8s
O03E Paynes Creek 78.74 51 P **P 10 43 25.8 +0.6**
baz=291
VRH Novokhopyorsk 78.83 321 *eP* **P 10 43 24.4 -0.9**
VRH pmax pmax
comp=Z,20nm,0.7s
NEW Newport 78.87 42 P **P 10 43 26.1 +0.4**
comp=Z,14nm,1.0s,baz=282,slow=3.8,SNR=14
NEW Newport 78.87 42 P **P 10 43 26.1 +0.4**
TRO Tromso 78.97 343 *eP* **P 10 43 25.8 +0.1**
MOS Moscow 79.15 326 *eP* P 10 43 33.9 +6.9
MOD Modoc Plateau 79.20 49 P **P 10 43 27.7 0.0**
DAG Danmarks Havn 79.28 356 *i* P **P 10 43 26.0 -1.3**
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 79.28 356 *i* P **P 10 43 26.0 -1.3**
comp=Z,9.9nm,0.8s
GROC Groznyy 79.38 312 *eP* **P 10 43 24.1 -4.4**
GROC *e* 10 43 32.6
GROC pmax pmax
comp=Z,62nm,0.3s
F10A Beach Ranch, E 79.70 44 P **P 10 43 30.0 -0.3**
LPSR Galich'ya Gora 79.82 323 *eP* **P 10 43 30.4 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
AFDM Forest Hills D 79.83 52 P **P 10 43 32.5 +1.4**
BEKR Beckworth 79.92 51 P **P 10 43 31.7 -0.1**
BEKR IAmb IAmb 10 43 39.5
comp=Z,21nm,0.8s
OBN Obninsk 79.97 326 ‖ *eP* **P 10 43 33.7 +2.3**
OBN *e**SP **pP 10 43 43.1 +2.0**
OBN *e* 10 43 51.7
OBN S S 10 53 46.0 +13
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,2μm,19.0s
BMO Blue Mountains 80.09 45 P **P 10 43 32.8 +0.3**
BMO pmax pmax
comp=Z,13nm,0.9s
BMO Blue Mountains 80.09 45 P **P 10 43 32.8 +0.3**
WVOR Wild Horse Val 80.14 48 P **P 10 43 33.8 +1.0**
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR Wild Horse Val 80.14 48 P **P 10 43 33.8 +1.0**
VSR Storozhevoye 80.28 322 *eP* **P 10 43 32.8 -0.4**
VSR pmax pmax
comp=Z,30nm,1.0s
TBI Tubuai 80.29 121 *eS* **S 10 53 42.8 +5.9**
comp=Z,351nm,31.2s
TBI Tubuai 80.29 121 *e*LR LR 11 08 29.3
comp=Z,1μm,31.5s
GOF Gofitskoye 80.48 315 ‖ *eP* P 10 43 48.2 +14
WALA Waterton Lakes 80.50 41 P **P 10 43 36.0 +1.3**
WALA IAmb IAmb 10 43 41.0
comp=Z,18nm,0.8s
CMB Columbia Colle 80.60 53 P **P 10 43 35.4 +0.1**
CMB pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 80.60 53 P **P 10 43 35.4 +0.1**
CMB IAmb IAmb 10 43 43.2
comp=Z,22nm,0.9s
VCNR Virginia City 80.65 51 P **P 10 43 36.9 +1.2**
PAHR Pah Rah Range 80.68 51 P **P 10 43 36.1 +0.3**
PNTR Pine Nut 80.76 51 P **P 10 43 37.4 +1.0**
PNTR IAmb IAmb 10 43 57.4
comp=Z,16nm,0.7s
ZEI Tsey 80.82 313 *eP* **P 10 43 35.3 -1.3**
ZEI pmax pmax
comp=Z,38nm,0.9s
JTMT Jette 80.83 42 P **P 10 43 36.6 +0.2**
JTMT IAmb IAmb 10 43 44.7
comp=Z,27nm,1.1s
PLID Pearl Lake 80.84 45 P **P 10 43 37.4 +0.7**
YERR Yerington 81.06 51 P **P 10 43 38.6 +0.7**
STEI Steigen 81.11 342 *eP* **P 10 43 37.4 +0.1**
WAKR Walker 81.11 52 P **P 10 43 39.0 +0.8**
KBZ Khabaz 81.11 314 P **P 10 43 38.5 +0.8**
comp=Z,62nm,0.8s,baz=78,slow=3.8,SNR=55
KBZ LR LR 11 23 06.5
comp=Z,1μm,18.7s,baz=85,slow=38
KIV Kislovodsk 81.16 314 *eP* **P 10 43 39.3 +1.1**
KIV pmax pmax
comp=Z,94nm,1.0s
KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 81.16 314 P **P 10 43 38.3 +0.1**
KIV IAmb IAmb 10 43 50.9
comp=Z,32nm,0.9s
FINES FINESS Array B 81.52 334 P **P 10 43 39.2 -0.5**
comp=Z,12nm,0.5s,baz=67,slow=4.9,SNR=32
PAGB Antelope Grade 81.58 55 P **P 10 43 41.4 +0.8**
PAGB IAmb IAmb 10 43 56.2
comp=Z,31nm,0.9s
MFID Camas Ranch 81.64 46 P **P 10 43 41.4 +0.6**
MFID IAmb IAmb 10 43 51.1
comp=Z,28nm,1.1s
AKH Akhalkalaki 81.65 311 P **P 10 43 42.0 +1.0**
AKH pmax pmax
comp=Z,22nm,1.0s
AKH Akhalkalaki 81.65 311 P **P 10 43 42.0 +1.0**
AKH IAmb IAmb 10 43 58.4
comp=Z,22nm,1.0s
RYN Ryan 81.72 52 P **P 10 43 41.9 +0.6**
KVN Kaiserville 81.85 51 P **P 10 43 41.8 -0.3**
KVN pmax pmax
comp=Z,13nm,0.9s
KVN Kaiserville 81.85 51 P **P 10 43 41.8 -0.3**
NVAR Mina Array Bea 81.95 52 P **P 10 43 43.0 +0.4**
comp=Z,4.9nm,0.7s,baz=270,slow=6.2,SNR=12
NV11 Mina Array Sit 82.06 52 P **P 10 43 43.6 +0.4**
PKM Mcpherson Peak 82.24 55 P **P 10 43 44.9 +0.7**
baz=293
VES Vestal, Richgr 82.41 54 P **P 10 43 45.0 +0.1**
baz=294
MOR8 Moi Rana 82.55 341 *eP* **P 10 43 43.6 -1.3**
HRY Holter Researc 82.78 42 P **P 10 43 46.8 +0.1**
LRM Limekiln Ridge 82.79 43 P **P 10 43 45.8 -1.2**
ISA Isabella, Lake 82.94 54 P **P 10 43 48.0 +0.3**
ISA pmax pmax
comp=Z,13nm,1.1s
ISA Isabella, Lake 82.94 54 P **P 10 43 48.0 +0.3**
MCMT McKenzie Canyo 82.98 44 P **P 10 43 47.9 0.0**
ELK Elko 83.16 49 P **P 10 43 48.7 -0.2**
ELK pmax pmax
comp=Z,11nm,1.0s
ELK Elko 83.16 49 P **P 10 43 48.7 -0.2**
SOC Sochi 83.27 315 *eP* **P 10 43 45.9 -3.2**
SOC *e* 10 46 56.9
SOC *e*S **S 10 53 58.5 -8.7**
SOC MLR MLR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 83.41 43 P **P 10 43 52.1 +2.1**
baz=297
BOZ Bozeman (W) 83.41 43 P **P 10 43 49.2 -0.8**
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 83.41 43 P **P 10 43 49.2 -0.8**
MPMC Manual Prospec 83.51 54 P **P 10 43 52.1 +1.3**
baz=294
LRMC Laurel Mtn Rad 83.60 54 P **P 10 43 51.3 +0.1**
baz=294
FURC Furnace Creek, 83.80 53 P **P 10 43 53.2 +1.2**
baz=295
QLMT Earthquake Lak 83.88 44 P **P 10 43 52.7 +0.2**
R11A Troy Canyon, C 83.93 51 P **P 10 43 53.4 +0.5**
baz=295
R11A Troy Canyon, C 83.93 51 P **P 10 43 53.0 +0.1**
TPNV Topopah Spring 84.05 52 P **P 10 43 54.0 +0.5**
baz=295
TPNV Topopah Spring 84.05 52 P **P 10 43 53.3 -0.2**
TPNV pmax pmax
comp=Z,13nm,0.7s
TPNV Topopah Spring 84.05 52 P **P 10 43 53.3 -0.2**
TPNV IAmb IAmb 10 43 57.5
comp=Z,13nm,0.7s
YHB Horse Butte 84.07 44 P **P 10 43 53.9 +0.4**
ANN Anapa 84.19 316 *eP* P 10 43 42.0 -12
ANN pmax pmax
comp=Z,94nm,1.7s
FFC Flin Flon 84.23 32 P **P 10 43 53.8 0.0**
FFC pmax pmax
comp=Z,31nm,0.9s
FFC Flin Flon 84.23 32 P **P 10 43 53.8 0.0**
FFC IAmb IAmb 10 44 02.6
comp=Z,31nm,0.9s
GSC Goldstone, Bar 84.33 54 P **P 10 43 55.7 +0.8**
GSC pmax pmax
comp=Z,19nm,1.0s
GSC Goldstone, Bar 84.33 54 P **P 10 43 55.7 +0.8**
GSC IAmb IAmb 10 44 10.1
comp=Z,19nm,1.0s
SOCY Socotra 84.54 281 P **P 10 43 54.4 -1.8**
SOCY IAmb IAmb 10 44 06.4
comp=Z,30nm,0.8s
IDID Didziasalis 84.71 329 *eP* P 10 44 04.2 +7.9
MURC Murrieta 84.75 56 P **P 10 43 56.5 -0.4**
baz=295
ISAL Salakas 84.85 329 *eP* P 10 44 03.5 +6.5
HEC Hector,Ludlow 84.88 54 P **P 10 43 57.9 +0.3**
baz=295
NACGM Naroch 84.92 329 *e* **P 10 43 56.0 -1.3**
NACGM *e*LQ LQ 11 19 00.0
NACGM *e*LR LR 11 21 38.0
TUQ Turquoise Moun 84.92 54 P **P 10 43 58.5 +0.5**
baz=295
IIGN Ignalina 84.93 329 *eP* P 10 44 04.3 +6.9
AHID Auburn Hatcher 85.04 45 P **P 10 43 58.1 -0.3**
DUG Dugway, Tooele 85.06 48 P **P 10 43 58.9 +0.4**
baz=297
DUG Dugway, Tooele 85.06 48 P **P 10 43 58.4 -0.1**
DUG pmax pmax
comp=Z,15nm,0.9s
DUG Dugway, Tooele 85.06 48 P **P 10 43 58.4 -0.1**
DUG IAmb IAmb 10 44 13.9
comp=Z,15nm,0.8s
PSUT Pine Spring 85.08 50 P **P 10 43 58.5 -0.2**
RLMT Red Lodge 85.10 43 P **P 10 43 59.6 +0.8**
baz=299
RLMT Red Lodge 85.10 43 P **P 10 43 59.3 +0.6**
RLMT IAmb IAmb 10 44 09.6
comp=Z,22nm,0.9s
PFO Pinyon Flats O 85.30 55 P **P 10 43 59.9 +0.1**
baz=295
PFO Pinyon Flats O 85.30 55 P **P 10 43 59.6 -0.2**
PFO pmax pmax
comp=Z,24nm,1.0s
PFO Pinyon Flats O 85.30 55 P **P 10 43 59.6 -0.2**
PFO IAmb IAmb 10 44 16.2
comp=Z,24nm,1.0s
TPFO Pinon Flats 85.30 55 P **P 10 44 00.0 +0.2**
baz=295
BELC Belle Mtn. Jos 85.48 55 P **P 10 44 00.8 +0.1**
baz=295
CTU Camp Tracy 85.56 47 P **P 10 44 01.3 +0.3**
TCUT Toone Canyon 85.60 47 P **P 10 44 02.0 +0.7**
MONP2 Monument Peak 85.63 56 P **P 10 44 01.7 +0.1**
baz=295
JLU Jordanelle 85.81 47 P **P 10 44 02.5 +0.2**
CCUT Cedar City 85.86 51 P **P 10 44 03.2 +0.5**
PABE Paberze 85.89 330 *eP* **P 10 44 00.7 -1.3**
MPU Maple Canyon 85.95 48 P **P 10 44 03.5 +0.5**
AKASG Malin Array Be 86.02 324 P **P 10 44 01.6 -1.3**
comp=Z,0.9nm,0.3s,baz=51,slow=5.2,SNR=6.9
AKASG Malin Array Be 86.02 324 P **P 10 44 01.6 -1.3**
AKBB Malin Array Si 86.02 324 P **P 10 44 02.7 -0.1**
AKBB pmax pmax
comp=Z,14nm,0.9s
AKBB Malin Array Si 86.02 324 P **P 10 44 02.7 -0.1**
AKBB IAmb IAmb 10 44 13.7
comp=Z,14nm,0.8s
BC3 Big Chuckawall 86.04 55 P **P 10 44 03.9 +0.5**
baz=296
BW06 Boulder Array 86.04 45 P **P 10 44 04.3 +0.8**
baz=299
BW06 Boulder Array 86.04 45 P **P 10 44 02.9 -0.6**
PD31 Pinedale Array 86.04 45 P **P 10 44 03.5 +0.1**
PDAR Pinedale Array 86.04 45 P **P 10 44 02.9 -0.6**
comp=Z,1.6nm,0.7s,baz=236,slow=2.2,SNR=9.1
LAO LASA Array 86.18 40 P **P 10 44 04.7 +0.9**
baz=301
LAO LASA Array 86.18 40 P **P 10 44 04.2 +0.4**
LAO IAmb IAmb 10 44 12.2
comp=Z,28nm,0.9s
LCMT Little Creek M 86.19 51 P **P 10 44 04.7 +0.5**
MSU Marysvale 86.26 50 P **P 10 44 05.2 +0.6**
MSU Marysvale 86.26 50 P **P 10 44 05.2 +0.6**
KNB Kanab 86.49 51 P **P 10 44 06.1 +0.4**
KNB pmax pmax
comp=Z,42nm,1.0s
KNB Kanab 86.49 51 P **P 10 44 06.1 +0.4**
W13A Hualapai Mount 86.57 53 P **P 10 44 05.9 -0.3**
TMUT Trail Mountain 86.58 48 P **P 10 44 07.1 +0.9**
PDMCI Parker Dam,Lak 86.73 54 P **P 10 44 07.2 +0.5**
baz=296
GLA Glamis 86.77 55 P **P 10 44 07.7 +0.7**
baz=296
GLA Glamis 86.77 55 P **P 10 44 07.5 +0.5**
GLA pmax pmax
comp=Z,20nm,0.8s
GLA Glamis 86.77 55 P **P 10 44 07.5 +0.5**
GLA IAmb IAmb 10 44 22.4
comp=Z,20nm,0.8s
P17A Butcher Ranch, 86.81 48 P **P 10 44 07.7 +0.5**
NC405 NORSAR Array S 87.01 339 P **P 10 44 06.6 -0.9**
RDMU Red Mountain 87.08 47 P **P 10 44 09.1 +0.5**
SRU San Rafael Swe 87.13 48 P **P 10 44 08.9 +0.1**
SRU pmax pmax
comp=Z,19nm,1.0s
SRU San Rafael Swe 87.13 48 P **P 10 44 08.9 +0.1**
U15A North Rim 87.13 51 P **P 10 44 09.4 +0.4**
U15A IAmb IAmb 10 44 17.0
comp=Z,14nm,0.8s
SUW Suwalki 87.15 329 P **P 10 44 07.2 -1.1**
SUW pmax pmax
comp=Z,112nm,1.1s
SUW Suwalki 87.15 329 P **P 10 44 07.2 -1.1**
DOMB Dombas 87.17 340 *eP* **P 10 44 08.2 -0.2**
NB2 NORSAR Subarra 87.23 339 P **P 10 44 07.2 -1.5**
comp=Z,3.2nm,0.7s,baz=46,slow=4.8
NB2 NORSAR Subarra 87.23 339 P **P 10 44 07.2 -1.5**
baz=46,slow=4.8
NOA NORSAR Array B 87.23 339 P **P 10 44 07.1 -1.5**
comp=Z,4.5nm,0.8s,baz=46,slow=5.3,SNR=11
NOA PP **PP 10 47 30.7 -1.4**
comp=Z,2.4nm,0.9s,baz=43,slow=8.6,SNR=4.4
NC602 NORSAR Array S 87.34 338 *eP* **P 10 44 08.7 -0.5**
RAYN Ar Rayn 87.45 294 P **P 10 44 10.0 -0.4**
RAYN pmax pmax
comp=Z,26nm,0.9s
RAYN Ar Rayn 87.45 294 P **P 10 44 10.0 -0.4**
RAYN IAmb IAmb 10 44 24.0
comp=Z,26nm,0.9s
113A Mohawk Valley, 87.70 55 P **P 10 44 11.8 +0.4**

113A IAmb IAmb 10 44 26.6
comp=Z,12nm,0.8s
Y14A Wickenburg 87.74 54 P **P 10 44 12.1 +0.4**
Y14A IAmb IAmb 10 44 27.1
comp=Z,19nm,1.0s
O20A White River Ci 88.18 47 P **P 10 44 14.5 +0.7**
baz=300
O20A White River Ci 88.18 47 P **P 10 44 13.6 -0.2**
O20A IAmb IAmb 10 44 18.7
comp=Z,12nm,0.9s
PV09 Paradox Valley 88.38 48 P **P 10 44 16.3 +1.4**
PV21 Cone Mtn., Par 88.46 48 P **P 10 44 15.6 +0.4**
PV21 IAmb IAmb 10 44 23.1
comp=Z,17nm,0.9s
PV23 Carpenter Ridg 88.48 48 P **P 10 44 15.5 +0.1**
PV23 IAmb IAmb 10 44 23.2
comp=Z,22nm,0.9s
PV14 Lion Creek, Pa 88.52 48 P **P 10 44 15.5 0.0**
PV14 IAmb IAmb 10 44 20.1
comp=Z,22nm,0.8s
PV20 West Nyswonger 88.57 48 P **P 10 44 16.4 +0.7**
PV20 IAmb IAmb 10 44 23.5
comp=Z,19nm,0.8s
PV19 Morning Glory 88.57 49 P **P 10 44 16.4 +0.7**
PV19 IAmb IAmb 10 44 20.3
comp=Z,22nm,0.9s
PV04 Paradox Valley 88.59 48 P **P 10 44 16.4 +0.6**
PV04 IAmb IAmb 10 44 31.0
comp=Z,28nm,1.1s
BR131 Keskin Array S 89.10 313 P **P 10 44 16.8 -1.3**
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 89.10 313 P **P 10 44 16.8 -1.3**
BRTR Keskin Array B 89.10 313 P **P 10 44 17.0 -1.1**
comp=Z,5.5nm,0.8s,baz=48,slow=6.7,SNR=15
MVCO Mesa Verde 89.44 49 P **P 10 44 23.8 +3.9**
baz=300
SMCO Snowmass 89.51 47 P **P 10 44 20.4 0.0**
SMCO IAmb IAmb 10 44 25.4
comp=Z,9.4nm,0.9s
BURAR Bucovina Array 89.94 323 P **P 10 44 20.5 -1.3**
TUC Tucson 90.14 54 P **P 10 44 24.3 +1.2**
baz=298
AGMN Agassiz Nation 91.08 35 P **P 10 44 27.6 +0.7**
baz=308
AGMN Agassiz Nation 91.08 35 P **P 10 44 27.3 +0.4**
AGMN IAmb IAmb 10 44 29.2
comp=Z,7.1nm,0.8s
SDCO Great Sand Dun 91.23 48 P **P 10 44 28.5 +0.2**
baz=301
SDCO Great Sand Dun 91.23 48 P **P 10 44 27.9 -0.4**
ANMO Albuquerque 92.00 50 P **P 10 44 32.9 +1.1**
baz=301
ANMO Albuquerque 92.00 50 P **P 10 44 32.1 +0.3**
ANMO pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 92.00 50 P **P 10 44 32.1 +0.3**
ANMO IAmb IAmb 10 44 40.0
comp=Z,12nm,1.1s
121A Cookes Peak, D 92.26 53 P **P 10 44 34.3 +1.3**
baz=300
T25A Trinidad 92.29 48 P **P 10 44 34.2 +1.1**
baz=302
T25A Trinidad 92.29 48 P **P 10 44 34.0 +0.9**
T25A IAmb IAmb 10 44 41.9
comp=Z,9.1nm,0.9s
KSCO Kaye Shedlock' 92.47 45 P **P 10 44 33.8 0.0**
KRLC Kraliky 92.71 329 AMS AMS 11 30 00.0
comp=Z,2μm,18.9s
DPC Dobruska-Polom 92.74 329 *e*P **P 10 44 35.8 +1.1**
DPC MLR MLR
comp=Z,2μm,18.8s
DPC Dobruska-Polom 92.74 329 *e*P **P 10 44 35.8 +1.1**
DPC AMS AMS 11 30 00.0
comp=Z,2μm,18.8s
VYHS Vyhne 92.75 327 *e*P **P 10 44 34.2 -0.5**
VYHS Vyhne 92.75 327 *e*P **P 10 44 34.2 -0.5**
UPC Upice 92.78 329 AMS AMS 11 29 20.0
comp=Z,1μm,20.6s
ECSD EROS Data Cent 93.46 39 P **P 10 44 37.8 -0.3**
ECSD IAmb IAmb 10 44 42.2
comp=Z,9.7nm,1.1s
CLL Collm 93.59 331 *e*P **P 10 44 40.0 +1.5**
CLL MLR MLR
comp=Z,1μm,20.1s
CLL Collm 93.59 331 *e*(P) **P 10 44 40.0 +1.5**
CLL *e* 10 44 48.0
CLL *e*PP **PP 10 48 22.0 -0.7**
CLL Lm MLR 11 30 00.0
comp=Z,1μm,20.1s
GOPC GO Pecny, Ondr 93.76 330 *e*P **P 10 44 41.4 +2.1**
GOPC GO Pecny, Ondr 93.76 330 *e*P **P 10 44 41.4 +2.1**
TREC Trest 93.86 329 AMS AMS 11 30 20.0
comp=Z,2μm,18.4s
MNTX Cornudas Mount 94.44 53 P **P 10 44 43.9 +1.1**
baz=301
KHC Kasperske Hory 94.87 329 *e*P **P 10 44 47.4 +2.9**
KHC MLR MLR
comp=Z,1μm,19.8s
KHC Kasperske Hory 94.87 329 *e*P **P 10 44 47.4 +2.9**
KHC AMS AMS 11 31 30.0
comp=Z,1μm,19.8s
GERES GERESS Array B 95.01 329 P **P 10 44 45.1 -0.1**
GERES GERESS Array B 95.01 329 P **P 10 44 45.5 +0.3**
comp=Z,0.9nm,0.6s,baz=39,slow=5.0,SNR=3.8
GERES PP **PP 10 48 35.4 +1.4**
comp=Z,1.4nm,0.8s,baz=46,slow=9.6,SNR=4.7
GERES LR LR 11 29 33.7
comp=Z,859nm,20.6s,baz=70,slow=37
GERES GERESS Array B 95.01 329 P **P 10 44 45.1 -0.1**
TXAR Lajitas Array 96.93 54 PKKPbc PKKPbc 11 01 35.4 +0.2
comp=Z,0.3nm,0.6s,baz=170,slow=2.6,SNR=4.9
ESDC Sonseca Array 110.03 334 PP **PP 10 50 24.9 -1.6**
comp=Z,2.3nm,1.0s,baz=27,slow=7.8,SNR=4.4
LSZ Lusaka 118.62 265 PKIKP **PKPdf 10 50 10.8 -0.4**
LSZ Lusaka 118.62 265 **PKPdf 10 50 10.8 -0.4**
BOSA Boshof 124.60 251 PKIKP **PKPdf 10 50 21.0 -1.3**
BOSA Boshof 124.60 251 PKP **PKPdf 10 50 21.8 -0.6**
comp=Z,5.9nm,0.9s,baz=81,slow=4.0,SNR=6.4
BOSA Boshof 124.60 251 **PKPdf 10 50 21.0 -1.3**
TORD Torodi Ar. Bea 127.59 310 PKP **PKPdf 10 50 27.8 -0.5**
comp=Z,2.0nm,1.0s,baz=32,slow=1.0,SNR=7.0
TORD PP **PP 10 52 27.1 -1.6**
comp=Z,3.4nm,0.8s,baz=34,slow=7.2,SNR=7.6
SNAA Sanae 128.17 193 PKIKP **PKPdf 10 50 27.7 -0.1**
SNAA Sanae 128.17 193 **PKPdf 10 50 27.7 -0.1**
DBIC Dimbokro 136.71 310 PKP **PKiKP 10 50 48.3 +1.0**
comp=Z,2.3nm,0.6s,baz=62,slow=12,SNR=3.6
GO06 Curarrehue 146.64 127 **PKPdf 10 51 03.2 +0.5**
PLCA Paso Flores 146.93 129 PKP2 **PKPdf 10 51 03.4 +0.3**
PLCA Paso Flores 146.93 129 PKPbc **PKPbc 10 51 04.7 -0.3**
comp=Z,9.1nm,0.8s,baz=239,slow=4.0,SNR=18
PLCA Paso Flores 146.93 129 **PKPdf 10 51 03.4 +0.3**
ROC1 El Roble 148.53 115 PKPdf **PKPdf 10 51 04.3 -1.9**
LPAZ La Paz 149.69 82 PKPbc **PKPbc 10 51 13.6 +0.1**
comp=Z,6.3nm,0.8s,baz=24,slow=4.3,SNR=3.8

*IDC **16** 10:35:04.2±0.6,53.81N×163.61W,h0km,mb4.4/25, mb1 4.5/28,mb1mx4.3/55,mbtmp4.3/28,ML3.6/3,Error ellipse: s-maj=17.6km s-min=10.6km az=173.0*
*AEIC **16** 10:35:04.5±1.4,53.80N±0.03×163.44W±0.03,h9km±3km, ML4.2,mb4.9/55(NEIC)*
*ISCJB **16** 10:35:06.8±0.1,54.01N±0.03×163.45W±0.03,h30km, mb4.6/35,MS5.0/3,Error ellipse: s-maj=4.2km s-min=2.1km az=173.1*
ISC 16 10:35:08.4±0.4,**53.87N**±0.06×**163.48W**±0.03,**h30km, n353,**σ1**29**/351,**mb4.7**/67,**MS4.7**/3,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.89**	**314**		**Pn**	**10 35 23.0**	**-2.0**
WESP	**Westdahl Peak**	**0.96**	**311**		**Pn**	**10 35 24.2**	**-1.8**
SSBA	**Shishaldin**	**0.98**	**338**		**Pn**	**10 35 24.4**	**-1.9**
SSBA					**Sb**	**10 35 39.7**	**+0.1**
FALS	**False Pass**	**0.99**	**2**		**Pn**	**10 35 24.3**	**-2.0**
FALS	**False Pass**	**0.99**	**2**		**Sb**	**10 35 40.3**	**+0.5**
WEBT	**Westdahl Beart**	**1.04**	**315**		**Pn**	**10 35 25.2**	**-1.8**
AKSA	**Akutan Strait**	**1.33**	**283**		**Pn**	**10 35 28.7**	**-2.3**
AKUT	**Akutan**	**1.38**	**282**		**Sn**	**10 35 48.5**	**-0.3**
AKUT	**Akutan**	**1.38**	**282**	Pn	**Pn**	**10 35 28.4**	**-3.2**
AKUT					**Pb**	**10 35 29.7**	**-3.9**
AKMO	**Akutan Morgan**	**1.51**	**280**		**Pn**	**10 35 31.4**	**-2.0**
LVA	**Lava Point**	**1.54**	**282**		**Pn**	**10 35 32.3**	**-1.4**
AKRB	**Akutan Reef Bi**	**1.55**	**281**		**Pn**	**10 35 32.1**	**-1.9**
UNV	**Unalaska Valle**	**1.79**	**271**		**Pn**	**10 35 35.0**	**-2.2**
UNV	**Unalaska Valle**	**1.79**	**271**		**Sn**	**10 35 59.0**	**0.0**
MTBL	**Makushin Table**	**1.89**	**274**		**Pn**	**10 35 36.9**	**-1.8**
MREP	**Makushin Rep't**	**1.94**	**270**		**Pn**	**10 35 37.2**	**-2.1**
MSW	**Makushin Switc**	**1.95**	**273**		**Pn**	**10 35 37.4**	**-2.1**
MCIR	**Makushin Cirqu**	**2.02**	**274**		**Pn**	**10 35 39.1**	**-1.3**
SDPT	**Sand Point**	**2.29**	**48**		**Pn**	**10 35 42.6**	**-1.5**
SDPT					**Sn**	**10 36 10.7**	**-0.7**
CNBA	**Chernabura Isl**	**2.47**	**66**		**Pn**	**10 35 44.7**	**-1.9**
CNBA					**Sn**	**10 36 14.9**	**-0.8**
OKFG	**Magazine Ridge**	**2.68**	**262**		**Pn**	**10 35 48.5**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**2.76**	**262**		**Pn**	**10 35 49.9**	**-0.7**
OKCE	**Okmok Cone E**	**2.82**	**263**		**Pn**	**10 35 50.8**	**-0.7**
OKSP	**Okmok Steeple**	**2.93**	**260**		**Pn**	**10 35 53.3**	**+0.3**
NIKH	**Nikolski High**	**3.34**	**257**		**Pn**	**10 35 57.0**	**-1.5**
CHGN	**Chignik**	**3.80**	**48**		**Pn**	**10 36 04.3**	**-0.5**
CHGN					**Sn**	**10 36 49.2**	**+0.7**
CHIR	**Chirikof Islan**	**4.95**	**63**	Pn	**Pn**	**10 36 18.6**	**-2.0**
SPIA	**Saint Paul Isl**	**5.08**	**314**	Pn	**Pn**	**10 36 21.3**	**-1.1**
SII	**Sitkinak Islan**	**5.97**	**59**	Pn	**Pn**	**10 36 32.4**	**-2.3**
OHAK	**Old Harbor**	**6.69**	**56**		**Pn**	**10 36 43.2**	**-1.3**
KDAK	**Kodiak Island**	**7.28**	**53**	Pn	**Pn**	**10 36 51.2**	**-1.4**
	0.7nm,0.3s,baz=186,slow=3.3,SNR=20						
KDAK					**Sn**	**10 38 10.7**	**-3.5**
	baz=9.7,slow=19,SNR=1.6						
KDAK	**Kodiak Island**	**7.28**	**53**		**Pn**	**10 36 51.1**	**-1.6**
GSTR	**Great Sitkin T**	**7.80**	**262**	Pn	**Pn**	**10 36 57.8**	**-2.0**
CNPM	**China Poot**	**8.80**	**45**	Pn	**Pn**	**10 37 12.2**	**-1.3**
SKT	**Skwentna**	**10.30**	**33**		**Pn**	**10 37 30.5**	**-3.5**
PMR	**Palmer**	**10.88**	**39**	Pn	**Pn**	**10 37 38.3**	**-3.5**
KNK	**Knik Glacier**	**11.02**	**41**		**Pn**	**10 37 42.3**	**-1.6**
GHO	**Glory Hole Cre**	**11.07**	**38**		**Pn**	**10 37 43.4**	**-1.1**
GLI	**Glacier Island**	**11.27**	**45**	Pn	**Pn**	**10 37 44.6**	**-2.7**
HIN	**Hinchinbrook I**	**11.29**	**48**		**Pn**	**10 37 46.1**	**-1.4**
SML	**Sawmill**	**11.31**	**39**		**Pn**	**10 37 45.5**	**-2.4**
FID	**Port Fidalgo**	**11.47**	**46**	Pn	**Pn**	**10 37 48.5**	**-1.4**
EYAK	**Cordova Ski Ar**	**11.69**	**48**	Pn	**Pn**	**10 37 51.9**	**-1.1**
SCM	**Sheep Creek Mo**	**11.71**	**41**		**Pn**	**10 37 51.6**	**-1.7**
TRF	**Thorofare Moun**	**11.78**	**30**		**Pn**	**10 37 54.5**	**+0.1**
BPAW	**Bear Paw Mtn.**	**12.09**	**27**		**Pn**	**10 37 57.6**	**-0.8**
RND	**Reindeer**	**12.19**	**33**		**Pn**	**10 37 59.3**	**-0.6**
HMT	**Hamilton**	**12.27**	**50**		**Pn**	**10 37 59.7**	**-1.2**
DHY	**Denali Highway**	**12.46**	**36**		**Pn**	**10 38 01.6**	**-2.0**
GLB	**Gilahina Butte**	**12.94**	**46**		**Pn**	**10 38 08.0**	**-2.1**
CRQM	**Cirque**	**12.94**	**50**		**Pn**	**10 38 09.4**	**-0.8**
VRDI	**Verde Repeater**	**13.00**	**47**	Pn	**Pn**	**10 38 09.2**	**-1.8**
IMAR	**Indian Mountai**	**13.07**	**18**		**Pn**	**10 38 13.1**	**+1.3**
PAX	**Paxson**	**13.08**	**39**		**Pn**	**10 38 11.2**	**-0.8**
TGL	**Tana Glacier**	**13.08**	**50**	Pn	**Pn**	**10 38 10.6**	**-1.5**
CCB	**Clear Creek Bu**	**13.41**	**30**		**Pn**	**10 38 17.1**	**+0.7**
BALM	**Baldy**	**13.41**	**49**	Pn	**Pn**	**10 38 15.3**	**-1.2**
YAH	**Yahtse**	**13.44**	**52**	Pn	**Pn**	**10 38 16.0**	**-1.1**
HDA	**Harding Lake**	**13.50**	**32**	P	**Pn**	**10 38 18.1**	**+0.5**
	baz=226						
HDA	**Harding Lake**	**13.50**	**32**		**Pn**	**10 38 15.5**	**-2.2**
TCOL	**CIGO, UAF Yank**	**13.55**	**29**	P	**P**	**10 38 25.0**	**-2.1**
	baz=223						
MENT	**Mentasta**	**13.72**	**41**		**Pn**	**10 38 19.4**	**-1.4**
BARN	**Barnard Glacie**	**13.73**	**50**	Pn	**Pn**	**10 38 19.4**	**-1.6**
IL31		**13.77**	**31**		**Pn**	**10 38 20.0**	**-1.3**
ILAR	**Eielson Array**	**13.77**	**31**	Pn	**Pn**	**10 38 20.8**	**-0.5**
	0.1nm,0.3s,baz=223,slow=12,SNR=10						
ILAR	**Eielson Array**	**13.77**	**31**		**Pn**	**10 38 20.0**	**-1.3**
CTGM	**Chitina Glacie**	**13.84**	**50**		**Pn**	**10 38 20.6**	**-1.8**
DOT	**Dot Lake**	**13.99**	**38**		**Pn**	**10 38 24.9**	**+0.5**
BCAR	**Beaver Creek A**	**14.54**	**42**		**Pn**	**10 38 30.2**	**-1.7**
COLD	**Coldfoot**	**14.86**	**20**		**Pn**	**10 38 36.1**	**+0.1**
HYT	**Haines Junctio**	**15.58**	**53**	Pn	**Pn**	**10 38 43.6**	**-2.1**
EGAK	**Eagle**	**15.68**	**37**		**Pn**	**10 38 46.1**	**-0.8**
DAWY	**Dawson**	**15.97**	**41**		**Pn**	**10 38 48.8**	**-1.8**
TOLK	**Toolik Lake Re**	**16.19**	**18**	P	**P**	**10 38 56.8**	**+0.4**
	baz=211,SNR=16						
BMAR	**Burnt Mountain**	**16.34**	**26**		**Pn**	**10 38 54.5**	**-0.9**
EPYK	**Eagle Plains**	**18.09**	**36**	P	**P**	**10 39 17.3**	**-0.1**
	baz=239,SNR=8.6						
EPYK	**Eagle Plains**	**18.09**	**36**	P	**Pn**	**10 39 16.5**	**-0.7**
DLBC	**Dease Lake**	**19.06**	**63**	P	**Pn**	**10 39 29.6**	**+0.6**
	0.2nm,0.3s,baz=279,slow=12,SNR=20						
INK	**Inuvik**	**20.16**	**33**	P	**P**	**10 39 38.7**	**-1.1**
	6.6nm,0.9s,baz=214,slow=10,SNR=7.9						
INK	**Inuvik**	**20.16**	**33**	P	**P**	**10 39 37.8**	**-2.0**
PETK	**Petropavlovsk-**	**22.92**	**284**	P	**P**	**10 40 09.7**	**0.0**
	3.2nm,0.6s,baz=85,slow=15,SNR=12						
C36M	**Paulatuk**	**23.70**	**34**	P	**P**	**10 40 18.1**	**+1.0**
	baz=249						
A36M	**Sachs Harbour**	**24.43**	**28**	P	**P**	**10 40 23.0**	**-0.9**
	baz=242,SNR=26						
YKA	**Yellowknife Ar**	**26.56**	**51**	P	**P**	**10 40 45.8**	**+2.5**
	4.6nm,0.7s,baz=272,slow=9.2,SNR=8.0						
E04D	**Cinebar**	**26.87**	**89**	P	**P**	**10 40 48.0**	**+1.8**
	baz=301						
G05D	**Wamic, OR**	**28.31**	**90**	P	**P**	**10 41 00.0**	**+0.9**
	baz=303						
L02E	**Cave Junction**	**28.75**	**98**	P	**P**	**10 41 05.2**	**+2.1**
	baz=308						
HAWA	**Hanford**	**28.75**	**87**	P	**P**	**10 41 04.9**	**+1.8**
HAWA				IAmb	IAmb	10 41 05.3	
	comp=Z,18nm,0.8s						
HUMO	**Hull Mountain**	**28.86**	**96**	P	**P**	**10 41 06.7**	**+2.6**
NEW	**Newport**	**29.24**	**82**	P	**P**	**10 41 08.4**	**+0.9**
	comp=Z,5.0nm,0.8s,baz=305,slow=5.4,SNR=12						
NEW	**Newport**	**29.24**	**82**	P	**P**	**10 41 08.6**	**+1.2**
J05D	**Fort Rock, OR**	**29.47**	**94**	P	**P**	**10 41 11.5**	**+1.9**
	baz=306						
YBH	**Yreka Blue Hor**	**29.54**	**97**	P	**P**	**10 41 12.0**	**+1.8**
	comp=Z,5.0nm,0.9s,baz=327,slow=5.4,SNR=9.6						
M02C	**Callahan**	**29.66**	**98**	P	**P**	**10 41 14.2**	**+2.9**
	baz=309						
N02D	**Trinity Center**	**30.01**	**99**	P	**P**	**10 41 16.7**	**+2.3**
	baz=310						
M04C	**Macdoel**	**30.02**	**97**	P	**P**	**10 41 16.6**	**+2.1**
	baz=308						
O02D	**Mt. Diablo Mer**	**30.48**	**100**	P	**P**	**10 41 20.5**	**+2.0**
	baz=311						
O03E	**Paynes Creek**	**30.98**	**99**	P	**P**	**10 41 23.7**	**+0.8**
	baz=310						
EGMT	**Eagleton**	**33.65**	**78**	P	**P**	**10 41 46.5**	**+0.2**
	baz=301						
NVAR	**Mina Array Bea**	**34.24**	**98**	P	**P**	**10 41 52.9**	**+1.2**
	comp=Z,6.9nm,0.8s,baz=299,slow=8.8,SNR=48						
RLMT	**Red Lodge**	**35.49**	**82**	P	**P**	**10 42 03.3**	**+0.9**
	baz=304,SNR=7.6						
VES	**Vestal, Richgr**	**35.56**	**102**	P	**P**	**10 42 03.8**	**+1.1**
	baz=315						
CWC	**Cottonwood Cre**	**35.72**	**100**	P	**P**	**10 42 05.8**	**+1.4**
	baz=314						
R11A	**Troy Canyon, C**	**35.90**	**96**	P	**P**	**10 42 06.9**	**+1.0**
	baz=312,SNR=35						
ISA	**Isabella, Lake**	**36.03**	**102**	P	**P**	**10 42 08.1**	**+1.2**
	baz=315						
MPMC	**Manual Prospec**	**36.33**	**100**	P	**P**	**10 42 11.1**	**+1.5**
	baz=314,SNR=9.1						
DUG	**Dugway, Tooele**	**36.34**	**91**	P	**P**	**10 42 10.8**	**+1.3**
	baz=310,SNR=16						
LAO	**LASA Array**	**36.40**	**77**	P	**P**	**10 42 11.4**	**+1.5**
	baz=303						
FURC	**Furnace Creek,**	**36.41**	**99**	P	**P**	**10 42 11.8**	**+1.8**
	baz=314,SNR=8.4						
TPNV	**Topopah Spring**	**36.45**	**98**	P	**P**	**10 42 12.0**	**+1.4**
	baz=313,SNR=14						
DGMT	**Dagmar**	**36.61**	**74**	P	**P**	**10 42 12.7**	**+1.1**
	baz=302						
BW06	**Boulder Array**	**36.68**	**85**	P	**P**	**10 42 13.0**	**+0.5**
	baz=307						
PDAR	**Pinedale Array**	**36.68**	**85**	P	**P**	**10 42 12.3**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=316,slow=6.2,SNR=10.0						
SHOC	**Shoshone, Teco**	**37.15**	**99**	P	**P**	**10 42 18.1**	**+1.8**
	baz=314						
GSC	**Goldstone, Bar**	**37.26**	**101**	P	**P**	**10 42 18.7**	**+1.3**
	baz=315						
BFSC	**Mount Baldy Ra**	**37.52**	**103**	P	**P**	**10 42 20.4**	**+0.8**
	baz=316						
TUQ	**Turquoise Moun**	**37.68**	**100**	P	**P**	**10 42 21.8**	**+0.8**
	baz=314						
HEC	**Hector,Ludlow**	**37.86**	**101**	P	**P**	**10 42 23.1**	**+0.6**
	baz=315						
MTPU	**Mount Pierson**	**38.11**	**93**		**S**	**10 48 19.1**	**+3.1**
GMRC	**Granite Mounta**	**38.29**	**100**	P	**P**	**10 42 26.8**	**+0.7**
	baz=315						
K22A	**Casper**	**38.54**	**83**	P	**P**	**10 42 27.5**	**-0.7**
	baz=307						
BELC	**Belle Mtn. Jos**	**38.65**	**101**	P	**P**	**10 42 30.0**	**+0.9**
	baz=316						
TPFO	**Pinon Flats**	**38.66**	**102**	P	**P**	**10 42 29.7**	**+0.4**
	baz=316						
IRM	**Iron Mountain**	**39.03**	**100**	P	**P**	**10 42 32.8**	**+0.6**
	baz=316						
O20A	**White River Ci**	**39.09**	**87**	P	**P**	**10 42 33.2**	**+0.4**
	baz=310,SNR=9.2						
RSSD	**Black Hills**	**39.12**	**79**	P	**P**	**10 42 33.6**	**+0.5**
	baz=306						
PDMCI	**Parker Dam,Lak**	**39.51**	**99**	P	**P**	**10 42 37.2**	**+0.9**
	baz=315						
MDND	**Maddock**	**39.54**	**72**	P	**P**	**10 42 37.3**	**+1.0**
	baz=304,SNR=7.4						
Y12C	**Blythe**	**39.68**	**100**	P	**P**	**10 42 38.8**	**+1.1**
	baz=316						
N23A	**Red Feather La**	**39.96**	**85**	P	**P**	**10 42 41.3**	**+1.1**
	baz=309						
WUAZ	**Wupatki**	**40.29**	**95**	P	**P**	**10 42 43.3**	**+0.4**
	baz=314,SNR=8.6						
ULM	**Lac du Bonnet**	**40.30**	**67**	P	**P**	**10 42 42.4**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=285,slow=8.2,SNR=5.7						
MVCO	**Mesa Verde**	**40.84**	**91**	P	**P**	**10 42 47.7**	**+0.2**
	baz=312						
H11N2	**WAKE ISLAND Hy**	**40.94**	**225**	T	T	11 26 24.4	
	baz=26,slow=76,SNR=878						
H11N3	**WAKE ISLAND Hy**	**40.95**	**225**	T	T	11 26 24.9	
	baz=26,slow=76,SNR=748						
H11N1	**WAKE ISLAND Hy**	**40.96**	**225**	T	T	11 26 25.8	
	baz=26,slow=76,SNR=622						
AGMN	**Agassiz Nation**	**41.38**	**69**	P	**P**	**10 42 51.5**	**0.0**
	baz=304						
SUSD	**Miller**	**41.87**	**76**	P	**P**	**10 42 55.5**	**-0.1**
	baz=307						
214A	**Organ Pipe Nat**	**41.97**	**101**	P	**P**	**10 42 57.1**	**+0.6**
	baz=317						
H11S1	**WAKE ISLAND Hy**	**42.11**	**225**	T	T	11 27 54.9	
	baz=26,slow=76,SNR=1783						
H11S2	**WAKE ISLAND Hy**	**42.12**	**225**	T	T	11 27 54.9	
	baz=26,slow=76,SNR=116						
H11S3	**WAKE ISLAND Hy**	**42.13**	**225**	T	T	11 27 56.8	
	baz=26,slow=76,SNR=1396						
OGNE	**Ogallala**	**42.23**	**82**	P	**P**	**10 42 59.6**	**+0.9**
	baz=309						
SDCO	**Great Sand Dun**	**42.26**	**88**	P	**P**	**10 42 60.0**	**+0.8**
	baz=312,SNR=6.1						
TUC	**Tucson**	**42.90**	**98**	P	**P**	**10 43 05.4**	**+1.2**
	baz=316						
KSCO	**Kaye Shedlock'**	**43.12**	**84**	P	**P**	**10 43 07.2**	**+1.2**
	baz=311						
MJAR	**Matsushiro Arr**	**43.26**	**271**	P	**P**	**10 43 06.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=34,slow=6.4,SNR=7.1						
MJB9	**Matsu-Tunnel**	**43.26**	**271**	P	**P**	**10 43 06.5**	**-0.5**
MAJO	**Matsushiro**	**43.26**	**271**	P	**P**	**10 43 06.5**	**-0.5**
T25A	**Trinidad**	**43.31**	**88**	P	**P**	**10 43 08.8**	**+1.2**
	baz=312,SNR=7.1						
ANMO	**Albuquerque**	**43.59**	**92**	P	**P**	**10 43 10.5**	**+0.6**
	baz=314						
ECSD	**EROS Data Cent**	**43.64**	**75**	P	**P**	**10 43 09.2**	**-0.7**
	baz=308						
ECSD	**EROS Data Cent**	**43.64**	**75**	P	**P**	**10 43 09.5**	**-0.4**
LENM	**Lemitar**	**43.83**	**93**	P	**P**	**10 43 13.1**	**+1.3**
EYMN	**Ely**	**43.98**	**67**	P	**P**	**10 43 11.9**	**-0.7**
	baz=306						
EYMN	**Ely**	**43.98**	**67**	P	**P**	**10 43 12.9**	**+0.3**
EYMN				IAmb	IAmb	10 43 13.1	
	comp=Z,12nm,0.9s						
BGNE	**Belgrade**	**44.20**	**79**	P	**P**	**10 43 14.7**	**+0.2**
	baz=310						
121A	**Cookes Peak, D**	**44.51**	**95**	P	**P**	**10 43 18.4**	**+1.2**
	baz=316,SNR=7.4						
121A	**Cookes Peak, D**	**44.51**	**95**	P	**P**	**10 43 18.6**	**+1.4**
121A				IAmb	IAmb	10 43 24.4	
	comp=Z,15nm,0.9s						
E38A	**The Farm, Brul**	**44.74**	**69**	P	**P**	**10 43 18.2**	**-0.5**
	baz=307						
SPMN	**Marine on St.**	**44.88**	**71**	P	**P**	**10 43 19.6**	**-0.2**
	baz=308						
CBKS	**Cedar Bluff**	**44.95**	**83**	P	**P**	**10 43 21.3**	**+0.7**
	baz=311						
G40A	**Rib Lake**	**46.30**	**69**	P	**P**	**10 43 30.6**	**-0.5**
	baz=308						
MSTX	**Muleshoe**	**46.45**	**90**	P	**P**	**10 43 32.6**	**0.0**
	baz=315						
MNTX	**Cornudas Mount**	**46.52**	**94**	P	**P**	**10 43 33.5**	**+0.6**
	baz=316,SNR=18						
MNTX	**Cornudas Mount**	**46.52**	**94**	P	**P**	**10 43 34.7**	**+1.8**
MNTX				IAmb	IAmb	10 43 40.1	
	comp=Z,9.6nm,0.8s						
L40A	**Anamosa**	**47.76**	**73**	P	**P**	**10 43 41.3**	**-1.2**
	baz=310						
ILULI	**Ilulissat**	**47.77**	**26**	P	**P**	**10 43 42.5**	**+0.4**
JFWS	**Jewell Farm**	**47.77**	**72**	P	**P**	**10 43 41.2**	**-1.3**
	baz=310						
SUMG	**Summit**	**48.25**	**19**	*i* P	**P**	**10 43 46.0**	**-0.3**
SUMG	**Summit**	**48.25**	**19**	*i* P	**P**	**10 43 46.0**	**-0.3**
WMOK	**Wichita Mounta**	**48.28**	**86**	P	**P**	**10 43 46.7**	**+0.1**
	baz=314,SNR=16						
WMOK	**Wichita Mounta**	**48.28**	**86**	P	**P**	**10 43 46.7**	**+0.1**
WMOK				IAmb	IAmb	10 43 53.1	
	comp=Z,10.0nm,0.9s						
KSRS	**Korea Array**	**48.70**	**280**	P	**P**	**10 43 50.1**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=53,slow=7.2,SNR=6.8						
D47A	**Chapleau**	**49.03**	**63**	P	**P**	**10 43 51.0**	**-1.2**
	baz=310						
TUL1	**Leonard**	**49.23**	**83**	P	**P**	**10 43 53.7**	**-0.2**
	baz=314						
TXAR	**Lajitas Array**	**49.25**	**95**	P	**P**	**10 43 54.5**	**+0.3**
	comp=Z,7.7nm,0.8s,baz=300,slow=5.6,SNR=96						
ABTX	**Abilene, Hawle**	**49.26**	**89**	P	**P**	**10 43 54.6**	**+0.4**
	baz=316						
HDIL	**Hopedale**	**49.85**	**74**	P	**P**	**10 43 57.9**	**-0.6**
	baz=312,SNR=8.6						

P48A	**Milroy**	**52.78**	**72**	P	**P**	**10 44 18.8**	**-1.7**
	baz=314						
Z41A	**Richland Creek**	**52.84**	**83**	P	**P**	**10 44 21.3**	**+0.3**
	baz=316						
D55A	**Sainte-Anne-du**	**53.01**	**59**	P	**P**	**10 44 21.1**	**-1.0**
	baz=312						
P49A	**Miami Univ. Ec**	**53.12**	**71**	P	**P**	**10 44 21.8**	**-1.3**
	baz=314						
D56A	**ZEC Mazanza, M**	**53.35**	**58**	P	**P**	**10 44 23.6**	**-1.0**
	baz=313						
HKT	**Hockley**	**53.44**	**88**	P	**P**	**10 44 25.9**	**+0.6**
HKT				IAmb	IAmb	10 44 28.2	
	comp=Z,16nm,1.3s						
SONM	**Songino Array**	**53.52**	**303**	P	**P**	**10 44 25.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=42,slow=7.7,SNR=4.6						
T47A	**Sharon Grove**	**53.53**	**75**	P	**P**	**10 44 25.2**	**-0.8**
	baz=314,SNR=7.3						
T47A	**Sharon Grove**	**53.53**	**75**	P	**P**	**10 44 25.2**	**-0.8**
G55A	**Calabogie**	**53.56**	**61**	P	**P**	**10 44 25.5**	**-0.6**
	baz=313						
P50A	**Jamestown**	**53.59**	**71**	P	**P**	**10 44 25.2**	**-1.2**
	baz=314						
WVT	**Waverly**	**53.71**	**77**	P	**P**	**10 44 26.7**	**-0.7**
	baz=315						
WVT	**Waverly**	**53.71**	**77**	P	**P**	**10 44 26.7**	**-0.7**
OXF	**Oxford**	**53.94**	**79**	P	**P**	**10 44 28.3**	**-0.7**
	baz=315						
OXF	**Oxford**	**53.94**	**79**	P	**P**	**10 44 28.4**	**-0.7**
Q50A	**Georgetown**	**54.02**	**72**	P	**P**	**10 44 28.4**	**-1.2**
	baz=314						
E57A	**Chemin Saint G**	**54.09**	**59**	P	**P**	**10 44 28.8**	**-1.3**
	baz=313						
R50A	**Paris**	**54.21**	**72**	P	**P**	**10 44 30.3**	**-0.7**
	baz=314						
R50A	**Paris**	**54.21**	**72**	P	**P**	**10 44 30.5**	**-0.5**
R50A				IAmb	IAmb	10 44 30.7	
	comp=Z,10.0nm,0.9s						
Q51A	**Peebles**	**54.24**	**71**	P	**P**	**10 44 29.8**	**-1.4**
	baz=314						
Q51A	**Peebles**	**54.24**	**71**	P	**P**	**10 44 30.6**	**-0.6**
Q51A				IAmb	IAmb	10 44 36.4	
	comp=Z,15nm,0.9s						
D58A	**Chemin du LacG**	**54.26**	**57**	P	**P**	**10 44 29.9**	**-1.3**
	baz=313						
T49A	**Edmonton**	**54.35**	**74**	P	**P**	**10 44 31.0**	**-1.0**
	baz=315						
PLAL	**Pickwick Lake**	**54.38**	**78**	P	**P**	**10 44 31.2**	**-1.1**
PLAL				IAmb	IAmb	10 44 37.2	
	comp=Z,14nm,0.9s						
V48A	**Smith Brothers**	**54.57**	**76**	P	**P**	**10 44 32.9**	**-0.7**
	baz=315						
V48A	**Smith Brothers**	**54.57**	**76**	P	**P**	**10 44 34.2**	**+0.6**
V48A				IAmb	IAmb	10 44 38.5	
	comp=Z,13nm,1.2s						
S50A	**Richmond**	**54.59**	**73**	P	**P**	**10 44 32.4**	**-1.3**
	baz=315						
CLTN	**Cedars of Leba**	**54.60**	**76**	P	**P**	**10 44 33.8**	**-0.1**
CLTN				IAmb	IAmb	10 44 34.8	
	comp=Z,11nm,1.1s						
R51A	**Hillsboro**	**54.62**	**72**	P	**P**	**10 44 33.4**	**-0.6**
	baz=314,SNR=14						
U49A	**Red Boiling Sp**	**54.62**	**75**	P	**P**	**10 44 32.9**	**-1.1**
	baz=315						
T50A	**Nancy**	**54.80**	**74**	P	**P**	**10 44 34.0**	**-1.3**
	baz=315						
VBMS	**Vicksburg**	**54.93**	**82**	P	**P**	**10 44 36.2**	**-0.1**
	baz=316						
V49A	**McMinnville**	**55.08**	**76**	P	**P**	**10 44 36.3**	**-1.0**
	baz=315						
O54A	**Avella**	**55.09**	**68**	P	**P**	**10 44 36.2**	**-1.1**
	baz=314						
LONY	**Lake Ozonia**	**55.10**	**61**	P	**P**	**10 44 35.9**	**-1.5**
	baz=314						
U50A	**Jamestown**	**55.23**	**74**	P	**P**	**10 44 38.2**	**-0.2**
	baz=315						
T51A	**Gray**	**55.35**	**73**	P	**P**	**10 44 38.1**	**-1.1**
	baz=315						
X48A	**Hartselle**	**55.35**	**78**	P	**P**	**10 44 37.8**	**-1.5**
	baz=316						
X48A	**Hartselle**	**55.35**	**78**	P	**P**	**10 44 37.8**	**-1.5**
X48A				IAmb	IAmb	10 44 43.7	
	comp=Z,12nm,0.9s						
P54A	**Burton**	**55.44**	**69**	P	**P**	**10 44 38.9**	**-1.0**
	baz=315						
H59A	**Cadyville**	**55.54**	**60**	P	**P**	**10 44 41.1**	**+0.6**
	baz=314						
HHC	**Hu-ho-hao-te**	**55.63**	**294**	*e*P	**P**	**10 44 40.1**	**-1.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,13nm,5.4s						
N56A	**West Decatur**	**55.71**	**66**	P	**P**	**10 44 41.1**	**-0.8**
	baz=315						
W50A	**Signal Mountai**	**55.82**	**76**	P	**P**	**10 44 42.0**	**-0.7**
	baz=316						
W50A	**Signal Mountai**	**55.82**	**76**	P	**P**	**10 44 42.1**	**-0.6**
S53A	**Williamson**	**55.87**	**71**	P	**P**	**10 44 41.8**	**-1.3**
	baz=315						
FPAL	**Fort Paine**	**56.12**	**76**	P	**P**	**10 44 43.5**	**-1.3**
FPAL				IAmb	IAmb	10 44 44.2	
	comp=Z,9.9nm,1.0s						
T53A	**Wise**	**56.13**	**72**	P	**P**	**10 44 44.6**	**-0.4**
	baz=315						
Y49A	**Blount Mountai**	**56.14**	**78**	P	**P**	**10 44 43.2**	**-1.8**
	baz=316						
Y49A	**Blount Mountai**	**56.14**	**78**	P	**P**	**10 44 43.8**	**-1.2**
Y49A				IAmb	IAmb	10 44 49.3	
	comp=Z,15nm,0.9s						
D62A	**Allapoint, All**	**56.16**	**55**	P	**P**	**10 44 43.2**	**-1.7**
	baz=315						
D62A	**Allapoint, All**	**56.16**	**55**	P	**P**	**10 44 44.6**	**-0.2**
L58A	**Harry Jones Me**	**56.23**	**64**	P	**P**	**10 44 43.8**	**-1.8**
	baz=315						
LRAL	**Lakeview Retre**	**56.40**	**79**	P	**P**	**10 44 45.6**	**-1.1**
	baz=316						
O57A	**Amberson**	**56.56**	**66**	P	**P**	**10 44 47.1**	**-0.9**
	baz=315						
D63A	**Stockholm**	**56.64**	**55**	P	**P**	**10 44 47.3**	**-1.0**
	baz=315						
J60A	**Lant Hill Farm**	**56.66**	**61**	P	**P**	**10 44 48.2**	**-0.4**
	baz=315						
S55A	**Lewisburg**	**56.71**	**70**	P	**P**	**10 44 47.9**	**-1.2**
	baz=316						
Z50A	**Ashland**	**56.86**	**78**	P	**P**	**10 44 48.6**	**-1.6**
	baz=316,SNR=7.1						
Z50A	**Ashland**	**56.86**	**78**	P	**P**	**10 44 48.5**	**-1.6**
V53A	**Saluda**	**56.91**	**74**	P	**P**	**10 44 49.9**	**-0.6**
	baz=316						
X52A	**Dahlonega**	**57.06**	**75**	P	**P**	**10 44 50.6**	**-0.9**
	baz=316						
E64A	**Bridgewater**	**57.22**	**55**	P	**P**	**10 44 51.3**	**-1.1**
	baz=316						
S56A	**Natural Bridge**	**57.30**	**70**	P	**P**	**10 44 52.8**	**-0.4**
	baz=316						
BATG	**Bathurst New B**	**57.45**	**53**	P	**P**	**10 44 53.7**	**-0.4**
250A	**Grady**	**57.59**	**79**	P	**P**	**10 44 54.2**	**-1.1**
	baz=317						
250A	**Grady**	**57.59**	**79**	P	**P**	**10 44 54.4**	**-0.9**
NJ2	**Nanjing**	**57.79**	**281**	*e*P	**P**	**10 44 56.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
KMSC	**Kings Mountain**	**58.13**	**73**	P	**P**	**10 44 58.1**	**-0.9**
	baz=316						
Z53A	**Monticello**	**58.20**	**76**	P	**P**	**10 44 57.7**	**-1.8**
	baz=317						
WHN	**Wuhan**	**61.51**	**283**	P	P	10 45 28.0	+5.8
XAN	**Xi'an**	**61.99**	**290**	P	**P**	**10 45 25.3**	**-0.3**
XAN				pP	PcP	10 46 08.5	+2.6
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA	**Gaotai**	**62.88**	**300**	*e*P	**P**	**10 45 35.5**	**+4.0**
GTA				pP	sP	10 45 43.1	-1.2
GTA				sP	pP	10 45 46.3	+5.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**63.25**	**295**	*e*P	**P**	**10 45 33.3**	**-0.8**
LZH				pP	pP	10 45 36.5	-6.7
LZH				sP	sP	10 45 38.0	-8.7
LZH				*e*PP	**PP**	**10 47 53.6**	**+0.7**
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,5.6s						
LZH				LR	LR		
	comp=N,320nm,16.4s						
LZH				LR	LR		
	comp=E,330nm,16.3s						
LZH				LR	LR		
	comp=Z,460nm,18.0s						
KLMR	**Klimovskoe**	**64.17**	**348**	*e*P	P	10 45 34.4	-5.1
KLMR				AMP		10 45 38.9	
	comp=Z,47nm,1.7s						
BVAR	**Borovoye Array**	**64.46**	**327**	P	**P**	**10 45 41.8**	**+0.3**
	baz=46,slow=8.3						
FINES	**FINESS Array B**	**64.79**	**355**	P	**P**	**10 45 43.2**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=15,slow=5.8,SNR=5.2						
MKAR	**Manchi Array**	**65.26**	**316**	P	**P**	**10 45 47.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=34,slow=6.0,SNR=4.5						
MKAR	**Makanchi Array**	**65.26**	**316**	P	**P**	**10 45 48.1**	**+1.1**
WMQ	**Urumqi**	**65.31**	**311**	*e*P	**P**	**10 45 49.5**	**+2.1**
WMQ				pP	pP	10 45 54.3	-2.4
WMQ				LR	LR		
	comp=N,97nm,17.9s						
WMQ				LR	LR		
	comp=E,160nm,25.3s						
WMQ				LR	LR		
	comp=Z,730nm,19.3s						
NOA	**NORSAR Array B**	**65.36**	**3**	P	**P**	**10 45 47.8**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=358,slow=6.9,SNR=4.1						
ABKAR	**Akbulak array**	**70.92**	**332**	P	**P**	**10 46 22.0**	**-0.4**
ABKAR	**Akbulak array**	**70.92**	**332**	P	**P**	**10 46 22.1**	**-0.2**
ABKAR				IAmb	IAmb	10 46 23.7	
	comp=Z,7.5nm,0.8s						
KDJ	**Kajisay**	**71.18**	**317**	P	**P**	**10 46 24.2**	**0.0**
KDJ				IAmb	IAmb	10 46 29.8	
	comp=Z,6.6nm,0.9s						
BOOM	**Boomskoye usch**	**71.37**	**318**	P	**P**	**10 46 24.8**	**-0.6**
BOOM				IAmb	IAmb	10 46 31.8	
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**71.82**	**319**	P	**P**	**10 46 27.8**	**-0.3**
AAK				IAmb	IAmb	10 46 34.6	
	comp=Z,14nm,1.1s						
NRN	**Naryn**	**72.24**	**317**	P	**P**	**10 46 30.6**	**-0.3**
KMI	**Kunming**	**72.25**	**288**	P	**P**	**10 46 30.5**	**-0.5**
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
KKAR	**Karatay Array**	**72.93**	**322**	P	**P**	**10 46 34.3**	**-0.2**
KKAR	**Karatay Array**	**72.93**	**322**	P	**P**	**10 46 32.9**	**-1.6**
KKAR				IAmb	IAmb	10 46 35.7	
	comp=Z,7.8nm,1.1s						
KSH	**Kashi**	**73.87**	**316**	P	P	10 46 44.4	+4.1
KSH				PP	PP	10 49 31.9	+7.3
KSH				S	**S**	**10 56 16.0**	**+6.2**
KSH				sS	sS	10 56 26.9	+1.5
KSH	**Kashi**	**73.87**	**316**	SS	SS	11 01 02.8	+10
KSH				pmax	pmax		
	comp=Z,47nm,1.2s						
KSH				LR	LR		
	comp=N,1μm,10.1s						
KSH				LR	LR		
	comp=E,1μm,10.3s						
KSH				LR	LR		
	comp=Z,950nm,15.0s						
CLL	**Collm**	**75.16**	**2**	*e*P	**P**	**10 46 48.0**	**+0.7**
AKASG	**Malin Array Be**	**75.26**	**352**	P	**P**	**10 46 48.2**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=12,slow=5.6,SNR=4.4						
BTK	**Batken**	**75.45**	**320**	P	**P**	**10 46 48.7**	**-0.7**
BTK				IAmb	IAmb	10 46 55.5	
	comp=Z,7.4nm,0.8s						
DOU	**Dourbes**	**75.93**	**8**	P	**P**	**10 46 52.3**	**+0.6**
DPC	**Dobruska-Polom**	**76.16**	**0**	*e*P	**P**	**10 46 54.2**	**+1.0**
SIJI	**Sorong**	**76.36**	**249**	P	**P**	**10 46 54.9**	**+0.1**
	comp=Z,8.8nm,0.7s,baz=26,slow=7.1,SNR=7.2						
GAR	**Garm**	**76.56**	**320**	P	**P**	**10 46 55.3**	**-0.5**
CHGR	**Chuyangaron**	**77.30**	**320**	P	**P**	**10 46 59.3**	**-0.6**
LANS	**Liptovska Anna**	**77.33**	**358**	*e*P	**P**	**10 47 02.2**	**+2.4**
KHC	**Kasperske Hory**	**77.35**	**2**	*e*P	**P**	**10 47 01.0**	**+1.1**
KHC				*e*PCP	**sP**	**10 47 12.6**	**-0.2**
FAKI	**Fak Fak**	**77.52**	**247**	P	**P**	**10 47 01.0**	**-0.3**
GERES	**GERESS Array B**	**77.64**	**2**	P	**P**	**10 47 02.5**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=352,slow=4.7,SNR=5.9						
VYHS	**Vyhne**	**78.00**	**358**	*e*P	**P**	**10 47 04.7**	**+1.2**
PAYA	**Payao**	**78.42**	**287**	P	**P**	**10 47 07.1**	**+0.8**
	comp=Z,43μm,0.8s,comp=Z,540μm						
TAPN	**Taplejung**	**78.56**	**301**	*e*P	**P**	**10 47 07.1**	**-0.2**
CONA	**Conrad Observa**	**78.58**	**0**	*e*pP	**P**	**10 47 07.6**	**+0.8**
	comp=Z,11nm,1.9s						
GUN	**Gumba**	**79.02**	**302**	*e*P	**P**	**10 47 09.6**	**-0.3**
	comp=Z,21nm,0.6s						
MOTA	**Moosalm**	**79.06**	**4**	*e*pP	**P**	**10 47 09.9**	**+0.3**
	comp=Z,6.3nm,0.9s						
DAVA	**Damuels**	**79.06**	**5**	*i* P	**P**	**10 47 10.8**	**+1.2**
	comp=Z,2.0nm,0.6s						
JIRN	**Jiri**	**79.07**	**302**	*e*P	**P**	**10 47 10.3**	**+0.1**
	comp=Z,66nm,0.6s						
WATA	**Walderalm**	**79.09**	**3**	*e*P	**P**	**10 47 11.0**	**+1.3**
	comp=Z,8.8nm,1.1s						
ODAN	**Odare**	**79.12**	**301**	*e*P	**P**	**10 47 10.4**	**+0.1**
WTTA	**Wattenberg**	**79.16**	**3**	*e*pP	**P**	**10 47 11.1**	**+0.9**
	comp=Z,5.2nm,0.8s						
SQTA	**Sankt Quirin**	**79.19**	**4**	*e*pP	**P**	**10 47 11.1**	**+0.8**
	comp=Z,6.4nm,0.9s						
FETA	**Feichten**	**79.37**	**4**	*e*pP	**P**	**10 47 11.9**	**+0.7**
	comp=Z,5.6nm,0.9s						
KBA	**Koelnbreinsper**	**79.39**	**2**	*e*P	**P**	**10 47 12.9**	**+1.5**
	comp=Z,7.4nm,0.9s						
KKN	**Kakani**	**79.42**	**303**	*e*P	**P**	**10 47 11.9**	**0.0**
RAMN	**Ramite**	**79.45**	**301**	*e*P	**P**	**10 47 11.9**	**-0.2**
	comp=Z,32nm,0.7s						
PKI	**Pulchoki**	**79.54**	**303**	*e*P	**P**	**10 47 12.4**	**-0.3**
PKIN	**Phulchoki**	**79.54**	**303**	*e*P	**P**	**10 47 11.9**	**-0.7**
GKN	**Gorkha**	**79.56**	**303**	*e*P	**P**	**10 47 12.5**	**-0.1**
	comp=Z,23nm,0.6s						
DMN	**Daman**	**79.66**	**303**	*e*P	**P**	**10 47 12.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**79.66**	**287**	P	**P**	**10 47 13.2**	**+0.1**
	comp=Z,7.6nm,1.0s,baz=18,slow=5.5,SNR=25						
CMAR	**Chiang Mai Arr**	**79.66**	**287**	P	**P**	**10 47 12.6**	**-0.4**
DANN	**Dangsing**	**79.71**	**304**	*e*P	**P**	**10 47 13.8**	**+0.2**
	comp=Z,96nm,0.7s						
SOKA	**Soboth**	**79.82**	**1**	*e*pP	**P**	**10 47 14.4**	**+0.8**
	comp=Z,4.7nm,1.1s						
OBKA	**Obir**	**79.99**	**1**	*e*pP	**P**	**10 47 15.3**	**+0.8**
	comp=Z,10.0nm,0.8s						
NIL	**Nilore**	**80.01**	**315**	P	**P**	**10 47 14.6**	**-0.2**
NIL				IAmb	IAmb	10 47 16.2	
	comp=Z,14nm,0.9s						
KOLN	**Koldanda**	**80.27**	**304**	*e*P	**P**	**10 47 16.2**	**-0.3**
	comp=Z,35nm,0.9s						
GEYT	**Alibeck**	**81.78**	**328**	P	**P**	**10 47 24.9**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=217,slow=4.7,SNR=4.3						
GEYT	**Alibeck**	**81.78**	**328**	P	**P**	**10 47 24.6**	**+0.5**
BARC	**Barichara**	**84.91**	**86**	*e*P	**P**	**10 47 38.5**	**-2.3**
BARC	**Barichara**	**84.91**	**86**	*e*P	**P**	**10 47 38.5**	**-2.3**
ESDC	**Sonseca Array**	**85.17**	**16**	P	**P**	**10 47 41.9**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=347,slow=4.8,SNR=12						
ESDC	**Sonseca Array**	**85.17**	**16**	P	**P**	**10 47 41.3**	**-0.3**
RUSC	**La Rusia**	**85.52**	**86**	*e*P	**P**	**10 47 42.5**	**-1.7**
RUSC	**La Rusia**	**85.52**	**86**	*e*P	**P**	**10 47 42.5**	**-1.7**
BRTR	**Keskin Array B**	**85.62**	**347**	P	**P**	**10 47 45.2**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=15,slow=4.7,SNR=5.7						
BRTR	**Keskin Array B**	**85.62**	**347**	P	**P**	**10 47 42.8**	**-1.1**
WRA	**Warramunga Arr**	**90.75**	**236**	P	**P**	**10 48 07.6**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=35,slow=5.3,SNR=3.9						
ASAR	**Alice Springs**	**94.12**	**235**	P	**P**	**10 48 23.6**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=36,slow=3.7,SNR=3.1						
ASAR	**Alice Springs**	**94.12**	**235**	P	**P**	**10 48 23.1**	**-0.7**
QSPA	**South Pole Qui**	**143.64**	**180**	PKhKP	PKPbc	10 54 36.0	-0.3
	comp=Z,5.3nm,0.9s,baz=242,slow=1.2,SNR=12						
MAW	**Mawson**	**154.28**	**220**	PKPbc	**PKiKP**	**10 55 05.4**	**+1.4**
	comp=Z,4.3nm,1.1s,baz=169,slow=5.2,SNR=3.9						
SNAA	**Sanae**	**160.25**	**162**	PKPab	**PKPab**	**10 55 43.1**	**-0.8**
	comp=Z,3.5nm,1.0s,baz=159,slow=3.1,SNR=5.1						

AEIC 16 10:38:50.4±0.8, 51°.8N±0°.2×174°.85W±0°.09, h66km±9km, ML3.6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.63**	**47**		Pn	10 39 04.7	+0.4
KOKV	**Korovin Volcan**	**0.67**	**39**		Pn	10 39 05.4	+0.6
KOKV					Sn	10 39 17.4	+2.1
KOSE	**Korovin Southe**	**0.70**	**44**		Pn	10 39 05.4	+0.2
GSMY	**Great Sitkin M**	**0.77**	**285**		Pn	10 39 06.7	+0.8
GSTR	**Great Sitkin T**	**0.79**	**289**		Pn	10 39 07.1	+1.0
GSTR				Sn	Sn	10 39 20.7	+2.9
GSTD	**Great Sitkin T**	**0.83**	**285**		Pn	10 39 06.9	+0.2
GSTD					Sn	10 39 19.7	+1.0
ADAG	**Mount Adagdak**	**1.09**	**278**		Pn	10 39 10.6	+0.7
ADK	**Adak**	**1.14**	**273**	P	Pn	10 39 11.2	+0.8
ADK				pmax	pmax		
	comp=Z,2μm,0.2s						
ADK	**Adak**	**1.14**	**273**	P	Pn	10 39 11.2	+0.7
ADK	**Adak**	**1.14**	**273**		Pn	10 39 11.3	+0.9
ADK	**Adak**	**1.14**	**273**		Pn	10 39 11.5	+1.1
ADK				Sn	Sn	10 39 27.4	+2.0
KIWB	**Kanaga Island**	**1.43**	**271**		Pn	10 39 15.1	+0.9
KIKV	**Kanaga Island**	**1.44**	**272**		Pn	10 39 15.5	+1.0
KICM	**Kanaga Island**	**1.46**	**274**		Pn	10 39 15.7	+1.1
KIMD	**Kanaga Island**	**1.48**	**268**		Pn	10 39 15.8	+0.8
TAFP	**Tanaga Falls P**	**1.94**	**273**		Pn	10 39 21.2	0.0
TAFP					Sn	10 39 45.2	+0.6
TASE	**Tanaga Southea**	**1.98**	**271**		Pn	10 39 21.9	+0.2
NIKH	**Nikolski High**	**3.84**	**71**	Pn	Pn	10 39 47.4	+0.4

ISCJB ***16*** *10:51:12.8±0.6, 60°.45S±0°.08×47°.1W±0°.1, h10km, mb4.1/7, MS3.3/1, Error ellipse: s-maj=13.4km s-min=9.1km az=146.9*
IDC ***16*** *10:51:12.7±0.8, 60°.35S×47°.10W, h0km, mb4.3/8, mb1 4.3/9, mb1mx4.1/27, mbtmp4.3/9, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx3.3/20, Error ellipse: s-maj=22.8km s-min=20.4km az=40.0*
NEIC ***16*** *10:51:13.8±2.8, 60°.24S±0°.06×47°.0W±0°.1, h10km±1km, mb4.4/8*

ISC 16 10:51:14.0±0.7, 60°.3S±0°.1×46°.9W±0°.1, h10km, n29, σ1§69/24, mb4.4/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.25**	**48**		**Pn**	**10 53 10.7**	**-2.8**
HOPE				Sn	**Sn**	**10 54 44.2**	**-2.5**
PMSA	**Palmer Station**	**9.09**	**233**	Pn	**Pn**	**10 53 24.1**	**-0.8**
	1.9nm,0.3s,baz=64,slow=9.7,SNR=22						
PMSA				Sn	**Sn**	**10 55 06.2**	**-1.0**
	0.3nm,0.3s,baz=311,slow=20,SNR=5.1						
PMSA				LR	LR	10 57 00.9	
	comp=Z,256nm,18.8s,baz=52,slow=39						
PMSA	**Palmer Station**	**9.09**	**233**		**Pn**	**10 53 23.3**	**-1.7**
PMSA					**Sn**	**10 55 06.4**	**-0.8**
SNAA	**Sanae**	**20.64**	**141**	P	Pn	10 55 55.4	-0.1
	7.5nm,0.9s,baz=290,slow=8.6,SNR=11						
SNAA	**Sanae**	**20.64**	**141**	P	Pn	10 55 56.5	+1.0
SNAA				IAmb	IAmb	10 55 56.8	
	comp=Z,14nm,1.0s						
TRQA	**Tornquist**	**24.22**	**330**	P	**P**	**10 56 33.0**	**+2.3**
TRQA				IAmb	IAmb	10 56 38.1	
	comp=Z,16nm,1.2s						
PLCA	**Paso Flores**	**24.44**	**313**	P	**P**	**10 56 33.0**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=175,slow=11,SNR=2.7						
PLCA	**Paso Flores**	**24.44**	**313**	P	**P**	**10 56 32.5**	**-0.2**
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**10 57 22.0**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=162,slow=4.5,SNR=7.9						
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**10 57 22.3**	**+0.3**
CPUP	**Villa Florida**	**34.70**	**343**	LR	LR	11 11 55.4	
	comp=Z,62nm,21.1s,baz=339,slow=36						
SIV	**San Ignacio**	**45.42**	**341**	P	**P**	**10 59 33.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=177,slow=9.4,SNR=3.8						
SUR	**Sutherland**	**51.54**	**89**	P	**P**	**11 00 21.1**	**+1.0**
	comp=Z,19nm,1.1s,baz=211,slow=8.4,SNR=3.4						
SUR	**Sutherland**	**51.54**	**89**	P	**P**	**11 00 21.9**	**+1.9**
H10S2	**ASCENSION HYDR**	**56.62**	**39**	T	T	12 02 31.9	
	baz=200,slow=74,SNR=18						
H10S3	**ASCENSION HYDR**	**56.62**	**39**	T	T	12 02 33.2	
	baz=20,slow=74,SNR=19						
BOSA	**Boshof**	**56.82**	**90**	P	**P**	**11 00 58.6**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=190,slow=8.5,SNR=3.4						
BOSA	**Boshof**	**56.82**	**90**	P	**P**	**11 00 58.8**	**+0.3**
H10N3	**ASCENSION HYDR**	**57.72**	**39**	T	T	12 03 52.6	
	baz=199,slow=75,SNR=30						
H10N1	**ASCENSION HYDR**	**57.72**	**39**	T	T	12 03 51.9	
	baz=199,slow=75,SNR=22						
H10N2	**ASCENSION HYDR**	**57.73**	**39**	T	T	12 03 59.8	
	baz=199,slow=75,SNR=22						
LBTB	**Lobatse**	**59.97**	**88**	P	**P**	**11 01 20.4**	**-0.1**
LBTB				IAmb	IAmb	11 01 21.5	
	comp=Z,4.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.83**	**47**	P	**P**	**11 03 40.9**	**+2.6**
	comp=Z,1.5nm,0.9s,baz=214,slow=5.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**82.83**	**47**	P	**P**	**11 03 42.5**	**+4.2**
WRA	**Warramunga Arr**	**100.05**	**181**	P	**Pdif**	**11 04 58.1**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=182,slow=4.1,SNR=4.2						
IL31		**145.13**	**312**		**PKPbc**	**11 10 48.4**	**-1.1**
ILAR	**Eielson Array**	**145.13**	**312**	PKPbc	**PKPbc**	**11 10 48.4**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=154,slow=2.6,SNR=16						
MKAR	**Makanchi Array**	**147.82**	**92**	PKPbc	**PKPdf**	**11 10 55.9**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=228,slow=3.1,SNR=5.0						
MKAR	**Makanchi Array**	**147.82**	**92**		**PKPdf**	**11 10 55.7**	**+0.6**

IDC 16 10:59:17.3±2.9, 33°.62S×179°.40W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=67.3km s-min=44.5km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.43**	**210**	Pn	Pn	11 00 38.8

comp=Z,0.3nm,0.3s,baz=350,slow=26,SNR=4.1
ASAR Alice Springs 17.45 168 P **P 11 37 57.1 +0.2**
PSA00 Pilbara Seismi 17.83 212 P **Pn 11 38 03.1 +0.7**
BBOO Buckleboo 26.75 168 P **P 11 39 30.1 +0.7**
BBOO IAmb IAmb 11 39 44.6
comp=Z,12nm,1.1s
STKA Stephens Creek 27.46 158 P **P 11 39 37.2 +1.4**
comp=Z,1.7nm,0.5s,baz=342,slow=9.6,SNR=5.6
STKA Stephens Creek 27.46 158 P **P 11 39 36.3 +0.5**
NWAO Narrogin (SRO) 28.77 203 P **P 11 39 48.2 +0.7**
KULM Kulim 31.49 291 P **P 11 40 09.1 -2.5**
KULM IAmb IAmb 11 40 17.5
comp=Z,3.8nm,1.0s
MKAR Makanchi Array 67.80 327 P **P 11 44 47.2 +1.7**
comp=Z,0.5nm,0.5s,baz=112,slow=7.5,SNR=7.7
MKAR Makanchi Array 67.80 327 P **P 11 44 45.7 +0.1**
QSPA South Pole Qui 83.42 180 P **P 11 46 14.3 0.0**

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*LDG **16** 11:38:36.9±0.4, 37.°39N×9.°22W, h30km, Ml3.1/4, Error ellipse: s-maj=8.7km s-min=5.1km az=58.0*
*MDD **16** 11:38:38.4±0.7, 37.°37N×9.°29W, h28km±4km, mbLg2.8/21, Error ellipse: s-maj=7.3km s-min=4.5km az=51.0, PRXIMO*
*INMG **16** 11:38:38.7±1.2, 37.°34N×9.°28W, h28km±3km, MD2.0, ML2.4, Error ellipse: s-maj=3.6km s-min=1.8km az=64.0*
*SFS **16** 11:38:38.0, 37.°55N×9.°08W, ML2.7, ATLANTICO PORTUGAL*
*IGIL **16** 11:38:38.8, 37.°34N×9.°28W, h28km, ML2.4*
*CNRM **16** 11:38:40.1, 37.°12N×9.°09W, h43km*
ISC 16 11:38:37.6±3.6, 37.°37N±0.°04×9.°28W±0.°05, h37km±3km, n90, σ1.°55/168, 5C-5D, Portugal

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.43**	**123**	⇓iPg	**Pn**		**11 38 47.1**	**+0.1**
PFVI				*e*Sg	**Sn**		**11 38 53.5**	**-0.4**
PFVI				A	A		11 38 53.6	
234nm,0.2s								
PFVI	**Vila Bisbo**	**0.43**	**123**	P	**Pn**		**11 38 47.0**	**+0.1**
PFVI				S	**Sn**		**11 38 54.2**	**+0.3**
PFVI	**Vila Bisbo**	**0.43**	**123**	⇓P	**Pn**		**11 38 47.1**	**+0.1**
71nm,0.0s,SNR=18								
PFVI				S	**Sn**		**11 38 53.3**	**-0.6**
522nm,0.1s,SNR=7.9								
PTEO	**Sao Teotonio**	**0.47**	**68**	⇑iPg	**Pn**		**11 38 48.4**	**+0.7**
PTEO				*e*Sg	**Sn**		**11 38 55.6**	**+0.7**
PTEO				A	A		11 38 56.6	
102nm,0.3s								
PTEO	**Sao Teotonio**	**0.47**	**68**	P	**Pn**		**11 38 48.4**	**+0.7**
PTEO				S	**Sn**		**11 38 55.6**	**+0.7**
51nm,0.3s								
MORF	**Marmelete**	**0.50**	**97**	*e*P	**Pn**		**11 38 48.4**	**+0.2**
MORF				*e*S	**Sn**		**11 38 55.2**	**-0.5**
MORF				AML	AML		11 38 57.4	
comp=E,322nm,0.3s								
MORF	**Marmelete**	**0.50**	**97**	*e*Pg	**Pn**		**11 38 48.5**	**+0.2**
MORF				*e*Sg	**Sn**		**11 38 55.7**	**0.0**
MORF				A	A		11 38 56.8	
comp=E,206nm,0.3s								
MORF	**Marmelete**	**0.50**	**97**	P	**Pn**		**11 38 48.5**	**+0.2**
MORF				S	**Sn**		**11 38 55.7**	**0.0**
comp=E,206nm,0.3s								
PNCL	**Nicolau / Gran**	**0.95**	**38**	*e*P	**Pn**		**11 38 54.9**	**+0.5**
PNCL				*e*S	**Sn**		**11 39 07.3**	**+0.6**
PNCL				A	A		11 39 12.4	
comp=E,30nm,0.1s								
PNCL	**Nicolau / Gran**	**0.95**	**38**	P	**Pn**		**11 38 54.9**	**+0.5**
PNCL				S	**Sn**		**11 39 07.3**	**+0.6**
comp=E,30nm,0.1s								
MESJ	**Messejana**	**0.96**	**60**	*e*P	**Pn**		**11 38 55.0**	**+0.5**
MESJ				*e*S	**Sn**		**11 39 07.3**	**+0.3**
MESJ				AML	AML		11 39 09.7	
comp=N,29nm,0.1s								
MESJ	**Messejana**	**0.96**	**60**	⇑*e*P	**Pn**		**11 38 55.0**	**+0.5**
MESJ				*e*S	**Sn**		**11 39 07.5**	**+0.5**
MESJ				A	A		11 39 08.4	
comp=N,20nm,0.3s								
MESJ	**Messejana**	**0.96**	**60**	P	**Pn**		**11 38 55.0**	**+0.5**
MESJ				S	**Sn**		**11 39 07.5**	**+0.5**
comp=N,20nm,0.3s								
PCVE	**Castro Verde**	**1.02**	**75**	⇑*e*P	**Pn**		**11 38 55.9**	**+0.6**
PCVE				*e*S	**Sn**		**11 39 08.6**	**+0.2**
PCVE				A	A		11 39 09.5	
comp=N,44nm,0.4s								
PCVE	**Castro Verde**	**1.02**	**75**	P	**Pn**		**11 38 55.9**	**+0.6**
PCVE				S	**Sn**		**11 39 08.6**	**+0.2**
comp=N,44nm,0.4s								
PBDV	**Barranco-do-Ve**	**1.08**	**96**	*e*P	**Pn**		**11 38 57.1**	**+0.9**
PBDV				*e*S	**Sn**		**11 39 10.1**	**+0.2**
PBDV				A	A		11 39 13.2	
comp=N,25nm,0.2s								
PBDV	**Barranco-do-Ve**	**1.08**	**96**	P	**Pn**		**11 38 57.1**	**+0.9**
PBDV				S	**Sn**		**11 39 10.1**	**+0.2**
comp=N,25nm,0.2s								
PVAQ	**Vaqueiros**	**1.24**	**88**	*e*P	**Pn**		**11 38 59.0**	**+0.6**
PVAQ				*e*S	**Sn**		**11 39 14.0**	**+0.1**
PVAQ				A	A		11 39 16.6	
comp=N,40nm,0.2s								
PVAQ	**Vaqueiros**	**1.24**	**88**	P	**Pn**		**11 38 58.1**	**-0.3**
PVAQ				S	**Sn**		**11 39 13.1**	**-0.8**
PVAQ	**Vaqueiros**	**1.24**	**88**	P	**Pn**		**11 38 59.0**	**+0.6**
PVAQ				S	**Sn**		**11 39 14.0**	**+0.1**
comp=N,40nm,0.2s								
PBEJ	**Beja**	**1.30**	**59**	⇑*e*P	**Pn**		**11 38 59.4**	**+0.3**
PBEJ				*e*S	**Sn**		**11 39 15.1**	**-0.1**
PBEJ				A	A		11 39 28.6	
comp=N,14nm,0.3s								
PBEJ	**Beja**	**1.30**	**59**	P	**Pn**		**11 38 59.4**	**+0.3**
PBEJ				S	**Sn**		**11 39 15.1**	**-0.1**
comp=N,6.8nm,0.3s								
EGRO	**El Granado**	**1.44**	**83**	P	**Pn**		**11 39 01.4**	**+0.4**
comp=N,1.2nm,0.1s,SNR=11								
EGRO				S	**Sn**		**11 39 18.1**	**-0.6**
comp=N,18nm,0.1s,SNR=21								
EVO	**Evora**	**1.53**	**40**	*e*P	**Pn**		**11 39 02.8**	**+0.4**
EVO				*e*S	**Sn**		**11 39 21.2**	**+0.2**
EVO				A	A		11 39 33.0	
comp=N,19nm,0.1s								
EVO	**Evora**	**1.53**	**40**	⇓*i*P	**Pn**		**11 39 02.8**	**+0.4**
EVO				*e*S	**Sn**		**11 39 21.8**	**+0.7**
EVO	**Evora**	**1.53**	**40**	P	**Pn**		**11 39 02.8**	**+0.4**
EVO				S	**Sn**		**11 39 21.2**	**+0.2**
comp=N,19nm,0.1s								
PMAFR	**Mafra**	**1.59**	**360**	*e*P	**Pn**		**11 39 03.6**	**+0.4**
PMAFR				*e*S	**Sn**		**11 39 22.6**	**+0.2**
PMAFR				A	A		11 39 24.3	
comp=N,65nm,0.2s								
PMAFR	**Mafra**	**1.59**	**360**	P	**Pn**		**11 39 03.5**	**+0.4**
comp=N,2.7nm,0.1s,SNR=6.7								
PMAFR				S	**Sn**		**11 39 22.4**	**+0.1**
comp=N,85nm,0.2s,SNR=22								
ALMR	**Almeirim**	**1.87**	**17**	*e*P	**Pn**		**11 39 08.2**	**+1.2**
ALMR				*e*S	**Sn**		**11 39 29.2**	**-0.1**
ALMR				AML	AML		11 39 31.2	
comp=N,31nm,0.3s								
ALMR	**Almeirim**	**1.87**	**17**	*e*S	**Sn**		**11 39 29.3**	**0.0**
ALMR				A	A		11 39 34.5	
comp=N,31nm,0.7s								
ALMR	**Almeirim**	**1.87**	**17**	P	**Pn**		**11 39 08.2**	**+1.2**
ALMR				S	**Sn**		**11 39 29.2**	**-0.1**
comp=N,15nm,0.3s								
PMTG	**Montargil**	**1.89**	**26**	*e*Pn	**Pn**		**11 39 09.4**	**+2.1**
PMTG				*e*Sn	**Sn**		**11 39 31.3**	**+1.5**
PMTG				A	A		11 39 33.3	
comp=N,12nm,0.5s								
PMTG	**Montargil**	**1.89**	**26**	P	**Pn**		**11 39 09.4**	**+2.1**
PMTG				S	**Sn**		**11 39 31.3**	**+1.5**
comp=N,12nm,0.5s								
PBAR	**Barrancos**	**1.95**	**65**	*e*Pn	**Pn**		**11 39 08.6**	**+0.5**
PBAR				*e*Sn	**Sn**		**11 39 31.0**	**-0.3**
PBAR	**Barrancos**	**1.95**	**65**	P	**Pn**		**11 39 08.6**	**+0.5**
PBAR				S	**Sn**		**11 39 31.0**	**-0.3**
PESTR	**Estremoz**	**2.00**	**41**	*e*Pn	**Pn**		**11 39 09.0**	**+0.1**
PESTR				*e*Sn	**Sn**		**11 39 33.8**	**+1.1**
PESTR				A	A		11 39 46.7	
comp=N,7.5nm,0.6s								
PESTR	**Estremoz**	**2.00**	**41**	P	**Pn**		**11 39 11.1**	**+2.3**
PESTR				S	**Sn**		**11 39 40.5**	**+7.8**
EMIN	**Mina Concepcio**	**2.11**	**78**	P	**Pn**		**11 39 10.5**	**+0.3**
comp=N,1.2nm,0.1s,SNR=36								
EMIN				S	**Sn**		**11 39 33.7**	**-1.5**
comp=N,8.3nm,0.1s,SNR=26								
EBAD	**Badajoz**	**2.26**	**52**	⇑P	**Pn**		**11 39 12.3**	**-0.1**
comp=N,5.7nm,0.1s,SNR=18								
EBAD				S	**Sn**		**11 39 39.4**	**+0.4**
comp=N,5.3nm,0.1s,SNR=4.5								
PTOM	**Tomar**	**2.35**	**17**	*e*Pn	**Pn**		**11 39 14.4**	**+0.8**
PTOM				*e*Sn	**Sn**		**11 39 40.8**	**-0.3**
PTOM				A	A		11 39 42.5	
comp=N,19nm,0.2s								
PTOM	**Tomar**	**2.35**	**17**	P	**Pn**		**11 39 14.4**	**+0.8**
PTOM				S	**Sn**		**11 39 40.8**	**-0.3**
comp=N,9.4nm,0.2s								
PMRV	**Marv??o**	**2.54**	**35**	*e*Pn	**Pn**		**11 39 16.6**	**+0.4**
PMRV				*e*Sn	**Sn**		**11 39 44.9**	**-0.9**
PMRV				A	A		11 39 47.6	
comp=N,7.5nm,0.6s								
PMRV	**Marv??o**	**2.54**	**35**	P	**Pn**		**11 39 16.6**	**+0.4**
PMRV				S	**Sn**		**11 39 44.9**	**-0.9**
comp=N,7.5nm,0.6s								
PCAS	**Casmilo, Conde**	**2.75**	**13**	*e*Pn	**Pn**		**11 39 19.8**	**+0.7**
PCAS				*e*Sn	**Sn**		**11 39 50.4**	**-0.7**
PCAS				A	A		11 39 51.7	
comp=N,8.3nm,0.4s								
PCAS	**Casmilo, Conde**	**2.75**	**13**	P	**Pn**		**11 39 19.8**	**+0.7**
PCAS				S	**Sn**		**11 39 50.4**	**-0.7**
comp=N,8.3nm,0.4s								
ESPR	**Espera**	**2.78**	**99**	P	**Pn**		**11 39 20.9**	**+1.4**
comp=N,3.2nm,0.1s,SNR=6.4								
ESPR				S	**Sn**		**11 39 51.8**	**+0.1**
comp=N,26nm,0.2s								
PCBR	**Castelo Branco**	**2.84**	**29**	*e*Pn	**Pn**		**11 39 21.2**	**+0.8**
PCBR				*e*Sn	**Sn**		**11 39 52.6**	**-0.7**
PCBR				A	A		11 39 54.3	
comp=N,3.3nm,0.1s								
PCBR	**Castelo Branco**	**2.84**	**29**	P	**Pn**		**11 39 21.2**	**+0.8**
PCBR				S	**Sn**		**11 39 52.6**	**-0.7**
comp=N,1.7nm,0.1s								
ECAB	**El Cabril**	**3.14**	**76**	⇓P	**Pn**		**11 39 25.1**	**+0.6**
comp=N,2.3nm,0.1s,SNR=18								
ECAB				S	**Sn**		**11 39 59.1**	**-1.6**
comp=N,13nm,0.2s,SNR=17								
HORN	**Hornachuelos**	**3.23**	**80**	P	**Pn**		**11 39 26.1**	**+0.5**
HORN				S	**Sn**		**11 40 05.2**	**+2.4**
MTE	**Manteigas**	**3.32**	**24**	⇓*e*Pn	**Pn**		**11 39 27.6**	**+0.7**
MTE				*e*Sn	**Sn**		**11 40 04.0**	**-1.1**
MTE				A	A		11 40 05.1	
comp=N,7.8nm,0.6s								
MTE	**Manteigas**	**3.32**	**24**	P	**Pn**		**11 39 27.6**	**+0.7**
MTE				S	**Sn**		**11 40 04.0**	**-1.1**
comp=N,3.9nm,0.6s								
ECEU	**Ceuta**	**3.46**	**114**	P	**Pn**		**11 39 30.6**	**+1.7**
comp=N,3.0nm,0.1s,SNR=4.0								
PVIS	**Viseu**	**3.51**	**17**	*e*Sn	**Sn**		**11 40 07.9**	**-2.0**
PVIS	**Viseu**	**3.51**	**17**	S	**Sn**		**11 40 07.9**	**-2.0**
EPLA	**Plasencia**	**3.67**	**42**	P	**Pn**		**11 39 32.2**	**+0.4**
comp=N,3.1nm,0.2s,SNR=19								
EPLA				S	**Sn**		**11 40 13.0**	**-0.9**
comp=N,2.7nm,0.1s								
EMIJ	**Mijas**	**3.69**	**101**	S	**Sn**		**11 40 14.5**	**+0.1**
comp=N,2.4nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**3.81**	**76**	P	**Pn**		**11 39 34.2**	**+0.5**
comp=N,1.4nm,0.1s,SNR=19								
EADA				S	**Sn**		**11 40 15.2**	**-2.0**
comp=N,3.4nm,0.1s,SNR=13								
PVRL	**Vila Real**	**4.09**	**17**	*e*Pn	**Pn**		**11 39 38.2**	**+0.7**
PVRL				*e*Sn	**Sn**		**11 40 21.5**	**-2.6**
PVRL				A	A		11 40 24.7	
comp=N,14nm,0.1s								
PVRL	**Vila Real**	**4.09**	**17**	P	**Pn**		**11 39 38.2**	**+0.7**
PVRL				S	**Sn**		**11 40 21.5**	**-2.6**
comp=N,6.8nm,0.1s								
EGOR	**Sierra Gorda,**	**4.13**	**92**	P	**Pn**		**11 39 40.8**	**+2.6**
comp=N,0.1nm,0.1s,SNR=4.0								
EGOR				S	**Sn**		**11 40 26.4**	**+1.0**
comp=N,1.9nm,0.3s,SNR=7.9								
POLO	**Lamas de Olo**	**4.16**	**16**	*e*Pn	**Pn**		**11 39 39.1**	**+0.5**
POLO				*e*Sn	**Sn**		**11 40 23.5**	**-2.5**
POLO				A	A		11 40 27.7	
comp=N,2.3nm,0.9s								
POLO	**Lamas de Olo**	**4.16**	**16**	P	**Pn**		**11 39 39.1**	**+0.5**
POLO				S	**Sn**		**11 40 23.5**	**-2.5**
comp=N,2.3nm,0.9s								
MVO	**Moncorvo**	**4.17**	**24**	*e*Pn	**Pn**		**11 39 39.1**	**+0.4**
MVO				*e*Sn	**Sn**		**11 40 23.9**	**-2.4**
MVO				A	A		11 40 25.8	
comp=N,4.2nm,0.2s								
MVO	**Moncorvo**	**4.17**	**24**	P	**Pn**		**11 39 38.7**	**0.0**
comp=N,0.6nm,0.1s,SNR=26								
MVO				S	**Sn**		**11 40 23.9**	**-2.4**
comp=N,4.0nm,0.1s,SNR=6.0								
PAB	**San Pablo**	**4.44**	**59**	P	**Pn**		**11 39 42.7**	**+0.3**
comp=N,2.7nm,0.2s,SNR=7.9								
PAB				S	**Sn**		**11 40 29.6**	**-3.2**
comp=N,1.3nm,0.2s,SNR=7.9								
ZHG	**ZHG**	**4.46**	**150**	S	**Sn**		**11 40 31.9**	**-1.6**
ELGU	**Los Guajares,**	**4.54**	**95**	P	**Pn**		**11 39 46.4**	**+2.6**
comp=N,0.9nm,0.2s,SNR=7.9								
ELGU				S	**Sn**		**11 40 34.0**	**-1.4**
comp=N,2.3nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**4.59**	**11**	P	**Pn**		**11 39 44.7**	**+0.2**
comp=N,1.4nm,0.1s,SNR=9.0								
ELOB				S	**Sn**		**11 40 32.8**	**-3.8**
comp=N,4.0nm,0.1s,SNR=9.8								
EQUE	**Quentar**	**4.66**	**90**	P	**Pn**		**11 39 46.8**	**+1.4**
comp=N,1.1nm,0.3s,SNR=7.9								
EQUE				S	**Sn**		**11 40 38.3**	**0.0**
comp=N,1.1nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**4.76**	**59**	P	**Pn**		**11 39 47.0**	**+0.2**
comp=N,4.6nm,0.3s,baz=246,slow=13,SNR=20								
ESDC				S	**Sn**		**11 40 39.1**	**-1.6**
comp=N,5.0nm,0.4s,baz=245,slow=23,SNR=15								
PBRG	**Braganca**	**4.84**	**23**	*e*Pn	**Pn**		**11 39 48.6**	**+0.7**
PBRG				*e*Sn	**Sn**		**11 40 40.1**	**-2.7**
PBRG				A	A		11 40 41.8	
comp=N,3.6nm,0.3s								
PBRG	**Braganca**	**4.84**	**23**	P	**Pn**		**11 39 48.6**	**+0.7**
PBRG				S	**Sn**		**11 40 40.1**	**-2.7**
comp=N,1.8nm,0.3s								
EQES	**Quesada**	**4.95**	**83**	P	**Pn**		**11 39 49.7**	**+0.3**
comp=N,1.1nm,0.1s,SNR=7.9								
EQES				S	**Sn**		**11 40 43.9**	**-1.6**
comp=N,3.4nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**4.97**	**22**	P	**Pn**		**11 39 50.5**	**+0.8**
comp=N,1.4nm,0.1s,SNR=7.1								
ECAL				S	**Sn**		**11 40 43.3**	**-2.6**
comp=N,3.9nm,0.2s								
GUD	**Guadarrama**	**5.16**	**49**	P	**Pn**		**11 39 52.8**	**+0.4**
comp=N,4.9nm,0.2s,SNR=10								
GUD				S	**Sn**		**11 40 48.1**	**-2.6**
comp=N,2.1nm,0.3s								
SESP	**Santiago Espad**	**5.39**	**80**	P	**Pn**		**11 39 55.4**	**-0.1**
comp=N,2.4nm,0.3s,SNR=4.0								
SESP				S	**Sn**		**11 40 54.9**	**-1.4**
comp=N,2.4nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**5.50**	**9**	P	**Pn**		**11 39 57.2**	**+0.2**
comp=N,0.7nm,0.1s,SNR=7.9								
EAGO				S	**Sn**		**11 40 54.4**	**-4.6**
comp=N,2.8nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**5.58**	**2**	P	**Pn**		**11 39 58.5**	**+0.5**
comp=N,2.3nm,0.2s,SNR=7.9								
MD31	**MD31**	**5.82**	**139**	P	**Pn**		**11 40 02.0**	**+0.6**
MD31				S	**Sn**		**11 41 00.6**	**-6.3**
MDT	**Midelt**	**5.94**	**139**	P	**Pn**		**11 40 02.6**	**-0.4**
MDT				S	**Sn**		**11 41 06.5**	**-3.4**
EPON	**Pontenova**	**6.17**	**15**	S	**Sn**		**11 41 12.6**	**-2.8**
comp=N,0.8nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**6.24**	**76**	P	**Pn**		**11 40 06.7**	**-0.3**
comp=N,1.4nm,0.3s,SNR=7.9								
ETOB				S	**Sn**		**11 41 14.2**	**-2.9**
comp=N,0.5nm,0.1s,SNR=7.9								
OUK	**Oukaimeden**	**6.25**	**169**	P	**Pn**		**11 40 05.2**	**-2.4**
OUK				S	**Sn**		**11 41 15.6**	**-2.4**
ETOR	**Torete**	**6.59**	**56**	P	**Pn**		**11 40 12.0**	**+0.1**
comp=N,5.8nm,0.3s,SNR=16								
ETOR				S	**Sn**		**11 41 21.5**	**-4.3**
comp=N,3.4nm,0.2s								
EMOS	**Mosqueruela**	**7.49**	**64**	P	**Pn**		**11 40 26.2**	**+1.8**
comp=N,0.2nm,0.1s,SNR=7.9								
EMOS				S	**Sn**		**11 41 47.4**	**-0.7**
comp=N,0.4nm,0.2s,SNR=4.0								
SJPF	**Ste Jean**	**8.41**	**45**	*e*P	**Pn**		**11 40 37.9**	**+1.0**
SJPF				*e*Sn	Sn		11 42 00.8	-10
comp=N,0.9nm,0.3s								
ETSF	**Etsaut**	**8.66**	**48**	*e*P	**Pn**		**11 40 41.0**	**+0.6**
ETSF				*e*Sn	Sn		11 42 06.6	-10
comp=N,1.5nm,0.4s								
EPF	**Esparros**	**9.28**	**49**	*e*P	**Pn**		**11 40 50.5**	**+1.8**
MTLF	**Montolieu**	**10.60**	**52**	*e*P	**Pn**		**11 41 09.6**	**+2.7**
MTLF				*e*Sn	Sn		11 42 52.9	-11
comp=N,1.2nm,0.5s								

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*IDC **16** 11:43:43.9±1.1, 60.°17S×46.°94W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/22, mbtmp3.8/4, Error ellipse: s-maj=63.0km s-min=22.8km az=62.0*
*NEIC **16** 11:43:44.2±2.3, 60.°2S±0.°1×46.°6W±0.°2, h10km±2km, mb4.1/5*
ISC 16 11:43:44.8±0.7, 60.°19S±0.°10×46.°8W±0.°1, h10km, n19, σ1.°06/15, mb4.2/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.12**	**48**	P	**Pn**	**Pn**	**11 45 40.8**	**-1.7**
PMSA	**Palmer Station**	**9.22**	**233**	Pn	**Pn**	**Pn**	**11 45 56.4**	**-1.2**
SNAA	**Sanae**	**20.67**	**142**	P	Pn		11 48 27.7	+0.9
2.1nm,0.8s,baz=275,slow=12,SNR=8.3								
SNAA	**Sanae**	**20.67**	**142**	P	**P**		**11 48 25.6**	**+1.1**
TRQA	**Tornquist**	**24.17**	**330**	P	**P**		**11 49 00.8**	**-0.2**
TRQA				IAmb	IAmb		11 49 03.5	
comp=Z,7.1nm,1.0s								
PLCA	**Paso Flores**	**24.43**	**312**	P	**P**		**11 49 03.4**	**0.0**
comp=Z,0.9nm,0.6s,baz=194,slow=8.3,SNR=4.6								
PLCA	**Paso Flores**	**24.43**	**312**	P	**P**		**11 49 02.5**	**-0.9**
PLCA				IAmb	IAmb		11 49 06.3	
comp=Z,2.8nm,1.1s								
QSPA	**South Pole Qui**	**30.05**	**180**	P	**P**		**11 49 54.5**	**+0.7**
comp=Z,4.8nm,1.2s,baz=178,slow=6.6,SNR=7.0								
QSPA	**South Pole Qui**	**30.05**	**180**	P	**P**		**11 49 53.1**	**-0.6**
GO02	**Mina Guanaco**	**38.41**	**326**	P	**P**		**11 51 07.2**	**+0.6**
GO02				IAmb	IAmb		11 51 14.5	
comp=Z,5.0nm,0.9s								
SBA	**Scott Base**	**40.69**	**190**	P	**P**		**11 51 24.6**	**-0.1**
SIV	**San Ignacio**	**45.35**	**340**	P	**P**		**11 52 04.6**	**+1.6**
comp=Z,0.9nm,0.6s,baz=191,slow=9.1,SNR=3.9								
H10N3	**ASCENSION HYDR**	**57.58**	**39**	T	T		12 56 22.4	
baz=199,slow=75,SNR=21								
H10N1	**ASCENSION HYDR**	**57.58**	**39**	T	T		12 56 22.5	
baz=199,slow=75,SNR=13								
H10N2	**ASCENSION HYDR**	**57.60**	**39**	T	T		12 56 23.5	
baz=199,slow=75,SNR=14								
ILAR	**Eielson Array**	**145.12**	**312**	PKPbc	**PKPbc**		**12 03 19.4**	**-0.9**
comp=Z,1.1nm,0.8s,baz=140,slow=2.5,SNR=6.1								
ILAR	**Eielson Array**	**145.12**	**312**		**PKPbc**		**12 03 19.9**	**-0.4**
MKAR	**Makanchi Array**	**147.74**	**91**	PKPbc	**PKPdf**		**12 03 27.0**	**+1.2**
comp=Z,0.3nm,0.5s,baz=243,slow=3.4,SNR=4.5								
MKAR	**Makanchi Array**	**147.74**	**91**		**PKPdf**		**12 03 26.8**	**+1.0**

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*NIED **16** 11:44:00,35.°60N×140.°20E, h62km, Mw5.5 Best double couple: M0=2.04000×10^17 NP1:φs=181.00000°, δ36.00000°, λ90.00000°. NP2:φs=2.00000°, δ54.00000°, λ90.00000°.*
*BJI **16** 11:44:36.1±0.0, 35.°45N×140.°61E, h59km, mb5.0/72, mB5.3/48, Ms4.9/83, Ms7 4.8/76*
*MOS **16** 11:44:40.1±1.1, 35.°52N×140.°05E, h62km, mb5.6/72, MS4.6/11, Error ellipse: s-maj=7.3km s-min=4.0km az=118.8*
*JMA **16** 11:44:41.3±0.1, 35.°59N×140.°15E, h72km±2km, M5.3 Broadband fault plane solution: P waves. NP1: φs=359.00000°, δ78.00000°, λ92.00000°. NP2: φs=168.00000°, δ12.00000°, λ79.00000°. Principal axes: T Plg57.0000°, Azm272.0000°; N Plg2.0000°, Azm178.0000°; P Plg33.0000°, Azm87.0000°;*
JMA Felt IV J1.
*NEIC **16** 11:44:41.3±1.8, 35.°60N±0.°04×140.°15E±0.°07, h59km±1km, mb5.5/289, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.19; Mθθ-0.05; Mφφ-2.14; Mrθ 0.12; Mθφ-0.43; Mφr 0.31; Fault plane solution: M0=2.23000×10^17 NP1:φs=189.65000°, δ40.80000°, λ87.58000°. NP2:φs=12.85000°, δ49.24000°, λ92.09000°. Principal axes: T 2.2127, Plg85.0000°, Azm302.0000°; N 0.0327, Plg2.0000°, Azm191.0000°; P -2.2454, Plg4.0000°, Azm101.0000°;*
*ISCJB **16** 11:44:41.6±0.1, 35.°52N±0.°01×140.°07E±0.°02, h71km±1km, mb5.3/145 Error ellipse: s-maj=2.4km s-min=1.9km az=41.4*
*IDC **16** 11:44:42.8±0.8, 35.°47N×140.°02E, h74km±7km, mb4.7/28, mb1 4.9/31, mb1mx4.8/35, mbtmp5.0/31, MS4.4/36, Ms1 4.4/36, ms1mx4.4/38, Error ellipse: s-maj=10.9km s-min=5.3km az=75.0*
*GCMT **16** 11:44:44.3±0.1, 35.°57N±0.°01×140.°26E±0.°01, h58km, MW5.5/131, Moment Tensor Solution. s110,c197; s131,c259; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr2.13±.03; Mθθ 0.22±.03; Mφφ-2.35±.02; Mrθ-0.24±.02; Mθφ-0.05±.02; Mφr 0.48±.03; Best double couple: M0=2.30600×10^17 NP1:φs=354.00000°, δ51.00000°, λ81.00000°. NP2:φs=188.00000°, δ39.00000°, λ101.00000°. Principal axes: T 2.2110, Plg81.0000°, Azm221.0000°; N 0.1880, Plg7.0000°, Azm360.0000°; P -2.4010, Plg6.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **16** 11:44:45, 35.°57N×140.°30E,

MJAR Matsushiro Arr 1.87 302 Pn 11 45 10.7 -0.2
MAJO Matsushiro 1.87 302 P Pn 11 45 12.0 +1.1
MAJO 11 45 30.8
MAJO Matsushiro 1.87 302 Pn 11 45 12.0 +1.1
MAJO Sn **Sn 11 45 30.8 -2.7**
MAT Matsushiro 1.87 302 P **Pn 11 45 11.3 +0.4**
MAT *e*S **Sn 11 45 34.2 +0.7**
MAT Matsushiro 1.87 302 P **Pn 11 45 12.2 +1.3**
MJB9 Matsu-Tunnel 1.88 302 Pn 11 45 12.1 +1.1
MJB9 Sn **Sn 11 45 32.2 -1.4**
JNG Nsakai 1.88 298 ⇓P **Pn 11 45 12.5 +1.4**
JFY Yanaizu 1.89 349 ⇓P **Pn 11 45 11.9 +0.8**
JNY Yasuok 1.89 265 ⇓P **Pn 11 45 13.1 +1.8**
JFK Kawauchi 1.90 17 ⇓P **Pn 11 45 11.5 +0.2**
JHK Hiroka 1.93 332 ⇓P **Pn 11 45 12.4 +0.7**
JKKS Kakegawashinom 1.96 247 ⇓P **Pn 11 45 13.7 +1.6**
JFT Otama 1.97 4 ⇑P **Pn 11 45 13.1 +0.9**
JYZW Yoshizawa 2.07 255 P **Pn 11 45 15.1 +1.5**
JJN Nakama 2.24 314 ⇓P **Pn 11 45 17.5 +1.6**
JMST Minamisoumatoc 2.24 15 P **Pn 11 45 16.5 +0.6**
JSSY Shinshiroyabe 2.27 254 ⇓P **Pn 11 45 17.7 +1.4**
JGF Kuroka 2.29 272 ⇓P **Pn 11 45 18.6 +1.9**
JIZZ Izumozaki 2.30 330 ⇓P **Pn 11 45 18.4 +1.7**
JYAR Yonezawaarcadi 2.35 360 P **Pn 11 45 19.6 +2.1**
JMM Marumori 2.36 12 ⇓P **Pn 11 45 18.5 +0.9**
JMM S **Sn 11 45 47.2 +1.8**
JAO Obara 2.40 264 ⇓P **Pn 11 45 19.6 +1.5**
JGN Niukaw 2.41 287 ⇓P **Pn 11 45 20.2 +1.9**
JHJ Hachijo jima 2 2.45 188 P **Pn 11 45 19.7 +1.0**
2μm,0.3s,baz=253,slow=0.6,SNR=127
JHJ S **Sn 11 45 48.0 +0.5**
4μm,0.3s,baz=252,slow=20,SNR=18
JHJ2 Mitsune 2.45 187 P **Pn 11 45 19.6 +0.8**
JHJ2 Mitsune 2.45 187 Pn 11 45 19.7 +0.9
JHJ2 Sn **Sn 11 45 48.1 +0.4**
JTT Ttatey 2.53 295 ⇓P **Pn 11 45 21.7 +1.9**
INU Inuyama 2.58 266 Pn 11 45 21.8 +1.2
INU Sn **Sn 11 45 49.5 -1.3**
JAA Atsumi 2.65 251 ⇓P **Pn 11 45 22.5 +1.1**
JYTA Yamagatataniai 2.80 272 ⇓P **Pn 11 45 25.2 +1.7**
JOU Okura 2.83 8 ⇓P **Pn 11 45 25.3 +1.3**
JSD Sado 2.92 329 ⇓P **Pn 11 45 25.7 +0.6**
JIKH Ishinomakikobu 2.94 20 P **Pn 11 45 25.4 -0.1**
JSZ Suzu 2.95 311 ⇓P **Pn 11 45 26.4 +0.9**
JAW Awa shima 2.99 346 P **Pn 11 45 27.5 +1.4**
JIO Ouri 3.05 18 ⇓P **Pn 11 45 27.0 +0.1**
JJH Hakui 3.06 298 ⇓P **Pn 11 45 28.4 +1.3**
JIE Ise 3.07 249 P **Pn 11 45 28.0 +0.8**
JOFO Osakifurukawao 3.10 11 ⇓P **Pn 11 45 29.0 +1.4**
TSUJ Tsu 2 3.19 256 ⇓P **Pn 11 45 29.9 +1.1**
JKG Kaga 3.20 284 P **Pn 11 45 30.9 +1.9**
JYK Kaneyama 3.36 3 ⇓P **Pn 11 45 33.0 +1.8**
JFM Mihama 3.41 271 ⇓P **Pn 11 45 33.4 +1.5**
JKMT Kesennumamotoy 3.42 17 P **Pn 11 45 31.9 0.0**
JKN2 Miekihoku 3.46 249 ⇓P **Pn 11 45 33.7 +1.1**
JHG Hegura jima 3.47 312 ⇓P **Pn 11 45 33.7 +1.0**
OFUJ Ofunato 3.72 18 ⇓P **Pn 11 45 36.0 -0.1**
JHE Heguri 3.78 258 ⇓P **Pn 11 45 38.3 +1.3**
JMMH Miemihama 3.83 244 ⇓P **Pn 11 45 38.3 +0.7**
JRG Rokugo 3.85 5 ⇓P **Pn 11 45 39.7 +1.7**
JWT Wachi 3.90 267 P **Pn 11 45 39.8 +1.2**
JYW Yuwa 3.98 0 P **Pn 11 45 42.0 +2.3**
JOM Ohasama 4.01 13 ⇓P **Pn 11 45 40.7 +0.6**
JKY Yasaka 4.13 273 ⇓P **Pn 11 45 42.9 +1.2**
MIYJ Miyakonagasawa 4.22 18 P **Pn 11 45 42.6 -0.4**
JSZI Iwateshizukuis 4.23 8 P **Pn 11 45 44.3 +1.2**
JWM Minabe 4.32 248 P **Pn 11 45 45.3 +1.0**
JKS Kasai 4.39 264 ⇓P **Pn 11 45 46.4 +1.1**
JOG3 Oga3 4.44 349 P **Pn 11 45 47.1 +1.1**
JAJ2 Tsuna 4.48 257 ⇓P **Pn 11 45 47.8 +1.2**
JKZ Kuzumaki 4.52 11 ⇓P **Pn 11 45 47.5 +0.4**
JTH Tanohata 4.58 17 ⇓P **Pn 11 45 47.5 -0.4**
JAH Hinai 4.64 4 P **Pn 11 45 50.3 +1.6**
JIW Iwasaki 5.03 359 P **Pn 11 45 55.6 +1.5**
JJS Sakaide 5.26 259 ⇓P **Pn 11 45 57.9 +0.7**
JTM Tenmabayashi 5.27 7 P **Pn 11 45 58.2 +0.8**
JOT Ohata 5.86 6 P **Pn 11 46 05.9 +0.5**
JTO Tosashimizu 6.67 248 ⇓P **Pn 11 46 18.3 +1.8**
ERM Erimo 6.86 19*ce*P **Pn 11 46 17.5 -1.5**
ERM pmax pmax
comp=Z,131nm,0.8s
ERM Erimo 6.86 19 Pn 11 46 17.6 -1.5
ERM Sn **Sn 11 47 33.4 -2.3**
JNU Nakatsue 8.06 255 P **Pn 11 46 37.0 +1.4**
comp=Z,11nm,0.3s,baz=57,slow=1.3,SNR=53
JNU LR LR 11 50 06.3
comp=Z,8μm,19.5s,baz=62,slow=41
JNU Nakatsue 8.06 255 Pn 11 46 36.5 +0.9
JCJ Chichijima 8.61 168 P **Pn 11 46 40.5 -2.5**
comp=Z,293nm,0.3s,baz=13,slow=5.7,SNR=88
JCJ S **Sn 11 48 10.1 -8.5**
comp=Z,124nm,0.3s,baz=270,slow=20,SNR=4.2
ASAJ Asahikawa 8.75 12 P **Pn 11 46 42.8 -2.2**
comp=Z,8.9nm,0.3s,baz=233,slow=11,SNR=100
ASAJ S **Sn 11 48 15.6 -6.5**
comp=Z,16nm,0.3s,baz=73,slow=20,SNR=3.7
JKA Kamikawa-asahi 8.75 12 Pn 11 46 42.8 -2.2
NMR Nemuro--Hokkai 8.91 27 *e*P **Pn 11 46 43.7 -3.4**
GLVR Golovnino 9.15 25 *e*P **Pn 11 46 47.6 -2.8**
GLVR pmax pmax
comp=Z,137nm,0.2s
GRPR Tuman 9.46 25 *e*P **Pn 11 46 51.8 -2.9**
GRPR pmax pmax
comp=N,71nm,0.2s
GRPR pmax pmax
comp=Z,123nm,0.2s
GRPR pmax pmax
comp=E,87nm,0.1s
LAGR Lagunnoye 9.53 25 *e*P **Pn 11 46 52.3 -3.2**
LAGR pmax pmax
comp=N,210nm,0.4s
LAGR pmax pmax
comp=Z,329nm,0.4s
LAGR pmax pmax
comp=E,178nm,0.2s
YUK Yuzh-Kuril'sk 9.53 26 *e*P **Pn 11 46 53.3 -2.3**
YUK pmax pmax
comp=Z,225nm,0.4s
YUK pmax pmax
comp=N,74nm,0.2s
YUK pmax pmax
comp=E,60nm,0.2s
TEY Ternei 9.86 345⇑*e*P **Pn 11 47 00.5 +0.5**
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,10.0nm,1.3s
TEY MLR MLR
comp=N,100nm,13.0s
TEY MLR MLR
comp=Z,200nm,16.0s
VLA Vladivostok 9.91 322*c i*P **Pn 11 47 04.0 +3.3**
MSHR Mys Shultsa 9.91 318 *i* P **Pn 11 46 59.3 -1.5**
KSRS Korea Array 10.04 284 P **Pn 11 47 06.2 +3.6**
comp=Z,2.7nm,0.3s,baz=102,slow=13,SNR=67
KSRS LR LR 11 50 49.4
comp=Z,8μm,21.2s,baz=116,slow=37
KSAR Wonju Array Be 10.07 284 P **Pn 11 47 04.7 +1.7**
KSAR Wonju Array Be 10.07 284 Pn **Pn 11 47 04.7 +1.7**
KS19 Wonju Array Si 10.09 285 Pn 11 47 05.5 +2.2
TJN Taejon 10.41 278 *i* P **Pn 11 47 08.2 +0.5**
USA0B Ussuriysk Arra 10.68 326 *i* P **Pn 11 47 12.6 +1.4**
USA0B Ussuriysk Arra 10.68 326 Pn 11 47 12.6 +1.4
USRK Ussuriysk Ar. 10.68 326 P **Pn 11 47 13.5 +2.3**
baz=134,slow=11,SNR=38
USRK Ussuriysk Ar. 10.68 326 Pn 11 47 13.0 +1.7
KUR Kuril'sk 11.30 29 *e*P **Pn 11 47 18.2 -1.6**
KUR pmax pmax
comp=N,88nm,0.6s
KUR pmax pmax
comp=Z,106nm,0.6s
KUR pmax pmax
comp=E,31nm,0.3s
YSS Yuzh-Sakhalins 11.55 9 *e*P **Pn 11 47 20.2 -3.0**
YSS *e*S **Sn 11 49 24.3 -6.2**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=N,2μm,12.0s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS Yuzh-Sakhalins 11.55 9 Pn 11 47 21.2 -2.0
MDJ Mudanjiang 12.14 321 P **Pn 11 47 33.3 +2.1**
MDJ sP P 11 47 51.5 +10
MDJ S **Sn 11 49 50.1 +5.3**
MDJ PcP **PcP 11 53 12.6 +1.7**
MDJ ScP **ScP 11 56 39.8 +1.3**
MDJ ScS **ScS 12 00 15.3 +0.9**
MDJ pmax pmax
comp=Z,45nm,1.5s
MDJ pmax pmax
comp=Z,740nm,3.0s
MDJ LR LR
comp=Z,2μm,19.2s
MDJ LR LR
comp=Z,3μm,10.7s
MDJ LR LR
comp=Z,5μm,27.8s
MDJ Mudanjiang 12.14 321 Pn 11 47 32.8 +1.6
JOW Kunigami 13.38 233 Pn 11 47 50.5 +2.3
UGL Uglegorsk 13.59 5 *e*P **P 11 47 54.7 -3.2**
UGL S **Sn 11 50 23.1 +3.1**
UGL pmax pmax
comp=Z,55nm,1.1s
UGL smax smax
comp=E,64nm,1.0s
UGL smax smax
comp=E,1μm,10.9s
UGL MLR MLR
comp=Z,2μm,14.0s
UGL MLR MLR
comp=E,2μm,18.0s
CN2 Changchun 14.00 310 *e*P **Pn 11 47 57.3 +0.9**
CN2 *es*P P 11 48 16.9 +14
CN2 *e*S **Sn 11 50 33.5 +3.4**
CN2 pmax pmax
comp=E,40nm,1.2s
CN2 pmax pmax
comp=E,1μm,8.0s
CN2 LR LR
comp=E,3μm,16.0s
CN2 LR LR
comp=E,3μm,16.0s
CN2 LR LR
comp=E,2μm,15.0s
SNY Shenyang 14.38 301⇑P **P 11 48 05.3 -1.5**
SNY S **Sn 11 50 43.3 +3.8**
SNY pmax pmax
comp=E,70nm,1.4s
SNY LR LR
comp=E,3μm,13.5s
SNY LR LR
comp=E,3μm,20.6s
SNY LR LR
comp=E,6μm,18.8s
KLR Kul'dur 15.00 338 *i* P **Pn 11 48 08.0 -1.5**
KLR pmax pmax
comp=Z,13nm,1.3s
KLR Kul'dur 15.00 338 P **Pn 11 48 07.6 -1.8**
comp=Z,1.2nm,0.3s,baz=162,slow=18,SNR=15
KLR LR LR 11 54 48.9
comp=Z,758nm,18.5s,baz=146,slow=40
DL2 Dalian 15.14 288 P **P 11 48 14.1 -1.2**
DL2 pP **pP 11 48 26.5 -1.6**
DL2 S **Sn 11 51 04.3 +6.3**
DL2 sS **S 11 51 17.6 +5.6**
DL2 pmax pmax
comp=Z,120nm,1.5s
DL2 pmax pmax
comp=Z,1μm,10.7s
DL2 LR LR
comp=Z,1μm,19.2s
DL2 LR LR
comp=Z,4μm,19.4s
DL2 LR LR
comp=Z,5μm,18.6s
TYV Tymovskoe 15.41 6 *e*P **P 11 48 18.7 +0.6**
TYV *e*S **S 11 51 12.6 -4.6**
TYV pmax pmax
comp=Z,400nm,2.0s
TYV pmax pmax
comp=Z,74nm,1.3s
TYV smax smax
comp=E,1μm,4.5s
TYV smax smax
comp=E,40nm,1.4s
GRNR Gornyy 15.45 351⇓*i*P **Pn 11 48 11.6 -3.6**
GRNR pmax pmax
comp=Z,18nm,1.1s
GRNR MLR MLR
comp=Z,940nm,11.0s
SSE Sheshan 16.47 260 P **Pn 11 48 27.3 -1.0**
SSE S **Sn 11 51 31.3 +1.0**
SSE pmax pmax
comp=Z,24nm,1.2s
SSE pmax pmax
comp=Z,730nm,3.4s
SSE LR LR
comp=Z,980nm,14.7s
SSE LR LR
comp=Z,1μm,12.6s
SSE Sheshan 16.47 260 P **P 11 48 29.7 -0.4**
SSE IAmb IAmb 11 49 08.8
comp=Z,472nm,1.9s
NKL Nikolayevsk 17.60 1 *e*P P 11 48 58.9 +17
NKL *e*S **Sn 11 51 47.6 -10**
NKL pmax pmax
comp=N,4.0nm,1.3s
NKL pmax pmax
comp=Z,23nm,1.3s
NKL pmax pmax
comp=E,10.0nm,0.9s
NKL smax smax
comp=E,62nm,4.1s
NKL smax smax
comp=N,9.0nm,2.1s
NJ2 Nanjing 18.05 265 *e*P **Pn 11 48 47.8 +0.1**
NJ2 pP **pP 11 49 03.1 +2.7**
NJ2 S **S 11 52 11.1 +0.2**
NJ2 pmax pmax
comp=N,20nm,0.6s
NJ2 pmax pmax
comp=N,590nm,4.5s
NJ2 LR LR
comp=N,2μm,19.9s
NJ2 LR LR
comp=N,2μm,13.3s
NJ2 LR LR
comp=N,3μm,24.2s
TIA Tai'an 18.68 279 P **P 11 48 54.1 -0.3**
TIA sP **sP 11 49 12.3 -2.7**
TIA S **S 11 52 28.1 +4.2**
TIA pmax pmax
comp=N,35nm,1.3s
TIA LR LR
comp=N,720nm,13.2s
TIA LR LR
comp=N,3μm,14.7s
TIA LR LR
comp=N,4μm,14.7s
TATO Taipei 19.24 242 P **P 11 49 00.6 0.0**
SARN Sarigan 19.43 164 P **P 11 49 03.4 +0.7**
BJT Baijiatuau 19.47 290 P **P 11 49 02.1 -0.8**
BJT pmax pmax
comp=Z,284nm,1.5s
BJT Baijiatuau 19.47 290 P **P 11 49 02.1 -0.8**
BJT IAmb IAmb 11 49 24.8
comp=Z,284nm,1.5s
YHNB Yeheng 19.51 241 P **P 11 49 03.8 +0.2**
ANA2 Anatahan 19.76 164 P **P 11 49 06.8 +0.4**
HIA Hailar 20.29 319 P **P 11 49 09.4 -2.5**
HIA pmax pmax
comp=Z,111nm,1.5s
HIA Hailar 20.29 319 P **P 11 49 09.4 -2.5**
ZEA Zeya 20.32 338 *e*P **P 11 49 08.4 -3.6**
ZEA *e* 11 49 37.0
ZEA *e*S Sn 11 53 00.5 -2.0
ZEA *e* 11 53 26.0
ZEA pmax pmax
comp=N,100nm,1.2s
ZEA pmax pmax
comp=E,57nm,1.2s
ZEA pmax pmax
comp=Z,160nm,1.2s
ZEA pmax pmax
comp=N,300nm,2.0s
ZEA pmax pmax
comp=Z,500nm,2.0s
ZEA pmax pmax
comp=Z,900nm,7.0s
ZEA smax smax
comp=E,1μm,10.0s
ZEA smax smax
comp=N,2μm,11.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
ZEA MLR MLR
comp=E,1μm,12.0s
ZEA MLR MLR
comp=N,1μm,14.0s
SSLB Suanglung 20.36 240 P **P 11 49 11.4 -1.4**
YULB Yu-li 20.37 239 P **P 11 49 10.4 -2.6**
QZH Quanzhou 21.39 246⇑*i*P P 11 49 34.3 +11
QZH pP sP 11 49 48.0 +3.5
QZH S Sn 11 53 30.8 +2.1
QZH LR LR
comp=N,910nm,14.5s
QZH LR LR
comp=E,2μm,13.2s
QZH LR LR
comp=Z,2μm,21.2s
PEA0B Petropavlovsk- 21.47 30 P **P 11 49 25.0 +0.6**
PEA0B pmax pmax
comp=Z,266nm,1.3s
PEA0B Petropavlovsk- 21.47 30 P **P 11 49 25.1 +0.6**
PEA0B IAmb IAmb 11 49 45.9
comp=Z,266nm,1.3s
PETK Petropavlovsk- 21.47 30 P **P 11 49 25.4 +1.0**
PETK Petropavlovsk- 21.47 30 P **P 11 49 25.6 +1.2**
comp=Z,40nm,1.0s,baz=208,slow=5.9,SNR=18
PETK LR LR 11 57 42.3
comp=Z,844nm,20.2s,baz=224,slow=36
PETK Petropavlovsk- 21.47 30 P **P 11 49 25.4 +1.0**
PET Petropavlovsk 21.80 31 P **P 11 49 28.6 +0.7**
PET pmax pmax
comp=Z,191nm,1.2s
PET Petropavlovsk 21.80 31 P **P 11 49 28.6 +0.7**
PET IAmb IAmb 11 49 50.2
comp=Z,191nm,1.2s
WHN Wuhan 22.18 264 P **P 11 49 30.8 -1.5**
WHN S **S 11 53 24.8 -8.2**
WHN LR LR
comp=Z,3μm,13.0s
WHN LR LR
comp=Z,4μm,14.0s
WHN LR LR
comp=Z,7μm,15.1s
GUMO Guam 22.28 168 P **P 11 49 33.5 +0.2**
GUMO pmax pmax
comp=Z,1μm,1.7s
GUMO Guam 22.28 168 P **P 11 49 32.7 -0.6**
comp=Z,252nm,0.8s,baz=194,slow=7.7,SNR=5.5
GUMO LR LR 11 56 05.7
comp=Z,822nm,21.7s,baz=9.0,slow=31
GUMO Guam 22.28 168 P **P 11 49 33.5 +0.2**
TIY Taiyuan 22.33 284 *e*P **P 11 49 35.0 +1.0**
TIY sP **sP 11 49 57.1 +2.3**
TIY S **S 11 53 31.1 -4.6**
TIY sS **sS 11 53 55.8 -2.4**
TIY SS Sn 11 54 16.8 +26
TIY pmax pmax
comp=Z,17nm,0.5s
TIY pmax pmax
comp=Z,230nm,7.9s
TIY LR LR
comp=Z,560nm,8.8s
TIY LR LR
comp=Z,2μm,17.2s
TIY LR LR
comp=Z,4μm,32.0s
HHC Hu-ho-hao-te 23.04 292 *e*P **P 11 49 41.3 -0.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
BTO Baotou 24.20 291 *e*P **P 11 49 51.3 -0.8**
MA2 Magadan 25.01 13*ce*P **P 11 49 58.5 -0.7**
MA2 pmax pmax
comp=Z,66nm,1.0s
MA2 Magadan 25.01 13 P **P 11 50 01.1 +1.9**
comp=Z,71nm,1.0s,baz=199,slow=8.0,SNR=9.9
MA2 Magadan 25.01 13 P **P 11 49 59.8 +0.6**
MA2 IAmb IAmb 11 50 02.7
comp=Z,143nm,1.1s
XAN Xi'an 25.65 276 P **P 11 50 04.5 -0.9**
XAN PP **PnPn 11 50 49.0 +4.7**
XAN S **S 11 54 22.3 -7.2**
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,390nm,3.3s
XAN LR LR
comp=Z,1μm,17.7s
XAN LR LR
comp=Z,1μm,19.6s
XAN LR LR
comp=Z,2μm,27.0s
XAN Xi'an 25.65 276 P **P 11 50 04.4 -0.9**
XAN pmax pmax
comp=Z,60nm,1.3s
XAN Xi'an 25.65 276 P **P 11 50 04.4 -0.9**
ENH Enshi 26.23 267 P **P 11 50 09.6 -1.0**
ENH IAmb IAmb 11 50 50.0
comp=Z,135nm,1.2s
YAK Yakutsk 27.31 349*c i*P **P 11 50 19.4 -0.5**
YAK *e*PP **sP 11 50 40.7 -1.1**
YAK *e*S **S 11 54 52.0 -2.9**
YAK *e*SS SS 11 56 11.0 -41
YAK pmax pmax
comp=Z,114nm,1.3s
YAK pmax pmax
comp=N,135nm,1.3s
YAK pmax pmax
comp=E,48nm,1.4s
YAK smax smax
comp=N,251nm,2.0s
YAK smax smax
comp=E,256nm,2.0s
YAK MLR MLR
comp=Z,728nm,24.0s
YAK MLR MLR
comp=N,553nm,22.0s
YAK Yakutsk 27.31 349 P **P 11 50 19.5 -0.3**
YAK IAmb IAmb 11 50 22.6
comp=Z,239nm,1.5s
ULN Ulaanbaatar 27.40 307*ce*P **P 11 50 19.8 -1.2**
ULN pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 27.40 307 P **P 11 50 20.0 -1.0**
SONM Songino Array 27.82 307 P **P 11 50 23.6 -1.1**
comp=Z,2.3nm,0.3s,baz=112,slow=8.3,SNR=28
SONM PcP **PcP 11 53 39.3 -0.2**
comp=Z,4.3nm,0.9s,baz=108,slow=1.4,SNR=5.4
SONM LR LR 12 01 51.4
comp=Z,2μm,19.1s,baz=111,slow=37
SONM Songino Array 27.82 307 P **P 11 50 23.7 -1.1**
BOD Bodaibo 28.28 330 *e*P **P 11 50 28.4 -0.1**
BOD pmax pmax
comp=Z,94nm,1.6s
H11N2 WAKE ISLAND Hy 28.32 117 T T 12 20 03.7
baz=309
H11N1 WAKE ISLAND Hy 28.32 117 T T 12 20 05.3
baz=309,slow=74
H11N3 WAKE ISLAND Hy 28.34 117 T T 12 20 12.8
baz=309,slow=74
SEY Seymchan 28.44 12 P **P 11 50 31.8 +1.9**
comp=Z,18nm,0.9s,baz=207,slow=7.3,SNR=19
H11S3 WAKE ISLAND Hy 28.96 119 T T 12 20 39.3
baz=311,slow=76,SNR=81
H11S1 WAKE ISLAND Hy 28.96 119 T T 12 20 49.6
baz=311,slow=76,SNR=179
H11S2 WAKE ISLAND Hy 28.98 119 T T 12 20 49.4
baz=311,slow=76,SNR=84
LZH Lanzhou 29.36 282⇓P **P 11 50 38.0 -0.6**
LZH pP pP 11 50 55.6 +2.2
LZH sP sP 11 51 04.0 +3.4
LZH S **S 11 55 24.3 -3.7**
LZH sS sS 11 55 50.8 -2.5
LZH pmax pmax
comp=Z,46nm,1.3s
LZH pmax pmax
comp=Z,290nm,4.8s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR

comp=Z,2μm,16.3s
GYA Guiyang 30.00 262 ⇓*i*P **P 11 50 42.9 -1.4**
GYA sP sP 11 51 04.6 -1.7
GYA PP **PnPn 11 51 42.0 -1.1**
GYA PcP **PcP 11 53 43.3 -2.0**
GYA S **S 11 55 32.3 -5.8**
GYA sS sS 11 55 59.9 -3.6
GYA pmax pmax
comp=Z,60nm,1.2s
GYA pmax pmax
comp=Z,140nm,6.4s
GYA LR LR
comp=Z,1μm,16.0s
GYA LR LR
comp=Z,1μm,17.0s
GYA LR LR
comp=Z,2μm,16.8s
ZAK Zakamensk 30.43 311 *e*P **P 11 50 46.4 -1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
TLY Talaya 30.58 313 *e*P **P 11 50 50.4 +1.4**
TLY *e*S **S 11 55 53.9 +7.4**
TLY pmax pmax
comp=Z,53nm,1.3s
TLY MLR MLR
comp=Z,2μm,12.0s
TLY Talaya 30.58 313 P **P 11 50 49.0 0.0**
CD2 Chengdu 30.69 272 P **P 11 50 49.1 -1.2**
CD2 sP sP 11 51 11.3 -1.0
CD2 S **S 11 55 40.4 -8.4**
CD2 sS sS 11 56 16.8 +2.6
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,190nm,3.7s
CD2 LR LR
comp=Z,3μm,13.9s
CD2 LR LR
comp=Z,3μm,18.1s
CD2 LR LR
comp=Z,4μm,19.9s
DAV Davao City (W) 31.35 209 LR LR 12 05 29.5
comp=Z,317nm,18.0s,baz=3.0,slow=40
QIZ Qiongzhong 31.41 246 P **P 11 50 56.6 0.0**
QIZ sP **sP 11 51 21.8 +3.2**
QIZ S **S 11 55 57.8 -2.3**
QIZ LR LR
comp=Z,880nm,22.6s
QIZ LR LR
comp=Z,710nm,19.6s
QIZ LR LR
comp=Z,1μm,31.4s
GTA Gaotai 32.07 289 ⇓P **P 11 51 02.6 +0.2**
GTA pP pP 11 51 17.0 -0.3
GTA sP sP 11 51 23.8 -0.7
GTA PP **PnPn 11 52 12.1 +2.4**
GTA PcP **PcP 11 53 51.6 +0.9**
GTA S **S 11 56 11.1 +0.8**
GTA sS sS 11 56 35.3 -0.4
GTA PcS **PcS 11 57 34.8 -0.8**
GTA SS **SnSn 11 58 07.4 +2.5**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,270nm,7.3s
GTA LR LR
comp=Z,760nm,19.4s
GTA LR LR
comp=Z,1μm,19.7s
GTA LR LR
comp=Z,2μm,21.6s
PATS Pohnpei 33.08 145 P **P 11 51 11.0 -0.3**
PATS IAmb IAmb 11 52 20.3
comp=Z,190nm,1.7s
KMI Kunming 33.76 263 P **P 11 51 15.8 -1.6**
KMI pP pP 11 51 34.1 +1.7
KMI sP sP 11 51 40.5 +1.0
KMI PP **PP 11 52 36.8 +2.1**
KMI S **S 11 56 36.8 -0.2**
KMI sS sS 11 57 06.6 +4.1
KMI SS **SnSn 11 58 52.5 +6.1**
KMI pmax pmax
comp=Z,36nm,1.6s
KMI pmax pmax
comp=Z,190nm,3.1s
KMI LR LR
comp=Z,2μm,22.9s
KMI LR LR
comp=Z,710nm,24.1s
KMI LR LR
comp=Z,2μm,13.9s
KMI Kunming 33.76 263 P **P 11 51 15.8 -1.6**
KMI pmax pmax
comp=Z,95nm,1.5s
KMI Kunming 33.76 263 P **P 11 51 15.8 -1.6**
KMI IAmb IAmb 11 51 53.4
comp=Z,95nm,1.5s
ADK Adak 34.61 48 P **P 11 51 24.9 +0.7**
ADK pmax pmax
comp=Z,88nm,1.3s
ADK Adak 34.61 48 P **P 11 51 24.9 +0.7**
ADK IAmb IAmb 11 51 46.1
comp=Z,88nm,1.2s
SLVN Son La 34.68 256 P **P 11 51 25.0 -0.3**
BILL Bilibino 35.73 16*c i*P **P 11 51 33.5 -0.1**
BILL *e**SP **sP 11 51 55.3 -0.5**
BILL *i* 11 53 01.7
BILL *e* 11 54 00.9
BILL *e*S **S 11 57 05.4 -0.5**
BILL pmax pmax
comp=Z,53nm,1.3s
BILL MLR MLR
comp=Z,316nm,15.0s
BILL Bilibino 35.73 16 P **P 11 51 33.5 -0.1**
TNTI Ternate 36.60 202 P **P 11 51 41.3 -0.3**
comp=Z,41nm,1.3s
TNTI Ternate 36.60 202 P **P 11 51 39.7 -1.8**
TIXI Tiksi 36.65 354*ce*P **P 11 51 41.0 -0.4**
TIXI pmax pmax
comp=Z,61nm,1.7s
TIXI Tiksi 36.65 354 P **P 11 51 40.9 -0.4**
KKM Kota Kinabalu 36.71 222 P **P 11 51 42.5 -0.2**
KKM IAmb IAmb 11 52 23.2
comp=Z,131nm,1.8s
UBPT Khong Chiam 37.00 246 P **P 11 51 44.0 -1.0**
UBPT IAmb IAmb 11 52 31.2
comp=Z,84nm,1.4s
DLV T Lat 37.05 239 P **P 11 51 45.0 -0.7**
NONG Nongkai 37.09 252 P **P 11 51 45.1 -0.7**
comp=Z,1.8nm,1.2s,comp=Z,101nm
SWI Sorong 37.17 195 P **P 11 51 46.2 -0.2**
comp=Z,35nm,0.5s
SIJI Sorong 37.18 195 LR LR 12 04 11.6
comp=Z,935nm,20.9s,baz=29,slow=32
RKPI Ransiki, Papua 37.30 190 P **P 11 51 48.0 +0.5**
comp=Z,101nm,0.8s,comp=Z,2μm
SMPI Sarmi 37.37 182 P **P 11 51 49.8 +1.7**
comp=Z,206nm,1.8s,comp=Z,3μm
SRPI Serui, Papua 37.41 186 P P 11 51 54.7 +6.2
JAY Jayapura 37.87 179 LR LR 12 06 04.9
comp=Z,364nm,21.0s,baz=348,slow=34
JAY Jayapura 37.87 179 P **P 11 51 53.9 +1.5**
comp=Z,577nm,1.3s,comp=Z,10μm
GENI Genyem 37.95 180 P **P 11 51 54.4 +1.4**
comp=Z,171nm,1.5s,comp=Z,3μm
MANU Manus Island 38.00 168 P **P 11 51 52.9 -0.6**
MRSI Marisa 38.81 210 P **P 11 51 58.7 -1.5**
comp=Z,42nm,1.3s
FAKI Fak Fak 38.98 193 P **P 11 52 01.2 -0.5**
comp=Z,105nm,1.7s
FAKI Fak Fak 38.98 193 P **P 11 52 00.6 -1.1**
FAKI IAmb IAmb 11 52 03.1
comp=Z,75nm,1.0s
CHAI Chaiyaphum 39.25 250 P **P 11 52 02.8 -1.2**
comp=Z,98μm,1.1s,comp=Z,877μm
LAMP Lampang 39.58 255 P **P 11 52 09.2 +2.5**
comp=Z,30μm,0.7s
PBKT Sadao Pong 39.64 252 P **P 11 52 06.3 -0.9**
comp=Z,31nm,1.3s
PBKT Sadao Pong 39.64 252 P **P 11 52 06.5 -0.7**
PBKT IAmb IAmb 11 52 07.6
comp=Z,55nm,1.1s
SANI Sanana 39.69 203 P **P 11 52 05.3 -2.3**
LUWI Luwuk 39.87 208 P **P 11 52 08.6 -0.5**
LUWI IAmb IAmb 11 53 27.8
comp=Z,58nm,0.9s
CMMT Chiang Mai 39.96 256 P **P 11 52 09.3 -0.6**
comp=Z,7.4nm,1.1s,comp=Z,255nm
CHTO Chiang Mai 39.96 256 P **P 11 52 09.3 -0.6**
CHTO pmax pmax
comp=Z,51nm,1.6s
CHTO Chiang Mai 39.96 256 P **P 11 52 09.3 -0.6**
MSAI Masohi 40.10 198 P **P 11 52 11.6 +0.6**
comp=Z,21nm,1.5s,comp=Z,604nm
CM31 Chiang Mai Arr 40.16 256 P **P 11 52 10.9 -0.6**
CMAR Chiang Mai Arr 40.16 256 P **P 11 52 10.2 -1.3**
comp=Z,1.3nm,0.4s,baz=42,slow=7.9,SNR=13
CMAR PcP **PcP 11 54 15.3 +0.4**
comp=Z,2.9nm,0.5s,baz=46,slow=2.6,SNR=9.3
CMAR LR LR 12 10 29.5
comp=Z,726nm,19.4s,baz=56,slow=39
CMAR Chiang Mai Arr 40.16 256 P **P 11 52 10.4 -1.1**
APSI Ampana 40.19 209 P **P 11 52 13.8 +2.1**
DGZ Jazzator, Alta 40.46 307*c i*P **P 11 52 15.1 +1.2**
KOHI KOHIMA 40.51 269 *e*P **P 11 52 12.0 -2.6**
KOHI IAmb IAmb 11 52 14.4
comp=Z,26nm,0.5s
KOHI *e*S S 11 58 05.3 -14
AAI Ambon 40.62 199 P **P 11 52 16.1 +0.8**
comp=Z,113nm,0.9s,comp=Z,2μm
WMQ Urumqi 40.63 298 *e*P **P 11 52 15.8 +0.5**
WMQ pP pP 11 52 32.8 +2.3
WMQ sP sP 11 52 39.1 +1.5
WMQ pmax pmax
comp=Z,55nm,1.9s
WMQ pmax pmax
comp=Z,150nm,3.7s
WMQ LR LR
comp=Z,760nm,17.5s
WMQ LR LR
comp=Z,520nm,17.5s
WMQ LR LR
comp=Z,1μm,23.7s
WMQ Urumqi 40.63 298 P **P 11 52 16.0 +0.8**
WMQ pmax pmax
comp=Z,209nm,1.4s
WMQ Urumqi 40.63 298 P **P 11 52 16.0 +0.8**
BNDI Bandanaira 41.01 196 P **P 11 52 19.8 +1.3**
MHMT Maesarieng 41.11 256 P **P 11 52 20.2 +0.8**
comp=Z,30nm,0.6s,comp=Z,1μm
KRVT Keravat (AS076 41.18 162 LR LR 12 05 28.1
comp=Z,188nm,20.9s,baz=347,slow=30
LSA Lhasa 41.36 276 P **P 11 52 22.4 +0.5**
LSA Lhasa 41.36 276 P **P 11 52 22.3 +0.5**
LSA Lhasa 41.36 276 P **P 11 52 22.2 +0.3**
LSA pmax pmax
comp=Z,39nm,1.1s
LSA Lhasa 41.36 276 P **P 11 52 22.2 +0.3**
UTHA Uthaitani 41.42 252 P **P 11 52 22.0 +0.1**
comp=Z,27μm,0.9s,comp=Z,360μm
UMPA Umpang Tak 41.49 253 P **P 11 52 24.4 +1.8**
comp=Z,43μm,1.6s
SBUM Sibu 41.91 225 P **P 11 52 24.0 -1.9**
SBUM Sibu 41.91 225 P **P 11 52 24.4 -1.5**
ZAA0 Zalesovo Array 42.19 314 P **P 11 52 27.5 -0.3**
ZAA0 IAmb IAmb 11 52 29.1
comp=Z,104nm,1.2s
ZALV Zalesovo Beam 42.19 314 P **P 11 52 27.5 -0.3**
comp=Z,15nm,0.3s,baz=93,slow=6.1,SNR=89
ZALV PcP **PcP 11 54 20.6 -0.4**
comp=Z,9.6nm,0.4s,baz=107,slow=3.0,SNR=9.6
ZALV LR LR 12 10 00.0
comp=Z,406nm,20.0s,baz=82,slow=36
ZALV Zalesovo Beam 42.19 314 P **P 11 52 27.4 -0.3**
ZALV **PcP 11 54 21.1 +0.2**
SRDT SRDT 42.39 251 P **P 11 52 29.6 -0.2**
comp=Z,14nm,1.1s,comp=Z,6μm
SHL Shillong 42.39 270 P **P 11 52 28.8 -1.2**
SHL Shillong 42.39 270 *e*P **P 11 52 28.0 -2.0**
SHL Shillong 42.39 270 P **P 11 52 28.8 -1.2**
PHET Kaeng Krachan 42.88 249 P **P 11 52 34.1 +0.3**
comp=Z,74μm,1.0s,comp=Z,877μm
DHUB DHUBRI 43.74 272 *e*P **P 11 52 39.3 -1.4**
DHUB IAmb IAmb 11 52 43.8
comp=Z,68nm,1.7s
BELO BELONIA 43.78 267 *e*P **P 11 52 40.2 -0.8**
MMPI Merauke 43.78 180 P **P 11 52 43.6 +2.6**
KSM Kuching 43.80 226 P **P 11 52 42.0 +0.8**
KSM Kuching 43.80 226 P **P 11 52 40.6 -0.6**
BNSI Bone 43.98 210 P **P 11 52 42.1 -0.5**
MK31 Makanchi Array 44.07 303 P **P 11 52 43.3 +0.2**
MK31 pmax pmax
comp=Z,76nm,1.3s
MK31 Makanchi Array 44.07 303 P **P 11 52 43.3 +0.2**
MK31 IAmb IAmb 11 52 44.8
comp=Z,76nm,1.2s
MKAR Makanchi Array 44.07 303 *i*P **P 11 52 43.4 +0.3**
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 44.07 303 P **P 11 52 43.1 0.0**
comp=Z,12nm,0.5s,baz=83,slow=10,SNR=131
MKAR LR LR 12 11 34.4
comp=Z,1μm,20.0s,baz=85,slow=37
SAUI Saumlaki 44.10 193 P **P 11 52 45.6 +2.1**
SAUI Saumlaki 44.10 193 P **P 11 52 44.1 +0.6**
SIMRM Sittwe 44.12 263 P **P 11 52 43.6 -0.2**
SIMRM IAmb IAmb 11 53 06.9
comp=Z,24nm,0.4s
NRIK Noril'sk 44.20 336 P **P 11 52 43.9 +0.1**
comp=Z,53nm,1.1s,baz=111,slow=9.0,SNR=36
NRIK PcP **PcP 11 54 27.8 +0.3**
comp=Z,38nm,1.1s,baz=108,slow=5.6,SNR=6.1
NRIK LR LR 12 14 12.1
comp=Z,341nm,21.8s,baz=107,slow=40
MAKZ Makanchi 44.28 303 P **P 11 52 44.9 +0.1**
MAKZ pmax pmax
comp=Z,118nm,1.4s
MAKZ Makanchi 44.28 303 P **P 11 52 44.9 +0.1**
MAKZ IAmb IAmb 11 52 46.7
comp=Z,118nm,1.4s
KAPI Kappang 44.68 210 P **P 11 52 46.8 -1.4**
KAPI pmax pmax
comp=Z,92nm,1.2s
KAPI Kappang 44.68 210 LR LR 12 11 43.7
comp=Z,181nm,19.1s,baz=116,slow=36
KAPI Kappang 44.68 210 P **P 11 52 46.8 -1.4**
KAPI IAmb IAmb 11 52 49.0
comp=Z,92nm,1.1s
TAPN Taplejung 45.05 275 *e*P **P 11 52 51.2 -0.3**
comp=Z,29nm,0.3s
PMG Port Moresby 45.20 170*ce*P **P 11 52 52.2 -0.1**
PMG pmax pmax
comp=Z,156nm,1.3s
PMG Port Moresby 45.20 170 P **P 11 52 52.2 -0.1**
PMG IAmb IAmb 11 53 34.2
comp=Z,120nm,1.6s
RDOG Red Dog Mine 45.27 26 P **P 11 52 53.0 +0.6**
RDOG IAmb IAmb 11 52 56.2
comp=Z,65nm,1.3s
ODAN Odare 45.51 274 *e*P **P 11 52 54.5 -0.6**
SURT Suratani 46.05 245 P **P 11 52 59.0 -0.1**
comp=Z,52nm,1.5s,comp=Z,985nm
KURK Kurchatov 46.07 309 P **P 11 52 58.8 0.0**
KURK pmax pmax
comp=Z,225nm,1.4s
KURK Kurchatov 46.07 309 P **P 11 52 58.8 0.0**
RAMN Ramite 46.12 275 *e*P **P 11 52 59.5 -0.4**
TRTT Trang 46.14 243 P **P 11 53 00.0 +0.2**
comp=Z,23nm,1.1s
JIRN Jiri 46.16 276 *e*P **P 11 53 00.6 +0.3**
GUN Gumba 46.31 276 *e*P **P 11 53 01.3 -0.2**
PDGK Podgornoye 46.59 299 P **P 11 53 01.7 -1.6**
PKI Pulchoki 46.83 276 *e*P **P 11 53 05.0 -0.5**
comp=Z,93nm,1.2s
PKIN Phulchoki 46.84 276 *e*P **P 11 53 05.0 -0.5**
KKN Kakani 46.84 277 *e*P **P 11 53 05.4 -0.1**
JRMM Jerantut 46.94 237 P **P 11 53 06.0 -0.1**
DMN Daman 47.06 276 *e*P **P 11 53 07.0 -0.2**
PKDT Phuket 47.09 244 P **P 11 53 07.3 0.0**
comp=Z,60nm,1.2s
MMRI Maumere 47.09 205 P **P 11 53 06.6 -0.6**
MMRI IAmb IAmb 11 53 08.3
comp=Z,34nm,0.7s
KULM Kulim 47.20 240 P **P 11 53 08.0 -0.1**
KULM Kulim 47.20 240 P **P 11 53 07.4 -0.7**
KULM IAmb IAmb 11 53 08.5
comp=Z,72nm,1.7s
GKN Gorkha 47.28 277 *e*P **P 11 53 08.8 0.0**
SVW2 Sparrevohn 47.31 37 P **P 11 53 09.7 +1.3**
SOEI Soe 47.50 201 P **P 11 53 09.1 -1.4**
SOEI IAmb IAmb 11 53 45.1
comp=Z,68nm,0.9s
IPM Ipoh 47.51 239 P **P 11 53 09.0 -1.6**
IPM Ipoh 47.51 239 P **P 11 53 08.9 -1.7**
MYKOM Kota Tinggi 47.57 233 P **P 11 53 10.0 -1.0**
MYKOM Kota Tinggi 47.57 233 P **P 11 53 09.9 -1.1**
DANN Dangsing 47.85 278 *e*P **P 11 53 13.8 +0.4**
comp=Z,152nm,0.5s
BOK Bokaro 48.07 271 *e*P **P 11 53 13.5 -1.3**
BOK IAmb IAmb 11 53 18.5
comp=Z,23nm,0.9s
BOK *e*S **S 12 00 07.3 -1.6**
TARG Taragay, Kyrgy 48.17 297 P **P 11 53 16.3 +0.5**
TARG IAmb IAmb 11 53 37.2
comp=Z,47nm,0.8s
KOLN Koldanda 48.21 277 *e*P **P 11 53 16.2 +0.1**
IMAR Indian Mountai 48.44 30 P **P 11 53 18.0 +1.0**
HNR Honiara 48.48 154 P **P 11 53 17.8 -0.2**
comp=Z,17nm,0.4s,baz=301,slow=5.9,SNR=3.5
HNR LR LR 12 12 22.7
comp=Z,356nm,19.6s,baz=328,slow=34
HNR Honiara 48.48 154 P **P 11 53 17.7 -0.2**
KDJ Kajisay 48.52 298 P **P 11 53 18.8 +0.5**
KDJ pmax pmax
comp=Z,72nm,1.4s
KDJ Kajisay 48.52 298 P **P 11 53 18.8 +0.5**
KDJ IAmb IAmb 11 53 43.9
comp=Z,72nm,1.4s
OHAK Old Harbor 48.52 42 P **P 11 53 18.3 +0.5**
KDAK Kodiak Island 48.87 41 *i*P **P 11 53 21.5 +1.0**
KDAK Kodiak Island 48.87 41 P **P 11 53 21.0 +0.5**
KDAK IAmb IAmb 11 53 23.1
comp=Z,63nm,0.9s
MTN Manton Dam 48.89 192 P **P 11 53 20.4 -0.6**
PPLA Purkeypile 48.95 34 P **P 11 53 22.4 +1.2**
COEN Coen 49.32 176 P **P 11 53 24.5 +0.2**
COEN IAmb IAmb 11 53 26.2
comp=Z,97nm,1.4s
BOOM Boomskoye usch 49.32 299 P **P 11 53 24.8 +0.4**
BOOM pmax pmax
comp=Z,91nm,1.5s
BOOM Boomskoye usch 49.32 299 P **P 11 53 24.9 +0.4**
BOOM IAmb IAmb 11 54 01.0
comp=Z,91nm,1.4s
TKM2 Tokmak 2 49.46 299 P **P 11 53 26.5 +1.0**
SNR=94
BPAW Bear Paw Mtn. 49.51 33 P **P 11 53 25.7 +0.4**
NRN Naryn 49.55 297 IAmb IAmb 11 53 51.2
comp=Z,46nm,1.4s
MLY Manley 49.63 31 P **P 11 53 27.8 +1.5**
MLY IAmb IAmb 11 53 29.7
comp=Z,38nm,1.0s
BRLK Bradley Lake 49.65 38 P **P 11 53 26.9 +0.5**
BRLK IAmb IAmb 11 53 30.0
comp=Z,61nm,1.0s
KZA Kyzart 49.92 298 P **P 11 53 30.7 +1.4**
SNR=20
KBK Karagaybulak 49.99 299 P **P 11 53 30.3 +0.8**
SNR=36
CHMS Chumysh 50.04 299 P **P 11 53 30.1 +0.4**
SNR=13
KSH Kashi 50.10 295 P **P 11 53 34.8 +4.5**
KSH PP **PP 11 55 31.3 +5.6**
KSH S **S 12 00 42.0 +4.6**
KSH sS sS 12 01 09.3 +5.4
KSH ScS **ScS 12 03 16.8 +0.6**
KSH pmax pmax
comp=Z,180nm,1.4s
KSH LR LR
comp=Z,770nm,10.8s
KSH LR LR
comp=Z,610nm,11.1s
KSH LR LR
comp=Z,1μm,12.5s
RC01 Rabbit Creek A 50.15 37 P **P 11 53 30.5 +0.3**
RC01 IAmb IAmb 11 53 32.9
comp=Z,53nm,1.0s
USP Ospenovka 50.15 300 P **P 11 53 31.0 +0.4**
SNR=31
PSI Prapat 50.17 239 P **P 11 53 29.9 -1.2**
PSI 11 54 49.9
PSI pmax pmax
comp=Z,37nm,1.3s
FRU1 Bishkek 50.18 299 IAmb IAmb 11 54 20.1
comp=Z,87nm,1.1s
JAGI Jajag, Banyuwa 50.19 214 P **P 11 53 30.5 -0.5**
TOLK Toolik Lake Re 50.24 27 P **P 11 53 32.4 +1.6**
baz=267
RPSI Rantau Prapat 50.25 239 P **P 11 53 29.9 -1.6**
RPSI PcP **PcP 11 54 49.9 +0.1**
AAK Ala-Archa 50.32 299 *i*P **P 11 53 32.3 +0.3**
SNR=24
AAK Ala-Archa 50.32 299 P **P 11 53 32.0 0.0**
AAK pmax pmax
comp=Z,38nm,1.2s
AAK Ala-Archa 50.32 299 P **P 11 53 32.4 +0.5**
SNR=19
AAK Ala-Archa 50.32 299 P **P 11 53 32.0 0.0**
SEW Seward 50.34 38 P **P 11 53 32.6 +1.0**
SEW IAmb IAmb 11 53 36.1
comp=Z,61nm,1.0s
UCH Uchtor 50.41 299 P **P 11 53 34.0 +0.9**
SNR=24
RND Reindeer 50.47 33 IAmb IAmb 11 53 34.9
comp=Z,49nm,1.1s
BKNI Bangkinang 50.52 235 P **P 11 53 32.2 -1.3**
PMBI Palembang 50.62 228 P **P 11 53 34.3 0.0**
WRH Wood River Hil 50.77 32 P **P 11 53 35.5 +0.7**
EKS2 Erkin-Say 50.82 299 P **P 11 53 35.8 +0.1**
SNR=14
TCOL CIGO, UAF Yank 50.86 32 P **P 11 53 37.7 +2.2**
baz=271
COLA College 50.86 32 ⇓*i*P **P 11 53 37.3 +1.8**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 50.86 32 P **P 11 53 36.2 +0.8**
CCB Clear Creek Bu 50.89 32 P **P 11 53 36.8 +1.1**
BRVK Borovoye 50.89 313 P **P 11 53 35.9 0.0**
BRVK Borovoye 50.89 313 P **P 11 53 35.9 0.0**
AML Almayashu 51.02 299 P **P 11 53 38.7 +1.1**
SNR=78
HDA Harding Lake 51.27 32 P **P 11 53 39.0 +0.5**
baz=273
HDA Harding Lake 51.27 32 P **P 11 53 39.4 +0.9**
HDA IAmb IAmb 11 53 40.6
comp=Z,42nm,1.0s
IL31 51.28 32 IAmb IAmb 11 54 10.7
comp=Z,35nm,1.0s
ILAR Eielson Array 51.28 32 P **P 11 53 39.1 +0.5**
comp=Z,19nm,0.9s,baz=269,slow=5.6,SNR=134
ILAR LR LR 12 16 55.1
comp=Z,218nm,20.4s,baz=262,slow=38
UGM Wanagama 51.48 219 P **P 11 53 38.9 -1.8**
DDI Dehra Dun 51.64 283 *e*P **P 11 53 42.6 +0.7**
DDI IAmb IAmb 11 53 47.5
comp=Z,41nm,1.0s
DDI *e*S **S 12 00 57.4 -1.4**
PRP Porcupine Dome 51.82 31 P **P 11 53 43.1 +0.3**
SMLA Simla 52.03 284 *e*P **P 11 53 44.6 -0.1**
SMLA *e*S **S 12 00 59.8 -4.2**
KNRA Kununurra 52.08 194 P **P 11 53 44.9 -0.2**
LEM Lembang 52.11 223 LR LR 12 16 03.3
comp=Z,220nm,21.2s,baz=28,slow=36
BMAR Burnt Mountain 52.11 28 P **P 11 53 46.5 +1.7**
DHRM DHARAMSHALA 52.29 286 *e*P **P 11 53 47.3 +0.4**
DHRM IAmb IAmb 11 54 00.1
comp=Z,121nm,1.2s
DHRM *e*S **S 12 01 05.7 -2.2**
KK31 Karatay Array 53.01 301 *i*P **P 11 53 51.7 -0.1**
KK31 pmax pmax
comp=Z,21nm,1.1s
KKAR Karatay Array 53.01 301 P **P 11 53 51.5 -0.3**
KKAR pmax pmax
comp=Z,135nm,1.5s
KKAR Karatay Array 53.01 301 P **P 11 53 51.5 -0.3**
KKAR Karatay Array 53.01 301 P **P 11 53 51.9 +0.1**
KKAR IAmb IAmb 11 53 53.6
comp=Z,135nm,1.5s
BCAR Beaver Creek A 53.68 34 P **P 11 53 57.6 +1.1**
BTK Batken 53.72 297 IAmb IAmb 11 54 55.8
comp=Z,59nm,1.2s
EGAK Eagle 53.73 31 P **P 11 53 57.7 +1.0**
NIL Nilore 54.13 289 P **P 11 54 00.5 +0.3**
NIL pmax pmax
comp=Z,80nm,1.1s

NIL	**Nilore**	**54.13 289**	P	**P**	**11 54 00.5 +0.3**	
NIL			IAmb	IAmb	11 54 38.9	
comp=Z,80nm,1.1s						
GAR	**Garm**	**54.43 296**	P	**P**	**11 54 02.4 -0.1**	
FITZ	**Fitzroy Crossi**	**55.11 197**	P	**P**	**11 54 07.5 +0.3**	
BHPL	**Bhopal**	**55.21 275**	*e*P	**P**	**11 54 05.4 -2.7**	
BHPL			IAmb	IAmb	11 54 10.0	
comp=Z,74nm,1.5s						
EPYK	**Eagle Plains**	**55.31 29**	P	**P**	**11 54 10.0 +1.8**	
baz=280,SNR=25						
EPYK	**Eagle Plains**	**55.31 29**	P	**P**	**11 54 09.7 +1.5**	
CHGR	**Chuyangaron**	**55.40 296**	P	**P**	**11 54 09.3 0.0**	
WRAB	**Tennant Creek**	**55.46 187**	P	**P**	**11 54 09.1 -0.6**	
WRAB			pmax	pmax		
comp=Z,144nm,1.3s						
WRAB	**Tennant Creek**	**55.46 187**	P	**P**	**11 54 09.1 -0.6**	
WB2	**Warramunga Arr**	**55.47 187**	P	**P**	**11 54 09.1 -0.7**	
WRA	**Warramunga Arr**	**55.47 187**	P	**P**	**11 54 08.9 -0.9**	
comp=Z,44nm,0.5s,baz=0.7,slow=7.5,SNR=206						
WRA			S	**S**	**12 01 47.1 -3.3**	
comp=Z,1.7nm,0.8s,baz=5.1,slow=13,SNR=5.9						
WRA			LR	LR	12 15 25.2	
comp=Z,206nm,21.8s,baz=350,slow=33						
WRA			PKP2ab		12 24 46.0	
comp=Z,1.6nm,1.1s,baz=179,slow=2.0,SNR=4.6						
WRA	**Warramunga Arr**	**55.47 187**	P	**P**	**11 54 08.5 -1.3**	
SVE	**Sverdlovsk**	**55.60 319**	*de*P	**P**	**11 54 10.9 +0.5**	
SVE			pmax	pmax		
comp=Z,77nm,1.4s						
CTAO	**Charters Tower**	**55.64 173**	P	**P**	**11 54 11.3 +0.3**	
CTAO	**Charters Tower**	**55.64 173**	P	**P**	**11 54 11.3 +0.3**	
CTAO			IAmb	IAmb	11 54 13.8	
comp=Z,84nm,1.8s						
INK	**Inuvik**	**56.16 27**	P	**P**	**11 54 14.8 +0.7**	
INK			pmax	pmax		
comp=Z,20nm,0.9s						
INK	**Inuvik**	**56.16 27**	P	**P**	**11 54 14.8 +0.7**	
ARU	**Arti**	**56.81 319**	*c i*P	**P**	**11 54 19.0 0.0**	
ARU			*PP	**pP**	**11 54 34.5 -0.5**	
ARU					11 55 12.6	
ARU			S	**S**	**12 02 09.9 +2.4**	
ARU			*SS	**sS**	**12 02 30.4 -4.3**	
ARU			SS	**SS**	**12 05 52.1 -3.6**	
ARU			pmax	pmax		
comp=Z,105nm,1.5s						
ARU	**Arti**	**56.81 319**	P	**P**	**11 54 19.0 0.0**	
ARU			IAmb	IAmb	11 54 47.6	
comp=Z,57nm,0.9s						
KBL	**Kabul**	**57.01 291**	P	**P**	**11 54 20.8 -0.2**	
KBL			pmax	pmax		
comp=Z,63nm,1.3s						
KBL	**Kabul**	**57.01 291**	P	**P**	**11 54 20.9 -0.2**	
KBL			IAmb	IAmb	11 54 44.2	
comp=Z,63nm,1.3s						
HYB	**Hyderabad**	**57.16 269**	*i* P	**P**	**11 54 21.0 -1.1**	
HYB			*e*pP	**pP**	**11 54 40.0 +1.9**	
HYB			*e*sP	**sP**	**11 54 47.0 +2.1**	
HYB			*e*		11 54 58.0	
HYB	**Hyderabad**	**57.16 269**	*e*P	**P**	**11 54 20.4 -1.7**	
HYB			IAmb	IAmb	11 54 24.9	
comp=Z,24nm,0.9s						
FUNA	**Funafuti**	**57.23 132**	P	**P**	**11 54 22.9 +0.4**	
A36M	**Sachs Harbour**	**58.00 21**	P	**P**	**11 54 28.6 +1.4**	
baz=287						
AB31	**Akbulak array**	**58.13 311**	P	**P**	**11 54 27.8 -0.6**	
AB31			pmax	pmax		
comp=Z,13nm,0.7s						
ABKAR	**Akbulak array**	**58.13 311**	P	**P**	**11 54 28.3 -0.1**	
ABKAR	**Akbulak array**	**58.13 311**	P	**P**	**11 54 28.1 -0.3**	
AKTO	**Aktyubinsk**	**58.92 312**	P	**P**	**11 54 32.9 -1.0**	
AKTO			pmax	pmax		
comp=Z,34nm,1.4s						
C36M	**Paulatuk**	**59.19 24**	P	**P**	**11 54 36.4 +1.0**	
baz=289,SNR=30						
AS31	**Alice Springs**	**59.19 187**	P	**P**	**11 54 35.6 -0.4**	
AS31			IAmb	IAmb	11 54 40.9	
comp=Z,15nm,0.5s						
ASAR	**Alice Springs**	**59.20 187**	P	**P**	**11 54 35.5 -0.6**	
comp=Z,8.7nm,0.4s,baz=357,slow=4.5,SNR=94						
ASAR			S	**S**	**12 02 37.3 -1.9**	
comp=Z,2.9nm,1.1s,baz=10,slow=11,SNR=8.9						
ASAR			LR	LR	12 20 30.2	
comp=Z,182nm,20.2s,baz=12,slow=36						
ASAR			PKP2bc		12 24 20.4	
comp=Z,4.1nm,1.0s,baz=172,slow=2.4,SNR=18						
MBWA	**Marble Bar**	**59.64 202**	P	**P**	**11 54 39.0 -0.1**	
PSA00	**Pilbara Seismi**	**59.99 202**	P	**P**	**11 54 41.1 -0.3**	
PALK	**Pallekele**	**61.07 258**	P	**P**	**11 54 49.1 0.0**	
PRGR	**Permogore**	**61.46 327**	*e*P	**P**	**11 54 47.4 -3.6**	
PRGR			pmax	pmax		
comp=Z,75nm,0.9s						
EIDS	**Eidsvold**	**61.47 169**	P	**P**	**11 54 51.7 +0.3**	
EIDS			IAmb	IAmb	11 55 17.9	
comp=Z,30nm,1.1s						
SPA0	**Spitsbergen Ar**	**61.78 349**	P	**P**	**11 54 53.6 +0.7**	
KBS	**Kingsbay**	**61.94 350**	*ce*P	**P**	**11 54 57.0 +3.0**	
KBS			pmax	pmax		
comp=Z,320nm,1.7s						
GOA	**Goa**	**62.02 270**	*e*P	**P**	**11 54 55.2 -0.3**	
GOA			IAmb	IAmb	11 54 57.7	
comp=Z,44nm,0.7s						
HRA	**Herat**	**62.19 294**	P	**P**	**11 54 56.9 +0.2**	
DZM	**Mont Dzumac**	**62.49 152**	*e*P	**P**	**11 55 00.2 +1.7**	
comp=Z,136nm,1.3s						
DZM			*e*pP	**sP**	**11 55 18.3 -3.2**	
comp=Z,142nm,1.4s						
DZM			*e*S	**S**	**12 03 22.6 +1.2**	
comp=Z,284nm,27.6s						
DZM	**Mont Dzumac**	**62.49 152**	*e*LR	LR	12 13 39.0	
comp=Z,1μm,31.4s						
DZM	**Mont Dzumac**	**62.49 152**	P	**P**	**11 54 59.7 +1.3**	
DZM			IAmb	IAmb	11 55 01.7	
comp=Z,82nm,1.3s						
GIRL	**Giralia**	**62.88 207**	P	**P**	**11 55 01.6 +0.7**	
TMCR	**Tamitsa**	**63.56 331**	*e*P	**P**	**11 55 05.7 +0.7**	
TMCR			pmax	pmax		
comp=Z,96nm,1.1s						
GEYT	**Alibeck**	**63.67 299**	P	**P**	**11 55 06.6 +0.3**	
comp=Z,5.2nm,0.8s,baz=57,slow=5.5,SNR=13						
GEYT			LR	LR	12 25 05.7	
comp=Z,674nm,18.3s,baz=140,slow=38						
GEYT	**Alibeck**	**63.67 299**	P	**P**	**11 55 06.5 +0.2**	
GYA0B	**ALIBECK ARRAY**	**63.67 299**	P	**P**	**11 55 06.4 +0.2**	
MSVF	**Nonsavu**	**64.01 139**	P	**P**	**11 55 09.4 +0.8**	
MSVF			pmax	pmax		
comp=Z,87nm,1.4s						
MSVF	**Nonsavu**	**64.01 139**	P	**P**	**11 55 09.4 +0.8**	
MSVF			IAmb	IAmb	11 55 12.8	
comp=Z,87nm,1.4s						
KLMR	**Klimovskoe**	**64.47 328**	*e*P	**P**	**11 55 08.7 -2.3**	
KLMR			*e*		11 57 30.9	
KLMR			pmax	pmax		
comp=Z,139nm,1.5s						
KLMR	**Klimovskoe**	**64.47 328**	*e*P	**P**	**11 55 08.7 -2.3**	
KLMR			AMP		11 55 12.3	
comp=Z,139nm,1.5s						
KLMR			*e*PP	**PP**	**11 57 31.0 -1.9**	
KLMR			LQ	LQ	12 18 33.5	
KLMR			LQ	LQ	12 18 33.5	
KLMR			LR	LR	12 21 26.5	
ARCES	**ARCESS Array B**	**65.03 339**	P	**P**	**11 55 14.7 +0.2**	
comp=Z,31nm,1.1s,baz=47,slow=7.2,SNR=17						
ARCES			LR	LR	12 27 15.1	
comp=Z,216nm,19.4s,baz=84,slow=39						
ARCES	**ARCESS Array B**	**65.03 339**	P	**P**	**11 55 14.6 +0.1**	
ARE0	**ARCESS Array S**	**65.03 339**	P	**P**	**11 55 14.8 +0.2**	
YKA	**Yellowknife Ar**	**65.59 29**	P	**P**	**11 55 18.8 +0.6**	
YKA	**Yellowknife Ar**	**65.59 29**	P	**P**	**11 55 18.6 +0.4**	
comp=Z,9.2nm,0.9s,baz=299,slow=6.8,SNR=8.6						
YKA	**Yellowknife Ar**	**65.59 29**	P	**P**	**11 55 18.8 +0.6**	
ARMA	**Armidale**	**66.50 169**	P	**P**	**11 55 24.9 +0.4**	
ARMA			IAmb	IAmb	11 56 41.7	
comp=Z,55nm,1.6s						
TULEG	**Thule**	**66.69 7**	P	**P**	**11 55 25.6 +0.5**	
FORT	**Forrest**	**66.96 191**	P	**P**	**11 55 27.4 +0.1**	
AFI	**Afiamalu**	**66.98 128**	P	**P**	**11 55 29.0 +1.1**	
AFI			pmax	pmax		
comp=Z,73nm,0.7s						
AFI	**Afiamalu**	**66.98 128**	P	**P**	**11 55 29.0 +1.1**	
STKA	**Stephens Creek**	**67.09 179**	P	**P**	**11 55 28.3 +0.2**	
STKA			pmax	pmax		
comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**67.09 179**	P	**P**	**11 55 27.9 -0.3**	
comp=Z,7.8nm,0.8s,baz=359,slow=6.3,SNR=12						
STKA			LR	LR	12 24 03.2	
comp=Z,210nm,21.8s,baz=4.7,slow=35						
STKA	**Stephens Creek**	**67.09 179**	P	**P**	**11 55 28.3 +0.2**	
DAG	**Danmarks Havn**	**67.16 355**	*i* P	**P**	**11 55 28.3 +0.2**	
DAG			pmax	pmax		
comp=Z,5.0nm,0.3s						
DAG	**Danmarks Havn**	**67.16 355**	*i* P	**P**	**11 55 28.3 +0.2**	
comp=Z,3.6nm,0.3s						
HMDM	**Hanimaadhoo**	**67.39 262**	P	**P**	**11 55 30.7 +0.2**	
MOS	**Moscow**	**67.84 323**	*e*P	**P**	**11 55 30.7 -2.0**	
MOS			*e*		11 55 47.4	
MOS			*e*		12 04 21.7	
MOS			pmax	pmax		
comp=Z,148nm,1.5s						
VRH	**Novokhopyorsk**	**68.00 318**	*e*P	**P**	**11 55 32.3 -1.5**	
VRH			*e*SP	**pP**	**11 55 51.5 +1.3**	
VRH			pmax	pmax		
comp=Z,40nm,1.0s						
BBOO	**Buckleboo**	**68.11 184**	P	**P**	**11 55 34.7 +0.1**	
MORW	**Morawa**	**68.18 203**	P	**P**	**11 55 34.7 -0.4**	
MORW			IAmb	IAmb	11 55 36.3	
comp=Z,105nm,1.3s						
NLWA	**Neilton Lookou**	**68.46 47**	P	**P**	**11 55 37.0 +0.2**	
NLWA			IAmb	IAmb	11 55 40.6	
comp=Z,73nm,1.1s						
MAK	**Makhachkala**	**68.58 308**	*e*P	**P**	**11 55 40.0 +2.5**	
MAK			*e*S	**S**	**12 04 39.6 +4.3**	
MAK			pmax	pmax		
comp=Z,21nm,0.3s						
MAK			MLR	MLR		
comp=Z,680nm,16.0s						
OBN	**Obninsk**	**68.68 323**	*ce*P	**P**	**11 55 37.6 -0.3**	
OBN			*e*PP	**pP**	**11 55 56.4 +2.1**	
OBN			*e*		11 56 02.4	
OBN			*e*S	S	12 04 24.9 -11	
OBN			pmax	pmax		
comp=Z,212nm,2.5s						
OBN			MLR	MLR		
comp=Z,601nm,16.0s						
OBN	**Obninsk**	**68.68 323**	P	**P**	**11 55 37.8 -0.1**	
LPSR	**Galich'ya Gora**	**68.79 320**	*e*P	**P**	**11 55 37.9 -0.8**	
LPSR			*e*SP	**pP**	**11 55 57.0 +1.9**	
LPSR			pmax	pmax		
comp=Z,90nm,1.1s						
D03D	**Eldon**	**68.85 46**	P	**P**	**11 55 41.7 +2.5**	
baz=300,SNR=9.2						
B05A	**Bryant**	**69.06 45**	P	**P**	**11 55 43.0 +2.5**	
baz=300,SNR=5.6						
VORR	**Voronezh**	**69.12 319**	P	**P**	**11 55 39.0 -1.8**	
VORR			pmax	pmax		
comp=Z,250nm,1.4s						
AKT	**Akhty**	**69.15 307**	*e*P	**P**	**11 55 41.1 -0.2**	
AKT			*e*PP	**pP**	**11 55 56.9 -0.9**	
AKT			*e*		11 56 04.6	
AKT			pmax	pmax		
comp=Z,28nm,1.1s						
VSR	**Storozhevoye**	**69.38 319**	*e*P	**P**	**11 55 41.3 -1.1**	
VSR			*e*SP	**pP**	**11 56 00.0 +1.2**	
VSR			pmax	pmax		
comp=Z,90nm,1.2s						
GROC	**Groznyy**	**69.55 309**	*e*P	**P**	**11 55 42.0 -1.6**	
GROC			*e*PP	**pP**	**11 55 59.1 -0.9**	
GROC			*e*		11 58 15.6	
GROC			pmax	pmax		
comp=Z,113nm,1.8s						
E04D	**Cinebar**	**69.65 47**	P	**P**	**11 55 46.5 +2.4**	
baz=300						
FIA1	**FINESS Array S**	**69.65 332**	P	**P**	**11 55 43.8 -0.1**	
FINES	**FINESS Array B**	**69.65 332**	P	**P**	**11 55 43.7 -0.2**	
comp=Z,8.8nm,0.4s,baz=57,slow=5.8,SNR=82						
C06D	**Leavenworth**	**69.93 45**	P	**P**	**11 55 47.5 +1.6**	
baz=301						
GOF	**Gofitskoye**	**70.33 312**	⇑*i* P	**P**	**11 55 48.5 +0.2**	
GOF			pmax	pmax		
comp=Z,98nm,1.2s						
H04D	**Lebanon**	**70.58 49**	P	**P**	**11 55 53.5 +3.6**	
baz=301						
B08A	**Colville Reser**	**70.60 44**	IAmb	IAmb	11 55 52.7	
comp=Z,70nm,1.2s						
I03D	**Drain, OR**	**70.63 50**	P	**P**	**11 55 52.5 +2.3**	
baz=301						
F05D	**White Salmon**	**70.65 47**	P	**P**	**11 55 52.9 +2.6**	
baz=301						
SHME	**Shamm**	**70.78 289**	P	**P**	**11 55 51.3 -0.2**	
NCK	**Nalchik**	**70.79 310**	*i* P	**P**	**11 55 51.7 +0.5**	
NCK			pmax	pmax		
comp=Z,36nm,1.4s						
K02D	**Willamette Mer**	**70.94 51**	P	**P**	**11 55 55.1 +2.9**	
baz=301,SNR=6.3						
ZEI	**Tsey**	**70.96 309**	*e*P	**P**	**11 55 48.8 -3.7**	
ZEI			pmax	pmax		
comp=Z,29nm,1.4s						
TBLG	**Delisi**	**70.97 308**	IAmb	IAmb	11 56 40.3	
comp=Z,88nm,1.4s						
G05D	**Wamic, OR**	**71.07 48**	P	**P**	**11 55 55.7 +2.8**	
baz=302						
KBZ	**Khabaz**	**71.10 311**	P	**P**	**11 55 53.5 +0.5**	
comp=Z,41nm,1.1s,baz=57,slow=5.6,SNR=30						
KBZ			LR	LR	12 31 01.6	
comp=Z,533nm,19.3s,baz=60,slow=39						
KIV	**Kislovodsk**	**71.11 311**	*i* P	**P**	**11 55 53.5 +0.3**	
SNR=11						
KIV	**Kislovodsk**	**71.11 311**	*e*P	**P**	**11 55 53.2 0.0**	
KIV			pmax	pmax		
comp=Z,238nm,1.0s						
KIV			MLR	MLR		
comp=Z,912nm,17.0s						
KIV	**Kislovodsk**	**71.11 311**	⇑P	**P**	**11 55 54.6 +1.4**	
KIV			mb		11 55 56.0	
KIV	**Kislovodsk**	**71.11 311**	P	**P**	**11 55 53.6 +0.3**	
KIV			IAmb	IAmb	11 55 56.0	
comp=Z,107nm,1.2s						
VSU	**Vasula**	**71.22 329**	*ce*P	**P**	**11 55 54.5 +1.1**	
VSU			pmax	pmax		
comp=Z,199nm,1.3s						
VSU	**Vasula**	**71.22 329**	*e*P	**P**	**11 55 53.9 +0.5**	
L02E	**Cave Junction**	**71.26 51**	P	**P**	**11 55 56.3 +2.3**	
baz=301						
UOSS	**Minazif**	**71.30 288**	P	**P**	**11 55 54.0 -0.5**	
HATD	**Hatta, Dubai**	**71.42 288**	P	**P**	**11 55 56.4 +1.1**	
NWAO	**Narrogin (SRO)**	**71.43 200**	P	**P**	**11 55 54.8 -0.1**	
NWAO			pmax	pmax		
comp=Z,29nm,0.7s						
NWAO	**Narrogin (SRO)**	**71.43 200**	P	**P**	**11 55 54.8 -0.1**	
NWAO			IAmb	IAmb	11 55 58.1	
comp=Z,29nm,0.7s						
C09A	**Chrisman Ranch**	**71.49 44**	IAmb	IAmb	11 55 58.1	
comp=Z,74nm,1.1s						
I05D	**Terrebonne, OR**	**71.53 48**	P	**P**	**11 55 58.1 +2.4**	
baz=302						
J04D	**Umpqua Nationa**	**71.63 50**	P	**P**	**11 55 58.6 +2.1**	
baz=302						
GNI	**Garni**	**71.78 307**	*i* P	**P**	**11 55 58.8 +1.3**	
SNR=6.8						
GNI	**Garni**	**71.78 307**	*c i*P	**P**	**11 55 58.7 +1.3**	
GNI			pmax	pmax		
comp=Z,207nm,1.3s						
GNI	**Garni**	**71.78 307**	P	**P**	**11 55 58.4 +1.0**	
GNI			IAmb	IAmb	11 56 39.6	
comp=Z,77nm,1.1s						
AKH	**Akhalkalaki**	**71.93 308**	⇓P	**P**	**11 55 59.9 +1.5**	
L04D	**Klamath Falls**	**72.05 51**	P	**P**	**11 56 00.9 +1.9**	
baz=302,SNR=8.8						
M02C	**Callahan**	**72.14 52**	P	**P**	**11 56 01.8 +2.3**	
baz=302,SNR=10						
ASUD	**Al Ashush, Dub**	**72.14 288**	P	**P**	**11 56 00.2 +0.6**	
J05D	**Fort Rock, OR**	**72.15 49**	P	**P**	**11 56 01.8 +2.2**	
baz=302,SNR=7.6						
SUMG	**Summit**	**72.16 360**	*i* P	**P**	**11 56 00.5 +1.1**	
SUMG			pmax	pmax		
comp=Z,110nm,0.9s						
SUMG	**Summit**	**72.16 360**	*i* P	**P**	**11 56 00.5 +1.1**	
comp=Z,110nm,0.9s						
SUMG	**Summit**	**72.16 360**	P	**P**	**11 56 00.0 +0.6**	
SUMG			IAmb	IAmb	11 56 02.9	
comp=Z,53nm,1.0s						
K04D	**Chiloquin, OR**	**72.18 50**	P	**P**	**11 56 02.2 +2.5**	
baz=302						
N02D	**Trinity Center**	**72.45 52**	P	**P**	**11 56 03.5 +2.2**	
baz=302,SNR=11						
M04C	**Macdoel**	**72.57 51**	P	**P**	**11 56 04.3 +2.2**	
baz=302,SNR=22						
O02D	**Mt. Diablo Mer**	**72.82 53**	P	**P**	**11 56 05.7 +2.2**	
baz=302,SNR=11						
TOO	**Toolangi**	**72.92 176**	P	**P**	**11 56 04.1 +0.3**	
TOO			pmax	pmax		
comp=Z,27nm,1.2s						
TOO	**Toolangi**	**72.92 176**	P	**P**	**11 56 04.1 +0.3**	
BCA	**Borcka**	**73.11 309**	⇓P	**P**	**11 56 05.5 +0.4**	
BCA			mb		11 56 07.0	
IZAR	**Zarasai**	**73.11 327**	*e*P	**P**	**11 56 05.7 +0.8**	
MICGM	**Minsk**	**73.15 326**	⇓*e*P	**P**	**11 56 06.0 +0.9**	
MICGM			PM		11 56 07.0	
comp=Z,0.3nm,1.2s						
MNK	**Minsk**	**73.15 326**	*e*P	**P**	**11 56 06.0 +0.9**	
MNK			pmax	pmax		
comp=Z,260nm,1.2s						
ISAL	**Salakas**	**73.28 327**	*e*P	**P**	**11 56 06.5 +0.7**	
IIGN	**Ignalina**	**73.37 327**	*e*P	**P**	**11 56 07.3 +0.9**	
O03E	**Paynes Creek**	**73.39 52**	P	**P**	**11 56 08.0 +1.1**	
baz=303,SNR=19						
NACGM	**Naroch**	**73.40 326**	*e*	**P**	**11 56 06.0 -0.5**	
SCO	**Scoresbysund**	**73.48 354**	*i* P	**P**	**11 56 07.8 +1.1**	
SCO			pmax	pmax		
comp=Z,46nm,1.2s						
SCO	**Scoresbysund**	**73.48 354**	*i* P	**P**	**11 56 07.8 +1.1**	
comp=Z,46nm,1.2s						
SCO	**Scoresbysund**	**73.48 354**	IAmb	IAmb	11 56 09.6	
comp=Z,73nm,1.3s						
BMO	**Blue Mountains**	**73.67 46**	IAmb	IAmb	11 56 11.4	
comp=Z,43nm,1.1s						
ANN	**Anapa**	**73.83 314**	*e*P	**P**	**11 56 08.2 -1.0**	
ANN			*e*PP	**PcP**	**11 56 24.3 -0.2**	
ANN			*e*S	**S**	**12 05 39.6 +3.6**	
ANN			pmax	pmax		
comp=Z,98nm,1.3s						
PABE	**Paberze**	**74.26 328**	*e*P	**P**	**11 56 12.0 +0.5**	
PABE			IAmb	IAmb	11 56 13.5	
comp=Z,156nm,1.2s						
MSO	**Missoula**	**74.48 43**	P	**P**	**11 56 14.1 +0.9**	
baz=306,SNR=20						
AKASG	**Malin Array Be**	**74.85 322**	*i* P	**P**	**11 56 14.8 -0.2**	
AKASG			pmax	pmax		
comp=Z,10.0nm,0.4s						
AKASG	**Malin Array Be**	**74.85 322**	P	**P**	**11 56 14.6 -0.4**	
comp=Z,6.1nm,0.3s,baz=46,slow=6.5,SNR=76						
AKASG			LR	LR	12 31 09.7	
comp=Z,599nm,20.1s,baz=50,slow=37						
AKASG	**Malin Array Be**	**74.85 322**	P	**P**	**11 56 14.8 -0.2**	
AKBB	**Malin Array Si**	**74.85 322**	P	**P**	**11 56 15.0 0.0**	
AKBB			pmax	pmax		
comp=Z,98nm,1.2s						
AKBB	**Malin Array Si**	**74.85 322**	P	**P**	**11 56 15.0 0.0**	
AKBB			IAmb	IAmb	11 56 16.1	
comp=Z,98nm,1.2s						
NB2	**NORSAR Subarra**	**75.16 337**	P	**P**	**11 56 16.8 +0.1**	
comp=Z,17nm,0.6s,baz=41,slow=5.6						
NB2	**NORSAR Subarra**	**75.16 337**	P	**P**	**11 56 16.8 +0.1**	
baz=41,slow=5.6						
NOA	**NORSAR Array B**	**75.16 337**	P	**P**	**11 56 16.7 +0.1**	
comp=Z,4.8nm,0.4s,baz=61,slow=8.2,SNR=35						
NOA			LR	LR	12 34 08.5	
comp=Z,144nm,19.3s,baz=35,slow=39						
FFC	**Flin Flon**	**75.49 32**	*i* P	**P**	**11 56 19.8 +1.1**	
FFC	**Flin Flon**	**75.49 32**	P	**P**	**11 56 18.9 +0.2**	
FFC			IAmb	IAmb	11 56 20.7	
comp=Z,42nm,0.9s						
SUW	**Suwalki**	**75.59 327**	P	**P**	**11 56 19.5 +0.3**	
SUW			pmax	pmax		
comp=Z,100nm,1.1s						
SUW	**Suwalki**	**75.59 327**	*e*P	**P**	**11 56 19.3 +0.1**	
SUW			*e*P	**P**	**11 56 19.3 +0.1**	
SUW	**Suwalki**	**75.59 327**	P	**P**	**11 56 19.5 +0.3**	
SUW			IAmb	IAmb	11 56 21.1	
comp=Z,100nm,1.1s						
SIM	**Simferopol'**	**75.67 315**	*e*P	**P**	**11 56 19.9 0.0**	
SIM			*e*		11 56 35.0	
SIM			*e*PP	**pP**	**11 56 38.0 +1.4**	
SIM			pmax	pmax		
comp=Z,27nm,1.2s						
YERR	**Yerington**	**75.77 52**	IAmb	IAmb	11 56 23.9	
comp=Z,54nm,1.1s						
EGMT	**Eagleton**	**76.05 41**	P	**P**	**11 56 23.3 +1.2**	
baz=308,SNR=33						
DLMT	**Dillon**	**76.10 44**	IAmb	IAmb	11 56 26.0	
comp=Z,76nm,1.0s						
KVN	**Kaiserville**	**76.46 52**	IAmb	IAmb	11 56 27.9	
comp=Z,65nm,1.2s						
BOZ	**Bozeman (W)**	**76.50 43**	P	**P**	**11 56 26.2 +1.4**	
baz=307,SNR=11						
NVAR	**Mina Array Bea**	**76.68 52**	P	**P**	**11 56 27.6 +1.6**	
comp=Z,17nm,0.8s,baz=284,slow=5.4,SNR=100						
NVAR			LR	LR	12 24 36.8	
comp=Z,250nm,21.4s,baz=288,slow=31						
NVAR	**Mina Array Bea**	**76.68 52**	P	**P**	**11 56 27.1 +1.0**	
OMMB	**Old Mammoth Mi**	**76.69 53**	P	**P**	**11 56 26.5 +0.3**	
NV11	**Mina Array Sit**	**76.78 52**	P	**P**	**11 56 27.4 +0.9**	
MLAC	**Mammoth, Mammo**	**76.79 53**	P	**P**	**11 56 28.9 +2.2**	
baz=305						
SORM	**Soroca**	**76.89 320**	⇑P	**P**	**11 56 26.9 +0.2**	
OUZ	**Omahuta**	**77.00 152**	P	**P**	**11 56 28.8 +1.5**	
OUZ			IAmb	IAmb	11 56 31.3	
comp=Z,58nm,1.4s						
SMMC	**Simmler**	**77.34 56**	P	**P**	**11 56 31.6 +2.0**	
baz=305						
VES	**Vestal, Richgr**	**77.65 55**	P	**P**	**11 56 32.6 +1.4**	
baz=305,SNR=13						
PKM	**Mcpherson Peak**	**77.70 56**	P	**P**	**11 56 33.7 +1.9**	
baz=305,SNR=6.3						
H17A	**Grant Village**	**77.83 44**	P	**P**	**11 56 35.8 +3.4**	
baz=308,SNR=23						
IAS	**Iasi**	**77.90 320**	⇑P	**P**	**11 56 33.4 +1.0**	
CWC	**Cottonwood Cre**	**77.97 54**	P	**P**	**11 56 34.9 +1.7**	
baz=305						
LVV	**L'vov**	**77.97 324**	*e*P	**P**	**11 56 33.0 +0.2**	
LVV			*e*PP	**sP**	**11 56 53.0 -3.2**	
LVV			*e*		11 59 38.0	
LVV			*e*S	**S**	**12 06 20.0 -1.5**	
LVV			MLR	MLR		
comp=Z,520nm,16.0s						
RLMT	**Red Lodge**	**78.11 43**	P	**P**	**11 56 35.6 +1.7**	
baz=309,SNR=26						
RLMT	**Red Lodge**	**78.11 43**	IAmb	IAmb	11 56 37.0	
comp=Z,63nm,1.3s						
GRAC	**Grapevine Rang**	**78.11 53**	P	**P**	**11 56 35.7 +1.8**	
baz=306,SNR=6.6						
BEL	**Belsk**	**78.13 326**	*e*P	**P**	**11 56 34.3 +0.8**	
BEL	**Belsk**	**78.13 326**	*e*P	**P**	**11 56 34.3 +0.8**	
BEL			*e*P	**P**	**11 56 34.3 +0.8**	
ISA	**Isabella, Lake**	**78.16 55**	P	**P**	**11 56 35.4 +1.2**	
baz=305,SNR=7.4						
ISA	**Isabella, Lake**	**78.16 55**	P	**P**	**11 56 34.5 +0.4**	
ISA			pmax	pmax		
comp=Z,19nm,1.2s						
ISA	**Isabella, Lake**	**78.16 55**	P	**P**	**11 56 34.5 +0.4**	
ARVC	**Arvin**	**78.23 55**	P	**P**	**11 56 35.7 +1.2**	
baz=305,SNR=6.9			

BUR08 **Bucovina Ar. S** 78.83 321 P P 11 56 38.0 +0.3
BURAR **Bucovina Array** 78.84 321 ⇓P P 11 56 38.6 +0.8
BURAR mb 11 56 39.8
BURAR **Bucovina Array** 78.84 321 P P 11 56 38.1 +0.3
TPNV **Topopah Spring** 78.87 53 P P 11 56 39.7 +1.5
baz=306,SNR=40
TPNV **Topopah Spring** 78.87 53 IAmb IAmb 11 56 41.1
comp=Z,54nm,1.1s
CFR **Carcaliu** 78.88 318 ⇓P P 11 56 38.1 +0.3
EDW2 **Edwards Air Fo** 78.93 55 P P 11 56 39.9 +1.5
baz=306,SNR=13
TOPG **Topolog** 78.94 318 ⇓P P 11 56 38.8 +0.7
DECC **Green Verdugo** 79.06 56 P P 11 56 40.5 +1.4
baz=306,SNR=5.6
BR131 **Keskin Array S** 79.07 311 *c iP* P 11 56 39.7 +0.5
BR131 **Keskin Array S** 79.07 311 P P 11 56 39.5 +0.2
BR131 IAmb IAmb 11 56 41.1
comp=Z,61nm,1.4s
BRTR **Keskin Array B** 79.07 311 *i* P P 11 56 40.0 +0.8
BRTR pmax pmax
comp=Z,18nm,1.1s
BRTR **Keskin Array B** 79.07 311 P P 11 56 39.4 +0.2
comp=Z,17nm,1.1s,baz=113,slow=3.2,SNR=40
BRTR LR LR 12 34 09.2
comp=Z,134nm,19.4s,baz=26,slow=38
DUG **Dugway, Tooele** 79.09 48 P P 11 56 41.0 +1.7
baz=308,SNR=47
DUG **Dugway, Tooele** 79.09 48 IAmb IAmb 11 56 42.5
comp=Z,53nm,1.1s
TIRR **Tirgusor** 79.19 317 ⇑P P 11 56 40.5 +1.0
VRI **Vrincioaia** 79.20 319 ⇓P P 11 56 40.5 +0.9
PLOR **Plostina** 79.25 319 ⇓P P 11 56 40.9 +1.0
MWC **Mount Wilson** 79.27 56 IAmb IAmb 11 56 43.0
comp=Z,52nm,1.1s
TLB **Topalu** 79.31 318 ⇓P P 11 56 41.0 +0.8
MUD **Monsted U'grnd** 79.37 335 *eP* P 11 56 39.1 -1.2
MUD **Monsted U'grnd** 79.37 335 *i P* P 11 56 39.1 -1.2
BW06 **Boulder Array** 79.42 45 P P 11 56 42.0 +0.9
baz=309,SNR=19
KOLS **Kolonicke sedl** 79.42 324 *eP* P 11 56 41.2 +0.4
KOLS pmax pmax
comp=Z,32nm,1.3s
KOLS **Kolonicke sedl** 79.42 324 *eP* P 11 56 41.1 +0.3
PDAR **Pinedale Array** 79.42 45 P P 11 56 41.9 +0.7
comp=Z,8.7nm,0.7s,baz=274,slow=2.4,SNR=75
PDAR LR LR 12 26 27.9
comp=Z,155nm,21.8s,baz=332,slow=32
PDAR **Pinedale Array** 79.42 45 P P 11 56 41.5 +0.4
SHOC **Shoshone, Teco** 79.47 53 P P 11 56 42.7 +1.4
baz=306,SNR=10
GSC **Goldstone, Bar** 79.47 54 P P 11 56 42.8 +1.4
baz=306,SNR=13
CIS **Catalina Islan** 79.50 57 P P 11 56 42.5 +1.0
baz=306
BFSC **Mount Baldy Ra** 79.53 55 P P 11 56 42.8 +1.0
baz=306,SNR=11
OZUR 79.55 320 ⇓P P 11 56 43.0 +1.4
RRX **Edison Barstow** 79.60 55 P P 11 56 43.5 +1.5
baz=306
UZH **Uzhgorod** 79.62 323 *eP* P 11 56 41.5 -0.3
UZH *e* 11 56 48.8
ARCR **ARCALIA** 79.63 321 ⇑P P 11 56 43.9 +2.0
OJC **Ojcow** 79.70 326 *eP* P 11 56 43.0 +0.7
OJC **Ojcow** 79.70 326 *eP* P 11 56 43.0 +0.7
OJC *eP* P 11 56 43.0 +0.7
SHPR **Sheep Range** 79.83 52 IAmb IAmb 11 56 46.7
comp=Z,45nm,1.1s
DOPR **Dopca** 79.84 320 ⇓P P 11 56 44.4 +1.3
TRPA **Tarpa** 79.84 323 ⇓P P 11 56 44.4 +1.4
TRPA mb 11 56 45.4
MLR **Muntele Rosu** 79.86 319 ⇓P P 11 56 44.1 +0.7
MLR **Muntele Rosu** 79.86 319 IAmb IAmb 11 57 16.3
comp=Z,79nm,1.5s
SOCY **Socotra** 79.95 278 IAmb IAmb 11 56 44.0
comp=Z,76nm,1.2s
TUQ **Turquoise Moun** 79.97 54 P P 11 56 45.7 +1.6
baz=307,SNR=11
BBRC **Big Bear Solar** 80.01 55 P P 11 56 45.4 +0.9
baz=306,SNR=6.9
NIE **Niedzica** 80.03 325 *eP* P 11 56 45.1 +1.0
NIE **Niedzica** 80.03 325 *eP* P 11 56 45.1 +1.0
NIE *eP* P 11 56 45.1 +1.0
HEC **Hector,Ludlow** 80.06 54 P P 11 56 46.4 +1.8
baz=306,SNR=13
MURC **Murrieta** 80.21 56 P P 11 56 46.5 +1.1
baz=306,SNR=13
RAYN **Ar Rayn** 80.28 292 *i P* P 11 56 46.1 +0.2
SNR=22
RAYN **Ar Rayn** 80.28 292 P P 11 56 46.0 +0.1
RAYN pmax pmax
comp=Z,118nm,1.5s
RAYN **Ar Rayn** 80.28 292 P P 11 56 46.0 +0.1
RAYN IAmb IAmb 11 57 09.5
comp=Z,118nm,1.4s
VOIR 80.37 320 ⇓P P 11 56 46.9 +0.8
GMRC **Granite Mounta** 80.54 54 P P 11 56 48.7 +1.5
baz=307,SNR=21
PRD **Provadia** 80.56 317 *i P* P 11 56 47.6 +0.7
LANS **Liptovska Anna** 80.60 325 *eP* P 11 56 49.1 +1.9
LANS pmax pmax
comp=Z,35nm,1.4s
LANS **Liptovska Anna** 80.60 325 *eP* P 11 56 49.1 +1.9
ARR **Arges** 80.63 320 ⇓P P 11 56 49.2 +1.7
DRGR 80.66 322 ⇑P P 11 56 48.1 +0.5
RUE **Ruedersdorf** 80.67 330 *eP* P 11 56 48.0 +0.7
RUE IAmb IAmb 11 56 49.6
comp=Z,189nm,1.6s
109C **Camp Elliot, M** 80.69 56 P P 11 56 49.2 +1.3
baz=306,SNR=8.3
PFO **Pinyon Flats O** 80.70 55 P P 11 56 49.2 +1.1
baz=307,SNR=32
PFO **Pinyon Flats O** 80.70 55 *i* P P 11 56 49.7 +1.6
PFO **Pinyon Flats O** 80.70 55 P P 11 56 48.5 +0.4
PFO IAmb IAmb 11 56 50.7
comp=Z,79nm,1.1s
TPFO **Pinon Flats** 80.71 55 P P 11 56 49.2 +1.1
baz=307,SNR=33
BELC **Belle Mtn. Jos** 80.78 55 P P 11 56 49.4 +0.9
baz=307,SNR=23
KSP **Ksiaz** 80.82 328 *eP* P 11 56 49.0 +0.7
KSP **Ksiaz** 80.82 328 *eP* P 11 56 49.0 +0.7
KSP *eP* P 11 56 49.0 +0.7
MORC **Moravsky Berou** 81.04 326 ⇑P P 11 56 50.0 +0.5
MORC mb 11 56 51.6
MORC **Moravsky Berou** 81.04 326 *eP* P 11 56 50.0 +0.5
MORC **Moravsky Berou** 81.04 326 IAmb IAmb 11 56 51.6
comp=Z,52nm,1.2s
BAR **Barrett** 81.11 56 IAmb IAmb 11 56 52.8
comp=Z,47nm,1.0s
CHVC **Chvalec** 81.11 328 *eP* P 11 56 50.1 +0.3
MONP2 **Monument Peak** 81.15 56 P P 11 56 51.8 +1.1
baz=307,SNR=12
KRLC **Kraliky** 81.17 327 *eP* P 11 56 51.0 +0.8
KRLC **Kraliky** 81.17 327 *eP* P 11 56 51.0 +0.8
DPC **Dobruska-Polom** 81.17 327 *eP* P 11 56 51.0 +0.8
DPC **Dobruska-Polom** 81.17 327 *eP* P 11 56 51.0 +0.8
K22A **Casper** 81.21 43 P P 11 56 51.5 +0.8
baz=311,SNR=8.3
IRM **Iron Mountain** 81.25 54 P P 11 56 52.2 +1.3
baz=307,SNR=23
PSZ **Piszkesteto** 81.27 324 ⇓P P 11 56 51.9 +1.1
PSZ mb 11 56 53.9
PSZ **Piszkesteto** 81.27 324 IAmb IAmb 11 56 53.0
comp=Z,129nm,1.4s
ULM **Lac du Bonnet** 81.29 33 P P 11 56 51.0 +0.3
comp=Z,19nm,0.9s,baz=306,slow=5.3,SNR=15
ULM LR LR 12 37 00.7
comp=Z,76nm,18.1s,baz=332,slow=38
MDND **Maddock** 81.30 36 P P 11 56 51.5 +0.7
baz=315,SNR=9.6
SZH **Strazhica** 81.33 318 *i P* P 11 56 51.2 +0.1
BC3 **Big Chuckawall** 81.35 55 P P 11 56 52.8 +1.3
baz=307,SNR=16
VYHS **Vyhne** 81.36 325 *eP* P 11 56 51.8 +0.6
VYHS pmax pmax
comp=Z,55nm,1.3s
VYHS **Vyhne** 81.36 325 *eP* P 11 56 51.8 +0.6
RWWY **Rawlins** 81.45 44 IAmb IAmb 11 56 53.5
comp=Z,50nm,1.1s
JMB **Yambol** 81.49 317 *i P* P 11 56 52.4 +0.5
IKP **In-Ko-Pah, Jac** 81.51 56 P P 11 56 53.6 +1.3
baz=307,SNR=17
SWSC **Sam W. Stewart** 81.54 56 P P 11 56 54.1 +1.7
baz=307
SIRR **Siria** 81.55 322 ⇓P P 11 56 53.2 +1.0

BKZ **Black Stump Fm** 81.57 152 P P 11 56 52.1 0.0
BKZ IAmb IAmb 11 56 54.7
comp=Z,58nm,1.4s
ELND **Elena** 81.58 317 ⇓P P 11 56 53.0 +0.6
GZR **Gura Zlata** 81.58 321 ⇓P P 11 56 53.0 +0.5
RSSD **Black Hills** 81.60 41 P P 11 56 53.5 +0.7
baz=312
RSSD **Black Hills** 81.60 41 P P 11 56 53.4 +0.6
RSSD pmax pmax
comp=Z,26nm,1.2s
RSSD **Black Hills** 81.60 41 P P 11 56 53.4 +0.6
JAVC **Velka Javorina** 81.64 326 *eP* P 11 56 54.0 +1.3
U15A **North Rim** 81.72 51 IAmb IAmb 11 56 57.0
comp=Z,44nm,1.0s
PVCC **Panska Ves** 81.80 328 *eP* P 11 56 54.4 +1.0
PVCC **Panska Ves** 81.80 328 *eP* P 11 56 54.4 +1.0
BRG **Berggiesshubel** 81.81 329 *i P* P 11 56 54.6 +1.2
comp=Z,62nm,1.5s
BRG *i* pP pP 11 57 08.7 -1.6
comp=Z,20nm,1.1s
BRG *es*P sP 11 57 17.3 +0.4
comp=Z,61nm,1.9s
BRG *eP*P PP 11 59 56.5 -4.0
comp=Z,55nm,1.9s
BRG **Berggiesshubel** 81.81 329 *i P* P 11 56 54.6 +1.2
BRG *i* *PP pP 11 57 08.7 -1.6
BRG *e*SP sP 11 57 17.3 +0.4
BRG *e* 11 59 56.5
BRG pmax pmax
comp=Z,1.0nm,1.5s
BRG pmax pmax
comp=Z,62nm,1.1s
BRG pmax pmax
comp=N,20nm,1.9s
BRG pmax pmax
comp=Z,61nm,1.9s
VRAC **Vranov** 81.81 327 ⇓P P 11 56 54.7 +1.2
VRAC mb 11 56 55.9
VRAC **Vranov** 81.81 327 *eP* P 11 56 54.1 +0.6
PDMCI **Parker Dam,Lak** 81.83 54 P P 11 56 55.4 +1.6
baz=308,SNR=17
O20A **White River Ci** 81.86 46 P P 11 56 55.3 +1.1
baz=310,SNR=22
CLL **Collm** 81.87 330 ⇑*iP* P 11 56 53.6 -0.2
CLL *e**PP pP 11 57 09.0 -1.6
CLL pmax pmax
comp=Z,92nm,1.3s
CLL **Collm** 81.87 330 ⇑*iP* P 11 56 53.6 -0.2
comp=Z,92nm,1.3s
CLL *e*pP pP 11 57 09.0 -1.6
CLL *es*P sP 11 57 15.0 -2.3
CLL *e*PP PP 11 59 54.0 -7.0
CLL *e*SS SS 12 12 30.0 +10
CLL *e*SSS SSS 12 15 48.0
CLL **Collm** 81.87 330 IAmb IAmb 11 56 55.2
comp=Z,89nm,1.3s
Y12C **Blythe** 81.91 54 P P 11 56 56.0 +1.7
baz=308,SNR=12
Y12C **Blythe** 81.91 54 IAmb IAmb 11 56 57.3
comp=Z,44nm,1.1s
PLVB **Pleven** 81.96 318 ⇑P P 11 56 55.7 +1.3
SMOL **Smolenice** 82.00 326 *eP* P 11 56 55.5 +0.9
SMOL pmax pmax
comp=Z,26nm,1.1s
SMOL **Smolenice** 82.00 326 *eP* P 11 56 55.5 +0.9
BZS **Buzias** 82.02 322 ⇓P P 11 56 55.1 +0.4
KRUC **Moravsky** 82.08 326 *eP* P 11 56 55.3 +0.4
SRO **Srobarova** 82.09 325 *eP* P 11 56 56.4 +1.4
SRO pmax pmax
comp=Z,41nm,1.0s
SRO **Srobarova** 82.09 325 *eP* P 11 56 56.4 +1.4
HERR **Herculane** 82.12 321 ⇑P P 11 56 55.2 0.0
GLA **Glamis** 82.13 55 P P 11 56 57.2 +1.6
baz=308,SNR=8.4
GLA **Glamis** 82.13 55 IAmb IAmb 11 57 16.2
comp=Z,63nm,1.1s
GOPC **GO Pecny, Ondr** 82.16 328 *eP* P 11 56 55.9 +0.5
GOPC **GO Pecny, Ondr** 82.16 328 *eP* P 11 56 55.9 +0.5
CSS **Mathiatis** 82.17 307 IAmb IAmb 11 57 18.4
comp=Z,163nm,2.0s
MODS **Modra-Piesok** 82.17 326 *eP* P 11 56 55.5 0.0
MODS pmax pmax
comp=Z,68nm,1.4s
MODS **Modra-Piesok** 82.17 326 *eP* P 11 56 55.5 0.0
PRU **Pruhonice** 82.21 328 *eP* P 11 56 56.3 +0.7
PRU **Pruhonice** 82.21 328 *eP* P 11 56 56.3 +0.7
MDVR **Moldovita** 82.55 321 ⇓P P 11 56 58.3 +0.8
THZ **Tophouse** 82.59 156 P P 11 56 57.0 -0.5
KDZ **Kurdzhali** 82.68 317 *i P* P 11 56 59.3 +1.1
N23A **Red Feather La** 82.69 44 P P 11 57 00.3 +1.6
baz=311,SNR=18
N23A **Red Feather La** 82.69 44 IAmb IAmb 11 57 01.8
comp=Z,84nm,1.2s
AGMN **Agassiz Nation** 82.72 34 P P 11 56 58.2 -0.1
baz=317,SNR=6.1
PGB **Panagyurishte** 82.77 318 *i P* P 11 56 59.3 +0.6
WUAZ **Wupatki** 82.87 51 P P 11 57 01.3 +1.8
baz=309,SNR=25
WUAZ **Wupatki** 82.87 51 IAmb IAmb 11 57 02.7
comp=Z,78nm,1.1s
BSWZ **Blackbirch Sta** 82.87 155 P P 11 56 59.4 +0.5
NKC **Novy Kostel** 82.92 329 *eP* P 11 56 59.6 +0.3
NKC *e* 11 57 16.3
NKC **Novy Kostel** 82.92 329 *eP* P 11 56 59.6 +0.3
NKC *ep*P pP 11 57 16.3 +0.1
113A **Mohawk Valley,** 83.01 55 IAmb IAmb 11 57 02.7
comp=Z,42nm,1.2s
RZN **Rozhen** 83.05 317 *i P* P 11 57 01.3 +0.9
CONA **Conrad Observa** 83.15 326 *eP*cP P 11 57 01.5 +0.9
comp=Z,77nm,1.5s,SNR=19
VTS **Vitosha** 83.23 318 *i P* P 11 57 02.1 +0.9
VTS **Vitosha** 83.23 318 ⇑P P 11 57 02.3 +1.1
VTS mb 11 57 03.8
VTS **Vitosha** 83.23 318 IAmb IAmb 11 57 03.7
comp=Z,76nm,1.2s
FRGS **Fruska Gora** 83.25 322 ⇑*iP* P 11 57 01.4 +0.3
KHC **Kasperske Hory** 83.27 328 *i P* P 11 57 01.5 +0.3
KHC pmax pmax
comp=Z,116nm,1.3s
KHC **Kasperske Hory** 83.27 328 *eP* P 11 57 01.2 0.0
KHC *ep*P pP 11 57 18.5 +0.5
GEC2 **GERESS Array S** 83.43 328 P P 11 57 02.2 +0.2
GERES **GERESS Array B** 83.43 328 P P 11 57 02.0 -0.1
comp=Z,1.9nm,0.3s,baz=46,slow=3.9,SNR=37
GERES LR LR 12 36 23.0
comp=Z,282nm,20.1s,baz=48,slow=37
GERES **GERESS Array B** 83.43 328 P P 11 57 01.9 -0.2
X16A **Lo Mia Camp, P** 83.51 52 IAmb IAmb 11 57 06.8
comp=Z,54nm,1.1s
MVCO **Mesa Verde** 83.58 48 P P 11 57 04.6 +1.4
baz=310,SNR=33
MVCO **Mesa Verde** 83.58 48 IAmb IAmb 11 57 06.2
comp=Z,69nm,1.1s
ISCO **Idaho Springs** 83.61 45 P P 11 57 04.9 +1.4
baz=312,SNR=7.7
ISCO **Idaho Springs** 83.61 45 IAmb IAmb 11 57 06.5
comp=Z,67nm,1.9s
MMB **Musomiste** 83.66 317 *i P* P 11 57 03.8 +0.5
OXZ **Oxford** 83.71 157 IAmb IAmb 11 57 41.0
comp=Z,103nm,1.5s
ARSA **Arzberg** 83.80 326 *eP*cP P 11 57 04.5 +0.5
comp=Z,39nm,1.3s,SNR=10
KKB **Krupnik** 83.82 318 *i P* P 11 57 04.9 +0.8
DIVS **Divibare** 83.91 321 ⇑*iP* P 11 57 04.6 0.0
MOA **Molln** 83.93 327 *eP*cP P 11 57 05.0 +0.4
comp=Z,46nm,1.4s,SNR=12
SUSD **Miller** 84.02 38 P P 11 57 05.4 +0.3
baz=315
SUSD **Miller** 84.02 38 IAmb IAmb 11 57 06.8
comp=Z,40nm,0.8s
214A **Organ Pipe Nat** 84.14 55 P P 11 57 07.2 +1.3
baz=309,SNR=5.3
W18A **Petrified Fore** 84.16 51 P P 11 57 07.7 +1.5
baz=310,SNR=9.3
BBLS **Lazići** 84.37 321 ⇑*iP* P 11 57 07.6 +0.7
X18A **Snowflake** 84.39 51 IAmb IAmb 11 57 28.7
comp=Z,49nm,1.1s
Q24A **Divide** 84.43 45 P P 11 57 08.9 +1.2
baz=312,SNR=5.1
STIP **Stip** 84.43 318 *i P* P 11 57 06.6 -0.6
PERS **Pernice** 84.44 325 *i P* P 11 57 07.4 +0.2
HAPS **Han Pijesak,Bl** 84.45 322 *eP* P 11 57 07.1 -0.3
SOKA **Soboth** 84.45 326 *eP*cP P 11 57 07.6 +0.3
comp=Z,89nm,1.3s,SNR=20
PMOR **Pomariorio Ree** 84.52 113 *eT* T 13 29 41.2

comp=Z,20nm,0.2s
RUDO **Rudo** 84.57 321 *eP* P 11 57 07.6 -0.3
SKO **Skopje** 84.64 319 *i P* P 11 57 09.7 +1.4
OBKA **Obir** 84.80 326 *eP*cP P 11 57 10.0 +0.9
comp=Z,16nm,1.4s
OGNE **Ogallala** 84.85 42 P P 11 57 10.1 +0.7
baz=314,SNR=5.2
OGNE **Ogallala** 84.85 42 IAmb IAmb 11 57 11.5
comp=Z,57nm,1.1s
BLY **Banja Luka** 84.85 323 ⇑*iP* P 11 57 09.5 +0.3
BLY **Banja Luka** 84.85 323 ⇓P P 11 57 09.9 +0.7
BLY mb 11 57 11.0
CRES **Cresnjev** 84.89 325 *eP* P 11 57 08.9 -0.5
PPT **Papeete** 84.89 116 LR LR 12 29 15.6
comp=Z,246nm,19.4s,baz=314,slow=32
PPT2 **Papeete2** 84.90 116 *e*S S 12 07 28.7 -5.3
comp=Z,184nm,24.5s
PPT2 **Papeete2** 84.90 116 *e*LR LR 12 23 46.5
comp=Z,2µm,32.8s,baz=312
PPT2 **Papeete2** 84.90 116 *e*T T 13 30 09.3
comp=Z,6.9nm,0.3s
KBA **Koelnbreinsper** 84.92 327 *eP*cP P 11 57 10.2 +0.4
comp=Z,27nm,1.3s,SNR=6.9
EYMN **Ely** 84.92 32 P P 11 57 09.4 -0.2
baz=320,SNR=7.0
EYMN **Ely** 84.92 32 IAmb IAmb 11 57 11.2
comp=Z,59nm,1.1s
PAE **Paea** 84.94 116 *e*T T 13 30 11.3
comp=Z,1.2nm,0.3s
SDCO **Great Sand Dun** 85.03 46 P P 11 57 12.2 +1.5
baz=312,SNR=37
SDCO **Great Sand Dun** 85.03 46 IAmb IAmb 11 57 13.7
comp=Z,47nm,1.1s
TIAR **Tiarei** 85.05 116 *e*T T 13 30 19.7
comp=Z,2.9nm,0.2s
UPM **Unac-Piva** 85.10 321 ⇑*iP* P 11 57 11.2 +0.4
MYKA **Terra Mystica** 85.12 326 *eP* P 11 57 10.1 -0.6
comp=Z,33nm,1.5s,SNR=5.5
MGRS **Mrkonjic Grad** 85.14 323 *eP* P 11 57 11.3 +0.6
LJU **Ljubljana** 85.16 325 *i P* P 11 57 10.3 -0.4
MEM **Membach** 85.17 333 P P 11 57 10.2 -0.5
comp=Z,52nm,0.0s
MEM **Membach** 85.17 333 P P 11 57 10.8 +0.1
comp=Z,36nm,0.0s
CRNS **Crni Vrh** 85.25 326 *i P* P 11 57 10.6 -0.7
TUC **Tucson** 85.26 53 P P 11 57 12.8 +1.2
baz=310
TUC **Tucson** 85.26 53 P P 11 57 12.2 +0.5
TUC pmax pmax
comp=Z,40nm,1.2s
TUC **Tucson** 85.26 53 P P 11 57 12.2 +0.5
TUC IAmb IAmb 11 57 32.8
comp=Z,40nm,1.2s
BSTI **Sart Tilman** 85.36 333 P P 11 57 11.7 0.0
comp=Z,12nm,0.0s
LIT **Litokhoron** 85.36 317 P P 11 57 11.4 -0.5
LIT pmax pmax
comp=Z,87nm,1.2s
LIT **Litokhoron** 85.36 317 P P 11 57 11.4 -0.5
CEY **Cerknica** 85.43 325 ⇑*iP* P 11 57 11.6 -0.6
PDG **Podgorica** 85.47 320 ⇑*iP* P 11 57 12.2 -0.1
PDG **Podgorica** 85.47 320 ⇓P P 11 57 12.7 +0.4
PDG mb 11 57 14.8
FNA **Florina** 85.50 318 IAmb IAmb 11 59 02.7
comp=Z,44nm,1.1s
BRY **Bratogost** 85.50 321 *eP* P 11 57 11.7 -1.0
WATA **Walderalm** 85.50 328 *eP* P 11 57 11.6 -1.0
comp=Z,30nm,1.8s
WTTA **Wattenberg** 85.53 328 *eP*cP P 11 57 12.9 0.0
comp=Z,22nm,1.3s
ABTA **Abfaltersbach** 85.54 327 *eP* P 11 57 12.2 -0.6
comp=Z,24nm,1.2s,SNR=6.1
OHR **Ohrid** 85.58 319 *i P* P 11 57 13.4 +0.4
BCLA **Clavier** 85.59 333 P P 11 57 12.7 -0.1
comp=Z,33nm,1.5s
DRME **Dracevica, Mon** 85.68 320 ⇑*iP* P 11 57 13.5 +0.1
ECSD **EROS Data Cent** 85.70 37 P P 11 57 13.8 +0.3
baz=317,SNR=11
MOTA **Moosalm** 85.70 328 *eP*cP P 11 57 13.5 -0.2
comp=Z,37nm,1.5s,SNR=9.8
RETA **Reutte** 85.74 328 *eP*cP P 11 57 14.3 +0.6
comp=Z,55nm,1.4s,SNR=10
SQTA **Sankt Quirin** 85.75 328 *eP*cP P 11 57 14.1 +0.3
comp=Z,25nm,1.4s
STAL **STALIGIAL** 85.83 326 IAmb IAmb 11 57 14.2
comp=Z,53nm,1.2s
KSCO **Kaye Shedlock'** 85.84 44 P P 11 57 15.3 +0.9
baz=314,SNR=9.8
HCY **Herceg Novi** 85.85 321 ⇑*iP* P 11 57 14.6 +0.3
BMRD **Maredsous** 85.88 333 P P 11 57 13.7 -0.5
comp=Z,51nm,1.6s
WLF **Walferdange** 85.88 332 P P 11 57 15.2 +1.0
comp=Z,53nm,2.1s
SNF **Seneffe** 85.89 334 P P 11 57 14.3 +0.1
comp=Z,52nm,0.0s
E38A **The Farm, Brul** 85.93 33 P P 11 57 14.6 +0.1
baz=320
T25A **Trinidad** 86.08 46 P P 11 57 17.1 +1.3
baz=313,SNR=9.3
T25A **Trinidad** 86.08 46 IAmb IAmb 11 57 18.6
comp=Z,58nm,1.1s
BFO **Black Forest** 86.09 330 *i P* P 11 57 15.3 -0.1
BFO **Black Forest** 86.09 330 P P 11 57 15.1 -0.3
DOU **Dourbes** 86.11 333 P P 11 57 14.2 -1.2
comp=Z,21nm,1.5s
FETA **Feichten** 86.11 328 *eP*cP P 11 57 16.0 +0.3
comp=Z,21nm,1.2s,SNR=5.6
MEH **Mehetia** 86.19 115 *e*T T 13 31 45.8
comp=Z,28nm,0.3s
DAVA **Damuels** 86.27 329 *i P*cP P 11 57 16.9 +0.4
comp=Z,51nm,1.4s,SNR=11
ANMO **Albuquerque** 86.31 49 P P 11 57 18.4 +1.5
baz=312
ANMO **Albuquerque** 86.31 49 *ce*P P 11 57 18.8 +1.9
ANMO pmax pmax
comp=Z,35nm,1.3s
ANMO **Albuquerque** 86.31 49 P P 11 57 18.1 +1.1
ANMO IAmb IAmb 11 57 38.3
comp=Z,42nm,1.1s
SPMN **Marine on St.** 86.42 34 P P 11 57 17.4 +0.4
baz=319,SNR=5.9
SPMN **Marine on St.** 86.42 34 IAmb IAmb 11 57 18.7
comp=Z,26nm,1.1s
CTI **Castel Tesino** 86.46 327 IAmb IAmb 11 57 17.6
comp=Z,58nm,1.5s
BGNE **Belgrade** 86.60 40 P P 11 57 18.5 +0.5
baz=316
ECH **Echery** 86.66 331 IAmb IAmb 11 57 19.3
comp=Z,48nm,1.3s
TAOE **Nuku Hiva Isla** 86.80 103 *e*LR LR 12 25 01.0
comp=Z,3µm,28.7s
D41A **Chassel** 86.86 31 P P 11 57 19.8 +0.7
baz=322
SCHQ **Schefferville** 87.03 15 P P 11 57 21.1 +1.3
comp=Z,20nm,1.0s,baz=357,slow=5.8,SNR=7.9
SCHQ LR LR 12 40 49.4
comp=Z,227nm,18.5s,baz=308,slow=39
SCHQ **Schefferville** 87.03 15 IAmb IAmb 11 57 22.1
comp=Z,33nm,1.1s
121A **Cookes Peak, D** 87.06 52 P P 11 57 22.0 +1.4
baz=311,SNR=7.1
121A **Cookes Peak, D** 87.06 52 IAmb IAmb 11 57 23.6
comp=Z,36nm,1.4s
TUE **Stuetta** 87.14 328 IAmb IAmb 11 57 22.2
comp=Z,71nm,1.6s
G40A **Rib Lake** 87.56 33 P P 11 57 22.9 +0.3
baz=321,SNR=13
CBKS **Cedar Bluff** 87.60 43 P P 11 57 22.8 -0.2
baz=315
CBKS **Cedar Bluff** 87.60 43 IAmb IAmb 11 57 24.3
comp=Z,46nm,1.2s
E43A **Lone Tree Farm** 88.06 31 P P 11 57 25.3 +0.4
baz=323
E43A **Lone Tree Farm** 88.06 31 IAmb IAmb 11 57 26.8
comp=Z,46nm,1.1s
F42A **Maple Grove Fa** 88.07 32 P P 11 57 26.5 +1.5
baz=323
MSEY **Mahe Island** 88.38 263 *i P* P 11 57 28.8 +1.9
MSEY **Mahe Island** 88.38 263 P P 11 57 27.2 +0.3
TBI **Tubuai** 88.64 120 *e*S S 12 08 06.5 -3.3
comp=Z,460nm,33.5s
TBI **Tubuai** 88.64 120 *e*LR LR 12 25 21.8
comp=Z,1µm,33.8s,baz=312
TBI **Tubuai** 88.64 120 *e*T T 13 34 48.2
comp=Z,11nm,0.3s
MATQ **Matagami** 88.69 23 P P 11 57 27.8 -0.1
baz=330,SNR=6.5

SCIA	State Center	88.73	37	P	P	11 57 29.2 +1.0
	baz=319					
D46A	Sault St. Mari	88.83	29	P	P	11 57 29.4 +0.8
	baz=325					
D47A	Chapleau	89.06	28	P	P	11 57 29.8 +0.2
	baz=326					
KSU1	Kansas State U	89.08	41	P	P	11 57 30.2 +0.3
	baz=317					
MNTX	Cornudas Mount	89.14	51	P	P	11 57 31.4 +1.1
	baz=312,SNR=9.7					
E46A	Sault Ste Mari	89.16	29	P	P	11 57 30.7 +0.7
	baz=325,SNR=7.5					
I42A	Draeger Farm,	89.21	33	P	P	11 57 30.9 +0.5
	baz=322,SNR=6.0					
MSTX	Muleshoe	89.22	48	P	P	11 57 31.4 +0.7
	baz=314					
F45A	CMU Biological	89.23	30	P	P	11 57 31.2 +0.8
	baz=324					
AMTX	Amarillo	89.24	46	P	P	11 57 32.0 +1.2
	baz=314					
AMTX	Amarillo	89.24	46	IAmb	IAmb	11 57 33.5
	comp=Z,39nm,1.1s					
H43A	Windswept, Lux	89.25	32	P	P	11 57 31.3 +0.8
	baz=323					
JFWS	Jewell Farm	89.37	34	P	P	11 57 31.9 +0.7
	baz=321,SNR=5.1					
JFWS	Jewell Farm	89.37	34	IAmb	IAmb	11 57 32.6
	comp=Z,23nm,1.0s					
BNI	Bardonecchia	89.40	329	IAmb	IAmb	11 57 54.5
	comp=Z,39nm,1.5s					
D48A	Paudash Townsh	89.45	27	P	P	11 57 31.5 0.0
	baz=327					
E47A	Iron Bridge	89.49	28	P	P	11 57 32.2 +0.6
	baz=326,SNR=6.2					
LSQQ	Lebel-sur-Quev	89.52	23	P	P	11 57 32.3 +0.6
	baz=331					
D49A	Beulah Townshi	89.53	27	P	P	11 57 32.5 +0.7
	baz=327					
L40A	Anamosa	89.57	36	P	P	11 57 32.5 +0.4
	baz=320,SNR=6.3					
CHGQ	Chibougamau	89.58	22	P	P	11 57 32.3 +0.3
	baz=332,SNR=9.1					
G45A	Suttons Bay	89.69	31	P	P	11 57 33.6 +1.0
	baz=324					
G46A	Petoskey	89.79	30	P	P	11 57 33.9 +0.9
	baz=325					
H45A	Beulah	89.87	31	P	P	11 57 35.0 +1.6
	baz=324					
E48A	Lockeyer	89.89	28	P	P	11 57 34.7 +1.2
	baz=327					
D50A	G1974 Best Tow	90.17	26	P	P	11 57 34.9 +0.1
	baz=328					
I45A	Fountain	90.26	31	P	P	11 57 36.7 +1.4
	baz=324					
F48A	Evansville	90.26	28	P	P	11 57 35.9 +0.7
	baz=326					
H46A	Fife Lake	90.29	31	P	P	11 57 37.1 +1.7
	baz=325,SNR=5.9					
GLMI	Grayling	90.30	30	P	P	11 57 37.0 +1.5
	baz=325					
G47A	Hillman	90.32	29	P	P	11 57 36.5 +1.0
	baz=326					
D51A	Lot 18 Range I	90.40	26	P	P	11 57 36.5 +0.6
	baz=329					
E50A	Wahnapitae	90.47	27	P	P	11 57 37.3 +1.1
	baz=328					
F49A	Sandfield	90.54	28	P	P	11 57 37.9 +1.4
	baz=327					
H47A	Mio	90.65	30	P	P	11 57 38.3 +1.2
	baz=325,SNR=6.5					
I46A	Reed City	90.67	31	P	P	11 57 38.6 +1.4
	baz=324					
E51A	G1948 Merrick	90.83	26	P	P	11 57 38.5 +0.6
	baz=329					
D52A	ZEK Kipawa Sen	90.84	25	P	P	11 57 38.2 +0.3
	baz=330					
D53A	Lac Vacive, Po	90.99	25	P	P	11 57 38.9 +0.3
	baz=330					
I47A	Gladwin	91.00	30	P	P	11 57 39.9 +1.2
	baz=325,SNR=5.8					
L44A	Lake County Fo	91.01	34	P	P	11 57 39.7 +0.9
	baz=323					
WMOK	Wichita Mounta	91.03	45	P	P	11 57 39.9 +0.8
	baz=316,SNR=17					
WMOK	Wichita Mounta	91.03	45	IAmb	IAmb	11 57 41.3
	comp=Z,27nm,1.1s					
J46A	Howard City	91.07	32	P	P	11 57 40.4 +1.4
	baz=324					
F51A	Arnstein	91.20	27	P	P	11 57 40.5 +0.9
	baz=328					
D54A	Lac Fusel, La	91.28	24	P	P	11 57 40.5 +0.5
	baz=331					
J47A	Sunmer	91.51	31	P	P	11 57 42.6 +1.6
	baz=325,SNR=6.3					
F52A	Sundridge	91.53	26	P	P	11 57 42.7 +1.6
	baz=329					
HDIL	Hopedale	91.66	35	P	P	11 57 43.3 +1.4
	baz=322					
X34A	Smith Ranch, M	91.67	44	IAmb	IAmb	11 57 44.5
	comp=Z,35nm,1.1s					
E54A	Lac Daplat, Po	91.73	25	P	P	11 57 42.8 +0.7
	baz=330					
D55A	Sainte-Anne-du	91.79	24	P	P	11 57 43.0 +0.7
	baz=332					
TX32	Lajitas Array	91.82	52	P	P	11 57 43.7 +0.7
TX32				IAmb	IAmb	11 58 04.1
	comp=Z,27nm,1.1s					
TXAR	Lajitas Array	91.82	52	P	P	11 57 44.0 +1.0
TXAR	Lajitas Array	91.82	52	P	P	11 57 44.0 +1.0
	comp=Z,14nm,1.1s,baz=290,slow=3.6,SNR=60					
TXAR				LR	LR	12 33 24.8
	comp=Z,320nm,21.6s,baz=0.0,slow=32					
TXAR	Lajitas Array	91.82	52	P	P	11 57 43.8 +0.8
ALGO	Algonquin Park	91.84	26	P	P	11 57 43.6 +1.0
	baz=330					
TUL1	Leonard	91.86	42	P	P	11 57 43.6 +0.7
	baz=318					
TUL1	Leonard	91.86	42	IAmb	IAmb	11 57 44.9
	comp=Z,22nm,1.0s					
J48A	Bridge Port	91.89	30	P	P	11 57 44.0 +1.2
	baz=326,SNR=5.4					
D56A	ZEC Mazanza, M	92.00	23	P	P	11 57 43.9 +0.6
	baz=332					
ABTX	Abilene, Hawle	92.03	47	P	P	11 57 44.7 +1.0
	baz=315,SNR=9.7					
J49A	Marlette	92.11	30	P	P	11 57 44.9 +1.0
	baz=326					
HPIG		92.13	55	IAmb	IAmb	11 57 47.3
	comp=Z,32nm,1.2s					
K48A	Perry	92.16	31	P	P	11 57 45.6 +1.5
	baz=325					
D57A	Chemin Vers le	92.30	23	P	P	11 57 45.8 +1.1
	baz=333					
H52A	Wyevale	92.30	27	P	P	11 57 45.9 +1.2
	baz=328					
G54A	Lake Saint Pet	92.31	26	P	P	11 57 44.9 +0.1
	baz=330					
E56A	St. Veronique	92.35	23	P	P	11 57 45.2 +0.3
	baz=332					
G53A	Haliburton	92.36	26	P	P	11 57 47.2 +2.2
	baz=329					
D58A	Chemin du LacG	92.54	22	P	P	11 57 46.2 +0.5
	baz=334					
CCM	Cathedral Cave	92.64	38	P	P	11 57 46.7 +0.2
	baz=320					
CCM	Cathedral Cave	92.64	38	P	P	11 57 47.0 +0.6
CCM				pmax	pmax	
	comp=Z,26nm,1.2s					
CCM	Cathedral Cave	92.64	38	P	P	11 57 47.0 +0.6
CCM				IAmb	IAmb	11 57 48.2
	comp=Z,26nm,1.2s					
L48A	N Adams	92.73	32	P	P	11 57 48.1 +1.3
	baz=325					
E57A	Chemin Saint G	92.75	23	P	P	11 57 47.2 +0.4
	baz=333					
K50A	Casco	92.80	30	P	P	11 57 48.2 +1.1
	baz=326					
MGMO	Mountain Grove	92.81	39	IAmb	IAmb	11 57 48.5
	comp=Z,14nm,1.1s					
SFIN	Lafayette	92.82	34	P	P	11 57 48.1 +0.9
	baz=323					
L49A	Milan	92.88	31	P	P	11 57 48.9 +1.5
	baz=326					
M48A	Edgerton	92.98	32	P	P	11 57 48.3 +0.4
	baz=325					
N47A	Urbana	93.05	33	P	P	11 57 47.9 -0.3
	baz=324					
E58A	La Victoria	93.06	22	P	P	11 57 49.4 +1.2
	baz=333					
U40A	Yellville	93.11	40	P	P	11 57 48.4 -0.2
	baz=319,SNR=10					
U40A	Yellville	93.11	40	IAmb	IAmb	11 57 50.1
	comp=Z,27nm,1.1s					
D60A	Saint Jean D'O	93.28	21	P	P	11 57 50.0 +0.9
	baz=335,SNR=5.3					
M49A	Liberty Center	93.31	32	P	P	11 57 51.0 +1.6
	baz=325					
N48A	Decatur	93.36	33	P	P	11 57 50.5 +0.9
	baz=325					
H55A	Tweed	93.37	26	P	P	11 57 50.4 +0.8
	baz=330					
P46A	Rosedale	93.38	35	P	P	11 57 50.2 +0.5
	baz=323					
JCT	Junction City	93.45	48	P	P	11 57 50.9 +0.5
	baz=315					
JCT	Junction City	93.45	48	IAmb	IAmb	11 58 10.4
	comp=Z,20nm,1.1s					
W39A	Magazine	93.49	42	P	P	11 57 50.7 +0.3
	baz=319					
W39A	Magazine	93.49	42	IAmb	IAmb	11 57 52.1
	comp=Z,35nm,1.6s					
D62A	Allapoint, All	93.66	20	P	P	11 57 51.5 +0.6
	baz=336					
OLIL	Olney	93.66	36	IAmb	IAmb	11 57 53.0
	comp=Z,28nm,1.1s					
N49A	Columbus Grove	93.68	32	P	P	11 57 50.7 -0.5
	baz=325					
WHTX	Lake Whitney,	93.77	46	P	P	11 57 52.3 +0.6
	baz=316					
E61A	Lac Etchemin	93.85	21	P	P	11 57 52.3 +0.5
	baz=335					
G58A	Ormstown	93.91	24	P	P	11 57 53.0 +1.0
	baz=333					
S44A	Carbondale	93.92	37	P	P	11 57 53.1 +0.8
	baz=322,SNR=6.3					
SIUC	Southern Illin	93.92	37	IAmb	IAmb	11 57 54.0
	comp=Z,26nm,1.1s					
D63A	Stockholm	93.95	19	P	P	11 57 53.0 +0.8
	baz=337					
PBMO	Poplar Bluff	94.04	38	IAmb	IAmb	11 57 54.6
	comp=Z,22nm,1.1s					
MIAR	Mount Ida	94.09	42	P	P	11 57 54.6 +1.4
	baz=319,SNR=6.5					
MIAR	Mount Ida	94.09	42	IAmb	IAmb	11 58 24.7
	comp=Z,26nm,1.2s					
F61A	St Evariste	94.11	21	P	P	11 57 54.5 +1.4
	baz=335					
WHAR	Wooly Hollow	94.22	41	IAmb	IAmb	11 57 55.2
	comp=Z,23nm,1.3s					
E63A	Oxbow	94.43	19	P	P	11 57 54.8 +0.3
	baz=337					
F62A	Pittston Farm,	94.48	21	P	P	11 57 56.3 +1.6
	baz=336,SNR=6.0					
F62A	Pittston Farm,	94.48	21	IAmb	IAmb	11 57 57.1
	comp=Z,35nm,1.3s					
X40A	Basin Creek Fa	94.53	41	P	P	11 57 56.5 +1.3
	baz=319					
X40A	Basin Creek Fa	94.53	41	IAmb	IAmb	11 58 27.0
	comp=Z,40nm,1.8s					
O50A	Cable	94.56	32	P	P	11 57 56.7 +1.5
	baz=326					
P49A	Miami Univ. Ec	94.58	33	P	P	11 57 55.9 +0.6
	baz=325					
G61A	St-Isidore-de-	94.58	22	P	P	11 57 57.0 +1.8
	baz=335					
E64A	Bridgewater	94.59	19	P	P	11 57 56.1 +0.9
	baz=338					
Q48A	North Vernon	94.61	34	P	P	11 57 56.4 +1.0
	baz=324					
K55A	Perry	94.62	27	P	P	11 57 55.7 +0.2
	baz=330					
ACSO	Alum Creek Sta	94.76	32	P	P	11 57 57.4 +1.2
	baz=326					
ACSO	Alum Creek Sta	94.76	32	IAmb	IAmb	11 57 57.8
	comp=Z,19nm,0.9s					
WCI	Wyandotte Cave	94.91	35	P	P	11 57 57.7 +0.9
	baz=324					
WCI	Wyandotte Cave	94.91	35	P	P	11 57 57.8 +0.9
WCI				pmax	pmax	
	comp=Z,18nm,1.1s					
WCI	Wyandotte Cave	94.91	35	P	P	11 57 57.8 +0.9
WCI				IAmb	IAmb	11 57 58.5
	comp=Z,18nm,1.1s					
P50A	Jamestown	94.92	33	P	P	11 57 58.0 +1.1
	baz=326					
G62A	West of Eustis	94.94	21	P	P	11 57 57.5 +0.7
	baz=335					
H61A	Lyndonville	95.13	22	P	P	11 57 58.7 +1.0
	baz=334					
833A	Chaparral WMA,	95.22	50	P	P	11 58 00.2 +1.7
	baz=315					
G63A	Kingsbury	95.30	21	P	P	11 58 01.1 +2.7
	baz=336					
I60A	Shoreham	95.31	24	P	P	11 57 60.0 +1.4
	baz=333					
H62A	Milan	95.33	22	P	P	11 57 59.9 +1.2
	baz=335					
P51A	Williamsport	95.35	32	P	P	11 57 59.1 +0.3
	baz=326					
P51A	Williamsport	95.35	32	IAmb	IAmb	11 58 00.1
	comp=Z,30nm,1.4s					
N54A	Moraine State	95.39	29	P	P	11 57 59.7 +0.7
	baz=328					
G64A	Maxfield	95.42	20	P	P	11 58 00.8 +1.8
	baz=337					
T47A	Sharon Grove	95.52	36	P	P	11 58 00.9 +1.2
	baz=323					
KEST	Kesra	95.58	322	LR	LR	12 45 41.0
	comp=Z,332nm,18.9s,baz=360,slow=38					
H63A	New Sharon	95.59	21	P	P	11 58 01.7 +1.9
	baz=336					
Q51A	Peebles	95.60	33	P	P	11 58 01.2 +1.2
	baz=326					
S49A	Springfield	95.74	35	P	P	11 58 01.7 +1.0
	baz=324					
R50A	Paris	95.77	34	P	P	11 58 02.1 +1.3
	baz=325					
WVT	Waverly	95.85	37	P	P	11 58 01.3 +0.1
	baz=323					
N55A	Marion Center	95.94	29	P	P	11 58 02.4 +0.9
	baz=329					
T49A	Edmonton	96.17	35	P	P	11 58 03.8 +1.1
	baz=324					
M57A	Sunshine Farm,	96.18	27	P	P	11 58 03.3 +0.8
	baz=330					
S50A	Richmond	96.23	34	P	P	11 58 03.8 +0.9
	baz=325					
P54A	Burton	96.34	30	P	P	11 58 04.5 +1.2
	baz=328					
U49A	Red Boiling Sp	96.54	36	P	P	11 58 05.3 +1.0
	baz=324					
O56A	Blue Knob Stat	96.55	29	P	P	11 58 05.2 +0.9
	baz=329					
T50A	Nancy	96.57	35	P	P	11 58 04.8 +0.3
	baz=315,SNR=5.7					
S51A	Beattyville	96.63	34	P	P	11 58 05.7 +0.9
	baz=326					
V48A	Smith Brothers	96.65	37	P	P	11 58 05.8 +1.0
	baz=323					
T51A	Gray	97.02	34	P	Pdif	11 58 07.1 +0.6
	baz=325					
U50A	Jamestown	97.06	35	P	P	11 58 04.7 -2.0
	baz=325					
W49A	Belvidere	97.42	37	P	Pdif	11 58 09.2 +0.8
	baz=324					
ESDC	Sonseca Array	98.16	333	LR	LR	12 49 02.2
	comp=Z,182nm,18.0s,baz=210,slow=39					
KMBO	Kilima Mbogo	101.16	277	*i* P	Pdif	11 58 27.6 +2.0
KMBO				pmax	pmax	
	comp=Z,1.0nm,0.4s					
TOA0	Torodi Ar. Sit	117.64	313		PKPdf	12 03 20.4 -0.6
TORD	Torodi Ar. Bea	117.64	313	PKP	PKPdf	12 03 20.3 -0.7
	comp=Z,2.3nm,0.5s,baz=39,slow=1.2,SNR=20					
TORD				PKKPbc	PKKPbc	12 13 44.5 +2.9
	comp=Z,1.5nm,1.0s,baz=274,slow=1.4,SNR=4.3					
TORD				PKKP	PKKPdf	12 14 06.6 -2.2
	comp=Z,1.5nm,1.0s,baz=272,slow=2.7,SNR=3.7					
TORD	Torodi Ar. Bea	117.64	313		PKPdf	12 03 20.4 -0.5
LBTB	Lobatse	123.44	261	PKIKP	PKPdf	12 03 32.0 +0.1
LBTB	Lobatse	123.44	261		PKPdf	12 03 32.0 +0.1
QSPA	South Pole Qui	125.30	180		PKPdf	12 03 34.2 0.0
ZARC	Zaragoza, Cauc	125.95	45	*e*P	PKiKP	12 03 38.4 +1.0
ZARC	Zaragoza, Cauc	125.95	45	*e*P	PKiKP	12 03 38.4 +1.0
SYO	Syowa Base	126.44	206	*i* /PKPdf	PKPdf	12 03 35.4 -0.7
DBIC	Dimbokro	126.65	315	PKP	PKPdf	12 03 38.4 +0.1
	comp=Z,4.4nm,0.5s,baz=21,slow=2.2,SNR=7.4					
DBIC	Dimbokro	126.65	315		PKPdf	12 03 38.1 -0.1
TIC	Toumodi	126.76	315	*e*PKIKP	PKPdf	12 03 38.0 -0.6
KIC	Kosan Boka	126.83	314	*e*PKIKP	PKPdf	12 03 38.2 -0.5
	comp=Z,79nm,1.4s					
PTBC	PUERTO BERRIO	126.96	45	*e*P	PKPdf	12 03 37.5 -1.4
PTBC	PUERTO BERRIO	126.96	45	*e*P	PKPdf	12 03 37.5 -1.4
LIC	Lamto	127.11	315	*e*PKIKP	PKPdf	12 03 38.7 -0.5
	comp=Z,87nm,1.4s					
TSUM	Tsumeb	127.18	272		PKPdf	12 03 39.3 0.0
GUY2C	Guyana, Caldas	127.48	47	*e*P	PKiKP	12 03 41.0 0.0
GUY2C	Guyana, Caldas	127.48	47	*e*P	PKiKP	12 03 41.0 0.0
SOCV	Socops	127.50	40	*e*P	PKPdf	12 03 40.2 +0.2
SOCV	Socops	127.50	40	*e*P	PKPdf	12 03 40.2 +0.2
YOTC	Yotoco, Valle	127.87	49	*e*P	PKPdf	12 03 41.0 +0.2
YOTC	Yotoco, Valle	127.87	49	*e*P	PKPdf	12 03 41.0 +0.2
RUSC	La Rusia	128.27	44	*e*P	PKPdf	12 03 41.9 -0.1
RUSC	La Rusia	128.27	44	*e*P	PKPdf	12 03 41.9 -0.1
CHIC	Chingaza	128.92	46	*e*P	PKiKP	12 03 43.7 -0.2
CHIC	Chingaza	128.92	46	*e*P	PKiKP	12 03 43.7 -0.2
OTAV	Otavalo	129.40	54	PKIKP	PKPdf	12 03 44.6 +0.5
OTAV	Otavalo	129.40	54		PKPdf	12 03 44.6 +0.5
BETC	Betania	129.44	49	*e*P	PKPpre	12 03 28.8
BETC	Betania	129.44	49	*e*P	PKPpre	12 03 28.8
SNAA	Sanae	139.04	197	PKIKP	PKPdf	12 03 59.9 0.0
SNAA	Sanae	139.04	197	PKhKP	PKPpre	12 03 49.2
	comp=Z,2.1nm,0.8s,baz=91,slow=5.9,SNR=8.0					
SNAA	Sanae	139.04	197		PKPdf	12 03 59.9 0.0
SAML	Samuel	146.00	44	PKP2	PKPbc	12 04 14.7 0.0
SAML	Samuel	146.00	44		PKPbc	12 04 14.7 0.0
LPAZ	La Paz	148.31	60	PKIKP	PKPdf	12 04 19.1 +0.7
LPAZ	La Paz	148.31	60	PKPbc	PKPdf	12 04 19.5 +1.1
	comp=Z,25nm,1.1s,baz=336,slow=3.3,SNR=26					
LPAZ	La Paz	148.31	60		PKPdf	12 04 19.1 +0.7
PB11	IPOC Station P	149.41	67		PKPdf	12 04 20.1 +0.6
GO01	Chusmiza	149.70	66		PKPdf	12 04 20.8 +0.4
GO01				PKPbc	PKiKP	12 04 26.7 +0.6
RCBR	Riachuelo	150.20	352	PKIKP	PKiKP	12 04 26.6 -0.2
RCBR						12 04 32.3
RCBR	Riachuelo	150.20	352		PKiKP	12 04 26.6 -0.2
RCBR					PKPab	12 04 32.3 +0.3
PB01	IPOC Station P	150.29	69	PKPdf	PKPdf	12 04 20.7 -0.1
PB01					PKiKP	12 04 26.8 0.0
LVC	Limon Verde	151.62	71	PKIKP	PKiKP	12 04 30.7 +0.9
LVC	Limon Verde	151.62	71		PKiKP	12 04 30.7 +0.9
PLCA	Paso Flores	155.36	111	PKIKP	PKPdf	12 04 28.5 +0.9
PLCA						12 04 55.0
PLCA	Paso Flores	155.36	111	PKPbc	PKPab	12 04 48.3 -5.0
	comp=Z,5.4nm,1.1s,baz=254,slow=7.4,SNR=3.9					
PLCA	Paso Flores	155.36	111	PKPdf	PKPdf	12 04 28.5 +0.9
PLCA					pPKPbc	12 04 55.0 +0.6
CPUP	Villa Florida	162.42	63	PKIKP	PKPdf	12 04 36.2 -0.1
CPUP	Villa Florida	162.42	63	PKP	PKPdf	12 04 35.8 -0.5
	comp=Z,5.3nm,1.1s,baz=38,slow=3.0,SNR=3.5					
CPUP	Villa Florida	162.42	63		PKPdf	12 04 36.2 -0.1

ISCJB ***16*** *11:48:27.8±0.4, 60°.23S±0°.06×46°.5W±0°.1, h10km, mb4.4/12, MS3.8/1, Error ellipse: s-maj=9.5km s-min=8.0km az=149.6*

IDC ***16*** *11:48:28.1±0.6, 60°.27S×46°.60W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/23, mbtmp4.4/14, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.5/15, Error ellipse: s-maj=22.2km s-min=14.3km az=57.0*

NEIC ***16*** *11:48:29.2±1.5, 60°.23S±0°.09×46°.6W±0°.2, h10km±1km, mb4.7/18*

ISC 16 11:48:29.4±0.4, **60°.26S**±0°.07×**46°.67W**±0°.07, **h10**km, **n59, σ0=92**/57, **mb4.5**/18, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.14	47	Pn	Pn	11 50 26.6	-0.8
HOPE				Sn	Sn	11 51 57.6	-1.6
PMSA	Palmer Station	9.21	233	Pn	Pn	11 50 42.6	+0.6
	1.7nm,0.3s,baz=60,slow=9.8,SNR=12						
PMSA				Sn	Sn	11 52 22.6	-2.9
	1.2nm,0.3s,baz=129,slow=23,SNR=12						
PMSA				LR	LR	11 54 19.2	
	comp=Z,356nm,18.3s,baz=112,slow=38						
PMSA	Palmer Station	9.21	233		Pn	11 50 42.8	+0.7
PMSA				Sn	Sn	11 52 23.7	-1.8
EFI	East Falkland	10.70	318		Pn	11 51 03.5	+1.0
SNAA	Sanae	20.59	141	P	P	11 53 09.2	+1.1
	19nm,0.8s,baz=288,slow=11,SNR=47						
SNAA	Sanae	20.59	141	P	P	11 53 09.1	+0.9
SNAA				IAmb	IAmb	11 53 13.3	
	comp=Z,24nm,0.9s						
TRQA	Tornquist	24.25	329	P	P	11 53 46.1	-0.2
TRQA				IAmb	IAmb	11 53 49.0	
	comp=Z,14nm,0.7s						
PLCA	Paso Flores	24.51	312	P	P	11 53 49.0	+0.2
	comp=Z,3.1nm,0.9s,baz=179,slow=8.4,SNR=9.0						
PLCA	Paso Flores	24.51	312	P	P	11 53 48.6	-0.1
GO06	Curarrehue	25.86	312	P	P	11 54 00.9	0.0
GO06				IAmb	IAmb	11 54 11.1	
	comp=Z,16nm,1.4s						
QSPA	South Pole Qui	29.98	180	P	P	11 54 39.0	+1.3
	comp=Z,11nm,0.9s,baz=179,slow=2.4,SNR=41						
QSPA	South Pole Qui	29.98	180	P	P	11 54 38.4	+0.7
QSPA				IAmb	IAmb	11 54 40.0	
	comp=Z,23nm,1.1s						
ROC1	El Roble	31.64	319	P	P	11 54 51.3	-1.4
CPUP	Villa Florida	34.70	343	P	P	11 55 20.1	+0.9
	comp=Z,2.2nm,0.6s,baz=182,slow=7.6,SNR=7.3						
CPUP	Villa Florida	34.70	343	P	P	11 55 19.8	+0.7
CPUP				IAmb	IAmb	11 55 21.2	
	comp=Z,5.9nm,1.1s						
GO02	Mina Guanaco	38.49	325	P	P	11 55 51.9	+0.1
GO02				IAmb	IAmb	11 55 55.2	
	comp=Z,37nm,1.4s						
SBA	Scott Base	40.62	190	P	P	11 56 09.8	+1.1
SBA				IAmb	IAmb	11 56 14.1	
	comp=Z,23nm,1.4s						
LVC	Limon Verde	40.73	328	P	P	11 56 11.2	+0.7
MAW	Mawson	42.54	148	P	P	11 56 24.9	+0.4
	comp=Z,4.2nm,0.9s,baz=117,slow=1.1,SNR=4.1						
MAW				LR	LR	12 13 08.8	
	comp=Z,131nm,19.6s,baz=260,slow=35						
MNMC	Minye Minye	44.23	328	P	P	11 56 39.7	+0.8
MNMC				IAmb	IAmb	11 56 44.0	
	comp=Z,13nm,0.8s						
BDFB	Brasilia	44.56	358	P	P	11 56 42.1	+0.7
	comp=Z,3.1nm,0.7s,baz=122,slow=8.6,SNR=4.4						
BDFB	Brasilia	44.56	358	P	P	11 56 42.0	+0.5
SIV	San Ignacio	45.43	340	P	P	11 56 49.0	+0.8
	comp=Z,4.2nm,0.6s,baz=172,slow=7.7,SNR=22						
LPAZ	La Paz	46.59	331	P	P	11 56 58.7	+0.6
	comp=Z,1.2nm,0.6s,baz=217,slow=8.0,SNR=6.2						
LPAZ	La Paz	46.59	331	P	P	11 56 58.4	+0.4
SUR	Sutherland	51.42	89	P	P	11 57 35.3	+0.8
	comp=Z,5.7nm,0.6s,baz=203,slow=10,SNR=7.8						
SUR	Sutherland	51.42	89	P	P	11 57 35.0	+0.4
SAML	Samuel	52.68	339	P	P	11 57 44.4	+0.6
SAML				IAmb	IAmb	11 57 45.2	
	comp=Z,6.4nm,1.0s						
H10S2	ASCENSION HYDR	56.51	39	T	T	12 59 43.3	
	baz=20,slow=74,SNR=20						
H10S3	ASCENSION HYDR	56.51	39	T	T	12 59 43.0	
	baz=200,slow=74,SNR=16						
BOSA	Boshof	56.70	90	P	P	11 58 12.7	-0.3
	comp=Z,4.7nm,0.7s,baz=230,slow=8.0,SNR=7.0						
BOSA	Boshof	56.70	90	P	P	11 58 13.1	0.0
H10N3	ASCENSION HYDR	57.61	39	T	T	13 01 06.6	

ILAR	Eielson Array	145.20 312		PKPbc	12 08 04.4	-0.7
RND	Reindeer	145.23 310		PKPbc	12 08 05.1	-0.3
CCB	Clear Creek Bu	145.47 312		PKPdf	12 08 05.3	-0.6
WRH	Wood River Hil	145.49 311		PKPdf	12 08 05.8	-0.1
COLA	College	145.60 312		PKPdf	12 08 05.6	-0.5
BMAR	Burnt Mountain	145.71 317		PKPdf	12 08 06.3	0.0
BRVK	Borovoye	145.84 73		PKPdf	12 08 06.7	-0.2
MK31	Makanchi Array	147.69 91		PKPdf	12 08 11.8	+1.5
MKAR	Makanchi Array	147.69 91	PKPbc	PKPdf	12 08 11.6	+1.3
	comp=Z,3.5nm,0.5s,baz=243,slow=3.5,SNR=36					
IMAR	Indian Mountai	148.31 312		PKPbc	12 08 13.5	-0.6
ZALV	Zalesovo Beam	153.43 82	PKPbc	PKPbc	12 08 24.8	-1.7
	comp=Z,0.9nm,0.6s,baz=260,slow=4.6,SNR=3.6					
SONM	Songino Array	160.06 117	PKPab	PKPab	12 09 07.2	-0.6
	comp=Z,0.6nm,0.6s,baz=227,slow=2.2,SNR=4.8					
SONM	Songino Array	160.06 117		PKPab	12 09 07.0	-0.7

NEIC ***16*** *11:56:42.4±0.8, 35°.59N±0°.03×140°.35E±0°.09, h60km±10km, mb4.4/6*
ISCJB ***16*** *11:56:43.0±0.4, 35°.52N±0°.03×140°.14E±0°.05, h78km±3km, mb3.9/8, Error ellipse: s-maj=6.8km s-min=4.2km az=150.2*
JMA ***16*** *11:56:43.5±0.2, 35°.59N×140°.12E, h70km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs327.00000°, δ85.00000°, λ94.00000°. NP2: φs106.00000°, δ7.00000°, λ49.00000°. Principal axes: T Plg50.0000°, Azm242.0000°; N Plg4.0000°, Azm147.0000°; P Plg40.0000°, Azm53.0000°;*
JMA Felt II J1.
IDC ***16*** *11:56:44.6±2.0, 35°.50N×140°.09E, h72km±15km, mb3.6/8, mb1 3.7/11, mb1mx3.5/48, mbtmp3.9/11, MS2.9/1, Ms1 2.9/1, ms1mx2.6/37 Error ellipse: s-maj=28.3km s-min=6.8km az=68.0*
ISC 16 11:56:43.8±0.7, 35°.56N±0°.04×140°.16E±0°.05, h70km±6km, n53, σ1§19/64, mb4.0/10, 1C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.15	166	⇓P	Pn	11 56 54.5	+0.4
JCN				S	Sn	11 57 03.2	+1.5
JSMT	Sammumatsuo	0.25	71	⇑P	Pn	11 56 55.1	+0.5
TOK	Tokyo	0.35	291	⇓P	Pn	11 56 55.5	+0.3
JKUC	kamogawauchiur	0.40	175	⇓P	Pn	11 56 55.7	0.0
JKUC				S	Sn	11 57 04.8	+0.4
BSO3	Boso 3	0.81	159	P	Pn	11 56 59.8	+0.1
BSO3				X		11 57 13.7	
JOD2	Odawara 2	0.92	251	⇓P	Pn	11 57 00.8	-0.5
JOD2				S	Sn	11 57 13.2	-1.1
JIM2	Oshima 3	1.03	215	⇓P	Pn	11 57 01.9	-0.8
JIM2				S	Sn	11 57 15.7	-1.0
JAG	Ashikaga	1.03	327	P	Pn	11 57 02.4	-0.3
JAG				S	Sn	11 57 15.9	-0.8
JRY	Ryogami san	1.12	294	⇓P	Pn	11 57 03.9	+0.2
BSO1	Boso 1	1.13	143	P	Pn	11 57 03.5	+0.2
BSO1				S	Sn	11 57 19.3	+1.3
JFNN	Fujinakano	1.26	253	⇓P	Pn	11 57 05.4	-0.1
JFNN				S	Sn	11 57 21.5	-0.3
JYN	Shimob	1.32	268	⇓P	Pn	11 57 06.2	-0.2
JIZS	Izushimoda	1.34	232	⇓P	Pn	11 57 06.3	-0.3
JIZS				S	Sn	11 57 22.8	-1.0
JKT	Katashina	1.41	329	P	Pn	11 57 07.7	+0.1
MJAR	Matsushiro Arr	1.86	302	P	Pn	11 57 14.1	+0.6
	5.7nm,0.3s,baz=144,slow=14,SNR=104						
MJAR				S	Sn	11 57 36.1	+0.1
	9.8nm,0.3s,baz=93,slow=18,SNR=15						
MJAR	Matsushiro Arr	1.86	302		Pn	11 57 13.2	-0.3
MAJO	Matsushiro	1.86	302		Pn	11 57 13.8	+0.3
MAJO				Sn	Sn	11 57 37.2	+1.1
MAT	Matsushiro	1.86	302	P	Pn	11 57 14.0	+0.5
MAT				S	Sn	11 57 37.1	+1.0
MJB9	Matsu-Tunnel	1.86	302		Pn	11 57 13.7	+0.1
MJB9				Sn	Sn	11 57 37.5	+1.3
JHJ	Hachijo jima 2	2.46	187	P	Pn	11 57 21.7	+0.2
	57nm,0.3s,baz=335,slow=21,SNR=19						
JHJ				S	Sn	11 57 50.0	-0.5
	112nm,0.3s,baz=133,slow=21,SNR=8.3						
JHJ				LR	LR	11 58 13.7	
	comp=Z,295nm,21.4s,baz=58,slow=37						
JHJ2	Mitsune	2.46	187	Pn	Pn	11 57 21.2	-0.4
JHJ2				Sn	Sn	11 57 50.1	-0.5
INU	Inuyama	2.57	266		Pn	11 57 23.5	+0.4
INU				Sn	Sn	11 57 57.9	+4.6
ERM	Erimo	6.86	19	Pn	Pn	11 58 19.1	-2.5
ERM				Sn	Sn	11 59 34.4	-3.7
JNU	Nakatsue	8.05	255	P	Pn	11 58 39.6	+1.6
	0.3nm,0.3s,baz=90,slow=5.1,SNR=4.8						
JNU	Nakatsue	8.05	255		Pn	11 58 38.5	+0.5
ASAJ	Asahikawa	8.75	12	P	Pn	11 58 45.3	-2.1
	0.7nm,0.3s,baz=223,slow=12,SNR=7.8						
JKA	Kamikawa-asahi	8.75	12		Pn	11 58 45.3	-2.1
KSRS	Korea Array	10.03	284	P	Pn	11 59 07.5	+2.6
	0.2nm,0.3s,baz=97,slow=14,SNR=5.4						
USRK	Ussuriysk Ar.	10.66	326	Pn	Pn	11 59 14.6	+1.1
JOW	Kunigami	13.38	233	Pn	Pn	11 59 49.6	-0.9
TPUB	Ta-pu	20.90	240	P	P	12 01 19.3	-1.1
TPUB				IAmb	IAmb	12 01 32.8	
	comp=Z,19nm,1.1s						
SONM	Songino Array	27.80	307	P	P	12 02 26.0	-0.3
	comp=Z,0.6nm,0.7s,baz=117,slow=9.9,SNR=3.6						
H11N2	WAKE ISLAND Hy	28.33	117	T	T	12 32 14.6	
	baz=310,slow=74,SNR=6.8						
H11N1	WAKE ISLAND Hy	28.34	117	T	T	12 32 14.9	
	baz=84,slow=74,SNR=8.9						
H11S1	WAKE ISLAND Hy	28.98	119	T	T	12 33 00.1	
	baz=310,slow=76,SNR=9.1						
H11S3	WAKE ISLAND Hy	28.98	119	T	T	12 33 00.9	
	baz=310,slow=76,SNR=8.2						
H11S2	WAKE ISLAND Hy	28.99	119	T	T	12 33 01.9	
	baz=310,slow=76,SNR=9.2						
ZALV	Zalesovo Beam	42.17	314	P	P	12 04 29.5	+0.2
	comp=Z,0.9nm,0.3s,baz=106,slow=11,SNR=5.5						
ZALV	Zalesovo Beam	42.17	314	P	P	12 04 29.6	+0.4
MK31	Makanchi Array	44.06	303	P	P	12 04 45.2	+0.5
MKAR	Makanchi Array	44.06	303	P	P	12 04 45.5	+0.9
	comp=Z,2.3nm,0.8s,baz=86,slow=8.8,SNR=11						
MKAR	Makanchi Array	44.06	303	P	P	12 04 45.1	+0.5
TARG	Taragay, Kyrgy	48.15	297	P	P	12 05 18.2	+0.8
TARG				IAmb	IAmb	12 05 20.6	
	comp=Z,4.3nm,0.9s						
ILAR	Eielson Array	51.28	32	P	P	12 05 41.9	+1.6
	comp=Z,0.7nm,0.9s,baz=283,slow=7.6,SNR=8.3						
ILAR	Eielson Array	51.28	32	P	P	12 05 39.9	-0.3
FITZ	Fitzroy Crossi	55.11	197	P	P	12 06 09.7	+0.9
	comp=Z,2.1nm,0.5s,baz=7.2,slow=6.5,SNR=14						
FITZ	Fitzroy Crossi	55.11	197	P	P	12 06 09.5	+0.7
WB2	Warramunga Arr	55.47	187	P	P	12 06 11.0	-0.4
WB2				IAmb	IAmb	12 06 12.5	
	comp=Z,2.4nm,0.7s						
WRA	Warramunga Arr	55.47	187	P	P	12 06 11.1	-0.4
	comp=Z,1.6nm,0.5s,baz=0.5,slow=7.5,SNR=47						
WRA	Warramunga Arr	55.47	187	P	P	12 06 11.0	-0.4
ASAR	Alice Springs	59.20	187	P	P	12 06 37.8	+0.2
	comp=Z,0.3nm,0.4s,baz=4.3,slow=15,SNR=4.8						
ASAR	Alice Springs	59.20	187	P	P	12 06 37.5	-0.1
AKASG	Malin Array Be	74.83	322	P	P	12 08 16.6	+0.2
	comp=Z,0.7nm,0.5s,baz=44,slow=5.5,SNR=2.7						

NSSC ***16*** *12:14:16.7±1.8, 33°.91N×35°.67E, h2km±722km, ML1.6*
ISCJB ***16*** *12:14:18.1±1.1, 33°.83N±0°.09×35°.7E±0°.1, h29km±13km, Error ellipse: s-maj=20.5km s-min=8.5km az=142.0*
GRAL ***16*** *12:14:19.5±0.3, 33°.82N×35°.77E, h18km±4km, MD2.6*
ISC 16 12:14:19.1±1.2, 33°.83N±0°.04×35°.80E±0°.07, h17km±11km, n7, σ0§55/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.14	302	eP	Pg	12 14 23.3	+0.1
BHL				eS	Sg	12 14 26.1	+0.1
DQRL	Deir Qamar	0.23	237	eP	Pg	12 14 24.1	-0.3
DQRL				eS	Sg	12 14 27.5	-0.4
RCY	Rachaya	0.33	175	eP	Pg	12 14 26.0	-0.2
BRBR	Barbar	0.43	163	eP	Pg	12 14 28.1	+0.1
BRBR				eS	Sg	12 14 35.1	+1.1
BRBR				AML	AML	12 14 39.2	
	comp=E,66nm,0.5s						
BRBR				AML	AML	12 14 40.5	
	comp=N,23nm,0.4s						
HWQ	Hawqa	0.47	15	eP	Pg	12 14 28.5	0.0
QASN	Qassioun	0.50	126	eP	Pg	12 14 28.3	-0.7
QASN				AML	AML	12 14 41.3	
	comp=N,41nm,0.5s						
QASN				AML	AML	12 14 45.3	
	comp=Z,92nm,0.4s						
TOTH	TOTAH	0.70	131	eP	Pn	12 14 34.2	-0.1
TOTH				eS	Sn	12 14 45.0	+0.2
TOTH				AML	AML	12 14 54.5	
	comp=N,22nm,0.5s						
TOTH				AML	AML	12 14 57.7	
	comp=E,12nm,0.6s						

SOME ***16*** *12:27:24.9, 44°.68N×82°.27E, h20km*
NNC ***16*** *12:27:26.8±0.8, 44°.67N×82°.07E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.4km s-min=2.6km az=125.0*
ISC 16 12:27:23.5±1.1, 44°.65N±0°.05×82°.36E±0°.05, h10km, n35, σ1§54/50, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.87	261	P	Pb	12 27 58.1	+0.3
DJR	13nm,0.2s			S	Sb	12 28 22.1	+0.9
DJR	Jarkent	1.87	261	eP	Pb	12 27 58.1	+0.3
DJR	13nm,0.2s			eS	Sb	12 28 22.1	+0.9
	23nm,0.3s						
MK31	Makanchi Array	2.15	359	Pn	Pg	12 28 03.9	-0.9
	15nm,0.3s,baz=180,slow=14,SNR=748						
MK31				⇓Sn	Sg	12 28 31.9	-0.7
	26nm,0.6s,baz=186,slow=29,SNR=17						
MAKZ	Makanchi	2.18	353	⇑Pn	Pg	12 28 03.9	-1.4
MAKZ	9.5nm,0.6s			⇑Sn	Sg	12 28 32.0	-1.6
	22nm,0.5s						
KAPS	Kapalarasan	2.23	288	Pg	Pb	12 28 03.8	0.0
KAPS	6.3nm,0.2s			Lg	Lg	12 28 31.8	
	28nm,0.3s						
KAPS	Kapalarasan	2.23	288	eP	Pb	12 28 03.8	0.0
KAPS	6.3nm,0.2s			eS	Sb	12 28 31.8	+0.3
	28nm,0.3s						
PDGK	Podgornoye	2.45	239	Pg	Pb	12 28 07.5	-0.3
PDGK	2.9nm,0.3s			Lg	Lg	12 28 38.3	
	24nm,0.6s						
PDGK	Podgornoye	2.45	239	⇑Pn	Pb	12 28 07.5	-0.3
PDGK	2.4nm,0.4s			⇓Lg	Lg	12 28 39.8	
	53nm,0.8s						
SHLS	Shalkode	2.57	236	Pg	Pn	12 28 06.7	+1.3
SHLS	44nm,0.2s			Lg	Lg	12 28 37.0	
	90nm,0.3s						
SHLS	Shalkode	2.57	236	eP	Pn	12 28 06.8	+1.5
SHLS	14nm,0.4s			eS	Sn	12 28 37.2	+0.5
	94nm,0.3s						
TDK	Taldyqorghan	2.84	279	Pg	Pb	12 28 14.3	+0.1
TDK	36nm,0.3s			Lg	Lg	12 28 50.0	
	91nm,0.5s						
TDK	Taldyqorghan	2.84	279	eP	Pb	12 28 14.4	+0.1
TDK	36nm,0.3s			eS	Sb	12 28 50.0	+1.0
	104nm,0.3s						
UZB	Uzynbulak	2.84	239	Pg	Pb	12 28 14.7	+0.3
UZB	6.8nm,0.3s			Lg	Lg	12 28 50.3	
	12nm,0.3s						
UZB	Uzynbulak	2.84	239	eP	Pb	12 28 14.7	+0.3
UZB	6.8nm,0.3s			eS	Sb	12 28 50.3	+1.1
	12nm,0.3s						
KPKS	Kokpek	2.90	247	eP	Pb	12 28 15.3	-0.1
KPKS	16nm,0.2s			eS	Sb	12 28 52.0	+1.0
	65nm,0.4s						
KURS	Kuram	3.23	250	Pg	Pb	12 28 21.2	+0.2
KURS	3.1nm,0.5s			Lg	Lg	12 29 01.9	
	16nm,0.7s						
KURS	Kuram	3.23	250	eP	Pb	12 28 21.2	+0.2
KURS	3.1nm,0.5s			eS	Sb	12 29 01.8	+1.3
	5.2nm,0.2s						
SATY	Saty	3.27	242	Pg	Pb	12 28 22.0	+0.3
SATY	9.9nm,0.2s			Lg	Lg	12 29 02.8	
	37nm,0.2s						
SATY	Saty	3.27	242	eP	Pb	12 28 22.0	+0.3
SATY	8.3nm,0.2s			eS	Sb	12 29 02.9	+1.2
	37nm,0.2s						
ARXS	Arharly	3.28	264	Pg	Pb	12 28 22.3	+0.5
ARXS	3.3nm,0.2s			Lg	Lg	12 29 03.8	
	34nm,0.4s						
ARXS	Arharly	3.28	264	eP	Pb	12 28 22.3	+0.5
ARXS	3.3nm,0.2s			eS	Sb	12 29 03.8	+2.1
	30nm,0.4s						
ZSN	Zaisan	3.30	31	Pg	Pg	12 28 26.2	-0.6
ZSN	2.7nm,0.2s			Lg	Lg	12 29 10.2	
	12nm,0.7s						
ZSN	Zaisan	3.30	31	eP	Pb	12 28 21.8	-0.4
ZSN	3.2nm,0.2s			eS	Sb	12 29 02.9	+0.5
	12nm,0.7s						
CHKK	Chushkaly	3.94	260	Pg	Pb	12 28 33.7	+0.6
CHKK	2.5nm,0.1s			Lg	Lg	12 29 23.0	
	24nm,0.3s						
CHKK	Chushkaly	3.94	260	eP	Pb	12 28 33.7	+0.6
CHKK	2.6nm,0.1s			eS	Sb	12 29 23.0	+2.2
	24nm,0.3s						
MDOK	Medeo	4.12	251	⇑Pg	Pg	12 28 39.4	-3.0
MDOK	2.7nm,0.6s			⇓Lg	Lg	12 29 32.1	
	9.0nm,0.7s						
MDOK	Medeo	4.12	251	Pg	Pb	12 28 38.7	+2.5
MDOK	4.0nm,0.5s			Lg	Lg	12 29 31.8	
	8.1nm,0.6s						
MDOK	Medeo	4.12	251	eP	Pb	12 28 38.7	+2.5
MDOK	4.0nm,0.5s			eS	Sg	12 29 31.8	-3.8
	5.5nm,0.6s						
KTBS	Karatobe	4.19	259	Pg	Pb	12 28 39.3	+2.0
KTBS	2.1nm,0.4s			Lg	Lg	12 29 32.9	
	15nm,0.7s						
KTBS	Karatobe	4.19	259	eP	Pb	12 28 39.1	+1.7
KTBS	2.1nm,0.4s			eS	Sb	12 29 32.5	+4.5
	13nm,0.7s						
TNSS	Tian-Shan	4.23	250	Pg	Pg	12 28 42.3	-2.3
TNSS	2.4nm,0.3s			Lg	Lg	12 29 37.8	
	8.4nm,0.6s						
TNSS	Tian-Shan	4.23	250	eP	Pg	12 28 42.3	-2.3
TNSS	2.4nm,0.3s			eS	Sg	12 29 37.8	-1.7
	8.4nm,0.6s						
KUU	Kurty	4.39	262	Pg	Pb	12 28 42.9	+2.2
KUU	3.7nm,0.1s			Lg	Lg	12 29 39.0	
	14nm,0.2s						
TKM2	Tokmak 2	5.19	253	⇑Lg	Lg	12 30 05.5	
	4.5nm,0.7s						
KURBB	Kurchatov Arra	6.51	338	⇓Lg	Lg	12 30 51.7	
	6.3nm,1.1s						

KRNET ***16*** *12:36:09.4±0.1, 40°.06N×70°.98E, mb2.4*
SOME ***16*** *12:36:11.3, 40°.22N×71°.05E, h15km*
NNC ***16*** *12:36:13.4±2.5, 40°.33N×71°.09E, h15km±16km, mb3.2, mpv2.8, Error ellipse: s-maj=18.1km s-min=8.3km az=6.0*
ISC 16 12:36:11.3±1.1, 40°.24N±0°.05×70°.94E±0°.06, h9km±13km, n18, σ1§60/29, 15C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.20	207	⇑iP	Pg	12 36 14.9	-0.7
BTK	baz=71			⇑iS	Sg	12 36 18.7	+0.3
	baz=71						
ARK	Arkit	1.74	26	⇓iP	Pn	12 36 42.3	+0.4
ARK	baz=23			⇓iS	Sb	12 37 05.7	+0.2
	baz=23						
ARSB	Arslanbob	1.89	54	⇓iP	Pn	12 36 43.1	-0.9
ARSB	baz=50			⇓iS	Sn	12 37 08.4	+0.4
	baz=50						
IUG	Iuzhnay	2.03	341	Pg	Pg	12 36 49.9	-0.2
IUG	1.2nm,0.2s			Lg	Lg	12 37 16.6	
	30nm,0.6s						
IUG	Iuzhnay	2.03	341	eP	Pg	12 36 50.0	-0.2
IUG	1.2nm,0.2s			eS	Sg	12 37 17.6	+1.1
	27nm,0.5s						
AML	Almayashu	2.81	47	⇑iP	Pn	12 36 56.5	-0.3
AML	baz=44			⇑iS	Sn	12 37 30.5	-0.5
	baz=44						
KK31	Karatay Array	2.88	354	⇑Pg	Pb	12 37 03.6	+0.7
KK31	1.1nm,0.5s,baz=175,slow=18,SNR=11			⇑Lg	Lg	12 37 43.4	
	1.0nm,0.3s,baz=162,slow=30,SNR=5.7						
BRLS	Borolday	2.91	344	eP	Pb	12 37 02.6	-0.8
BRLS	0.4nm,0.2s			eS	Sb	12 37 39.4	+0.3
	2.2nm,0.2s						
ARLS	Aral	3.03	57	⇑iP	Pn	12 36 59.2	-0.4
ARLS	baz=53			⇑iS	Sn	12 37 35.4	-0.7
	baz=53						
MRKS	Merke	3.04	34	Pg	Pb	12 37 06.5	+0.9
MRKS	6.2nm,0.5s			Lg	Lg	12 37 45.2	
	5.4nm,0.2s						
MRKS	Merke	3.04	34	eP	Pb	12 37 06.5	+0.9
MRKS	6.2nm,0.5s			eS	Sb	12 37 45.8	+3.0
	5.4nm,0.2s						
EKS2	Erkin-Say	3.23	40	⇑eP	Pn	12 37 02.2	-0.1
EKS2	baz=38			⇑iS	Sn	12 37 40.1	-0.8
	baz=38						
UCH	Uchtor	3.35	52	⇑eP	Pn	12 37 03.6	-0.7
UCH	baz=50			⇑eS	Sn	12 37 42.9	-1.5
	baz=50						
AAK	Ala-Archa	3.59	47	⇓Lg	Lg	12 38 03.6	
KZA	Kyzart	3.74	59	⇑iP	Pn	12 37 09.0	-0.6
KZA	baz=57			⇑iS	Sn	12 37 51.8	-2.1
	baz=57						
TKM2	Tokmak 2	4.40	51	⇓Pn	Pn	12 37 17.8	-0.8
TKM2	0.9nm,0.4s			⇑Lg	Lg	12 38 27.2	
	3.2nm,0.8s						
DGS	Degeres	4.70	49	Pg	Pb	12 37 37.2	+3.3
DGS	1.0nm,0.5s			Lg	Lg	12 38 38.0	
	3.6nm,0.5s						
DGS	Degeres	4.70	49	eP	Pb	12 37 37.2	+3.3
DGS	1.0nm,0.5s			eS	Sg	12 38 38.0	-4.2
	3.6nm,0.5s						

IDC ***16*** *12:45:13.1±4.5, 34°.82N×141°.03E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/49, mbtmp3.2/3, ML2.5/1, Error ellipse: s-maj=134.8km s-min=32.7km az=58.0*
JMA ***16*** *12:45:29.8±0.2, 35°.61N×140°.12E, h67km±2km, M2.6*
ISC 16 12:45:23.9±1.3, 35°.49N±0°.06×140°.35E±0°.08, h113km±8km, n16, σ2§05/24, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.14	240	P	Pn	12 45 40.5	+1.0
JSMT	Sammumatsuo	0.18	28	P	Pn	12 45 40.9	+1.3
JKUC	kamogawauchiur	0.35	200	P	Pn	12 45 41.8	+1.6
JKUC				eS	Sn	12 45 51.1	-1.4
BSO3	Boso 3	0.70	169	P	Pn	12 45 46.0	+3.8
BSO3				X		12 45 59.6	
JOD2	Odawara 2	1.05	258	P	Pn	12 45 47.0	+1.1
JOD2				S	Sn	12 45 59.4	-3.1
JIM2	Oshima 3	1.07	225	P	Pn	12 45 47.8	+1.7
JIM2				S	Sn	12 46 01.9	-1.0
JAG	Ashikaga	1.18	323	P	Pn	12 45 48.3	+1.0
JRY	Ryogami san	1.29	295	P	Pn	12 45 50.1	+1.6
JFNN	Fujinakano	1.39	258	P	Pn	12 45 51.6	+2.0
JFNN				S	Sn	12 46 07.9	-1.2
JIZS	Izushimoda	1.43	238	P	Pn	12 45 52.5	+2.5
JIZS				S	Sn	12 46 09.3	-0.6
JYN	Shimob	1.47	271	P	Pn	12 45 52.4	+1.8
JKT	Katashina	1.56	325	P	Pn	12 45 53.4	+1.8
JKT				S	Sn	12 46 11.3	-1.4
MJAR	Matsushiro Arr	2.03	302	Pn	Pn	12 45 59.4	+2.1
	0.8nm,0.3s,baz=126,slow=17,SNR=63						
MJAR				Sn	Sn	12 46 23.4	+0.4
	0.5nm,0.3s,baz=122,slow=20,SNR=5.8						
MAT	Matsushiro	2.03	302	P	Pn	12 46 00.3	+2.9
MAT				S	Sn	12 46 23.4	+0.4
WRA	Warramunga Arr	55.42	187	P	P	12 54 43.3	-3.2
	0.3nm,0.3s,baz=9.4,slow=8.2,SNR=9.1						
ASAR	Alice Springs	59.15	187	P	P	12 55 13.1	+0.3
	0.3nm,0.8s,baz=15,slow=6.4,SNR=3.8						

ISCJB ***16*** *13:04:58.8±1.1, 38°.75N±0°.05×34°.0E±0°.1, h9km±13km, Error ellipse: s-maj=15.1km s-min=7.9km az=12.4*
ISK ***16*** *13:04:58.8, 38°.77N×33°.96E, h7km, ML2.0/5*
DDA ***16*** *13:04:59.0, 38°.80N×33°.78E, h7km±6km, ML2.5*
ISC 16 13:04:58.8±1.2, 38°.76N±0°.05×33°.94E±0°.05, h15km±8km, n10, σ0§75/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSY	AKSARAY - Alti	0.18	232	iP	Pg	13 05 02.9	-0.3
AKSY				iS	Sg	13 05 06.6	+0.5
AKSY				IAML_P			
	comp=Z,1μm,0.1s						
YAYX	Yaylak	0.20	331	PG	Pg	13 05 03.4	-0.2
YAYX				SG	Sg	13 05 06.9	+0.1
SERE	Sereflikochisa	0.35	303	PG	Pb	13 05 06.3	-0.4
SERE				SG	Sb	13 05 11.8	-0.3
KIRS	Kırehir-Merke	0.37	357	iP	Pg	13 05 06.2	-0.2
KIRS				iS	Sb	13 05 13.1	+0.3
KIRS				IAML_P			
	comp=Z,2μm,0.1s						
CDAG	Cicekdag	0.93	21	iP	Pg	13 05 16.4	-0.4
AFSR	Afar-Bala (An	0.96	316	PG	Pn	13 05 17.8	-0.1
SIRC	Yozgat	1.10	58	iP	Pg	13 05 18.8	-1.3
DELI	KIRIKKALE	1.24	359	iP	Pg	13 05 22.1	-0.5
DELI				IAML_P			
	comp=Z,525nm,0.2s						
YOZ	Yozgat	1.39	50	PN	Pn	13 05 24.8	+1.1
CORM	Corum	1.51	20	PN	Pn	13 05 26.7	+1.2

TIR ***16*** *13:05:28.5, 43°.59N×19°.92E, h8km, Md3.1/3*
PDG ***16*** *13:05:33.0±0.2, 43°.17N×18°.70E, h13km, MD2.9/5, ML2.8/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
RHSSO ***16*** *13:05:33.7±0.2, 43°.16N×18°.72E, h4km±2km, ML2.6/1*
BEO ***16*** *13:05:34.1±0.2, 43°.13N×18°.73E, h14km±3km, ML2.4/11*
ISC 16 13:05:33.5±0.9, 43°.16N±0°.01×18°.72E±0°.01, h8km±7km, n70, σ1§34/119, 14C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.14	73	⇓iPg	Pg	13 05 36.5	-0.1
UPM				eSg	Sg	13 05 39.1	+0.3
UPM	Unac-Piva	0.14	73	⇑iPg	Pg	13 05 36.5	-0.1
UPM				eSg	Sg	13 05 39.1	+0.3
BRY	Bratogost	0.29	207	⇑iPg	Pg	13 05 38.9	-0.4
BRY				eSg	Sg	13 05 43.6	+0.4
BRY	Bratogost	0.29	207	⇓iPg	Pg	13 05 38.9	-0.4
BRY			

NKY				*e*Sg		**Sg**	**13 05 47.6 +1.0**
NKME	**Niksic**	**0.43**	**156**	⇑*i*Pg		**Pg**	**13 05 41.4 -0.4**
NKME				*e*Sg		**Sg**	**13 05 48.4 +0.9**
PLE	**Pljevlja**	**0.52**	**71**	⇓*i*Pg		**Pg**	**13 05 43.4 -0.1**
PLE				*e*Sg		**Sg**	**13 05 51.3 +1.0**
TREB	**Trebinje**	**0.52**	**212**	*e*Pg		**Pg**	**13 05 43.4 -0.1**
TREB				*e*Sg		**Sb**	**13 05 52.3 -0.2**
TREB	**Trebinje**	**0.52**	**212**	*e*Pg		**Pg**	**13 05 43.2 -0.3**
TREB				*e*Sg		**Sg**	**13 05 51.6 +1.2**
CEME	**Cevo**	**0.63**	**167**	⇑*i*Pg		**Pg**	**13 05 44.6 -1.1**
CEME				*e*Sg		**Sb**	**13 05 55.4 -0.4**
DBRK	**Dubrovnik**	**0.65**	**221**	*e*Pg		**Pg**	**13 05 45.4 -0.5**
DBRK				Sg		**Sb**	**13 05 56.5 +0.3**
RUDO	**Rudo**	**0.66**	**46**	⇑*i*Pg		**Pg**	**13 05 44.7 -1.4**
RUDO				*e*Sg		**Sg**	**13 05 55.4 +0.7**
KOME	**Kolasin**	**0.66**	**118**	⇑*i*Pg		**Pg**	**13 05 45.7 -0.5**
KOME				*e*Sg		**Sb**	**13 05 56.3 -0.4**
HCY	**Herceg Novi**	**0.73**	**193**	⇓*i*Pg		**Pg**	**13 05 47.2 -0.4**
HCY				*e*Sg		**Sg**	**13 05 57.7 +0.6**
HCY	**Herceg Novi**	**0.73**	**193**	⇑*i*Pg		**Pg**	**13 05 47.1 -0.5**
HCY				*e*Sg		**Sb**	**13 05 58.6 -0.1**
STON	**Ston**	**0.80**	**249**	*e*Pg		**Pg**	**13 05 47.8 -1.1**
STON				*e*Sg		**Sb**	**13 06 00.5 -0.1**
STON	**Ston**	**0.80**	**249**	*e*Pg		**Pg**	**13 05 47.2 -1.7**
STON				Sg		**Sg**	**13 05 59.9 +0.6**
STON	**Ston**	**0.80**	**249**	*e*Pg		**Pg**	**13 05 47.4 -1.5**
STON				*e*Sg		**Sg**	**13 05 59.4 +0.1**
PDG	**Podgorica**	**0.83**	**152**	*e*Pg		**Pg**	**13 05 47.8 -1.6**
PDG				*e*Sg		**Sb**	**13 06 01.5 +0.1**
PDG	**Podgorica**	**0.83**	**152**	⇑*i*Pg		**Pg**	**13 05 47.8 -1.6**
PDG				*e*Sg		**Sg**	**13 06 00.7 +0.5**
TTG	**Podgorica**	**0.83**	**152**	⇑*i*Pg		**Pg**	**13 05 47.9 -1.5**
TTG				*e*Sg		**Sb**	**13 06 02.1 +0.7**
BBLS	**Lazići**	**0.86**	**35**	*e*Pg		**Pg**	**13 05 49.8 -0.3**
BBLS				*e*Sn		**Sn**	**13 06 03.2 -1.6**
BBLS	**Lazići**	**0.86**	**35**	⇑*i*Pg		**Pg**	**13 05 49.5 -0.6**
BBLS				*e*Sg		**Sg**	**13 06 01.5 +0.2**
BUM	**Brajici-Budva**	**0.87**	**171**	⇓*i*Pg		**Pg**	**13 05 49.2 -1.0**
BUM				*e*Sg		**Sb**	**13 06 03.2 +0.5**
IVA	**Berane**	**0.91**	**108**	⇓*i*Pg		**Pg**	**13 05 50.4 -0.5**
IVA				*e*Sg		**Sn**	**13 06 04.5 -1.4**
SJES	**Sjenica**	**0.92**	**83**	*e*Pg		**Pg**	**13 05 50.9 -0.3**
SJES				*e*Sg		**Sg**	**13 06 03.1 -0.1**
HAPS	**Han Pijesak,BI**	**0.94**	**10**	*e*Pg		**Pg**	**13 05 51.4 -0.1**
HAPS				*e*Sg		**Sb**	**13 06 05.0 +0.3**
HAPS	**Han Pijesak,BI**	**0.94**	**10**	⇑*i*Pg		**Pg**	**13 05 50.2 -1.3**
HAPS				*e*Sg		**Sg**	**13 06 03.5 -0.2**
DRME	**Dracevica, Mon**	**1.03**	**160**	*e*Pg		**Pb**	**13 05 52.3 -1.3**
DRME				*e*Sg		**Sb**	**13 06 06.6 -0.7**
DRME	**Dracevica, Mon**	**1.03**	**160**	⇑*i*Pg		**Pb**	**13 05 52.3 -1.3**
DRME				*e*Sg		**Sn**	**13 06 08.7 -0.2**
PVY	**Plav**	**1.07**	**122**	⇑*i*Pb		**Pb**	**13 05 53.2 -1.1**
PVY				*e*Sg		**Sn**	**13 06 10.4 +0.3**
IVAS	**Ivanjica**	**1.12**	**68**	*e*Pg		**Pb**	**13 05 54.0 -1.2**
IVAS				*e*Sg		**Sn**	**13 06 10.4 -0.8**
MAKA	**Makarska**	**1.25**	**276**	*i* Pg		**Pn**	**13 05 55.8 -1.3**
MAKA				Sg		**Sg**	**13 06 17.0 +3.4**
ULC	**Ulcinj**	**1.26**	**162**	⇑*i*Pg		**Pn**	**13 05 57.0 -0.4**
ULC				*e*Sg		**Sg**	**13 06 16.4 +2.5**
BCI	**Bajram Curri**	**1.27**	**128**	*i* PN		**Pb**	**13 05 57.4 -0.2**
BCI				*i* SN		**Sg**	**13 06 19.0 +4.6**
DIVS	**Divibare**	**1.31**	**44**	*e*Pg		**Pb**	**13 05 58.5 +0.1**
DIVS				*e*Sg		**Sg**	**13 06 16.2 +0.4**
DIVS	**Divibare**	**1.31**	**44**	*e*Pg		**Pn**	**13 05 57.7 -0.5**
DIVS				*e*Sg		**Sb**	**13 06 14.9 -0.6**
PUK	**Puka**	**1.42**	**142**	*i* PN		**Pb**	**13 06 00.2 0.0**
PUK				*i* SN		**Sg**	**13 06 26.4 +7.4**
TEKS	**Tekeris**	**1.50**	**23**	*e*Pg		**Pg**	**13 06 02.3 0.0**
TEKS				*e*Sg		**Sg**	**13 06 22.9 +1.1**
TEKS	**Tekeris**	**1.50**	**23**	*e*Pg		**Pb**	**13 06 00.9 -0.8**
TEKS				*e*Sg		**Sg**	**13 06 22.0 +0.2**
TRUS	**Trudelj**	**1.62**	**48**	*e*Pn		**Pn**	**13 06 01.9 -0.4**
GRUS	**Gruza**	**1.62**	**63**	*e*Pn		**Pn**	**13 06 01.7 -0.7**
HVAR	**Hvar**	**1.66**	**271**	*i* Pn		**Pb**	**13 06 03.9 -0.4**
HVAR				Sn		**Sg**	**13 06 28.2 +1.4**
MGRS	**Mrkonjic Grad**	**1.73**	**317**	*e*Pn		**Pn**	**13 06 04.3 +0.5**
MGRS				*e*Sn		**Sb**	**13 06 26.7 -0.6**
SELS	**Selova**	**1.76**	**87**	*e*Pn		**Pn**	**13 06 03.4 -0.8**
BLY	**Banja Luka**	**1.94**	**326**	*e*Pn		**Pn**	**13 06 07.1 +0.5**
BLY				*e*Sn		**Sb**	**13 06 32.7 -0.6**
PHP	**Peshkopia**	**1.95**	**139**	*i* PN		**Pg**	**13 06 10.3 -0.5**
TIR	**Tirane**	**2.00**	**154**	*e*Pn		**Pn**	**13 06 07.0 -0.6**
FRGS	**Fruska Gora**	**2.14**	**21**	*e*Pn		**Pn**	**13 06 10.3 +0.7**
FRGS	**Fruska Gora**	**2.14**	**21**	*e*Pn		**Pn**	**13 06 10.2 +0.7**
FRGS				*e*Sn		**Sn**	**13 06 36.9 +0.6**
BOVS	**Bovan**	**2.23**	**77**	*e*Pn		**Pn**	**13 06 10.8 +0.1**
ZIRJ	**Zirje**	**2.29**	**283**	*e*Pn		**Pb**	**13 06 13.9 -1.2**
BARS	**Barje**	**2.30**	**98**	*e*Pn		**Pn**	**13 06 12.4 +0.8**
MORI	**Morici**	**2.30**	**289**	*e*Pn		**Pb**	**13 06 14.4 -0.8**
OHR	**Ohrid**	**2.57**	**142**	*i* Pn		**Pb**	**13 06 19.9 +0.2**
OHR				*i* Sn		**Sg**	**13 06 54.0 -1.9**
ZAGS	**Zajecar**	**2.64**	**75**	*e*Pn		**Pn**	**13 06 17.4 +1.1**
DUGI	**Dugi Otok**	**2.79**	**289**	*e*Pn		**Pb**	**13 06 21.1 -2.4**
MOSL	**Moslavina**	**2.83**	**331**	*e*Pn		**Pn**	**13 06 19.1 +0.2**
STIP	**Stip**	**2.96**	**119**	*i* Pn		**Pb**	**13 06 25.0 -1.3**
NVLJ	**Novalja**	**3.12**	**298**	*e*Pn		**Pn**	**13 06 25.7 +2.8**
NVLJ				Sn		**Sb**	**13 07 04.4 -2.8**
CRES	**Cresnjev**	**3.54**	**320**	*e*Pn		**Pn**	**13 06 29.5 +0.8**
VISS	**Visnje**	**3.83**	**315**	*i* Pn		**Pn**	**13 06 34.0 +1.3**
PDKS	**Podkum**	**3.93**	**319**	*i* Pn		**Pn**	**13 06 35.3 +1.2**
BRJN	**Brijuni**	**3.98**	**298**	*e*Pn		**Pn**	**13 06 36.9 +2.1**
BRJN				Sn		**Sn**	**13 07 24.2 +2.6**
GROS	**Grobnik**	**4.01**	**326**	*i* Pn		**Pn**	**13 06 35.8 +0.5**
PERS	**Pernice**	**4.31**	**325**	*i* Pn		**Pn**	**13 06 40.0 +0.6**
SOKA	**Soboth**	**4.38**	**325**	*e*Pn		**Pn**	**13 06 41.1 +0.8**
	1.7nm,0.3s						
SOKA				*e*Sn		**Sn**	**13 07 31.4 -0.3**
	0.9nm,0.3s						
OBKA	**Obir**	**4.47**	**320**	*e*Pn		**Pn**	**13 06 41.7 +0.1**
ARSA	**Arzberg**	**4.67**	**332**	*e*Pn		**Pn**	**13 06 45.0 +0.8**
	1.4nm,0.4s						
ARSA				*i* Sn		**Sn**	**13 07 37.0 -1.6**
	1.1nm,0.2s						
VYHS	**Vyhne**	**5.33**	**1**	*e*PG		**Pg**	**13 07 18.8 +3.2**

*ISCJB **16** 13:06:07.5±0.9, 33°.24N±0°.06×141°.23E±0°.08, h48km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=7.8km az=12.5*
*JMA **16** 13:06:07.8±0.4, 33°.33N×141°.23E, h34km, M3.3*
*IDC **16** 13:06:10.6±3.6, 33°.13N×140°.98E, h51km±29km, mb3.3/4, mb1 3.4/5, mb1mx3.2/40, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=35.5km s-min=15.4km az=87.0*
ISC 16 13:06:09.2±1.3, 33°.23N±0°.07×141°.2E±0°.1, h48km, n17, σ1§13/21, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.16**	**265**	P	**Pn**	**13 06 28.8**	**-0.3**
JHCJ	**Hachijojimakas**	**1.18**	**263**	P	**Pn**	**13 06 28.9**	**-0.4**
JHCJ				*e*S	**Sn**	**13 06 44.1**	**-0.2**
JHJ	**Hachijo jima 2**	**1.19**	**265**	P	**Pn**	**13 06 29.1**	**-0.4**
	75nm,0.3s,baz=127,slow=20,SNR=26						
JHJ				S	**Sn**	**13 06 41.3**	**-3.1**
	142nm,0.3s,baz=72,slow=19,SNR=9.5						
BSO1	**Boso 1**	**1.43**	**353**	P	**Pn**	**13 06 30.9**	**-1.4**
JMKN	**Mikurajimanish**	**1.49**	**297**	P	**Pn**	**13 06 33.7**	**+0.1**
BSO3	**Boso 3**	**1.67**	**340**	P	**Pn**	**13 06 34.7**	**-1.1**
JIM2	**Oshima 3**	**2.08**	**316**	P	**Pn**	**13 06 40.8**	**-0.9**
JIM2				*e*S	**Sn**	**13 07 05.3**	**-1.2**
JIZS	**Izushimoda**	**2.43**	**308**	P	**Pn**	**13 06 46.5**	**+0.1**
JOD2	**Odawara 2**	**2.67**	**320**	P	**Pn**	**13 06 49.0**	**-0.8**
JYN	**Shimob**	**3.15**	**317**	P	**Pn**	**13 06 56.9**	**+0.5**
JRY	**Ryogami san**	**3.36**	**326**	P	**Pn**	**13 06 59.2**	**-0.1**
JAG	**Ashikaga**	**3.49**	**336**	P	**Pn**	**13 07 01.1**	**+0.1**
MJAR	**Matsushiro Arr**	**4.11**	**324**	P	**Pn**	**13 07 10.5**	**+0.9**
	0.3nm,0.3s,baz=155,slow=13,SNR=24						
MJAR				S	**Sn**	**13 07 55.6**	**-0.8**
	baz=148,slow=12,SNR=1.9						
SONM	**Songino Array**	**29.91**	**310**	P	**P**	**13 12 14.7**	**+2.1**
	0.4nm,0.6s,baz=106,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**46.07**	**305**	P	**P**	**13 14 28.9**	**+0.5**
	0.5nm,0.5s,baz=87,slow=8.3,SNR=6.1						
WRA	**Warramunga Arr**	**53.28**	**188**	P	**P**	**13 15 22.9**	**-0.4**
	0.5nm,0.5s,baz=5.9,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**57.00**	**188**	P	**P**	**13 15 49.5**	**-0.6**
	0.3nm,0.7s,baz=358,slow=7.1,SNR=4.6						

*ISCJB **16** 13:10:36.0±0.5, 60°.42S±0°.07×46°.8W±0°.1, h10km, mb4.2/10, Error ellipse: s-maj=10.7km s-min=8.5km az=148.3*
*IDC **16** 13:10:36.2±0.7, 60°.38S×46°.76W, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/27, mbtmp4.2/12, ML3.9/1, Error ellipse: s-maj=20.2km s-min=19.3km az=41.0*
*NEIC **16** 13:10:38.0±1.6, 60°.30S±0°.09×46°.7W±0°.2, h10km±1km, mb4.4/9*
ISC 16 13:10:37.6±0.5, 60°.33S±0°.09×46°.73W±0°.08, h10km, n40, σ1§14/35, mb4.4/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.21**	**47**	Pn	**Pn**	**13 12 35.9**	**-0.7**
PMSA	**Palmer Station**	**9.14**	**233**	Pn	**Pn**	**13 12 48.8**	**-0.5**
	1.3nm,0.3s,baz=56,slow=9.2,SNR=8.5						
PMSA				Sn	**Sn**	**13 14 31.4**	**-0.6**
	5.3nm,0.3s,baz=95,slow=11,SNR=21						
PMSA	**Palmer Station**	**9.14**	**233**		**Pn**	**13 12 49.3**	**+0.1**
PMSA					**Sn**	**13 14 33.3**	**+1.3**
GO09	**Cerro Castillo**	**16.91**	**291**	Pn	**Pn**	**13 14 34.4**	**+0.4**
GO09				IAmb	IAmb	13 14 41.7	
	comp=Z,46nm,1.3s						
SNAA	**Sanae**	**20.56**	**141**	P	**P**	**13 15 15.9**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=283,slow=11,SNR=2.7						
SNAA	**Sanae**	**20.56**	**141**	P	Pn	13 15 18.2	+0.1
SNAA				IAmb	IAmb	13 15 23.6	
	comp=Z,9.6nm,0.9s						
TRQA	**Tornquist**	**24.30**	**330**	P	**P**	**13 15 55.6**	**+0.6**
PLCA	**Paso Flores**	**24.53**	**312**	P	**P**	**13 15 58.2**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=187,slow=17,SNR=2.8						
PLCA	**Paso Flores**	**24.53**	**312**	IAmb	IAmb	13 16 01.1	
	comp=Z,6.7nm,1.2s						
GO06	**Curarrehue**	**25.88**	**312**	P	**P**	**13 16 04.3**	**-5.1**
GO06				IAmb	IAmb	13 16 11.7	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**13 16 46.5**	**+1.2**
	comp=Z,7.1nm,1.0s,baz=189,slow=2.5,SNR=17						
QSPA	**South Pole Qui**	**29.91**	**180**	IAmb	IAmb	13 16 48.9	
	comp=Z,9.4nm,1.0s						
CPUP	**Villa Florida**	**34.76**	**343**	P	**P**	**13 17 28.3**	**+0.5**
SIV	**San Ignacio**	**45.48**	**340**	P	**P**	**13 18 57.4**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=163,slow=9.1,SNR=7.2						
SUR	**Sutherland**	**51.45**	**89**	P	**P**	**13 19 43.7**	**+0.8**
	comp=Z,9.0nm,0.9s,baz=229,slow=9.3,SNR=4.3						
BOSA	**Boshof**	**56.73**	**90**	P	**P**	**13 20 21.6**	**+0.3**
	comp=Z,6.3nm,1.1s,baz=181,slow=5.0,SNR=6.1						
H10N3	**ASCENSION HYDR**	**57.69**	**39**	T	T	14 23 15.6	
	baz=199,slow=75,SNR=31						
H10N1	**ASCENSION HYDR**	**57.69**	**39**	T	T	14 23 16.9	
	baz=199,slow=75,SNR=21						
H10N2	**ASCENSION HYDR**	**57.70**	**39**	T	T	14 23 17.0	
	baz=199,slow=75,SNR=32						
LBTB	**Lobatse**	**59.88**	**88**	P	**P**	**13 20 43.5**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=224,slow=7.9,SNR=9.1						
TORD	**Torodi Ar. Bea**	**82.79**	**47**	P	**P**	**13 23 02.6**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=219,slow=4.6,SNR=7.3						
TORD	**Torodi Ar. Bea**	**82.79**	**47**	P	**P**	**13 23 01.8**	**+0.2**
STKA	**Stephens Creek**	**87.88**	**187**	P	**P**	**13 23 25.9**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=155,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**96.31**	**181**	P	**P**	**13 24 05.2**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=177,slow=5.9,SNR=4.5						
WRA	**Warramunga Arr**	**100.01**	**181**	P	**Pdif**	**13 24 22.0**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=182,slow=4.3,SNR=3.8						
BRTR	**Keskin Array B**	**119.21**	**61**	PKP	**PKPdf**	**13 29 25.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=147,slow=34,SNR=3.3						
BRLK	**Bradley Lake**	**144.07**	**303**	PKPdf	**PKPdf**	**13 30 12.9**	**+1.0**
GHO	**Glory Hole Cre**	**144.40**	**307**	PKPdf	PKPbc	13 30 11.6	+0.7
ILAR	**Eielson Array**	**145.22**	**312**	PKPbc	**PKPbc**	**13 30 12.9**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=157,slow=2.5,SNR=19						
ILAR	**Eielson Array**	**145.22**	**312**		**PKPbc**	**13 30 13.5**	**+0.1**
RND	**Reindeer**	**145.25**	**309**		**PKPdf**	**13 30 14.3**	**+0.5**
CCB	**Clear Creek Bu**	**145.50**	**312**	PKPdf	**PKPbc**	**13 30 14.4**	**+0.2**
WRH	**Wood River Hil**	**145.51**	**311**		**PKPab**	**13 30 14.9**	**+0.3**
BMAR	**Burnt Mountain**	**145.74**	**317**	PKPdf	**PKPab**	**13 30 16.0**	**+0.6**
BRVK	**Borovoye**	**145.90**	**74**	PKPdf	**PKPbc**	**13 30 16.1**	**+0.3**
MAKZ	**Makanchi**	**147.58**	**91**	PKPdf	**PKPbc**	**13 30 20.4**	**-0.6**
MK31	**Makanchi Array**	**147.72**	**91**	PKPbc	**PKPbc**	**13 30 20.8**	**-0.5**
MKAR	**Makanchi Array**	**147.72**	**91**	PKPbc	**PKPbc**	**13 30 20.6**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=244,slow=3.2,SNR=14						
MKAR	**Makanchi Array**	**147.72**	**91**		**PKPbc**	**13 30 20.9**	**-0.5**
TOLK	**Toolik Lake Re**	**147.96**	**318**	PKPbc	**PKPbc**	**13 30 22.2**	**+0.8**

*IDC **16** 13:28:02.1±1.9, 9°.79N×123°.94E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/42, mbtmp3.5/3, Error ellipse: s-maj=224.2km s-min=27.5km az=64.0*
*ISCJB **16** 13:28:04.5±0.9, 9°.90N±0°.02×124°.03E±0°.03, h8km±6km, mb3.5/3, Error ellipse: s-maj=5.0km s-min=4.1km az=168.7*
*MAN **16** 13:28:04.2, 9°.88N×124°.02E, h6km, MS3.6*
ISC 16 13:28:04.2±1.1, 9°.88N±0°.02×123°.99E±0°.03, h13km±8km, n18, σ1§71/34, mb3.4/3, 4C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.44**	**357**	⇓*i*P	**Pg**	**13 28 12.9**	**-0.1**
LLP				*i* S	**Sg**	**13 28 19.3**	**+0.5**
MSLP	**Maasin**	**0.89**	**73**	*e*P	**Pg**	**13 28 20.9**	**-0.6**
MSLP				*e*S	**Sb**	**13 28 34.1**	**+0.7**
SNPH	**Sibulan**	**0.92**	**235**	*i* P	**Pn**	**13 28 22.5**	**-0.4**
SNPH				*i* S	**Sn**	**13 28 37.8**	**+1.9**
OCLP	**Ormoc**	**1.31**	**27**	*e*P	**Pn**	**13 28 28.2**	**-0.1**
OCLP				*e*S	**Sb**	**13 28 47.2**	**+1.6**
DCPH	**Dipolog City**	**1.43**	**206**	⇑*i*P	**Pg**	**13 28 31.7**	**-0.1**
DCPH				*i* S	**Sn**	**13 28 51.2**	**+2.6**
GUIM	**Jordan**	**1.57**	**298**	*e*P	**Pn**	**13 28 32.0**	**+0.2**
GUIM				*e*S	**Sg**	**13 28 53.8**	**-1.0**
CGP	**Cagayan de Oro**	**1.57**	**154**	⇑*e*P	**Pn**	**13 28 31.5**	**-0.3**
CGP				*i* S	**Sg**	**13 29 00.8**	**+5.8**
BUTP	**Butuan**	**1.84**	**119**	*e*P	**Pn**	**13 28 35.4**	**-0.2**
BUTP				*e*S	**Sb**	**13 29 00.3**	**-0.6**
RCP	**Roxas**	**2.07**	**324**	⇑*e*P	**Pn**	**13 28 40.0**	**+1.3**
RCP				*e*S	**Sb**	**13 29 07.5**	**0.0**
PAGZ	**Pagadian**	**2.10**	**197**	*e*P	**Pb**	**13 28 40.2**	**-2.1**
PAGZ				*e*S	**Sb**	**13 29 08.1**	**-0.2**
JAP	**San Jose, Anti**	**2.19**	**293**	⇓*e*P	**Pb**	**13 28 43.3**	**-0.4**
BUKP	**Musuan**	**2.25**	**152**	*e*P	**Pn**	**13 28 42.1**	**+0.9**
BUKP				*e*S	**Sb**	**13 29 12.2**	**-0.4**
CTBH	**Cotabato--PC H**	**2.65**	**175**	⇑*i*P	**Pn**	**13 28 47.7**	**+1.0**
CTBH				*i* S	**Sb**	**13 29 21.0**	**-3.1**
CNP	**Catarman**	**2.70**	**14**	*e*P	**Pn**	**13 28 45.9**	**-1.5**
CNP				*e*S	**Sn**	**13 29 21.1**	**+1.2**
KCP	**Kidapawan**	**3.05**	**159**	⇓*i*P	**Pb**	**13 28 55.5**	**-2.9**
KCP				*i* S	**Sb**	**13 29 35.1**	**-0.6**
WRA	**Warramunga Arr**	**31.34**	**161**	P	**P**	**13 34 25.6**	**+1.0**
	0.3nm,0.6s,baz=339,slow=9.5,SNR=5.1						
WRA				PcP	**PcP**	**13 37 17.3**	**-1.4**
	0.5nm,0.7s,baz=330,slow=3.0,SNR=5.2						
ASAR	**Alice Springs**	**34.72**	**164**	P	**P**	**13 34 53.2**	**-0.9**
	0.4nm,0.8s,baz=338,slow=6.7,SNR=7.4						
ASAR				PcP	**PcP**	**13 37 26.3**	**-1.7**
	0.4nm,0.6s,baz=350,slow=3.5,SNR=5.1						
MKAR	**Makanchi Array**	**51.00**	**324**	P	**P**	**13 37 06.9**	**+1.0**
	1.0nm,0.8s,baz=124,slow=7.5,SNR=5.1						

*CNRM **16** 13:31:33.7, 34°.29N×6°.12W, h5km, ml2.7*
ISC 16 13:31:31.6±2.0, 34°.42N±0°.04×6°.18W±0°.06, h6km±14km, n11, σ1§66/17, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SICH	**Sidi Chahed**	**0.79**	**114**	P	**Pg**	**13 31 46.8**	**+0.1**
SICH				S	**Sg**	**13 31 56.3**	**-0.6**
CHEFC	**Chefchaouen**	**0.97**	**45**	P	**Pn**	**13 31 54.0**	**+2.0**
CHEFC				S	**Sn**	**13 32 08.3**	**+2.1**
ZHG	**ZHG**	**1.05**	**201**	P	**Pn**	**13 31 54.4**	**+1.4**
ZHG				S	**Sn**	**13 32 10.5**	**+2.6**
MD31	**MD31**	**1.96**	**142**	P	**Pn**	**13 32 05.1**	**-0.4**
MD31				S	**Sb**	**13 32 30.4**	**-2.0**
MDT	**Midelt**	**2.08**	**140**	P	**Pn**	**13 32 07.5**	**+0.4**
MDT				S	**Sn**	**13 32 32.8**	**-0.6**
PBDV	**Barranco-do-Ve**	**3.15**	**334**	*e*Sn	**Sn**	**13 32 58.7**	**-1.1**
PBDV				A	A	13 33 07.1	
	4.5nm,0.7s						
PVAQ	**Vaqueiros**	**3.22**	**338**	*e*Pn	**Pn**	**13 32 24.5**	**+1.7**
PVAQ				*e*Sn	**Sn**	**13 33 00.4**	**-1.2**
PVAQ				A	A	13 33 08.4	
	2.2nm,0.6s						
MORF	**Marmelete**	**3.50**	**326**	*e*Sn	**Sn**	**13 33 06.6**	**-2.0**
PCVE	**Castro Verde**	**3.54**	**335**	*e*Sn	**Sn**	**13 33 08.0**	**-1.3**
MESJ	**Messejana**	**3.79**	**335**	*e*Sn	**Sn**	**13 33 14.1**	**-1.4**
PNCL	**Nicolau / Gran**	**4.14**	**333**	*e*Sn	**Sn**	**13 33 23.6**	**-0.6**

*ISCJB **16** 13:33:45.7±0.5, 35°.53N±0°.04×140°.15E±0°.05, h71km±4km, mb3.4/6, Error ellipse: s-maj=7.5km s-min=5.2km az=143.6*
*JMA **16** 13:33:46.1±0.1, 35°.60N×140°.14E, h65km±2km, M3.0*
*IDC **16** 13:33:46.3±2.3, 35°.51N×140°.24E, h61km±21km, mb3.1/6, mb1 3.4/7, mb1mx3.2/44, mbtmp3.4/7, ML3.4/1, Error ellipse: s-maj=28.3km s-min=7.7km az=67.0*
ISC 16 13:33:46.7±0.9, 35°.54N±0°.04×140°.13E±0°.05, h65km±7km, n22, σ0§66/32, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**156**	P	**Pn**	**13 33 56.7**	**+0.2**
JSMT	**Sammumatsuo**	**0.28**	**68**	P	**Pn**	**13 33 57.0**	**-0.2**
JKUC	**kamogawauchiur**	**0.39**	**172**	P	**Pn**	**13 33 57.9**	**-0.2**
JKUC				*e*S	**Sn**	**13 34 06.7**	**+0.4**
BSO3	**Boso 3**	**0.80**	**157**	P	**Pn**	**13 34 02.1**	**-0.1**
JOD2	**Odawara 2**	**0.90**	**252**	P	**Pn**	**13 34 03.3**	**-0.4**
JOD2				S	**Sn**	**13 34 15.9**	**-0.4**
JIM2	**Oshima 3**	**1.00**	**215**	P	**Pn**	**13 34 04.3**	**-0.8**
JIM2				S	**Sn**	**13 34 18.2**	**-0.5**
JAG	**Ashikaga**	**1.04**	**328**	P	**Pn**	**13 34 04.7**	**-0.8**
JRY	**Ryogami san**	**1.11**	**296**	P	**Pn**	**13 34 06.5**	**+0.1**
BSO1	**Boso 1**	**1.12**	**142**	P	**Pn**	**13 34 05.6**	**-0.5**
BSO1				*e*S	**Sn**	**13 34 21.2**	**+0.6**
JFNN	**Fujinakano**	**1.23**	**254**	P	**Pn**	**13 34 07.9**	**-0.1**
JFNN				S	**Sn**	**13 34 24.2**	**+0.3**
JYN	**Shimob**	**1.30**	**269**	P	**Pn**	**13 34 08.7**	**-0.2**
JIZS	**Izushimoda**	**1.32**	**232**	P	**Pn**	**13 34 08.8**	**-0.3**
JIZS				S	**Sn**	**13 34 25.3**	**-0.6**
JKT	**Katashina**	**1.42**	**330**	P	**Pn**	**13 34 09.8**	**-0.7**
JKT				*e*S	**Sn**	**13 34 27.3**	**-1.1**
MJAR	**Matsushiro Arr**	**1.85**	**303**	P	**Pn**	**13 34 16.4**	**+0.1**
	2.4nm,0.3s,baz=143,slow=15,SNR=121						
MJAR				S	**Sn**	**13 34 39.8**	**+1.0**
	1.8nm,0.3s,baz=166,slow=16,SNR=11						
MAT	**Matsuhiro**	**1.85**	**303**	P	**Pn**	**13 34 16.6**	**+0.3**
MAT				S	**Sn**	**13 34 39.1**	**+0.3**
JHJ	**Hachijo jima 2**	**2.43**	**187**	P	**Pn**	**13 34 24.4**	**+0.3**
	22nm,0.3s,baz=38,slow=12,SNR=8.6						
JHJ				S	**Sn**	**13 34 52.8**	**-0.1**
	43nm,0.3s,baz=90,slow=20,SNR=5.0						
ZALV	**Zalesovo Beam**	**42.17**	**

CNP	**Catarman**	**2.94**	**311**	*eP*		**Pn**	**14 20 00.6**	**-1.0**
CNP				*eS*		**Sn**	**14 20 33.6**	**-3.6**
CGP	**Cagayan de Oro**	**3.05**	**226⇑**	*eP*		**Pn**	**14 20 04.7**	**+1.5**
CGP				*eS*		**Sn**	**14 20 38.5**	**-1.7**
BUKP	**Musuan**	**3.26**	**215**	*eP*		**Pn**	**14 20 08.2**	**+2.2**
BUKP				*eS*		**Sn**	**14 20 47.2**	**+1.9**
DAV	**Davao City (W)**	**3.73**	**201⇑**	*eP*		**Pb**	**14 20 17.6**	**-3.0**
RCP	**Roxas**	**4.22**	**284⇓**	*eP*		**Pn**	**14 20 20.3**	**+1.0**
GUIM	**Jordan**	**4.27**	**271**	*eP*		**Pn**	**14 20 20.1**	**+0.3**
TNTI	**Ternate**	**9.75**	**177**			**Pn**	**14 21 35.0**	**-0.2**
SIJI	**Sorong**	**12.16**	**159**	Pn		**Pn**	**14 22 09.4**	**+1.2**
	0.6nm,0.3s,baz=322,slow=19,SNR=4.0							
KAPI	**Kappang**	**17.06**	**205**	Pn		**Pn**	**14 23 13.8**	**+0.1**
	0.4nm,0.3s,baz=54,slow=19,SNR=3.1							
KAPI	**Kappang**	**17.06**	**205**			**Pn**	**14 23 11.7**	**-2.0**
KAPI				IAmb	IAmb		14 23 18.2	
	comp=Z,10nm,0.8s							
GUMO	**Guam**	**17.79**	**79**	LR	LR		14 29 59.4	
	comp=Z,87nm,18.4s,baz=152,slow=36							
SOEI	**Soe**	**20.37**	**188**			**P**	**14 23 52.6**	**+0.5**
SOEI				IAmb	IAmb		14 24 10.9	
	comp=Z,16nm,0.8s							
BATI	**Baumata**	**20.90**	**189**	P		**P**	**14 23 58.3**	**+0.6**
	comp=Z,32nm,0.6s,baz=66,slow=20,SNR=10							
JNU	**Nakatsue**	**22.73**	**9**	P		**P**	**14 24 19.4**	**+2.3**
	comp=Z,5.2nm,0.9s,baz=214,slow=18,SNR=3.8							
JNU	**Nakatsue**	**22.73**	**9**	IAmb	IAmb		14 24 20.9	
	comp=Z,7.3nm,0.9s							
WHN	**Wuhan**	**23.06**	**331**	P		**P**	**14 24 22.8**	**+2.2**
JHJ	**Hachijo jima 2**	**25.36**	**26**	P		**P**	**14 24 41.9**	**-0.4**
	comp=Z,136nm,0.8s,baz=73,slow=20,SNR=2.6							
KSRS	**Korea Array**	**26.77**	**2**	P		**P**	**14 24 55.3**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=174,slow=9.2,SNR=4.9							
CMAR	**Chiang Mai Arr**	**28.18**	**289**	P		**P**	**14 25 06.9**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=102,slow=8.4,SNR=4.2							
CMAR				LR	LR		14 38 30.9	
	comp=Z,11nm,18.0s,baz=225,slow=41							
FITZ	**Fitzroy Crossi**	**28.52**	**183**	P		**P**	**14 25 10.0**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=353,slow=8.3,SNR=5.6							
FITZ	**Fitzroy Crossi**	**28.52**	**183**	IAmb	IAmb		14 25 25.2	
	comp=Z,3.3nm,1.1s							
XAN	**Xi'an**	**28.59**	**328**	P		**P**	**14 25 13.0**	**+1.6**
XAN				pmax	pmax			
	comp=Z,8.0nm,1.1s							
WRA	**Warramunga Arr**	**31.19**	**166**	P		**P**	**14 25 33.5**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=345,slow=8.9,SNR=18							
USRK	**Ussuriysk Ar.**	**33.78**	**7**	P		**P**	**14 25 58.1**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=176,slow=7.9,SNR=9.7							
AS31	**Alice Springs**	**34.71**	**169**	P		**P**	**14 26 02.5**	**-2.8**
ASAR	**Alice Springs**	**34.71**	**169**	P		**P**	**14 26 04.8**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=351,slow=6.5,SNR=54							
ASAR	**Alice Springs**	**34.71**	**169**	P		**P**	**14 26 04.2**	**-1.1**
GTA	**Gaotai**	**37.50**	**325**	*eP*		**P**	**14 26 31.1**	**+1.9**
GTA				pP		pwP	14 26 42.3	+5.7
GTA				sP		sP	14 26 47.5	+19
GTA				PcP		**PcP**	**14 28 41.5**	**-6.1**
GTA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,60nm,6.2s							
GTA				LR	LR			
	comp=N,82nm,15.9s							
GTA				LR	LR			
	comp=E,110nm,15.6s							
GTA				LR	LR			
	comp=Z,150nm,15.6s							
SONM	**Songino Array**	**40.96**	**339**	P		**P**	**14 26 58.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=161,slow=8.3,SNR=5.3							
SONM	**Songino Array**	**40.96**	**339**	IAmb	IAmb		14 27 01.3	
	comp=Z,0.8nm,0.8s							
STKA	**Stephens Creek**	**44.49**	**162**	P		**P**	**14 27 26.8**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=341,slow=9.5,SNR=4.9							
STKA	**Stephens Creek**	**44.49**	**162**	IAmb	IAmb		14 27 32.3	
	comp=Z,0.7nm,0.9s							
WMQ	**Urumqi**	**47.38**	**322**	*eP*		**P**	**14 27 52.1**	**+2.6**
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,180nm,5.7s							
WMQ				LR	LR			
	comp=N,250nm,29.2s							
WMQ				LR	LR			
	comp=E,1μm,29.2s							
WMQ				LR	LR			
	comp=Z,110nm,29.1s							
PETK	**Petropavlovsk-**	**49.09**	**24**	P		**P**	**14 28 03.2**	**+0.8**
	comp=Z,4.7nm,0.7s,baz=207,slow=2.2,SNR=6.8							
MK31	**Makanchi Array**	**52.18**	**322**	P		**P**	**14 28 26.9**	**+0.9**
MKAR	**Makanchi Array**	**52.18**	**322**	P		**P**	**14 28 27.1**	**+1.1**
	comp=Z,4.2nm,0.7s,baz=120,slow=6.9,SNR=19							
MKAR				PcP		**PcP**	**14 29 38.0**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=109,slow=6.7,SNR=3.1							
MKAR	**Makanchi Array**	**52.18**	**322**	P		**P**	**14 28 27.2**	**+1.3**
KSH	**Kashi**	**53.51**	**312**	P		**P**	**14 28 40.8**	**+4.7**
KSH				PP		**PP**	**14 30 43.3**	**+6.7**
KSH				S		**S**	**14 36 11.1**	**+1.3**
KSH	**Kashi**	**53.51**	**312**	SS		**SKiKP**	**14 39 51.1**	**-2.1**
KSH				pmax	pmax			
	comp=Z,310nm,4.8s							
KSH				LR	LR			
	comp=N,240nm,10.8s							
KSH				LR	LR			
	comp=E,320nm,8.4s							
KSH				LR	LR			
	comp=Z,230nm,8.7s							
NRN	**Naryn**	**54.11**	**314**	P		**P**	**14 28 39.8**	**-0.9**
NRN				IAmb	IAmb		14 28 43.3	
	comp=Z,4.0nm,0.9s							
ZALV	**Zalesovo Beam**	**54.67**	**331**	P		**P**	**14 28 44.0**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=113,slow=6.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**54.67**	**331**	P		**P**	**14 28 42.4**	**-1.7**
KKAR	**Karatay Array**	**58.50**	**314**	P		**P**	**14 29 11.4**	**-0.2**
TIXI	**Tiksi**	**61.04**	**1**	P		**P**	**14 29 26.8**	**-1.7**
TIXI				IAmb	IAmb		14 29 30.7	
	comp=Z,2.5nm,0.8s							
BRVK	**Borovoye**	**61.86**	**325**	P		**P**	**14 29 33.9**	**-0.5**
ABKAR	**Akbulak array**	**67.07**	**319**	P		**P**	**14 30 08.4**	**-0.2**
ABKAR	**Akbulak array**	**67.07**	**319**	P		**P**	**14 30 08.8**	**+0.2**
ABKAR				IAmb	IAmb		14 30 10.6	
	comp=Z,1.9nm,0.8s							
ILAR	**Eielson Array**	**78.88**	**26**	P		**P**	**14 31 18.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=235,slow=5.0,SNR=9.6							
BMAR	**Burnt Mountain**	**79.73**	**23**	P		**P**	**14 31 25.3**	**+2.3**
ARCES	**ARCESS Array B**	**84.13**	**340**	P		**P**	**14 31 45.9**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=86,slow=6.2,SNR=7.2							
BRTR	**Keskin Array B**	**85.84**	**309**	P		**P**	**14 31 54.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=114,slow=5.4,SNR=5.3							
FINES	**FINESS Array B**	**85.93**	**332**	P		**P**	**14 31 55.0**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=83,slow=4.3,SNR=36							
AKASG	**Malin Array Be**	**86.74**	**321**	P		**P**	**14 31 59.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=63,slow=6.3,SNR=5.1							
AKASG	**Malin Array Be**	**86.74**	**321**	IAmb	IAmb		14 32 01.5	
	comp=Z,1.6nm,0.9s							
NOA	**NORSAR Array B**	**92.77**	**334**	P		**P**	**14 32 27.0**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=48,slow=8.8,SNR=2.6							
VYHS	**Vyhne**	**93.84**	**321**	*eP*		P	14 32 39.0	+6.2
TXAR	**Lajitas Array**	**117.13**	**49**	PKP		**PKiKP**	**14 38 01.8**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=358,slow=2.4,SNR=4.6							
TORD	**Torodi Ar. Bea**	**120.76**	**292**	PKP		**PKPdf**	**14 38 08.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=81,slow=2.5,SNR=3.2							
PLCA	**Paso Flores**	**146.22**	**156**	PKPbc		**PKPab**	**14 38 57.2**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=273,slow=4.8,SNR=10.0							

*ISCJB **16** 14:24:27.0±0.4, 7°.74S±0°.04×128°.44E±0°.05, h100km, mb3.9/1, Error ellipse: s-maj=6.6km s-min=4.9km az=14.8*
*IDC **16** 14:24:28.0±2.0, 7°.79S×128°.47E, h67km±46km, mb4.0/1, mb1 4.2/6, mb1mx3.6/31, mbtmp4.2/6, ML4.1/5, Error ellipse: s-maj=32.7km s-min=14.3km az=128.0*
*NEIC **16** 14:24:29.5±2.5, 7°.73S±0°.07×128°.38E±0°.07, h113km±10km, mb4.5/15*
ISC 16 14:24:28.5±0.6, **7°.82S**±0°.05×**128°.43E**±0°.06, **h100**km, **n28,** σ**2.56**/37, **mb4.4/7, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.54**	**245**		**Pn**	**14 25 36.7**	**+1.6**
SOEI					**Sn**	**14 26 30.3**	**+3.4**
BATI	**Baumata**	**5.27**	**243**	P	**Pn**	**14 25 46.4**	**+1.5**
	16nm,0.3s,baz=74,slow=18,SNR=20						
BATI				S	**Sn**	**14 26 45.1**	**+0.7**
	15nm,0.3s,baz=293,slow=23,SNR=13						
MTN	**Manton Dam**	**5.66**	**152**	Pn	**Pn**	**14 25 53.5**	**+3.4**
MTN					**Sn**	**14 26 58.0**	**+4.2**
FAKI	**Fak Fak**	**6.18**	**38**		**Pn**	**14 25 56.6**	**-0.7**
SIJI	**Sorong**	**7.46**	**22**	P	**Pn**	**14 26 14.1**	**-0.7**
	2.7nm,0.3s,baz=210,slow=14,SNR=32						
SIJI				S	**Sn**	**14 27 36.4**	**-1.5**
	0.3nm,0.3s,baz=232,slow=19,SNR=2.3						
KNRA	**Kununurra**	**7.81**	**178**		**Pn**	**14 26 21.8**	**+2.3**
KNRA					**Sn**	**14 27 46.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.57**	**195**	P	**Pn**	**14 26 56.5**	**-0.5**
	1.9nm,0.3s,baz=28,slow=12,SNR=80						
FITZ				S	**Sn**	**14 28 48.7**	**-4.7**
	2.2nm,0.3s,baz=22,slow=11,SNR=9.4						
FITZ	**Fitzroy Crossi**	**10.57**	**195**		**Pn**	**14 26 57.3**	**+0.4**
FITZ					**Sn**	**14 28 49.5**	**-4.0**
WRA	**Warramunga Arr**	**13.34**	**155**	P	**Pn**	**14 27 34.2**	**+0.3**
	0.4nm,0.3s,baz=323,slow=14,SNR=16						
WRA				S	Sn	14 29 54.6	-6.2
	1.5nm,0.3s,baz=328,slow=22,SNR=8.8						
WRA	**Warramunga Arr**	**13.34**	**155**		**Pn**	**14 27 35.6**	**+1.7**
WRA					**Sn**	**14 29 56.0**	**-4.8**
AS31	**Alice Springs**	**16.61**	**162**	P	**P**	**14 28 18.9**	**+2.8**
ASAR	**Alice Springs**	**16.61**	**162**	P	**Pn**	**14 28 17.6**	**+2.2**
	0.7nm,0.3s,baz=339,slow=11,SNR=24						
ASAR				S	**Sn**	**14 31 13.6**	**-6.1**
	0.6nm,0.3s,baz=322,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.61**	**162**	P	**P**	**14 28 19.8**	**+3.7**
UGM	**Wanagama**	**17.74**	**268**	P	**P**	**14 28 28.2**	**-0.5**
UGM				IAmb	IAmb	14 28 34.4	
	comp=Z,77nm,1.5s						
CTAO	**Charters Tower**	**21.14**	**127**	P	**P**	**14 29 02.2**	**-3.3**
MNAI	**Manna**	**25.56**	**276**	P	**P**	**14 29 45.9**	**-2.4**
BBOO	**Buckleboo**	**25.85**	**165**	P	**P**	**14 29 52.3**	**+1.5**
BBOO				IAmb	IAmb	14 29 58.4	
	comp=Z,29nm,1.5s						
STKA	**Stephens Creek**	**26.89**	**155**	P	**P**	**14 30 02.8**	**+2.6**
	comp=Z,1.7nm,0.4s,baz=328,slow=9.9,SNR=6.0						
STKA	**Stephens Creek**	**26.89**	**155**	P	**P**	**14 30 01.6**	**+1.4**
NWAO	**Narrogin (SRO)**	**27.05**	**201**	P	**P**	**14 30 02.3**	**+0.8**
NWAO				IAmb	IAmb	14 30 04.3	
	comp=Z,20nm,1.4s						
CAN	**Canberra**	**33.24**	**148**	P	**P**	**14 30 55.8**	**-0.4**
CAN				IAmb	IAmb	14 31 06.8	
	comp=Z,13nm,1.2s						
TOO	**Toolangi**	**33.41**	**155**	P	**P**	**14 30 58.2**	**+0.5**
TOO				IAmb	IAmb	14 31 15.5	
	comp=Z,8.3nm,1.2s						
JNU	**Nakatsue**	**40.78**	**3**	P	**P**	**14 32 02.2**	**+2.2**
MJAR	**Matsushiro Arr**	**45.07**	**11**	P	**P**	**14 32 33.5**	**-1.1**
KS19	**Wonju Array Si**	**45.09**	**359**	P	**P**	**14 32 33.5**	**-1.1**
KS19				IAmb	IAmb	14 32 46.4	
	comp=Z,8.9nm,1.1s						
PALK	**Pallekele**	**49.89**	**286**	P	**P**	**14 33 11.6**	**-0.8**
PALK				IAmb	IAmb	14 33 27.0	
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	**58.74**	**343**	P	**P**	**14 34 14.9**	**-1.1**
BOOM	**Boomskoye usch**	**69.19**	**321**	P	**P**	**14 35 26.0**	**+1.3**

TAP 16 14:30:47.6, 24°.14N×121°.68E, h10km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.08**	**295**	P	Pg	14 30 49.8	-0.1
	baz=295						
NACB				S	Sg	14 30 51.6	-0.1
	baz=295						
NACB	**Ninganchiao**	**0.08**	**295**	P	Pg	14 30 49.9	0.0
TWD	**Chiawan**	**0.09**	**231**	P	Pg	14 30 49.8	-0.3
	baz=228						
TWD				S	Sg	14 30 51.9	+0.1
	baz=228						
ETLH	**Xiulin Townshi**	**0.19**	**291**	P	Pg	14 30 51.6	-0.1
	baz=290						
ETLH				S	Sg	14 30 54.6	+0.1
	baz=290						
ENA	**Nanau**	**0.29**	**12**	*eS*	Sg	14 30 57.2	-0.3
	baz=13						
NANB	**Nanao**	**0.29**	**13**	*eP*	Pg	14 30 52.5	-1.1
	baz=13						
NANB				*eS*	Sg	14 30 57.0	-0.5
	baz=13						
NNSB	**Datong**	**0.39**	**317**	P	Pg	14 30 55.5	+0.1
	baz=317						
NNSB				*eS*	Sg	14 31 00.8	+0.2
	baz=317						
NNS	**Nan Shan**	**0.41**	**317**	*eP*	Pg	14 30 55.6	-0.1
	baz=317						
NNS				S	Sg	14 31 01.0	-0.1
	baz=317						
CHGB	**Renai**	**0.47**	**260**	*eS*	Sg	14 31 02.9	0.0
	baz=260						
TWT	**Tachien**	**0.47**	**284**	*eS*	Sg	14 31 04.0	+0.9
	baz=283						
NDT	**Datong Townshi**	**0.48**	**342**	*eP*	Pg	14 30 57.0	-0.1
	baz=342						
NDT				*eS*	Sg	14 31 04.1	+0.6
	baz=342						
TDCB	**Techi**	**0.48**	**284**	*eP*	Pg	14 30 57.0	-0.1
	baz=283						
TDCB				*eS*	Sg	14 31 04.0	+0.4
	baz=283						
ENTT	**Nioudou**	**0.51**	**349**	*eP*	Pg	14 30 57.2	-0.3
	baz=349						
ENTT				*eS*	Sg	14 31 04.6	+0.3
	baz=349						
YHNB	**Yeheng**	**0.59**	**333**	*eP*	Pb	14 30 59.7	-0.5
	baz=332						
YHNB				*eS*	Sg	14 31 07.7	+0.6
	baz=332						
VWDT	**VWDT**	**0.62**	**232**	*eS*	Sg	14 31 08.5	+0.7
	baz=231						
WHP	**Taichung City**	**0.68**	**282**	*eS*	Sg	14 31 10.0	+0.3
	baz=281						

*ISCJB **16** 14:41:51.4±0.3, 59°.03N±0°.02×153°.06W±0°.05, h90km±2km, mb3.9/15, Error ellipse: s-maj=4.4km s-min=3.6km az=38.6*
*IDC **16** 14:41:51.4±1.1, 59°.12N×153°.28W, h65km±15km, mb3.8/15, mb1 3.9/18, mb1mx3.6/52, mbtmp4.1/18, Error ellipse: s-maj=17.1km s-min=10.5km az=99.0*
*NEIC **16** 14:41:52.5±1.5, 59°.05N±0°.04×153°.17W±0°.09, h79km±4km*
*AEIC **16** 14:41:53.5±1.7, 59°.04N±0°.04×153°.18W±0°.10, h79km±4km, ML3.7, mb4.1/6(NEIC)*
ISC 16 14:41:52.5±0.7, **59°.04N**±0°.04×**153°.09W**±0°.05, **h83**km±6km, **n106,** σ**0.93**/117, **mb3.9**/16, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQ	**Augustine Qik'**	**0.36**	**333**		**Pn**	**14 42 05.5**	**-0.1**
AUQ					**Sn**	**14 42 14.6**	**-0.6**
AU22	**Augustine Moun**	**0.36**	**338**		**Pn**	**14 42 05.4**	**-0.1**
AU22					**Sn**	**14 42 14.7**	**-0.4**
AUP	**Augustine Pinn**	**0.37**	**333**		**Pn**	**14 42 05.6**	**-0.1**
AUH	**Augustine H**	**0.37**	**331**		**Pn**	**14 42 05.5**	**-0.2**
FOSS	**Fourpeaked Sta**	**0.39**	**233**		**Pn**	**14 42 05.8**	**0.0**
ILS	**Iliamna Low So**	**0.92**	**1**		**Pn**	**14 42 10.6**	**-0.3**
HOM	**Homer**	**0.97**	**49**		**Pn**	**14 42 12.3**	**+0.9**
HOM					**Sn**	**14 42 26.5**	**+1.0**
IVE	**Iliamna Volcan**	**0.98**	**2**		**Pn**	**14 42 11.1**	**-0.5**
IVE					**Sn**	**14 42 24.7**	**-1.3**
CNPM	**China Poot**	**1.07**	**62**		**Pn**	**14 42 13.4**	**+0.8**
CNPM				Sn	**Sn**	**14 42 29.2**	**+1.5**
KDAK	**Kodiak Island**	**1.29**	**168**	P	**Pn**	**14 42 15.8**	**+0.6**
	193nm,0.3s,baz=61,slow=5.1,SNR=1615						
KDAK				S	**Sn**	**14 42 32.0**	**-0.3**
	369nm,0.3s,baz=263,slow=22,SNR=26						
BRLK	**Bradley Lake**	**1.34**	**56**		**Pn**	**14 42 15.8**	**-0.1**
BRLK				Sn	**Sn**	**14 42 33.6**	**0.0**
BRSE	**Bradley Lake S**	**1.40**	**59**		**Pn**	**14 42 16.6**	**+0.1**
RED	**Redoubt Volcan**	**1.40**	**7**		**Pn**	**14 42 16.5**	**-0.2**
RSO	**Redoubt South**	**1.44**	**7**		**Pn**	**14 42 17.5**	**+0.1**
NCT	**North Crescent**	**1.53**	**3**		**Pn**	**14 42 18.5**	**+0.1**
RDJH	**Redoubt Jeurge**	**1.57**	**5**		**Pn**	**14 42 19.0**	**+0.1**
OHAK	**Old Harbor**	**1.82**	**183**		**Pn**	**14 42 22.6**	**+0.5**
OHAK	**Old Harbor**	**1.82**	**183**		**Sn**	**14 42 43.4**	**-1.2**
SLKM	**Skilak Lake**	**2.07**	**43**		**Pn**	**14 42 25.4**	**0.0**
SEW	**Seward**	**2.14**	**58**		**Pn**	**14 42 26.1**	**-0.1**
SPBG	**Spurr Blockage**	**2.26**	**9**		**Pn**	**14 42 28.5**	**+0.6**
SPCP	**Crater Peak Br**	**2.29**	**11**		**Pn**	**14 42 29.0**	**+0.6**
SPCG	**Spurr Capps Gl**	**2.33**	**13**		**Pn**	**14 42 29.4**	**+0.5**
CGLM	**Capps Glacier**	**2.34**	**13**		**Pn**	**14 42 29.6**	**+0.6**
SPNN	**North Nagishla**	**2.34**	**5**		**Pn**	**14 42 29.9**	**+0.7**
SVW2	**Sparrevohn**	**2.41**	**330**		**Pn**	**14 42 29.9**	**-0.1**
SII	**Sitkinak Islan**	**2.55**	**194**		**Pn**	**14 42 32.2**	**+0.4**
SII				Sn	**Sn**	**14 43 00.3**	**-1.8**
RC01	**Rabbit Creek A**	**2.66**	**38**		**Pn**	**14 42 33.7**	**+0.5**
RC01				Sn	**Sn**	**14 43 04.6**	**+0.1**
SKT	**Skwentna**	**3.05**	**14**		**Pn**	**14 42 39.6**	**+1.1**
PMR	**Palmer**	**3.23**	**36**		**Pn**	**14 42 41.0**	**+0.1**
KNK	**Knik Glacier**	**3.32**	**42**		**Pn**	**14 42 42.1**	**-0.1**
KNK				Sn	**Sn**	**14 43 19.1**	**-1.4**
GHO	**Glory Hole Cre**	**3.44**	**35**		**Pn**	**14 42 44.0**	**+0.2**
CHIR	**Chirikof Islan**	**3.50**	**204**		**Pn**	**14 42 44.1**	**-0.5**
GLI	**Glacier Island**	**3.54**	**56**		**Pn**	**14 42 43.9**	**-1.2**
HIN	**Hinchinbrook I**	**3.61**	**65**		**Pn**	**14 42 46.0**	**-0.1**
SML	**Sawmill**	**3.65**	**38**		**Pn**	**14 42 46.9**	**+0.3**
FID	**Port Fidalgo**	**3.75**	**60**		**Pn**	**14 42 46.8**	**-1.2**
PPLA	**Purkeyplie**	**3.90**	**6**		**Pn**	**14 42 51.6**	**+1.5**
CHGN	**Chignik**	**3.96**	**228**		**Pn**	**14 42 51.2**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.01**	**65**		**Pn**	**14 42 51.2**	**-0.2**
TTA	**Tatalina**	**4.16**	**341**		**Pn**	**14 42 53.6**	**0.0**
RAGM	**Ragged Mountai**	**4.47**	**69**	Pn	**Pn**	**14 42 58.3**	**+0.4**
RAGM					**Sn**	**14 43 48.3**	**-0.3**
HMT	**Hamilton**	**4.66**	**70**	Pn	**Pn**	**14 43 00.4**	**0.0**
SUCK	**Suckling Hills**	**4.85**	**74**	Pn	**Pn**	**14 43 03.6**	**+0.6**
MCK	**McKinley**	**5.12**	**21**	Pn	**Pn**	**14 43 07.1**	**+0.5**
BPAW	**Bear Paw Mtn.**	**5.18**	**10**		**Pn**	**14 43 08.3**	**+0.9**
GLB	**Gilahina Butte**	**5.21**	**59**		**Pn**	**14 43 07.8**	**-0.2**
VRDI	**Verde Repeater**	**5.30**	**61**		**Pn**	**14 43 09.0**	**-0.2**
CRQM	**Cirque**	**5.30**	**67**		**Pn**	**14 43 08.9**	**-0.3**
PAX	**Paxson**	**5.41**	**40**		**Pn**	**14 43 11.6**	**+0.9**
BWN	**Browne**	**5.43**	**17**		**Pn**	**14 43 11.8**	**+0.9**
TGL	**Tana Glacier**	**5.45**	**67**		**Pn**	**14 43 10.7**	**-0.4**
TGL					**Sn**	**14 44 10.1**	**-2.3**
BALM	**Baldy**	**5.75**	**65**		**Pn**	**14 43 14.9**	**-0.3**
MESA	**MESA**	**5.77**	**74**	Pn	**Pn**	**14 43 15.3**	**-0.4**
MESA					**Sn**	**14 44 18.6**	**-1.9**
WRH	**Wood River Hil**	**5.95**	**21**		**Pn**	**14 43 17.9**	**0.0**
MENT	**Mentasta**	**6.01**	**45**		**Pn**	**14 43 20.1**	**+1.4**
BARN	**Barnard Glacie**	**6.08**	**66**	Pn	**Pn**	**14 43 20.1**	**+0.3**
MLY	**Manley**	**6.12**	**9**		**Pn**	**14 43 20.3**	**+0.1**
HDA	**Harding Lake**	**6.13**	**26**		**Pn**	**14 43 20.2**	**-0.1**
CCB	**Clear Creek Bu**	**6.16**	**22**		**Pn**	**14 43 20.2**	**-0.5**
CTGM	**Chitina Glacie**	**6.21**	**67**		**Pn**	**14 43 22.4**	**+0.9**
DOT	**Dot Lake**	**6.34**	**39**		**Pn**	**14 43 24.0**	**+0.7**
COLA	**College**	**6.36**	**21**		**Pn**	**14 43 23.1**	**-0.3**
MDM	**Murphy Dome**	**6.37**	**19**	Pn	**Pn**	**14 43 23.3**	**-0.3**
IL31		**6.46**	**24**		**Pn**	**14 43 24.3**	**-0.4**
ILAR	**Eielson Array**	**6.46**	**24**	P	**Pn**	**14 43 24.3**	**-0.5**
	2.3nm,0.3s,baz=209,slow=14,SNR=149						
ILAR				S	**Sn**	**14 44 33.7**	**-3.2**
	3.8nm,0.3s,baz=192,slow=1.9,SNR=6.7						
ILAR	**Eielson Array**	**6.46**	**24**		**Pn**	**14 43 24.7**	**0.0**
PCA	**Pinnacle**	**6.61**	**75**	Pn	**Pn**	**14 43 28.0**	**+1.0**
BCAR	**Beaver Creek A**	**6.81**	**49**		**Pn**	**14 43 29.9**	**+0.2**
IMAR	**Indian Mountai**	**6.98**	**358**		**Pn**	**14 43 32.6**	**+0.8**
HYT	**Haines Junctio**	**8.03**	**70**		**Pn**	**14 43 47.9**	**+1.5**
EGAK	**Eagle**	**8.04**	**39**		**Pn**	**14 43 46.3**	**-0.1**
DAWY	**Dawson**	**8.25**	**47**		**Pn**	**14 43 49.9**	**+0.6**
COLD	**Coldfoot**	**8.32**	**8**		**Pn**	**14 43 51.1**	**+0.9**
WHY	**Whitehorse**	**9.30**	**72**		**Pn**	**14 44 03.4**	**+0.6**
BESE	**Bessie Mountai**	**9.47**	**85**	Pn	**Pn**	**14 44 07.9**	**+1.9**
SIT	**Sitka**	**9.62**	**94**	Pn	**Pn**	**14 44 07.1**	**-0.9**
JIS	**Juneau Island**	**9.78**	**86**	Pn	**Pn**	**14 44 12.8**	**+2.8**
CRAG	**Craig**	**11.38**	**100**	Pn	**Pn**	**14 44 31.0**	**-0.8**
WRAK	**Wrangell Islan**	**11.39**	**94**	Pn	**Pn**	**14 44 32.3**	**+0.4**
DLBC	**Dease Lake**	**11.98**	**83**	P	**Pn**	**14 44 41.9**	**+1.8**
	0.3nm,0.3s,baz=306,slow=6.7,SNR=3.3						
DLBC				S	**Sn**	**14 46 48.3**	**-3.5**
	0.3nm,0.3s,baz=

ISCJB ***16*** *14:57:17.3±0.6, 38°.21N±0°.03×32°.34E±0°.04, h0km, Error ellipse: s-maj=5.1km s-min=4.1km az=159.6*
DDA ***16*** *14:57:17.1, 38°.19N×32°.30E, h7km±2km, ML2.5*
ISC 16 14:57:17.2±1.1, 38°.22N±0°.03×32°.35E±0°.04, h0km, n9, σ0°.81/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADK	**Ladik-KONYA**	**0.02**	**142**	PG	**Pg**	**14 57 17.7**	**+0.1**
LADK				SG	**Sg**	**14 57 18.5**	**+0.7**
KONT	**Konya--Tatoy**	**0.27**	**178**	*i* P	**Pg**	**14 57 22.4**	**0.0**
KONT				IAML_P			
	comp=Z,4μm,0.1s						
KONT	**Konya--Tatoy**	**0.27**	**178**	PG	**Pg**	**14 57 22.2**	**-0.2**
KONT				SG	**Sg**	**14 57 26.5**	**+0.6**
KDHN	**Kadinhani**	**0.35**	**329**	*i* P	**Pg**	**14 57 24.2**	**+0.2**
KDHN				*i* S	**Sb**	**14 57 31.0**	**-1.7**
KDHN				IAML_P			
	comp=Z,2μm,0.2s						
DOGA	**KONYA_Doganhis**	**0.55**	**259**	*i* P	**Pg**	**14 57 27.9**	**+0.2**
DOGA				IAML_P			
	comp=Z,777nm,0.1s						
CHBY	**Cihanbeyli**	**0.56**	**49**	PG	**Pg**	**14 57 28.4**	**+0.4**
CHBY				SG	**Sb**	**14 57 37.3**	**-1.3**
KIZT	**Kizilcal**	**0.76**	**331**	PG	**Pg**	**14 57 31.8**	**+0.1**
KIZT				SG	**Sg**	**14 57 42.8**	**+1.2**
KULU	**Kulu**	**0.97**	**32**	PG	**Pg**	**14 57 35.8**	**0.0**
KULU				SG	**Sb**	**14 57 49.7**	**-0.7**
KKUL	**Konya-Kulu**	**1.05**	**25**	*i* P	**Pb**	**14 57 38.6**	**+0.2**

IDC ***16*** *15:00:10.9±0.3, 60°.33S×46°.39W, h0km, mb4.9/22, mb1 4.9/24, mb1mx4.9/27, mbtmp4.8/24, ML4.3/2, MS4.9/19, Ms1 4.9/19, ms1mx4.9/20, Error ellipse: s-maj=13.6km s-min=10.6km az=61.0*
MOS ***16*** *15:00:11.3±1.4, 60°.19S×46°.16W, h10km, mb5.4/19, Error ellipse: s-maj=27.1km s-min=10.6km az=98.2*
NEIC ***16*** *15:00:12.5±1.8, 60°.35S±0°.07×46°.4W±0°.1, h10km±1km, mb5.1/35, Mwc5.5(GCMT)*
BJI ***16*** *15:00:12.5±0.0, 60°.30S×46°.30W, h10km, mB5.6/12, Ms5.4/6, Ms7 5.1/7*
GCMT ***16*** *15:00:15.5±0.1, 60°.68S±0°.01×46°.80W±0°.02, h12km, MW5.4/113, Moment Tensor Solution. s78,c124; s113,c204; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.04±.03; $M_{\theta\theta}$0.34±.03; $M_{\phi\phi}$0.69±.03; $M_{r\theta}$-0.09±.07; $M_{r\phi}$1.36±.02; $M_{\theta\phi}$0.58±.07; Best double couple: $M_0$1.68500×10^{17} NP1:ϕ_s191.00000°, δ62.00000°, λ-133.00000°. NP2:ϕ_s74.00000°, δ50.00000°, λ-38.00000°. Principal axes: T 1.9400, Plg7.0000°, Azm310.0000°; N -0.5110, Plg37.0000°, Azm214.0000°; P -1.4290, Plg52.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *15:00:15.5±0.7, 60°.57S×46°.55W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.05; $M_{\theta\theta}$0.40; $M_{\phi\phi}$0.66; $M_{r\theta}$-0.29; $M_{\theta\phi}$1.37; $M_{\phi r}$0.71; Fault plane solution: $M_0$1.82000×10^{17} NP1:ϕ_s76.00000°, δ52.00000°, λ-36.00000°. NP2:ϕ_s190.00000°, δ63.00000°, λ-136.00000°. Principal axes: T 1.9417, Plg7.0000°, Azm311.0000°; N -0.2728, Plg40.0000°, Azm215.0000°; P -1.6688, Plg50.0000°, Azm49.0000°;*
ISCJB ***16*** *15:00:15.1±1.5, 60°.34S±0°.04×46°.55W±0°.10, h37km±14km, mb4.9/29, MS5.0/25 Error ellipse: s-maj=8.0km s-min=5.8km az=165.9*
ISC 16 15:00:11.7±1.1, 60°.28S±0°.05×46°.42W±0°.06, h8km±6km, n328, σ1°.81/320, mb5.0/35, MS5.0/25, 2C-2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.06**	**46**	*i* P	**Pn**	**15 02 08.9**	**-0.1**
HOPE	**Hope Point**	**8.06**	**46**		**Pn**	**15 02 08.3**	**-0.6**
HOPE					**Sn**	**15 03 44.4**	**+4.2**
PMSA	**Palmer Station**	**9.29**	**233**	Pn	**Pn**	**15 02 26.1**	**+0.3**
	5.2nm,0.3s,baz=71,slow=9.9,SNR=38						
PMSA				Sn	**Sn**	**15 04 07.1**	**-3.3**
	0.8nm,0.3s,baz=198,slow=20,SNR=3.3						
PMSA				LR	LR	15 05 48.0	
	comp=Z,14μm,18.6s,baz=62,slow=36						
PMSA	**Palmer Station**	**9.29**	**233**		**Pn**	**15 02 25.9**	**+0.1**
PMSA	**Palmer Station**	**9.29**	**233**	*eP*	**Pn**	**15 02 27.8**	**+2.0**
EFI	**East Falkland**	**10.80**	**318**	*i* P	Pn	15 02 58.8	+12
EFI				pmax	pmax		
	comp=Z,104nm,1.1s						
USHA	**Ushuaia**	**12.98**	**285**	Pn	**Pn**	**15 03 18.5**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=134,slow=14,SNR=6.8						
USHA				LR	LR	15 07 09.3	
	comp=Z,18μm,19.9s,baz=153,slow=32						
VNA3	**Neumayer Olymp**	**18.27**	**142**	P	**P**	**15 04 27.1**	**+1.6**
VNA1	**Neumayer--Stat**	**18.55**	**140**	P	**Pn**	**15 04 32.5**	**+3.9**
VNA2	**Neumayer--Watz**	**18.90**	**140**	P	**Pn**	**15 04 34.8**	**+2.0**
	baz=292,slow=13						
SNAA	**Sanae**	**20.50**	**141**	P	Pn	15 04 51.7	-0.2
SNAA	**Sanae**	**20.50**	**141**	*i* P	Pn	15 04 51.6	-0.3
SNAA	**Sanae**	**20.50**	**141**	P	Pn	15 04 50.0	-1.9
	comp=Z,72nm,1.1s,baz=282,slow=9.9,SNR=31						
SNAA				S	Sn	15 08 40.4	-2.3
	comp=Z,3.4nm,0.8s,baz=239,slow=18,SNR=2.9						
SNAA				LR	LR	15 11 16.5	
	comp=Z,3μm,21.7s,baz=357,slow=33						
SNAA	**Sanae**	**20.50**	**141**		Pn	15 04 51.6	-0.3
SNAA				IAmb	IAmb	15 05 06.1	
	comp=Z,155nm,1.1s						
TRQA	**Tornquist**	**24.34**	**329**	P	**P**	**15 05 31.6**	**+1.8**
TRQA				pmax	pmax		
	comp=Z,75nm,0.8s						
TRQA	**Tornquist**	**24.34**	**329**	P	**P**	**15 05 31.6**	**+1.8**
TRQA	**Tornquist**	**24.34**	**329**	*eP*	**P**	**15 05 31.6**	**+1.8**
PLCA	**Paso Flores**	**24.62**	**312**	P	**P**	**15 05 33.2**	**+0.8**
PLCA						15 09 10.3	
PLCA				pmax	pmax		
	comp=Z,39nm,1.2s						
PLCA	**Paso Flores**	**24.62**	**312**	P	**P**	**15 05 33.4**	**+1.0**
	comp=Z,12nm,0.7s,baz=184,slow=8.7,SNR=35						
PLCA				PcP	**PcP**	**15 09 10.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=29,slow=13,SNR=2.7						
PLCA				LR	LR	15 14 32.0	
	comp=Z,6μm,21.9s,baz=186,slow=35						
PLCA	**Paso Flores**	**24.62**	**312**	P	**P**	**15 05 33.2**	**+0.8**
PLCA				IAmb	IAmb	15 05 39.9	
	comp=Z,39nm,1.1s						
PLCA	**Paso Flores**	**24.62**	**312**	*eP*	**P**	**15 05 33.0**	**+0.6**
GO06	**Curarrehue**	**25.96**	**312**	P	**P**	**15 05 44.1**	**-0.5**
LPA	**La Plata**	**26.47**	**338**	*i* P	**P**	**15 05 47.9**	**-1.1**
LPA				PPP	PPP	15 06 41.8	
LPA				PCP	**PcP**	**15 09 13.0**	**-0.8**
LPA				SKIKS		15 23 58.6	
OGAUY	**Aigu**	**26.52**	**344**	*eP*	**P**	**15 05 51.4**	**+1.9**
OGAUY	**Aigu**	**26.52**	**344**	*eP*	**P**	**15 05 51.4**	**+1.9**
PLTB	**Pedras Altas**	**28.92**	**347**	*eP*	**P**	**15 06 13.3**	**+2.2**
PLTB	**Pedras Altas**	**28.92**	**347**	*eP*	**P**	**15 06 13.3**	**+2.2**
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**15 06 21.2**	**+1.1**
	comp=Z,163nm,1.0s,baz=174,slow=5.6,SNR=89						
QSPA				PcP	**PcP**	**15 09 21.3**	**-0.8**
	comp=Z,9.9nm,1.0s,baz=348,slow=2.8,SNR=4.6						
QSPA				S	**S**	**15 11 22.4**	**+4.8**
	comp=Z,2.8nm,0.9s,baz=18,slow=20,SNR=1.9						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**15 06 21.5**	**+1.4**
CPSB	**Cacapava Do Su**	**30.25**	**348**	*eP*	**P**	**15 06 25.6**	**+2.8**
CPSB	**Cacapava Do Su**	**30.25**	**348**	*eP*	**P**	**15 06 25.6**	**+2.8**
CNLB	**Canela**	**31.11**	**352**	*eP*	**P**	**15 06 33.4**	**+2.9**
CNLB	**Canela**	**31.11**	**352**	*eP*	**P**	**15 06 33.4**	**+2.9**
PEL	**Peldehue**	**31.47**	**319**	P	**P**	**15 06 33.3**	**-0.4**
PEL				pmax	pmax		
	comp=Z,30nm,0.9s						
PEL	**Peldehue**	**31.47**	**319**	P	**P**	**15 06 33.3**	**-0.4**
PEL				IAmb	IAmb	15 06 35.6	
	comp=Z,30nm,0.9s						
CFA	**Coronel Fontan**	**32.13**	**323**	P	**P**	**15 06 39.5**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=164,slow=5.9,SNR=8.9						
CFA				PcP	**PcP**	**15 09 27.6**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=180,slow=10,SNR=4.3						
ITAB	**Concordia**	**33.27**	**351**	*eP*	**P**	**15 06 51.7**	**+2.3**
ITAB	**Concordia**	**33.27**	**351**	*eP*	**P**	**15 06 51.7**	**+2.3**
CPUP	**Villa Florida**	**34.76**	**343**	P	**P**	**15 07 03.7**	**+1.4**
CPUP						15 09 35.5	
CPUP				pmax	pmax		
	comp=Z,16nm,0.9s						
CPUP	**Villa Florida**	**34.76**	**343**	P	**P**	**15 07 02.8**	**+0.5**
	comp=Z,12nm,0.7s,baz=170,slow=8.0,SNR=32						
CPUP				PcP	**PcP**	**15 09 35.5**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=180,slow=6.1,SNR=2.7						
CPUP				LR	LR	15 19 57.1	
	comp=Z,2μm,21.5s,baz=170,slow=34						
CPUP	**Villa Florida**	**34.76**	**343**	P	**P**	**15 07 03.9**	**+1.4**
CPUP	**Villa Florida**	**34.76**	**343**	*eP*	**P**	**15 07 03.9**	**+1.6**
SYO	**Syowa Base**	**34.78**	**141**	∩pP	pP	15 07 03.2	-0.7
PTGB	**Pitanga**	**35.76**	**351**	*eP*	**P**	**15 07 13.4**	**+2.4**
PTGB	**Pitanga**	**35.76**	**351**	*eP*	**P**	**15 07 13.4**	**+2.4**
GO03	**Copiap**	**36.48**	**323**	P	**P**	**15 07 18.6**	**+1.4**
GO03				IAmb	IAmb	15 07 21.9	
	comp=Z,22nm,0.8s						
SPB	**Sao Paulo**	**36.67**	**358**	P	**P**	**15 07 21.6**	**+2.9**
SPB	**Sao Paulo**	**36.67**	**358**	*eP*	**P**	**15 07 21.0**	**+2.3**
VAO	**Valinhos**	**37.26**	**359**	*eP*	**P**	**15 07 26.7**	**+2.9**
VAO	**Valinhos**	**37.26**	**359**	*eP*	**P**	**15 07 26.7**	**+2.9**
MAN01	**Angra dos Reis**	**37.43**	**4**	*eP*	**P**	**15 07 27.7**	**+2.5**
MAN01	**Angra dos Reis**	**37.43**	**4**	*eP*	**P**	**15 07 27.7**	**+2.5**
TRCB	**Terra Rica**	**37.71**	**351**	*eP*	**P**	**15 07 29.6**	**+2.0**
TRCB	**Terra Rica**	**37.71**	**351**	*eP*	**P**	**15 07 29.6**	**+2.0**
RCLB	**Rio Claro- Sao**	**37.84**	**358**	*eP*	**P**	**15 07 30.6**	**+1.9**
RCLB	**Rio Claro- Sao**	**37.84**	**358**	*eP*	**P**	**15 07 30.6**	**+1.9**
VAS01	**Vassouras-RJ**	**38.03**	**4**	*eP*	P	15 07 33.9	+3.6
VAS01	**Vassouras-RJ**	**38.03**	**4**	*eP*	P	15 07 33.9	+3.6
GO02	**Mina Guanaco**	**38.58**	**325**	P	**P**	**15 07 37.0**	**+1.7**
GO02				IAmb	IAmb	15 07 39.8	
	comp=Z,28nm,0.9s						
PCMB	**Pacaembu**	**38.79**	**353**	*eP*	**P**	**15 07 38.5**	**+1.8**
PCMB	**Pacaembu**	**38.79**	**353**	*eP*	**P**	**15 07 38.5**	**+1.8**
BB19B	**Bebedouro**	**39.21**	**357**	*eP*	**P**	**15 07 41.7**	**+1.5**
BB19B	**Bebedouro**	**39.21**	**357**	*eP*	**P**	**15 07 41.7**	**+1.5**
BSCB	**Bom Sucesso**	**39.27**	**2**	*eP*	**P**	**15 07 42.7**	**+1.9**
BSCB	**Bom Sucesso**	**39.27**	**2**	*eP*	**P**	**15 07 42.7**	**+1.9**
AQDB	**Aquidauana**	**40.31**	**346**	*eP*	**P**	**15 07 51.3**	**+2.0**
AQDB	**Aquidauana**	**40.31**	**346**	*eP*	**P**	**15 07 51.3**	**+2.0**
SBA	**Scott Base**	**40.62**	**190**	P	**P**	**15 07 53.5**	**+2.2**
SBA				pmax	pmax		
	comp=Z,46nm,1.2s						
SBA	**Scott Base**	**40.62**	**190**	P	**P**	**15 07 53.5**	**+2.2**
SBA				IAmb	IAmb	15 07 55.6	
	comp=Z,46nm,1.1s						
ITRB	**Iturama**	**40.63**	**354**	*eP*	**P**	**15 07 53.8**	**+1.7**
ITRB	**Iturama**	**40.63**	**354**	*eP*	**P**	**15 07 53.8**	**+1.7**
LVC	**Limon Verde**	**40.82**	**327**	P	**P**	**15 07 55.2**	**+1.2**
LVC						15 09 55.5	
LVC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LVC	**Limon Verde**	**40.82**	**327**	P	**P**	**15 07 55.2**	**+1.2**
	comp=Z,4.1nm,0.6s,baz=224,slow=3.9,SNR=6.2						
LVC				PcP	**PcP**	**15 09 55.5**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=27,slow=6.8,SNR=2.6						
LVC	**Limon Verde**	**40.82**	**327**	*eP*	**P**	**15 07 56.0**	**+2.0**
BSFB	**Barra de Sao F**	**41.60**	**8**	*eP*	**P**	**15 08 02.2**	**+2.3**
BSFB	**Barra de Sao F**	**41.60**	**8**	*eP*	**P**	**15 08 02.2**	**+2.3**
PMNB	**Patos De Minas**	**41.70**	**360**	*eP*	**P**	**15 08 02.8**	**+2.0**
PMNB	**Patos De Minas**	**41.70**	**360**	*eP*	**P**	**15 08 02.8**	**+2.0**
SJMB	**Sao Joao De Ma**	**41.70**	**7**	*eP*	**P**	**15 08 03.1**	**+2.3**
SJMB	**Sao Joao De Ma**	**41.70**	**7**	*eP*	**P**	**15 08 03.1**	**+2.3**
C2SB	**Chapadao do Su**	**41.72**	**351**	*eP*	**P**	**15 08 03.3**	**+2.3**
C2SB	**Chapadao do Su**	**41.72**	**351**	*eP*	**P**	**15 08 03.3**	**+2.3**
IPMB	**Ipameri, GO**	**42.27**	**357**	*eP*	**P**	**15 08 07.1**	**+1.6**
IPMB	**Ipameri, GO**	**42.27**	**357**	*eP*	**P**	**15 08 07.1**	**+1.6**
MAW	**Mawson**	**42.46**	**148**	P	**P**	**15 08 02.3**	**-4.1**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAW	**Mawson**	**42.46**	**148**	P	**P**	**15 08 07.5**	**+1.0**
	comp=Z,11nm,0.9s,baz=226,slow=8.5,SNR=12						
MAW				LR	LR	15 24 30.2	
	comp=Z,3μm,21.5s,baz=236,slow=34						
MAW	**Mawson**	**42.46**	**148**	P	**P**	**15 08 02.3**	**-4.1**
PB01	**IPOC Station P**	**42.47**	**327**	P	**P**	**15 08 09.7**	**+2.6**
PB01				IAmb	IAmb	15 08 17.2	
	comp=Z,22nm,0.6s						
PP1B	**Ponte de Pedra**	**43.06**	**348**	*eP*	**P**	**15 08 14.1**	**+2.1**
PP1B	**Ponte de Pedra**	**43.06**	**348**	*eP*	**P**	**15 08 14.1**	**+2.1**
GO01	**Chusmiza**	**43.70**	**328**	P	**P**	**15 08 13.2**	**-4.3**
GO01				IAmb	IAmb	15 08 31.6	
	comp=Z,25nm,1.1s						
PB11	**IPOC Station P**	**43.73**	**327**	P	**P**	**15 08 13.4**	**-4.1**
MNMC	**Minye Minye**	**44.32**	**328**	P	**P**	**15 08 23.6**	**+1.3**
BDFB	**Brasilia**	**44.59**	**358**	P	**P**	**15 08 24.8**	**+0.5**
BDFB				pmax	pmax		
	comp=Z,25nm,0.8s						
BDFB	**Brasilia**	**44.59**	**358**	P	**P**	**15 08 25.5**	**+1.2**
	comp=Z,22nm,0.8s,baz=174,slow=3.9,SNR=29						
BDFB				LR	LR	15 25 31.7	
	comp=Z,494nm,21.6s,baz=174,slow=34						
BDFB	**Brasilia**	**44.59**	**358**	P	**P**	**15 08 24.8**	**+0.5**
BDFB				IAmb	IAmb	15 08 27.6	
	comp=Z,25nm,0.8s						
ARAG	**Araguaiana, MT**	**44.69**	**353**	*eP*	**P**	**15 08 26.5**	**+1.5**
ARAG	**Araguaiana, MT**	**44.69**	**353**	*eP*	**P**	**15 08 26.5**	**+1.5**
SALV	**Santo Antonio**	**44.83**	**347**	*eP*	**P**	**15 08 28.5**	**+2.4**
SALV	**Santo Antonio**	**44.83**	**347**	*eP*	**P**	**15 08 28.5**	**+2.4**
JANB	**Januaria**	**45.18**	**3**	*eP*	**P**	**15 08 29.7**	**+0.7**
JANB	**Januaria**	**45.18**	**3**	*eP*	**P**	**15 08 29.7**	**+0.7**
SIV	**San Ignacio**	**45.49**	**340**	P	**P**	**15 08 32.6**	**+1.2**
	comp=Z,24nm,0.5s,baz=190,slow=8.2,SNR=65						
NBIT	**Itapeh - BA**	**45.57**	**9**	*eP*	**P**	**15 08 33.9**	**+2.0**
NBIT	**Itapeh - BA**	**45.57**	**9**	*eP*	**P**	**15 08 33.9**	**+2.0**
LPAZ	**La Paz**	**46.67**	**331**	P	**P**	**15 08 42.1**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LPAZ	**La Paz**	**46.67**	**331**	P	**P**	**15 08 43.0**	**+1.7**
	comp=Z,7.1nm,0.8s,baz=146,slow=7.6,SNR=25						
LPAZ				LR	LR	15 29 39.4	
	comp=Z,1μm,19.3s,baz=174,slow=38						
LPAZ	**La Paz**	**46.67**	**331**	P	**P**	**15 08 42.1**	**+0.7**
LPAZ	**La Paz**	**46.67**	**331**	*eP*	**P**	**15 08 43.0**	**+1.7**
NBPN	**Ponto Novo - B**	**49.56**	**8**	*eP*	**P**	**15 09 03.7**	**+0.7**
NBPN	**Ponto Novo - B**	**49.56**	**8**	*eP*	**P**	**15 09 03.7**	**+0.7**
CLDB	**Colider**	**49.81**	**348**	*eP*	**P**	**15 09 05.0**	**+0.1**
CLDB	**Colider**	**49.81**	**348**	*eP*	**P**	**15 09 05.0**	**+0.1**
NBAN	**Anadia - AL**	**51.08**	**13**	*eP*	**P**	**15 09 16.5**	**+2.0**
NBAN	**Anadia - AL**	**51.08**	**13**	*eP*	**P**	**15 09 16.5**	**+2.0**
SUR	**Sutherland**	**51.30**	**89**	P	**P**	**15 09 17.5**	**+1.2**
	comp=Z,13nm,0.7s,baz=198,slow=8.0,SNR=9.0						
SUR				LR	LR	15 27 23.6	
	comp=Z,1μm,18.1s,baz=206,slow=32						
SUR	**Sutherland**	**51.30**	**89**	IAmb	IAmb	15 09 23.7	
	comp=Z,21nm,1.0s						
SMTB	**Santa Maria do**	**51.32**	**359**	*eP*	**P**	**15 09 17.3**	**+0.9**
SMTB	**Santa Maria do**	**51.32**	**359**	*eP*	**P**	**15 09 17.3**	**+0.9**
NBTA	**Tacaratu-PE**	**51.44**	**11**	*eP*	**P**	**15 09 17.7**	**+0.5**
NBTA	**Tacaratu-PE**	**51.44**	**11**	*eP*	**P**	**15 09 17.7**	**+0.5**
SAML	**Samuel**	**52.75**	**339**	P	**P**	**15 09 26.9**	**0.0**
SAML				pmax	pmax		
	comp=Z,30nm,0.7s						
SAML	**Samuel**	**52.75**	**339**	P	**P**	**15 09 26.9**	**0.0**
SAML	**Samuel**	**52.75**	**339**	*eP*	**P**	**15 09 28.2**	**+1.3**
NBMA	**Muriti-CE**	**53.12**	**10**	*eP*	**P**	**15 09 31.4**	**+1.7**
NBMA	**Muriti-CE**	**53.12**	**10**	*eP*	**P**	**15 09 31.4**	**+1.7**
NNA	**Nana**	**53.18**	**322**	*i* P	**P**	**15 09 31.3**	**+1.1**
NNA				pmax	pmax		
	comp=Z,43nm,0.9s						
PRPB	**Paraua pebas**	**54.05**	**356**	*eP*	**P**	**15 09 36.7**	**+0.2**
PRPB	**Paraua pebas**	**54.05**	**356**	*eP*	**P**	**15 09 36.7**	**+0.2**
NBPB	**Pedra_Branca-C**	**54.86**	**8**	*eP*	**P**	**15 09 44.4**	**+2.0**
NBPB	**Pedra_Branca-C**	**54.86**	**8**	*eP*	**P**	**15 09 44.4**	**+2.0**
NBPS	**Pedro II - PI**	**55.88**	**6**	*eP*	**P**	**15 09 50.5**	**+0.7**
NBPS	**Pedro II - PI**	**55.88**	**6**	*eP*	**P**	**15 09 50.5**	**+0.7**
H10S2	**ASCENSION HYDR**	**56.45**	**39**	T	T	16 11 27.6	
	baz=20,slow=74,SNR=204						
H10S3	**ASCENSION HYDR**	**56.45**	**39**	T	T	16 11 24.5	
	baz=200,slow=74,SNR=223						
BOSA	**Boshof**	**56.58**	**90**	P	**P**	**15 09 55.3**	**+0.5**
BOSA				*PP	**P**	**15 09 55.5**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,27nm,1.1s						
BOSA	**Boshof**	**56.58**	**90**	P	**P**	**15 09 55.0**	**+0.2**
	comp=Z,15nm,0.9s,baz=202,slow=7.2,SNR=11						
BOSA				LR	LR	15 30 08.6	
	comp=Z,1μm,18.7s,baz=212,slow=32						
BOSA	**Boshof**	**56.58**	**90**	P	**P**	**15 09 55.3**	**+0.5**
BOSA					**P**	**15 09 55.5**	**+0.7**
BOSA				IAmb	IAmb	15 09 59.8	
	comp=Z,26nm,1.1s						
H10N3	**ASCENSION HYDR**	**57.55**	**38**	T	T	16 12 49.1	
	baz=199,slow=75,SNR=367						
H10N1	**ASCENSION HYDR**	**57.55**	**38**	T	T	16 12 49.9	
	baz=199,slow=75,SNR=278						
H10N2	**ASCENSION HYDR**	**57.55**	**38**	T	T	16 12 50.9	
	baz=199,slow=75,SNR=329						
LBTB	**Lobatse**	**59.72**	**88**	P	**P**	**15 10 17.0**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,26nm,0.8s						
LBTB	**Lobatse**	**59.72**	**88**	P	**P**	**15 10 16.8**	**-0.1**
	comp=Z,26nm,0.7s,baz=211,slow=7.6,SNR=26						
LBTB	**Lobatse**	**59.72**	**88**	P	**P**	**15 10 17.0**	**+0.2**
TSUM	**Tsumeb**	**60.67**	**77**	LR	LR	15 31 02.9	
	comp=Z,681nm,21.6s,baz=152,slow=30						
PTLC	**Puerto Leguiza**	**64.17**	**328**	*eP*	**P**	**15 10 44.5**	**-2.1**
PTLC	**Puerto Leguiza**	**64.17**	**328**	*eP*	**P**	**15 10 44.5**	**-2.1**
OTAV	**Otavalo**	**65.24**	**324**	*eP*	**P**	**15 10 55.4**	**+1.2**
OTAV	**Otavalo**	**65.24**	**324**	*eP*	**P**	**15 10 55.4**	**+1.2**
OTAV	**Otavalo**	**65.24**	**324**	P	**P**	**15 10 54.4**	**+0.2**
OTAV				pmax	pmax		
	comp=Z,15nm,0.8s						
OTAV	**Otavalo**	**65.24**	**324**	P	**P**	**15 10 54.4**	**+0.2**
OTAV				IAmb	IAmb	15 10 58.5	
	comp=Z,15nm,0.8s						
OTAV	**Otavalo**	**65.24**	**324**	*eP*	**P**	**15 10 55.8**	**+1.6**
PCON	**Cinco Dias**	**66.66**	**327**	*eP*	P	15 11 07.2	+3.7
PCON	**Cinco Dias**	**66.66**	**327**	*eP*	P	15 11 07.2	+3.7
POPC	**Popayan, Colom**	**66.94**	**327**	*eP*	**P**	**15 11 05.4**	**+0.6**
POPC	**Popayan, Colom**	**66.94**	**327**	*eP*	**P**	**15 11 05.4**	**+0.6**
VILC	**Villavicencio,**	**67.67**	**330**	*eP*	P	15 11 03.6	-5.7
VILC	**Villavicencio,**	**67.67**	**330**	*eP*	P	15 11 03.6	-5.7
ORTC	**Ortega, Tolima**	**67.87**	**329**	*eP*	**P**	**15 11 12.4**	**+2.0**
ORTC	**Ortega, Tolima**	**67.87**	**329**	*eP*	**P**	**15 11 12.4**	**+2.0**
CHIC	**Chingaza**	**68.18**	**330**	*eP*	**P**	**15 11 13.6**	**+0.7**
CHIC	**Chingaza**	**68.18**	**330**	*eP*	**P**	**15 11 13.6**	**+0.7**
YOTC	**Yotoco, Valle**	**68.23**	**328**	*eP*	**P**	**15 11 13.3**	**+0.5**
YOTC	**Yotoco, Valle**	**68.23**	**328**	*eP*	**P**	**15 11 13.3**	**+0.5**
ROSC	**El Rosal**	**68.53**	**330**	*eP*	**P**	**15 11 15.9**	**+1.0**
ROSC	**El Rosal**	**68.53**	**330**	*eP*	**P**	**15 11 15.9**	**+1.0**
ROSC	**El Rosal**	**68.53**	**330**	P	**P**	**15 11 16.6**	**+1.6**
	comp=Z,14nm,0.4s,baz=38,slow=21,SNR=4.4						
ROSC				LR	LR	15 42 05.9	
	comp=Z,1μm,20.2s,baz=202,slow=37						
TOLC	**Tolima**	**68.53**	**329**	*eP*	**P**	**15 11 15.9**	**+1.0**
TOLC	**Tolima**	**68.53**	**329**	*eP*	**P**	**15 11 15.9**	**+1.0**
RREF	**El Recreo**	**68.84**	**329**	*eP*	**P**	**15 11 17.7**	**+0.4**
RREF	**El Recreo**	**68.84**	**329**	*eP*	**P**	**15 11 17.7**	**+0.4**
GUY2C	**Guyana, Caldas**	**69.16**	**329**	*eP*	**P**	**15 11 19.4**	**+0.4**
GUY2C				*eP*	**P**	**15 11 20.3**	**+1.3**
GUY2C	**Guyana, Caldas**	**69.16**	**329**	*eP*	**P**	**15 11 19.4**	**+0.4**
GUY2C				*eP*	**P**	**15 11 20.3**	**+1.3**
LSZ	**Lusaka**	**69.23**	**84**	P	**P**	**15 11 19.7**	**+0.6**
LSZ				pmax	pmax		
	comp=Z,25nm,1.1s						
LSZ	**Lusaka**	**69.23**	**84**	P	**P**	**15 11 19.7**	**+0.6**
RUSC	**La Rusia**	**69.24**	**331**	*eP*	**P**	**15 11 16.8**	**-2.7**
RUSC	**La Rusia**	**69.24**	**331**	*eP*	**P**	**15 11 16.8**	**-2.7**
SPBC	**San Pablo de B**	**69.25**	**330**	*eP*	**P**	**15 11 17.7**	**-1.4**
SPBC	**San Pablo de B**	**69.25**	**330**	*eP*	**P**	**15 11 17.7**	**-1.4**
NORC	**Norcasia**	**69.36**	**330**	*eP*	**P**	**15 11 19.4**	**-0.3**
NORC	**Norcasia**	**69.36**	**330**	*eP*	**P**	**15 11 19.4**	**-0.3**
CBOC	**Ciud

AKT *e* 15 21 10.9
AKT pmax pmax
comp=Z,6.0nm,0.6s
NB2 NORSAR Subarra 128.87 32 PKPdf **PKPdf 15 19 16.9 -1.4**
comp=Z,0.3nm,0.6s,baz=202,slow=1.9
NB2 NORSAR Subarra 128.87 32 PKPdf **PKiKP 15 19 19.3 +0.3**
comp=Z,0.2nm,0.5s,baz=202,slow=1.9
NOA NORSAR Array B 128.87 32 PKP **PKiKP 15 19 19.0 0.0**
comp=Z,1.9nm,0.8s,baz=215,slow=2.4,SNR=4.1
GEYT Alibeck 129.02 80 PKP **PKiKP 15 19 18.9 -1.1**
comp=Z,1.3nm,0.7s,baz=54,slow=2.5,SNR=3.0
VSR Storozhevoye 130.54 56 *e*PKIKP **PKPdf 15 19 21.0 -1.5**
VSR pmax pmax
comp=Z,20nm,1.3s
CMAR Chiang Mai Arr 131.45 134 PKP **PKiKP 15 19 24.8 -0.7**
comp=Z,1.7nm,0.7s,baz=219,slow=3.9,SNR=15
LPSR Galich'ya Gora 131.49 54 *e*PKIKP **PKPdf 15 19 22.0 -1.4**
LPSR pmax pmax
comp=Z,20nm,1.7s
VRH Novokhopyorsk 131.59 57 *e*PKIKP **PKPdf 15 19 22.0 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 132.43 51 ⇓*i*PKIKP **PKiKP 15 19 25.5 -0.7**
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,360nm,18.0s
SUMG Summit 132.70 3 *i* PKIKP **PKiKP 15 19 26.0 -0.8**
SUMG Summit 132.70 3 *i* P **PKiKP 15 19 26.0 -0.8**
YKA Yellowknife Ar 133.00 324 PKP **PKiKP 15 19 25.6 -1.5**
comp=Z,1.6nm,0.4s,baz=148,slow=2.1,SNR=18
FINES FINESS Array B 133.50 39 PKP **PKPdf 15 19 26.1 -0.8**
comp=Z,7.5nm,0.7s,baz=126,slow=1.9,SNR=11
BALP Baler 134.67 164 *e*P **PKPdf 15 19 27.8 -2.8**
KLMR Klimovskoe 137.63 46 *e*PKIKP **PKPdf 15 19 33.4 -1.2**
KLMR *e* 15 22 25.3
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR Klimovskoe 137.63 46 *e*PKPdf **PKPdf 15 19 33.5 -1.2**
KLMR AMP 15 19 36.8
comp=Z,27nm,1.5s
KLMR *e*PP **PP 15 22 25.3 +3.1**
KMI Kunming 138.93 135 PKP **PKiKP 15 19 38.8 -1.9**
KMI LR LR
comp=Z,310nm,24.4s
KMI LR LR
comp=Z,190nm,24.4s
KMI LR LR
comp=Z,510nm,27.6s
KSH Kashi 139.11 94 *e*PKP **PKiKP 15 19 38.6 -1.9**
ARCES ARCESS Array B 139.22 31 PKhKP PKPpre 15 19 27.7
comp=Z,4.1nm,0.6s,baz=205,slow=2.9,SNR=19
AAK Ala-Archa 140.72 89 *i* PKIKP **PKPdf 15 19 36.9 -4.3**
AAK Ala-Archa 140.72 89 PKhKP **PKPdf 15 19 37.5 -3.6**
GYA Guiyang 141.49 139 *e*PKP **PKPdf 15 19 40.8 -2.2**
GYA PP **PP 15 22 49.6 +3.6**
GYA AMB AMB
comp=Z,120nm,7.9s
ARU Arti 142.42 62 PKhKP **PKPdf 15 19 38.3 -5.2**
comp=Z,0.9nm,0.3s,baz=204,slow=5.6,SNR=4.9
INK Inuvik 142.71 322 PKIKP **PKPdf 15 19 40.2 -3.5**
INK Inuvik 142.71 322 PKhKP **PKPdf 15 19 39.9 -3.8**
comp=Z,3.3nm,0.6s,baz=100,slow=1.3,SNR=20
INK Inuvik 142.71 322 PKPdf 15 19 40.1 -3.5
SPITS Spitsbergen Ar 143.27 18 PKhKP PKPbc 15 19 41.0 -0.6
comp=Z,25nm,0.9s,baz=112,slow=6.4,SNR=7.5
SVE Sverdlovsk 143.57 62 *e*PKIKP PKPbc 15 19 42.4 -0.6
KDAK Kodiak Island 143.75 300 PKP **PKPdf 15 19 43.7 -2.1**
comp=Z,4.4nm,0.6s,baz=175,slow=2.6,SNR=6.0
CD2 Chengdu 144.56 133 PKP **PKPdf 15 19 47.1 -1.1**
IL31 145.30 312 PKiKP 15 19 49.6 -2.6
ILAR Eielson Array 145.30 312 PKIKP **PKiKP 15 19 49.2 -3.0**
ILAR Eielson Array 145.30 312 PKPbc **PKPab 15 19 47.5 -0.9**
comp=Z,25nm,0.8s,baz=136,slow=1.0,SNR=124
ILAR Eielson Array 145.30 312 PKiKP 15 19 49.2 -3.0
RSO Redoubt South 145.34 303 PKPab 15 19 49.3 +0.4
CCB Clear Creek Bu 145.58 312 PKPab 15 19 49.5 +0.2
WRH Wood River Hil 145.60 311 PKPab 15 19 49.7 +0.2
FYU Fort Yukon 145.61 316 PKPab 15 19 49.0 -0.4
COLA College 145.71 312 *i* PKIKP **PKPab 15 19 48.4 -1.4**
COLA College 145.71 312 PKiKP 15 19 50.5 -2.6
BRVK Borovoye 145.73 73 *i* PKIKP **PKPab 15 19 49.1 -1.2**
BRVK Borovoye 145.73 73 PKiKP 15 19 51.6 -1.8
BVAR Borovoye Array 145.76 73 PKPbc **PKPab 15 19 49.8 -0.6**
comp=Z,40nm,0.8s,baz=241,slow=3.1,SNR=78
BMAR Burnt Mountain 145.81 317 PKPab 15 19 50.1 -0.2
SDPT Sand Point 145.87 292 PKPab 15 19 49.9 -0.7
ENH Enshi 145.93 141 PKPab 15 19 51.4 -0.3
BWN Browne 145.97 310 PKPab 15 19 50.5 -0.4
PPLA Purkeypile 146.38 307 PKPab 15 19 51.5 -1.2
BPAW Bear Paw Mtn. 146.51 310 PKPab 15 19 52.2 -0.7
MAKZ Makanchi 147.42 91 PKP2 **PKPbc 15 19 54.5 -0.5**
MAKZ Makanchi 147.42 91 PKPbc 15 19 54.5 -0.5
MK31 Makanchi Array 147.57 91 PKP2 **PKPbc 15 19 55.0 -0.5**
MK31 Makanchi Array 147.57 91 PKPbc 15 19 55.0 -0.5
MKAR Makanchi Array 147.57 91 PKP2 **PKPbc 15 19 55.1 -0.4**
MKAR Makanchi Array 147.57 91 PKPbc **PKPbc 15 19 54.8 -0.6**
comp=Z,9.6nm,0.7s,baz=239,slow=3.0,SNR=56
MKAR Makanchi Array 147.57 91 PKPbc 15 19 55.1 -0.4
WHN Wuhan 147.59 148 PKPbc **PKPbc 15 19 54.8 -1.1**
COLD Coldfoot 147.66 315 PKiKP 15 19 55.7 -1.3
TTA Tatalina 147.93 306 PKIKP **PKPbc 15 19 54.1 -1.9**
TTA Tatalina 147.93 306 PKPbc 15 19 54.1 -1.9
TOLK Toolik Lake Re 148.03 318 PKiKP 15 19 56.8 -1.0
WMQ Urumqi 148.13 100 *e*PKPbc **PKPbc 15 19 56.8 -0.3**
WMQ LR LR
comp=Z,530nm,29.0s
WMQ LR LR
comp=Z,1μm,29.1s
WMQ LR LR
comp=Z,170nm,24.5s
KURBB Kurchatov Arra 148.23 83 PKPbc **PKiKP 15 19 56.8 -1.9**
comp=Z,4.5nm,0.6s,baz=230,slow=2.8,SNR=4.4
KURK Kurchatov 148.33 83 *i* PKHKP **PKPdf 15 19 51.6 -2.2**
KURK Kurchatov 148.33 83 PKiKP 15 19 57.2 -1.7
LZH Lanzhou 149.19 128 *e*PKPbc **PKPbc 15 19 57.3 -2.9**
LZH pPKP PKiKP 15 20 00.5 -0.9
LZH sPKP 15 20 01.8
LZH PKPab **sPKPab 15 20 08.3 +0.9**
LZH LR LR
comp=Z,170nm,18.3s
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,200nm,20.1s
XAN Xi'an 149.21 137 PKPbc **PKPbc 15 19 59.3 -0.9**
XAN pPKP pPKPbc 15 20 01.9 -0.3
NJ2 Nanjing 150.12 154 *e*PKPbc **PKPdf 15 19 56.9 -0.4**
GTA Gaotai 150.36 119 ⇑PKPbc **PKPbc 15 20 01.4 -1.5**
GTA PP **PP 15 23 43.3 +4.5**
GTA SS SS 15 43 01.0 +3.6
GTA AMB AMB
comp=Z,88nm,7.5s
GTA LR LR
comp=Z,260nm,18.7s
GTA LR LR
comp=Z,250nm,20.3s
GTA LR LR
comp=Z,450nm,22.8s
ADK Adak 151.64 275 PKIKP **PKiKP 15 20 04.5 -1.2**
ADK Adak 151.64 275 PKiKP 15 20 04.5 -1.2
JNU Nakatsue 152.77 175 PKPbc **PKPbc 15 20 07.1 -1.4**
comp=Z,4.5nm,0.9s,baz=211,slow=6.8,SNR=4.9
ZALV Zalesovo Beam 153.31 82 PKPbc **PKPbc 15 20 07.3 -1.6**
comp=Z,1.8nm,0.6s,baz=244,slow=3.4,SNR=8.9
MJAR Matsushiro Arr 156.06 189 PKP **PKPdf 15 20 06.7 +0.9**
comp=Z,0.5nm,0.6s,baz=282,slow=21,SNR=2.7
MJAR PKPab **PKPab 15 20 33.4 +0.2**
comp=Z,4.6nm,1.0s,baz=183,slow=6.0,SNR=7.3
HHC Hu-ho-hao-te 156.25 135 *e*PKP **PKPdf 15 20 05.8 -0.3**
KSRS Korea Array 156.87 168 PKP **PKPdf 15 20 08.7 +1.9**
comp=Z,5.0nm,1.2s,baz=262,slow=29,SNR=3.2
NRIK Noril'sk 158.97 45 PKPab **PKPab 15 20 45.1 +0.1**
comp=Z,1.2nm,0.3s,baz=191,slow=0.6,SNR=6.5
SONM Songino Array 159.94 116 PKP **PKPdf 15 20 10.3 -0.1**
comp=Z,0.4nm,0.5s,baz=252,slow=2.9,SNR=3.0
SONM PKPab **PKPab 15 20 49.9 -0.1**
comp=Z,3.1nm,0.9s,baz=228,slow=3.7,SNR=10
ZAK Zakamensk 160.30 107 *e*PKIKP PKPdf 15 20 22.7 +12
ZAK pmax pmax
comp=Z,5.0nm,1.6s
TLY Talaya 161.32 104 *e*PKIKP **PKPdf 15 20 07.6 -4.0**
TLY pmax pmax
comp=Z,15nm,0.8s

CN2 Changchun 162.78 160 *e*PKP **PKPdf 15 20 13.4 +0.1**
JKA Kamikawa-asahi 162.92 203 PKPab 15 21 03.2 +0.4
ASAJ Asahikawa 162.92 203 PKPab PKPab 15 21 03.2 +0.4
comp=Z,7.2nm,1.0s,baz=261,slow=13,SNR=3.1
USRK Ussuriysk Ar. 163.86 176 PKPab **PKPab 15 21 07.0 +0.1**
comp=Z,2.5nm,0.9s,baz=186,slow=5.2,SNR=4.1
BILL Bilibino 163.97 313 *de*PKP2 **PKPab 15 21 08.1 +1.2**
BILL *e*PPP PPP 15 28 41.5
BILL pmax pmax
comp=Z,16nm,1.1s
PETK Petropavlovsk- 165.00 252 PKP2 **PKPab 15 21 12.0 +0.1**
PETK Petropavlovsk- 165.00 252 PKPab **PKPab 15 21 11.9 +0.1**
comp=Z,4.5nm,0.8s,baz=72,slow=4.8,SNR=4.8
KLR Kul'dur 168.87 174 PKP **PKPdf 15 20 17.9 -0.2**
comp=Z,2.0nm,0.8s,baz=282,slow=4.2,SNR=6.2
KLR PKPab **PKPab 15 21 28.6 -0.3**
comp=Z,0.9nm,0.6s,baz=282,slow=20,SNR=2.9
SEY Seymchan 170.67 295 PKPab **PKPab 15 21 36.7 +0.1**
comp=Z,2.2nm,0.8s,baz=162,slow=20,SNR=4.3
MA2 Magadan 171.34 273 PKPab **PKPab 15 21 39.9 +0.1**
comp=Z,14nm,1.0s,baz=330,slow=20,SNR=2.0

*NSSP **16** 15:00:34.0,39°.22N×45°.07E, h10km, Ms3.0*
ISC 16 15:00:35.8±1.7,39°.23N±0°.07×44°.98E±0°.05,h15km±12km, n10,σ0°99/18,5C-3D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRKZ	**NAREK**	**0.80**	**342**	⇑*i*	P		**Pb**	**15 00 51.4**	**-0.2**
NRKZ				⇑*i*	S		**Sn**	**15 01 03.4**	**-1.0**
CLDR	**Caldiran**	**0.83**	**264**	*i*	P		**Pb**	**15 00 51.6**	**-0.4**
GNI	**Garni**	**0.93**	**349**	⇓*i*	P		**Pn**	**15 00 53.8**	**-0.8**
GNI				⇑*i*	S		**Sn**	**15 01 08.4**	**+0.7**
IGDI	**IGDIR**	**0.94**	**313**	*i*	P		**Pg**	**15 00 53.2**	**-0.9**
IGDI				*i*	S		**Sn**	**15 01 07.9**	**+0.2**
GRS	**Goris**	**1.08**	**75**	⇓*i*	P		**Pn**	**15 00 57.0**	**+0.4**
GRS				⇓*i*	S		**Sn**	**15 01 12.0**	**+0.6**
KAPZ	**Kaputan**	**1.11**	**349**	⇑*i*	P		**Pn**	**15 00 56.7**	**-0.3**
KAPZ				⇑*i*	S		**Sn**	**15 01 13.2**	**+1.2**
VADZ	**Vardenis**	**1.11**	**32**	*i*	P		**Pn**	**15 00 56.1**	**-0.9**
VADZ				*i*	S		**Sn**	**15 01 11.9**	**-0.1**
METS	**Metsamor**	**1.15**	**323**	*i*	P		**Pg**	**15 00 57.6**	**-0.4**
METS				S			**Sn**	**15 01 14.2**	**+1.4**
ARUZ	**Aruch**	**1.25**	**327**	*e*	P		**Pg**	**15 00 59.0**	**-1.0**
ARUZ				S			**Sg**	**15 01 18.5**	**+2.2**
EATA	**Eleskirt**	**2.02**	**289**	*i*	P		**Pg**	**15 01 14.7**	**0.0**

*ISCJB **16** 15:04:21.2±0.4, 60°.25S±0°.06×46°.4W±0°.1, h10km, mb4.5/12, MS5.4/2, Error ellipse: s-maj=10.5km s-min=7.0km az=145.2*
*IDC **16** 15:04:21.5±0.6, 60°.35S×46°.22W, h0km, mb4.6/13, mb1 4.6/14, mb1mx4.4/33, mbtmp4.6/14, ML4.2/1, Error ellipse: s-maj=19.8km s-min=14.2km az=63.0*
*NEIC **16** 15:04:22.0±2.7, 60°.29S±0°.07×46°.3W±0°.2, h10km±1km, mb4.7/18*
ISC 16 15:04:22.4±0.4, 60°.30S±0°.07×46°.51W±0°.07, h10km, n73, σ1°55/69, mb4.7/16, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**46**	P	n		**Pn**	**15 06 18.7**	**-1.2**
PMSA	**Palmer Station**	**9.25**	**233**	Pn			**Pn**	**15 06 37.1**	**+1.6**
	2.2nm,0.3s,baz=45,slow=9.9,SNR=8.0								
PMSA				Sn			**Sn**	**15 08 17.6**	**-1.9**
	0.7nm,0.3s,baz=329,slow=12,SNR=2.5								
GO09	**Cerro Castillo**	**17.00**	**291**	P			**P**	**15 08 21.5**	**-0.3**
GO09				IAmb			IAmb	15 08 32.9	
	comp=Z,51nm,0.8s								
VNA3	**Neumayer Olymp**	**18.29**	**142**	P			**P**	**15 08 37.3**	**+1.3**
VNA1	**Neumayer--Stat**	**18.57**	**140**	P			**Pn**	**15 08 40.9**	**+1.7**
VNA2	**Neumayer--Watz**	**18.92**	**140**	P			**Pn**	**15 08 44.9**	**+1.5**
	baz=287,slow=11								
SNAA	**Sanae**	**20.52**	**141**	P			Pn	15 09 03.2	+0.7
SNAA	**Sanae**	**20.52**	**141**	P			**P**	**15 09 00.7**	**+0.4**
	comp=Z,46nm,1.0s,baz=281,slow=9.4,SNR=12								
SNAA	**Sanae**	**20.52**	**141**	P			**P**	**15 08 57.8**	**-2.5**
SNAA				IAmb			IAmb	15 09 06.0	
	comp=Z,50nm,1.0s								
TRQA	**Tornquist**	**24.32**	**329**	P			**P**	**15 09 41.9**	**+1.9**
PLCA	**Paso Flores**	**24.59**	**312**	P			**P**	**15 09 43.7**	**+1.3**
	comp=Z,4.4nm,0.6s,baz=181,slow=7.4,SNR=9.4								
PLCA	**Paso Flores**	**24.59**	**312**	P			**P**	**15 09 43.8**	**+1.3**
PLCA				IAmb			IAmb	15 09 52.1	
	comp=Z,15nm,1.1s								
GO06	**Curarrehue**	**25.94**	**312**	P			**P**	**15 09 53.8**	**-0.9**
QSPA	**South Pole Qui**	**29.94**	**180**	P			**P**	**15 10 32.1**	**+1.8**
	comp=Z,36nm,0.9s,baz=169,slow=6.0,SNR=11								
QSPA	**South Pole Qui**	**29.94**	**180**	P			**P**	**15 10 32.1**	**+1.8**
CPUP	**Villa Florida**	**34.76**	**343**	P			**P**	**15 11 13.9**	**+1.4**
	comp=Z,5.2nm,0.7s,baz=172,slow=6.8,SNR=7.5								
CPUP	**Villa Florida**	**34.76**	**343**	P			**P**	**15 11 12.3**	**-0.2**
SYO	**Syowa Base**	**34.80**	**141**	⇓*e*P			**P**	**15 11 12.0**	**-0.6**
GO02	**Mina Guanaco**	**38.57**	**325**	P			**P**	**15 11 44.0**	**-1.4**
GO02				IAmb			IAmb	15 11 57.6	
	comp=Z,14nm,0.9s								
PB10	**IPOC Station P**	**40.40**	**325**	P			**P**	**15 11 59.2**	**-1.1**
SBA	**Scott Base**	**40.60**	**190**	P			**P**	**15 12 00.9**	**-0.5**
SBA				IAmb			IAmb	15 12 06.4	
	comp=Z,14nm,1.0s								
MAW	**Mawson**	**42.47**	**148**	P			**P**	**15 12 16.3**	**-0.5**
	comp=Z,5.3nm,1.1s,baz=177,slow=19,SNR=2.9								
MAW	**Mawson**	**42.47**	**148**	P			**P**	**15 12 15.3**	**-1.5**
MNMC	**Minye Minye**	**44.30**	**328**	P			**P**	**15 12 34.0**	**+1.5**
MNMC				IAmb			IAmb	15 12 36.7	
	comp=Z,12nm,0.8s								
BDFB	**Brasilia**	**44.60**	**358**	P			**P**	**15 12 36.6**	**+1.9**
	comp=Z,4.8nm,0.8s,baz=170,slow=7.0,SNR=4.6								
SIV	**San Ignacio**	**45.49**	**340**	P			**P**	**15 12 43.3**	**+1.6**
	comp=Z,6.6nm,0.5s,baz=193,slow=7.8,SNR=15								
LPAZ	**La Paz**	**46.66**	**331**	P			**P**	**15 12 54.6**	**+3.1**
	comp=Z,2.9nm,0.8s,baz=160,slow=5.3,SNR=4.9								
LPAZ	**La Paz**	**46.66**	**331**	P			**P**	**15 12 48.7**	**-2.8**
SAML	**Samuel**	**52.74**	**339**	P			**P**	**15 13 38.5**	**+1.3**
SAML				IAmb			IAmb	15 13 41.0	
	comp=Z,6.1nm,0.6s								
RCBR	**Riachuelo**	**54.94**	**13**	P			**P**	**15 13 52.0**	**-1.2**
H10S2	**ASCENSION HYDR**	**56.49**	**39**	T			T	16 15 35.1	
	baz=200,slow=74,SNR=13								
H10S3	**ASCENSION HYDR**	**56.49**	**39**	T			T	16 15 35.2	
	baz=20,slow=74,SNR=11								
BOSA	**Boshof**	**56.62**	**90**	P			**P**	**15 14 05.0**	**-0.5**
	comp=Z,5.8nm,0.9s,baz=204,slow=8.2,SNR=4.7								
BOSA	**Boshof**	**56.62**	**90**	P			**P**	**15 14 05.4**	**0.0**
BOSA				IAmb			IAmb	15 14 08.5	
	comp=Z,12nm,1.1s								
H10N3	**ASCENSION HYDR**	**57.59**	**38**	T			T	16 16 58.4	
	baz=199,slow=75,SNR=29								
H10N1	**ASCENSION HYDR**	**57.59**	**38**	T			T	16 16 57.6	
	baz=199,slow=75,SNR=22								
H10N2	**ASCENSION HYDR**	**57.61**	**38**	T			T	16 17 00.2	
	baz=199,slow=75,SNR=36								
LBTB	**Lobatse**	**59.77**	**88**	P			**P**	**15 14 27.7**	**+0.2**
	comp=Z,9.6nm,0.8s,baz=217,slow=6.6,SNR=8.9								
LBTB	**Lobatse**	**59.77**	**88**	P			**P**	**15 14 27.6**	**+0.2**
LSZ	**Lusaka**	**69.27**	**84**	P			**P**	**15 15 29.7**	**0.0**
	comp=Z,6.2nm,0.7s,baz=203,slow=6.7,SNR=9.0								
URZ	**Urewera**	**75.47**	**214**	P			**P**	**15 16 07.2**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=351,slow=19,SNR=4.7								
URZ	**Urewera**	**75.47**	**214**	IAmb			IAmb	15 16 12.1	
	comp=Z,6.9nm,1.0s								
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P			**P**	**15 16 46.7**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=228,slow=3.8,SNR=7.0								
KSH	**Kashi**	**139.15**	**94**	PKP			**PKiKP**	**15 23 49.8**	**-1.1**
KSH				PP			**PP**	**15 26 46.1**	**+3.7**
KSH				PKS			**PKSdf**	**15 27 25.1**	**+0.4**
KSH				SKKS				15 33 36.3	
KSH				AMB			AMB		
	comp=Z,750nm,5.5s								
KSH				LR			LR		
	comp=N,470nm,11.0s								
KSH				LR			LR		
	comp=E,290nm,13.0s								
KSH				LR			LR		
	comp=Z,670nm,9.1s								
ARCES	**ARCESS Array B**	**139.26**	**31**	PKhKP			PKPpre	15 23 38.3	
	comp=Z,7.7nm,1.0s,baz=321,slow=1.7,SNR=5.4								
INK	**Inuvik**	**142.69**	**322**	PKhKP			**PKPdf**	**15 23 50.7**	**-3.2**
	comp=Z,1.3nm,0.7s,baz=191,slow=5.2,SNR=4.4								
PMR	**Palmer**	**144.45**	**307**				**PKPdf**	**15 23 56.6**	**-0.5**
GHO	**Glory Hole Cre**	**144.47**	**307**				**PKPdf**	**15 23 56.7**	**-0.6**
SUA	**Susitna One**	**145.03**	**306**				**PKPbc**	**15 23 56.1**	**-1.8**

HDA Harding Lake 145.11 312 PKPbc **PKPdf 15 23 58.3 0.0**
ILAR Eielson Array 145.28 312 PKPbc **PKPdf 15 23 58.5 0.0**
comp=Z,9.0nm,0.8s,baz=154,slow=2.9,SNR=34
ILAR Eielson Array 145.28 312 PKPbc 15 23 57.4 -1.0
RND Reindeer 145.31 309 PKPab 15 23 59.4 +0.6
CCB Clear Creek Bu 145.55 312 PKPab 15 23 59.5 0.0
BMAR Burnt Mountain 145.78 317 PKPab 15 24 00.5 +0.1
BVAR Borovoye Array 145.81 73 PKPbc **PKPbc 15 24 00.2 -0.2**
comp=Z,13nm,0.9s,baz=230,slow=3.3,SNR=15
TRF Thorofare Moun 145.89 309 PKPab 15 24 01.6 +0.5
NEA Nenana 146.00 311 PKPdf **PKPdf 15 23 57.1 -2.6**
PPLA Purkeypile 146.36 307 PKPbc 15 24 02.5 +0.5
BPAW Bear Paw Mtn. 146.48 310 PKPdf **PKPdf 15 23 57.3 -3.4**
SVW2 Sparrevohn 146.82 303 PKPbc **PKPbc 15 24 03.3 +0.1**
WHN Wuhan 147.61 148 PKPbc **PKPdf 15 23 58.8 -4.8**
MKAR Makanchi Array 147.62 91 PKPbc **PKPbc 15 24 04.8 -1.0**
comp=Z,3.9nm,0.8s,baz=245,slow=4.0,SNR=7.4
MKAR Makanchi Array 147.62 91 PKPbc 15 24 05.0 -0.9
MKAR **PKPbc 15 24 05.3 -0.5**
TOLK Toolik Lake Re 148.01 318 PKPab **PKPab 15 24 09.2 +0.1**
WMQ Urumqi 148.18 100 *e*P **PKPdf 15 24 04.8 +0.6**
WMQ pmax pmax
comp=Z,64nm,5.1s
WMQ LR LR
comp=N,780nm,29.1s
WMQ LR LR
comp=E,800nm,28.9s
WMQ LR LR
comp=Z,320nm,27.3s
KURBB Kurchatov Arra 148.28 83 PKPbc **PKPbc 15 24 05.7 -1.7**
comp=Z,1.1nm,0.2s,baz=234,slow=3.8,SNR=4.7
KURK Kurchatov 148.38 83 PKPdf 15 24 05.7 +1.5
IMAR Indian Mountai 148.39 312 PKPbc 15 24 07.7 +0.4
GTA Gaotai 150.39 120 *e*P **PKPbc 15 24 11.9 -1.3**
GTA pP PKPab 15 24 18.8 -0.9
GTA sP pPKPab 15 24 21.4 -1.0
GTA pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 156.04 189 PKPab **PKPab 15 24 44.0 +0.6**
comp=Z,2.0nm,0.9s,baz=171,slow=6.3,SNR=4.8
SONM Songino Array 159.97 116 PKPab **PKPab 15 24 59.2 -1.2**
comp=Z,0.8nm,0.5s,baz=242,slow=4.8,SNR=4.8
USRK Ussuriysk Ar. 163.85 176 PKPab **PKPab 15 25 15.8 -1.4**
comp=Z,1.7nm,0.9s,baz=183,slow=2.9,SNR=3.9

*ISCJB **16** 15:25:47.1±0.6, 0°.67N±0°.07×92°.40E±0°.05, h10km, mb4.2/15, MS4.3/2, Error ellipse: s-maj=9.9km s-min=6.5km az=22.3*
*IDC **16** 15:25:47.3±0.9, 0°.59N×92°.36E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.0/68, mbtmp4.2/18, ML4.3/3, MS4.0/3, Ms1 4.1/3, ms1mx3.3/34, Error ellipse: s-maj=27.2km s-min=14.9km az=43.0*
*NEIC **16** 15:25:49.6±1.1, 0°.63N±0°.07×92°.39E±0°.09, h16km±5km, mb4.4/9*
*DJA **16** 15:26:02.2±1.8, 1°.N±9°.×9°.3E±1°.4, h89km±53km, M4.7/9, mb4.9/9, mB4.7/4, MLv4.8/7, Mw(mB)3.9/4*
ISC 16 15:25:49.0±0.7, 0°.68N±0°.08×92°.52E±0°.06, h10km, n59, σ2°13/55, mb4.4/17, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**4.18**	**66**	P			**Pn**	**15 26 54.8**	**+2.0**
MLSI	**Meulaboh, Aceh**	**5.27**	**47**	P			**Pn**	**15 27 09.0**	**+1.1**
BSI	**Banda Aceh**	**5.53**	**30**	P			Pn	15 27 17.0	+5.5
PBSI	**Pulau Batu**	**5.81**	**97**	P			**Pn**	**15 27 16.6**	**+1.4**
	114nm,0.7s,0.9nm								
LHMI	**Lhok Sumawe**	**6.32**	**44**	Pn			**Pn**	**15 27 25.5**	**+3.1**
CMBY	**CAMPBELL BAY**	**6.45**	**13**	*e*P			**Pn**	**15 27 22.5**	**-1.5**
CMBY				*e*S			**Sn**	**15 28 32.7**	**-5.0**
RPSI	**Rantau Prapat**	**6.71**	**73**				**Pn**	**15 27 30.0**	**+2.3**
RPSI	**Rantau Prapat**	**6.71**	**73**				**Pn**	**15 27 29.7**	**+2.0**
RPSI							**Sn**	**15 28 38.4**	**-5.8**
PSI	**Prapat**	**6.74**	**72**	Pn			**Pn**	**15 27 29.7**	**+1.5**
	3.1nm,0.3s,baz=263,slow=6.8,SNR=13								
PSI				Sn			Sn	15 28 38.4	-6.8
	2.1nm,0.3s,baz=295,slow=14,SNR=2.0								
PSI				LR			LR	15 30 18.9	
	comp=Z,596nm,20.9s,baz=254,slow=39								
SISI	**Saibi**	**6.86**	**107**	P			**Pn**	**15 27 30.8**	**+1.0**
SISI				S			**Sn**	**15 28 41.7**	**-6.4**
PDSI	**Padang**	**8.10**	**101**	P			**Pn**	**15 27 42.3**	**-4.5**
PKDT	**Phuket**	**9.22**	**39**	P			**Pn**	**15 28 03.3**	**+1.2**
	82nm,0.9s,1μm0.3nm								
IPM	**Ipoh**	**9.30**	**66**				**Pn**	**15 28 05.3**	**+2.1**
KULM	**Kulim**	**9.32**	**60**				**Pn**	**15 28 04.8**	**+1.2**
KRJI	**Kerinci**	**9.35**	**107**	P			**Pn**	**15 28 06.4**	**+2.3**
TRTT	**Trang**	**10.08**	**45**	P			**Pn**	**15 28 15.3**	**+1.3**
	42nm,0.9s								
SURT	**Suratani**	**10.33**	**37**	P			**Pn**	**15 28 18.8**	**+1.4**
	37nm,0.9s,716nm								
PALK	**Pallekele**	**13.48**	**299**	Pn			**Pn**	**15 28 57.1**	**-3.5**
	1.1nm,0.3s,baz=117,slow=12,SNR=6.9								
PALK				Sn			Sn	15 31 12.2	-18
	3.3nm,0.3s,baz=296,slow=18,SNR=5.8								
UTHA	**Uthaitani**	**16.29**	**24**	P			**P**	**15 29 43.4**	**+2.3**
	43μm,0.9s,360μm								
UMPA	**Umpang Tak**	**16.65**	**22**	P			**P**	**15 29 46.4**	**+1.3**
	39μm,0.8s								
PBKT	**Sadao Pong**	**17.85**	**27**	P			**P**	**15 30 01.7**	**+3.3**
	7.5nm,1.5s,461nm								
PBKT	**Sadao Pong**	**17.85**	**27**	P			**P**	**15 29 59.0**	**+0.7**
PBKT				IAmb			IAmb	15 30 02.7	
	comp=Z,14nm,1.1s								
CMAR	**Chiang Mai Arr**	**18.76**	**19**	P			**Pn**	**15 30 09.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=213,slow=12,SNR=23								
STKI	**Sintang**	**18.97**	**92**	P			**Pn**	**15 30 15.3**	**+3.9**
CHTO	**Chiang Mai**	**19.09**	**19**	P			**Pn**	**15 30 14.2**	**+1.3**
CHTO				IAmb			IAmb	15 30 16.8	
	comp=Z,13nm,1.1s								
CMMT	**Chiang Mai**	**19.09**	**19**	P			**Pn**	**15 30 14.2**	**+1.3**
	comp=Z,6.5nm,1.1s								
SBUM	**Sibu**	**19.77**	**85**				**Pn**	**15 30 22.6**

comp=Z,3.4nm,0.6s
ARCES ARCESS Array B 81.47 341 LR LR 16 17 20.5
comp=Z,273nm,19.6s,baz=230,slow=38
GERES GERESS Array B 82.13 319 P **P** **15 38 10.7 +0.5**
comp=Z,2.1nm,0.7s,baz=103,slow=4.2,SNR=11
GERES GERESS Array B 82.13 319 P **P** **15 38 09.9 -0.3**
DAVOX Davos/Dischmat 84.46 317 P **P** **15 38 22.7 +0.4**
comp=Z,2.4nm,0.5s,baz=172,slow=17,SNR=3.9
TXAR Lajitas Array 146.39 26 PKPbc **PKPab** **15 45 30.9 -1.0**
comp=Z,0.9nm,0.7s,baz=227,slow=0.6,SNR=10

JMA 16 15:27:29.2±0.3, 35°.60N×140°.13E, h66km±3km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.19**	**162**	P	Pn	15 27 39.7	+0.4
JCN				*e*S	Sn	15 27 48.5	+1.9
JSMT	**Sammumatsuo**	**0.26**	**81**	P	Pn	15 27 40.2	+0.5
JKUC	**kamogawauchiur**	**0.44**	**173**	P	Pn	15 27 41.3	+0.2
JOD2	**Odawara 2**	**0.92**	**249**	P	Pn	15 27 46.4	0.0
MAT	**Matsushiro**	**1.82**	**302**	P	Pn	15 28 00.3	+2.0
MAT				S	Sn	15 28 23.8	+3.3

NIED ***16*** *15:32:00, 35°.60N×140°.20E, h68km, Mw3.9 Best double couple: M0=6.94000×10^14 NP1:φs=36.00000°, δ=31.00000°, λ=101.00000°. NP2:φs=203.00000°, δ=60.00000°, λ=83.00000°.*
ISCJB ***16*** *15:32:40.6±0.4, 35°.53N±0°.03×140°.16E±0°.05, h76km±3km, mb3.6/10, Error ellipse: s-maj=7.0km s-min=4.9km az=154.5*
IDC ***16*** *15:32:40.6±1.4, 35°.58N×140°.33E, h62km±13km, mb3.4/10, mb1 3.6/14, mb1mx3.4/65, mbtmp3.7/14, Error ellipse: s-maj=16.3km s-min=6.9km az=72.0*
JMA ***16*** *15:32:41.3±0.2, 35°.58N×140°.17E, h68km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs=184.00000°, δ=58.00000°, λ=83.00000°. NP2:φs=17.00000°, δ=33.00000°, λ=101.00000°. Principal axes: T Plg=76.0000°, Azm=74.0000°; N Plg=6.0000°, Azm=188.0000°; P Plg=13.0000°, Azm=279.0000°;*
JMA Felt I J1.
ISC 16 15:32:41.4±0.8, 35°.59N±0°.05×140°.19E±0°.05, h67km±6km, n36, σ0=96/44, mb3.7/10, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.18**	**177**	⇑P	**Pn**	**15 32 52.0**	**+0.4**
JSMT	**Sammumatsuo**	**0.21**	**77**	⇑P	**Pn**	**15 32 52.3**	**+0.6**
TOK	**Tokyo**	**0.36**	**285**	P	**Pn**	**15 32 53.3**	**+0.6**
TOK				S	**Sn**	**15 33 02.6**	**+1.7**
JKUC	**kamogawauchiur**	**0.43**	**179**	⇑P	**Pn**	**15 32 53.1**	**-0.2**
JKUC				*e*S	**Sn**	**15 33 02.1**	**+0.1**
BSO3	**Boso 3**	**0.83**	**162**	⇓P	**Pn**	**15 32 57.1**	**-0.3**
BSO3				*e*X		15 33 08.9	
JOD2	**Odawara 2**	**0.96**	**250**	⇓P	**Pn**	**15 32 58.7**	**-0.6**
JOD2				S	**Sn**	**15 33 11.1**	**-1.4**
JAG	**Ashikaga**	**1.02**	**324**	P	**Pn**	**15 33 00.2**	**+0.2**
JAG				S	**Sn**	**15 33 13.6**	**-0.3**
JIM2	**Oshima 3**	**1.07**	**216**	P	**Pn**	**15 32 59.8**	**-0.9**
JIM2				S	**Sn**	**15 33 13.5**	**-1.6**
JRY	**Ryogami san**	**1.13**	**292**	⇓P	**Pn**	**15 33 01.8**	**+0.4**
JRY				*e*S	**Sn**	**15 33 16.5**	**+0.1**
BSO1	**Boso 1**	**1.14**	**145**	P	**Pn**	**15 33 00.6**	**-0.4**
JFNN	**Fujinakano**	**1.29**	**252**	P	**Pn**	**15 33 03.3**	**-0.2**
JFNN				S	**Sn**	**15 33 19.3**	**-0.8**
JYN	**Shimob**	**1.35**	**266**	⇓P	**Pn**	**15 33 04.1**	**-0.2**
JYN				S	**Sn**	**15 33 20.9**	**-0.6**
JIZS	**Izushimoda**	**1.39**	**231**	P	**Pn**	**15 33 04.1**	**-0.7**
JIZS				S	**Sn**	**15 33 20.8**	**-1.5**
JKT	**Katashina**	**1.40**	**327**	P	**Pn**	**15 33 05.2**	**+0.2**
JKT				S	**Sn**	**15 33 23.3**	**+0.6**
MJAR	**Matsushiro Arr**	**1.86**	**301**	P	**Pn**	**15 33 11.8**	**+0.6**
3.2nm,0.3s,baz=219,slow=27,SNR=152							
MJAR				S	**Sn**	**15 33 35.2**	**+1.4**
6.4nm,0.3s,baz=140,slow=15,SNR=12							
MJAR				LR	LR	15 34 11.9	
comp=Z,86nm,18.3s,baz=235,slow=47							
MAT	**Matsushiro**	**1.86**	**301**	P	**Pn**	**15 33 12.0**	**+0.8**
MAT				S	**Sn**	**15 33 35.4**	**+1.6**
JHJ	**Hachijo jima 2**	**2.49**	**188**	P	**Pn**	**15 33 19.4**	**-0.3**
91nm,0.3s,baz=116,slow=20,SNR=16							
JHJ				S	**Sn**	**15 33 48.7**	**-0.3**
111nm,0.3s,baz=128,slow=21,SNR=9.7							
JNU	**Nakatsue**	**8.09**	**255**	P	**Pn**	**15 34 36.6**	**+0.5**
0.5nm,0.3s,baz=26,slow=5.2,SNR=7.6							
ASAJ	**Asahikawa**	**8.71**	**12**	P	**Pn**	**15 34 42.9**	**-1.6**
0.5nm,0.3s,baz=223,slow=13,SNR=8.3							
ASAJ				S	**Sn**	**15 36 17.9**	**-3.2**
0.4nm,0.3s,baz=12,slow=18,SNR=4.1							
USRK	**Ussuriysk Ar.**	**10.65**	**326**	P	**Pn**	**15 35 11.8**	**+0.8**
baz=173,slow=15,SNR=3.6							
SONM	**Songino Array**	**27.81**	**307**	P	**P**	**15 38 23.9**	**-0.4**
0.2nm,0.4s,baz=90,slow=7.2,SNR=1.7							
H11N2	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	16 08 11.7	
baz=308,slow=75,SNR=8.6							
H11N1	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	16 07 59.7	
baz=308,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	16 08 07.6	
baz=308,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**	**28.97**	**119**	T	T	16 08 36.7	
baz=312,slow=75,SNR=9.5							
H11S3	**WAKE ISLAND Hy**	**28.97**	**119**	T	T	16 08 31.8	
baz=312,slow=75,SNR=8.9							
H11S2	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	16 08 38.1	
baz=312,slow=75,SNR=11							
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**15 40 28.1**	**+1.0**
0.7nm,0.4s,baz=120,slow=5.5,SNR=3.5							
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**15 40 42.5**	**0.0**
0.7nm,0.7s,baz=82,slow=8.3,SNR=3.6							
KURBB	**Kurchatov Arra**	**46.12**	**309**	P	**P**	**15 40 59.4**	**+0.6**
1.0nm,0.5s,baz=85,slow=7.7,SNR=12							
ILAR	**Eielson Array**	**51.23**	**32**	P	**P**	**15 41 37.9**	**+0.1**
0.5nm,0.7s,baz=262,slow=6.1,SNR=5.5							
FITZ	**Fitzroy Crossi**	**55.15**	**197**	P	**P**	**15 42 06.9**	**-0.1**
0.6nm,0.4s,baz=71,slow=3.7,SNR=6.4							
WRA	**Warramunga Arr**	**55.51**	**187**	P	**P**	**15 42 08.8**	**-0.8**
0.6nm,0.3s,baz=0.3,slow=7.6,SNR=22							
ASAR	**Alice Springs**	**59.24**	**187**	P	**P**	**15 42 35.5**	**-0.3**
0.6nm,0.4s,baz=19,slow=11,SNR=21							
NVAR	**Mina Array Bea**	**76.64**	**52**	P	**P**	**15 44 25.0**	**-0.3**
0.5nm,0.7s,baz=309,slow=6.0,SNR=3.6							
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**15 44 40.9**	**+0.5**
0.4nm,0.5s,baz=128,slow=0.8,SNR=4.2							

ISCJB ***16*** *15:36:39.0±0.2, 26°.35N±0°.02×103°.10E±0°.03, h10km, mb4.4/65, Error ellipse: s-maj=3.7km s-min=3.1km az=27.1*
IDC ***16*** *15:36:38.8±0.5, 26°.38N×103°.18E, h0km, mb4.2/35, mb1 4.3/36, mb1mx4.2/64, mbtmp4.2/36, ML4.1/1, MS3.9/2, Ms1 4.0/2, ms1mx3.3/38, Error ellipse: s-maj=13.5km s-min=10.4km az=56.0*
MOS ***16*** *15:36:40.4±1.1, 26°.35N×103°.26E, h25km, mb4.8/27, MS4.3/5, Error ellipse: s-maj=7.9km s-min=5.3km az=97.2*
BJI ***16*** *15:36:40.6±0.0, 26°.36N×103°.01E, h10km, mb4.5/42, mB4.9/28, ML4.7/17, Ms4.6/49, Ms7 4.3/38*
NEIC ***16*** *15:36:42.9±1.9, 26°.37N±0°.05×103°.20E±0°.09, h26km±1km, mb4.6/34*
ISC 16 15:36:40.5±0.3, 26°.24N±0°.03×103°.17E±0°.05, h10km, n203, σ0=103/212, mb4.5/71, 11C-7D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.18**	**199**	Pg	**Pn**	**15 37 02.3**	**-1.0**
KMI				Sg	**Sb**	**15 37 18.8**	**+0.3**
KMI				smax	smax		
comp=N,13μm,0.6s							
KMI				smax	smax		
comp=E,13μm,0.7s							
KMI	**Kunming**	**1.18**	**199**	P	**Pn**	**15 37 02.6**	**-0.7**
KMI						15 37 20.4	
KMI	**Kunming**	**1.18**	**199**		**Pn**	**15 37 02.6**	**-0.7**
KMI				Sn	**Sb**	**15 37 20.4**	**+1.9**
CD2	**Chengdu**	**4.68**	**6**	⇓Pn	**Pn**	**15 37 52.9**	**+1.5**
CD2				Sn	**Sn**	**15 38 47.6**	**+1.8**
CD2				Sg	**Sg**	**15 39 08.4**	**-2.5**
CD2				smax	smax		
comp=N,2μm,1.4s							
CD2				smax	smax		
comp=E,2μm,1.6s							
CD2				LR	LR		
comp=E,16μm,6.1s							
CD2				LR	LR		
comp=Z,3μm,5.3s							
SLVN	**Son La**	**4.93**	**172**		**Pn**	**15 37 57.2**	**+2.4**
ENH	**Enshi**	**6.87**	**53**		**Pn**	**15 38 23.3**	**+1.9**
PAYA	**Payao**	**7.49**	**205**	P	Pn	15 38 35.6	+5.7
40μm,0.6s,742μm301nm							
LAMP	**Lampang**	**8.35**	**204**	P	Pg	15 39 29.1	+8.7
CMMT	**Chiang Mai**	**8.36**	**209**	P	Pn	15 38 49.2	+7.4
7.6nm,0.9s,0.1nm							
CMMT	**Chiang Mai**	**8.36**	**209**	P	**Pg**	**15 39 19.1**	**-1.5**
CHTO	**Chiang Mai**	**8.36**	**209**	P	**Pn**	**15 38 45.8**	**+4.0**
CHTO	**Chiang Mai**	**8.36**	**209**		**Pn**	**15 38 45.8**	**+4.0**
CMAR	**Chiang Mai Arr**	**8.67**	**208**	Pn	**Pn**	**15 38 49.3**	**+3.2**
0.6nm,0.3s,baz=21,slow=12,SNR=16							
CMAR				Lg	Lg	15 41 20.2	
0.3nm,0.3s,baz=21,slow=23,SNR=3.4							
CMAR				LR	LR	15 42 34.2	
comp=Z,600nm,19.8s,baz=22,slow=40							
CMAR	**Chiang Mai Arr**	**8.67**	**208**		Pn	15 38 51.1	+4.9
XAN	**Xi'an**	**9.23**	**31**	P	**Pn**	**15 38 52.5**	**-1.3**
XAN				LR	LR		
comp=N,2μm,8.3s							
XAN				LR	LR		
comp=E,2μm,8.7s							
XAN				LR	LR		
comp=Z,1μm,8.1s							
XAN	**Xi'an**	**9.23**	**31**	P	**Pn**	**15 38 52.9**	**-0.9**
XAN	**Xi'an**	**9.23**	**31**		**Pn**	**15 38 52.9**	**-0.9**
MHMT	**Maesarieng**	**9.37**	**212**	P	Pn	15 39 04.2	+8.4
35nm,1.0s							
MHMT	**Maesarieng**	**9.37**	**212**	P	Pn	15 39 04.2	+8.4
QIZ	**Qiongzhong**	**9.46**	**138**	P	**Pn**	**15 38 59.8**	**+2.9**
QIZ				S	Sn	15 40 56.6	+13
QIZ				LR	LR		
comp=N,1μm,7.7s							
QIZ				LR	LR		
comp=E,1μm,7.7s							
QIZ				LR	LR		
comp=Z,2μm,8.2s							
GZH	**Guangzhou**	**9.77**	**107**	P	**Pn**	**15 39 03.4**	**+2.2**
GZH				S	**Sn**	**15 40 57.5**	**+6.4**
LZH	**Lanzhou**	**9.83**	**3**	*e*P	**Pn**	**15 39 00.8**	**-1.4**
LZH				pP		15 39 07.5	
LZH				pmax	pmax		
comp=Z,23nm,1.0s							
LZH				pmax	pmax		
comp=Z,84nm,4.1s							
LZH				LR	LR		
comp=N,2μm,10.0s							
LZH				LR	LR		
comp=E,7μm,9.8s							
LZH				LR	LR		
comp=Z,2μm,10.5s							
PBKT	**Sadao Pong**	**9.84**	**192**		**Pn**	**15 39 06.8**	**+4.7**
WHN	**Wuhan**	**10.74**	**64**	P	**Pn**	**15 39 15.8**	**+1.4**
WHN				LR	LR		
comp=N,4μm,10.5s							
WHN				LR	LR		
comp=E,2μm,10.4s							
WHN				LR	LR		
comp=Z,1μm,11.3s							
LSA	**Lhasa**	**11.17**	**291**	P	**Pn**	**15 39 22.3**	**+1.6**
LSA	**Lhasa**	**11.17**	**291**	P	**Pn**	**15 39 22.3**	**+1.6**
LSA	**Lhasa**	**11.17**	**291**		**Pn**	**15 39 22.4**	**+1.6**
GTA	**Gaotai**	**13.43**	**349**	*e*P	P	15 39 54.6	-6.2
GTA				pP	Pn	15 39 58.3	+7.0
GTA				sP		15 40 00.8	
GTA				S	**Sn**	**15 42 25.4**	**+4.6**
GTA				pmax	pmax		
comp=Z,4.0nm,0.8s							
GTA				pmax	pmax		
comp=Z,91nm,6.7s							
GTA				LR	LR		
comp=N,820nm,12.4s							
GTA				LR	LR		
comp=E,2μm,13.0s							
TAPN	**Taplejung**	**13.85**	**278**	*e*P	**Pn**	**15 39 55.3**	**-2.0**
ODAN	**Odare**	**14.14**	**276**	*e*P	**Pn**	**15 39 59.1**	**-2.0**
36nm,0.8s							
RAMN	**Ramite**	**14.84**	**276**	*e*P	**Pn**	**15 40 08.3**	**-2.5**
NJ2	**Nanjing**	**14.88**	**63**	*e*P	**Pn**	**15 40 10.8**	**-0.2**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
NJ2				LR	LR		
comp=N,990nm,8.5s							
NJ2				LR	LR		
comp=E,720nm,6.9s							
NJ2				LR	LR		
comp=Z,720nm,7.4s							
JIRN	**Jiri**	**15.21**	**279**	*e*P	**Pn**	**15 40 15.1**	**-0.7**
BTO	**Baotou**	**15.42**	**20**	*e*P	**Pn**	**15 40 19.3**	**+1.0**
GUN	**Gumba**	**15.49**	**280**	*e*P	**Pn**	**15 40 16.5**	**-3.0**
TIA	**Tai'an**	**15.52**	**47**	P	**Pn**	**15 40 20.1**	**+0.6**
TIA				pmax	pmax		
comp=Z,30nm,0.7s							
TIA				LR	LR		
comp=N,660nm,11.2s							
TIA				LR	LR		
comp=E,400nm,7.3s							
TIA				LR	LR		
comp=Z,450nm,5.7s							
PKI	**Pulchoki**	**15.90**	**279**	*e*P	**Pn**	**15 40 22.0**	**-2.8**
PKIN	**Phulchoki**	**15.91**	**279**	*e*P	**Pn**	**15 40 21.9**	**-3.0**
35nm,0.7s							
KKN	**Kakani**	**16.02**	**280**	*e*P	**Pn**	**15 40 24.8**	**-1.4**
HHC	**Hu-ho-hao-te**	**16.15**	**23**	*e*P	**Pn**	**15 40 27.0**	**-0.8**
HHC				pmax	pmax		
comp=Z,9.0nm,0.8s							
DMN	**Daman**	**16.17**	**279**	*e*P	**Pn**	**15 40 26.3**	**-1.9**
37nm,0.8s							
GKN	**Gorkha**	**16.59**	**280**	*e*P	**Pn**	**15 40 31.7**	**-1.8**
39nm,0.7s							
DANN	**Dangsing**	**17.38**	**281**	*e*P	**Pn**	**15 40 41.0**	**-2.5**
154nm,0.8s							
BJT	**Baijiatuau**	**17.50**	**35**	P	**Pn**	**15 40 41.3**	**-3.4**
BJT				pmax	pmax		
comp=Z,34nm,1.1s							
BJT	**Baijiatuau**	**17.50**	**35**		**Pn**	**15 40 41.3**	**-3.4**
BJT				IAmb	IAmb	15 40 48.7	
comp=Z,34nm,1.1s							
KOLN	**Koldanda**	**17.50**	**279**	*e*P	**Pn**	**15 40 43.3**	**-1.7**
comp=Z,56nm,1.1s							
BJI	**Beijing**	**17.52**	**35**	P	**Pn**	**15 40 44.6**	**-0.3**
BJI				S	**Sn**	**15 43 59.3**	**-0.8**
BJI				pmax	pmax		
comp=Z,15nm,1.1s							
BJI				LR	LR		
comp=Z,720nm,18.2s							
BJI				LR	LR		
comp=Z,990nm,15.9s							
DL2	**Dalian**	**19.99**	**46**	P	Pn	15 41 16.6	+1.7
DL2				pmax	pmax		
comp=Z,57nm,0.8s							
WMQ	**Urumqi**	**21.57**	**328**	*e*P	**P**	**15 41 31.3**	**+0.9**
WMQ				pP	sP	15 41 39.8	+4.5
WMQ				sP	pP	15 41 43.5	+10
WMQ				LR	LR		
comp=Z,490nm,5.7s							
WMQ				LR	LR		
comp=Z,210nm,6.3s							
SONM	**Songino Array**	**21.71**	**6**	P	**P**	**15 41 30.5**	**-1.3**
comp=Z,2.5nm,0.6s,baz=185,slow=9.8,SNR=20							
SONM	**Songino Array**	**21.71**	**6**	P	**P**	**15 41 31.0**	**-0.8**
ULN	**Ulaanbaatar**	**21.80**	**7**	P	**P**	**15 41 31.8**	**-1.1**
ULN				pmax	pmax		
comp=Z,30nm,1.1s							
ULN	**Ulaanbaatar**	**21.80**	**7**	P	**P**	**15 41 31.8**	**-1.1**
ULN				IAmb	IAmb	15 41 46.4	
comp=Z,30nm,1.1s							
PSI	**Prapat**	**23.66**	**191**	P	**P**	**15 41 54.4**	**+2.0**
comp=Z,2.4nm,0.4s,baz=14,slow=15,SNR=3.9							
KSRS	**Korea Array**	**23.75**	**56**	P	**P**	**15 41 52.4**	**-0.6**
comp=Z,3.9nm,0.6s,baz=244,slow=10,SNR=15							
RPSI	**Rantau Prapat**	**23.76**	**191**	P	**P**	**15 41 54.4**	**+1.1**
ZAK	**Zakamensk**	**24.11**	**0**	*e*P	**P**	**15 41 56.4**	**0.0**
ZAK				pmax	pmax		
comp=Z,15nm,1.0s							
HYB	**Hyderabad**	**24.44**	**254**	*i*P	**P**	**15 41 58.0**	**-1.7**
CN2	**Changchun**	**25.17**	**40**	*e*P	**P**	**15 42 07.0**	**+1.0**
CN2				*es*P	sP	15 42 19.6	+8.2
CN2				*e*S	**S**	**15 46 26.3**	**-4.8**
CN2				pmax	pmax		
comp=Z,20nm,0.8s							
CN2				LR	LR		
comp=Z,470nm,14.0s							
CN2				LR	LR		
comp=Z,370nm,14.0s							
CN2				LR	LR		
comp=Z,300nm,14.0s							
SBUM	**Sibu**	**25.20**	**158**	P	**P**	**15 42 10.3**	**+3.8**
TLY	**Talaya**	**25.41**	**1**	*e*P	**P**	**15 42 03.5**	**-4.6**
TLY				*e*S	**S**	**15 46 29.4**	**-5.4**
TLY				pmax	pmax		
comp=Z,14nm,0.8s							
TLY				MLR	MLR		
comp=Z,706nm,9.0s							
KSH	**Kashi**	**26.28**	**307**	P	**P**	**15 42 18.3**	**+2.0**
KSH				PP	**PnPn**	**15 43 03.0**	**+7.7**
KSH				S	**S**	**15 46 47.3**	**-1.7**
KSH				SS	**SnSn**	**15 47 57.9**	**+9.4**
KSH				pmax	pmax		
comp=Z,410nm,5.2s							
KSH				LR	LR		
comp=Z,600nm,12.0s							
KSH				LR	LR		
comp=Z,410nm,10.8s							
KSH				LR	LR		
comp=Z,430nm,12.0s							
HIA	**Hailar**	**26.35**	**25**	P	**P**	**15 42 14.0**	**-2.7**
HIA				pmax	pmax		
comp=Z,14nm,0.8s							
HIA	**Hailar**	**26.35**	**25**	P	**P**	**15 42 14.0**	**-2.7**
HIA				IAmb	IAmb	15 42 27.1	
comp=Z,14nm,0.8s							
MK31	**Makanchi Array**	**26.35**	**327**	P	**P**	**15 42 16.5**	**-0.3**
MK31				pmax	pmax		
comp=Z,5.0nm,0.8s							
MK31	**Makanchi Array**	**26.35**	**327**	P	**P**	**15 42 16.5**	**-0.3**
MKAR	**Makanchi Array**	**26.35**	**327**	P	**P**	**15 42 16.4**	**-0.3**
comp=Z,1.8nm,0.7s,baz=132,slow=10.0,SNR=7.9							
DGZ	**Jazzator, Alta**	**26.40**	**337**	*i*P	**P**	**15 42 16.4**	**-0.9**
KDJ	**Kajisay**	**26.57**	**313**	P	**P**	**15 42 20.2**	**+1.3**
KDJ				pmax	pmax		
comp=Z,10.0nm,1.0s							
KDJ	**Kajisay**	**26.57**	**313**	P	**P**	**15 42 20.2**	**+1.3**
KDJ				IAmb	IAmb	15 42 37.0	
comp=Z,9.6nm,0.9s							
NIL	**Nilore**	**26.89**	**293**	P	**P**	**15 42 20.4**	**-1.4**
NIL				pmax	pmax		
comp=Z,26nm,0.7s							
NIL	**Nilore**	**26.89**	**293**	P	**P**	**15 42 20.4**	**-1.4**
AAK	**Ala-Archa**	**28.57**	**312**	*ce*P	**P**	**15 42 35.3**	**-1.5**
AAK				pmax	pmax		
comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**28.57**	**312**	P	**P**	**15 42 36.8**	**0.0**
comp=Z,2.7nm,0.7s,baz=142,slow=5.2,SNR=11							
AAK	**Ala-Archa**	**28.57**	**312**	P	**P**	**15 42 36.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**29.37**	**45**	*i*P	**P**	**15 42 42.7**	**-1.0**
USRK	**Ussuriysk Ar.**	**29.37**	**45**	P	**P**	**15 42 42.2**	**-1.5**
comp=Z,3.6nm,0.8s,baz=257,slow=8.4,SNR=11							
USRK	**Ussuriysk Ar.**	**29.37**	**45**	P	**P**	**15 42 42.7**	**-1.0**
BTK	**Batken**	**30.20**	**305**	P	**P**	**15 42 52.5**	**+1.2**
BTK				pmax	pmax		
comp=Z,5.0nm,0.7s							
BTK	**Batken**	**30.20**	**305**	P	**P**	**15 42 52.5**	**+1.2**
BTK				IAmb	IAmb	15 42 56.9	
comp=Z,4.6nm,0.7s							
GAR	**Garm**	**30.28**	**303**	P	**P**	**15 42 51.0**	**-1.0**
KURBB	**Kurchatov Arra**	**30.80**	**329**	P	**P**	**15 42 56.0**	**-0.3**
comp=Z,5.6nm,0.9s,baz=135,slow=9.5,SNR=18							
KURK	**Kurchatov**	**30.82**	**329**	*ce*P	**P**	**15 42 56.3**	**-0.2**
KURK				pmax	pmax		
comp=Z,15nm,1.3s							
KURK	**Kurchatov**	**30.82**	**329**	P	**P**	**15 42 55.2**	**-1.3**
KURK				IAmb	IAmb	15 43 07.4	
comp=Z,11nm,0.9s							
ZAA0	**Zalesovo Array**	**30.84**	**339**	P	**P**	**15 42 55.0**	**-1.6**
ZALV	**Zalesovo Beam**	**30.84**	**339**	P	**P**	**15 42 55.2**	**-1.4**
comp=Z,9.1nm,0.6s,baz=145,slow=9.1,SNR=17							
ZALV	**Zalesovo Beam**	**30.84**	**339**	P	**P**	**15 42 55.5**	**-1.1**
CHGR	**Chuyangaron**	**31.08**	**302**	P	**P**	**15 42 57.2**	**-1.8**
MJAR	**Matsushiro Arr**	**31.48**	**62**	P	**P**	**15 43 02.8**	**+0.3**
comp=Z,1.3nm,1.1s,baz=101,slow=6.5,SNR=4.4							
KLR	**Kul'dur**	**31.89**	**36**	*i*P	**P**	**15 43 04.6**	**-1.3**
KLR				pmax	pmax		
comp=Z,4.0nm,1.0s							
KLR	**Kul'dur**	**31.89**	**36**	P	**P**	**15 43 05.2**	**-0.8**
comp=Z,2.6nm,0.9s,baz=272,slow=11,SNR=6.7							
ZEA	**Zeya**	**32.77**	**27**	*e*P	**P**	**15 43 12.2**	**-1.4**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.5s							
ZEA				MLR	MLR		
comp=Z,500nm,12.0s							
BVAR	**Borovoye Array**	**36.24**	**326**	P	**P**	**15 43 42.9**	**-0.7**
comp=Z,1.0nm,0.6s,baz=115,slow=9.2,SNR=6.8							
BRVK	**Borovoye**	**36.31**	**326**	*i*P	**P**	**15 43 43.3**	**-0.9**
BRVK				pmax	pmax		
comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**36.31**	**326**	P	**P**	**15 43 43.4**	**-0.8**
BRVK				IAmb	IAmb	15 43 51.8	
comp=Z,4.3nm,0.6s							
ASAJ	**Asahikawa**	**36.42**	**50**	P	**P**	**15 43 44.6**	**-0.7**
comp=Z,3.0nm,0.8s,baz=278,slow=18,SNR=2.9							
JKA	**Kamikawa-asahi**	**36.42**	**50**	P	**P**	**15 43 44.6**	**-0.7**
YSS	**Yuzh-Sakhalins**	**37.39**	**46**	*e*P	**P**	**15 43 50.4**	**-3.1**
YSS				MLR	MLR		
comp=Z,200nm,16.0s							
GEYT	**Alibeck**	**39.56**	**299**	P	**P**	**15 44 12.2**	**+0.2**
comp=Z,8.7nm,0.8s,baz=111,slow=6.5,SNR=13							
GEYT	**Alibeck**	**39.56**	**299**	P	**P**	**15 44 12.4**	**+0.4**
GYA0B	**ALIBECK ARRAY**	**39.56**	**299**	P	**P**	**15 44 12.5**	**+0.5**
GYA0B				IAmb	IAmb	15 44 16.9	
comp=Z,9.8nm,0.8s							
YAK	**Yakutsk**	**39.94**	**19**	P	**P**	**15 44 13.2**	**-1.5**
YAK				pmax	pmax		
comp=Z,12nm,0.7s							
YAK	**Yakutsk**	**39.94**	**19**	P	**P**	**15 44 13.2**	**-1.5**
YAK				IAmb	IAmb	15 44 19.6	
comp=Z,12nm,0.7s							
ABKAR	**Akbulak array**	**40.45**	**316**	P	**P**	**15 44 18.4**	**-0.7**
ABKAR	**Akbulak array**	**40.45**	**316**	P	**P**	**15 44 18.4**	**-0.7**
ABKAR				IAmb	IAmb	15 44 23.0	
comp=Z,4.6nm,1.0s							
AKTO	**Aktyubinsk**	**42.00**	**317**	P	**P**	**15 44 31.4**	**-0.5**
comp=Z,5.4nm,1.0s,baz=95,slow=10,SNR=8.7							
SVE	**Sverdlovsk

LPSR	**Galich'ya Gora**	**54.09 317**	*e*P	**P**	**15 46 06.8**	**+1.5**
LPSR			pmax	pmax		
	comp=Z,20nm,1.2s					
KLMR	**Klimovskoe**	**54.65 327**	*e*P	**P**	**15 46 07.8**	**-1.5**
KLMR			*e*		15 48 10.1	
KLMR			pmax	pmax		
	comp=Z,28nm,1.2s					
KLMR	**Klimovskoe**	**54.65 327**	*e*P	**P**	**15 46 07.9**	**-1.4**
KLMR			AMP		15 46 21.5	
	comp=Z,28nm,1.2s					
KLMR			*e*PP	**PP**	**15 48 10.2**	**-1.3**
WRA	**Warramunga Arr**	**54.98 144**	P	**P**	**15 46 12.0**	**-0.2**
WRA	**Warramunga Arr**	**54.98 144**	P	**P**	**15 46 13.0**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=331,slow=8.2,SNR=32					
WRA	**Warramunga Arr**	**54.98 144**	P	**P**	**15 46 12.0**	**-0.2**
WB2	**Warramunga Arr**	**54.99 144**	P	**P**	**15 46 12.8**	**+0.6**
OBN	**Obninsk**	**55.61 320⇑**	*e*P	**P**	**15 46 16.4**	**+0.1**
OBN			*PP	**sP**	**15 46 24.0**	**+2.6**
OBN			S	**S**	**15 54 06.0**	**+4.1**
OBN			SS	**SS**	**15 57 46.0**	**-0.7**
OBN			pmax	pmax		
	comp=Z,6.0nm,0.8s					
BILL	**Bilibino**	**55.93 24⇑**	*e*P	**P**	**15 46 17.0**	**-1.4**
BILL			*PP	**sP**	**15 46 24.0**	**0.0**
BILL			*SP	**pP**	**15 46 28.0**	**+5.5**
BILL					15 47 16.0	
BILL			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BILL			MLR	MLR		
	comp=Z,204nm,16.0s					
BILL	**Bilibino**	**55.93 24**	P	**P**	**15 46 16.2**	**-2.2**
BILL			IAmb	IAmb	15 46 27.8	
	comp=Z,3.3nm,0.7s					
ASAR	**Alice Springs**	**57.84 146**	P	**P**	**15 46 33.4**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=326,slow=6.8,SNR=22					
ASAR	**Alice Springs**	**57.84 146**	P	**P**	**15 46 33.7**	**+1.1**
BRTR	**Keskin Array B**	**58.52 302**	P	**P**	**15 46 36.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=130,slow=4.7,SNR=4.3					
KDZE	**Karadeniz Ereo**	**59.91 304**	⇓P	**PcP**	**15 47 31.0**	**-2.1**
AKASG	**Malin Array Be**	**60.17 315**	P	**P**	**15 46 46.6**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=74,slow=6.9,SNR=7.4					
FINES	**FINESS Array B**	**61.18 328**	P	**P**	**15 46 54.2**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=95,slow=7.0,SNR=11					
ARCES	**ARCESS Array B**	**61.37 337**	P	**P**	**15 46 55.7**	**-0.6**
	comp=Z,7.8nm,1.0s,baz=88,slow=7.7,SNR=6.4					
ELL	**Elmali**	**61.98 299**	P	**P**	**15 46 59.9**	**-1.2**
ELL			pmax	pmax		
	comp=Z,31nm,1.0s					
ELL	**Elmali**	**61.98 299**	P	**P**	**15 46 59.9**	**-1.2**
VRI	**Vrincioaia**	**62.50 310**	⇓P	**P**	**15 47 03.7**	**-0.6**
PLOR	**Plostina**	**62.56 310**	⇑P	**P**	**15 47 04.4**	**-0.3**
MLR	**Muntele Rosu**	**63.11 310**	P	**P**	**15 47 08.4**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=123,slow=7.3,SNR=11					
MLR	**Muntele Rosu**	**63.11 310**	⇓P	**P**	**15 47 07.2**	**-1.3**
MLR	**Muntele Rosu**	**63.11 310**	P	**P**	**15 47 08.5**	**-0.1**
BURAR	**Bucovina Array**	**63.21 312**	⇓P	P	15 47 15.2	+6.1
VOIR		**63.74 310**	⇑P	**P**	**15 47 14.0**	**+1.4**
DRGR		**65.05 312**	⇓P	**P**	**15 47 19.9**	**-1.2**
VTS	**Vitosha**	**65.63 307**	P	**P**	**15 47 25.6**	**+0.5**
VTS			pmax	pmax		
	comp=Z,6.0nm,0.8s					
VTS	**Vitosha**	**65.63 307**	⇑P	**P**	**15 47 24.3**	**-0.8**
VTS	**Vitosha**	**65.63 307**	P	**P**	**15 47 25.6**	**+0.5**
VTS			IAmb	IAmb	15 47 34.8	
	comp=Z,5.6nm,0.8s					
HERR	**Herculane**	**65.68 310**	⇑P	**P**	**15 47 24.6**	**-0.6**
MDVR	**Moldovita**	**66.19 310**	⇑P	**P**	**15 47 30.9**	**+2.3**
VYHS	**Vyhne**	**67.21 314**	*e*P	**P**	**15 47 36.7**	**+1.7**
VYHS	**Vyhne**	**67.21 314**	*e*P	**P**	**15 47 36.7**	**+1.7**
HFS	**Hagfors**	**67.37 327**	P	**P**	**15 47 34.4**	**-1.3**
	comp=Z,5.5nm,0.8s,baz=90,slow=7.4,SNR=5.9					
MORC	**Moravsky Berou**	**67.71 316**	⇑P	**P**	**15 47 40.7**	**+2.6**
MORC	**Moravsky Berou**	**67.71 316**	*e*P	**P**	**15 47 39.1**	**+0.9**
JAVC	**Velka Javorina**	**67.86 315**	*e*P	**P**	**15 47 39.2**	**0.0**
KRLC	**Kraliky**	**68.11 316**	*e*P	**P**	**15 47 43.5**	**+2.8**
KRLC	**Kraliky**	**68.11 316**	*e*P	**P**	**15 47 43.5**	**+2.8**
DPC	**Dobruska-Polom**	**68.33 317**	*e*P	**P**	**15 47 42.8**	**+0.8**
DPC	**Dobruska-Polom**	**68.33 317**	*e*P	**P**	**15 47 42.8**	**+0.8**
NB2	**NORSAR Subarra**	**68.33 328**	P	**P**	**15 47 39.1**	**-2.7**
	comp=Z,1.3nm,0.6s,baz=74,slow=6.5					
NOA	**NORSAR Array B**	**68.33 328**	P	**P**	**15 47 40.0**	**-1.8**
NOA	**NORSAR Array B**	**68.33 328**	P	**P**	**15 47 40.0**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=75,slow=6.4,SNR=5.8					
CHVC	**Chvalec**	**68.43 317**	*e*P	**P**	**15 47 45.6**	**+3.0**
CHVC			*ex*	x	15 47 52.2	
VRAC	**Vranov**	**68.43 315**	P	**P**	**15 47 40.9**	**-1.8**
	comp=Z,1.2nm,0.4s,baz=287,slow=9.1,SNR=2.6					
VRAC	**Vranov**	**68.43 315**	⇓P	P	15 47 31.7	-11
VRAC	**Vranov**	**68.43 315**	*e*P	**P**	**15 47 41.9**	**-0.7**
STKA	**Stephens Creek**	**68.44 145**	P	**P**	**15 47 41.7**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=209,slow=10,SNR=2.6					
PDG	**Podgorica**	**68.52 308**	⇑P	**P**	**15 47 44.3**	**+1.0**
KRUC	**Moravsky**	**68.62 315**	*e*P	**P**	**15 47 44.6**	**+0.8**
KMBO	**Kilima Mbogo**	**69.03 258**	P	**P**	**15 47 46.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=132,slow=6.5,SNR=3.1					
CONA	**Conrad Observa**	**69.28 314**	*e*pP	**P**	**15 47 50.8**	**+2.8**
	comp=Z,7.3nm,1.2s					
BRG	**Berggiesshubel**	**69.64 317**	*e*P	**P**	**15 47 50.7**	**+0.6**
	comp=Z,2.3nm,0.7s					
BRG	**Berggiesshubel**	**69.64 317**	*e*P	**P**	**15 47 50.7**	**+0.6**
BRG			pmax	pmax		
	comp=Z,8.0nm,0.7s					
PBCC	**Pribram**	**69.95 316**	*e*P	**P**	**15 47 50.8**	**-1.3**
CLL	**Collm**	**70.08 318**	*e*P	**P**	**15 47 55.0**	**+2.2**
CLL	**Collm**	**70.08 318**	*e*(P)	**P**	**15 47 55.0**	**+2.2**
MOA	**Molln**	**70.33 314**	*e*pP	**P**	**15 47 57.9**	**+3.5**
	comp=Z,6.6nm,1.1s					
KHC	**Kasperske Hory**	**70.38 316**	*e*P	**P**	**15 47 57.8**	**+3.1**
KHC			*e*		15 48 08.5	
KHC	**Kasperske Hory**	**70.38 316**	*e*P	**P**	**15 47 57.8**	**+3.1**
KHC			*ex*	x	15 48 08.5	
GERES	**GERESS Array B**	**70.39 315**	P	**P**	**15 47 54.0**	**-0.9**
GERES	**GERESS Array B**	**70.39 315**	P	**P**	**15 47 54.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=65,slow=5.3,SNR=9.2					
GERES	**GERESS Array B**	**70.39 315**	P	**P**	**15 47 55.0**	**+0.2**
WTTA	**Wattenberg**	**72.20 314**	*e*P	**P**	**15 48 06.0**	**0.0**
	comp=Z,9.8nm,0.9s					
WATA	**Walderalm**	**72.22 314**	*i* P	**P**	**15 48 06.7**	**+0.7**
	comp=Z,4.8nm,0.8s					
SQTA	**Sankt Quirin**	**72.49 314**	*e*P	**P**	**15 48 07.6**	**0.0**
	comp=Z,10.0nm,0.9s					
MOTA	**Moosalm**	**72.52 315**	*e*P	**P**	**15 48 07.4**	**-0.4**
	comp=Z,8.9nm,0.9s					
RETA	**Reutte**	**72.69 315**	*i* P	**P**	**15 48 09.2**	**+0.5**
	comp=Z,11nm,1.6s					
FETA	**Feichten**	**72.87 314**	*e*pP	**P**	**15 48 12.1**	**+2.2**
	comp=Z,8.6nm,0.9s					
PPLA	**Purkeypile**	**73.33 28**	P	**P**	**15 48 11.9**	**-0.4**
DAVOX	**Davos/Dischmat**	**73.50 314**	P	**P**	**15 48 12.2**	**-1.5**
	comp=Z,4.7nm,0.7s,baz=132,slow=8.8,SNR=7.1					
BMAR	**Burnt Mountain**	**74.08 22**	P	**P**	**15 48 16.4**	**-0.1**
ILAR	**Eielson Array**	**74.58 25**	P	**P**	**15 48 17.2**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=286,slow=4.1,SNR=13					
INK	**Inuvik**	**77.01 19**	P	**P**	**15 48 31.6**	**-1.6**
INK			pmax	pmax		
	comp=Z,6.0nm,1.1s					
INK	**Inuvik**	**77.01 19**	P	**P**	**15 48 31.6**	**-1.6**
INK			IAmb	IAmb	15 48 39.4	
	comp=Z,6.2nm,1.1s					
BCAR	**Beaver Creek A**	**77.39 25**	P	**P**	**15 48 34.5**	**-1.0**
EKA	**Eskdalemuir Ar**	**77.49 326**	P	**P**	**15 48 35.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=70,slow=6.1,SNR=3.1					
YKA	**Yellowknife Ar**	**86.57 17**	P	**P**	**15 49 22.1**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=332,slow=5.0,SNR=2.4					
TORD	**Torodi Ar. Bea**	**94.28 287**	P	**P**	**15 50 01.1**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=60,slow=5.4,SNR=2.8					
TORD			PP	**PP**	**15 53 48.9**	**+1.4**
	comp=Z,1.4nm,1.0s,baz=49,slow=7.9,SNR=4.6					
TXAR	**Lajitas Array**	**119.04 27**	PKP	**PKiKP**	**15 55 30.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=2.9					
SDV	**Santo Domingo**	**144.57 349**	PKP	**PKPdf**	**15 56 18.7**	**+0.2**
	comp=Z,30nm,0.7s,baz=29,slow=3.2,SNR=5.7					

NIED ***16*** *15:45:00,35°.60N×140°.20E,h68km,Mw4.3 Best double couple: M*$_0$*3.65000×10*^{15} *NP1:*ϕ_s*206.00000°,*δ*43.00000°,*λ*72.00000°. NP2:*ϕ_s*49.00000°,*δ*50.00000°,*λ*106.00000°.*
ISCJB ***16*** *15:45:56.9±0.3,35°.50N±0°.03×140°.17E±0°.04,h72km±2km, mb4.0/22, Error ellipse: s-maj=5.7km s-min=4.7km az=162.2*
JMA ***16*** *15:45:56.8±0.2,35°.58N×140°.16E,h71km±2km,M4.2 Broadband fault plane solution: P waves. NP1:*
ϕ_s*189.00000°,*δ*63.00000°,*λ*62.00000°. NP2:*ϕ_s*59.00000°,*
δ38.00000°,λ133.00000°. Principal axes: T Plg61.0000°, Azm56.0000°; N Plg25.0000°, Azm202.0000°; P Plg14.0000°, Azm299.0000°;
JMA Felt II J1.
NEIC ***16*** *15:45:57.7±2.4,35°.52N±0°.05×140°.21E±0°.10,h65km±4km, mb4.4/15*
IDC ***16*** *15:45:57.6±1.2,35°.47N×140°.21E,h66km±11km,mb3.8/20, mb1 4.0/26,mb1mx3.9/42,mbtmp4.2/26,MS3.5/3, Ms1 3.5/3,ms1mx3.1/44,Error ellipse: s-maj=14.2km s-min=6.3km az=70.0*
ISC 16 15:45:57.6±0.7,35°.54N±0°.04×140°.23E±0°.04,h67km±6km, n102,σ1∀51/107,mb4.2/27,5C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.12**	**192**	⇑P	**Pn**	**15 46 07.9**	**+0.4**
JSMT	**Sammumatsuo**	**0.20**	**60**	⇑P	**Pn**	**15 46 08.3**	**+0.5**
JKUC	**kamogawauchiur**	**0.38**	**184**	⇑P	**Pn**	**15 46 09.0**	**-0.1**
JKUC				S	**Sn**	**15 46 18.4**	**+1.0**
TOK	**Tokyo**	**0.41**	**291**	P	**Pn**	**15 46 09.1**	**-0.2**
TOK				S	**Sn**	**15 46 18.7**	**+0.9**
BSO3	**Boso 3**	**0.77**	**163**	P	**Pn**	**15 46 13.2**	**+0.3**
JOD2	**Odawara 2**	**0.98**	**254**	⇑P	**Pn**	**15 46 14.6**	**-1.1**
JOD2				S	**Sn**	**15 46 27.0**	**-2.0**
JIM2	**Oshima 3**	**1.05**	**219**	P	**Pn**	**15 46 15.4**	**-1.2**
JIM2				S	**Sn**	**15 46 29.4**	**-1.4**
BSO1	**Boso 1**	**1.07**	**145**	P	**Pn**	**15 46 17.0**	**+0.6**
JAG	**Ashikaga**	**1.09**	**325**	⇓P	**Pn**	**15 46 16.0**	**-1.1**
JAG				S	**Sn**	**15 46 30.0**	**-1.5**
JRY	**Ryogami san**	**1.18**	**294**	⇓P	**Pn**	**15 46 17.7**	**-0.6**
JFNN	**Fujinakano**	**1.31**	**255**	P	**Pn**	**15 46 18.8**	**-1.2**
JFNN				S	**Sn**	**15 46 35.0**	**-1.8**
JYN	**Shimob**	**1.38**	**269**	⇓P	**Pn**	**15 46 19.9**	**-1.0**
JYN				S	**Sn**	**15 46 37.2**	**-1.2**
JIZS	**Izushimoda**	**1.38**	**234**	⇑P	**Pn**	**15 46 19.9**	**-1.0**
JIZS				S	**Sn**	**15 46 36.5**	**-1.9**
JKT	**Katashina**	**1.46**	**327**	P	**Pn**	**15 46 21.2**	**-0.8**
MJAR	**Matsushiro Arr**	**1.92**	**302**	P	**Pn**	**15 46 27.3**	**-0.8**
	25nm,0.3s,baz=144,slow=15,SNR=1061						
MJAR				S	**Sn**	**15 46 51.6**	**+0.2**
	22nm,0.3s,baz=115,slow=20,SNR=8.8						
MJAR				LR	LR	15 47 22.0	
	comp=Z,351nm,21.1s,baz=130,slow=44						
MJAR	**Matsushiro Arr**	**1.92**	**302**		**Pn**	**15 46 30.4**	**+2.2**
MAJO	**Matsushiro**	**1.92**	**302**		**Pn**	**15 46 28.0**	**-0.2**
MAT	**Matsushiro**	**1.92**	**302**	P	**Pn**	**15 46 27.7**	**-0.5**
MAT				S	**Sn**	**15 46 51.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**1.93**	**302**		**Pn**	**15 46 27.9**	**-0.3**
JHJ	**Hachijo jima 2**	**2.44**	**189**	P	**Pn**	**15 46 35.0**	**-0.3**
	309nm,0.3s,baz=114,slow=22,SNR=46						
JHJ				S	**Sn**	**15 47 03.1**	**-0.9**
	431nm,0.3s,baz=82,slow=22,SNR=11						
JHJ2	**Mitsune**	**2.45**	**188**		**Pn**	**15 46 35.7**	**+0.4**
INU	**Inuyama**	**2.63**	**267**		**Pn**	**15 46 37.9**	**+0.1**
JNU	**Nakatsue**	**8.11**	**255**	P	**Pn**	**15 47 52.8**	**+0.2**
	3.4nm,0.3s,baz=99,slow=2.8,SNR=35						
JNU				LR	LR	15 51 14.1	
	comp=Z,220nm,19.2s,baz=240,slow=39						
JNU	**Nakatsue**	**8.11**	**255**		**Pn**	**15 47 53.8**	**+1.1**
JCJ	**Chichijima**	**8.58**	**168**	P	**Pn**	**15 47 56.6**	**-2.6**
	50nm,0.3s,baz=75,slow=18,SNR=15						
JCJ				S	**Sn**	**15 49 27.6**	**-6.8**
	33nm,0.3s,baz=275,slow=22,SNR=7.2						
JCJ				LR	LR	15 51 25.4	
	comp=Z,114nm,20.6s,baz=250,slow=38						
ASAJ	**Asahikawa**	**8.76**	**11**	P	**Pn**	**15 47 58.9**	**-2.6**
	1.5nm,0.3s,baz=214,slow=8.8,SNR=16						
ASAJ				S	**Sn**	**15 49 33.2**	**-5.3**
	0.9nm,0.3s,baz=311,slow=20,SNR=2.5						
JKA	**Kamikawa-asahi**	**8.76**	**11**		**Pn**	**15 47 58.9**	**-2.6**
JKA					**Sn**	**15 49 33.2**	**-5.3**
KSRS	**Korea Array**	**10.09**	**285**	P	**Pn**	**15 48 20.7**	**+1.0**
	0.5nm,0.3s,baz=102,slow=14,SNR=14						
USA0B	**Ussuriysk Arra**	**10.71**	**326**		**Pn**	**15 48 30.0**	**+1.8**
USRK	**Ussuriysk Ar.**	**10.71**	**326**	P	**Pn**	**15 48 29.0**	**+0.9**
	baz=145,slow=13,SNR=15						
USRK	**Ussuriysk Ar.**	**10.71**	**326**		**Pn**	**15 48 30.0**	**+1.9**
CN2	**Changchun**	**14.05**	**310**	*e*P	**Pn**	**15 49 14.8**	**+1.5**
KLR	**Kul'dur**	**15.03**	**338**	P	**Pn**	**15 49 24.9**	**-1.1**
	0.2nm,0.3s,baz=184,slow=19,SNR=3.9						
NJ2	**Nanjing**	**18.10**	**265**	*e*P	**P**	**15 50 03.5**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
PETK	**Petropavlovsk-**	**21.45**	**30**	P	**P**	**15 50 40.2**	**-0.1**
	comp=Z,4.2nm,0.9s,baz=138,slow=40,SNR=3.5						
WHN	**Wuhan**	**22.24**	**264**	P	**P**	**15 50 48.5**	**-0.3**
HHC	**Hu-ho-hao-te**	**23.09**	**292**	*e*P	**P**	**15 50 57.3**	**-0.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,7.0nm,5.9s						
MA2	**Magadan**	**25.01**	**13**	P	**P**	**15 51 16.2**	**+1.2**
	comp=Z,15nm,0.7s,baz=182,slow=10,SNR=5.8						
MA2	**Magadan**	**25.01**	**13**	IAmb	IAmb	15 51 17.7	
	comp=Z,26nm,0.9s						
ENH	**Enshi**	**26.28**	**267**	P	**P**	**15 51 25.4**	**-1.5**
ENH				IAmb	IAmb	15 51 28.5	
	comp=Z,12nm,0.7s						
YAK	**Yakutsk**	**27.34**	**349**	P	**P**	**15 51 37.4**	**+1.4**
	comp=Z,2.9nm,0.4s,baz=40,slow=1.2,SNR=5.8						
YAK	**Yakutsk**	**27.34**	**349**	P	**P**	**15 51 37.1**	**+1.2**
YAK				IAmb	IAmb	15 51 39.5	
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**27.87**	**307**	P	**P**	**15 51 40.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=104,slow=8.1,SNR=5.7						
SONM	**Songino Array**	**27.87**	**307**	IAmb	IAmb	15 51 48.3	
	comp=Z,1.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.27**	**117**	T	T	16 21 41.2	
	baz=308,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**28.27**	**117**	T	T	16 21 41.8	
	baz=308,slow=75,SNR=95						
H11N3	**WAKE ISLAND Hy**	**28.28**	**117**	T	T	16 21 42.4	
	baz=308,slow=75,SNR=87						
SEY	**Seymchan**	**28.44**	**12**	P	**P**	**15 51 46.6**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=196,slow=14,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**28.91**	**119**	T	T	16 22 29.9	
	baz=310,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**28.91**	**119**	T	T	16 22 04.8	
	baz=310,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**28.93**	**119**	T	T	16 22 31.2	
	baz=310,slow=75,SNR=32						
LZH	**Lanzhou**	**29.41**	**282**	*e*P	**P**	**15 51 54.8**	**-0.1**
LZH				pP	pP	15 52 10.3	-0.7
LZH				sP	sP	15 52 18.0	-0.8
LZH				*e*PP	**PnPn**	**15 52 51.9**	**+0.4**
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,67nm,5.2s						
LZH				LR	LR		
	comp=N,200nm,12.7s						
LZH				LR	LR		
	comp=E,210nm,13.0s						
LZH				LR	LR		
	comp=Z,280nm,16.2s						
QIZ	**Qiongzhong**	**31.45**	**247**	P	**P**	**15 52 12.9**	**0.0**
QIZ				S	**S**	**15 57 16.8**	**+0.7**
QIZ				LR	LR		
	comp=N,310nm,23.5s						
QIZ				LR	LR		
	comp=Z,410nm,21.6s						
TIXI	**Tiksi**	**36.66**	**354**	P	**P**	**15 52 57.5**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=158,slow=6.7,SNR=4.3						
TIXI	**Tiksi**	**36.66**	**354**	IAmb	IAmb	15 53 02.7	
	comp=Z,2.3nm,0.8s						
PBKT	**Sadao Pong**	**39.69**	**252**	P	**P**	**15 53 22.0**	**-1.4**
PBKT				IAmb	IAmb	15 53 32.2	
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.20**	**256**	P	**P**	**15 53 27.0**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=51,slow=5.7,SNR=5.1						
WMQ	**Urumqi**	**40.68**	**298**	*e*P	**P**	**15 53 32.3**	**+0.8**
ZAA0	**Zalesovo Array**	**42.23**	**314**	P	**P**	**15 53 43.9**	**-0.1**
ZALV	**Zalesovo Beam**	**42.23**	**314**	P	**P**	**15 53 44.3**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=100,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**42.23**	**314**	P	**P**	**15 53 44.0**	**+1.0**
MKAR	**Makanchi Array**	**44.12**	**303**	P	**P**	**15 53 59.5**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=89,slow=9.2,SNR=10.0						
MKAR	**Makanchi Array**	**44.12**	**303**	P	**P**	**15 53 58.7**	**-0.7**
TAPN	**Taplejung**	**45.10**	**275**	*e*P	**P**	**15 54 08.6**	**+0.9**
	comp=Z,6.6nm,0.7s						
KURK	**Kurchatov**	**46.12**	**309**	P	**P**	**15 54 14.9**	**-0.1**
RAMN	**Ramite**	**46.17**	**275**	*e*P	**P**	**15 54 15.9**	**-0.2**
	comp=Z,13nm,0.7s						
KURBB	**Kurchatov Arra**	**46.18**	**309**	P	**P**	**15 54 15.3**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=86,slow=8.0,SNR=35						
JIRN	**Jiri**	**46.21**	**276**	*e*P	**P**	**15 54 16.6**	**0.0**
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**46.36**	**276**	*e*P	**P**	**15 54 18.7**	**+1.0**
PKI	**Pulchoki**	**46.88**	**276**	*e*P	**P**	**15 54 21.4**	**-0.4**
PKIN	**Phulchoki**	**46.89**	**276**	*e*P	**P**	**15 54 21.3**	**-0.5**
	comp=Z,5.6nm,0.7s						
KKN	**Kakani**	**46.90**	**277**	*e*P	**P**	**15 54 21.7**	**-0.1**
	comp=Z,9.6nm,0.8s						
DMN	**Daman**	**47.11**	**276**	*e*P	**P**	**15 54 23.2**	**-0.3**
GKN	**Gorkha**	**47.33**	**277**	*e*P	**P**	**15 54 24.8**	**-0.3**
DANN	**Dangsing**	**47.90**	**278**	*e*P	**P**	**15 54 29.7**	**+0.1**
	comp=Z,47nm,0.9s						
TARG	**Taragay, Kyrgy**	**48.22**	**297**	P	**P**	**15 54 33.6**	**+1.5**
TARG				IAmb	IAmb	15 54 39.1	
	comp=Z,6.4nm,0.9s						
KOLN	**Koldanda**	**48.27**	**277**	*e*P	**P**	**15 54 31.8**	**-0.6**
KSH	**Kashi**	**50.16**	**295**	*e*P	**P**	**15 54 50.6**	**+4.1**
AAK	**Ala-Archa**	**50.37**	**299**	P	**P**	**15 54 48.8**	**+0.6**
AAK				IAmb	IAmb	15 54 55.9	
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**51.26**	**32**	P	**P**	**15 54 54.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=265,slow=5.7,SNR=18						
FYU	**Fort Yukon**	**51.88**	**29**	P	**P**	**15 55 03.1**	**+4.3**
KKAR	**Karatay Array**	**53.06**	**301**	P	**P**	**15 55 08.9**	**+0.9**
WAX	**Waxell Ridge**	**53.55**	**37**		**PcP**	**15 56 17.1**	**-0.1**
WB2	**Warramunga Arr**	**55.46**	**187**	P	**P**	**15 55 25.1**	**-0.4**
WRA	**Warramunga Arr**	**55.46**	**187**	P	**P**	**15 55 25.0**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=0.8,slow=7.5,SNR=77						
WRA	**Warramunga Arr**	**55.46**	**187**	P	**P**	**15 55 24.6**	**-1.0**
INK	**Inuvik**	**56.15**	**27**	P	**P**	**15 55 30.6**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=327,slow=5.1,SNR=4.9						
INK	**Inuvik**	**56.15**	**27**	IAmb	IAmb	15 55 47.7	
	comp=Z,2.7nm,0.9s						
ARU	**Arti**	**56.85**	**319**	LR	LR	16 20 57.9	
	comp=Z,249nm,20.9s,baz=186,slow=37						
ABKAR	**Akbulak array**	**58.18**	**311**	P	**P**	**15 55 44.6**	**+0.1**
ABKAR	**Akbulak array**	**58.18**	**311**	P	**P**	**15 55 45.0**	**+0.4**
ABKAR				IAmb	IAmb	15 55 50.9	
	comp=Z,3.3nm,0.7s						
ASAR	**Alice Springs**	**59.19**	**187**	P	**P**	**15 55 51.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=16,slow=9.1,SNR=31						
ASAR	**Alice Springs**	**59.19**	**187**	P	**P**	**15 55 52.8**	**+1.0**
FINES	**FINESS Array B**	**69.69**	**332**	P	**P**	**15 57 01.1**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=69,slow=4.8,SNR=8.9						
AKASG	**Malin Array Be**	**74.89**	**322**	P	**P**	**15 57 30.8**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=46,slow=5.4,SNR=5.9						
NB2	**NORSAR Subarra**	**75.19**	**337**	P	**P**	**15 57 32.9**	**+0.2**
	comp=Z,47nm,2.0s,baz=42,slow=6.2						
NB2	**NORSAR Subarra**	**75.19**	**337**	P	**P**	**15 57 32.9**	**+0.2**
	baz=42,slow=6.2						
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**15 57 31.9**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=40,slow=5.8,SNR=3.9						
NVAR	**Mina Array Bea**	**76.65**	**52**	P	**P**	**15 57 41.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.0,SNR=5.6						
NVAR	**Mina Array Bea**	**76.65**	**52**	P	**P**	**15 57 42.6**	**+1.0**
BRTR	**Keskin Array B**	**79.12**	**311**	P	**P**	**15 57 56.1**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=63,slow=3.1,SNR=3.1						
PDAR	**Pinedale Array**	**79.39**	**45**	P	**P**	**15 57 57.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=284,slow=

*ISCJB **16** 16:38:43.0±0.4, 24°.91N±0°.02×122°.31E±0°.02, h2km±2km, Error ellipse: s-maj=3.6km s-min=2.5km az=29.6*
*TAP **16** 16:38:43.5, 24°.93N×122°.25E, h12km, ML2.9, D*
*JMA **16** 16:38:44.4, 24°.88N×122°.26E, h38km, M2.3*

ISC 16 16:38:43.0±1.2, 24°.91N±0°.02×122°.30E±0°.03, h8km±9km, n89, σ0.74/158, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=288	**0.30**	**290**	⇑*i*P	**Pb**	**16 38 49.4**	**-1.2**
TWB1	baz=288			*i*S	**Sg**	**16 38 53.1**	**+0.3**
EGS	**** baz=253	**0.34**	**259**	P	**Pb**	**16 38 50.2**	**-1.0**
EGS	baz=253			*e*S	**Sg**	**16 38 55.2**	**+1.1**
EOS1	**EOS1** baz=210	**0.39**	**203**	P	**Pb**	**16 38 52.0**	**0.0**
EOS1	baz=210			S	**Sb**	**16 38 58.3**	**+0.1**
NTC	**Toucheng** baz=267	**0.43**	**263**	P	**Pb**	**16 38 51.9**	**-0.9**
TIPB	**Shuangxi** baz=277	**0.43**	**279**	P	**Pb**	**16 38 52.0**	**-0.9**
TIPB	baz=277			S	**Sb**	**16 38 58.2**	**-1.3**
NWF	**Wu-fen Shan** baz=288	**0.50**	**289**	P	**Pb**	**16 38 53.5**	**-0.5**
NWF	baz=288			S	**Sb**	**16 39 00.5**	**-1.0**
WFSB	**Wu-fen Shan** baz=288	**0.50**	**289**	P	**Pb**	**16 38 53.6**	**-0.3**
WFSB	baz=288			S	**Sb**	**16 39 00.1**	**-1.2**
TWC	**Suao** baz=229	**0.50**	**234**	P	**Pb**	**16 38 53.4**	**-0.7**
TWC	baz=229			S	**Sg**	**16 38 59.8**	**+0.5**
ILA	**Ilan** baz=251	**0.52**	**254**	*e*P	**Pb**	**16 38 54.2**	**-0.1**
TWE	**Neicheng** baz=240	**0.60**	**252**	P	**Pg**	**16 38 54.8**	**+0.2**
TWE	baz=240			S	**Sb**	**16 39 03.9**	**-0.5**
TWA	**Mucha** baz=275	**0.65**	**277**	P	**Pb**	**16 38 56.8**	**+0.2**
TWA	baz=275			S	**Sb**	**16 39 05.5**	**-0.4**
NANB	**Nanao** baz=214	**0.69**	**226**	P	**Pb**	**16 38 56.8**	**-0.4**
NANB	baz=214			S	**Sg**	**16 39 04.9**	**-0.3**
ENA	**Nanau** baz=214	**0.69**	**227**	P	**Pb**	**16 38 57.1**	**-0.3**
ENA	baz=214			S	**Sg**	**16 39 05.3**	**-0.2**
YM08	**YM08** baz=293	**0.70**	**294**	P	**Pb**	**16 38 57.4**	**-0.1**
YM08	baz=293			S	**Sb**	**16 39 06.8**	**-0.5**
YM01	**YM01** baz=289	**0.70**	**290**	P	**Pb**	**16 38 57.5**	**0.0**
YM01	baz=289			S	**Sb**	**16 39 07.4**	**+0.1**
NHDH	**Xindian Distri** baz=273	**0.70**	**275**	P	**Pb**	**16 38 57.8**	**+0.3**
NHDH	baz=273			S	**Sb**	**16 39 07.0**	**-0.3**
YM11	**YM11** baz=291	**0.70**	**292**	P	**Pb**	**16 38 57.8**	**+0.2**
YM11	baz=291			S	**Sb**	**16 39 07.4**	**0.0**
YM10	**YM10** baz=290	**0.71**	**290**	P	**Pb**	**16 38 57.7**	**0.0**
YM10	baz=290			S	**Sb**	**16 39 07.7**	**0.0**
ENTT	**Nioudou** baz=237	**0.72**	**248**	P	**Pb**	**16 38 57.2**	**-0.5**
ENTT	baz=237			S	**Sb**	**16 39 07.6**	**-0.1**
TAP	**Taipei** baz=292	**0.73**	**281**	*e*P	**Pb**	**16 38 57.3**	**-0.6**
TAP	baz=292			*e*S	**Sb**	**16 39 08.3**	**+0.2**
TWY	**Chenhua** baz=287	**0.73**	**300**	P	**Pb**	**16 38 58.0**	**+0.1**
TWY	baz=287			S	**Sb**	**16 39 08.5**	**+0.4**
NWLT	**Wulai** baz=258	**0.73**	**260**	P	**Pb**	**16 38 58.0**	**0.0**
NWLT	baz=258			S	**Sb**	**16 39 07.9**	**-0.3**
TATO	**Taipei** baz=274	**0.74**	**275**	P	**Pb**	**16 38 57.9**	**-0.1**
TATO	baz=274			S	**Sb**	**16 39 08.3**	**0.0**
JYNG	**Yonagunijimaku**	**0.74**	**127**	P	**Pn**	**16 38 58.7**	**-1.1**
JYNG				S	**Sb**	**16 39 08.9**	**+0.4**
PCYT	**Pengchaiyu** baz=347	**0.75**	**344**	P	**Pb**	**16 38 57.8**	**-0.5**
ANP	**Anpu** baz=291	**0.76**	**292**	P	**Pb**	**16 38 58.3**	**-0.2**
ANP	baz=291			S	**Sb**	**16 39 08.9**	**0.0**
NDT	**Datong Townshi** baz=237	**0.78**	**247**	P	**Pb**	**16 38 58.4**	**-0.3**
NDT	baz=237			*e*S	**Sb**	**16 39 09.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.79**	**124**	P	**Pb**	**16 38 59.2**	**+0.3**
YOJ				*e*S	**Sb**	**16 39 09.4**	**-0.3**
NTST	**Danshui** baz=288	**0.81**	**289**	P	**Pb**	**16 38 59.1**	**-0.2**
NTST	baz=288			S	**Sb**	**16 39 10.8**	**+0.4**
TWS1	**Kuangyinshan** baz=283	**0.82**	**284**	P	**Pn**	**16 39 00.6**	**-0.3**
TWS1	baz=283			S	**Sb**	**16 39 10.9**	**+0.2**
YHNB	**Yeheng** baz=270	**0.87**	**254**	P	**Pb**	**16 39 00.0**	**-0.4**
YHNB	baz=270			S	**Sg**	**16 39 11.3**	**+0.3**
WLTB	**Daxi** baz=266	**0.95**	**267**	*e*P	**Pn**	**16 39 01.9**	**-0.7**
WLTB	baz=266			*e*S	**Sg**	**16 39 13.6**	**0.0**
NNSB	**Datong** baz=227	**0.96**	**240**	P	**Pb**	**16 39 01.6**	**-0.4**
NNSB	baz=227			S	**Sb**	**16 39 14.7**	**-0.1**
NNS	**Nan Shan** baz=227	**0.96**	**241**	P	**Pb**	**16 39 01.7**	**-0.3**
NNS	baz=227			S	**Sb**	**16 39 15.5**	**+0.6**
NACB	**Ninganchiao** baz=208	**0.97**	**221**	P	**Pg**	**16 39 01.4**	**-0.3**
NACB	baz=208			S	**Sg**	**16 39 14.0**	**-0.3**
NCU	**National Centr** baz=273	**1.01**	**274**	*e*S	**Sn**	**16 39 17.2**	**-0.6**
NCUH	**Zhongli** baz=273	**1.01**	**274**	*e*P	**Pn**	**16 39 02.9**	**-0.6**
NCUH	baz=273			*e*S	**Sn**	**16 39 17.3**	**-0.6**
ETLH	**Xiulin Townshi** baz=214	**1.02**	**227**	P	**Pb**	**16 39 02.7**	**-0.2**
ETLH	baz=214			S	**Sg**	**16 39 16.2**	**+0.5**
TWD	**Chiawan** baz=215	**1.04**	**218**	P	**Pg**	**16 39 03.1**	**+0.1**
TWD	baz=215			S	**Sg**	**16 39 16.5**	**0.0**
HWA	**Hwalien** baz=212	**1.12**	**214**	*e*P	**Pn**	**16 39 06.1**	**+1.1**
ENLB	**Shoufeng** baz=211	**1.18**	**213**	*e*S	**Sn**	**16 39 24.7**	**+2.6**
LIOB	**Emei** baz=257	**1.19**	**258**	P	**Pb**	**16 39 05.2**	**-0.6**
LIOB	baz=257			*e*S	**Sn**	**16 39 22.1**	**-0.3**
SBCB	**Hsinchu** baz=264	**1.20**	**265**	*e*P	**Pb**	**16 39 05.3**	**-0.6**
WHF	**Hehuan Shan** baz=230	**1.21**	**231**	P	**Pg**	**16 39 06.1**	**-0.1**
WHF	baz=230			S	**Sg**	**16 39 21.9**	**0.0**
NSTT	**Nanjuang** baz=256	**1.21**	**257**	P	**Pg**	**16 39 06.5**	**+0.3**
NSTT	baz=256			*e*S	**Sn**	**16 39 22.6**	**-0.2**
TWT	**Tachien** baz=227	**1.21**	**238**	*i*P	**Pn**	**16 39 06.3**	**-0.1**
TWT	baz=227			S	**Sn**	**16 39 24.1**	**+1.0**
TDCB	**Techi** baz=227	**1.22**	**238**	P	**Pb**	**16 39 06.2**	**-0.2**
TDCB	baz=227			*e*S	**Sb**	**16 39 22.9**	**+0.5**
CHGB	**Renai** baz=229	**1.33**	**231**	P	**Pg**	**16 39 08.3**	**-0.1**
CHGB	baz=229			*e*S	**Sn**	**16 39 26.1**	**+0.2**
ESL	**Shilin** baz=231	**1.34**	**216**	P	**Pn**	**16 39 08.0**	**0.0**
ESL	baz=231			S	**Sg**	**16 39 26.8**	**+0.6**
WHP	**Taichung City** baz=243	**1.38**	**243**	P	**Pg**	**16 39 09.5**	**0.0**
WHP	baz=243			S	**Sg**	**16 39 27.9**	**+0.6**
NMLH	**Miaoli** baz=254	**1.42**	**255**	*e*P	**Pg**	**16 39 09.8**	**-0.3**
NMLH	baz=254			*e*S	**Sg**	**16 39 29.0**	**+0.4**
EGFH	**Guangfu** baz=195	**1.47**	**213**	P	**Pn**	**16 39 09.2**	**-0.5**
TWQ1	**Liyutan** baz=264	**1.49**	**248**	*e*P	**Pg**	**16 39 11.8**	**+0.1**
TWQ1	baz=264			*e*S	**Sb**	**16 39 30.4**	**+0.3**
PTSB	**Yuanli** baz=270	**1.52**	**253**	*e*P	**Pb**	**16 39 11.0**	**-0.4**
DPDB	**Guoxing** baz=219	**1.52**	**235**	P	**Pg**	**16 39 12.5**	**+0.3**
DPDB	baz=219			*e*S	**Sg**	**16 39 32.4**	**+0.4**
VWDT	**VWDT** baz=220	**1.56**	**223**	P	**Pb**	**16 39 12.2**	**+0.2**
VWDT	baz=220			S	**Sg**	**16 39 32.9**	**-0.2**
WDJ	**Dajia District** baz=265	**1.61**	**250**	*e*P	**Pn**	**16 39 11.5**	**-0.1**
WDJ	baz=265			*e*S	**Sb**	**16 39 33.0**	**-0.3**
HGSD	**Ruisui** baz=194	**1.62**	**210**	P	**Pn**	**16 39 11.5**	**-0.3**
EHY	**Hungye** baz=213	**1.66**	**213**	P	**Pn**	**16 39 11.4**	**-0.9**
EHY	baz=213			*e*S	**Sn**	**16 39 34.0**	**+0.2**
SSLB	**Suanglung** baz=227	**1.66**	**228**	P	**Pb**	**16 39 13.5**	**-0.2**
SSLB	baz=227			*e*S	**Sg**	**16 39 36.0**	**-0.3**
YULB	**Yu-li** baz=212	**1.76**	**211**	P	**Pn**	**16 39 13.1**	**-0.7**
YULB	baz=212			*e*S	**Sn**	**16 39 36.5**	**0.0**
WHYT	**Xinyi Township** baz=212	**1.79**	**228**	P	**Pb**	**16 39 16.3**	**+0.3**
WHYT	baz=212			*e*S	**Sg**	**16 39 40.2**	**-0.2**
WNT	**Mingjian** baz=254	**1.79**	**235**	*e*P	**Pb**	**16 39 16.5**	**+0.4**
WNT	baz=254			*e*S	**Sg**	**16 39 40.1**	**-0.5**
WJS	**Zhushan** baz=232	**1.79**	**233**	P	**Pb**	**16 39 16.5**	**+0.5**
WJS	baz=232			S	**Sg**	**16 39 41.2**	**+0.6**
TWF1	**Yuli** baz=211	**1.80**	**211**	*e*P	**Pn**	**16 39 14.0**	**-0.3**
TWF1	baz=211			*e*S	**Sn**	**16 39 37.7**	**+0.4**
YUS	**Yu-Shan** baz=219	**1.87**	**221**	P	**Pb**	**16 39 16.7**	**-1.0**
YUS	baz=219			*e*S	**Sb**	**16 39 41.8**	**+0.3**
FULB	**Fuli** baz=192	**1.93**	**209**	*e*P	**Pn**	**16 39 15.9**	**-0.3**
CHN5	**Tsauling** baz=227	**1.97**	**229**	P	**Pb**	**16 39 19.2**	**0.0**
CHN5	baz=227			*e*S	**Sg**	**16 39 45.5**	**-0.9**
WDLH	**Douliu** baz=253	**2.01**	**233**	*e*P	**Pb**	**16 39 19.7**	**-0.1**
WDLH	baz=253			*e*S	**Sb**	**16 39 46.1**	**+1.1**
ELDTW	**Lidau** baz=201	**2.07**	**215**	*e*P	**Pn**	**16 39 18.6**	**+0.4**
ELDTW	baz=201			*e*S	**Sn**	**16 39 44.8**	**+0.6**
CHN4	**Tsaushan** baz=211	**2.20**	**225**	*i*P	**Pb**	**16 39 21.5**	**-1.5**
CHN4	baz=211			*e*S	**Sb**	**16 39 51.8**	**+1.5**
TPUB	**Ta-pu** baz=210	**2.21**	**224**	P	**Pb**	**16 39 22.0**	**-1.2**
TPUB	baz=210			S	**Sb**	**16 39 51.4**	**+0.7**
WTP	**Ta-pu** baz=208	**2.26**	**223**	P	**Pn**	**16 39 22.1**	**+1.4**
WTP	baz=208			*e*S	**Sb**	**16 39 52.7**	**+0.5**
TWK	**Hsinying** baz=208	**2.32**	**226**	P	**Pb**	**16 39 23.9**	**-1.2**
TWK	baz=208			*e*S	**Sb**	**16 39 54.8**	**+0.7**
SNST	**Tainan City** baz=208	**2.35**	**225**	*e*P	**Pb**	**16 39 24.1**	**-1.4**
SNST	baz=208			*e*S	**Sb**	**16 39 55.1**	**+0.3**
CHN1	**Nanshi** baz=208	**2.36**	**224**	P	**Pb**	**16 39 24.8**	**-0.9**
CHN1	baz=208			*e*S	**Sb**	**16 39 55.2**	**+0.2**
TWG	**Pinlang** baz=194	**2.36**	**209**	*e*P	**Pn**	**16 39 22.5**	**+0.5**
TWGBT	**Beinan** baz=194	**2.36**	**208**	*e*P	**Pn**	**16 39 21.6**	**-0.4**
PTTC	**Pingtan** baz=284	**2.36**	**285**	*e*P	**Pn**	**16 39 21.9**	**-0.2**
SGST	**Jiashian** baz=221	**2.40**	**221**	*e*P	**Pn**	**16 39 24.1**	**+1.6**
SLGT	**Liugui** baz=217	**2.43**	**219**	P	**Pn**	**16 39 24.9**	**+1.9**
SLGT	baz=217			*e*S	**Sb**	**16 39 57.0**	**-0.1**
MATB	**Ma-tsu** baz=299	**2.46**	**301**	*e*P	**Pn**	**16 39 24.4**	**+1.0**
VWUC	**VWUC** baz=272	**2.59**	**272**	*e*P	**Pn**	**16 39 25.4**	**+0.2**
VWUC	baz=272			*e*S	**Sn**	**16 39 56.5**	**-0.3**
ECL	**Taimali** baz=199	**2.61**	**208**	*e*P	**Pn**	**16 39 26.4**	**+1.0**
ECL	baz=199			*e*S	**Sn**	**16 39 56.7**	**-0.6**
SSD	**Sandimen** baz=201	**2.64**	**216**	*e*P	**Pb**	**16 39 28.3**	**-2.2**
MASBT	**Mashibuluo** baz=201	**2.75**	**214**	P	**Pn**	**16 39 29.6**	**+2.2**
MASBT	baz=201			*e*S	**Sb**	**16 40 04.1**	**-2.1**
XPSS	**Dashiqiu** baz=316	**2.77**	**317**	*e*P	**Pn**	**16 39 29.2**	**+1.6**
EAST	**Anshuo** baz=197	**2.84**	**208**	*e*P	**Pn**	**16 39 29.3**	**+0.6**
SCZT	**Fangliau** baz=200	**2.96**	**212**	*e*P	**Pb**	**16 39 33.0**	**-2.9**

IDC 16 16:38:42.8±1.8, 31°.56N×139°.56E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/43, mbtmp3.1/3, ML2.1/1, Error ellipse: s-maj=59.4km s-min=20.4km az=94.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 7.5nm,0.3s,baz=73,slow=19,SNR=4.3	**1.56**	**7**	Pn	Pn	16 39 11.2	-0.6
JHJ	14nm,0.3s,baz=73,slow=20,SNR=2.9			Sn	Sg	16 39 33.8	+0.7
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=151,slow=11,SNR=6.3	**5.09**	**348**	Pn	Pn	16 40 02.1	+1.8
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=76,slow=7.6,SNR=2.5	**45.92**	**306**	P	P	16 47 06.8	-0.5
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=4.3,slow=7.5,SNR=3.0	**51.46**	**186**	P	P	16 47 50.0	0.0

*NNC **16** 16:54:03.7±1.6, 41°.16N×73°.42E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=13.3km s-min=6.8km az=169.0*
*SOME **16** 16:54:04.6, 41°.27N×73°.53E, h10km*
*KRNET **16** 16:54:05.3±0.1, 41°.25N×73°.34E, h21km, mb3.8*
*KNET **16** 16:54:07.0±0.5, 41°.34N×73°.48E, h10km±2km, ml3.1, Error ellipse: s-maj=3.7km s-min=3.3km az=0.0*

ISC 16 16:54:04.7±1.2, 41°.25N±0°.03×73°.42E±0°.02, h1km±10km, n60, σ1.15/100, 40C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob** baz=86	**0.34**	**283**	⇑*i*P	**Pg**	**16 54 11.4**	**+0.2**
ARSB	baz=86			⇑*i*S	**Sg**	**16 54 16.1**	**+0.5**
AML	**Almayashu** baz=17	**0.91**	**13**	⇑*i*P	**Pg**	**16 54 22.6**	**+0.5**
AML	baz=17			⇑*i*S	**Sb**	**16 54 35.2**	**-1.0**
AML	**Almayashu** 212nm,0.1s,SNR=545	**0.91**	**13**	⇑P	**Pb**	**16 54 22.9**	**-0.6**
AML	445nm,0.2s			⇑S	**Sb**	**16 54 35.3**	**-0.9**
ARK	**Arkit** baz=98	**1.22**	**297**	⇑*i*P	**Pg**	**16 54 27.1**	**-1.1**
ARK	baz=98			⇑*i*S	**Sg**	**16 54 41.9**	**-2.1**
UCH	**Uchtor** baz=41	**1.28**	**40**	⇑*i*P	**Pn**	**16 54 29.5**	**-0.6**
UCH	baz=41			⇑*i*S	**Sn**	**16 54 47.3**	**-0.8**
UCH	**Uchtor** 46nm,0.1s,SNR=186	**1.28**	**40**	⇓P	**Pn**	**16 54 29.9**	**-0.2**
UCH	144nm,0.2s			⇑S	**Sn**	**16 54 47.3**	**-0.8**
EKS2	**Erkin-Say** baz=13	**1.44**	**11**	⇑*i*P	**Pg**	**16 54 32.3**	**0.0**
EKS2	baz=13			⇑*i*S	**Sg**	**16 54 51.0**	**+0.1**
EKS2	**Erkin-Say** 53nm,0.1s,SNR=229	**1.44**	**11**	⇑P	**Pg**	**16 54 32.2**	**0.0**
MRKS	**Merke** 196nm,0.3s	**1.50**	**355**	P	**Pb**	**16 54 33.1**	**-0.3**
MRKS	177nm,0.2s			S	**Sg**	**16 54 53.3**	**+0.3**
MRKS	**Merke** 196nm,0.3s	**1.50**	**355**	*e*P	**Pb**	**16 54 33.2**	**-0.3**
MRKS	206nm,0.2s			*e*S	**Sg**	**16 54 53.7**	**+0.7**
KZA	**Kyzart** baz=59	**1.60**	**58**	⇑*i*P	**Pg**	**16 54 35.3**	**-0.1**
KZA	baz=59			⇑*i*S	**Sg**	**16 54 57.3**	**+1.1**
KZA	**Kyzart** 62nm,0.3s,SNR=55	**1.60**	**58**	⇓P	**Pg**	**16 54 35.5**	**+0.1**
KZA	82nm,0.2s			⇑S	**Sg**	**16 54 57.5**	**+1.3**
AAK	**Ala-Archa** 38nm,0.3s	**1.60**	**30**	⇑P	**Pg**	**16 54 35.9**	**+0.4**
AAK	64nm,0.5s			⇓S	**Sg**	**16 54 58.4**	**+2.1**
AAK	**Ala-Archa** baz=31	**1.60**	**30**	⇑*i*P	**Pg**	**16 54 35.1**	**-0.3**
AAK	baz=31			⇑*i*S	**Sg**	**16 54 56.8**	**+0.5**
AAK	**Ala-Archa** 121nm,0.2s,SNR=124	**1.60**	**30**	⇑P	**Pg**	**16 54 35.6**	**+0.2**
AAK	114nm,0.3s			⇓S	**Sg**	**16 54 57.1**	**+0.8**
FRU1	**Bishkek** baz=31	**1.80**	**30**	⇑*i*P	**Pb**	**16 54 38.4**	**-0.2**
FRU1	baz=31			⇑*i*S	**Sg**	**16 55 02.6**	**-0.1**
KBK	**Karagaybulak** baz=40	**1.81**	**38**	⇑*i*P	**Pb**	**16 54 38.7**	**-0.1**
KBK	baz=40			⇑*i*S	**Sg**	**16 55 03.5**	**+0.6**
KBK	**Karagaybulak** 85nm,0.3s,SNR=110	**1.81**	**38**	⇓P	**Pg**	**16 54 39.6**	**+0.1**
KBK	504nm,0.5s			⇓S	**Sg**	**16 55 04.5**	**+1.5**
NRN	**Naryn** baz=84	**1.95**	**84**	⇓*i*P	**Pb**	**16 54 40.7**	**-0.5**
NRN	baz=84			⇓*i*S	**Sg**	**16 55 06.3**	**-1.1**
CHMS	**Chumysh** baz=30	**2.01**	**29**	⇑*i*P	**Pb**	**16 54 41.3**	**-0.8**
CHMS	baz=30			⇑*i*S	**Sb**	**16 55 07.0**	**-0.6**
CHMS	**Chumysh** 38nm,0.2s,SNR=41	**2.01**	**29**	⇑P	**Pg**	**16 54 42.9**	**-0.3**
USP	**Ospenovka** baz=23	**2.17**	**21**	⇓*i*P	**Pb**	**16 54 43.2**	**-1.6**
USP	baz=23			⇓*i*S	**Sb**	**16 55 10.9**	**-1.4**
USP	**Ospenovka** 98nm,0.5s,SNR=88	**2.17**	**21**	⇑P	**Pb**	**16 54 44.6**	**-0.2**
BOOM	**Boomskoye usch** baz=56	**2.26**	**56**	⇓*i*P	**Pb**	**16 54 44.8**	**-1.5**
BOOM	baz=56			⇓*i*S	**Sb**	**16 55 13.5**	**-1.3**
DZA	**Taraz** 108nm,0.3s	**2.26**	**317**	Pg	**Pg**	**16 54 47.7**	**-0.4**
DZA	788nm,0.3s			Lg	Lg	16 55 18.6	
DZA	**Taraz** 111nm,0.1s	**2.26**	**317**	*e*P	**Pg**	**16 54 48.0**	**-0.1**
DZA	680nm,0.3s			*e*S	**Sg**	**16 55 19.1**	**+1.7**
BTK	**Batken** baz=39	**2.31**	**240**	⇑*i*P	**Pn**	**16 54 43.8**	**-0.1**
BTK	baz=39			⇑*i*S	**Sn**	**16 55 12.1**	**-0.9**
TKM2	**Tokmak 2** 26nm,0.4s	**2.33**	**43**	⇓Pg	**Pb**	**16 54 47.2**	**-0.4**
TKM2	146nm,0.7s			⇑Lg	Lg	16 55 19.9	
TKM2	**Tokmak 2** 50nm,0.2s,SNR=93	**2.33**	**43**	⇑P	**Pb**	**16 54 47.6**	**0.0**
ULHL	**Ulahol** baz=64	**2.34**	**64**	⇓*i*P	**Pb**	**16 54 46.1**	**-1.6**
ULHL	baz=64			⇓*i*S	**Sb**	**16 55 15.4**	**-1.7**
KSH	**Kashi**	**2.61**	**131**	Pn	**Pg**	**16 54 55.3**	**+0.7**
KSH				Sn	**Sg**	**16 55 28.8**	**+0.4**
KSH	comp=N,210nm,0.4s			smax	smax		
KSH	comp=E,190nm,0.8s			smax	smax		
KST	**Kastek** comp=E,40nm,0.4s	**2.61**	**46**	Pg	**Pb**	**16 54 51.6**	**-0.7**
KST	comp=E,192nm,0.8s			Lg	Lg	16 55 32.2	
KST	**Kastek** comp=E,40nm,0.4s	**2.61**	**46**	⇑*i*P	**Pb**	**16 54 51.6**	**-0.7**
DGS	**Degeres** comp=E,40nm,0.6s	**2.65**	**40**	Pg	**Pb**	**16 54 52.1**	**-0.9**
DGS	comp=E,84nm,0.6s			Lg	Lg	16 55 26.4	
DGS	**Degeres** comp=E,40nm,0.6s	**2.65**	**40**	*e*P	**Pb**	**16 54 53.0**	**0.0**
DGS	comp=E,113nm,0.4s			*e*S	**Sb**	**16 55 27.1**	**+1.0**
IUG	**Iuzhnay** comp=E,14nm,0.4s	**2.69**	**291**	*e*P	**Pb**	**16 54 54.6**	**+0.9**
IUG	comp=E,224nm,0.2s			*e*S	**Sg**	**16 55 30.1**	**-1.0**
KK31	**Karatay Array** comp=E,0.4nm,0.2s,baz=144,slow=16,SNR=6.9	**2.85**	**312**	⇓Pn	**Pn**	**16 54 52.0**	**+0.7**
KK31	comp=E,12nm,0.3s,baz=132,slow=13,SNR=131			⇓Pg	**Pb**	**16 54 56.0**	**-0.3**
KK31	comp=E,41nm,0.3s,baz=128,slow=29,SNR=14			⇑Lg	Lg	16 55 35.1	
MTBS	**Maitube** comp=E,28nm,0.3s	**2.92**	**49**	Pg	**Pb**	**16 54 57.9**	**+0.3**
MTBS	comp=E,86nm,0.4s			Lg	Lg	16 55 36.0	
MTBS	**Maitube** comp=E,27nm,0.4s	**2.92**	**49**	*e*P	**Pb**	**16 54 57.7**	**+0.1**
MTBS	comp=E,86nm,0.4s			*e*S	**Sg**	**16 55 36.0**	**-2.6**

KDJ Kajisay 2.95 71⇑eP Pn 16 54 54.7 +1.8
baz=72
KDJ ⇑iS Sn 16 55 30.3 +1.3
baz=72
IZV Izvestkoviy 2.97 52 Pg Pb 16 54 57.2 -1.3
comp=E,48nm,0.6s
IZV Lg Lg 16 55 35.0
comp=E,126nm,0.6s
IZV Izvestkoviy 2.97 52 eP Pb 16 54 58.2 -0.3
comp=E,48nm,0.6s
IZV eS Sb 16 55 36.5 +1.0
comp=E,126nm,0.6s
CHM Chimkent 3.05 292 eP Pg 16 55 02.3 -0.8
comp=E,67nm,0.3s
CHM eS Sg 16 55 44.2 +1.6
comp=E,518nm,0.5s
TAS Tashkent 3.12 273⇓iP Pn 16 54 54.9 -0.1
baz=73
TAS ⇓iS Sn 16 55 31.6 -1.2
baz=73
TNSS Tian-Shan 3.18 55 Pg Pb 16 55 00.6 -1.5
comp=E,29nm,0.4s
TNSS Lg Lg 16 55 40.7
comp=E,168nm,0.6s
TNSS Tian-Shan 3.18 55 eP Pb 16 55 03.1 +1.0
comp=E,29nm,0.4s
TNSS eS Sg 16 55 44.5 -2.2
comp=E,168nm,0.6s
BRLS Borolday 3.21 305 Pg Pb 16 55 04.2 +1.8
comp=E,18nm,0.3s
BRLS Lg Lg 16 55 46.9
comp=E,14nm,0.3s
BRLS Borolday 3.21 305 eP Pb 16 55 04.2 +1.8
comp=E,18nm,0.3s
BRLS eS Sg 16 55 46.4 -1.2
comp=E,71nm,0.2s
KNDC Almaty 3.29 52 ⇑Pg Pb 16 55 05.0 +1.2
KNDC ⇓Lg Lg 16 55 50.8
MDOK Medeo 3.31 53 ⇑Pn Pn 16 54 59.0 +1.3
comp=E,25nm,0.5s
MDOK ⇑Lg Lg 16 55 50.6
comp=E,197nm,0.8s
MDOK Medeo 3.31 53 Pg Pb 16 55 03.6 -0.6
comp=E,39nm,0.5s
MDOK Lg Lg 16 55 46.1
comp=E,150nm,0.7s
MDOK Medeo 3.31 53 eP Pb 16 55 04.7 +0.5
comp=E,28nm,0.4s
MDOK eS Sg 16 55 47.8 -3.2
comp=E,158nm,0.8s
KOTS Kotyrbulak 3.39 53 Pg Pb 16 55 05.1 -0.5
comp=E,58nm,0.2s
KOTS Lg Lg 16 55 48.4
comp=E,212nm,0.7s
KOTS Kotyrbulak 3.39 53 eP Pb 16 55 05.2 -0.3
comp=E,53nm,0.2s
KOTS eS Sb 16 55 48.4 +1.1
comp=E,562nm,0.7s
KUU Kurty 3.41 38 Pg Pb 16 55 06.3 +0.4
comp=E,21nm,0.4s
KUU Lg Lg 16 55 50.5
comp=E,79nm,0.6s
KUU Kurty 3.41 38 eP Pb 16 55 06.3 +0.4
comp=E,21nm,0.4s
KUU eS Sb 16 55 50.5 +2.6
comp=E,79nm,0.6s
KTBS Karatobe 3.45 43 Pg Pb 16 55 06.3 -0.3
comp=E,13nm,0.5s
KTBS Lg Lg 16 55 50.7
comp=E,95nm,0.5s
KTBS Karatobe 3.45 43 eP Pb 16 55 06.7 +0.1
comp=E,13nm,0.5s
KTBS eS Sb 16 55 51.3 +2.3
comp=E,154nm,0.5s
BTLS Baital 3.82 7 Pg Pb 16 55 14.6 +1.7
comp=E,2.3nm,0.3s
BTLS Lg Lg 16 56 04.5
comp=E,35nm,0.6s
BTLS Baital 3.82 7 eP Pb 16 55 14.6 +1.7
comp=E,2.3nm,0.3s
BTLS eS Sg 16 56 04.5 -2.9
comp=E,35nm,0.6s

ISCJB ***16*** *16:54:03.8±0.7, 42°.00N±0°.05×81°.48E±0°.06, h16km, mb3.6/1, Error ellipse: s-maj=7.4km s-min=5.4km az=140.6*
BJI ***16*** *16:54:05.0±0.0, 42°.05N×81°.38E, h13km, mb3.9/2, ML3.5/9*
NNC ***16*** *16:54:06.4±1.0, 42°.16N×81°.36E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=7.1km s-min=3.6km az=170.0*
IDC ***16*** *16:54:07.1±2.4, 42°.32N×80°.96E, h0km, mb3.8/1, mb1 3.7/6, mb1mx3.3/54, mbtmp3.6/6, ML3.4/5, Error ellipse: s-maj=28.4km s-min=23.1km az=96.0*
NEIC ***16*** *16:54:10.5±2.7, 42°.18N±0°.09×81°.06E±0°.10, h37km±6km, mb4.2/3*
ISC 16 16:54:06.4±0.8, 42°.05N±0°.06×81°.29E±0°.05, h16km, n30, σ2°.21/37, 10C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.85**	**315**	⇓P	**Pn**	**16 54 38.5**	**+1.0**
PDGK	152nm,0.4s			⇑S	**Sb**	**16 55 03.5**	**+0.7**
	519nm,0.8s						
PRZ	**Przheval'sk**	**2.19**	**282**		**Pn**	**16 54 45.3**	**+2.9**
TARG	**Taragay, Kyrgy**	**2.62**	**264**		**Pn**	**16 54 50.0**	**+1.4**
KDJ	**Kajisay**	**3.06**	**273**		**Pn**	**16 54 56.4**	**+2.0**
NRN	**Naryn**	**4.01**	**263**	Pn	**Pn**	**16 55 07.2**	**-0.3**
MAKZ	**Makanchi**	**4.79**	**6**	⇑Pn	**Pn**	**16 55 18.7**	**+0.8**
	19nm,0.5s						
MAKZ				⇑Sn	**Sn**	**16 56 14.2**	**+1.3**
	20nm,0.7s						
MAKZ				⇑Lg	Lg	16 56 33.8	
	20nm,0.5s						
MAKZ	**Makanchi**	**4.79**	**6**		**Pn**	**16 55 18.9**	**+1.0**
MK31	**Makanchi Array**	**4.80**	**8**	Pn	**Pn**	**16 55 18.8**	**+0.8**
	1.4nm,0.2s,baz=187,slow=13,SNR=216						
MK31				⇑Pg	**Pb**	**16 55 32.1**	**+1.9**
	4.0nm,0.3s,baz=186,slow=15,SNR=4.7						
MK31				⇑Sn	**Sn**	**16 56 15.1**	**+1.8**
	10nm,0.5s,baz=157,slow=13,SNR=5.2						
MK31				⇓Lg	Lg	16 56 33.5	
	46nm,0.5s,baz=185,slow=29,SNR=8.0						
MK31	**Makanchi Array**	**4.80**	**8**		**Pn**	**16 55 19.2**	**+1.1**
MKAR	**Makanchi Array**	**4.80**	**8**	Pn	**Pn**	**16 55 18.9**	**+0.9**
	8.6nm,0.3s,baz=188,slow=13,SNR=200						
MKAR				Sn	**Sn**	**16 56 12.9**	**-0.4**
	4.6nm,0.3s,baz=182,slow=13,SNR=4.8						
MKAR				Lg	Lg	16 56 31.4	
	17nm,0.3s,baz=190,slow=33,SNR=19						
MKAR	**Makanchi Array**	**4.80**	**8**		**Pn**	**16 55 18.5**	**+0.4**
WMQ	**Urumqi**	**5.02**	**67**	ePn	**Pn**	**16 55 21.3**	**+0.1**
WMQ				Sn	**Sn**	**16 56 17.3**	**-1.6**
WMQ				smax	smax		
	comp=N,34nm,1.1s						
WMQ				smax	smax		
	comp=E,55nm,0.9s						
AAK	**Ala-Archa**	**5.07**	**279**	Lg	Lg	16 56 46.7	
	3.0nm,0.3s,baz=342,slow=19,SNR=2.3						
KURBB	**Kurchatov Arra**	**8.79**	**348**	⇑Pn	**Pn**	**16 56 13.0**	**+0.3**
	5.6nm,0.8s						
KURBB				⇑Lg	Lg	16 58 42.7	
	41nm,0.8s						
KURBB	**Kurchatov Arra**	**8.79**	**348**	Pn	**Pn**	**16 56 11.7**	**-1.0**
	0.1nm,0.3s,baz=155,slow=12,SNR=6.4						
KURBB				Sn	**Sn**	**16 57 46.1**	**-5.3**
	0.1nm,0.3s,baz=165,slow=22,SNR=2.1						
KURBB				Lg	Lg	16 58 36.6	
	0.3nm,0.3s,baz=193,slow=22,SNR=4.9						
KURK	**Kurchatov**	**8.86**	**349**	⇑Pn	**Pn**	**16 56 14.5**	**+0.7**
	15nm,0.9s						
KURK				⇑Sn	**Sn**	**16 57 53.6**	**+0.4**
	3.2nm,0.5s						
KURK				⇓Lg	Lg	16 58 45.5	
	19nm,0.8s						
NIL	**Nilore**	**10.52**	**220**		**Pn**	**16 56 36.2**	**-0.3**
ZAA0	**Zalesovo Array**	**12.14**	**10**	Pn	**Pn**	**16 56 58.2**	**-0.3**
ZALV	**Zalesovo Beam**	**12.14**	**10**	Pn	**Pn**	**16 56 57.0**	**-1.5**
	0.4nm,0.3s,baz=189,slow=14,SNR=11						
ZALV				Lg	Lg	17 00 24.2	
	0.1nm,0.3s,baz=192,slow=26,SNR=3.5						
ZALV	**Zalesovo Beam**	**12.14**	**10**		**Pn**	**16 56 57.3**	**-1.3**
BVAR	**Borovoye Array**	**13.21**	**330**	Pn	**Pn**	**16 57 09.1**	**-4.0**
	0.1nm,0.3s,baz=144,slow=11,SNR=3.2						
GTA	**Gaotai**	**14.29**	**94**	eP	**Pn**	**16 57 24.0**	**-4.2**
GTA				pP	P	16 57 28.4	-6.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**16.54**	**303**	P	**Pn**	**16 57 59.2**	**+1.6**
SONM	**Songino Array**	**18.65**	**63**	P	**Pn**	**16 58 29.2**	**+5.4**
	0.3nm,0.3s,baz=268,slow=11,SNR=8.9						
SONM	**Songino Array**	**18.65**	**63**	Pn	**Pn**	**16 58 27.7**	**+3.9**
ARU	**Arti**	**20.54**	**322**	P	**P**	**16 58 43.2**	**-0.7**
ARU				IAmb	IAmb	16 58 47.1	
	comp=Z,8.6nm,0.7s						
GNI	**Garni**	**27.48**	**278**	P	**P**	**16 59 50.6**	**-1.4**
GNI				IAmb	IAmb	16 59 57.9	
	comp=Z,3.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.91**	**142**	P	**P**	**16 59 59.6**	**+3.8**
NB2	**NORSAR Subarra**	**45.06**	**320**	P	**P**	**17 02 20.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=66,slow=7.9						
NOA	**NORSAR Array B**	**45.06**	**320**	P	**P**	**17 02 19.8**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=81,slow=8.0,SNR=3.3						

BJI ***16*** *16:59:56.9±0.0, 35°.41N×140°.65E, h60km, mb4.6/45, mB4.9/27, Ms4.6/11, Ms7 4.3/7*
MOS ***16*** *16:59:59.4±1.1, 35°.56N×140°.37E, h53km, mb4.4/6, Error ellipse: s-maj=8.4km s-min=5.6km az=111.1*
NIED ***16*** *17:00:00, 35°.60N×140°.20E, h65km, Mw4.3 Best double couple: M0=2.68000×10^15 NP1:φs=94.00000°, δ=21.00000°, λ=-177.00000°. NP2:φs=2.00000°, δ=89.00000°, λ=-69.00000°.*
JMA ***16*** *17:00:02.8±0.2, 35°.59N×140°.16E, h67km±2km, M4.2*
JMA Felt II J1.
NEIC ***16*** *17:00:02.4±2.2, 35°.55N±0°.05×140°.33E±0°.08, h63km±6km, mb4.7/48*
ISCJB ***16*** *17:00:02.2±0.3, 35°.51N±0°.02×140°.18E±0°.03, h74km±2km, mb4.3/51, Error ellipse: s-maj=4.7km s-min=3.9km az=159.1*
IDC ***16*** *17:00:04.5±1.1, 35°.47N×140°.11E, h77km±10km, mb4.0/21, mb1 4.1/25, mb1mx3.9/52, mbtmp4.3/25, MS3.2/5, Ms1 3.2/5, ms1mx2.8/4/1, Error ellipse: s-maj=14.7km s-min=6.5km az=68.0*
ISC 16 17:00:02.2±0.5, 35°.60N±0°.04×140°.30E±0°.04, h59km±4km, n198, σ1°.74/222, mb4.6/66, MS3.6/6, 13C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.13**	**71**	⇓P	**Pn**	**17 00 13.8**	**+2.5**
JCN	**Nagara**	**0.20**	**203**	⇑P	**Pn**	**17 00 13.5**	**+1.9**
JKUC	**kamogawauchiur**	**0.45**	**190**	⇑P	**Pn**	**17 00 14.6**	**+1.0**
JKUC				S	**Sn**	**17 00 24.2**	**+2.4**
TOK	**Tokyo**	**0.45**	**281**	⇑P	**Pn**	**17 00 14.7**	**+1.2**
BSO3	**Boso 3**	**0.82**	**168**	⇑P	**Pn**	**17 00 18.9**	**+1.3**
JOD2	**Odawara 2**	**1.04**	**252**	⇑P	**Pn**	**17 00 20.2**	**-0.6**
JOD2				S	**Sn**	**17 00 32.5**	**-2.1**
JAG	**Ashikaga**	**1.07**	**321**	⇑P	**Pn**	**17 00 21.6**	**+0.4**
JAG				S	**Sn**	**17 00 35.4**	**+0.2**
BSO1	**Boso 1**	**1.10**	**149**	P	**Pn**	**17 00 21.9**	**+0.9**
JIM2	**Oshima 3**	**1.13**	**219**	⇑P	**Pn**	**17 00 21.0**	**-1.0**
JIM2				S	**Sn**	**17 00 35.0**	**-1.7**
JRY	**Ryogami san**	**1.21**	**291**	⇑P	**Pn**	**17 00 23.3**	**+0.3**
JRY				eS	**Sn**	**17 00 38.2**	**-0.3**
JFNN	**Fujinakano**	**1.38**	**253**	⇑P	**Pn**	**17 00 24.8**	**-0.5**
JFNN				S	**Sn**	**17 00 41.1**	**-1.4**
JYN	**Shimob**	**1.43**	**266**	⇑P	**Pn**	**17 00 25.6**	**-0.5**
JYN				eS	**Sn**	**17 00 42.3**	**-1.7**
JKT	**Katashina**	**1.44**	**324**	⇑P	**Pn**	**17 00 26.6**	**+0.4**
JKT				eS	**Sn**	**17 00 44.7**	**+0.5**
JIZS	**Izushimoda**	**1.46**	**233**	⇑P	**Pn**	**17 00 25.6**	**-0.7**
JIZS				S	**Sn**	**17 00 42.3**	**-2.1**
MJAR	**Matsushiro Arr**	**1.93**	**300**	P	**Pn**	**17 00 34.0**	**+1.2**
	14nm,0.3s,baz=141,slow=15,SNR=524						
MJAR				S	**Sn**	**17 00 57.1**	**+1.1**
	22nm,0.3s,baz=150,slow=22,SNR=16						
MJAR				LR	LR	17 01 32.6	
	comp=Z,266nm,21.0s,baz=140,slow=48						
MJAR	**Matsushiro Arr**	**1.93**	**300**		**Pn**	**17 00 32.6**	**-0.2**
MAJO	**Matsushiro**	**1.94**	**300**	d iP	**Pn**	**17 00 33.5**	**+0.7**
MAJO	**Matsushiro**	**1.94**	**300**		**Pn**	**17 00 33.5**	**+0.7**
MAT	**Matsushiro**	**1.94**	**300**	P	**Pn**	**17 00 33.5**	**+0.7**
MAT				S	**Sn**	**17 00 57.5**	**+1.4**
MJB9	**Matsu-Tunnel**	**1.94**	**300**		**Pn**	**17 00 33.5**	**+0.6**
JHJ	**Hachijo jima 2**	**2.51**	**190**	P	**Pn**	**17 00 41.0**	**+0.3**
	351nm,0.3s,baz=79,slow=7.2,SNR=26						
JHJ				S	**Sn**	**17 01 09.9**	**-0.2**
	252nm,0.3s,baz=57,slow=18,SNR=8.6						
JHJ				LR	LR	17 01 32.9	
	comp=Z,153nm,18.4s,baz=88,slow=37						
JHJ2	**Mitsune**	**2.51**	**189**		**Pn**	**17 00 40.6**	**-0.1**
INU	**Inuyama**	**2.69**	**266**		**Pn**	**17 00 42.9**	**-0.2**
ERM	**Erimo**	**6.78**	**18**	P	**Pn**	**17 01 38.9**	**-0.2**
ERM						17 02 54.6	
ERM	**Erimo**	**6.78**	**18**	Pn	**Pn**	**17 01 38.9**	**-0.2**
ERM					**Sn**	**17 02 54.6**	**-0.3**
JNU	**Nakatsue**	**8.17**	**255**	P	**Pn**	**17 01 58.2**	**+0.1**
	1.2nm,0.3s,baz=83,slow=2.4,SNR=13						
JNU				LR	LR	17 04 50.3	
	comp=Z,233nm,19.1s,baz=42,slow=36						
JNU	**Nakatsue**	**8.17**	**255**	Pn	**Pn**	**17 01 58.5**	**+0.4**
JCJ	**Chichijima**	**8.63**	**169**	P	**Pn**	**17 02 01.7**	**-2.7**
	48nm,0.3s,baz=107,slow=14,SNR=10						
JCJ				S	**Sn**	**17 03 39.0**	**-1.3**
	13nm,0.3s,baz=270,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**8.69**	**11**	P	**Pn**	**17 02 03.4**	**-1.8**
	3.1nm,0.3s,baz=208,slow=13,SNR=50						
ASAJ				S	**Sn**	**17 03 37.8**	**-3.8**
	1.5nm,0.3s,baz=204,slow=20,SNR=2.6						
JKA	**Kamikawa-asahi**	**8.69**	**11**		**Pn**	**17 02 03.4**	**-1.8**
JKA					**Sn**	**17 03 37.8**	**-3.8**
NMR	**Nemuro--Hokkai**	**8.82**	**27**	eP	**Pn**	**17 02 04.7**	**-2.2**
NMR				eS	**Sn**	**17 03 37.6**	**-7.2**
GRPR	**Tuman**	**9.38**	**25**	eP	**Pn**	**17 02 13.5**	**-1.1**
GRPR				eS	**Sn**	**17 03 53.0**	**-5.5**
KSRS	**Korea Array**	**10.13**	**284**	P	**Pn**	**17 02 26.3**	**+1.4**
	0.3nm,0.3s,baz=102,slow=13,SNR=8.0						
KSRS				LR	LR	17 06 17.4	
	comp=Z,147nm,20.1s,baz=45,slow=37						
KSAR	**Wonju Array Be**	**10.16**	**284**	P	**Pn**	**17 02 27.1**	**+1.8**
KSAR	**Wonju Array Be**	**10.16**	**284**	Pn	**Pn**	**17 02 27.1**	**+1.8**
KS19	**Wonju Array Si**	**10.18**	**284**	Pn	**Pn**	**17 02 28.1**	**+2.5**
USA0B	**Ussuriysk Arra**	**10.69**	**326**	P	**Pn**	**17 02 37.1**	**+4.5**
USA0B	**Ussuriysk Arra**	**10.69**	**326**		**Pn**	**17 02 37.1**	**+4.5**
USRK	**Ussuriysk Ar.**	**10.69**	**326**	P	**Pn**	**17 02 35.4**	**+2.8**
	baz=142,slow=12,SNR=7.1						
USRK	**Ussuriysk Ar.**	**10.69**	**326**		**Pn**	**17 02 34.7**	**+2.1**
KUR	**Kuril'sk**	**11.21**	**29**	eP	**Pn**	**17 02 39.5**	**-0.1**
KUR				eS	**Sn**	**17 04 36.1**	**-7.2**
KUR				smax	smax		
	comp=N,45nm,0.4s						
KUR				smax	smax		
	comp=E,19nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.49**	**8**	eP	**Pn**	**17 02 42.3**	**-1.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
YSS	**Yuzh-Sakhalins**	**11.49**	**8**	Pn	**Pn**	**17 02 43.3**	**-0.1**
MDJ	**Mudanjiang**	**12.16**	**321**	P	**Pn**	**17 02 57.3**	**+4.7**
MDJ				pmax	pmax		
	comp=Z,17nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,320nm,4.7s						
MDJ	**Mudanjiang**	**12.16**	**321**	Pn	**Pn**	**17 02 56.9**	**+4.2**
CN2	**Changchun**	**14.05**	**310**	eP	**Pn**	**17 03 19.8**	**+1.6**
KLR	**Kul'dur**	**15.00**	**338**	i P	**Pn**	**17 03 29.5**	**-1.0**
KLR	**Kul'dur**	**15.00**	**338**	P	**Pn**	**17 03 30.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=171,slow=8.8,SNR=5.5						
NJ2	**Nanjing**	**18.16**	**265**	eP	**P**	**17 04 08.8**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
YHNB	**Yeheng**	**19.62**	**241**	P	**P**	**17 04 25.5**	**-0.5**
YHNB				IAmb	IAmb	17 04 40.6	
	comp=Z,44nm,1.4s						
ZEA	**Zeya**	**20.31**	**337**	eP	**P**	**17 04 30.0**	**-3.1**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	**Hailar**	**20.32**	**319**	i P	**P**	**17 04 31.0**	**-2.4**
TPUB	**Ta-pu**	**21.01**	**240**		**P**	**17 04 40.3**	**-0.7**
TPUB				IAmb	IAmb	17 04 55.1	
	comp=Z,66nm,1.6s						
TWG	**Pinlang**	**21.02**	**238**		**P**	**17 04 39.2**	**-1.8**
TWG				IAmb	IAmb	17 04 46.8	
	comp=Z,66nm,1.1s						
PEA0B	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 04 46.3**	**+1.7**
PEA0B				pmax	pmax		
	comp=Z,68nm,1.4s						
PEA0B	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 04 46.3**	**+1.7**
PEA0B				IAmb	IAmb	17 04 58.0	
	comp=Z,68nm,1.4s						
PETK	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 04 46.5**	**+1.9**
PETK	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 04 46.2**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=218,slow=9.0,SNR=4.9						
PETK				LR	LR	17 12 11.5	
	comp=Z,64nm,21.4s,baz=243,slow=34						
PETK	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 04 46.5**	**+1.9**
WHN	**Wuhan**	**22.29**	**264**	P	**P**	**17 05 00.4**	**+5.8**
HHC	**Hu-ho-hao-te**	**23.12**	**292**	eP	**P**	**17 05 01.8**	**-1.5**
MA2	**Magadan**	**24.95**	**13**	P	**P**	**17 05 22.6**	**+2.9**
	comp=Z,15nm,0.9s,baz=165,slow=4.5,SNR=4.1						
MA2	**Magadan**	**24.95**	**13**	P	**P**	**17 05 22.0**	**+2.3**
ENH	**Enshi**	**26.34**	**267**	P	**P**	**17 05 30.1**	**-2.5**
ENH				IAmb	IAmb	17 05 34.0	
	comp=Z,14nm,0.9s						
ULN	**Ulaanbaatar**	**27.45**	**307**	i P	**P**	**17 05 41.7**	**-1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.45**	**307**	P	**P**	**17 05 41.6**	**-1.1**
SONM	**Songino Array**	**27.87**	**307**	P	**P**	**17 05 45.4**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=109,slow=9.4,SNR=12						
SONM				LR	LR	17 16 17.9	
	comp=Z,84nm,20.3s,baz=181,slow=35						
SONM	**Songino Array**	**27.87**	**307**	P	**P**	**17 05 44.7**	**-1.7**
H11N2	**WAKE ISLAND Hy**	**28.25**	**117**	T	T	17 35 32.5	
	baz=309,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**28.25**	**117**	T	T	17 35 21.2	
	baz=309,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.27**	**117**	T	T	17 35 28.7	
	baz=309,slow=75,SNR=34						
BOD	**Bodaibo**	**28.29**	**330**	eP	**P**	**17 05 49.8**	**0.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s						
H11S3	**WAKE ISLAND Hy**	**28.89**	**119**	T	T	17 35 54.7	
	baz=312,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**28.90**	**119**	T	T	17 35 53.1	
	baz=312,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.91**	**119**	T	T	17 36 07.8	
	baz=312,slow=75,SNR=33						
LZH	**Lanzhou**	**29.45**	**282**	eP	**P**	**17 05 57.5**	**-3.0**
LZH				pP	pP	17 06 14.3	-0.9
LZH				sP	sP	17 06 22.4	+0.2
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,5.0s						
LZH				LR	LR		
	comp=Z,320nm,12.9s						
LZH				LR	LR		
	comp=Z,330nm,13.1s						
LZH				LR	LR		
	comp=Z,450nm,16.5s						
GTA	**Gaotai**	**32.15**	**289**	eP	**P**	**17 06 24.5**	**+0.2**
GTA				pP	pP	17 06 37.8	-1.3
GTA				sP	sP	17 06 44.4	-1.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,5.9s						
KMI	**Kunming**	**33.87**	**263**	P	**P**	**17 06 38.8**	**-0.7**
KMI				pP	pP	17 06 55.1	+0.8
KMI				sP	sP	17 07 04.1	+2.8
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,61nm,4.7s						
KMI				LR	LR		
	comp=Z,80nm,16.4s						
KMI				LR	LR		
	comp=Z,130nm,13.1s						
BILL	**Bilibino**	**35.65**	**16⇓**	eP	**P**	**17 06 58.3**	**+4.1**
BILL				e*PP	**pP**	**17 07 07.4**	**-1.7**
BILL				e*SP	**sP**	**17 07 15.8**	**-0.2**
BILL						17 09 22.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,50nm,15.0s						
TIXI	**Tiksi**	**36.61**	**354**	i P	**P**	**17 07 01.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FAKI	**Fak Fak**	**39.05**	**193**	P	**P**	**17 07 23.2**	**-0.3**
FAKI				IAmb	IAmb	17 07 41.5	
	comp=Z,14nm,1.0s						
NIKH	**Nikolski High**	**39.40**	**48**	P	**P**	**17 07 27.2**	**+1.2**
PBKT	**Sadao Pong**	**39.75**	**252**	P	**P**	**17 07 27.9**	**-1.4**
PBKT				IAmb	IAmb	17 07 31.7	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**40.27**	**256**	P	**P**	**17 07 31.8**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=67,slow=8.3,SNR=3.8						
DGZ	**Jazzator, Alta**	**40.52**	**307**	i P	**P**	**17 07 34.6**	**-0.9**
WMQ	**Urumqi**	**40.70**	**298**	eP	**P**	**17 07 37.4**	**+0.4**
WMQ				sP	sP	17 08 01.3	+2.3
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,310nm,5.9s						
WMQ				LR	LR		
	comp=Z,540nm,29.3s						
WMQ				LR	LR		
	comp=Z,780nm,27.7s						
LSA	**Lhasa**	**41.45**	**276**	P	**P**	**17 07 43.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
LSA	**Lhasa**	**41.45**	**276**	P	**P**	**17 07 43.7**	**-0.1**
ZAA0	**Zalesovo Array**	**42.23**	**314**	P	**P**	**17 07 48.7**	**-0.5**
ZALV	**Zalesovo Beam**	**42.23**	**314**	P	**P**	**17 07 49.5**	**+0.3**
	comp=Z,2.6nm,0.4s,baz=87,slow=6.1,SNR=18						
ZALV				PcP	**PcP**	**17 09 42.4**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=112,slow=3.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.23**	**314**	P	**P**	**17 07 48.7**	**-0.5**
ZALV					**PcP**	**17 09 41.7**	**-0.6**
SHL	**Shillong**	**42.50**	**270**	P	**P**	**17 07 50.0**	**-2.0**
SHL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SHL	**Shillong**	**42.50**	**270**	P	**P**	**17 07 50.0**	**-2.0**
MK31	**Makanchi Array**	**44.13**	**303**	P	**P**	**17 08 04.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**44.13**	**303**	P	**P**	**17 08 04.8**	**0.0**
MKAR	**Makanchi Array**	**44.13**	**303**	i P	**P**	**17 08 05.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**44.13**	**303**	P	**P**	**17 08 05.0**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=93,slow=10,SNR=8.1						
MAKZ	**Makanchi**	**44.34**	**303**	P	**P**	**17 08 06.9**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAKZ	**Makanchi**	**44.34**	**303**	P	**P**	**17 08 06.9**	**+0.5**
TAPN	**Taplejung**	**45.15**	**275**	eP	**P**	**17 08 13.1**	**-0.3**
	comp=Z,5.6nm,0.5s	

DANN	**Dangsing**	**47.95**	**278**	*eP*	**P**	**17 08 35.1**	**-0.2**
	comp=Z,43nm,0.6s						
TARG	**Taragay, Kyrgy**	**48.24**	**297**	P	**P**	**17 08 38.0**	**+0.5**
TARG				IAmb	IAmb	17 08 40.7	
	comp=Z,9.5nm,0.9s						
KOLN	**Koldanda**	**48.31**	**277**	*eP*	**P**	**17 08 37.7**	**-0.3**
RSO	**Redoubt South**	**48.59**	**37**	P	**P**	**17 08 40.0**	**+0.4**
KDJ	**Kajisay**	**48.59**	**298**	P	**P**	**17 08 40.5**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KDJ	**Kajisay**	**48.59**	**298**	P	**P**	**17 08 40.5**	**+0.6**
KDJ				IAmb	IAmb	17 08 42.5	
	comp=Z,8.2nm,1.2s						
KDAK	**Kodiak Island**	**48.77**	**41**	P	**P**	**17 08 42.5**	**+1.7**
	comp=Z,7.4nm,0.7s,baz=270,slow=1.9,SNR=5.2						
KDAK	**Kodiak Island**	**48.77**	**41**	P	**P**	**17 08 42.5**	**+1.7**
KSH	**Kashi**	**50.18**	**295**	P	P	17 08 57.1	+5.1
KSH				PP	**PP**	**17 10 53.8**	**+6.3**
KSH				S	**S**	**17 16 03.8**	**+4.1**
KSH				sS	sS	17 16 35.1	+9.2
KSH				SS	**SS**	**17 19 33.8**	**+0.5**
KSH				pmax	pmax		
	comp=Z,12nm,1.0s						
KSH				LR	LR		
	comp=Z,300nm,8.7s						
KSH				LR	LR		
	comp=Z,600nm,9.2s						
KSH				LR	LR		
	comp=Z,490nm,8.2s						
PSI	**Prapat**	**50.28**	**239**	P	**P**	**17 08 52.7**	**-0.4**
PSI				pmax	pmax		
	comp=Z,14nm,1.5s						
RPSI	**Rantau Prapat**	**50.36**	**239**	P	**P**	**17 08 52.7**	**-0.8**
RPSI				IAmb	IAmb	17 08 54.0	
	comp=Z,14nm,1.5s						
AAK	**Ala-Archa**	**50.38**	**299**	*i P*	**P**	**17 08 53.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**50.38**	**299**	P	**P**	**17 08 53.1**	**-0.5**
BVAR	**Borovoye Array**	**50.88**	**313**	P	**P**	**17 08 56.9**	**0.0**
	comp=Z,1.3nm,0.4s,baz=75,slow=7.8,SNR=8.7						
BRVK	**Borovoye**	**50.94**	**313**	*i P*	**P**	**17 08 57.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**50.94**	**313**	P	**P**	**17 08 57.3**	**0.0**
BRVK				IAmb	IAmb	17 09 01.9	
	comp=Z,6.8nm,1.2s						
SCM	**Sheep Creek Mo**	**51.16**	**35**	P	**P**	**17 09 01.0**	**+2.0**
SCM				pmax	pmax		
	comp=Z,27nm,1.4s						
SCM	**Sheep Creek Mo**	**51.16**	**35**	P	**P**	**17 09 01.0**	**+2.0**
HDA	**Harding Lake**	**51.17**	**32**	P	**P**	**17 09 00.5**	**+1.5**
HDA				IAmb	IAmb	17 09 01.6	
	comp=Z,15nm,1.5s						
IL31		**51.19**	**32**	P	**P**	**17 09 00.7**	**+1.7**
IL31				IAmb	IAmb	17 09 11.4	
	comp=Z,16nm,1.6s						
ILAR	**Eielson Array**	**51.19**	**32**	P	**P**	**17 09 00.7**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=266,slow=5.7,SNR=18						
ILAR	**Eielson Array**	**51.19**	**32**	P	**P**	**17 09 00.2**	**+1.1**
KK31	**Karatay Array**	**53.07**	**301**	P	**P**	**17 09 13.6**	**+0.2**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KK31	**Karatay Array**	**53.07**	**301**	P	**P**	**17 09 13.6**	**+0.2**
KK31				IAmb	IAmb	17 09 17.3	
	comp=Z,9.5nm,1.2s						
KKAR	**Karatay Array**	**53.07**	**301**	P	**P**	**17 09 13.9**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KKAR	**Karatay Array**	**53.07**	**301**	P	**P**	**17 09 13.5**	**0.0**
KKAR	**Karatay Array**	**53.07**	**301**	P	**P**	**17 09 13.9**	**+0.5**
KKAR				IAmb	IAmb	17 09 17.3	
	comp=Z,9.5nm,1.2s						
BCAR	**Beaver Creek A**	**53.59**	**34**	P	**P**	**17 09 19.1**	**+2.2**
BCAR				PcP	**PcP**	**17 10 22.1**	**-0.7**
BARN	**Barnard Glacie**	**53.95**	**36**	P	**P**	**17 09 20.1**	**+0.2**
YAH	**Yahtse**	**54.03**	**37**	P	**P**	**17 09 23.0**	**+2.6**
YAH				PcP	**PcP**	**17 10 20.4**	**-4.4**
NIL	**Nilore**	**54.21**	**289**	P	**P**	**17 09 22.5**	**+0.5**
NIL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NIL	**Nilore**	**54.21**	**289**	P	**P**	**17 09 22.5**	**+0.5**
NIL				IAmb	IAmb	17 09 23.6	
	comp=Z,7.2nm,0.6s						
GAR	**Garm**	**54.51**	**296**	P	**P**	**17 09 23.9**	**-0.2**
GAR				IAmb	IAmb	17 09 28.8	
	comp=Z,7.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**55.18**	**197**	P	**P**	**17 09 28.8**	**-0.1**
FITZ				IAmb	IAmb	17 09 29.5	
	comp=Z,4.1nm,0.7s						
CHGR	**Chuyangaron**	**55.47**	**296**	P	**P**	**17 09 30.6**	**-0.4**
WB2	**Warramunga Arr**	**55.52**	**187**	P	**P**	**17 09 31.1**	**-0.3**
WB2				IAmb	IAmb	17 09 53.0	
	comp=Z,4.8nm,0.9s						
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**17 09 30.7**	**-0.6**
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**17 09 30.5**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=0.9,slow=7.7,SNR=70						
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**17 09 30.7**	**-0.6**
ARU	**Arti**	**56.84**	**319**	*c i P*	**P**	**17 09 40.7**	**+0.3**
ARU						17 11 48.8	
ARU				S	**S**	**17 17 30.5**	**+1.3**
ARU				SS	**SS**	**17 21 14.9**	**-2.5**
ARU				pmax	pmax		
	comp=Z,11nm,0.7s						
ARU	**Arti**	**56.84**	**319**	P	**P**	**17 09 40.3**	**-0.1**
	comp=Z,3.4nm,0.4s,baz=46,slow=3.7,SNR=19						
ARU	**Arti**	**56.84**	**319**	P	**P**	**17 09 40.0**	**-0.4**
ABKAR	**Akbulak array**	**58.18**	**311**	P	**P**	**17 09 49.6**	**-0.3**
ABKAR	**Akbulak array**	**58.18**	**311**	P	**P**	**17 09 49.9**	**0.0**
ABKAR				IAmb	IAmb	17 09 51.2	
	comp=Z,5.9nm,0.9s						
AKTO	**Aktyubinsk**	**58.97**	**312**	P	**P**	**17 09 55.9**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=77,slow=13,SNR=5.3						
AS31	**Alice Springs**	**59.25**	**187**	P	**P**	**17 09 57.9**	**+0.3**
ASAR	**Alice Springs**	**59.25**	**187**	P	**P**	**17 09 57.6**	**0.0**
ASAR	**Alice Springs**	**59.25**	**187**	P	**P**	**17 09 57.1**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=18,slow=11,SNR=34						
ASAR	**Alice Springs**	**59.25**	**187**	P	**P**	**17 09 57.6**	**0.0**
KIRV	**Kirov**	**60.85**	**323**	P	**P**	**17 10 08.7**	**+0.6**
	comp=Z,13nm,0.6s,baz=190,slow=1.1,SNR=8.1						
VRH	**Novokhopyorsk**	**68.03**	**318**	*eP*	**P**	**17 10 54.4**	**-0.8**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPSR	**Galich'ya Gora**	**68.82**	**320**	*eP*	**P**	**17 10 58.8**	**-1.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**69.41**	**319**	*eP*	**P**	**17 11 03.1**	**-0.6**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KBZ	**Khabaz**	**71.15**	**311**	P	**P**	**17 11 15.1**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=104,slow=1.2,SNR=9.3						
KIV	**Kislovodsk**	**71.16**	**311**	*eP*	**P**	**17 11 14.6**	**-0.1**
KIV				pmax	pmax		
	comp=Z,24nm,1.0s						
AKASG	**Malin Array Be**	**74.87**	**322**	P	**P**	**17 11 37.0**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**74.87**	**322**	P	**P**	**17 11 36.5**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=48,slow=6.0,SNR=15						
AKASG	**Malin Array Be**	**74.87**	**322**	P	**P**	**17 11 37.0**	**+0.6**
NB2	**NORSAR Subarra**	**75.15**	**337**	P	**P**	**17 11 37.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**75.15**	**337**	P	**P**	**17 11 38.3**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=45,slow=5.1,SNR=4.1						
NVAR	**Mina Array Bea**	**76.57**	**52**	P	**P**	**17 11 48.8**	**+2.2**
	comp=Z,0.6nm,0.5s,baz=281,slow=5.3,SNR=7.0						
NVAR	**Mina Array Bea**	**76.57**	**52**	P	**P**	**17 11 48.3**	**+1.7**
BRTR	**Keskin Array B**	**79.12**	**311**	P	**P**	**17 12 02.0**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=29,slow=2.8,SNR=5.1						
BRTR	**Keskin Array B**	**79.12**	**311**	P	**P**	**17 12 00.9**	**+0.3**
RAYN	**Ar Rayn**	**80.36**	**292**	P	**P**	**17 12 07.3**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RAYN	**Ar Rayn**	**80.36**	**292**	P	**P**	**17 12 07.3**	**-0.2**
Q16A	**Castle Valley**	**80.76**	**49**		**P**	**17 12 10.3**	**+0.7**
SRU	**San Rafael Swe**	**81.04**	**48**	P	**P**	**17 12 13.2**	**+2.1**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SRU	**San Rafael Swe**	**81.04**	**48**	P	**P**	**17 12 13.2**	**+2.1**
VYHS	**Vyhne**	**81.38**	**325**	*eP*	**P**	**17 12 13.2**	**+0.7**
VYHS	**Vyhne**	**81.38**	**325**	*eP*	**P**	**17 12 13.2**	**+0.7**
CLL	**Collm**	**81.88**	**330**	*eP*	**P**	**17 12 15.0**	**0.0**
CLL				*e*		17 12 32.0	
CLL	**Collm**	**81.88**	**330**	*eP*	**P**	**17 12 15.0**	**0.0**
CLL				*ep*P	**pP**	**17 12 32.0**	**+0.4**
PV13	**Radium Mtn., P**	**82.67**	**48**	P	**P**	**17 12 20.2**	**+0.5**
PV13				IAmb	IAmb	17 12 39.2	
	comp=Z,9.5nm,1.0s						
VTS	**Vitosha**	**83.26**	**319**	P	**P**	**17 12 23.5**	**+0.9**
VTS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VTS	**Vitosha**	**83.26**	**319**	P	**P**	**17 12 23.5**	**+0.9**
VTS				IAmb	IAmb	17 12 24.6	
	comp=Z,6.6nm,1.1s						
GERES	**GERESS Array B**	**83.45**	**328**	P	**P**	**17 12 24.0**	**+0.7**
GERES	**GERESS Array B**	**83.45**	**328**	P	**P**	**17 12 23.6**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=40,slow=6.4,SNR=3.3						
GERES	**GERESS Array B**	**83.45**	**328**	P	**P**	**17 12 24.0**	**+0.7**
TXAR	**Lajitas Array**	**91.71**	**52**	P	**P**	**17 13 03.1**	**-0.5**
TXAR	**Lajitas Array**	**91.71**	**52**	P	**P**	**17 13 03.1**	**-0.5**

*SOME **16** 17:00:27.2, 42°.17N×81°.37E, h5km*
*NNC **16** 17:00:28.3±1.0, 42°.12N×81°.30E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=7.3km s-min=5.0km az=167.0
ISC 16 17:00:29.6±2.1, 42°.15N±0°.08×81°.11E±0°.06, h3km±12km,
n42, σ1.97/66, 10C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.58**	**310**	P	**Pn**	**17 00 56.0**	**-2.8**
	46nm,0.3s						
SHLS				S	**Sn**	**17 01 17.2**	**-2.6**
	224nm,0.3s						
SHLS	**Shalkode**	**1.58**	**310**	*eP*	**Pn**	**17 00 56.0**	**-2.8**
	46nm,0.3s						
SHLS				*eS*	**Sn**	**17 01 17.2**	**-2.6**
	224nm,0.3s						
PDGK	**Podgornoye**	**1.68**	**315**	P	**Pb**	**17 01 01.1**	**-0.2**
	43nm,0.4s						
PDGK				S	**Sg**	**17 01 25.9**	**+2.3**
	55nm,0.7s						
PDGK	**Podgornoye**	**1.68**	**315**	⇑P	**Pb**	**17 01 00.9**	**-0.5**
	41nm,0.4s						
PDGK				⇓S	**Sg**	**17 01 25.6**	**+1.9**
	117nm,0.7s						
UZB	**Uzynbulak**	**1.84**	**304**	*eP*	**Pb**	**17 01 04.6**	**+0.5**
	48nm,0.5s						
UZB				*eS*	**Sg**	**17 01 31.4**	**+2.6**
	42nm,0.4s						
SATY	**Saty**	**2.20**	**295**	Pg	**Pb**	**17 01 11.5**	**+1.4**
	52nm,0.5s						
SATY				Lg	Lg	17 01 43.9	
	166nm,0.6s						
SATY	**Saty**	**2.20**	**295**	*eP*	**Pb**	**17 01 11.6**	**+1.4**
	52nm,0.5s						
SATY				*eS*	**Sg**	**17 01 43.9**	**+3.7**
	166nm,0.6s						
KPKS	**Kokpek**	**2.22**	**307**	*eP*	**Pb**	**17 01 10.5**	**0.0**
	55nm,0.2s						
KPKS				*eS*	**Sg**	**17 01 42.0**	**+0.9**
	252nm,0.4s						
ZHN	**Zhinishke**	**2.22**	**298**	Pg	**Pb**	**17 01 11.7**	**+1.2**
	15nm,0.1s						
ZHN				Lg	Lg	17 01 44.0	
	73nm,0.2s						
ZHN	**Zhinishke**	**2.22**	**298**	*eP*	**Pb**	**17 01 11.8**	**+1.2**
	15nm,0.1s						
ZHN				*eS*	**Sg**	**17 01 44.0**	**+3.0**
	41nm,0.2s						
DJR	**Jarkent**	**2.39**	**337**	Pg	**Pb**	**17 01 12.7**	**-0.7**
	12nm,0.4s						
DJR				Lg	Lg	17 01 45.7	
	111nm,0.7s						
DJR	**Jarkent**	**2.39**	**337**	*eP*	**Pb**	**17 01 12.7**	**-0.7**
	12nm,0.4s						
DJR				*eS*	**Sg**	**17 01 45.7**	**-0.7**
	111nm,0.7s						
KURS	**Kuram**	**2.55**	**303**	Pg	**Pb**	**17 01 16.9**	**+0.8**
	15nm,0.5s						
KURS				Lg	Lg	17 01 52.9	
	36nm,0.9s						
KURS	**Kuram**	**2.55**	**303**	*eP*	**Pb**	**17 01 16.9**	**+0.8**
	16nm,0.7s						
KURS				*eS*	**Sg**	**17 01 52.9**	**+1.4**
	36nm,0.9s						
KOTS	**Kotyrbulak**	**3.14**	**292**	Pg	**Pb**	**17 01 27.1**	**+0.8**
	18nm,0.4s						
KOTS				Lg	Lg	17 02 10.7	
	138nm,0.7s						
KOTS	**Kotyrbulak**	**3.14**	**292**	*eP*	**Pb**	**17 01 27.1**	**+0.8**
	13nm,0.3s						
KOTS				*eS*	**Sg**	**17 02 10.7**	**+0.1**
	138nm,0.7s						
MDOK	**Medeo**	**3.17**	**290**	⇓Pg	**Pb**	**17 01 29.1**	**+2.5**
	4.8nm,0.5s						
MDOK				⇑Lg	Lg	17 02 13.9	
	42nm,0.8s						
MDOK	**Medeo**	**3.17**	**290**	Pg	**Pb**	**17 01 27.2**	**+0.5**
	5.9nm,0.6s						
MDOK				Lg	Lg	17 02 10.8	
	33nm,0.8s						
MDOK	**Medeo**	**3.17**	**290**	*eP*	**Pb**	**17 01 27.2**	**+0.5**
	5.9nm,0.6s						
MDOK				*eS*	**Sg**	**17 02 10.8**	**-0.6**
	33nm,0.8s						
ARXS	**Arharly**	**3.17**	**312**	Pg	**Pb**	**17 01 27.0**	**+0.3**
	7.4nm,0.4s						
ARXS				Lg	Lg	17 02 10.6	
	34nm,0.5s						
ARXS	**Arharly**	**3.17**	**312**	*eP*	**Pb**	**17 01 26.9**	**+0.3**
	7.4nm,0.4s						
ARXS				*eS*	**Sg**	**17 02 10.6**	**-0.8**
	28nm,0.5s						
TNSS	**Tian-Shan**	**3.20**	**288**	Pg	**Pb**	**17 01 28.4**	**+0.9**
	7.3nm,0.3s						
TNSS				Lg	Lg	17 02 12.7	
	30nm,0.3s						
TNSS	**Tian-Shan**	**3.20**	**288**	*eP*	**Pb**	**17 01 28.4**	**+0.9**
	7.3nm,0.3s						
TNSS				*eS*	**Sg**	**17 02 12.7**	**+0.2**
	30nm,0.3s						
AAA	**Alma-Ata**	**3.27**	**290**	Pg	**Pb**	**17 01 30.5**	**+2.1**
	34nm,0.2s						
AAA				Lg	Lg	17 02 15.8	
	36nm,0.2s						
AAA	**Alma-Ata**	**3.27**	**290**	*eP*	**Pb**	**17 01 30.5**	**+2.1**
	34nm,0.2s						
AAA				*eS*	**Sg**	**17 02 15.8**	**+1.1**
	36nm,0.2s						
KAPS	**Kapalarasan**	**3.39**	**339**	Pg	**Pb**	**17 01 29.0**	**-1.4**
	6.9nm,0.4s						
KAPS				Lg	Lg	17 02 13.7	
	42nm,0.5s						
KAPS	**Kapalarasan**	**3.39**	**339**	*eP*	**Pb**	**17 01 29.0**	**-1.4**
	6.9nm,0.4s						
KAPS				*eS*	**Sb**	**17 02 13.8**	**+1.8**
	42nm,0.5s						
CHKK	**Chushkaly**	**3.47**	**301**	Pg	**Pb**	**17 01 33.6**	**+1.8**
	6.6nm,0.3s						
CHKK				Lg	Lg	17 02 21.7	
	27nm,0.3s						
CHKK	**Chushkaly**	**3.47**	**301**	*eP*	**Pb**	**17 01 33.6**	**+1.8**
	6.6nm,0.3s						
CHKK				*eS*	**Sg**	**17 02 21.7**	**+0.5**
	27nm,0.3s						
KTBS	**Karatobe**	**3.61**	**297**	Pg	**Pb**	**17 01 37.1**	**+3.0**
	10.0nm,0.6s						
KTBS				Lg	Lg	17 02 27.9	
	75nm,0.5s						
KTBS	**Karatobe**	**3.61**	**297**	*eP*	**Pb**	**17 01 37.1**	**+3.0**
	10.0nm,0.6s						
KTBS				*eS*	**Sg**	**17 02 27.9**	**+2.3**
	75nm,0.5s						
KST	**Kastek**	**3.91**	**285**	Pg	**Pg**	**17 01 42.9**	**-1.6**
	16nm,0.4s						
KST				Lg	Lg	17 02 38.0	
	20nm,0.6s						
KST	**Kastek**	**3.91**	**285**	*eP*	**Pg**	**17 01 42.9**	**-1.6**
	16nm,0.4s						
KST				*eS*	**Sg**	**17 02 38.0**	**+2.9**
	20nm,0.6s						
KUU	**Kurty**	**3.91**	**298**	Pg	**Pb**	**17 01 40.3**	**+1.0**
	5.6nm,0.3s						
KUU				Lg	Lg	17 02 33.2	
	28nm,0.5s						
KUU	**Kurty**	**3.91**	**298**	*eP*	**Pb**	**17 01 40.3**	**+1.0**
	5.6nm,0.3s						
KUU				*eS*	**Sg**	**17 02 33.2**	**-2.1**
	28nm,0.5s						
TKM2	**Tokmak 2**	**4.15**	**283**	⇑Pg	**Pg**	**17 01 47.9**	**-1.2**
	4.5nm,0.5s						
TKM2				⇑Lg	Lg	17 02 45.3	
	19nm,0.8s						
MAKZ	**Makanchi**	**4.70**	**7**	⇓Pn	**Pn**	**17 01 41.4**	**-0.2**
	4.6nm,0.5s						
MAKZ				⇓Lg	Lg	17 02 58.9	
	6.0nm,0.6s						
MK31	**Makanchi Array**	**4.72**	**10**	⇑Pn	**Pn**	**17 01 41.0**	**-0.8**
	0.7nm,0.2s,baz=188,slow=13,SNR=57						
MK31				⇑Pg	**Pb**	**17 01 56.0**	**+2.9**
	0.8nm,0.3s,baz=186,slow=13,SNR=7.2						
MK31				⇓Sn	**Sn**	**17 02 37.6**	**+0.4**
	9.3nm,0.8s,baz=156,slow=14,SNR=5.1						
MK31				⇑Lg	Lg	17 02 55.0	
	14nm,0.5s,baz=185,slow=29,SNR=7.6						
AAK	**Ala-Archa**	**4.93**	**278**	⇑Pg	**Pg**	**17 02 01.5**	**-2.5**
	3.9nm,0.9s						
AAK				Lg	Lg	17 03 09.4	
	11nm,0.8s						
ZSN	**Zaisan**	**5.94**	**25**	Pg	**Pb**	**17 02 12.9**	**-0.9**
	2.5nm,0.2s						
ZSN				Lg	Lg	17 03 29.1	
	14nm,0.9s						
ZSN	**Zaisan**	**5.94**	**25**	*eP*	**Pb**	**17 02 12.8**	**-0.9**
	1.6nm,0.2s						
ZSN				*eS*	**Sb**	**17 03 29.1**	**+3.8**
	14nm,0.9s						
KURK	**Kurchatov**	**8.74**	**350**	⇑Pn	**Pn**	**17 02 37.8**	**+0.8**
	3.2nm,0.9s						
KURK				⇓Sn	**Sn**	**17 04 17.5**	**+1.5**
	3.2nm,0.9s						
KURK				⇑Lg	Lg	17 05 07.4	
	5.1nm,0.8s						

*SOME **16** 17:04:45.7, 42°.15N×81°.37E, h15km*
*NNC **16** 17:04:46.5±0.9, 42°.13N×81°.28E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=6.2km s-min=4.1km az=163.0
ISC 16 17:04:46.5±2.0, 42°.15N±0°.08×81°.15E±0°.05, h0km±12km,
n44, σ1.97/70, 9C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.60**	**310**	P	**Pn**	**17 05 13.3**	**-3.0**
	16nm,0.3s						
SHLS				S	**Sn**	**17 05 33.4**	**-4.3**
	93nm,0.4s						
SHLS	**Shalkode**	**1.60**	**310**	*eP*	**Pn**	**17 05 13.8**	**-2.4**
	16nm,0.3s						
SHLS				*eS*	**Sn**	**17 05 34.5**	**-3.2**
	123nm,0.3s						
PDGK	**Podgornoye**	**1.70**	**315**	P	**Pb**	**17 05 19.4**	**+0.7**
	28nm,0.5s						
PDGK				S	**Sg**	**17 05 43.7**	**+2.5**
	44nm,0.3s						
PDGK	**Podgornoye**	**1.70**	**315**	⇑P	**Pb**	**17 05 18.6**	**-0.1**
	26nm,0.5s						
PDGK				⇑S	**Sg**	**17 05 43.5**	**+2.3**
	45nm,0.4s						
UZB	**Uzynbulak**	**1.86**	**303**	Pg	**Pb**	**17 05 21.8**	**+0.3**
	26nm,0.3s						
UZB				Lg	Lg	17 05 47.6	
	43nm,0.2s						
UZB	**Uzynbulak**	**1.86**	**303**	*eP*	**Pb**	**17 05 21.8**	**+0.3**
	26nm,0.3s						
UZB				*eS*	**Sb**	**17 05 47.6**	**+2.2**
	41nm,0.4s						
SATY	**Saty**	**2.22**	**295**	Pg	**Pb**	**17 05 29.3**	**+1.7**
	26nm,0.3s						
SATY				Lg	Lg	17 06 00.7	
	97nm,0.3s						
SATY	**Saty**	**2.22**	**295**	*eP*	**Pb**	**17 05 29.3**	**+1.7**
	26nm,0.3s						
SATY				*eS*	**Sg**	**17 06 00.7**	**+2.8**
	97nm,0.3s						
KPKS	**Kokpek**	**2.24**	**307**	*eP*	**Pb**	**17 05 29.0**	**+1.0**
	33nm,0.3s						
KPKS				*eS*	**Sg**	**17 06 00.3**	**+1.7**
	142nm,0.3s						
DJR	**Jarkent**	**2.40**	**336**	Pg	**Pb**	**17 05 30.3**	**-0.4**
	5.9nm,0.3s						
DJR				Lg	Lg	17 06 02.2	
	53nm,0.5s						
DJR	**Jarkent**	**2.40**	**336**	*eP*	**Pb**	**17 05 30.3**	**-0.4**
	5.8nm,0.3s						
DJR				*eS*	**Sb**	**17 06 02.2**	**+1.4**
	38nm,0.5s						
KURS	**Kuram**	**2.57**	**302**	Pg	**Pb**	**17 05 35.3**	**+1.7**
	9.9nm,0.3s						
KURS				Lg	Lg	17 06 10.8	
	20nm,0.5s						
KURS	**Kuram**	**2.57**	**302**	*eP*	**Pb**	**17 05 35.3**	**+1.7**
	9.9nm,0.3s						
KURS				*eS*	**Sg**	**17 06 10.8**	**+1.7**
	20nm,0.5s						
MNBS	**Baschi**	**2.79**	**315**	Pg	**Pb**	**17 05 37.4**	**+0.1**
	21nm,0.4s						
MNBS				Lg	Lg	17 06 14.5	
	62nm,0.2s						
MNBS	**Baschi**	**2.79**	**315**	*eP*	**Pb**	**17 05 37.4**	**+0.1**
	38nm,0.1s						
MNBS				*eS*	**Sb**	**17 06 14.5**	**+2.4**
	52nm,0.2s						
KOTS	**Kotyrbulak**	**3.17**	**291**	Pg	**Pb**	**17 05 45.4**	**+1.6**
	11nm,0.2s						
KOTS				Lg	Lg	17 06 28.4	
	36nm,0.4s						
KOTS	**Kotyrbulak**	**3.17**	**291**	*eP*	**Pb**	**17 05 45.4**	**+1.6**
	11nm,0.2s						
KOTS				*eS*	**Sg**	**17 06 28.2**	**-0.1**
	87nm,0.7s						
ARXS	**Arharly**	**3.19**	**311**	Pg	**Pb**	**17 05 45.7**	**+1.6**
	3.3nm,0.4s						
ARXS				Lg	Lg	17 06 29.0	
	21nm,0.5s						
ARXS	**Arharly**	**3.19**	**311**	*eP*	**Pb**	**17 05 45.7**	**+1.6**
	3.3nm,0.4s						
ARXS				*eS*	**Sg**	**17 06 29.0**	**0.0**
	21nm,0.5s						
MDOK	**Medeo**	**3.19**	**290**	⇓Pg	**Pb**	**17 05 47.0**	**+2.9**
	2.9nm,0.4s						
MDOK				⇓Lg	Lg	17 06 31.5	
	24nm,0.8s						
MDOK	**Medeo**	**3.19**	**290**	Pg	**Pb**	**17 05 45.7**	**+1.5**
	4.6nm,0.5s						
MDOK				Lg	Lg	17 06 29.1	
	18nm,0.8s						
MDOK	**Medeo**	**3.19**	**290**	*eP*	**Pb**	**17 05 45.6**	**+1.5**
	4.9nm,0.3s						
MDOK				*eS*	**Sg**	**17 06 29.0**	**0.0**
	18nm,0.8s						
TNSS	**

KTBS				*e*S		**Sg**	**17 06 42.2 -1.0**
	20nm,0.6s						
KST	**Kastek**	**3.93 285**		Pg		**Pb**	**17 05 59.3 +2.4**
	8.7nm,0.5s						
KST				Lg		Lg	17 06 51.9
	12nm,0.5s						
KST	**Kastek**	**3.93 285**		*e*P		**Pb**	**17 05 59.2 +2.4**
	10nm,0.5s						
KST				*e*S		**Sg**	**17 06 51.6 -1.2**
	8.9nm,0.7s						
KUU	**Kurty**	**3.94 298**		Pg		**Pb**	**17 05 59.0 +2.2**
	3.5nm,0.3s						
KUU				Lg		Lg	17 06 51.6
	14nm,0.3s						
KUU	**Kurty**	**3.94 298**		*e*P		**Pb**	**17 05 59.0 +2.2**
	3.5nm,0.3s						
KUU				*e*S		**Sg**	**17 06 51.6 -1.4**
	14nm,0.4s						
DGS	**Degeres**	**4.11 287**		Pg		**Pb**	**17 06 02.5 +2.6**
	2.6nm,0.4s						
DGS				Lg		Lg	17 06 57.6
	16nm,0.3s						
DGS	**Degeres**	**4.11 287**		*e*P		**Pb**	**17 06 02.5 +2.6**
	2.6nm,0.4s						
DGS				*e*S		**Sg**	**17 06 57.6 -1.0**
	16nm,0.4s						
TKM2	**Tokmak 2**	**4.18 283**		⇑Pg		**Pg**	**17 06 05.2 -1.4**
	5.4nm,1.0s						
TKM2				⇑Lg		Lg	17 07 02.6
	7.2nm,0.5s						
MAKZ	**Makanchi**	**4.70**	**7**	⇓Pn		**Pn**	**17 05 58.9 +0.2**
	4.7nm,0.9s						
MAKZ				⇓Pg		**Pb**	**17 06 11.9 +2.1**
	2.2nm,0.6s						
MAKZ				⇓Sn		**Sn**	**17 06 55.0 +1.2**
	5.2nm,0.8s						
MAKZ				⇑Lg		Lg	17 07 14.8
	7.9nm,0.9s						
MK31	**Makanchi Array**	**4.72**	**10**	⇑Pn		**Pn**	**17 05 59.0 0.0**
	0.3nm,0.2s,baz=187,slow=12,SNR=28						
MK31				⇑Pg		**Pb**	**17 06 11.7 +1.6**
	0.9nm,0.4s,baz=210,slow=17,SNR=4.2						
MK31				⇑Sn		**Sn**	**17 06 54.9 +0.6**
	1.9nm,0.5s,baz=188,slow=24,SNR=4.7						
MK31				⇑Lg		Lg	17 07 13.3
	7.1nm,0.5s,baz=185,slow=29,SNR=7.1						
AAK	**Ala-Archa**	**4.95 278**		⇓Pg		**Pg**	**17 06 19.9 -1.6**
	1.6nm,0.6s						
AAK				Lg		Lg	17 07 28.3
	8.0nm,1.0s						
ZSN	**Zaisan**	**5.92**	**25**	Pg		**Pb**	**17 06 33.5 +2.9**
	8.3nm,0.9s						
ZSN				Lg		Lg	17 07 51.2
	39nm,0.8s						
ZSN	**Zaisan**	**5.92**	**25**	*e*P		**Pb**	**17 06 33.5 +2.9**
	2.6nm,0.5s						
ZSN				*e*S		**Sg**	**17 07 51.2 -5.6**
	39nm,0.8s						

*NNC **16** 17:12:31.8±2.4, 42°.04N×81°.43E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=18.6km s-min=14.8km az=27.0*
*SOME **16** 17:12:32.6, 42°.07N×81°.43E, h15km*
ISC 16 17:12:32.1±2.9, 42°.1N±0°.1×81°.43E±0°.09, h6km±14km, n17, σ2§10/25, 5C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.79 307**		S	**Sn**	**17 13 23.6**	**-3.3**
	109nm,0.4s						
SHLS	**Shalkode**	**1.79 307**		*e*P	**Pn**	**17 13 02.8**	**-0.9**
	69nm,0.5s						
SHLS				*e*S	**Sn**	**17 13 23.6**	**-3.3**
	109nm,0.4s						
PDGK	**Podgornoye**	**1.88 311**		Pg	**Pb**	**17 13 06.5**	**-0.5**
	21nm,0.4s						
PDGK				Lg	Lg	17 13 32.7	
	20nm,0.7s						
PDGK	**Podgornoye**	**1.88 311**		⇑P	**Pb**	**17 13 08.0**	**+1.0**
	18nm,0.4s						
PDGK				⇑S	**Sb**	**17 13 32.7**	**+1.9**
	52nm,0.8s						
SATY	**Saty**	**2.43 294**		Pg	**Pb**	**17 13 16.0**	**-0.2**
	25nm,0.3s						
SATY				Lg	Lg	17 13 48.9	
	51nm,0.3s						
SATY	**Saty**	**2.43 294**		*e*P	**Pg**	**17 13 18.0**	**-0.6**
	25nm,0.3s						
SATY				*e*S	**Sg**	**17 13 49.7**	**-0.4**
	51nm,0.3s						
KPKS	**Kokpek**	**2.44 305**		*e*P	**Pb**	**17 13 17.1**	**+0.7**
	24nm,0.3s						
KPKS				*e*S	**Sb**	**17 13 48.4**	**+1.7**
	64nm,0.3s						
DJR	**Jarkent**	**2.53 332**		Pg	**Pb**	**17 13 18.0**	**+0.1**
	9.0nm,0.4s						
DJR				Lg	Lg	17 13 52.5	
	25nm,0.6s						
DJR	**Jarkent**	**2.53 332**		*e*P	**Pb**	**17 13 19.4**	**+1.4**
	4.4nm,0.2s						
DJR				*e*S	**Sb**	**17 13 52.5**	**+3.1**
	34nm,0.5s						
ARXS	**Arharly**	**3.38 310**		Pg	**Pb**	**17 13 33.3**	**+0.9**
	3.6nm,0.3s						
ARXS				Lg	Lg	17 14 18.3	
	15nm,0.4s						
ARXS	**Arharly**	**3.38 310**		*e*P	**Pb**	**17 13 34.8**	**+2.4**
	2.9nm,0.3s						
ARXS				*e*S	**Sg**	**17 14 18.3**	**-2.2**
	15nm,0.6s						
MDOK	**Medeo**	**3.40 290**		Pg	**Pb**	**17 13 33.2**	**+0.4**
	4.0nm,0.5s						
MDOK				Lg	Lg	17 14 18.5	
	12nm,0.8s						
MDOK	**Medeo**	**3.40 290**		*e*P	**Pb**	**17 13 34.5**	**+1.6**
	4.1nm,0.5s						
MDOK				*e*S	**Sb**	**17 14 18.3**	**+3.8**
	16nm,0.8s						
CHKK	**Chushkaly**	**3.70 300**		Pg	**Pb**	**17 13 38.6**	**+0.8**
	5.6nm,0.3s						
CHKK				Lg	Lg	17 14 27.9	
	9.9nm,0.3s						
CHKK	**Chushkaly**	**3.70 300**		*e*P	**Pb**	**17 13 39.6**	**+1.8**
	5.6nm,0.3s						
CHKK				*e*S	**Sb**	**17 14 26.8**	**+3.9**
	9.8nm,0.4s						
TKM2	**Tokmak 2**	**4.39 283**		⇑Pg	**Pb**	**17 13 50.7**	**+1.1**
	4.8nm,0.7s						
TKM2				⇑Lg	Lg	17 14 51.4	
	7.3nm,0.7s						
MK31	**Makanchi Array**	**4.73**	**7**	Pg	**Pb**	**17 13 56.4**	**+1.0**
	1.9nm,0.5s,baz=124,slow=13,SNR=2.5						
MK31				⇑Lg	Lg	17 15 01.5	
	4.2nm,0.6s,baz=187,slow=32,SNR=5.0						

*NNC **16** 17:16:31.7±1.1, 41°.96N×81°.26E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.0km s-min=5.6km az=160.0*
*SOME **16** 17:16:33.1, 42°.00N×81°.22E, h15km*
ISC 16 17:16:32.5±2.1, 42°.01N±0°.08×81°.13E±0°.05, h3km±12km, n47, σ1§63/72, 5C-10D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.68 314**		P	**Pn**	**17 17 00.7**	**-2.2**
	18nm,0.3s						
SHLS				S	**Sn**	**17 17 23.2**	**-1.9**
	202nm,0.4s						
SHLS	**Shalkode**	**1.68 314**		*e*P	**Pn**	**17 17 02.0**	**-0.9**
	18nm,0.3s						
SHLS				*e*S	**Sn**	**17 17 23.3**	**-1.8**
	202nm,0.4s						
PDGK	**Podgornoye**	**1.79 318**		Pg	**Pg**	**17 17 06.2**	**-0.5**
	37nm,0.2s						
PDGK				Lg	Lg	17 17 32.3	
	36nm,0.5s						
PDGK	**Podgornoye**	**1.79 318**		⇑P	**Pg**	**17 17 07.0**	**+0.3**
	27nm,0.3s						
PDGK				⇓S	**Sg**	**17 17 31.8**	**+2.0**
	54nm,0.4s						
UZB	**Uzynbulak**	**1.92 307**		Pg	**Pg**	**17 17 09.5**	**+0.1**
	40nm,0.3s						
UZB				Lg	Lg	17 17 37.7	
	41nm,0.3s						
UZB	**Uzynbulak**	**1.92 307**		*e*P	**Pg**	**17 17 10.7**	**+1.4**
	40nm,0.3s						
UZB				*e*S	**Sg**	**17 17 37.7**	**+3.5**
	41nm,0.3s						
SATY	**Saty**	**2.27 298**		Pg	**Pg**	**17 17 15.7**	**-0.2**
	39nm,0.5s						
SATY				Lg	Lg	17 17 48.8	
	133nm,0.2s						
SATY	**Saty**	**2.27 298**		*e*P	**Pg**	**17 17 16.7**	**+0.8**
	39nm,0.4s						
SATY				*e*S	**Sg**	**17 17 48.8**	**+3.6**
	147nm,0.2s						
KPKS	**Kokpek**	**2.31 310**		*e*P	**Pg**	**17 17 16.2**	**-0.5**
	58nm,0.2s						
KPKS				*e*S	**Sg**	**17 17 47.7**	**+1.0**
	136nm,0.3s						
DJR	**Jarkent**	**2.52 338**		Pg	**Pb**	**17 17 17.2**	**-1.2**
	15nm,0.5s						
DJR				Lg	Lg	17 17 52.1	
	70nm,0.6s						
DJR	**Jarkent**	**2.52 338**		*e*P	**Pb**	**17 17 18.9**	**+0.5**
	8.7nm,0.3s						
DJR				*e*S	**Sg**	**17 17 51.9**	**-1.4**
	64nm,0.5s						
KURS	**Kuram**	**2.63 305**		Pg	**Pb**	**17 17 20.4**	**+0.1**
	9.7nm,0.7s						
KURS				Lg	Lg	17 17 57.5	
	21nm,0.7s						
KURS	**Kuram**	**2.63 305**		*e*P	**Pg**	**17 17 22.5**	**-0.4**
	7.9nm,0.5s						
KURS				*e*S	**Sg**	**17 17 57.7**	**+0.8**
	23nm,0.7s						
MNBS	**Baschi**	**2.87 317**		Pg	**Pb**	**17 17 25.2**	**+0.7**
	25nm,0.2s						
MNBS				Lg	Lg	17 18 05.3	
	82nm,0.2s						
MNBS	**Baschi**	**2.87 317**		*e*P	**Pg**	**17 17 27.2**	**-0.3**
	27nm,0.1s						
MNBS				*e*S	**Sg**	**17 18 05.3**	**+0.6**
	82nm,0.2s						
KOTS	**Kotyrbulak**	**3.20 294**		Pg	**Pb**	**17 17 30.5**	**+0.4**
	22nm,0.3s						
KOTS				Lg	Lg	17 18 14.1	
	25nm,0.5s						
KOTS	**Kotyrbulak**	**3.20 294**		*e*P	**Pb**	**17 17 31.4**	**+1.2**
	22nm,0.3s						
KOTS				*e*S	**Sg**	**17 18 13.2**	**-2.1**
	25nm,0.5s						
MDOK	**Medeo**	**3.22 292**		⇓Pg	**Pg**	**17 17 33.2**	**-1.1**
	5.0nm,0.5s						
MDOK				⇓Lg	Lg	17 18 18.7	
	26nm,0.6s						
MDOK	**Medeo**	**3.22 292**		Pg	**Pb**	**17 17 32.1**	**+1.6**
	4.9nm,0.3s						
MDOK				Lg	Lg	17 18 16.9	
	20nm,0.7s						
MDOK	**Medeo**	**3.22 292**		*e*P	**Pg**	**17 17 33.1**	**-1.1**
	4.8nm,0.3s						
MDOK				*e*S	**Sg**	**17 18 17.7**	**+1.7**
	26nm,0.6s						
TNSS	**Tian-Shan**	**3.25 290**		Pg	**Pb**	**17 17 32.6**	**+1.5**
	6.2nm,0.6s						
TNSS				Lg	Lg	17 18 17.6	
	20nm,0.5s						
TNSS	**Tian-Shan**	**3.25 290**		*e*P	**Pg**	**17 17 33.9**	**-0.9**
	6.2nm,0.6s						
TNSS				*e*S	**Sg**	**17 18 18.6**	**+1.6**
	13nm,0.4s						
ARXS	**Arharly**	**3.27 313**		Pg	**Pb**	**17 17 32.5**	**+1.3**
	4.4nm,0.5s						
ARXS				Lg	Lg	17 18 17.8	
	25nm,0.6s						
ARXS	**Arharly**	**3.27 313**		*e*P	**Pg**	**17 17 33.3**	**-1.7**
	4.4nm,0.5s						
ARXS				*e*S	**Sg**	**17 18 17.8**	**+0.4**
	25nm,0.6s						
IZV	**Izvestkoviy**	**3.49 289**		Pg	**Pb**	**17 17 37.0**	**+2.0**
	11nm,0.5s						
IZV				Lg	Lg	17 18 25.6	
	30nm,0.5s						
IZV	**Izvestkoviy**	**3.49 289**		*e*P	**Pb**	**17 17 37.0**	**+2.0**
	11nm,0.5s						
IZV				*e*S	**Sg**	**17 18 22.8**	**-1.7**
	30nm,0.5s						
KAPS	**Kapalarasan**	**3.51 339**		Pg	**Pb**	**17 17 35.5**	**+0.2**
	5.8nm,0.4s						
KAPS				Lg	Lg	17 18 23.0	
	32nm,0.3s						
KAPS	**Kapalarasan**	**3.51 339**		*e*P	**Pb**	**17 17 36.9**	**+1.5**
	5.8nm,0.4s						
KAPS				*e*S	**Sg**	**17 18 23.0**	**-2.3**
	32nm,0.4s						
CHKK	**Chushkaly**	**3.55 303**		Pg	**Pb**	**17 17 37.6**	**+1.6**
	8.2nm,0.4s						
CHKK				Lg	Lg	17 18 26.5	
	19nm,0.3s						
CHKK	**Chushkaly**	**3.55 303**		*e*P	**Pg**	**17 17 39.7**	**-0.8**
	8.6nm,0.5s						
CHKK				*e*S	**Sg**	**17 18 26.5**	**0.0**
	19nm,0.3s						
MTBS	**Maitube**	**3.64 289**		Pg	**Pb**	**17 17 38.7**	**+1.1**
	8.2nm,0.3s						
MTBS				Lg	Lg	17 18 28.4	
	13nm,0.4s						
MTBS	**Maitube**	**3.64 289**		*e*P	**Pg**	**17 17 41.5**	**-0.7**
	4.9nm,0.2s						
MTBS				*e*S	**Sg**	**17 18 30.1**	**+0.6**
	13nm,0.4s						
KTBS	**Karatobe**	**3.68 299**		Pg	**Pb**	**17 17 40.3**	**+2.1**
	9.1nm,0.5s						
KTBS				Lg	Lg	17 18 31.4	
	39nm,0.4s						
KTBS	**Karatobe**	**3.68 299**		*e*P	**Pg**	**17 17 42.1**	**-0.9**
	9.1nm,0.5s						
KTBS				*e*S	**Sg**	**17 18 31.4**	**+0.7**
	39nm,0.4s						
KST	**Kastek**	**3.95 287**		Pg	**Pb**	**17 17 43.4**	**+0.5**
	13nm,0.9s						
KST				Lg	Lg	17 18 36.5	
	18nm,1.1s						
KST	**Kastek**	**3.95 287**		*e*P	**Pg**	**17 17 46.2**	**-2.0**
	13nm,0.7s						
KST				*e*S	**Sg**	**17 18 37.8**	**-1.6**
	14nm,0.6s						
KUU	**Kurty**	**3.98 300**		Pg	**Pb**	**17 17 45.0**	**+1.7**
	4.8nm,0.2s						
KUU				Lg	Lg	17 18 39.7	
	8.2nm,0.2s						
KUU	**Kurty**	**3.98 300**		*e*P	**Pg**	**17 17 47.0**	**-1.8**
	3.3nm,0.1s						
KUU				*e*S	**Sg**	**17 18 39.6**	**-0.8**
	10nm,0.4s						
DGS	**Degeres**	**4.14 289**		Pg	**Pb**	**17 17 48.2**	**+2.2**
	4.0nm,0.4s						
DGS				Lg	Lg	17 18 44.9	
	15nm,0.3s						
DGS	**Degeres**	**4.14 289**		*e*P	**Pg**	**17 17 50.5**	**-1.3**
	4.0nm,0.4s						
DGS				*e*S	**Sg**	**17 18 44.9**	**-0.4**
	15nm,0.3s						
TKM2	**Tokmak 2**	**4.19 284**		⇓Pn	**Pn**	**17 17 38.7**	**+1.2**
	2.3nm,0.7s						
TKM2				⇓Pg	**Pg**	**17 17 50.8**	**-2.0**
	3.8nm,0.6s						
TKM2				⇑Lg	Lg	17 18 49.2	
	9.6nm,0.6s						
MAKZ	**Makanchi**	**4.83**	**7**	⇓Pn	**Pn**	**17 17 47.5**	**+1.3**
	2.0nm,0.3s						
MAKZ				⇑Sn	**Sn**	**17 18 43.9**	**+1.2**
	1.9nm,0.4s						
MAKZ				⇓Lg	Lg	17 19 03.7	
	4.4nm,0.5s						
MK31	**Makanchi Array**	**4.85**	**10**	⇓Pn	**Pn**	**17 17 47.5**	**+1.0**
	0.4nm,0.2s,baz=191,slow=13,SNR=42						
MK31				⇑Pg	**Pb**	**17 17 59.8**	**+1.6**
	0.7nm,0.3s,baz=181,slow=14,SNR=4.1						
MK31				⇓Sn	**Sn**	**17 18 43.1**	**-0.1**
	1.4nm,0.5s,baz=15,slow=24,SNR=5.3						
MK31				Lg	Lg	17 19 02.4	
	5.6nm,0.5s,baz=185,slow=29,SNR=6.7						
AAK	**Ala-Archa**	**4.96 279**		⇓Pg	**Pg**	**17 18 04.6**	**-2.8**
	2.5nm,0.6s						
AAK				⇑Lg	Lg	17 19 12.9	
	7.0nm,0.8s						
MRKS	**Merke**	**5.90 280**		Pg	**Pg**	**17 18 22.6**	**-2.8**
	2.5nm,0.3s						
MRKS				Lg	Lg	17 19 44.2	
	3.6nm,0.5s						
ZSN	**Zaisan**	**6.05**	**25**	Pg	**Pb**	**17 18 21.8**	**+3.2**
	3.2nm,0.5s						
ZSN				Lg	Lg	17 19 42.6	
	13nm,1.0s						
ZSN	**Zaisan**	**6.05**	**25**	*e*P	Pb	17 18 24.6	+6.0
	1.2nm,0.2s						
ZSN				*e*S	**Sg**	**17 19 42.6**	**-4.2**
	13nm,1.0s						

*IDC **16** 17:39:15.1±1.4, 13°.27N×124°.90E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/34, mbtmp3.8/6, ML4.2/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/33, Error ellipse: s-maj=44.0km s-min=17.4km az=57.0*
*MAN **16** 17:39:18.5, 13°.10N×124°.11E, h14km, MS3.5*
*NEIC **16** 17:39:18.9±1.8, 13°.4N±0°.1×125°.05E±0°.10, h32km±7km, mb4.6/10*
ISC 16 17:39:18.0±1.2, 13°.11N±0°.03×124°.18E±0°.04, h11km±8km, n50, σ1§54/55, mb4.3/11, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.48 357**		*e*P	**Pg**	**17 39 27.0**	**-0.5**
PVCP				*e*S	**Sg**	**17 39 33.4**	**-0.6**
CNP	**Catarman**	**0.76 141**		*e*P	**Pb**	**17 39 33.6**	**+0.3**
CNP				*e*S	**Sn**	**17 39 45.5**	**-0.7**
AUQP	**San Andres**	**1.48 278**		*e*P	**Pn**	**17 39 44.5**	**0.0**
AUQP				*e*S	**Sg**	**17 40 07.8**	**+2.2**
GQP	**Guinayangan**	**1.86 295**		⇓*e*P	**Pn**	**17 39 48.6**	**-1.3**
GQP				*e*S	**Sn**	**17 40 11.5**	**-1.8**
BESP	**Borongan**	**1.94 140**		*e*P	**Pn**	**17 39 51.3**	**+0.4**
BESP				*e*S	**Sb**	**17 40 17.2**	**-0.4**
RCP	**Roxas**	**2.08 222**		⇑*e*P	**Pn**	**17 39 52.7**	**-0.2**
OCLP	**Ormoc**	**2.09 168**		*e*P	**Pn**	**17 39 53.7**	**+0.7**
OCLP				*e*S	**Sg**	**17 40 25.9**	**+0.7**
OTRP	**Odiongan**	**2.23 251**		*e*P	**Pb**	**17 39 57.5**	**-0.9**
OTRP				*e*S	Sn	17 40 09.4	-13
BOAC	**Boac**	**2.30 279**		*e*P	**Pn**	**17 39 55.3**	**-0.6**
BOAC				*e*S	**Sn**	**17 40 24.1**	**0.0**
POLP	**Polilio Island**	**2.70 307**		*e*P	**Pn**	**17 40 02.0**	**+0.6**
POLP				*e*S	**Sg**	**17 40 43.5**	**-1.4**
LQP	**Lukban**	**2.75 292**		⇓*e*P	**Pn**	**17 40 01.6**	**-0.7**
LLP	**Lapu-Lapu**	**2.78 184**		⇓*e*P	**Pn**	**17 40 02.5**	**-0.1**
LLP				*i* S	**Sn**	**17 40 37.5**	**+1.4**
GUIM	**Jordan**	**2.92 212**		*e*P	**Pn**	**17 40 04.9**	**+0.5**
GUIM				*e*S	**Sn**	**17 40 38.1**	**-1.3**
MSLP	**Maasin**	**3.03 167**		*e*P	**Pb**	**17 40 09.3**	**-2.7**
MSLP				*e*S	**Sg**	**17 40 59.0**	**+3.5**
TGY	**Tagaytay City**	**3.30 288**		Pn	**Pb**	**17 40 16.5**	**-0.2**
	14nm,0.3s,baz=58,slow=10,SNR=3.1						
TGY				Sn	**Sg**	**17 41 05.6**	**+1.4**
	29nm,0.3s,baz=350,slow=17,SNR=1.9						
BALP	**Baler**	**3.63 316**		*e*P	**Pn**	**17 40 14.8**	**+0.6**
BALP				*e*S	**Sn**	**17 40 55.5**	**-1.6**
CAUP	**Cauayan**	**4.44 329**		*e*P	**Pn**	**17 40 25.5**	**+0.2**
CAUP				*e*S	**Sn**	**17 41 18.1**	**+1.1**
APYP	**Conner**	**5.51 329**		*e*P	**Pn**	**17 40 41.3**	**+1.3**
APYP				*e*S	**Sn**	**17 41 45.0**	**+1.6**
ABRA	**Dolores**	**5.62 324**		*e*P	**Pn**	**17 40 42.2**	**+0.7**
ABRA				*e*S	**Sn**	**17 41 47.5**	**+1.4**
DAV	**Davao City (W)**	**6.16 167**		LR	LR	17 43 43.2	
	comp=Z,107nm,18.9s,baz=12,slow=43						
JCJ	**Chichijima**	**21.86**	**48**	LR	LR	17 52 05.5	
	comp=Z,64nm,19.2s,baz=318,slow=36						
BATI	**Baunata**	**23.17 181**		P	**P**	**17 44 25.1**	**+0.2**
	8.7nm,0.8s,baz=98,slow=2.0,SNR=4.9						
KSRS	**Korea Array**	**24.48**	**7**	LR	LR	17 54 10.9	
	comp=Z,17nm,20.2s,baz=305,slow=37						
CMAR	**Chiang Mai Arr**	**24.84 286**		P	**P**	**17 44 45.6**	**+4.9**
	1.1nm,0.9s,baz=103,slow=9.1,SNR=6.8						
CMAR	**Chiang Mai Arr**	**24.84 286**		P	**P**	**17 44 45.4**	**+4.7**
WB0	**Warramunga Arr**	**34.18 163**		P	**P**	**17 46 02.4**	**-1.2**
WB0				IAmb	IAmb	17 46 05.6	
	comp=Z,9.5nm,1.6s						
WRA	**Warramunga Arr**	**34.33 163**		P	**P**	**17 46 03.0**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=344,slow=8.1,SNR=7.5						
WRA	**Warramunga Arr**	**34.33 163**		P	**P**	**17 46 03.0**	**-1.9**
WB2	**Warramunga Arr**	**34.34 163**		P	**P**	**17 46 03.3**	**-1.6**
WB2				IAmb	IAmb	17 46 13.1	
	comp=Z,6.7nm,1.4s						
WR0	**Warramunga Arr**	**34.41 163**		P	**P**	**17 46 04.3**	**-1.2**
AS31	**Alice Springs**	**37.77 165**		P	**P**	**17 46 33.0**	**-1.3**
ASAR	**Alice Springs**	**37.77 165**		P	**P**	**17 46 33.1**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=345,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**37.77 165**		P	**P**	**17 46 32.3**	**-2.0**
H11S3	**WAKE ISLAND Hy 41.18**	**77**		T	T	18 30 49.1	
	baz=269,slow=75,SNR=146						
H11S1	**WAKE ISLAND Hy 41.20**	**77**		T	T	18 30 49.9	
	baz=269,slow=75,SNR=329						
H11S2	**WAKE ISLAND Hy 41.20**	**77**		T	T	18 30 50.0	
	baz=269,slow=75,SNR=283						
H11N1	**WAKE ISLAND Hy 41.41**	**75**		T	T	18 31 06.8	
	baz=267,slow=75,SNR=414						
H11N2	**WAKE ISLAND Hy 41.42**	**75**		T	T	18 31 07.6	
	baz=267,slow=75,SNR=389						
H11N3	**WAKE ISLAND Hy 41.43**	**75**		T	T	18 31 08.4	
	baz=267,slow=75,SNR=389						
NWAO	**Narrogin (SRO)**	**46.25 188**		P	**P**	**17 47 42.9**	**-0.6**
NWAO				IAmb	IAmb	17 47 51.1	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**47.05 166**		P	**P**	**17 47 48.5**	**-1.3**
MKAR	**Makanchi Array**	**48.54 322**		P	**P**	**17 48 01.7**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=127,slow=7.7,SNR=5.6						
MKAR	**Makanchi Array**	**48.54 322**		P	**P**	**17 48 01.5**	**+0.2**
MAKZ	**Makanchi**	**48.73 322**		P	**P**	**17 48 02.3**	**-0.4**
MAKZ				IAmb	IAmb	17 48 19.2	
	comp=Z,5.6nm,1.2s						
TARA	**Tarawa**	**49.64**	**99**	P	P	17 48 01.0	-9.2
ZALV	**Zalesovo Beam**	**51.17 331**		P	**P**	**17 48 21.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=131,slow=7.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**51.17 331**		P	**P**	**17 48 20.8**	**-0.2**
KURK	**Kurchatov**	**52.58 325**		P	**P**	**17 48 31.9**	**+0.3**
KURK				IAmb	IAmb	17 48 38.3	
	comp=Z,4.9nm,0.8s						
ABKAR	**Akbulak array**	**63.40 319**		P	**P**	**17 49 47.3**	**-0.3**
MAW	**Mawson**	**91.66 200**		LR	LR	18 28 52.5	
	comp=Z,16nm,20.9s,baz=241,slow=32						

*NEIC **16** 17:59:49.0±2.0, 30°.92S±0°.08×65°.41W±0°.10, h180km±6km, mb4.4/31*
*IDC **16** 17:59:49.0±1.1, 30°.89S×65°.39W, h176km±10km, mb3.7/8, mb1 3.9/12, mb1mx3.7/28, mbtmp4.2/12, Error ellipse: s-maj=15.7km s-min=12.6km az=135.0*
*ISCJB **16** 17:59:49.2±0.2, 30°.93S±0°.03×65°.48W±0°.03, h194km±2km, mb3.9/8, Error ellipse: s-maj=5.3km s-min=4.4km az=149.6*
*SJA **16** 17:59:50.0±1.1, 30°.93S×65°.53W, h194km±7km, ML3.7, MW4.0*
*VAO **16** 18:00:03.1±2.3, 30°.37S×64°.74W, h255km, mb4.1*
ISC 16 17:59:50.1±0.6, 30°.89S±0°.05×65°.57W±0°.05, h190km±6km, n130, σ1§19/145, mb4.3/19, 2D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.94 118**		*i* P	**Pn**	**18 00 19.2**	**+0.7**
TCA				IAML		18 00 19.7	
	comp=Z,433nm,0.4s						
TCA				⇓*e*S	**Sn**	**18

AROD	Rodeo	3.45	281	*i* P		Pn	18 00 41.4 -3.6
AHML	Horco Molle	4.10	3	*i* P		Pn	18 00 53.3 +0.4
GO04	Tololo Observa	4.57	278	*i* P		Pn	18 01 00.5 +1.5
GO04	Tololo Observa	4.57	278			Pn	18 01 00.5 +1.5
FSA	Cafayete	4.78	356	*i* P		Pn	18 01 03.4 +1.7
PEL	Peldehue	4.89	241	*i* P		Pn	18 01 03.6 +0.8
PEL	Peldehue	4.89	241			Pn	18 01 02.8 0.0
ROC1	El Roble	5.08	244			Pn	18 01 04.7 -0.7
ROC1				Sn		Sn	18 02 04.1 -0.6
GO03	Copiap	5.24	308			Pn	18 01 07.7 +0.3
COIS	El Sosneado	5.39	218	*i* P		Pn	18 01 09.4 +0.1
AZAP	Zapla	6.66	4	*i* P		Pn	18 01 27.2 +1.1
GO02	Mina Guanaco	6.72	327			Pn	18 01 28.3 +1.3
GO05	Huala	6.74	231	Pn		Pn	18 01 24.2 -2.7
GO05				Sn		Sn	18 02 39.7 -3.7
TRQA	Tornquist	7.73	158	*i* P		Pn	18 01 39.5 -0.3
TRQA	Tornquist	7.73	158	Pn		Pn	18 01 37.7 -2.1
CPUP	Villa Florida	8.55	60	P		Pn	18 01 48.6 -2.0
	comp=Z,1.4nm,0.3s,baz=238,slow=11,SNR=22						
CPUP	Villa Florida	8.55	60			Pn	18 01 48.1 -2.5
LVC	Limon Verde	8.77	339	P		Pn	18 01 54.7 +0.8
	comp=Z,0.8nm,0.3s,baz=164,slow=3.1,SNR=4.0						
LVC				S		Sn	18 03 31.0 -1.4
	comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=3.3						
LVC	Limon Verde	8.77	339	Pn		Pn	18 01 51.9 -2.0
LVC				Sn		Sn	18 03 29.5 -2.9
GO06	Curarrehue	9.92	207	Pn		Pn	18 02 06.8 -1.7
PLCA	Paso Flores	10.62	201	Pn		Pn	18 02 14.9 -2.5
GO01	Chusmiza	11.65	343	Pn		Pn	18 02 31.2 -0.1
PB11	IPOC Station P	11.68	341	Pn		Pn	18 02 30.2 -1.2
MNMC	Minye Minye	12.27	342	P		P	18 02 42.1 -1.5
CNLB	Canela	12.84	87	*e*P		Pn	18 02 46.6 +0.7
CNLB	Canela	12.84	87	*e*P		Pn	18 02 46.6 +0.7
PTGB	Pitanga	13.44	66	*e*P		Pn	18 02 53.8 +0.3
PTGB	Pitanga	13.44	66	*e*P		Pn	18 02 53.8 +0.3
AQDB	Aquidauana	13.66	43	*e*P		Pn	18 02 55.7 -0.5
AQDB	Aquidauana	13.66	43	*e*P		Pn	18 02 55.7 -0.5
TRCB	Terra Rica	14.07	58	*e*P		Pn	18 03 00.6 -0.9
TRCB	Terra Rica	14.07	58	*e*P		Pn	18 03 00.6 -0.9
LPAZ	La Paz	14.73	350	P		P	18 03 11.2 -0.1
	comp=Z,2.8nm,0.3s,baz=177,slow=5.4,SNR=37						
LPAZ	La Paz	14.73	350	P		Pn	18 03 10.7 +0.6
SIV	San Ignacio	15.39	16	P		Pn	18 03 16.3 -1.4
	comp=Z,0.5nm,0.3s,baz=216,slow=7.3,SNR=7.2						
PCMB	Pacaembu	15.80	58	*e*P		P	18 03 22.0 -0.6
PCMB	Pacaembu	15.80	58	*e*P		P	18 03 22.0 -0.6
FRTB	Fartura	16.10	66	*e*P		P	18 03 25.4 -0.5
FRTB	Fartura	16.10	66	*e*P		P	18 03 25.4 -0.5
SALV	Santo Antonio	17.44	33	*e*P		P	18 03 40.5 -0.1
SALV	Santo Antonio	17.44	33	*e*P		P	18 03 40.5 -0.1
ITRB	Iturama	17.68	54	*e*P		P	18 03 43.5 +0.3
ITRB	Iturama	17.68	54	*e*P		P	18 03 43.5 +0.3
SPB	Sao Paulo	17.68	70	*e*P		P	18 03 42.7 -0.4
SPB	Sao Paulo	17.68	70	*e*P		P	18 03 42.7 -0.4
BB19B	Bebedouro	18.16	61	*e*P		P	18 03 47.5 -0.9
BB19B	Bebedouro	18.16	61	*e*P		P	18 03 47.5 -0.9
RCLB	Rio Claro- Sao	18.18	67	*e*P		P	18 03 48.6 0.0
RCLB	Rio Claro- Sao	18.18	67	*e*P		P	18 03 48.6 0.0
VAO	Valinhos	18.34	69	*e*P		P	18 03 50.5 +0.1
VAO	Valinhos	18.34	69	*e*P		P	18 03 50.5 +0.1
ARAG	Araguaiana, MT	19.67	43	*e*P		P	18 04 04.8 0.0
ARAG	Araguaiana, MT	19.67	43	*e*P		P	18 04 04.8 0.0
ESAR	Angra dos Reis	20.38	72	*e*P		P	18 04 13.1 +0.8
ESAR	Angra dos Reis	20.38	72	*e*P		P	18 04 13.1 +0.8
PMNB	Patos De Minas	21.25	59	*e*P		P	18 04 20.3 -1.4
PMNB	Patos De Minas	21.25	59	*e*P		P	18 04 20.3 -1.4
SAML	Samuel	21.95	6	P		P	18 04 29.5 +0.8
SAML	Samuel	21.95	6	*e*P		P	18 04 30.3 +1.6
BDFB	Brasilia	22.10	51	P		P	18 04 28.5 -1.9
	comp=Z,5.8nm,0.5s,baz=237,slow=8.9,SNR=9.3						
BDFB	Brasilia	22.10	51	P		P	18 04 28.4 -1.9
BDFB				IAmb		IAmb	18 04 29.0
	comp=Z,8.4nm,0.6s						
MLPR	Magueyes Islan	48.60	358	P		P	18 08 13.7 -0.9
CRPR	Cabo Rojo, PR	48.64	358	P		P	18 08 14.1 -0.7
SNAA	Sanae	52.46	159	P		P	18 08 43.7 +0.7
	comp=Z,0.9nm,0.6s,baz=319,slow=20,SNR=4.7						
SNAA	Sanae	52.46	159	P		P	18 08 43.9 +0.9
TEIG	Tepich	55.31	334	P		P	18 09 04.7 +0.6
061Z	Ochoppi	58.32	344	P		P	18 09 25.8 +0.7
QSPA	South Pole Qui	59.34	180	P		P	18 09 33.1 +1.2
QSPA				IAmb		IAmb	18 09 44.5
	comp=Z,11nm,1.5s						
Z50A	Ashland	66.64	341	P		P	18 10 20.4 +0.3
W57A	Gilead	67.08	347	P		P	18 10 23.6 +0.7
W57A				IAmb		IAmb	18 10 24.6
	comp=Z,11nm,0.9s						
PLAL	Pickwick Lake	68.87	340	P		P	18 10 34.1 +0.1
PLAL				IAmb		IAmb	18 10 49.1
	comp=Z,14nm,1.4s						
DBIC	Dimbokro	68.97	68	P		P	18 10 33.7 -1.5
	comp=Z,1.7nm,0.5s,baz=210,slow=10,SNR=3.8						
DBIC	Dimbokro	68.97	68	P		P	18 10 34.1 -1.1
DBIC				IAmb		IAmb	18 10 48.5
	comp=Z,8.3nm,1.2s						
TXAR	Lajitas Array	70.02	325	P		P	18 10 42.3 +1.0
	comp=Z,0.8nm,0.4s,baz=154,slow=7.8,SNR=15						
TXAR	Lajitas Array	70.02	325	P		P	18 10 42.4 +1.1
TX32	Lajitas Array	70.02	325	P		P	18 10 42.4 +1.1
T49A	Edmonton	70.18	343	P		P	18 10 41.8 -0.2
LCAR	Lake Charles	70.81	338	P		P	18 10 46.2 +0.4
LCAR				IAmb		IAmb	18 10 47.4
	comp=Z,4.3nm,0.7s						
W39A	Magazine	70.90	336	P		P	18 10 47.7 +1.3
W39A				IAmb		IAmb	18 10 47.9
	comp=Z,5.0nm,0.7s						
PBMO	Poplar Bluff	71.24	339	P		P	18 10 48.7 +0.3
PBMO				IAmb		IAmb	18 10 49.6
	comp=Z,14nm,1.2s						
CCM	Cathedral Cave	72.66	339	P		P	18 10 57.2 +0.4
CCM				IAmb		IAmb	18 10 57.8
	comp=Z,10nm,1.3s						
121A	Cookes Peak, D	74.67	324	P		P	18 11 09.9 +1.0
121A				IAmb		IAmb	18 11 12.1
	comp=Z,6.4nm,1.1s						
ANMO	Albuquerque	75.96	326	P		P	18 11 17.8 +1.6
ANMO				IAmb		IAmb	18 11 18.2
	comp=Z,2.5nm,0.6s						
TOA0	Torodi Ar. Sit	77.98	67	P		P	18 11 27.3 -0.4
TORD	Torodi Ar. Bea	77.98	67	P		P	18 11 26.8 -0.9
	comp=Z,2.1nm,0.6s,baz=269,slow=5.7,SNR=15						
TORD	Torodi Ar. Bea	77.98	67	P		P	18 11 26.5 -1.2
X16A	Lo Mia Camp, P	78.03	323	P		P	18 11 29.6 +1.9
X16A				IAmb		IAmb	18 11 30.5
	comp=Z,4.9nm,0.8s						
ECSD	EROS Data Cent	79.52	338	P		P	18 11 35.5 +0.1
ECSD				IAmb		IAmb	18 11 36.5
	comp=Z,4.1nm,0.8s						
SRU	San Rafael Swe	81.24	326	P		P	18 11 46.0 +1.1
CCUT	Cedar City	81.44	323	P		P	18 11 47.6 +1.5
R11A	Troy Canyon, C	83.19	323	P		P	18 11 56.4 +1.3
PD31	Pinedale Array	83.70	329	P		P	18 11 58.1 +0.5
PDAR	Pinedale Array	83.70	329	P		P	18 11 58.5 +0.8
	comp=Z,1.0nm,0.5s,baz=123,slow=7.3,SNR=11						
PDAR	Pinedale Array	83.70	329	P		P	18 11 57.6 -0.1
NVAR	Mina Array Bea	84.69	321	P		P	18 12 04.3 +1.6
	comp=Z,0.5nm,0.7s,baz=134,slow=4.2,SNR=3.6						
NVAR	Mina Array Bea	84.69	321	P		P	18 12 04.2 +1.5
ULM	Lac du Bonnet	85.14	341	P		P	18 12 05.1 +0.8
	comp=Z,4.1nm,0.8s,baz=163,slow=8.2,SNR=4.3						
ULM	Lac du Bonnet	85.14	341	P		P	18 12 05.4 +1.1
ULM				IAmb		IAmb	18 12 23.1
	comp=Z,18nm,1.6s						
YMP	Mirror Lake Pl	85.53	330	P		P	18 12 08.8 +1.9
YHH	Holmes Hill	85.87	330	P		P	18 12 10.1 +1.6
MCMT	McKenzie Canyo	86.79	328	P		P	18 12 14.6 +1.7
ASAR	Alice Springs	122.63	201	PKP		PKPdf	18 18 23.1 -0.6
	comp=Z,0.5nm,0.4s,baz=146,slow=1.7,SNR=18						
ASAR	Alice Springs	122.63	201			PKPdf	18 18 23.1 -0.5
WRA	Warramunga Arr	125.96	203	PKP		PKPdf	18 18 29.8 -0.3
	comp=Z,1.1nm,0.4s,baz=166,slow=1.7,SNR=38						
WRA	Warramunga Arr	125.96	203			PKPdf	18 18 29.9 -0.1
NRN	Naryn	147.47	60			PKPbc	18 19 12.0 0.0
KSH	Kashi	147.62	64	PKPbc		PKPbc	18 19 10.9 -1.3
KSH				pPKP		pPKPdf	18 19 52.1 -6.7
KSH				PP		PP	18 22 41.1 +0.3
KSH				PKS		PKSdf	18 22 44.6 +0.2
ZAA0	Zalesovo Array	148.63	34			PKPbc	18 19 13.9 -0.2
ZALV	Zalesovo Beam	148.63	34	PKPbc		PKiKP	18 19 15.0 -0.4
	comp=Z,2.7nm,0.5s,baz=302,slow=3.5,SNR=15						
ZALV	Zalesovo Beam	148.63	34			PKPbc	18 19 14.5 +0.4
MKAR	Makanchi Array	150.61	48	PKPbc		PKiKP	18 19 19.8 -0.1
	comp=Z,1.2nm,0.6s,baz=271,slow=4.1,SNR=11						
MKAR	Makanchi Array	150.61	48			PKPbc	18 19 19.6 +0.3
WMQ	Urumqi	155.26	51	*e*P		PKPdf	18 19 19.8 -0.7
MJAR	Matsushiro Arr	159.46	292	PKPab		PKPab	18 20 05.6 +0.6
	comp=Z,0.2nm,0.5s,baz=74,slow=3.4,SNR=4.5						
LZH	Lanzhou	169.76	57	‖PKP		PKPdf	18 19 33.0 -2.1
LZH				pPKP		pPKPdf	18 20 19.5 -5.5
LZH				sPKP			18 20 39.3
LZH				PKP		PKPab	18 20 52.4 +1.9

WEL 16 18:02:36.2,41°S±2°×17°4E±°,h44km±3km,M3.5/23, ML3.8/12,MLv3.5/23,Error ellipse: s-maj=0.0km s-min=0.0km az=122.5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	Tory Channel	0.14	55	P	Pn	18 02 44.3	+0.8
TCW				S	Sn	18 02 49.5	+0.8
TUWZ	Tuamarina	0.19	224	P	Pn	18 02 44.2	+0.5
TUWZ				S	Sn	18 02 49.4	+0.2
BSWZ	Blackbirch Sta	0.46	203	P	Pn	18 02 47.0	+0.5
BSWZ				S	Sn	18 02 54.5	+0.6
DUWZ	D'Urville Isla	0.51	343	P	Pn	18 02 47.6	+0.3
DUWZ				S	Sn	18 02 55.5	+0.3
NNZ	Nelson	0.56	278	P	Pn	18 02 47.9	+0.1
BHW	Baring Head	0.58	102	P	Pn	18 02 49.0	+0.9
BHW				S	Sn	18 02 58.4	+1.8
KIW	Kapiti Island	0.74	54	P	Pn	18 02 51.4	+1.2
CAW	Cannon Point	0.74	76	P	Pn	18 02 51.3	+1.1
MSWZ	Moikau Station	0.86	99	P	Pn	18 02 52.3	+0.4
PLWZ	Palliser	0.90	108	P	Pn	18 02 52.7	+0.3
PLWZ				S	Sn	18 03 04.9	+0.6
OGWZ	Otaki Gorge	0.93	59	P	Pn	18 02 53.9	+1.1
PAWZ	Paruwai Farm	0.99	96	P	Pn	18 02 53.9	+0.2
THZ	Tophouse	1.02	242	P	Pn	18 02 54.1	-0.1
MTW	Mount Morrison	1.05	83	P	Pn	18 02 54.7	+0.2
HOWZ	Holdsworth Sta	1.13	70	P	Pn	18 02 55.8	+0.3
TRWZ	Traveller	1.19	96	P	Pn	18 02 56.7	+0.3
KHZ	Kahutara	1.20	201	P	Pn	18 02 56.9	+0.4
MRZ	Mangatainoka R	1.27	61	P	Pn	18 02 57.9	+0.4
QRZ	Quartz Range	1.29	291	P	Pn	18 02 58.9	+1.2
TMWZ	Te Maipa	1.35	83	P	Pn	18 02 58.5	-0.1
OHWZ	Ohakea	1.42	40	P	Pn	18 03 01.2	+1.7
TIWZ	Tintock	1.43	69	P	Pn	18 02 59.7	0.0
POWZ	Post Office Ro	1.54	55	P	Pn	18 03 01.4	+0.2
PRWZ	Pori Road	1.59	63	P	Pn	18 03 01.9	+0.1
CPWZ	Castlepoint	1.62	77	P	Pn	18 03 02.6	+0.4
WAZ	Wanganui	1.67	24	P	Pn	18 03 05.4	+2.4
BFZ	Birch Farm	1.72	70	P	Pn	18 03 03.1	-0.6
DSZ	Denniston Nort	1.79	255	P	Pn	18 03 05.8	+1.1
DVHZ	Dannevirke	1.84	58	P	Pn	18 03 04.9	-0.5
GVZ	Greta Valley S	1.86	205	P	Pn	18 03 05.3	-0.2
TSZ	Takapari Road	1.87	49	P	Pn	18 03 05.8	+0.1
KHEZ	Kahui Hut	2.00	358	P	Pn	18 03 10.0	+2.5
LTZ	Lake Taylor	2.03	222	P	Pn	18 03 07.9	0.0
NBEZ	Newall Road No	2.03	355	P	Pn	18 03 10.3	+2.4
PNHZ	Pukenui	2.10	50	P	Pn	18 03 08.2	-0.7
DREZ	Durham Road	2.10	2	P	Pn	18 03 11.5	+2.7
WPHZ	Waipukurau	2.15	56	P	Pn	18 03 09.7	-0.2
MTVZ	Mangateitei	2.17	29	P	Pn	18 03 11.3	+1.5
PRHZ	Porangahau	2.17	63	P	Pn	18 03 08.9	-0.8
AMCZ	Amberley	2.17	210	P	Pn	18 03 09.0	-0.8
PKVZ	Pokaka	2.21	26	P	Pn	18 03 11.9	+1.5
VRZ	Vera Road	2.22	13	P	Pn	18 03 13.1	+2.6
MOVZ	Moawhango	2.26	34	P	Pn	18 03 11.7	+0.6
TRVZ	Turoa	2.27	29	P	Pn	18 03 12.8	+1.4
DRZ	Dome Shelter	2.30	29	P	Pn	18 03 13.5	+1.7
WHVZ	Whangaehu Hut	2.30	30	P	Pn	18 03 13.3	+1.5
FWVZ	Far West T-bar	2.31	29	P	Pn	18 03 13.3	+1.3
BHHZ	Black Hill Sta	2.33	40	P	Pn	18 03 12.5	+0.4
TUVZ	Tukino	2.34	31	P	Pn	18 03 13.6	+1.4
KRHZ	Kereru	2.38	47	P	Pn	18 03 12.2	-0.5
NGZ	Ngauruhoe	2.40	29	P	Pn	18 03 14.5	+1.4
TWVZ	Taurewa	2.44	25	P	Pn	18 03 15.0	+1.4
WTVZ	West Tongariro	2.45	28	P	Pn	18 03 15.1	+1.3
INZ	Inchbonnie	2.45	233	P	Pn	18 03 13.8	+0.2
KRVZ	Karewarewa	2.49	28	P	Pn	18 03 15.5	+1.3
CRLZ	Canterbury Las	2.53	205	P	Pn	18 03 14.0	-0.8
OXZ	Oxford	2.55	217	P	Pn	18 03 13.7	-1.3
OKCZ	Okains Bay	2.55	198	P	Pn	18 03 13.7	-1.3
KAHZ	Kahuranaki	2.58	55	P	Pn	18 03 14.9	-0.6
KATZ	Kakaramea	2.61	28	P	Pn	18 03 17.6	+1.6
MQZ	McQueen's Vall	2.64	204	P	Pn	18 03 14.2	-2.1
AKCZ	Akaroa Harbour	2.73	199	P	Pn	18 03 15.9	-1.6
RATZ	Rangitukua	2.74	28	P	Pn	18 03 20.2	+2.6
BKZ	Black Stump Fm	2.80	41	P	Pn	18 03 17.8	-0.6
HIZ	Hauiti	2.83	12	P	Pn	18 03 21.1	+2.2
NMHZ	Naumai	3.01	44	P	Pn	18 03 20.8	-0.6
NMHZ				P		18 03 20.9	
WVZ	Waitaha Valley	3.08	234	P	Pn	18 03 22.7	+0.5
MTHZ	Maungataniwha	3.21	41	P	Pn	18 03 23.5	-0.6
RPZ	Rata Peaks	3.31	222	P	Pn	18 03 25.4	-0.1
RTZ	Ruatahuna	3.46	40	P	Pn	18 03 26.6	-1.1
MUGZ	Murupara	3.48	37	P	Pn	18 03 26.5	-1.2
KNZ	Kokohu	3.54	51	P	Pn	18 03 26.9	-1.7
MHGZ	Mahia Peninsul	3.60	55	P	Pn	18 03 27.4	-2.0
TOZ	Tahuroa Road	3.71	17	P	Pn	18 03 32.3	+1.3
RAGZ	Rawiri	3.77	43	P	Pn	18 03 30.3	-1.6
URZ	Urewera	3.81	38	P	Pn	18 03 30.3	-1.9
FOZ	Fox Glacier	3.89	233	P	Pn	18 03 33.4	0.0
MWZ	Matawai	3.95	43	P	Pn	18 03 32.4	-1.9
LBZ	Lake Benmore	4.23	222	P	Pn	18 03 38.1	0.0
KBAZ	Karaka Road Bo	4.24	8	P	Pn	18 03 40.9	+2.8
AWAZ	Awhitu Peninsu	4.24	6	P	Pn	18 03 40.4	+2.1
MKAZ	Moumakai	4.26	11	P	Pn	18 03 39.9	+1.4
ETAZ	East Tamaki Re	4.38	9	P	Pn	18 03 42.1	+1.9
HAZ	Te Kaha	4.53	40	P	Pn	18 03 40.9	-1.2
ODZ	Otahua Downs	4.53	213	P	Pn	18 03 39.9	-2.3
MBAZ	Motutapu North	4.56	8	P	Pn	18 03 44.8	+2.2
WIAZ	Waiheke Island	4.56	10	P	Pn	18 03 44.5	+1.8
PKGZ	Pakihiroa	4.57	43	P	Pn	18 03 41.2	-1.6
KUZ	Kuaotunu	4.71	16	P	Pn	18 03 45.7	+1.1
WMGZ	Waiomatatini S	4.80	45	P	Pn	18 03 44.9	-1.0
JCZ	Jackson Bay	4.81	233	P	Pn	18 03 45.6	-0.6
CTZ	Chatham Island	7.27	113	P	Pn	18 04 18.7	-1.0

*IDC **16** 18:09:33.1±1.3,0°.05S×122°.84E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/25,mbtmp3.5/4,Error ellipse: s-maj=139.2km s-min=21.3km az=65.0*
*ISCJB **16** 18:09:43.4±0.4,0°.20S±0°.04×122°.86E±0°.05,h100km, Error ellipse: s-maj=7.0km s-min=5.9km az=10.8*
*DJA **16** 18:09:45.1±0.3,0°S±2°×12°3E±°,h77km±7km,M4.0/11, mb4.1/1,MLv3.9/11*

ISC 16 18:09:44.1±0.8,0°24S±0°.05×122°.93E±0°.05,h100km,n24, σ1§26/29,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.81	191	P	Pn	18 10 02.5	-0.1
LUWI				S	Sn	18 10 15.9	-0.6
MRSI	Marisa	1.22	306	P	Pn	18 10 06.1	-0.9
MRSI				S	Sn	18 10 21.9	-2.4
KMSI	Cibinong	1.32	52	P	Pn	18 10 10.0	+1.8
APSI	Ampana	1.45	242	P	Pn	18 10 09.7	0.0
MPSI	Mapaga	3.09	281	P	Pn	18 10 31.5	+0.5
SANI	Sanana	3.55	121	P	Pn	18 10 36.1	-1.0
SANI				S	Sn	18 11 14.1	-4.1
TTSI	Tana Toraja	4.18	228	P	Pn	18 10 46.6	+0.9
TTSI				S	Sn	18 11 32.8	-0.7
TNTI	Ternate	4.55	77	P	Pn	18 10 52.6	+1.9
SPSI	Sidrap Palu	4.87	220	P	Pn	18 10 56.3	+1.3
SPSI				S	Sn	18 11 50.5	+0.3
WRA	Warramunga Arr	22.55	151	P	P	18 14 36.9	+0.9
	0.4nm,0.6s,baz=331,slow=10,SNR=8.4						
ASAR	Alice Springs	25.61	156	P	P	18 15 06.2	+1.9
	0.2nm,0.5s,baz=342,slow=15,SNR=8.6						
ODAN	Odate	43.53	311	*e*P	P	18 17 37.6	-0.7
TAPN	Taplejung	43.55	312	*e*P	P	18 17 39.0	+0.4
RAMN	Ramite	44.17	311	*e*P	P	18 17 42.9	-0.6
JIRN	Jiri	44.86	311	*e*P	P	18 17 49.4	+0.3
GUN	Gumba	45.22	311	*e*P	P	18 17 52.1	+0.2
PKI	Pulchoki	45.40	311	*e*P	P	18 17 53.5	+0.2
PKIN	Phulchoki	45.41	311	*e*P	P	18 17 53.4	0.0
KKN	Kakani	45.61	311	*e*P	P	18 17 55.3	+0.4
GKN	Gorkha	46.21	311	*e*P	P	18 17 59.8	+0.3
KOLN	Koldanda	46.88	310	*e*P	P	18 18 04.4	-0.4
DANN	Dangsing	47.05	310	*e*P	P	18 18 06.4	+0.2
SONM	Songino Array	50.00	346	P	P	18 18 28.1	-0.2
	0.5nm,0.8s,baz=167,slow=7.3,SNR=6.0						
MKAR	Makanchi Array	58.78	328	P	P	18 19 31.5	-0.3
	0.4nm,0.4s,baz=125,slow=8.8,SNR=5.5						

*IDC **16** 18:45:25.7±1.2,24°.34S×176°.70W,h0km,mb4.2/6, mb1 4.5/7,mb1mx4.1/28,mbtmp4.4/7,ML5.3/1,Error ellipse: s-maj=46.2km s-min=23.7km az=148.0*
*ISCJB **16** 18:45:30.8±0.6,24°.67S±0°.07×176°.73W±0°.10,h43km, mb4.6/9,MS4.6/2,Error ellipse: s-maj=13.1km s-min=9.1km az=18.8*
*NEIC **16** 18:45:33.0±2.7,24°.78S±0°.09×176°.3W±0°.2,h70km±10km, mb4.6/22*

ISC 16 18:45:32.1±0.6,24°.54S±0°.08×176°.6W±0°.1,h43km,n49, σ2§08/54,mb4.6/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.83	193	Pn	Pn	18 46 42.5	+0.2
NIUE	Niue	8.27	50	Pn	Pn	18 47 31.7	+2.1
MSVF	Nonsavu	8.40	323	Pn	Pn	18 47 38.8	+7.4
AFI	Afiamalu	11.53	24	Pn	Pn	18 48 11.6	-2.7
	21nm,0.3s,baz=323,slow=2.1,SNR=21						
AFI				Sn	Sn	18 50 07.7	-14
	10nm,0.3s,baz=57,slow=21,SNR=5.3						
AFI	Afiamalu	11.53	24		Pn	18 48 11.9	-2.4
DZM	Mont Dzumac	15.74	276	Pn	P	18 49 18.9	+4.5
	0.4nm,0.3s,baz=137,slow=24,SNR=10						
DZM	Mont Dzumac	15.74	276	P	P	18 49 17.4	+3.0
BFZ	Birch Farm	17.16	199	P	Pn	18 49 28.3	-0.4
BFZ				IAmb	IAmb	18 49 46.8	
	comp=Z,94nm,1.8s						
TUWZ	Tuamarina	18.58	203	P	P	18 49 43.2	-2.4
QRZ	Quartz Range	18.60	207	P	Pn	18 49 46.3	0.0
QRZ				IAmb	IAmb	18 49 47.2	
	comp=Z,45nm,1.4s						
THZ	Tophouse	19.25	204		P	18 49 50.0	-3.0
THZ				IAmb	IAmb	18 50 04.9	
	comp=Z,78nm,1.9s						
THZ					S	18 53 16.3	-12
KHZ	Kahutara	19.59	202	P	P	18 49 55.6	-1.1
LTZ	Lake Taylor	20.37	204	P	P	18 50 01.2	-3.9
LTZ				IAmb	IAmb	18 50 05.5	
	comp=Z,54nm,1.7s						
OXZ	Oxford	20.92	204	P	P	18 50 06.8	-4.2
OXZ				IAmb	IAmb	18 50 15.0	
	comp=Z,76nm,1.7s						
RPZ	Rata Peaks	21.62	205	P	P	18 50 14.5	-4.1
RPZ				IAmb	IAmb	18 50 31.6	
	comp=Z,36nm,1.7s						
FOZ	Fox Glacier	21.97	207	P	P	18 50 19.4	-2.8
FOZ				IAmb	IAmb	18 50 32.0	
	comp=Z,42nm,1.6s						
LHI	Lord Howe Isla	22.52	247	P	P	18 50 27.4	-1.0
ARMA	Armidale	28.70	251	P	P	18 51 27.3	+1.8
ARMA				IAmb	IAmb	18 51 28.6	
	comp=Z,16nm,1.1s						
CTA	Charters Tower	34.55	270	P	P	18 52 16.9	+0.1
	comp=Z,6.8nm,0.7s,baz=98,slow=12,SNR=11						
CTAO	Charters Tower	34.55	270	P	P	18 52 17.2	+0.3
CTAO				IAmb	IAmb	18 52 36.1	
	comp=Z,17nm,1.4s						
STKA	Stephens Creek	37.35	249	P	P	18 52 41.8	+1.1
	comp=Z,3.1nm,0.7s,baz=85,slow=10.0,SNR=8.3						
STKA	Stephens Creek	37.35	249	P	P	18 52 41.2	+0.6
BBOO	Buckleboo	42.03	248	P	P	18 53 19.4

comp=N,781nm,0.6s
ROC1 El Roble 2.66 31 *i* P **Pn 18 58 58.2 +0.5**
ROCH El Roble 2.67 31 *eP* **Pn 18 58 58.2 +0.4**
ROCH IAML 18 59 47.6
comp=N,351nm,0.4s
PEL Peldehue 2.68 38 *eP* **Pn 18 58 58.3 +0.5**
PEL *i* P **Pb 18 58 59.8 -2.4**
PEL *i* S **Sn 18 59 31.0 +0.1**
FCH Farellones 2.75 46 *eP* **Pn 18 59 00.1 +1.1**
FCH *i* S **Sn 18 59 33.1 0.0**
FCH IAML 18 59 37.8
comp=N,314nm,0.1s
FCH IAML 18 59 42.1
comp=E,206nm,0.7s
FCH IAML 18 59 46.1
comp=E,209nm,0.1s
RTLS Leoncito 4.46 40 *i* P **Pn 18 59 23.8 +1.4**
RTLS IAML 19 00 44.4
comp=Z,13nm,0.9s
RTCV Cerro Valdivia 4.83 46 *i* P Pn 18 59 33.0 +5.6
RTCV IAML 19 01 05.8
comp=Z,35nm,4.6s
CFA Coronel Fontan 5.20 46 *i* P **Pn 18 59 33.0 +0.7**
RTLL Cerro Villicun 5.26 43 *i* P **Pn 18 59 34.6 +1.2**
RTLL IAML 19 01 08.3
comp=Z,14nm,0.8s
AMOG MOGNA 5.55 40 *i* P **Pn 18 59 37.3 0.0**
AMOG IAML 19 01 22.3
comp=Z,9.3nm,0.6s
ACCO Cerro Coronel 5.56 34 *i* P **Pn 18 59 38.0 +0.4**
MRA San Martin 6.43 66 *i* P **Pn 18 59 52.5 +3.1**
AGUA GUANDACOL 6.76 33 *i* P **Pn 18 59 54.4 +0.5**

SOME ***16*** *19:00:35.9, 42.°05N×81.°43E, h15km*
NNC ***16*** *19:00:37.4±2.4, 42.°06N×81.°28E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=6.9km s-min=4.7km az=164.0*
ISC 16 19:00:30.4±2.4, 41.°98N±0.°09×81.°49E±0.°06, h8km±12km, n40, σ1§65/61, 9C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 11nm,0.4s	**1.90**	**309**	P	**Pb**	**19 01 05.5**	**+0.1**
SHLS	135nm,0.4s			S	**Sn**	**19 01 26.8**	**-0.5**
SHLS	**Shalkode** 11nm,0.4s	**1.90**	**309**	*eP*	**Pb**	**19 01 05.7**	**+0.3**
SHLS	135nm,0.4s			*eS*	**Sn**	**19 01 26.8**	**-0.5**
PDGK	**Podgornoye** 24nm,0.3s	**2.00**	**313**	P	**Pg**	**19 01 10.7**	**+2.0**
PDGK	26nm,0.4s			S	**Sg**	**19 01 35.8**	**+1.3**
PDGK	**Podgornoye** 19nm,0.3s	**2.00**	**313**	⇑P	**Pg**	**19 01 10.6**	**+1.9**
PDGK	47nm,0.6s			⇑S	**Sg**	**19 01 35.2**	**+0.7**
UZB	**Uzynbulak** 27nm,0.3s	**2.16**	**303**	Pg	**Pg**	**19 01 14.2**	**+2.4**
UZB	23nm,0.2s			Lg	Lg	19 01 41.7	
UZB	**Uzynbulak** 27nm,0.3s	**2.16**	**303**	*eP*	**Pg**	**19 01 14.2**	**+2.4**
UZB	21nm,0.4s			*eS*	**Sg**	**19 01 41.7**	**+1.8**
SATY	**Saty** 27nm,0.5s	**2.52**	**296**	Pg	**Pg**	**19 01 20.6**	**+1.9**
SATY	76nm,0.6s			Lg	Lg	19 01 52.6	
SATY	**Saty** 27nm,0.5s	**2.52**	**296**	*eP*	**Pg**	**19 01 20.6**	**+1.9**
SATY	78nm,0.3s			*eS*	**Sg**	**19 01 52.9**	**+1.6**
KPKS	**Kokpek** 34nm,0.3s	**2.54**	**307**	*eP*	**Pg**	**19 01 19.8**	**+0.7**
KPKS	110nm,0.4s			*eS*	**Sg**	**19 01 51.6**	**-0.4**
DJR	**Jarkent** 8.3nm,0.3s	**2.66**	**333**	Pg	**Pg**	**19 01 23.0**	**+1.7**
DJR	30nm,0.7s			Lg	Lg	19 01 56.5	
DJR	**Jarkent** 8.3nm,0.3s	**2.66**	**333**	*eP*	**Pg**	**19 01 23.0**	**+1.7**
DJR	43nm,0.6s			*eS*	**Sg**	**19 01 56.5**	**+0.8**
KURS	**Kuram** 8.1nm,0.5s	**2.87**	**303**	Pg	**Pg**	**19 01 26.4**	**+1.0**
KURS	12nm,0.7s			Lg	Lg	19 02 02.6	
KURS	**Kuram** 8.1nm,0.5s	**2.87**	**303**	*eP*	**Pg**	**19 01 26.4**	**+1.0**
KURS	16nm,0.6s			*eS*	**Sg**	**19 02 02.6**	**0.0**
MDOK	**Medeo** 3.4nm,0.5s	**3.48**	**291**	⇑Pg	**Pg**	**19 01 37.3**	**+0.2**
MDOK	21nm,0.7s			⇑Lg	Lg	19 02 24.0	
MDOK	**Medeo** 2.8nm,0.3s	**3.48**	**291**	Pg	**Pg**	**19 01 36.7**	**-0.4**
MDOK	19nm,0.7s			Lg	Lg	19 02 20.3	
MDOK	**Medeo** 3.1nm,0.4s	**3.48**	**291**	*eP*	**Pg**	**19 01 36.7**	**-0.4**
MDOK	19nm,0.7s			*eS*	**Sg**	**19 02 20.3**	**-2.0**
ARXS	**Arharly** 3.7nm,0.5s	**3.49**	**311**	Pg	**Pg**	**19 01 36.9**	**-0.3**
ARXS	16nm,0.4s			Lg	Lg	19 02 20.7	
ARXS	**Arharly** 3.7nm,0.5s	**3.49**	**311**	*eP*	**Pg**	**19 01 36.9**	**-0.3**
ARXS	16nm,0.4s			*eS*	**Sg**	**19 02 20.7**	**-1.6**
TNSS	**Tian-Shan** 4.3nm,0.4s	**3.52**	**289**	Pg	**Pg**	**19 01 39.0**	**+1.2**
TNSS	13nm,0.7s			Lg	Lg	19 02 24.0	
TNSS	**Tian-Shan** 4.3nm,0.4s	**3.52**	**289**	*eP*	**Pg**	**19 01 39.0**	**+1.2**
TNSS	13nm,0.7s			*eS*	**Sg**	**19 02 24.0**	**+0.6**
KAPS	**Kapalarasan** 3.5nm,0.4s	**3.65**	**336**	Pg	**Pg**	**19 01 40.4**	**+0.2**
KAPS	19nm,0.5s			Lg	Lg	19 02 26.5	
KAPS	**Kapalarasan** 3.5nm,0.4s	**3.65**	**336**	*eP*	**Pg**	**19 01 40.4**	**+0.2**
KAPS	19nm,0.5s			*eS*	**Sg**	**19 02 26.5**	**-0.9**
IZV	**Izvestkoviy** 6.8nm,0.5s	**3.75**	**288**	Pg	**Pg**	**19 01 40.7**	**-1.6**
IZV	28nm,0.5s			Lg	Lg	19 02 27.2	
IZV	**Izvestkoviy** 3.4nm,0.5s	**3.75**	**288**	*eP*	**Pg**	**19 01 42.5**	**+0.1**
IZV	28nm,0.5s			*eS*	**Sg**	**19 02 29.7**	**-1.3**
TDK	**Taldyqorghan** 25nm,0.2s	**3.76**	**324**	Pg	**Pg**	**19 01 42.1**	**-0.2**
TDK	44nm,0.5s			Lg	Lg	19 02 29.5	
TDK	**Taldyqorghan** 25nm,0.2s	**3.76**	**324**	*eP*	**Pg**	**19 01 42.1**	**-0.2**
TDK	44nm,0.5s			*eS*	**Sg**	**19 02 29.5**	**-1.5**
CHKK	**Chushkaly** 1.4nm,0.1s	**3.80**	**301**	Pg	**Pg**	**19 01 42.0**	**-1.1**
CHKK	15nm,0.4s			Lg	Lg	19 02 29.6	
CHKK	**Chushkaly** 5.6nm,0.4s	**3.80**	**301**	*eP*	**Pg**	**19 01 42.5**	**-0.6**
CHKK	15nm,0.4s			*eS*	**Sg**	**19 02 30.1**	**-2.2**
KTBS	**Karatobe** 5.9nm,0.6s	**3.93**	**298**	Pg	**Pg**	**19 01 45.4**	**-0.3**
KTBS	32nm,0.6s			Lg	Lg	19 02 35.0	
KTBS	**Karatobe** 5.9nm,0.6s	**3.93**	**298**	*eP*	**Pg**	**19 01 45.4**	**-0.3**
KTBS	22nm,0.4s			*eS*	**Sg**	**19 02 35.0**	**-1.7**
KST	**Kastek** 8.7nm,0.5s	**4.22**	**286**	Pg	**Pg**	**19 01 51.0**	**-0.2**
KST	10nm,0.6s			Lg	Lg	19 02 44.7	
KST	**Kastek** 8.7nm,0.5s	**4.22**	**286**	*eP*	**Pg**	**19 01 51.0**	**-0.2**
KST	10nm,0.6s			*eS*	**Sg**	**19 02 44.7**	**-1.2**
KUU	**Kurty** 3.4nm,0.5s	**4.23**	**299**	Pg	**Pg**	**19 01 51.4**	**-0.1**
KUU	10nm,0.5s			Lg	Lg	19 02 45.3	
KUU	**Kurty** 3.4nm,0.5s	**4.23**	**299**	*eP*	**Pg**	**19 01 51.4**	**-0.1**
KUU	9.1nm,0.3s			*eS*	**Sg**	**19 02 45.3**	**-1.0**
TKM2	**Tokmak 2** 4.5nm,0.9s	**4.46**	**284**	⇓Pg	**Pg**	**19 01 56.0**	**+0.2**
TKM2	1.2nm,0.5s			⇑Lg	Lg	19 02 55.2	
MAKZ	**Makanchi** 3.4nm,0.9s	**4.84**	**4**	⇓Pn	Pb	19 01 50.7	-4.6
MAKZ	3.6nm,0.9s			⇓Sn	**Sb**	**19 02 48.8**	**-4.8**
MAKZ	5.6nm,0.8s			⇑Lg	Lg	19 03 07.5	
MK31	**Makanchi Array** 0.3nm,0.3s,baz=188,slow=13,SNR=51	**4.84**	**7**	⇑Pn	Pb	19 01 51.3	-4.1
MK31	0.9nm,0.5s,baz=187,slow=14,SNR=3.6			⇑Pg	**Pg**	**19 02 03.4**	**+0.3**
MK31	0.6nm,0.4s,baz=158,slow=17,SNR=4.3			⇓Sn	**Sn**	**19 02 47.2**	**+7.4**
MK31	4.1nm,0.5s,baz=186,slow=30,SNR=7.1			Lg	Lg	19 03 05.3	
AAK	**Ala-Archa** 1.9nm,0.6s	**5.23**	**280**	⇓Pg	**Pg**	**19 02 11.7**	**+1.1**
AAK	5.3nm,0.8s			⇑Lg	Lg	19 03 20.3	
ZSN	**Zaisan** 6.9nm,1.2s	**5.97**	**23**	Pg	**Pg**	**19 02 24.1**	**-0.7**
ZSN	8.1nm,1.4s			Lg	Lg	19 03 41.5	
ZSN	**Zaisan** 6.9nm,1.2s	**5.97**	**23**	*eP*	**Pg**	**19 02 24.1**	**-0.7**
ZSN	8.1nm,1.4s			*eS*	**Sg**	**19 03 41.5**	**-0.6**

IDC ***16*** *19:05:17.2±1.5, 34.°84N×138.°26E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/50, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/42, Error ellipse: s-maj=59.3km s-min=18.2km az=83.0*
ISCJB ***16*** *19:05:19.5±0.6, 35.°60N±0.°04×140.°02E±0.°05, h81km±4km, mb3.5/4, Error ellipse: s-maj=7.2km s-min=5.4km az=142.1*
JMA ***16*** *19:05:20.3±0.2, 35.°68N×140.°02E, h70km±2km, M3.0*
ISC 16 19:05:20.5±0.9, 35.°61N±0.°04×140.°01E±0.°05, h76km±7km, n22, σ0§69/31, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.22**	**289**	S	**Sn**	**19 05 41.3**	**+1.0**
JCN	**Nagara**	**0.25**	**142**	P	**Pn**	**19 05 32.1**	**0.0**
JCN				S	**Sn**	**19 05 41.2**	**+0.6**
JSMT	**Sammumatsuo**	**0.36**	**85**	P	**Pn**	**19 05 32.3**	**-0.5**
JSMT				S	**Sn**	**19 05 42.1**	**+0.3**
JOD2	**Odawara 2**	**0.83**	**245**	P	**Pn**	**19 05 37.0**	**-0.4**
JOD2				S	**Sn**	**19 05 49.0**	**-0.9**
BSO3	**Boso 3**	**0.91**	**153**	P	**Pn**	**19 05 37.6**	**-0.4**
BSO3				*eS*	**Sn**	**19 05 51.1**	**+0.1**
JAG	**Ashikaga**	**0.93**	**331**	P	**Pn**	**19 05 37.7**	**-0.8**
JAG				S	**Sn**	**19 05 50.3**	**-1.6**
JRY	**Ryogami san**	**0.99**	**294**	P	**Pn**	**19 05 39.4**	**+0.1**
JIM2	**Oshima 3**	**1.01**	**208**	P	**Pn**	**19 05 38.7**	**-0.9**
JIM2				S	**Sn**	**19 05 52.6**	**-1.1**
JFNN	**Fujinakano**	**1.16**	**249**	P	**Pn**	**19 05 41.4**	**0.0**
JFNN				S	**Sn**	**19 05 57.1**	**+0.1**
JYN	**Shimob**	**1.20**	**265**	P	**Pn**	**19 05 41.9**	**0.0**
JYN				S	**Sn**	**19 05 57.8**	**-0.2**
BSO1	**Boso 1**	**1.24**	**140**	P	**Pn**	**19 05 41.2**	**-0.6**
JIZS	**Izushimoda**	**1.29**	**226**	P	**Pn**	**19 05 42.9**	**-0.1**
JIZS				S	**Sn**	**19 05 59.3**	**-0.5**
JKT	**Katashina**	**1.31**	**332**	P	**Pn**	**19 05 42.9**	**-0.4**
JKT				S	**Sn**	**19 05 59.2**	**-1.2**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=145,slow=14,SNR=156	**1.73**	**303**	Pn	**Pn**	**19 05 48.7**	**0.0**
MJAR	1.5nm,0.3s,baz=133,slow=14,SNR=10			Sn	**Sn**	**19 06 09.7**	**-0.5**
MAT	**Matsushiro**	**1.73**	**303**	P	**Pn**	**19 05 49.2**	**+0.4**
MAT				S	**Sn**	**19 06 10.1**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=305	**28.46**	**117**	T	T	19 40 57.5	
H11N1	**WAKE ISLAND Hy** baz=305	**28.47**	**117**	T	T	19 40 54.8	
H11N3	**WAKE ISLAND Hy** baz=305	**28.48**	**117**	T	T	19 40 57.2	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=98,slow=7.4,SNR=3.1	**42.05**	**314**	P	**P**	**19 13 05.1**	**+0.7**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=87,slow=9.6,SNR=2.2	**43.93**	**303**	P	**P**	**19 13 20.8**	**+1.1**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=360,slow=7.4,SNR=23	**55.51**	**186**	P	**P**	**19 14 47.7**	**-0.1**
WRA	comp=Z,18nm,18.9s,baz=45,slow=36			LR	LR	19 37 51.5	
ASAR	**Alice Springs** 0.1nm,0.5s,baz=7.5,slow=7.8,SNR=3.7	**59.24**	**187**	P	**P**	**19 15 13.6**	**-0.4**

NNC ***16*** *19:06:18.7±0.9, 41.°99N×81.°29E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=6.6km s-min=4.6km az=158.0*
SOME ***16*** *19:06:19.5, 42.°08N×81.°38E, h15km*
IDC ***16*** *19:06:21.8±5.3, 42.°31N×80.°99E, h0km, mb1 3.4/3, mb1mx3.2/54, mbtmp3.4/3, ML3.3/3, Error ellipse: s-maj=66.6km s-min=34.9km az=75.0*
ISC 16 19:06:23.0±1.4, 42.°21N±0.°07×81.°13E±0.°04, h10km, n55, σ1§97/84, 13C-10D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 39nm,0.3s	**1.55**	**308**	P	**Pn**	**19 06 47.1**	**-3.8**
SHLS	503nm,0.4s			S	**Sn**	**19 07 09.8**	**-1.3**
SHLS	**Shalkode** 39nm,0.3s	**1.55**	**308**	*eP*	**Pn**	**19 06 48.7**	**-2.2**
SHLS	503nm,0.4s			*eS*	**Sn**	**19 07 09.8**	**-1.3**
PDGK	**Podgornoye** 63nm,0.3s	**1.65**	**313**	⇑P	**Pg**	**19 06 53.4**	**-1.2**
PDGK	177nm,0.7s			⇓S	**Sg**	**19 07 18.7**	**+2.7**
UZB	**Uzynbulak** 96nm,0.3s	**1.82**	**302**	Pg	**Pb**	**19 06 54.8**	**-1.6**
UZB	72nm,0.2s			Lg	Lg	19 07 23.3	
UZB	**Uzynbulak** 96nm,0.3s	**1.82**	**302**	*eP*	**Pg**	**19 06 56.8**	**-1.1**
UZB	72nm,0.2s			*eS*	**Sg**	**19 07 23.3**	**+1.9**
SATY	**Saty** 75nm,0.4s	**2.18**	**294**	Pg	**Pb**	**19 07 02.7**	**0.0**
SATY	266nm,0.2s			Lg	Lg	19 07 36.9	
SATY	**Saty** 86nm,0.7s	**2.18**	**294**	*eP*	**Pg**	**19 07 04.2**	**-0.6**
SATY	333nm,0.2s			*eS*	**Sg**	**19 07 37.1**	**+4.0**
KPKS	**Kokpek** 126nm,0.3s	**2.19**	**306**	*eP*	**Pb**	**19 07 02.9**	**0.0**
KPKS	327nm,0.4s			*eS*	**Sg**	**19 07 34.3**	**+0.8**
ZHN	**Zhinishke** 27nm,0.2s	**2.21**	**297**	Pg	**Pb**	**19 07 02.7**	**-0.4**
ZHN	134nm,0.2s			Lg	Lg	19 07 36.6	
ZHN	**Zhinishke** 27nm,0.2s	**2.21**	**297**	*eP*	**Pg**	**19 07 03.8**	**-1.5**
ZHN	134nm,0.2s			*eS*	**Sg**	**19 07 36.6**	**+2.6**
DJR	**Jarkent** 32nm,0.4s	**2.33**	**336**	Pg	**Pb**	**19 07 03.9**	**-1.4**
DJR	156nm,0.6s			Lg	Lg	19 07 38.5	
DJR	**Jarkent** 29nm,0.4s	**2.33**	**336**	*eP*	**Pb**	**19 07 05.6**	**+0.3**
DJR	158nm,0.5s			*eS*	**Sg**	**19 07 38.5**	**+0.5**
KURS	**Kuram** 26nm,0.6s	**2.52**	**301**	Pg	**Pb**	**19 07 08.2**	**-0.3**
KURS	50nm,0.8s			Lg	Lg	19 07 45.9	
KURS	**Kuram** 26nm,0.6s	**2.52**	**301**	*eP*	**Pg**	**19 07 09.5**	**-1.9**
KURS	58nm,0.6s			*eS*	**Sg**	**19 07 45.9**	**+1.8**
ARXS	**Arharly** 11nm,0.3s	**3.14**	**311**	Pg	**Pb**	**19 07 19.2**	**+0.3**
ARXS	59nm,0.6s			Lg	Lg	19 08 04.6	
ARXS	**Arharly** 11nm,0.3s	**3.14**	**311**	*eP*	**Pb**	**19 07 19.9**	**+1.0**
ARXS	59nm,0.6s			*eS*	**Sg**	**19 08 04.4**	**+0.7**
MDOK	**Medeo** 8.3nm,0.5s	**3.16**	**289**	⇑Pn	**Pn**	**19 07 13.9**	**+1.0**
MDOK	44nm,0.6s			⇓Lg	Lg	19 08 05.9	
MDOK	**Medeo** 11nm,0.4s	**3.16**	**289**	Pg	**Pb**	**19 07 18.8**	**-0.5**
MDOK	65nm,0.8s			Lg	Lg	19 08 04.3	
MDOK	**Medeo** 9.7nm,0.5s	**3.16**	**289**	*eP*	**Pb**	**19 07 20.2**	**+0.9**
MDOK	65nm,0.8s			*eS*	**Sg**	**19 08 04.3**	**-0.2**
TNSS	**Tian-Shan** 12nm,0.3s	**3.20**	**286**	Pg	**Pb**	**19 07 20.4**	**+0.3**
TNSS	46nm,0.5s			Lg	Lg	19 08 07.2	
TNSS	**Tian-Shan** 12nm,0.3s	**3.20**	**286**	*eP*	**Pg**	**19 07 21.7**	**-2.6**
TNSS	46nm,0.5s			*eS*	**Sg**	**19 08 06.6**	**+0.9**
KNDC	**Almaty** 13nm,0.4s	**3.23**	**290**	⇑Pg	**Pb**	**19 07 20.9**	**+0.4**
KNDC	59nm,0.6s			⇑Lg	Lg	19 08 07.2	
AAA	**Alma-Ata** 24nm,0.1s	**3.26**	**289**	Pg	**Pb**	**19 07 20.7**	**-0.4**
AAA	38nm,0.0s			Lg	Lg	19 08 07.1	
AAA	**Alma-Ata** 24nm,0.1s	**3.26**	**289**	*eP*	**Pb**	**19 07 21.3**	**+0.2**
AAA	38nm,0.0s			*eS*	**Sg**	**19 08 07.1**	**-0.7**
KAPS	**Kapalarasan** 12nm,0.3s	**3.33**	**338**	Pg	**Pb**	**19 07 21.9**	**-0.3**
KAPS	68nm,0.4s			Lg	Lg	19 08 09.4	
KAPS	**Kapalarasan** 12nm,0.3s	**3.33**	**338**	*eP*	**Pb**	**19 07 22.8**	**+0.6**
KAPS	68nm,0.4s			*eS*	**Sg**	**19 08 09.3**	**-0.6**
TDK	**Taldyqorghan** 52nm,0.4s	**3.42**	**326**	Pg	**Pb**	**19 07 24.0**	**+0.3**
TDK	108nm,0.6s			Lg	Lg	19 08 12.9	
TDK	**Taldyqorghan** 52nm,0.4s	**3.42**	**326**	*eP*	**Pg**	**19 07 25.6**	**-2.9**
TDK	108nm,0.6s			*eS*	**Sg**	**19 08 12.9**	**0.0**
IZV	**Izvestkoviy** 23nm,0.6s	**3.44**	**285**	Pg	**Pb**	**19 07 23.3**	**-0.7**
IZV	82nm,0.5s			Lg	Lg	19 08 12.2	
IZV	**Izvestkoviy** 23nm,0.6s	**3.44**	**285**	*eP*	**Pb**	**19 07 25.5**	**+1.4**
IZV	82nm,0.5s			*eS*	**Sg**	**19 08 12.9**	**-0.5**
CHKK	**Chushkaly** 18nm,0.4s	**3.45**	**300**	Pg	**Pb**	**19 07 23.9**	**-0.3**
CHKK	44nm,0.3s			Lg	Lg	19 08 13.2	
CHKK	**Chushkaly** 18nm,0.4s	**3.45**	**300**	*eP*	**Pb**	**19 07 25.6**	**+1.4**
CHKK	44nm,0.4s			*eS*	**Sg**	**19 08 13.2**	**-0.7**
MTBS	**Maitube** 14nm,0.3s	**3.59**	**286**	Pg	**Pb**	**19 07 25.5**	**-1.1**
MTBS	30nm,0.5s			Lg	Lg	19 08 15.3	
MTBS	**Maitube** 7.1nm,0.4s	**3.59**	**286**	*eP*	**Pb**	**19 07 26.7**	**+0.1**
MTBS	30nm,0.5s			*eS*	**Sg**	**19 08 15.3**	**-2.9**
KTBS	**Karatobe** 20nm,0.7s	**3.59**	**296**	Pg	**Pb**	**19 07 27.0**	**+0.3**
KTBS	52nm,0.3s			Lg	Lg	19 08 18.1	
KTBS	**Karatobe** 20nm,0.7s	**3.59**	**296**	*eP*	**Pg**	**19 07 28.9**	**-3.0**
KTBS	52nm,0.3s			*eS*	**Sg**	**19 08 18.1**	**-0.3**
KUU	**Kurty** 11nm,0.6s	**3.89**	**297**	Pg	**Pb**	**19 07 32.9**	**+1.1**
KUU	37nm,0.4s			Lg	Lg	19 08 28.3	
KUU	**Kurty** 11nm,0.6s	**3.89**	**297**	*eP*	**Pg**	**19 07 34.8**	**-2.8**
KUU	38nm,0.6s			*eS*	**Sg**	**19 08 28.3**	**+0.2**
KST	**Kastek** 26nm,0.6s	**3.90**	**284**	Pg	**Pb**	**19 07 32.7**	**+0.6**
KST	36nm,0.7s			Lg	Lg	19 08 28.1	
KST	**Kastek** 26nm,0.6s	**3.90**	**284**	*eP*	**Pg**	**19 07 35.8**	**-2.0**
KST	36nm,0.7s			*eS*	**Sg**	**19 08 29.9**	**+1.5**
DGS	**Degeres** 10nm,0.4s	**4.08**	**286**	Pg	**Pb**	**19 07 35.5**	**+0.5**
DGS	25nm,0.5s			Lg	Lg	19 08 33.2	
DGS	**Degeres** 10nm,0.4s	**4.08**	**286**	*eP*	**Pg**	**19 07 37.5**	**-3.7**
DGS	37nm,0.4s			*eS*	**Sg**	**19 08 33.2**	**-0.9**
TKM2	**Tokmak 2** 4.3nm,0.6s	**4.15**	**282**	⇓Pn	**Pn**	**19 07 27.1**	**+0.5**
TKM2	7.4nm,0.5s			⇑Pg	**Pg**	**19 07 38.5**	**-4.0**
TKM2	12nm,0.5s			⇑Lg	Lg	19 08 36.6	
MAKZ	**Makanchi** 5.9nm,0.5s	**4.63**	**7**	⇑Pn	**Pn**	**19 07 33.5**	**+0.4**
MAKZ	4.2nm,0.5s			⇑Pg	**Pb**	**19 07 46.4**	**+2.0**
MAKZ	5.6nm,0.5s			⇓Sn	**Sn**	**19 08 31.7**	**+4.7**
MAKZ	13nm,0.6s			⇑Lg	Lg	19 08 51.5	
MK31	**Makanchi Array** 1.1nm,0.2s,baz=188,slow=12,SNR=66	**4.66**	**10**	⇓Pn	**Pn**	**19 07 34.3**	**+0.9**
MK31	1.7nm,0.3s,baz=193,slow=16,SNR=2.6			⇓Pg	**Pb**	**19 07 47.2**	**+2.5**
MK31	1.9nm,0.3s,baz=14,slow=24,SNR=5.0			⇓Sn	**Sn**	**19 08 30.4**	**+3.0**
MK31	15nm,0.5s,baz=186,slow=30,SNR=7.4			⇓Lg	Lg	19 08 48.7	
MKAR	**Makanchi Array** 3.5nm,0.3s,baz=187,slow=13,SNR=59	**4.66**	**10**	Pn	**Pn**	**19 07 34.1**	**+0.7**
MKAR	2.6nm,0.3s,baz=181,slow=22,SNR=6.1			Sn	**Sn**	**19 08 29.0**	**+1.5**
MKAR	5.7nm,0.3s,baz=190,slow=33,SNR=17			Lg	Lg	19 08 47.5	
AAK	**Ala-Archa** 5.3nm,0.6s	**4.93**	**277**	⇑Pg	**Pb**	**19 07 52.1**	**+2.6**
AAK	16nm,0.8s			⇑Lg	Lg	19 09 00.9	
SGDS	**Sogindy** 6.9nm,0.6s	**4.94**	**287**	Pg	**Pb**	**19 07 51.3**	**+1.7**
SGDS	7.3nm,0.5s			Lg	Lg	19 09 00.3	
ZSN	**Zaisan** 14nm,1.8s	**5.87**	**26**	Pg	**Pb**	**19 08 05.6**	**+0.2**
ZSN	17nm,0.7s			Lg	Lg	19 09 24.7	
ZSN	**Zaisan** 5.8nm,0.5s	**5.87**	**26**	*eP*	**Pb**	**19 08 07.5**	**+2.0**
ZSN	17nm,0.7s			*eS*	**Sg**	**19 09 24.7**	**-6.7**
MRKS	**Merke** 4.3nm,0.5s	**5.87**	**278**	Pg	**Pb**	**19 08 08.8**	**+3.3**
MRKS	6.0nm,0.4s			Lg	Lg	19 09 29.9	
KK31	**Karatay Array** 1.7nm,0.6s,baz=97,slow=26,SNR=3.9	**7.88**	**280**	⇓Lg	Lg	19 10 33.9	

KURK	**Kurchatov**	**8.68**	**349**	⇑Pn	**Pn**	**19 08 28.3**	**-0.2**
	3.1nm,0.5s						
KURK				⇓Sn	**Sn**	**19 10 11.3**	**+4.8**
	4.3nm,0.9s						
KURK				⇑Lg	Lg	19 11 00.7	
	9.0nm,0.8s						
ZALV	**Zalesovo Beam**	**12.00**	**11**	Pn	**Pn**	**19 09 11.5**	**-2.5**
	0.2nm,0.3s,baz=200,slow=11,SNR=3.8						
SONM	**Songino Array**	**18.68**	**64**	P	**Pn**	**19 10 42.9**	**+1.3**
	0.1nm,0.3s,baz=254,slow=10,SNR=6.1						

IDC ***16*** *19:22:12.2±0.6,35°.24N×77°.16E,h0km,mb4.0/20, mb1 4.1/26,mb1mx4.0/48,mbtmp4.0/26,ML3.7/6,MS3.5/22, Ms1 3.5/22,ms1mx3.4/51,Error ellipse: s-maj=15.3km s-min=12.4km az=46.0*

ISCJB ***16*** *19:22:12.4±0.2,35°.33N±0°.02×77°.18E±0°.03,h10km, mb4.3/38,MS3.6/19,Error ellipse: s-maj=3.7km s-min=2.5km az=146.8*

BJI ***16*** *19:22:16.7±0.0,35°.45N×77°.22E,h24km,mb4.2/21, mB4.5/11,ML4.6/5,Ms4.1/15,Ms7 3.9/14*

MOS ***16*** *19:22:17.7±0.8,35°.38N×77°.16E,h56km,mb4.6/10,Error ellipse: s-maj=7.5km s-min=4.7km az=102.0*

NEIC ***16*** *19:22:19.7±1.4,35°.34N±0°.06×77°.11E±0°.08,h59km±7km, mb4.3/36*

NNC ***16*** *19:22:21.4±1.6,35°.71N×76°.80E,h11km±6km,mb4.8, mpv4.5,Error ellipse: s-maj=14.1km s-min=9.6km az=113.0*

ISC 16 19:22:14.8±0.3,35°.35N±0°.03×77°.16E±0°.04,h10km,n220, σ2s02/208,mb4.3/44,MS3.5/19,18C-10D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**3.17**	**193**	*e*P	Pn	19 23 10.3	+5.3
DHRM				*e*S	**Sb**	**19 23 54.5**	**+4.4**
DHRM				IAML		19 24 01.9	
	comp=E,440nm,0.6s						
DHRM				IAML		19 24 02.0	
	comp=N,276nm,0.5s						
JMU	**Jammu**	**3.22**	**216**	*e*P	**Pb**	**19 23 13.0**	**+0.9**
JMU				*e*S	**Sb**	**19 23 55.0**	**+3.5**
NIL	**Nilore**	**3.64**	**243**	P	**Pn**	**19 23 14.1**	**+2.8**
NIL						19 23 55.3	
NIL	**Nilore**	**3.64**	**243**		**Pn**	**19 23 14.1**	**+2.8**
NIL				Sn	**Sn**	**19 23 55.3**	**+1.0**
SMLA	**Simla**	**4.21**	**180**	*e*P	**Pn**	**19 23 22.2**	**+3.2**
SMLA				*e*S	**Sn**	**19 24 16.6**	**+8.5**
SMLA				AMP		19 24 31.4	
	comp=E,370nm,0.5s						
SMLA				AMP		19 24 31.5	
	comp=N,190nm,0.3s						
KSH	**Kashi**	**4.27**	**348**	Pg	Pn	19 23 24.8	+4.8
KSH				Sg	**Sb**	**19 24 17.6**	**-4.1**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=N,3μm,1.2s						
DDI	**Dehra Dun**	**5.07**	**171**	*e*P	**Pn**	**19 23 32.2**	**+1.4**
DDI				*e*S	**Sn**	**19 24 34.1**	**+4.6**
JOSI	**Joshimath**	**5.18**	**156**	*e*P	**Pn**	**19 23 36.1**	**+3.4**
JOSI				*e*S	**Sn**	**19 24 35.0**	**+2.4**
JOSI				IAML		19 24 41.6	
	comp=N,454nm,0.8s						
JOSI				IAML		19 24 44.8	
	comp=E,418nm,0.8s						
NRN	**Naryn**	**6.15**	**352**	P	**Pn**	**19 23 49.6**	**+3.7**
NRN						19 24 56.8	
NRN	**Naryn**	**6.15**	**352**		**Pn**	**19 23 49.6**	**+3.7**
NRN				Sn	**Sn**	**19 24 56.8**	**+0.3**
TARG	**Taragay, Kyrgy**	**6.39**	**4**		Pn	19 23 53.5	+4.1
GAR	**Garm**	**6.57**	**306**		**Pn**	**19 23 52.8**	**+1.2**
GAR				Sn	**Sn**	**19 25 07.7**	**+1.1**
KBL	**Kabul**	**6.71**	**265**	P	**Pn**	**19 23 55.0**	**+1.4**
KBL	**Kabul**	**6.71**	**265**	Pn	**Pn**	**19 23 55.0**	**+1.4**
KDJ	**Kajisay**	**6.78**	**0**	P	**Pn**	**19 23 57.8**	**+3.4**
KDJ	**Kajisay**	**6.78**	**0**		**Pn**	**19 23 57.8**	**+3.4**
ARSB	**Arslanbob**	**6.81**	**332**		**Pn**	**19 23 57.3**	**+2.4**
ARSB				Sn	**Sn**	**19 25 13.6**	**+1.0**
BTK	**Batken**	**6.88**	**315**	P	**Pn**	**19 23 57.0**	**+1.2**
BTK						19 25 15.9	
BTK	**Batken**	**6.88**	**315**		**Pn**	**19 23 57.0**	**+1.2**
BTK				Sn	**Sn**	**19 25 15.9**	**+1.6**
KZA	**Kyzart**	**6.89**	**348**	P	**Pn**	**19 23 59.8**	**+3.6**
	SNR=8.7						
UCH	**Uchtor**	**7.18**	**344**	P	Pn	19 24 06.1	+5.9
	SNR=19						
PRZ	**Przheval'sk**	**7.19**	**7**	P	**Pn**	**19 24 03.3**	**+3.1**
PRZ	**Przheval'sk**	**7.19**	**7**		**Pn**	**19 24 03.3**	**+3.1**
KUDL	**Kundal**	**7.20**	**185**	*e*P	Pn	19 23 53.9	-6.3
KUDL				*e*S	Sn	19 25 16.3	-5.7
CHGR	**Chuyangaron**	**7.21**	**300**		**Pn**	**19 24 00.1**	**-0.2**
CHGR				Sn	**Sn**	**19 25 22.8**	**+0.6**
AML	**Almayashu**	**7.30**	**339**	P	Pn	19 24 06.6	+4.8
	SNR=18						
AAK	**Ala-Archa**	**7.57**	**345**	⇑Pn	**Pn**	**19 24 06.8**	**+1.4**
	comp=E,24nm,1.2s						
AAK				⇑Pg	Pb	19 24 31.3	+5.0
	comp=E,40nm,0.9s						
AAK				⇑Sn	**Sn**	**19 25 29.7**	**-1.6**
	comp=E,86nm,1.1s						
AAK				⇑Lg	Lg	19 26 10.9	
	comp=E,117nm,0.9s						
AAK	**Ala-Archa**	**7.57**	**345**	*ce*P	**Pn**	**19 24 07.6**	**+2.2**
AAK				pmax	pmax		
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**7.57**	**345**	Pn	Pn	19 24 09.9	+4.5
	comp=Z,1.1nm,0.3s,baz=157,slow=11,SNR=12						
AAK				Sn	**Sn**	**19 25 36.5**	**+5.2**
	comp=Z,0.9nm,0.3s,baz=24,slow=19,SNR=3.5						
AAK				Lg	Lg	19 26 10.9	
	comp=Z,2.0nm,0.3s,baz=271,slow=12,SNR=7.5						
AAK				LR	LR	19 27 17.8	
	comp=Z,187nm,18.1s,baz=151,slow=40						
AAK	**Ala-Archa**	**7.57**	**345**		**Pn**	**19 24 08.3**	**+2.9**
AAK				Sn	**Sn**	**19 25 32.2**	**+0.9**
TKM2	**Tokmak 2**	**7.66**	**351**	⇑Pn	**Pn**	**19 24 08.2**	**+1.6**
	comp=Z,25nm,1.2s						
TKM2				⇓Pg	Pb	19 24 33.0	+5.1
	comp=Z,17nm,0.7s						
TKM2				⇓Lg	Lg	19 26 14.1	
	comp=Z,135nm,1.1s						
TKM2	**Tokmak 2**	**7.66**	**351**	P	**Pn**	**19 24 10.1**	**+3.4**
	SNR=8.3						
TNSS	**Tian-Shan**	**7.68**	**359**	Pg	**Pg**	**19 24 37.6**	**-4.3**
	comp=Z,50nm,0.9s						
TNSS				Lg	Lg	19 26 14.3	
	comp=Z,110nm,0.7s						
FRU1	**Bishkek**	**7.71**	**346**	P	Pn	19 24 11.2	+4.0
FRU1	**Bishkek**	**7.71**	**346**	Pn	Pn	19 24 11.2	+4.0
KST	**Kastek**	**7.74**	**353**	Pg	**Pg**	**19 24 38.6**	**-4.4**
	comp=Z,38nm,0.8s						
KST				Lg	Lg	19 26 16.0	
	comp=Z,103nm,1.6s						
SATY	**Saty**	**7.76**	**7**	Pg	Pg	19 24 37.0	-6.4
	comp=Z,69nm,1.0s						
SATY				Lg	Lg	19 26 13.5	
	comp=Z,245nm,1.2s						
EKS2	**Erkin-Say**	**7.76**	**341**	P	Pn	19 24 12.9	+4.9
	SNR=6.4						
MDOK	**Medeo**	**7.81**	**359**	⇓Pn	**Pn**	**19 24 10.5**	**+1.9**
	comp=Z,62nm,1.5s						
MDOK				⇑Pg	Pb	19 24 35.5	+5.2
	comp=Z,80nm,1.1s						
MDOK				Lg	Lg	19 26 20.1	
	comp=Z,330nm,1.2s						
MDOK	**Medeo**	**7.81**	**359**	Pg	Pg	19 24 38.7	-5.5
	comp=Z,43nm,0.9s						
MDOK				Lg	Lg	19 26 16.2	
	comp=Z,217nm,1.5s						
AAA	**Alma-Ata**	**7.86**	**359**	Pg	**Pg**	**19 24 41.2**	**-3.9**
	comp=Z,23nm,0.2s						
AAA				Lg	Lg	19 26 20.4	
	comp=Z,113nm,0.8s						
KNDC	**Almaty**	**7.86**	**359**	⇑Pn	**Pn**	**19 24 10.5**	**+1.2**
KNDC				⇓Pg	Pb	19 24 37.5	+6.3
KNDC				⇓Lg	Lg	19 26 20.7	
CHMS	**Chumysh**	**7.87**	**347**	P	**Pn**	**19 24 12.6**	**+3.3**
	SNR=6.2						
ZHN	**Zhinishke**	**7.87**	**7**	Pg	Pg	19 24 39.5	-6.0
	comp=Z,20nm,0.4s						
ZHN				Lg	Lg	19 26 17.2	
	comp=Z,15nm,0.5s						
UZB	**Uzynbulak**	**7.92**	**10**	Pg	**Pg**	**19 24 43.6**	**-2.9**
	comp=Z,21nm,1.2s						
UZB				Lg	Lg	19 26 24.4	
	comp=Z,55nm,0.8s						
DGS	**Degeres**	**7.96**	**353**	Pg	Pg	19 24 40.6	-6.5
	comp=Z,25nm,0.7s						
DGS				Lg	Lg	19 26 19.3	
	comp=Z,94nm,1.0s						
KURS	**Kuram**	**8.17**	**5**	Pg	Pg	19 24 45.2	-6.0
	comp=Z,38nm,1.2s						
KURS				Lg	Lg	19 26 27.2	
	comp=Z,117nm,1.1s						
PDGK	**Podgornoye**	**8.17**	**12**	Pg	Pg	19 24 44.7	-6.6
	comp=Z,15nm,0.7s						
PDGK				Lg	Lg	19 26 26.4	
	comp=Z,73nm,1.9s						
PDGK	**Podgornoye**	**8.17**	**12**	⇑Pn	**Pn**	**19 24 15.7**	**+2.1**
	comp=Z,17nm,0.6s						
PDGK				⇑Pg	Pb	19 24 43.4	+6.9
	comp=Z,40nm,0.9s						
PDGK				⇑Sn	**Sn**	**19 25 46.3**	**+0.2**
	comp=Z,50nm,0.7s						
PDGK				⇑Lg	Lg	19 26 32.1	
	comp=Z,167nm,1.0s						
SGDS	**Sogindy**	**8.33**	**347**	Pg	Pb	19 24 45.2	+6.1
	comp=Z,17nm,1.5s						
SGDS				Lg	Lg	19 26 27.2	
	comp=Z,41nm,1.3s						
KTBS	**Karatobe**	**8.36**	**358**	Pg	Pg	19 24 47.4	-7.5
	comp=Z,17nm,0.7s						
KTBS				Lg	Lg	19 26 31.1	
	comp=Z,107nm,1.1s						
CHKK	**Chushkaly**	**8.50**	**359**	Pg	Pg	19 24 50.2	-7.2
	comp=Z,13nm,1.0s						
CHKK				Lg	Lg	19 26 35.7	
	comp=Z,73nm,1.0s						
KUU	**Kurty**	**8.56**	**356**	Pg	Pg	19 24 52.0	-6.6
	comp=Z,8.9nm,0.8s						
KUU				Lg	Lg	19 26 38.9	
	comp=Z,54nm,0.8s						
TAS	**Tashkent**	**8.60**	**316**	P	**Pn**	**19 24 21.9**	**+2.6**
TAS	**Tashkent**	**8.60**	**316**	Pn	**Pn**	**19 24 21.9**	**+2.6**
ARXS	**Arharly**	**8.87**	**3**	Pg	Pg	19 24 57.3	-7.3
	comp=Z,15nm,0.8s						
ARXS				Lg	Lg	19 26 47.7	
	comp=Z,75nm,1.1s						
DANN	**Dangsing**	**8.95**	**139**	*e*P	**Pn**	**19 24 24.7**	**+0.3**
	comp=Z,53nm,0.4s						
DJR	**Jarkent**	**9.20**	**12**	Pg	Pn	19 25 06.7	+39
	comp=Z,18nm,1.0s						
DJR				Lg	Lg	19 27 03.8	
	comp=Z,30nm,1.0s						
KK31	**Karatay Array**	**9.30**	**328**	⇑Pn	**Pn**	**19 24 30.0**	**+1.0**
	comp=Z,7.2nm,0.8s,baz=141,slow=12,SNR=56						
KK31				⇓Sn	**Sn**	**19 26 10.4**	**-3.3**
	comp=Z,10nm,0.8s,baz=147,slow=11,SNR=3.7						
KK31	**Karatay Array**	**9.30**	**328**	P	**Pn**	**19 24 30.1**	**+1.1**
KK31						19 26 14.4	
KK31	**Karatay Array**	**9.30**	**328**		**Pn**	**19 24 30.1**	**+1.1**
KK31				Sn	**Sn**	**19 26 14.4**	**+0.7**
KKAR	**Karatay Array**	**9.30**	**328**	P	**Pn**	**19 24 30.0**	**+1.0**
KKAR	**Karatay Array**	**9.30**	**328**		**Pn**	**19 24 29.9**	**+1.0**
KKAR	**Karatay Array**	**9.30**	**328**		**Pn**	**19 24 30.2**	**+1.2**
KOLN	**Koldanda**	**9.34**	**142**	*e*P	**Pn**	**19 24 30.8**	**+1.2**
	comp=Z,53nm,0.7s						
GKN	**Gorkha**	**9.70**	**137**	*e*P	**Pn**	**19 24 34.1**	**-0.5**
KKN	**Kakani**	**10.23**	**135**	*e*P	**Pn**	**19 24 41.6**	**-0.3**
DMN	**Daman**	**10.27**	**137**	*e*P	**Pn**	**19 24 42.5**	**+0.1**
	comp=Z,44nm,0.5s						
PKIN	**Phulchoki**	**10.46**	**136**	*e*P	**Pn**	**19 24 44.5**	**-0.6**
	comp=Z,28nm,0.6s						
PKI	**Pulchoki**	**10.47**	**135**	*e*P	**Pn**	**19 24 44.5**	**-0.8**
	comp=Z,30nm,0.5s						
GUN	**Gumba**	**10.49**	**133**	*e*P	**Pn**	**19 24 45.9**	**+0.3**
	comp=Z,34nm,0.4s						
JIRN	**Jiri**	**10.86**	**132**	*e*P	**Pn**	**19 24 50.1**	**-0.6**
	comp=Z,52nm,0.3s						
RAMN	**Ramite**	**11.63**	**133**	*e*P	**Pn**	**19 24 59.9**	**-1.2**
WMQ	**Urumqi**	**11.73**	**41**	*e*P	**Pn**	**19 25 04.1**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				LR	LR		
	comp=Z,380nm,13.9s						
WMQ				LR	LR		
	comp=Z,450nm,19.3s						
WMQ				LR	LR		
	comp=Z,310nm,15.1s						
WMQ	**Urumqi**	**11.73**	**41**	P	**Pn**	**19 25 03.9**	**+1.7**
WMQ	**Urumqi**	**11.73**	**41**	Pn	**Pn**	**19 25 03.9**	**+1.7**
MAKZ	**Makanchi**	**12.01**	**16**	⇑Sn	**Sn**	**19 27 22.8**	**+2.7**
	comp=Z,8.3nm,1.0s						
MAKZ	**Makanchi**	**12.01**	**16**	P	**Pn**	**19 25 07.1**	**+1.1**
MAKZ	**Makanchi**	**12.01**	**16**		**Pn**	**19 25 07.1**	**+1.1**
TAPN	**Taplejung**	**12.03**	**129**	*e*P	**Pn**	**19 25 05.1**	**-1.5**
	comp=Z,32nm,0.5s						
BHPL	**Bhopal**	**12.06**	**179**	*e*P	**Pn**	**19 25 08.1**	**+1.2**
BHPL				*e*S	**Sn**	**19 27 18.1**	**-3.4**
MK31	**Makanchi Array**	**12.07**	**17**	⇓Pn	**Pn**	**19 25 09.1**	**+2.3**
	comp=Z,38nm,1.2s,baz=203,slow=13,SNR=54						
MK31				Sn	**Sn**	**19 27 22.3**	**+0.8**
	comp=Z,28nm,0.9s,baz=198,slow=22,SNR=8.2						
MK31	**Makanchi Array**	**12.07**	**17**	P	**Pn**	**19 25 08.2**	**+1.3**
MK31	**Makanchi Array**	**12.07**	**17**		**Pn**	**19 25 08.2**	**+1.3**
MKAR	**Makanchi Array**	**12.07**	**17**	Pn	**Pn**	**19 25 08.0**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=204,slow=14,SNR=32						
MKAR				Sn	**Sn**	**19 27 18.3**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=201,slow=22,SNR=8.4						
MKAR				LR	LR	19 29 32.1	
	comp=Z,32nm,18.8s,baz=182,slow=36						
MKAR	**Makanchi Array**	**12.07**	**17**		**Pn**	**19 25 08.4**	**+1.5**
ODAN	**Odare**	**12.17**	**131**	*e*P	**Pn**	**19 25 06.9**	**-1.6**
HRA	**Herat**	**12.29**	**270**	Pn	**Pn**	**19 25 10.4**	**+0.3**
LSA	**Lhasa**	**13.07**	**112**	P	**Pn**	**19 25 24.0**	**+3.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LSA	**Lhasa**	**13.07**	**112**	P	**Pn**	**19 25 21.9**	**+0.9**
LSA	**Lhasa**	**13.07**	**112**		**Pn**	**19 25 21.9**	**+0.9**
BOK	**Bokaro**	**13.78**	**144**	*e*P	Pn	19 25 25.0	-5.3
KURBB	**Kurchatov Arra**	**15.30**	**3**	Pn	**Pn**	**19 25 51.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=12,SNR=5.7						
KURBB				Lg	Lg	19 30 13.4	
	comp=Z,0.2nm,0.3s,baz=191,slow=29,SNR=5.0						
KURK	**Kurchatov**	**15.40**	**3**	*i* P	**Pn**	**19 25 49.6**	**-2.4**
KURK	**Kurchatov**	**15.40**	**3**		**Pn**	**19 25 54.0**	**+2.0**
KURK				IAmb	IAmb	19 26 05.8	
	comp=Z,12nm,0.8s						
GEYT	**Alibeck**	**15.51**	**285**	Pn	**Pn**	**19 25 50.7**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=152,slow=9.4,SNR=2.8						
GEYT				LR	LR	19 33 12.7	
	comp=Z,281nm,20.5s,baz=80,slow=42						
GEYT	**Alibeck**	**15.51**	**285**		**Pn**	**19 25 53.5**	**0.0**
GYA0B	**ALIBECK ARRAY**	**15.51**	**285**	Pn	**Pn**	**19 25 53.2**	**-0.3**
SHL	**Shillong**	**15.99**	**124**	P	**Pn**	**19 26 01.8**	**+1.8**
SHL				pmax	pmax		
	comp=Z,15nm,1.0s						
SHL	**Shillong**	**15.99**	**124**	Pn	**Pn**	**19 26 01.8**	**+1.8**
DGZ	**Jazzator, Alta**	**16.20**	**25**	*e*P	**Pn**	**19 26 00.6**	**-1.9**
HYB	**Hyderabad**	**17.90**	**176**	*i* P	**Pn**	**19 26 26.0**	**+2.0**
BVAR	**Borovoye Array**	**18.32**	**347**	Pn	**Pn**	**19 26 28.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=170,slow=10,SNR=22						
BVAR				Lg	Lg	19 31 49.4	
	comp=Z,0.1nm,0.3s,baz=145,slow=28,SNR=3.5						
BRVK	**Borovoye**	**18.37**	**347**	⇓P	**P**	**19 26 31.0**	**+1.6**
	comp=Z,14nm,0.9s						
BRVK	**Borovoye**	**18.37**	**347**	*i* P	**Pn**	**19 26 28.5**	**-0.9**
BRVK	**Borovoye**	**18.37**	**347**	P	**Pn**	**19 26 29.0**	**-0.5**
BRVK				IAmb	IAmb	19 26 33.3	
	comp=Z,14nm,0.8s						
GTA	**Gaotai**	**18.45**	**71**	⇑P	**P**	**19 26 34.1**	**+3.5**
GTA				pP	sP	19 26 38.3	+1.4
GTA				sP	pP	19 26 41.1	+6.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,210nm,7.0s						
GTA				LR	LR		
	comp=Z,170nm,14.0s						
GTA				LR	LR		
	comp=Z,170nm,12.7s						
GTA				LR	LR		
	comp=Z,300nm,12.4s						
AB31	**Akbulak array**	**18.79**	**323**	⇑P	**P**	**19 26 32.7**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=126,slow=13,SNR=41						
ABKAR	**Akbulak array**	**18.79**	**323**	P	**P**	**19 26 33.7**	**-0.5**
ABKAR	**Akbulak array**	**18.79**	**323**	P	**P**	**19 26 33.8**	**-0.4**
ABKAR				IAmb	IAmb	19 26 47.0	
	comp=Z,6.2nm,1.1s						
ZAA0	**Zalesovo Array**	**19.36**	**14**	P	**P**	**19 26 40.3**	**-0.1**
ZALV	**Zalesovo Beam**	**19.36**	**14**	P	**P**	**19 26 40.1**	**-0.3**
ZALV	**Zalesovo Beam**	**19.36**	**14**	P	**P**	**19 26 40.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=214,slow=12,SNR=8.2						
ZALV				LR	LR	19 33 36.7	
	comp=Z,39nm,18.6s,baz=310,slow=35						
ZALV	**Zalesovo Beam**	**19.36**	**14**	P	**P**	**19 26 40.1**	**-0.3**
WSAR	**Wadi Sarin**	**20.13**	**238**	P	**P**	**19 26 49.0**	**0.0**
	comp=Z,6.4nm,0.9s,baz=86,slow=8.9,SNR=7.6						
WSAR				LR	LR	19 37 03.8	
	comp=Z,32nm,18.7s,baz=54,slow=44						
AKTO	**Aktyubinsk**	**20.50**	**323**	⇓P	**P**	**19 26 52.6**	**-0.3**
	comp=Z,6.3nm,0.6s						
AKTO	**Aktyubinsk**	**20.50**	**323**	P	**P**	**19 26 52.7**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=114,slow=11,SNR=12						
AKTO				LR	LR	19 35 41.6	
	comp=Z,191nm,18.7s,baz=135,slow=39						
ZAK	**Zakamensk**	**24.17**	**44**	*e*P	**P**	**19 27 30.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARU	**Arti**	**24.59**	**335**	*d i*P	**P**	**19 27 34.9**	**0.0**
ARU				*PP	sP	19 27 52.9	+12
ARU				S	**S**	**19 31 52.7**	**-2.9**
ARU				SS	**SnSn**	**19 32 46.2**	**+5.6**
ARU				pmax	pmax		
	comp=Z,15nm,1.3s						
ARU	**Arti**	**24.59**	**335**	P	**P**	**19 27 33.9**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=157,slow=6.8,SNR=7.5						
ARU				LR	LR	19 38 56.8	
	comp=Z,211nm,19.6s,baz=186,slow=41						
ARU	**Arti**	**24.59**	**335**	P	**P**	**19 27 34.4**	**-0.5**
ARU				IAmb	IAmb	19 27 46.9	
	comp=Z,16nm,1.3s						
TLY	**Talaya**	**25.01**	**41**	LR	LR	19 39 48.7	
	comp=Z,38nm,18.1s,baz=254,slow=42						
SONM	**Songino Array**	**25.01**	**51**	P	**P**	**19 27 38.3**	**-0.6**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**25.01**	**51**	P	**P**	**19 27 39.1**	**+0.2**
	comp=Z,7.8nm,0.9s,baz=246,slow=9.5,SNR=22						
SONM				LR	LR	19 38 59.4	
	comp=Z,164nm,19.2s,baz=208,slow=40						
SONM	**Songino Array**	**25.01**	**51**	P	**P**	**19 27 38.3**	**-0.6**
CHTO	**Chiang Mai**	**25.35**	**125**	P	**P**	**19 27 41.9**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**25.35**	**125**	P	**P**	**19 27 41.9**	**-0.2**
CMMT	**Chiang Mai**	**25.36**	**125**	P	P	19 27 53.6	+11
	comp=Z,2.7nm,0.9s						
GROC	**Groznyy**	**25.41**	**297**	*e*P	**P**	**19 27 41.1**	**-1.3**
GROC				*e*PP	**sP**	**19 27 53.1**	**+4.3**
GROC				*e*SP	pP	19 28 00.6	+14
GROC				*e*		19 28 20.9	
GROC				pmax	pmax		
	comp=Z,11nm,0.4s						
ULN	**Ulaanbaatar**	**25.44**	**51**	*ce*P	**P**	**19 27 40.0**	**-2.9**
ULN				pmax	pmax		
	comp=Z,12nm,1.7s						
ULN	**Ulaanbaatar**	**25.44**	**51**	P	**P**	**19 27 41.8**	**-1.0**
ULN				IAmb	IAmb	19 27 51.8	
	comp=Z,6.8nm,0.9s						
CM31	**Chiang Mai Arr**	**25.60**	**125**	P	**P**	**19 27 43.8**	**-0.5**
CM31				IAmb	IAmb	19 27 58.1	
	comp=Z,9.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.60**	**125**	P	**P**	**19 27 43.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=310,slow=11,SNR=9.7						
CMAR				LR	LR	19 40 04.7	
	comp=Z,49nm,19.3s,baz=356,slow=42						
PAYA	**Payao**	**25.61**	**122**	P	P	19 27 56.9	+13
	comp=Z,18μm,0.8s						
GNI	**Garni**	**25.99**	**290**	*i* P	**P**	**19 27 48.3**	**+0.3**
GNI				pmax	pmax		
	comp=Z,33nm,1.1s						
GNI	**Garni**	**25.99**	**290**	P	**P**	**19 27 46.6**	**-1.3**
GNI				IAmb	IAmb	19 27 55.6	
	comp=Z,11nm,1.1s						
XAN	**Xi'an**	**26.09**	**84**	P	**P**	**19 27 48.7**	**-0.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN	**Xi'an**	**26.09**	**84**	P	**P**	**19 27 48.7**	**-0.1**
XAN				IAmb	IAmb	19 28 08.3	
	comp=Z,6.8nm,1.0s						
NANT	**Nan**	**26.56**	**122**	P	**P**	**19 27 59.7**	**+6.7**
	comp=Z,42μm,0.7s						
HHC	**Hu-ho-hao-te**	**27.51**	**68**	*e*P	**P**	**19 28 01.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**27.56**	**298**	LR	LR	19 40 32.1	
	comp=Z,211nm,18.6s,baz=68,slow=40						
KVAR	**Kislovodsk Arr**	**27.73**	**299**	LR	LR	19 40 22.8	
	comp=Z,157nm,19.8s,baz=242,slow=39						
KIV	**Kislovodsk**	**27.74**	**299**	*e*P	**P**	**19 28 03.5**	**-0.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,356nm,15.0s						
PALK	**Pallekele**	**28.13**	**173**	LR	LR	19 39 12.0	
	comp=Z,76nm,19.0s,baz=298,slow=36						
RAYN	**Ar Rayn**	**29.86**	**255**	P	**P**	**19 28 21.8**	**-0.7**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
RAYN	**Ar Rayn**	**29.86**	**255**	P	**P**	**19 28 21.8**	**-0.7**
RAYN				IAmb	IAmb	19 28 23.0	
	comp=Z,7.2nm,1.4s						
WHN	**Wuhan**	**31.45**	**88**	P	P	19 28 32.3	-4.2
**VS

TIXI				IAmb	IAmb	19 30 34.0	
	comp=Z,4.2nm,1.1s						
BRG	**Berggiesshubel**	**47.24**	**310**	*eP*	**P**	**19 30 50.6**	**+2.8**
	comp=Z,9.4nm,1.1s						
BRG	**Berggiesshubel**	**47.24**	**310**	*eP*	**P**	**19 30 50.6**	**+2.8**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GERES	**GERESS Array B**	**47.65**	**307**	P	**P**	**19 30 50.2**	**-1.0**
GERES	**GERESS Array B**	**47.65**	**307**	P	**P**	**19 30 51.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=56,slow=11,SNR=3.4						
GERES				LR	LR	19 53 06.5	
	comp=Z,171nm,21.2s,baz=84,slow=39						
GERES	**GERESS Array B**	**47.65**	**307**	P	**P**	**19 30 50.2**	**-1.0**
NC405	**NORSAR Array S**	**48.05**	**324**	P	**P**	**19 30 53.0**	**-1.0**
NB2	**NORSAR Subarra**	**48.30**	**323**	P	**P**	**19 30 54.8**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**48.30**	**323**	P	**P**	**19 30 54.8**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=92,slow=7.5,SNR=6.7						
NOA				LR	LR	19 52 21.8	
	comp=Z,136nm,19.8s,baz=290,slow=37						
MAJO	**Matsushiro**	**48.69**	**70**	P	**P**	**19 30 59.7**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,12nm,1.4s						
MAJO	**Matsushiro**	**48.69**	**70**	P	**P**	**19 30 59.7**	**+0.4**
MJAR	**Matsushiro Arr**	**48.69**	**70**	P	**P**	**19 30 58.4**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=281,slow=8.7,SNR=4.2						
LEM	**Lembang**	**50.82**	**140**	LR	LR	19 57 24.1	
	comp=Z,89nm,18.0s,baz=17,slow=42						
JHJ	**Hachijo jima 2**	**51.05**	**73**	LR	LR	19 57 48.5	
	comp=Z,120nm,19.2s,baz=192,slow=42						
KAPI	**Kappang**	**56.66**	**126**	LR	LR	19 59 23.1	
	comp=Z,40nm,19.7s,baz=121,slow=39						
PETK	**Petropavlovsk-**	**57.28**	**45**	P	**P**	**19 32 01.3**	**-1.2**
PETK	**Petropavlovsk-**	**57.28**	**45**	P	**P**	**19 32 01.3**	**-1.2**
BILL	**Bilibino**	**57.43**	**27**	P	**P**	**19 32 01.7**	**-1.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**57.43**	**27**	P	**P**	**19 32 01.7**	**-1.5**
BILL				IAmb	IAmb	19 32 13.5	
	comp=Z,2.0nm,0.9s						
ESDC	**Sonseca Array**	**62.38**	**301**	P	**P**	**19 32 36.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=60,slow=7.6,SNR=4.4						
ESDC	**Sonseca Array**	**62.38**	**301**	P	**P**	**19 32 35.8**	**-2.0**
BATI	**Baumata**	**63.09**	**127**	LR	LR	20 02 52.5	
	comp=Z,80nm,21.6s,baz=314,slow=39						
SOEI	**Soe**	**63.16**	**126**	P	**P**	**19 32 41.6**	**-1.7**
KNRA	**Kununurra**	**70.46**	**127**	P	**P**	**19 33 28.9**	**-0.7**
TOLK	**Toolik Lake Re**	**70.69**	**16**	P	**P**	**19 33 28.5**	**-2.0**
TOLK				IAmb	IAmb	19 33 34.7	
	comp=Z,4.5nm,0.8s						
TOA0	**Torodi Ar. Sit**	**70.73**	**273**	P	**P**	**19 33 29.5**	**-1.9**
TOA0				IAmb	IAmb	19 33 30.8	
	comp=Z,8.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.73**	**273**	P	**P**	**19 33 30.0**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=50,slow=6.2,SNR=22						
TORD	**Torodi Ar. Bea**	**70.73**	**273**	P	P	19 33 28.6	-2.8
IMAR	**Indian Mountai**	**71.67**	**20**	P	**P**	**19 33 35.3**	**-1.1**
BMAR	**Burnt Mountain**	**72.80**	**16**	P	**P**	**19 33 41.5**	**-1.6**
ILAR	**Eielson Array**	**74.42**	**18**	P	**P**	**19 33 51.1**	**-1.6**
ILAR	**Eielson Array**	**74.42**	**18**	P	**P**	**19 33 51.7**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=305,slow=5.5,SNR=6.9						
ILAR	**Eielson Array**	**74.42**	**18**	P	**P**	**19 33 51.1**	**-1.6**
WRA	**Warramunga Arr**	**77.20**	**126**	P	**P**	**19 34 07.4**	**-1.7**
WRA	**Warramunga Arr**	**77.20**	**126**	P	**P**	**19 34 07.8**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=312,slow=4.1,SNR=15						
WRA	**Warramunga Arr**	**77.20**	**126**	P	**P**	**19 34 07.4**	**-1.7**
WB2	**Warramunga Arr**	**77.21**	**126**	P	**P**	**19 34 07.8**	**-1.4**
LBTB	**Lobatse**	**77.36**	**227**	P	**P**	**19 34 08.7**	**-1.3**
LBTB				pmax	pmax		
	comp=Z,12nm,1.5s						
LBTB	**Lobatse**	**77.36**	**227**	P	**P**	**19 34 08.7**	**-1.3**
AS31	**Alice Springs**	**79.56**	**129**	P	**P**	**19 34 20.6**	**-1.5**
ASAR	**Alice Springs**	**79.56**	**129**	P	**P**	**19 34 20.5**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=315,slow=5.4,SNR=10						
ASAR	**Alice Springs**	**79.56**	**129**	P	**P**	**19 34 20.8**	**-1.3**
BOSA	**Boshof**	**80.27**	**225**	P	**P**	**19 34 24.2**	**-1.8**
BOSA				pmax	pmax		
	comp=Z,15nm,1.5s						
BOSA	**Boshof**	**80.27**	**225**	P	**P**	**19 34 24.8**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=56,slow=3.6,SNR=5.1						
BOSA	**Boshof**	**80.27**	**225**	P	**P**	**19 34 24.2**	**-1.8**
YKA	**Yellowknife Ar**	**82.04**	**5**	P	**P**	**19 34 33.6**	**-1.2**
YKA	**Yellowknife Ar**	**82.04**	**5**	P	**P**	**19 34 33.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=343,slow=5.3,SNR=3.3						
YKA	**Yellowknife Ar**	**82.04**	**5**	P	**P**	**19 34 33.6**	**-1.2**

*ISCJB **16** 19:24:02.6±0.7, 17°.67S±0°.05×69°.46W±0°.09, h158km±6km, mb3.6/2, Error ellipse: s-maj=14.3km s-min=7.1km az=14.2*
*IDC **16** 19:24:03.1±1.4, 17°.57S×69°.46W, h151km±14km, mb3.4/2, mb1 3.6/5, mb1mx3.3/39, mbtmp4.0/5, Error ellipse: s-maj=29.3km s-min=16.8km az=116.0*
*GUC **16** 19:24:03.7±0.7, 17°.83S×69°.47W, h160km±6km, ML3.5*
ISC 16 19:24:02.8±0.9, 17°.66S±0°.05×69°.38W±0°.09, h154km±9km, n17, σ1§39/26, 3C-7D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.68**	**190**	⇑*iP*	**Pn**	**19 24 27.4**	**+1.1**
PB12	**IPOC Station P**	**1.30**	**223**	⇑*iP*	**Pn**	**19 24 31.4**	**+0.6**
PB12				*i* S	**Sn**	**19 24 52.0**	**-0.3**
PB12				IAML		19 24 52.8	
	comp=N,618nm,0.3s						
MNMC	**Minye Minye**	**1.47**	**188**	⇑*iP*	**Pn**	**19 24 33.7**	**+1.0**
MNMC				*i* S	**Sn**	**19 24 56.0**	**+0.3**
MNMC				IAML		19 24 59.3	
	comp=E,658nm,0.7s						
LPAZ	**La Paz**	**1.82**	**41**	P	**Pn**	**19 24 37.8**	**+1.0**
	comp=E,63nm,0.3s,baz=220,slow=6.9,SNR=456						
LPAZ				S	**Sn**	**19 25 02.4**	**-0.3**
	comp=E,6.8nm,0.3s,baz=360,slow=17,SNR=7.9						
GO01	**Chusmiza**	**2.00**	**175**	⇓*iP*	**Pn**	**19 24 39.7**	**+1.1**
GO01				*i* S	**Sn**	**19 25 07.3**	**+1.0**
GO01				IAML		19 25 17.2	
	comp=E,268nm,0.2s						
PSGC	**Pisagua**	**2.05**	**200**	⇓*iP*	**Pn**	**19 24 39.2**	**+0.4**
PSGC				*i* S	**Sn**	**19 25 05.4**	**-1.2**
PSGC				IAML		19 25 06.1	
	comp=N,656nm,0.3s						
PB11	**IPOC Station P**	**2.10**	**187**	⇓*iP*	**Pn**	**19 24 39.9**	**+0.4**
PB11				*i* S	**Sn**	**19 25 07.2**	**-0.7**
PB11				IAML		19 25 11.2	
	comp=N,301nm,0.5s						
PB08	**IPOC Station P**	**2.47**	**175**	⇓*iP*	**Pn**	**19 24 45.0**	**+0.8**
PB08				*i* S	**Sn**	**19 25 16.1**	**-0.1**
PB08				IAML		19 25 19.6	
	comp=E,130nm,0.5s						
PB01	**IPOC Station P**	**3.36**	**182**	⇓*iP*	**Pn**	**19 24 55.1**	**+0.1**
PB01				*i* S	**Sn**	**19 25 33.2**	**-2.3**
PB01				IAML		19 25 39.4	
	comp=N,160nm,0.2s						
PB02	**IPOC Station P**	**3.67**	**187**	⇓*iP*	**Pn**	**19 24 59.7**	**+0.8**
PB03	**IPOC Station P**	**4.38**	**185**	⇓*iP*	**Pn**	**19 25 08.3**	**+0.1**
LVC	**Limon Verde**	**4.94**	**175**	P	**Pn**	**19 25 16.5**	**+0.7**
	comp=N,3.8nm,0.3s,baz=21,slow=8.7,SNR=31						
LVC				S	**Sn**	**19 26 09.6**	**-3.2**
	comp=N,10nm,0.3s,baz=152,slow=21,SNR=15						
SIV	**San Ignacio**	**8.13**	**79**	P	**Pn**	**19 25 55.1**	**-2.9**
	comp=N,4.3nm,0.3s,baz=276,slow=11,SNR=39						
SIV				S	Sn	19 27 20.2	-8.5
	comp=N,0.6nm,0.3s,baz=161,slow=23,SNR=3.2						
NNA	**Nana**	**9.16**	**307**	P	**Pn**	**19 26 09.9**	**-1.7**
	comp=N,2.5nm,0.3s,baz=176,slow=14,SNR=4.3						
CFA	**Coronel Fontan**	**13.92**	**176**	P	**Pn**	**19 27 13.9**	**+0.4**
	comp=N,0.2nm,0.3s,baz=352,slow=14,SNR=5.8						
PLCA	**Paso Flores**	**23.01**	**182**	P	**P**	**19 28 56.6**	**+2.3**
	comp=N,2.1nm,0.7s,baz=4.1,slow=11,SNR=7.9						
TORD	**Torodi Ar. Bea**	**76.53**	**71**	P	**P**	**19 35 37.0**	**+0.6**
	comp=N,0.6nm,0.5s,baz=251,slow=5.4,SNR=5.6						

*IDC **16** 19:24:00.2±1.4, 14°.05N×87°.63W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.6/39, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=31.9km s-min=15.3km az=39.0*
*ISCJB **16** 19:24:07.8±0.5, 13°.16N±0°.06×88°.86W±0°.03, h85km±3km, mb3.4/4, Error ellipse: s-maj=10.9km s-min=3.8km az=19.4*
*NEIC **16** 19:24:08.8±0.9, 13°.12N±0°.03×88°.87W±0°.05, h72km±12km*
*SNET **16** 19:24:08.1±0.7, 13°.21N×88°.85W, h82km±3km, ML4.1*
*GCG **16** 19:24:14.0±0.7, 13°.53N×88°.99W, h35km±999km, MD4.2*
ISC 16 19:24:08.6±1.0, 13°.17N±0°.08×88°.86W±0°.04, h77km±6km, n47, σ0§77/68, mb3.4/4, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.32**	**61**	*i* P	**Pn**	**19 24 20.5**	**-0.2**
ALJI				*e*S	**Sn**	**19 24 30.7**	**+1.1**
ALJI				IAML		19 24 32.7	
	comp=Z,6μm,0.2s						
COEG	**Centro de Oper**	**0.45**	**357**	⇑*iP*	**Pn**	**19 24 21.4**	**-0.4**
COEG				*e*S	**Sn**	**19 24 32.0**	**+0.5**
COEG				IAML		19 24 36.8	
	comp=Z,9μm,0.3s						
COEB	**Comit de Eme**	**0.46**	**44**	*e*P	**Pn**	**19 24 21.6**	**-0.3**
COEB				*e*S	**Sn**	**19 24 32.1**	**+0.5**
COEB				IAML		19 24 34.4	
	comp=Z,9μm,0.3s						
UESV	**Universidad de**	**0.47**	**8**	*e*P	**Pn**	**19 24 21.6**	**-0.3**
UESV				*e*S	**Sn**	**19 24 32.4**	**+0.7**
TECA	**Tecapa**	**0.47**	**47**	*e*P	**Pn**	**19 24 21.8**	**-0.3**
PAVA	**Las Pavas**	**0.55**	**352**	*e*P	**Pn**	**19 24 22.4**	**-0.3**
PAVA				*e*S	**Sn**	**19 24 33.8**	**+0.7**
PAVA				IAML		19 24 35.2	
	comp=Z,12μm,0.4s						
LCY	**Lacayo**	**0.60**	**65**	*e*P	**Pn**	**19 24 23.2**	**0.0**
UDBS	**Universidad Do**	**0.61**	**332**	*e*P	**Pn**	**19 24 23.2**	**0.0**
UDBS				*e*S	**Sn**	**19 24 34.6**	**+0.5**
UDBS				IAML		19 24 36.8	
	comp=Z,10μm,0.2s						
VSM	**San Miguel**	**0.62**	**66**	*e*P	**Pn**	**19 24 23.5**	**0.0**
LFU	**La Fuente**	**0.63**	**337**	*e*P	**Pn**	**19 24 23.1**	**-0.3**
SNET	**Serv Nac Est T**	**0.63**	**325**	*i* P	**Pn**	**19 24 23.3**	**-0.1**
SNET				*e*S	**Sn**	**19 24 34.8**	**+0.4**
SNET				IAML		19 24 36.1	
	comp=Z,16μm,0.3s						
SNET	**Serv Nac Est T**	**0.63**	**325**	Pn	**Pn**	**19 24 23.1**	**-0.3**
SNET				Sn	**Sn**	**19 24 34.4**	**0.0**
OPAM	**Oficina de Pla**	**0.63**	**329**	*e*P	**Pn**	**19 24 23.5**	**+0.1**
OPAM				*e*S	**Sn**	**19 24 35.4**	**+1.0**
CUSC	**Alcaldia de Cu**	**0.64**	**330**	*e*P	**Pn**	**19 24 23.4**	**-0.1**
CUSC				*e*S	**Sn**	**19 24 35.7**	**+1.2**
CUSC				IAML		19 24 36.8	
	comp=Z,7μm,0.4s						
UESS	**Universidad de**	**0.64**	**329**	*e*P	**Pn**	**19 24 23.5**	**0.0**
UESS				*e*S	**Sn**	**19 24 35.6**	**+1.0**
UEES	**Universidad Ev**	**0.66**	**326**	*e*P	**Pn**	**19 24 23.6**	**-0.2**
UEES				*e*S	**Sn**	**19 24 35.4**	**+0.5**
UEES				IAML		19 24 37.2	
	comp=Z,8μm,0.3s						
VICT	**Victoria**	**0.81**	**15**	*i* P	**Pn**	**19 24 25.3**	**-0.2**
VICT				*e*S	**Sn**	**19 24 38.4**	**+0.5**
VICT				IAML		19 24 39.7	
	comp=Z,1μm,0.3s						
FAGO	**Alcalda de S**	**0.90**	**54**	*e*P	**Pn**	**19 24 26.1**	**-0.2**
FAGO				*e*S	**Sn**	**19 24 40.0**	**+0.5**
FAGO				IAML		19 24 42.5	
	comp=Z,1μm,0.4s						
LCND	**La Caada**	**0.95**	**82**	*e*P	**Pn**	**19 24 26.9**	**0.0**
LCND				*e*S	**Sn**	**19 24 41.4**	**+0.8**
LCND				IAML		19 24 47.3	
	comp=Z,4μm,0.4s						
LLGN	**La Laguna**	**0.99**	**355**	*e*P	**Pn**	**19 24 27.4**	**-0.1**
LLGN				*e*S	**Sn**	**19 24 42.3**	**+0.7**
LLGN				IAML		19 24 43.8	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**1.00**	**312**	*e*P	**Pn**	**19 24 27.7**	**0.0**
CNCH	**Conchagua**	**1.00**	**84**	*e*P	**Pn**	**19 24 27.5**	**-0.1**
CNCH				*e*S	**Sn**	**19 24 42.9**	**+1.0**
CNCH				IAML		19 24 47.9	
	comp=Z,10μm,0.3s						
SNJE	**San Jose**	**1.01**	**314**	*e*P	**Pn**	**19 24 27.6**	**-0.1**
RTR	**El Retiro**	**1.05**	**313**	*e*P	**Pn**	**19 24 28.6**	**+0.2**
MTO3	**Montecristo**	**1.32**	**338**	*e*P	**Pn**	**19 24 31.6**	**0.0**
MTO3				*e*S	**Sn**	**19 24 49.3**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.77**	**60**	Pn	**Pn**	**19 24 37.9**	**+0.3**
TGUH				Sn	**Sn**	**19 25 00.7**	**+1.2**
IXG	**Ixpaco**	**1.83**	**303**	*e*P	**Pn**	**19 24 39.1**	**+0.7**
NBG	**Las Nubes**	**2.02**	**314**	*e*P	**Pn**	**19 24 42.2**	**+1.3**
NBG				*i* S	**Sn**	**19 25 03.7**	**-1.9**
FUG	**Fuego 3**	**2.31**	**304**	*e*P	**Pn**	**19 24 46.1**	**+1.4**
APG	**El Apazote**	**2.40**	**320**	Pn	**Pn**	**19 24 46.7**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=108,slow=10,SNR=18						
APG				Pg		19 24 54.8	
	comp=Z,14nm,0.3s,baz=153,slow=6.7,SNR=25						
APG				Lg	Lg	19 25 32.3	
	comp=Z,9.4nm,0.3s,baz=56,slow=21,SNR=7.1						
ESTN	**Estel**	**2.42**	**91**	Pn	**Pn**	**19 24 46.2**	**0.0**
ESTN				Sn	**Sn**	**19 25 15.4**	**+0.3**
STG3	**Santiaguito 3,**	**3.05**	**301**	*e*P	**Pn**	**19 24 56.9**	**+2.2**
STG3				*e*S	**Sn**	**19 25 30.2**	**-0.1**
ACON	**Acoyapa**	**3.79**	**108**	Pn	**Pn**	**19 25 03.9**	**-0.7**
CCIG	**Comitan**	**4.43**	**315**	Pn	**Pn**	**19 25 14.0**	**+0.4**
ESPN	**Las Esperanzas**	**4.55**	**102**	Pn	**Pn**	**19 25 15.3**	**+0.3**
JTS	**Las Juntas de**	**4.78**	**126**	Pg	Pn	19 25 23.8	+5.7
	comp=Z,2.8nm,0.3s,baz=7.3,slow=9.0,SNR=16						
JTS				Lg	Lg	19 26 24.7	
	comp=Z,3.2nm,0.3s,baz=170,slow=20,SNR=8.3						
JTS	**Las Juntas de**	**4.78**	**126**		**Pn**	**19 25 19.4**	**+1.3**
CMIG	**Matias Romero**	**7.00**	**305**	Pn	**Pn**	**19 25 48.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=151,slow=8.2,SNR=8.1						
TEIG	**Tepich**	**7.04**	**4**	Pg	**Pn**	**19 25 50.9**	**+1.9**
	comp=Z,2.2nm,0.3s,baz=319,slow=11,SNR=27						
TEIG	**Tepich**	**7.04**	**4**		**Pn**	**19 25 50.3**	**+1.3**
MTDJ	**Mount Denham**	**12.00**	**64**	Pn	**Pn**	**19 26 57.6**	**+0.7**
TXAR	**Lajitas Array**	**21.16**	**322**	P	**P**	**19 28 47.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=141,slow=12,SNR=6.2						
TXAR	**Lajitas Array**	**21.16**	**322**	P	**P**	**19 28 47.2**	**-0.4**
PDAR	**Pinedale Array**	**34.50**	**333**	P	**P**	**19 30 49.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=127,slow=13,SNR=2.5						
NVAR	**Mina Array Bea**	**36.26**	**319**	P	**P**	**19 31 05.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=123,slow=6.6,SNR=3.8						
YKA	**Yellowknife Ar**	**52.57**	**345**	P	**P**	**19 33 12.1**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=129,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**138.14**	**255**	PKhKP	**PKPdf**	**19 43 24.5**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=87,slow=2.1,SNR=6.1						

MAN 16 19:30:33.0, 8°.34N×126°.11E, h27km, MS2.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.29**	**122**	⇓*e*P	Pn	19 30 41.1	-0.4
BIPH				*i* S	Sn	19 30 48.8	+1.8
BUTP	**Butuan**	**0.79**	**322**	*e*P	Pb	19 30 47.9	-0.3
BUTP				*e*S	Sn	19 31 00.1	+0.8
BUKP	**Musuan**	**1.14**	**246**	*e*P	Pn	19 30 51.7	-1.5
BUKP				*e*S	Sn	19 31 08.2	+0.2
MATI	**Mati**	**1.39**	**174**	*e*P	Pn	19 30 57.3	+0.7
MATI				*e*S	Sn	19 31 14.6	+0.4
CTBH	**Cotabato--PC H**	**2.16**	**239**	⇓*iP*	Pn	19 31 07.8	+0.6
CTBH				*i* S	Sn	19 31 34.2	+1.1

*ISCJB **16** 19:31:06.0±0.6, 5°.67N±0°.04×82°.61W±0°.05, h15km, Error ellipse: s-maj=7.8km s-min=3.6km az=143.0*
*UPA **16** 19:31:06.1±1.6, 5°.63N×82°.57W, h10km±42km, MW4.0*
*UCR **16** 19:31:06.1±1.6, 5°.74N×82°.53W, h4km±51km, MW3.9*
ISC 16 19:31:06.8±1.8, 5°.61N±0°.08×82°.61W±0°.09, h15km, n65, σ1§91/70, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**2.45**	**45**	*e*P	**Pn**	**19 31 45.0**	**-1.3**
CACAO				*e*S	**Sn**	**19 32 11.8**	**-4.3**
GMAL	**Guarumal, Vera**	**2.54**	**33**	*e*P	**Pn**	**19 31 46.4**	**-1.2**
GMAL				*e*S	**Sn**	**19 32 16.5**	**-1.9**
PEDE3	**Pedregal, Chir**	**2.77**	**4**	*e*P	**Pn**	**19 31 49.3**	**-1.4**
PEDE3				*e*S	**Sg**	**19 32 41.8**	**+6.0**
CHIR3	**Chiriqui UPA,**	**2.79**	**6**	*e*P	**Pn**	**19 31 50.1**	**-0.8**
CHIR3				*e*S	**Sb**	**19 32 26.6**	**-3.7**
DVD	**David**	**2.82**	**3**	*e*P	**Pn**	**19 31 50.4**	**-0.9**
DVD				*e*S	**Sn**	**19 32 21.4**	**-3.6**
PTJ1	**Puerto Jimnez**	**2.99**	**347**	*e*P	**Pn**	**19 31 53.0**	**-0.7**
PTJ1	**Puerto Jimnez**	**2.99**	**347**	*e*S	**Sn**	**19 32 27.6**	**-1.7**
BCO2	**Palmira**	**3.09**	**2**	*e*P	**Pn**	**19 31 54.4**	**-0.9**
BCO2				*e*S	**Sn**	**19 32 32.0**	**-0.2**
BRU2	**Volcan**	**3.17**	**359**	*e*P	**Pn**	**19 31 55.5**	**-0.8**
BRU2				*e*S	**Sn**	**19 32 33.3**	**-0.7**
BRU2	**Volcan**	**3.17**	**359**	*i* P	**Pn**	**19 31 55.1**	**-1.2**
BRU2				*e*S	**Sn**	**19 32 33.2**	**-0.7**
AZU	**Azuero**	**3.18**	**47**	*e*P	**Pn**	**19 31 55.0**	**-1.3**
AZU	**Azuero**	**3.18**	**47**	*e*P	**Pn**	**19 31 55.0**	**-1.3**
AZU	**Azuero**	**3.18**	**47**	*e*P	**Pn**	**19 31 55.5**	**-0.8**
AZU	**Azuero**	**3.18**	**47**	⇓*iP*	**Pn**	**19 31 55.6**	**-0.8**
AZU				*e*S	**Sn**	**19 32 30.9**	**-3.2**
CHGR2	**Aguacate**	**3.34**	**8**	*e*P	**Pn**	**19 31 56.8**	**-1.8**
CHGR2				*e*S	**Sn**	**19 32 37.4**	**-0.7**
DRK0	**Durika**	**3.69**	**350**	*e*P	**Pn**	**19 32 02.9**	**-0.6**
DRK0	**Durika**	**3.69**	**350**	*e*P	**Pn**	**19 32 02.9**	**-0.6**
DRK0				*e*S	**Sn**	**19 32 46.7**	**-0.1**
EDLM	**Las Mercedes**	**3.78**	**345**	*e*P	**Pn**	**19 32 04.0**	**-0.6**
LCR2	**La Lucha 2**	**4.33**	**342**	*e*P	**Pn**	**19 32 11.5**	**-0.9**
BCIP	**Isla Barro Col**	**4.48**	**38**	*e*P	**Pn**	**19 32 16.6**	**+2.3**
BCIP	**Isla Barro Col**	**4.48**	**38**	*e*P	**Pn**	**19 32 16.6**	**+2.3**
BCIP	**Isla Barro Col**	**4.48**	**38**	*e*P	**Pn**	**19 32 16.2**	**+1.9**
CVTR	**Volcan Turrial**	**4.53**	**346**	*e*P	**Pn**	**19 32 15.5**	**+0.1**
UPA	**Univ. de Panam**	**4.54**	**42**	*e*P	**Pn**	**19 32 17.4**	**+2.4**
UPA	**Univ. de Panam**	**4.54**	**42**	*e*P	**Pn**	**19 32 17.4**	**+2.4**
HDC	**Heredia**	**4.61**	**341**	*e*P	**Pn**	**19 32 16.2**	**0.0**
HDC	**Heredia**	**4.61**	**341**	*i* P	**Pn**	**19 32 16.3**	**+0.1**
HDC				*e*S	**Sn**	**19 33 08.8**	**-0.8**
PTAC	**Punta Ardita,**	**5.01**	**72**	*e*P	**Pn**	**19 32 23.5**	**+1.9**
PTAC	**Punta Ardita,**	**5.01**	**72**	*e*P	**Pn**	**19 32 23.5**	**+1.9**
ARE1	**Arenal 1**	**5.25**	**337**	*e*P	**Pn**	**19 32 25.6**	**+0.6**
CEDE	**Laguna Cedeo**	**5.27**	**337**	*e*P	**Pn**	**19 32 25.7**	**+0.4**
PLVR	**Palo Verde**	**5.44**	**330**	*e*P	**Pn**	**19 32 25.6**	**-1.9**
CUI	**Cuipilapa**	**5.62**	**333**	*e*P	**Pn**	**19 32 30.6**	**+0.7**
GB1A	**Borinquen Arri**	**5.87**	**332**	*e*P	**Pn**	**19 32 34.6**	**+1.2**
YOTC	**Yotoco, Valle**	**6.45**	**104**	*e*P	**Pn**	**19 32 42.2**	**+0.7**
YOTC	**Yotoco, Valle**	**6.45**	**104**	*e*P	**Pn**	**19 32 42.2**	**+0.7**
CBOC	**Ciudad Bolivar**	**6.57**	**87**	*e*P	**Pn**	**19 32 45.6**	**+2.4**
CBOC	**Ciudad Bolivar**	**6.57**	**87**	*e*P	**Pn**	**19 32 45.6**	**+2.4**
POPC	**Popayan, Colom**	**6.66**	**117**	*e*P	**Pn**	**19 32 43.3**	**-1.1**
POPC	**Popayan, Colom**	**6.66**	**117**	*e*P	**Pn**	**19 32 43.3**	**-1.1**
ACON	**Acoyapa**	**6.81**	**338**	*e*P	Pn	19 32 22.0	-24
SOTA	**Rioblanco**	**6.91**	**120**	*e*P	**Pn**	**19 32 50.2**	**+2.1**
SOTA	**Rioblanco**	**6.91**	**120**	*e*P	**Pn**	**19 32 50.2**	**+2.1**
CRUC	**La Cruz**	**6.93**	**125**	*e*P	**Pn**	**19 32 48.5**	**+0.2**
CRUC	**La Cruz**	**6.93**	**125**	*e*P	**Pn**	**19 32 48.5**	**+0.2**
PCON	**Cinco Dias**	**7.00**	**117**	*e*P	**Pn**	**19 32 51.5**	**+2.0**
PCON	**Cinco Dias**	**7.00**	**117**	*e*P	**Pn**	**19 32 51.5**	**+2.0**
GUY2C	**Guyana, Caldas**	**7.23**	**93**	*e*P	**Pn**	**19 32 54.3**	**+1.9**
GUY2C	**Guyana, Caldas**	**7.23**	**93**	*e*P	**Pn**	**19 32 54.3**	**+1.9**
RREF	**El Recreo**	**7.27**	**95**	*e*P	**Pn**	**19 32 55.5**	**+2.4**
RREF	**El Recreo**	**7.27**	**95**	*e*P	**Pn**	**19 32 55.5**	**+2.4**
ORTC	**Ortega, Tolima**	**7.53**	**103**	*e*P	**Pn**	**19 32 58.4**	**+2.1**
ORTC	**Ortega, Tolima**	**7.53**	**103**	*e*P	**Pn**	**19 32 58.4**	**+2.1**
ZARC	**Zaragoza, Cauc**	**7.93**	**76**	*e*P	**Pn**	**19 33 04.1**	**+2.4**
ZARC	**Zaragoza, Cauc**	**7.93**	**76**	*e*P	**Pn**	**19 33 04.1**	**+2.4**
FLOC	**Florencia**	**8.01**	**120**	*e*P	**Pn**	**19 33 03.0**	**+0.2**
FLOC	**Florencia**	**8.01**	**120**	*e*P	**Pn**	**19 33 03.0**	**+0.2**
PTBC	**PUERTO BERRIO,**	**8.16**	**83**	*e*P	Pn	19 33 08.9	+4.0
PTBC	**PUERTO BERRIO,**	**8.16**

TDK				Lg	Lg	19 35 38.4	
	32nm,0.6s						
TDK	**Taldyqorghan**	**3.41 326**	*eP*	**Pg**	**Pb**	**19 34 51.6**	**-2.4**
	19nm,0.4s						
TDK			*eS*	**Sg**	**Sb**	**19 35 38.4**	**+0.2**
	32nm,0.6s						
CHKK	**Chushkaly**	**3.43 300**	Pg	**Pb**	**Pb**	**19 34 51.5**	**+1.8**
	0.5nm,0.1s						
CHKK				Lg	Lg	19 35 38.5	
	11nm,0.3s						
CHKK	**Chushkaly**	**3.43 300**	*eP*	**Pb**	**Pb**	**19 34 51.5**	**+1.8**
	0.5nm,0.1s						
CHKK			*eS*	**Sg**	**Sb**	**19 35 38.5**	**-0.3**
	11nm,0.3s						
KTBS	**Karatobe**	**3.56 297**	Pg	**Pb**	**Pb**	**19 34 54.1**	**+2.0**
	3.9nm,0.5s						
KTBS				Lg	Lg	19 35 43.1	
	25nm,0.4s						
KTBS	**Karatobe**	**3.56 297**	*eP*	**Pb**	**Pb**	**19 34 54.1**	**+2.0**
	3.9nm,0.5s						
KTBS			*eS*	**Sg**	**Sg**	**19 35 43.1**	**-0.2**
	25nm,0.4s						
KUU	**Kurty**	**3.87 298**	Pg	**Pb**	**Pb**	**19 34 59.5**	**+2.3**
	1.5nm,0.1s						
KUU				Lg	Lg	19 35 52.2	
	9.9nm,0.8s						
KUU	**Kurty**	**3.87 298**	*eP*	**Pb**	**Pb**	**19 34 59.5**	**+2.3**
	1.5nm,0.1s						
KUU			*eS*	**Sg**	**Sg**	**19 35 52.2**	**-0.7**
	9.9nm,0.8s						
KST	**Kastek**	**3.87 284**	Pg	**Pg**	**Pg**	**19 35 00.2**	**-2.7**
	7.4nm,0.5s						
KST				Lg	Lg	19 35 53.5	
	6.1nm,0.6s						
KST	**Kastek**	**3.87 284**	*eP*	**Pg**	**Pg**	**19 35 00.2**	**-2.7**
	7.4nm,0.5s						
KST			*eS*	**Sg**	**Sg**	**19 35 53.5**	**+0.5**
	6.1nm,0.6s						
DGS	**Degeres**	**4.05 287**	Pg	**Pb**	**Pb**	**19 35 03.0**	**+2.7**
	2.0nm,0.4s						
DGS				Lg	Lg	19 35 58.4	
	4.9nm,0.6s						
DGS	**Degeres**	**4.05 287**	*eP*	**Pb**	**Pb**	**19 35 03.0**	**+2.7**
	2.0nm,0.4s						
DGS			*eS*	**Sg**	**Sg**	**19 35 58.4**	**-0.4**
	9.2nm,0.4s						
TKM2	**Tokmak 2**	**4.12 282**	⇑Pg	**Pg**	**Pg**	**19 35 04.9**	**-2.7**
	4.8nm,1.1s						
TKM2			⇓Lg	Lg	Lg	19 36 01.9	
	7.3nm,0.8s						
MAKZ	**Makanchi**	**4.65 8**	⇑Pn	**Pn**	**Pn**	**19 34 59.6**	**+0.3**
	6.7nm,1.1s						
MAKZ			⇓Sn	**Sn**	**Sn**	**19 35 55.2**	**+1.8**
	2.5nm,0.8s						
MAKZ			⇓Lg	Lg	Lg	19 36 15.5	
	4.0nm,0.8s						
MK31	**Makanchi Array**	**4.67 10**	⇑Pn	**Pn**	**Pn**	**19 34 59.4**	**-0.1**
	0.5nm,0.5s,baz=188,slow=12,SNR=18						
MK31			⇑Sn	**Sn**	**Sn**	**19 35 56.3**	**+2.3**
	2.1nm,0.7s,baz=184,slow=24,SNR=2.9						
MK31			Lg	Lg	Lg	19 36 15.8	
	3.7nm,0.5s,baz=185,slow=29,SNR=7.8						

*SOME **16** 19:38:30.2, 42°.15N×81°.32E, h15km*
*NNC **16** 19:38:31.5±0.9, 42°.15N×81°.23E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=7.0km s-min=5.8km az=29.0
ISC 16 19:38:32.4±2.6, 42°21N±0°.09×81°.12E±0°.08, h8km±12km, n31, σ1s69/50, 4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.55 308**		P	**Pn**	**19 38 58.4**	**-2.1**
	17nm,0.4s						
SHLS				S	**Sn**	**19 39 18.3**	**-2.5**
	64nm,0.4s						
SHLS	**Shalkode**	**1.55 308**		*eP*	**Pn**	**19 38 58.4**	**-2.1**
	17nm,0.5s						
SHLS				*eS*	**Sn**	**19 39 18.5**	**-2.3**
	64nm,0.4s						
PDGK	**Podgornoye**	**1.64 313**		P	**Pb**	**19 39 03.2**	**+0.2**
	10nm,0.3s						
PDGK				S	**Sg**	**19 39 26.7**	**+1.5**
	16nm,0.5s						
PDGK	**Podgornoye**	**1.64 313**		⇓P	**Pb**	**19 39 02.9**	**-0.1**
	6.3nm,0.3s						
PDGK				⇓S	**Sg**	**19 39 26.8**	**+1.7**
	24nm,0.6s						
UZB	**Uzynbulak**	**1.81 302**		P	**Pb**	**19 39 06.0**	**+0.1**
	7.4nm,0.2s						
UZB				S	**Sb**	**19 39 31.4**	**+2.6**
	15nm,0.2s						
UZB	**Uzynbulak**	**1.81 302**		*eP*	**Pb**	**19 39 06.0**	**+0.1**
	13nm,0.5s						
UZB				*eS*	**Sb**	**19 39 31.4**	**+2.6**
	15nm,0.2s						
SATY	**Saty**	**2.17 294**		*eP*	**Pg**	**19 39 13.7**	**-0.4**
	7.4nm,0.2s						
SATY				*eS*	**Sg**	**19 39 44.5**	**+2.2**
	46nm,0.6s						
KPKS	**Kokpek**	**2.19 306**		*eP*	**Pb**	**19 39 12.8**	**+0.4**
	15nm,0.3s						
KPKS				*eS*	**Sg**	**19 39 43.4**	**+0.7**
	52nm,0.3s						
ZHN	**Zhinishke**	**2.20 297**		Pg	**Pg**	**19 39 13.9**	**-0.7**
	5.9nm,0.1s						
ZHN				Lg	Lg	19 39 45.0	
	19nm,0.2s						
ZHN	**Zhinishke**	**2.20 297**		*eP*	**Pg**	**19 39 13.9**	**-0.7**
	5.9nm,0.1s						
ZHN				*eS*	**Sg**	**19 39 45.0**	**+1.9**
	19nm,0.2s						
DJR	**Jarkent**	**2.33 336**		Pg	**Pb**	**19 39 15.2**	**+0.4**
	3.3nm,0.3s						
DJR				Lg	Lg	19 39 47.1	
	13nm,0.5s						
DJR	**Jarkent**	**2.33 336**		*eP*	**Pb**	**19 39 15.2**	**+0.4**
	3.3nm,0.3s						
DJR				*eS*	**Sg**	**19 39 47.1**	**-0.3**
	17nm,0.5s						
KURS	**Kuram**	**2.52 301**		Pg	**Pb**	**19 39 19.4**	**+1.4**
	6.3nm,0.7s						
KURS				Lg	Lg	19 39 54.2	
	8.1nm,0.7s						
KURS	**Kuram**	**2.52 301**		*eP*	**Pb**	**19 39 19.4**	**+1.4**
	6.3nm,0.7s						
KURS				*eS*	**Sg**	**19 39 54.2**	**+0.9**
	8.1nm,0.7s						
ARXS	**Arharly**	**3.13 311**		Pg	**Pb**	**19 39 29.6**	**+1.2**
	1.4nm,0.2s						
ARXS				Lg	Lg	19 40 11.8	
	7.1nm,0.4s						
ARXS	**Arharly**	**3.13 311**		*eP*	**Pb**	**19 39 29.6**	**+1.2**
	1.4nm,0.2s						
ARXS				*eS*	**Sg**	**19 40 11.8**	**-1.1**
	7.1nm,0.4s						
MDOK	**Medeo**	**3.15 289**		Pg	**Pb**	**19 39 30.0**	**+1.2**
	7.6nm,1.1s						
MDOK				Lg	Lg	19 40 14.8	
	11nm,0.7s						
MDOK	**Medeo**	**3.15 289**		Pg	**Pb**	**19 39 30.1**	**+1.3**
	1.7nm,0.2s						
MDOK				Lg	Lg	19 40 12.8	
	12nm,0.8s						
MDOK	**Medeo**	**3.15 289**		*eP*	**Pb**	**19 39 30.1**	**+1.3**
	1.7nm,0.2s						
MDOK				*eS*	**Sg**	**19 40 12.8**	**-0.8**
	12nm,0.8s						
TNSS	**Tian-Shan**	**3.19 286**		Pg	**Pb**	**19 39 31.6**	**+1.9**
	1.4nm,0.3s						
TNSS				Lg	Lg	19 40 15.2	
	7.0nm,0.4s						
TNSS	**Tian-Shan**	**3.19 286**		*eP*	**Pb**	**19 39 31.6**	**+1.9**
	1.4nm,0.3s						
TNSS				*eS*	**Sg**	**19 40 15.2**	**+0.3**
	9.7nm,0.5s						
IZV	**Izvestkoviy**	**3.43 285**		Pg	**Pb**	**19 39 35.5**	**+2.0**
	2.5nm,0.3s						
IZV				Lg	Lg	19 40 22.2	
	11nm,0.4s						
IZV	**Izvestkoviy**	**3.43 285**		*eP*	**Pb**	**19 39 35.5**	**+2.0**
	1.7nm,0.2s						
IZV				*eS*	**Sg**	**19 40 22.2**	**-0.3**
	11nm,0.4s						
KTBS	**Karatobe**	**3.59 296**		Pg	**Pb**	**19 39 38.2**	**+2.0**
	2.3nm,0.6s						
KTBS				Lg	Lg	19 40 26.5	
	11nm,0.7s						
KTBS	**Karatobe**	**3.59 296**		*eP*	**Pb**	**19 39 38.2**	**+2.0**
	2.3nm,0.6s						
KTBS				*eS*	**Sg**	**19 40 26.5**	**-1.1**
	16nm,0.4s						
KST	**Kastek**	**3.90 284**		Pg	**Pb**	**19 39 44.3**	**+2.8**
	4.5nm,0.4s						
KST				Lg	Lg	19 40 37.1	
	5.9nm,0.3s						
KST	**Kastek**	**3.90 284**		*eP*	**Pb**	**19 39 44.3**	**+2.8**
	4.5nm,0.4s						
KST				*eS*	**Sg**	**19 40 37.1**	**-0.4**
	3.5nm,0.6s						
DGS	**Degeres**	**4.07 286**		Pg	**Pb**	**19 39 47.0**	**+2.5**
	1.2nm,0.3s						
DGS				Lg	Lg	19 40 41.9	
	6.0nm,0.6s						
DGS	**Degeres**	**4.07 286**		*eP*	**Pb**	**19 39 47.0**	**+2.5**
	1.2nm,0.3s						
DGS				*eS*	**Sg**	**19 40 41.9**	**-1.3**
	6.0nm,0.6s						
TKM2	**Tokmak 2**	**4.14 282**		⇓Pg	**Pg**	**19 39 49.2**	**-2.6**
	5.3nm,1.3s						
TKM2				⇓Lg	Lg	19 40 46.2	
	2.9nm,0.6s						
MK31	**Makanchi Array**	**4.66 10**		Pn	**Pn**	**19 39 42.3**	**-0.8**
	0.5nm,0.2s,baz=195,slow=13,SNR=9.7						
MK31				Sn	**Sn**	**19 40 39.9**	**+2.5**
	2.0nm,0.4s,baz=183,slow=25,SNR=2.8						
MK31				Lg	Lg	19 40 57.0	
	4.2nm,0.5s,baz=186,slow=29,SNR=6.7						

*ISCJB **16** 19:39:15.7±0.3, 60°.26S±0°.04×46°.6W±0°.1, h10km,*
mb4.6/14, MS3.9/13, Error ellipse: s-maj=8.3km
s-min=5.5km az=159.0
*IDC **16** 19:39:15.4±0.5, 60°.31S×46°.66W, h0km, mb4.6/13,*
mb1 4.6/14, mb1mx4.5/25, mbtmp4.6/14, ML3.9/1, MS3.8/14,
Ms1 3.8/14, ms1mx3.7/18, Error ellipse: s-maj=18.1km
s-min=14.2km az=74.0
*NEIC **16** 19:39:16.7±1.3, 60°.25S±0°.07×46°.5W±0°.2, h10km±1km,*
mb4.9/29
*BJI **16** 19:39:20.0±0.0, 60°.20S×46°.50W, h30km, mB5.3/1,*
Ms5.4/2, Ms7 5.1/3
ISC 16 19:39:16.9±0.3, 60°.28S±0°.05×46°.58W±0°.06, h10km, n163,
σ1s00/151, mb4.8/23, MS3.8/13, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.12**	**47**		**Pn**	**19 41 13.8**	**-0.8**
HOPE				Sn	**Sn**	**19 42 45.1**	**-1.2**
PMSA	**Palmer Station**	**9.23 233**		Pn	**Pn**	**19 41 30.2**	**+0.3**
	1.1nm,0.3s,baz=66,slow=12,SNR=3.4						
PMSA				Sn	**Sn**	**19 43 11.8**	**-1.8**
	0.3nm,0.3s,baz=234,slow=19,SNR=4.4						
PMSA				LR	LR	19 44 50.1	
	comp=Z,791nm,19.1s,baz=68,slow=36						
PMSA	**Palmer Station**	**9.23 233**			**Pn**	**19 41 30.5**	**+0.6**
PMSA				Sn	**Sn**	**19 43 12.0**	**-1.6**
PMSA	**Palmer Station**	**9.23 233**		*eP*	Pn	19 41 40.7	+11
PMSA	**Palmer Station**	**9.23 233**		*eP*	Pn	19 41 40.7	+11
EFI	**East Falkland**	**10.74 318**		Pn	**Pn**	**19 41 51.3**	**+0.7**
USHA	**Ushuaia**	**12.91 285**		Pn	**Pn**	**19 42 22.4**	**+2.2**
	0.3nm,0.3s,baz=134,slow=18,SNR=2.7						
USHA				LR	LR	19 45 58.1	
	comp=Z,1μm,21.6s,baz=96,slow=31						
VNA3	**Neumayer Olymp**	**18.32 142**		P	**P**	**19 43 33.1**	**+2.2**
VNA1	**Neumayer--Stat**	**18.60 140**		P	**Pn**	**19 43 37.6**	**+3.5**
VNA2	**Neumayer--Watz**	**18.95 140**		P	**Pn**	**19 43 40.2**	**+1.8**
baz=295,slow=12							
SNAA	**Sanae**	**20.55 141**		P	Pn	19 44 00.6	+3.2
SNAA	**Sanae**	**20.55 141**		P	Pn	19 43 56.6	-0.8
	22nm,0.8s,baz=287,slow=8.4,SNR=62						
SNAA	**Sanae**	**20.55 141**		P	Pn	19 43 56.9	-0.5
TRQA	**Tornquist**	**24.29 329**		P	**P**	**19 44 34.0**	**-0.2**
TRQA				IAmb	IAmb	19 44 36.6	
	comp=Z,25nm,0.7s						
TRQA	**Tornquist**	**24.29 329**		*eP*	**P**	**19 44 35.0**	**+0.8**
PLCA	**Paso Flores**	**24.56 312**		P	**P**	**19 44 36.8**	**+0.1**
	comp=Z,9.0nm,1.0s,baz=178,slow=8.7,SNR=14						
PLCA				LR	LR	19 53 41.0	
	comp=Z,359nm,19.9s,baz=196,slow=35						
PLCA	**Paso Flores**	**24.56 312**		P	**P**	**19 44 36.2**	**-0.5**
PLCA				IAmb	IAmb	19 44 41.2	
	comp=Z,29nm,1.4s						
PLCA	**Paso Flores**	**24.56 312**		*eP*	**P**	**19 44 37.2**	**+0.5**
GO06	**Curarrehue**	**25.90 312**		P	**P**	**19 44 48.5**	**-0.5**
OGAUY	**Aigu**	**26.50 345**		*eP*	**P**	**19 44 54.6**	**+0.4**
OGAUY	**Aigu**	**26.50 345**		*eP*	**P**	**19 44 54.6**	**+0.4**
QSPA	**South Pole Qui**	**29.96 180**		P	**P**	**19 45 26.5**	**+1.5**
	comp=Z,14nm,0.9s,baz=176,slow=3.2,SNR=43						
QSPA				LR	LR	19 58 22.9	
	comp=Z,118nm,18.3s,baz=165,slow=38						
QSPA	**South Pole Qui**	**29.96 180**		P	**P**	**19 45 26.3**	**+1.3**
QSPA				IAmb	IAmb	19 45 30.3	
	comp=Z,27nm,1.1s						
CPSB	**Cacapava Do Su**	**30.23 348**		*eP*	**P**	**19 45 28.6**	**+1.1**
CPSB	**Cacapava Do Su**	**30.23 348**		*eP*	**P**	**19 45 28.6**	**+1.1**
ROC1	**El Roble**	**31.68 319**		P	**P**	**19 45 40.1**	**-0.5**
GO04	**Tololo Observa**	**34.20 321**		P	**P**	**19 46 02.4**	**-0.2**
CPUP	**Villa Florida**	**34.73 343**		P	**P**	**19 46 07.6**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=174,slow=7.2,SNR=16						
CPUP				LR	LR	19 58 57.8	
	comp=Z,78nm,21.3s,baz=188,slow=34						
CPUP	**Villa Florida**	**34.73 343**		P	**P**	**19 46 06.8**	**-0.1**
CPUP	**Villa Florida**	**34.73 343**		*eP*	**P**	**19 46 07.4**	**+0.5**
PTGB	**Pitanga**	**35.75 351**		*eP*	**P**	**19 46 16.8**	**+1.0**
PTGB	**Pitanga**	**35.75 351**		*eP*	**P**	**19 46 16.8**	**+1.0**
GO03	**Copiap**	**36.43 323**		P	**P**	**19 46 21.3**	**-0.3**
GO03				IAmb	IAmb	19 46 22.5	
	comp=Z,13nm,0.7s						
SPB	**Sao Paulo**	**36.67 359**		*eP*	**P**	**19 46 24.6**	**+1.0**
SPB	**Sao Paulo**	**36.67 359**		*eP*	**P**	**19 46 24.6**	**+1.0**
VAO	**Valinhos**	**37.25 359**		*eP*	**P**	**19 46 30.2**	**+1.6**
VAO	**Valinhos**	**37.25 359**		*eP*	**P**	**19 46 30.2**	**+1.6**
TRCB	**Terra Rica**	**37.70 351**		*eP*	**P**	**19 46 33.4**	**+1.1**
TRCB	**Terra Rica**	**37.70 351**		*eP*	**P**	**19 46 33.4**	**+1.1**
RCLB	**Rio Claro- Sao**	**37.84 359**		*eP*	**P**	**19 46 35.0**	**+1.4**
RCLB	**Rio Claro- Sao**	**37.84 359**		*eP*	**P**	**19 46 35.0**	**+1.4**
GO02	**Mina Guanaco**	**38.54 325**		P	**P**	**19 46 39.5**	**-0.2**
GO02				IAmb	IAmb	19 46 41.7	
	comp=Z,15nm,0.8s						
PCMB	**Pacaembu**	**38.78 353**		*eP*	**P**	**19 46 41.7**	**+0.2**
PCMB	**Pacaembu**	**38.78 353**		*eP*	**P**	**19 46 41.7**	**+0.2**
BB19B	**Bebedouro**	**39.20 357**		*eP*	**P**	**19 46 45.9**	**+0.9**
BB19B	**Bebedouro**	**39.20 357**		*eP*	**P**	**19 46 45.9**	**+0.9**
AQDB	**Aquidauana**	**40.29 347**		*eP*	**P**	**19 46 54.9**	**+0.9**
AQDB	**Aquidauana**	**40.29 347**		*eP*	**P**	**19 46 54.9**	**+0.9**
SBA	**Scott Base**	**40.61 190**		P	**P**	**19 46 57.8**	**+1.7**
ITRB	**Iturama**	**40.62 355**		*eP*	**P**	**19 46 57.7**	**+0.9**
ITRB	**Iturama**	**40.62 355**		*eP*	**P**	**19 46 57.7**	**+0.9**
PMNB	**Patos De Minas**	**41.69 0**		*eP*	**P**	**19 47 06.7**	**+1.0**
PMNB	**Patos De Minas**	**41.69 0**		*eP*	**P**	**19 47 06.7**	**+1.0**
IPMB	**Ipameri, GO**	**42.26 358**		*eP*	**P**	**19 47 11.1**	**+0.8**
IPMB	**Ipameri, GO**	**42.26 358**		*eP*	**P**	**19 47 11.1**	**+0.8**
MAW	**Mawson**	**42.50 148**		LR	LR	20 04 49.0	
	comp=Z,286nm,18.3s,baz=237,slow=36						
PP1B	**Ponte de Pedra**	**43.05 348**		*eP*	**P**	**19 47 17.7**	**+1.0**
PP1B	**Ponte de Pedra**	**43.05 348**		*eP*	**P**	**19 47 17.7**	**+1.0**
BDFB	**Brasilia**	**44.59 358**		P	**P**	**19 47 30.1**	**+0.9**
	comp=Z,6.0nm,0.7s,baz=179,slow=4.1,SNR=9.7						
BDFB	**Brasilia**	**44.59 358**		P	**P**	**19 47 29.1**	**0.0**
ARAG	**Araguaiana, MT**	**44.67 353**		*eP*	**P**	**19 47 30.5**	**+0.9**
ARAG	**Araguaiana, MT**	**44.67 353**		*eP*	**P**	**19 47 30.5**	**+0.9**
SALV	**Santo Antonio**	**44.81 348**		*eP*	**P**	**19 47 32.1**	**+1.4**
SALV	**Santo Antonio**	**44.81 348**		*eP*	**P**	**19 47 32.1**	**+1.4**
JANB	**Januaria**	**45.18 3**		*eP*	**P**	**19 47 34.6**	**+0.8**
JANB	**Januaria**	**45.18 3**		*eP*	**P**	**19 47 34.6**	**+0.8**
NBIT	**Itapeh - BA**	**45.58 10**		*eP*	**P**	**19 47 38.3**	**+1.4**
NBIT	**Itapeh - BA**	**45.58 10**		*eP*	**P**	**19 47 38.3**	**+1.4**
LPAZ	**La Paz**	**46.63 331**		P	**P**	**19 47 46.3**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=180,slow=8.1,SNR=10						
LPAZ				LR	LR	20 08 13.9	
	comp=Z,34nm,21.0s,baz=182,slow=37						
LPAZ	**La Paz**	**46.63 331**		P	**P**	**19 47 45.9**	**+0.1**
LPAZ	**La Paz**	**46.63 331**		*eP*	**P**	**19 47 46.1**	**+0.2**
NBPN	**Ponto Novo - B**	**49.57 8**		*eP*	**P**	**19 48 07.9**	**0.0**
NBPN	**Ponto Novo - B**	**49.57 8**		*eP*	**P**	**19 48 07.9**	**0.0**
CLDB	**Colider**	**49.79 348**		*eP*	**P**	**19 48 09.2**	**-0.4**
CLDB	**Colider**	**49.79 348**		*eP*	**P**	**19 48 09.2**	**-0.4**
SMTB	**Santa Maria do**	**51.32 359**		*eP*	**P**	**19 48 21.5**	**+0.4**
SMTB	**Santa Maria do**	**51.32 359**		*eP*	**P**	**19 48 21.5**	**+0.4**
SUR	**Sutherland**	**51.38 89**		P	**P**	**19 48 23.1**	**+1.4**
	comp=Z,12nm,0.7s,baz=198,slow=9.1,SNR=13						
SUR	**Sutherland**	**51.38 89**		P	**P**	**19 48 22.9**	**+1.2**
NBTA	**Tacaratu-PE**	**51.45 11**		*eP*	**P**	**19 48 22.9**	**+0.8**
NBTA	**Tacaratu-PE**	**51.45 11**		*eP*	**P**	**19 48 22.9**	**+0.8**
SAML	**Samuel**	**52.72 339**		P	**P**	**19 48 31.2**	**-0.4**
SAML				IAmb	IAmb	19 48 32.6	
	comp=Z,11nm,0.8s						
SAML	**Samuel**	**52.72 339**		*eP*	**P**	**19 48 32.1**	**+0.6**
NBMA	**Muriti-CE**	**53.13 10**		*eP*	**P**	**19 48 35.5**	**+0.9**
NBMA	**Muriti-CE**	**53.13 10**		*eP*	**P**	**19 48 35.5**	**+0.9**
PRPB	**Parauapebas**	**54.04 356**		*eP*	**P**	**19 48 41.5**	**+0.2**
PRPB	**Parauapebas**	**54.04 356**		*eP*	**P**	**19 48 41.5**	**+0.2**
BOSA	**Boshof**	**56.66 90**		P	**P**	**19 49 00.7**	**+0.5**
	comp=Z,6.1nm,0.7s,baz=226,slow=6.6,SNR=12						
BOSA				LR	LR	20 09 24.1	
	comp=Z,58nm,18.1s,baz=295,slow=32						
BOSA	**Boshof**	**56.66 90**		P	**P**	**19 49 00.0**	**-0.2**
BOSA				IAmb	IAmb	19 49 01.5	
	comp=Z,27nm,1.4s						
H10N3	**ASCENSION HYDR**	**57.60 39**		T	T	20 51 56.2	
	baz=199,slow=75,SNR=45						
H10N1	**ASCENSION HYDR**	**57.60 39**		T	T	20 51 56.4	
	baz=199,slow=75,SNR=42						
H10N2	**ASCENSION HYDR**	**57.62 39**		T	T	20 51 56.6	
	baz=199,slow=75,SNR=50						
LBTB	**Lobatse**	**59.80 88**		P	**P**	**19 49 22.2**	**0.0**
LBTB				IAmb	IAmb	19 49 23.5	
	comp=Z,9.5nm,0.7s						
TSUM	**Tsumeb**	**60.74 77**		P	**P**	**19 49 28.8**	**0.0**
OTAV	**Otavalo**	**65.19 324**		P	**P**	**19 49 58.9**	**+0.2**
OTAV				IAmb	IAmb	19 50 00.2	
	comp=Z,6.6nm,0.8s						
OTAV	**Otavalo**	**65.19 324**		*eP*	**P**	**19 49 59.3**	**+0.6**
ROSC	**El Rosal**	**68.48 330**		LR	LR	20 21 40.4	
	comp=Z,50nm,18.2s,baz=306,slow=37						
PLCV	**Puerto La Cruz**	**71.67 341**		P	**P**	**19 50 39.1**	**+0.5**
PCRV	**Puerto La Cruz**	**71.69 341**		P	**P**	**19 50 39.1**	**+0.4**
	comp=Z,6.1nm,0.8s,baz=94,slow=14,SNR=2.7						
LTZ	**Lake Taylor**	**72.48 209**		P	**P**	**19 50 43.5**	**+0.2**
THZ	**Tophouse**	**73.29 210**		P	**P**	**19 50 47.5**	**-0.6**
LIC	**Lamto**	**73.90 43**		*eP*	**P**	**19 50 51.8**	**-0.1**
	comp=Z,45nm,0.9s						
KIC	**Kosan Boka**	**74.12 44**		*eP*	**P**	**19 50 53.6**	**+0.4**
	comp=Z,10nm,0.7s						
TIC	**Toumodi**	**74.29 43**		*eP*	**P**	**19 50 54.6**	**+0.4**
DBIC	**Dimbokro**	**74.37 43**		P	**P**	**19 50 55.4**	**+0.8**
	comp=Z,8.3nm,1.0s,baz=178,slow=7.7,SNR=5.1						
DBIC	**Dimbokro**	**74.37 43**		P	**P**	**19 50 54.8**	**+0.2**
DBIC				IAmb	IAmb	19 50 55.8	
	comp=Z,11nm,0.9s						
URZ	**Urewera**	**75.46 214**		P	**P**	**19 51 01.7**	**+1.0**
	comp=Z,2.7nm,0.6s,baz=96,slow=9.2,SNR=3.3						
URZ	**Urewera**	**75.46 214**		P	**P**	**19 51 00.9**	**+0.1**
URZ				IAmb	IAmb	19 51 01.9	
	comp=Z,22nm,1.5s						
OUZ	**Omahuta**	**79.28 213**		P	**P**	**19 51 21.9**	**-0.2**
OUZ				IAmb	IAmb	19 51 30.1	
	comp=Z,10nm,1.1s						
PPT	**Papeete**	**81.19 250**		LR	LR	20 17 18.5	
	comp=Z,37nm,21.7s,baz=162,slow=28						
TOO	**Toolangi**	**81.99 190**		P	**P**	**19 51 36.8**	**0.0**
TOO				IAmb	IAmb	19 51 42.7	
	comp=Z,9.0nm,1.3s						
TOA0	**Torodi Ar. Sit**	**82.70 47**		P	**P**	**19 51 40.5**	**0.0**
TOA0				IAmb	IAmb	19 51 42.0	
	comp=Z,6.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.70 47**		P	**P**	**19 51 41.4**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=208,slow=5.5,SNR=22						
TORD	**Torodi Ar. Bea**	**82.70 47**		P	**P**	**19 51 39.9**	**-0.5**
CMIG	**Matias Romero**	**86.35 314**		LR	LR	20 24 35.4	
	comp=Z,73nm,19.1s,baz=168,slow=32						
TEIG	**Tepich**	**87.06 321**		LR	LR	20 32 18.4	
	comp=Z,28nm,19.5s,baz=49,slow=37						
TEIG	**Tepich**	**87.06 321**		P	**P**	**19 52 01.7**	**-0.5**
STKA	**Stephens Creek**	**87.93 187**		LR	LR	20 29 50.4	
	comp=Z,44nm,20.3s,baz=203,slow=34						
ARMA	**Armidale**	**88.40 196**		P	**P**	**19 52 08.4**	**-0.6**
FORT	**Forrest**	**89.17 175**		P	**P**	**19 52 12.1**	**-0.4**
ASAR	**Alice Springs**	**96.36 180**		P	**P**	**19 52 44.5**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=180,slow=5.0,SNR=9.4						
ASAR				PP	**PP**	**19 56 35.0**	**-3.4**
	comp=Z,0.3nm,0.8s,baz=171,slow=7.4,SNR=4.5						
LPIG	**La Paz**	**98.66 304**		LR	LR	20 31 58.9	
	comp=Z,35nm,18.1s,baz=207,slow=32						
WRA	**Warramunga Arr**	**100.06 181**		P	**Pdif**	**19 53 01.3**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=181,slow=4.1,SNR=7.7						
BRTR	**Keskin Array B**	**119.12 60**		PKP	**PKPdf**	**19 58 04.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=234,slow=3.3,SNR=4.1						
BRTR	**Keskin Array B**

0.6nm,0.5s,baz=226,slow=4.7,SNR=7.5
GERES GERESS Array B 148.08 345 PKPbc PKPbc 20 03 05.9 -0.3
0.7nm,0.7s,baz=30,slow=4.5,SNR=5.4

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*ISCJB **16** 19:45:42.2±0.5, 13°.74N±0°.03×120°.44E±0°.06, h116km±4km, mb3.6/5, Error ellipse: s-maj=9.9km s-min=5.6km az=177.0*
*MAN **16** 19:45:43.6, 13°.74N×120°.48E, h102km, MS2.6*
*IDC **16** 19:45:43.4±1.8, 13°.75N×120°.61E, h109km±23km, mb3.3/5, mb1 3.4/5, mb1mx3.1/43, mbtmp3.6/5, Error ellipse: s-maj=96.3km s-min=16.6km az=70.0*
ISC 16 19:45:43.4±0.8,**13°.73N**±0°.04×**120°.41E**±0°.06,**h112**km±7km, **n18**,σ1§**69**/28,**mb3.4**/5,**2C-1D**,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.16**	**272**	*eP*	**Pn**	**19 45 59.4**	**+0.4**
LUBP				*eS*	**Sn**	**19 46 11.1**	**+0.4**
TGY	**Tagaytay City**	**0.63**	**54**	P	**Pn**	**19 46 01.1**	**-0.4**
TGY				S	**Sn**	**19 46 14.1**	**-1.1**
TGY	**Tagaytay City**	**0.63**	**54**	*iP*	**Pn**	**19 46 01.0**	**-0.6**
TGY				*i* S	**Sn**	**19 46 16.2**	**+1.0**
LQP	**Lukban**	**1.16**	**71**	*iP*	**Pn**	**19 46 06.1**	**-0.6**
BOAC	**Boac**	**1.42**	**101**	*eP*	**Pn**	**19 46 08.6**	**-0.8**
BOAC				*eS*	**Sn**	**19 46 27.6**	**-1.6**
SJMP	**San Jose**	**1.44**	**151**	*eP*	**Pn**	**19 46 10.0**	**+0.3**
SJMP				*eS*	**Sn**	**19 46 29.1**	**-0.5**
POLP	**Polilio Island**	**1.79**	**56**	*eP*	**Pn**	**19 46 13.2**	**-0.6**
POLP				*eS*	Sn	19 46 18.2	-19
GQP	**Guinayangan**	**1.99**	**85**	*eP*	**Pn**	**19 46 16.4**	**+0.1**
GQP				*eS*	Sn	19 46 28.1	-13
SCZP	**Santa Cruz**	**2.09**	**347**	*eP*	**Pn**	**19 46 17.4**	**-0.4**
SCZP				*eS*	**Sn**	**19 46 42.9**	**-1.1**
BALP	**Baler**	**2.30**	**29**	*eP*	**Pn**	**19 46 19.5**	**-0.8**
BALP				*eS*	**Sn**	**19 46 54.7**	**+6.1**
SMPP	**San Manuel, Pa**	**2.42**	**6**	*eP*	**Pn**	**19 46 19.7**	**-2.3**
SMPP				*eS*	**Sn**	**19 46 48.1**	**-3.5**
ENPP	**El Nido**	**2.69**	**201**	*eP*	**Pn**	**19 46 25.8**	**+0.4**
ENPP				*eS*	**Sn**	**19 46 56.7**	**-0.9**
CUYO	**Cuyo Island**	**2.92**	**168**	*eP*	**Pn**	**19 46 27.6**	**-0.9**
CUYO				*eS*	**Sn**	**19 47 02.4**	**-0.9**
BATI	**Baumata**	**24.00**	**172**	P	**P**	**19 50 48.2**	**+0.3**
	4.4nm,0.4s,baz=73,slow=2.3,SNR=6.2						
SONM	**Songino Array**	**35.95**	**344**	P	**P**	**19 52 33.5**	**+0.3**
	0.7nm,0.6s,baz=164,slow=9.4,SNR=8.0						
WRA	**Warramunga Arr**	**36.16**	**157**	P	**P**	**19 52 34.8**	**-0.4**
	0.4nm,0.7s,baz=332,slow=10.0,SNR=4.9						
ASAR	**Alice Springs**	**39.44**	**160**	P	**P**	**19 53 02.4**	**-0.3**
	0.2nm,0.4s,baz=338,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**45.84**	**324**	P	**P**	**19 53 55.5**	**+1.2**
	0.2nm,0.4s,baz=105,slow=8.3,SNR=2.5						

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*IDC **16** 19:58:21.7±1.8, 1°.71N×97°.70E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.7/50, mbtmp4.0/9, MLJ3.9/1, Error ellipse: s-maj=77.5km s-min=19.3km az=56.0*
*ISCJB **16** 19:58:27.0±0.4, 1°.89N±0°.04×97°.74E±0°.05, h35km, mb4.0/8, Error ellipse: s-maj=8.2km s-min=4.9km az=142.8*
*NEIC **16** 19:58:28.5±1.4, 1°.85N±0°.04×97°.71E±0°.09, h35km±2km, mb4.3/21*
*DJA **16** 19:58:29.4±2.9, 2°N±4°×9°8E±°, h18km±29km, M4.0/7, MLv4.0/7*
ISC 16 19:58:29.0±0.5,**1°.91N**±0°.05×**97°.84E**±0°.06,**h35**km,**n63**, σ1§**33**/63,**mb4.3**/18,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**1.34**	**54**		**Pn**	**19 58 52.6**	**+1.5**
SNSI	**Sinabang, Aceh**	**1.59**	**288**	P	**Pn**	**19 58 57.0**	**+2.4**
SNSI				S	**Sn**	**19 59 15.9**	**+2.0**
MLSI	**Meulaboh, Aceh**	**2.74**	**329**	P	**Pn**	**19 59 12.8**	**+2.3**
LHMI	**Lhok Sumawe**	**3.41**	**345**	P	**Pn**	**19 59 22.5**	**+2.8**
LHMI	**Lhok Sumawe**	**3.41**	**345**		**Pn**	**19 59 20.4**	**+0.6**
LHMI				Sn	**Sn**	**19 59 56.5**	**-2.6**
SISI	**Saibi**	**3.45**	**159**	P	**Pn**	**19 59 21.9**	**+1.7**
BKNI	**Bangkinang**	**3.57**	**116**	P	Pn	19 59 40.6	+19
BKNI	**Bangkinang**	**3.57**	**116**		**Pn**	**19 59 23.8**	**+1.9**
PDSI	**Padang**	**3.84**	**137**	P	**Pn**	**19 59 28.0**	**+2.4**
IPM	**Ipoh**	**4.08**	**51**		**Pn**	**19 59 30.8**	**+1.9**
IPM				Sn	**Sn**	**20 00 17.4**	**+1.9**
MYKOM	**Kota Tinggi**	**6.01**	**91**		**Pn**	**19 59 57.2**	**+1.7**
MNAI	**Manna**	**8.06**	**141**	Pn	**Pn**	**20 00 24.1**	**+0.4**
MNAI				Sn	**Sn**	**20 01 51.8**	**-1.9**
XMIS	**Christmas Isla**	**14.56**	**148**	Pn	**Pn**	**20 01 53.2**	**+0.5**
PBKT	**Sadao Pong**	**14.89**	**12**		**Pn**	**20 01 58.9**	**+1.9**
CM31	**Chiang Mai Arr**	**16.48**	**4**	Pn	**Pn**	**20 02 17.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.48**	**4**	Pn	**Pn**	**20 02 17.6**	**0.0**
	0.2nm,0.3s,baz=193,slow=12,SNR=9.1						
CHTO	**Chiang Mai**	**16.83**	**4**	Pn	**Pn**	**20 02 22.6**	**+0.6**
KKM	**Kota Kinabalu**	**18.79**	**77**	P	**Pn**	**20 02 46.8**	**+0.5**
KKM				IAmb	IAmb	20 03 00.3	
	comp=Z,10nm,1.0s						
ODAN	**Odare**	**26.76**	**339**	*eP*	**P**	**20 04 06.4**	**+0.6**
H08S2	**Diego Garcia H**	**27.00**	**249**	T	T	20 31 40.3	
	baz=70,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**27.01**	**249**	T	T	20 31 33.5	
	baz=70,slow=75,SNR=15						
H08S1	**Diego Carcia H**	**27.02**	**249**	T	T	20 31 34.6	
	baz=70,slow=75,SNR=21						
TAPN	**Taplejung**	**27.09**	**340**	*eP*	**P**	**20 04 08.2**	**-0.7**
RAMN	**Ramite**	**27.13**	**338**	*eP*	**P**	**20 04 11.2**	**+2.0**
PKI	**Pulchoki**	**28.15**	**336**	*eP*	**P**	**20 04 20.2**	**+1.7**
	comp=Z,3.4nm,0.5s						
PKIN	**Phulchoki**	**28.16**	**336**	*eP*	**P**	**20 04 20.0**	**+1.5**
GUN	**Gumba**	**28.27**	**337**	*eP*	**P**	**20 04 18.7**	**-0.8**
LSA	**Lhasa**	**28.36**	**348**	P	**P**	**20 04 20.6**	**+0.2**
SOEI	**Soe**	**28.76**	**114**	P	**P**	**20 04 25.5**	**+1.7**
SOEI				IAmb	IAmb	20 04 44.3	
	comp=Z,9.2nm,1.1s						
GKN	**Gorkha**	**28.85**	**335**	*eP*	**P**	**20 04 24.4**	**-0.1**
KOLN	**Koldanda**	**29.10**	**333**	*eP*	**P**	**20 04 28.2**	**+1.5**
DANN	**Dangsing**	**29.53**	**334**	*eP*	**P**	**20 04 30.5**	**-0.1**
	comp=Z,5.6nm,0.5s						
TNTI	**Ternate**	**29.54**	**92**	P	**P**	**20 04 30.7**	**+0.1**
PYUN	**Piuthan**	**29.66**	**333**	*eP*	**P**	**20 04 32.8**	**+1.1**
NIL	**Nilore**	**39.07**	**327**	P	**P**	**20 05 52.0**	**-0.8**
NIL				IAmb	IAmb	20 05 55.9	
	comp=Z,4.3nm,0.7s						
WRA	**Warramunga Arr**	**41.88**	**123**	P	**P**	**20 06 13.2**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=324,slow=11,SNR=9.3						
WRA	**Warramunga Arr**	**41.88**	**123**	P	**P**	**20 06 16.3**	**+0.1**
WB2	**Warramunga Arr**	**41.89**	**123**	P	**P**	**20 06 14.9**	**-1.4**
WB2				IAmb	IAmb	20 06 22.8	
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**43.32**	**128**	P	**P**	**20 06 26.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=300,slow=7.8,SNR=4.3						
ASAR	**Alice Springs**	**43.32**	**128**	P	**P**	**20 06 28.4**	**+0.4**
CHGR	**Chuyangaron**	**45.00**	**328**	P	**P**	**20 06 40.5**	**-0.7**
ARSB	**Arslanbob**	**45.18**	**333**	P	**P**	**20 06 42.7**	**0.0**
ARSB				IAmb	IAmb	20 06 44.1	
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**46.34**	**8**	P	**P**	**20 06 50.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=190,slow=8.9,SNR=11						
SONM	**Songino Array**	**46.34**	**8**	P	**P**	**20 06 50.6**	**-1.1**
MK31	**Makanchi Array**	**46.72**	**345**	P	**P**	**20 06 54.0**	**-0.5**
MK31				IAmb	IAmb	20 06 54.7	
	comp=Z,3.4nm,1.1s						
MKAR	**Makanchi Array**	**46.72**	**345**	P	**P**	**20 06 53.9**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=156,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**46.72**	**345**	P	**P**	**20 06 54.3**	**-0.3**
MAKZ	**Makanchi**	**46.81**	**345**	P	**P**	**20 06 55.2**	**-0.1**
MAKZ				IAmb	IAmb	20 06 55.4	
	comp=Z,3.7nm,0.9s						
KKAR	**Karatay Array**	**47.71**	**333**	P	**P**	**20 07 02.1**	**-0.2**
KURBB	**Kurchatov Arra**	**51.22**	**344**	P	**P**	**20 07 28.6**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=165,slow=7.2,SNR=20						
KURK	**Kurchatov**	**51.28**	**344**	P	**P**	**20 07 28.6**	**-0.7**
KURK				IAmb	IAmb	20 07 30.4	
	comp=Z,2.9nm,0.9s						
ZAA0	**Zalesovo Array**	**52.97**	**350**	P	**P**	**20 07 41.1**	**-0.7**
ZAA0				IAmb	IAmb	20 07 42.0	
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**52.97**	**350**	P	**P**	**20 07 41.0**	**-0.9**
	comp=Z,3.4nm,0.4s,baz=175,slow=6.8,SNR=20						
ZALV	**Zalesovo Beam**	**52.97**	**350**	P	**P**	**20 07 40.8**	**-1.0**
STKA	**Stephens Creek**	**53.36**	**133**	P	**P**	**20 07 44.6**	**-0.6**
BVAR	**Borovoye Array**	**55.80**	**340**	P	**P**	**20 08 01.4**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=141,slow=9.3,SNR=7.0						
BRVK	**Borovoye**	**55.86**	**340**	P	**P**	**20 08 02.8**	**-0.2**
BRVK				IAmb	IAmb	20 08 15.3	
	comp=Z,2.6nm,0.7s						
ABKAR	**Akbulak array**	**57.19**	**331**	P	**P**	**20 08 11.9**	**-0.6**
ABKAR	**Akbulak array**	**57.19**	**331**	P	**P**	**20 08 11.8**	**-0.7**
ABKAR				IAmb	IAmb	20 08 26.1	
	comp=Z,1.7nm,0.9s						
ARU	**Arti**	**62.78**	**337**	P	**P**	**20 08 49.9**	**-0.8**
YAK	**Yakutsk**	**64.57**	**16**	P	**P**	**20 09 02.6**	**+0.3**
FINES	**FINESS Array B**	**79.67**	**332**	P	**P**	**20 10 31.1**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=98,slow=5.8,SNR=6.0						
FINES	**FINESS Array B**	**79.67**	**332**	P	**P**	**20 10 31.5**	**-1.2**

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*ISCJB **16** 20:11:08.1±0.7, 60°.08S±0°.08×46°.4W±0°.2, h10km, mb3.6/1, MS2.9/2, Error ellipse: s-maj=14.3km s-min=8.9km az=43.4*
*IDC **16** 20:11:08.3±2.2, 60°.32S×46°.24W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/18, mbtmp3.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.8/13, Error ellipse: s-maj=123.6km s-min=72.1km az=179.0*
*NEIC **16** 20:11:10.5±2.1, 60°.07S±0°.09×46°.4W±0°.2, h10km±1km, mb4.1/7*
ISC 16 20:11:10.0±0.7,**60°.1S**±0°.1×**46°.5W**±0°.1,**h10**km,**n19**, σ1§**27**/14,**mb3.9**/3,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.96**	**48**	Pn	**Pn**	**20 13 06.1**	**+0.5**
HOPE				Sn	**Sn**	**20 14 35.4**	**-0.2**
PMSA	**Palmer Station**	**9.38**	**232**	Pn	**Pn**	**20 13 25.4**	**+0.4**
SNAA	**Sanae**	**20.69**	**142**	P	Pn	20 15 50.2	-2.0
SNAA				IAmb	IAmb	20 15 54.7	
	comp=Z,8.2nm,1.0s						
TRQA	**Tornquist**	**24.13**	**329**		**P**	**20 16 28.5**	**+2.6**
PLCA	**Paso Flores**	**24.44**	**312**	LR	LR	20 24 28.7	
	comp=Z,32nm,20.1s,baz=174,slow=32						
PLCA	**Paso Flores**	**24.44**	**312**	P	**P**	**20 16 29.4**	**+0.7**
PLCA				IAmb	IAmb	20 16 45.5	
	comp=Z,3.4nm,1.0s						
GO05	**Huala**	**30.02**	**315**	P	**P**	**20 17 16.9**	**-1.8**
QSPA	**South Pole Qui**	**30.16**	**180**	P	**P**	**20 17 19.2**	**-0.7**
QSPA				IAmb	IAmb	20 17 23.2	
	comp=Z,4.0nm,1.0s						
CPUP	**Villa Florida**	**34.55**	**343**	LR	LR	20 33 10.9	
	comp=Z,21nm,19.7s,baz=213,slow=38						
MAW	**Mawson**	**42.66**	**148**	P	**P**	**20 19 07.5**	**+1.4**
H10N3	**ASCENSION HYDR**	**57.42**	**39**	T	T	21 23 46.5	
	baz=199,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**57.43**	**39**	T	T	21 23 47.2	
	baz=199,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**57.44**	**39**	T	T	21 23 47.9	
	baz=199,slow=75,SNR=14						
LBTB	**Lobatse**	**59.77**	**88**	P	**P**	**20 21 14.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**82.54**	**47**	P	**P**	**20 23 32.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=191,slow=6.9,SNR=2.9						
ILAR	**Eielson Array**	**145.13**	**312**	PKPbc	**PKPbc**	**20 30 45.5**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=121,slow=1.5,SNR=7.1						
BVAR	**Borovoye Array**	**145.75**	**73**	PKPbc	**PKPdf**	**20 30 47.1**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=242,slow=3.2,SNR=6.7						
MKAR	**Makanchi Array**	**147.63**	**91**	PKPbc	**PKPbc**	**20 30 52.1**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=241,slow=2.7,SNR=6.0						
MKAR	**Makanchi Array**	**147.63**	**91**		**PKPdf**	**20 30 51.8**	**+1.0**

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*IDC **16** 20:23:06.7±3.6, 8°.25S×73°.95W, h122km±46km, mb3.3/3, mb1 3.6/5, mb1mx3.3/47, mbtmp3.7/5, Error ellipse: s-maj=80.9km s-min=17.6km az=33.0*
*ISCJB **16** 20:23:08.2±0.9, 8°.4S±0°.2×74°.2W±0°.1, h158km, mb3.4/3, Error ellipse: s-maj=29.8km s-min=10.7km az=25.6*
ISC 16 20:23:09.3±0.9,**8°.6S**±0°.2×**74°.2W**±0°.1,**h158**km,**n7**,σ0§**83**/8, **mb3.5**/3,**Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.38**	**289**	P	**Pn**	**20 24 15.3**	**+0.2**
	baz=36,slow=19						
ATAH				S	**Sn**	**20 25 05.4**	**-1.0**
	20nm,0.3s,baz=213,slow=18,SNR=9.1						
LPAZ	**La Paz**	**9.70**	**143**	P	**Pn**	**20 25 26.1**	**+0.3**
	0.1nm,0.3s,baz=194,slow=8.3,SNR=3.3						
TXAR	**Lajitas Array**	**47.18**	**324**	P	**P**	**20 31 27.2**	**+0.9**
	0.3nm,0.5s,baz=151,slow=8.2,SNR=3.2						
PDAR	**Pinedale Array**	**60.41**	**331**	P	**P**	**20 33 02.6**	**+0.3**
	0.4nm,0.6s,baz=112,slow=9.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**78.40**	**75**	P	**P**	**20 34 51.9**	**-1.2**
	0.5nm,0.4s,baz=251,slow=4.8,SNR=10						
ASAR	**Alice Springs**	**137.78**	**220**	PKP	**PKiKP**	**20 42 17.8**	**0.0**
	0.1nm,0.4s,baz=152,slow=1.8,SNR=2.8						
WRA	**Warramunga Arr**	**140.08**	**224**	PKP	**PKiKP**	**20 42 22.6**	**0.0**
	0.2nm,0.3s,baz=128,slow=2.2,SNR=5.3						

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*SKHL **16** 20:28:13.7±0.6, 45°.50N×150°.81E, h134km±4km, mb5.4/3, msh6.2/5*
*MOS **16** 20:28:15.1±0.9, 45°.77N×150°.45E, h127km, mb4.3/4, Error ellipse: s-maj=7.5km s-min=6.5km az=54.7*
*NEIC **16** 20:28:16.4±1.4, 45°.83N±0°.09×150°.43E±0°.04, h119km±6km, mb4.3/43*
*IDC **16** 20:28:17.9±2.2, 45°.95N×150°.36E, h130km±19km, mb3.7/26, mb1 3.8/32, mb1mx3.7/55, mbtmp4.1/32, Error ellipse: s-maj=14.1km s-min=11.3km az=156.0*
*ISCJB **16** 20:28:17.4±0.3, 45°.56N±0°.04×150°.32E±0°.05, h150km, mb4.0/44, Error ellipse: s-maj=7.0km s-min=2.8km az=143.2*
*JMA **16** 20:28:19.5±0.4, 45°.10N×150°.36E, h137km, M4.0*
ISC 16 20:28:18.5±0.5,**45°.41N**±0°.06×**150°.46E**±0°.06,**h150**km, **n227**,σ1§**91**/222,**mb4.1**/54,**5C-7D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.83**	**265**	*i* PN	**Pn**	**20 28 49.4**	**-2.2**
KUR				*eS*	**Sn**	**20 29 14.7**	**-2.4**
KUR				pmax	pmax		
	comp=Z,405nm,0.3s						
KUR				pmax	pmax		
	comp=N,119nm,0.2s						
KUR				pmax	pmax		
	comp=E,76nm,0.2s						
KUR				smax	smax		
	comp=N,5μm,0.3s						
KUR				smax	smax		
	comp=E,3μm,0.3s						
KUR	**Kuril'sk**	**1.83**	**265**	*i* P	**Pn**	**20 28 49.0**	**-2.6**
KUR				AMB	AMB	20 28 50.0	
	comp=E,499nm,0.3s						
KUR				*i* S	**Sn**	**20 29 15.0**	**-2.1**
KUR				A	A	20 29 15.0	
	comp=E,5μm,0.4s						
KUR				A	A	20 29 15.0	
	comp=E,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.55**	**249**	*e*PN	**Pn**	**20 29 11.2**	**-1.6**
YUK				*eS*	**Sn**	**20 29 54.3**	**-0.7**
YUK				pmax	pmax		
	comp=N,215nm,0.2s						
YUK				pmax	pmax		
	comp=E,80nm,0.2s						
YUK				smax	smax		
	comp=E,651nm,0.2s						
YUK				smax	smax		
	comp=N,671nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.55**	**249**	*e*P	**Pn**	**20 29 11.0**	**-1.8**
YUK				*eS*	**Sn**	**20 29 54.0**	**-1.0**
YUK				A	A	20 29 58.0	
	comp=N,690nm,0.3s						
YUK				A	A	20 29 58.0	
	comp=N,720nm,0.3s						
LAGR	**Lagunnoye**	**3.59**	**250**	*e*PN	**Pn**	**20 29 12.1**	**-1.3**
LAGR				*eS*	**Sn**	**20 29 55.8**	**-0.1**
LAGR				pmax	pmax		
	comp=Z,281nm,0.4s						
LAGR				pmax	pmax		
	comp=N,109nm,0.2s						
LAGR				pmax	pmax		
	comp=E,158nm,0.2s						
LAGR				smax	smax		
	comp=E,699nm,0.5s						
LAGR	**Lagunnoye**	**3.59**	**250**	*e*P	**Pn**	**20 29 12.0**	**-1.3**
LAGR				AMB	AMB	20 29 13.0	
	comp=E,281nm,0.4s						
LAGR				*eS*	**Sn**	**20 29 55.0**	**-0.9**
LAGR				A	A	20 30 01.0	
	comp=E,699nm,0.5s						
LAGR				A	A	20 30 01.0	
	comp=E,762nm,0.5s						
GRPR	**Tuman**	**3.63**	**249**	*e*PN	**Pn**	**20 29 12.5**	**-1.3**
GRPR				*eS*	**Sn**	**20 29 56.2**	**-0.6**
GRPR				pmax	pmax		
	comp=Z,149nm,0.3s						
GRPR				pmax	pmax		
	comp=E,70nm,0.2s						
GRPR				smax	smax		
	comp=E,601nm,0.3s						
GRPR				smax	smax		
	comp=N,685nm,0.4s						
GRPR	**Tuman**	**3.63**	**249**	*e*P	**Pn**	**20 29 12.0**	**-1.8**
GRPR				AMB	AMB	20 29 13.0	
	comp=N,149nm,0.3s						
GRPR				*eS*	**Sn**	**20 29 56.0**	**-0.8**
GRPR				A	A	20 30 01.0	
	comp=N,685nm,0.4s						
GRPR				A	A	20 30 01.0	
	comp=N,601nm,0.4s						
GLVR	**Golovnino**	**3.90**	**246**	*e*PN	**Pn**	**20 29 16.2**	**-1.2**
GLVR				*eS*	**Sn**	**20 30 03.5**	**+0.4**
GLVR				smax	smax		
	comp=N,872nm,0.1s						
GLVR				smax	smax		
	comp=E,458nm,0.2s						
GLVR	**Golovnino**	**3.90**	**246**	*e*P	**Pn**	**20 29 16.0**	**-1.4**
GLVR				*eS*	**Sn**	**20 30 03.0**	**-0.1**
GLVR				A	A	20 30 09.0	
	comp=E,872nm,0.4s						
GLVR				A	A	20 30 09.0	
	comp=E,458nm,0.4s						
NEM2	**Nemuro 2**	**3.95**	**240**	P	**Pn**	**20 29 16.6**	**-1.4**
NEM2				*eS*	**Sn**	**20 30 00.6**	**-3.6**
NMR	**Nemuro--Hokkai**	**3.96**	**241**	*e*PN	**Pn**	**20 29 16.9**	**-1.2**
NMR				*eS*	**Sn**	**20 30 02.7**	**-1.7**
NMR	**Nemuro--Hokkai**	**3.96**	**241**	*e*P	**Pn**	**20 29 16.0**	**-2.1**
JRA	**Rausu**	**4.08**	**251**	P	**Pn**	**20 29 19.5**	**-0.2**
JAK	**Akkeshi**	**4.79**	**242**	P	**Pn**	**20 29 27.8**	**-1.3**
JAK				*eS*	**Sn**	**20 30 20.7**	**-3.4**
JTKR	**Abashiri--Toko**	**4.88**	**255**	P	**Pn**	**20 29 30.0**	**-0.3**
JAR	**Ashorobuto**	**5.24**	**249**	P	**Pn**	**20 29 35.0**	**0.0**
JMP	**Maruseppu**	**5.25**	**257**	P	**Pn**	**20 29 34.6**	**-0.6**
JOB	**Onbets**	**5.38**	**245**	P	**Pn**	**20 29 36.7**	**-0.2**
JOB				*eS*	**Sn**	**20 30 36.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.57**	**289**	*e*PN	**Pn**	**20 29 38.1**	**-1.2**
YSS				*eS*	**Sn**	**20 30 40.0**	**-2.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=E,40nm,1.3s						
YSS	**Yuzh-Sakhalins**	**5.57**	**289**	*e*P	**Pn**	**20 29 38.1**	**-1.2**
YSS				AMB	AMB	20 29 42.3	
	comp=E,30nm,0.9s						
YSS				*eS*	**Sn**	**20 30 40.0**	**-2.5**
YSS				A	A	20 30 44.8	
	comp=E,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.57**	**289**		**Pn**	**20 29 37.9**	**-1.4**
YSS				Sn	**Sn**	**20 30 38.7**	**-3.8**
JKK2	**Kamakawa 2**	**5.71**	**257**	P	**Pn**	**20 29 41.3**	**0.0**
JKA	**Kamikawa-asahi**	**5.74**	**260**		**Pn**	**20 29 42.3**	**+0.6**
ASAJ	**Asahikawa**	**5.74**	**260**	P	**Pn**	**20 29 41.9**	**+0.2**
ASAJ	**Asahikawa**	**5.74**	**260**	P	**Pn**	**20 29 42.3**	**+0.6**
	comp=E,3.6nm,0.3s,baz=36,slow=6.4,SNR=26						
ASAJ				S	Sn	20 31 05.6	+19
	comp=E,1.0nm,0.3s,baz=317,slow=26,SNR=3.1						
JCH	**Churui**	**5.83**	**244**	P	**Pn**	**20 29 41.9**	**-0.9**
JCH				*eS*	**Sn**	**20 30 45.5**	**-3.3**
ERM	**Erimo**	**6.28**	**240**	*i* PN	**Pn**	**20 29 49.2**	**+0.3**
ERM	**Erimo**	**6.28**	**240**	Pn	**Pn**	**20 29 49.4**	**+0.5**
ERM				Sn	**Sn**	**20 30 59.7**	**+0.1**
JNBK	**Urakawa-nobuka**	**6.39**	**243**	P	**Pn**	**20 29 49.1**	**-1.2**
JBT2	**Biratori 2**	**6.39**	**249**	P	**Pn**	**20 29 50.0**	**-0.4**
JNB	**Noboribetsu**	**7.41**	**250**	P	**Pn**	**20 30 03.6**	**-0.3**
JNB				*eS*	**Sn**	**20 31 24.2**	**-2.4**
JKB	**Kayabe**	**7.69**	**246**	P	**Pn**	**20 30 06.2**	**-1.4**
JKB				*eS*	**Sn**	**20 31 28.0**	**-5.3**
JSH	**Shimam**	**8.00**	**253**	P	**Pn**	**20 30 11.5**	**-0.2**
JYM2	**Yakumo 2**	**8.01**	**249**	P	**Pn**	**20 30 11.0**	**-0.9**
JANG	**Nango**	**8.27**	**236**	P	**Pn**	**20 30 12.6**	**-2.8**
JANG				*eS*	**Sn**	**20 31 41.6**	**-5.8**
JTM	**Tenmabayashi**	**8.28**	**239**	P	**Pn**	**20 30 13.4**	**-2.1**
JTM				*eS*	**Sn**	**20 31 40.3**	**-7.2**
JTH	**Tanohata**	**8.36**	**232**	*eS*	**Sn**	**20 31 42.6**	**-7.0**
JOSM	**Okushiri--Mats**	**8.62**	**251**	P	**Pn**	**20 30 19.0**	**-1.0**
PEA0B	**Petropavlovsk-**	**9.04**	**29**	PN	Pn	20 30 18.3	-7.3
PEA0B	**Petropavlovsk-**	**9.04**	**29**	Pn	Pn	20 30 18.3	-7.3
PETK	**Petropavlovsk-**	**9.04**	**29**	PN	Pn	20 30 18.7	-6.9
PETK	**Petropavlovsk-**	**9.04**	**29**	P	Pn	20 30 18.4	-7.2
	comp=E,0.4nm,0.3s,baz=210,slow=11,SNR=7.4						
PETK	**Petropavlovsk-**	**9.04**	**29**	Pn	Pn	20 30 18.7	-6.9
OFUJ	**Ofunato**	**9.08**	**229**	*eS*	**Sn**	**20 32 01.5**	**-5.4**
JRG	**Rokugo**	**9.42**	**234**	P	**Pn**	**20 30 29.7**	**-1.1**
JRG				*

H11S2	WAKE ISLAND Hy	30.05 148	T	T		21 06 32.1
	baz=336,slow=76,SNR=124					
SONM	Songino Array	30.05 291	P	P		20 34 13.8 +0.4
	comp=Z,0.3nm,0.3s,baz=87,slow=8.3,SNR=5.4					
SONM	Songino Array	30.05 291	P	P		20 34 12.7 -0.7
WHN	Wuhan	31.80 255	P	P		20 34 28.6 -0.1
IMAR	Indian Mountai	35.94 35	P	P		20 35 01.9 -2.1
GTA	Gaotai	37.35 279	⇑P	P		20 35 17.8 +1.3
GTA			pP	pP		20 35 46.3 -2.4
GTA			sP	sP		20 36 00.0 -5.6
GTA			S	S		20 40 56.0 +2.8
GTA			pmax	pmax		
	comp=Z,8.0nm,0.8s					
GTA			pmax	pmax		
	comp=Z,180nm,6.4s					
GTA			LR	LR		
	comp=N,100nm,16.2s					
GTA			LR	LR		
	comp=E,190nm,15.9s					
GTA			LR	LR		
	comp=Z,220nm,15.9s					
TOLK	Toolik Lake Re	37.85 31	P	P		20 35 18.1 -2.1
TOLK			IAmb	IAmb		20 35 33.9
	comp=Z,3.6nm,1.1s					
ILAR	Eielson Array	38.74 37	P	P		20 35 26.0 -1.7
ILAR	Eielson Array	38.74 37	P	P		20 35 26.0 -1.7
	comp=Z,0.2nm,0.7s,baz=274,slow=5.3,SNR=3.8					
BMAR	Burnt Mountain	39.66 33	P	P		20 35 34.4 -0.9
BCAR	Beaver Creek A	41.12 40	P	P		20 35 46.3 -1.1
EGAK	Eagle	41.19 37	P	P		20 35 46.1 -1.7
ZALV	Zalesovo Beam	41.90 306	P	P		20 35 51.6 -2.1
ZALV	Zalesovo Beam	41.90 306	P	P		20 35 50.5 -3.3
	comp=Z,0.7nm,0.5s,baz=81,slow=9.2,SNR=4.1					
ZALV	Zalesovo Beam	41.90 306	P	P		20 35 51.6 -2.1
EPYK	Eagle Plains	42.83 35	P	P		20 36 00.6 -0.5
EPYK			IAmb	IAmb		20 36 08.0
	comp=Z,7.4nm,1.5s					
WMQ	Urumqi	43.69 291	eP	P		20 36 09.1 +0.7
WMQ			pmax	pmax		
	comp=Z,42nm,4.1s					
WMQ			LR	LR		
	comp=N,350nm,22.3s					
WMQ			LR	LR		
	comp=E,2μm,26.3s					
WMQ			LR	LR		
	comp=Z,180nm,18.3s					
INK	Inuvik	43.77 31	P	P		20 36 07.5 -1.0
INK			pmax	pmax		
	comp=Z,5.0nm,1.5s					
INK	Inuvik	43.77 31	P	P		20 36 07.2 -1.2
	comp=Z,0.6nm,0.3s,baz=253,slow=7.2,SNR=6.4					
INK	Inuvik	43.77 31	P	P		20 36 07.5 -1.0
MK31	Makanchi Array	45.91 297	P	P		20 36 24.7 -1.2
MK31			pmax	pmax		
	comp=Z,4.0nm,1.4s					
MK31	Makanchi Array	45.91 297	P	P		20 36 24.7 -1.2
MKAR	Makanchi Array	45.91 297	P	P		20 36 24.6 -1.2
	comp=Z,1.0nm,0.6s,baz=69,slow=4.9,SNR=13					
KURK	Kurchatov	46.57 304	iP	P		20 36 28.1 -2.7
KURK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KURK	Kurchatov	46.57 304	eP	P		20 36 28.1 -2.7
KURK	Kurchatov	46.57 304	P	P		20 36 29.0 -1.8
KURK			IAmb	IAmb		20 36 29.4
	comp=Z,3.8nm,0.7s					
KURBB	Kurchatov Arra	46.66 304	P	P		20 36 28.6 -3.0
	comp=Z,2.9nm,0.6s,baz=70,slow=8.5,SNR=6.5					
CHTO	Chiang Mai	50.00 255	P	P		20 36 59.6 +2.0
CHTO			pmax	pmax		
	comp=Z,4.0nm,1.1s					
CHTO	Chiang Mai	50.00 255	P	P		20 36 59.6 +2.0
CHTO			IAmb	IAmb		20 37 01.7
	comp=Z,4.5nm,1.1s					
PBKT	Sadao Pong	50.21 252	P	P		20 37 00.6 +1.5
CMAR	Chiang Mai Arr	50.25 255	P	P		20 37 01.3 +1.9
CMAR	Chiang Mai Arr	50.25 255	P	P		20 37 02.8 +3.4
	comp=Z,1.0nm,0.7s,baz=42,slow=7.3,SNR=7.2					
CMAR	Chiang Mai Arr	50.25 255	P	P		20 37 01.3 +1.9
BVAR	Borovoye Array	50.28 309	P	P		20 36 57.3 -2.0
	comp=Z,0.5nm,0.6s,baz=50,slow=12,SNR=4.0					
BRVK	Borovoye	50.32 309	P	P		20 36 58.0 -1.5
BRVK			pmax	pmax		
	comp=Z,6.0nm,1.5s					
BRVK	Borovoye	50.32 309	P	P		20 36 58.0 -1.5
BRVK			IAmb	IAmb		20 37 05.9
	comp=Z,5.8nm,1.5s					
SHL	Shillong	50.48 268	P	P		20 37 01.9 +0.6
SHL			pmax	pmax		
	comp=Z,4.0nm,0.8s					
SHL	Shillong	50.48 268	P	P		20 37 01.9 +0.6
SHL			IAmb	IAmb		20 37 03.2
	comp=Z,4.0nm,0.8s					
KDJ	Kajisay	51.31 294	P	P		20 37 06.9 -0.4
KDJ			pmax	pmax		
	comp=Z,3.0nm,0.9s					
KDJ	Kajisay	51.31 294	P	P		20 37 06.9 -0.4
KDJ			IAmb	IAmb		20 37 14.3
	comp=Z,3.0nm,0.9s					
TAPN	Taplejung	52.32 272	eP	P		20 37 16.8 +1.7
RES	Resolute Bay	52.69 18	P	P		20 37 15.6 -1.1
RES			pmax	pmax		
	comp=Z,5.0nm,0.9s					
RES	Resolute Bay	52.69 18	P	P		20 37 15.6 -1.1
RES			IAmb	IAmb		20 37 16.1
	comp=Z,5.0nm,0.8s					
ODAN	Odare	52.84 272	eP	P		20 37 20.9 +2.0
	comp=Z,5.0nm,0.5s					
JIRN	Jiri	53.20 274	eP	P		20 37 23.6 +2.0
GUN	Gumba	53.26 274	eP	P		20 37 24.3 +2.2
RAMN	Ramite	53.34 273	eP	P		20 37 24.1 +1.5
KSH	Kashi	53.45 292	P	P		20 37 27.8 +4.8
KSH			PcP	PcP		20 38 32.4 +4.3
KSH			S	S		20 44 49.4 +5.6
KSH			sS	sS		20 45 42.0 -1.2
KSH	Kashi	53.45 292	SS	SS		20 48 31.8 +6.3
KSH			pmax	pmax		
	comp=Z,880nm,6.4s					
KSH			LR	LR		
	comp=N,710nm,15.1s					
KSH			LR	LR		
	comp=E,1μm,18.3s					
KSH			LR	LR		
	comp=Z,550nm,10.3s					
KKN	Kakani	53.76 274	eP	P		20 37 27.9 +2.3
PKI	Pulchoki	53.80 274	eP	P		20 37 27.5 +1.5
PKIN	Phulchoki	53.81 274	eP	P		20 37 27.4 +1.4
	comp=Z,3.1nm,0.3s					
DMN	Daman	53.99 274	eP	P		20 37 28.8 +1.5
GKN	Gorkha	54.08 275	eP	P		20 37 29.1 +1.3
DANN	Dangsing	54.48 276	eP	P		20 37 32.9 +2.0
ARU	Arti	54.74 317	diP	P		20 37 28.5 -3.5
ARU						20 38 26.8
ARU			S	S		20 45 00.6 +0.1
ARU			SS	SS		20 48 43.0 -1.9
ARU			pmax	pmax		
	comp=Z,14nm,1.4s					
ARU	Arti	54.74 317	P	P		20 37 28.9 -3.0
	comp=Z,1.3nm,0.5s,baz=348,slow=2.5,SNR=8.4					
ARU	Arti	54.74 317	eP	P		20 37 28.7 -3.3
ARU	Arti	54.74 317	P	P		20 37 29.2 -2.8
KOLN	Koldanda	54.95 276	eP	P		20 37 35.7 +1.6
KKAR	Karatay Array	55.02 298	P	P		20 37 33.5 -0.7
KKAR	Karatay Array	55.02 298	P	P		20 37 33.5 -0.7
KKAR	Karatay Array	55.02 298	P	P		20 37 33.7 -0.5
KKAR			IAmb	IAmb		20 37 42.5
	comp=Z,0.5nm,0.8s					
BTK	Batken	56.48 295	P	P		20 37 44.6 -0.1
BTK			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BTK	Batken	56.48 295	P	P		20 37 44.6 -0.1
GAR	Garm	57.39 294	P	P		20 37 51.2 0.0
ABKAR	Abkulak array	57.85 309	P	P		20 37 52.7 -1.4
ABKAR	Abkulak array	57.85 309	P	P		20 37 52.8 -1.4
ABKAR			IAmb	IAmb		20 37 53.4
	comp=Z,2.0nm,0.7s					
CHGR	Chuyangaron	58.33 295	P	P		20 37 57.8 +0.1
NIL	Nilore	58.56 288	P	P		20 38 00.3 +1.0
NIL			pmax	pmax		
	comp=Z,12nm,0.8s					
NIL	Nilore	58.56 288	P	P		20 38 00.3 +1.0
KBL	Kabul	60.83 291	P	P		20 38 14.8 -0.2
KBL			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KBL	Kabul	60.83 291	P	P		20 38 14.8 -0.2
PLID	Pearl Lake	61.96 53	P	P		20 38 22.2 -0.3
PLID			IAmb	IAmb		20 38 23.3
	comp=Z,3.8nm,1.1s					
SUMG	Summit	62.15 3	P	P		20 38 22.4 -1.1
SUMG			pmax	pmax		
	comp=Z,12nm,0.9s					
SUMG	Summit	62.15 3	P	P		20 38 22.4 -1.1
BOZ	Bozeman (W)	64.07 51	P	P		20 38 36.3 0.0
BOZ			pmax	pmax		
	comp=Z,2.0nm,1.0s					
BOZ	Bozeman (W)	64.07 51	P	P		20 38 36.3 0.0
KVN	Kaiserville	64.44 60	P	P		20 38 39.0 +0.1
KVN			pmax	pmax		
	comp=Z,2.0nm,1.0s					
KVN	Kaiserville	64.44 60	P	P		20 38 39.0 +0.1
FINES	FINESS Array B	64.45 334	P	P		20 38 35.7 -2.6
	comp=Z,3.1nm,0.5s,baz=32,slow=9.1,SNR=27					
NVAR	Mina Array Bea	64.70 60	P	P		20 38 41.4 +0.8
	comp=Z,0.9nm,0.5s,baz=299,slow=6.9,SNR=9.9					
HRA	Herat	65.34 295	P	P		20 38 45.0 +0.2
HRA			IAmb	IAmb		20 38 46.0
	comp=Z,2.8nm,0.8s					
GEYT	Alibeck	65.69 300	P	P		20 38 47.2 +0.5
	comp=Z,4.3nm,0.7s,baz=13,slow=3.2,SNR=10.0					
GEYT	Alibeck	65.69 300	P	P		20 38 46.9 +0.2
GYA0B	ALIBECK ARRAY	65.69 300	P	P		20 38 46.9 +0.1
R11A	Troy Canyon, C	66.40 59	P	P		20 38 51.6 +0.1
WB0	Warramunga Arr	66.49 197	P	P		20 38 55.0 +3.2
WB0			IAmb	IAmb		20 39 00.9
	comp=Z,6.3nm,1.4s					
WB2	Warramunga Arr	66.67 197	P	P		20 38 56.4 +3.5
WB2			IAmb	IAmb		20 38 58.0
	comp=Z,3.0nm,1.1s					
WRA	Warramunga Arr	66.67 197	P	P		20 38 56.3 +3.3
	comp=Z,1.0nm,0.6s,baz=13,slow=6.5,SNR=11					
PDAR	Pinedale Array	67.03 52	P	P		20 38 55.4 -0.1
	comp=Z,1.0nm,0.6s,baz=274,slow=2.6,SNR=7.6					
PDAR	Pinedale Array	67.03 52	P	P		20 38 55.6 +0.1
FITZ	Fitzroy Crossi	67.11 206	P	P		20 38 59.4 +3.7
FITZ			IAmb	IAmb		20 39 02.2
	comp=Z,9.6nm,1.4s					
NB201	NORSAR Array S	68.85 340	P	P		20 39 04.3 -2.0
NB2	NORSAR Subarra	68.88 340	P	P		20 39 04.0 -2.4
	comp=Z,4.9nm,0.6s,baz=29,slow=6.5					
NOA	NORSAR Array B	68.88 340	P	P		20 39 04.3 -2.1
	comp=Z,1.4nm,0.4s,baz=29,slow=6.3,SNR=6.4					
ASAR	Alice Springs	70.38 196	P	P		20 39 19.8 +3.9
ASAR	Alice Springs	70.38 196	P	P		20 39 20.3 +4.3
	comp=Z,0.6nm,0.7s,baz=6.7,slow=5.6,SNR=7.2					
ASAR	Alice Springs	70.38 196	P	P		20 39 19.9 +3.9
KVAR	Kislovodsk Arr	70.38 313	P	P		20 39 15.2 -0.8
	comp=Z,3.1nm,0.8s,baz=266,slow=19,SNR=4.4					
KIV	Kislovodsk	70.39 313	eP	P		20 39 13.6 -2.4
KIV			pmax	pmax		
	comp=Z,26nm,1.0s					
KIV	Kislovodsk	70.39 313	P	P		20 39 16.2 +0.1
KBZ	Khabaz	70.44 313	P	P		20 39 16.5 +0.3
	comp=Z,6.6nm,0.8s,baz=65,slow=4.1,SNR=15					
TBLG	Delisi	70.86 310	P	P		20 39 17.9 -1.0
TBLG			pmax	pmax		
	comp=Z,12nm,0.7s					
TBLG	Delisi	70.86 310	P	P		20 39 17.9 -1.0
AKASG	Malin Array Be	71.61 325	P	P		20 39 21.7 -1.4
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.8s					
AKASG	Malin Array Be	71.61 325	P	P		20 39 21.1 -2.0
	comp=Z,3.0nm,0.6s,baz=35,slow=6.2,SNR=11					
AKASG	Malin Array Be	71.61 325	P	P		20 39 21.7 -1.4
AKBB	Malin Array Si	71.61 325	P	P		20 39 21.5 -1.6
AKBB	Malin Array Si	71.61 325	P	P		20 39 21.5 -1.6
AKH	Akhalkalaki	71.75 311	⇓P	P		20 39 26.5 +2.1
GNI	Garni	71.96 309	P	P		20 39 25.1 -0.6
	comp=Z,2.3nm,0.4s,baz=221,slow=19,SNR=3.6					
GNI	Garni	71.96 309	P	P		20 39 25.0 -0.6
GNI			IAmb	IAmb		20 39 44.1
	comp=Z,7.0nm,1.1s					
BUR08	Bucovina Ar. S	75.64 325	P	P		20 39 46.2 -0.7
BUR08			IAmb	IAmb		20 39 47.1
	comp=Z,4.7nm,0.6s					
BURAR	Bucovina Array	75.66 325	⇑P	P		20 39 46.7 -0.2
KOLS	Kolonicke sedl	75.73 328	eP	P		20 39 45.9 -1.4
KOLS	Kolonicke sedl	75.73 328	eP	P		20 39 45.9 -1.4
KRLC	Kraliky	76.74 331	eP	P		20 39 52.4 -0.6
KRLC	Kraliky	76.74 331	eP	P		20 39 52.4 -0.6
CLL	Collm	76.89 334	P	P		20 39 52.2 -1.5
CLL			pmax	pmax		
	comp=Z,9.0nm,1.5s					
CLL	Collm	76.89 334	eP	P		20 39 53.0 -0.7
CLL	Collm	76.89 334	P	P		20 39 52.2 -1.5
CLL			IAmb	IAmb		20 40 10.1
	comp=Z,9.4nm,1.5s					
TLB	Topalu	76.90 322	⇓P	P		20 39 54.1 +0.2
MLR	Muntele Rosu	77.07 324	P	P		20 39 55.1 +0.1
	comp=Z,1.5nm,0.5s,baz=275,slow=17,SNR=3.1					
EKA	Eskdalemuir Ar	77.18 345	P	P		20 39 54.1 -1.1
	comp=Z,0.4nm,0.3s,baz=14,slow=5.0,SNR=9.0					
DRGR		77.33 326	⇑P	P		20 39 56.4 0.0
VYHS	Vyhne	77.36 329	eP	P		20 39 56.3 -0.1
VYHS	Vyhne	77.36 329	eP	P		20 39 56.3 -0.1
ICOR	Ion Corvin	77.37 322	⇑P	P		20 39 57.3 +0.8
VOIR		77.49 324	⇓P	P		20 39 57.8 +0.5
PRU	Pruhonice	77.56 333	eP	P		20 39 57.1 -0.3
PRU	Pruhonice	77.56 333	eP	P		20 39 57.1 -0.3
BRTR	Keskin Array B	78.07 315	P	P		20 40 00.3 -0.4
BRTR	Keskin Array B	78.07 315	P	P		20 40 00.7 0.0
	comp=Z,1.3nm,0.8s,baz=71,slow=6.4,SNR=6.9					
BRTR	Keskin Array B	78.07 315	P	P		20 40 00.3 -0.4
GZR	Gura Zlata	78.45 325	⇓P	P		20 40 02.3 -0.2
KHC	Kasperske Hory	78.61 333	eP	P		20 40 03.2 -0.1
KHC	Kasperske Hory	78.61 333	eP	P		20 40 03.2 -0.1
BZS	Buzias	78.72 326	⇓P	P		20 40 03.7 -0.3
GERES	GERESS Array B	78.82 333	P	P		20 40 03.6 -1.0
GERES	GERESS Array B	78.82 333	P	P		20 40 03.7 -0.9
	comp=Z,0.9nm,0.6s,baz=32,slow=5.2,SNR=9.3					
TXAR	Lajitas Array	79.77 59	P	P		20 40 10.5 +0.5
TXAR	Lajitas Array	79.77 59	P	P		20 40 10.6 +0.6
	comp=Z,0.6nm,0.5s,baz=308,slow=4.9,SNR=9.0					
TXAR	Lajitas Array	79.77 59	P	P		20 40 10.5 +0.5
VTS	Vitosha	80.54 323	P	P		20 40 13.4 -0.6
VTS			pmax	pmax		
	comp=Z,6.0nm,0.8s					
VTS	Vitosha	80.54 323	⇑P	P		20 40 14.6 +0.6
VTS	Vitosha	80.54 323	P	P		20 40 13.4 -0.6
VTS			IAmb	IAmb		20 40 15.0
	comp=Z,5.6nm,0.8s					
PLCA	Paso Flores	149.92 96	PKPbc	PKiKP		20 47 52.7 +1.3
	comp=Z,1.6nm,0.7s,baz=309,slow=1.7,SNR=6.6					

ISCJB ***16*** *20:30:21.0±0.8, 5°.30N±0°.03×73°.74W±0°.03, h148km±7km, Error ellipse: s-maj=5.5km s-min=4.6km az=137.7*
RSNC ***16*** *20:30:21.5±1.3, 5°.28N×73°.74W, h149km±5km, ML3.4, Mw3.5*
IDC ***16*** *20:30:22.5±3.2, 4°.34N×74°.06W, h155km±36km, Error ellipse: s-maj=179.3km s-min=83.5km az=164.0*
ISC 16 20:30:20.1±1.2, 5°.28N±0°.04×73°.73W±0°.04, h158km±8km, n24, σ0°81/45, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPBC	San Pablo de B	0.50	317	eP	Pn	Pn	20 30 42.8	+0.3
SPBC				eS	Sn	Sn	20 30 59.1	-0.5
SPBC				i			20 31 00.5	
	comp=Z,561nm,0.2s							
CHIC	Chingaza	0.65	180	eP	Pn	Pn	20 30 43.9	+0.2
CHIC				eS	Sn	Sn	20 31 00.3	-1.4
CHIC				i			20 31 02.9	
	comp=Z,470nm,0.5s							
ROSC	El Rosal	0.73	233	eP	Pn	Pn	20 30 45.6	+1.5
ROSC				eS	Sn	Sn	20 31 02.9	+0.4
ROSC				i			20 31 05.5	
	comp=Z,597nm,0.5s							
ROSC	El Rosal	0.73	233	P	Pn	Pn	20 30 45.7	+1.5
	comp=Z,207nm,0.3s,baz=153,slow=15,SNR=206							
ROSC				S	Sn	Sn	20 31 03.8	+1.4
	comp=Z,188nm,0.3s,baz=12,slow=23,SNR=20							
RUSC	La Rusia	0.89	47	eP	Pn	Pn	20 30 46.1	+0.8
RUSC				eS	Sn	Sn	20 31 04.3	-0.3
RUSC				i			20 31 05.7	
	comp=Z,281nm,0.3s							
VILC	Villavicencio,	1.16	178	eP	Pn	Pn	20 30 47.2	0.0
VILC				eS	Sn	Sn	20 31 07.6	-0.4
VILC				i			20 31 09.3	
	comp=Z,903nm,0.3s							
NORC	Norcasia	1.17	284	eP	Pn	Pn	20 30 47.2	0.0
NORC				eS	Sn	Sn	20 31 07.2	-0.7
NORC				i			20 31 08.8	
	comp=Z,672nm,0.2s							
BARC	Barichara	1.41	23	eP	Pn	Pn	20 30 49.8	+0.1
BARC				eS	Sn	Sn	20 31 11.0	-1.4
BARC				i			20 31 13.8	
	comp=Z,530nm,0.3s							
PTBC	PUERTO BERRIO,	1.45	330	eP	Pn	Pn	20 30 49.4	-0.4
PTBC				eS	Sn	Sn	20 31 11.6	-1.0
PTBC				i			20 31 26.2	
	comp=Z,366nm,0.4s							
GUY2C	Guyana, Caldas	1.63	268	eP	Pn	Pn	20 30 52.5	+0.4
GUY2C				i			20 31 20.2	
	comp=Z,112nm,0.4s							
RREF	El Recreo	1.66	257	eP	Pn	Pn	20 30 53.2	+0.7
RREF				eS	Sn	Sn	20 31 17.3	-0.1
RREF				i			20 31 20.6	
	comp=Z,137nm,0.3s							
TOLC	Tolima	1.73	247	eP	Pn	Pn	20 30 53.5	+0.4
TOLC				eS	Sn	Sn	20 31 17.7	-0.6
TOLC				i			20 31 22.1	
	comp=Z,98nm,0.7s							
BRRC	Barranca, Sant	1.81	1	eP	Pn	Pn	20 30 54.2	+0.6
BRRC				eS	Sn	Sn	20 31 19.3	-0.2
BRRC				i			20 31 27.7	
	comp=Z,199nm,0.3s							
PTGC	Puerto Gaitan,	1.92	124	eP	Pn	Pn	20 30 55.0	+0.2
PTGC				eS	Sn	Sn	20 31 20.4	-1.2
PTGC				i			20 31 21.7	
	comp=Z,272nm,0.4s							
HELC	Santa Helena	2.01	297	eP	Pn	Pn	20 30 56.8	+0.6
HELC				eS	Sn	Sn	20 31 23.2	-0.7
HELC				i			20 31 25.6	
	comp=Z,294nm,0.3s							
ORTC	Ortega, Tolima	2.04	228	eP	Pn	Pn	20 30 56.4	+0.2
ORTC				eS	Sn	Sn	20 31 22.8	-1.2
ORTC				i			20 31 29.2	
	comp=Z,127nm,0.7s							
TAMC	Tame, Arauca	2.24	59	eP	Pn	Pn	20 30 59.7	+1.1
TAMC				eS	Sn	Sn	20 31 27.8	-0.5
TAMC				i			20 31 30.4	
	comp=Z,214nm,0.4s							
PAMC	Pamplona, Colo	2.29	27	eP	Pn	Pn	20 31 01.1	+1.5
PAMC				eS	Sn	Sn	20 31 29.8	-0.3
PAMC				i			20 31 33.8	
	comp=Z,76nm,0.4s							
CBOC	Ciudad Bolivar	2.34	284	eP	Pn	Pn	20 31 00.8	+0.9
CBOC				eS	Sn	Sn	20 31 30.4	-0.3
CBOC				i			20 31 32.9	
	comp=Z,77nm,1.0s							
ZARC	Zaragoza, Cauc	2.47	333	eP	Pn	Pn	20 31 00.5	-0.8
ZARC				eS	Sn	Sn	20 31 31.9	-1.2
ZARC				i			20 31 40.2	
	comp=Z,210nm,0.5s							
OCAC	Ocana	2.97	8	eP	Pn	Pn	20 31 08.3	+0.7
OCAC				eS	Sn	Sn	20 31 44.5	+0.2
OCAC				i			20 31 48.8	
	comp=Z,89nm,0.6s							
DBBC	Dabeiba	3.01	305	eP	Pn	Pn	20 31 08.9	+0.9
DBBC				eS	Sn	Sn	20 31 45.1	0.0
DBBC				i			20 31 46.6	
	comp=Z,189nm,0.4s							
ASAR	Alice Springs	147.71	233	PKPbc	PKPbc	PKPbc	20 49 46.7	-0.4
	comp=Z,0.4nm,0.8s,baz=122,slow=3.6,SNR=5.7							
WRA	Warramunga Arr	149.05	239	PKPbc	PKPbc	PKPbc	20 49 50.9	+0.2
	comp=Z,0.3nm,0.4s,baz=109,slow=2.9,SNR=8.1							

IDC ***16*** *20:46:41.7±0.9, 56°.27S×27°.29W, h97km±6km, mb4.0/4, mb1 4.1/4, mb1mx3.6/21, mbtmp4.3/4, Error ellipse: s-maj=38.6km s-min=25.4km az=15.0*
NEIC ***16*** *20:46:41.5±0.8, 56°.1S±0°.1×27°.2W±0°.2, h95km±5km, mb4.2/14*
ISCJB ***16*** *20:46:42.4±0.4, 55°.92S±0°.07×27°.3W±0°.1, h112km, mb4.1/4, Error ellipse: s-maj=12.3km s-min=8.3km az=42.3*
ISC 16 20:46:43.4±0.6, 56°.01S±0°.10×27°.44W±0°.08, h112km, n29, σ1°63/30, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.47	285	Pn	Pn	Pn	20 48 02.4	-0.1
HOPE				Sn	Sn	Sn	20 49 00.7	-3.4
VNA1	Neumayer--Stat	16.89	158	P	P	P	20 50 34.7	+2.0
VNA3	Neumayer Olymp	17.08	160	P	P	P	20 50 37.0	+2.2
VNA2	Neumayer--Watz	17.28	158	P	Pn	Pn	20 50 40.1	+2.8
	baz=321,slow=13							
SNAA	Sanae	18.84	156	P	Pn		20 51 00.4	+4.5
SNAA	Sanae	18.84	156	P	Pn	Pn	20 50 52.6	-3.3
SNAA				IAmb	IAmb		20 51 00.9	
	comp=Z,7.6nm,0.6s							
PMSA	Palmer Station	19.82	229	Pn	Pn	Pn	20 51 06.3	-1.1
TRQA	Tornquist	29.18	293	P	P	P	20 52 35.1	+1.1
TRQA				IAmb	IAmb		20 52 41.9	
	comp=Z,4.5nm,1.1s							
QSPA	South Pole Qui	34.24	180	P	P	P	20 53 18.2	0.0
GO05	Huala	36.73	286	P	P	P	20 53 40.5	+0.9
MAW	Mawson	40.27	144	P	P	P	20 54 07.4	-1.3
GO02	Mina Guanaco	43.35	298	P	P	P	20 54 35.9	+1.2
LVC	Limon Verde	45.16	300	P	P	P	20 54 50.6	+1.5
	comp=Z,2.2nm,0.4s,baz=124,slow=7.3,SNR=5.3							
LVC	Limon Verde	45.16	300	P	P	P	20 54 49.9	+0.8
LVC				IAmb	IAmb		20 54 53.1	
	comp=Z,2.4nm,0.7s							
BOSA	Boshof	46.10	76	P	P	P	20 54 55.2	-1.1
BOSA				IAmb	IAmb		20 55 00.4	
	comp=Z,3.9nm,1.1s							
GO01	Chusmiza	47.80	302	P	P	P	20 55 11.2	+1.2
GO01				IAmb	IAmb		20 55 12.5	
	comp=Z,2.9nm,0.7s							
MNMC	Minye Minye	48.46	302	P	P	P	20 55 16.4	+1.7
LBTB	Lobatse	49.13	73	P	P	P	20 55 18.2	-1.5
TSUM	Tsumeb	49.79	61	P	P	P	20 55 24.1	-0.7
TSUM				IAmb	IAmb		20 55 25.3	
	comp=Z,3.5nm,1.1s							
LPAZ	La Paz	50.24	305	P	P	P	20 55 30.5	+1.8
	comp=Z,1.5nm,0.3s,baz=139,slow=3.3,SNR=16							
LPAZ	La Paz	50.24	305	P	P	P	20 55 30.0	+1.3
TOA0	Torodi Ar. Sit	73.09	30	P	P	P	20 58 01.6	+0.4
TOA0				IAmb	IAmb		20 58 02.5	
	comp=Z,2.8nm,1.0s							
TORD	Torodi Ar. Bea	73.09	30	P	P	P	20 58 01.7	+0.5
	comp=Z,2.1nm,0.7s,baz=201,slow=6.7,SNR=15							
TORD				pP	pP	pP	20 58 28.1	+0.

FSA				IAML			21 23 49.8
	comp=Z,8.9nm,0.3s						
FSA				eS	S		21 24 18.8 -0.2
YJA	**Yavi**	**2.27**	**32**	i P	Pn		21 23 50.0 +0.5
LVC	**Limon Verde**	**2.45**	**307**	eP	Pn		21 23 52.3 +1.0
LVC				i S	S		21 24 26.1 +0.5
LVC	**Limon Verde**	**2.45**	**307**	P	Pn		21 23 52.4 +1.0
	comp=Z,33nm,0.3s,baz=130,slow=6.6,SNR=416						
LVC				S	S		21 24 26.3 +0.8
	comp=Z,49nm,0.3s,baz=271,slow=22,SNR=38						
LVC	**Limon Verde**	**2.45**	**307**	i P	Pn		21 23 52.4 +1.0
LVC				eS	S		21 24 26.0 +0.5
LVC				IAML			21 24 28.3
	comp=Z,85nm,0.3s						
PB15	**IPOC Station P**	**2.61**	**290**	⇑i P	Pn		21 23 54.1 +1.1
PB15				i S	S		21 24 28.8 +0.4
PB15	**IPOC Station P**	**2.61**	**290**	i P	Pn		21 23 54.1 +1.1
GO02	**Mina Guanaco**	**2.74**	**247**	i P	Pn		21 23 55.7 +1.2
GO02				i S	S		21 24 31.5 +0.4
GO02				IAML			21 24 33.4
	comp=N,571nm,0.1s						
PB06	**IPOC Station P**	**2.91**	**298**	⇑i P	Pn		21 23 57.2 +0.9
PB06				i S	S		21 24 33.4 -0.9
PB06				IAML			21 24 36.9
	comp=E,600nm,0.1s						
PB06	**IPOC Station P**	**2.91**	**298**	i P	Pn		21 23 57.2 +0.9
AHML	**Horco Molle**	**2.97**	**154**	i P	Pn		21 23 57.7 +0.9
PB09	**IPOC Station P**	**3.23**	**315**	⇑i P	Pn		21 24 01.2 +1.2
PB09				i S	S		21 24 40.9 -0.1
PB09	**IPOC Station P**	**3.23**	**315**	i P	Pn		21 24 01.2 +1.2
PB09				IAML			21 24 41.6
	comp=Z,149nm,0.5s						
PB14	**IPOC Station P**	**3.33**	**261**	⇑i P	Pn		21 24 01.8 +0.5
PB14				i S	S		21 24 42.2 -1.1
PB14	**IPOC Station P**	**3.33**	**261**	i P	Pn		21 24 02.1 +0.8
PB03	**IPOC Station P**	**3.41**	**307**	⇑i P	Pn		21 24 02.6 +0.4
PB03				i S	S		21 24 43.2 -1.8
PB03	**IPOC Station P**	**3.41**	**307**	i P	Pn		21 24 02.6 +0.4
PB10	**IPOC Station P**	**3.49**	**279**	i P	Pn		21 24 03.8 +0.9
PB04	**IPOC Station P**	**3.56**	**299**	⇑i P	Pn		21 24 04.3 +0.4
PB04				i S	S		21 24 46.0 -2.1
PB04	**IPOC Station P**	**3.56**	**299**	i P	Pn		21 24 04.3 +0.4
PB04				IAML			21 24 05.8
	comp=Z,199nm,0.3s						
PB07	**IPOC Station P**	**3.71**	**309**	⇑i P	Pn		21 24 06.0 +0.2
PB07				i S	S		21 24 49.1 -2.4
PB01	**IPOC Station P**	**3.94**	**320**	⇑i P	Pn		21 24 08.7 +0.1
PB01				i S	S		21 24 53.8 -2.7
CYA	**Choya**	**4.40**	**168**	i P	Pn		21 24 16.2 +2.2
GO03	**Copiap**	**4.64**	**221**	i P	Pn		21 24 17.1 0.0
AROD	**Rodeo**	**6.48**	**201**	i P	Pn		21 24 43.1 +2.3
TCA	**Tanti**	**7.45**	**165**	⇓i P	Pn		21 24 52.9 -0.3
CFA	**Coronel Fontan**	**7.56**	**189**	P	Pn		21 24 54.1 -0.5
	comp=Z,1.8nm,0.3s,baz=15,slow=12,SNR=45						
CFA				S	S		21 26 14.8 -5.6
	comp=Z,3.8nm,0.3s,baz=299,slow=22,SNR=20						
LPAZ	**La Paz**	**7.89**	**351**	P	Pn		21 25 00.2 +0.7
	comp=Z,0.8nm,0.3s,baz=182,slow=8.0,SNR=19						
LPAZ				S	S		21 26 25.7 -3.4
	comp=Z,0.2nm,0.3s,baz=353,slow=9.8,SNR=4.7						
LPAZ	**La Paz**	**7.89**	**351**	i P	Pn		21 25 00.6 +1.0
MRA	**San Martin**	**8.32**	**174**	i P	Pn		21 25 03.2 -1.3
CPUP	**Villa Florida**	**8.85**	**106**	P	Pn		21 25 11.0 -0.2
	comp=Z,0.1nm,0.3s,baz=311,slow=9.3,SNR=3.3						
SIV	**San Ignacio**	**9.71**	**35**	P	Pn		21 25 22.9 +0.4
	comp=Z,0.9nm,0.3s,baz=226,slow=14,SNR=8.7						
PLCA	**Paso Flores**	**16.86**	**190**	P	Pn		21 26 51.2 0.0
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=5.1						
BDFB	**Brasilia**	**19.56**	**68**	P	P		21 27 19.6 +0.3
	comp=Z,1.1nm,0.3s,baz=238,slow=9.6,SNR=11						
DBIC	**Dimbokro**	**67.67**	**71**	P	P		21 33 41.9 -0.2
	comp=Z,2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	P		21 34 34.2 +0.2
	comp=Z,1.0nm,0.5s,baz=258,slow=5.5,SNR=32						
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc	**PKiKP**		21 42 25.8 -0.4
	comp=Z,0.5nm,0.8s,baz=339,slow=3.7,SNR=2.5						

*ISCJB **16** 21:40:58.2±0.3,23°.01N±0°.01×121°.42E±0°.02,h19km±2km,*
Error ellipse: s-maj=2.6km s-min=2.1km az=35.2
*JMA **16** 21:40:58.4±0.1,23°.06N×121°.31E,h27km±3km,M3.3*
*TAP **16** 21:40:58.6,23°.06N×121°.32E,h19km,ML3.8,B*
ISC 16 21:40:58.5±1.0,23°.05N±0°.02×121°.37E±0°.02,h19km±2km,
n127,σ0§80/193,4C-16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.06**	**352**	⇑i P	**Pg**	**21 41 02.7**	**+0.7**
	baz=36						
CHKT				i S	**Sg**	**21 41 05.4**	**+1.0**
	baz=36						
FULB	**Fuli**	**0.17**	**334**	P	**Pg**	**21 41 03.4**	**+0.2**
	baz=351						
FULB				S	**Sg**	**21 41 07.2**	**+0.8**
	baz=351						
TWF1	**Yuli**	**0.31**	**347**	⇓i P	**Pg**	**21 41 05.6**	**+0.1**
	baz=343						
TWF1				S	**Sg**	**21 41 10.2**	**0.0**
	baz=343						
TWGBT	**Beinan**	**0.35**	**230**	⇓P	**Pg**	**21 41 05.8**	**-0.3**
	baz=237						
TWGBT				S	**Sg**	**21 41 10.6**	**-0.6**
	baz=237						
YULB	**Yu-li**	**0.35**	**349**	⇓P	**Pg**	**21 41 06.0**	**-0.1**
	baz=342						
YULB				S	**Sg**	**21 41 10.7**	**-0.5**
	baz=342						
TWG	**Pinlang**	**0.36**	**231**	⇓i P	**Pg**	**21 41 05.8**	**-0.3**
	baz=237						
TWG				S	**Sg**	**21 41 10.8**	**-0.5**
	baz=237						
TTN	**Taitung**	**0.36**	**216**	eP	**Pb**	**21 41 06.5**	**+0.1**
	baz=203						
TTN				S	**Sb**	**21 41 12.7**	**+1.0**
	baz=203						
ELDTW	**Lidau**	**0.36**	**294**	⇓i P	**Pg**	**21 41 05.5**	**-0.8**
	baz=296						
ELDTW				S	**Sg**	**21 41 09.9**	**-1.6**
	baz=296						
HGSD	**Ruisui**	**0.45**	**6**	⇑P	**Pb**	**21 41 08.6**	**+0.7**
	baz=14						
HGSD				S	**Sn**	**21 41 16.1**	**-1.4**
	baz=14						
EHY	**Hungye**	**0.46**	**354**	eP	**Pg**	**21 41 07.8**	**-0.3**
	baz=346						
EHY				eS	**Sg**	**21 41 13.5**	**-0.8**
	baz=346						
STYT	**Tauyuan**	**0.58**	**282**	⇓i P	**Pb**	**21 41 09.3**	**-0.7**
	baz=288						
STYT				S	**Sb**	**21 41 16.6**	**-1.2**
	baz=288						
YUS	**Yu-Shan**	**0.59**	**319**	⇓i P	**Pb**	**21 41 10.0**	**-0.4**
	baz=315						
ECL	**Taimali**	**0.59**	**221**	eP	**Pb**	**21 41 09.1**	**-1.0**
	baz=228						
ECL				eS	**Sb**	**21 41 16.2**	**-1.9**
	baz=228						
EGFH	**Guangfu**	**0.62**	**5**	eP	**Pb**	**21 41 10.4**	**-0.3**
	baz=354						
EGFH				eS	**Sb**	**21 41 19.0**	**0.0**
	baz=354						
SLGT	**Liugui**	**0.67**	**266**	⇓eP	**Pb**	**21 41 11.2**	**-0.4**
	baz=266						
SLGT				eS	**Sb**	**21 41 19.1**	**-1.5**
	baz=266						
WTP	**Ta-pu**	**0.73**	**286**	⇓i P	**Pb**	**21 41 12.5**	**-0.1**
	baz=289						
SGST	**Jiashian**	**0.73**	**273**	⇓i P	**Pb**	**21 41 11.7**	**-0.9**
	baz=276						
SGST				S	**Sb**	**21 41 21.7**	**-0.5**
	baz=276						
TPUB	**Ta-pu**	**0.73**	**291**	⇓P	**Pb**	**21 41 12.5**	**-0.2**
	baz=293						
TPUB				S	**Sb**	**21 41 22.0**	**-0.3**
	baz=293						
VWDT	**VWDT**	**0.74**	**343**	P	**Pb**	**21 41 12.4**	**-0.4**
	baz=354						
VWDT				eS	**Sb**	**21 41 21.7**	**-0.7**
	baz=354						
SSD	**Sandimen**	**0.75**	**247**	P	**Pb**	**21 41 11.9**	**-1.0**
	baz=250						
ESL	**Shilin**	**0.77**	**4**	eP	**Pb**	**21 41 13.2**	**-0.1**
	baz=356						
CHN4	**Tsaushan**	**0.78**	**293**	P	**Pb**	**21 41 13.4**	**-0.1**
	baz=297						
CHN4				S	**Sb**	**21 41 24.1**	**+0.4**
	baz=297						
CHN1	**Nanshi**	**0.79**	**280**	P	**Pb**	**21 41 13.8**	**+0.1**
	baz=281						
CHN1				S	**Sg**	**21 41 24.9**	**+0.2**
	baz=281						
WHYT	**Xinyi Township**	**0.81**	**324**	⇓P	**Pb**	**21 41 13.9**	**-0.1**
	baz=324						
WHYT				eS	**Sb**	**21 41 23.7**	**-0.8**
	baz=324						
MASBT	**Mashibuluo**	**0.81**	**238**	⇓eP	**Pb**	**21 41 13.0**	**-1.0**
	baz=238						
MASBT				eS	**Sb**	**21 41 22.1**	**-2.4**
	baz=238						
TAW	**Tawu**	**0.81**	**213**	eP	**Pb**	**21 41 13.5**	**-0.5**
	baz=220						
EAST	**Anshuo**	**0.82**	**216**	eP	**Pb**	**21 41 12.8**	**-1.4**
	baz=215						
SNST	**Tainan City**	**0.82**	**282**	eP	**Pb**	**21 41 14.4**	**+0.1**
	baz=283						
SNST				eS	**Sg**	**21 41 25.9**	**+0.2**
	baz=283						
SSLB	**Suanglung**	**0.83**	**333**	eP	**Pb**	**21 41 14.0**	**-0.4**
	baz=332						
SSLB				eS	**Sb**	**21 41 24.9**	**-0.4**
	baz=332						
CHN5	**Tsauling**	**0.84**	**311**	eP	**Pb**	**21 41 14.3**	**-0.4**
	baz=311						
CHN5				eS	**Sg**	**21 41 26.6**	**+0.3**
	baz=311						
TWK	**Hsinying**	**0.84**	**285**	⇓P	**Pb**	**21 41 14.6**	**0.0**
	baz=286						
TWK				eS	**Sg**	**21 41 26.4**	**0.0**
	baz=286						
SGLT	**Jiouru**	**0.87**	**249**	eP	**Pb**	**21 41 15.2**	**+0.1**
	baz=246						
ENLB	**Shoufeng**	**0.88**	**14**	eP	**Pb**	**21 41 14.7**	**-0.5**
ENLB				eS	**Sg**	**21 41 27.8**	**+0.4**
TWM1	**Shoushan**	**0.90**	**256**	P	**Pn**	**21 41 16.7**	**+0.5**
	baz=256						
CHN3	**Shinhua**	**0.93**	**272**	eP	**Pg**	**21 41 17.4**	**+0.8**
	baz=272						
SMLT	**Sun Moon Lake**	**0.94**	**333**	eP	**Pb**	**21 41 16.2**	**-0.1**
	baz=337						
SMLT				S	**Sb**	**21 41 28.4**	**-0.1**
	baz=337						
HWA	**Hwalien**	**0.95**	**13**	eP	**Pb**	**21 41 16.9**	**+0.4**
	baz=359						
CHN2	**Minshiung**	**0.96**	**301**	eP	**Pg**	**21 41 17.3**	**+0.1**
	baz=300						
CHN2				eS	**Sn**	**21 41 30.6**	**+0.5**
	baz=300						
SCZT	**Fangliau**	**0.97**	**226**	eP	**Pb**	**21 41 15.7**	**-1.0**
	baz=223						
SCZT				eS	**Sb**	**21 41 28.6**	**-0.4**
	baz=223						
WJS	**Zhushan**	**0.97**	**323**	eP	**Pg**	**21 41 17.7**	**+0.2**
	baz=322						
WJS				eS	**Sg**	**21 41 31.0**	**+0.6**
	baz=322						
TYC	**Yuchr**	**0.98**	**331**	eP	**Pb**	**21 41 17.2**	**+0.4**
	baz=334						
TYC				eS	**Sn**	**21 41 30.7**	**+0.1**
	baz=334						
WGK	**Gukeng**	**0.98**	**311**	eP	**Pg**	**21 41 17.8**	**+0.2**
	baz=310						
WGK				eS	**Sg**	**21 41 31.9**	**+1.3**
	baz=310						
CHY	**Chiayi**	**0.98**	**297**	⇓P	**Pn**	**21 41 17.4**	**+0.1**
	baz=297						
CHY				eS	**Sg**	**21 41 31.2**	**+0.6**
	baz=297						
WDLH	**Douliu**	**1.00**	**310**	P	**Pg**	**21 41 18.1**	**0.0**
	baz=309						
WDLH				eS	**Sg**	**21 41 32.1**	**+0.9**
	baz=309						
SNJT	**Kaohsiung City**	**1.00**	**253**	eP	**Pg**	**21 41 19.6**	**+1.6**
	baz=254						
SNJT				eS	**Sg**	**21 41 34.0**	**+2.8**
	baz=254						
LAY	**Lan-yu**	**1.01**	**171**	eP	**Pb**	**21 41 16.5**	**-1.0**
	baz=160						
CHGB	**Renai**	**1.03**	**350**	eP	**Pb**	**21 41 17.5**	**-0.4**
	baz=358						
WNT	**Mingjian**	**1.04**	**323**	eP	**Pg**	**21 41 18.9**	**0.0**
	baz=322						
WNT				S	**Sg**	**21 41 33.0**	**+0.4**
	baz=322						
TWD	**Chiawan**	**1.05**	**11**	eP	**Pb**	**21 41 17.4**	**-0.7**
	baz=358						
TAI1	**Yung-k'ang**	**1.05**	**270**	eP	**Pg**	**21 41 19.1**	**+0.1**
	baz=271						
TAI1				eS	**Sg**	**21 41 34.3**	**+1.4**
	baz=271						
DPDB	**Guoxing**	**1.07**	**337**	P	**Pn**	**21 41 19.0**	**+0.5**
	baz=345						
DPDB				eS	**Sb**	**21 41 32.5**	**+0.4**
	baz=345						
WLGB	**Puzi**	**1.08**	**294**	⇓P	**Pn**	**21 41 19.1**	**+0.4**
	baz=293						
WLGB				S	**Sg**	**21 41 34.5**	**+0.9**
	baz=293						
SCLT	**Jiali**	**1.09**	**277**	eP	**Pn**	**21 41 18.9**	**+0.1**
	baz=287						
SCLT				eS	**Sg**	**21 41 35.3**	**+1.2**
	baz=287						
WHF	**Hehuan Shan**	**1.10**	**355**	eP	**Pb**	**21 41 18.7**	**-0.6**
	baz=354						
CHN8	**Yiju**	**1.11**	**286**	P	**Pb**	**21 41 19.4**	**+0.3**
	baz=287						
CHN8				S	**Sg**	**21 41 35.6**	**+0.8**
	baz=287						
NACB	**Ninganchiao**	**1.14**	**10**	eP	**Pn**	**21 41 17.8**	**-1.7**
	baz=8.0						
NACB				eS	**Sb**	**21 41 33.2**	**-1.0**
	baz=8.0						
WLCH	**Liuqiu**	**1.15**	**233**	eP	**Pg**	**21 41 21.7**	**+0.8**
	baz=231						
ETLH	**Xiulin Townshi**	**1.16**	**5**	eP	**Pn**	**21 41 18.6**	**-1.3**
	baz=4.0						
TWP	**Hsiaoliuchiu**	**1.16**	**234**	eP	**Pg**	**21 41 23.0**	**+1.9**
	baz=233						
HEN	**Hengchun**	**1.19**	**210**	eP	**Pb**	**21 41 21.0**	**+0.5**
	baz=200						
WSF	**Szhu**	**1.21**	**299**	P	**Pb**	**21 41 20.8**	**0.0**
	baz=298						
WSF				S	**Sg**	**21 41 37.5**	**-0.4**
	baz=298						
TWKBT	**Hengchun**	**1.22**	**205**	eP	**Pn**	**21 41 20.5**	**0.0**
	baz=196						
TWK1	**Hengchun**	**1.22**	**206**	eP	**Pb**	**21 41 21.5**	**+0.6**
	baz=195						
TWT	**Tachien**	**1.22**	**351**	eP	**Pn**	**21 41 20.8**	**+0.1**
	baz=349						
TDCB	**Techi**	**1.22**	**351**	eP	**Pn**	**21 41 20.6**	**-0.1**
	baz=349						
TDCB				eS	**Sb**	**21 41 35.2**	**-1.3**
	baz=349						
RLNB	**Erlin**	**1.26**	**312**	eP	**Pb**	**21 41 21.7**	**+0.1**
	baz=311						
RLNB				eS	**Sb**	**21 41 38.4**	**+1.0**
	baz=311						
TCU	**Taichung**	**1.27**	**330**	eP	**Pg**	**21 41 22.8**	**-0.4**
	baz=328						
TCU				eS	**Sg**	**21 41 39.1**	**-0.7**
	baz=328						
WCHH	**Zhanghua**	**1.27**	**324**	eP	**Pb**	**21 41 22.7**	**+0.8**
	baz=322						
WCHH				eS	**Sg**	**21 41 40.6**	**+0.7**
	baz=322						
WHP	**Taichung City**	**1.29**	**342**	eP	**Pg**	**21 41 23.2**	**-0.3**
	baz=346						
WHP				eS	**Sg**	**21 41 41.1**	**+0.7**
	baz=346						
NNSB	**Datong**	**1.38**	**0**	eP	**Pn**	**21 41 22.8**	**-0.1**
	baz=13						
NNS	**Nan Shan**	**1.39**	**360**	eP	**Pn**	**21 41 23.4**	**+0.3**
	baz=13						
TWQ1	**Liyutan**	**1.41**	**337**	eP	**Pb**	**21 41 24.6**	**+0.3**
	baz=335						
TWQ1				eS	**Sg**	**21 41 43.7**	**-0.5**
	baz=335						
ENA	**Nanau**	**1.42**	**14**	eP	**Pn**	**21 41 23.4**	**+0.1**
	baz=1.0						
NANB	**Nanao**	**1.42**	**14**	eP	**Pn**	**21 41 23.2**	**-0.2**
	baz=359						
NANB				eS	**Sn**	**21 41 41.6**	**+0.2**
	baz=359						
WDJ	**Dajia District**	**1.46**	**333**	eP	**Pb**	**21 41 25.7**	**+0.6**
	baz=330						
WDJ				eS	**Sg**	**21 41 45.3**	**-0.6**
	baz=330						
NSY	**Sanyi**	**1.48**	**338**	eP	**Pb**	**21 41 26.0**	**+0.6**
	baz=335						
NSY				eS	**Sg**	**21 41 45.9**	**-0.5**
	baz=335						
PTSB	**Yuanli**	**1.52**	**336**	⇑P	**Pb**	**21 41 26.3**	**+0.1**
	baz=333						
PTSB				S	**Sb**	**21 41 46.8**	**+1.6**
	baz=333						
NDT	**Datong Townshi**	**1.56**	**5**	eP	**Pn**	**21 41 26.1**	**+0.9**
	baz=16						
NMLH	**Miaoli**	**1.58**	**340**	eP	**Pb**	**21 41 27.1**	**0.0**
	baz=337						
NMLH				eS	**Sb**	**21 41 48.4**	**+1.7**
	baz=337						
WDGT	**Dungji**	**1.59**	**278**	eP	**Pn**	**21 41 25.9**	**+0.2**
	baz=277						
ENTT	**Nioudou**	**1.60**	**6**	eP	**Pn**	**21 41 26.2**	**+0.4**
	baz=19						
NSTT	**Nanjuang**	**1.62**	**348**	eP	**Pb**	**21 41 27.4**	**-0.3**
	baz=356						
TWC	**Suao**	**1.62**	**16**	eP	**Pn**	**21 41 27.0**	**+1.0**
	baz=1.0						
YHNB	**Yeheng**	**1.62**	**0**	eP	**Pn**	**21 41 26.8**	**+0.7**
	baz=13						
NSK	**Sanguang**	**1.62**	**359**	eP	**Pn**	**21 41 26.4**	**+0.2**
	baz=13						
LIOB	**Emei**	**1.63**	**348**	eP	**Pb**	**21 41 28.2**	**+0.2**
	baz=356						
EOS1	**EOS1**	**1.65**	**25**	eP	**Pb**	**21 41 27.7**	**-0.6**
	baz=37						
TWE	**Neicheng**	**1.69**	**9**	eP	**Pn**	**21 41 28.1**	**+1.1**
	baz=7.0						
PHUB	**P'eng-hu**	**1.72**	**286**	eP	**Pn**	**21 41 27.8**	**+0.4**
	baz=286						
NWLT	**Wulai**	**1.73**	**4**	eP	**Pn**	**21 41 28.9**	**+1.2**
	baz=18						
PNG	**Penghu**	**1.75**	**288**	eP	**Pn**	**21 41 28.3**	**+0.4**
	baz=288						
PNG				eS	**Sn**	**21 41 49.0**	**-0.7**
	baz=288						
VCHM	**Qimei**	**1.80**	**276**	eP	**Pn**	**21 41 28.8**	**+0.3**
	baz=275						
WLTB	**Daxi**	**1.80**	**356**	eP	**Pb**	**21 41 30.8**	**-0.2**
	baz=2.0						
NTC	**Toucheng**	**1.85**	**13**	eP	**Pb**	**21 41 31.2**	**-0.6**
	baz=10.0						
EGS		**1.86**	**16**	eP	**Pb**	**21 41 30.9**	**-1.0**
	baz=1.0						
TATO	**Taipei**	**1.93**	**3**	eP	**Pn**	**21 41 30.3**	**+0.1**
	baz=18						
TIPB	**Shuangxi**	**1.96**	**12**	eP	**Pn**	**21 41 31.9**	**+1.0**
	baz=9.0						
TWB1	**Santiao Chiao**	**2.03**	**16**	eP	**Pb**	**21 41 34.0**	**-0.9**
	baz=2.0						
NWF	**Wu-fen Shan**	**2.05**	**10**	eP	**Pn**	**21 41 32.9**	**+0.8**
	baz=8.0						
WFSB	**Wu-fen Shan**	**2.05**	**10**	eP	**Pn**	**21 41 33.1**	**+1.1**
	baz=8.0						
YOJ	**Yonaguni jima**	**2.06**	**46**	eP	**Pn**	**21 41 33.4**	**+1.3**
	baz=60						
YOJ				eS	**Sn**	**21 41 57.5**	**+0.2**
	baz=60						
YOJ	**Yonaguni jima**	**2.06**	**46**	eS	**Sn**	**21 41 57.8**	**+0.5**
YM01	**YM01**	**2.10**	**5**	eP	**Pn**	**21 41 34.1**	**+1.4**
	baz=20						
YM10	**YM10**	**2.11**	**5**	eP	**Pb**	**21 41 34.9**	**-1.3**
	baz=20						
YM05	**YM05**	**2.12**	**5**	eP	**Pn**	**21 41 34.2**	**+1.2**
	baz=20						
YM11	**YM11**	**2.12**	**5**	eP	**Pn**	**21 41 34.2**	**+1.2**
	baz=19						
HATJ	**Hateruma jima**	**2.45**	**65**	P	**Pn**	**21 41 37.8**	**+0.3**
HATJ				S	**Sn**	**21 42 06.4**	**-0.5**
IRIF	**Iriomote-Funau**	**2.51**	**59**	P	**Pn**	**21 41 39.3**	**+0.9**
IRIF				S	**Sn**	**21 42 08.6**	**+0.1**
VWUC	**VWUC**	**2.62**	**318**	eP	**Pn**	**21 41 39.9**	**+0.1**
	baz=319						
JKRS	**Kuro-shima**	**2.69**	**63**	P	**Pn**	**21 41 41.3**	**+0.5**
JKRS				eS	**Sn**	**21 42 14.2**	**+1.3**
PTTC	**Pingtan**	**2.85**	**329**	eP	**Pn**	**21 41 43.4**	**+0.4**
	baz=328						
PTTC				eS	**Sn**	**21 42 16.4**	**-0.3**
	baz=328						
JIJ	**Ishigaki jima**	**2.86**	**62**	P	**Pn**	**21 41 43.5**	**+0.4**
JIJ				S	**Sn**	**21 42 15.4**	**-1.6**
PTMZ	**Houxiangcun**	**2.86**	**314**	eP	**Pn**	**21 41 43.8**	**+0.6**
	baz=315						
KNM	**Kinmen**	**3.02**	**297**	eP	**Pn**	**21 41 46.9**	**+1.5**
	baz=296						
KNMB	**Chin-men Tao**	**3.08**	**298**	eP	**Pn**	**21 41 45.8**	**-0.4**
	baz=298						
JISG	**Ishigakijimahi**	**3.10**	**60**	P	**Pn**	**21 41 46.7**	**+0.3**
JISG				eS	**Sn**	**21 42 21.1**	**-1.8**
QZH	**Quanzhou**	**3.17**	**307**	⇑i Pn	**Pn**	**21 41 47.5**	**+0.1**
QZH				Sn	**Sn**	**21 42 23.0**	**-1.7**
QZH				smax	smax		
	comp=N,80nm,0.6s						
QZH				smax	smax		
	comp=E,67nm,0.6s						
MATB	**Ma-tsu**	**3.35**	**337**	eP	**Pn**	**21 41 50.1**	**+0.2**
	baz=336						
MATB				eS	**Sn**	**21 42 28.5**	**-0.8**
	baz=336						
JTJ	**Tarama**	**3.44**	**62**	P	**Pn**	**21 41 51.6**	**+0.5**
JTJ				S	**Sn**	**21 42 31.4**	**+0.1**
ZPLA	**Ao Xicun**	**3.44**	**286**	eP	**Pn**	**21 41 51.2**	**+0.1**
	baz=284						
AXDP	**Jialang**	**3.62**	**301**	eP	**Pn**	**21 41 53.7**	**+0.2**
	baz=302						
MHZQ	**Yeshan**	**3.71**	**325**	eP	**Pn**	**21 41 55.4**	**+0.5**
	baz=328						
LYJJ	**Jianjiangzhen**	**3.79**	**338**	eP	**Pn**	**21 41 55.8**	**-0.1**
	baz=340						
JMJ2	**Miyako jima3**	**3.99**	**64**	P	**Pn**	**21 41 59.5**	**+0.8**
JMJ2				S	**Sn**	**21 42 46.5**	**+1.5**
JMJ	**Miyako jima 2**	**4.00**	**63**	eP	**Pn**	**21 41 59.7**	**+0.9**
	baz=62						
XPSS	**Dashiqiu**	**4.01**	**345**	eP	**Pn**	**21 41 59.9**	**+0.8**
	baz=347						
VDOS	**Pratas Island**	**4.90**	**242**	eP	**Pn**	**21 42 11.2**	**0.0**
	baz=236						

*ISCJB **16** 21:51:16.8±0.7,2°.67S±0°.06×78°.46W±0°.07,h10km,Error*
ellipse: s-maj=11.8km s-min=5.7km az=33.2
*IGQ **16** 21:51:20.4±0.6,3°.S±3°×7°.9W±°,h1km,MLv4.1*
ISC 16 21:51:20.4±1.2,2°.51S±0°.05×78°.56W±0°.08,h10km,n57,
σ1§96/48,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**0.64**	**174**	P	**Pn**	**21 51 36.2**	**+0.5**
BOSC				S	**Sn**	**21 51 49.0**	**+3.0**
BMAS	**Trigal station**	**1.00**	**5**	P	**Pg**	**21 51 40.7**	**+1.0**
BPAT	**Tungurahua Vol**	**1.01**	**7**	P	**Pg**	**21 51 40.9**	**+1.0**
BULB	**Ulba Tungurahu**	**1.08**	**8**	P	**Pg**	**21 51 41.6**	**+0.5**
BRUN	**Tungurahua Vol**	**1.09**	**8**	P	**Pb**	**21 51 41.8**	**+0.3**
APUY	**Puyo**	**1.19**	**28**	P	**Pn**	**21 51 42.8**	**-0.4**

CRUC	La Cruz	4.36	22	eP	Pn	21 52 25.1	-1.9
PTLC	Puerto Leguiza	4.61	55	eP	Pn	21 52 22.5	-7.6
PTLC	Puerto Leguiza	4.61	55	eP	Pn	21 52 22.5	-7.6
BBAC	Balboa, Cauca	4.69	16	eP	Pn	21 52 28.9	-2.6
BBAC	Balboa, Cauca	4.69	16	eP	Pn	21 52 28.9	-2.6
FLOC	Florencia	5.00	36	eP	Pn	21 52 30.5	-5.0
FLOC	Florencia	5.00	36	eP	Pn	21 52 30.5	-5.0
SOTA	Rioblanco	5.01	23	eP	Pn	21 52 34.5	-1.6
SOTA	Rioblanco	5.01	23	eP	Pn	21 52 34.5	-1.6
PCON	Cinco Dias	5.27	24	eP	Pn	21 52 37.6	-2.1
PCON	Cinco Dias	5.27	24	eP	Pn	21 52 37.6	-2.1
POPC	Popayan, Colom	5.36	21	eP	Pn	21 52 38.0	-2.7
POPC	Popayan, Colom	5.36	21	eP	Pn	21 52 38.0	-2.7
GRGC	Isla de Gorgon	5.49	4	eP	Pn	21 52 38.4	-3.8
GRGC	Isla de Gorgon	5.49	4	eP	Pn	21 52 38.4	-3.8
MACC	Macarena, Meta	6.60	46	eP	Pn	21 52 52.3	-5.3
MACC	Macarena, Meta	6.60	46	eP	Pn	21 52 52.3	-5.3
YOTC	Yotoco, Valle	6.82	19	eP	Pn	21 52 54.8	-5.8
YOTC	Yotoco, Valle	6.82	19	eP	Pn	21 52 54.8	-5.8
ORTC	Ortega, Tolima	7.18	27	eP	Pn	21 53 02.2	-3.4
ORTC	Ortega, Tolima	7.18	27	eP	Pn	21 53 02.2	-3.4
GUY2C	Guyana, Caldas	8.32	23	eP	Pn	21 53 20.7	-0.8
GUY2C	Guyana, Caldas	8.32	23	eP	Pn	21 53 20.7	-0.8
CHIC	Chingaza	8.58	34	eP	Pn	21 53 22.1	-3.0
CHIC	Chingaza	8.58	34	eP	Pn	21 53 22.1	-3.0
CBOC	Ciudad Bolivar	8.70	17	eP	Pn	21 53 28.4	+1.8
CBOC	Ciudad Bolivar	8.70	17	eP	Pn	21 53 28.4	+1.8
RUSC	La Rusia	9.98	33	eP	Pn	21 53 42.4	-2.0
RUSC	La Rusia	9.98	33	eP	Pn	21 53 42.4	-2.0

*ISCJB **16** 22:06:12.6±0.4, 5°.34N±0°.06×94°.39E±0°.06, h46km, mb4.1/10, MS3.9/2, Error ellipse: s-maj=10.0km s-min=5.5km az=43.6*
*NEIC **16** 22:06:14.8±1.4, 5°.3N±0°.1×94°.37E±0°.08, h54km±8km, mb4.4/17*
*IDC **16** 22:06:17.0±4.7, 5°.27N×94°.33E, h75km±43km, mb3.8/10, mb1 3.9/12, mb1mx3.6/46, mbtmp4.1/12, ML4.1/2, MS3.0/3, Ms1 3.1/3, ms1mx2.7/53, Error ellipse: s-maj=33.0km s-min=15.8km az=49.0*
ISC 16 22:06:14.2±0.6, 5°.36N±0°.08×94°.37E±0°.07, h46km, n55, σ0s93/48, mb4.2/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.57	93		Pn	22 06 54.2	+0.9
GSI	Gunungsitoli	5.14	141		Sn	22 08 27.6	+0.7
RPSI	Rantau Prapat	5.26	120		Pn	22 07 31.7	+1.4
KULM	Kulim	6.25	90	Pn	Pn	22 07 44.6	+0.6
PBKT	Sadao Pong	12.88	30	Pn	Pn	22 09 16.2	+1.4
PALK	Pallekele	13.72	279	P	Pn	22 09 27.9	+1.6
	0.1nm,0.3s,baz=113,slow=15,SNR=3.5						
PALK				S	Sn	22 11 45.0	-12
	0.6nm,0.3s,baz=117,slow=11,SNR=7.1						
PALK				LR	LR	22 14 40.7	
	comp=Z,56nm,19.1s,baz=118,slow=37						
CMAR	Chiang Mai Arr	13.76	19	P	P	22 09 31.8	-2.5
	1.1nm,0.3s,baz=207,slow=14,SNR=27						
CMAR				LR	LR	22 14 01.3	
	comp=Z,43nm,20.6s,baz=192,slow=34						
CMAR	Chiang Mai Arr	13.76	19		Pn	22 09 25.8	-1.0
CHTO	Chiang Mai	14.10	18		Pn	22 09 31.6	+0.2
CMMT	Chiang Mai	14.10	18	P	P	22 09 38.4	+0.4
	6.7nm,0.8s						
SIMRM	Sittwe	14.76	355		S	22 12 42.6	+3.4
KAAM	Kaadhehdhoo	21.88	258	P	P	22 11 03.0	-0.5
RAMN	Ramite	22.72	342	eP	P	22 11 11.8	-0.7
	5.6nm,0.4s						
TAPN	Taplejung	22.77	345	eP	P	22 11 13.0	-0.2
JIRN	Jiri	23.51	342	eP	P	22 11 20.6	+0.1
PKI	Pulchoki	23.68	340	eP	P	22 11 22.4	+0.2
	5.2nm,0.5s						
PKIN	Phulchoki	23.69	340	eP	P	22 11 22.4	+0.2
GUN	Gumba	23.84	341	eP	P	22 11 23.3	-0.3
	6.3nm,0.4s						
GKN	Gorkha	24.35	339	eP	P	22 11 28.0	-0.1
LSA	Lhasa	24.40	353	P	P	22 11 28.4	-0.6
LSA				IAmb	IAmb	22 11 31.3	
	comp=Z,5.9nm,0.4s						
KOLN	Koldanda	24.53	336	eP	P	22 11 30.0	+0.2
DANN	Dangsing	24.99	337	eP	P	22 11 34.6	+0.5
H08S3	Diego Garcia H	25.36	240	T	T	22 38 59.6	
	baz=60,slow=75,SNR=226						
H08S2	Diego Garcia H	25.36	240	T	T	22 38 44.6	
	baz=60,slow=75,SNR=3.8						
H08S1	Diego Carcia H	25.38	240	T	T	22 39 00.9	
	baz=60,slow=75,SNR=113						
KNMB	Chin-men Tao	29.89	48	P	P	22 12 17.1	-0.6
TWG	Pinlang	31.08	53	P	P	22 12 28.4	+0.2
NACB	Ninganchiao	32.17	52	P	P	22 12 37.1	-0.8
TARG	Taragay, Kyrgy	39.12	340	P	P	22 13 37.6	-0.1
MK31	Makanchi Array	42.58	348	P	P	22 14 06.2	+0.5
MK31				IAmb	IAmb	22 14 06.6	
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	42.58	348	P	P	22 14 06.1	+0.4
	comp=Z,5.8nm,0.6s,baz=165,slow=7.6,SNR=56						
MKAR	Makanchi Array	42.58	348	P	P	22 14 05.4	-0.2
MAKZ	Makanchi	42.66	347	P	P	22 14 06.2	-0.1
MAKZ				IAmb	IAmb	22 14 07.2	
	comp=Z,7.1nm,0.6s						
KKAR	Karatay Array	43.11	334	P	P	22 14 10.0	0.0
SONM	Songino Array	43.56	12	P	P	22 14 13.2	-0.5
	comp=Z,0.8nm,0.6s,baz=194,slow=8.1,SNR=8.4						
SONM				PcP	PcP	22 16 01.0	+0.2
	comp=Z,0.5nm,0.5s,baz=179,slow=4.4,SNR=6.0						
SONM	Songino Array	43.56	12	IAmb	IAmb	22 14 14.0	
	comp=Z,0.8nm,0.8s						
KSAR	Wonju Array Be	44.20	39	P	P	22 14 19.5	+0.7
GEYT	Alibeck	46.23	320	P	P	22 14 35.7	+0.6
	comp=Z,1.2nm,0.5s,baz=79,slow=7.5,SNR=2.8						
GEYT	Alibeck	46.23	320	IAmb	IAmb	22 14 36.2	
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	46.65	124	P	P	22 14 38.0	-0.6
	comp=Z,1.4nm,0.6s,baz=303,slow=9.2,SNR=13						
WB2	Warramunga Arr	46.66	124	P	P	22 14 38.4	-0.3
KURK	Kurchatov	47.09	346	P	P	22 14 42.3	+0.8
KURK				IAmb	IAmb	22 14 43.0	
	comp=Z,3.1nm,0.7s						
ASAR	Alice Springs	48.16	128	P	P	22 14 49.8	-0.4
	comp=Z,0.8nm,0.5s,baz=302,slow=7.7,SNR=15						
ZALV	Zalesovo Beam	49.06	353	P	P	22 14 56.8	+0.2
	comp=Z,3.5nm,0.5s,baz=192,slow=7.2,SNR=17						
JHJ	Hachijo jima 2	50.43	51	LR	LR	22 36 52.2	
	comp=Z,24nm,20.3s,baz=292,slow=36						
ABKAR	Akbulak array	52.54	332	P	P	22 15 22.0	-0.9
ABKAR	Akbulak array	52.54	332	IAmb	IAmb	22 15 40.9	
	comp=Z,2.7nm,1.1s						
BRTR	Keskin Array B	64.25	312	P	P	22 16 43.1	-1.9
	comp=Z,0.4nm,0.6s,baz=133,slow=8.9,SNR=4.1						
SEY	Seymchan	71.11	24	LR	LR	22 51 27.4	
	comp=Z,303nm,20.4s,baz=150,slow=38						
FINES	FINESS Array B	75.03	332	P	P	22 17 50.3	-0.5
	comp=Z,2.5nm,1.0s,baz=122,slow=7.1,SNR=6.3						
ARCES	ARCESS Array B	77.70	340	P	P	22 18 06.3	+0.6
	comp=Z,2.6nm,0.8s,baz=96,slow=4.0,SNR=4.0						
GERES	GERESS Array B	79.85	319	P	P	22 18 18.8	+0.7
	comp=Z,1.4nm,0.8s,baz=94,slow=5.4,SNR=8.7						
IMAR	Indian Mountai	93.86	22	P	P	22 19 26.3	-0.1
SDPT	Sand Point	94.16	34	P	P	22 19 27.4	-0.6
JOHN	Johnston Islan	94.29	73	P	P	22 19 28.4	-1.0

*IDC **16** 22:11:20.3±2.5, 34°.46N×140°.73E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/43, mbtmp3.6/3, ML2.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.0/59, Error ellipse: s-maj=61.9km s-min=30.9km az=73.0*
*ISCJB **16** 22:11:26.5±0.5, 34°.42N±0°.03×139°.98E±0°.06, h50km±8km, mb3.8/2, MS4.0/4, Error ellipse: s-maj=7.8km s-min=4.5km az=172.0*
*JMA **16** 22:11:27.2±0.1, 34°.46N×139°.96E, h33km±1km, M3.5*
ISC 16 22:11:26.9±1.2, 34°.42N±0°.03×139°.98E±0°.04, h33km±4km, n27, σ0s97/27, MS3.8/4, 2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.54	303	P	Pb	22 11 37.7	-0.4
JIM2				S	Sb	22 11 45.2	-0.7
JTHY	Toshimahigashi	0.58	280	P	Pn	22 11 38.8	0.0
JTHY				S	Sn	22 11 47.6	+0.4
JMKN	Mikurajimanish	0.62	211	||P	Pn	22 11 39.4	+0.1
JMKN				S	Sb	22 11 48.7	+0.7
BSO4	Boso 4	0.64	27	P	Pb	22 11 40.2	+0.6
JKO	Kozu shima	0.74	251	P	Pn	22 11 41.1	+0.1
JKO				eS	Sb	22 11 52.0	+0.8
BSO1	Boso 1	0.85	74	||P	Pn	22 11 41.7	-0.4
BSO1				X		22 11 52.6	
KTJ3	Kamata3	0.91	304	P	Pn	22 11 42.8	-0.5
KTJ3				S	Sn	22 11 53.8	-1.4
JOD2	Odawara 2	1.11	319	P	Pn	22 11 45.9	-0.3
JOD2				S	Sn	22 11 59.3	-1.1
JSMT	Sammumatsuo	1.27	17	P	Pn	22 11 48.4	0.0
JSMT				S	Sn	22 12 04.3	0.0
JHJ	Hachijo jima 2	1.31	187	Pn	Pn	22 11 49.4	+0.5
	377nm,0.3s,baz=140,slow=24,SNR=78						
JHJ				Sn	Sn	22 12 05.7	+0.5
	264nm,0.3s,baz=41,slow=19,SNR=33						
JFNN	Fujinakano	1.31	306	S	Sn	22 12 05.6	+0.3
JHJ2	Mitsune	1.32	186	P	Pn	22 11 49.3	+0.4
JHJ2				S	Sn	22 12 05.7	+0.4
MJAR	Matsushiro Arr	2.56	326	Pn	Pn	22 12 07.7	+1.7
	1.7nm,0.3s,baz=138,slow=13,SNR=9.1						
MJAR				Sn	Sn	22 12 38.4	+2.3
	1.5nm,0.3s,baz=260,slow=30,SNR=5.3						
MAT	Matsushiro	2.56	326	P	Pn	22 12 07.5	+1.4
MAT				S	Sn	22 12 37.4	+1.3
ASAJ	Asahikawa	9.89	11	LR	LR	22 17 30.8	
	comp=Z,57nm,19.3s,baz=333,slow=38						
H11N2	WAKE ISLAND Hy	27.97	115	T	T	22 46 57.1	
	baz=308,slow=75,SNR=47						
H11N1	WAKE ISLAND Hy	27.98	115	T	T	22 46 57.6	
	baz=308,slow=75,SNR=36						
H11N3	WAKE ISLAND Hy	27.99	115	T	T	22 46 58.5	
	baz=308,slow=75,SNR=45						
H11S3	WAKE ISLAND Hy	28.57	117	T	T	22 47 43.0	
	baz=310,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	28.57	117	T	T	22 47 44.9	
	baz=310,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	28.59	117	T	T	22 47 47.5	
	baz=310,slow=76,SNR=7.4						
TLY	Talaya	31.25	315	LR	LR	22 31 29.7	
	comp=Z,201nm,20.0s,baz=134,slow=38						
WRA	Warramunga Arr	54.33	187	P	P	22 20 48.4	-1.8
	0.7nm,0.4s,baz=3.1,slow=7.4,SNR=13						
ASAR	Alice Springs	58.06	187	P	P	22 21 16.6	-0.2
	0.3nm,0.5s,baz=20,slow=10,SNR=10						
BBB	Bella Bella	64.75	43	LR	LR	22 46 59.6	
	comp=Z,48nm,19.9s,baz=126,slow=33						
NVAR	Mina Array Bea	77.50	52	LR	LR	22 51 02.5	
	comp=Z,48nm,21.1s,baz=72,slow=31						
LPIG	La Paz	91.51	59	LR	LR	22 56 26.3	
	comp=Z,231nm,20.6s,baz=111,slow=30						

*UPA **16** 22:22:16.7±1.7, 2°.87N×83°.90W, h0km±836km, MW4.0*
ISC 16 22:22:22.7±4.7, 3°.2N±0°.2×83°.7W±0°.3, h10km, n58, σ1s05/56, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	5.00	34	eP	Pn	22 23 37.1	-0.7
GRGC	Isla de Gorgon	5.47	91	eP	Pn	22 23 42.3	-2.1
GRGC	Isla de Gorgon	5.47	91	eP	Pn	22 23 42.3	-2.1
BCO2	Palmira	5.63	11	eP	Pn	22 23 46.8	+0.1
BRU2	Volcan	5.68	10	eP	Pn	22 23 46.9	-0.4
AZU	Azuero	5.70	36	||P	Pn	22 23 46.7	-0.7
MALC	Bahia Malaga	6.36	82	eP	Pn	22 23 55.4	-1.1
MALC	Bahia Malaga	6.36	82	eP	Pn	22 23 55.4	-1.1
BBAC	Balboa, Cauca	6.49	100	eP	Pn	22 23 57.7	-0.9
BBAC	Balboa, Cauca	6.49	100	eP	Pn	22 23 57.7	-0.9
CRUC	La Cruz	6.87	103	eP	Pn	22 24 04.8	+0.9
CRUC	La Cruz	6.87	103	eP	Pn	22 24 04.8	+0.9
POPC	Popayan, Colom	6.99	95	eP	Pn	22 24 04.5	-1.0
POPC	Popayan, Colom	6.99	95	eP	Pn	22 24 04.5	-1.0
BCIP	Isla Barro Col	7.07	32	eP	Pn	22 24 06.7	+0.4
BCIP	Isla Barro Col	7.07	32	eP	Pn	22 24 06.7	+0.4
BCIP	Isla Barro Col	7.07	32	eP	Pn	22 24 06.7	+0.4
UPA	Univ. de Panam	7.08	35	eP	Pn	22 24 06.4	0.0
SOTA	Rioblanco	7.10	98	eP	Pn	22 24 07.9	+0.6
SOTA	Rioblanco	7.10	98	eP	Pn	22 24 07.9	+0.6
PCON	Cinco Dias	7.29	96	eP	Pn	22 24 11.3	+1.5
PCON	Cinco Dias	7.29	96	eP	Pn	22 24 11.3	+1.5
YOTC	Yotoco, Valle	7.33	83	eP	Pn	22 24 09.0	-1.1
YOTC	Yotoco, Valle	7.33	83	eP	Pn	22 24 09.0	-1.1
PLMC	San Jos del P	7.55	76	eP	Pn	22 24 11.8	-1.1
PLMC	San Jos del P	7.55	76	eP	Pn	22 24 11.8	-1.1
UPD2	Meteti	7.75	46	eP	Pn	22 24 16.7	+1.1
CBOC	Ciudad Bolivar	8.07	70	eP	Pn	22 24 18.6	-1.6
CBOC	Ciudad Bolivar	8.07	70	eP	Pn	22 24 18.6	-1.6
ORTC	Ortega, Tolima	8.42	85	eP	Pn	22 24 26.0	+1.1
ORTC	Ortega, Tolima	8.42	85	eP	Pn	22 24 26.0	+1.1
TOLC	Tolima	8.43	80	eP	Pn	22 24 26.4	+1.2
TOLC	Tolima	8.43	80	eP	Pn	22 24 26.4	+1.2
RREF	El Recreo	8.46	78	eP	Pn	22 24 26.2	+0.2
RREF	El Recreo	8.46	78	eP	Pn	22 24 26.2	+0.2
GUY2C	Guyana, Caldas	8.51	76	eP	Pn	22 24 26.6	0.0
GUY2C	Guyana, Caldas	8.51	76	eP	Pn	22 24 26.6	0.0
HELC	Santa Helena	8.63	69	eP	Pn	22 24 27.5	-0.6
HELC	Santa Helena	8.63	69	eP	Pn	22 24 27.5	-0.6
HELC	Santa Helena	8.63	69	eP	Pn	22 24 26.6	-1.5
NORC	Norcasia	9.07	74	eP	Pn	22 24 34.4	+0.5
NORC	Norcasia	9.07	74	eP	Pn	22 24 34.4	+0.5
ZARC	Zaragoza, Cauc	9.75	63	eP	Pn	22 24 42.8	-0.3
ZARC	Zaragoza, Cauc	9.75	63	eP	Pn	22 24 42.8	-0.3
PTBC	PUERTO BERRIO,	9.75	70	eP	Pn	22 24 44.6	+1.4
PTBC	PUERTO BERRIO,	9.75	70	eP	Pn	22 24 44.6	+1.4
MACC	Macarena, Meta	9.84	96	eP	Pn	22 24 44.6	+0.2
MACC	Macarena, Meta	9.84	96	eP	Pn	22 24 44.6	+0.2
SPBC	San Pablo de B	9.86	75	eP	Pn	22 24 45.9	+1.2
SPBC	San Pablo de B	9.86	75	eP	Pn	22 24 45.9	+1.2
VILC	Villavicencio,	9.98	84	eP	Pn	22 24 56.0	+10
VILC	Villavicencio,	9.98	84	eP	Pn	22 24 56.0	+10
CHIC	Chingaza	10.00	81	eP	Pn	22 24 48.6	+1.7
CHIC	Chingaza	10.00	81	eP	Pn	22 24 48.6	+1.7
SJCC	San Jacinto, C	10.75	51	eP	Pn	22 24 56.8	0.0
SJCC	San Jacinto, C	10.75	51	eP	Pn	22 24 56.8	0.0
RUSC	La Rusia	10.87	75	eP	Pn	22 25 00.0	+1.1
RUSC	La Rusia	10.87	75	eP	Pn	22 25 00.0	+1.1

*IDC **16** 22:28:34.1±1.3, 26°.61N×128°.92E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/62, mbtmp3.8/5, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/42, Error ellipse: s-maj=32.7km s-min=15.0km az=43.0*
*JMA **16** 22:28:36.7±0.1, 26°.60N×129°.07E, h36km±2km, M3.4*
ISC 16 22:28:33.2±1.6, 26°.57N±0°.04×129°.05E±0°.03, h3km±11km, n27, σ1s38/39, mb3.9/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	0.70	311	P	Pn	22 28 50.0	0.0
JYRO				eS	Sn	22 28 59.8	-1.6
JOW	Kunigami	0.74	291	P	Pn	22 28 51.0	+0.5
JOW				eS	Sn	22 29 00.8	-1.6
JOW	Kunigami	0.74	291	Pn	Pn	22 28 51.0	+0.5
	39nm,0.3s,baz=88,slow=20,SNR=391						
JOW				Sn	Sn	22 29 00.3	-2.0
	baz=81,slow=18						
JOKE	Okinoerabujima	0.90	332	P	Pn	22 28 53.0	+0.2
JNTH	Nagotoyohara	0.92	267	P	Pn	22 28 53.7	+0.7
JNTH				eS	Sn	22 29 05.6	-1.1
JIH	Iheya	1.07	296	P	Pn	22 28 56.0	+0.9
JIH				eS	Sn	22 29 09.7	-0.8
JJT3	Tamagusuku3	1.21	250	P	Pn	22 28 58.4	+1.4
JJT3				eS	Sn	22 29 14.6	+0.7
JTK	Tokunoshima	1.22	356	P	Pg	22 28 57.3	+0.7
JTK				eS	Sg	22 29 12.0	-0.4
JAGN	Aguni-jima	1.61	271	P	Pg	22 29 04.0	-0.2
JAMN	Amaminishikomi	1.68	4	P	Pb	22 29 04.3	-0.4
JAMN				eS	Sn	22 29 24.2	-1.3
JAM	Amami Oshima	1.91	15	eS	Sn	22 29 29.8	-1.3
JZK	Kikaishima	1.93	25	P	Pn	22 29 07.9	+1.0
JZK				eS	Sn	22 29 30.8	-0.9
JKE	Kume jima 2	2.04	264	P	Pb	22 29 09.2	-1.7
JKE				eS	Sb	22 29 34.4	-2.3
JMZ	Minamidaito 2	2.09	110	P	Pn	22 29 09.3	+0.2
JMZ				S	Sn	22 29 32.5	-3.2
JKDJ	Kitadaitoujima	2.11	106	P	Pn	22 29 09.8	+0.4
JKDJ				S	Sn	22 29 34.1	-2.1
JNU	Nakatsue	6.72	13	Pn	Pn	22 30 14.8	+1.9
	0.6nm,0.3s,baz=194,slow=6.9,SNR=13						
JNU				Sn	Sn	22 31 27.3	-2.8
	0.2nm,0.3s,baz=315,slow=16,SNR=1.9						
KSRS	Korea Array	10.90	355	LR	LR	22 35 36.4	
	comp=Z,92nm,18.6s,baz=354,slow=39						
ODAN	Odare	37.09	280	eP	P	22 35 46.1	+0.8
PKI	Pulchoki	38.72	282	eP	P	22 35 59.7	+0.5
PKIN	Phulchoki	38.73	282	eP	P	22 35 59.9	+0.7
KKN	Kakani	38.80	282	eP	P	22 36 00.6	+0.9
GKN	Gorkha	39.33	283	eP	P	22 36 04.8	+0.7
DANN	Dangsing	40.05	283	eP	P	22 36 11.5	+1.3
MKAR	Makanchi Array	41.86	311	P	P	22 36 23.8	-0.7
	0.2nm,0.4s,baz=102,slow=8.7,SNR=4.6						
WRA	Warramunga Arr	46.52	173	P	P	22 37 03.5	+1.5
	1.9nm,0.6s,baz=354,slow=8.4,SNR=14						
ASAR	Alice Springs	50.16	174	P	P	22 37 32.1	+1.9
	1.3nm,0.8s,baz=6.7,slow=13,SNR=22						
BRTR	Keskin Array B	77.40	308	P	P	22 40 30.5	+0.5
	0.7nm,0.7s,baz=94,slow=4.9,SNR=4.7						

*ISCJB **16** 22:56:41.9±0.9, 6°.40S±0°.07×130°.56E±0°.09, h100km, mb3.8/3, Error ellipse: s-maj=13.4km s-min=10.0km az=163.6*
*IDC **16** 22:56:47.3±7.6, 6°.54S×130°.46E, h137km±80km, mb3.4/3, mb1 3.7/7, mb1mx3.3/39, mbtmp4.0/7, MS2.6/1, Ms1 2.6/1, ms1mx2.3/16, Error ellipse: s-maj=61.8km s-min=25.8km az=41.0*
ISC 16 22:56:43.6±1.1, 6°.53S±0°.08×130°.6E±0°.1, h100km, n8, σ2s57/11, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.81	242	P	Pn	22 58 37.8	+3.1
	6.0nm,0.3s,baz=210,slow=3.5,SNR=6.4						
BATI				S	Sn	23 00 01.4	-0.2
	12nm,0.3s,baz=99,slow=21,SNR=9.0						
KAPI	Kappang	10.94	277	LR	LR	23 03 03.9	
	comp=Z,32nm,19.3s,baz=127,slow=35						
FITZ	Fitzroy Crossi	12.49	203	P	Pn	22 59 38.3	+0.4
	0.5nm,0.3s,baz=32,slow=14,SNR=29						
FITZ				S	Sn	23 01 50.3	-5.0
	1.8nm,0.3s,baz=254,slow=19,SNR=13						
WRA	Warramunga Arr	13.81	165	P	Pn	22 59 56.0	+0.8
	0.6nm,0.3s,baz=347,slow=13,SNR=15						
WRA				S	Sn	23 02 25.6	-1.7
	1.5nm,0.3s,baz=334,slow=24,SNR=9.1						
ASAR	Alice Springs	17.32	170	P	P	23 00 42.3	+3.1
	0.6nm,0.3s,baz=347,slow=10.0,SNR=52						
ASAR				S	Sn	23 03 51.9	-0.3
	0.4nm,0.3s,baz=349,slow=26,SNR=6.8						
CMAR	Chiang Mai Arr	39.93	309	P	P	23 04 06.6	-1.7
	0.7nm,0.7s,baz=135,slow=6.2,SNR=5.3						
SONM	Songino Array	58.20	341	P	P	23 06 27.0	-0.5
	0.3nm,0.5s,baz=164,slow=6.6,SNR=2.9						
MKAR	Makanchi Array	68.19	326	P	P	23 07 32.3	-1.1
	1.3nm,0.4s,baz=114,slow=8.2,SNR=31						

*ISCJB **16** 22:57:10.8±0.4, 12°.30N±0°.06×87°.03W±0°.06, h103km±5km, mb3.6/5, Error ellipse: s-maj=13.3km s-min=4.1km az=40.2*
*IDC **16** 22:57:10.8±1.1, 12°.14N×87°.11W, h112km±14km, mb3.4/5, mb1 3.6/9, mb1mx3.3/52, mbtmp3.7/9, MS2.5/1, Ms1 2.5/1, ms1mx2.1/24, Error ellipse: s-maj=43.3km s-min=9.2km az=40.0*
*SNET **16** 22:57:11.5±0.8, 12°.26N×87°.06W, h21km±106km, ML4.0*
*UCR **16** 22:57:11.7±1.5, 12°.30N×87°.02W, h92km±10km, MW4.3*
ISC 16 22:57:10.9±0.9, 12°.29N±0°.07×87°.03W±0°.07, h98km±7km, n34, σ1s07/41, mb3.5/5, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	Cerro Negro	0.39	58	eP	Pn	22 57 24.9	-0.9
CNGN				eS	Sn	22 57 37.5	+0.6
CRIN	San Cristobal	0.41	358	eP	Pn	22 57 26.2	+0.2
MASN	Masaya	0.91	109	eP	Pn	22 57 30.7	+0.4
ESTN	Estel	1.03	39	eP	Pn	22 57 31.9	+0.3
CNCH	Conchagua	1.25	321	eP	Pn	22 57 34.4	+0.2
CNCH				eS	Sn	22 57 52.3	+0.5
CNCH				IAML		22 57 59.8	
	comp=Z,6μm,0.3s						
MATN	Matagalpa	1.25	60	eP	Pn	22 57 34.8	+0.6
LCND	La Caada	1.31	320	||iP	Pn	22 57 34.9	+0.1
LCND				eS	Sn	22 57 52.5	-0.4
LCND				IAML		22 58 00.9	
	comp=Z,2μm,0.3s						
RCON	San Juan de Ri	1.46	36	eP	Pn	22 57 37.5	+0.7
VSM

KARA Karaisali 1.00 231 PG **Pn 23 00 59.0 -0.1**
GULE Gulek 1.17 239 *i* P **Pg 23 01 02.0 -0.2**
GULE *i* S **Sb 23 01 16.4 -0.2**
GULE IAML_P
comp=Z,156nm,0.2s
AVNS Nevsehir-Avano 1.30 315 *i* P **Pg 23 01 05.4 +0.7**
AVNS IAML_P
comp=Z,216nm,0.2s
DARE Darende-Malaty 1.33 59 PN **Pb 23 01 03.6 -0.7**
GZT Gaziantep 1.33 113 *i* P **Pg 23 01 05.0 -0.4**
GZT *i* S **Sg 23 01 23.3 +0.6**
GZT IAML_P
comp=Z,392nm,0.2s
KUZU Kuzuini 1.40 143 *i* P **Pg 23 01 07.5 +1.0**
KUZU *i* S **Sg 23 01 25.1 +0.4**
KUZU IAML_P
comp=Z,491nm,0.2s
CUSAR Sarkisla-SIVAS 1.53 6 *i* P **Pg 23 01 08.7 -0.4**
CUSAR *i* S **Sg 23 01 29.7 +0.6**
AKCD Akcadag 1.55 74 *i* P **Pg 23 01 09.8 +0.4**
AKCD *i* S **Sg 23 01 30.5 +0.9**
AKCD IAML_P
comp=Z,310nm,0.2s
YOZ Yozgat 1.83 343 PN **Pn 23 01 10.9 +0.3**

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*DDA **16** 23:25:47.7, 36°.50N×31°.95E, h7km±4km, ML2.5*
*ISCJB **16** 23:25:48.1±0.7, 36°.46N±0°.04×31°.93E±0°.05, h10km±4km, Error ellipse: s-maj=8.6km s-min=4.4km az=39.8*
*ISK **16** 23:25:48.5, 36°.46N×31°.99E, h15km, ML2.1/11*
ISC 16 23:25:48.6±1.0, 36°.49N±0°.04×31°.98E±0°.04, h16km±6km, n22, σ0=83/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.08**	**32**	PG	**Pg**	**23 25 51.9**	**0.0**
ALAN				SG	**Sg**	**23 25 54.4**	**+0.3**
GAZI	**Gazipasa**	**0.37**	**133**	*i* P	**Pb**	**23 25 56.1**	**-0.7**
GAZI				*i* S	**Sb**	**23 26 02.2**	**-0.1**
GAZI				IAML_P			
comp=Z,3μm,0.1s							
GAZI	**Gazipasa**	**0.37**	**133**	PG	**Pg**	**23 25 55.9**	**-0.4**
GAZI				SG	**Sg**	**23 26 01.5**	**0.0**
KEPZ	**Antalya-Kepez**	**0.51**	**324**	*i* P	**Pg**	**23 25 57.9**	**-1.0**
KEPZ				*i* S	**Sg**	**23 26 04.9**	**-0.8**
KEPZ				IAML_P			
comp=Z,3μm,0.2s							
ERMK	**Ermenek**	**0.77**	**78**	*i* P	**Pb**	**23 26 03.8**	**+0.1**
ERMK				*i* S	**Sb**	**23 26 15.2**	**+1.3**
ERMK				IAML_P			
comp=Z,816nm,0.2s							
TEKE	**Tekeli-Mersin**	**0.98**	**110**	PG	**Pb**	**23 26 07.4**	**+0.2**
BERE	**Bereket-Mersin**	**1.01**	**98**	PG	**Pg**	**23 26 07.2**	**-1.1**
BERE				SG	**Sn**	**23 26 22.5**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.18**	**92**	PN	**Pb**	**23 26 10.3**	**-0.4**
GULN	**MERSIN_Gulnar**	**1.30**	**103**	*i* P	**Pn**	**23 26 11.8**	**-0.3**
GULN				*i* S	**Sg**	**23 26 30.4**	**-0.2**
GULN				IAML_P			
comp=Z,129nm,0.2s							
KMER	**Konya-Meram**	**1.31**	**14**	*i* P	**Pn**	**23 26 12.6**	**+0.2**
KMER				*i* S	**Sb**	**23 26 27.3**	**-2.3**
KMER				IAML_P			
comp=Z,78nm,0.2s							
KEBE	**Keben-Mersin**	**1.40**	**91**	PN	**Pn**	**23 26 13.9**	**+0.4**
IKL	**Isikli**	**1.40**	**100**	PN	**Pn**	**23 26 14.0**	**+0.6**
KONT	**Konya--Tatoy**	**1.48**	**12**	*i* P	**Pg**	**23 26 17.4**	**+0.2**
KONT				IAML_P			
comp=Z,182nm,0.2s							
KONT	**Konya--Tatoy**	**1.48**	**12**	PN	**Pb**	**23 26 15.9**	**+0.1**
DOGA	**KONYA_Doganhis**	**1.63**	**351**	*i* P	**Pb**	**23 26 18.4**	**0.0**
DOGA				IAML_P			
comp=Z,167nm,0.3s							
LADK	**Ladik-KONYA**	**1.73**	**10**	PN	**Pn**	**23 26 19.3**	**+1.1**
KIZK	**Mersin**	**1.74**	**90**	*i* P	**Pg**	**23 26 21.0**	**-1.1**
KIZK				*i* S	**Sb**	**23 26 43.0**	**+1.2**
KIZK				IAML_P			
comp=Z,241nm,0.1s							
KIZK	**Mersin**	**1.74**	**90**	PN	**Pn**	**23 26 18.9**	**+0.7**
CSS	**Mathiatis**	**1.88**	**144**	PN	**Pn**	**23 26 20.6**	**+0.5**
KERG	**Konya-Eregli**	**1.95**	**61**	*i* P	**Pb**	**23 26 23.7**	**-0.2**
KERG				IAML_P			
comp=Z,88nm,0.2s							
MERS	**Mersin**	**2.08**	**79**	PN	**Pn**	**23 26 23.8**	**+0.9**
FETY	**Fethiye**	**2.34**	**274**	PN	**Pn**	**23 26 27.7**	**+1.3**

IDC 16 23:51:50.2±1.1, 31°.77N×40°.55W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.7/40, mbtmp3.9/7, MS3.7/9, Ms1 3.7/9, ms1mx3.3/36, Error ellipse: s-maj=34.8km s-min=25.6km az=42.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**29.64**	**329**	LR	LR	00 09 18.9	
comp=Z,142nm,19.1s,baz=46,slow=35							
DBIC	**Dimbokro**	**41.62**	**119**	LR	LR	00 14 40.6	
comp=Z,79nm,20.0s,baz=335,slow=33							
TORD	**Torodi Ar. Bea**	**42.89**	**106**	P	P	23 59 50.2	-0.5
1.7nm,1.0s,baz=304,slow=4.4,SNR=5.0							
TORD				LR	LR	00 16 34.9	
comp=Z,76nm,18.6s,baz=345,slow=35							
ULM	**Lac du Bonnet**	**44.54**	**311**	LR	LR	00 18 36.9	
comp=Z,84nm,18.1s,baz=30,slow=36							
H10N2	**ASCENSION HYDR**	**46.59**	**143**	T	T	00 49 48.5	
baz=328,slow=75,SNR=325							
H10N3	**ASCENSION HYDR**	**46.59**	**143**	T	T	00 49 48.3	
baz=328,slow=75,SNR=202							
H10N1	**ASCENSION HYDR**	**46.60**	**143**	T	T	00 49 49.9	
baz=328,slow=75,SNR=309							
ATAH	**Atahualpa**	**52.93**	**230**	LR	LR	00 22 36.4	
comp=Z,34nm,19.5s,baz=27,slow=35							
TXAR	**Lajitas Array**	**53.73**	**285**	P	P	00 01 13.9	-0.5
0.5nm,0.9s,baz=72,slow=5.8,SNR=6.4							
TXAR				LR	LR	00 22 53.9	
comp=Z,67nm,18.1s,baz=0.0,slow=35							
PDAR	**Pinedale Array**	**54.61**	**303**	P	P	00 01 20.8	-0.1
2.5nm,1.0s,baz=75,slow=7.8,SNR=13							
PDAR				LR	LR	00 24 04.7	
comp=Z,92nm,18.2s,baz=48,slow=35							
LPAZ	**La Paz**	**54.62**	**213**	P	P	00 01 21.8	+0.3
1.2nm,0.9s,baz=294,slow=20,SNR=3.0							
LVC	**Limon Verde**	**60.50**	**210**	LR	LR	00 27 09.2	
comp=Z,34nm,20.0s,baz=0.5,slow=35							
INK	**Inuvik**	**61.97**	**335**	P	P	00 02 11.7	+0.1
2.9nm,0.9s,baz=64,slow=7.3,SNR=6.5							
NVAR	**Mina Array Bea**	**62.21**	**300**	P	P	00 02 13.3	-0.8
0.6nm,0.8s,baz=76,slow=3.8,SNR=4.3							
NVAR				LR	LR	00 27 21.8	
comp=Z,100nm,21.0s,baz=75,slow=34							
ILAR	**Eielson Array**	**68.25**	**334**	P	P	00 02 53.0	+0.6
1.3nm,1.0s,baz=58,slow=3.4,SNR=6.7							

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*ISCJB **17** 00:05:42.1±0.5, 51°.49N±0°.02×16°.10E±0°.03, h0km, Error ellipse: s-maj=3.5km s-min=2.5km az=15.9*
*VIE **17** 00:05:45.5±0.8, 51°.38N×15°.97E, h0km, mb2.5/4, ml2.8/6, Error ellipse: s-maj=5.9km s-min=5.6km az=176.0 79 km WNW of Wroclaw Suspected Mining induced.*
ISC 17 00:05:42.5±0.9, 51°.59N±0°.03×16°.12E±0°.02, h0km, n32, σ0=73/79, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**172**	*i* Pg	**Pg**	**00 05 57.3**	**+0.4**
KSP				*i* Pg	**Pg**	**00 05 57.3**	**+0.4**
KSP				*e*		00 06 00.1	
KSP				*e*		00 06 00.1	
KSP				*e*Sg	**Sg**	**00 06 06.9**	**+0.2**
KSP				*e*Sg	**Sg**	**00 06 06.9**	**+0.2**
CHVC	**Chvalec**	**1.00**	**182**	*e*PG	**Pg**	**00 06 02.0**	**+0.3**
CHVC				*e*SG	**Sg**	**00 06 14.1**	**-0.5**
comp=Z,94nm,0.5s							
OSTC	**Ostas**	**1.03**	**177**	*e*PG	**Pg**	**00 06 02.3**	**0.0**
OSTC				*e*SG	**Sg**	**00 06 14.7**	**-1.0**
comp=Z,71nm,0.2s							
UPC	**Upice**	**1.08**	**184**	*e*PG	**Pg**	**00 06 03.3**	**+0.1**
UPC				*e*SG	**Sg**	**00 06 16.9**	**-0.4**
comp=Z,95nm,0.4s							
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*PG	**Pg**	**00 06 06.1**	**-0.2**
DPC				*e*SG	**Sg**	**00 06 21.7**	**-0.8**
comp=Z,43nm,0.2s							
PVCC	**Panska Ves**	**1.44**	**223**	*e*PG	**Pn**	**00 06 09.7**	**-0.1**
PVCC				*e*SG	**Sg**	**00 06 28.9**	**+0.1**
comp=Z,132nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**243**	PN	**Pn**	**00 06 11.5**	**+0.3**
BRG				PG	**Pg**	**00 06 12.6**	**+0.6**
BRG				SG	**Sg**	**00 06 32.6**	**+0.6**
92nm,0.3s							
KRLC	**Kraliky**	**1.57**	**164**	*e*PG	**Pn**	**00 06 11.6**	**-0.1**
KRLC				*e*SG	**Sn**	**00 06 31.8**	**-0.9**
comp=Z,67nm,0.5s							
PRA	**Prague**	**1.86**	**216**	*e*PN	**Pn**	**00 06 15.5**	**0.0**
PRA				*e*SG	**Sb**	**00 06 40.9**	**-0.1**
comp=Z,29nm,0.6s							
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	*e*PN	**Pn**	**00 06 16.1**	**+0.3**
GOPC				*e*PG	**Pb**	**00 06 17.7**	**+0.1**
GOPC				*e*SG	**Sn**	**00 06 41.3**	**+1.1**
comp=Z,23nm,0.4s							
PRU	**Pruhonice**	**1.89**	**213**	*e*PN	**Pn**	**00 06 15.8**	**-0.2**
PRU				*e*PG	**Pb**	**00 06 17.2**	**-0.6**
PRU				*e*SG	**Sb**	**00 06 41.7**	**-0.2**
comp=Z,30nm,0.5s							
CLL	**Collm**	**1.97**	**263**	*i* Pn	**Pn**	**00 06 16.6**	**-0.5**
CLL				*e*Pg	**Pg**	**00 06 20.0**	**-0.2**
CLL				*i*		00 06 23.7	
CLL				*e*Sg	**Sb**	**00 06 45.0**	**+0.8**
comp=Z,17nm,0.4s							
RAC	**Raciborz**	**2.00**	**138**	*e*Pg	**Pb**	**00 06 20.2**	**+0.5**
RAC				*e*Pg	**Pb**	**00 06 20.2**	**+0.5**
RAC				*e*Sg	**Sg**	**00 06 46.5**	**-0.2**
RAC				*e*Sg	**Sg**	**00 06 46.5**	**-0.2**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*PN	**Pn**	**00 06 17.7**	**-0.2**
MORC				*e*SG	**Sb**	**00 06 46.2**	**+0.2**
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*PN	**Pn**	**00 06 20.6**	**+0.7**
OKC				*e*PG	**Pb**	**00 06 23.2**	**+0.5**
OKC				*e*SG	**Sg**	**00 06 51.5**	**-0.8**
comp=Z,62nm,1.1s							
VRAC	**Vranov**	**2.30**	**172**	*e*PN	**Pn**	**00 06 22.3**	**+0.6**
VRAC				*e*SG	**Sb**	**00 06 54.2**	**+0.3**
TREC	**Trest**	**2.33**	**190**	*e*PN	**Pn**	**00 06 22.8**	**+0.7**
TREC				*e*PG	**Pb**	**00 06 25.6**	**+0.2**
TREC				*e*SG	**Sb**	**00 06 55.4**	**+0.7**
comp=Z,26nm,0.3s							
PBCC	**Pribram**	**2.33**	**216**	*e*PN	**Pn**	**00 06 22.2**	**+0.1**
PBCC				*e*PG	**Pb**	**00 06 25.6**	**+0.2**
PBCC				*e*SG	**Sb**	**00 06 56.5**	**+1.7**
comp=Z,7.9nm,0.6s							
KRUC	**Moravsky**	**2.54**	**176**	*e*PN	**Pn**	**00 06 25.6**	**+0.7**
KRUC				*e*SG	**Sg**	**00 07 02.9**	**-1.0**
NKC	**Novy Kostel**	**2.69**	**241**	*e*PN	**Pn**	**00 06 27.5**	**+0.5**
NKC				*e*PG	**Pb**	**00 06 31.3**	**-0.2**
NKC				*e*SG	**Sg**	**00 07 08.5**	**-0.3**
comp=Z,44nm,0.3s							
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**00 06 34.3**	**+0.1**
OJC				*e*Pg	**Pg**	**00 06 34.3**	**+0.1**
OJC				*e*Sg	**Sg**	**00 07 09.7**	**+0.5**
OJC				*e*Sg	**Sg**	**00 07 09.7**	**+0.5**
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN	**Pn**	**00 06 30.6**	**0.0**
KHC				*e*PG	**Pb**	**00 06 36.7**	**+0.8**
KHC				*e*SG	**Sg**	**00 07 15.5**	**-1.6**
SMOL	**Smolenice**	**3.19**	**164**	*e*PG	**Pg**	**00 06 43.5**	**-0.1**
SMOL				*e*SG	**Sg**	**00 07 25.8**	**+0.9**
SMOL				*e*LG	Lg	00 07 35.4	
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PG	**Pg**	**00 06 44.3**	**-0.4**
LANS				*e*SG	**Sg**	**00 07 24.4**	**-2.4**
LANS				*e*LG	Lg	00 07 31.7	
MODS	**Modra-Piesok**	**3.30**	**166**	*e*PG	**Pg**	**00 06 44.8**	**-1.0**
MODS				*e*SG	**Sg**	**00 07 27.7**	**-0.8**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**00 06 38.8**	**-0.1**
VYHS				*e*PG	**Pg**	**00 06 48.6**	**-2.0**
VYHS				*e*SG	**Sg**	**00 07 36.6**	**-0.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**00 06 39.4**	**-0.1**
BSD				*i* S	**Sn**	**00 07 21.5**	**-1.3**
CONA	**Conrad Observa**	**3.67**	**183**	*e*Pn	**Pn**	**00 06 41.4**	**+0.9**
comp=Z,1.0nm,0.3s							
CONA				Pg	**Pg**	**00 06 51.1**	**-1.6**
comp=Z,1.6nm,0.2s							
CONA				Sg	**Sg**	**00 07 39.2**	**-1.0**
comp=Z,20nm,0.4s							
MOA	**Molln**	**3.93**	**199**	*e*Pn	**Pn**	**00 06 44.5**	**+0.5**
comp=Z,1.3nm,0.2s							
MOA				Sg	**Sg**	**00 07 48.2**	**-0.5**
comp=Z,6.6nm,0.3s							
ARSA	**Arzberg**	**4.36**	**185**	*e*Pn	**Pn**	**00 06 50.5**	**+0.6**
comp=Z,1.0nm,0.2s							
ARSA				Sg	**Sg**	**00 08 01.3**	**-1.2**
comp=Z,4.5nm,0.5s							
KOLS	**Kolonicke sedl**	**4.76**	**122**	*e*PG	**Pg**	**00 07 14.5**	**+0.9**
WTTA	**Wattenberg**	**5.22**	**216**	Sg	**Sg**	**00 08 30.7**	**+0.6**
comp=Z,5.5nm,0.5s							

IDC 17 00:12:34.0±884.0, 37°.96N×16°.26E, h0km, Error ellipse: s-maj=246.0km s-min=134.7km az=68.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**5.96**	**251**	*i*		00 50 00.0	
baz=66,slow=328,SNR=3.5							
I26DE	**FREYUNG INFRAS**	**11.04**	**351**	*i*		02 58 20.0	
baz=170,slow=316,SNR=0.8							
I31KZ	**AKTYUBINSK INF**	**32.02**	**54**	*i*		03 41 50.0	
baz=252,slow=326,SNR=1.6							
I19DJ	**I19DJ**	**35.71**	**131**	*i*		04 10 00.0	
baz=324,slow=302,SNR=1.3							
I32KE	**NAIROBI INFRAS**	**43.39**	**149**	*i*		04 53 30.0	
baz=336,slow=309,SNR=1.5							
I34MN	**SONGINO INFRAS**	**63.19**	**49**	*i*		06 49 00.0	
baz=294,slow=327,SNR=0.6							

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*ISCJB **17** 00:18:46.8±0.2, 6°.79N±0°.02×76°.75W±0°.02, h48km±8km, mb3.4/3, Error ellipse: s-maj=3.1km s-min=2.3km az=34.0*
*UPA **17** 00:18:47.4±1.1, 6°.75N×76°.72W, h24km±11km, MW4.0*
*RSNC **17** 00:18:48.2±1.6, 6°.77N×76°.74W, h32km±10km, ML3.9, Mw4.2*
*IDC **17** 00:18:51.1±3.1, 6°.90N×76°.51W, h64km±31km, mb3.2/3, mb1 3.8/6, mb1mx3.4/28, mbtmp4.0/6, ML3.5/3, Error ellipse: s-maj=27.2km s-min=18.4km az=83.0*
ISC 17 00:18:46.5±1.2, 6°.76N±0°.03×76°.74W±0°.03, h28km±10km, n70, σ2=04/124, mb3.6/3, 9C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.58**	**64**	⇑*i*P	**Pb**	**00 18 58.4**	**+0.1**
DBBC				*e*S	**Sb**	**00 19 07.2**	**+0.9**
DBBC				*i*		00 19 09.3	
comp=Z,22μm,0.8s							
DBBC	**Dabeiba**	**0.58**	**64**	*i* PC		00 18 58.4	
DBBC				*e*S	**Sb**	**00 19 07.2**	**+0.9**
CBOC	**Ciudad Bolivar**	**1.14**	**141**	⇓*i*P	**Pn**	**00 19 06.4**	**-0.4**
CBOC				*e*S	**Sn**	**00 19 22.3**	**+0.6**
CBOC				*i*		00 19 26.5	
comp=Z,3μm,0.4s							
HELC	**Santa Helena**	**1.33**	**115**	⇑*i*P	**Pn**	**00 19 09.6**	**+0.2**
HELC				⇓*i*P	**Pn**	**00 19 09.7**	**+0.2**
HELC				*e*S	**Sn**	**00 19 26.3**	**-0.1**
HELC				*i*		00 19 28.2	
comp=Z,2μm,0.5s							
HELC	**Santa Helena**	**1.33**	**115**	*e*P	**Pn**	**00 19 09.7**	**+0.2**
HELC				*e*S	**Sn**	**00 19 26.9**	**+0.5**
PLMC	**San Jos del P**	**1.90**	**166**	*e*P	**Pn**	**00 19 14.8**	**-2.3**
PLMC				*e*S	**Sn**	**00 19 37.0**	**-3.1**
PLMC				*i*		00 19 39.5	
comp=Z,3μm,0.1s							
ZARC	**Zaragoza, Cauc**	**2.00**	**69**	⇑*i*P	**Pn**	**00 19 19.9**	**+1.4**
ZARC				*e*S	**Sn**	**00 19 43.1**	**+0.5**
ZARC				*i*		00 19 45.1	
comp=Z,1μm,0.7s							
GUY2C	**Guyana, Caldas**	**2.05**	**138**	⇓*i*P	**Pn**	**00 19 20.8**	**+1.3**
GUY2C				*e*S	**Sn**	**00 19 44.7**	**+0.4**
GUY2C				*i*		00 19 56.5	
comp=Z,1μm,0.7s							
UPD2	**Meteti**	**2.18**	**325**	*e*P	**Pn**	**00 19 22.1**	**+1.2**
UPD2				*e*S	**Sn**	**00 19 47.4**	**+0.4**
UPD2				*i*		00 19 57.7	
comp=Z,477nm,1.3s							
UPD2	**Meteti**	**2.18**	**325**	*e*P	**Pn**	**00 19 22.0**	**+1.0**
UPD2				*e*S	**Sn**	**00 19 48.8**	**+1.7**
NORC	**Norcasia**	**2.20**	**122**	⇓*i*P	**Pn**	**00 19 23.1**	**+1.8**
NORC				*e*S	**Sn**	**00 19 48.2**	**+0.5**
NORC				*i*		00 19 55.3	
comp=Z,722nm,0.5s							
PTBC	**PUERTO BERRIO,**	**2.28**	**95**	⇑*i*P	**Pn**	**00 19 23.1**	**+0.9**
PTBC				*e*S	**Sn**	**00 19 49.3**	**-0.1**
PTBC				*i*		00 19 55.1	
comp=Z,1μm,0.7s							
RREF	**El Recreo**	**2.31**	**143**	⇓*i*P	**Pn**	**00 19 25.0**	**+1.8**
RREF				*e*S	**Sn**	**00 19 51.4**	**+0.4**
RREF				*i*		00 19 57.3	
comp=Z,1μm,0.8s							
TOLC	**Tolima**	**2.58**	**147**	*e*P	**Pn**	**00 19 28.7**	**+2.0**
TOLC				*e*S	**Sn**	**00 19 58.9**	**+1.6**
ANIL	**Santa Ana**	**2.62**	**149**	*e*P	**Pn**	**00 19 28.9**	**+1.8**
ANIL				*e*S	**Sn**	**00 19 58.6**	**+0.4**
ANIL				*i*		00 20 12.1	
comp=Z,474nm,0.5s							
YOTC	**Yotoco, Valle**	**2.78**	**172**	⇓*i*P	**Pn**	**00 19 28.0**	**-1.3**
YOTC				*e*S	**Sn**	**00 19 58.3**	**-3.8**
YOTC				*i*		00 20 04.2	
comp=Z,190nm,0.5s							
MALC	**Bahia Malaga**	**2.79**	**192**	*e*P	**Pn**	**00 19 31.5**	**+2.2**
MALC				*e*S	**Sn**	**00 20 01.9**	**-0.2**
SPBC	**San Pablo de B**	**2.87**	**112**	*e*P	**Pn**	**00 19 33.1**	**+2.6**
SPBC				*e*S	**Sn**	**00 20 04.4**	**+0.3**
SPBC				*i*		00 20 20.3	
comp=Z,456nm,0.8s							
BRRC	**Barranca, Sant**	**3.02**	**83**	*e*P	**Pn**	**00 19 33.9**	**+1.4**
BRRC				*e*S	**Sn**	**00 20 08.5**	**+0.7**
BRRC				*i*		00 20 24.6	
comp=Z,281nm,0.6s							
CTAB	**Cerro Tablazo,**	**3.06**	**124**	*e*P	**Pn**	**00 19 36.5**	**+3.1**
CTAB				*e*S	**Sn**	**00 20 12.7**	**+3.3**
ROSC	**El Rosal**	**3.07**	**128**	⇓*i*P	**Pn**	**00 19 37.3**	**+3.8**
ROSC				*e*S	**Sn**	**00 20 10.0**	**+0.5**
ROSC				*i*		00 20 31.3	
comp=Z,436nm,1.3s							
ROSC	**El Rosal**	**3.07**	**128**	P	**Pn**	**00 19 37.3**	**+3.8**
comp=Z,30nm,0.3s,baz=5.1,slow=4.2,SNR=64							
ROSC				S	**Sn**	**00 20 11.4**	**+2.0**
comp=Z,55nm,0.3s,baz=182,slow=21,SNR=5.2							
CTAU	**Tausa, Cundina**	**3.09**	**120**	*e*P	**Pb**	**00 19 39.2**	**-1.9**
CTAU				*e*S	**Sb**	**00 20 15.9**	**-2.7**
ORTC	**Ortega, Tolima**	**3.20**	**152**	⇓*i*P	**Pn**	**00 19 37.5**	**+2.5**
ORTC				*e*S	**Sn**	**00 20 12.6**	**+0.4**
ORTC				*i*		00 20 47.1	
comp=Z,234nm,0.9s							
SMLC	**San Martn de**	**3.33**	**52**	*e*P	**Pn**	**00 19 38.0**	**+1.3**
SMLC				*e*S	**Sn**	**00 20 14.7**	**-0.8**
SMLC				*i*		00 20 18.8	
comp=Z,245nm,0.6s							
CHPO	**Chepo, Panama**	**3.36**	**316**	*e*P	**Pn**	**00 19 38.9**	**+1.8**
CHPO				*e*S	**Sn**	**00 20 16.8**	**+0.7**
CVER	**Cruz Verde, Cu**	**3.46**	**130**	*e*P	**Pn**	**00 19 41.1**	**+2.2**
CVER				*e*S	**Sn**	**00 20 22.9**	**+3.7**
SJCC	**San Jacinto, C**	**3.48**	**26**	⇑*i*P	**Pn**	**00 19 39.5**	**+0.6**
SJCC				*e*S	**Sn**	**00 20 17.6**	**-1.6**
SJCC				*i*		00 20 57.4	
comp=Z,97nm,1.8s							
SJCC	**San Jacinto, C**	**3.48**	**26**	*e*P	**Pn**	**00 19 40.0**	**+1.1**
BARC	**Barichara**	**3.54**	**92**	*e*P	**Pn**	**00 19 41.2**	**+1.4**
BARC				*e*S	**Sn**	**00 20 21.5**	**+0.7**
BARC				*i*		00 20 39.3	
comp=Z,2μm,1.6s							
UPA	**Univ. de Panam**	**3.54**	**309**	*e*S	**Sn**	**00 20 19.9**	**-0.8**
UPA	**Univ. de Panam**	**3.54**	**309**	*e*P	**Pn**	**00 19 41.6**	**+2.0**
UPA				*e*S	**Sn**	**00 20 21.1**	**+0.4**
AZU	**Azuero**	**3.66**	**287**	*e*P	**Pn**	**00 19 42.3**	**+1.1**
AZU				*e*S	**Sn**	**00 20 21.2**	**-2.3**
AZU				*i*		00 20 45.8	
comp=Z,94nm,1.4s							
AZU	**Azuero**	**3.66**	**287**	*e*P	**Pn**	**00 19 42.6**	**+1.4**
AZU				*e*S	**Sn**	**00 20 24.7**	**+1.3**
CHIC	**Chingaza**	**3.66**	**125**	*e*P	**Pn**	**00 19 44.8**	**+3.1**
CHIC				*e*S	**Sn**	**00 20 24.3**	**+0.1**
CHIC				*i*		00 20 52.6	
comp=Z,229nm,1.3s							
CHOR3	**La Chorrera**	**3.68**	**306**	*e*P	**Pn**	**00 19 43.1**	**+1.5**
CHOR3				*e*S	**Sn**	**00 20 23.8**	**-0.1**
OCAC	**Ocana**	**3.69**	**66**	*e*P	**Pn**	**00 19 42.6**	**+0.7**
OCAC				*e*S	**Sn**	**00 20 24.9**	**+0.2**
OCAC				*i*		00 20 37.9	
comp=Z,254nm,0.6s							
RUSC	**La Rusia**	**3.73**	**103**	*e*P	**Pn**	**00 19 44.6**	**+1.9**
RUSC				*e*S	**Sn**	**00 20 26.8**	**+0.8**
RUSC				*i*		00 20 46.4	
comp=Z,535nm,1.2s							
BCIP	**Isla Barro Col**	**3.89**	**308**	*e*P	**Pn**	**00 19 44.8**	**+0.3**
BCIP				*e*S	**Sn**	**00 20 27.3**	**-2.0**
BCIP				*i*		00 20 45.6	
comp=Z,64nm,2.0s							
BCIP	**Isla Barro Col**	**3.89**	**308**	*e*P	**Pn**	**00 19 45.3**	**+0.8**
PNME	**Penonome**	**3.95**	**296**	*e*P	**Pn**	**00 19 46.0**	**+0.7**
PNME				*e*S	**Sn**	**00 20 31.7**	**+1.0**
VILC	**Villavicencio,**	**4.01**	**131**	*e*P	**Pn**	**00 19 48.8**	**+2.6**
VILC				*e*S	**Sn**	**00 20 34.4**	**+1.9**
VILC				*i*		00 20 57.7	
comp=Z,232nm,1.8s							
PAMC	**Pamplona, Colo**	**4.05**	**82**	*e*P	**Pn**	**00 19 49.0**	**+2.0**
PAMC				*e*S	**Sn**	**00 20 34.3**	**+0.5**
PAMC				*i*		00 20 56.1	
comp=Z,280nm,1.0s							
CACAO	**El Cacao, Vera**	**4.13**	**278**	*e*P	**Pn**	**00 19 48.6**	**+0.8**
CACAO				*e*S	**Sn**	**00 20 35.0**	**-0.2**
POPC	**Popayan, Colom**	**4.19**	**179**	*e*P	**Pn**	**00 19 49.3**	**+0.5**
POPC				*e*S	**Sn**	**00 20 37.0**	**-0.1**
BETC	**Betania**	**4.25**	**162**	*e*P	**Pn**	**00 19 49.6**	**+0.1**
PCON	**Cinco Dias**	**4.41**	**176**	*e*P	**Pn**	**00 19 54.8**	**+2.7**

comp=Z,0.4nm,0.6s,baz=288,slow=4.7,SNR=3.6
ASAR Alice Springs 146.11 237 PKPbc PKPdf 00 38 24.4 +0.4
comp=Z,0.3nm,0.6s,baz=114,slow=5.4,SNR=4.8

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*HEL **17** 01:00:50.5±0.1, 67°.83N×20°.17E, h0km, ML1.6, ML2.7(UPP), Explosion*
UPP 17 01:00:49.9±0.0, 67°.82N×20°.19E, h0km, ML2.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**23**	P	Pg	01 00 52.9	+0.2
KUA				S	Sg	01 00 54.9	+0.3
KUA	**Kurravaara**	**0.15**	**23**	P	Pg	01 00 55.8	+3.1
KUA				S	Sg	01 00 57.8	+3.3
KUA	**Kurravaara**	**0.15**	**23**	*i* P	Pg	01 00 52.9	+0.2
KUA				*i* S	Sg	01 00 54.9	+0.3
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	01 00 54.5	+0.3
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	01 00 57.5	+3.3
RATU				S	Sg	01 01 00.6	+3.5
RATU	**Laukkuluspa**	**0.23**	**271**	*i* P	Pg	01 00 54.5	+0.3
KOVU	**Salmi**	**0.40**	**359**	P	Pg	01 00 57.7	+0.1
KOVU	**Salmi**	**0.40**	**359**	P	Pb	01 01 00.7	+0.7
KOVU				S	Sb	01 01 06.3	-0.4
KOVU	**Salmi**	**0.40**	**359**	*i* P	Pg	01 00 57.7	+0.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	01 01 03.3	-0.3
DUNU	**Dundret**	**0.72**	**168**	P	Pn	01 01 06.5	-0.8
DUNU				S	Sb	01 01 16.8	+1.1
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	01 01 03.3	-0.3
LANU	**Lannavaara**	**0.72**	**71**	P	Pg	01 01 03.6	0.0
LANU	**Lannavaara**	**0.72**	**71**	*e*P	Pg	01 01 03.3	-0.3
LANU				*e*S	Sb	01 01 15.4	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	01 01 04.7	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pn	01 01 07.7	-0.5
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	01 01 04.7	-0.2
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*PN	Pn	01 01 15.3	+1.3
KIF				MSG		01 01 28.3	
	comp=Z,3.7nm,0.2s						
KIF				*e*SB	Sb	01 01 29.9	+0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	01 01 15.2	-1.2
PAJU	**Pajala**	**1.39**	**124**	P	Pb	01 01 18.1	+1.5
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	01 01 15.2	-1.2
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	01 01 16.1	-1.0
	baz=247						
HEF				MSG		01 01 34.2	
	comp=Z,3.0nm,0.2s						
KALU	**Kalix**	**2.33**	**146**	*e*PG	Pb	01 01 33.1	+0.4
TOF	**Tornio**	**2.39**	**135**	*e*PG	Pb	01 01 34.6	+0.9
	baz=314						
TOF				MSG		01 02 02.2	
	comp=Z,2.4nm,0.2s						
TOF				*e*SG	Sg	01 02 06.4	-0.2
SGF	**Sodankyl**	**2.46**	**96**	*e*PG	Pb	01 01 35.6	+0.8
	baz=282						
SGF				*e*SG	Sb	01 02 06.1	+0.5
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	01 01 35.0	-1.8
RNF				*e*SG	Sg	01 02 11.9	-0.6
KEV	**Kevo**	**3.15**	**49**	*e*PB	Pn	01 01 43.5	+2.9
KEV				*e*SB	Sb	01 02 22.4	-3.2
KEV				MSG		01 02 23.7	
	comp=Z,1.9nm,0.2s						

NEIC 17 01:14:50.4±0.9, 38°.79N±0°.01×122°.778W±0°.007, h6km±5km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**328**	Pg	Pg	01 14 50.6	-1.0
GCRM	**Castle Rock Sp**	**0.05**	**106**		Pg	01 14 51.1	-0.7
GAEM	**Alexander Vall**	**0.08**	**167**		Pg	01 14 51.6	-0.6
GBGM	**Boggs Mountain**	**0.08**	**71**		Pg	01 14 52.0	-0.3
GSGM	**Seigler Mounta**	**0.10**	**34**		Pg	01 14 52.5	+0.1
GACM	**Adobe Creek**	**0.11**	**323**		Pg	01 14 52.5	-0.2
GPMM	**Pine Mountain**	**0.14**	**295**		Pg	01 14 53.3	0.0
GMKM	**Mount Konoctai**	**0.18**	**358**		Pg	01 14 54.3	+0.2
NHSM	**Mount Saint He**	**0.18**	**135**		Pg	01 14 53.7	-0.4
GCVM	**Cloverdale**	**0.18**	**265**		Pg	01 14 54.2	+0.2
GSSM	**Skaggs Springs**	**0.20**	**245**		Pg	01 14 54.5	+0.2
NMCNC	**Mill Creek, So**	**0.22**	**208**		Pg	01 14 54.6	-0.1
MAC	**Mark West Spri**	**0.24**	**170**		Pg	01 14 55.0	0.0
NMTM	**Middletown**	**0.26**	**86**		Pg	01 14 55.3	-0.2
MNRC	**McLaughlin Min**	**0.28**	**71**		Pg	01 14 56.3	+0.5
NSHM	**Saint Helena R**	**0.30**	**153**		Pg	01 14 56.1	0.0
HOPS	**Hopland Field**	**0.31**	**312**		Sg	01 14 56.7	-3.8
HOPS	**Hopland Field**	**0.31**	**312**	Pg	Pg	01 14 56.2	-0.2
GHLM	**Highland Sprin**	**0.32**	**323**		Pg	01 14 56.7	+0.1
GSNM	**Snow Mountain**	**0.36**	**295**		Pg	01 14 57.6	+0.3
GDCM	**Dry Creek**	**0.36**	**267**		Pg	01 14 57.7	+0.3
GHCM	**House Creek**	**0.37**	**241**		Pg	01 14 57.9	+0.3
FTR	**Fort Ross**	**0.40**	**229**		Pg	01 14 58.6	+0.5
NTYM	**Taylor**	**0.41**	**167**		Pg	01 14 58.4	+0.2
GBMM	**Baldy Mountain**	**0.42**	**32**		Pb	01 14 59.4	-0.8
CVS	**Carmenet Viney**	**0.51**	**150**		Pg	01 14 60.0	-0.2
NAPC	**Atlas Peak**	**0.54**	**130**		Pg	01 15 00.6	-0.1
GTSM	**Trough Springs**	**0.54**	**15**		Pg	01 15 01.2	+0.4
GGUM	**Gualala**	**0.57**	**277**		Pg	01 15 01.6	+0.3
MCCM	**Marconi Confer**	**0.65**	**187**	Pg	Pg	01 15 02.4	-0.3
MCCM					Sg	01 15 03.2	-7.9
GHOM	**Hamilton Openi**	**0.65**	**294**		Pg	01 15 03.3	+0.5
NDHM	**Dunnigan Hills**	**0.68**	**92**		Pb	01 15 05.1	+0.5
NADM	**Allendale**	**0.71**	**117**		Pb	01 15 05.5	+0.3
GHMM	**Hull Mountain**	**0.72**	**351**		Pn	01 15 06.3	-0.9
NOLM	**Olema**	**0.75**	**181**		Pg	01 15 05.2	+0.5
NPRM	**Point Reyes**	**0.81**	**193**		Pg	01 15 06.1	+0.2
OSUM	**Sutter Buttes**	**0.87**	**56**		Pg	01 15 06.6	-0.4
CPIM	**Pinole Ridge**	**0.91**	**151**		Pg	01 15 07.8	0.0
CVPM	**Vollmer Peak**	**1.00**	**154**		Pg	01 15 09.1	-0.5
AFDM	**Forest Hills D**	**1.42**	**83**	Pn	Pn	01 15 14.3	-2.5
CMB	**Columbia Colle**	**2.02**	**111**		Pn	01 15 24.2	-0.9
RUBR	**Rubicon Trail**	**2.06**	**82**	Pn	Pn	01 15 25.3	-0.5
BEKR	**Beckworth**	**2.16**	**59**		Pn	01 15 27.2	0.0
PNTR	**Pine Nut**	**2.50**	**82**		Pn	01 15 31.9	+0.1
WAKR	**Walker**	**2.63**	**95**		Pn	01 15 34.4	+0.7
YERR	**Yerington**	**2.77**	**85**		Pn	01 15 36.2	+0.8
MDPB	**Devils Postpil**	**3.13**	**110**		Pn	01 15 41.1	+0.5
OMMB	**Old Mammoth Mi**	**3.20**	**110**	Pn	Pn	01 15 41.2	-0.3
RYN	**Ryan**	**3.33**	**91**	Pn	Pn	01 15 43.9	+0.7
NVAR	**Mina Array Bea**	**3.52**	**94**	Pn	Pn	01 15 45.9	0.0

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*IDC **17** 01:30:06.6±1.1, 55°.40N×109°.24E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.6/42, mbtmp3.7/13, ML3.3/5, MS3.3/6, Ms1 3.3/6, ms1mx3.0/52, Error ellipse: s-maj=20.3km s-min=13.1km az=118.0*
*MOS **17** 01:30:06.4±1.2, 55°.41N×109°.28E, h11km, mb4.3/4, Error ellipse: s-maj=9.0km s-min=5.6km az=69.9*
*BYKL **17** 01:30:08.4±0.2, 55°.35N×109°.30E, h13km±3km, FELT I=II MSK at Severobaikalsk*
*NEIC **17** 01:30:10.6±2.1, 55°.41N±0°.03×109°.0E±0°.2, h14km±5km, mb4.1/7*
ISC 17 01:30:06.6±1.1, 55°.34N±0°.02×109°.36E±0°.02, h1km±8km, n111, σ2.9 27/161, mb3.8/14, MS3.3/4, 10C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.45**	**13**	⇑*i*Pg	**Pg**	**01 30 16.7**	**+1.5**
NIZ				Pmax		01 30 18.2	
	678nm,0.3s						
NIZ				*e*		01 30 20.4	
NIZ				*e*Sg	**Sg**	**01 30 22.9**	**+1.8**
NIZ				Smax		01 30 23.9	
	6μm,0.4s						
NIZ	**Nizh Angarsk**	**0.45**	**13**	⇑*i*PG	**Pg**	**01 30 16.7**	**+1.5**
NIZ				*e*		01 30 23.0	
NIZ				pmax	pmax		
	comp=Z,838nm,0.2s						
NIZ				smax	smax		
	comp=N,6μm,0.4s						
YLYR	**Ulyunkhan**	**1.13**	**113**	⇓*i*Pg	**Pb**	**01 30 29.2**	**+0.3**
	comp=N,54nm,0.8s						
YLYR				⇑*i*Pg	**Pb**	**01 30 29.2**	**+0.3**
	comp=N,113nm,0.8s						
YLYR				⇑*i*Pg	**Pb**	**01 30 29.2**	**+0.3**
	comp=N,117nm,0.8s						
YLYR				*e*Pb	**Pn**	**01 30 30.8**	**+1.2**
YLYR				*e*		01 30 34.9	
YLYR				max		01 30 35.1	
	comp=N,625nm,0.3s						
YLYR				*e*Sg	**Sb**	**01 30 45.2**	**+1.1**
YLYR				Smax		01 30 48.6	
	comp=N,2μm,0.4s						
YLYR	**Ulyunkhan**	**1.13**	**113**	⇑*i*PG	**Pb**	**01 30 29.2**	**+0.3**
YLYR				*e*		01 30 44.2	
YLYR				pmax	pmax		
	comp=Z,316nm,0.5s						
YLYR				smax	smax		
	comp=N,2μm,0.3s						
KMO	**Kumora**	**1.18**	**61**	⇓*i*Pg	**Pb**	**01 30 29.7**	**0.0**
KMO				*e*		01 30 32.0	
KMO				max		01 30 32.7	
	comp=N,773nm,0.4s						
KMO				*e*		01 30 34.4	
KMO				*e*Sg	**Sb**	**01 30 46.2**	**+0.7**
KMO				*e*		01 30 50.0	
KMO				max		01 30 50.3	
	comp=N,3μm,0.5s						
KMO	**Kumora**	**1.18**	**61**	⇓*i*PG	**Pb**	**01 30 29.5**	**-0.2**
KMO				*e*		01 30 46.3	
KMO				pmax	pmax		
	comp=Z,3μm,0.4s						
KMO				smax	smax		
	comp=N,3μm,0.4s						
YOA	**Uoyan**	**1.56**	**58**	⇑*i*Pg	**Pn**	**01 30 36.9**	**+1.5**
YOA				Pmax		01 30 38.3	
	comp=N,2μm,0.6s						
YOA				*e*		01 30 42.0	
YOA				*e*Sg	**Sb**	**01 30 58.1**	**+1.8**
YOA				Smax		01 31 04.8	
	comp=N,311nm,1.0s						
YOA	**Uoyan**	**1.56**	**58**	⇑*i*PN	**Pn**	**01 30 36.8**	**+1.4**
YOA				*i*		01 30 59.8	
YOA				pmax	pmax		
	comp=Z,755nm,0.2s						
YOA				smax	smax		
	comp=N,10μm,0.4s						
SYVR	**Suvo**	**1.72**	**167**	⇑*i*Pg	**Pb**	**01 30 39.9**	**+0.9**
SYVR				*e*		01 30 46.2	
SYVR				max		01 30 47.3	
	comp=N,674nm,0.6s						
SYVR				*e*Sg	**Sb**	**01 31 03.4**	**+2.3**
SYVR				Smax		01 31 05.4	
	comp=N,3μm,0.8s						
SYVR	**Suvo**	**1.72**	**167**	⇑*i*PN	**Pb**	**01 30 39.9**	**+0.9**
SYVR				*e*		01 31 03.3	
SYVR				pmax	pmax		
	comp=Z,680nm,0.4s						
SYVR				smax	smax		
	comp=N,3μm,0.4s						
OGRR	**Ongureny**	**1.98**	**212**	*e*Pn	**Pn**	**01 30 42.8**	**+1.5**
OGRR				*e*Pg	**Pb**	**01 30 44.4**	**+0.9**
OGRR				*e*		01 30 46.2	
OGRR				max		01 30 47.5	
	comp=N,230nm,0.5s						
OGRR				*e*Sg	**Sg**	**01 31 11.1**	**+0.8**
OGRR				Smax		01 31 12.4	
	comp=N,1μm,0.2s						
OGRR	**Ongureny**	**1.98**	**212**	⇑*i*PN	**Pn**	**01 30 42.8**	**+1.5**
OGRR				*e*		01 30 44.8	
OGRR				*e*		01 31 11.1	
OGRR				pmax	pmax		
	comp=Z,247nm,0.8s						
OGRR				smax	smax		
	comp=E,1μm,0.9s						
MXMB	**Maximikha**	**2.11**	**190**	*e*Pn	**Pn**	**01 30 44.5**	**+1.5**
MXMB				*e*Pg	**Pb**	**01 30 47.0**	**+1.4**
MXMB				*e*		01 30 51.7	
MXMB				*e*Sg	**Sg**	**01 31 15.1**	**+0.9**
UKT	**Uakit**	**2.44**	**85**	⇓*i*Pn	**Pn**	**01 30 49.0**	**+1.5**
UKT				*e*Pg	**Pb**	**01 30 52.1**	**+0.9**
UKT				Pmax		01 30 55.6	
	comp=E,671nm,0.8s						
UKT				*e*Sg	**Sb**	**01 31 24.4**	**+2.7**
UKT				Smax		01 31 25.5	
	comp=E,3μm,1.0s						
UKT	**Uakit**	**2.44**	**85**	*e*PN	**Pn**	**01 30 49.3**	**+1.8**
UKT				*e*		01 30 52.0	
UKT				*e*		01 31 24.4	
UKT				pmax	pmax		
	comp=Z,670nm,0.9s						
UKT				smax	smax		
	comp=N,3μm,1.2s						
SVKR	**Severomuysk**	**2.50**	**70**	*e*Pn	**Pn**	**01 30 50.7**	**+2.3**
SVKR				*e*Pg	**Pb**	**01 30 53.1**	**+0.9**
SVKR				Pmax		01 30 59.7	
	comp=N,430nm,0.3s						
SVKR				*e*Sg	**Sb**	**01 31 27.2**	**+3.7**
SVKR				Smax		01 31 29.2	
	comp=N,3μm,0.6s						
KELR	**Kotokel**	**2.69**	**197**	*e*Pn	**Pn**	**01 30 51.4**	**+0.4**
KELR				*e*Pg	**Pb**	**01 30 55.9**	**+0.4**
KELR				*e*		01 31 14.8	
KELR				*e*Sg	**Sb**	**01 31 31.4**	**+2.5**
ZRHB	**Zarechye**	**3.08**	**206**	*e*Pg	**Pb**	**01 31 04.1**	**+2.0**
ZRHB				*e*		01 31 10.6	
ZRHB				*e*Sg	**Sg**	**01 31 44.4**	**-1.0**
TRG	**Tyrgan**	**3.13**	**216**	*e*Pn	**Pn**	**01 30 58.1**	**+1.0**
TRG				*e*Pg	**Pb**	**01 31 03.6**	**+0.6**
TRG				Pmax		01 31 19.3	
	comp=N,86nm,0.3s						
TRG				*e*Sg	**Sb**	**01 31 44.7**	**+3.0**
TRG				Smax		01 31 47.7	
	comp=N,775nm,0.4s						
TRG				*e*		01 31 51.3	
TRG	**Tyrgan**	**3.13**	**216**	*e*PN	**Pn**	**01 30 58.2**	**+1.1**
TRG				*e*		01 31 04.6	
TRG				*e*S	**Sn**	**01 31 35.4**	**+0.3**
TRG				*e*		01 31 45.0	
TRG				pmax	pmax		
	comp=Z,83nm,0.3s						
TRG				smax	smax		
	comp=N,783nm,0.4s						
TRTB	**Turuntaevo**	**3.28**	**199**	*e*Pn	**Pn**	**01 31 00.0**	**+1.0**
TRTB				*e*		01 31 01.7	
TRTB				*e*Pg	**Pb**	**01 31 07.7**	**+2.2**
TRTB				*e*Sg	**Sg**	**01 31 50.6**	**-1.2**
BOD	**Bodaibo**	**3.58**	**44**	*e*Pn	**Pn**	**01 31 03.5**	**+0.4**
BOD				*e*Pg	**Pb**	**01 31 12.4**	**+1.9**
BOD				Pmax		01 31 26.3	
	comp=N,80nm,0.5s						
BOD				*e*		01 31 47.1	
BOD				*e*Sg	**Sb**	**01 31 58.9**	**+4.5**
BOD				Smax		01 32 00.0	
	comp=N,640nm,0.8s						
BOD				*e*SgSg	**Sg**	**01 32 03.7**	**+2.4**
BOD	**Bodaibo**	**3.58**	**44**	*e*PN	**Pn**	**01 31 03.8**	**+0.7**
BOD				*e*		01 31 12.3	
BOD				*e*		01 31 58.3	
BOD				pmax	pmax		
	comp=Z,63nm,0.7s						
BOD				smax	smax		
	comp=N,641nm,0.7s						
UUDB	**Ulan-Yde**	**3.62**	**197**	*e*Pn	**Pn**	**01 31 04.1**	**+0.3**
UUDB				*e*Pg	**Pb**	**01 31 12.3**	**+1.0**
UUDB				Pmax		01 31 24.1	
	comp=N,108nm,0.8s						
UUDB				*e*		01 31 42.6	
UUDB				*e*Sg	**Sb**	**01 31 59.0**	**+3.3**
UUDB				Smax		01 32 08.2	
	comp=N,316nm,1.1s						
STDB	**Stepnoy Dvoret**	**3.64**	**211**	*e*	**Pb**	**01 31 10.9**	**-0.7**
STDB				*e*		01 31 25.5	
STDB				*e*Sg	**Sg**	**01 32 01.9**	**-1.4**
KAB	**Kabansk**	**3.67**	**207**	*e*	Pg	01 31 30.1	+13
KAB				*e*Sg	**Sg**	**01 32 02.2**	**-2.0**
KAB				Smax		01 32 20.8	
	comp=N,2μm,1.0s						
NLYR	**Nelyaty**	**3.75**	**69**	*e*Pn	**Pn**	**01 31 06.6**	**+1.1**
NLYR				*e*		01 31 11.4	
NLYR				*e*Pg	**Pb**	**01 31 17.2**	**+3.7**
NLYR				Pmax		01 31 23.0	
	comp=N,98nm,0.7s						
NLYR				*e*		01 31 48.1	
NLYR				*e*		01 31 57.4	
NLYR				*e*Sg	**Sg**	**01 32 06.9**	**0.0**
NLYR				Smax		01 32 16.1	
	comp=N,412nm,1.4s						
HRMR	**Khuramsha**	**3.98**	**202**	*e*Pn	**Pn**	**01 31 09.2**	**+0.5**
HRMR				*e*		01 31 22.9	
HRMR				max		01 31 25.0	
	comp=N,86nm,0.2s						
HRMR				*e*		01 32 02.5	
HRMR				*e*Sg	**Sb**	**01 32 11.4**	**+5.2**
HRMR				Smax		01 32 15.5	
	comp=N,1μm,0.7s						
BGT	**Bolshoye Golou**	**4.05**	**217**	*e*Pn	**Pn**	**01 31 10.6**	**+1.0**
BGT				*e*		01 31 14.3	
BGT				*e*		01 31 21.5	
BGT				*e*		01 31 52.3	
BGT				*e*Sg	**Sb**	**01 32 12.9**	**+4.9**
CIT	**Chita**	**4.15**	**141**	*e*	**Pb**	**01 31 21.3**	**+0.9**
CIT				*e*		01 31 24.1	
CIT				max		01 31 27.1	
	comp=N,162nm,0.1s						
CIT				*e*Sg	**Sg**	**01 32 18.1**	**-1.7**
CIT				Smax		01 32 21.2	
	comp=N,1μm,1.0s						
CIT	**Chita**	**4.15**	**141**	*e*PN	**Pn**	**01 31 10.4**	**-0.7**
CIT				*e*		01 31 23.9	
CIT				*e*		01 32 17.9	
CIT				pmax	pmax		
	comp=Z,148nm,0.9s						
CIT				smax	smax		
	comp=E,905nm,1.1s						
IRK	**Irkutsk**	**4.33**	**226**	*e*Sg	**Sb**	**01 32 20.5**	**+4.5**
IRK				*e*		01 32 25.1	
IRK				Smax		01 32 26.0	
	comp=E,2μm,0.8s						
LSTR	**Listvyanka**	**4.40**	**220**	*e*	**Pn**	**01 31 11.9**	**-2.5**
LSTR				*e*		01 31 23.9	
LSTR				*e*		01 31 29.4	
LSTR				max		01 31 38.3	
	comp=E,46nm,0.6s						
LSTR				*e*		01 31 50.9	
LSTR				*e*Sg	**Sb**	**01 32 22.8**	**+4.7**
LSTR				Smax		01 32 26.3	
	comp=E,467nm,1.3s						
VTMR	**Vitim**	**4.46**	**21**	*e*	**Pb**	**01 31 24.9**	**-0.7**
VTMR				*e*		01 31 36.2	
VTMR				*e*Sg	**Sg**	**01 32 27.2**	**-2.5**
IVK	**Ivanovka**	**4.61**	**222**	*e*Pn	**Pn**	**01 31 18.5**	**+1.2**
IVK				*e*		01 31 22.6	
IVK				*e*		01 31 34.3	
IVK				max		01 31 39.6	
	comp=E,45nm,0.6s						
IVK				*e*		01 32 11.2	
IVK				*e*Sg	**Sb**	**01 32 30.1**	**+6.0**
IVK				*e*		01 32 33.6	
IVK				max		01 32 34.0	
	comp=E,753nm,1.2s						
TLY	**Talaya**	**5.00**	**225**	*e*Pn	**Pn**	**01 31 22.6**	**-0.2**
TLY				*e*		01 31 35.4	
TLY				max		01 31 47.9	
	comp=E,49nm,0.5s						
TLY				*e*Sn	**Sn**	**01 32 17.6**	**-3.6**
TLY				Sg	**Sg**	**01 32 42.7**	**-4.5**
TLY				Smax		01 32 44.0	
	comp=E,291nm,0.7s						
TLY	**Talaya**	**5.00**	**225**	*e*PN	**Pn**	**01 31 23.0**	**+0.2**
TLY				*e*		01 31 39.0	
TLY				*e*S	**Sn**	**01 32 19.0**	**-2.2**
TLY				*e*		01 32 41.4	
TLY				pmax	pmax		
	comp=Z,40nm,0.5s						
TLY				smax	smax		
	comp=E,224nm,0.4s						
TLY	**Talaya**	**5.00**	**225**	Pn	**Pn**	**01 31 22.8**	**+0.1**
	comp=E,0.0nm,0.3s,baz=62,slow=3.7,SNR=6.8						
TLY				Pg	**Pb**	**01 31 38.9**	**+4.0**
	comp=E,0.1nm,0.3s,baz=322,slow=6.4,SNR=24						
TLY				Sn	**Sn**	**01 32 20.2**	**-1.0**
	comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=2.8						
TLY				Lg	Lg	01 32 41.2	
	comp=E,0.3nm,0.3s,baz=270,slow=20,SNR=12						
TLY				LR	LR	01 32 56.4	
	comp=E,78nm,20.3s,baz=24,slow=34						
TLY	**Talaya**	**5.00**	**225**		**Pn**	**01 31 24.1**	**+1.3**
CRS	**Chara**	**5.22**	**69**	*e*Pn	**Pn**	**01 31 27.4**	**+1.6**
CRS				*e*		01 31 35.5	
CRS				*e*Pg	Pb	01 31 43.6	+5.0
CRS				Pmax		01 31 49.6	
	comp=E,96nm,1.1s						
CRS				*e*Sg	**Sg**	**01 32 50.9**	**-3.3**
CRS				Smax		01 33 01.6	
	comp=E,612nm,1.4s						
CRS	**Chara**	**5.22**	**69**	*e*PN	**Pn**	**01 31 26.7**	**+0.9**
CRS				*e*		01 31 41.5	
ARS	**Arshan**	**5.36**	**233**	*e*Pn	**Pn**	**01 31 29.0**	**+1.3**
ARS				Pg	**Pb**	**01 31 43.4**	**+2.4**
ARS				Pmax		01 32 00.4	
	comp=E,130nm,0.6s						
ARS				*e*		01 32 09.3	
ARS				*e*Sg	**Sg**	**01 32 53.7**	**-5.0**
ARS				*e*		01 32 56.3	
ARS				max		01 32 59.6	
	comp=E,1μm,0.9s						
ARS	**Arshan**	**5.36**	**233**	*e*PN	**Pn**	**01 31 30.0**	**+2.3**
ARS				*e*		01 31 43.3	
ARS				*e*S	**Sn**	**01 32 27.0**	**-3.1**
ARS				*e*		01 32 50.9	
ARS				pmax	pmax		
	comp=Z,131nm,0.6s						
ARS				smax	smax		
	comp=E,1μm,0.8s						
KPC	**Khapcheranga**	**5.93**	**161**	*e*Pn	**Pn**	**01 31 36.0**	**+0.5**
KPC				*e*		01 31 43.7	
KPC				*e*		01 31 52.4	
KPC				*e*		01 32 03.4	
KPC				max		01 32 04.6	
	comp=E,57nm,1.0s						
KPC				*e*Sg	**Sg**	**01 33 13.1**	**-3.9**
KPC				Smax		01 33 14.3	
	comp=E,383nm,1.1s						
KPC				*e*		01 33 19.5	
KPC	**Khapcheranga**	**5.93**	**161**	*e*PN	**Pn**	**01 31 36.1**	**+0.5**
KPC				*e*		01 31 53.8	
KPC				*e*S	**Sn**	**01 32 44.8**	**+0.6**
KPC				*e*		01 33 11.6	
KPC				pmax	pmax		
	comp=Z,57nm,1.1s						
KPC				smax	smax		
	comp=E,383nm,1.1s						
KHNR	**Khani**	**6.15**	**71**	*e*	**Pg**	**01 32 05.8**	**+1.6**
KHNR				*e*Sg	**Sg**	**01 33 19.0**	**-4.8**
ZAK	**Zakamensk**	**6.18**	**219**	*e*Pn	**Pn**	**01 31 39.8**	**+0.8**
ZAK				*e*		01 31 47.1	
ZAK				*e*		01 32 00.9	
ZAK				max		01 32 04.7	
	comp=E,21nm,0.5s						
ZAK				*e*Sg	**Sg**	**01 33 19.8**	**-5.1**
ZAK				Smax		01 33 26.5	
	comp=E,300nm,1.1s						
ZAK	**Zakamensk**	**6.18**	**219**	*e*PN	**Pn**	**01 31 36.9**	**-2.1**
ZAK				*e*		01 33 19.3	
ZAK				pmax	pmax		
	comp=Z,21nm,0.5s						
ZAK				smax	smax		
	comp=E,30nm,1.1s						
TUP	**Tupik**	**6.18**	**94**	*e*Pn	**Pn**	**01 31 39.9**	**+1.0**
TUP				*e*Pg	Pb	01 32 00.0	+5.1
TUP				*e*		01 32 04.3	
TUP				max		01 32 04.8	
	comp=E,47nm,0.9s						
TUP				*e*Sg	**Sg**	**01 33 20.7**	**-4.2**
TUP				*e*		01 33 29.1	
TUP				max		01 33 30.9	
	comp=E,485nm,0.9s						
TUP	**Tupik**	**6.18**	**94**	*e*PN	**Pn**	**01 31 39.4**	**+0.5**
TUP				*e*		01 31 58.8	
TUP				*e*S	**Sn**

MOY				*e*			01 33 18.6
ORL	**Orlik**	**6.30**	**248**	⇓*i*Pn		**Pn**	**01 31 42.1 +1.5**
ORL				max			01 31 43.4
comp=N,50nm,1.2s							
ORL				*e*			01 31 53.6
ORL				*e*Sn		**Sn**	**01 32 50.9 -2.3**
ORL				*e*Sg		**Sg**	**01 33 23.8 -4.9**
ORL				*e*			01 33 26.9
ORL				max			01 33 27.5
comp=N,1μm,1.4s							
ORL	**Orlik**	**6.30**	**248**	⇓*i*PN		**Pn**	**01 31 42.1 +1.5**
ORL				*e*			01 32 01.1
ORL				*e*			01 33 23.8
ORL				pmax	pmax		
comp=Z,54nm,0.4s							
ORL				smax	smax		
comp=N,1μm,1.4s							
YKLR	**Yuktali**	**7.01**	**75**	*e*		Pb	01 32 16.0 +6.9
YKLR				*e*Sn		**Sn**	**01 33 06.9 -3.8**
YKLR				*e*Sg		**Sg**	**01 33 45.7 -5.9**
ULN	**Ulaanbaatar**	**7.62**	**192**	*i* PN		**Pn**	**01 32 02.3 +3.6**
ULN	**Ulaanbaatar**	**7.62**	**192**			**Pn**	**01 32 02.4 +3.6**
SONM	**Songino Array**	**7.74**	**195**	*e*PN		**Pn**	**01 32 02.8 +2.4**
SONM	**Songino Array**	**7.74**	**195**	Pn		**Pn**	**01 32 01.6 +1.3**
comp=N,0.3nm,0.3s,baz=13,slow=12,SNR=14							
SONM				Sn		**Sn**	**01 33 30.4 +1.8**
comp=N,0.7nm,0.3s,baz=353,slow=19,SNR=3.6							
SONM				Lg		Lg	01 34 12.2
comp=N,2.7nm,0.3s,baz=9.7,slow=24,SNR=8.9							
SONM	**Songino Array**	**7.74**	**195**			**Pn**	**01 32 03.0 +2.7**
HIA	**Hailar**	**8.79**	**129**	*i* PN		**Pn**	**01 32 17.7 +3.0**
CLNS	**Chul'man**	**8.81**	**74**	*e*		**Pg**	**01 32 58.5 +3.3**
CLNS				*e*Sg		Sg	01 34 42.3 -7.0
CLNS				*e*			01 35 06.2
ZEA	**Zeya**	**10.52**	**91**	*e*P		**Pn**	**01 32 40.1 +1.8**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
ZEA				MLR	MLR		
comp=Z,700nm,6.0s							
ZEA				MLR	MLR		
comp=N,300nm,5.0s							
YAK	**Yakutsk**	**12.48**	**49**	*i* P		**Pn**	**01 33 04.3 -0.7**
YAK	**Yakutsk**	**12.48**	**49**	Lg		Lg	01 36 31.3
comp=N,0.2nm,0.3s,baz=41,slow=20,SNR=4.7							
ZAA0	**Zalesovo Array**	**14.26**	**275**			**Pn**	**01 33 29.8 +0.4**
ZALV	**Zalesovo Beam**	**14.26**	**275**	P		**Pn**	**01 33 29.0 -0.4**
ZALV	**Zalesovo Beam**	**14.26**	**275**	Pn		**Pn**	**01 33 27.1 -2.3**
comp=N,0.8nm,0.3s,baz=74,slow=10,SNR=15							
ZALV				Lg		Lg	01 37 31.6
comp=N,0.3nm,0.3s,baz=107,slow=18,SNR=5.5							
ZALV	**Zalesovo Beam**	**14.26**	**275**			**Pn**	**01 33 29.0 -0.4**
DGZ	**Jazzator, Alta**	**14.46**	**256**	*i* P		**Pn**	**01 33 33.2 +0.8**
KLR	**Kul'dur**	**14.97**	**105**	Pn		**Pn**	**01 33 36.0 -3.0**
comp=N,0.1nm,0.3s,baz=114,slow=22,SNR=1.4							
KLR				Lg		Lg	01 37 58.0
comp=N,0.1nm,0.3s,baz=237,slow=21,SNR=7.2							
NRIK	**Noril'sk**	**17.15**	**333**	Pn		**Pn**	**01 34 02.5 -4.6**
comp=N,0.2nm,0.3s,baz=143,slow=10,SNR=2.9							
NRIK				Sn		Sn	01 37 02.5 -16
comp=N,0.3nm,0.3s,baz=138,slow=19,SNR=2.3							
TIXI	**Tiksi**	**18.37**	**20**	*i* P		**Pn**	**01 34 19.5 -2.7**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**18.37**	**20**	Sn		Sn	01 37 31.7 -16
comp=Z,0.2nm,0.3s,baz=0.0,slow=24,SNR=3.5							
TIXI				Lg		Lg	01 39 38.9
comp=Z,0.4nm,0.3s,baz=180,slow=24,SNR=3.2							
MK31	**Makanchi Array**	**18.94**	**254**	P		**P**	**01 34 28.3 -0.5**
MK31				pmax	pmax		
comp=Z,3.0nm,0.8s							
MK31	**Makanchi Array**	**18.94**	**254**	P		**P**	**01 34 28.3 -0.5**
MKAR	**Makanchi Array**	**18.94**	**254**	*e*P		**P**	**01 34 28.7 -0.1**
MKAR	**Makanchi Array**	**18.94**	**254**	P		**P**	**01 34 28.3 -0.5**
comp=Z,0.3nm,0.3s,baz=34,slow=8.1,SNR=16							
MKAR				Lg		Lg	01 40 00.9
comp=Z,0.0nm,0.3s,baz=52,slow=24,SNR=3.8							
MKAR				LR		LR	01 41 50.8
comp=Z,114nm,18.6s,baz=346,slow=37							
MKAR	**Makanchi Array**	**18.94**	**254**	P		**P**	**01 34 27.9 -0.9**
KURK	**Kurchatov**	**18.97**	**269**	P		**P**	**01 34 29.2 +0.2**
KURK	**Kurchatov**	**18.97**	**269**	P		**P**	**01 34 27.7 -1.3**
KURK				IAmb		IAmb	01 34 31.2
comp=Z,8.6nm,0.8s							
KURBB	**Kurchatov Arra**	**19.06**	**269**	P		**P**	**01 34 29.2 -0.8**
comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=34							
KURBB				Lg		Lg	01 40 03.7
baz=330,slow=28,SNR=4.9							
MA2	**Magadan**	**22.40**	**62**	*i* P		**P**	**01 35 07.0 +0.9**
MA2				pmax	pmax		
comp=Z,46nm,1.2s							
BVAR	**Borovoye Array**	**22.73**	**280**	P		**P**	**01 35 09.8 +0.1**
comp=Z,4.8nm,0.8s,baz=83,slow=13,SNR=13							
BRVK	**Borovoye**	**22.77**	**281**	P		**P**	**01 35 10.5 +0.4**
BRVK				pmax	pmax		
comp=Z,10.0nm,0.7s							
BRVK	**Borovoye**	**22.77**	**281**	P		**P**	**01 35 10.5 +0.4**
BRVK				IAmb		IAmb	01 35 11.5
comp=Z,9.5nm,0.7s							
ASAJ	**Asahikawa**	**24.00**	**104**	LR		LR	01 44 52.9
comp=Z,74nm,18.1s,baz=342,slow=37							
AAK	**Ala-Archa**	**25.87**	**255**	P		**P**	**01 35 41.2 +1.5**
AAK				pmax	pmax		
comp=Z,3.0nm,1.0s							
AAK	**Ala-Archa**	**25.87**	**255**	P		**P**	**01 35 40.3 +0.6**
comp=Z,0.5nm,0.4s,baz=65,slow=8.8,SNR=3.1							
AAK	**Ala-Archa**	**25.87**	**255**	P		**P**	**01 35 41.1 +1.5**
AAK				IAmb		IAmb	01 35 47.8
comp=Z,2.8nm,0.9s							
JNU	**Nakatsue**	**26.82**	**137**	LR		LR	01 46 05.3
comp=Z,86nm,18.8s,baz=348,slow=36							
MJAR	**Matsushiro Arr**	**27.18**	**122**	LR		LR	01 47 04.4
comp=Z,75nm,19.3s,baz=350,slow=37							
KK31	**Karatay Array**	**27.79**	**260**	P		**P**	**01 35 58.3 +1.4**
KK31				pmax	pmax		
comp=Z,4.0nm,0.9s							
KK31	**Karatay Array**	**27.79**	**260**	P		**P**	**01 35 58.3 +1.4**
KK31				IAmb		IAmb	01 36 02.9
comp=Z,3.9nm,0.9s							
KKAR	**Karatay Array**	**27.79**	**260**	P		**P**	**01 35 56.7 -0.2**
KKAR	**Karatay Array**	**27.79**	**260**	P		**P**	**01 35 56.7 -0.2**
PETK	**Petropavlovsk-**	**27.90**	**74**	LR		LR	01 46 54.6
comp=Z,87nm,18.1s,baz=255,slow=36							
ARU	**Arti**	**27.99**	**293**	*i* P		**P**	**01 35 58.6 +0.1**
ARU				pmax	pmax		
comp=Z,6.0nm,1.9s							
BILL	**Biiibino**	**28.62**	**41**	*e*P		**P**	**01 36 04.5 +0.5**
BILL				pmax	pmax		
comp=Z,1.0nm,1.0s							
FINES	**FINESS Array B**	**41.25**	**314**	P		**P**	**01 37 51.2 -1.5**
comp=Z,1.1nm,0.7s,baz=44,slow=10,SNR=6.2							
IMAR	**Indian Mountai**	**43.88**	**36**	P		**P**	**01 38 16.1 +2.1**
ILAR	**Eielson Array**	**46.90**	**35**	P		**P**	**01 38 37.6 -0.3**
comp=Z,0.2nm,0.4s,baz=301,slow=6.8,SNR=3.1							
ILAR	**Eielson Array**	**46.90**	**35**				01 38 44.9
NOA	**NORSAR Array B**	**47.35**	**319**	P		**P**	**01 38 40.4 -1.2**
comp=Z,0.3nm,0.4s,baz=41,slow=5.3,SNR=2.1							
BCAR	**Beaver Creek A**	**49.71**	**34**	P		P	01 39 07.5 +7.7
BRTR	**Keskin Array B**	**50.87**	**286**	P		**P**	**01 39 08.7 -0.3**
comp=Z,1.0nm,0.9s,baz=87,slow=6.2,SNR=4.8							
WAX	**Waxell Ridge**	**51.22**	**37**	P		**P**	**01 39 14.9 +3.7**
WRA	**Warramunga Arr**	**77.94**	**156**	P		**P**	**01 42 05.4 -0.6**
comp=Z,0.4nm,0.9s,baz=342,slow=6.2,SNR=3.8							
NVAR	**Mina Array Bea**	**78.12**	**36**	P		P	01 42 14.9 +7.6
comp=Z,0.4nm,0.7s,baz=320,slow=5.2,SNR=3.9							
ASAR	**Alice Springs**	**81.43**	**157**	P		**P**	**01 42 27.0 +2.0**
ASAR	**Alice Springs**	**81.43**	**157**	P		**P**	**01 42 27.0 +2.0**
comp=Z,0.7nm,1.0s,baz=358,slow=5.6,SNR=3.6							

NIC ***17*** *01:38:47.0±0.0, 37°.03N×29°.20E, h9km±3km, Ml3.7/3*
ATH ***17*** *01:38:46.1, 36°.96N×29°.26E, h7km±4km, ML2.9/3, Error ellipse: s-maj=5.2km s-min=1.7km az=140.0*
DDA ***17*** *01:38:46.0, 36°.94N×29°.29E, h19km±1km, ML3.1*
THE ***17*** *01:38:46.5, 36°.94N×29°.40E, h0km±1km, ML2.8/2, Error ellipse: s-maj=2.0km s-min=1.0km az=71.0*
ISK ***17*** *01:38:46.1, 36°.88N×29°.33E, h5km, ML3.4/34*
ISCJB ***17*** *01:38:47.3±0.4, 36°.95N±0°.01×29°.31E±0°.02, h4km±3km, Error ellipse: s-maj=2.5km s-min=2.0km az=12.5*

ISC 17 01:38:47.3±1.1, 36°.94N±0°.02×29°.31E±0°.01, h2km±9km, n129, σ1§12/171, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**211**	P	**Pg**	**01 38 53.5**	**-0.5**
FETY				S	**Sb**	**01 39 02.5**	**+0.3**
FETY	**Fethiye**	**0.35**	**211**	*i* P	**Pg**	**01 38 53.1**	**-0.9**
FETY	**Fethiye**	**0.35**	**211**	PG	**Pg**	**01 38 53.1**	**-0.9**
GOLH	**Golhisar**	**0.36**	**34**	*i* P	**Pg**	**01 38 53.7**	**-0.6**
GOLH				*i* S	**Sg**	**01 39 00.1**	**+1.1**
ELL	**Elmali**	**0.52**	**111**	PG	**Pg**	**01 38 56.5**	**-0.7**
ELL				SG	**Sg**	**01 39 04.5**	**+0.6**
DALY	**Dalyan (Mula)**	**0.54**	**258**	*i* P	**Pg**	**01 38 58.0**	**+0.4**
DALY				*i* S	**Sg**	**01 39 05.9**	**+1.4**
DALY				IAML_P			
comp=Z,6μm,0.2s							
DALY	**Dalyan (Mula)**	**0.54**	**258**	PG	**Pg**	**01 38 57.5**	**-0.1**
DALY				SG	**Sb**	**01 39 06.4**	**-1.2**
TURN	**Turunc**	**0.57**	**264**	*i* P	**Pn**	**01 39 02.2**	**-0.2**
TURN				IAML_P			
comp=Z,3μm,0.1s							
TURN	**Turunc**	**0.57**	**264**	PG	**Pn**	**01 39 03.9**	**+1.5**
TAVA	**DENIZLI_Tavas**	**0.62**	**329**	*i* P	**Pg**	**01 38 58.5**	**-0.6**
TAVA				*i* S	**Sg**	**01 39 07.0**	**-0.1**
TAVA				IAML_P			
comp=Z,10μm,0.3s							
AKAS	**Kas**	**0.74**	**161**	*i* P	**Pg**	**01 39 01.7**	**+0.2**
AKAS				IAML_P			
comp=Z,13μm,0.4s							
AKAS	**Kas**	**0.74**	**161**	PG	**Pg**	**01 39 00.9**	**-0.6**
KSL	**Kastellorizon**	**0.81**	**164**	P	**Pg**	**01 39 02.9**	**0.0**
KSL				S	**Sb**	**01 39 15.4**	**-0.2**
comp=Z,500nm,0.9s							
KSL	**Kastellorizon**	**0.81**	**164**	P	**Pg**	**01 39 02.2**	**-0.7**
KSL				AML	AML	01 39 28.3	
comp=N,1675μm,0.7s							
KSL				AML	AML	01 39 29.8	
comp=E,1549μm,0.8s							
KSL	**Kastellorizon**	**0.81**	**164**	P	**Pg**	**01 39 01.9**	**-1.0**
KSL				S	**Sn**	**01 39 17.9**	**-0.5**
YER	**Yerkesik**	**0.84**	**284**	P	**Pg**	**01 39 04.0**	**+0.5**
YER				S	**Sn**	**01 39 18.8**	**-0.5**
YER	**Yerkesik**	**0.84**	**284**	PG	**Pg**	**01 39 04.3**	**+0.8**
YER				SG	**Sb**	**01 39 17.1**	**+0.6**
DENT	**Denizli**	**0.85**	**345**	PG	**Pg**	**01 39 04.7**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.97**	**38**	*i* P	**Pg**	**01 39 04.4**	**-1.5**
BRDR				*i* S	**Sg**	**01 39 19.3**	**+0.9**
BRDR				IAML_P			
comp=Z,3μm,0.3s							
AKUM	**Antalya-Kumluc**	**1.03**	**126**	*i* P	**Pg**	**01 39 06.2**	**-0.9**
AKUM				IAML_P			
comp=Z,641nm,0.2s							
BCK	**Bucak**	**1.15**	**62**	PN	**Pg**	**01 39 09.5**	**+0.1**
BCK				SN	**Sg**	**01 39 26.2**	**+1.9**
ARG	**Arkhangelos**	**1.19**	**233**	P	**Pg**	**01 39 09.0**	**-1.2**
ARG				S	**Sn**	**01 39 27.9**	**+0.1**
ARG	**Arkhangelos**	**1.19**	**233**	P	**Pg**	**01 39 08.5**	**-1.6**
ARG				AML	AML	01 39 30.0	
comp=N,927μm,0.8s							
ARG				AML	AML	01 39 34.2	
comp=E,1192μm,0.8s							
ARG	**Arkhangelos**	**1.19**	**233**	PN	**Pg**	**01 39 08.9**	**-1.2**
ARG				SN	**Sn**	**01 39 27.6**	**-0.2**
ARG	**Arkhangelos**	**1.19**	**233**	P	**Pg**	**01 39 08.5**	**-1.6**
ARG				S	**Sb**	**01 39 26.4**	**-0.1**
MLSB	**Milas**	**1.27**	**287**	PN	**Pg**	**01 39 12.6**	**+0.9**
ISP	**Isparta**	**1.31**	**47**	P	**Pg**	**01 39 10.9**	**-1.5**
ISP				AML	AML	01 39 35.7	
comp=E,1367μm,0.8s							
ISP				AML	AML	01 39 36.7	
comp=N,1188μm,0.5s							
ISP	**Isparta**	**1.31**	**47**	PN	**Pg**	**01 39 12.2**	**-0.3**
AYDN	**Tasoluk**	**1.35**	**303**	*i* P	**Pg**	**01 39 13.0**	**-0.2**
AYDN				*i* S	**Sb**	**01 39 32.6**	**+1.5**
AYDN				IAML_P			
comp=Z,6μm,0.3s							
DAT	**Datca**	**1.40**	**262**	*i* P	**Pb**	**01 39 15.6**	**+1.3**
DAT				*i* S	**Sg**	**01 39 32.2**	**-0.1**
DAT				IAML_P			
comp=Z,873nm,0.3s							
DAT	**Datca**	**1.40**	**262**	PN	**Pb**	**01 39 14.6**	**+0.3**
KHAL	**Karahalli**	**1.44**	**6**	*i* P	**Pn**	**01 39 14.2**	**-0.3**
KHAL				*i* S	**Sg**	**01 39 33.7**	**+0.1**
KHAL				IAML_P			
comp=Z,1μm,0.3s							
KZIL	**AFYON_Kizioren**	**1.48**	**26**	*i* P	**Pn**	**01 39 14.1**	**-1.0**
KZIL				*i* S	**Sg**	**01 39 35.8**	**+1.0**
KZIL				IAML_P			
comp=Z,2μm,0.3s							
BDRM	**Kayabasi**	**1.50**	**276**	*i* P	**Pn**	**01 39 15.3**	**+0.1**
BDRM				*i* S	**Sn**	**01 39 37.8**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**312**	PN	**Pn**	**01 39 16.5**	**+0.9**
BAGO	**Egridir - ISPA**	**1.58**	**48**	*i* P	**Pg**	**01 39 18.7**	**+1.1**
BAGO				IAML_P			
comp=Z,3μm,0.5s							
BODT	**Bodrum**	**1.60**	**275**	P	**Pn**	**01 39 16.3**	**-0.4**
BODT				S	**Sb**	**01 39 38.9**	**+0.5**
BODT	**Bodrum**	**1.60**	**275**	PN	**Pn**	**01 39 17.4**	**+0.7**
KULA	**Kula-Manisa**	**1.66**	**342**	P	**Pn**	**01 39 16.8**	**-0.7**
KULA				S	**Sn**	**01 39 38.4**	**-1.0**
KULA	**Kula-Manisa**	**1.66**	**342**	PN	**Pn**	**01 39 18.1**	**+0.6**
MANT	**Manisa**	**1.66**	**339**	*i* P	**Pn**	**01 39 17.4**	**-0.3**
MANT				*i* S	**Sn**	**01 39 39.0**	**-0.7**
MANT				IAML_P			
comp=Z,2μm,0.3s							
USAK	**Uak-Merkez**	**1.79**	**353**	*i* P	**Pn**	**01 39 19.1**	**-0.2**
USAK				*i* S	**Sn**	**01 39 41.6**	**-1.1**
GCAM	**G?zelcaml?**	**1.82**	**295**	*i* P	**Pn**	**01 39 19.1**	**-0.5**
GCAM				IAML_P			
comp=Z,2μm,0.3s							
GCAM	**G?zelcaml?**	**1.82**	**295**	PN	**Pn**	**01 39 20.6**	**+1.0**
KEPZ	**Antalya-Kepez**	**1.84**	**90**	*i* P	**Pb**	**01 39 21.8**	**0.0**
KEPZ				*i* S	**Sg**	**01 39 48.1**	**+1.7**
KOSK	**Kos Island**	**1.88**	**265**	P	**Pn**	**01 39 19.9**	**-0.5**
KOSK				S	**Sb**	**01 39 46.1**	**-0.1**
SHUT	**Suhut-Afyon**	**1.89**	**31**	PN	**Pn**	**01 39 20.7**	**-0.1**
AFYO	**Afyonkarahisar**	**2.01**	**23**	*i* P	**Pn**	**01 39 22.8**	**+0.5**
GEDZ	**Gediz**	**2.11**	**2**	PN	**Pn**	**01 39 24.7**	**+1.0**
SMG	**Samos**	**2.12**	**292**	P	**Pn**	**01 39 23.2**	**-0.5**
SMG				S	**Sn**	**01 39 50.1**	**-0.5**
comp=Z,208nm,0.5s							
SMG	**Samos**	**2.12**	**292**	P	**Pn**	**01 39 23.2**	**-0.5**
GDZ	**Gediz**	**2.15**	**4**	*i* P	**Pn**	**01 39 24.2**	**-0.2**
DEMI	**Demirci**	**2.15**	**348**	*i* P	**Pn**	**01 39 23.6**	**-0.8**
DEMI				*i* S	**Sn**	**01 39 50.5**	**-1.2**
SIMA	**Simav-Kutahya**	**2.16**	**353**	PN	**Pn**	**01 39 25.3**	**+0.9**
BOLV	**Bolvadin**	**2.21**	**36**	*i* P	**Pn**	**01 39 23.2**	**-1.8**
BOLV				*i* S	**Sn**	**01 39 54.1**	**+1.1**
DOGA	**KONYA_Doganhis**	**2.21**	**57**	*i* P	**Pn**	**01 39 25.6**	**+0.4**
DOGA				*i* S	**Sn**	**01 39 53.6**	**+0.4**
KARP	**Karpathos**	**2.22**	**232**	P	**Pn**	**01 39 24.2**	**-1.0**
KARP	**Karpathos**	**2.22**	**232**	P	**Pn**	**01 39 25.8**	**+0.6**
KARP	**Karpathos**	**2.22**	**232**	PN	**Pn**	**01 39 25.5**	**+0.3**
DGB	**zmir**	**2.23**	**301**	*i* P	**Pn**	**01 39 24.9**	**-0.4**
AKHS	**Akhisar**	**2.27**	**329**	*i* P	**Pn**	**01 39 25.2**	**-0.7**
AKHS				*i* S	**Sn**	**01 39 53.5**	**-0.9**
GAZI	**Gazipasa**	**2.52**	**105**	*i* P	**Pn**	**01 39 30.5**	**+1.2**
GAZI				*i* S	**Sb**	**01 40 03.5**	**-1.2**
GAZI	**Gazipasa**	**2.52**	**105**	PN	**Pn**	**01 39 29.9**	**+0.6**
KMER	**Konya-Meram**	**2.58**	**70**	*i* P	**Pn**	**01 39 31.4**	**+1.2**
URLA	**Izmir**	**2.58**	**304**	*i* P	**Pn**	**01 39 29.7**	**-0.4**
URLA	**Izmir**	**2.58**	**304**	PN	**Pn**	**01 39 31.5**	**+1.4**
KONT	**Konya--Tatoy**	**2.63**	**67**	*i* P	**Pn**	**01 39 32.2**	**+1.3**
KONT	**Konya--Tatoy**	**2.63**	**67**	PN	**Pn**	**01 39 32.0**	**+1.2**
ZEDA	**zmir-Bergama**	**2.69**	**320**	*i* P	**Pn**	**01 39 31.9**	**+0.3**
ZEDA				*i* S	**Sn**	**01 40 03.7**	**-1.0**
KDHN	**Kadinhani**	**2.73**	**54**	*i* P	**Pn**	**01 39 32.5**	**+0.2**
LADK	**Ladik-KONYA**	**2.74**	**62**	PN	**Pn**	**01 39 33.5**	**+1.1**
STEP	**BALIKESIR_Sava**	**2.74**	**333**	*i* P	**Pn**	**01 39 32.1**	**-0.3**
STEP				*i* S	**Sn**	**01 40 06.2**	**+0.2**
DURS	**Dursunbey**	**2.74**	**346**	*i* P	**Pn**	**01 39 32.1**	**-0.3**
CIFT	**Cifteler, Eski**	**2.79**	**29**	*i* P	**Pn**	**01 39 32.5**	**-0.6**
CIFT				*i* S	**Sn**	**01 40 06.0**	**-1.3**
CIFT	**Cifteler, Eski**	**2.79**	**29**	PN	**Pn**	**01 39 33.8**	**+0.7**
KIZT	**Kizilcal**	**2.81**	**46**	PN	**Pn**	**01 39 34.7**	**+1.3**
DKL	**Dikili**	**2.85**	**319**	PN	**Pn**	**01 39 35.0**	**+1.1**
ERMK	**Ermenek**	**2.91**	**95**	*i* P	**Pb**	**01 39 39.6**	**-0.4**
ERMK				*i* S	**Sb**	**01 40 18.4**	**+2.2**
BALB	**Balikesir**	**2.92**	**338**	PN	**Pn**	**01 39 36.9**	**+2.1**
CHOS	**Chios island**	**2.96**	**300**	P	**Pn**	**01 39 35.1**	**-0.3**
CHOS				S	**Sn**	**01 40 11.2**	**-0.3**
CHOS	**Chios island**	**2.96**	**300**	P	**Pn**	**01 39 35.4**	**0.0**
CHOS	**Chios island**	**2.96**	**300**	PN	**Pn**	**01 39 36.7**	**+1.3**
APE	**Apeiranthos**	**3.03**	**274**	P	**Pn**	**01 39 36.0**	**-0.3**
APE	**Apeiranthos**	**3.03**	**274**	P	**Pn**	**01 39 36.3**	**0.0**
APE	**Apeiranthos**	**3.03**	**274**	PN	**Pn**	**01 39 37.3**	**+1.0**
BORA	**Eskisehir**	**3.08**	**17**	*i* P	**Pn**	**01 39 37.4**	**+0.4**
BORA	**Eskisehir**	**3.08**	**17**	PN	**Pn**	**01 39 38.3**	**+1.3**
ZKR	**Zakros**	**3.09**	**235**	P	**Pn**	**01 39 38.3**	**+1.1**
ZKR	**Zakros**	**3.09**	**235**	PN	**Pn**	**01 39 38.1**	**+0.9**
BALY	**Balya**	**3.10**	**335**	*i* P	**Pn**	**01 39 37.7**	**+0.4**
AKMS	**Akamas**	**3.11**	**127**	P	**Pn**	**01 39 38.0**	**+0.6**
AKMS				S	**Sn**	**01 40 16.0**	**+0.7**
AYVA	**Ayvalik**	**3.14**	**320**	*i* P	**Pn**	**01 39 37.2**	**-0.6**
TEKE	**Tekeli-Mersin**	**3.17**	**103**	PN	**Pn**	**01 39 39.2**	**+1.0**
BERE	**Bereket-Mersin**	**3.20**	**99**	PN	**Pn**	**01 39 39.4**	**+0.6**
ALFC	**Alefka**	**3.20**	**123**	P	**Pn**	**01 39 39.2**	**+0.5**
ALFC				S	**Sn**	**01 40 18.1**	**+0.6**
ALFC				AML	AML	01 40 19.9	
comp=Z,0.4nm,0.6s							
ALFC				AML	AML	01 40 19.9	
comp=Z,0.4nm,0.6s							
ALFC				AML	AML	01 40 43.5	
comp=Z,0.3nm,0.6s							
ALFC				AML	AML	01 40 43.5	
comp=Z,0.3nm,0.6s							
ULDT	**Uludag**	**3.21**	**358**	*i* P	**Pn**	**01 39 38.4**	**-0.5**
SRCK	**Saricakaya, Es**	**3.27**	**18**	*i* P	**Pn**	**01 39 39.7**	**+0.1**
CHBY	**Cihanbeyli**	**3.28**	**59**	PN	**Pn**	**01 39 41.8**	**+2.0**
PRK	**Paraskevi**	**3.33**	**315**	P	**Pn**	**01 39 39.8**	**-0.5**
PRK	**Paraskevi**	**3.33**	**315**	P	**Pn**	**01 39 41.2**	**+0.9**
TEVE	**Tevekalti-Mers**	**3.36**	**97**	PN	**Pn**	**01 39 41.2**	**+0.3**
NATA	**Nata**	**3.41**	**128**	P	**Pn**	**01 39 42.3**	**+0.7**
LEF	**Lefka**	**3.42**	**121**	*i* P	**Pn**	**01 39 37.8**	**-3.9**
NPS	**Neapolis**	**3.43**	**242**	P	**Pn**	**01 39 41.4**	**-0.4**
NPS	**Neapolis**	**3.43**	**242**	P	**Pn**	**01 39 41.8**	**0.0**
GULN	**MERSIN_Gulnar**	**3.49**	**101**	*i* P	**Pb**	**01 39 46.9**	**-2.9**
BAYC	**CANAKKALE_Bayr**	**3.54**	**323**	*i* P	**Pn**	**01 39 43.5**	**+0.2**
SIGR	**SIGRI**	**3.55**	**311**	P	**Pn**	**01 39 43.0**	**-0.4**
KKUL	**Konya-Kulu**	**3.62**	**51**	*i* P	**Pn**	**01 39 46.5**	**+2.0**
SZAC	**Souni**	**3.63**	**126**	P	**Pn**	**01 39 45.1**	**+0.6**
SZAC				S	**Sn**	**01 40 29.4**	**+1.4**
SZAC				AML	AML	01 41 00.7	
comp=Z,0.5nm,0.9s							
SZAC				AML	AML	01 41 00.7	
comp=Z,0.5nm,0.9s							
SZAC				AML	AML	01 41 01.2	
comp=Z,0.3nm,0.8s							
SZAC				AML	AML	01 41 01.2	
comp=Z,0.3nm,0.8s							
ATHAL	**Athalassa**	**3.77**	**117**	P	**Pn**	**01 39 47.9**	**+1.4**
CSS	**Mathiatis**	**3.81**	**120**	P	**Pn**	**01 39 48.3**	**+1.2**
ASGA	**Asgata**	**3.85**	**123**	P	**Pn**	**01 39 48.0**	**+0.4**
BTAS	**Taskesti**	**3.86**	**20**	*i* P	**Pn**	**01 39 48.6**	**+0.8**
KERG	**Konya-Eregli**	**3.88**	**81**	*i* P	**Pn**	**01 39 50.6**	**+2.5**
KIZK	**Mersin**	**3.91**	**95**	*i* P	**Pn**	**01 39 52.9**	**+4.5**
MVOU	**Mavrovouni**	**4.00**	**117**	P	**Pn**	**01 39 51.4**	**+1.9**
MVOU				S	**Sn**	**01 40 38.1**	**+1.2**
MVOU				AML	AML	01 40 58.7	
comp=Z,0.3nm,0.7s							
MVOU				AML	AML	01 40 58.7	
comp=Z,0.3nm,0.7s							
MVOU				AML	AML	01 41 04.5	
comp=Z,0.1nm,0.8s							
MVOU				AML	AML	01 41 04.5	
comp=Z,0.1nm,0.8s							
KIBS	**BOLU**	**4.01**	**29**	*i* P	**Pn**	**01 39 51.4**	**+1.5**
KIRS	**Kırehir-Merke**	**4.25**	**58**	*i* P	**Pn**	**01 39 52.7**	**-0.5**
CMDR	**Camlidere-ANKA**	**4.33**	**34**	*i* P	**Pn**	**01 39 55.7**	**+1.4**
GULE	**Gulek**	**4.39**	**84**	*i* P	**Pb**	**01 40 01.3**	**-3.9**
LIA	**Limnos Island**	**4.39**	**314

NLYR	**Nelyaty**	**3.79**	**70**	*e*Pn	Pn	01 54 49.2	-0.8
NLYR				*e*		01 54 54.7	
NLYR				*e*Pg	Pb	01 54 58.4	+0.3
NLYR				*e*		01 55 29.6	
NLYR				*e*Sg	Sb	01 55 48.1	+3.6
NLYR				Pmax			
	11nm,0.7s						
NLYR				Smax			
	30nm,1.2s						
HRMR	**Khuramsha**	**3.97**	**202**	*e*	Pn	01 54 53.7	+1.2
HRMR				Pg	Pb	01 55 01.7	+0.5
HRMR				*e*Sg	Sg	01 55 54.0	-3.9
HRMR				Pmax			
	11nm,0.1s						
HRMR				Smax			
	91nm,0.6s						
BGT	**Bolshoye Golou**	**4.03**	**217**	*e*	Pn	01 54 54.5	+1.2
BGT				*e*		01 55 05.8	
BGT				*e*		01 55 13.4	
BGT				*e*Sg	Sg	01 55 55.6	-4.1
IRK	**Irkutsk**	**4.30**	**226**	*e*Sg	Sg	01 56 04.4	-4.0
IRK				Smax			
	214nm,0.1s						
LSTR	**Listvyanka**	**4.38**	**219**	*e*	Pn	01 54 49.9	-8.2
LSTR				*e*		01 54 54.2	
LSTR				*e*Sg	Sb	01 56 04.3	+2.9
VTMR	**Vitim**	**4.47**	**22**	*e*	Pg	01 55 41.2	+25
VTMR				*e*Sg	Sg	01 56 09.2	-4.8
VTMR				*e*		01 56 17.9	
IVK	**Ivanovka**	**4.58**	**221**	*e*	Pn	01 55 03.7	+2.8
IVK				*e*Pg	Pb	01 55 12.1	+0.5
IVK				*e*Sg	Sb	01 56 11.7	+4.3
IVK				Pmax			
	2.0nm,0.3s						
IVK				Smax			
	42nm,1.2s						
TLY	**Talaya**	**4.98**	**225**	*e*Pn	Pb	01 55 16.1	-2.3
TLY				*e*		01 55 21.5	
TLY				Sg	Sb	01 56 22.6	+3.9
TLY				max			
	3.0nm,0.3s						
TLY				Smax			
	19nm,0.5s						
CRS	**Chara**	**5.26**	**69**	*e*	Pb	01 55 18.8	-4.4
CRS				*e*Sg	Sb	01 56 32.9	+6.0
CRS				max			
	2.0nm,0.1s						
CRS				Smax			
	34nm,0.8s						
ARS	**Arshan**	**5.33**	**233**	*e*Pg	Pb	01 55 25.1	+0.7
ARS				*e*Sn	Sn	01 56 07.5	-5.9
ARS				*e*Sg	Sg	01 56 35.3	-6.2
ARS				Pmax			
	11nm,0.5s						
ARS				Smax			
	120nm,0.5s						
KPC	**Khapcheranga**	**5.95**	**160**	*e*Pn	Pn	01 55 19.1	-0.7
KPC				*e*		01 55 26.1	
KPC				*e*Pg	Pb	01 55 36.1	+1.1
KPC				*e*		01 56 46.5	
KPC				*e*Sg	Sg	01 56 55.1	-6.3
KPC				Pmax			
	2.0nm,0.6s						
KPC				Smax			
	29nm,1.5s						
ZAK	**Zakamensk**	**6.16**	**219**	*e*	Pg	01 55 45.2	-3.1
ZAK				Sg	Sg	01 57 01.2	-6.8
ZAK				Smax			
	24nm,1.1s						
MOY	**Mondy**	**6.17**	**237**	*e*Sg	Sb	01 57 00.2	+7.2
MOY				Smax			
	36nm,1.3s						
TUP	**Tupik**	**6.22**	**94**	*e*Pn	Pn	01 55 22.0	-1.5
TUP				*e*		01 55 31.6	
TUP				*e*Pg	Pb	01 55 41.3	+1.7
TUP				*e*Sn	Sn	01 56 42.7	+7.4
TUP				*e*Sg	Sb	01 57 02.2	+7.7
TUP				*e*		01 57 11.2	
TUP				Pmax			
	5.0nm,0.8s						
TUP				max			
	44nm,1.0s						
ORL	**Orlik**	**6.26**	**247**	*e*Pn	Pn	01 55 24.4	+0.3
ORL				*e*		01 56 34.8	
ORL				*e*Sg	Sg	01 57 04.3	-7.1
ORL				*e*		01 57 08.7	
ORL				max			
	45nm,0.9s						
YKLR	**Yuktali**	**7.05**	**75**	*e*		01 57 05.6	
YKLR				*e*Sg	Sg	01 57 28.8	-7.9
YKLR				*e*		01 57 37.1	
TDJR	**Todzha**	**8.33**	**255**	*e*	Pn	01 55 57.0	+4.6
TDJR				*e*Sg	Sg	01 58 08.2	-10

BYKL 17 01:54:34.1±0.5, 55°.34N×109°.32E, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.45**	**16**	*e*Pg	Pg	01 54 42.6	-0.2
NIZ				*e*Sg	Sg	01 54 48.2	-0.5
NIZ				Pmax			
	49nm,0.2s						
NIZ				Smax			
	241nm,0.2s						
YLYR	**Ulyunkhan**	**1.16**	**113**	*e*Pg	Pg	01 54 54.7	-1.5
YLYR				*e*Sg	Sg	01 55 09.8	-1.4
YLYR				Pmax			
	44nm,0.1s						
YLYR				Smax			
	218nm,0.1s						
KMO	**Kumora**	**1.20**	**62**	*e*Pg	Pg	01 54 55.3	-1.8
KMO				*e*Pb	Pb	01 54 57.5	-0.2
KMO				*e*Sg	Sg	01 55 11.0	-1.6
KMO				*e*Sb	Sb	01 55 14.4	+0.6
KMO				max			
	180nm,0.3s						
KMO				max			
	155nm,0.4s						
YOA	**Uoyan**	**1.57**	**59**	*e*Sg	Sn	01 55 24.0	-0.4
YOA				Smax			
	436nm,0.3s						
SYVR	**Suvo**	**1.73**	**167**	*e*Pg	Pn	01 55 05.4	0.0
SYVR				*e*Sg	Sn	01 55 28.6	+0.4
SYVR				Pmax			
	23nm,0.3s						
SYVR				Smax			
	170nm,0.5s						
OGRR	**Ongureny**	**1.98**	**211**	*e*Pg	Pb	01 55 10.2	-0.7
OGRR				*e*Sg	Sb	01 55 36.5	+0.4
OGRR				Pmax			
	28nm,0.2s						
OGRR				Smax			
	67nm,0.2s						
UKT	**Uakit**	**2.46**	**85**	*e*Pn	Pn	01 55 14.7	-0.8
UKT				*e*Sg	Sb	01 55 50.0	-0.1
UKT				Smax			
	98nm,0.4s						
SVKR	**Severomuysk**	**2.52**	**70**	*e*Sg	Sb	01 55 52.4	+0.6
SVKR				Smax			
	179nm,0.5s						
BOD	**Bodaibo**	**3.59**	**44**	*e*Sg	Sb	01 56 24.4	+2.0
BOD				Smax			
	41nm,0.5s						

IDC 17 02:13:49.4±3.1, 6°.19S×130°.14E, h86km±42km, mb3.4/1, mb1 3.1/5, mb1mx3.0/38, mbtmp3.3/5, Error ellipse: s-maj=76.0km s-min=23.6km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.40**	**12**	P	Pn	02 15 08.2	+0.6
	0.6nm,0.3s,baz=249,slow=22,SNR=1.7						
SIJI				S	Sn	02 16 04.1	-4.4
	2.8nm,0.3s,baz=264,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**12.62**	**200**	P	Pn	02 16 46.5	+0.7
	0.2nm,0.3s,baz=44,slow=14,SNR=9.9						
FITZ				S	Sn	02 18 59.1	-5.5
	0.2nm,0.3s,baz=177,slow=17,SNR=5.0						
WRA	**Warramunga Arr**	**14.27**	**164**	P	Pn	02 17 05.9	-1.5
	0.1nm,0.3s,baz=346,slow=14,SNR=5.1						
WRA				S	Sn	02 19 33.5	-11
	0.3nm,0.3s,baz=340,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**17.75**	**169**	P	Pn	02 17 51.7	+0.6
	0.0nm,0.3s,baz=349,slow=14,SNR=3.2						
ASAR				S	Sn	02 20 59.8	-8.9
	0.1nm,0.3s,baz=352,slow=3.5,SNR=4.0						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	02 24 36.9	-0.3
	0.6nm,0.6s,baz=120,slow=7.5,SNR=5.3						

*ISCJB **17** 02:16:26.9±0.5, 31°.25N±0°.05×140°.6E±0°.1, h100km, mb3.7/13, Error ellipse: s-maj=15.5km s-min=5.5km az=161.1*
*IDC **17** 02:16:26.7±1.8, 31°.24N×140°.36E, h90km±15km, mb3.5/12, mb1 3.8/12, mb1mx3.6/35, mbtmp3.8/12, Error ellipse: s-maj=25.7km s-min=14.1km az=85.0*
*JMA **17** 02:16:31.1±0.2, 31°.56N×140°.81E, h120km±5km, M4.0*
ISC 17 02:16:28.0±0.7, 31°.32N±0°.07×140°.7E±0°.1, h100km, n33, σ1§84/37, mb3.7/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.39**	**325**	P	Pn	02 16 56.2	+3.3
JAOM				*e*S	Sn	02 17 15.9	+4.1
JHCJ	**Hachijojimakas**	**1.91**	**336**	P	Pn	02 17 01.5	+2.1
JHCJ				*e*S	Sn	02 17 23.8	+0.5
JHJ2	**Mitsune**	**1.94**	**337**	P	Pn	02 17 02.0	+2.3
JHJ2				S	Sn	02 17 25.2	+1.3
JHJ	**Hachijo jima 2**	**1.96**	**337**	P	Pn	02 16 59.3	-0.7
	40nm,0.3s,baz=184,slow=22,SNR=14						
JHJ				S	Sn	02 17 22.0	-2.4
	126nm,0.3s,baz=73,slow=19,SNR=9.3						
JMKN	**Mikurajimanish**	**2.73**	**340**	P	Pn	02 17 12.2	+2.1
BSO1	**Boso 1**	**3.33**	**4**	P	Pn	02 17 19.0	+1.4
JIM2	**Oshima 3**	**3.55**	**343**	P	Pn	02 17 23.1	+2.0
TK02	**Tokai 2**	**3.61**	**317**	P	Pn	02 17 24.6	+2.9
JOD2	**Odawara 2**	**4.16**	**341**	P	Pn	02 17 30.9	+1.6
JOD2				*e*S	Sn	02 18 16.9	+0.1
CBIJ	**Chichi jima**	**4.41**	**163**	P	Pn	02 17 34.6	+1.9
JIE	**Ise**	**4.55**	**313**	P	Pn	02 17 36.6	+2.0
JRY	**Ryogami san**	**4.92**	**343**	P	Pn	02 17 41.6	+2.0
JRY				*e*S	Sn	02 18 35.4	+0.1
JTNC	**Tanabenakahech**	**4.97**	**301**	P	Pn	02 17 42.2	+1.9
JAG	**Ashikaga**	**5.20**	**349**	P	Pn	02 17 43.6	+0.3
MJAR	**Matsushiro Arr**	**5.60**	**339**	P	Pn	02 17 47.0	-1.8
	0.1nm,0.3s,baz=147,slow=11,SNR=5.5						
MJAR				S	Sn	02 18 49.5	-2.4
	0.2nm,0.3s,baz=136,slow=24,SNR=2.9						
MAT	**Matsushiro**	**5.61**	**339**	P	Pn	02 17 50.3	+1.4
MAT				S	Sn	02 18 50.5	-1.5
H11S3	**WAKE ISLAND Hy**	**26.72**	**112**	T	T	02 50 53.0	
	baz=304,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**26.73**	**112**	T	T	02 50 53.1	
	baz=304,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**26.74**	**112**	T	T	02 50 54.2	
	baz=304,slow=75,SNR=10						
SONM	**Songino Array**	**30.85**	**312**	P	P	02 22 29.8	-4.8
	0.3nm,0.5s,baz=117,slow=9.8,SNR=3.2						
MKAR	**Makanchi Array**	**46.86**	**307**	P	P	02 24 46.3	-1.6
	0.5nm,0.5s,baz=87,slow=9.8,SNR=6.3						
WRA	**Warramunga Arr**	**51.34**	**188**	P	P	02 25 20.4	-1.8
	1.2nm,0.7s,baz=5.0,slow=7.5,SNR=18						
ILAR	**Eielson Array**	**54.67**	**30**	P	P	02 25 46.9	+0.6
	0.6nm,0.7s,baz=267,slow=7.4,SNR=6.7						
ASAR	**Alice Springs**	**55.06**	**188**	P	P	02 25 48.0	-1.6
	0.4nm,0.5s,baz=4.3,slow=6.7,SNR=13						
STKA	**Stephens Creek**	**62.86**	**179**	P	P	02 26 42.8	-0.5
	0.7nm,0.5s,baz=4.8,slow=12,SNR=2.6						
FINES	**FINESS Array B**	**73.60**	**333**	P	P	02 27 49.3	-0.7
	2.7nm,0.9s,baz=97,slow=4.5,SNR=5.3						
KBZ	**Khabaz**	**74.22**	**312**	P	P	02 27 53.1	-0.7
	2.3nm,0.8s,baz=315,slow=1.7,SNR=5.7						
AKASG	**Malin Array Be**	**78.47**	**323**	P	P	02 28 17.0	-0.8
	0.5nm,0.4s,baz=47,slow=4.5,SNR=4.6						
NVAR	**Mina Array Bea**	**78.92**	**52**	P	P	02 28 22.5	+1.6
	0.3nm,0.7s,baz=316,slow=6.3,SNR=2.6						
PDAR	**Pinedale Array**	**82.11**	**44**	P	P	02 28 39.1	+1.2
	0.2nm,0.6s,baz=337,slow=2.1,SNR=3.1						
BRTR	**Keskin Array B**	**82.21**	**312**	P	P	02 28 37.5	-0.8
	0.8nm,0.7s,baz=69,slow=4.6,SNR=5.4						
TXAR	**Lajitas Array**	**94.07**	**52**	P	P	02 29 37.5	+1.9
	0.7nm,0.7s,baz=295,slow=2.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**120.82**	**312**	PKP	**PKPdf**	02 35 08.1	-1.0
	0.4nm,0.8s,baz=343,slow=2.9,SNR=3.9						

*ISCJB **17** 02:42:22.7±0.4, 3°.94S±0°.05×101°.72E±0°.05, h58km, mb4.3/17, MS3.2/2, Error ellipse: s-maj=9.0km s-min=4.1km az=38.2*
*NEIC **17** 02:42:23.6±1.2, 3°.84S±0°.09×101°.8E±0°.1, h50km±6km, mb4.2/15*
*IDC **17** 02:42:23.6±0.8, 3°.70S×101°.94E, h48km±5km, mb4.0/15, mb1 4.2/15, mb1mx3.9/39, mbtmp4.3/15, MS3.3/2, Ms1 3.4/2, ms1mx2.8/34, Error ellipse: s-maj=30.1km s-min=11.7km az=53.0*
*DJA **17** 02:42:25.0±0.5, 4°S±3°×10°2E±°, h56km±19km, M4.5/11, mb4.6/1, MLv4.4/11*
ISC 17 02:42:24.1±0.5, 3°.85S±0°.06×101°.79E±0°.06, h58km, n75, σ1§40/82, mb4.3/21, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.27**	**114**	P	Pn	02 42 46.1	+0.4
MNAI				S	Sn	02 43 02.6	+0.8
MNAI	**Manna**	**1.27**	**114**		Pn	02 42 46.3	+0.6
LHSI	**Lahat**	**1.73**	**89**	P	Pn	02 42 53.1	+1.2
LHSI				S	Sn	02 43 15.4	+2.5
KRJI	**Kerinci**	**1.78**	**349**	P	Pn	02 42 53.9	+1.2
KRJI				S	Sn	02 43 16.2	+1.9
PPSI	**Pulau Pagai**	**2.08**	**301**	P	Pn	02 42 58.3	+1.6
LWLI	**Liwa**	**2.54**	**117**	P	Pn	02 43 07.0	+3.9
SDSI	**Sungai Dareh**	**2.92**	**353**	P	Pn	02 43 09.1	+0.9
PMBI	**Palembang**	**3.11**	**73**	P	Pn	02 43 21.7	+11
PMBI	**Palembang**	**3.11**	**73**	Pn	Pn	02 43 11.6	+0.7
KASI	**Kota Agung**	**3.17**	**122**	P	Pn	02 43 11.3	-0.3
KASI				S	Sn	02 43 47.7	-0.5
PDSI	**Padang**	**3.21**	**335**	P	Pn	02 43 12.5	+0.4
RGRI	**Rengat**	**3.52**	**9**	P	Pn	02 43 18.0	+1.6
BKNI	**Bangkinang**	**4.22**	**350**	P	Pn	02 43 39.7	+14
BKNI	**Bangkinang**	**4.22**	**350**	Pn	Pn	02 43 26.8	+0.8
DSRI	**Dabo**	**4.36**	**40**	P	Pn	02 43 29.4	+1.6
MYKOM	**Kota Tinggi**	**5.97**	**20**		Pn	02 43 50.4	+0.4
CMAR	**Chiang Mai Arr**	**22.34**	**353**	P	P	02 47 15.9	-1.4
	1.2nm,0.3s,baz=168,slow=11,SNR=10.0						
CMAR				LR	LR	02 55 29.3	
	comp=Z,38nm,19.5s,baz=170,slow=35						
CMAR	**Chiang Mai Arr**	**22.34**	**353**	P	P	02 47 17.6	+0.2
FITZ	**Fitzroy Crossi**	**27.30**	**123**	P	P	02 48 01.8	-1.8
	2.6nm,0.9s,baz=317,slow=4.5,SNR=3.5						
FITZ	**Fitzroy Crossi**	**27.30**	**123**	IAmb	IAmb	02 48 04.2	
	comp=Z,4.8nm,1.1s						
ODAN	**Odare**	**33.55**	**336**	*e*P	P	02 48 59.5	+0.5
	comp=Z,16nm,0.8s						
TAPN	**Taplejung**	**33.87**	**337**	*e*P	P	02 49 02.6	+0.9
	comp=Z,34nm,0.9s						
RAMN	**Ramite**	**33.96**	**335**	*e*P	P	02 49 03.6	+1.1
	comp=Z,5.1nm,0.6s						
JIRN	**Jiri**	**34.75**	**335**	*e*P	P	02 49 10.4	+0.9
	comp=Z,27nm,0.8s						
PKI	**Pulchoki**	**35.01**	**334**	*e*P	P	02 49 13.1	+1.4
GUN	**Gumba**	**35.10**	**335**	*e*P	P	02 49 13.3	+0.8
	comp=Z,21nm,0.7s						
KKN	**Kakani**	**35.26**	**334**	*e*P	P	02 49 14.3	+0.7
WRA	**Warramunga Arr**	**35.52**	**119**	P	P	02 49 15.3	-0.6
	comp=Z,1.0nm,0.5s,baz=302,slow=9.1,SNR=19						
WRA				pP	pP	02 49 29.6	-0.9
	comp=Z,0.9nm,0.7s,baz=298,slow=8.9,SNR=3.9						
WRA				PcP	PcP	02 51 44.3	+0.1
	comp=Z,0.4nm,0.7s,baz=303,slow=2.9,SNR=3.9						
WRA	**Warramunga Arr**	**35.52**	**119**	P	P	02 49 16.0	+0.1
GKN	**Gorkha**	**35.72**	**333**	*e*P	P	02 49 18.2	+0.6
KOLN	**Koldanda**	**36.00**	**332**	*e*P	P	02 49 20.7	+0.7
DANN	**Dangsing**	**36.42**	**333**	*e*P	P	02 49 24.2	+0.5
	comp=Z,26nm,0.4s						
ASAR	**Alice Springs**	**36.73**	**125**	P	P	02 49 26.1	0.0
	comp=Z,1.0nm,0.6s,baz=298,slow=8.2,SNR=20						
ASAR				PcP	PcP	02 51 48.6	+0.8
	comp=Z,0.4nm,0.6s,baz=300,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**36.73**	**125**	P	P	02 49 26.4	+0.3
AS31	**Alice Springs**	**36.73**	**125**	P	P	02 49 26.4	+0.3
GTA	**Gaotai**	**43.09**	**358**	*e*P	P	02 50 18.5	-0.2
GTA				pP	pP	02 50 35.0	+1.3
GTA				sP	sP	02 50 41.9	+1.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**45.38**	**10**	*e*P	P	02 50 40.0	+3.0
HHC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,11nm,5.7s						
NIL	**Nilore**	**46.02**	**326**	P	P	02 50 42.7	+0.6
STKA	**Stephens Creek**	**46.59**	**131**	P	P	02 50 47.6	+1.0
	comp=Z,4.9nm,0.7s,baz=314,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**46.59**	**131**	P	P	02 50 47.5	+0.8
WMQ	**Urumqi**	**49.12**	**347**	*e*P	P	02 51 07.9	+1.9
KSH	**Kashi**	**49.27**	**334**	*e*P	P	02 51 10.1	+2.8
TARG	**Taragay, Kyrgy**	**50.35**	**337**	P	P	02 51 16.5	+0.6
TARG				IAmb	IAmb	02 51 19.5	
	comp=Z,3.9nm,1.1s						
NRN	**Naryn**	**50.84**	**335**	P	P	02 51 20.0	+0.6
NRN				IAmb	IAmb	02 51 21.8	
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**51.63**	**4**	P	P	02 51 25.2	+0.3
	comp=Z,4.8nm,0.7s,baz=184,slow=9.1,SNR=29						
SONM				pP	pP	02 51 38.1	-2.2
	comp=Z,1.4nm,0.5s,baz=193,slow=10,SNR=3.9						
SONM	**Songino Array**	**51.63**	**4**	P	P	02 51 25.2	+0.3
ULN	**Ulaanbaatar**	**51.70**	**5**	P	P	02 51 25.8	+0.2
MJAR	**Matsushiro Arr**	**52.62**	**37**	P	P	02 51 30.8	-1.7
	comp=Z,0.7nm,0.6s,baz=227,slow=8.7,SNR=4.1						
MK31	**Makanchi Array**	**53.29**	**343**	P	P	02 51 37.0	-0.2
MK31				IAmb	IAmb	02 51 39.0	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**53.29**	**343**	P	P	02 51 36.9	-0.3
	comp=Z,6.4nm,0.7s,baz=150,slow=8.2,SNR=38						
MKAR				pP	pP	02 51 50.7	-1.8
	comp=Z,1.3nm,0.6s,baz=151,slow=7.9,SNR=4.6						
MKAR				sP	sP	02 51 54.9	-4.2
	comp=Z,3.2nm,0.6s,baz=146,slow=8.4,SNR=7.8						
MKAR	**Makanchi Array**	**53.29**	**343**	P	P	02 51 36.8	-0.4
KK31	**Karatay Array**	**54.61**	**332**	P	P	02 51 46.7	-0.1
KK31				IAmb	IAmb	02 51 48.2	
	comp=Z,1.1nm,0.7s						
KKAR	**Karatay Array**	**54.61**	**332**	P	P	02 51 46.0	-0.9
USRK	**Ussuriysk Ar.**	**54.98**	**26**	P	P	02 51 48.5	-1.0
	comp=Z,6.3nm,0.6s,baz=208,slow=4.9,SNR=17						
USRK	**Ussuriysk Ar.**	**54.98**	**26**	P	P	02 51 48.9	-0.6
OPO	**Ambohidratompo**	**55.30**	**250**	LR	LR	03 08 38.0	
	comp=Z,57nm,22.0s,baz=240,slow=28						
KURK	**Kurchatov**	**57.88**	**343**	P	P	02 52 10.0	0.0
ZAA0	**Zalesovo Array**	**59.32**	**348**	P	P	02 52 19.2	-0.7
ZALV	**Zalesovo Beam**	**59.32**	**348**	P	P	02 52 19.1	-0.8
	comp=Z,7.5nm,0.5s,baz=173,slow=5.3,SNR=39						
ZALV				pP	pP	02 52 33.4	-2.0
	comp=Z,2.3nm,0.4s,baz=164,slow=5.9,SNR=5.4						
ABKAR	**Akbulak array**	**64.11**	**331**	P	P	02 52 51.6	-0.6
KBZ	**Khabaz**	**70.87**	**319**	P	P	02 53 35.8	+0.7
	comp=Z,2.7nm,0.8s,baz=115,slow=3.4,SNR=7.1						
BR131	**Keskin Array S**	**75.88**	**312**	P	P	02 54 04.9	0.0
BRTR	**Keskin Array B**	**75.88**	**312**	P	P	02 54 04.8	0.0
	comp=Z,1.7nm,0.7s,baz=146,slow=6.9,SNR=13						
TOPG	**Topolog**	**81.05**	**316**	⇓P	P	02 54 40.8	+7.8
MLR	**Muntele Rosu**	**82.86**	**317**	⇓P	P	02 54 44.4	+1.6
BURAR	**Bucovina Array**	**83.82**	**319**	P	P	02 54 48.8	+1.2
VTS	**Vitosha**	**84.20**	**313**	⇑P	P	02 54 50.5	+0.8
KOLS	**Kolonicke sedl**	**86.01**	**319**	*e*P	P	02 55 00.8	+2.4
FINES	**FINESS Array B**	**86.57**	**332**	P	P	02 55 01.2	+0.4
	comp=Z,3.2nm,0.9s,baz=106,slow=3.0,SNR=5.5						
VYHS	**Vyhne**	**88.19**	**319**	*e*P	P	02 55 13.4	+4.4
ARCES	**ARCESS Array B**	**88.81**	**340**	P	P	02 55 12.1	+0.6
	comp=Z,7.1nm,1.0s,baz=90,slow=6.3,SNR=3.4						
GERES	**GERESS Array B**	**91.61**	**319**	P	P	02 55 26.1	+1.0
	comp=Z,0.1nm,0.3s,baz=108,slow=5.3,SNR=4.2						
PLCA	**Paso Flores**	**135.08**	**188**	PKP	**PKiKP**	03 01 39.1	+0.1
	comp=Z,4.3nm,1.2s,baz=272,slow=7.5,SNR=3.0						
BDFB	**Brasilia**	**144.39**	**236**	PKP	**PKPdf**	03 01 55.8	+0.7
	comp=Z,1.5nm,0.5s,baz=64,slow=2.2,SNR=3.6						
TXAR	**Lajitas Array**	**145.00**	**41**	PKP	**PKPdf**	03 01 55.7	-0.1
	comp=Z,3.2nm,0.7s,baz=289,slow=1.2,SNR=37						
TXAR				pPKP	**pPKPdf**	03 02 09.8	-3.1
	comp=Z,1.0nm,0.6s,baz=296,slow=0.9,SNR=6.7						

*ISCJB **17** 02:55:10.2±1.0, 1°.2N±0°.1×67°.3E±0°.1, h10km, mb3.8/8, Error ellipse: s-maj=20.7km s-min=11.6km az=34.6*
*IDC **17** 02:55:10.3±1.4, 1°.13N×67°.24E, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.7/39, mbtmp3.8/9, ML4.5/1, MS3.5/5, Ms1 3.6/5, ms1mx3.2/34, Error ellipse: s-maj=45.0km s-min=23.0km az=49.0*
*NEIC **17** 02:55:12.4±1.1, 1°.2N±0°.1×67°.3E±0°.1, h10km±3km, mb4.2/7*
ISC 17 02:55:12.1±1.2, 1°.1N±0°.2×67°.3E±0°.1, h10km, n33, σ0§79/23, mb3.8/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.72**	**96**		Pn	02 56 35.6	-1.6
HMDM	**Hanimaadhoo**	**8.11**	**46**		Pn	02 57 10.4	+0.3
H08N2	**Diego Garcia H**	**8.27**	**154**	T	T	03 05 40.7	
	baz=333,slow=76,SNR=247						
H08N3	**Diego Garcia H**	**8.28**	**154**	T	T	03 05 39.5	
	baz=333,slow=76,SNR=283						
H08N1	**Diego Garcia H**	**8.29**	**154**	T	T	03 05 38.1	
	baz=333,slow=76,SNR=294						
PALK	**Pallekele**	**14.68**	**65**	Pn	Pn	02 58 40.3	+0.2
	2.2nm,0.3s,baz=295,slow=9.3,SNR=14						
PALK				LR	LR	03 03 20.8	
	comp=Z,221nm,18.1s,baz=296,slow=33						
PALK	**Pallekele**	**14.68**	**65**		Pn	02 58 41.2	+1.1
WSAR	**Wadi Sarin**	**23.54**	**340**	LR	LR	03 07 49.7	
	comp=Z,41nm,18.2s,baz=224,slow=32						
COCO	**West Island**	**32.16**	**115**	P	P	03 01 40.9	+0.5
CMAR	**Chiang Mai Arr**	**35.49**	**59**	LR	LR	03 15 57.4	
	comp=Z,45nm,18.3s,baz=199,slow=35						
GNI	**Garni**	**43.93**	**335**	P	P	03 03 19.5	0.0
MKAR	**Makanchi Array**	**47.33**	**14**	P	P	03 03 46.1	-0.1
	0.6nm,0.8s,baz=188,slow=5.8,SNR=2.8

mB4.7/2,mb4.5/9,MLv5.0/2,Mw(mB)4.0/2
ISC 17 03:18:58.0±0.5,3.77S±0.07×151.12E±0.09,h35km,n63,
σ1ϑ96/53,mb4.4/24,MS3.8/14,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.05**	**121**	Pg	Pn	03 19 11.1	-5.2
	60nm,0.3s,baz=44,slow=0.1,SNR=22						
KRVT				Lg	Lg	03 19 25.8	
	287nm,0.3s,baz=339,slow=16,SNR=34						
MANU	**Manus Island**	**4.12**	**294**	Pn	**Pn**	**03 19 57.2**	**-1.3**
PMG	**Port Moresby**	**6.84**	**215**	Pn	**Pn**	**03 20 33.0**	**-3.0**
	0.3nm,0.3s,baz=31,slow=9.5,SNR=3.9						
PMG	**Port Moresby**	**6.84**	**215**		**Pn**	**03 20 36.4**	**+0.4**
HNR	**Honiara**	**10.42**	**123**	LR	LR	03 25 34.6	
	comp=Z,396nm,18.2s,baz=303,slow=39						
JAY	**Jayapura**	**10.47**	**277**	LR	LR	03 24 50.6	
	comp=Z,431nm,18.3s,baz=336,slow=34						
CTA	**Charters Tower**	**16.90**	**196**	Pn	**P**	**03 22 53.8**	**+0.1**
	baz=20,slow=15,SNR=5.0						
CTAO	**Charters Tower**	**16.90**	**196**		**P**	**03 22 57.0**	**+3.3**
GUMO	**Guam**	**18.33**	**340**	LR	LR	03 28 25.7	
	comp=Z,245nm,20.2s,baz=128,slow=31						
FAKI	**Fak Fak**	**18.86**	**272**	P	**Pn**	**03 23 18.3**	**+2.2**
	29nm,1.6s						
FAKI	**Fak Fak**	**18.86**	**272**	P	**Pn**	**03 23 18.7**	**+2.6**
FAKI				IAmb	IAmb	03 23 26.6	
	comp=Z,34nm,1.1s						
SIJI	**Sorong**	**20.04**	**278**	P	**P**	**03 23 25.6**	**-2.7**
	comp=Z,3.0nm,0.3s,baz=48,slow=18,SNR=1.8						
SWI	**Sorong**	**20.05**	**278**	P	Pn	03 23 34.5	+4.2
EIDS	**Eidsvold**	**21.48**	**180**	P	**P**	**03 23 47.1**	**+3.4**
EIDS				IAmb	IAmb	03 23 52.3	
	comp=Z,21nm,0.9s						
WB0	**Warramunga Arr**	**22.79**	**224**	P	**P**	**03 23 59.6**	**+1.8**
WB0				IAmb	IAmb	03 24 09.8	
	comp=Z,20nm,1.1s						
WR0	**Warramunga Arr**	**22.81**	**224**	P	**P**	**03 23 58.8**	**+0.8**
WRAB	**Tennant Creek**	**22.93**	**224**	P	**P**	**03 24 00.8**	**+1.6**
WRAB				IAmb	IAmb	03 24 02.2	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**22.93**	**224**	P	**P**	**03 24 01.2**	**+2.0**
WB2				IAmb	IAmb	03 24 02.3	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**22.94**	**224**	P	**P**	**03 23 55.9**	**-3.5**
	comp=Z,2.1nm,0.8s,baz=48,slow=9.7,SNR=19						
WRA	**Warramunga Arr**	**22.94**	**224**	P	**P**	**03 23 59.5**	**+0.1**
DZM	**Mont Dzumac**	**23.50**	**142**	P	**P**	**03 24 01.8**	**-3.2**
	comp=Z,3.8nm,0.9s,baz=325,slow=12,SNR=2.6						
DZM				LR	LR	03 31 33.3	
	comp=Z,333nm,21.4s,baz=280,slow=32						
DZM	**Mont Dzumac**	**23.50**	**142**	P	**P**	**03 24 05.3**	**+0.3**
DZM				IAmb	IAmb	03 24 15.5	
	comp=Z,12nm,0.9s						
SANI	**Sanana**	**25.16**	**273**	P	**P**	**03 24 23.1**	**+2.8**
AS31	**Alice Springs**	**25.84**	**218**	P	**P**	**03 24 26.6**	**+0.1**
ASAR	**Alice Springs**	**25.84**	**218**	P	**P**	**03 24 24.2**	**-2.3**
	comp=Z,2.4nm,0.8s,baz=52,slow=8.4,SNR=22						
ASAR				LR	LR	03 34 47.3	
	comp=Z,84nm,21.2s,baz=54,slow=37						
ASAR	**Alice Springs**	**25.84**	**218**	P	**P**	**03 24 24.9**	**-1.6**
BATI	**Baumata**	**27.98**	**255**	LR	LR	03 36 17.3	
	comp=Z,232nm,20.9s,baz=76,slow=38						
FITZ	**Fitzroy Crossi**	**28.72**	**238**	P	**P**	**03 24 49.6**	**-2.7**
	comp=Z,4.3nm,0.9s,baz=27,slow=11,SNR=8.1						
FITZ				LR	LR	03 36 11.7	
	comp=Z,65nm,21.9s,baz=71,slow=36						
FITZ	**Fitzroy Crossi**	**28.72**	**238**	P	**P**	**03 24 52.1**	**-0.2**
FITZ				IAmb	IAmb	03 25 06.8	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**29.36**	**197**	P	**P**	**03 24 54.0**	**-3.8**
	comp=Z,1.6nm,0.8s,baz=1.8,slow=23,SNR=3.0						
STKA	**Stephens Creek**	**29.36**	**197**	P	**P**	**03 24 59.2**	**+1.4**
AFI	**Afiamalu**	**37.96**	**108**	P	**P**	**03 26 14.3**	**+1.5**
MJAR	**Matsushiro Arr**	**41.87**	**344**	LR	LR	03 44 07.0	
	comp=Z,39nm,18.2s,baz=270,slow=36						
KSRS	**Korea Array**	**46.34**	**334**	LR	LR	03 45 16.2	
	comp=Z,94nm,18.3s,baz=168,slow=34						
NJ2	**Nanjing**	**47.00**	**322**	*e*P	**P**	**03 27 26.1**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**50.75**	**342**	LR	LR	03 47 56.2	
	comp=Z,65nm,20.9s,baz=165,slow=34						
BJI	**Beijing**	**54.12**	**327**	P	**P**	**03 28 23.0**	**+3.4**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJI				LR	LR		
	comp=N,160nm,5.4s						
BJI				LR	LR		
	comp=E,340nm,6.0s						
BJI				LR	LR		
	comp=Z,450nm,54.9s						
KMI	**Kunming**	**55.02**	**304**	P	**P**	**03 28 29.4**	**+2.7**
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
CMAR	**Chiang Mai Arr**	**55.92**	**295**	P	**P**	**03 28 32.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=108,slow=5.8,SNR=5.5						
CMAR				LR	LR	03 51 54.4	
	comp=Z,17nm,19.0s,baz=330,slow=36						
PETK	**Petropavlovsk-**	**56.94**	**5**	P	**P**	**03 28 39.0**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=163,slow=6.3,SNR=8.5						
HHC	**Hu-ho-hao-te**	**57.24**	**325**	*e*P	**P**	**03 28 42.9**	**+0.7**
HHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,9.0nm,5.4s						
LZH	**Lanzhou**	**59.33**	**316**	*e*P	**P**	**03 28 56.8**	**-0.1**
LZH				pP	pP	03 29 08.0	+1.2
LZH				sP	sP	03 29 12.8	+2.2
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,67nm,6.2s						
LZH				LR	LR		
	comp=N,150nm,15.7s						
LZH				LR	LR		
	comp=E,150nm,16.0s						
LZH				LR	LR		
	comp=Z,200nm,17.8s						
GTA	**Gaotai**	**63.77**	**318**	*e*P	**P**	**03 29 30.9**	**+4.1**
GTA				pP	sP	03 29 41.5	+1.0
GTA				sP	pwP	03 29 45.3	+5.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,140nm,7.1s						
GTA				LR	LR		
	comp=N,210nm,18.1s						
GTA				LR	LR		
	comp=E,150nm,17.8s						
GTA				LR	LR		
	comp=Z,240nm,20.6s						
SONM	**Songino Array**	**64.57**	**328**	P	**P**	**03 29 31.7**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=140,slow=4.9,SNR=4.8						
SONM	**Songino Array**	**64.57**	**328**	P	**P**	**03 29 30.4**	**-1.5**
YAK	**Yakutsk**	**67.64**	**349**	P	**P**	**03 29 50.7**	**-0.4**
WMQ	**Urumqi**	**73.85**	**318**	*e*P	**P**	**03 30 30.3**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,290nm,6.1s						
MKAR	**Makanchi Array**	**78.45**	**319**	P	**P**	**03 30 54.5**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=104,slow=8.9,SNR=6.2						
MKAR				LR	LR	04 04 06.3	
	comp=Z,50nm,20.2s,baz=324,slow=35						
ZALV	**Zalesovo Beam**	**79.37**	**327**	P	**P**	**03 30 58.1**	**-2.2**
	comp=Z,0.6nm,0.4s,baz=102,slow=4.7,SNR=7.9						
ZALV				LR	LR	04 08 26.0	
	comp=Z,91nm,18.1s,baz=351,slow=38						
MLY	**Manley**	**80.53**	**21**	P	**P**	**03 31 05.8**	**-0.6**
MLY				IAmb	IAmb	03 31 07.0	
	comp=Z,4.9nm,1.0s						
NEA	**Nenana**	**80.92**	**22**	P	**P**	**03 31 07.3**	**-1.2**
KSH	**Kashi**	**81.00**	**311**	*e*P	**P**	**03 31 10.4**	**+0.8**
IL31		**81.84**	**22**	P	**P**	**03 31 11.2**	**-2.1**
ILAR	**Eielson Array**	**81.84**	**22**	P	**P**	**03 31 11.3**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=245,slow=5.3,SNR=13						
KURK	**Kurchatov**	**81.93**	**322**	P	**P**	**03 31 13.1**	**-1.0**
KK31	**Karatay Array**	**85.71**	**314**	P	**P**	**03 31 32.7**	**-0.9**
KKAR	**Karatay Array**	**85.71**	**314**	P	**P**	**03 31 33.1**	**-0.5**
MAW	**Mawson**	**85.87**	**203**	LR	LR	04 08 07.7	
	comp=Z,43nm,19.0s,baz=238,slow=34						
QSPA	**South Pole Qui**	**86.19**	**180**	P	**P**	**03 31 37.2**	**+1.6**
NVAR	**Mina Array Bea**	**92.77**	**52**	P	**P**	**03 32 07.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=254,slow=8.4,SNR=1.9						
TOA0	**Torodi Ar. Sit**	**148.39**	**289**		**PKiKP**	**03 38 44.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**148.39**	**289**	PKPbc	**PKPbc**	**03 38 40.2**	**-1.7**
	comp=Z,4.0nm,0.8s,baz=78,slow=3.8,SNR=15						
TORD	**Torodi Ar. Bea**	**148.39**	**289**		**PKPbc**	**03 38 41.2**	**-0.7**

STR 17 04:05:18.3±0.6,49°N±2°×±°,h11km±4km,MLv1.3/7
LDG 17 04:05:18.4±0.0,49.16N×8.14E,h10km,Md1.8/2,Ml1.7/6,
Error ellipse: s-maj=1.0km s-min=0.8km az=109.0,
Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTD	**Kalmit**	**0.17**	**347**	Pg	Pg	04 05 22.1	0.0
LANF	**Langenberg**	**0.28**	**232**	Pg	Pg	04 05 24.0	-0.1
LANF				Sg	Sg	04 05 28.0	0.0
SUBF	**Surbourg**	**0.31**	**219**	Pg	Pg	04 05 24.7	+0.1
SUBF				Sg	Sg	04 05 29.5	+0.8
OPP	**Oppenau**	**0.66**	**177**	Pg	Pg	04 05 30.7	-0.5
ABH	**Alteburg**	**0.82**	**332**	Pg	Pg	04 05 34.3	0.0
ABH				Sg	Sg	04 05 45.5	+0.5
CDF	**Champ du Feu**	**0.94**	**218**	*e*Pg	Pg	04 05 36.0	-0.5
CDF				*e*Sg	Sg	04 05 48.3	-0.4
	1.7nm,0.2s						
ECH	**Echery**	**1.15**	**215**	Pn	Pb	04 05 38.9	-1.4
ECH				Pg	Pg	04 05 40.2	-0.2
HINF	**Hinteralfeld**	**1.59**	**213**	*e*Pg	Pb	04 05 48.1	+0.2
HINF				*e*Sn	Sn	04 06 05.3	-2.0
HINF				*e*Sg	Sb	04 06 08.8	+0.7
	1.6nm,0.2s						
HAU	**Haudompre**	**1.66**	**227**	*e*Pg	Pb	04 05 49.1	+0.1
HAU				*e*Sg	Sb	04 06 10.7	+0.8
	1.5nm,0.2s						
PAGF	**Fort de Pagny**	**1.71**	**250**	*e*Pg	Pb	04 05 50.3	+0.5
PAGF				*e*Sg	Sb	04 06 12.2	+0.9
	1.1nm,0.2s						
SFTF	**Sexfontaines**	**2.27**	**246**	*e*Pg	Pb	04 06 00.2	+0.8
SFTF				*e*Sg	Sg	04 06 29.5	-1.7
	0.5nm,0.2s						
BAIF	**Baives**	**2.71**	**291**	*e*Pg	Pb	04 06 07.9	+0.9
BAIF				*e*Sg	Sg	04 06 43.5	-2.0
	0.4nm,0.2s						

IDC 17 04:20:15.6±3.0,35°96N×70°36E,h86km±24km,mb3.7/17,
mb1 3.9/23,mb1mx3.7/47,mbtmp4.1/23,MS4.0/2,
Ms1 4.0/2,ms1mx2.9/51,Error ellipse: s-maj=21.5km
s-min=12.7km az=167.0
ISCJB 17 04:20:17.8±0.2,36°12N±0°02×70°45E±0°03,h110km,
mb4.0/26,Error ellipse: s-maj=4.2km s-min=2.9km
az=148.0
MOS 17 04:20:19.4±1.1,36°19N×70°39E,h122km,mb4.4/9,Error
ellipse: s-maj=9.0km s-min=5.1km az=89.3
NEIC 17 04:20:20.6±2.5,36°21N±0°05×70°27E±0°09,h126km±3km,
mb4.2/14
NNC 17 04:20:24.4±4.5,36°62N×70°17E,h106km±69km,mb4.2,
mpv4.4,Error ellipse: s-maj=34.5km s-min=28.3km az=1.0
ISC 17 04:20:18.9±0.4,36.18N±0°04×70.41E±0°04,h110km,n136,
σ1ϑ94/145,mb4.1/26,12C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.98**	**215**	PN	**Pn**	**04 20 53.2**	**+1.4**
KBL						04 21 18.5	
KBL	**Kabul**	**1.98**	**215**		**Pn**	**04 20 53.2**	**+1.4**
KBL				Sn	**Sn**	**04 21 18.5**	**+1.6**
CEP	**Cherat**	**2.65**	**152**	P	**Pn**	**04 21 03.0**	**+2.6**
CEP				S	**Sn**	**04 21 36.0**	**+3.7**
CHGR	**Chuyangaron**	**2.67**	**338**		**Pn**	**04 21 01.2**	**+0.6**
GAR	**Garm**	**2.82**	**359**		**Pn**	**04 21 04.0**	**+1.4**
GAR				Sn	**Sn**	**04 21 35.5**	**-0.7**
CHCP	**Chirah Chowk**	**3.44**	**136**	P	**Pn**	**04 21 13.2**	**+2.5**
NIL	**Nilore**	**3.44**	**136**	PN	**Pn**	**04 21 13.4**	**+2.7**
NIL	**Nilore**	**3.44**	**136**		**Pn**	**04 21 13.4**	**+2.7**
THW	**Thamme Wali**	**3.55**	**162**	P	**Pn**	**04 21 14.0**	**+1.8**
BTK	**Batken**	**3.89**	**5**	PN	**Pn**	**04 21 19.3**	**+2.5**
BTK	**Batken**	**3.89**	**5**		**Pn**	**04 21 19.2**	**+2.5**
SARP	**Sargodha**	**4.64**	**155**	P	**Pn**	**04 21 27.1**	**+0.3**
JMU	**Jammu**	**5.07**	**132**	*e*P	**Pn**	**04 21 32.5**	**-0.1**
JMU				*e*S	**Sn**	**04 22 28.0**	**-1.9**
TAS	**Tashkent**	**5.22**	**351**	PN	**Pn**	**04 21 35.6**	**+1.0**
TAS	**Tashkent**	**5.22**	**351**	Pn	**Pn**	**04 21 35.6**	**+1.0**
KSH	**Kashi**	**5.52**	**51**	P	**Pn**	**04 21 37.8**	**-1.0**
KSH				S	**Sn**	**04 22 33.9**	**-7.2**
KSH				smax	smax		
	comp=N,1μm,0.7s						
KSH				smax	smax		
	comp=E,570nm,1.0s						
DHRM	**DHARAMSHALA**	**6.26**	**127**	*e*P	**Pn**	**04 21 49.7**	**+0.8**
DHRM				*e*S	**Sn**	**04 22 58.4**	**-0.7**
DHRM				IAML		04 22 60.0	
	comp=N,858nm,0.9s						
DHRM				IAML		04 23 00.7	
	comp=Z,136nm,0.2s						
AML	**Almayashu**	**6.47**	**22**	P	**Pn**	**04 21 52.7**	**+0.8**
	SNR=122						
NRN	**Naryn**	**6.83**	**38**	PN	**Pn**	**04 21 56.8**	**+0.1**
NRN	**Naryn**	**6.83**	**38**		**Pn**	**04 21 56.8**	**+0.1**
UCH	**Uchtor**	**6.83**	**27**	P	**Pn**	**04 21 57.9**	**+1.1**
	SNR=38						
HRA	**Herat**	**6.91**	**257**	Pn	**Pn**	**04 21 56.9**	**-0.8**
KK31	**Karatay Array**	**6.92**	**1**	⇑P	**Pn**	**04 21 57.9**	**+0.3**
	comp=Z,16nm,0.5s,baz=195,slow=15,SNR=230						
KK31				⇑S	**Sn**	**04 23 12.7**	**-2.0**
	comp=Z,55nm,0.7s,baz=186,slow=22,SNR=11						
KK31	**Karatay Array**	**6.92**	**1**	*e*PN	**Pn**	**04 21 57.6**	**0.0**
KK31				pmax	pmax		
	comp=Z,16nm,0.5s						
KK31	**Karatay Array**	**6.92**	**1**		**Pn**	**04 21 57.7**	**+0.2**
KK31				Sn	**Sn**	**04 23 13.2**	**-1.6**
KKAR	**Karatay Array**	**6.92**	**1**	PN	**Pn**	**04 21 57.7**	**+0.1**
KKAR	**Karatay Array**	**6.92**	**1**		**Pn**	**04 21 57.7**	**+0.1**
KKAR	**Karatay Array**	**6.92**	**1**	Sn	**Sn**	**04 23 13.8**	**-1.0**
EKS2	**Erkin-Say**	**6.98**	**21**	P	**Pn**	**04 21 59.9**	**+1.3**
	SNR=23						
KZA	**Kyzart**	**6.99**	**31**	P	**Pn**	**04 22 00.1**	**+1.1**
	SNR=23						
AAK	**Ala-Archa**	**7.18**	**25**	⇑P	**Pn**	**04 22 02.3**	**+0.9**
	comp=Z,9.6nm,0.6s						
AAK				⇑S	**Sn**	**04 23 19.4**	**-2.1**
	comp=Z,73nm,0.9s						
AAK	**Ala-Archa**	**7.18**	**25**	P	**Pn**	**04 22 02.7**	**+1.4**
	comp=Z,5.1nm,0.3s,baz=194,slow=9.4,SNR=72						
AAK				S	**Sn**	**04 23 20.5**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=171,slow=24,SNR=6.4						
AAK	**Ala-Archa**	**7.18**	**25**	P	**Pn**	**04 22 02.7**	**+1.4**
	SNR=26						
AAK	**Ala-Archa**	**7.18**	**25**		**Pn**	**04 22 02.4**	**+1.1**
KBK	**Karagaybulak**	**7.36**	**27**	P	**Pn**	**04 22 05.5**	**+1.8**
	SNR=8.2						
SMLA	**Simla**	**7.55**	**130**	*e*P	**Pn**	**04 22 07.0**	**+0.7**
SMLA				*e*S	**Sn**	**04 23 26.6**	**-3.7**
SMLA				IAML		04 23 32.5	
	comp=N,110nm,0.2s						
SMLA				IAML		04 23 33.7	
	comp=E,97nm,0.2s						
CHMS	**Chumysh**	**7.59**	**25**	P	**Pn**	**04 22 07.7**	**+1.0**
	SNR=28						
BOOM	**Boomskoye usch**	**7.62**	**33**	PN	**Pn**	**04 22 10.1**	**+2.8**
BOOM	**Boomskoye usch**	**7.62**	**33**		**Pn**	**04 22 10.1**	**+2.8**
USP	**Ospenovka**	**7.75**	**23**	P	**Pn**	**04 22 09.9**	**+1.0**
	SNR=30						
TKM2	**Tokmak 2**	**7.83**	**29**	⇓P	**Pn**	**04 22 11.0**	**+0.8**
	comp=E,18nm,0.7s						
TKM2				⇑S	**Sn**	**04 23 35.7**	**-1.6**
	comp=E,20nm,0.9s						
TKM2	**Tokmak 2**	**7.83**	**29**	*i* PN	**Pn**	**04 22 10.8**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,18nm,0.6s						
TKM2	**Tokmak 2**	**7.83**	**29**	P	**Pn**	**04 22 11.3**	**+1.1**
	SNR=23						
TARG	**Taragay, Kyrgy**	**7.99**	**44**		**Pn**	**04 22 14.1**	**+1.5**
PRZ	**Przheval'sk**	**8.83**	**42**	PN	**Pn**	**04 22 26.5**	**+2.9**
PRZ	**Przheval'sk**	**8.83**	**42**		**Pn**	**04 22 26.5**	**+2.9**
NDI	**New Delhi**	**9.43**	**141**	*e*P	**Pn**	**04 22 30.5**	**-1.2**
NDI				*e*S	**Sn**	**04 24 08.0**	**-7.9**
JOSI	**Joshimath**	**9.48**	**124**	*e*P	**Pn**	**04 22 32.8**	**+0.2**
JOSI				*e*S	Sn	04 24 08.8	-8.6
JOSI				IAML		04 24 19.9	
	comp=N,154nm,0.7s						
KUDL	**Kundal**	**9.52**	**146**	*e*P	Pn	04 22 23.5	-9.4
KUDL				*e*S	Sn	04 24 01.6	-16
KUDL				IAML		04 24 07.5	
	comp=E,63nm,0.6s						
GEYT	**Alibeck**	**9.98**	**284**	P	**Pn**	**04 22 37.2**	**-2.0**
	comp=E,2.0nm,0.3s,baz=105,slow=11,SNR=13						
GEYT				S	**Sn**	**04 24 22.5**	**-6.7**
	comp=E,4.3nm,0.3s,baz=145,slow=16,SNR=9.3						
GEYT	**Alibeck**	**9.98**	**284**		**Pn**	**04 22 37.7**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**9.98**	**284**	Pn	**Pn**	**04 22 38.7**	**-0.5**
MAKZ	**Makanchi**	**13.69**	**36**	P	**Pn**	**04 23 29.4**	**+1.1**
MAKZ	**Makanchi**	**13.69**	**36**		**Pn**	**04 23 29.4**	**+1.1**
DANN	**Dangsing**	**13.72**	**121**	*e*P	**Pn**	**04 23 26.4**	**-2.7**
MK31	**Makanchi Array**	**13.83**	**36**	P	**P**	**04 23 34.2**	**-0.6**
	comp=E,7.8nm,0.8s,baz=227,slow=14,SNR=48						
MK31	**Makanchi Array**	**13.83**	**36**	P	**Pn**	**04 23 31.6**	**+1.5**
MK31	**Makanchi Array**	**13.83**	**36**		**Pn**	**04 23 31.6**	**+1.5**
MKAR	**Makanchi Array**	**13.83**	**36**	P	**Pn**	**04 23 30.5**	**+0.4**
	comp=E,0.5nm,0.3s,baz=228,slow=13,SNR=20						
KOLN	**Koldanda**	**13.97**	**123**	*e*P	**Pn**	**04 23 29.5**	**-2.8**
BHPL	**Bhopal**	**14.25**	**153**	*e*P	**Pn**	**04 23 33.7**	**-1.9**
BHPL				*e*S	Sn	04 25 58.4	-14
GKN	**Gorkha**	**14.54**	**120**	*e*P	**Pn**	**04 23 36.8**	**-2.7**
DMN	**Daman**	**15.11**	**120**	*e*P	**Pn**	**04 23 44.1**	**-2.7**
KKN	**Kakani**	**15.12**	**119**	*e*P	**Pn**	**04 23 44.3**	**-2.6**
	comp=E,69nm,0.5s						
AB31	**Akbulak array**	**15.14**	**333**	⇑P	**Pn**	**04 23 46.2**	**-0.6**
	comp=E,33nm,0.6s,baz=150,slow=12,SNR=432						
AB31				S	Sn	04 26 22.5	-12
	comp=E,5.1nm,0.5s,baz=159,slow=23,SNR=8.3						
AB31	**Akbulak array**	**15.14**	**333**	*i* P	**Pn**	**04 23 46.1**	**-0.6**
AB31				*e*S	Sn	04 26 22.4	-12
AB31				pmax	pmax		
	comp=Z,33nm,0.6s						
AB31				smax	smax		
	comp=N,5.0nm,0.5s						
ABKAR	**Akbulak array**	**15.14**	**333**		**Pn**	**04 23 46.0**	**-0.7**
WMQ	**Urumqi**	**15.27**	**55**	*e*P	**P**	**04 23 51.3**	**+0.5**
WMQ				pmax	pmax		
	comp=N,20nm,0.7s						
WMQ				pmax	pmax		
	comp=N,180nm,4.7s						
PKIN	**Phulchoki**	**15.34**	**120**	*e*P	**Pn**	**04 23 46.9**	**-2.7**
PKI	**Pulchoki**	**15.35**	**120**	*e*P	**Pn**	**04 23 47.6**	**-2.2**
	comp=N,34nm,0.6s						
GUN	**Gumba**	**15.48**	**118**	*e*P	**Pn**	**04 23 49.8**	**-1.7**
KURBB	**Kurchatov Arra**	**15.58**	**20**	P	**Pn**	**04 23 51.7**	**-0.5**
	comp=N,0.1nm,0.3s,baz=210,slow=10,SNR=18						
KURK	**Kurchatov**	**15.69**	**20**	⇑P	**P**	**04 23 55.9**	**+0.6**
	comp=N,16nm,0.9s						
KURK	**Kurchatov**	**15.69**	**20**	*i* P	**P**	**04 23 55.9**	**+0.6**
KURK				pmax	pmax		
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**15.69**	**20**		**P**	**04 23 56.3**	**+1.0**
KURK				IAmb	IAmb	04 23 58.1	
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**15.85**	**118**	*e*P	**Pn**	**04 23 53.9**	**-2.2**
UOSS	**Minazif**	**16.56**	**231**		**P**	**04 24 06.2**	**+1.0**
RAMN	**Ramite**	**16.57**	**119**	*e*P	**Pn**	**04 24 02.4**	**-2.4**
AKTO	**Aktyubinsk**	**16.83**	**332**	⇑P	**P**	**04 24 08.2**	**+0.3**
	comp=Z,25nm,0.8s						
AKTO	**Aktyubinsk**	**16.83**	**332**	P	**P**	**04 24 08.4**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=149,slow=13,SNR=60						
AKTO				S	Sn	04 27 03.0	-12
	comp=Z,0.2nm,0.3s,baz=331,slow=19,SNR=4.5						
BVAR	**Borovoye Array**	**16.85**	**360**	P	**P**	**04 24 08.6**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=177,slow=13,SNR=17						
BRVK	**Borovoye**	**16.88**	**360**	⇓*i* P	**P**	**04 24 10.5**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,19nm,1.2s						
BRVK	**Borovoye**	**16.88**	**360**	P	**P**	**04 24 09.3**	**+0.9**
BRVK				IAmb	IAmb	04 24 12.7	
	comp=Z,15nm,1.1s						
TAPN	**Taplejung**	**17.12**	**116**	*e*P	**P**	**04 24 11.5**	**-0.2**
ODAN	**Odare**	**17.18**	**118**	*e*P	**P**	**04 24 11.3**	**-1.0**
ZAA0	**Zalesovo Array**	**20.41**	**25**	P	**P**	**04 24 48.1**	**+1.3**
ZALV	**Zalesovo Beam**	**20.41**	**25**	P	**P**	**04 24 48.1**	**+1.2**
	comp=Z,43nm,0.7s,baz=219,slow=11,SNR=104						
ZALV	**Zalesovo Beam**	**20.41**	**25**	P	**P**	**04 24 48.0**	**+1.1**
GNI	**Garni**	**20.54**	**289**	P	Pn	04 24 50.5	-1.4
GNI				pmax	pmax		
	comp=Z,27nm,0.8s						
GNI	**Garni**	**20.54**	**289**	P	Pn	04 24 50.9	-1.0
	comp=Z,27nm,0.8s,baz=29,slow=2.4,SNR=13						
GNI	**Garni**	**20.54**	**289**	P	Pn	04 24 50.5	-1.4
SHL	**Shillong**	**21.21**	**114**	P	**P**	**04 24 58.1**	**+2.2**
SHL	**Shillong**	**21.21**	**114**	P	**P**	**04 24 58.1**	**+2.2**
AKH	**Akhalkalaki**	**21.58**	**292**	P	**P**	**04 25 01.3**	**+1.5**
AKH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKH	**Akhalkalaki**	**21.58**	**292**	P	**P**	**04 25 01.3**	**+1.5**
AKH				IAmb	IAmb	04 25 04.5	
	comp=Z,9.2nm,0.9s						

KEST	Kesra	48.69	289	P	P	04 28 52.5	+0.4
	comp=Z,2.6nm,0.7s,baz=41,slow=16,SNR=4.7						
KEST	Kesra	48.69	289	IAmb	IAmb	04 28 54.1	
	comp=Z,5.0nm,1.1s						
SEY	Seymchan	54.95	34	LR	LR	04 57 41.0	
	comp=Z,284nm,21.1s,baz=151,slow=41						
BILL	Bilibino	59.10	26	*e*P	P	04 30 09.2	+2.0
BILL				*e**PP	pP	04 30 33.8	-1.2
BILL				*e*		04 30 55.6	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SUMG	Summit	61.21	341	P	P	04 30 23.4	+1.4
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SUMG	Summit	61.21	341	P	P	04 30 23.4	+1.4
TORD	Torodi Ar. Bea	65.23	268	P	P	04 30 47.1	-1.8
	comp=Z,2.5nm,0.7s,baz=43,slow=5.8,SNR=17						
DBIC	Dimbokro	74.20	267	P	P	04 31 42.4	-1.6
	comp=Z,3.5nm,0.8s,baz=45,slow=8.6,SNR=4.0						
DBIC	Dimbokro	74.20	267	IAmb	IAmb	04 31 59.6	
	comp=Z,7.6nm,1.1s						
INK	Inuvik	74.30	9	P	P	04 31 44.3	+0.7
	comp=Z,3.9nm,1.2s,baz=342,slow=3.0,SNR=7.9						
ILAR	Eielson Array	75.22	16	P	P	04 31 49.0	0.0
	comp=Z,0.5nm,0.8s,baz=279,slow=4.4,SNR=6.6						
YKA	Yellowknife Ar	81.59	2	P	P	04 32 25.6	+1.6
	comp=Z,0.6nm,0.5s,baz=350,slow=5.5,SNR=3.6						
WRA	Warramunga Arr	82.23	121	P	P	04 32 27.1	-0.9
	comp=Z,0.4nm,0.9s,baz=320,slow=4.7,SNR=2.8						
ASAR	Alice Springs	84.46	124	P	P	04 32 38.1	-1.4
	comp=Z,0.4nm,0.7s,baz=313,slow=4.8,SNR=4.3						

PRU 17 04:27:42.7±0.0, 49°.97N×18°.62E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.33	247	*e*P	Pg	04 27 48.7	-0.4
OKC	Ostrava-Krasne	0.33	247	*e*PG	Pg	04 27 48.7	-0.4
OKC				*e*SG	Sg	04 27 53.7	+0.3
MORC	Moravsky Berou	0.72	255	*e*PG	Pg	04 27 57.3	+0.8
MORC				*e*SG	Sg	04 28 06.2	+0.3
KRLC	Kraliky	1.19	276	*e*PG	Pg	04 28 04.5	-1.0
KRLC				*e*SG	Sg	04 28 20.7	-0.2
DPC	Dobruska-Polom	1.53	285	*e*SG	Sg	04 28 30.6	-1.1
CHVC	Chvalec	1.76	292	*e*SG	Sb	04 28 38.3	-0.2

SOME 17 04:35:21.8, 40°.03N×75°.02E, h0km
KRNET 17 04:35:23.9±0.1, 39°.78N×75°.53E, mb3.5
NNC 17 04:35:27.0±3.5, 39°.98N×75°.54E, h0km, mb3.7, mpv3.4,
Error ellipse: s-maj=25.1km s-min=21.1km az=146.0

ISC 17 04:35:28.8±3.2, 40°.04N±0°.10×75°.53E±0°.04, h2km±19km, n51, σ1°.38/78, 22C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.44	14	⇑*i*P	Pn	04 35 55.4	-0.8
NRN	baz=11			⇑*i*S	Sg	04 36 18.4	+3.4
ARLS	Aral	2.04	334	⇓*i*P	Pn	04 36 04.9	+0.6
ARLS	baz=37			⇓*i*S	Sg	04 36 34.7	+0.4
KZA	Kyzart	2.05	354	⇓*i*P	Pn	04 36 05.4	+0.7
KZA	baz=55			⇓*i*S	Sg	04 36 36.0	+1.4
KZA	Kyzart	2.05	354	P	Pb	04 36 07.3	+0.3
ULHL	Ulahol	2.27	13	⇓*i*P	Pn	04 36 08.5	+0.9
ULHL	baz=12			⇓*i*S	Sg	04 36 40.9	-0.8
ULHL	Ulahol	2.27	13	P	Pb	04 36 10.4	-0.2
UCH	Uchtor	2.32	341	⇑*i*P	Pn	04 36 09.1	+0.7
UCH	baz=43			⇑*i*S	Sg	04 36 42.3	-1.0
UCH	Uchtor	2.32	341	P	Pb	04 36 10.2	-1.5
ARSB	Arslanbob	2.33	304	⇑*i*P	Pn	04 36 07.9	-0.4
ARSB	baz=9.0			⇑*i*S	Sb	04 36 39.8	-1.0
TARG	Taragay, Kyrgy	2.41	45	⇑*i*P	Pn	04 36 09.4	-0.3
TARG	baz=41			⇑*i*S	Sb	04 36 43.0	-0.6
KDJ	Kajisay	2.43	30	⇓*i*P	Pn	04 36 10.5	+0.7
KDJ	baz=28			⇓*i*S	Sb	04 36 44.3	+0.4
BOOM	Boomskoye usch	2.47	7	⇑*i*P	Pn	04 36 11.1	+0.8
BOOM	baz=6.0			⇑*i*S	Sb	04 36 45.6	+0.7
AML	Almayashu	2.51	327	⇑*e*P	Pn	04 36 11.6	+0.6
AML	baz=30			⇑*i*S	Sb	04 36 46.3	0.0
AML	Almayashu	2.51	327	P	Pn	04 36 12.3	+1.3
KBK	Karagaybulak	2.65	351	⇑*i*P	Pn	04 36 14.0	+1.2
KBK	baz=51			⇑*i*S	Sb	04 36 50.2	0.0
KBK	Karagaybulak	2.65	351	P	Pb	04 36 18.2	+1.1
AAK	Ala-Archa	2.71	344	Pn	Pn	04 36 15.1	+1.6
AAK	12nm,0.7s			⇑Lg	Lg	04 36 54.4	
AAK	Ala-Archa	2.71	344	⇓*i*P	Pn	04 36 14.6	+1.0
AAK	baz=45			⇓*i*S	Sb	04 36 51.2	-0.7
AAK	Ala-Archa	2.71	344	P	Pb	04 36 15.9	-2.3
FRU1	Bishkek	2.85	347	⇑*i*P	Pn	04 36 16.1	+0.7
FRU1	baz=48			⇑*i*S	Sb	04 36 54.3	-1.5
TKM2	Tokmak 2	2.88	1	⇓Pn	Pn	04 36 17.8	+1.8
TKM2	3.0nm,0.3s			⇑Lg	Lg	04 36 57.6	
TKM2	Tokmak 2	2.88	1	⇑*i*P	Pn	04 36 16.9	+0.9
TKM2	baz=1.0			⇑*i*S	Sb	04 36 55.7	-1.1
TKM2	Tokmak 2	2.88	1	P	Pb	04 36 18.1	-2.9
EKS2	Erkin-Say	2.93	334	⇓*i*P	Pn	04 36 17.4	+0.8
EKS2	baz=36			⇓*i*S	Sb	04 36 56.5	-1.8
EKS2	Erkin-Say	2.93	334	P	Pb	04 36 23.1	+1.1
CHMS	Chumysh	3.01	349	P	Pn	04 36 19.9	+2.3
KST	Kastek	3.02	6	Pg	Pb	04 36 20.2	-3.2
KST	8.9nm,0.4s			Lg	Lg	04 37 01.5	
KST	Kastek	3.02	6	*e*P	Pb	04 36 20.3	-3.1
KST	9.1nm,0.4s			*e*S	Sb	04 37 02.8	+2.0
IZV	Izvestkoviy	3.10	15	Pg	Pb	04 36 25.3	+0.4
IZV	15nm,0.7s			Lg	Lg	04 37 10.4	
IZV	Izvestkoviy	3.10	15	*e*P	Pb	04 36 23.8	-1.0
IZV	10nm,0.4s			*e*S	Sg	04 37 08.8	+0.3
MTBS	Maitube	3.16	12	*e*P	Pn	04 36 21.8	+2.0
MTBS	2.9nm,0.2s			*e*S	Sb	04 37 04.6	-0.2
ANVS	Anan'yevo	3.18	30	⇑*i*P	Pn	04 36 20.0	0.0
ANVS	baz=27			⇑*i*S	Sb	04 37 02.1	-3.3
TNSS	Tian-Shan	3.18	19	Pg	Pb	04 36 26.7	+0.4
TNSS	12nm,0.6s			Lg	Lg	04 37 12.5	
TNSS	Tian-Shan	3.18	19	*e*P	Pb	04 36 24.9	-1.4
TNSS	22nm,0.8s			*e*S	Sg	04 37 10.3	-0.7
DGS	Degeres	3.21	3	Pg	Pn	04 36 22.5	+2.1
DGS	6.1nm,0.3s			Lg	Lg	04 37 05.6	
DGS	Degeres	3.21	3	*e*P	Pn	04 36 22.6	+2.3
DGS	7.8nm,0.5s			*e*S	Sb	04 37 06.7	+0.6
MDOK	Medeo	3.32	20	*e*P	Pb	04 36 27.8	-0.8
MDOK	3.9nm,0.2s			*e*S	Sg	04 37 15.4	-0.2
KOTS	Kotyrbulak	3.41	20	Pg	Pb	04 36 30.4	+0.4
KOTS	12nm,0.6s			Lg	Lg	04 37 19.0	
KOTS	Kotyrbulak	3.41	20	*e*P	Pb	04 36 29.8	-0.2
KOTS	8.2nm,0.3s			*e*S	Sg	04 37 19.0	+0.8
SATY	Saty	3.71	35	Pg	Pb	04 36 36.6	+1.4
SATY	7.6nm,0.4s			Lg	Lg	04 37 29.1	
SATY	Saty	3.71	35	*e*P	Pb	04 36 35.3	+0.2
SATY	12nm,0.5s			*e*S	Sg	04 37 28.1	+0.1
KTBS	Karatobe	3.77	13	Pg	Pb	04 36 37.3	+1.2
KTBS	7.2nm,0.8s			Lg	Lg	04 37 30.6	
KTBS	Karatobe	3.77	13	*e*P	Pb	04 36 35.4	-0.7
KTBS	7.2nm,0.8s			*e*S	Sg	04 37 28.5	-1.4
CHKK	Chushkaly	3.96	15	*e*P	Pb	04 36 39.8	+0.4
CHKK	0.7nm,0.0s			*e*S	Sg	04 37 35.7	-0.4
KURS	Kuram	3.97	29	Pg	Pb	04 36 40.7	+1.1
KURS	5.7nm,0.5s			Lg	Lg	04 37 36.3	
KURS	Kuram	3.97	29	*e*P	Pb	04 36 40.5	+0.9
KURS	5.4nm,0.4s			*e*S	Sg	04 37 37.1	+0.8
KPKS	Kokpek	4.16	34	*e*P	Pb	04 36 42.5	-0.2
KPKS	10.0nm,0.4s			*e*S	Sg	04 37 40.3	-2.0
PDGK	Podgornoye	4.43	41	⇓Pg	Pn	04 36 41.4	+4.3
PDGK	1.8nm,0.5s			⇓Lg	Lg	04 37 49.1	
IUG	Iuzhnay	4.66	299	Pg	Pn	04 36 33.4	-6.9
IUG	0.8nm,0.3s			Lg	Lg	04 37 23.9	
KK31	Karatay Array	4.85	311	⇓Pg	Pb	04 36 55.0	+0.4
KK31	0.9nm,0.5s,baz=128,slow=16,SNR=7.8			⇓Lg	Lg	04 38 03.3	
	5.1nm,0.7s,baz=126,slow=28						

JMA 17 04:44:05.6±0.2, 37°.22N×144°.46E, h48km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.61	296	P	Pn	04 44 46.8	+1.5
JIKH				S	Sn	04 45 17.5	+1.8
JIO	Ouri	2.75	298	P	Pn	04 44 48.8	+1.6
JIO				S	Sn	04 45 20.9	+1.6
JKMT	Kesennumamotoy	2.84	305	P	Pn	04 44 49.8	+1.3
JKMT				S	Sn	04 45 22.6	+1.1
JFK	Kawauchi	2.86	274	S	Sn	04 45 22.9	+0.9
OFUJ	Ofunato	2.88	311	P	Pn	04 44 50.2	+1.2
OFUJ				*e*S	Sn	04 45 23.6	+1.2
JMST	Minamisoumatoc	2.89	281	P	Pn	04 44 50.1	+1.0
JMST				S	Sn	04 45 23.7	+1.2
JMK	Ichinoseki	3.09	305	P	Pn	04 44 53.5	+1.7
JMK				*e*S	Sn	04 45 30.3	+2.9
JFT	Otama	3.30	276	P	Pn	04 44 57.3	+2.6
JFT				*e*S	Sn	04 45 34.8	+2.1
JRY	Ryogami san	4.63	257	S	Sn	04 46 05.1	-0.4
JOT	Ohata	4.93	329	P	Pn	04 45 18.9	+1.9
JOT				*e*S	Sn	04 46 12.8	+0.1
JKB	Kayabe	5.36	331	P	Pn	04 45 25.3	+2.3
JKB				S	Sn	04 46 24.5	+1.1
JCH	Churui	5.45	351	P	Pn	04 45 23.3	-1.0
JCH				*e*S	Sn	04 46 23.3	-2.4
JOSM	Okushiri--Mats	6.19	323	P	Pn	04 45 36.8	+2.4
JTKR	Abashiri--Toko	6.76	357	P	Pn	04 45 41.0	-1.1
JTKR				*e*S	Sn	04 46 53.5	-4.2

ISCJB 17 04:51:11.5±0.6, 35°.53N±0°.04×140°.15E±0°.05, h72km±5km, mb3.5/3, Error ellipse: s-maj=8.2km s-min=4.8km az=148.1
JMA 17 04:51:12.2±0.1, 35°.58N×140°.12E, h64km±1km, M3.3
IDC 17 04:51:17.3±1.8, 35°.24N×139°.48E, h85km±10km, mb3.1/3, mb1 3.3/4, mb1mx3.0/40, mbtmp3.5/4, Error ellipse: s-maj=47.6km s-min=6.7km az=68.0

ISC 17 04:51:12.5±1.0, 35°.53N±0°.05×140°.14E±0°.05, h64km±9km, n24, σ0°.87/30, mb3.6/3, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKUC	kamogawauchiur	0.38	172	⇓P	Pn	04 51 23.9	+0.3
JKUC				*e*S	Sn	04 51 32.5	+0.8
BSO3	Boso 3	0.79	157	⇓P	Pn	04 51 28.1	+0.3
BSO3				*e*X		04 51 40.1	
JOD2	Odawara 2	0.90	253	⇓P	Pn	04 51 29.3	-0.1
JOD2				*e*S	Sn	04 51 41.6	-0.3
JIM2	Oshima 3	1.00	216	P	Pn	04 51 30.3	-0.4
JIM2				*e*S	Sn	04 51 43.8	-0.4
JAG	Ashikaga	1.05	328	⇓P	Pn	04 51 30.7	-0.6
JAG				*e*S	Sn	04 51 44.3	-1.0
JRY	Ryogami san	1.11	296	⇓P	Pn	04 51 32.5	+0.3
BSO1	Boso 1	1.12	142	P	Pn	04 51 31.4	-0.2
BSO1				*e*S	Sn	04 51 47.1	+1.1
JFNN	Fujinakano	1.23	254	⇓P	Pn	04 51 33.8	+0.1
JFNN				*e*S	Sn	04 51 49.8	+0.2
JYN	Shimob	1.30	269	⇓P	Pn	04 51 34.7	+0.1
JYN				*e*S	Sn	04 51 51.1	-0.1
JIZS	Izushimoda	1.31	232	⇓P	Pn	04 51 34.8	+0.1
JIZS				*e*S	Sn	04 51 51.1	-0.3
JKT	Katashina	1.43	330	P	Pn	04 51 35.6	-0.7
JKT				*e*S	Sn	04 51 53.3	-1.0
MJAR	Matsushiro Arr	1.86	303	P	Pn	04 51 42.6	+0.5
MJAR	4.2nm,0.3s,baz=141,slow=15,SNR=206			S	Sn	04 52 05.7	+1.1
	2.6nm,0.3s,baz=144,slow=15,SNR=5.2						
MAT	Matsushiro	1.86	303	P	Pn	04 51 42.5	+0.4
MAT				S	Sn	04 52 06.2	+1.6
JHJ	Hachijo jima 2	2.43	187	P	Pn	04 51 50.4	+0.7
JHJ	28nm,0.3s,baz=146,slow=23,SNR=13			S	Sn	04 52 17.7	-0.7
	baz=233,slow=20						
JCJ	Chichijima	8.59	168	P	Pn	04 53 11.7	-2.4
JCJ	6.6nm,0.3s,baz=322,slow=17,SNR=4.5			S	Sn	04 54 40.5	-9.0
	3.2nm,0.3s,baz=284,slow=19,SNR=2.3						
H11N2	WAKE ISLAND Hy	28.33	117	T	T	05 27 04.7	
	baz=308,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	28.34	117	T	T	05 27 06.2	
	baz=308,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	28.35	117	T	T	05 26 57.2	
	baz=308,slow=75,SNR=9.0						
H11S3	WAKE ISLAND Hy	28.98	119	T	T	05 27 12.3	
	baz=312						
H11S1	WAKE ISLAND Hy	28.98	119	T	T	05 27 13.0	
	baz=312						
H11S2	WAKE ISLAND Hy	28.99	119	T	T	05 27 21.7	
	baz=312						
MKAR	Makanchi Array	44.06	303	P	P	04 59 13.5	-0.4
	0.2nm,0.6s,baz=78,slow=9.0,SNR=1.7						
WRA	Warramunga Arr	55.44	187	P	P	05 00 39.7	-0.8
	0.3nm,0.3s,baz=0.3,slow=7.5,SNR=11						
ASAR	Alice Springs	59.17	187	P	P	05 01 08.3	+1.6
	0.2nm,0.4s,baz=12,slow=8.1,SNR=6.8						

ISCJB 17 05:06:15.9±0.3, 58°.48S±0°.06×26°.4W±0°.1, h172km, mb4.2/12, Error ellipse: s-maj=9.5km s-min=6.6km az=41.5
IDC 17 05:06:16.9±4.2, 58°.54S×26°.35W, h168km±40km, mb3.9/12, mb1 3.9/14, mb1mx3.8/22, mbtmp4.4/14, Error ellipse: s-maj=15.7km s-min=11.7km az=22.0
NEIC 17 05:06:18.0±1.8, 58°.57S±0°.09×26°.4W±0°.2, h179km±6km, mb4.2/24

ISC 17 05:06:17.1±0.4, 58°.62S±0°.07×26°.42W±0°.07, h172km, n58, σ2°.08/57, mb4.2/18, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.07	304	Pn	Pn	05 08 00.1	+2.1
HOPE				Sn	Sn	05 09 10.4	-7.2
VNA1	Neumayer--Stat	14.26	155	P	P	05 09 33.6	+0.4
VNA3	Neumayer Olymp	14.43	158	P	P	05 09 35.0	-0.1
VNA2	Neumayer--Watz	14.66	155	P	P	05 09 37.9	+0.3
	baz=317,slow=13						
SNAA	Sanae	16.23	153	P	P	05 09 54.5	-0.5
SNAA	Sanae	16.23	153	P	P	05 09 54.8	-0.3
	1.2nm,0.3s,baz=300,slow=11,SNR=67						
SNAA				S	S	05 12 47.5	-7.1
	0.1nm,0.3s,baz=342,slow=18,SNR=3.2						
SNAA	Sanae	16.23	153	P	P	05 09 54.9	-0.2
SNAA				IAmb	IAmb	05 09 55.4	
	comp=Z,9.7nm,0.6s						
SNAA				S	S	05 12 47.8	-6.8
PMSA	Palmer Station	18.64	235	P	Pn	05 10 23.3	-0.4
	comp=Z,1.4nm,0.3s,baz=77,slow=7.3,SNR=18						
PMSA	Palmer Station	18.64	235	P	Pn	05 10 23.5	-0.2
PMSA				IAmb	IAmb	05 10 24.0	
	comp=Z,8.3nm,0.7s						
EFI	East Falkland	19.23	277	P	P	05 10 29.0	+1.1
USHA	Ushuaia	23.08	261	P	P	05 11 07.4	+0.3
	comp=Z,6.5nm,0.5s,baz=111,slow=10,SNR=13						
TRQA	Tornquist	30.78	296	P	P	05 12 16.9	+0.7
QSPA	South Pole Qui	31.62	180	P	P	05 12 24.6	+1.2
	comp=Z,6.6nm,0.5s,baz=211,slow=1.0,SNR=96						
QSPA	South Pole Qui	31.62	180	P	P	05 12 24.7	+1.3
QSPA				IAmb	IAmb	05 12 25.3	
	comp=Z,7.4nm,0.6s						
PLCA	Paso Flores	32.93	283	P	P	05 12 35.1	0.0
	comp=Z,4.5nm,0.7s,baz=170,slow=7.1,SNR=18						
PLCA	Paso Flores	32.93	283	P	P	05 12 35.5	+0.4
PLCA				IAmb	IAmb	05 12 35.7	
	comp=Z,5.6nm,0.7s						
GO06	Curarrehue	34.26	284	P	P	05 12 45.8	-0.7
GO06				IAmb	IAmb	05 12 48.3	
	comp=Z,5.4nm,0.9s						
MAW	Mawson	37.85	141	P	P	05 13 16.9	+0.4
	comp=Z,3.9nm,0.5s,baz=204,slow=8.6,SNR=9.7						
MAW	Mawson	37.85	141	P	P	05 13 16.9	+0.4
GO05	Huala	38.03	288	P	P	05 13 18.6	+0.1
CPUP	Villa Florida	38.85	313	P	P	05 13 24.0	-1.3
PEL	Peldehue	38.91	291	P	P	05 13 26.8	+0.9
CFA	Coronel Fontan	39.00	295	P	P	05 13 26.0	-0.6
	comp=Z,4.9nm,0.7s,baz=158,slow=7.7,SNR=11						
ROC1	El Roble	39.21	291	P	P	05 13 31.8	+3.2
SUR	Sutherland	40.99	71	P	P	05 13 42.6	-0.5
	comp=Z,4.5nm,0.8s,baz=203,slow=7.7,SNR=3.9						
SUR	Sutherland	40.99	71	P	P	05 13 43.1	-0.1
GO03	Copiap	43.30	296	P	P	05 14 01.1	-0.6
GO03				IAmb	IAmb	05 14 01.6	
	comp=Z,7.0nm,0.7s						
SBA	Scott Base	43.54	184	P	P	05 14 05.6	+2.7
BDFB	Brasilia	45.81	330	P	P	05 14 21.9	+0.2
	comp=Z,1.2nm,0.4s,baz=134,slow=7.9,SNR=6.0						
BDFB	Brasilia	45.81	330	P	P	05 14 22.2	+0.5
BDFB				IAmb	IAmb	05 14 35.0	
	comp=Z,9.3nm,1.4s						
BOSA	Boshof	46.27	73	P	P	05 14 24.4	-0.8
	comp=Z,3.6nm,0.5s,baz=215,slow=6.8,SNR=13						
BOSA	Boshof	46.27	73	P	P	05 14 24.4	-0.8
BOSA				IAmb	IAmb	05 14 25.1	
	comp=Z,18nm,1.2s						
LBTB	Lobatse	49.42	70	P	P	05 14 48.9	-0.5
LBTB				IAmb	IAmb	05 14 49.7	
	comp=Z,3.0nm,0.7s						
TSUM	Tsumeb	50.63	58	P	P	05 14 58.7	+0.1
H10N1	ASCENSION HYDR	51.48	15	T	T	06 11 13.1	
	baz=195						
H10N3	ASCENSION HYDR	51.48	15	T	T	06 11 15.2	
	baz=195						
H10N2	ASCENSION HYDR	51.50	15	T	T	06 11 12.7	
	baz=195						
LPAZ	La Paz	52.22	306	P	P	05 15 10.8	-0.2
	comp=Z,1.0nm,0.8s,baz=162,slow=6.4,SNR=5.3						
LPAZ	La Paz	52.22	306	P	P	05 15 11.1	+0.1
LPAZ				IAmb	IAmb	05 15 15.0	
	comp=Z,6.9nm,1.4s						
SAML	Samuel	56.92	315	P	P	05 15 43.3	-0.8
DBIC	Dimbokro	67.35	23	P	P	05 16 53.1	-0.4
	comp=Z,3.9nm,0.9s,baz=205,slow=14,SNR=2.8						
DBIC	Dimbokro	67.35	23	P	P	05 16 52.4	-1.0
OTAV	Otavalo	71.44	304	P	P	05 17 17.6	-1.5
OTAV				IAmb	IAmb	05 17 20.9	
	comp=Z,3.7nm,1.3s						
MBAR	Mbarara	72.98	61	P	P	05 17 28.8	+0.9
MBAR				IAmb	IAmb	05 17 31.3	
	comp=Z,5.1nm,1.1s						
TOA0	Torodi Ar. Sit	75.11	28	P	P	05 17 40.2	+0.3
TOA0				IAmb	IAmb	05 17 53.8	
	comp=Z,7.3nm,1.4s						
TORD	Torodi Ar. Bea	75.11	28	P	P	05 17 40.1	+0.2
	comp=Z,1.2nm,0.4s,baz=196,slow=6.6,SNR=25						
QRZ	Quartz Range	79.66	195	P	P	05 18 04.6	-0.5
ASAR	Alice Springs	96.41	162	P	P	05 19 26.2	-0.2
	comp=Z,0.6nm,0.6s,baz=182,slow=4.3,SNR=14						
ASAR	Alice Springs	96.41	162	P	P	05 19 26.3	-0.1
ARCES	ARCESS Array B	133.18	22	PKP	PKPdf	05 25 10.4	0.0
	comp=Z,0.8nm,0.6s,baz=205,slow=4.0,SNR=2.7						
YKA	Yellowknife Ar	138.34	316	PKP	PKPdf	05 25 19.9	-0.3
	comp=Z,1.1nm,0.7s,baz=140,slow=44,SNR=3.8						
YKA	Yellowknife Ar	138.34	316	PKPdf	PKPdf	05 25 20.7	+0.5
ZALV	Zalesovo Beam	143.07	66	PKhKP	PKPab	05 25 25.2	+0.3
	comp=Z,0.9nm,0.3s,baz=193,slow=4.2,SNR=3.5						
SONM	Songino Array	150.38	90	PKPbc	PKPbc	05 25 47.1	0.0
	comp=Z,1.1nm,0.5s,baz=238,slow=2.6,SNR=8.4						
SONM	Songino Array	150.38	90	PKPbc	PKPbc	05 25 47.2	+0.1
ILAR	Eielson Array	152.09	308	PKPbc	PKPbc	05 25 50.2	-0.1
	comp=Z,0.8nm,0.5s,baz=325,slow=1.6,SNR=19						
ILAR	Eielson Array	152.09	308		PKiKP	05 25 50.5	-0.1
PETK	Petropavlovsk-	174.01	204	PKPab	PKPab	05 27 43.5	+6.7
	comp=Z,8.6nm,1.0s,baz=250,slow=3.0,SNR=3.9						

KRSC 17 05:32:27.7±1.0, 56°.02N×164°.19E, h7km±18km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.79	284	*e*P	Pg	05 32 43.1	+0.2
KBTR				*e*S	Sb	05 32 54.2	-0.5
KBG	Krutoberegovo	0.86	286	*e*P	Pg	05 32 44.5	+0.2
KBG				*e*S	Sb	05 32 56.4	-0.4
BKI	Bering	1.30	128	*e*P	Pg	05 32 52.6	-0.1
BKI				*e*S	Sn	05 33 09.9	0.0
BDR	Baidarnaya	1.75	289	*e*P	Pn	05 32 58.9	+0.3
BDR				*e*S	Sn	05 33 21.0	-0.2
SRKR	Sorokina	1.80	292	*e*P	Pn	05 32 59.4	+0.2
ZLN	Zelenaya	1.90	271	*e*P	Pn	05 33 01.4	+0.7
ZLN				*e*S	Sn	05 33 25.4	+0.5
BZGR	Bezymyannyi-Gr	1.97	269	*e*P	Pb	05 33 03.3	-0.6
KLY	Klyuchi	2.00	280	*e*P	Pn	05 33 01.3	-0.6
KLY				*e*S	Sn	05 33 25.6	-1.6
MKZ	Mys Kozlova	2.04	225	*e*P	Pn	05 33 03.6	+1.2
MKZ				*e*S	Sn	05 33 29.2	+1.2
KRSR	Krestovskiy	2.04	277	*e*P	Pb	05 33 04.5	-0.7

BZWR	**Bezymyannyi-We**	**2.08 270**	*e*P	Pb	05 33 05.6	-0.2
BZMR	**Bezymyannaya**	**2.08 269**	*e*P	Pn	05 33 04.3	+1.1
KIRR	**Kirishev**	**2.17 270**	*e*P	Pb	05 33 06.8	-0.5
KIRR			*e*S	Sb	05 33 34.7	+0.3
KPT	**Kopyto**	**2.23 270**	*e*P	Pb	05 33 07.7	-0.7
KMNR	**Kamenistaya**	**2.25 265**	*e*P	Pb	05 33 07.9	-0.7
KMNR			*e*S	Sb	05 33 36.5	-0.1
TUMD	**Tumrok D**	**2.30 251**	*e*P	Pb	05 33 08.1	-1.5
TUMD			*e*S	Sb	05 33 37.0	-1.3
KZV	**Kizimen**	**2.40 249**	*e*P	Pb	05 33 09.5	-1.7
KZV			*e*S	Sb	05 33 39.2	-1.8
TUMR	**Tumrok**	**2.41 254**	*e*P	Pb	05 33 10.2	-1.3
TUMR			*e*S	Sb	05 33 40.5	-0.9
KOZ	**Kozyrevsk**	**2.42 273**	*e*P	Pb	05 33 10.2	-1.4
KOZ			*e*S	Sb	05 33 40.5	-1.2
SRDR	**Sredinnyy**	**2.52 279**	*e*P	Pn	05 33 10.8	+1.7
SDLR	**Sedlovina**	**4.13 230**	*e*P	Pn	05 33 34.2	+2.9
KRER	**Koryakskii**	**4.17 231**	*e*P	Pn	05 33 36.4	+4.4
SMAR	**Somma**	**4.18 231**	*e*P	Pn	05 33 35.0	+2.9
AVH	**Avacha**	**4.21 231**	*e*P	Pn	05 33 36.6	+4.3
GNL	**Ganaly**	**4.30 240**	*e*P	Pn	05 33 37.1	+3.5
ASAK	**Asacha**	**5.19 228**	*e*P	Pn	05 33 49.7	+3.9

IDC 17 06:06:28.1±4.7, 7°.87S×103°.54E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/30, mbtmp3.7/5, Error ellipse: s-maj=183.7km s-min=29.9km az=51.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.55**	**350**	P	P	06 12 06.3	-1.5
	0.6nm,0.3s,baz=168,slow=9.2,SNR=0.9						
H08S2	**Diego Garcia H**	**30.76**	**268**	T	T	06 45 58.1	
	baz=91,slow=74,SNR=5.3						
H08S3	**Diego Garcia H**	**30.77**	**268**	T	T	06 45 45.2	
	baz=91,slow=74,SNR=5.4						
H08S1	**Diego Carcia H**	**30.78**	**268**	T	T	06 45 43.6	
	baz=91,slow=74,SNR=4.9						
WRA	**Warramunga Arr**	**32.15**	**115**	P	P	06 12 57.3	-0.5
	0.5nm,1.0s,baz=283,slow=11,SNR=3.5						
SONM	**Songino Array**	**55.52**	**2**	P	P	06 16 05.6	+0.6
	1.0nm,0.6s,baz=176,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**57.61**	**343**	P	P	06 16 18.0	-1.9
	0.4nm,0.5s,baz=163,slow=5.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**63.58**	**348**	P	P	06 17 01.9	+1.4
	0.5nm,0.3s,baz=155,slow=4.8,SNR=2.8						
TXAR	**Lajitas Array**	**146.68**	**47**	PKPbc	PKPbc	06 26 12.2	-0.6
	0.3nm,0.6s,baz=281,slow=1.6,SNR=5.0						

ISCJB 17 06:17:56.9±0.5, 21°.64S±0°.07×33°.36E±0°.05, h10km, mb3.9/3, Error ellipse: s-maj=11.4km s-min=5.7km az=157.4
IDC 17 06:17:57.8±1.1, 21°.70S×33°.48E, h0km, mb3.7/4, mb1 4.2/9, mb1mx3.8/42, mbtmp4.1/9, ML4.4/5, MS2.5/1, Ms1 2.5/1, ms1mx2.3/40, Error ellipse: s-maj=28.6km s-min=23.5km az=133.0
NEIC 17 06:17:58.9±2.5, 21°.64S±0°.07×33°.32E±0°.08, h10km±1km, mb4.2/4
ISC 17 06:17:58.7±0.7, 21°.56S±0°.07×33°.25E±0°.05, h10km, n25, σ2°76/35, mb4.0/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**7.83**	**242**	Pn	**Pn**	**06 19 56.4**	**+3.5**
	4.4nm,0.3s,baz=56,slow=13,SNR=18						
LBTB				Sn	**Sn**	**06 21 23.4**	**+1.8**
	3.4nm,0.3s,baz=146,slow=23,SNR=5.8						
LBTB				Lg	Lg	06 22 02.2	
	5.7nm,0.3s,baz=319,slow=22,SNR=4.4						
LBTB	**Lobatse**	**7.83**	**242**		**Pn**	**06 19 55.1**	**+2.3**
LBTB					**Sn**	**06 21 23.4**	**+1.8**
LSZ	**Lusaka**	**7.88**	**322**	Pn	**Pn**	**06 19 55.6**	**+2.0**
	4.9nm,0.3s,baz=146,slow=14,SNR=30						
LSZ				Sn	**Sn**	**06 21 17.7**	**-5.2**
	1.5nm,0.3s,baz=222,slow=16,SNR=3.6						
LSZ				Lg	Lg	06 22 04.1	
	11nm,0.3s,baz=60,slow=21,SNR=12						
LSZ	**Lusaka**	**7.88**	**322**		**Pn**	**06 19 55.9**	**+2.4**
LSZ					**Sn**	**06 21 17.9**	**-5.0**
BOSA	**Boshof**	**10.09**	**224**	*i* P	**Pn**	**06 20 25.2**	**+1.4**
BOSA				*i* S	**Sn**	**06 22 19.0**	**+1.9**
BOSA	**Boshof**	**10.09**	**224**	Pn	**Pn**	**06 20 25.0**	**+1.2**
	1.7nm,0.3s,baz=48,slow=13,SNR=22						
BOSA				Sn	**Sn**	**06 22 13.1**	**-4.0**
	1.1nm,0.3s,baz=330,slow=20,SNR=3.8						
BOSA				Lg	Lg	06 23 13.9	
	1.8nm,0.3s,baz=334,slow=16,SNR=3.8						
BOSA	**Boshof**	**10.09**	**224**	*i* P	**Pn**	**06 20 25.2**	**+1.4**
BOSA				*i* S	**Sn**	**06 22 19.0**	**+1.9**
BOSA	**Boshof**	**10.09**	**224**		**Pn**	**06 20 24.7**	**+0.9**
BOSA					**Sn**	**06 22 12.8**	**-4.4**
ABPO	**Ambohimpanom**	**13.36**	**82**	Pn	**Pn**	**06 21 08.2**	**-0.5**
ABPO					**Sn**	**06 23 36.8**	**-0.7**
OPO	**Ambohidratompo**	**13.43**	**80**	Pn	**Pn**	**06 21 07.2**	**-2.5**
	0.7nm,0.3s,baz=249,slow=15,SNR=6.3						
OPO				Sn	Sn	06 23 23.5	-16
	0.6nm,0.3s,baz=288,slow=20,SNR=3.5						
OPO				LR	LR	06 26 21.5	
	comp=Z,22nm,20.6s,baz=282,slow=38						
TSUM	**Tsumeb**	**14.87**	**276**	Pn	**Pn**	**06 21 28.8**	**-0.5**
	0.5nm,0.3s,baz=115,slow=11,SNR=12						
TSUM				Sn	**Sn**	**06 24 10.7**	**-3.6**
	0.3nm,0.3s,baz=56,slow=20,SNR=5.6						
TSUM				Lg	Lg	06 25 40.9	
	0.6nm,0.3s,baz=149,slow=19,SNR=2.2						
TSUM	**Tsumeb**	**14.87**	**276**		**Pn**	**06 21 30.4**	**+1.1**
SUR	**Sutherland**	**15.45**	**223**	Pn	**Pn**	**06 21 38.8**	**+1.9**
	1.3nm,0.3s,baz=58,slow=14,SNR=17						
SUR				Sn	**Sn**	**06 24 20.0**	**-8.2**
	0.2nm,0.3s,baz=354,slow=18,SNR=2.6						
SUR				Lg	Lg	06 25 50.1	
	1.0nm,0.3s,baz=336,slow=20,SNR=2.2						
SUR	**Sutherland**	**15.45**	**223**		**Pn**	**06 21 38.9**	**+1.9**
SUR				IAmb	IAmb	06 21 56.9	
	comp=Z,25nm,1.2s						
KMBO	**Kilima Mbogo**	**20.68**	**11**	P	Pn	06 22 42.6	+1.0
	comp=Z,0.4nm,0.3s,baz=175,slow=9.0,SNR=3.7						
KMBO				Lg	Lg	06 28 42.0	
	comp=Z,0.7nm,0.4s,baz=60,slow=20,SNR=3.3						
KMBO	**Kilima Mbogo**	**20.68**	**11**	P	**P**	**06 22 40.0**	**+0.7**
KMBO				IAmb	IAmb	06 22 46.8	
	comp=Z,2.0nm,0.8s						
MBAR	**Mbarara**	**20.97**	**353**	Lg	Lg	06 28 51.8	
	comp=Z,3.8nm,0.2s,baz=0.0,slow=20,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**46.36**	**315**	P	**P**	**06 26 26.1**	**+0.8**
TOA0				IAmb	IAmb	06 26 31.2	
	comp=Z,5.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**46.36**	**315**	P	**P**	**06 26 27.5**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=127,slow=7.1,SNR=17						
TORD	**Torodi Ar. Bea**	**46.36**	**315**	P	**P**	**06 26 26.5**	**+1.2**
BRTR	**Keskin Array B**	**60.97**	**0**	P	**P**	**06 28 14.2**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=182,slow=9.9,SNR=3.7						
BRTR	**Keskin Array B**	**60.97**	**0**	P	**P**	**06 28 13.0**	**+0.8**
ASAR	**Alice Springs**	**90.69**	**116**	P	**P**	**06 31 01.2**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=238,slow=4.2,SNR=4.9						
TXAR	**Lajitas Array**	**140.50**	**290**	PKP	**PKPdf**	**06 37 29.3**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=120,slow=5.4,SNR=3.1						
NVAR	**Mina Array Bea**	**150.34**	**311**	PKPbc	**PKiKP**	**06 37 52.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=76,slow=8.4,SNR=2.5						
NVAR				PKPab	**PKPab**	**06 37 57.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=81,slow=2.9,SNR=7.0						

ISCJB 17 06:18:21.1±0.5, 18°.46S±0°.05×63°.21W±0°.05, h33km, mb3.5/3, Error ellipse: s-maj=7.3km s-min=5.9km az=139.8
IDC 17 06:18:23.5±1.6, 18°.40S×63°.26W, h47km±15km, mb3.2/3, mb1 3.7/7, mb1mx3.5/35, mbtmp3.6/7, ML3.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.8/13, Error ellipse: s-maj=20.1km s-min=11.3km az=162.0
SCB 17 06:18:26.4±0.8, 18°.47S×63°.20W, h35km±12km, ML3.6/1, Error ellipse: s-maj=10.8km s-min=8.5km az=1.0
ISC 17 06:18:22.3±0.8, 18°.47S±0°.06×63°.25W±0°.06, h35km, n20, σ1°15/23, mb3.5/3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BS08	**Valle Grande**	**0.82**	**268**	Pg	**Pn**	**06 18 37.5**	**-0.1**
BS03	**Mojotorillo**	**1.36**	**232**	P	**Pn**	**06 18 45.5**	**+0.2**
BS03				S	**Sn**	**06 19 00.6**	**-1.8**
BS03				AML	AML	06 19 03.8	
	910nm,0.3s						
BS06	**Camiri**	**1.58**	**189**	P	**Pn**	**06 18 49.5**	**+1.5**
SIV	**San Ignacio**	**3.22**	**41**	P	**Pn**	**06 19 09.9**	**-0.6**
SIV	**San Ignacio**	**3.22**	**41**	P	**Pn**	**06 19 09.9**	**-0.6**
	9.2nm,0.3s,baz=243,slow=7.9,SNR=140						
SIV				S	**Sn**	**06 19 48.4**	**+0.7**
	15nm,0.3s,baz=303,slow=21,SNR=10.0						
SIV				LR	LR	06 20 49.2	
	comp=Z,201nm,21.6s,baz=176,slow=46						
YJA	**Yavi**	**4.26**	**210**	P	**Pn**	**06 19 26.4**	**+1.3**
BBOE	**La Paz, Chanca**	**4.80**	**289**	P	**Pn**	**06 19 34.1**	**+1.4**
BBOJ	**La Paz, Jacaqu**	**4.94**	**287**	P	**Pn**	**06 19 36.0**	**+1.5**
LPAZ	**La Paz**	**5.14**	**294**	P	**Pn**	**06 19 38.2**	**+0.8**
LPAZ	**La Paz**	**5.14**	**294**	P	**Pn**	**06 19 38.2**	**+0.8**
	3.3nm,0.3s,baz=114,slow=6.3,SNR=96						
LPAZ				S	**Sn**	**06 20 36.6**	**+0.8**
	4.0nm,0.3s,baz=246,slow=20,SNR=4.2						
LPAZ				LR	LR	06 22 06.8	
	comp=Z,188nm,18.9s,baz=83,slow=44						
BBOB	**La Paz, Bander**	**5.21**	**296**	P	**Pn**	**06 19 38.9**	**+0.7**
BBOD	**La Paz, Gloria**	**5.42**	**289**	P	**Pn**	**06 19 42.7**	**+1.6**
SLA	**San Lorenzo**	**6.57**	**198**	P	**Pn**	**06 19 56.6**	**0.0**
LVC	**Limon Verde**	**6.72**	**231**	P	**Pn**	**06 20 01.3**	**+2.5**
	0.6nm,0.3s,baz=67,slow=7.7,SNR=3.4						
LVC				LR	LR	06 23 04.9	
	comp=Z,92nm,19.2s,baz=46,slow=42						
CPUP	**Villa Florida**	**9.55**	**146**	P	**Pn**	**06 20 38.4**	**+1.0**
	0.1nm,0.3s,baz=324,slow=14,SNR=2.4						
TXAR	**Lajitas Array**	**61.48**	**320**	P	**P**	**06 28 34.9**	**-0.9**
	0.2nm,0.7s,baz=150,slow=9.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**71.31**	**69**	P	**P**	**06 29 38.9**	**0.0**
	0.5nm,0.5s,baz=249,slow=6.1,SNR=6.5						
PDAR	**Pinedale Array**	**74.35**	**326**	P	**P**	**06 29 56.1**	**-0.5**
	0.3nm,0.5s,baz=129,slow=8.5,SNR=3.2						
ASAR	**Alice Springs**	**134.90**	**202**	PKP	**PKPdf**	**06 37 37.6**	**-0.9**
	0.2nm,0.6s,baz=170,slow=2.3,SNR=3.2						
WRA	**Warramunga Arr**	**138.11**	**205**	PKP	**PKPdf**	**06 37 44.3**	**-0.1**
	0.2nm,0.8s,baz=149,slow=1.9,SNR=3.2						

IDC 17 06:48:52.2±0.7, 40°.31N×77°.34E, h0km, mb4.1/18, mb1 4.2/24, mb1mx4.0/52, mbtmp4.1/24, ML3.6/6, MS3.5/6, Ms1 3.5/6, ms1mx3.0/49, Error ellipse: s-maj=13.7km s-min=11.5km az=35.0
BJI 17 06:48:53.0±0.0, 40°.58N×77°.30E, h8km, mb4.1/16, mB4.5/11, ML4.4/8, Ms4.0/4, Ms7 3.9/1
MOS 17 06:48:54.1±1.2, 40°.29N×77°.38E, h25km, mb4.3/10, Error ellipse: s-maj=7.6km s-min=4.9km az=94.9
NEIC 17 06:48:54.5±2.1, 40°.42N±0°.05×77°.35E±0°.06, h15km±4km, mb4.4/21
NNC 17 06:48:57.8±1.0, 40°.66N×77°.36E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=7.2km s-min=5.9km az=153.0
SOME 17 06:48:57.3, 40°.70N×77°.38E, h10km, MS3.7
KRNET 17 06:49:00.5±0.1, 40°.82N×77°.09E, h24km, mb4.8
ISC 17 06:48:54.4±0.6, 40°.43N±0°.03×77°.30E±0°.03, h14km±3km, n225, σ1°80/279, mb4.3/29, MS3.9/5, 40C-30D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.35**	**16**		**Pn**	**06 49 18.4**	**-0.8**
TARG				Sn	**Sb**	**06 49 36.5**	**-0.6**
KSH	**Kashi**	**1.37**	**229**	Pn	Pg	06 49 29.8	+9.1
KSH				Sn	Sg	06 49 57.1	+19
KSH				smax	smax		
	comp=N,13μm,0.4s						
KSH				smax	smax		
	comp=E,17μm,0.7s						
NRN	**Naryn**	**1.41**	**316**	⇑*i*P	**Pn**	**06 49 19.7**	**-0.1**
	baz=6.0						
NRN				⇑*i*S	**Sn**	**06 49 33.9**	**-4.4**
	baz=6.0						
NRN	**Naryn**	**1.41**	**316**	P*	**Pn**	**06 49 20.4**	**+0.6**
NRN						06 49 38.7	
NRN	**Naryn**	**1.41**	**316**		**Pn**	**06 49 20.4**	**+0.6**
NRN				Sn	**Sn**	**06 49 38.7**	**+0.4**
KDJ	**Kajisay**	**1.70**	**357**	⇓*i*P	**Pb**	**06 49 24.7**	**-0.8**
	baz=3.0						
KDJ				⇓*i*S	**Sn**	**06 49 42.3**	**-3.1**
	baz=3.0						
KDJ	**Kajisay**	**1.70**	**357**	PN	**Pb**	**06 49 25.1**	**-0.4**
KDJ						06 49 46.7	
KDJ	**Kajisay**	**1.70**	**357**		**Pb**	**06 49 25.1**	**-0.4**
KDJ				Sn	**Sb**	**06 49 46.7**	**-0.2**
ULHL	**Ulahol**	**1.98**	**337**	⇑*i*P	**Pb**	**06 49 29.5**	**-0.8**
	baz=36						
ULHL				⇑*i*S	**Sn**	**06 49 49.8**	**-2.6**
	baz=36						
ULHL	**Ulahol**	**1.98**	**337**	P	**Pb**	**06 49 30.2**	**-0.1**
	SNR=17						
PRZ	**Przheval'sk**	**2.21**	**22**	⇓*i*P	**Pb**	**06 49 33.9**	**-0.4**
	baz=30						
PRZ				⇓*i*S	**Sb**	**06 49 59.9**	**-1.7**
	baz=30						
PRZ	**Przheval'sk**	**2.21**	**22**	PN	**Pb**	**06 49 34.2**	**0.0**
PRZ	**Przheval'sk**	**2.21**	**22**		**Pb**	**06 49 34.2**	**0.0**
KZA	**Kyzart**	**2.26**	**318**	⇓*i*P	**Pb**	**06 49 34.8**	**-0.3**
	baz=13						
KZA				⇓*i*S	**Sn**	**06 49 59.2**	**-0.3**
	baz=13						
KZA	**Kyzart**	**2.26**	**318**	P	**Pb**	**06 49 35.3**	**+0.2**
	SNR=558						
BOOM	**Boomskoye usch**	**2.30**	**334**	⇑*i*P	**Pb**	**06 49 34.7**	**-1.0**
	baz=33						
BOOM				⇑*i*S	**Sn**	**06 49 59.0**	**-1.1**
	baz=33						
BOOM	**Boomskoye usch**	**2.30**	**334**	PN	**Pb**	**06 49 36.0**	**+0.3**
BOOM	**Boomskoye usch**	**2.30**	**334**		**Pb**	**06 49 36.0**	**+0.3**
ANVS	**Anan'yevo**	**2.37**	**7**	⇓*i*P	**Pb**	**06 49 35.9**	**-1.0**
	baz=12						
ANVS				⇓*i*S	**Sn**	**06 50 01.7**	**-0.2**
	baz=12						
TNSS	**Tian-Shan**	**2.62**	**354**	*e*P	**Pb**	**06 49 41.5**	**+0.1**
	3μm,0.4s						
TNSS				*e*S	**Sb**	**06 50 13.1**	**-0.4**
	2μm,0.3s						
IZV	**Izvestkoviy**	**2.66**	**349**	Pg	**Pb**	**06 49 42.5**	**+0.7**
	841nm,0.5s						
IZV				Lg	Lg	06 50 15.8	
	2μm,0.6s						
IZV	**Izvestkoviy**	**2.66**	**349**	*e*P	**Pb**	**06 49 42.5**	**+0.7**
	841nm,0.5s						
IZV				*e*S	**Sb**	**06 50 15.3**	**+1.0**
	2μm,0.6s						
ARLS	**Aral**	**2.66**	**303**	⇑*i*P	**Pb**	**06 49 40.5**	**-1.4**
	baz=98						
ARLS				⇑*e*S	**Sn**	**06 50 09.5**	**+0.4**
	baz=98						
MDOK	**Medeo**	**2.74**	**356**	⇓Pg	**Pb**	**06 49 42.4**	**-0.8**
	1μm,0.6s						
MDOK				⇓Lg	Lg	06 50 18.4	
	4μm,0.6s						
MDOK	**Medeo**	**2.74**	**356**	*e*P	**Pb**	**06 49 43.0**	**-0.2**
	892nm,0.4s						
MDOK				*e*S	**Sb**	**06 50 16.3**	**-0.4**
	5μm,0.3s						
SATY	**Saty**	**2.76**	**17**	*e*P	**Pb**	**06 49 43.4**	**-0.1**
	2μm,0.4s						
SATY				*e*S	**Sb**	**06 50 16.4**	**-0.7**
	2μm,0.3s						
UCH	**Uchtor**	**2.76**	**312**	⇑*i*P	**Pb**	**06 49 41.8**	**-2.0**
	baz=7.0						
UCH				⇑*i*S	**Sn**	**06 50 11.4**	**-0.5**
	baz=7.0						
UCH	**Uchtor**	**2.76**	**312**	P	**Pb**	**06 49 43.0**	**-0.8**
	SNR=334						
AAA	**Alma-Ata**	**2.79**	**354**	Pg	**Pb**	**06 49 44.9**	**+0.8**
	1μm,0.3s						
AAA				Lg	Lg	06 50 19.9	
	3μm,0.5s						
AAA	**Alma-Ata**	**2.79**	**354**	*e*P	**Pb**	**06 49 44.9**	**+0.8**
	1μm,0.3s						
AAA				*e*S	**Sb**	**06 50 19.4**	**+1.2**
	3μm,0.5s						
AAA	**Alma-Ata**	**2.79**	**354**	*e*PN	**Pb**	**06 49 44.8**	**+0.8**
AAA				*e*S	**Sb**	**06 50 20.6**	**+2.5**
AAA				pmax	pmax		
	comp=Z,1μm,0.3s						
AAA				smax	smax		
	comp=E,3μm,0.5s						
KST	**Kastek**	**2.80**	**340**	Pg	**Pb**	**06 49 45.0**	**+0.8**
	comp=E,672nm,0.7s						
KST				Lg	Lg	06 50 19.8	
	comp=E,2μm,0.9s						
KST	**Kastek**	**2.80**	**340**	*e*P	**Pb**	**06 49 45.0**	**+0.8**
	comp=E,420nm,0.4s						
KST				*e*S	**Sb**	**06 50 19.2**	**+0.9**
	comp=E,2μm,0.3s						
KNDC	**Almaty**	**2.80**	**355**	⇑Pg	**Pb**	**06 49 44.9**	**+0.8**
KNDC				⇓Lg	Lg	06 50 20.9	
TKM2	**Tokmak 2**	**2.80**	**333**	⇓Pn	**Pb**	**06 49 42.0**	**-2.2**
	comp=E,755nm,0.8s						
TKM2				⇓Lg	Lg	06 50 20.0	
	comp=E,1μm,0.8s						
TKM2	**Tokmak 2**	**2.80**	**333**	⇑*i*P	**Pn**	**06 49 41.6**	**+2.7**
	baz=33						
TKM2				⇑*i*S	**Sn**	**06 50 11.4**	**-1.1**
	baz=33						
TKM2	**Tokmak 2**	**2.80**	**333**	*i* PN	**Pb**	**06 49 42.0**	**-2.2**
TKM2				pmax	pmax		
	comp=Z,755nm,0.8s						
TKM2	**Tokmak 2**	**2.80**	**333**	P	**Pb**	**06 49 42.1**	**-2.1**
	SNR=238						
KOTS	**Kotyrbulak**	**2.81**	**357**	Pg	**Pb**	**06 49 45.3**	**+0.9**
	comp=Z,2μm,0.3s						
KOTS				Lg	Lg	06 50 20.5	
	comp=Z,9μm,0.6s						
KOTS	**Kotyrbulak**	**2.81**	**357**	*e*P	**Pb**	**06 49 45.3**	**+0.9**
	comp=Z,2μm,0.2s						
KOTS				*e*S	**Sb**	**06 50 20.0**	**+1.4**
	comp=Z,9μm,0.6s						
KBK	**Karagaybulak**	**2.84**	**322**	⇑*i*P	**Pn**	**06 49 42.3**	**+2.9**
	baz=20						
KBK				⇑*i*S	**Sn**	**06 50 12.4**	**-1.1**
	baz=20						
KBK	**Karagaybulak**	**2.84**	**322**	P	**Pb**	**06 49 43.5**	**-1.4**
	SNR=104						
ZHN	**Zhinishke**	**2.87**	**17**	Pg	**Pb**	**06 49 45.5**	**+0.2**
	comp=Z,698nm,0.5s						
ZHN				Lg	Lg	06 50 21.2	
	comp=Z,641nm,0.5s						
ZHN	**Zhinishke**	**2.87**	**17**	*e*P	**Pb**	**06 49 45.8**	**+0.5**
	comp=Z,698nm,0.2s						
ZHN				*e*S	**Sb**	**06 50 20.7**	**+0.4**
	comp=Z,641nm,0.5s						
UZB	**Uzynbulak**	**3.01**	**25**	Pg	**Pb**	**06 49 48.0**	**+0.2**
UZB				Lg	Lg	06 50 25.1	
UZB	**Uzynbulak**	**3.01**	**25**	*e*P	**Pb**	**06 49 48.0**	**+0.2**
	comp=Z,583nm,0.7s						
UZB				*e*S	**Sb**	**06 50 24.4**	**+0.1**
	comp=Z,484nm,0.5s						
DGS	**Degeres**	**3.03**	**338**	Pg	**Pb**	**06 49 49.4**	**+1.3**
	comp=Z,483nm,0.6s						
DGS				Lg	Lg	06 50 27.8	
	comp=Z,3μm,0.6s						
DGS	**Degeres**	**3.03**	**338**	*e*P	**Pb**	**06 49 49.4**	**+1.3**
	comp=Z,315nm,0.3s						
DGS				*e*S	**Sb**	**06 50 27.1**	**+2.0**
	comp=Z,3μm,0.6s						
AAK	**Ala-Archa**	**3.05**	**317**	⇑Pn	**Pb**	**06 49 46.9**	**-1.6**
	comp=Z,71nm,0.6s						
AAK				⇑Pg	**Pg**	**06 49 52.7**	**-0.2**
	comp=Z,1μm,1.0s						
AAK				⇓Lg	Lg	06 50 28.9	
	comp=Z,2μm,0.8s						
AAK	**Ala-Archa**	**3.05**	**317**	⇑*i*P	**Pn**	**06 49 45.1**	**+2.8**
	baz=14						
AAK				⇑*i*S	**Sn**	**06 50 17.6**	**-1.0**
	baz=14						
AAK	**Ala-Archa**	**3.05**	**317**	⇓*e*PN	**Pb**	**06 49 46.0**	**-2.4**
AAK				pmax	pmax		
	comp=Z,68nm,0.6s						
AAK	**Ala-Archa**	**3.05**	**317**	Pn	**Pb**	**06 49 46.0**	**-2.4**
	comp=Z,27nm,0.3s,baz=122,slow=8.1,SNR=252						
AAK				Pg	**Pg**	**06 49 50.2**	**-2.6**
	comp=Z,63nm,0.3s,baz=119,slow=8.8,SNR=36						
AAK				Lg	Lg	06 50 30.2	
	comp=Z,123nm,0.3s,baz=280,slow=16,SNR=22						
AAK				LR	LR	06 50 41.7	
	comp=Z,142nm,18.3s,baz=174,slow=35						
AAK	**Ala-Archa**	**3.05**	**317**	P	**Pb**	**06 49 46.1**	**-2.4**
	SNR=92						
AAK	**Ala-Archa**	**3.05**	**317**		**Pb**	**06 49 47.4**	**-1.1**
FRU1	**Bishkek**	**3.11**	**321**	⇓*i*P	**Pn**	**06 49 45.9**	**+2.9**
	baz=18						
FRU1				⇓*i*S	**Sn**	**06 50 19.1**	**-0.8**
	baz=18						
FRU1	**Bishkek**	**3.11**	**321**	PN	**Pb**	**06 49 48.0**	**-1.4**
FRU1	**Bishkek**	**3.11**	**321**	Pn	**Pb**	**06 49 48.0**	**-1.4**
KURS	**Kuram**	**3.12**	**12**	*e*P	**Pb**	**06 49 50.3**	**+0.6**
	comp=Z,418nm,0.3s						
KURS				*e*S	**Sb**	**06 50 28.8**	**+1.1**
	comp=Z,869nm,0.7s						
SHLS	**Shalkode**	**3.17**	**30**	*e*P	**Pg**	**06 49 53.8**	**-1.4**
	comp=Z,196nm,0.4s						
SHLS				*e*S	**Sg**	**06 50 34.6**	**-1.6**
	comp=Z,2μm,0.3s						
CHMS	**Chumysh**	**3.20**	**324**	⇑*i*P	**Pn**	**06 49 47.3**	**+3.1**
	baz=22						
CHMS				⇑*i*S	**Sn**	**06 50 20.7**	**-1.4**
	baz=22						
CHMS	**Chumysh**	**3.20**	**324**	P	**Pb**	**06 49 48.0**	**-3.0**
	SNR=46						
AML	**Almayashu**	**3.20**	**303**	⇓*i*P	**Pb**	**06 49 48.5**	**-2.8**
	baz=98						
AML				⇓*i*S	**Sn**	**06 50 23.1**	**+0.3**
	baz=98						
AML	**Almayashu**	**3.20**	**303**	P	**Pb**	**06 49 49.1**	**-2.2**
	SNR=41						
KPKS	**Kokpek**	**3.21**	**18**	*e*P	**Pb**	**06 49 50.9**	**-0.2**

comp=Z,120nm,0.3s
DJR eS Sb 06 51 04.8 +2.9
comp=Z,186nm,0.2s
TDK Taldyqorghan 4.64 10 eP Pb 06 50 17.7 +2.1
comp=Z,351nm,0.5s
TDK eS Sb 06 51 15.6 +4.3
comp=Z,1μm,0.6s
BTK Batken 4.97 268 PN Pn 06 50 11.5 +2.9
BTK Batken 4.97 268 Pn 06 50 11.5 +2.9
KAPS Kapalarasan 5.08 17 eP Pb 06 50 24.7 +1.6
comp=Z,93nm,0.4s
KAPS eS Sb 06 51 27.2 +3.2
comp=Z,262nm,0.4s
DZA Taraz 5.10 301 eP Pg 06 50 30.3 -1.8
comp=Z,22nm,0.1s
DZA eS Sg 06 51 36.8 -1.3
comp=Z,229nm,0.3s
BTLS Baital 5.19 334 eP Pb 06 50 28.0 +3.1
comp=Z,58nm,0.4s
BTLS eS Sb 06 51 32.8 +5.7
comp=Z,342nm,0.4s
GAR Garm 5.57 257 Pn 06 50 20.7 +3.8
KK31 Karatay Array 5.73 300 Pn Pn 06 50 22.0 +3.0
comp=Z,1.4nm,0.4s,baz=115,slow=14,SNR=14
KK31 ⇑Pg Pb 06 50 38.2 +4.0
comp=Z,24nm,0.6s,baz=124,slow=16,SNR=15
KK31 ⇑Lg Lg 06 51 51.9
comp=Z,31nm,0.5s,baz=106,slow=29,SNR=9.6
KK31 Karatay Array 5.73 300 i PN Pn 06 50 22.0 +3.0
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KK31 Karatay Array 5.73 300 Pn 06 50 20.2 +1.1
KKAR Karatay Array 5.73 300 PN Pn 06 50 20.6 +1.5
KKAR Karatay Array 5.73 300 Pn 06 50 20.6 +1.5
KKAR Karatay Array 5.73 300 Pn 06 50 20.9 +1.8
TAS Tashkent 6.14 281 PN Pn 06 50 24.5 -0.1
TAS Tashkent 6.14 281 Pn Pn 06 50 24.5 -0.1
CHGR Chuyangaron 6.54 257 Pn 06 50 32.5 +2.4
CHGR Sn Sn 06 51 45.0 +0.6
MAKZ Makanchi 7.22 26 ⇑Pn Pn 06 50 41.3 +1.8
comp=Z,31nm,0.8s
MAKZ ⇓Lg Lg 06 52 37.6
comp=Z,77nm,1.1s
MAKZ Makanchi 7.22 26 P Pn 06 50 39.3 -0.2
MAKZ Makanchi 7.22 26 Pn 06 50 39.3 -0.2
MK31 Makanchi Array 7.32 28 Pn Pn 06 50 42.1 +1.2
comp=Z,7.5nm,0.4s,baz=202,slow=12,SNR=121
MK31 ⇑Lg Lg 06 52 40.4
comp=Z,18nm,0.6s
MK31 Makanchi Array 7.32 28 eP Pn 06 50 42.0 +1.2
MK31 pmax pmax
comp=Z,8.0nm,0.4s
MK31 pmax pmax
comp=Z,92nm,1.0s
MK31 Makanchi Array 7.32 28 Pn 06 50 39.9 -0.9
MKAR Makanchi Array 7.32 28 i P Pn 06 50 42.4 +1.6
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 7.32 28 Pn Pn 06 50 42.6 +1.8
comp=Z,2.4nm,0.3s,baz=205,slow=15,SNR=64
MKAR Lg Lg 06 52 37.9
comp=Z,1.3nm,0.3s,baz=212,slow=28,SNR=2.8
MKAR LR LR 06 53 33.3
comp=Z,185nm,18.4s,baz=232,slow=38
MKAR Makanchi Array 7.32 28 Pn 06 50 40.6 -0.2
CHCP Chirah Chowk 7.49 207 P Pn 06 50 47.8 +4.7
NIL Nilore 7.50 207 P Pn 06 50 43.9 +0.6
NIL Nilore 7.50 207 Pn 06 50 43.9 +0.6
CEP Cherat 7.87 215 P Pn 06 50 51.9 +3.4
CEP S Sn 06 52 17.0 -0.4
DHRM DHARAMSHALA 8.20 186 eP Pn 06 50 56.7 +3.6
DHRM eS Sn 06 52 26.1 +0.4
DHRM IAML 06 52 30.7
comp=N,676nm,1.1s
DHRM IAML 06 52 32.4
comp=E,843nm,0.5s
WMQ Urumqi 8.44 63 P Pn 06 50 59.4 +3.2
WMQ S Sn 06 52 33.3 +2.1
WMQ Urumqi 8.44 63 P Pn 06 50 58.7 +2.5
WMQ Urumqi 8.44 63 Pn 06 50 58.7 +2.5
KBL Kabul 8.80 231 P Pn 06 51 01.8 +0.4
KBL Kabul 8.80 231 Pn 06 51 01.8 +0.4
THW Thamme Wali 8.83 212 P Pg 06 51 46.7 +3.4
SMLA Simla 9.28 181 eP Pn 06 51 10.6 +2.9
SMLA eS Sn 06 52 49.1 -2.8
SMLA IAML 06 52 56.3
comp=E,159nm,0.5s
SMLA IAML 06 52 57.6
comp=N,147nm,0.9s
JOSI Joshimath 10.02 169 ex Pn 06 51 19.6 +1.5
JOSI IAML 06 51 30.6
comp=E,42nm,0.1s
JOSI IAML 06 51 33.5
comp=N,74nm,0.3s
KURBB Kurchatov Arra 10.23 4 ⇑Pn Pn 06 51 20.8 +0.1
comp=N,8.0nm,0.7s
KURBB ⇑Lg Lg 06 54 15.8
comp=N,150nm,0.9s
KURBB Kurchatov Arra 10.23 4 Pn Pn 06 51 21.4 +0.8
comp=N,0.2nm,0.3s,baz=191,slow=12,SNR=14
KURBB Sn Sn 06 53 13.4 -1.7
comp=N,0.2nm,0.3s,baz=191,slow=28,SNR=4.8
KURBB Lg Lg 06 54 11.7
comp=N,0.4nm,0.3s,baz=188,slow=26,SNR=3.9
KURK Kurchatov 10.33 5 ⇓Pn Pn 06 51 21.9 -0.1
comp=N,10nm,0.8s
KURK ⇑Lg Lg 06 54 13.1
comp=N,163nm,1.3s
KURK Kurchatov 10.33 5⇑eP Pn 06 51 21.7 -0.3
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 10.33 5 Pn 06 51 21.7 -0.3
DGZ Jazzator, Alta 11.71 34⇓iP Pn 06 51 42.5 +1.5
KUDL Kundal 12.27 183 eP Pn 06 51 40.0 -8.6
KUDL eS Sn 06 53 51.6 -14
DANN Dangsing 13.17 154 eP Pn 06 51 59.0 -2.2
comp=Z,16nm,0.3s
HRA Herat 13.39 248 Pn Pn 06 52 05.8 +1.7
BVAR Borovoye Array 13.45 342 P Pn 06 52 04.0 -0.7
BVAR Borovoye Array 13.45 342 Pn Pn 06 52 04.0 -0.7
comp=Z,0.2nm,0.3s,baz=156,slow=15,SNR=6.5
BVAR Lg Lg 06 55 48.4
comp=Z,0.8nm,0.3s,baz=156,slow=26,SNR=5.3
BRVK Borovoye 13.51 342⇑eP Pn 06 52 07.0 +1.6
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 13.51 342 Pn 06 52 05.6 +0.2
KOLN Koldanda 13.66 156 eP Pn 06 52 06.0 -1.8
comp=Z,8.3nm,0.3s
GKN Gorkha 13.79 152 eP Pn 06 52 08.5 -1.1
comp=Z,32nm,0.2s
KKN Kakani 14.23 150 eP Pn 06 52 13.5 -2.1
comp=Z,23nm,0.5s
DMN Daman 14.32 151 eP Pn 06 52 14.9 -2.1
comp=Z,12nm,0.4s
GUN Gumba 14.36 148 eP Pn 06 52 16.6 -0.9
comp=Z,11nm,0.3s
ZAA0 Zalesovo Array 14.45 18 Pn 06 52 18.2 0.0
ZALV Zalesovo Beam 14.45 18 Pn Pn 06 52 18.4 +0.1
comp=Z,0.6nm,0.3s,baz=204,slow=13,SNR=5.1
ZALV Sn S 06 55 10.4 -7.4
comp=Z,0.2nm,0.3s,baz=210,slow=19,SNR=2.5
ZALV Lg Lg 06 56 30.0
comp=Z,0.1nm,0.3s,baz=206,slow=23,SNR=3.7
PKIN Phulchoki 14.46 150 eP Pn 06 52 16.5 -2.4
comp=Z,19nm,0.5s
PKI Pulchoki 14.47 150 eP Pn 06 52 16.7 -2.4
comp=Z,17nm,0.4s
JIRN Jiri 14.70 147 eP Pn 06 52 20.6 -1.7
comp=Z,30nm,0.4s
GEYT Alibeck 15.09 267 Pn Pn 06 52 25.9 -1.1
comp=Z,0.3nm,0.3s,baz=90,slow=9.1,SNR=3.4
GEYT Sn Sn 06 55 10.2 -3.6
comp=Z,0.8nm,0.3s,baz=64,slow=16,SNR=4.8
GEYT Alibeck 15.09 267 Pn 06 52 25.7 -1.4
AB31 Akbulak array 15.12 311 i P Pn 06 52 26.5 -0.8
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 15.12 311 Pn 06 52 27.0 -0.3
ABKAR Akbulak array 15.12 311 Pn 06 52 27.3 0.0
ABKAR IAmb IAmb 06 52 35.1
comp=Z,6.9nm,0.9s
RAMN Ramite 15.50 147 eP Pn 06 52 30.3 -2.4
comp=Z,26nm,0.6s
TAPN Taplejung 15.63 143 eP Pn 06 52 33.1 -1.4
ODAN Odare 15.91 145 eP Pn 06 52 36.9 -1.2
comp=Z,16nm,0.5s
AKTO Aktyubinsk 16.78 313 Pn Pn 06 52 49.5 +0.7
comp=Z,0.4nm,0.3s,baz=100,slow=14,SNR=10
AKTO Lg Lg 06 57 47.2
comp=Z,0.1nm,0.3s,baz=196,slow=20,SNR=3.1
GTA Gaotai 17.30 86 eP Pn 06 52 55.1 -0.4
GTA pP pP 06 52 59.6 -2.0
GTA sP sP 06 53 02.3 -1.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
SVE Sverdlovsk 19.67 332 eP Pn 06 53 23.7 -0.4
ARU Arti 20.16 329⇓eP Pn 06 53 29.5 -0.4
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 20.16 329 P Pn 06 53 29.5 -0.4
comp=Z,2.9nm,0.6s,baz=154,slow=4.7,SNR=8.9
ARU Lg Lg 06 59 16.2
comp=Z,0.8nm,0.2s,baz=320,slow=17,SNR=3.5
ARU Arti 20.16 329 P Pn 06 53 29.4 -0.6
ARU IAmb IAmb 06 53 34.5
comp=Z,8.6nm,0.7s
ZAK Zakamensk 20.68 53 eP P 06 53 33.3 -0.6
ZAK pmax pmax
comp=Z,5.0nm,1.1s
LZH Lanzhou 21.26 93 eP P 06 53 39.6 -0.7
LZH pP pP 06 53 42.4 -2.6
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,74nm,4.6s
LZH LR LR
comp=Z,330nm,11.9s
LZH LR LR
comp=Z,390nm,15.7s
TLY Talaya 21.34 49 P P 06 53 41.4 +0.5
TLY pmax pmax
comp=Z,9.0nm,1.5s
TLY Talaya 21.34 49 P P 06 53 41.4 +0.5
SONM Songino Array 22.07 61 P P 06 53 48.8 0.0
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 22.07 61 P P 06 53 49.7 +0.9
comp=Z,1.7nm,0.8s,baz=256,slow=12,SNR=9.2
SONM Songino Array 22.07 61 P P 06 53 48.8 0.0
ULN Ulaanbaatar 22.51 61⇓eP P 06 53 55.1 +1.5
ULN pmax pmax
comp=Z,7.0nm,1.7s
NCK Nalchik 25.15 288⇑eP P 06 54 21.1 +2.2
NCK pmax pmax
comp=Z,31nm,0.6s
KIRV Kirov 25.35 325 P P 06 54 21.7 +1.1
comp=Z,16nm,0.5s,baz=90,slow=1.2,SNR=8.0
HHC Hu-ho-hao-te 25.91 78 eP P 06 54 25.3 -0.7
HHC pmax pmax
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 28.75 133 P P 06 54 58.9 +7.5
comp=Z,0.9nm,0.4s,baz=328,slow=9.6,SNR=4.6
OBN Obninsk 30.56 313 eP P 06 55 07.6 +0.4
OBN e 06 56 09.7
OBN ePPP PPP 06 56 19.2
OBN pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 30.84 324 eP P 06 55 09.6 0.0
KLMR pmax pmax
comp=Z,34nm,1.6s
KLMR Klimovskoe 30.84 324 eP P 06 55 09.7 +0.1
KLMR AMP 06 55 11.8
comp=Z,34nm,1.6s
WHN Wuhan 31.54 96 P P 06 55 17.9 +1.8
BR131 Keskin Array S 33.16 283 P P 06 55 30.4 0.0
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 33.16 283 P P 06 55 30.4 0.0
BR131 IAmb IAmb 06 55 33.0
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 33.16 283ceP P 06 55 32.2 +1.8
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 33.16 283 P P 06 55 31.9 +1.5
comp=Z,2.5nm,0.8s,baz=91,slow=8.1,SNR=18
BRTR Keskin Array B 33.16 283 P P 06 55 30.8 +0.4
AKASG Malin Array Be 34.62 304ceP P 06 55 45.9 +3.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 34.62 304 P P 06 55 43.1 +0.3
comp=Z,0.5nm,0.4s,baz=70,slow=9.8,SNR=5.2
AKASG LR LR 07 11 41.2
comp=Z,68nm,18.1s,baz=330,slow=39
AKASG Malin Array Be 34.62 304 IAmb IAmb 06 55 51.3
comp=Z,1.3nm,1.1s
FINES FINESS Array B 37.23 322 P P 06 56 06.3 +1.3
comp=Z,5.5nm,0.8s,baz=97,slow=7.1,SNR=14
BURAR Bucovina Array 37.53 299 P P 06 56 07.4 -0.4
SUW Suwalki 38.23 309 S 07 02 10.7 +4.1
KLR Kul'dur 38.85 58⇓eP P 06 56 19.6 +0.7
KLR pmax pmax
comp=Z,8.0nm,2.2s
KLR Kul'dur 38.85 58 P P 06 56 18.9 0.0
comp=Z,1.2nm,0.5s,baz=265,slow=7.6,SNR=6.7
KARP Karpathos 39.39 279 P P 06 56 20.6 -2.9
ARCES ARCESS Array B 39.58 334 P P 06 56 25.9 +1.2
comp=Z,6.0nm,0.8s,baz=105,slow=8.9,SNR=15
TIXI Tiksi 40.27 23⇓iP P 06 56 30.7 +0.4
TIXI pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 40.27 23 P P 06 56 31.3 +1.0
comp=Z,4.5nm,0.5s,baz=180,slow=24,SNR=13
TIXI Tiksi 40.27 23 P P 06 56 30.4 0.0
TIXI IAmb IAmb 06 56 31.8
comp=Z,5.5nm,0.5s
VYHS Vyhne 41.59 301 eP P 06 56 46.2 +4.6
VYHS Vyhne 41.59 301 eP P 06 56 46.2 +4.6
NB2 NORSAR Subarra 44.36 320 P P 06 57 05.0 +1.1
comp=Z,0.9nm,0.6s,baz=87,slow=7.9
NOA NORSAR Array B 44.36 320 P P 06 57 05.1 +1.3
comp=Z,1.1nm,0.6s,baz=88,slow=7.9,SNR=3.9
NOA LR LR 07 16 08.1
comp=Z,134nm,19.4s,baz=355,slow=37
GERES GERESS Array B 44.83 303 P P 06 57 08.9 +1.0
GERES GERESS Array B 44.83 303 P P 06 57 09.2 +1.4
comp=Z,1.2nm,0.5s,baz=68,slow=8.3,SNR=15
GERES LR LR 07 19 22.9
comp=Z,145nm,18.0s,baz=36,slow=41
GERES GERESS Array B 44.83 303 P P 06 57 08.9 +1.0
SPA0 Spitsbergen Ar 44.88 345 P P 06 57 07.8 0.0
SPA0 pP pP 06 57 11.3 -1.6
MJAR Matsushiro Arr 47.01 74 LR LR 07 18 50.3
comp=Z,48nm,18.1s,baz=205,slow=38
SBUM Sibu 49.25 131 P P 06 57 38.5 -4.1
SBUM IAmb IAmb 06 57 52.0
comp=Z,2.4nm,0.5s
BILL Bilibino 52.87 28 eP P 06 58 10.7 +1.6
BILL pmax pmax
comp=Z,5.0nm,1.7s
BILL Bilibino 52.87 28 P P 06 58 10.1 +1.0
BILL IAmb IAmb 06 58 11.6
comp=Z,5.9nm,1.1s
BILL pP sP 06 58 16.1 -0.3
ESDC Sonseca Array 59.98 298 P P 06 59 00.3 -0.1
comp=Z,0.6nm,0.5s,baz=54,slow=6.8,SNR=6.9
ESDC Sonseca Array 59.98 298 P P 06 59 00.2 -0.1
ESDC pP pP 06 59 05.7 -0.1
IMAR Indian Mountai 66.86 20 P P 06 59 45.1 -0.2
IMAR pP pP 06 59 50.7 0.0
BMAR Burnt Mountain 67.88 16 P P 06 59 51.1 -0.8
COLA College 69.25 19⇓eP P 07 00 00.6 +0.3
COLA pmax pmax
comp=Z,17nm,2.1s
IL31 69.57 19 P P 07 00 01.8 -0.5
IL31 IAmb IAmb 07 00 02.7
comp=Z,3.0nm,0.9s
ILAR Eielson Array 69.57 19 P P 07 00 02.0 -0.4
ILAR Eielson Array 69.57 19 P P 07 00 01.9 -0.4
comp=Z,1.5nm,0.7s,baz=323,slow=5.1,SNR=20
ILAR Eielson Array 69.57 19 P P 07 00 01.9 -0.5
ILAR pP pP 07 00 07.3 -0.4
PPLA Purkeypile 69.69 22 P P 07 00 03.6 +0.4
TRF Thorofare Moun 69.78 21 P P 07 00 02.9 -0.9
SKT Skwentna 70.60 22 P P 07 00 07.1 -1.7
TOA0 Torodi Ar. Sit 70.68 271 P P 07 00 09.4 -0.5
TORD Torodi Ar. Bea 70.68 271 P P 07 00 10.0 +0.1
comp=Z,3.9nm,0.4s,baz=45,slow=5.5,SNR=74
TORD Torodi Ar. Bea 70.68 271 P P 07 00 09.2 -0.6
BCAR Beaver Creek A 72.23 18 P P 07 00 17.7 -0.9
BCAR pP pP 07 00 25.0 +0.9
MBWA Marble Bar 72.90 139 P P 07 00 21.9 -1.1
KDAK Kodiak Island 73.62 25 i P P 07 00 27.3 +0.5
YKA Yellowknife Ar 76.98 6 P P 07 00 46.6 +0.5
comp=Z,0.7nm,0.5s,baz=345,slow=5.3,SNR=3.2
DBIC Dimbokro 79.74 270 P P 07 01 02.2 +0.1
comp=Z,2.7nm,0.7s,baz=117,slow=2.3,SNR=2.6
WRA Warramunga Arr 80.11 127 P P 07 01 03.8 -0.2
comp=Z,0.9nm,0.7s,baz=328,slow=5.6,SNR=12
ASAR Alice Springs 82.68 129 P P 07 01 17.1 -0.4
comp=Z,0.8nm,0.8s,baz=320,slow=5.3,SNR=9.2
ASAR Alice Springs 82.68 129 P P 07 01 17.7 +0.2
GCMT Greycliff 93.94 5 P P 07 02 09.4 -2.3

NNC 17 07:09:52.8±0.4, 50°.01N×78°.74E, h0km, mb3.7, mpv3.3, 18C-5D, Error ellipse: s-maj=3.7km s-min=1.8km az=64.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**346**	⇑P		Pg		07 10 04.3	+0.2
KUR07				⇓S		Sg		07 10 13.1	+1.4
KUR06	**Kurchatov Arra**	**0.61**	**347**	⇑P		Pg		07 10 04.8	+0.3
KUR06				⇑S		Sg		07 10 13.5	+1.2
KUR14	**Kurchatov Arra**	**0.61**	**351**	⇑P		Pg		07 10 04.6	+0.1
KUR14				⇓S		Sg		07 10 13.3	+0.8
KUR15	**Kurchatov Arra**	**0.62**	**349**	⇑P		Pg		07 10 04.8	+0.2
KUR15				⇑S		Sg		07 10 13.6	+0.9
KURBB	**Kurchatov Arra**	**0.63**	**348**	⇓P		Pg		07 10 05.2	+0.4
KURBB				⇑S		Sg		07 10 14.1	+1.2
KUR16	**Kurchatov Arra**	**0.64**	**346**	⇑P		Pg		07 10 05.1	+0.1
KUR16				⇑S		Sg		07 10 14.1	+0.9
KUR05	**Kurchatov Arra**	**0.65**	**348**	⇑P		Pg		07 10 05.4	+0.2
KUR05				⇓S		Sg		07 10 14.3	+0.8
KUR17	**Kurchatov Arra**	**0.65**	**344**	⇑P		Pg		07 10 05.5	+0.4
KUR17				⇑S		Sg		07 10 14.4	+0.9
KUR04	**Kurchatov Arra**	**0.66**	**349**	⇑P		Pg		07 10 05.7	+0.2
KUR04				⇑S		Sg		07 10 14.8	+0.7
KURK	**Kurchatov**	**0.71**	**354**	⇑P		Pg		07 10 06.3	0.0
KURK				⇑S		Sg		07 10 16.4	+0.8
SEM	**Semipalatinsk**	**1.05**	**67**	P		Pb		07 10 13.8	-0.1
SEM				S		Sg		07 10 26.8	+0.5
MAKZ	**Makanchi**	**3.86**	**145**	⇑Pg		Pb		07 11 04.1	+2.4
MAKZ				⇑Lg		Lg		07 11 54.0	
MK31	**Makanchi Array**	**3.99**	**142**	⇓Pn		Pn		07 10 57.6	+2.3
MK31				Pg		Pb		07 11 05.1	+1.1
MK31				Lg		Lg		07 11 59.0	
KAPS	**Kapalarasan**	**4.75**	**175**	Pg		Pb		07 11 18.6	+1.8
KAPS				Lg		Lg		07 12 20.4	
ARXS	**Arharly**	**5.83**	**186**	Pg		Pb		07 11 38.9	+3.5
ARXS				Lg		Lg		07 12 55.0	
MNBS	**Baschi**	**5.94**	**182**	Pg		Pb		07 11 41.6	+4.4
MNBS				Lg		Lg		07 12 58.9	
IZV	**Izvestkoviy**	**7.13**	**193**	Pg		Pg		07 12 04.2	-5.1
IZV				Lg		Lg		07 13 38.0	

ROM 17 07:15:25.2±0.1, 43°.387N±0°.004×12°.532E±0°.004, h8km, ML1.6/7, Error ellipse: s-maj=0.3km s-min=0.2km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**125**	P		Pg		07 15 26.9	0.0
ATFO				S		Sg		07 15 27.7	-0.4
ATVO	**AVT- Monte Val**	**0.09**	**267**	P		Pg		07 15 27.9	+0.4
ATVO				S		Sg		07 15 29.5	+0.3
ATVO				AML		AML			
	comp=E,318μm,1.0s								
ATVO				AML		AML			
	comp=N,318μm,0.5s								
ATVO				AML		AML			
	comp=N,318μm,0.5s								
MURB	**Monte Urbino**	**0.12**	**182**	P		Pg		07 15 28.6	+0.6
MURB				S		Sg		07 15 31.1	+1.1
MURB				AML		AML			
	comp=E,602μm,0.3s								
MURB				AML		AML			
	comp=N,548μm,1.5s								
MURB				AML		AML			
	comp=N,549μm,1.5s								
MURB				AML		AML			
	comp=E,603μm,0.3s								
SSFR	**Montelago di S**	**0.19**	**75**	P		Pg		07 15 29.8	+0.7
SSFR				S		Sg		07 15 33.0	+1.2
SSFR				AML		AML			
	comp=N,730μm,0.2s								
SSFR				AML		AML			
	comp=E,902μm,0.2s								
SSFR				AML		AML			
	comp=N,688μm,1.1s								
SSFR				AML		AML			
	comp=E,836μm,0.2s								
FOSV	**Fossato di Vic**	**0.19**	**119**	P		Pg		07 15 29.8	+0.6
FOSV				S		Sg		07 15 33.2	+1.4
FOSV				AML		AML			
	comp=E,47μm,1.5s								
FOSV				AML		AML			
	comp=N,61μm,1.2s								
FRON	**Frontone**	**0.19**	**47**	P		Pg		07 15 29.9	+0.7
FRON				S		Sg		07 15 33.2	+1.4
FRON				AML		AML			
	comp=N,193μm,0.5s								
FRON				AML		AML			
	comp=E,124μm,0.4s								
ATMI	**Monte Miggiano**	**0.20**	**255**	P		Pg		07 15 30.0	+0.7
ATMI				S		Sg		07 15 33.4	+1.3
ATCC	**AVT- Casa Cast**	**0.22**	**159**	P		Pg		07 15 30.3	+0.7
ATCC				S		Sg		07 15 34.5	+2.0
ATCC				AML		AML			
	comp=E,239μm,0.5s								
ATCC				AML		AML			
	comp=N,346μm,0.2s								
ATTE	**AVT- Monte Tez**	**0.23**	**215**	P		Pg		07 15 30.3	+0.5
MPAG	**Monte Paganucc**	**0.29**	**34**	P		Pb		07 15 32.1	-0.7
MPAG				S		Sb		07 15 36.8	-1.0
PE3	**Peglio**	**0.31**	**355**	P		Pg		07 15 31.9	+0.6
PE3				S		Sb		07 15 38.2	-0.1
ARVD	**Arcevia**	**0.32**	**69**	P		Pg		07 15 32.2	+0.7
ARVD				S		Sb		07 15 37.5	-1.0
PARC	**Parchiule**	**0.34**	**321**	P		Pb		07 15 32.9	-0.6
PARC				S		Sb		07 15 38.6	-0.4
PARC				AML		AML			
	comp=E,52μm,1.0s								
PARC				AML		AML			
	comp=N,54μm,0.4s								
FSSB	**Fossombrone**	**0.35**	**30**	P		Pg		07 15 32.9	+0.7
FSSB				S		Sb		07 15 38.9	-0.6
FSSB				AML		AML			
	comp=E,114μm,1.4s								
FSSB				AML		AML			
	comp=N,102μm,1.4s								
CAFI	**Castiglion Fio**	**0.42**	**262**	P		Pg		07 15 34.1	+0.7
CAFI				S		Sb		07 15 40.3	-1.0
EL6	**Elcito**	**0.42**	**98**	P		Pg		07 15 34.0	+0.6
EL6				S		Sb		07 15 40.7	-0.8
EL6				AML		AML			
	comp=E,950μm,1.6s								
EL6				AML		AML			
	comp=N,600μm,1.6s								
EL6				AML		AML			
	comp=E,950μm,1.6s								
EL6				AML		AML			
	comp=N,600μm,1.6s								

VIE 17 07:15:25.8±1.9, 45°00N×11°32E, h8km, mb2.0/2, ml2.1/8, Error ellipse: s-maj=12.2km s-min=10.6km az=72.0 56 km N of Bologna, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTA	**Abfaltersbach**	**1.93**	**25**	Pg	Pg	07 16 04.0	+1.1
	0.5nm,0.3s						
ABTA				Sg	Sg	07 16 32.2	+4.3
	0.7nm,0.3s						
FETA	**Feichten**	**2.06**	**349**	Sg	Sg	07 16 33.7	+1.7
	0.2nm,0.2s						
SQTA	**Sankt Quirin**	**2.22**	**358**	Pn	Pb	07 16 04.9	-1.3
	0.4nm,0.2s						
SQTA				Sg	Sg	07 16 38.4	+1.3
	2.1nm,0.2s						
WTTA	**Wattenberg**	**2.27**	**5**	Sg	Sg	07 16 40.4	+1.6
	1.1nm,0.3s						
WATA	**Walderalm**	**2.34**	**4**	Pn	Pn	07 16 06.2	+1.5
	0.2nm,0.1s						
WATA				Sn	Sn	07 16 32.9	-0.8
	0.4nm,0.1s						
WATA				Sg	Sg	07 16 42.7	+1.7
	1.1nm,0.2s						
MOTA	**Moosalm**	**2.35**	**356**	Pg	Pb	07 16 07.7	-0.7
	0.4nm,0.3s						
MOTA				Sg	Sg	07 16 42.6	+1.4

GCG 17 08:04:47.3±0.3, 14°.98N×92°.36W, h148km±41km, MD4.1
ISCJB 17 08:04:53.8±1.0, 14°.23N±0°.10×92°.20W±0°.08, h85km±13km, Error ellipse: s-maj=19.7km s-min=5.1km az=38.0
SNET 17 08:04:55.3±1.2, 14°.36N×92°.09W, h75km±7km, ML3.6
MEX 17 08:04:56.3±1.0, 14°.27N×92°.13W, h78km±11km, MD4.0

ISC 17 08:04:55.6±1.7, 14°3N±0°.1×92°.19W±0°.08, h80km±15km, n22, σ1§16/28, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.63**	**353**	*i* P		**Pn**	**08 05 10.2**	**-0.3**
THIG				*e*S		**Sn**	**08 05 21.2**	**-0.4**
STG3	**Santiaguito 3,**	**0.74**	**54**	⇓*i*P		**Pn**	**08 05 11.2**	**-0.6**
FUG	**Fuego 3**	**1.32**	**83**	*e*P		**Pn**	**08 05 18.3**	**-0.4**
IXG	**Ixpaco**	**1.70**	**93**	⇑*i*P		**Pn**	**08 05 23.7**	**0.0**
IXG	**Ixpaco**	**1.70**	**93**	*e*P		**Pn**	**08 05 22.3**	**-1.4**
PCIG		**1.73**	**325**	*e*P		**Pn**	**08 05 24.1**	**+0.3**
PCIG				*e*S		**Sn**	**08 05 45.3**	**-0.1**
NBG	**Las Nubes**	**1.81**	**80**	*e*S		**Sn**	**08 05 51.8**	**+4.0**
CCIG	**Comitan**	**1.99**	**1**	*e*P		**Pn**	**08 05 27.8**	**+0.3**
CCIG				*i* S		**Sn**	**08 05 51.8**	**-0.1**
RTR	**El Retiro**	**2.50**	**98**	*e*P		**Pn**	**08 05 33.5**	**-0.8**
RTR				*e*S		**Sn**	**08 06 04.3**	**+0.3**
SBLS	**San Blas**	**2.53**	**100**	*e*P		**Pn**	**08 05 33.8**	**-1.0**
SNJE	**San Jose**	**2.54**	**99**	*e*P		**Pn**	**08 05 33.9**	**-1.0**
MRL	**Marmol**	**2.55**	**71**	*e*P		**Pn**	**08 05 33.5**	**-1.6**
TGIG		**2.64**	**340**	*e*P		**Pn**	**08 05 35.3**	**-0.8**
TGIG				*i* S		**Sn**	**08 06 07.5**	**+0.2**
MTO3	**Montecristo**	**2.75**	**87**	*e*P		**Pn**	**08 05 36.0**	**-1.7**
LFU	**La Fuente**	**3.03**	**100**	*e*P		**Pn**	**08 05 40.1**	**-1.3**
PAVA	**Las Pavas**	**3.21**	**100**	*e*P		**Pn**	**08 05 42.6**	**-1.2**
COEG	**Centro de Oper**	**3.28**	**101**	*e*P		**Pn**	**08 05 44.0**	**-0.8**
COEG					IAML		08 05 47.6	
	comp=Z,246nm,0.5s							
COEB	**Comit de Eme**	**3.64**	**102**	*e*P		**Pn**	**08 05 49.1**	**-0.6**
COEB					IAML		08 06 35.4	
	comp=Z,98nm,0.4s							
ALJI	**Alcalda de J**	**3.64**	**105**	*e*P		**Pn**	**08 05 49.7**	**0.0**
CMIG	**Matias Romero**	**3.81**	**318**	*e*P		**Pn**	**08 05 52.0**	**0.0**
CMIG				*i* S		**Sn**	**08 06 36.3**	**+0.6**
LCND	**La Caada**	**4.29**	**102**	*e*P		**Pn**	**08 05 58.4**	**0.0**
LCND					IAML		08 06 01.2	
	comp=Z,79nm,0.3s							
CNCH	**Conchagua**	**4.35**	**103**	*e*P		**Pn**	**08 05 59.3**	**-0.1**

ISCJB 17 08:11:07.7±0.5, 60°.20S±0°.05×47°.6W±0°.1, h10km, mb3.7/5, MS3.5/6, Error ellipse: s-maj=8.1km s-min=6.9km az=160.7
IDC 17 08:11:07.5±0.9, 60°.20S×47°.57W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/22, mbtmp4.1/6, ML4.2/1, MS3.6/8, Ms1 3.5/8, ms1mx3.4/21, Error ellipse: s-maj=30.6km s-min=24.3km az=76.0
NEIC 17 08:11:10.0±1.7, 60°.24S±0°.05×47°.5W±0°.2, h10km±1km, mb4.3/10

ISC 17 08:11:09.6±0.5, 60°.25S±0°.06×47°.48W±0°.07, h10km, n40, σ1§47/35, mb4.1/8, MS3.4/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.44**	**50**	Pn		**Pn**	**08 13 08.8**	**-2.9**
HOPE				Sn		**Sn**	**08 14 48.0**	**+1.2**
PMSA	**Palmer Station**	**8.89**	**232**	Pn		**Pn**	**08 13 17.3**	**-0.5**
	2.8nm,0.3s,baz=64,slow=10,SNR=26							
PMSA				Sn		**Sn**	**08 14 54.5**	**-3.3**
	0.1nm,0.3s,baz=195,slow=20,SNR=2.8							
PMSA				LR	LR		08 16 19.1	
	comp=Z,352nm,19.6s,baz=61,slow=35							
PMSA	**Palmer Station**	**8.89**	**232**			**Pn**	**08 13 18.0**	**+0.2**
PMSA						**Sn**	**08 14 58.1**	**+0.3**
EFI	**East Falkland**	**10.43**	**321**	Pn		**Pn**	**08 13 39.2**	**+0.2**
EFI				Sn		**Sn**	**08 15 35.1**	**-0.7**
USHA	**Ushuaia**	**12.47**	**287**	Pn		Pn	08 14 12.9	+6.1
	0.2nm,0.3s,baz=129,slow=14,SNR=2.9							
USHA				LR		LR	08 17 53.0	
	comp=Z,261nm,19.0s,baz=114,slow=33							
VNA3	**Neumayer Olymp**	**18.62**	**142**	P		**P**	**08 15 22.1**	**-4.8**
VNA1	**Neumayer--Stat**	**18.92**	**139**	P		**Pn**	**08 15 31.4**	**+0.9**
VNA2	**Neumayer--Watz**	**19.26**	**140**	P		**Pn**	**08 15 34.7**	**0.0**
	baz=294,slow=10.0							
SNAA	**Sanae**	**20.85**	**141**	P		Pn	08 15 54.0	+0.4
SNAA	**Sanae**	**20.85**	**141**	P		**P**	**08 15 51.8**	**+0.7**
	18nm,1.3s,baz=270,slow=9.6,SNR=12							
SNAA				LR		LR	08 22 45.4	
	comp=Z,151nm,18.3s,baz=6.0,slow=33							
SNAA	**Sanae**	**20.85**	**141**	P		**P**	**08 15 51.5**	**+0.4**
SNAA				IAmb		IAmb	08 15 55.8	
	comp=Z,24nm,1.3s							
TRQA	**Tornquist**	**24.05**	**331**	P		**P**	**08 16 25.9**	**+1.3**
TRQA				IAmb		IAmb	08 16 30.5	
	comp=Z,17nm,1.3s							
PLCA	**Paso Flores**	**24.21**	**313**	P		**P**	**08 16 25.1**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=194,slow=8.3,SNR=3.7							
PLCA				LR		LR	08 25 30.8	
	comp=Z,130nm,20.8s,baz=184,slow=36							
PLCA	**Paso Flores**	**24.21**	**313**	P		**P**	**08 16 26.9**	**+0.7**
PLCA				IAmb		IAmb	08 16 40.8	
	comp=Z,13nm,1.2s							
QSPA	**South Pole Qui**	**29.98**	**180**	P		**P**	**08 17 18.1**	**+0.2**
	comp=Z,5.5nm,0.9s,baz=180,slow=4.8,SNR=10							
QSPA	**South Pole Qui**	**29.98**	**180**	P		**P**	**08 17 18.7**	**+0.8**
CPUP	**Villa Florida**	**34.58**	**344**	LR		LR	08 31 00.6	
	comp=Z,62nm,21.4s,baz=172,slow=35							
SBA	**Scott Base**	**40.55**	**191**	P		**P**	**08 18 49.6**	**+1.3**
SBA				IAmb		IAmb	08 18 54.0	
	comp=Z,3.6nm,0.9s							
MAW	**Mawson**	**42.76**	**148**	LR		LR	08 36 29.4	
	comp=Z,115nm,18.2s,baz=247,slow=36							
LPAZ	**La Paz**	**46.39**	**332**	P		**P**	**08 19 39.8**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=146,slow=3.6,SNR=2.7							
LPAZ				LR		LR	08 39 19.8	
	comp=Z,43nm,21.6s,baz=176,slow=36							
LPAZ	**La Paz**	**46.39**	**332**	P		**P**	**08 19 35.8**	**-0.9**
SAML	**Samuel**	**52.54**	**340**	P		**P**	**08 20 23.7**	**+0.8**
SAML				IAmb		IAmb	08 20 34.2	
	comp=Z,1.8nm,0.8s							
CASY	**Casey**	**52.73**	**169**	P		**P**	**08 20 24.2**	**+0.5**
NNA	**Nana**	**52.83**	**323**	P		**P**	**08 20 24.6**	**-0.6**
BOSA	**Boshof**	**57.11**	**91**	LR		LR	08 40 33.0	
	comp=Z,51nm,19.6s,baz=207,slow=31							
H10N3	**ASCENSION HYDR**	**57.86**	**40**	T		T	09 23 54.4	
	baz=199,slow=76,SNR=15							
H10N1	**ASCENSION HYDR**	**57.87**	**40**	T		T	09 24 07.8	
	baz=199,slow=76,SNR=11							
H10N2	**ASCENSION HYDR**	**57.88**	**40**	T		T	09 24 08.4	
	baz=199,slow=76,SNR=13							
BHW	**Baring Head**	**72.91**	**212**	P		**P**	**08 22 39.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**83.01**	**48**	P		**P**	**08 23 35.3**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=213,slow=7.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**83.01**	**48**	P		**P**	**08 23 34.3**	**-0.5**
ASAR	**Alice Springs**	**96.38**	**181**	P		**P**	**08 24 38.1**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=186,slow=8.4,SNR=3.4							
WRA	**Warramunga Arr**	**100.08**	**182**	P		**Pdif**	**08 24 57.1**	**+1.9**
	comp=Z,0.5nm,1.0s,baz=157,slow=4.6,SNR=2.8							

ILAR	**Eielson Array**	**144.89**	**313**	PKP	PKPbc	08 30 43.9	-0.4
	comp=Z,1.3nm,0.7s,baz=144,slow=1.6,SNR=13						
ILAR	**Eielson Array**	**144.89**	**313**		**PKPdf**	**08 30 44.8**	**-0.3**
BVAR	**Borovoye Array**	**146.26**	**74**	PKPbc	**PKPdf**	**08 30 47.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=238,slow=2.8,SNR=5.1						
MKAR	**Makanchi Array**	**148.10**	**92**	PKPbc	**PKPdf**	**08 30 51.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=233,slow=3.2,SNR=4.3						
MKAR	**Makanchi Array**	**148.10**	**92**		**PKPdf**	**08 30 52.0**	**+0.9**
KURBB	**Kurchatov Arra**	**148.75**	**83**	PKPbc	**PKPbc**	**08 30 56.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=235,slow=2.9,SNR=3.4						
KURK	**Kurchatov**	**148.86**	**83**		**PKPab**	**08 31 01.0**	**+0.9**

THE 17 08:14:06.7, 43°.29N×20°.49E, h0km±10km, ML3.6/5, Error ellipse: s-maj=15.9km s-min=1.7km az=328.0
PRU 17 08:14:10.3±0.0, 42°.64N×21°.13E, h0km
LDG 17 08:14:12.7±0.1, 42°.88N×21°.06E, h2km, Ml3.4/11, Error ellipse: s-maj=3.0km s-min=1.5km az=20.0
ISCJB 17 08:14:12.8±0.2, 42°.90N±0°.01×21°.00E±0°.01, h5km±2km, Error ellipse: s-maj=1.7km s-min=1.6km az=156.6
SKO 17 08:14:12.4, 42°.99N×21°.15E, h0km, M2.3
TIR 17 08:14:13.7, 42°.72N×21°.07E, h3km, Md3.6/5
PDG 17 08:14:13.8±0.4, 42°.88N×21°.01E, h13km, MD3.5/3, ML3.6/11, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0
NEIC 17 08:14:14.6±1.2, 42°.90N±0°.02×21°.02E±0°.05, h10km±6km, ML3.9(BUC)
SIK 17 08:14:14.0, 42°.86N×21°.01E, h10km, M3.7
SOF 17 08:14:14.8, 42°.91N×21°.29E, h2km
BEO 17 08:14:14.8±0.2, 42°.89N×21°.03E, h8km±1km, ML3.6/15

ISC 17 08:14:13.8±1.0, 42°.87N±0°.01×21°.03E±0°.01, h8km±8km, n264, σ1§28/341, 54C-27D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.35**	**11**	⇓*e*Pg		**Pg**	**08 14 21.1**	**+0.3**
SELS				*e*Sg		**Sb**	**08 14 26.6**	**-1.6**
BARS	**Barje**	**0.58**	**95**	⇓*e*Pg		**Pb**	**08 14 25.5**	**-0.8**
BARS				*e*Sg		**Sb**	**08 14 33.8**	**-0.9**
BARS	**Barje**	**0.58**	**95**	⇑*e*Pg		**Sn**	**08 14 38.5**	**+0.3**
IVA				*e*Sg		**Sb**	**08 14 41.9**	**-0.2**
PVY	**Plav**	**0.84**	**251**	⇑*i*Pg		**Pg**	**08 14 28.8**	**-1.1**
PVY				*e*Sg		**Sg**	**08 14 41.5**	**+0.7**
SJES	**Sjenica**	**0.87**	**297**	⇑*e*Pg		**Pg**	**08 14 29.7**	**-0.8**
SJES				*e*Sg		**Sg**	**08 14 41.8**	**0.0**
BCI	**Bajram Curri**	**0.87**	**235**	*i* PG		**Pg**	**08 14 30.1**	**-0.5**
BCI				*i* SG		**Sg**	**08 14 42.9**	**+1.0**
BOVS	**Bovan**	**0.91**	**33**	⇑*e*Pg		**Pb**	**08 14 31.6**	**-0.3**
BOVS				*e*Sg		**Sb**	**08 14 44.0**	**-0.2**
SKO	**Skopje**	**0.95**	**161**	⇓*e*Pg		**Pg**	**08 14 31.4**	**-0.7**
SKO	**Skopje**	**0.95**	**161**	*i* Pg		**Pg**	**08 14 31.3**	**-0.7**
SKO				*i* Sg		**Sb**	**08 14 45.1**	**-0.1**
SKO				*e*Lg		Lg	08 14 45.8	
	comp=E,86nm,0.3s							
SKO				*e*Lg		Lg	08 14 45.8	
	comp=N,131nm,0.3s							
IVAS	**Ivanjica**	**0.95**	**318**	⇑*e*Pg		**Pg**	**08 14 31.3**	**-0.9**
GRUS	**Gruza**	**1.04**	**347**	⇑*e*Pg		**Pb**	**08 14 34.2**	**0.0**
GRUS				*e*Sg		**Sb**	**08 14 48.4**	**+0.4**
KOME	**Kolasin**	**1.11**	**269**	⇑*i*Pg		**Pg**	**08 14 34.3**	**-0.9**
KOME				*e*Sg		**Sn**	**08 14 51.6**	**+0.1**
BOSS	**Bosilegrad**	**1.13**	**109**	⇓*e*Pg		**Pn**	**08 14 36.2**	**+0.2**
PUK	**Puka**	**1.18**	**226**	*i* PG		**Pg**	**08 14 35.3**	**-1.2**
PUK				*i* SG		**Sb**	**08 14 53.0**	**+1.0**
PHP	**Peshkopia**	**1.26**	**200**	P		**Pg**	**08 14 36.0**	**-2.1**
PHP	**Peshkopia**	**1.26**	**200**	*i* PN		**Pg**	**08 14 36.6**	**-1.5**
PHP				*i* SN		**Sn**	**08 14 57.7**	**+2.6**
PLE	**Pljevlja**	**1.29**	**291**	⇑*i*Pg		**Pg**	**08 14 37.6**	**-0.9**
PLE				*e*Sg		**Sn**	**08 14 57.8**	**+2.0**
ZAGS	**Zajecar**	**1.29**	**43**	⇑*e*Pg		**Pg**	**08 14 38.0**	**-0.5**
ZAGS				*e*Sg		**Sn**	**08 14 55.7**	**+0.1**
PDG	**Podgorica**	**1.38**	**252**	⇑*e*Pg		**Pn**	**08 14 40.0**	**+0.6**
PDG	**Podgorica**	**1.38**	**252**	*e*Pg		**Pn**	**08 14 38.5**	**-0.8**
PDG				*i* Sg		**Sn**	**08 15 00.5**	**+2.7**
PDG	**Podgorica**	**1.38**	**252**	*e*Pn		**Pn**	**08 14 38.4**	**-1.0**
PDG	**Podgorica**	**1.38**	**252**	⇑P		**Pn**	**08 14 39.3**	**-0.1**
PDG				⇓S		**Sn**	**08 14 59.0**	**+1.1**
PDG					AML	AML	08 15 01.9	
PDG	**Podgorica**	**1.38**	**252**			**Pn**	**08 14 38.6**	**-0.8**
PDG						**Sn**	**08 14 58.6**	**+0.7**
TTG	**Podgorica**	**1.38**	**252**	⇑*i*Pg		**Pn**	**08 14 38.9**	**-0.5**
TTG				*e*Sg		**Sn**	**08 15 00.9**	**+3.0**
SVIS	**Svilajnac**	**1.40**	**5**	⇓*e*Pg		**Pb**	**08 14 40.1**	**-0.2**
BLKB	**Belogradchik**	**1.42**	**57**	⇓S		**Sn**	**08 14 59.6**	**+0.8**
BLKB					AML	AML	08 15 05.0	
RUDO	**Rudo**	**1.43**	**302**	*e*Pn		**Pn**	**08 14 38.5**	**-1.6**
TRUS	**Trudelj**	**1.43**	**342**	⇑*e*Pg		**Pn**	**08 14 39.6**	**-0.5**
DIVS	**Divibare**	**1.44**	**329**	⇑*e*Pg		**Pn**	**08 14 39.9**	**-0.5**
DIVS	**Divibare**	**1.44**	**329**	⇑*i*Pn		**Pn**	**08 14 39.9**	**-0.5**
STIP	**Stip**	**1.46**	**143**	*i* Pn		**Pn**	**08 14 40.0**	**-0.5**
NKY	**Niksic**	**1.50**	**268**	⇑*i*Pg		**Pn**	**08 14 41.5**	**+0.3**
NKY				*e*Sg		**Sg**	**08 15 03.3**	**+1.3**
DRME	**Dracevica, Mon**	**1.53**	**244**	*e*Pn		**Pn**	**08 14 40.5**	**-0.9**
DRME	**Dracevica, Mon**	**1.53**	**244**	⇓*i*Pg		**Pn**	**08 14 41.4**	**0.0**
DRME				*e*Sg		**Sg**	**08 15 03.9**	**+1.0**
NKME	**Niksic**	**1.53**	**267**	⇑*i*Pg		**Pn**	**08 14 41.7**	**+0.1**
NKME				*e*Sg		**Sg**	**08 15 04.0**	**+0.9**
BBLS	**Lazići**	**1.55**	**311**	⇓*e*Pg		**Pg**	**08 14 43.4**	**-0.1**
BBLS	**Lazići**	**1.55**	**311**	⇑*i*Pn		**Pn**	**08 14 41.4**	**-0.4**
CEME	**Cevo**	**1.59**	**259**	⇑*i*Pn		**Pn**	**08 14 42.4**	**0.0**
CEME				*e*Sn		**Sg**	**08 15 05.1**	**+0.2**
UPM	**Unac-Piva**	**1.59**	**283**	⇑*i*Pn		**Pn**	**08 14 42.7**	**+0.2**
UPM	**Unac-Piva**	**1.59**	**283**	⇑*i*Pn		**Pn**	**08 14 42.8**	**+0.2**
UPM				*e*Sn		**Sg**	**08 15 05.5**	**+0.4**
ULC	**Ulcinj**	**1.60**	**236**	*i* Pn		**Pn**	**08 14 43.4**	**+0.8**
ULC	**Ulcinj**	**1.60**	**236**	⇑*i*Pn		**Pb**	**08 14 43.6**	**-0.1**
ULC				*e*Sn		**Sg**	**08 15 06.3**	**+1.0**
KUBS	**Kucevo**	**1.61**	**17**	*e*Pg		**Pn**	**08 14 42.9**	**+0.3**
KUBS				*e*Sg		**Sg**	**08 15 06.0**	**+0.4**
VTS	**Vitosha**	**1.64**	**98**	⇑*e*Pg		**Pn**	**08 14 43.6**	**+0.4**
VTS	**Vitosha**	**1.64**	**98**	P		**Pn**	**08 14 43.2**	**0.0**
VTS	**Vitosha**	**1.64**	**98**	⇓P		**Pn**	**08 14 43.4**	**+0.2**
VTS				⇑S		**Sg**	**08 15 06.6**	**-0.1**
VTS					AML	AML	08 15 10.4	
VTS	**Vitosha**	**1.64**	**98**			**Pn**	**08 14 43.7**	**+0.4**
VTS						**Sb**	**08 15 05.0**	**-0.4**
BUM	**Brajici-Budva**	**1.68**	**251**	⇑*i*Pn		**Pn**	**08 14 44.2**	**+0.6**
BUM				*e*Sn		**Sg**	**08 15 07.7**	**0.0**
TIR	**Tirane**	**1.75**	**210**	⇑*e*Pg		**Pb**	**08 14 46.8**	**+0.6**
TIR	**Tirane**	**1.75**	**210**	*e*Pn		**Pg**	**08 14 47.1**	**-0.3**
TIR	**Tirane**	**1.75**	**210**	*i* PN		**Pb**	**08 14 46.7**	**+0.4**
TIR				*i* SN		**Sg**	**08 15 10.7**	**+0.6**
TIR	**Tirane**	**1.75**	**210**	⇑P		**Pb**	**08 14 46.2**	**0.0**
TIR				⇓S		**Sg**	**08 15 10.0**	**-0.1**
TIR					AML	AML	08 15 20.3	
TIR	**Tirane**	**1.75**	**210**			**Pn**	**08 14 45.2**	**+0.7**
TIR						**Sn**	**08 15 06.9**	**-0.2**
KKB	**Krupnik**	**1.82**	**123**	*i* Pn		**Pn**	**08 14 45.7**	**+0.2**
KKB	**Krupnik**	**1.82**	**123**	P		**Pn**	**08 14 46.5**	**+1.0**
BRY	**Bratogost**	**1.83**	**272**	*e*Pn		**Pn**	**08 14 45.9**	**+0.1**
BRY	**Bratogost**	**1.83**	**272**	⇓*i*Pn		**Pn**	**08 14 46.1**	**+0.3**
BRY				*e*Sn		**Sb**	**08 15 11.3**	**+0.5**
HCY	**Herceg Novi**	**1.92**	**258**	*e*Pn		**Pn**	**08 14 48.2**	**+1.4**
HCY	**Herceg Novi**	**1.92**	**258**	⇑*i*Pn		**Pn**	**08 14 47.0**	**+0.2**
HCY				*e*Sn		**Sb**	**08 15 13.5**	**+0.3**
VAY	**Valandovo**	**1.93**	**143**	*i* Sg		**Sg**	**08 15 17.7**	**+2.0**
HAPS	**Han Pijesak,Bl**	**1.94**	**309**	*e*Pn		**Pn**	**08 14 46.3**	**-1.0**
HAPS	**Han Pijesak,Bl**	**1.94**	**309**	*e*Pn		**Pn**	**08 14 46.0**	**-1.3**
PUNG	**Punghina**	**1.97**	**44**	⇑P		**Pn**	**08 14 47.9**	**+0.3**
PUNG				⇑S		**Sb**	**08 15 14.3**	**-0.4**
PUNG					AML	AML	08 15 21.5	
MDVR	**Moldovita**	**1.97**	**14**	⇑P		**Pn**	**08 14 47.4**	**-0.3**
MDVR				⇓S		**Sb**	**08 15 15.0**	**+0.1**
MDVR					AML	AML	08 15 21.5	
MDVR	**Moldovita**	**1.97**	**14**			**Pn**	**08 14 47.4**	**-0.3**
MDVR						**Sb**	**08 15 15.0**	**+0.1**
TREB	**Trebinje**	**1.98**	**266**	⇓*e*Pg		**Pb**	**08 14 49.6**	**-0.5**
TREB				*e*Sg		**Sg**	**08 15 17.5**	**+0.1**
TREB	**Trebinje**	**1.98**	**266**	*e*Pn		**Pn**	**08 14 48.7**	**+1.0**
BEO	**Beograd**	**1.98**	**348**	⇓*e*Pg		**Pb**	**08 14 50.2**	**+0.1**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pg		**Pb**	**08 14 51.0**	**+0.5**
TEKS				*e*Sg		**Sg**	**08 15 18.4**	**+0.3**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pn		**Pn**	**08 14 48.0**	**0.0**
DJES	**Djerdap**	**2.09**	**31**	*e*Pn		**Pn**	**08 14 49.3**	**0.0**
FNA	**Florina**	**2.10**	**173**	*e*Pn		**Pb**	**08 14 51.8**	**-0.4**
FNA	**Florina**	**2.10**	**173**	P		**Pn**	**08 14 50.2**	**+0.8**
FNA				S		**Sg**	**08 15 21.9**	**+0.6**
	comp=N,448nm,0.4s							
FNA	**Florina**	**2.10**	**173**	*i* PN		**Pb**	**08 14 51.9**	**-0.3**
FNA				*i* SN		**Sb**	**08 15 18.0**	**-0.5**
FNA	**Florina**	**2.10**	**173**			**Pb**	**08 14 51.5**	**-0.7**
DBRK	**Dubrovnik**	**2.13**	**266**	*e*Pn		**Pn**	**08 14 51.3**	**+1.5**
DBRK				Sn		**Sb**	**08 15 20.1**	**+0.7**
GRG	**Griva**	**2.17**	**151**	P		**Pn**	**08 14 51.0**	**+0.7**
GRG				S		**Sg**	**08 15 25.6**	**+2.1**
KNT	**Kendrikon**	**2.20**	**140**	P		**Pn**	**08 14 51.2**	**+0.5**
HERR	**Herculane**	**2.25**	**26**	⇓P		**Pn**	**08 14 51.6**	**+0.3**
HERR				⇑S		**Sn**	**08 15 20.6**	**+1.3**
HERR					AML	AML	08 15 28.3	
PGB	**Panagyurishte**	**2.33**	**97**	P		**Pn**	**08 14 53.7**	**+1.1**
MMB	**Musomiste**	**2.38**	**122**	P		**Pb**	**08 14 56.3**	**-0.6**
SRE	**Strehaia**	**2.38**	**41**	⇑P		**Pn**	**08 14 54.2**	**+0.9**
SRE				⇑S		**Sn**	**08 15 23.9**	**+1.2**
SRE					AML	AML	08 15 34.3	
SRE	**Strehaia**	**2.38**	**41**			**Pn**	**08 14 54.2**	**+0.9**
SRE						**Sn**	**08 15 23.9**	**+1.2**
STON	**Ston**	**2.45**	**271**	*e*Pn		**Pn**	**08 14 55.1**	**+1.0**
STON	**Ston**	**2.45**	**271**	*e*Pn		**Pn**	**08 14 55.6**	**+1.5**
STON				Sn		**Sb**	**08 15 27.4**	**-1.0**
STON	**Ston**	**2.45**	**271**	⇑*i*Pn		**Pn**	**08 14 55.3**	**+1.2**
FRGS	**Fruska Gora**	**2.45**	**339**	*e*Pn		**Pn**	**08 14 54.0**	**-0.2**
FRGS				*e*Sn		**Sn**	**08 15 25.2**	**+0.9**
FRGS	**Fruska Gora**	**2.45**	**339**	⇑*i*Pn		**Pn**	**08 14 53.6**	**-0.6**
NEST	**Nestorio**	**2.45**	**180**	P		**Pn**	**08 14 54.5**	**+0.2**
NEST				S		**Sb**	**08 15 30.9**	**+2.2**
	comp=N,295nm,1.1s							
NVR	**Nevrokopi**	**2.60**	**125**	P		**Pn**	**08 14 56.3**	**+0.1**
NVR				S		**Sg**	**08 15 37.5**	**+0.3**
	comp=N,400nm,0.4s							
KZN	**Kozani**	**2.62**	**168**	P		**Pn**	**08 14 56.1**	**-0.5**
PENT	**Pentalofos**	**2.67**	**178**	P		**Pn**	**08 14 57.1**	**-0.2**
PLVB	**Pleven**	**2.68**	**78**	⇓P		**Pn**	**08 14 58.6**	**+1.4**
PLVB				⇑S		**Sb**	**08 15 33.1**	**-1.9**
PLVB					AML	AML	08 15 45.3	
SOH	**Sokhos**	**2.68**	**139**	P		**Pn**	**08 14 58.9**	**+1.5**
SOH				S		**Sg**	**08 15 39.7**	**-0.3**
	comp=N,265nm,0.6s							
VLAD	**Vladila**	**2.70**	**64**	⇓P		**Pn**	**08 14 59.3**	**+1.7**
VLAD					AML	AML	08 15 53.2	
HORT	**Hortiatis**	**2.75**	**145**	P		**Pn**	**08 14 58.8**	**+0.5**
BZS	**Buzias**	**2.78**	**9**	*e*Pn		**Pn**	**08 14 59.0**	**+0.4**
BZS				*e*Sn		**Sn**	**08 15 32.5**	**+0.2**
BZS	**Buzias**	**2.78**	**9**	⇓P		**Pn**	**08 14 59.2**	**+0.5**
BZS				⇓S		**Sn**	**08 15 32.5**	**+0.2**
BZS					AML	AML	08 15 47.1	
BZS	**Buzias**	**2.78**

CFR	Carcaliu	5.62 63	⇑P	Pn	08 15 38.0	+0.4
CFR	Carcaliu	5.62 63		Pn	08 15 38.0	+0.4
KECS	Kecovo	5.63 356	*e*PN	Pn	08 15 38.2	+0.4
KECS			*e*SN	Sn	08 16 44.3	+1.7
AQU	L'Aquila	5.65 267	Pn	Pn	08 15 38.3	+0.1
TOPG	Topolog	5.68 67	⇑P	Pn	08 15 39.4	+0.9
SKDS	Skadanscina	5.71 300	*e*Pn	Pn	08 15 39.8	+0.9
SOKA	Soboth	5.72 314	*e*Pn	Pn	08 15 39.2	+0.1
	comp=N,1.1nm,0.2s					
SOKA			*e*Sn	Sn	08 16 45.2	+0.2
	comp=N,3.2nm,0.3s					
ITM	Ithomi	5.72 173		Pn	08 15 40.1	+0.9
NRCA	Norcia	5.82 272		Pn	08 15 40.4	-0.1
VYHS	Vyhne	5.83 345	*e*PN	Pn	08 15 41.3	+0.7
VYHS			*e*PG	Pg	08 16 03.7	-1.7
VYHS			*e*SN	Sn	08 16 46.4	-1.2
ARSA	Arzberg	5.86 320	*e*Pn	Pn	08 15 41.0	-0.1
ARSA	Arzberg	5.86 320	Pn	Pn	08 15 41.1	+0.1
	SNR=16					
ARSA			Sn	Sn	08 16 50.1	+1.6
	comp=N,7.0nm,0.5s					
OBKA	Obir	5.88 310	*e*Pn	Pn	08 15 41.9	+0.6
	comp=N,7.5nm,0.4s,SNR=12					
TRI	Trieste	5.94 301	Pn	Pn	08 15 41.9	-0.2
TLCR		6.07 65	⇑P	Pn	08 15 44.9	+1.0
TLCR		6.07 65		Pn	08 15 44.9	+1.0
MODS	Modra-Piesok	6.10 336	*e*PN	Pn	08 15 44.1	-0.2
MODS			*e*SN	Sn	08 16 51.5	-2.8
KOLS	Kolonicke sedl	6.12 8	*e*PN	Pn	08 15 46.0	+1.4
KOLS			*e*PG	Pg	08 16 12.1	+1.0
KOLS			*e*SN	Sn	08 16 54.6	-0.3
KOLS			*e*SG	Sg	08 17 36.4	+6.0
SMOL	Smolenice	6.18 337	*e*PN	Pn	08 15 46.8	+1.4
SMOL			*e*SN	Sn	08 16 56.2	0.0
CONA	Conrad Observa	6.23 326	*e*Pn	Pn	08 15 45.3	-0.9
	comp=N,3.1nm,0.4s					
CONA			Sn	Sn	08 16 58.0	+0.4
	comp=N,7.9nm,0.5s					
MURB	Monte Urbino	6.24 276	Pn	Pn	08 15 45.6	-0.8
LANS	Liptovska Anna	6.38 351	*e*PN	Pn	08 15 50.2	+2.1
JAVC	Velka Javorina	6.43 340	*e*PN	Pn	08 15 50.6	+1.7
MYKA	Terra Mystica	6.46 308	*e*Pn	Pn	08 15 50.6	+1.2
	comp=N,10nm,0.5s,SNR=10					
STAL	STALIGIAL	6.84 303	Pn	Pn	08 15 55.0	+0.6
MOA	Molln	6.89 319	*e*Pn	Pn	08 15 56.0	+0.8
MOA	Molln	6.89 319	*e*Pn	Pn	08 15 55.9	+0.8
	comp=N,2.5nm,0.5s					
MOA			Sn	Sn	08 17 16.5	+2.7
	comp=N,13nm,0.7s					
KRUC	Moravsky	6.98 334	*e*PN	Pn	08 15 56.0	-0.4
OSSC	Osservatorio P	7.18 279	Pn	Pn	08 15 59.4	+0.2
TEOL	Teolo	7.18 293	Pn	Pn	08 15 58.9	-0.2
ABTA	Abfaltersbach	7.19 306	*e*Pn	Pn	08 16 01.1	+1.7
	comp=N,5.0nm,0.5s,SNR=7.0					
MORC	Moravsky Berou	7.32 342	*e*PN	Pn	08 16 01.5	+0.5
MORC			*e*SN	Sn	08 17 21.9	-2.4
MORC	Moravsky Berou	7.32 342	Pn	Pn	08 16 01.5	+0.5
MORC			Sn	Sn	08 17 22.8	-1.5
CTI	Castel Tesino	7.42 299		Pn	08 16 02.6	+0.1
CASP	Castiglione de	7.47 273	Pn	Pn	08 16 04.2	+1.0
KRLC	Kraliky	7.78 339	*e*PN	Pn	08 16 08.0	+0.6
KRLC			*e*SN	Sn	08 17 36.8	+1.2
VLC	Villacollemand	7.84 283	Pn	Pn	08 16 08.7	+0.5
GEC2	GERESS Array S	7.86 322		Pn	08 16 09.9	+1.4
GERES	GERESS Array B	7.86 322		Pn	08 16 10.3	+1.8
WTTA	Wattenberg	7.97 307	*e*Pn	Pn	08 16 12.2	+2.1
	comp=N,11nm,0.4s,SNR=10					
WATA	Walderalm	8.04 307	*e*Pn	Pn	08 16 13.1	+2.1
	comp=N,16nm,0.6s,SNR=18					
KHC	Kasperske Hory	8.13 323	*e*PN	Pn	08 16 12.1	0.0
KHC			*e*SN	Sn	08 17 46.1	+1.9
KHC	Kasperske Hory	8.13 323		Pn	08 16 11.9	-0.2
DPC	Dobruska-Polom	8.15 338	*e*PN	Pn	08 16 12.9	+0.4
DPC			*e*SN	Sn	08 17 45.7	+0.9
SQTA	Sankt Quirin	8.20 305	*e*Pn	Pn	08 16 14.8	+1.6
	comp=N,8.2nm,0.5s,SNR=12					
MOTA	Moosalm	8.32 306	*e*Pn	Pn	08 16 16.0	+1.1
	comp=N,7.5nm,0.5s,SNR=15					
MOTA			Sn	Sn	08 17 48.2	-0.9
	comp=N,2.5nm,0.6s					
FETA	Feichten	8.40 303	*e*Pn	Pn	08 16 17.3	+1.3
	comp=N,3.2nm,0.6s,SNR=7.4					
MSSA	Maissana	8.48 284	Pn	Pn	08 16 16.8	-0.2
RETA	Reutte	8.60 306	*e*Pn	Pn	08 16 20.1	+1.5
	comp=N,1.8nm,0.4s,SNR=5.5					
PGF	Pioggiola	8.87 272	*e*P	Pn	08 16 25.6	+3.3
PGF			*e*Sn	Sn	08 17 54.8	-7.7
	comp=N,5.9nm,0.5s					
DAVA	Damuels	9.04 303	Pn	Pn	08 16 26.1	+1.4
	comp=N,0.9nm,0.2s					
SBF	Sospel	9.95 280	*e*P	Pn	08 16 40.1	+2.9
SBF			*e*Sn	Sn	08 18 20.5	-8.6
	comp=N,7.3nm,0.3s					
SENIN	Lac Senin/Sane	10.39 294	Pn	Pn	08 16 43.2	-0.1
BFO	Black Forest	10.44 306		Pn	08 16 43.8	+0.1
MBDF	Montbardon	10.48 285	*e*Pn	Pn	08 16 43.4	-1.0
MBDF	Montbardon	10.48 285	*e*P	Pn	08 16 48.0	+3.6
MBDF			*e*Sn	Sn	08 18 32.9	-9.1
	comp=N,2.8nm,0.7s					
FRF	La Foret Royal	10.53 279	*e*Pn	Pn	08 16 43.7	-1.3
FRF			*e*Sn	Sn	08 18 34.4	-8.6
	comp=N,1.0nm,0.3s					
BNI	Bardonecchia	10.58 287	Pn	Pn	08 16 45.8	0.0
LPG	La Plagne	10.59 289	*e*P	Pn	08 16 49.1	+3.0
LPG			*e*Sn	Sn	08 18 36.1	-8.9
LPL	La Plagne	10.60 289	*e*P	Pn	08 16 49.1	+2.9
LMR	La Mourre	10.63 277	*e*Pn	Pn	08 16 44.8	-1.6
LMR			*e*Sn	Sn	08 18 35.8	-10
	comp=N,0.2nm,0.3s					
ECH	Echery	11.10 304	Pn	Pn	08 16 52.4	-0.3
CDF	Champ du Feu	11.10 305	*e*Pn	Pn	08 16 50.1	-2.8
CDF			*e*Sn	Sn	08 18 47.7	-10
	comp=N,1.0nm,0.4s					
ORIF	Oris-en-Rattie	11.12 286	*e*Pn	Pn	08 16 50.8	-2.5
ORIF			*e*Sn	Sn	08 18 48.5	-9.4
	comp=N,3.0nm,0.7s					
HINF	Hinteralfeld	11.13 301	*e*P	Pn	08 16 56.3	+3.0
HINF			*e*Sn	Sn	08 18 48.5	-9.4
	comp=N,0.5nm,0.2s					
SUW	Suwalki	11.24 7		Sn	08 18 59.0	-1.5
SMRF	Simiane la Rot	11.30 281	*e*Pn	Pn	08 16 53.4	-2.2
HAU	Haudompre	11.52 302	*e*P	Pn	08 17 01.3	+2.8
VIVF	Saint-Julien-l	11.98 285	*e*Pn	Pn	08 17 01.9	-2.9
VIVF			*e*Sn	Sn	08 19 08.8	-10
	comp=N,0.3nm,0.2s					
LASF	Ste Croix	12.54 281	*e*Sn	Sn	08 19 21.8	-11
	comp=N,0.4nm,0.2s					
LOR	Lormes	12.91 296	*e*Pn	Pn	08 17 14.4	-3.1
LOR			*e*Sn	Sn	08 19 30.9	-10
	comp=N,0.8nm,0.4s					
MTLF	Montolieu	13.76 278	*e*Pn	Pn	08 17 26.2	-2.9
NC602	NORSAR Array S	18.79 345	P	P	08 18 32.6	-0.8
COI	Coimbra	22.15 273	P	P	08 19 11.4	+1.4
RAYN	Ar Rayn	27.97 126	P	P	08 20 04.2	-0.8

ISCJB ***17*** *08:36:47.8±0.5, 3°.47S±0°.05×127°.28E±0°.03, h10km, mb3.9/6, Error ellipse: s-maj=7.2km s-min=4.2km az=19.5*
DJA ***17*** *08:36:48.4±0.3, 3°.5±3°×12°.7E±°, h10km, M4.1/9, mb4.5/2, MLv4.0/9*
IDC ***17*** *08:36:53.0±1.7, 3°.57S×127°.44E, h47km±18km, mb3.6/6, mb1 4.0/9, mb1mx3.7/36, mbtmp4.0/9, ML4.1/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/43, Error ellipse: s-maj=17.1km s-min=13.2km az=136.0*
ISC 17 08:36:48.7±0.6, **3°.43S**±0°.06×**127°.27E**±0°.04, **h10**km, **n20,** σ1**9**/**88**/26, **mb3.8**/6, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.26**	**318**	P	**Pb**	**08 36 54.5**	**-1.0**
NLAI				S	**Sb**	**08 36 58.4**	**-1.6**
AAI	**Ambon**	**0.95**	**105**	P	**Pg**	**08 37 06.1**	**-1.0**
AAI				S	**Sb**	**08 37 20.4**	**+0.3**
MSAI	**Masohi**	**1.66**	**87**	P	**Pb**	**08 37 19.1**	**-0.3**
MSAI				S	**Sb**	**08 37 40.9**	**+0.6**
SANI	**Sanana**	**1.88**	**317**	P	**Pn**	**08 37 20.6**	**-0.3**
SANI				S	**Sn**	**08 37 44.6**	**-0.1**
BNDI	**Bandanaira**	**2.84**	**113**	P	**Pn**	**08 37 34.3**	**+0.1**
TNTI	**Ternate**	**4.18**	**1**	P	**Pn**	**08 37 55.2**	**+2.6**
SWI	**Sorong**	**4.73**	**57**	P	**Pn**	**08 38 00.3**	**+0.1**
SIJI	**Sorong**	**4.73**	**58**	P	**Pn**	**08 38 00.6**	**+0.3**
	14nm,0.3s,baz=231,slow=7.0,SNR=18						
SIJI				S	**Sn**	**08 38 54.9**	**-0.4**
	3.2nm,0.3s,baz=70,slow=21,SNR=19						
MRSI	**Marisa**	**6.59**	**306**	P	**Pn**	**08 38 28.2**	**+2.4**
SOEI	**Soe**	**6.96**	**205**	P	**Pn**	**08 38 28.7**	**-2.2**
KAPI	**Kappang**	**7.66**	**258**	P	**Pn**	**08 38 44.3**	**+3.8**
	2.1nm,0.3s,baz=78,slow=8.8,SNR=5.5						
KAPI				S	**Sn**	**08 40 10.8**	**+3.4**
	0.6nm,0.3s,baz=232,slow=19,SNR=3.7						
KAPI				LR	LR	08 41 42.9	
	comp=Z,93nm,20.5s,baz=56,slow=37						
JAY	**Jayapura**	**13.45**	**86**	LR	LR	08 46 48.6	
	comp=Z,129nm,18.2s,baz=68,slow=45						
WRA	**Warramunga Arr**	**17.80**	**158**	P	**Pn**	**08 40 53.2**	**-3.6**
	0.6nm,0.3s,baz=341,slow=12,SNR=24						
ASAR	**Alice Springs**	**21.11**	**163**	P	**P**	**08 41 33.1**	**-0.6**
	14nm,0.8s,baz=346,slow=12,SNR=148						
ASAR				PcP	**PcP**	**08 45 37.2**	**-3.0**
	0.4nm,0.5s,baz=360,slow=1.5,SNR=6.6						
STKA	**Stephens Creek**	**31.34**	**156**	P	**P**	**08 43 08.1**	**-1.5**
	0.3nm,0.2s,baz=349,slow=16,SNR=2.7						
MJAR	**Matsushiro Arr**	**41.06**	**13**	P	**P**	**08 44 31.6**	**-1.0**
	0.8nm,0.5s,baz=191,slow=10,SNR=4.7						
USRK	**Ussuriysk Ar.**	**47.60**	**5**	P	**P**	**08 45 25.6**	**+0.8**
	3.1nm,0.7s,baz=181,slow=9.0,SNR=5.2						
SONM	**Songino Array**	**54.23**	**343**	P	**P**	**08 46 15.6**	**+0.7**
	0.6nm,1.0s,baz=162,slow=10.0,SNR=2.4						
MKAR	**Makanchi Array**	**63.77**	**327**	P	**P**	**08 47 22.7**	**+1.7**
	0.4nm,0.6s,baz=132,slow=8.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**125.39**	**284**	PKP	**PKPdf**	**08 55 49.2**	**-1.9**
	0.5nm,0.6s,baz=90,slow=1.4,SNR=2.9						

ISCJB ***17*** *08:49:04.7±0.6, 57°.05S±0°.2×150°.9W±0°.2, h10km, mb3.9/5, Error ellipse: s-maj=31.6km s-min=12.8km az=13.1*
IDC ***17*** *08:49:04.7±0.9, 56°.86S×150°.70W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/25, mbtmp3.9/5, Error ellipse: s-maj=42.3km s-min=24.7km az=8.0*
NEIC ***17*** *08:49:06.6±1.0, 57°.05±0°.1×150°.8W±0°.2, h10km±1km, mb4.5/10*
ISC 17 08:49:06.4±0.7, **57°.05**±0°.2×**150°.8W**±0°.1, **h10**km, **n23,** σ0**58**/**20**, **mb4.2**/**9**, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODZ	**Otahua Downs**	**26.66**	**280**	P	**P**	**08 54 45.2**	**+0.1**
ODZ				IAmb	IAmb	08 54 58.4	
	comp=Z,17nm,1.3s						
OUZ	**Omahuta**	**32.33**	**297**	P	**P**	**08 55 36.2**	**+0.7**
OUZ				IAmb	IAmb	08 55 47.3	
	comp=Z,9.5nm,1.4s						
QSPA	**South Pole Qui**	**33.19**	**180**	P	**P**	**08 55 43.7**	**+0.7**
	comp=Z,2.0nm,1.1s,baz=56,slow=11,SNR=3.1						
QSPA	**South Pole Qui**	**33.19**	**180**	P	**P**	**08 55 43.0**	**+0.1**
PLCA	**Paso Flores**	**52.09**	**108**	P	**P**	**08 58 16.2**	**-0.1**
PLCA				IAmb	IAmb	08 58 30.8	
	comp=Z,7.6nm,1.3s						
ASAR	**Alice Springs**	**62.53**	**268**	P	**P**	**08 59 29.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=139,slow=6.4,SNR=14						
ASAR	**Alice Springs**	**62.53**	**268**	P	**P**	**08 59 30.5**	**+0.2**
H01W1	**Cape Leeuwin H**	**64.11**	**246**	T	T	10 09 39.5	
	baz=141,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**64.11**	**246**	T	T	10 09 42.7	
	baz=141,slow=76,SNR=5.8						
H01W3	**Cape Leeuwin H**	**64.13**	**246**	T	T	10 09 40.3	
	baz=141,slow=76,SNR=4.8						
WRA	**Warramunga Arr**	**65.28**	**271**	P	**P**	**08 59 49.1**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=146,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**65.28**	**271**	P	**P**	**08 59 48.1**	**-0.3**
WRAB	**Tennant Creek**	**65.28**	**271**	P	**P**	**08 59 48.5**	**+0.1**
MNMC	**Minye Minye**	**69.40**	**94**	P	**P**	**09 00 15.5**	**+0.8**
CPUP	**Villa Florida**	**70.16**	**108**	P	**P**	**09 00 18.4**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=228,slow=12,SNR=2.9						
CPUP	**Villa Florida**	**70.16**	**108**	P	**P**	**09 00 19.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**71.54**	**265**	P	**P**	**09 00 28.0**	**+0.5**
FITZ				IAmb	IAmb	09 00 32.5	
	comp=Z,6.7nm,1.4s						
PSA00	**Pilbara Seismi**	**71.86**	**258**	P	**P**	**09 00 28.0**	**-1.4**
LPAZ	**La Paz**	**72.52**	**93**	P	**P**	**09 00 34.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=259,slow=10,SNR=7.3						
LPAZ	**La Paz**	**72.52**	**93**	P	**P**	**09 00 33.9**	**-0.1**
ILAR	**Eielson Array**	**121.44**	**2**	PKP	**PKPdf**	**09 07 57.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=207,slow=2.1,SNR=7.4						
MKAR	**Makanchi Array**	**146.51**	**275**	PKPbc	**PKPbc**	**09 08 46.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=112,slow=6.4,SNR=9.5						
MKAR	**Makanchi Array**	**146.51**	**275**		**PKPdf**	**09 08 45.9**	**+0.5**

IDC ***17*** *09:04:53.4±0.3, 60°.37S×46°.63W, h0km, mb5.6/32, mb1 5.6/33, mb1mx5.5/38, mbtmp5.6/33, ML4.4/1, MS7.8/22, Ms1 7.8/22, ms1mx7.6/27, Error ellipse: s-maj=13.4km s-min=9.9km az=67.0*
ISCJB ***17*** *09:04:54.6±0.1, 60°.29S±0°.02×46°.38W±0°.07, h10km, mb6.0/53, MS7.9/95, Error ellipse: s-maj=4.9km s-min=3.1km az=176.0*
BJI ***17*** *09:04:54.6±0.0, 60°.27S×46°.41W, h10km, mB7.4/43, Ms8.2/74, Ms7 8.2/66*
NEIC ***17*** *09:04:55.4, 60°.30S×45°.55W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^20^Nm; Mrr=0.22; Mθθ=1.29; Mφφ=-1.07; Mrθ=0.82; Mθφ=3.75; Mφr=3.22; Fault plane solution: M0=5.15000×10^20^ NP1:φs=99.00000°, δ50.00000°, λ=0.00000°. NP2:φs=190.00000°, δ=89.00000°, λ=-139.00000°. Principal axes: T 5.3392, Plg27.0000°, Azm317.0000°; N -0.3998, Plg50.0000°, Azm191.0000°; P -4.9394, Plg28.0000°, Azm62.0000°;*
MOS ***17*** *09:04:55.0±1.2, 60°.28S×46°.43W, h13km, mb6.5/23, MS7.9/57 Error ellipse: s-maj=19.0km s-min=8.0km az=96.2*
NEIC ***17*** *09:04:55.5±2.7, 60°.27S±0°.07×46°.4W±0°.2, h10km±1km, mb6.7/156, Ms_20 7.7/810, Mwc7.6, Mww7.7, Mwc7.8(GCMT)*
GCMT ***17*** *09:05:40.5±0.1, 60°.49S±0°.01×45°.32W±0°.01, h24km, MW7.8/143, Moment Tensor Solution. s17,c19; s143,c503; Duration: 18s9 Moment tensor: Scale 10^20^ Nm; Mrr=0.06±.02; Mθθ=1.21±.01; Mφφ=-1.27±.01; Mrθ=1.56±.12; Mθφ=3.86±.01; Mφr=3.95±.16; Best double couple: M0=5.81800×10^20^ NP1:φs=10.00000°, δ=88.00000°, λ=134.00000°. NP2:φs=102.00000°, δ=44.00000°, λ=3.00000°. Principal axes: T 6.2750, Plg32.0000°, Azm316.0000°; N -0.9160, Plg44.0000°, Azm189.0000°; P -5.3600, Plg29.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*
NEIC ***17*** *09:05:41, 60°.50S×45°.46W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^20^Nm; Mrr=0.14; Mθθ=1.34; Mφφ=-1.20; Mrθ=1.06; Mθφ=3.63; Mφr=3.76; Fault plane solution: M0=5.48000×10^20^ NP1:φs=101.00000°, δ=45.00000°, λ=0.00000°. NP2:φs=191.00000°, δ=90.00000°, λ=-135.00000°. Principal axes: T 5.6942, Plg30.0000°, Azm316.0000°; N -0.4495, Plg45.0000°, Azm191.0000°; P -5.2447, Plg30.0000°, Azm66.0000°;*
NEIC ***17*** *09:05:52.1, 59°.88S×46°.22W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^20^Nm; Mrr=0.45; Mθθ=1.14; Mφφ=-1.59; Mrθ=-0.49; Mθφ=2.54; Mφr=1.49; Fault plane solution: M0=3.20000×10^20^ NP1:φs=101.88000°, δ=68.09000°, λ=-7.44000°. NP2:φs=194.67000°, δ=83.10000°, λ=-157.92000°. Principal axes: T 2.7225, Plg10.0000°, Azm326.0000°; N 0.9530, Plg67.0000°, Azm211.0000°; P -3.6755, Plg20.0000°, Azm60.0000°;*
ISC 17 09:04:56.3±0.5, **60°.38S**±0°.04×**46°.59W**±0°.04, **h8**km±2km, **h8**km:**pP-P**, **n2216**, σ4**9**/**09**/1634, **mb6.7**/109, **MS7.7**/491, **53C-35D**, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.19**	**46**	*i* P	**Pn**	**09 06 52.0**	**-3.2**
HOPE	**Hope Point**	**8.19**	**46**	*e*P	**Pn**	**09 06 51.0**	**-4.3**
HOPE	**Hope Point**	**8.19**	**46**		**Pn**	**09 06 52.6**	**-2.7**
PMSA	**Palmer Station**	**9.17**	**234**	*e*P	**Pn**	**09 07 07.2**	**-1.4**
PMSA	**Palmer Station**	**9.17**	**234**	Pn	**Pn**	**09 07 06.7**	**-1.9**
	3.8nm,0.3s,baz=63,slow=9.1,SNR=50						
PMSA	**Palmer Station**	**9.17**	**234**		**Pn**	**09 07 10.0**	**+1.4**
PMSA	**Palmer Station**	**9.17**	**234**	*e*P	**Pn**	**09 07 10.5**	**+1.9**
EFI	**East Falkland**	**10.81**	**319**	*c*e*P	**Pn**	**09 07 32.1**	**+0.9**
EFI				pmax	pmax		
	comp=Z,498nm,0.7s						
EFI	**East Falkland**	**10.81**	**319**	*e*P	**Pn**	**09 07 30.9**	**-0.3**
EFI	**East Falkland**	**10.81**	**319**		**Pn**	**09 07 30.0**	**-1.1**
I02AR	**USHUAIA INFRAS**	**12.54**	**288**	Pn	**Pn**	**09 07 55.2**	**+0.5**
	baz=90,slow=18,SNR=1.5						
I02AR				*i*		10 20 20.0	
	baz=125,slow=321,SNR=1.9						
USHA	**Ushuaia**	**12.93**	**286**	*e*P	**Pn**	**09 08 02.9**	**+2.9**
USHA	**Ushuaia**	**12.93**	**286**	Pn	**Pn**	**09 08 01.5**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=122,slow=14,SNR=51						
USHA				LR	LR	09 11 59.5	
	comp=Z,5038μm,20.7s,baz=139,slow=33						
GO10	**Punta Arenas**	**15.17**	**288**	⇑*e*P	**Pn**	**09 08 32.5**	**+1.9**
GO10	**Punta Arenas**	**15.17**	**288**		**Pn**	**09 08 32.3**	**+1.7**
VNA3	**Neumayer Olymp**	**18.25**	**142**	P	**Pn**	**09 09 08.8**	**-0.7**
VNA1	**Neumayer--Stat**	**18.53**	**139**	P	**P**	**09 09 12.1**	**-0.6**
VNA2	**Neumayer--Watz**	**18.88**	**140**	P	**P**	**09 09 16.6**	**0.0**
	baz=289,slow=12						
SNAA	**Sanae**	**20.47**	**141**	P	**P**	**09 09 34.6**	**+0.5**
SNAA	**Sanae**	**20.47**	**141**	*d*iP	**P**	**09 09 33.9**	**-0.2**
SNAA	**Sanae**	**20.47**	**141**	P	**P**	**09 09 34.2**	**+0.1**
	comp=Z,306nm,0.9s,baz=288,slow=8.9,SNR=92						
SNAA				LR	LR	09 16 10.8	
	comp=Z,924μm,21.3s,baz=302,slow=33						
SNAA	**Sanae**	**20.47**	**141**	P	**P**	**09 09 34.3**	**+0.3**
TRQA	**Tornquist**	**24.38**	**329**	P	**P**	**09 10 14.3**	**-0.4**
TRQA				pmax	pmax		
	comp=Z,6μm,1.3s						
TRQA	**Tornquist**	**24.38**	**329**	P	**P**	**09 10 14.3**	**-0.4**
TRQA	**Tornquist**	**24.38**	**329**	*e*P	**P**	**09 10 15.1**	**+0.4**
PLCA	**Paso Flores**	**24.62**	**312**	*e*P	**P**	**09 10 16.1**	**-0.8**
PLCA	**Paso Flores**	**24.62**	**312**	P	**P**	**09 10 15.4**	**-1.5**
	comp=Z,72nm,0.9s,baz=186,slow=8.6,SNR=118						
PLCA	**Paso Flores**	**24.62**	**312**	P	**P**	**09 10 16.1**	**-0.8**
GO06	**Curarrehue**	**25.96**	**312**	P	**P**	**09 10 28.5**	**-0.6**
GO06				IAMs_20	IAMs_20	09 20 36.3	
	comp=Z,2114μm,21.0s						
LPA	**La Plata**	**26.53**	**339**	*i* P	**P**	**09 10 40.2**	**+6.1**
LPA				PCP	**PcP**	**09 13 57.2**	**-1.3**
LPA				S	**S**	**09 15 09.2**	**+0.9**
LPA				sS	sS	09 15 23.8	+12
LPA				SS	**SnSn**	**09 16 08.9**	**-0.7**
OGAUY	**Aigu**	**26.59**	**345**	*e*P	**P**	**09 10 34.8**	**+0.1**
OGAUY	**Aigu**	**26.59**	**345**	*e*P	**P**	**09 10 34.8**	**+0.1**
PLTB	**Pedras Altas**	**29.00**	**348**	*e*P	**P**	**09 10 57.0**	**+0.7**
PLTB	**Pedras Altas**	**29.00**	**348**	*e*P	**P**	**09 10 57.0**	**+0.7**
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**09 11 04.1**	**+0.3**
	comp=Z,335nm,1.0s,baz=175,slow=4.2,SNR=286						
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**09 11 04.7**	**+0.8**
GO05	**Huala**	**30.21**	**316**	P	**P**	**09 11 05.4**	**-1.6**
GO05				IAmb	IAmb	09 11 57.7	
	comp=Z,2μm,1.3s						
GO05				IAMs_20	IAMs_20	09 24 11.3	
	comp=Z,1218μm,18.0s						
CPSB	**Cacapava Do Su**	**30.32**	**348**	*e*P	**P**	**09 11 08.6**	**+0.6**
CPSB	**Cacapava Do Su**	**30.32**	**348**	*e*P	**P**	**09 11 08.6**	**+0.6**
MRA	**San Martin**	**30.68**	**327**	*e*P	**P**	**09 11 11.1**	**-0.2**
CNLB	**Canela**	**31.20**	**353**	*e*P	**P**	**09 11 16.1**	**+0.3**
CNLB	**Canela**	**31.20**	**353**	*e*P	**P**	**09 11 16.1**	**+0.3**
ACAN	**Cantantal**	**31.23**	**325**	*e*P	**P**	**09 11 14.2**	**-1.9**
TCA	**Tanti**	**31.42**	**330**	*e*P	**P**	**09 11 17.0**	**-0.8**
PEL	**Peldehue**	**31.49**	**319**	P	**P**	**09 11 17.4**	**-1.0**
PEL				pmax	pmax		
	comp=Z,2μm,1.1s						
PEL				MLR	MLR		
	comp=Z,1118μm,18.0s						
PEL	**Peldehue**	**31.49**	**319**	P	**P**	**09 11 17.4**	**-1.0**
PEL				IAMs_20	IAMs_20	09 26 13.0	
	comp=Z,1118μm,18.0s						
ROC1	**El Roble**	**31.75**	**319**	*e*P	**P**	**09 11 24.1**	**+3.2**
ROC1	**El Roble**	**31.75**	**319**		**P**	**09 11 21.2**	**+0.3**
H09W1	**TRISTAN DA CUN**	**31.84**	**59**	T	T	09 44 59.9	
	SNR=54						
H09N1	**TRISTAN DA CUN**	**31.87**	**59**	T	T	09 44 55.1	
	SNR=11						
RTCV	**Cerro Valdivia**	**32.01**	**323**	*e*P	**P**	**09 11 21.3**	**-1.6**
CFA	**Coronel Fontan**	**32.16**	**324**	P	**P**	**09 11 22.2**	**-2.0**
	comp=Z,32nm,0.7s,baz=174,slow=7.8,SNR=24						
CFA				LR	LR	09 25 09.3	
	comp=Z,1341μm,21.8s,baz=164,slow=38						
RTLS	**Leoncito**	**32.30**	**322**	*e*P	**P**	**09 11 24.9**	**-0.8**
AMOG	**MOGNA**	**32.86**	**324**	*e*P	**P**	**09 11 31.6**	**+1.2**
ITAB	**Concordia**	**33.35**	**351**	*e*P	**P**	**09 11 36.4**	**+1.8**
ITAB	**Concordia**	**33.35**	**351**	*e*P	**P**	**09 11 36.4**	**+1.8**
ACCO	**Cerro Coronel**	**33.35**	**323**	*e*P	**P**	**09 11 35.6**	**+0.5**

BSFB Barra de Sao F 41.70 8 *eP* **P 09 12 44.0 -1.4**
BSFB Barra de Sao F 41.70 8 *eP* **P 09 12 44.0 -1.4**
PMNB Patos De Minas 41.79 0 *eP* **P 09 12 45.5 -0.7**
PMNB Patos De Minas 41.79 0 *eP* **P 09 12 45.5 -0.7**
C2SB Chapadao do Su 41.80 351 *eP* **P 09 12 45.8 -0.4**
C2SB Chapadao do Su 41.80 351 *eP* **P 09 12 45.8 -0.4**
SJMB Sao Joao De Ma 41.81 8 *eP* **P 09 12 45.8 -0.4**
SJMB Sao Joao De Ma 41.81 8 *eP* **P 09 12 45.8 -0.4**
IPMB Ipameri, GO 42.36 358 *eP* **P 09 12 49.1 -1.7**
IPMB Ipameri, GO 42.36 358 *eP* **P 09 12 49.1 -1.7**
MAW Mawson 42.42 148 P **P 09 12 51.9 +1.2**
MAW pmax pmax
comp=Z,301nm,1.3s
MAW Mawson 42.42 148 P **P 09 12 50.8 +0.1**
comp=Z,83nm,0.9s,baz=228,slow=9.0,SNR=34
MAW LR LR 09 30 23.0
comp=Z,5197µm,18.3s,baz=242,slow=36
MAW Mawson 42.42 148 P **P 09 12 51.9 +1.2**
PB01 IPOC Station P 42.50 327 IAmb IAmb 09 14 03.6
comp=Z,2µm,0.9s
PP1B Ponte de Pedra 43.14 348 *eP* **P 09 12 56.5 -0.5**
PP1B Ponte de Pedra 43.14 348 *eP* **P 09 12 56.5 -0.5**
GO01 Chusmiza 43.73 328 IAmb IAmb 09 13 52.5
comp=Z,1µm,0.9s
BDFB Brasilia 44.68 358 P **P 09 13 08.5 -1.1**
BDFB pmax pmax
comp=Z,753nm,1.0s
BDFB MLR MLR
comp=Z,443µm,20.0s
BDFB Brasilia 44.68 358 P **P 09 13 08.0 -1.6**
comp=Z,160nm,1.0s,baz=176,slow=5.1,SNR=114
BDFB LR LR 09 31 20.4
comp=Z,115µm,21.0s,baz=173,slow=36
BDFB Brasilia 44.68 358 P **P 09 13 08.5 -1.1**
BDFB IAmb IAmb 09 14 25.2
comp=Z,753nm,1.0s
I09BR BRASILIA INFRA 44.69 358 P **P 09 13 09.3 -0.3**
baz=209,slow=38,SNR=4.0
ARAG Araguaiana, MT 44.77 353 *eP* **P 09 13 09.1 -1.0**
ARAG Araguaiana, MT 44.77 353 *eP* **P 09 13 09.1 -1.0**
JANB Januaria 45.28 3 *eP* **P 09 13 12.7 -1.6**
JANB Januaria 45.28 3 *eP* **P 09 13 12.7 -1.6**
SIV San Ignacio 45.55 340 LR LR 09 30 51.5
comp=Z,401µm,21.9s,baz=182,slow=34
NBIT Itapeh - BA 45.68 10 *eP* **P 09 13 16.9 -0.5**
NBIT Itapeh - BA 45.68 10 *eP* **P 09 13 16.9 -0.5**
LPAZ La Paz 46.71 331 P **P 09 13 25.2 -1.0**
comp=Z,28nm,0.8s,baz=167,slow=6.4,SNR=56
LPAZ La Paz 46.71 331 IAmb IAmb 09 14 19.9
comp=Z,773nm,1.0s
LPAZ La Paz 46.71 331 *eP* **P 09 13 26.4 +0.2**
LPAZ La Paz 46.71 331 *eP* **P 09 13 26.4 +0.2**
I08BO LAS PENAS INFR 46.86 331 P P 09 13 33.4 +6.2
baz=147,slow=5.7,SNR=2.5
NBPN Ponto Novo - B 49.66 8 *eP* **P 09 13 46.2 -2.2**
NBPN Ponto Novo - B 49.66 8 *eP* **P 09 13 46.2 -2.2**
NBLA Lagarto - SE 49.72 11 *eP* **P 09 13 48.0 -0.8**
NBLA Lagarto - SE 49.72 11 *eP* **P 09 13 48.0 -0.8**
NBAN Anadia - AL 51.19 13 *eP* **P 09 13 58.1 -1.8**
NBAN Anadia - AL 51.19 13 *eP* **P 09 13 58.1 -1.8**
SUR Sutherland 51.38 89 P **P 09 13 60.0 -1.5**
SUR Sutherland 51.38 89 P **P 09 14 01.0 -0.5**
comp=Z,84nm,0.8s,baz=211,slow=8.3,SNR=22
SUR LR LR 09 31 13.1
comp=Z,3504µm,21.4s,baz=214,slow=31
SUR Sutherland 51.38 89 P **P 09 14 01.9 +0.5**
SMTB Santa Maria do 51.41 359 *eP* **P 09 14 00.5 -1.0**
SMTB Santa Maria do 51.41 359 *eP* **P 09 14 00.5 -1.0**
NBRF Rio Formoso - 52.30 14 *eP* **P 09 14 05.9 -2.2**
NBRF Rio Formoso - 52.30 14 *eP* **P 09 14 05.9 -2.2**
CASY Casey 52.52 169 P **P 09 14 09.1 -0.1**
CASY IAmb IAmb 09 14 36.2
comp=Z,1µm,1.4s
SAML Samuel 52.81 339 P **P 09 14 11.1 -0.8**
SAML pmax pmax
comp=Z,1µm,1.3s
SAML MLR MLR
comp=Z,333µm,18.0s
SAML Samuel 52.81 339 P **P 09 14 11.1 -0.8**
SAML IAmb IAmb 09 14 33.8
comp=Z,1µm,1.2s
SAML Samuel 52.81 339 *eP* **P 09 14 11.6 -0.3**
NNA Nana 53.20 322 *i P* **P 09 14 14.9 0.0**
NNA MLR MLR
comp=Z,647µm,18.0s
NNA Nana 53.20 322 P **P 09 14 13.2 -1.7**
NNA IAmb IAmb 09 15 06.1
comp=Z,2µm,1.4s
NNA Nana 53.20 322 IAms_20 IAms_20 09 37 48.2
comp=Z,472µm,19.0s
NBMA Muriti-CE 53.23 10 *eP* **P 09 14 13.7 -1.4**
NBMA Muriti-CE 53.23 10 *eP* **P 09 14 13.7 -1.4**
SHEL Horse Pasture 53.23 52 P P 09 14 14.5 -0.6
SHEL Horse Pasture 53.23 52 P **P 09 14 14.5 -0.6**
RPN Rapa Nui 53.39 279 LR LR 09 32 14.1
comp=Z,421µm,18.8s,baz=147,slow=31
RPN Rapa Nui 53.39 279 IAms_20 IAms_20 09 33 09.1
comp=Z,500µm,18.0s
NBLI Livramento-PB 53.40 12 *eP* **P 09 14 15.2 -1.1**
NBLI Livramento-PB 53.40 12 *eP* **P 09 14 15.2 -1.1**
NBPV Pedro Velho 54.51 14 *eP* **P 09 14 22.6 -1.8**
NBPV Pedro Velho 54.51 14 *eP* **P 09 14 22.6 -1.8**
CRZF Crozet Islands 54.81 123 P **P 09 14 28.2 +2.0**
CRZF IAmb IAmb 09 15 39.7
comp=Z,1µm,1.4s
NBPB Pedra_Branca-C 54.97 9 *eP* **P 09 14 26.2 -1.5**
NBPB Pedra_Branca-C 54.97 9 *eP* **P 09 14 26.2 -1.5**
NBPA Parau_RN 54.97 12 *eP* **P 09 14 27.1 -0.6**
NBPA Parau_RN 54.97 12 *eP* **P 09 14 27.1 -0.6**
RCBR Riachuelo 55.02 13 P **P 09 14 26.6 -1.6**
RCBR pmax pmax
comp=Z,1µm,1.4s
RCBR MLR MLR
comp=Z,387µm,20.0s
RCBR Riachuelo 55.02 13 LR LR 09 37 14.3
comp=Z,416µm,18.5s,baz=188,slow=35
RCBR Riachuelo 55.02 13 P **P 09 14 26.6 -1.6**
RCBR IAmb IAmb 09 15 07.5
comp=Z,1µm,1.4s
RCBR Riachuelo 55.02 13 *eP* **P 09 14 26.8 -1.3**
NBPS Pedro II - PI 55.99 6 *eP* **P 09 14 33.4 -1.7**
NBPS Pedro II - PI 55.99 6 *eP* **P 09 14 33.4 -1.7**
NBCL Cascavel-CE 56.37 10 *eP* **P 09 14 36.7 -1.1**
NBCL Cascavel-CE 56.37 10 *eP* **P 09 14 36.7 -1.1**
BOSA Boshof 56.66 90 *i P* **P 09 14 35.9 -4.1**
BOSA Boshof 56.66 90 P **P 09 14 38.2 -1.7**
BOSA pmax pmax
comp=Z,2µm,1.3s
BOSA Boshof 56.66 90 P **P 09 14 37.8 -2.2**
comp=Z,92nm,1.0s,baz=204,slow=7.4,SNR=38
BOSA LR LR 09 34 28.8
comp=Z,3081µm,20.0s,baz=212,slow=31
BOSA PKP2bc 09 44 45.9
comp=Z,13nm,1.1s,baz=45,slow=1.4,SNR=3.7
BOSA Boshof 56.66 90 *i P* **P 09 14 35.9 -4.1**
BOSA Boshof 56.66 90 P **P 09 14 38.2 -1.7**
NBMO Morrinhos-CE 57.15 8 *eP* **P 09 14 40.9 -2.4**
NBMO Morrinhos-CE 57.15 8 *eP* **P 09 14 40.9 -2.4**
ASCN Ascension 57.64 39 P **P 09 14 46.3 -0.4**
ASCN IAMs_20 IAMs_20 09 35 45.2
comp=Z,774µm,18.0s
H10N3 ASCENSION HYDR 57.68 39 T T 10 17 51.0
baz=199,slow=75,SNR=43
H10N1 ASCENSION HYDR 57.68 39 T T 10 17 44.3
baz=199,slow=75,SNR=53
H10N2 ASCENSION HYDR 57.70 39 T T 10 17 46.7
baz=199,slow=75,SNR=48
ATAH Atahualpa 58.26 322 PKP2bc **P'P'bc 09 44 44.0 +5.7**
comp=Z,12nm,1.1s,baz=28,slow=2.4,SNR=3.9
LBTB Lobatse 59.81 88 P **P 09 14 59.7 -2.3**
LBTB pmax pmax
comp=Z,2µm,1.3s
LBTB Lobatse 59.81 88 P **P 09 14 59.9 -2.1**
comp=Z,143nm,0.7s,baz=211,slow=7.6,SNR=94
LBTB LR LR 09 35 58.8
comp=Z,2509µm,21.9s,baz=218,slow=31
LBTB Lobatse 59.81 88 P **P 09 14 59.7 -2.3**
TSUM Tsumeb 60.77 77 P **P 09 15 07.0 -1.7**
TSUM IAmb IAmb 09 16 22.7
comp=Z,1µm,1.5s
MCQ Macquarie Isla 63.67 196 IAMs_20 IAMs_20 09 41 12.5
comp=Z,491µm,19.0s
PTLC Puerto Leguiza 64.20 328 *eP* P 09 15 24.4 -7.0
PTLC Puerto Leguiza 64.20 328 *eP* P 09 15 24.4 -7.0

OTAV Otavalo 65.27 324 *eP* **P 09 15 36.2 -2.7**
OTAV Otavalo 65.27 324 *eP* **P 09 15 36.2 -2.7**
OTAV Otavalo 65.27 324 P **P 09 15 38.4 -0.5**
OTAV pmax pmax
comp=Z,2µm,1.4s
OTAV MLR MLR
comp=Z,458µm,22.0s
OTAV Otavalo 65.27 324 P **P 09 15 38.4 -0.5**
OTAV Otavalo 65.27 324 IAMs_20 IAMs_20 09 45 04.9
comp=Z,458µm,22.0s
OTAV Otavalo 65.27 324 *eP* **P 09 15 39.5 +0.6**
PTCN Pitcairn Islan 65.38 262 IAMs_20 IAMs_20 09 39 32.9
comp=Z,490µm,18.0s
FLOC Florencia 65.78 328 *eP* **P 09 15 39.6 -2.1**
FLOC Florencia 65.78 328 *eP* **P 09 15 39.6 -2.1**
MACC Macarena, Meta 65.86 330 *eP* **P 09 15 41.0 -1.2**
MACC Macarena, Meta 65.86 330 *eP* **P 09 15 41.0 -1.2**
GUVC San Jose del G 65.94 331 *eP* **P 09 15 41.3 -1.4**
GUVC San Jose del G 65.94 331 *eP* **P 09 15 41.3 -1.4**
CRUC La Cruz 66.11 326 *eP* **P 09 15 43.2 -1.0**
CRUC La Cruz 66.11 326 *eP* **P 09 15 43.2 -1.0**
SOTA Rioblanco 66.56 327 *eP* **P 09 15 45.4 -1.9**
SOTA Rioblanco 66.56 327 *eP* **P 09 15 45.4 -1.9**
BBAC Balboa, Cauca 66.63 326 *eP* **P 09 15 46.5 -0.9**
BBAC Balboa, Cauca 66.63 326 *eP* **P 09 15 46.5 -0.9**
PCON Cinco Dias 66.69 327 *eP* P 09 15 41.8 -6.4
PCON Cinco Dias 66.69 327 *eP* P 09 15 41.8 -6.4
BETC Betania 66.78 328 *eP* **P 09 15 44.1 -4.0**
BETC Betania 66.78 328 *eP* **P 09 15 44.1 -4.0**
PTGC Puerto Gaitan, 67.42 332 *eP* **P 09 15 49.1 -3.0**
PTGC Puerto Gaitan, 67.42 332 *eP* **P 09 15 49.1 -3.0**
VILC Villavicencio, 67.71 331 *eP* **P 09 15 52.6 -1.5**
VILC Villavicencio, 67.71 331 *eP* **P 09 15 52.6 -1.5**
ORTC Ortega, Tolima 67.90 329 *eP* **P 09 15 56.1 +0.9**
ORTC Ortega, Tolima 67.90 329 *eP* **P 09 15 56.1 +0.9**
CVER Cruz Verde, Cu 68.20 330 *eP* **P 09 15 55.2 -2.4**
CVER Cruz Verde, Cu 68.20 330 *eP* **P 09 15 55.2 -2.4**
CHIC Chingaza 68.22 331 *eP* **P 09 15 56.0 -1.6**
CHIC Chingaza 68.22 331 *eP* **P 09 15 56.0 -1.6**
YOTC Yotoco, Valle 68.26 328 *eP* **P 09 15 56.1 -1.4**
YOTC Yotoco, Valle 68.26 328 *eP* **P 09 15 56.1 -1.4**
PAYG Puerto Ayora 68.33 312 *eP* **P 09 15 58.4 +0.5**
PAYG Puerto Ayora 68.33 312 *eP* **P 09 15 58.4 +0.5**
PAYG Puerto Ayora 68.33 312 P **P 09 15 58.0 +0.1**
PAYG IAmb IAmb 09 16 47.1
comp=Z,1µm,1.4s
PAYG Puerto Ayora 68.33 312 IAMs_20 IAMs_20 09 40 33.6
comp=Z,765µm,22.0s
ANIL Santa Ana 68.50 329 *eP* **P 09 15 57.3 -2.0**
ANIL Santa Ana 68.50 329 *eP* **P 09 15 57.3 -2.0**
CTZ Chatham Island 68.51 217 P **P 09 15 58.6 -0.1**
MALC Bahia Malaga 68.56 327 *eP* P 09 16 04.7 +5.5
MALC Bahia Malaga 68.56 327 *eP* P 09 16 04.7 +5.5
ROSC El Rosal 68.57 330 *eP* **P 09 15 56.0 -3.8**
ROSC El Rosal 68.57 330 *eP* **P 09 15 56.0 -3.8**
ROSC El Rosal 68.57 330 P **P 09 15 59.2 -0.6**
comp=Z,36nm,0.8s,baz=159,slow=5.0,SNR=30
ROSC PKP2bc 09 44 15.4
comp=Z,5.6nm,0.4s,baz=345,slow=16,SNR=5.2
ROSC El Rosal 68.57 330 IAmb IAmb 09 17 38.8
comp=Z,1µm,1.3s
TOLC Tolima 68.57 329 *eP* **P 09 15 55.5 -4.2**
TOLC Tolima 68.57 329 *eP* **P 09 15 55.5 -4.2**
RREF El Recreo 68.88 329 *eP* **P 09 16 05.0 +2.9**
RREF El Recreo 68.88 329 *eP* **P 09 16 05.0 +2.9**
PLMC San Jos del P 69.13 328 *eP* P 09 15 56.1 -6.8
PLMC San Jos del P 69.13 328 *eP* P 09 15 56.1 -6.8
GUY2C Guyana, Caldas 69.20 329 *eP* **P 09 16 02.1 -1.7**
GUY2C Guyana, Caldas 69.20 329 *eP* **P 09 16 02.1 -1.7**
RUSC La Rusia 69.28 332 *eP* **P 09 15 59.6 -4.7**
RUSC La Rusia 69.28 332 *eP* **P 09 15 59.6 -4.7**
SPBC San Pablo de B 69.29 331 *eP* P 09 15 56.1 -7.7
SPBC San Pablo de B 69.29 331 *eP* P 09 15 56.1 -7.7
LSZ Lusaka 69.32 84 *i P* P 09 15 55.1 -9.1
LSZ Lusaka 69.32 84 P **P 09 16 03.5 -0.8**
SNR=156
LSZ Lusaka 69.32 84 P **P 09 16 02.8 -1.4**
LSZ pmax pmax
comp=Z,1µm,1.1s
LSZ Lusaka 69.32 84 *i P* P 09 15 55.1 -9.1
LSZ Lusaka 69.32 84 P **P 09 16 02.9 -1.4**
NORC Norcasia 69.40 330 *eP* P 09 15 52.6 -12
NORC Norcasia 69.40 330 *eP* P 09 15 52.6 -12
APZ The Paps 69.50 205 P P 09 16 10.8 +6.0
TAMC Tame, Arauca 69.51 333 *eP* P 09 15 59.7 -5.5
TAMC Tame, Arauca 69.51 333 *eP* P 09 15 59.7 -5.5
SYZ Scrubby Hill 69.54 205 P **P 09 16 09.7 +4.6**
ELOV Elorza 69.56 336 *eP* **P 09 16 04.6 -0.9**
ELOV Elorza 69.56 336 *eP* **P 09 16 04.6 -0.9**
HHSZ Highcliff Hill 69.84 207 P P 09 16 16.4 +9.5
CBOC Ciudad Bolivar 69.98 329 *eP* **P 09 16 05.8 -2.5**
CBOC Ciudad Bolivar 69.98 329 *eP* **P 09 16 05.8 -2.5**
BARC Barichara 69.98 332 *eP* **P 09 16 04.0 -4.4**
BARC Barichara 69.98 332 *eP* **P 09 16 04.0 -4.4**
HELC Santa Helena 70.17 329 *eP* **P 09 16 06.9 -2.7**
HELC Santa Helena 70.17 329 *eP* **P 09 16 06.9 -2.7**
PTBC PUERTO BERRIO, 70.23 330 *eP* **P 09 16 13.8 +4.1**
PTBC PUERTO BERRIO, 70.23 330 *eP* **P 09 16 13.8 +4.1**
FOMA Nahampoana Res 70.34 106 P **P 09 16 09.6 -0.6**
SNR=23
WHZ Wether Hill Ro 70.41 205 P **P 09 16 10.2 -0.2**
WHZ Wether Hill Ro 70.41 205 IAmb IAmb 09 17 22.2
comp=Z,823nm,1.5s
WHZ IAMs_20 IAMs_20 09 44 12.4
comp=Z,406µm,20.0s
ORIV Oritupano 70.50 342 *eP* **P 09 16 11.3 +0.1**
PAMC Pamplona, Colo 70.59 332 *eP* P 09 16 03.2 -9.2
PAMC Pamplona, Colo 70.59 332 *eP* P 09 16 03.2 -9.2
BRRC Barranca, Sant 70.60 331 *eP* **P 09 16 08.2 -3.6**
BRRC Barranca, Sant 70.60 331 *eP* **P 09 16 08.2 -3.6**
ODZ Otahua Downs 70.63 207 P **P 09 16 12.3 +0.5**
ODZ Otahua Downs 70.63 207 IAmb IAmb 09 17 45.3
comp=Z,536nm,1.3s
ODZ IAMs_20 IAMs_20 09 44 45.0
comp=Z,369µm,20.0s
EAZ Earnscleugh 70.75 206 P P 09 16 23.1 +11
MLZ Mavora Lakes 70.87 205 P **P 09 16 13.1 -0.2**
MLZ Mavora Lakes 70.87 205 IAmb IAmb 09 17 54.2
comp=Z,696nm,1.5s
MLZ IAMs_20 IAMs_20 09 44 16.4
comp=Z,420µm,20.0s
DCZ Deep Cove 70.98 204 P **P 09 16 15.4 +1.5**
DCZ Deep Cove 70.98 204 IAmb IAmb 09 17 44.1
comp=Z,912nm,1.4s
DCZ IAMs_20 IAMs_20 09 45 02.2
comp=Z,468µm,20.0s
SOCV Socops 71.09 335 *eP* P 09 16 20.3 +5.4
SOCV Socops 71.09 335 *eP* P 09 16 20.3 +5.4
DBBC Dabeiba 71.14 329 *eP* **P 09 16 13.8 -1.4**
DBBC Dabeiba 71.14 329 *eP* **P 09 16 13.8 -1.4**
BAUV El Baul 71.17 338 *eP* **P 09 16 14.0 -1.2**
WKZ Wanaka 71.20 206 IAmb IAmb 09 18 27.9
comp=Z,1µm,1.5s
WKZ IAMs_20 IAMs_20 09 50 17.9
comp=Z,444µm,18.0s
ZARC Zaragoza, Cauc 71.25 330 *eP* P 09 16 03.2 -13
ZARC Zaragoza, Cauc 71.25 330 *eP* P 09 16 03.2 -13
LBZ Lake Benmore 71.36 207 P **P 09 16 20.9 +4.7**
LBZ Lake Benmore 71.36 207 IAmb IAmb 09 18 07.5
comp=Z,624nm,1.4s
LBZ IAMs_20 IAMs_20 09 47 46.6
comp=Z,414µm,18.0s
MQZ McQueen's Vall 71.43 209 P **P 09 16 15.5 -1.1**
MQZ McQueen's Vall 71.43 209 IAmb IAmb 09 17 50.1
comp=Z,677nm,1.4s
CRLZ Canterbury Las 71.56 209 IAmb IAmb 09 17 43.5
comp=Z,2µm,1.7s
OCAC Ocana 71.60 332 *eP* **P 09 16 17.3 -0.8**
OCAC Ocana 71.60 332 *eP* **P 09 16 17.3 -0.8**
SDV Santo Domingo 71.63 335 *eP* **P 09 16 16.0 -2.3**
SDV Santo Domingo 71.63 335 *eP* **P 09 16 16.0 -2.3**
SDV Santo Domingo 71.63 335 P **P 09 16 16.4 -1.9**
comp=Z,54nm,1.0s,baz=174,slow=5.1,SNR=20
SDV Santo Domingo 71.63 335 P **P 09 16 17.6 -0.7**
SDV IAmb IAmb 09 17 47.6
comp=Z,798nm,1.1s
SDV Santo Domingo 71.63 335 IAMs_20 IAMs_20 09 53 04.0
comp=Z,386µm,18.0s
SDV Santo Domingo 71.63 335 *eP* **P 09 16 17.5 -0.9**
PCRV Puerto La Cruz 71.78 341 P **P 09 16 18.5 -0.5**
comp=Z,133nm,1.1s,baz=107,slow=2.1,SNR=31
RPZ Rata Peaks 71.80 208 P **P 09 16 17.4 -1.5**
comp=Z,52nm,0.9s,baz=182,slow=5.0,SNR=13

RPZ PKPPKP **P'P'df 09 44 12.2 -3.2**
comp=Z,6.0nm,0.8s,baz=11,slow=9.5,SNR=3.3
RPZ LR LR 09 46 49.4
comp=Z,540µm,18.0s,baz=154,slow=35
RPZ Rata Peaks 71.80 208 P **P 09 16 18.5 -0.4**
RPZ Rata Peaks 71.80 208 P **P 09 16 18.3 -0.6**
RPZ IAmb IAmb 09 17 52.2
comp=Z,628nm,1.1s
RPZ IAMs_20 IAMs_20 09 46 47.8
comp=Z,541µm,18.0s
GUIV Guiria 71.88 344 *eP* **P 09 16 19.4 -0.1**
OXZ Oxford 71.93 209 P **P 09 16 21.6 +2.0**
JCZ Jackson Bay 71.97 206 P **P 09 16 20.5 +0.5**
GVZ Greta Valley S 72.03 209 P **P 09 16 20.0 -0.3**
FOZ Fox Glacier 72.25 207 P **P 09 16 22.9 +1.4**
FOZ Fox Glacier 72.25 207 IAmb IAmb 09 17 50.3
comp=Z,1µm,1.6s
FOZ IAMs_20 IAMs_20 09 48 14.9
comp=Z,613µm,19.0s
TOSP Speyside 72.30 346 P **P 09 16 21.5 -0.5**
SMLC San Martn de 72.32 331 *eP* **P 09 16 20.8 -1.4**
SMLC San Martn de 72.32 331 *eP* **P 09 16 20.8 -1.4**
LTZ Lake Taylor 72.39 209 P **P 09 16 22.0 -0.5**
LTZ Lake Taylor 72.39 209 IAmb IAmb 09 16 46.1
comp=Z,424nm,0.9s
KHZ Kahutara 72.42 210 P **P 09 16 22.0 -0.6**
KHZ Kahutara 72.42 210 IAMs_20 IAMs_20 09 46 26.7
comp=Z,601µm,18.0s
WVZ Waitaha Valley 72.48 208 P **P 09 16 23.7 +0.8**
INZ Inchbonnie 72.64 208 P **P 09 16 23.6 -0.4**
VOI Vohitsoka 72.72 104 P **P 09 16 25.6 +0.8**
SNR=62
PLWZ Palliser 72.78 212 P **P 09 16 24.2 -0.6**
AZU Azuero 72.98 325 *eP* **P 09 16 24.1 -2.1**
AZU Azuero 72.98 325 *eP* **P 09 16 24.1 -2.1**
BHW Baring Head 73.03 211 P **P 09 16 24.9 -1.4**
UPD2 Meteti 73.08 327 *eP* **P 09 16 26.8 +0.1**
UPD2 Meteti 73.08 327 *eP* **P 09 16 26.8 +0.1**
MTW Mount Morrison 73.10 212 P **P 09 16 26.3 -0.4**
SNZO South Karori 73.17 211 P **P 09 16 27.9 +0.8**
SNZO IAmb IAmb 09 17 52.6
comp=Z,974nm,1.4s
SNZO South Karori 73.17 211 IAMs_20 IAMs_20 09 46 52.5
comp=Z,424µm,19.0s
THZ Tophouse 73.20 210 P **P 09 16 28.2 +0.9**
TUWZ Tuamarina 73.25 211 P **P 09 16 29.4 +1.9**
CAW Cannon Point 73.27 212 P **P 09 16 27.9 +0.2**
GRGR Grenville 73.27 345 *eP* **P 09 16 26.6 -1.2**
GRGR Grenville 73.27 345 *eP* **P 09 16 28.0 +0.2**
GRGR Grenville 73.27 345 IAMs_20 IAMs_20 09 52 27.8
comp=Z,316µm,20.0s
CODC Agustn Codazz 73.27 332 *eP* **P 09 16 25.1 -2.7**
CODC Agustn Codazz 73.27 332 *eP* **P 09 16 25.1 -2.7**
BFZ Birch Farm 73.35 213 P **P 09 16 28.0 -0.2**
BFZ Birch Farm 73.35 213 IAmb IAmb 09 18 11.4
comp=Z,796nm,1.3s
BFZ IAMs_20 IAMs_20 09 48 08.3
comp=Z,344µm,19.0s
TCW Tory Channel 73.37 211 P **P 09 16 29.7 +1.4**
GRSS Sisters 73.43 345 *eP* **P 09 16 28.4 -0.3**
DSZ Denniston Nort 73.48 209 P **P 09 16 27.5 -1.4**
KIW Kapiti Island 73.54 212 P **P 09 16 33.7 +4.5**
MRZ Mangatainoka R 73.55 212 P **P 09 16 29.0 -0.3**
NNZ Nelson 73.59 210 IAMs_20 IAMs_20 09 46 37.5
comp=Z,436µm,18.0s
DABV Dabajuro 73.61 335 *eP* P 09 16 20.8 -9.0
DABV Dabajuro 73.61 335 *eP* P 09 16 20.8 -9.0
SJCC San Jacinto, C 73.64 331 *eP* **P 09 16 31.4 +1.3**
SJCC San Jacinto, C 73.64 331 *eP* **P 09 16 31.4 +1.3**
PNME Penonome 73.66 325 *eP* **P 09 16 31.2 +1.1**
PNME Penonome 73.66 325 *eP* **P 09 16 31.2 +1.1**
PXZ Pawanui 73.79 213 P **P 09 16 33.7 +2.9**
DUWZ D'Urville Isla 73.85 211 P **P 09 16 31.0 -0.1**
UPA Univ. de Panam 73.90 326 *eP* **P 09 16 33.1 +1.6**
UPA Univ. de Panam 73.90 326 *eP* **P 09 16 33.1 +1.6**
LIC Lamto 73.97 43 *eP* **P 09 16 30.2 -1.8**
comp=Z,4µm,1.4s
BBGH Gun Hill 74.01 347 *eP* P 09 16 39.5 +7.4
BBGH Gun Hill 74.01 347 *eP* P 09 16 41.2 +9.1
BBGH Gun Hill 74.01 347 IAMs_20 IAMs_20 09 53 35.4
comp=Z,401µm,20.0s
TSZ Takapari Road 74.01 213 P **P 09 16 34.3 +2.2**
PNHZ Pukenui 74.08 213 P **P 09 16 36.0 +3.4**
BCIP Isla Barro Col 74.17 326 *eP* **P 09 16 30.0 -3.1**
BCIP Isla Barro Col 74.17 326 *eP* **P 09 16 30.0 -3.1**
BCIP Isla Barro Col 74.17 326 P **P 09 16 32.6 -0.5**
BCIP pmax pmax
comp=Z,3µm,1.7s
BCIP Isla Barro Col 74.17 326 P **P 09 16 32.6 -0.5**
KIC Kosan Boka 74.20 44 *eP* **P 09 16 31.7 -1.6**
comp=Z,4µm,1.6s
FCV Fort Charlotte 74.22 345 *eP* **P 09 16 34.0 +0.6**
SVCV St. Vincent, C 74.33 345 *eP* **P 09 16 33.0 -1.0**
SVB Belmont 74.34 345 *eP* **P 09 16 34.1 +0.1**
SVB Belmont 74.34 345 *eP* P 09 16 41.4 +7.3
SVB Belmont 74.34 345 IAmb IAmb 09 18 03.1
comp=Z,512nm,0.9s
TIC Toumodi 74.37 43 *eP* **P 09 16 32.5 -1.8**
SVV Soufriere Volc 74.38 345 *eP* **P 09 16 34.6 +0.3**
DBIC Dimbokro 74.45 43 P **P 09 16 33.0 -1.8**
DBIC pmax pmax
comp=Z,1µm,1.4s
DBIC Dimbokro 74.45 43 P **P 09 16 33.4 -1.4**
comp=Z,131nm,1.0s,baz=182,slow=7.1,SNR=48
DBIC LR LR 09 43 55.7
comp=Z,651µm,18.3s,baz=174,slow=32
DBIC Dimbokro 74.45 43 P **P 09 16 33.0 -1.8**
DBIC IAmb IAmb 09 16 57.6
comp=Z,1µm,1.4s
KNZ Kokohu 74.51 214 P **P 09 16 36.3 +1.3**
BHHZ Black Hill Sta 74.52 213 P **P 09 16 34.7 -0.4**
SMRC Santa Marta, M 74.64 332 *eP* **P 09 16 31.4 -4.4**
SMRC Santa Marta, M 74.64 332 *eP* **P 09 16 31.4 -4.4**
URIC Uribia, Colomb 74.65 334 *eP* **P 09 16 34.9 -1.0**
URIC Uribia, Colomb 74.65 334 *eP* **P 09 16 34.9 -1.0**
BKZ Black Stump Fm 74.70 213 P **P 09 16 36.6 +0.4**
BKZ Black Stump Fm 74.70 213 IAmb IAmb 09 18 17.5
comp=Z,859nm,1.4s
BKZ IAMs_20 IAMs_20 09 45 58.0
comp=Z,374µm,19.0s
MCLT Moule a Chique 74.73 346 *eP* **P 09 16 34.5 -1.8**
MCLT Moule a Chique 74.73 346 *eP* **P 09 16 34.7 -1.6**
RAHZ Arahi 74.77 214 P **P 09 16 36.9 +0.4**
RIGZ Rimuhau 74.78 215 P **P 09 16 37.5 +0.9**
SLB Belfond 74.86 345 *eP* **P 09 16 37.0 -0.2**
SLPA Patience 74.87 346 *eP* **P 09 16 38.0 +0.8**
NGZ Ngauruhoe 74.94 213 P **P 09 16 38.0 +0.3**
SLBI Saint Lucia, B 75.04 346 *eP* **P 09 16 37.3 -0.8**
SLBI Saint Lucia, B 75.04 346 *eP* **P 09 16 39.1 +1.0**
RAGZ Rawiri 75.07 214 P **P 09 16 39.1 +0.7**
RTZ Ruatahuna 75.08 214 P **P 09 16 38.7 +0.3**
KSMZ Kasama 75.20 84 *i P* P 09 16 49.8 +10
KSMZ *i S* **S 09 26 24.4 +5.8**
PUZ Puketiti 75.23 215 P **P 09 16 42.2 +3.0**
KHEZ Kahui Hut 75.24 211 P **P 09 16 40.1 +0.8**
NBEZ Newall Road No 75.31 211 P **P 09 16 39.6 +0.1**
PKE Pukeiti 75.34 211 P **P 09 16 39.0 -0.8**
URZ Urewera 75.38 214 P **P 09 16 39.1 -0.8**
comp=Z,27nm,0.7s,baz=122,slow=4.8,SNR=22
URZ PKPPKP **P'P'df 09 44 03.5 -5.1**
comp=Z,5.8nm,0.9s,baz=22,slow=11,SNR=3.7
URZ LR LR 09 48 08.2
comp=Z,247µm,18.1s,baz=162,slow=34
URZ Urewera 75.38 214 P **P 09 16 39.5 -0.5**
URZ Urewera 75.38 214 IAmb IAmb 09 18 29.7
comp=Z,771nm,1.5s
URZ IAMs_20 IAMs_20 09 49 41.9
comp=Z,368µm,18.0s
MPOM Morne Pois Mar 75.45 346 *eP* **P 09 16 39.2 -1.2**
ABPO Ambohimpanom 75.53 103 P **P 09 16 41.3 0.0**
ABPO pmax pmax
comp=Z,927nm,1.7s
ABPO Ambohimpanom 75.53 103 P **P 09 16 41.3 0.0**
ABPO IAmb IAmb 09 17 57.8
comp=Z,927nm,1.6s
BIM Bigot 75.54 346 *eP* **P 09 16 40.2 -0.8**
TRMF Trois Ilets 75.56 346 *eP* P 09 16 49.0 +7.9
LPMF Morne Lapointe 75.59 346 *eP* **P 09 16 40.1 -1.1**
ZAM Aeronautique 75.59 346 *eP* **P 09 16 39.4 -1.8**
HAZ Te Kaha 75.66 215 P **P 09 16 42.0 +0.4**
MXZ Matakaoa Point 75.69 215 P **P 09 16 43.6 +1.8**
MXZ Matakaoa Point 75.69 215 IAmb IAmb 09 17 02.0
comp=Z,2µm,1.8s

MXZ IAMs_20 IAMs_20 09 47 35.2
comp=Z,557µm,18.0s
TLZ Tolley Road 75.75 213 P **P 09 16 42.2 0.0**
HIZ Hauiti 75.76 212 P **P 09 16 41.3 -0.9**
HIZ Hauiti 75.76 212 IAmb IAmb 09 18 47.1
comp=Z,613nm,1.2s
HIZ IAMs_20 IAMs_20 09 52 41.9
comp=Z,280µm,18.0s
FDF Fort de France 75.77 345 *e*P **P 09 16 41.0 -1.4**
FDF Fort de France 75.77 345 *e*P **P 09 16 41.9 -0.5**
ILAM Ilet Lapin Mar 75.77 346 *e*P **P 09 16 43.7 +1.4**
PML Morne Lenard 75.82 345 *e*P **P 09 16 46.8 +4.2**
GBMF Grand Be 75.83 345 *e*P **P 09 16 43.5 +0.7**
CXM Morne La Croix 75.84 345 *e*P **P 09 16 42.7 -0.2**
BAMF Morne Balai 75.85 345 *e*P **P 09 16 43.3 +0.5**
PCM Pelee Case Pet 75.86 345 *e*P **P 09 16 41.9 -0.9**
SVN Savane Anatole 75.88 345 *e*P **P 09 16 42.4 -0.6**
TBI Tubuai 76.10 247 *e*P **P 09 16 46.0 +1.7**
comp=Z,3µm,1.4s
TBI *e*S **S 09 26 27.4 -0.6**
comp=Z,182µm,28.8s
TBI Tubuai 76.10 247 *e*LQ LQ 09 37 03.0
comp=Z,208µm,33.0s
TBI *e*LR LR 09 40 15.5
comp=Z,1424µm,24.2s,baz=153
TBI Tubuai 76.10 247 *e*T T 10 40 24.2
comp=Z,6.9nm,0.3s
HDC Heredia 76.21 322 IAMs_20 IAMs_20 09 48 34.1
comp=Z,292µm,22.0s
TOZ Tahuroa Road 76.32 213 P **P 09 16 45.1 -0.2**
TAU Tasmania Unive 76.44 190 P **P 09 16 46.8 +0.9**
TAU pmax pmax
comp=Z,616nm,1.1s
TAU MLR MLR
comp=Z,840µm,18.0s
TAU Tasmania Unive 76.44 190 P **P 09 16 46.8 +0.9**
TAU IAmb IAmb 09 18 12.1
comp=Z,616nm,1.1s
BBL Barber's Block 76.59 345 *e*P **P 09 16 43.8 -3.1**
DWS Wesley 76.61 345 *e*P **P 09 16 46.9 -0.1**
MDPO Dominica; Chan 76.64 345 *e*P **P 09 16 48.5 +1.3**
JTS Las Juntas de 76.74 321 P **P 09 16 46.3 -1.7**
JTS pmax pmax
comp=Z,840nm,1.2s
JTS Las Juntas de 76.74 321 P **P 09 16 46.2 -1.7**
comp=Z,50nm,0.9s,baz=150,slow=3.7,SNR=17
JTS Las Juntas de 76.74 321 P **P 09 16 46.3 -1.7**
JTS IAmb IAmb 09 17 58.6
comp=Z,840nm,1.2s
TDBA Terre de Bas, 76.93 345 *e*P **P 09 16 48.4 -0.5**
MAGL Barre de l'ile 76.98 345 *e*P **P 09 16 49.2 +0.1**
CBE Ff, Capester 77.14 345 *e*P **P 09 16 49.5 -0.6**
SACV Santiago Islan 77.33 23 IAMs_20 IAMs_20 09 47 41.1
comp=Z,357µm,19.0s
ABD La Joyeuse, An 77.53 345 *e*P **P 09 16 49.6 -2.6**
GRZ Great Barrier 77.72 214 P **P 09 16 54.5 +1.3**
RER Riviere de l'E 77.74 111 P **P 09 16 53.9 +0.2**
SNR=15
RER Riviere de l'E 77.74 111 P **P 09 16 53.2 -0.5**
RER IAmb IAmb 09 18 10.8
comp=Z,890nm,0.9s
MLYT Lee's Yard 77.86 345 *e*P **P 09 16 54.0 0.0**
NVBH Bath Hotel, Ne 78.30 344 *e*P **P 09 16 57.3 +0.8**
ESPN Las Esperanzas 78.34 322 IAMs_20 IAMs_20 09 50 59.5
comp=Z,267µm,21.0s
NVRH Round Hill, Ne 78.37 344 *e*P **P 09 16 57.5 +0.6**
PRVC Isla de Provid 78.60 326 *e*P P 09 16 52.5 -5.7
PRVC Isla de Provid 78.60 326 *e*P P 09 16 52.5 -5.7
SEUS St. Eustatius 78.72 344 *e*P **P 09 16 57.7 -1.1**
SEUS St. Eustatius 78.72 344 IAMs_20 IAMs_20 09 57 40.2
comp=Z,269µm,20.0s
ANWB Willy Bob 78.74 345 *e*P P 09 17 08.1 +9.2
SABA Saba 78.89 344 *e*P **P 09 17 01.3 +1.6**
SABA Saba 78.89 344 IAmb IAmb 09 18 42.5
comp=Z,2µm,1.3s
OUZ Omahuta 79.19 213 P **P 09 17 00.2 -1.2**
OUZ Omahuta 79.19 213 IAmb IAmb 09 18 43.8
comp=Z,698nm,1.1s
OUZ IAMs_20 IAMs_20 09 49 03.8
comp=Z,394µm,19.0s
MTP Monte Pirata 79.69 342 IAmb IAmb 09 18 39.7
comp=Z,2µm,2.0s
SJG San Juan 79.80 341 *e*P P 09 16 59.7 -5.0
SJG San Juan 79.80 341 *e*P P 09 16 59.7 -5.0
SJG San Juan 79.80 341 P **P 09 17 02.5 -2.2**
SJG pmax pmax
comp=Z,826nm,1.5s
SJG MLR MLR
comp=Z,253µm,22.0s
SJG San Juan 79.80 341 P **P 09 17 02.1 -2.6**
comp=Z,29nm,0.9s,baz=95,slow=2.5,SNR=5.6
SJG San Juan 79.80 341 P **P 09 17 02.5 -2.2**
MLPR Magueyes Islan 79.81 340 IAmb IAmb 09 18 36.4
comp=Z,1µm,1.0s
ESTN Estel 79.83 321 IAMs_20 IAMs_20 09 51 26.1
comp=Z,243µm,19.0s
STVI Saint Thomas 79.85 342 IAmb IAmb 09 17 47.1
comp=Z,1µm,0.9s
CRPR Cabo Rojo, PR 79.86 340 IAmb IAmb 09 18 48.5
comp=Z,1µm,1.1s
GCPR Guaynabo City 79.99 341 IAmb IAmb 09 18 40.9
comp=Z,1µm,1.8s
AOPR Arecibo Observ 80.13 341 P **P 09 17 05.2 -1.3**
MEH Mehetia 80.18 251 *e*P **P 09 17 08.1 +1.1**
comp=Z,309nm,1.2s
MEH Mehetia 80.18 251 *e*T T 10 45 28.8
comp=Z,28nm,0.2s
SDD Santo Domingo 80.80 338 IAmb IAmb 09 17 49.5
comp=Z,1µm,0.9s
SDD IAMs_20 IAMs_20 09 56 35.9
comp=Z,467µm,20.0s
TVO Taravao 80.81 250 *e*P **P 09 17 11.9 +1.4**
comp=Z,340nm,1.0s
TVO Taravao 80.81 250 *e*T T 10 46 15.6
comp=Z,1.6nm,0.3s
TGUH Tegucigalpa,Un 81.02 320 *e*P **P 09 17 09.0 -2.5**
TGUH Tegucigalpa,Un 81.02 320 *e*P **P 09 17 09.0 -2.5**
TGUH Tegucigalpa,Un 81.02 320 *e*P **P 09 17 08.5 -3.0**
TGUH Tegucigalpa,Un 81.02 320 P **P 09 17 09.8 -1.7**
TGUH IAMs_20 IAMs_20 09 52 03.5
comp=Z,257µm,20.0s
TIAR Tiarei 81.05 250 *e*P **P 09 17 13.0 +1.3**
comp=Z,128nm,1.0s
PAE Paea 81.07 250 *e*P **P 09 17 12.5 +0.8**
comp=Z,110nm,1.3s
PAE Paea 81.07 250 *e*T T 10 46 36.7
comp=Z,1.1nm,0.2s
PPTF Pamatai, Papee 81.13 250 IAMs_20 IAMs_20 09 47 22.2
comp=Z,266µm,20.0s
PPT2 Papeete2 81.13 250 *e*P **P 09 17 13.5 +1.3**
comp=Z,412nm,1.3s
PPT2 Papeete2 81.13 250 *e*S **S 09 27 21.0 -1.2**
comp=Z,359µm,30.0s
PPT2 Papeete2 81.13 250 *e*LQ LQ 09 39 10.8
comp=Z,479µm,36.5s
PPT2 *e*LR LR 09 42 32.9
comp=Z,1077µm,25.0s,baz=154
PPT2 Papeete2 81.13 250 *e*T T 10 46 39.2
comp=Z,2.9nm,0.4s
PPT Papeete 81.15 250 P **P 09 17 12.4 +0.1**
comp=Z,28nm,0.8s,baz=123,slow=7.8,SNR=2.6
PPT LR LR 09 45 30.3
comp=Z,287µm,21.8s,baz=156,slow=30
SDDR Presa de Saban 81.58 336 IAmb IAmb 09 18 12.2
comp=Z,998nm,1.4s
SDDR IAMs_20 IAMs_20 09 55 28.4
comp=Z,255µm,21.0s
SBV Sambava 81.61 102 P **P 09 17 14.5 -0.1**
SNR=28
SC01 Santiago de lo 81.90 337 IAMs_20 IAMs_20 09 55 52.0
comp=Z,343µm,22.0s
MTDJ Mount Denham 82.23 330 IAmb IAmb 09 18 13.2
comp=Z,1µm,1.2s
VAH Vaihoa 82.25 253 *e*P **P 09 17 19.0 +1.0**
comp=Z,1µm,1.3s
VAH Vaihoa 82.25 253 *e*T T 10 48 04.6
comp=Z,11nm,0.3s
RAR Rarotonga 82.55 240 P **P 09 17 19.4 -0.1**
RAR pmax pmax
comp=Z,684nm,1.4s
RAR Rarotonga 82.55 240 P **P 09 17 18.4 -1.1**
comp=Z,25nm,1.1s,baz=121,slow=14,SNR=3.0
RAR Rarotonga 82.55 240 P **P 09 17 19.4 -0.1**
RAR IAmb IAmb 09 19 00.3
comp=Z,684nm,1.4s
RAR Rarotonga 82.55 240 IAMs_20 IAMs_20 09 50 21.7
comp=Z,212µm,18.0s
PMOR Pomariorio Ree 82.58 253 *e*P **P 09 17 20.9 +1.2**
comp=Z,532nm,1.1s
TOA0 Torodi Ar. Sit 82.77 47 P **P 09 17 20.0 -0.5**
SNR=146
TOA0 Torodi Ar. Sit 82.77 47 P **P 09 17 19.4 -1.2**
TORD Torodi Ar. Bea 82.77 47 P **P 09 17 19.6 -0.9**
comp=Z,151nm,1.1s,baz=215,slow=2.9,SNR=136
TORD LR LR 09 48 53.1
comp=Z,320µm,18.1s,baz=290,slow=32
TORD Torodi Ar. Bea 82.77 47 P **P 09 17 18.7 -1.9**
APG El Apazote 82.95 318 P **P 09 17 19.3 -2.4**
comp=Z,60nm,1.1s,baz=173,slow=5.9,SNR=32
MBAR Mbarara 83.22 79 *d*P **P 09 17 24.6 +1.3**
MBAR pmax pmax
comp=Z,153nm,1.5s
MBAR MLR MLR
comp=Z,525µm,17.0s
MBAR Mbarara 83.22 79 P **P 09 17 24.6 +1.3**
comp=Z,19nm,1.0s,baz=204,slow=18,SNR=24
MBAR Mbarara 83.22 79 P **P 09 17 24.7 +1.5**
GTBY Guantanamo Bay 83.30 333 *e*P P 09 17 17.1 -6.1
GTBY Guantanamo Bay 83.30 333 *e*P P 09 17 17.1 -6.1
GTBY Guantanamo Bay 83.30 333 IAmb IAmb 09 18 20.6
comp=Z,666nm,1.2s
CAN Canberra 83.79 193 IAmb IAmb 09 18 50.5
comp=Z,501nm,1.3s
CAN IAMs_20 IAMs_20 09 58 17.6
comp=Z,394µm,19.0s
TAOE Nuku Hiva Isla 84.13 263 *e*P **P 09 17 28.9 +1.0**
comp=Z,1µm,1.3s
TAOE Nuku Hiva Isla 84.13 263 *e*S **S 09 27 53.0 +0.1**
comp=Z,157µm,29.2s
TAOE Nuku Hiva Isla 84.13 263 *e*LQ LQ 09 40 30.7
comp=Z,441µm,36.7s
TAOE *e*LR LR 09 43 58.5
comp=Z,399µm,24.9s,baz=167
TAOE Nuku Hiva Isla 84.13 263 IAMs_20 IAMs_20 09 48 37.9
comp=Z,227µm,18.0s
CCIG Comitan 84.70 316 IAmb IAmb 09 18 10.4
comp=Z,335nm,0.9s
CCIG IAMs_20 IAMs_20 09 52 30.4
comp=Z,446µm,19.0s
KIBK Kibwezi 85.32 86 PcP **PcP 09 17 35.9 -1.1**
SNR=102
KMBO Kilima Mbogo 85.97 85 PcP **PcP 09 17 40.2 +0.2**
SNR=131
KMBO Kilima Mbogo 85.97 85 P **P 09 17 37.8 +0.5**
KMBO pmax pmax
comp=Z,481nm,1.4s
KMBO Kilima Mbogo 85.97 85 *e*P P 09 17 52.2 +15
KMBO *e*S S 09 28 33.1 +22
KMBO Kilima Mbogo 85.97 85 P **P 09 17 38.1 +0.9**
comp=Z,22nm,1.1s,baz=204,slow=4.7,SNR=31
KMBO LR LR 09 53 05.6
comp=Z,1209µm,19.3s,baz=200,slow=34
KMBO Kilima Mbogo 85.97 85 *e*P P 09 17 52.2 +15
KMBO *e*S S 09 28 33.1 +22
KMBO Kilima Mbogo 85.97 85 P **P 09 17 37.8 +0.5**
NWAO Narrogin (SRO) 86.09 166 P **P 09 17 35.2 -2.2**
SNR=15
NWAO Narrogin (SRO) 86.09 166 P **P 09 17 35.7 -1.7**
NWAO pmax pmax
comp=Z,884nm,1.3s
NWAO Narrogin (SRO) 86.09 166 P **P 09 17 34.0 -3.3**
comp=Z,46nm,0.9s,baz=184,slow=3.1,SNR=9.8
NWAO LR LR 09 52 18.4
comp=Z,840µm,21.7s,baz=196,slow=33
NWAO Narrogin (SRO) 86.09 166 P **P 09 17 35.7 -1.7**
NWAO IAmb IAmb 09 17 59.1
comp=Z,884nm,1.3s
NWAO Narrogin (SRO) 86.09 166 IAmb IAmb 09 17 59.1
comp=Z,715nm,1.3s
CMIG Matias Romero 86.41 314 P **P 09 17 36.1 -2.8**
comp=Z,41nm,1.0s,baz=154,slow=3.3,SNR=37
BBOO Buckleboo 87.13 182 P **P 09 17 40.1 -2.3**
BBOO IAmb IAmb 09 19 23.1
comp=Z,1µm,2.0s
TEIG Tepich 87.13 321 P **P 09 17 39.9 -2.4**
comp=Z,77nm,0.8s,baz=144,slow=0.4,SNR=40
TEIG Tepich 87.13 321 P **P 09 17 40.7 -1.7**
STKA Stephens Creek 87.84 187 *e*P **P 09 17 43.7 -2.2**
STKA Stephens Creek 87.84 187 P **P 09 17 43.1 -2.8**
comp=Z,29nm,1.2s,baz=148,slow=3.9,SNR=13
STKA PKPPKP 09 43 37.5
comp=Z,1.3nm,0.7s,baz=316,slow=7.0,SNR=3.7
STKA LR LR 09 56 39.7
comp=Z,655µm,20.1s,baz=182,slow=35
STKA Stephens Creek 87.84 187 P **P 09 17 43.7 -2.2**
TLIG Tlapa 88.19 311 P **P 09 17 47.5 -0.2**
TLIG IAmb IAmb 09 18 28.8
comp=Z,476nm,1.0s
TLIG IAMs_20 IAMs_20 09 50 59.0
comp=Z,380µm,20.0s
ARMA Armidale 88.30 196 IAmb IAmb 09 19 16.9
comp=Z,384nm,1.2s
LODK Lodwar 88.97 81 PcP **PcP 09 17 53.2 +0.2**
SNR=137
MORW Morawa 89.75 165 IAmb IAmb 09 19 12.8
comp=Z,908nm,1.8s
061Z Ochoppi 90.40 329 P P 09 18 04.8 +7.2
baz=163
060A Indiantown 91.38 330 P **P 09 18 04.1 +1.9**
baz=164
060A Indiantown 91.38 330 IAMs_20 IAMs_20 10 00 12.5
comp=Z,229µm,21.0s
DWPF Disney Wildern 92.67 330 P P 09 18 17.1 +8.9
baz=163
DWPF Disney Wildern 92.67 330 IAMs_20 IAMs_20 10 03 52.8
comp=Z,192µm,20.0s
TAM Tamanrasset 93.02 47 IAmb IAmb 09 19 33.9
comp=Z,380nm,1.4s
EIDS Eidsvold 93.35 196 IAmb IAmb 09 18 58.5
comp=Z,446nm,1.6s
DZM Mont Dzumac 93.56 210 *e*P **P 09 18 13.4 +0.6**
comp=Z,535nm,1.5s
DZM Mont Dzumac 93.56 210 *e*SKSac **SKSac 09 28 46.3 -1.3**
comp=Z,48µm,23.4s
DZM Mont Dzumac 93.56 210 *e*PS PS 09 30 34.9 +0.2
comp=Z,225µm,30.4s
DZM Mont Dzumac 93.56 210 *e*LQ LQ 09 44 18.8
comp=Z,920µm,35.9s
DZM *e*LR LR 09 48 22.9
comp=Z,422µm,22.4s
DZM Mont Dzumac 93.56 210 P **P 09 18 11.3 -1.5**
comp=Z,18nm,0.9s,baz=104,slow=8.3,SNR=7.1
DZM PKKPbc **PKKPdf 09 35 11.9 -0.5**
comp=Z,3.5nm,0.9s,baz=18,slow=9.6,SNR=2.4
DZM Mont Dzumac 93.56 210 IAmb IAmb 09 19 42.2
comp=Z,763nm,1.8s
DZM IAMs_20 IAMs_20 09 53 35.2
comp=Z,262µm,22.0s
658A Bunnell 93.88 330 P P 09 18 20.2 +6.5
baz=163
656A Willston 94.15 329 P **P 09 18 18.6 +3.6**
baz=163
656A Willston 94.15 329 IAMs_20 IAMs_20 10 04 29.0
comp=Z,256µm,20.0s
MSVF Nonsavu 94.25 222 *e*P **P 09 18 16.9 +0.9**
MSVF MLR MLR
comp=Z,159µm,18.0s
MSVF Nonsavu 94.25 222 IAMs_20 IAMs_20 10 05 40.9
comp=Z,203µm,18.0s
ZAIG Zacatecas 94.44 310 IAMs_20 IAMs_20 09 55 56.7
comp=Z,390µm,19.0s
557A Orange Park 94.57 330 P **P 09 18 21.2 +4.4**
baz=163
457A Yulee 95.10 330 P P 09 18 33.0 +14
baz=163
456A Hilliard 95.32 330 P P 09 18 25.0 +4.8
baz=163
456A Hilliard 95.32 330 IAMs_20 IAMs_20 10 03 12.7
comp=Z,186µm,19.0s
FURI Furi 95.33 82 *e*P **P 09 18 25.6 +4.4**
FURI *e*S S 09 29 11.1 -26
FURI Furi 95.33 82 *e*P **P 09 18 25.6 +4.4**
FURI *e*S S 09 29 11.1 -26
553A Crawfordville 95.43 328 P P 09 18 26.1 +5.3
baz=162
AAE Adis Abeba 95.48 82 *e*P P 09 18 36.7 +15
AAE *e*S S 09 29 22.1 -17
AAE Adis Abeba 95.48 82 *e*P P 09 18 36.7 +15
AAE *e*S S 09 29 22.1 -17
455A Stateville 95.59 329 P **P 09 18 23.9 +2.5**
baz=162
454A Quitman 95.72 329 P **P 09 18 25.7 +3.6**
baz=162
FUL Funchal 95.85 25 *e*P P 09 18 31.5 +8.9
FUL Funchal 95.85 25 *e*T T 11 04 57.7
357A Townsend 95.85 331 P P 09 18 27.6 +5.0
baz=163
356A Blackshear 95.92 330 P P 09 18 27.9 +5.0
baz=163
PMOZ Porto Moniz, M 95.95 25 *e*P P 09 18 38.9 +16
PMOZ Porto Moniz, M 95.95 25 *e*SKS S 09 29 56.8 +15
PMOZ Porto Moniz, M 95.95 25 *e*LR LR 09 54 05.2
comp=Z,108µm,20.0s
PMOZ Porto Moniz, M 95.95 25 *e*T T 11 05 03.0
453A Whigham 96.03 328 P P 09 18 29.0 +5.5
baz=162
453A Whigham 96.03 328 IAMs_20 IAMs_20 10 02 46.0
comp=Z,194µm,21.0s
355A Pearson 96.11 329 P **P 09 18 26.0 +2.1**
baz=162
451A Vernon 96.18 327 P P 09 18 29.1 +4.9
baz=161
451A Vernon 96.18 327 IAMs_20 IAMs_20 10 09 48.2
comp=Z,183µm,19.0s
ASAR Alice Springs 96.26 180 P **P 09 18 21.7 -3.4**
ASAR Alice Springs 96.26 180 P **P 09 18 22.4 -2.6**
comp=Z,16nm,0.9s,baz=176,slow=4.4,SNR=64
ASAR PP **PP 09 22 22.9 +5.6**
comp=Z,26nm,0.9s,baz=177,slow=7.4,SNR=4.8
ASAR PKKPbc **PKKPdf 09 35 07.5 +0.2**
comp=Z,2.2nm,0.6s,baz=358,slow=2.2,SNR=9.0
ASAR PKPPKP 09 43 23.5
comp=Z,4.0nm,1.1s,baz=350,slow=1.8,SNR=4.6
ASAR LR LR 10 01 36.4
comp=Z,536µm,19.6s,baz=188,slow=35
ASAR Alice Springs 96.26 180 P **P 09 18 21.7 -3.4**
257A Skidaway Islan 96.27 331 P P 09 18 31.2 +6.7
baz=163
PMPS Porto Santo 96.36 25 *e*P P 09 18 33.5 +8.6
PMPST Porto Santo, M 96.38 25 *e*P P 09 18 37.5 +12
TIGA Tifton 96.39 329 P P 09 18 30.6 +5.5
baz=162
TIGA Tifton 96.39 329 IAmb IAmb 09 18 46.2
comp=Z,620nm,1.6s
353A Camilla 96.47 328 P P 09 18 30.4 +4.9
baz=162
256A Glennville 96.48 330 P P 09 18 32.2 +6.7
baz=163
255A Hazlehurst 96.58 330 P **P 09 18 29.9 +4.0**
baz=163
255A Hazlehurst 96.58 330 IAMs_20 IAMs_20 10 02 00.4
comp=Z,262µm,22.0s
352A Blakely 96.78 328 P **P 09 18 28.8 +1.9**
baz=162
352A Blakely 96.78 328 IAmb IAmb 09 19 10.6
comp=Z,230nm,1.1s
352A IAMs_20 IAMs_20 10 02 58.7
comp=Z,209µm,21.0s
158A Hollywood 96.80 332 P P 09 18 34.0 +7.1
baz=164
254A Abbeville 96.80 329 P **P 09 18 30.8 +3.8**
baz=162,SNR=5.3
157A Early Branch 96.93 331 P P 09 18 37.3 +10
baz=163
156A Sylvania 97.03 331 P Pdif 09 18 34.1 +6.1
baz=163
BRAL Brewton 97.06 326 P Pdif 09 18 39.2 +11
baz=161
Z59A Georgetown, SC 97.07 333 P Pdif 09 18 34.3 +6.1
baz=164
253A Americus 97.12 329 P Pdif 09 18 33.8 +5.2
baz=162
253A Americus 97.12 329 IAmb IAmb 09 19 10.8
comp=Z,442nm,1.4s
253A IAMs_20 IAMs_20 10 03 57.7
comp=Z,174µm,20.0s
NHSC New Hope 97.15 332 P Pdif 09 18 34.6 +5.9
baz=164
NHSC New Hope 97.15 332 IAmb IAmb 09 18 50.2
comp=Z,352nm,1.2s
252A Lumpkin 97.22 328 P Pdif 09 18 34.5 +5.5
baz=162
155A Kite 97.24 330 P Pdif 09 18 32.9 +3.8
baz=163
Z58A St. Stephen 97.28 332 P Pdif 09 18 35.0 +5.8
baz=164
154A Montrose 97.39 330 P Pdif 09 18 33.5 +3.8
baz=162
154A Montrose 97.39 330 IAmb IAmb 09 19 12.9
comp=Z,179nm,0.9s
Z57A Bowman 97.45 332 P Pdif 09 18 33.7 +3.7
baz=163
Y60A Bolivia 97.57 334 P Pdif 09 18 35.3 +4.8
baz=164
PSA00 Pilbara Seismi 97.60 167 P Pdif 09 18 31.2 0.0
PSA00 Pilbara Seismi 97.60 167 IAmb IAmb 09 20 16.9
comp=Z,243nm,1.5s
153A Fort Valley 97.61 329 P **P 09 18 29.0 -1.6**
baz=162,SNR=6.1
250A Grady 97.61 327 P **P 09 18 30.6 -0.1**
baz=161,SNR=9.9
Z56A Williston 97.64 331 P Pdif 09 18 31.8 +1.0
baz=163
Y59A Loris 97.70 333 P Pdif 09 18 35.0 +4.0
baz=164
Z55A Blythe 97.73 331 P Pdif 09 18 33.4 +2.2
baz=163
Y58A Scranton 97.80 333 P Pdif 09 18 36.1 +4.7
baz=164
152A Waverly Hall 97.85 328 P Pdif 09 18 33.0 +1.2
baz=162,SNR=13
152A Waverly Hall 97.85 328 IAMs_20 IAMs_20 10 08 04.0
comp=Z,174µm,20.0s
Z54A Sparta 97.91 330 P Pdif 09 18 35.3 +3.3
baz=162
MBWA Marble Bar 98.00 167 P **P 09 18 31.0 -1.9**
SNR=5.7
X60A Albert Glenn T 98.07 334 P Pdif 09 18 35.5 +2.8
baz=164
Y56A Pelion 98.07 331 P Pdif 09 18 36.7 +4.0
baz=163
Y57A Sumter 98.07 332 Pdiff Pdif 09 18 39.2 +6.5
baz=164
Z53A Monticello 98.14 329 Pdiff Pdif 09 18 39.1 +6.1
baz=162
X59A McDuffie Farm, 98.20 334 Pdiff Pdif 09 18 37.9 +4.7
baz=164
GOGA Godfrey 98.24 330 Pdiff Pdif 09 18 37.2 +3.7
baz=162
GOGA Godfrey 98.24 330 IAMs_20 IAMs_20 10 03 24.1
comp=Z,216µm,22.0s
Z52A Williamson 98.27 329 Pdiff Pdif 09 18 36.0 +2.3
baz=162
833A Chaparral WMA, 98.33 315 Pdiff Pdif 09 18 37.5 +3.5
baz=156
833A Chaparral WMA, 98.33 315 IAmb IAmb 09 19 16.4
comp=Z,338nm,1.9s
Y55A Saluda 98.34 331 Pdiff Pdif 09 18 38.2 +4.2
baz=163
X58A Rowland 98.35 333 Pdiff Pdif 09 18 39.4 +5.5
baz=164
X57A Johnson Farm, 98.43 333 Pdiff Pdif 09 18 37.9 +3.6
baz=164
W61A Ground Anchor 98.44 335 Pdiff Pdif 09 18 39.4 +5.1
baz=165
W60A Pink Hill 98.47 335 Pdiff Pdif 09 18 37.8 +3.4
baz=165
Y54A Tignall 98.47 330 Pdiff Pdif 09 18 37.0 +2.5
baz=162
Z51A Franklin 98.59 328 Pdiff Pdif 09 18 36.3 +1.3
baz=161
HKT Hockley 98.61 318 P **P 09 18 34.0 -1.1**
HKT pmax pmax
comp=Z,319nm,2.0s
HKT Hockley 98.61 318 P **P 09 18 34.0 -1.1**
HKT IAmb IAmb 09 18 51.9
comp=Z,319nm,1.9s
PSMA Santa Maria 98.62 17 *e*Pdif Pdif 09 18 37.7 +2.7
PSMA Santa Maria 98.62 17 *e*PP **PP 09 22 31.7 -4.7**
PSMA Santa Maria 98.62 17 *e*T T 11 08 09.6
PSMN Pico do Norte, 98.64 17 *e*Pdif **P 09 18 34.5 -0.6**
PSMN Pico do Norte, 98.64 17 *e*PP **PP 09 22 37.8 +1.2**
PSMN Pico do Norte, 98.64 17 *e*SS SS 09 36 53.0 +2.5
PSMN *e*LQ LQ 09 44 26.2
PSMN *e*LR LR 09 50 30.6
comp=Z,19µm,17.9s
PSMN Pico do Norte, 98.64 17 *e*T T 11 08 08.8
X56A White Oak 98.68 332 Pdiff Pdif 09 18 40.8 +5.5
baz=163
CNNC Cliffs of the 98.69 335 Pdiff Pdif 09 18 37.7 +2.3

baz=164
Y53A Monroe 98.69 330 Pdiff Pdif 09 18 38.9 +3.4
baz=162
Z50A Ashland 98.73 327 Pdiff Pdif 09 18 39.3 +3.6
baz=161
Z50A Ashland 98.73 327 IAmb IAmb 09 18 51.7
comp=Z,156nm,1.2s
W59A Clinton 98.74 334 Pdiff Pdif 09 18 36.3 +0.7
baz=164
W58A Raeford 98.77 333 Pdiff Pdif 09 18 40.2 +4.4
baz=164
LRAL Lakeview Retre 98.81 327 Pdiff Pdif 09 18 39.6 +3.5
baz=161
LRAL Lakeview Retre 98.81 327 IAMs_20 IAMs_20 10 04 06.4
comp=Z,198µm,22.0s
Y52A Lilburn 98.82 329 Pdiff Pdif 09 18 39.6 +3.5
baz=162
Y52A Lilburn 98.82 329 IAMs_20 IAMs_20 10 03 30.5
comp=Z,221µm,22.0s
V61A Roper 98.95 336 Pdiff P 09 18 43.8 +7.3
baz=165
MDT Midelt 99.04 35 P **Pdif 09 18 36.7 -0.5**
comp=Z,4.7nm,1.0s,baz=207,slow=5.5,SNR=4.1
VBMS Vicksburg 99.05 323 Pdiff **Pdif 09 18 43.4 +6.4**
baz=159
VBMS Vicksburg 99.05 323 IAmb IAmb 09 19 24.0
comp=Z,239nm,1.4s
X54A Belton 99.05 331 Pdiff **Pdif 09 18 39.0 +2.0**
baz=163
V60A Jim Taylor Roa 99.06 335 Pdiff **Pdif 09 18 39.1 +2.0**
baz=165
W57A Gilead 99.07 333 Pdiff **Pdif 09 18 38.5 +1.4**
baz=164
Y51A Rockmart 99.11 328 Pdiff **Pdif 09 18 37.8 +0.4**
baz=161
CTA Charters Tower 99.14 192 P **Pdif 09 18 36.2 -1.9**
comp=Z,8.5nm,1.0s,baz=148,slow=6.2,SNR=5.7
CTAO Charters Tower 99.14 192 P **Pdif 09 18 35.8 -2.3**
CTAO pmax pmax
comp=Z,149nm,1.5s
CTAO Charters Tower 99.14 192 P **Pdif 09 18 35.8 -2.3**
PAULI Pauline 99.17 331 IAMs_20 IAMs_20 10 06 34.8
comp=Z,156µm,18.0s
W56A Indian Trail 99.19 332 Pdiff **Pdif 09 18 39.4 +1.8**
baz=163
X53A Estanollee 99.23 330 Pdiff **Pdif 09 18 40.1 +2.2**
baz=162
V59A Middlesex 99.27 334 Pdiff **Pdif 09 18 40.0 +2.0**
baz=164
PDA Ponta Delgada 99.28 17 *e*PP **PP 09 22 38.5 -3.0**
CMLA Cha da Macela 99.31 17 *e*Pdif **Pdif 09 18 35.5 -2.7**
CMLA Cha da Macela 99.31 17 *e*PP **PP 09 22 38.9 -2.9**
CMLA Cha da Macela 99.31 17 *e*SS SS 09 37 01.4 +1.3
CMLA *e*LQ LQ 09 44 42.6
CMLA *e*LR LR 09 50 20.9
comp=Z,25µm,18.4s
CMLA Cha da Macela 99.31 17 IAMs_20 IAMs_20 10 04 48.4
comp=Z,224µm,18.0s
GRON Grota Negra 99.32 17 *e*Pdif **Pdif 09 18 38.3 +0.1**
GRON Grota Negra 99.32 17 *e*PP **PP 09 22 39.9 -1.9**
GRON Grota Negra 99.32 17 *e*T T 11 09 07.1
PSET Sete Cidades 99.34 17 *e*Pdif **Pdif 09 18 36.4 -1.9**
PSET Sete Cidades 99.34 17 *e*PP **PP 09 22 40.2 -1.8**
PSET Sete Cidades 99.34 17 *e*SS SS 09 37 00.5 0.0
PSET *e*LQ LQ 09 44 45.3
PSET *e*LR LR 09 50 36.0
comp=Z,21µm,18.0s
PCALD Caldeiras da R 99.35 17 *e*Pdif **Pdif 09 18 37.6 -0.7**
PCALD Caldeiras da R 99.35 17 *e*PP **PP 09 22 40.2 -1.9**
KMSC Kings Mountain 99.37 332 Pdiff **Pdif 09 18 41.9 +3.5**
baz=163
BART Pico Bartolome 99.38 17 *e*Pdif **Pdif 09 18 38.5 0.0**
BART Pico Bartolome 99.38 17 *e*PP **PP 09 22 41.4 -1.0**
BART Pico Bartolome 99.38 17 *e*LR LR 09 50 12.3
comp=Z,18µm,19.8s
BART Pico Bartolome 99.38 17 *e*T T 11 09 01.0
Y49A Blount Mountai 99.43 327 Pdiff **Pdif 09 18 40.9 +2.1**
baz=161
U61A Possum Corner 99.44 336 Pdiff **Pdif 09 18 43.1 +4.4**
baz=165
X52A Dahlonega 99.48 330 Pdiff **Pdif 09 18 41.1 +2.1**
baz=162
V58A Windy Hill, Pi 99.49 334 Pdiff **Pdif 09 18 43.1 +4.2**
baz=164
V58A Windy Hill, Pi 99.49 334 IAMs_20 IAMs_20 10 04 17.0
comp=Z,205µm,22.0s
W54A Cherokee Point 99.52 331 Pdiff **Pdif 09 18 42.8 +3.7**
baz=163
IFR Ifrane 99.55 34 Pdif **Pdif 09 18 51.8 +12**
IFR Ifrane 99.55 34 *i* PS PS 09 31 28.4 -12
PCAN Candelaria 99.61 14 *e*Pdif **Pdif 09 18 34.8 -4.7**
PCAN Candelaria 99.61 14 *e*PP **PP 09 22 37.9 -6.1**
ATD Arta Tunnel 99.65 84 *e*P **Pdif 09 18 51.0 +11**
ATD *e*S **SKSac 09 29 28.4 +9.3**
ATD Arta Tunnel 99.65 84 *e*P **Pdif 09 18 51.0 +11**
ATD *e*S **SKSac 09 29 28.4 +9.3**
X51A Calhoun 99.69 329 Pdiff **Pdif 09 18 41.2 +1.3**
baz=162
X51A Calhoun 99.69 329 IAMs_20 IAMs_20 10 04 35.6
comp=Z,204µm,21.0s
U60A Pendleton 99.72 335 Pdiff **Pdif 09 18 43.1 +3.1**
baz=165
V57A Coltrane Farms 99.72 333 Pdiff **Pdif 09 18 43.5 +3.5**
baz=164
U59A Littleton 99.74 335 Pdiff **Pdif 09 18 43.8 +3.8**
baz=164
PCED Cedros 99.75 14 *e*Pdif **Pdif 09 18 40.1 +0.1**
V56A Mocksville 99.81 333 Pdiff **Pdif 09 18 44.8 +4.4**
baz=163
W53A Cullowhee 99.83 330 Pdiff **Pdif 09 18 45.7 +5.0**
baz=162
ROSA Rosais 99.89 14 *e*Pdif **Pdif 09 18 39.6 -1.1**
ROSA Rosais 99.89 14 *e*PP **PP 09 22 45.7 -0.5**
ROSA Rosais 99.89 14 *e*SS SS 09 37 10.0 +1.9
ROSA *e*LQ LQ 09 45 42.5
ROSA *e*LR LR 09 51 11.7
comp=Z,15µm,19.1s
ROSA Rosais 99.89 14 IAMs_20 IAMs_20 10 03 59.8
comp=Z,230µm,19.0s
NATX Nacogdoches 99.89 320 Pdiff **Pdif 09 18 43.6 +2.7**
baz=158
U58A Oxford 99.94 334 Pdiff **Pdif 09 18 44.9 +4.0**
baz=164
W52A Murphy 99.95 330 Pdiff **Pdif 09 18 45.0 +3.9**
baz=162
W52A Murphy 99.95 330 IAMs_20 IAMs_20 10 03 05.5
comp=Z,186µm,22.0s
435B Jarrell 99.96 317 Pdiff **Pdif 09 18 45.4 +4.2**
baz=157
ADH Angra Heroismo 99.96 15 *e*Pdif **Pdif 09 18 39.3 -1.6**
ADH Angra Heroismo 99.96 15 *e*PP **PP 09 22 41.6 -5.0**
WRA Warramunga Arr 99.96 181 P **Pdif 09 18 38.3 -3.4**
WRA Warramunga Arr 99.96 181 P **Pdif 09 18 38.8 -2.9**
comp=Z,8.3nm,0.8s,baz=184,slow=4.1,SNR=40
WRA PP **PP 09 22 45.0 -0.7**
comp=Z,20nm,1.1s,baz=184,slow=11,SNR=3.2
WRA PKKP **PKKPdf 09 34 59.4 -1.4**
comp=Z,1.8nm,0.9s,baz=354,slow=3.3,SNR=6.2
WRA LR LR 10 06 03.5
comp=Z,550µm,18.1s,baz=195,slow=37
WRA Warramunga Arr 99.96 181 **Pdif 09 18 38.3 -3.4**
WRAB Tennant Creek 99.97 181⇑ *e*P **Pdif 09 18 39.0 -2.8**
WRAB MLR MLR
comp=Z,630µm,17.0s
V55A Taylorsville 100.02 332 Pdiff **Pdif 09 18 45.5 +4.1**
baz=163
V54A Nebo 100.12 331 Pdiff **Pdif 09 18 47.0 +5.2**
baz=163
U57A Blanch 100.15 334 Pdiff **Pdif 09 18 42.0 +0.1**
baz=164
X48A Hartselle 100.16 327 Pdiff **Pdif 09 18 42.2 +0.3**
baz=161
H07S1 FLORES T-PHASB 100.20 12 *e*Pdif **Pdif 09 18 43.7 +1.6**
H07S1 FLORES T-PHASB 100.20 12 *e*PP **PP 09 22 46.8 -1.8**
H07S1 FLORES T-PHASB 100.20 12 *e*SS SS 09 37 13.8 +1.3
V53A Saluda 100.22 331 Pdiff **Pdif 09 18 41.7 -0.6**
baz=162
W51A Cleveland 100.23 329 Pdiff **Pdif 09 18 40.6 -1.6**
baz=162
PGRA Graciosa 100.23 15 *e*Pdif **Pdif 09 18 39.1 -3.1**
PGRA Graciosa 100.23 15 *e*PP **PP 09 22 43.3 -5.4**
PGRA Graciosa 100.23 15 *e*LQ LQ 09 44 57.6
PGRA *e*LR LR 09 50 55.5
comp=Z,20µm,15.0s
SRBC Serra Branca 100.23 15 *e*Pdif **Pdif 09 18 38.6 -3.6**
SRBC Serra Branca 100.23 15 *e*PP PP 09 22 40.7 -8.0

T60A Surry 100.28 336 Pdiff **Pdif 09 18 44.5 +2.1**
baz=165
T59A Double "B" Far 100.29 335 Pdiff **Pdif 09 18 45.0 +2.5**
baz=165
U56A King 100.30 333 Pdiff **Pdif 09 18 44.6 +2.0**
baz=163
W50A Signal Mountai 100.41 329 Pdiff **Pdif 09 18 44.6 +1.5**
baz=161
CPCT Cooper Cave 100.44 329 IAMs_20 IAMs_20 10 04 20.5
comp=Z,196µm,22.0s
JCT Junction City 100.44 315 Pdiff **Pdif 09 18 44.5 +1.1**
baz=156
JCT Junction City 100.44 315 IAMs_20 IAMs_20 10 01 52.3
comp=Z,189µm,21.0s
TKL Tuckaleechee C 100.45 330 P **Pdif 09 18 40.3 -2.9**
comp=Z,6.9nm,1.1s,baz=182,slow=6.0,SNR=3.2
T58A Grand View Acr 100.47 334 Pdiff **Pdif 09 18 46.4 +3.1**
baz=164
H07N1 FLORES T-PHASB 100.52 12 *e*Pdif **Pdif 09 18 43.6 +0.1**
H07N1 FLORES T-PHASB 100.52 12 *e*PP **PP 09 22 51.5 +0.5**
W49A Belvidere 100.58 328 Pdiff **Pdif 09 18 45.4 +1.6**
baz=161
V52A Sevierville 100.58 330 Pdiff **Pdif 09 18 45.6 +1.8**
baz=162
V52A Sevierville 100.58 330 IAMs_20 IAMs_20 10 01 56.0
comp=Z,228µm,22.0s
S61A Accomac 100.59 337 Pdiff **Pdif 09 18 50.6 +6.8**
baz=165
U55A TA2, Sparta 100.60 332 Pdiff **Pdif 09 18 48.7 +4.7**
baz=163
T57A Hurt 100.67 334 Pdiff **Pdif 09 18 48.8 +4.6**
baz=164
T57A Hurt 100.67 334 IAMs_20 IAMs_20 10 05 14.4
comp=Z,171µm,20.0s
Z41A Richland Creek 100.70 322 Pdiff **Pdif 09 18 47.4 +3.0**
baz=158
V51A Loudon 100.73 330 Pdiff **Pdif 09 18 48.4 +3.9**
baz=162
V51A Loudon 100.73 330 IAMs_20 IAMs_20 10 06 24.2
comp=Z,171µm,20.0s
TXAR Lajitas Array 100.79 312 P **Pdif 09 18 43.5 -1.6**
TXAR Lajitas Array 100.79 312 P **Pdif 09 18 43.7 -1.4**
comp=Z,1.7nm,0.8s,baz=152,slow=8.3,SNR=16
TXAR PP **PP 09 22 51.5 -1.7**
comp=Z,13nm,1.2s,baz=160,slow=8.3,SNR=4.3
TXAR PKKP **PKKPdf 09 35 05.8 +3.5**
comp=Z,8.5nm,1.1s,baz=336,slow=2.0,SNR=6.7
TXAR PKPPKP 09 43 17.1
comp=Z,3.0nm,1.2s,baz=15,slow=3.7,SNR=3.8
TXAR Lajitas Array 100.79 312 **Pdif 09 18 43.5 -1.6**
V50A Pikevile 100.80 329 Pdiff **Pdif 09 18 48.5 +3.7**
baz=161
U54A Nelsons Funny 100.80 332 Pdiff **Pdif 09 18 46.0 +1.1**
baz=163
S60A Water View 100.81 336 Pdiff **Pdif 09 18 46.2 +1.4**
baz=165
U53A Fall Branch 100.83 331 Pdiff **Pdif 09 18 44.2 -0.8**
baz=162
OXF Oxford 100.87 325 Pdiff **Pdif 09 18 45.2 +0.1**
baz=160
T56A Rocky Mt 100.88 333 Pdiff **Pdif 09 18 44.4 -0.8**
baz=164
S59A Mechanicsville 101.00 336 Pdiff **Pdif 09 18 47.0 +1.4**
baz=165
S58A Poland Farm, P 101.01 335 Pdiff **Pdif 09 18 48.2 +2.5**
baz=164
S58A Poland Farm, P 101.01 335 IAMs_20 IAMs_20 10 02 02.1
comp=Z,204µm,22.0s
WHTX Lake Whitney, 101.02 318 Pdiff **Pdif 09 18 46.2 +0.3**
baz=157
U52A Thorn Hill 101.05 331 Pdiff **Pdif 09 18 47.5 +1.5**
baz=162
V49A McMinnville 101.09 328 Pdiff **Pdif 09 18 46.5 +0.4**
baz=161
T55A Pulaski 101.13 333 Pdiff **Pdif 09 18 46.7 +0.4**
baz=163
BLA Blacksburg 101.14 333 Pdiff **Pdif 09 18 46.3 -0.1**
baz=163
U51A La Follette 101.19 330 Pdiff **Pdif 09 18 48.9 +2.3**
baz=162
TZTN Tazewell 101.24 330 Pdiff **Pdif 09 18 47.8 +1.1**
baz=162
TZTN Tazewell 101.24 330 IAMs_20 IAMs_20 10 02 26.5
comp=Z,194µm,22.0s
T54A Tazewell 101.26 332 Pdiff **Pdif 09 18 50.4 +3.5**
baz=163
X43A Marvell 101.30 324 Pdiff **Pdif 09 18 52.8 +5.8**
baz=159
R58B Mineral 101.31 335 Pdiff **Pdif 09 18 51.4 +4.4**
baz=164
V48A Smith Brothers 101.31 328 Pdiff **Pdif 09 18 52.4 +5.3**
baz=161
PVLZ Peæn de 101.34 34 Pdif **Pdif 09 18 57.8 +11**
PVLZ *e*S **SKKSac 09 29 55.6 -6.9**
R60A Leonardtown, M 101.34 336 Pdiff **Pdif 09 18 54.3 +7.2**
baz=165
S57A Dark Hollow, R 101.34 334 Pdiff **Pdif 09 18 51.5 +4.4**
baz=164
R59A King George, V 101.38 336 Pdiff **Pdif 09 18 51.5 +4.2**
baz=165
S56A Natural Bridge 101.39 334 Pdiff **Pdif 09 18 48.5 +1.1**
baz=164
T53A Wise 101.41 331 Pdiff **Pdif 09 18 49.3 +1.8**
baz=162
U50A Jamestown 101.44 329 Pdiff **Pdif 09 18 52.3 +4.6**
baz=161
CBN Corbin Frederi 101.44 336 Pdiff **Pdif 09 18 49.8 +2.2**
baz=165
FITZ Fitzroy Crossi 101.55 172 P **Pdif 09 18 47.9 -0.9**
comp=Z,5.4nm,1.1s,baz=144,slow=7.6,SNR=4.0
FITZ Fitzroy Crossi 101.55 172 **Pdif 09 18 47.1 -1.7**
R58A Rapidan 101.66 335 Pdiff **Pdif 09 18 50.7 +2.2**
baz=164
Q61A Milford 101.69 337 Pdiff **Pdif 09 18 52.5 +3.9**
baz=166
S55A Lewisburg 101.69 333 Pdiff **Pdif 09 18 52.9 +4.1**
baz=163
CEU Ceuta 101.72 33 Pdif **Pdif 09 19 01.2 +12**
CEU Ceuta 101.72 33 *i* PS PS 09 31 46.3 -17
T51A Gray 101.73 330 Pdiff **Pdif 09 18 50.6 +1.7**
baz=162
R57A Stanardsville 101.77 335 Pdiff **Pdif 09 18 52.0 +3.0**
baz=164
U49A Red Boiling Sp 101.77 329 Pdiff **Pdif 09 18 46.3 -2.8**
baz=161
MELI Melilla 101.84 35 Pdif **Pdif 09 19 01.1 +12**
MELI Melilla 101.84 35 *i* PS PS 09 31 48.4 -16
X40A Basin Creek Fa 101.85 322 Pdiff **Pdif 09 18 51.8 +2.3**
baz=158
Q60A Greensboro 101.90 337 Pdiff **Pdif 09 18 53.6 +4.0**
baz=165
Q60A Greensboro 101.90 337 IAMs_20 IAMs_20 10 07 33.7
comp=Z,177µm,20.0s
S54A Dingess, Beckl 101.90 333 Pdiff **Pdif 09 18 52.1 +2.4**
baz=163
Q59A Harwood 101.93 336 Pdiff **Pdif 09 18 53.0 +3.2**
baz=165
WVT Waverly 101.95 327 Pdiff **Pdif 09 18 53.7 +3.8**
baz=160
S53A Williamson 101.98 332 Pdiff **Pdif 09 18 51.9 +1.9**
baz=162
PFVI Vila Bisbo 101.99 30 *e*Pdif Pdif 09 19 07.2 +17
PFVI Vila Bisbo 101.99 30 *e*PP **PP 09 23 03.3 +1.2**
PFVI Vila Bisbo 101.99 30 IAMs_20 IAMs_20 10 05 52.1
comp=Z,351µm,18.0s
T50A Nancy 102.01 330 Pdiff **Pdif 09 18 52.5 +2.3**
baz=161
R56A Bull Pasture M 102.06 334 Pdiff **Pdif 09 18 52.7 +2.3**
baz=164
MIAR Mount Ida 102.13 322 Pdiff **Pdif 09 18 54.1 +3.3**
baz=158
HALT Halls 102.16 326 IAMs_20 IAMs_20 10 12 56.2
comp=Z,160µm,19.0s
R54A Victor 102.19 333 Pdiff **Pdif 09 18 54.2 +3.2**
baz=163
MORF Marmelete 102.20 30 *e*Pdif **Pdif 09 19 05.8 +15**
MORF Marmelete 102.20 30 *e*PP PKiKP 09 23 21.3 +8.3
S52A Salyersville 102.20 331 Pdiff **Pdif 09 18 53.5 +2.5**
baz=162
T49A Edmonton 102.27 329 Pdiff **Pdif 09 18 54.5 +3.2**
baz=161
T49A Edmonton 102.27 329 IAMs_20 IAMs_20 10 06 04.8
comp=Z,240µm,22.0s
S51A Beattyville 102.29 331 Pdiff **Pdif 09 18 53.1 +1.7**
baz=162
W41B Gary Mavity, V 102.31 323 Pdiff **Pdif 09 18 57.0 +5.4**
baz=158
PBDV Barranco-do-Ve 102.32 31 *e*Pdif **Pdif 09 19 03.7 +12**

ABTX Abilene, Hawle 102.34 316 Pdiff **Pdif 09 18 57.0 +5.3**
baz=156
P61A Hammonton 102.36 338 Pdiff **Pdif 09 18 56.5 +4.9**
baz=166
P61A Hammonton 102.36 338 IAMs_20 IAMs_20 10 08 06.6
comp=Z,164µm,20.0s
SRIG Santa Rosalia 102.36 304 IAMs_20 IAMs_20 09 59 12.7
comp=Z,269µm,19.0s
Q57A Strasburg 102.45 335 Pdiff **Pdif 09 18 58.6 +6.5**
baz=164
OTSS Djebel Tessala 102.45 37 P **Pdif 09 19 07.5 +15**
S50A Richmond 102.52 330 Pdiff **Pdif 09 18 56.0 +3.6**
baz=162
PVAQ Vaqueiros 102.53 31 *e*Pdif **Pdif 09 19 03.0 +11**
PVAQ Vaqueiros 102.53 31 *e*PP PKiKP 09 23 25.9 +12
PVAQ *e*SKS 09 30 49.8
PVAQ Vaqueiros 102.53 31 *e*LR LR 09 57 41.9
comp=Z,401µm,18.0s
R53A Hurricane 102.56 332 Pdiff **Pdif 09 18 56.0 +3.4**
baz=162
T47A Sharon Grove 102.56 328 Pdiff **Pdif 09 18 58.1 +5.5**
baz=160
P59A Jarrettsville 102.61 337 Pdiff **Pdif 09 18 55.4 +2.7**
baz=165
Q56A Snyder Ridge, 102.62 335 Pdiff **Pdif 09 18 53.7 +0.9**
baz=164
Q56A Snyder Ridge, 102.62 335 IAMs_20 IAMs_20 10 03 02.9
comp=Z,216µm,22.0s
P60A Greenville 102.65 337 Pdiff **Pdif 09 18 53.4 +0.5**
baz=165
P60A Greenville 102.65 337 IAMs_20 IAMs_20 10 08 31.4
comp=Z,157µm,19.0s
P58A Pank, Wackersv 102.66 336 Pdiff **Pdif 09 18 56.1 +3.2**
baz=165
PCVE Castro Verde 102.66 30 *e*Pdif **Pdif 09 19 05.8 +13**
PCVE Castro Verde 102.66 30 *e*PP PKiKP 09 23 25.0 +11
ODJA Bouhanifia 102.69 37 P **Pdif 09 19 08.2 +15**
O61A Allentown 102.72 338 Pdiff **Pdif 09 18 56.4 +3.2**
baz=166
PSUB Penn St. - Bra 102.72 338 IAMs_20 IAMs_20 10 08 30.4
comp=Z,167µm,20.0s
R52A Catlettsburg 102.72 332 Pdiff **Pdif 09 18 55.7 +2.4**
baz=162
Q55A Buckhannon 102.77 334 Pdiff **Pdif 09 18 55.8 +2.2**
baz=163
EMAL Malaga-Limoner 102.79 34 Pdif **Pdif 09 19 02.1 +8.5**
EMAL Malaga-Limoner 102.79 34 *i* PS PS 09 31 54.4 -20
W39A Magazine 102.80 322 Pdiff **Pdif 09 18 55.1 +1.4**
baz=158
W39A Magazine 102.80 322 IAMs_20 IAMs_20 10 06 14.3
comp=Z,194µm,22.0s
P57A Homestead Farm 102.80 336 Pdiff **Pdif 09 18 56.8 +3.2**
baz=164
MESJ Messejana 102.81 30 *e*Pdif **Pdif 09 19 03.1 +9.4**
MESJ Messejana 102.81 30 *e*PP PKiKP 09 23 31.1 +17
S49A Springfield 102.85 329 Pdiff **Pdif 09 18 59.3 +5.5**
baz=161
R51A Hillsboro 102.91 331 Pdiff **Pdif 09 18 59.2 +5.1**
baz=162
Q54A Coxs Mills 102.93 333 Pdiff **Pdif 09 19 01.6 +7.4**
baz=163
Q54A Coxs Mills 102.93 333 IAMs_20 IAMs_20 10 06 34.0
comp=Z,175µm,21.0s
Q53A Leroy 102.96 333 Pdiff **Pdif 09 18 57.3 +3.0**
baz=163
MVL Millersville 102.97 337 IAMs_20 IAMs_20 10 07 13.9
comp=Z,165µm,20.0s
P56A Dayton Farm, R 102.99 335 Pdiff **Pdif 09 18 59.8 +5.3**
baz=164
PNCL Nicolau / Gran 103.00 30 *e*Pdif **Pdif 09 19 05.4 +11**
PNCL Nicolau / Gran 103.00 30 *e*PP PKiKP 09 23 25.0 +11
R50A Paris 103.08 330 Pdiff **Pdif 09 18 59.3 +4.4**
baz=162
R50A Paris 103.08 330 IAMs_20 IAMs_20 10 06 16.2
comp=Z,184µm,22.0s
PBEJ Beja 103.08 30 *e*Pdif Pdif 09 19 14.1 +19
PBEJ Beja 103.08 30 *e*PP PKiKP 09 23 27.3 +13
O60A Telford 103.09 338 Pdiff **Pdif 09 19 01.9 +7.1**
baz=165
OJGS Djebel Guires 103.13 38 P **Pdif 09 19 08.9 +14**
P55A Reedsville 103.21 334 Pdiff **Pdif 09 19 02.0 +6.5**
baz=163
N63A Mattituck 103.23 340 Pdiff **Pdif 09 19 04.0 +8.5**
baz=167
Q52A Bidwell 103.23 332 Pdiff **Pdif 09 18 59.9 +4.4**
baz=162
O59A Robesonia 103.24 337 Pdiff **Pdif 09 19 02.0 +6.4**
baz=165
PAGS Pennsylvania G 103.26 337 IAMs_20 IAMs_20 10 07 43.6
comp=Z,194µm,21.0s
CPNY Central Park 103.29 339 IAMs_20 IAMs_20 10 08 15.3
comp=Z,188µm,20.0s
BRNJ Basking Ridge 103.29 338 IAMs_20 IAMs_20 10 07 21.4
comp=Z,190µm,22.0s
N61A South Mountain 103.31 339 Pdiff **Pdif 09 19 01.2 +5.4**
baz=166
HSIG 103.33 306 IAMs_20 IAMs_20 10 00 36.4
comp=Z,227µm,19.0s
N62A Caumsett State 103.34 339 Pdiff **Pdif 09 19 02.4 +6.5**
baz=166
MCWV Mont Chateau 103.36 334 Pdiff **Pdif 09 19 05.0 +9.0**
baz=163
O57A Amberson 103.42 336 Pdiff **Pdif 09 19 03.0 +6.6**
baz=164
P54A Burton 103.44 334 Pdiff **Pdif 09 19 02.1 +5.7**
baz=163
M65A Busby, Falmout 103.48 342 Pdiff **Pdif 09 19 02.2 +5.7**
baz=168
M65A Busby, Falmout 103.48 342 IAMs_20 IAMs_20 10 01 30.3
comp=Z,212µm,22.0s
PAL Palisades 103.49 339 Pdiff **Pdif 09 18 59.6 +3.0**
baz=166
PAL Palisades 103.49 339 IAMs_20 IAMs_20 10 08 31.5
comp=Z,179µm,20.0s
EVO Evora 103.52 30 *e*Pdif **Pdif 09 19 09.3 +12**
EVO Evora 103.52 30 *e*PP PKiKP 09 23 28.8 +13
EVO Evora 103.52 30 Pdif **Pdif 09 19 07.9 +11**
EVO *e*S Sdif 09 30 12.6 -32
WCI Wyandotte Cave 103.52 329 Pdiff **Pdif 09 18 59.4 +2.5**
baz=161
WCI Wyandotte Cave 103.52 329 P **Pdif 09 18 55.4 -1.5**
WCI MLR MLR
comp=Z,183µm,22.0s
WCI Wyandotte Cave 103.52 329 **Pdif 09 18 55.4 -1.5**
WCI Wyandotte Cave 103.52 329 IAMs_20 IAMs_20 10 06 53.1
comp=Z,183µm,22.0s
Q50A Georgetown 103.53 331 Pdiff **Pdif 09 19 00.9 +4.1**
baz=162
P53A Whipple 103.53 333 Pdiff **Pdif 09 19 02.6 +5.7**
baz=163
X34A Smith Ranch, M 103.54 319 IAMs_20 IAMs_20 10 10 18.1
comp=Z,173µm,18.0s
Q51A Peebles 103.55 331 Pdiff **Pdif 09 19 03.2 +6.2**
baz=162
M63A Gales Ferry 103.56 341 Pdiff **Pdif 09 19 00.6 +3.8**
baz=167
MNTX Cornudas Mount 103.56 311 Pdiff **Pdif 09 19 01.7 +4.5**
baz=154
MNTX Cornudas Mount 103.56 311 IAMs_20 IAMs_20 10 01 12.1
comp=Z,315µm,19.0s
M64A Tiverton 103.56 341 Pdiff **Pdif 09 19 01.8 +4.9**
baz=167
N60A Cedar Hill Far 103.57 338 Pdiff **Pdif 09 18 58.4 +1.4**
baz=166
OKGL Djebel Kef Gue 103.59 38 P Pdif 09 19 19.8 +23
U40A Yellville 103.59 323 Pdiff **Pdif 09 18 58.2 +1.0**
baz=158
PMAFR Mafra 103.61 29 *e*Pdif **Pdif 09 19 09.2 +12**
PMAFR Mafra 103.61 29 *e*PP PKiKP 09 23 30.2 +15
EANR 'Ain N'Sour 103.65 38 P Pdif 09 19 15.5 +18
O56A Blue Knob Stat 103.67 335 Pdiff **Pdif 09 19 04.6 +7.1**
baz=164
M62A Hamden 103.73 340 Pdiff **Pdif 09 19 03.3 +5.6**
baz=167
N59A State Game Lan 103.74 338 Pdiff **Pdif 09 19 03.7 +5.9**
baz=165
M61A Granite Spring 103.76 339 Pdiff **Pdif 09 19 05.0 +7.2**
baz=166
O55A Ligonier 103.77 335 Pdiff **Pdif 09 19 02.3 +4.4**
baz=164
S44A Carbondale 103.81 326 Pdiff **Pdif 09 18 59.6 +1.5**
baz=159
SIUC Southern Illin 103.82 326 IAMs_20 IAMs_20 10 07 16.0
comp=Z,199µm,22.0s
P52A Corning 103.84 332 Pdiff **Pdif 09 19 02.4 +4.1**
baz=162
N58A Sunbury 103.85 337 Pdiff **Pdif 09 19 02.5 +4.3**

baz=165
HHAR Hobbs 103.85 322 IAMs_20 IAMs_20 10 07 46.2
comp=Z,186μm,21.0s
L64A Middleborough 103.88 342 Pdiff Pdif 09 19 01.7 +3.4
baz=168
SSPA Standing Stone 103.89 336 Pdiff Pdif 09 19 03.9 +5.5
baz=164
Q49A Aurora 103.90 330 Pdiff Pdif 09 19 03.3 +4.8
baz=161
ECHA Ech Chlef 103.91 38 P Pdif 09 19 18.6 +20
P51A Williamsport 103.91 332 Pdiff Pdif 09 19 02.2 +3.7
baz=162
P51A Williamsport 103.91 332 IAMs_20 IAMs_20 10 04 26.2
comp=Z,260μm,22.0s
M60A Port Jervis 103.93 339 Pdiff Pdif 09 19 04.3 +5.8
baz=166
L63A North Scituate 103.93 341 Pdiff Pdif 09 19 01.8 +3.3
baz=167
N57A Milroy 103.93 336 Pdiff Pdif 09 19 03.4 +4.8
baz=164
ALMR Almeirim 103.97 30 ePdif Pdif 09 18 58.5 -0.3
ALMR AMS AMS 10 02 56.2
comp=Z,291μm,23.4s
ALMR Almeirim 103.97 30 ePdif Pdif 09 19 13.4 +15
ALMR Almeirim 103.97 30 ePP PP 09 23 30.3 +13
ALMR Almeirim 103.97 30 eP Pdif 09 18 58.5 -0.3
O54A Avella 103.97 334 Pdiff Pdif 09 19 04.8 +6.0
baz=163
BRYW Bryant College 103.97 341 IAMs_20 IAMs_20 10 05 21.3
comp=Z,218μm,22.0s
WMOK Wichita Mounta 103.97 318 Pdiff Pdif 09 19 01.3 +2.3
baz=156
WMOK Wichita Mounta 103.97 318 IAMs_20 IAMs_20 10 05 11.8
comp=Z,181μm,22.0s
PMTG Montargil 103.98 30 ePdif Pdif 09 19 10.2 +11
PMTG Montargil 103.98 30 ePP PP 09 23 28.3 +11
Q48A North Vernon 104.04 330 Pdiff Pdif 09 18 59.5 +0.4
baz=161
EPT El Paso 104.04 311 IAMs_20 IAMs_20 10 02 25.0
comp=Z,359μm,18.0s
TUL1 Leonard 104.08 321 Pdiff Pdif 09 19 01.1 +1.7
baz=157
EBNR Beni Rached 104.09 38 P Pdif 09 19 16.8 +17
P50A Jamestown 104.21 331 Pdiff Pdif 09 18 58.6 -1.3
baz=162
O53A New Philadelph 104.22 333 Pdiff Pdif 09 19 07.5 +7.6
baz=163
O52A Adamsville 104.23 333 Pdiff Pdif 09 19 01.8 +1.8
baz=162
N56A West Decatur 104.24 336 Pdiff Pdif 09 19 04.8 +4.8
baz=164
N55A Marion Center 104.25 335 Pdiff Pdif 09 19 06.5 +6.4
baz=164
L62A Suffield 104.27 340 Pdiff Pdif 09 19 06.6 +6.5
baz=167
M59A Waymart 104.28 338 Pdiff Pdif 09 19 04.3 +4.1
baz=165
M58A Price's Panora 104.31 337 Pdiff Pdif 09 19 05.8 +5.5
baz=165
BCX Boston College 104.32 341 IAMs_20 IAMs_20 10 02 05.5
comp=Z,173μm,21.0s
P49A Miami Univ. Ec 104.36 330 Pdiff Pdif 09 19 06.5 +6.0
baz=161
WES Weston 104.39 341 IAMs_20 IAMs_20 10 02 08.4
comp=Z,198μm,21.0s
M57A Sunshine Farm, 104.41 337 Pdiff Pdif 09 19 08.1 +7.4
baz=165
O51A Pataskala 104.44 332 Pdiff Pdif 09 19 06.6 +5.7
baz=162
PTOM Tomar 104.45 30 ePdif Pdif 09 19 22.7 +22
PTOM Tomar 104.45 30 ePP PP 09 23 25.5 +5.1
EMHD Djebel Mahouad 104.45 39 P Pdif 09 19 15.7 +14
P48A Milroy 104.47 330 Pdiff Pdif 09 19 06.5 +5.5
baz=161
OLIL Olney 104.47 328 IAMs_20 IAMs_20 10 06 08.2
comp=Z,189μm,22.0s
L60A Shokan 104.50 339 Pdiff Pdif 09 19 05.9 +4.8
baz=166
PMRV Marv??o 104.53 30 ePdif Pdif 09 19 11.3 +10
PMRV Marv??o 104.53 30 ePP PP 09 23 39.1 +18
PMRV Marv??o 104.53 30 eLR LR 09 59 09.0
comp=Z,336μm,16.0s
CART Cartagena 104.53 36 Pdfi Pdif 09 19 13.4 +12
CART Cartagena 104.53 36 i PPS PPS 09 33 35.2
HRV Adam Dziewonsk 104.55 341 Pdiff Pdif 09 19 02.4 +1.1
baz=167
HRV Adam Dziewonsk 104.55 341 IAMs_20 IAMs_20 10 02 12.6
comp=Z,207μm,22.0s
ADJB Djebel Djouab 104.57 40 P Pdif 09 19 20.3 +19
L61A Hillsdale 1, H 104.58 340 Pdiff Pdif 09 19 05.6 +4.2
baz=166
ACSO Alum Creek Sta 104.61 332 Pdiff Pdif 09 19 02.2 +0.5
baz=162
ACSO Alum Creek Sta 104.61 332 IAMs_20 IAMs_20 10 08 07.6
comp=Z,186μm,21.0s
N54A Moraine State 104.64 334 Pdiff Pdif 09 19 07.5 +5.8
baz=163
N54A Moraine State 104.64 334 IAMs_20 IAMs_20 10 09 48.2
comp=Z,169μm,20.0s
MSTX Muleshoe 104.65 314 Pdiff Pdif 09 19 08.0 +5.9
baz=154
MSTX Muleshoe 104.65 314 IAMs_20 IAMs_20 10 03 38.9
comp=Z,293μm,19.0s
N53A Lisbon 104.67 334 Pdiff Pdif 09 19 04.9 +3.0
baz=163
O50A Cable 104.68 331 Pdiff Pdif 09 19 04.7 +2.7
baz=162
L61B Northampton 104.68 340 Pdiff Pdif 09 19 08.6 +6.7
baz=167
CCM Cathedral Cave 104.70 325 Pdiff Pdif 09 19 04.8 +2.7
baz=158
CCM Cathedral Cave 104.70 325 P Pdif 09 19 01.0 -1.1
CCM Cathedral Cave 104.70 325 Pdif 09 19 01.0 -1.1
K63A Dunstable 104.72 341 Pdiff Pdif 09 19 05.0 +2.9
baz=167
M56A Emporium 104.76 336 Pdiff Pdif 09 19 06.2 +3.9
baz=164
K62A Royalston 104.82 341 Pdiff Pdif 09 19 06.7 +4.2
baz=167
K62A Royalston 104.82 341 IAMs_20 IAMs_20 10 05 45.6
comp=Z,260μm,22.0s
L59A Walton 104.84 339 Pdiff Pdif 09 19 09.3 +6.6
baz=166
L59A Walton 104.84 339 IAMs_20 IAMs_20 10 09 03.4
comp=Z,173μm,21.0s
PCAS Casmilo, Conde 104.84 29 ePdif Pdif 09 19 15.0 +12
L58A Harry Jones Me 104.85 338 Pdiff Pdif 09 19 08.5 +5.9
baz=165
M55A Ridgway 104.86 336 Pdiff Pdif 09 19 10.8 +8.0
baz=164
N52A McGinn's Farm, 104.86 333 Pdiff Pdif 09 19 08.1 +5.3
baz=162
O49A Covington 104.89 331 Pdiff Pdif 09 19 06.4 +3.5
baz=161
PCBR Castelo Branco 104.89 30 ePP PP 09 23 42.7 +19
K61A Williamstown 104.99 340 Pdiff Pdif 09 19 08.3 +5.0
baz=166
L57A Andrews Acres 105.00 337 Pdiff Pdif 09 19 09.8 +6.5
baz=165
COI Coimbra 105.01 29 ePdif Pdif 09 19 14.9 +12
COI Coimbra 105.01 29 IAMs_20 IAMs_20 10 05 48.9
comp=Z,296μm,19.0s
BINY Binghamton 105.02 338 Pdiff Pdif 09 19 09.6 +6.2
baz=165
ABA Alger-Bouzarea 105.03 39 P Pdif 09 19 17.9 +14
K60A Five Rivers En 105.05 339 Pdiff Pdif 09 19 07.0 +3.5
baz=166
P46A Rosedale 105.07 329 Pdiff Pdif 09 19 08.5 +4.8
baz=160
M54A Oil Creek Stat 105.09 335 Pdiff Pdif 09 19 09.1 +5.3
baz=163
AMTX Amarillo 105.09 316 Pdiff Pdif 09 19 07.8 +3.7
baz=155
N51A Ashland 105.12 333 Pdiff Pdif 09 19 08.1 +4.2
baz=162
ABMS Boumerdes 105.12 40 P Pdif 09 19 22.8 +19
O48A Farmland 105.15 330 Pdiff Pdif 09 19 07.9 +3.8
baz=161
N50A Nevada 105.16 332 Pdiff Pdif 09 19 08.2 +4.2
baz=162
121A Cookes Peak, D 105.21 310 Pdiff Pdif 09 19 11.0 +6.3
baz=153
121A Cookes Peak, D 105.21 310 IAMs_20 IAMs_20 10 04 30.9
comp=Z,199μm,20.0s
J63A Strafford 105.23 342 Pdiff Pdif 09 19 11.0 +6.7
baz=167
M53A WI Miller and 105.24 334 Pdiff Pdif 09 19 09.7 +5.3
baz=163
L56A Greenwood 105.27 337 Pdiff Pdif 09 19 09.8 +5.2
baz=164
J62A Henniker 105.29 341 Pdiff Pdif 09 19 10.4 +5.8
baz=167
K59A Cooperstown 105.37 339 Pdiff Pdif 09 19 11.3 +6.3
baz=166
MTE Manteigas 105.41 30 ePdif Pdif 09 19 17.1 +12
MTE Manteigas 105.41 30 ePP PP 09 23 42.3 +15
MTE eSKS Sdif 09 31 19.5 +19
MTE Manteigas 105.41 30 eLR LR 09 59 19.9
comp=Z,359μm,18.0s
PAB San Pablo 105.42 33 IAMs_20 IAMs_20 10 04 59.9
comp=Z,253μm,19.0s
CTEI Djebel Teioual 105.45 42 P Pdif 09 19 18.4 +13
M51A Elyria 105.47 333 Pdiff Pdif 09 19 09.1 +3.7
baz=162
L55A Hinsdale 105.48 336 Pdiff Pdif 09 19 10.2 +4.6
baz=164
M52A Chesterland 105.49 334 Pdiff Pdif 09 19 03.8 -1.7
baz=163
FFD Franklin Falls 105.51 341 IAMs_20 IAMs_20 10 02 59.8
comp=Z,184μm,22.0s
K58A Earlville 105.51 338 Pdiff Pdif 09 19 10.9 +5.3
baz=165
J61A Chester 105.53 341 Pdiff Pdif 09 19 12.6 +7.0
baz=167
U32A Winter Ranch, 105.55 318 IAMs_20 IAMs_20 10 05 25.1
comp=Z,209μm,22.0s
N49A Columbus Grove 105.55 331 Pdiff Pdif 09 19 10.3 +4.5
baz=161
N49A Columbus Grove 105.55 331 IAMs_20 IAMs_20 10 05 04.5
comp=Z,178μm,22.0s
J60A Lant Hill Farm 105.58 340 Pdiff Pdif 09 19 12.3 +6.5
baz=166
PVIS Viseu 105.62 30 ePP PP 09 23 30.4 +1.3
K57A Scipio Center 105.64 338 Pdiff Pdif 09 19 11.1 +5.0
baz=165
I64A Boothbay 105.64 343 Pdiff Pdif 09 19 11.8 +5.7
baz=168
L53A Girard 105.64 335 Pdiff Pdif 09 19 05.1 -1.1
baz=163
ESDC Sonseca Array 105.65 33 Pdiff Pdif 09 19 06.2 -0.2
comp=Z,0.5nm,0.7s,baz=192,slow=3.5,SNR=3.3
ESDC PP PP 09 23 31.0 +1.6
comp=Z,4.7nm,0.9s,baz=211,slow=5.7,SNR=4.2
ESDC PKKPab PKKPab 09 34 59.0 +2.2
comp=Z,1.7nm,0.7s,baz=20,slow=4.7,SNR=3.7
ESDC Sonseca Array 105.65 33 Pdif 09 19 04.6 -1.7
ESBB Sonseca Array 105.65 33 IAMs_20 IAMs_20 10 04 12.3
comp=Z,275μm,20.0s
N48A Decatur 105.69 331 Pdiff Pdif 09 19 11.2 +4.8
baz=161
DFRA Djebel Bou Aff 105.71 42 P Pdif 09 19 24.6 +18
L54A Sinclairville 105.72 335 Pdiff Pdif 09 19 14.6 +8.1
baz=164
WVNY West Valley, N 105.73 336 IAMs_20 IAMs_20 10 09 12.2
comp=Z,161μm,21.0s
M50A Fremont 105.74 332 Pdiff Pdif 09 19 12.3 +5.7
baz=162
M50A Fremont 105.74 332 IAMs_20 IAMs_20 10 09 01.5
comp=Z,194μm,21.0s
ERPA Erie 105.74 335 Pdiff Pdif 09 19 11.3 +4.7
baz=163
ERPA Erie 105.74 335 IAMs_20 IAMs_20 10 11 36.5
comp=Z,146μm,19.0s
SFIN Lafayette 105.75 329 Pdiff Pdif 09 19 11.3 +4.6
baz=160
K56A Middlesex 105.76 337 Pdiff Pdif 09 19 13.0 +6.3
baz=164
HNH Hanover 105.84 341 IAMs_20 IAMs_20 10 06 25.6
comp=Z,240μm,22.0s
I62A Tamworth 105.85 342 Pdiff Pdif 09 19 13.5 +6.5
baz=167
I62A Tamworth 105.85 342 IAMs_20 IAMs_20 10 07 43.9
comp=Z,190μm,22.0s
N47A Urbana 105.87 330 Pdiff Pdif 09 19 11.2 +4.0
baz=161
N47A Urbana 105.87 330 IAMs_20 IAMs_20 10 07 50.2
comp=Z,154μm,20.0s
I63A Otisfield 105.91 342 Pdiff Pdif 09 19 13.6 +6.3
baz=168
MMNY Mt. Morris Dam 105.91 337 IAMs_20 IAMs_20 10 03 25.7
comp=Z,203μm,22.0s
K55A Perry 105.94 336 Pdiff Pdif 09 19 07.6 +0.2
baz=164
K54A Basiliko Farm, 105.95 336 Pdiff Pdif 09 19 13.4 +5.8
baz=164
J59A Piesco 105.98 339 Pdiff Pdif 09 19 12.1 +4.4
baz=166
J58A Remsen 106.02 339 Pdiff Pdif 09 19 15.2 +7.4
baz=165
M49A Liberty Center 106.02 332 Pdiff Pdif 09 19 13.5 +5.6
baz=161
I61A Oroboro, Fairl 106.05 341 Pdiff Pdif 09 19 14.5 +6.6
baz=167
I60A Shoreham 106.14 340 Pdiff Pdif 09 19 14.0 +5.8
baz=166
H66A Whiting 106.17 345 Pdiff Pdif 09 19 14.4 +6.0
baz=169
TUC Tucson 106.17 307 Pdiff Pdif 09 19 14.1 +5.2
baz=152
TUC Tucson 106.17 307 IAMs_20 IAMs_20 10 01 53.6
comp=Z,389μm,20.0s
PVRL Vila Real 106.19 30 ePP PP 09 23 26.4 -6.9
I59A Olmsteadville 106.19 340 Pdiff Pdif 09 19 13.1 +4.5
baz=166
J57A Williamstown 106.20 338 Pdiff Pdif 09 19 15.5 +6.9
baz=165
H65A Eastbrook 106.20 344 Pdiff Pdif 09 19 13.2 +4.6
baz=169
M48A Edgerton 106.21 331 Pdiff Pdif 09 19 16.5 +7.8
baz=161
M48A Edgerton 106.21 331 IAMs_20 IAMs_20 10 09 22.0
comp=Z,188μm,20.0s
J56A Wolcott 106.23 337 Pdiff Pdif 09 19 12.9 +4.2
baz=164
Y22D IRIS PASSCAL I 106.25 311 Pdiff Pdif 09 19 12.9 +3.6
baz=153
MVO Moncorvo 106.25 30 ePdif Pdif 09 19 13.0 +4.0
MVO Moncorvo 106.25 30 ePP PP 09 23 46.2 +12
MVO eSKS Sdif 09 31 27.3 +20
MVO Moncorvo 106.25 30 eLR LR 10 00 02.2
comp=Z,265μm,18.0s
POLO Lamas de Olo 106.26 29 ePdif Pdif 09 19 19.6 +11
I58A Old Forge 106.28 339 Pdiff Pdif 09 19 04.6 -4.4
baz=165
H64A Troy 106.28 343 Pdiff Pdif 09 19 13.2 +4.3
baz=168
L50A Kingsville 106.29 333 Pdiff Pdif 09 19 11.0 +1.9
baz=162
CMAH Djebel Manchou 106.30 43 P Pdif 09 19 27.5 +18
LBNH Lisbon 106.30 341 Pdiff Pdif 09 19 12.7 +3.6
baz=167
LBNH Lisbon 106.30 341 IAMs_20 IAMs_20 10 03 22.8
comp=Z,175μm,22.0s
M47A Cromwell 106.31 330 Pdiff Pdif 09 19 06.7 -2.5
baz=161
J55A Hilton 106.40 337 Pdiff Pdif 09 19 09.2 -0.3
baz=164
J55A Hilton 106.40 337 IAMs_20 IAMs_20 10 11 58.8
comp=Z,173μm,21.0s
H63A New Sharon 106.42 343 Pdiff Pdif 09 19 11.2 +1.7
baz=168
MEDO Medina 106.43 336 IAMs_20 IAMs_20 10 03 42.6
comp=Z,183μm,22.0s
GGN Saint George 106.43 345 IAMs_20 IAMs_20 10 10 55.0
comp=Z,202μm,20.0s
UCM Universidad Co 106.44 33 Pdif Pdif 09 19 23.3 +13
HDIL Hopedale 106.50 327 Pdiff Pdif 09 19 15.5 +5.5
baz=159
H62A Milan 106.51 342 Pdiff Pdif 09 19 15.1 +5.1
baz=167
H62A Milan 106.51 342 IAMs_20 IAMs_20 10 07 05.2
comp=Z,175μm,21.0s
VT1 Waterbury 106.52 341 IAMs_20 IAMs_20 10 06 34.5
comp=Z,209μm,22.0s
PCAB Cabril 106.53 29 ePP PP 09 23 41.7 +5.9
K52A Tillsonburg 106.53 334 Pdiff Pdif 09 19 18.5 +8.4
baz=163
J54A Appleton 106.57 336 Pdiff Pdif 09 19 15.5 +5.3
baz=164
L48A N Adams 106.58 331 Pdiff Pdif 09 19 14.1 +3.7
baz=161
L49A Milan 106.58 332 Pdiff Pdif 09 19 16.2 +5.9
baz=161
H61A Lyndonville 106.59 341 Pdiff Pdif 09 19 15.6 +5.2
baz=167
G65A Princeton 106.61 345 Pdiff Pdif 09 19 15.6 +5.2
baz=169
G65A Princeton 106.61 345 IAMs_20 IAMs_20 10 07 34.8
comp=Z,203μm,22.0s
I57A Carthage 106.64 339 Pdiff Pdif 09 19 14.7 +4.1
baz=165
K51A Iona Station 106.65 334 Pdiff Pdif 09 19 17.6 +7.0
baz=162
214A Organ Pipe Nat 106.67 306 Pdiff Pdif 09 19 18.6 +7.5
baz=151
214A Organ Pipe Nat 106.67 306 IAMs_20 IAMs_20 10 02 17.9
comp=Z,156μm,19.0s
AAM Ann Arbor 106.73 332 Pdiff Pdif 09 19 17.2 +6.2
baz=161
AAM Ann Arbor 106.73 332 IAMs_20 IAMs_20 10 09 21.8
comp=Z,227μm,20.0s
H60A Morristown 106.74 341 Pdiff Pdif 09 19 16.9 +5.9
baz=166
G63A Kingsbury 106.81 343 Pdiff Pdif 09 19 16.1 +4.9
baz=168
G64A Maxfield 106.82 344 Pdiff Pdif 09 19 10.7 -0.6
baz=168
H58A Gabriels 106.85 340 Pdiff Pdif 09 19 17.4 +5.9
baz=166
ANMO Albuquerque 106.86 312 Pdiff Pdif 09 19 17.3 +5.3
baz=153
ANMO Albuquerque 106.86 312 ⇓i P Pdif 09 19 12.7 +0.7
ANMO MLR MLR
comp=Z,120μm,16.0s
ANMO Albuquerque 106.86 312 Pdiff Pdif 09 19 12.3 +0.3
comp=Z,0.3nm,0.3s,baz=165,slow=5.0,SNR=3.5
ANMO PP PP 09 23 41.7 +3.2
comp=Z,10nm,1.1s,baz=161,slow=8.8,SNR=4.4
ANMO Albuquerque 106.86 312 Pdif 09 19 11.5 -0.6
ANMO Albuquerque 106.86 312 IAMs_20 IAMs_20 10 02 23.5
comp=Z,320μm,20.0s
PKME Peaks-Kenny Pk 106.91 343 Pdiff Pdif 09 19 19.4 +7.7
baz=168
J52A Paris 106.92 335 Pdiff Pdif 09 19 16.1 +4.3
baz=163
PBRG Braganca 106.93 30 ePdif Pdif 09 19 17.0 +5.0
PBRG Braganca 106.93 30 ePP PP 09 23 53.2 +14
K50A Casco 106.95 333 Pdiff Pdif 09 19 19.1 +7.2
baz=162
H59A Cadyville 106.98 340 Pdiff Pdif 09 19 09.2 -2.9
baz=166
G62A West of Eustis 107.04 343 Pdiff Pdif 09 19 17.4 +5.1
baz=168
L46A Eue Claire 107.09 330 Pdiff Pdif 09 19 13.5 +0.9
baz=160
H57A Richville 107.10 339 Pdiff Pdif 09 19 15.6 +3.0
baz=165
LONY Lake Ozonia 107.11 339 Pdiff Pdif 09 19 14.6 +2.0
baz=166
LONY Lake Ozonia 107.11 339 IAMs_20 IAMs_20 10 09 38.5
comp=Z,190μm,21.0s
K49A Clarkson 107.14 332 Pdiff Pdif 09 19 15.4 +2.6
baz=162
FRNY Flat Rock 107.15 340 IAMs_20 IAMs_20 10 07 18.4
comp=Z,251μm,22.0s
G60A Masonville 107.20 341 Pdiff Pdif 09 19 20.2 +7.1
baz=167
G61A St-Isidore-de- 107.25 342 Pdiff Pdif 09 19 18.9 +5.7
baz=167
KSU1 Kansas State U 107.27 321 Pdiff Pdif 09 19 19.7 +6.2
baz=156
KSU1 Kansas State U 107.27 321 IAMs_20 IAMs_20 10 07 16.6
comp=Z,183μm,21.0s
HNR Honiara 107.29 207 IAMs_20 IAMs_20 10 06 56.8
comp=Z,256μm,19.0s
I55A Frankford 107.29 337 Pdiff Pdif 09 19 18.3 +4.8
baz=164
I53A Kortright Cn E 107.30 336 Pdiff Pdif 09 19 19.4 +5.9
baz=163
F63A Nahmakanta, Br 107.31 344 Pdiff Pdif 09 19 19.8 +6.3
baz=168
K48A Perry 107.32 332 Pdiff Pdif 09 19 20.9 +7.3
baz=161
G59A Clarenceville 107.32 341 Pdiff Pdif 09 19 21.3 +7.8
baz=166
F64A Sherman 107.36 344 Pdiff Pdif 09 19 18.8 +5.1
baz=168
F64A Sherman 107.36 344 IAMs_20 IAMs_20 10 10 52.8
comp=Z,150μm,20.0s
H56A Elgin 107.39 338 Pdiff Pdif 09 19 18.0 +4.2
baz=165
K47A Vermontville 107.40 331 Pdiff Pdif 09 19 16.3 +2.3
baz=161
H55A Tweed 107.52 338 Pdiff Pdif 09 19 22.8 +8.3
baz=164
G58A Ormstown 107.54 340 Pdiff Pdif 09 19 21.3 +6.8
baz=166
I51A Listowel 107.58 335 Pdiff Pdif 09 19 19.9 +5.2
baz=162
K46A Dorr 107.60 331 Pdiff Pdif 09 19 18.1 +3.3
baz=160
J49A Marlette 107.62 333 Pdiff Pdif 09 19 21.5 +6.6
baz=162
F62A Pittston Farm, 107.62 343 Pdiff Pdif 09 19 18.9 +4.0
baz=168
I52A Shelburne 107.65 335 Pdiff Pdif 09 19 21.0 +5.9
baz=163
G57A Newington 107.65 339 Pdiff Pdif 09 19 18.6 +3.6
baz=165
L44A Lake County Fo 107.65 329 Pdiff Pdif 09 19 18.9 +3.7
baz=160
J48A Bridge Port 107.71 332 Pdiff Pdif 09 19 17.0 +1.7
baz=161
J48A Bridge Port 107.71 332 IAMs_20 IAMs_20 10 06 10.6
comp=Z,200μm,22.0s
113A Mohawk Valley, 107.77 305 IAMs_20 IAMs_20 10 08 14.0
comp=Z,167μm,21.0s
X18A Snowflake 107.81 309 IAMs_20 IAMs_20 10 03 38.7
comp=Z,330μm,20.0s
H53A Bobcaygeon 107.81 337 Pdiff Pdif 09 19 22.2 +6.4
baz=164
E64A Bridgewater 107.84 345 Pdiff Pdif 09 19 22.4 +6.6
baz=169
F61A St Evariste 107.85 342 Pdiff Pdif 09 19 20.6 +4.7
baz=167
J47A Sunmer 107.89 332 Pdiff Pdif 09 19 21.5 +5.4
baz=161
J47A Sunmer 107.89 332 IAMs_20 IAMs_20 10 09 46.6
comp=Z,195μm,22.0s
E63A Oxbow 107.92 344 Pdiff Pdif 09 19 22.2 +6.1
baz=168
PLVO Plevna 107.97 338 IAMs_20 IAMs_20 10 10 19.2
comp=Z,196μm,21.0s
F60A Warwick 107.99 342 Pdiff Pdif 09 19 19.3 +2.8
baz=167
CBKS Cedar Bluff 108.00 319 Pdiff Pdif 09 19 21.3 +4.5
baz=155
CBKS Cedar Bluff 108.00 319 IAMs_20 IAMs_20 10 06 41.2
comp=Z,238μm,18.0s
F59A Saint Guilaume 108.01 341 Pdiff Pdif 09 19 22.1 +5.6
baz=166
T25A Trinidad 108.08 315 Pdiff Pdif 09 19 24.3 +6.8
baz=153
T25A Trinidad 108.08 315 IAMs_20 IAMs_20 10 05 01.6
comp=Z,162μm,20.0s
ORIO Orleans, Innes 108.08 339 Pdiff Pdif 09 19 21.3 +4.4
baz=165
I49A Point Hope 108.10 333 Pdiff Pdif 09 19 22.9 +5.9
baz=162
G55A Calabogie 108.11 338 Pdiff Pdif 09 19 19.1 +2.0
baz=164
PQI Presque Isle 108.11 345 IAMs_20 IAMs_20 10 08 17.6
comp=Z,166μm,22.0s
SADO Sadowa 108.11 336 PP PP 09 23 43.7 -3.7
comp=Z,11nm,0.8s,baz=197,slow=6.3,SNR=4.6
SADO Sadowa 108.11 336 IAMs_20 IAMs_20 10 11 59.1
comp=Z,146μm,19.0s
H52A Wyevale 108.14 336 Pdiff Pdif 09 19 22.6 +5.4
baz=163
F58A St-Lin Laurent 108.19 340 Pdiff Pdif 09 19 20.4 +3.0
baz=166
J46A Howard City 108.19 331 Pdiff Pdif 09 19 23.0 +5.5
baz=160
E61A Lac Etchemin 108.22 343 Pdiff Pdif 09 19 25.0 +7.5
baz=167
W18A Petrified Fore 108.24 310 Pdiff Pdif 09 19 25.6 +7.4
baz=152
W18A Petrified Fore 108.24 310 IAMs_20 IAMs_20 10 04 13.3
comp=Z,300μm,19.0s
MAHO Mahon 108.25 39 Pdif Pdif 09 19 13.4 -4.4
MAHO Mahon 108.25 39 i PS PS 09 32 24.8 -47
K43A Burlington 108.25 329 Pdiff Pdif 09 19 22.6 +4.8
baz=159

E62A	Clayton Lake	108.27	344	Pdiff	Pdif	09 19	23.1	+5.3
	baz=168							
X16A	Lo Mia Camp, P	108.29	308	IAMs_20	IAMs_20	10 03	45.5	
	comp=Z,237µm,19.0s							
F57A	Harrington	108.29	340	Pdiff	Pdif	09 19	21.8	+4.0
	baz=165							
E60A	Ste Agathe de	108.30	342	Pdiff	Pdif	09 19	24.6	+6.7
	baz=167							
G53A	Haliburton	108.35	337	Pdiff	Pdif	09 19	23.5	+5.4
	baz=164							
L40A	Anamosa	108.42	327	Pdiff	Pdif	09 19	24.4	+5.9
	baz=158							
L40A	Anamosa	108.42	327	IAMs_20	IAMs_20	10 10	07.9	
	comp=Z,172µm,20.0s							
GLA	Glamis	108.45	305	Pdiff	Pdif	09 19	26.7	+7.8
	baz=151							
J45A	Montague	108.45	331	Pdiff	Pdif	09 19	25.0	+6.3
	baz=160							
BATG	Bathurst New B	108.46	346	IAMs_20	IAMs_20	10 09	47.8	
	comp=Z,211µm,22.0s							
D63A	Stockholm	108.48	345	Pdiff	Pdif	09 19	25.3	+6.6
	baz=169							
Y14A	Wickenburg	108.48	307	IAMs_20	IAMs_20	10 03	09.9	
	comp=Z,244µm,20.0s							
G54A	Lake Saint Pet	108.51	337	Pdiff	Pdif	09 19	27.8	+9.0
	baz=164							
I48A	Sherman Twp	108.53	333	Pdiff	Pdif	09 19	26.9	+7.9
	baz=161							
I47A	Gladwin	108.56	332	Pdiff	Pdif	09 19	26.6	+7.5
	baz=161							
I47A	Gladwin	108.56	332	IAMs_20	IAMs_20	10 10	27.2	
	comp=Z,175µm,21.0s							
E58A	La Victoria	108.59	341	Pdiff	Pdif	09 19	24.7	+5.5
	baz=166							
F55A	Otter Lake	108.60	339	Pdiff	Pdif	09 19	19.7	+0.5
	baz=165							
IKP	In-Ko-Pah, Jac	108.62	303	Pdiff	Pdif	09 19	26.7	+6.9
	baz=150							
D62A	Allapoint, All	108.65	344	Pdiff	Pdif	09 19	29.2	+10
	baz=168							
I46A	Reed City	108.70	331	Pdiff	Pdif	09 19	28.3	+8.5
	baz=160							
SWSC	Sam W. Stewart	108.75	304	Pdiff	Pdif	09 19	31.4	+11
	baz=150							
D60A	Saint Jean D'O	108.76	343	Pdiff	Pdif	09 19	36.6	+17
	baz=167							
E57A	Chemin Saint G	108.78	340	Pdiff	Pdif	09 19	18.3	-1.8
	baz=166							
SCIA	State Center	108.84	325	Pdiff	Pdif	09 19	19.1	-1.3
	baz=157							
D61A	St Aubert, Com	108.93	343	Pdiff	Pdif	09 19	27.8	+7.2
	baz=168							
Y12C	Blythe	108.93	305	Pdiff	Pdif	09 19	30.4	+9.3
	baz=151							
Y12C	Blythe	108.93	305	IAMs_20	IAMs_20	10 03	22.8	
	comp=Z,214µm,19.0s							
H48A	Harrisville	108.93	333	Pdiff	Pdif	09 19	27.6	+6.9
	baz=161							
JFWS	Jewell Farm	108.95	328	Pdiff	Pdif	09 19	28.1	+7.2
	baz=158							
JFWS	Jewell Farm	108.95	328	IAMs_20	IAMs_20	10 08	44.9	
	comp=Z,171µm,22.0s							
MONP2	Monument Peak	108.97	303	Pdiff	Pdif	09 19	28.3	+6.9
	baz=150							
I45A	Fountain	108.98	331	Pdiff	Pdif	09 19	30.4	+9.4
	baz=160							
I45A	Fountain	108.98	331	IAMs_20	IAMs_20	10 08	23.5	
	comp=Z,173µm,21.0s							
D59A	Saint-Raymond	108.98	342	Pdiff	Pdif	09 19	30.5	+10
	baz=167							
SDCO	Great Sand Dun	109.01	314	Pdiff	Pdif	09 19	28.6	+6.9
	baz=153							
SDCO	Great Sand Dun	109.01	314	IAMs_20	IAMs_20	10 04	13.2	
	comp=Z,211µm,20.0s							
ALGO	Algonquin Park	109.04	337	Pdiff	Pdif	09 19	29.4	+8.3
	baz=164							
H47A	Mio	109.04	333	Pdiff	Pdif	09 19	27.6	+6.4
	baz=161							
E56A	St. Veronique	109.06	340	Pdiff	Pdif	09 19	25.2	+4.0
	baz=165							
F52A	Sundridge	109.13	336	Pdiff	Pdif	09 19	29.5	+7.9
	baz=163							
KSCO	Kaye Shedlock'	109.14	317	Pdiff	Pdif	09 19	24.2	+2.2
	baz=154							
KSCO	Kaye Shedlock'	109.14	317	IAMs_20	IAMs_20	10 06	19.6	
	comp=Z,266µm,20.0s							
E55A	Montcerf-Lytto	109.15	339	Pdiff	Pdif	09 19	26.2	+4.5
	baz=165							
H46A	Fife Lake	109.21	332	Pdiff	Pdif	09 19	26.8	+4.8
	baz=160							
WUAZ	Wupatki	109.23	309	Pdiff	Pdif	09 19	28.2	+5.6
	baz=151							
BC3	Big Chuckawall	109.23	305	Pdiff	Pdif	09 19	28.7	+6.2
	baz=150							
D58A	Chemin du LacG	109.23	341	Pdiff	Pdif	09 19	29.5	+7.5
	baz=166							
109C	Camp Elliot, M	109.25	303	Pdiff	Pdif	09 19	31.1	+8.7
	baz=150							
109C	Camp Elliot, M	109.25	303	IAMs_20	IAMs_20	10 02	18.2	
	comp=Z,187µm,20.0s							
PDMCI	Parker Dam,Lak	109.26	306	Pdiff	Pdif	09 19	31.4	+8.9
	baz=151							
D57A	Chemin Vers le	109.32	341	Pdiff	Pdif	09 19	33.6	+11
	baz=166							
E54A	Lac Daplat, Po	109.33	338	Pdiff	Pdif	09 19	27.1	+4.6
	baz=164							
GLMI	Grayling	109.34	332	Pdiff	Pdif	09 19	27.0	+4.4
	baz=161							
GLMI	Grayling	109.34	332	IAMs_20	IAMs_20	10 11	10.0	
	comp=Z,144µm,20.0s							
E53A	Dumoine, Ponti	109.37	338	Pdiff	Pdif	09 19	27.6	+5.0
	baz=164							
F51A	Arnstein	109.38	336	Pdiff	Pdif	09 19	28.4	+5.7
	baz=163							
E52A	Mattawa	109.47	337	Pdiff	Pdif	09 19	27.9	+4.8
	baz=163							
H45A	Beulah	109.49	331	Pdiff	Pdif	09 19	27.4	+4.1
	baz=160							
D56A	ZEC Mazanza, M	109.50	340	Pdiff	Pdif	09 19	28.6	+5.4
	baz=165							
LATQ	La Tuque	109.50	341	Pdiff	Pdif	09 19	28.7	+5.5
	baz=166							
G47A	Hillman	109.50	333	Pdiff	Pdif	09 19	30.8	+7.6
	baz=161							
I42A	Draeger Farm,	109.51	329	Pdiff	Pdif	09 19	29.2	+5.9
	baz=159							
IRM	Iron Mountain	109.54	305	Pdiff	Pdif	09 19	27.3	+3.6
	baz=150							
D55A	Sainte-Anne-du	109.59	339	Pdiff	Pdif	09 19	28.3	+4.7
	baz=165							
TPFO	Pinon Flats	109.60	304	Pdiff	Pdif	09 19	28.4	+4.2
	baz=150							
PFO	Pinyon Flats O	109.60	304	Pdiff	Pdif	09 19	32.7	+8.5
	baz=150							
PFO	Pinyon Flats O	109.60	304	IAMs_20	IAMs_20	10 03	15.6	
	comp=Z,243µm,19.0s							
MVCO	Mesa Verde	109.62	312	Pdiff	Pdif	09 19	31.3	+7.0
	baz=152							
MVCO	Mesa Verde	109.62	312	IAMs_20	IAMs_20	10 06	16.7	
	comp=Z,318µm,18.0s							
DRLN	Deer Lake	109.64	352	IAMs_20	IAMs_20	10 11	59.5	
	comp=Z,157µm,20.0s							
BELC	Belle Mtn. Jos	109.75	304	Pdiff	Pdif	09 19	32.3	+7.4
	baz=150							
H43A	Windswept, Lux	109.77	330	Pdiff	Pdif	09 19	30.3	+5.8
	baz=159							
G45A	Suttons Bay	109.79	332	Pdiff	Pdif	09 19	30.6	+6.0
	baz=160							
G45A	Suttons Bay	109.79	332	IAMs_20	IAMs_20	10 07	40.8	
	comp=Z,223µm,22.0s							
F48A	Evansville	109.85	334	Pdiff	Pdif	09 19	37.2	+12
	baz=162							
BGNE	Belgrade	109.85	321	Pdiff	Pdif	09 19	30.7	+5.7
	baz=155							
BGNE	Belgrade	109.85	321	IAMs_20	IAMs_20	10 09	29.0	
	comp=Z,207µm,21.0s							
W13A	Hualapai Mount	109.85	306	IAMs_20	IAMs_20	10 04	01.0	
	comp=Z,211µm,21.0s							
NEE2	Needles Airpor	109.86	306	Pdiff	Pdif	09 19	30.7	+5.5
	baz=150							
G46A	Petoskey	109.87	332	Pdiff	Pdif	09 19	29.4	+4.5
	baz=161							
E51A	G1948 Merrick	109.87	336	Pdiff	Pdif	09 19	33.1	+8.2
	baz=163							
MURC	Murrieta	109.90	303	Pdiff	Pdif	09 19	30.4	+5.0
	baz=150							
SCI2	San Clemente I	109.93	302	Pdiff	Pdif	09 19	31.3	+5.9
	baz=150							
D54A	Lac Fusel, La	109.93	339	Pdiff	Pdif	09 19	31.7	+6.5
	baz=164							
Q24A	Divide	109.97	315	Pdiff	Pdif	09 19	33.8	+7.9
	baz=153							
Q24A	Divide	109.97	315	IAMs_20	IAMs_20	10 13	18.6	
	comp=Z,166µm,18.0s							
E50A	Wahnapitae	110.02	336	Pdiff	Pdif	09 19	33.2	+7.7
	baz=162							
D53A	Lac Vacive, Po	110.05	338	Pdiff	Pdif	09 19	33.1	+7.4
	baz=164							
D53A	Lac Vacive, Po	110.05	338	IAMs_20	IAMs_20	10 12	03.3	
	comp=Z,152µm,20.0s							
D52A	ZEK Kipawa Sen	110.09	337	Pdiff	Pdif	09 19	33.7	+7.9
	baz=163							
CIS	Catalina Islan	110.24	302	Pdiff	Pdif	09 19	37.5	+11
	baz=150							
GMRC	Granite Mounta	110.29	305	Pdiff	Pdif	09 19	35.1	+7.8
	baz=150							
BBRC	Big Bear Solar	110.36	304	Pdiff	Pdif	09 19	37.1	+9.5
	baz=150							
F45A	CMU Biological	110.36	332	Pdiff	Pdif	09 19	28.4	+1.3
	baz=160							
E48A	Lockeyer	110.37	335	Pdiff	Pdif	09 19	37.8	+11
	baz=162							
U15A	North Rim	110.38	308	IAMs_20	IAMs_20	10 04	01.9	
	comp=Z,284µm,22.0s							
D51A	Lot 18 Range I	110.38	337	Pdiff	Pdif	09 19	36.1	+9.0
	baz=163							
FMP	Fort Macarthur	110.45	302	Pdiff	Pdif	09 19	37.2	+9.4
	baz=150							
D50A	G1974 Best Tow	110.55	336	Pdiff	Pdif	09 19	35.6	+7.7
	baz=163							
SNCC	San Nicolas Is	110.58	301	IAMs_20	IAMs_20	10 02	59.5	
	comp=Z,144µm,19.0s							
E47A	Iron Bridge	110.59	334	Pdiff	Pdif	09 19	40.4	+12
	baz=161							
PV02	Paradox Valley	110.59	312	IAMs_20	IAMs_20	10 06	58.3	
	comp=Z,312µm,18.0s							
HEC	Hector,Ludlow	110.61	304	Pdiff	Pdif	09 19	38.8	+10
	baz=150							
BFSC	Mount Baldy Ra	110.64	303	Pdiff	Pdif	09 19	40.6	+12
	baz=150							
OGNE	Ogallala	110.68	318	Pdiff	Pdif	09 19	37.6	+8.9
	baz=154							
OGNE	Ogallala	110.68	318	IAMs_20	IAMs_20	10 11	03.2	
	comp=Z,150µm,19.0s							
PV18	Skein Mesa, Pa	110.69	312	IAMs_20	IAMs_20	10 07	00.9	
	comp=Z,254µm,19.0s							
PV12	Saucer Basin,	110.71	312	IAMs_20	IAMs_20	10 04	16.5	
	comp=Z,365µm,22.0s							
PV11	David Mesa, Pa	110.72	312	IAMs_20	IAMs_20	10 05	26.8	
	comp=Z,307µm,21.0s							
E46A	Sault Ste Mari	110.73	333	Pdiff	Pdif	09 19	36.7	+8.0
	baz=161							
E46A	Sault Ste Mari	110.73	333	IAMs_20	IAMs_20	10 11	39.6	
	comp=Z,144µm,20.0s							
PV17	East Wray Mesa	110.74	312	IAMs_20	IAMs_20	10 05	28.2	
	comp=Z,311µm,20.0s							
PV16	Nyswonger Mesa	110.75	312	IAMs_20	IAMs_20	10 05	27.5	
	comp=Z,261µm,21.0s							
PV19	Morning Glory	110.78	312	IAMs_20	IAMs_20	10 05	29.1	
	comp=Z,258µm,20.0s							
MWC	Mount Wilson	110.80	303	IAMs_20	IAMs_20	10 03	04.3	
	comp=Z,153µm,21.0s							
SMCO	Snowmass	110.81	314	IAMs_20	IAMs_20	10 05	13.9	
	comp=Z,313µm,21.0s							
PV04	Paradox Valley	110.82	312	IAMs_20	IAMs_20	10 05	29.3	
	comp=Z,317µm,21.0s							
PV14	Lion Creek, Pa	110.84	312	IAMs_20	IAMs_20	10 05	31.0	
	comp=Z,314µm,20.0s							
ISCO	Idaho Springs	110.88	315	Pdiff	Pdif	09 19	39.5	+10
	baz=153							
ISCO	Idaho Springs	110.88	315	IAMs_20	IAMs_20	10 08	48.6	
	comp=Z,163µm,19.0s							
PV22	Blue Mesa, Par	110.90	312	IAMs_20	IAMs_20	10 07	18.5	
	comp=Z,325µm,18.0s							
PV23	Carpenter Ridg	110.91	312	IAMs_20	IAMs_20	10 05	32.7	
	comp=Z,327µm,21.0s							
RRX	Edison Barstow	110.92	304	Pdiff	Pdif	09 19	40.5	+11
	baz=150							
DECC	Green Verdugo	110.94	303	Pdiff	Pdif	09 19	37.2	+7.2
	baz=149							
D48A	Paudash Townsh	110.96	335	Pdiff	Pdif	09 19	38.1	+8.4
	baz=162							
TUQ	Turquoise Moun	110.96	305	Pdiff	Pdif	09 19	39.6	+9.4
	baz=150							
PV21	Cone Mtn., Par	110.99	312	IAMs_20	IAMs_20	10 05	35.9	
	comp=Z,269µm,21.0s							
VLDQ	Val d'Or	111.00	338	IAMs_20	IAMs_20	10 11	52.9	
	comp=Z,182µm,20.0s							
F42A	Maple Grove Fa	111.06	330	Pdiff	Pdif	09 19	37.1	+6.9
	baz=159							
F42A	Maple Grove Fa	111.06	330	IAMs_20	IAMs_20	10 15	36.6	
	comp=Z,146µm,18.0s							
BLG	Laguna Peak, P	111.12	302	Pdiff	Pdif	09 19	38.7	+7.9
	baz=149							
D47A	Chapleau	111.12	334	Pdiff	Pdif	09 19	35.8	+5.4
	baz=161							
G40A	Rib Lake	111.13	329	Pdiff	Pdif	09 19	37.8	+7.2
	baz=158							
D46A	Sault St. Mari	111.17	333	Pdiff	Pdif	09 19	37.1	+6.5
	baz=161							
GSC	Goldstone, Bar	111.21	304	Pdiff	Pdif	09 19	40.2	+8.9
	baz=150							
GSC	Goldstone, Bar	111.21	304	IAMs_20	IAMs_20	10 07	47.1	
	comp=Z,164µm,19.0s							
EIL	Elat	111.33	68	eP	PKiKP	09 23	30.0	-0.2
EDW2	Edwards Air Fo	111.34	303	Pdiff	Pdif	09 19	40.3	+8.5
	baz=149							
E43A	Lone Tree Farm	111.37	331	Pdiff	Pdif	09 19	40.7	+9.2
	baz=159							
E43A	Lone Tree Farm	111.37	331	IAMs_20	IAMs_20	10 08	50.9	
	comp=Z,161µm,22.0s							
OSI	Osito Audit: C	111.41	303	Pdiff	Pdif	09 19	39.6	+7.4
	baz=149							
OSI	Osito Audit: C	111.41	303	IAMs_20	IAMs_20	10 03	08.6	
	comp=Z,163µm,21.0s							
ECSD	EROS Data Cent	111.50	323	Pdiff	Pdif	09 19	38.9	+6.7
	baz=156							
ECSD	EROS Data Cent	111.50	323	IAMs_20	IAMs_20	10 09	35.6	
	comp=Z,180µm,21.0s							
SHOC	Shoshone, Teco	111.51	305	Pdiff	Pdif	09 19	37.6	+5.1
	baz=150							
MNCY	Minicoy	111.53	112	IAMs_20	IAMs_20	10 01	17.8	
	comp=Z,583µm,22.7s							
SHPR	Sheep Range	111.58	306	IAMs_20	IAMs_20	10 04	54.8	
	comp=Z,249µm,20.0s							
LRMC	Laurel Mtn Rad	111.72	304	Pdiff	Pdif	09 19	42.3	+8.7
	baz=149							
SPMN	Marine on St.	111.78	327	Pdiff	Pdif	09 19	41.2	+7.8
	baz=157							
SPMN	Marine on St.	111.78	327	IAMs_20	IAMs_20	10 10	45.9	
	comp=Z,210µm,22.0s							
TIP	Timpagrande	111.89	48	IAMs_20	IAMs_20	10 18	46.0	
	comp=Z,354µm,20.0s							
ARVC	Arvin	111.90	303	Pdiff	Pdif	09 19	43.9	+10
	baz=149							
N23A	Red Feather La	111.97	315	Pdiff	Pdif	09 19	43.2	+8.5
	baz=152							
N23A	Red Feather La	111.97	315	IAMs_20	IAMs_20	10 06	35.4	
	comp=Z,227µm,21.0s							
PKM	Mcpherson Peak	112.11	302	Pdiff	Pdif	09 19	44.7	+9.4
	baz=149							
O20A	White River Ci	112.11	313	Pdiff	Pdif	09 19	42.6	+7.4
	baz=152							
O20A	White River Ci	112.11	313	IAMs_20	IAMs_20	10 05	42.4	
	comp=Z,322µm,22.0s							
MPMC	Manual Prospec	112.14	304	Pdiff	Pdif	09 19	44.4	+8.9
	baz=149							
ITM	Ithomi	112.14	53	IAMs_20	IAMs_20	10 11	44.7	
	comp=Z,206µm,20.0s							
CHGQ	Chibougamau	112.21	341	Pdiff	Pdif	09 19	38.5	+3.3
	baz=165							
ISA	Isabella, Lake	112.21	303	Pdiff	Pdif	09 19	44.4	+8.8
	baz=149							
ISA	Isabella, Lake	112.21	303	IAMs_20	IAMs_20	10 03	58.6	
	comp=Z,235µm,20.0s							
FURC	Furnace Creek,	112.24	305	Pdiff	Pdif	09 19	42.0	+6.4
	baz=149							
D41A	Chassel	112.39	330	Pdiff	Pdif	09 19	43.5	+7.5
	baz=159							
D41A	Chassel	112.39	330	IAMs_20	IAMs_20	10 12	39.6	
	comp=Z,182µm,21.0s							
TPNV	Topopah Spring	112.40	306	Pdiff	Pdif	09 19	42.0	+5.4
	baz=149							
TPNV	Topopah Spring	112.40	306	IAMs_20	IAMs_20	10 05	04.6	
	comp=Z,245µm,19.0s							
SMMC	Simmler	112.55	302	Pdiff	Pdif	09 19	41.1	+4.0
	baz=149							
VES	Vestal, Richgr	112.61	303	Pdiff	Pdif	09 19	44.5	+7.2
	baz=149							
MATQ	Matagami	112.62	339	Pdiff	Pdif	09 19	46.9	+10
	baz=164							
CWC	Cottonwood Cre	112.71	304	Pdiff	Pdif	09 19	47.7	+10
	baz=149							
E38A	The Farm, Brul	112.72	328	Pdiff	Pdif	09 19	42.8	+5.3
	baz=157							
E38A	The Farm, Brul	112.72	328	IAMs_20	IAMs_20	10 12	05.7	
	comp=Z,172µm,21.0s							
SUSD	Miller	112.85	322	Pdiff	Pdif	09 19	47.9	+10
	baz=154							
SUSD	Miller	112.85	322	IAMs_20	IAMs_20	10 10	23.4	
	comp=Z,311µm,18.0s							
SANT	Santorini	112.88	56	IAMs_20	IAMs_20	10 09	55.3	
	comp=Z,194µm,20.0s							
GRAC	Grapevine Rang	112.90	305	Pdiff	Pdif	09 19	48.0	+9.4
	baz=149							
PAGB	Antelope Grade	113.01	302	IAMs_20	IAMs_20	10 05	04.9	
	comp=Z,160µm,18.0s							
RWWY	Rawlins	113.11	315	IAMs_20	IAMs_20	10 07	11.8	
	comp=Z,245µm,21.0s							
VOG	Valley Oaks Go	113.15	303	Pdiff	Pdif	09 19	47.2	+7.5
	baz=149							
SSB	Saint Sauveur	113.23	37	IAMs_20	IAMs_20	10 06	51.5	
	comp=Z,344µm,21.0s							
TIN	Timemaha, Big	113.30	304	Pdiff	Pdif	09 19	49.7	+9.1
	baz=149							
R11A	Troy Canyon, C	113.34	307	Pdiff	Pdif	09 19	51.6	+11
	baz=149							
R11A	Troy Canyon, C	113.34	307	IAMs_20	IAMs_20	10 06	20.5	
	comp=Z,235µm,20.0s							
APE	Apeiranthos	113.51	56	⇑P	PKiKP	09 23	43.9	+10
PMPB	Monarch Peak	113.66	302	IAMs_20	IAMs_20	10 03	56.0	
	comp=Z,216µm,19.0s							
K22A	Casper	113.72	316	Pdiff	Pdif	09 19	51.2	+8.9
	baz=152							
K22A	Casper	113.72	316	IAMs_20	IAMs_20	10 07	39.8	
	comp=Z,215µm,20.0s							
DUG	Dugway, Tooele	113.86	310	Pdiff	Pdif	09 19	51.5	+8.5
	baz=150							
DUG	Dugway, Tooele	113.86	310	IAMs_20	IAMs_20	10 10	41.0	
	comp=Z,211µm,19.0s							
MMLI	Mount Malkishu	113.88	66	eP	PKiKP	09 23	51.9	+17
AGG	Agios Georgios	113.89	53	IAMs_20	IAMs_20	10 06	43.1	
	comp=Z,323µm,22.0s							
KAPI	Kappang	113.93	165	PKKP	PKKPdf	09 34	35.1	-0.3
	comp=Z,27nm,0.9s,baz=48,slow=3.1,SNR=4.7							
EYMN	Ely	113.95	329	Pdiff	Pdif	09 19	51.7	+8.7
	baz=157							
MLAC	Mammoth, Mamm	114.04	304	Pdiff	Pdif	09 19	53.5	+9.5
	baz=148							
VLC	Villacollemand	114.06	41	IAMs_20	IAMs_20	10 06	26.3	
	comp=Z,315µm,21.0s							
PALK	Pallekele	114.06	120	⇑PKiKP	PKiKP	09 23	36.9	+1.0
OMMB	Old Mammoth Mi	114.09	304	IAMs_20	IAMs_20	10 06	29.5	
	comp=Z,322µm,20.0s							
MDPB	Devils Postpil	114.14	304	IAMs_20	IAMs_20	10 06	30.8	
	comp=Z,264µm,20.0s							
RSSD	Black Hills	114.18	318	Pdiff	Pdif	09 19	52.1	+7.7
	baz=152							
MMAI	Mount Meron Ar	114.36	66	PKP	PKiKP	09 23	36.4	+0.5
	comp=Z,2.2nm,0.7s,baz=174,slow=1.4,SNR=4.1							
MMAI				PP	PP	09 24	32.0	-0.5
	comp=Z,25nm,1.1s,baz=211,slow=6.4,SNR=4.7							
SAO	San Andreas Ge	114.39	302	IAMs_20	IAMs_20	10 04	13.6	
	comp=Z,229µm,19.0s							
NV11	Mina Array Sit	114.45	305	IAMs_20	IAMs_20	10 06	55.8	
	comp=Z,169µm,22.0s							
NVAR	Mina Array Bea	114.51	305	Pdiff	Pdif	09 19	52.0	+6.0
	comp=Z,0.2nm,0.7s,baz=201,slow=4.7,SNR=1.9							
NVAR				PKP	PKPdf	09 23	36.0	-0.2
	comp=Z,3.0nm,0.7s,baz=145,slow=3.0,SNR=5.6							
NVAR				PKKPab	PKKPab	09 34	19.8	+1.0
	comp=Z,3.4nm,0.7s,baz=295,slow=2.7,SNR=5.1							
NVAR				SKKP		09 38	09.2	
	comp=Z,10nm,1.0s,baz=322,slow=1.3,SNR=3.9							
NVAR				PKPPKP	P'P'df	09 42	51.3	+4.2
	comp=Z,0.6nm,0.8s,baz=308,slow=4.4,SNR=2.5							
TURN	Turunc	114.63	59	eP	PKiKP	09 23	45.9	+10
MLSB	Milas	114.64	58	eP	PKiKP	09 23	51.6	+15
LIT	Litokhoron	114.88	52	IAMs_20	IAMs_20	10 07	02.2	
	comp=Z,350µm,22.0s							
BW06	Boulder Array	114.89	314	Pdiff	Pdif	09 19	55.7	+8.0
	baz=150							
PDAR	Pinedale Array	114.89	314	Pdiff	Pdif	09 19	46.1	-1.5
	comp=Z,0.5nm,1.0s,baz=173,slow=2.3,SNR=3.7							
PDAR				PKP	PKPdf	09 23	33.7	-3.1
	comp=Z,1.7nm,0.5s,baz=134,slow=4.5,SNR=7.3							
PDAR				PKKPab	PKKPab	09 34	21.7	+5.0
	comp=Z,5.9nm,0.9s,baz=92,slow=2.0,SNR=4.6							
PDAR				PKKP	PKKPdf	09 34	33.7	-2.6
	comp=Z,12nm,1.0s,baz=15,slow=1.7,SNR=6.4							
PDAR				PKPPKP	P'P'df	09 42	54.8

comp=Z,349μm,19.1s
MDND Maddock 116.11 323 Pdiff **Pdif 09 20 02.3 +10**
baz=153
AKKU Akkuyu-Mersin 116.17 63 *e*P PKiKP 09 23 53.8 +15
MCCM Marconi Confer 116.17 301 IAMs_20 IAMs_20 10 05 32.6
comp=Z,260μm,19.0s
MOOW Moose Ponds 116.17 313 IAMs_20 IAMs_20 10 10 29.9
comp=Z,250μm,19.0s
BERE Bereket-Mersin 116.18 62 *e*P PKiKP 09 23 52.3 +13
FXWY Fox Creek 116.18 313 IAMs_20 IAMs_20 10 10 19.1
comp=Z,223μm,19.0s
UPM Unac-Piva 116.19 48 *e*P PKiKP 09 23 48.6 +9.3
ISP Isparta 116.25 59 IAMs_20 IAMs_20 10 11 30.7
comp=Z,319μm,22.0s
IKL Isikli 116.29 63 *e*P PKiKP 09 23 59.1 +20
TEVE Tevekalti-Mers 116.35 62 *e*P PKiKP 09 23 51.9 +12
IMW Indian Meadow 116.37 313 IAMs_20 IAMs_20 10 10 43.2
comp=Z,182μm,18.0s
FLWY Flagg Ranch 116.45 314 IAMs_20 IAMs_20 10 17 09.2
comp=Z,188μm,18.0s
RIY Rijeka 116.46 44 *e*P **PKiKP 09 23 43.9 +4.5**
KEBE Keben-Mersin 116.48 63 *e*P **PKPdf 09 23 39.5 -0.4**
SILI Silifke-Mersin 116.50 63 *e*P PKiKP 09 23 55.2 +15
BEKR Beckworth 116.57 304 IAMs_20 IAMs_20 10 08 09.0
comp=Z,180μm,22.0s
ECH Echery 116.66 37 IAMs_20 IAMs_20 10 09 01.2
comp=Z,328μm,20.0s
BALB Balikesir 116.66 56 *e*P PKiKP 09 23 53.4 +13
DAVA Damuels 116.67 39 PKPdf **PKPdf 09 23 38.4 -1.6**
comp=Z,21nm,0.9s
H17A Grant Village 116.67 314 Pdiff **Pdif 09 20 00.5 +5.0**
baz=150
GDXM Geysers 116.69 302 IAMs_20 IAMs_20 10 06 04.3
comp=Z,306μm,20.0s
KIZK Mersin 116.70 63 *e*P PKiKP 09 23 53.4 +13
FETA Feichten 116.71 40 PKPdf **PKPdf 09 23 38.9 -1.2**
comp=Z,11nm,1.0s
RUDO Rudo 116.72 48 *e*P PKiKP 09 23 48.6 +8.6
GEDZ Gediz 116.80 58 *e*P **PKiKP 09 23 45.9 +5.5**
CEY Cerknica 116.80 43 *e*P **PKiKP 09 23 45.2 +5.0**
PSI Prapat 116.81 141 PKKPab PKKPab 09 34 12.8 0.0
comp=Z,10nm,0.9s,baz=335,slow=2.9,SNR=3.9
RLMT Red Lodge 116.84 315 Pdiff **Pdif 09 20 05.4 +9.2**
baz=150
SHUT Suhut-Afyon 116.87 59 *e*P PKiKP 09 23 52.3 +12
FAKI Fak Fak 116.88 179 IAMs_20 IAMs_20 10 16 18.1
comp=Z,245μm,20.0s
BLY Banja Luka 116.90 46 *e*P PKiKP 09 23 50.1 +10
BLY Banja Luka 116.90 46 ⇑P **PKPdf 09 23 38.6 -1.7**
RSBS Rosebush, Pemb 116.92 28 IAMs_20 IAMs_20 10 11 09.6
comp=Z,152μm,19.7s
BBLS Lazići 116.94 48 *e*P **PKPdf 09 23 38.3 -2.2**
HOPS Hopland Field 116.96 302 IAMs_20 IAMs_20 10 06 10.6
comp=Z,300μm,19.0s
HAPS Han Pijesak,Bl 116.97 47 *e*P **PKPdf 09 23 39.5 -1.1**
ERIK Erikli-Kesan 116.97 55 *e*P **PKPdf 09 23 34.2 -6.4**
ALN Alexandroupoli 116.98 54 *e*P PKiKP 09 23 53.1 +13
RDO Rodhopi 116.98 54 *e*P PKiKP 09 23 52.7 +12
SQTA Sankt Quirin 117.04 40 PKPdf **PKPdf 09 23 38.7 -1.9**
comp=Z,6.7nm,0.7s
ABTA Abfaltersbach 117.04 41 PKPdf **PKPdf 09 23 39.2 -1.4**
comp=Z,15nm,1.0s
LJU Ljubljana 117.10 43 *e*Pdiff **Pdif 09 20 08.6 +12**
LJU *e*PKPdf **PKPdf 09 23 38.7 -2.0**
LJU *e* 09 23 50.4
LJU *e*PP **PP 09 24 50.7 -0.8**
LJU *e* 09 30 59.1
LJU *e* 09 35 05.4
LJU *e* 09 35 46.6
LJU *e*SS SS 09 41 15.4 +15
LJU *e* 09 53 58.1
LJU Ljubljana 117.10 43 *e*P PKiKP 09 23 48.8 +8.1
MOTA Moosalm 117.11 40 PKPdf **PKPdf 09 23 39.6 -1.2**
comp=Z,9.1nm,1.0s
BFO Black Forest 117.12 38 *i* PKIKP **PKiKP 09 23 41.9 +1.2**
RETA Reutte 117.13 40 PKPdf **PKPdf 09 23 38.9 -1.9**
comp=Z,13nm,0.9s
KONT Konya--Tatoy 117.14 61 *e*P PKiKP 09 23 53.4 +12
HMNX Herstmonceux 117.16 31 IAMs_20 IAMs_20 10 11 17.7
comp=Z,634μm,19.1s
GORS Gorjuse 117.16 43 *e*Pdiff **Pdif 09 20 10.4 +13**
GORS *e*SS SS 09 41 17.7 +16
LAO LASA Array 117.17 318 Pdiff **Pdif 09 20 02.0 +4.6**
baz=151
LAO LASA Array 117.17 318 IAMs_20 IAMs_20 10 12 37.0
comp=Z,179μm,21.0s
MERS Mersin 117.19 63 *e*P PKiKP 09 23 53.4 +12
WTTA Wattenberg 117.21 41 PKPdf **PKPdf 09 23 39.3 -1.7**
comp=Z,14nm,1.0s
ULM Lac du Bonnet 117.22 327 PKP **PKPdf 09 23 38.1 -2.6**
comp=Z,6.1nm,0.7s,baz=105,slow=2.3,SNR=3.4
ULM PKKP **PKKPdf 09 34 29.9 -2.0**
comp=Z,15nm,0.9s,baz=316,slow=8.7,SNR=4.1
ULM Lac du Bonnet 117.22 327 IAMs_20 IAMs_20 10 14 08.7
comp=Z,226μm,18.0s
CRES Cresnjev 117.23 44 *e*P **PKiKP 09 23 48.3 +7.3**
WATA Walderalm 117.26 41 PKPdf **PKPdf 09 23 38.6 -2.5**
comp=Z,46nm,1.3s
RKY Sarkoy-Tekirda 117.26 55 *e*P PKiKP 09 23 59.1 +18
MYKA Terra Mystica 117.32 42 PKPdf **PKPdf 09 23 39.2 -1.9**
comp=Z,12nm,0.6s
KRTS Karatas 117.32 64 *e*P PKiKP 09 24 03.4 +22
VTS Vitosha 117.32 51 ⇑P **PKPdf 09 23 40.0 -1.4**
VTS Vitosha 117.32 51 IAMs_20 IAMs_20 10 15 02.9
comp=Z,257μm,18.0s
MRMT Marmara Adasi 117.36 56 *e*P PKiKP 09 23 52.7 +11
DIVS Divibare 117.36 48 *e*P **PKPdf 09 23 39.4 -1.9**
KDZ Kurdzhali 117.36 53 *e*P PKiKP 09 23 53.4 +12
UKOP Uzunkopru-Edir 117.41 55 *e*P **PKPdf 09 23 38.1 -3.3**
PLD Plovdiv 117.46 53 *e*P PKiKP 09 23 56.3 +15
OBKA Obir 117.52 43 PKiKP **PKiKP 09 23 41.9 +0.3**
comp=Z,24nm,1.4s
O03E Paynes Creek 117.52 303 Pdiff **Pdif 09 20 06.1 +6.9**
baz=147
ELSH Elham, Standar 117.62 32 IAMs_20 IAMs_20 10 11 49.0
comp=Z,563μm,18.3s
YURE YUREGIR 117.64 64 *e*P **PKPdf 09 23 40.2 -1.9**
MDNY Mudanya-Bursa 117.69 57 *e*P PKiKP 09 23 59.8 +18
KIZT Kizilcal 117.71 60 *e*P PKiKP 09 23 52.3 +10
KARA Karaisali 117.75 63 *e*P PKiKP 09 23 54.1 +12
DSB Dublin 117.75 26 IAMs_20 IAMs_20 10 13 40.1
comp=Z,236μm,20.0s
KCPM Cahto Peak 117.76 302 IAMs_20 IAMs_20 10 06 32.6
comp=Z,252μm,21.0s
CIFT Cifteler, Eski 117.76 59 *e*P PKiKP 09 23 53.8 +12
MFID Camas Ranch 117.78 310 IAMs_20 IAMs_20 10 08 59.6
comp=Z,152μm,22.0s
SOKA Soboth 117.83 43 PKPdf **PKPdf 09 23 41.3 -0.9**
comp=Z,44nm,1.5s
O02D Mt. Diablo Mer 117.83 303 Pdiff **Pdif 09 20 14.0 +13**
baz=147
ARMT Armutlu 117.85 57 *e*P **PKiKP 09 23 45.9 +3.6**
CEYT Ceyhan 117.85 64 *e*P PKiKP 09 23 58.0 +16
CRLT Corlu 117.86 55 *e*P PKiKP 09 23 56.3 +14
GEMT Gemlik 117.87 57 *e*P PKiKP 09 23 55.9 +14
CHBY Cihanbeyli 117.90 61 *e*P PKiKP 09 23 57.7 +15
BORA Eskisehir 117.94 58 *e*P PKiKP 09 23 52.7 +10
CAVI Cavuskoy 117.95 57 *e*P PKiKP 09 23 56.6 +14
SVRH Sivrihisar-ESK 118.03 59 *e*P PKiKP 09 23 57.2 +14
AUSIV SIVRIHISAR 118.03 59 *e*P PKiKP 09 23 54.8 +12
WVOR Wild Horse Val 118.04 307 IAMs_20 IAMs_20 10 11 21.8
comp=Z,160μm,19.0s
YLV Yalova 118.06 57 *e*P PKiKP 09 23 51.9 +9.1
WDC Whiskeytown Da 118.07 303 IAMs_20 IAMs_20 10 06 54.8
comp=Z,127μm,20.0s
DGMT Dagmar 118.08 320 Pdiff **Pdif 09 20 09.2 +7.8**
baz=151
DGMT Dagmar 118.08 320 IAMs_20 IAMs_20 10 11 35.8
comp=Z,213μm,22.0s
BOZ Bozeman (W) 118.09 314 Pdiff **Pdif 09 20 11.3 +10**
baz=149
BOZ Bozeman (W) 118.09 314 IAMs_20 IAMs_20 10 09 40.6
comp=Z,244μm,21.0s
ADVT Abdulvahap 118.10 57 *e*P PKiKP 09 23 55.2 +12
PHSR Pinarhisar 118.19 55 *e*P PKiKP 09 23 55.6 +13
FRGS Fruska Gora 118.20 47 *e*P **PKiKP 09 23 48.9 +6.0**
GOA Goa 118.22 109 IAMs_20 IAMs_20 10 01 34.8
comp=Z,255μm,20.6s
DLMT Dillon 118.23 313 IAMs_20 IAMs_20 10 10 34.5
comp=Z,228μm,18.0s
KMRM Mail Ridge 118.26 302 IAMs_20 IAMs_20 10 08 46.4
comp=Z,284μm,19.0s
MOD Modoc Plateau 118.26 306 IAMs_20 IAMs_20 10 11 14.7
comp=Z,179μm,21.0s
CTKS Kestanelik-??a 118.26 56 *e*P **PKiKP 09 23 50.2 +7.1**

KULU Kulu 118.33 60 *e*P PKiKP 09 23 54.5 +11
KAVV Kandilli-Istan 118.35 56 *e*P PKiKP 09 23 55.2 +12
AUMIH MIHALICIK 118.36 59 *e*P **PKiKP 09 23 50.9 +7.4**
HRT Hereke 118.40 57 *e*P PKiKP 09 23 54.5 +11
GULT Gulveren 118.43 58 *e*P PKiKP 09 24 02.3 +19
N02D Trinity Center 118.47 303 Pdiff **Pdif 09 20 11.4 +8.0**
baz=146
ARSA Arzberg 118.49 43 PKPdf **PKPdf 09 23 42.4 -1.0**
comp=Z,11nm,1.1s
SERE Sereflikochisa 118.49 61 *e*P PKiKP 09 23 53.4 +10
PLVB Pleven 118.51 52 ⇑P **PKiKP 09 23 45.7 +2.2**
SPNC Sapanca-Adapaz 118.55 57 *e*P PKiKP 09 24 01.9 +18
MDVR Moldovita 118.58 49 ⇑P **PKiKP 09 23 46.8 +3.1**
MOA Molln 118.59 42 PKPdf **PKPdf 09 23 41.1 -2.4**
comp=Z,14nm,1.1s
YAYX Yaylak 118.59 61 *e*P PKiKP 09 23 58.0 +14
SAUV Serdivan-Sakar 118.60 57 *e*P PKiKP 09 23 53.8 +10
ELND Elena 118.62 53 ⇑P **PKPdf 09 23 42.1 -1.6**
SILT Sile 118.66 57 *e*P PKiKP 09 24 05.5 +22
AFSR Afar-Bala (An 118.69 60 *e*P PKiKP 09 23 55.6 +11
KHMM Horse Mountain 118.81 302 IAMs_20 IAMs_20 10 06 27.5
comp=Z,289μm,21.0s
M02C Callahan 118.88 303 Pdiff **Pdif 09 20 12.7 +7.5**
baz=146
YUVA Yuva-Kibriscik 118.89 59 *e*P **PKiKP 09 23 45.9 +1.4**
JCC Jacoby Creek, 118.89 302 IAMs_20 IAMs_20 10 08 39.8
comp=Z,155μm,20.0s
SIJI Sorong 118.90 178 PKP **PKPdf 09 23 42.3 -2.9**
comp=Z,13nm,0.6s,baz=129,slow=2.8,SNR=6.1
SIJI PKKP **PKKPdf 09 34 25.1 -1.2**
comp=Z,21nm,0.9s,baz=57,slow=7.3,SNR=3.8
LOD Lodumlu 118.93 60 *e*P PKiKP 09 23 52.7 +8.1
HERR Herculane 118.93 49 ⇑P **PKPdf 09 23 41.9 -2.3**
IPM Ipoh 119.05 142 P PKiKP 09 23 57.0 +11
IPM Ipoh 119.05 142 **PKPdf 09 23 42.8 -2.7**
CMBY CAMPBELL BAY 119.07 134 *e*P **PKPdf 09 23 44.8 -0.7**
CMBY IAMs_20 IAMs_20 10 03 29.4
comp=Z,931μm,18.5s
YBH Yreka Blue Hor 119.10 304 PKP **PKPdf 09 23 42.3 -2.5**
comp=Z,1.4nm,0.7s,baz=72,slow=10,SNR=6.2
YBH Yreka Blue Hor 119.10 304 IAMs_20 IAMs_20 10 08 01.1
comp=Z,168μm,19.0s
BRTR Keskin Array B 119.17 61 PKIKP **PKPdf 09 23 41.8 -3.2**
BRTR Keskin Array B 119.17 61 Pdiff **Pdif 09 20 15.4 +8.8**
comp=Z,0.3nm,0.5s,baz=184,slow=2.6,SNR=2.6
BRTR PKP **PKPdf 09 23 42.5 -2.6**
comp=Z,5.9nm,0.9s,baz=246,slow=2.8,SNR=9.5
BRTR PKKPab **PKKPab 09 33 58.9 +0.3**
comp=Z,4.3nm,1.1s,baz=98,slow=1.8,SNR=2.7
BRTR Keskin Array B 119.17 61 *e*P **PKPdf 09 23 40.6 -4.5**
BRTR Keskin Array B 119.17 61 **PKPdf 09 23 41.8 -3.2**
CONA Conrad Observa 119.19 43 PKPdf **PKPdf 09 23 42.5 -2.2**
comp=Z,21nm,1.5s
BZS Buzias 119.26 48 ⇓P **PKPdf 09 23 42.4 -2.4**
PLID Pearl Lake 119.26 311 **PKPdf 09 23 43.4 -1.8**
PLID IAMs_20 IAMs_20 10 17 10.9
comp=Z,169μm,22.0s
GERES GERESS Array B 119.27 41 PKP **PKPdf 09 23 42.1 -2.8**
comp=Z,9.7nm,0.9s,baz=215,slow=1.6,SNR=17
GERES PKKP **PKKPdf 09 34 26.6 -1.4**
comp=Z,4.2nm,0.9s,baz=52,slow=2.2,SNR=4.2
GERES GERESS Array B 119.27 41 **PKPdf 09 23 42.0 -2.9**
BNN Bunyan 119.42 63 *e*P PKiKP 09 23 55.6 +10
KRMB Red Mountain 119.42 303 IAMs_20 IAMs_20 10 09 58.7
comp=Z,148μm,21.0s
KHC Kasperske Hory 119.48 41 *e*PKIKP **PKPdf 09 23 42.4 -2.8**
KHC *e* 09 23 49.1
KHC *e* 09 25 05.1
KHC *e* 09 41 35.4
KHC MLR MLR
comp=Z,533μm,18.9s
KHC Kasperske Hory 119.48 41 *e*PKPDF **PKPdf 09 23 42.4 -2.8**
KHC *ep*PKP **sPKPdf 09 23 49.1 +0.7**
KHC *ex* x 09 24 14.0
KHC *ex* x 09 24 50.5
KHC *e*PP **PP 09 25 05.1 -2.9**
KHC *ex* x 09 26 19.5
KHC *e*PS PS 09 35 52.3 +57
KHC *e*SS SS 09 41 35.4 +4.3
KHC AMS AMS 10 11 30.0
comp=Z,533μm,18.9s
KHC Kasperske Hory 119.48 41 IAMs_20 IAMs_20 10 11 50.7
comp=Z,216μm,19.0s
GZR Gura Zlata 119.50 49 ⇑P **PKPdf 09 23 42.4 -3.0**
EGMT Eagleton 119.52 316 Pdiff **Pdif 09 20 14.9 +7.0**
baz=149
EGMT Eagleton 119.52 316 IAMs_20 IAMs_20 10 11 55.3
comp=Z,190μm,22.0s
KDZE Karadeniz Ereo 119.55 58 *e*P PKiKP 09 24 01.6 +16
BMO Blue Mountains 119.56 309 IAMs_20 IAMs_20 10 10 34.8
comp=Z,174μm,21.0s
URFA Urfa 119.59 66 *e*P **PKiKP 09 23 46.6 +0.7**
KULM Kulim 119.70 142 P PKiKP 09 23 58.0 +11
SIRR Siria 119.83 48 ⇑P **PKPdf 09 23 43.8 -2.1**
YOZ Yozgat 119.83 62 *e*P PKiKP 09 23 55.2 +8.8
CANT Cankiri 119.89 60 *e*P PKiKP 09 23 58.4 +12
HUMO Hull Mountain 119.93 304 IAMs_20 IAMs_20 10 08 48.0
comp=Z,216μm,20.0s
CORM Corum 119.97 61 *e*P PKiKP 09 23 58.0 +11
MSO Missoula 119.97 313 Pdiff **Pdif 09 20 16.7 +6.7**
baz=148
MSO Missoula 119.97 313 IAMs_20 IAMs_20 10 13 12.5
comp=Z,201μm,19.0s
SBUM Sibu 119.97 155 P PKiKP 09 23 59.0 +12
MODS Modra-Piesok 120.06 44 *e*P **Pdif 09 20 12.6 +2.4**
MODS *e* 09 23 43.8
MODS Modra-Piesok 120.06 44 *e*PDIFF **Pdif 09 20 12.6 +2.4**
MODS Modra-Piesok 120.06 44 *e*PKP **PKPdf 09 23 43.8 -2.5**
MODS Modra-Piesok 120.06 44 *e*P **PKKPdf 09 34 26.8 +0.5**
NKC Novy Kostel 120.07 40 *e*PKIKP **PKPdf 09 23 43.7 -2.6**
NKC *e* 09 25 20.3
NKC *e* 09 41 51.5
NKC MLR MLR
comp=Z,305μm,20.2s
NKC Novy Kostel 120.07 40 *e*PKP **PKPdf 09 23 43.7 -2.6**
NKC *ex* x 09 23 59.3
NKC *e*PP PP 09 25 20.3 +8.2
NKC *ex* x 09 35 49.3
NKC *e*SKKS 09 41 51.5
NKC AMS AMS 10 11 10.0
comp=Z,305μm,20.2s
PBCC Pribram 120.09 41 *e*PKP **PKPdf 09 23 43.7 -2.6**
PBCC *ex* x 09 23 56.0
PBCC *e*PP PP 09 25 20.2 +8.0
PBCC *e*PS PS 09 36 11.1 +70
PBCC *e*SKKS 09 42 10.9
PBCC AMS AMS 10 10 00.0
PINE Pine Mountain 120.10 306 IAMs_20 IAMs_20 10 10 13.3
comp=Z,220μm,19.0s
MALT Malatya 120.12 65 *e*P PKiKP 09 23 59.1 +12
ARR Arges 120.19 51 ⇑P **PKPdf 09 23 44.4 -2.3**
MTUR Matau 120.23 51 ⇓P **PKPdf 09 23 45.6 -1.2**
TREC Trest 120.25 42 *e*PKIKP **PKPdf 09 23 44.6 -2.0**
TREC *e* 09 25 22.2
TREC *e* 09 41 56.3
TREC MLR MLR
comp=Z,608μm,18.5s
TREC Trest 120.25 42 *e*PKP **PKPdf 09 23 44.6 -2.0**
TREC *ex* x 09 23 56.7
TREC *e*PP PP 09 25 22.2 +8.9
TREC *e*PS PS 09 35 57.6 +55
TREC *e*SKKS 09 41 56.3
TREC AMS AMS 10 12 40.0
comp=Z,608μm,18.5s
MAZI Mazidag 120.34 67 *e*P **PKPdf 09 23 47.0 -0.4**
KRUC Moravsky 120.35 43 *e*PKP **PKPdf 09 23 44.4 -2.4**
KRUC *e*PP **PP 09 25 15.3 +1.4**
KRUC *e*SS SS 09 41 54.5 +12
TNTI Ternate 120.37 173 IAMs_20 IAMs_20 10 17 15.0
comp=Z,123μm,19.0s
ESK Eskdalemuir 120.38 27 PKIKP **PKPdf 09 23 44.4 -2.3**
ESK MLR MLR
comp=Z,296μm,18.0s
ESK Eskdalemuir 120.38 27 **PKPdf 09 23 44.4 -2.3**
ICOR Ion Corvin 120.38 54 ⇓P **PKiKP 09 23 47.1 0.0**
VOIR 120.41 51 ⇑P **PKPdf 09 23 44.7 -2.5**
PRU Pruhonice 120.53 41 *e*PKIKP **PKPdf 09 23 44.7 -2.4**
PRU *e* 09 25 21.7
PRU *e* 09 42 01.7
PRU MLR MLR
comp=Z,482μm,20.6s
PRU Pruhonice 120.53 41 *e*PKP **PKPdf 09 23 44.7 -2.4**
PRU *ex* x 09 23 56.8

PRU *e*PP **PP 09 25 21.7 +6.5**
PRU *e*PS PS 09 36 09.8 +65
PRU *e*SKKS 09 42 01.7
PRU AMS AMS 10 10 30.0
comp=Z,482μm,20.6s
GOPC GO Pecny, Ondr 120.55 41 *e*PKIKP **PKPdf 09 23 44.9 -2.3**
GOPC *e* 09 42 03.0
GOPC MLR MLR
comp=Z,469μm,18.4s
GOPC GO Pecny, Ondr 120.55 41 *e*PKPDF **PKPdf 09 23 44.9 -2.3**
GOPC *ex* x 09 23 56.8
GOPC *ex* x 09 25 27.2
GOPC *ex* x 09 35 57.0
GOPC *e*SKKS 09 42 03.0
GOPC AMS AMS 10 12 40.0
comp=Z,469μm,18.4s
PRA Prague 120.57 41 *e*PP PP 09 25 27.2 +12
PRA *e*PS PS 09 36 12.3 +67
PRA *e*SKKS 09 42 02.6
PRA AMS AMS 10 10 10.0
comp=Z,458μm,21.4s
SVRC Sivrice-ELAZID 120.57 66 *e*P PKiKP 09 24 03.7 +16
PSZ Piszkesteto 120.59 46 ⇓P **PKPdf 09 23 46.1 -1.3**
PSZ Piszkesteto 120.59 46 IAMs_20 IAMs_20 10 12 21.1
comp=Z,310μm,20.0s
DYBB Diyarbakir 120.60 66 *e*P **PKiKP 09 23 48.8 +0.9**
JAVC Velka Javorina 120.61 44 *e*PKP **PKPdf 09 23 46.2 -1.2**
JAVC *e*SS SS 09 42 14.2 +28
VRAC Vranov 120.63 43 PKP **PKPdf 09 23 45.3 -2.1**
comp=Z,10nm,0.8s,baz=191,slow=4.4,SNR=9.5
VRAC Vranov 120.63 43 ⇓P **PKPdf 09 23 45.8 -1.5**
VRAC Vranov 120.63 43 *e*PKP **PKPdf 09 23 45.8 -1.5**
VRAC *e*PP **PP 09 25 16.0 +0.1**
VRAC *e*SS SS 09 41 55.9 +10
DRGR 120.66 48 ⇑P **PKPdf 09 23 46.3 -1.3**
BOM Bombay 120.68 106 AMP 09 25 51.6
comp=Z,2μm,6.7s
BOM *ex* PS 09 35 39.5 +33
BOM AMS AMS 10 05 07.0
comp=Z,80μm,16.5s
VYHS Vyhne 120.70 45 *e*PKIKP **PKPdf 09 23 45.5 -2.0**
VYHS Vyhne 120.70 45 *e*PKP **PKPdf 09 23 45.5 -2.0**
VYHS Vyhne 120.70 45 *e*P **PKKPdf 09 34 22.2 -2.8**
KEBM Edson Butte 120.72 303 IAMs_20 IAMs_20 10 09 29.9
comp=Z,170μm,22.0s
MLR Muntele Rosu 120.80 51 PKP **PKPdf 09 23 45.3 -2.7**
comp=Z,15nm,0.8s,baz=262,slow=2.8,SNR=7.3
MLR Muntele Rosu 120.80 51 ⇑P **PKPdf 09 23 46.1 -1.8**
MLR Muntele Rosu 120.80 51 IAMs_20 IAMs_20 10 10 32.7
comp=Z,331μm,22.0s
SVSK Karacayir 120.80 63 *e*P PKiKP 09 23 59.8 +12
TLB Topalu 120.87 53 ⇑P **PKPdf 09 23 45.6 -2.3**
JTMT Jette 120.88 313 IAMs_20 IAMs_20 10 16 15.4
comp=Z,198μm,19.0s
HARR Harsova 120.91 53 ⇑P **PKPdf 09 23 46.2 -1.8**
TIRR Tirgusor 120.91 54 ⇑P **PKPdf 09 23 45.7 -2.3**
CJR Cluj-Napoca 120.92 49 ⇑P **PKPdf 09 23 47.0 -1.1**
TOKT Tokat 120.93 62 *e*P **PKiKP 09 23 55.9 +7.5**
EAB Aberfoyle 120.93 26 *e*P **PKPdf 09 23 46.8 -0.9**
DOPR Dopca 120.98 51 ⇑P **PKiKP 09 23 48.4 +0.1**
PVCC Panska Ves 121.01 41 *e*PKIKP **PKPdf 09 23 46.0 -2.0**
PVCC *e* 09 25 25.2
PVCC *e* 09 42 08.4
PVCC MLR MLR
comp=Z,327μm,21.5s
PVCC Panska Ves 121.01 41 *e*PKP **PKPdf 09 23 46.0 -2.0**
PVCC *ex* x 09 24 01.8
PVCC *e*PP **PP 09 25 25.2 +6.8**
PVCC *e*PS PS 09 36 16.4 +67
PVCC *e*SKKS 09 42 08.4
PVCC AMS AMS 10 10 40.0
comp=Z,327μm,21.5s
ESY Stoneypath 121.06 27 *e*P **PKPdf 09 23 46.2 -1.7**
BRG Berggiesshubel 121.11 40 *e*PKP **PKPdf 09 23 46.3 -1.9**
comp=Z,21nm,1.3s
BRG *i* 09 24 00.5
comp=Z,53nm,1.1s
BRG *i* 09 24 25.3
comp=Z,250nm,1.9s
BRG PP **PP 09 25 17.0 -2.1**
BRG SDIFF 09 33 03.0
BRG SS **SS 09 41 54.0 +2.2**
comp=N,147μm,18.4s
comp=E,160μm,18.0s
comp=Z,184μm,16.3s
BRG Berggiesshubel 121.11 40 *e*PKIKP **PKPdf 09 23 46.3 -1.9**
BRG 09 25 17.0
BRG SS SS 09 41 54.0 +2.2
BRG MLR MLR
comp=N,250μm,18.4s
BRG MLR MLR
comp=E,147μm,18.0s
BRG MLR MLR
comp=Z,160μm,16.3s
BISRR Bisoca 121.14 52 ⇑P **PKPdf 09 23 47.6 -0.9**
CLL Collm 121.18 39 *e*PKIKP **PKPdf 09 23 46.0 -2.3**
CLL *e* 09 25 16.0
CLL pmax pmax
comp=Z,11nm,1.0s
CLL MLR MLR
comp=Z,373μm,18.9s
CLL Collm 121.18 39 *e*PKiKP **PKPdf 09 23 46.0 -2.3**
comp=Z,20nm,1.0s
CLL *e* 09 23 59.0
comp=Z,41nm,1.1s
CLL *i* 09 24 19.1
CLL *i* 09 24 23.0
comp=Z,69nm,1.0s
CLL *e*PP **PP 09 25 16.0 -3.6**
CLL *e* 09 26 21.0
CLL *e*PPP PPP 09 27 52.0
CLL *e*Sdif Sdif 09 33 24.0 +12
CLL *e*PKKPbc **PKKPab 09 33 48.0 -0.7**
CLL *e* 09 34 07.0
CLL *e*PKKPdf **PKKPdf 09 34 25.0 +0.8**
CLL *e*PPS PPS 09 36 22.0
CLL *e*PKKSdf PKKSdf 09 38 05.0 +4.7
CLL *e* 09 39 42.0
CLL *e*SS SS 09 42 12.0 +19
CLL *e*SSS SSS 09 46 12.0
CLL *e* 09 48 24.0
CLL *e*SSSS 09 49 36.0
CLL Lm MLR 10 12 00.0
comp=N,195μm,18.7s
CLL Lm MLR 10 12 00.0
comp=E,152μm,20.1s
CLL Lm MLR 10 12 00.0
comp=Z,373μm,18.9s
CLL Lmax 10 12 00.0
NRS Narsarsuaq 121.21 1 IAMs_20 IAMs_20 10 14 28.2
comp=Z,174μm,20.0s
TOPG Topolog 121.24 53 ⇑P **PKPdf 09 23 47.1 -1.5**
SVAN Silvan-Diyarba 121.25 67 *e*P PKiKP 09 23 58.4 +9.3
SIRT Sirnak 121.29 69 *e*P PKiKP 09 24 00.5 +11
KVT Kavak 121.33 61 *e*P PKiKP 09 23 59.5 +10
RSDY Resadiye-TOKAT 121.33 63 *e*P PKiKP 09 24 07.3 +18
KRLC Kraliky 121.35 42 *e*PKIKP **PKPdf 09 23 46.5 -2.3**
KRLC MLR MLR
comp=Z,651μm,17.8s
KRLC Kraliky 121.35 42 *e*PKPDF **PKPdf 09 23 46.5 -2.3**
KRLC *ex* x 09 23 58.7
KRLC *ex* x 09 25 32.1
KRLC *ex* x 09 36 22.4
KRLC *e*SKKS 09 42 42.1
KRLC AMS AMS 10 13 20.0
MORC Moravsky Berou 121.35 43 ⇑P **PKPdf 09 23 46.8 -2.0**
MORC Moravsky Berou 121.35 43 *e*PKP **PKPdf 09 23 46.0 -2.8**
MORC *e*PP **PP 09 25 25.9 +5.1**
MORC *e*SS SS 09 42 08.6 +13
PLOR Plostina 121.37 52 ⇑P **PKPdf 09 23 46.5 -2.4**
CFR Carcaliu 121.40 53 ⇓P **PKPdf 09 23 46.0 -2.9**
PKDT Phuket 121.41 138 P PKiKP 09 24 02.4 +12
comp=Z,160nm,1.4s,comp=Z,6μm
VRI Vrincioaia 121.41 52 ⇑P **PKPdf 09 23 45.9 -3.1**
VRI Vrincioaia 121.41 52 *e*P **PKiKP 09 23 56.6 +7.5**
DPC Dobruska-Polom 121.43 42 *e*PKIKP **PKPdf 09 23 46.8 -2.1**
DPC *e* 09 25 27.2
DPC *e* 09 42 01.3
DPC MLR MLR
comp=Z,313μm,18.8s
DPC Dobruska-Polom 121.43 42 *e*PKPDF **PKPdf 09 23 46.8 -2.1**
DPC *ex* x 09 23 58.1
DPC *e*PP **PP 09 25 27.2 +5.8**

DPC				*ex*	x	09 36 26.8		
DPC				*e*SKKS		09 42 01.3		
DPC				AMS	AMS	10 14 00.0		
	comp=Z,313μm,18.8s							
F07A	**Phinny Hill Vi**	**121.45**	**308**	IAMs_20	IAMs_20	10 11 06.8		
	comp=Z,202μm,21.0s							
UPC	**Upice**	**121.46**	**42**	*e*PKIKP	**PKPdf**	**09 23 47.5**	**-1.4**	
UPC				*e*		09 25 28.2		
UPC				*e*		09 42 20.3		
UPC				MLR	MLR			
	comp=Z,660μm,18.5s							
UPC	**Upice**	**121.46**	**42**	*e*PKP	**PKPdf**	**09 23 47.5**	**-1.4**	
UPC				*ex*	x	09 23 58.9		
UPC				*e*PP	**PP**	**09 25 28.2**	**+6.7**	
UPC				*ex*	x	09 36 22.3		
UPC				*ex*	x	09 42 20.3		
UPC				AMS	AMS	10 13 50.0		
	comp=Z,660μm,18.5s							
LANS	**Liptovska Anna**	**121.48**	**45**	*e*PKIKP	**PKPdf**	**09 23 49.0**	**0.0**	
LANS	**Liptovska Anna**	**121.48**	**45**	*e*PKP	**PKPdf**	**09 23 49.0**	**0.0**	
ARCR	**ARCALIA**	**121.52**	**49**	⇑P	**PKPdf**	**09 23 47.1**	**-2.0**	
CHVC	**Chvalec**	**121.55**	**42**	*e*PKPDF	**PKPdf**	**09 23 47.1**	**-2.0**	
CHVC				*ex*	x	09 24 05.1		
CHVC				*e*PP	**PP**	**09 25 26.2**	**+4.1**	
CHVC				*e*PS	PS	09 36 22.0	+68	
CHVC				*e*SKKS		09 42 14.6		
CHVC				AMS	AMS	10 14 00.0		
	comp=Z,591μm,18.5s							
E08A	**Dider Farm, El**	**121.61**	**309**	IAMs_20	IAMs_20	10 11 32.9		
	comp=Z,177μm,20.0s							
OKC	**Ostrava-Krasne**	**121.61**	**43**	*e*PKIKP	**PKPdf**	**09 23 47.7**	**-1.5**	
OKC				MLR	MLR			
	comp=Z,431μm,19.3s							
OKC	**Ostrava-Krasne**	**121.61**	**43**	*e*PKP	**PKPdf**	**09 23 47.7**	**-1.5**	
OKC				*ex*	x	09 23 59.8		
OKC				*e*PP	PP	09 25 32.2	+10	
OKC				*e*PS	PS	09 36 21.3	+67	
OKC				*e*SKKS		09 42 52.1		
OKC				AMS	AMS	10 12 50.0		
	comp=Z,431μm,19.3s							
CUKT	**Cukurca**	**121.63**	**70**	*e*P	**PKPdf**	**09 23 46.3**	**-3.6**	
TLCR		**121.67**	**54**	⇓P	**PKiKP**	**09 23 51.6**	**+2.0**	
BMR	**Baia Mare**	**121.69**	**48**	⇓P	**PKPdf**	**09 23 49.1**	**-0.3**	
BNGB	**Bingl**	**121.69**	**66**	*e*P	**PKPdf**	**09 23 47.0**	**-2.9**	
HAWA	**Hanford**	**121.71**	**309**	IAMs_20	IAMs_20	10 14 46.6		
	comp=Z,137μm,20.0s							
COR	**Corvallis**	**121.71**	**305**	IAMs_20	IAMs_20	10 09 43.9		
	comp=Z,138μm,20.0s							
TRTT	**Trang**	**121.80**	**140**	PKP	PKiKP	09 24 02.4	+12	
RAC	**Raciborz**	**121.83**	**43**	*e*PKIKP	**PKiKP**	**09 23 55.0**	**+5.2**	
RAC				*e*		09 25 33.0		
RAC				MLR	MLR			
	comp=Z,560μm,19.7s							
KSP	**Ksiaz**	**121.84**	**42**	*e*PKIKP	**PKPdf**	**09 23 48.1**	**-1.5**	
KSP				*e*		09 25 31.8		
KSP				MLR	MLR			
	comp=Z,587μm,18.7s							
KSP	**Ksiaz**	**121.84**	**42**	*e*PKPdf	**PKPdf**	**09 23 48.1**	**-1.5**	
KSP				*e*PKPdf	**PKPdf**	**09 23 48.1**	**-1.5**	
KSP				*e*PP	PP	09 25 31.8	+7.7	
KSP				*e*PP	PP	09 25 31.8	+7.7	
KSP				*e*L	L	10 14 33.0		
	comp=Z,587μm,18.7s							
KSP				*e*L	L	10 14 33.0		
	comp=Z,587μm,18.7s							
WALA	**Waterton Lakes**	**121.85**	**314**	IAMs_20	IAMs_20	10 13 04.1		
	comp=Z,257μm,20.0s							
TESR	**Tescani**	**121.92**	**51**	⇑P	**PKPdf**	**09 23 47.3**	**-2.6**	
KAC	**Achnashellach**	**121.94**	**25**	*e*P	**PKiKP**	**09 23 49.9**	**+0.2**	
GURO	**Guroymak-BITLI**	**121.96**	**67**	*e*P	**PKiKP**	**09 23 55.6**	**+5.0**	
E07A	**Sunnyside**	**121.97**	**309**	IAMs_20	IAMs_20	10 11 43.6		
	comp=Z,157μm,19.0s							
NIE	**Niedzica**	**122.00**	**45**	*e*PKIKP	**PKiKP**	**09 23 50.6**	**+0.4**	
NIE				*e*		09 30 49.1		
NIE	**Niedzica**	**122.00**	**45**	*e*PKPdf	**PKiKP**	**09 23 50.6**	**+0.4**	
NIE				*e*PKPdf	**PKiKP**	**09 23 50.6**	**+0.4**	
NIE				*e*SKSac	**SKSac**	**09 30 49.1**	**-0.4**	
NIE				*e*SKSac	**SKSac**	**09 30 49.1**	**-0.4**	
NIE				*e*SKSdf	**SKSdf**	**09 31 09.6**	**+7.9**	
NIE				*e*SKSdf	**SKSdf**	**09 31 09.6**	**+7.9**	
NIE				*e*L	L	10 05 23.1		
	comp=Z,288μm,36.8s							
NIE				*e*L	L	10 05 23.1		
	comp=Z,288μm,36.8s							
UZH	**Uzhgorod**	**122.05**	**47**	*e*PKIKP	**PKPdf**	**09 23 49.0**	**-1.1**	
UZH				*e*		09 25 23.5		
UZH				*e*		09 30 47.4		
UZH				*e*		09 35 13.0		
UZH				MLR	MLR			
	comp=N,42μm,17.0s							
UZH				MLR	MLR			
	comp=E,78μm,17.0s							
UZH				MLR	MLR			
	comp=Z,54μm,17.0s							
BIZ	**Bicaz**	**122.06**	**51**	⇑P	**PKPdf**	**09 23 48.5**	**-1.7**	
HYB	**Hyderabad**	**122.09**	**113**	*i* Pdif	**Pdif**	**09 20 32.0**	**+12**	
HYB				*e*PKP	**PKPdf**	**09 23 47.5**	**-3.7**	
HYB				*e*PP	PP	09 25 36.0	+10	
HYB				*e*Sdif	Sdif	09 33 30.0	+9.2	
HYB				*e*SS	**SS**	**09 42 10.0**	**+5.6**	
HYB	**Hyderabad**	**122.09**	**113**	*i* PP	PP	09 25 24.4	-1.4	
KARO	**Karliova-Bingo**	**122.12**	**66**	*e*P	**PKiKP**	**09 23 50.9**	**-0.1**	
VRTB	**Varto-Mus**	**122.19**	**67**	*e*P	**PKiKP**	**09 23 55.2**	**+4.1**	
BURAR	**Bucovina Array**	**122.28**	**49**	⇑P	**PKPdf**	**09 23 49.1**	**-1.6**	
BURAR	**Bucovina Array**	**122.28**	**49**		**PKPdf**	**09 23 48.4**	**-2.3**	
KOLS	**Kolonicke sedl**	**122.30**	**47**	*e*PKIKP	**PKPdf**	**09 23 50.5**	**-0.1**	
KOLS	**Kolonicke sedl**	**122.30**	**47**	*e*PKP	**PKPdf**	**09 23 50.5**	**-0.1**	
NEW	**Newport**	**122.35**	**312**	Pdiff	**Pdif**	**09 20 26.8**	**+6.5**	
	baz=146							
NEW	**Newport**	**122.35**	**312**	PKP	**PKPdf**	**09 23 47.6**	**-3.2**	
	comp=Z,14nm,0.9s,baz=137,slow=4.4,SNR=16							
NEW	**Newport**	**122.35**	**312**	IAMs_20	IAMs_20	10 12 37.5		
	comp=Z,147μm,20.0s							
C09A	**Chrisman Ranch**	**122.39**	**311**	IAMs_20	IAMs_20	10 11 44.7		
	comp=Z,204μm,19.0s							
RUE	**Ruedersdorf**	**122.44**	**39**	*e*	PKiKP	09 24 34.0	+43	
MCD	**Coleburn Disti**	**122.45**	**26**	*e*P	**PKPdf**	**09 23 49.0**	**-1.5**	
F04A	**Amboy**	**122.46**	**307**	IAMs_20	IAMs_20	10 10 33.7		
	comp=Z,144μm,20.0s							
PRAR	**RASCA**	**122.46**	**50**	⇓P	**PKPdf**	**09 23 49.0**	**-2.0**	
OJC	**Ojcow**	**122.50**	**44**	*e*PKIKP	**PKPdf**	**09 23 49.2**	**-1.7**	
OJC				*e*		09 25 34.0		
OJC				*e*		09 30 51.2		
OJC	**Ojcow**	**122.50**	**44**	*e*PKPdf	**PKPdf**	**09 23 49.2**	**-1.7**	
OJC				*e*PKPdf	**PKPdf**	**09 23 49.2**	**-1.7**	
OJC				*e*PP	**PP**	**09 25 34.0**	**+5.4**	
OJC				*e*PP	**PP**	**09 25 34.0**	**+5.4**	
OJC				*e*SKSac	**SKSac**	**09 30 51.2**	**+0.2**	
OJC				*e*SKSac	**SKSac**	**09 30 51.2**	**+0.2**	
OJC				*e*L	L	10 08 00.7		
	comp=Z,326μm,27.5s							
OJC				*e*L	L	10 08 00.7		
	comp=Z,326μm,27.5s							
SURT	**Suratani**	**122.56**	**138**	P	PKiKP	09 24 04.1	+12	
	comp=Z,137nm,1.0s							
VANB	**Van**	**122.62**	**68**	*e*P	**PKiKP**	**09 23 59.5**	**+7.6**	
MLAZ	**Malazgirt-MUS**	**122.67**	**67**	*e*P	PKiKP	09 24 01.2	+9.2	
LTY	**Liberty**	**122.86**	**309**	IAMs_20	IAMs_20	10 11 57.1		
	comp=Z,191μm,22.0s							
BHUJ	**Bhuj**	**122.87**	**101**	*e*P	**PKiKP**	**09 23 54.2**	**+1.6**	
BHUJ				IAmb	IAmb	09 24 14.0		
	comp=Z,659nm,0.2s							
LON	**Longmire**	**122.89**	**308**	IAMs_20	IAMs_20	10 11 52.0		
	comp=Z,266μm,21.0s							
FFC	**Flin Flon**	**122.91**	**325**	PKIKP	**PKPdf**	**09 23 50.3**	**-1.2**	
FFC				MLR	MLR			
	comp=Z,160μm,19.0s							
FFC	**Flin Flon**	**122.91**	**325**		**PKPdf**	**09 23 50.3**	**-1.2**	
FFC	**Flin Flon**	**122.91**	**325**	IAMs_20	IAMs_20	10 17 06.2		
	comp=Z,160μm,19.0s							
KWP	**Kalwaria Pacla**	**123.03**	**47**	*e*PKIKP	PKPdf	09 23 44.1	-7.9	
KWP	**Kalwaria Pacla**	**123.03**	**47**	*e*PKPdf	PKPdf	09 23 44.1	-7.9	
KWP				*e*PKPdf	PKPdf	09 23 44.1	-7.9	
KWP				*e*L	L	10 07 03.5		
	comp=Z,462μm,31.4s							
KWP				*e*L	L	10 07 03.5		
	comp=Z,462μm,31.4s							
KOPR	**Koprukoy-ERZUR**	**123.04**	**66**	*e*P	**PKiKP**	**09 23 59.8**	**+7.1**	
MILM	**Milestii Mici**	**123.10**	**52**	⇓P	**PKPdf**	**09 23 49.9**	**-2.2**	
SEVA	**Sevastopol**	**123.13**	**57**	⇑P	**PKPdf**	**09 23 49.3**	**-3.0**	
KIS	**Kishinev**	**123.16**	**52**	⇓*i*P	Pdif	09 20 42.0	+18	
KIS	**Kishinev**	**123.16**	**52**	⇑*i*PKP	**PKPdf**	**09 23 52.0**	**-0.3**	
	comp=Z,250nm,2.0s							
KIS	**Kishinev**	**123.16**	**52**	*i* PP	PP	09 25 40.0	+6.9	
	comp=Z,10μm,24.0s							
KIS				*i* SKP		09 26 25.0		
KIS	**Kishinev**	**123.16**	**52**	*i* PPP	PPP	09 27 10.0		
KIS				*i* SKS	**SKSdf**	**09 31 08.0**	**+4.1**	
KIS				*i* SKKS	**SKKSac**	**09 32 40.0**	**+9.1**	
KIS	**Kishinev**	**123.16**	**52**	*i* PS	PS	09 36 20.0	+52	
KIS	**Kishinev**	**123.16**	**52**	*i* PPS	PPS	09 37 40.0		
KIS				*i* SS	SS	09 43 16.0	+58	
KIS				LRM	MLR	10 03 45.0		
	comp=Z,115μm,15.0s							
B08A	**Colville Reser**	**123.25**	**310**	IAMs_20	IAMs_20	10 10 56.5		
	comp=Z,154μm,21.0s							
CLDR	**Caldiran**	**123.30**	**68**	*e*P	**PKPdf**	**09 23 51.3**	**-1.8**	
D05A	**Enumclaw**	**123.32**	**308**	IAMs_20	IAMs_20	10 12 14.4		
	comp=Z,218μm,20.0s							
PATS	**Pohnpei**	**123.37**	**210**	IAMs_20	IAMs_20	10 27 41.3		
	comp=Z,204μm,19.0s							
CHOM	**Cayeli-Rize**	**123.43**	**65**	*e*P	PKiKP	09 24 02.7	+9.4	
C06D	**Leavenworth**	**123.49**	**309**	Pdiff	**Pdif**	**09 20 36.2**	**+11**	
	baz=145							
LVV	**L'vov**	**123.67**	**47**	*i* PKIKP	**PKPdf**	**09 23 52.0**	**-1.2**	
LVV				*e*		09 25 36.0		
LVV				*e*		09 30 48.0		
LVV				MLR	MLR			
	comp=Z,259μm,18.0s							
SORM	**Soroca**	**123.91**	**51**	⇑P	**PKPdf**	**09 23 52.1**	**-1.5**	
BCA	**Borcka**	**124.10**	**65**	⇑P	**PKPdf**	**09 23 52.4**	**-2.0**	
BCA	**Borcka**	**124.10**	**65**	*e*P	**PKPdf**	**09 23 53.8**	**-0.5**	
KARS	**Kars**	**124.11**	**67**	*e*P	PKiKP	09 24 08.0	+13	
TASB	**TASBURUN-IGDIR**	**124.12**	**68**	*e*P	**PKiKP**	**09 24 01.6**	**+6.8**	
BEL	**Belsk**	**124.20**	**44**	*e*PKIKP	**PKPdf**	**09 23 53.0**	**-1.1**	
BEL	**Belsk**	**124.20**	**44**	*e*PKPdf	**PKPdf**	**09 23 53.0**	**-1.1**	
BEL				*e*PKPdf	**PKPdf**	**09 23 53.0**	**-1.1**	
BEL				*e*L	L	10 09 45.3		
	comp=Z,358μm,26.4s							
BEL				*e*L	L	10 09 45.3		
	comp=Z,358μm,26.4s							
B06A	**Marblemount**	**124.21**	**309**	IAMs_20	IAMs_20	10 12 32.8		
	comp=Z,156μm,20.0s							
GKP	**Gorka Klasztor**	**124.21**	**41**	*e*PKIKP	**PKPdf**	**09 23 52.6**	**-1.4**	
GKP				*e*		09 30 59.1		
GKP	**Gorka Klasztor**	**124.21**	**41**	*e*PKPdf	**PKPdf**	**09 23 52.6**	**-1.4**	
GKP				*e*PKPdf	**PKPdf**	**09 23 52.6**	**-1.4**	
GKP				*e*SKSac	**SKSac**	**09 30 59.1**	**+2.8**	
GKP				*e*SKSac	**SKSac**	**09 30 59.1**	**+2.8**	
GKP				*e*L	L	10 12 46.3		
	comp=Z,353μm,20.8s							
GKP				*e*L	L	10 12 46.3		
	comp=Z,353μm,20.8s							
NLWA	**Neilton Lookou**	**124.23**	**307**	IAMs_20	IAMs_20	10 11 27.5		
	comp=Z,178μm,21.0s							
B05A	**Bryant**	**124.24**	**309**	Pdiff	**Pdif**	**09 20 40.5**	**+12**	
	baz=144							
BATM	**Batumi**	**124.26**	**65**	⇓P	**PKPdf**	**09 23 53.2**	**-1.4**	
BATM	**Batumi**	**124.26**	**65**	*e*P	**PKPdf**	**09 23 53.8**	**-0.8**	
DGPR	**DIGLIPUR**	**124.38**	**130**	*e*P	**PKPdf**	**09 23 54.4**	**-1.2**	
GNI	**Garni**	**124.49**	**68**	⇓*i*PKIKP	**PKPdf**	**09 23 54.9**	**-0.4**	
GNI	**Garni**	**124.49**	**68**	*e*P	**PKiKP**	**09 23 58.0**	**+2.4**	
MUD	**Monsted U'grnd**	**124.52**	**34**	*i* PKIKP	**PKPdf**	**09 23 53.3**	**-1.2**	
MUD				MLR	MLR			
	comp=Z,390μm,18.0s							
MUD	**Monsted U'grnd**	**124.52**	**34**	*i* P	**PKPdf**	**09 23 53.3**	**-1.2**	
	comp=Z,387μm,18.0s							
COP	**Copenhagen**	**124.78**	**36**	*e*PKIKP	**PKiKP**	**09 23 58.9**	**+3.5**	
COP				MLR	MLR			
	comp=Z,180μm,18.0s							
COP	**Copenhagen**	**124.78**	**36**	*i* P	**PKiKP**	**09 23 58.9**	**+3.5**	
	comp=Z,184μm,18.0s							
A04D	**Lummi Island**	**124.84**	**308**	Pdiff	**Pdif**	**09 20 28.6**	**-2.7**	
	baz=144							
AKH	**Akhalkalaki**	**124.92**	**67**	⇑P	**PKPdf**	**09 23 55.6**	**-0.5**	
AKH	**Akhalkalaki**	**124.92**	**67**	*e*P	**PKPdf**	**09 23 55.6**	**-0.5**	
ANN	**Anapa**	**124.93**	**60**	*e*P	**Pdif**	**09 20 29.8**	**-2.1**	
ANN				*i*		09 23 54.4		
ANN				*i*		09 23 57.9		
ANN				*i* PPP	PPP	09 28 19.4		
ANN				*i*		09 30 56.0		
ANN				*e*SS	SS	09 42 45.0	+4.5	
ANN				pmax	pmax			
	comp=Z,20nm,1.5s							
ANN				pmax	pmax			
	comp=Z,48nm,1.0s							
SOC	**Sochi**	**124.95**	**62**	*i* P	**Pdif**	**09 20 46.9**	**+15**	
SOC				*e*		09 23 55.9		
SOC				*e*		09 25 47.5		
SOC				*e*PPP	PPP	09 28 23.2		
SOC				*e*		09 31 00.9		
SOC				*e*PS	PS	09 35 48.0	+3.8	
SOC				*e*SSS	SSS	09 47 20.8		
SOC				MLR	MLR			
	comp=Z,206μm,20.0s							
SNART	**Snartemo**	**125.63**	**32**	*e*PKPdf	**PKPdf**	**09 23 56.3**	**-0.3**	
SNART				*e*SKPdf	**SKPdf**	**09 27 29.8**	**-2.1**	
TBLG	**Delisi**	**125.74**	**67**	*e*P	**PKiKP**	**09 24 02.7**	**+4.9**	
ONI	**Oni**	**125.83**	**66**	*e*P	**PKPdf**	**09 23 56.9**	**-0.8**	
SKMP	**Bagumbayan, Su**	**125.84**	**169**	*e*P	PP	09 25 30.9	-19	
ANGG	**Ammassalik, Gr**	**125.86**	**5**	IAMs_20	IAMs_20	10 17 48.0		
	comp=Z,134μm,19.0s							
KMY	**Karmoy**	**125.90**	**30**	*e*PKPdf	**PKPdf**	**09 23 56.6**	**-0.5**	
HOMB	**Homborsund**	**125.91**	**32**	*e*PKPdf	**PKPdf**	**09 23 55.6**	**-1.6**	
HOMB				IVMs_BB	IVMs_BB	10 18 30.7		
	comp=Z,87μm,18.1s							
ZEI	**Tsey**	**126.19**	**66**	*i* PKIKP	**PKPdf**	**09 23 56.8**	**-1.7**	
ZEI				pmax	pmax			
	comp=Z,82nm,1.7s							
BORG	**Borgarnes**	**126.25**	**13**	PKP	**PKPdf**	**09 23 57.3**	**-0.3**	
	comp=Z,26nm,0.7s,baz=266,slow=1.2,SNR=6.0							
BORG	**Borgarnes**	**126.25**	**13**	IAMs_20	IAMs_20	10 21 39.9		
	comp=Z,221μm,18.0s							
KLNR	**Kaliningrad**	**126.30**	**42**	⇑*i*PKIKP	**PKPdf**	**09 23 58.1**	**+0.1**	
AKASG	**Malin Array Be**	**126.33**	**50**	PKP	**PKPdf**	**09 23 55.3**	**-2.9**	
	comp=Z,16nm,0.9s,baz=247,slow=1.7,SNR=28							
AKASG	**Malin Array Be**	**126.33**	**50**		**PKPdf**	**09 23 55.2**	**-3.0**	
AKBB	**Malin Array Si**	**126.33**	**50**	IAMs_20	IAMs_20	10 19 29.0		
	comp=Z,224μm,20.0s							
KCP	**Kidapawan**	**126.38**	**170**	⇑*e*P	**PKPdf**	**09 23 58.1**	**-1.6**	
BLS5	**Blasjo**	**126.38**	**30**	*e*PKPdf	**PKPdf**	**09 23 56.5**	**-1.6**	
BLS5				*e*PP	**PP**	**09 25 49.7**	**-4.8**	
BLS5				*e*PKSdf	PKSdf	09 27 37.0	+2.7	
BLS5				IVMs_BB	IVMs_BB	10 19 06.0		
	comp=Z,90μm,18.6s							
KBZ	**Khabaz**	**126.48**	**64**	PKP	**PKPdf**	**09 23 56.6**	**-2.1**	
	comp=Z,9.7nm,0.8s,baz=170,slow=0.8,SNR=5.9							
CTBH	**Cotabato--PC H**	**126.51**	**169**	⇑*i*P	**PKiKP**	**09 24 00.2**	**-0.1**	
PHET	**Kaeng Krachan**	**126.53**	**138**	P	PKiKP	09 24 11.2	+11	
	comp=Z,200μm,1.0s							
KIV	**Kislovodsk**	**126.57**	**64**	*e*P	**Pdif**	**09 20 36.8**	**-2.5**	
KIV				*i*		09 23 57.7		
KIV				*e*		09 25 52.0		
KIV				*e*		09 31 01.6		
KIV				*e*PS	PS	09 35 56.3	-2.3	
KIV				*e*SS	SS	09 43 01.0	-0.3	
KIV				pmax	pmax			
	comp=Z,118nm,1.0s							
KIV				MLR	MLR			
	comp=Z,871μm,23.0s							
KIV	**Kislovodsk**	**126.57**	**64**	⇑P	**PKPdf**	**09 23 57.0**	**-2.0**	
KIV	**Kislovodsk**	**126.57**	**64**	*e*P	**PKPdf**	**09 23 56.3**	**-2.7**	
KIV	**Kislovodsk**	**126.57**	**64**		**PKPdf**	**09 23 56.5**	**-2.5**	
BHPL	**Bhopal**	**126.59**	**108**	*e*P	**PKiKP**	**09 24 00.1**	**0.0**	
BHPL				IAmb	IAmb	09 24 20.9		
	comp=Z,428nm,2.2s							
BHPL				*i* PP	**PP**	**09 25 55.1**	**-1.0**	
NCK	**Nalchik**	**126.61**	**65**	⇓*e*PKIKP	**PKPdf**	**09 23 59.2**	**+0.1**	
SUW	**Suwalki**	**126.81**	**44**	*e*PKIKP	**PKPdf**	**09 23 56.7**	**-2.3**	
SUW	**Suwalki**	**126.81**	**44**	*e*PKPdf	**PKPdf**	**09 23 56.7**	**-2.3**	
SUW				*e*PKPdf	**PKPdf**	**09 23 56.7**	**-2.3**	
SUW				*e*L	L	10 12 06.1		
	comp=Z,382μm,25.9s							
SUW				*e*L	L	10 12 06.1		
	comp=Z,382μm,25.9s							
SUW	**Suwalki**	**126.81**	**44**	IAMs_20	IAMs_20	10 17 11.8		
	comp=Z,260μm,20.0s							
ODD1	**Odda**	**126.85**	**30**	*e*PKPdf	**PKPdf**	**09 23 58.5**	**-0.5**	
ODD1				*e*SKPdf	**SKPdf**	**09 27 28.8**	**-5.4**	
AKT	**Akhty**	**126.93**	**70**	*e*PKIKP	**PKPdf**	**09 23 58.5**	**-1.3**	
AKT				pmax	pmax			
	comp=Z,176nm,0.8s							
BER	**Bergen**	**126.95**	**29**	*e*PKPdf	**PKPdf**	**09 23 58.5**	**-0.5**	
BER				*e*SKPdf	**SKiKP**	**09 27 30.8**	**-4.5**	
BER				IVMs_BB	IVMs_BB	10 20 39.6		
	comp=Z,72μm,18.2s							
PATY	**Pattaya**	**126.95**	**139**	P	PKiKP	09 24 13.3	+12	
	comp=Z,174μm,1.4s							
ASK	**Askoy**	**127.00**	**29**	*e*PKPdf	**PKPdf**	**09 23 58.8**	**-0.4**	
ASK				*e*SKPdf	**SKPdf**	**09 27 32.7**	**-1.7**	
PAGZ	**Pagadian**	**127.04**	**168**	*e*P	PKiKP	09 24 09.0	+7.8	
SFJD	**Kangerlussuaq**	**127.11**	**358**	PKIKP	**PKPdf**	**09 23 57.9**	**-1.3**	
SFJD				MLR	MLR			
	comp=Z,255μm,18.0s							
SFJD	**Kangerlussuaq**	**127.11**	**358**	*i* P	**PKPdf**	**09 23 58.1**	**-1.1**	
	comp=Z,223μm,18.0s							
SFJD	**Kangerlussuaq**	**127.11**	**358**	PKP	**PKPdf**	**09 23 58.0**	**-1.1**	
	comp=Z,15nm,0.7s,baz=146,slow=5.8,SNR=7.2							
SFJD	**Kangerlussuaq**	**127.11**	**358**		**PKPdf**	**09 23 57.9**	**-1.3**	
SFJD	**Kangerlussuaq**	**127.11**	**358**	IAMs_20	IAMs_20	10 18 52.2		
	comp=Z,255μm,18.0s							
GROC	**Groznyy**	**127.38**	**67**	*i* PKIKP	**PKPdf**	**09 23 59.5**	**-1.0**	
GROC				*e*		09 26 02.4		
GROC				*e*		09 31 14.4		
GROC				pmax	pmax			
	comp=Z,419nm,1.2s							
KONO	**Kongsberg**	**127.39**	**32**	PKIKP	**PKPdf**	**09 23 58.6**	**-1.3**	
KONO				MLR	MLR			
	comp=Z,234μm,20.0s							
KONO	**Kongsberg**	**127.39**	**32**	*e*PKPdf	**PKPdf**	**09 23 58.3**	**-1.6**	
KONO				*e*SS	SS	09 43 08.8	-2.1	
KONO				IVMs_BB	IVMs_BB	10 18 03.6		
	comp=Z,79μm,18.9s							
KONO	**Kongsberg**	**127.39**	**32**		**PKPdf**	**09 23 58.6**	**-1.3**	
KONO	**Kongsberg**	**127.39**	**32**	IAMs_20	IAMs_20	10 18 15.0		
	comp=Z,234μm,20.0s							
SUE	**Sulen**	**127.40**	**29**	*e*PKPdf	**PKPdf**	**09 23 59.6**	**-0.3**	
SUE				*e*SKPdf	**SKPdf**	**09 27 35.2**	**+0.1**	
SUE				*e*SKSac	**SKSac**	**09 31 05.9**	**+0.1**	
GOF	**Gofitskoye**	**127.59**	**63**	⇑*e*PKIKP	**PKPdf**	**09 23 59.7**	**-1.1**	
GOF				pmax	pmax			
	comp=Z,72nm,1.2s							
HYA	**Hoyanger**	**127.84**	**29**	*e*PKPdf	**PKPdf**	**09 23 59.6**	**-1.1**	
HYA				*e*SKPdf	**SKPdf**	**09 27 35.9**	**0.0**	
OSL	**Oslo**	**127.94**	**32**	*e*P	**PKPdf**	**09 23 59.6**	**-1.4**	
OSL				*e*SKPdf	**SKPdf**	**09 27 33.9**	**-2.2**	
FOO	**Floro**	**127.94**	**28**	*e*PKPdf	**PKPdf**	**09 23 59.3**	**-1.6**	
FOO				*e*SKPdf	**SKPdf**	**09 27 35.8**	**-0.3**	
FOO				*e*		09 28 36.9		
SKAR	**Skarslia**	**127.94**	**31**	*e*PKPdf	**PKPdf**	**09 23 59.6**	**-1.5**	
SKAR				*e*SKPdf	**SKPdf**	**09 27 35.0**	**-1.3**	
SKAR				*e*SS	**SS**	**09 43 15.5**	**-2.4**	
SKAR				IVMs_BB	IVMs_BB	10 16 47.6		
	comp=Z,83μm,21.5s							
MAK	**Makhachkala**	**127.98**	**68**	*e*P	**Pdif**	**09 20 55.6**	**+10**	
MAK				*e*		09 26 00.3		
MAK				*e*PPP	PPP	09 28 48.3		
MAK				pmax	pmax			
	comp=Z,751nm,1.7s							
AJM	**Ajmer**	**128.01**	**103**	*ex*	**PKPdf**	**09 24 01.0**	**-1.3**	
AJM				*ex*	PP	09 26 22.0	+17	
PBUR	**Paburg**	**128.03**	**42**	*e*	PKiKP	09 24 18.2	+16	
PABE	**Paberze**	**128.29**	**43**	*e*P	**PKPdf**	**09 24 00.0**	**-1.8**	
NAO01	**NORSAR Array S**	**128.75**	**32**	*e*P	**PKPdf**	**09 23 59.6**	**-2.9**	
NACGM	**Naroch**	**128.78**	**45**	*e*PKP	**PKPdf**	**09 24 01.0**	**-1.7**	
NACGM				*e*PP	**PP**	**09 26 14.0**	**+3.6**	
NACGM				*e*SKP		09 27 24.0		
NACGM				*e*PPP	PPP	09 29 24.0		
NACGM				*e*SKS	**SKSdf**	**09 31 16.0**	**+2.0**

NDI	**New Delhi**	**131.09**	**104**	*ex*	PKiKP	09 24 19.0	+10		
NDI				*ex*	PKiKP	09 24 19.0	+10		
NDI				*ex*	PP	09 26 35.0	+10		
NDI				*ex*	PP	09 26 35.0	+10		
CMAR	**Chiang Mai Arr**	**131.44**	**134**	PKIKP	**PKPdf**	**09 24 06.1**	**-2.9**		
CMAR	**Chiang Mai Arr**	**131.44**	**134**	PKP	**PKPdf**	**09 24 07.0**	**-2.1**		
	comp=Z,6.7nm,0.8s,baz=224,slow=3.4,SNR=18								
CMAR				SKKPbc	SKKPbc	09 36 58.0	-2.0		
	comp=Z,4.3nm,0.9s,baz=321,slow=2.2,SNR=4.3								
CMAR	**Chiang Mai Arr**	**131.44**	**134**		**PKPdf**	**09 24 06.1**	**-2.9**		
VSU	**Vasula**	**131.56**	**42**	*e*PKIKP	**PKPdf**	**09 24 05.7**	**-2.2**		
VSU	**Vasula**	**131.56**	**42**	*e*P	**PKPdf**	**09 24 04.5**	**-3.4**		
VSU				IAmb	IAmb	09 24 31.8			
	comp=Z,1μm,1.1s								
LPSR	**Galich'ya Gora**	**131.61**	**54**	*e*PKIKP	**PKPdf**	**09 24 06.3**	**-1.9**		
LPSR				pmax	pmax				
	comp=Z,180nm,1.0s								
VRH	**Novokhopyorsk**	**131.71**	**57**	*e*PKIKP	**PKPdf**	**09 24 06.3**	**-2.1**		
VRH				pmax	pmax				
	comp=Z,450nm,1.7s								
VRH				MLR	MLR				
	comp=Z,291μm,20.0s								
SCO	**Scoresbysund**	**131.73**	**11**	*i* PKIKP	**PKPdf**	**09 24 07.2**	**-0.7**		
SCO				MLR	MLR				
	comp=Z,130μm,17.0s								
SCO	**Scoresbysund**	**131.73**	**11**	*i* P	**PKPdf**	**09 24 07.2**	**-0.7**		
	comp=Z,133μm,17.0s								
CHTO	**Chiang Mai**	**131.77**	**134**	PKIKP	**PKPdf**	**09 24 07.7**	**-1.9**		
CHTO	**Chiang Mai**	**131.77**	**134**		**PKPdf**	**09 24 07.7**	**-1.9**		
DIB	**Dawson Inlet,**	**132.21**	**306**	IAms_20	IAms_20	10 26 58.7			
	comp=Z,118μm,20.0s								
NONG	**Nongkai**	**132.50**	**139**	PKP	**PKiKP**	**09 24 15.9**	**+3.8**		
OBN	**Obninsk**	**132.56**	**51**	*d i*PKIKP	**PKPdf**	**09 24 09.2**	**-0.7**		
OBN				*e*		09 24 12.6			
OBN				*e*		09 26 29.5			
OBN				*e*PPP	PPP	09 29 23.3			
OBN				*e*SS	SS	09 44 15.3	+0.7		
OBN				*e*SSS	SSS	09 49 15.0			
OBN				pmax	pmax				
	comp=Z,193nm,1.7s								
OBN				MLR	MLR				
	comp=Z,330μm,18.0s								
OBN	**Obninsk**	**132.56**	**51**	⇓P	**PKPdf**	**09 24 07.1**	**-2.8**		
OBN	**Obninsk**	**132.56**	**51**		**PKPdf**	**09 24 08.4**	**-1.4**		
SUMG	**Summit**	**132.80**	**3**	*e*PKIKP	**PKPdf**	**09 24 09.7**	**-0.7**		
SUMG				MLR	MLR				
	comp=Z,350μm,17.0s								
SUMG	**Summit**	**132.80**	**3**	*i* P	**PKPdf**	**09 24 09.7**	**-0.7**		
	comp=Z,352μm,17.0s								
SUMG	**Summit**	**132.80**	**3**	IAms_20	IAms_20	10 27 37.2			
	comp=Z,137μm,18.0s								
DDI	**Dehra Dun**	**132.86**	**104**	*e*P	**PKPdf**	**09 24 10.8**	**-0.6**		
BELO	**BELONIA**	**132.87**	**123**	*e*P	**PKPdf**	**09 24 10.9**	**-0.7**		
BELO				IAmb	IAmb	09 28 03.8			
YKA	**Yellowknife Ar**	**133.03**	**324**	PKHKP	PKPpre	09 23 58.8			
YKA						09 24 08.4			
YKA	**Yellowknife Ar**	**133.03**	**324**	PKhKP	PKPpre	09 24 00.2			
	comp=Z,1.7nm,0.7s,baz=133,slow=3.1,SNR=5.7								
YKA				PKP	**PKPdf**	**09 24 09.0**	**-1.6**		
	comp=Z,12nm,0.6s,baz=141,slow=2.0,SNR=30								
YKA				SKKPbc	SKKPbc	09 36 57.1	-1.3		
	comp=Z,0.7nm,0.4s,baz=330,slow=5.3,SNR=4.3								
YKA	**Yellowknife Ar**	**133.03**	**324**		PKPpre	09 23 58.8			
YKA				PKPdf	**PKPdf**	**09 24 08.4**	**-2.2**		
YKW3	**Yellowknife Ar**	**133.08**	**324**	IAms_20	IAms_20	10 20 18.3			
	comp=Z,228μm,22.0s								
SMLA	**Simla**	**133.09**	**102**	*e*P	**PKPdf**	**09 24 11.3**	**-0.4**		
SMLA				*i* PP	**PP**	**09 26 37.1**	**-1.2**		
LGTI	**Lohaghat**	**133.18**	**107**	*ex*	PKiKP	09 24 30.2	+17		
NIL	**Nilore**	**133.22**	**97**	PKIKP	**PKPdf**	**09 24 09.6**	**-2.4**		
NIL	**Nilore**	**133.22**	**97**		**PKPdf**	**09 24 09.6**	**-2.4**		
KOLN	**Koldanda**	**133.34**	**111**	*e*P	**PKPdf**	**09 24 07.5**	**-5.1**		
AGT	**Agartala**	**133.35**	**122**	*e*P	PKiKP	09 24 29.4	+16		
AGT				IAms_20	IAms_20	09 50 21.6			
	comp=Z,41μm,11.5s								
MOS	**Moscow**	**133.43**	**51**	*i* PKIKP	PKiKP	09 24 23.2	+10		
MOS				pmax	pmax				
	comp=Z,793nm,1.8s								
DHRM	**DHARAMSHALA**	**133.59**	**101**	*e*P	**PKPdf**	**09 24 13.0**	**+0.1**		
DHRM				IAmb	IAmb	09 24 46.8			
	comp=Z,169nm,0.8s								
DHRM				*i* PP	**PP**	**09 26 41.4**	**-0.4**		
FINES	**FINESS Array B**	**133.63**	**39**	PKhKP	PKPpre	09 24 00.1			
	comp=Z,1.8nm,0.5s,baz=200,slow=3.5,SNR=6.1								
FINES				PKP	**PKPdf**	**09 24 08.6**	**-3.1**		
	comp=Z,26nm,0.7s,baz=170,slow=2.5,SNR=22								
JMIC	**Jan Mayen**	**133.77**	**16**	IVMs_BB	IVMs_BB	10 23 49.9			
	comp=Z,78μm,16.8s								
AZL	**Aizawl**	**133.82**	**124**	*e*P	**PKPdf**	**09 24 12.4**	**-1.0**		
DMN	**Daman**	**133.89**	**113**	*e*P	**PKPdf**	**09 24 07.5**	**-6.2**		
DANN	**Dangsing**	**133.90**	**111**	*e*P	**PKPdf**	**09 24 07.9**	**-5.8**		
KONS	**Konsvik**	**133.99**	**29**	*e*PKPdf	**PKPdf**	**09 24 11.7**	**-0.5**		
KONS				*e*SKPdf	**SKPdf**	**09 27 47.1**	**-0.1**		
PKIN	**Phulchoki**	**134.00**	**113**	*e*P	**PKPdf**	**09 24 07.6**	**-6.3**		
PKI	**Pulchoki**	**134.00**	**113**	*e*P	**PKPdf**	**09 24 07.4**	**-6.6**		
RAMN	**Ramite**	**134.00**	**115**	*e*P	**PKPdf**	**09 24 07.4**	**-6.5**		
GKN	**Gorkha**	**134.01**	**112**	*e*P	**PKPdf**	**09 24 08.0**	**-5.8**		
MOR8	**Moi Rana**	**134.05**	**30**	*e*PKPdf	**PKPdf**	**09 24 12.7**	**+0.3**		
MOR8				*e*PKSdf	PKSdf	09 27 51.4	+3.1		
MOR8				*e*SS	SS	09 44 40.3	+7.9		
MOR8				IVMsBB		10 23 10.7			
	comp=Z,116μm,23.7s								
KKN	**Kakani**	**134.13**	**113**	*e*P	**PKPdf**	**09 24 08.0**	**-6.1**		
CRAG	**Craig**	**134.13**	**308**	IAms_20	IAms_20	10 28 40.5			
	comp=Z,116μm,21.0s								
ODAN	**Odare**	**134.28**	**116**	*e*P	**PKPdf**	**09 24 08.1**	**-6.3**		
GUN	**Gumba**	**134.50**	**114**	*e*P	**PKPdf**	**09 24 08.6**	**-6.4**		
DHUB	**DHUBRI**	**134.70**	**120**	*e*P	**PKPdf**	**09 24 14.7**	**-0.2**		
TAPN	**Taplejung**	**134.85**	**116**	*e*P	**PKPdf**	**09 24 08.2**	**-7.4**		
SMPP	**San Manuel, Pa**	**134.88**	**163**	*e*P	**PKiKP**	**09 24 18.3**	**+1.3**		
DLBC	**Dease Lake**	**135.09**	**312**	PKhKP	PKPpre	09 24 05.8			
	comp=Z,3.2nm,0.8s,baz=221,slow=3.5,SNR=3.5								
DLBC				PKP	**PKPdf**	**09 24 12.9**	**-1.8**		
	comp=Z,6.5nm,0.8s,baz=141,slow=6.5,SNR=6.5								
SHL	**Shillong**	**135.10**	**122**	*e*P	**PKPdf**	**09 24 14.5**	**-1.4**		
ANA2	**Anatahan**	**135.13**	**197**	IAms_20	IAms_20	10 30 12.2			
	comp=Z,152μm,18.0s								
GTK	**Tadong**	**135.22**	**117**	*e*P	**PKPdf**	**09 24 14.3**	**-1.8**		
LOF	**Lofoten**	**135.40**	**28**	*e*PKPdf	**PKPdf**	**09 24 14.8**	**0.0**		
LOF				*e*PKSdf	**PKSdf**	**09 27 52.1**	**+1.5**		
LOF				*e*SS	SS	09 44 54.8	+6.4		
LOF				IVMs_BB	IVMs_BB	10 09 05.0			
	comp=Z,25μm,24.2s								
QIZ	**Qiongzhong**	**135.40**	**147**	PKP	PKiKP	09 24 29.3	+11		
QIZ				PP	PP	09 27 01.4	+8.9		
STEI	**Steigen**	**135.63**	**28**	*e*PKPdf	**PKPdf**	**09 24 14.2**	**-1.0**		
STEI				*e*PP	**PP**	**09 26 53.3**	**-0.8**		
STEI				*e*PKSdf	PKSdf	09 27 54.7	+3.7		
STEI				*e*SS	SS	09 44 52.1	+0.8		
STEI				IVMs_BB	IVMs_BB	10 25 58.0			
	comp=Z,88μm,16.5s								
KOHI	**KOHIMA**	**136.17**	**124**	*e*P	**PKPdf**	**09 24 17.1**	**-0.8**		
KOHI				*i* PP	**PP**	**09 27 00.0**	**+2.2**		
MOKO	**MOKOCHONG**	**136.87**	**124**	*e*P	**PKPdf**	**09 24 17.5**	**-1.6**		
MOKO				IAmb	IAmb	09 24 32.6			
	comp=Z,133nm,0.8s								
TULEG	**Thule**	**137.39**	**352**	IAms_20	IAms_20	10 25 41.2			
	comp=Z,193μm,19.0s								
KLMR	**Klimovskoe**	**137.75**	**47**	*e*PKIKP	**PKPdf**	**09 24 18.7**	**-0.7**		
KLMR				*e*		09 27 10.6			
KLMR				pmax	pmax				
	comp=Z,340nm,1.3s								
KLMR				MLR	MLR				
	comp=Z,256μm,19.0s								
KLMR	**Klimovskoe**	**137.75**	**47**	*e*PKPdf	**PKPdf**	**09 24 18.7**	**-0.7**		
KLMR				AMP		09 24 33.6			
	comp=Z,340nm,1.3s								
KLMR				*e*PP	**PP**	**09 27 10.6**	**+3.0**		
KLMR				*e*PKKP	**PKKPdf**	**09 33 53.8**	**+1.5**		
KLMR				*e*SKKPbc	SKKPbc	09 36 36.7	-3.6		
KLMR				*e*SS	SS	09 45 31.7	+15		
KLMR				*e*SS	SS	09 45 31.7	+15		
KLMR				*e*SSS	SSS	09 50 43.0			
KLMR				*e*SSS	SSS	09 50 43.0			
KLMR				LQ	LQ	10 16 02.2			
KLMR				LQ	LQ	10 16 02.2			
KLMR				LR	LR	10 20 21.6			
KLMR				AMP		10 24 15.6			
	comp=Z,256μm,19.2s								
SKAG	**Skagway**	**137.78**	**311**	IAms_20	IAms_20	10 22 16.7			
	comp=Z,165μm,22.0s								
TRO	**Tromso**	**137.81**	**28**	*e*PKPdf	**PKPdf**	**09 24 17.9**	**-1.4**		
TRO				*e*PKSdf	**PKSab**	**09 28 01.6**	**-0.2**		
TRO				*e*SS	SS	09 45 21.9	+4.8		
DAG	**Danmarks Havn**	**138.03**	**9**	*i* PKIKP	**PKPdf**	**09 24 18.1**	**-1.4**		
DAG				MLR	MLR				
	comp=Z,190μm,22.0s								
DAG	**Danmarks Havn**	**138.03**	**9**	*i* P	**PKPdf**	**09 24 18.1**	**-1.4**		
	comp=Z,172μm,22.0s								
CHM	**Chimkent**	**138.14**	**86**	*e*PKP	**PKPdf**	**09 24 15.4**	**-5.5**		
CHM				*e*PP	PP	09 27 18.3	+8.0		
CHM	**Chimkent**	**138.14**	**86**	*e*PKIKP	**PKPdf**	**09 24 15.3**	**-5.5**		
CHM				*e*		09 27 18.2			
CHM				MLR	MLR				
	comp=Z,45μm,21.0s								
LKP	**Lekhapani**	**138.30**	**125**	*e*P	**PKPdf**	**09 24 20.8**	**-0.8**		
LKP				IAmb	IAmb	09 24 44.6			
	comp=Z,417nm,0.9s								
LSA	**Lhasa**	**138.39**	**118**	PKP	PKPdf	09 24 11.5	-11		
LSA				PP	PP	09 27 21.8	+10		
LSA				LR	LR				
	comp=N,260μm,15.0s								
LSA				LR	LR				
	comp=E,284μm,16.4s								
LSA				LR	LR				
	comp=Z,440μm,15.0s								
KTK1	**Kautokeino**	**138.41**	**31**	*e*PKPdf	**PKPdf**	**09 24 18.6**	**-1.8**		
KTK1				*e*PP	**PP**	**09 27 10.2**	**-1.3**		
KTK1				*e*SKSdf	**SKSdf**	**09 31 31.3**	**+0.9**		
WHY	**Whitehorse**	**138.42**	**312**	IAms_20	IAms_20	10 22 48.4			
	comp=Z,127μm,20.0s								
AB31	**Akbulak array**	**138.44**	**71**	*i* PKHKP	PKPpre	09 24 07.9			
AB31				pmax	pmax				
	comp=Z,37nm,0.6s								
ABKAR	**Akbulak array**	**138.44**	**71**		PKPpre	09 24 07.7			
RES	**Resolute Bay**	**138.49**	**343**	PKhKP	PKPpre	09 24 09.8			
	comp=Z,1.7nm,0.6s,baz=181,slow=4.0,SNR=5.7								
RES				PKP	**PKPdf**	**09 24 19.0**	**-1.4**		
	comp=Z,17nm,0.9s,baz=174,slow=9.6,SNR=7.1								
RES	**Resolute Bay**	**138.49**	**343**	IAms_20	IAms_20	10 27 56.9			
	comp=Z,161μm,19.0s								
DHAK	**Deception Hill**	**138.64**	**309**	IAms_20	IAms_20	10 28 46.6			
	comp=Z,129μm,22.0s								
JBG	**Jabagly**	**138.68**	**86**	*e*PKIKP	**PKPdf**	**09 24 20.7**	**-1.3**		
JBG				*e*		09 27 16.7			
BRLS	**Borolday**	**138.78**	**85**	*e*PKP	**PKiKP**	**09 24 24.7**	**+0.5**		
BRLS				*e*PP	**PP**	**09 27 11.8**	**-2.4**		
KMI	**Kunming**	**138.92**	**135**	PKP	**PKPdf**	**09 24 22.3**	**-0.8**		
KMI				sPKP		09 24 28.4			
KMI				PP	**PP**	**09 27 10.5**	**-4.4**		
KMI	**Kunming**	**138.92**	**135**	Pdif	**Pdif**	**09 21 33.9**	**-1.0**		
KMI				PKP	**PKPdf**	**09 24 22.6**	**-0.5**		
KMI				sPKP		09 24 27.1			
KMI				PP	**PP**	**09 27 18.4**	**+3.5**		
KMI				SKKS		09 34 07.5			
KMI				AMB	AMB				
	comp=Z,11μm,11.8s								
KMI				LR	LR				
	comp=Z,215μm,18.6s								
KMI				LR	LR				
	comp=Z,535μm,18.4s								
KK31	**Karatay Array**	**139.17**	**86**	*i* PKIKP	**PKPdf**	**09 24 18.1**	**-4.6**		
KK31				pmax	pmax				
	comp=Z,78nm,0.9s								
KKAR	**Karatay Array**	**139.17**	**86**	PKHKP	PKPpre	09 24 12.8			
KKAR	**Karatay Array**	**139.17**	**86**		PKPpre	09 24 12.8			
KSH	**Kashi**	**139.19**	**94**	PKP	**PKPdf**	**09 24 19.0**	**-4.0**		
KSH				AMB	AMB				
	comp=Z,26μm,9.7s								
KSH				LR	LR				
	comp=Z,294μm,18.0s								
KSH				LR	LR				
	comp=Z,260μm,15.9s								
KSH				LR	LR				
	comp=Z,228μm,18.7s								
BBP	**Basco**	**139.28**	**163**	*e*P	**PKPdf**	**09 24 22.9**	**-0.6**		
ARCES	**ARCESS Array B**	**139.35**	**31**	PKhKP	PKPpre	09 24 10.3			
	comp=Z,9.6nm,0.5s,baz=213,slow=2.8,SNR=52								
ARE0	**ARCESS Array S**	**139.35**	**31**	*e*PKPdf	**PKPdf**	**09 24 20.4**	**-1.8**		
ARE0				*e*SKPdf	**SKPdf**	**09 27 55.9**	**-1.0**		
ARE0				*e*SS	**SS**	**09 45 39.9**	**+4.5**		
ARE0				IVMs_BB	IVMs_BB	10 22 36.1			
	comp=Z,78μm,19.4s								
TMCR	**Tamitsa**	**139.44**	**42**	*e*PKIKP	**PKPdf**	**09 24 22.9**	**+0.5**		
TMCR				pmax	pmax				
	comp=Z,55nm,0.6s								
HYT	**Haines Junctio**	**139.50**	**311**	IAms_20	IAms_20	10 26 51.2			
	comp=Z,123μm,20.0s								
HKC	**Hong Kong Obse**	**139.63**	**152**	⇑P	**PKiKP**	**09 24 29.0**	**+2.5**		
HAMF	**Hammerfest**	**139.67**	**29**	*e*PKPdf	**PKPdf**	**09 24 21.1**	**-1.5**		
HAMF				*e*SKPdf	**SKPbc**	**09 27 56.5**	**-1.6**		
HAMF				*e*SS	**SS**	**09 45 41.3**	**+2.2**		
BCPM	**Bancas Point**	**139.75**	**309**	IAms_20	IAms_20	10 27 30.0			
	comp=Z,105μm,21.0s								
KEV	**Kevo**	**139.89**	**31**	PKIKP	**PKPdf**	**09 24 21.7**	**-1.4**		
KEV				MLR	MLR				
	comp=Z,215μm,22.0s								
KEV	**Kevo**	**139.89**	**31**		**PKPdf**	**09 24 21.7**	**-1.4**		
KEV				IAms_20	IAms_20	10 23 24.2			
	comp=Z,215μm,22.0s								
PCA	**Pinnacle**	**140.09**	**309**	IAms_20	IAms_20	10 37 47.7			
	comp=Z,97μm,18.0s								
GZH	**Guangzhou**	**140.18**	**150**	PKP	**PKiKP**	**09 24 31.6**	**+4.0**		
GZH				PP	PP	09 27 45.5	+23		
APA	**Apatity**	**140.20**	**36**	⇓*i*PKIKP	**PKPdf**	**09 24 23.6**	**-0.1**		
APA				pmax	pmax				
	comp=Z,35nm,1.0s								
PRGR	**Permogore**	**140.51**	**49**	*e*PKHKP	PKPpre	09 24 14.3			
PRGR				pmax	pmax				
	comp=Z,80nm,0.6s								
C36M	**Paulatuk**	**140.64**	**327**	P	**PKPdf**	**09 24 22.5**	**-2.0**		
	baz=130								
LVZ	**Lovozero**	**140.78**	**36**	⇑*e*PKHKP	PKPpre	09 24 15.7			
LVZ	**Lovozero**	**140.78**	**36**		PKPpre	09 24 17.8			
MESA	**MESA**	**140.80**	**308**	IAms_20	IAms_20	10 29 36.6			
	comp=Z,126μm,21.0s								
AAK	**Ala-Archa**	**140.80**	**90**	⇑*e*PKHKP	PKPpre	09 24 18.8			
YAH	**Yahtse**	**140.83**	**308**	IAms_20	IAms_20	10 29 48.5			
	comp=Z,131μm,20.0s								
CTGM	**Chitina Glacie**	**141.05**	**309**	IAms_20	IAms_20	10 39 48.2			
	comp=Z,102μm,19.0s								
WAX	**Waxell Ridge**	**141.32**	**308**	IAms_20	IAms_20	10 34 20.4			
	comp=Z,114μm,20.0s								
BJO1	**Bjornoya**	**141.32**	**23**	*e*PKPdf	**PKPdf**	**09 24 25.0**	**-0.6**		
BJO1				*e*SS	SS	09 45 58.1	-0.2		
BJO1				IVMs_BB	IVMs_BB	10 26 37.5			
	comp=Z,45μm,21.8s								
SUCK	**Suckling Hills**	**141.45**	**307**	IAms_20	IAms_20	10 40 01.9			
	comp=Z,195μm,18.0s								
SGDS	**Sogindy**	**141.47**	**89**	*e*PKP	**PKPdf**	**09 24 26.5**	**-0.4**		
SGDS				*e*PP	**PP**	**09 27 38.5**	**+7.7**		
BALM	**Baldy**	**141.48**	**309**	IAms_20	IAms_20	10 30 39.6			
	comp=Z,103μm,20.0s								
CRQM	**Cirque**	**141.62**	**308**	IAms_20	IAms_20	10 24 16.7			
	comp=Z,143μm,22.0s								
HMT	**Hamilton**	**141.80**	**307**	IAms_20	IAms_20	10 38 41.3			
	comp=Z,144μm,20.0s								
TPUB	**Ta-pu**	**141.88**	**161**	IAms_20	IAms_20	10 30 35.7			
	comp=Z,194μm,18.0s								
RAGM	**Ragged Mountai**	**142.00**	**307**	IAms_20	IAms_20	10 24 42.5			
	comp=Z,168μm,20.0s								
VRDI	**Verde Repeater**	**142.02**	**309**	IAms_20	IAms_20	10 34 47.0			
	comp=Z,121μm,21.0s								
DAWY	**Dawson**	**142.20**	**314**	IAms_20	IAms_20	10 28 24.2			
	comp=Z,218μm,22.0s								
GLB	**Gilahina Butte**	**142.29**	**309**	IAms_20	IAms_20	10 40 57.1			
	comp=Z,116μm,21.0s								
BTLS	**Baital**	**142.33**	**87**	*e*PKP	**PKPdf**	**09 24 25.1**	**-3.2**		
BTLS	**Baital**	**142.33**	**87**	*e*PKIKP	**PKPdf**	**09 24 25.1**	**-3.2**		
AAA	**Alma-Ata**	**142.43**	**91**	*e*PKP	**PKPdf**	**09 24 29.6**	**+0.9**		
AAA	**Alma-Ata**	**142.43**	**91**	*e*PKIKP	**PKPdf**	**09 24 29.5**	**+0.9**		
AAA				MLR	MLR				
	comp=Z,276μm,22.0s								
HSPB	**Hornsund (broa**	**142.44**	**19**	*e*PKPdf	**PKPdf**	**09 24 27.5**	**-0.1**		
HSPB				*e*PP	**PP**	**09 27 35.7**	**-0.3**		
HSPB				*e*SS	SS	09 46 13.9	+2.6		
HSPB				IVMs_BB	IVMs_BB	10 27 18.9			
	comp=Z,83μm,19.0s								
MDOK	**Medeo**	**142.46**	**91**	*e*PKP	**PKPdf**	**09 24 28.7**	**-0.1**		
MDOK	**Medeo**	**142.46**	**91**	*e*PKIKP	**PKPdf**	**09 24 28.6**	**-0.1**		
MDOK				MLR	MLR				
	comp=Z,235μm,21.0s								
BCAR	**Beaver Creek A**	**142.48**	**312**		**PKPdf**	**09 24 22.3**	**-5.8**		
EYAK	**Cordova Ski Ar**	**142.52**	**307**	IAms_20	IAms_20	10 42 01.3			
	comp=Z,165μm,19.0s								
ARU	**Arti**	**142.54**	**62**	⇓*e*PKHKP	**PKPdf**	**09 24 21.6**	**-6.6**		
ARU				MLR	MLR				
	comp=Z,566μm,21.0s								
ARU	**Arti**	**142.54**	**62**		**PKPdf**	**09 24 21.3**	**-7.0**		
A36M	**Sachs Harbour**	**142.60**	**330**	P	**PKPdf**	**09 24 28.8**	**+0.9**		
	baz=126,SNR=17								
EPYK	**Eagle Plains**	**142.63**	**318**	P	**PKiKP**	**09 24 32.7**	**+1.4**		
	baz=124								
EPYK	**Eagle Plains**	**142.63**	**318**	IAms_20	IAms_20	10 26 02.1			
	comp=Z,206μm,21.0s								
KUU	**Kurty**	**142.64**	**90**	*e*PKP	**PKPdf**	**09 24 25.6**	**-3.4**		
KUU				*e*PP	**PP**	**09 27 38.5**	**+0.6**		
KUU				*e*LR	LR	10 30 20.4			
	comp=Z,224μm,16.9s								
KUU	**Kurty**	**142.64**	**90**	*e*PKIKP	**PKPdf**	**09 24 25.5**	**-3.4**		
KUU				*e*		09 27 38.4			
INK	**Inuvik**	**142.73**	**322**	PKHKP	**PKPdf**	**09 24 21.5**	**-6.7**		
INK				MLR	MLR				
	comp=Z,356μm,22.0s								
INK	**Inuvik**	**142.73**	**322**	PKhKP	**PKPdf**	**09 24 21.8**	**-6.4**		
	comp=Z,15nm,0.8s,baz=90,slow=2.1,SNR=33								
INK	**Inuvik**	**142.73**	**322**		**PKPdf**	**09 24 21.5**	**-6.7**		
HIN	**Hinchinbrook I**	**142.73**	**306**	IAms_20	IAms_20	10 39 40.0			
	comp=Z,178μm,18.0s								
FID	**Port Fidalgo**	**142.93**	**307**	IAms_20	IAms_20	10 29 20.1			
	comp=Z,240μm,21.0s								
CHKK	**Chushkaly**	**142.93**	**90**	*e*PKP	**PKPdf**	**09 24 24.0**	**-5.4**		
SATY	**Saty**	**143.06**	**93**	*e*PKP	**PKiKP**	**09 24 34.9**	**+1.8**		
SATY				*e*PP	PP	09 27 49.1	+8.6		
SATY				*e*LR	LR	10 30 06.6			
	comp=Z,112μm,18.4s								
SATY	**Saty**	**143.06**	**93**	*e*PKIKP	**PKiKP**	**09 24 34.8**	**+1.8**		
SATY				*e*		09 27 49.0			
SATY				MLR	MLR				
	comp=Z,112μm,18.0s								
MENT	**Mentasta**	**143.13**	**311**		PKPab	09 24 24.9	+0.2		
MENT				IAms_20	IAms_20	10 42 48.0			
	comp=Z,148μm,18.0s								
ZHN	**Zhinishke**	**143.15**	**92**	*e*PKP	PKPbc	09 24 27.4	+0.4		
ZHN	**Zhinishke**	**143.15**	**92**	*e*PKIKP	PKPbc	09 24 27.3	+0.3		
EGAK	**Eagle**	**143.24**	**314**	IAms_20	IAms_20	10 33 34.6			
	comp=Z,152μm,20.0s								
GLI	**Glacier Island**	**143.25**	**306**	IAms_20	IAms_20	10 26 57.7			
	comp=Z,133μm,21.0s								
KBS	**Kingsbay**	**143.26**	**16**	PKIKP	PKPbc	09 24 25.6	-0.5		
KBS	**Kingsbay**	**143.26**	**16**	*e*PKPdf	PKPbc	09 24 25.9	-0.2		
KBS				*e*PP	**PP**	**09 27 40.4**	**-0.5**		
KBS				*e*SS	SS	09 46 21.4	+0.7		
KBS				IVMs_BB	IVMs_BB	10 32 56.4			
	comp=Z,75μm,18.0s								
KBS	**Kingsbay**	**143.26**	**16**		PKPbc	09 24 25.6	-0.5		
KBS	**Kingsbay**	**143.26**	**16**	IAms_20	IAms_20	10 22 21.2			
	comp=Z,213μm,20.0s								
SPA0	**Spitsbergen Ar**	**143.38**	**18**	*e*PKPdf	**PKPdf**	**09 24 29.2**	**0.0**		
SPA0				*ep*PKPdf	**sPKPdf**	**09 24 32.8**	**+0.3**		
SPA0				*e*SKSdf	**SKSdf**	**09 31 39.5**	**+1.3**		
SPA0				*e*SS	**SS**	**09 46 20.9**	**-1.2**		
YOJ	**Yonaguni jima**	**143.38**	**164**	IAms_20	IAms_20	10 26 26.

comp=Z,148μm,22.0s
TCOL CIGO, UAF Yank 145.72 312 P **PKPdf 09 24 32.4 -1.1**
baz=120,SNR=94
BMAR Burnt Mountain 145.82 317 **PKPdf 09 24 32.6 -1.1**
SDPT Sand Point 145.82 292 IAMs_20 IAMs_20 10 42 04.8
comp=Z,102μm,19.0s
BRVK Borovoye 145.84 74 PKPdf **PKPdf 09 24 31.9 -2.3**
SNR=205
BRVK Borovoye 145.84 74 *d* PKP2 **PKPdf 09 24 32.7 -1.4**
BRVK Borovoye 145.84 74 **PKPdf 09 24 32.4 -1.8**
ENH Enshi 145.91 141 **PKPdf 09 24 32.5 -2.5**
BWN Browne 145.96 310 IAMs_20 IAMs_20 10 29 52.3
comp=Z,188μm,20.0s
NEA Nenana 146.02 311 IAMs_20 IAMs_20 10 30 52.6
comp=Z,126μm,18.0s
JCJ Chichijima 146.19 194 PKPbc **PKPdf 09 24 33.6 -2.0**
comp=Z,254nm,0.7s,baz=190,slow=2.5,SNR=11
JOW Kunigami 146.28 172 PKPbc **PKPdf 09 24 35.5 -0.3**
comp=Z,3.6nm,0.7s,baz=161,slow=12,SNR=7.0
JOW Kunigami 146.28 172 **PKPbc 09 24 36.4 -0.5**
JOW IAMs_20 IAMs_20 10 30 33.6
comp=Z,139μm,20.0s
PPLA Purkeypile 146.38 307 IAMs_20 IAMs_20 10 35 18.2
comp=Z,170μm,20.0s
SVW2 Sparrevohn 146.84 303 IAMs_20 IAMs_20 10 21 54.4
comp=Z,128μm,21.0s
MAKZ Makanchi 147.51 91 PKIKP **PKPdf 09 24 35.2 -2.0**
MAKZ MLR MLR
comp=Z,386μm,19.0s
MAKZ Makanchi 147.51 91 **PKPdf 09 24 35.2 -2.0**
WHN Wuhan 147.56 148 PKPbc **PKPdf 09 24 38.5 +0.7**
WHN PKPab **sPKPab 09 24 45.5 -0.1**
WHN SKKS 09 35 01.3
MK31 Makanchi Array 147.65 91 *i* PKIKP **PKPdf 09 24 35.4 -2.0**
MK31 pmax pmax
comp=Z,302nm,0.7s
MKAR Makanchi Array 147.65 91 PKIKP **PKPdf 09 24 34.3 -3.1**
MKAR Makanchi Array 147.65 91 PKPbc **PKPdf 09 24 37.8 +0.3**
comp=Z,53nm,0.9s,baz=212,slow=1.8,SNR=73
MKAR Makanchi Array 147.65 91 **PKPdf 09 24 34.3 -3.1**
COLD Coldfoot 147.66 315 IAMs_20 IAMs_20 10 31 41.6
comp=Z,152μm,22.0s
TOLK Toolik Lake Re 148.04 318 P **PKPdf 09 24 38.6 +1.1**
baz=113
TOLK Toolik Lake Re 148.04 318 IAMs_20 IAMs_20 10 29 45.3
comp=Z,214μm,20.0s
WMQ Urumqi 148.20 100 PKPbc **PKPdf 09 24 38.8 +0.3**
WMQ PP **PP 09 28 14.0 +3.1**
WMQ SKKS 09 35 00.8
WMQ SS **SS 09 47 17.4 -0.6**
WMQ AMB AMB
comp=Z,44μm,11.1s
WMQ LR LR
comp=Z,158μm,19.3s
WMQ LR LR
comp=Z,175μm,20.1s
WMQ LR LR
comp=Z,398μm,21.3s
KURBB Kurchatov Arra 148.33 83 PKP **PKPdf 09 24 35.0 -3.4**
comp=Z,16nm,1.2s,baz=229,slow=2.9,SNR=36
KURBB PKPbc **PKPbc 09 24 39.6 -2.2**
comp=Z,42nm,1.0s,baz=235,slow=3.0,SNR=52
NIKH Nikolski High 148.38 283 IAMs_20 IAMs_20 10 30 47.9
comp=Z,121μm,19.0s
IMAR Indian Mountai 148.41 312 **PKPdf 09 24 38.8 +0.7**
KURK Kurchatov 148.43 83 PKPdf **PKPdf 09 24 36.3 -2.2**
SNR=65
KURK Kurchatov 148.43 83 *ce* PKIKP **PKPdf 09 24 36.6 -1.9**
KURK Kurchatov 148.43 83 **PKPdf 09 24 35.2 -3.3**
SEM Semipalatinsk 149.04 85 *e*PKP **PKPdf 09 24 38.4 -1.4**
SEM Semipalatinsk 149.04 85 *e*PKIKP **PKPdf 09 24 38.4 -1.4**
SEM MLR MLR
comp=Z,153μm,22.0s
LZH Lanzhou 149.20 129 PKPbc **PKPdf 09 24 39.6 -0.9**
LZH sPKP 09 24 44.3
LZH PKPab **sPKPab 09 24 53.8 +1.5**
LZH PP **PP 09 28 18.8 +2.2**
LZH SS SS 09 47 29.9 +1.0
LZH AMB AMB
comp=Z,60μm,9.2s
LZH LR LR
comp=Z,234μm,17.9s
LZH LR LR
comp=Z,352μm,20.1s
XAN Xi'an 149.20 138 PKPbc **PKPdf 09 24 39.0 -1.4**
XAN SS SS 09 47 31.1 +2.6
XAN AMB AMB
comp=Z,55μm,12.3s
XAN LR LR
comp=Z,220μm,18.6s
XAN LR LR
comp=Z,632μm,19.6s
XAN Xi'an 149.20 138 PKIKP **PKPdf 09 24 39.1 -1.4**
XAN Xi'an 149.20 138 **PKPdf 09 24 39.1 -1.4**
ZSN Zaisan 149.38 93 *e*PKP **PKPdf 09 24 42.0 +1.7**
ZSN Zaisan 149.38 93 *e*PKIKP **PKPdf 09 24 41.9 +1.7**
ZSN MLR MLR
comp=Z,87μm,19.0s
SSE Sheshan 149.60 159 PKPbc **PKPbc 09 24 45.3 -0.3**
SSE PP **PP 09 28 16.9 -1.4**
NJ2 Nanjing 150.07 155 *e*PKPbc **PKPdf 09 24 40.0 -1.8**
NJ2 PKPab **sPKPab 09 24 58.3 +2.6**
NJ2 AMB AMB
comp=Z,65μm,12.0s
NJ2 LR LR
comp=Z,353μm,19.2s
NJ2 LR LR
comp=Z,697μm,18.8s
GTA Gaotai 150.38 120 ⇑PKPbc **PKPdf 09 24 41.3 -0.9**
GTA PP **PP 09 28 24.8 +1.3**
GTA SKS **SKSdf 09 31 47.6 -2.4**
GTA SKKS **SKKSac 09 35 13.6 -0.6**
GTA SS **SS 09 47 41.8 -0.4**
GTA AMB AMB
comp=Z,39μm,8.3s
GTA LR LR
comp=Z,227μm,21.9s
GTA LR LR
comp=Z,286μm,19.4s
GTA LR LR
comp=Z,514μm,21.9s
ADK Adak 151.57 275 PKIKP **PKPbc 09 24 47.1 -2.5**
ADK Adak 151.57 275 **PKPbc 09 24 47.1 -2.5**
ADK Adak 151.57 275 IAMs_20 IAMs_20 10 45 49.7
comp=Z,204μm,19.0s
KIWB Kanaga Island 151.78 275 **PKPbc 09 24 47.8 -2.4**
DGZ Jazzator, Alta 152.15 92 *d* PKIKP **PKPdf 09 24 41.1 -3.5**
ANM Nome 152.38 305 IAMs_20 IAMs_20 10 44 33.2
comp=Z,178μm,21.0s
JHJ2 Mitsune 152.40 192 IAMs_20 IAMs_20 10 33 57.5
comp=Z,185μm,21.0s
RDOG Red Dog Mine 152.50 313 IAMs_20 IAMs_20 10 38 02.6
comp=Z,198μm,20.0s
JNU Nakatsue 152.68 175 PKPbc **PKPbc 09 24 51.4 -1.5**
comp=Z,35nm,1.0s,baz=109,slow=2.3,SNR=6.7
JNU Nakatsue 152.68 175 **PKPdf 09 24 45.1 -0.7**
JNU IAMs_20 IAMs_20 10 33 13.2
comp=Z,211μm,20.0s
ZALV Zalesovo Beam 153.41 82 PKIKP **PKPdf 09 24 42.8 -3.3**
ZALV 09 24 51.7
ZALV 09 25 02.8
ZALV Zalesovo Beam 153.41 82 PKP **PKPdf 09 24 42.5 -3.6**
comp=Z,6.1nm,1.0s,baz=238,slow=4.7,SNR=11
ZALV PKPbc **PKPbc 09 24 52.1 -1.6**
comp=Z,17nm,0.9s,baz=256,slow=4.1,SNR=20
ZALV Zalesovo Beam 153.41 82 **PKPdf 09 24 42.8 -3.3**
ZALV PKPbc **PKPbc 09 24 51.7 -2.0**
ZALV PKPab **PKPab 09 25 02.8 -3.2**
TIA Tai'an 153.65 149 PKPbc **PKPdf 09 24 46.8 -0.3**
TIA PP PP 09 29 08.4 +27
TIA Tai'an 153.65 149 PKPbc **PKPdf 09 24 46.5 -0.6**
TIA AMB AMB
comp=Z,28μm,11.8s
TIA LR LR
comp=Z,193μm,19.0s
TIA LR LR
comp=Z,702μm,19.6s
TIY Taiyuan 153.70 140 *e*PKPbc **PKPdf 09 24 47.9 +0.7**
TIY PKPab **sPKPab 09 25 11.3 +0.4**
TIY PP **PP 09 28 47.3 +5.2**
TIY SKKS 09 35 33.3
TIY SS **SS 09 48 20.1 +1.8**
TIY AMB AMB
comp=Z,29μm,9.0s
TIY LR LR
comp=Z,163μm,17.1s
TIY LR LR
comp=Z,474μm,17.6s
GAMB Gambell 154.75 302 IAMs_20 IAMs_20 10 26 42.1
comp=Z,202μm,22.0s
BTO Baotou 155.48 133 *e*PKP **PKPdf 09 24 51.8 +2.2**
BTO *e*PP **PP 09 28 53.4 +1.2**
BTO SS SS 09 48 37.1 -0.7
MJAR Matsushiro Arr 155.95 190 PKP **PKPdf 09 24 48.4 -1.8**
comp=Z,1.6nm,0.5s,baz=128,slow=2.1,SNR=4.9
MAT Matsushiro 155.95 190 PKP **PKPdf 09 24 48.5 -1.7**
HHC Hu-ho-hao-te 156.24 136 *e*PKP **PKPdf 09 24 51.3 +0.7**
HHC PP **PP 09 29 01.9 +5.5**
HHC SS SS 09 48 45.9 -0.1
SMY Shemya 156.64 269 IAMs_20 IAMs_20 10 36 57.2
comp=Z,199μm,21.0s
KSAR Wonju Array Be 156.78 169 PKIKP **PKPdf 09 24 49.0 -2.2**
KSAR Wonju Array Be 156.78 169 **PKPdf 09 24 49.0 -2.2**
KSRS Korea Array 156.79 169 PKP **PKPdf 09 24 49.8 -1.5**
comp=Z,4.4nm,1.0s,baz=205,slow=0.9,SNR=10.0
BJT Baijiatuau 156.96 144 PKIKP **PKPdf 09 24 50.4 -1.0**
BJT Baijiatuau 156.96 144 **PKPdf 09 24 50.4 -1.0**
BJI Beijing 156.98 144 *e*PKP **PKPdf 09 24 50.1 -1.3**
BJI SKS **SKSdf 09 31 53.4 -3.9**
BJI AMB AMB
comp=Z,35μm,12.8s
BJI LR LR
comp=Z,219μm,20.4s
BJI LR LR
comp=Z,308μm,22.8s
NRIK Noril'sk 159.09 46 PKP **PKPdf 09 24 50.5 -2.6**
comp=Z,3.0nm,0.6s,baz=199,slow=2.3,SNR=4.9
NRIK PKPab **PKPab 09 25 29.7 -0.4**
comp=Z,18nm,0.9s,baz=350,slow=1.7,SNR=4.1
SONM Songino Array 159.97 117 PKIKP **PKPdf 09 24 52.7 -2.2**
SONM Songino Array 159.97 117 PKP **PKPdf 09 24 53.5 -1.4**
comp=Z,4.2nm,0.9s,baz=234,slow=1.7,SNR=15
SONM Songino Array 159.97 117 **PKPdf 09 24 52.7 -2.2**
MOY Mondy 160.08 101 *e*PKIKP **PKPdf 09 24 52.5 -2.4**
MOY pmax pmax
comp=Z,572nm,2.9s
ULN Ulaanbaatar 160.28 118 PKPdf **PKPdf 09 24 52.6 -2.7**
SNR=22
ULN Ulaanbaatar 160.28 118 ⇓*e*PKIKP **PKPdf 09 24 52.1 -3.2**
ULN Ulaanbaatar 160.28 118 **PKPdf 09 24 53.3 -2.1**
ZAK Zakamensk 160.35 107 *e*PKIKP **PKPdf 09 24 54.4 -0.8**
ZAK pmax pmax
comp=Z,143nm,1.4s
SNY Shenyang 160.47 158 ⇓PKP PKPdf 09 25 04.9 +9.4
SNY PP PP 09 29 37.4 +18
TLY Talaya 161.38 105 PKPdf **PKPdf 09 24 55.8 -0.4**
SNR=33
TLY Talaya 161.38 105 *e*PKIKP **PKPdf 09 24 53.1 -3.1**
TLY pmax pmax
comp=Z,297nm,1.3s
TLY Talaya 161.38 105 PKP **PKPdf 09 24 54.8 -1.4**
comp=Z,10nm,1.0s,baz=183,slow=5.5,SNR=20
TLY Talaya 161.38 105 **PKPdf 09 24 55.1 -1.0**
YUK Yuzh-Kuril'sk 162.00 210 *i* PKP2 **PKPab 09 25 41.5 -1.8**
YUK 09 29 25.1
YUK PPP PPP 09 33 16.3
YUK *e*SS SS 09 49 50.9 +4.6
IRK Irkutsk 162.03 104 *e*PKIKP **PKPdf 09 24 55.8 -1.0**
KUR Kuril'sk 162.56 216 *e*PKIKP **PKPdf 09 24 58.7 +1.2**
KUR pmax pmax
comp=Z,891nm,1.5s
KUR pmax pmax
comp=Z,22μm,9.9s
CN2 Changchun 162.71 160 *e*PKP **PKPdf 09 24 56.8 -1.0**
CN2 *e*PP **PP 09 29 31.4 +0.3**
CN2 AMB AMB
comp=Z,24μm,8.0s
CN2 LR LR
comp=Z,167μm,20.0s
CN2 LR LR
comp=Z,325μm,20.0s
JKA Kamikawa-asahi 162.80 203 **PKPdf 09 24 55.6 -2.3**
ASAJ Asahikawa 162.80 203 PKP **PKPdf 09 24 55.6 -2.3**
comp=Z,12nm,1.0s,baz=198,slow=2.8,SNR=2.6
USRK Ussuriysk Ar. 163.77 176 PKIKP **PKPdf 09 24 58.5 -0.3**
USRK 09 25 49.1
USRK Ussuriysk Ar. 163.77 176 PKP **PKPdf 09 24 59.0 +0.2**
comp=Z,2.3nm,0.8s,baz=169,slow=1.5,SNR=3.9
USRK PKPab **PKPab 09 25 48.3 -2.8**
comp=Z,4.6nm,0.8s,baz=212,slow=7.8,SNR=4.7
USRK Ussuriysk Ar. 163.77 176 **PKPdf 09 24 58.5 -0.3**
USRK **PKPab 09 25 49.1 -2.0**
BILL Bilibino 163.97 312 *ce* PKIKP **PKPdf 09 24 52.1 -6.1**
BILL *e* 09 24 58.2
BILL *e*SS SS 09 50 02.3 -4.8
BILL pmax pmax
comp=Z,33nm,1.5s
SKR Severo-Kuril's 163.98 243 *i* PKIKP PKPdf 09 25 06.9 +8.2
SKR *e*PPP PPP 09 33 33.2
SKR pmax pmax
comp=Z,4μm,11.5s
MDJ Mudanjiang 164.05 170 **PKPdf 09 24 57.9 -1.1**
PET Petropavlovsk 164.38 253 *i* PKIKP **PKPdf 09 25 05.5 +6.5**
PET *e* 09 29 39.7
PET *e*PPS PPS 09 43 15.0
PET *e*SS SS 09 50 05.6 -6.2
PET pmax pmax
comp=Z,5μm,10.6s
PET pmax pmax
comp=Z,165nm,1.5s
PET pmax pmax
comp=Z,52μm,14.6s
PET pmax pmax
comp=Z,60μm,14.4s
TEY Ternei 164.51 188 ⇓*e*PKIKP **PKPdf 09 25 05.4 +6.0**
TEY *e* 09 51 13.5
TEY pmax pmax
comp=Z,30nm,1.0s
PETK Petropavlovsk- 164.89 252 PKIKP **PKPdf 09 24 57.5 -2.0**
PETK Petropavlovsk- 164.89 252 PKP **PKPdf 09 24 58.0 -1.5**
comp=Z,10nm,1.0s,baz=59,slow=3.7,SNR=4.3
PETK PKPab **PKPab 09 25 52.6 -3.3**
comp=Z,143nm,1.2s,baz=106,slow=4.2,SNR=6.7
PETK Petropavlovsk- 164.89 252 **PKPdf 09 24 57.5 -2.0**
PETK **PKPab 09 25 56.2 +0.3**
YSS Yuzh-Sakhalins 165.48 206 *i* PKIKP **PKPdf 09 25 02.2 +2.1**
YSS *e* 09 29 48.6
CIT Chita 166.18 118 *e*PKIKP **PKPdf 09 24 59.8 -0.9**
CIT pmax pmax
comp=Z,405nm,3.6s
TIXI Tiksi 168.53 7 *d* *i* PKIKP **PKPdf 09 25 06.1 +4.4**
TIXI Tiksi 168.53 7 PKPab **PKPab 09 26 10.1 -1.3**
comp=Z,32nm,1.1s,baz=56,slow=3.7,SNR=5.3
TIXI Tiksi 168.53 7 **PKPab 09 26 10.3 -1.2**
KLR Kul'dur 168.79 174 *de* PKIKP **PKPdf 09 24 59.5 -3.0**
KLR Kul'dur 168.79 174 PKP **PKPdf 09 25 00.1 -2.5**
comp=Z,9.1nm,0.9s,baz=306,slow=4.0,SNR=20
TYV Tymovskoe 169.14 213 *e*PKIKP PKPdf 09 25 12.8 +10
TYV pmax pmax
comp=Z,65nm,1.7s
TYV pmax pmax
comp=Z,3μm,4.4s
BOD Bodaibo 169.70 96 *e*PKIKP **PKPdf 09 24 58.8 -4.0**
BOD *e* 09 26 11.8
BOD pmax pmax
comp=Z,155nm,1.4s
GRNR Gornyy 170.22 191 *i* PKIKP **PKPdf 09 25 01.7 -1.7**
GRNR pmax pmax
comp=Z,20nm,1.6s
SEY Seymchan 170.63 294 ⇓*e*PKIKP **PKPdf 09 24 58.7 -4.5**
SEY Seymchan 170.63 294 PKP **PKPdf 09 24 58.9 -4.3**
comp=Z,10.0nm,1.1s,baz=34,slow=5.1,SNR=5.6
SEY PKPab **PKPab 09 26 19.8 -1.2**
comp=Z,25nm,0.9s,baz=127,slow=3.7,SNR=2.1
MA2 Magadan 171.26 272 *de* PKIKP PKPdf 09 25 12.8 +9.2
NKL Nikolayevsk 171.73 212 *e*PKIKP PKPdf 09 25 15.2 +11
ZEA Zeya 172.55 151 *i* PKIKP **PKPdf 09 25 00.5 -3.9**
ZEA *e* 09 32 04.0
ZEA pmax pmax
comp=N,500nm,7.0s
ZEA pmax pmax
comp=Z,1μm,7.0s
ZEA pmax pmax
comp=E,41nm,1.0s
ZEA pmax pmax
comp=Z,83nm,1.4s
ZEA pmax pmax
comp=E,500nm,6.0s
YAK Yakutsk 177.55 46 *e*PKIKP **PKPdf 09 24 59.4 -6.1**
YAK *e* 09 30 38.8
YAK *e*PPP PPP 09 35 01.6
YAK pmax pmax
comp=Z,29nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,8μm,8.9s
YAK pmax pmax
comp=E,4μm,8.6s
YAK pmax pmax
comp=N,3μm,6.2s
YAK Yakutsk 177.55 46 **PKPdf 09 25 02.2 -3.3**

IDC ***17*** *09:10:58.9±0.5, 60°.52S×45°.48W, h0km, mb5.5/16, mb1 5.5/17, mb1mx5.3/39, mbtmp5.5/17, ML5.0/1, Error ellipse: s-maj=20.5km s-min=15.4km az=32.0*
ISCJB ***17*** *09:10:59.4±0.3, 60°.41S±0°.06×45°.2W±0°.1, h10km, mb5.5/23, Error ellipse: s-maj=9.6km s-min=7.8km az=156.9*
NEIC ***17*** *09:11:01.6±1.9, 60°.48S±0°.09×45°.2W±0°.2, h16km±3km, mb5.8/33*
ISC 17 09:11:00.9±0.4, 60°.43S±0°.07×45°.18W±0°.07, h10km, n86, σ18°11/85, mb5.7/33, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.75**	**41**	Pn	**Pn**	**09 12 52.3**	**-1.2**
PMSA	**Palmer Station**	**9.71**	**235**	Pn	**Pn**	**09 13 18.6**	**-1.8**
13nm,0.3s,baz=82,slow=7.1,SNR=2.9							
PMSA	**Palmer Station**	**9.71**	**235**		**Pn**	**09 13 19.2**	**-1.2**
EFI	**East Falkland**	**11.33**	**315**	Pn	**Pn**	**09 13 44.4**	**+1.7**
USHA	**Ushuaia**	**13.62**	**284**	Pn	**Pn**	**09 14 17.6**	**+3.7**
1.3nm,0.3s,baz=130,slow=16,SNR=3.4							
GO10	**Punta Arenas**	**15.85**	**286**	P	**P**	**09 14 47.4**	**-0.3**
TRQA	**Tornquist**	**24.79**	**327**	P	**P**	**09 16 23.8**	**+1.1**
TRQA				IAmb	IAmb	09 16 24.4	
comp=Z,282nm,1.0s							
PLCA	**Paso Flores**	**25.18**	**310**	P	**P**	**09 16 26.2**	**-0.1**
comp=Z,69nm,1.0s,baz=166,slow=8.3,SNR=5.3							
PLCA	**Paso Flores**	**25.18**	**310**	P	**P**	**09 16 25.7**	**-0.6**
PLCA				IAmb	IAmb	09 16 31.8	
comp=Z,132nm,1.1s							
GO06	**Curarrehue**	**26.53**	**310**	P	**P**	**09 16 39.3**	**+0.7**
QSPA	**South Pole Qui**	**29.81**	**180**	P	**P**	**09 17 09.6**	**+1.9**
comp=Z,267nm,1.1s,baz=188,slow=7.1,SNR=3.0							
QSPA	**South Pole Qui**	**29.81**	**180**	P	**P**	**09 17 09.8**	**+2.0**
QSPA				IAmb	IAmb	09 17 15.8	
comp=Z,308nm,1.1s							
GO05	**Huala**	**30.74**	**314**	P	**P**	**09 17 16.3**	**+0.3**
PEL	**Peldehue**	**32.00**	**317**	P	**P**	**09 17 27.3**	**+0.2**
PEL				IAmb	IAmb	09 17 30.6	
comp=Z,208nm,1.1s							
CFA	**Coronel Fontan**	**32.62**	**322**	P	**P**	**09 17 32.4**	**-0.3**
comp=Z,30nm,0.7s,baz=179,slow=8.8,SNR=3.7							
CPUP	**Villa Florida**	**35.09**	**341**	P	**P**	**09 17 54.9**	**+0.8**
comp=Z,53nm,1.1s,baz=159,slow=8.6,SNR=3.0							
CPUP	**Villa Florida**	**35.09**	**341**	P	**P**	**09 17 55.6**	**+1.6**
SPB	**Sao Paulo**	**36.85**	**357**	P	**P**	**09 18 09.4**	**+0.4**
SPB				IAmb	IAmb	09 18 10.8	
comp=Z,108nm,1.0s							
GO03	**Copiap**	**36.98**	**321**	P	**P**	**09 18 10.3**	**0.0**
GO02	**Mina Guanaco**	**39.06**	**324**	P	**P**	**09 18 27.8**	**-0.4**
SBA	**Scott Base**	**40.58**	**190**	P	**P**	**09 18 42.0**	**+2.1**
PB10	**IPOC Station P**	**40.90**	**323**	P	**P**	**09 18 42.9**	**-0.2**
PB10				IAmb	IAmb	09 18 47.3	
comp=Z,223nm,1.2s							
PB04	**IPOC Station P**	**41.90**	**324**	P	**P**	**09 18 51.2**	**-0.2**
PB04				IAmb	IAmb	09 18 51.4	
comp=Z,275nm,1.1s							
PB01	**IPOC Station P**	**42.93**	**326**	P	**P**	**09 18 59.8**	**0.0**
MNMC	**Minye Minye**	**44.78**	**326**	P	**P**	**09 19 14.8**	**-0.1**
LPAZ	**La Paz**	**47.11**	**329**	P	**P**	**09 19 33.9**	**+0.2**
comp=Z,64nm,0.9s,baz=145,slow=6.6,SNR=6.1							
LPAZ	**La Paz**	**47.11**	**329**	P	**P**	**09 19 34.4**	**+0.8**
LPAZ				IAmb	IAmb	09 19 41.1	
comp=Z,87nm,0.9s							
SAML	**Samuel**	**53.11**	**338**	P	**P**	**09 20 17.7**	**-0.8**
SAML				IAmb	IAmb	09 20 22.4	
comp=Z,55nm,0.8s							
NNA	**Nana**	**53.68**	**320**	P	**P**	**09 20 22.9**	**+0.2**
BOSA	**Boshof**	**55.96**	**89**	P	**P**	**09 20 40.5**	**+1.2**
comp=Z,45nm,1.0s,baz=236,slow=7.1,SNR=4.4							
BOSA	**Boshof**	**55.96**	**89**	P	**P**	**09 20 41.0**	**+1.8**
LBTB	**Lobatse**	**59.12**	**87**	P	**P**	**09 21 01.4**	**-0.1**
TSUM	**Tsumeb**	**60.10**	**76**	P	**P**	**09 21 09.6**	**+1.2**
comp=Z,58nm,1.2s,baz=225,slow=7.1,SNR=2.3							
TSUM	**Tsumeb**	**60.10**	**76**	P	**P**	**09 21 09.8**	**+1.4**
OTAV	**Otavalo**	**65.73**	**323**	P	**P**	**09 21 46.2**	**+0.1**
OTAV				IAmb	IAmb	09 21 55.4	
comp=Z,54nm,0.8s							
LSZ	**Lusaka**	**68.63**	**83**	P	**P**	**09 22 05.2**	**+0.9**
comp=Z,78nm,1.1s,baz=200,slow=6.7,SNR=3.7							
LSZ	**Lusaka**	**68.63**	**83**	P	**P**	**09 22 05.8**	**+1.5**
LSZ				IAmb	IAmb	09 22 06.1	
comp=Z,90nm,1.1s							
PLCV	**Puerto La Cruz**	**72.04**	**340**	P	**P**	**09 22 24.2**	**-0.6**
PCRV	**Puerto La Cruz**	**72.06**	**340**	P	**P**	**09 22 24.2**	**-0.8**
comp=Z,22nm,0.8s,baz=194,slow=5.9,SNR=2.3							
RPZ	**Rata Peaks**	**72.07**	**207**	P	**P**	**09 22 24.6**	**-0.2**
comp=Z,17nm,1.0s,baz=254,slow=7.4,SNR=2.8							
BSWZ	**Blackbirch Sta**	**73.30**	**210**	P	**P**	**09 22 32.6**	**+0.4**
THZ	**Tophouse**	**73.49**	**209**	P	**P**	**09 22 33.4**	**+0.1**
DBIC	**Dimbokro**	**74.01**	**42**	P	**P**	**09 22 37.2**	**+0.7**
comp=Z,45nm,0.9s,baz=189,slow=7.3,SNR=5.7							
DBIC	**Dimbokro**	**74.01**	**42**	P	**P**	**09 22 37.5**	**+1.0**
DBIC				IAmb	IAmb	09 22 42.7	
comp=Z,103nm,1.1s							
BCIP	**Isla Barro Col**	**74.61**	**324**	P	**P**	**09 22 40.5**	**+0.5**
HDC	**Heredia**	**76.69**	**320**	P	**P**	**09 22 52.2**	**+0.1**
HDC				IAmb	IAmb	09 23 01.0	
comp=Z,70nm,0.9s							
TBI	**Tubuai**	**76.72**	**246**	*e*P	**P**	**09 22 51.8**	**-0.3**
comp=Z,514nm,1.4s							
JTS	**Las Juntas de**	**77.23**	**320**	P	**P**	**09 22 54.3**	**-0.7**
comp=Z,82nm,1.1s,baz=209,slow=13,SNR=4.1							
JTS	**Las Juntas de**	**77.23**	**320**	P	**P**	**09 22 54.8**	**-0.2**
JTS				IAmb	IAmb	09 22 58.6	
comp=Z,81nm,1.1s							
MLPR	**Magueyes Islan**	**80.10**	**339**	P	**P**	**09 23 10.2**	**-0.4**
MLPR				IAmb	IAmb	09 23 15.5	
comp=Z,80nm,1.1s							
TVO	**Taravao**	**81.45**	**249**	*e*P	**P**	**09 23 17.7**	**-0.5**
comp=Z,84nm,1.2s							
TIAR	**Tiarei**	**81.69**	**249**	*e*P	**P**	**09 23 18.8**	**-0.6**
comp=Z,46nm,1.2s							
PPT2	**Papeete2**	**81.77**	**249**	*e*P	**P**	**09 23 19.5**	**-0.4**
comp=Z,91nm,1.6s							
TOO	**Toolangi**	**81.95**	**189**	P	**P**	**09 23 19.5**	**-1.1**
TOA0	**Torodi Ar. Sit**	**82.30**	**46**	P	**P**	**09 23 23.1**	**+0.7**
TOA0				IAmb	IAmb	09 23 27.6	
comp=Z,95nm,1.1s							
TORD	**Torodi Ar. Bea**	**82.30**	**46**	P	**P**	**09 23 23.2**	**+0.8**
comp=Z,57nm,1.0s,baz=204,slow=4.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**82.30**	**46**	P	**P**	**09 23 23.4**	**+0.9**
VAH	**Vaihoa**	**82.90**	**252**	*e*P	**P**	**09 23 24.8**	**-0.9**
comp=Z,201nm,1.4s							
PMOR	**Pomariorio Ree**	**83.23**	**252**	*e*P	**P**	**09 23 26.7**	**-0.7**
comp=Z,200nm,1.3s							
APG	**El Apazote**	**83.46**	**316**	P	**P**	**09 23 27.5**	**-1.2**
comp=Z,51nm,1.1s,baz=188,slow=4.5,SNR=3.7							
CMIG	**Matias Romero**	**86.95**	**313**	P	**P**	**09 23 44.6**	**-1.3**
comp=Z,25nm,1.0s,baz=135,slow=4.2,SNR=3.8							
TEIG	**Tepich**	**87.61**	**320**	P	**P**	**09 23 47.6**	**-1.4**
comp=Z,114nm,1.1s,baz=141,slow=1.0,SNR=4.8							
TEIG	**Tepich**	**87.61**	**320**	P	**P**	**09 23 47.5**	**-1.4**
ASAR	**Alice Springs**	**96.21**	**179**	P	**P**	**09 24 27.7**	**-1.5**
comp=Z,17nm,0.9s,baz=168,slow=4.2,SNR=2.9							
ASAR				PKKPbc	**PKKPbc**	**09 41 12.5**	**0.0**
comp=Z,1.2nm,0.9s,baz=8.6,slow=2.2,SNR=4.7							
ASAR	**Alice Springs**	**96.21**	**179**	P	**P**	**09 24 27.8**	**-1.3**
PDAR	**Pinedale Array**	**115.44**	**313**	PKP	**PKPdf**	**09 29 40.4**	**-1.8**
comp=Z,1.8nm,0.7s,baz=140,slow=4.7,SNR=3.7							
PDAR	**Pinedale Array**	**115.44**	**313**		**PKPdf**	**09 29 39.8**	**-2.4**
GERES	**GERESS Array B**	**118.85**	**40**	PKP	**PKPdf**	**09 29 46.8**	**-1.6**
comp=Z,7.3nm,1.0s,baz=156,slow=0.3,SNR=4.3							
AKASG	**Malin Array Be**	**125.83**	**49**	PKP	**PKPdf**	**09 29 59.7**	**-1.8**
comp=Z,8.9nm,0.8s,baz=242,slow=1.7,SNR=6.4							
AKASG	**Malin Array Be**	**125.83**	**49**		**PKPdf**	**09 30 00.0**	**-1.5**
NOA	**NORSAR Array B**	**128.68**	**31**	PKP	**PKPdf**	**09 30 06.6**	**-0.1**
comp=Z,17nm,1.2s,baz=230,slow=1.7,SNR=4.1							
YKA	**Yellowknife Ar**	**133.48**	**323**	PKP	**PKPdf**	**09 30 14.9**	**-0.8**
comp=Z,3.8nm,0.5s,baz=142,slow=2.2,SNR=6.4							

ARCES ARCESS Array B 139.04 30 PKhKP PKPpre 09 30 15.0
comp=Z,10.0nm,0.9s,baz=220,slow=2.4,SNR=4.1
SPITS Spitsbergen Ar 143.22 18 PKP PKPbc 09 30 30.6 +0.3
comp=Z,57nm,1.1s,baz=197,slow=4.5,SNR=5.4
BVAR Borovoye Array 145.22 73 PKPbc **PKPbc 09 30 36.8 -0.3**
comp=Z,155nm,0.9s,baz=237,slow=4.2,SNR=8.8
PRP Porcupine Dome 145.74 313 PKPdf 09 30 37.8 -0.3
ILAR Eielson Array 145.86 312 PKPbc **PKPdf 09 30 37.2 -0.9**
comp=Z,112nm,1.1s,baz=152,slow=2.6,SNR=6.5
ILAR Eielson Array 145.86 312 PKPdf 09 30 37.8 -0.3
JCJ Chichijima 146.30 192 PKPbc **PKPdf 09 30 39.6 -0.5**
comp=Z,153nm,0.8s,baz=135,slow=5.7,SNR=5.2
MKAR Makanchi Array 146.95 90 PKPbc **PKPdf 09 30 41.4 +0.8**
comp=Z,43nm,0.6s,baz=241,slow=3.4,SNR=12
MKAR Makanchi Array 146.95 90 PKPbc 09 30 41.7 -0.9
AKUT Akutan 148.28 286 PKPdf 09 30 44.0 +1.6
JNU Nakatsue 152.56 173 PKPbc **PKPbc 09 30 56.0 -0.8**
comp=Z,42nm,1.1s,baz=187,slow=8.1,SNR=3.9
JNU Nakatsue 152.56 173 PKPbc 09 30 55.8 -1.1
SONM Songino Array 159.32 115 PKPab **PKPab 09 31 36.4 +0.3**
comp=Z,16nm,1.1s,baz=210,slow=3.6,SNR=4.3
SONM Songino Array 159.32 115 PKPab 09 31 34.5 -1.6

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*IDC **17** 09:12:14.8±1.4, 60°.64S×45°.48W, h0km, mb5.3/2, mb1 5.3/2, mb1mx4.6/37, mbtmp5.2/2, Error ellipse: s-maj=81.1km s-min=62.5km az=120.0*
*NEIC **17** 09:12:17.4±1.0, 60°.6S±0°.1×45°.4W±0°.2, h13km±1km, mb5.1/7*

ISC 17 09:12:16.5±0.7, **60°.5S**±0°.1×**45°.1W**±0°.1, **h10**km, **n26,**
σ0°**87**/25, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.77**	**41**		**Pn**	**09 14 07.8**	**-1.7**
EFI	**East Falkland**	**11.39**	**315**	Pn	**Pn**	**09 14 58.7**	**-0.4**
GO10	**Punta Arenas**	**15.90**	**286**	P	**P**	**09 16 03.2**	**-0.6**
PLCA	**Paso Flores**	**25.24**	**310**	P	**P**	**09 17 42.2**	**-0.2**
GO06	**Curarrehue**	**26.59**	**310**	P	**P**	**09 17 54.0**	**-0.7**
PEL	**Peldehue**	**32.06**	**317**	P	**P**	**09 18 43.5**	**+0.2**
QRZ	**Quartz Range**	**74.43**	**209**	P	**P**	**09 23 53.6**	**-0.8**
QRZ				IAmb	IAmb	09 23 56.7	
comp=Z,13nm,0.9s
OUZ	**Omahuta**	**79.48**	**211**	P	**P**	**09 24 23.1**	**+0.2**
OUZ				IAmb	IAmb	09 24 28.5	
comp=Z,31nm,1.1s
CBYP	**Canovanas**	**80.26**	**340**	P	**P**	**09 24 28.9**	**+1.8**
CBYP				IAmb	IAmb	09 24 36.2	
comp=Z,13nm,0.9s
TOA0	**Torodi Ar. Sit**	**82.32**	**46**	P	**P**	**09 24 39.8**	**+1.7**
TOA0				IAmb	IAmb	09 24 40.1	
comp=Z,26nm,1.0s
TORD	**Torodi Ar. Bea**	**82.32**	**46**	P	**P**	**09 24 38.6**	**+0.6**
comp=Z,13nm,0.8s,baz=213,slow=5.9,SNR=1.5
TORD	**Torodi Ar. Bea**	**82.32**	**46**	P	**P**	**09 24 39.7**	**+1.6**
ASAR	**Alice Springs**	**96.14**	**179**	P	**P**	**09 25 43.2**	**-1.2**
comp=Z,9.0nm,0.9s,baz=177,slow=4.8,SNR=1.7
INK	**Inuvik**	**143.27**	**322**	PKPpre	PKPab	09 31 45.2	+0.3
RC01	**Rabbit Creek A**	**145.09**	**305**		**PKPbc**	**09 31 52.1**	**+0.1**
PMR	**Palmer**	**145.12**	**306**		**PKPbc**	**09 31 52.0**	**-0.1**
GHO	**Glory Hole Cre**	**145.14**	**306**		**PKPbc**	**09 31 52.1**	**-0.1**
BVAR	**Borovoye Array**	**145.21**	**73**	PKPbc	**PKPdf**	**09 31 53.5**	**+0.6**
comp=Z,26nm,0.8s,baz=232,slow=4.7,SNR=1.8
ILAR	**Eielson Array**	**145.92**	**312**	PKPbc	**PKPdf**	**09 31 53.6**	**-0.1**
comp=Z,56nm,1.1s,baz=135,slow=2.3,SNR=5.6
ILAR	**Eielson Array**	**145.92**	**312**		**PKPdf**	**09 31 54.0**	**+0.2**
CCB	**Clear Creek Bu**	**146.20**	**311**	PKPdf	**PKPbc**	**09 31 55.5**	**+0.2**
MDM	**Murphy Dome**	**146.52**	**311**	PKPbc	**PKPab**	**09 31 57.5**	**+0.1**
MAKZ	**Makanchi**	**146.78**	**90**	PKPbc	**PKPbc**	**09 31 58.4**	**+0.8**
MKAR	**Makanchi Array**	**146.92**	**90**	PKPbc	**PKPbc**	**09 31 57.9**	**-0.2**
comp=Z,16nm,0.8s,baz=202,slow=2.1,SNR=2.7
MKAR	**Makanchi Array**	**146.92**	**90**		**PKPbc**	**09 31 58.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**147.14**	**309**	PKPdf	**PKPbc**	**09 31 57.9**	**-0.3**

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*IDC **17** 09:12:59.2±2.3, 60°.40S×46°.54W, h0km, mb5.1/1, mb1 5.1/1, mb1mx4.4/37, mbtmp5.1/1, MS7.1/1, Ms1 7.1/1, ms1mx5.9/28, Error ellipse: s-maj=137.9km s-min=83.2km az=4.0*
*ISCJB **17** 09:13:00.1±0.7, 60°.6S±0°.1×46°.2W±0°.3, h10km, MS7.1/1, Error ellipse: s-maj=21.9km s-min=16.8km az=166.5*
*NEIC **17** 09:13:01.2±1.8, 60°.64S±0°.10×46°.0W±0°.3, h10km±1km, mb5.3/8*

ISC 17 09:13:01.5±0.6, **60°.6S**±0°.1×**45°.9W**±0°.2, **h10**km, **n24,**
σ1°**33**/23, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**11.18**	**318**	Pn	**Pn**	**09 15 42.7**	**+1.4**
SBA	**Scott Base**	**40.37**	**190**	P	**P**	**09 20 41.0**	**+2.2**
SBA				IAmb	IAmb	09 20 59.0	
comp=Z,78nm,1.3s
ATAH	**Atahualpa**	**58.62**	**321**	LR	LR	09 47 11.5	
comp=Z,144μm,18.3s,baz=145,slow=35
LBTB	**Lobatse**	**59.49**	**87**	P	**P**	**09 23 06.5**	**+1.9**
MQZ	**McQueen's Vall**	**71.41**	**208**	P	**P**	**09 24 21.1**	**-0.3**
MQZ				IAmb	IAmb	09 24 31.9	
comp=Z,27nm,1.2s
LTZ	**Lake Taylor**	**72.37**	**209**	P	**P**	**09 24 26.8**	**-0.5**
LTZ				IAmb	IAmb	09 24 29.0	
comp=Z,29nm,0.9s
QRZ	**Quartz Range**	**74.16**	**209**	P	**P**	**09 24 36.0**	**-1.8**
QRZ				IAmb	IAmb	09 24 43.8	
comp=Z,24nm,1.1s
HIZ	**Hauiti**	**75.76**	**212**	P	**P**	**09 24 46.0**	**-1.1**
HIZ				IAmb	IAmb	09 24 51.8	
comp=Z,37nm,1.2s
OUZ	**Omahuta**	**79.20**	**212**	P	**P**	**09 25 05.4**	**-0.9**
TOO	**Toolangi**	**81.75**	**189**	P	**P**	**09 25 20.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**82.67**	**47**	P	**P**	**09 25 24.8**	**-0.2**
comp=Z,18nm,1.1s,baz=212,slow=6.2,SNR=1.9
TORD	**Torodi Ar. Bea**	**82.67**	**47**	P	**P**	**09 25 25.7**	**+0.7**
AKASG	**Malin Array Be**	**126.20**	**50**	PKPdf	**PKPdf**	**09 32 00.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**131.06**	**134**	PKPdf	**PKPdf**	**09 32 12.8**	**-0.4**
KNMB	**Chin-men Tao**	**142.31**	**156**	PKPdf	**PKPdf**	**09 32 34.2**	**+0.5**
BRVK	**Borovoye**	**145.58**	**73**	PKPdf	**PKPab**	**09 32 38.9**	**-0.3**
BVAR	**Borovoye Array**	**145.61**	**73**	PKPbc	**PKPbc**	**09 32 38.5**	**-0.4**
comp=Z,3.0nm,0.3s,baz=212,slow=4.1,SNR=6.5
IL31		**145.69**	**312**	PKPdf	**PKPdf**	**09 32 36.7**	**-1.7**
ILAR	**Eielson Array**	**145.69**	**312**	PKPbc	**PKPdf**	**09 32 36.2**	**-2.2**
comp=Z,16nm,0.9s,baz=140,slow=1.4,SNR=2.6
RND	**Reindeer**	**145.72**	**309**	PKPdf	**PKPdf**	**09 32 36.3**	**-2.3**
MAKZ	**Makanchi**	**147.17**	**91**	PKPbc	**PKPbc**	**09 32 43.3**	**-0.5**
MK31	**Makanchi Array**	**147.32**	**91**	PKPbc	**PKPbc**	**09 32 43.7**	**-0.5**
MKAR	**Makanchi Array**	**147.32**	**91**	PKPbc	**PKPbc**	**09 32 43.5**	**-0.7**
comp=Z,9.0nm,0.7s,baz=248,slow=3.7,SNR=5.9
MKAR	**Makanchi Array**	**147.32**	**91**		**PKPbc**	**09 32 43.8**	**-0.4**

GCG 17 09:16:19.6±3.1, **10°.60N**×**87°.67W**, **h33**km±999km, **MD5.0,**
Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VICT	**Victoria**	**3.48**	**344**	*eP*	Pn	09 17 10.4	-1.0
IXG	**Ixpaco**	**4.47**	**323**	*eP*	Pn	09 17 24.9	-0.3
NBG	**Las Nubes**	**4.75**	**327**	*eP*	Pn	09 17 30.1	+0.9
MRL	**Marmol**	**4.87**	**336**	*eP*	Pn	09 17 30.9	+0.1
MRL				*eS*	Sn	09 18 27.4	+1.2
ERG	**Entre ros, C**	**5.39**	**315**	*eP*	Pn	09 17 37.2	-0.6
STG3	**Santiaguito 3,**	**5.59**	**317**	*eP*	Pn	09 17 41.5	+0.9

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*ISCJB **17** 09:17:32.2±0.6, 60°.3S±0°.1×47°.1W±0°.2, h10km, mb4.7/6, Error ellipse: s-maj=17.9km s-min=13.0km az=155.6*
*IDC **17** 09:17:32.2±1.1, 60°.83S×47°.08W, h0km, mb4.7/6, mb1 4.6/7, mb1mx4.4/34, mbtmp4.7/7, ML3.8/1, Error ellipse: s-maj=35.1km s-min=24.4km az=24.0*
*NEIC **17** 09:17:34.0±2.8, 60°.2S±0°.1×47°.2W±0°.2, h10km±1km, mb5.1/8*

ISC 17 09:17:33.6±0.6, **60°.3S**±0°.1×**47°.3W**±0°.1, **h10**km, **n31,**
σ1°**60**/25, **mb4.9**/7, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.39**	**49**	Pn	**Pn**	**09 19 35.8**	**+0.7**
PMSA	**Palmer Station**	**8.94**	**233**	Pn	**Pn**	**09 19 41.1**	**-1.5**
1.1nm,0.3s,baz=68,slow=11,SNR=3.6
PMSA	**Palmer Station**	**8.94**	**233**		**Pn**	**09 19 45.2**	**+2.6**
PLCA	**Paso Flores**	**24.31**	**313**	P	**P**	**09 22 51.4**	**+0.1**
CPUP	**Villa Florida**	**34.65**	**344**	P	P	09 24 29.2	+6.3
BDFB	**Brasilia**	**44.59**	**359**	P	P	09 25 50.8	+4.9
13nm,0.9s,baz=191,slow=5.2,SNR=3.0
BDFB	**Brasilia**	**44.59**	**359**	P	P	09 25 50.8	+4.9
SIV	**San Ignacio**	**45.37**	**341**	P	P	09 25 56.9	+4.9
9.6nm,0.9s,baz=187,slow=8.7,SNR=4.0
SUR	**Sutherland**	**51.72**	**89**	P	**P**	**09 26 41.7**	**+0.7**
10nm,0.8s,baz=212,slow=7.9,SNR=6.2
SUR	**Sutherland**	**51.72**	**89**	P	**P**	**09 26 41.9**	**+0.9**
SUR				IAmb	IAmb	09 26 59.5	
comp=Z,24nm,1.1s
SAML	**Samuel**	**52.62**	**340**	P	**P**	**09 26 47.9**	**+0.4**
BOSA	**Boshof**	**57.00**	**91**	P	**P**	**09 27 19.0**	**-0.4**
comp=Z,8.4nm,1.0s,baz=203,slow=7.7,SNR=3.1
BOSA	**Boshof**	**57.00**	**91**	P	**P**	**09 27 18.8**	**-0.6**
BOSA				IAmb	IAmb	09 27 26.8	
comp=Z,20nm,1.1s
LBTB	**Lobatse**	**60.15**	**89**	P	**P**	**09 27 40.9**	**-0.5**
comp=Z,11nm,0.8s,baz=221,slow=8.5,SNR=6.6
LBTB	**Lobatse**	**60.15**	**89**	P	**P**	**09 27 40.7**	**-0.6**
LBTB				IAmb	IAmb	09 27 51.1	
comp=Z,21nm,1.0s
OTAV	**Otavalo**	**65.01**	**325**	P	**P**	**09 28 14.5**	**+0.3**
FOZ	**Fox Glacier**	**72.17**	**207**	P	**P**	**09 28 57.4**	**-0.7**
FOZ				IAmb	IAmb	09 28 57.4	
comp=Z,18nm,1.0s
NNZ	**Nelson**	**73.49**	**211**	P	**P**	**09 29 08.3**	**+2.3**
TORD	**Torodi Ar. Bea**	**82.97**	**48**	P	**P**	**09 29 59.4**	**+0.8**
comp=Z,4.4nm,0.8s,baz=215,slow=6.9,SNR=2.2
PDAR	**Pinedale Array**	**114.59**	**314**	Pdif	**Pdif**	**09 32 23.6**	**+0.3**
KWAJ	**Kwajalein Atol**	**122.38**	**222**	PKPdf	**PKPdf**	**09 36 26.3**	**-2.6**
ARCES	**ARCESS Array B**	**139.46**	**31**	PKhKP	**PKPdf**	**09 36 54.3**	**-5.1**
comp=Z,14nm,1.1s,baz=222,slow=1.6,SNR=5.0
ILAR	**Eielson Array**	**145.00**	**313**	PKPbc	PKPbc	09 37 08.0	-0.8
comp=Z,4.6nm,0.7s,baz=126,slow=1.5,SNR=6.8
ILAR	**Eielson Array**	**145.00**	**313**		PKPbc	09 37 07.8	-0.9
RND	**Reindeer**	**145.02**	**310**		**PKPbc**	**09 37 08.3**	**-0.7**
CCB	**Clear Creek Bu**	**145.27**	**312**	PKPbc	**PKPbc**	**09 37 08.6**	**-1.0**
WRH	**Wood River Hil**	**145.29**	**312**		**PKPbc**	**09 37 08.9**	**-0.8**
BVAR	**Borovoye Array**	**146.18**	**74**	PKPbc	**PKPdf**	**09 37 12.2**	**+0.5**
comp=Z,1.9nm,0.4s,baz=240,slow=2.8,SNR=4.1
MKAR	**Makanchi Array**	**148.00**	**92**	PKPbc	**PKPdf**	**09 37 16.4**	**+1.4**
comp=Z,3.1nm,0.8s,baz=234,slow=1.7,SNR=2.9
MKAR	**Makanchi Array**	**148.00**	**92**		**PKPdf**	**09 37 16.0**	**+1.0**
IMAR	**Indian Mountai**	**148.11**	**312**	PKPbc	**PKiKP**	**09 37 20.2**	**+0.6**

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*ISCJB **17** 09:19:03.0±0.8, 60°.5S±0°.1×44°.2W±0°.2, h10km, mb4.6/4, Error ellipse: s-maj=20.4km s-min=13.2km az=18.7*
*IDC **17** 09:19:02.5±1.8, 60°.58S×44°.36W, h0km, mb4.6/4, mb1 4.6/4, mb1mx4.2/31, mbtmp4.6/4, Error ellipse: s-maj=75.8km s-min=27.9km az=32.0*
*NEIC **17** 09:19:04.5±1.0, 60°.6S±0°.1×44°.3W±0°.2, h10km±1km, mb4.8/10*

ISC 17 09:19:04.2±0.8, **60°.6S**±0°.2×**44°.3W**±0°.1, **h10**km, **n28,**
σ0°**60**/28, **mb4.8**/9, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.60**	**37**	Pn	**Pn**	**09 20 54.8**	**-0.1**
TRQA	**Tornquist**	**25.17**	**326**	P	**P**	**09 24 29.4**	**-0.1**
LVC	**Limon Verde**	**41.67**	**325**	P	**P**	**09 26 53.7**	**+0.6**
GO01	**Chusmiza**	**44.54**	**326**	P	**P**	**09 27 16.4**	**0.0**
PB11	**IPOC Station P**	**44.58**	**325**	P	**P**	**09 27 15.9**	**-0.5**
PB11				IAmb	IAmb	09 27 31.4	
comp=Z,14nm,1.0s
MNMC	**Minye Minye**	**45.16**	**325**	P	**P**	**09 27 21.7**	**+0.5**
MNMC				IAmb	IAmb	09 27 30.0	
comp=Z,17nm,1.1s
SIV	**San Ignacio**	**46.17**	**337**	P	**P**	**09 27 27.7**	**-1.2**
comp=Z,4.8nm,0.7s,baz=197,slow=10,SNR=2.9
LPAZ	**La Paz**	**47.48**	**328**	P	**P**	**09 27 39.6**	**-0.1**
comp=Z,3.7nm,0.9s,baz=139,slow=9.3,SNR=2.4
LPAZ	**La Paz**	**47.48**	**328**	P	**P**	**09 27 40.1**	**+0.4**
SUR	**Sutherland**	**50.26**	**87**	P	**P**	**09 28 00.5**	**0.0**
comp=Z,6.0nm,0.7s,baz=202,slow=12,SNR=2.7
SUR	**Sutherland**	**50.26**	**87**	P	**P**	**09 28 00.8**	**+0.2**
LBTB	**Lobatse**	**58.69**	**86**	P	**P**	**09 29 01.7**	**-0.1**
TSUM	**Tsumeb**	**59.73**	**75**	P	**P**	**09 29 09.1**	**0.0**
TSUM				IAmb	IAmb	09 29 25.0	
comp=Z,17nm,1.5s
DBIC	**Dimbokro**	**73.85**	**41**	P	**P**	**09 30 39.9**	**+1.0**
DBIC				IAmb	IAmb	09 30 45.2	
comp=Z,12nm,1.1s
OUZ	**Omahuta**	**79.60**	**211**	P	**P**	**09 31 11.6**	**+0.4**
OUZ				IAmb	IAmb	09 31 13.1	
comp=Z,9.1nm,1.2s
TOA0	**Torodi Ar. Sit**	**82.11**	**45**	P	**P**	**09 31 24.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.11**	**45**	P	**P**	**09 31 25.4**	**+0.7**
comp=Z,19nm,1.0s,baz=203,slow=5.7,SNR=6.0
TORD	**Torodi Ar. Bea**	**82.11**	**45**	P	**P**	**09 31 25.2**	**+0.6**
OJC	**Ojcow**	**121.88**	**43**	PKPdf	**PKiKP**	**09 37 57.7**	**+0.3**
AKASG	**Malin Array Be**	**125.61**	**49**	PKP	**PKPdf**	**09 38 03.2**	**-1.2**
comp=Z,9.3nm,1.1s,baz=246,slow=2.2,SNR=4.5
AKASG	**Malin Array Be**	**125.61**	**49**		**PKPdf**	**09 38 03.8**	**-0.6**
FINES	**FINESS Array B**	**133.09**	**38**	PKP	**PKPdf**	**09 38 17.2**	**-1.1**
comp=Z,7.5nm,0.9s,baz=218,slow=3.0,SNR=3.2
PMR	**Palmer**	**145.51**	**305**	PKPdf	**PKPab**	**09 38 41.2**	**-0.1**
ILAR	**Eielson Array**	**146.30**	**311**	PKPbc	**PKPbc**	**09 38 43.3**	**-0.1**
comp=Z,5.5nm,0.8s,baz=144,slow=1.5,SNR=3.8
MKAR	**Makanchi Array**	**146.52**	**90**	PKPbc	**PKPbc**	**09 38 44.1**	**-0.5**
comp=Z,6.9nm,0.7s,baz=201,slow=0.9,SNR=4.4
MKAR	**Makanchi Array**	**146.52**	**90**		**PKPbc**	**09 38 44.9**	**+0.3**
KURBB	**Kurchatov Arra**	**147.24**	**82**	PKPbc	**PKPbc**	**09 38 45.5**	**-0.9**
comp=Z,6.4nm,0.9s,baz=238,slow=4.0,SNR=6.1
TOLK	**Toolik Lake Re**	**148.97**	**317**	PKPbc	**PKPbc**	**09 38 51.0**	**+0.4**

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*ISCJB **17** 09:19:52.3±1.8, 60°.6S±0°.2×44°.7W±0°.4, h10km, mb4.5/3, Error ellipse: s-maj=34.2km s-min=14.1km az=136.8*
*IDC **17** 09:19:53.6±1.4, 60°.41S×44°.82W, h0km, mb4.4/3, mb1 4.4/4, mb1mx4.1/30, mbtmp4.4/4, ML3.8/1, Error ellipse: s-maj=42.9km s-min=32.8km az=46.0*
*NEIC **17** 09:19:56.3±0.6, 60°.4S±0°.2×44°.9W±0°.3, h15km±5km, mb5.2/8*

ISC 17 09:19:55.0±1.0, **60°.5S**±0°.2×**44°.9W**±0°.2, **h10**km, **n27,**
σ0°**62**/27, **mb4.9**/7, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.67**	**40**	Pn	**Pn**	**09 21 47.0**	**+0.5**
PMSA	**Palmer Station**	**9.82**	**236**	Pn	**Pn**	**09 22 16.3**	**+0.3**
0.9nm,0.3s,baz=76,slow=14,SNR=2.6
PMSA	**Palmer Station**	**9.82**	**236**		**Pn**	**09 22 16.0**	**+0.1**
GO05	**Huala**	**30.89**	**313**	P	**P**	**09 26 10.4**	**-1.0**
PEL	**Peldehue**	**32.14**	**317**	P	**P**	**09 26 22.7**	**+0.3**
PEL				IAmb	IAmb	09 27 15.7	
comp=Z,47nm,1.6s
CFA	**Coronel Fontan**	**32.76**	**321**	P	**P**	**09 26 26.5**	**-1.3**
comp=Z,6.6nm,0.8s,baz=175,slow=11,SNR=2.7
GO04	**Tololo Observa**	**34.90**	**319**	P	**P**	**09 26 46.8**	**+0.1**
GO02	**Mina Guanaco**	**39.19**	**323**	P	**P**	**09 27 23.3**	**0.0**
PB10	**IPOC Station P**	**41.03**	**323**	P	**P**	**09 27 38.3**	**+0.1**
PB01	**IPOC Station P**	**43.05**	**325**	P	**P**	**09 27 55.2**	**+0.3**
PB01				IAmb	IAmb	09 29 18.1	
comp=Z,17nm,0.7s
GO01	**Chusmiza**	**44.28**	**326**	P	**P**	**09 28 05.3**	**+0.1**
GO01				IAmb	IAmb	09 29 42.7	
comp=Z,131nm,1.9s
MNMC	**Minye Minye**	**44.90**	**326**		**P**	**09 28 10.1**	**+0.2**
MNMC				IAmb	IAmb	09 28 10.8	
comp=Z,45nm,0.9s
SIV	**San Ignacio**	**45.95**	**338**	P	**P**	**09 28 17.8**	**-0.1**
comp=Z,5.4nm,1.0s,baz=159,slow=14,SNR=2.4
LPAZ	**La Paz**	**47.22**	**329**	P	**P**	**09 28 29.1**	**+0.5**
comp=Z,3.6nm,0.8s,baz=152,slow=7.6,SNR=3.3
LPAZ	**La Paz**	**47.22**	**329**	P	**P**	**09 28 28.8**	**+0.2**
OTAV	**Otavalo**	**65.86**	**323**	P	**P**	**09 30 41.5**	**+0.4**
KMRM	**Mail Ridge**	**119.04**	**301**	PKPdf	**PKPdf**	**09 38 43.0**	**-0.1**
BVAR	**Borovoye Array**	**145.07**	**73**	PKPbc	**PKPbc**	**09 38 29.6**	**-2.0**
comp=Z,1.2nm,0.4s,baz=222,slow=1.7,SNR=2.1
RC01	**Rabbit Creek A**	**145.19**	**305**		**PKPdf**	**09 39 31.4**	**+0.2**
GHO	**Glory Hole Cre**	**145.23**	**306**		**PKPbc**	**09 39 31.1**	**0.0**
ILAR	**Eielson Array**	**146.01**	**311**	PKPbc	**PKPbc**	**09 39 33.0**	**-0.2**
comp=Z,3.2nm,0.6s,baz=126,slow=2.8,SNR=5.6
RND	**Reindeer**	**146.06**	**309**	PKPdf	**PKPab**	**09 39 34.2**	**0.0**
CCB	**Clear Creek Bu**	**146.29**	**311**	PKPdf	**PKPbc**	**09 39 34.5**	**+0.4**
MDM	**Murphy Dome**	**146.60**	**311**	PKPbc	**PKPab**	**09 39 36.4**	**+0.2**
MKAR	**Makanchi Array**	**146.79**	**90**	PKPbc	**PKPbc**	**09 39 36.7**	**+0.5**
comp=Z,1.9nm,0.5s,baz=222,slow=2.7,SNR=3.2
MKAR	**Makanchi Array**	**146.79**	**90**		**PKPbc**	**09 39 36.9**	**+0.7**
TOLK	**Toolik Lake Re**	**148.69**	**317**	PKPbc	**PKiKP**	**09 39 41.8**	**-0.2**

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*IDC **17** 09:21:02.5±1.7, 60°.62S×43°.33W, h0km, mb4.6/5, mb1 4.7/5, mb1mx4.2/30, mbtmp4.6/5, Error ellipse: s-maj=62.5km s-min=26.9km az=33.0*
*ISCJB **17** 09:21:03.8±0.7, 60°.5S±0°.1×43°.3W±0°.2, h16km, mb4.6/5, Error ellipse: s-maj=18.4km s-min=11.4km az=23.1*
*NEIC **17** 09:21:04±1.7, 60°.6S±0°.1×43°.4W±0°.2, h10km±1km, mb4.6/8*

ISC 17 09:21:04.5±0.9, **60°.8S**±0°.2×**43°.4W**±0°.1, **h16**km, **n34,**
σ0°**58**/33, **mb4.5**/8, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.47**	**33**	Pn	**Pn**	**09 22 53.0**	**+0.4**
EFI	**East Falkland**	**12.18**	**312**	Pn	**Pn**	**09 23 57.5**	**+0.4**
TRQA	**Tornquist**	**25.54**	**324**	P	**P**	**09 26 32.2**	**0.0**
PLCA	**Paso Flores**	**26.06**	**308**	P	**P**	**09 26 36.2**	**-0.7**
CPUP	**Villa Florida**	**35.70**	**338**	P	**P**	**09 28 01.4**	**-0.5**
GO02	**Mina Guanaco**	**39.85**	**321**	P	**P**	**09 28 36.9**	**-0.5**
SBA	**Scott Base**	**40.42**	**189**	P	P	09 28 46.0	+4.9
GO01	**Chusmiza**	**44.91**	**324**	P	**P**	**09 29 18.0**	**-0.8**
GO01				IAmb	IAmb	09 29 20.1	
comp=Z,6.0nm,1.1s
PB11	**IPOC Station P**	**44.96**	**324**	P	**P**	**09 29 18.0**	**-0.7**
PB11				IAmb	IAmb	09 29 23.3	
comp=Z,3.8nm,0.6s
BDFB	**Brasilia**	**45.16**	**354**	P	**P**	**09 29 19.9**	**-0.5**
comp=Z,12nm,0.9s,baz=163,slow=7.7,SNR=3.9
BDFB	**Brasilia**	**45.16**	**354**	P	**P**	**09 29 20.0**	**-0.4**
MNMC	**Minye Minye**	**45.53**	**324**	P	**P**	**09 29 23.4**	**0.0**
SIV	**San Ignacio**	**46.48**	**336**	P	**P**	**09 29 29.9**	**-0.8**
comp=Z,3.4nm,0.8s,baz=180,slow=8.8,SNR=2.7
LPAZ	**La Paz**	**47.84**	**327**	P	**P**	**09 29 40.5**	**-1.4**
SAML	**Samuel**	**53.75**	**336**	P	**P**	**09 30 25.4**	**-0.3**
NNA	**Nana**	**54.49**	**319**	P	**P**	**09 30 32.4**	**+1.2**
BOSA	**Boshof**	**55.10**	**87**	P	**P**	**09 30 35.5**	**-0.1**
comp=Z,5.4nm,0.9s,baz=202,slow=7.8,SNR=3.1
BOSA	**Boshof**	**55.10**	**87**	P	**P**	**09 30 35.4**	**-0.3**
LBTB	**Lobatse**	**58.26**	**85**	P	**P**	**09 30 58.1**	**0.0**
comp=Z,7.0nm,0.6s,baz=206,slow=8.5,SNR=8.4
TSUM	**Tsumeb**	**59.34**	**74**	P	**P**	**09 31 05.5**	**-0.2**
OTAV	**Otavalo**	**66.51**	**321**	P	**P**	**09 31 54.9**	**+1.1**
OTAV				IAmb	IAmb	09 31 55.4	
comp=Z,2.4nm,0.7s
TORD	**Torodi Ar. Bea**	**81.90**	**44**	P	**P**	**09 33 23.6**	**+0.7**
comp=Z,6.9nm,1.0s,baz=203,slow=4.2,SNR=4.2
GTBY	**Guantanamo Bay**	**84.37**	**330**	P	**P**	**09 33 34.8**	**-0.7**
BURAR	**Bucovina Array**	**121.35**	**48**	PKPdf	**PKPdf**	**09 39 55.7**	**0.0**
YKA	**Yellowknife Ar**	**134.27**	**322**	PKP	**PKPdf**	**09 40 19.8**	**+0.1**
comp=Z,0.6nm,0.6s,baz=137,slow=1.5,SNR=4.0
INK	**Inuvik**	**144.00**	**321**	PKPdf	**PKPab**	**09 40 34.5**	**-0.2**
SCM	**Sheep Creek Mo**	**145.37**	**306**		**PKPab**	**09 40 40.9**	**+0.8**
MKAR	**Makanchi Array**	**146.08**	**89**		**PKPbc**	**09 40 42.4**	**-0.1**
comp=Z,2.5nm,0.7s,baz=242,slow=4.5,SNR=3.5
MKAR	**Makanchi Array**	**146.08**	**89**		**PKPbc**	**09 40 42.2**	**-0.4**
ILAR	**Eielson Array**	**146.73**	**311**	PKPbc	**PKPbc**	**09 40 43.7**	**-0.2**
comp=Z,3.4nm,0.9s,baz=144,slow=2.5,SNR=3.2
KURBB	**Kurchatov Arra**	**146.82**	**81**	PKPbc	**PKPbc**	**09 40 44.5**	**0.0**
comp=Z,2.7nm,0.3s,baz=225,slow=3.7,SNR=9.1
KURK	**Kurchatov**	**146.93**	**81**		**PKPbc**	**09 40 44.5**	**-0.3**
BMAR	**Burnt Mountain**	**147.17**	**316**	PKPbc	**PKPbc**	**09 40 45.5**	**+0.4**
IMAR	**Indian Mountai**	**149.84**	**310**	PKPbc	**PKiKP**	**09 40 53.0**	**+0.1**

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*IDC **17** 09:21:26.4±0.6, 60°.41S×46°.86W, h0km, mb4.8/12, mb1 4.8/13, mb1mx4.6/31, mbtmp4.8/13, ML4.5/1, Error ellipse: s-maj=21.7km s-min=16.6km az=49.0*
*ISCJB **17** 09:21:27.0±0.3, 60°.25S±0°.06×46°.9W±0°.1, h10km, mb4.9/14, Error ellipse: s-maj=10.1km s-min=9.0km az=18.7*
*NEIC **17** 09:21:28.2±2.6, 60°.21S±0°.09×46°.8W±0°.2, h10km±1km, mb5.1/22*

ISC 17 09:21:28.2±0.4, **60°.28S**±0°.08×**46°.83W**±0°.09, **h10**km, **n75,**
σ1°**30**/73, **mb5.0**/22, **

GERES **GERESS Array B 119.27 41** PKP **PKPdf** **09 40 15.3 -1.1**
comp=Z,1.2nm,0.6s,baz=197,slow=1.0,SNR=6.1
AKASG **Malin Array Be 126.35 50** PKP **PKPdf** **09 40 28.7 -1.1**
comp=Z,4.5nm,0.7s,baz=242,slow=1.8,SNR=9.7
NOA **NORSAR Array B 128.98 32** PKP **PKPdf** **09 40 33.6 -0.9**
comp=Z,0.5nm,0.8s,baz=218,slow=2.5,SNR=4.2
CMAR **Chiang Mai Arr 131.59 134** PKP **PKPdf** **09 40 40.7 -0.1**
comp=Z,2.9nm,0.6s,baz=217,slow=3.8,SNR=6.1
CMAR **Chiang Mai Arr 131.59 134** **PKPdf** **09 40 40.9 0.0**
YKA **Yellowknife Ar 132.88 324** PKP **PKPdf** **09 40 42.1 +0.3**
comp=Z,1.2nm,0.6s,baz=136,slow=2.4,SNR=5.6
FINES **FINESS Array B 133.63 39** PKP **PKPdf** **09 40 42.3 -1.0**
comp=Z,4.5nm,0.6s,baz=205,slow=2.9,SNR=9.2
ARCES **ARCESS Array B 139.33 31** PKhKP PKPpre 09 40 45.5
comp=Z,4.3nm,0.8s,baz=209,slow=2.2,SNR=4.2
ARCES **ARCESS Array B 139.33 31** **PKPdf** **09 40 52.9 -0.8**
AAK **Ala-Archa 140.92 90** PKP **PKPdf** **09 40 55.4 -2.2**
comp=Z,5.3nm,0.8s,baz=141,slow=6.2,SNR=4.2
AAK **Ala-Archa 140.92 90** **PKPdf** **09 40 55.5 -2.1**
HMT **Hamilton 141.65 307** **PKPdf** **09 40 58.7 +0.6**
ILAR **Eielson Array 145.15 312** PKPbc **PKPbc** **09 41 03.6 -0.2**
comp=Z,14nm,0.9s,baz=151,slow=2.4,SNR=9.2
ILAR **Eielson Array 145.15 312** **PKPab** **09 41 04.2 +0.3**
RND **Reindeer 145.18 310** **PKPab** **09 41 04.3 +0.2**
BVAR **Borovoye Array 145.96 74** PKPbc **PKPbc** **09 41 06.6 -0.1**
comp=Z,31nm,0.7s,baz=226,slow=3.5,SNR=48
MKAR **Makanchi Array 147.78 91** PKPbc **PKPbc** **09 41 11.3 -0.8**
comp=Z,13nm,0.6s,baz=240,slow=3.5,SNR=19
KURBB **Kurchatov Arra 148.43 83** PKPbc **PKPbc** **09 41 13.0 -0.6**
comp=Z,7.0nm,0.7s,baz=234,slow=3.8,SNR=5.7
KURK **Kurchatov 148.54 83** **PKPbc** **09 41 13.7 -0.2**
ZALV **Zalesovo Beam 153.52 82** PKPbc **PKPbc** **09 41 24.1 -1.3**
comp=Z,4.2nm,0.7s,baz=237,slow=4.1,SNR=5.8
ZALV **Zalesovo Beam 153.52 82** **PKPbc** **09 41 24.4 -1.1**
KSRS **Korea Array 156.91 169** PKPab **PKPab** **09 41 52.2 -0.6**
comp=Z,2.2nm,0.7s,baz=196,slow=5.1,SNR=6.0
SONM **Songino Array 160.12 117** PKPab **PKPab** **09 42 06.7 -0.1**
comp=Z,2.8nm,0.9s,baz=221,slow=4.8,SNR=5.1
SONM **Songino Array 160.12 117** **PKPab** **09 42 06.5 -0.3**
USRK **Ussuriysk Ar. 163.88 177** PKPab **PKPab** **09 42 22.3 -0.8**
comp=Z,2.6nm,0.8s,baz=133,slow=6.3,SNR=4.5
USRK **Ussuriysk Ar. 163.88 177** **PKPab** **09 42 23.3 +0.2**
TIXI **Tiksi 168.45 7** PKPab **PKPab** **09 42 42.4 -0.2**
comp=Z,1.2nm,0.4s,baz=6.0,slow=9.3,SNR=5.8

*ISCJB **17** 09:23:48.3±0.7, 6°.62S±0°.04×129°.9E±0°.1, h146km, Error ellipse: s-maj=16.0km s-min=5.7km az=9.1*
*NEIC **17** 09:23:49.5±2.5, 6°.61S±0°.06×129°.90E±0°.09, h134km±10km, mb4.4/4*
*IDC **17** 09:23:49.5±2.6, 6°.59S×130°.01E, h151km±30km, mb3.8/2, mb1 3.6/6, mb1mx3.4/50, mbtmp4.1/6, Error ellipse: s-maj=52.6km s-min=17.8km az=82.0*
ISC 17 09:23:49.3±0.8, 6°.59S±0°.05×129°.9E±0°.1, h146km, n19, σ2°.68/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.94	136	Pn	Pn		09 24 19.1	-4.4
FAKI	Fak Fak	4.31	32	Pn	Pn		09 24 54.5	+1.0
FAKI				Sn	Sn		09 25 43.4	-0.2
SIJI	Sorong	5.83	13	P	Pn		09 25 14.4	+0.6
SIJI	1.6nm,0.3s,baz=179,slow=21,SNR=17			S	Sn		09 26 14.2	-5.7
MTN	Manton Dam	6.33	169	Pn	Pn		09 25 22.1	+1.7
MTN	3.6nm,0.3s,baz=239,slow=19,SNR=9.5				Sn		09 26 29.9	-1.9
KNRA	Kununurra	9.11	187	Pn	Pn		09 25 57.3	-0.2
FITZ	Fitzroy Crossi	12.19	200	P	Pn		09 26 38.1	-0.1
FITZ	0.2nm,0.3s,baz=29,slow=10,SNR=8.3			S	Sn		09 28 43.5	-9.3
WRAB	Tennant Creek	13.94	163	P	P		09 27 05.1	+0.9
WRA	Warramunga Arr	13.95	163	P	Pn		09 26 58.7	-2.2
WRA	0.2nm,0.3s,baz=349,slow=12,SNR=3.8			S	Sn		09 29 25.1	-10
WRA	Warramunga Arr	13.95	163	P	P		09 27 06.6	+2.3
COEN	Coen	14.94	120	P	P		09 27 16.4	+1.1
AS31	Alice Springs	17.41	168	P	Pn		09 27 44.1	+0.7
ASAR	Alice Springs	17.41	168	P	Pn		09 27 43.5	+0.1
ASAR	0.3nm,0.3s,baz=343,slow=10.0,SNR=6.7			S	S		09 30 49.3	-7.1
PSA00	Pilbara Seismi	17.81	212	P	P		09 27 47.5	+0.6
PSA00				IAmb	IAmb		09 27 48.1	
STKA	Stephens Creek	27.42	158	P	P		09 29 21.2	-0.1
STKA	Stephens Creek	27.42	158	P	P		09 29 21.4	+0.1
DCZ	Deep Cove	50.38	146	P	P		09 32 35.9	+4.3
DCZ				IAmb	IAmb		09 32 52.3	
MQZ	McQueen's Vall	52.57	142	P	P		09 32 49.0	+1.2
MKAR	Makanchi Array	67.84	327	P	P		09 34 31.6	-0.2
MKAR	Makanchi Array	67.84	327	P	P		09 34 32.4	+0.6

*IDC **17** 09:25:34.2±2.9, 6°.62S×42°.76W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.2/29, mbtmp4.3/7, ML3.9/1, Error ellipse: s-maj=64.1km s-min=39.9km az=107.0*
*ISCJB **17** 09:25:35.7±1.7, 6°.6S±0°.2×43°.0W±0°.3, h18km, mb4.2/6, Error ellipse: s-maj=29.2km s-min=13.7km az=136.9*
*NEIC **17** 09:25:36.9±1.1, 6°.6S±0°.1×43°.0W±0°.3, h15km±5km, mb4.6/4*
ISC 17 09:25:37.2±1.1, 60°.7S±0°.1×42°.9W±0°.1, h18km, n50, σ0°.70/47, mb4.3/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.25	31	Pn	Pn		09 27 23.0	+0.9
PMSA	Palmer Station	10.54	238	Pn	Pn		09 28 08.2	+1.1
	0.9nm,0.3s,baz=84,slow=9.0,SNR=4.2							
PMSA	Palmer Station	10.54	238		Pn		09 28 08.3	+1.2
EFI	East Falkland	12.32	310	Pn	Pn		09 28 32.0	+0.5
TRQA	Tornquist	25.62	323	P	P		09 31 06.5	+1.1
PLCA	Paso Flores	26.21	307	P	P		09 31 09.6	-1.2
	6.8nm,0.8s,baz=164,slow=10,SNR=5.2							
PLCA	Paso Flores	26.21	307	P	P		09 31 09.9	-0.9
GO06	Curarrehue	27.56	307	P	P		09 31 21.6	-1.3
GO05	Huala	31.73	311	P	P		09 31 59.4	-0.5
ROC1	El Roble	33.22	314	P	P		09 32 12.8	-0.4
CFA	Coronel Fontan	33.52	319	P	P		09 32 15.0	-0.6
	1.7nm,0.4s,baz=164,slow=7.4,SNR=6.9							
GO04	Tololo Observa	35.70	316	P	P		09 32 33.9	-0.7
CPUP	Villa Florida	35.71	337	P	P		09 32 34.8	+0.3
	3.1nm,0.8s,baz=143,slow=5.7,SNR=4.3							
CPUP	Villa Florida	35.71	337	P	P		09 32 34.4	0.0
GO03	Copiap	37.88	318	P	P		09 32 52.4	-0.6
GO02	Mina Guanaco	39.94	321	P	P		09 33 10.2	-0.3
LVC	Limon Verde	42.13	323	P	P		09 33 28.7	0.0
	6.4nm,0.8s,baz=144,slow=3.4,SNR=4.6							
LVC	Limon Verde	42.13	323	P	P		09 33 28.9	+0.3
PB01	IPOC Station P	43.77	323	P	P		09 33 41.9	+0.3
GO01	Chusmiza	44.99	324	P	P		09 33 52.2	+0.4
PB11	IPOC Station P	45.03	323	P	P		09 33 51.8	0.0
PB11				IAmb	IAmb		09 33 58.3	
	comp=Z,6.1nm,0.9s							
MNMC	Minye Minye	45.61	323	P	P		09 33 56.4	-0.2
SIV	San Ignacio	46.50	336	P	P		09 34 02.9	-0.4
	comp=Z,2.0nm,0.7s,baz=185,slow=11,SNR=3.7							
LPAZ	La Paz	47.90	326	P	P		09 34 14.4	-0.4
	comp=Z,1.3nm,0.6s,baz=142,slow=6.9,SNR=5.9							
LPAZ	La Paz	47.90	326	P	P		09 34 14.6	-0.2
SAML	Samuel	53.78	335	P	P		09 34 58.5	+0.1
OTAV	Otavalo	66.61	321	P	P		09 36 27.4	+0.6
OTAV				IAmb	IAmb		09 36 28.8	
	comp=Z,2.8nm,0.6s							
BCAR	Beaver Creek A	144.05	310	PKPdf	PKPbc		09 45 07.9	-0.3
EPYK	Eagle Plains	144.07	317	PKPdf	PKPbc		09 45 07.6	-0.5
INK	Inuvik	144.09	321	PKP	PKPbc		09 45 07.1	-0.9
	baz=105,slow=2.5							
EGAK	Eagle	144.76	313	PKPdf	PKPab		09 45 09.4	-0.8
SCM	Sheep Creek Mo	145.53	306	PKPdf	PKPab		09 45 13.1	0.0
RIDG	Independent Ri	145.57	310	PKPdf	PKPab		09 45 12.4	-0.9
RC01	Rabbit Creek A	146.10	304	PKPdf	PKPab		09 45 15.3	+0.1
GHO	Glory Hole Cre	146.13	305	PKPdf	PKPab		09 45 15.0	-0.5
IL31		146.87	310	PKPbc	PKPab		09 45 16.6	-1.4
ILAR	Eielson Array	146.87	310	PKPbc	PKPbc		09 45 16.3	-0.4
	comp=Z,3.1nm,0.7s,baz=142,slow=2.3,SNR=9.9							
ILAR	Eielson Array	146.87	310		PKPbc		09 45 16.5	-0.2
RND	Reindeer	146.95	308	PKPbc	PKPab		09 45 17.5	-1.1
MCK	McKinley	147.14	308	PKPbc	PKPbc		09 45 17.6	+0.1
WRH	Wood River Hil	147.18	310	PKPbc	PKPab		09 45 17.8	-1.5
CHGN	Chignik	147.24	292	PKPbc	PKiKP		09 45 19.4	-0.8
BMAR	Burnt Mountain	147.29	316	PKPbc	PKPbc		09 45 17.9	0.0
TRF	Thorofare Moun	147.53	307	PKPbc	PKPbc		09 45 18.7	-0.1
BWN	Browne	147.56	309	PKPbc	PKPbc		09 45 18.6	0.0
PPLA	Purkeypile	148.02	305	PKPbc	PKPbc		09 45 19.9	-0.2
BPAW	Bear Paw Mtn.	148.11	308	PKPbc	PKPbc		09 45 19.9	-0.2
TOLK	Toolik Lake Re	149.50	316	PKPbc	PKiKP		09 45 23.6	-1.0
IMAR	Indian Mountai	149.98	310	PKPbc	PKiKP		09 45 24.9	-0.7
YAK	Yakutsk	176.16	66	PKPab	PKPab		09 47 25.5	+0.7

*ISCJB **17** 09:26:02.5±0.5, 60°.63S±0°.07×42°.5W±0°.1, h10km, mb4.5/6, Error ellipse: s-maj=11.1km s-min=9.9km az=138.0*
*IDC **17** 09:26:02.5±1.0, 60°.68S×42°.59W, h0km, mb4.5/6, mb1 4.6/7, mb1mx4.3/29, mbtmp4.5/7, ML4.0/1, Error ellipse: s-maj=39.4km s-min=19.5km az=19.0*
*NEIC **17** 09:26:05.0±2.2, 60°.64S±0°.10×42°.5W±0°.2, h15km±3km, mb4.6/9*
ISC 17 09:26:04.3±0.5, 60°.66S±0°.09×42°.40W±0°.09, h10km, n56, σ0°.91/56, mb4.5/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.14	29	Pn	Pn		09 27 47.5	-1.1
PMSA	Palmer Station	10.73	238	Pn	Pn		09 28 37.3	-0.4
	1.1nm,0.3s,baz=63,slow=10,SNR=4.2							
PMSA	Palmer Station	10.73	238		Pn		09 28 38.0	+0.3
EFI	East Falkland	12.51	309	Pn	Pn		09 29 04.3	+2.2
TRQA	Tornquist	25.77	323	P	P		09 31 36.3	+1.3
PLCA	Paso Flores	26.40	306	P	P		09 31 39.7	-1.1
	6.4nm,0.7s,baz=178,slow=6.5,SNR=6.8							
PLCA	Paso Flores	26.40	306	P	P		09 31 39.8	-0.9
GO06	Curarrehue	27.75	306	P	P		09 31 51.3	-1.7
GO05	Huala	31.92	310	P	P		09 32 27.7	-2.1
ROC1	El Roble	33.40	313	P	P		09 32 41.8	-1.2
CFA	Coronel Fontan	33.69	318	P	P		09 32 43.8	-1.5
	3.3nm,0.4s,baz=172,slow=7.1,SNR=7.0							
CPUP	Villa Florida	35.81	337	P	P		09 33 03.7	+0.1
	2.7nm,0.7s,baz=172,slow=8.1,SNR=4.6							
GO04	Tololo Observa	35.87	315	P	P		09 33 02.7	-1.6
GO04				IAmb	IAmb		09 33 05.9	
	comp=Z,3.8nm,0.3s							
GO03	Copiap	38.05	318	P	P		09 33 21.7	-1.0
GO02	Mina Guanaco	40.09	320	P	P		09 33 39.7	-0.5
GO02				IAmb	IAmb		09 33 42.1	
	comp=Z,4.0nm,0.5s							
SBA	Scott Base	40.58	189	P	P		09 33 44.5	+1.3
PB04	IPOC Station P	42.92	321	P	P		09 34 02.8	-0.3
PB01	IPOC Station P	43.92	322	P	P		09 34 10.8	-0.3
MNMC	Minye Minye	45.76	323	P	P		09 34 26.6	+0.6
MNMC				IAmb	IAmb		09 34 26.7	
	comp=Z,16nm,1.0s							
SUR	Sutherland	49.33	85	P	P		09 34 54.7	+1.1
	comp=Z,3.7nm,0.7s,baz=197,slow=8.8,SNR=4.1							
SUR	Sutherland	49.33	85	P	P		09 34 54.8	+1.2
SAML	Samuel	53.89	334	P	P		09 35 27.3	-0.2
LBTB	Lobatse	57.77	84	P	P		09 35 55.5	0.0
	comp=Z,7.0nm,0.6s,baz=214,slow=7.9,SNR=12							
LBTB	Lobatse	57.77	84	P	P		09 35 55.7	+0.2
TSUM	Tsumeb	58.84	73	P	P		09 36 03.4	+0.4
TSUM				IAmb	IAmb		09 36 07.6	
	comp=Z,2.8nm,0.8s							
OTAV	Otavalo	66.76	320	P	P		09 36 57.0	+0.8
BKZ	Black Stump Fm	75.55	210	P	P		09 37 48.4	-0.3
TAU	Tasmania Unive	76.48	187	P	P		09 37 53.6	-0.2
OUZ	Omahuta	80.01	209	P	P		09 38 12.6	-1.0
TORD	Torodi Ar. Bea	81.50	43	P	P		09 38 22.7	+1.1
	comp=Z,5.3nm,0.8s,baz=196,slow=6.9,SNR=6.0							
TORD	Torodi Ar. Bea	81.50	43	P	P		09 38 22.9	+1.3
ABKAR	Akbulak array	136.59	69	PKPdf	PKPdf		09 45 25.9	+0.6
AAK	Ala-Archa	138.74	86	PKPdf	PKiKP		09 45 32.0	+0.1
BCAR	Beaver Creek A	144.24	310	PKPdf	PKPab		09 45 36.3	-0.4
EPYK	Eagle Plains	144.24	317	PKPdf	PKPab		09 45 36.1	-0.5
INK	Inuvik	144.25	320	PKPdf	PKPab		09 45 36.2	-0.3
MK31	Makanchi Array	145.58	88	PKPdf	PKPdf		09 45 40.6	-1.0
MKAR	Makanchi Array	145.58	88	PKPbc	PKPdf		09 45 41.5	-0.2
	comp=Z,4.7nm,0.5s,baz=225,slow=2.0,SNR=11							
RIDG	Independent Ri	145.76	309	PKPdf	PKPab		09 45 41.7	-0.6
RC01	Rabbit Creek A	146.30	303	PKPdf	PKPbc		09 45 43.0	-0.5
PMR	Palmer	146.32	304	PKPdf	PKPab		09 45 43.6	-0.8
GHO	Glory Hole Cre	146.33	305	PKPdf	PKPbc		09 45 43.2	-0.5
KURK	Kurchatov	146.43	80	PKPdf	PKPbc		09 45 44.0	-0.3
IL31		147.05	310		PKPbc		09 45 45.3	-0.3
ILAR	Eielson Array	147.05	310	PKPbc	PKPbc		09 45 45.0	-0.6
	comp=Z,2.2nm,0.5s,baz=136,slow=2.1,SNR=9.5							
RND	Reindeer	147.14	307	PKPbc	PKPbc		09 45 45.7	-0.3
WRH	Wood River Hil	147.36	309	PKPbc	PKPbc		09 45 46.1	-0.4
BMAR	Burnt Mountain	147.46	315	PKPbc	PKPbc		09 45 46.8	+0.1
TRF	Thorofare Moun	147.72	307	PKPbc	PKPbc		09 45 47.6	-0.1
BWN	Browne	147.75	308	PKPbc	PKPbc		09 45 47.0	-0.5
PPLA	Purkeypile	148.22	305	PKPbc	PKPbc		09 45 48.6	-0.4
IMAR	Indian Mountai	150.17	310		PKPbc		09 45 53.5	-0.1
ZAA0	Zalesovo Array	151.41	80	PKPbc	PKPbc		09 45 55.8	-1.1
ZALV	Zalesovo Beam	151.41	80	PKPbc	PKPbc		09 45 55.5	-1.4
	comp=Z,1.6nm,0.4s,baz=238,slow=2.9,SNR=4.4							
ZALV	Zalesovo Beam	151.41	80		PKPbc		09 45 55.6	-1.2
SONM	Songino Array	157.96	112	PKPab	PKPab		09 46 33.2	-0.4
	comp=Z,0.2nm,0.4s,baz=238,slow=4.5,SNR=3.8							

*IDC **17** 09:28:40.5±0.8, 60°.70S×43°.02W, h0km, mb4.3/7, mb1 4.3/8, mb1mx4.1/28, mbtmp4.2/8, ML3.6/1, Error ellipse: s-maj=31.5km s-min=22.0km az=41.0*
*ISCJB **17** 09:28:41.7±0.8, 60°.7S±0°.1×43°.0W±0°.2, h18km, mb4.2/7, Error ellipse: s-maj=16.1km s-min=12.7km az=145.5*
*NEIC **17** 09:28:43.6±1.6, 60°.7S±0°.1×43°.1W±0°.2, h15km±4km, mb4.8/3*
ISC 17 09:28:43.2±0.6, 60°.7S±0°.1×43°.0W±0°.1, h18km, n53, σ0°.86/53, mb4.3/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.34	31	Pn	Pn		09 30 30.4	+1.1
PMSA	Palmer Station	10.45	238	Pn	Pn		09 31 13.2	+1.3
	0.5nm,0.3s,baz=79,slow=5.2,SNR=4.6							
PMSA	Palmer Station	10.45	238		Pn		09 31 13.5	+1.7
PLCA	Paso Flores	26.20	307	P	P		09 34 15.8	-0.8
GO06	Curarrehue	27.54	307	P	P		09 34 28.9	+0.1
GO04	Tololo Observa	35.70	316	P	P		09 35 41.0	+0.5
GO02	Mina Guanaco	39.95	321	P	P		09 36 16.9	+0.4
LVC	Limon Verde	42.14	323	P	P		09 36 34.3	-0.3
	1.7nm,0.5s,baz=202,slow=19,SNR=3.8							
PB01	IPOC Station P	43.79	323	P	P		09 36 48.3	+0.6
PB01				IAmb	IAmb		09 36 48.6	
	comp=Z,13nm,0.7s							
GO01	Chusmiza	45.00	324	P	P		09 36 58.2	+0.3
BDFB	Brasília	45.16	353	P	P		09 36 58.5	-0.2
	comp=Z,2.9nm,0.7s,baz=113,slow=1.9,SNR=3.2							
BDFB	Brasília	45.16	353	P	P		09 36 58.8	+0.1
SIV	San Ignacio	46.53	336	P	P		09 37 09.4	0.0
	comp=Z,2.1nm,0.8s,baz=220,slow=7.9,SNR=3.1							
LPAZ	La Paz	47.92	327	P	P		09 37 21.1	+0.1
	comp=Z,1.6nm,0.7s,baz=151,slow=7.0,SNR=4.2							
LPAZ	La Paz	47.92	327	P	P		09 37 20.6	-0.3
SAML	Samuel	53.81	335	P	P		09 38 04.7	+0.2
LBTB	Lobatse	58.06	84	P	P		09 38 35.8	+0.7
	comp=Z,2.5nm,0.8s,baz=204,slow=10.0,SNR=2.8							
LBTB	Lobatse	58.06	84	P	P		09 38 35.5	+0.4
OTAV	Otavalo	66.61	321	P	P		09 39 33.4	+0.6
OTAV				IAmb	IAmb		09 39 35.3	
	comp=Z,10nm,1.5s							
MLPR	Magueyes Islan	80.77	337	P	P		09 40 54.8	-0.4
MLPR				IAmb	IAmb		09 41 02.4	
	comp=Z,10nm,0.8s							
TORD	Torodi Ar. Bea	81.74	44	P	P		09 41 01.9	+1.5
	comp=Z,6.3nm,1.2s,baz=202,slow=5.5,SNR=3.7							
ASAR	Alice Springs	95.89	177	P	P		09 42 08.3	-0.3
	comp=Z,0.9nm,1.0s,baz=178,slow=3.4,SNR=2.7							
ASAR	Alice Springs	95.89	177	P	P		09 42 07.7	-0.9
GERES	GERESS Array B 118.39		39	PKP	PKiKP		09 47 28.0	-0.4
	comp=Z,0.4nm,0.7s,baz=188,slow=2.9,SNR=2.6							
AKASG	Malin Array Be	125.21	48	PKP	PKPdf		09 47 40.0	-1.2
	comp=Z,0.2nm,0.3s,baz=242,slow=1.6,SNR=3.5							
BCAR	Beaver Creek A	144.04	310	PKPdf	PKPdf		09 48 14.8	-1.1
EPYK	Eagle Plains	144.07	317	PKPdf	PKPdf		09 48 14.9	-1.0
INK	Inuvik	144.10	321	PKP	PKPdf		09 48 14.4	-1.4
	comp=Z,1.4nm,0.5s,baz=74,slow=2.1,SNR=5.4							
INK	Inuvik	144.10	321		PKPdf		09 48 14.6	-1.2
BRVK	Borovoye	144.25	72	PKPdf	PKiKP		09 48 18.7	-1.4
DOT	Dot Lake	145.22	310		PKPdf		09 48 17.6	-0.3
SCM	Sheep Creek Mo	145.51	306		PKPab		09 48 20.0	+0.9
RIDG	Independent Ri	145.57	310	PKPdf	PKPab		09 48 19.4	+0.2
MK31	Makanchi Array	145.88	89		PKPab		09 48 20.7	-0.1
MKAR	Makanchi Array	145.88	89	PKPbc	PKPbc		09 48 19.7	-0.6
	comp=Z,2.7nm,0.8s,baz=246,slow=2.4,SNR=6.0							
MKAR	Makanchi Array	145.88	89		PKPab		09 48 20.6	-0.3
PMR	Palmer	146.11	305	PKPdf	PKPab		09 48 21.5	+0.4
GHO	Glory Hole Cre	146.12	305	PKPdf	PKPab		09 48 21.4	+0.1
IL31		146.86	310		PKPab		09 48 23.1	-0.9
ILAR	Eielson Array	146.86	310	PKPbc	PKPab		09 48 22.9	-1.2
	comp=Z,5.3nm,1.0s,baz=156,slow=2.0,SNR=7.4							
ILAR	Eielson Array	146.86	310		PKPab		09 48 23.1	-0.9
RND	Reindeer	146.94	307		PKPab		09 48 23.9	-0.6
FYU	Fort Yukon	147.12	314	PKPbc	PKPab		09 48 24.3	-0.6
CCB	Clear Creek Bu	147.14	310	PKPbc	PKPab		09 48 24.6	-0.5
WRH	Wood River Hil	147.17	309	PKPbc	PKiKP		09 48 25.0	-0.8
BMAR	Burnt Mountain	147.29	316	PKPbc	PKPab		09 48 24.3	-1.4
BWN	Browne	147.55	308	PKPbc	PKiKP		09 48 25.6	-1.0
NEA	Nenana	147.59	309	PKPbc	PKiKP		09 48 25.2	-1.5
PPLA	Purkeypile	148.00	305	PKPbc	PKiKP		09 48 27.5	-0.2
MLY	Manley	148.43	309	PKPbc	PKiKP		09 48 27.4	-1.0
IMAR	Indian Mountai	149.97	310	PKPbc	PKiKP		09 48 31.3	-0.3
SONM	Songino Array	158.22	112	PKPab	PKPab		09 49 13.0	+0.8
	comp=Z,0.8nm,0.6s,baz=204,slow=3.3,SNR=4.4							
SONM	Songino Array	158.22	112		PKPab		09 49 14.0	+1.8

*IDC **17** 09:29:01.7±0.9, 60°.73S×44°.15W, h0km, mb4.5/9, mb1 4.5/9, mb1mx4.3/27, mbtmp4.4/9, Error ellipse: s-maj=39.7km s-min=18.5km az=31.0*
*ISCJB **17** 09:29:02.5±0.5, 60°.5S±0°.1×43°.9W±0°.2, h10km, mb4.4/9, Error ellipse: s-maj=17.0km s-min=10.5km az=41.2*
*NEIC **17** 09:29:05.2±1.9, 60°.40S±0°.04×43°.7W±0°.2, h14km±3km, mb4.7/12*
ISC 17 09:29:04.1±0.5, 60°.5S±0°.1×43°.8W±0°.1, h10km, n59, σ1°.09/57, mb4.5/15, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.34	36	Pn	Pn		09 30 49.4	-1.8
EFI	East Falkland	11.87	312	Pn	Pn		09 31 51.9	-1.3
GO10	Punta Arenas	16.54	284	P	P		09 32 59.9	+1.4
GO10				IAmb	IAmb		09 33 16.0	
	comp=Z,18nm,0.7s							
PLCA	Paso Flores	25.75	308	P	P		09 34 35.8	+1.0
	comp=Z,3.8nm,0.6s,baz=143,slow=5.7,SNR=4.4							
PLCA	Paso Flores	25.75	308	P	P		09 34 35.3	+0.6
GO05	Huala	31.29	312	P	P		09 35 24.2	+0.1
CFA	Coronel Fontan	33.10	320	P	P		09 35 39.4	-0.6
	comp=Z,2.6nm,0.5s,baz=146,slow=3.6,SNR=22							
GO03	Copiap	37.46	319	P	P		09 36 17.4	-0.2
GO03				IAmb	IAmb		09 36 19.3	
	comp=Z,14nm,0.8s							
GO02	Mina Guanaco	39.52	322	P	P		09 36 35.2	0.0
SBA	Scott Base	40.66	190	P	P		09 36 44.5	+0.7
PB01	IPOC Station P	43.37	324	P	P		09 37 06.8	+0.2
PB01				IAmb	IAmb		09 37 08.4	
	comp=Z,16nm,0.6s							
GO01	Chusmiza	44.59	325	P	P		09 37 16.7	-0.1
PB11	IPOC Station P	44.63	324	P	P		09 37 15.9	-0.8
BDFB	Brasília	44.87	354	P	P		09 37 19.7	+1.0
	comp=Z,4.0nm,0.6s,baz=169,slow=12,SNR=4.2							
BDFB	Brasília	44.87	354	P	P		09 37 19.5	+0.8
SIV	San Ignacio	46.16	337	P	P		09 37 27.9	-0.9
	comp=Z,2.8nm,0.5s,baz=174,slow=8.5,SNR=8.8							
SUR	Sutherland	49.99	86	P	P		09 37 59.1	+0.7
	comp=Z,5.8nm,0.8s,baz=202,slow=11,SNR=5.1

GO01	Chusmiza	44.62	326	P	P	09 38 14.7	-0.9
GO01				IAmb	IAmb	09 38 16.3	
comp=Z,36nm,1.1s							
BDFB	Brasilia	45.12	355	P	P	09 38 18.1	-1.0
comp=Z,7.1nm,0.8s,baz=187,slow=13,SNR=3.2							
MNMC	Minye Minye	45.25	326	P	P	09 38 20.2	-0.1
SIV	San Ignacio	46.28	338	P	P	09 38 27.0	-1.2
comp=Z,4.3nm,0.8s,baz=184,slow=10,SNR=2.6							
SUR	Sutherland	50.34	87	P	P	09 38 59.6	0.0
comp=Z,12nm,0.8s,baz=177,slow=8.4,SNR=4.0							
SUR	Sutherland	50.34	87	P	P	09 39 00.3	+0.7
SUR				IAmb	IAmb	09 39 14.3	
comp=Z,19nm,1.2s							
SAML	Samuel	53.55	337	P	P	09 39 23.5	+0.1
BOSA	Boshof	55.61	88	P	P	09 39 38.0	-0.5
comp=Z,6.9nm,0.9s,baz=189,slow=9.9,SNR=2.6							
BOSA	Boshof	55.61	88	P	P	09 39 38.4	0.0
LBTB	Lobatse	58.77	86	P	P	09 40 00.3	-0.5
comp=Z,4.6nm,0.7s,baz=227,slow=9.7,SNR=3.0							
LBTB	Lobatse	58.77	86	P	P	09 40 00.8	-0.1
OTAV	Otavalo	66.20	322	P	P	09 40 52.0	+1.1
DBIC	Dimbokro	74.01	41	P	P	09 41 38.1	-0.2
comp=Z,3.9nm,0.7s,baz=157,slow=6.9,SNR=4.0							
DBIC	Dimbokro	74.01	41	P	P	09 41 38.4	+0.2
DBIC				IAmb	IAmb	09 41 41.5	
comp=Z,5.8nm,0.9s							
JTS	Las Juntas de	77.71	319	P	P	09 42 01.1	+1.7
JTS				IAmb	IAmb	09 42 15.9	
comp=Z,22nm,1.1s							
MLPR	Magueyes Islan	80.53	338	P	P	09 42 13.2	-1.5
TOA0	Torodi Ar. Sit	82.26	45	P	P	09 42 23.5	-0.5
TOA0				IAmb	IAmb	09 42 25.4	
comp=Z,6.3nm,0.8s							
TORD	Torodi Ar. Bea	82.26	45	P	P	09 42 23.7	-0.2
comp=Z,6.6nm,0.8s,baz=207,slow=6.3,SNR=4.8							
TORD	Torodi Ar. Bea	82.26	45	P	P	09 42 24.0	+0.1
AKASG	Malin Array Be	125.77	49	PKP	PKPdf	09 49 02.4	-0.7
comp=Z,1.0nm,0.6s,baz=246,slow=1.9,SNR=4.3							
AKASG	Malin Array Be	125.77	49		PKPdf	09 49 02.6	-0.5
OHAK	Old Harbor	144.81	297	PKPdf	PKPdf	09 49 38.2	+0.1
KDAK	Kodiak Island	144.83	298	PKPdf	PKiKP	09 49 40.5	-1.5
PMR	Palmer	145.55	305	PKPdf	PKiKP	09 49 42.3	-1.0
GHO	Glory Hole Cre	145.56	306	PKPdf	PKPab	09 49 40.7	+0.7
IL31	Chicago	146.35	311	PKPbc	PKPab	09 49 42.8	+0.1
ILAR	Eielson Array	146.35	311	PKPbc	PKPbc	09 49 42.1	+0.2
comp=Z,6.5nm,0.8s,baz=147,slow=2.5,SNR=4.2							
ILAR	Eielson Array	146.35	311		PKPab	09 49 42.4	-0.4
RND	Reindeer	146.40	308	PKPbc	PKPab	09 49 43.2	0.0
MAKZ	Makanchi	146.45	90	PKPbc	PKPab	09 49 44.5	+0.7
MK31	Makanchi Array	146.59	90	PKPbc	PKPbc	09 49 43.3	+0.1
MKAR	Makanchi Array	146.59	90	PKPbc	PKPbc	09 49 43.0	-0.2
comp=Z,4.1nm,0.7s,baz=235,slow=1.7,SNR=4.0							
MKAR	Makanchi Array	146.59	90		PKPbc	09 49 43.2	-0.1
TRF	Thorofare Moun	146.98	308	PKPbc	PKPab	09 49 45.1	-0.4
IMAR	Indian Mountai	149.46	311	PKPbc	PKiKP	09 49 51.3	0.0
MJAR	Matsushiro Arr	155.71	185	PKP	PKPdf	09 49 56.5	+0.6
comp=Z,0.8nm,0.5s,baz=139,slow=1.1,SNR=8.4							
MJAR	Matsushiro Arr	155.71	185		PKPdf	09 49 56.4	+0.5
MAJO	Matsushiro	155.71	185	PKPdf	PKPdf	09 49 56.1	+0.2
MJB9	Matsu-Tunnel	155.72	185	PKPdf	PKPdf	09 49 56.1	+0.2
TIXI	Tiksi	168.74	11		PKPab	09 51 18.4	+0.1

*ISCJB **17** 09:33:07.3±0.6, 60°.51S±0°.09×46°.5W±0°.2, h10km, mb4.3/4, Error ellipse: s-maj=13.9km s-min=9.6km az=30.1*
*IDC **17** 09:33:07.7±1.0, 60°.44S×46°.37W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.1/28, mbtmp4.4/5, ML4.1/1, Error ellipse: s-maj=35.7km s-min=31.4km az=37.0*
*NEIC **17** 09:33:09.0±2.0, 60°.4S±0°.1×46°.4W±0°.2, h10km±1km, mb4.7/5*
ISC 17 09:33:09.1±0.6, **60°.5S**±0°.1×**46°.43W**±0°.09, **h10km, n56,** σ1**9**05/48, **mb4.6/7, 2C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.20	45	Pn	Pn	09 35 07.0	-0.9
PMSA	Palmer Station	9.18	234	Pn	Pn	09 35 21.5	+0.3
1.9nm,0.3s,baz=66,slow=9.4,SNR=4.2							
EFI	East Falkland	10.94	319		Pn	09 35 46.1	+0.8
SNAA	Sanae	20.35	141	P	P	09 37 44.9	-0.3
TRQA	Tornquist	24.50	329	P	P	09 38 28.7	+0.5
PLCA	Paso Flores	24.74	312	P	P	09 38 32.3	+1.8
8.5nm,0.8s,baz=184,slow=6.3,SNR=4.3							
PLCA	Paso Flores	24.74	312	P	P	09 38 32.0	+1.5
GO06	Curarrehue	26.08	312		P	09 38 44.3	+1.6
GO05	Huala	30.33	316	P	P	09 39 19.1	-1.4
ROC1	El Roble	31.87	319	P	P	09 39 34.6	+0.2
GO04	Tololo Observa	34.39	321	P	P	09 39 56.5	+0.1
PB04	IPOC Station P	41.57	326	P	P	09 40 57.8	+0.9
PB01	IPOC Station P	42.62	327	P	P	09 41 04.7	-0.7
GO01	Chusmiza	43.85	328	P	P	09 41 16.1	+0.3
BDFB	Brasilia	44.78	358	P	P	09 41 22.4	-0.5
3.3nm,0.8s,baz=81,slow=2.7,SNR=3.5							
SIV	San Ignacio	45.67	340	P	P	09 41 28.5	-1.3
3.7nm,0.8s,baz=175,slow=4.3,SNR=4.0							
SUR	Sutherland	51.31	89	P	P	09 42 16.1	+2.8
SUR				IAmb	IAmb	09 42 19.1	
comp=Z,13nm,1.0s							
SAML	Samuel	52.92	339	P	P	09 42 24.2	-1.1
NNA	Nana	53.33	322	P	P	09 42 28.4	+0.2
NNA				IAmb	IAmb	09 42 35.2	
comp=Z,9.8nm,1.0s							
BOSA	Boshof	56.59	90	P	P	09 42 53.3	+1.5
LBTB	Lobatse	59.74	88	P	P	09 43 14.1	+0.1
OTAV	Otavalo	65.39	324	P	P	09 43 51.6	-0.6
OTAV				IAmb	IAmb	09 43 55.4	
comp=Z,3.5nm,0.8s							
YOTC	Yotoco, Valle	68.38	328	eP	P	09 44 16.1	+5.3
YOTC	Yotoco, Valle	68.38	328	eP	P	09 44 16.1	+5.3
CMAN1	Manizales, Cal	69.21	329	eP	P	09 44 23.2	+7.1
CMAN1	Manizales, Cal	69.21	329	eP	P	09 44 23.2	+7.1
GUY2C	Guyana, Caldas	69.32	329	eP	P	09 44 17.0	0.0
GUY2C	Guyana, Caldas	69.32	329	eP	P	09 44 17.0	0.0
ELOV	Elorza	69.68	336	eP	P	09 44 20.6	+1.9
ELOV	Elorza	69.68	336	eP	P	09 44 20.6	+1.9
BARC	Barichara	70.10	332	eP	P	09 44 12.5	-9.0
BARC	Barichara	70.10	332	eP	P	09 44 12.5	-9.0
PAMC	Pamplona, Colo	70.71	332	eP	P	09 44 19.7	-5.9
PAMC	Pamplona, Colo	70.71	332	eP	P	09 44 19.7	-5.9
DBIC	Dimbokro	74.46	43	P	P	09 44 48.1	+0.8
TORD	Torodi Ar. Bea	82.78	47	P	P	09 45 34.1	+1.1
comp=Z,4.8nm,0.9s,baz=198,slow=7.7,SNR=4.0							
GERES	GERESS Array B	119.29	41	PKPdf	PKPdf	09 51 56.6	-0.8
AKASG	Malin Array Be	126.33	50	PKP	PKPdf	09 52 09.0	-1.6
comp=Z,0.2nm,0.3s,baz=240,slow=2.9,SNR=2.3							
CMAR	Chiang Mai Arr	131.32	134	PKP	PKiKP	09 52 21.5	-0.7
comp=Z,0.5nm,0.4s,baz=229,slow=2.4,SNR=4.4							
CMAR	Chiang Mai Arr	131.32	134		PKPdf	09 52 21.2	0.0
ABKAR	Akbulak array	138.40	71	PKPdf	PKPdf	09 52 34.1	+0.6
IL31	Chicago	145.43	312		PKPdf	09 52 44.2	-1.3
ILAR	Eielson Array	145.43	312	PKPbc	PKPdf	09 52 44.5	-1.0
comp=Z,3.7nm,0.9s,baz=152,slow=2.0,SNR=5.3							
ILAR	Eielson Array	145.43	312		PKPdf	09 52 44.2	-1.4
RND	Reindeer	145.46	309		PKPdf	09 52 45.0	-0.7
CCB	Clear Creek Bu	145.70	311		PKPdf	09 52 44.5	-1.4
WRH	Wood River Hil	145.72	311		PKPdf	09 52 45.5	-0.5
BMAR	Burnt Mountain	145.94	317		PKPbc	09 52 46.6	-0.6
BPAW	Bear Paw Mtn.	146.63	309	PKPbc	PKPbc	09 52 48.3	-1.0
MLY	Manley	146.98	311	PKPbc	PKPbc	09 52 49.5	-0.8
MK31	Makanchi Array	147.57	91		PKPbc	09 52 51.8	-0.7
MKAR	Makanchi Array	147.57	91	PKPbc	PKPbc	09 52 52.2	-0.3
comp=Z,3.0nm,0.7s,baz=240,slow=2.2,SNR=5.5							
MKAR	Makanchi Array	147.57	91		PKPbc	09 52 52.3	-0.2
KURBB	Kurchatov Arra	148.26	83	PKPbc	PKPbc	09 52 54.1	0.0
comp=Z,2.7nm,0.8s,baz=235,slow=3.6,SNR=4.3							
KURK	Kurchatov	148.37	83		PKPbc	09 52 54.4	+0.1
IMAR	Indian Mountai	148.53	312		PKPbc	09 52 53.4	-1.0

*IDC **17** 09:33:28.7±0.6, 60°.60S×45°.52W, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.6/26, mbtmp4.7/14, Error ellipse: s-maj=26.7km s-min=15.4km az=40.0*
*ISCJB **17** 09:33:29.0±0.4, 60°.54S±0°.06×45°.4W±0°.1, h10km, mb4.8/16, Error ellipse: s-maj=10.4km s-min=8.0km az=136.8*
*NEIC **17** 09:33:32.1±1.4, 60°.48S±0°.10×45°.2W±0°.2, h19km±3km, mb5.2/18*
ISC 17 09:33:30.4±0.4, **60°.53S**±0°.08×**45°.21W**±0°.08, **h10km, n114,** σ0**9**78/108, **mb4.9**/25, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.83	41	Pn	Pn	09 35 22.3	-1.9
PMSA	Palmer Station	9.64	236	Pn	Pn	09 35 50.1	+1.2
2.9nm,0.3s,baz=58,slow=12,SNR=6.5							
PMSA	Palmer Station	9.64	236		Pn	09 35 49.6	+0.6
EFI	East Falkland	11.39	315	Pn	Pn	09 36 13.7	+0.8
GO10	Punta Arenas	15.86	286	P	P	09 37 17.9	+0.6
TRQA	Tornquist	24.86	327	P	P	09 38 54.1	+1.3
TRQA				IAmb	IAmb	09 38 55.1	
comp=Z,55nm,0.7s							
PLCA	Paso Flores	25.23	310	P	P	09 38 56.2	0.0
comp=Z,11nm,0.6s,baz=178,slow=9.0,SNR=11							
PLCA	Paso Flores	25.23	310	P	P	09 38 56.0	-0.3
GO06	Curarrehue	26.57	310	P	P	09 39 07.0	-1.4
GO05	Huala	30.80	314	P	P	09 39 44.9	-1.1
ROC1	El Roble	32.32	317	P	P	09 40 01.0	+1.3
CFA	Coronel Fontan	32.69	322	P	P	09 40 01.1	-1.6
comp=Z,5.2nm,0.6s,baz=167,slow=8.2,SNR=7.0							
GO04	Tololo Observa	34.82	319	P	P	09 40 22.0	+0.6
GO04				IAmb	IAmb	09 40 36.6	
comp=Z,16nm,0.6s							
GO03	Copiap	37.04	321	P	P	09 40 40.0	-0.3
GO03				IAmb	IAmb	09 40 40.9	
comp=Z,27nm,0.8s							
GO02	Mina Guanaco	39.13	324	P	P	09 40 58.5	+0.3
PB10	IPOC Station P	40.97	323	P	P	09 41 12.5	-0.6
PB10				IAmb	IAmb	09 41 13.7	
comp=Z,52nm,1.0s							
LVC	Limon Verde	41.35	326	P	P	09 41 16.5	-0.1
comp=Z,7.3nm,0.6s,baz=171,slow=5.2,SNR=7.0							
LVC	Limon Verde	41.35	326	P	P	09 41 16.7	0.0
PB04	IPOC Station P	41.96	324	P	P	09 41 21.1	-0.3
PB04				IAmb	IAmb	09 41 22.2	
comp=Z,40nm,0.8s							
GO01	Chusmiza	44.23	327	P	P	09 41 40.6	+0.5
PB11	IPOC Station P	44.26	326	P	P	09 41 40.2	+0.1
PB11				IAmb	IAmb	09 41 48.7	
comp=Z,35nm,1.0s							
MNMC	Minye Minye	44.85	326	P	P	09 41 45.7	+0.8
BDFB	Brasilia	44.87	356	P	P	09 41 44.3	-0.5
comp=Z,16nm,1.2s,baz=83,slow=2.6,SNR=4.6							
BDFB	Brasilia	44.87	356	P	P	09 41 44.7	-0.1
SIV	San Ignacio	45.93	339	P	P	09 41 52.3	-1.0
comp=Z,4.5nm,0.5s,baz=185,slow=9.5,SNR=8.7							
LPAZ	La Paz	47.18	329	P	P	09 42 04.6	+1.0
comp=Z,9.7nm,0.7s,baz=219,slow=7.6,SNR=12							
SUR	Sutherland	50.71	87	P	P	09 42 32.4	+2.3
comp=Z,8.1nm,0.7s,baz=202,slow=8.3,SNR=6.4							
SUR	Sutherland	50.71	87	P	P	09 42 32.5	+2.3
SAML	Samuel	53.20	338	P	P	09 42 48.0	-0.6
SAML				IAmb	IAmb	09 43 04.7	
comp=Z,12nm,0.8s							
BOSA	Boshof	55.98	89	P	P	09 43 09.8	+0.9
comp=Z,2.4nm,0.5s,baz=202,slow=6.6,SNR=9.6							
BOSA	Boshof	55.98	89	P	P	09 43 09.8	+0.9
LBTB	Lobatse	59.14	87	P	P	09 43 31.8	+0.7
comp=Z,6.1nm,0.8s,baz=210,slow=11,SNR=6.1							
TSUM	Tsumeb	60.14	76	P	P	09 43 39.5	+1.4
OTAV	Otavalo	65.79	323	eP	P	09 44 17.0	+0.9
OTAV	Otavalo	65.79	323	eP	P	09 44 17.0	+0.9
OTAV	Otavalo	65.79	323	P	P	09 44 17.1	+1.1
OTAV				IAmb	IAmb	09 44 32.4	
comp=Z,26nm,1.1s							
CRUC	La Cruz	66.62	325	eP	P	09 44 28.6	+7.3
CRUC	La Cruz	66.62	325	eP	P	09 44 28.6	+7.3
SOTA	Rioblanco	67.07	326	eP	P	09 44 25.0	+0.8
SOTA	Rioblanco	67.07	326	eP	P	09 44 25.0	+0.8
PCON	Cinco Dias	67.19	326	eP	P	09 44 25.9	+0.8
PCON	Cinco Dias	67.19	326	eP	P	09 44 25.9	+0.8
BETC	Betania	67.27	327	eP	P	09 44 25.0	0.0
BETC	Betania	67.27	327	eP	P	09 44 25.0	0.0
ROSC	El Rosal	69.04	329	eP	P	09 44 26.8	-10
ROSC	El Rosal	69.04	329	eP	P	09 44 26.8	-10
WHZ	Wether Hill Ro	70.56	204	P	P	09 44 45.3	+0.2
LIC	Lamto	73.62	42	ePKP2	P	09 45 04.6	+0.9
comp=Z,56nm,1.0s							
KIC	Kosan Boka	73.84	42	ePKP2	P	09 45 05.9	+0.9
comp=Z,491nm,2.5s							
TIC	Toumodi	74.02	42	ePKP2	P	09 45 05.4	-0.7
DBIC	Dimbokro	74.09	42	P	P	09 45 07.3	+0.8
comp=Z,9.5nm,0.9s,baz=184,slow=6.9,SNR=5.2							
DBIC	Dimbokro	74.09	42	P	P	09 45 06.2	-0.2
QRZ	Quartz Range	74.38	209	P	P	09 45 06.6	-1.3
QRZ				IAmb	IAmb	09 45 09.0	
comp=Z,37nm,1.4s							
OUZ	Omahuta	79.43	211	P	P	09 45 36.6	+0.1
OUZ				IAmb	IAmb	09 45 37.4	
comp=Z,31nm,1.2s							
TOO	Toolangi	81.86	189	P	P	09 45 50.1	+0.6
TOA0	Torodi Ar. Sit	82.38	46	P	P	09 45 53.6	+1.3
TORD	Torodi Ar. Bea	82.38	46	P	P	09 45 53.4	+1.1
comp=Z,4.4nm,0.8s,baz=200,slow=7.4,SNR=4.6							
STKA	Stephens Creek	87.76	186	P	P	09 46 18.8	-0.5
comp=Z,2.8nm,0.8s,baz=105,slow=4.1,SNR=4.4							
STKA	Stephens Creek	87.76	186	P	P	09 46 18.2	-1.1
ASAR	Alice Springs	96.11	179	P	P	09 46 57.4	-0.8
comp=Z,3.1nm,0.9s,baz=168,slow=4.5,SNR=11							
ASAR				PP	PP	09 50 49.5	-0.4
comp=Z,1.1nm,0.8s,baz=181,slow=8.9,SNR=6.3							
ASAR	Alice Springs	96.11	179	P	P	09 46 56.5	-1.6
WRA	Warramunga Arr	99.82	180	P	Pdif	09 47 14.7	-0.1
comp=Z,2.0nm,1.0s,baz=177,slow=4.3,SNR=6.2							
PDAR	Pinedale Array	115.49	313	PKP	PKPdf	09 52 10.4	-1.3
comp=Z,0.3nm,0.5s,baz=134,slow=5.7,SNR=4.4							
PDAR	Pinedale Array	115.49	313		PKPdf	09 52 10.6	-1.2
GERES	GERESS Array B	118.94	40	PKP	PKPdf	09 52 17.9	-0.1
comp=Z,0.4nm,0.6s,baz=220,slow=4.3,SNR=4.1							
GERES	GERESS Array B	118.94	40		PKiKP	09 52 18.1	+0.1
PLID	Pearl Lake	119.88	310	PKPdf	PKPdf	09 52 19.8	-0.4
BMO	Blue Mountains	120.18	308	PKPdf	PKiKP	09 52 20.9	+0.3
IVI	Ivigtut	121.43	358	PKPdf	PKiKP	09 52 22.4	+0.1
LTY	Liberty	123.49	308	PKPdf	PKPdf	09 52 26.6	-0.2
LON	Longmire	123.52	307	PKPdf	PKPdf	09 52 26.6	-0.2
B08A	Colville Reser	123.87	309	PKPdf	PKiKP	09 52 27.6	-0.1
AKASG	Malin Array Be	125.90	49	PKP	PKPdf	09 52 29.9	-1.2
comp=Z,0.3nm,0.3s,baz=242,slow=2.1,SNR=4.8							
AKASG	Malin Array Be	125.90	49		PKPdf	09 52 30.8	-0.3
CMAR	Chiang Mai Arr	130.85	133	PKP	PKPdf	09 52 41.6	-0.1
comp=Z,1.2nm,0.6s,baz=227,slow=3.1,SNR=5.0							
CMAR	Chiang Mai Arr	130.85	133		PKPdf	09 52 41.0	-0.6
FINES	FINESS Array B	133.32	39	PKP	PKiKP	09 52 46.4	+0.3
comp=Z,3.0nm,0.7s,baz=151,slow=4.4,SNR=3.5							
YKA	Yellowknife Ar	133.55	323	PKP	PKPdf	09 52 44.5	-0.8
comp=Z,0.4nm,0.4s,baz=135,slow=2.5,SNR=3.9							
WHY	Whitehorse	139.03	311		PKPdf	09 52 54.5	-1.2
ARCES	ARCESS Array B	139.13	30	PKhKP	PKPpre	09 52 45.7	
comp=Z,11nm,1.1s,baz=213,slow=2.8,SNR=7.0							
BCPM	Bancas Point	140.38	308	PKPdf	PKPdf	09 52 57.6	-0.4
ARU	Arti	142.01	61	PKP	PKPdf	09 53 01.4	+0.4
comp=Z,1.6nm,0.3s,baz=156,slow=5.8,SNR=5.7							
EPYK	Eagle Plains	143.19	318	PKPdf	PKPbc	09 53 00.5	+0.5
INK	Inuvik	143.27	322	PKhKP	PKPab	09 52 59.1	+0.3
comp=Z,1.9nm,0.6s,baz=124,slow=1.8,SNR=4.4							
INK				PKP	PKPdf	09 53 02.6	-0.3
comp=Z,2.2nm,0.6s,baz=137,slow=4.9,SNR=9.6							
INK				PKKPab		10 00 55.9	
comp=Z,5.5nm,1.1s,baz=34,slow=1.2,SNR=3.6							
INK	Inuvik	143.27	322		PKPab	09 52 58.9	0.0
DOT	Dot Lake	144.27	311	PKPdf	PKPdf	09 53 04.8	-0.1
RC01	Rabbit Creek A	145.08	305		PKPbc	09 53 05.8	-0.1
GHO	Glory Hole Cre	145.12	306		PKPab	09 53 06.2	0.0
BRVK	Borovoye	145.23	73		PKPdf	09 53 07.1	+0.3
IL31		145.91	312		PKPdf	09 53 08.0	+0.4
ILAR	Eielson Array	145.91	312	PKPbc	PKPdf	09 53 08.0	+0.3
comp=Z,7.0nm,0.7s,baz=143,slow=1.9,SNR=9.3							
ILAR	Eielson Array	145.91	312		PKPbc	09 53 08.2	-0.2
RND	Reindeer	145.96	309	PKPdf	PKPab	09 53 09.4	+0.2
MCK	McKinley	146.16	309	PKPdf	PKPab	09 53 09.9	-0.1
CCB	Clear Creek Bu	146.19	311		PKPab	09 53 09.7	-0.3
WRH	Wood River Hil	146.21	311	PKPdf	PKPab	09 53 10.0	-0.1
BMAR	Burnt Mountain	146.39	317	PKPdf	PKPab	09 53 10.6	-0.2
TRF	Thorofare Moun	146.54	308	PKPbc	PKPab	09 53 12.2	+0.6
BWN	Browne	146.58	310	PKPbc	PKPab	09 53 11.3	-0.2
MAKZ	Makanchi	146.82	90		PKPab	09 53 11.8	+0.1
MK31	Makanchi Array	146.97	90		PKPbc	09 53 11.9	-0.2
MKAR	Makanchi Array	146.97	90	PKPbc	PKPbc	09 53 11.8	-0.3
comp=Z,6.6nm,0.6s,baz=236,slow=2.7,SNR=11							
MKAR	Makanchi Array	146.97	90		PKPbc	09 53 11.9	-0.2
BPAW	Bear Paw Mtn.	147.13	309	PKPbc	PKPbc	09 53 12.1	+0.1
MLY	Manley	147.48	310	PKPbc	PKiKP	09 53 14.7	-0.4
KURBB	Kurchatov Arra	147.67	82	PKPbc	PKPbc	09 53 13.6	-0.3
comp=Z,3.5nm,0.7s,baz=234,slow=3.2,SNR=9.1							
KURK	Kurchatov	147.78	82		PKPbc	09 53 13.9	-0.2
TOLK	Toolik Lake Re	148.61	317		PKPbc	09 53 16.1	+0.3
IMAR	Indian Mountai	149.02	311	PKPbc	PKPbc	09 53 17.1	+0.2
ZALV	Zalesovo Beam	152.76	81	PKPbc	PKPbc	09 53 25.1	-1.0
comp=Z,1.2nm,0.5s,baz=257,slow=4.3,SNR=3.9							
ZALV	Zalesovo Beam	152.76	81		PKPbc	09 53 25.0	-1.0
RDOG	Red Dog Mine	153.10	313	PKPbc	PKiKP	09 53 26.8	+0.2
SONM	Songino Array	159.29	115	PKPab	PKPab	09 54 05.8	+0.3
comp=Z,1.5nm,0.9s,baz=221,slow=4.5,SNR=5.1							
SONM	Songino Array	159.29	115		PKPab	09 54 06.0	+0.5

IDC 17 09:35:59.9±1.8, **60°.53S**×**44°.79W**, **h0km, mb4.5**/3, **mb1 4.4**/3, **mb1mx4.0**/27, **mbtmp4.5**/3, **MS6.1**/1, **Ms1 6.1**/1, **ms1mx5.6**/28, **Error ellipse: s-maj=78.1km s-min=34.0km az=30.0, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	29.71	180	LR	LR	09 52 43.4	
comp=Z,35μm,18.1s,baz=268,slow=34							
SIV	San Ignacio	46.01	338	P	P	09 44 24.6	-0.3
2.9nm,0.8s,baz=180,slow=11,SNR=2.9							
SUR	Sutherland	50.50	87	P	P	09 44 59.6	0.0
9.3nm,1.0s,baz=233,slow=7.7,SNR=2.8							
TORD	Torodi Ar. Bea	82.22	45	P	P	09 48 22.9	+0.3
6.4nm,1.0s,baz=198,slow=6.7,SNR=5.3							
AKASG	Malin Array Be	125.74	49	PKP	PKPdf	09 55 01.1	-1.0
0.1nm,0.3s,baz=222,slow=1.2,SNR=3.2							
ILAR	Eielson Array	146.07	311	PKPbc	PKPbc	09 55 39.7	-0.3
1.6nm,0.9s,baz=127,slow=1.8,SNR=3.8							
MKAR	Makanchi Array	146.76	90	PKPbc	PKPdf	09 55 41.6	+0.7
2.4nm,0.7s,baz=242,slow=2.6,SNR=4.3							
KURBB	Kurchatov Arra	147.46	82	PKPbc	PKPbc	09 55 44.0	-0.4
2.8nm,0.8s,baz=233,slow=4.1,SNR=4.2							

IDC 17 09:37:29.4±2.1, **60°.88S**×**42°.69W**, **h0km, mb4.2**/1, **mb1 4.2**/1, **mb1mx3.8**/26, **mbtmp4.2**/1, **Error ellipse: s-maj=113.4km s-min=75.7km az=175.0, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	81.75	44	P	P	09 49 49.7	0.0
1.8nm,0.9s,baz=205,slow=3.8,SNR=2.2							
MKAR	Makanchi Array	145.73	89	PKPbc	PKPdf	09 57 08.3	-0.4
1.3nm,0.6s,baz=209,slow=2.8,SNR=3.2							
KURBB	Kurchatov Arra	146.50	81	PKPbc	PKPdf	09 57 10.5	+0.6
1.3nm,0.5s,baz=228,slow=3.4,SNR=4.1							
ILAR	Eielson Array	147.08	310	PKPbc	PKPbc	09 57 11.8	-0.8
1.4nm,0.6s,baz=128,slow=2.1,SNR=5.1							

MAN 17 09:37:39.4, **10°.13N**×**123°.95E**, **h39km, mb4.1, ML2.9, MS2.6, 1C, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.18	5	eP	Pn	09 37 47.5	-0.2
LLP				i S	Sn	09 37 54.2

BOSA	Boshof	55.25	87	P	P	09 52 54.2	-0.8
LBTB	Lobatse	58.40	85	P	P	09 53 16.0	-1.4
comp=Z,4.0nm,0.6s,baz=215,slow=7.1,SNR=5.8							
LBTB	Lobatse	58.40	85	P	P	09 53 16.6	-0.8
THZ	Tophouse	73.86	208	P	P	09 54 56.6	+0.3
TORD	Torodi Ar. Bea	81.77	45	P	P	09 55 40.6	+0.2
comp=Z,1.8nm,0.9s,baz=212,slow=7.0,SNR=2.2							
LRM	Limekiln Ridge	119.63	311		PKPdf	10 02 11.2	+0.2
BVAR	Borovoye Array	144.53	72	PKP	PKPab	10 02 55.5	0.0
comp=Z,0.8nm,0.5s,baz=222,slow=1.9,SNR=3.7							
MK31	Makanchi Array	146.24	89		PKPdf	10 03 00.1	-0.1
MKAR	Makanchi Array	146.24	89	PKPbc	PKPdf	10 02 59.8	-0.4
comp=Z,1.9nm,0.6s,baz=239,slow=1.8,SNR=9.2							
MKAR	Makanchi Array	146.24	89		PKPdf	10 03 00.0	-0.2
ILAR	Eielson Array	146.37	311	PKPbc	PKPdf	10 03 00.4	+0.6
comp=Z,1.8nm,0.8s,baz=132,slow=2.4,SNR=5.0							
ILAR	Eielson Array	146.37	311		PKPdf	10 03 00.5	+0.7

*ISCJB **17** 09:44:36.7±0.6, 60.48S±0.10×46.4W±0.2, h10km, mb4.3/8, Error ellipse: s-maj=14.9km s-min=12.7km az=39.7*
*IDC **17** 09:44:37.4±0.9, 60.45S×46.31W, h0km, mb4.3/8, mb1 4.3/9, mb1mx4.0/30, mbtmp4.3/9, ML3.6/1, Error ellipse: s-maj=29.9km s-min=24.0km az=15.0*
*NEIC **17** 09:44:38.5±0.7, 60.4S±0.1×46.2W±0.2, h10km±1km, mb4.4/4*
ISC 17 09:44:38.7±0.6, 60.4S±0.1×46.4W±0.1, h10km, n27, σ0§68/27, mb4.3/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	9.23	234	Pn	Pn	09 46 52.3	+0.7
0.6nm,0.3s,baz=86,slow=16,SNR=3.9							
PMSA	Palmer Station	9.23	234		Pn	09 46 52.5	+0.9
TRQA	Tornquist	24.49	329	P	P	09 49 57.1	-0.7
GO02	Mina Guanaco	38.73	325	P	P	09 52 02.7	-0.4
MAW	Mawson	42.30	147	P	P	09 52 30.4	-1.4
BDFB	Brasilia	44.75	358	P	P	09 52 52.5	+0.3
1.7nm,0.5s,baz=214,slow=8.2,SNR=3.4							
BDFB	Brasilia	44.75	358	P	P	09 52 52.7	+0.5
SIV	San Ignacio	45.65	340	P	P	09 52 58.9	-0.4
2.1nm,0.6s,baz=180,slow=10.0,SNR=5.5							
SUR	Sutherland	51.27	88	P	P	09 53 43.4	+0.7
5.9nm,0.9s,baz=207,slow=6.8,SNR=4.3							
SUR	Sutherland	51.27	88	P	P	09 53 43.6	+0.9
SUR				IAmb	IAmb	09 53 52.8	
comp=Z,3.1nm,0.9s							
SAML	Samuel	52.91	339	P	P	09 53 54.5	-0.2
BOSA	Boshof	56.54	90	P	P	09 54 20.4	-0.8
comp=Z,1.8nm,0.8s,baz=238,slow=13,SNR=2.5							
LBTB	Lobatse	59.69	88	P	P	09 54 42.4	-0.8
comp=Z,4.7nm,0.6s,baz=206,slow=8.0,SNR=7.9							
LBTB	Lobatse	59.69	88	P	P	09 54 42.6	-0.7
OTAV	Otavalo	65.39	324	P	P	09 55 21.4	-0.4
OTAV				IAmb	IAmb	09 55 23.8	
comp=Z,5.7nm,1.1s							
LSZ	Lusaka	69.21	84	P	P	09 55 46.4	+0.8
comp=Z,2.4nm,0.2s,baz=173,slow=7.4,SNR=3.8							
TORD	Torodi Ar. Bea	82.72	47	P	P	09 57 03.8	+1.4
comp=Z,1.2nm,0.6s,baz=201,slow=4.8,SNR=2.7							
ASAR	Alice Springs	96.20	180	P	P	09 58 06.8	-0.1
comp=Z,0.3nm,0.8s,baz=189,slow=5.5,SNR=3.3							
ASAR	Alice Springs	96.20	180	P	P	09 58 06.7	-0.2
ILAR	Eielson Array	145.44	312	PKPbc	PKPdf	10 04 14.8	-0.4
comp=Z,2.7nm,0.8s,baz=158,slow=2.2,SNR=6.0							
ILAR	Eielson Array	145.44	312		PKPdf	10 04 14.9	-0.2
BVAR	Borovoye Array	145.77	74	PKPbc	PKPab	10 04 17.3	+0.2
comp=Z,2.4nm,0.5s,baz=254,slow=3.2,SNR=12							
MK31	Makanchi Array	147.53	91		PKPbc	10 04 22.3	+0.3
MKAR	Makanchi Array	147.53	91	PKPbc	PKPbc	10 04 22.0	+0.1
comp=Z,1.6nm,0.6s,baz=226,slow=2.2,SNR=6.1							
MKAR	Makanchi Array	147.53	91		PKPbc	10 04 22.1	+0.2
ZALV	Zalesovo Beam	153.30	82	PKPbc	PKPbc	10 04 35.2	-0.3
comp=Z,0.5nm,0.4s,baz=258,slow=6.6,SNR=2.1							
ZALV	Zalesovo Beam	153.30	82		PKPbc	10 04 35.1	-0.4

*ISCJB **17** 09:44:49.3±0.4, 60.57S±0.07×42.3W±0.2, h10km, mb4.3/10, Error ellipse: s-maj=14.2km s-min=7.4km az=148.7*
*IDC **17** 09:44:49.3±0.8, 60.66S×42.42W, h0km, mb4.4/10, mb1 4.4/11, mb1mx4.2/29, mbtmp4.4/11, ML4.0/1, Error ellipse: s-maj=28.7km s-min=19.5km az=40.0*
*NEIC **17** 09:44:52.3±1.6, 60.5S±0.1×42.5W±0.3, h15km±3km, mb4.6/12*
ISC 17 09:44:51.2±0.5, 60.58S±0.08×42.4W±0.1, h10km, n54, σ1§15/51, mb4.4/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.06	29		Pn	09 46 33.3	-1.2
PMSA	Palmer Station	10.78	238	Pn	Pn	09 47 24.0	-1.3
1.2nm,0.3s,baz=51,slow=12,SNR=5.3							
PMSA	Palmer Station	10.78	238		Pn	09 47 23.2	-2.1
VNA3	Neumayer Olymp	16.82	143	P	Pn	09 48 44.1	-2.3
VNA1	Neumayer--Stat	17.04	140	P	Pn	09 48 48.8	-0.3
VNA2	Neumayer--Watz	17.40	141	P	Pn	09 48 51.3	-2.3
baz=293,slow=15							
SNAA	Sanae	19.03	142	P	Pn	09 49 13.7	+0.1
SNAA	Sanae	19.03	142	P	Pn	09 49 13.7	+0.1
PLCA	Paso Flores	26.36	306	P	P	09 50 28.8	+1.6
9.0nm,0.8s,baz=180,slow=9.1,SNR=11							
PLCA	Paso Flores	26.36	306	P	P	09 50 27.4	+0.2
PLCA				IAmb	IAmb	09 50 34.8	
comp=Z,11nm,0.8s							
GO06	Curarrehue	27.70	306	P	P	09 50 42.6	+3.2
GO05	Huala	31.86	310	P	P	09 51 14.5	-1.6
GO05				IAmb	IAmb	09 51 14.9	
comp=Z,12nm,1.0s							
CFA	Coronel Fontan	33.63	318	P	P	09 51 31.5	-0.1
comp=Z,1.2nm,0.4s,baz=143,slow=5.1,SNR=3.0							
CPUP	Villa Florida	35.73	337	P	P	09 51 49.7	0.0
comp=Z,4.6nm,0.8s,baz=166,slow=7.9,SNR=6.6							
GO04	Tololo Observa	35.81	315	P	P	09 51 49.8	-0.9
GO02	Mina Guanaco	40.03	320	P	P	09 52 26.3	-0.2
GO02				IAmb	IAmb	09 52 33.3	
comp=Z,9.9nm,0.7s							
SBA	Scott Base	40.67	189	P	P	09 52 31.7	+0.9
LVC	Limon Verde	42.21	322	P	P	09 52 43.6	-0.9
comp=Z,2.3nm,0.6s,baz=148,slow=5.5,SNR=2.2							
LVC	Limon Verde	42.21	322	P	P	09 52 43.5	-0.9
BDFB	Brasilia	45.05	352	P	P	09 53 07.2	+0.1
comp=Z,5.7nm,0.7s,baz=176,slow=1.3,SNR=6.1							
BDFB	Brasilia	45.05	352	P	P	09 53 07.2	+0.1
BDFB				IAmb	IAmb	09 53 12.9	
comp=Z,6.1nm,0.9s							
SIV	San Ignacio	46.53	335	P	P	09 53 18.8	+0.2
comp=Z,1.5nm,0.5s,baz=144,slow=6.7,SNR=3.8							
LPAZ	La Paz	47.97	326	P	P	09 53 30.6	0.0
comp=Z,1.4nm,0.6s,baz=161,slow=5.7,SNR=3.4							
LPAZ	La Paz	47.97	326	P	P	09 53 31.3	+0.8
SAML	Samuel	53.81	334	P	P	09 54 13.1	-0.7
SAML				IAmb	IAmb	09 54 22.8	
comp=Z,3.4nm,0.9s							
LTZ	Lake Taylor	73.17	206	P	P	09 56 25.3	+3.6
DBIC	Dimbokro	73.22	39	P	P	09 56 22.9	+0.8
comp=Z,2.1nm,0.7s,baz=180,slow=8.1,SNR=2.8							
DBIC	Dimbokro	73.22	39	P	P	09 56 23.2	+1.0
DBIC				IAmb	IAmb	09 56 37.0	
comp=Z,5.4nm,1.0s							
OUZ	Omahuta	80.09	209	P	P	09 57 01.7	+0.9
HUMP	Col San Antoni	80.70	337	P	P	09 57 04.9	+0.9
MLPR	Magueyes Islan	80.76	336	P	P	09 57 03.6	-0.8
TOA0	Torodi Ar. Sit	81.43	43	P	P	09 57 09.7	+1.6
TORD	Torodi Ar. Bea	81.43	43	P	P	09 57 08.6	+0.5
comp=Z,7.8nm,0.8s,baz=206,slow=6.5,SNR=9.7							
H08S1	Diego Garcia H	95.21	115	T	T	11 44 56.4	
baz=205,slow=76,SNR=8.7							
H08S2	Diego Garcia H	95.22	115	T	T	11 44 55.7	
baz=205,slow=76,SNR=10							
H08S3	Diego Garcia H	95.23	115	T	T	11 45 00.4	
baz=205,slow=76,SNR=7.4							
ASAR	Alice Springs	96.01	177	P	P	09 58 17.9	-0.6
comp=Z,0.5nm,0.8s,baz=170,slow=4.6,SNR=4.2							
ASAR	Alice Springs	96.01	177	P	P	09 58 19.0	+0.5
INK	Inuvik	144.18	321	PKP	PKPab	10 04 22.2	-0.9
comp=Z,5.1nm,0.8s,baz=86,slow=3.6,SNR=12							
INK	Inuvik	144.18	321		PKPab	10 04 22.6	-0.5
BCAR	Beaver Creek A	144.18	310		PKPab	10 04 23.3	-0.1
PAX	Paxson	145.54	308		PKPbc	10 04 28.3	+0.1
MKAR	Makanchi Array	145.58	88	PKPbc	PKPdf	10 04 28.1	-0.3
comp=Z,3.0nm,0.6s,baz=231,slow=2.7,SNR=11							
MKAR	Makanchi Array	145.58	88		PKPdf	10 04 28.4	-0.1
RIDG	Independent Ri	145.71	310		PKPbc	10 04 28.6	0.0
ILAR	Eielson Array	147.00	310	PKPbc	PKPbc	10 04 31.5	-0.8
comp=Z,4.8nm,0.8s,baz=138,slow=2.2,SNR=13							
RND	Reindeer	147.09	307		PKPbc	10 04 32.7	0.0
BMAR	Burnt Mountain	147.40	316		PKPbc	10 04 33.5	+0.1
BWN	Browne	147.70	308		PKPbc	10 04 34.1	-0.2
TOLK	Toolik Lake Re	149.61	316		PKPbc	10 04 39.1	0.0
IMAR	Indian Mountai	150.11	310		PKPbc	10 04 40.2	-0.2
ZALV	Zalesovo Beam	151.39	79	PKPbc	PKPbc	10 04 42.1	-1.6
comp=Z,0.8nm,0.4s,baz=242,slow=6.2,SNR=4.1							
SONM	Songino Array	157.99	111	PKPab	PKPab	10 05 20.4	-0.2
comp=Z,0.7nm,0.9s,baz=227,slow=5.5,SNR=3.1							
SONM	Songino Array	157.99	111		PKPab	10 05 20.5	-0.1

*ISCJB **17** 09:46:22.0±0.6, 60.49S±0.08×43.4W±0.1, h10km, mb4.3/7, Error ellipse: s-maj=12.0km s-min=8.6km az=141.0*
*IDC **17** 09:46:22.4±0.9, 60.47S×43.58W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.1/29, mbtmp4.3/8, ML4.0/1, Error ellipse: s-maj=31.6km s-min=21.9km az=22.0*
*NEIC **17** 09:46:24.8±1.8, 60.4S±0.1×43.3W±0.2, h15km±2km, mb4.7/13*
ISC 17 09:46:23.9±0.6, 60.52S±0.10×43.31W±0.09, h10km, n38, σ1§15/40, mb4.6/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.26	33	Pn	Pn	09 48 08.4	-1.5
HOPE					Sn	09 49 34.0	+1.8
PMSA	Palmer Station	10.42	237	Pn	Pn	09 48 53.4	+0.2
1.2nm,0.3s,baz=67,slow=11,SNR=3.6							
PMSA	Palmer Station	10.42	237		Pn	09 48 54.0	+0.8
EFI	East Falkland	12.07	311	Pn	Pn	09 49 17.6	+1.9
GO10	Punta Arenas	16.77	284	P	P	09 50 22.1	+1.2
GO05	Huala	31.48	311	P	P	09 52 43.5	-2.1
GO05				IAmb	IAmb	09 52 45.5	
comp=Z,12nm,1.0s							
PEL	Peldehue	32.71	314	P	P	09 52 55.5	-0.9
ROC1	El Roble	32.98	314	P	P	09 52 60.0	+1.0
GO04	Tololo Observa	35.45	316	P	P	09 53 18.7	-1.7
GO04				IAmb	IAmb	09 53 28.0	
comp=Z,8.3nm,0.6s							
GO02	Mina Guanaco	39.70	321	P	P	09 53 56.1	-0.4
GO02				IAmb	IAmb	09 53 58.2	
comp=Z,9.0nm,0.7s							
LVC	Limon Verde	41.89	323	P	P	09 54 12.4	-2.2
comp=Z,5.2nm,0.7s,baz=188,slow=5.9,SNR=4.1							
LVC	Limon Verde	41.89	323	P	P	09 54 13.1	-1.5
PB01	IPOC Station P	43.54	323	P	P	09 54 27.8	+0.1
GO01	Chusmiza	44.76	324	P	P	09 54 37.6	-0.3
GO01				IAmb	IAmb	09 54 38.9	
comp=Z,11nm,0.9s							
PB11	IPOC Station P	44.80	324	P	P	09 54 37.4	-0.5
PB11				IAmb	IAmb	09 54 44.1	
comp=Z,10nm,1.3s							
MNMC	Minye Minye	45.38	324	P	P	09 54 42.7	+0.1
SIV	San Ignacio	46.29	336	P	P	09 54 48.6	-1.0
comp=Z,5.7nm,0.8s,baz=207,slow=9.6,SNR=8.2							
LPAZ	La Paz	47.67	327	P	P	09 54 59.4	-1.6
comp=Z,2.7nm,0.8s,baz=127,slow=10,SNR=3.7							
LPAZ	La Paz	47.67	327	P	P	09 54 59.6	-1.4
LPAZ				IAmb	IAmb	09 55 01.7	
comp=Z,4.9nm,1.4s							
SAML	Samuel	53.57	335	P	P	09 55 43.9	-0.9
BOSA	Boshof	55.04	87	P	P	09 55 56.2	+0.6
comp=Z,4.0nm,0.9s,baz=214,slow=7.4,SNR=3.7							
LBTB	Lobatse	58.20	85	P	P	09 56 18.8	+0.7
comp=Z,5.5nm,0.6s,baz=222,slow=7.9,SNR=7.0							
OTAV	Otavalo	66.37	321	P	P	09 57 13.4	+0.1
OTAV				IAmb	IAmb	09 57 22.2	
comp=Z,5.6nm,0.9s							
OUZ	Omahuta	79.91	210	P	P	09 58 32.2	-0.5
BANI	BANI	81.62	334	P	P	09 58 40.4	-1.5
TORD	Torodi Ar. Bea	81.71	44	P	P	09 58 43.9	+1.5
comp=Z,1.2nm,0.8s,baz=193,slow=6.9,SNR=3.2							
ASAR	Alice Springs	96.09	177	P	P	09 59 50.5	-1.1
comp=Z,0.6nm,0.8s,baz=172,slow=3.3,SNR=3.2							
ASAR	Alice Springs	96.09	177	P	P	09 59 50.7	-0.9
YKA	Yellowknife Ar	134.12	322	PKP	PKPdf	10 05 39.5	-0.4
comp=Z,1.0nm,0.7s,baz=141,slow=2.3,SNR=3.3							
YKA	Yellowknife Ar	134.12	322		PKPdf	10 05 39.6	-0.3
KDAK	Kodiak Island	145.22	298	PKPbc	PKPbc	10 05 59.4	-0.5
comp=Z,20nm,1.0s,baz=162,slow=6.4,SNR=3.6							
KDAK	Kodiak Island	145.22	298		PKPbc	10 05 59.7	-0.2
MKAR	Makanchi Array	146.03	89	PKPbc	PKPdf	10 06 02.7	+0.7
comp=Z,1.5nm,0.6s,baz=230,slow=2.2,SNR=4.2							
MKAR	Makanchi Array	146.03	89		PKPdf	10 06 02.5	+0.5
PRP	Porcupine Dome	146.48	312		PKPdf	10 06 03.5	+1.1
ILAR	Eielson Array	146.62	311	PKPbc	PKPdf	10 06 03.5	+1.1
comp=Z,5.2nm,0.9s,baz=122,slow=2.2,SNR=7.3							
ILAR	Eielson Array	146.62	311		PKPdf	10 06 03.9	+1.5
IMAR	Indian Mountai	149.73	310		PKPbc	10 06 12.6	+0.4
IMAR					PKPab	10 06 18.4	+0.7

*ISCJB **17** 09:49:34.9±0.5, 60.65S±0.09×45.8W±0.2, h10km, mb4.3/6, Error ellipse: s-maj=14.8km s-min=9.0km az=35.9*
*IDC **17** 09:49:37.0±0.9, 60.46S×45.60W, h0km, mb4.3/6, mb1 4.3/8, mb1mx4.0/29, mbtmp4.2/8, ML3.6/2, Error ellipse: s-maj=33.0km s-min=22.7km az=7.0*
*NEIC **17** 09:49:38.7±1.8, 60.5S±0.1×45.8W±0.2, h15km±1km, mb4.5/2*
ISC 17 09:49:37.2±0.6, 60.6S±0.1×45.62W±0.09, h10km, n34, σ1§58/30, mb4.4/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.98	42		Pn	09 51 27.6	-5.6
PMSA	Palmer Station	9.46	236	Pn	Pn	09 51 53.2	-0.1
1.3nm,0.3s,baz=47,slow=9.7,SNR=10							
PMSA	Palmer Station	9.46	236		Pn	09 51 53.3	+0.1
EFI	East Falkland	11.27	317	Pn	Pn	09 52 16.1	-2.0
USHA	Ushuaia	13.44	285	Pn	Pn	09 52 47.6	-0.1
0.1nm,0.3s,baz=117,slow=6.8,SNR=3.0							
VNA3	Neumayer Olymp	17.81	142	P	Pn	09 53 43.2	-1.6
VNA1	Neumayer--Stat	18.08	139	P	Pn	09 53 43.2	-4.9
VNA2	Neumayer--Watz	18.43	140	P	P	09 53 49.8	-2.6
baz=284,slow=14							
SNAA	Sanae	20.03	141	P	P	09 54 10.5	+0.6
SNAA	Sanae	20.03	141	P	P	09 54 10.8	+0.9
TRQA	Tornquist	24.78	328	P	P	09 54 59.1	+0.2
TRQA				IAmb	IAmb	09 55 00.1	
comp=Z,5.4nm,0.6s							
GO06	Curarrehue	26.44	311	P	P	09 55 12.1	-2.0
SBA	Scott Base	40.42	190	P	P	09 57 21.2	+6.4
SIV	San Ignacio	45.89	339	P	P	09 58 00.2	+0.4
comp=Z,0.7nm,0.6s,baz=191,slow=12,SNR=4.0							
SUR	Sutherland	50.91	88	P	P	09 58 38.1	-0.4
comp=Z,6.0nm,0.9s,baz=236,slow=3.6,SNR=3.3							
SUR	Sutherland	50.91	88	P	P	09 58 38.4	-0.1
SUR				IAmb	IAmb	09 58 42.9	
comp=Z,11nm,1.1s							
SAML	Samuel	53.15	338	P	P	09 59 01.8	+6.8
BOSA	Boshof	56.18	89	P	P	09 59 18.4	+1.2
comp=Z,5.3nm,1.0s,baz=228,slow=8.8,SNR=3.3							
BOSA	Boshof	56.18	89	P	P	09 59 18.2	+1.1
LBTB	Lobatse	59.34	87	P	P	09 59 41.4	+2.0
comp=Z,4.3nm,0.7s,baz=195,slow=7.2,SNR=5.1							
LBTB	Lobatse	59.34	87	P	P	09 59 38.2	-1.2
OTAV	Otavalo	65.70	323	P	P	10 00 17.1	-5.2
BANI	BANI	81.17	336	P	P	10 01 52.5	-0.3
TORD	Torodi Ar. Bea	82.54	46	P	P	10 01 59.7	-0.3
comp=Z,2.2nm,1.0s,baz=199,slow=4.9,SNR=2.6							
ASAR	Alice Springs	96.08	180	P	P	10 03 06.7	+1.8
comp=Z,0.6nm,0.8s,baz=178,slow=3.7,SNR=4.2							
ASAR	Alice Springs	96.08	180	P	P	10 03 06.6	+1.7
BVAR	Borovoye Array	145.46	73	PKPbc	PKPab	10 09 16.3	+1.9
comp=Z,1.4nm,0.6s,baz=242,slow=2.8,SNR=7.5							
ILAR	Eielson Array	145.78	312	PKPbc	PKPab	10 09 16.1	+0.8
comp=Z,0.4nm,0.5s,baz=123,slow=1.6,SNR=4.1							
ILAR	Eielson Array	145.78	312		PKPab	10 09 15.4	+0.1
MK31	Makanchi Array	147.17	91		PKPbc	10 09 20.6	+1.1
MKAR	Makanchi Array	147.17	91	PKPbc	PKPab	10 09 21.1	-0.1
comp=Z,2.9nm,0.5s,baz=240,slow=3.5,SNR=13							
MKAR	Makanchi Array	147.17	91		PKPbc	10 09 20.8	+1.3
SONM	Songino Array	159.46	116	PKPab	PKPab	10 10 14.1	+1.1
comp=Z,0.8nm,0.9s,baz=224,slow=4.0,SNR=4.3							
SONM	Songino Array	159.46	116		PKPab	10 10 14.2	+1.2

*IDC **17** 09:52:03.7±2.0, 60.78S×46.39W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/21, mbtmp4.0/4, Error ellipse: s-maj=84.0km s-min=31.0km az=31.0*
*ISCJB **17** 09:52:05.8±0.7, 60.5S±0.1×46.6W±0.2, h10km, mb4.0/4, Error ellipse: s-maj=17.3km s-min=12.7km az=34.6*
*NEIC **17** 09:52:07.8±2.1, 60.5S±0.1×46.68W±0.09, h10km±1km, mb4.7/3*
ISC 17 09:52:06.6±0.8, 60.6S±0.1×46.5W±0.1, h10km, n23, σ1§47/22, mb4.2/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	9.09	235	Pn	Pn	09 54 17.4	-0.2
EFI	East Falkland	10.96	319	Pn	Pn	09 54 41.3	-2.0
GO10	Punta Arenas	15.25	288	Pn	Pn	09 55 43.1	+1.4
SNAA	Sanae	20.32	141	Pn	Pn	09 56 46.8	+2.3
TRQA	Tornquist	24.54	330	P	P	09 57 28.1	+1.9
PLCA	Paso Flores	24.75	312	P	P	09 57 29.4	+1.1
1.8nm,0.7s,baz=164,slow=11,SNR=3.0							
GO05	Huala	30.35	316	P	P	09 58 19.1	+0.8
GO05				IAmb	IAmb	09 58 19.8	
comp=Z,37nm,1.4s							
CFA	Coronel Fontan	32.31	324	P	P	09 58 35.4	-0.2
comp=Z,1.3nm,0.5s,baz=180,slow=7.1,SNR=2.6							
SPB	Sao Paulo	36.94	359	P	P	09 59 16.3	+0.7
SPB				IAmb	IAmb	09 59 22.3	
comp=Z,16nm,1.1s							
GO02	Mina Guanaco	38.77	325	P	P	09 59 32.5	+1.0
PB11	IPOC Station P	43.93	328	P	P	10 00 10.3	-3.3
PB11				IAmb	IAmb	10 00 10.9	
comp=Z,2.1nm,0.7s							
LPAZ	La Paz	46.88	331	P	P	10 00 38.5	+0.9
comp=Z,1.7nm,0.8s,baz=184,slow=3.9,SNR=3.4							
LPAZ	La Paz	46.88	331	P	P	10 00 37.2	-0.4
SAML	Samuel	52.98	339	P	P	10 01 23.1	-0.1
BOSA	Boshof	56.63	90	P	P	10 01 50.1	+0.3
OTAV	Otavalo	65.43	324	P	P	10 02 50.6	+0.7
DBIC	Dimbokro	74.56	43	P	P	10 03 45.0	-0.5
comp=Z,2.7nm,1.0s,baz=178,slow=7.3,SNR=3.6							
DBIC	Dimbokro	74.56	43	P	P	10 03 47.1	+1.7
ILAR	Eielson Array	145.44	312	PKPbc	PKPdf	10 11 41.4	-1.7
comp=Z,1.9nm,0.9s,baz=126,slow=2.4,SNR=4.3							
ILAR	Eielson Array	145.44	312		PKPdf	10 11 42.6	-0.5
BVAR	Borovoye Array	145.89	74	PKPbc	PKPdf	10 11 41.8	-2.4
comp=Z,0.9nm,0.5s,baz=242,slow=3.2,SNR=4.2							
MKAR	Makanchi Array	147.62	92	PKPbc	PKPbc	10 11 49.1	-1.1
comp=Z,1.5nm,0.7s,baz=236,slow=3.1,SNR=4.3							
MKAR	Makanchi Array	147.62	92		PKPdf	10 11 48.7	+1.3

*IDC **17** 09:52:30.6±1.2, 60.82S×44.25W, h0km, mb4.7/6, mb1 4.7/6, mb1mx4.2/20, mbtmp4.7/6, Error ellipse: s-maj=58.3km s-min=25.6km az=17.0*
*ISCJB **17** 09:52:33.6±1.0, 60.2S±0.1×43.6W±0.3, h10km, Error ellipse: s-maj=27.7km s-min=12.7km az=150.1*
ISC 17 09:52:34.0±1.0, 60.2S±0.2×43.9W±0.2, h10km, n22, σ1§60/21, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	17.59	143	P	P	09 56 43.3	+3.4
VNA1	Neumayer--Stat	17.83	141	P	Pn	09 56 41.7	-0.1
VNA2	Neumayer--Watz	18.19	141	P	Pn	09 56 44.7	-1.5
baz=297,slow=11							
SNAA	Sanae	19.81	142	P	Pn	09 57 06.0	+0.3
PLCA	Paso Flores	25.52	308	P	P	09 58 04.7	+2.3
5.2nm,0.9s,baz=170,slow=5.8,SNR=3.0							
SUR	Sutherland	50.02	86	P	P	10 01 29.7	+1.1
6.0nm,0.8s,baz=207,slow=6.6,SNR=6.9							
BOSA	Boshof	55.30	88	P	P	10 02 07.5	-0.2
15nm,1.2s,baz=218,slow=7.1,SNR=7.1							
LBTB	Lobatse	58.45	86	P	P	10 02 29.8	-0.2
5.7nm,0.8s,baz=206,slow=9.0,SNR=6.1							
LIC	Lamto	72.91	41	eP	P	10 04 03.9	+0.8
56nm,1.0s							
KIC	Kosan Boka	73.13	41	eP	P	10 04 05.2	+0.7
30nm,1.1s							
TIC	Toumodi	73.31	41	eP	P	10 04 06.3	+0.8
DBIC	Dimbokro	73.38	41	P	P	10 04 07.3	+1.4
12nm,1.0s,baz=170,slow=5.9,SNR=6.2							
TORD	Torodi Ar. Bea	81.65	45	P	P	10 04 53.6	+1.5

ILAR Eielson Array 145.46 312 PKPbc PKPdf 10 15 30.0 -0.8
1.0nm,0.9s,baz=140,slow=1.4,SNR=3.4
BVAR Borovoye Array 145.81 74 PKPbc PKPdf 10 15 31.9 +0.1
0.9nm,0.5s,baz=245,slow=3.8,SNR=3.0
MKAR Makanchi Array 147.55 91 PKPbc PKPbc 10 15 36.6 -1.0
0.5nm,0.5s,baz=230,slow=3.0,SNR=3.5

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*IDC **17** 09:57:06.7±0.7, 60°.43S×46°.61W, h0km, mb4.4/10, mb1 4.6/11, mb1mx4.4/21, mbtmp4.4/11, ML4.3/1, Error ellipse: s-maj=24.0km s-min=17.6km az=40.0*
*ISCJB **17** 09:57:08.6±0.4, 60°.24S±0°.06×46°.7W±0°.2, h10km, mb4.4/9, MS7.3/1, Error ellipse: s-maj=12.2km s-min=6.8km az=149.2*
*NEIC **17** 09:57:08.7±2.0, 60°.31S±0°.08×46°.2W±0°.2, h10km±1km, mb4.6/19*
ISC 17 09:57:09.4±0.4, **60°.27S**±0°.06×**46°.54W**±0°.07, **h10km, n104,** σ**1**§**45**/103, **mb4.5**/17, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**47**		**Pn**	**09 59 03.7**	**-3.2**
PMSA	**Palmer Station**	**9.25**	**233**	Pn	**Pn**	**09 59 21.5**	**-1.1**
	2.9nm,0.3s,baz=57,slow=9.6,SNR=5.4						
PMSA				Sn	**Sn**	**10 01 05.0**	**-1.7**
	0.3nm,0.3s,baz=131,slow=20,SNR=5.8						
PMSA	**Palmer Station**	**9.25**	**233**		**Pn**	**09 59 23.5**	**+0.8**
PMSA					**Sn**	**10 01 05.7**	**-0.9**
PMSA	**Palmer Station**	**9.25**	**233**	*e*P	Pn	09 59 33.3	+11
PMSA	**Palmer Station**	**9.25**	**233**	*e*P	Pn	09 59 33.3	+11
EFI	**East Falkland**	**10.75**	**318**	Pn	**Pn**	**09 59 45.4**	**+2.3**
USHA	**Ushuaia**	**12.92**	**285**	Pn	**Pn**	**10 00 16.0**	**+3.1**
	0.9nm,0.3s,baz=120,slow=14,SNR=4.1						
GO10	**Punta Arenas**	**15.16**	**287**	P	**P**	**10 00 48.0**	**-0.5**
GO10				IAmb	IAmb	10 00 48.7	
	comp=Z,43nm,0.7s						
VNA3	**Neumayer Olymp**	**18.32**	**142**	P	**P**	**10 01 27.4**	**+4.0**
VNA1	**Neumayer--Stat**	**18.60**	**140**	P	**Pn**	**10 01 30.6**	**+4.0**
VNA2	**Neumayer--Watz**	**18.95**	**140**	P	**Pn**	**10 01 34.2**	**+3.4**
	baz=289,slow=13						
SNAA	**Sanae**	**20.54**	**141**	P	Pn	10 01 51.8	+1.9
SNAA	**Sanae**	**20.54**	**141**	P	Pn	10 01 51.2	+1.4
	comp=Z,33nm,0.8s,baz=283,slow=8.3,SNR=8.6						
SNAA	**Sanae**	**20.54**	**141**	P	Pn	10 01 51.7	+1.8
SNAA				IAmb	IAmb	10 01 54.4	
	comp=Z,46nm,0.9s						
TRQA	**Tornquist**	**24.29**	**329**	P	**P**	**10 02 28.3**	**+1.5**
TRQA	**Tornquist**	**24.29**	**329**	*e*P	**P**	**10 02 28.0**	**+1.3**
PLCA	**Paso Flores**	**24.56**	**312**	P	**P**	**10 02 28.2**	**-1.1**
	comp=Z,14nm,0.6s,baz=180,slow=8.3,SNR=33						
PLCA	**Paso Flores**	**24.56**	**312**	P	**P**	**10 02 29.4**	**+0.1**
PLCA	**Paso Flores**	**24.56**	**312**	*e*P	**P**	**10 02 28.3**	**-0.9**
GO06	**Curarrehue**	**25.91**	**312**	P	**P**	**10 02 41.5**	**0.0**
PLTB	**Pedras Altas**	**28.90**	**347**	*e*P	**P**	**10 03 09.4**	**+1.2**
PLTB	**Pedras Altas**	**28.90**	**347**	*e*P	**P**	**10 03 09.4**	**+1.2**
GO05	**Huala**	**30.14**	**316**	P	**P**	**10 03 19.6**	**+0.4**
GO05				IAmb	IAmb	10 03 25.1	
	comp=Z,24nm,1.1s						
CPSB	**Cacapava Do Su**	**30.22**	**348**	*e*P	**P**	**10 03 21.4**	**+1.5**
CPSB	**Cacapava Do Su**	**30.22**	**348**	*e*P	**P**	**10 03 21.4**	**+1.5**
CNLB	**Canela**	**31.09**	**353**	*e*P	**P**	**10 03 29.6**	**+2.0**
CNLB	**Canela**	**31.09**	**353**	*e*P	**P**	**10 03 29.6**	**+2.0**
CFA	**Coronel Fontan**	**32.09**	**324**	P	**P**	**10 03 35.4**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=184,slow=8.5,SNR=4.2						
GO04	**Tololo Observa**	**34.20**	**321**	P	**P**	**10 03 55.5**	**+0.4**
CPUP	**Villa Florida**	**34.73**	**343**	P	**P**	**10 03 59.8**	**+0.3**
	comp=Z,7.7nm,0.6s,baz=168,slow=7.7,SNR=20						
CPUP	**Villa Florida**	**34.73**	**343**	P	**P**	**10 04 00.3**	**+0.9**
CPUP	**Villa Florida**	**34.73**	**343**	*e*P	**P**	**10 04 00.2**	**+0.9**
PTGB	**Pitanga**	**35.74**	**351**	*e*P	**P**	**10 04 09.4**	**+1.1**
PTGB	**Pitanga**	**35.74**	**351**	*e*P	**P**	**10 04 09.4**	**+1.1**
TRCB	**Terra Rica**	**37.69**	**351**	*e*P	**P**	**10 04 26.1**	**+1.3**
TRCB	**Terra Rica**	**37.69**	**351**	*e*P	**P**	**10 04 26.1**	**+1.3**
GO02	**Mina Guanaco**	**38.54**	**325**	P	**P**	**10 04 33.1**	**+0.8**
GO02				IAmb	IAmb	10 04 34.3	
	comp=Z,11nm,0.7s						
PCMB	**Pacaembu**	**38.77**	**353**	*e*P	**P**	**10 04 34.5**	**+0.6**
PCMB	**Pacaembu**	**38.77**	**353**	*e*P	**P**	**10 04 34.5**	**+0.6**
AQDB	**Aquidauana**	**40.28**	**347**	*e*P	**P**	**10 04 47.2**	**+0.7**
AQDB	**Aquidauana**	**40.28**	**347**	*e*P	**P**	**10 04 47.2**	**+0.7**
ITRB	**Iturama**	**40.61**	**354**	*e*P	**P**	**10 04 49.7**	**+0.5**
ITRB	**Iturama**	**40.61**	**354**	*e*P	**P**	**10 04 49.7**	**+0.5**
SBA	**Scott Base**	**40.62**	**190**	P	**P**	**10 04 50.2**	**+1.5**
LVC	**Limon Verde**	**40.77**	**327**	P	**P**	**10 04 51.4**	**+0.5**
LVC				IAmb	IAmb	10 04 52.0	
	comp=Z,4.8nm,0.8s						
LVC	**Limon Verde**	**40.77**	**327**	*e*P	**P**	**10 04 51.6**	**+0.7**
GO01	**Chusmiza**	**43.65**	**328**	P	**P**	**10 05 15.3**	**+0.7**
GO01				IAmb	IAmb	10 05 17.8	
	comp=Z,7.4nm,0.9s						
MNMC	**Minye Minye**	**44.27**	**328**	P	**P**	**10 05 20.1**	**+0.8**
BDFB	**Brasilia**	**44.58**	**358**	P	**P**	**10 05 22.0**	**+0.5**
	comp=Z,8.2nm,0.9s,baz=178,slow=4.1,SNR=6.9						
BDFB	**Brasilia**	**44.58**	**358**	P	**P**	**10 05 22.2**	**+0.7**
ARAG	**Araguaiana, MT**	**44.66**	**353**	*e*P	**P**	**10 05 22.7**	**+0.6**
ARAG	**Araguaiana, MT**	**44.66**	**353**	*e*P	**P**	**10 05 22.7**	**+0.6**
LPAZ	**La Paz**	**46.63**	**331**	P	**P**	**10 05 39.1**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=149,slow=6.9,SNR=5.9						
LPAZ	**La Paz**	**46.63**	**331**	P	**P**	**10 05 38.3**	**0.0**
LPAZ	**La Paz**	**46.63**	**331**	*e*P	**P**	**10 05 38.8**	**+0.4**
CLDB	**Colider**	**49.78**	**348**	*e*P	**P**	**10 06 01.2**	**-0.9**
CLDB	**Colider**	**49.78**	**348**	*e*P	**P**	**10 06 01.2**	**-0.9**
SAML	**Samuel**	**52.71**	**339**	P	**P**	**10 06 24.2**	**+0.2**
SAML	**Samuel**	**52.71**	**339**	*e*P	**P**	**10 06 24.6**	**+0.6**
NBLI	**Livramento-PB**	**53.28**	**12**	*e*P	**P**	**10 06 31.9**	**+3.6**
NBLI	**Livramento-PB**	**53.28**	**12**	*e*P	**P**	**10 06 31.9**	**+3.6**
BOSA	**Boshof**	**56.64**	**90**	P	**P**	**10 06 52.5**	**-0.1**
	comp=Z,4nm,0.8s,baz=207,slow=11,SNR=3.5						
BOSA	**Boshof**	**56.64**	**90**	IAmb	IAmb	10 06 53.1	
	comp=Z,5.0nm,1.1s						
BOSA				P	**P**	**10 06 53.2**	**+0.6**
LBTB	**Lobatse**	**59.78**	**88**	P	**P**	**10 07 13.8**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=213,slow=6.7,SNR=7.7						
LBTB	**Lobatse**	**59.78**	**88**	P	**P**	**10 07 14.4**	**-0.2**
OTAV	**Otavalo**	**65.19**	**324**	P	**P**	**10 07 52.0**	**+0.8**
OTAV				IAmb	IAmb	10 07 52.7	
	comp=Z,4.8nm,0.8s						
OTAV	**Otavalo**	**65.19**	**324**	*e*P	**P**	**10 07 52.0**	**+0.8**
LTZ	**Lake Taylor**	**72.50**	**209**	P	**P**	**10 08 35.8**	**-0.2**
LTZ				IAmb	IAmb	10 08 38.0	
	comp=Z,4.0nm,1.1s						
OUZ	**Omahuta**	**79.30**	**212**	P	**P**	**10 09 13.6**	**-1.2**
OUZ				IAmb	IAmb	10 09 17.3	
	comp=Z,3.8nm,0.8s						
MLPR	**Magueyes Islan**	**79.72**	**340**	P	**P**	**10 09 16.4**	**-0.6**
MLPR				IAmb	IAmb	10 09 23.6	
	comp=Z,15nm,1.0s						
BANI	**BANI**	**80.73**	**337**	P	**P**	**10 09 20.1**	**-2.5**
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P	**P**	**10 09 32.9**	**0.0**
	comp=Z,1.8nm,0.7s,baz=210,slow=7.0,SNR=4.3						
ASAR	**Alice Springs**	**96.37**	**180**	P	**P**	**10 10 36.0**	**-2.3**
	comp=Z,0.7nm,1.0s,baz=172,slow=4.3,SNR=5.2						
ASAR				PP	**PP**	**10 14 29.7**	**-1.3**
	comp=Z,0.6nm,1.0s,baz=175,slow=6.5,SNR=4.3						
WRA	**Warramunga Arr**	**100.07**	**181**	P	**Pdif**	**10 10 53.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=180,slow=4.2,SNR=3.6						
BRTR	**Keskin Array B**	**119.10**	**60**	PKP	**PKPdf**	**10 15 55.7**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=194,slow=2.5,SNR=3.4						
BRTR	**Keskin Array B**	**119.10**	**60**		**PKPdf**	**10 15 56.3**	**-1.4**
GERES	**GERESS Array B**	**119.17**	**41**	PKP	**PKPdf**	**10 15 55.5**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=239,slow=3.1,SNR=3.9						
GERES	**GERESS Array B**	**119.17**	**41**		**PKPdf**	**10 15 55.8**	**-1.7**
YKA	**Yellowknife Ar**	**132.95**	**324**	PKP	**PKPdf**	**10 16 21.6**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=145,slow=2.2,SNR=5.1						
YKA	**Yellowknife Ar**	**132.95**	**324**		**PKPdf**	**10 16 22.7**	**-0.5**
FINES	**FINESS Array B**	**133.53**	**39**	PKP	**PKPdf**	**10 16 22.6**	**-1.7**
	comp=Z,2.8nm,0.6s,baz=228,slow=3.5,SNR=3.7						
KSH	**Kashi**	**139.17**	**94**	PKP	**PKPdf**	**10 16 36.0**	**+0.3**
KSH				PP	**PP**	**10 19 31.6**	**+2.0**
KSH				PKS	**PKSdf**	**10 20 12.0**	**+0.2**
KSH				SKS	**SKSdf**	**10 23 46.1**	**+0.2**
KSH				LR	LR		
	comp=N,53μm,14.5s						
KSH				LR	LR		
	comp=E,30μm,16.2s						
KSH				LR	LR		
	comp=Z,37μm,16.4s						
ARCES	**ARCESS Array B**	**139.24**	**31**	PKhKP	PKPpre	10 16 23.9	
	comp=Z,12nm,1.1s,baz=239,slow=3.0,SNR=5.8						
AAK	**Ala-Archa**	**140.78**	**89**	PKP	**PKPdf**	**10 16 38.4**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=269,slow=5.7,SNR=3.7						
AAK	**Ala-Archa**	**140.78**	**89**		**PKPdf**	**10 16 38.1**	**-0.5**
INK	**Inuvik**	**142.66**	**322**	PKP	**PKPdf**	**10 16 38.3**	**-2.6**
	comp=Z,1.2nm,0.8s,baz=145,slow=4.2,SNR=5.1						
INK	**Inuvik**	**142.66**	**322**		PKPpre	10 16 35.8	
BMAR	**Burnt Mountain**	**145.76**	**317**		**PKPdf**	**10 16 45.9**	**-0.5**
BRVK	**Borovoye**	**145.79**	**73**		**PKPdf**	**10 16 45.9**	**-0.9**
BVAR	**Borovoye Array**	**145.82**	**73**	PKPbc	**PKPdf**	**10 16 46.6**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=253,slow=3.9,SNR=18						
BPAW	**Bear Paw Mtn.**	**146.46**	**310**		**PKPdf**	**10 16 48.0**	**+0.4**
MLY	**Manley**	**146.81**	**311**		**PKPdf**	**10 16 49.2**	**+0.9**
MK31	**Makanchi Array**	**147.63**	**91**		**PKPdf**	**10 16 51.2**	**+1.0**
MKAR	**Makanchi Array**	**147.63**	**91**	PKPbc	**PKPdf**	**10 16 50.9**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=236,slow=2.0,SNR=8.3						
MKAR	**Makanchi Array**	**147.63**	**91**		**PKPdf**	**10 16 51.3**	**+1.1**
TOLK	**Toolik Lake Re**	**147.98**	**318**		**PKPbc**	**10 16 52.7**	**-0.5**
WMQ	**Urumqi**	**148.19**	**100**	*e*P	**PKPdf**	**10 16 51.6**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,10.0nm,7.3s						
IMAR	**Indian Mountai**	**148.36**	**312**		**PKPbc**	**10 16 53.1**	**-1.1**
LZH	**Lanzhou**	**149.25**	**128**	*e*PKPbc	**PKPdf**	**10 16 52.5**	**-0.9**
LZH				pPKP	pPKPdf	10 16 55.8	-0.4
LZH				sPKP		10 16 57.3	
NJ2	**Nanjing**	**150.16**	**155**	*e*P	**PKPdf**	**10 16 54.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZALV	**Zalesovo Beam**	**153.37**	**82**	PKPbc	**PKPbc**	**10 17 04.0**	**-2.5**
	comp=Z,0.9nm,0.6s,baz=242,slow=4.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**153.37**	**82**		**PKPbc**	**10 17 04.4**	**-2.0**
HHC	**Hu-ho-hao-te**	**156.30**	**135**	*e*P	**PKPdf**	**10 17 04.1**	**+0.6**
SONM	**Songino Array**	**160.00**	**116**	PKPab	**PKPab**	**10 17 46.2**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=224,slow=2.6,SNR=2.7						

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*ISCJB **17** 10:03:54.1±1.5, 60°.9S±0°.2×45°.0W±0°.3, h10km, mb4.0/4, Error ellipse: s-maj=28.2km s-min=16.6km az=136.5*
*IDC **17** 10:03:54.9±1.3, 60°.74S×44°.96W, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/21, mbtmp4.1/6, ML3.7/2, Error ellipse: s-maj=40.5km s-min=27.5km az=14.0*
*NEIC **17** 10:03:56.0±1.6, 60°.8S±0°.1×44°.8W±0°.2, h10km±1km, mb4.2/6*
ISC 17 10:03:55.6±1.1, **60°.8S**±0°.2×**44°.7W**±0°.1, **h10km, n19,** σ**1**§**10**/19, **mb4.2**/8, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.86**	**38**		**Pn**	**10 05 48.0**	**-1.8**
PMSA	**Palmer Station**	**9.71**	**237**	Pn	**Pn**	**10 06 14.5**	**-0.6**
	0.8nm,0.3s,baz=57,slow=9.6,SNR=4.3						
PMSA	**Palmer Station**	**9.71**	**237**		**Pn**	**10 06 14.2**	**-0.8**
USHA	**Ushuaia**	**13.92**	**285**	Pn	**Pn**	**10 07 12.3**	**-0.3**
	0.4nm,0.3s,baz=119,slow=8.7,SNR=4.0						
TRQA	**Tornquist**	**25.19**	**327**	P	**P**	**10 09 22.1**	**+1.0**
TRQA				IAmb	IAmb	10 09 25.0	
	comp=Z,3.2nm,0.6s						
PLCA	**Paso Flores**	**25.56**	**310**	P	**P**	**10 09 23.4**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=200,slow=8.9,SNR=5.0						
PLCA	**Paso Flores**	**25.56**	**310**	P	**P**	**10 09 24.3**	**-0.2**
GO01	**Chusmiza**	**44.56**	**326**	P	**P**	**10 12 08.9**	**+0.9**
GO01				IAmb	IAmb	10 12 13.8	
	comp=Z,2.9nm,0.7s						
PB11	**IPOC Station P**	**44.59**	**326**	P	**P**	**10 12 10.3**	**+2.3**
PB11				IAmb	IAmb	10 12 20.5	
	comp=Z,8.0nm,1.1s						
MNMC	**Minye Minye**	**45.18**	**326**	P	**P**	**10 12 11.1**	**-1.7**
SIV	**San Ignacio**	**46.24**	**338**	P	**P**	**10 12 21.4**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=203,slow=13,SNR=5.7						
LPAZ	**La Paz**	**47.51**	**329**	P	**P**	**10 12 32.1**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=171,slow=9.2,SNR=5.5						
LPAZ	**La Paz**	**47.51**	**329**	P	**P**	**10 12 31.3**	**-0.1**
SAML	**Samuel**	**53.51**	**337**	P	**P**	**10 13 17.1**	**+1.0**
SAML				IAmb	IAmb	10 13 17.2	
	comp=Z,0.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**82.37**	**45**	P	**P**	**10 16 18.4**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=223,slow=3.4,SNR=2.2						
BVAR	**Borovoye Array**	**145.10**	**73**	PKPbc	**PKPdf**	**10 23 32.3**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=251,slow=4.1,SNR=11						
ILAR	**Eielson Array**	**146.25**	**311**	PKPbc	**PKPbc**	**10 23 34.3**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=155,slow=4.5,SNR=4.7						
ILAR	**Eielson Array**	**146.25**	**311**		**PKPab**	**10 23 36.4**	**+1.0**
MKAR	**Makanchi Array**	**146.73**	**90**	PKPbc	**PKPbc**	**10 23 37.1**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=243,slow=3.1,SNR=6.0						

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*ISCJB **17** 10:08:42.7±0.9, 60°.3S±0°.1×43°.6W±0°.2, h10km, mb3.9/4, Error ellipse: s-maj=19.4km s-min=12.1km az=158.8*
*IDC **17** 10:08:43.1±1.4, 60°.19S×43°.88W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/20, mbtmp4.0/5, ML4.1/1, Error ellipse: s-maj=40.6km s-min=31.8km az=13.0*
*NEIC **17** 10:08:44.7±2.0, 60°.2S±0°.1×43°.7W±0°.2, h10km±1km, mb4.3/9*
ISC 17 10:08:44.7±0.8, **60°.3S**±0°.1×**43°.7W**±0°.1, **h10km, n32,** σ**1**§**01**/32, **mb4.2**/7, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.14**	**36**	Pn	**Pn**	**10 10 28.5**	**-0.5**
PMSA	**Palmer Station**	**10.43**	**236**	Pn	**Pn**	**10 11 13.5**	**-0.5**
	1.7nm,0.3s,baz=97,slow=18,SNR=11						
PMSA	**Palmer Station**	**10.43**	**236**		**Pn**	**10 11 13.7**	**-0.3**
GO10	**Punta Arenas**	**16.54**	**283**	P	**Pn**	**10 12 37.1**	**+0.7**
GO10				IAmb	IAmb	10 12 47.0	
	comp=Z,8.4nm,0.8s						
TRQA	**Tornquist**	**25.07**	**324**	P	**P**	**10 14 09.9**	**+0.9**
TRQA				IAmb	IAmb	10 14 14.7	
	comp=Z,6.6nm,1.0s						
PLCA	**Paso Flores**	**25.66**	**307**	P	**P**	**10 14 14.9**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=178,slow=12,SNR=6.5						
PLCA	**Paso Flores**	**25.66**	**307**	P	**P**	**10 14 15.8**	**+1.4**
PLCA				IAmb	IAmb	10 14 24.5	
	comp=Z,13nm,1.3s						
GO04	**Tololo Observa**	**35.14**	**317**	P	**P**	**10 15 37.8**	**-0.7**
GO02	**Mina Guanaco**	**39.38**	**321**	P	**P**	**10 16 14.5**	**-0.1**
GO02				IAmb	IAmb	10 16 19.4	
	comp=Z,5.1nm,1.1s						
GO01	**Chusmiza**	**44.43**	**325**	P	**P**	**10 16 55.8**	**-0.3**
PB11	**IPOC Station P**	**44.48**	**324**	P	**P**	**10 16 54.9**	**-1.3**
PB11				IAmb	IAmb	10 17 12.2	
	comp=Z,7.5nm,1.0s						
MNMC	**Minye Minye**	**45.06**	**324**	P	**P**	**10 17 00.8**	**-0.1**
SIV	**San Ignacio**	**45.98**	**336**	P	**P**	**10 17 06.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=153,slow=5.4,SNR=4.6						
LPAZ	**La Paz**	**47.35**	**327**	P	**P**	**10 17 16.9**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=117,slow=4.5,SNR=2.9						
LPAZ	**La Paz**	**47.35**	**327**	P	**P**	**10 17 20.2**	**+0.9**
LSZ	**Lusaka**	**67.86**	**82**	P	**P**	**10 19 42.6**	**-0.6**
TOA0	**Torodi Ar. Sit**	**81.64**	**44**	P	**P**	**10 21 04.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**81.64**	**44**	P	**P**	**10 21 04.2**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=200,slow=6.6,SNR=5.9						
DLMT	**Dilton**	**119.23**	**311**	PKPdf	**PKPdf**	**10 27 32.6**	**-0.5**
BCPM	**Bancas Point**	**140.82**	**308**	PKPdf	**PKPdf**	**10 28 15.2**	**+2.0**
PMR	**Palmer**	**145.57**	**305**	PKPdf	**PKPdf**	**10 28 20.6**	**-0.8**
GHO	**Glory Hole Cre**	**145.58**	**306**	PKPdf	**PKPdf**	**10 28 21.2**	**-0.4**
MK31	**Makanchi Array**	**146.20**	**89**		**PKPdf**	**10 28 23.3**	**+0.2**
MKAR	**Makanchi Array**	**146.20**	**89**	PKPbc	**PKPdf**	**10 28 23.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=232,slow=1.8,SNR=13						
ILAR	**Eielson Array**	**146.31**	**311**	PKPbc	**PKPdf**	**10 28 22.4**	**-0.3**
	comp=Z,4.0nm,1.1s,baz=146,slow=2.2,SNR=9.5						
RND	**Reindeer**	**146.39**	**308**	PKPdf	**PKPdf**	**10 28 23.1**	**+0.2**
BMAR	**Burnt Mountain**	**146.73**	**316**	PKPdf	**PKPdf**	**10 28 24.0**	**+0.6**
TRF	**Thorofare Moun**	**146.98**	**308**	PKPdf	**PKPdf**	**10 28 24.8**	**+0.8**
PPLA	**Purkeypile**	**147.47**	**306**	PKPdf	**PKPdf**	**10 28 25.9**	**+1.1**
BPAW	**Bear Paw Mtn.**	**147.56**	**309**	PKPdf	**PKPdf**	**10 28 26.4**	**+1.5**
TOLK	**Toolik Lake Re**	**148.94**	**317**	PKPbc	**PKPbc**	**10 28 30.4**	**-0.6**
IMAR	**Indian Mountai**	**149.42**	**311**		**PKPbc**	**10 28 31.4**	**-0.8**

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*IDC **17** 10:09:46.8±1.1, 60°.88S×45°.40W, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/22, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=34.4km s-min=26.8km az=55.0*
*NEIC **17** 10:09:47.9±1.6, 61°.02S±0°.08×45°.6W±0°.2, h10km±1km, mb4.5/7*
ISC 17 10:09:48.1±0.9, **61°.0S**±0°.1×**45°.5W**±0°.1, **h10km, n24,** σ**1**§**05**/23, **mb4.2**/10, **1C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.27**	**40**	Pn	**Pn**	**10 11 47.2**	**-0.6**
PMSA	**Palmer Station**	**9.27**	**230**	Pn	**Pn**	**10 12 00.6**	**-1.0**
	0.7nm,0.3s,baz=35,slow=7.6,SNR=8.5						
PMSA	**Palmer Station**	**9.27**	**238**		**Pn**	**10 12 00.3**	**-1.3**
EFI	**East Falkland**	**11.61**	**318**	Pn	**Pn**	**10 12 34.7**	**+1.0**
TRQA	**Tornquist**	**25.16**	**328**	P	**P**	**10 15 12.5**	**-0.8**
PLCA	**Paso Flores**	**25.41**	**311**	P	**P**	**10 15 15.2**	**-0.4**
	2.8nm,0.9s,baz=180,slow=11,SNR=1.7						
PLCA	**Paso Flores**	**25.41**	**311**	P	**P**	**10 15 15.2**	**-0.4**
GO06	**Curarrehue**	**26.76**	**311**	P	**P**	**10 15 27.9**	**+0.1**
GO06				IAmb	IAmb	10 15 30.6	
	comp=Z,3.8nm,0.9s						
CFA	**Coronel Fontan**	**32.95**	**323**	P	**P**	**10 16 22.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=157,slow=9.8,SNR=3.4						
SYO	**Syowa Base**	**33.97**	**140**	*e*sP	sP	10 16 35.2	-0.1
GO04	**Tololo Observa**	**35.07**	**320**	P	**P**	**10 16 39.8**	**-1.5**
GO04				IAmb	IAmb	10 16 57.0	
	comp=Z,15nm,1.1s						
PB10	**IPOC Station P**	**41.24**	**324**	P	**P**	**10 17 32.7**	**-0.4**
GO01	**Chusmiza**	**44.52**	**327**	P	**P**	**10 17 59.9**	**-0.4**
GO01				IAmb	IAmb	10 17 60.0	
	comp=Z,4.3nm,1.0s						
SIV	**San Ignacio**	**46.30**	**339**	P	**P**	**10 18 12.5**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=184,slow=13,SNR=2.3						
LPAZ	**La Paz**	**47.49**	**330**	P	**P**	**10 18 25.1**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=113,slow=4.2,SNR=5.8						
LPAZ	**La Paz**	**47.49**	**330**	P	**P**	**10 18 24.2**	**+0.4**
LPAZ				IAmb	IAmb	10 18 30.8	
	comp=Z,3.6nm,0.8s						
NNA	**Nana**	**54.00**	**321**	P	**P**	**10 19 13.0**	**+0.7**
NNA				IAmb	IAmb	10 19 13.8	
	comp=Z,6.5nm,0.8s						
BANI	**BANI**	**81.58**	**336**	P	**P**	**10 22 08.2**	**+2.3**
TORD	**Torodi Ar. Bea**	**82.79**	**46**	P	**P**	**10 22 10.9**	**-1.3**
	comp=Z,1.7nm,1.0s,baz=208,slow=5.8,SNR=2.5						
ASAR	**Alice Springs**	**95.66**	**179**	P	**P**	**10 23 15.6**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=184,slow=5.6,SNR=3.6						
ILAR	**Eielson Array**	**146.10**	**311**	PKPbc	**PKPdf**	**10 29 25.6**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=150,slow=3.6,SNR=3.5						
ILAR	**Eielson Array**	**146.10**	**311**		**PKPab**	**10 29 27.0**	**-0.4**
MKAR	**Makanchi Array**	**147.11**	**91**	PKPbc	**PKPbc**	**10 29 30.1**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=250,slow=2.1,SNR=3.7						
MKAR	**Makanchi Array**	**147.11**	**91**		**PKPbc**	**10 29 30.6**	**+0.4**

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*ISCJB **17** 10:11:39.2±4.4, 60°.4S±0°.5×44°.6W±0°.3, h10km, mb3.9/3, Error ellipse: s-maj=77.2km s-min=18.7km az=168.2*
*IDC **17** 10:11:39.6±2.1, 60°.35S×44°.72W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=117.4km s-min=37.2km az=38.0*
*NEIC **17** 10:11:40.2±2.4, 60°.6S±0°.2×44°.6W±0°.3, h10km±2km, mb4.3/4*
ISC 17 10:11:39.8±1.6, **60°.6S**±0°.2×**44°.7W**±0°.1, **h10km, n15,** σ**1**§**12**/15, **mb4.0**/5, **Scotia Sea**

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

LGNR	Loginova	1.06 299	eP		Pn	10 12 43.9	-0.4
LGNR			eS		Sn	10 12 59.0	+0.5
LGNR	Loginova	1.06 299	PN		Pn	10 12 43.9	-0.4
LGNR			S		Sn	10 12 59.0	+0.5
MKZ	Mys Kozlova	1.08 199	eP		Pn	10 12 43.3	-1.1
MKZ			eS		Sn	10 12 57.8	-0.8
MKZ	Mys Kozlova	1.08 199	PN		Pn	10 12 43.3	-1.1
MKZ			S		Sn	10 12 57.8	-0.8
BZMR	Bezymyannaya	1.10 290	eP		Pn	10 12 43.9	-0.9
BZMR			eS		Sn	10 12 59.2	-0.1
BZMR	Bezymyannaya	1.10 290	PN		Pn	10 12 43.9	-0.9
BZMR			S		Sn	10 12 59.2	-0.1
BZWR	Bezymyannyi-We	1.11 291	eP		Pn	10 12 44.3	-0.6
BZWR			eS		Sn	10 12 59.7	+0.2
BZWR	Bezymyannyi-We	1.11 291	PN		Pn	10 12 44.3	-0.6
BZWR			S		Sn	10 12 59.7	+0.2
SMKR	Semkarok	1.12 334	eP		Pn	10 12 44.3	-0.6
SMKR			eS		Sn	10 13 00.3	+0.8
SMKR	Semkarok	1.12 334	PN		Pn	10 12 44.3	-0.6
SMKR			S		Sn	10 13 00.3	+0.8
TUMD	Tumrok D	1.17 252	eP		Pn	10 12 44.5	-1.0
TUMD			eS		Sn	10 12 59.9	-0.8
BDR	Baidarnaya	1.18 328	eP		Pn	10 12 45.3	-0.4
BDR			eS		Sn	10 13 01.0	+0.1
BDR	Baidarnaya	1.18 328	PN		Pn	10 12 45.3	-0.4
BDR			S		Sn	10 13 01.0	+0.1
KRSR	Krestovskiy	1.19 303	eP		Pn	10 12 44.7	-1.1
KRSR			eS		Sn	10 13 00.3	-0.9
KRSR	Krestovskiy	1.19 303	PN		Pn	10 12 44.7	-1.1
KRSR			S		Sn	10 13 00.3	-0.9
KIRR	Kirishev	1.19 289	eP		Pn	10 12 45.4	-0.5
KIRR			eS		Sn	10 13 01.8	+0.5
KIRR	Kirishev	1.19 289	PN		Pn	10 12 45.4	-0.5
KIRR			S		Sn	10 13 01.8	+0.5
KLY	Klyuchi	1.20 308	eP		Pn	10 12 43.7	-2.2
KLY			eS		Sn	10 12 59.0	-2.3
KLY	Klyuchi	1.20 308	PN		Pn	10 12 43.7	-2.2
KLY			S		Sn	10 12 59.0	-2.3
KMNR	Kamenistaya	1.20 279	eP		Pn	10 12 45.8	-0.3
KMNR			eS		Sn	10 13 02.1	+0.5
KMNR	Kamenistaya	1.20 279	PN		Pn	10 12 45.8	-0.3
KMNR			S		Sn	10 13 02.1	+0.5
KPT	Kopyto	1.26 289	eP		Pn	10 12 46.3	-0.4
KPT			eS		Sn	10 13 03.6	+0.8
KPT	Kopyto	1.26 289	PN		Pn	10 12 46.3	-0.4
KPT			S		Sn	10 13 03.6	+0.8
KZV	Kizimen	1.26 249	eP		Pn	10 12 45.7	-1.1
KZV			eS		Sn	10 13 02.1	-0.8
KZV	Kizimen	1.26 249	PN		Pn	10 12 45.7	-1.1
KZV			S		Sn	10 13 02.1	-0.8
SRKR	Sorokina	1.26 329	eP		Pn	10 12 46.4	-0.4
SRKR	Sorokina	1.26 329	PN		Pn	10 12 46.4	-0.4
TUMR	Tumrok	1.28 257	eP		Pn	10 12 46.6	-0.5
TUMR			eS		Sn	10 13 03.4	-0.1
TUMR	Tumrok	1.28 257	PN		Pn	10 12 46.6	-0.5
TUMR			S		Sn	10 13 03.4	-0.1
KOZ	Kozyrevsk	1.47 290	eP		Pn	10 12 49.1	-0.4
KOZ			eS		Sn	10 13 08.9	+1.1
KOZ	Kozyrevsk	1.47 290	PN		Pn	10 12 49.1	-0.4
KOZ			S		Sn	10 13 08.9	+1.1
SRDR	Sredinnyy	1.65 298	eP		Pn	10 12 51.1	-0.9
SRDR	Sredinnyy	1.65 298	PN		Pn	10 12 51.1	-0.9
ESO	Esso	2.08 281	eP		Pn	10 12 58.0	+0.2
ESO	Esso	2.08 281	PN		Pn	10 12 58.0	+0.2
BKI	Bering	2.11 99	eP		Pn	10 12 57.6	-0.5
BKI			eS		Sn	10 13 21.8	-1.4
BKI	Bering	2.11 99	PN		Pn	10 12 57.6	-0.5
BKI			S		Sn	10 13 21.8	-1.4
KII	Karymskiy	2.28 228	eP		Pn	10 13 00.4	-0.1
KII	Karymskiy	2.28 228	PN		Pn	10 13 00.4	-0.1
SPN	Mys Shipunski	2.83 210	eP		Pn	10 13 06.5	-1.5
SPN			eS		Sn	10 13 38.4	-2.5
SPN	Mys Shipunski	2.83 210	PN		Pn	10 13 06.5	-1.5
SPN			S		Sn	10 13 38.4	-2.5
NLC	Nalytchevo	2.98 217	eP		Pn	10 13 09.9	-0.1
NLC			eS		Sn	10 13 44.0	-0.5
NLC	Nalytchevo	2.98 217	PN		Pn	10 13 09.9	-0.1
NLC			S		Sn	10 13 44.0	-0.5
SDLR	Sedlovina	3.06 223	eP		Pn	10 13 11.4	+0.1
SDLR			eS		Sn	10 13 46.6	-0.2
SDLR	Sedlovina	3.06 223	PN		Pn	10 13 11.4	+0.1
SDLR			S		Sn	10 13 46.6	-0.2
KRX	Arik	3.10 226	eP		Pn	10 13 12.2	+0.5
KRX	Arik	3.10 226	PN		Pn	10 13 12.2	+0.5
KRER	Koryakskii	3.10 224	eP		Pn	10 13 12.4	+0.6
KRER	Koryakskii	3.10 224	PN		Pn	10 13 12.4	+0.6
SMAR	Somma	3.11 223	eP		Pn	10 13 12.2	+0.2
SMAR	Somma	3.11 223	PN		Pn	10 13 12.2	+0.2
AVH	Avacha	3.13 224	eP		Pn	10 13 12.9	+0.7
AVH	Avacha	3.13 224	PN		Pn	10 13 12.9	+0.7
UGLR	Uglovaya	3.14 222	eP		Pn	10 13 12.6	+0.3
UGLR	Uglovaya	3.14 222	PN		Pn	10 13 12.6	+0.3
KOK	Koryaka	3.15 225	eP		Pn	10 13 13.0	+0.6
KOK	Koryaka	3.15 225	PN		Pn	10 13 13.0	+0.6
GNL	Ganaly	3.18 235	eP		Pn	10 13 13.0	+0.2
GNL	Ganaly	3.18 235	PN		Pn	10 13 13.0	+0.2
DALK	Dalny	3.31 221	eP		Pn	10 13 14.3	-0.1
DALK			eS		Sn	10 13 52.9	+0.4
DALK	Dalny	3.31 221	PN		Pn	10 13 14.3	-0.1
DALK			S		Sn	10 13 52.9	+0.4
PET	Petropavlovsk	3.35 222	eP		Pn	10 13 15.6	+0.6
PET			eS		Sn	10 13 53.9	+0.4
PET	Petropavlovsk	3.35 222	ePN		Pn	10 13 15.3	+0.3
PET			eS		Sn	10 13 55.2	+1.7
PET			pmax		pmax		
	comp=Z,108nm,0.6s						
PET			smax		smax		
	comp=E,182nm,0.5s						
PET			smax		smax		
	comp=N,218nm,0.5s						
PET	Petropavlovsk	3.35 222			Pn	10 13 15.0	-0.1
PET			Sn		Sn	10 13 54.6	+1.0
PEA0B	Petropavlovsk-	3.67 230⇑	ePN		Pn	10 13 20.2	+0.7
PEA0B	Petropavlovsk-	3.67 230			Pn	10 13 19.7	+0.2
PETK	Petropavlovsk-	3.67 230	P		Pn	10 13 20.0	+0.5
	comp=N,3.1nm,0.3s,baz=61,slow=17,SNR=67						
PETK			S		Sn	10 13 59.7	-1.9
	comp=N,1.4nm,0.3s,baz=82,slow=23,SNR=2.7						
KRMR	Karymshinskiy	3.70 224	eP		Pn	10 13 20.6	+0.8
KRMR			eS		Sn	10 14 03.0	+0.8
KRMR	Karymshinskiy	3.70 224	PN		Pn	10 13 20.6	+0.8
KRMR			S		Sn	10 14 03.0	+0.8
OSSR	Ossora	3.70 6	eP		Pn	10 13 18.9	-0.9
OSSR			eS		Sn	10 13 59.7	-2.4
OSSR	Ossora	3.70 6	PN		Pn	10 13 18.9	-0.9
OSSR			S		Sn	10 13 59.7	-2.4
PALN	Palana	3.75 341	eP		Pn	10 13 21.1	+0.7
PALN	Palana	3.75 341	PN		Pn	10 13 21.1	+0.7
RUS	Russkaya	3.88 217	eP		Pn	10 13 22.7	+0.4
RUS	Russkaya	3.88 217	PN		Pn	10 13 22.7	+0.4
MTVR	Mutnovka	3.95 220	eP		Pn	10 13 24.6	+1.1
MTVR	Mutnovka	3.95 220	PN		Pn	10 13 24.6	+1.1
ASAK	Asacha	4.14 221	eP		Pn	10 13 26.9	+1.0
ASAK			eS		Sn	10 14 13.9	+0.9
ASAK	Asacha	4.14 221	PN		Pn	10 13 26.9	+1.0
ASAK			S		Sn	10 14 13.9	+0.9
KDTR	Khodutka, Kamc	4.55 216	eP		Pn	10 13 30.8	-0.6
KDTR	Khodutka, Kamc	4.55 216	PN		Pn	10 13 30.8	-0.6
TILK	Tilichiki	5.28 21	eP		Pn	10 13 42.2	+0.8
TILK	Tilichiki	5.28 21	PN		Pn	10 13 42.2	+0.8
SKR	Severo-Kuril's	6.17 220⇑	ePN		Pn	10 13 55.2	+1.6
KMSK	Kamenskaya	7.19 15	eP		Pn	10 14 08.6	+1.1
KMSK	Kamenskaya	7.19 15	PN		Pn	10 14 08.6	+1.1
SEY	Seymchan	8.95 329⇓	ePN		Pn	10 14 28.0	-3.6
BILL	Bilibino	12.64 7⇓	ePN		Pn	10 15 23.5	+1.7
BILL			pmax		pmax		
	comp=Z,19nm,2.1s						
TIXI	Tiksi	21.44 331⇑	eP		P	10 17 08.5	+0.7
TIXI			pmax		pmax		
	comp=Z,5.0nm,0.9s						
TIXI	Tiksi	21.44 331	P		P	10 17 07.2	-0.6
	comp=Z,3.4nm,0.7s,baz=127,slow=12,SNR=14						
TIXI	Tiksi	21.44 331	P		P	10 17 08.0	+0.2
TIXI			IAmb		IAmb	10 17 09.7	
	comp=Z,5.6nm,1.0s						
CNPM	China Poot	24.81 62	P		P	10 17 43.2	+2.0
CNPM			IAmb		IAmb	10 17 55.3	
	comp=Z,49nm,1.3s						
MJA0	Matsu Arr-Jizo	25.12 231	eP		P	10 17 44.3	+0.1
MJA0			pmax		pmax		
	comp=Z,1.0nm,0.6s						
MJAR	Matsushiro Arr	25.13 231	P		P	10 17 43.1	-1.2
MJAR			pmax		pmax		
	comp=Z,1.0nm,0.8s						
MJAR	Matsushiro Arr	25.13 231	P		P	10 17 43.4	-0.9
	comp=Z,1.9nm,0.7s,baz=23,slow=5.7,SNR=5.6						
MJAR	Matsushiro Arr	25.13 231	P		P	10 17 43.1	-1.2
SONM	Songino Array	34.66 281	P		P	10 19 07.4	-1.3
	comp=Z,0.3nm,0.6s,baz=64,slow=11,SNR=2.4						
SONM	Songino Array	34.66 281	P		P	10 19 06.5	-2.2
H11N2	WAKE ISLAND Hy	35.96 173	T		T	10 56 40.9	
	baz=355,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	35.97 173	T		T	10 56 42.0	
	baz=355,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	35.97 173	T		T	10 56 48.4	
	baz=355,slow=76,SNR=13						
KURK	Kurchatov	47.55 301⇓	eP		P	10 20 51.4	-2.7
KURK			pmax		pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	49.88 308	P		P	10 21 09.4	-2.6
	comp=Z,0.4nm,0.3s,baz=66,slow=6.7,SNR=3.8						
NVAR	Mina Array Bea	53.71 73	P		P	10 21 42.8	+1.9
	comp=Z,1.3nm,0.6s,baz=303,slow=7.4,SNR=16						
NVAR	Mina Array Bea	53.71 73	P		P	10 21 42.5	+1.6
PDAR	Pinedale Array	55.20 64	P		P	10 21 52.6	+0.9
	comp=Z,0.6nm,0.5s,baz=343,slow=2.9,SNR=9.4						
FINES	FINESS Array B	58.35 337	P		P	10 22 12.1	-1.2
	comp=Z,3.7nm,0.5s,baz=42,slow=7.8,SNR=23						
OBN	Obninsk	61.12 328	eP		P	10 22 31.2	-1.2
OBN			pmax		pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	61.51 344	P		P	10 22 33.4	-1.6
	comp=Z,0.7nm,0.7s,baz=18,slow=6.1,SNR=2.9						
AKASG	Malin Array Be	67.14 330	P		P	10 23 09.9	-2.1
	comp=Z,0.6nm,0.3s,baz=28,slow=6.6,SNR=4.2						
TXAR	Lajitas Array	68.49 69	P		P	10 23 21.8	+0.9
	comp=Z,0.6nm,0.7s,baz=315,slow=4.3,SNR=8.3						
WRA	Warramunga Arr	78.90 207	P		P	10 24 20.7	-0.9
	comp=Z,0.5nm,0.8s,baz=26,slow=6.6,SNR=2.1						
ASAR	Alice Springs	82.57 206	P		P	10 24 41.0	-0.2
	comp=Z,0.5nm,0.7s,baz=3.7,slow=5.2,SNR=5.9						

*IDC **17** 10:13:51.9±1.4, 60°.44S×46°.58W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/30, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=46.0km s-min=36.1km az=128.0*
*NEIC **17** 10:13:53.0±1.4, 60°.5S±0°.1×46°.3W±0°.3, h10km±1km, mb4.4/4*
ISC 17 10:13:53.5±0.8, 60°.5S±0°.1×46°.5W±0°.1, h10km, n17, σ1°32/17, mb4.2/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.22	45	Pn	Pn	10 15 51.0	-1.6
PMSA	Palmer Station	9.16	234	Pn	Pn	10 16 05.0	-0.4
	2.0nm,0.3s,baz=59,slow=9.6,SNR=9.1						
PMSA	Palmer Station	9.16	234		Pn	10 16 06.5	+1.1
TRQA	Tornquist	24.49	329	P	P	10 19 13.4	+0.8
PLCA	Paso Flores	24.73	312	P	P	10 19 16.0	+1.2
CPUP	Villa Florida	34.94	343	P	P	10 20 45.2	-0.1
MNMC	Minye Minye	44.47	328		P	10 22 05.7	+0.8
MNMC				IAmb	IAmb	10 22 06.9	
	comp=Z,2.5nm,0.6s						
BDFB	Brasilia	44.78	358	P	P	10 22 06.9	-0.4
	comp=Z,2.8nm,0.8s,baz=155,slow=12,SNR=3.0						
BDFB	Brasilia	44.78	358	P	P	10 22 06.7	-0.5
SIV	San Ignacio	45.66	340	P	P	10 22 13.7	-0.5
	comp=Z,1.8nm,0.7s,baz=194,slow=7.1,SNR=4.4						
SAML	Samuel	52.92	339	P	P	10 23 09.5	-0.1
LBTB	Lobatse	59.76	88	P	P	10 24 01.6	+3.1
LBTB				IAmb	IAmb	10 24 14.3	
	comp=Z,4.8nm,1.2s						
SNZO	South Karori	73.12	211	P	P	10 25 21.3	-2.2
TORD	Torodi Ar. Bea	82.79	47	P	P	10 26 18.0	+0.5
	comp=Z,0.3nm,0.5s,baz=208,slow=7.3,SNR=2.5						
ILAR	Eielson Array	145.41	312	PKPbc	PKPdf	10 33 28.9	-1.0
	comp=Z,0.6nm,0.6s,baz=125,slow=1.7,SNR=5.2						
ILAR	Eielson Array	145.41	312		PKPdf	10 33 29.1	-0.8
MKAR	Makanchi Array	147.59	91	PKPbc	PKPbc	10 33 36.3	-0.7
	comp=Z,0.4nm,0.5s,baz=235,slow=5.1,SNR=2.8						

*ISCJB **17** 10:18:33.8±0.3, 60°.36S±0°.06×45°.8W±0°.1, h10km, mb4.3/14, Error ellipse: s-maj=10.4km s-min=6.7km az=137.6*
*IDC **17** 10:18:33.4±0.6, 60°.37S×45°.84W, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/31, mbtmp4.3/15, ML4.1/2, Error ellipse: s-maj=22.6km s-min=14.7km az=48.0*
*NEIC **17** 10:18:36.5±1.5, 60°.38S±0°.06×45°.8W±0°.2, h18km±4km, mb4.5/17*
ISC 17 10:18:35.1±0.4, 60°.38S±0°.07×45°.89W±0°.07, h10km, n59, σ1°27/58, mb4.4/22, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.95	44		Pn	10 20 28.5	-2.0
PMSA	Palmer Station	9.45	234	Pn	Pn	10 20 50.9	0.0
	4.5nm,0.3s,baz=64,slow=9.9,SNR=36						
PMSA				Sn	Sn	10 22 33.2	-3.9
	0.3nm,0.3s,baz=239,slow=18,SNR=2.2						
PMSA	Palmer Station	9.45	234		Pn	10 20 50.8	-0.1
USHA	Ushuaia	13.26	285	Pn	Pn	10 21 43.8	+0.6
	0.3nm,0.3s,baz=134,slow=10,SNR=5.2						
GO10	Punta Arenas	15.50	287	P	Pn	10 22 17.2	+3.8
GO10				IAmb	IAmb	10 22 19.2	
	comp=Z,40nm,0.9s						
VNA3	Neumayer Olymp	18.04	142	P	Pn	10 22 46.8	+1.4
VNA1	Neumayer--Stat	18.31	140	P	Pn	10 22 48.5	-0.2
VNA2	Neumayer--Watz	18.66	140	P	P	10 22 54.5	+1.8
	baz=291,slow=13						
SNAA	Sanae	20.26	141	P	P	10 23 11.7	+1.5
SNAA	Sanae	20.26	141	P	P	10 23 11.7	+1.5
	comp=Z,5.8nm,0.6s,baz=290,slow=11,SNR=9.8						
TRQA	Tornquist	24.55	328	P	P	10 23 56.1	+1.3
TRQA				IAmb	IAmb	10 23 59.4	
	comp=Z,18nm,0.9s						
PLCA	Paso Flores	24.88	311	P	P	10 23 56.4	-1.3
	comp=Z,2.7nm,0.8s,baz=201,slow=8.5,SNR=7.0						
PLCA	Paso Flores	24.88	311	P	P	10 23 58.3	+0.6
QSPA	South Pole Qui	29.86	180	P	P	10 24 44.3	+2.0
	comp=Z,9.3nm,0.9s,baz=165,slow=5.5,SNR=5.2						
QSPA	South Pole Qui	29.86	180	P	P	10 24 42.4	+0.1
CFA	Coronel Fontan	32.37	323	P	P	10 25 05.4	+0.9
	comp=Z,1.7nm,0.7s,baz=174,slow=4.5,SNR=4.4						
SYO	Syowa Base	34.55 141⇓	eX		P	10 25 32.0	+9.0
CPUP	Villa Florida	34.93 342	P		P	10 25 27.0	+0.2
	comp=Z,1.7nm,0.7s,baz=176,slow=8.1,SNR=4.6						
CPUP	Villa Florida	34.93 342	P		P	10 25 27.6	+0.8
GO02	Mina Guanaco	38.81 324	P		P	10 26 01.9	+1.8
GO02				IAmb	IAmb	10 26 10.5	
	comp=Z,7.4nm,0.8s						
SBA	Scott Base	40.57 190	P		P	10 26 16.0	+2.0
LVC	Limon Verde	41.04 327	P		P	10 26 19.6	+0.8
	comp=Z,1.2nm,0.4s,baz=23,slow=6.2,SNR=2.9						
LVC	Limon Verde	41.04 327	P		P	10 26 19.2	+0.4
GO01	Chusmiza	43.92 327	P		P	10 26 43.5	+1.1
MNMC	Minye Minye	44.54 327	P		P	10 26 47.9	+0.8
SIV	San Ignacio	45.67 339	P		P	10 26 55.7	-0.2
	comp=Z,3.8nm,0.6s,baz=176,slow=8.6,SNR=17						
LPAZ	La Paz	46.88 330	P		P	10 27 06.8	+0.7
	comp=Z,1.4nm,0.5s,baz=132,slow=4.0,SNR=10.0						
LPAZ	La Paz	46.88 330	P		P	10 27 06.4	+0.4
SUR	Sutherland	51.04 88	P		P	10 27 38.4	+1.1
	comp=Z,4.4nm,0.8s,baz=204,slow=13,SNR=5.1						
SUR	Sutherland	51.04 88	P		P	10 27 38.2	+0.9
SAML	Samuel	52.93 338	P		P	10 27 51.5	+0.2
SAML				IAmb	IAmb	10 28 02.1	
	comp=Z,3.5nm,1.0s						
BOSA	Boshof	56.32 89	P		P	10 28 15.5	-0.5
	comp=Z,1.4nm,0.5s,baz=236,slow=4.7,SNR=3.7						
LBTB	Lobatse	59.47 87	P		P	10 28 37.9	-0.2
LBTB				IAmb	IAmb	10 28 53.1	
	comp=Z,2.8nm,0.8s						
TSUM	Tsumeb	60.44 76	P		P	10 28 44.9	0.0
OTAV	Otavalo	65.47 324	P		P	10 29 19.6	+0.9
OTAV				IAmb	IAmb	10 29 33.3	
	comp=Z,1.0nm,0.6s						
LSZ	Lusaka	68.98 84	P		P	10 29 40.4	-0.1
LSZ				IAmb	IAmb	10 29 47.1	
	comp=Z,2.4nm,0.9s						
LIC	Lamto	73.74 43	eP		P	10 30 09.2	+0.1
	comp=Z,41nm,0.8s						
KIC	Kosan Boka	73.96 43	eP		P	10 30 10.4	0.0
	comp=Z,22nm,1.1s						
TIC	Toumodi	74.13 43	eP		P	10 30 11.4	0.0
DBIC	Dimbokro	74.21 43	P		P	10 30 11.7	-0.2
	comp=Z,6.2nm,0.9s,baz=182,slow=8.4,SNR=5.7						
DBIC	Dimbokro	74.21 43	P		P	10 30 11.9	0.0
OUZ	Omahuta	79.38 212	P		P	10 30 40.4	-0.4
OUZ				IAmb	IAmb	10 30 41.0	
	comp=Z,6.7nm,0.9s						
TOA0	Torodi Ar. Sit	82.52 47	P		P	10 30 58.0	+0.3
TOA0				IAmb	IAmb	10 30 59.0	
	comp=Z,6.2nm,1.1s						
TORD	Torodi Ar. Bea	82.52 47	P		P	10 30 58.0	+0.3
	comp=Z,2.7nm,0.7s,baz=206,slow=5.8,SNR=9.6						
TORD	Torodi Ar. Bea	82.52 47	P		P	10 30 57.3	-0.4
ASAR	Alice Springs	96.26 180	P		P	10 32 01.9	-1.6
	comp=Z,0.3nm,0.7s,baz=160,slow=4.2,SNR=3.6						
ASAR	Alice Springs	96.26 180	P		P	10 32 01.8	-1.8
AKASG	Malin Array Be	126.06 49	PKP		PKPdf	10 37 33.9	-2.2
	comp=Z,0.7nm,0.5s,baz=237,slow=2.0,SNR=3.4						
AKASG	Malin Array Be	126.06 49			PKPdf	10 37 34.2	-1.9
CMAR	Chiang Mai Arr	131.19 133	PKP		PKPdf	10 37 46.0	-1.0
	comp=Z,0.6nm,0.7s,baz=223,slow=4.2,SNR=3.7						
CMAR	Chiang Mai Arr	131.19 133			PKPdf	10 37 46.2	-0.7
YKA	Yellowknife Ar	133.23 324	PKP		PKPdf	10 37 49.2	-0.1
	comp=Z,0.6nm,0.5s,baz=238,slow=3.6,SNR=4.6						
FINES	FINESS Array B	133.41 39	PKP		PKPdf	10 37 48.1	-1.6
	comp=Z,5.2nm,0.9s,baz=302,slow=3.6,SNR=4.2						
ARCES	ARCESS Array B	139.17 31	PKhKP	PKPpre		10 37 49.3	
	comp=Z,5.4nm,1.1s,baz=319,slow=3.5,SNR=4.4						
ILAR	Eielson Array	145.56 312	PKPbc		PKPdf	10 38 10.9	-0.8
	comp=Z,2.0nm,0.5s,baz=131,slow=2.8,SNR=28						
ILAR	Eielson Array	145.56 312			PKPdf	10 38 10.7	-1.0
MKAR	Makanchi Array	147.31 91	PKPbc		PKPdf	10 38 16.1	+0.8
	comp=Z,2.0nm,0.5s,baz=232,slow=3.0,SNR=13						
MKAR	Makanchi Array	147.31 91			PKPdf	10 38 15.6	+0.3
SONM	Songino Array	159.66 116	PKPab		PKPab	10 39 10.7	-1.0
	comp=Z,0.4nm,0.4s,baz=220,slow=3.2,SNR=3.5						

*DDA **17** 10:22:06.9, 37°.25N×31°.93E, h7km±2km, ML2.3*
*ISK **17** 10:22:08.2, 37°.33N×31°.99E, h12km, ML3.0/12*
ISC 17 10:22:07.2±1.4, 37°.30N±0°.04×31°.99E±0°.04, h2km±14km, n16, σ0°42/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	Antalya-Kepez	0.50	218	i P	Pg	10 22 16.5	-0.3
KEPZ				i S	Sg	10 22 22.1	-1.1
KEPZ				IAML_P			
	comp=Z,983nm,0.3s						
KONT	Konya--Tatoy	0.71	24	i P	Pb	10 22 22.3	0.0
KONT				IAML_P			
	comp=Z,366nm,0.1s						
KONT	Konya--Tatoy	0.71	24	PG	Pb	10 22 22.2	-0.1
KONT				SG	Sb	10 22 32.3	-0.2
LADK	Ladik-KONYA	0.95	18	PG	Pb	10 22 26.5	+0.1
LADK				SG	Sb	10 22 39.5	0.0
ERMK	Ermenek	0.99	131	i P	Pg	10 22 26.2	+0.1
ERMK				IAML_P			
	comp=Z,173nm,0.1s						
GAZI	Gazipasa	1.09	166	i P	Pg	10 22 28.2	+0.1
GAZI				i S	Sg	10 22 42.5	+0.3
GAZI				IAML_P			
	comp=Z,483nm,0.2s						
BCK	Bucak	1.13	279	PN	Pn	10 22 30.4	+0.4
BCK				SN	Sn	10 22 45.9	-0.2
ISP	Isparta	1.28	295	PN	Pg	10 22 32.5	+0.8
BERE	Bereket-Mersin	1.37	133	PN	Pb	10 22 33.6	0.0
TEVE	Tevekalti-Mers	1.45	126	PN	Pb	10 22 35.0	+0.2
TEKE	Tekeli-Mersin	1.46	142	PN	Pn	10 22 34.6	+0.1
CHBY	Cihanbeyli	1.47	29	PN	Pb	10 22 35.0	-0.2
KIZT	Kizilcal	1.58	357	PN	Pn	10 22 35.9	-0.4
KEBE	Keben-Mersin	1.62	121	PN	Pb	10 22 37.7	-0.1
AKKU	Akkuyu-Mersin	1.69	132	PN	Pb	10 22 39.3	+0.4
IKL	Isikli	1.72	127	PN	Pb	10 22 40.0	+0.5

*ISCJB **17** 10:23:17.8±1.2, 2°.5N±0°.2×91°.8E±0°.1, h10km, mb3.6/5, Error ellipse: s-maj=25.1km s-min=18.2km az=12.4*
*IDC **17** 10:23:18.6±1.4, 2°.53N×91°.85E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/49, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=41.8km s-min=26.8km az=37.0*
ISC 17 10:23:19.7±1.2, 2°.5N±0°.2×91°.8E±0°.1, h10km, n11, σ0°87/8, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.03	294	Pn	Pn	10 26 10.4	-1.1
	0.7nm,0.3s,baz=116,slow=12,SNR=4.9						
PALK				Sn	Sn	10 28 15.3	-11

comp=Z,4.0nm,0.8s,baz=203,slow=1.5,SNR=18
MKAR Makanchi Array 146.38 89 PKPdf 10 46 21.1 -0.2
KURBB Kurchatov Arra 147.06 81 PKPbc **PKPdf 10 46 23.2 +1.0**
comp=Z,2.2nm,0.3s,baz=230,slow=4.1,SNR=7.2
KURK Kurchatov 147.16 81 PKPbc 10 46 24.1 -0.6
IMAR Indian Mountai 149.35 311 PKPbc 10 46 29.7 -0.3
SONM Songino Array 158.82 113 PKPab **PKPab 10 47 14.5 -1.2**
comp=Z,1.0nm,0.9s,baz=226,slow=3.9,SNR=5.7

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*ISCJB **17** 10:29:56.5±0.4, 60.°48S±0.°07×43.°2W±0.°1, h16km, mb4.2/9, Error ellipse: s-maj=11.9km s-min=6.8km az=136.8*
*IDC **17** 10:29:56.8±0.9, 60.°30S×43.°37W, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/22, mbtmp4.2/11, ML3.7/2, Error ellipse: s-maj=32.2km s-min=17.3km az=40.0*
*NEIC **17** 10:29:58.7±1.4, 60.°4S±0.°1×43.°3W±0.°2, h14km±4km, mb4.7/22*
ISC 17 10:29:58.5±0.5, 60.°45S±0.°09×43.°37W±0.°08, h16km, n56, σ0s94/54, mb4.6/19, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.21**	**34**	Pn	**Pn**	**10 31 43.1**	**-0.1**
PMSA	**Palmer Station**	**10.44**	**237**	Pn	**Pn**	**10 32 28.1**	**+0.8**
	0.5nm,0.3s,baz=73,slow=10,SNR=5.5						
PMSA	**Palmer Station**	**10.44**	**237**		**Pn**	**10 32 28.6**	**+1.4**
USHA	**Ushuaia**	**14.49**	**282**	Pn	**P**	**10 33 26.8**	**-2.5**
	0.4nm,0.3s,baz=117,slow=11,SNR=3.6						
VNA3	**Neumayer Olymp**	**17.21**	**143**	P	**Pn**	**10 33 56.1**	**-1.8**
VNA1	**Neumayer--Stat**	**17.45**	**140**	P	**Pn**	**10 33 58.7**	**-2.0**
VNA2	**Neumayer--Watz**	**17.81**	**141**	P	**Pn**	**10 34 04.5**	**-0.8**
	baz=300,slow=13						
SNAA	**Sanae**	**19.43**	**142**	P	**P**	**10 34 24.2**	**+0.5**
SNAA	**Sanae**	**19.43**	**142**	P	**P**	**10 34 23.8**	**0.0**
	0.2nm,0.3s,baz=277,slow=7.6,SNR=6.9						
SNAA	**Sanae**	**19.43**	**142**	P	**P**	**10 34 24.0**	**+0.2**
TRQA	**Tornquist**	**25.31**	**324**	P	**P**	**10 35 25.8**	**+1.6**
PLCA	**Paso Flores**	**25.89**	**307**	P	**P**	**10 35 28.6**	**-0.8**
	2.9nm,0.7s,baz=188,slow=8.4,SNR=7.9						
PLCA	**Paso Flores**	**25.89**	**307**	P	**P**	**10 35 29.6**	**+0.1**
GO06	**Curarrehue**	**27.24**	**307**	P	**P**	**10 35 40.9**	**-0.8**
GO06				IAmb	IAmb	10 35 43.4	
	comp=Z,5.6nm,0.8s						
GO05	**Huala**	**31.41**	**311**	P	**P**	**10 36 18.0**	**-0.6**
GO05				IAmb	IAmb	10 36 34.2	
	comp=Z,19nm,1.1s						
ROC1	**El Roble**	**32.91**	**314**	P	**P**	**10 36 31.9**	**-0.1**
CFA	**Coronel Fontan**	**33.21**	**319**	P	**P**	**10 36 34.3**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=171,slow=8.3,SNR=4.7						
GO04	**Tololo Observa**	**35.38**	**316**	P	**P**	**10 36 53.2**	**-0.2**
CPUP	**Villa Florida**	**35.43**	**338**	P	**P**	**10 36 53.6**	**0.0**
	comp=Z,2.5nm,1.0s,baz=177,slow=11,SNR=3.9						
CPUP	**Villa Florida**	**35.43**	**338**	P	**P**	**10 36 54.6**	**+1.1**
GO03	**Copiap**	**37.57**	**319**	P	**P**	**10 37 11.9**	**0.0**
GO03				IAmb	IAmb	10 37 12.3	
	comp=Z,9.9nm,0.8s						
GO02	**Mina Guanaco**	**39.63**	**321**	P	**P**	**10 37 30.2**	**+0.7**
GO02				IAmb	IAmb	10 37 30.3	
	comp=Z,12nm,0.6s						
LVC	**Limon Verde**	**41.82**	**323**	P	**P**	**10 37 47.1**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=106,slow=7.7,SNR=3.7						
LVC	**Limon Verde**	**41.82**	**323**	P	**P**	**10 37 48.0**	**+0.4**
LVC				IAmb	IAmb	10 37 57.2	
	comp=Z,8.6nm,1.1s						
PB04	**IPOC Station P**	**42.45**	**322**	P	**P**	**10 37 52.5**	**-0.2**
PB04				IAmb	IAmb	10 38 10.1	
	comp=Z,26nm,1.1s						
PB01	**IPOC Station P**	**43.47**	**323**	P	**P**	**10 38 01.7**	**+1.0**
PB01				IAmb	IAmb	10 38 02.0	
	comp=Z,23nm,0.9s						
GO01	**Chusmiza**	**44.68**	**324**	P	**P**	**10 38 11.9**	**+0.9**
GO01				IAmb	IAmb	10 38 12.3	
	comp=Z,8.6nm,0.6s						
PB11	**IPOC Station P**	**44.73**	**324**	P	**P**	**10 38 11.2**	**+0.2**
PB11				IAmb	IAmb	10 38 12.9	
	comp=Z,11nm,1.0s						
BDFB	**Brasilia**	**44.87**	**354**	P	**P**	**10 38 10.1**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=207,slow=9.0,SNR=2.5						
MNMC	**Minye Minye**	**45.30**	**324**	P	**P**	**10 38 16.4**	**+0.7**
SIV	**San Ignacio**	**46.22**	**336**	P	**P**	**10 38 21.9**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=179,slow=7.4,SNR=11						
LPAZ	**La Paz**	**47.59**	**327**	P	**P**	**10 38 34.3**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=107,slow=5.2,SNR=11						
LPAZ	**La Paz**	**47.59**	**327**	P	**P**	**10 38 34.4**	**+0.3**
SAML	**Samuel**	**53.49**	**335**	P	**P**	**10 39 18.2**	**+0.3**
BOSA	**Boshof**	**55.07**	**87**	P	**P**	**10 39 29.2**	**-0.3**
LBTB	**Lobatse**	**58.22**	**85**	P	**P**	**10 39 50.9**	**-1.1**
	comp=Z,3.6nm,0.8s,baz=220,slow=7.3,SNR=4.2						
LBTB	**Lobatse**	**58.22**	**85**	P	**P**	**10 39 51.1**	**-0.8**
LBTB				IAmb	IAmb	10 39 53.1	
	comp=Z,5.7nm,0.9s						
OTAV	**Otavalo**	**66.29**	**321**	P	**P**	**10 40 47.8**	**+1.4**
OTAV				IAmb	IAmb	10 40 52.4	
	comp=Z,6.4nm,1.1s						
PAYG	**Puerto Ayora**	**69.59**	**309**	P	**P**	**10 41 07.0**	**+0.4**
MCLT	**Moule a Chique**	**75.24**	**342**	P	**P**	**10 41 39.7**	**-0.5**
MLPR	**Magueyes Islan**	**80.46**	**337**	P	**P**	**10 42 09.2**	**+0.1**
CBYP	**Canovanas**	**80.53**	**338**	P	**P**	**10 42 10.5**	**+0.9**
CBYP				IAmb	IAmb	10 42 15.8	
	comp=Z,15nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.68**	**44**	P	**P**	**10 42 16.9**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=210,slow=4.1,SNR=3.8						
INK	**Inuvik**	**143.78**	**321**	PKhKP	PKPab	10 49 27.8	-0.1
	comp=Z,1.5nm,0.8s,baz=97,slow=1.9,SNR=6.2						
INK	**Inuvik**	**143.78**	**321**		PKPab	10 49 28.1	+0.2
MKAR	**Makanchi Array**	**146.06**	**89**	PKPbc	**PKPab**	**10 49 37.8**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=249,slow=3.4,SNR=4.7						
MKAR	**Makanchi Array**	**146.06**	**89**		**PKPab**	**10 49 38.2**	**+1.0**
ILAR	**Eielson Array**	**146.55**	**311**	PKPbc	**PKPbc**	**10 49 37.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=141,slow=3.2,SNR=12						
ILAR	**Eielson Array**	**146.55**	**311**		**PKPbc**	**10 49 37.3**	**-0.1**
KURBB	**Kurchatov Arra**	**146.76**	**81**	PKPbc	**PKPbc**	**10 49 38.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=243,slow=2.5,SNR=4.6						
KURK	**Kurchatov**	**146.86**	**81**		**PKPab**	**10 49 39.5**	**-0.6**
COLA	**College**	**146.96**	**311**		**PKPbc**	**10 49 38.1**	**-0.4**
BPAW	**Bear Paw Mtn.**	**147.79**	**308**		**PKPbc**	**10 49 40.4**	**-0.5**
TOLK	**Toolik Lake Re**	**149.18**	**317**		**PKPbc**	**10 49 44.4**	**-0.1**
IMAR	**Indian Mountai**	**149.66**	**311**		**PKPbc**	**10 49 45.8**	**+0.2**
SONM	**Songino Array**	**158.49**	**112**	PKPab	**PKPab**	**10 50 31.6**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=224,slow=4.0,SNR=3.4						

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*ISCJB **17** 10:35:37.1±0.9, 60.°5S±0.°1×44.°7W±0.°3, h10km, mb3.7/3, Error ellipse: s-maj=21.8km s-min=14.7km az=40.4*
*IDC **17** 10:35:37.7±2.1, 60.°60S×45.°40W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=113.8km s-min=39.7km az=44.0*
*NEIC **17** 10:35:40.2±1.0, 60.°5S±0.°1×44.°9W±0.°3, h15km±5km, mb4.2/8*
ISC 17 10:35:39.1±1.0, 60.°5S±0.°2×45.°0W±0.°2, h10km, n17, σ0s68/17, mb4.1/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.72**	**40**	Pn	**Pn**	**10 37 31.2**	**-0.2**
SNAA	**Sanae**	**19.88**	**141**	P	**P**	**10 40 10.2**	**0.0**
TRQA	**Tornquist**	**24.90**	**327**	P	**P**	**10 41 02.8**	**+0.9**
TRQA				IAmb	IAmb	10 41 03.5	
	comp=Z,3.6nm,0.8s						
PLCA	**Paso Flores**	**25.30**	**310**	P	**P**	**10 41 04.3**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=198,slow=3.2,SNR=2.9						
PLCA	**Paso Flores**	**25.30**	**310**	P	**P**	**10 41 04.8**	**-0.8**
GO04	**Tololo Observa**	**34.88**	**319**	P	**P**	**10 42 30.9**	**+0.2**
GO02	**Mina Guanaco**	**39.18**	**323**		**P**	**10 43 07.8**	**+0.5**
GO02				IAmb	IAmb	10 43 09.5	
	comp=Z,4.2nm,0.8s						
PB01	**IPOC Station P**	**43.04**	**325**	P	**P**	**10 43 39.0**	**+0.1**
GO01	**Chusmiza**	**44.27**	**326**	P	**P**	**10 43 49.5**	**+0.4**
GO01				IAmb	IAmb	10 43 51.2	
	comp=Z,6.7nm,1.4s						
MNMC	**Minye Minye**	**44.89**	**326**	P	**P**	**10 43 54.4**	**+0.5**
SIV	**San Ignacio**	**45.95**	**338**	P	**P**	**10 44 01.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=218,slow=12,SNR=4.4						
LPAZ	**La Paz**	**47.21**	**329**	P	**P**	**10 44 13.8**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=190,slow=6.1,SNR=3.4						
LPAZ	**La Paz**	**47.21**	**329**	P	**P**	**10 44 12.9**	**+0.3**
OTAV	**Otavalo**	**65.84**	**323**	P	**P**	**10 46 24.8**	**-0.3**
OTAV				IAmb	IAmb	10 46 31.4	
	comp=Z,2.9nm,1.0s						
ILAR	**Eielson Array**	**145.98**	**311**	PKPbc	**PKPdf**	**10 55 16.4**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=160,slow=4.9,SNR=5.9						
ILAR	**Eielson Array**	**145.98**	**311**		**PKPab**	**10 55 18.5**	**+0.6**
MKAR	**Makanchi Array**	**146.85**	**90**	PKPbc	**PKPbc**	**10 55 20.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=235,slow=2.6,SNR=7.8						

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*IDC **17** 10:36:07.8±1.0, 60.°43S×43.°04W, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, ML3.5/2, Error ellipse: s-maj=34.3km s-min=19.9km az=35.0*
*ISCJB **17** 10:36:08.7±0.5, 60.°54S±0.°08×43.°1W±0.°2, h18km, mb4.1/7, Error ellipse: s-maj=16.6km s-min=7.8km az=140.7*
*NEIC **17** 10:36:10.1±1.3, 60.°4S±0.°2×43.°1W±0.°2, h12km±4km, mb4.4/8*
ISC 17 10:36:10.5±0.6, 60.°5S±0.°1×43.°0W±0.°1, h18km, n28, σ0s95/28, mb4.2/11, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**10.56**	**237**	Pn	**Pn**	**10 38 41.1**	**+0.4**
	0.3nm,0.3s,baz=60,slow=15,SNR=3.5						
PMSA	**Palmer Station**	**10.56**	**237**		**Pn**	**10 38 41.3**	**+0.6**
VNA3	**Neumayer Olymp**	**17.09**	**143**	P	**Pn**	**10 40 08.8**	**+0.7**
VNA1	**Neumayer--Stat**	**17.32**	**140**	P	**Pn**	**10 40 08.6**	**-2.3**
VNA2	**Neumayer--Watz**	**17.68**	**141**	P	**Pn**	**10 40 14.8**	**-0.6**
	baz=327,slow=14						
SNAA	**Sanae**	**19.30**	**142**	P	**Pn**	**10 40 35.3**	**+0.1**
SNAA	**Sanae**	**19.30**	**142**	P	**P**	**10 40 35.1**	**+1.0**
	0.2nm,0.3s,baz=257,slow=10.0,SNR=6.9						
SNAA	**Sanae**	**19.30**	**142**	P	**Pn**	**10 40 35.6**	**+0.4**
TRQA	**Tornquist**	**25.43**	**323**	P	**P**	**10 41 38.9**	**+2.0**
TRQA				IAmb	IAmb	10 41 39.3	
	comp=Z,5.2nm,0.9s						
PLCA	**Paso Flores**	**26.04**	**307**	P	**P**	**10 41 42.0**	**-0.5**
	comp=Z,3.0nm,1.0s,baz=179,slow=5.7,SNR=4.4						
PLCA	**Paso Flores**	**26.04**	**307**	P	**P**	**10 41 41.7**	**-0.8**
CFA	**Coronel Fontan**	**33.34**	**319**	P	**P**	**10 42 47.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=198,slow=6.4,SNR=3.0						
GO02	**Mina Guanaco**	**39.75**	**321**	P	**P**	**10 43 41.8**	**-0.4**
GO02				IAmb	IAmb	10 44 00.5	
	comp=Z,7.5nm,1.1s						
PB01	**IPOC Station P**	**43.59**	**323**	P	**P**	**10 44 13.0**	**-0.4**
PB01				IAmb	IAmb	10 44 14.0	
	comp=Z,12nm,0.9s						
GO01	**Chusmiza**	**44.80**	**324**	P	**P**	**10 44 24.4**	**+0.8**
GO01				IAmb	IAmb	10 44 39.9	
	comp=Z,5.9nm,1.1s						
PB11	**IPOC Station P**	**44.85**	**323**	P	**P**	**10 44 23.0**	**-0.6**
BDFB	**Brasilia**	**44.91**	**353**	P	**P**	**10 44 24.3**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=126,slow=8.7,SNR=4.1						
MNMC	**Minye Minye**	**45.42**	**324**	P	**P**	**10 44 28.5**	**+0.2**
SIV	**San Ignacio**	**46.31**	**336**	P	**P**	**10 44 34.6**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=169,slow=9.1,SNR=5.7						
LPAZ	**La Paz**	**47.71**	**327**	P	**P**	**10 44 45.4**	**-1.2**
	comp=Z,1.9nm,1.0s,baz=124,slow=8.8,SNR=5.4						
LPAZ	**La Paz**	**47.71**	**327**	P	**P**	**10 44 45.7**	**-1.0**
BOSA	**Boshof**	**54.90**	**87**	P	**P**	**10 45 39.5**	**-0.4**
	comp=Z,4.4nm,1.1s,baz=220,slow=7.9,SNR=2.2						
BOSA	**Boshof**	**54.90**	**87**	P	**P**	**10 45 40.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**81.58**	**44**	P	**P**	**10 48 28.3**	**+1.4**
	comp=Z,2.0nm,1.0s,baz=201,slow=6.2,SNR=4.7						
MKAR	**Makanchi Array**	**145.89**	**88**	PKPbc	**PKPdf**	**10 55 46.3**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=322,slow=0.6,SNR=5.3						
MKAR	**Makanchi Array**	**145.89**	**88**		**PKiKP**	**10 55 49.5**	**-1.7**
ILAR	**Eielson Array**	**146.69**	**311**	PKPbc	**PKPbc**	**10 55 49.2**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=176,slow=1.9,SNR=5.7						
ILAR	**Eielson Array**	**146.69**	**311**		**PKPab**	**10 55 50.1**	**-0.6**

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*IDC **17** 10:39:35.6±0.7, 60.°24S×47.°14W, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, ML3.7/1, Error ellipse: s-maj=23.7km s-min=17.1km az=63.0*
*ISCJB **17** 10:39:36.6±0.4, 60.°18S±0.°07×46.°8W±0.°2, h10km, mb4.3/9, Error ellipse: s-maj=14.5km s-min=7.1km az=145.8*
*NEIC **17** 10:39:38.1±2.5, 60.°30S±0.°09×46.°9W±0.°2, h10km±1km, mb4.6/13*
ISC 17 10:39:38.2±0.6, 60.°23S±0.°09×46.°9W±0.°1, h10km, n38, σ1s10/35, mb4.5/12, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.21**	**48**	Pn	**Pn**	**10 41 37.0**	**-0.1**
PMSA	**Palmer Station**	**9.13**	**233**	Pn	Pn	10 41 45.2	-4.5
	0.8nm,0.3s,baz=55,slow=11,SNR=5.5						
PMSA	**Palmer Station**	**9.13**	**233**		Pn	10 41 45.3	-4.4
EFI	**East Falkland**	**10.60**	**319**	Pn	**Pn**	**10 42 10.5**	**+0.5**
VNA3	**Neumayer Olymp**	**18.46**	**142**	P	**P**	**10 43 55.2**	**+1.6**
VNA1	**Neumayer--Stat**	**18.75**	**140**	P	**P**	**10 43 57.6**	**+0.9**
VNA2	**Neumayer--Watz**	**19.09**	**140**	P	**P**	**10 44 01.7**	**+1.1**
	baz=298,slow=13						
SNAA	**Sanae**	**20.69**	**141**	P	**P**	**10 44 19.2**	**+1.2**
SNAA	**Sanae**	**20.69**	**141**	P	**P**	**10 44 18.3**	**+0.3**
	3.7nm,0.8s,baz=277,slow=10,SNR=8.2						
SNAA	**Sanae**	**20.69**	**141**	P	**P**	**10 44 19.3**	**+1.4**
SNAA				IAmb	IAmb	10 44 37.0	
	comp=Z,27nm,1.2s						
TRQA	**Tornquist**	**24.17**	**330**	P	**P**	**10 44 53.8**	**-0.6**
PLCA	**Paso Flores**	**24.40**	**312**	P	**P**	**10 44 54.7**	**-1.9**
PLCA				IAmb	IAmb	10 45 03.3	
	comp=Z,17nm,1.1s						
PLCA	**Paso Flores**	**24.40**	**312**	P	**P**	**10 44 54.7**	**-1.9**
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**10 45 46.3**	**-0.4**
	comp=Z,9.9nm,0.8s,baz=352,slow=1.0,SNR=12						
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**10 45 46.3**	**-0.4**
QSPA				IAmb	IAmb	10 45 53.0	
	comp=Z,12nm,1.0s						
CPUP	**Villa Florida**	**34.64**	**343**	P	**P**	**10 46 26.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=188,slow=8.7,SNR=3.1						
CPUP	**Villa Florida**	**34.64**	**343**	P	**P**	**10 46 28.3**	**+0.9**
SYO	**Syowa Base**	**34.98**	**141**	eP	PP	10 47 46.3	-2.6
GO02	**Mina Guanaco**	**38.40**	**326**		**P**	**10 47 00.8**	**+0.9**
GO02				IAmb	IAmb	10 47 08.6	
	comp=Z,9.7nm,0.8s						
SBA	**Scott Base**	**40.63**	**190**	P	**P**	**10 47 17.6**	**+0.1**
GO01	**Chusmiza**	**43.53**	**329**	P	**P**	**10 47 43.1**	**+0.8**
PB11	**IPOC Station P**	**43.56**	**328**	P	**P**	**10 47 41.3**	**-0.9**
PB11				IAmb	IAmb	10 47 45.9	
	comp=Z,8.7nm,1.0s						
MNMC	**Minye Minye**	**44.15**	**328**	P	**P**	**10 47 47.4**	**+0.3**
MNMC				IAmb	IAmb	10 47 54.4	
	comp=Z,5.6nm,0.7s						
BDFB	**Brasilia**	**44.53**	**358**	P	**P**	**10 47 48.7**	**-1.3**
	comp=Z,3.3nm,0.6s,baz=137,slow=8.7,SNR=3.6						
BDFB	**Brasilia**	**44.53**	**358**	P	**P**	**10 47 51.1**	**+1.1**
SIV	**San Ignacio**	**45.37**	**341**	P	**P**	**10 47 55.5**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=173,slow=8.5,SNR=8.8						
SAML	**Samuel**	**52.62**	**340**	P	**P**	**10 48 53.6**	**+1.5**
BOSA	**Boshof**	**56.82**	**90**	P	**P**	**10 49 21.4**	**-1.2**
	comp=Z,4.2nm,1.0s,baz=306,slow=11,SNR=3.0						
BOSA	**Boshof**	**56.82**	**90**	P	**P**	**10 49 22.1**	**-0.6**
LBTB	**Lobatse**	**59.97**	**88**	P	**P**	**10 49 44.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=203,slow=9.5,SNR=4.1						
LBTB	**Lobatse**	**59.97**	**88**	P	**P**	**10 49 43.7**	**-0.9**
LBTB				IAmb	IAmb	10 49 52.1	
	comp=Z,7.9nm,1.2s						
OTAV	**Otavalo**	**65.06**	**325**	P	**P**	**10 50 20.4**	**+1.2**
DBIC	**Dimbokro**	**74.45**	**44**	P	**P**	**10 51 15.6**	**-0.8**
	comp=Z,3.8nm,0.3s,baz=228,slow=6.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.79**	**47**	P	**P**	**10 52 02.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=212,slow=5.9,SNR=4.3						
WRA	**Warramunga Arr**	**100.11**	**181**	P	**Pdif**	**10 53 22.7**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=183,slow=4.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**131.66**	**135**	PKP	**PKPdf**	**10 58 50.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=251,slow=2.8,SNR=3.8						
ILAR	**Eielson Array**	**145.09**	**312**	PKPbc	**PKPbc**	**10 59 11.3**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=164,slow=2.2,SNR=12						
MKAR	**Makanchi Array**	**147.82**	**91**	PKPbc	**PKPdf**	**10 59 20.4**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=241,slow=3.6,SNR=9.4						

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*IDC **17** 10:44:04.9±0.4, 60.°58S×45.°28W, h0km, mb4.8/17, mb1 4.9/17, mb1mx4.9/19, mbtmp4.8/17, Error ellipse: s-maj=19.1km s-min=12.7km az=47.0*
*MOS **17** 10:44:05.6±1.2, 60.°36S×45.°01W, h10km, mb5.6/12, Error ellipse: s-maj=24.4km s-min=9.6km az=99.8*
*NEIC **17** 10:44:06.6±2.1, 60.°42S±0.°08×44.°8W±0.°1, h10km, mb5.2/42*
*ISCJB **17** 10:44:07.0±2.5, 60.°39S±0.°04×45.°16W±0.°10, h20km±18km, mb4.9/27, MS5.3/2, Error ellipse: s-maj=8.9km s-min=6.1km az=144.0*
*BJI **17** 10:44:09.0±0.0, 60.°40S×45.°00W, h20km, Ms5.6/2, Ms7 5.3/2*
ISC 17 10:44:10.3±1.1, 60.°41S±0.°05×45.°05W±0.°06, h33km±5km, n236, σ1s48/242, mb5.2/38, 8C-5D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.69**	**41**	*i P*	**Pn**	**10 45 58.9**	**-0.9**
HOPE	**Hope Point**	**7.69**	**41**		**Pn**	**10 45 56.2**	**-3.5**
PMSA	**Palmer Station**	**9.77**	**235**	Pn	**Pn**	**10 46 28.0**	**-0.3**
	1.6nm,0.3s,baz=75,slow=11,SNR=11						
PMSA				Sn	**Sn**	**10 48 14.6**	**-2.1**
	0.2nm,0.3s,baz=339,slow=11,SNR=2.7						
PMSA	**Palmer Station**	**9.77**	**235**		**Pn**	**10 46 27.6**	**-0.7**
PMSA					**Sn**	**10 48 18.6**	**+2.0**
EFI	**East Falkland**	**11.36**	**315**	*eP*	**Pn**	**10 46 51.6**	**+1.5**
EFI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
EFI	**East Falkland**	**11.36**	**315**	Pn	**Pn**	**10 46 51.4**	**+1.3**
USHA	**Ushuaia**	**13.68**	**284**	Pn	**Pn**	**10 47 24.3**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=128,slow=22,SNR=6.0						
VNA3	**Neumayer Olymp**	**17.75**	**142**	P	**Pn**	**10 48 14.1**	**-0.4**
VNA1	**Neumayer--Stat**	**18.01**	**140**	P	**P**	**10 48 19.5**	**+1.6**
VNA2	**Neumayer--Watz**	**18.36**	**140**	P	**Pn**	**10 48 22.8**	**+0.8**
	baz=291,slow=15						
SNAA	**Sanae**	**19.97**	**142**	P	**Pn**	**10 48 41.9**	**+0.7**
SNAA	**Sanae**	**19.97**	**142**	*eP*	**Pn**	**10 48 42.2**	**+1.0**
SNAA	**Sanae**	**19.97**	**142**	P	**Pn**	**10 48 41.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=288,slow=11,SNR=14						
SNAA	**Sanae**	**19.97**	**142**	P	**Pn**	**10 48 41.2**	**-0.1**
TRQA	**Tornquist**	**24.81**	**327**	P	**P**	**10 49 28.7**	**-0.4**
TRQA				pmax	pmax		
	comp=Z,107nm,1.0s						
TRQA	**Tornquist**	**24.81**	**327**	P	**P**	**10 49 28.7**	**-0.4**
TRQA	**Tornquist**	**24.81**	**327**	*eP*	**P**	**10 49 29.9**	**+0.8**
PLCA	**Paso Flores**	**25.22**	**310**	P	**P**	**10 49 32.6**	**-0.3**
	comp=Z,11nm,0.8s,baz=185,slow=8.4,SNR=18						
PLCA	**Paso Flores**	**25.22**	**310**	P	**P**	**10 49 32.1**	**-0.8**
GO06	**Curarrehue**	**26.56**	**310**	P	**P**	**10 49 44.3**	**-0.8**
PLTB	**Pedras Altas**	**29.21**	**345**	*eP*	**P**	**10 50 09.4**	**+0.7**
PLTB	**Pedras Altas**	**29.21**	**345**	*eP*	**P**	**10 50 09.4**	**+0.7**
QSPA	**South Pole Qui**	**29.83**	**180**	P	**P**	**10 50 11.0**	**-3.0**
	comp=Z,9.4nm,1.0s,baz=179,slow=4.9,SNR=9.7						
QSPA				PcP	**PcP**	**10 53 16.6**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=251,slow=1.8,SNR=6.4						
QSPA	**South Pole Qui**	**29.83**	**180**	P	**P**	**10 50 11.3**	**-2.8**
QSPA				IAmb	IAmb	10 50 21.1	
	comp=Z,36nm,1.2s						
QSPA					**PcP**	**10 53 17.2**	**+0.9**
CPSB	**Cacapava Do Su**	**30.53**	**346**	*eP*	**P**	**10 50 20.6**	**+0.3**
CPSB	**Cacapava Do Su**	**30.53**	**346**	*eP*	**P**	**10 50 20.6**	**+0.3**
GO05	**Huala**	**30.77**	**313**	P	**P**	**10 50 21.8**	**-0.7**
GO05				IAmb	IAmb	10 50 22.7	
	comp=Z,25nm,0.8s						
MRA	**San Martin**	**31.14**	**325**	*eP*	**P**	**10 50 25.6**	**-0.2**
PEL	**Peldehue**	**32.03**	**317**	P	**P**	**10 50 33.3**	**-0.3**
PEL				pmax	pmax		
	comp=Z,90nm,0.9s						
PEL	**Peldehue**	**32.03**	**317**	P	**P**	**10 50 33.3**	**-0.3**
ROC1	**El Roble**	**32.29**	**316**	P	**P**	**10 50 34.5**	**-1.6**
RTCV	**Cerro Valdivia**	**32.51**	**321**	*eP*	**P**	**10 50 36.6**	**-1.2**
CFA	**Coronel Fontan**	**32.65**	**321**	P	**P**	**10 50 37.2**	**-1.8**
	comp=Z,16nm,0.7s,baz=168,slow=8.0,SNR=32						
CFA				PcP	**PcP**	**10 53 24.5**	**+0.2**
	comp=Z,8.1nm,0.9s,baz=227,slow=2.5,SNR=6

comp=Z,44nm,1.0s
RCBR Riachuelo 54.90 11 *e*P **P 10 53 36.9 -0.6**
RCBR Riachuelo 54.90 11 *e*P **P 10 53 36.9 -0.6**
BOSA Boshof 55.90 89 P **P 10 53 45.4 +0.6**
comp=Z,17nm,0.9s,baz=198,slow=6.9,SNR=14
BOSA Boshof 55.90 89 P **P 10 53 45.0 +0.2**
BOSA IAmb IAmb 10 53 46.1
comp=Z,47nm,1.2s
LBTB Lobatse 59.05 86 P **P 10 54 07.3 +0.3**
comp=Z,17nm,0.7s,baz=211,slow=7.6,SNR=25
LBTB Lobatse 59.05 86 P **P 10 54 07.0 0.0**
LBTB IAmb IAmb 10 54 08.3
comp=Z,21nm,0.8s
TSUM Tsumeb 60.04 76 P **P 10 54 14.4 +0.5**
comp=Z,8.2nm,1.0s,baz=181,slow=11,SNR=8.2
TSUM Tsumeb 60.04 76 P **P 10 54 14.6 +0.7**
TSUM IAmb IAmb 10 54 15.7
comp=Z,17nm,1.3s
OTAV Otavalo 65.75 323 P **P 10 54 53.1 +0.9**
OTAV pmax pmax
comp=Z,84nm,1.8s
OTAV Otavalo 65.75 323 P **P 10 54 53.1 +0.9**
OTAV Otavalo 65.75 323 *e*P **P 10 54 53.5 +1.3**
LSZ Lusaka 68.56 83 P **P 10 55 11.1 +1.4**
LSZ pmax pmax
comp=Z,31nm,1.0s
LSZ Lusaka 68.56 83 P **P 10 55 11.1 +1.4**
LTZ Lake Taylor 72.73 208 **P 10 55 35.8 +1.1**
LTZ IAmb IAmb 10 55 36.1
comp=Z,14nm,1.0s
LIC Lamto 73.48 42 *e*P **P 10 55 40.3 +1.0**
comp=Z,103nm,0.9s
KIC Kosan Boka 73.70 42 *e*P **P 10 55 41.6 +1.0**
comp=Z,82nm,1.1s
BFZ Birch Farm 73.73 212 P **P 10 55 40.3 -0.3**
BFZ IAmb IAmb 10 55 41.0
comp=Z,38nm,1.4s
TIC Toumodi 73.88 42 *e*P **P 10 55 42.5 +0.8**
DBIC Dimbokro 73.95 42 P **P 10 55 43.5 +1.4**
comp=Z,18nm,0.9s,baz=188,slow=6.0,SNR=13
DBIC Dimbokro 73.95 42 P **P 10 55 42.3 +0.2**
DBIC IAmb IAmb 10 55 44.1
comp=Z,18nm,0.8s
OUZ Omahuta 79.57 211 P **P 10 56 13.8 +0.1**
CRPR Cabo Rojo, PR 80.16 339 P **P 10 56 15.9 -0.9**
TOA0 Torodi Ar. Sit 82.24 46 P **P 10 56 29.2 +1.2**
TOA0 IAmb IAmb 10 56 30.4
comp=Z,32nm,1.0s
TORD Torodi Ar. Bea 82.24 46 P **P 10 56 29.2 +1.3**
comp=Z,24nm,0.9s,baz=210,slow=5.5,SNR=63
TORD Torodi Ar. Bea 82.24 46 P **P 10 56 29.7 +1.7**
MBAR Mbarara 82.48 78⇑ *e*P **P 10 56 31.4 +1.8**
MBAR pmax pmax
comp=Z,17nm,1.5s
KMBO Kilima Mbogo 85.21 84 P **P 10 56 43.7 +0.1**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 85.21 84 P **P 10 56 47.1 +3.4**
comp=Z,2.4nm,0.9s,baz=210,slow=5.7,SNR=7.2
KMBO Kilima Mbogo 85.21 84 P **P 10 56 43.7 +0.1**
CCIG Comitan 85.26 315 P **P 10 56 42.8 -0.8**
CCIG IAmb IAmb 10 56 43.8
comp=Z,8.6nm,0.8s
TEIG Tepich 87.64 320 P **P 10 56 54.7 -0.3**
STKA Stephens Creek 87.89 186 P **P 10 56 55.4 -0.9**
comp=Z,2.0nm,0.7s,baz=151,slow=12,SNR=3.7
STKA Stephens Creek 87.89 186 P **P 10 56 56.1 -0.2**
TLIG Tlapa 88.79 310 P **P 10 57 01.0 +0.4**
TLIG IAmb IAmb 10 57 02.6
comp=Z,14nm,0.8s
ASAR Alice Springs 96.22 179 P **P 10 57 33.8 -1.2**
ASAR Alice Springs 96.22 179 P **P 10 57 33.9 -1.1**
comp=Z,2.6nm,0.9s,baz=176,slow=3.9,SNR=20
ASAR Alice Springs 96.22 179 P **P 10 57 33.8 -1.2**
WRA Warramunga Arr 99.93 179 P **Pdif 10 57 49.7 -2.0**
comp=Z,1.4nm,1.1s,baz=182,slow=4.3,SNR=12
WRA Warramunga Arr 99.93 179 **Pdif 10 57 51.5 -0.2**
TXAR Lajitas Array 101.39 310 P **Pdif 10 57 57.5 -0.3**
comp=Z,0.5nm,1.0s,baz=140,slow=6.6,SNR=3.9
NVAR Mina Array Bea 115.16 304 PKP **PKiKP 11 02 48.6 +1.1**
comp=Z,0.5nm,0.6s,baz=126,slow=2.8,SNR=5.9
NVAR Mina Array Bea 115.16 304 **PKiKP 11 02 48.0 +0.6**
PDAR Pinedale Array 115.47 313 PKP **PKPdf 11 02 47.2 -0.7**
comp=Z,0.4nm,0.7s,baz=151,slow=3.4,SNR=3.7
PDAR Pinedale Array 115.47 313 **PKPdf 11 02 47.1 -0.9**
FXWY Fox Creek 116.77 312 **PKiKP 11 02 51.2 +0.8**
BRTR Keskin Array B 118.53 59 PKP **PKPdf 11 02 53.2 -0.6**
comp=Z,1.5nm,0.8s,baz=176,slow=3.2,SNR=7.9
BRTR PP **PP 11 04 17.8 +5.8**
comp=Z,1.4nm,1.0s,baz=179,slow=7.4,SNR=4.4
BRTR Keskin Array B 118.53 59 **PKPdf 11 02 52.6 -1.2**
GERES GERESS Array B 118.80 40 PKP **PKPdf 11 02 52.7 -1.3**
comp=Z,1.0nm,0.7s,baz=211,slow=1.6,SNR=7.3
GERES PP **PP 11 04 12.3 -1.3**
comp=Z,1.1nm,1.0s,baz=213,slow=4.0,SNR=5.0
GERES GERESS Array B 118.80 40 **PKPdf 11 02 52.5 -1.5**
MODS Modra-Piesok 119.56 43 *e*PKIKP **PKPdf 11 02 52.1 -3.3**
MODS Modra-Piesok 119.56 43 *e*PKP **PKPdf 11 02 52.0 -3.3**
PLID Pearl Lake 119.87 309 **PKiKP 11 02 56.5 +0.1**
VYHS Vyhne 120.19 44 *e*PKIKP **PKPdf 11 02 56.3 -0.3**
VYHS Vyhne 120.19 44 *e*PKP **PKPdf 11 02 56.3 -0.3**
MSO Missoula 120.56 312 **PKPdf 11 02 57.3 -0.2**
CLL Collm 120.73 38 *i* PKIKP **PKPdf 11 02 56.5 -0.9**
CLL Collm 120.73 38 *e*PKiKP **PKPdf 11 02 57.0 -0.4**
UZH Uzhgorod 121.52 46 *e*PKIKP **PKiKP 11 03 04.5 +5.3**
UZH *e* 11 03 12.6
KOLS Kolonicke sedl 121.77 46 *e*PKIKP **PKPdf 11 02 55.8 -3.8**
KOLS Kolonicke sedl 121.77 46 *e*PKP **PKPdf 11 02 55.8 -3.8**
AKASG Malin Array Be 125.77 49 PKP **PKPdf 11 03 06.2 -0.9**
comp=Z,3.0nm,0.7s,baz=246,slow=1.7,SNR=13
AKASG PP **PP 11 04 58.0 -2.8**
comp=Z,0.2nm,0.3s,baz=222,slow=6.5,SNR=4.4
AKASG Malin Array Be 125.77 49 **PKPdf 11 03 05.4 -1.7**
KBZ Khabaz 125.81 63 PKP **PKPdf 11 03 07.0 -0.4**
comp=Z,2.0nm,0.7s,baz=286,slow=0.6,SNR=5.3
KIV Kislovodsk 125.89 63 *e*PKIKP **PKPdf 11 03 07.7 -0.1**
KIV pmax pmax
comp=Z,15nm,0.9s
AKT Akhty 126.22 68 *e*P **Pdif 10 59 55.4 +7.4**
AKT pmax pmax
comp=Z,11nm,0.3s
KMKR Kumukh 126.44 68 P **Pdif 10 59 53.0 +3.9**
GNBR Gunib 126.59 67 *e*P **Pdif 10 59 52.6 +3.1**
GNBR pmax pmax
comp=Z,9.0nm,0.5s
URKR Urkarakh 126.72 68 *e*P **Pdif 10 59 45.6 -4.6**
DRN Derbent 126.93 69 *e*P **Pdif 10 59 43.3 -7.6**
DRN pmax pmax
comp=Z,28nm,1.7s
GEYT Alibeck 128.37 79 PKP **PKPdf 11 03 12.6 0.0**
comp=Z,2.0nm,0.6s,baz=246,slow=9.3,SNR=4.9
GEYT Alibeck 128.37 79 **PKPdf 11 03 12.3 -0.3**
PBKT Sadao Pong 129.84 136 P **PKiKP 11 03 17.1 +0.4**
PBKT Sadao Pong 129.84 136 **PKPdf 11 03 16.0 0.0**
VSR Storozhevoye 130.05 55 *e*PKIKP **PKPdf 11 03 14.0 -1.3**
VSR pmax pmax
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 130.86 132 PKIKP **PKPdf 11 03 17.6 -0.3**
CMAR Chiang Mai Arr 130.86 132 PKP **PKPdf 11 03 17.8 -0.1**
comp=Z,4.5nm,0.8s,baz=225,slow=3.5,SNR=23
CMAR Chiang Mai Arr 130.86 132 **PKPdf 11 03 17.6 -0.3**
LPSR Galich'ya Gora 131.01 53 *e*PKIKP **PKPdf 11 03 16.3 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSU Vasula 131.07 41⇓ *e*PKIKP **PKiKP 11 03 19.0 +1.1**
VRH Novokhopyorsk 131.09 56 *e*PKIKP **PKPdf 11 03 16.0 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 131.99 50 *e*PKIKP **PKPdf 11 03 18.0 -0.8**
OBN pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 132.79 3 *i* PKIKP **PKPdf 11 03 20.0 -0.4**
SUMG Summit 132.79 3 *i* P **PKPdf 11 03 20.0 -0.4**
FINES FINESS Array B 133.17 39 PKP **PKPdf 11 03 20.1 -0.7**
comp=Z,2.1nm,0.6s,baz=189,slow=2.5,SNR=10
YKA Yellowknife Ar 133.51 323 PKP **PKPdf 11 03 21.5 +0.1**
comp=Z,1.3nm,0.7s,baz=136,slow=2.0,SNR=7.1
KLMR Klimovskoe 137.22 46 *e*PKIKP **PKPdf 11 03 25.2 -3.2**
KLMR pmax pmax
comp=Z,52nm,1.8s
KLMR Klimovskoe 137.22 46 *e*PKPdf **PKPdf 11 03 25.3 -3.2**
KLMR AMP 11 03 35.6
comp=Z,52nm,1.8s
ABKAR Akbulak array 137.73 70 PKPpre 11 03 18.2
DAG Danmarks Havn 137.94 9 *i* PKIKP **PKPdf 11 03 28.4 -1.0**
DAG Danmarks Havn 137.94 9 *i* P **PKPdf 11 03 28.4 -1.0**
KK31 Karatay Array 138.41 85 PKHKP PKPpre 11 03 22.4
KK31 Karatay Array 138.41 85 PKPpre 11 03 22.4
KKAR Karatay Array 138.41 85 PKHKP PKPpre 11 03 22.0
KKAR Karatay Array 138.41 85 PKPpre 11 03 22.0
KSH Kashi 138.42 93 PKP **PKiKP 11 03 34.1 +0.4**
KSH PKS **PKSdf 11 07 09.3 +1.6**
ARCES ARCESS Array B 138.99 30 PKhKP PKPpre 11 03 20.8
comp=Z,11nm,1.0s,baz=346,slow=7.9,SNR=5.8
AAK Ala-Archa 140.04 88⇓ *e*PKIKP **PKPdf 11 03 30.8 -3.7**
AAK Ala-Archa 140.04 88 **PKPdf 11 03 32.6 -1.9**
ARU Arti 141.88 61⇓ *e*PKHKP PKPpre 11 03 30.9
ARU *i* 11 03 36.1
SVE Sverdlovsk 143.03 62 *e*PKIKP PKPbc 11 03 35.4 -0.7
BCAR Beaver Creek A 143.08 311 PKPpre 11 03 35.1
EPYK Eagle Plains 143.16 318 PKPpre 11 03 35.3
INK Inuvik 143.23 322 PKIKP PKPbc 11 03 36.4 +0.1
INK Inuvik 143.23 322 PKhKP PKPpre 11 03 35.2
comp=Z,5.3nm,0.6s,baz=64,slow=2.8,SNR=13
INK Inuvik 143.23 322 PKPbc 11 03 36.4 +0.2
CD2 Chengdu 143.96 131 PKP **PKPdf 11 03 42.3 +0.6**
BRVK Borovoye 145.12 73⇑ *e*PKIKP **PKPbc 11 03 41.9 -0.6**
BRVK Borovoye 145.12 73 **PKPbc 11 03 42.2 -0.3**
ILAR Eielson Array 145.90 312 PKPbc **PKPbc 11 03 44.6 0.0**
comp=Z,47nm,0.9s,baz=155,slow=3.3,SNR=172
COLA College 146.31 311⇑ *i*PKP2 **PKPab 11 03 46.2 -0.5**
COLA College 146.31 311 **PKPbc 11 03 45.6 -0.2**
BMAR Burnt Mountain 146.37 317 **PKPdf 11 03 43.5 -1.1**
BMAR PKPbc **PKPab 11 03 47.0 +0.1**
MAKZ Makanchi 146.74 90 PKP2 **PKPbc 11 03 47.4 -0.3**
MAKZ Makanchi 146.74 90 **PKPbc 11 03 47.4 -0.3**
MKAR Makanchi Array 146.89 90 PKIKP **PKPdf 11 03 44.9 -1.3**
MKAR 11 03 47.9
MKAR Makanchi Array 146.89 90 PKPbc **PKPbc 11 03 47.9 -0.2**
comp=Z,28nm,0.8s,baz=239,slow=2.4,SNR=107
MKAR Makanchi Array 146.89 90 **PKPdf 11 03 44.9 -1.3**
MKAR **PKPbc 11 03 47.9 -0.2**
WHN Wuhan 147.12 146 PKPbc **PKPbc 11 03 48.8 -0.4**
WMQ Urumqi 147.44 99 *e*PKPbc **PKPbc 11 03 48.6 -1.2**
WMQ LR LR
comp=Z,590nm,19.9s
WMQ LR LR
comp=Z,480nm,19.9s
WMQ LR LR
comp=Z,430nm,17.9s
KURK Kurchatov 147.68 82⇑ *e*PKIKP **PKPdf 11 03 46.6 -0.7**
KURK Kurchatov 147.68 82 **PKPdf 11 03 46.3 -1.0**
KURK PKPbc **PKPbc 11 03 50.1 0.0**
LZH Lanzhou 148.57 127 *e*PKPbc **PKPbc 11 03 51.9 -1.3**
LZH pPKP PKiKP 11 03 55.3 +0.6
LZH sPKP 11 03 56.5
LZH PKPab **pPKPbc 11 04 03.3 -0.4**
LZH LR LR
comp=Z,340nm,18.0s
LZH LR LR
comp=Z,350nm,18.2s
LZH LR LR
comp=Z,430nm,20.3s
XAN Xi'an 148.65 136 PKPbc **PKPbc 11 03 52.4 -0.9**
XAN Xi'an 148.65 136 PKP2 **PKPbc 11 03 52.6 -0.7**
XAN Xi'an 148.65 136 **PKPbc 11 03 52.6 -0.7**
IMAR Indian Mountai 149.01 311 **PKPdf 11 03 46.8 -2.2**
IMAR PKPbc **PKPbc 11 03 53.5 +0.4**
GTA Gaotai 149.70 118 *e*PKPbc **PKPbc 11 03 55.4 -0.5**
NJ2 Nanjing 149.70 152 *e*PKPbc **PKPdf 11 03 52.0 +0.8**
DGZ Jazzator, Alta 151.39 90 *i*PKIKP **PKPbc 11 03 59.6 0.0**
ZALV Zalesovo Beam 152.66 81 PKPbc **PKPbc 11 04 00.9 -1.2**
comp=Z,3.8nm,0.6s,baz=250,slow=4.2,SNR=17
ZALV PKPab **pPKPbc 11 04 12.1 +0.1**
comp=Z,1.2nm,0.3s,baz=235,slow=5.2,SNR=4.2
ZALV Zalesovo Beam 152.66 81 **PKPbc 11 04 01.0 -1.0**
ZALV **pPKPbc 11 04 11.7 -0.3**
HHC Hu-ho-hao-te 155.67 133 *e*PKP **PKPdf 11 04 02.4 +2.6**
MJAR Matsushiro Arr 156.02 186 PKP2 **PKPab 11 04 27.0 -0.7**
MJAR Matsushiro Arr 156.02 186 PKPbc PKPbc 11 04 09.3
comp=Z,2.4nm,0.9s,baz=198,slow=2.9,SNR=4.8
MJAR PKPab **PKPab 11 04 27.0 -0.7**
comp=Z,2.7nm,0.9s,baz=179,slow=5.2,SNR=4.1
MJAR Matsushiro Arr 156.02 186 PKPbc 11 04 08.9
KSRS Korea Array 156.59 166 PKIKP PKPbc 11 04 11.0
KSRS Korea Array 156.59 166 PKPbc PKPbc 11 04 10.9
comp=Z,1.7nm,0.9s,baz=219,slow=2.5,SNR=3.7
SONM Songino Array 159.26 115 PKIKP **PKPdf 11 04 03.9 -0.2**
SONM 11 04 41.3
SONM Songino Array 159.26 115 PKP **PKPdf 11 04 04.2 +0.1**
comp=Z,0.3nm,0.4s,baz=166,slow=0.6,SNR=3.6
SONM PKPab **PKPab 11 04 42.2 +0.6**
comp=Z,5.9nm,0.9s,baz=225,slow=4.2,SNR=19
SONM Songino Array 159.26 115 **PKPdf 11 04 03.9 -0.2**
SONM **PKPab 11 04 41.3 -0.4**
BILL Bilibino 164.55 313 *e*PKIKP **PKPdf 11 04 08.9 +0.2**
BILL pmax pmax
comp=Z,2.0nm,1.3s
BDFB Brasilia 44.67 354 P **P 10 57 04.1 +0.4**
comp=Z,9.2nm,0.8s,baz=184,slow=9.8,SNR=5.1
BDFB Brasilia 44.67 354 P **P 10 57 03.8 0.0**
BDFB IAmb IAmb 10 57 10.5
comp=Z,11nm,0.9s
MNMC Minye Minye 45.01 325 P **P 10 57 06.6 -0.1**
SIV San Ignacio 45.95 337 P **P 10 57 13.4 -0.4**
comp=Z,3.0nm,0.5s,baz=173,slow=8.1,SNR=11
LPAZ La Paz 47.31 328 P **P 10 57 24.8 -0.3**
comp=Z,4.0nm,0.9s,baz=138,slow=7.7,SNR=13
LPAZ La Paz 47.31 328 P **P 10 57 24.6 -0.5**
SUR Sutherland 50.05 86 P **P 10 57 46.7 +1.2**
comp=Z,6.1nm,1.0s,baz=205,slow=14,SNR=4.3
SUR Sutherland 50.05 86 P **P 10 57 46.0 +0.4**
SUR IAmb IAmb 10 57 54.2
comp=Z,16nm,0.9s
SAML Samuel 53.22 336 P **P 10 58 08.7 -0.5**
SAML IAmb IAmb 10 58 23.9
comp=Z,22nm,1.3s
BOSA Boshof 55.32 88 P **P 10 58 25.0 +0.5**
comp=Z,7.2nm,0.9s,baz=197,slow=5.5,SNR=7.1
BOSA Boshof 55.32 88 P **P 10 58 25.1 +0.5**
LBTB Lobatse 58.47 86 P **P 10 58 46.9 +0.1**
comp=Z,2.9nm,0.6s,baz=209,slow=8.8,SNR=5.7
LBTB Lobatse 58.47 86 P **P 10 58 47.0 +0.1**
LBTB IAmb IAmb 10 58 53.4
comp=Z,14nm,0.9s
OTAV Otavalo 65.99 322 P **P 10 59 38.3 +0.5**
OTAV IAmb IAmb 10 59 41.0
comp=Z,11nm,0.9s
LIC Lamto 73.00 41 *e*PKP1 **P 11 00 22.5 +2.0**
comp=Z,24nm,0.7s
KIC Kosan Boka 73.23 41 *e*PKP1 **P 11 00 23.3 +1.5**
comp=Z,43nm,1.4s
TIC Toumodi 73.40 41 *e*PKP1 **P 11 00 23.2 +0.3**
DBIC Dimbokro 73.48 41 P **P 11 00 21.2 -2.1**
comp=Z,4.6nm,0.9s,baz=163,slow=9.3,SNR=3.7
DBIC Dimbokro 73.48 41 P **P 11 00 23.7 +0.4**
DBIC IAmb IAmb 11 00 33.8
comp=Z,7.9nm,0.9s
JTS Las Juntas de 77.53 319 P **P 11 00 46.0 -0.5**
MLPR Magueyes Islan 80.20 338 P **P 11 00 59.8 -1.3**
TOA0 Torodi Ar. Sit 81.74 45 P **P 11 01 11.4 +2.0**
TOA0 IAmb IAmb 11 01 17.3
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 81.74 45 P **P 11 01 10.1 +0.7**
comp=Z,4.3nm,0.8s,baz=191,slow=6.9,SNR=12
TORD Torodi Ar. Bea 81.74 45 P **P 11 01 11.5 +2.1**
ASAR Alice Springs 96.34 178 P **P 11 02 18.9 -0.8**
comp=Z,0.7nm,0.9s,baz=176,slow=3.3,SNR=4.6
ASAR Alice Springs 96.34 178 P **P 11 02 18.6 -1.1**
GERES GERESS Array B 118.33 39 PKP **PKiKP 11 07 38.8 +1.5**
comp=Z,0.5nm,0.6s,baz=180,slow=0.9,SNR=4.1
GERES GERESS Array B 118.33 39 **PKiKP 11 07 38.5 +1.2**
AKASG Malin Array Be 125.25 48 PKP **PKPdf 11 07 48.6 -1.7**
comp=Z,1.7nm,0.7s,baz=248,slow=1.8,SNR=4.1
AKASG Malin Array Be 125.25 48 **PKPdf 11 07 47.3 -3.1**
NOA NORSAR Array B 128.22 31 PKP **PKiKP 11 07 56.3 -0.1**
comp=Z,1.1nm,0.8s,baz=215,slow=2.3,SNR=2.8
FINES FINESS Array B 132.72 38 PKP **PKPdf 11 08 02.6 -1.6**
comp=Z,3.5nm,0.9s,baz=131,slow=3.8,SNR=4.1
YKA Yellowknife Ar 133.74 323 PKhKP PKPpre 11 08 03.1
comp=Z,1.1nm,0.9s,baz=108,slow=2.0,SNR=2.9
KSH Kashi 137.86 92 *e*PKP **PKiKP 11 08 17.4 +0.7**
ARCES ARCESS Array B 138.59 30 PKhKP PKPpre 11 08 10.4
comp=Z,2.3nm,0.7s,baz=35,slow=2.2,SNR=3.7
INK Inuvik 143.48 321 PKhKP PKPpre 11 08 19.2
comp=Z,1.1nm,0.5s,baz=47,slow=2.8,SNR=6.9
CD2 Chengdu 143.61 129 PKP **PKPdf 11 08 25.6 +0.3**
MENT Mentasta 144.08 310 PKPbc 11 08 23.7 +0.5
KDAK Kodiak Island 144.85 298 PKPbc **PKPdf 11 08 26.1 -0.3**
comp=Z,16nm,1.0s,baz=103,slow=7.3,SNR=3.7
KDAK Kodiak Island 144.85 298 **PKPdf 11 08 27.1 +0.6**
GHO Glory Hole Cre 145.50 306 **PKPdf 11 08 27.1 -0.5**
MAKZ Makanchi 146.17 89 **PKPab 11 08 30.2 -0.8**
ILAR Eielson Array 146.24 311 PKPbc **PKPdf 11 08 28.8 +0.1**
comp=Z,4.9nm,0.8s,baz=160,slow=2.4,SNR=22
MKAR Makanchi Array 146.32 89 PKPbc **PKPbc 11 08 30.1 -0.6**
comp=Z,5.2nm,0.7s,baz=230,slow=3.4,SNR=14
COLA College 146.65 311 **PKPbc 11 08 30.9 -0.1**
BMAR Burnt Mountain 146.66 316 **PKPdf 11 08 29.6 +0.3**
WMQ Urumqi 146.90 98 *e*PKPbc **PKPbc 11 08 31.8 -0.7**
WMQ AMB AMB
comp=Z,39nm,6.3s
KURK Kurchatov 147.09 81 **PKPbc 11 08 32.4 -0.3**
PPLA Purkeypile 147.39 306 **PKPbc 11 08 32.6 -0.8**
LZH Lanzhou 148.19 125 *e*PKPbc **PKPdf 11 08 33.6 +0.5**
LZH pPKP pPKPbc 11 08 37.0 -1.1
LZH sPKP 11 08 38.3
GTA Gaotai 149.25 116 *e*PKPbc **PKPab 11 08 42.9 -0.6**
IMAR Indian Mountai 149.35 311 **PKPbc 11 08 37.5 -0.7**
NJ2 Nanjing 149.54 150 *e*PKPbc **PKPdf 11 08 36.3 +1.2**
ZALV Zalesovo Beam 152.08 80 PKPbc **PKPbc 11 08 43.2 -1.7**
comp=Z,0.7nm,0.4s,baz=199,slow=3.1,SNR=2.9
ZALV Zalesovo Beam 152.08 80 **PKPbc 11 08 42.9 -2.0**
HHC Hu-ho-hao-te 155.34 131 *e*PKP **PKPdf 11 08 46.1 +2.5**
SONM Songino Array 158.80 113 PKPab **PKPab 11 09 23.4 -0.4**
comp=Z,0.4nm,0.6s,baz=200,slow=2.9,SNR=2.1

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*IDC **17** 10:48:48.9±0.6, 60°.35S×43°.63W, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.4/22, mbtmp4.4/15, ML3.9/2, Error ellipse: s-maj=21.9km s-min=15.1km az=42.0*
*ISCJB **17** 10:48:49.3±0.3, 60°.26S±0°.06×44°.0W±0°.1, h10km, mb4.5/16, Error ellipse: s-maj=10.2km s-min=6.3km az=136.3*
*NEIC **17** 10:48:50.6±2.0, 60°.27S±0°.09×43°.9W±0°.1, h10km±1km, mb4.9/29*
ISC 17 10:48:50.8±0.4, **60°.28S**±0°.07×**43°.90W**±0°.08, **h10km, n89,** σ1**9**07/83, **mb4.8/24, 1C-1D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.23**	**37**		**Pn**	**10 50 35.4**	**-1.0**
PMSA	**Palmer Station**	**10.32**	**236**	Pn	**Pn**	**10 51 17.0**	**-1.6**
	0.7nm,0.3s,baz=69,slow=12,SNR=5.9						
PMSA	**Palmer Station**	**10.32**	**236**		**Pn**	**10 51 18.5**	**-0.1**
EFI	**East Falkland**	**11.69**	**311**		**Pn**	**10 51 39.5**	**+2.0**
USHA	**Ushuaia**	**14.20**	**282**	Pn	**Pn**	**10 52 13.7**	**+2.0**
	0.7nm,0.3s,baz=107,slow=15,SNR=4.1						
VNA3	**Neumayer Olymp**	**17.51**	**143**	P	**P**	**10 52 58.2**	**+2.4**
VNA1	**Neumayer--Stat**	**17.75**	**140**	P	**P**	**10 52 58.2**	**-0.2**
VNA2	**Neumayer--Watz**	**18.11**	**141**	P	**P**	**10 53 02.5**	**+0.2**
	baz=290,slow=15						
SNAA	**Sanae**	**19.72**	**142**	P	**Pn**	**10 53 22.3**	**+0.7**
SNAA	**Sanae**	**19.72**	**142**	P	**Pn**	**10 53 21.6**	**-0.1**
	0.4nm,0.3s,baz=279,slow=11,SNR=8.9						
SNAA	**Sanae**	**19.72**	**142**	P	**Pn**	**10 53 22.9**	**+1.3**
TRQA	**Tornquist**	**25.02**	**325**	P	**P**	**10 54 15.8**	**+1.1**
TRQA				IAmb	IAmb	10 54 29.6	
comp=Z,41nm,1.1s							
PLCA	**Paso Flores**	**25.58**	**308**	P	**P**	**10 54 19.8**	**0.0**
comp=Z,8.4nm,0.9s,baz=192,slow=6.0,SNR=9.9							
PLCA	**Paso Flores**	**25.58**	**308**	P	**P**	**10 54 20.0**	**+0.2**
GO06	**Curarrehue**	**26.92**	**308**	P	**P**	**10 54 33.1**	**+1.1**
QSPA	**South Pole Qui**	**29.96**	**180**	P	**P**	**10 54 58.9**	**0.0**
comp=Z,9.5nm,1.0s,baz=147,slow=3.7,SNR=6.7							
QSPA	**South Pole Qui**	**29.96**	**180**	P	**P**	**10 54 59.2**	**+0.2**
QSPA				IAmb	IAmb	10 55 15.2	
comp=Z,26nm,1.3s							
GO05	**Huala**	**31.10**	**312**	P	**P**	**10 55 08.7**	**-0.4**
GO05				IAmb	IAmb	10 55 26.6	
comp=Z,17nm,0.9s							
CFA	**Coronel Fontan**	**32.91**	**320**	P	**P**	**10 55 24.1**	**-0.9**
comp=Z,3.1nm,0.8s,baz=170,slow=9.2,SNR=4.3							
SYO	**Syowa Base**	**33.99**	**140**⇓ *e*sP	sP		10 55 36.0	-0.2
SYO	**Syowa Base**	**33.99**	**140**⇓ *e*PnPn	PnPn		10 56 46.8	0.0
GO04	**Tololo Observa**	**35.07**	**317**	P	**P**	**10 55 43.7**	**-0.4**
GO04				IAmb	IAmb	10 55 49.9	
comp=Z,16nm,0.9s							
CPUP	**Villa Florida**	**35.17**	**339**	P	**P**	**10 55 44.9**	**+0.3**
comp=Z,3.5nm,1.1s,baz=163,slow=7.4,SNR=3.0							
CPUP	**Villa Florida**	**35.17**	**339**	P	**P**	**10 55 44.2**	**-0.4**
CPUP				IAmb	IAmb	10 55 59.6	
comp=Z,17nm,1.4s							
GO03	**Copiap**	**37.26**	**319**	P	**P**	**10 56 01.4**	**-1.2**
GO03				IAmb	IAmb	10 56 16.7	
comp=Z,15nm,0.8s							
GO02	**Mina Guanaco**	**39.33**	**322**	P	**P**	**10 56 20.1**	**-0.2**
SBA	**Scott Base**	**40.84**	**190**	P	**P**	**10 56 31.6**	**-0.3**
LVC	**Limon Verde**	**41.52**	**324**	P	**P**	**10 56 38.6**	**+0.1**
comp=Z,5.5nm,0.8s,baz=186,slow=5.8,SNR=6.0							
LVC	**Limon Verde**	**41.52**	**324**	P	**P**	**10 56 38.8**	**+0.3**
PB01	**IPOC Station P**	**43.17**	**324**	P	**P**	**10 56 50.6**	**-1.0**
GO01	**Chusmiza**	**44.38**	**325**	P	**P**	**10 57 01.8**	**-0.1**
PB11	**IPOC Station P**	**44.43**	**324**	P	**P**	**10 57 01.2**	**-0.7**
PB11				IAmb	IAmb	10 57 02.5	
comp=Z,20nm,1.0s							

WEL 17 10:49:58.0±0.9, **32°S**±8°×**18°0W**±1°9, **h304km**±15km, **M4.5/9, mB4.7/6, MLv4.9/9, Mw(mB)4.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.96**	**34**	P	Pn	10 50 52.4	-1.4
GLKZ				S	S	10 51 38.4	+0.2
MXZ	**Matakaoa Point**	**6.01**	**194**	P	Pn	10 51 29.0	+1.5
MXZ				S	S	10 52 41.4	+1.8
HAZ	**Te Kaha**	**6.32**	**198**	P	Pn	10 51 33.0	+1.8
HAZ				S	S	10 52 48.4	+2.0
OUZ	**Omahuta**	**6.51**	**236**	P	Pn	10 51 33.1	-0.4
PUZ	**Puketiti**	**6.51**	**194**	P	Pn	10 51 35.5	+1.9
PUZ				S	S	10 52 52.2	+1.6
OPRZ	**Ohinepanea**	**6.78**	**205**	P	Pn	10 51 37.4	+0.7
URZ	**Urewera**	**6.98**	**200**	P	Pn	10 51 39.1	0.0
URZ				S	S	10 53 01.5	+0.7
TOZ	**Tahuroa Road**	**7.11**	**212**	P	Pn	10 51 43.2	+2.5
MUGZ	**Murupara**	**7.28**	**202**	P	Pn	10 51 41.6	-1.2
MUGZ				S	S	10 53 06.7	-0.9
RTZ	**Ruatahuna**	**7.35**	**200**	P	Pn	10 51 42.1	-1.5
RTZ				S	S	10 53 08.1	-1.0
HRRZ	**Handcock Road**	**7.37**	**205**	P	Pn	10 51 45.0	+1.1
ALRZ	**Allen Road**	**7.50**	**204**	P	Pn	10 51 45.7	+0.2
KNZ	**Kokohu**	**7.55**	**195**	P	Pn	10 51 45.7	-0.3
KNZ				S	S	10 53 13.4	-0.2
RAHZ	**Arahi**	**7.60**	**199**	P	Pn	10 51 46.5	-0.1
RAHZ				S	S	10 53 14.8	+0.1
WHHZ	**Waihua**	**7.71**	**197**	P	Pn	10 51 48.1	+0.1
WHHZ				S	S	10 53 17.5	+0.4
NMHZ	**Naumai**	**7.84**	**200**	P	Pn	10 51 49.4	-0.3
NMHZ				S	S	10 53 20.9	+0.7
ARHZ	**Aropaoanui**	**7.95**	**198**	P	Pn	10 51 49.9	-0.9
ARHZ				S	S	10 53 21.4	-1.0
BKZ	**Black Stump Fm**	**8.00**	**201**	P	Pn	10 51 49.6	-1.9

Error ellipse: s-maj=12.8km s-min=7.9km az=144.2
IDC 17 10:55:08.3±0.8, 60°.14S×45°.74W, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/23, mbtmp4.1/9, ML3.9/1, Error ellipse: s-maj=27.8km s-min=18.4km az=59.0
NEIC 17 10:55:11.5±1.5, 60°.09S±0°.10×45°.7W±0°.2, h15km±4km, mb4.5/14
ISC 17 10:55:10.3±0.5, 60°.15S±0°.08×45°.56W±0°.08, h10km, n41, σ1§26/36, mb4.2/11, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.66	44	Pn	Pn	10 57 01.1	-0.7
PMSA	Palmer Station	9.72	234	Pn	Pn	10 57 27.4	-2.5
1.2nm,0.3s,baz=59,slow=8.1,SNR=7.5							
PMSA	Palmer Station	9.72	234		Pn	10 57 27.3	-2.7
USHA	Ushuaia	13.37	283	Pn	Pn	10 58 22.7	+2.9
0.2nm,0.3s,baz=144,slow=6.5,SNR=3.8							
VNA3	Neumayer Olymp	18.12	142	P	Pn	10 59 20.7	-1.0
VNA1	Neumayer--Stat	18.38	140	P	P	10 59 24.5	-0.3
SNAA	Sanae	20.34	142	P	P	10 59 47.9	+1.6
SNAA	Sanae	20.34	142	P	P	10 59 46.6	+0.3
6.9nm,0.9s,baz=285,slow=10,SNR=9.6							
SNAA	Sanae	20.34	142	P	Pn	10 59 49.4	+1.1
TRQA	Tornquist	24.45	327	P	P	11 00 30.1	+1.1
PLCA	Paso Flores	24.85	310	P	P	11 00 31.3	-1.5
1.5nm,1.0s,baz=180,slow=9.1,SNR=3.2							
PLCA	Paso Flores	24.85	310	P	P	11 00 32.2	-0.6
PLCA				IAmb	IAmb	11 00 39.2	
comp=Z,6.8nm,0.9s							
QSPA	South Pole Qui	30.09	180	P	P	11 01 20.0	+0.4
comp=Z,4.1nm,1.0s,baz=155,slow=19,SNR=3.3							
QSPA	South Pole Qui	30.09	180	P	P	11 01 21.0	+1.4
ROC1	El Roble	31.93	317	P	P	11 01 37.0	+0.9
SYO	Syowa Base	34.62	141‖	ePnPn	PnPn	11 03 13.4	-0.8
CPUP	Villa Florida	34.76	341	P	P	11 01 59.3	-1.3
comp=Z,1.2nm,0.7s,baz=183,slow=12,SNR=3.7							
CPUP	Villa Florida	34.76	341	P	P	11 01 59.2	-1.4
SBA	Scott Base	40.83	190	P	P	11 02 52.8	+1.5
PB01	IPOC Station P	42.59	326	P	P	11 03 06.3	-0.1
PB01				IAmb	IAmb	11 03 16.1	
comp=Z,7.2nm,1.0s							
MNMC	Minye Minye	44.44	327	P	P	11 03 22.6	+1.1
SIV	San Ignacio	45.52	339	P	P	11 03 29.5	-0.3
comp=Z,1.7nm,0.6s,baz=173,slow=6.7,SNR=9.2							
LPAZ	La Paz	46.77	330	P	P	11 03 40.4	+0.1
comp=Z,0.7nm,0.7s,baz=135,slow=7.1,SNR=3.2							
LPAZ	La Paz	46.77	330	P	P	11 03 40.1	-0.2
LPAZ				IAmb	IAmb	11 03 53.8	
comp=Z,4.9nm,1.1s							
SUR	Sutherland	50.86	88	P	P	11 04 12.0	+0.8
comp=Z,5.0nm,1.0s,baz=190,slow=18,SNR=2.5							
SUR	Sutherland	50.86	88	P	P	11 04 12.2	+0.9
SUR				IAmb	IAmb	11 04 26.7	
comp=Z,5.0nm,0.9s							
SAML	Samuel	52.78	338	P	P	11 04 25.3	-0.1
SAML				IAmb	IAmb	11 04 26.1	
comp=Z,4.2nm,0.7s							
OTAV	Otavalo	65.39	323	P	P	11 05 53.8	+0.4
OTAV				IAmb	IAmb	11 06 11.3	
comp=Z,4.6nm,1.1s							
URZ	Urewera	75.86	213	P	P	11 06 56.5	+0.1
URZ				IAmb	IAmb	11 06 59.4	
comp=Z,6.1nm,1.2s							
TOA0	Torodi Ar. Sit	82.24	46	P	P	11 07 32.7	+1.2
TORD	Torodi Ar. Bea	82.24	46	P	P	11 07 31.4	-0.1
comp=Z,1.5nm,0.7s,baz=203,slow=6.1,SNR=6.2							
TORD	Torodi Ar. Bea	82.24	46	P	P	11 07 32.0	+0.6
H08S1	Diego Carcia H	96.81	118	T	T	12 57 57.9	
baz=206,slow=76,SNR=6.6							
H08S2	Diego Garcia H	96.82	118	T	T	12 57 46.9	
baz=206							
H08S3	Diego Garcia H	96.83	118	T	T	12 57 50.0	
baz=206,slow=76,SNR=5.3							
NOA	NORSAR Array B	128.53	31	PKP	PKPdf	11 14 14.3	-1.6
comp=Z,0.7nm,0.9s,baz=251,slow=4.5,SNR=3.3							
FINES	FINESS Array B	133.13	39	PKP	PKPdf	11 14 22.4	-2.1
comp=Z,5.4nm,1.0s,baz=198,slow=8.7,SNR=2.3							
ILAR	Eielson Array	145.53	312	PKPbc	PKPdf	11 14 45.6	-1.3
comp=Z,0.7nm,0.7s,baz=156,slow=1.8,SNR=5.7							
ILAR	Eielson Array	145.53	312		PKPab	11 14 47.0	-0.4
MKAR	Makanchi Array	147.14	90	PKPbc	PKPdf	11 14 50.9	+0.6
comp=Z,1.0nm,0.6s,baz=222,slow=2.6,SNR=5.1							
MKAR	Makanchi Array	147.14	90		PKPdf	11 14 50.6	+0.3

ISCJB 17 10:57:45.3±1.4, 60°.9S±0°.1×42°.8W±0°.3, h10km, mb4.1/4, Error ellipse: s-maj=25.7km s-min=18.0km az=39.0
IDC 17 10:57:46.1±1.4, 60°.74S×42°.83W, h0km, mb4.2/4, mb1 4.2/5, mb1mx3.9/24, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=41.9km s-min=31.4km az=10.0
NEIC 17 10:57:48.2±2.7, 60°.7S±0°.1×42°.5W±0°.3, h14km±5km, mb4.4/12
ISC 17 10:57:46.8±1.0, 60°.8S±0°.1×42°.4W±0°.1, h10km, n31, σ1§07/31, mb4.3/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.25	29	Pn	Pn	10 59 30.8	-2.0
PMSA	Palmer Station	10.67	239	Pn	Pn	11 00 18.3	-1.1
0.4nm,0.3s,baz=90,slow=3.0,SNR=3.4							
PMSA	Palmer Station	10.67	239		Pn	11 00 18.8	-0.6
EFI	East Falkland	12.59	309	Pn	Pn	11 00 47.9	+2.1
TRQA	Tornquist	25.88	323	P	P	11 03 19.2	+0.7
PLCA	Paso Flores	26.48	306	P	P	11 03 22.7	-1.4
3.2nm,0.7s,baz=187,slow=7.3,SNR=6.8							
PLCA	Paso Flores	26.48	306	P	P	11 03 22.9	-1.2
PLCA				IAmb	IAmb	11 03 25.7	
comp=Z,6.2nm,0.9s							
GO06	Curarrehue	27.83	306	P	P	11 03 34.6	-1.6
GO06				IAmb	IAmb	11 03 42.6	
comp=Z,5.4nm,0.9s							
GO05	Huala	32.01	310	P	P	11 04 11.6	-1.4
CFA	Coronel Fontan	33.79	318	P	P	11 04 28.1	-0.6
comp=Z,1.5nm,0.4s,baz=259,slow=4.6,SNR=4.7							
CPUP	Villa Florida	35.93	337	P	P	11 04 47.0	-0.2
comp=Z,1.5nm,0.7s,baz=189,slow=7.4,SNR=3.9							
CPUP	Villa Florida	35.93	337	P	P	11 04 47.2	+0.1
GO04	Tololo Observa	35.96	315	P	P	11 04 46.0	-1.8
GO02	Mina Guanaco	40.20	320	P	P	11 05 23.4	-0.2
GO02				IAmb	IAmb	11 05 25.4	
comp=Z,6.2nm,0.8s							
PB01	IPOC Station P	44.03	322	P	P	11 05 54.3	-0.2
PB01				IAmb	IAmb	11 06 01.2	
comp=Z,7.5nm,1.1s							
GO01	Chusmiza	45.24	323	P	P	11 06 04.5	-0.1
GO01				IAmb	IAmb	11 06 22.9	
comp=Z,3.5nm,0.8s							
PB11	IPOC Station P	45.29	323	P	P	11 06 03.3	-1.4
MNMC	Minye Minye	45.87	323	P	P	11 06 09.4	0.0
MNMC				IAmb	IAmb	11 06 14.6	
comp=Z,6.3nm,0.7s							
SAML	Samuel	54.01	334	P	P	11 07 10.6	-0.4
OTAV	Otavalo	66.86	320	P	P	11 08 40.5	+1.2
OTAV				IAmb	IAmb	11 08 54.1	
comp=Z,3.7nm,0.9s							
TORD	Torodi Ar. Bea	81.59	43	P	P	11 10 06.4	+1.8
comp=Z,2.0nm,0.8s,baz=203,slow=6.8,SNR=6.3							
TORD	Torodi Ar. Bea	81.59	43	P	P	11 10 06.2	+1.6
INK	Inuvik	144.35	320	PKP	PKPab	11 17 19.4	-0.1
comp=Z,3.7nm,1.0s,baz=109,slow=1.4,SNR=7.6							
INK	Inuvik	144.35	320		PKPab	11 17 19.6	+0.2
MKAR	Makanchi Array	145.58	88	PKPbc	PKPab	11 17 25.1	+0.4
comp=Z,1.1nm,0.7s,baz=246,slow=1.0,SNR=4.9							
RIDG	Independent Ri	145.85	309		PKPab	11 17 25.6	+0.3
IL31		147.14	310		PKPbc	11 17 29.1	+0.8
ILAR	Eielson Array	147.14	310	PKPbc	PKPbc	11 17 28.4	0.0
comp=Z,1.7nm,0.5s,baz=128,slow=1.9,SNR=17							
ILAR	Eielson Array	147.14	310		PKPbc	11 17 28.7	+0.3
TOLK	Toolik Lake Re	149.76	316		PKiKP	11 17 36.0	-0.2
IMAR	Indian Mountai	150.25	310		PKPbc	11 17 36.8	+0.5

ISCJB 17 10:59:02.9±0.7, 8°.08S±0°.05×119°.18E±0°.06, h10km, mb3.9/1, Error ellipse: s-maj=9.1km s-min=6.4km az=14.6
DJA 17 10:59:04.3±0.4, 8°.S±4°×11°.9E±°, h10km, M3.4/6, MLv3.4/6
IDC 17 10:59:05.3±2.0, 7°.98S×119°.56E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.2/35, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=72.8km s-min=22.5km az=67.0
ISC 17 10:59:04.5±1.0, 8°.12S±0°.05×119°.12E±0°.08, h10km, n7, σ1§54/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.50	242	P	Pn	10 59 31.1	-0.4
PLAI				S	Sb	10 59 50.9	-0.8
WBSI	Waikabubak, Su	1.53	170	P	Pn	10 59 31.3	-0.7
WBSI				S	Sn	10 59 51.5	-0.5
TWSI	Taliwang, Sumb	2.30	254	P	Pn	10 59 42.1	-0.4
KAPI	Kappang	3.15	12	Pn	Pn	10 59 54.2	0.0
1.3nm,0.3s,baz=167,slow=6.2,SNR=4.9							
KAPI				Sn	Sn	11 00 29.1	-2.8
1.6nm,0.3s,baz=205,slow=18,SNR=4.5							
WRA	Warramunga Arr	18.85	130	P	P	11 03 24.2	-0.7
0.1nm,0.3s,baz=305,slow=12,SNR=3.7							
ASAR	Alice Springs	20.97	139	P	P	11 03 48.5	+0.5
0.1nm,0.5s,baz=316,slow=10,SNR=5.2							
ZALV	Zalesovo Beam	68.27	339	P	P	11 10 07.9	+2.5
0.7nm,0.5s,baz=157,slow=7.8,SNR=1.9							

IDC 17 10:59:06.3±0.6, 60°.39S×43°.34W, h0km, mb4.5/12, mb1 4.5/14, mb1mx4.4/27, mbtmp4.5/14, ML3.7/2, Error ellipse: s-maj=25.3km s-min=15.0km az=58.0
ISCJB 17 10:59:07.1±0.3, 60°.41S±0°.06×43°.1W±0°.2, h18km, mb4.4/12, Error ellipse: s-maj=12.4km s-min=6.1km az=144.6
NEIC 17 10:59:08.3±2.2, 60°.34S±0°.09×43°.1W±0°.2, h10km±1km, mb4.8/24
ISC 17 10:59:09.2±0.4, 60°.40S±0°.07×43°.10W±0°.08, h18km, n83, σ1§06/82, mb4.6/20, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.10	33	Pn	Pn	11 00 50.4	-1.6
PMSA	Palmer Station	10.58	237	Pn	Pn	11 01 37.5	-2.2
0.6nm,0.3s,baz=70,slow=13,SNR=11							
PMSA	Palmer Station	10.58	237		Pn	11 01 38.6	-1.1
EFI	East Falkland	12.07	310	Pn	Pn	11 02 01.0	+0.9
VNA3	Neumayer Olymp	17.18	143	P	Pn	11 03 05.5	-2.4
VNA1	Neumayer--Stat	17.40	140	P	Pn	11 03 10.3	-0.4
VNA2	Neumayer--Watz	17.76	141	P	Pn	11 03 13.8	-1.3
baz=295,slow=13							
SNAA	Sanae	19.38	142	P	P	11 03 33.2	-0.5
SNAA	Sanae	19.38	142	P	P	11 03 33.2	-0.5
0.2nm,0.3s,baz=268,slow=7.6,SNR=14							
SNAA	Sanae	19.38	142	P	P	11 03 33.9	+0.2
SNAA				IAmb	IAmb	11 03 37.2	
comp=Z,40nm,1.1s							
TRQA	Tornquist	25.35	323	P	P	11 04 36.5	+1.6
TRQA				IAmb	IAmb	11 04 36.7	
comp=Z,23nm,1.1s							
PLCA	Paso Flores	25.97	307	P	P	11 04 38.7	-1.9
comp=Z,4.9nm,0.8s,baz=179,slow=9.0,SNR=6.8							
PLCA	Paso Flores	25.97	307	P	P	11 04 39.6	-0.9
GO06	Curarrehue	27.31	307	P	P	11 04 51.8	-1.0
QSPA	South Pole Qui	29.84	180	P	P	11 05 14.9	-0.1
comp=Z,6.2nm,1.1s,baz=253,slow=1.9,SNR=3.7							
QSPA	South Pole Qui	29.84	180	P	P	11 05 15.9	+0.8
QSPA				IAmb	IAmb	11 05 16.7	
comp=Z,14nm,1.2s							
CFA	Coronel Fontan	33.26	319	P	P	11 05 43.1	-2.2
comp=Z,1.2nm,0.3s,baz=37,slow=23,SNR=6.9							
SYO	Syowa Base	33.64	140‖	ePP	P	11 05 46.6	-1.6
CPUP	Villa Florida	35.43	338	P	P	11 06 02.9	-1.1
comp=Z,4.8nm,1.0s,baz=171,slow=9.3,SNR=5.1							
CPUP	Villa Florida	35.43	338	P	P	11 06 04.1	+0.1
GO04	Tololo Observa	35.44	316	P	P	11 06 03.7	-0.6
GO02	Mina Guanaco	39.67	321	P	P	11 06 39.8	-0.5
GO02				IAmb	IAmb	11 06 40.8	
comp=Z,14nm,0.8s							
SBA	Scott Base	40.79	189	P	P	11 06 48.7	0.0
LVC	Limon Verde	41.86	323	P	P	11 06 57.8	-0.6
comp=Z,6.6nm,0.8s,baz=211,slow=8.4,SNR=6.3							
LVC	Limon Verde	41.86	323	P	P	11 06 58.7	+0.3
PB01	IPOC Station P	43.51	323	P	P	11 07 11.3	-0.2
GO01	Chusmiza	44.72	324	P	P	11 07 21.6	-0.1
GO01				IAmb	IAmb	11 07 28.1	
comp=Z,19nm,1.1s							
PB11	IPOC Station P	44.76	323	P	P	11 07 20.9	-0.8
PB11				IAmb	IAmb	11 07 27.5	
comp=Z,22nm,1.1s							
BDFB	Brasilia	44.84	353	P	P	11 07 22.1	-0.1
comp=Z,14nm,0.9s,baz=180,slow=4.0,SNR=15							
BDFB	Brasilia	44.84	353	P	P	11 07 22.6	+0.4
BDFB				IAmb	IAmb	11 07 23.6	
comp=Z,20nm,1.0s							
MNMC	Minye Minye	45.34	324	P	P	11 07 26.6	+0.2
SIV	San Ignacio	46.22	336	P	P	11 07 32.6	-0.5
comp=Z,3.7nm,0.8s,baz=181,slow=9.0,SNR=9.3							
LPAZ	La Paz	47.62	327	P	P	11 07 44.6	-0.2
comp=Z,2.8nm,0.8s,baz=204,slow=4.5,SNR=6.9							
LPAZ	La Paz	47.62	327	P	P	11 07 45.0	+0.2
LPAZ				IAmb	IAmb	11 08 00.1	
comp=Z,6.1nm,1.1s							
SAML	Samuel	53.50	335	P	P	11 08 27.8	-0.6
SAML				IAmb	IAmb	11 08 33.6	
comp=Z,18nm,1.4s							
LBTB	Lobatse	58.09	85	P	P	11 09 00.7	-0.7
comp=Z,5.5nm,0.9s,baz=181,slow=4.3,SNR=3.6							
LBTB	Lobatse	58.09	85	P	P	11 09 00.6	-0.8
LBTB				IAmb	IAmb	11 09 10.4	
comp=Z,8.5nm,0.9s							
OTAV	Otavalo	66.34	321	P	P	11 09 57.6	+0.4
LSZ	Lusaka	67.61	81	P	P	11 10 05.7	+0.9
LSZ				IAmb	IAmb	11 10 09.4	
comp=Z,8.8nm,1.0s							
OUZ	Omahuta	80.07	210	P	P	11 11 19.5	+2.0
OUZ				IAmb	IAmb	11 11 21.9	
comp=Z,9.5nm,1.0s							
MLPR	Magueyes Islan	80.46	337	P	P	11 11 19.0	-0.5
TOA0	Torodi Ar. Sit	81.55	44	P	P	11 11 26.6	+1.2
TOA0				IAmb	IAmb	11 11 31.5	
comp=Z,8.2nm,1.1s							
TORD	Torodi Ar. Bea	81.55	44	P	P	11 11 26.1	+0.7
comp=Z,3.7nm,0.8s,baz=206,slow=4.6,SNR=9.6							
TORD	Torodi Ar. Bea	81.55	44	P	P	11 11 26.4	+1.0
STKA	Stephens Creek	87.98	184	P	P	11 11 59.7	+1.8
comp=Z,2.4nm,0.9s,baz=244,slow=21,SNR=3.3							
STKA	Stephens Creek	87.98	184	P	P	11 11 59.6	+1.8
ASAR	Alice Springs	96.21	177	P	P	11 12 35.2	-0.9
comp=Z,1.4nm,1.1s,baz=167,slow=4.6,SNR=6.7							
VYHS	Vyhne	119.52	42	ePKP	PKPdf	11 17 55.6	-0.9
LANS	Liptovska Anna	120.30	42	ePKP	PKPdf	11 17 56.4	-1.6
CD2	Chengdu	143.23	128	PKP	PKPdf	11 18 40.9	-0.8
BCAR	Beaver Creek A	143.80	310		PKPab	11 18 38.5	-0.2
INK	Inuvik	143.82	321	PKhKP	PKPpre	11 18 37.5	
comp=Z,4.7nm,1.0s,baz=166,slow=5.3,SNR=4.5							
INK	Inuvik	143.82	321		PKPpre	11 18 38.0	
SCM	Sheep Creek Mo	145.29	306		PKPbc	11 18 44.1	0.0
RIDG	Independent Ri	145.32	310		PKPbc	11 18 43.0	-1.2
MK31	Makanchi Array	145.92	88		PKPdf	11 18 45.6	-0.2
MKAR	Makanchi Array	145.92	88	PKPbc	PKPdf	11 18 45.6	-0.2
comp=Z,3.5nm,0.8s,baz=245,slow=2.3,SNR=9.4							
MKAR	Makanchi Array	145.92	88		PKPdf	11 18 45.1	-0.7
PRP	Porcupine Dome	146.47	313		PKPbc	11 18 47.3	-0.4
WMQ	Urumqi	146.49	97	ePKP	PKPbc	11 18 48.1	-0.3
WMQ				pmax	pmax		
comp=Z,35nm,5.9s							
IL31		146.62	311		PKPdf	11 18 47.1	+0.9
ILAR	Eielson Array	146.62	311	PKPbc	PKPdf	11 18 46.7	+0.3
comp=Z,5.5nm,1.0s,baz=157,slow=3.1,SNR=7.2							
ILAR	Eielson Array	146.62	311		PKPdf	11 18 47.1	+0.8
RND	Reindeer	146.70	308		PKPdf	11 18 47.1	+0.5
RND					pPKPdf	11 18 51.5	+0.4
CCB	Clear Creek Bu	146.90	310		PKPbc	11 18 48.3	-0.5
WRH	Wood River Hil	146.93	310		PKPbc	11 18 48.6	-0.2
BMAR	Burnt Mountain	147.03	316		PKPbc	11 18 49.0	-0.1
COLA	College	147.03	311		PKPbc	11 18 48.8	-0.3
TRF	Thorofare Moun	147.29	307		PKPab	11 18 51.5	-0.5
PPLA	Purkeypile	147.78	306		PKiKP	11 18 53.6	+0.2
LZH	Lanzhou	147.79	124	ePKPbc	PKPdf	11 18 50.0	+0.5
LZH				pPKP	pPKPdf	11 18 53.3	-0.6
LZH				sPKP		11 18 54.6	
LZH				PKPbc	pPKPbc	11 18 57.5	+0.7
BPAW	Bear Paw Mtn.	147.87	308		PKPbc	11 18 50.2	-1.3
MLY	Manley	148.19	310		PKPbc	11 18 52.8	+0.4
GTA	Gaotai	148.84	115	ePKPbc	PKiKP	11 18 57.3	+1.0
COLD	Coldfoot	148.91	314		PKiKP	11 18 56.1	+0.7
TOLK	Toolik Lake Re	149.24	317		PKPbc	11 18 54.3	-0.6
IMAR	Indian Mountai	149.73	311		PKPbc	11 18 55.8	-0.4
ZALV	Zalesovo Beam	151.71	80	PKPbc	PKiKP	11 19 03.0	+1.5
comp=Z,0.5nm,0.3s,baz=214,slow=7.2,SNR=3.8							
ZALV	Zalesovo Beam	151.71	80		PKiKP	11 19 04.1	+2.5
HHC	Hu-ho-hao-te	154.96	130	eP	PKPdf	11 19 01.5	+1.4
BJI	Beijing	155.88	138	eP	PKPdf	11 19 04.3	+3.1
BJI				pmax	pmax		
comp=Z,7.0nm,0.8s							
SONM	Songino Array	158.38	112	PKPab	PKPab	11 19 39.7	+0.7
comp=Z,1.4nm,0.9s,baz=215,slow=4.9,SNR=5.7							
SONM	Songino Array	158.38	112		PKPab	11 19 39.9	+0.8

IDC 17 11:01:08.4±2.3, 61°.31S×41°.90W, h0km, mb4.2/1, mb1 4.2/1, mb1mx3.6/27, mbtmp4.2/1, Error ellipse: s-maj=150.1km s-min=69.6km az=163.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	81.81	43	P	P	11 13 29.0	0.0
1.4nm,0.7s,baz=202,slow=8.9,SNR=4.3							
INK	Inuvik	144.90	320	PKP	PKPab	11 20 43.7	-1.1
1.9nm,0.6s,baz=91,slow=4.4,SNR=8.9							
ILAR	Eielson Array	147.65	309	PKPbc	PKPbc	11 20 52.9	-0.2
2.2nm,0.8s,baz=137,slow=2.1,SNR=7.7							
ZALV	Zalesovo Beam	151.28	80	PKPbc	PKPbc	11 21 02.4	0.0
0.8nm,0.4s,baz=238,slow=2.8,SNR=4.1							

IDC 17 11:01:49.2±1.5, 61°.11S×42°.07W, h0km, mb4.2/1, mb1 4.2/1, mb1mx3.6/27, mbtmp4.2/1, Error ellipse: s-maj=93.4km s-min=61.2km az=20.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	81.72	43	P	P	11 14 09.5	+0.2
1.0nm,0.9s,baz=196,slow=6.2,SNR=3.8							
INK	Inuvik	144.69	320	PKP	PKPab	11 21 24.1	-0.6
3.0nm,0.8s,baz=100,slow=2.4,SNR=5.8							
MKAR	Makanchi Array	145.44	89	PKPbc	PKPdf	11 21 27.9	0.0
1.3nm,0.9s,baz=267,slow=5.6,SNR=4.0							
ILAR	Eielson Array	147.46	310	PKPbc	PKPbc	11 21 33.2	-0.1
2.1nm,0.8s,baz=125,slow=1.7,SNR=7.6							
ZALV	Zalesovo Beam	151.33	80	PKPbc	PKPbc	11 21 41.7	-1.5
0.6nm,0.3s,baz=240,slow=2.8,SNR=2.8							
SONM	Songino Array	157.65	112	PKPab	PKPab	11 22 18.8	+0.1
0.2nm,0.4s,baz=222,slow=1.9,SNR=3.0							

IDC 17 11:04:18.8±2.1, 60°.43S×45°.64W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/27, mbtmp3.8/4, Error ellipse: s-maj=80.7km s-min=35.1km az=31.0
NEIC 17 11:04:22.0±2.2, 60°.4S±0°.2×45°.2W±0°.3, h19km±4km, mb4.3/8
ISC 17 11:04:20.4±1.1, 60°.3S±0°.2×45°.3W±0°.2, h10km, n18, σ1§54/18, mb4.1/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.66	42	Pn	Pn	11 06 12.6	+0.8
PMSA	Palmer Station	9.76	234	Pn	Pn	11 06 41.1	+0.5
TRQA	Tornquist	24.61	327	P	P	11 09 43.0	+2.4
TRQA				IAmb	IAmb	11 09 45.7	
comp=Z,14nm,1.1s							
PLCA	Paso Flores	25.02	310	P	P	11 09 44.1	-0.3
comp=Z,1.9nm,1.0s,baz=164,slow=7.4,SNR=2.9							
PLCA	Paso Flores	25.02	310	P	P	11 09 44.3	0.0
SPB	Sao Paulo	36.67	357	P	P	11 11 24.9	-2.1
SPB				IAmb	IAmb	11 11 44.0	
comp=Z,25nm,1.3s							
PB01	IPOC Station P	42.75	326	P	P	11 12 19.6	+1.8
PB01				IAmb	IAmb	11 12 35.6	
comp=Z,5.6nm,1.1s							
GO01	Chusmiza	43.97	327	P	P	11 12 30.0	+1.8
GO01				IAmb	IAmb	11 12 31.5	
comp=Z,3.1nm,1.1s							
MNMC	Minye Minye	44.59	326	P	P	11 12 34.8	+1.9
SIV	San Ignacio	45.66	339	P	P	11 12 41.2	0.0
comp=Z,0.8nm,0.5s,baz=204,slow=9.0,SNR=3.6							
LPAZ	La Paz	46.92	329	P	P	11 12 52.8	+1.2
comp=Z,1.1nm,0.7s,baz=200,slow=6.3,SNR=3.7							
LPAZ	La Paz	46.92	329	P	P	11 12 52.9	+1.2
LPAZ				IAmb	IAmb	11 12 59.5	
comp=Z,2.1nm,0.9s							
BANI	BANI	80.96	336	P	P	11 16 32.2	-2.7
TORD	Torodi Ar. Bea	82.22	46	P	P	11 16 43.1	+1.5
comp=Z,0.9nm,0.8s,baz=197,slow=3.9,SNR=2.9							
TORD	Torodi Ar. Bea	82.22	46	P	P	11 16 42.1	+0.6
ILAR	Eielson Array	145.69	312	PKPbc	PKPab	11 23 57.2	-1.0
comp=Z,0.9nm,0.8s,baz=158,slow=4.2,SNR=3.7							
MKAR	Makanchi Array	147.02	90	PKPbc	PKPbc	11 24 01.8	-0.5
comp=Z,1.5nm,0.7s,baz=232,slow=1.4,SNR=5.5							
MKAR	Makanchi Array	147.02	90		PKPbc	11 24 01.9	-0.4

*IDC 17 11:09:13.2±1.5, 2°.96S×139°.00E, h0km, mb4

BKZ	Black Stump Fm	49.13	142	P	P	11 18 04.2	+0.6
BKZ				IAmb	IAmb	11 18 05.5	
comp=Z,1.8nm,0.6s							
BFZ	Birch Farm	49.91	143	P	P	11 18 10.3	+0.8
ILAR	Eielson Array	86.16	24	P	P	11 21 54.5	-1.9
comp=Z,0.9nm,0.7s,baz=274,slow=4.8,SNR=6.4							
MNMC	Minye Minye	143.88	129	PKPdf	PKPbc	11 28 50.6	+0.7
LPAZ	La Paz	146.62	127	PKPbc	PKPab	11 29 00.0	0.0
comp=Z,1.2nm,0.8s,baz=233,slow=3.2,SNR=4.3							
LPAZ	La Paz	146.62	127		PKPab	11 28 60.0	0.0
MLPR	Magueyes Islan	150.39	59	PKPbc	PKPbc	11 29 07.8	-0.1

*ISCJB **17** 11:09:34.7±0.4, 60°.70S±0°.07×42°.1W±0°.2, h10km, mb4.3/10, Error ellipse: s-maj=10.8km s-min=9.9km az=3.0*
*IDC **17** 11:09:34.7±0.7, 60°.68S×42°.08W, h0km, mb4.2/8, mb1 4.2/10, mb1mx4.0/33, mbtmp4.2/10, ML3.6/2, Error ellipse: s-maj=25.2km s-min=18.2km az=44.0*
*NEIC **17** 11:09:37.5±2.3, 60°.73S±0°.10×42°.1W±0°.2, h15km±3km, mb4.3/12*
ISC 17 11:09:36.4±0.5, **60°.70S**±0°.08×**42°.08W**±0°.09, **h10**km, **n58**, σ0**85**/52, **mb4.2**/15, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.10	28	Pn	Pn	11 11 20.7	+0.4
PMSA	Palmer Station	10.84	238	Pn	Pn	11 12 11.1	-0.3
0.3nm,0.3s,baz=65,slow=14,SNR=3.1							
SNAA	Sanae	18.83	142	P	P	11 13 56.1	+0.1
0.2nm,0.3s,baz=266,slow=7.1,SNR=6.3							
SNAA	Sanae	18.83	142	P	Pn	11 13 58.2	+1.7
PLCA	Paso Flores	26.55	306	P	P	11 15 13.8	-0.4
1.9nm,0.9s,baz=184,slow=9.9,SNR=3.7							
PLCA	Paso Flores	26.55	306	P	P	11 15 14.0	-0.3
PLCA				IAmb	IAmb	11 15 23.3	
comp=Z,4.0nm,1.1s							
GO06	Curarrehue	27.90	306	P	P	11 15 26.9	+0.5
GO06				IAmb	IAmb	11 15 27.4	
comp=Z,6.8nm,1.1s							
QSPA	South Pole Qui	29.53	180	P	P	11 15 41.2	+0.5
comp=Z,3.3nm,1.0s,baz=179,slow=4.7,SNR=5.2							
QSPA	South Pole Qui	29.53	180	P	P	11 15 40.8	0.0
ROC1	El Roble	33.54	313	P	P	11 16 17.6	+1.2
SBA	Scott Base	40.57	189	P	P	11 17 15.9	+0.7
BDFB	Brasilia	45.20	352	P	P	11 17 52.8	-0.8
comp=Z,2.3nm,0.7s,baz=180,slow=7.1,SNR=3.4							
SIV	San Ignacio	46.71	335	P	P	11 18 03.9	-1.5
comp=Z,1.1nm,0.8s,baz=153,slow=8.1,SNR=5.1							
LPAZ	La Paz	48.16	326	P	P	11 18 18.1	+0.7
comp=Z,0.7nm,0.6s,baz=153,slow=8.2,SNR=3.2							
LPAZ	La Paz	48.16	326	P	P	11 18 18.0	+0.7
SAML	Samuel	53.99	334	P	P	11 19 00.9	+0.4
SAML				IAmb	IAmb	11 19 02.7	
comp=Z,1.7nm,0.7s							
LBTB	Lobatse	57.61	84	P	P	11 19 25.4	-1.0
comp=Z,1.3nm,0.7s,baz=180,slow=12,SNR=4.2							
LBTB	Lobatse	57.61	84	P	P	11 19 26.5	0.0
TSUM	Tsumeb	58.70	73	P	P	11 19 34.9	+0.7
OTAV	Otavalo	66.89	320	P	P	11 20 31.0	+1.9
OTAV				IAmb	IAmb	11 20 31.3	
comp=Z,4.2nm,0.8s							
LSZ	Lusaka	67.15	80	P	P	11 20 30.8	+0.4
comp=Z,5.6nm,0.8s,baz=203,slow=6.0,SNR=9.4							
LSZ	Lusaka	67.15	80	P	P	11 20 28.8	-1.7
LIC	Lamto	72.75	39	*e*PKP2	P	11 21 05.0	+0.4
comp=Z,18nm,0.5s							
LIC	Lamto	72.75	39	P	P	11 21 05.0	+0.4
KIC	Kosan Boka	72.97	39	*e*PKP2	P	11 21 06.0	+0.1
comp=Z,49nm,1.5s							
KIC	Kosan Boka	72.97	39	P	P	11 21 06.0	+0.1
TIC	Toumodi	73.15	39	*e*PKP2	P	11 21 06.5	-0.5
DBIC	Dimbokro	73.23	39	P	P	11 21 07.8	+0.4
OUZ	Omahuta	80.05	209	P	P	11 21 45.2	-0.6
OUZ				IAmb	IAmb	11 21 46.9	
comp=Z,3.3nm,1.2s							
TOA0	Torodi Ar. Sit	81.42	43	P	P	11 21 54.2	+0.9
TOA0				IAmb	IAmb	11 21 54.9	
comp=Z,5.3nm,0.9s							
TORD	Torodi Ar. Bea	81.42	43	P	P	11 21 54.1	+0.8
comp=Z,3.2nm,0.7s,baz=204,slow=4.8,SNR=15							
H08S1	Diego Carcia H	95.02	115	T	T	13 09 21.1	
baz=213,slow=76,SNR=10							
H08S2	Diego Garcia H	95.03	115	T	T	13 09 18.0	
baz=213,slow=76,SNR=7.6							
H08S3	Diego Garcia H	95.04	115	T	T	13 09 18.8	
baz=213,slow=76,SNR=8.7							
CMAR	Chiang Mai Arr	129.56	129	PKP	PKPdf	11 28 44.8	-0.4
comp=Z,0.4nm,0.7s,baz=215,slow=2.8,SNR=4.1							
ARCES	ARCESS Array B	138.51	29	PKhKP	PKPpre	11 28 49.1	
comp=Z,13nm,1.1s,baz=242,slow=1.5,SNR=3.8							
BVAR	Borovoye Array	143.84	71	PKhKP	PKPpre	11 29 07.7	
comp=Z,0.4nm,0.4s,baz=347,slow=1.9,SNR=2.7							
EPYK	Eagle Plains	144.38	316		PKPbc	11 29 09.4	-0.2
INK	Inuvik	144.38	320	PKP	PKPab	11 29 08.6	-0.5
comp=Z,6.8nm,0.8s,baz=103,slow=2.7,SNR=25							
INK	Inuvik	144.38	320		PKPab	11 29 08.0	-1.1
BCAR	Beaver Creek A	144.38	310		PKPab	11 29 09.2	-0.2
MK31	Makanchi Array	145.43	88		PKPdf	11 29 12.1	-1.4
MKAR	Makanchi Array	145.43	88	PKPbc	PKPdf	11 29 12.6	-0.8
comp=Z,3.5nm,0.9s,baz=231,slow=3.8,SNR=15							
MKAR	Makanchi Array	145.43	88		PKPdf	11 29 12.2	-1.2
RIDG	Independent Ri	145.91	309		PKPbc	11 29 14.4	-0.1
KURBB	Kurchatov Arra	146.17	80	PKPbc	PKPdf	11 29 14.9	+0.4
comp=Z,1.4nm,0.4s,baz=230,slow=3.3,SNR=10							
KURK	Kurchatov	146.28	80		PKPdf	11 29 14.9	+0.2
IL31	Inuyama	147.20	310		PKPbc	11 29 17.8	-0.3
ILAR	Eielson Array	147.20	310	PKPbc	PKPbc	11 29 17.7	-0.5
comp=Z,5.1nm,0.8s,baz=136,slow=1.9,SNR=36							
ILAR	Eielson Array	147.20	310		PKPbc	11 29 17.4	-0.8
RND	Reindeer	147.29	307		PKPbc	11 29 18.5	-0.1
BMAR	Burnt Mountain	147.60	315		PKPbc	11 29 19.0	-0.3
COLA	College	147.61	310		PKPbc	11 29 18.6	-0.6
BPAW	Bear Paw Mtn.	148.45	307		PKPbc	11 29 20.7	-0.9
IMAR	Indian Mountai	150.31	310		PKPbc	11 29 26.1	0.0
ZALV	Zalesovo Beam	151.26	79	PKPbc	PKPbc	11 29 27.2	-1.4
comp=Z,1.3nm,0.4s,baz=222,slow=2.0,SNR=7.6							
ZALV	Zalesovo Beam	151.26	79		PKPbc	11 29 26.7	-1.9
SONM	Songino Array	157.80	111	PKPab	PKPab	11 30 04.3	-0.7
comp=Z,0.2nm,0.6s,baz=242,slow=3.1,SNR=3.6							

*IDC **17** 11:11:30.8±1.3, 60°.26S×43°.73W, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.7/31, mbtmp3.9/3, ML3.3/1, Error ellipse: s-maj=64.6km s-min=29.3km az=39.0*
*ISCJB **17** 11:11:31.7±0.6, 60°.19S±0°.10×43°.3W±0°.2, h10km, mb3.8/2, Error ellipse: s-maj=14.9km s-min=10.9km az=33.4*
*NEIC **17** 11:11:34.0±1.5, 60°.2S±0°.1×43°.5W±0°.2, h15km±5km, mb4.2/12*
ISC 17 11:11:33.1±0.7, **60°.2S**±0°.1×**43°.5W**±0°.1, **h10**km, **n22**, σ0**96**/22, **mb4.2**/8, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.07	36	Pn	Pn	11 13 16.0	-0.4
GO10	Punta Arenas	16.59	283	P	P	11 15 28.5	+0.4
GO10				IAmb	IAmb	11 15 28.7	
comp=Z,17nm,1.0s							
SNAA	Sanae	19.66	142	P	P	11 16 02.0	+0.3
comp=Z,0.1nm,0.3s,baz=286,slow=11,SNR=4.4							
SNAA	Sanae	19.66	142	P	P	11 16 01.5	-0.2
TRQA	Tornquist	25.08	324	P	P	11 16 56.9	-0.6
TRQA				IAmb	IAmb	11 17 05.5	
comp=Z,4.9nm,1.0s							
PLCA	Paso Flores	25.68	307	P	P	11 17 03.2	+0.1
comp=Z,1.1nm,0.7s,baz=182,slow=11,SNR=4.3							
PLCA	Paso Flores	25.68	307	P	P	11 17 03.6	+0.6
QSPA	South Pole Qui	30.02	180	P	P	11 17 42.0	+0.2
GO04	Tololo Observa	35.16	316	P	P	11 18 28.0	+0.9
GO03	Copiap	37.34	319	P	P	11 18 46.2	+0.7
LPAZ	La Paz	47.35	327	P	P	11 20 07.4	-0.3
LPAZ				IAmb	IAmb	11 20 08.7	
comp=Z,1.6nm,0.8s							
SAML	Samuel	53.24	336	P	P	11 20 51.9	+0.3
SAML				IAmb	IAmb	11 20 57.1	
comp=Z,1.9nm,0.8s							
BOSA	Boshof	55.14	87	P	P	11 21 06.8	+1.3
BOSA				IAmb	IAmb	11 21 15.4	
comp=Z,3.2nm,1.0s							
TSUM	Tsumeb	59.26	74	P	P	11 21 34.8	+0.1
TSUM				IAmb	IAmb	11 21 41.9	
comp=Z,1.6nm,1.0s							
TOA0	Torodi Ar. Sit	81.57	44	P	P	11 23 51.0	+0.2
TOA0				IAmb	IAmb	11 23 51.7	
comp=Z,2.8nm,0.8s							
TORD	Torodi Ar. Bea	81.57	44	P	P	11 23 51.1	+0.4
comp=Z,1.8nm,0.7s,baz=199,slow=7.1,SNR=7.4							
TORD	Torodi Ar. Bea	81.57	44	P	P	11 23 51.4	+0.7
MKAR	Makanchi Array	146.13	89	PKPbc	PKPdf	11 31 10.0	-1.4
comp=Z,1.1nm,0.7s,baz=251,slow=1.0,SNR=5.0							
MKAR	Makanchi Array	146.13	89		PKPdf	11 31 09.8	-1.6
ILAR	Eielson Array	146.33	311	PKPbc	PKPdf	11 31 09.2	-1.9
comp=Z,0.7nm,0.7s,baz=160,slow=2.9,SNR=5.0							
ILAR	Eielson Array	146.33	311		PKPdf	11 31 09.0	-2.1
SONM	Songino Array	158.65	112	PKPab	PKPab	11 32 05.5	+0.1
comp=Z,0.2nm,0.4s,baz=215,slow=4.8,SNR=3.7							

*IDC **17** 11:12:10.2±0.6, 60°.68S×44°.00W, h0km, mb4.6/14, mb1 4.6/14, mb1mx4.5/29, mbtmp4.6/14, Error ellipse: s-maj=25.4km s-min=14.8km az=35.0*
*ISCJB **17** 11:12:11.4±0.3, 60°.41S±0°.06×43°.9W±0°.1, h10km, mb4.6/21, Error ellipse: s-maj=10.9km s-min=6.7km az=139.1*
*NEIC **17** 11:12:12.4±2.6, 60°.43S±0°.09×43°.5W±0°.2, h10km±1km, mb4.9/26*
ISC 17 11:12:12.5±0.3, **60°.42S**±0°.07×**43°.81W**±0°.07, **h10**km, **n148**, σ1**41**/141, **mb4.8**/24, **4C-3D**, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.31	36	P	Pn	11 13 57.4	-1.7
HOPE	Hope Point	7.31	36	Pn	Pn	11 13 57.4	-1.7
PMSA	Palmer Station	10.28	236	Pn	Pn	11 14 40.6	+0.8
1.7nm,0.3s,baz=78,slow=14,SNR=12							
PMSA	Palmer Station	10.28	236	Pn	Pn	11 14 41.1	+1.4
EFI	East Falkland	11.82	312	*e*P	Pn	11 15 04.0	+3.2
EFI				pmax	pmax		
comp=Z,33nm,0.9s							
EFI	East Falkland	11.82	312	Pn	Pn	11 15 03.6	+2.7
USHA	Ushuaia	14.28	282	Pn	P	11 15 38.4	-3.3
comp=Z,1.2nm,0.3s,baz=115,slow=18,SNR=10							
USHA	Ushuaia	14.28	282		P	11 15 38.4	-3.3
GO10	Punta Arenas	16.51	284	P	P	11 16 07.8	+1.3
GO10				IAmb	IAmb	11 16 09.4	
comp=Z,112nm,1.0s							
VNA3	Neumayer Olymp	17.37	143	P	P	11 16 20.6	+4.7
VNA1	Neumayer--Stat	17.61	140	P	P	11 16 20.6	+2.1
VNA2	Neumayer--Watz	17.97	141	P	P	11 16 24.2	+1.7
baz=287,slow=6.0							
SNAA	Sanae	19.59	142	P	Pn	11 16 44.5	+2.8
SNAA	Sanae	19.59	142	*e*P	Pn	11 16 44.7	+3.1
SNAA	Sanae	19.59	142	P	Pn	11 16 43.9	+2.3
comp=Z,0.2nm,0.3s,baz=274,slow=9.3,SNR=6.1							
SNAA	Sanae	19.59	142	P	Pn	11 16 44.8	+3.1
TRQA	Tornquist	25.16	325	P	P	11 17 39.2	+1.6
TRQA				pmax	pmax		
comp=Z,46nm,1.3s							
TRQA	Tornquist	25.16	325	P	P	11 17 39.2	+1.6
TRQA				IAmb	IAmb	11 17 41.3	
comp=Z,46nm,1.2s							
PLCA	Paso Flores	25.70	308	P	P	11 17 42.8	+0.2
PLCA				pmax	pmax		
comp=Z,19nm,1.3s							
PLCA	Paso Flores	25.70	308	P	P	11 17 42.5	0.0
comp=Z,6.5nm,0.9s,baz=161,slow=6.6,SNR=7.3							
PLCA	Paso Flores	25.70	308	P	P	11 17 42.8	+0.2
PLCA	Paso Flores	25.70	308	*e*P	P	11 17 41.6	-1.0
GO06	Curarrehue	27.05	308	P	P	11 17 54.0	-0.8
GO06				IAmb	IAmb	11 17 56.9	
comp=Z,21nm,1.1s							
QSPA	South Pole Qui	29.82	180	P	P	11 18 20.3	+0.9
comp=Z,11nm,1.0s,baz=177,slow=3.4,SNR=5.9							
QSPA	South Pole Qui	29.82	180	P	P	11 18 19.7	+0.3
QSPA				IAmb	IAmb	11 18 28.4	
comp=Z,24nm,1.1s							
GO05	Huala	31.23	312	P	P	11 18 31.9	0.0
PEL	Peldehue	32.46	315	P	P	11 18 42.9	+0.2
PEL				pmax	pmax		
comp=Z,36nm,0.8s							
PEL	Peldehue	32.46	315	P	P	11 18 42.9	+0.2
ROC1	El Roble	32.73	315	P	P	11 18 45.5	+0.1
CFA	Coronel Fontan	33.04	320	P	P	11 18 47.0	-0.9
comp=Z,3.7nm,0.4s,baz=163,slow=8.1,SNR=8.5							
CFA				PcP	PcP	11 21 30.7	-0.6
comp=Z,2.7nm,0.6s,baz=195,slow=3.5,SNR=5.8							
CFA	Coronel Fontan	33.04	320	P	P	11 18 47.0	-0.9
CFA					PcP	11 21 30.7	-0.6
SYO	Syowa Base	33.86	140	*e*pP	P	11 18 53.4	-1.1
GO04	Tololo Observa	35.21	317	P	P	11 19 07.0	+0.1
GO04				IAmb	IAmb	11 19 07.5	
comp=Z,21nm,0.8s							
CPUP	Villa Florida	35.31	339	P	P	11 19 09.5	+2.0
CPUP				pmax	pmax		
comp=Z,22nm,1.4s							
CPUP	Villa Florida	35.31	339	P	P	11 19 08.6	+1.1
comp=Z,2.8nm,0.9s,baz=174,slow=9.3,SNR=5.0							
CPUP	Villa Florida	35.31	339	P	P	11 19 09.6	+2.0
CPUP				IAmb	IAmb	11 19 09.6	
comp=Z,22nm,1.4s							
SBA	Scott Base	40.71	190	P	P	11 19 53.5	+1.0
SBA				pmax	pmax		
comp=Z,12nm,1.1s							
SBA	Scott Base	40.71	190	P	P	11 19 53.5	+1.0
BDFB	Brasilia	44.81	354	P	P	11 20 28.2	+1.7
BDFB				pmax	pmax		
comp=Z,19nm,1.0s							
BDFB	Brasilia	44.81	354	P	P	11 20 28.0	+1.5
comp=Z,11nm,0.8s,baz=177,slow=3.8,SNR=14							
BDFB	Brasilia	44.81	354	P	P	11 20 28.2	+1.7
BDFB				IAmb	IAmb	11 20 28.8	
comp=Z,20nm,1.0s							
SIV	San Ignacio	46.10	337	P	P	11 20 37.1	+0.5
comp=Z,10nm,0.6s,baz=174,slow=7.4,SNR=16							
SIV	San Ignacio	46.10	337	P	P	11 20 37.1	+0.5
LPAZ	La Paz	47.45	328	P	P	11 20 48.9	+1.0
LPAZ	La Paz	47.45	328	P	P	11 20 48.9	+1.0
comp=Z,5.7nm,0.7s,baz=144,slow=7.2,SNR=7.6							
LPAZ	La Paz	47.45	328	P	P	11 20 48.3	+0.4
LPAZ				IAmb	IAmb	11 20 49.9	
comp=Z,6.5nm,0.8s							
SUR	Sutherland	50.01	86	P	P	11 21 07.6	+0.7
comp=Z,10nm,1.1s,baz=229,slow=11,SNR=3.6							
SUR	Sutherland	50.01	86	P	P	11 21 06.8	-0.1
SUR				IAmb	IAmb	11 21 15.3	
comp=Z,17nm,1.1s							
SAML	Samuel	53.37	336	P	P	11 21 32.3	+0.4
SAML				pmax	pmax		
comp=Z,19nm,0.8s							
SAML	Samuel	53.37	336	P	P	11 21 32.3	+0.4
BOSA	Boshof	55.28	87	P	P	11 21 45.9	-0.1
BOSA				pmax	pmax		
comp=Z,13nm,1.0s							
BOSA	Boshof	55.28	87	P	P	11 21 45.5	-0.5
comp=Z,8.8nm,0.9s,baz=209,slow=7.2,SNR=6.8							
BOSA	Boshof	55.28	87	P	P	11 21 45.9	-0.1
BOSA				IAmb	IAmb	11 21 47.0	
comp=Z,13nm,1.0s							
LBTB	Lobatse	58.43	85	P	P	11 22 08.5	+0.2
LBTB				pmax	pmax		
comp=Z,24nm,1.2s							
LBTB	Lobatse	58.43	85	P	P	11 22 08.0	-0.4
comp=Z,5.3nm,0.8s,baz=200,slow=6.8,SNR=6.6							
LBTB	Lobatse	58.43	85	P	P	11 22 08.4	+0.2
OTAV	Otavalo	66.13	322	P	P	11 23 01.4	+1.1
OTAV				pmax	pmax		
comp=Z,21nm,1.0s							
OTAV	Otavalo	66.13	322	P	P	11 23 01.4	+1.1
OTAV	Otavalo	66.13	322	*e*P	P	11 23 02.5	+2.2
LSZ	Lusaka	67.95	82	P	P	11 23 11.8	+0.2
LSZ	Lusaka	67.95	82	P	P	11 23 11.8	+0.2
comp=Z,1.9nm,0.4s,baz=203,slow=5.5,SNR=6.9							
LSZ	Lusaka	67.95	82	P	P	11 23 11.5	-0.1
LSZ				IAmb	IAmb	11 23 19.6	
comp=Z,14nm,1.2s							
ROSC	El Rosal	69.32	327	P	P	11 23 21.4	+1.1
comp=Z,7.4nm,0.5s,baz=214,slow=23,SNR=5.4							
ROSC	El Rosal	69.32	327	P	P	11 23 20.3	0.0
ROSC				IAmb	IAmb	11 23 23.5	
comp=Z,6.7nm,0.9s							
SDV	Santo Domingo	72.28	332	P	P	11 23 38.4	+0.4
URZ	Urewera	76.10	212	P	P	11 23 58.5	-1.4
comp=Z,1.4nm,0.7s,baz=250,slow=11,SNR=3.8							
URZ	Urewera	76.10	212	P	P	11 23 58.0	-2.0
OUZ	Omahuta	79.88	210	P	P	11 24 20.1	-0.9
TOA0	Torodi Ar. Sit	81.80	45	P	P	11 24 32.9	+1.5
TOA0				IAmb	IAmb	11 24 41.3	
comp=Z,18nm,1.3s							
TORD	Torodi Ar. Bea	81.80	45	P	P	11 24 33.2	+1.9
comp=Z,4.8nm,1.0s,baz=215,slow=4.2,SNR=10							
TORD	Torodi Ar. Bea	81.80	45	P	P	11 24 32.5	+1.1
KMBO	Kilima Mbogo	84.60	83	P	P	11 24 45.8	-0.5
KMBO				pmax	pmax		
comp=Z,6.0nm,1.4s							
KMBO	Kilima Mbogo	84.60	83	P	P	11 24 49.4	+3.1
comp=Z,0.7nm,0.5s,baz=196,slow=7.4,SNR=2.0							
KMBO	Kilima Mbogo	84.60	83	P	P	11 24 45.8	-0.5
ASAR	Alice Springs	96.20	178	P	P	11 25 38.4	-2.3
ASAR	Alice Springs	96.20	178	P	P	11 25 38.4	-2.3
comp=Z,0.5nm,0.7s,baz=178,slow=3.1,SNR=5.3							
ASAR	Alice Springs	96.20	178	P	P	11 25 37.8	-2.9
NVAR	Mina Array Bea	115.67	303	PKP	PKPdf	11 30 53.5	-0.8
comp=Z,0.5nm,0.8s,baz=177,slow=1.6,SNR=4.3							
NVAR	Mina Array Bea	115.67	303		PKPdf	11 30 52.7	-1.7
PDAR	Pinedale Array	115.93	312	PKP	PKPdf	11 30 53.5	-1.2
comp=Z,0.3nm,0.6s,baz=111,slow=4.0,SNR=3.1							
PDAR	Pinedale Array	115.93	312		PKPdf	11 30 53.3	-1.4
GERES	GERESS Array B	118.41	39	PKIKP	PKPdf	11 30 57.9	-1.2
GERES	GERESS Array B	118.41	39	PKP	PKPdf	11 30 57.9	-1.2
comp=Z,0.4nm,0.7s,baz=191,slow=4.1,SNR=3.6							
GERES	GERESS Array B	118.41	39		PKPdf	11 30 57.1	-2.0
AKASG	Malin Array Be	125.31	48	PKIKP	PKPdf	11 31 11.0	-1.1
AKASG	Malin Array Be	125.31	48	PKP	PKPdf	11 31 11.0	-1.1
comp=Z,1.2nm,0.6s,baz=259,slow=1.3,SNR=6.4							
CMAR	Chiang Mai Arr	130.40	131	PKIKP	PKPdf	11 31 23.0	+0.1
CMAR	Chiang Mai Arr	130.40	131	PKP	PKPdf	11 31 23.0	+0.1
comp=Z,0.5nm,0.6s,baz=228,slow=2.3,SNR=4.0							
CMAR	Chiang Mai Arr	130.40	131		PKPdf	11 31 21.2	-1.7
OBN	Obninsk	131.52	49	*i* PKIKP	PKiKP	11 31 24.6	-0.1
OBN				pmax	pmax		
comp=Z,5.0nm,0.8s							
FINES	FINESS Array B	132.80	38	PKIKP	PKPdf	11 31 25.4	-0.6
FINES	FINESS Array B	132.80	38	PKP	PKPdf	11 31 25.4	-0.6
comp=Z,3.2nm,0.6s,baz=169,slow=1.9,SNR=7.3							
FINES	FINESS Array B	132.80	38		PKPdf	11 31 25.4	-0.6
YKA	Yellowknife Ar	133.88	323	PKIKP	PKPdf	11 31 27.8	-0.2
YKA	Yellowknife Ar	133.88	323	PKP	PKPdf	11 31 27.8	-0.2
comp=Z,2.7nm,0.5s,baz=140,slow=2.1,SNR=14							
KLMR	Klimovskoe	136.79	45	*e*PKIKP	PKiKP	11 31 36.4	+1.1
KLMR				pmax	pmax		
comp=Z,40nm,1.6s							
KLMR	Klimovskoe	136.79	45	*e*PKPdf	PKiKP	11 31 36.4	+1.1
KLMR				AMP		11 31 46.3	
comp=Z,40nm,1.6s							
KSH	Kashi	137.81	92	PKP	PKPdf	11 31 36.4	+0.1
ARCES	ARCESS Array B	138.68	30	PKhKP	PKPpre	11 31 26.1	
comp=Z,1.4nm,0.6s,baz=247,slow=2.5,SNR=5.0							
AAK	Ala-Archa	139.42	87	*e*PKIKP	PKPdf	11 31 38.2	-1.0
ARU	Arti	141.35	60	*i* PKIKP	PKiKP	11 31 43.7	-1.0
VRDI	Verde Repeater	143.13	307	PKPpre	PKPpre	11 31 42.7	
CD2	Chengdu	143.49	129	PKP	PKPdf	11 31 46.3	-0.4
BCAR	Beaver Creek A	143.54	311	PKPpre	PKPpre	11 31 43.4	
INK	Inuvik	143.62	321	PKIKP	PKPbc	11 31 42.8	-0.4
INK	Inuvik	143.62	321	PKP	PKPbc	11 31 42.8	-0.4
comp=Z,2.3nm,0.5s,baz=86,slow=1.5,SNR=13							
INK	Inuvik	143.62	321	PKPpre	PKPab	11 31 42.9	+0.6
BVAR	Borovoye Array	144.56	72	PKIKP	PKPab	11 31 46.3	-0.1
BVAR	Borovoye Array	144.56	72	PKP	PKPab	11 31 46.3	-0.1
comp=Z,2.3nm,0.7s,baz=153,slow=0.3,SNR=8.0							
BVAR	Borovoye Array	144.56	72		PKPab	11 31 46.3	-0.1
SEW	Seward	144.93	303		PKPdf	11 31 48.1	0.0
OHAK	Old Harbor	144.94	297		PKPbc	11 31 47.8	+0.3
SII	Sitkinak Islan	144.95	295		PKPdf	11 31 48.1	-0.3
KDAK	Kodiak Island	144.95	298	PKIKP	PKPbc	11 31 47.8	+0.2
KDAK	Kodiak Island	144.95	298	PKP	PKPbc	11 31 47.8	+0.2
comp=Z,11nm,0.8s,baz=197,slow=4.3,SNR=7.3							
KDAK	Kodiak Island	144.95	298		PKPdf	11 31 48.2	-0.1
SCM	Sheep Creek Mo	145.01	306	PKIKP	PKPdf	11 31 48.6	+0.2
SCM	Sheep Creek Mo	145.01	306		PKPdf	11 31 48.6	+0.2
BRLK	Bradley Lake	145.34	302	PKPdf	PKPab	11 31 49.3	+0.2
SML	Sawmill	145.40	306	PKPdf	PKPab	11 31 49.6	+0.4
GHO	Glory Hole Cre	145.62	306		PKPab	11 31 50.4	+0.3
MKAR	Makan

PLCA **Paso Flores** 24.45 312 P **P** 11 18 20.2 -0.5
PLCA IAmb IAmb 11 18 36.0
comp=Z,48nm,1.1s
PLTB **Pedras Altas** 28.84 348 *e*P **P** 11 19 01.9 +1.6
PLTB **Pedras Altas** 28.84 348 *e*P **P** 11 19 01.9 +1.6
QSPA **South Pole Qui** 29.99 180 P **P** 11 19 11.9 +1.5
comp=Z,70nm,0.9s,baz=177,slow=4.0,SNR=21
QSPA **South Pole Qui** 29.99 180 P **P** 11 19 11.5 +1.1
CPSB **Cacapava Do Su** 30.17 349 *e*P **P** 11 19 14.2 +2.2
CPSB **Cacapava Do Su** 30.17 349 *e*P **P** 11 19 14.2 +2.2
PEL **Peldehue** 31.32 319 P **P** 11 19 22.5 +0.3
PEL pmax pmax
comp=Z,49nm,1.1s
PEL **Peldehue** 31.32 319 P **P** 11 19 22.5 +0.3
PEL IAmb IAmb 11 19 37.0
comp=Z,50nm,1.1s
CFA **Coronel Fontan** 31.98 324 P **P** 11 19 28.6 +0.5
comp=Z,2.8nm,0.5s,baz=236,slow=12,SNR=4.1
CFA PcP **PcP** 11 22 17.7 -0.1
comp=Z,2.5nm,0.5s,baz=263,slow=5.8,SNR=3.5
CFA **Coronel Fontan** 31.98 324 P **P** 11 19 28.6 +0.5
CFA PcP **PcP** 11 22 17.7 -0.1
ITAB **Concordia** 33.20 351 *e*P **P** 11 19 41.3 +2.7
ITAB **Concordia** 33.20 351 *e*P **P** 11 19 41.3 +2.7
CPUP **Villa Florida** 34.67 343 P **P** 11 19 52.9 +1.5
CPUP 11 22 25.7
CPUP **Villa Florida** 34.67 343 P **P** 11 19 52.9 +1.5
comp=Z,6.2nm,0.7s,baz=176,slow=6.9,SNR=8.7
CPUP PcP **PcP** 11 22 25.6 +0.4
comp=Z,5.4nm,0.9s,baz=184,slow=6.3,SNR=3.5
CPUP **Villa Florida** 34.67 343 P **P** 11 19 52.6 +1.2
SYO **Syowa Base** 34.94 141⇑*e*PP PP 11 21 08.4 -3.8
PTGB **Pitanga** 35.70 352 *e*P **P** 11 20 02.3 +1.9
PTGB **Pitanga** 35.70 352 *e*P **P** 11 20 02.3 +1.9
TRCB **Terra Rica** 37.64 351 *e*P **P** 11 20 18.8 +1.8
TRCB **Terra Rica** 37.64 351 *e*P **P** 11 20 18.8 +1.8
PCMB **Pacaembu** 38.73 353 *e*P **P** 11 20 28.1 +2.0
PCMB **Pacaembu** 38.73 353 *e*P **P** 11 20 28.1 +2.0
ITRB **Iturama** 40.58 355 *e*P **P** 11 20 43.7 +2.3
ITRB **Iturama** 40.58 355 *e*P **P** 11 20 43.7 +2.3
SBA **Scott Base** 40.62 190 P **P** 11 20 43.1 +1.9
SBA pmax pmax
comp=Z,44nm,0.9s
SBA **Scott Base** 40.62 190 P **P** 11 20 43.1 +1.9
SBA IAmb IAmb 11 20 44.3
comp=Z,44nm,0.9s
C2SB **Chapadao do Su** 41.65 351 *e*P **P** 11 20 47.8 -2.4
C2SB **Chapadao do Su** 41.65 351 *e*P **P** 11 20 47.8 -2.4
MAW **Mawson** 42.59 148 P **P** 11 20 59.1 +1.6
MAW pmax pmax
comp=Z,23nm,2.0s
MAW **Mawson** 42.59 148 P **P** 11 20 58.9 +1.5
comp=Z,20nm,1.0s,baz=222,slow=7.9,SNR=6.9
MAW PcP **PcP** 11 22 49.3 -0.1
comp=Z,6.8nm,0.9s,baz=294,slow=2.6,SNR=3.7
MAW **Mawson** 42.59 148 P **P** 11 20 59.1 +1.6
BDFB **Brasilia** 44.55 358 P **P** 11 21 15.3 +1.5
BDFB **Brasilia** 44.55 358 P **P** 11 21 15.3 +1.5
comp=Z,16nm,0.9s,baz=152,slow=5.9,SNR=7.9
BDFB **Brasilia** 44.55 358 P **P** 11 21 15.2 +1.5
ARAG **Araguaiana, MT** 44.62 353 *e*P **P** 11 21 14.0 -0.3
ARAG **Araguaiana, MT** 44.62 353 *e*P **P** 11 21 14.0 -0.3
SIV **San Ignacio** 45.39 341 P **P** 11 21 21.4 +0.9
comp=Z,15nm,0.8s,baz=173,slow=7.9,SNR=11
SIV PcP **PcP** 11 22 59.8 +0.2
comp=Z,6.8nm,0.8s,baz=254,slow=2.7,SNR=3.7
SIV **San Ignacio** 45.39 341 **PcP** 11 22 59.8 +0.2
LPAZ **La Paz** 46.54 331 P **P** 11 21 31.3 +1.1
LPAZ 11 23 04.9
LPAZ **La Paz** 46.54 331 P **P** 11 21 31.3 +1.1
comp=Z,4.1nm,0.7s,baz=225,slow=9.9,SNR=3.6
LPAZ PcP **PcP** 11 23 04.9 +0.5
comp=Z,4.4nm,0.8s,baz=89,slow=2.1,SNR=3.4
LPAZ **La Paz** 46.54 331 P **P** 11 21 30.8 +0.6
SUR **Sutherland** 51.49 89 P **P** 11 22 08.2 +0.6
comp=Z,15nm,0.7s,baz=196,slow=8.7,SNR=15
SUR **Sutherland** 51.49 89 P **P** 11 22 08.0 +0.4
NNA **Nana** 53.03 322 P **P** 11 22 19.6 +0.7
NNA pmax pmax
comp=Z,44nm,1.2s
NNA **Nana** 53.03 322 P **P** 11 22 19.6 +0.7
NNA IAmb IAmb 11 22 20.8
comp=Z,44nm,1.2s
H10S2 **ASCENSION HYDR** 56.55 39 T T 12 24 18.8
baz=20,slow=74,SNR=12
H10S3 **ASCENSION HYDR** 56.55 39 T T 12 24 18.8
baz=200,slow=74,SNR=9.8
BOSA **Boshof** 56.77 90 P **P** 11 22 46.0 0.0
BOSA **Boshof** 56.77 90 P **P** 11 22 46.0 0.0
comp=Z,21nm,0.9s,baz=200,slow=8.0,SNR=13
BOSA **Boshof** 56.77 90 P **P** 11 22 46.0 0.0
BOSA IAmb IAmb 11 22 47.6
comp=Z,29nm,1.1s
H10N3 **ASCENSION HYDR** 57.65 39 T T 12 25 41.0
baz=199,slow=75,SNR=13
H10N1 **ASCENSION HYDR** 57.65 39 T T 12 25 41.2
baz=199,slow=75,SNR=15
H10N2 **ASCENSION HYDR** 57.66 39 T T 12 25 43.0
baz=199,slow=75,SNR=12
LBTB **Lobatse** 59.92 88 P **P** 11 23 08.1 0.0
LBTB **Lobatse** 59.92 88 P **P** 11 23 08.1 0.0
comp=Z,24nm,0.8s,baz=212,slow=7.6,SNR=18
LBTB **Lobatse** 59.92 88 P **P** 11 23 07.8 -0.3
TSUM **Tsumeb** 60.85 77 P **P** 11 23 14.9 +0.4
comp=Z,12nm,1.1s,baz=230,slow=6.0,SNR=7.1
TSUM **Tsumeb** 60.85 77 P **P** 11 23 14.8 +0.2
OTAV **Otavalo** 65.10 325 P **P** 11 23 44.3 +1.2
OTAV pmax pmax
comp=Z,17nm,0.9s
OTAV **Otavalo** 65.10 325 P **P** 11 23 44.3 +1.2
OTAV IAmb IAmb 11 23 45.2
comp=Z,17nm,0.9s
LSZ **Lusaka** 69.42 85 P **P** 11 24 10.9 +0.7
LSZ pmax pmax
comp=Z,26nm,1.1s
LSZ **Lusaka** 69.42 85 P **P** 11 24 11.1 +1.0
comp=Z,17nm,0.9s,baz=199,slow=6.4,SNR=12
LSZ **Lusaka** 69.42 85 P **P** 11 24 10.9 +0.7
RPZ **Rata Peaks** 71.86 208 P **P** 11 24 25.0 +0.4
comp=Z,22nm,1.0s,baz=154,slow=7.3,SNR=7.0
RPZ **Rata Peaks** 71.86 208 P **P** 11 24 25.5 +0.9
RPZ IAmb IAmb 11 24 25.8
comp=Z,29nm,1.0s
OXZ **Oxford** 72.00 209 P **P** 11 24 26.3 +0.9
OXZ IAmb IAmb 11 24 26.5
comp=Z,21nm,1.1s
LTZ **Lake Taylor** 72.45 209 P **P** 11 24 28.8 +0.6
BSWZ **Blackbirch Sta** 73.06 211 P **P** 11 24 32.5 +0.8
THZ **Tophouse** 73.26 210 P **P** 11 24 33.5 +0.5
THZ IAmb IAmb 11 24 34.2
comp=Z,25nm,0.9s
TUWZ **Tuamarina** 73.31 211 P **P** 11 24 33.4 +0.2
LIC **Lamto** 73.95 44 *e*P **P** 11 24 37.9 +0.7
comp=Z,100nm,1.1s
KIC **Kosan Boka** 74.18 44 *e*P **P** 11 24 39.2 +0.7
comp=Z,48nm,1.1s
TIC **Toumodi** 74.35 43 *e*P **P** 11 24 39.9 +0.4
DBIC **Dimbokro** 74.43 44 P **P** 11 24 40.8 +0.8
DBIC **Dimbokro** 74.43 44 P **P** 11 24 40.8 +0.8
comp=Z,12nm,1.0s,baz=179,slow=9.5,SNR=6.7
DBIC **Dimbokro** 74.43 44 P **P** 11 24 40.6 +0.6
DBIC IAmb IAmb 11 24 41.9
comp=Z,24nm,1.1s
BKZ **Black Stump Fm** 74.75 214 P **P** 11 24 42.2 +0.4
BKZ IAmb IAmb 11 24 51.1
comp=Z,39nm,1.5s
URZ **Urewera** 75.43 214 P **P** 11 24 45.6 +0.1
comp=Z,5.9nm,0.8s,baz=157,slow=13,SNR=5.0
URZ **Urewera** 75.43 214 P **P** 11 24 45.2 -0.3
URZ IAmb IAmb 11 24 54.9
comp=Z,48nm,1.7s
OUZ **Omahuta** 79.24 213 P **P** 11 25 06.2 -0.8
TORD **Torodi Ar. Bea** 82.76 47 P **P** 11 25 26.8 +1.0
comp=Z,16nm,0.9s,baz=211,slow=5.3,SNR=17
TORD **Torodi Ar. Bea** 82.76 47 P **P** 11 25 26.3 +0.5
MBAR **Mbarara** 83.31 79⇓*e*P **P** 11 25 31.0 +2.0
MBAR pmax pmax
comp=Z,11nm,1.5s
CCIG **Comitan** 84.53 317 P **P** 11 25 34.9 -0.1
CCIG IAmb IAmb 11 25 35.5
comp=Z,11nm,0.9s
KMBO **Kilima Mbogo** 86.07 85 P **P** 11 25 46.3 +3.2
comp=Z,2.7nm,0.8s,baz=186,slow=2.7,SNR=7.5
NWAO **Narrogin (SRO)** 86.24 167 P **P** 11 25 42.3 -1.1
NWAO pmax pmax
comp=Z,53nm,1.4s
NWAO **Narrogin (SRO)** 86.24 167 P **P** 11 25 42.5 -0.9
comp=Z,26nm,1.1s,baz=196,slow=6.8,SNR=4.1
NWAO **Narrogin (SRO)** 86.24 167 P **P** 11 25 42.3 -1.1
TEIG **Tepich** 86.95 321 P **P** 11 25 45.6 -1.2
TEIG IAmb IAmb 11 25 47.4
comp=Z,17nm,0.9s
STKA **Stephens Creek** 87.95 187 P **P** 11 25 50.8 -1.0
STKA pmax pmax
comp=Z,3.0nm,1.1s
STKA **Stephens Creek** 87.95 187 P **P** 11 25 51.2 -0.6
comp=Z,5.1nm,0.8s,baz=154,slow=8.5,SNR=7.6
STKA **Stephens Creek** 87.95 187 P **P** 11 25 50.8 -1.0
DZM **Mont Dzumac** 93.62 211 P **P** 11 26 19.2 +0.9
comp=Z,6.9nm,1.0s,baz=342,slow=12,SNR=3.7
DZM **Mont Dzumac** 93.62 211 P **P** 11 26 19.3 +0.9
DZM IAmb IAmb 11 26 20.0
comp=Z,6.5nm,0.9s
ASAR **Alice Springs** 96.39 181 P **P** 11 26 29.1 -1.9
ASAR **Alice Springs** 96.39 181 P **P** 11 26 29.1 -1.9
comp=Z,6.4nm,1.0s,baz=170,slow=5.2,SNR=4.4
ASAR PP **PP** 11 30 21.8 -1.9
comp=Z,1.3nm,0.8s,baz=172,slow=8.2,SNR=7.6
ASAR **Alice Springs** 96.39 181 P **P** 11 26 29.1 -1.9
AS31 **Alice Springs** 96.39 181 P **P** 11 26 29.2 -1.8
WRA **Warramunga Arr** 100.10 181 P **Pdif** 11 26 46.2 -1.4
WRA **Warramunga Arr** 100.10 181 P **Pdif** 11 26 46.2 -1.4
comp=Z,3.7nm,1.0s,baz=187,slow=4.0,SNR=13
WRA PP **PP** 11 30 52.7 +0.7
comp=Z,1.7nm,1.0s,baz=179,slow=6.7,SNR=6.1
WRA **Warramunga Arr** 100.10 181 **Pdif** 11 26 45.8 -1.8
VTS **Vitosha** 117.33 51 ⇓P **PKiKP** 11 31 45.8 -1.0
BRTR **Keskin Array B** 119.20 61 PKIKP **PKPdf** 11 31 49.3 -1.2
BRTR **Keskin Array B** 119.20 61 PKP **PKPdf** 11 31 49.2 -1.2
comp=Z,2.4nm,0.8s,baz=186,slow=2.9,SNR=12
BRTR PP **PP** 11 33 09.2 -2.4
comp=Z,0.7nm,0.8s,baz=186,slow=9.6,SNR=3.7
BRTR **Keskin Array B** 119.20 61 **PKPdf** 11 31 48.7 -1.7
GERES **GERESS Array B** 119.24 41 PKIKP **PKPdf** 11 31 48.9 -1.2
GERES **GERESS Array B** 119.24 41 PKP **PKPdf** 11 31 48.9 -1.2
comp=Z,1.8nm,0.8s,baz=196,slow=2.5,SNR=11
GERES **GERESS Array B** 119.24 41 **PKPdf** 11 31 48.0 -2.1
KHC **Kasperske Hory** 119.45 41 *e*PKIKP **PKiKP** 11 31 51.3 +0.8
KHC **Kasperske Hory** 119.45 41 *e*PKPDF **PKiKP** 11 31 51.3 +0.8
SIRR **Siria** 119.82 48 ⇑P **PKPdf** 11 31 50.2 -1.0
ARR **Arges** 120.19 51 ⇑P **PKPdf** 11 31 50.4 -1.6
VOIR 120.41 51 ⇑P **PKiKP** 11 31 51.6 -1.0
DRGR 120.65 48 ⇑P **PKPdf** 11 31 51.9 -1.0
VYHS **Vyhne** 120.69 45 *e*PKIKP **PKiKP** 11 31 52.1 -0.8
VYHS **Vyhne** 120.69 45 *e*PKP **PKiKP** 11 31 52.1 -0.8
MLR **Muntele Rosu** 120.80 51 ⇑P **PKPdf** 11 31 52.2 -1.1
TIRR **Tirgusor** 120.92 54 ⇑P **PKPdf** 11 31 52.4 -1.0
CLL **Collm** 121.15 39 *i* PKIKP **PKiKP** 11 31 53.2 -0.5
CLL **Collm** 121.15 39 *e*PKIKP **PKiKP** 11 31 53.0 -0.7
DPC **Dobruska-Polom** 121.41 42 *e*PKIKP **PKiKP** 11 31 54.0 -0.3
DPC **Dobruska-Polom** 121.41 42 *e*PKPDF **PKiKP** 11 31 54.0 -0.3
TESR **Tescani** 121.92 51 ⇑P **PKPdf** 11 31 54.1 -1.1
BIZ **Bicaz** 122.06 51 ⇑P **PKiKP** 11 31 55.3 -0.3
BURAR **Bucovina Array** 122.28 50 ⇑P **PKiKP** 11 31 55.6 -0.6
BURAR **Bucovina Array** 122.28 50 **PKPdf** 11 31 55.1 -1.0
GNI **Garni** 124.54 68 ⇓*i*PKIKP **PKiKP** 11 32 01.2 +0.2
KLNR **Kaliningrad** 126.27 42 ⇓*i*PKIKP **PKPdf** 11 32 00.9 -2.3
AKASG **Malin Array Be** 126.33 50 PKIKP **PKPdf** 11 32 02.4 -1.1
AKASG **Malin Array Be** 126.33 50 PKP **PKPdf** 11 32 02.4 -1.1
comp=Z,4.5nm,0.7s,baz=245,slow=1.9,SNR=14
AKASG **Malin Array Be** 126.33 50 **PKPdf** 11 32 01.4 -2.1
KBZ **Khabaz** 126.53 64 PKIKP **PKPdf** 11 32 03.3 -0.8
KBZ **Khabaz** 126.53 64 PKP **PKPdf** 11 32 03.2 -0.8
comp=Z,4.0nm,0.8s,baz=213,slow=3.9,SNR=8.0
KIV **Kislovodsk** 126.61 64 *e*PKIKP **PKiKP** 11 32 05.7 +0.8
KIV pmax pmax
comp=Z,15nm,0.9s
NCK **Nalchik** 126.66 65 ⇓*i*PKIKP **PKiKP** 11 32 04.8 -0.1
NB2 **NORSAR Subarra** 128.95 32 PKPdf **PKPdf** 11 32 07.4 -0.9
comp=Z,0.9nm,0.9s,baz=202,slow=1.9
NOA **NORSAR Array B** 128.95 32 PKIKP **PKiKP** 11 32 08.6 -0.3
NOA **NORSAR Array B** 128.95 32 PKP **PKiKP** 11 32 08.6 -0.3
comp=Z,3.7nm,1.0s,baz=219,slow=2.7,SNR=4.5
GEYT **Alibeck** 129.21 80 PKP **PKPdf** 11 32 08.7 -0.8
comp=Z,3.5nm,0.9s,baz=265,slow=7.4,SNR=6.4
GEYT **Alibeck** 129.21 80 **PKPdf** 11 32 08.2 -1.3
VSR **Storozhevoye** 130.68 56 *e*PKIKP **PKPdf** 11 32 08.6 -3.2
VSR pmax pmax
comp=Z,30nm,1.3s
CM31 **Chiang Mai Arr** 131.62 134 **PKPdf** 11 32 13.2 -1.4
CMAR **Chiang Mai Arr** 131.62 134 PKIKP **PKPdf** 11 32 13.2 -1.4
CMAR **Chiang Mai Arr** 131.62 134 PKP **PKPdf** 11 32 13.9 -0.7
comp=Z,4.9nm,0.8s,baz=222,slow=3.5,SNR=21
CMAR SKPbc **SKPbc** 11 35 36.6 -3.2
comp=Z,0.8nm,0.7s,baz=223,slow=4.7,SNR=4.1
CMAR **Chiang Mai Arr** 131.62 134 **PKPdf** 11 32 13.2 -1.4
LPSR **Galich'ya Gora** 131.62 54 *e*PKIKP **PKPdf** 11 32 10.4 -3.1
LPSR pmax pmax
comp=Z,20nm,1.0s
VRH **Novokhopyorsk** 131.73 57 *e*PKIKP **PKPdf** 11 32 08.4 -5.4
VRH pmax pmax
comp=Z,10.0nm,0.7s
CMMT **Chiang Mai** 131.94 134 P **PKiKP** 11 32 16.1 -0.2
OBN **Obninsk** 132.56 51 *e*PKIKP **PKPdf** 11 32 13.2 -2.0
OBN pmax pmax
comp=Z,7.0nm,1.0s
FINES **FINESS Array B** 133.60 39 PKIKP **PKPdf** 11 32 15.9 -1.0
FINES **FINESS Array B** 133.60 39 PKP **PKPdf** 11 32 15.9 -1.0
comp=Z,5.2nm,0.7s,baz=204,slow=4.2,SNR=5.3
FINES **FINESS Array B** 133.60 39 **PKPdf** 11 32 15.9 -1.0
KLMR **Klimovskoe** 137.74 47 *e*PKIKP **PKPdf** 11 32 23.3 -1.4
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR **Klimovskoe** 137.74 47 *e*PKPdf **PKPdf** 11 32 23.3 -1.4
KLMR AMP 11 32 26.1
comp=Z,28nm,1.3s
RES **Resolute Bay** 138.33 343 PKIKP **PKiKP** 11 32 26.4 -1.1
RES **Resolute Bay** 138.33 343 PKP **PKiKP** 11 32 26.8 -0.8
comp=Z,2.5nm,0.8s,baz=221,slow=7.0,SNR=4.3
RES **Resolute Bay** 138.33 343 **PKiKP** 11 32 26.4 -1.1
ABKAR **Akbulak array** 138.50 71 PKPpre 11 32 15.2
ABKAR PKPdf **PKiKP** 11 32 27.2 -1.4
KKAR **Karatay Array** 139.27 86 PKHKP PKPpre 11 32 19.5
KKAR **Karatay Array** 139.27 86 PKPpre 11 32 19.5
ARCES **ARCESS Array B** 139.29 31 PKIKP **PKPdf** 11 32 27.4 +0.1
ARCES **ARCESS Array B** 139.29 31 PKP **PKPdf** 11 32 27.4 +0.1
comp=Z,5.5nm,0.8s,baz=338,slow=2.6,SNR=4.2
KSH **Kashi** 139.31 94 PKP **PKPdf** 11 32 28.0 -0.5
KSH PP **PP** 11 35 24.9 +2.0
KSH PKS **PKSdf** 11 36 04.0 -0.6
AAK **Ala-Archa** 140.91 90 ⇓*i*PKIKP **PKPdf** 11 32 31.6 +0.2
AAK **Ala-Archa** 140.91 90 **PKPdf** 11 32 28.7 -2.7
GYA **Guiyang** 141.65 140 *e*PKP **PKPdf** 11 32 31.0 -2.1
GYA PP **PP** 11 35 42.0 +5.2
GYA AMB AMB
comp=Z,120nm,7.8s
SVE **Sverdlovsk** 143.73 62 *e*PKIKP PKPbc 11 32 32.8 -0.5
CD2 **Chengdu** 144.73 133 PKP **PKPdf** 11 32 38.4 +0.1
ILAR **Eielson Array** 145.13 312 PKIKP **PKPdf** 11 32 37.4 -0.5
ILAR **Eielson Array** 145.13 312 PKPbc **PKPdf** 11 32 37.4 -0.5
comp=Z,36nm,0.9s,baz=150,slow=2.5,SNR=20
ILAR **Eielson Array** 145.13 312 **PKPbc** 11 32 36.8 -0.7
RSO **Redoubt South** 145.16 303 **PKPab** 11 32 37.4 -0.6
COLA **College** 145.54 312 PKIKP **PKPab** 11 32 38.5 -0.5
COLA **College** 145.54 312 **PKPab** 11 32 38.5 -0.5
BRVK **Borovoye** 145.91 73 ⇓*e*PKP2 **PKPab** 11 32 39.9 -0.9
BRVK **Borovoye** 145.91 73 **PKPdf** 11 32 38.7 -0.8
BVAR **Borovoye Array** 145.94 74 PKP2 **PKPab** 11 32 39.9 -1.1
BVAR **Borovoye Array** 145.94 74 PKPbc **PKPab** 11 32 39.9 -1.1
comp=Z,56nm,0.9s,baz=259,slow=2.4,SNR=40
BVAR **Borovoye Array** 145.94 74 **PKPab** 11 32 39.9 -1.1
SVW2 **Sparrevohn** 146.67 303 **PKPbc** 11 32 41.9 -0.4
WHN **Wuhan** 147.73 149 PKPbc **PKPbc** 11 32 45.5 -0.7
MK31 **Makanchi Array** 147.77 91 PKP2 **PKPbc** 11 32 44.6 -1.3
MK31 **Makanchi Array** 147.77 91 **PKPbc** 11 32 44.6 -1.3
MKAR **Makanchi Array** 147.77 91 PKP2 **PKPbc** 11 32 44.8 -1.0
MKAR **Makanchi Array** 147.77 91 PKPbc **PKPbc** 11 32 44.8 -1.0
comp=Z,17nm,0.7s,baz=230,slow=1.8,SNR=20
MKAR **Makanchi Array** 147.77 91 **PKPbc** 11 32 44.6 -1.2
WMQ **Urumqi** 148.33 100 *e*PKPbc **PKPbc** 11 32 45.0 -2.5
WMQ AMB AMB
comp=Z,82nm,6.3s
KURK **Kurchatov** 148.53 83 ⇑*i*PKIKP **PKPdf** 11 32 42.6 -1.4
LZH **Lanzhou** 149.37 129 *e*PKPbc **PKPbc** 11 32 47.5 -3.0
LZH pPKP PKiKP 11 32 50.8 -0.8
LZH LR LR
comp=Z,230nm,17.9s
LZH LR LR
comp=Z,240nm,18.2s
LZH LR LR
comp=Z,310nm,20.1s
XAN **Xi'an** 149.38 138 PKPbc **PKPbc** 11 32 48.9 -1.5
XAN pPKP sPKPab 11 32 59.6 +0.2
XAN **Xi'an** 149.38 138 PKP2 **PKPbc** 11 32 49.2 -1.2
XAN **Xi'an** 149.38 138 **PKPbc** 11 32 49.2 -1.2
NJ2 **Nanjing** 150.24 155 *e*P **PKPdf** 11 32 48.1 +0.8
NJ2 pmax pmax
comp=Z,14nm,0.6s
GTA **Gaotai** 150.55 120 PKPbc **PKPdf** 11 32 46.9 -0.9
DGZ **Jazzator, Alta** 152.27 92 ⇑*i*PKIKP **PKiKP** 11 32 56.6 -0.5
ZALV **Zalesovo Beam** 153.50 82 PKIKP **PKPbc** 11 32 57.4 -1.8
ZALV **Zalesovo Beam** 153.50 82 PKPbc **PKPbc** 11 32 57.3 -1.8
comp=Z,4.6nm,0.7s,baz=249,slow=4.3,SNR=9.0
ZALV **Zalesovo Beam** 153.50 82 **PKPbc** 11 32 57.4 -1.8
MJAR **Matsushiro Arr** 156.06 190 PKP2 **PKPab** 11 33 21.4 -1.7
MJAR **Matsushiro Arr** 156.06 190 PKPab **PKPab** 11 33 21.4 -1.7
comp=Z,3.0nm,0.8s,baz=178,slow=6.2,SNR=5.3
HHC **Hu-ho-hao-te** 156.42 136 *e*PKP **PKPdf** 11 32 58.4 +2.3
KSAR **Wonju Array Be** 156.93 169 PKIKP **PKPdf** 11 32 55.3 -1.5
KSAR **Wonju Array Be** 156.93 169 PKPdf **PKPdf** 11 32 55.2 -1.5
KSAR **PKPab** 11 33 25.9 -0.9
KSRS **Korea Array** 156.94 169 PKP2 **PKPab** 11 33 26.4 -0.4
KSRS **Korea Array** 156.94 169 PKPab **PKPab** 11 33 26.4 -0.4
comp=Z,4.0nm,0.8s,baz=187,slow=4.7,SNR=7.2
BJI **Beijing** 157.16 145 *e*PKP **PKPdf** 11 33 00.1 +3.2
NRIK **Noril'sk** 159.08 45 PKP2 **PKPab** 11 33 35.4 +0.1
NRIK **Noril'sk** 159.08 45 PKPab **PKPab** 11 33 35.4 +0.1
comp=Z,1.7nm,0.3s,baz=283,slow=4.1,SNR=5.1
NRIK **Noril'sk** 159.08 45 **PKPab** 11 33 35.4 +0.1
SONM **Songino Array** 160.13 117 PKIKP **PKPdf** 11 33 00.2 -0.2
SONM 11 33 39.9
SONM **Songino Array** 160.13 117 PKP **PKPdf** 11 33 00.6 +0.2
comp=Z,1.3nm,0.8s,baz=225,slow=1.5,SNR=5.4
SONM PKPab **PKPab** 11 33 40.4 -0.2
comp=Z,5.3nm,0.9s,baz=222,slow=4.1,SNR=16
SONM **Songino Array** 160.13 117 **PKPdf** 11 33 00.2 -0.2
SONM **PKPab** 11 33 39.9 -0.8
BILL **Bilibino** 163.79 313 *e*PKIKP **PKPdf** 11 33 06.7 +3.4
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL **Bilibino** 163.79 313 **PKPab** 11 33 55.8 -0.2
USRK **Ussuriysk Ar.** 163.91 177 PKP2 **PKPab** 11 33 55.4 -1.6
USRK **Ussuriysk Ar.** 163.91 177 PKPab **PKPab** 11 33 55.4 -1.6
comp=Z,5.0nm,0.9s,baz=204,slow=4.2,SNR=5.9
USRK **Ussuriysk Ar.** 163.91 177 **PKPab** 11 33 56.5 -0.6
KLR **Kul'dur** 168.93 175 ⇓*e*PKIKP **PKPdf** 11 33 06.8 -1.1
KLR **Kul'dur** 168.93 175 PKPab **PKPab** 11 34 17.6 -1.5
comp=Z,1.5nm,0.9s,baz=155,slow=3.5,SNR=4.8

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*IDC **17** 11:14:53.8±1.0, 60°.24S×46°.95W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4. 1/31, mbtmp4.6/5, ML4.3/1, Error ellipse: s-maj=43.6km s-min=25.8km az=128.0*
*ISCJB **17** 11:14:55.5±0.5, 60°.63S±0°.08×46°.3W±0°.2, h10km, mb4.4/5, Error ellipse: s-maj=13.7km s-min=10.9km az=15.8*
*NEIC **17** 11:14:57.4±2.6, 60°.60S±0°.09×46°.4W±0°.2, h10km±1km, mb4.6/15*

ISC 17 11:14:56.9±0.5, **60°.59S**±0°.10×**46°.4W**±0°.1, **h10**km, **n40,**
σ1§**45**/37, **mb4.7**/11, **1D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HOPE	**Hope Point**	**8.27**	**44**	Pn	**Pn**		**11 16 56.9**	**+0.1**
PMSA	**Palmer Station**	**9.13**	**235**	Pn	**Pn**		**11 17 06.1**	**-2.3**
	2.9nm,0.3s,baz=161,slow=19,SNR=4.2							
PMSA	**Palmer Station**	**9.13**	**235**		**Pn**		**11 17 08.3**	**-0.1**
SNAA	**Sanae**	**20.25**	**141**	P	Pn		11 19 39.8	+5.9
	19nm,0.9s,baz=292,slow=11,SNR=4.6							
SNAA	**Sanae**	**20.25**	**141**	P	Pn		11 19 39.5	+5.6
SNAA				IAmb	IAmb		11 19 41.0	
	comp=Z,26nm,1.0s							
TRQA	**Tornquist**	**24.61**	**329**	P	**P**		**11 20 17.1**	**-0.1**
TRQA				IAmb	IAmb		11 20 30.8	
	comp=Z,13nm,1.1s							
PLCA	**Paso Flores**	**24.84**	**312**	P	**P**		**11 20 20.1**	**+0.8**
QSPA	**South Pole Qui**	**29.65**	**180**	P	**P**		**11 21 05.2**	**+2.9**
	comp=Z,14nm,0.9s,baz=144,slow=4.2,SNR=3.6							
QSPA	**South Pole Qui**	**29.65**	**180**	P	**P**		**11 21 02.5**	**+0.2**
SYO	**Syowa Base**	**34.54**	**141**	⇓*e*P	P		11 21 40.0	-4.8
SBA	**Scott Base**	**40.32**	**190**	P	**P**		**11 22 36.9**	**+3.2**
SBA				IAmb	IAmb		11 22 37.7	
	comp=Z,12nm,1.0s							
LVC	**Limon Verde**	**41.09**	**327**	PcP	**P**		**11 22 41.6**	**+0.6**
	comp=Z,7.5nm,0.4s,baz=29,slow=11,SNR=17							
LVC	**Limon Verde**	**41.09**	**327**	P	**P**		**11 22 42.0**	**+1.0**
LVC				IAmb	IAmb		11 22 43.0	
	comp=Z,13nm,1.1s							
PB01	**IPOC Station P**	**42.73**	**327**	P	**P**		**11 22 55.2**	**+1.0**
SUR	**Sutherland**	**51.29**	**88**	P	**P**		**11 24 02.8**	**+1.7**
SUR				IAmb	IAmb		11 24 10.5	
	comp=Z,11nm,1.1s							
SAML	**Samuel**	**53.04**	**339**	P	**P**		**11 24 16.0**	**+2.0**
SAML				IAmb	IAmb		11 24 16.1	
	comp=Z,4.6nm,0.8s							
LBTB	**Lobatse**	**59.72**	**88**	P	**P**		**11 25 01.7**	**0.0**
	comp=Z,5.1nm,0.8s,baz=214,slow=15,SNR=3.7							
LBTB	**Lobatse**	**59.72**	**88**	P	**P**		**11 25 02.3**	**+0.6**
LTZ	**Lake Taylor**	**72.25**	**209**	P	**P**		**11 26 22.4**	**+0.4**
LTZ				IAmb	IAmb		11 26 27.8	
	comp=Z,7.5nm,1.0s							
THZ	**Tophouse**	**73.06**	**210**	P	**P**		**11 26 27.2**	**+0.3**
THZ				IAmb	IAmb		11 26 35.8	
	comp=Z,6.2nm,0.9s							
QRZ	**Quartz Range**	**74.04**	**210**	P	**P**		**11 26 31.1**	**-1.4**
OUZ	**Omahuta**	**79.07**	**212**	P	**P**		**11 27 00.5**	**-0.5**
TOA0	**Torodi Ar. Sit**	**82.84**	**47**	P	**P**		**11 27 20.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.84**	**47**	P	**P**		**11 27 20.2**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=213,slow=5.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**82.84**	**47**	P	**P**		**11 27 20.5**	**-0.8**
ASAR	**Alice Springs**	**96.05**	**180**	P	**P**		**11 28 22.9**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=173,slow=3.9,SNR=4.8							
ASAR	**Alice Springs**	**96.05**	**180**	P	**P**		**11 28 23.3**	**-1.1**
WRA	**Warramunga Arr**	**99.75**	**181**	P	**Pdif**		**11 28 40.0**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=181,slow=4.2,SNR=4.4							
AKASG	**Malin Array Be**	**126.39**	**50**	PKP	**PKPdf**		**11 33 55.7**	**-2.9**
	comp=Z,0.4nm,0.4s,baz=244,slow=2.1,SNR=3.6							
CMAR	**Chiang Mai Arr**	**131.22**	**134**	PKP	**PKPdf**		**11 34 08.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=229,slow=3.4,SNR=4.2							
CMAR	**Chiang Mai Arr**	**131.22**	**134**		**PKPdf**		**11 34 06.9**	**-2.0**
ILAR	**Eielson Array**	**145.52**	**312**	PKPbc	**PKPdf**		**11 34 30.8**	**-2.7**
	comp=Z,3.0nm,0.7s,baz=158,slow=1.9,SNR=4.3							
ILAR	**Eielson Array**	**145.52**	**312**		**PKPab**		**11 34 34.8**	**+0.7**
BVAR	**Borovoye Array**	**145.83**	**74**	PKPbc	**PKPdf**		**11 34 34.0**	**-0.5**
	comp=Z,7.0nm,0.7s,baz=252,slow=4.2,SNR=10							
MKAR	**Makanchi Array**	**147.55**	**92**

CTAO	**Charters Tower**	**34.03 263**	P	**P**	**11 25 02.7**	**0.0**
CTAO			IAmb	IAmb	11 25 03.8	
comp=Z,12nm,0.8s						
COEN	**Coen**	**38.00 272**	P	**P**	**11 25 36.0**	**+0.1**
STKA	**Stephens Creek**	**38.54 243**	P	**P**	**11 25 39.1**	**-1.1**
comp=Z,0.9nm,0.4s,baz=84,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**38.54 243**	P	**P**	**11 25 40.0**	**-0.2**
BBOO	**Buckleboo**	**43.31 243**	P	**P**	**11 26 17.7**	**-0.8**
JAY	**Jayapura**	**44.24 287**	P	**P**	**11 26 26.1**	**0.0**
comp=Z,15nm,0.7s,baz=64,slow=3.1,SNR=3.5						
AS31	**Alice Springs**	**45.15 256**	P	**P**	**11 26 32.5**	**-0.5**
AS31			IAmb	IAmb	11 26 33.4	
comp=Z,3.3nm,0.7s						
ASAR	**Alice Springs**	**45.15 256**	P	**P**	**11 26 32.4**	**-0.7**
comp=Z,9.6nm,0.6s,baz=91,slow=8.2,SNR=162						
ASAR			S	**S**	**11 32 40.0**	**-2.2**
comp=Z,0.6nm,0.9s,baz=99,slow=15,SNR=6.2						
WB2	**Warramunga Arr**	**45.16 261**	P	**P**	**11 26 32.0**	**-1.1**
WB2			IAmb	IAmb	11 26 46.8	
comp=Z,7.5nm,1.1s						
WRAB	**Tennant Creek**	**45.16 261**	P	**P**	**11 26 32.0**	**-1.2**
WRAB			IAmb	IAmb	11 26 46.9	
comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**45.17 261**	P	**P**	**11 26 32.1**	**-1.1**
comp=Z,1.9nm,0.3s,baz=97,slow=7.3,SNR=126						
WRA	**Warramunga Arr**	**45.17 261**	P	**P**	**11 26 32.4**	**-0.8**
MTN	**Manton Dam**	**49.62 270**	P	**P**	**11 27 05.9**	**-1.2**
MTN			IAmb	IAmb	11 27 07.2	
comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**51.17 265**	P	**P**	**11 27 17.7**	**-0.9**
KNRA			IAmb	IAmb	11 27 18.6	
comp=Z,9.1nm,0.8s						
SIJI	**Sorong**	**53.49 284**	P	**P**	**11 27 35.6**	**+0.2**
comp=Z,12nm,0.5s,baz=113,slow=15,SNR=5.4						
SBA	**Scott Base**	**58.67 184**	P	**P**	**11 28 12.1**	**+1.5**
MJAR	**Matsushiro Arr**	**69.86 323**	P	**P**	**11 29 23.1**	**+0.1**
comp=Z,1.7nm,0.5s,baz=153,slow=6.0,SNR=9.7						
MJAR	**Matsushiro Arr**	**69.86 323**	P	**P**	**11 29 23.0**	**+0.1**
MAJO	**Matsushiro**	**69.86 323**	P	**P**	**11 29 23.5**	**+0.5**
KKM	**Kota Kinabalu**	**70.01 284**	P	**P**	**11 29 24.3**	**-0.1**
SII	**Sitkinak Islan**	**78.49 13**	P	**P**	**11 30 10.1**	**-1.6**

*ISCJB **17** 11:21:46.0±0.5, 60°.54S±0°.10×45°.2W±0°.2, h10km, mb4.1/10, Error ellipse: s-maj=17.8km s-min=7.4km az=42.4*
*IDC **17** 11:21:45.6±0.8, 60°.67S×45°.35W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.1/26, mbtmp4.2/10, ML3.8/3, Error ellipse: s-maj=28.7km s-min=17.4km az=42.0*
*NEIC **17** 11:21:47.9±2.9, 60°.67S±0°.10×45°.33W±0°.08, h13km±4km, mb4.5/12*

ISC 17 11:21:47.6±0.5, 60°.69S±0°.09×45°.34W±0°.09, h10km, n43, σ1°50/39, mb4.3/12, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.99**	**40**		Pn	11 23 34.6	-9.0
PMSA	**Palmer Station**	**9.50**	**236**	Pn	**Pn**	**11 24 02.7**	**-1.5**
0.8nm,0.3s,baz=16,slow=16,SNR=6.8							
PMSA	**Palmer Station**	**9.50**	**236**		**Pn**	**11 24 02.9**	**-1.3**
EFI	**East Falkland**	**11.46**	**316**	Pn	**Pn**	**11 24 29.2**	**-1.9**
USHA	**Ushuaia**	**13.61**	**285**	Pn	**Pn**	**11 25 01.3**	**+0.9**
1.2nm,0.3s,baz=110,slow=14,SNR=9.1							
GO10	**Punta Arenas**	**15.85**	**287**	P	**Pn**	**11 25 31.0**	**+0.4**
VNA3	**Neumayer Olymp**	**17.62**	**141**	P	**P**	**11 25 54.7**	**+0.8**
VNA1	**Neumayer--Stat**	**17.89**	**139**	P	**P**	**11 25 57.2**	**+0.4**
VNA2	**Neumayer--Watz**	**18.24**	**140**	P	**P**	**11 26 00.8**	**+0.1**
baz=278,slow=9.4							
SNAA	**Sanae**	**19.84**	**141**	P	**Pn**	**11 26 22.6**	**+2.8**
SNAA	**Sanae**	**19.84**	**141**	P	**P**	**11 26 18.7**	**+0.5**
0.2nm,0.3s,baz=303,slow=15,SNR=4.3							
SNAA	**Sanae**	**19.84**	**141**	P	**Pn**	**11 26 19.0**	**-0.8**
TRQA	**Tornquist**	**24.96**	**328**	P	**P**	**11 27 11.2**	**+0.2**
TRQA				IAmb	IAmb	11 27 11.5	
comp=Z,9.8nm,0.8s							
PLCA	**Paso Flores**	**25.29**	**311**	P	**P**	**11 27 12.0**	**-1.9**
comp=Z,2.7nm,0.9s,baz=191,slow=8.4,SNR=6.5							
PLCA	**Paso Flores**	**25.29**	**311**	P	**P**	**11 27 12.8**	**-1.2**
PLCA				IAmb	IAmb	11 27 26.2	
comp=Z,7.2nm,0.8s							
QSPA	**South Pole Qui**	**29.55**	**180**	P	P	11 27 58.2	+6.1
comp=Z,3.6nm,0.8s,baz=183,slow=1.4,SNR=6.2							
QSPA	**South Pole Qui**	**29.55**	**180**	P	P	11 27 58.2	+6.1
QSPA				IAmb	IAmb	11 28 05.4	
comp=Z,9.8nm,1.0s							
SYO	**Syowa Base**	**34.13**	**140⇑**	*eX*	P	11 28 24.6	-7.4
MAW	**Mawson**	**41.83**	**147**	P	**P**	**11 29 35.7**	**-1.2**
comp=Z,2.2nm,0.6s,baz=185,slow=12,SNR=2.7							
MAW	**Mawson**	**41.83**	**147**	P	**P**	**11 29 36.7**	**-0.2**
MNMC	**Minye Minye**	**44.95**	**327**	P	**P**	**11 30 06.1**	**+3.2**
BDFB	**Brasilia**	**45.02**	**356**	P	**P**	**11 30 05.9**	**+2.6**
comp=Z,2.2nm,0.6s,baz=148,slow=9.5,SNR=3.0							
BDFB	**Brasilia**	**45.02**	**356**	P	**P**	**11 30 05.8**	**+2.6**
SIV	**San Ignacio**	**46.06**	**339**	P	**P**	**11 30 10.8**	**-0.6**
comp=Z,1.8nm,0.6s,baz=167,slow=12,SNR=8.6							
LPAZ	**La Paz**	**47.29**	**330**	P	**P**	**11 30 20.9**	**-0.8**
comp=Z,1.0nm,0.6s,baz=172,slow=7.1,SNR=2.5							
LPAZ	**La Paz**	**47.29**	**330**	P	**P**	**11 30 25.2**	**+3.5**
LPAZ				IAmb	IAmb	11 30 30.3	
comp=Z,2.5nm,0.7s							
SUR	**Sutherland**	**50.78**	**87**	P	**P**	**11 30 46.5**	**-1.4**
SAML	**Samuel**	**53.32**	**338**	P	**P**	**11 31 06.7**	**0.0**
SAML				IAmb	IAmb	11 31 25.3	
comp=Z,4.4nm,0.7s							
LBTB	**Lobatse**	**59.21**	**87**	P	**P**	**11 31 46.5**	**-2.3**
comp=Z,2.7nm,0.6s,baz=181,slow=9.7,SNR=3.5							
LBTB	**Lobatse**	**59.21**	**87**	P	**P**	**11 31 46.8**	**-2.0**
DBIC	**Dimbokro**	**74.26**	**42**	P	**P**	**11 33 24.2**	**-0.4**
comp=Z,4.4nm,0.9s,baz=155,slow=5.5,SNR=3.4							
DBIC	**Dimbokro**	**74.26**	**42**	P	**P**	**11 33 24.7**	**0.0**
DBIC				IAmb	IAmb	11 33 25.4	
comp=Z,7.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**82.53**	**46**	P	**P**	**11 34 10.6**	**+0.2**
comp=Z,4.3nm,0.9s,baz=196,slow=7.3,SNR=14							
ASAR	**Alice Springs**	**95.95**	**179**	P	**P**	**11 35 16.8**	**+2.1**
comp=Z,0.7nm,1.1s,baz=160,slow=3.0,SNR=3.1							
INK	**Inuvik**	**143.36**	**321**	PKP	**PKPdf**	**11 41 19.6**	**-0.7**
comp=Z,0.7nm,0.6s,baz=180,slow=3.9,SNR=4.6							
INK	**Inuvik**	**143.36**	**321**	PKPdf	**PKPdf**	**11 41 19.4**	**-0.9**
MK31	**Makanchi Array**	**147.03**	**91**		**PKPbc**	**11 41 29.6**	**+0.1**
MKAR	**Makanchi Array**	**147.03**	**91**	PKPbc	**PKPbc**	**11 41 29.1**	**-0.4**
comp=Z,2.9nm,0.7s,baz=234,slow=2.1,SNR=13							
MKAR	**Makanchi Array**	**147.03**	**91**		**PKPbc**	**11 41 29.1**	**-0.3**
KURBB	**Kurchatov Arra**	**147.75**	**82**	PKPbc	**PKPbc**	**11 41 31.4**	**+0.1**
comp=Z,1.2nm,0.3s,baz=234,slow=3.9,SNR=9.7							
ZALV	**Zalesovo Beam**	**152.84**	**82**	PKPbc	**PKPbc**	**11 41 43.1**	**-0.4**
comp=Z,0.4nm,0.4s,baz=250,slow=2.9,SNR=2.3							
ZALV	**Zalesovo Beam**	**152.84**	**82**		**PKPbc**	**11 41 42.1**	**-1.3**
SONM	**Songino Array**	**159.28**	**116**	PKPab	**PKPab**	**11 42 22.5**	**-0.1**
comp=Z,0.5nm,0.6s,baz=199,slow=6.6,SNR=4.6							

NEIC 17 11:26:07.4±0.9, 38°.29N±0°.02×122°.59W±0°.05, h6km±6km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVS	**Carmenet Viney**	**0.12**	**60**		Pg	11 26 10.0	+0.1
NTYM	**Taylor**	**0.12**	**330**		Pg	11 26 09.9	-0.1
NSHM	**Saint Helena R**	**0.23**	**356**		Pg	11 26 12.2	+0.1
MCCM	**Marconi Confer**	**0.27**	**239**		Pg	11 26 12.7	0.0
MCCM				Sg	Sg	11 26 16.2	-0.1
MAC	**Mark West Spri**	**0.28**	**338**		Pg	11 26 13.1	+0.1
NOLM	**Olema**	**0.29**	**213**		Pg	11 26 13.3	+0.1
NAPC	**Atlas Peak**	**0.30**	**60**		Pg	11 26 13.6	+0.1
CPMM	**Point Molate**	**0.36**	**157**		Pg	11 26 14.7	+0.2
NHSM	**Mount Saint He**	**0.37**	**357**		Pg	11 26 14.7	0.0
NLHM	**Lake Herman**	**0.38**	**116**		Pg	11 26 15.0	+0.1
CSPM	**San Pablo Ridg**	**0.39**	**146**		Pg	11 26 15.6	+0.5
NMCNC	**Mill Creek, So**	**0.40**	**320**		Pg	11 26 15.2	+0.1
CPIM	**Pinole Ridge**	**0.42**	**135**		Pg	11 26 16.3	+0.7
RFSB	**Richmond Field**	**0.42**	**152**		Pg	11 26 15.7	+0.1
GAXM	**Alexander Vall**	**0.44**	**343**		Pg	11 26 15.8	-0.2
NPRM	**Point Reyes**	**0.45**	**230**		Pg	11 26 15.9	-0.1
BRK	**Berkeley--Havi**	**0.49**	**148**		Pg	11 26 17.0	+0.2
BL67	**Building 67, L**	**0.49**	**147**		Pg	11 26 17.3	+0.4
VAK	**Adit at Lawren**	**0.49**	**147**		Pg	11 26 17.2	+0.4
NBPM	**Berryessa Peak**	**0.49**	**39**		Pg	11 26 17.6	+0.7
BKS	**Berkeley--Byer**	**0.49**	**146**		Pg	11 26 17.3	+0.4
CVPM	**Vollmer Peak**	**0.49**	**144**		Pg	11 26 17.3	+0.3
GCRM	**Castle Rock Sp**	**0.50**	**348**		Pg	11 26 17.0	0.0
JPRM	**Presidio of Sa**	**0.50**	**170**		Pg	11 26 17.3	+0.3
CYBM	**Yerba Buena Is**	**0.51**	**159**		Pg	11 26 17.3	+0.1
FTR	**Fort Ross**	**0.51**	**298**		Pg	11 26 17.3	0.0
NADM	**Allendale**	**0.52**	**70**		Pb	11 26 18.7	-0.2
NMTM	**Middletown**	**0.53**	**12**		Pg	11 26 17.7	0.0
GBGM	**Boggs Mountain**	**0.53**	**352**		Pg	11 26 17.9	+0.2
GSSM	**Skaggs Springs**	**0.53**	**321**		Pg	11 26 18.0	+0.3
GDXM	**Geysers**	**0.55**	**343**		Pg	11 26 17.6	-0.4
GHCM	**House Creek**	**0.57**	**304**		Pg	11 26 18.6	0.0
GCVM	**Cloverdale**	**0.59**	**325**		Pg	11 26 19.3	+0.5
GSGM	**Seigler Mounta**	**0.59**	**351**		Pg	11 26 19.2	+0.5
CMCM	**Mills College**	**0.60**	**147**		Pg	11 26 19.1	+0.1
MNRC	**McLaughlin Min**	**0.60**	**11**		Pg	11 26 19.5	+0.4
GACM	**Adobe Creek**	**0.62**	**340**		Pg	11 26 19.5	+0.1
JSBM	**San Bruno Moun**	**0.62**	**166**		Pg	11 26 19.4	0.0
BGC	**Bolinger Road**	**0.63**	**138**		Pg	11 26 19.9	+0.4
GPMM	**Pine Mountain**	**0.63**	**333**		Pb	11 26 20.5	-0.4
CRHM	**Round Hill Res**	**0.63**	**132**		Pb	11 26 20.3	-0.6
CRPB	**Russellman Par**	**0.65**	**125**		Pg	11 26 19.9	-0.1
JMGM	**Milagra Ridge**	**0.66**	**172**		Pg	11 26 20.0	0.0
BDM	**Black Diamond**	**0.66**	**120**		Pg	11 26 20.6	+0.5
FARB	**Farallon Islan**	**0.67**	**209**		Pg	11 26 20.1	-0.3
CLCB	**Lake Chabot**	**0.69**	**143**		Pg	11 26 20.9	+0.3
GMKM	**Mount Konoctai**	**0.70**	**347**		Pg	11 26 21.4	+0.5
GDCM	**Dry Creek**	**0.70**	**313**		Pg	11 26 21.2	+0.3
NDHM	**Dunnigan Hills**	**0.71**	**48**		Pb	11 26 22.8	+0.5
SAC	**San Andreas**	**0.72**	**169**		Pg	11 26 21.1	0.0
JCPM	**Coyote Point**	**0.73**	**163**		Pg	11 26 21.4	0.0
GWKM	**Walker Ridge**	**0.77**	**6**		Pb	11 26 23.0	-0.3
CMOB	**Morgan Territo**	**0.78**	**127**		Pb	11 26 23.1	-0.4
JCHM	**Cahill Ridge**	**0.79**	**168**		Pg	11 26 22.3	-0.3
HOPS	**Hopland Field**	**0.80**	**332**		Pg	11 26 22.2	-0.6
GSNM	**Snow Mountain**	**0.81**	**324**		Pg	11 26 22.8	-0.2
CDOM	**Doolan Road**	**0.81**	**133**		Pb	11 26 23.9	0.0
GHLM	**Highland Sprin**	**0.82**	**336**		Pg	11 26 23.1	-0.2
CNIC	**Niles Canyon**	**0.84**	**144**		Pg	11 26 23.2	-0.3
GBMM	**Baldy Mountain**	**0.86**	**5**		Pb	11 26 24.8	0.0
JHPM	**Huddart Park**	**0.87**	**165**		Pg	11 26 23.8	-0.4
CVLM	**Vallecito**	**0.89**	**138**		Pg	11 26 24.6	+0.2
GGUM	**Gualala**	**0.91**	**309**		Pg	11 26 24.7	-0.3
JRSC	**Jasper Ridge**	**0.92**	**163**		Pg	11 26 24.3	-0.9
WENL	**Wente Vineyard**	**0.93**	**135**		Pb	11 26 26.0	0.0
JSFB	**Stanford Teles**	**0.94**	**160**		Pg	11 26 25.5	+0.1
CMJM	**Mission San Jo**	**0.95**	**143**		Pg	11 26 25.1	-0.6
BGH	**Bear Gulch**	**0.96**	**168**		Pg	11 26 26.0	+0.1
JFP	**Foothills Park**	**0.98**	**161**		Pg	11 26 25.1	-1.0
JJRM	**Joaquin Road**	**0.99**	**162**		Pg	11 26 25.4	-1.0
GTSM	**Trough Springs**	**1.02**	**359**		Pg	11 26 26.5	-0.6
JBMM	**Black Mountain**	**1.03**	**160**		Pg	11 26 26.9	-0.2
CALM	**Calaveras Res.**	**1.04**	**143**		Pg	11 26 26.8	-0.6
JPC	**Peters Creek,**	**1.06**	**164**		Pg	11 26 26.4	-1.3
GHOM	**Hamilton Openi**	**1.06**	**316**		Pg	11 26 28.0	+0.2
JSGM	**Saratoga Golf**	**1.09**	**157**		Pg	11 26 27.1	-1.2
CMLM	**Mount Lewis**	**1.10**	**137**		Pg	11 26 27.9	-0.6
AASM	**Arroyo Seco**	**1.17**	**83**		Pg	11 26 27.9	-2.0
CMMM	**Mount Mocho**	**1.20**	**133**		Pg	11 26 29.4	-1.1
MHC	**Mount Hamilton**	**1.20**	**141**		Pg	11 26 29.2	-1.4
JBNB	**Ben Lomond Mou**	**1.21**	**163**		Pg	11 26 28.6	-2.1
GNAM	**Navarro Ridge**	**1.22**	**318**		Pg	11 26 28.9	-2.0
JUMM	**Mount Umunhum**	**1.25**	**154**		Pg	11 26 29.5	-1.9
ARN	**Arnold Ranch**	**1.25**	**138**		Pg	11 26 30.5	-1.0
CCOB	**Coe Ranch Numb**	**1.26**	**144**		Pn	11 26 30.1	-1.4
JLAB	**Laurel Hill**	**1.32**	**149**		Pn	11 26 30.6	-1.7
GTC	**Three Chop Rid**	**1.34**	**326**		Pn	11 26 31.0	-1.8
OHCM	**Honcut**	**1.36**	**39**		Pn	11 26 29.9	-3.0
JTGM	**Trout Gulch Ro**	**1.38**	**156**		Pg	11 26 33.8	0.0
MNHB	**New Hogan Dam**	**1.40**	**95**		Pn	11 26 31.6	-2.0
AFDM	**Forest Hills D**	**1.43**	**62**		Pn	11 26 31.7	-2.2
HSPM	**Sheep**	**1.45**	**144**		Pn	11 26 33.1	-1.0
HLPM	**Lions Peak**	**1.46**	**148**		Pn	11 26 32.5	-1.8
JELB	**Ellicott, Sant**	**1.48**	**156**		Pn	11 26 32.5	-2.1
CDC	**Canada Road**	**1.53**	**145**		Pn	11 26 34.2	-1.1
CSR	**Chase Ranch**	**1.55**	**149**		Pn	11 26 33.4	-2.1
MCUB	**Copperopolis B**	**1.58**	**101**		Pn	11 26 34.6	-1.4
HFEM	**San Felipe**	**1.61**	**144**		Pn	11 26 34.8	-1.6
HPCM	**Pacheco Lake**	**1.61**	**139**		Pn	11 26 35.0	-1.3
SLD	**San Luis Dam**	**1.62**	**138**		Pn	11 26 35.8	-0.7
CMB	**Columbia Colle**	**1.75**	**98**		Pn	11 26 37.0	-1.4
FRP	**Fremont Peak**	**1.76**	**150**		Pn	11 26 35.9	-2.6
SAO	**San Andreas Ge**	**1.77**	**149**		Pg	11 26 41.6	+0.3
BVYM	**Vineyard**	**1.80**	**148**		Pn	11 26 37.1	-1.8
BSLM	**Silva Ranch**	**1.80**	**146**		Pn	11 26 37.7	-1.2
BSRM	**Salinas Radio**	**1.83**	**152**		Pn	11 26 36.7	-2.6
BPCNC	**Pine Canyon**	**1.87**	**156**		Pn	11 26 37.3	-2.6
BHRM	**Hodges Ranch**	**1.88**	**146**		Pn	11 26 39.0	-1.1
BEHM	**Elkhorn Ranch**	**1.97**	**145**		Pn	11 26 38.9	-2.5
BJCM	**Johnson Can.**	**1.98**	**151**		Pn	11 26 39.1	-2.4
RUBR	**Rubicon Trail**	**2.05**	**67**		Pn	11 26 42.4	-0.3
EMB	**Emerald Bay**	**2.06**	**70**		Pn	11 26 42.6	-0.3
DONR	**Donner Summit**	**2.07**	**58**		Pn	11 26 42.9	0.0
HAST	**Hastings Reser**	**2.07**	**156**		Pn	11 26 40.1	-2.5
TAHR	**Tahoe**	**2.08**	**65**		Pn	11 26 43.4	+0.3
O03E	**Paynes Creek**	**2.10**	**17**		Pn	11 26 41.3	-1.8
BPIM	**Pinnacles**	**2.12**	**147**		Pn	11 26 41.0	-2.4
IND	**Independence**	**2.13**	**57**		Pn	11 26 44.4	+0.7
GNO	**Genoa**	**2.24**	**72**		Pn	11 26 45.9	+0.7
MPK	**Martis Peak**	**2.24**	**62**		Pn	11 26 45.6	+0.4
WDC	**Whiskeytown Da**	**2.29**	**1**		Pn	11 26 43.9	-1.9
PBWM	**Bitterwater Cr**	**2.37**	**146**		Pn	11 26 46.5	-0.4
WAKR	**Walker**	**2.48**	**84**		Pn	11 26 49.2	+0.6
PAHR	**Pah Rah Range**	**2.87**	**59**		Pn	11 26 56.0	+2.1
OMMB	**Old Mammoth Mi**	**2.91**	**102**		Pn	11 26 56.0	+1.4
RYN	**Ryan**	**3.21**	**83**		Pb	11 27 03.9	-1.0
NVAR	**Mina Array Bea**	**3.37**	**86**		Pb	11 27 06.8	-0.9
KVN	**Kaiserville**	**3.59**	**76**	Pn	Pn	11 27 02.6	-1.2
KVN					Pb	11 27 11.8	+0.3

*IDC **17** 11:26:36.8±0.7, 60°.22S×45°.83W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/34, mbtmp4.3/10, ML3.8/1, Error ellipse: s-maj=25.7km s-min=17.7km az=56.0*
*ISCJB **17** 11:26:37.3±0.4, 60°.17S±0°.06×45°.7W±0°.1, h10km, mb4.4/10, Error ellipse: s-maj=11.2km s-min=7.0km az=142.7*
*NEIC **17** 11:26:39.0±1.7, 60°.18S±0°.06×45°.7W±0°.1, h10km±1km, mb4.5/19*

ISC 17 11:26:38.6±0.5, 60°.22S±0°.07×45°.74W±0°.08, h10km, n49, σ0°97/46, mb4.5/14, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.78**	**44**	Pn	**Pn**	**11 28 30.4**	**-1.3**
PMSA	**Palmer Station**	**9.60**	**234**	Pn	**Pn**	**11 28 55.6**	**-1.0**
0.9nm,0.3s,baz=79,slow=11,SNR=3.2							
PMSA	**Palmer Station**	**9.60**	**234**		**Pn**	**11 28 57.4**	**+0.8**
EFI	**East Falkland**	**10.98**	**316**	Pn	**Pn**	**11 29 16.9**	**+1.3**
GO10	**Punta Arenas**	**15.52**	**286**	P	**P**	**11 30 20.6**	**-1.1**
GO10				IAmb	IAmb	11 30 38.4	
comp=Z,24nm,1.0s							
VNA3	**Neumayer Olymp**	**18.12**	**142**	P	**P**	**11 30 52.2**	**+1.9**
VNA1	**Neumayer--Stat**	**18.38**	**140**	P	**P**	**11 30 54.7**	**+1.6**
VNA2	**Neumayer--Watz**	**18.73**	**141**	P	**Pn**	**11 30 57.5**	**+0.1**
baz=287,slow=9.8							
SNAA	**Sanae**	**20.34**	**142**	P	Pn	11 31 19.0	+2.3
SNAA	**Sanae**	**20.34**	**142**	P	**P**	**11 31 15.7**	**+1.1**
comp=Z,12nm,0.9s,baz=282,slow=9.9,SNR=21							
SNAA	**Sanae**	**20.34**	**142**	P	Pn	11 31 18.7	+2.0
SNAA				IAmb	IAmb	11 31 19.8	
comp=Z,20nm,1.0s							
TRQA	**Tornquist**	**24.46**	**328**	P	**P**	**11 31 58.9**	**+1.4**
PLCA	**Paso Flores**	**24.83**	**311**	P	**P**	**11 32 00.7**	**-0.2**
comp=Z,4.2nm,0.8s,baz=178,slow=7.6,SNR=8.2							
PLCA	**Paso Flores**	**24.83**	**311**	P	**P**	**11 32 00.9**	**0.0**
PLCA				IAmb	IAmb	11 32 03.1	
comp=Z,11nm,1.1s							
GO06	**Curarrehue**	**26.18**	**310**	P	**P**	**11 32 13.8**	**+0.7**
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**11 32 46.8**	**-0.5**
comp=Z,4.6nm,1.0s,baz=193,slow=2.2,SNR=6.8							
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**11 32 46.9**	**-0.5**
QSPA				IAmb	IAmb	11 32 53.8	
comp=Z,6.8nm,1.1s							
GO04	**Tololo Observa**	**34.42**	**320**	P	**P**	**11 33 27.4**	**+1.2**
GO04				IAmb	IAmb	11 33 42.4	
comp=Z,8.3nm,0.9s							
CPUP	**Villa Florida**	**34.80**	**342**	P	**P**	**11 33 28.6**	**-0.7**
comp=Z,2.0nm,0.7s,baz=179,slow=9.6,SNR=4.8							
GO02	**Mina Guanaco**	**38.73**	**324**	P	**P**	**11 34 03.4**	**+0.3**
SBA	**Scott Base**	**40.74**	**190**	P	**P**	**11 34 19.6**	**+0.7**
GO01	**Chusmiza**	**43.83**	**327**	P	**P**	**11 34 43.1**	**-2.1**
GO01				IAmb	IAmb	11 34 56.4	
comp=Z,16nm,1.5s							
MNMC	**Minye Minye**	**44.45**	**327**	P	**P**	**11 34 49.8**	**-0.1**
SIV	**San Ignacio**	**45.55**	**339**	P	**P**	**11 34 58.1**	**-0.3**
comp=Z,3.6nm,0.6s,baz=201,slow=6.4,SNR=20							
LPAZ	**La Paz**	**46.78**	**330**	P	**P**	**11 35 08.4**	**-0.4**
comp=Z,1.3nm,0.6s,baz=162,slow=6.2,SNR=5.9							
LPAZ	**La Paz**	**46.78**	**330**	P	**P**	**11 35 09.8**	**+1.0**
SAML	**Samuel**	**52.81**	**338**	P	**P**	**11 35 54.1**	**+0.2**
LBTB	**Lobatse**	**59.38**	**87**	P	**P**	**11 36 41.2**	**+0.2**
comp=Z,2.3nm,0.7s,baz=180,slow=8.2,SNR=3.1							
LBTB	**Lobatse**	**59.38**	**87**	P	**P**	**11 36 41.6**	**+0.5**
LBTB				IAmb	IAmb	11 36 50.4	
comp=Z,3.1nm,1.0s							
OTAV	**Otavalo**	**65.39**	**324**	P	**P**	**11 37 22.6**	**+0.9**
OTAV				IAmb	IAmb	11 37 26.1	
comp=Z,4.5nm,1.1s							
LIC	**Lamto**	**73.57**	**43**	*eP*	**P**	**11 38 11.8**	**+0.1**
comp=Z,24nm,0.9s							
LIC	**Lamto**	**73.57**	**43**		**P**	**11 38 11.8**	**+0.1**
KIC	**Kosan Boka**	**73.80**	**43**	*eP*	**P**	**11 38 13.1**	**+0.1**
comp=Z,40nm,1.4s							
TIC	**Toumodi**	**73.97**	**42**	*eP*	**P**	**11 38 14.5**	**+0.5**
DBIC	**Dimbokro**	**74.05**	**43**	P	**P**	**11 38 14.6**	**+0.1**
comp=Z,2.0nm,0.7s,baz=171,slow=5.8,SNR=4.7							
DBIC	**Dimbokro**	**74.05**	**43**	P	**P**	**11 38 14.8**	**+0.4**
DBIC				IAmb	IAmb	11 38 14.9	
comp=Z,8.8nm,1.1s							
OUZ	**Omahuta**	**79.55**	**212**	P	**P**	**11 38 43.3**	**-2.0**
OUZ				IAmb	IAmb	11 38 50.7	
comp=Z,5.8nm,1.0s							
TOA0	**Torodi Ar. Sit**	**82.36**	**46**	P	**P**	**11 39 00.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.36**	**46**	P	**P**	**11 39 00.5**	**+0.1**
comp=Z,2.4nm,0.8s,baz=207,slow=5.8,SNR=9.8							
TORD	**Torodi Ar. Bea**	**82.36**	**46**	P	**P**	**11 39 00.9**	**+0.5**
D05A	**Enumclaw**	**123.55**	**307**		**PKiKP**	**11 45 35.8**	**+0.5**
FINES	**FINESS Array B**	**133.24**	**39**	PKP	**PKPdf**	**11 45 50.8**	**-2.2**
comp=Z,2.9nm,0.8s,baz=222,slow=2.6,SNR=3.6							
ARCES	**ARCESS Array B**	**139.00**	**31**	PKhKP	PKPpre	11 45 52.5	
comp=Z,7.0nm,1.0s,baz=298,slow=2.6,SNR=5.3							
BRVK	**Borovoye**	**145.39**	**73**		**PKPbc**	**11 46 14.2**	**-1.1**
ILAR	**Eielson Array**

σ0$81/24, **mb4.1/8, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.16**	**36**	Pn	**Pn**	**11 32 54.0**	**-1.2**
PMSA	**Palmer Station**	**10.40**	**236**	Pn	**Pn**	**11 33 39.9**	**+0.2**
	0.4nm,0.3s,baz=56,slow=11,SNR=4.6						
PMSA	**Palmer Station**	**10.40**	**236**		**Pn**	**11 33 39.1**	**-0.6**
GO10	**Punta Arenas**	**16.53**	**283**	P	**P**	**11 35 04.2**	**-0.6**
GO10				IAmb	IAmb	11 35 06.0	
	comp=Z,30nm,1.1s						
SNAA	**Sanae**	**19.66**	**142**	P	**P**	**11 35 39.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=255,slow=8.3,SNR=3.9						
SNAA	**Sanae**	**19.66**	**142**	P	**P**	**11 35 38.5**	**-0.6**
PLCA	**Paso Flores**	**25.66**	**308**	P	**P**	**11 36 40.7**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=146,slow=3.6,SNR=3.0						
PLCA	**Paso Flores**	**25.66**	**308**	P	**P**	**11 36 39.6**	**-0.6**
QSPA	**South Pole Qui**	**29.96**	**180**	P	**P**	**11 37 18.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=218,slow=2.6,SNR=5.7						
QSPA	**South Pole Qui**	**29.96**	**180**	P	**P**	**11 37 18.6**	**0.0**
QSPA				IAmb	IAmb	11 37 26.1	
	comp=Z,3.8nm,1.0s						
GO04	**Tololo Observa**	**35.15**	**317**	P	**P**	**11 38 04.3**	**0.0**
GO04				IAmb	IAmb	11 38 10.9	
	comp=Z,6.5nm,0.8s						
GO01	**Chusmiza**	**44.45**	**325**	P	**P**	**11 39 22.6**	**+0.7**
GO01				IAmb	IAmb	11 39 23.4	
	comp=Z,4.0nm,1.1s						
MNMC	**Minye Minye**	**45.07**	**324**	P	**P**	**11 39 27.8**	**+1.1**
SIV	**San Ignacio**	**45.99**	**336**	P	**P**	**11 39 33.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=166,slow=12,SNR=3.4						
LPAZ	**La Paz**	**47.36**	**327**	P	**P**	**11 39 46.4**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=180,slow=11,SNR=2.0						
LPAZ	**La Paz**	**47.36**	**327**	P	**P**	**11 39 45.8**	**+0.7**
SUR	**Sutherland**	**49.94**	**86**	P	**P**	**11 40 05.5**	**+1.1**
BOSA	**Boshof**	**55.22**	**87**	P	**P**	**11 40 44.0**	**+0.5**
LBTB	**Lobatse**	**58.37**	**85**	P	**P**	**11 41 04.9**	**-0.8**
LBTB				IAmb	IAmb	11 41 06.5	
	comp=Z,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.66**	**44**	P	**P**	**11 43 30.3**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=195,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**146.21**	**89**	PKPbc	**PKPbc**	**11 50 49.2**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=238,slow=4.3,SNR=5.6						
MKAR	**Makanchi Array**	**146.21**	**89**		**PKPbc**	**11 50 49.4**	**-0.4**
ILAR	**Eielson Array**	**146.31**	**311**	PKPbc	**PKPbc**	**11 50 48.8**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=134,slow=2.6,SNR=3.8						
ILAR	**Eielson Array**	**146.31**	**311**		**PKPab**	**11 50 50.3**	**-0.2**

*DDA **17** 11:32:15.7, 37.°11N×39.°25E, h7km±6km, ML2.6*
*ISCJB **17** 11:32:16.9±0.6, 37.°15N±0.°05×39.°23E±0.°03, h10km±5km, Error ellipse: s-maj=8.5km s-min=4.3km az=178.3*
*ISK **17** 11:32:16.0, 37.°20N×39.°21E, h5km, ML2.5/5*
ISC 17 11:32:17.1±1.1, 37.°16N±0.°06×39.°21E±0.°04, h17km±8km, n12, σ1$09/21**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANL	**SANLIURFA_Merk**	**0.18**	**274**	*i* P	**Pg**	**11 32 21.4**	**-0.2**
SANL				*i* S	**Sg**	**11 32 26.1**	**+1.5**
SANL				IAML_P			
	comp=Z,9μm,0.3s						
URFA	**Urfa**	**0.42**	**312**	PG	**Pg**	**11 32 24.9**	**-0.8**
URFA				SG	**Sb**	**11 32 31.7**	**-0.5**
SURC	**SANLIURFA_SURC**	**0.55**	**240**	*i* P	**Pb**	**11 32 28.6**	**+0.2**
SURC				*i* S	**Sg**	**11 32 34.5**	**-1.0**
SURC				IAML_P			
	comp=Z,332nm,0.1s						
ATAB	**Bozova**	**0.79**	**293**	*i* P	**Pn**	**11 32 33.2**	**-0.3**
ATAB				*i* S	**Sb**	**11 32 43.6**	**+0.7**
ATAB				IAML_P			
	comp=Z,2μm,0.2s						
MAZI	**Mazidag**	**1.03**	**73**	PG	**Pn**	**11 32 36.5**	**-0.4**
MAZI				SG	**Sn**	**11 32 51.9**	**+0.8**
DYBB	**Diyarbakir**	**1.08**	**43**	PG	**Pn**	**11 32 37.5**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.22**	**4**	PN	**Pn**	**11 32 39.7**	**+0.1**
SVRC				SN	**Sn**	**11 32 56.9**	**+1.1**
MARD	**Mardin**	**1.26**	**83**	*i* P	**Pn**	**11 32 40.4**	**+0.2**
MARD				*i* S	**Sb**	**11 32 56.1**	**-0.4**
MARD				IAML_P			
	comp=Z,1μm,0.3s						
MALT	**Malatya**	**1.31**	**332**	PN	**Pg**	**11 32 41.5**	**-0.9**
MALT				SN	**Sn**	**11 33 00.3**	**+2.4**
GZT	**Gaziantep**	**1.33**	**279**	*i* P	**Pn**	**11 32 40.5**	**-0.6**
GZT				IAML_P			
	comp=Z,313nm,0.1s						
ELZG	**Elazig**	**1.35**	**353**	*i* P	**Pg**	**11 32 43.1**	**-0.1**
ELZG				*i* S	**Sb**	**11 32 56.7**	**-2.4**
ELZG				IAML_P			
	comp=Z,359nm,0.2s						
AKCD	**Akcadag**	**1.52**	**318**	*i* P	**Pg**	**11 32 45.8**	**-0.7**

*SOME **17** 11:32:46.2, 39.°72N×72.°93E, h0km*
*KRNET **17** 11:32:51.1±0.1, 39.°63N×73.°91E, mb3.3*
*NNC **17** 11:32:51.2±6.8, 39.°84N×73.°69E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=53.4km s-min=27.7km az=167.0*
*ISCJB **17** 11:32:52.7±0.8, 39.°56N±0.°04×73.°91E±0.°04, h10km, Error ellipse: s-maj=6.4km s-min=4.6km az=5.5*
ISC 17 11:32:51.4±1.3, 39.°53N±0.°07×73.°87E±0.°03, h10km, n35, σ1$87/57**, 26C-16D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.63**	**90**	⇓*i*P	**Pb**	**11 33 20.4**	**-1.1**
KSH				⇓*i*S	**Sb**	**11 33 42.1**	**0.0**
	baz=94						
ARLS	**Aral**	**2.35**	**8**	⇑*e*P	**Pn**	**11 33 31.3**	**+1.1**
ARLS				⇑*i*S	**Sn**	**11 34 00.8**	**+1.5**
	baz=8.0						
BTK	**Batken**	**2.41**	**284**	⇓*i*P	**Pb**	**11 33 34.4**	**-0.5**
BTK				⇓*i*S	**Sg**	**11 34 05.5**	**-3.3**
	baz=81						
NRN	**Naryn**	**2.50**	**40**	⇑*e*P	**Pn**	**11 33 33.9**	**+1.5**
NRN				⇑*i*S	**Sn**	**11 34 04.6**	**+1.5**
	baz=41						
AML	**Almayashu**	**2.60**	**357**	⇑*i*P	**Pn**	**11 33 34.2**	**+0.3**
AML				⇑*i*S	**Sn**	**11 34 08.2**	**+2.5**
	baz=56						
AML	**Almayashu**	**2.60**	**357**	P	**Pn**	**11 33 35.4**	**+1.5**
	SNR=25						
ARK	**Arkit**	**2.69**	**328**	⇑*i*P	**Pn**	**11 33 36.3**	**+1.5**
ARK				⇑*i*S	**Sn**	**11 34 09.6**	**+2.1**
	baz=26						
UCH	**Uchtor**	**2.74**	**10**	⇑*i*P	**Pn**	**11 33 36.8**	**+1.0**
UCH				⇑*i*S	**Sn**	**11 34 11.0**	**+1.8**
	baz=10.0						
UCH	**Uchtor**	**2.74**	**10**	P	**Pn**	**11 33 37.5**	**+1.8**
	SNR=17						
KZA	**Kyzart**	**2.75**	**22**	⇑*i*P	**Pn**	**11 33 37.5**	**+1.6**
KZA				⇑*i*S	**Sn**	**11 34 11.8**	**+2.4**
	baz=22						
KZA	**Kyzart**	**2.75**	**22**	P	**Pb**	**11 33 38.5**	**-2.4**
	SNR=8.5						
EKS2	**Erkin-Say**	**3.13**	**359**	⇓*i*P	**Pn**	**11 33 42.8**	**+1.9**
EKS2				⇓*i*S	**Sn**	**11 34 19.8**	**+1.4**
	baz=58						
AAK	**Ala-Archa**	**3.14**	**8**	Pg	**Pb**	**11 33 45.3**	**-2.1**
AAK				⇑Lg	Lg	11 34 23.8	
	6.6nm,0.5s						
AAK	**Ala-Archa**	**3.14**	**8**	⇓*i*P	**Pn**	**11 33 43.1**	**+2.1**
AAK				⇓*i*S	**Sn**	**11 34 20.3**	**+1.6**
	13nm,0.5s						
AAK	**Ala-Archa**	**3.14**	**8**	P	**Pb**	**11 33 46.0**	**-1.4**
	baz=8.0						
KBK	**Karagaybulak**	**3.23**	**14**	⇑*i*P	**Pn**	**11 33 44.3**	**+2.0**
KBK				⇑*i*S	**Sn**	**11 34 22.8**	**+1.9**
	SNR=5.4						
KBK	**Karagaybulak**	**3.23**	**14**	P	**Pb**	**11 33 47.9**	**-1.0**
	baz=14						
MRKS	**Merke**	**3.25**	**352**	Pg	**Pn**	**11 33 42.8**	**+0.3**
MRKS				Lg	Lg	11 34 28.8	
	17nm,0.4s						
	19nm,0.6s						
MRKS	**Merke**	**3.25**	**352**	*e*P	**Pn**	**11 33 43.1**	**+0.6**
MRKS				*e*S	**Sb**	**11 34 28.4**	**-0.4**
	17nm,0.2s						
	17nm,0.3s						
ULHL	**Ulahol**	**3.25**	**33**	⇓*i*P	**Pn**	**11 33 44.5**	**+1.8**
ULHL				⇓*i*S	**Sn**	**11 34 23.3**	**+1.7**
	baz=33						
BOOM	**Boomskoye usch**	**3.35**	**27**	⇓*i*P	**Pn**	**11 33 45.3**	**+1.4**
BOOM				⇓*i*S	**Sn**	**11 34 25.1**	**+1.3**
	baz=28						
CHMS	**Chumysh**	**3.53**	**11**	⇑*i*P	**Pn**	**11 33 48.5**	**+2.2**
CHMS				⇑*i*S	**Sn**	**11 34 29.5**	**+1.4**
	baz=10.0						
KDJ	**Kajisay**	**3.61**	**43**	⇑*i*P	**Pn**	**11 33 49.6**	**+2.1**
KDJ				⇑*i*S	**Sn**	**11 34 31.8**	**+1.5**
	baz=44						
TKM2	**Tokmak 2**	**3.63**	**20**	⇓Pn	**Pn**	**11 33 50.2**	**+2.4**
TKM2				⇓Pg	**Pg**	**11 34 00.6**	**-0.3**
	2.3nm,0.6s						
	2.9nm,0.5s						
TKM2				⇓Lg	Lg	11 34 39.0	
	8.4nm,0.7s						
TKM2	**Tokmak 2**	**3.63**	**20**	⇑*i*P	**Pn**	**11 33 49.8**	**+2.0**
TKM2				⇑*e*S	**Sn**	**11 34 32.5**	**+1.7**
	baz=21						
TARG	**Taragay, Kyrgy**	**3.71**	**52**	⇑*i*P	**Pn**	**11 33 50.7**	**+1.6**
TARG				⇑*i*S	**Sn**	**11 34 34.5**	**+1.4**
	baz=53						
USP	**Ospenovka**	**3.76**	**7**	P	**Pb**	**11 33 56.5**	**-1.5**
	SNR=5.1						
KST	**Kastek**	**3.85**	**24**	Pg	**Pn**	**11 33 50.2**	**-0.5**
	5.6nm,0.6s						
IUG	**Iuzhnay**	**3.91**	**313**	Pg	**Pn**	**11 33 50.7**	**-1.0**
IUG				Lg	Lg	11 34 41.3	
	0.7nm,0.3s						
	34nm,0.3s						
DGS	**Degeres**	**3.98**	**20**	Pg	**Pn**	**11 33 56.0**	**+3.5**
DGS				Lg	Lg	11 34 50.0	
	3.5nm,0.3s						
	7.0nm,0.4s						
IZV	**Izvestkoviy**	**4.07**	**30**	Pg	**Pb**	**11 33 58.4**	**-4.8**
IZV				Lg	Lg	11 34 56.0	
	6.3nm,0.6s						
	16nm,0.6s						
ANVS	**Anan'yevo**	**4.33**	**40**	⇑*i*P	**Pn**	**11 33 59.6**	**+2.1**
ANVS				⇑*i*S	**Sn**	**11 34 48.7**	**+0.6**
	baz=41						
KK31	**Karatay Array**	**4.38**	**326**	Pn	**Pn**	**11 33 58.5**	**+0.7**
	0.5nm,0.3s,baz=137,slow=13,SNR=9.8						
KK31				Pg	**Pb**	**11 34 08.4**	**+0.1**
	2.0nm,0.4s,baz=143,slow=15,SNR=9.9						
KK31				⇓Sn	**Sn**	**11 34 50.3**	**+1.4**
	3.6nm,0.5s,baz=173,slow=28,SNR=4.6						
KK31				⇑Lg	Lg	11 35 04.3	
	5.3nm,0.5s,baz=135,slow=30,SNR=4.5						
BRLS	**Borolday**	**4.63**	**320**	Pg	**Pn**	**11 34 04.2**	**+2.7**
	0.6nm,0.6s						
BRLS				Lg	Lg	11 35 04.2	
	6.5nm,0.4s						
ARXS	**Arharly**	**5.53**	**31**	Pg	**Pb**	**11 34 25.0**	**-3.1**
	2.5nm,0.5s						
ARXS				Lg	Lg	11 35 42.9	
	4.6nm,0.5s						

*ISCJB **17** 11:34:14.6±0.3, 60.°29S±0.°06×45.°0W±0.°1, h10km, mb4.4/16, Error ellipse: s-maj=10.8km s-min=6.3km az=137.0*
*IDC **17** 11:34:14.3±0.6, 60.°36S×45.°15W, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/35, mbtmp4.3/16, ML3.9/1, Error ellipse: s-maj=20.9km s-min=15.2km az=37.0*
*NEIC **17** 11:34:16.3±1.9, 60.°34S±0.°09×45.°1W±0.°2, h10km±1km, mb4.6/23*
ISC 17 11:34:16.1±0.4, 60.°34S±0.°07×45.°11W±0.°07, h10km, n76, σ1$00/76**, mb4.5/22, 1C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.65**	**41**		**Pn**	**11 36 05.1**	**-2.3**
PMSA	**Palmer Station**	**9.79**	**235**	Pn	**Pn**	**11 36 35.9**	**-0.8**
	1.1nm,0.3s,baz=62,slow=10,SNR=10.0						
PMSA	**Palmer Station**	**9.79**	**235**		**Pn**	**11 36 36.1**	**-0.7**
EFI	**East Falkland**	**11.29**	**314**	Pn	**Pn**	**11 36 58.8**	**+1.6**
GO10	**Punta Arenas**	**15.86**	**285**		**P**	**11 38 01.9**	**-1.1**
GO10				IAmb	IAmb	11 38 03.6	
	comp=Z,36nm,1.1s						
VNA3	**Neumayer Olymp**	**17.83**	**142**	P	**Pn**	**11 38 24.0**	**0.0**
VNA1	**Neumayer--Stat**	**18.09**	**140**	P	**P**	**11 38 28.4**	**+1.0**
VNA2	**Neumayer--Watz**	**18.44**	**141**	P	**Pn**	**11 38 31.9**	**+0.5**
	baz=281,slow=6.7						
SNAA	**Sanae**	**20.05**	**142**	P	Pn	11 38 52.4	+1.7
SNAA	**Sanae**	**20.05**	**142**	P	**P**	**11 38 49.5**	**+0.5**
	comp=Z,8.2nm,0.9s,baz=251,slow=12,SNR=5.7						
SNAA	**Sanae**	**20.05**	**142**	P	**P**	**11 38 49.6**	**+0.7**
TRQA	**Tornquist**	**24.73**	**327**	P	**P**	**11 39 38.1**	**+0.7**
TRQA				IAmb	IAmb	11 39 44.5	
	comp=Z,22nm,0.9s						
PLCA	**Paso Flores**	**25.15**	**310**	P	**P**	**11 39 40.4**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=197,slow=7.2,SNR=6.8						
PLCA	**Paso Flores**	**25.15**	**310**	P	**P**	**11 39 40.8**	**-0.4**
GO06	**Curarrehue**	**26.49**	**310**		**P**	**11 39 52.3**	**-1.2**
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**11 40 24.4**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=177,slow=8.1,SNR=7.4						
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**11 40 24.9**	**+1.1**
CFA	**Coronel Fontan**	**32.57**	**321**	P	**P**	**11 40 46.6**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=201,slow=8.8,SNR=5.1						
SYO	**Syowa Base**	**34.33**	**140**	⇑*e*pP	**P**	**11 41 02.6**	**+0.4**
GO04	**Tololo Observa**	**34.71**	**319**	P	**P**	**11 41 06.1**	**-0.2**
CPUP	**Villa Florida**	**35.02**	**341**	P	**P**	**11 41 11.0**	**+2.4**
	comp=Z,1.7nm,0.6s,baz=155,slow=9.0,SNR=3.9						
CPUP	**Villa Florida**	**35.02**	**341**	P	**P**	**11 41 09.9**	**+1.3**
CPUP				IAmb	IAmb	11 41 16.2	
	comp=Z,5.7nm,1.1s						
GO02	**Mina Guanaco**	**39.01**	**323**	P	**P**	**11 41 43.3**	**+0.4**
GO02				IAmb	IAmb	11 41 47.9	
	comp=Z,7.6nm,0.7s						
SBA	**Scott Base**	**40.68**	**190**	P	**P**	**11 41 57.3**	**+1.4**
PB11	**IPOC Station P**	**44.13**	**326**	P	**P**	**11 42 25.0**	**+0.2**
PB11				IAmb	IAmb	11 42 39.4	
	comp=Z,16nm,1.0s						
MNMC	**Minye Minye**	**44.72**	**326**	P	**P**	**11 42 30.1**	**+0.5**
SIV	**San Ignacio**	**45.77**	**338**	P	**P**	**11 42 37.5**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=174,slow=8.1,SNR=9.7						
LPAZ	**La Paz**	**47.04**	**329**	P	**P**	**11 42 48.7**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=100,slow=6.0,SNR=6.1						
LPAZ	**La Paz**	**47.04**	**329**	P	**P**	**11 42 48.9**	**+0.6**
LPAZ				IAmb	IAmb	11 43 04.3	
	comp=Z,3.3nm,0.8s						
SUR	**Sutherland**	**50.65**	**87**	P	**P**	**11 43 16.0**	**+0.6**
	comp=Z,7.8nm,1.0s,baz=204,slow=2.9,SNR=4.4						
SUR	**Sutherland**	**50.65**	**87**	P	**P**	**11 43 15.5**	**0.0**
SAML	**Samuel**	**53.04**	**337**	P	**P**	**11 43 32.8**	**-0.3**
SAML				IAmb	IAmb	11 43 52.3	
	comp=Z,2.9nm,0.7s						
BOSA	**Boshof**	**55.92**	**89**	P	**P**	**11 43 53.8**	**-0.4**
	comp=Z,5.8nm,0.8s,baz=215,slow=5.8,SNR=9.7						
BOSA	**Boshof**	**55.92**	**89**	P	**P**	**11 43 53.8**	**-0.4**
LBTB	**Lobatse**	**59.07**	**87**	P	**P**	**11 44 15.9**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=209,slow=8.0,SNR=11						
LBTB	**Lobatse**	**59.07**	**87**	P	**P**	**11 44 15.9**	**-0.5**
LBTB				IAmb	IAmb	11 44 16.5	
	comp=Z,10.0nm,1.3s						
TSUM	**Tsumeb**	**60.05**	**76**	P	**P**	**11 44 23.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=206,slow=5.2,SNR=6.6						
TSUM	**Tsumeb**	**60.05**	**76**	P	**P**	**11 44 22.7**	**-0.5**
TSUM				IAmb	IAmb	11 44 38.5	
	comp=Z,5.4nm,1.1s						
LSZ	**Lusaka**	**68.58**	**83**	P	**P**	**11 45 19.2**	**+0.1**
LIC	**Lamto**	**73.44**	**42**	*e*P	**P**	**11 45 48.3**	**-0.1**
	comp=Z,34nm,0.8s						
KIC	**Kosan Boka**	**73.67**	**42**	*e*P	**P**	**11 45 49.7**	**0.0**
	comp=Z,12nm,0.7s						
TIC	**Toumodi**	**73.84**	**42**	*e*P	**P**	**11 45 50.6**	**-0.1**
DBIC	**Dimbokro**	**73.92**	**42**	P	**P**	**11 45 52.0**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=175,slow=5.6,SNR=6.0						
DBIC	**Dimbokro**	**73.92**	**42**	P	**P**	**11 45 51.5**	**+0.3**
DBIC				IAmb	IAmb	11 45 52.2	
	comp=Z,4.2nm,0.8s						
OUZ	**Omahuta**	**79.62**	**211**	P	**P**	**11 46 21.9**	**-1.3**
OUZ				IAmb	IAmb	11 46 27.8	
	comp=Z,5.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**82.20**	**46**	P	**P**	**11 46 37.6**	**+0.5**
TOA0				IAmb	IAmb	11 46 53.8	
	comp=Z,5.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.20**	**46**	P	**P**	**11 46 37.5**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=214,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**82.20**	**46**	P	**P**	**11 46 37.9**	**+0.8**
CMIG	**Matias Romero**	**86.92**	**313**	P	**P**	**11 47 01.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=139,slow=13,SNR=2.2						
ASAR	**Alice Springs**	**96.30**	**179**	P	**P**	**11 47 42.5**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=167,slow=4.4,SNR=5.7						
ASAR	**Alice Springs**	**96.30**	**179**	P	**P**	**11 47 42.7**	**-2.1**
WRA	**Warramunga Arr**	**100.01**	**179**	P	**Pdif**	**11 48 02.1**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=205,slow=3.7,SNR=4.6						
WRA	**Warramunga Arr**	**100.01**	**179**		**Pdif**	**11 48 01.7**	**+0.2**
KSH	**Kashi**	**138.45**	**93**	PKP	**PKiKP**	**11 53 43.4**	**+0.2**
KSH				PP	**PP**	**11 56 35.1**	**+3.3**
KSH				PKS	**PKSdf**	**11 57 18.1**	**+0.8**
ARCES	**ARCESS Array B**	**138.94**	**30**	PKhKP	PKPpre	11 53 29.2	
	comp=Z,3.9nm,0.8s,baz=224,slow=3.3,SNR=5.4						
INK	**Inuvik**	**143.15**	**322**	PKhKP	PKPpre	11 53 44.0	
	comp=Z,0.8nm,0.5s,baz=45,slow=1.2,SNR=5.3						
BVAR	**Borovoye Array**	**145.15**	**73**	PKPbc	**PKPbc**	**11 53 51.3**	**-0.8**
	comp=Z,5.1nm,0.6s,baz=225,slow=4.0,SNR=8.7						
IL31		**145.82**	**312**		**PKPdf**	**11 53 52.3**	**-0.9**
ILAR	**Eielson Array**	**145.82**	**312**	PKPbc	**PKPdf**	**11 53 52.6**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=142,slow=3.3,SNR=24						
RND	**Reindeer**	**145.88**	**309**		**PKPdf**	**11 53 53.5**	**0.0**
CCB	**Clear Creek Bu**	**146.10**	**311**		**PKPbc**	**11 53 54.2**	**-0.5**
WRH	**Wood River Hil**	**146.12**	**311**		**PKPdf**	**11 53 54.1**	**+0.3**
COLA	**College**	**146.23**	**311**		**PKPbc**	**11 53 55.0**	**-0.1**
BMAR	**Burnt Mountain**	**146.29**	**317**		**PKPbc**	**11 53 54.9**	**-0.4**
MKAR	**Makanchi Array**	**146.92**	**90**	PKPbc	**PKPdf**	**11 53 56.2**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=236,slow=3.1,SNR=14						
MKAR	**Makanchi Array**	**146.92**	**90**		**PKPdf**	**11 53 56.4**	**+0.7**
BPAW	**Bear Paw Mtn.**	**147.05**	**309**		**PKPdf**	**11 53 56.3**	**+0.9**
WMQ	**Urumqi**	**147.48**	**99**	*e*P	**PKPdf**	**11 53 57.8**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,11nm,5.9s						
KURBB	**Kurchatov Arra**	**147.59**	**82**	PKPbc	**PKPbc**	**11 53 57.9**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=238,slow=3.4,SNR=6.8						
KURK	**Kurchatov**	**147.69**	**82**		**PKPdf**	**11 53 58.0**	**+1.2**
TOLK	**Toolik Lake Re**	**148.51**	**317**		**PKPbc**	**11 54 00.9**	**-0.4**
LZH	**Lanzhou**	**148.64**	**127**	*e*PKPbc	**PKPdf**	**11 53 59.5**	**+0.4**
LZH				pPKP	PKPbc	11 54 02.8	0.0
LZH				sPKP		11 54 04.1	
LZH				PKPbc	**pPKPab**	**11 54 09.4**	**+0.1**
IMAR	**Indian Mountai**	**148.94**	**311**		**PKPbc**	**11 54 01.4**	**-1.0**
GTA	**Gaotai**	**149.76**	**118**	*e*PKPbc	**PKPbc**	**11 54 04.5**	**-1.0**
SONM	**Songino Array**	**159.32**	**114**	PKPab	**PKPab**	**11 54 49.9**	**-1.4**
SONM	**Songino Array**	**159.32**	**114**		**PKPab**	**11 54 49.1**	**-2.3**

*ISCJB **17** 11:35:27.1±0.6, 60.°5S±0.°1×45.°8W±0.°2, h10km, mb4.7/9, Error ellipse: s-maj=17.1km s-min=11.5km az=8.9*
*IDC **17** 11:35:27.2±1.0, 60.°38S×45.°78W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.1/35, mbtmp4.4/8, ML3.3/1, Error ellipse: s-maj=33.7km s-min=23.5km az=23.0*
*NEIC **17** 11:35:29.8±1.6, 60.°3S±0.°1×45.°8W±0.°2, h10km±1km, mb4.7/14*
ISC 17 11:35:29.0±0.7, 60.°4S±0.°1×45.°7W±0.°1, h10km, n37, σ0$82/34**, mb4.7/12, 1C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.87**	**43**	Pn	**Pn**	**11 37 21.5**	**-1.9**
PMSA	**Palmer Station**	**9.53**	**234**	Pn	**Pn**	**11 37 46.0**	**0.0**
	0.3nm,0.3s,baz=4.1,slow=5.4,SNR=3.2						
PMSA	**Palmer Station**	**9.53**	**234**		**Pn**	**11 37 45.3**	**-0.7**
SNAA	**Sanae**	**20.22**	**141**	P	Pn	11 40 09.7	+3.9
	8.5nm,0.9s,baz=294,slow=11,SNR=6.0						
SNAA	**Sanae**	**20.22**	**141**	P	Pn	11 40 09.2	+3.5
TRQA	**Tornquist**	**24.58**	**328**	P	**P**	**11 40 50.5**	**+1.6**
PLCA	**Paso Flores**	**24.92**	**311**	P	**P**	**11 40 51.9**	**-0.3**
SYO	**Syowa Base**	**34.51**	**141**	⇑*es*P	sP	11 42 20.0	-0.5
CPUP	**Villa Florida**	**34.94**	**342**	P	**P**	**11 42 20.7**	**-0.1**
	3.6nm,1.0s,baz=175,slow=7.9,SNR=4.0						
CPUP	**Villa Florida**	**34.94**	**342**	P	**P**	**11 42 21.2**	**+0.3**
GO01	**Chusmiza**	**43.94**	**327**	P	**P**	**11 43 37.7**	**+1.1**
GO01				IAmb	IAmb	11 43 38.5	
	comp=Z,6.7nm,0.8s						
MNMC	**Minye Minye**	**44.56**	**327**	P	**P**	**11 43 42.1**	**+0.8**
SIV	**San Ignacio**	**45.68**	**339**	P	**P**	**11 43 49.8**	**-0.1**
	comp=Z,4.4nm,0.5s,baz=194,slow=7.8,SNR=18						
SUR	**Sutherland**	**50.95**	**88**	P	**P**	**11 44 31.9**	**+1.2**
SAML	**Samuel**	**52.94**	**338**	P	**P**	**11 44 45.3**	**-0.1**
SAML				IAmb	IAmb	11 44 46.0	
	comp=Z,9.2nm,0.7s						
BOSA	**Boshof**	**56.23**	**89**		**P**	**11 45 09.9**	**+0.5**
**L

TRQA	Tornquist	25.34	324	P	P	11 44 02.0	+1.4
TRQA				IAmb	IAmb	11 44 03.1	
comp=Z,20nm,0.8s							
PLCA	Paso Flores	25.93	307	P	P	11 44 05.0	-1.0
comp=Z,11nm,0.7s,baz=180,slow=8.5,SNR=21							
PLCA	Paso Flores	25.93	307	P	P	11 44 04.9	-1.1
PLCA				IAmb	IAmb	11 44 07.7	
comp=Z,16nm,0.8s							
GO06	Curarrehue	27.28	307	P	P	11 44 17.1	-1.1
GO06				IAmb	IAmb	11 44 19.7	
comp=Z,21nm,0.9s							
QSPA	South Pole Qui	29.80	180	P	P	11 44 41.1	+0.5
comp=Z,6.0nm,1.0s,baz=188,slow=6.1,SNR=4.7							
QSPA	South Pole Qui	29.80	180	P	P	11 44 40.7	+0.1
GO05	Huala	31.45	311	P	P	11 44 54.3	-0.8
GO05				IAmb	IAmb	11 44 57.3	
comp=Z,16nm,0.8s							
PEL	Peldehue	32.67	314	P	P	11 45 05.8	-0.1
PEL				IAmb	IAmb	11 45 06.1	
comp=Z,20nm,0.8s							
ROC1	El Roble	32.94	314	P	P	11 45 08.1	-0.4
CFA	Coronel Fontan	33.24	319	P	P	11 45 10.4	-0.5
comp=Z,2.3nm,0.5s,baz=164,slow=10.0,SNR=5.3							
GO04	Tololo Observa	35.41	316	P	P	11 45 29.3	-0.6
GO04				IAmb	IAmb	11 45 33.1	
comp=Z,19nm,0.7s							
CPUP	Villa Florida	35.44	338	P	P	11 45 29.7	-0.1
comp=Z,4.1nm,0.9s,baz=175,slow=11,SNR=4.9							
CPUP	Villa Florida	35.44	338	P	P	11 45 31.3	+1.4
CPUP				IAmb	IAmb	11 45 38.4	
comp=Z,52nm,1.9s							
GO02	Mina Guanaco	39.65	321	P	P	11 46 06.0	0.0
GO02				IAmb	IAmb	11 46 06.7	
comp=Z,24nm,0.7s							
SBA	Scott Base	40.74	189	P	P	11 46 15.2	+1.2
PB10	IPOC Station P	41.50	321	P	P	11 46 20.8	-0.1
PB10				IAmb	IAmb	11 46 21.5	
comp=Z,23nm,0.9s							
LVC	Limon Verde	41.84	323	P	P	11 46 24.4	+0.3
comp=Z,8.2nm,0.7s,baz=173,slow=5.4,SNR=8.3							
LVC	Limon Verde	41.84	323	P	P	11 46 23.7	-0.4
PB04	IPOC Station P	42.48	322	P	P	11 46 29.1	+0.1
PB01	IPOC Station P	43.49	323	P	P	11 46 37.8	+0.6
GO01	Chusmiza	44.70	324	P	P	11 46 48.2	+0.9
PB11	IPOC Station P	44.75	323	P	P	11 46 47.7	+0.3
PB11				IAmb	IAmb	11 46 48.2	
comp=Z,14nm,0.7s							
BDFB	Brasilia	44.86	353	P	P	11 46 48.8	+0.7
comp=Z,1.9nm,0.6s,baz=155,slow=6.3,SNR=4.5							
BDFB	Brasilia	44.86	353	P	P	11 46 48.4	+0.2
BDFB				IAmb	IAmb	11 46 49.7	
comp=Z,16nm,1.2s							
SIV	San Ignacio	46.23	336	P	P	11 46 59.1	+0.2
comp=Z,4.5nm,0.7s,baz=175,slow=7.5,SNR=15							
LPAZ	La Paz	47.62	327	P	P	11 47 10.9	+0.4
comp=Z,4.9nm,0.8s,baz=139,slow=4.2,SNR=13							
LPAZ	La Paz	47.62	327	P	P	11 47 09.9	-0.5
SAML	Samuel	53.50	335	P	P	11 47 54.0	-0.2
SAML				IAmb	IAmb	11 47 55.2	
comp=Z,8.7nm,0.9s							
NNA	Nana	54.31	318	P	P	11 47 59.7	-0.4
comp=Z,7.7nm,0.7s,baz=151,slow=6.6,SNR=4.2							
NNA	Nana	54.31	318	P	P	11 47 59.4	-0.8
BOSA	Boshof	55.00	87	P	P	11 48 05.5	+0.3
comp=Z,6.3nm,1.0s,baz=214,slow=5.1,SNR=4.2							
BOSA	Boshof	55.00	87	P	P	11 48 04.5	-0.7
LBTB	Lobatse	58.16	85	P	P	11 48 27.6	0.0
comp=Z,8.2nm,0.8s,baz=202,slow=8.2,SNR=10							
LBTB	Lobatse	58.16	85	P	P	11 48 27.3	-0.3
LBTB				IAmb	IAmb	11 48 29.4	
comp=Z,12nm,0.9s							
OTAV	Otavalo	66.32	321	P	P	11 49 23.7	+1.0
LSZ	Lusaka	67.68	81	P	P	11 49 32.4	+1.3
LSZ				IAmb	IAmb	11 49 33.7	
comp=Z,10nm,1.1s							
ROSC	El Rosal	69.48	327	P	P	11 49 43.7	+1.2
comp=Z,4.6nm,0.4s,baz=133,slow=8.3,SNR=3.5							
ROSC	El Rosal	69.48	327	P	P	11 49 42.9	+0.3
PLCV	Puerto La Cruz	72.39	338	P	P	11 50 01.1	+1.4
PCRV	Puerto La Cruz	72.41	338	P	P	11 50 01.1	+1.3
comp=Z,13nm,0.7s,baz=118,slow=2.5,SNR=7.0							
SDV	Santo Domingo	72.43	332	P	P	11 50 00.5	+0.4
comp=Z,5.9nm,0.5s,baz=209,slow=6.3,SNR=3.6							
LTZ	Lake Taylor	73.12	207	P	P	11 50 03.8	-0.1
LTZ				IAmb	IAmb	11 50 14.1	
comp=Z,20nm,1.4s							
THZ	Tophouse	73.94	207	P	P	11 50 09.1	+0.3
THZ				IAmb	IAmb	11 50 21.7	
comp=Z,32nm,1.7s							
QRZ	Quartz Range	74.92	207	P	P	11 50 12.2	-2.2
JTS	Las Juntas de	77.86	318	P	P	11 50 31.9	+0.6
comp=Z,8.6nm,0.9s,baz=185,slow=6.9,SNR=6.3							
JTS	Las Juntas de	77.86	318	P	P	11 50 30.6	-0.7
JTS				IAmb	IAmb	11 50 32.6	
comp=Z,11nm,0.9s							
TORD	Torodi Ar. Bea	81.62	44	P	P	11 50 54.1	+2.5
comp=Z,2.7nm,0.9s,baz=201,slow=5.0,SNR=6.2							
ASAR	Alice Springs	96.17	177	P	P	11 51 59.6	-2.1
comp=Z,0.8nm,0.9s,baz=169,slow=3.8,SNR=8.2							
ASAR	Alice Springs	96.17	177	P	P	11 51 58.7	-3.1
NVAR	Mina Array Bea	115.92	302	PKP	PKiKP	11 57 16.5	+0.6
comp=Z,0.3nm,0.7s,baz=142,slow=4.5,SNR=3.1							
NVAR	Mina Array Bea	115.92	302		PKPdf	11 57 15.7	-0.3
GERES	GERESS Array B	118.24	39	PKP	PKPdf	11 57 19.0	-0.9
comp=Z,0.1nm,0.4s,baz=185,slow=4.9,SNR=3.5							
GERES	GERESS Array B	118.24	39		PKPdf	11 57 18.7	-1.2
VYHS	Vyhne	119.59	43	ePKP	PKiKP	11 57 24.7	+2.2
AKASG	Malin Array Be	125.11	48	PKP	PKPdf	11 57 31.3	-1.6
comp=Z,0.9nm,0.6s,baz=244,slow=1.8,SNR=3.7							
YKA	Yellowknife Ar	134.07	322	PKP	PKPdf	11 57 48.5	-1.0
comp=Z,0.4nm,0.4s,baz=149,slow=1.7,SNR=5.5							
YKA	Yellowknife Ar	134.07	322		PKPdf	11 57 48.3	-1.2
KSH	Kashi	137.52	91	PKP	PKiKP	11 57 58.1	-0.7
KSH				PP	PP	12 00 46.3	+2.7
KSH				PKS	PKSdf	12 01 32.1	-1.0
CD2	Chengdu	143.26	128	PKP	PKPdf	11 58 06.8	-0.7
BCAR	Beaver Creek A	143.77	310		PKPbc	11 58 04.5	-0.6
EPYK	Eagle Plains	143.79	317		PKPab	11 58 04.4	+0.1
INK	Inuvik	143.81	321	PKhKP	PKPpre	11 58 04.1	
comp=Z,5.9nm,1.0s,baz=123,slow=2.1,SNR=9.2							
INK	Inuvik	143.81	321		PKPpre	11 58 04.4	
PAX	Paxson	145.13	309		PKPab	11 58 09.2	-0.2
KDAK	Kodiak Island	145.21	298	PKPbc	PKPdf	11 58 09.6	-0.2
comp=Z,24nm,1.1s,baz=49,slow=1.8,SNR=5.4							
KDAK	Kodiak Island	145.21	298		PKPbc	11 58 09.2	-0.4
SCM	Sheep Creek Mo	145.25	306		PKPdf	11 58 09.9	0.0
RIDG	Independent Ri	145.29	310		PKPab	11 58 09.8	-0.2
GHO	Glory Hole Cre	145.86	305		PKPab	11 58 11.9	-0.3
DHY	Denali Highway	145.92	308		PKPdf	11 58 10.8	-0.4
MK31	Makanchi Array	145.99	89		PKPbc	11 58 11.9	-0.6
MKAR	Makanchi Array	145.99	89	PKPbc	PKPbc	11 58 11.9	-0.6
comp=Z,4.4nm,0.7s,baz=237,slow=2.7,SNR=12							
MKAR	Makanchi Array	145.99	89		PKPdf	11 58 11.5	-0.2
WMQ	Urumqi	146.55	97	ePKPbc	PKPbc	11 58 14.1	-0.2
WMQ				AMB	AMB		
comp=Z,58nm,5.5s							
IL31		146.59	311		PKPbc	11 58 13.3	-0.3
ILAR	Eielson Array	146.59	311	PKPbc	PKPbc	11 58 13.6	-0.1
comp=Z,8.6nm,0.9s,baz=149,slow=3.3,SNR=24							
ILAR	Eielson Array	146.59	311		PKPbc	11 58 12.7	-0.9
RND	Reindeer	146.67	308		PKPbc	11 58 14.2	+0.2
KURBB	Kurchatov Arra	146.69	80	PKPbc	PKPbc	11 58 13.7	-0.7
comp=Z,2.6nm,0.7s,baz=230,slow=3.4,SNR=7.3							
KURK	Kurchatov	146.79	80		PKPbc	11 58 14.0	-0.7
FYU	Fort Yukon	146.83	314		PKPab	11 58 15.1	-0.5
CCB	Clear Creek Bu	146.87	310		PKPbc	11 58 13.8	-0.7
WRH	Wood River Hil	146.90	310		PKPbc	11 58 14.1	-0.5
COLA	College	147.00	311		PKPbc	11 58 14.4	-0.4
BMAR	Burnt Mountain	147.00	316		PKPbc	11 58 15.1	+0.2
TRF	Thorofare Moun	147.25	307		PKPbc	11 58 16.1	+0.2
BWN	Browne	147.28	309		PKPbc	11 58 15.6	-0.1
PPLA	Purkeypile	147.75	306		PKPbc	11 58 16.6	-0.5
LZH	Lanzhou	147.83	124	ePKPbc	PKPdf	11 58 15.0	-0.3
LZH				pPKP	PKPbc	11 58 18.3	+0.1
LZH				sPKP		11 58 19.6	
LZH				LR	LR		
comp=Z,130nm,18.0s							
LZH				LR	LR		
comp=Z,130nm,18.2s							
LZH				LR	LR		
comp=Z,180nm,20.1s							
BPAW	Bear Paw Mtn.	147.84	308		PKPbc	11 58 17.0	-0.2
MLY	Manley	148.16	310		PKPbc	11 58 17.7	-0.4
GTA	Gaotai	148.89	116	ePKPbc	PKPbc	11 58 20.6	-0.2
COLD	Coldfoot	148.89	314		PKPbc	11 58 20.1	+0.3
TOLK	Toolik Lake Re	149.21	317		PKPbc	11 58 19.8	-0.8
NJ2	Nanjing	149.24	149	ePKPbc	PKPdf	11 58 17.1	-0.4
IMAR	Indian Mountai	149.70	311		PKPbc	11 58 22.0	+0.1
HHC	Hu-ho-hao-te	154.99	130	ePKPbc	PKPdf	11 58 27.5	+1.6
SONM	Songino Array	158.43	112	PKPab	PKPab	11 59 04.3	-0.7
comp=Z,1.1nm,0.8s,baz=227,slow=5.3,SNR=4.6							

*ISCJB **17** 11:38:56.6±0.3, 60°.41S±0°.04×44°.94W±0°.09, h10km, mb4.7/19, Error ellipse: s-maj=7.1km s-min=5.4km az=144.0*
*IDC **17** 11:38:56.4±0.5, 60°.40S×44°.93W, h0km, mb4.7/16, mb1 4.7/18, mb1mx4.6/32, mbtmp4.7/18, ML4.2/2, Error ellipse: s-maj=18.9km s-min=13.5km az=42.0*
*NEIC **17** 11:38:59.4±1.7, 60°.34S±0°.09×44°.9W±0°.2, h15km±3km, mb4.9/30*
ISC 17 11:38:58.1±0.3, **60°.40S**±0°.06×**44°.86W**±0°.06, **h10**km, **n105**, σ1**9**04/107, **mb4.9**/27, **2C**, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.62	40	Pn	Pn	11 40 48.8	-0.3
PMSA	Palmer Station	9.85	235	Pn	Pn	11 41 17.9	-1.7
2.3nm,0.3s,baz=159,slow=6.5,SNR=12							
PMSA				Sn	Sn	11 43 11.6	+1.6
0.5nm,0.3s,baz=345,slow=19,SNR=3.1							
PMSA	Palmer Station	9.85	235		Sn	11 43 11.7	+1.6
PMSA	Palmer Station	9.85	235		Pn	11 41 20.2	+0.6
VNA3	Neumayer Olymp	17.71	142	P	Pn	11 43 03.7	-0.7
VNA1	Neumayer--Stat	17.96	140	P	P	11 43 10.1	+2.0
VNA2	Neumayer--Watz	18.31	140	P	P	11 43 11.7	-0.3
baz=285,slow=15							
SNAA	Sanae	19.92	142	P	Pn	11 43 30.9	-0.4
SNAA	Sanae	19.92	142	P	Pn	11 43 30.9	-0.4
0.6nm,0.3s,baz=292,slow=9.3,SNR=16							
SNAA				S	S	11 47 10.3	-3.2
0.3nm,0.3s,baz=280,slow=12,SNR=2.9							
SNAA	Sanae	19.92	142	P	Pn	11 43 31.9	+0.6
SNAA				IAmb	IAmb	11 43 37.4	
comp=Z,72nm,1.1s							
TRQA	Tornquist	24.85	326	P	P	11 44 20.7	+0.2
PLCA	Paso Flores	25.28	310	P	P	11 44 24.6	+0.2
comp=Z,13nm,1.1s,baz=196,slow=11,SNR=4.2							
PLCA	Paso Flores	25.28	310	P	P	11 44 24.3	-0.2
GO06	Curarrehue	26.63	309	P	P	11 44 36.7	0.0
QSPA	South Pole Qui	29.84	180	P	P	11 45 06.7	+1.5
comp=Z,8.8nm,0.8s,baz=167,slow=3.1,SNR=9.2							
QSPA	South Pole Qui	29.84	180	P	P	11 45 05.7	+0.5
QSPA				IAmb	IAmb	11 45 07.5	
comp=Z,19nm,1.1s							
GO05	Huala	30.83	313	P	P	11 45 12.8	-1.2
GO05				IAmb	IAmb	11 45 15.5	
comp=Z,32nm,1.1s							
PEL	Peldehue	32.08	317	P	P	11 45 23.9	-1.1
CFA	Coronel Fontan	32.70	321	P	P	11 45 31.1	+0.6
comp=Z,5.7nm,0.5s,baz=175,slow=5.7,SNR=5.7							
CFA	Coronel Fontan	32.70	321	P	P	11 45 31.1	+0.6
SYO	Syowa Base	34.20	140	eP	P	11 45 42.0	-1.2
SYO	Syowa Base	34.20	140	esP	sP	11 45 48.0	+0.8
GO04	Tololo Observa	34.84	318	P	P	11 45 49.1	-0.2
CPUP	Villa Florida	35.12	340	P	P	11 45 52.1	+0.6
comp=Z,1.6nm,0.5s,baz=151,slow=7.1,SNR=3.0							
CPUP	Villa Florida	35.12	340	P	P	11 45 51.8	+0.3
GO02	Mina Guanaco	39.13	323	P	P	11 46 27.1	+1.1
GO02				IAmb	IAmb	11 46 31.0	
comp=Z,13nm,0.6s							
SBA	Scott Base	40.64	190	P	P	11 46 39.0	+1.4
PB10	IPOC Station P	40.97	323	P	P	11 46 41.6	+0.7
PB10				IAmb	IAmb	11 46 51.3	
comp=Z,27nm,1.1s							
PB01	IPOC Station P	42.99	325	P	P	11 46 56.8	-0.7
PB01				IAmb	IAmb	11 46 59.3	
comp=Z,40nm,1.0s							
GO01	Chusmiza	44.22	326	P	P	11 47 08.4	+0.6
GO01				IAmb	IAmb	11 47 10.5	
comp=Z,17nm,0.8s							
BDFB	Brasilia	44.75	356	P	P	11 47 11.3	-0.4
comp=Z,6.1nm,0.7s,baz=129,slow=6.8,SNR=4.1							
BDFB	Brasilia	44.75	356	P	P	11 47 11.2	-0.4
MNMC	Minye Minye	44.84	326	P	P	11 47 13.8	+1.2
SIV	San Ignacio	45.88	338	P	P	11 47 20.7	+0.2
comp=Z,9.2nm,0.9s,baz=170,slow=8.3,SNR=11							
SIV				PcP	PcP	11 48 57.3	-0.3
comp=Z,3.9nm,0.9s,baz=160,slow=6.0,SNR=3.1							
SIV	San Ignacio	45.88	338	P	P	11 47 20.7	+0.2
SIV					PcP	11 48 57.3	-0.3
LPAZ	La Paz	47.16	329	P	P	11 47 32.0	+0.8
comp=Z,2.7nm,0.6s,baz=198,slow=9.6,SNR=4.5							
LPAZ	La Paz	47.16	329	P	P	11 47 31.9	+0.6
LPAZ				IAmb	IAmb	11 47 38.1	
comp=Z,4.9nm,0.8s							
SUR	Sutherland	50.53	87	P	P	11 47 58.3	+1.8
comp=Z,13nm,0.7s,baz=196,slow=7.9,SNR=14							
SUR	Sutherland	50.53	87	P	P	11 47 58.2	+1.6
SUR				IAmb	IAmb	11 48 00.8	
comp=Z,13nm,0.9s							
SAML	Samuel	53.15	337	P	P	11 48 15.4	-0.5
SAML				IAmb	IAmb	11 48 17.1	
comp=Z,26nm,1.1s							
BOSA	Boshof	55.81	88	P	P	11 48 35.8	+0.4
comp=Z,9.9nm,0.8s,baz=198,slow=7.5,SNR=14							
BOSA	Boshof	55.81	88	P	P	11 48 35.3	-0.1
BOSA				IAmb	IAmb	11 48 36.0	
comp=Z,16nm,0.8s							
LBTB	Lobatse	58.96	86	P	P	11 48 57.7	+0.1
comp=Z,11nm,0.6s,baz=216,slow=7.6,SNR=17							
LBTB	Lobatse	58.96	86	P	P	11 48 57.3	-0.3
LBTB				IAmb	IAmb	11 49 02.5	
comp=Z,18nm,0.9s							
TSUM	Tsumeb	59.95	75	P	P	11 49 03.8	-0.7
comp=Z,4.6nm,1.0s,baz=32,slow=3.6,SNR=3.0							
TSUM	Tsumeb	59.95	75	P	P	11 49 05.4	+0.9
MDP	Montagnes des	65.59	351	P	P	11 49 40.9	-1.0
comp=Z,6.3nm,0.5s,baz=189,slow=7.3,SNR=11							
LSZ	Lusaka	68.47	83	P	P	11 50 01.2	+0.7
LTZ	Lake Taylor	72.78	208	P	P	11 50 26.6	+0.2
LTZ				IAmb	IAmb	11 50 34.0	
comp=Z,9.6nm,1.1s							
LIC	Lamto	73.41	42	eP	P	11 50 31.3	+1.1
comp=Z,65nm,1.0s							
LIC	Lamto	73.41	42	P	P	11 50 31.3	+1.1
KIC	Kosan Boka	73.63	42	eP	P	11 50 32.3	+0.7
comp=Z,58nm,1.2s							
TIC	Toumodi	73.81	42	eP	P	11 50 33.4	+0.8
DBIC	Dimbokro	73.89	42	P	P	11 50 32.7	-0.3
comp=Z,11nm,1.0s,baz=177,slow=5.9,SNR=6.9							
DBIC	Dimbokro	73.89	42	P	P	11 50 33.6	+0.6
DBIC				IAmb	IAmb	11 50 35.1	
comp=Z,18nm,1.1s							
JTS	Las Juntas de	77.31	319	P	P	11 50 52.7	+0.1
comp=Z,6.4nm,0.7s,baz=153,slow=5.8,SNR=4.9							
JTS	Las Juntas de	77.31	319	P	P	11 50 52.6	0.0
JTS				IAmb	IAmb	11 50 53.7	
comp=Z,14nm,1.0s							
OUZ	Omahuta	79.62	211	P	P	11 51 04.3	-0.9
OUZ				IAmb	IAmb	11 51 12.4	
comp=Z,14nm,1.2s							
TOA0	Torodi Ar. Sit	82.16	46	P	P	11 51 20.4	+1.4
TORD	Torodi Ar. Bea	82.16	46	P	P	11 51 19.5	+0.6
comp=Z,18nm,1.0s,baz=203,slow=4.8,SNR=3.5							
KMBO	Kilima Mbogo	85.12	84	P	P	11 51 37.9	+3.4
comp=Z,0.7nm,0.3s,baz=212,slow=6.3,SNR=5.2							
KMBO	Kilima Mbogo	85.12	84	P	P	11 51 38.6	+4.0
TEIG	Tepich	87.69	320	P	P	11 51 46.2	-0.4
ASAR	Alice Springs	96.23	179	P	P	11 52 24.4	-2.1
comp=Z,1.0nm,0.9s,baz=166,slow=4.1,SNR=4.1							
ASAR				PP	PP	11 56 19.0	+0.3
comp=Z,1.3nm,0.9s,baz=181,slow=7.8,SNR=5.1							
ASAR	Alice Springs	96.23	179	P	P	11 52 25.4	-1.1
WRA	Warramunga Arr	99.94	179	PP	PP	11 56 47.5	+0.5
comp=Z,0.7nm,0.9s,baz=178,slow=5.9,SNR=5.0							
NVAR	Mina Array Bea	115.23	304	PKP	PKPdf	11 57 38.8	-0.3
comp=Z,0.2nm,0.7s,baz=188,slow=4.0,SNR=3.7							
BRTR	Keskin Array B	118.44	59	PKP	PKPdf	11 57 44.0	-1.1
comp=Z,1.0nm,0.8s,baz=180,slow=3.7,SNR=5.1							
BRTR	Keskin Array B	118.44	59		PKPdf	11 57 44.3	-0.9
BOZ	Bozeman (W)	118.73	313		PKPdf	11 57 44.6	-0.9
AKASG	Malin Array Be	125.69	49	PKP	PKPdf	11 57 57.1	-1.3
comp=Z,3.2nm,0.7s,baz=249,slow=1.6,SNR=9.6							
AKASG	Malin Array Be	125.69	49		PKPdf	11 57 57.2	-1.3
CMAR	Chiang Mai Arr	130.80	132	PKP	PKPdf	11 58 08.3	-1.0
comp=Z,1.6nm,0.9s,baz=242,slow=3.5,SNR=8.8							
CMAR	Chiang Mai Arr	130.80	132		PKPdf	11 58 09.3	0.0
YKA	Yellowknife Ar	133.55	323	PKP	PKPdf	11 58 12.2	-0.9
comp=Z,1.3nm,0.7s,baz=132,slow=1.9,SNR=3.7							
YKA	Yellowknife Ar	133.55	323		PKPdf	11 58 12.8	-0.3
AAK	Ala-Archa	139.95	88		PKiKP	11 58 27.9	-0.3
EPYK	Eagle Plains	143.22	318		PKPpre	11 58 26.5	
INK	Inuvik	143.28	322	PKP	PKPdf	11 58 30.4	-0.3
comp=Z,1.6nm,0.5s,baz=133,slow=3.9,SNR=6.2							
INK	Inuvik	143.28	322		PKPdf	11 58 31.4	+0.8
KDAK	Kodiak Island	144.48	299	PKP	PKPab	11 58 30.5	-1.0
comp=Z,18nm,1.1s,baz=129,slow=6.5,SNR=3.5							
KDAK	Kodiak Island	144.48	299		PKPab	11 58 31.5	0.0
RIDG	Independent Ri	144.66	311		PKPbc	11 58 32.5	+0.3
BRVK	Borovoye	145.03	72		PKPab	11 58 33.6	-0.1
BVAR	Borovoye Array	145.06	73	PKPbc	PKPbc	11 58 33.6	-0.2
comp=Z,20nm,0.8s,baz=255,slow=2.9,SNR=36							
BVAR	Borovoye Array	145.06	73		PKPbc	11 58 33.6	-0.2
PMR	Palmer	145.17	306		PKPbc	11 58 33.5	-0.4
DHY	Denali Highway	145.27	309		PKPbc	11 58 33.9	-0.5
ILAR	Eielson Array	145.96	312	PKPbc	PKPdf	11 58 35.6	+0.1
comp=Z,20nm,0.8s,baz=152,slow=2.7,SNR=16							
ILAR	Eielson Array	145.96	312		PKPdf	11 58 35.7	+0.3
FYU	Fort Yukon	146.24	315		PKPbc	11 58 37.2	+0.1
COLA	College	146.37	311		PKPab	11 58 38.1	-0.3
TRF	Thorofare Moun	146.60	308		PKPbc	11 58 37.9	-0.6
MAKZ	Makanchi	146.65	90		PKPbc	11 58 38.2	-0.7
MK31	Makanchi Array	146.80	90		PKPbc	11 58 38.9	-0.4
MKAR	Makanchi Array	146.80	90	PKPbc	PKPbc	11 58 38.6	-0.8
comp=Z,17nm,0.8s,baz=233,slow=1.9,SNR=27							
MKAR	Makanchi Array	146.80	90		PKPbc	11 58 38.8	-0.5
WHN	Wuhan	147.07	146	PKPbc	PKPdf	11 58 39.3	+0.8
KURBB	Kurchatov Arra	147.48	82	PKPbc	PKPbc	11 58 40.7	-0.4
comp=Z,8.4nm,0.8s,baz=235,slow=3.4,SNR=12							
KURK	Kurchatov	147.59	82		PKPbc	11 58 41.2	-0.1
COLD	Coldfoot	148.29	314		PKPbc	11 58 43.4	+0.7
XAN	Xi'an	148.60	135	PKPbc	PKPbc	11 58 43.3	-1.3
XAN				pPKP	sPKPab	11 59 25.3	+34
GTA	Gaotai	149.62	118	P	PKPbc	11 58 46.5	-0.7
GTA				pP	PKPab	11 58 52.0	-0.4
GTA				sP	pPKPab	11 58 54.5	-0.3
GTA				pmax	pmax		
comp=Z,13nm,1.0s							
ZALV	Zalesovo Beam	152.57	81	PKPbc	PKPbc	11 58 50.9	-2.5
comp=Z,2.4nm,0.6s,baz=241,slow=2.7,SNR=5.7							
SONM	Songino Array	159.19	114	PKPab	PKPab	11 59 32.7	-0.1
comp=Z,2.7nm,1.0s,baz=232,slow=4.2,SNR=8.8							

*MOS **17** 11:40:09.9±0.8, 62°.38N×151°.30W, h88km, mb4.7/28, Error ellipse: s-maj=11.9km s-min=5.9km az=92.8*
*ISCJB **17** 11:40:10.0±0.1, 62°.35N±0°.01×151°.20W±0°.03, h86km±1km, mb4.5/70, Error ellipse: s-maj=2.3km s-min=2.1km az=149.3*
*NEIC **17** 11:40:11.0±1.6, 62°.32N±0°.03×151°.24W±0°.05, h84km±4km*
*BJI **17** 11:40:11.0±0.0, 62°.50N×151°.20W, h97km, mb4.5/19, mB4.9/1*
*IDC **17** 11:40:12.3±1.7, 62°.45N×151°.22W, h91km±14km, mb4.2/36, mb1 4.3/40, mb1mx4.2/61, mbtmp4.5/40, Error ellipse: s-maj=12.4km s-min=8.1km az=31.0*
*AEIC **17** 11:40:12.1±2.0, 62°.30N±0°.03×151°.23W±0°.08, h79km±4km, ML4.4, mb4.9/255(NEIC)*
ISC 17 11:40:11.1±0.6, **62°.34N**±0°.03×**151°.20W**±0°.03, **h83**km±5km, **n857**, σ0**88**/779, **mb4.8**/175, **11C-9D**, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.39	203		Pn	11 40 23.8	-0.4
SKT				Sn	Sn	11 40 33.6	-0.5
PPLA	Purkeypile	0.72	321		Pn	11 40 27.7	+0.3
PPLA				Sn	Sn	11 40 40.1	+0.7
SUA	Susitna One	0.90

ILAR **Eielson Array** 3.12 36 P Pn 11 40 57.8 -0.1
ILAR 11 41 34.5
ILAR **Eielson Array** 3.12 36 P Pn 11 40 58.2 +0.3
115nm,0.3s,baz=222,slow=14,SNR=4847
ILAR S Sn 11 41 34.5 +0.4
149nm,0.3s,baz=223,slow=22,SNR=18
ILAR **Eielson Array** 3.12 36 Pn 11 40 57.8 -0.1
AUP **Augustine Pinn** 3.17 201 P Pn 11 40 59.3 +0.5
AUP **Augustine Pinn** 3.17 201 Pn 11 40 59.3 +0.5
EYAK **Cordova Ski Ar** 3.17 122 Pn 11 40 57.4 -1.3
AUH **Augustine H** 3.18 201 Pn 11 40 58.5 -0.3
AUQ **Augustine Qik'** 3.18 201 Pn 11 40 59.4 +0.5
RIDG **Independent Ri** 3.22 61 Pn 11 41 00.8 +1.4
PS07 **TAPS Pump Stn7** 3.26 22 Pn 11 41 00.7 +0.9
MENT **Mentasta** 3.51 77 Pn 11 41 03.5 +0.2
DOT **Dot Lake** 3.52 65 Pn 11 41 03.5 +0.1
PS06 **TAPS Pump Stn6** 3.59 10 Pn 11 41 05.3 +0.9
SCRK **Sand Creek** 3.67 60 Pn 11 41 05.9 +0.4
FOSS **Fourpeaked Sta** 3.75 200 Pn 11 41 07.9 +1.3
IM03 3.83 344 Pn 11 41 08.2 +0.6
IMAR **Indian Mountai** 3.83 344 Pn 11 41 07.9 +0.4
VRDI **Verde Repeater** 3.85 103 Pn 11 41 07.1 -0.9
MCARA **McCarthy VSAT** 3.99 100 Pn 11 41 10.5 +0.7
PRP **Porcupine Dome** 4.06 36 Pn 11 41 11.3 +0.4
CRQM **Cirque** 4.17 109 Pn 11 41 12.5 0.0
SUCK **Suckling Hills** 4.25 119 Pn 11 41 13.0 -0.3
KHIT **Khitrov Hills** 4.27 113 Pn 11 41 13.7 0.0
PTPK **Patty Peak** 4.31 102 Pn 11 41 13.7 -0.6
TGL **Tana Glacier** 4.31 108 Pn 11 41 14.5 +0.2
GRIN **Grindle Hills** 4.32 115 Pn 11 41 14.4 +0.1
BCAR **Beaver Creek A** 4.40 76 Pn 11 41 14.3 -1.1
BALM **Baldy** 4.42 103 Pn 11 41 14.5 -1.2
WAX **Waxell Ridge** 4.44 112 Pn 11 41 15.4 -0.6
KIAG **Kiagna River** 4.45 105 Pn 11 41 15.0 -1.2
KAKN **Katmai Knife C** 4.48 207 Pn 11 41 15.6 -1.0
KABU **Katmai Buttres** 4.55 208 Pn 11 41 16.9 -0.6
KULT **Kultieth River** 4.60 113 Pn 11 41 17.5 -0.6
KDAK **Kodiak Island** 4.62 189 P Pn 11 41 16.5 -1.8
4.4nm,0.3s,baz=48,slow=7.0,SNR=109
KDAK S Sn 11 42 15.8 +5.2
36nm,0.3s,baz=309,slow=23,SNR=5.8
KDAK **Kodiak Island** 4.62 189 Pn 11 41 16.6 -1.7
BARN **Barnard Glacie** 4.72 101 Pn 11 41 19.1 -0.8
GRNC **Granite Creek** 4.80 105 Pn 11 41 19.9 -1.1
BVCY **Beaver Creek** 4.82 84 Pn 11 41 21.0 -0.1
CTGM **Chitina Glacie** 4.90 102 Pn 11 41 21.7 -0.6
YUK2 **White River** 4.91 92 Pn 11 41 22.0 -0.3
COLD **Coldfoot** 4.93 5 Pn 11 41 23.9 +1.4
MESA **MESA** 4.96 112 Pn 11 41 22.8 -0.4
YAH **Yahtse** 4.96 109 Pn 11 41 22.6 -0.6
FYU **Fort Yukon** 4.97 29 Pn 11 41 23.9 +0.8
YUK1 **Sand Pete Hill** 5.00 87 Pn 11 41 23.7 +0.2
YUK3 **Moose Creek** 5.09 92 Pn 11 41 24.4 -0.5
EGAK **Eagle** 5.12 57 Pn 11 41 25.3 +0.2
RKAV **Rock Avalanche** 5.17 109 Pn 11 41 25.5 -0.5
OHAK **Old Harbor** 5.24 193 Pn 11 41 25.4 -1.3
CHX **Chaix Hills** 5.38 111 Pn 11 41 28.3 -0.5
SAMH **Samovar Hills** 5.50 109 Pn 11 41 30.7 +0.3
DAWY **Dawson** 5.62 67 Pn 11 41 31.7 -0.3
BM03 **Burnt Mountain** 5.82 26 Pn 11 41 35.1 +0.4
YUK4 **Talbot Arm** 6.03 94 Pn 11 41 37.5 -0.3
BCPM **Bancas Point** 6.09 108 Pn 11 41 37.7 -0.7
YUK6 **Outpost Mounta** 6.28 97 Pn 11 41 40.7 -0.4
PNL **Peninsula** 6.33 110 Pn 11 41 41.1 -0.6
TOLK **Toolik Lake Re** 6.37 5 P Pn 11 41 44.4 +2.2
baz=187
TOLK **Toolik Lake Re** 6.37 5 Pn 11 41 43.9 +1.7
ANNE **Aniakchak Nort** 6.45 216 Pn 11 41 42.6 -0.7
YUK5 **Granite Creek** 6.45 95 Pn 11 41 42.7 -0.8
HYT **Haines Junctio** 6.71 97 Pn 11 41 46.6 -0.3
ANM **Nome** 6.73 296 P Pn 11 41 48.1 +1.0
ANM **Nome** 6.73 296 Pn 11 41 48.1 +1.0
CHGN **Chignik** 7.08 215 Pn 11 41 51.5 -0.3
DHAK **Deception Hill** 7.15 111 Pn 11 41 52.5 -0.3
EPYK **Eagle Plains** 7.47 51 P Pn 11 41 57.2 0.0
baz=244,SNR=23
EPYK **Eagle Plains** 7.47 51 Pn 11 41 56.7 -0.4
RDOG **Red Dog Mine** 7.55 325 Pn 11 42 00.6 +2.4
WHY **Whitehorse** 7.99 95 Pn 11 42 03.3 -1.0
SKAG **Skagway** 8.25 103 Pn 11 42 07.1 -0.7
CNBA **Chernabura Isl** 8.71 214 Pn 11 42 16.5 +2.4
INK **Inuvik** 9.48 43 P Pn 11 42 24.7 +0.2
INK 11 44 07.1
INK **Inuvik** 9.48 43 P Pn 11 42 25.0 +0.5
6.2nm,0.3s,baz=236,slow=17,SNR=114
INK S Sn 11 44 07.1 -2.1
1.2nm,0.3s,baz=318,slow=18,SNR=3.1
INK **Inuvik** 9.48 43 Pn 11 42 24.7 +0.2
DLBC **Dease Lake** 11.16 101 P Pn 11 42 47.8 +0.3
0.7nm,0.3s,baz=319,slow=8.4,SNR=10
DLBC **Dease Lake** 11.16 101 Pn 11 42 47.9 +0.4
WRAK **Wrangell Islan** 11.27 113 Pn Pn 11 42 50.0 +1.1
C36M **Paulatuk** 13.04 46 P Pn 11 43 10.0 -2.6
baz=251,SNR=36
DIB **Dawson Inlet,** 13.50 124 Pn Pn 11 43 18.8 0.0
A36M **Sachs Harbour** 13.82 35 P Pn 11 43 20.8 -2.0
baz=239,SNR=22
YKW3 **Yellowknife Ar** 16.79 73 P Pn 11 44 00.6 0.0
YKA **Yellowknife Ar** 16.81 73 P Pn 11 44 00.1 -0.7
YKA **Yellowknife Ar** 16.81 73 P Pn 11 43 59.5 -1.3
2.0nm,0.3s,baz=285,slow=9.5,SNR=29
YKA PcP PcP 11 48 43.3 -0.2
0.2nm,0.3s,baz=284,slow=1.4,SNR=4.3
YKA **Yellowknife Ar** 16.81 73 P Pn 11 44 00.1 -0.7
BILL **Bilibino** 18.41 306 *e*P Pn 11 44 19.7 -0.5
BILL pmax pmax
comp=Z,4.0nm,0.5s
BILL **Bilibino** 18.41 306 P P 11 44 19.2 0.0
PGC **Sidney** 20.63 119 IAmb IAmb 11 44 46.1
comp=Z,34nm,0.7s
B05A **Bryant** 21.49 117 P P 11 44 54.7 +2.0
baz=322
B06A **Marblemount** 21.55 116 IAmb IAmb 11 44 55.5
comp=Z,19nm,0.7s
E04D **Cinebar** 22.67 121 P P 11 45 06.9 +1.7
baz=324
RES **Resolute Bay** 22.87 35 P P 11 45 06.5 -0.5
RES pmax pmax
comp=Z,8.0nm,0.7s
RES **Resolute Bay** 22.87 35 P P 11 45 05.5 -1.4
comp=Z,9.0nm,0.6s,baz=251,slow=10,SNR=26
RES PcP PcP 11 48 53.9 -0.4
comp=Z,3.5nm,0.6s,baz=257,slow=2.2,SNR=4.3
RES **Resolute Bay** 22.87 35 P P 11 45 06.5 -0.5
G03D **McMinnville, O** 23.50 124 P P 11 45 14.8 +1.5
baz=327
NEW **Newport** 23.61 111 P P 11 45 15.0 +0.7
baz=319
NEW **Newport** 23.61 111 P P 11 45 15.3 +1.0
comp=Z,17nm,0.9s,baz=328,slow=8.4,SNR=20
NEW **Newport** 23.61 111 IAmb IAmb 11 45 17.7
comp=Z,28nm,1.1s
F05D **White Salmon** 23.66 120 P P 11 45 15.5 +0.8
baz=325
E07A **Sunnyside** 23.77 117 P P 11 45 16.3 +0.6
E07A IAmb IAmb 11 45 19.0
comp=Z,20nm,0.8s
G05D **Wamic, OR** 24.25 121 P P 11 45 21.7 +1.7
baz=326
H04D **Lebanon** 24.28 124 P P 11 45 21.8 +1.6
baz=327
H04A **Detroit Lake** 24.36 123 P P 11 45 22.2 +1.2
WALA **Waterton Lakes** 24.44 106 IAmb IAmb 11 45 25.7
comp=Z,42nm,0.9s
I03D **Drain, OR** 24.75 126 P P 11 45 26.3 +1.8
baz=329
I05D **Terrebonne, OR** 24.98 122 P P 11 45 28.0 +1.3
baz=327
J01E **Myrtle Point** 24.99 127 P P 11 45 28.6 +1.9
baz=330
KEBM **Edson Butte** 25.09 128 IAmb IAmb 11 45 31.6
comp=Z,94nm,1.1s
SEY **Seymchan** 25.24 297⇓ *e*P P 11 45 29.1 +0.4
SEY **Seymchan** 25.24 297 P P 11 45 28.6 -0.2
comp=Z,16nm,0.6s,baz=68,slow=6.5,SNR=29
JTMT **Jette** 25.25 108 P P 11 45 31.6 +2.3
JTMT IAmb IAmb 11 45 33.2
comp=Z,18nm,0.7s
K02D **Willamette Mer** 25.49 128 P P 11 45 33.6 +2.2
baz=330,SNR=6.9
PINE **Pine Mountain** 25.60 122 P P 11 45 34.0 +1.5
J04D **Umpqua Nationa** 25.61 125 P P 11 45 34.5 +1.9
baz=328,SNR=7.2
J05D **Fort Rock, OR** 25.91 123 P P 11 45 37.1 +1.9
baz=328,SNR=5.9
L02E **Cave Junction** 25.98 128 P P 11 45 37.3 +1.6
baz=330
MSO **Missoula** 26.10 109 P P 11 45 37.5 +0.6
baz=320
MSO **Missoula** 26.10 109 P P 11 45 37.2 +0.3
FFC **Flin Flon** 26.21 84 *i* P P 11 45 41.5 +3.9
K04D **Chiloquin, OR** 26.27 125 P P 11 45 39.8 +1.3
baz=329
L04D **Klamath Falls** 26.41 126 P P 11 45 41.4 +1.7
baz=330
PLID **Pearl Lake** 26.57 114 P P 11 45 41.3 0.0
YBH **Yreka Blue Hor** 26.68 127 P P 11 45 43.4 +1.3
YBH pmax pmax
comp=Z,21nm,1.1s
YBH **Yreka Blue Hor** 26.68 127 P P 11 45 44.0 +1.9
comp=Z,14nm,0.9s,baz=325,slow=2.7,SNR=22
YBH **Yreka Blue Hor** 26.68 127 P 11 45 43.4 +1.3
YBH IAmb IAmb 11 45 45.7
comp=Z,21nm,1.1s
M02C **Callahan** 26.92 128 P P 11 45 46.7 +2.5
baz=331
M04C **Macdoel** 26.96 126 P P 11 45 46.4 +1.7
baz=330
EGMT **Eagleton** 27.08 103 P P 11 45 46.2 +0.6
baz=317,SNR=15
EGMT **Eagleton** 27.08 103 IAmb IAmb 11 45 47.0
comp=Z,31nm,0.8s
N02D **Trinity Center** 27.34 128 P P 11 45 50.6 +2.6
baz=331,SNR=20
PET **Petropavlovsk** 27.69 274⇑ *e*P P 11 45 50.2 -0.6
PET pmax pmax
comp=Z,39nm,1.2s
WDC **Whiskeytown Da** 27.75 128 P P 11 45 52.8 +1.3
WDC pmax pmax
comp=Z,15nm,0.7s
WDC **Whiskeytown Da** 27.75 128 P P 11 45 52.8 +1.3
WDC IAmb IAmb 11 45 54.3
comp=Z,14nm,0.7s
O02D **Mt. Diablo Mer** 28.01 129 P P 11 45 55.7 +1.7
baz=332
BOZ **Bozeman (W)** 28.07 108 P P 11 45 55.4 +0.9
baz=321
PETK **Petropavlovsk-** 28.08 275 P P 11 45 53.4 -1.0
PETK **Petropavlovsk-** 28.08 275 P P 11 45 53.3 -1.1
comp=Z,2.7nm,0.8s,baz=65,slow=11,SNR=5.4
O03E **Paynes Creek** 28.27 128 P P 11 45 57.4 +1.2
baz=331,SNR=13
QLMT **Earthquake Lak** 28.76 109 P P 11 46 02.2 +1.4
BEKR **Beckworth** 29.18 126 P P 11 46 05.4 +1.0
BEKR IAmb IAmb 11 46 06.6
comp=Z,12nm,0.8s
DGMT **Dagmar** 29.32 96 P P 11 46 06.1 +0.7
baz=316
DGMT **Dagmar** 29.32 96 IAmb IAmb 11 46 06.6
comp=Z,9.3nm,0.7s
RLMT **Red Lodge** 29.49 106 P P 11 46 09.0 +1.8
baz=321,SNR=33
RLMT **Red Lodge** 29.49 106 IAmb IAmb 11 46 10.4
comp=Z,29nm,0.8s
IMW **Indian Meadow** 29.71 109 IAmb IAmb 11 46 12.8
comp=Z,17nm,0.9s
FXWY **Fox Creek** 29.88 110 P P 11 46 12.2 +1.6
VCNR **Virginia City** 29.95 126 IAmb IAmb 11 46 13.7
comp=Z,12nm,0.8s
PNTR **Pine Nut** 30.15 126 IAmb IAmb 11 46 21.2
comp=Z,11nm,0.7s
TIXI **Tiksi** 30.15 322⇓ *e*P P 11 46 11.9 -0.6
TIXI pmax pmax
comp=Z,2.0nm,0.6s
WAKR **Walker** 30.72 126 P P 11 46 19.6 +1.5
WAKR IAmb IAmb 11 46 20.7
comp=Z,13nm,1.0s
NVAR **Mina Array Bea** 31.22 125 P P 11 46 24.1 +1.6
comp=Z,12nm,0.8s,baz=312,slow=8.8,SNR=85
NVAR PcP PcP 11 49 15.6 +0.5
comp=Z,1.4nm,0.6s,baz=272,slow=3.0,SNR=7.8
NVAR **Mina Array Bea** 31.22 125 P P 11 46 23.4 +0.9
NVAR PcP 11 49 15.3 +0.2
BW06 **Boulder Array** 31.22 109 P P 11 46 23.6 +1.1
baz=323,SNR=11
PDAR **Pinedale Array** 31.22 109 P P 11 46 23.6 +1.0
comp=Z,2.6nm,0.5s,baz=314,slow=3.8,SNR=43
PDAR PcP PcP 11 49 14.4 -0.7
comp=Z,0.9nm,0.6s,baz=332,slow=0.9,SNR=4.9
PDAR **Pinedale Array** 31.22 109 P P 11 46 23.1 +0.6
NV11 **Mina Array Sit** 31.27 124 IAmb IAmb 11 46 25.5
comp=Z,12nm,0.8s
MDPB **Devils Postpil** 31.62 126 IAmb IAmb 11 46 28.9
comp=Z,9.6nm,0.9s
OMMB **Old Mammoth Mi** 31.67 126 IAmb IAmb 11 46 29.5
comp=Z,12nm,0.9s
MLAC **Mammoth, Mammo** 31.71 126 P P 11 46 29.6 +2.7
baz=332,SNR=6.3
DUG **Dugway, Tooele** 31.92 116 P P 11 46 29.6 +1.0
baz=327
ULM **Lac du Bonnet** 31.95 86 P P 11 46 29.3 +0.8
comp=Z,7.7nm,0.5s,baz=306,slow=7.7,SNR=12
ULM PcP PcP 11 49 15.5 -1.1
comp=Z,2.1nm,0.6s,baz=122,slow=21,SNR=3.3
ULM **Lac du Bonnet** 31.95 86 IAmb IAmb 11 46 29.7
comp=Z,12nm,0.7s
R11A **Troy Canyon, C** 32.35 121 P P 11 46 33.6 +1.1
baz=330,SNR=12
RSSD **Black Hills** 32.64 102 P P 11 46 36.0 +1.1
baz=321
RSSD **Black Hills** 32.64 102 P P 11 46 35.9 +1.0
RSSD pmax pmax
comp=Z,36nm,0.6s
RSSD **Black Hills** 32.64 102 P P 11 46 35.9 +1.0
K22A **Casper** 32.66 106 P P 11 46 35.9 +0.8
baz=323,SNR=10
K22A **Casper** 32.66 106 IAmb IAmb 11 46 36.8
comp=Z,17nm,0.8s
GRAC **Grapevine Rang** 32.83 125 P P 11 46 38.6 +2.2
baz=331
PAGB **Antelope Grade** 32.88 130 IAmb IAmb 11 46 39.5
comp=Z,28nm,0.7s
CWC **Cottonwood Cre** 33.05 126 P P 11 46 40.4 +2.0
baz=332
VES **Vestal, Richgr** 33.20 128 P P 11 46 40.8 +1.2
baz=333,SNR=7.2
TPNV **Topopah Spring** 33.30 123 P P 11 46 42.1 +1.4
baz=331,SNR=8.5
AGMN **Agassiz Nation** 33.33 89 P P 11 46 41.2 +0.7
baz=316,SNR=5.7
AGMN **Agassiz Nation** 33.33 89 IAmb IAmb 11 46 41.5
comp=Z,8.2nm,0.6s
SMMC **Simmler** 33.34 130 P P 11 46 42.9 +2.1
baz=334,SNR=8.9
FURC **Furnace Creek,** 33.48 124 P P 11 46 44.0 +2.0
baz=332,SNR=8.6
ISA **Isabella, Lake** 33.59 127 P P 11 46 44.5 +1.4
baz=333,SNR=15
ISA **Isabella, Lake** 33.59 127 IAmb IAmb 11 46 45.1
comp=Z,12nm,0.8s
MPMC **Manual Prospec** 33.61 126 P P 11 46 45.2 +1.9
baz=332,SNR=13
PKM **Mcpherson Peak** 33.79 130 P P 11 46 47.1 +2.2
baz=334,SNR=12
ARVC **Arvin** 33.93 128 P P 11 46 46.6 +0.6
baz=333
O20A **White River Ci** 33.93 111 P P 11 46 47.1 +0.9
baz=325,SNR=7.6
O20A **White River Ci** 33.93 111 IAmb IAmb 11 46 48.4
comp=Z,14nm,1.1s
LRMC **Laurel Mtn Rad** 34.04 126 P P 11 46 48.5 +1.4
baz=333,SNR=21
SBC **Santa Barbara** 34.23 130 P P 11 46 50.6 +2.1
baz=334
OSI **Osito Audit: C** 34.43 128 P P 11 46 51.8 +1.5
baz=334
EDW2 **Edwards Air Fo** 34.46 127 P P 11 46 51.4 +0.8
baz=333
GSC **Goldstone, Bar** 34.53 125 P P 11 46 53.0 +1.8
baz=332,SNR=11
GSC **Goldstone, Bar** 34.53 125 IAmb IAmb 11 46 53.9
comp=Z,16nm,1.1s
SUSD **Miller** 34.73 96 P P 11 46 53.9 +1.1
baz=320
TUQ **Turquoise Moun** 34.75 124 P P 11 46 55.1 +1.9
baz=332,SNR=6.8
BLG **Laguna Peak, P** 34.76 129 P P 11 46 54.1 +1.0
baz=334
YAK **Yakutsk** 34.77 306⇑ *e*P P 11 46 51.9 -0.9
YAK pmax pmax
comp=Z,14nm,0.6s
YAK **Yakutsk** 34.77 306 P P 11 46 51.7 -1.1
YAK IAmb IAmb 11 46 52.8
comp=Z,17nm,0.6s
DECC **Green Verdugo** 34.89 128 P P 11 46 56.1 +1.8
baz=334
PV21 **Cone Mtn., Par** 34.92 113 IAmb IAmb 11 46 56.5
comp=Z,6.0nm,0.7s
PV23 **Carpenter Ridg** 34.99 113 IAmb IAmb 11 46 58.5
comp=Z,9.0nm,0.7s
PV22 **Blue Mesa, Par** 35.02 113 IAmb IAmb 11 46 57.4
comp=Z,14nm,1.1s
PASC **Pasadena Art C** 35.02 128 IAmb IAmb 11 46 57.7
comp=Z,11nm,0.8s
PV14 **Lion Creek, Pa** 35.05 113 IAmb IAmb 11 46 58.6
comp=Z,12nm,1.0s
PV20 **West Nyswonger** 35.10 113 IAmb IAmb 11 46 59.4
comp=Z,4.9nm,0.6s
PV16 **Nyswonger Mesa** 35.15 113 IAmb IAmb 11 46 58.0
comp=Z,5.8nm,0.6s
BFSC **Mount Baldy Ra** 35.16 127 P P 11 46 58.3 +1.6
baz=333,SNR=13
PV17 **East Wray Mesa** 35.16 113 IAmb IAmb 11 46 58.5
comp=Z,12nm,1.0s
PV11 **David Mesa, Pa** 35.18 113 IAmb IAmb 11 46 59.4
comp=Z,10.0nm,0.7s
PV18 **Skein Mesa, Pa** 35.21 113 IAmb IAmb 11 46 59.0
comp=Z,14nm,1.1s
PV05 **Paradox Valley** 35.27 114 IAmb IAmb 11 46 59.6
comp=Z,11nm,0.7s
PV02 **Paradox Valley** 35.32 113 IAmb IAmb 11 46 59.9
comp=Z,5.5nm,0.6s
PV13 **Radium Mtn., P** 35.32 113 IAmb IAmb 11 47 00.1
comp=Z,19nm,1.1s
BBRC **Big Bear Solar** 35.41 126 P P 11 47 00.6 +1.6
baz=333,SNR=7.7
GMRC **Granite Mounta** 35.43 124 P P 11 47 00.6 +1.6
baz=332,SNR=9.1
PV01 **Paradox Valley** 35.45 113 IAmb IAmb 11 47 01.1
comp=Z,12nm,0.8s
EYMN **Ely** 35.61 86 P P 11 47 01.0 +0.7
baz=316,SNR=12
CIS **Catalina Islan** 35.63 129 P P 11 47 01.9 +1.3
baz=334
SCI2 **San Clemente I** 35.96 129 P P 11 47 04.3 +0.9
baz=335
BELC **Belle Mtn. Jos** 35.99 125 P P 11 47 05.0 +1.1
baz=333,SNR=6.7
PFO **Pinyon Flats O** 36.16 126 P P 11 47 06.3 +1.0
baz=333,SNR=6.3
PFO **Pinyon Flats O** 36.16 126 *i* P P 11 47 06.9 +1.6
PFO **Pinyon Flats O** 36.16 126 P P 11 47 06.3 +1.0
PFO IAmb IAmb 11 47 07.2
comp=Z,10nm,1.0s
TPFO **Pinon Flats** 36.17 126 P P 11 47 06.2 +0.9
baz=333,SNR=6.5
IRM **Iron Mountain** 36.18 124 P P 11 47 07.1 +1.8
baz=332,SNR=6.8
Q24A **Divide** 36.26 108 P P 11 47 07.7 +1.5
baz=325
MVCO **Mesa Verde** 36.26 114 P P 11 47 07.1 +0.9
baz=328,SNR=6.6
MVCO **Mesa Verde** 36.26 114 IAmb IAmb 11 47 07.8
comp=Z,6.1nm,0.7s
ECSD **EROS Data Cent** 36.36 95 P P 11 47 06.9 +0.1
baz=320,SNR=24
ECSD **EROS Data Cent** 36.36 95 IAmb IAmb 11 47 07.7
comp=Z,15nm,0.7s
WUAZ **Wupatki** 36.50 119 P P 11 47 09.6 +1.5
baz=330,SNR=15
WUAZ **Wupatki** 36.50 119 IAmb IAmb 11 47 10.7
comp=Z,16nm,0.9s
BC3 **Big Chuckawall** 36.51 125 P P 11 47 09.5 +1.3
baz=333
E38A **The Farm, Brul** 36.56 87 P P 11 47 08.6 +0.2
baz=318,SNR=9.2
E38A **The Farm, Brul** 36.56 87 IAmb IAmb 11 47 09.3
comp=Z,16nm,0.8s
Y12C **Blythe** 36.78 124 P P 11 47 12.2 +1.8
baz=332,SNR=8.0
Y12C **Blythe** 36.78 124 IAmb IAmb 11 47 12.9
comp=Z,15nm,0.8s
MONP2 **Monument Peak** 36.82 127 P P 11 47 12.5 +1.6
baz=334,SNR=16
BAR **Barrett** 36.91 127 IAmb IAmb 11 47 13.9
comp=Z,13nm,1.0s
SWSC **Sam W. Stewart** 37.01 126 P P 11 47 13.6 +1.3
baz=333
SPMN **Marine on St.** 37.01 90 P P 11 47 13.1 +0.9
baz=319,SNR=12
SDCO **Great Sand Dun** 37.11 110 P P 11 47 14.9 +1.4
baz=326,SNR=7.8
SDCO **Great Sand Dun** 37.11 110 IAmb IAmb 11 47 15.3
comp=Z,5.8nm,0.8s
IKP **In-Ko-Pah, Jac** 37.15 127 P P 11 47 15.2 +1.6
baz=334,SNR=9.4
GLA **Glamis** 37.28 125 P P 11 47 16.1 +1.4
baz=333,SNR=5.9
GLA **Glamis** 37.28 125 IAmb IAmb 11 47 17.0
comp=Z,15nm,0.8s
KSCO **Kaye Shedlock'** 37.34 106 P P 11 47 16.6 +1.4
baz=325,SNR=5.6
KSCO **Kaye Shedlock'** 37.34 106 IAmb IAmb 11 47 17.3
comp=Z,22nm,0.7s
BGNE **Belgrade** 37.46 99 P P 11 47 16.7 +0.6
baz=322
D41A **Chassel** 37.62 84 P P 11 47 18.4 +1.0
baz=317
SUMG **Summit** 37.91 27 *i* P P 11 47 20.2 +0.2
SUMG **Summit** 37.91 27 *i* P P 11 47 20.2 +0.2
SUMG **Summit** 37.91 27 P P 11 47 19.9 -0.1
SUMG IAmb IAmb 11 47 20.9
comp=Z,13nm,0.7s
X18A **Snowflake** 37.93 118 IAmb IAmb 11 47 22.9
comp=Z,10nm,1.0s
DAG **Danmarks Havn** 38.01 16 *i* P P 11 47 19.6 -0.7
DAG **Danmarks Havn** 38.01 16 *i* P P 11 47 19.6 -0.7
T25A **Trinidad** 38.09 109 P P 11 47 22.5 +0.8
baz=327
G40A **Rib Lake** 38.19 87 P P 11 47 22.7 +0.5
baz=319,SNR=14
SFJD **Kangerlussuaq** 38.78 38 *i* P P 11 47 27.1 +0.3
SFJD **Kangerlussuaq** 38.78 38 *i* P P 11 47 27.1 +0.3
F42A **Maple Grove Fa** 38.78 85 P P 11 47 28.4 +1.2
baz=318
F42A **Maple Grove Fa** 38.78 85 IAmb IAmb 11 47 28.9
comp=Z,16nm,0.6s
CBKS **Cedar Bluff** 38.81 103 P P 11 47 28.5 +1.0
baz=324
E43A **Lone Tree Farm** 38.85 84 P P 11 47 28.3 +0.6
baz=318
214A **Organ Pipe Nat** 39.03 123 P P 11 47 30.8 +1.4
baz=333
ANMO **Albuquerque** 39.05 113 P P 11 47 30.6 +0.9
baz=329
ANMO **Albuquerque** 39.05 113⇓ *e*P P 11 47 30.8 +1.1
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO **Albuquerque** 39.05 113 P P 11 47 30.6 +0.9
E44A **Grand Marais A** 39.17 82 P P 11 47 31.5 +1.2
baz=318
SCIA **State Center** 39.36 94 P P 11 47 32.5 +0.5
baz=321
SCIA **State Center** 39.36 94 IAmb IAmb 11 47 33.4
comp=Z,21nm,0.8s
GRNR **Gornyy** 39.38 287 *e*P P 11 47 31.7 -0.4
GRNR pmax pmax
comp=Z,10.0nm,0.7s
TUC **Tucson** 39.53 120 P P 11 47 35.1 +1.6
baz=332
TUC **Tucson** 39.53 120 P P 11 47 35.4 +1.8
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** 39.53 120 P P 11 47 35.4 +1.8
I42A **Draeger Farm,** 39.83 88 P P 11 47 36.5 +0.6
baz=320
D46A **Sault St. Mari** 39.84 81 P P 11 47 36.3 +0.4
baz=318
H43A **Windswept, Lux** 39.93 86 P P 11 47 37.2 +0.6
baz=320
JFWS **Jewell Farm** 39.96 90 P P 11 47 37.0 +0.1
baz=321,SNR=16
KSU1 **Kansas State U** 40.01 99 P P 11 47 37.8 +0.3
baz=324,SNR=31
E46A **Sault Ste Mari** 40.10 81 P P 11 47 38.5 +0.4
baz=318
D47A **Chapleau** 40.15 80 P P 11 47 38.6 +0.1
baz=318

L40A	**Anamosa**	40.17	92	P	P	11 47 38.7	+0.1
	baz=321,SNR=20						
E47A	**Iron Bridge**	40.51	80	P	P	11 47 41.7	+0.2
	baz=318						
121A	**Cookes Peak, D**	40.56	117	P	P	11 47 44.2	+2.0
	baz=330						
G46A	**Petoskey**	40.63	83	P	P	11 47 43.1	+0.6
	baz=319						
MATQ	**Matagami**	40.64	73	P	P	11 47 42.4	-0.1
	baz=317						
D48A	**Paudash Townsh**	40.65	79	P	P	11 47 42.7	+0.1
	baz=318						
I45A	**Fountain**	40.97	85	P	P	11 47 46.4	+1.2
	baz=320						
E48A	**Lockeyer**	41.01	80	P	P	11 47 45.8	+0.3
	baz=318						
K43A	**Burlington**	41.02	88	P	P	11 47 45.7	0.0
	baz=321						
H46A	**Fife Lake**	41.07	84	P	P	11 47 46.5	+0.5
	baz=320						
AMTX	**Amarillo**	41.18	108	IAmb	IAmb	11 47 50.2	
	comp=Z,13nm,0.8s						
F48A	**Evansville**	41.29	81	P	P	11 47 48.1	+0.3
	baz=319						
MSTX	**Muleshoe**	41.48	110	P	P	11 47 50.6	+1.0
	baz=328,SNR=26						
D50A	**G1974 Best Tow**	41.56	77	P	P	11 47 50.3	+0.2
	baz=318						
SCHQ	**Schefferville**	41.60	60	P	P	11 47 49.1	-1.2
	comp=Z,10nm,0.7s,baz=316,slow=6.5,SNR=7.5						
SCHQ				PcP	PcP	11 49 45.4	-0.3
	comp=Z,3.2nm,0.6s,baz=346,slow=4.2,SNR=3.1						
SCHQ	**Schefferville**	41.60	60	IAmb	IAmb	11 47 51.2	
	comp=Z,12nm,0.8s						
L44A	**Lake County Fo**	41.62	89	P	P	11 47 50.9	+0.3
	baz=321						
J46A	**Howard City**	41.77	85	P	P	11 47 52.5	+0.7
	baz=320						
I47A	**Gladwin**	41.78	84	P	P	11 47 52.3	+0.4
	baz=320						
D51A	**Lot 18 Range I**	41.83	77	P	P	11 47 52.2	0.0
	baz=318						
VLDQ	**Val d'Or**	41.93	74	P	P	11 47 51.6	-1.4
VLDQ				IAmb	IAmb	11 47 52.1	
	comp=Z,14nm,0.8s						
CHGQ	**Chibougamau**	41.97	70	P	P	11 47 52.8	-0.6
	baz=317						
E51A	**G1948 Merrick**	42.19	77	P	P	11 47 54.8	-0.4
	baz=319						
NRIK	**Noril'sk**	42.19	333	P	P	11 47 55.0	+0.2
	comp=Z,6.1nm,0.5s,baz=42,slow=4.2,SNR=8.9						
K46A	**Dorr**	42.22	86	P	P	11 47 55.7	+0.2
	baz=321						
J47A	**Sunmer**	42.24	85	P	P	11 47 56.1	+0.5
	baz=321						
HDIL	**Hopedale**	42.25	91	P	P	11 47 55.9	+0.2
	baz=322,SNR=12						
MNTX	**Cornudas Mount**	42.29	115	P	P	11 47 57.7	+1.5
	baz=330,SNR=7.2						
D52A	**ZEK Kipawa Sen**	42.35	76	P	P	11 47 56.7	+0.3
	baz=319,SNR=5.7						
L46A	**Eue Claire**	42.51	87	P	P	11 47 58.2	+0.4
	baz=321,SNR=5.7						
KLR	**Kul'dur**	42.57	289⇑	eP	P	11 47 57.2	-1.0
KLR				pmax	pmax		
	comp=Z,36nm,3.7s						
D53A	**Lac Vacive, Po**	42.59	76	P	P	11 47 58.8	+0.3
	baz=319,SNR=9.1						
K47A	**Vermontville**	42.60	86	P	P	11 47 59.0	+0.5
	baz=321						
WMOK	**Wichita Mounta**	42.60	105	P	P	11 47 59.2	+0.5
	baz=327,SNR=31						
WMOK	**Wichita Mounta**	42.60	105	IAmb	IAmb	11 48 00.1	
	comp=Z,22nm,0.8s						
J48A	**Bridge Port**	42.68	84	P	P	11 47 59.6	+0.5
	baz=321						
F52A	**Sundridge**	42.82	78	P	P	11 48 00.4	+0.1
	baz=319						
K48A	**Perry**	42.90	85	P	P	11 48 01.7	+0.7
	baz=321,SNR=5.1						
J49A	**Marlette**	42.93	83	P	P	11 48 01.8	+0.6
	baz=321						
D54A	**Lac Fusel, La**	43.01	75	P	P	11 48 01.8	0.0
	baz=319						
E53A	**Dumoine, Ponti**	43.14	76	P	P	11 48 02.9	0.0
	baz=319,SNR=5.3						
X34A	**Smith Ranch, M**	43.14	105	IAmb	IAmb	11 48 04.5	
	comp=Z,10.0nm,0.7s						
K49A	**Clarkson**	43.23	84	P	P	11 48 04.6	+0.9
	baz=321						
E54A	**Lac Daplat, Po**	43.31	76	P	P	11 48 04.1	-0.2
	baz=319,SNR=10						
CCM	**Cathedral Cave**	43.34	95	P	P	11 48 03.9	-0.7
	baz=324						
CCM	**Cathedral Cave**	43.34	95	P	P	11 48 03.8	-0.7
CCM				pmax	pmax		
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	43.34	95	P	P	11 48 03.8	-0.7
CCM				IAmb	IAmb	11 48 04.7	
	comp=Z,12nm,0.7s						
SFIN	**Lafayette**	43.41	89	P	P	11 48 05.3	+0.2
	baz=322,SNR=9.2						
L48A	**N Adams**	43.43	86	P	P	11 48 05.7	+0.4
	baz=322,SNR=11						
BOD	**Bodaibo**	43.43	309	eP	P	11 48 04.0	-1.0
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AAM	**Ann Arbor**	43.51	85	P	P	11 48 06.6	+0.8
	baz=321,SNR=5.6						
HHAR	**Hobbs**	43.53	99	IAmb	IAmb	11 48 05.5	
	comp=Z,19nm,0.5s						
I51A	**Listowel**	43.56	81	P	P	11 48 07.3	+1.0
	baz=320						
L49A	**Milan**	43.61	85	P	P	11 48 07.7	+1.0
	baz=321						
D55A	**Sainte-Anne-du**	43.64	74	P	P	11 48 07.0	+0.2
	baz=319,SNR=8.1						
M48A	**Edgerton**	43.65	86	P	P	11 48 07.3	+0.3
	baz=322						
G53A	**Haliburton**	43.66	78	P	P	11 48 07.2	+0.2
	baz=320						
N47A	**Urbana**	43.67	88	P	P	11 48 07.1	-0.1
	baz=322,SNR=14						
G54A	**Lake Saint Pet**	43.69	77	P	P	11 48 07.2	-0.1
	baz=320						
I52A	**Shelburne**	43.75	80	P	P	11 48 08.2	+0.4
	baz=320						
FVM	**French Village**	43.77	95	IAmb	IAmb	11 48 09.2	
	comp=Z,17nm,0.6s						
E55A	**Monteerf-Lytto**	43.80	75	P	P	11 48 08.4	+0.2
	baz=319						
D56A	**ZEC Mazanza, M**	43.94	73	P	P	11 48 09.2	-0.1
	baz=319,SNR=7.8						
P46A	**Rosedale**	43.97	90	P	P	11 48 09.9	+0.3
	baz=323,SNR=10						
U40A	**Yellville**	43.97	98	P	P	11 48 08.9	-0.7
	baz=325,SNR=9.6						
U40A	**Yellville**	43.97	98	IAmb	IAmb	11 48 09.3	
	comp=Z,13nm,0.5s						
ABTX	**Abilene, Hawle**	44.00	108	P	P	11 48 09.9	0.0
	baz=328,SNR=5.0						
N48A	**Decatur**	44.00	87	P	P	11 48 09.6	-0.3
	baz=322,SNR=9.2						
M49A	**Liberty Center**	44.01	86	P	P	11 48 10.3	+0.4
	baz=322,SNR=7.4						
F55A	**Otter Lake**	44.14	76	P	P	11 48 11.0	+0.1
	baz=320						
E56A	**St. Veronique**	44.20	74	P	P	11 48 11.1	-0.2
	baz=320						
N49A	**Columbus Grove**	44.34	86	P	P	11 48 12.8	+0.2
	baz=322,SNR=9.8						
D57A	**Chemin Vers le**	44.35	73	P	P	11 48 12.2	-0.4
	baz=319,SNR=5.0						
O48A	**Farmland**	44.42	88	P	P	11 48 12.5	-0.7
	baz=322,SNR=32						
G55A	**Calabogie**	44.42	77	P	P	11 48 13.1	-0.1
	baz=320						
W39A	**Magazine**	44.50	100	P	P	11 48 13.5	-0.3
	baz=326,SNR=7.7						
W39A	**Magazine**	44.50	100	IAmb	IAmb	11 48 14.3	
	comp=Z,15nm,0.9s						
S44A	**Carbondale**	44.55	94	P	P	11 48 14.2	-0.1
	baz=324,SNR=13						
LATQ	**La Tuque**	44.56	72	P	P	11 48 14.2	0.0
	baz=319						
BLO	**Bloomington**	44.64	90	IAmb	IAmb	11 48 15.4	
	comp=Z,25nm,0.9s						
E57A	**Chemin Saint G**	44.70	73	P	P	11 48 15.2	-0.2
	baz=320,SNR=5.9						
D58A	**Chemin du LacG**	44.74	72	P	P	11 48 15.3	-0.3
	baz=320,SNR=8.7						
H55A	**Tweed**	44.75	78	P	P	11 48 15.7	0.0
	baz=320						
ORIO	**Orleans, Innes**	44.82	75	P	P	11 48 15.7	-0.5
	baz=320						
O49A	**Covington**	44.85	87	P	P	11 48 16.4	-0.2
	baz=323,SNR=8.0						
P48A	**Milroy**	44.92	89	P	P	11 48 16.4	-0.8
	baz=323,SNR=6.2						
N50A	**Nevada**	44.95	86	P	P	11 48 17.6	+0.3
	baz=322,SNR=5.2						
M51A	**Elyria**	44.95	84	P	P	11 48 17.6	+0.2
	baz=322						
LCAR	**Lake Charles**	44.99	97	IAmb	IAmb	11 48 19.5	
	comp=Z,9.3nm,0.6s						
J54A	**Appleton**	45.07	80	P	P	11 48 18.6	+0.3
	baz=321						
TXAR	**Lajitas Array**	45.07	115	P	P	11 48 19.2	+0.6
TXAR	**Lajitas Array**	45.07	115	P	P	11 48 19.9	+1.2
	comp=Z,5.2nm,0.7s,baz=323,slow=6.2,SNR=59						
TXAR				PcP	PcP	11 49 57.8	-0.2
	comp=Z,0.5nm,0.5s,baz=35,slow=3.3,SNR=2.8						
TXAR	**Lajitas Array**	45.07	115	P	P	11 48 19.2	+0.6
E58A	**La Victoria**	45.11	73	P	P	11 48 18.2	-0.4
	baz=320						
MIAR	**Mount Ida**	45.13	100	P	P	11 48 18.9	0.0
	baz=326,SNR=14						
MIAR	**Mount Ida**	45.13	100	IAmb	IAmb	11 48 19.7	
	comp=Z,18nm,0.8s						
M52A	**Chesterland**	45.17	84	P	P	11 48 20.0	+0.9
	baz=322						
N51A	**Ashland**	45.19	85	P	P	11 48 19.4	+0.1
	baz=322,SNR=7.4						
P49A	**Miami Univ. Ec**	45.20	88	P	P	11 48 18.2	-1.2
	baz=323						
Q48A	**North Vernon**	45.20	90	P	P	11 48 18.7	-0.7
	baz=323,SNR=22						
O50A	**Cable**	45.22	87	P	P	11 48 19.6	+0.1
	baz=323,SNR=19						
W41B	**Gary Mavity, V**	45.22	99	P	P	11 48 18.6	-1.0
	baz=326						
W41B	**Gary Mavity, V**	45.22	99	IAmb	IAmb	11 48 20.8	
	comp=Z,7.3nm,0.7s						
ERPA	**Erie**	45.35	82	P	P	11 48 21.1	+0.6
	baz=322						
L53A	**Girard**	45.35	82	P	P	11 48 21.1	+0.5
	baz=322,SNR=5.2						
ACSO	**Alum Creek Sta**	45.45	86	P	P	11 48 21.4	+0.1
	baz=323,SNR=11						
WCI	**Wyandotte Cave**	45.50	91	P	P	11 48 22.0	+0.2
	baz=324						
WCI	**Wyandotte Cave**	45.50	91	P	P	11 48 21.4	-0.4
WCI				pmax	pmax		
	comp=Z,34nm,0.9s						
WCI	**Wyandotte Cave**	45.50	91	P	P	11 48 21.4	-0.4
UALR	**University of**	45.51	99	IAmb	IAmb	11 48 22.1	
	comp=Z,16nm,0.8s						
WHTX	**Lake Whitney,**	45.51	106	P	P	11 48 22.6	+0.7
	baz=328,SNR=7.7						
X40A	**Basin Creek Fa**	45.52	100	P	P	11 48 21.4	-0.5
	baz=326,SNR=6.5						
Q49A	**Aurora**	45.53	89	P	P	11 48 21.2	-0.8
	baz=323						
P50A	**Jamestown**	45.56	87	P	P	11 48 22.0	-0.3
	baz=323,SNR=20						
K54A	**Basiliko Farm,**	45.57	80	P	P	11 48 22.7	+0.4
	baz=322						
M53A	**WI Miller and**	45.57	83	P	P	11 48 22.9	+0.6
	baz=322,SNR=8.6						
L54A	**Sinclairville**	45.57	81	P	P	11 48 22.7	+0.4
	baz=322,SNR=8.5						
N52A	**McGinn's Farm,**	45.59	84	P	P	11 48 22.5	+0.1
	baz=322,SNR=5.4						
O51A	**Pataskala**	45.69	86	P	P	11 48 23.3	+0.1
	baz=323,SNR=14						
G58A	**Ormstown**	45.71	75	P	P	11 48 22.8	-0.5
	baz=321,SNR=6.1						
D60A	**Saint Jean D'O**	45.74	71	P	P	11 48 23.4	-0.1
	baz=320						
JCT	**Junction City**	45.76	110	P	P	11 48 24.8	+0.9
	baz=330,SNR=22						
K55A	**Perry**	45.76	80	P	P	11 48 23.8	0.0
	baz=322						
LONY	**Lake Ozonia**	45.88	75	P	P	11 48 24.0	-0.7
	baz=321,SNR=5.2						
LONY	**Lake Ozonia**	45.88	75	IAmb	IAmb	11 48 24.3	
	comp=Z,9.4nm,0.8s						
E60A	**Ste Agathe de**	45.93	72	P	P	11 48 24.5	-0.5
	baz=320						
M54A	**Oil Creek Stat**	45.98	82	P	P	11 48 25.9	+0.3
	baz=322,SNR=12						
N53A	**Lisbon**	45.99	84	P	P	11 48 26.0	+0.4
	baz=322,SNR=24						
P51A	**Williamsport**	46.01	87	P	P	11 48 25.4	-0.4
	baz=323,SNR=7.0						
P51A	**Williamsport**	46.01	87	IAmb	IAmb	11 48 26.2	
	comp=Z,29nm,1.1s						
F60A	**Warwick**	46.01	72	P	P	11 48 25.4	-0.3
	baz=320						
L55A	**Hinsdale**	46.02	81	P	P	11 48 26.2	+0.4
	baz=322,SNR=11						
WLAR	**White Oak Lake**	46.06	101	IAmb	IAmb	11 48 27.9	
	comp=Z,25nm,0.9s						
O52A	**Adamsville**	46.07	85	P	P	11 48 26.1	-0.2
	baz=323,SNR=7.7						
Q50A	**Georgetown**	46.09	88	P	P	11 48 25.7	-0.7
	baz=323						
K56A	**Middlesex**	46.12	79	P	P	11 48 26.7	0.0
	baz=322						
T47A	**Sharon Grove**	46.13	92	P	P	11 48 26.8	+0.1
	baz=324,SNR=14						
FRNY	**Flat Rock**	46.16	74	IAmb	IAmb	11 48 26.7	
	comp=Z,10nm,0.7s						
H58A	**Gabriels**	46.22	75	P	P	11 48 26.6	-0.7
	baz=321						
Q51A	**Peebles**	46.24	87	P	P	11 48 27.5	-0.1
	baz=323,SNR=18						
O53A	**New Philadelph**	46.26	85	P	P	11 48 27.5	-0.2
	baz=323,SNR=5.2						
H59A	**Cadyville**	46.26	75	P	P	11 48 27.1	-0.6
	baz=321						
N54A	**Moraine State**	46.26	83	P	P	11 48 28.2	+0.4
	baz=322,SNR=12						
USRK	**Ussuriysk Ar.**	46.29	284	P	P	11 48 27.9	0.0
USRK	**Ussuriysk Ar.**	46.29	284	P	P	11 48 28.2	+0.3
	comp=Z,1.9nm,0.7s,baz=51,slow=5.0,SNR=4.0						
USRK	**Ussuriysk Ar.**	46.29	284	P	P	11 48 27.9	0.0
E61A	**Lac Etchemin**	46.30	71	P	P	11 48 28.0	0.0
	baz=320						
P52A	**Corning**	46.32	86	P	P	11 48 27.8	-0.4
	baz=323,SNR=7.9						
S49A	**Springfield**	46.33	90	P	P	11 48 28.0	-0.3
	baz=324,SNR=22						
HPIG		46.34	118	IAmb	IAmb	11 48 31.0	
	comp=Z,16nm,1.0s						
R50A	**Paris**	46.38	89	P	P	11 48 28.5	-0.2
	baz=324,SNR=5.8						
R50A	**Paris**	46.38	89	IAmb	IAmb	11 48 29.8	
	comp=Z,12nm,0.6s						
X43A	**Marvell**	46.40	98	P	P	11 48 28.9	+0.1
	baz=326						
I58A	**Old Forge**	46.42	77	P	P	11 48 28.6	-0.4
	baz=321						
M55A	**Ridgway**	46.43	81	P	P	11 48 29.4	+0.4
	baz=322,SNR=22						
D62A	**Allapoint, All**	46.43	69	P	P	11 48 29.2	+0.3
	baz=320,SNR=8.2						
F61A	**St Evariste**	46.44	72	P	P	11 48 29.1	0.0
	baz=321						
L56A	**Greenwood**	46.46	80	P	P	11 48 29.5	+0.2
	baz=322,SNR=7.2						
L56A	**Greenwood**	46.46	80	IAmb	IAmb	11 48 30.8	
	comp=Z,18nm,0.8s						
K57A	**Scipio Center**	46.47	79	P	P	11 48 29.4	0.0
	baz=322						
435B	**Jarrell**	46.48	107	IAmb	IAmb	11 48 31.0	
	comp=Z,20nm,0.8s						
WVT	**Waverly**	46.49	94	P	P	11 48 29.8	+0.3
	baz=325						
G60A	**Masonville**	46.52	73	P	P	11 48 29.4	-0.3
	baz=321						
J58A	**Remsen**	46.54	77	P	P	11 48 29.2	-0.7
	baz=322						
Z41A	**Richland Creek**	46.56	101	P	P	11 48 30.7	+0.6
	baz=327,SNR=5.6						
E62A	**Clayton Lake**	46.58	70	P	P	11 48 29.9	-0.2
	baz=321,SNR=6.4						
E62A	**Clayton Lake**	46.58	70	IAmb	IAmb	11 48 31.0	
	comp=Z,13nm,0.8s						
M56A	**Emporium**	46.68	81	P	P	11 48 31.2	+0.1
	baz=322,SNR=15						
O54A	**Avella**	46.70	84	P	P	11 48 31.4	+0.2
	baz=323						
R51A	**Hillsboro**	46.71	88	P	P	11 48 31.4	+0.2
	baz=324,SNR=19						
T49A	**Edmonton**	46.77	91	P	P	11 48 31.8	+0.1
	baz=324,SNR=22						
H60A	**Morristown**	46.77	74	P	P	11 48 31.2	-0.5
	baz=321						
P53A	**Whipple**	46.78	85	P	P	11 48 31.6	-0.2
	baz=323,SNR=14						
Q52A	**Bidwell**	46.79	86	P	P	11 48 31.6	-0.3
	baz=323,SNR=15						
S50A	**Richmond**	46.83	89	P	P	11 48 32.2	0.0
	baz=324,SNR=8.4						
I59A	**Olmsteadville**	46.84	76	P	P	11 48 32.2	0.0
	baz=321						
N55A	**Marion Center**	46.87	82	P	P	11 48 32.9	+0.4
	baz=323,SNR=48						
D63A	**Stockholm**	46.88	68	P	P	11 48 32.3	-0.2
	baz=321						
L57A	**Andrews Acres**	46.89	79	P	P	11 48 32.7	+0.1
	baz=322,SNR=6.4						
F62A	**Pittston Farm,**	46.95	71	P	P	11 48 33.1	+0.1
	baz=321,SNR=6.0						
F62A	**Pittston Farm,**	46.95	71	IAmb	IAmb	11 48 33.6	
	comp=Z,12nm,0.9s						
NATX	**Nacogdoches**	46.97	104	IAmb	IAmb	11 48 34.7	
	comp=Z,18nm,0.8s						
N56A	**West Decatur**	47.08	82	P	P	11 48 34.5	+0.3
	baz=322,SNR=6.6						
OXF	**Oxford**	47.08	96	P	P	11 48 34.7	+0.5
	baz=326,SNR=18						
P54A	**Burton**	47.11	84	P	P	11 48 34.5	+0.1
	baz=323,SNR=14						
BINY	**Binghamton**	47.13	79	P	P	11 48 34.6	+0.1
	baz=322,SNR=7.3						
BINY	**Binghamton**	47.13	79	IAmb	IAmb	11 48 35.2	
	comp=Z,20nm,0.6s						
U49A	**Red Boiling Sp**	47.13	92	P	P	11 48 34.8	+0.3
	baz=325,SNR=32						
H61A	**Lyndonville**	47.14	73	P	P	11 48 34.4	-0.1
	baz=321						
T50A	**Nancy**	47.16	90	P	P	11 48 35.0	+0.3
	baz=324,SNR=30						
O55A	**Ligonier**	47.18	83	P	P	11 48 35.0	+0.1
	baz=323,SNR=13						
CLTN	**Cedars of Leba**	47.22	92	IAmb	IAmb	11 48 36.6	
	comp=Z,22nm,0.7s						
E63A	**Oxbow**	47.22	69	P	P	11 48 34.7	-0.5
	baz=321,SNR=5.2						
E63A	**Oxbow**	47.22	69	IAmb	IAmb	11 48 35.4	
	comp=Z,16nm,1.0s						
Q53A	**Leroy**	47.22	86	P	P	11 48 35.2	-0.1
	baz=324,SNR=12						
G62A	**West of Eustis**	47.23	72	P	P	11 48 35.3	+0.1
	baz=321						
S51A	**Beattyville**	47.24	89	P	P	11 48 35.2	-0.2
	baz=324,SNR=15						
V48A	**Smith Brothers**	47.28	93	P	P	11 48 36.0	+0.3
	baz=325,SNR=14						
V48A	**Smith Brothers**	47.28	93	IAmb	IAmb	11 48 36.8	
	comp=Z,24nm,0.8s						
M57A	**Sunshine Farm,**	47.28	80	P	P	11 48 35.8	+0.1
	baz=322,SNR=5.9						
M57A	**Sunshine Farm,**	47.28	80	IAmb	IAmb	11 48 36.6	
	comp=Z,23nm,1.1s						
L58A	**Harry Jones Me**	47.31	79	P	P	11 48 36.0	+0.1
	baz=322,SNR=6.2						
MCWV	**Mont Chateau**	47.36	84	P	P	11 48 36.6	+0.2
	baz=323,SNR=9.1						
MCWV	**Mont Chateau**	47.36	84	IAmb	IAmb	11 48 37.3	
	comp=Z,14nm,0.8s						
LBNH	**Lisbon**	47.37	74	P	P	11 48 36.5	+0.2
	baz=322						
LBNH	**Lisbon**	47.37	74	IAmb	IAmb	11 48 37.1	
	comp=Z,9.8nm,0.9s						
Q54A	**Coxs Mills**	47.44	85	P	P	11 48 36.9	-0.1
	baz=323,SNR=8.6						
Q54A	**Coxs Mills**	47.44	85	IAmb	IAmb	11 48 37.6	
	comp=Z,23nm,0.7s						
R53A	**Hurricane**	47.45	87	P	P	11 48 37.1	+0.1
	baz=324,SNR=7.9						
S52A	**Salyersville**	47.45	88	P	P	11 48 37.2	+0.2
	baz=324,SNR=6.6						
H62A	**Milan**	47.45	73	P	P	11 48 37.0	0.0
	baz=321						
O56A	**Blue Knob Stat**	47.47	82	P	P	11 48 37.3	+0.1
	baz=323,SNR=18						
J60A	**Lant Hill Farm**	47.48	76	P	P	11 48 37.1	0.0
	baz=322						
F63A	**Nahmakanta, Br**	47.48	70	P	P	11 48 37.0	-0.2
	baz=321						
E64A	**Bridgewater**	47.48	69	P	P	11 48 36.6	-0.5
	baz=321						
I61A	**Oroboro, Fairl**	47.48	74	P	P	11 48 37.3	+0.1
	baz=322						
SSPA	**Standing Stone**	47.49	81	P	P	11 48 37.4	+0.1
	baz=323						
SSPA	**Standing Stone**	47.49	81	P	P	11 48 37.0	-0.3
SSPA				IAmb	IAmb	11 48 37.8	
	comp=Z,19nm,0.6s						
P55A	**Reedsville**	47.49	84	P	P	11 48 37.5	+0.1
	baz=323,SNR=12						
N57A	**Milroy**	47.55	81	P	P	11 48 37.8	+0.1
	baz=323,SNR=9.9						
M58A	**Price's Panora**	47.56	80	P	P	11 48 37.7	-0.2
	baz=322						
L59A	**Walton**	47.57	78	P	P	11 48 37.6	-0.3
	baz=322						
BATG	**Bathurst New B**	47.58	67	P	P	11 48 37.8	0.0
BATG				IAmb	IAmb	11 48 38.7	
	comp=Z,9.3nm,1.0s						
T51A	**Gray**	47.62	90	P	P	11 48 38.3	-0.1
	baz=324,SNR=18						
U50A	**Jamestown**	47.65	91	P	P	11 48 38.7	+0.1
	baz=325,SNR=12						
V49A	**McMinnville**	47.68	92	P	P	11 48 38.9	0.0
	baz=325,SNR=18						
F64A	**Sherman**	47.69	70	P	P	11 48 38.4	-0.3
	baz=321,SNR=12						
G63A	**Kingsbury**	47.71	71	P	P	11 48 38.8	-0.2
	baz=321						
PKME	**Peaks-Kenny Pk**	47.74	71	P	P	11 48 39.1	0.0
	baz=321,SNR=5.7						
PKME	**Peaks-Kenny Pk**	47.74	71	IAmb	IAmb	11 48 39.9	
	comp=Z,13nm,0.8s						
Q55A	**Buckhannon**	47.78	85	P	P	11 48 39.7	0.0
	baz=324						
N58A	**Sunbury**	47.87	80	P	P	11 48 40.1	-0.1
	baz=323,SNR=10						
N58A	**Sunbury**	47.87	80	IAmb	IAmb	11 48 41.0	
	comp=Z,22nm,0.8s						
S53A	**Williamson**	47.89	87	P	P	11 48 40.4	-0.1
	baz=324,SNR=8.1						
M59A	**Waymart**	47.90	79	P	P	11 48 40.2	-0.2
	baz=322						
O57A	**Amberson**	47.95	82	P	P	11 48 41.2	+0.4
	baz=323,SNR=21						
P56A	**Dayton Farm, R**	47.95	83	P	P	11 48 41.2	+0.3
	baz=323,SNR=8.7						
T52A	**Hallie**	47.95	89	P	P	11 48 41.2	+0.3
	baz=324,SNR=6.8						
T52A	**Hallie**	47.95

baz=325,SNR=13
TZTN Tazewell 48.15 90 P **P 11 48 42.8 +0.3**
baz=325,SNR=9.1
TZTN Tazewell 48.15 90 IAmb IAmb 11 48 43.5
comp=Z,22nm,0.8s
Q56A Snyder Ridge, 48.16 84 P **P 11 48 42.9 +0.4**
baz=324,SNR=9.6
S54A Dingess, Beckl 48.17 87 P **P 11 48 42.5 -0.2**
baz=324,SNR=8.9
J62A Henniker 48.21 74 P **P 11 48 42.6 -0.2**
baz=322
X48A Hartselle 48.23 94 P **P 11 48 43.1 0.0**
baz=326,SNR=11
X48A Hartselle 48.23 94 IAmb IAmb 11 48 43.7
comp=Z,21nm,0.7s
L61A Hillsdale 1, H 48.24 77 P **P 11 48 43.5 +0.5**
baz=322,SNR=5.9
N59A State Game Lan 48.24 79 P **P 11 48 43.1 0.0**
baz=323,SNR=5.2
H64A Troy 48.26 71 P **P 11 48 43.0 -0.1**
baz=322
T53A Wise 48.26 88 P **P 11 48 43.6 +0.2**
baz=324,SNR=18
O58A Lewisberry 48.34 81 P **P 11 48 44.1 +0.2**
baz=323,SNR=15
P57A Homestead Farm 48.35 82 P **P 11 48 44.4 +0.4**
baz=323,SNR=25
PAGS Pennsylvania G 48.35 81 IAmb IAmb 11 48 44.7
comp=Z,16nm,0.8s
U52A Thorn Hill 48.35 89 P **P 11 48 44.3 +0.3**
baz=325
V51A Loudon 48.38 91 P **P 11 48 44.3 +0.1**
baz=325,SNR=13
ARCES ARCESS Array B 48.39 2 P **P 11 48 42.7 -1.2**
ARCES ARCESS Array B 48.39 2 P **P 11 48 43.1 -0.8**
comp=Z,3.6nm,0.7s,baz=21,slow=10,SNR=10
ARCES ARCESS Array B 48.39 2 P **P 11 48 42.7 -1.2**
W50A Signal Mountai 48.42 92 P **P 11 48 44.4 -0.2**
baz=325,SNR=5.7
M60A Port Jervis 48.44 78 P **P 11 48 44.2 -0.4**
baz=323,SNR=6.9
K62A Royalston 48.47 75 P **P 11 48 44.7 -0.1**
baz=322,SNR=5.1
VBMS Vicksburg 48.48 99 P **P 11 48 45.9 +1.0**
baz=327,SNR=6.1
Q57A Strasburg 48.53 83 P **P 11 48 45.6 +0.3**
baz=324,SNR=15
O59A Robesonia 48.53 80 P **P 11 48 45.5 +0.1**
baz=323,SNR=9.2
G65A Princeton 48.55 70 P **P 11 48 45.3 0.0**
baz=322
R56A Bull Pasture M 48.57 85 P **P 11 48 45.9 +0.1**
baz=324
S55A Lewisburg 48.57 86 P **P 11 48 46.0 +0.2**
baz=324,SNR=7.1
CPCT Cooper Cave 48.59 91 IAmb IAmb 11 48 46.5
comp=Z,17nm,0.6s
N60A Cedar Hill Far 48.59 79 P **P 11 48 45.6 -0.1**
baz=323,SNR=6.5
H65A Eastbrook 48.64 71 P **P 11 48 46.1 0.0**
baz=322
ODNJ Ogdensburg 48.64 78 IAmb IAmb 11 48 46.1
comp=Z,12nm,0.6s
T54A Tazewell 48.65 87 P **P 11 48 46.4 +0.1**
baz=324,SNR=6.0
P58A Pank, Wackersv 48.68 82 P **P 11 48 46.5 0.0**
baz=323,SNR=7.3
LUPA Lehigh Univers 48.68 79 P **P 11 48 46.1 -0.3**
V52A Sevierville 48.70 90 P **P 11 48 46.8 +0.2**
baz=325,SNR=6.1
V52A Sevierville 48.70 90 IAmb IAmb 11 48 47.2
comp=Z,12nm,0.7s
MVL Millersville 48.71 81 IAmb IAmb 11 48 48.2
comp=Z,9.9nm,0.8s
W51A Cleveland 48.71 92 P **P 11 48 46.6 -0.2**
baz=325,SNR=7.7
U53A Fall Branch 48.75 89 P **P 11 48 46.9 -0.1**
baz=325,SNR=5.0
K63A Dunstable 48.77 75 P **P 11 48 46.8 -0.2**
baz=322
O60A Telford 48.89 80 P **P 11 48 48.0 0.0**
baz=323,SNR=8.8
Q58A Fox Den Farm, 48.94 83 P **P 11 48 48.7 +0.2**
baz=324,SNR=29
T55A Pulaski 48.97 87 P **P 11 48 49.0 +0.2**
baz=324,SNR=6.9
U54A Nelsons Funny 48.97 88 P **P 11 48 49.4 +0.6**
baz=325,SNR=16
P59A Jarrettsville 48.98 81 P **P 11 48 48.8 +0.1**
baz=323,SNR=6.3
Y49A Blount Mountai 49.02 94 P **P 11 48 49.2 +0.1**
baz=326,SNR=8.6
Y49A Blount Mountai 49.02 94 IAmb IAmb 11 48 50.0
comp=Z,21nm,0.8s
PAL Palisades 49.02 78 P **P 11 48 48.6 -0.4**
baz=323
N61A South Mountain 49.05 78 P **P 11 48 49.3 0.0**
baz=323
BLA Blacksburg 49.06 86 P **P 11 48 49.8 +0.3**
baz=324,SNR=6.7
R57A Stanardsville 49.07 84 P **P 11 48 49.9 +0.4**
baz=324,SNR=12
S56A Natural Bridge 49.09 85 P **P 11 48 50.1 +0.5**
baz=324,SNR=5.4
W52A Murphy 49.16 91 P **P 11 48 50.6 +0.4**
baz=325,SNR=11
X51A Calhoun 49.16 92 P **P 11 48 50.4 +0.2**
baz=326,SNR=13
PSUB Penn St. - Bra 49.18 80 IAmb IAmb 11 48 50.8
comp=Z,14nm,1.2s
V53A Saluda 49.20 90 P **P 11 48 51.0 +0.4**
baz=325,SNR=7.9
LMN Caledonia Moun 49.23 67 P **P 11 48 50.1 -0.5**
LMN IAmb IAmb 11 48 51.2
comp=Z,16nm,0.7s
R58A Rapidan 49.31 83 P **P 11 48 51.5 +0.2**
baz=324
U55A TA2, Sparta 49.35 87 P **P 11 48 52.0 +0.3**
baz=325,SNR=26
T56A Rocky Mt 49.39 86 P **P 11 48 51.8 -0.1**
baz=324,SNR=6.6
LRAL Lakeview Retre 49.42 95 P **P 11 48 51.8 -0.4**
baz=326,SNR=6.4
LRAL Lakeview Retre 49.42 95 IAmb IAmb 11 48 52.5
comp=Z,11nm,0.8s
W53A Cullowhee 49.45 90 P **P 11 48 52.8 +0.2**
baz=325,SNR=8.3
Q59A Harwood 49.48 82 P **P 11 48 52.7 +0.2**
baz=324
MAJO Matsushiro 49.52 273⇑ *e*P **P 11 48 54.0 +1.1**
MAJO pmax pmax
comp=Z,6.0nm,0.6s
MAT Matsushiro 49.52 273 P **P 11 48 52.5 -0.4**
MJAR Matsushiro Arr 49.52 273 P **P 11 48 53.2 +0.3**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR Matsushiro Arr 49.52 273 P **P 11 48 53.5 +0.6**
comp=Z,1.7nm,0.8s,baz=358,slow=10.0,SNR=9.0
MJAR Matsushiro Arr 49.52 273 P **P 11 48 53.2 +0.3**
V54A Nebo 49.52 89 P **P 11 48 53.3 +0.4**
baz=325,SNR=9.5
CN2 Changchun 49.52 289 *e*P **P 11 48 53.5 +0.7**
CN2 pmax pmax
comp=Z,20nm,1.0s
M63A Gales Ferry 49.55 76 P **P 11 48 52.8 -0.3**
baz=323
X52A Dahlonega 49.57 91 P **P 11 48 54.0 +0.6**
baz=326,SNR=14
Y51A Rockmart 49.61 93 P **P 11 48 53.5 -0.1**
baz=326,SNR=10
R58B Mineral 49.64 84 P **P 11 48 54.6 +0.8**
baz=324,SNR=7.8
CBN Corbin Frederi 49.68 83 P **P 11 48 54.5 +0.4**
baz=324,SNR=6.4
BG3 Lake Jocassee 49.70 90 IAmb IAmb 11 48 55.4
comp=Z,8.3nm,0.8s
Z50A Ashland 49.74 94 P **P 11 48 54.7 +0.1**
baz=326,SNR=33
T57A Hurt 49.78 85 P **P 11 48 54.8 0.0**
baz=325,SNR=5.6
U56A King 49.78 87 P **P 11 48 55.3 +0.4**
baz=325,SNR=5.2
R59A King George, V 49.80 83 P **P 11 48 55.7 +0.7**
baz=324,SNR=9.5
V55A Taylorsville 49.80 88 P **P 11 48 55.4 +0.4**
baz=325,SNR=6.5
S58A Poland Farm, P 49.84 84 IAmb IAmb 11 48 57.0
comp=Z,13nm,0.9s

X53A Estanollee 49.93 91 P **P 11 48 56.5 +0.4**
baz=326,SNR=8.9
W54A Cherokee Point 49.98 89 P **P 11 48 56.6 +0.3**
baz=325,SNR=5.9
R60A Leonardtown, M 49.99 82 P **P 11 48 57.5 +1.0**
baz=324
Z51A Franklin 50.04 93 P **P 11 48 56.9 0.0**
baz=326,SNR=5.5
Y52A Lilburn 50.10 92 P **P 11 48 58.2 +0.8**
baz=326,SNR=14
T58A Grand View Acr 50.16 85 P **P 11 48 57.5 -0.2**
baz=325,SNR=5.0
V56A Mocksville 50.17 87 P **P 11 48 57.9 +0.1**
baz=325,SNR=6.7
U57A Blanch 50.20 86 P **P 11 48 58.2 +0.1**
baz=325,SNR=8.3
KMSC Kings Mountain 50.33 89 P **P 11 48 59.0 0.0**
baz=325,SNR=6.8
KMSC Kings Mountain 50.33 89 IAmb IAmb 11 48 59.8
comp=Z,11nm,0.8s
X54A Belton 50.33 90 P **P 11 48 59.4 +0.3**
baz=326,SNR=12
Y53A Monroe 50.34 92 P **P 11 48 59.4 +0.3**
baz=326,SNR=9.0
S60A Water View 50.41 83 P **P 11 49 00.5 +0.9**
baz=324
V57A Coltrane Farms 50.44 87 P **P 11 48 59.5 -0.4**
baz=325
Z52A Williamson 50.50 93 P **P 11 49 00.5 +0.2**
baz=326,SNR=10
T59A Double "B" Far 50.59 84 P **P 11 49 01.3 +0.3**
baz=325
250A Grady 50.64 95 P **P 11 49 01.2 -0.2**
baz=327
HAL Halifax 50.72 67 IAmb IAmb 11 49 02.3
comp=Z,18nm,0.7s
Y54A Tignall 50.75 91 P **P 11 49 02.4 +0.2**
baz=326,SNR=7.6
GOGA Godfrey 50.76 92 P **P 11 49 02.1 -0.2**
baz=326
152A Waverly Hall 50.79 93 P **P 11 49 02.4 -0.2**
baz=327,SNR=8.8
152A Waverly Hall 50.79 93 IAmb IAmb 11 49 03.0
comp=Z,19nm,0.8s
Z53A Monticello 50.82 92 P **P 11 49 02.6 -0.1**
baz=326,SNR=9.8
T60A Surry 50.84 83 P **P 11 49 03.4 +0.6**
baz=325,SNR=5.3
W57A Gilead 50.94 87 P **P 11 49 03.6 0.0**
baz=325
X56A White Oak 51.00 89 P **P 11 49 04.2 +0.2**
baz=326,SNR=13
JSC Jenkinsville 51.07 89 IAmb IAmb 11 49 05.5
comp=Z,12nm,0.8s
Y55A Saluda 51.07 90 P **P 11 49 04.7 +0.1**
baz=326,SNR=12
U60A Pendleton 51.18 84 P **P 11 49 06.0 +0.6**
baz=325
Z54A Sparta 51.19 91 P **P 11 49 05.5 0.0**
baz=326,SNR=9.9
153A Fort Valley 51.22 93 P **P 11 49 05.7 -0.1**
baz=326,SNR=5.5
V59A Middlesex 51.26 86 P **P 11 49 06.3 +0.3**
baz=325
252A Lumpkin 51.34 94 P **P 11 49 06.2 -0.5**
baz=327
W58A Raeford 51.41 87 P **P 11 49 07.3 +0.2**
baz=326
Z55A Blythe 51.53 91 P **P 11 49 08.1 0.0**
baz=326
253A Americus 51.57 93 P **P 11 49 07.9 -0.5**
baz=327
154A Montrose 51.59 92 P **P 11 49 08.1 -0.3**
baz=326
Y57A Sumter 51.69 89 P **P 11 49 09.5 +0.3**
baz=326
X58A Rowland 51.74 87 P **P 11 49 10.3 +0.8**
baz=326
Z56A Williston 51.81 90 P **P 11 49 10.4 +0.3**
baz=326
155A Kite 51.88 91 P **P 11 49 10.9 +0.2**
baz=326
TLY Talaya 51.97 310⇑ *e*P **P 11 49 10.2 -0.9**
TLY pmax pmax
comp=Z,5.0nm,1.3s
254A Abbeville 52.06 93 P **P 11 49 11.4 -0.6**
baz=327
W60A Pink Hill 52.09 86 P **P 11 49 12.8 +0.6**
baz=326
Z57A Bowman 52.14 89 P **P 11 49 12.8 +0.2**
baz=326
Y59A Loris 52.42 87 P **P 11 49 14.9 +0.2**
baz=326
255A Hazlehurst 52.45 92 P **P 11 49 14.8 -0.1**
baz=327
NHSC New Hope 52.54 89 P **P 11 49 16.1 +0.5**
baz=326
Y60A Bolivia 52.72 87 P **P 11 49 17.0 +0.1**
baz=326
KSRS Korea Array 53.53 282 P **P 11 49 23.1 +0.4**
comp=Z,7.6nm,0.6s,baz=28,slow=6.9,SNR=33
ULN Ulaanbaatar 53.85 305⇓ *i*P **P 11 49 25.7 +0.5**
ULN pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 54.13 306 P **P 11 49 27.5 +0.3**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 54.13 306 P **P 11 49 28.1 +0.9**
comp=Z,5.1nm,0.8s,baz=33,slow=7.1,SNR=28
SONM Songino Array 54.13 306 P **P 11 49 27.5 +0.3**
PRGR Permogore 55.69 350 *e*P **P 11 49 37.5 -0.5**
PRGR pmax pmax
comp=Z,9.0nm,0.4s
ZALV Zalesovo Beam 56.00 324 P **P 11 49 39.7 -0.7**
comp=Z,2.3nm,0.3s,baz=34,slow=6.1,SNR=13
ZALV Zalesovo Beam 56.00 324 P **P 11 49 39.3 -1.1**
NB2 NORSAR Subarra 56.22 10 P **P 11 49 40.4 -1.5**
comp=Z,1.3nm,0.6s,baz=350,slow=7.4
NOA NORSAR Array B 56.22 10 P **P 11 49 40.6 -1.2**
comp=Z,1.5nm,0.6s,baz=350,slow=7.1,SNR=8.4
FINES FINESS Array B 56.52 2 P **P 11 49 42.9 -1.1**
comp=Z,4.5nm,0.8s,baz=5.2,slow=8.8,SNR=12
HHC Hu-ho-hao-te 57.88 297 *e*P **P 11 49 56.1 +2.1**
HHC pmax pmax
comp=Z,4.0nm,1.1s
DGZ Jazzator, Alta 59.01 320⇓ *e*P **P 11 50 02.3 +0.5**
ARU Arti 59.32 341 P **P 11 50 02.7 -0.9**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 59.32 341 P **P 11 50 03.1 -0.5**
comp=Z,2.7nm,0.5s,baz=17,slow=6.8,SNR=15
ARU Arti 59.32 341 P **P 11 50 02.7 -0.9**
ARU IAmb IAmb 11 50 03.5
comp=Z,7.7nm,0.6s
BRVK Borovoye 60.39 333⇓ *e*P **P 11 50 09.5 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 60.40 333 P **P 11 50 10.4 -0.7**
comp=Z,2.4nm,0.5s,baz=28,slow=6.5,SNR=12
KURK Kurchatov 60.58 326⇓ *i*P **P 11 50 11.8 -0.5**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 60.58 326 P **P 11 50 11.7 -0.5**
KURBB Kurchatov Arra 60.69 326 P **P 11 50 12.3 -0.7**
comp=Z,1.6nm,0.5s,baz=30,slow=6.7,SNR=11
NJ2 Nanjing 62.13 286 *e*P **P 11 50 22.8 -0.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
OBN Obninsk 62.73 355 *e*P **P 11 50 26.9 +0.3**
OBN *e* 11 51 03.0
OBN *e* 11 52 43.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 63.14 322 P **P 11 50 28.4 -1.1**
comp=Z,2.8nm,0.6s,baz=36,slow=6.5,SNR=30
MKAR Makanchi Array 63.14 322 P **P 11 50 28.1 -1.5**
MAKZ Makanchi 63.22 322 P **P 11 50 28.9 -1.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 63.22 322 P **P 11 50 28.9 -1.2**
MAKZ IAmb IAmb 11 50 31.3
comp=Z,4.3nm,0.6s
GTA Gaotai 63.79 305 *e*P **P 11 50 34.1 0.0**
GTA pP pP 11 50 57.3 +1.9
GTA sP PcP 11 51 08.8 -0.5
GTA pmax pmax
comp=Z,4.0nm,1.0s

WMQ Urumqi 64.17 316 *e*P **P 11 50 39.6 +3.2**
WMQ pmax pmax
comp=Z,15nm,0.9s
XAN Xi'an 64.77 295 P **P 11 50 39.0 -1.4**
XAN pmax pmax
comp=Z,5.0nm,0.7s
LZH Lanzhou 65.10 300 ⇑P P 11 50 34.3 -8.4
LZH pP pP 11 50 55.0 -9.1
LZH sP sP 11 51 04.3 -9.0
LZH PP PP 11 52 56.3 -10
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,79nm,6.6s
AKTO Aktyubinsk 65.20 340 P **P 11 50 42.5 -0.4**
comp=Z,2.7nm,0.5s,baz=30,slow=8.4,SNR=8.7
WHN Wuhan 65.42 289 P **P 11 50 43.8 -0.8**
CLL Collm 66.01 11 *e*P **P 11 50 47.0 -1.1**
CLL Collm 66.01 11 *e*P **P 11 50 47.0 -1.1**
CLL Collm 66.01 11 *e*(P) **P 11 50 47.0 -1.1**
ABKAR Akbulak array 66.02 338 P **P 11 50 46.9 -1.3**
ABKAR Akbulak array 66.02 338 IAmb IAmb 11 50 48.6
comp=Z,2.9nm,0.6s
DPC Dobruska-Polom 67.22 9 *e*P **P 11 50 55.9 0.0**
DPC *e* 11 51 17.9
DPC Dobruska-Polom 67.22 9 *e*P **P 11 50 55.9 0.0**
DPC *e*P **pP 11 51 17.9 +0.1**
AKASG Malin Array Be 67.31 360 P **P 11 50 55.2 -1.1**
comp=Z,4.6nm,0.4s,baz=2.6,slow=6.2,SNR=28
AKASG Malin Array Be 67.31 360 P **P 11 50 54.5 -1.9**
AKBB Malin Array Si 67.31 360 IAmb IAmb 11 50 55.9
comp=Z,8.7nm,0.5s
PRU Pruhonice 67.45 10 *e*P **P 11 50 56.8 -0.5**
PRU Pruhonice 67.45 10 *e*P **P 11 50 56.8 -0.5**
KRLC Kraliky 67.53 8 *e*P **P 11 50 57.3 -0.6**
KRLC Kraliky 67.53 8 *e*P **P 11 50 57.3 -0.6**
KHC Kasperske Hory 68.22 11 *e*P **P 11 51 02.1 -0.1**
KHC *e* 11 51 26.3
KHC Kasperske Hory 68.22 11 *e*P **P 11 51 02.1 -0.1**
KHC *e*P **PcP 11 51 26.3 -1.1**
KHC Kasperske Hory 68.22 11 P **P 11 51 01.8 -0.4**
GERES GERESS Array B 68.52 11 P **P 11 51 03.5 -0.6**
GERES GERESS Array B 68.52 11 P **P 11 51 04.7 +0.6**
comp=Z,1.1nm,0.6s,baz=2.7,slow=6.0,SNR=9.0
GERES GERESS Array B 68.52 11 P **P 11 51 03.5 -0.6**
LANS Liptovska Anna 68.61 7 *e*P **P 11 51 05.1 +0.4**
LANS pmax pmax
comp=Z,3.0nm,0.6s
LANS Liptovska Anna 68.61 7 *e*P **P 11 51 05.1 +0.4**
KOLS Kolonicke sedl 68.96 5 *e*P **P 11 51 07.4 +0.6**
KOLS Kolonicke sedl 68.96 5 *e*P **P 11 51 07.4 +0.6**
AAK Ala-Archa 69.13 326⇓ *i*P **P 11 51 08.0 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 69.13 326 P **P 11 51 07.9 -0.1**
comp=Z,3.4nm,0.8s,baz=165,slow=1.7,SNR=9.8
VYHS Vyhne 69.23 7 *e*P **P 11 51 08.1 -0.4**
VYHS Vyhne 69.23 7 *e*P **P 11 51 08.1 -0.4**
MODS Modra-Piesok 69.26 8 *e*P **P 11 51 07.9 -0.7**
MODS Modra-Piesok 69.26 8 *e*P **P 11 51 07.9 -0.7**
CONA Conrad Observa 69.60 9 *e*P **P 11 51 11.0 +0.1**
comp=Z,1.8nm,0.7s
KKAR Karatay Array 69.70 329 P **P 11 51 10.4 -1.0**
KKAR Karatay Array 69.70 329 P **P 11 51 10.4 -1.0**
TRPA Tarpa 69.77 4 ⇑P **P 11 51 11.7 -0.1**
WATA Walderalm 69.81 12 P **P 11 51 12.1 -0.1**
comp=Z,3.1nm,0.9s
SORM Soroca 69.88 0 ⇑P **P 11 51 11.1 -1.3**
WTTA Wattenberg 69.89 12 P **P 11 51 12.9 +0.2**
comp=Z,4.7nm,0.8s
DAVOX Davos/Dischmat 70.18 14 P **P 11 51 14.5 0.0**
comp=Z,2.1nm,0.6s,baz=339,slow=20,SNR=6.0
ARSA Arzberg 70.25 10 *e*P **P 11 51 14.0 -0.7**
comp=Z,0.8nm,0.5s
BUR08 Bucovina Ar. S 70.33 3 P **P 11 51 14.6 -0.7**
BURAR Bucovina Array 70.36 3 ⇑P **P 11 51 14.3 -1.2**
BURAR Bucovina Array 70.36 3 P **P 11 51 14.7 -0.9**
SOKA Soboth 70.78 10 *e*P **P 11 51 18.1 +0.1**
comp=Z,1.2nm,0.8s
OBKA Obir 70.91 10 P **P 11 51 18.8 -0.1**
comp=Z,5.9nm,0.6s
BIZ Bicaz 71.06 2 ⇑P **P 11 51 19.5 -0.1**
KSH Kashi 71.64 323 *e*P **P 11 51 26.9 +3.5**
CFR Carcaliu 72.84 0 ⇑P **P 11 51 29.0 -1.3**
MVO Moncorvo 72.89 28 *e*P **P 11 51 30.9 +0.1**
KIV Kislovodsk 73.47 350 *e*P **P 11 51 34.1 -0.1**
KIV pmax pmax
comp=Z,17nm,1.1s
MTE Manteigas 73.51 28 *e*P **P 11 51 34.9 +0.5**
PCAS Casmilo, Conde 73.63 29 *e*P **P 11 51 35.5 +0.5**
KBZ Khabaz 73.68 349 P **P 11 51 36.6 +1.4**
comp=Z,1.1nm,0.5s,baz=319,slow=5.3,SNR=4.1
PCBR Castelo Branco 74.06 28 *e*P **P 11 51 38.1 +0.6**
PMAFR Mafra 74.50 30 *e*P **P 11 51 40.4 +0.3**
ESDC Sonseca Array 74.96 26 P **P 11 51 43.5 +0.6**
comp=Z,2.8nm,0.6s,baz=343,slow=5.8,SNR=22
ESDC Sonseca Array 74.96 26 P **P 11 51 42.7 -0.1**
PNCL Nicolau / Gran 75.48 30 *e*P **P 11 51 46.0 +0.3**
MORF Marmelete 76.22 30 *e*P **P 11 51 50.5 +0.5**
PVAQ Vaqueiros 76.34 29 *e*P **P 11 51 51.6 +1.0**
PBDV Barranco-do-Ve 76.44 29 *e*P **P 11 51 52.2 +0.9**
SDV Santo Domingo 77.80 94 P **P 11 51 59.4 0.0**
comp=Z,6.8nm,0.4s,baz=310,slow=3.3,SNR=3.6
BRTR Keskin Array B 78.21 356 P **P 11 52 00.8 -0.5**
comp=Z,1.0nm,0.8s,baz=352,slow=3.7,SNR=4.2
BRTR Keskin Array B 78.21 356 P **P 11 52 00.2 -1.1**
TAPN Taplejung 79.06 309 *e*P **P 11 52 07.7 +1.4**
comp=Z,29nm,0.5s
GUN Gumba 79.20 311 *e*P **P 11 52 09.1 +2.0**
comp=Z,8.4nm,0.4s
JIRN Jiri 79.32 311 *e*P **P 11 52 09.8 +2.0**
comp=Z,29nm,0.4s
KKN Kakani 79.52 311 *e*P **P 11 52 10.0 +1.3**
comp=Z,12nm,0.5s
DANN Dangsing 79.54 313 *e*P **P 11 52 11.4 +2.5**
comp=Z,27nm,0.7s
GKN Gorkha 79.55 312 *e*P **P 11 52 10.3 +1.5**
comp=Z,11nm,0.3s
PKIN Phulchoki 79.68 311 *e*P **P 11 52 11.0 +1.4**
comp=Z,6.6nm,0.4s
PKI Pulchoki 79.68 311 *e*P **P 11 52 11.3 +1.6**
comp=Z,7.9nm,0.4s
DMN Daman 79.75 311 *e*P **P 11 52 11.4 +1.4**
comp=Z,12nm,0.4s
RAMN Ramite 79.82 310 *e*P **P 11 52 12.1 +1.7**
comp=Z,12nm,0.5s
KEST Kesra 81.02 16 P **P 11 52 16.4 0.0**
comp=Z,3.0nm,0.6s,baz=309,slow=7.7,SNR=3.2
KEST Kesra 81.02 16 IAmb IAmb 11 52 18.1
comp=Z,7.0nm,0.9s
MDT Midelt 81.44 28 P **P 11 52 20.1 +1.3**
comp=Z,3.0nm,0.7s,baz=4.5,slow=2.9,SNR=7.1
CMAR Chiang Mai Arr 82.66 296 P **P 11 52 26.2 +1.0**
CMAR Chiang Mai Arr 82.66 296 P **P 11 52 26.1 +0.9**
comp=Z,3.6nm,0.9s,baz=3.9,slow=6.6,SNR=15
CMAR Chiang Mai Arr 82.66 296 P **P 11 52 26.2 +1.0**
MDP Montagnes des 89.49 80 P **P 11 52 57.5 -1.3**
comp=Z,17nm,1.0s,baz=125,slow=0.9,SNR=3.6
BOSA Boshof 146.19 6 PKPbc **PKPbc 11 59 40.9 -0.4**
comp=Z,5.1nm,0.6s,baz=358,slow=2.3,SNR=15
SUR Sutherland 149.59 13 PKPbc **PKPbc 11 59 50.2 -0.2**
comp=Z,7.9nm,0.6s,baz=127,slow=1.8,SNR=11
QSPA South Pole Qui 152.14 180 PKPbc **PKPbc 11 59 54.5 -0.6**
comp=Z,7.0nm,0.6s,baz=309,slow=0.5,SNR=51
QSPA South Pole Qui 152.14 180 **PKPbc 11 59 54.0 -1.1**

ISCJB ***17*** *11:41:46.5±0.7, 60.40S±0.08×45.1W±0.2, h10km, mb4.2/8, MS6.4/1, Error ellipse: s-maj=14.0km s-min=11.6km az=159.3*
IDC ***17*** *11:41:46.6±1.1, 60.36S×45.27W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/31, mbtmp4.3/9, ML3.8/1, Error ellipse: s-maj=35.9km s-min=24.6km az=34.0*
NEIC ***17*** *11:41:48.3±1.7, 60.35S±0.09×45.1W±0.2, h10km±1km, mb4.7/16*
ISC 17 11:41:47.7±0.5, 60.40S±0.08×45.01W±0.09, h10km, n46, σ1§61/49, mb4.5/14, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.67**	**41**		**Pn**	**11 43 38.4**	**-0.8**
PMSA	**Palmer Station**	**9.79**	**235**	Pn	**Pn**	**11 44 07.8**	**-0.5**
	0.8nm,0.3s,baz=67,slow=11,SNR=7.1						
PMSA	**Palmer Station**	**9.79**	**235**	Pn	**Pn**	**11 44 08.3**	**0.0**

EFI	East Falkland	11.37	314	Pn	Pn	11 44 31.2	+1.3
GO10	Punta Arenas	15.93	286	P	P	11 45 35.0	-0.3
GO10				IAmb	IAmb	11 45 47.7	
comp=Z,54nm,1.4s							
SNAA	Sanae	19.97	142	P	Pn	11 46 26.5	+5.1
SNAA	Sanae	19.97	142	P	Pn	11 46 21.7	+0.4
TRQA	Tornquist	24.81	327	P	P	11 47 10.2	+0.5
TRQA				IAmb	IAmb	11 47 12.0	
comp=Z,24nm,1.0s							
PLCA	Paso Flores	25.23	310	P	P	11 47 12.8	-0.7
comp=Z,5.4nm,0.9s,baz=189,slow=11,SNR=2.9							
PLCA	Paso Flores	25.23	310	P	P	11 47 12.5	-1.0
QSPA	South Pole Qui	29.84	180	P	P	11 47 55.9	+1.2
QSPA				IAmb	IAmb	11 48 08.0	
comp=Z,7.5nm,0.9s							
CFA	Coronel Fontan	32.65	321	P	P	11 48 19.6	0.0
comp=Z,2.4nm,0.6s,baz=194,slow=7.5,SNR=6.2							
SYO	Syowa Base	34.25	140⇑	eP	P	11 48 29.6	-3.5
GO04	Tololo Observa	34.80	319	P	P	11 48 38.5	0.0
GO03	Copiap	37.01	321	P	P	11 48 57.5	+0.2
GO02	Mina Guanaco	39.09	323	P	P	11 49 15.8	+0.7
GO02				IAmb	IAmb	11 49 15.9	
comp=Z,12nm,0.7s							
LVC	Limon Verde	41.30	325	P	P	11 49 33.0	-0.6
comp=Z,3.8nm,0.7s,baz=193,slow=8.2,SNR=3.7							
LVC	Limon Verde	41.30	325	P	P	11 49 34.6	+1.1
PB04	IPOC Station P	41.92	324	P	P	11 49 38.4	0.0
PB04				IAmb	IAmb	11 49 39.5	
comp=Z,20nm,0.8s							
PB01	IPOC Station P	42.95	325	P	P	11 49 47.8	+1.1
PB11	IPOC Station P	44.22	326	P	P	11 49 57.6	+0.6
PB11				IAmb	IAmb	11 49 59.0	
comp=Z,21nm,1.1s							
BDFB	Brasilia	44.75	356	P	P	11 50 01.0	-0.1
comp=Z,2.0nm,0.6s,baz=112,slow=9.1,SNR=3.2							
BDFB	Brasilia	44.75	356	P	P	11 50 01.1	-0.1
MNMC	Minye Minye	44.80	326	P	P	11 50 02.5	+0.7
SIV	San Ignacio	45.85	338	P	P	11 50 09.8	-0.1
comp=Z,2.7nm,0.7s,baz=185,slow=8.7,SNR=6.0							
LPAZ	La Paz	47.12	329	P	P	11 50 20.1	-0.4
comp=Z,1.9nm,0.6s,baz=186,slow=7.0,SNR=4.5							
LPAZ	La Paz	47.12	329	P	P	11 50 20.5	0.0
LPAZ				IAmb	IAmb	11 50 36.0	
comp=Z,4.5nm,0.9s							
SDV	Santo Domingo	72.00	333	P	P	11 53 09.7	-1.8
comp=Z,6.3nm,0.5s,baz=343,slow=2.0,SNR=3.4							
DBIC	Dimbokro	73.93	42	P	P	11 53 25.1	+2.3
DBIC				IAmb	IAmb	11 53 29.6	
comp=Z,7.8nm,1.2s							
TORD	Torodi Ar. Bea	82.22	46	P	P	11 54 10.4	+1.6
comp=Z,1.2nm,0.8s,baz=231,slow=5.6,SNR=3.4							
KSH	Kashi	138.40	93	PKP	PKPdf	12 01 12.9	+0.3
KSH				PKS	PKSdf	12 04 43.8	-4.9
KSH				SKS	SKSdf	12 08 17.5	-5.4
KSH				LR	LR		
comp=N,5μm,18.2s							
KSH				LR	LR		
comp=E,2μm,15.4s							
KSH				LR	LR		
comp=Z,2μm,20.7s							
BVAR	Borovoye Array	145.13	73	PKPbc	PKPdf	12 01 24.3	+0.3
comp=Z,3.8nm,0.8s,baz=242,slow=3.2,SNR=5.9							
IL31		145.91	312		PKPdf	12 01 25.4	+0.6
ILAR	Eielson Array	145.91	312	PKPbc	PKPdf	12 01 25.2	+0.3
comp=Z,4.3nm,0.7s,baz=145,slow=3.3,SNR=12							
CCB	Clear Creek Bu	146.19	311		PKPbc	12 01 27.0	+0.6
WRH	Wood River Hil	146.21	311		PKPbc	12 01 27.2	+0.7
BMAR	Burnt Mountain	146.37	317		PKPbc	12 01 27.6	+0.6
MK31	Makanchi Array	146.87	90	PKPbc	PKPbc	12 01 29.3	+0.2
MKAR	Makanchi Array	146.87	90	PKPbc	PKPbc	12 01 28.9	-0.2
comp=Z,2.8nm,0.7s,baz=236,slow=1.9,SNR=6.8							
MKAR	Makanchi Array	146.87	90		PKPbc	12 01 29.3	+0.3
KURBB	Kurchatov Arra	147.55	82	PKPbc	PKPbc	12 01 30.4	-0.4
comp=Z,1.3nm,0.7s,baz=231,slow=3.2,SNR=4.3							
KURK	Kurchatov	147.66	82		PKPbc	12 01 30.8	-0.3
LZH	Lanzhou	148.56	127	ePKPbc	PKPdf	12 01 31.8	+1.3
LZH				pPKP	PKPbc	12 01 35.1	+0.9
LZH				sPKP		12 01 36.3	
LZH				PKPbc	sPKPab	12 01 42.0	+1.0
TOLK	Toolik Lake Re	148.59	317	PKPbc	PKPbc	12 01 34.0	+0.9
IMAR	Indian Mountai	149.02	311		PKPbc	12 01 34.6	+0.4
GTA	Gaotai	149.68	118	ePKPbc	PKPbc	12 01 37.5	+0.7

*ISCJB **17** 11:44:55.4±0.7, 60°.68S±0°.09×44°.6W±0°.2, h10km, mb3.9/2, Error ellipse: s-maj=17.4km s-min=13.1km az=17.0*
*IDC **17** 11:44:57.0±1.3, 60°.79S×44°.73W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/26, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=47.7km s-min=37.0km az=171.0*
*NEIC **17** 11:44:57.6±2.8, 60°.6S±0°.1×44°.6W±0°.3, h14km±5km, mb4.1/6*
ISC 17 11:44:57.6±0.7, 60°.7S±0°.1×44°.6W±0°.1, h10km, n16, σ1§10/16, mb4.1/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.75	38	Pn	Pn	11 46 49.0	-1.2
PMSA	Palmer Station	9.82	237	Pn	Pn	11 47 17.8	-0.8
0.3nm,0.3s,baz=51,slow=11,SNR=3.4							
PMSA	Palmer Station	9.82	237		Pn	11 47 19.3	+0.8
TRQA	Tornquist	25.16	326	P	P	11 50 22.8	0.0
TRQA				IAmb	IAmb	11 50 24.1	
comp=Z,3.9nm,0.8s							
GO02	Mina Guanaco	39.44	323	P	P	11 52 26.2	-1.8
GO02				IAmb	IAmb	11 52 26.9	
comp=Z,3.0nm,0.7s							
SBA	Scott Base	40.39	190	P	P	11 52 34.1	-0.9
MAW	Mawson	41.62	147	P	P	11 52 45.0	-0.2
MNMC	Minye Minye	45.15	326	P	P	11 53 13.5	-1.0
LPAZ	La Paz	47.48	329	P	P	11 53 34.9	+1.7
comp=Z,0.9nm,0.7s,baz=163,slow=4.5,SNR=3.3							
SAML	Samuel	53.46	337	P	P	11 54 17.4	-0.3
SAML				IAmb	IAmb	11 54 30.8	
comp=Z,0.9nm,0.6s							
TORD	Torodi Ar. Bea	82.26	45	P	P	11 57 20.2	+1.3
comp=Z,1.6nm,1.0s,baz=209,slow=3.5,SNR=4.1							
TORD	Torodi Ar. Bea	82.26	45	P	P	11 57 20.2	+1.3
BVAR	Borovoye Array	145.00	73	PKPbc	PKPdf	12 04 34.6	+0.9
comp=Z,2.0nm,0.7s,baz=250,slow=3.0,SNR=6.8							
ILAR	Eielson Array	146.25	311	PKPbc	PKPdf	12 04 35.8	+0.3
comp=Z,0.8nm,0.6s,baz=144,slow=2.6,SNR=5.5							
MKAR	Makanchi Array	146.65	90	PKPbc	PKPbc	12 04 38.9	+0.5
comp=Z,1.6nm,0.6s,baz=245,slow=2.2,SNR=8.4							
MKAR	Makanchi Array	146.65	90		PKPab	12 04 39.5	-0.1

*ISCJB **17** 11:48:36.9±0.5, 60°.67S±0°.07×42°.2W±0°.2, h10km, mb3.9/8, Error ellipse: s-maj=13.2km s-min=8.1km az=152.2*
*IDC **17** 11:48:37.6±0.8, 60°.59S×42°.53W, h0km, mb4.1/8, mb1 4.1/10, mb1mx4.0/26, mbtmp4.0/10, ML3.7/2, Error ellipse: s-maj=29.9km s-min=18.4km az=61.0*
*NEIC **17** 11:48:40.2±2.5, 60°.59S±0°.09×42°.5W±0°.2, h14km±4km, mb4.3/17*
ISC 17 11:48:38.9±0.5, 60°.65S±0°.08×42°.28W±0°.10, h10km, n42, σ1§23/40, mb4.1/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.10	29	Pn	Pn	11 50 22.7	0.0
PMSA	Palmer Station	10.79	238	Pn	Pn	11 51 12.7	-0.4
0.5nm,0.3s,baz=65,slow=7.0,SNR=5.2							
PMSA	Palmer Station	10.79	238		Pn	11 51 12.3	-0.8
USHA	Ushuaia	15.06	281	Pn	P	11 52 16.7	-0.2
0.5nm,0.3s,baz=74,slow=7.3,SNR=3.6							
VNA3	Neumayer Olymp	16.73	143	P	Pn	11 52 29.4	-3.6
VNA2	Neumayer--Watz	17.31	141	P	Pn	11 52 38.1	-2.2
baz=303,slow=12							
SNAA	Sanae	18.93	142	P	P	11 52 58.6	-1.0
SNAA	Sanae	18.93	142	P	Pn	11 53 01.2	+1.0
0.2nm,0.3s,baz=331,slow=22,SNR=5.8							
SNAA	Sanae	18.93	142	P	Pn	11 53 01.5	+1.3
TRQA	Tornquist	25.80	322		P	11 54 12.0	+2.1
PLCA	Paso Flores	26.44	306	P	P	11 54 14.4	-1.4
4.0nm,0.9s,baz=186,slow=9.1,SNR=6.9							
PLCA	Paso Flores	26.44	306	P	P	11 54 14.7	-1.0
PLCA				IAmb	IAmb	11 54 18.2	
comp=Z,4.0nm,0.8s							
GO06	Curarrehue	27.79	306	P	P	11 54 26.8	-1.2
GO06				IAmb	IAmb	11 54 40.8	
comp=Z,5.4nm,1.4s							
QSPA	South Pole Qui	29.59	180	P	P	11 54 44.0	+0.3
comp=Z,1.5nm,0.6s,baz=185,slow=4.0,SNR=6.5							
QSPA	South Pole Qui	29.59	180	P	P	11 54 44.9	+1.1

GO05	Huala	31.96	310	P	P	11 55 03.6	-1.1
ROC1	El Roble	33.44	313	P	P	11 55 19.7	+1.7
CFA	Coronel Fontan	33.72	318	P	P	11 55 18.9	-1.3
comp=Z,1.1nm,0.4s,baz=143,slow=9.0,SNR=4.5							
CPUP	Villa Florida	35.82	337	P	P	11 55 37.5	-0.7
comp=Z,2.2nm,0.8s,baz=160,slow=9.4,SNR=4.0							
CPUP	Villa Florida	35.82	337	P	P	11 55 39.1	+0.8
CPUP				IAmb	IAmb	11 55 44.3	
comp=Z,3.5nm,1.1s							
GO04	Tololo Observa	35.90	315	P	P	11 55 38.8	-0.5
GO02	Mina Guanaco	40.12	320	P	P	11 56 15.3	+0.3
GO02				IAmb	IAmb	11 56 16.3	
comp=Z,7.4nm,0.7s							
SBA	Scott Base	40.60	189	P	P	11 56 19.7	+1.7
SBA				IAmb	IAmb	11 56 20.3	
comp=Z,6.7nm,1.2s							
LVC	Limon Verde	42.30	322	P	P	11 56 31.8	-1.2
comp=Z,2.7nm,0.6s,baz=206,slow=5.9,SNR=3.6							
LVC	Limon Verde	42.30	322	P	P	11 56 31.4	-1.6
LVC				IAmb	IAmb	11 56 38.9	
comp=Z,4.9nm,1.0s							
BDFB	Brasilia	45.14	352	P	P	11 56 54.3	-1.2
comp=Z,1.1nm,0.5s,baz=139,slow=21,SNR=3.2							
BDFB	Brasilia	45.14	352	P	P	11 56 54.4	-1.1
GO01	Chusmiza	45.16	323	P	P	11 56 55.8	-0.4
GO01				IAmb	IAmb	11 56 57.4	
comp=Z,5.9nm,1.1s							
MNMC	Minye Minye	45.79	323	P	P	11 57 01.6	+0.8
SIV	San Ignacio	46.62	335	P	P	11 57 07.3	+0.1
comp=Z,0.5nm,0.6s,baz=170,slow=10,SNR=4.1							
SAML	Samuel	53.90	334	P	P	11 58 02.8	+0.5
SAML				IAmb	IAmb	11 58 03.0	
comp=Z,2.9nm,0.7s							
OTAV	Otavalo	66.79	320	P	P	11 59 33.0	+2.0
TORD	Torodi Ar. Bea	81.45	43	P	P	12 00 56.1	+0.2
comp=Z,0.8nm,0.8s,baz=202,slow=2.7,SNR=3.6							
TORD	Torodi Ar. Bea	81.45	43	P	P	12 00 55.9	-0.1
H08S1	Diego Carcia H	95.13	115	T	T	13 48 38.6	
baz=213,slow=76,SNR=5.3							
H08S3	Diego Garcia H	95.15	115	T	T	13 48 42.9	
baz=203,slow=76,SNR=4.3							
INK	Inuvik	144.28	320	PKP	PKPab	12 08 10.9	-0.3
comp=Z,2.0nm,0.8s,baz=54,slow=4.9,SNR=6.9							
MKAR	Makanchi Array	145.52	88	PKPbc	PKPab	12 08 18.1	+1.5
comp=Z,0.8nm,0.7s,baz=235,slow=3.0,SNR=4.9							
MKAR	Makanchi Array	145.52	88		PKiKP	12 08 20.4	+0.3
ILAR	Eielson Array	147.09	310	PKPbc	PKPbc	12 08 20.3	-0.1
comp=Z,1.8nm,0.8s,baz=165,slow=3.1,SNR=13							
ZALV	Zalesovo Beam	151.35	80	PKPbc	PKPbc	12 08 31.2	-0.1
comp=Z,0.3nm,0.3s,baz=318,slow=6.2,SNR=2.8							
ZALV	Zalesovo Beam	151.35	80		PKPbc	12 08 31.1	-0.3

*IDC **17** 11:49:46.4±2.3, 36°.33N×70°.47E, h180km±21km, mb3.7/14, mb1 3.7/20, mb1mx3.5/68, mbtmp4.2/20, Error ellipse: s-maj=16.5km s-min=11.4km az=169.0*
*NEIC **17** 11:49:48.8±2.7, 36°.51N±0°.06×70°.34E±0°.08, h196km±6km, mb4.1/23*
*ISCJB **17** 11:49:48.1±0.2, 36°.50N±0°.02×70°.43E±0°.03, h204km, mb3.9/25, Error ellipse: s-maj=3.9km s-min=2.7km az=163.4*
*MOS **17** 11:49:48.2±0.9, 36°.48N×70°.44E, h204km, mb4.2/11, Error ellipse: s-maj=10.3km s-min=5.2km az=78.3*
*BJI **17** 11:49:48.4±0.0, 36°.79N×70°.15E, h203km, mb4.2/7, mB4.3/2*
*NNC **17** 11:49:52.8±2.4, 36°.85N×70°.52E, h233km±24km, mb3.4, mpv4.7, Error ellipse: s-maj=24.2km s-min=14.4km az=169.0*
ISC 17 11:49:49.0±0.4, 36°.44N±0°.04×70°.46E±0°.04, h204km, n155, σ1§78/171, mb4.0/27, 9C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.22	212	PN	Pn	11 50 30.1	-0.3
KBL						11 51 00.2	
KBL	Kabul	2.22	212		Pn	11 50 30.1	-0.3
KBL				Sn	S	11 51 00.2	-1.8
CHGR	Chuyangaron	2.44	335		Pn	11 50 31.0	-1.5
CHGR				Sn	S	11 51 01.4	-4.7
GAR	Garm	2.56	358		Pn	11 50 32.9	-1.0
GAR				Sn	S	11 51 05.4	-3.1
CEP	Cherat	2.87	155	⇓P	Pn	11 50 38.8	+1.3
CEP				S	S	11 51 16.0	+1.2
CHCP	Chirah Chowk	3.61	140	⇓P	Pn	11 50 47.9	+1.7
NIL	Nilore	3.61	140	PN	Pn	11 50 48.0	+1.8
NIL	Nilore	3.61	140		Pn	11 50 48.0	+1.8
BTK	Batken	3.62	4	PN	Pn	11 50 46.1	-0.2
BTK	Batken	3.62	4		Pn	11 50 46.1	-0.2
THW	Thanmme Wali	3.79	163	⇓P	Pn	11 50 49.3	+0.9
SARP	Sargodha	4.87	157	P	Pn	11 51 02.2	+0.3
TAS	Tashkent	4.96	350	PN	Pn	11 51 02.4	-0.6
TAS	Tashkent	4.96	350		Pn	11 51 02.4	-0.6
JMU	Jammu	5.22	134	ex	S	11 52 20.0	+13
AML	Almayashu	6.21	23	P	Pn	11 51 18.6	-0.7
SNR=99							
DHRM	DHARAMSHALA	6.39	129	eP	Pn	11 51 22.0	+0.4
DHRM				eS	S	11 52 32.9	-1.8
DHRM				IAML		11 52 34.8	
comp=E,1μm,0.1s							
DHRM				IAML		11 52 36.2	
comp=N,476nm,0.1s							
UCH	Uchtor	6.58	27	P	Pn	11 51 23.6	-0.5
SNR=51							
NRN	Naryn	6.59	39	PN	Pn	11 51 22.3	-1.9
NRN	Naryn	6.59	39		Pn	11 51 22.3	-1.9
KK31	Karatay Array	6.65	0	⇑P	Pn	11 51 23.0	-1.7
comp=N,19nm,0.5s,baz=178,slow=13,SNR=207							
KK31				⇓S	S	11 52 36.0	-4.5
comp=N,13nm,0.3s,baz=180,slow=24,SNR=4.0							
KK31	Karatay Array	6.65	0	PN	Pn	11 51 23.0	-1.7
KK31	Karatay Array	6.65	0	Pn	Pn	11 51 23.1	-1.7
KKAR	Karatay Array	6.65	0	PN	Pn	11 51 23.3	-1.4
KKAR	Karatay Array	6.65	0	Pn	Pn	11 51 23.1	-1.6
KKAR	Karatay Array	6.65	0	Pn	Pn	11 51 23.3	-1.4
KKAR				Sn	S	11 52 36.7	-3.8
EKS2	Erkin-Say	6.72	21	P	Pn	11 51 25.4	-0.3
SNR=31							
KZA	Kyzart	6.74	32	P	Pn	11 51 25.4	-0.9
SNR=13							
AAK	Ala-Archa	6.93	26	⇑P	Pn	11 51 27.8	-0.6
comp=N,19nm,0.5s							
AAK				⇓S	S	11 52 43.4	-3.8
comp=N,138nm,0.7s							
AAK	Ala-Archa	6.93	26	P	Pn	11 51 28.0	-0.4
comp=N,14nm,0.3s,baz=177,slow=6.2,SNR=86							
AAK				S	S	11 52 43.8	-3.4
comp=N,13nm,0.3s,baz=326,slow=22,SNR=26							
AAK	Ala-Archa	6.93	26	P	Pn	11 51 27.9	-0.4
SNR=28							
AAK	Ala-Archa	6.93	26		Pn	11 51 28.0	-0.4
AAK					S	11 52 43.5	-3.8
KBK	Karagaybulak	7.11	28	P	Pn	11 51 30.8	+0.1
SNR=18							
FRU1	Bishkek	7.13	26	PN	Pn	11 51 30.9	0.0
FRU1						11 52 51.7	
FRU1	Bishkek	7.13	26		Pn	11 51 30.9	0.0
FRU1					S	11 52 51.7	-0.1
CHMS	Chumysh	7.34	25	P	Pn	11 51 33.0	-0.5
SNR=28							
BOOM	Boomskoye usch	7.38	33	PN	Pn	11 51 34.0	-0.3
BOOM	Boomskoye usch	7.38	33		Pn	11 51 34.0	-0.3
USP	Ospenovka	7.49	23	P	Pn	11 51 34.7	-0.9
SNR=12							
TKM2	Tokmak 2	7.59	30	⇓P	Pn	11 51 36.2	-0.8
comp=N,66nm,0.6s							
TKM2				⇑S	S	11 52 59.6	-3.3
comp=N,39nm,0.7s							
TKM2	Tokmak 2	7.59	30	P	Pn	11 51 36.5	-0.5
SNR=82							
SMLA	Simla	7.70	132	eP	Pn	11 51 38.4	+0.1
SMLA				eS	S	11 53 02.2	-3.1
SMLA				IAML		11 53 05.9	
comp=E,237nm,0.5s							
SMLA				IAML		11 53 06.9	
comp=N,269nm,0.5s							
KDJ	Kajisay	7.71	40	PN	Pn	11 51 38.2	-0.3
KDJ	Kajisay	7.71	40	Pn	Pn	11 51 38.2	-0.3
TARG	Taragay, Kyrgy	7.78	45		Pn	11 51 39.0	-0.7
PRZ	Przheval'sk	8.61	43	PN	Pn	11 51 50.0	-0.2
PRZ	Przheval'sk	8.61	43		Pn	11 51 50.0	-0.2
JOSI	Joshimath	9.60	125	eP	Pn	11 52 03.9	+0.6
JOSI				eP	P	11 52 04.0	-7.6
JOSI				eS	S	11 53 46.9	-4.1
JOSI				eS	S	11 53 47.2	-3.7
JOSI				IAML		11 53 49.9	
comp=N,163nm,0.7s							
JOSI				IAML		11 53 50.1	
comp=N,151nm,0.4s							
JOSI				IAML		11 53 50.6	
comp=E,162nm,0.6s							
JOSI				IAML		11 53 50.6	
comp=E,154nm,0.4s							
NDI	New Delhi	9.61	142	eP	Pn	11 52 01.0	-2.1
NDI				eP	P	11 52 01.5	-10
NDI				eP	P	11 52 01.5	-10
NDI				eS	S	11 53 43.5	-7.4
NDI				eS	S	11 53 43.5	-7.4
NDI				eS	S	11 53 43.5	-7.4
KUDL	Kundal	9.72	147	eP	Pn	11 51 55.0	-10
KUDL				eS	S	11 53 38.4	-15
KUDL				IAML		11 53 40.0	
comp=E,43nm,0.6s							
KUDL				IAML		11 53 41.4	
comp=N,17nm,0.1s							
GEYT	Alibeck	9.96	282	P	Pn	11 52 04.6	-3.0
comp=N,0.1nm,0.3s,baz=132,slow=2.2,SNR=5.9							
GEYT				S	S	11 53 58.6	-0.5
comp=N,0.6nm,0.3s,baz=90,slow=13,SNR=3.8							
GEYT	Alibeck	9.96	282		Pn	11 52 04.5	-3.2
MAKZ	Makanchi	13.46	36	P	Pn	11 52 51.5	-0.4
MAKZ	Makanchi	13.46	36		Pn	11 52 51.5	-0.4
MK31	Makanchi Array	13.60	37	P	Pn	11 52 54.2	+0.5
MK31	Makanchi Array	13.60	37		Pn	11 52 54.2	+0.5
MKAR	Makanchi Array	13.60	37	P	Pn	11 52 52.4	-1.2
MKAR	Makanchi Array	13.60	37	P	Pn	11 52 54.1	+0.4
comp=N,0.5nm,0.3s,baz=218,slow=16,SNR=8.3							
MKAR	Makanchi Array	13.60	37		Pn	11 52 52.4	-1.2
DANN	Dangsing	13.82	122	eP	Pn	11 52 57.0	+0.1
comp=N,40nm,0.5s							
KOLN	Koldanda	14.09	124	eP	Pn	11 53 00.0	-0.1
comp=N,25nm,0.5s							
GKN	Gorkha	14.64	121	eP	Pn	11 53 07.5	+0.6
comp=N,61nm,0.3s							
AB31	Akbulak array	14.93	332	P	Pn	11 53 08.0	-1.9
comp=N,5.3nm,0.5s,baz=146,slow=12,SNR=115							
ABKAR	Akbulak array	14.93	332		Pn	11 53 07.9	-2.1
ABKAR	Akbulak array	14.93	332		Pn	11 53 08.0	-1.9
WMQ	Urumqi	15.09	55	eP	P	11 53 13.8	+1.2
WMQ				pmax	pmax		
comp=N,16nm,0.7s							
DMN	Daman	15.21	121	eP	Pn	11 53 14.2	+0.3
comp=N,33nm,0.5s							
KKN	Kakani	15.22	120	eP	Pn	11 53 14.2	+0.2
comp=N,30nm,0.5s							
KURBB	Kurchatov Arra	15.32	20	⇓P	Pn	11 53 11.8	-2.9
comp=N,4.5nm,0.8s							
KURBB	Kurchatov Arra	15.32	20	P	Pn	11 53 12.8	-1.9
comp=N,0.1nm,0.3s,baz=208,slow=11,SNR=8.9							
KURK	Kurchatov	15.43	20	⇓P	Pn	11 53 12.6	-3.4
comp=N,4.9nm,1.0s							
KURK	Kurchatov	15.43	20	c iP	Pn	11 53 14.4	-1.6
KURK	Kurchatov	15.43	20		Pn	11 53 14.6	-1.5
KURK				IAmb	IAmb	11 53 15.4	
comp=Z,7.4nm,1.3s							
PKIN	Phulchoki	15.44	121	eP	P	11 53 18.0	+1.3
comp=Z,44nm,0.5s							
PKI	Pulchoki	15.45	121	eP	P	11 53 17.7	+0.8
comp=Z,102nm,0.6s							
GUN	Gumba	15.57	119	eP	Pn	11 53 19.2	+0.9
comp=Z,36nm,0.4s							
JIRN	Jiri	15.94	119	eP	Pn	11 53 23.7	+0.9
comp=Z,183nm,0.4s							
BVAR	Borovoye Array	16.58	360	P	P	11 53 29.0	+0.2
comp=Z,1.0nm,0.3s,baz=189,slow=11,SNR=13							
BRVK	Borovoye	16.61	360	eP	Pn	11 53 30.5	+0.3
BRVK	Borovoye	16.61	360	P	Pn	11 53 30.1	-0.2
BRVK				IAmb	IAmb	11 53 32.3	
comp=Z,7.5nm,0.8s							
AKTO	Aktyubinsk	16.62	331	⇑P	P	11 53 29.0	-0.2
comp=Z,12nm,0.7s							
AKTO	Aktyubinsk	16.62	331	P	Pn	11 53 29.9	-0.4
comp=Z,1.6nm,0.3s,baz=144,slow=12,SNR=28							
RAMN	Ramite	16.66	120	eP	Pn	11 53 31.5	+0.2
comp=Z,49nm,0.5s							
TAPN	Taplejung	17.21	117	eP	Pn	11 53 39.3	+1.5
comp=Z,21nm,0.4s							
ODAN	Odare	17.27	119	eP	Pn	11 53 40.0	+1.5
comp=Z,43nm,0.6s							
DGZ	Jazzator, Alta	18.09	38	c iP	Pn	11 53 48.3	+0.5
ZAA0	Zalesovo Array	20.15	25	P	P	11 54 08.1	+0.7
ZAA0				IAmb	IAmb	11 54 15.2	
comp=Z,5.9nm,0.8s							
ZALV	Zalesovo Beam	20.15	25	P	P	11 54 08.1	+0.7
comp=Z,3.2nm,0.3s,baz=218,slow=11,SNR=15							
ZALV	Zalesovo Beam	20.15	25	P	P	11 54 07.8	+0.4
GNI	Garni	20.50	288	i P	P	11 54 13.6	+2.1
GNI				pmax	pmax		
comp=Z,48nm,1.0s							
GNI	Garni	20.50	288	P	P	11 54 13.7	+2.2
comp=Z,8.2nm,0.3s,baz=122,slow=8.7,SNR=4.6							
GNI	Garni	20.50	288	P	P	11 54 14.1	+2.6
AKH	Akhalkalaki	21.52	292	P	P

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YAK                                  IAmb    IAmb    11 57 39.5
      comp=Z,8.7nm,0.8s
NC204 NORSAR Array S  44.41 323      P       P       11 57 39.7 +0.6
TIXI  Tiksi           45.99  22  i P       P       11 57 52.4 +1.1
TIXI                                 pmax    pmax
      comp=Z,4.0nm,0.9s
TIXI  Tiksi           45.99  22    P       P       11 57 52.2 +0.9
TIXI                                 IAmb    IAmb    11 57 53.1
      comp=Z,4.2nm,0.8s
KMBO  Kilima Mbogo    48.47 227    P       P       11 58 12.7 +1.2
KMBO                                 pmax    pmax
      comp=Z,2.0nm,0.7s
KMBO  Kilima Mbogo    48.47 227    P       P       11 58 11.7 +0.2
      comp=Z,1.5nm,0.6s,baz=36,slow=11,SNR=7.4
KMBO  Kilima Mbogo    48.47 227    P       P       11 58 12.7 +1.2
BILL  Bilibino        58.85  26  eP       P       11 59 26.1 +0.4
BILL                                 e               12 00 13.7
BILL                                 pmax    pmax
      comp=Z,1.0nm,0.9s
TOA0  Torodi Ar. Sit  65.28 268    P       P       12 00 08.1 -1.2
TOA0                                 IAmb    IAmb    12 00 09.3
      comp=Z,2.7nm,1.0s
TORD  Torodi Ar. Bea  65.28 268    P       P       12 00 08.0 -1.3
      comp=Z,1.2nm,0.5s,baz=47,slow=5.6,SNR=10
TORD  Torodi Ar. Bea  65.28 268    P       P       12 00 08.3 -1.0
TOLK  Toolik Lake Re  71.09  14    P       P       12 00 46.1 +1.5
TOLK                                 IAmb    IAmb    12 00 55.6
      comp=Z,5.5nm,1.1s
INK   Inuvik          74.03   9    P       P       12 01 03.5 +1.7
INK                                  pmax    pmax
      comp=Z,2.0nm,0.9s
INK   Inuvik          74.03   9    P       P       12 01 01.9  0.0
      comp=Z,1.2nm,0.5s,baz=338,slow=4.9,SNR=6.0
INK   Inuvik          74.03   9    P       P       12 01 03.5 +1.7
INK                                  IAmb    IAmb    12 01 18.3
      comp=Z,2.0nm,0.9s
DBIC  Dimbokro        74.26 267    P       P       12 01 04.2 +0.2
DBIC                                 pmax    pmax
      comp=Z,13nm,1.4s
DBIC  Dimbokro        74.26 267    P       P       12 01 04.2 +0.2
LBTB  Lobatse         74.34 222    P       P       12 01 06.5 +2.2
LBTB                                 pmax    pmax
      comp=Z,10.0nm,1.4s
LBTB  Lobatse         74.34 222    P       P       12 01 06.5 +2.2
LBTB                                 IAmb    IAmb    12 01 20.3
      comp=Z,9.7nm,1.4s
COLA  College         74.65  16  i P       P       12 01 06.4 +1.0
COLA                                 pmax    pmax
      comp=Z,17nm,2.9s
KNRA  Kununurra       75.56 122    P       P       12 01 12.3 +1.0
WRA   Warramunga Arr  82.33 122    P       P       12 01 47.4 -0.7
      comp=Z,1.7nm,0.8s,baz=322,slow=4.8,SNR=18
WRA   Warramunga Arr  82.33 122    P       P       12 01 47.0 -1.1
WRAB  Tennant Creek   82.33 122    P       P       12 01 47.9 -0.2
WRAB                                 pmax    pmax
      comp=Z,3.0nm,0.9s
WRAB  Tennant Creek   82.33 122    P       P       12 01 47.9 -0.2
WRAB                                 IAmb    IAmb    12 01 48.3
      comp=Z,2.8nm,0.8s
WB2   Warramunga Arr  82.34 122    P       P       12 01 47.8 -0.3
AS31  Alice Springs   84.58 125    P       P       12 01 59.5  0.0
ASAR  Alice Springs   84.58 125    P       P       12 01 59.6 +0.1
ASAR  Alice Springs   84.58 125    P       P       12 01 59.2 -0.3
      comp=Z,1.2nm,0.6s,baz=310,slow=4.9,SNR=27
ASAR  Alice Springs   84.58 125    P       P       12 01 59.6 +0.1
GO03  Copiap          145.72 274   PKPbc   PKPab   12 09 05.3 +0.5
GO04  Tololo Observa  147.18 270   PKPbc   PKPbc   12 09 08.1 -0.4
PLCA  Paso Flores     149.40 250   PKPbc   PKPbc   12 09 12.8 -0.9
      comp=Z,1.9nm,0.8s,baz=106,slow=0.5,SNR=3.1
PLCA  Paso Flores     149.40 250   PKPbc   PKPbc   12 09 13.5 -0.2
GO06  Curarrehue      149.99 252   PKPbc   PKPbc   12 09 15.4 +0.2
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*IDC **17** 11:56:03.8±0.8, 60°.34S×46°.05W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/27, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=26.7km s-min=21.0km az=45.0*
*ISCJB **17** 11:56:04.3±0.5, 60°.31S±0°.08×45°.9W±0°.2, h10km, mb4.1/7, Error ellipse: s-maj=15.6km s-min=11.6km az=157.8*
*NEIC **17** 11:56:06.0±2.3, 60°.32S±0°.08×46°.0W±0°.2, h10km±1km, mb4.2/11*
ISC 17 11:56:05.5±0.6, 60°.3S±0°.1×46°.0W±0°.1, h10km, n27,
σ0°90/24, mb4.3/12, Scotia Sea

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
HOPE  Hope Point        7.95  45  Pn    Pn    11 57 59.6  -1.3
PMSA  Palmer Station    9.43 234  Pn    Pn    11 58 20.1  -1.1
      1.7nm,0.3s,baz=41,slow=9.5,SNR=7.0
SNAA  Sanae            20.35 141  P     Pn    12 00 45.5 +1.8
      4.8nm,1.1s,baz=296,slow=12,SNR=3.9
SNAA  Sanae            20.35 141  P     Pn    12 00 46.4 +2.6
TRQA  Tornquist        24.46 328  P     P     12 01 26.1 +1.6
TRQA                              IAmb  IAmb  12 01 26.2
      comp=Z,7.5nm,0.8s
PLCA  Paso Flores      24.78 311  P     P     12 01 27.1  -0.2
      comp=Z,2.9nm,1.0s,baz=152,slow=6.9,SNR=3.5
PLCA  Paso Flores      24.78 311  P     P     12 01 27.0  -0.4
QSPA  South Pole Qui   29.92 180  P     P     12 02 13.6 +0.3
      comp=Z,4.1nm,1.0s,baz=190,slow=9.5,SNR=3.6
QSPA  South Pole Qui   29.92 180  P     P     12 02 14.1 +0.7
QSPA                              IAmb  IAmb  12 02 14.7
      comp=Z,4.5nm,0.9s
SBA   Scott Base       40.63 190  P     P     12 03 46.0 +1.1
SBA                               IAmb  IAmb  12 03 49.9
      comp=Z,4.0nm,1.0s
GO01  Chusmiza         43.83 328  P     P     12 04 12.7 +0.6
GO01                              IAmb  IAmb  12 04 13.9
      comp=Z,2.6nm,0.9s
MNMC  Minye Minye      44.45 327  P     P     12 04 17.7 +0.9
SIV   San Ignacio      45.59 340  P     P     12 04 25.8 +0.1
      comp=Z,1.7nm,0.4s,baz=200,slow=8.0,SNR=15
LPAZ  La Paz           46.79 330  P     P     12 04 35.8 +0.1
      comp=Z,0.5nm,0.5s,baz=182,slow=4.6,SNR=3.3
LPAZ  La Paz           46.79 330  P     P     12 04 37.1 +1.4
LPAZ                              IAmb  IAmb  12 04 53.5
      comp=Z,0.9nm,0.8s
SAML  Samuel           52.85 339  P     P     12 05 21.5 +0.4
SAML                              IAmb  IAmb  12 05 22.1
      comp=Z,4.4nm,0.8s
BOSA  Boshof           56.38  89  P     P     12 05 46.5  -0.3
      comp=Z,4.2nm,1.0s,baz=192,slow=9.3,SNR=3.0
BOSA  Boshof           56.38  89  P     P     12 05 46.4  -0.5
LSZ   Lusaka           69.04  84  P     P     12 07 11.8 +0.4
      comp=Z,2.0nm,0.4s,baz=201,slow=4.7,SNR=4.2
OUZ   Omahuta          79.40 212  P     P     12 08 10.4  -1.1
TOA0  Torodi Ar. Sit   82.52  47  P     P     12 08 28.8 +0.6
TOA0                              IAmb  IAmb  12 08 37.2
      comp=Z,2.9nm,1.1s
TORD  Torodi Ar. Bea   82.52  47  P     P     12 08 28.8 +0.6
      comp=Z,0.5nm,0.4s,baz=200,slow=6.6,SNR=6.0
ARCES ARCESS Array B 139.15  31  PKhKP  PKPpre 12 15 19.9
      comp=Z,4.3nm,1.0s,baz=253,slow=1.3,SNR=4.6
ILAR  Eielson Array    145.47 312 PKPbc  PKPdf 12 15 40.9  -1.2
      comp=Z,1.7nm,0.4s,baz=133,slow=2.4,SNR=28
ILAR  Eielson Array    145.47 312         PKPdf 12 15 41.0  -1.0
MKAR  Makanchi Array   147.38  91 PKPbc  PKPdf 12 15 46.5 +0.7
      comp=Z,1.0nm,0.5s,baz=243,slow=3.2,SNR=12
MKAR  Makanchi Array   147.38  91         PKPdf 12 15 46.7 +0.8
```

*ISCJB **17** 12:01:08.7±0.6, 60°.78S±0°.08×42°.2W±0°.1, h10km, mb4.0/6, Error ellipse: s-maj=12.3km s-min=9.0km az=155.3*
*IDC **17** 12:01:09.1±0.7, 60°.81S×42°.05W, h0km, mb4.3/6, mb1 4.3/9, mb1mx4.0/32, mbtmp4.1/9, ML3.3/3, Error ellipse: s-maj=25.1km s-min=22.6km az=0.0*
*NEIC **17** 12:01:11.4±1.1, 60°.7S±0°.1×42°.1W±0°.2, h15km±2km, mb4.5/7*
ISC 17 12:01:10.6±0.5, 60°.70S±0°.09×42°.07W±0°.08, h10km, n34,
σ1°21/33, mb4.3/7, Scotia Sea

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
HOPE  Hope Point        7.10  27  Pn    Pn    12 02 53.5  -0.9
PMSA  Palmer Station   10.85 238  Pn    Pn    12 03 44.8  -0.9
      0.2nm,0.3s,baz=90,slow=14,SNR=3.0
PMSA                              Sn    Sn    12 05 45.9  -0.9
      0.2nm,0.3s,baz=113,slow=22,SNR=2.9
PMSA  Palmer Station   10.85 238          Pn    12 03 44.1  -1.5
USHA  Ushuaia          15.17 281  Pn    Pn    12 04 45.1 +0.4
      0.1nm,0.3s,baz=141,slow=6.5,SNR=2.0
SNAA  Sanae            18.83 142  P     Pn    12 05 30.8 +0.1
      0.1nm,0.3s,baz=284,slow=6.4,SNR=4.8
SNAA  Sanae            18.83 142  P     Pn    12 05 30.5  -0.2
PLCA  Paso Flores      26.56 306  P     P     12 06 51.0 +2.5
      5.3nm,1.3s,baz=193,slow=10,SNR=2.9
QSPA  South Pole Qui   29.54 180  P     P     12 07 16.0 +0.9
      1.0nm,0.7s,baz=276,slow=5.9,SNR=5.0
QSPA  South Pole Qui   29.54 180  P     P     12 07 15.7 +0.7
QSPA                              IAmb  IAmb  12 07 29.4
      comp=Z,2.3nm,1.1s
GO05  Huala            32.07 310  P     P     12 07 37.1  -0.3
PB10  IPOC Station P   42.08 319  P     P     12 09 02.6 +0.2
PB10                              IAmb  IAmb  12 09 19.5
      comp=Z,15nm,1.1s
LSZ   Lusaka           67.15  80  P     P     12 12 05.1 +0.5
      comp=Z,1.7nm,0.3s,baz=214,slow=5.1,SNR=4.8
LSZ   Lusaka           67.15  80  P     P     12 12 04.8 +0.2
LSZ                               IAmb  IAmb  12 12 06.2
      comp=Z,4.7nm,0.8s
CMWZ  Cape Campbell    73.69 207  P     P     12 12 47.1 +3.0
TOA0  Torodi Ar. Sit   81.42  43  P     P     12 13 27.0  -0.4
TOA0                              IAmb  IAmb  12 13 29.4
      comp=Z,4.9nm,1.1s
TORD  Torodi Ar. Bea   81.42  43  P     P     12 13 28.8 +1.3
      comp=Z,2.5nm,0.8s,baz=203,slow=5.7,SNR=11
TORD  Torodi Ar. Bea   81.42  43  P     P     12 13 27.3  -0.1
H08S1 Diego Carcia H   95.02 115  T     T     14 00 55.7
      baz=205,slow=76,SNR=4.7
H08S2 Diego Garcia H   95.03 115  T     T     14 00 53.0
      baz=205,slow=76,SNR=3.6
H08S3 Diego Garcia H   95.04 115  T     T     14 01 05.9
      baz=205,slow=76,SNR=4.5
ASAR  Alice Springs    95.87 176  P     P     12 14 36.1  -1.3
      comp=Z,0.6nm,1.0s,baz=172,slow=4.1,SNR=3.2
ASAR  Alice Springs    95.87 176  P     P     12 14 36.2  -1.1
WRA   Warramunga Arr   99.59 177  P     Pdif  12 14 51.7  -2.4
      comp=Z,0.6nm,1.0s,baz=9.8,slow=28,SNR=3.1
GERES GERESS Array B 118.09  38  PKP   PKiKP 12 19 58.6 +2.0
      comp=Z,0.5nm,0.9s,baz=304,slow=9.5,SNR=3.5
GERES GERESS Array B 118.09  38          PKiKP 12 19 58.0 +1.4
YBH   Yreka Blue Hor   121.17 300 PKKP        12 30 36.3
      comp=Z,1.2nm,0.5s,baz=333,slow=4.5,SNR=13
INK   Inuvik           144.38 320 PKP   PKPab 12 20 43.3  -0.1
      comp=Z,3.7nm,0.8s,baz=79,slow=6.5,SNR=12
MKAR  Makanchi Array   145.42  88 PKPbc PKPdf 12 20 47.0  -0.6
      comp=Z,3.9nm,1.1s,baz=234,slow=4.1,SNR=12
MKAR                              SKPbc SKPbc 12 24 26.7  -0.3
      comp=Z,0.9nm,0.6s,baz=231,slow=2.5,SNR=5.7
MKAR  Makanchi Array   145.42  88         PKPdf 12 20 47.2  -0.5
ILAR  Eielson Array    147.20 310 PKPbc PKPbc 12 20 52.3  -0.1
      comp=Z,2.9nm,0.8s,baz=158,slow=2.5,SNR=22
ILAR                              SKPbc SKPbc 12 24 29.8  -0.5
      comp=Z,1.0nm,0.9s,baz=143,slow=2.3,SNR=7.0
ILAR  Eielson Array    147.20 310         PKPbc 12 20 52.5 +0.1
ZALV  Zalesovo Beam    151.26  79 PKPbc PKPbc 12 21 02.1  -0.8
      comp=Z,1.3nm,0.7s,baz=209,slow=3.9,SNR=5.7
ZALV  Zalesovo Beam    151.26  79         PKPbc 12 21 01.5  -1.4
SONM  Songino Array    157.80 111 PKPab PKPab 12 21 37.9  -1.3
      comp=Z,0.2nm,0.5s,baz=208,slow=5.9,SNR=2.9
```

*ISCJB **17** 12:04:56.0±0.4, 12°.70N±0°.02×60°.08W±0°.03, h69km±5km, mb3.9/3, Error ellipse: s-maj=5.5km s-min=3.8km az=16.7*
*TRN **17** 12:04:56.0, 12°.70N×60°.10W, h38km, MD4.1*
*NEIC **17** 12:04:56.9±1.7, 12°.71N±0°.05×60°.07W±0°.05, h65km±10km*
*IDC **17** 12:04:57.6±5.9, 13°.00N×61°.45W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/40, mbtmp3.9/3, Error ellipse: s-maj=115.0km s-min=25.6km az=132.0*
ISC 17 12:04:56.9±0.9, 12°.70N±0°.03×60°.07W±0°.04, h62km±9km,
n83, σ0°70/119, mb3.8/4, Windward Islands

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
BCHC  Barbados, Cave    0.61  45  eP    Pn    12 05 10.0  -0.2
BCHC                              eS    Sn    12 05 19.4  -0.6
BBGH  Gun Hill          0.67  49  eP    Pn    12 05 10.3  -0.6
BBGH                              eS    Sn    12 05 21.3 +0.2
BBGH  Gun Hill          0.67  49          Pn    12 05 10.3  -0.6
BBGH  Gun Hill          0.67  49          Sn    12 05 22.7 +1.6
SVCV  St. Vincent, C    1.19 299  eP    Pn    12 05 16.6  -1.0
SVCV                              eS    Sn    12 05 32.6  -0.3
SVCV  St. Vincent, C    1.19 299          Pn    12 05 16.6  -1.0
SVCV                                      Sn    12 05 32.6  -0.3
FCV   Fort Charlotte    1.23 292  eP    Pn    12 05 18.1   0.0
FCV                               eS    Sn    12 05 33.6  -0.2
FCV   Fort Charlotte    1.23 292          Pn    12 05 18.1   0.0
FCV                                       Sn    12 05 33.6  -0.2
SSV   Crater Summit     1.26 300  eP    Pn    12 05 18.7 +0.2
SSV   Crater Summit     1.26 300          Pn    12 05 18.7 +0.2
SFAN  Fancy Village     1.27 302  eP    Pn    12 05 18.5  -0.1
SFAN                              eS    Sn    12 05 34.5  -0.3
SFAN  Fancy Village     1.27 302          Pn    12 05 18.5  -0.1
SFAN                                      Sn    12 05 34.5  -0.3
SVV   Soufriere Volc    1.27 299  eP    Pn    12 05 18.7 +0.1
SVV                               eS    Sn    12 05 34.5  -0.4
SVV   Soufriere Volc    1.27 299          Pn    12 05 18.7 +0.1
SVV                                       Sn    12 05 34.5  -0.4
SVB   Belmont           1.28 296  eP    Pn    12 05 17.6  -1.2
SVB                               eS    Sn    12 05 35.0  -0.2
SVB   Belmont           1.28 296          Pn    12 05 17.6  -1.2
SVB                                       Sn    12 05 35.0  -0.2
MCLT  Moule a Chique    1.31 320  i P   Pn    12 05 18.5  -0.7
MCLT                              eS    Sn    12 05 35.4  -0.4
MCLT  Moule a Chique    1.31 320          Pn    12 05 18.4  -0.7
MCLT  Moule a Chique    1.31 320          Sn    12 05 35.4  -0.4
SLPA  Patience          1.41 324  eP    Pn    12 05 21.2 +0.6
SLPA                              eS    Sn    12 05 37.3  -0.9
SLPA  Patience          1.41 324          Pn    12 05 21.2 +0.6
SLPA                                      Sn    12 05 37.3  -0.9
SLDE  Delcer            1.46 319  eP    Pn    12 05 21.5 +0.3
SLDE                              eS    Sn    12 05 39.1  -0.2
SLDE  Delcer            1.46 319          Pn    12 05 21.5 +0.3
SLDE                                      Sn    12 05 39.1  -0.2
SLB   Belfond           1.47 320  eP    Pn    12 05 21.6 +0.3
SLB   Belfond           1.47 320          Pn    12 05 21.6 +0.3
TOSP  Speyside          1.47 198  eP    Pn    12 05 21.0  -0.2
TOSP                              eS    Sn    12 05 39.1  -0.4
TOSP  Speyside          1.47 198          Pn    12 05 20.9  -0.2
TOSP  Speyside          1.47 198          Sn    12 05 39.1  -0.4
GRSS  Sisters           1.56 255  eP    Pn    12 05 22.7 +0.3
GRSS                              eS    Sn    12 05 40.9  -0.8
GRSS  Sisters           1.56 255          Pn    12 05 22.7 +0.3
GRSS                                      Sn    12 05 40.9  -0.8
GRSS  Sisters           1.56 255          Pn    12 05 23.4 +1.0
GRSS                                      Sn    12 05 42.4 +0.8
SLBI  Saint Lucia, B    1.58 326  eP    Pn    12 05 22.1  -0.7
SLBI  Saint Lucia, B    1.58 326          Pn    12 05 22.1  -0.7
GRHS  Sauteurs          1.60 253  eP    Pn    12 05 23.4 +0.4
GRHS                              eS    Sn    12 05 42.4  -0.4
GRGR  Grenville         1.65 250  eP    Pn    12 05 24.0 +0.4
GRGR                              eS    Sn    12 05 44.4 +0.5
GRGR  Grenville         1.65 250          Pn    12 05 23.1  -0.6
GRGR  Grenville         1.65 250          Sn    12 05 44.4 +0.5
H05S1 Guadeloupe/Mar    1.87 337  Pn    Pn    12 05 26.3  -0.4
H05S1                             Sn    Sn    12 05 48.4  -0.8
      SNR=2349
MPOM  Morne Pois Mar    1.90 336  eP    Pn    12 05 26.2  -0.9
MVM   Montagne Vauci    2.01 337  eP    Pn    12 05 27.9  -0.7
BIM   Bigot             2.05 332  eP    Pn    12 05 29.0  -0.2
LPMF  Morne Lapointe    2.06 335  eP    Pn    12 05 28.5  -0.7
TRMF  Trois Ilets       2.06 333  eP    Pn    12 05 29.0  -0.2
ZAM   Aeronautique      2.08 334  eP    Pn    12 05 29.2  -0.3
ILAM  Ilet Lapin Mar    2.20 339  eP    Pn    12 05 31.0  -0.2
FDF   Fort de France    2.28 333  eP    Pn    12 05 32.6 +0.3
FDF                               eS    Sn    12 05 59.3 +0.1
FDF   Fort de France    2.28 333          Pn    12 05 32.0  -0.2
FDF                                   Sn  Sn    12 05 58.8  -0.5
PML   Morne Lenard      2.33 333  eP    Pn    12 05 33.6 +0.6
GBMF  Grand Be          2.34 333  eP    Pn    12 05 33.7 +0.6
BAMF  Morne Balai       2.35 334  eP    Pn    12 05 34.0 +0.7
CXM   Morne La Croix    2.35 333  eP    Pn    12 05 34.0 +0.6
PCM   Pelee Case Pet    2.38 332  eP    Pn    12 05 34.2 +0.7
SVN   Savane Anatole    2.38 334  eP    Pn    12 05 34.1 +0.4
GUIV  Guiria            2.93 226  eP    Pn    12 05 41.0  -0.2
GUIV                              eS    Sn    12 06 14.7  -0.5
GUIV  Guiria            2.93 226          Pn    12 05 41.0  -0.2
GUIV                                      Sn    12 06 14.7  -0.5
DWS   Wesley            3.09 337  eP    Pn    12 05 44.1 +0.7
DWS                               eS    Sn    12 06 19.1   0.0
DWS   Wesley            3.09 337          Pn    12 05 44.1 +0.7
DWS                                       Sn    12 06 19.1   0.0
BBL   Barber's Block    3.12 334  eP    Pn    12 05 43.8   0.0
BBL                               eS    Sn    12 06 20.6 +0.7
BBL   Barber's Block    3.12 334          Pn    12 05 43.8   0.0
BBL                                       Sn    12 06 20.6 +0.7
MDPO  Dominica; Chan    3.16 335  eP    Pn    12 05 45.1 +0.9
MDPO                              eS    Sn    12 06 21.3 +0.7
MAGL  Barre de l'ile    3.44 340  eP    Pn    12 05 47.8  -0.3
TDBA  Terre de Bas,     3.48 334  eP    Pn    12 05 49.7 +1.1
CBE   Ff, Capester      3.67 336  eP    Pn    12 05 51.7 +0.5
H05N1 Guadeloupe/Mar    3.72 345  Pn    Pn    12 05 52.0   0.0
H05N1                             Sn    Sn    12 06 31.9  -2.6
      SNR=16
ABD   La Joyeuse, An    3.99 340  eP    Pn    12 05 55.6   0.0
ORIV  Oritupano         4.87 223  eP    Pn    12 06 08.4 +0.7
ORIV  Oritupano         4.87 223  eS    Sn    12 07 01.5  -1.4
ORIV  Oritupano         4.87 223          Pn    12 06 08.4 +0.7
ORIV                                      Sn    12 07 01.5  -1.4
ANWB  Willy Bob         5.21 342  eP    Pn    12 06 13.3 +0.9
ANWB  Willy Bob         5.21 342          Pn    12 06 13.3 +0.9
ANWB                                      Sn    12 07 09.4  -1.7
STVI  Saint Thomas      7.33 321  Pn    Pn    12 06 42.4 +1.1
MTP   Monte Pirata      7.53 316          Pn    12 06 45.3 +1.1
HUMP  Col San Antoni    7.76 315  Pn    Pn    12 06 47.5 +0.2
CBYP  Canovanas         7.86 316  Pn    Pn    12 06 50.1 +1.4
SJG   San Juan          7.96 313  Pn    Pn    12 06 50.1 +0.2
GCPR  Guaynabo City     8.04 315  Pn    Pn    12 06 52.4 +1.3
AOPR  Arecibo Observ    8.54 312  Pn    Pn    12 06 58.4 +0.4
BANI  BANI              11.41 301  Pn    Pn    12 07 38.4 +1.0
SAML  Samuel            21.73 188  P     P     12 09 43.8 +0.5
SAML                              IAmb  IAmb  12 09 44.3
      comp=Z,2.4nm,0.9s
ULM   Lac du Bonnet     47.50 329  P     P     12 13 25.2  -0.6
      comp=Z,2.2nm,0.5s,baz=117,slow=6.6,SNR=3.3
PDAR  Pinedale Array    52.08 315  P     P     12 14 01.7 +0.7
      comp=Z,1.3nm,0.7s,baz=117,slow=9.3,SNR=13
PDAR  Pinedale Array    52.08 315  P     P     12 14 00.0  -1.0
NVAR  Mina Array Bea    57.40 308  P     P     12 14 40.4 +0.7
      comp=Z,0.2nm,0.6s,baz=123,slow=5.5,SNR=4.2
```

*IDC **17** 12:09:12.7±0.8, 60°.50S×43°.62W, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.8/30, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=31.4km s-min=17.8km az=68.0*
*ISCJB **17** 12:09:13.6±0.6, 60°.50S±0°.09×43°.8W±0°.3, h16km, mb3.6/8, Error ellipse: s-maj=19.6km s-min=10.7km az=152.5*
*NEIC **17** 12:09:14.8±2.5, 60°.3S±0°.1×43°.3W±0°.2, h13km±5km, mb4.2/7*
ISC 17 12:09:15.0±0.6, 60°.40S±0°.09×43°.5W±0°.1, h16km, n23,
σ1°28/23, mb3.8/8, Scotia Sea

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
HOPE  Hope Point        7.20  35  Pn    Pn    12 10 57.0  -2.4
PMSA  Palmer Station   10.43 236  Pn    Pn    12 11 40.6  -3.0
      0.2nm,0.3s,baz=80,slow=11,SNR=3.2
PMSA  Palmer Station   10.43 236          Pn    12 11 42.7  -0.9
EFI   East Falkland    11.93 311  Pn    Pn    12 12 05.8 +1.6
SNAA  Sanae            19.49 142  P     P     12 13 41.3 +0.4
      0.1nm,0.3s,baz=306,slow=10.0,SNR=6.8
SNAA  Sanae            19.49 142  P     Pn    12 13 43.3 +1.1
SNAA                              IAmb  IAmb  12 13 54.0
      comp=Z,5.9nm,0.9s
PLCA  Paso Flores      25.82 307  P     P     12 14 44.7  -0.7
      comp=Z,1.6nm,0.9s,baz=123,slow=5.3,SNR=2.9
PLCA  Paso Flores      25.82 307  P     P     12 14 46.4 +1.1
PLCA                              IAmb  IAmb  12 14 52.6
      comp=Z,5.9nm,1.1s
QSPA  South Pole Qui   29.84 180  P     P     12 15 19.8  -1.3
      comp=Z,0.6nm,0.9s,baz=36,slow=1.4,SNR=4.7
QSPA  South Pole Qui   29.84 180  P     P     12 15 22.4 +1.3
QSPA                              IAmb  IAmb  12 15 35.8
      comp=Z,5.2nm,1.1s
CPUP  Villa Florida    35.36 338  P     P     12 16 10.2 +0.7
      comp=Z,0.4nm,0.5s,baz=158,slow=20,SNR=4.0
CPUP  Villa Florida    35.36 338  P     P     12 16 10.0 +0.5
GO01  Chusmiza         44.61 324          P     12 17 26.5  -0.4
GO01                              IAmb  IAmb  12 17 43.9
      comp=Z,8.5nm,1.2s
MNMC  Minye Minye      45.24 324  P     P     12 17 30.7  -0.9
SIV   San Ignacio      46.15 336  P     P     12 17 39.2 +0.7
      comp=Z,0.6nm,0.5s,baz=171,slow=11,SNR=4.3
LPAZ  La Paz           47.53 327  P     P     12 17 50.7 +0.7
      comp=Z,0.8nm,0.8s,baz=173,slow=8.1,SNR=3.0
LPAZ  La Paz           47.53 327  P     P     12 17 49.9  -0.1
TORD  Torodi Ar. Bea   81.67  44  P     P     12 21 32.8 +0.6
      comp=Z,0.7nm,0.8s,baz=202,slow=5.7,SNR=3.0
ASAR  Alice Springs    96.21 178  P     P     12 22 43.7 +1.4
      comp=Z,0.2nm,0.7s,baz=190,slow=4.6,SNR=3.1
WRA   Warramunga Arr   99.93 178  P     Pdif  12 22 57.2  -1.7
      comp=Z,0.4nm,1.0s,baz=198,slow=2.5,SNR=3.0
MKAR  Makanchi Array   146.10  89 PKPbc PKPdf 12 28 51.7  -0.5
      comp=Z,0.4nm,0.6s,baz=226,slow=3.7,SNR=4.4
ILAR  Eielson Array    146.48 311 PKPbc PKPab 12 28 54.8 +0.1
      comp=Z,0.5nm,0.8s,baz=116,slow=2.1,SNR=4.0
ILAR  Eielson Array    146.48 311         PKPab 12 28 54.1  -0.6
```

*ISCJB **17** 12:11:34.9±0.2, 60°.57S±0°.03×44°.62W±0°.07, h10km, mb5.3/35, MS5.7/1, Error ellipse: s-maj=5.2km s-min=4.0km az=158.8*
*MOS **17** 12:11:35.2±1.0, 60°.54S×44°.54W, h10km, mb5.8/33, Error ellipse: s-maj=25.3km s-min=9.4km az=100.8*
*NEIC **17** 12:11:36.1±2.0, 60°.53S±0°.07×44°.4W±0°.1, h10km±1km, mb5.7/83*
*IDC **17** 12:11:39.7±1.4, 60°.54S×44°.47W, h30km±9km, mb5.0/24, mb1 5.0/27, mb1mx5.0/30, mbtmp5.2/27, ML4.4/3, Error ellipse: s-maj=12.6km s-min=8.6km az=55.0*
ISC 17 12:11:36.2±0.2, 60°.54S±0°.04×44°.36W±0°.05, h10km, n664,
σ1°27/669, mb5.6/63, 54C-14D, Scotia Sea

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
HOPE  Hope Point        7.57  38          Pn    12 13 25.5  -1.0
HOPE                              Sn    Sn    12 14 51.2  -1.0
PMSA  Palmer Station    9.98 236  Pn    Pn    12 14 00.0 +0.7
      3.3nm,0.3s,baz=70,slow=13,SNR=28
PMSA                              Sn    Sn    12 15 51.2   0.0
      2.3nm,0.3s,baz=158,slow=14,SNR=2.1
PMSA  Palmer Station    9.98 236  eP    Pn    12 14 00.6 +1.2
EFI   East Falkland    11.70 313  ceP   Pn    12 14 25.0 +2.1
EFI                               pmax  pmax
      comp=Z,146nm,0.8s
EFI   East Falkland    11.70 313          Pn    12 14 24.7 +1.8
USHA  Ushuaia          14.04 283  Pn    Pn    12 14 57.1 +2.3
      comp=Z,1.9nm,0.3s,baz=120,slow=16,SNR=17
USHA                              Sn    Sn    12 17 28.5  -2.0
      comp=Z,0.1nm,0.3s,baz=309,slow=16,SNR=1.5
GO10  Punta Arenas     16.27 285  P     P     12 15 29.5 +1.9
GO10                              IAmb  IAmb  12 15 49.2
      comp=Z,546nm,1.2s
VNA3  Neumayer Olymp   17.44 142  P     Pn    12 15 38.8  -0.3
VNA1  Neumayer--Stat   17.69 140  P     P     12 15 43.9 +0.8
VNA2  Neumayer--Watz   18.04 140  P     P     12 15 48.9 +1.9
      baz=289,slow=15
SNAA  Sanae            19.66 141  P     Pn    12 16 07.5 +1.4
SNAA  Sanae            19.66 141  ceP   Pn    12 16 08.1 +2.0
SNAA  Sanae            19.66 141  P     Pn    12 16 07.5 +1.4
      comp=Z,1.1nm,0.3s,baz=291,slow=10,SNR=28
SNAA                              S     S     12 19 39.5  -6.7
      comp=Z,0.4nm,0.3s,baz=309,slow=16,SNR=2.9
SNAA                              PcP   PcP   12 20 22.7  -0.5
      comp=Z,0.3nm,0.3s,baz=215,slow=6.9,SNR=2.6
SNAA  Sanae            19.66 141  P     Pn    12 16 06.0  -0.1
SNAA                              IAmb  IAmb  12 16 17.0
      comp=Z,432nm,1.1s
TRQA  Tornquist        25.11 326  P     P     12 17 00.4  -0.4
TRQA                              pmax  pmax
      comp=Z,291nm,1.2s
TRQA  Tornquist        25.11 326  P     P     12 17 00.4  -0.4
TRQA                              IAmb  IAmb  12 17 09.0
      comp=Z,291nm,1.1s
TRQA  Tornquist        25.11 326  eP    P     12 17 02.0 +1.2
PLCA  Paso Flores      25.57 309  P     P     12 17 04.3  -0.7
PLCA                              pmax  pmax
      comp=Z,187nm,1.3s
PLCA  Paso Flores      25.57 309  P     P     12 17 04.5  -0.5
      comp=Z,18nm,0.8s,baz=188,slow=9.1,SNR=45
PLCA                              S     S     12 21 31.1  -1.5
      comp=Z,2.3nm,1.0s,baz=154,slow=7.6,SNR=1.4
PLCA                              ScP   ScP   12 24 13.5  -1.3
      comp=Z,6.7nm,1.0s,baz=135,slow=4.8,SNR=5.2
PLCA  Paso Flores      25.57 309  P     P     12 17 04.3  -0.7
PLCA                              IAmb  IAmb  12 17 26.4
      comp=Z,186nm,1.3s
PLCA  Paso Flores      25.57 309  eP    P     12 17 04.9  -0.1
GO06  Curarrehue       26.91 309  P     P     12 17 17.3   0.0
OGAUY Aigu             27.07 341  eP    P     12 17 20.3 +1.7
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OGAUY **Aigu** 27.07 341 *eP* **P** 12 17 20.3 +1.7
PLTB **Pedras Altas** 29.43 344 *eP* **P** 12 17 41.4 +1.7
PLTB **Pedras Altas** 29.43 344 *eP* **P** 12 17 41.4 +1.7
QSPA **South Pole Qui** 29.69 180 P **P** 12 17 43.9 +2.0
comp=Z,130nm,1.2s,baz=174,slow=4.4,SNR=65
QSPA **South Pole Qui** 29.69 180 P **P** 12 17 43.6 +1.7
QSPA IAmb IAmb 12 17 52.3
comp=Z,198nm,1.1s
CPSB **Cacapava Do Su** 30.75 345 *eP* **P** 12 17 52.3 +1.0
CPSB **Cacapava Do Su** 30.75 345 *eP* **P** 12 17 52.3 +1.0
GO05 **Huala** 31.11 313 P **P** 12 17 54.0 -0.6
GO05 IAmb IAmb 12 18 01.6
comp=Z,80nm,0.9s
MRA **San Martin** 31.45 324 *eP* **P** 12 17 57.3 -0.3
CNLB **Canela** 31.53 349 *eP* **P** 12 17 59.6 +1.3
CNLB **Canela** 31.53 349 *eP* **P** 12 17 59.6 +1.3
TCA **Tanti** 32.14 326 *eP* **P** 12 18 03.9 +0.1
PEL **Peldehue** 32.36 316 P **P** 12 18 05.0 -0.5
PEL pmax pmax
comp=Z,210nm,1.2s
PEL **Peldehue** 32.36 316 P **P** 12 18 05.0 -0.5
ROC1 **El Roble** 32.62 316 *eP* **P** 12 18 08.4 +0.3
ROC1 **El Roble** 32.62 316 P **P** 12 18 08.3 +0.2
RTCV **Cerro Valdivia** 32.82 320 *eP* **P** 12 18 09.5 -0.1
CFA **Coronel Fontan** 32.97 321 P **P** 12 18 10.9 +0.1
comp=Z,6.4nm,0.5s,baz=158,slow=6.7,SNR=15
CFA PcP **PcP** 12 20 55.2 +0.6
comp=Z,18nm,0.7s,baz=145,slow=2.1,SNR=9.1
CFA ScP **ScP** 12 24 36.6 -1.9
comp=Z,19nm,1.0s,baz=188,slow=1.6,SNR=9.4
RTLS **Leoncito** 33.13 319 *eP* **P** 12 18 12.8 +0.2
AMOG **MOGNA** 33.66 321 *eP* **P** 12 18 17.2 +0.3
ITAB **Concordia** 33.72 347 *eP* **P** 12 18 19.2 +1.9
ITAB **Concordia** 33.72 347 *eP* **P** 12 18 19.2 +1.9
SYO **Syowa Base** 33.93 140‖ *eP* **P** 12 18 18.4 -0.4
ACCO **Cerro Coronel** 34.17 320 *eP* **P** 12 18 22.3 +0.6
ACDV **Cuesta del Vie** 34.58 320 *eP* **P** 12 18 25.6 +0.6
AROD **Rodeo** 34.69 320 *eP* **P** 12 18 26.9 +0.7
AGUA **GUANDACOL** 35.02 322 *eP* **P** 12 18 29.2 +0.4
GO04 **Tololo Observa** 35.12 318 P **P** 12 18 29.4 -0.4
GO04 IAmb IAmb 12 18 35.9
comp=Z,109nm,0.9s
CYA **Choya** 35.21 326 *eP* **P** 12 18 30.2 -0.1
CPUP **Villa Florida** 35.34 340 P **P** 12 18 31.4 0.0
CPUP pmax pmax
comp=Z,27nm,1.2s
CPUP **Villa Florida** 35.34 340 P **P** 12 18 32.0 +0.7
comp=Z,8.9nm,0.8s,baz=174,slow=7.9,SNR=19
CPUP PcP **PcP** 12 21 01.7 +0.2
comp=Z,8.5nm,0.7s,baz=138,slow=1.8,SNR=4.7
CPUP ScP **ScP** 12 24 45.6 -1.3
comp=Z,6.8nm,1.1s,baz=160,slow=5.9,SNR=3.9
CPUP **Villa Florida** 35.34 340 P **P** 12 18 31.4 0.0
CPUP **Villa Florida** 35.34 340 *eP* **P** 12 18 32.1 +0.7
VCA **Vinchina** 35.63 322 *eP* **P** 12 18 35.0 +0.9
PTGB **Pitanga** 36.20 348 *eP* **P** 12 18 39.7 +0.8
PTGB **Pitanga** 36.20 348 *eP* **P** 12 18 39.7 +0.8
SPB **Sao Paulo** 36.99 355 P **P** 12 18 47.1 +1.6
SPB **Sao Paulo** 36.99 355 *eP* **P** 12 18 47.8 +2.3
GO03 **Copiap** 37.32 320 P **P** 12 18 48.1 -0.3
FRTB **Fartura** 37.35 352 *eP* **P** 12 18 50.5 +1.9
FRTB **Fartura** 37.35 352 *eP* **P** 12 18 50.5 +1.9
ESAR **Angra dos Reis** 37.50 360 *eP* **P** 12 18 51.6 +1.8
ESAR **Angra dos Reis** 37.50 360 *eP* **P** 12 18 51.6 +1.8
VAO **Valinhos** 37.56 356 *eP* **P** 12 18 52.0 +1.5
VAO **Valinhos** 37.56 356 *eP* **P** 12 18 52.0 +1.5
MAN01 **Angra dos Reis** 37.65 1 *eP* **P** 12 18 53.2 +2.0
MAN01 **Angra dos Reis** 37.65 1 *eP* **P** 12 18 53.2 +2.0
RCLB **Rio Claro- Sao** 38.16 355 *eP* **P** 12 18 57.3 +1.8
RCLB **Rio Claro- Sao** 38.16 355 *eP* **P** 12 18 57.3 +1.8
TRCB **Terra Rica** 38.16 348 *eP* **P** 12 18 56.7 +1.2
TRCB **Terra Rica** 38.16 348 *eP* **P** 12 18 56.7 +1.2
VAS01 **Vassouras-RJ** 38.24 1 *eP* **P** 12 18 57.9 +1.7
VAS01 **Vassouras-RJ** 38.24 1 *eP* **P** 12 18 57.9 +1.7
DUB01 **Friburgo-RJ** 38.46 3 *eP* **P** 12 18 59.9 +1.9
DUB01 **Friburgo-RJ** 38.46 3 *eP* **P** 12 18 59.9 +1.9
CAM01 **Campos-RJ** 38.73 4 *eP* **P** 12 19 02.4 +2.2
CAM01 **Campos-RJ** 38.73 4 *eP* **P** 12 19 02.4 +2.2
PCMB **Pacaembu** 39.21 350 *eP* **P** 12 19 04.9 +0.6
PCMB **Pacaembu** 39.21 350 *eP* **P** 12 19 04.9 +0.6
GO02 **Mina Guanaco** 39.40 323 P **P** 12 19 06.3 +0.1
GO02 IAmb IAmb 12 19 13.6
comp=Z,360nm,1.8s
BSCB **Bom Sucesso** 39.51 359 *eP* **P** 12 19 07.8 +0.9
BSCB **Bom Sucesso** 39.51 359 *eP* **P** 12 19 07.8 +0.9
BB19B **Bebedouro** 39.55 354 *eP* **P** 12 19 08.0 +0.8
BB19B **Bebedouro** 39.55 354 *eP* **P** 12 19 08.0 +0.8
ALF01 **Guarapari-ES** 39.97 5 *eP* **P** 12 19 12.8 +2.2
ALF01 **Guarapari-ES** 39.97 5 *eP* **P** 12 19 12.8 +2.2
SBA **Scott Base** 40.54 190 P **P** 12 19 16.8 +2.1
SBA pmax pmax
comp=Z,136nm,1.2s
SBA **Scott Base** 40.54 190 P **P** 12 19 16.8 +2.1
SBA IAmb IAmb 12 19 25.2
comp=Z,136nm,1.1s
AQDB **Aquidauana** 40.83 344 *eP* **P** 12 19 18.1 +0.3
AQDB **Aquidauana** 40.83 344 *eP* **P** 12 19 18.1 +0.3
ITRB **Iturama** 41.02 351 *eP* **P** 12 19 20.1 +0.8
ITRB **Iturama** 41.02 351 *eP* **P** 12 19 20.1 +0.8
RIB01 **Linhares ES** 41.28 6 *eP* **P** 12 19 23.2 +1.7
RIB01 **Linhares ES** 41.28 6 *eP* **P** 12 19 23.2 +1.7
LVC **Limon Verde** 41.60 325 P **P** 12 19 24.7 +0.2
LVC pmax pmax
comp=Z,60nm,1.3s
LVC **Limon Verde** 41.60 325 P **P** 12 19 25.0 +0.5
comp=Z,9.0nm,0.6s,baz=152,slow=4.0,SNR=14
LVC PcP **PcP** 12 21 22.1 +0.6
comp=Z,21nm,0.8s,baz=194,slow=10.0,SNR=4.2
LVC S **S** 12 25 38.6 -2.3
comp=Z,4.7nm,0.9s,baz=347,slow=12,SNR=3.0
LVC **Limon Verde** 41.60 325 P **P** 12 19 24.7 +0.2
LVC **Limon Verde** 41.60 325 *eP* **P** 12 19 25.1 +0.5
MAW **Mawson** 41.68 147 P **P** 12 19 25.7 +1.5
comp=Z,22nm,0.9s,baz=233,slow=9.5,SNR=12
BSFB **Barra de Sao F** 41.74 5 *eP* **P** 12 19 26.8 +1.6
BSFB **Barra de Sao F** 41.74 5 *eP* **P** 12 19 26.8 +1.6
SJMB **Sao Joao De Ma** 41.85 5 *eP* **P** 12 19 27.4 +1.3
SJMB **Sao Joao De Ma** 41.85 5 *eP* **P** 12 19 27.4 +1.3
PMNB **Patos De Minas** 41.98 357 *eP* **P** 12 19 28.7 +1.4
PMNB **Patos De Minas** 41.98 357 *eP* **P** 12 19 28.7 +1.4
C2SB **Chapadao do Su** 42.16 348 *eP* **P** 12 19 29.9 +1.2
C2SB **Chapadao do Su** 42.16 348 *eP* **P** 12 19 29.9 +1.2
PB04 **IPOC Station P** 42.23 323 IAmb IAmb 12 19 45.9
comp=Z,104nm,1.0s
IPMB **Ipameri, GO** 42.60 355 *eP* **P** 12 19 33.0 +0.7
IPMB **Ipameri, GO** 42.60 355 *eP* **P** 12 19 33.0 +0.7
PB01 **IPOC Station P** 43.25 325 IAmb IAmb 12 19 54.7
comp=Z,90nm,0.8s
PP1B **Ponte de Pedra** 43.55 345 *eP* **P** 12 19 40.7 +0.8
PP1B **Ponte de Pedra** 43.55 345 *eP* **P** 12 19 40.7 +0.8
GO01 **Chusmiza** 44.48 326 IAmb IAmb 12 20 10.6
comp=Z,73nm,0.9s
PB11 **IPOC Station P** 44.52 325 IAmb IAmb 12 20 10.1
comp=Z,84nm,1.0s
BDFB **Brasilia** 44.91 355 P **P** 12 19 51.5 +0.5
BDFB pmax pmax
comp=Z,42nm,1.0s
BDFB **Brasilia** 44.91 355 P **P** 12 19 52.0 +1.0
comp=Z,20nm,0.7s,baz=171,slow=5.2,SNR=23
BDFB **Brasilia** 44.91 355 P **P** 12 19 51.5 +0.5
MNMC **Minye Minye** 45.10 325 IAmb IAmb 12 20 09.9
comp=Z,144nm,1.0s
ARAG **Araguaiana, MT** 45.10 350 *eP* **P** 12 19 53.1 +0.8
ARAG **Araguaiana, MT** 45.10 350 *eP* **P** 12 19 53.1 +0.8
JANB **Januaria** 45.42 0 *eP* **P** 12 19 55.9 +1.0
JANB **Januaria** 45.42 0 *eP* **P** 12 19 55.9 +1.0
NBIT **Itapeh - BA** 45.68 7 *eP* **P** 12 19 59.1 +2.2
NBIT **Itapeh - BA** 45.68 7 *eP* **P** 12 19 59.1 +2.2
SIV **San Ignacio** 46.11 337 P **P** 12 20 00.6 +0.3
comp=Z,45nm,0.6s,baz=184,slow=7.6,SNR=208
SIV PcP **PcP** 12 21 37.3 +0.9
comp=Z,13nm,0.8s,baz=143,slow=5.2,SNR=3.3
LPAZ **La Paz** 47.41 328 P **P** 12 20 11.3 +0.1
LPAZ pmax pmax
comp=Z,32nm,1.0s
LPAZ **La Paz** 47.41 328 P **P** 12 20 11.8 +0.5
comp=Z,17nm,0.8s,baz=155,slow=5.5,SNR=46
LPAZ PcP **PcP** 12 21 42.7 +1.0
comp=Z,17nm,0.8s,baz=191,slow=4.6,SNR=3.6
LPAZ **La Paz** 47.41 328 P **P** 12 20 11.3 +0.1
LPAZ **La Paz** 47.41 328 *eP* **P** 12 20 11.7 +0.5
NBLA **Lagarto - SE** 49.70 8 *eP* **P** 12 20 29.7 +1.6
NBLA **Lagarto - SE** 49.70 8 *eP* **P** 12 20 29.7 +1.6
NBPN **Ponto Novo - B** 49.70 5 *eP* **P** 12 20 29.1 +1.0
NBPN **Ponto Novo - B** 49.70 5 *eP* **P** 12 20 29.1 +1.0
SUR **Sutherland** 50.29 87 P **P** 12 20 34.5 +1.8
comp=Z,32nm,0.7s,baz=197,slow=8.1,SNR=30
SUR **Sutherland** 50.29 87 P **P** 12 20 35.0 +2.3
CLDB **Colider** 50.30 345 *eP* **P** 12 20 31.8 -0.9
CLDB **Colider** 50.30 345 *eP* **P** 12 20 31.8 -0.9
NBAN **Anadia - AL** 51.13 10 *eP* **P** 12 20 40.0 +1.0
NBAN **Anadia - AL** 51.13 10 *eP* **P** 12 20 40.0 +1.0
NBTA **Tacaratu-PE** 51.53 8 *eP* **P** 12 20 43.2 +1.2
NBTA **Tacaratu-PE** 51.53 8 *eP* **P** 12 20 43.2 +1.2
SMTB **Santa Maria do** 51.63 356 *eP* **P** 12 20 41.4 -1.3
SMTB **Santa Maria do** 51.63 356 *eP* **P** 12 20 41.4 -1.3
CASY **Casey** 52.13 167 P **P** 12 20 48.1 +2.3
CASY IAmb IAmb 12 20 56.9
comp=Z,92nm,0.9s
NBRF **Rio Formoso -** 52.22 12 *eP* **P** 12 20 48.3 +1.2
NBRF **Rio Formoso -** 52.22 12 *eP* **P** 12 20 48.3 +1.2
NBMA **Muriti-CE** 53.23 7 *eP* **P** 12 20 56.2 +1.6
NBMA **Muriti-CE** 53.23 7 *eP* **P** 12 20 56.2 +1.6
SAML **Samuel** 53.38 337 P **P** 12 20 55.8 +0.2
SAML pmax pmax
comp=Z,73nm,0.7s
SAML **Samuel** 53.38 337 P **P** 12 20 55.8 +0.2
SAML IAmb IAmb 12 20 57.0
comp=Z,73nm,0.7s
SAML **Samuel** 53.38 337 *eP* **P** 12 20 55.9 +0.2
NNA **Nana** 54.03 320*c* *iP* **P** 12 21 00.7 +0.2
NNA pmax pmax
comp=Z,134nm,1.7s
NNA **Nana** 54.03 320 P **P** 12 21 01.1 +0.6
comp=Z,19nm,0.7s,baz=137,slow=5.6,SNR=9.2
NNA **Nana** 54.03 320 P **P** 12 21 00.6 0.0
NNA IAmb IAmb 12 21 09.1
comp=Z,161nm,1.6s
PRPB **Paraua pebas** 54.40 353 *eP* **P** 12 21 03.4 +0.2
PRPB **Paraua pebas** 54.40 353 *eP* **P** 12 21 03.4 +0.2
NBPV **Pedro Velho** 54.44 11 *eP* **P** 12 21 05.3 +1.9
NBPV **Pedro Velho** 54.44 11 *eP* **P** 12 21 05.3 +1.9
NBPA **Parau_RN** 54.94 9 *eP* **P** 12 21 08.6 +1.6
NBPA **Parau_RN** 54.94 9 *eP* **P** 12 21 08.6 +1.6
RCBR **Riachuelo** 54.96 10 P **P** 12 21 08.8 +1.5
RCBR pmax pmax
comp=Z,74nm,1.1s
RCBR **Riachuelo** 54.96 10 PKP2ab 12 51 40.2
comp=Z,122nm,1.0s,baz=286,slow=0.2,SNR=3.7
RCBR **Riachuelo** 54.96 10 P **P** 12 21 08.8 +1.5
RCBR IAmb IAmb 12 21 09.7
comp=Z,74nm,1.1s
RCBR **Riachuelo** 54.96 10 *eP* **P** 12 21 08.9 +1.6
NBPB **Pedra_Branca-C** 54.99 6 *eP* **P** 12 21 08.9 +1.5
NBPB **Pedra_Branca-C** 54.99 6 *eP* **P** 12 21 08.9 +1.5
BOSA **Boshof** 55.56 88 P **P** 12 21 12.0 +0.4
BOSA pmax pmax
comp=Z,94nm,1.1s
BOSA **Boshof** 55.56 88 P **P** 12 21 12.0 +0.4
comp=Z,44nm,0.9s,baz=216,slow=6.2,SNR=40
BOSA **Boshof** 55.56 88 P **P** 12 21 12.0 +0.4
BOSA IAmb IAmb 12 21 13.8
comp=Z,94nm,1.1s
NBPS **Pedro II - PI** 56.06 4 *eP* **P** 12 21 15.8 +0.6
NBPS **Pedro II - PI** 56.06 4 *eP* **P** 12 21 15.8 +0.6
NBCL **Cascavel-CE** 56.37 7 *eP* **P** 12 21 18.3 +1.0
NBCL **Cascavel-CE** 56.37 7 *eP* **P** 12 21 18.3 +1.0
H10N3 **ASCENSION HYDR** 57.14 36 T T 13 23 55.9
baz=199,slow=75,SNR=17
H10N1 **ASCENSION HYDR** 57.15 36 T T 13 23 53.7
baz=199,slow=75,SNR=12
H10N2 **ASCENSION HYDR** 57.16 36 T T 13 23 52.2
baz=199,slow=75,SNR=14
NBMO **Morrinhos-CE** 57.19 5 *eP* **P** 12 21 24.1 +1.0
NBMO **Morrinhos-CE** 57.19 5 *eP* **P** 12 21 24.1 +1.0
LBTB **Lobatse** 58.72 86 P **P** 12 21 33.9 0.0
LBTB pmax pmax
comp=Z,87nm,0.9s
LBTB **Lobatse** 58.72 86 P **P** 12 21 34.4 +0.4
comp=Z,58nm,0.7s,baz=210,slow=7.7,SNR=69
LBTB **Lobatse** 58.72 86 P **P** 12 21 33.9 0.0
LBTB IAmb IAmb 12 21 36.0
comp=Z,87nm,0.9s
TSUM **Tsumeb** 59.74 75 P **P** 12 21 42.0 +0.8
TSUM IAmb IAmb 12 21 43.7
comp=Z,60nm,1.3s
PTLC **Puerto Leguiza** 64.94 326 *eP* **P** 12 22 13.6 -2.2
PTLC **Puerto Leguiza** 64.94 326 *eP* **P** 12 22 13.6 -2.2
MDP **Montagnes des** 65.77 351 P **P** 12 22 20.5 -0.5
comp=Z,134nm,0.7s,baz=185,slow=6.5,SNR=83
OTAV **Otavalo** 66.06 322 P **P** 12 22 23.8 +0.2
OTAV pmax pmax
comp=Z,63nm,0.8s
OTAV **Otavalo** 66.06 322 P **P** 12 22 23.8 +0.2
OTAV IAmb IAmb 12 22 25.7
comp=Z,62nm,0.8s
OTAV **Otavalo** 66.06 322 *eP* **P** 12 22 24.9 +1.4
FLOC **Florencia** 66.53 326 *eP* **P** 12 22 24.9 -1.2
FLOC **Florencia** 66.53 326 *eP* **P** 12 22 24.9 -1.2
SOTA **Rioblanco** 67.32 325 *eP* **P** 12 22 32.2 +0.5
SOTA **Rioblanco** 67.32 325 *eP* **P** 12 22 32.2 +0.5
BBAC **Balboa, Cauca** 67.40 324 *eP* **P** 12 22 30.8 -0.9
BBAC **Balboa, Cauca** 67.40 324 *eP* **P** 12 22 30.8 -0.9
PCON **Cinco Dias** 67.44 325 *eP* **P** 12 22 34.1 +1.7
PCON **Cinco Dias** 67.44 325 *eP* **P** 12 22 34.1 +1.7
LSZ **Lusaka** 68.24 82 P **P** 12 22 37.8 +0.7
LSZ pmax pmax
comp=Z,91nm,0.9s
LSZ **Lusaka** 68.24 82 P **P** 12 22 37.8 +0.7
ORTC **Ortega, Tolima** 68.63 327 *eP* **P** 12 22 38.8 -0.5
ORTC **Ortega, Tolima** 68.63 327 *eP* **P** 12 22 38.8 -0.5
CHIC **Chingaza** 68.92 328 *eP* **P** 12 22 40.1 -1.4
CHIC **Chingaza** 68.92 328 *eP* **P** 12 22 40.1 -1.4
YOTC **Yotoco, Valle** 69.01 326 *eP* **P** 12 22 39.5 -2.3
YOTC **Yotoco, Valle** 69.01 326 *eP* **P** 12 22 39.5 -2.3
ROSC **El Rosal** 69.28 328 P **P** 12 22 43.6 -0.1
comp=Z,12nm,0.5s,baz=121,slow=6.4,SNR=9.6
ROSC **El Rosal** 69.28 328 P **P** 12 22 44.3 +0.6
TOLC **Tolima** 69.30 327 *eP* **P** 12 22 43.5 -0.4
TOLC **Tolima** 69.30 327 *eP* **P** 12 22 43.5 -0.4
MALC **Bahia Malaga** 69.32 325‖ *eP* P 12 22 53.4 +10
MALC **Bahia Malaga** 69.32 325‖ *eP* P 12 22 53.4 +10
RREF **El Recreo** 69.61 327 *eP* **P** 12 22 46.8 +0.7
RREF **El Recreo** 69.61 327 *eP* **P** 12 22 46.8 +0.7
PLMC **San Jos del P** 69.87 326 *eP* **P** 12 22 46.1 -0.9
PLMC **San Jos del P** 69.87 326 *eP* **P** 12 22 46.1 -0.9
GUY2C **Guyana, Caldas** 69.92 327 *eP* **P** 12 22 46.8 -1.0
GUY2C **Guyana, Caldas** 69.92 327 *eP* **P** 12 22 46.8 -1.0
RUSC **La Rusia** 69.97 329 *eP* **P** 12 22 47.4 -0.7
RUSC **La Rusia** 69.97 329 *eP* **P** 12 22 47.4 -0.7
SPBC **San Pablo de B** 69.99 328 *eP* **P** 12 22 46.1 -1.7
SPBC **San Pablo de B** 69.99 328 *eP* **P** 12 22 46.1 -1.7
NORC **Norcasia** 70.11 327 *eP* **P** 12 22 46.1 -2.4
NORC **Norcasia** 70.11 327 *eP* **P** 12 22 46.1 -2.4
ELOV **Elorza** 70.19 333 *eP* **P** 12 22 48.1 -0.7
ELOV **Elorza** 70.19 333 *eP* **P** 12 22 48.1 -0.7
BARC **Barichara** 70.67 329 *eP* **P** 12 22 49.4 -2.6
BARC **Barichara** 70.67 329 *eP* **P** 12 22 49.4 -2.6
CBOC **Ciudad Bolivar** 70.71 326 *eP* **P** 12 22 50.1 -2.2
CBOC **Ciudad Bolivar** 70.71 326 *eP* **P** 12 22 50.1 -2.2
HELC **Santa Helena** 70.89 327 *eP* **P** 12 22 52.8 -0.8
HELC **Santa Helena** 70.89 327 *eP* **P** 12 22 52.8 -0.8
PTBC **PUERTO BERRIO,** 70.94 328 *eP* **P** 12 22 50.8 -2.7
PTBC **PUERTO BERRIO,** 70.94 328 *eP* **P** 12 22 50.8 -2.7
PAMC **Pamplona, Colo** 71.27 330 *eP* **P** 12 22 54.8 -1.2
PAMC **Pamplona, Colo** 71.27 330 *eP* **P** 12 22 54.8 -1.2
DCZ **Deep Cove** 71.27 203 P **P** 12 22 55.7 +0.6
DCZ IAmb IAmb 12 22 56.9
comp=Z,69nm,1.3s
CAPV **Capacho** 71.68 331 *eP* **P** 12 22 57.4 -0.8
CAPV **Capacho** 71.68 331 *eP* **P** 12 22 57.4 -0.8
SOCV **Socops** 71.74 332 *eP* **P** 12 22 58.1 -0.2
SOCV **Socops** 71.74 332 *eP* **P** 12 22 58.1 -0.2
DBBC **Dabeiba** 71.87 327 *eP* **P** 12 22 55.4 -3.7
DBBC **Dabeiba** 71.87 327 *eP* **P** 12 22 55.4 -3.7
ZARC **Zaragoza, Cauc** 71.96 328 *eP* **P** 12 22 57.4 -2.2
ZARC **Zaragoza, Cauc** 71.96 328 *eP* **P** 12 22 57.4 -2.2
RPZ **Rata Peaks** 72.15 206 P **P** 12 23 01.2 +0.7
comp=Z,28nm,0.9s,baz=157,slow=4.6,SNR=12
RPZ **Rata Peaks** 72.15 206 P **P** 12 23 00.9 +0.4
SDV **Santo Domingo** 72.27 333 P **P** 12 23 01.8 +0.1
SDV **Santo Domingo** 72.27 333 *eP* **P** 12 23 01.6 0.0
OXZ **Oxford** 72.30 207 IAmb IAmb 12 23 11.0
comp=Z,70nm,1.4s
SMLC **San Martn de** 73.01 329 *eP* **P** 12 23 03.4 -2.5
SMLC **San Martn de** 73.01 329 *eP* **P** 12 23 03.4 -2.5
PLWZ **Palliser** 73.21 210 P **P** 12 23 07.2 +0.3
LIC **Lamto** 73.35 41 *eP* **P** 12 23 08.8 +0.9
comp=Z,380nm,1.1s
BSWZ **Blackbirch Sta** 73.40 209 P **P** 12 23 08.8 +0.8
KIC **Kosan Boka** 73.57 41 *eP* **P** 12 23 10.0 +0.8
comp=Z,282nm,1.3s
THZ **Tophouse** 73.59 208 IAmb IAmb 12 23 16.7
comp=Z,141nm,1.6s
TIC **Toumodi** 73.75 41 *eP* **P** 12 23 10.9 +0.6
AZU **Azuero** 73.77 323 *eP* **P** 12 23 19.3 +9.0
AZU **Azuero** 73.77 323 *eP* **P** 12 23 19.3 +9.0
DBIC **Dimbokro** 73.83 41 P **P** 12 23 12.2 +1.5
DBIC pmax pmax
comp=Z,78nm,1.0s
DBIC **Dimbokro** 73.83 41 P **P** 12 23 12.2 +1.5
DBIC IAmb IAmb 12 23 13.6
comp=Z,78nm,1.0s
DABV **Dabajuro** 74.24 333 *eP* **P** 12 23 11.4 -1.7
DABV **Dabajuro** 74.24 333 *eP* **P** 12 23 11.4 -1.7
SJCC **San Jacinto, C** 74.35 328 *eP* **P** 12 23 13.4 -0.4
SJCC **San Jacinto, C** 74.35 328 *eP* **P** 12 23 13.4 -0.4
PNME **Penonome** 74.44 323 *eP* **P** 12 23 15.3 +1.1
PNME **Penonome** 74.44 323 *eP* **P** 12 23 15.3 +1.1
QRZ **Quartz Range** 74.57 208 P **P** 12 23 13.7 -1.1
QRZ IAmb IAmb 12 23 14.8
comp=Z,193nm,1.8s
BCIP **Isla Barro Col** 74.94 324 *eP* **P** 12 23 17.3 +0.2
BCIP **Isla Barro Col** 74.94 324 *eP* **P** 12 23 17.3 +0.2
BKZ **Black Stump Fm** 75.16 212 IAmb IAmb 12 23 33.0
comp=Z,94nm,1.7s
URIC **Uribia, Colomb** 75.30 332 *eP* **P** 12 23 18.0 -1.2
URIC **Uribia, Colomb** 75.30 332 *eP* **P** 12 23 18.0 -1.2
URZ **Urewera** 75.85 213 P **P** 12 23 23.2 +1.0
comp=Z,12nm,0.8s,baz=181,slow=2.8,SNR=14
HIZ **Hauiti** 76.19 211 IAmb IAmb 12 23 32.8
comp=Z,79nm,1.3s
JTS **Las Juntas de** 77.58 319 P **P** 12 23 32.6 +0.4
JTS pmax pmax
comp=Z,73nm,0.9s
JTS **Las Juntas de** 77.58 319 P **P** 12 23 32.6 +0.4
JTS IAmb IAmb 12 23 33.7
comp=Z,73nm,0.9s
ESPN **Las Esperanzas** 79.16 320 IAmb IAmb 12 23 41.5
comp=Z,71nm,0.8s
ACON **Acoyapa** 79.23 319 IAmb IAmb 12 23 42.3
comp=Z,91nm,1.1s
OUZ **Omahuta** 79.63 211 IAmb IAmb 12 23 44.7
comp=Z,78nm,0.9s
HUMP **Col San Antoni** 80.31 339 IAmb IAmb 12 23 47.4
comp=Z,70nm,1.1s
OBIP **Obispado Ponce** 80.35 339 IAmb IAmb 12 23 47.4
comp=Z,106nm,1.2s
CBYP **Canovanas** 80.44 339 IAmb IAmb 12 23 48.2
comp=Z,108nm,1.2s
TGUH **Tegucigalpa,Un** 81.87 318 *eP* **P** 12 23 53.2 -2.3
TGUH **Tegucigalpa,Un** 81.87 318 *eP* **P** 12 23 53.2 -2.3
TGUH **Tegucigalpa,Un** 81.87 318 P **P** 12 23 55.0 -0.6
TGUH IAmb IAmb 12 23 56.2
comp=Z,104nm,1.2s
TOA0 **Torodi Ar. Sit** 82.09 45 P **P** 12 23 57.7 +1.2
TORD **Torodi Ar. Bea** 82.09 45 P **P** 12 23 58.0 +1.5
comp=Z,91nm,1.0s,baz=195,slow=5.5,SNR=188
TORD **Torodi Ar. Bea** 82.09 45 P **P** 12 23 56.9 +0.4
MBAR **Mbarara** 82.17 77*d* *iP* **P** 12 24 01.1 +3.8
MBAR pmax pmax
comp=Z,94nm,1.5s
MTDJ **Mount Denham** 82.94 328 IAmb IAmb 12 24 03.3
comp=Z,72nm,0.9s
RAR **Rarotonga** 83.41 238 P **P** 12 24 02.8 -0.7
RAR pmax pmax
comp=Z,221nm,1.9s
RAR **Rarotonga** 83.41 238 P **P** 12 24 03.3 -0.2
comp=Z,30nm,1.1s,baz=225,slow=4.3,SNR=4.3
RAR **Rarotonga** 83.41 238 P **P** 12 24 02.8 -0.7
KMBO **Kilima Mbogo** 84.89 83 P **P** 12 24 15.3 +3.9
KMBO pmax pmax
comp=Z,43nm,1.4s
KMBO **Kilima Mbogo** 84.89 83 P **P** 12 24 15.3 +3.9
comp=Z,14nm,1.1s,baz=198,slow=4.9,SNR=32
KMBO **Kilima Mbogo** 84.89 83 P **P** 12 24 15.3 +3.9
CCIG **Comitan** 85.60 314 P **P** 12 24 14.4 -0.3
CCIG IAmb IAmb 12 24 15.5
comp=Z,51nm,1.2s
NWAO **Narrogin (SRO)** 85.65 165 P **P** 12 24 14.5 -0.3
comp=Z,16nm,0.9s,baz=167,slow=2.6,SNR=3.7
STKA **Stephens Creek** 87.79 185 P **P** 12 24 24.8 -0.4
STKA pmax pmax
comp=Z,17nm,2.0s
STKA **Stephens Creek** 87.79 185 P **P** 12 24 25.2 0.0
comp=Z,3.5nm,0.7s,baz=176,slow=6.9,SNR=7.9
STKA PP **PP** 12 27 53.7 +3.8
comp=Z,3.7nm,0.8s,baz=197,slow=12,SNR=4.1
STKA **Stephens Creek** 87.79 185 P **P** 12 24 24.8 -0.4
TEIG **Tepich** 87.96 319 P **P** 12 24 26.0 +0.1
FORT **Forrest** 88.80 173 P **P** 12 24 29.9 -0.1
TLIG **Tlapa** 89.14 309 P **P** 12 24 32.8 +1.1
TLIG IAmb IAmb 12 26 33.6
comp=Z,28nm,0.7s
TAM **Tamanrasset** 92.34 45 IAmb IAmb 12 24 50.8
comp=Z,47nm,1.7s
DZM **Mont Dzumac** 93.96 208 P **P** 12 24 54.3 +0.1
comp=Z,8.2nm,0.9s,baz=119,slow=4.5,SNR=5.4
MSVF **Nonsavu** 94.86 220‖ *eP* **P** 12 24 58.1 -0.2
MSVF pmax pmax
comp=Z,77nm,3.9s
ASAR **Alice Springs** 96.08 178 P **P** 12 25 02.4 -1.4
ASAR **Alice Springs** 96.08 178 P **P** 12 25 02.9 -0.9
comp=Z,2.9nm,0.7s,baz=174,slow=3.5,SNR=38
ASAR PP **PP** 12 28 55.6 +0.1
comp=Z,3.0nm,0.9s,baz=174,slow=7.7,SNR=7.2
ASAR PKKPbc **PKKPbc** 12 41 49.5 +1.5
comp=Z,0.8nm,0.9s,baz=13,slow=2.0,SNR=4.4
ASAR **Alice Springs** 96.08 178 P **P** 12 25 02.4 -1.4
AS31 **Alice Springs** 96.09 178 P **P** 12 25 02.6 -1.2
H08S1 **Diego Garcia H** 96.10 117 T T 14 12 48.3
baz=204,slow=76,SNR=5.1
H08S2 **Diego Garcia H** 96.11 117 T T 14 12 48.0
baz=204,slow=76,SNR=2.5
H08S3 **Diego Garcia H** 96.12 117 T T 14 12 48.3
baz=204,slow=76,SNR=3.9
WRA **Warramunga Arr** 99.80 179 P **Pdif** 12 25 19.0 -1.5
WRA **Warramunga Arr** 99.80 179 P **Pdif** 12 25 19.3 -1.2
comp=Z,0.8nm,0.8s,baz=185,slow=3.6,SNR=6.9
WRA pmax pmax
comp=Z,2.9nm,1.0s,baz=180,slow=6.9,SNR=7.1
WRA PP **PP** 12 29 23.4 -0.6
comp=Z,0.6nm,0.6s,baz=355,slow=2.9,SNR=5.5
WRA PKKP **PKKPdf** 12 41 39.9 -0.7
WRA **Warramunga Arr** 99.80 179 **Pdif** 12 25 19.0 -1.5
FITZ **Fitzroy Crossi** 101.22 170 PKKP **PKKPbc** 12 41 35.9 +2.2
comp=Z,2.8nm,0.8s,baz=66,slow=7.6,SNR=5.7
TXAR **Lajitas Array** 101.74 310 P **Pdif** 12 25 28.7 -0.1
TXAR **Lajitas Array** 101.74 310 P **Pdif** 12 25 29.0 +0.2
comp=Z,0.8nm,0.8s,baz=147,slow=7.4,SNR=8.3
TXAR PP **PP** 12 29 40.4 +0.5
comp=Z,0.5nm,1.0s,baz=151,slow=10.0,SNR=3.0
TXAR PKiKP **PKiKP** 12 29 52.5 +0.5
comp=Z,0.6nm,0.9s,baz=163,slow=3.8,SNR=3.1
TXAR **Lajitas Array** 101.74 310 **Pdif** 12 25 28.7 -0.1
CLTN **Cedars of Leba** 102.25 326 **Pdif** 12 25 30.3 -0.5
ESDC **Sonseca Array** 105.20 31 PKiKP **PKiKP** 12 29 58.3 +0.3
comp=Z,0.8nm,0.6s,baz=233,slow=1.4,SNR=6.1
ESDC PP **PP** 12 30 06.0 +0.4
comp=Z,0.2nm,0.4s,baz=235,slow=4.5,SNR=4.1
ISCO **Idaho Springs** 111.78 313 P **PKiKP** 12 30 11.1 +0.5
baz=152
GSC **Goldstone, Bar** 112.22 303 P **PKiKP** 12 30 12.6 +1.3
baz=150
EDW2 **Edwards Air Fo** 112.36 301 P **PKiKP** 12 30 12.3 +0.8
baz=149
SHOC **Shoshone, Teco** 112.52 303 P **PKiKP** 12 30 12.9 +1.2
baz=150
LRMC **Laurel Mtn Rad** 112.74 302 P **PKiKP** 12 30 13.1 +0.7
baz=149
N23A **Red Feather La** 112.87 314 P **PKiKP** 12 30 12.7 +0.1
baz=152
O20A **White River Ci** 113.04 312 P **PKiKP** 12 30 13.2 +0.4
baz=151
PKM **Mcpherson Peak** 113.14 300 P **PKiKP** 12 30 14.4 +1.2
baz=149
MPMC **Manual Prospec** 113.16 303 P **PKiKP** 12 30 14.2 +0.9
baz=149
ISA **Isabella, Lake** 113.23 302 P **PKiKP** 12 30 14.7 +1.5

CWC Cottonwood Cre 113.73 302 P PKiKP 12 30 14.5 +0.3
baz=149
R11A Troy Canyon, C 114.33 305 P PKiKP 12 30 16.5 +1.1
baz=149
K22A Casper 114.62 314 P PKPdf 12 30 15.2 -0.6
baz=151
DUG Dugway, Tooele 114.82 308 P PKiKP 12 30 17.0 +0.8
baz=150
RSSD Black Hills 115.05 317 P PKPdf 12 30 16.1 -0.5
baz=152
NVAR Mina Array Bea 115.51 303 PKP PKiKP 12 30 18.3 +0.6
comp=Z,2.3nm,0.7s,baz=148,slow=3.1,SNR=24
NVAR PP PP 12 31 24.8 +4.5
comp=Z,1.5nm,1.0s,baz=131,slow=5.3,SNR=4.9
NVAR Mina Array Bea 115.51 303 PKiKP 12 30 18.1 +0.4
PDAR Pinedale Array 115.81 312 PKP PKPdf 12 30 17.4 -0.8
comp=Z,1.2nm,0.5s,baz=126,slow=3.8,SNR=14
PDAR Pinedale Array 115.81 312 PKPdf 12 30 16.9 -1.3
DAVA Damuels 116.11 38 *e*PKPdf PKiKP 12 30 18.6 +0.2
comp=Z,13nm,1.1s,SNR=6.4
FETA Feichten 116.13 39 *e*PKPdf PKiKP 12 30 18.6 +0.1
comp=Z,9.5nm,1.3s
AGMN Agassiz Nation 116.21 324 P PKPdf 12 30 17.7 -0.7
baz=154
ELK Elko 116.24 307 PKIKP PKiKP 12 30 19.8 +0.7
ELK Elko 116.24 307 PKiKP 12 30 19.8 +0.7
SCHQ Schefferville 116.41 346 PKP PKPdf 12 30 18.3 -0.2
comp=Z,4.4nm,0.5s,baz=192,slow=3.5,SNR=3.1
SCHQ Schefferville 116.41 346 PKPdf 12 30 17.8 -0.8
ABTA Abfalterbach 116.45 40 *e*PKPdf PKPdf 12 30 19.0 -0.1
comp=Z,6.5nm,1.1s
SQTA Sankt Quirin 116.46 39 *e*PKPdf PKiKP 12 30 19.2 +0.2
comp=Z,10nm,0.6s,SNR=5.7
MOTA Moosalm 116.54 39 *e*PKPdf PKPdf 12 30 19.2 -0.1
comp=Z,4.5nm,0.7s
RETA Reutte 116.56 38 *e*PKPdf PKPdf 12 30 18.8 -0.4
comp=Z,6.1nm,0.6s
VTS Vitosha 116.58 50 ⇑P PKPdf 12 30 19.3 -0.2
BFO Black Forest 116.58 36*c* *i*PKIKP PKiKP 12 30 19.5 +0.3
BFO pmax pmax
comp=Z,1.0nm,1.3s
BFO Black Forest 116.58 36 PKPdf 12 30 18.7 -0.4
WTTA Wattenberg 116.63 39 *e*PKPdf PKPdf 12 30 19.3 -0.2
comp=Z,11nm,0.7s,SNR=6.3
WATA Walderalm 116.68 39 *e*PKPdf PKPdf 12 30 19.4 -0.2
comp=Z,11nm,1.2s
MYKA Terra Mystica 116.71 41 *e*PKPdf PKiKP 12 30 19.7 +0.2
comp=Z,8.5nm,0.7s,SNR=5.7
DOU Dourbes 117.13 33 PKPdf PKiKP 12 30 20.5 +0.4
WLF Walferdange 117.16 34 PKPdf PKPdf 12 30 19.9 -0.3
SOKA Soboth 117.20 42 *e*PKPdf PKiKP 12 30 20.9 +0.4
comp=Z,6.8nm,1.4s
BSI Banda Aceh 117.24 134 PKP PKiKP 12 30 22.2 +0.7
RLMT Red Lodge 117.75 314 P PKPdf 12 30 21.4 -0.3
baz=150
PLVB Pleven 117.76 50 ⇑P PKPdf 12 30 21.0 -0.6
ARSA Arzberg 117.87 42 *e*PKPdf PKiKP 12 30 22.0 +0.3
comp=Z,7.1nm,0.7s,SNR=5.1
MDVR Moldovita 117.87 47 ⇑P PKPdf 12 30 21.6 -0.1
ULM Lac du Bonnet 117.97 325 PKP PKPdf 12 30 20.9 -0.8
comp=Z,5.8nm,0.6s,baz=237,slow=0.6,SNR=7.0
MEM Membach 117.98 34 PKPdf PKiKP 12 30 22.2 +0.5
MEM x x 12 30 24.4
MOA Molln 117.98 41 *e*PKPdf PKPdf 12 30 21.6 -0.3
comp=Z,6.9nm,0.7s
HERR Herculane 118.21 48 ⇑P PKPdf 12 30 22.3 0.0
BRTR Keskin Array B 118.30 59 PKIKP PKPdf 12 30 22.3 -0.6
BRTR Keskin Array B 118.30 59 PKP PKPdf 12 30 22.8 -0.2
comp=Z,4.9nm,0.9s,baz=180,slow=4.4,SNR=24
BRTR PP PP 12 31 41.3 +1.6
comp=Z,1.9nm,0.9s,baz=180,slow=7.2,SNR=2.4
BRTR Keskin Array B 118.30 59 PKPdf 12 30 22.3 -0.6
O03E Paynes Creek 118.54 302 P PKiKP 12 30 23.8 +0.5
baz=147
BZS Buzias 118.55 47 ⇑P PKPdf 12 30 22.6 -0.4
CONA Conrad Observa 118.57 42 *e*PKPdf PKPdf 12 30 22.8 -0.3
comp=Z,5.0nm,0.7s
SIJI Sorong 118.66 175 PKP PKiKP 12 30 24.4 0.0
comp=Z,7.2nm,0.6s,baz=343,slow=7.4,SNR=3.7
GERES GERESS Array B 118.68 40 PKIKP PKPdf 12 30 22.0 -1.2
GERES GERESS Array B 118.68 40 PKP PKPdf 12 30 22.7 -0.6
comp=Z,7.7nm,0.7s,baz=192,slow=1.6,SNR=71
GERES PKKPab PKKPab 12 40 40.2 +0.9
comp=Z,0.6nm,0.8s,baz=20,slow=4.3,SNR=3.5
GERES GERESS Array B 118.68 40 PKPdf 12 30 22.1 -1.2
GZR Gura Zlata 118.78 48 ⇑P PKPdf 12 30 23.6 0.0
KHC Kasperske Hory 118.89 39 ⇓*i*PKIKP PKiKP 12 30 23.8 +0.2
KHC Kasperske Hory 118.89 39 *e*PKPDF PKPdf 12 30 23.2 -0.4
KHC *ep*PKP pPKPdf 12 30 27.3 +0.4
DGMT Dagmar 118.92 319 P PKPdf 12 30 23.7 0.0
baz=151
BOZ Bozeman (W) 119.01 312 P PKiKP 12 30 25.0 +0.8
baz=149
SIRR Siria 119.13 47 ⇑P PKPdf 12 30 23.9 -0.2
ARR Arges 119.45 49 ⇑P PKiKP 12 30 25.0 +0.1
N02D Trinity Center 119.49 302 P PKiKP 12 30 26.3 +1.2
baz=146
PBCC Pribram 119.51 39 *e*PKPDF PKPdf 12 30 24.7 0.0
NKC Novy Kostel 119.51 38 *e*PKIKP PKPdf 12 30 24.1 -0.6
NKC Novy Kostel 119.51 38 *e*PKPDF PKPdf 12 30 24.1 -0.6
KMSI Cibinong 119.52 167 PKP PKPdf 12 30 24.6 -1.3
ICOR Ion Corvin 119.60 52 ⇑P PKiKP 12 30 25.3 +0.2
TREC Trest 119.64 41 *e*PKIKP PKPdf 12 30 25.0 0.0
TREC Trest 119.64 41 *e*PKPDF PKPdf 12 30 25.0 0.0
VOIR 119.66 49 ⇑P PKPdf 12 30 25.2 0.0
KRUC Moravsky 119.73 41 *e*PKPdf PKPdf 12 30 24.9 -0.2
M04C Macdoel 119.80 303 P PKiKP 12 30 26.4 +0.6
baz=146
MFTR Murfatlar 119.90 52 ⇑P PKiKP 12 30 26.1 +0.4
M02C Callahan 119.90 302 P PKiKP 12 30 27.2 +1.3
baz=146
PSZ Piszkesteto 119.92 44 ⇑P PKiKP 12 30 25.8 +0.1
PRU Pruhonice 119.94 40 *e*PKIKP PKiKP 12 30 25.6 0.0
PRU Pruhonice 119.94 40 *e*PKPDF PKiKP 12 30 25.6 0.0
DRGR 119.95 47 ⇑P PKPdf 12 30 25.4 -0.3
GOPC GO Pecny, Ondr 119.96 40 *e*PKIKP PKPdf 12 30 25.6 0.0
GOPC GO Pecny, Ondr 119.96 40 *e*PKPDF PKPdf 12 30 25.6 0.0
JAVC Velka Javorina 119.98 42 *e*PKP PKiKP 12 30 26.7 +0.9
VRAC Vranov 120.01 41 ⇑P PKPdf 12 30 25.5 -0.2
VRAC Vranov 120.01 41 *e*PKP PKiKP 12 30 25.8 0.0
MLR Muntele Rosu 120.05 50 ⇑P PKPdf 12 30 25.3 -0.8
VYHS Vyhne 120.05 43 *e*PKIKP PKiKP 12 30 25.9 0.0
VYHS Vyhne 120.05 43 *e*PKP PKiKP 12 30 25.9 0.0
TLB Topalu 120.09 52 ⇑P PKPdf 12 30 26.0 0.0
YBH Yreka Blue Hor 120.12 302 PKP PKPdf 12 30 26.3 0.0
comp=Z,1.2nm,0.7s,baz=80,slow=5.9,SNR=8.8
TIRR Tirgusor 120.13 52 ⇑P PKPdf 12 30 25.5 -0.5
HARR Harsova 120.13 52 ⇑P PKiKP 12 30 26.3 +0.2
PLID Pearl Lake 120.22 309 PKPdf 12 30 26.4 -0.1
DOPR Dopca 120.24 49 ⇑P PKiKP 12 30 26.3 0.0
BISRR Bisoca 120.39 50 ⇓P PKPdf 12 30 26.6 0.0
EGMT Eagleton 120.41 315 P PKiKP 12 30 26.8 +0.1
baz=149
K04D Chiloquin, OR 120.46 303 P PKiKP 12 30 28.0 +1.0
baz=146
TOPG Topolog 120.46 52 ⇑P PKPdf 12 30 26.0 -0.7
BRG Berggiesshubel 120.53 39 *i*PKP PKiKP 12 30 26.7 0.0
comp=Z,9.7nm,0.9s
BRG Berggiesshubel 120.53 39 *i*PKIKP PKiKP 12 30 26.7 0.0
BRG pmax pmax
comp=Z,184nm,0.9s
PLOR Plostina 120.62 50 ⇑P PKPdf 12 30 26.3 -0.7
CFR Carcaliu 120.62 52 ⇑P PKPdf 12 30 26.6 -0.4
CLL Collm 120.62 38 *i*PKIKP PKPdf 12 30 26.6 -0.2
CLL pmax pmax
comp=Z,20nm,0.9s
CLL Collm 120.62 38 *i*PKiKP PKPdf 12 30 26.6 -0.2
comp=Z,19nm,0.9s
VRI Vrincioaia 120.66 50 ⇑P PKPdf 12 30 25.7 -1.3
ODBI Odobesti 120.70 51 ⇑P PKiKP 12 30 27.3 +0.1
MORC Moravsky Berou 120.73 42 ⇑P PKPdf 12 30 27.2 +0.1
MORC Moravsky Berou 120.73 42 *e*PKP PKiKP 12 30 27.4 +0.2
KRLC Kraliky 120.74 41 *e*PKIKP PKiKP 12 30 27.4 +0.2
KRLC *e* 12 30 32.7
KRLC *e* 12 30 32.9
KRLC Kraliky 120.74 41 *e*PKPDF PKiKP 12 30 27.4 +0.2
KRLC *ep*PKP sPKPdf 12 30 32.7 +1.2
J05D Fort Rock, OR 120.79 304 P PKiKP 12 30 28.9 +1.2
baz=146
ARCR ARCALIA 120.80 48 ⇑P PKPdf 12 30 27.0 -0.2
DPC Dobruska-Polom 120.83 41 *e*PKIKP PKiKP 12 30 27.4 0.0
DPC Dobruska-Polom 120.83 41 *e*PKPDF PKiKP 12 30 27.4 0.0
LANS Liptovska Anna 120.83 43 *e*PKIKP PKiKP 12 30 28.6 +1.2
LANS Liptovska Anna 120.83 43 *e*PKP PKiKP 12 30 28.6 +1.2

L02E Cave Junction 120.84 302 P PKiKP 12 30 28.6 +0.9
baz=146
UPC Upice 120.86 40 *e*PKIKP PKPdf 12 30 27.3 0.0
UPC Upice 120.86 40 *e*PKPDF PKPdf 12 30 27.3 0.0
TLCR 120.89 52 ⇑P PKPdf 12 30 27.4 -0.1
MSO Missoula 120.91 311 P PKiKP 12 30 28.4 +0.7
baz=147
MSO Missoula 120.91 311 PKiKP 12 30 28.1 +0.4
CHVC Chvalec 120.95 40 *e*PKPDF PKPdf 12 30 27.3 -0.2
CHVC *ex* x 12 30 30.5
OKC Ostrava-Krasne 120.98 42 *e*PKIKP PKiKP 12 30 28.0 +0.4
OKC Ostrava-Krasne 120.98 42 *e*PKPDF PKiKP 12 30 28.0 +0.4
TRPA Tarpa 121.03 46 ⇑P PKPdf 12 30 27.6 0.0
J04D Umpqua Nationa 121.12 303 P PKiKP 12 30 29.2 +0.8
baz=146
TESR Tescani 121.17 50 ⇑P PKPdf 12 30 27.3 -0.7
KSP Ksiaz 121.24 40 *e*PKIKP PKiKP 12 30 28.9 +0.8
KSP Ksiaz 121.24 40 *e*PKP PKiKP 12 30 28.9 +0.8
KSP *e*PKP PKiKP 12 30 28.9 +0.8
K02D Willamette Mer 121.31 302 P PKiKP 12 30 29.7 +1.0
baz=145
BIZ Bicaz 121.32 49 ⇑P PKPdf 12 30 28.3 0.0
UZH Uzhgorod 121.37 46 *e*PKIKP PKPdf 12 30 28.0 -0.3
UZH *e* 12 30 32.8
BURAR Bucovina Array 121.56 48 ⇓P PKiKP 12 30 29.1 +0.1
BURAR Bucovina Array 121.56 48 PKPdf 12 30 28.4 -0.4
KOLS Kolonicke sedl 121.61 45 *e*PKIKP PKiKP 12 30 29.1 +0.2
KOLS Kolonicke sedl 121.61 45 *e*PKP PKiKP 12 30 29.1 +0.2
I05D Terrebonne, OR 121.71 305 P PKiKP 12 30 30.5 +1.1
baz=146
PRAR RASCA 121.72 49 ⇑P PKiKP 12 30 29.3 +0.1
OJC Ojcow 121.86 43 *e*PKIKP PKiKP 12 30 29.8 +0.4
OJC Ojcow 121.86 43 *e*PKP PKiKP 12 30 29.8 +0.4
OJC *e*PKP PKiKP 12 30 29.8 +0.4
SEVA Sevastopol 122.29 56 ⇑P PKPdf 12 30 30.2 0.0
MILM Milestii Mici 122.33 51 ⇑P PKPdf 12 30 29.5 -0.7
KIS Kishinev 122.40 51 ⇑*i*P PKPdf 12 30 30.0 -0.3
comp=Z,150nm,1.0s
KIS Kishinev 122.40 51 ⇑*i*PKIKP PKPdf 12 30 30.0 -0.3
KIS pmax pmax
comp=Z,150nm,1.0s
H04D Lebanon 122.43 304 P PKiKP 12 30 31.9 +1.3
baz=145
LVV L'vov 122.98 46 *e*PKIKP PKPdf 12 30 30.4 -1.0
SORM Soroca 123.16 50 ⇑P PKiKP 12 30 31.9 -0.1
BCA Borcka 123.17 64 ⇓P PKiKP 12 30 32.7 +0.4
NEW Newport 123.29 310 P PKPdf 12 30 32.1 0.0
baz=146
NEW Newport 123.29 310 PKP PKPdf 12 30 31.8 -0.3
comp=Z,11nm,0.9s,baz=171,slow=3.4,SNR=19
GNI Garni 123.53 67 ⇓*i*PKIKP PKiKP 12 30 33.9 +0.7
GKP Gorka Klasztor 123.63 39 *e*PKIKP PKiKP 12 30 32.9 +0.2
GKP Gorka Klasztor 123.63 39 *e*PKP PKiKP 12 30 32.9 +0.2
GKP *e*PKP PKiKP 12 30 32.9 +0.2
F04D Rainier, OR 123.81 305 P PKiKP 12 30 34.9 +1.5
baz=144
AKH Akhalkalaki 123.98 65 ⇑P PKiKP 12 30 34.9 +0.8
E04D Cinebar 124.02 305 P PKiKP 12 30 34.3 +0.6
baz=144
MUD Monsted U'grnd 124.05 33 *i*PKIKP PKiKP 12 30 33.9 +0.5
MUD Monsted U'grnd 124.05 33 *i*P PKiKP 12 30 33.9 +0.5
ANN Anapa 124.07 58 *i*PKIKP PKiKP 12 30 33.8 -0.1
ANN *e* 12 30 37.3
ANN *e*PPP PPP 12 34 56.4
ANN *e* 12 37 35.3
ANN *e*SS SS 12 49 11.6 +2.6
ANN pmax pmax
comp=Z,49nm,1.0s
D03D Eldon 125.02 306 P PKiKP 12 30 37.0 +1.4
baz=144
B05A Bryant 125.21 307 P PKiKP 12 30 36.9 +0.8
baz=144
ZEI Tsey 125.26 64 *i*PKIKP PKPdf 12 30 34.9 -1.4
ZEI pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 125.56 63 PKP PKPdf 12 30 36.5 0.0
comp=Z,6.2nm,0.8s,baz=231,slow=1.8,SNR=14
AKASG Malin Array Be 125.59 49 PKP PKPdf 12 30 35.7 -0.6
comp=Z,27nm,0.7s,baz=244,slow=1.7,SNR=93
AKASG SKP SKPdf 12 34 08.2 -3.2
comp=Z,0.1nm,0.3s,baz=250,slow=2.4,SNR=4.6
KIV Kislovodsk 125.65 63 *e*PKIKP PKPdf 12 30 36.4 -0.4
KIV pmax pmax
comp=Z,71nm,1.1s
KIV Kislovodsk 125.65 63 ⇑P PKiKP 12 30 37.1 -0.1
KIV Kislovodsk 125.65 63 *e*PKP PKPdf 12 30 36.4 -0.4
NCK Nalchik 125.69 64 ⇓*i*PKIKP PKiKP 12 30 37.6 +0.4
AKT Akhty 125.95 68 *e*PKIKP PKiKP 12 30 38.5 +0.6
AKT *e* 12 32 31.6
AKT pmax pmax
comp=Z,40nm,1.0s
KCP Kidapawan 126.00 167 ⇑*i*P PKPdf 12 30 37.0 -1.4
SUW Suwalki 126.18 43 *e*PKIKP PKPdf 12 30 37.0 -0.3
SUW Suwalki 126.18 43 *e*PKP PKPdf 12 30 37.0 -0.3
SUW *e*PKP PKPdf 12 30 37.0 -0.3
GOF Gofitskoye 126.68 62 ⇑*e*PKIKP PKiKP 12 30 39.0 -0.1
PBUR Paburg 127.43 40 *e*P PKPdf 12 30 39.6 0.0
PABE Paberze 127.67 42 *e*P PKPdf 12 30 39.9 -0.2
GEYT Alibeck 128.06 79 PKP PKiKP 12 30 42.0 -0.2
comp=Z,8.5nm,0.9s,baz=238,slow=5.1,SNR=19
GEYT Alibeck 128.06 79 PKPdf 12 30 41.6 0.0
NACGM Naroch 128.13 44 *e* PKPdf 12 30 40.0 -1.0
MICGM Minsk 128.18 45 ⇓*e*P PKPdf 12 30 40.0 -1.1
MICGM PM 12 30 41.0
comp=Z,0.2nm,1.5s
MNK Minsk 128.18 45 *e*PKIKP PKPdf 12 30 40.0 -1.1
MNK pmax pmax
comp=Z,190nm,1.5s
IIGN Ignalina 128.29 43 *e*P PKiKP 12 30 42.4 +0.5
ISAL Salakas 128.44 43 *e*P PKiKP 12 30 42.7 +0.5
IDID Didziasalis 128.44 44 *e*P PKPdf 12 30 40.7 -0.9
NB2 NORSAR Subarra 128.56 31 PKPdf PKPdf 12 30 41.9 +0.2
comp=Z,44nm,1.2s,baz=202,slow=1.9
NB2 NORSAR Subarra 128.56 31 PKPdf PKPdf 12 30 41.9 +0.2
baz=202,slow=1.9
NOA NORSAR Array B 128.56 31 PKP PKPdf 12 30 42.1 +0.3
comp=Z,15nm,0.9s,baz=212,slow=2.1,SNR=22
IZAR Zarasai 128.62 43 *e*P PKiKP 12 30 43.0 +0.4
PBKT Sadao Pong 129.51 135 P PKiKP 12 30 45.4 -0.2
PBKT Sadao Pong 129.51 135 PKPdf 12 30 44.1 -0.7
VSR Storozhevoye 129.85 54 *e*PKIKP PKPdf 12 30 43.3 -1.1
VSR pmax pmax
comp=Z,80nm,0.8s
MHMT Maesarieng 129.89 131 P PKiKP 12 30 46.6 +0.3
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 130.52 132 PKIKP PKPdf 12 30 45.5 -1.3
CMAR Chiang Mai Arr 130.52 132 PKP PKPdf 12 30 46.6 -0.1
comp=Z,5.7nm,0.9s,baz=225,slow=3.4,SNR=34
CMAR SKKPbc SKKPbc 12 43 42.2 -0.4
comp=Z,0.9nm,0.8s,baz=8.8,slow=5.2,SNR=4.8
CMAR Chiang Mai Arr 130.52 132 PKPdf 12 30 45.5 -1.3
LPSR Galich'ya Gora 130.82 53 *e*PKIKP PKPdf 12 30 45.8 -0.4
LPSR pmax pmax
comp=Z,100nm,1.0s
CHTO Chiang Mai 130.85 132 PKIKP PKPdf 12 30 47.7 +0.3
CHTO Chiang Mai 130.85 132 PKPdf 12 30 47.7 +0.3
CMMT Chiang Mai 130.85 132 P PKiKP 12 30 48.5 +0.2
comp=Z,5.7nm,1.7s
VRH Novokhopyorsk 130.88 56 *e*PKIKP PKPdf 12 30 45.7 -0.7
VRH pmax pmax
comp=Z,70nm,0.8s
VSU Vasula 130.95 41 ⇓*i*PKIKP PKPdf 12 30 46.0 -0.2
VSU Vasula 130.95 41 *e*P PKPdf 12 30 46.3 +0.1
OBN Obninsk 131.81 50 *e*PKIKP PKPdf 12 30 47.9 -0.1
OBN *e* 12 33 08.2
OBN *e*PPP PPP 12 35 59.4
OBN pmax pmax
comp=Z,81nm,0.8s
OBN Obninsk 131.81 50 ⇑P PKPdf 12 30 48.1 +0.1
OBN Obninsk 131.81 50 PKPdf 12 30 47.7 -0.3
NIL Nilore 132.11 95 PKIKP PKPdf 12 30 48.7 -0.7
NIL Nilore 132.11 95 PKPdf 12 30 48.7 -0.7
KOLN Koldanda 132.24 109 *e*P PKPdf 12 30 48.9 -1.1
comp=Z,72nm,1.3s
MOS Moscow 132.68 50 *i*PKIKP PKPdf 12 30 48.1 -1.5
MOS *e* 12 33 12.5
MOS pmax pmax
comp=Z,66nm,1.2s
DMN Daman 132.81 111 *e*P PKPdf 12 30 50.4 -0.8
comp=Z,31nm,1.0s
DANN Dangsing 132.81 109 *e*P PKPdf 12 30 50.0 -1.2
comp=Z,62nm,1.1s
SUMG Summit 132.91 2 PKIKP PKPdf 12 30 50.2 +0.1

SUMG Summit 132.91 2 *i*P PKPdf 12 30 50.0 -0.1
comp=Z,129nm,1.1s
SUMG Summit 132.91 2 PKPdf 12 30 50.2 +0.1
PKIN Phulchoki 132.91 111 *e*P PKPdf 12 30 50.4 -1.0
comp=Z,19nm,0.9s
PKI Pulchoki 132.91 111 *e*P PKPdf 12 30 50.4 -1.1
comp=Z,37nm,1.2s
GKN Gorkha 132.92 110 *e*P PKPdf 12 30 50.0 -1.3
comp=Z,40nm,1.1s
RAMN Ramite 132.93 113 *e*P PKPdf 12 30 50.9 -0.5
comp=Z,38nm,0.9s
FINES FINESS Array B 133.07 38 PKP PKPdf 12 30 49.6 -0.5
comp=Z,27nm,0.6s,baz=180,slow=2.2,SNR=53
ODAN Odare 133.21 114 *e*P PKPdf 12 30 51.6 -0.3
comp=Z,38nm,1.0s
JIRN Jiri 133.35 112 *e*P PKPdf 12 30 51.5 -0.8
comp=Z,43nm,0.9s
GUN Gumba 133.42 112 *e*P PKPdf 12 30 51.6 -0.8
comp=Z,24nm,0.9s
TAPN Taplejung 133.78 114 *e*P PKPdf 12 30 52.7 -0.4
YKA Yellowknife Ar 133.82 323 PKIKP PKPdf 12 30 50.8 -0.7
YKA Yellowknife Ar 133.82 323 PKP PKPdf 12 30 51.8 +0.2
comp=Z,9.2nm,0.6s,baz=135,slow=2.0,SNR=24
YKA SKPbc SKPbc 12 34 19.1 -1.0
comp=Z,5.9nm,1.0s,baz=139,slow=3.6,SNR=8.3
YKA Yellowknife Ar 133.82 323 PKPdf 12 30 50.8 -0.7
YKW3 Yellowknife Ar 133.87 323 PKPdf 12 30 51.3 -0.3
DLBC Dease Lake 136.03 311 PKP PKiKP 12 30 57.0 -0.7
comp=Z,9.1nm,1.0s,baz=155,slow=5.2,SNR=5.8
DLBC SKP SKPdf 12 34 27.2 -3.4
comp=Z,5.6nm,0.8s,baz=109,slow=2.2,SNR=5.1
KLMR Klimovskoe 137.07 46 *e*PKIKP PKPdf 12 30 56.8 -0.9
KLMR pmax pmax
comp=Z,82nm,1.4s
KLMR Klimovskoe 137.07 46 *e*PKPdf PKPdf 12 30 56.8 -0.9
KLMR AMP 12 31 00.9
comp=Z,82nm,1.4s
KLMR *e*PP PP 12 33 38.5 -4.4
AB31 Akbulak array 137.45 70 *i*PKHKP PKPpre 12 30 45.4
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 137.45 70 PKPpre 12 30 45.5
ABKAR PKPdf PKPdf 12 30 57.7 -1.1
DAG Danmarks Havn 138.02 9 *i*PKIKP PKPdf 12 30 57.3 -1.7
DAG pmax pmax
comp=Z,27nm,1.1s
DAG Danmarks Havn 138.02 9 *i*P PKPdf 12 30 57.3 -1.7
comp=Z,22nm,1.1s
KSH Kashi 138.07 92 PKP PKPdf 12 30 59.4 -1.1
KSH PP PP 12 33 49.5 0.0
KK31 Karatay Array 138.08 84 *i*PKHKP PKPpre 12 30 52.4
KK31 pmax pmax
comp=Z,17nm,1.2s
KKAR Karatay Array 138.08 84 PKHKP PKPpre 12 30 51.0
KKAR Karatay Array 138.08 84 PKPpre 12 30 51.0
TMCR Tamitsa 138.83 41 *e*PKIKP PKPdf 12 31 00.1 -0.7
TMCR pmax pmax
comp=Z,43nm,0.8s
ARCES ARCESS Array B 138.93 30 PKHKP PKPpre 12 30 49.4
ARCES 12 30 59.4
ARCES ARCESS Array B 138.93 30 PKhKP PKPpre 12 30 49.4
comp=Z,10nm,0.7s,baz=203,slow=2.7,SNR=20
ARCES PKP PKPdf 12 31 00.3 -0.6
comp=Z,19nm,0.6s,baz=208,slow=2.0,SNR=14
RES Resolute Bay 138.99 342 PKhKP PKPpre 12 30 51.0
comp=Z,2.2nm,0.7s,baz=209,slow=4.5,SNR=6.2
RES PKP PKPdf 12 31 01.4 +0.6
comp=Z,5.2nm,0.7s,baz=250,slow=6.8,SNR=4.9
APA Apatity 139.69 35 ⇓*i*PKIKP PKPdf 12 31 02.0 -0.3
APA pmax pmax
comp=Z,20nm,0.7s
AAK Ala-Archa 139.70 88 PKHKP PKPpre 12 30 57.3
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 139.70 88 PKhKP PKPpre 12 31 00.5
comp=Z,5.7nm,0.7s,baz=195,slow=4.1,SNR=18
AAK PKP PKiKP 12 31 05.6 -0.2
comp=Z,14nm,0.8s,baz=173,slow=4.0,SNR=28
AAK Ala-Archa 139.70 88 PKPpre 12 30 57.8
AAK PKiKP 12 31 05.0 -0.8
PRGR Permogore 139.79 48 *e*PKHKP PKPpre 12 30 53.3
PRGR pmax pmax
comp=Z,20nm,0.4s
LVZ Lovozero 140.26 36 ⇓*e*PKIKP PKPdf 12 31 01.1 -2.3
TKM2 Tokmak 2 140.46 89 PKIKP PKPdf 12 30 00.9 -3.9
TKM2 pmax pmax
comp=Z,10.0nm,1.0s
GYA Guiyang 140.61 137 PKP PKPdf 12 31 04.4 -1.1
GYA PP PP 12 34 14.8 +10
GYA AMB AMB
comp=Z,140nm,8.0s
C36M Paulatuk 141.39 326 P PKiKP 12 31 08.6 +0.5
baz=129
ARU Arti 141.65 61 ⇑*i*PKHKP PKPpre 12 31 00.4
ARU *i* 12 31 04.9
ARU Arti 141.65 61 PKPpre 12 31 00.1
PDGK Podgornoye 142.68 91 PKIKP PKPdf 12 31 05.4 -3.3
PDGK pmax pmax
comp=Z,25nm,1.0s
SVE Sverdlovsk 142.79 61 *e*PKIKP PKPdf 12 31 04.1 -4.1
SVE pmax pmax
comp=Z,60nm,1.7s
A36M Sachs Harbour 143.30 329 P PKPbc 12 31 05.8 0.0
baz=125
BCAR Beaver Creek A 143.42 311 PKPpre 12 31 04.7
EPYK Eagle Plains 143.49 317 P PKPab 12 31 06.1 +0.5
baz=124
INK Inuvik 143.54 321 PKhKP PKPpre 12 31 06.4
comp=Z,9.1nm,0.7s,baz=117,slow=2.1,SNR=50
INK Inuvik 143.54 321 PKPpre 12 31 05.2
CD2 Chengdu 143.62 130 PKP PKPdf 12 31 10.6 0.0
KDAK Kodiak Island 144.77 298 PKIKP PKPbc 12 31 10.8 +0.1
KDAK Kodiak Island 144.77 298 PKP PKPbc 12 31 11.1 +0.4
comp=Z,39nm,0.6s,baz=190,slow=2.6,SNR=46
KDAK Kodiak Island 144.77 298 PKPbc 12 31 10.8 +0.1
BRVK Borovoye 144.83 72 *de*PKIKP PKPab 12 31 10.8 -0.2
BRVK Borovoye 144.83 72 PKPbc 12 31 11.1 0.0
BVAR Borovoye Array 144.86 72 PKP PKPbc 12 31 11.2 0.0
comp=Z,38nm,0.8s,baz=245,slow=3.1,SNR=135
ENH Enshi 145.07 138 PKPbc 12 31 12.0 -0.6
HDA Harding Lake 146.08 311 P PKPbc 12 31 15.0 +0.3
baz=120
ILAR Eielson Array 146.24 311 PKPbc PKPab 12 31 15.6 -0.3
comp=Z,79nm,0.7s,baz=148,slow=2.1,SNR=245
ILAR Eielson Array 146.24 311 PKPdf 12 31 10.7 -3.3
ILAR PKPbc PKPbc 12 31 14.9 -0.3
JCJ Chichijima 146.26 191 PKPbc PKPdf 12 31 15.6 +0.4
comp=Z,124nm,1.0s,baz=119,slow=7.6,SNR=5.1
MAKZ Makanchi 146.40 89 PKIKP PKPdf 12 31 13.6 -1.2
MAKZ 12 31 16.2
MAKZ Makanchi 146.40 89 PKPdf 12 31 13.6 -1.2
MAKZ PKPbc PKPbc 12 31 16.2 0.0
MK31 Makanchi Array 146.55 90 *i*PKIKP PKPdf 12 31 13.5 -1.6
MK31 pmax pmax
comp=Z,70nm,0.8s
MKAR Makanchi Array 146.55 90 PKIKP PKPdf 12 31 12.9 -2.2
MKAR 12 31 16.0
MKAR Makanchi Array 146.55 90 PKPbc PKPbc 12 31 16.5 -0.1
comp=Z,44nm,0.7s,baz=237,slow=2.2,SNR=169
MKAR Makanchi Array 146.55 90 PKPdf 12 31 12.9 -2.2
MKAR PKPbc 12 31 16.0 -0.6
COLA College 146.65 311 *d*PKP2 PKPbc 12 31 15.7 -0.6
COLA College 146.65 311 PKPbc 12 31 16.6 +0.4
TCOL CIGO, UAF Yank 146.65 311 P PKPbc 12 31 16.3 0.0
baz=119
BMAR Burnt Mountain 146.70 316 PKPdf 12 31 12.2 -2.5
BMAR PKPbc 12 31 16.7 +0.2
WHN Wuhan 146.81 145 PKPbc PKPbc 12 31 17.8 0.0
WMQ Urumqi 147.08 99 *e*PKPbc PKPdf 12 31 17.1 +0.9
WMQ AMB AMB
comp=Z,280nm,11.5s
WMQ LR LR
comp=Z,960nm,19.9s
WMQ LR LR
comp=Z,780nm,17.3s
KURBB Kurchatov Arra 147.26 81 PKPbc PKPbc 12 31 18.4 -0.1
comp=Z,36nm,0.8s,baz=234,slow=4.0,SNR=92
KURK Kurchatov 147.36 81 ⇑*e*PKIKP PKPdf 12 31 15.6 -0.7
KURK Kurchatov 147.36 81 PKPdf 12 31 14.6 -1.6
KURK PKPbc PKPbc 12 31 19.1 +0.4
LZH Lanzhou 148.22 126 *e*PKPbc PKPdf 12 31 18.5 +0.1
LZH pPKP sPKPdf 12 31 22.6 -0.2
XAN Xi'an 148.32 135 PKIKP PKPdf 12 31 17.2 -1.3
XAN 12 31 21.0
XAN Xi'an 148.32 135 PKPdf 12 31 17.2 -1.3

XAN PKPbc **PKPbc** **12 31 21.0 -0.9**
TOLK Toolik Lake Re 148.91 317 P **PKPbc** **12 31 22.8 +0.4**
baz=112
GTA Gaotai 149.33 117 PKPbc **PKPdf** **12 31 19.8 -0.3**
IMAR Indian Mountai 149.35 311 **PKPdf** **12 31 16.2 -2.9**
IMAR PKPbc **PKiKP** **12 31 24.1 -0.5**
NJ2 Nanjing 149.42 151 *e*PKPbc **PKPdf** **12 31 21.4 +1.1**
DGZ Jazzator, Alta 151.04 90⇑ *e*PKIKP **PKPdf** **12 31 21.9 -0.6**
ZALV Zalesovo Beam 152.34 81 PKIKP **PKPdf** **12 31 21.3 -2.7**
ZALV 12 31 40.6
ZALV Zalesovo Beam 152.34 81 PKP **PKPdf** **12 31 22.2 -1.8**
comp=Z,1.4nm,0.5s,baz=242,slow=3.2,SNR=12
ZALV PKPbc **PKPbc** **12 31 30.4 -0.4**
comp=Z,11nm,0.8s,baz=251,slow=3.7,SNR=30
ZALV PKPab **PKPab** **12 31 40.3 -0.8**
comp=Z,9.1nm,0.7s,baz=234,slow=5.2,SNR=9.9
ZALV PP **PP** **12 35 17.8 +3.6**
comp=Z,5.6nm,1.0s,baz=240,slow=5.0,SNR=4.2
ZALV Zalesovo Beam 152.34 81 **PKPdf** **12 31 21.3 -2.7**
ZALV **PKPbc** **12 31 30.1 -0.8**
ZALV **PKPab** **12 31 40.6 -0.5**
JNU Nakatsue 152.39 171 PKPbc **PKiKP** **12 31 32.0 0.0**
comp=Z,12nm,1.0s,baz=345,slow=0.4,SNR=3.0
JNU PKPab **PKPab** **12 31 40.8 -1.0**
comp=Z,13nm,0.9s,baz=183,slow=6.4,SNR=3.8
ADK Adak 152.68 273 PKIKP **PKPbc** **12 31 30.7 -1.0**
ADK Adak 152.68 273 **PKPbc** **12 31 30.7 -1.0**
TIA Tai'an 152.92 146 PKPbc **PKPbc** **12 31 32.8 0.0**
BTO Baotou 154.54 130 *e*P **PKPab** **12 31 50.8 -0.1**
MJAR Matsushiro Arr 155.92 185 PKPab **PKPab** **12 31 54.5 -2.2**
comp=Z,3.5nm,0.9s,baz=200,slow=3.3,SNR=4.1
BJI Beijing 156.18 141 *e*PKP **PKPdf** **12 31 29.6 -0.3**
KSAR Wonju Array Be 156.36 164 PKP2 **PKPab** **12 31 58.1 -0.4**
KSAR Wonju Array Be 156.36 164 **PKPab** **12 31 58.1 -0.4**
KSRS Korea Array 156.38 165 PKPab **PKPab** **12 31 58.6 0.0**
comp=Z,3.8nm,1.0s,baz=205,slow=5.5,SNR=5.6
NRIK Noril'sk 158.42 46 PKPab **PKPab** **12 32 07.8 +1.1**
comp=Z,15nm,1.0s,baz=201,slow=3.0,SNR=13
SONM Songino Array 158.90 114 PKIKP **PKPdf** **12 31 30.6 -2.6**
SONM 12 32 09.8
SONM Songino Array 158.90 114 PKP **PKPdf** **12 31 32.2 -1.0**
comp=Z,2.6nm,0.8s,baz=206,slow=2.6,SNR=9.2
SONM PKPab **PKPab** **12 32 09.7 +0.3**
comp=Z,9.1nm,1.0s,baz=217,slow=6.0,SNR=14
SONM Songino Array 158.90 114 **PKPdf** **12 31 30.6 -2.6**
SONM **PKPab** **12 32 09.8 +0.3**
ULN Ulaanbaatar 159.22 115 PKIKP **PKPdf** **12 31 32.4 -1.2**
ULN Ulaanbaatar 159.22 115 **PKPdf** **12 31 32.4 -1.2**
ULN **PKPab** **12 32 11.8 +0.9**
ZAK Zakamensk 159.24 105 *e*PKP2 **PKPab** **12 32 10.6 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
TLY Talaya 160.26 102⇑ *e*PKIKP **PKPdf** **12 31 34.3 -0.2**
USRK Ussuriysk Ar. 163.48 171 PKP2 **PKPab** **12 32 28.6 -0.8**
USRK Ussuriysk Ar. 163.48 171 PKPab **PKPab** **12 32 29.3 0.0**
comp=Z,6.5nm,1.0s,baz=183,slow=3.4,SNR=4.2
USRK Ussuriysk Ar. 163.48 171 **PKPab** **12 32 28.6 -0.8**
BILL Bilibino 164.89 313 *e*PKIKP **PKPdf** **12 31 31.8 -6.7**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 164.89 313 **PKPab** **12 32 35.4 +0.4**
PETK Petropavlovsk- 165.87 248 PKP2 **PKPab** **12 32 39.2 -0.6**
PETK Petropavlovsk- 165.87 248 PKPab **PKPab** **12 32 39.7 0.0**
comp=Z,12nm,0.6s,baz=100,slow=7.8,SNR=18
PETK Petropavlovsk- 165.87 248 **PKPab** **12 32 39.2 -0.6**
KLR Kul'dur 168.45 167⇑ *e*PKIKP **PKPdf** **12 31 41.1 -0.7**
KLR Kul'dur 168.45 167 PKP **PKPdf** **12 31 40.9 -0.9**
comp=Z,2.4nm,0.8s,baz=222,slow=4.0,SNR=5.3
TIXI Tiksi 168.53 11⇑ *e*PKIKP **PKPdf** **12 31 33.7 -7.5**
TIXI Tiksi 168.53 11 PKPab **PKPab** **12 32 51.5 +0.5**
comp=Z,0.9nm,0.3s,baz=315,slow=7.1,SNR=4.7
TIXI Tiksi 168.53 11 **PKPab** **12 32 51.8 +0.9**
BOD Bodaibo 168.59 94 *e*PKIKP **PKPdf** **12 31 39.7 -1.9**
BOD pmax pmax
comp=Z,14nm,1.4s
SEY Seymchan 171.71 294 PKPab **PKPab** **12 33 04.5 -0.8**
comp=Z,3.0nm,0.7s,baz=137,slow=5.7,SNR=6.3
YAK Yakutsk 176.76 60 PKP2 **PKPab** **12 33 29.6 +1.8**
YAK Yakutsk 176.76 60 PKPab **PKPab** **12 33 28.9 +1.1**
comp=Z,3.1nm,0.3s,baz=243,slow=6.8,SNR=3.4
YAK Yakutsk 176.76 60 **PKPab** **12 33 29.6 +1.8**

IDC ***17*** *12:19:41.8±1.0, 60°.39S×45°.42W, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/40, mbtmp4.2/7, ML3.1/1, Error ellipse: s-maj=37.1km s-min=25.3km az=77.0*
NEIC ***17*** *12:19:45.2±2.3, 60°.4S±0°.1×45°.4W±0°.2, h15km±4km, mb4.4/13*
ISC 17 12:19:43.5±0.6,**60°.40S**±0°.10×**45°.3W**±0°.1,**h10**km,**n31,**
σ1**27**/30,**mb4.3**/11,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.76**	**42**	Pn	**Pn**	12 21 34.3	**-2.1**
PMSA	**Palmer Station**	**9.68**	**235**	Pn	**Pn**	12 21 59.9	**-2.6**
0.2nm,0.3s,baz=68,slow=19,SNR=2.3							
PMSA	**Palmer Station**	**9.68**	**235**		**Pn**	12 22 01.0	**-1.6**
SNAA	**Sanae**	**20.05**	**141**	P	**Pn**	12 24 19.4	**+1.2**
TRQA	**Tornquist**	**24.73**	**327**	P	**P**	12 25 06.7	**+1.8**
TRQA				IAmb	IAmb	12 25 07.7	
comp=Z,16nm,0.9s							
PLCA	**Paso Flores**	**25.12**	**310**	P	**P**	**12 25 09.7**	**+1.3**
GO06	**Curarrehue**	**26.46**	**310**	P	**P**	**12 25 21.4**	**+0.8**
GO06				IAmb	IAmb	12 25 27.9	
comp=Z,5.2nm,1.1s							
QSPA	**South Pole Qui**	**29.83**	**180**	P	**P**	**12 25 51.2**	**+0.7**
comp=Z,1.5nm,0.7s,baz=141,slow=7.0,SNR=4.1							
QSPA	**South Pole Qui**	**29.83**	**180**	P	**P**	**12 25 51.4**	**+0.9**
CFA	**Coronel Fontan**	**32.57**	**322**	P	**P**	**12 26 15.2**	**+0.4**
comp=Z,2.4nm,0.6s,baz=170,slow=11,SNR=2.9							
GO04	**Tololo Observa**	**34.70**	**319**	P	**P**	**12 26 34.2**	**+0.7**
GO03	**Copiap**	**36.92**	**321**	P	**P**	**12 26 53.0**	**+0.7**
GO03				IAmb	IAmb	12 26 53.3	
comp=Z,9.0nm,0.7s							
GO02	**Mina Guanaco**	**39.01**	**324**	P	**P**	**12 27 11.8**	**+1.6**
GO02				IAmb	IAmb	12 27 12.9	
comp=Z,6.9nm,0.9s							
MNMC	**Minye Minye**	**44.72**	**326**	P	**P**	**12 27 58.4**	**+1.4**
SIV	**San Ignacio**	**45.80**	**339**	P	**P**	**12 28 04.0**	**-1.3**
comp=Z,1.9nm,0.6s,baz=163,slow=8.9,SNR=6.2							
LPAZ	**La Paz**	**47.05**	**329**	P	**P**	**12 28 15.4**	**-0.4**
comp=Z,1.1nm,0.6s,baz=191,slow=5.2,SNR=2.6							
LPAZ	**La Paz**	**47.05**	**329**	P	**P**	**12 28 17.2**	**+1.4**
LPAZ				IAmb	IAmb	12 28 27.7	
comp=Z,2.0nm,0.9s							
SAML	**Samuel**	**53.07**	**338**	P	**P**	**12 29 01.1**	**+0.4**
SAML				IAmb	IAmb	12 29 01.5	
comp=Z,3.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.32**	**46**	P	**P**	**12 32 05.4**	**+0.3**
comp=Z,2.2nm,0.9s,baz=219,slow=5.4,SNR=4.9							
TORD	**Torodi Ar. Bea**	**82.32**	**46**	P	**P**	**12 32 05.4**	**+0.3**
TEIG	**Tepich**	**87.55**	**320**	P	**P**	**12 32 30.4**	**-0.9**
comp=Z,3.1nm,0.5s,baz=139,slow=10.0,SNR=5.5							
TEIG	**Tepich**	**87.55**	**320**	P	**P**	**12 32 31.2**	**-0.1**
LAO	**LASA Array**	**117.62**	**317**		**PKiKP**	**12 38 31.5**	**+2.8**
INK	**Inuvik**	**143.15**	**322**	PKhKP	PKPpre	12 39 11.3	
comp=Z,0.8nm,0.8s,baz=129,slow=2.4,SNR=4.5							
INK	**Inuvik**	**143.15**	**322**	PKPpre	PKPpre	12 39 11.9	
IL31		**145.80**	**312**		**PKPbc**	**12 39 20.8**	**-0.3**
ILAR	**Eielson Array**	**145.80**	**312**	PKPbc	**PKPdf**	**12 39 20.6**	**+0.1**
comp=Z,2.7nm,0.8s,baz=146,slow=2.9,SNR=12							
ILAR	**Eielson Array**	**145.80**	**312**		**PKPdf**	**12 39 20.6**	**0.0**
MKAR	**Makanchi Array**	**147.01**	**90**	PKPbc	**PKPbc**	**12 39 24.0**	**-1.3**
comp=Z,1.6nm,0.6s,baz=236,slow=2.9,SNR=8.0							
MLY	**Manley**	**147.36**	**311**		**PKPbc**	**12 39 25.1**	**-0.7**
MLY				PKPbc	**PKiKP**	**12 39 27.8**	**-0.2**
IMAR	**Indian Mountai**	**148.91**	**311**		**PKPbc**	**12 39 30.1**	**+0.4**

IDC ***17*** *12:27:44.5±0.7, 15°.87S×75°.27W, h0km, mb4.3/14, mb1 4.5/17, mb1mx4.3/41, mbtmp4.3/17, ML4.1/4, Error ellipse: s-maj=27.7km s-min=12.0km az=63.0*
ISCJB ***17*** *12:27:46.4±0.2, 15°.87S±0°.03×75°.23W±0°.04, h26km, mb4.3/13, MS4.7/1, Error ellipse: s-maj=7.1km s-min=3.1km az=142.9*
SJA ***17*** *12:27:46.9±0.4, 15°.40S×74°.78W, h35km±38km, MW4.8(GFZ)*
NEIC ***17*** *12:27:48.9±2.7, 16°.02S±0°.07×75°.3W±0°.1, h34km±3km, mb4.7/54, ML4.9(ARE)*
VAO ***17*** *12:27:51.6±0.4, 16°.37S×74°.78W, h10km, mb4.7*
ISC 17 12:27:48.2±0.4,**15°.92S**±0°.06×**75°.15W**±0°.09,**h26**km,**n179,**
σ1**39**/172,**mb4.7**/33,**1D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.24**	**337**	Pn	**Pn**	**12 28 47.2**	**-4.1**
5.8nm,0.3s,baz=171,slow=12,SNR=17							
NNA				Sn	**Sn**	**12 29 39.3**	**-0.7**
19nm,0.3s,baz=214,slow=14,SNR=2.7							
NNA				Lg	Lg	12 29 54.1	
38nm,0.3s,baz=38,slow=23,SNR=6.0							
NNA	**Nana**	**4.24**	**337**		**Pn**	**12 28 47.0**	**-4.3**
MNMC	**Minye Minye**	**6.19**	**122**		**Pn**	**12 29 18.3**	**+0.1**
PB11	**IPOC Station P**	**6.48**	**127**		**Pn**	**12 29 22.4**	**+0.3**
LPAZ	**La Paz**	**6.76**	**94**	Pn	Pn	12 29 30.4	+4.0
5.6nm,0.3s,baz=285,slow=8.4,SNR=108							
LPAZ				Sn	Sn	12 30 45.2	+2.4
baz=107,slow=11,SNR=1.3							
LPAZ	**La Paz**	**6.76**	**94**		Pn	12 29 30.6	+4.3
GO01	**Chusmiza**	**6.79**	**124**		**Pn**	**12 29 27.4**	**+0.8**
PB01	**IPOC Station P**	**7.40**	**134**		**Pn**	**12 29 34.7**	**0.0**
PB04	**IPOC Station P**	**7.94**	**144**		**Pn**	**12 29 41.1**	**-1.1**
PB10	**IPOC Station P**	**8.70**	**151**		**Pn**	**12 29 50.0**	**-2.5**
LVC	**Limon Verde**	**8.88**	**139**	Pn	**Pn**	**12 29 56.0**	**+0.7**
6.1nm,0.3s,baz=307,slow=9.9,SNR=155							
LVC				Sn	**Sn**	**12 31 29.9**	**-4.9**
0.2nm,0.3s,baz=83,slow=23,SNR=1.6							
LVC				Lg	Lg	12 32 39.2	
baz=360,slow=20,SNR=5.8							
LVC	**Limon Verde**	**8.88**	**139**		**Pn**	**12 29 55.8**	**+0.5**
LVC					**Sn**	**12 31 32.9**	**-1.9**
ATAH	**Atahualpa**	**9.29**	**340**	Pn	**Pn**	**12 30 02.2**	**+1.3**
0.3nm,0.3s,baz=339,slow=16,SNR=3.0							
ATAH				Sn	**Sn**	**12 31 52.1**	**+7.1**
0.7nm,0.3s,baz=16,slow=7.5,SNR=2.1							
GO02	**Mina Guanaco**	**10.56**	**151**		**Pn**	**12 30 16.6**	**-1.7**
GO03	**Copiap**	**12.48**	**159**	Pn	**Pn**	**12 30 42.5**	**-1.7**
SIV	**San Ignacio**	**13.54**	**92**	Pn	**Pn**	**12 30 56.4**	**-2.4**
0.4nm,0.3s,baz=280,slow=13,SNR=10							
SAML	**Samuel**	**13.58**	**61**		P	12 31 01.0	-7.0
SAML	**Samuel**	**13.58**	**61**	*e*P	P	12 31 02.1	-6.0
VCA	**Vinchina**	**14.27**	**154**	*e*P	**Pn**	**12 31 10.9**	**+2.1**
GO04	**Tololo Observa**	**14.73**	**165**	P	**P**	**12 31 20.8**	**-0.3**
AGUA	**GUANDACOL**	**14.83**	**157**	*e*P	**Pn**	**12 31 18.7**	**+2.4**
AROD	**Rodeo**	**15.10**	**161**	*e*P	**Pn**	**12 31 23.5**	**+3.3**
CYA	**Choya**	**15.16**	**147**	*e*P	**Pn**	**12 31 21.7**	**+0.9**
ACDV	**Cuesta del Vie**	**15.22**	**160**	*e*P	**Pn**	**12 31 24.3**	**+2.7**
AMOG	**MOGNA**	**16.14**	**159**	*e*P	**P**	**12 31 38.3**	**+1.9**
CFA	**Coronel Fontan**	**16.84**	**159**	Pn	**Pn**	**12 31 43.1**	**+0.8**
0.6nm,0.3s,baz=333,slow=12,SNR=31							
RTCV	**Cerro Valdivia**	**16.97**	**160**	*e*P	**Pn**	**12 31 46.2**	**+2.2**
ROC1	**El Roble**	**17.39**	**168**	P	**Pn**	**12 31 49.5**	**+0.1**
PEL	**Peldehue**	**17.61**	**168**	P	**Pn**	**12 31 50.8**	**-1.2**
TCA	**Tanti**	**18.12**	**150**	*e*P	**P**	**12 31 59.2**	**+0.8**
MRA	**San Martin**	**18.52**	**154**	*e*P	**P**	**12 32 04.0**	**+1.1**
AQDB	**Aquidauana**	**19.02**	**107**	*e*P	**Pn**	**12 32 09.7**	**+0.6**
AQDB	**Aquidauana**	**19.02**	**107**	*e*P	**Pn**	**12 32 09.7**	**+0.6**
PP1B	**Ponte de Pedra**	**19.48**	**98**	*e*P	**Pn**	**12 32 15.2**	**+0.5**
PP1B	**Ponte de Pedra**	**19.48**	**98**	*e*P	**Pn**	**12 32 15.2**	**+0.5**
CPUP	**Villa Florida**	**19.56**	**125**	P	**Pn**	**12 32 15.2**	**-0.4**
0.1nm,0.3s,baz=303,slow=11,SNR=13							
CPUP	**Villa Florida**	**19.56**	**125**	P	**Pn**	**12 32 15.8**	**+0.2**
ROSC	**El Rosal**	**20.65**	**2**	P	Pn	12 32 26.7	-2.1
5.6nm,0.4s,baz=178,slow=22,SNR=2.7							
ROSC	**El Rosal**	**20.65**	**2**	P	Pn	12 32 26.5	-2.3
TRCB	**Terra Rica**	**22.30**	**111**	*e*P	**P**	**12 32 44.9**	**+1.0**
TRCB	**Terra Rica**	**22.30**	**111**	*e*P	**P**	**12 32 44.9**	**+1.0**
PCMB	**Pacaembu**	**23.30**	**108**	*e*P	**P**	**12 32 54.1**	**-0.2**
PCMB	**Pacaembu**	**23.30**	**108**	*e*P	**P**	**12 32 54.1**	**-0.2**
PTGB	**Pitanga**	**23.32**	**116**	*e*P	**P**	**12 32 55.6**	**+1.1**
PTGB	**Pitanga**	**23.32**	**116**	*e*P	**P**	**12 32 55.6**	**+1.1**
ITRB	**Iturama**	**23.89**	**103**	*e*P	**P**	**12 33 00.2**	**+0.2**
ITRB	**Iturama**	**23.89**	**103**	*e*P	**P**	**12 33 00.2**	**+0.2**
ITAB	**Concordia**	**24.14**	**122**	*e*P	**P**	**12 33 03.0**	**+0.7**
ITAB	**Concordia**	**24.14**	**122**	*e*P	**P**	**12 33 03.0**	**+0.7**
CPSB	**Cacapava Do Su**	**24.56**	**130**	*e*P	**P**	**12 33 06.0**	**0.0**
CPSB	**Cacapava Do Su**	**24.56**	**130**	*e*P	**P**	**12 33 06.0**	**0.0**
TRQA	**Tornquist**	**24.92**	**155**	*e*P	**P**	**12 33 10.0**	**+0.8**
TRQA	**Tornquist**	**24.92**	**155**	*e*P	**P**	**12 33 10.0**	**+0.8**
PLCA	**Paso Flores**	**25.04**	**172**	P	**P**	**12 33 10.7**	**+0.3**
6.1nm,0.9s,baz=18,slow=9.2,SNR=12							
PLCA	**Paso Flores**	**25.04**	**172**	P	**P**	**12 33 10.6**	**+0.3**
PLCA				IAmb	IAmb	12 33 20.6	
comp=Z,21nm,0.9s							
PLCA	**Paso Flores**	**25.04**	**172**	*e*P	**P**	**12 33 10.9**	**+0.6**
SDV	**Santo Domingo**	**25.05**	**11**	P	**P**	**12 33 11.8**	**+1.0**
comp=Z,3.1nm,0.4s,baz=358,slow=6.3,SNR=1.7							
SDV	**Santo Domingo**	**25.05**	**11**	*e*P	P	12 33 20.4	+10
PLTB	**Pedras Altas**	**25.16**	**133**	*e*P	**P**	**12 33 10.9**	**-0.6**
PLTB	**Pedras Altas**	**25.16**	**133**	*e*P	**P**	**12 33 10.9**	**-0.6**
FRTB	**Fartura**	**25.18**	**111**	*e*P	**P**	**12 33 13.1**	**+1.3**
FRTB	**Fartura**	**25.18**	**111**	*e*P	**P**	**12 33 13.1**	**+1.3**
CNLB	**Canela**	**26.02**	**125**	*e*P	**P**	**12 33 19.3**	**-0.1**
CNLB	**Canela**	**26.02**	**125**	*e*P	**P**	**12 33 19.3**	**-0.1**
BDFB	**Brasilia**	**26.11**	**93**	P	**P**	**12 33 21.2**	**+0.8**
comp=Z,12nm,1.0s,baz=247,slow=12,SNR=8.0							
BDFB	**Brasilia**	**26.11**	**93**	P	**P**	**12 33 22.2**	**+1.8**
BDFB				IAmb	IAmb	12 33 24.3	
comp=Z,23nm,1.2s							
SPB	**Sao Paulo**	**27.14**	**111**	*e*P	**P**	**12 33 30.9**	**+1.4**
SPB	**Sao Paulo**	**27.14**	**111**	*e*P	**P**	**12 33 30.9**	**+1.4**
VAO	**Valinhos**	**27.46**	**109**	*e*P	**P**	**12 33 34.9**	**+2.4**
VAO	**Valinhos**	**27.46**	**109**	*e*P	**P**	**12 33 34.9**	**+2.4**
PMNB	**Patos De Minas**	**27.54**	**100**	*e*P	**P**	**12 33 33.5**	**+0.3**
PMNB	**Patos De Minas**	**27.54**	**100**	*e*P	**P**	**12 33 33.5**	**+0.3**
MAN01	**Angra dos Reis**	**30.18**	**108**	*e*P	**P**	**12 33 58.5**	**+1.9**
MAN01	**Angra dos Reis**	**30.18**	**108**	*e*P	**P**	**12 33 58.5**	**+1.9**
DUB01	**Friburgo-RJ**	**31.55**	**106**	*e*P	**P**	**12 34 10.9**	**+2.1**
DUB01	**Friburgo-RJ**	**31.55**	**106**	*e*P	**P**	**12 34 10.9**	**+2.1**
CAM01	**Campos-RJ**	**32.19**	**106**	*e*P	**P**	**12 34 15.4**	**+1.2**
CAM01	**Campos-RJ**	**32.19**	**106**	*e*P	**P**	**12 34 15.4**	**+1.2**
NBIT	**Itapeh - BA**	**34.42**	**93**	*e*P	**P**	**12 34 35.8**	**+2.0**
NBIT	**Itapeh - BA**	**34.42**	**93**	*e*P	**P**	**12 34 35.8**	**+2.0**
NBPB	**Pedra_Branca-C**	**36.37**	**77**	*e*P	**P**	**12 34 51.7**	**+1.0**
NBPB	**Pedra_Branca-C**	**36.37**	**77**	*e*P	**P**	**12 34 51.7**	**+1.0**
NBTA	**Tacaratu-PE**	**36.79**	**84**	*e*P	P	12 34 57.8	+3.6
NBTA	**Tacaratu-PE**	**36.79**	**84**	*e*P	P	12 34 57.8	+3.6
TEIG	**Tepich**	**38.17**	**340**	P	**P**	**12 35 05.4**	**-0.3**
comp=Z,10nm,1.0s,baz=140,slow=12,SNR=3.5							
TEIG	**Tepich**	**38.17**	**340**	P	**P**	**12 35 05.2**	**-0.5**
NBPA	**Parau_RN**	**38.64**	**79**	*e*P	P	12 35 13.4	+3.6
NBPA	**Parau_RN**	**38.64**	**79**	*e*P	P	12 35 13.4	+3.6
USHA	**Ushuaia**	**39.18**	**174**	P	**P**	**12 35 14.3**	**+0.5**
comp=Z,7.1nm,0.9s,baz=339,slow=6.1,SNR=3.0							
PMSA	**Palmer Station**	**49.39**	**174**	*e*P	**P**	**12 36 37.6**	**+2.3**
PMSA	**Palmer Station**	**49.39**	**174**	*e*P	**P**	**12 36 37.6**	**+2.3**
LRAL	**Lakeview Retre**	**49.98**	**347**	P	**P**	**12 36 38.4**	**-1.8**
LRAL				IAmb	IAmb	12 36 46.0	
comp=Z,9.9nm,1.2s							
BIRD	**Birdtown, Kers**	**50.54**	**354**	P	**P**	**12 36 43.4**	**-1.1**
BIRD				IAmb	IAmb	12 36 51.1	
comp=Z,16nm,1.2s							
435B	**Jarrell**	**51.21**	**335**	P	**P**	**12 36 49.3**	**-0.3**
435B				IAmb	IAmb	12 37 00.7	
comp=Z,6.0nm,0.5s							
SWET	**Sewanee**	**51.88**	**349**	P	**P**	**12 36 51.9**	**-2.6**
SWET				IAmb	IAmb	12 37 09.5	
comp=Z,8.4nm,1.1s							
HPIG		**51.90**	**325**	P	**P**	**12 36 55.5**	**+0.5**
HPIG				IAmb	IAmb	12 37 02.7	
comp=Z,8.2nm,1.1s							
U56A	**King**	**52.22**	**355**	P	**P**	**12 36 56.5**	**-0.6**
U56A				IAmb	IAmb	12 37 06.0	
comp=Z,11nm,0.9s							
WHTX	**Lake Whitney,**	**52.22**	**336**	P	**P**	**12 36 56.3**	**-0.8**
WHTX				IAmb	IAmb	12 37 04.5	
comp=Z,9.6nm,0.9s							
U54A	**Nelsons Funny**	**52.54**	**353**	P	**P**	**12 36 58.9**	**-0.6**
TXAR	**Lajitas Array**	**52.75**	**328**	P	**P**	**12 37 00.6**	**-0.6**
comp=Z,2.3nm,0.8s,baz=148,slow=7.9,SNR=15							
TXAR	**Lajitas Array**	**52.75**	**328**	P	**P**	**12 37 00.5**	**-0.8**
TX32	**Lajitas Array**	**52.75**	**328**	P	**P**	**12 37 00.0**	**-1.2**
MIAR	**Mount Ida**	**53.16**	**341**	P	**P**	**12 37 03.7**	**-0.3**
S57A	**Dark Hollow, R**	**53.52**	**356**	P	**P**	**12 37 06.1**	**-0.4**
S57A				IAmb	IAmb	12 37 15.3	
comp=Z,7.6nm,0.8s							
U40A	**Yellville**	**54.62**	**342**	P	**P**	**12 37 13.4**	**-1.3**
U40A				IAmb	IAmb	12 37 22.1	
comp=Z,6.8nm,0.8s							
X34A	**Smith Ranch, M**	**54.68**	**337**	P	**P**	**12 37 14.3**	**-0.9**
W35A	**Tecumseh**	**54.82**	**338**	P	**P**	**12 37 14.3**	**-1.9**
WCI	**Wyandotte Cave**	**54.87**	**349**	P	**P**	**12 37 14.7**	**-1.7**
TUL1	**Leonard**	**55.13**	**340**	P	**P**	**12 37 16.2**	**-2.1**
MGMO	**Mountain Grove**	**55.20**	**343**	P	**P**	**12 37 17.9**	**-1.0**
MGMO				IAmb	IAmb	12 37 31.6	
comp=Z,10nm,1.2s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNTX	**Cornudas Mount**	**55.53**	**329**	P	**P**	**12 37 20.2**	**-1.1**
LENM	**Lemitar**	**58.30**	**329**	P	**P**	**12 37 40.4**	**-0.8**
ANMO	**Albuquerque**	**58.68**	**330**	P	**P**	**12 37 43.4**	**-0.4**
J47A	**Sunmer**	**59.53**	**352**	P	**P**	**12 37 47.1**	**-2.2**
SDCO	**Great Sand Dun**	**60.53**	**333**	P	**P**	**12 37 55.6**	**-1.0**
SDCO				IAmb	IAmb	12 38 04.0	
comp=Z,6.5nm,1.0s							
X16A	**Lo Mia Camp, P**	**60.81**	**326**	P	**P**	**12 37 58.7**	**+0.2**
X16A				IAmb	IAmb	12 38 07.1	
comp=Z,6.9nm,0.9s							
WUAZ	**Wupatki**	**61.61**	**327**	P	**P**	**12 38 04.7**	**+0.8**
WUAZ				IAmb	IAmb	12 38 11.9	
comp=Z,6.3nm,1.1s							
PV01	**Paradox Valley**	**62.25**	**331**	P	**P**	**12 38 07.9**	**-0.3**
ECSD	**EROS Data Cent**	**62.53**	**343**	P	**P**	**12 38 08.7**	**-1.0**
ECSD				IAmb	IAmb	12 38 09.4	
comp=Z,12nm,1.4s							
SPMN	**Marine on St.**	**62.93**	**346**	P	**P**	**12 38 11.2**	**-1.1**
KNB	**Kanab**	**63.51**	**327**	P	**P**	**12 38 17.4**	**+0.9**
LCMT	**Little Creek M**	**63.73**	**327**	P	**P**	**12 38 17.7**	**-0.2**
CCUT	**Cedar City**	**64.19**	**327**	P	**P**	**12 38 22.1**	**+1.0**
MSU	**Marysvale**	**64.31**	**328**	P	**P**	**12 38 21.9**	**0.0**
P17A	**Butcher Ranch,**	**64.34**	**330**	P	**P**	**12 38 21.9**	**-0.1**
PSUT	**Pine Spring**	**65.19**	**327**	P	**P**	**12 38 28.4**	**+0.9**
JLU	**Jordanelle**	**65.57**	**330**	P	**P**	**12 38 30.1**	**+0.2**
DUG	**Dugway, Tooele**	**65.91**	**329**	P	**P**	**12 38 32.6**	**+0.5**
DUG				IAmb	IAmb	12 38 44.1	
comp=Z,5.1nm,0.8s							
PDAR	**Pinedale Array**	**66.42**	**333**	P	**P**	**12 38 34.9**	**-0.5**
comp=Z,1.4nm,1.0s,baz=131,slow=4.5,SNR=5.9							
PDAR	**Pinedale Array**	**66.42**	**333**	P	**P**	**12 38 34.2**	**-1.2**
AGMN	**Agassiz Nation**	**66.55**	**345**	P	**P**	**12 38 34.8**	**-1.0**
OMMB	**Old Mammoth Mi**	**67.34**	**323**	P	**P**	**12 38 42.0**	**+0.6**
OMMB				IAmb	IAmb	12 38 56.8	
comp=Z,4.5nm,1.0s							
MDPB	**Devils Postpil**	**67.40**	**323**	P	**P**	**12 38 43.3**	**+1.5**
NVAR	**Mina Array Bea**	**67.51**	**324**	P	**P**	**12 38 42.6**	**+0.1**
comp=Z,0.5nm,0.7s,baz=147,slow=8.3,SNR=5.2							
NVAR	**Mina Array Bea**	**67.51**	**324**	P	**P**	**12 38 42.9**	**+0.5**
FXWY	**Fox Creek**	**67.76**	**333**	P	**P**	**12 38 43.9**	**0.0**
FLWY	**Flagg Ranch**	**67.97**	**333**	P	**P**	**12 38 45.2**	**0.0**
FLWY				IAmb	IAmb	12 38 53.1	
comp=Z,8.6nm,0.9s							
ULM	**Lac du Bonnet**	**68.37**	**346**	P	**P**	**12 38 46.8**	**-0.4**
comp=Z,7.4nm,0.9s,baz=115,slow=5.1,SNR=3.7							
ULM	**Lac du Bonnet**	**68.37**	**346**	P	**P**	**12 38 45.8**	**-1.4**
YHH	**Holmes Hill**	**68.60**	**333**	P	**P**	**12 38 50.1**	**+0.9**
YHL	**Hebgen Lake**	**68.79**	**333**	P	**P**	**12 38 51.0**	**+0.6**
PAHR	**Pah Rah

WRA	**Warramunga Arr**	**50.20**	**257**	P	**P**	**12 41 06.7**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=91,slow=7.8,SNR=46						
WRA	**Warramunga Arr**	**50.20**	**257**	P	**P**	**12 41 06.7**	**-1.2**
AS31	**Alice Springs**	**50.42**	**252**	P	**P**	**12 41 08.7**	**-0.9**
AS31				IAmb	IAmb	12 41 09.2	
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**50.42**	**252**	P	**P**	**12 41 08.6**	**-1.0**
	comp=Z,7.7nm,0.6s,baz=87,slow=8.8,SNR=125						
ASAR	**Alice Springs**	**50.42**	**252**	P	**P**	**12 41 08.1**	**-1.5**
KNRA	**Kununurra**	**55.97**	**262**	P	**P**	**12 41 49.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**58.58**	**258**	P	**P**	**12 42 09.8**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=113,slow=7.7,SNR=3.9						
FITZ	**Fitzroy Crossi**	**58.58**	**258**	P	**P**	**12 42 09.5**	**+0.6**
INK	**Inuvik**	**88.60**	**14**	P	**P**	**12 45 02.7**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=217,slow=5.1,SNR=3.0						
INK	**Inuvik**	**88.60**	**14**	P	**P**	**12 45 02.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**93.21**	**288**	P	**P**	**12 45 26.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=106,slow=4.8,SNR=3.4						

*IDC **17** 12:33:10.8±1.4, 59°.89S×43°.87W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/25, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=49.0km s-min=29.8km az=159.0*
*ISCJB **17** 12:33:11.1±0.8, 60°.01S±0°.08×43°.8W±0°.2, h10km, mb3.8/2, Error ellipse: s-maj=14.9km s-min=9.0km az=43.9*
*NEIC **17** 12:33:14.2±2.3, 59°.9S±0°.1×43°.8W±0°.2, h15km±5km, mb4.1/7*
ISC 17 12:33:13.1±0.8, 59°.9S±0°.1×43°.8W±0°.1, h10km, n16, σ1§19/17, mb4.1/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.91**	**38**	Pn	**Pn**	**12 34 55.3**	**+1.1**
PMSA	**Palmer Station**	**10.57**	**234**	Pn	**Pn**	**12 35 44.8**	**+0.4**
	0.3nm,0.3s,baz=76,slow=12,SNR=5.3						
PMSA				Sn	**Sn**	**12 37 43.7**	**+1.0**
	0.3nm,0.3s,baz=168,slow=22,SNR=2.8						
PMSA	**Palmer Station**	**10.57**	**234**		**Pn**	**12 35 45.3**	**+0.9**
SNAA	**Sanae**	**19.98**	**143**	P	**P**	**12 37 45.0**	**-0.3**
TRQA	**Tornquist**	**24.75**	**324**	P	**P**	**12 38 35.4**	**+0.7**
TRQA				IAmb	IAmb	12 38 35.8	
	comp=Z,5.1nm,1.0s						
PLCA	**Paso Flores**	**25.40**	**307**	P	**P**	**12 38 39.3**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=150,slow=8.1,SNR=2.7						
PLCA	**Paso Flores**	**25.40**	**307**	P	**P**	**12 38 39.0**	**-1.5**
PLCA				IAmb	IAmb	12 38 40.1	
	comp=Z,2.5nm,1.0s						
PB01	**IPOC Station P**	**42.91**	**323**	P	**P**	**12 41 11.9**	**+0.1**
PB01				IAmb	IAmb	12 41 19.4	
	comp=Z,13nm,1.1s						
GO01	**Chusmiza**	**44.12**	**325**	P	**P**	**12 41 21.7**	**-0.3**
GO01				IAmb	IAmb	12 41 40.2	
	comp=Z,3.5nm,1.1s						
MNMC	**Minye Minye**	**44.75**	**324**	P	**P**	**12 41 26.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**81.44**	**45**	P	**P**	**12 45 31.0**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=213,slow=5.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**81.44**	**45**	P	**P**	**12 45 31.3**	**+1.2**
ILAR	**Eielson Array**	**146.04**	**312**	PKPbc	**PKPdf**	**12 52 48.9**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=136,slow=2.2,SNR=8.0						
ILAR	**Eielson Array**	**146.04**	**312**		**PKPdf**	**12 52 49.0**	**-1.6**
MKAR	**Makanchi Array**	**146.25**	**88**	PKPbc	**PKPdf**	**12 52 50.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=230,slow=3.0,SNR=4.3						
MKAR	**Makanchi Array**	**146.25**	**88**		**PKPdf**	**12 52 50.3**	**-1.3**

*JMA **17** 12:33:14.5±0.1, 43°.01N×146°.20E, h44km±1km, M2.9*
*ISCJB **17** 12:33:15.2±1.2, 43°.08N±0°.06×146°.19E±0°.08, h40km±16km, Error ellipse: s-maj=11.8km s-min=6.4km az=43.4*
*SKHL **17** 12:33:17.0±0.1, 43°.12N×146°.14E, h33km±1km, mb3.8/4*
ISC 17 12:33:15.0±2.2, 43°.06N±0°.08×146°.20E±0°.09, h33km±7km, n15, σ0§75/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.45**	**313**	P	**Pb**	**12 33 25.2**	**+0.4**
NEM2				*e*S	**Sn**	**12 33 32.6**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.46**	**312**	*e*P	**Pb**	**12 33 25.5**	**+0.5**
NMR				*i* S	**Sb**	**12 33 32.0**	**+0.1**
JKHN	**Kushirohamanak**	**0.76**	**272**	P	**Pb**	**12 33 29.0**	**-0.9**
JKHN				*e*S	**Sb**	**12 33 40.1**	**+0.2**
GLVR	**Golovnino**	**0.84**	**324**	*e*P	**Pn**	**12 33 30.7**	**+0.2**
GLVR				AMB	AMB	12 33 31.0	
	52nm,0.2s						
GLVR				*i* S	**Sb**	**12 33 41.0**	**-1.2**
GLVR				A	A	12 33 45.0	
	389nm,0.2s						
GLVR				A	A	12 33 45.0	
	429nm,0.2s						
GRPR	**Tuman**	**0.98**	**342**	*e*P	**Pn**	**12 33 32.5**	**0.0**
GRPR				AMB	AMB	12 33 34.0	
	42nm,0.2s						
GRPR				*i* S	**Sn**	**12 33 44.0**	**-1.3**
GRPR				A	A	12 33 46.0	
	369nm,0.2s						
GRPR				A	A	12 33 46.0	
	445nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.00**	**346**	*e*P	**Pn**	**12 33 33.0**	**+0.2**
YUK				AMB	AMB	12 33 34.0	
	44nm,0.2s						
YUK				*e*S	**Sn**	**12 33 45.0**	**-0.8**
YUK				A	A	12 33 46.0	
	356nm,0.2s						
YUK				A	A	12 33 46.0	
	532nm,0.2s						
LAGR	**Lagunnoye**	**1.04**	**343**	*e*P	**Pn**	**12 33 33.4**	**+0.1**
LAGR				AMB	AMB	12 33 36.0	
	33nm,0.2s						
LAGR				*i* S	**Sn**	**12 33 45.7**	**-1.0**
LAGR				A	A	12 33 46.0	
	417nm,0.2s						
LAGR				A	A	12 33 46.0	
	594nm,0.2s						
JAK	**Akkeshi**	**1.10**	**267**	P	**Pn**	**12 33 33.6**	**-0.6**
JAK				*e*S	**Sn**	**12 33 47.9**	**-0.3**
JNSB	**Nemuroshibetsu**	**1.13**	**310**	P	**Pn**	**12 33 34.6**	**+0.1**
JRA	**Rausu**	**1.18**	**319**	P	**Pn**	**12 33 35.7**	**+0.5**
JRA				*e*S	**Sn**	**12 33 50.8**	**+0.7**
JNK	**Nakash**	**1.20**	**296**	P	**Pn**	**12 33 35.4**	**-0.1**
JNK				*e*S	**Sn**	**12 33 49.9**	**-0.8**
JAR	**Ashorobuto**	**1.79**	**278**	P	**Pn**	**12 33 43.8**	**+0.1**
JAR				*e*S	**Sn**	**12 34 05.9**	**+0.6**
JTKR	**Abashiri--Toko**	**1.90**	**299**	P	**Pn**	**12 33 46.0**	**+0.9**
JTKR				*e*S	**Sn**	**12 34 09.6**	**+1.7**
JCH	**Churui**	**2.13**	**259**	P	**Pn**	**12 33 48.8**	**+0.5**
KUR	**Kuril'sk**	**2.48**	**28**	*i* S	**Sn**	**12 34 23.0**	**+0.7**

*ISCJB **17** 12:34:07.8±0.7, 11°.5S±0°.1×164°.44E±0°.07, h10km, mb3.6/4, Error ellipse: s-maj=18.9km s-min=8.7km az=19.8*
*NEIC **17** 12:34:08.9±3.0, 11°.1S±0°.1×164°.46E±0°.06, h10km±2km, mb4.1/9*
*IDC **17** 12:34:08.2±2.1, 11°.30S×164°.37E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/52, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=63.9km s-min=28.4km az=141.0*
ISC 17 12:34:09.5±1.0, 11°.4S±0°.2×164°.5E±0°.1, h10km, n24, σ1§09/18, mb3.9/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.87**	**293**	Pn	**Pn**	**12 35 22.5**	**-0.4**
	20nm,0.3s,baz=111,slow=8.6,SNR=9.0						
HNR				Sn	**Sn**	**12 36 20.6**	**+1.1**
	8.4nm,0.3s,baz=76,slow=23,SNR=2.8						
HNR	**Honiara**	**4.87**	**293**		**Pn**	**12 35 22.2**	**-0.8**
CTA	**Charters Tower**	**19.55**	**242**	P	**Pn**	**12 38 38.1**	**-0.7**
	0.1nm,0.3s,baz=66,slow=10.0,SNR=3.3						
CTAO	**Charters Tower**	**19.55**	**242**	P	**Pn**	**12 38 41.1**	**+2.3**
CTAO				IAmb	IAmb	12 38 55.9	
	comp=Z,21nm,1.4s						
COEN	**Coen**	**20.95**	**261**	P	Pn	12 38 53.1	-2.3
URZ	**Urewera**	**29.04**	**159**	P	**P**	**12 40 09.9**	**0.0**
URZ				IAmb	IAmb	12 40 24.1	
	comp=Z,3.5nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**29.78**	**4**	T	T	13 10 32.9	
	baz=184,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**29.78**	**4**	T	T	13 10 42.1	
	baz=184,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.80**	**4**	T	T	13 10 42.5	
	baz=184,slow=76,SNR=21						
WB2	**Warramunga Arr**	**30.19**	**250**	P	**P**	**12 40 21.4**	**+1.0**
WB2				IAmb	IAmb	12 40 23.1	
	comp=Z,3.5nm,1.3s						
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**12 40 19.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=79,slow=9.4,SNR=5.5						
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**12 40 20.2**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**31.00**	**4**	T	T	13 12 07.1	
	baz=184,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**31.01**	**4**	T	T	13 12 06.1	
	baz=184,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**31.02**	**4**	T	T	13 12 07.0	
	baz=184,slow=76,SNR=11						
AS31	**Alice Springs**	**31.53**	**243**	P	**P**	**12 40 31.7**	**-0.5**
ASAR	**Alice Springs**	**31.53**	**243**	P	**P**	**12 40 32.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=62,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**31.53**	**243**	P	**P**	**12 40 31.1**	**-1.1**
KNRA	**Kununurra**	**34.96**	**259**	P	**P**	**12 41 00.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**38.10**	**255**	P	**P**	**12 41 27.6**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=83,slow=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**38.10**	**255**	P	**P**	**12 41 27.6**	**-1.3**
PPT	**Papeete**	**44.81**	**103**	P	**P**	**12 42 24.3**	**+0.2**
PPTF	**Pamatai, Papee**	**44.83**	**103**	P	**P**	**12 42 24.4**	**+0.2**
ILAR	**Eielson Array**	**84.24**	**19**	P	**P**	**12 46 41.2**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=231,slow=5.7,SNR=3.3						

*ISCJB **17** 12:34:21.5±1.4, 60°.3S±0°.1×45°.1W±0°.3, h10km, mb3.6/3, Error ellipse: s-maj=26.9km s-min=9.3km az=140.3*
*IDC **17** 12:34:21.9±1.6, 60°.33S×45°.79W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/25, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=46.1km s-min=35.0km az=177.0*
*NEIC **17** 12:34:22.7±1.2, 60°.4S±0°.2×45°.2W±0°.3, h15km±6km, mb4.4/9*
ISC 17 12:34:23.2±1.1, 60°.3S±0°.1×45°.3W±0°.1, h10km, n17, σ1§68/18, mb4.2/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.68**	**42**	Pn	**Pn**	**12 36 15.0**	**0.0**
PMSA	**Palmer Station**	**9.74**	**234**	Pn	**Pn**	**12 36 40.4**	**-2.7**
	0.6nm,0.3s,baz=58,slow=13,SNR=6.3						
PMSA				Sn	**Sn**	**12 38 36.7**	**+4.3**
	0.2nm,0.3s,baz=337,slow=20,SNR=3.2						
PMSA	**Palmer Station**	**9.74**	**234**		**Pn**	**12 36 41.0**	**-2.1**
GO10	**Punta Arenas**	**15.74**	**286**	P	**P**	**12 38 07.3**	**-1.5**
GO10				IAmb	IAmb	12 38 07.5	
	comp=Z,25nm,1.1s						
TRQA	**Tornquist**	**24.62**	**327**	P	**P**	**12 39 44.7**	**+1.2**
TRQA				IAmb	IAmb	12 39 45.3	
	comp=Z,6.7nm,0.9s						
PLCA	**Paso Flores**	**25.02**	**310**	P	**P**	**12 39 46.0**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=124,slow=4.3,SNR=3.7						
PLCA	**Paso Flores**	**25.02**	**310**	P	**P**	**12 39 47.2**	**0.0**
GO06	**Curarrehue**	**26.37**	**310**	P	**P**	**12 39 58.9**	**-0.7**
GO04	**Tololo Observa**	**34.60**	**319**		**P**	**12 41 13.3**	**+0.9**
GO04				IAmb	IAmb	12 41 26.4	
	comp=Z,12nm,1.1s						
GO01	**Chusmiza**	**43.99**	**327**	P	**P**	**12 42 31.3**	**+0.2**
GO01				IAmb	IAmb	12 42 31.6	
	comp=Z,8.8nm,1.1s						
MNMC	**Minye Minye**	**44.61**	**326**	P	**P**	**12 42 36.3**	**+0.5**
LPAZ	**La Paz**	**46.94**	**329**	P	**P**	**12 42 54.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=189,slow=5.7,SNR=3.6						
LPAZ	**La Paz**	**46.94**	**329**	P	**P**	**12 42 54.6**	**0.0**
LPAZ				IAmb	IAmb	12 42 58.6	
	comp=Z,2.7nm,1.0s						
RCBR	**Riachuelo**	**54.79**	**11**	P	**P**	**12 43 52.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**82.24**	**46**	P	**P**	**12 46 46.2**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=222,slow=1.9,SNR=2.4						
MKAR	**Makanchi Array**	**147.03**	**90**	PKPbc	**PKPbc**	**12 54 04.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=238,slow=3.3,SNR=4.0						
MKAR	**Makanchi Array**	**147.03**	**90**		**PKPbc**	**12 54 03.8**	**-1.3**

*IDC **17** 12:36:48.7±2.2, 61°.81S×44°.42W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/22, mbtmp4.0/3, Error ellipse: s-maj=96.6km s-min=35.9km az=26.0*
*ISCJB **17** 12:36:57.6±0.6, 60°.32S±0°.09×43°.1W±0°.2, h18km, mb3.9/3, Error ellipse: s-maj=13.9km s-min=11.5km az=142.4*
*NEIC **17** 12:36:59.0±1.3, 60°.4S±0°.1×43°.0W±0°.2, h15km±4km, mb4.3/11*
ISC 17 12:36:58.7±0.7, 60°.3S±0°.1×43°.06W±0°.10, h18km, n21, σ2§18/21, mb4.3/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.04**	**33**	Pn	**Pn**	**12 38 40.3**	**-0.3**
PMSA	**Palmer Station**	**10.63**	**236**		**Pn**	**12 39 29.6**	**-0.2**
EFI	**East Falkland**	**12.05**	**309**	Pn	**Pn**	**12 39 50.5**	**+1.3**
SNAA	**Sanae**	**19.42**	**142**	P	**Pn**	**12 41 27.3**	**+2.6**
TRQA	**Tornquist**	**25.31**	**323**	P	**P**	**12 42 25.9**	**+1.8**
TRQA				IAmb	IAmb	12 42 26.9	
	comp=Z,8.2nm,1.1s						
PLCA	**Paso Flores**	**25.95**	**307**	P	**P**	**12 42 27.3**	**-2.5**
	comp=Z,2.6nm,0.8s,baz=179,slow=7.6,SNR=8.2						
PLCA	**Paso Flores**	**25.95**	**307**	P	**P**	**12 42 29.3**	**-0.5**
PLCA				IAmb	IAmb	12 42 31.8	
	comp=Z,3.6nm,0.8s						
GO02	**Mina Guanaco**	**39.64**	**321**	P	**P**	**12 44 30.1**	**+0.6**
GO02				IAmb	IAmb	12 44 30.2	
	comp=Z,6.4nm,0.8s						
SBA	**Scott Base**	**40.85**	**189**	P	**P**	**12 44 39.3**	**+0.7**
GO01	**Chusmiza**	**44.68**	**324**	P	**P**	**12 45 11.8**	**+1.0**
GO01				IAmb	IAmb	12 45 12.3	
	comp=Z,4.2nm,0.8s						
MNMC	**Minye Minye**	**45.30**	**324**	P	**P**	**12 45 16.5**	**+1.0**
LPAZ	**La Paz**	**47.59**	**327**	P	**P**	**12 45 33.4**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=153,slow=6.8,SNR=4.4						
LPAZ	**La Paz**	**47.59**	**327**	P	**P**	**12 45 34.9**	**+1.0**
LPAZ				IAmb	IAmb	12 45 46.8	
	comp=Z,1.2nm,1.1s						
LBTB	**Lobatse**	**58.06**	**85**	P	**P**	**12 46 50.7**	**+0.2**
LBTB				IAmb	IAmb	12 47 08.2	
	comp=Z,6.6nm,1.1s						
OTAV	**Otavalo**	**66.30**	**321**	P	**P**	**12 47 47.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**81.49**	**44**	P	**P**	**12 49 15.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=210,slow=5.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**81.49**	**44**	P	**P**	**12 49 15.3**	**+0.7**
MKAR	**Makanchi Array**	**145.90**	**88**	PKPbc	**PKPdf**	**12 56 31.5**	**-3.6**
	comp=Z,0.7nm,0.5s,baz=225,slow=1.8,SNR=6.0						
MKAR	**Makanchi Array**	**145.90**	**88**		**PKPab**	**12 56 37.1**	**+0.7**
ILAR	**Eielson Array**	**146.59**	**311**	PKPbc	**PKPdf**	**12 56 28.9**	**-6.8**
	comp=Z,1.0nm,0.9s,baz=140,slow=4.1,SNR=6.0						
ILAR	**Eielson Array**	**146.59**	**311**		**PKPbc**	**12 56 37.0**	**-0.3**

*IDC **17** 12:37:21.9±2.5, 60°.70S×45°.02W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.7/21, mbtmp4.0/1, Error ellipse: s-maj=144.4km s-min=77.8km az=178.0*
*ISCJB **17** 12:37:23.1±1.0, 60°.3S±0°.1×44°.8W±0°.2, h10km, mb3.8/1, Error ellipse: s-maj=19.9km s-min=13.3km az=155.9*
*NEIC **17** 12:37:26.1±0.8, 60°.2S±0°.1×44°.8W±0°.2, h15km±5km, mb4.5/7*
ISC 17 12:37:25.2±0.9, 60°.2S±0°.2×44°.8W±0°.1, h10km, n15, σ0§62/15, mb4.4/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.48**	**41**	Pn	**Pn**	**12 39 14.1**	**-0.1**
PMSA	**Palmer Station**	**9.96**	**235**	Pn	**Pn**	**12 39 48.4**	**+0.3**
TRQA	**Tornquist**	**24.71**	**326**	P	**P**	**12 42 46.6**	**+0.3**
TRQA				IAmb	IAmb	12 42 48.0	
	comp=Z,7.2nm,1.1s						
PLCA	**Paso Flores**	**25.18**	**309**	P	**P**	**12 42 49.9**	**-0.7**
PLCA				IAmb	IAmb	12 43 03.7	
	comp=Z,5.2nm,1.0s						
GO05	**Hualá**	**30.72**	**313**	P	**P**	**12 43 40.2**	**+0.1**
GO05				IAmb	IAmb	12 43 57.5	
	comp=Z,21nm,1.3s						
GO04	**Tololo Observa**	**34.72**	**318**	P	**P**	**12 44 14.7**	**-0.7**
GO04				IAmb	IAmb	12 44 19.8	
	comp=Z,6.3nm,0.9s						
PB10	**IPOC Station P**	**40.84**	**322**	P	**P**	**12 45 07.4**	**+0.6**
GO01	**Chusmiza**	**44.08**	**326**	P	**P**	**12 45 34.0**	**+0.3**
MNMC	**Minye Minye**	**44.70**	**326**	P	**P**	**12 45 39.0**	**+0.5**
MNMC				IAmb	IAmb	12 45 40.2	
	comp=Z,9.9nm,1.1s						
LBTB	**Lobatse**	**58.94**	**86**	P	**P**	**12 47 24.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**82.03**	**46**	P	**P**	**12 49 45.7**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=190,slow=6.8,SNR=3.3						
ILAR	**Eielson Array**	**145.85**	**312**	PKPbc	**PKPdf**	**12 57 01.2**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=143,slow=2.4,SNR=7.6						
ILAR	**Eielson Array**	**145.85**	**312**		**PKPdf**	**12 57 01.3**	**-1.1**
MKAR	**Makanchi Array**	**146.79**	**90**	PKPbc	**PKPdf**	**12 57 04.2**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=227,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**146.79**	**90**		**PKPdf**	**12 57 04.8**	**+0.2**

*ISCJB **17** 12:40:04.2±0.8, 60°.4S±0°.1×45°.4W±0°.2, h10km, mb3.7/5, Error ellipse: s-maj=18.2km s-min=12.8km az=31.0*
*IDC **17** 12:40:04.8±1.0, 60°.36S×45°.60W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/27, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=34.0km s-min=23.7km az=78.0*
*NEIC **17** 12:40:06.9±0.9, 60°.4S±0°.1×45°.4W±0°.2, h15km±6km, mb4.2/7*
ISC 17 12:40:06.2±0.8, 60°.3S±0°.1×45°.5W±0°.1, h10km, n18, σ0§66/18, mb4.0/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.78**	**43**	Pn	**Pn**	**12 41 59.8**	**+0.5**
PMSA	**Palmer Station**	**9.64**	**235**	Pn	**Pn**	**12 42 25.1**	**+0.3**
	0.7nm,0.3s,baz=73,slow=12,SNR=4.9						
PMSA	**Palmer Station**	**9.64**	**235**		**Pn**	**12 42 25.7**	**+0.9**
TRQA	**Tornquist**	**24.64**	**327**	P	**P**	**12 45 27.3**	**+0.6**
PLCA	**Paso Flores**	**25.01**	**310**	P	**P**	**12 45 29.7**	**-0.5**
	1.6nm,1.1s,baz=170,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**25.01**	**310**	P	**P**	**12 45 29.6**	**-0.6**
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**12 46 13.1**	**-0.7**
	2.0nm,1.0s,baz=267,slow=1.7,SNR=3.0						
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**12 46 13.7**	**-0.1**
QSPA				IAmb	IAmb	12 46 31.5	
	comp=Z,2.0nm,1.1s						
GO01	**Chusmiza**	**44.00**	**327**	P	**P**	**12 48 13.9**	**-0.3**
GO01				IAmb	IAmb	12 48 20.8	
	comp=Z,6.4nm,1.3s						
MNMC	**Minye Minye**	**44.62**	**327**	P	**P**	**12 48 19.1**	**+0.1**
MNMC				IAmb	IAmb	12 48 28.7	
	comp=Z,2.9nm,0.7s						
SIV	**San Ignacio**	**45.72**	**339**	P	**P**	**12 48 26.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=179,slow=6.4,SNR=9.2						
LPAZ	**La Paz**	**46.96**	**330**	P	**P**	**12 48 38.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=159,slow=8.1,SNR=3.4						
LPAZ	**La Paz**	**46.96**	**330**	P	**P**	**12 48 38.0**	**+0.2**
SAML	**Samuel**	**52.98**	**338**	P	**P**	**12 49 22.7**	**-0.2**
SAML				IAmb	IAmb	12 49 23.0	
	comp=Z,1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.34**	**46**	P	**P**	**12 52 29.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=208,slow=5.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**82.34**	**46**	P	**P**	**12 52 27.5**	**-0.4**
ILAR	**Eielson Array**	**145.70**	**312**	PKPbc	**PKPab**	**12 59 43.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=134,slow=2.4,SNR=4.7						
MKAR	**Makanchi Array**	**147.10**	**90**	PKPbc	**PKPbc**	**12 59 47.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=227,slow=3.8,SNR=4.0						

*ISCJB **17** 12:41:29.4±0.4, 3°.51S±0°.05×143°.82E±0°.05, h31km, mb3.9/7, Error ellipse: s-maj=8.3km s-min=5.7km az=42.3*
*IDC **17** 12:41:32.4±2.5, 3°.52S×143°.79E, h41km±24km, mb3.7/7, mb1 3.9/11, mb1mx3.7/41, mbtmp4.0/11, ML3.7/3, Error ellipse: s-maj=23.1km s-min=11.1km az=52.0*
*NEIC **17** 12:41:33.4±1.8, 3°.50S±0°.10×143°.76E±0°.10, h53km±2km, mb4.4/20*
ISC 17 12:41:31.1±0.6, 3°.44S±0°.07×143°.87E±0°.07, h31km, n47, σ1§16/43, mb4.3/14, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.29**	**286**	P	**Pn**	**12 42 20.8**	**+0.1**
	3.2nm,0.3s,baz=109,slow=5.0,SNR=10						
JAY				S	**Sn**	**12 42 58.5**	**-0.3**
	1.6nm,0.3s,baz=95,slow=12,SNR=2.8						
PMG	**Port Moresby**	**6.77**	**151**	P	**Pn**	**12 43 08.9**	**+0.6**
	2.4nm,0.3s,baz=22,slow=6.9,SNR=9.5						
PMG				S	**Sn**	**12 44 25.1**	**+0.6**
	0.6nm,0.3s,baz=162,slow=16,SNR=2.0						
PMG	**Port Moresby**	**6.77**	**151**		**Pn**	**12 43 09.0**	**+0.6**
COEN	**Coen**	**10.47**	**184**	Pn	**Pn**	**12 44 02.5**	**+3.2**
SIJI	**Sorong**	**12.85**	**281**	P	**Pn**	**12 44 32.2**	**+0.3**
	0.6nm,0.3s,baz=255,slow=23,SNR=3.6						
MTN	**Manton Dam**	**15.69**	**233**	P	**Pn**	**12 45 10.4**	**+0.3**
MTN				IAmb	IAmb	12 45 12.3	
	comp=Z,9.1nm,1.1s						
WB0	**Warramunga Arr**	**18.68**	**209**	P	**P**	**12 45 46.0**	**-1.0**
WB2	**Warramunga Arr**	**18.85**	**209**	P	**P**	**12 45 48.1**	**-0.8**
WRA	**Warramunga Arr**	**18.86**	**209**	P	**P**	**12 45 47.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=29,slow=11,SNR=22						
WRA	**Warramunga Arr**	**18.86**	**209**	P	**P**	**12 45 46.9**	**-2.0**
KNRA	**Kununurra**	**19.21**	**230**	P	**P**	**12 45 50.9**	**-1.8**
KNRA				IAmb	IAmb	12 46 03.5	
	comp=Z,8.6nm,0.7s						

0.3nm,0.3s,baz=65,slow=12,SNR=2.2
SNAA Sanae 20.13 142 P P 12 46 07.3 +0.3
2.8nm,0.9s,baz=270,slow=11,SNR=2.6
TORD Torodi Ar. Bea 82.01 46 P P 12 53 54.4 +1.0
0.6nm,0.9s,baz=198,slow=7.2,SNR=3.1
ILAR Eielson Array 145.77 312 PKPbc PKPdf 13 01 09.6 -0.9
0.6nm,0.9s,baz=134,slow=2.1,SNR=4.1
MKAR Makanchi Array 146.82 90 PKPbc PKPdf 13 01 12.3 -0.6
0.7nm,0.8s,baz=202,slow=2.6,SNR=3.8

ISCJB ***17*** *12:45:23.4±0.2,60°.41S±0°.03×45°.53W±0°.09,h7km, mb5.1/33,Error ellipse: s-maj=6.7km s-min=4.6km az=163.2*
NEIC ***17*** *12:45:24.9±1.9,60°.40S±0°.07×45°.2W±0°.1,h10km±1km, mb5.2/49*
MOS ***17*** *12:45:24.3±1.1,60°.41S×45°.37W,h10km,mb5.5/27,Error ellipse: s-maj=28.5km s-min=9.6km az=101.4*
IDC ***17*** *12:45:26.4±1.8,60°.41S×45°.48W,h16km±10km,mb4.9/21, mb1 4.9/23,mb1mx4.9/30,mbtmp5.0/23,ML3.6/2,MS4.9/3, Ms1 4.9/3,ms1mx4.6/24,Error ellipse: s-maj=13.2km s-min=10.6km az=61.0*
ISC 17 12:45:26.1±1.1,60°.42S±0°.05×45°.33W±0°.05,h16km±6km, n430,σ1$31/441,mb5.2/45,27C-7D,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.79**	**42**			**Pn**		**12 47 16.7**	**-1.9**
PMSA	**Palmer Station**	**9.65**	**235**	Pn		**Pn**		**12 47 44.6**	**+0.5**
	2.2nm,0.3s,baz=37,slow=10,SNR=12								
PMSA				Sn		**Sn**		**12 49 30.2**	**-1.8**
	1.1nm,0.3s,baz=160,slow=21,SNR=3.3								
PMSA				LR		LR		12 51 41.2	
	comp=Z,4μm,20.2s,baz=34,slow=39								
PMSA	**Palmer Station**	**9.65**	**235**			**Pn**		**12 47 44.6**	**+0.5**
PMSA						**Sn**		**12 49 31.7**	**-0.2**
PMSA	**Palmer Station**	**9.65**	**235**	*eP*		**Pn**		**12 47 46.3**	**+2.3**
EFI	**East Falkland**	**11.27**	**315**	||*iP*		**Pn**		**12 48 10.0**	**+3.7**
EFI				pmax		pmax			
	comp=Z,76nm,0.7s								
EFI	**East Falkland**	**11.27**	**315**			**Pn**		**12 48 08.1**	**+1.8**
USHA	**Ushuaia**	**13.54**	**284**	Pn		**Pn**		**12 48 37.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=135,slow=16,SNR=4.0								
GO10	**Punta Arenas**	**15.78**	**286**	P		**P**		**12 49 11.3**	**+0.1**
GO10				IAmb		IAmb		12 49 15.5	
	comp=Z,103nm,0.8s								
VNA3	**Neumayer Olymp**	**17.83**	**142**	P		**P**		**12 49 35.0**	**+1.2**
VNA1	**Neumayer--Stat**	**18.09**	**140**	P		**P**		**12 49 38.1**	**+1.5**
VNA2	**Neumayer--Watz**	**18.44**	**140**	P		**Pn**		**12 49 42.4**	**+1.8**
	baz=294,slow=14								
SNAA	**Sanae**	**20.05**	**141**	P		Pn		12 50 01.3	+1.3
SNAA	**Sanae**	**20.05**	**141**	*de*P		Pn		12 50 01.0	+1.1
SNAA	**Sanae**	**20.05**	**141**	P		Pn		12 50 00.2	+0.3
	comp=Z,31nm,0.8s,baz=283,slow=9.7,SNR=41								
SNAA				S		**S**		**12 53 37.9**	**-4.7**
	comp=Z,2.8nm,0.6s,baz=302,slow=17,SNR=4.3								
SNAA				PcP		**PcP**		**12 54 13.2**	**+0.3**
	comp=Z,8.1nm,0.7s,baz=188,slow=2.9,SNR=5.8								
SNAA	**Sanae**	**20.05**	**141**	P		Pn		12 50 01.0	+1.1
SNAA				IAmb		IAmb		12 50 07.3	
	comp=Z,92nm,1.0s								
TRQA	**Tornquist**	**24.74**	**327**	*eP*		**P**		**12 50 46.9**	**+0.3**
TRQA	**Tornquist**	**24.74**	**327**	P		**P**		**12 50 46.9**	**+0.3**
TRQA	**Tornquist**	**24.74**	**327**	*eP*		**P**		**12 50 47.2**	**+0.6**
PLCA	**Paso Flores**	**25.12**	**310**	*eP*		**P**		**12 50 49.8**	**-0.2**
PLCA	**Paso Flores**	**25.12**	**310**	P		**P**		**12 50 49.9**	**-0.1**
	comp=Z,14nm,0.8s,baz=173,slow=8.9,SNR=42								
PLCA				PcP		**PcP**		**12 54 23.8**	**0.0**
	comp=Z,3.9nm,0.7s,baz=279,slow=4.6,SNR=4.2								
PLCA				LR		LR		12 59 32.9	
	comp=Z,4μm,20.4s,baz=167,slow=34								
PLCA	**Paso Flores**	**25.12**	**310**	P		**P**		**12 50 49.8**	**-0.2**
PLCA				IAmb		IAmb		12 51 07.2	
	comp=Z,31nm,0.8s								
PLCA						**PcP**		**12 54 23.3**	**-0.4**
PLCA	**Paso Flores**	**25.12**	**310**	*eP*		**P**		**12 50 50.0**	**-0.1**
GO06	**Curarrehue**	**26.46**	**310**	P		**P**		**12 51 01.9**	**-0.4**
PLTB	**Pedras Altas**	**29.19**	**345**	*eP*		**P**		**12 51 27.8**	**+1.3**
PLTB	**Pedras Altas**	**29.19**	**345**	*eP*		**P**		**12 51 27.8**	**+1.3**
QSPA	**South Pole Qui**	**29.82**	**180**	P		**P**		**12 51 32.9**	**+0.9**
	comp=Z,32nm,0.9s,baz=180,slow=3.0,SNR=100								
QSPA				PcP		**PcP**		**12 54 35.2**	**+0.5**
	comp=Z,9.8nm,1.1s,baz=173,slow=3.0,SNR=4.0								
QSPA	**South Pole Qui**	**29.82**	**180**	P		**P**		**12 51 34.0**	**+2.0**
QSPA				IAmb		IAmb		12 51 38.5	
	comp=Z,53nm,1.1s								
QSPA						**PcP**		**12 54 34.9**	**+0.2**
CPSB	**Cacapava Do Su**	**30.51**	**346**	*eP*		**P**		**12 51 39.2**	**+1.0**
CPSB	**Cacapava Do Su**	**30.51**	**346**	*eP*		**P**		**12 51 39.2**	**+1.0**
GO05	**Huala**	**30.68**	**314**	P		**P**		**12 51 39.8**	**0.0**
GO05				IAmb		IAmb		12 51 52.2	
	comp=Z,34nm,1.1s								
CNLB	**Canela**	**31.33**	**351**	*eP*		**P**		**12 51 47.0**	**+1.5**
CNLB	**Canela**	**31.33**	**351**	*eP*		**P**		**12 51 47.0**	**+1.5**
PEL	**Peldehue**	**31.94**	**317**	P		**P**		**12 51 50.7**	**-0.2**
PEL				pmax		pmax			
	comp=Z,117nm,1.4s								
PEL	**Peldehue**	**31.94**	**317**	P		**P**		**12 51 50.7**	**-0.2**
ROC1	**El Roble**	**32.20**	**317**	P		**P**		**12 51 53.3**	**-0.1**
CFA	**Coronel Fontan**	**32.57**	**322**	P		**P**		**12 51 56.5**	**+0.1**
	comp=Z,14nm,0.5s,baz=173,slow=7.7,SNR=27								
CFA				PcP		**PcP**		**12 54 42.4**	**-0.1**
	comp=Z,18nm,0.8s,baz=167,slow=1.1,SNR=12								
CFA				LR		LR		13 05 47.7	
	comp=Z,3μm,19.3s,baz=164,slow=38								
ITAB	**Concordia**	**33.50**	**349**	*eP*		**P**		**12 52 06.1**	**+1.6**
ITAB	**Concordia**	**33.50**	**349**	*eP*		**P**		**12 52 06.1**	**+1.6**
SYO	**Syowa Base**	**34.33**	**140**	⇑*iP*		**P**		**12 52 12.2**	**+0.9**
SYO	**Syowa Base**	**34.33**	**140**	||*eP*	**PcP**		**12 54 45.6**	**-1.2**
GO04	**Tololo Observa**	**34.71**	**319**	P		**P**		**12 52 15.0**	**-0.2**
GO04				IAmb		IAmb		12 52 17.4	
	comp=Z,36nm,0.8s								
CPUP	**Villa Florida**	**35.06**	**341**	P		**P**		**12 52 18.1**	**+0.1**
CPUP								12 54 48.9	
CPUP				pmax		pmax			
	comp=Z,12nm,0.9s								
CPUP	**Villa Florida**	**35.06**	**341**	P		**P**		**12 52 18.4**	**+0.4**
	comp=Z,8.0nm,0.6s,baz=170,slow=7.3,SNR=28								
CPUP				PcP		**PcP**		**12 54 49.6**	**+0.1**
	comp=Z,8.2nm,0.8s,baz=100,slow=0.7,SNR=6.2								
CPUP	**Villa Florida**	**35.06**	**341**	P		**P**		**12 52 18.1**	**+0.1**
CPUP						**PcP**		**12 54 48.9**	**-0.7**
PTGB	**Pitanga**	**35.99**	**350**	*eP*		**P**		**12 52 26.7**	**+0.6**
PTGB	**Pitanga**	**35.99**	**350**	*eP*		**P**		**12 52 26.7**	**+0.6**
SPB	**Sao Paulo**	**36.84**	**357**	P		**P**		**12 52 34.1**	**+0.9**
SPB				IAmb		IAmb		12 52 35.7	
	comp=Z,49nm,0.8s								
SPB	**Sao Paulo**	**36.84**	**357**	*eP*		**P**		**12 52 34.4**	**+1.2**
GO03	**Copiap**	**36.92**	**322**	IAmb		IAmb		12 52 36.1	
	comp=Z,57nm,0.7s								
FRTB	**Fartura**	**37.17**	**354**	*eP*		**P**		**12 52 36.9**	**+0.8**
FRTB	**Fartura**	**37.17**	**354**	*eP*		**P**		**12 52 36.9**	**+0.8**
ESAR	**Angra dos Reis**	**37.38**	**1**	*eP*		**P**		**12 52 38.1**	**+0.3**
ESAR	**Angra dos Reis**	**37.38**	**1**	*eP*		**P**		**12 52 38.1**	**+0.3**
VAO	**Valinhos**	**37.41**	**358**	*eP*		**P**		**12 52 39.1**	**+0.9**
VAO	**Valinhos**	**37.41**	**358**	*eP*		**P**		**12 52 39.1**	**+0.9**
MAN01	**Angra dos Reis**	**37.54**	**2**	*eP*		**P**		**12 52 40.9**	**+1.6**
MAN01	**Angra dos Reis**	**37.54**	**2**	*eP*		**P**		**12 52 40.9**	**+1.6**
TRCB	**Terra Rica**	**37.95**	**349**	*eP*		**P**		**12 52 43.9**	**+1.2**
TRCB	**Terra Rica**	**37.95**	**349**	*eP*		**P**		**12 52 43.9**	**+1.2**
RCLB	**Rio Claro- Sao**	**38.00**	**357**	*eP*		**P**		**12 52 43.7**	**+0.5**
RCLB	**Rio Claro- Sao**	**38.00**	**357**	*eP*		**P**		**12 52 43.7**	**+0.5**
VAS01	**Vassouras-RJ**	**38.13**	**3**	*eP*		**P**		**12 52 45.3**	**+1.0**
VAS01	**Vassouras-RJ**	**38.13**	**3**	*eP*		**P**		**12 52 45.3**	**+1.0**
DUB01	**Friburgo-RJ**	**38.37**	**4**	*eP*		**P**		**12 52 48.0**	**+1.8**
DUB01	**Friburgo-RJ**	**38.37**	**4**	*eP*		**P**		**12 52 48.0**	**+1.8**
CAM01	**Campos-RJ**	**38.65**	**5**	*eP*		**P**		**12 52 50.6**	**+2.1**
CAM01	**Campos-RJ**	**38.65**	**5**	*eP*		**P**		**12 52 50.6**	**+2.1**
PCMB	**Pacaembu**	**39.01**	**351**	*eP*		**P**		**12 52 52.8**	**+1.2**
PCMB	**Pacaembu**	**39.01**	**351**	*eP*		**P**		**12 52 52.8**	**+1.2**
BB19B	**Bebedouro**	**39.38**	**355**	*eP*		**P**		**12 52 54.8**	**0.0**
BB19B	**Bebedouro**	**39.38**	**355**	*eP*		**P**		**12 52 54.8**	**0.0**
BSCB	**Bom Sucesso**	**39.39**	**1**	*eP*		**P**		**12 52 55.2**	**+0.3**
BSCB	**Bom Sucesso**	**39.39**	**1**	*eP*		**P**		**12 52 55.2**	**+0.3**
ALF01	**Guarapari-ES**	**39.90**	**7**	*eP*		**P**		**12 52 58.8**	**-0.2**
ALF01	**Guarapari-ES**	**39.90**	**7**	*eP*		**P**		**12 52 58.8**	**-0.2**
SBA	**Scott Base**	**40.58**	**190**	P		**P**		**12 53 06.1**	**+2.0**
SBA				pmax		pmax			
	comp=Z,26nm,1.0s								
SBA	**Scott Base**	**40.58**	**190**	P		**P**		**12 53 06.1**	**+2.0**
AQDB	**Aquidauana**	**40.58**	**345**	*eP*		**P**		**12 53 05.3**	**+0.7**
AQDB	**Aquidauana**	**40.58**	**345**	*eP*		**P**		**12 53 05.3**	**+0.7**
ITRB	**Iturama**	**40.83**	**353**	*eP*		**P**		**12 53 07.1**	**+0.3**
ITRB	**Iturama**	**40.83**	**353**	*eP*		**P**		**12 53 07.1**	**+0.3**
RIB01	**Linhares ES**	**41.21**	**7**	*eP*		**P**		**12 53 10.5**	**+0.6**
RIB01	**Linhares ES**	**41.21**	**7**	*eP*		**P**		**12 53 10.5**	**+0.6**
BSFB	**Barra de Sao F**	**41.67**	**6**	*eP*		**P**		**12 53 14.0**	**+0.4**
BSFB	**Barra de Sao F**	**41.67**	**6**	*eP*		**P**		**12 53 14.0**	**+0.4**
SJMB	**Sao Joao De Ma**	**41.78**	**6**	*eP*		**P**		**12 53 14.8**	**+0.3**
SJMB	**Sao Joao De Ma**	**41.78**	**6**	*eP*		**P**		**12 53 14.8**	**+0.3**
PMNB	**Patos De Minas**	**41.84**	**358**	*eP*		**P**		**12 53 16.0**	**+0.8**
PMNB	**Patos De Minas**	**41.84**	**358**	*eP*		**P**		**12 53 16.0**	**+0.8**
C2SB	**Chapadao do Su**	**41.95**	**349**	*eP*		**P**		**12 53 16.8**	**+0.8**
C2SB	**Chapadao do Su**	**41.95**	**349**	*eP*		**P**		**12 53 16.8**	**+0.8**
MAW	**Mawson**	**42.05**	**147**	P		**P**		**12 53 17.6**	**+1.4**
MAW				pmax		pmax			
	comp=Z,4.0nm,1.3s								
MAW	**Mawson**	**42.05**	**147**	P		**P**		**12 53 17.4**	**+1.2**
	comp=Z,10nm,0.8s,baz=243,slow=6.0,SNR=6.5								
MAW				PcP		**PcP**		**12 55 11.3**	**+0.6**
	comp=Z,12nm,0.8s,baz=242,slow=9.4,SNR=5.6								
MAW	**Mawson**	**42.05**	**147**	P		**P**		**12 53 17.6**	**+1.4**
PP1B	**Ponte de Pedra**	**43.32**	**347**	*eP*		**P**		**12 53 27.7**	**+0.6**
PP1B	**Ponte de Pedra**	**43.32**	**347**	*eP*		**P**		**12 53 27.7**	**+0.6**
BDFB	**Brasilia**	**44.76**	**356**	P		**P**		**12 53 38.7**	**0.0**
BDFB				pmax		pmax			
	comp=Z,34nm,1.1s								
BDFB	**Brasilia**	**44.76**	**356**	P		**P**		**12 53 39.3**	**+0.6**
	comp=Z,24nm,0.8s,baz=175,slow=4.3,SNR=27								
BDFB				PcP		**PcP**		**12 55 20.9**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=265,slow=6.2,SNR=3.4								
BDFB	**Brasilia**	**44.76**	**356**	P		**P**		**12 53 38.7**	**0.0**
BDFB				IAmb		IAmb		12 53 40.6	
	comp=Z,34nm,1.1s								
ARAG	**Araguaiana, MT**	**44.90**	**351**	*eP*		**P**		**12 53 39.4**	**-0.3**
ARAG	**Araguaiana, MT**	**44.90**	**351**	*eP*		**P**		**12 53 39.4**	**-0.3**
SIV	**San Ignacio**	**45.81**	**339**	P		**P**		**12 53 43.2**	**-3.8**
	comp=Z,25nm,0.6s,baz=183,slow=7.2,SNR=38								
SIV				PcP		**PcP**		**12 55 25.0**	**+0.7**
	comp=Z,16nm,0.8s,baz=170,slow=4.5,SNR=6.7								
LPAZ	**La Paz**	**47.06**	**329**	P		**P**		**12 53 58.3**	**+0.8**
LPAZ				pmax		pmax			
	comp=Z,45nm,0.8s								
LPAZ	**La Paz**	**47.06**	**329**	P		**P**		**12 53 57.8**	**+0.3**
	comp=Z,39nm,0.7s,baz=192,slow=9.0,SNR=7.8								
LPAZ				PcP		**PcP**		**12 55 30.1**	**+0.7**
	comp=Z,14nm,0.8s,baz=155,slow=4.6,SNR=4.0								
LPAZ	**La Paz**	**47.06**	**329**	P		**P**		**12 53 58.3**	**+0.8**
LPAZ	**La Paz**	**47.06**	**329**	*eP*		**P**		**12 53 58.3**	**+0.8**
SUR	**Sutherland**	**50.76**	**88**	P		**P**		**12 54 27.3**	**+2.0**
SUR	**Sutherland**	**50.76**	**88**	P		**P**		**12 54 27.3**	**+2.0**
	comp=Z,24nm,0.7s,baz=188,slow=8.5,SNR=14								
SUR	**Sutherland**	**50.76**	**88**	P		**P**		**12 54 27.2**	**+1.9**
SUR				IAmb		IAmb		12 54 33.0	
	comp=Z,34nm,0.8s								
SAML	**Samuel**	**53.08**	**338**	*eP*		**P**		**12 54 42.6**	**+0.2**
SAML	**Samuel**	**53.08**	**338**	*eP*		**P**		**12 54 42.6**	**+0.2**
NNA	**Nana**	**53.63**	**321**	||*eP*		**P**		**12 54 47.4**	**+0.8**
NNA				pmax		pmax			
	comp=Z,57nm,0.8s								
NNA	**Nana**	**53.63**	**321**	P		**P**		**12 54 47.2**	**+0.7**
NNA				IAmb		IAmb		12 54 48.8	
	comp=Z,33nm,0.8s								
RCBR	**Riachuelo**	**54.94**	**11**	P		**P**		**12 54 56.1**	**0.0**
RCBR				pmax		pmax			
	comp=Z,22nm,0.9s								
RCBR	**Riachuelo**	**54.94**	**11**	P		**P**		**12 54 56.0**	**-0.1**
	comp=Z,33nm,0.5s,baz=49,slow=0.0,SNR=3.6								
RCBR				PcP		**PcP**		**12 55 58.6**	**+0.7**
	comp=Z,73nm,0.6s,baz=346,slow=0.1,SNR=5.2								
RCBR	**Riachuelo**	**54.94**	**11**	P		**P**		**12 54 56.1**	**0.0**
RCBR				IAmb		IAmb		12 54 58.0	
	comp=Z,22nm,0.9s								
RCBR	**Riachuelo**	**54.94**	**11**	*eP*		**P**		**12 54 57.5**	**+1.4**
BOSA	**Boshof**	**56.04**	**89**	P		**P**		**12 55 04.6**	**+0.6**
BOSA				pmax		pmax			
	comp=Z,22nm,1.0s								
BOSA	**Boshof**	**56.04**	**89**	P		**P**		**12 55 04.7**	**+0.7**
	comp=Z,15nm,0.9s,baz=206,slow=7.4,SNR=14								
BOSA	**Boshof**	**56.04**	**89**	P		**P**		**12 55 04.6**	**+0.6**
BOSA				IAmb		IAmb		12 55 06.3	
	comp=Z,22nm,1.0s								
H10N3	**ASCENSION HYDR**	**57.33**	**37**	T		T		13 57 48.5	
	baz=199,slow=76,SNR=42								
H10N1	**ASCENSION HYDR**	**57.33**	**37**	T		T		13 57 45.6	
	baz=199,slow=76,SNR=33								
H10N2	**ASCENSION HYDR**	**57.35**	**37**	T		T		13 57 47.5	
	baz=199,slow=76,SNR=49								
LBTB	**Lobatse**	**59.19**	**87**	P		**P**		**12 55 26.6**	**+0.4**
LBTB				pmax		pmax			
	comp=Z,27nm,0.8s								
LBTB	**Lobatse**	**59.19**	**87**	P		**P**		**12 55 26.9**	**+0.8**
	comp=Z,22nm,0.7s,baz=212,slow=7.8,SNR=33								
LBTB				PcP		**PcP**		**12 56 16.5**	**+2.0**
	comp=Z,6.5nm,0.7s,baz=209,slow=5.1,SNR=2.1								
LBTB	**Lobatse**	**59.19**	**87**	P		**P**		**12 55 26.6**	**+0.4**
LBTB				IAmb		IAmb		12 55 28.4	
	comp=Z,27nm,0.8s								
TSUM	**Tsumeb**	**60.17**	**76**	P		**P**		**12 55 34.0**	**+1.0**
	comp=Z,4.0nm,0.7s,baz=184,slow=11,SNR=9.1								
TSUM	**Tsumeb**	**60.17**	**76**	P		**P**		**12 55 33.5**	**+0.5**
MDP	**Montagnes des**	**65.58**	**352**	P		**P**		**12 56 07.7**	**-1.1**
	comp=Z,40nm,0.7s,baz=186,slow=7.1,SNR=26								
OTAV	**Otavalo**	**65.67**	**323**	P		**P**		**12 56 11.0**	**+1.0**
OTAV				pmax		pmax			
	comp=Z,56nm,0.8s								
OTAV	**Otavalo**	**65.67**	**323**	P		**P**		**12 56 11.0**	**+1.0**
OTAV	**Otavalo**	**65.67**	**323**	*eP*		**P**		**12 56 11.4**	**+1.4**
FLOC	**Florencia**	**66.16**	**327**	*eP*		**P**		**12 56 12.1**	**-0.5**
FLOC	**Florencia**	**66.16**	**327**	*eP*		**P**		**12 56 12.1**	**-0.5**
CRUC	**La Cruz**	**66.50**	**325**	*eP*		**P**		**12 56 14.8**	**-0.5**
CRUC	**La Cruz**	**66.50**	**325**	*eP*		**P**		**12 56 14.8**	**-0.5**
SOTA	**Rioblanco**	**66.95**	**326**	*eP*		**P**		**12 56 19.4**	**+1.2**
SOTA	**Rioblanco**	**66.95**	**326**	*eP*		**P**		**12 56 19.4**	**+1.2**
PCON	**Cinco Dias**	**67.07**	**326**	*eP*		**P**		**12 56 20.7**	**+1.6**
PCON	**Cinco Dias**	**67.07**	**326**	*eP*		**P**		**12 56 20.7**	**+1.6**
POPC	**Popayan, Colom**	**67.35**	**326**	*eP*		**P**		**12 56 20.1**	**-0.4**
POPC	**Popayan, Colom**	**67.35**	**326**	*eP*		**P**		**12 56 20.1**	**-0.4**
ORTC	**Ortega, Tolima**	**68.27**	**328**	*eP*		**P**		**12 56 26.7**	**+0.7**
ORTC	**Ortega, Tolima**	**68.27**	**328**	*eP*		**P**		**12 56 26.7**	**+0.7**
CHIC	**Chingaza**	**68.57**	**329**	*eP*		**P**		**12 56 28.0**	**-0.3**
CHIC	**Chingaza**	**68.57**	**329**	*eP*		**P**		**12 56 28.0**	**-0.3**
YOTC	**Yotoco, Valle**	**68.64**	**326**	*eP*		**P**		**12 56 27.4**	**-1.0**
YOTC	**Yotoco, Valle**	**68.64**	**326**	*eP*		**P**		**12 56 27.4**	**-1.0**
LSZ	**Lusaka**	**68.70**	**83**	P		**P**		**12 56 30.3**	**+1.4**
LSZ	**Lusaka**	**68.70**	**83**	P		**P**		**12 56 30.0**	**+1.1**
LSZ				pmax		pmax			
	comp=Z,43nm,0.8s								
LSZ	**Lusaka**	**68.70**	**83**	P		**P**		**12 56 30.0**	**+1.1**
ROSC	**El Rosal**	**68.92**	**329**	P		**P**		**12 56 30.4**	**-0.1**
	comp=Z,5.2nm,0.3s,baz=232,slow=20,SNR=4.0								
TOLC	**Tolima**	**68.94**	**328**	*eP*		**P**		**12 56 30.0**	**-0.5**
TOLC	**Tolima**	**68.94**	**328**	*eP*		**P**		**12 56 30.0**	**-0.5**
GUY2C	**Guyana, Caldas**	**69.56**	**328**	*eP*		**P**		**12 56 34.0**	**-0.5**
GUY2C	**Guyana, Caldas**	**69.56**	**328**	*eP*		**P**		**12 56 34.0**	**-0.5**
RUSC	**La Rusia**	**69.62**	**330**	*eP*		**P**		**12 56 34.7**	**-0.3**
RUSC	**La Rusia**	**69.62**	**330**	*eP*		**P**		**12 56 34.7**	**-0.3**
NORC	**Norcasia**	**69.76**	**328**	*eP*		**P**		**12 56 33.4**	**-1.9**
NORC	**Norcasia**	**69.76**	**328**	*eP*		**P**		**12 56 33.4**	**-1.9**
CBOC	**Ciudad Bolivar**	**70.35**	**327**	*eP*		**P**		**12 56 38.0**	**-1.0**
CBOC	**Ciudad Bolivar**	**70.35**	**327**	*eP*		**P**		**12 56 38.0**	**-1.0**
HELC	**Santa Helena**	**70.53**	**328**	*eP*		**P**		**12 56 38.7**	**-1.7**
HELC	**Santa Helena**	**70.53**	**328**	*eP*		**P**		**12 56 38.7**	**-1.7**
PTBC	**PUERTO BERRIO,**	**70.59**	**329**	*eP*		**P**		**12 56 37.3**	**-2.9**
PTBC	**PUERTO BERRIO,**	**70.59**	**329**	*eP*		**P**		**12 56 37.3**	**-2.9**
SOCV	**Socops**	**71.41**	**333**	*eP*		**P**		**12 56 44.0**	**-1.3**
SOCV	**Socops**	**71.41**	**333**	*eP*		**P**		**12 56 44.0**	**-1.3**
ZARC	**Zaragoza, Cauc**	**71.61**	**329**	*eP*		**P**		**12 56 44.6**	**-1.8**
ZARC	**Zaragoza, Cauc**	**71.61**	**329**	*eP*		**P**		**12 56 44.6**	**-1.8**
RPZ	**Rata Peaks**	**72.04**	**207**	P		**P**		**12 56 49.0**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=32,slow=14,SNR=3.9								
RPZ	**Rata Peaks**	**72.04**	**207**	IAmb		IAmb		12 57 05.6	
	comp=Z,15nm,1.2s								
LTZ	**Lake Taylor**	**72.65**	**208**	P		**P**		**12 56 53.2**	**+0.7**
LTZ				IAmb		IAmb		12 56 54.8	
	comp=Z,15nm,1.1s								
SMLC	**San Martn de**	**72.67**	**330**	*eP*		**P**		**12 56 50.6**	**-2.1**
SMLC	**San Martn de**	**72.67**	**330**	*eP*		**P**		**12 56 50.6**	**-2.1**
THZ	**Tophouse**	**73.47**	**209**	P		**P**		**12 56 58.4**	**+1.1**
THZ				IAmb		IAmb		12 57 06.1	
	comp=Z,11nm,0.7s								
LIC	**Lamto**	**73.58**	**42**	*eP*		**P**		**12 56 59.2**	**+1.0**
	comp=Z,241nm,0.8s								
KIC	**Kosan Boka**	**73.80**	**42**	*eP*		**P**		**12 57 00.5**	**+1.0**
	comp=Z,90nm,0.8s								
TIC	**Toumodi**	**73.98**	**42**	*eP*		**P**		**12 57 01.3**	**+0.8**
SJCC	**San Jacinto, C**	**74.00**	**329**	*eP*		**P**		**12 57 01.3**	**+0.6**
SJCC	**San Jacinto, C**	**74.00**	**329**	*eP*		**P**		**12 57 01.3**	**+0.6**
DBIC	**Dimbokro**	**74.06**	**42**	P		**P**		**12 57 02.1**	**+1.1**
DBIC				pmax		pmax			
	comp=Z,37nm,0.8s								
DBIC	**Dimbokro**	**74.06**	**42**	P		**P**		**12 57 02.1**	**+1.1**
DBIC				IAmb		IAmb		12 57 03.6	
	comp=Z,37nm,0.8s								
URZ	**Urewera**	**75.69**	**213**	P		**P**		**12 57 11.1**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=162,slow=9.3,SNR=5.0								
URZ	**Urewera**	**75.69**	**213**	P		**P**		**12 57 10.9**	**+0.7**
URZ				IAmb		IAmb		12 57 14.4	
	comp=Z,21nm,1.5s								
TAU	**Tasmania Unive**	**76.50**	**190**	P		**P**		**12 57 15.7**	**+0.9**
TAU				pmax		pmax			
	comp=Z,30nm,1.1s								
TAU	**Tasmania Unive**	**76.50**	**190**	P		**P**		**12 57 15.7**	**+0.9**
TAU				IAmb		IAmb		12 57 23.8	
	comp=Z,30nm,1.1s								
JTS	**Las Juntas de**	**77.18**	**320**	P		**P**		**12 57 19.7**	**+0.8**
JTS				pmax		pmax			
	comp=Z,21nm,0.9s								
JTS	**Las Juntas de**	**77.18**	**320**	P		**P**		**12 57 19.7**	**+0.8**
JTS				IAmb		IAmb		12 57 21.4	
	comp=Z,21nm,0.8s								
ESPN	**Las Esperanzas**	**78.76**	**321**	IAmb		IAmb		12 57 30.8	
	comp=Z,29nm,1.0s								
ACON	**Acoyapa**	**78.82**	**320**	IAmb		IAmb		12 57 29.6	
	comp=Z,25nm,0.9s								
OUZ	**Omahuta**	**79.49**	**212**	P		**P**		**12 57 31.8**	**+0.3**
MLPR	**Magueyes Islan**	**80.07**	**339**	P		**P**		**12 57 34.1**	**-0.5**
TOO	**Toolangi**	**81.95**	**

baz=149
DRGR 120.22 48 ⇑P PKPdf 13 04 14.5 -0.7
VRAC Vranov 120.24 42 ⇓P PKPdf 13 04 14.2 -0.9
VYHS Vyhne 120.30 44 *e*PKIKP PKiKP 13 04 15.2 -0.1
VYHS Vyhne 120.30 44 *e*PKP PKiKP 13 04 15.2 -0.1
J05D Fort Rock, OR 120.33 305 P PKiKP 13 04 15.7 0.0
baz=146
MLR Muntele Rosu 120.34 51 ⇑P PKPdf 13 04 13.7 -1.8
TLB Topalu 120.39 53 ⇑P PKPdf 13 04 14.8 -0.7
TIRR Tirgusor 120.44 53 ⇑P PKPdf 13 04 15.0 -0.5
MSO Missoula 120.47 312 P PKiKP 13 04 16.2 +0.4
baz=148
MSO Missoula 120.47 312 PKPdf 13 04 15.3 -0.4
J04D Umpqua Nationa 120.65 304 P PKiKP 13 04 16.5 +0.1
baz=146
BRG Berggiesshubel 120.74 39 *e*PKP PKiKP 13 04 16.1 +0.1
comp=Z,11nm,1.2s
BRG Berggiesshubel 120.74 39 *e*PKIKP PKiKP 13 04 16.1 +0.1
BRG pmax pmax
comp=Z,11nm,1.2s
CLL Collm 120.82 38 *e*PKIKP PKiKP 13 04 16.0 -0.2
CLL pmax pmax
comp=Z,19nm,0.9s
CLL Collm 120.82 38 *e*PKiKP PKiKP 13 04 16.0 -0.2
comp=Z,6.0nm,0.9s
CLL Collm 120.82 38 PKPdf 13 04 14.8 -1.2
CFR Carcaliu 120.92 52 ⇑P PKPdf 13 04 15.2 -1.2
MORC Moravsky Berou 120.96 42 ⇑P PKiKP 13 04 16.3 -0.3
KRLC Kraliky 120.96 42 *e*PKIKP PKiKP 13 04 16.9 +0.3
KRLC Kraliky 120.96 42 *e*PKPDF PKiKP 13 04 16.9 +0.3
DPC Dobruska-Polom 121.05 41 *e*PKIKP PKiKP 13 04 16.9 +0.2
DPC Dobruska-Polom 121.05 41 *e*PKPDF PKiKP 13 04 16.9 +0.2
LANS Liptovska Anna 121.08 44 *e*PKIKP PKiKP 13 04 18.0 +1.2
LANS Liptovska Anna 121.08 44 *e*PKP PKiKP 13 04 18.0 +1.2
CHVC Chvalec 121.17 41 *e*PKPDF PKiKP 13 04 17.1 +0.2
OKC Ostrava-Krasne 121.21 43 *e*PKIKP PKiKP 13 04 17.5 +0.5
OKC Ostrava-Krasne 121.21 43 *e*PKPDF PKiKP 13 04 17.5 +0.5
I05D Terrebonne, OR 121.24 305 P PKiKP 13 04 18.1 +0.7
baz=146
TRPA Tarpa 121.29 47 ⇑P PKiKP 13 04 17.2 +0.1
BURAR Bucovina Array 121.84 49 ⇑P PKPdf 13 04 17.9 -0.4
BURAR Bucovina Array 121.84 49 PKPdf 13 04 17.6 -0.7
KOLS Kolonicke sedl 121.87 46 *e*PKIKP PKiKP 13 04 20.4 +2.1
KOLS Kolonicke sedl 121.87 46 *e*PKP PKiKP 13 04 20.4 +2.1
H04D Lebanon 121.96 305 P PKiKP 13 04 19.3 +0.7
baz=145
G05D Wamic, OR 121.98 306 P PKiKP 13 04 19.0 +0.3
baz=146
MILM Milestii Mici 122.63 52 ⇑P PKPdf 13 04 17.2 -2.4
NEW Newport 122.85 311 P PKPdf 13 04 19.9 -0.3
baz=146
SORM Soroca 123.45 50 ⇑P PKPdf 13 04 20.3 -0.8
E04D Cinebar 123.56 306 P PKiKP 13 04 22.2 +0.5
baz=144
GNI Garni 123.92 67 ⇓*i*PKIKP PKiKP 13 04 23.9 +1.0
D03D Eldon 124.56 306 P PKiKP 13 04 24.6 +1.0
baz=144
B05A Bryant 124.76 308 P PKiKP 13 04 24.7 +0.7
baz=144
AKASG Malin Array Be 125.88 49 PKIKP PKPdf 13 04 24.0 -1.7
AKASG Malin Array Be 125.88 49 PKP PKPdf 13 04 24.8 -1.0
comp=Z,7.4nm,0.7s,baz=247,slow=1.8,SNR=28
AKASG PP **PP** 13 06 18.7 -1.1
comp=Z,0.3nm,0.4s,baz=218,slow=6.5,SNR=4.3
AKASG Malin Array Be 125.88 49 PKPdf 13 04 24.0 -1.7
KBZ Khabaz 125.94 64 PKP PKPdf 13 04 25.5 -0.6
comp=Z,3.6nm,0.9s,baz=220,slow=6.4,SNR=6.7
AKT Akhty 126.36 69 *e*PKIKP PKiKP 13 04 27.7 +0.1
AKT *e* 13 06 23.7
AKT pmax pmax
comp=Z,16nm,0.7s
GEYT Alibeck 128.51 79 PKP PKPdf 13 04 30.6 -0.7
comp=Z,2.7nm,0.8s,baz=175,slow=7.4,SNR=7.0
GEYT Alibeck 128.51 79 PKPdf 13 04 30.4 -0.9
NB2 NORSAR Subarra 128.71 31 PKPdf PKPdf 13 04 30.5 -0.4
comp=Z,2.1nm,0.9s,baz=202,slow=1.9
NOA NORSAR Array B 128.71 31 PKP PKPdf 13 04 30.8 -0.2
comp=Z,3.4nm,0.8s,baz=222,slow=1.8,SNR=7.3
PBKT Sadao Pong 129.93 136 PKPdf 13 04 34.3 -0.2
MHMT Maesarieng 130.33 132 P PKiKP 13 04 38.7 +2.6
comp=Z,21nm,0.8s,comp=Z,0.1nm
CMAR Chiang Mai Arr 130.96 133 PKIKP PKPdf 13 04 35.1 -1.4
CMAR Chiang Mai Arr 130.96 133 PKP PKPdf 13 04 36.1 -0.4
comp=Z,7.4nm,0.7s,baz=216,slow=3.7,SNR=44
CMAR Chiang Mai Arr 130.96 133 PKPdf 13 04 35.1 -1.4
CHTO Chiang Mai 131.29 133 PKIKP PKPdf 13 04 36.9 -0.2
CHTO Chiang Mai 131.29 133 PKPdf 13 04 36.9 -0.2
CMMT Chiang Mai 131.29 133 P PKiKP 13 04 38.2 +0.1
OBN Obninsk 132.10 50 *e*PKIKP PKiKP 13 04 38.4 -0.1
OBN *e* 13 04 40.3
OBN *e*PPP PPP 13 09 50.8
OBN pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 132.60 96 PKIKP PKPdf 13 04 39.0 -0.2
NIL Nilore 132.60 96 PKPdf 13 04 39.0 -0.2
KOLN Koldanda 132.74 110 *e*P PKPdf 13 04 37.2 -2.7
comp=Z,27nm,0.8s
SUMG Summit 132.81 3 *i* PKIKP PKiKP 13 04 39.4 -0.6
SUMG pmax pmax
comp=Z,34nm,0.7s
SUMG Summit 132.81 3 *i* P PKiKP 13 04 39.4 -0.6
comp=Z,34nm,0.7s
SUMG Summit 132.81 3 PKPdf 13 04 38.9 0.0
MOS Moscow 132.97 50 *e*PKHKP PKPre 13 04 22.6
FINES FINESS Array B 133.27 39 PKP PKPdf 13 04 38.5 -0.9
comp=Z,10nm,0.7s,baz=212,slow=2.2,SNR=13
FINES SKPbc **SKPbc** 13 08 04.3 -2.2
comp=Z,1.9nm,0.7s,baz=236,slow=1.5,SNR=4.0
DMN Daman 133.30 112 *e*P PKPdf 13 04 39.3 -1.7
comp=Z,14nm,0.7s
DANN Dangsing 133.30 110 *e*P PKPdf 13 04 39.9 -1.1
comp=Z,56nm,0.8s
PKIN Phulchoki 133.40 112 *e*P PKPdf 13 04 39.5 -1.7
comp=Z,12nm,0.7s
PKI Pulchoki 133.41 112 *e*P PKPdf 13 04 39.7 -1.6
GKN Gorkha 133.42 111 *e*P PKPdf 13 04 39.5 -1.6
RAMN Ramite 133.42 114 *e*P PKPdf 13 04 40.4 -0.8
comp=Z,23nm,0.9s
YKA Yellowknife Ar 133.43 323 PKP PKPdf 13 04 39.6 -0.1
comp=Z,5.3nm,0.6s,baz=141,slow=2.1,SNR=22
YKA SKPbc **SKPbc** 13 08 07.0 0.0
comp=Z,4.6nm,1.0s,baz=134,slow=3.5,SNR=8.2
KKN Kakani 133.53 112 *e*P PKPdf 13 04 40.1 -1.3
comp=Z,15nm,0.8s
ODAN Odare 133.70 115 *e*P PKPdf 13 04 41.3 -0.5
JIRN Jiri 133.84 113 *e*P PKPdf 13 04 41.2 -1.0
comp=Z,35nm,0.6s
GUN Gumba 133.91 112 *e*P PKPdf 13 04 41.6 -0.7
DLBC Dease Lake 135.59 312 SKPbc **SKPbc** 13 08 15.5 +1.2
comp=Z,9.6nm,1.0s,baz=170,slow=1.0,SNR=5.2
KLMR Klimovskoe 137.33 46 *e*PKIKP PKPdf 13 04 45.5 -1.6
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR Klimovskoe 137.33 46 *e*PKPdf PKPdf 13 04 45.5 -1.6
KLMR AMP 13 04 50.3
comp=Z,27nm,1.5s
AB31 Akbulak array 137.86 70 *i* PKHKP PKPre 13 04 36.7
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 137.86 70 PKPpre 13 04 36.2
DAG Danmarks Havn 137.97 9 *i* PKIKP PKPdf 13 04 47.1 -0.7
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 137.97 9 *i* P PKPdf 13 04 47.1 -0.7
comp=Z,5.7nm,0.7s
KK31 Karatay Array 138.55 85 *i* PKHKP PKPre 13 04 41.3
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 138.55 85 PKPpre 13 04 41.5
KKAR Karatay Array 138.55 85 PKHKP PKPre 13 04 40.1
KKAR Karatay Array 138.55 85 PKPpre 13 04 40.1
KSH Kashi 138.56 93 PKP PKiKP 13 04 51.8 -0.6
KSH PP **PP** 13 07 45.0 +3.5
KSH PKS **PKSdf** 13 08 27.6 +1.2
KSH LR LR
comp=Z,760nm,15.3s
RES Resolute Bay 138.72 342 PKIKP PKPdf 13 04 49.2 -0.1
RES Resolute Bay 138.72 342 PKPdf 13 04 49.2 -0.1
ARCES ARCESS Array B 139.07 30 PKhKP PKPpre 13 04 40.0
comp=Z,3.8nm,0.7s,baz=232,slow=1.4,SNR=12
ARCES PKP **PKPdf** 13 04 49.1 -0.9
comp=Z,7.7nm,0.7s,baz=222,slow=1.6,SNR=4.8
HYT Haines Junctio 140.01 310 PKPdf 13 04 51.8 -0.4
AAK Ala-Archa 140.18 89 PKHKP PKPpre 13 04 46.9
AAK 13 04 54.4
AAK Ala-Archa 140.18 89 PKPpre 13 04 46.9
AAK PKPdf **PKiKP** 13 04 54.4 -1.2
TKM2 Tokmak 2 140.93 89 PKIKP PKPdf 13 04 50.2 -4.4
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
GYA Guiyang 141.03 138 PKP PKPdf 13 04 48.3 -6.8
GYA PP **PP** 13 07 59.0 +2.8
GYA AMB AMB
comp=Z,130nm,7.9s
ARU Arti 142.01 61⇑*e*PKHKP PKPpre 13 04 49.3
ARU *i* 13 04 54.5
ARU Arti 142.01 61 PKPpre 13 04 49.8
DAWY Dawson 142.68 314 PKPpre 13 04 51.3
A36M Sachs Harbour 142.95 329 P PKPdf 13 04 53.2 -3.7
baz=126
BCAR Beaver Creek A 142.98 311 PKPpre 13 04 53.3
EPYK Eagle Plains 143.08 318 P PKPab 13 04 53.3 +0.5
baz=124
INK Inuvik 143.15 322 PKHKP PKPpre 13 04 53.3
INK Inuvik 143.15 322 PKPpre 13 04 53.3
SVE Sverdlovsk 143.16 62 *e*PKIKP PKPbc 13 04 54.2 -0.6
PDGK Podgornoye 143.16 92 PKIKP PKPbc 13 04 55.7 +0.2
PDGK pmax pmax
comp=Z,20nm,0.7s
CD2 Chengdu 144.06 131 PKP PKPdf 13 05 00.4 +0.1
BRVK Borovoye 145.25 73 P PKPdf 13 05 02.0 +0.4
SNR=19
BRVK Borovoye 145.25 73 *d i* PKIKP PKPdf 13 05 01.2 -0.4
BRVK *i* 13 05 06.1
BRVK Borovoye 145.25 73 PKPdf 13 05 01.2 -0.4
ENH Enshi 145.48 139 PKPdf 13 05 01.4 -1.3
ILAR Eielson Array 145.80 312 PKIKP PKPdf 13 04 59.6 -2.5
ILAR 13 05 02.2
ILAR Eielson Array 145.80 312 PKPbc PKPdf 13 05 02.2 +0.1
comp=Z,31nm,0.8s,baz=171,slow=2.9,SNR=282
ILAR SKPbc **SKPbc** 13 08 41.7 +0.7
comp=Z,1.2nm,0.8s,baz=149,slow=1.9,SNR=6.3
ILAR Eielson Array 145.80 312 PKPdf 13 04 59.6 -2.5
ILAR PKPbc PKPdf 13 05 02.2 +0.1
COLA College 146.21 311 *d i* PKP2 PKPbc 13 05 03.9 0.0
BMAR Burnt Mountain 146.28 317 PKPdf 13 05 00.8 -2.1
BMAR PKPbc PKPbc 13 05 04.0 -0.2
MAKZ Makanchi 146.88 90 PKP2 PKPbc 13 05 05.6 -0.9
MAKZ Makanchi 146.88 90 PKPbc 13 05 05.6 -0.9
MK31 Makanchi Array 147.03 90 *i* PKP2 PKPbc 13 05 06.3 -0.6
MK31 pmax pmax
comp=Z,59nm,0.7s
MKAR Makanchi Array 147.03 90 PKIKP PKPdf 13 05 03.2 -1.6
MKAR 13 05 06.4
MKAR Makanchi Array 147.03 90 PKPbc PKPbc 13 05 06.7 -0.2
comp=Z,65nm,0.7s,baz=236,slow=2.1,SNR=250
MKAR SKPbc **SKiKP** 13 08 45.9 +1.4
comp=Z,1.3nm,0.7s,baz=236,slow=4.9,SNR=3.9
MKAR Makanchi Array 147.03 90 PKPdf 13 05 03.2 -1.6
MKAR PKPbc **PKPbc** 13 05 06.4 -0.6
WHN Wuhan 147.18 146 PKPbc **PKPbc** 13 05 07.5 -0.3
WMQ Urumqi 147.57 99 *e*PKPbc **PKPbc** 13 05 08.0 -0.6
WMQ AMB AMB
comp=Z,810nm,9.9s
KURK Kurchatov 147.82 82 P **PKPbc** 13 05 09.0 +0.1
SNR=21
KURK Kurchatov 147.82 82⇑*e*PKIKP **PKPdf** 13 05 05.8 -0.1
KURK Kurchatov 147.82 82 **PKPbc** 13 05 08.2 -0.7
LZH Lanzhou 148.68 127 *e*PKPbc **PKPdf** 13 05 09.0 +0.9
LZH LR LR
comp=Z,1μm,19.0s
LZH LR LR
comp=Z,590nm,16.8s
LZH LR LR
comp=Z,2μm,19.0s
XAN Xi'an 148.74 136 PKPbc **PKPbc** 13 05 10.9 -1.0
XAN pPKP PKPab 13 05 15.4 -0.3
XAN LR LR
comp=Z,1μm,20.6s
XAN LR LR
comp=Z,690nm,21.6s
XAN LR LR
comp=Z,1μm,19.5s
XAN Xi'an 148.74 136 PKP2 **PKPbc** 13 05 11.1 -0.8
XAN Xi'an 148.74 136 **PKPbc** 13 05 11.1 -0.8
IMAR Indian Mountai 148.91 311 **PKPdf** 13 05 04.9 -2.4
IMAR **PKPbc** 13 05 11.3 0.0
NJ2 Nanjing 149.75 153 *e*PKPbc **PKPdf** 13 05 09.6 -0.1
GTA Gaotai 149.81 118 *e*PKPbc **PKPdf** 13 05 09.5 -0.3
DGZ Jazzator, Alta 151.53 91 *c i* PKIKP **PKiKP** 13 05 18.6 -0.1
ZALV Zalesovo Beam 152.80 81 PKIKP **PKPdf** 13 05 12.7 -0.9
ZALV 13 05 18.5
ZALV 13 05 31.2
ZALV Zalesovo Beam 152.80 81 PKP **PKPdf** 13 05 12.1 -1.5
comp=Z,1.3nm,0.7s,baz=251,slow=1.5,SNR=6.4
ZALV PKPbc **PKPbc** 13 05 19.8 -1.0
comp=Z,9.3nm,0.7s,baz=248,slow=3.8,SNR=35
ZALV PKPab **PKPab** 13 05 31.9 0.0
comp=Z,6.2nm,0.7s,baz=247,slow=7.0,SNR=11
ZALV PP **PP** 13 09 11.9 +6.1
comp=Z,1.2nm,0.6s,baz=253,slow=4.5,SNR=3.6
ZALV Zalesovo Beam 152.80 81 **PKPdf** 13 05 12.7 -0.9
ZALV **sPKPdf** 13 05 18.5 -2.5
ZALV **PKPab** 13 05 31.2 -0.7
TIA Tai'an 153.28 147 P **PKPbc** 13 05 22.3 -0.2
TIA pmax pmax
comp=Z,29nm,0.7s
HHC Hu-ho-hao-te 155.77 134 *e*PKP **PKPdf** 13 05 15.3 -3.1
MJAR Matsushiro Arr 155.99 187 PKIKP PKPdf 13 05 27.5 +8.8
MJAR Matsushiro Arr 155.99 187 PKPbc PKPdf 13 05 27.3 +8.6
comp=Z,3.4nm,0.8s,baz=165,slow=2.8,SNR=7.4
MJAR PKPab **PKPab** 13 05 46.7 +0.7
comp=Z,2.3nm,0.8s,baz=195,slow=5.2,SNR=4.4
MJAR Matsushiro Arr 155.99 187 PKPdf 13 05 27.5 +8.8
MJAR **PKPab** 13 05 46.9 +1.0
BJI Beijing 156.57 142 *e*PKP **PKPdf** 13 05 17.4 -1.9
KSRS Korea Array 156.61 166 PKPab **PKPab** 13 05 48.8 +0.2
comp=Z,3.2nm,0.7s,baz=188,slow=4.6,SNR=7.1
NRIK Noril'sk 158.68 46 PKPab **PKPab** 13 05 57.6 +0.9
comp=Z,5.4nm,0.9s,baz=286,slow=2.5,SNR=7.4
SONM Songino Array 159.39 115 PKIKP **PKPdf** 13 05 21.0 -1.7
SONM 13 06 00.3
SONM Songino Array 159.39 115 PKP **PKPdf** 13 05 22.3 -0.4
comp=Z,1.2nm,0.8s,baz=176,slow=0.9,SNR=8.9
SONM PKPab **PKPab** 13 06 00.7 +0.1
comp=Z,8.1nm,0.9s,baz=228,slow=3.3,SNR=21
SONM Songino Array 159.39 115 **PKPdf** 13 05 21.1 -1.7
SONM **PKPab** 13 06 00.3 -0.2
TLY Talaya 160.76 103⇑*e*PKIKP **PKPdf** 13 05 23.8 -0.1
USRK Ussuriysk Ar. 163.67 173 PKP2 **PKPab** 13 06 18.9 -0.2
USRK Ussuriysk Ar. 163.67 173 PKPab **PKPab** 13 06 19.2 +0.1
comp=Z,3.9nm,0.7s,baz=197,slow=4.0,SNR=6.7
USRK Ussuriysk Ar. 163.67 173 **PKPab** 13 06 18.9 -0.2
BILL Bilibino 164.46 313 *e*PKIKP **PKPdf** 13 05 29.1 +2.0
BILL *e* 13 10 04.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 164.46 313 **PKPab** 13 06 21.8 -0.3
PETK Petropavlovsk- 165.46 250 PKP2 **PKPab** 13 06 25.9 -1.0
PETK Petropavlovsk- 165.46 250 PKPab **PKPab** 13 06 26.5 -0.4
comp=Z,5.3nm,0.7s,baz=111,slow=5.2,SNR=9.1
PETK Petropavlovsk- 165.46 250 **PKPab** 13 06 25.9 -1.0
TIXI Tiksi 168.49 9 PKPab **PKPab** 13 06 40.7 +1.0
comp=Z,3.9nm,0.9s,baz=360,slow=24,SNR=4.2
KLR Kul'dur 168.66 170⇑*e*PKIKP **PKPdf** 13 05 31.3 +0.4
KLR Kul'dur 168.66 170 PKPab **PKPab** 13 06 40.7 -0.3
comp=Z,2.0nm,0.7s,baz=270,slow=6.8,SNR=5.5
SEY Seymchan 171.22 294 PKPab **PKPab** 13 06 51.4 -0.7
comp=Z,3.7nm,0.6s,baz=113,slow=5.5,SNR=16
MA2 Magadan 171.89 271 PKP2 **PKPab** 13 06 54.3 -0.9
MA2 Magadan 171.89 271 PKPab **PKPab** 13 06 54.8 -0.4
comp=Z,22nm,1.0s,baz=88,slow=4.0,SNR=4.3
MA2 Magadan 171.89 271 **PKPab** 13 06 54.3 -0.9

*ISCJB **17** 12:51:19.3±1.1, 20°.54S±0°.03×70°.57W±0°.07, h19km±8km, mb4.2/1, Error ellipse: s-maj=11.0km s-min=4.5km az=6.8*
*NEIC **17** 12:51:20.7±2.4, 20°.58S±0°.04×70°.4W±0°.1, h21km±14km*
*GUC **17** 12:51:20.5±0.8, 20°.53S×70°.45W, h40km±3km, ML4.1*
*IDC **17** 12:51:26.5±4.0, 20°.60S×70°.28W, h77km±26km, mb4.0/1, mb1 4.0/3, mb1mx3.5/27, mbtmp4.1/3, Error ellipse: s-maj=67.4km s-min=20.2km az=79.0*
ISC 17 12:51:18.5±1.5,**20°.56S**±0°.03×**70°.47W**±0°.07,**h17**km±9km,
n24,σ0°**86**/30,**1C-3D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.93**	**145**	*e*P	**Pn**		**12 51 37.9**	**+1.1**
PB02				*e*S	**Sn**		**12 51 50.7**	**+1.0**
PB02				IAML			12 51 53.6	
comp=E,15μm,0.5s								
PSGC	**Pisagua**	**1.01**	**19**	⇓*e*P		**Pg**	**12 51 38.6**	**+0.4**
PSGC				*e*S		**Sb**	**12 51 51.5**	**+0.8**
PSGC				IAML			12 51 52.8	
comp=E,8μm,0.4s								
PB01	**IPOC Station P**	**1.04**	**118**			**Pn**	**12 51 39.5**	**+1.2**
PB11	**IPOC Station P**	**1.10**	**44**	*e*P		**Pn**	**12 51 40.4**	**+1.1**
PB11				*e*S		**Sn**	**12 51 54.5**	**+0.4**
PB11				IAML			12 51 59.6	
comp=N,17μm,0.3s								
PB11	**IPOC Station P**	**1.10**	**44**			**Pn**	**12 51 40.3**	**+1.0**
PB11					Sn	**Sn**	**12 51 54.7**	**+0.5**
PB07	**IPOC Station P**	**1.28**	**155**	⇑*i*P		**Pg**	**12 51 43.5**	**+0.2**
PB07				*e*S		**Sg**	**12 52 00.3**	**+0.3**
PB07				IAML			12 52 07.8	
comp=E,3μm,0.8s								
PB08	**IPOC Station P**	**1.30**	**72**	⇓*e*P		**Pg**	**12 51 44.0**	**+0.2**
PB08				*e*S		**Sg**	**12 52 00.9**	**+0.2**
PB08				IAML			12 52 03.7	
comp=E,3μm,0.2s								
GO01	**Chusmiza**	**1.49**	**54**	*e*P		**Pg**	**12 51 46.7**	**-0.6**
GO01				*e*S		**Sg**	**12 52 06.4**	**-0.4**
GO01				IAML			12 52 10.6	
comp=N,9μm,0.1s								
GO01	**Chusmiza**	**1.49**	**54**			**Pg**	**12 51 46.7**	**-0.6**
GO01					Sn	**Sg**	**12 52 06.4**	**-0.4**
MNMC	**Minye Minye**	**1.64**	**30**			**Pb**	**12 51 48.6**	**+0.2**
PB04	**IPOC Station P**	**1.79**	**170**			**Pb**	**12 51 51.0**	**+0.1**
PB12	**IPOC Station P**	**1.94**	**4**	*e*P		**Pn**	**12 51 51.8**	**+1.0**
PB12				*e*			12 52 16.8	
PB12				IAML			12 52 25.0	
comp=E,2μm,0.2s								
LVC	**Limon Verde**	**2.50**	**145**	P		**Pb**	**12 52 02.3**	**-0.9**
comp=E,26nm,0.3s,baz=306,slow=9.2,SNR=93								
LVC				S		**Sb**	**12 52 33.1**	**-0.7**
comp=E,33nm,0.3s,baz=280,slow=6.9,SNR=5.7								
PB10	**IPOC Station P**	**2.94**	**182**			**Pn**	**12 52 04.7**	**+0.3**
GO02	**Mina Guanaco**	**4.65**	**170**			**Pn**	**12 52 29.6**	**+1.4**
LPAZ	**La Paz**	**4.79**	**28**	P		Pn	12 52 36.5	+6.1
comp=E,1.8nm,0.3s,baz=208,slow=7.5,SNR=35								
LPAZ	**La Paz**	**4.79**	**28**			Pn	12 52 36.4	+6.0
PTLC	**Puerto Leguiza**	**21.04**	**348**	*e*P		**P**	**12 56 00.1**	**-1.5**
PTLC	**Puerto Leguiza**	**21.04**	**348**	*e*P		**P**	**12 56 00.1**	**-1.5**
SYO	**Syowa Base**	**77.89**	**160**	⇓*e*P		P	13 03 22.0	+7.2
TORD	**Torodi Ar. Bea**	**78.42**	**71**	P		**P**	**13 03 17.6**	**-1.2**
comp=E,1.5nm,0.5s,baz=242,slow=5.5,SNR=11								
ZALV	**Zalesovo Beam**	**141.70**	**23**	PKP		**PKPdf**	**13 10 48.3**	**-0.4**
comp=E,1.1nm,0.5s,baz=332,slow=3.3,SNR=3.3								
MKAR	**Makanchi Array**	**145.70**	**34**	PKPbc		**PKPdf**	**13 10 56.5**	**+0.5**
comp=E,2.9nm,0.9s,baz=330,slow=3.6,SNR=6.8								
SONM	**Songino Array**	**152.67**	**5**	PKPbc		**PKPbc**	**13 11 15.1**	**+0.8**
comp=E,0.7nm,0.6s,baz=317,slow=0.4,SNR=4.7								

*ISCJB **17** 13:00:03.9±0.7, 60°.70S±0°.10×45°.4W±0°.3, h10km, mb3.8/3, Error ellipse: s-maj=19.6km s-min=13.5km az=166.6*
*IDC **17** 13:00:04.7±1.1, 60°.53S×45°.17W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/31, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=38.4km s-min=28.8km az=54.0*
*NEIC **17** 13:00:06.3±0.6, 60°.7S±0°.2×45°.3W±0°.5, h15km±5km, mb4.6/6*
ISC 17 13:00:05.7±0.8,**60°.6S**±0°.1×**45°.2W**±0°.1,**h10**km,**n14,**
σ0°**47**/13,**mb4.3/5**,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**9.57**	**236**	Pn		**Pn**	**13 02 23.3**	**0.0**
2.0nm,0.3s,baz=347,slow=5.1,SNR=11								
SNAA	**Sanae**	**19.85**	**141**	P		**Pn**	**13 04 38.0**	**0.0**
0.1nm,0.3s,baz=308,slow=9.7,SNR=5.0								
SNAA	**Sanae**	**19.85**	**141**	P		**P**	**13 04 36.8**	**+0.4**
TRQA	**Tornquist**	**24.95**	**327**	P		**P**	**13 05 28.4**	**-0.5**
QSPA	**South Pole Qui**	**29.60**	**180**	P		**P**	**13 06 10.3**	**-0.3**
QSPA				IAmb		IAmb	13 06 25.5	
comp=Z,18nm,1.9s								
SIV	**San Ignacio**	**46.03**	**339**	P		**P**	**13 08 29.0**	**-0.2**
comp=Z,0.6nm,0.7s,baz=353,slow=4.4,SNR=3.6								
LPAZ	**La Paz**	**47.27**	**329**	P		**P**	**13 08 39.7**	**+0.1**
comp=Z,1.0nm,0.7s,baz=202,slow=6.3,SNR=3.7								
LPAZ	**La Paz**	**47.27**	**329**	IAmb		IAmb	13 08 42.6	
comp=Z,9.3nm,1.6s								
SAML	**Samuel**	**53.29**	**338**	P		**P**	**13 09 25.5**	**+0.9**
SAML				IAmb		IAmb	13 11 18.9	
comp=Z,17nm,1.9s								
TORD	**Torodi Ar. Bea**	**82.46**	**46**	P		**P**	**13 12 27.5**	**-0.5**
comp=Z,1.7nm,1.0s,baz=214,slow=5.1,SNR=5.3								
TORD	**Torodi Ar. Bea**	**82.46**	**46**	P		**P**	**13 12 28.1**	**0.0**
comp=Z,0.9nm,0.9s,baz=167,slow=2.6,SNR=5.6								
ILAR	**Eielson Array**	**145.98**	**311**	PKPbc		**PKPab**	**13 19 44.7**	**+0.2**
comp=Z,0.9nm,0.9s,baz=167,slow=2.6,SNR=5.6								
ILAR	**Eielson Array**	**145.98**	**311**			**PKPab**	**13 19 45.0**	**+0.6**
MKAR	**Makanchi Array**	**146.98**	**91**	PKPbc		**PKPbc**	**13 19 47.2**	**-0.2**
comp=Z,0.5nm,0.7s,baz=237,slow=3.3,SNR=3.2								

*ISCJB **17** 13:01:13.8±0.7, 60°.28S±0°.09×44°.1W±0°.3, h10km, mb3.7/2, Error ellipse: s-maj=18.7km s-min=12.1km az=162.9*
*IDC **17** 13:01:13.6±1.4, 60°.31S×44°.58W, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.5/28, mbtmp3.9/2, Error ellipse: s-maj=79.1km s-min=41.5km az=100.0*
*NEIC **17** 13:01:16.6±1.3, 60°.32S±0°.09×44°.4W±0°.3, h15km±5km, mb4.7/9*
ISC 17 13:01:15.6±0.8,**60°.3S**±0°.1×**44°.3W**±0°.2,**h10**km,**n14,**
σ0°**70**/13,**mb4.7/5**,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.33**	**38**	Pn		**Pn**	**13 03 01.7**	**-0.8**
SNAA	**Sanae**	**19.84**	**142**	P		**P**	**13 05 46.8**	**+0.5**
QSPA	**South Pole Qui**	**29.97**	**180**	P		**P**	**13 07 23.3**	**-0.5**
1.4nm,1.0s,baz=156,slow=12,SNR=2.1								
QSPA	**South Pole Qui**	**29.97**	**180**	IAmb		IAmb	13 07 59.7	
comp=Z,16nm,2.0s								
GO05	**Huala**	**30.96**	**312**	P		**P**	**13 07 32.2**	**-0.4**
SBA	**Scott Base**	**40.82**	**190**	P		**P**	**13 08 56.3**	**-0.2**
LVC	**Limon Verde**	**41.41**	**324**	P		**P**	**13 09 01.9**	**-0.4**
LVC				IAmb		IAmb	13 09 48.5	
comp=Z,28nm,1.9s								
GO01	**Chusmiza**	**44.27**	**325**	P		**P**	**13 09 26.5**	**+0.8**
PB11	**IPOC Station P**	**44.32**	**325**	P		**P**	**13 09 26.3**	**+0.7**
PB11				IAmb		IAmb	13 11 06.6	
comp=Z,19nm,1.3s								
MNMC	**Minye Minye**	**44.90**	**325**	P		**P**	**13 09 31.4**	**+1.0**
MNMC				IAmb		IAmb	13 10 14.1	
comp=Z,9.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**81.86**	**45**	P		**P**	**13 13 35.8**	**+1.0**
comp=Z,0.6nm,0.6s,baz=202,slow=7.4,SNR=3.1								
ILAR	**Eielson Array**	**146.09**	**311**	PKPbc		**PKPdf**	**13 20 52.6**	**-0.6**
comp=Z,0.7nm,0.7s,baz=120,slow=1.2,SNR=7.0								
ILAR	**Eielson Array**	**146.09**	**311**			**PKPdf**	**13 20 53.2**	**0.0**
MKAR	**Makanchi Array**	**146.50**	**89**	PKPbc		**PKPdf**	**13 20 54.5**	**+0.1**
comp=Z,0.5nm,0.5s,baz=230,slow=4.8,SNR=5.2								

TRQA IAmb IAmb 13 10 30.8
comp=Z,25nm,1.6s
PLCA Paso Flores 25.81 309 P P 13 09 44.9 +2.6
comp=Z,1.3nm,0.9s,baz=163,slow=18,SNR=2.8
PLCA Paso Flores 25.81 309 P P 13 09 42.4 +0.1
QSPA South Pole Qui 29.57 180 P P 13 10 16.1 +0.2
QSPA IAmb IAmb 13 10 48.5
comp=Z,23nm,1.9s
GO05 Huala 31.36 312 P P 13 10 31.0 -0.7
ROC1 El Roble 32.87 315 P P 13 10 44.8 -0.4
GO04 Tololo Observa 35.35 317 P P 13 11 05.7 -1.1
GO02 Mina Guanaco 39.63 322 P P 13 11 43.1 -0.1
GO01 Chusmiza 44.70 325 P P 13 12 24.7 0.0
GO01 IAmb IAmb 13 12 27.9
comp=Z,36nm,1.9s
PB11 IPOC Station P 44.74 324 P P 13 12 24.7 0.0
PB11 IAmb IAmb 13 12 50.4
comp=Z,22nm,1.4s
MNMC Minye Minye 45.33 325 P P 13 12 30.5 +1.1
LPAZ La Paz 47.63 328 P P 13 12 48.4 +0.4
LPAZ IAmb IAmb 13 13 10.2
comp=Z,14nm,2.0s
SAML Samuel 53.58 336 P P 13 13 31.7 -0.5
TSUM Tsumeb 59.57 74 P P 13 14 14.7 -0.2
TSUM IAmb IAmb 13 14 57.6
comp=Z,16nm,1.5s
TORD Torodi Ar. Bea 82.03 45 P P 13 16 32.1 +0.9
comp=Z,0.8nm,0.8s,baz=194,slow=6.9,SNR=3.5
MK31 Makanchi Array 146.34 90 PKPab 13 23 51.4 -0.5
MKAR Makanchi Array 146.34 90 PKPbc **PKPab 13 23 51.5 -0.4**
comp=Z,1.1nm,0.6s,baz=220,slow=1.8,SNR=10
ILAR Eielson Array 146.49 311 PKPbc **PKPab 13 23 51.0 -0.9**
comp=Z,1.0nm,0.8s,baz=148,slow=1.7,SNR=6.8
ILAR Eielson Array 146.49 311 PKPab 13 23 51.3 -0.6

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*ISCJB **17** 13:11:09.8±0.4, 60.°35S±0.°07×45.°2W±0.°2, h10km, mb4.1/9, MS4.9/2, Error ellipse: s-maj=14.3km s-min=6.2km az=145.5*
*IDC **17** 13:11:09.6±0.8, 60.°34S×45.°17W, h0km, mb4.2/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.2/10, ML3.9/1, MS4.9/2, Ms1 4.9/2, ms1mx4.2/28, Error ellipse: s-maj=30.7km s-min=17.3km az=68.0*
*NEIC **17** 13:11:12.7±1.9, 60.°26S±0.°08×45.°1W±0.°2, h15km±3km, mb4.7/22*
ISC 17 13:11:11.5±0.4, 60.°35S±0.°07×45.°23W±0.°07, h10km, n59, σ1§30/56, mb4.5/15, 2C-1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.70**	**42**		**Pn**	**13 13 00.6**	**-2.8**
PMSA	**Palmer Station**	**9.74**	**235**	Pn	**Pn**	**13 13 31.1**	**-0.2**
	1.1nm,0.3s,baz=53,slow=10.0,SNR=9.2						
PMSA				Sn	**Sn**	**13 15 16.6**	**-4.0**
	0.1nm,0.3s,baz=317,slow=19,SNR=1.9						
PMSA	**Palmer Station**	**9.74**	**235**		**Pn**	**13 13 32.1**	**+0.8**
EFI	**East Falkland**	**11.25**	**315**	Pn	**Pn**	**13 13 53.7**	**+1.6**
GO10	**Punta Arenas**	**15.81**	**286**		**P**	**13 14 58.9**	**+1.1**
GO10				IAmb	IAmb	13 15 28.4	
	comp=Z,78nm,1.4s						
VNA3	**Neumayer Olymp**	**17.86**	**142**	P	**Pn**	**13 15 18.4**	**-1.2**
VNA1	**Neumayer--Stat**	**18.12**	**140**	P	**P**	**13 15 23.6**	**+0.5**
VNA2	**Neumayer--Watz**	**18.47**	**140**	P	**Pn**	**13 15 27.3**	**+0.2**
	baz=294,slow=16						
SNAA	**Sanae**	**20.08**	**142**	P	Pn	13 15 45.7	-0.8
SNAA	**Sanae**	**20.08**	**142**	P	**P**	**13 15 45.3**	**+0.7**
	comp=Z,8.9nm,0.8s,baz=288,slow=8.9,SNR=19						
SNAA	**Sanae**	**20.08**	**142**	P	Pn	13 15 45.7	-0.8
TRQA	**Tornquist**	**24.70**	**327**	P	**P**	**13 16 33.3**	**+0.8**
TRQA				IAmb	IAmb	13 16 40.1	
	comp=Z,15nm,0.9s						
PLCA	**Paso Flores**	**25.11**	**310**	P	**P**	**13 16 36.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=188,slow=7.8,SNR=5.7						
PLCA	**Paso Flores**	**25.11**	**310**	P	**P**	**13 16 36.5**	**+0.3**
GO06	**Curarrehue**	**26.45**	**310**	P	**P**	**13 16 48.2**	**-0.3**
GO06				IAmb	IAmb	13 17 11.0	
	comp=Z,36nm,1.9s						
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**13 17 19.8**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=299,slow=0.7,SNR=3.5						
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**13 17 20.2**	**+1.2**
GO05	**Huala**	**30.66**	**314**	P	**P**	**13 17 25.8**	**-0.1**
ROC1	**El Roble**	**32.18**	**317**	P	**P**	**13 17 39.4**	**-0.1**
CFA	**Coronel Fontan**	**32.54**	**322**	LR	LR	13 30 04.1	
	comp=Z,2μm,21.0s,baz=40,slow=35						
SYO	**Syowa Base**	**34.36**	**141⇑**	*e*P	**P**	**13 17 55.0**	**-2.8**
SYO	**Syowa Base**	**34.36**	**141⇓**	*e*pP	pP	13 18 00.2	-0.1
SYO	**Syowa Base**	**34.36**	**141⇓**	*e*sP	sP	13 18 03.2	+1.9
GO04	**Tololo Observa**	**34.68**	**319**	P	**P**	**13 18 00.6**	**-0.7**
GO03	**Copiap**	**36.90**	**321**	P	**P**	**13 18 19.4**	**-0.7**
GO02	**Mina Guanaco**	**38.98**	**324**	P	**P**	**13 18 36.2**	**-1.8**
GO02				IAmb	IAmb	13 19 11.5	
	comp=Z,72nm,1.9s						
SBA	**Scott Base**	**40.66**	**190**	P	**P**	**13 18 52.5**	**+1.4**
LVC	**Limon Verde**	**41.20**	**326**	P	**P**	**13 18 57.0**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=156,slow=9.6,SNR=2.7						
LVC	**Limon Verde**	**41.20**	**326**	IAmb	IAmb	13 19 53.6	
	comp=Z,21nm,1.6s						
MAW	**Mawson**	**42.08**	**147**	P	**P**	**13 19 04.8**	**+2.0**
PB01	**IPOC Station P**	**42.85**	**326**	P	**P**	**13 19 10.4**	**+0.8**
PB01				IAmb	IAmb	13 19 11.2	
	comp=Z,11nm,0.8s						
GO01	**Chusmiza**	**44.07**	**327**	P	**P**	**13 19 20.9**	**+0.9**
GO01				IAmb	IAmb	13 19 27.4	
	comp=Z,7.5nm,0.8s						
PB11	**IPOC Station P**	**44.11**	**326**	P	**P**	**13 19 20.2**	**+0.3**
PB11				IAmb	IAmb	13 20 08.3	
	comp=Z,23nm,1.3s						
BDFB	**Brasilia**	**44.69**	**356**	P	**P**	**13 19 23.8**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=212,slow=5.4,SNR=3.5						
BDFB	**Brasilia**	**44.69**	**356**	IAmb	IAmb	13 20 33.1	
	comp=Z,36nm,1.8s						
MNMC	**Minye Minye**	**44.69**	**326**	P	**P**	**13 19 25.7**	**+1.0**
SIV	**San Ignacio**	**45.76**	**338**	P	**P**	**13 19 32.1**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=177,slow=8.5,SNR=17						
LPAZ	**La Paz**	**47.02**	**329**	P	**P**	**13 19 43.1**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=225,slow=9.1,SNR=6.5						
LPAZ	**La Paz**	**47.02**	**329**	P	**P**	**13 19 43.6**	**+0.1**
LPAZ				IAmb	IAmb	13 20 05.9	
	comp=Z,11nm,1.6s						
SAML	**Samuel**	**53.03**	**338**	P	**P**	**13 20 28.6**	**+0.2**
SAML				IAmb	IAmb	13 20 29.4	
	comp=Z,4.7nm,0.7s						
LBTB	**Lobatse**	**59.13**	**87**	P	**P**	**13 21 12.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**82.26**	**46**	P	**P**	**13 23 32.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=208,slow=6.0,SNR=9.0						
TORD	**Torodi Ar. Bea**	**82.26**	**46**	P	**P**	**13 23 32.6**	**-0.2**
ASAR	**Alice Springs**	**96.29**	**179**	P	**P**	**13 24 38.1**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=176,slow=3.6,SNR=8.9						
LPIG	**La Paz**	**99.26**	**303**	LR	LR	14 01 07.5	
	comp=Z,725nm,18.1s,baz=273,slow=30						
WRA	**Warramunga Arr**	**100.00**	**180**	P	**Pdif**	**13 24 55.7**	**-1.0**
	comp=Z,0.6nm,1.1s,baz=175,slow=4.2,SNR=4.3						
KSH	**Kashi**	**138.51**	**93**	PKP	**PKiKP**	**13 30 39.1**	**+0.4**
KSH				PP	**PP**	**13 33 31.8**	**+4.2**
KSH				PKS	**PKSdf**	**13 34 13.4**	**+0.7**
KSH				SKKS		13 40 22.1	
PRP	**Porcupine Dome**	**145.66**	**313**		**PKPab**	**13 30 49.1**	**-0.1**
IL31		**145.79**	**312**		**PKPdf**	**13 30 48.7**	**+0.3**
ILAR	**Eielson Array**	**145.79**	**312**	PKPbc	**PKPdf**	**13 30 48.8**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=139,slow=3.0,SNR=17						
ILAR	**Eielson Array**	**145.79**	**312**		**PKPbc**	**13 30 48.9**	**-0.2**
WRH	**Wood River Hil**	**146.09**	**311**	PKPdf	**PKPab**	**13 30 50.7**	**0.0**
MK31	**Makanchi Array**	**146.98**	**90**		**PKPbc**	**13 30 52.5**	**-0.7**
MKAR	**Makanchi Array**	**146.98**	**90**	PKPbc	**PKPdf**	**13 30 51.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=217,slow=1.5,SNR=8.5						
MKAR	**Makanchi Array**	**146.98**	**90**		**PKPbc**	**13 30 52.4**	**-0.8**
TOLK	**Toolik Lake Re**	**148.48**	**317**		**PKPbc**	**13 30 56.9**	**+0.3**
LZH	**Lanzhou**	**148.68**	**127**	*e*PKPbc	**PKPbc**	**13 30 57.5**	**-0.8**
LZH				pPKP	PKPab	13 31 02.3	+0.3
LZH				PKPbc	**sPKPab**	**13 31 07.8**	**+1.9**
IMAR	**Indian Mountai**	**148.90**	**311**		**PKPbc**	**13 30 58.2**	**+0.6**
IMAR				PKPab	**pPKPab**	**13 31 03.1**	**-1.8**
GTA	**Gaotai**	**149.81**	**118**	*e*PKPbc	**PKPab**	**13 31 05.6**	**-0.8**

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*ISCJB **17** 13:16:12.0±1.6, 29.°88N±0.°09×36.°2E±0.°1, h3km, Error ellipse: s-maj=21.4km s-min=7.2km az=34.5*
*HLW **17** 13:16:12.6, 29.°92N×36.°26E, h10km±11km, Md3.1*
*JSO **17** 13:16:14.6±1.3, 30.°N±11.°×3.°6E±.°, h10km, M3.1/6, Mjma3.1/6, ML2.8/4, MLv3.2/6*
ISC 17 13:16:12.8±2.0, 29.°90N±0.°09×36.°1E±0.°1, h3km, n10, σ0§48/11, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	**Maan**	**0.52**	**313**	P	**Pg**	**13 16 23.0**	**+0.1**
AQBJ	**Aqaba**	**0.96**	**260**	P	**Pg**	**13 16 31.4**	**+0.3**
SWQJ	**Swaqa**	**1.34**	**357**	P	**Pb**	**13 16 38.7**	**+0.1**
HBST	**Basata**	**1.40**	**241**	P	**Pn**	**13 16 39.0**	**-0.2**
	baz=243						
HBST				S	**Sg**	**13 16 57.9**	**+0.3**
	baz=243						
WALJ	**Wala**	**1.68**	**351**	P	**Pn**	**13 16 42.1**	**-1.0**
HDHB	**Dhahab**	**1.77**	**229**	P	**Pn**	**13 16 43.8**	**-0.5**
	baz=231						
HKAT	**Jabal Katrina**	**2.32**	**234**	P	**Pn**	**13 16 51.5**	**-0.6**
	baz=236						
ASF	**Jabal al Asfar**	**2.36**	**16**	P	**Pn**	**13 16 52.8**	**+0.3**
SHMJ	**Saham**	**2.84**	**354**	P	**Pb**	**13 17 04.2**	**+0.1**
SUZ	**Suez**	**2.87**	**270**	P	**Pn**	**13 16 59.3**	**-0.1**
	baz=270						

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*ISCJB **17** 13:23:24.8±0.7, 60.°10S±0.°09×47.°0W±0.°2, h10km, mb3.8/4, Error ellipse: s-maj=15.6km s-min=12.9km az=18.9*
*IDC **17** 13:23:25.4±0.9, 60.°26S×47.°03W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=33.6km s-min=21.6km az=68.0*
*NEIC **17** 13:23:26.6±2.0, 60.°0S±0.°1×47.°2W±0.°2, h10km±1km, mb4.4/7*
ISC 17 13:23:26.6±0.7, 60.°1S±0.°1×47.°1W±0.°1, h10km, n19, σ1§49/19, mb4.1/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.19**	**49**	Pn	**Pn**	**13 25 25.1**	**-0.2**
PMSA	**Palmer Station**	**9.13**	**232**	Pn	**Pn**	**13 25 36.5**	**-1.7**
	2.4nm,0.3s,baz=70,slow=12,SNR=12						
PMSA	**Palmer Station**	**9.13**	**232**		**Pn**	**13 25 38.8**	**+0.6**
SNAA	**Sanae**	**20.86**	**142**	P	**P**	**13 28 07.4**	**-0.9**
	2.9nm,0.8s,baz=280,slow=8.7,SNR=2.2						
SNAA	**Sanae**	**20.86**	**142**	P	**P**	**13 28 08.6**	**+0.4**
TRQA	**Tornquist**	**24.00**	**330**	P	**P**	**13 28 37.2**	**-4.0**
TRQA				IAmb	IAmb	13 28 47.6	
	comp=Z,25nm,1.6s						
PLCA	**Paso Flores**	**24.23**	**313**	P	**P**	**13 28 44.8**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=162,slow=9.6,SNR=2.1						
PLCA	**Paso Flores**	**24.23**	**313**	P	**P**	**13 28 41.9**	**-1.5**
PLCA				IAmb	IAmb	13 29 38.4	
	comp=Z,16nm,1.6s						
QSPA	**South Pole Qui**	**30.14**	**180**	P	**P**	**13 29 35.4**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=167,slow=4.3,SNR=8.3						
QSPA	**South Pole Qui**	**30.14**	**180**	P	**P**	**13 29 37.1**	**+0.8**
QSPA				IAmb	IAmb	13 29 41.1	
	comp=Z,6.4nm,1.1s						
SBA	**Scott Base**	**40.74**	**190**	P	**P**	**13 31 08.0**	**+1.1**
SBA				IAmb	IAmb	13 32 38.5	
	comp=Z,10nm,1.7s						
SIV	**San Ignacio**	**45.20**	**341**	P	**P**	**13 31 45.7**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=195,slow=8.3,SNR=7.3						
BOSA	**Boshof**	**56.92**	**91**	P	**P**	**13 33 11.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.77**	**48**	P	**P**	**13 35 51.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=202,slow=5.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**82.77**	**48**	P	**P**	**13 35 51.7**	**+1.2**
ILAR	**Eielson Array**	**144.92**	**313**	PKPbc	**PKPdf**	**13 43 02.1**	**0.0**
	comp=Z,1.6nm,0.9s,baz=144,slow=2.3,SNR=8.3						
ILAR	**Eielson Array**	**144.92**	**313**		**PKPdf**	**13 43 02.3**	**+0.1**
MKAR	**Makanchi Array**	**147.92**	**91**	PKPbc	**PKPbc**	**13 43 09.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=222,slow=2.0,SNR=9.4						
MKAR	**Makanchi Array**	**147.92**	**91**		**PKPbc**	**13 43 10.1**	**-0.8**

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*IDC **17** 13:24:45.8±0.9, 60.°45S×43.°31W, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.9/22, mbtmp3.9/8, ML3.4/2, Error ellipse: s-maj=28.2km s-min=20.1km az=74.0*
*ISCJB **17** 13:24:46.3±0.5, 60.°45S±0.°06×43.°3W±0.°1, h16km, mb3.9/6, Error ellipse: s-maj=9.6km s-min=7.8km az=142.9*
*NEIC **17** 13:24:48.4±2.0, 60.°38S±0.°08×43.°3W±0.°2, h15km±4km, mb4.7/16*
ISC 17 13:24:48.4±0.5, 60.°40S±0.°08×43.°26W±0.°08, h16km, n30, σ1§01/30, mb4.5/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.14**	**34**	Pn	**Pn**	**13 26 33.4**	**+1.4**
PMSA	**Palmer Station**	**10.51**	**236**	Pn	**Pn**	**13 27 16.6**	**-1.5**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.2						
PMSA				Sn	**Sn**	**13 29 16.9**	**+1.6**
	0.1nm,0.3s,baz=322,slow=19,SNR=2.2						
PMSA	**Palmer Station**	**10.51**	**236**		**Pn**	**13 27 19.4**	**+1.3**
GO10	**Punta Arenas**	**16.77**	**283**	Pn	**Pn**	**13 28 42.5**	**+0.2**
GO10				IAmb	IAmb	13 29 24.1	
	comp=Z,138nm,1.6s						
SNAA	**Sanae**	**19.43**	**142**	P	**P**	**13 29 12.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=281,slow=12,SNR=3.7						
SNAA	**Sanae**	**19.43**	**142**	IAmb	IAmb	13 29 21.6	
	comp=Z,15nm,1.2s						
TRQA	**Tornquist**	**25.31**	**324**	P	**P**	**13 30 13.2**	**-0.8**
TRQA				IAmb	IAmb	13 30 17.8	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**25.91**	**307**	P	**P**	**13 30 18.1**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=153,slow=2.3,SNR=3.6						
PLCA	**Paso Flores**	**25.91**	**307**	P	**P**	**13 30 17.7**	**-1.7**
PLCA				IAmb	IAmb	13 31 00.4	
	comp=Z,31nm,2.0s						
GO06	**Curarrehue**	**27.25**	**307**	P	**P**	**13 30 30.9**	**-0.8**
GO06				IAmb	IAmb	13 30 33.2	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**13 30 54.6**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=178,slow=5.5,SNR=1.9						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**13 30 53.6**	**-0.9**
GO02	**Mina Guanaco**	**39.62**	**321**	P	**P**	**13 32 20.3**	**+0.9**
GO02				IAmb	IAmb	13 32 27.6	
	comp=Z,49nm,1.7s						
SBA	**Scott Base**	**40.77**	**189**	P	**P**	**13 32 28.7**	**+0.7**
SBA				IAmb	IAmb	13 33 00.6	
	comp=Z,21nm,1.9s						
BDFB	**Brasilia**	**44.83**	**353**	P	**P**	**13 33 02.1**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=102,slow=5.4,SNR=3.6						
BDFB	**Brasilia**	**44.83**	**353**	P	**P**	**13 33 00.8**	**-0.8**
MNMC	**Minye Minye**	**45.30**	**324**	P	**P**	**13 33 05.5**	**0.0**
MNMC				IAmb	IAmb	13 33 08.2	
	comp=Z,11nm,0.7s						
SIV	**San Ignacio**	**46.19**	**336**	P	**P**	**13 33 12.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=188,slow=12,SNR=4.4						
LPAZ	**La Paz**	**47.59**	**327**	P	**P**	**13 33 25.0**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=175,slow=6.9,SNR=5.4						
LPAZ	**La Paz**	**47.59**	**327**	P	**P**	**13 33 24.4**	**+0.6**
CRZF	**Crozet Islands**	**53.39**	**121**	P	**P**	**13 34 07.6**	**+0.8**
ASCN	**Ascension**	**56.66**	**35**	P	**P**	**13 34 29.6**	**-1.1**
LBTB	**Lobatse**	**58.16**	**85**	P	**P**	**13 34 41.0**	**-0.4**
LBTB				IAmb	IAmb	13 36 42.4	
	comp=Z,40nm,1.8s						
TSUM	**Tsumeb**	**59.18**	**74**	P	**P**	**13 34 48.7**	**+0.3**
TSUM				IAmb	IAmb	13 35 56.1	
	comp=Z,8.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**81.60**	**44**	P	**P**	**13 37 06.3**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=215,slow=5.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**81.60**	**44**	P	**P**	**13 37 06.0**	**+0.8**
MKAR	**Makanchi Array**	**146.00**	**89**	PKPbc	**PKPdf**	**13 44 24.2**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=231,slow=1.5,SNR=4.9						
MKAR	**Makanchi Array**	**146.00**	**89**	PKPdf	**PKPdf**	**13 44 25.2**	**-0.2**
ILAR	**Eielson Array**	**146.56**	**311**	PKPbc	**PKPbc**	**13 44 26.4**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=134,slow=2.6,SNR=2.5						
IMAR	**Indian Mountai**	**149.68**	**311**		**PKiKP**	**13 44 35.6**	**-0.8**

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*IDC **17** 13:27:22.0±1.0, 60.°27S×45.°46W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/21, mbtmp4.0/6, ML3.4/1, Error ellipse: s-maj=34.4km s-min=23.4km az=61.0*
*ISCJB **17** 13:27:22.6±0.5, 60.°35S±0.°08×45.°7W±0.°2, h10km, mb3.9/4, Error ellipse: s-maj=15.8km s-min=8.6km az=145.2*
*NEIC **17** 13:27:24.1±1.5, 60.°29S±0.°09×45.°3W±0.°2, h15km±4km, mb4.7/10*
ISC 17 13:27:23.8±0.7, 60.°25S±0.°09×45.°5W±0.°1, h10km, n24, σ1§12/24, mb4.5/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.72**	**43**		**Pn**	**13 29 14.4**	**-1.7**
PMSA	**Palmer Station**	**9.68**	**234**	Pn	**Pn**	**13 29 42.8**	**-0.1**
	0.4nm,0.3s,baz=66,slow=15,SNR=5.3						
VNA3	**Neumayer Olymp**	**18.02**	**142**	P	**Pn**	**13 31 33.0**	**-1.0**
VNA1	**Neumayer--Stat**	**18.28**	**140**	P	**P**	**13 31 39.5**	**+2.2**
VNA2	**Neumayer--Watz**	**18.63**	**141**	P	**P**	**13 31 42.6**	**+1.5**
	baz=292,slow=7.1						
SNAA	**Sanae**	**20.24**	**142**	P	**P**	**13 32 00.7**	**+1.9**
SNAA	**Sanae**	**20.24**	**142**	P	**P**	**13 31 59.5**	**+0.7**
	4.7nm,0.9s,baz=288,slow=11,SNR=7.1						
SNAA	**Sanae**	**20.24**	**142**	Pn	**P**	**13 31 59.5**	**+0.7**
TRQA	**Tornquist**	**24.55**	**327**	P	**P**	**13 32 43.8**	**+0.3**
TRQA				IAmb	IAmb	13 32 48.5	
	comp=Z,17nm,1.0s						
PLCA	**Paso Flores**	**24.94**	**310**	P	**P**	**13 32 47.4**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=172,slow=8.9,SNR=3.9						
PLCA	**Paso Flores**	**24.94**	**310**	P	**P**	**13 32 46.8**	**-0.2**
QSPA	**South Pole Qui**	**29.99**	**180**	P	**P**	**13 33 31.1**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=164,slow=6.5,SNR=3.1						
QSPA	**South Pole Qui**	**29.99**	**180**	P	**P**	**13 33 30.8**	**-1.4**
QSPA				IAmb	IAmb	13 33 34.4	
	comp=Z,10nm,1.4s						
GO01	**Chusmiza**	**43.91**	**327**	P	**P**	**13 35 31.4**	**+0.4**
GO01				IAmb	IAmb	13 36 30.2	
	comp=Z,20nm,1.8s						
PB11	**IPOC Station P**	**43.95**	**326**	P	**P**	**13 35 31.1**	**+0.1**
MNMC	**Minye Minye**	**44.53**	**327**	P	**P**	**13 35 36.7**	**+0.9**
MNMC				IAmb	IAmb	13 35 37.9	
	comp=Z,14nm,0.7s						
LPAZ	**La Paz**	**46.87**	**330**	P	**P**	**13 35 54.8**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=166,slow=7.4,SNR=6.0						
LPAZ	**La Paz**	**46.87**	**330**	P	**P**	**13 35 55.2**	**+0.6**
LPAZ				IAmb	IAmb	13 35 56.1	
	comp=Z,17nm,1.9s						
SHEL	**Horse Pasture**	**52.73**	**51**	P	**P**	**13 36 40.6**	**+2.0**
TORD	**Torodi Ar. Bea**	**82.29**	**46**	P	**P**	**13 39 45.2**	**0.0**
	comp=Z,1.3nm,0.9s,baz=200,slow=7.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**82.29**	**46**	P	**P**	**13 39 44.5**	**-0.8**
ILAR	**Eielson Array**	**145.62**	**312**	PKPbc	**PKPdf**	**13 46 59.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=150,slow=3.7,SNR=5.5						
MK31	**Makanchi Array**	**147.12**	**90**	PKPdf	**PKPdf**	**13 47 03.9**	**+0.1**
MKAR	**Makanchi Array**	**147.12**	**90**	PKPbc	**PKPdf**	**13 47 04.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=238,slow=2.0,SNR=8.6						

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*ISCJB **17** 13:36:36.1±0.4, 6.°86S±0.°04×129.°52E±0.°04, h150km, mb3.6/3, Error ellipse: s-maj=6.3km s-min=5.9km az=138.0*
*IDC **17** 13:36:37.9±2.1, 6.°87S×129.°53E, h144km±23km, mb3.4/3, mb1 3.8/8, mb1mx3.5/38, mbtmp4.2/8, Error ellipse: s-maj=29.2km s-min=16.2km az=76.0*
*NEIC **17** 13:36:38.6±2.9, 6.°84S±0.°07×129.°54E±0.°07, h176km±9km, mb4.6/12*
ISC 17 13:36:37.2±0.6, 6.°84S±0.°06×129.°53E±0.°06, h150km, n33, σ1§92/36, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**123**		**Pn**	**13 37 17.3**	**+3.8**
SAUI				Sn	**Sn**	**13 37 42.4**	**+1.1**
FAKI	**Fak Fak**	**4.74**	**35**		**Pn**	**13 37 48.4**	**+1.1**
SOEI	**Soe**	**5.96**	**241**		**Pn**	**13 38 06.2**	**+2.7**
SIJI	**Sorong**	**6.17**	**16**	P	**Pn**	**13 38 07.3**	**+0.9**
	3.2nm,0.3s,baz=221,slow=23,SNR=35						
SIJI				S	**Sn**	**13 39 12.8**	**-3.3**
	6.4nm,0.3s,baz=236,slow=23,SNR=12						
MTN	**Manton Dam**	**6.18**	**165**		**Pn**	**13 38 07.7**	**+1.4**
BATI	**Baumata**	**6.70**	**240**	P	**Pn**	**13 38 14.9**	**+1.6**
	12nm,0.3s,baz=202,slow=1.7,SNR=11						
BATI				S	**Sn**	**13 39 26.8**	**-1.8**
	18nm,0.3s,baz=215,slow=20,SNR=15						
KNRA	**Kununurra**	**8.82**	**185**		**Pn**	**13 38 41.6**	**0.0**
FITZ	**Fitzroy Crossi**	**11.82**	**198**	P	**Pn**	**13 39 20.3**	**-0.9**
	2.5nm,0.3s,baz=26,slow=11,SNR=27						
FITZ				S	Sn	13 41 23.7	-8.2
	2.0nm,0.3s,baz=104,slow=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**11.82**	**198**		**Pn**	**13 39 19.8**	**-1.4**
WRAB	**Tennant Creek**	**13.84**	**161**	Pn	**Pn**	**13 39 45.2**	**-2.0**
WRA	**Warramunga Arr**	**13.84**	**161**	P	**Pn**	**13 39 45.6**	**-1.6**
	1.3nm,0.3s,baz=338,slow=14,SNR=42						
WRA				S	Sn	13 42 11.7	-9.0
	2.4nm,0.3s,baz=335,slow=23,SNR=10.0						
WRA	**Warramunga Arr**	**13.84**	**161**	P	**Pn**	**13 39 45.0**	**-2.3**
WB2	**Warramunga Arr**	**13.85**	**161**	P	**Pn**	**13 39 45.5**	**-1.8**
WR0	**Warramunga Arr**	**13.93**	**160**	Pn	**Pn**	**13 39 47.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.72**	**325**	⇓P	Pg	13 41 56.0	-0.4
JKY				S	Sg	13 42 05.4	-0.4
TSUJ	**Tsu 2**	**0.74**	**116**	⇓P	Pg	13 41 56.3	-0.5
TSUJ				S	Sg	13 42 06.1	-0.5
JWY	**Kouya**	**0.82**	**181**	⇑P	Pg	13 41 57.7	-0.6
JWY				S	Sg	13 42 08.5	-0.5
JAJ2	**Tsuna**	**0.86**	**224**	P	Pg	13 41 58.4	-0.6
JAJ2				S	Sg	13 42 10.0	-0.3
MAT	**Matsushiro**	**2.59**	**54**	P	Pn	13 42 24.6	+0.6
MAT				*e*S	Sn	13 42 56.1	+0.7

*IDC **17** 13:42:41.9±0.6, 60.˙36S×45.˙16W, h0km, mb4.5/14, mb1 4.5/15, mb1mx4.3/31, mbtmp4.4/15, ML3.5/1 Error ellipse: s-maj=20.6km s-min=13.6km az=50.0*
*ISCJB **17** 13:42:42.1±0.3, 60.˙40S±0.˙04×45.˙19W±0.˙09, h10km, mb4.5/18, MS4.9/1, Error ellipse: s-maj=6.9km s-min=5.2km az=151.7*
*MOS **17** 13:42:42.9±1.5, 60.˙25S×44.˙98W, h10km, mb4.9/9, Error ellipse: s-maj=29.5km s-min=10.8km az=101.5*
*NEIC **17** 13:42:44.6±1.2, 60.˙36S±0.˙08×45.˙1W±0.˙2, h15km±3km, mb5.0/31*
ISC 17 13:42:43.8±0.3, 60.˙39S±0.˙06×45.˙05W±0.˙06, h10km, n176, σ0§82/170, mb4.8/24, 5C-4D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.67**	**41**	*i*P	**Pn**	**13 44 35.2**	**-0.2**
HOPE	**Hope Point**	**7.67**	**41**		**Pn**	**13 44 34.2**	**-1.3**
PMSA	**Palmer Station**	**9.78**	**235**	Pn	**Pn**	**13 45 03.8**	**-0.4**
PMSA	0.4nm,0.3s,baz=65,slow=12,SNR=5.1			Sn	**Sn**	**13 46 54.4**	**+0.4**
PMSA	0.1nm,0.3s,baz=319,slow=9.3,SNR=1.8 **Palmer Station**	**9.78**	**235**	Pn	**Pn**	**13 45 03.5**	**-0.8**
PMSA	**Palmer Station**	**9.78**	**235**	*e*P	Pn	13 45 16.7	+12
PMSA	**Palmer Station**	**9.78**	**235**	*e*P	Pn	13 45 16.7	+12
EFI	**East Falkland**	**11.35**	**315**	‖*e*P	**Pn**	**13 45 25.5**	**-0.2**
EFI				pmax	pmax		
EFI	comp=Z,59nm,1.2s **East Falkland**	**11.35**	**315**	Pn	**Pn**	**13 45 26.9**	**+1.2**
USHA	**Ushuaia**	**13.67**	**284**	Pn	**Pn**	**13 45 58.3**	**+0.9**
GO10	comp=Z,0.1nm,0.3s,baz=105,slow=16,SNR=2.0 **Punta Arenas**	**15.90**	**286**	P	**P**	**13 46 31.1**	**0.0**
GO10				IAmb	IAmb	13 46 36.8	
VNA3	comp=Z,148nm,1.6s **Neumayer Olymp**	**17.77**	**142**	P	**Pn**	**13 46 50.9**	**+0.1**
VNA1	**Neumayer--Stat**	**18.03**	**140**	P	**P**	**13 46 54.9**	**+0.5**
VNA2	**Neumayer--Watz**	**18.38**	**140**	P	**Pn**	**13 46 59.8**	**+1.5**
SNAA	baz=297,slow=16 **Sanae**	**19.99**	**142**	Pn		13 47 17.7	0.0
SNAA	**Sanae**	**19.99**	**142**	‖*e*P	Pn	13 47 17.8	+0.1
SNAA	**Sanae**	**19.99**	**142**	P	**P**	**13 47 16.9**	**+0.9**
SNAA	comp=Z,12nm,0.9s,baz=288,slow=12,SNR=21 **Sanae**	**19.99**	**142**	P	**P**	**13 47 17.4**	**+1.4**
SNAA				IAmb	IAmb	13 47 26.9	
TRQA	comp=Z,66nm,1.4s **Tornquist**	**24.79**	**327**	*e*P	**P**	**13 48 05.7**	**+0.1**
TRQA	**Tornquist**	**24.79**	**327**	P	**P**	**13 48 05.7**	**+0.1**
TRQA	**Tornquist**	**24.79**	**327**	*e*P	**P**	**13 48 06.2**	**+0.6**
PLCA	**Paso Flores**	**25.20**	**310**	*e*P	**P**	**13 48 08.7**	**-0.7**
PLCA	**Paso Flores**	**25.20**	**310**	P	**P**	**13 48 09.2**	**-0.2**
PLCA	comp=Z,8.4nm,0.9s,baz=181,slow=9.5,SNR=17 **Paso Flores**	**25.20**	**310**	P	**P**	**13 48 08.7**	**-0.7**
PLCA	**Paso Flores**	**25.20**	**310**	*e*P	**P**	**13 48 09.8**	**+0.4**
GO06	**Curarrehue**	**26.55**	**310**	P	**P**	**13 48 20.6**	**-1.1**
PLTB	**Pedras Altas**	**29.19**	**345**	*e*P	**P**	**13 48 45.7**	**+0.5**
PLTB	**Pedras Altas**	**29.19**	**345**	*e*P	**P**	**13 48 45.7**	**+0.5**
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**13 48 51.5**	**+0.6**
QSPA	comp=Z,6.0nm,0.7s,baz=125,slow=2.4,SNR=39			S	**S**	**13 53 46.4**	**-1.0**
QSPA	comp=Z,1.4nm,0.8s,baz=172,slow=6.2,SNR=4.1 **South Pole Qui**	**29.84**	**180**	P	**P**	**13 48 51.7**	**+0.8**
CPSB	**Cacapava Do Su**	**30.51**	**346**	*e*P	**P**	**13 48 57.0**	**+0.2**
CPSB	**Cacapava Do Su**	**30.51**	**346**	*e*P	**P**	**13 48 57.0**	**+0.2**
GO05	**Huala**	**30.76**	**313**	P	**P**	**13 48 58.4**	**-0.6**
GO05				IAmb	IAmb	13 49 02.1	
CNLB	comp=Z,43nm,1.6s **Canela**	**31.32**	**350**	*e*P	**P**	**13 49 04.1**	**0.0**
CNLB	**Canela**	**31.32**	**350**	*e*P	**P**	**13 49 04.1**	**0.0**
PEL	**Peldehue**	**32.01**	**317**	P	**P**	**13 49 09.9**	**-0.2**
PEL				pmax	pmax		
PEL	comp=Z,28nm,0.9s **Peldehue**	**32.01**	**317**	P	**P**	**13 49 09.9**	**-0.2**
ROC1	**El Roble**	**32.28**	**316**	P	**P**	**13 49 12.6**	**-0.1**
RTCV	**Cerro Valdivia**	**32.49**	**321**	*i* P	**P**	**13 49 12.7**	**-1.6**
CFA	**Coronel Fontan**	**32.63**	**321**	P	**P**	**13 49 14.1**	**-1.5**
RTLS	comp=Z,8.9nm,0.6s,baz=173,slow=7.3,SNR=19 **Leoncito**	**32.79**	**320**	*i* P	**P**	**13 49 15.9**	**-1.3**
RTLL	**Cerro Villicun**	**32.96**	**321**	*i* P	**P**	**13 49 17.8**	**-0.7**
AMOG	**MOGNA**	**33.33**	**322**	*i* P	**P**	**13 49 21.2**	**-0.5**
ACCO	**Cerro Coronel**	**33.84**	**321**	*i* P	**P**	**13 49 26.9**	**+0.5**
ACDV	**Cuesta del Vie**	**34.24**	**321**	*i* P	**P**	**13 49 30.3**	**+0.6**
SYO	**Syowa Base**	**34.27**	**140**	‖*e*X	**P**	**13 49 27.6**	**-1.8**
SYO	**Syowa Base**	**34.27**	**140**	‖*e*P	P	13 49 23.8	-5.6
AGUA	**GUANDACOL**	**34.68**	**322**	*i* P	**P**	**13 49 33.9**	**+0.4**
GO04	**Tololo Observa**	**34.77**	**319**	*i* P	**P**	**13 49 33.7**	**-0.7**
GO04	**Tololo Observa**	**34.77**	**319**	P	**P**	**13 49 33.5**	**-1.0**
CPUP	**Villa Florida**	**35.08**	**341**	P	**P**	**13 49 35.8**	**-1.0**
CPUP				pmax	pmax		
CPUP	comp=Z,15nm,1.6s **Villa Florida**	**35.08**	**341**	P	**P**	**13 49 35.1**	**-1.6**
CPUP	comp=Z,2.2nm,0.8s,baz=186,slow=9.1,SNR=5.3 **Villa Florida**	**35.08**	**341**	P	**P**	**13 49 35.8**	**-1.0**
CPUP	**Villa Florida**	**35.08**	**341**	*e*P	**P**	**13 49 37.2**	**+0.5**
VCA	**Vinchina**	**35.30**	**323**	*i* P	**P**	**13 49 39.0**	**+0.2**
PTGB	**Pitanga**	**35.99**	**349**	*e*P	**P**	**13 49 44.8**	**+0.1**
PTGB	**Pitanga**	**35.99**	**349**	*e*P	**P**	**13 49 44.8**	**+0.1**
SPB	**Sao Paulo**	**36.81**	**356**	P	**P**	**13 49 52.1**	**+0.6**
SPB	**Sao Paulo**	**36.81**	**356**	*e*P	**P**	**13 49 52.2**	**+0.6**
GO03	**Copiap**	**36.99**	**321**	P	**P**	**13 49 52.3**	**-0.9**
FRTB	**Fartura**	**37.16**	**353**	*e*P	**P**	**13 49 55.2**	**+0.6**
FRTB	**Fartura**	**37.16**	**353**	*e*P	**P**	**13 49 55.2**	**+0.6**
VAO	**Valinhos**	**37.39**	**357**	*e*P	**P**	**13 49 57.4**	**+0.7**
VAO	**Valinhos**	**37.39**	**357**	*e*P	**P**	**13 49 57.4**	**+0.7**
TRCB	**Terra Rica**	**37.94**	**349**	*e*P	**P**	**13 50 01.9**	**+0.6**
TRCB	**Terra Rica**	**37.94**	**349**	*e*P	**P**	**13 50 01.9**	**+0.6**
GO02	**Mina Guanaco**	**39.07**	**323**	P	**P**	**13 50 10.6**	**-0.4**
GO02				IAmb	IAmb	13 50 11.9	
AQDB	comp=Z,27nm,0.7s **Aquidauana**	**40.59**	**345**	*e*P	**P**	**13 50 23.1**	**-0.2**
AQDB	**Aquidauana**	**40.59**	**345**	*e*P	**P**	**13 50 23.1**	**-0.2**
SBA	**Scott Base**	**40.63**	**190**	P	**P**	**13 50 24.7**	**+1.6**
SBA				pmax	pmax		
SBA	comp=Z,5.0nm,0.9s **Scott Base**	**40.63**	**190**	P	**P**	**13 50 24.7**	**+1.6**
ITRB	**Iturama**	**40.82**	**352**	*e*P	**P**	**13 50 25.6**	**+0.3**
ITRB	**Iturama**	**40.82**	**352**	*e*P	**P**	**13 50 25.6**	**+0.3**
PB10	**IPOC Station P**	**40.91**	**323**	P	**P**	**13 50 25.9**	**-0.1**
PB10				IAmb	IAmb	13 50 26.8	
LVC	comp=Z,31nm,0.8s **Limon Verde**	**41.28**	**325**	*e*P	**P**	**13 50 29.5**	**0.0**
LVC	**Limon Verde**	**41.28**	**325**	P	**P**	**13 50 28.0**	**-1.5**
LVC	comp=Z,6.9nm,0.7s,baz=160,slow=5.7,SNR=8.2 **Limon Verde**	**41.28**	**325**	P	**P**	**13 50 29.5**	**0.0**
LVC	**Limon Verde**	**41.28**	**325**	*e*P	**P**	**13 50 30.0**	**+0.5**
PMNB	**Patos De Minas**	**41.82**	**358**	*e*P	**P**	**13 50 34.2**	**+0.6**
PMNB	**Patos De Minas**	**41.82**	**358**	*e*P	**P**	**13 50 34.2**	**+0.6**
PB04	**IPOC Station P**	**41.90**	**324**	P	**P**	**13 50 33.7**	**-0.6**
IPMB	**Ipameri, GO**	**42.42**	**356**	*e*P	**P**	**13 50 38.6**	**+0.2**
IPMB	**Ipameri, GO**	**42.42**	**356**	*e*P	**P**	**13 50 38.6**	**+0.2**
PB01	**IPOC Station P**	**42.93**	**325**	P	**P**	**13 50 42.5**	**-0.1**
PB01				IAmb	IAmb	13 50 43.9	
PP1B	comp=Z,34nm,0.8s **Ponte de Pedra**	**43.32**	**346**	*e*P	**P**	**13 50 46.2**	**+0.5**
PP1B	**Ponte de Pedra**	**43.32**	**346**	*e*P	**P**	**13 50 46.2**	**+0.5**
GO01	**Chusmiza**	**44.16**	**326**	P	**P**	**13 50 53.2**	**+0.2**
GO01				IAmb	IAmb	13 50 54.5	
PB11	comp=Z,20nm,0.9s **IPOC Station P**	**44.20**	**326**	P	**P**	**13 50 52.7**	**-0.2**
PB11				IAmb	IAmb	13 50 54.4	
BDFB	comp=Z,35nm,1.1s **Brasilia**	**44.74**	**356**	P	**P**	**13 50 56.7**	**-0.5**
BDFB				pmax	pmax		
BDFB	comp=Z,30nm,1.6s **Brasilia**	**44.74**	**356**	P	**P**	**13 50 56.2**	**-1.0**
BDFB	comp=Z,3.7nm,0.7s,baz=162,slow=8.0,SNR=5.9 **Brasilia**	**44.74**	**356**	P	**P**	**13 50 56.7**	**-0.5**
BDFB				IAmb	IAmb	13 51 13.8	
MNMC	comp=Z,30nm,1.6s **Minye Minye**	**44.78**	**326**	P	**P**	**13 50 58.1**	**+0.4**
ARAG	**Araguaiana, MT**	**44.89**	**351**	*e*P	**P**	**13 50 58.2**	**-0.1**
ARAG	**Araguaiana, MT**	**44.89**	**351**	*e*P	**P**	**13 50 58.2**	**-0.1**
SALV	**Santo Antonio**	**45.09**	**345**	*e*P	**P**	**13 51 00.3**	**+0.4**
SALV	**Santo Antonio**	**45.09**	**345**	*e*P	**P**	**13 51 00.3**	**+0.4**
JANB	**Januaria**	**45.27**	**1**	*e*P	**P**	**13 51 01.5**	**+0.1**
JANB	**Januaria**	**45.27**	**1**	*e*P	**P**	**13 51 01.5**	**+0.1**
NBIT	**Itapeh - BA**	**45.58**	**8**	*e*P	**P**	**13 51 05.2**	**+1.5**
NBIT	**Itapeh - BA**	**45.58**	**8**	*e*P	**P**	**13 51 05.2**	**+1.5**
SIV	**San Ignacio**	**45.84**	**338**	P	**P**	**13 51 05.2**	**-0.6**
LPAZ	comp=Z,5.3nm,0.7s,baz=170,slow=8.0,SNR=33 **La Paz**	**47.10**	**329**	P	**P**	**13 51 16.3**	**-0.2**
LPAZ	comp=Z,2.9nm,0.6s,baz=146,slow=6.2,SNR=13 **La Paz**	**47.10**	**329**	P	**P**	**13 51 16.3**	**-0.2**
LPAZ				IAmb	IAmb	13 51 32.9	
LPAZ	comp=Z,17nm,1.6s **La Paz**	**47.10**	**329**	*e*P	**P**	**13 51 16.7**	**+0.3**
NBPN	**Ponto Novo - B**	**49.58**	**6**	*e*P	**P**	**13 51 35.2**	**+0.3**
NBPN	**Ponto Novo - B**	**49.58**	**6**	*e*P	**P**	**13 51 35.2**	**+0.3**
CLDB	**Colider**	**50.07**	**346**	*e*P	**P**	**13 51 37.2**	**-1.4**
CLDB	**Colider**	**50.07**	**346**	*e*P	**P**	**13 51 37.2**	**-1.4**
SUR	**Sutherland**	**50.62**	**87**	P	**P**	**13 51 44.2**	**+1.3**
SUR	comp=Z,5.6nm,0.7s,baz=156,slow=9.7,SNR=5.1 **Sutherland**	**50.62**	**87**	IAmb	IAmb	13 51 54.4	
NBTA	comp=Z,36nm,1.4s **Tacaratu-PE**	**51.43**	**9**	*e*P	**P**	**13 51 49.0**	**+0.1**
NBTA	**Tacaratu-PE**	**51.43**	**9**	*e*P	**P**	**13 51 49.0**	**+0.1**
SAML	**Samuel**	**53.10**	**337**	P	**P**	**13 52 00.6**	**-0.6**
SAML				pmax	pmax		
SAML	comp=Z,9.0nm,0.9s **Samuel**	**53.10**	**337**	P	**P**	**13 52 00.6**	**-0.6**
SAML				IAmb	IAmb	13 52 02.4	
SAML	comp=Z,9.5nm,0.8s **Samuel**	**53.10**	**337**	*e*P	**P**	**13 52 01.2**	**-0.1**
PRPB	**Paraua pebas**	**54.22**	**354**	*e*P	**P**	**13 52 09.0**	**-0.4**
PRPB	**Paraua pebas**	**54.22**	**354**	*e*P	**P**	**13 52 09.0**	**-0.4**
BOSA	**Boshof**	**55.90**	**89**	P	**P**	**13 52 21.6**	**-0.1**
BOSA				pmax	pmax		
BOSA	comp=Z,11nm,1.1s **Boshof**	**55.90**	**89**	P	**P**	**13 52 20.9**	**-0.7**
BOSA	comp=Z,5.6nm,0.9s,baz=194,slow=4.9,SNR=4.3 **Boshof**	**55.90**	**89**	P	**P**	**13 52 21.6**	**-0.1**
BOSA				IAmb	IAmb	13 52 27.3	
NBPS	comp=Z,11nm,1.1s **Pedro II - PI**	**55.93**	**4**	*e*P	**P**	**13 52 23.6**	**+1.7**
NBPS	**Pedro II - PI**	**55.93**	**4**	*e*P	**P**	**13 52 23.6**	**+1.7**
LBTB	**Lobatse**	**59.05**	**87**	P	**P**	**13 52 44.0**	**+0.1**
LBTB				pmax	pmax		
LBTB	comp=Z,9.0nm,0.9s **Lobatse**	**59.05**	**87**	P	**P**	**13 52 43.2**	**-0.7**
LBTB	comp=Z,4.2nm,0.7s,baz=241,slow=17,SNR=5.1 **Lobatse**	**59.05**	**87**	P	**P**	**13 52 44.0**	**+0.1**
LBTB				IAmb	IAmb	13 52 49.4	
OTAV	comp=Z,8.7nm,0.9s **Otavalo**	**65.73**	**323**	P	**P**	**13 53 29.3**	**+0.2**
OTAV				pmax	pmax		
OTAV	comp=Z,17nm,1.5s **Otavalo**	**65.73**	**323**	P	**P**	**13 53 29.3**	**+0.2**
OTAV				IAmb	IAmb	13 53 35.8	
OTAV	comp=Z,17nm,1.4s **Otavalo**	**65.73**	**323**	*e*P	**P**	**13 53 29.9**	**+0.9**
LSZ	**Lusaka**	**68.56**	**83**	P	**P**	**13 53 46.4**	**-0.3**
LSZ				pmax	pmax		
LSZ	comp=Z,7.0nm,1.0s **Lusaka**	**68.56**	**83**	P	**P**	**13 53 46.4**	**-0.3**
LSZ				IAmb	IAmb	13 53 53.4	
TOA0	comp=Z,6.9nm,0.9s **Torodi Ar. Sit**	**82.23**	**46**	P	**P**	**13 55 05.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**82.23**	**46**	P	**P**	**13 55 05.3**	**+0.5**
TORD	comp=Z,3.2nm,0.9s,baz=211,slow=6.0,SNR=12 **Torodi Ar. Bea**	**82.23**	**46**	P	**P**	**13 55 05.5**	**+0.6**
ASAR	**Alice Springs**	**96.24**	**179**	P	**P**	**13 56 10.1**	**-2.1**
VCNR	comp=Z,1.0nm,0.9s,baz=170,slow=4.2,SNR=6.6 **Virginia City**	**116.43**	**303**	PKPdf	**PKPdf**	**14 01 26.5**	**-0.5**
BEKR	**Beckworth**	**117.21**	**303**	PKPdf	**PKPdf**	**14 01 28.1**	**-0.4**
CLL	**Collm**	**120.72**	**38**	*e*PKIKP	**PKiKP**	**14 01 37.0**	**+2.3**
CLL	**Collm**	**120.72**	**38**	*e*PKiKP	**PKiKP**	**14 01 37.0**	**+2.3**
CMAR	**Chiang Mai Arr**	**130.88**	**132**	PKP	**PKPdf**	**14 01 53.4**	**-1.7**
OBN	comp=Z,0.6nm,0.8s,baz=224,slow=3.8,SNR=4.6 **Obninsk**	**131.98**	**50**	*e*PKIKP	**PKiKP**	**14 01 57.3**	**+0.3**
OBN				pmax	pmax		
KSH	comp=Z,5.0nm,0.8s **Kashi**	**138.42**	**93**	*e*PKP	**PKiKP**	**14 02 11.4**	**+0.6**
INK	**Inuvik**	**143.21**	**322**	PKhKP	PKPpre	14 02 11.6	
CD2	comp=Z,1.3nm,0.7s,baz=32,slow=4.1,SNR=6.9 **Chengdu**	**143.98**	**131**	PKP	**PKPdf**	**14 02 18.4**	**-0.5**
BRVK	**Borovoye**	**145.12**	**73**	‖*e*PKIKP	**PKPbc**	**14 02 19.0**	**-0.6**
BRVK	**Borovoye**	**145.12**	**73**		**PKPbc**	**14 02 19.4**	**-0.2**
PRP	**Porcupine Dome**	**145.76**	**313**		**PKPdf**	**14 02 20.9**	**-0.1**
IL31		**145.88**	**312**		**PKPdf**	**14 02 20.5**	**-0.4**
ILAR	**Eielson Array**	**145.88**	**312**	*e*PKP2	**PKPdf**	**14 02 20.4**	**-0.6**
ILAR	**Eielson Array**	**145.88**	**312**	PKPbc	**PKPdf**	**14 02 20.8**	**-0.2**
ILAR	comp=Z,7.0nm,0.9s,baz=154,slow=3.5,SNR=32 **Eielson Array**	**145.88**	**312**		**PKPdf**	**14 02 20.4**	**-0.6**
RND	**Reindeer**	**145.94**	**309**	PKP2	**PKPdf**	**14 02 21.5**	**+0.3**
RND	**Reindeer**	**145.94**	**309**		**PKPdf**	**14 02 21.5**	**+0.3**
CCB	**Clear Creek Bu**	**146.16**	**311**		**PKPdf**	**14 02 21.3**	**-0.2**
WRH	**Wood River Hil**	**146.18**	**311**		**PKPdf**	**14 02 21.6**	**+0.1**
COLA	**College**	**146.29**	**311**	*de*PKP2	**PKPbc**	**14 02 22.9**	**0.0**
COLA	**College**	**146.29**	**311**		**PKPdf**	**14 02 21.7**	**+0.1**
BMAR	**Burnt Mountain**	**146.35**	**317**		**PKPdf**	**14 02 22.6**	**+0.8**
MK31	**Makanchi Array**	**146.89**	**90**	PKP2	**PKPdf**	**14 02 24.0**	**+0.7**
MK31	**Makanchi Array**	**146.89**	**90**		**PKPdf**	**14 02 24.0**	**+0.7**
MKAR	**Makanchi Array**	**146.89**	**90**	PKP2	**PKPdf**	**14 02 24.1**	**+0.8**
MKAR	**Makanchi Array**	**146.89**	**90**	PKPbc	**PKPbc**	**14 02 24.7**	**-0.6**
MKAR	comp=Z,5.6nm,0.7s,baz=242,slow=3.5,SNR=22 **Makanchi Array**	**146.89**	**90**		**PKPdf**	**14 02 24.1**	**+0.8**
WHN	**Wuhan**	**147.13**	**146**	PKPbc	**PKPdf**	**14 02 23.0**	**-1.2**
WMQ	**Urumqi**	**147.44**	**99**	*e*PKPbc	**PKPdf**	**14 02 26.0**	**+1.6**
MLY	**Manley**	**147.45**	**311**		**PKPbc**	**14 02 27.1**	**+0.9**
KURK	**Kurchatov**	**147.68**	**82**	‖*e*PKP2	**PKPbc**	**14 02 27.5**	**+0.3**
TOLK	**Toolik Lake Re**	**148.57**	**317**		**PKPbc**	**14 02 28.8**	**-0.3**
LZH	**Lanzhou**	**148.59**	**127**	*e*PKPbc	**PKPdf**	**14 02 26.6**	**-0.1**
LZH				pPKP	sPKPdf	14 02 31.5	+1.3
LZH				sPKP		14 02 33.3	
LZH				LR	LR		
LZH	comp=Z,120nm,18.1s			LR	LR		
LZH	comp=Z,130nm,17.9s			LR	LR		
LZH	comp=Z,180nm,20.0s						
XAN	**Xi'an**	**148.67**	**136**	PKPbc	PKPdf	14 02 15.1	-12
XAN				pPKP	pPKPdf	14 02 28.4	-0.9
IMAR	**Indian Mountai**	**148.99**	**311**		**PKPbc**	**14 02 30.1**	**-0.2**
GTA	**Gaotai**	**149.71**	**118**	⇑PKPbc	**PKPbc**	**14 02 32.5**	**-0.5**
NJ2	**Nanjing**	**149.72**	**152**	*e*PKPbc	**PKPdf**	**14 02 29.3**	**+0.9**
DGZ	**Jazzator, Alta**	**151.39**	**90**	‖*e*PKIKP	**PKPbc**	**14 02 36.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**155.69**	**133**	*e*PKP	**PKPdf**	**14 02 34.1**	**-2.9**
BJI	**Beijing**	**156.51**	**142**	*e*PKP	**PKPdf**	**14 02 36.5**	**-1.4**
SONM	**Songino Array**	**159.28**	**114**	PKPab	**PKPab**	**14 03 18.4**	**-0.4**
BILL	comp=Z,1.5nm,0.9s,baz=251,slow=4.4,SNR=6.7 **Bilibino**	**164.54**	**313**	*e*PKIKP	**PKPdf**	**14 02 47.4**	**+1.6**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*IDC **17** 13:46:58.7±1.1, 60.˙31S×42.˙92W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/28, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=36.6km s-min=24.5km az=41.0*
*ISCJB **17** 13:46:59.5±0.6, 60.˙39S±0.˙08×42.˙9W±0.˙2, h18km, mb3.9/4, Error ellipse: s-maj=14.5km s-min=11.7km az=160.7*
*NEIC **17** 13:47:00.9±1.2, 60.˙4S±0.˙1×42.˙9W±0.˙3, h14km±5km, mb4.6/12*
ISC 17 13:47:01.1±0.7, 60.˙4S±0.˙1×42.˙9W±0.˙1, h18km, n24, σ0§68/24, mb4.3/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.03**	**32**	Pn	**Pn**	**13 48 42.9**	**0.0**
PMSA	**Palmer Station**	**10.67**	**237**	Pn	**Pn**	**13 49 32.1**	**-0.7**
PMSA	0.5nm,0.3s,baz=81,slow=15,SNR=2.8 **Palmer Station**	**10.67**	**237**		**Pn**	**13 49 32.7**	**-0.1**
SNAA	**Sanae**	**19.34**	**142**	P	**Pn**	**13 51 26.3**	**0.0**
TRQA	0.1nm,0.3s,baz=309,slow=11,SNR=2.8 **Tornquist**	**25.39**	**323**	P	**P**	**13 52 28.8**	**+1.7**
TRQA				IAmb	IAmb	13 53 04.6	
PLCA	comp=Z,43nm,2.0s **Paso Flores**	**26.03**	**307**	P	**P**	**13 52 32.5**	**-0.5**
PLCA	comp=Z,4.8nm,0.8s,baz=162,slow=20,SNR=8.5 **Paso Flores**	**26.03**	**307**	P	**P**	**13 52 33.2**	**+0.2**
PLCA				IAmb	IAmb	13 52 35.0	
GO06	comp=Z,11nm,1.2s **Curarrehue**	**27.38**	**307**	P	**P**	**13 52 45.6**	**+0.4**
GO06				IAmb	IAmb	13 52 47.2	
	comp=Z,8.4nm,1.2s						
ROC1	**El Roble**	**33.02**	**313**	P	**P**	**13 53 34.9**	**-0.4**
GO04	**Tololo Observa**	**35.49**	**316**	P	**P**	**13 53 56.5**	**-0.2**
GO02	**Mina Guanaco**	**39.71**	**320**	P	**P**	**13 54 33.9**	**+1.3**
GO02				IAmb	IAmb	13 55 40.9	
SBA	comp=Z,57nm,1.9s **Scott Base**	**40.82**	**189**	P	**P**	**13 54 41.8**	**+0.9**
PB11	**IPOC Station P**	**44.80**	**323**	P	**P**	**13 55 15.1**	**+1.2**
MNMC	**Minye Minye**	**45.38**	**323**	P	**P**	**13 55 19.2**	**+0.6**
MNMC				IAmb	IAmb	13 55 21.5	
SIV	comp=Z,7.8nm,0.7s **San Ignacio**	**46.24**	**335**	P	**P**	**13 55 25.0**	**-0.1**
LPAZ	comp=Z,0.5nm,0.4s,baz=247,slow=15,SNR=2.9 **La Paz**	**47.66**	**326**	P	**P**	**13 55 37.2**	**+0.3**
LPAZ	comp=Z,0.7nm,0.6s,baz=207,slow=11,SNR=2.1 **La Paz**	**47.66**	**326**	P	**P**	**13 55 37.1**	**+0.3**
LPAZ				IAmb	IAmb	13 55 48.6	
SAML	comp=Z,12nm,1.8s **Samuel**	**53.52**	**335**	P	**P**	**13 56 20.4**	**0.0**
SAML				IAmb	IAmb	13 57 07.1	
TORD	comp=Z,4.5nm,1.4s **Torodi Ar. Bea**	**81.47**	**44**	P	**P**	**13 59 16.6**	**-0.3**
TORD	comp=Z,0.8nm,0.8s,baz=208,slow=6.4,SNR=3.3 **Torodi Ar. Bea**	**81.47**	**44**	P	**P**	**13 59 16.5**	**-0.4**
MKAR	**Makanchi Array**	**145.83**	**88**	PKPbc	**PKPbc**	**14 06 38.0**	**-0.1**
MKAR	comp=Z,0.9nm,0.6s,baz=216,slow=3.5,SNR=5.1 **Makanchi Array**	**145.83**	**88**		**PKPbc**	**14 06 37.8**	**-0.3**
ILAR	**Eielson Array**	**146.67**	**311**	PKPbc	**PKPab**	**14 06 40.4**	**-0.9**
ILAR	comp=Z,1.0nm,0.8s,baz=115,slow=1.6,SNR=4.2 **Eielson Array**	**146.67**	**311**	PKPdf	**PKPbc**	**14 06 39.8**	**-0.2**

*ISCJB **17** 13:51:08.5±0.5, 60.˙62S±0.˙07×42.˙5W±0.˙2, h10km, mb3.9/6, Error ellipse: s-maj=13.7km s-min=7.9km az=148.2*
*IDC **17** 13:51:10.2±0.8, 60.˙50S×42.˙82W, h0km, mb4.0/6, mb1 4.1/8, mb1mx4.0/28, mbtmp4.0/8, ML3.6/1, Error ellipse: s-maj=31.4km s-min=19.3km az=67.0*
*NEIC **17** 13:51:12.7±1.8, 60.˙5S±0.˙1×42.˙8W±0.˙2, h17km±5km, mb4.8/11*
ISC 17 13:51:10.8±0.6, 60.˙56S±0.˙08×42.˙6W±0.˙1, h10km, n33, σ1§40/29, mb4.4/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.10**	**30**	Pn	**Pn**	**13 52 54.5**	**-0.1**
PMSA	**Palmer Station**	**10.70**	**238**	Pn	**Pn**	**13 53 43.7**	**-0.2**
VNA3	baz=78,slow=16,SNR=2.9 **Neumayer Olymp**	**16.89**	**143**	P	**Pn**	**13 55 03.1**	**-3.9**
VNA1	**Neumayer--Stat**	**17.12**	**140**	P	**Pn**	**13 55 08.1**	**-1.5**
VNA2	**Neumayer--Watz**	**17.48**	**141**	P	**Pn**	**13 55 11.4**	**-2.9**
SNAA	baz=292,slow=14 **Sanae**	**19.10**	**142**	P	**P**	**13 55 33.7**	**+0.3**
SNAA	**Sanae**	**19.10**	**142**	P	**P**	**13 55 33.9**	**+0.5**
SNAA	0.2nm,0.3s,baz=287,slow=12,SNR=16 **Sanae**	**19.10**	**142**	P	**P**	**13 55 33.6**	**+0.3**
TRQA	**Tornquist**	**25.63**	**323**	P	**P**	**13 56 40.8**	**+0.6**
TRQA				IAmb	IAmb	13 57 32.5	
PLCA	comp=Z,40nm,1.7s **Paso Flores**	**26.26**	**306**	P	**P**	**13 56 44.6**	**

TAPN	Taplejung	16.63	121	*e*P		Pn	14 00 53.4 -1.4
	10nm,0.6s						
ODAN	Odare	16.73	123	*e*P		Pn	14 00 54.6 -1.4
	8.3nm,0.7s						

NEIC ***17*** *13:57:27.0±1.3, 42°.94N×0°.03×111°.02W±0°.04, h1km±9km*
ANF ***17*** *13:57:26.9±0.3, 43°.00N×111°.03W, ML3.6/9, Error ellipse: s-maj=5.1km s-min=2.6km az=107.0*
BUT ***17*** *13:57:26.6±1.7, 42°.93N±0°.02×111°.12W±0°.05, h1km±7km, ML3.3*
ISCJB ***17*** *13:57:27.2±0.2, 42°.93N±0°.02×111°.00W±0°.04, h10km, Error ellipse: s-maj=4.1km s-min=2.3km az=2.3*
IDC ***17*** *13:57:27.7±0.8, 42°.89N×111°.08W, h0km, mb1 3.6/5, mb1mx3.4/43, mbtmp3.4/5, ML2.7/5, Error ellipse: s-maj=12.3km s-min=5.0km az=172.0*

ISC 17 13:57:27.2±0.7, 42°.96N±0°.02×111°.09W±0°.03, h10km, n82, σ1°52/88, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	Auburn Hatcher	0.20	182	Pg	Pg	13 57 30.5	-1.0
REDW	Red Top Meadow	0.44	23		Pg	13 57 36.0	+0.1
TPAW	Teton Pass	0.54	11		Pg	13 57 37.6	-0.2
SNOW	Snow Mountain	0.56	26		Pg	13 57 38.2	0.0
FXWY	Fox Creek	0.68	4		Pg	13 57 40.0	-0.5
MOOW	Moose Ponds	0.82	18		Pg	13 57 42.6	-0.6
IMW	Indian Meadow	0.94	7		Pg	13 57 44.8	-0.6
BW06	Boulder Array	1.14	99	P	Pg	13 57 47.8	-1.4
	baz=279						
BW06	Boulder Array	1.14	99		Pg	13 57 47.1	-2.1
PD31	Pinedale Array	1.14	99		Pg	13 57 47.3	-1.9
PDAR	Pinedale Array	1.14	99	Pg	Pn	13 57 48.9	-0.7
	15nm,0.3s,baz=269,slow=12,SNR=238						
PDAR				Lg	Lg	13 58 03.7	
	44nm,0.3s,baz=273,slow=16,SNR=22						
PDAR	Pinedale Array	1.14	99		Pg	13 57 47.7	-1.6
FLWY	Flagg Ranch	1.16	14		Pb	13 57 49.0	-0.5
YPP	Pitchstone Pla	1.32	9		Pb	13 57 52.1	-0.3
H17A	Grant Village	1.48	14	P	Pb	13 57 54.9	-0.1
	baz=195						
H17A				S	Sg	13 58 14.8	-0.1
	baz=195						
H17A	Grant Village	1.48	14		Pb	13 57 54.4	-0.6
LKWY	Lake	1.68	17		Pb	13 57 57.6	-0.8
YMR	Madison River	1.71	3		Pb	13 57 58.1	-0.8
HVU	Hansel Valley	1.72	227	Pn	Pn	13 57 57.2	-0.2
YNR	Norris Junctio	1.78	9		Pb	13 57 59.4	-0.7
YNM	Yellowstone No	1.79	9	Pn	Pb	13 57 59.5	-0.7
YHB	Horse Butte	1.79	358		Pb	13 57 59.4	-0.9
YUF	Upper Falls	1.80	13		Pb	13 57 59.7	-0.8
YHH	Holmes Hill	1.83	5		Pn	13 57 59.8	+0.7
TCUT	Toone Canyon	1.86	187		Pb	13 58 00.7	-0.8
QLMT	Earthquake Lak	1.88	353		Pb	13 58 00.9	-1.0
YHL	Hebgen Lake	1.89	358		Pn	13 58 00.7	+0.9
YMP	Mirror Lake Pl	1.90	20		Pn	13 58 00.4	+0.4
SPUT	South Promonto	1.94	212		Pn	13 58 01.0	+0.6
MCMT	McKenzie Canyo	2.26	326		Pb	13 58 07.2	-1.1
CTU	Camp Tracy	2.32	192		Pn	13 58 06.8	+1.1
JLU	Jordanelle	2.37	187		Pn	13 58 07.4	+0.9
BGU	Big Grassy Mou	2.50	216		Pn	13 58 08.6	+0.5
RLMT	Red Lodge	2.53	31	Sb	Sg	13 58 46.5	-1.9
	baz=212						
DLMT	Dillon	2.63	336	Pn	Pn	13 58 10.3	+0.4
BOZ	Bozeman (W)	2.66	352	Pb	Pb	13 58 14.5	-0.6
	baz=172						
BOZ				Sb	Sb	13 58 49.6	+1.7
	baz=172						
MPU	Maple Canyon	2.97	188		Pn	13 58 15.6	+0.9
DUG	Dugway, Tooele	3.05	206	P	Pn	13 58 17.8	+2.1
	baz=24						
DUG				Sb	Sg	13 59 04.2	-1.1
	baz=24						
DUG	Dugway, Tooele	3.05	206		Pn	13 58 15.2	-0.5
NLU	North Lily Min	3.10	194		Pn	13 58 16.6	+0.3
K22A	Casper	3.37	94	P	Pn	13 58 22.6	+2.5
	baz=276						
K22A				Sb	Sb	13 59 07.5	-0.8
	baz=276						
K22A	Casper	3.37	94		Pn	13 58 21.9	+1.7
P17A	Butcher Ranch,	3.50	176		Pn	13 58 22.7	+0.8
O20A	White River Ci	3.54	142	P	Pn	13 58 25.3	+2.8
	baz=323						
O20A				Sb	Sb	13 59 15.4	+2.2
	baz=323						
O20A	White River Ci	3.54	142		Pn	13 58 23.9	+1.4
TMUT	Trail Mountain	3.66	181		Pn	13 58 25.5	+1.3
ELK	Elko	3.81	236	Pn	Pn	13 58 28.3	+2.1
	0.8nm,0.3s,baz=48,slow=12,SNR=20						
ELK				Sn	Sn	13 59 13.8	+2.6
	0.4nm,0.3s,baz=16,slow=20,SNR=2.0						
ELK				Lg	Lg	13 59 24.2	
	2.0nm,0.3s,baz=169,slow=20,SNR=6.5						
ELK	Elko	3.81	236		Pn	13 58 28.1	+1.9
SRU	San Rafael Swe	3.87	173		Pn	13 58 28.8	+1.7
Q16A	Castle Valley	4.04	181		Pn	13 58 29.0	-0.4
N23A	Red Feather La	4.36	117	S	Sn	13 59 28.6	+3.9
	baz=300						
N23A	Red Feather La	4.36	117		Pn	13 58 35.4	+1.6
MSO	Missoula	4.37	333	Sb	Sg	13 59 43.2	-4.2
	baz=152						
MSU	Marysvale	4.52	191		Pn	13 58 37.2	+1.2
PV21	Cone Mtn., Par	4.68	159		Pn	13 58 38.1	-0.1
PV22	Blue Mesa, Par	4.76	158		Pn	13 58 39.0	-0.1
PV14	Lion Creek, Pa	4.85	160		Pn	13 58 40.1	-0.4
PV04	Paradox Valley	4.86	159		Pn	13 58 41.2	+0.6
PV07	Paradox Valley	4.89	157		Pn	13 58 41.1	+0.2
PV20	West Nyswonger	4.89	160		Pn	13 58 41.2	+0.2
PV19	Morning Glory	4.92	160		Pn	13 58 41.2	-0.2
PV16	Nyswonger Mesa	4.93	160		Pn	13 58 42.2	+0.6
PV17	East Wray Mesa	4.95	160	Pn	Pn	13 58 40.7	-1.2
PV11	David Mesa, Pa	4.95	159		Pn	13 58 42.5	+0.6
PV12	Saucer Basin,	4.96	159		Pn	13 58 43.4	+1.4
PV18	Skein Mesa, Pa	5.00	160		Pn	13 58 41.2	-1.3
PV03	Paradox Valley	5.00	159		Pn	13 58 43.1	+0.5
PV02	Paradox Valley	5.08	159		Pn	13 58 44.1	+0.5
LAO	LASA Array	5.08	41	Pn	Pn	13 58 45.7	+2.2
PV13	Radium Mtn., P	5.10	159		Pn	13 58 44.2	+0.2
PV01	Paradox Valley	5.19	157		Pn	13 58 46.4	+1.2
ISCO	Idaho Springs	5.19	126	Pn	Pn	13 58 46.4	+1.1
RSSD	Black Hills	5.26	75	Pn	Pn	13 58 46.5	+0.5
R11A	Troy Canyon, C	5.74	218	P	Pn	13 58 55.6	+3.0
	baz=35						
MVCO	Mesa Verde	6.08	160		Pn	13 58 58.1	+0.7
NEW	Newport	6.78	324	Pn	Pn	13 59 11.4	+4.6
	0.1nm,0.3s,baz=129,slow=13,SNR=2.4						
NEW				Lg	Lg	14 01 01.4	
	0.3nm,0.3s,baz=41,slow=8.9,SNR=6.5						
NVAR	Mina Array Bea	7.11	233	Pn	Pn	13 59 15.0	+3.5
	0.2nm,0.3s,baz=53,slow=13,SNR=16						
NVAR				Lg	Lg	14 01 08.8	
	0.3nm,0.3s,baz=54,slow=28,SNR=4.3						
YERR	Yerington	7.33	240		Pg	13 59 45.2	-2.5
ANMO	Albuquerque	8.78	154	Pn	Pn	13 59 36.5	+2.2
	0.1nm,0.3s,baz=8.2,slow=19,SNR=4.5						
ANMO				Lg	Lg	14 01 56.1	
	0.2nm,0.3s,baz=5.2,slow=7.4,SNR=3.4						
ANMO	Albuquerque	8.78	154		Pn	13 59 35.3	+0.9
ULM	Lac du Bonnet	12.73	50	Pn	Pn	14 00 26.6	-1.7
	0.3nm,0.3s,baz=242,slow=9.7,SNR=3.6						
ULM	Lac du Bonnet	12.73	50		Pn	14 00 26.4	-1.8

IDC ***17*** *14:04:15.8±0.5, 60°.53S×43°.35W, h0km, mb4.5/14, mb1 4.5/16, mb1mx4.4/34, mbtmp4.5/16, ML3.5/2, MS4.3/4, Ms1 4.2/4, ms1mx3.9/21, Error ellipse: s-maj=21.1km s-min=13.9km az=40.0*
ISCJB ***17*** *14:04:16.8±0.3, 60°.46S±0°.06×43°.3W±0°.1, h16km, mb4.6/16, MS4.4/4, Error ellipse: s-maj=10.6km s-min=6.0km az=44.6*
NEIC ***17*** *14:04:18.5±1.8, 60°.44S±0°.09×43°.3W±0°.2, h16km±3km, mb4.9/28*

ISC 17 14:04:18.4±0.3, 60°.47S±0°.07×43°.37W±0°.07, h16km, n104, σ0°92/106, mb4.8/26, MS4.3/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.23	34	Pn	Pn	14 06 01.3	-1.9
PMSA	Palmer Station	10.43	237	Pn	Pn	14 06 45.4	-1.6
	0.4nm,0.3s,baz=92,slow=12,SNR=4.0						
PMSA	Palmer Station	10.43	237		Pn	14 06 47.0	0.0

EFI	East Falkland	12.01	311	Pn	Pn	14 07 09.2	+0.4
GO10	Punta Arenas	16.73	284		P	14 08 13.5	-0.6
GO10				IAmb	IAmb	14 08 39.2	
	comp=Z,202nm,1.4s						
VNA3	Neumayer Olymp	17.20	143	P	Pn	14 08 17.5	-0.1
VNA1	Neumayer--Stat	17.43	140	P	Pn	14 08 20.7	+0.3
VNA2	Neumayer--Watz	17.79	141	P	Pn	14 08 24.6	-0.3
	baz=294,slow=16						
SNAA	Sanae	19.41	142	P	P	14 08 43.7	+0.3
SNAA	Sanae	19.41	142	P	P	14 08 41.7	-1.7
	comp=Z,0.1nm,0.3s,baz=278,slow=10,SNR=15						
SNAA				LR	LR	14 14 32.4	
	comp=Z,766nm,19.9s,baz=334,slow=32						
SNAA	Sanae	19.41	142	P	P	14 08 43.7	+0.3
TRQA	Tornquist	25.33	324	P	P	14 09 45.7	+1.5
TRQA				IAmb	IAmb	14 10 10.4	
	comp=Z,32nm,1.4s						
PLCA	Paso Flores	25.90	307	P	P	14 09 49.5	+0.1
	comp=Z,2.0nm,0.8s,baz=192,slow=5.8,SNR=6.0						
PLCA				LR	LR	14 20 35.9	
	comp=Z,606nm,18.4s,baz=80,slow=38						
PLCA	Paso Flores	25.90	307	P	P	14 09 49.6	+0.2
GO06	Curarrehue	27.25	307	P	P	14 10 02.4	+0.7
QSPA	South Pole Qui	29.77	180	P	P	14 10 23.2	-0.7
	comp=Z,9.0nm,1.1s,baz=186,slow=2.1,SNR=16						
QSPA	South Pole Qui	29.77	180	P	P	14 10 24.2	+0.3
QSPA				IAmb	IAmb	14 10 29.5	
	comp=Z,34nm,1.4s						
PEL	Peldehue	32.65	314	P	P	14 10 49.6	+0.2
ROC1	El Roble	32.92	314	P	P	14 10 52.9	+0.9
CFA	Coronel Fontan	33.23	319	P	P	14 10 55.0	+0.6
	comp=Z,1.8nm,0.6s,baz=164,slow=8.3,SNR=4.9						
CFA				PcP	PcP	14 13 36.8	+0.1
	comp=Z,2.2nm,0.8s,baz=157,slow=5.0,SNR=4.2						
GO04	Tololo Observa	35.40	316	P	P	14 11 13.6	+0.1
CPUP	Villa Florida	35.44	338	PcP	PcP	14 13 42.6	-0.4
	comp=Z,1.8nm,0.8s,baz=206,slow=1.7,SNR=3.9						
GO03	Copiap	37.58	319	P	P	14 11 32.2	+0.2
GO03				IAmb	IAmb	14 11 42.4	
	comp=Z,52nm,1.8s						
GO02	Mina Guanaco	39.64	321	P	P	14 11 49.5	-0.1
GO02				IAmb	IAmb	14 11 53.1	
	comp=Z,13nm,0.8s						
SBA	Scott Base	40.70	189	P	P	14 11 57.6	+0.3
MAW	Mawson	41.47	146	LR	LR	14 29 25.0	
	comp=Z,336nm,19.9s,baz=30,slow=36						
LVC	Limon Verde	41.83	323	P	P	14 12 08.7	+1.0
	comp=Z,2.7nm,0.7s,baz=209,slow=4.5,SNR=3.9						
PB01	IPOC Station P	43.48	323	P	P	14 12 20.4	-0.3
PB01				IAmb	IAmb	14 12 23.4	
	comp=Z,14nm,0.9s						
GO01	Chusmiza	44.70	324	P	P	14 12 30.7	-0.2
GO01				IAmb	IAmb	14 12 48.6	
	comp=Z,34nm,1.9s						
PB11	IPOC Station P	44.74	324	P	P	14 12 31.1	+0.2
PB11				IAmb	IAmb	14 12 56.0	
	comp=Z,20nm,1.3s						
BDFB	Brasilia	44.89	354	P	P	14 12 31.6	-0.5
	comp=Z,5.5nm,0.9s,baz=216,slow=0.7,SNR=6.4						
BDFB	Brasilia	44.89	354	P	P	14 12 32.6	+0.5
BDFB				IAmb	IAmb	14 12 42.3	
	comp=Z,17nm,1.3s						
MNMC	Minye Minye	45.32	324	P	P	14 12 35.6	-0.1
SIV	San Ignacio	46.23	336	P	P	14 12 42.1	-0.5
	comp=Z,2.8nm,0.5s,baz=192,slow=9.2,SNR=16						
SIV				PcP	PcP	14 14 18.7	+0.7
	comp=Z,1.7nm,0.8s,baz=119,slow=2.9,SNR=3.5						
SIV				LR	LR	14 35 16.5	
	comp=Z,361nm,18.2s,baz=142,slow=40						
LPAZ	La Paz	47.61	327	P	P	14 12 53.2	-0.9
	comp=Z,1.6nm,0.6s,baz=187,slow=7.4,SNR=6.3						
LPAZ				PcP	PcP	14 14 26.6	+2.9
	comp=Z,1.6nm,0.7s,baz=177,slow=7.2,SNR=3.7						
LPAZ	La Paz	47.61	327	P	P	14 12 53.4	-0.7
SAML	Samuel	53.51	335	P	P	14 13 37.3	-0.6
SAML				IAmb	IAmb	14 13 40.4	
	comp=Z,11nm,1.2s						
BOSA	Boshof	55.07	87	P	P	14 13 48.7	-0.6
	comp=Z,9.9nm,1.1s,baz=231,slow=11,SNR=5.7						
BOSA	Boshof	55.07	87	P	P	14 13 49.0	-0.3
LBTB	Lobatse	58.22	85	P	P	14 14 11.6	-0.2
	comp=Z,13nm,0.8s,baz=202,slow=7.8,SNR=11						
LBTB	Lobatse	58.22	85	P	P	14 14 11.7	-0.1
TSUM	Tsumeb	59.25	74	P	P	14 14 19.2	+0.2
	comp=Z,6.4nm,0.9s,baz=243,slow=3.0,SNR=4.0						
TSUM	Tsumeb	59.25	74	IAmb	IAmb	14 14 24.8	
	comp=Z,12nm,1.1s						
OTAV	Otavalo	66.31	321	P	P	14 15 05.2	-1.1
OTAV				IAmb	IAmb	14 15 11.2	
	comp=Z,7.7nm,1.0s						
LSZ	Lusaka	67.75	82	P	P	14 15 14.9	-0.3
	comp=Z,6.6nm,0.7s,baz=191,slow=5.6,SNR=9.6						
LSZ	Lusaka	67.75	82	P	P	14 15 15.2	0.0
LSZ				IAmb	IAmb	14 15 20.8	
	comp=Z,17nm,1.1s						
LIC	Lamto	72.98	40	*e*PKP2	P	14 15 48.4	+1.5
	comp=Z,48nm,1.1s						
LIC	Lamto	72.98	40	P	P	14 15 48.4	+1.5
KIC	Kosan Boka	73.20	40	*e*PKP2	P	14 15 49.4	+1.2
	comp=Z,48nm,1.5s						
KIC	Kosan Boka	73.20	40	P	P	14 15 49.4	+1.2
TIC	Toumodi	73.38	40	*e*PKP2	P	14 15 49.7	+0.4
TIC	Toumodi	73.38	40	P	P	14 15 49.7	+0.4
DBIC	Dimbokro	73.45	40	P	P	14 15 49.6	-0.1
DBIC				IAmb	IAmb	14 15 56.2	
	comp=Z,14nm,1.1s						
MBAR	Mbarara	81.68	76	P	P	14 16 37.5	+1.5
	comp=Z,3.0nm,0.2s,baz=232,slow=1.7,SNR=5.5						
TOA0	Torodi Ar. Sit	81.69	44	P	P	14 16 36.6	+0.9
TOA0				IAmb	IAmb	14 16 42.5	
	comp=Z,15nm,1.0s						
TORD	Torodi Ar. Bea	81.69	44	P	P	14 16 36.9	+1.2
	comp=Z,9.1nm,0.8s,baz=205,slow=5.2,SNR=28						
TORD	Torodi Ar. Bea	81.69	44	P	P	14 16 35.0	-0.6
ASAR	Alice Springs	96.14	177	P	P	14 17 46.5	+1.1
	comp=Z,0.9nm,0.8s,baz=183,slow=3.7,SNR=5.1						
BRTR	Keskin Array B	117.84	58	PKP	PKiKP	14 23 04.2	+0.9
	comp=Z,0.7nm,0.8s,baz=160,slow=4.6,SNR=4.1						
GERES	GERESS Array B	118.31	39	PKP	PKiKP	14 23 04.8	+1.0
	comp=Z,0.7nm,0.7s,baz=197,slow=1.4,SNR=4.8						
VYHS	Vyhne	119.67	43	*e*PKP	PKiKP	14 23 10.0	+3.7
AKASG	Malin Array Be	125.18	48	PKP	PKPdf	14 23 15.5	-1.2
	comp=Z,2.4nm,0.7s,baz=244,slow=1.4,SNR=5.8						
AKASG	Malin Array Be	125.18	48	PKPdf	PKPdf	14 23 16.1	-0.7
AKBB	Malin Array Si	125.18	48	PKPdf	PKPdf	14 23 15.9	-0.8
GEYT	Alibeck	127.57	78	PKP	PKPdf	14 23 21.2	-0.7
	comp=Z,1.9nm,0.7s,baz=289,slow=14,SNR=3.4						
CMAR	Chiang Mai Arr	130.20	131	PKP	PKPdf	14 23 26.4	-1.0
	comp=Z,0.4nm,0.6s,baz=264,slow=2.9,SNR=4.8						
FINES	FINESS Array B	132.71	38	PKP	PKPdf	14 23 30.1	-0.6
	comp=Z,3.4nm,0.9s,baz=153,slow=4.7,SNR=4.7						
YKA	Yellowknife Ar	134.06	322	PKP	PKiKP	14 23 34.1	-0.4
	comp=Z,2.2nm,0.6s,baz=139,slow=1.8,SNR=7.7						
YKA	Yellowknife Ar	134.06	322		PKiKP	14 23 35.7	+1.2
ABKAR	Abkulak array	136.97	69		PKiKP	14 23 40.0	-0.9
ABKAR	Abkulak array	136.97	69	PKPpre	PKPpre	14 23 30.9	
ABKAR					PKiKP	14 23 40.0	-0.9
KSH	Kashi	137.59	91	*e*PKP	PKiKP	14 23 43.1	+0.4
AAK	Ala-Archa	139.21	87	PKP	PKPdf	14 23 43.1	-0.5
	comp=Z,1.3nm,0.7s,baz=228,slow=3.7,SNR=4.8						
CD2	Chengdu	143.29	129	PKP	PKPdf	14 23 51.1	-0.1
BCAR	Beaver Creek A	143.74	310		PKPdf	14 23 51.8	+0.8
INK	Inuvik	143.79	321	PKP	PKPdf	14 23 49.9	-1.0
	comp=Z,1.6nm,0.8s,baz=23,slow=2.9,SNR=6.7						
BVAR	Borovoye Array	144.37	72	PKP	PKPab	14 23 50.5	-0.1
	comp=Z,1.5nm,0.7s,baz=270,slow=1.2,SNR=15						
RIDG	Independent Ri	145.27	310		PKPbc	14 23 53.3	-0.2
MAKZ	Makanchi	145.91	88		PKPdf	14 23 54.9	-0.4
MK31	Makanchi Array	146.06	89		PKPdf	14 23 55.5	0.0
MKAR	Makanchi Array	146.06	89	PKPbc	PKPdf	14 23 55.5	0.0
	comp=Z,12nm,1.0s,baz=247,slow=3.5,SNR=33						
MKAR	Makanchi Array	146.06	89		PKPdf	14 23 55.2	-0.3
PRP	Porcupine Dome	146.42	313		PKPbc	14 23 56.5	-0.5
IL31		146.56	311		PKPdf	14 23 56.2	+0.5
ILAR	Eielson Array	146.56	311	PKPbc	PKPdf	14 23 56.4	+0.6
	comp=Z,6.3nm,0.8s,baz=158,slow=2.5,SNR=18						
ILAR	Eielson Array	146.56	311		PKPdf	14 23 56.0	+0.3
WHN	Wuhan	146.59	144	PKPbc	PKiKP	14 24 03.3	+2.1
RND	Reindeer	146.64	308	PKPdf	PKPbc	14 23 57.3	-0.4
KURBB	Kurchatov Arra	146.76	81	PKPbc	PKPbc	14 23 57.7	-0.6
	comp=Z,5.7nm,0.8s,baz=228,slow=3.2,SNR=28						
CCB	Clear Creek Bu	146.85	310		PKPab	14 23 58.9	-0.6
KURK	Kurchatov	146.86	81		PKPbc	14 23 58.0	-0.5
WRH	Wood River Hil	146.87	310	PKPdf	PKPbc	14 23 57.4	-0.8
BMAR	Burnt Mountain	146.98	316	PKPdf	PKPbc	14 23 58.3	-0.2

BPAW	Bear Paw Mtn.	147.81	308	PKPdf	PKPbc	14 23 59.3	-1.5
LZH	Lanzhou	147.86	124	*e*PKPbc	PKPbc	14 24 00.6	-1.4
LZH				pPKP	pPKPbc	14 24 05.4	-0.7
LZH				sPKP		14 24 07.3	
LZH				PKPbc	sPKPab	14 24 10.5	+0.5
LZH				LR	LR		
	comp=N,110nm,18.0s						
LZH				LR	LR		
	comp=E,130nm,17.7s						
LZH				LR	LR		
	comp=Z,170nm,20.2s						
XAN	Xi'an	148.02	133	PKPbc	PKPab	14 24 05.3	+0.2
XAN				sPKP		14 25 27.1	
MLY	Manley	148.14	310	PKPdf	PKPbc	14 24 00.3	-1.4
GTA	Gaotai	148.93	116	PKPbc	PKPbc	14 24 04.1	-0.6
TOLK	Toolik Lake Re	149.19	317		PKPbc	14 24 04.1	-0.2
IMAR	Indian Mountai	149.68	311		PKPbc	14 24 05.1	-0.4
ZALV	Zalesovo Beam	151.85	80	PKPbc	PKPbc	14 24 09.3	-1.6
	comp=Z,2.2nm,0.6s,baz=270,slow=3.0,SNR=6.7						
ZALV	Zalesovo Beam	151.85	80	PKPdf	PKPdf	14 24 05.3	+0.8
SONM	Songino Array	158.48	112	PKPab	PKPab	14 24 48.9	0.0
	comp=Z,1.9nm,0.9s,baz=230,slow=4.4,SNR=7.9						
SONM	Songino Array	158.48	112		PKPab	14 24 48.2	-0.7

ISK ***17*** *14:05:37.4, 39°.67N×28°.95E, h5km, ML3.3/42*
DDA ***17*** *14:05:37.7, 39°.67N×28°.94E, h6km±3km, ML3.5*

ISC 17 14:05:38.6±1.1, 39°.68N±0°.02×28°.95E±0°.02, h1km±11km, n90, σ0°64/108, 11C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	Dursunbey	0.38	258	*i* P	Pg	14 05 45.6	-0.2
DURS				*i* S	Sg	14 05 50.9	+0.2
DURS				IAML_P			
	comp=Z,18μm,0.1s						
ULDT	Uludag	0.48	17	*i* P	Pg	14 05 47.6	-0.3
ULDT				*i* S	Sg	14 05 53.3	-0.9
ULDT				IAML_P			
	comp=Z,19μm,0.2s						
SIMA	Simav-Kutahya	0.60	178	PG	Pg	14 05 49.9	-0.1
SIMA				SG	Sg	14 05 58.2	+0.5
IGD	Bursa	0.61	18	*i* P	Pg	14 05 50.5	+0.1
IGD				*i* S	Sg	14 05 56.1	-2.3
IGD				IAML_P			
	comp=Z,15μm,0.2s						
DEMI	Demirci	0.66	196	*i* P	Pg	14 05 51.7	+0.4
DEMI				*i* S	Sg	14 06 00.1	+0.3
DEMI				IAML_P			
	comp=Z,7μm,0.2s						
SHAP	Saphane-Kutahy	0.69	162	PG	Pg	14 05 51.7	-0.1
MDNY	Mudanya-Bursa	0.69	356	PG	Pg	14 05 51.5	-0.3
GDZ	Gediz	0.72	145	*i* P	Pg	14 05 52.5	+0.1
GDZ				*i* S	Sg	14 06 00.3	-1.4
GDZ				IAML_P			
	comp=Z,5μm,0.1s						
GEDZ	Gediz	0.73	151	PG	Pg	14 05 52.8	+0.3
KCTX	Karacabey (Bur	0.74	322	PG	Pg	14 05 52.5	-0.3
IZI	Iznik	0.77	31	PG	Pg	14 05 53.9	+0.5
GEMT	Gemlik	0.78	14	PG	Pg	14 05 53.8	+0.3
BALB	Balikesir	0.83	268	PG	Pg	14 05 54.8	+0.4
ARMT	Armutlu	0.89	356	PG	Pg	14 05 54.9	-0.7
YLV	Yalova	0.94	20	⇑P	Pg	14 05 56.2	-0.5
YLV				⇑S	Sb	14 06 11.7	+0.9
YLV				AML	AML	14 06 14.4	
YLV	Yalova	0.94	20	PG	Pg	14 05 56.8	+0.1
USAK	Uak-Merkez	0.96	177	*i* P	Pg	14 05 56.8	-0.3
USAK				IAML_P			
	comp=Z,9μm,0.2s						
ADVT	Abdulvahap	0.97	39	PG	Pg	14 05 57.5	+0.4
STEP	BALIKESIR_Sava	1.00	253	*i* P	Pg	14 05 57.9	+0.1
STEP				*i* S	Sg	14 06 10.8	+0.1
STEP				IAML_P			
	comp=Z,784nm,0.1s						
BALY	Balya	1.03	274	*i* P	Pg	14 05 58.5	+0.2
BALY				*i* S	Sg	14 06 11.8	+0.1
BALY				IAML_P			
	comp=Z,7μm,0.3s						
GONE	Gonen-Balikesi	1.04	291	PG	Pg	14 05 57.9	-0.6
EDC	Edincik	1.07	309	PG	Pg	14 05 59.4	+0.3
BORA	Eskisehir	1.18	80	*i* P	Pg	14 06 00.9	-0.3
BOR

UKOP	**Uzunkopru-Edir**	**2.29 310**	PN	**Pn**	**14 06 17.8**	**+0.4**
DGB	**zmir**	**2.29 225**	*i* P	**Pg**	**14 06 22.9**	**+0.4**
KIBS	**BOLU**	**2.35 71**	*i* P	**Pb**	**14 06 22.5**	**+0.8**
KIRK	**Kırklareli**	**2.53 327**	*i* P	**Pn**	**14 06 19.7**	**-1.1**
ALN	**Alexandroupoli**	**2.53 300**	PN	**Pn**	**14 06 21.3**	**+0.5**
BCAM	**Yenicaga**	**2.64 64**	*i* P	**Pb**	**14 06 28.3**	**+1.5**
EDRB	**Edirne**	**2.74 323**	PN	**Pn**	**14 06 24.3**	**+0.7**
ELND	**Elena**	**3.99 325**	⇑P	**Pn**	**14 06 39.7**	**-1.1**
ELND			AML	AML	14 08 02.7	
TIRR	**Tirgusor**	**4.79 355**	⇑P	**Pn**	**14 06 50.7**	**-1.1**
VOIR		**6.43 335**	⇑P	**Pn**	**14 07 13.8**	**-0.7**

*LDG **17** 14:06:34.7±0.1, 42°.26N×13°.41E, h10km, Ml2.5/8, Error ellipse: s-maj=2.7km s-min=2.2km az=59.0*
*BEO **17** 14:06:41.4±0.9, 40°.80N×14°.85E, h33km, ML3.1/7*
ROM 17 14:06:34.6±0.1, 42°.257N±0°.004×13°.458E±0°.006, h10km, ML2.9/40, Error ellipse: s-maj=0.5km s-min=0.3km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.09**	**85**	P	Pg	14 06 37.8	+0.5
FAGN				S	Sg	14 06 39.8	+0.6
FAGN				AML	AML		
	comp=E,75650μm,0.3s						
FAGN				AML	AML		
	comp=N,51650μm,0.7s						
AQU	**L'Aquila**	**0.10**	**337**	P	Pg	14 06 37.9	+0.5
AQU				S	Sg	14 06 39.9	+0.4
AQU				AML	AML		
	comp=N,15550μm,0.6s						
AQU				AML	AML		
	comp=E,21750μm,1.0s						
AQU				AML	AML		
	comp=E,21300μm,0.2s						
AQU				AML	AML		
	comp=N,15550μm,0.6s						
AQU				AML	AML		
	comp=N,15550μm,0.7s						
T0104	**Madonna delle**	**0.14**	**319**	P	Pg	14 06 38.4	+0.5
T0104				S	Sg	14 06 40.7	+0.6
T0104				AML	AML		
	comp=E,26550μm,0.3s						
T0104				AML	AML		
	comp=N,25100μm,0.5s						
T0104				AML	AML		
	comp=E,25950μm,0.3s						
T0104				AML	AML		
	comp=N,25150μm,0.5s						
T0104				AML	AML		
	comp=N,22350μm,0.5s						
T0104				AML	AML		
	comp=N,22350μm,0.5s						
T0104				AML	AML		
	comp=E,25950μm,0.3s						
T0104				AML	AML		
	comp=E,26550μm,0.3s						
T0104				AML	AML		
	comp=N,25150μm,0.5s						
PTQR	**Pietraquaria**	**0.24**	**190**	P	Pg	14 06 40.2	+0.7
PTQR				S	Sg	14 06 44.1	+1.2
PTQR				AML	AML		
	comp=E,3325μm,0.3s						
PTQR				AML	AML		
	comp=N,2785μm,0.4s						
FIAM	**Fiamignano**	**0.25**	**273**	P	Pg	14 06 40.3	+0.5
FIAM				S	Sg	14 06 44.6	+1.2
CAMP	**Campotosto**	**0.28**	**353**	P	Pg	14 06 40.4	0.0
CAMP				S	Sb	14 06 45.8	-0.8
CAMP				AML	AML		
	comp=N,3860μm,0.6s						
CAMP				AML	AML		
	comp=E,1980μm,0.3s						
TERO	**Teramo**	**0.38**	**16**	P	Pg	14 06 42.1	-0.1
TERO				S	Sb	14 06 48.4	-1.0
TERO				AML	AML		
	comp=E,3645μm,0.2s						
TERO				AML	AML		
	comp=N,3640μm,0.6s						
TERO				AML	AML		
	comp=N,1520μm,0.6s						
TERO				AML	AML		
	comp=E,1575μm,0.2s						
TERO				AML	AML		
	comp=N,3635μm,0.6s						
SMA1	**SAN MARTINO**	**0.38**	**346**	P	Pg	14 06 42.2	0.0
SMA1				AML	AML		
	comp=E,4540μm,0.3s						
SMA1				AML	AML		
	comp=N,3935μm,0.4s						
INTR	**Introdacqua**	**0.41**	**126**	P	Pg	14 06 42.9	+0.1
INTR				S	Sb	14 06 49.7	-0.6
INTR				AML	AML		
	comp=E,2770μm,1.2s						
INTR				AML	AML		
	comp=N,2565μm,0.4s						
LNSS	**Leonessa**	**0.46**	**318**	P	Pg	14 06 43.8	+0.1
LNSS				AML	AML		
	comp=N,2905μm,0.3s						
LNSS				AML	AML		
	comp=N,2910μm,0.3s						
LNSS				AML	AML		
	comp=E,2255μm,0.4s						
CERT	**Cerreto**	**0.47**	**229**	P	Pg	14 06 43.9	+0.1
CERT				AML	AML		
	comp=E,1295μm,0.5s						
CERT				AML	AML		
	comp=N,980μm,0.4s						
GUAR	**Guarcino**	**0.47**	**193**	P	Pg	14 06 44.1	+0.2
GUAR				AML	AML		
	comp=N,1445μm,0.4s						
GUAR				AML	AML		
	comp=E,1090μm,0.5s						
POFI	**Posta Fibreno**	**0.57**	**161**	P	Pg	14 06 46.1	+0.4
POFI				AML	AML		
	comp=E,562μm,0.4s						
POFI				AML	AML		
	comp=E,562μm,0.4s						
POFI				AML	AML		
	comp=N,438μm,0.5s						
LPEL	**Lama dei Pelig**	**0.58**	**111**	P	Pg	14 06 45.7	-0.2
LPEL				S	Sb	14 06 54.5	-0.6
LPEL				AML	AML		
	comp=N,2025μm,1.0s						
LPEL				AML	AML		
	comp=E,1935μm,1.5s						
MTCE	**Montecelio**	**0.58**	**246**	P	Pg	14 06 45.8	-0.1
MTCE				AML	AML		
	comp=N,684μm,0.5s						
MTCE				AML	AML		
	comp=E,1072μm,1.4s						
MTCE				AML	AML		
	comp=E,1071μm,1.4s						
ARRO	**Arrone**	**0.60**	**302**	P	Pg	14 06 46.1	-0.2
ARRO				AML	AML		
	comp=N,920μm,0.4s						
ARRO				AML	AML		
	comp=E,1060μm,0.4s						
ARRO				AML	AML		
	comp=N,918μm,0.4s						
NRCA	**Norcia**	**0.63**	**336**	P	Pg	14 06 46.4	-0.4
NRCA				AML	AML		
	comp=E,1860μm,1.6s						
NRCA				AML	AML		
	comp=N,1075μm,0.2s						
CAFR	**Castel Frentan**	**0.66**	**92**	P	Pg	14 06 47.8	+0.4
CAFR				AML	AML		
	comp=E,3500μm,0.3s						
CAFR				AML	AML		
	comp=N,2885μm,0.4s						
CAFR				AML	AML		
	comp=E,3495μm,0.3s						
GIUL	**Giuliano Di Ro**	**0.71**	**192**	P	Pg	14 06 48.5	0.0
GIUL				AML	AML		
	comp=E,505μm,0.4s						
GIUL				AML	AML		
	comp=N,569μm,0.7s						
GIUL				AML	AML		
	comp=E,506μm,0.4s						
CESX	**Cesi**	**0.74**	**299**	P	Pg	14 06 49.2	+0.3
CESX				AML	AML		
	comp=E,1280μm,0.7s						
CESX				AML	AML		
	comp=N,934μm,0.7s						
CESX				AML	AML		
	comp=N,933μm,0.7s						
CERA	**Filignano**	**0.78**	**147**	P	Pg	14 06 49.2	-0.5
CERA				AML	AML		
	comp=E,630μm,0.5s						
CERA				AML	AML		
	comp=E,642μm,0.5s						
CERA				AML	AML		
	comp=N,732μm,0.5s						
CERA				AML	AML		
	comp=N,706μm,0.5s						
CESI	**CESI - Serrava**	**0.85**	**332**	P	Pg	14 06 50.5	-0.6
CESI				AML	AML		
	comp=E,252μm,0.4s						
CESI				AML	AML		
	comp=N,392μm,1.0s						
MOMA	**Monte Martano**	**0.85**	**310**	P	Pg	14 06 50.8	-0.3
MOMA				AML	AML		
	comp=E,853μm,0.7s						
MOMA				AML	AML		
	comp=N,898μm,0.3s						
MOMA				AML	AML		
	comp=N,920μm,0.8s						
MOMA				AML	AML		
	comp=E,854μm,0.7s						
MOMA				AML	AML		
	comp=E,926μm,0.7s						
MOMA				AML	AML		
	comp=N,900μm,0.3s						
MIDA	**Miranda**	**0.85**	**136**	P	Pg	14 06 50.5	-0.6
MIDA				AML	AML		
	comp=E,587μm,0.4s						
MIDA				AML	AML		
	comp=N,422μm,0.5s						
GUMA	**Gualdo di Mace**	**0.88**	**23**	P	Pg	14 06 50.1	-1.5
GUMA				AML	AML		
	comp=N,3030μm,0.4s						
GUMA				AML	AML		
	comp=E,2190μm,0.4s						
GUMA				AML	AML		
	comp=E,3255μm,0.4s						
GUMA				AML	AML		
	comp=N,2275μm,1.1s						
GUMA				AML	AML		
	comp=N,3025μm,0.4s						
ASSB	**Assisi San Ben**	**0.98**	**323**	P	Pg	14 06 52.9	-0.6
ASSB				AML	AML		
	comp=E,845μm,0.5s						
ASSB				AML	AML		
	comp=N,718μm,0.3s						
VAGA	**Valle Agricola**	**1.02**	**145**	P	Pg	14 06 53.8	-0.5
VAGA				AML	AML		
	comp=N,374μm,0.5s						
VAGA				AML	AML		
	comp=E,200μm,0.8s						
TOLF	**Tolfa**	**1.10**	**260**	P	Pg	14 06 55.8	0.0
TOLF				AML	AML		
	comp=E,186μm,0.5s						
TOLF				AML	AML		
	comp=N,161μm,0.5s						
EL6	**Elcito**	**1.10**	**346**	P	Pb	14 06 54.6	-1.2
ATCC	**AVT- Casa Cast**	**1.11**	**327**	P	Pb	14 06 55.1	-0.7
ATCC				AML	AML		
	comp=E,684μm,0.6s						
ATCC				AML	AML		
	comp=N,610μm,0.3s						
ATCC				AML	AML		
	comp=E,683μm,0.6s						
CING	**Cingoli**	**1.13**	**350**	P	Pb	14 06 55.5	-0.8
CING				AML	AML		
	comp=N,362μm,0.4s						
CING				AML	AML		
	comp=E,632μm,0.4s						
FOSV	**Fossato di Vic**	**1.16**	**334**	P	Pb	14 06 56.0	-0.7
FOSV				AML	AML		
	comp=E,388μm,0.7s						
FOSV				AML	AML		
	comp=N,528μm,0.5s						
FOSV				AML	AML		
	comp=N,528μm,0.5s						
MURB	**Monte Urbino**	**1.22**	**326**	P	Pn	14 06 57.6	-0.1
MURB				AML	AML		
	comp=E,1520μm,0.4s						
MURB				AML	AML		
	comp=N,746μm,0.9s						
MURB				AML	AML		
	comp=E,1510μm,0.4s						
MURB				AML	AML		
	comp=N,728μm,1.1s						
ATTE	**AVT- Monte Tez**	**1.24**	**319**	P	Pb	14 06 58.3	+0.1
ATTE				AML	AML		
	comp=N,186μm,0.4s						
ATTE				AML	AML		
	comp=E,262μm,0.5s						
SACS	**San Casciano d**	**1.29**	**298**	P	Pg	14 06 59.9	+0.6
SACS				AML	AML		
	comp=E,150μm,0.9s						
SACS				AML	AML		
	comp=N,152μm,1.3s						
MELA	**Melanico ??? S**	**1.36**	**113**	AML	AML		
	comp=E,327μm,0.7s						
MELA				AML	AML		
	comp=N,368μm,0.7s						
MELA				AML	AML		
	comp=E,285μm,0.7s						
MELA				AML	AML		
	comp=N,296μm,0.7s						
ATVO	**AVT- Monte Val**	**1.36**	**326**	P	Pn	14 06 59.9	+0.2
ATVO				AML	AML		
	comp=E,194μm,0.5s						
ATVO				AML	AML		
	comp=N,173μm,0.5s						
ATMI	**Monte Miggiano**	**1.39**	**321**	AML	AML		
	comp=N,519μm,0.5s						
ATMI				AML	AML		
	comp=E,444μm,0.5s						
MPAG	**Monte Paganucc**	**1.46**	**340**	P	Pb	14 07 01.6	-0.4
MPAG				AML	AML		
	comp=E,233μm,0.6s						
MPAG				AML	AML		
	comp=N,215μm,0.7s						
FSSB	**Fossombrone**	**1.52**	**341**	P	Pb	14 07 02.5	-0.4
FSSB				AML	AML		
	comp=E,622μm,0.4s						
FSSB				AML	AML		
	comp=N,610μm,0.3s						
CAFI	**Castiglion Fio**	**1.53**	**315**	P	Pb	14 07 03.1	0.0
CAFI				AML	AML		
	comp=E,81μm,0.4s						
CAFI				AML	AML		
	comp=N,90μm,0.4s						
PARC	**Parchiule**	**1.65**	**328**	AML	AML		
	comp=N,125μm,0.8s						
PARC				AML	AML		
	comp=E,153μm,1.2s						
HVAR	**Hvar**	**2.39**	**66**	*e*Pn	Pn	14 07 14.4	+0.6
BRJN	**Brijuni**	**2.66**	**4**	*e*Pn	Pn	14 07 18.1	+0.7
BRJN				*e*Sn	Sn	14 07 50.0	+0.4
MAKA	**Makarska**	**2.82**	**67**	*e*Pn	Pn	14 07 20.5	+0.9
STON	**Ston**	**3.19**	**77**	*e*Pn	Pn	14 07 25.7	+0.9
STON				*e*Sn	Sn	14 08 01.6	-1.2
STON	**Ston**	**3.19**	**77**	*e*Pn	Pn	14 07 25.9	+1.1
PGF	**Pioggiola**	**3.31**	**277**	*e*P	Pn	14 07 27.6	+1.0
PGF				*e*Sn	Sn	14 08 01.1	-4.9
	comp=E,0.7nm,0.2s						
DBRK	**Dubrovnik**	**3.49**	**82**	*e*Pn	Pn	14 07 30.3	+1.4
MSSA	**Maissana**	**3.54**	**307**	AML	AML		
	comp=N,73μm,1.6s						
MSSA				AML	AML		
	comp=E,83μm,1.6s						
TREB	**Trebinje**	**3.65**	**81**	*e*Pn	Pn	14 07 31.5	+0.5
TREB				*e*Sn	Sn	14 08 06.7	-7.4
OBKA	**Obir**	**4.32**	**10**	*e*Pn	Pn	14 07 42.2	+1.8
	comp=E,1.4nm,0.3s						
MYKA	**Terra Mystica**	**4.37**	**2**	*e*Pn	Pn	14 07 43.1	+2.0
	comp=E,0.6nm,0.2s						
HAPS	**Han Pijesak,Bl**	**4.41**	**64**	*e*Pn	Pb	14 07 47.2	-5.0
ABTA	**Abfaltersbach**	**4.54**	**352**	*e*Pn	Pn	14 07 44.7	+1.3
	comp=E,3.1nm,0.4s,SNR=9.4						
ABTA				*e*Sn	Sn	14 08 39.0	+2.8
	comp=E,3.9nm,0.6s						
SOKA	**Soboth**	**4.56**	**14**	*e*Pn	Pn	14 07 45.7	+2.0
	comp=E,1.5nm,0.5s						
BBLS	**Lazići**	**4.64**	**68**	*e*Pn	Pn	14 07 46.9	+2.1
BBLS				*e*Sn	Sn	14 08 37.2	-1.6
SBF	**Sospel**	**4.70**	**292**	*e*Pn	Pn	14 07 42.9	-2.6
SBF	**Sospel**	**4.70**	**292**	*e*P	Pn	14 07 46.9	+1.4
SBF				*e*Sn	Sn	14 08 34.2	-5.8
	comp=E,3.9nm,0.3s						
IVAS	**Ivanjica**	**5.09**	**73**	*e*Pn	Pn	14 07 51.4	+0.5
IVAS				*e*Sn	Sn	14 08 43.9	-5.8
DIVS	**Divibare**	**5.12**	**67**	*e*Pn	Pn	14 07 53.7	+2.3
DIVS				*e*Sn	Sn	14 08 49.3	-1.2
FETA	**Feichten**	**5.14**	**339**	*e*Pn	Pn	14 07 55.2	+3.5
	comp=E,0.8nm,0.3s						
FRF	**La Foret Royal**	**5.17**	**287**	*e*Pn	Pn	14 07 49.3	-2.7
FRF	**La Foret Royal**	**5.17**	**287**	*e*P	Pn	14 07 53.4	+1.4
FRF				*e*Sn	Sn	14 08 45.2	-6.4
	comp=E,2.0nm,0.3s						
WTTA	**Wattenberg**	**5.17**	**346**	*e*Pn	Pn	14 07 54.5	+2.3
	comp=E,0.7nm,0.2s						
WTTA				Sn	Sn	14 08 55.4	+3.5
	comp=E,1.9nm,0.3s						
SQTA	**Sankt Quirin**	**5.21**	**343**	*e*Pn	Pn	14 07 55.8	+3.1
	comp=E,1.7nm,0.3s						
SQTA				Sn	Sn	14 08 56.6	+3.7
	comp=E,2.0nm,0.4s						
LMR	**La Mourre**	**5.22**	**284**	*e*Pn	Pn	14 07 50.0	-2.7
LMR	**La Mourre**	**5.22**	**284**	*e*P	Pn	14 07 53.8	+1.1
LMR				*e*Sn	Sn	14 08 47.2	-5.8
	comp=E,0.8nm,0.3s						
WATA	**Walderalm**	**5.25**	**346**	*e*Pn	Pn	14 07 55.9	+2.7
	comp=E,0.4nm,0.2s						
WATA				Sn	Sn	14 08 58.0	+4.1
	comp=E,3.0nm,0.3s						
MOTA	**Moosalm**	**5.36**	**343**	*e*Pn	Pn	14 07 55.7	+1.0
	comp=E,0.4nm,0.2s						
MOTA				Sn	Sn	14 09 00.9	+4.4
	comp=E,1.9nm,0.5s						
MBDF	**Montbardon**	**5.45**	**299**	*e*Pn	Pn	14 07 53.3	-2.7
MBDF	**Montbardon**	**5.45**	**299**	*e*P	Pn	14 07 58.2	+2.2
MBDF				*e*Sn	Sn	14 08 52.4	-6.5
	comp=E,0.6nm,0.2s						
GRUS	**Gruza**	**5.56**	**71**	*e*Pn	Pn	14 07 58.2	+0.9
GRUS				*e*Sn	Sn	14 08 57.3	-3.9
RETA	**Reutte**	**5.57**	**341**	*e*Pn	Pn	14 08 01.0	+3.5
	comp=E,0.6nm,0.3s						
MOA	**Molln**	**5.62**	**6**	*e*Pn	Pn	14 08 00.6	+2.4
	comp=E,0.7nm,0.2s						
DAVA	**Damuels**	**5.64**	**334**	Pn	Pn	14 08 02.0	+3.5
	comp=E,0.8nm,0.2s						
LPG	**La Plagne**	**5.83**	**306**	*e*Pn	Pn	14 07 59.1	-2.2
LPG	**La Plagne**	**5.83**	**306**	*e*P	Pn	14 08 03.7	+2.4
LPG				*e*Sn	Sn	14 09 01.5	-6.8
	comp=E,0.7nm,0.4s						
LPL	**La Plagne**	**5.85**	**306**	*e*Pn	Pn	14 07 58.9	-2.6
LPL	**La Plagne**	**5.85**	**306**	*e*P	Pn	14 08 03.9	+2.4
LPL				*e*Sn	Sn	14 09 02.2	-6.5
	comp=E,0.7nm,0.3s						
CONA	**Conrad Observa**	**5.92**	**16**	*e*Pn	Pn	14 08 04.9	+2.6
	comp=E,0.3nm,0.2s						
CONA				Sn	Sn	14 09 11.9	+1.7
	comp=E,0.8nm,0.5s						
SMRF	**Simiane la Rot**	**6.02**	**289**	*e*P	Pn	14 08 05.6	+1.9
ORIF	**Oris-en-Rattie**	**6.11**	**298**	*e*Pn	Pn	14 08 01.3	-3.7
ORIF	**Oris-en-Rattie**	**6.11**	**298**	*e*P	Pn	14 08 06.7	+1.7
BARS	**Barje**	**6.20**	**82**	*e*Pn	Pn	14 08 01.8	-4.3
BARS				*e*Sn	Sn	14 09 02.0	-15
BOVS	**Bovan**	**6.21**	**74**	*e*Pn	Pn	14 08 05.9	-0.3
CABF	**La Chapelle**	**6.84**	**312**	*e*Pn	Pn	14 08 11.4	-3.6
CABF	**La Chapelle**	**6.84**	**312**	*e*P	Pn	14 08 17.1	+2.1
LASF	**Ste Croix**	**7.25**	**288**	*e*P	Pn	14 08 22.4	+1.8
CDF	**Champ du Feu**	**7.54**	**327**	*e*Pn	Pn	14 08 22.4	-2.1
CDF	**Champ du Feu**	**7.54**	**327**	*e*P	Pn	14 08 26.5	+2.0
CDF				*e*Sn	Sn	14 09 42.0	-8.0
	comp=E,1.0nm,0.3s						

*ISCJB **17** 14:08:43.5±0.7, 60°.5S±0°.1×43°.4W±0°.2, h16km, mb4.0/7, Error ellipse: s-maj=17.8km s-min=12.5km az=23.0*
*IDC **17** 14:08:43.1±1.6, 60°.44S×43°.69W, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.9/31, mbtmp4.1/7, Error ellipse: s-maj=61.1km s-min=23.8km az=32.0*
*NEIC **17** 14:08:45.2±1.8, 60°.5S±0°.1×43°.5W±0°.2, h14km±3km, mb4.8/18*
ISC 17 14:08:45.2±0.7, 60°.5S±0°.1×43°.5W±0°.1, h16km, n36, σ0:94/34, mb4.5/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.26**	**34**	Pn	**Pn**	**14 10 28.8**	**-1.6**
PLCA	**Paso Flores**	**25.85**	**308**	P	**P**	**14 14 14.2**	**-1.6**
	1.9nm,0.8s,baz=172,slow=9.6,SNR=4.7						
PLCA	**Paso Flores**	**25.85**	**308**	P	**P**	**14 14 14.7**	**-1.1**
PLCA				IAmb	IAmb	14 15 10.8	
	comp=Z,24nm,1.7s						
GO06	**Curarrehue**	**27.20**	**308**	P	**P**	**14 14 28.2**	**+0.2**
GO05	**Huala**	**31.38**	**311**	P	**P**	**14 15 04.9**	**-0.1**
GO05				IAmb	IAmb	14 15 42.7	
	comp=Z,26nm,1.2s						
ROC1	**El Roble**	**32.87**	**314**	P	**P**	**14 15 18.5**	**+0.1**
GO04	**Tololo Observa**	**35.35**	**317**	P	**P**	**14 15 39.8**	**-0.1**
GO04				IAmb	IAmb	14 16 41.5	
	comp=Z,43nm,1.5s						
GO02	**Mina Guanaco**	**39.60**	**321**	P	**P**	**14 16 17.3**	**+1.3**
SBA	**Scott Base**	**40.69**	**189**	P	**P**	**14 16 23.4**	**-0.7**
LVC	**Limon Verde**	**41.79**	**323**	P	**P**	**14 16 32.8**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=180,slow=13,SNR=2.6						
LVC	**Limon Verde**	**41.79**	**323**	P	**P**	**14 16 32.5**	**-1.7**
LVC				IAmb	IAmb	14 16 58.3	
	comp=Z,33nm,1.9s						
PB01	**IPOC Station P**	**43.44**	**323**	P	**P**	**14 16 46.0**	**-1.2**
PB01				IAmb	IAmb	14 16 49.2	
	comp=Z,12nm,0.7s						
GO01	**Chusmiza**	**44.65**	**324**	P	**P**	**14 16 57.8**	**+0.4**
GO01				IAmb	IAmb	14 16 59.6	
	comp=Z,8.2nm,0.8s						
PB11	**IPOC Station P**	**44.70**	**324**	P	**P**	**14 16 57.5**	**0.0**
PB11				IAmb	IAmb	14 17 33.3	
	comp=Z,28nm,1.5s						
BDFB	**Brasilia**	**44.88**	**354**	P	**P**	**14 16 58.5**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=146,slow=6.5,SNR=4.5						
MNMC	**Minye Minye**	**45.28**	**324**	P	**P**	**14 17 03.9**	**+1.7**
SIV	**San Ignacio**	**46.20**	**336**	P	**P**	**14 17 09.6**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=176,slow=8.6,SNR=9.1						
LPAZ	**La Paz**	**47.57**	**327**	P	**P**	**14 17 20.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=137,slow=8.0,SNR=6.5						
LPAZ	**La Paz**	**47.57**	**327**	P	**P**	**14 17 20.1**	**-0.5**
LPAZ				IAmb	IAmb	14 17 42.7	
	comp=Z,13nm,1.9s						
SAML	**Samuel**	**53.48**	**336**	P	**P**	**14 18 04.8**	**+0.3**
ASCN	**Ascension**	**56.78**	**35**	P	**P**	**14 18 29.8**	**+1.4**
LBTB	**Lobatse**	**58.28**	**85**	P	**P**	**14 18 38.7**	**-0.4**
OTAV	**Otavalo**	**66.27**	**321**	P	**P**	**14 19 34.7**	**+1.8**
OTAV				IAmb	IAmb	14 19 35.6	
	comp=Z,4.9nm,0.8s						
LSZ	**Lusaka**	**67.81**	**82**	P	**P**	**14 19 42.7**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=141,slow=6.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.73**	**44**	P	**P**	**14 21 04.1**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=203,slow=6.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**81.73**	**44**	P	**P**	**14 21 03.7**	**+0.9**
INK	**Inuvik**	**143.75**	**321**	PKhKP	PKPpre	14 28 15.4	
	comp=Z,0.8nm,0.6s,baz=76,slow=2.1,SNR=7.2						
INK	**Inuvik**	**143.75**	**321**	PKPpre	PKPpre	14 28 15.1	
BVAR	**Borovoye Array**	**144.43**	**72**	PKP	**PKPdf**	**14 28 19.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=270,slow=1.3,SNR=2.4						
MKAR	**Makanchi Array**	**146.12**	**89**	PKPbc	**PKPbc**	**14 28 23.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=235,slow=2.6,SNR=5.5						
ILAR	**Eielson Array**	**146.51**	**311**	PKPbc	**PKPab**	**14 28 24.4**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=127,slow=2.7,SNR=14						
ILAR	**Eielson Array**	**146.51**	**311**		**PKPab**	**14 28 24.9**	**-0.2**
KURBB	**Kurchatov Arra**	**146.82**	**81**	PKPbc	**PKPbc**	**14 28 25.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=242,slow=2.9,SNR=5.4						
KURK	**Kurchatov**	**146.93**	**81**	PKPdf	**PKPbc**	**14 28 25.0**	**-0.6**
TOLK	**Toolik Lake Re**	**149.15**	**317**		**PKiKP**	**14 28 31.8**	**-0.5**
IMAR	**Indian Mountai**	**149.62**	**311**		**PKiKP**	**14 28 33.2**	**0.0**

IDC 17 14:10:10.8±2.7, 7°.07S×130°.08E, h129km±35km, mb3.4/2, mb1 3.3/6, mb1mx3.1/52, mbtmp3.7/6, Error ellipse: s-maj=74.4km s-min=20.4km az=89.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.27**	**11**	P	Pn	14 11 41.2	+0.3
	1.2nm,0.3s,baz=213,slow=23,SNR=31						
SIJI				S	Sn	14 12 46.6	-4.9
	1.8nm,0.3s,baz=204,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**11.79**	**201**	P	Pn	14 12 54.1	-0.8
	0.2nm,0.3s,baz=24,slow=7.3,SNR=13						

FITZ S Sn 14 14 56.2 -8.6
0.4nm,0.3s,baz=133,slow=4.8,SNR=4.0
WRA Warramunga Arr 13.45 163 P Pn 14 13 16.1 -0.4
0.4nm,0.3s,baz=355,slow=13,SNR=27
WRA S Sn 14 15 39.0 -6.1
0.6nm,0.3s,baz=333,slow=22,SNR=10.0
ASAR Alice Springs 16.91 168 P Pn 14 14 00.8 +1.1
0.3nm,0.3s,baz=348,slow=9.3,SNR=22
ASAR S Sn 14 17 03.4 -4.9
0.1nm,0.3s,baz=352,slow=25,SNR=4.0
MKAR Makanchi Array 68.33 327 P P 14 20 58.2 +0.1
0.6nm,0.4s,baz=120,slow=7.3,SNR=8.6
KURBB Kurchatov Arra 72.61 328 P P 14 21 23.8 -0.1
0.9nm,0.5s,baz=125,slow=5.2,SNR=5.6

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*IDC **17** 14:14:13.4±1.0,6°.91N×92°.34E,h0km,mb3.5/7,mb1 3.7/9, mb1mx3.5/56,mbtmp3.6/9,ML3.7/2,Error ellipse: s-maj=35.8km s-min=20.0km az=62.0*
ISC 17 14:14:16.6±0.9,7°.0N±0°.1×92°.3E±0°.1,h23km,n13, σ1§24/11,mb3.3/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.53**	**272**	Pn	**Pn**	**14 16 58.8**	**-1.1**
0.5nm,0.3s,baz=115,slow=8.6,SNR=4.3							
PALK				Sn	Sn	14 18 53.1	-15
3.2nm,0.3s,baz=116,slow=2.8,SNR=15							
CMAR	**Chiang Mai Arr**	**13.12**	**29**	Pn	**Pn**	**14 17 19.7**	**-1.9**
0.1nm,0.3s,baz=231,slow=14,SNR=12							
H08S3	**Diego Garcia H**	**24.52**	**234**	T	T	14 45 33.8	
baz=53,slow=76,SNR=29							
H08S2	**Diego Garcia H**	**24.53**	**234**	T	T	14 45 31.5	
baz=53,slow=76,SNR=23							
H08S1	**Diego Carcia H**	**24.54**	**234**	T	T	14 45 36.2	
baz=53,slow=76,SNR=24							
AAK	**Ala-Archa**	**38.85**	**339**	P	**P**	**14 21 42.0**	**+1.8**
0.8nm,0.6s,baz=153,slow=6.8,SNR=2.6							
MKAR	**Makanchi Array**	**40.60**	**349**	P	**P**	**14 21 55.6**	**+1.1**
0.4nm,0.6s,baz=161,slow=9.0,SNR=3.0							
SONM	**Songino Array**	**42.45**	**14**	P	**P**	**14 22 11.4**	**+1.5**
0.3nm,0.5s,baz=207,slow=4.8,SNR=2.9							
KURBB	**Kurchatov Arra**	**45.00**	**348**	P	**P**	**14 22 30.9**	**+0.8**
0.2nm,0.5s,baz=169,slow=7.1,SNR=1.5							
ZALV	**Zalesovo Beam**	**47.23**	**354**	P	**P**	**14 22 47.1**	**-0.5**
0.4nm,0.3s,baz=182,slow=6.6,SNR=1.7							
WRA	**Warramunga Arr**	**49.24**	**124**	P	**P**	**14 23 03.6**	**-0.1**
0.4nm,0.9s,baz=305,slow=8.6,SNR=5.4							
ASAR	**Alice Springs**	**50.76**	**128**	P	**P**	**14 23 15.5**	**+0.2**
0.3nm,0.7s,baz=309,slow=7.7,SNR=4.7							
ASAR				PcP	**PcP**	**14 24 32.0**	**-0.2**
0.3nm,0.8s,baz=295,slow=2.9,SNR=4.5							
CFA	**Coronel Fontan**	**149.49**	**214**	PKPbc	**PKPbc**	**14 34 04.8**	**+0.1**
2.0nm,0.5s,baz=168,slow=5.4,SNR=4.6							

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*IDC **17** 14:14:26.2±1.5,6°.54S×45°.61W,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.5/25,mbtmp3.5/3,Error ellipse: s-maj=75.4km s-min=30.0km az=50.0*
ISC 17 14:14:27.6±1.4,60°.6S±0°.3×45°.9W±0°.4,h10km,n6,σ0§72/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.08**	**141**	P	**P**	**14 19 01.0**	**+0.1**
0.8nm,1.0s,baz=288,slow=19,SNR=2.4							
LPAZ	**La Paz**	**47.07**	**330**	P	**P**	**14 23 00.1**	**0.0**
0.4nm,0.5s,baz=162,slow=6.4,SNR=2.4							
TORD	**Torodi Ar. Bea**	**82.66**	**46**	P	**P**	**14 26 51.2**	**+0.2**
0.8nm,0.9s,baz=207,slow=3.0,SNR=2.8							
BVAR	**Borovoye Array**	**145.59**	**73**	PKPbc	**PKPdf**	**14 34 03.6**	**-1.1**
1.3nm,0.8s,baz=242,slow=3.1,SNR=6.6							
ILAR	**Eielson Array**	**145.71**	**312**	PKPbc	**PKPbc**	**14 34 05.2**	**+0.2**
0.7nm,0.9s,baz=133,slow=3.2,SNR=4.9							
MKAR	**Makanchi Array**	**147.30**	**91**	PKPbc	**PKPdf**	**14 34 08.3**	**+0.4**
0.8nm,0.7s,baz=228,slow=3.3,SNR=6.1							

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*ISCJB **17** 14:18:00.3±1.2,17°.8S±0°.2×178°.6W±0°.2,h600km,mb3.7/5, Error ellipse: s-maj=27.9km s-min=20.1km az=151.2*
*NEIC **17** 14:18:01.7±0.9,17°.8S±0°.2×178°.6W±0°.2,h603km±12km, mb4.4/13*
*IDC **17** 14:18:02.1±6.0,17°.69S×178°.65W,h606km±66km,mb3.1/5, mb1 3.3/6,mb1mx2.9/37,mbtmp4.1/6,Error ellipse: s-maj=109.0km s-min=32.2km az=149.0*
ISC 17 14:18:01.5±1.3,17°.8S±0°.2×178°.6W±0°.2,h600km,n20, σ0§58/22,mb4.2/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**271**	P	**P**	**14 19 22.5**	**+0.6**
DZM	**Mont Dzumac**	**14.69**	**251**	P	**P**	**14 21 06.7**	**-0.3**
0.2nm,0.3s,baz=76,slow=19,SNR=3.3							
QRZ	**Quartz Range**	**24.19**	**197**	P	**P**	**14 22 33.3**	**+0.8**
EIDS	**Eidsvold**	**29.13**	**250**	P	**P**	**14 23 15.6**	**-0.3**
CTA	**Charters Tower**	**33.28**	**260**	P	**P**	**14 23 51.6**	**+0.4**
1.4nm,0.4s,baz=77,slow=8.9,SNR=6.5							
CTAO	**Charters Tower**	**33.28**	**260**	P	**P**	**14 23 51.4**	**+0.1**
CTAO				IAmb	IAmb	14 24 24.6	
comp=Z,11nm,1.1s							
COEN	**Coen**	**36.92**	**270**	P	**P**	**14 24 22.8**	**+1.4**
COEN				IAmb	IAmb	14 24 23.5	
comp=Z,4.3nm,0.7s							
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**14 24 34.4**	**+0.2**
comp=Z,1.6nm,0.8s,baz=90,slow=12,SNR=4.1							
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**14 25 11.6**	**-0.3**
WB2	**Warramunga Arr**	**44.46**	**259**	P	**P**	**14 25 20.6**	**-0.4**
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**14 25 20.8**	**-0.4**
comp=Z,1.4nm,0.4s,baz=95,slow=7.1,SNR=69							
WRA				PcP	**PcP**	**14 26 51.0**	**-0.3**
comp=Z,0.1nm,0.3s,baz=91,slow=3.3,SNR=3.0							
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**14 25 20.5**	**-0.6**
AS31	**Alice Springs**	**44.64**	**254**	P	**P**	**14 25 22.1**	**-0.3**
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**14 25 22.6**	**+0.2**
comp=Z,10.0nm,0.6s,baz=87,slow=8.6,SNR=234							
ASAR				PcP	**PcP**	**14 26 51.4**	**-0.4**
comp=Z,0.3nm,0.6s,baz=95,slow=4.2,SNR=4.1							
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**14 25 21.9**	**-0.6**
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**14 25 52.4**	**+0.1**
MTN				IAmb	IAmb	14 26 36.5	
comp=Z,16nm,1.2s							
FORT	**Forrest**	**49.89**	**245**	P	**P**	**14 26 00.8**	**-0.7**
FORT				IAmb	IAmb	14 26 45.9	
comp=Z,18nm,0.9s							
KNRA	**Kununurra**	**50.31**	**264**	P	**P**	**14 26 04.7**	**0.0**
KNRA				IAmb	IAmb	14 26 27.8	
comp=Z,30nm,1.4s							
PSA00	**Pilbara Seismi**	**57.76**	**255**	P	**P**	**14 26 56.0**	**-0.9**
PSA00				IAmb	IAmb	14 27 26.3	
comp=Z,18nm,1.2s							
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**14 29 07.2**	**-0.1**
comp=Z,0.2nm,0.6s,baz=234,slow=7.7,SNR=3.8							

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*IDC **17** 14:18:19.7±1.0,60°.41S×43°.60W,h0km,mb3.7/3, mb1 3.8/5,mb1mx3.7/24,mbtmp3.8/5,ML3.5/2,Error ellipse: s-maj=35.4km s-min=25.7km az=80.0*
*NEIC **17** 14:18:21.6±2.1,60°.42S±0°.09×43°.4W±0°.2,h14km±4km, mb4.7/18*
ISC 17 14:18:21.8±0.6,60°.37S±0°.08×43°.2W±0°.1,h18km,n29, σ1§20/29,mb4.5/10,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.10**	**34**	Pn	**Pn**	**14 20 02.2**	**-2.3**
PMSA	**Palmer Station**	**10.56**	**236**	Pn	**Pn**	**14 20 50.5**	**-1.4**
1.0nm,0.3s,baz=70,slow=6.6,SNR=6.4							
EFI	**East Falkland**	**12.02**	**310**	Pn	**Pn**	**14 21 14.4**	**+2.4**
SNAA	**Sanae**	**19.43**	**142**	P	**Pn**	**14 22 49.2**	**+1.2**
0.1nm,0.3s,baz=328,slow=8.7,SNR=3.5							
SNAA	**Sanae**	**19.43**	**142**	P	**Pn**	**14 22 49.2**	**+1.2**
PLCA	**Paso Flores**	**25.92**	**307**	P	**P**	**14 23 51.6**	**-1.1**
GO06	**Curarrehue**	**27.27**	**307**	P	**P**	**14 24 04.2**	**-0.7**
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**14 24 27.7**	**-0.1**
1.3nm,1.1s,baz=166,slow=8.3,SNR=1.9							
QSPA	**South Pole Qui**	**29.86**	**180**	P	**P**	**14 24 27.5**	**-0.3**
QSPA				IAmb	IAmb	14 25 20.1	
comp=Z,16nm,1.9s							
GO05	**Huala**	**31.44**	**311**	P	**P**	**14 24 41.0**	**-0.8**
ROC1	**El Roble**	**32.92**	**314**	P	**P**	**14 24 54.8**	**-0.3**
GO04	**Tololo Observa**	**35.39**	**316**	P	**P**	**14 25 15.8**	**-0.7**
GO04				IAmb	IAmb	14 25 52.6	
comp=Z,26nm,1.4s							
GO02	**Mina Guanaco**	**39.63**	**321**	P	**P**	**14 25 51.6**	**-0.9**
GO02				IAmb	IAmb	14 25 54.4	
comp=Z,52nm,1.8s							
SBA	**Scott Base**	**40.80**	**189**	P	**P**	**14 26 01.3**	**0.0**
PB10	**IPOC Station P**	**41.47**	**320**	P	**P**	**14 26 05.8**	**-1.5**
MAW	**Mawson**	**41.50**	**146**	P	**P**	**14 26 06.8**	**-0.3**
MAW				IAmb	IAmb	14 27 10.0	
comp=Z,16nm,1.9s							
LVC	**Limon Verde**	**41.81**	**323**	P	**P**	**14 26 08.2**	**-2.3**
LVC				IAmb	IAmb	14 26 49.8	
comp=Z,12nm,1.2s							
PB01	**IPOC Station P**	**43.46**	**323**	P	**P**	**14 26 24.4**	**+0.7**
GO01	**Chusmiza**	**44.67**	**324**	P	**P**	**14 26 34.6**	**+0.8**
GO01				IAmb	IAmb	14 26 41.7	
comp=Z,34nm,1.6s							
PB11	**IPOC Station P**	**44.72**	**323**	P	**P**	**14 26 34.5**	**+0.6**
PB11				IAmb	IAmb	14 28 02.9	
comp=Z,15nm,1.2s							
MNMC	**Minye Minye**	**45.30**	**324**	P	**P**	**14 26 39.5**	**+0.9**
LPAZ	**La Paz**	**47.58**	**327**	P	**P**	**14 26 56.4**	**-0.5**
comp=Z,1.0nm,0.7s,baz=148,slow=6.5,SNR=5.3							
LPAZ	**La Paz**	**47.58**	**327**	P	**P**	**14 26 57.5**	**+0.6**
LPAZ				IAmb	IAmb	14 27 57.8	
comp=Z,5.9nm,1.5s							
SAML	**Samuel**	**53.46**	**335**	P	**P**	**14 27 41.3**	**+0.7**
SAML				IAmb	IAmb	14 27 42.2	
comp=Z,3.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**81.56**	**44**	P	**P**	**14 30 40.5**	**+2.5**
comp=Z,0.5nm,0.8s,baz=190,slow=4.2,SNR=3.3							
MKAR	**Makanchi Array**	**145.96**	**88**	PKPbc	**PKPbc**	**14 37 58.9**	**-0.3**
comp=Z,0.6nm,0.6s,baz=237,slow=3.0,SNR=5.7							
MKAR	**Makanchi Array**	**145.96**	**88**	PKPdf	**PKPbc**	**14 37 58.7**	**-0.4**
ILAR	**Eielson Array**	**146.57**	**311**	PKPbc	**PKPbc**	**14 38 00.5**	**+0.1**
comp=Z,0.8nm,0.6s,baz=117,slow=2.1,SNR=9.6							
ILAR	**Eielson Array**	**146.57**	**311**	PKPdf	**PKPbc**	**14 38 00.2**	**-0.2**

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*IDC **17** 14:24:05.7±0.6,60°.37S×45°.08W,h0km,mb4.4/14, mb1 4.4/15,mb1mx4.3/24,mbtmp4.3/15,ML2.8/1,MS4.1/1, Ms1 4.3/1,ms1mx3.6/24,Error ellipse: s-maj=20.7km s-min=14.5km az=43.0*
*ISCJB **17** 14:24:06.3±0.3,60°.28S±0°.06×44°.9W±0°.1,h10km, mb4.5/14,MS4.5/2,Error ellipse: s-maj=10.9km s-min=6.1km az=137.5*
*NEIC **17** 14:24:09.3±1.5,60°.34S±0°.09×45°.0W±0°.2,h19km±3km, mb5.0/30*
*BJI **17** 14:24:12.0±0.0,60°.30S×44°.90W,h40km,mB5.3/2, Ms5.1/1,Ms7 5.1/2*
ISC 17 14:24:07.9±0.4,60°.34S±0°.07×44°.94W±0°.08,h10km,n103, σ1§11/96,mb4.7/18,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.60**	**41**		**Pn**	**14 25 57.5**	**-1.0**
PMSA	**Palmer Station**	**9.86**	**235**	Pn	**Pn**	**14 26 28.1**	**-1.4**
0.1nm,0.3s,baz=61,slow=12,SNR=2.2							
EFI	**East Falkland**	**11.35**	**314**	Pn	**Pn**	**14 26 52.7**	**+2.8**
GO10	**Punta Arenas**	**15.94**	**285**	P	**P**	**14 27 56.0**	**+0.3**
GO10				IAmb	IAmb	14 28 25.1	
comp=Z,247nm,1.9s							
VNA3	**Neumayer Olymp**	**17.78**	**142**	P	**P**	**14 28 16.0**	**+0.1**
VNA1	**Neumayer--Stat**	**18.03**	**140**	P	**P**	**14 28 20.3**	**+1.7**
VNA2	**Neumayer--Watz**	**18.39**	**141**	P	**P**	**14 28 23.7**	**+1.1**
baz=290,slow=14							
SNAA	**Sanae**	**20.00**	**142**	P	**Pn**	**14 28 46.0**	**+4.0**
SNAA	**Sanae**	**20.00**	**142**	P	**P**	**14 28 40.4**	**+0.2**
comp=Z,1.5nm,0.7s,baz=290,slow=16,SNR=3.7							
SNAA	**Sanae**	**20.00**	**142**	P	**Pn**	**14 28 42.1**	**+0.2**
TRQA	**Tornquist**	**24.77**	**326**	P	**P**	**14 29 29.8**	**+0.2**
PLCA	**Paso Flores**	**25.21**	**310**	P	**P**	**14 29 33.5**	**-0.1**
comp=Z,3.1nm,0.9s,baz=194,slow=6.6,SNR=6.6							
PLCA	**Paso Flores**	**25.21**	**310**	P	**P**	**14 29 33.6**	**+0.1**
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**14 30 15.0**	**-0.5**
comp=Z,4.6nm,1.0s,baz=178,slow=3.0,SNR=11							
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**14 30 16.0**	**+0.5**
GO05	**Huala**	**30.76**	**313**	P	**P**	**14 30 22.4**	**-0.8**
GO05				IAmb	IAmb	14 31 10.8	
comp=Z,22nm,1.1s							
PEL	**Peldehue**	**32.01**	**317**	P	**P**	**14 30 34.1**	**-0.1**
ROC1	**El Roble**	**32.27**	**316**	P	**P**	**14 30 35.7**	**-1.1**
CFA	**Coronel Fontan**	**32.62**	**321**	P	**P**	**14 30 37.0**	**-2.6**
comp=Z,5.1nm,0.8s,baz=183,slow=5.6,SNR=12							
GO04	**Tololo Observa**	**34.77**	**319**	P	**P**	**14 30 58.1**	**-0.5**
GO04				IAmb	IAmb	14 30 59.3	
comp=Z,25nm,0.9s							
CPUP	**Villa Florida**	**35.05**	**340**	P	**P**	**14 31 01.1**	**+0.5**
GO03	**Copiap**	**36.98**	**321**	P	**P**	**14 31 17.1**	**-0.2**
GO02	**Mina Guanaco**	**39.06**	**323**	P	**P**	**14 31 34.4**	**-0.7**
SBA	**Scott Base**	**40.70**	**190**	P	**P**	**14 31 49.2**	**+1.4**
PB10	**IPOC Station P**	**40.90**	**323**	P	**P**	**14 31 49.0**	**-1.1**
PB10				IAmb	IAmb	14 32 50.3	
comp=Z,49nm,1.3s							
LVC	**Limon Verde**	**41.27**	**325**	P	**P**	**14 31 52.2**	**-1.3**
PB04	**IPOC Station P**	**41.89**	**324**	P	**P**	**14 31 56.9**	**-1.5**
PB01	**IPOC Station P**	**42.92**	**325**	P	**P**	**14 32 06.2**	**-0.5**
GO01	**Chusmiza**	**44.14**	**326**	P	**P**	**14 32 17.2**	**+0.2**
PB11	**IPOC Station P**	**44.18**	**326**	P	**P**	**14 32 17.2**	**+0.3**
BDFB	**Brasilia**	**44.69**	**356**	P	**P**	**14 32 20.5**	**-0.5**
comp=Z,3.6nm,0.7s,baz=108,slow=4.4,SNR=4.3							
BDFB	**Brasilia**	**44.69**	**356**	P	**P**	**14 32 21.3**	**+0.4**
MNMC	**Minye Minye**	**44.76**	**326**	P	**P**	**14 32 22.1**	**+0.3**
SIV	**San Ignacio**	**45.81**	**338**	P	**P**	**14 32 29.2**	**-0.5**
comp=Z,5.1nm,0.7s,baz=169,slow=7.7,SNR=26							
LPAZ	**La Paz**	**47.09**	**329**	P	**P**	**14 32 40.5**	**0.0**
comp=Z,2.3nm,0.7s,baz=178,slow=7.5,SNR=13							
LPAZ				LR	LR	14 53 18.0	
comp=Z,232nm,20.1s,baz=44,slow=37							
LPAZ	**La Paz**	**47.09**	**329**	P	**P**	**14 32 40.2**	**-0.3**
SUR	**Sutherland**	**50.56**	**87**	P	**P**	**14 33 07.2**	**+0.6**
comp=Z,8.3nm,0.7s,baz=191,slow=13,SNR=9.3							
SUR	**Sutherland**	**50.56**	**87**	IAmb	IAmb	14 33 07.2	
comp=Z,142nm,2.0s							
SHEL	**Horse Pasture**	**52.56**	**50**	P	**P**	**14 33 21.6**	**+0.1**
SAML	**Samuel**	**53.07**	**337**	P	**P**	**14 33 24.7**	**-0.5**
BOSA	**Boshof**	**55.84**	**89**	P	**P**	**14 33 44.7**	**-0.7**
comp=Z,6.3nm,0.9s,baz=205,slow=6.0,SNR=7.0							
BOSA	**Boshof**	**55.84**	**89**	P	**P**	**14 33 45.6**	**+0.2**
ASCN	**Ascension**	**57.10**	**37**	P	**P**	**14 33 53.9**	**-0.4**
LBTB	**Lobatse**	**58.99**	**86**	P	**P**	**14 34 06.9**	**-0.7**
comp=Z,5.7nm,0.6s,baz=208,slow=8.5,SNR=14							
LBTB	**Lobatse**	**58.99**	**86**	P	**P**	**14 34 07.7**	**+0.1**
TSUM	**Tsumeb**	**59.97**	**76**	P	**P**	**14 34 14.7**	**+0.3**
comp=Z,1.5nm,0.6s,baz=180,slow=12,SNR=4.9							
TSUM	**Tsumeb**	**59.97**	**76**	IAmb	IAmb	14 34 24.8	
comp=Z,11nm,1.4s							
LIC	**Lamto**	**73.39**	**42**	*e*P	**P**	**14 35 40.5**	**+0.6**
comp=Z,32nm,0.9s							
KIC	**Kosan Boka**	**73.61**	**42**	*e*P	**P**	**14 35 41.8**	**+0.6**
comp=Z,18nm,1.0s							
TIC	**Toumodi**	**73.79**	**42**	*e*P	**P**	**14 35 43.1**	**+0.8**
TOA0	**Torodi Ar. Sit**	**82.15**	**46**	P	**P**	**14 36 29.4**	**+0.8**
TOA0				IAmb	IAmb	14 36 31.0	
comp=Z,11nm,1.0s							
TORD	**Torodi Ar. Bea**	**82.15**	**46**	P	**P**	**14 36 29.2**	**+0.5**
comp=Z,7.9nm,1.0s,baz=211,slow=5.6,SNR=27							
TORD	**Torodi Ar. Bea**	**82.15**	**46**	P	**P**	**14 36 29.1**	**+0.5**
ASAR	**Alice Springs**	**96.30**	**179**	P	**P**	**14 37 34.6**	**-1.9**
comp=Z,0.3nm,1.0s,baz=186,slow=3.7,SNR=4.1							
WRA	**Warramunga Arr**	**100.01**	**179**	P	**Pdif**	**14 37 52.3**	**-1.0**
comp=Z,0.2nm,0.6s,baz=182,slow=7.5,SNR=4.8							
NVAR	**Mina Array Bea**	**115.16**	**304**	PKP	**PKPdf**	**14 42 48.4**	**-0.4**
comp=Z,0.2nm,0.7s,baz=97,slow=3.7,SNR=2.9							
HVU	**Hansel Valley**	**115.82**	**310**		**PKiKP**	**14 42 52.2**	**+2.4**
MODS	**Modra-Piesok**	**119.47**	**43**	*e*PKP	**PKPdf**	**14 42 54.7**	**-1.8**
VYHS	**Vyhne**	**120.10**	**44**	*e*PKP	**PKPdf**	**14 42 56.2**	**-1.5**
BRG	**Berggiesshubel**	**120.55**	**39**	*e*PKP	**PKiKP**	**14 43 00.1**	**+1.6**
comp=Z,2.1nm,1.0s							
CLL	**Collm**	**120.64**	**38**	*e*PKiKP	**PKiKP**	**14 43 00.0**	**+1.3**
AKASG	**Malin Array Be**	**125.68**	**49**	PKP	**PKPdf**	**14 43 06.5**	**-1.7**
comp=Z,0.4nm,0.4s,baz=244,slow=1.7,SNR=5.4							
CMAR	**Chiang Mai Arr**	**130.87**	**132**	PKP	**PKPdf**	**14 43 18.1**	**-1.1**
comp=Z,1.5nm,0.8s,baz=220,slow=3.8,SNR=9.1							
CMAR	**Chiang Mai Arr**	**130.87**	**132**		**PKPdf**	**14 43 17.7**	**-1.5**
FINES	**FINESS Array B**	**133.08**	**38**	PKP	**PKPdf**	**14 43 20.5**	**-1.5**
comp=Z,4.5nm,0.9s,baz=152,slow=6.3,SNR=4.2							
ABKAR	**Akbulak array**	**137.65**	**70**		PKPpre	14 43 18.6	
KKAR	**Karatay Array**	**138.35**	**84**		PKPpre	14 43 22.7	
KSH	**Kashi**	**138.37**	**93**	*e*PKP	**PKiKP**	**14 43 35.6**	**+0.7**
EPYK	**Eagle Plains**	**143.14**	**318**	PKPpre	PKPpre	14 43 35.9	
INK	**Inuvik**	**143.20**	**322**	PKhKP	PKPpre	14 43 35.7	
comp=Z,1.7nm,0.7s,baz=133,slow=4.3,SNR=9.1							
INK	**Inuvik**	**143.20**	**322**		PKPpre	14 43 36.2	
CD2	**Chengdu**	**143.97**	**131**	PKP	**PKPdf**	**14 43 42.6**	**-0.4**
RIDG	**Independent Ri**	**144.59**	**311**		**PKPab**	**14 43 41.7**	**+0.1**
BRVK	**Borovoye**	**145.05**	**72**		**PKPbc**	**14 43 42.8**	**-0.7**
BVAR	**Borovoye Array**	**145.08**	**72**	PKPbc	**PKPbc**	**14 43 43.4**	**-0.2**
comp=Z,10.0nm,0.7s,baz=250,slow=4.4,SNR=47							
GHO	**Glory Hole Cre**	**145.12**	**306**		**PKPbc**	**14 43 43.4**	**-0.2**
DHY	**Denali Highway**	**145.20**	**309**		**PKPbc**	**14 43 44.0**	**0.0**
ENH	**Enshi**	**145.41**	**139**		**PKPbc**	**14 43 44.1**	**-1.4**
IL31		**145.89**	**312**		**PKPdf**	**14 43 44.6**	**-0.5**
ILAR	**Eielson Array**	**145.89**	**312**	PKPbc	**PKPdf**	**14 43 44.9**	**-0.3**
comp=Z,11nm,0.8s,baz=157,slow=3.5,SNR=74							
RND	**Reindeer**	**145.95**	**309**		**PKPdf**	**14 43 45.3**	**-0.1**
CCB	**Clear Creek Bu**	**146.17**	**311**		**PKPdf**	**14 43 45.6**	**0.0**
WRH	**Wood River Hil**	**146.19**	**311**		**PKPdf**	**14 43 45.9**	**+0.3**
COLA	**College**	**146.30**	**311**		**PKPdf**	**14 43 46.4**	**+0.6**
BMAR	**Burnt Mountain**	**146.35**	**317**		**PKPdf**	**14 43 46.6**	**+0.7**
MAKZ	**Makanchi**	**146.69**	**90**		**PKPdf**	**14 43 47.6**	**+0.5**
MK31	**Makanchi Array**	**146.84**	**90**		**PKPdf**	**14 43 47.8**	**+0.4**
MKAR	**Makanchi Array**	**146.84**	**90**	PKPbc	**PKPdf**	**14 43 48.2**	**+0.8**
comp=Z,9.3nm,0.7s,baz=237,slow=2.2,SNR=54							
MKAR	**Makanchi Array**	**146.84**	**90**		**PKPdf**	**14 43 47.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**147.12**	**309**		**PKPdf**	**14 43 48.2**	**+1.0**
WMQ	**Urumqi**	**147.40**	**99**	*e*PKPbc	**PKPbc**	**14 43 49.8**	**-1.2**
MLY	**Manley**	**147.46**	**311**		**PKPbc**	**14 43 49.8**	**-0.7**
KURK	**Kurchatov**	**147.62**	**82**	PKPdf	**PKPbc**	**14 43 50.3**	**-0.9**
COLD	**Coldfoot**	**148.22**	**315**		**PKPbc**	**14 43 53.0**	**+0.6**
TOLK	**Toolik Lake Re**	**148.57**	**317**	PKPdf	**PKPdf**	**14 43 51.3**	**+1.7**
LZH	**Lanzhou**	**148.57**	**126**	*e*PKPbc	**PKPdf**	**14 43 51.3**	**+0.5**
LZH				LR	LR		
comp=Z,120nm,17.8s							
LZH				LR	LR		
comp=Z,130nm,18.1s							
LZH				LR	LR		
comp=Z,170nm,20.0s							
XAN	**Xi'an**	**148.67**	**135**	PKPbc	**PKPdf**	**14 43 51.8**	**+0.9**
IMAR	**Indian Mountai**	**149.00**	**311**		**PKPbc**	**14 43 54.0**	**-0.4**
GTA	**Gaotai**	**149.69**	**118**	*e*PKPbc	**PKPdf**	**14 43 51.8**	**-0.6**
NJ2	**Nanjing**	**149.74**	**152**	*e*PKPbc	**PKPdf**	**14 43 54.0**	**+1.4**
ZALV	**Zalesovo Beam**	**152.60**	**81**	PKPbc	**PKPbc**	**14 44 00.9**	**-2.3**
comp=Z,1.3nm,0.6s,baz=230,slow=3.7,SNR=4.0							
HHC	**Hu-ho-hao-te**	**155.68**	**133**	*e*PKP	**PKPdf**	**14 43 58.1**	**-3.1**
SONM	**Songino Array**	**159.25**	**114**	PKPab	**PKPab**	**14 44 42.1**	**-0.7**
comp=Z,1.2nm,0.6s,baz=223,slow=4.7,SNR=7.8							

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*ISCJB **17** 14:24:47.9±0.3,60°.48S±0°.04×45°.25W±0°.10,h10km, mb4.5/18,Error ellipse: s-maj=7.7km s-min=5.6km az=143.2*
*IDC **17** 14:24:47.4±0.5,60°.49S×45°.25W,h0km,mb4.5/16, mb1 4.6/18,mb1mx4.5/24,mbtmp4.5/18,ML4.0/2,Error ellipse: s-maj=18.9km s-min=13.0km az=52.0*
*NEIC **17** 14:24:50.5±1.7,60°.44S±0°.08×45°.1W±0°.2,h16km±3km, mb4.9/33*
*BJI **17** 14:24:51.4±0.0,59°.92S×44°.38W,h30km,mB5.4/4*
ISC 17 14:24:49.1±0.3,60°.44S±0°.06×45°.03W±0°.07,h10km,n109, σ1§05/104,mb4.8/29,2C-1D,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.70**	**41**		**Pn**	**14 26 40.1**	**-1.1**
PMSA	**Palmer Station**	**9.76**	**235**	Pn	**Pn**	**14 27 09.1**	**-0.2**
1.2nm,0.3s,baz=62,slow=7.8,SNR=4.3							
PMSA				Sn	**Sn**	**14 28 58.4

TOA0	**Torodi Ar. Sit**	**82.25**	**46**	P	**P**	**14 37 11.5**	**+1.1**
TOA0				IAmb	IAmb	14 37 12.2	
	comp=Z,8.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.25**	**46**	P	**P**	**14 37 11.7**	**+1.3**
	comp=Z,5.4nm,0.9s,baz=219,slow=5.0,SNR=9.6						
TORD	**Torodi Ar. Bea**	**82.25**	**46**	P	**P**	**14 37 10.8**	**+0.4**
STKA	**Stephens Creek**	**87.86**	**186**	P	**P**	**14 37 37.0**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=180,slow=4.0,SNR=4.2						
ASAR	**Alice Springs**	**96.19**	**179**	P	**P**	**14 38 15.3**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=176,slow=3.7,SNR=14						
ASAR	**Alice Springs**	**96.19**	**179**	P	**P**	**14 38 14.8**	**-2.5**
WRA	**Warramunga Arr**	**99.90**	**179**	P	**Pdif**	**14 38 31.8**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=182,slow=4.4,SNR=8.8						
NVAR	**Mina Array Bea**	**115.18**	**304**	PKP	**PKPdf**	**14 43 29.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=205,slow=4.1,SNR=3.9						
PDAR	**Pinedale Array**	**115.50**	**313**	PKP	**PKPdf**	**14 43 28.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=140,slow=5.8,SNR=2.0						
BRTR	**Keskin Array B**	**118.53**	**59**	PKP	**PKPdf**	**14 43 34.4**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=190,slow=5.6,SNR=3.2						
GERES	**GERESS Array B**	**118.81**	**40**	PKP	**PKPdf**	**14 43 35.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=357,slow=2.1,SNR=2.9						
AKASG	**Malin Array Be**	**125.78**	**49**	PKP	**PKPdf**	**14 43 47.3**	**-2.3**
	comp=Z,1.7nm,0.6s,baz=245,slow=1.2,SNR=8.3						
AKASG	**Malin Array Be**	**125.78**	**49**		**PKPdf**	**14 43 48.0**	**-1.6**
HRA	**Herat**	**127.59**	**85**		**PKPdf**	**14 43 53.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**130.84**	**132**	PKP	**PKPdf**	**14 43 59.5**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=223,slow=3.7,SNR=8.9						
CMAR	**Chiang Mai Arr**	**130.84**	**132**		**PKPdf**	**14 43 59.3**	**-1.0**
FINES	**FINESS Array B**	**133.19**	**39**	PKP	**PKPdf**	**14 44 02.0**	**-1.4**
	comp=Z,4.1nm,0.7s,baz=202,slow=3.5,SNR=5.8						
GAR	**Garm**	**135.21**	**88**		**PKPdf**	**14 44 08.8**	**+0.6**
ABKAR	**Abkulak array**	**137.73**	**70**		PKPpre	14 44 00.2	
ABKAR	**Abkulak array**	**137.73**	**70**		PKPpre	14 44 00.1	
KSH	**Kashi**	**138.41**	**93**	*e*PKP	**PKPdf**	**14 44 12.3**	**-1.7**
ARCES	**ARCESS Array B**	**139.01**	**30**	PKhKP	PKPpre	14 44 03.6	
	comp=Z,7.2nm,1.0s,baz=222,slow=1.2,SNR=5.6						
AAK	**Ala-Archa**	**140.03**	**88**		**PKPdf**	**14 44 18.1**	**+1.2**
INK	**Inuvik**	**143.26**	**322**	PKhKP	PKPpre	14 44 17.8	
	comp=Z,4.3nm,1.0s,baz=130,slow=1.1,SNR=7.7						
CD2	**Chengdu**	**143.94**	**131**	PKP	**PKPdf**	**14 44 23.9**	**-0.2**
RIDG	**Independent Ri**	**144.62**	**311**		PKPbc	14 44 23.5	+0.3
BRVK	**Borovoye**	**145.12**	**73**		**PKPbc**	**14 44 25.1**	**+0.1**
BVAR	**Borovoye Array**	**145.15**	**73**	PKPbc	**PKPbc**	**14 44 25.3**	**+0.2**
	comp=Z,18nm,0.6s,baz=252,slow=3.7,SNR=26						
ENH	**Enshi**	**145.37**	**139**		**PKPbc**	**14 44 25.3**	**-1.1**
IL31		**145.92**	**312**		**PKPdf**	**14 44 26.4**	**+0.1**
ILAR	**Eielson Array**	**145.92**	**312**	PKPbc	**PKPdf**	**14 44 26.6**	**+0.1**
	comp=Z,12nm,0.8s,baz=118,slow=2.9,SNR=15						
CCB	**Clear Creek Bu**	**146.20**	**311**		**PKPdf**	**14 44 27.4**	**+0.6**
COLA	**College**	**146.33**	**311**		**PKPdf**	**14 44 27.7**	**+0.6**
BMAR	**Burnt Mountain**	**146.40**	**317**		**PKPbc**	**14 44 28.4**	**-0.2**
BWN	**Browne**	**146.60**	**310**		**PKPdf**	**14 44 27.9**	**+0.3**
MAKZ	**Makanchi**	**146.73**	**90**		**PKPdf**	**14 44 29.3**	**+1.0**
MK31	**Makanchi Array**	**146.88**	**90**		**PKPdf**	**14 44 29.9**	**+1.2**
MKAR	**Makanchi Array**	**146.88**	**90**	PKPbc	**PKPbc**	**14 44 30.1**	**-0.4**
	comp=Z,14nm,0.7s,baz=239,slow=3.8,SNR=30						
WHN	**Wuhan**	**147.09**	**146**	PKPbc	**PKPdf**	**14 44 30.8**	**+1.4**
BPAW	**Bear Paw Mtn.**	**147.15**	**309**		**PKPdf**	**14 44 29.8**	**+1.3**
WMQ	**Urumqi**	**147.43**	**99**	*e*PKPbc	**PKPbc**	**14 44 31.5**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,94nm,5.5s						
MLY	**Manley**	**147.49**	**311**	PKPdf	**PKPbc**	**14 44 31.1**	**-0.6**
KURK	**Kurchatov**	**147.67**	**82**		**PKPbc**	**14 44 32.3**	**-0.2**
COLD	**Coldfoot**	**148.26**	**314**		**PKPbc**	**14 44 33.5**	**-0.1**
LZH	**Lanzhou**	**148.55**	**127**	*e*PKPbc	**PKPbc**	**14 44 34.3**	**-1.3**
LZH				pPKP	PKPab	14 44 39.5	+0.4
LZH				sPKP		14 44 41.3	
TOLK	**Toolik Lake Re**	**148.61**	**317**		**PKPbc**	**14 44 34.5**	**-0.1**
XAN	**Xi'an**	**148.62**	**136**	PKPbc	**PKPbc**	**14 44 35.0**	**-0.7**
XAN				pPKP	sPKPab	14 44 45.3	+1.8
NJ2	**Nanjing**	**149.67**	**152**	*e*PKPbc	**PKPdf**	**14 44 35.1**	**+1.5**
GTA	**Gaotai**	**149.67**	**118**	⇑PKPbc	**PKPbc**	**14 44 37.4**	**-0.9**
ZALV	**Zalesovo Beam**	**152.66**	**81**	PKPbc	**PKPbc**	**14 44 43.3**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=255,slow=4.1,SNR=6.7						
HHC	**Hu-ho-hao-te**	**155.65**	**133**	*e*PKP	**PKPdf**	**14 44 40.0**	**-2.3**
SONM	**Songino Array**	**159.24**	**115**	PKPab	**PKPab**	**14 45 24.1**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=236,slow=3.9,SNR=9.0						
SONM	**Songino Array**	**159.24**	**115**		**PKPab**	**14 45 23.8**	**-0.2**

*TIR **17** 14:27:49.8, 42.°04N×20.°66E, h1km, Md2.9/4*
*SKO **17** 14:27:50.4, 42.°10N×20.°64E, h15km, M1.8, ML2.7*
*PDG **17** 14:27:51.9±0.4, 42.°17N×20.°58E, h7km, ML2.7/13, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*BEO **17** 14:27:52.0±0.3, 42.°10N×20.°66E, h8km±2km, ML2.3/17*
*SIK **17** 14:27:52.0, 42.°10N×20.°66E, h8km, M2.3*

ISC 17 14:27:50.9±1.1, 42.°09N±0.°02×20.°62E±0.°02, h6km±9km, n70, σ1°17/114, 17C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.43**	**199**	*i* PG		**Pg**	**14 27 58.8**	**-0.5**
PHP				*i* SG		**Sg**	**14 28 04.6**	**-0.3**
PUK	**Puka**	**0.55**	**265**	*i* PG		**Pg**	**14 28 01.7**	**+0.2**
PUK				*i* SG		**Sb**	**14 28 10.9**	**-0.2**
SKO	**Skopje**	**0.62**	**101**	*e*Pg		**Pg**	**14 28 02.5**	**-0.4**
SKO				*e*Sg		**Sg**	**14 28 11.7**	**+0.8**
SKO	**Skopje**	**0.62**	**101**	*i* Pg		**Pg**	**14 28 02.6**	**-0.2**
SKO				*i* Sg		**Sb**	**14 28 11.8**	**-1.3**
SKO				*e*Lg		Lg	14 28 13.1	
	comp=N,24nm,0.2s							
SKO				*e*Lg		Lg	14 28 13.8	
	comp=E,20nm,0.2s							
PVY	**Plav**	**0.70**	**316**	⇓*i*Pg		**Pg**	**14 28 03.3**	**-1.2**
PVY				*e*Sg		**Sg**	**14 28 13.4**	**-0.3**
TIR	**Tirane**	**0.94**	**218**	*e*Pg		**Pg**	**14 28 09.4**	**+0.5**
TIR	**Tirane**	**0.94**	**218**	*i* PG		**Pg**	**14 28 08.5**	**-0.4**
TIR	**Tirane**	**0.94**	**218**	⇑P		**Pg**	**14 28 08.8**	**-0.1**
TIR				⇓S		**Sg**	**14 28 20.8**	**-0.2**
BEY	**Berane**	**0.95**	**326**	*i* Pg		**Pg**	**14 28 09.5**	**+0.3**
IVA	**Berane**	**0.95**	**326**	⇓*i*Pg		**Pg**	**14 28 08.1**	**-1.1**
IVA				*e*Sg		**Sg**	**14 28 22.0**	**+0.5**
OHR	**Ohrid**	**0.99**	**172**	*i* Pg		**Pg**	**14 28 09.2**	**-0.7**
OHR				*i* Sg		**Sn**	**14 28 24.5**	**-1.3**
OHR				*e*Lg		Lg	14 28 27.1	
	comp=N,139nm,0.6s							
OHR				*e*Lg		Lg	14 28 27.5	
	comp=E,174nm,0.7s							
ULC	**Ulcinj**	**1.03**	**263**	*i* Pg		**Pg**	**14 28 10.4**	**-0.4**
ULC	**Ulcinj**	**1.03**	**263**	⇓*i*Pg		**Pg**	**14 28 10.6**	**-0.2**
ULC				*e*Sg		**Sn**	**14 28 27.5**	**+0.6**
PDG	**Podgorica**	**1.07**	**289**	*e*Pg		**Pg**	**14 28 10.2**	**-1.3**
PDG				*e*Sg		**Sb**	**14 28 26.6**	**+0.5**
PDG	**Podgorica**	**1.07**	**289**	*e*Pn		**Pg**	**14 28 10.7**	**-0.8**
PDG	**Podgorica**	**1.07**	**289**	⇑P		**Pg**	**14 28 11.3**	**-0.2**
PDG				⇑S		**Sn**	**14 28 26.9**	**-0.8**
PDG				AML		AML	14 28 36.0	
TTG	**Podgorica**	**1.07**	**289**	⇑*i*Pg		**Pg**	**14 28 10.7**	**-0.8**
TTG				*e*Sg		**Sn**	**14 28 26.7**	**-1.0**
DRME	**Dracevica, Mon**	**1.07**	**276**	*e*Pn		**Pg**	**14 28 10.5**	**-1.1**
DRME	**Dracevica, Mon**	**1.07**	**276**	⇑*i*Pg		**Pg**	**14 28 10.8**	**-0.8**
DRME				*e*Sg		**Sn**	**14 28 27.9**	**+0.1**
KOME	**Kolasin**	**1.12**	**313**	⇑*i*Pg		**Pb**	**14 28 10.9**	**-1.8**
KOME				*e*Sg		**Sn**	**14 28 28.2**	**-0.8**
BARS	**Barje**	**1.14**	**50**	*e*Pg		**Pb**	**14 28 12.8**	**-0.3**
BARS				*e*Sg		**Sb**	**14 28 27.4**	**-0.8**
BARS	**Barje**	**1.14**	**50**	*e*Pn		**Sb**	**14 28 28.9**	**+0.7**
SELS	**Selova**	**1.19**	**18**	*e*Pg		**Pb**	**14 28 12.7**	**-1.2**
SELS				*e*Sg		**Sb**	**14 28 28.9**	**-0.6**
STIP	**Stip**	**1.23**	**108**	*i* Pg		**Pg**	**14 28 16.1**	**+1.6**
SJES	**Sjenica**	**1.26**	**338**	*e*Pg		**Pn**	**14 28 15.0**	**-0.3**
SJES				*e*Sg		**Sn**	**14 28 33.3**	**+0.6**
BUM	**Brajici-Budva**	**1.30**	**280**	⇑*i*Pg		**Pn**	**14 28 15.4**	**-0.4**
BUM				*e*Sg		**Sg**	**14 28 35.2**	**+2.4**
CEME	**Cevo**	**1.34**	**290**	⇓*i*Pg		**Pn**	**14 28 15.2**	**-1.1**
CEME				*e*Sg		**Sg**	**14 28 36.1**	**+1.9**
NKY	**Niksic**	**1.41**	**301**	⇓*i*Pg		**Pn**	**14 28 16.7**	**-0.5**
NKY				*e*Sg		**Sg**	**14 28 37.5**	**+1.4**
NKME	**Niksic**	**1.41**	**299**	⇑*i*Pg		**Pn**	**14 28 16.7**	**-0.5**
NKME				*e*Sg		**Sg**	**14 28 38.7**	**+2.5**
FNA	**Florina**	**1.42**	**156**	*i* Pn		**Pn**	**14 28 16.9**	**-0.5**
FNA	**Florina**	**1.42**	**156**	*i* PN		**Pn**	**14 28 16.9**	**-0.5**
FNA				*i* SN		**Sg**	**14 28 37.5**	**+0.8**
BOSS	**Bosilegrad**	**1.44**	**73**	*e*Pg		**Pn**	**14 28 17.4**	**-0.2**
IVAS	**Ivanjica**	**1.52**	**347**	*e*Pg		**Pn**	**14 28 18.3**	**-0.5**
IVAS				*e*Sg		**Sg**	**14 28 40.7**	**+0.8**
PLE	**Pljevlja**	**1.54**	**324**	⇓*i*Pg		**Pn**	**14 28 17.9**	**-1.1**
PLE				*e*Sg		**Sg**	**14 28 41.9**	**+1.6**
HCY	**Herceg Novi**	**1.62**	**283**	*e*Pn		**Pg**	**14 28 21.9**	**-0.1**
HCY	**Herceg Novi**	**1.62**	**283**	⇑*i*Pg		**Pb**	**14 28 20.7**	**-0.6**
HCY				*e*Sg		**Sg**	**14 28 44.5**	**+1.5**
VAY	**Valandovo**	**1.65**	**117**	*i* Pn		**Pb**	**14 28 21.3**	**-0.4**
VAY				*i* Sg		**Sg**	**14 28 44.1**	**+0.2**
UPM	**Unac-Piva**	**1.69**	**312**	*e*Pn		**Pb**	**14 28 23.0**	**+0.5**
UPM	**Unac-Piva**	**1.69**	**312**	⇑*i*Pn		**Pb**	**14 28 21.7**	**-0.8**
UPM				*e*Sn		**Sg**	**14 28 45.5**	**+0.4**
BOVS	**Bovan**	**1.73**	**27**	*e*Pn		**Pb**	**14 28 22.2**	**-1.0**
BOVS				*e*Sn		**Sn**	**14 28 43.8**	**-0.3**
BRY	**Bratogost**	**1.74**	**298**	*e*Pn		**Pb**	**14 28 23.0**	**-0.4**
BRY	**Bratogost**	**1.74**	**298**	⇑*i*Pn		**Pb**	**14 28 23.1**	**-0.4**
BRY				*e*Sn		**Sg**	**14 28 47.2**	**+0.3**
GRG	**Griva**	**1.75**	**130**	*i* Pn		**Pb**	**14 28 23.2**	**-0.3**
RUDO	**Rudo**	**1.78**	**329**	*e*Pn		**Pn**	**14 28 22.2**	**-0.1**
TREB	**Trebinje**	**1.80**	**291**	*e*Pn		**Pb**	**14 28 24.1**	**-0.2**
TREB				*e*Sn		**Sb**	**14 28 46.7**	**-0.3**
TREB	**Trebinje**	**1.80**	**291**	*e*Pn		**Pb**	**14 28 24.4**	**+0.1**
GRUS	**Gruza**	**1.80**	**2**	*e*Pn		**Pn**	**14 28 22.9**	**+0.4**
GRUS				*e*Sn		**Sb**	**14 28 46.2**	**-0.9**
DBRK	**Dubrovnik**	**1.92**	**288**	*e*Pn		**Pb**	**14 28 26.6**	**+0.2**
DBRK				Sn		**Sg**	**14 28 54.7**	**+2.0**
BBLS	**Lazići**	**1.99**	**334**	*e*Pn		**Pn**	**14 28 25.2**	**+0.1**
BBLS				*e*Sn		**Sn**	**14 28 50.1**	**-0.3**
BBLS	**Lazići**	**1.99**	**334**	*e*Pn		**Pn**	**14 28 25.3**	**+0.1**
VTS	**Vitosha**	**2.01**	**74**	*e*Pn		**Pn**	**14 28 25.6**	**+0.1**
VTS				*e*Sn		**Sn**	**14 28 50.6**	**-0.4**
VTS	**Vitosha**	**2.01**	**74**	⇑P		**Pb**	**14 28 27.0**	**-0.9**
VTS				⇑S		**Sb**	**14 28 53.5**	**+0.3**
VTS				AML		AML	14 28 56.2	
DIVS	**Divibare**	**2.06**	**347**	*e*Pn		**Pn**	**14 28 25.9**	**-0.3**
DIVS				*e*Sn		**Sn**	**14 28 51.6**	**-0.6**
DIVS	**Divibare**	**2.06**	**347**	*e*Pn		**Pn**	**14 28 25.7**	**-0.5**
ZAGS	**Zajecar**	**2.09**	**34**	*e*Pn		**Pn**	**14 28 27.1**	**+0.6**
ZAGS				*e*Sn		**Sn**	**14 28 51.8**	**-1.0**
TRUS	**Trudelj**	**2.14**	**356**	*e*Pn		**Pn**	**14 28 28.3**	**+1.1**
TRUS				*e*Sn		**Sb**	**14 28 55.4**	**-1.4**
BLKB	**Belogradchik**	**2.15**	**44**	⇑S		**Sb**	**14 28 56.6**	**-0.6**
BLKB				AML		AML	14 29 00.2	
STON	**Ston**	**2.30**	**291**	*e*Pn		**Pb**	**14 28 31.2**	**-1.6**
STON	**Ston**	**2.30**	**291**	*i* Pn		**Pb**	**14 28 31.9**	**-0.9**
STON				Sn		**Sg**	**14 29 04.0**	**-0.7**
STON	**Ston**	**2.30**	**291**	*e*Pn		**Pb**	**14 28 31.8**	**-1.0**
HAPS	**Han Pijesak,Bl**	**2.34**	**329**	*e*Pn		**Pn**	**14 28 30.1**	**0.0**
KUBS	**Kucevo**	**2.44**	**18**	*e*Pn		**Pn**	**14 28 32.4**	**+1.0**
KUBS				*e*Sn		**Sn**	**14 29 02.2**	**+0.6**
TEKS	**Tekeris**	**2.58**	**342**	*e*Pn		**Pb**	**14 28 35.3**	**-2.4**
MDVR	**Moldovita**	**2.80**	**16**	⇓P		**Pn**	**14 28 38.4**	**+2.0**
MDVR				⇑S		**Sb**	**14 29 15.5**	**-0.6**
MAKA	**Makarska**	**2.91**	**295**	*i* Pn		**Pn**	**14 28 40.1**	**+2.2**
HVAR	**Hvar**	**3.27**	**291**	*e*Pn		**Pn**	**14 28 44.5**	**+1.8**
HVAR				Sn		**Sn**	**14 29 24.2**	**+2.4**
BZS	**Buzias**	**3.60**	**11**	⇓P		**Pn**	**14 28 49.7**	**+2.5**
BZS				⇓S		**Sb**	**14 29 34.6**	**-4.2**
BZS				AML		AML	14 29 39.6	
GZR	**Gura Zlata**	**3.65**	**25**	⇑P		**Pn**	**14 28 50.4**	**+2.3**
GZR				⇑S		**Sn**	**14 29 35.1**	**+3.7**
GZR				AML		AML	14 30 11.1	
ZIRJ	**Zirje**	**3.98**	**295**	*e*Pn		**Pn**	**14 28 54.2**	**+1.7**
MORI	**Morici**	**4.02**	**298**	*i* Pn		**Pn**	**14 28 55.7**	**+2.7**

*ISCJB **17** 14:34:08.2±0.3, 60.°45S±0.°05×43.°8W±0.°1, h10km, mb4.4/14, Error ellipse: s-maj=7.6km s-min=6.6km az=141.2*
*IDC **17** 14:34:08.2±0.6, 60.°47S×44.°06W, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.3/13, ML3.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.5/24, Error ellipse: s-maj=25.6km s-min=14.9km az=49.0*
*NEIC **17** 14:34:11.2±2.0, 60.°36S±0.°09×43.°8W±0.°2, h16km±3km, mb4.9/30*

ISC 17 14:34:09.9±0.4, 60.°41S±0.°07×43.°63W±0.°07, h10km, n82, σ1°24/82, mb4.8/23, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.25**	**35**	Pn		**Pn**	**14 35 54.6**	**-1.2**
PMSA	**Palmer Station**	**10.36**	**236**	Pn		**Pn**	**14 36 40.5**	**+2.3**
	0.4nm,0.3s,baz=56,slow=14,SNR=3.6							
PMSA				Sn		**Sn**	**14 38 33.2**	**-1.0**
	0.1nm,0.3s,baz=342,slow=19,SNR=2.0							
PMSA	**Palmer Station**	**10.36**	**236**			**Pn**	**14 36 39.3**	**+1.1**
GO10	**Punta Arenas**	**16.59**	**284**	P		**P**	**14 38 05.1**	**+0.2**
GO10				IAmb		IAmb	14 38 49.3	
	comp=Z,92nm,1.3s							
VNA3	**Neumayer Olymp**	**17.33**	**143**	P		**Pn**	**14 38 09.0**	**-2.5**
VNA1	**Neumayer--Stat**	**17.56**	**140**	P		**Pn**	**14 38 08.6**	**-5.7**
VNA2	**Neumayer--Watz**	**17.92**	**141**	P		**Pn**	**14 38 19.4**	**+0.6**
	baz=296,slow=13							
SNAA	**Sanae**	**19.54**	**142**	P		**P**	**14 38 37.4**	**+0.2**
SNAA	**Sanae**	**19.54**	**142**	P		**P**	**14 38 36.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=319,slow=17,SNR=10							
SNAA				LR		LR	14 44 18.8	
	comp=Z,548nm,20.1s,baz=37,slow=31							
SNAA	**Sanae**	**19.54**	**142**	P		**P**	**14 38 36.0**	**-1.2**
TRQA	**Tornquist**	**25.20**	**324**	P		**P**	**14 39 35.9**	**+0.4**
TRQA				IAmb		IAmb	14 39 42.4	
	comp=Z,30nm,1.6s							
PLCA	**Paso Flores**	**25.76**	**308**	P		**P**	**14 39 39.3**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=167,slow=9.5,SNR=2.3							
PLCA	**Paso Flores**	**25.76**	**308**	P		**P**	**14 39 40.0**	**-0.6**
PLCA				IAmb		IAmb	14 39 57.2	
	comp=Z,36nm,1.9s							
GO06	**Curarrehue**	**27.11**	**308**	P		**P**	**14 39 53.0**	**+0.2**
QSPA	**South Pole Qui**	**29.83**	**180**	P		**P**	**14 40 17.2**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=161,slow=2.5,SNR=16							
QSPA	**South Pole Qui**	**29.83**	**180**	P		**P**	**14 40 18.4**	**+1.6**
QSPA				IAmb		IAmb	14 40 30.7	
	comp=Z,35nm,2.0s							
GO05	**Huala**	**31.29**	**311**	P		**P**	**14 40 28.8**	**-1.0**
PEL	**Peldehue**	**32.52**	**315**	P		**P**	**14 40 39.4**	**-1.2**
PEL				IAmb		IAmb	14 40 40.9	
	comp=Z,21nm,1.0s							
ROC1	**El Roble**	**32.78**	**314**	P		**P**	**14 40 43.9**	**+0.6**
CFA	**Coronel Fontan**	**33.09**	**319**	P		**P**	**14 40 45.3**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=173,slow=8.6,SNR=4.0							
GO04	**Tololo Observa**	**35.26**	**317**	P		**P**	**14 41 02.8**	**-2.0**
GO04				IAmb		IAmb	14 42 21.9	
	comp=Z,29nm,1.4s							
CPUP	**Villa Florida**	**35.34**	**338**	P		**P**	**14 41 05.2**	**0.0**
	comp=Z,1.1nm,0.9s,baz=164,slow=12,SNR=2.8							
GO02	**Mina Guanaco**	**39.51**	**321**	P		**P**	**14 41 39.5**	**-1.4**
SBA	**Scott Base**	**40.73**	**189**	P		**P**	**14 41 50.2**	**+0.1**
LVC	**Limon Verde**	**41.71**	**324**	P		**P**	**14 41 58.8**	**-0.3**
PB04	**IPOC Station P**	**42.34**	**322**	P		**P**	**14 42 03.4**	**-0.7**
PB01	**IPOC Station P**	**43.35**	**324**	P		**P**	**14 42 11.8**	**-0.4**
PB01				IAmb		IAmb	14 42 13.1	
	comp=Z,13nm,0.7s							
GO01	**Chusmiza**	**44.57**	**325**	P		**P**	**14 42 21.3**	**-1.1**
PB11	**IPOC Station P**	**44.62**	**324**	P		**P**	**14 42 22.5**	**+0.1**
PB11				IAmb		IAmb	14 42 36.4	
	comp=Z,20nm,1.1s							
BDFB	**Brasilia**	**44.82**	**354**	P		**P**	**14 42 23.0**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=31,slow=1.3,SNR=5.0							
BDFB	**Brasilia**	**44.82**	**354**	P		**P**	**14 42 24.3**	**+0.4**
BDFB				IAmb		IAmb	14 42 44.5	
	comp=Z,45nm,1.7s							
MNMC	**Minye Minye**	**45.20**	**324**	P		**P**	**14 42 27.3**	**+0.2**
SIV	**San Ignacio**	**46.12**	**336**	P		**P**	**14 42 33.3**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=191,slow=8.0,SNR=13							
LPAZ	**La Paz**	**47.49**	**327**	P		**P**	**14 42 45.1**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=118,slow=7.1,SNR=6.1							
LPAZ	**La Paz**	**47.49**	**327**	P		**P**	**14 42 44.2**	**-1.4**
LPAZ				IAmb		IAmb	14 42 51.5	
	comp=Z,14nm,1.8s							
SUR	**Sutherland**	**49.92**	**86**	P		**P**	**14 43 05.8**	**+2.1**
	comp=Z,7.9nm,0.8s,baz=204,slow=11,SNR=7.0							
SUR	**Sutherland**	**49.92**	**86**	P		**P**	**14 43 06.0**	**+2.3**
CASY	**Casey**	**52.18**	**167**	P		**P**	**14 43 20.8**	**+0.8**
SAML	**Samuel**	**53.40**	**336**	P		**P**	**14 43 29.4**	**-0.1**
RCBR	**Riachuelo**	**54.77**	**9**	P		**P**	**14 43 39.6**	**0.0**
BOSA	**Boshof**	**55.20**	**87**	P		**P**	**14 43 44.0**	**+1.2**
	comp=Z,6.3nm,0.8s,baz=201,slow=6.9,SNR=8.6							
BOSA	**Boshof**	**55.20**	**87**	P		**P**	**14 43 45.0**	**+0.7**
LBTB	**Lobatse**	**58.35**	**85**	P		**P**	**14 44 06.4**	**+1.3**
	comp=Z,7.5nm,0.8s,baz=206,slow=6.7,SNR=10							
LBTB	**Lobatse**	**58.35**	**85**	P		**P**	**14 44 05.9**	**+0.7**
LBTB				IAmb		IAmb	14 44 07.2	
	comp=Z,14nm,0.9s							
TSUM	**Tsumeb**	**59.36**	**74**	P		**P**	**14 44 11.8**	**-0.4**
TSUM				IAmb		IAmb	14 44 57.7	
	comp=Z,16nm,1.7s							
OTAV	**Otavalo**	**66.18**	**321**	P		**P**	**14 44 58.5**	**+0.4**
OTAV				IAmb		IAmb	14 45 04.5	
	comp=Z,6.6nm,1.0s							
LIC	**Lamto**	**73.02**	**40**	*e*P		**P**	**14 45 40.9**	**+1.2**
	comp=Z,38nm,0.8s							
LIC	**Lamto**	**73.02**	**40**	P		**P**	**14 45 40.9**	**+1.2**
KIC	**Kosan Boka**	**73.24**	**41**	*e*P		**P**	**14 45 42.3**	**+1.3**
	comp=Z,42nm,1.4s							
KIC	**Kosan Boka**	**73.24**	**41**	P		**P**	**14 45 42.3**	**+1.3**
TIC	**Toumodi**	**73.41**	**40**	*e*P		**P**	**14 45 43.4**	**+1.4**
TIC	**Toumodi**	**73.41**	**40**	P		**P**	**14 45 43.4**	**+1.4**
DBIC	**Dimbokro**	**73.49**	**40**	P		**P**	**14 45 44.4**	**+1.9**
DBIC				IAmb		IAmb	14 45 45.3	
	comp=Z,12nm,0.9s							
TOA0	**Torodi Ar. Sit**	**81.74**	**44**	P		**P**	**14 46 30.2**	**+1.8**
TOA0				IAmb		IAmb	14 46 31.6	
	comp=Z,13nm,0.9s							
TORD	**Torodi Ar. Bea**	**81.74**	**44**	P		**P**	**14 46 30.2**	**+1.8**
	comp=Z,11nm,0.9s,baz=208,slow=5.8,SNR=37							
TORD	**Torodi Ar. Bea**	**81.74**	**44**	P		**P**	**14 46 30.4**	**+1.9**
ASAR	**Alice Springs**	**96.21**	**178**	P		**P**	**14 47 36.5**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=177,slow=4.5,SNR=5.2							
AKASG	**Malin Array Be**	**125.24**	**48**	PKP	**PKPdf**	**14 53 08.3**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=233,slow=2.2,SNR=4.0							
AKASG	**Malin Array Be**	**125.24**	**48**		**PKPdf**	**14 53 08.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**130.34**	**131**	PKP	**PKPdf**	**14 53 20.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=222,slow=3.6,SNR=5.5							
CMAR	**Chiang Mai Arr**	**130.34**

TORD	**Torodi Ar. Bea**	**81.82**	**44**	P	**P**	**14 58 21.7**	**+0.1**
MKAR	**Makanchi Array**	**146.20**	**89**	PKPbc	**PKPbc**	**15 05 41.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=250,slow=4.5,SNR=4.7						
ILAR	**Eielson Array**	**146.48**	**311**	PKPbc	**PKPbc**	**15 05 42.5**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=116,slow=2.4,SNR=5.9						
ILAR	**Eielson Array**	**146.48**	**311**	PKPdf	**PKPbc**	**15 05 42.3**	**0.0**
IMAR	**Indian Mountai**	**149.60**	**311**		**PKiKP**	**15 05 51.2**	**-0.4**

*ISCJB **17** 14:51:16.8±1.1,5°.0N±0°.1×94°.09E±0°.09,h35km,mb3.9/5, Error ellipse: s-maj=20.8km s-min=9.5km az=27.7*
*NEIC **17** 14:51:24.5±0.6,5°.42N±0°.09×94°.5E±0°.2,h70km±11km, mb4.4/5*
*IDC **17** 14:51:34.0±17.0,5°.57N×94°.69E,h152km±115km,mb3.5/5, mb1 3.6/6,mb1mx3.2/66,mbtmp3.9/6,ML4.3/1,Error ellipse: s-maj=147.5km s-min=79.8km az=160.0*
ISC 17 14:51:19.8±1.3,5°.1N±0°.1×94°.1E±0°.1,h35km,n25,
σ1§44/21,mb4.2/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.96**	**354**	*e*P	Pn	14 51 44.2	-6.3
CMBY				*e*S	**Sn**	**14 52 16.9**	**+3.0**
LHMI	**Lhok Sumawe**	**2.80**	**86**	Pn	**Pn**	**14 52 02.1**	**-0.1**
RPSI	**Rantau Prapat**	**5.32**	**116**	Pn	**Pn**	**14 52 39.4**	**+2.6**
KULM	**Kulim**	**6.49**	**88**	Pn	**Pn**	**14 52 52.3**	**-0.5**
IPM	**Ipoh**	**6.88**	**94**	Pn	**Pn**	**14 52 58.0**	**-0.3**
PBKT	**Sadao Pong**	**13.26**	**30**	Pn	**Pn**	**14 54 26.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**14.12**	**19**	P	**Pn**	**14 54 39.3**	**+1.8**
	0.5nm,0.3s,baz=206,slow=14,SNR=12						
H08S2	**Diego Garcia H**	**25.01**	**240**	T	T	15 23 55.5	
	baz=60						
H08S3	**Diego Garcia H**	**25.01**	**240**	T	T	15 24 01.6	
	baz=60,slow=74						
H08S1	**Diego Garcia H**	**25.03**	**240**	T	T	15 23 58.3	
	baz=60,slow=74						
MK31	**Makanchi Array**	**42.83**	**348**	P	**P**	**14 59 13.5**	**-0.9**
MKAR	**Makanchi Array**	**42.83**	**348**	P	**P**	**14 59 13.7**	**-0.7**
	2.4nm,0.6s,baz=167,slow=7.7,SNR=18						
MKAR	**Makanchi Array**	**42.83**	**348**	P	**P**	**14 59 13.1**	**-1.3**
MAKZ	**Makanchi**	**42.90**	**348**	P	**P**	**14 59 14.1**	**-0.9**
MAKZ				IAmb	IAmb	14 59 15.1	
	comp=Z,12nm,1.4s						
KK31	**Karatay Array**	**43.28**	**335**	P	**P**	**14 59 18.0**	**-0.2**
KKAR	**Karatay Array**	**43.28**	**335**	P	**P**	**14 59 17.8**	**-0.3**
SONM	**Songino Array**	**43.90**	**12**	P	**P**	**14 59 20.6**	**-2.6**
	comp=Z,0.4nm,0.4s,baz=196,slow=9.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**47.27**	**347**	P	**P**	**14 59 49.3**	**-0.3**
	comp=Z,0.6nm,0.2s,baz=170,slow=5.7,SNR=5.1						
KURK	**Kurchatov**	**47.33**	**347**	P	**P**	**14 59 49.3**	**-0.8**
KURK	**Kurchatov**	**47.33**	**347**	IAmb	IAmb	14 59 57.5	
	comp=Z,16nm,1.9s						
ZAA0	**Zalesovo Array**	**49.33**	**353**	P	**P**	**15 00 04.3**	**-1.2**
ZAA0				IAmb	IAmb	15 00 05.2	
	comp=Z,3.1nm,1.1s						
ZALV	**Zalesovo Beam**	**49.33**	**353**	P	**P**	**15 00 04.0**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=178,slow=7.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**49.33**	**353**	P	**P**	**15 00 04.2**	**-1.3**
ABKAR	**Akbulak array**	**52.70**	**332**	P	**P**	**15 00 30.7**	**-0.2**
GERES	**GERESS Array B**	**79.92**	**319**	P	**P**	**15 03 26.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=79,slow=6.2,SNR=3.8						

*ISCJB **17** 14:51:27.0±0.2,4°.97S±0°.03×144°.60E±0°.03,h82km, mb4.3/22,Error ellipse: s-maj=5.2km s-min=3.7km az=145.4*
*BJI **17** 14:51:26.3±0.0,4°.98S×144°.19E,h63km,mb4.7/16, mB5.1/10,Ms4.9/1,Ms7 4.7/3*
*NEIC **17** 14:51:27.8±2.5,4°.93S±0°.06×144°.67E±0°.06,h79km±4km, mb4.9/48*
*IDC **17** 14:51:27.8±1.5,4°.97S×144°.64E,h75km±14km,mb4.0/18, mb1 4.1/24,mb1mx3.9/55,mbtmp4.4/24,Error ellipse: s-maj=13.2km s-min=9.1km az=58.0*
*DJA **17** 14:51:30.6±0.4,5°.S±4°.×14°.5E±°,h96km±6km,M4.7/15, mB4.7/1,mb4.6/15,MLv4.8/4,Mw(mB)3.9/1*
ISC 17 14:51:28.5±0.4,5°.03S±0°.05×144°.58E±0°.05,h82km,n121,
σ1§41/128,mb4.7/39,1C,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.06**	**43**		**Pn**	**14 52 25.3**	**-3.1**
JAY	**Jayapura**	**4.60**	**303**	P	**Pn**	**14 52 36.5**	**+0.9**
	9.9nm,0.3s,baz=171,slow=11,SNR=21						
JAY				S	**Sn**	**14 53 28.6**	**+0.7**
	3.3nm,0.3s,baz=306,slow=19,SNR=2.8						
JAY	**Jayapura**	**4.60**	**303**	P	**Pn**	**14 52 36.5**	**+0.9**
GENI	**Genyem**	**5.02**	**299**	P	**Pn**	**14 52 42.8**	**+1.4**
PMG	**Port Moresby**	**5.05**	**150**	P	**Pn**	**14 52 41.8**	**0.0**
	11nm,0.3s,baz=13,slow=6.0,SNR=45						
PMG				S	**Sn**	**14 53 38.1**	**-0.7**
	10nm,0.3s,baz=119,slow=19,SNR=3.6						
SMPI	**Sarmi**	**6.59**	**297**	P	**Pn**	**14 53 05.5**	**+2.8**
KRVT	**Keravat (AS076**	**7.46**	**85**	P	**Pn**	**14 53 13.0**	**-1.6**
	3.1nm,0.3s,baz=214,slow=5.3,SNR=4.5						
SRPI	**Serui, Papua**	**8.89**	**290**	S	**Sn**	**14 55 09.6**	**-3.2**
COEN	**Coen**	**8.98**	**189**		**Pn**	**14 53 36.6**	**+1.1**
SAUI	**Saumlaki**	**13.52**	**257**	Pn	**Pn**	**14 54 34.9**	**-2.0**
SIJI	**Sorong**	**13.92**	**287**	P	**Pn**	**14 54 42.3**	**+0.1**
	1.2nm,0.3s,baz=252,slow=15,SNR=5.9						
CTA	**Charters Tower**	**15.06**	**174**	P	**P**	**14 54 58.8**	**-1.5**
	1.1nm,0.3s,baz=352,slow=14,SNR=18						
CTAO	**Charters Tower**	**15.06**	**174**	P	**P**	**14 55 01.6**	**+1.3**
MTN	**Manton Dam**	**15.38**	**239**		**Pn**	**14 54 59.5**	**-1.4**
HNR	**Honiara**	**15.86**	**107**	P	**Pn**	**14 55 06.3**	**-0.7**
	18nm,0.3s,baz=204,slow=11,SNR=5.7						
HNR	**Honiara**	**15.86**	**107**		**Pn**	**14 55 05.8**	**-1.3**
HNR				IAmb	IAmb	14 55 18.3	
	comp=Z,89nm,1.4s						
WRAB	**Tennant Creek**	**17.85**	**213**	P	**Pn**	**14 55 31.6**	**0.0**
WRAB				IAmb	IAmb	14 55 34.4	
	comp=Z,58nm,0.7s						
WB2	**Warramunga Arr**	**17.86**	**213**	P	**Pn**	**14 55 31.7**	**+0.1**
WRA	**Warramunga Arr**	**17.87**	**213**	P	**Pn**	**14 55 31.9**	**+0.1**
	comp=Z,7.0nm,0.3s,baz=31,slow=11,SNR=157						
WRA				S	**Sn**	**14 58 44.3**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=38,slow=21,SNR=3.0						
WRA	**Warramunga Arr**	**17.87**	**213**	P	**P**	**14 55 30.5**	**-0.8**
SANI	**Sanana**	**18.79**	**278**	P	Pn	14 55 52.8	+10
KNRA	**Kununurra**	**18.80**	**235**	P	**P**	**14 55 41.0**	**-0.6**
KNRA					**Pn**	**14 55 43.2**	**+0.3**
KNRA				IAmb	IAmb	14 55 50.1	
	comp=Z,58nm,1.2s						
SOEI	**Soe**	**20.68**	**256**	P	**P**	**14 56 03.7**	**+1.5**
SOEI	**Soe**	**20.68**	**256**	P	**P**	**14 56 02.9**	**+0.7**
SOEI				IAmb	IAmb	14 56 20.1	
	comp=Z,75nm,1.0s						
EIDS	**Eidsvold**	**21.17**	**164**	P	**P**	**14 56 10.1**	**+2.9**
EIDS				IAmb	IAmb	14 56 11.1	
	comp=Z,78nm,1.9s						
AS31	**Alice Springs**	**21.20**	**208**	P	**P**	**14 56 08.4**	**+0.8**
ASAR	**Alice Springs**	**21.20**	**208**	P	**P**	**14 56 08.4**	**+0.9**
	comp=Z,12nm,0.6s,baz=32,slow=10,SNR=279						
ASAR				S	**S**	**14 59 57.5**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=32,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**21.20**	**208**	P	**P**	**14 56 08.0**	**+0.4**
BATI	**Baumata**	**21.35**	**255**	P	**P**	**14 56 11.1**	**+1.8**
	comp=Z,32nm,0.6s,baz=135,slow=3.5,SNR=8.0						
BATI	**Baumata**	**21.35**	**255**	P	**P**	**14 56 10.2**	**+0.9**
MMRI	**Maumere**	**22.47**	**260**	P	**P**	**14 56 21.0**	**-0.2**
MMRI				IAmb	IAmb	14 56 25.1	
	comp=Z,37nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.62**	**233**	P	**P**	**14 56 21.8**	**-0.9**
	comp=Z,5.9nm,0.5s,baz=49,slow=8.6,SNR=23						
FITZ	**Fitzroy Crossi**	**22.62**	**233**	P	**P**	**14 56 22.4**	**-0.3**
APSI	**Ampana**	**23.26**	**279**	P	**P**	**14 56 29.6**	**+0.5**
BNSI	**Bone**	**24.40**	**270**	P	**P**	**14 56 39.5**	**+0.1**
KAPI	**Kappang**	**24.73**	**269**	P	**P**	**14 56 42.6**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=137,slow=10,SNR=3.7						
KAPI	**Kappang**	**24.73**	**269**	P	**P**	**14 56 42.7**	**+0.2**
TTSI	**Tana Toraja**	**24.77**	**274**	P	P	14 56 50.6	+7.7
WBSI	**Waikabubak, Su**	**25.39**	**258**	P	**P**	**14 56 47.3**	**-1.2**
STKA	**Stephens Creek**	**26.86**	**186**	P	**P**	**14 57 02.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=345,slow=7.6,SNR=6.8						
STKA	**Stephens Creek**	**26.86**	**186**	P	**P**	**14 57 02.1**	**+0.6**
BBOO	**Buckleboo**	**28.77**	**195**	P	**P**	**14 57 20.2**	**+1.7**
PSA00	**Pilbara Seismi**	**29.07**	**233**	P	**P**	**14 57 21.1**	**-0.2**
PSA00				IAmb	IAmb	14 58 26.8	
	comp=Z,24nm,1.3s						
LHI	**Lord Howe Isla**	**29.66**	**154**	P	**P**	**14 57 24.6**	**-1.8**
FORT	**Forrest**	**29.97**	**209**	P	**P**	**14 57 30.0**	**+0.8**
FORT				IAmb	IAmb	14 57 33.6	
	comp=Z,20nm,0.8s						
MORW	**Morawa**	**36.08**	**225**	P	**P**	**14 58 23.2**	**+0.7**
MORW				IAmb	IAmb	14 59 19.4	
	comp=Z,59nm,1.9s						
YULB	**Yu-li**	**36.25**	**322**	P	**P**	**14 58 21.7**	**-2.3**
TPUB	**Ta-pu**	**36.60**	**321**	P	**P**	**14 58 24.3**	**-2.6**
NACB	**Ninganchiao**	**36.66**	**323**	P	**P**	**14 58 26.5**	**-0.9**
NACB				IAmb	IAmb	14 58 36.0	
	comp=Z,30nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.69**	**219**	P	**P**	**14 58 36.8**	**+0.7**
	comp=Z,7.0nm,0.7s,baz=63,slow=9.0,SNR=3.8						
NWAO	**Narrogin (SRO)**	**37.69**	**219**	P	**P**	**14 58 36.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**37.69**	**219**	P	**P**	**14 58 36.8**	**+0.7**
NWAO				IAmb	IAmb	14 59 49.3	
	comp=Z,77nm,1.9s						
OUZ	**Omahuta**	**40.25**	**142**	P	**P**	**14 58 59.2**	**+1.8**
MYKOM	**Kota Tinggi**	**41.25**	**278**	P	**P**	**14 59 06.4**	**+0.5**
MYKOM				IAmb	IAmb	15 00 38.9	
	comp=Z,18nm,1.3s						
MNAI	**Manna**	**41.48**	**269**	P	**P**	**14 59 07.0**	**-0.9**
MJAR	**Matsushiro Arr**	**41.78**	**352**	P	**P**	**14 59 09.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=152,slow=5.7,SNR=4.9						
NJ2	**Nanjing**	**44.26**	**328**	*e*P	**P**	**14 59 30.5**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BKZ	**Black Stump Fm**	**44.59**	**144**	P	**P**	**14 59 34.6**	**+2.0**
BKZ				IAmb	IAmb	15 00 45.6	
	comp=Z,41nm,2.0s						
TUWZ	**Tuamarina**	**44.75**	**148**	P	**P**	**14 59 34.6**	**+0.8**
LTZ	**Lake Taylor**	**44.90**	**151**	P	**P**	**14 59 36.9**	**+1.9**
LTZ				IAmb	IAmb	14 59 47.5	
	comp=Z,52nm,1.8s						
BSWZ	**Blackbirch Sta**	**44.92**	**149**	P	**P**	**14 59 35.9**	**+0.8**
KSRS	**Korea Array**	**45.02**	**341**	P	**P**	**14 59 35.5**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=156,slow=8.5,SNR=6.5						
RPZ	**Rata Peaks**	**45.05**	**153**	P	**P**	**14 59 36.3**	**+0.1**
RPZ				IAmb	IAmb	15 00 03.4	
	comp=Z,33nm,1.5s						
MLZ	**Mavora Lakes**	**45.13**	**157**	P	**P**	**14 59 39.0**	**+2.2**
LBZ	**Lake Benmore**	**45.19**	**154**	P	**P**	**14 59 39.2**	**+2.0**
LBZ				IAmb	IAmb	15 00 06.2	
	comp=Z,71nm,1.8s						
BHW	**Baring Head**	**45.22**	**148**	P	**P**	**14 59 38.5**	**+1.0**
KHZ	**Kahutara**	**45.26**	**150**	P	**P**	**14 59 39.8**	**+2.0**
KHZ				IAmb	IAmb	15 00 24.6	
	comp=Z,44nm,1.6s						
MSWZ	**Moikau Station**	**45.43**	**147**	P	**P**	**14 59 40.2**	**+0.9**
BFZ	**Birch Farm**	**45.47**	**146**	P	**P**	**14 59 41.2**	**+1.7**
BFZ				IAmb	IAmb	15 00 18.4	
	comp=Z,52nm,1.8s						
PLWZ	**Palliser**	**45.54**	**148**	P	**P**	**14 59 40.8**	**+0.7**
CRLZ	**Canterbury Las**	**45.67**	**151**	P	**P**	**14 59 41.8**	**+0.8**
MQZ	**McQueen's Vall**	**45.78**	**152**	P	**P**	**14 59 43.7**	**+1.8**
ODZ	**Otahua Downs**	**45.91**	**154**	P	**P**	**14 59 42.4**	**-0.6**
ODZ				IAmb	IAmb	15 01 08.8	
	comp=Z,37nm,1.5s						
RPSI	**Rantau Prapat**	**46.25**	**279**	P	**P**	**14 59 44.9**	**-1.1**
RPSI				IAmb	IAmb	14 59 46.9	
	comp=Z,11nm,1.0s						
RPSI	**Rantau Prapat**	**46.25**	**279**	P	**P**	**14 59 45.2**	**-0.9**
PSI	**Prapat**	**46.27**	**279**	P	**P**	**14 59 45.2**	**-1.2**
	comp=Z,7.7nm,0.8s,baz=142,slow=5.9,SNR=6.0						
NANT	**Nan**	**49.28**	**300**	P	**P**	**15 00 12.3**	**+2.9**
USA0B	**Ussuriysk Arra**	**50.29**	**348**	P	**P**	**15 00 15.8**	**-0.8**
USRK	**Ussuriysk Ar.**	**50.29**	**348**	P	**P**	**15 00 16.2**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=340,slow=16,SNR=8.7						
CM31	**Chiang Mai Arr**	**50.67**	**299**	P	**P**	**15 00 21.2**	**+1.3**
	SNR=5.3						
CM31	**Chiang Mai Arr**	**50.67**	**299**	P	**P**	**15 00 20.2**	**+0.2**
CM31				IAmb	IAmb	15 00 24.2	
	comp=Z,5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**50.67**	**299**	P	**P**	**15 00 20.3**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=118,slow=6.3,SNR=21						
CMAR	**Chiang Mai Arr**	**50.67**	**299**	P	**P**	**15 00 20.7**	**+0.7**
CD2	**Chengdu**	**52.88**	**315**	P	**P**	**15 00 35.1**	**-1.2**
HHC	**Hu-ho-hao-te**	**54.76**	**330**	*e*P	**P**	**15 00 51.4**	**+1.5**
LZH	**Lanzhou**	**55.91**	**320**	*e*P	**P**	**15 00 58.9**	**+0.6**
LZH				pP	pP	15 01 17.5	-1.4
LZH				sP	sP	15 01 26.1	-2.0
LZH				*e*PP	**PP**	**15 03 06.3**	**+2.3**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,6.2s						
LZH				LR	LR		
	comp=Z,360nm,15.9s						
LZH				LR	LR		
	comp=Z,370nm,16.2s						
LZH				LR	LR		
	comp=Z,500nm,17.8s						
PEA0B	**Petropavlovsk-**	**58.97**	**9**	P	**P**	**15 01 20.6**	**+1.3**
PETK	**Petropavlovsk-**	**58.97**	**9**	P	**P**	**15 01 19.1**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=170,slow=4.0,SNR=6.7						
PETK	**Petropavlovsk-**	**58.97**	**9**	P	**P**	**15 01 19.2**	**-0.1**
GTA	**Gaotai**	**60.47**	**321**	*e*P	**P**	**15 01 30.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**62.40**	**332**	P	**P**	**15 01 44.8**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=140,slow=7.5,SNR=3.9						
SONM	**Songino Array**	**62.40**	**332**	IAmb	IAmb	15 01 47.4	
	comp=Z,2.8nm,1.5s						
TAPN	**Taplejung**	**63.60**	**304**	*e*P	**P**	**15 01 52.2**	**+0.7**
	comp=Z,7.5nm,0.4s						
ODAN	**Odare**	**63.70**	**303**	*e*P	**P**	**15 01 52.5**	**+0.5**
	comp=Z,8.2nm,0.5s						
RAMN	**Ramite**	**64.39**	**303**	*e*P	**P**	**15 01 57.2**	**+0.7**
	comp=Z,9.0nm,0.5s						
JIRN	**Jiri**	**64.98**	**304**	*e*P	**P**	**15 02 01.2**	**+0.7**
	comp=Z,12nm,0.6s						
GUN	**Gumba**	**65.32**	**304**	*e*P	**P**	**15 02 03.2**	**+0.5**
	comp=Z,17nm,0.7s						
PKI	**Pulchoki**	**65.60**	**303**	*e*P	**P**	**15 02 05.1**	**+0.6**
PKIN	**Phulchoki**	**65.61**	**303**	*e*P	**P**	**15 02 05.4**	**+0.9**
	comp=Z,5.8nm,0.8s						
KKN	**Kakani**	**65.78**	**303**	*e*P	**P**	**15 02 06.4**	**+0.9**
DMN	**Daman**	**65.86**	**303**	*e*P	**P**	**15 02 07.1**	**+1.0**
	comp=Z,16nm,0.8s						
GKN	**Gorkha**	**66.39**	**303**	*e*P	**P**	**15 02 10.1**	**+0.8**
KOLN	**Koldanda**	**67.17**	**303**	*e*P	**P**	**15 02 14.9**	**+0.5**
	comp=Z,2.6nm,0.3s						
DANN	**Dangsing**	**67.23**	**303**	*e*P	**P**	**15 02 15.0**	**+0.1**
	comp=Z,8.4nm,0.4s						
SEY	**Seymchan**	**68.03**	**4**	P	**P**	**15 02 18.0**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=175,slow=7.8,SNR=5.8						
WMQ	**Urumqi**	**70.49**	**320**	*e*P	**P**	**15 02 35.0**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,14nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.1s						
MKAR	**Makanchi Array**	**75.22**	**321**	P	**P**	**15 03 02.7**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=96,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**75.22**	**321**	P	**P**	**15 03 02.2**	**-0.2**
ZALV	**Zalesovo Beam**	**76.92**	**328**	P	**P**	**15 03 11.3**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=119,slow=4.3,SNR=5.4						
KSH	**Kashi**	**76.94**	**312**	P	**P**	**15 03 12.3**	**-0.1**
KSH				PcP	**PcP**	**15 03 23.1**	**-0.1**
KSH				PP	**PP**	**15 06 07.9**	**+1.2**
KSH				S	**S**	**15 12 50.5**	**-3.8**
KSH				sS	ScS	15 13 25.3	+2.8
KSH				SS	**SS**	**15 17 51.3**	**-1.5**
KSH				pmax	pmax		
	comp=Z,480nm,7.6s						
KSH				LR	LR		
	comp=Z,310nm,13.2s						
NIL	**Nilore**	**77.40**	**306**	P	**P**	**15 03 14.2**	**-0.8**
QSPA	**South Pole Qui**	**84.94**	**180**	P	**P**	**15 03 55.0**	**+0.6**
	comp=Z,6.4nm,0.5s,baz=234,slow=0.5,SNR=69						
QSPA	**South Pole Qui**	**84.94**	**180**	P	**P**	**15 03 54.8**	**+0.4**
QSPA				IAmb	IAmb	15 03 56.0	
	comp=Z,9.2nm,0.6s						
CCB	**Clear Creek Bu**	**85.14**	**24**	P	**P**	**15 03 54.3**	**-0.9**
CCB				IAmb	IAmb	15 03 54.9	
	comp=Z,4.9nm,0.7s						
IL31		**85.55**	**24**	P	**P**	**15 03 55.7**	**-1.5**
ILAR	**Eielson Array**	**85.55**	**24**	P	**P**	**15 03 55.5**	**-1.8**
	comp=Z,2.5nm,0.6s,baz=254,slow=5.2,SNR=38						
ILAR	**Eielson Array**	**85.55**	**24**	P	**P**	**15 03 55.9**	**-1.4**
SYO	**Syowa Base**	**90.67**	**200**	*e*PcP	**PcP**	**15 04 26.0**	**+3.3**
PB01	**IPOC Station P**	**137.72**	**129**		**PKPdf**	**15 10 43.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**142.51**	**285**	PKhKP	PKPpre	15 10 48.7	
	comp=Z,0.5nm,0.6s,baz=135,slow=1.6,SNR=3.7						
TORD				PKP	**PKPdf**	**15 10 53.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=86,slow=3.2,SNR=3.8						
SIV	**San Ignacio**	**147.13**	**130**	PKPbc	**PKPbc**	**15 11 04.0**	**+0.8**
	comp=Z,7.4nm,0.6s,baz=256,slow=4.0,SNR=32						

*IDC **17** 14:53:20.2±1.8,60°.28S×44°.24W,h0km,mb4.1/1, mb1 3.9/2,mb1mx3.6/23,mbtmp3.9/2,ML2.9/1,Error ellipse: s-maj=79.4km s-min=44.7km az=57.0*
*NEIC **17** 14:53:22.7±0.2,60°.1S±0°.2×44°.1W±0°.8,h15km±5km, mb4.2/4*
ISC 17 14:53:22.0±1.2,60°.1S±0°.2×44°.1W±0°.3,h10km,n10,
σ0§56/10,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.89**	**142**	P	**P**	**14 57 52.5**	**-0.7**
	0.0nm,0.3s,baz=267,slow=12,SNR=3.4						
QSPA	**South Pole Qui**	**30.11**	**180**	P	**P**	**14 59 31.8**	**+0.4**
QSPA				IAmb	IAmb	15 00 03.0	
	comp=Z,6.8nm,1.6s						
SUR	**Sutherland**	**50.12**	**87**	P	**P**	**15 02 17.6**	**+0.2**
SHEL	**Horse Pasture**	**52.10**	**49**	P	**P**	**15 02 31.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.69**	**45**	P	**P**	**15 05 41.2**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=215,slow=4.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**81.69**	**45**	P	**P**	**15 05 40.4**	**+0.1**
ILAR	**Eielson Array**	**146.07**	**312**	PKPbc	**PKPbc**	**15 12 59.9**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=150,slow=3.0,SNR=3.8						
ILAR	**Eielson Array**	**146.07**	**312**	PKPbc	**PKPbc**	**15 13 00.1**	**-0.3**
MKAR	**Makanchi Array**	**146.40**	**89**	PKPbc	**PKPdf**	**15 13 00.7**	**0.0**
	comp=Z,0.9nm,0.7s,baz=234,slow=2.6,SNR=5.8						
MKAR	**Makanchi Array**	**146.40**	**89**	PKPdf	**PKPdf**	**15 13 00.5**	**-0.2**

*IDC **17** 14:54:37.7±1.3,60°.19S×46°.70W,h0km,mb4.0/3, mb1 4.1/4,mb1mx3.8/26,mbtmp4.0/4,ML3.9/1,Error ellipse: s-maj=42.0km s-min=26.3km az=59.0*
*ISCJB **17** 14:54:38.9±0.9,60°.37S±0°.10×47°.2W±0°.3,h10km,mb3.8/2, Error ellipse: s-maj=22.9km s-min=12.7km az=161.4*
*NEIC **17** 14:54:40.5±1.7,60°.2S±0°.1×46°.9W±0°.3,h10km±1km, mb4.7/7*
ISC 17 14:54:40.1±1.0,60°.3S±0°.1×46°.9W±0°.2,h10km,n14,
σ0§65/13,mb4.4/5,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**9.09**	**233**	Pn	**Pn**	**14 56 50.9**	**-0.2**
	1.1nm,0.3s,baz=46,slow=9.3,SNR=8.6						
PMSA	**Palmer Station**	**9.09**	**233**		**Pn**	**14 56 51.5**	**+0.4**
SNAA	**Sanae**	**20.66**	**141**	P	**P**	**14 59 20.2**	**+0.6**
	4.3nm,0.9s,baz=280,slow=6.1,SNR=9.5						
SNAA	**Sanae**	**20.66**	**141**	P	Pn	14 59 22.1	+0.3
TRQA	**Tornquist**	**24.20**	**330**	P	**P**	**14 59 57.0**	**+0.4**
TRQA				IAmb	IAmb	15 00 35.0	
	comp=Z,9.2nm,1.1s						
PLCA	**Paso Flores**	**24.43**	**313**	P	**P**	**14 59 59.0**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=177,slow=5.8,SNR=3.5						
PLCA	**Paso Flores**	**24.43**	**313**	P	**P**	**14 59 59.1**	**+0.4**
PLCA				IAmb	IAmb	15 00 13.1	
	comp=Z,32nm,1.9s						
QSPA	**South Pole Qui**	**29.96**	**180**	P	**P**	**15 00 48.1**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=196,slow=0.6,SNR=14						
QSPA	**South Pole Qui**	**29.96**	**180**	P	**P**	**15 00 47.9**	**-0.3**
QSPA				IAmb	IAmb	15 00 49.3	
	comp=Z,8.1nm,1.1s						
GO04	**Tololo Observa**	**34.09**	**321**	P	**P**	**15 01 25.2**	**+0.4**
PB01	**IPOC Station P**	**42.32**	**328**	P	**P**	**15 02 33.1**	**-0.9**
PB01				IAmb	IAmb	15 03 04.5	
	comp=Z,61nm,1.9s						
PB11	**IPOC Station P**	**43.59**	**328**	P	**P**	**15 02 45.0**	**+0.6**
PB11				IAmb	IAmb	15 03 29.2	
	comp=Z,33nm,1.5s						
ILAR	**Eielson Array**	**145.11**	**312**	PKPbc	**PKPbc**	**15 14 14.2**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=139,slow=2.1,

ABTO Aybut 10.06 189 P Pn 14 58 08.6 -2.0
KBZ Khabaz 18.99 332 P P 15 00 07.2 -0.2
comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=3.0
BRTR Keskin Array B 21.51 310 P P 15 00 34.2 -0.8
comp=Z,0.9nm,0.8s,baz=137,slow=8.9,SNR=5.4
AAK Ala-Archa 22.08 41 P P 15 00 44.8 +3.7
comp=Z,0.7nm,0.5s,baz=233,slow=10,SNR=4.4
AKTO Aktyubinsk 23.18 5 P P 15 00 54.5 +2.1
comp=Z,0.8nm,0.5s,baz=151,slow=13,SNR=2.8
ZALV Zalesovo Beam 34.49 31 P P 15 02 33.5 -0.1
comp=Z,1.5nm,0.6s,baz=241,slow=9.7,SNR=6.7
FINES FINESS Array B 39.16 339 P P 15 03 12.1 -1.2
comp=Z,3.8nm,0.9s,baz=140,slow=9.2,SNR=6.1
TORD Torodi Ar. Bea 51.49 265 P P 15 04 49.2 -2.5
comp=Z,0.3nm,0.5s,baz=64,slow=6.6,SNR=2.3

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*IDC **17** 14:59:09.0±0.7, 60.°59S×42.°74W, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.4/34, mbtmp4.5/14, ML4.3/2, Error ellipse: s-maj=21.9km s-min=15.8km az=40.0*
*ISCJB **17** 14:59:10.9±0.4, 60.°56S±0.°05×43.°0W±0.°1, h18km, mb4.5/16, MS4.9/1, Error ellipse: s-maj=8.0km s-min=6.7km az=32.1*
*MOS **17** 14:59:10.9±1.6, 60.°27S×42.°71W, h10km, mb5.1/7, Error ellipse: s-maj=32.2km s-min=11.5km az=99.8*
*NEIC **17** 14:59:12.6±2.4, 60.°41S±0.°09×42.°9W±0.°2, h15km±3km, mb5.0/30*
ISC 17 14:59:12.6±0.3, 60.°50S±0.°06×42.°76W±0.°07, h18km, n180, σ1§24/175, mb4.8/24, 1C-4D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.09	31	P	Pn	15 00 53.1	-2.2
HOPE	Hope Point	7.09	31		Pn	15 00 53.1	-2.2
PMSA	Palmer Station	10.66	237	Pn	Pn	15 01 43.7	-0.4
1.7nm,0.3s,baz=66,slow=9.2,SNR=14							
PMSA				Sn	Sn	15 03 42.6	-0.3
0.3nm,0.3s,baz=196,slow=15,SNR=2.1							
PMSA	Palmer Station	10.66	237		Pn	15 01 44.0	-0.1
PMSA	Palmer Station	10.66	237	eP	Pn	15 01 44.5	+0.3
USHA	Ushuaia	14.80	281	Pn	Pn	15 02 41.2	+0.5
2.1nm,0.3s,baz=139,slow=14,SNR=4.3							
GO10	Punta Arenas	17.03	283	P	P	15 03 10.9	-0.4
GO10				IAmb	IAmb	15 03 48.8	
comp=Z,74nm,1.0s							
SNAA	Sanae	19.20	142‖	eP	Pn	15 03 37.5	+1.5
SNAA	Sanae	19.20	142	P	Pn	15 03 37.6	+1.5
TRQA	Tornquist	25.54	323	eP	P	15 04 39.2	-0.7
TRQA	Tornquist	25.54	323	P	P	15 04 39.2	-0.7
TRQA	Tornquist	25.54	323	eP	P	15 04 41.6	+1.7
PLCA	Paso Flores	26.16	307	eP	P	15 04 44.3	-1.4
PLCA	Paso Flores	26.16	307	P	P	15 04 44.1	-1.6
comp=Z,21nm,0.8s,baz=178,slow=9.3,SNR=43							
PLCA	Paso Flores	26.16	307	P	P	15 04 44.3	-1.4
PLCA				IAmb	IAmb	15 04 48.0	
comp=Z,24nm,0.8s							
PLCA	Paso Flores	26.16	307	eP	P	15 04 45.3	-0.4
GO06	Curarrehue	27.51	307	P	P	15 04 56.8	-1.1
GO06				IAmb	IAmb	15 04 59.4	
comp=Z,22nm,1.1s							
PLTB	Pedras Altas	29.63	341	eP	P	15 05 17.8	+1.2
PLTB	Pedras Altas	29.63	341	eP	P	15 05 17.8	+1.2
QSPA	South Pole Qui	29.73	180	P	P	15 05 16.7	-0.8
comp=Z,2.6nm,0.9s,baz=161,slow=8.9,SNR=2.5							
QSPA	South Pole Qui	29.73	180	P	P	15 05 21.3	+3.8
CPSB	Cacapava Do Su	30.94	342	eP	P	15 05 29.1	+0.9
CPSB	Cacapava Do Su	30.94	342	eP	P	15 05 29.1	+0.9
CNLB	Canela	31.66	346	eP	P	15 05 35.9	+1.2
CNLB	Canela	31.66	346	eP	P	15 05 35.9	+1.2
GO05	Huala	31.68	310	P	P	15 05 33.1	-1.7
PEL	Peldehue	32.89	314	P	P	15 05 43.7	-1.7
PEL				pmax	pmax		
comp=Z,30nm,0.9s							
PEL	Peldehue	32.89	314	P	P	15 05 43.7	-1.7
CFA	Coronel Fontan	33.45	318	P	P	15 05 49.6	-0.7
comp=Z,3.2nm,0.6s,baz=172,slow=8.6,SNR=6.6							
SYO	Syowa Base	33.45	140⇑	epP	pP	15 05 53.6	-0.9
ITAB	Concordia	33.87	345	eP	P	15 05 54.8	+0.9
ITAB	Concordia	33.87	345	eP	P	15 05 54.8	+0.9
CPUP	Villa Florida	35.59	337	P	P	15 06 09.0	+0.3
CPUP				pmax	pmax		
comp=Z,13nm,1.0s							
CPUP	Villa Florida	35.59	337	P	P	15 06 08.6	-0.1
comp=Z,12nm,0.9s,baz=165,slow=7.9,SNR=23							
CPUP	Villa Florida	35.59	337	P	P	15 06 09.0	+0.3
CPUP				IAmb	IAmb	15 06 10.3	
comp=Z,13nm,0.9s							
CPUP	Villa Florida	35.59	337	eP	P	15 06 09.2	+0.5
GO04	Tololo Observa	35.63	316	P	P	15 06 08.1	-1.2
GO04				IAmb	IAmb	15 06 09.5	
comp=Z,25nm,0.9s							
PTGB	Pitanga	36.34	346	eP	P	15 06 16.0	+0.7
PTGB	Pitanga	36.34	346	eP	P	15 06 16.0	+0.7
SPB	Sao Paulo	37.03	353	eP	P	15 06 22.3	+1.2
SPB	Sao Paulo	37.03	353	eP	P	15 06 22.3	+1.2
FRTB	Fartura	37.44	350	eP	P	15 06 24.6	0.0
FRTB	Fartura	37.44	350	eP	P	15 06 24.6	0.0
VAO	Valinhos	37.59	354	eP	P	15 06 26.7	+0.8
VAO	Valinhos	37.59	354	eP	P	15 06 26.7	+0.8
MAN01	Angra dos Reis	37.62	358	eP	P	15 06 27.3	+1.1
MAN01	Angra dos Reis	37.62	358	eP	P	15 06 27.3	+1.1
GO03	Copiap	37.81	318	P	P	15 06 26.5	-1.2
GO03				IAmb	IAmb	15 06 28.3	
comp=Z,29nm,0.8s							
RCLB	Rio Claro- Sao	38.20	353	eP	P	15 06 31.9	+0.8
RCLB	Rio Claro- Sao	38.20	353	eP	P	15 06 31.9	+0.8
CAM01	Campos-RJ	38.65	2	eP	P	15 06 36.4	+1.6
CAM01	Campos-RJ	38.65	2	eP	P	15 06 36.4	+1.6
PCMB	Pacaembu	39.32	347	eP	P	15 06 41.5	+1.1
PCMB	Pacaembu	39.32	347	eP	P	15 06 41.5	+1.1
BSCB	Bom Sucesso	39.49	357	eP	P	15 06 42.8	+0.9
BSCB	Bom Sucesso	39.49	357	eP	P	15 06 42.8	+0.9
BB19B	Bebedouro	39.61	352	eP	P	15 06 44.0	+1.2
BB19B	Bebedouro	39.61	352	eP	P	15 06 44.0	+1.2
GO02	Mina Guanaco	39.86	320	P	P	15 06 44.3	-0.9
GO02				IAmb	IAmb	15 06 46.3	
comp=Z,33nm,0.8s							
SBA	Scott Base	40.71	189	P	P	15 06 52.5	+1.2
SBA				pmax	pmax		
comp=Z,8.0nm,1.0s							
SBA	Scott Base	40.71	189	P	P	15 06 52.5	+1.2
AQDB	Aquidauana	41.03	341	eP	P	15 06 54.6	+0.1
AQDB	Aquidauana	41.03	341	eP	P	15 06 54.6	+0.1
RIB01	Linhares ES	41.18	3	eP	P	15 06 57.3	+1.5
RIB01	Linhares ES	41.18	3	eP	P	15 06 57.3	+1.5
BSFB	Barra de Sao F	41.65	3	eP	P	15 07 00.7	+1.0
BSFB	Barra de Sao F	41.65	3	eP	P	15 07 00.7	+1.0
PB10	IPOC Station P	41.70	320	P	P	15 06 59.8	-0.3
SJMB	Sao Joao De Ma	41.77	2	eP	P	15 07 01.9	+1.3
SJMB	Sao Joao De Ma	41.77	2	eP	P	15 07 01.9	+1.3
PMNB	Patos De Minas	42.00	355	eP	P	15 07 03.7	+1.1
PMNB	Patos De Minas	42.00	355	eP	P	15 07 03.7	+1.1
LVC	Limon Verde	42.04	323	eP	P	15 07 02.7	-0.6
LVC	Limon Verde	42.04	323	P	P	15 07 03.4	+0.1
comp=Z,9.2nm,0.8s,baz=199,slow=6.1,SNR=11							
LVC	Limon Verde	42.04	323	P	P	15 07 02.7	-0.6
LVC	Limon Verde	42.04	323	eP	P	15 07 03.9	+0.6
PB04	IPOC Station P	42.68	321	P	P	15 07 07.8	-0.4
PB04				IAmb	IAmb	15 07 08.9	
comp=Z,31nm,0.8s							
PB01	IPOC Station P	43.69	323	P	P	15 07 16.2	-0.1
GO01	Chusmiza	44.90	324	P	P	15 07 26.6	+0.1
GO01				IAmb	IAmb	15 07 27.9	
comp=Z,22nm,0.9s							
PB11	IPOC Station P	44.95	323	P	P	15 07 26.0	-0.5
PB11				IAmb	IAmb	15 07 28.4	
comp=Z,22nm,1.0s							
BDFB	Brasilia	44.96	353	P	P	15 07 26.4	-0.1
BDFB				pmax	pmax		
comp=Z,27nm,1.5s							
BDFB	Brasilia	44.96	353	P	P	15 07 26.4	-0.1
comp=Z,4.0nm,0.8s,baz=236,slow=5.1,SNR=5.5							
BDFB	Brasilia	44.96	353	IAmb	IAmb	15 07 47.0	
comp=Z,27nm,1.5s							
ARAG	Araguaiana, MT	45.21	348	eP	P	15 07 29.0	+0.6
ARAG	Araguaiana, MT	45.21	348	eP	P	15 07 29.0	+0.6
SALV	Santo Antonio	45.52	342	eP	P	15 07 31.9	+1.0
SALV	Santo Antonio	45.52	342	eP	P	15 07 31.9	+1.0
MNMC	Minye Minye	45.53	323	P	P	15 07 30.9	-0.3
SIV	San Ignacio	46.39	335	P	P	15 07 37.4	-0.3
comp=Z,9.5nm,0.9s,baz=176,slow=7.1,SNR=38							
LPAZ	La Paz	47.81	326	eP	P	15 07 49.2	-0.3
LPAZ	La Paz	47.81	326	P	P	15 07 49.7	+0.2
comp=Z,4.1nm,0.7s,baz=155,slow=4.2,SNR=19							
LPAZ	La Paz	47.81	326	P	P	15 07 49.1	-0.3
LPAZ	La Paz	47.81	326	eP	P	15 07 49.9	+0.4
CLDB	Colider	50.47	343	eP	P	15 08 08.4	-0.7
CLDB	Colider	50.47	343	eP	P	15 08 08.4	-0.7
SAML	Samuel	53.67	335	P	P	15 08 32.9	0.0
SAML				pmax	pmax		
comp=Z,14nm,0.9s							
SAML	Samuel	53.67	335	P	P	15 08 32.9	0.0
SAML				IAmb	IAmb	15 08 34.2	
comp=Z,14nm,0.9s							
SAML	Samuel	53.67	335	eP	P	15 08 33.4	+0.4
BOSA	Boshof	54.77	86	P	P	15 08 43.0	+1.9
BOSA				pmax	pmax		
comp=Z,17nm,1.1s							
BOSA	Boshof	54.77	86	P	P	15 08 43.0	+1.9
BOSA				IAmb	IAmb	15 08 44.8	
comp=Z,17nm,1.1s							
RCBR	Riachuelo	54.80	8	eP	P	15 08 43.0	+1.8
RCBR	Riachuelo	54.80	8	eP	P	15 08 43.0	+1.8
ASCN	Ascension	56.61	34	P	P	15 08 54.4	+0.2
LBTB	Lobatse	57.93	84	P	P	15 09 03.5	-0.1
LBTB				pmax	pmax		
comp=Z,52nm,1.8s							
LBTB	Lobatse	57.93	84	P	P	15 09 03.2	-0.4
comp=Z,5.4nm,0.7s,baz=200,slow=8.5,SNR=3.7							
LBTB	Lobatse	57.93	84	P	P	15 09 03.5	-0.1
TSUM	Tsumeb	58.97	73	P	P	15 09 09.9	-1.1
comp=Z,2.0nm,0.7s,baz=154,slow=7.1,SNR=3.6							
TSUM	Tsumeb	58.97	73	IAmb	IAmb	15 10 28.6	
comp=Z,34nm,1.9s							
OTAV	Otavalo	66.53	321	eP	P	15 10 02.4	+0.7
OTAV	Otavalo	66.53	321	P	P	15 10 02.4	+0.7
OTAV				IAmb	IAmb	15 10 03.7	
comp=Z,12nm,0.9s							
OTAV	Otavalo	66.53	321	eP	P	15 10 02.6	+1.0
SDV	Santo Domingo	72.61	331	eP	P	15 10 39.2	+0.4
SDV	Santo Domingo	72.61	331	eP	P	15 10 39.2	+0.4
OUZ	Omahuta	80.06	210	P	P	15 11 19.7	-1.1
TORD	Torodi Ar. Bea	81.51	44	P	P	15 11 29.3	+0.7
comp=Z,3.0nm,0.8s,baz=209,slow=5.9,SNR=8.9							
TORD	Torodi Ar. Bea	81.51	44	P	P	15 11 29.4	+0.9
ASAR	Alice Springs	96.09	177	P	P	15 12 36.4	-2.6
comp=Z,0.4nm,0.8s,baz=188,slow=3.7,SNR=4.3							
RUBR	Rubicon Trail	117.46	301		PKiKP	15 17 58.3	+1.8
MODS	Modra-Piesok	118.87	41	ePKIKP	PKiKP	15 18 03.4	+4.8
MODS	Modra-Piesok	118.87	41	ePKP	PKiKP	15 18 03.4	+4.8
VYHS	Vyhne	119.49	42	ePKIKP	PKiKP	15 18 07.3	+7.5
VYHS	Vyhne	119.49	42	ePKP	PKiKP	15 18 07.3	+7.5
AKASG	Malin Array Be	124.98	48	PKP	PKPdf	15 18 07.9	-2.3
comp=Z,0.2nm,0.3s,baz=244,slow=1.7,SNR=5.3							
OBN	Obninsk	131.19	49	ePKIKP	PKiKP	15 18 24.1	+1.3
OBN				pmax	pmax		
comp=Z,4.0nm,0.7s							
FINES	FINESS Array B	132.55	37	PKP	PKPdf	15 18 22.6	-1.6
comp=Z,4.0nm,0.9s,baz=225,slow=1.4,SNR=5.6							
KSH	Kashi	137.29	91	ePKP	PKiKP	15 18 36.6	+0.7
ARCES	ARCESS Array B	138.50	30	PKP	PKPdf	15 18 35.4	+0.2
comp=Z,5.5nm,0.9s,baz=222,slow=1.2,SNR=3.9							
WAX	Waxell Ridge	142.91	306		PKPpre	15 18 40.0	
CD2	Chengdu	143.03	128	PKP	PKiKP	15 18 45.8	-2.1
BCAR	Beaver Creek A	144.00	310		PKPab	15 18 42.5	-0.3
INK	Inuvik	144.01	321	PKIKP	PKPab	15 18 42.3	-0.2
INK	Inuvik	144.01	321		PKPab	15 18 42.3	-0.2
ENH	Enshi	144.56	136		PKPab	15 18 44.5	-1.4
PAX	Paxson	145.36	308	PKIKP	PKPab	15 18 47.6	-0.2
PAX	Paxson	145.36	308		PKPab	15 18 47.6	-0.2
SCM	Sheep Creek Mo	145.48	306	PKIKP	PKPab	15 18 48.3	-0.1
SCM	Sheep Creek Mo	145.48	306		PKPab	15 18 48.3	-0.1
RIDG	Independent Ri	145.52	310		PKPab	15 18 48.1	-0.3
MAKZ	Makanchi	145.61	88	PKIKP	PKPbc	15 18 48.3	-0.6
MAKZ	Makanchi	145.61	88		PKPbc	15 18 48.3	-0.6
MK31	Makanchi Array	145.76	88	PKIKP	PKPdf	15 18 48.5	-0.3
MK31	Makanchi Array	145.76	88		PKPdf	15 18 48.5	-0.3
MKAR	Makanchi Array	145.76	88	PKIKP	PKPdf	15 18 48.3	-0.5
MKAR	Makanchi Array	145.76	88	PKPbc	PKPbc	15 18 48.9	-0.4
comp=Z,2.9nm,0.6s,baz=231,slow=2.5,SNR=24							
MKAR	Makanchi Array	145.76	88		PKPdf	15 18 48.3	-0.5
DHY	Denali Highway	146.15	308	PKPdf	PKPab	15 18 50.9	0.0
WMQ	Urumqi	146.31	97	ePKPbc	PKPab	15 18 52.0	0.0
WMQ				AMB	AMB		
comp=Z,130nm,4.1s							
WHN	Wuhan	146.38	143	PKPbc	PKiKP	15 18 56.8	+2.1
KURK	Kurchatov	146.57	80‖	ePKP2	PKPab	15 18 51.8	-0.9
KURK	Kurchatov	146.57	80		PKPbc	15 18 51.3	-0.3
PRP	Porcupine Dome	146.66	312		PKPbc	15 18 51.4	-0.2
IL31		146.81	311		PKPbc	15 18 51.3	-0.5
ILAR	Eielson Array	146.81	311	PKP2	PKPbc	15 18 51.4	-0.5
ILAR	Eielson Array	146.81	311	PKPbc	PKPbc	15 18 51.6	-0.3
comp=Z,8.5nm,0.8s,baz=156,slow=3.0,SNR=78							
ILAR	Eielson Array	146.81	311		PKPbc	15 18 51.4	-0.5
RND	Reindeer	146.90	308	PKP2	PKPbc	15 18 52.2	-0.1
RND	Reindeer	146.90	308	PKPdf	PKPbc	15 18 52.2	-0.1
RSO	Redoubt South	147.00	301	PKPdf	PKPbc	15 18 52.1	-0.7
CCB	Clear Creek Bu	147.10	310		PKPbc	15 18 52.0	-0.6
WRH	Wood River Hil	147.12	310		PKPbc	15 18 52.2	-0.5
BMAR	Burnt Mountain	147.22	316		PKPbc	15 18 53.1	+0.1
COLA	College	147.22	310	dPKP2	PKPbc	15 18 53.0	0.0
COLA	College	147.22	310		PKPbc	15 18 52.3	-0.7
TRF	Thorofare Moun	147.49	307	PKPdf	PKPbc	15 18 53.6	-0.4
BWN	Browne	147.51	309		PKPbc	15 18 53.7	-0.1
LZH	Lanzhou	147.59	124	ePKPbc	PKPbc	15 18 55.1	-0.1
LZH				pPKP	pPKPbc	15 19 00.3	-0.5
LZH				sPKP		15 19 01.8	
LZH				LR	LR		
comp=Z,130nm,18.3s							
LZH				LR	LR		
comp=Z,140nm,18.2s							
LZH				LR	LR		
comp=Z,180nm,20.0s							
PPLA	Purkeypile	147.98	305		PKPbc	15 18 55.0	-0.3
BPAW	Bear Paw Mtn.	148.06	308	PKPdf	PKPbc	15 18 54.5	-0.9
MLY	Manley	148.39	310	PKPdf	PKPbc	15 18 55.0	-1.2
GTA	Gaotai	148.64	115	ePKPbc	PKPbc	15 18 57.3	-0.5
NJ2	Nanjing	149.06	149	ePKPbc	PKPbc	15 18 57.3	-1.6
COLD	Coldfoot	149.11	314		PKiKP	15 18 58.3	-0.8
TOLK	Toolik Lake Re	149.43	316		PKiKP	15 18 59.0	-0.9
IMAR	Indian Mountai	149.93	310		PKiKP	15 19 00.0	-0.8
DGZ	Jazzator, Alta	150.25	89‖	ePKIKP	PKPbc	15 19 00.9	-0.6
ZALV	Zalesovo Beam	151.56	80	PKIKP	PKPbc	15 19 00.8	-3.3
ZALV	Zalesovo Beam	151.56	80	PKPbc	PKPbc	15 19 01.8	-2.4
comp=Z,0.7nm,0.4s,baz=251,slow=2.9,SNR=4.1							
ZALV	Zalesovo Beam	151.56	80	PKPdf	PKPbc	15 19 00.8	-3.3
HHC	Hu-ho-hao-te	154.76	130	ePKPbc	PKPbc	15 19 07.5	-4.3
SONM	Songino Array	158.19	112	PKPab	PKPab	15 19 40.8	-0.7
comp=Z,1.2nm,0.9s,baz=233,slow=3.4,SNR=4.6							

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*IDC **17** 15:02:30.5±0.8, 57.°32S×150.°67W, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/41, mbtmp4.1/6, Error ellipse: s-maj=110.0km s-min=19.6km az=7.0*
*NEIC **17** 15:02:33.3±1.3, 57.°2S±0.°5×150.°8W±0.°3, h15km±5km, mb4.5/4*
ISC 17 15:02:32.0±0.8, 57.°2S±0.°7×150.°7W±0.°2, h10km, n17, σ0§90/16, mb4.2/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	51.98	108	P	P	15 11 41.6	+0.5
2.4nm,0.9s,baz=221,slow=11,SNR=3.6							
PLCA	Paso Flores	51.98	108	IAmb	IAmb	15 11 44.3	
comp=Z,5.8nm,1.1s							
ASAR	Alice Springs	62.58	268	P	P	15 12 56.9	+0.7
comp=Z,1.4nm,0.7s,baz=139,slow=6.5,SNR=13							
ASAR	Alice Springs	62.58	268	P	P	15 12 56.3	+0.2
WRA	Warramunga Arr	65.34	271	P	P	15 13 14.1	-0.3
comp=Z,0.8nm,0.9s,baz=154,slow=5.4,SNR=3.8							
CPUP	Villa Florida	70.05	108	P	P	15 13 42.1	-1.8
comp=Z,2.6nm,0.8s,baz=209,slow=13,SNR=4.9							
CPUP	Villa Florida	70.05	108	P	P	15 13 44.4	+0.5
CPUP				IAmb	IAmb	15 13 57.8	
comp=Z,18nm,1.6s							
LPAZ	La Paz	72.45	93	P	P	15 13 59.8	+0.4
comp=Z,1.9nm,0.8s,baz=246,slow=5.2,SNR=5.4							
LPAZ	La Paz	72.45	93	P	P	15 13 59.5	+0.2
LPAZ				IAmb	IAmb	15 14 01.6	
comp=Z,2.2nm,0.9s							
SIV	San Ignacio	76.52	98	P	P	15 14 23.0	+0.7
comp=Z,1.2nm,0.7s,baz=224,slow=7.7,SNR=4.6							
ILAR	Eielson Array	121.63	2	PKP	PKiKP	15 21 24.2	-0.3
comp=Z,0.5nm,0.7s,baz=220,slow=2.2,SNR=3.6							
ILAR	Eielson Array	121.63	2		PKPdf	15 21 24.0	-0.3
TORD	Torodi Ar. Bea	131.29	143	PKP	PKPdf	15 21 43.1	-1.2
comp=Z,0.5nm,0.9s,baz=180,slow=1.3,SNR=2.9							
MKAR	Makanchi Array	146.59	275	PKPbc	PKPbc	15 22 12.7	0.0
comp=Z,1.3nm,0.8s,baz=91,slow=5.8,SNR=5.1							
MKAR	Makanchi Array	146.59	275	PKPdf	PKPbc	15 22 12.5	-0.2
ZALV	Zalesovo Beam	149.18	288	PKPbc	PKPbc	15 22 18.4	-1.0
comp=Z,0.5nm,0.4s,baz=123,slow=5.3,SNR=3.5							
ZALV	Zalesovo Beam	149.18	288	PKPdf	PKPdf	15 22 16.8	+1.7

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*ISCJB **17** 15:02:52.7±0.5, 60.°49S±0.°08×42.°5W±0.°2, h10km, mb4.1/4, Error ellipse: s-maj=13.2km s-min=9.8km az=35.1*
*IDC **17** 15:02:53.4±0.9, 60.°89S×42.°83W, h0km, mb4.3/4, mb1 4.2/7, mb1mx3.9/35, mbtmp4.1/7, ML3.2/3, Error ellipse: s-maj=33.9km s-min=23.8km az=15.0*
*NEIC **17** 15:02:54.7±2.2, 60.°49S±0.°10×42.°6W±0.°2, h12km±2km, mb4.7/12*
ISC 17 15:02:54.5±0.6, 60.°53S±0.°09×42.°67W±0.°08, h10km, n24, σ1§50/22, mb4.5/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.09	31	Pn	Pn	15 04 36.7	-1.5
PMSA	Palmer Station	10.69	237	Pn	Pn	15 05 24.0	-3.3
0.1nm,0.3s,baz=72,slow=15,SNR=1.6							
PMSA	Palmer Station	10.69	237		Pn	15 05 27.9	+0.5
EFI	East Falkland	12.32	309	Pn	Pn	15 05 50.2	+0.4
USHA	Ushuaia	14.85	281	Pn	Pn	15 06 25.9	+1.6
0.2nm,0.3s,baz=116,slow=15,SNR=2.0							
SNAA	Sanae	19.14	142	P	P	15 07 15.8	-1.7
0.1nm,0.3s,baz=295,slow=17,SNR=2.3							
TRQA	Tornquist	25.59	323	P	P	15 08 23.5	-0.1
TRQA				IAmb	IAmb	15 09 02.3	
comp=Z,22nm,1.6s							
PLCA	Paso Flores	26.22	306	P	P	15 08 31.4	+2.0
comp=Z,2.1nm,0.7s,baz=175,slow=11,SNR=4.7							
PLCA	Paso Flores	26.22	306	IAmb	IAmb	15 08 59.3	
comp=Z,18nm,1.7s							
GO02	Mina Guanaco	39.91	320	P	P	15 10 28.0	-0.8
GO02				IAmb	IAmb	15 11 07.3	
comp=Z,39nm,1.8s							
SBA	Scott Base	40.69	189	P	P	15 10 36.5	+2.2
GO01	Chusmiza	44.95	323	P	P	15 11 09.2	-0.8
GO01				IAmb	IAmb	15 11 10.0	
comp=Z,4.9nm,0.8s							
MNMC	Minye Minye	45.58	323	P	P	15 11 14.0	-0.8
CRZF	Crozet Islands	53.08	120	P	P	15 12 11.2	-0.3
SAML	Samuel	53.71	335	P	P	15 12 15.7	-0.7
SAML				IAmb	IAmb	15 12 28.1	
comp=Z,3.0nm,0.8s							
LBTB	Lobatse	57.88	84	P	P	15 12 47.8	+1.3
comp=Z,6.2nm,0.9s,baz=227,slow=7.9,SNR=5.2							
LBTB	Lobatse	57.88	84	IAmb	IAmb	15 14 18.5	
comp=Z,40nm,1.9s							
TSUM	Tsumeb	58.93	73	P	P	15 12 54.9	+1.0
TSUM				IAmb	IAmb	15 13 53.1	
comp=Z,20nm,1.7s							
TORD	Torodi Ar. Bea	81.50	44	P	P	15 15 13.8	+2.1
comp=Z,2.6nm,0.8s,baz=204,slow=6.0,SNR=8.1							
TORD	Torodi Ar. Bea	81.50	44	P	P	15 15 13.0	+1.2
ASAR	Alice Springs	96.06	177	P	P	15 16 20.2	-1.9
comp=Z,0.5nm,1.0s,baz=166,slow=4.8,SNR=3.4							
MKAR	Makanchi Array	145.71	88	PKPbc	PKPab	15 22 33.1	+0.2
comp=Z,1.3nm,0.6s,baz=234,slow=2.5,SNR=5.1							
MKAR	Makanchi Array	145.71	88	PKPdf	PKPab	15 22 32.8	-0.1
ILAR	Eielson Array	146.87	311	PKPbc	PKPbc	15 22 34.9	-0.5
comp=Z,1.2nm,0.9s,baz=143,slow=2.6,SNR=4.7							

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*IDC **17** 15:05:04.5±1.4, 60.°32S×42.°80W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/36, mbtmp3.9/3, ML3.2/1, Error ellipse: s-maj=69.1km s-min=32.2km az=38.0*
*ISCJB **17** 15:05:05.0±0.7, 60.°6S±0.°2×43.°5W±0.°5, h18km, mb3.6/2, Error ellipse: s-maj=42.2km s-min=11.3km az=140.2*
*NEIC **17** 15:05:06.5±2.7, 60.°5S±0.°1×43.°3W±0.°4, h14km±5km, mb4.7/7*
**

Mw3.8
IDC 17 15:18:04.2±1.0, 4°.47N×75°.58W, h193km±7km, mb3.2/10, mb1 3.5/12, mb1mx3.3/40, mbtmp3.8/12, Error ellipse: s-maj=18.4km s-min=14.1km az=88.0
ISC 17 15:17:60.0±0.6, 4°.40N±0°.03×75°.90W±0°.03, h165km±5km, n72, σ1°59/109, 5C-15D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIL	**Santa Ana**	**0.50**	**79**	⇑*iP*	**Pn**	**15 18 24.3**	**+0.9**
ANIL				*eS*	**Sn**	**15 18 41.5**	**+0.3**
ANIL				*i*		15 18 43.8	
	comp=Z,2μm,0.2s						
YOTC	**Yotoco, Valle**	**0.60**	**227**	⇑*iP*	**Pn**	**15 18 23.5**	**-0.2**
YOTC				*eS*	**Sn**	**15 18 40.0**	**-1.8**
YOTC				*i*		15 18 41.5	
	comp=Z,875nm,0.2s						
TOLC	**Tolima**	**0.61**	**72**	⇓*iP*	**Pn**	**15 18 25.1**	**+1.2**
TOLC				*eS*	**Sn**	**15 18 42.6**	**+0.4**
TOLC				*i*		15 18 45.9	
	comp=Z,296nm,0.2s						
PLMC	**San Jos del P**	**0.63**	**323**	*eP*	**Pn**	**15 18 24.7**	**+0.9**
PLMC				*eS*	**Sn**	**15 18 41.7**	**-0.4**
PLMC				*i*		15 18 47.1	
	comp=Z,5μm,0.2s						
RREF	**El Recreo**	**0.75**	**48**	*eP*	**Pn**	**15 18 26.7**	**+1.6**
RREF				*eS*	**Sn**	**15 18 44.9**	**+0.6**
RREF				*i*		15 18 50.2	
	comp=Z,524nm,0.4s						
ORTC	**Ortega, Tolima**	**0.81**	**127**	⇑*iP*	**Pn**	**15 18 25.4**	**+0.5**
ORTC				*eS*	**Sn**	**15 18 43.2**	**-0.7**
ORTC				*i*		15 18 46.3	
	comp=Z,767nm,0.7s						
GUY2C	**Guyana, Caldas**	**0.98**	**33**	⇓*iP*	**Pn**	**15 18 27.7**	**+1.1**
GUY2C				*eS*	**Sn**	**15 18 47.0**	**0.0**
GUY2C				*i*		15 18 51.3	
	comp=Z,689nm,0.6s						
CBOC	**Ciudad Bolivar**	**1.46**	**356**	⇓*iP*	**Pn**	**15 18 31.5**	**+0.9**
CBOC				*eS*	**Sn**	**15 18 54.1**	**-0.1**
CBOC				*i*		15 18 58.2	
	comp=Z,717nm,0.7s						
MALC	**Bahia Malaga**	**1.48**	**255**	*eP*	**Pn**	**15 18 32.3**	**+1.8**
MALC				*eS*	**Sn**	**15 18 53.7**	**-0.3**
MALC				*i*		15 19 06.2	
	comp=Z,608nm,0.8s						
MALC				*i*		15 19 07.3	
	comp=Z,649nm,0.5s						
NORC	**Norcasia**	**1.55**	**41**	⇓*iP*	**Pn**	**15 18 32.4**	**+1.2**
NORC				*eS*	**Sn**	**15 18 55.0**	**-0.4**
NORC				*i*		15 18 57.1	
	comp=Z,191nm,0.2s						
ROSC	**El Rosal**	**1.64**	**74**	*eP*	**Pn**	**15 18 35.0**	**+2.5**
ROSC				*eS*	**Sn**	**15 19 01.4**	**+3.9**
ROSC				*i*		15 19 12.4	
	comp=Z,119nm,1.5s						
ROSC	**El Rosal**	**1.64**	**74**	P	**Pn**	**15 18 34.8**	**+2.3**
	comp=Z,13nm,0.3s,baz=164,slow=4.7,SNR=18						
ROSC				S	**Sn**	**15 19 01.1**	**+3.6**
	comp=Z,20nm,0.3s,baz=72,slow=20,SNR=6.3						
ROSC	**El Rosal**	**1.64**	**74**		**Pn**	**15 18 35.0**	**+2.5**
HELC	**Santa Helena**	**1.82**	**12**	⇓*iP*	**Pn**	**15 18 35.6**	**+1.2**
HELC				*eS*	**Sn**	**15 19 01.4**	**+0.3**
HELC				*i*		15 19 05.7	
	comp=Z,455nm,0.6s						
POPC	**Popayan, Colom**	**2.00**	**203**	⇓*iP*	**Pn**	**15 18 36.3**	**0.0**
POPC				*eS*	**Sn**	**15 19 01.0**	**-3.3**
POPC				*i*		15 19 03.9	
	comp=Z,406nm,0.9s						
PCON	**Cinco Dias**	**2.11**	**194**	⇓*iP*	**Pn**	**15 18 39.4**	**+1.5**
PCON				*eS*	**Sn**	**15 19 08.3**	**+1.1**
PCON				*i*		15 19 09.9	
	comp=Z,370nm,0.4s						
CHIC	**Chingaza**	**2.17**	**84**	*eP*	**Pn**	**15 18 39.7**	**+1.3**
CHIC				*eS*	**Sn**	**15 19 09.3**	**+1.2**
CHIC				*i*		15 19 16.9	
	comp=Z,71nm,0.8s						
SPBC	**San Pablo de B**	**2.21**	**55**	⇓*iP*	**Pn**	**15 18 40.0**	**+1.5**
SPBC				*eS*	**Sn**	**15 19 08.9**	**+0.6**
SPBC				*i*		15 19 11.0	
	comp=Z,68nm,0.5s						
VILC	**Villavicencio,**	**2.22**	**97**	*eP*	**Pn**	**15 18 40.6**	**+2.0**
VILC				*eS*	**Sn**	**15 19 09.5**	**+1.0**
VILC				*i*		15 19 13.3	
	comp=Z,321nm,0.4s						
VILC				*i*		15 19 13.4	
	comp=Z,474nm,1.1s						
SOTA	**Rioblanco**	**2.35**	**198**	⇓*iP*	**Pn**	**15 18 41.7**	**+1.1**
SOTA				*eS*	**Sn**	**15 19 12.5**	**+0.4**
SOTA				*i*		15 19 14.1	
	comp=Z,656nm,0.6s						
PTBC	**PUERTO BERRIO,**	**2.57**	**34**	⇓*iP*	**Pn**	**15 18 43.5**	**+0.8**
PTBC				*eS*	**Sn**	**15 19 15.1**	**-0.8**
PTBC				*i*		15 19 17.9	
	comp=Z,274nm,0.4s						
DBBC	**Dabeiba**	**2.62**	**353**	*eP*	**Pn**	**15 18 45.0**	**+1.5**
DBBC				*eS*	**Sn**	**15 19 18.4**	**+1.2**
DBBC				*i*		15 19 22.6	
	comp=Z,380nm,0.6s						
DBBC				*i*		15 19 29.9	
	comp=Z,366nm,0.6s						
BBAC	**Balboa, Cauca**	**2.71**	**210**	⇓*iP*	**Pn**	**15 18 44.8**	**+0.1**
BBAC				*eS*	**Sn**	**15 19 18.1**	**-1.2**
BBAC				*i*		15 19 21.3	
	comp=Z,471nm,0.4s						
FLOC	**Florencia**	**2.81**	**175**	⇓*iP*	**Pn**	**15 18 46.5**	**+0.8**
FLOC				*eS*	**Sn**	**15 19 20.7**	**-0.4**
FLOC				*i*		15 19 23.1	
	comp=Z,121nm,1.4s						
CRUC	**La Cruz**	**3.00**	**201**	⇑*iP*	**Pn**	**15 18 49.5**	**+1.2**
CRUC				*eS*	**Sn**	**15 19 25.7**	**-0.1**
CRUC				*i*		15 19 30.0	
	comp=Z,260nm,0.4s						
CRUC				*i*		15 19 34.0	
	comp=Z,296nm,0.5s						
MACC	**Macarena, Meta**	**3.03**	**137**	*eP*	**Pn**	**15 18 48.9**	**+0.5**
MACC				*eS*	**Sn**	**15 19 23.4**	**-2.6**
MACC				*i*		15 19 38.3	
	comp=Z,66nm,0.5s						
RUSC	**La Rusia**	**3.17**	**62**	⇓*iP*	**Pn**	**15 18 52.5**	**+1.9**
RUSC				*eS*	**Sn**	**15 19 30.3**	**+0.4**
RUSC				*i*		15 19 32.6	
	comp=Z,134nm,1.1s						
ZARC	**Zaragoza, Cauc**	**3.25**	**19**	⇓*iP*	**Pn**	**15 18 52.5**	**+1.4**
ZARC				*eS*	**Sn**	**15 19 30.7**	**-0.1**
ZARC				*i*		15 19 31.8	
	comp=Z,432nm,0.9s						
BRRC	**Barranca, Sant**	**3.46**	**39**	*eP*	**Pn**	**15 18 54.6**	**+0.9**
BRRC				*eS*	**Sn**	**15 19 34.9**	**-0.8**
BRRC				*i*		15 19 39.1	
	comp=Z,102nm,0.7s						
BARC	**Barichara**	**3.48**	**51**	*eP*	**Pn**	**15 18 56.0**	**+1.8**
BARC				*eS*	**Sn**	**15 19 33.2**	**-3.1**
BARC				*i*		15 19 39.3	
	comp=Z,322nm,0.5s						
BARC				*i*		15 19 39.7	
	comp=Z,314nm,0.4s						
PAMC	**Pamplona, Colo**	**4.32**	**47**	*eP*	**Pn**	**15 19 06.8**	**+1.5**
PAMC				*eS*	**Sn**	**15 19 55.7**	**-0.5**
PAMC				*i*		15 20 02.8	
	comp=Z,69nm,0.5s						
PAMC				*i*		15 20 05.2	
	comp=Z,72nm,0.7s						
OCAC	**Ocana**	**4.60**	**34**	*eP*	**Pn**	**15 19 09.4**	**+0.9**
OCAC				*eS*	**Sn**	**15 20 01.2**	**-1.0**
OCAC				*i*		15 20 07.0	
	comp=Z,233nm,0.5s						
UPD2	**Meteti**	**4.63**	**333**	*eS*	**Sn**	**15 20 04.4**	**+1.7**
SMLC	**San Martn de**	**4.74**	**22**	⇑*iP*	**Pn**	**15 19 11.2**	**+1.0**
SMLC				*eS*	**Sn**	**15 20 03.5**	**-1.8**
SMLC				*i*		15 20 05.4	
	comp=Z,174nm,0.4s						
OTAV	**Otavalo**	**4.85**	**212**	*eP*	**Pn**	**15 19 11.9**	**-0.3**
OTAV				*eS*	**Sn**	**15 20 08.8**	**+0.2**
OTAV				*i*		15 20 14.0	
	comp=Z,46nm,2.6s						
OTAV	**Otavalo**	**4.85**	**212**	Pn	**Pn**	**15 19 11.8**	**-0.3**
AZU	**Azuero**	**5.50**	**308**	*eP*	**Pn**	**15 19 22.1**	**+1.8**
AZU				*eS*	**Sn**	**15 20 23.4**	**+0.2**
AZU				*i*		15 20 31.9	
	comp=Z,162nm,0.6s						
SJCC	**San Jacinto, C**	**5.51**	**7**	*eP*	**Pn**	**15 19 22.1**	**+1.6**
SJCC				*eS*	**Sn**	**15 20 22.2**	**-1.4**
SJCC				*i*		15 20 28.3	
	comp=Z,22nm,2.1s						
UPA	**Univ. de Panam**	**5.81**	**322**	*eS*	**Sn**	**15 20 30.1**	**-0.4**
CODC	**Agustn Codazz**	**6.02**	**24**	⇓*eP*	**Pn**	**15 19 28.4**	**+1.2**
CODC				*eS*	**Sn**	**15 20 32.0**	**-3.6**
CODC				*i*		15 20 48.7	
	comp=Z,29nm,0.4s						
BCIP	**Isla Barro Col**	**6.14**	**321**	*eP*	**Pn**	**15 19 31.1**	**+2.3**
BCIP				*eS*	**Sn**	**15 20 39.4**	**+0.9**
BCIP				*i*		15 21 03.7	
	comp=Z,60nm,1.4s						
BCIP	**Isla Barro Col**	**6.14**	**321**	Pn	**Pn**	**15 19 31.3**	**+2.6**
SDV	**Santo Domingo**	**6.88**	**49**	P	**Pn**	**15 19 39.6**	**+1.0**
	comp=Z,4.7nm,0.3s,baz=222,slow=10.0,SNR=8.0						
SDV				S	**Sn**	**15 20 53.9**	**-2.3**
	comp=Z,16nm,0.3s,baz=248,slow=19,SNR=26						
SDV	**Santo Domingo**	**6.88**	**49**		**Pn**	**15 19 39.1**	**+0.5**
URIC	**Uribia, Colomb**	**8.22**	**28**	*eP*	**Pn**	**15 19 56.5**	**+0.2**
URIC				*eS*	**Sn**	**15 21 21.9**	**-6.3**
URIC				*i*		15 21 26.3	
	comp=Z,22nm,0.8s						
ATAH	**Atahualpa**	**11.72**	**192**	P	**P**	**15 20 48.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=18,slow=16,SNR=2.8						
MTDJ	**Mount Denham**	**13.84**	**353**		**P**	**15 21 11.3**	**-1.1**
BANI	**BANI**	**14.93**	**21**	P	**P**	**15 21 25.4**	**+0.8**
AOPR	**Arecibo Observ**	**16.50**	**32**	P	**P**	**15 21 41.9**	**0.0**
SVB	**Belmont**	**16.94**	**58**	P	**P**	**15 21 44.6**	**-2.1**
SAML	**Samuel**	**18.34**	**136**	P	**P**	**15 22 02.4**	**+0.3**
LPAZ	**La Paz**	**21.94**	**160**	P	**P**	**15 22 43.3**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=333,slow=6.8,SNR=3.2						
MDP	**Montagnes des**	**23.19**	**87**	P	**P**	**15 22 52.0**	**-0.3**
	comp=Z,9.4nm,1.1s,baz=280,slow=11,SNR=4.1						
GO01	**Chusmiza**	**24.81**	**165**	P	**P**	**15 23 08.9**	**+1.4**
GO01				IAmb	IAmb	15 23 29.5	
	comp=Z,26nm,1.9s						
SIV	**San Ignacio**	**25.01**	**144**	P	**P**	**15 23 09.6**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=326,slow=8.9,SNR=17						
833A	**Chaparral WMA,**	**32.64**	**319**	P	**P**	**15 24 15.5**	**-0.9**
833A				IAmb	IAmb	15 24 55.9	
	comp=Z,8.6nm,0.7s						
BDFB	**Brasilia**	**34.03**	**126**	P	**P**	**15 24 28.6**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=309,slow=13,SNR=3.8						
BDFB	**Brasilia**	**34.03**	**126**	IAmb	IAmb	15 25 10.3	
	comp=Z,19nm,1.6s						
CPUP	**Villa Florida**	**35.45**	**150**	P	**P**	**15 24 40.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=331,slow=14,SNR=2.7						
CPUP	**Villa Florida**	**35.45**	**150**	IAmb	IAmb	15 24 59.6	
	comp=Z,8.9nm,1.4s						
TXAR	**Lajitas Array**	**36.15**	**316**	PcP	**PcP**	**15 27 09.8**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=120,slow=5.3,SNR=2.9						
LENM	**Lemitar**	**41.35**	**320**	P	**P**	**15 25 28.0**	**-2.0**
PDAR	**Pinedale Array**	**48.50**	**327**	P	**P**	**15 26 29.3**	**+2.9**
	comp=Z,0.2nm,0.4s,baz=106,slow=8.5,SNR=2.6						
NVAR	**Mina Array Bea**	**51.29**	**317**	P	**P**	**15 26 49.7**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=107,slow=6.1,SNR=3.3						
ESDC	**Sonseca Array**	**73.32**	**50**	P	**P**	**15 29 13.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=253,slow=7.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.95**	**78**	P	**P**	**15 29 32.8**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=277,slow=4.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.95**	**78**	P	**P**	**15 29 33.5**	**-1.4**
GERES	**GERESS Array B**	**86.46**	**41**	P	**P**	**15 30 25.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=311,slow=9.0,SNR=4.8						
GERES	**GERESS Array B**	**86.46**	**41**	P	**P**	**15 30 23.3**	**-0.9**
ASAR	**Alice Springs**	**145.46**	**233**	PKPbc	**PKPab**	**15 37 20.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=118,slow=3.7,SNR=8.4						
ASAR	**Alice Springs**	**145.46**	**233**		**PKPab**	**15 37 20.0**	**0.0**
WRA	**Warramunga Arr**	**146.74**	**240**	PKPbc	**PKPbc**	**15 37 23.9**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=110,slow=3.0,SNR=4.8						

ISCJB 17 15:21:53.1±1.1, 60°.1S±0°.1×45°.5W±0°.3, h10km, mb3.5/3, Error ellipse: s-maj=21.7km s-min=20.1km az=41.1
IDC 17 15:21:53.2±1.0, 60°.02S×45°.37W, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/26, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=33.1km s-min=27.2km az=71.0
ISC 17 15:21:54.8±1.0, 60°.05±0°.2×45°.5W±0°.2, h10km, n7, σ0°96/7, mb3.7/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**9.83**	**233**	Pn	**Pn**	**15 24 15.9**	**-0.1**
	0.4nm,0.3s,baz=62,slow=13,SNR=3.7						
SNAA	**Sanae**	**20.39**	**142**	P	**P**	**15 26 30.1**	**-1.3**
	2.6nm,1.1s,baz=288,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**24.82**	**310**	P	**P**	**15 27 16.6**	**-0.4**
	1.7nm,0.9s,baz=168,slow=9.3,SNR=3.1						
QSPA	**South Pole Qui**	**30.20**	**180**	P	**P**	**15 28 06.0**	**+0.9**
	0.8nm,0.8s,baz=162,slow=6.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**82.12**	**46**	P	**P**	**15 34 16.0**	**+0.6**
	0.4nm,0.6s,baz=193,slow=5.6,SNR=2.4						
ILAR	**Eielson Array**	**145.49**	**312**	PKPbc	**PKPab**	**15 41 31.1**	**-0.7**
	0.4nm,0.7s,baz=118,slow=3.2,SNR=4.8						
MKAR	**Makanchi Array**	**147.09**	**90**	PKPbc	**PKPdf**	**15 41 35.0**	**+0.2**
	0.6nm,0.7s,baz=235,slow=2.4,SNR=4.5						

ISCJB 17 15:24:29.7±0.4, 60°.25S±0°.06×45°.8W±0°.1, h10km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=7.0km az=41.2
IDC 17 15:24:29.5±0.7, 60°.30S×45°.85W, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/24, mbtmp4.2/8, ML3.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.3/19, Error ellipse: s-maj=28.2km s-min=19.7km az=60.0
NEIC 17 15:24:32.1±1.7, 60°.27S±0°.09×45°.8W±0°.2, h15km±3km, mb4.7/13
ISC 17 15:24:31.2±0.5, 60°.27S±0°.08×45°.80W±0°.08, h10km, n50, σ0°84/45, mb4.6/10, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.83**	**44**		**Pn**	**15 26 23.9**	**-1.1**
PMSA	**Palmer Station**	**9.55**	**234**	Pn	**Pn**	**15 26 48.3**	**-0.2**
	2.2nm,0.3s,baz=80,slow=11,SNR=8.1						
PMSA	**Palmer Station**	**9.55**	**234**		**Pn**	**15 26 47.3**	**-1.3**
EFI	**East Falkland**	**11.00**	**316**	Pn	**Pn**	**15 27 09.8**	**+1.4**
USHA	**Ushuaia**	**13.28**	**284**	Pn	**Pn**	**15 27 40.1**	**+0.6**
	0.4nm,0.3s,baz=113,slow=13,SNR=5.0						
USHA				LR	LR	15 31 54.5	
	comp=Z,429nm,18.7s,baz=76,slow=34						
GO10	**Punta Arenas**	**15.51**	**286**	Pn	**Pn**	**15 28 10.5**	**+0.7**
GO10				IAmb	IAmb	15 28 32.1	
	comp=Z,90nm,1.3s						
VNA3	**Neumayer Olymp**	**18.10**	**142**	P	**P**	**15 28 43.5**	**+0.8**
VNA1	**Neumayer--Stat**	**18.36**	**140**	P	**P**	**15 28 46.6**	**+1.0**
VNA2	**Neumayer--Watz**	**18.71**	**140**	P	**Pn**	**15 28 50.8**	**+0.9**
	baz=290,slow=14						
SNAA	**Sanae**	**20.32**	**142**	P	Pn	15 29 07.8	-1.3
SNAA	**Sanae**	**20.32**	**142**	P	**P**	**15 29 06.9**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=266,slow=12,SNR=7.7						
SNAA	**Sanae**	**20.32**	**142**	P	**P**	**15 29 07.0**	**-0.1**
TRQA	**Tornquist**	**24.48**	**328**	P	**P**	**15 29 51.1**	**+0.8**
TRQA				IAmb	IAmb	15 30 04.4	
	comp=Z,16nm,1.1s						
PLCA	**Paso Flores**	**24.84**	**311**	P	**P**	**15 29 53.2**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=173,slow=11,SNR=4.7						
PLCA	**Paso Flores**	**24.84**	**311**	P	**P**	**15 29 53.7**	**+0.1**
PLCA				IAmb	IAmb	15 30 35.0	
	comp=Z,22nm,1.8s						
GO06	**Curarrehue**	**26.18**	**311**	P	**P**	**15 30 05.6**	**-0.2**
GO06				IAmb	IAmb	15 30 13.6	
	comp=Z,30nm,1.9s						
QSPA	**South Pole Qui**	**29.97**	**180**	P	**P**	**15 30 38.1**	**-1.4**
	comp=Z,5.5nm,0.6s,baz=181,slow=1.5,SNR=51						
QSPA	**South Pole Qui**	**29.97**	**180**	P	**P**	**15 30 39.5**	**0.0**
QSPA				IAmb	IAmb	15 30 40.8	
	comp=Z,16nm,1.4s						
SYO	**Syowa Base**	**34.60**	**141**	⇑*e*PnPn	PnPn	15 32 28.8	-6.1
SBA	**Scott Base**	**40.69**	**190**	P	**P**	**15 32 11.4**	**+0.3**
MNMC	**Minye Minye**	**44.47**	**327**	P	**P**	**15 32 42.1**	**-0.6**
LPAZ	**La Paz**	**46.81**	**330**	P	**P**	**15 33 01.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=166,slow=8.3,SNR=2.1						
LPAZ	**La Paz**	**46.81**	**330**	P	**P**	**15 33 01.9**	**+0.3**
SUR	**Sutherland**	**50.99**	**88**	P	**P**	**15 33 33.8**	**+0.7**
H10N3	**ASCENSION HYDR**	**57.35**	**38**	T	T	16 36 57.8	
	baz=199,slow=75,SNR=9.0						
H10N1	**ASCENSION HYDR**	**57.35**	**38**	T	T	16 36 58.0	
	baz=199,slow=75,SNR=6.9						
H10N2	**ASCENSION HYDR**	**57.37**	**38**	T	T	16 36 59.1	
	baz=199,slow=75,SNR=9.4						
LBTB	**Lobatse**	**59.41**	**87**	P	**P**	**15 34 32.6**	**-1.3**
LSZ	**Lusaka**	**68.92**	**84**	P	**P**	**15 35 35.9**	**-0.5**
LSZ				IAmb	IAmb	15 35 46.3	
	comp=Z,6.1nm,0.9s						
LIC	**Lamto**	**73.62**	**43**	*eP*	**P**	**15 36 05.0**	**+0.4**
	comp=Z,30nm,1.3s						
LIC	**Lamto**	**73.62**	**43**	P	**P**	**15 36 05.0**	**+0.4**
KIC	**Kosan Boka**	**73.85**	**43**	*eP*	**P**	**15 36 06.7**	**+0.8**
	comp=Z,41nm,1.5s						
KIC	**Kosan Boka**	**73.85**	**43**	P	**P**	**15 36 06.7**	**+0.8**
TIC	**Toumodi**	**74.02**	**42**	*eP*	**P**	**15 36 06.9**	**0.0**
TIC	**Toumodi**	**74.02**	**42**	P	**P**	**15 36 06.9**	**0.0**
TORD	**Torodi Ar. Bea**	**82.41**	**46**	P	**P**	**15 36 53.5**	**+0.2**
	comp=Z,4.8nm,1.2s,baz=203,slow=5.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**82.41**	**46**	P	**P**	**15 36 53.3**	**0.0**
ASAR	**Alice Springs**	**96.37**	**180**	P	**P**	**15 38 01.3**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=130,slow=3.9,SNR=8.7						
ASAR	**Alice Springs**	**96.37**	**180**	P	**P**	**15 38 01.0**	**+0.8**
WRA	**Warramunga Arr**	**100.08**	**180**	P	**Pdif**	**15 38 15.4**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=180,slow=4.4,SNR=4.2						
AKASG	**Malin Array Be**	**125.95**	**49**	PKP	**PKPdf**	**15 43 31.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=220,slow=0.7,SNR=3.6						
BRVK	**Borovoye**	**145.43**	**73**		**PKPdf**	**15 44 07.4**	**-0.6**
ILAR	**Eielson Array**	**145.52**	**312**	PKPbc	**PKPdf**	**15 44 06.6**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=142,slow=3.5,SNR=12						
ILAR	**Eielson Array**	**145.52**	**312**		**PKPdf**	**15 44 06.5**	**-1.4**
RND	**Reindeer**	**145.57**	**309**		**PKPdf**	**15 44 07.2**	**-0.9**
WRH	**Wood River Hil**	**145.82**	**311**		**PKPdf**	**15 44 07.5**	**-0.8**
MKAR	**Makanchi Array**	**147.26**	**91**	PKPbc	**PKPdf**	**15 44 12.2**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=236,slow=3.6,SNR=9.2						
MKAR	**Makanchi Array**	**147.26**	**91**		**PKPdf**	**15 44 12.0**	**+0.6**
SONM	**Songino Array**	**159.66**	**115**	PKPab	**PKPab**	**15 45 09.6**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=238,slow=2.8,SNR=5.2						
SONM	**Songino Array**	**159.66**	**115**		**PKPab**	**15 45 08.4**	**+0.4**

IDC 17 15:25:01.7±0.8, 13°.30N×123°.61E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.8/48, mbtmp4.0/12, ML4.4/1, Error ellipse: s-maj=19.5km s-min=13.5km az=58.0
ISCJB 17 15:25:04.3±0.3, 13°.40N±0°.04×123°.59E±0°.05, h29km, mb4.0/11, Error ellipse: s-maj=7.2km s-min=5.2km az=147.8
MAN 17 15:25:04.6, 13°.46N×123°.56E, h20km, mb4.6, ML3.5, MS3.3
NEIC 17 15:25:07.8±1.2, 13°.25N±0°.07×123°.5E±0°.1, h51km±10km, mb4.3/16
ISC 17 15:25:05.8±0.5, 13°.33N±0°.05×123°.52E±0°.05, h29km, n46, σ1°14/45, mb4.2/18, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.19**	**299**	⇑*iP*	**Pn**	**15 25 24.9**	**-1.5**
GQP				*i* S	**Sb**	**15 25 41.9**	**-0.8**
CNP	**Catarman**	**1.39**	**126**	*eP*	**Pn**	**15 25 28.7**	**-0.4**
CNP				*eS*	**Sb**	**15 25 48.6**	**+0.3**
OTRP	**Odiongan**	**1.75**	**237**	*eP*	**Pb**	**15 25 36.6**	**-0.7**
RCP	**Roxas**	**1.92**	**203**	⇓*eP*	**Pn**	**15 25 37.4**	**+0.9**
LQP	**Lukban**	**2.07**	**292**	⇑*eP*	**Pb**	**15 25 42.6**	**-0.2**
SJMP	**San Jose**	**2.49**	**250**	*eP*	**Pn**	**15 25 45.8**	**+1.4**
BESP	**Borongan**	**2.55**	**132**	*eP*	**Pn**	**15 25 46.4**	**+1.3**
TGY	**Tagaytay City**	**2.62**	**287**	Pn	**Pn**	**15 25 48.2**	**+2.0**
	70nm,0.3s,baz=124,slow=6.7,SNR=11						
TGY				Lg	Lg	15 26 28.1	
	37nm,0.3s,baz=128,slow=12,SNR=2.8						
GUIM	**Jordan**	**2.84**	**199**	*eP*	**Pn**	**15 25 51.7**	**+2.5**
MSLP	**Maasin**	**3.44**	**157**	*eP*	**Pn**	**15 25 57.6**	**+0.1**
SSLB	**Suanglung**	**10.68**	**347**	Pn	**Pn**	**15 27 39.1**	**+2.2**
KAPI	**Kappang**	**18.61**	**192**	P	**Pn**	**15 29 21.2**	**-0.2**
SLVN	**Son La**	**20.33**	**296**	P	**P**	**15 29 40.0**	**+0.1**
ENH	**Enshi**	**21.27**	**325**	P	**P**	**15 29 49.1**	**-0.8**
ENH				IAmb	IAmb	15 29 54.7	
	comp=Z,9.1nm,0.7s						
SAUI	**Saumlaki**	**22.54**	**160**	P	**P**	**15 30 01.8**	**-1.9**
BATI	**Baumata**	**23.39**	**180**	P	**P**	**15 30 10.3**	**-2.0**
	comp=Z,13nm,0.7s,baz=327,slow=9.0,SNR=3.7						
IPM	**Ipoh**	**23.88**	**250**	P	**P**	**15 30 17.6**	**+0.4**
IPM				IAmb	IAmb	15 30 19.0	
	comp=Z,6.1nm,0.8s						
CM31	**Chiang Mai Arr**	**24.17**	**285**	P	**P**	**15 30 20.6**	**+0.8**
CM31				IAmb	IAmb	15 30 22.0	
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**24.17**	**285**	P	**P**	**15 30 20.1**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=95,slow=7.9,SNR=43						
CMAR	**Chiang Mai Arr**	**24.17**	**285**	P	**P**	**15 30 19.5**	**-

IDC 17 15:25:45.2±2.4, 60°79S×44°51W, h0km, mb4.2/1, mb1 4.2/1, mb1mx3.6/21, mbtmp4.2/1, Error ellipse: s-maj=139.7km s-min=76.4km az=176.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**82.31**	**45**	P	P	15 38 08.4	0.0
	2.1nm,0.9s,baz=213,slow=5.4,SNR=4.2						
ILAR	**Eielson Array**	**146.35**	**311**	PKPbc	PKPdf	15 45 25.3	+0.4
	0.6nm,0.7s,baz=136,slow=2.1,SNR=2.5						
MKAR	**Makanchi Array**	**146.62**	**90**	PKPbc	PKPbc	15 45 26.8	-0.8
	1.4nm,0.6s,baz=236,slow=3.9,SNR=5.1						

SJA 17 15:28:13.0±1.0, 23°52S×66°84W, h205km±8km, ML3.0, MW3.0
ISCJB 17 15:28:14.3±1.0, 23°54S±0°05×66°92W±0°04, h191km±10km, Error ellipse: s-maj=8.9km s-min=5.3km az=21.1
GUC 17 15:28:15.3±0.6, 23°52S×67°39W, h228km±8km, ML3.8

ISC 17 15:28:12.9±2.5, 23°54S±0°06×66°88W±0°05, h209km±22km, n24, σ0°97/37, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.72**	**133**	*i* P	**Pn**	**15 28 50.7**	**+1.2**
SLA				IAML		15 28 50.9	
	comp=Z,81nm,0.3s						
SLA				*e*S	**S**	**15 29 17.3**	**-0.5**
AZAP	**Zapla**	**1.79**	**113**	*i* P	**Pn**	**15 28 50.1**	**-0.2**
AZAP				*e*S	**S**	**15 29 18.0**	**-1.1**
YJA	**Yavi**	**1.85**	**43**	*i* P	**Pn**	**15 28 51.6**	**+0.5**
YJA				*e*S	**S**	**15 29 19.7**	**-0.8**
LVC	**Limon Verde**	**2.09**	**296**	*e*P	**Pn**	**15 28 54.4**	**+1.0**
LVC				*e*S	**S**	**15 29 26.6**	**+0.1**
LVC	**Limon Verde**	**2.09**	**296**	*i* P	**Pn**	**15 28 54.3**	**+0.8**
LVC				IAML		15 28 55.4	
	comp=Z,18nm,0.3s						
LVC				*e*S	**S**	**15 29 24.3**	**-0.2**
PB15	**IPOC Station P**	**2.41**	**277**	⇑*i*P	**Pn**	**15 28 57.4**	**+0.8**
PB15				*i* S	**S**	**15 29 30.2**	**+0.1**
PB15	**IPOC Station P**	**2.41**	**277**	*i* P	**Pn**	**15 28 57.4**	**+0.8**
PB06	**IPOC Station P**	**2.62**	**288**	⇑*i*P	**Pn**	**15 28 59.6**	**+0.7**
PB06				*e*S	**S**	**15 29 33.3**	**-0.9**
PB06				IAML		15 29 35.5	
	comp=E,187nm,0.1s						
PB06	**IPOC Station P**	**2.62**	**288**	*i* P	**Pn**	**15 28 59.5**	**+0.7**
PB09	**IPOC Station P**	**2.79**	**308**	*e*P	**Pn**	**15 29 02.3**	**+1.4**
PB09				*i* S	**S**	**15 29 38.0**	**+0.2**
PB09	**IPOC Station P**	**2.79**	**308**	*i* P	**Pn**	**15 29 02.3**	**+1.4**
PB09				IAML		15 29 40.8	
	comp=Z,40nm,0.2s						
GO02	**Mina Guanaco**	**2.96**	**236**	⇑*i*P	**Pn**	**15 29 03.4**	**+0.6**
GO02				*i* S	**S**	**15 29 41.4**	**+0.1**
GO02				IAML		15 29 44.2	
	comp=N,172nm,0.1s						
PB03	**IPOC Station P**	**3.04**	**299**	⇑*i*P	**Pn**	**15 29 04.2**	**+0.4**
PB03				*e*S	**S**	**15 29 41.3**	**-1.7**
PB03				IAML		15 29 42.5	
	comp=N,197nm,0.5s						
PB03	**IPOC Station P**	**3.04**	**299**	*i* P	**Pn**	**15 29 04.2**	**+0.4**
PB04	**IPOC Station P**	**3.25**	**291**	*e*P	**Pn**	**15 29 06.7**	**+0.5**
PB04				*i* S	**S**	**15 29 45.5**	**-1.8**
PB04				IAML		15 29 47.4	
	comp=N,112nm,0.3s						
PB04	**IPOC Station P**	**3.25**	**291**	*i* P	**Pn**	**15 29 06.4**	**+0.3**
PB04				IAML		15 29 50.4	
	comp=Z,67nm,0.3s						
PB07	**IPOC Station P**	**3.32**	**302**	⇑*i*P	**Pn**	**15 29 07.3**	**+0.3**
PB07				*i* S	**S**	**15 29 46.9**	**-1.9**
PB07	**IPOC Station P**	**3.32**	**302**	*i* P	**Pn**	**15 29 07.3**	**+0.3**
PB10	**IPOC Station P**	**3.38**	**270**	⇑*i*P	**Pn**	**15 29 08.0**	**+0.5**
PB10				*i* S	**S**	**15 29 47.7**	**-2.0**
PB10	**IPOC Station P**	**3.38**	**270**	*i* P	**Pn**	**15 29 08.2**	**+0.8**
PB14	**IPOC Station P**	**3.40**	**251**	*i* P	**Pn**	**15 29 08.9**	**+0.8**
AHML	**Horco Molle**	**3.52**	**157**	*i* P	**Pn**	**15 29 09.6**	**+0.4**
PB02	**IPOC Station P**	**3.56**	**308**	*i* P	**Pn**	**15 29 10.7**	**+0.8**
LPAZ	**La Paz**	**7.31**	**350**	*i* P	**Pn**	**15 29 59.2**	**+1.3**

ISCJB 17 15:31:13.8±2.3, 61°3S±0°3×44°3W±0°5, h10km, mb3.6/1, Error ellipse: s-maj=48.6km s-min=14.9km az=135.7
NEIC 17 15:31:21.0±0.3, 60°9S±0°1×45°2W±0°3, h15km±8km, mb4.6/4
IDC 17 15:31:20.9±1.6, 60°81S×45°80W, h0km, mb3.7/1, mb1 3.8/2, mb1mx3.5/19, mbtmp3.8/2, ML3.6/1, Error ellipse: s-maj=119.1km s-min=40.4km az=149.0

ISC 17 15:31:20.6±1.1, 60°85±0°2×45°3W±0°2, h10km, n11, σ1°52/11, mb4.5/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.09**	**40**	Pn	**Pn**	**15 33 15.3**	**-2.7**
PMSA	**Palmer Station**	**9.42**	**237**	Pn	**Pn**	**15 33 34.9**	**-1.3**
	0.7nm,0.3s,baz=43,slow=19,SNR=5.4						
PMSA	**Palmer Station**	**9.42**	**237**		**Pn**	**15 33 34.8**	**-1.4**
TRQA	**Tornquist**	**25.07**	**328**	P	**P**	**15 36 45.3**	**+0.3**
TRQA				IAmb	IAmb	15 37 03.8	
	comp=Z,25nm,1.6s						
GO02	**Mina Guanaco**	**39.33**	**324**	P	**P**	**15 38 50.4**	**+0.3**
GO02				IAmb	IAmb	15 39 37.8	
	comp=Z,51nm,2.0s						
MNMC	**Minye Minye**	**45.05**	**327**	P	**P**	**15 39 37.1**	**+0.3**
SAML	**Samuel**	**53.44**	**338**	P	**P**	**15 40 40.9**	**+0.3**
SAML				IAmb	IAmb	15 41 34.4	
	comp=Z,7.4nm,1.6s						
TORD	**Torodi Ar. Bea**	**82.63**	**46**	P	**P**	**15 43 46.2**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=198,slow=5.1,SNR=2.8						
ILAR	**Eielson Array**	**146.06**	**311**	PKPbc	**PKPab**	**15 50 59.9**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=134,slow=3.9,SNR=4.1						
ILAR	**Eielson Array**	**146.06**	**311**	PKPbc	**PKPdf**	**15 50 59.0**	**+0.9**
MKAR	**Makanchi Array**	**147.03**	**91**	PKPbc	**PKPab**	**15 51 04.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=220,slow=2.0,SNR=3.5						

IDC 17 15:34:21.9±1.4, 60°53S×43°19W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.7/18, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=63.8km s-min=29.7km az=37.0
ISCJB 17 15:34:23.1±0.8, 60°5S±0°2×43°1W±0°4, h18km, mb3.6/2, Error ellipse: s-maj=36.0km s-min=13.7km az=147.9
NEIC 17 15:34:24.1±0.7, 60°4S±0°2×43°0W±0°4, h14km±5km, mb4.5/7

ISC 17 15:34:24.5±0.8, 60°5S±0°2×43°1W±0°2, h18km, n14, σ0°67/14, mb4.4/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.31**	**142**	P	**Pn**	**15 38 49.1**	**-0.2**
	0.1nm,0.3s,baz=281,slow=5.3,SNR=5.1						
SNAA	**Sanae**	**19.31**	**142**	P	**Pn**	**15 38 49.1**	**-0.2**
PLCA	**Paso Flores**	**26.03**	**307**	P	**P**	**15 39 56.5**	**0.0**
	1.9nm,1.0s,baz=148,slow=19,SNR=2.5						
PLCA	**Paso Flores**	**26.03**	**307**	P	**P**	**15 39 56.4**	**-0.1**
PLCA				IAmb	IAmb	15 40 15.3	
	comp=Z,27nm,2.0s						
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**15 40 30.2**	**+0.6**
QSPA				IAmb	IAmb	15 40 49.5	
	comp=Z,12nm,1.6s						
GO02	**Mina Guanaco**	**39.74**	**321**	P	**P**	**15 41 56.2**	**-0.1**
LPAZ	**La Paz**	**47.70**	**327**	P	**P**	**15 43 01.3**	**+0.7**
LPAZ				IAmb	IAmb	15 44 25.7	
	comp=Z,5.7nm,1.6s						
SAML	**Samuel**	**53.58**	**335**	P	**P**	**15 43 44.2**	**-0.1**
SAML				IAmb	IAmb	15 43 50.1	
	comp=Z,14nm,1.9s						
TORD	**Torodi Ar. Bea**	**81.59**	**44**	P	**P**	**15 46 42.3**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=193,slow=5.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.59**	**44**	P	**P**	**15 46 40.7**	**-0.3**
MKAR	**Makanchi Array**	**145.91**	**89**	PKPbc	**PKPdf**	**15 53 59.7**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=220,slow=1.1,SNR=4.1						
MKAR	**Makanchi Array**	**145.91**	**89**		**PKPdf**	**15 54 00.6**	**-0.5**
ILAR	**Eielson Array**	**146.68**	**311**	PKPbc	**PKPbc**	**15 54 03.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=147,slow=2.2,SNR=3.1						
ILAR	**Eielson Array**	**146.68**	**311**		**PKPab**	**15 54 04.2**	**-0.5**

ISCJB 17 15:45:16.1±0.4, 2°91S±0°03×129°17E±0°03, h28km, mb4.1/9, Error ellipse: s-maj=5.3km s-min=4.4km az=34.3
DJA 17 15:45:16.3±0.3, 3°S±3°×12°9E±°, h10km, M4.2/10, mb4.4/4, mB4.8/1, MLv4.1/10, Mw(mB)4.1/1
NEIC 17 15:45:20.6±3.1, 2°97S±0°09×129°37E±0°10, h71km±7km, mb4.2/7
IDC 17 15:45:20.4±1.6, 2°96S×129°37E, h69km±17km, mb3.6/6, mb1 3.9/11, mb1mx3.6/36, mbtmp4.0/11, Error ellipse: s-maj=16.2km s-min=9.8km az=91.0

ISC 17 15:45:17.6±0.6, 2°96S±0°05×129°22E±0°05, h28km, n38, σ1°99/41, mb4.4/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.48**	**217**	P	**Pb**	**15 45 26.5**	**-1.1**
MSAI				S	**Sb**	**15 45 34.5**	**+0.1**
AAI	**Ambon**	**1.25**	**235**	P	**Pb**	**15 45 40.5**	**-0.1**
BNDI	**Bandanaira**	**1.69**	**156**	P	**Pb**	**15 45 48.2**	**+0.1**
NLAI	**Namlea**	**2.13**	**263**	P	**Pn**	**15 45 52.3**	**+0.9**
SIJI	**Sorong**	**2.92**	**45**	P	**Pn**	**15 46 02.1**	**-0.1**
	76nm,0.3s,baz=270,slow=12,SNR=407						
SIJI				S	**Sn**	**15 46 36.5**	**+0.1**
	14nm,0.3s,baz=197,slow=19,SNR=7.6						
SWI	**Sorong**	**2.92**	**44**	P	**Pn**	**15 46 02.5**	**+0.3**
SWI				S	**Sn**	**15 46 36.7**	**+0.3**
FAKI	**Fak Fak**	**3.03**	**89**	P	**Pn**	**15 46 04.6**	**+0.9**
FAKI	**Fak Fak**	**3.03**	**89**		**Pn**	**15 46 04.5**	**+0.8**
SANI	**Sanana**	**3.35**	**286**	P	**Pn**	**15 46 06.6**	**-1.6**
SANI				S	**Sn**	**15 46 45.1**	**-2.0**
APSI	**Ampana**	**7.84**	**285**	P	**Pn**	**15 47 10.0**	**+0.2**
MRSI	**Marisa**	**8.04**	**295**	P	**Pn**	**15 47 12.5**	**-0.1**
BATI	**Baumata**	**9.07**	**217**	P	Pn	15 47 31.8	+5.0
	1.5nm,0.3s,baz=30,slow=8.1,SNR=3.4						
KAPI	**Kappang**	**9.66**	**258**	P	**Pn**	**15 47 39.1**	**+4.2**
	0.6nm,0.3s,baz=112,slow=9.4,SNR=7.8						
KAPI	**Kappang**	**9.66**	**258**	Pn	Pn	15 47 39.5	+4.6
MTN	**Manton Dam**	**10.00**	**169**	Pn	**Pn**	**15 47 42.1**	**+2.6**
KNRA	**Kununurra**	**12.64**	**182**	Pn	**Pn**	**15 48 16.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**15.44**	**193**	P	**Pn**	**15 48 53.7**	**0.0**
	0.3nm,0.3s,baz=355,slow=8.7,SNR=15						
FITZ	**Fitzroy Crossi**	**15.44**	**193**	P	**Pn**	**15 48 55.2**	**+1.6**
FITZ				IAmb	IAmb	15 48 57.5	
	comp=Z,36nm,1.9s						
WRA	**Warramunga Arr**	**17.60**	**164**	P	**Pn**	**15 49 19.2**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=344,slow=13,SNR=18						
WRA				S	**Sn**	**15 52 37.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=352,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**17.60**	**164**	P	**Pn**	**15 49 18.2**	**-2.8**
WB2	**Warramunga Arr**	**17.60**	**164**	P	**Pn**	**15 49 19.9**	**-1.2**
AS31	**Alice Springs**	**21.07**	**168**	P	**P**	**15 49 58.9**	**-1.0**
AS31				IAmb	IAmb	15 50 00.5	
	comp=Z,4.4nm,0.6s						
ASAR	**Alice Springs**	**21.07**	**168**	P	**P**	**15 49 59.2**	**-0.7**
	comp=Z,11nm,0.7s,baz=349,slow=11,SNR=167						
ASAR				S	**S**	**15 53 50.6**	**-2.6**
	comp=Z,1.6nm,0.8s,baz=350,slow=24,SNR=7.7						
ASAR	**Alice Springs**	**21.07**	**168**	P	**P**	**15 49 58.6**	**-1.3**
KULM	**Kulim**	**29.69**	**286**	P	**P**	**15 51 23.1**	**+1.6**
KULM				IAmb	IAmb	15 52 12.5	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**30.38**	**169**	P	**P**	**15 51 26.4**	**-0.9**
RPSI	**Rantau Prapat**	**30.80**	**280**	P	**P**	**15 51 30.8**	**-0.5**
PSI	**Prapat**	**30.82**	**280**	P	**P**	**15 51 30.8**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=90,slow=20,SNR=6.3						
CMAR	**Chiang Mai Arr**	**36.63**	**307**	P	**P**	**15 52 20.3**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=129,slow=7.1,SNR=2.7						
LZH	**Lanzhou**	**45.51**	**331**	*e*P	P	15 53 39.8	+4.8
LZH				pP	sP	15 53 57.0	+10
LZH				sP	pP	15 54 05.3	+22
LZH				*e*PP	**PP**	**15 55 28.8**	**+6.9**
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				pmax	pmax		
	comp=Z,57nm,6.2s						
HHC	**Hu-ho-hao-te**	**46.49**	**342**	*e*P	P	15 53 47.3	+4.7
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,7.0nm,5.1s						
SONM	**Songino Array**	**54.39**	**341**	P	**P**	**15 54 42.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=158,slow=7.3,SNR=2.7						
WMQ	**Urumqi**	**59.62**	**326**	*e*P	**P**	**15 55 22.5**	**+3.2**
WMQ				pP	sP	15 55 39.4	+8.2
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,96nm,5.1s						
MKAR	**Makanchi Array**	**64.45**	**326**	P	**P**	**15 55 50.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=124,slow=8.9,SNR=4.8						
KSH	**Kashi**	**64.55**	**317**	*e*P	**P**	**15 55 55.4**	**+2.8**
ZALV	**Zalesovo Beam**	**67.65**	**333**	P	**P**	**15 56 10.2**	**-1.7**
	comp=Z,2.4nm,1.1s,baz=104,slow=6.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**67.65**	**333**	P	**P**	**15 56 09.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**127.17**	**284**	PKP	**PKPdf**	**16 04 17.5**	**-3.0**
	comp=Z,0.4nm,0.7s,baz=79,slow=2.2,SNR=3.0						

WEL 17 15:46:23.0, 41°S±2°×17°7E±°, h13km±4km, M3.9/21, ML4.2/17, MLv3.9/21, Error ellipse: s-maj=0.0km s-min=0.0km az=89.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.32**	**286**	P	Pb	15 46 30.6	0.0
ANWZ				S	Sb	15 46 36.0	+0.3
PRHZ	**Porangahau**	**0.34**	**326**	P	Pg	15 46 30.4	+0.5
PRHZ				S	Sb	15 46 36.1	-0.2
PXZ	**Pawanui**	**0.52**	**358**	P	Pb	15 46 34.3	+0.4
PXZ				S	Sn	15 46 43.3	-1.5
WPHZ	**Waipukurau**	**0.59**	**325**	P	Pb	15 46 35.4	+0.2
WPHZ				S	Sb	15 46 44.9	+1.5
DVHZ	**Dannevirke**	**0.60**	**295**	P	Pb	15 46 35.6	+0.2
DVHZ				S	Sb	15 46 44.7	+0.9
CPWZ	**Castlepoint**	**0.63**	**235**	P	Pn	15 46 37.1	-0.5
PRWZ	**Pori Road**	**0.69**	**269**	P	Pb	15 46 37.6	+0.7
PRWZ				S	Sn	15 46 48.6	-0.5
KAHZ	**Kahuranaki**	**0.76**	**360**	P	Pb	15 46 38.1	+0.1
KAHZ				S	Sn	15 46 50.1	-0.5
TIWZ	**Tintock**	**0.79**	**253**	P	Pb	15 46 38.9	+0.4
TIWZ				S	Sn	15 46 51.1	-0.5
PNHZ	**Pukenui**	**0.82**	**320**	P	Pb	15 46 39.1	-0.1
TSZ	**Takapari Road**	**0.86**	**305**	P	Pg	15 46 39.6	0.0
POWZ	**Post Office Ro**	**0.86**	**280**	P	Pb	15 46 40.1	+0.3
CKHZ	**Cape Kidnapper**	**0.90**	**10**	P	Pg	15 46 40.1	-0.4
TMWZ	**Te Maipa**	**0.94**	**233**	P	Pg	15 46 40.8	-0.3
KRHZ	**Kereru**	**0.99**	**336**	P	Pb	15 46 41.4	-0.6
MRZ	**Mangatainoka R**	**1.00**	**263**	P	Pb	15 46 41.4	-0.7
HOWZ	**Holdsworth Sta**	**1.09**	**251**	P	Pb	15 46 42.8	-1.0
MCHZ	**McNeill Hill**	**1.11**	**353**	P	Pb	15 46 43.4	-0.7
KWHZ	**Kaweka Forest**	**1.18**	**342**	P	Pn	15 46 44.3	-0.9
MTW	**Mount Morrison**	**1.21**	**239**	P	Pn	15 46 44.2	-1.4
BHHZ	**Black Hill Sta**	**1.23**	**329**	P	Pn	15 46 44.9	-1.0
TRWZ	**Traveller**	**1.24**	**226**	P	Pn	15 46 44.2	-1.7
OHWZ	**Ohakea**	**1.25**	**286**	P	Pg	15 46 46.9	0.0
ARHZ	**Aropaoanui**	**1.29**	**4**	P	Pn	15 46 45.6	-1.0
OGWZ	**Otaki Gorge**	**1.33**	**258**	P	Pn	15 46 46.0	-1.2
PAWZ	**Paruwai Farm**	**1.38**	**233**	P	Pn	15 46 46.4	-1.5
BKZ	**Black Stump Fm**	**1.42**	**348**	P	Pn	15 46 47.5	-1.0
MOWZ	**Moawhango**	**1.43**	**322**	P	Pb	15 46 49.6	0.0
NMHZ	**Naumai**	**1.45**	**358**	P	Pn	15 46 48.1	-0.9
CAW	**Cannon Point**	**1.48**	**247**	P	Pn	15 46 48.1	-1.3
WHHZ	**Waihua**	**1.50**	**11**	P	Pn	15 46 48.4	-1.1
MSWZ	**Moikau Station**	**1.51**	**234**	P	Pn	15 46 47.9	-1.8
KIW	**Kapiti Island**	**1.53**	**258**	P	Pn	15 46 49.2	-0.8
MTVZ	**Mangateitei**	**1.59**	**317**	P	Pb	15 46 52.2	0.0
TUVZ	**Tukino**	**1.59**	**323**	P	Pb	15 46 51.9	-0.4
PLWZ	**Palliser**	**1.60**	**230**	P	Pn	15 46 48.8	-2.1
MHGZ	**Mahia Peninsul**	**1.60**	**30**	P	Pn	15 46 49.0	-2.0
WHVZ	**Whangaehu Hut**	**1.61**	**321**	P	Pb	15 46 53.0	+0.3
TRVZ	**Turoa**	**1.62**	**320**	P	Pg	15 46 53.7	-0.3
RAHZ	**Arahi**	**1.64**	**6**	P	Pn	15 46 50.2	-1.3
KNZ	**Kokohu**	**1.64**	**22**	P	Pn	15 46 49.5	-2.0
FWVZ	**Far West T-bar**	**1.65**	**321**	P	Pb	15 46 53.9	+0.6
WAZ	**Wanganui**	**1.66**	**298**	P	Pb	15 46 52.6	-0.7
NGZ	**Ngauruhoe**	**1.69**	**324**	P	Pb	15 46 54.2	+0.2
MTHZ	**Maungataniwha**	**1.70**	**359**	P	Pn	15 46 51.1	-1.2
PKVZ	**Pokaka**	**1.73**	**316**	P	Pb	15 46 54.5	-0.1
KRVZ	**Karewarewa**	**1.74**	**326**	P	Pb	15 46 55.4	+0.6
WTVZ	**West Tongariro**	**1.75**	**325**	P	Pb	15 46 55.1	+0.2
BHW	**Baring Head**	**1.75**	**240**	P	Pn	15 46 51.2	-1.7
MRHZ	**Matea Rd**	**1.75**	**348**	P	Pn	15 46 52.6	-0.4
RITZ	**Rihia Road**	**1.76**	**333**	P	Pb	15 46 54.8	-0.3
PRGZ	**Paritu Road**	**1.80**	**26**	P	Pn	15 46 51.9	-1.8
SNGZ	**Shannon Station**	**1.80**	**11**	P	Pn	15 46 52.3	-1.4
TWVZ	**Taurewa**	**1.85**	**323**	P	Pb	15 46 56.6	0.0
RATZ	**Rangitukua**	**1.89**	**333**	P	Pb	15 46 56.7	-0.6
RTZ	**Ruatahuna**	**1.93**	**2**	P	Pn	15 46 54.3	-1.3
RIGZ	**Rimuhau**	**1.96**	**21**	P	Pn	15 46 54.0	-2.0
WHTZ	**Whakaora**	**2.01**	**339**	P	Pn	15 46 57.4	+0.7
ALRZ	**Allen Road**	**2.03**	**348**	P	Pn	15 46 56.9	+0.1
MUGZ	**Murupara**	**2.07**	**358**	P	Pn	15 46 56.3	-1.1
TCW	**Tory Channel**	**2.08**	**251**	P	Pn	15 46 56.3	-1.3
RAGZ	**Rawiri**	**2.09**	**12**	P	Pn	15 46 56.0	-1.8
WPRZ	**Whakapapatarin**	**2.10**	**344**	P	Pn	15 46 57.9	0.0
VRZ	**Vera Road**	**2.17**	**310**	P	Pb	15 47 01.3	-0.8
HRRZ	**Handcock Road**	**2.21**	**348**	P	Pn	15 46 59.2	-0.1
RRRZ	**Republican Roa**	**2.23**	**353**	P	Pn	15 46 58.7	-0.8
TKGZ	**Te Karaka**	**2.24**	**20**	P	Pn	15 46 57.6	-2.1
DUWZ	**D'Urville Isla**	**2.27**	**263**	P	Pn	15 46 59.9	-0.2
MWZ	**Matawai**	**2.27**	**13**	P	Pn	15 46 58.0	-2.2
HSRZ	**Hossack Road**	**2.29**	**347**	P	Pn	15 46 60.0	-0.5
URZ	**Urewera**	**2.29**	**5**	P	Pn	15 46 58.7	-1.7
CNGZ	**Carnagh Statio**	**2.31**	**27**	P	Pn	15 46 58.6	-2.0
TARZ	**Mount Tarawera**	**2.33**	**353**	P	Pn	15 47 00.3	-0.7
TUWZ	**Tuamarina**	**2.39**	**248**	P	Pn	15 47 00.2	-1.6
MKRZ	**Makatiti**	**2.43**	**352**	P	Pn	15 47 01.9	-0.5
BSWZ	**Blackbirch Sta**	**2.55**	**242**	P	Pn	15 47 02.1	-1.9
MARZ	**Manawahe**	**2.57**	**356**	P	Pn	15 47 03.5	-0.8
RUGZ	**Raukumara Rang**	**2.66**	**14**	P	Pn	15 47 03.4	-2.2
WHRZ	**Whale Island**	**2.69**	**2**	P	Pn	15 47 04.5	-1.4
PUZ	**Puketiti**	**2.70**	**24**	P	Pn	15 47 03.2	-2.8
OPRZ	**Ohinepanea**	**2.71**	**355**	P	Pn	15 47 05.9	-0.4
NNZ	**Nelson**	**2.74**	**255**	P	Pn	15 47 05.5	-1.1
HAZ	**Te Kaha**	**2.88**	**14**	P	Pn	15 47 06.6	-1.9
WMGZ	**Waiomatatini S**	**2.98**	**24**	P	Pn	15 47 07.1	-2.7
KHZ	**Kahutara**	**3.13**	**232**	P	Pn	15 47 09.2	-2.7
MXZ	**Matakaoa Point**	**3.18**	**21**	P	Pn	15 47 10.5	-2.2
THZ	**Tophouse**	**3.24**	**247**	P	Pn	15 47 11.5	-2.0
QRZ	**Quartz Range**	**3.32**	**264**	P	Pn	15 47 13.8	-0.8
GVZ	**Greta Valley S**	**3.76**	**229**	P	Pn	15 47 17.9	-2.7
WIAZ	**Waiheke Island**	**3.99**	**339**	P	Pn	15 47 24.0	+0.2
DSZ	**Denniston Nort**	**4.01**	**251**	P	Pn	15 47 22.4	-1.8
MBAZ	**Motutapu North**	**4.08**	**337**	P	Pn	15 47 25.1	+0.1
LTZ	**Lake Taylor**	**4.11**	**236**	P	Pn	15 47 23.9	-1.6
OKCZ	**Okains Bay**	**4.26**	**221**	P	Pn	15 47 25.0	-2.5
AKCZ	**Akaroa Harbour**	**4.44**	**220**	P	Pn	15 47 27.8	-2.1
OXZ	**Oxford**	**4.55**	**231**	P	Pn	15 47 28.9	-2.7
INZ	**Inchbonnie**	**4.62**	**240**	P	Pn	15 47 30.1	-2.3
WVZ	**Waitaha Valley**	**5.24**	**239**	P	Pn	15 47 39.6	-1.3
RPZ	**Rata Peaks**	**5.36**	**232**	P	Pn	15 47 39.9	-2.8
ODZ	**Otahua Downs**	**6.42**	**224**	P	Pn	15 47 54.4	-2.7

IDC 17 15:54:51.2±1.5, 60°28S×43°33W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/27, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=43.2km s-min=35.3km az=7.0
ISCJB 17 15:54:52.0±1.0, 60°4S±0°1×43°5W±0°3, h16km, mb3.7/4, Error ellipse: s-maj=23.9km s-min=15.3km az=13.3
NEIC 17 15:54:53.3±1.6, 60°3S±0°1×43°3W±0°3, h14km±5km, mb4.6/8

ISC 17 15:54:53.2±0.9, 60°3S±0°1×43°3W±0°2, h16km, n19, σ0°77/18, mb4.2/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.04**	**34**	Pn	**Pn**	**15 56 34.3**	**-1.2**
PMSA	**Palmer Station**	**10.58**	**236**	Pn	**Pn**	**15 57 23.9**	**0.0**
	0.4nm,0.3s,baz=80,slow=18,SNR=4.8						
PMSA	**Palmer Station**	**10.58**	**236**		**Pn**	**15 57 22.9**	**-1.0**
PLCA	**Paso Flores**	**25.84**	**307**	P	**P**	**16 00 23.6**	**0.0**
	1.2nm,0.9s,baz=135,slow=2.9,SNR=3.4						
PLCA	**Paso Flores**	**25.84**	**307**	IAmb	IAmb	16 00 31.2	

TORD Torodi Ar. Bea 82.66 47 P **P 16 09 51.1 +0.1**
comp=Z,0.9nm,0.6s,baz=206,slow=4.8,SNR=4.3
TORD Torodi Ar. Bea 82.66 47 P **P 16 09 50.8 -0.2**
ASAR Alice Springs 96.42 180 P **P 16 10 54.3 -2.5**
comp=Z,0.1nm,0.4s,baz=171,slow=4.6,SNR=7.6
ASAR Alice Springs 96.42 180 P **P 16 10 53.6 -3.2**
WRA Warramunga Arr 100.12 181 P **Pdif 16 11 11.2 -2.3**
comp=Z,0.2nm,0.5s,baz=183,slow=4.5,SNR=5.8
AKASG Malin Array Be 126.22 50 PKP **PKPdf 16 16 27.5 -1.4**
comp=Z,0.3nm,0.4s,baz=238,slow=1.4,SNR=2.7
MKAR Makanchi Array 147.66 91 PKPbc **PKPdf 16 17 09.5 +1.1**
comp=Z,0.9nm,0.6s,baz=226,slow=2.4,SNR=8.3
MKAR Makanchi Array 147.66 91 PKPdf 16 17 09.3 +0.9

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*IDC **17** 16:02:09.0±0.8, 60°.36S×43°.48W, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/31, mbtmp4.0/10, ML3.5/2, Error ellipse: s-maj=27.6km s-min=18.1km az=57.0*
*ISCJB **17** 16:02:09.7±0.4, 60°.38S±0°.06×43°.4W±0°.2, h16km, mb3.9/8, Error ellipse: s-maj=12.1km s-min=7.5km az=144.1*
*NEIC **17** 16:02:12.1±1.1, 60°.3S±0°.1×43°.4W±0°.2, h15km±4km, mb4.8/15*
ISC 17 16:02:11.4±0.5, 60°.37S±0°.08×43°.41W±0°.09, h16km, n42, σ0§74/41, mb4.3/13, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.16**	**35**	Pn	**Pn**	**16 03 55.5**	**+0.2**
PMSA	**Palmer Station**	**10.47**	**236**	Pn	**Pn**	**16 04 41.1**	**+0.6**
0.3nm,0.3s,baz=58,slow=15,SNR=3.0							
PMSA	**Palmer Station**	**10.47**	**236**		**Pn**	**16 04 40.8**	**+0.2**
VNA3	**Neumayer Olymp**	**17.29**	**143**	P	**Pn**	**16 06 11.9**	**+0.2**
VNA2	**Neumayer--Watz**	**17.88**	**141**	P	**Pn**	**16 06 19.1**	**+0.1**
baz=292,slow=13							
SNAA	**Sanae**	**19.50**	**142**	P	**Pn**	**16 06 39.8**	**+1.0**
SNAA	**Sanae**	**19.50**	**142**	P	**P**	**16 06 37.3**	**-0.2**
0.2nm,0.3s,baz=293,slow=10,SNR=6.2							
SNAA	**Sanae**	**19.50**	**142**	P	**P**	**16 06 37.8**	**+0.3**
PLCA	**Paso Flores**	**25.83**	**307**	P	**P**	**16 07 41.1**	**-0.7**
1.6nm,0.8s,baz=180,slow=9.1,SNR=3.7							
PLCA	**Paso Flores**	**25.83**	**307**	P	**P**	**16 07 42.6**	**+0.8**
PLCA				IAmb	IAmb	16 07 52.8	
comp=Z,24nm,1.9s							
QSPA	**South Pole Qui**	**29.87**	**180**	P	**P**	**16 08 16.9**	**-0.9**
comp=Z,0.6nm,0.7s,baz=158,slow=2.9,SNR=5.9							
QSPA	**South Pole Qui**	**29.87**	**180**	P	**P**	**16 08 19.0**	**+1.2**
QSPA				IAmb	IAmb	16 09 05.4	
comp=Z,18nm,1.9s							
ROC1	**El Roble**	**32.84**	**314**	P	**P**	**16 08 43.8**	**-0.5**
SYO	**Syowa Base**	**33.76**	**140⇑**	eP	**P**	**16 08 49.0**	**-2.7**
CPUP	**Villa Florida**	**35.34**	**338**	P	**P**	**16 09 06.0**	**+0.2**
comp=Z,2.2nm,1.0s,baz=153,slow=5.9,SNR=4.1							
CPUP	**Villa Florida**	**35.34**	**338**	IAmb	IAmb	16 09 32.8	
comp=Z,18nm,1.8s							
GO02	**Mina Guanaco**	**39.55**	**321**	P	**P**	**16 09 41.5**	**-0.3**
GO02				IAmb	IAmb	16 10 28.6	
comp=Z,72nm,2.0s							
PB04	**IPOC Station P**	**42.38**	**322**	P	**P**	**16 10 05.5**	**+0.6**
PB04				IAmb	IAmb	16 10 26.1	
comp=Z,34nm,1.1s							
PB01	**IPOC Station P**	**43.39**	**323**	P	**P**	**16 10 13.7**	**+0.6**
PB01				IAmb	IAmb	16 10 14.9	
comp=Z,21nm,1.2s							
GO01	**Chusmiza**	**44.60**	**324**	P	**P**	**16 10 23.8**	**+0.5**
GO01				IAmb	IAmb	16 10 24.9	
comp=Z,7.0nm,0.8s							
BDFB	**Brasilia**	**44.79**	**354**	P	**P**	**16 10 23.5**	**-0.8**
comp=Z,3.5nm,0.8s,baz=185,slow=12,SNR=3.6							
MNMC	**Minye Minye**	**45.23**	**324**	P	**P**	**16 10 28.7**	**+0.6**
MNMC				IAmb	IAmb	16 10 30.1	
comp=Z,18nm,0.8s							
SIV	**San Ignacio**	**46.13**	**336**	P	**P**	**16 10 33.3**	**-1.6**
comp=Z,2.4nm,0.7s,baz=167,slow=7.3,SNR=14							
LPAZ	**La Paz**	**47.52**	**327**	P	**P**	**16 10 46.7**	**+0.3**
comp=Z,1.2nm,0.7s,baz=165,slow=6.0,SNR=8.0							
LPAZ	**La Paz**	**47.52**	**327**	P	**P**	**16 10 46.5**	**+0.1**
SAML	**Samuel**	**53.41**	**335**	P	**P**	**16 11 30.5**	**+0.3**
CRZF	**Crozet Islands**	**53.48**	**121**	P	**P**	**16 11 31.6**	**+1.2**
BOSA	**Boshof**	**55.08**	**87**	P	**P**	**16 11 42.5**	**-0.1**
comp=Z,1.6nm,0.7s,baz=222,slow=12,SNR=3.4							
LBTB	**Lobatse**	**58.23**	**85**	P	**P**	**16 12 05.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**81.63**	**44**	P	**P**	**16 14 29.1**	**+0.6**
comp=Z,1.0nm,1.0s,baz=214,slow=6.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**81.63**	**44**	IAmb	IAmb	16 14 37.5	
MKAR	**Makanchi Array**	**146.07**	**89**	PKPbc	**PKPab**	**16 21 50.5**	**+0.3**
comp=Z,1.0nm,0.5s,baz=236,slow=3.5,SNR=10							
MKAR	**Makanchi Array**	**146.07**	**89**		**PKPbc**	**16 21 49.6**	**+0.1**
MKAR				PKPbc	**PKPab**	**16 21 50.6**	**+0.4**
PRP	**Porcupine Dome**	**146.34**	**313**	PKPdf	**PKPab**	**16 21 50.1**	**-0.6**
IL31		**146.48**	**311**		**PKPab**	**16 21 50.8**	**-0.2**
ILAR	**Eielson Array**	**146.48**	**311**	PKPbc	**PKPbc**	**16 21 49.9**	**-0.3**
comp=Z,2.9nm,0.9s,baz=140,slow=3.0,SNR=25							
ILAR	**Eielson Array**	**146.48**	**311**	PKPdf	**PKPbc**	**16 21 50.1**	**0.0**
RND	**Reindeer**	**146.56**	**308**		**PKPab**	**16 21 51.6**	**0.0**
WRH	**Wood River Hil**	**146.79**	**310**		**PKPbc**	**16 21 50.7**	**-0.3**
COLA	**College**	**146.89**	**311**	PKPdf	**PKPbc**	**16 21 51.3**	**0.0**
COLA					pPKPbc	16 21 54.7	-0.3
BWN	**Browne**	**147.17**	**309**	PKPdf	**PKPbc**	**16 21 51.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**147.73**	**308**		**PKPbc**	**16 21 53.5**	**-0.2**

IDC 17 16:07:57.7±1.4, 61°.55S×42°.98W, h0km, mb3.7/2, mb1 3.7/2, mb1mx3.4/23, mbtmp3.7/2, Error ellipse: s-maj=75.3km s-min=35.1km az=101.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**28.68**	**180**	P	P	16 13 55.6	-0.4
1.4nm,1.0s,baz=176,slow=4.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**82.34**	**44**	P	P	16 20 20.3	-0.7
0.3nm,0.6s,baz=208,slow=4.9,SNR=2.8							
MKAR	**Makanchi Array**	**145.88**	**90**	PKPbc	PKPab	16 27 38.2	-0.1
0.3nm,0.5s,baz=235,slow=4.2,SNR=3.6							
ILAR	**Eielson Array**	**147.41**	**309**	PKPbc	PKPbc	16 27 41.0	-0.7
0.6nm,0.7s,baz=145,slow=2.2,SNR=8.6							

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*ISCJB **17** 16:10:29.8±0.7, 60°.42S±0°.09×44°.0W±0°.2, h10km, mb3.8/5, Error ellipse: s-maj=16.4km s-min=11.9km az=164.6*
*IDC **17** 16:10:30.2±0.9, 60°.41S×44°.20W, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.7/26, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=44.4km s-min=21.5km az=62.0*
*NEIC **17** 16:10:32.6±0.7, 60°.39S±0°.06×44°.0W±0°.2, h15km±4km, mb4.5/10*
ISC 17 16:10:31.7±0.7, 60°.3S±0°.1×44°.0W±0°.1, h10km, n22, σ0§62/21, mb4.2/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.30**	**37**	Pn	**Pn**	**16 12 17.2**	**-1.1**
PMSA	**Palmer Station**	**10.24**	**236**	Pn	**Pn**	**16 12 58.2**	**-0.3**
SNAA	**Sanae**	**19.70**	**142**	P	**P**	**16 15 00.8**	**0.0**
0.0nm,0.3s,baz=263,slow=16,SNR=2.4							
SNAA	**Sanae**	**19.70**	**142**	P	**P**	**16 15 00.8**	**0.0**
PLCA	**Paso Flores**	**25.58**	**308**	P	**P**	**16 16 00.7**	**0.0**
5.0nm,1.3s,baz=158,slow=16,SNR=3.2							
PLCA	**Paso Flores**	**25.58**	**308**	P	**P**	**16 16 00.7**	**0.0**
PLCA				IAmb	IAmb	16 16 17.6	
comp=Z,22nm,1.9s							
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**16 16 39.2**	**0.0**
comp=Z,2.0nm,1.0s,baz=186,slow=1.4,SNR=6.4							
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**16 16 38.6**	**-0.6**
QSPA				IAmb	IAmb	16 17 27.9	
comp=Z,5.9nm,1.3s							
GO02	**Mina Guanaco**	**39.35**	**322**	P	**P**	**16 18 00.5**	**-0.8**
GO02				IAmb	IAmb	16 19 25.9	
comp=Z,19nm,1.4s							
GO01	**Chusmiza**	**44.41**	**325**	P	**P**	**16 18 43.1**	**+0.1**
GO01				IAmb	IAmb	16 20 05.0	
comp=Z,28nm,1.7s							
PB11	**IPOC Station P**	**44.46**	**324**	P	**P**	**16 18 43.6**	**+0.7**
MNMC	**Minye Minye**	**45.04**	**325**	P	**P**	**16 18 48.2**	**+0.5**
SIV	**San Ignacio**	**45.99**	**337**	P	**P**	**16 18 55.6**	**+0.6**
comp=Z,0.6nm,0.5s,baz=174,slow=9.2,SNR=5.1							
LPAZ	**La Paz**	**47.34**	**328**	P	**P**	**16 19 06.1**	**-0.1**
comp=Z,0.8nm,0.7s,baz=173,slow=8.1,SNR=4.1							
LPAZ	**La Paz**	**47.34**	**328**	IAmb	IAmb	16 20 52.0	
comp=Z,8.8nm,1.9s							
SAML	**Samuel**	**53.27**	**336**	P	**P**	**16 19 50.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**81.82**	**45**	P	**P**	**16 22 52.1**	**+1.5**
comp=Z,1.2nm,0.8s,baz=207,slow=5.8,SNR=5.2							
TORD	**Torodi Ar. Bea**	**81.82**	**45**	P	**P**	**16 22 51.6**	**+1.0**
ILAR	**Eielson Array**	**146.24**	**311**	PKPbc	**PKPdf**	**16 30 09.2**	**-0.3**
comp=Z,0.5nm,0.6s,baz=131,slow=2.7,SNR=9.1							
ILAR	**Eielson Array**	**146.24**	**311**		**PKPdf**	**16 30 09.8**	**+0.2**
MKAR	**Makanchi Array**	**146.36**	**89**	PKPbc	**PKPdf**	**16 30 10.4**	**+0.1**
comp=Z,1.0nm,0.7s,baz=233,slow=3.1,SNR=5.6							
MKAR	**Makanchi Array**	**146.36**	**89**		**PKPdf**	**16 30 10.6**	**+0.3**

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*ISCJB **17** 16:25:55.8±1.3, 23°.0N±0°.1×11°.4W±0°.2, h10km, mb3.2/3, Error ellipse: s-maj=23.9km s-min=13.6km az=14.5*
*IDC **17** 16:25:55.1±1.3, 22°.88N×11°.49W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/38, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=40.0km s-min=31.6km az=154.0*
ISC 17 16:25:56.6±1.3, 22°.9N±0°.1×11°.5W±0°.2, h10km, n7, σ0§69/8, mb3.4/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**11.63**	**30**	Pn	**Pn**	**16 28 42.9**	**+0.1**
0.1nm,0.3s,baz=243,slow=11,SNR=3.2							
MDT				Sn	**Sn**	**16 30 52.8**	**+0.1**
0.6nm,0.3s,baz=247,slow=13,SNR=8.1							
TORD	**Torodi Ar. Bea**	**15.85**	**125**	Pn	**Pn**	**16 29 40.5**	**+0.5**
0.1nm,0.3s,baz=297,slow=11,SNR=3.4							
BRTR	**Keskin Array B**	**41.61**	**55**	P	**P**	**16 33 45.0**	**-0.2**
0.7nm,0.9s,baz=290,slow=9.0,SNR=2.6							
MKAR	**Makanchi Array**	**76.18**	**45**	P	**P**	**16 37 45.4**	**+0.2**
0.2nm,0.4s,baz=287,slow=5.6,SNR=4.7							
TXAR	**Lajitas Array**	**80.90**	**298**	P	**P**	**16 38 12.0**	**+0.4**
0.1nm,0.4s,baz=67,slow=5.0,SNR=3.0							
WRA	**Warramunga Arr**	**148.12**	**91**	PKPbc	**PKPbc**	**16 45 42.8**	**-0.7**
0.3nm,0.7s,baz=288,slow=3.1,SNR=3.6							
ASAR	**Alice Springs**	**148.27**	**98**	PKPbc	**PKPbc**	**16 45 42.6**	**-1.2**
0.2nm,0.7s,baz=285,slow=1.9,SNR=4.7							

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*ISK **17** 16:37:07.9, 39°.34N×44°.58E, h2km, ML2.9/6*
*NSSP **17** 16:37:07.5, 39°.37N×44°.58E, h7km, Ms3.1*
*DDA **17** 16:37:10.2, 39°.40N×44°.43E, h7km±2km, ML2.8*
ISC 17 16:37:08.7±1.2, 39°.36N±0°.03×44°.62E±0°.04, h7km±10km, n26, σ0§63/45, 10C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.59**	**248**	*i* P	**Pg**	**16 37 19.2**	**-0.9**
CLDR				*i* S	**Sg**	**16 37 27.3**	**-0.6**
CLDR				IAML_P			
comp=Z,7μm,0.1s							
CLDR	**Caldiran**	**0.59**	**248**	PG	**Pg**	**16 37 19.2**	**-0.9**
CLDR				SG	**Sg**	**16 37 27.9**	**+0.1**
NRKZ	**NAREK**	**0.64**	**3⇓**	*i* P	**Pg**	**16 37 21.5**	**+0.6**
NRKZ			**⇑**	*i* S	**Sb**	**16 37 31.7**	**+0.4**
IGDI	**IGDIR**	**0.66**	**320**	*i* P	**Pg**	**16 37 21.3**	**0.0**
TASB	**TASBURUN-IGDIR**	**0.69**	**335**	PG	**Pg**	**16 37 22.1**	**+0.2**
TASB				SG	**Sb**	**16 37 32.6**	**-0.1**
DYDN	**Diyadin**	**0.74**	**284**	*i* P	**Pg**	**16 37 23.1**	**+0.1**
DYDN				*i* S	**Sg**	**16 37 33.6**	**+0.9**
DYDN				IAML_P			
comp=Z,3μm,0.1s							
GNI	**Garni**	**0.79**	**7⇓**	*i* P	**Pb**	**16 37 24.6**	**-0.2**
GNI			**⇑**	*i* S	**Sb**	**16 37 36.6**	**+0.8**
GNI	**Garni**	**0.79**	**7**	PG	**Pb**	**16 37 24.7**	**-0.2**
GNI				SG	**Sb**	**16 37 36.6**	**+0.8**
METS	**Metsamor**	**0.89**	**332⇑**	*i* P	**Pb**	**16 37 26.4**	**-0.1**
METS			**⇑**	S	**Sn**	**16 37 39.8**	**-1.0**
VMUR	**Van-Muradiye**	**0.90**	**246**	*i* P	**Pb**	**16 37 26.3**	**-0.4**
VMUR				*i* S	**Sg**	**16 37 36.8**	**-0.8**
VMUR				IAML_P			
comp=Z,611nm,0.1s							
KAPZ	**Kaputan**	**0.96**	**3⇑**	*i* P	**Pg**	**16 37 26.9**	**-0.2**
KAPZ			**⇑**	*i* S	**Sb**	**16 37 41.2**	**+0.5**
VNNZ	**Vanand**	**0.96**	**320⇑**	*i* P	**Pg**	**16 37 26.9**	**-0.2**
VNNZ			**⇑**	S	**Sn**	**16 37 41.9**	**-0.7**
ARUZ	**Aruch**	**1.01**	**336⇑**	*i* P	**Pg**	**16 37 27.6**	**-0.4**
ARUZ			**⇑**	S	**Sb**	**16 37 42.2**	**+0.2**
VANB	**Van**	**1.23**	**232**	PN	**Pg**	**16 37 32.3**	**0.0**
TVAN	**Van**	**1.26**	**229**	*i* P	**Pg**	**16 37 33.3**	**+0.4**
TVAN				*i* S	**Sn**	**16 37 50.6**	**+0.4**
TVAN				IAML_P			
comp=Z,2μm,0.5s							
TUTA	**Tutak**	**1.40**	**272**	*i* P	**Pn**	**16 37 34.5**	**-0.3**
TUTA				*i* S	**Sn**	**16 37 52.4**	**-1.3**
DIGO	**Kars**	**1.42**	**318**	*i* P	**Pn**	**16 37 35.2**	**0.0**
DIGO				IAML_P			
comp=Z,1μm,0.2s							
EAK	**Akyaka**	**1.54**	**330**	*i* P	**Pb**	**16 37 37.2**	**-0.3**
EAK				*i* S	**Sg**	**16 37 58.1**	**+0.1**
MLAZ	**Malazgirt-MUS**	**1.62**	**263**	PN	**Pn**	**16 37 37.9**	**+0.1**
EATA	**Eleskirt**	**1.72**	**288**	*i* P	**Pb**	**16 37 40.7**	**0.0**
EATA				*i* S	**Sn**	**16 38 02.0**	**+0.4**
EATA				IAML_P			
comp=Z,360nm,0.3s							
YOVA	**Hakkari_Yksek**	**1.79**	**188**	*i* P	**Pb**	**16 37 41.1**	**-0.8**
HAKT	**HAKKARI**	**1.94**	**202**	*i* P	**Pb**	**16 37 44.5**	**+0.1**
HAKT				*i* S	**Sg**	**16 38 12.7**	**+1.7**
SENK	**Senkaya-Erzuru**	**2.12**	**305**	PN	**Pn**	**16 37 45.5**	**+0.9**
DGRG	**David-gareji**	**2.16**	**15**	*i* P	**Pg**	**16 37 49.4**	**-0.7**
DGRG				*i* S	**Sg**	**16 38 17.4**	**-0.7**
HOMI	**Horasan**	**2.20**	**289**	*i* P	**Pb**	**16 37 49.3**	**+0.3**
HOMI				*i* S	**Sg**	**16 38 20.4**	**+1.0**
HOMI				IAML_P			
comp=Z,294nm,0.3s							
CUKT	**Cukurca**	**2.26**	**201**	PN	**Pn**	**16 37 46.8**	**+0.3**

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*IDC **17** 16:38:56.0±2.3, 60°.60S×45°.18W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/14, mbtmp4.0/1, Error ellipse: s-maj=135.8km s-min=73.9km az=178.0*
*NEIC **17** 16:38:59.5±1.8, 60°.2S±0°.2×44°.9W±0°.5, h15km±8km, mb4.0/2*
ISC 17 16:38:58.1±1.4, 60°.3S±0°.3×44°.8W±0°.2, h10km, n8, σ1§12/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.54**	**40**	Pn	**Pn**	**16 40 47.3**	**-0.6**
MNMC	**Minye Minye**	**44.77**	**326**	P	**P**	**16 47 12.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**82.09**	**46**	P	**P**	**16 51 19.8**	**+1.3**
1.1nm,0.8s,baz=202,slow=4.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**82.09**	**46**	P	**P**	**16 51 19.6**	**+1.1**
TORD				IAmb	IAmb	16 51 20.5	
comp=Z,1.8nm,1.2s							
ILAR	**Eielson Array**	**145.90**	**312**	PKPbc	**PKPbc**	**16 58 35.1**	**-1.0**
comp=Z,1.5nm,0.9s,baz=142,slow=3.7,SNR=11							
ILAR	**Eielson Array**	**145.90**	**312**		**PKPdf**	**16 58 34.4**	**-1.0**
MKAR	**Makanchi Array**	**146.78**	**90**	PKPbc	**PKPbc**	**16 58 38.6**	**-0.7**
comp=Z,1.2nm,0.7s,baz=237,slow=1.9,SNR=7.2							
MKAR	**Makanchi Array**	**146.78**	**90**	PKPdf	**PKPdf**	**16 58 38.0**	**+0.6**

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*ISCJB **17** 16:46:07.3±0.7, 60°.24S±0°.09×44°.0W±0°.2, h10km, Error ellipse: s-maj=15.2km s-min=12.3km az=5.9*
*IDC **17** 16:46:08.2±1.1, 60°.21S×44°.28W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=40.3km s-min=27.0km az=55.0*
*NEIC **17** 16:46:10.0±1.8, 60°.2S±0°.1×44°.0W±0°.2, h14km±5km, mb4.7/8*
ISC 17 16:46:09.5±0.8, 60°.2S±0°.1×44°.0W±0°.1, h10km, n18, σ0§91/16, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.20**	**38**	Pn	**Pn**	**16 47 54.6**	**-0.1**
PMSA	**Palmer Station**	**10.31**	**235**	Pn	**Pn**	**16 48 37.5**	**+0.3**
0.7nm,0.3s,baz=80,slow=15,SNR=4.3							
PMSA	**Palmer Station**	**10.31**	**235**		**Pn**	**16 48 37.4**	**+0.2**
SNAA	**Sanae**	**19.83**	**142**	P	**P**	**16 50 40.0**	**-0.1**
0.0nm,0.3s,baz=259,slow=16,SNR=2.6							
SNAA	**Sanae**	**19.83**	**142**	IAmb	IAmb	16 50 47.8	
comp=Z,11nm,1.6s							
GO05	**Huala**	**31.00**	**312**	P	**P**	**16 52 26.2**	**-0.7**
GO05				IAmb	IAmb	16 52 53.8	
comp=Z,52nm,1.5s							
SBA	**Scott Base**	**40.91**	**190**	P	**P**	**16 53 50.9**	**-0.3**
SBA				IAmb	IAmb	16 55 00.3	
comp=Z,13nm,1.9s							
PB01	**IPOC Station P**	**43.06**	**324**	P	**P**	**16 54 09.7**	**+0.2**
GO01	**Chusmiza**	**44.28**	**325**	P	**P**	**16 54 20.4**	**+0.6**
GO01				IAmb	IAmb	16 55 12.4	
comp=Z,24nm,1.9s							
MNMC	**Minye Minye**	**44.90**	**325**	P	**P**	**16 54 25.6**	**+1.1**
MNMC				IAmb	IAmb	16 54 31.7	
comp=Z,10.0nm,0.9s							
SIV	**San Ignacio**	**45.85**	**337**	P	**P**	**16 54 31.3**	**-0.4**
comp=Z,0.3nm,0.4s,baz=170,slow=12,SNR=2.0							
LPAZ	**La Paz**	**47.20**	**328**	P	**P**	**16 54 42.2**	**-0.8**
comp=Z,0.8nm,0.9s,baz=172,slow=7.8,SNR=2.5							
LPAZ	**La Paz**	**47.20**	**328**	IAmb	IAmb	16 54 43.8	
comp=Z,8.4nm,1.7s							
TORD	**Torodi Ar. Bea**	**81.73**	**45**	P	**P**	**16 58 30.6**	**+2.5**
comp=Z,0.8nm,0.7s,baz=207,slow=6.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**81.73**	**45**	P	**P**	**16 58 27.1**	**-0.9**
ILAR	**Eielson Array**	**146.13**	**311**	PKPbc	**PKPdf**	**17 05 47.1**	**-0.1**
comp=Z,0.6nm,0.7s,baz=148,slow=1.4,SNR=2.5							
ILAR	**Eielson Array**	**146.13**	**311**	PKPbc	**PKPab**	**17 05 49.1**	**+0.2**
MKAR	**Makanchi Array**	**146.39**	**89**	PKPbc	**PKPbc**	**17 05 49.0**	**-0.5**
comp=Z,0.4nm,0.6s,baz=227,slow=3.4,SNR=4.3							

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*SJA **17** 16:47:27.9±0.6, 21°.79S×66°.66W, h232km±6km, ML3.1, MW3.3*
*ISCJB **17** 16:47:28.4±0.6, 21°.56S±0°.04×66°.85W±0°.05, h221km±6km, mb3.5/2, Error ellipse: s-maj=7.9km s-min=6.2km az=169.1*
*NEIC **17** 16:47:29.0±1.3, 21°.54S±0°.06×66°.9W±0°.2, h230km±11km, mb4.4/2*
*GUC **17** 16:47:29.2±0.6, 21°.51S×67°.36W, h258km±10km, ML3.8*
*IDC **17** 16:47:31.7±5.0, 21°.22S×66°.80W, h254km±62km, mb3.4/2, mb1 3.4/3, mb1mx3.0/24, mbtmp3.9/3, Error ellipse: s-maj=90.5km s-min=31.5km az=114.0*
ISC 17 16:47:28.4±0.9, 21°.55S±0°.05×66°.81W±0°.06, h222km±8km, n38, σ1§06/55, 1C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.36**	**118**	*i* P	**Pn**	**16 48 03.5**	**+0.1**
YJA				*e*S	**S**	**16 48 29.1**	**-1.5**
YJA				IAML		16 48 30.4	
comp=Z,60nm,0.3s							
LVC	**Limon Verde**	**2.21**	**241**	*i* P	**Pn**	**16 48 12.0**	**+0.9**
LVC				*e*S	**S**	**16 48 44.8**	**+0.6**
LVC				IAML		16 48 47.6	
comp=Z,16nm,0.5s							
LVC	**Limon Verde**	**2.21**	**241**	Pn	**Pn**	**16 48 11.8**	**+0.8**
LVC					**S**	**16 48 43.0**	**-1.2**
PB09	**IPOC Station P**	**2.27**	**263**	*e*P	**Pn**	**16 48 12.5**	**+1.1**
PB09				*i* S	**S**	**16 48 45.4**	**+0.5**
PB09	**IPOC Station P**	**2.27**	**263**	*i* P	**Pn**	**16 48 13.2**	**+1.8**
PB09				IAML		16 48 48.6	
comp=Z,67nm,0.3s							
PB01	**IPOC Station P**	**2.54**	**281**	*e*P	**Pn**	**16 48 14.7**	**+0.5**
PB01				*e*S	**S**	**16 48 49.1**	**-0.7**
PB01				IAML		16 48 51.2	
comp=N,146nm,0.4s							
PB01	**IPOC Station P**	**2.54**	**281**		**Pn**	**16 48 14.8**	**+0.6**
PB08	**IPOC Station P**	**2.60**	**302⇓**	*i* P	**Pn**	**16 48 16.2**	**+1.1**
PB08				*i* S	**S**	**16 48 52.2**	**+0.8**
PB08				IAML		16 48 56.9	
comp=E,71nm,0.2s							
PB03	**IPOC Station P**	**2.78**	**259**	*e*P	**Pn**	**16 48 16.9**	**+0.1**
PB03				*i* S	**S**	**16 48 53.4**	**-1.2**
PB03				IAML		16 48 54.4	
comp=E,186nm,0.2s							
PB06	**IPOC Station P**	**2.81**	**245**	*e*P	**Pn**	**16 48 17.7**	**+0.6**
PB06				*i* S	**S**	**16 48 54.6**	**-0.5**
PB06				IAML		16 48 55.9	
comp=E,117nm,0.2s							
PB06	**IPOC Station P**	**2.81**	**245**	*i* P	**Pn**	**16 48 18.6**	**+1.5**
PB07	**IPOC Station P**	**2.86**	**266**	*e*P	**Pn**	**16 48 18.1**	**+0.3**
PB07				*i* S	**S**	**16 48 55.0**	**-1.3**
PB07				IAML		16 48 55.8	
comp=N,298nm,0.4s							
PB02	**IPOC Station P**	**2.88**	**274⇓**	*i* P	**Pn**	**16 48 18.3**	**+0.4**
PB02				*i* S	**S**	**16 48 55.2**	**-1.3**
PB02				IAML		16 48 55.9	
comp=N,398nm,0.5s							
GO01	**Chusmiza**	**2.91**	**310**	*e*P	**Pn**	**16 48 19.6**	**+0.9**
GO01				*e*S	**S**	**16 48 58.7**	**+0.8**
GO01	**Chusmiza**	**2.91**	**310**		**Pn**	**16 48 19.2**	**+0.5**
PB15	**IPOC Station P**	**2.96**	**236**	*e*P	**Pn**	**16 48 19.5**	**+0.5**
PB15				*i* S	**S**	**16 48 58.1**	**-0.3**
PB15	**IPOC Station P**	**2.96**	**236**	*i* P	**Pn**	**16 48 19.4**	**+0.5**
PB04	**IPOC Station P**	**3.19**	**255⇓**	*i* P	**Pn**	**16 48 22.0**	**+0.4**
PB04				*i* S	**S**	**16 49 01.4**

ASAR	**Alice Springs**	**96.39 179**	P	**P**	**17 04 00.7**	**-1.8**
DOT	**Dot Lake**	**144.16 311**		**PKPdf**	**17 10 08.6**	**+0.8**
PRP	**Porcupine Dome**	**145.67 313**		**PKPab**	**17 10 11.3**	**0.0**
IL31		**145.80 312**		**PKPab**	**17 10 11.2**	**-0.4**
ILAR	**Eielson Array**	**145.80 312**	PKPbc	**PKPab**	**17 10 10.8**	**-0.8**
	comp=Z,2.8nm,1.0s,baz=121,slow=1.4,SNR=17					
ILAR	**Eielson Array**	**145.80 312**		**PKPbc**	**17 10 10.5**	**-0.7**
MK31	**Makanchi Array**	**146.87 90**		**PKPbc**	**17 10 14.6**	**-0.3**
MKAR	**Makanchi Array**	**146.87 90**	PKPbc	**PKPbc**	**17 10 14.5**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=207,slow=2.6,SNR=13					
MKAR	**Makanchi Array**	**146.87 90**	PKPdf	**PKPdf**	**17 10 14.1**	**+1.1**
IMAR	**Indian Mountai**	**148.91 311**		**PKiKP**	**17 10 20.0**	**-1.1**

*ISCJB **17** 17:00:29.8±0.5, 0˚.48N±0˚.05×119˚.24E±0˚.04, h10km, mb3.6/6, Error ellipse: s-maj=6.5km s-min=5.1km az=8.4*
*IDC **17** 17:00:29.6±1.1, 0˚.61N×119˚.66E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/39, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=63.1km s-min=16.5km az=61.0*
*NEIC **17** 17:00:30.5±2.5, 0˚.75N±0˚.09×119˚.8E±0˚.1, h10km±2km, mb4.1/8*
*DJA **17** 17:00:30.8±0.5, 1˚.N±4˚×11˚.9E±˚, h10km, M4.0/8, MLv4.0/8*
ISC 17 17:00:31.2±0.7, **0˚.49N**±0˚.06×**119˚.28E**±0˚.04, **h10**km, **n29, σ2°02/33, mb4.0/9, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.64**	**104**	P	**Pg**	**17 00 43.4**	**-0.2**
MPSI				S	**Sg**	**17 00 53.5**	**+1.5**
SMKI	**Samarinda**	**2.27**	**246**	P	**Pb**	**17 01 12.2**	**-0.2**
SMKI				S	**Sn**	**17 01 36.4**	**-0.6**
MRSI	**Marisa**	**2.66**	**90**	P	**Pn**	**17 01 14.0**	**-0.2**
MRSI				S	**Sn**	**17 01 47.3**	**+0.8**
APSI	**Ampana**	**2.75**	**120**	P	**Pn**	**17 01 17.0**	**+1.6**
APSI				S	**Sn**	**17 01 50.7**	**+2.0**
TTSI	**Tana Toraja**	**3.56**	**171**	P	**Pn**	**17 01 26.9**	**+0.4**
TTSI				S	**Sn**	**17 02 08.4**	**-0.2**
LUWI	**Luwuk**	**3.81**	**114**	P	**Pn**	**17 01 30.7**	**+0.7**
LUWI	**Luwuk**	**3.81**	**114**		Pn	17 01 24.4	-5.6
SPSI	**Sidrap Palu**	**4.45**	**174**	P	**Pn**	**17 01 39.5**	**+0.6**
KMSI	**Cibinong**	**4.70**	**89**	P	**Pn**	**17 01 42.6**	**+0.3**
KAPI	**Kappang**	**5.49**	**175**	Pn	**Pn**	**17 01 55.4**	**+2.2**
	1.2nm,0.3s,baz=292,slow=8.7,SNR=7.2						
KAPI				Sn	**Sn**	**17 02 58.2**	**+1.8**
	0.4nm,0.3s,baz=149,slow=19,SNR=2.6						
KAPI	**Kappang**	**5.49**	**175**		**Pn**	**17 01 56.2**	**+3.1**
KAPI				Sn	**Sn**	**17 02 55.8**	**-0.6**
MTN	**Manton Dam**	**17.71**	**139**		**Pn**	**17 04 35.5**	**-2.7**
MTN				IAmb	IAmb	17 04 50.2	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.50**	**162**	P	**P**	**17 04 59.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=2.5						
FITZ	**Fitzroy Crossi**	**19.50**	**162**	P	**P**	**17 04 57.1**	**-1.6**
UBPT	**Khong Chiam**	**20.05**	**318**	P	Pn	17 05 05.1	-1.4
WB0	**Warramunga Arr**	**25.00**	**144**	P	**P**	**17 05 53.8**	**-1.7**
WB0				IAmb	IAmb	17 06 01.0	
	comp=Z,6.7nm,1.4s						
WRAB	**Tennant Creek**	**25.10**	**145**	P	**P**	**17 05 50.7**	**-5.7**
WRAB				IAmb	IAmb	17 05 54.2	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**25.11**	**145**	P	**P**	**17 05 55.2**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=337,slow=9.5,SNR=16						
WRA	**Warramunga Arr**	**25.11**	**145**	P	**P**	**17 05 54.9**	**-1.5**
WB2	**Warramunga Arr**	**25.11**	**145**	P	**P**	**17 05 51.2**	**-5.3**
WB2				IAmb	IAmb	17 05 56.0	
	comp=Z,5.5nm,1.2s						
WR0	**Warramunga Arr**	**25.23**	**144**	P	**P**	**17 05 57.6**	**0.0**
CMAR	**Chiang Mai Arr**	**26.79**	**313**	P	**P**	**17 06 13.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=131,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**27.90**	**150**	P	**P**	**17 06 20.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=329,slow=8.1,SNR=13						
ASAR	**Alice Springs**	**27.90**	**150**	P	**P**	**17 06 18.7**	**-3.0**
STKA	**Stephens Creek**	**38.51**	**149**	P	**P**	**17 07 52.9**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=327,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**38.51**	**149**	IAmb	IAmb	17 07 53.6	
	comp=Z,0.9nm,1.1s						
ZALV	**Zalesovo Beam**	**60.38**	**337**	P	**P**	**17 10 41.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=120,slow=8.5,SNR=3.8						
KKAR	**Karatay Array**	**60.76**	**321**	P	**P**	**17 10 43.9**	**+0.5**
BRTR	**Keskin Array B**	**86.33**	**310**	P	**P**	**17 13 15.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=108,slow=9.3,SNR=4.9						

*ISCJB **17** 17:04:15.2±0.3, 24˚.53N±0˚.02×122˚.61E±0˚.01, h86km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=171.1*
*TAP **17** 17:04:15.3, 24˚.52N×122˚.62E, h78km±1km, ML3.7, C*
*JMA **17** 17:04:15.1±0.1, 24˚.47N×122˚.57E, h88km±2km, M2.5*
ISC 17 17:04:15.7±1.2, **24˚.52N**±0˚.03×**122˚.61E**±0˚.02, **h85**km±6km, **n118, σ0°72/223, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.32**	**103**	P	**Pn**	**17 04 28.7**	**+0.1**
JYNG				S	**Sn**	**17 04 38.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.38**	**99**	*e*P	**Pn**	**17 04 29.4**	**+0.5**
	baz=98						
YOJ	**Yonaguni jima**	**0.38**	**99**	P	**Pn**	**17 04 29.1**	**+0.2**
YOJ				S	**Sn**	**17 04 38.8**	**+0.1**
EOS1	**EOS1**	**0.43**	**274**	*e*P	**Pn**	**17 04 29.8**	**+0.5**
	baz=273						
TWC	**Suao**	**0.69**	**277**	*i* P	**Pn**	**17 04 31.4**	**-0.3**
	baz=277						
TWC				S	**Sn**	**17 04 43.0**	**-0.5**
	baz=277						
TWB1	**Santiao Chiao**	**0.74**	**311**	*e*P	**Pn**	**17 04 32.2**	**+0.1**
	baz=310						
TWB1				*e*S	**Sn**	**17 04 43.9**	**-0.4**
	baz=310						
NTC	**Toucheng**	**0.78**	**295**	*e*S	**Sn**	**17 04 45.3**	**+0.2**
	baz=294						
NANB	**Nanao**	**0.79**	**263**	P	**Pn**	**17 04 32.9**	**+0.3**
	baz=263						
NANB				S	**Sn**	**17 04 45.6**	**+0.4**
	baz=263						
ENA	**Nanau**	**0.79**	**263**	*e*P	**Pn**	**17 04 32.5**	**-0.2**
	baz=263						
ENA				*e*S	**Sn**	**17 04 44.7**	**-0.7**
	baz=263						
ILA	**Ilan**	**0.82**	**287**	*e*P	**Pn**	**17 04 32.8**	**-0.1**
	baz=287						
ILA				*e*S	**Sn**	**17 04 46.3**	**+0.5**
	baz=287						
TIPB	**Shuangxi**	**0.84**	**302**	P	**Pn**	**17 04 33.3**	**+0.1**
	baz=301						
TIPB				*e*S	**Sn**	**17 04 46.0**	**-0.3**
	baz=301						
TWE	**Neicheng**	**0.88**	**283**	P	**Pn**	**17 04 33.7**	**+0.1**
	baz=283						
TWE				*e*S	**Sn**	**17 04 46.4**	**-0.6**
	baz=283						
NWF	**Wu-fen Shan**	**0.93**	**306**	⇑P	**Pn**	**17 04 34.5**	**+0.2**
	baz=305						
NWF				S	**Sn**	**17 04 47.8**	**-0.4**
	baz=305						
WFSB	**Wu-fen Shan**	**0.93**	**306**	P	**Pn**	**17 04 34.4**	**+0.3**
	baz=305						
WFSB				S	**Sn**	**17 04 47.5**	**-0.4**
	baz=305						
ENTT	**Nioudou**	**0.95**	**277**	P	**Pn**	**17 04 34.9**	**+0.4**
	baz=277						
ENTT				*e*S	**Sn**	**17 04 48.8**	**+0.2**
	baz=277						
NACB	**Ninganchiao**	**0.98**	**250**	*e*P	**Pn**	**17 04 34.2**	**-0.6**
	baz=249						
NACB				*e*S	**Sn**	**17 04 48.9**	**-0.2**
	baz=249						
NDT	**Datong Townshi**	**1.00**	**275**	P	**Pn**	**17 04 35.4**	**+0.5**
	baz=274						
NDT				*e*S	**Sn**	**17 04 50.2**	**+0.7**
	baz=274						
TWD	**Chiawan**	**1.02**	**245**	P	**Pn**	**17 04 34.8**	**-0.4**
	baz=244						
TWD				*e*S	**Sn**	**17 04 49.4**	**-0.5**
	baz=244						
NWLT	**Wulai**	**1.03**	**284**	P	**Pn**	**17 04 35.7**	**+0.3**
	baz=284						
NWLT				*e*S	**Sn**	**17 04 50.1**	**-0.2**
	baz=284						
TWA	**Mucha**	**1.03**	**296**	*e*P	**Pn**	**17 04 35.4**	**0.0**
	baz=295						
TWA				S	**Sn**	**17 04 49.8**	**-0.4**
	baz=295						
IRIF	**Iriomote-Funau**	**1.04**	**100**	P	**Pn**	**17 04 35.8**	**+0.3**
IRIF				S	**Sn**	**17 04 50.5**	**+0.2**
HWA	**Hwalien**	**1.06**	**239**	*e*P	**Pn**	**17 04 35.9**	**+0.2**
	baz=239						
HWA				*e*S	**Sn**	**17 04 50.9**	**+0.1**
	baz=239						
ETLH	**Xiulin Townshi**	**1.07**	**253**	P	**Pn**	**17 04 35.5**	**-0.4**
	baz=253						
ETLH				*e*S	**Sn**	**17 04 50.8**	**-0.4**
	baz=253						
NHDH	**Xindian Distri**	**1.07**	**294**	P	**Pn**	**17 04 35.9**	**+0.1**
	baz=293						
NHDH				*e*S	**Sn**	**17 04 51.2**	**+0.2**
	baz=293						
ENLB	**Shoufeng**	**1.10**	**236**	P	**Pn**	**17 04 35.1**	**-1.1**
	baz=236						
ENLB				*e*S	**Sn**	**17 04 52.2**	**+0.6**
	baz=236						
TAP1	**Taipei**	**1.11**	**298**	*e*P	**Pn**	**17 04 36.3**	**0.0**
	baz=297						
TAP1				*e*S	**Sn**	**17 04 51.2**	**-0.6**
	baz=297						
TATO	**Taipei**	**1.11**	**294**	*e*P	**Pn**	**17 04 35.9**	**-0.4**
	baz=293						
TATO				*e*S	**Sn**	**17 04 50.7**	**-1.1**
	baz=293						
NNSB	**Datong**	**1.12**	**265**	P	**Pn**	**17 04 36.5**	**0.0**
	baz=265						
NNSB				*e*S	**Sn**	**17 04 51.9**	**-0.2**
	baz=265						
TAP	**Taipei**	**1.12**	**297**	*e*S	**Sn**	**17 04 51.5**	**-0.6**
	baz=297						
NNS	**Nan Shan**	**1.12**	**266**	*i* P	**Pn**	**17 04 35.9**	**-0.8**
	baz=265						
NNS				*e*S	**Sn**	**17 04 51.8**	**-0.6**
	baz=265						
YM01	**YM01**	**1.13**	**304**	P	**Pn**	**17 04 36.7**	**+0.2**
	baz=303						
YM01				*e*S	**Sn**	**17 04 52.5**	**+0.3**
	baz=303						
YHNB	**Yeheng**	**1.13**	**278**	*i* P	**Pn**	**17 04 36.9**	**+0.3**
	baz=277						
YHNB				*e*S	**Sn**	**17 04 52.5**	**+0.2**
	baz=277						
YM11	**YM11**	**1.13**	**305**	P	**Pn**	**17 04 36.8**	**+0.1**
	baz=304						
YM11				*e*S	**Sn**	**17 04 52.9**	**+0.4**
	baz=304						
YM08	**YM08**	**1.14**	**306**	P	**Pn**	**17 04 36.5**	**-0.1**
	baz=305						
YM08				*e*S	**Sn**	**17 04 52.3**	**0.0**
	baz=305						
YM10	**YM10**	**1.14**	**304**	*i* P	**Pn**	**17 04 36.7**	**0.0**
	baz=303						
YM10				*e*S	**Sn**	**17 04 52.4**	**-0.1**
	baz=303						
YM05	**YM05**	**1.14**	**304**	*i* P	**Pn**	**17 04 36.7**	**0.0**
	baz=303						
YM05				*e*S	**Sn**	**17 04 52.2**	**-0.3**
	baz=303						
NSK	**Sanguang**	**1.15**	**278**	*e*P	**Pn**	**17 04 37.2**	**+0.4**
	baz=277						
NSK				*e*S	**Sn**	**17 04 52.2**	**-0.5**
	baz=277						
YM04	**YM04**	**1.16**	**303**	*e*P	**Pn**	**17 04 36.7**	**-0.2**
	baz=302						
YM04				*e*S	**Sn**	**17 04 52.3**	**-0.5**
	baz=302						
HATJ	**Hateruma jima**	**1.19**	**113**	*e*S	**Sn**	**17 04 54.2**	**+0.7**
TWS1	**Kuangyinshan**	**1.22**	**298**	P	**Pn**	**17 04 37.8**	**+0.2**
	baz=297						
TWS1				*e*S	**Sn**	**17 04 54.3**	**0.0**
	baz=297						
NTST	**Danshui**	**1.23**	**302**	P	**Pn**	**17 04 37.8**	**0.0**
	baz=301						
NTST				*e*S	**Sn**	**17 04 54.6**	**+0.3**
	baz=301						
WLTB	**Daxi**	**1.27**	**285**	*e*P	**Pn**	**17 04 38.6**	**+0.4**
	baz=284						
WLTB				*e*S	**Sn**	**17 04 56.9**	**+1.6**
	baz=284						
WHF	**Hehuan Shan**	**1.28**	**253**	P	**Pn**	**17 04 38.7**	**-0.1**
	baz=253						
WHF				*e*S	**Sn**	**17 04 55.2**	**-1.0**
	baz=253						
ESL	**Shilin**	**1.28**	**237**	*e*P	**Pn**	**17 04 37.8**	**-0.6**
	baz=236						
ESL				*e*S	**Sn**	**17 04 55.2**	**-0.3**
	baz=236						
JKRS	**Kuro-shima**	**1.31**	**102**	P	**Pn**	**17 04 39.3**	**+0.5**
JKRS				S	**Sn**	**17 04 56.4**	**+0.2**
TWT	**Tachien**	**1.33**	**259**	*i* P	**Pn**	**17 04 39.3**	**+0.1**
	baz=258						
TWT				S	**Sn**	**17 04 57.2**	**+0.3**
	baz=258						
TDCB	**Techi**	**1.35**	**259**	P	**Pn**	**17 04 39.9**	**+0.5**
	baz=258						
TDCB				S	**Sn**	**17 04 57.0**	**-0.2**
	baz=258						
NCU	**National Centr**	**1.36**	**289**	*e*P	**Pn**	**17 04 39.7**	**+0.3**
	baz=288						
NCU				*e*S	**Sn**	**17 04 58.1**	**+0.8**
	baz=288						
NCUH	**Zhongli**	**1.36**	**289**	*e*P	**Pn**	**17 04 40.6**	**+1.1**
	baz=288						
NCUH				*e*S	**Sn**	**17 04 58.1**	**+0.7**
	baz=288						
EGFH	**Guangfu**	**1.37**	**232**	*e*P	**Pn**	**17 04 38.9**	**-0.7**
	baz=232						
EGFH				*e*S	**Sn**	**17 04 57.8**	**+0.2**
	baz=232						
CHGB	**Renai**	**1.39**	**251**	P	**Pn**	**17 04 40.1**	**+0.2**
	baz=250						
CHGB				*e*S	**Sn**	**17 04 57.9**	**-0.3**
	baz=250						
JIJ	**Ishigaki jima**	**1.41**	**96**	P	**Pn**	**17 04 40.0**	**0.0**
JIJ				S	**Sn**	**17 04 57.7**	**-0.7**
OWD	**Renai**	**1.42**	**247**	*e*P	**Pn**	**17 04 40.2**	**-0.1**
	baz=246						
LIOB	**Emei**	**1.45**	**275**	P	**Pn**	**17 04 40.8**	**+0.2**
	baz=274						
LIOB				S	**Sn**	**17 04 59.6**	**+0.2**
	baz=274						
NSTT	**Nanjuang**	**1.46**	**275**	P	**Pn**	**17 04 41.1**	**+0.4**
	baz=274						
NSTT				*e*S	**Sn**	**17 04 59.5**	**-0.1**
	baz=274						
HGSD	**Ruisui**	**1.49**	**227**	*e*P	**Pn**	**17 04 40.6**	**-0.4**
	baz=226						
HGSD				*e*S	**Sn**	**17 05 00.1**	**-0.1**
	baz=226						
NHW	**Xinwu Township**	**1.50**	**289**	P	**Pn**	**17 04 41.6**	**+0.5**
	baz=288						
NHW				S	**Sn**	**17 05 01.1**	**+0.7**
	baz=288						
SBCB	**Hsinchu**	**1.50**	**281**	*e*P	**Pn**	**17 04 41.6**	**+0.5**
	baz=280						
SBCB				*e*S	**Sn**	**17 05 00.5**	**+0.1**
	baz=280						
WHP	**Taichung City**	**1.53**	**261**	*e*P	**Pn**	**17 04 42.8**	**+1.2**
	baz=261						
WHP				S	**Sn**	**17 05 02.4**	**+1.0**
	baz=261						
VWDT	**VWDT**	**1.54**	**240**	P	**Pn**	**17 04 41.9**	**+0.2**
	baz=240						
VWDT				S	**Sn**	**17 05 00.6**	**-0.8**
	baz=240						
EHY	**Hungye**	**1.55**	**229**	P	**Pn**	**17 04 41.0**	**-0.8**
	baz=229						
EHY				*e*S	**Sn**	**17 05 01.8**	**+0.2**
	baz=229						
JISG	**Ishigakijimahi**	**1.56**	**87**	P	**Pn**	**17 04 41.8**	**-0.1**
JISG				S	**Sn**	**17 05 01.3**	**-0.4**
DPDB	**Guoxing**	**1.61**	**253**	P	**Pn**	**17 04 43.4**	**+0.8**
	baz=252						
DPDB				*e*S	**Sn**	**17 05 02.9**	**-0.1**
	baz=252						
YULB	**Yu-li**	**1.64**	**227**	*e*P	**Pn**	**17 04 42.4**	**-0.7**
	baz=227						
YULB				*e*S	**Sn**	**17 05 02.7**	**-1.1**
	baz=227						
NMLH	**Miaoli**	**1.65**	**271**	P	**Pn**	**17 04 43.7**	**+0.5**
	baz=270						
NMLH				S	**Sn**	**17 05 04.5**	**+0.5**
	baz=270						
TWF1	**Yuli**	**1.67**	**226**	*e*P	**Pn**	**17 04 42.9**	**-0.5**
	baz=225						
TWF1				*e*S	**Sn**	**17 05 03.7**	**-0.8**
	baz=225						
SSLB	**Suanglung**	**1.68**	**244**	P	**Pn**	**17 04 43.6**	**+0.1**
	baz=244						
SSLB				*e*S	**Sn**	**17 05 04.5**	**-0.1**
	baz=244						
SMLT	**Sun Moon Lake**	**1.68**	**248**	P	**Pn**	**17 04 44.0**	**+0.4**
	baz=247						
SMLT				*e*S	**Sn**	**17 05 04.5**	**-0.4**
	baz=247						
NSY	**Sanyi**	**1.68**	**267**	*e*P	**Pn**	**17 04 43.9**	**+0.4**
	baz=266						
NSY				*e*S	**Sn**	**17 05 04.6**	**-0.2**
	baz=266						
TYC	**Yuchr**	**1.71**	**249**	P	**Pn**	**17 04 44.6**	**+0.7**
	baz=249						
TYC				*e*S	**Sn**	**17 05 05.2**	**-0.1**
	baz=249						
PTSB	**Yuanli**	**1.73**	**268**	*e*P	**Pn**	**17 04 44.7**	**+0.5**
	baz=267						
PTSB				*e*S	**Sn**	**17 05 06.3**	**+0.5**
	baz=267						
FULB	**Fuli**	**1.78**	**223**	*e*P	**Pn**	**17 04 44.6**	**-0.3**
	baz=222						
FULB				*e*S	**Sn**	**17 05 07.2**	**+0.1**
	baz=222						
TCU	**Taichung**	**1.80**	**258**	*e*P	**Pn**	**17 04 45.9**	**+0.8**
	baz=258						
TCU				*e*S	**Sn**	**17 05 08.2**	**+0.9**
	baz=258						
WDJ	**Dajia District**	**1.80**	**265**	*e*P	**Pn**	**17 04 44.0**	**-1.1**
	baz=264						
WDJ				*e*S	**Sn**	**17 05 07.6**	**+0.2**
	baz=264						
WHYT	**Xinyi Township**	**1.80**	**243**	P	**Pn**	**17 04 46.1**	**+1.0**
	baz=243						
WHYT				*e*S	**Sn**	**17 05 07.3**	**-0.1**
	baz=243						
CHKT	**Chengkung**	**1.82**	**219**	*e*P	**Pn**	**17 04 45.7**	**+0.4**
	baz=218						
CHKT				*e*S	**Sn**	**17 05 07.6**	**-0.2**
	baz=218						
YUS	**Yu-Shan**	**1.83**	**236**	P	**Pn**	**17 04 45.8**	**-0.2**
	baz=235						
YUS				*e*S	**Sn**	**17 05 08.3**	**-0.5**
	baz=235						
WJS	**Zhushan**	**1.85**	**248**	*e*P	**Pn**	**17 04 47.1**	**+1.3**
	baz=248						
WJS				*e*S	**Sn**	**17 05 10.5**	**+1.8**
	baz=248						
WNT	**Mingjian**	**1.87**	**250**	P	**Pn**	**17 04 46.7**	**+0.7**
	baz=250						
WNT				*e*S	**Sn**	**17 05 10.2**	**+1.2**
	baz=250						
JTJ	**Tarama**	**1.91**	**86**	P	**Pn**	**17 04 46.9**	**+0.4**
JTJ				S	**Sn**	**17 05 10.2**	**+0.2**
WCHH	**Zhanghua**	**1.92**	**257**	*e*P	**Pn**	**17 04 47.1**	**+0.5**
	baz=256						
WCHH				*e*S	**Sn**	**17 05 10.0**	**-0.2**
	baz=256						
ELDTW	**Lidau**	**1.97**	**228**	*e*P	**Pn**	**17 04 46.9**	**-0.5**
	baz=227						
ELDTW				*e*S	**Sn**	**17 05 10.4**	**-1.2**
	baz=227						
WGK	**Gukeng**	**2.04**	**246**	*e*P	**Pn**	**17 04 48.8**	**+0.5**
	baz=246						
WGK				*e*S	**Sn**	**17 05 13.9**	**+0.8**
	baz=246						
WDLH	**Douliu**	**2.06**	**247**	*e*P	**Pn**	**17 04 49.1**	**+0.6**
	baz=246						
WDLH				*e*S	**Sn**	**17 05 15.8**	**+2.2**
	baz=246						
RLNB	**Erlin**	**2.15**	**253**	*e*P	**Pn**	**17 04 49.8**	**+0.2**
	baz=253						
RLNB				*e*S	**Sn**	**17 05 16.9**	**+1.4**
	baz=253						
STYT	**Tauyuan**	**2.17**	**232**	*e*P	**Pn**	**17 04 51.2**	**+1.2**
	baz=231						
STYT				*e*S	**Sn**	**17 05 17.4**	**+1.2**
	baz=231						
CHN4	**Tsaushan**	**2.18**	**238**	*e*P	**Pn**	**17 04 51.5**	**+1.4**
	baz=237						
CHN4				*e*S	**Sn**	**17 05 17.0**	**+0.6**
	baz=237						
TPUB	**Ta-pu**	**2.18**	**236**	*e*P	**Pn**	**17 04 51.2**	**+1.1**
	baz=236						
TPUB				*e*S	**Sn**	**17 05 18.4**	**+1.9**
	baz=236						
TWGBT	**Beinan**	**2.20**	**220**	*e*P	**Pn**	**17 04 50.1**	**-0.3**
	baz=219						
TWGBT				*e*S	**Sn**	**17 05 16.1**	**-0.7**
	baz=219						
TWG	**Pinlang**	**2.20**	**220**	*e*P	**Pn**	**17 04 49.0**	**-1.3**
	baz=219						
TWG				*e*S	**Sn**	**17 05 16.0**	**-0.9**
	baz=219						
WTP	**Ta-pu**	**2.22**	**236**	*e*P	**Pn**	**17 04 51.9**	**+1.2**
	baz=235						
WTP				*e*S	**Sn**	**17 05 18.9**	**+1.5**
	baz=235						
CHY	**Chiayi**	**2.24**	**243**	*e*P	**Pn**	**17 04 52.6**	**+1.7**
	baz=243						
CHY				*e*S	**Sn**	**17 05 18.8**	**+1.0**
	baz=243						
TWK	**Hsinying**	**2.31**	**238**	*e*P	**Pn**	**17 04 53.2**	**+1.3**
	baz=237						
TWK				*e*S	**Sn**	**17 05 18.4**	**-1.1**
	baz=237						
CHN1	**Nanshi**	**2.32**	**235**	*e*P	**Pn**	**17 04 53.3**	**+1.3**
	baz=235						
CHN1				*e*S	**Sn**	**17 05 19.6**	**-0.3**
	baz=235						
SNST	**Tainan City**	**2.33**	**237**	*e*P	**Pn**	**17 04 52.6**	**+0.6**
	baz=236						
SNST				*e*S	**Sn**	**17 05 21.6**	**+1.7**
	baz=236						
SGST	**Jiashian**	**2.34**	**233**	*e*P	**Pn**	**17 04 52.8**	**+0.5**
	baz=232						
SGST				*e*S	**Sn**	**17 05 21.8**	**+1.5**
	baz=232						
SLGT	**Liugui**	**2.35**	**230**	*e*P	**Pn**	**17 04 53.5**	**+1.1**
	baz=229						
SLGT				*e*S	**Sn**	**17 05 20.6**	**0.0**
	baz=229						
JIRB	**Irabujima**	**2.36**	**82**	S	**Sn**	**17 05 20.0**	**-0.6**
JIKM	**Ikemajima**	**2.44**	**80**	*e*S	**Sn**	**17 05 21.8**	**-0.7**
ECL	**Taimali**	**2.44**	**219**	*e*P	**Pn**	**17 04 52.5**	**-1.2**
	baz=218						
ECL				*e*S	**Sn**	**17 05 21.5**	**-1.2**
	baz=218						
CHN8	**Yiju**	**2.48**	**242**	*e*P	**Pn**	**17 04 53.9**	**-0.3**
	baz=242						
CHN8				*e*S	**Sn**	**17 05 24.9**	**+1.3**
	baz=242						
JMJ2	**Miyako jima3**	**2.49**	**84**	P	**Pn**	**17 04 54.6**	**+0.4**
JMJ2				*e*S	**Sn**	**17 05 22.9**	**-0.8**
SSD	**Sandimen**	**2.53**	**226**	*e*P	**Pn**	**17 04 55.4**	**+0.6**
	baz=225						
SSD				*e*S	**Sn**	**17 05 26.1**	**+1.3**
	baz=225						
JOGS	**Gusukube**	**2.56**	**84**	*e*S	**Sn**	**17 05 26.0**	**+0.5**
TWM1	**Shoushan**	**2.62**	**230**	*e*P	**Pn**	**17 04 58.3**	**+2.3**
	baz=229						
MASBT	**Mashibuluo**	**2.63**	**224**	P	**Pn**	**17 04 56.8**	**+0.7**
	baz=223						
MASBT				*e*S	**Sn**	**17 05 27.1**	**0.0**
	baz=223						
LAY	**Lan-yu**	**2.66**	**202**	*e*S	**Sn**	**17 05 27.7**	**-0.1**
	baz=201						
EAST	**Anshuo**	**2.67**	**217**	*e*P	**Pn**	**17 04 56.7**	**0.0**
	ba

TWKBT *eS* **Sn** **17 05 36.8 -0.6**
baz=212
PTMZ Houxiangcun 3.21 280 *eP* **Pn** **17 05 03.7 -0.2**
baz=279
PTMZ *eS* **Sn** **17 05 40.8 -0.3**
baz=279
XPSS Dashiqiu 3.24 318 *eP* **Pn** **17 05 03.9 -0.4**
baz=317
LYJJ Jianjiangzhen 3.27 309 *eP* **Pn** **17 05 04.1 -0.5**
baz=308
KNMB Chin-men Tao 3.84 270 *eP* **Pn** **17 05 11.6 -0.9**
baz=269
KNMB *eS* **Sn** **17 05 55.4 -1.2**
baz=269
AXDP Jialang 4.23 276 *eP* **Pn** **17 05 17.6 -0.2**
baz=275
AXDP *eS* **Sn** **17 06 04.3 -1.7**
baz=275

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*ISCJB **17** 17:05:30.6±0.7, 60°.5S±0°.1×46°.0W±0°.2, h10km, mb4.0/4, Error ellipse: s-maj=23.8km s-min=10.3km az=34.4*
*IDC **17** 17:05:31.7±1.7, 60°.50S×45°.73W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/27, mbtmp4.0/4, Error ellipse: s-maj=70.7km s-min=30.5km az=37.0*
*NEIC **17** 17:05:33.3±2.4, 60°.3S±0°.1×45°.7W±0°.2, h10km±1km, mb4.5/18*
ISC 17 17:05:32.8±0.7, **60°.4S**±0°.1×**45°.8W**±0°.1, **h10**km, **n27**, σ**1§47**/23, **mb4.3**/11, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.89**	**44**	Pn	**Pn**	**17 07 25.4**	**-2.0**
GO10	**Punta Arenas**	**15.55**	**286**	Pn	**Pn**	**17 09 09.7**	**-2.1**
GO10				IAmb	IAmb	17 09 23.8	
	comp=Z,73nm,1.4s						
SNAA	**Sanae**	**20.24**	**141**	P	Pn	17 10 13.6	+3.9
	comp=Z,3.8nm,1.0s,baz=281,slow=9.9,SNR=10						
SNAA	**Sanae**	**20.24**	**141**	P	**P**	**17 10 08.0**	**+0.3**
TRQA	**Tornquist**	**24.57**	**328**	P	**P**	**17 10 54.6**	**+2.0**
TRQA				IAmb	IAmb	17 10 57.8	
	comp=Z,5.9nm,0.8s						
PLCA	**Paso Flores**	**24.90**	**311**	P	**P**	**17 10 58.8**	**+3.1**
PLCA				IAmb	IAmb	17 11 05.8	
	comp=Z,10nm,1.4s						
GO06	**Curarrehue**	**26.25**	**311**	P	**P**	**17 11 09.2**	**+1.2**
GO06				IAmb	IAmb	17 11 21.2	
	comp=Z,8.4nm,1.1s						
GO03	**Copiap**	**36.73**	**322**	P	**P**	**17 12 38.8**	**-1.3**
LVC	**Limon Verde**	**41.05**	**326**	P	**P**	**17 13 14.2**	**-2.4**
LVC				IAmb	IAmb	17 13 14.8	
	comp=Z,7.2nm,1.1s						
PB04	**IPOC Station P**	**41.66**	**325**	P	**P**	**17 13 19.2**	**-2.2**
MAW	**Mawson**	**42.22**	**147**	P	**P**	**17 13 24.3**	**-1.0**
MNMC	**Minye Minye**	**44.55**	**327**	P	**P**	**17 13 44.6**	**-0.3**
MNMC				IAmb	IAmb	17 13 51.4	
	comp=Z,3.1nm,0.7s						
SIV	**San Ignacio**	**45.67**	**339**	P	**P**	**17 13 54.5**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=182,slow=6.1,SNR=7.6						
LPAZ	**La Paz**	**46.89**	**330**	P	**P**	**17 14 05.6**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=144,slow=7.0,SNR=4.8						
LPAZ	**La Paz**	**46.89**	**330**	IAmb	IAmb	17 14 14.2	
	comp=Z,2.9nm,1.4s						
SUR	**Sutherland**	**50.98**	**88**	P	**P**	**17 14 35.2**	**+0.5**
SAML	**Samuel**	**52.93**	**338**	P	**P**	**17 14 49.8**	**+0.8**
NNA	**Nana**	**53.44**	**321**	P	**P**	**17 14 52.9**	**0.0**
NNA				IAmb	IAmb	17 15 00.5	
	comp=Z,10nm,1.1s						
RCBR	**Riachuelo**	**54.92**	**12**	P	**P**	**17 15 04.0**	**+0.4**
LBTB	**Lobatse**	**59.41**	**87**	P	**P**	**17 15 35.8**	**+0.4**
LBTB				IAmb	IAmb	17 15 38.4	
	comp=Z,14nm,1.3s						
LSZ	**Lusaka**	**68.92**	**84**	P	**P**	**17 16 38.4**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=188,slow=4.9,SNR=5.1						
LSZ	**Lusaka**	**68.92**	**84**	IAmb	IAmb	17 16 39.6	
	comp=Z,3.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.46**	**46**	P	**P**	**17 17 56.2**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=210,slow=5.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**82.46**	**46**	IAmb	IAmb	17 17 57.3	
	comp=Z,1.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**131.17**	**133**	PKP	**PKPdf**	**17 24 44.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=226,slow=4.1,SNR=4.2						
ILAR	**Eielson Array**	**145.59**	**312**	PKPbc	**PKPbc**	**17 25 10.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=149,slow=4.8,SNR=7.1						
MKAR	**Makanchi Array**	**147.25**	**91**	PKPbc	**PKPbc**	**17 25 15.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=242,slow=3.1,SNR=13						

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*IDC **17** 17:08:14.1±0.6, 60°.55S×46°.33W, h0km, mb4.3/14, mb1 4.3/14, mb1mx4.2/28, mbtmp4.2/14, MS3.5/1, Ms1 3.5/1, ms1mx3.0/17, Error ellipse: s-maj=26.8km s-min=15.2km az=35.0*
*ISCJB **17** 17:08:15.4±0.3, 60°.28S±0°.05×45°.9W±0°.1, h10km, mb4.4/17, MS5.0/2, Error ellipse: s-maj=9.4km s-min=5.9km az=44.7*
*NEIC **17** 17:08:16.3±1.9, 60°.39S±0°.07×45°.9W±0°.2, h10km±1km, mb4.7/27*
ISC 17 17:08:16.5±0.3, **60°.36S**±0°.06×**46°.02W**±0°.06, **h10**km, **n92**, σ**1§44**/83, **mb4.6**/25, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.98**	**44**		**Pn**	**17 10 10.2**	**-2.2**
PMSA	**Palmer Station**	**9.41**	**234**	Pn	**Pn**	**17 10 32.2**	**+0.4**
	1.6nm,0.3s,baz=44,slow=11,SNR=9.6						
PMSA				Sn	**Sn**	**17 12 15.0**	**-2.5**
	0.3nm,0.3s,baz=267,slow=18,SNR=2.7						
PMSA				LR	LR	17 13 37.9	
	comp=Z,332nm,21.9s,baz=347,slow=35						
EFI	**East Falkland**	**10.99**	**317**	Pn	**Pn**	**17 10 54.9**	**+1.3**
USHA	**Ushuaia**	**13.20**	**285**	Pn	**Pn**	**17 11 25.8**	**+2.1**
	1.0nm,0.3s,baz=118,slow=12,SNR=8.0						
GO10	**Punta Arenas**	**15.43**	**287**	Pn	**P**	**17 11 56.5**	**-2.1**
GO10				IAmb	IAmb	17 12 13.8	
	comp=Z,37nm,1.0s						
VNA3	**Neumayer Olymp**	**18.09**	**142**	P	**P**	**17 12 30.4**	**+2.5**
VNA1	**Neumayer--Stat**	**18.36**	**140**	P	**P**	**17 12 32.4**	**+1.6**
VNA2	**Neumayer--Watz**	**18.71**	**140**	P	**Pn**	**17 12 38.1**	**+3.1**
	baz=289,slow=14						
SNAA	**Sanae**	**20.31**	**141**	P	Pn	17 12 55.0	+0.7
SNAA	**Sanae**	**20.31**	**141**	P	Pn	17 12 54.3	+0.1
	comp=Z,6.6nm,0.8s,baz=288,slow=9.7,SNR=12						
SNAA				S	**S**	**17 16 34.4**	**-5.1**
	comp=Z,0.6nm,0.8s,baz=227,slow=19,SNR=2.8						
SNAA	**Sanae**	**20.31**	**141**	P	Pn	17 12 54.4	+0.2
SNAA				IAmb	IAmb	17 13 05.3	
	comp=Z,39nm,1.1s						
SNAA					**S**	**17 16 36.6**	**-2.9**
TRQA	**Tornquist**	**24.51**	**328**	P	**P**	**17 13 36.3**	**+0.5**
PLCA	**Paso Flores**	**24.82**	**311**	P	**P**	**17 13 38.4**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=189,slow=7.4,SNR=11						
PLCA	**Paso Flores**	**24.82**	**311**	P	**P**	**17 13 39.5**	**+0.9**
QSPA	**South Pole Qui**	**29.87**	**180**	P	**P**	**17 14 25.7**	**+1.8**
	comp=Z,18nm,1.0s,baz=174,slow=4.5,SNR=23						
QSPA	**South Pole Qui**	**29.87**	**180**	P	**P**	**17 14 25.9**	**+2.0**
TRIS	**Tristan da Cun**	**31.62**	**58**	P	**P**	**17 14 40.5**	**+1.2**
CFA	**Coronel Fontan**	**32.31**	**323**	P	**P**	**17 14 43.4**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=175,slow=6.9,SNR=3.5						
CPUP	**Villa Florida**	**34.90**	**342**	P	**P**	**17 15 08.4**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=164,slow=9.1,SNR=7.1						
CPUP	**Villa Florida**	**34.90**	**342**	IAmb	IAmb	17 15 15.3	
	comp=Z,4.3nm,0.8s						
GO02	**Mina Guanaco**	**38.76**	**325**	P	**P**	**17 15 41.1**	**-0.1**
SBA	**Scott Base**	**40.58**	**190**	P	**P**	**17 15 57.6**	**+2.2**
SBA				IAmb	IAmb	17 16 05.0	
	comp=Z,12nm,0.9s						
LVC	**Limon Verde**	**40.99**	**327**	P	**P**	**17 16 00.1**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=227,slow=18,SNR=2.2						
PB04	**IPOC Station P**	**41.60**	**325**	P	**P**	**17 16 05.6**	**+1.0**
PB04				IAmb	IAmb	17 16 12.2	
	comp=Z,19nm,1.0s						
GO01	**Chusmiza**	**43.87**	**328**	P	**P**	**17 16 23.5**	**+0.1**
GO01				IAmb	IAmb	17 16 34.1	
	comp=Z,5.3nm,0.7s						
PB11	**IPOC Station P**	**43.91**	**327**	P	**P**	**17 16 22.6**	**-0.7**
PB11				IAmb	IAmb	17 16 31.7	
	comp=Z,9.3nm,1.0s						
MNMC	**Minye Minye**	**44.49**	**327**	P	**P**	**17 16 28.6**	**+0.5**
MNMC				IAmb	IAmb	17 16 38.9	
	comp=Z,16nm,0.9s						
BDFB	**Brasilia**	**44.68**	**357**	P	**P**	**17 16 29.7**	**+0.2**
SIV	**San Ignacio**	**45.64**	**340**	P	**P**	**17 16 36.5**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=196,slow=7.2,SNR=25						
LPAZ	**La Paz**	**46.84**	**330**	P	**P**	**17 16 49.8**	**+2.7**
	comp=Z,2.8nm,0.7s,baz=231,slow=4.4,SNR=11						
LPAZ	**La Paz**	**46.84**	**330**	P	**P**	**17 16 49.5**	**+2.4**
LPAZ				IAmb	IAmb	17 16 56.6	
	comp=Z,3.9nm,0.7s						
SUR	**Sutherland**	**51.10**	**88**	P	**P**	**17 17 18.2**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=287,slow=23,SNR=9.8						
SUR	**Sutherland**	**51.10**	**88**	IAmb	IAmb	17 17 33.4	
	comp=Z,13nm,1.1s						
SAML	**Samuel**	**52.90**	**339**	P	**P**	**17 17 32.4**	**0.0**
SAML				IAmb	IAmb	17 17 40.3	
	comp=Z,16nm,1.1s						
RPN	**Rapa Nui**	**53.67**	**279**	P	**P**	**17 17 37.7**	**-0.4**
BOSA	**Boshof**	**56.38**	**89**	P	**P**	**17 17 58.5**	**+0.6**
	comp=Z,4.0nm,1.0s,baz=211,slow=5.9,SNR=3.4						
BOSA	**Boshof**	**56.38**	**89**	IAmb	IAmb	17 18 05.7	
	comp=Z,13nm,1.1s						
H10S2	**ASCENSION HYDR**	**56.39**	**38**	T	T	18 19 26.2	
	baz=200,slow=74,SNR=6.1						
H10S3	**ASCENSION HYDR**	**56.39**	**38**	T	T	18 19 27.7	
	baz=20,slow=74,SNR=7.8						
H10N3	**ASCENSION HYDR**	**57.49**	**38**	T	T	18 20 51.8	
	baz=199,slow=75,SNR=6.8						
H10N1	**ASCENSION HYDR**	**57.49**	**38**	T	T	18 20 51.1	
	baz=199,slow=75,SNR=6.5						
H10N2	**ASCENSION HYDR**	**57.51**	**38**	T	T	18 20 52.3	
	baz=199,slow=75,SNR=6.7						
LBTB	**Lobatse**	**59.53**	**87**	P	**P**	**17 18 20.6**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=208,slow=5.3,SNR=5.8						
LBTB	**Lobatse**	**59.53**	**87**	IAmb	IAmb	17 18 26.8	
	comp=Z,13nm,0.9s						
TSUM	**Tsumeb**	**60.49**	**77**	P	**P**	**17 18 27.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=203,slow=7.7,SNR=2.4						
TSUM	**Tsumeb**	**60.49**	**77**	P	**P**	**17 18 26.0**	**-0.6**
OTAV	**Otavalo**	**65.42**	**324**	P	**P**	**17 19 00.3**	**+0.5**
OTAV				IAmb	IAmb	17 19 08.8	
	comp=Z,5.4nm,1.1s						
LSZ	**Lusaka**	**69.04**	**84**	P	**P**	**17 19 23.4**	**+1.0**
	comp=Z,5.6nm,1.0s,baz=192,slow=6.4,SNR=7.3						
LSZ	**Lusaka**	**69.04**	**84**	P	**P**	**17 19 21.0**	**-1.4**
LIC	**Lamto**	**73.77**	**43**	*eP*	**P**	**17 19 51.0**	**+0.3**
	comp=Z,35nm,0.8s						
KIC	**Kosan Boka**	**73.99**	**43**	*eP*	**P**	**17 19 52.2**	**+0.2**
	comp=Z,60nm,1.5s						
KIC	**Kosan Boka**	**73.99**	**43**	P	**P**	**17 19 52.2**	**+0.2**
TIC	**Toumodi**	**74.16**	**43**	*eP*	**P**	**17 19 53.2**	**+0.2**
DBIC	**Dimbokro**	**74.24**	**43**	P	**P**	**17 19 53.7**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=213,slow=7.8,SNR=5.1						
DBIC	**Dimbokro**	**74.24**	**43**	IAmb	IAmb	17 20 01.6	
	comp=Z,12nm,1.1s						
OUZ	**Omahuta**	**79.36**	**212**	P	**P**	**17 20 22.0**	**-0.2**
OUZ				IAmb	IAmb	17 20 29.2	
	comp=Z,13nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.55**	**47**	P	**P**	**17 20 39.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=207,slow=4.9,SNR=8.4						
ASAR	**Alice Springs**	**96.28**	**180**	P	**P**	**17 21 42.5**	**-2.5**
	comp=Z,0.7nm,0.8s,baz=176,slow=5.8,SNR=6.1						
ASAR				PP	**PP**	**17 25 37.9**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=174,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**99.98**	**180**	P	**Pdif**	**17 22 00.0**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=183,slow=4.2,SNR=6.5						
WRA	**Warramunga Arr**	**99.98**	**180**	IAmb	IAmb	17 22 08.5	
	comp=Z,0.1nm,1.1s						
BRTR	**Keskin Array B**	**118.92**	**60**	PKP	**PKPdf**	**17 27 04.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=227,slow=5.7,SNR=2.9						
GERES	**GERESS Array B**	**119.07**	**41**	PKP	**PKiKP**	**17 27 05.6**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=248,slow=1.1,SNR=3.8						
AKASG	**Malin Array Be**	**126.10**	**50**	PKP	**PKPdf**	**17 27 16.1**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=252,slow=1.8,SNR=3.4						
KBZ	**Khabaz**	**126.22**	**64**	PKP	**PKPdf**	**17 27 17.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=207,slow=2.3,SNR=2.3						
CMAR	**Chiang Mai Arr**	**131.25**	**134**	PKP	**PKPdf**	**17 27 27.7**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=202,slow=3.7,SNR=6.4						
YKA	**Yellowknife Ar**	**133.18**	**324**	PKP	**PKPdf**	**17 27 30.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=183,slow=2.0,SNR=3.3						
FINES	**FINESS Array B**	**133.44**	**39**	PKP	**PKPdf**	**17 27 30.1**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=149,slow=2.9,SNR=3.7						
KSH	**Kashi**	**138.91**	**94**	PKP	**PKiKP**	**17 27 43.8**	**-0.7**
KSH				PP	**PP**	**17 30 39.3**	**+4.3**
KSH				PKS	**PKSdf**	**17 31 17.3**	**-1.1**
KSH				SS	**SKKSac**	**17 37 28.1**	**-0.3**
KSH				AMB	AMB		
	comp=Z,240nm,6.4s						
KSH				LR	LR		
	comp=N,280nm,12.7s						
KSH				LR	LR		
	comp=E,270nm,10.5s						
KSH				LR	LR		
	comp=Z,320nm,14.2s						
ARCES	**ARCESS Array B**	**139.19**	**31**	PKhKP	PKPpre	17 27 31.1	
	comp=Z,1.3nm,0.5s,baz=252,slow=1.8,SNR=6.6						
CD2	**Chengdu**	**144.36**	**132**	PKP	**PKPdf**	**17 27 51.8**	**-0.5**
BRLK	**Bradley Lake**	**144.38**	**303**	PKPdf	**PKPdf**	**17 27 52.1**	**+0.8**
RC01	**Rabbit Creek A**	**144.65**	**305**	PKPdf	**PKPdf**	**17 27 53.1**	**+1.4**
PMR	**Palmer**	**144.69**	**306**	PKPdf	PKPbc	17 27 50.8	+0.1
GHO	**Glory Hole Cre**	**144.70**	**307**	PKPdf	PKPbc	17 27 51.1	+0.3
PRP	**Porcupine Dome**	**145.39**	**314**	PKPdf	**PKPbc**	**17 27 52.9**	**-0.1**
IL31		**145.50**	**312**		**PKPdf**	**17 27 52.4**	**-0.6**
ILAR	**Eielson Array**	**145.50**	**312**	PKPbc	**PKPdf**	**17 27 52.1**	**-1.0**
	comp=Z,6.6nm,0.9s,baz=149,slow=3.0,SNR=39						
RND	**Reindeer**	**145.55**	**309**		**PKPdf**	**17 27 53.0**	**-0.3**
RSO	**Redoubt South**	**145.55**	**303**	PKPdf	**PKPdf**	**17 27 52.9**	**-0.6**
RSO					sPKPbc	17 27 58.1	+0.1
CCB	**Clear Creek Bu**	**145.78**	**311**		**PKPdf**	**17 27 53.4**	**-0.1**
WRH	**Wood River Hil**	**145.80**	**311**		**PKPbc**	**17 27 54.0**	**-0.2**
FYU	**Fort Yukon**	**145.81**	**315**		**PKPab**	**17 27 54.5**	**0.0**
BMAR	**Burnt Mountain**	**146.00**	**317**	PKPdf	**PKPab**	**17 27 55.2**	**-0.2**
TRF	**Thorofare Moun**	**146.12**	**309**	PKPdf	**PKPdf**	**17 27 54.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**146.72**	**309**		**PKPbc**	**17 27 56.6**	**-0.4**
MKAR	**Makanchi Array**	**147.37**	**91**	PKPbc	**PKPbc**	**17 27 58.4**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=240,slow=4.2,SNR=9.8						
MKAR	**Makanchi Array**	**147.37**	**91**	PKPbc	**PKPbc**	**17 27 58.5**	**-0.8**
IMAR	**Indian Mountai**	**148.62**	**312**	PKPbc	**PKPbc**	**17 28 02.2**	**+0.2**
LZH	**Lanzhou**	**148.99**	**128**	*e*PKPbc	**PKPdf**	**17 27 59.8**	**-0.2**
LZH				pPKP	pPKPdf	17 28 02.9	-0.3
LZH				sPKP		17 28 04.3	
LZH				PKPbc	sPKPab	17 28 40.6	+28
LZH				LR	LR		
	comp=N,95nm,18.0s						
LZH				LR	LR		
	comp=E,89nm,17.9s						
LZH				LR	LR		
	comp=Z,140nm,20.1s						
ZALV	**Zalesovo Beam**	**153.13**	**82**	PKPbc	**PKPbc**	**17 28 11.5**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=234,slow=6.6,SNR=4.9						
ZALV				PKPab	**PKPab**	**17 28 24.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=233,slow=3.9,SNR=4.3						
MJAR	**Matsushiro Arr**	**156.01**	**188**	PKPab	**PKPab**	**17 28 35.1**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=205,slow=7.9,SNR=5.1						
SONM	**Songino Array**	**159.72**	**116**	PKPab	**PKPab**	**17 28 53.0**	**-0.4**
	comp=Z,6.0nm,0.8s,baz=196,slow=2.6,SNR=22						

IDC 17 17:08:54.1±1.7, **2°.20N**×**125°.76E**, **h0**km, **mb3.4**/4, **mb1 3.6**/5, **mb1mx3.3**/42, **mbtmp3.4**/5, **ML2.9**/1, **Error ellipse: s-maj=63.5km s-min=26.2km az=62.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.29**	**119**	Pn	Pn	17 10 29.1	+0.8
	0.3nm,0.3s,baz=273,slow=18,SNR=1.1						
FITZ	**Fitzroy Crossi**	**20.17**	**180**	P	Pn	17 13 31.9	-0.3
	0.9nm,0.7s,baz=24,slow=11,SNR=1.4						
WRA	**Warramunga Arr**	**23.56**	**159**	P	P	17 14 06.0	-0.5
	0.7nm,0.6s,baz=338,slow=12,SNR=14						
ASAR	**Alice Springs**	**26.91**	**163**	P	P	17 14 37.1	0.0
	0.2nm,0.3s,baz=349,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**58.27**	**326**	P	P	17 18 50.0	-0.6
	0.2nm,0.4s,baz=134,slow=6.4,SNR=2.3						

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*ISCJB **17** 17:12:34.0±0.7, 0°.54N±0°.06×119°.26E±0°.05, h10km, mb3.6/5, Error ellipse: s-maj=8.4km s-min=7.0km az=18.4*
*NEIC **17** 17:12:34.4±2.8, 0°.5N±0°.1×119°.8E±0°.1, h7km±7km, mb4.5/5*
*IDC **17** 17:12:34.6±1.2, 0°.71N×120°.20E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/43, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=86.7km s-min=20.1km az=65.0*
*DJA **17** 17:12:35.5±0.8, 1°.N±4°.×11°.9E±°.1, h10km, M3.7/7, MLv3.7/7*
ISC 17 17:12:34.9±0.8, **0°.49N**±0°.07×**119°.27E**±0°.06, **h10**km, **n22**, σ**2§55**/23, **mb3.8**/7, **1C**, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.64**	**104**	P	**Pg**	**17 12 47.8**	**+0.4**
MPSI				S	**Sg**	**17 12 56.4**	**+0.5**
MRSI	**Marisa**	**2.67**	**90**	P	**Pn**	**17 13 18.8**	**+0.8**
MRSI				S	**Sn**	**17 13 50.9**	**+0.5**
APSI	**Ampana**	**2.75**	**120**	P	**Pn**	**17 13 20.6**	**+1.4**
APSI				S	**Sn**	**17 13 53.9**	**+1.4**
TTSI	**Tana Toraja**	**3.56**	**171**	P	**Pn**	**17 13 29.7**	**-0.5**
TTSI				S	**Sn**	**17 14 15.0**	**+2.7**
LUWI	**Luwuk**	**3.82**	**114**	P	**Pn**	**17 13 34.2**	**+0.4**
LUWI	**Luwuk**	**3.82**	**114**	Pn	Pn	17 13 27.6	-6.2
SPSI	**Sidrap Palu**	**4.45**	**174**	P	**Pn**	**17 13 43.7**	**+1.1**
KAPI	**Kappang**	**5.49**	**175**	Pn	**Pn**	**17 13 59.1**	**+2.3**
	1.1nm,0.3s,baz=70,slow=4.0,SNR=4.4						
KAPI	**Kappang**	**5.49**	**175**		**Pn**	**17 13 54.9**	**-1.9**
CISI	**Cisompet, Garu**	**13.95**	**235**	Pn	**P**	**17 15 58.1**	**-2.9**
MNAI	**Manna**	**17.00**	**253**		**P**	**17 16 40.1**	**+5.2**
SSLB	**Suanglung**	**23.21**	**4**	P	**P**	**17 17 38.5**	**-3.8**
NACB	**Ninganchiao**	**23.65**	**5**	P	**P**	**17 17 43.7**	**-2.8**
NACB				IAmb	IAmb	17 17 56.8	
	comp=Z,24nm,1.0s						
WRA	**Warramunga Arr**	**25.11**	**145**	P	**P**	**17 17 59.1**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=335,slow=9.4,SNR=8.3						
WRA	**Warramunga Arr**	**25.11**	**145**	P	**P**	**17 17 55.3**	**-4.8**
ASAR	**Alice Springs**	**27.91**	**150**	P	**P**	**17 18 25.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=328,slow=8.3,SNR=7.2						
CTAO	**Charters Tower**	**33.42**	**129**	P	P	17 19 08.4	-5.7
CTAO				IAmb	IAmb	17 19 09.9	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**38.51**	**149**	P	**P**	**17 19 55.0**	**-2.6**
	comp=Z,1.4nm,0.7s,baz=335,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**38.51**	**149**	IAmb	IAmb	17 20 05.0	
	comp=Z,0.8nm,1.1s						
MKAR	**Makanchi Array**	**56.29**	**330**	P	**P**	**17 22 19.1**	**+3.2**
	comp=Z,0.8nm,0.8s,baz=119,slow=5.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**60.38**	**337**	P	**P**	**17 22 46.6**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=132,slow=6.4,SNR=3.1						
SYO	**Syowa Base**	**86.76**	**201⇑**	*eP*	**P**	**17 25 20.0**	**+1.1**

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*ISCJB **17** 17:20:38.9±0.2, 5°.04S±0°.04×108°.03E±0°.03, h640km±3km, mb4.3/39, Error ellipse: s-maj=6.2km s-min=3.5km az=34.5*
*IDC **17** 17:20:39.7±0.4, 4°.94S×108°.02E, h626km±5km, mb3.6/31, mb1 3.7/34, mb1mx3.5/59, mbtmp4.6/34, Error ellipse: s-maj=9.6km s-min=6.5km az=41.0*
*DJA **17** 17:20:39.9±0.1, 5°.S±3°.×10°.8E±°.1, h627km±3km, M4.2/46, mB4.8/24, mb4.5/46, MLv4.7/19, Mw(mB)4.0/24, Mwp5.9/1*
*NEIC **17** 17:20:39.9±1.4, 4°.96S±0°.09×108°.02E±0°.08, h630km±4km, mb4.4/63*
*KLM **17** 17:20:41.0, 4°.96S×108°.11E, h622km, mb4.6*
ISC 17 17:20:39.5±0.4, **5°.00S**±0°.05×**108°.04E**±0°.05, **h629**km±4km, **n289**, σ**1§27**/321, **mb4.3**/63, **Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.87**	**193**	P	**P**	**17 21 57.2**	**+1.0**
	18nm,0.3s,baz=51,slow=3.0,SNR=33						
LEM				S	**S**	**17 22 58.2**	**-0.3**
	6.3nm,0.3s,baz=300,slow=20,SNR=4.6						
LEM	**Lembang**	**1.87**	**193**	P	**P**	**17 21 56.8**	**+0.6**
LEM				S	**S**	**17 22 59.4**	**+0.9**
TPI	**Tanjungpandan**	**2.26**	**350**	P	**P**	**17 21 59.4**	**+1.8**
KPJI	**Karang Pucung**	**2.48**	**159**	P	**P**	**17 21 58.6**	**+0.1**
SKJI	**Sukabumi**	**2.48**	**216**	P	**P**	**17 21 58.4**	**-0.1**
CISI	**Cisompet, Garu**	**2.55**	**185**	P	**P**	**17 21 58.5**	**-0.4**
CMJI	**Cimerak**	**2.80**	**172**	P	**P**	**17 21 58.7**	**-1.3**
CMJI				S	**S**	**17 23 02.5**	**-3.1**
SMRI	**Semarang**	**3.14**	**131**	P	**P**	**17 22 02.9**	**+1.0**
SMRI	**Semarang**	**3.14**	**131**	P	**P**	**17 22 02.5**	**+0.6**
KASI	**Kota Agung**	**3.57**	**261**	P	**P**	**17 22 04.9**	**+0.5**
LWLI	**Liwa**	**3.97**	**270**	P	**P**	**17 22 07.3**	**+0.2**
WOJI	**Wonogiri, Jawa**	**4.02**	**135**	P	**P**	**17 22 06.5**	**-0.7**
NGJI	**Ngawi**	**4.13**	**125**	P

KNRA PcP **PcP** **17 28 25.8 +1.3**
SWI Sorong 23.54 81 P **P** **17 25 03.6 -0.1**
SIJI Sorong 23.55 81 P **P** **17 25 04.0 +0.3**
comp=Z,13nm,0.6s,baz=254,slow=7.0,SNR=14
MTN Manton Dam 24.09 110 P **P** **17 25 08.9 +0.5**
MTN IAmb IAmb 17 25 09.8
comp=Z,6.4nm,0.6s
FAKI Fak Fak 24.23 86 P **P** **17 25 10.8 +1.0**
FAKI PcP **PcP** **17 28 25.7 -1.6**
CM31 Chiang Mai Arr 24.97 339 P **P** **17 25 17.9 +1.7**
SNR=6.7
CM31 Chiang Mai Arr 24.97 339 P **P** **17 25 16.9 +0.7**
CMAR Chiang Mai Arr 24.97 339 P **P** **17 25 17.8 +1.6**
comp=Z,8.2nm,0.8s,baz=172,slow=8.3,SNR=82
CMAR PcP **PcP** **17 28 29.8 +0.9**
comp=Z,2.1nm,0.8s,baz=204,slow=3.1,SNR=8.8
CMAR ScP **ScP** **17 31 10.2 +0.5**
comp=Z,2.4nm,0.7s,baz=190,slow=3.6,SNR=19
CMAR Chiang Mai Arr 24.97 339 P **P** **17 25 17.8 +1.6**
CMAR **PcP** **17 28 30.2 +1.4**
CMAR **ScP** **17 31 10.6 +0.9**
MHMT Maesarieng 25.09 337 P **P** **17 25 19.0 +1.8**
MORW Morawa 25.11 163 P **P** **17 25 18.8 +1.5**
CMMT Chiang Mai 25.30 339 P **P** **17 25 20.6 +1.5**
comp=Z,4.7nm,1.2s
CHTO Chiang Mai 25.30 339 P **P** **17 25 20.4 +1.4**
CHTO Chiang Mai 25.30 339 P **P** **17 25 20.1 +1.0**
CHTO IAmb IAmb 17 25 21.1
comp=Z,6.8nm,0.8s
NWAO Narrogin (SRO) 29.08 164 P **P** **17 25 53.1 +1.3**
comp=Z,22nm,1.0s,baz=330,slow=8.1,SNR=9.0
NWAO Narrogin (SRO) 29.08 164 P **P** **17 25 53.3 +1.5**
NWAO IAmb IAmb 17 25 58.3
comp=Z,24nm,1.1s
NWAO Narrogin (SRO) 29.08 164 P **P** **17 25 53.2 +1.3**
NWAO IAmb IAmb 17 25 58.3
comp=Z,29nm,1.1s
WRA Warramunga Arr 29.59 122 P **P** **17 25 57.0 +0.6**
comp=Z,1.9nm,0.4s,baz=305,slow=8.5,SNR=73
WRA PcP **PcP** **17 28 40.7 +0.3**
comp=Z,3.8nm,0.6s,baz=307,slow=2.0,SNR=14
WRA S **S** **17 30 05.7 -3.9**
comp=Z,13nm,1.1s,baz=294,slow=16,SNR=15
WRA ScP **ScP** **17 31 23.9 -0.1**
comp=Z,3.8nm,0.6s,baz=311,slow=2.6,SNR=13
WRA Warramunga Arr 29.59 122 P **P** **17 25 57.2 +0.8**
WRA **pwP** **17 27 39.1 +1.3**
WRA **PcP** **17 28 40.9 +0.5**
WRA **S** **17 30 06.3 -3.2**
WRA **ScP** **17 31 23.9 -0.1**
WRAB Tennant Creek 29.59 122 P **P** **17 25 55.4 -1.1**
WRAB IAmb IAmb 17 25 58.2
comp=Z,4.8nm,0.6s
WRAB PcP **PcP** **17 28 40.0 -0.3**
WRAB **S** **17 30 06.5 -3.1**
WB2 Warramunga Arr 29.60 122 P **P** **17 25 57.2 +0.7**
WB2 PcP **PcP** **17 28 41.0 +0.6**
WB2 **S** **17 30 06.2 -3.5**
WR0 Warramunga Arr 29.77 122 P **P** **17 26 01.4 +3.5**
WR0 IAmb IAmb 17 26 04.7
comp=Z,5.7nm,0.6s
AS31 Alice Springs 31.07 129 P **P** **17 26 10.0 +0.9**
AS31 PcP **PcP** **17 28 45.2 +0.8**
ASAR Alice Springs 31.07 129 P **P** **17 26 09.8 +0.8**
comp=Z,3.5nm,0.5s,baz=301,slow=7.9,SNR=189
ASAR PcP **PcP** **17 28 44.9 +0.5**
comp=Z,2.7nm,0.7s,baz=323,slow=2.0,SNR=15
ASAR S **S** **17 30 29.5 -2.7**
comp=Z,2.4nm,0.6s,baz=296,slow=16,SNR=10
ASAR ScP **ScP** **17 31 28.9 +0.1**
comp=Z,4.7nm,0.9s,baz=310,slow=3.0,SNR=15
ASAR Alice Springs 31.07 129 P **P** **17 26 09.9 +0.9**
ASAR **PcP** **17 28 45.1 +0.8**
ASAR **ScP** **17 31 29.4 +0.5**
FORT Forrest 31.82 146 P **P** **17 26 16.7 +1.5**
FORT PcP **PcP** **17 28 47.6 +1.4**
NACB Ninganchiao 31.86 24 P **P** **17 26 14.3 -1.2**
JAY Jayapura 32.68 87 P **P** **17 26 24.3 +1.5**
comp=Z,18nm,0.8s,baz=81,slow=21,SNR=5.7
SHL Shillong 34.19 333 P **P** **17 26 36.2 +0.8**
SNR=6.6
SHL Shillong 34.19 333 P **P** **17 26 36.1 +0.8**
ENH Enshi 35.09 2 P **P** **17 26 43.1 +0.5**
ENH IAmb IAmb 17 26 44.3
comp=Z,14nm,1.0s
COEN Coen 35.73 107 P **P** **17 26 48.5 +0.5**
WHN Wuhan 35.85 9 P **P** **17 26 50.1 +1.4**
ODAN Odare 37.45 329 *eP* **P** **17 27 02.7 +0.6**
TAPN Taplejung 37.69 330 *eP* **P** **17 27 05.1 +1.0**
RAMN Ramite 37.93 328 *eP* **P** **17 27 06.8 +0.8**
comp=Z,20nm,0.3s
BBOO Buckleboo 38.07 140 P **P** **17 27 07.1 +0.3**
BBOO IAmb IAmb 17 27 26.2
comp=Z,20nm,1.4s
LSA Lhasa 38.12 336 P **P** **17 27 09.3 +1.6**
LSA pmax pmax
comp=Z,100nm,0.8s
LSA Lhasa 38.12 336 P **P** **17 27 09.1 +1.4**
LSA Lhasa 38.12 336 P **P** **17 27 09.4 +1.6**
JIRN Jiri 38.72 328 *eP* **P** **17 27 13.3 +0.8**
XAN Xi'an 38.83 1 P **P** **17 27 13.6 +0.7**
XAN pP pP 17 28 59.3 +1.8
XAN pmax pmax
comp=Z,17nm,0.9s
PMG Port Moresby 39.03 99 P **P** **17 27 16.0 +1.2**
comp=Z,18nm,0.7s,baz=259,slow=2.3,SNR=14
PMG Port Moresby 39.03 99 IAmb IAmb 17 27 17.4
comp=Z,20nm,0.8s
PKI Pulchoki 39.06 327 *eP* **P** **17 27 15.5 +0.3**
PKIN Phulchoki 39.08 327 *eP* **P** **17 27 15.4 +0.2**
GUN Gumba 39.08 328 *eP* **P** **17 27 16.2 +0.8**
comp=Z,64nm,0.6s
DMN Daman 39.26 327 *eP* **P** **17 27 17.2 +0.5**
KKN Kakani 39.31 327 *eP* **P** **17 27 17.4 +0.4**
GKN Gorkha 39.82 327 *eP* **P** **17 27 21.5 +0.4**
comp=Z,46nm,0.2s
CTA Charters Tower 40.07 115 P **P** **17 27 24.1 +1.2**
comp=Z,5.1nm,0.9s,baz=290,slow=9.4,SNR=6.3
CTA PcP **PP** **17 29 12.4 -0.6**
comp=Z,6.3nm,1.1s,baz=290,slow=3.4,SNR=5.8
CTA ScP **ScP** **17 32 02.5 +0.4**
comp=Z,2.6nm,0.9s,baz=300,slow=6.4,SNR=7.1
CTAO Charters Tower 40.07 115 P **P** **17 27 24.2 +1.2**
CTAO IAmb IAmb 17 27 43.2
comp=Z,20nm,1.4s
CTAO PcP **PP** **17 29 12.5 -0.5**
KOLN Koldanda 40.22 325 *eP* **P** **17 27 24.8 +0.5**
comp=Z,25nm,0.2s
DANN Dangsing 40.58 326 *eP* **P** **17 27 27.5 +0.3**
comp=Z,72nm,0.6s
STKA Stephens Creek 41.25 135 P **P** **17 27 33.2 +1.1**
comp=Z,1.0nm,0.8s,baz=325,slow=12,SNR=4.1
STKA PcP **PcP** **17 29 15.8 +0.4**
comp=Z,3.4nm,0.5s,baz=310,slow=5.8,SNR=6.2
STKA ScP **ScP** **17 32 06.3 -0.3**
comp=Z,3.3nm,0.7s,baz=324,slow=7.9,SNR=6.5
STKA Stephens Creek 41.25 135 IAmb IAmb 17 27 39.7
comp=Z,0.6nm,1.1s
ANA2 Anatahan 42.87 60 P **P** **17 27 43.6 -1.3**
GTA Gaotai 44.83 351 *e*PKPbc **P** **17 28 00.8 +1.0**
HHC Hu-ho-hao-te 45.73 4 *eP* P 17 28 12.0 +5.4
KSAR Wonju Array Be 46.09 22 P **P** **17 28 09.9 +0.7**
CAN Canberra 48.31 134 P **P** **17 28 26.6 +0.7**
CAN IAmb IAmb 17 28 35.1
comp=Z,17nm,1.2s
MJAR Matsushiro Arr 50.03 32 P **P** **17 28 37.1 -1.3**
MJAR IAmb IAmb 17 28 42.2
comp=Z,3.0nm,1.4s
NIL Nilore 50.60 322 P **P** **17 28 41.8 -0.8**
NIL Nilore 50.60 322 P **P** **17 28 41.8 -0.8**
NIL IAmb IAmb 17 28 42.8
comp=Z,25nm,1.0s
HNR Honiara 51.64 98 P **P** **17 28 50.1 -0.3**
HNR IAmb IAmb 17 28 56.9
comp=Z,27nm,0.9s
SONM Songino Array 52.62 359 P **P** **17 28 57.5 +0.6**
comp=Z,6.2nm,0.8s,baz=175,slow=8.1,SNR=21
SONM PcP **PcP** **17 29 56.4 +0.3**
comp=Z,3.8nm,0.7s,baz=174,slow=3.8,SNR=8.8
SONM ScP **ScP** **17 32 53.4 -0.9**
comp=Z,1.4nm,0.6s,baz=176,slow=3.9,SNR=7.9
SONM Songino Array 52.62 359 P **P** **17 28 57.9 +0.9**
SONM PcP **PcP** **17 29 56.6 +0.5**
SONM **ScP** **17 32 53.9 -0.4**
KSH Kashi 53.26 329 P **P** **17 29 00.3 -1.3**
KSH PcP **PcP** **17 29 56.4 -2.4**
KSH pP pP 17 31 01.5 +4.3
KSH S **S** **17 35 41.9 -5.6**
KSH Kashi 53.26 329 sS sS 17 39 15.0 -0.5
KSH Kashi 53.26 329 SS **SS** **17 39 38.3 -2.3**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH pmax pmax
comp=Z,280nm,5.0s
KSH LR LR
comp=N,310nm,10.5s
KSH LR LR
comp=E,370nm,10.4s
KSH LR LR
comp=Z,340nm,10.7s
USRK Ussuriysk Ar. 53.50 21 PKPab **P** **17 29 02.9 -0.1**
comp=Z,1.3nm,0.5s,baz=197,slow=6.4,SNR=8.8
USRK Ussuriysk Ar. 53.50 21 P **P** **17 29 02.9 -0.1**
TARG Taragay, Kyrgy 54.06 332 P **P** **17 29 08.5 +0.9**
TARG IAmb IAmb 17 29 16.8
comp=Z,11nm,0.9s
KDJ Kajisay 54.67 332 P **P** **17 29 11.9 +0.5**
KDJ IAmb IAmb 17 29 13.3
comp=Z,37nm,1.0s
NRN Naryn 54.69 331 P **P** **17 29 11.1 -0.7**
NRN IAmb IAmb 17 29 12.7
comp=Z,16nm,1.0s
KZA Kyzart 55.55 331 P **P** **17 29 18.3 +0.5**
SNR=16
WSAR Wadi Sarin 55.79 302 P **P** **17 29 19.6 +0.3**
comp=Z,6.6nm,0.8s,baz=106,slow=7.4,SNR=3.7
GAR Garm 55.96 325 P **P** **17 29 19.0 -1.4**
GAR IAmb IAmb 17 29 20.7
comp=Z,26nm,1.1s
TKM2 Tokmak 2 56.02 332 P **P** **17 29 21.1 +0.3**
SNR=31
UCH Uchtor 56.02 330 P **P** **17 29 21.4 +0.3**
SNR=5.2
ARSB Arslanbob 56.13 329 P **P** **17 29 21.4 -0.1**
ARSB IAmb IAmb 17 29 22.4
comp=Z,21nm,1.1s
ARSB PcP **PcP** **17 30 10.8 +0.9**
KBK Karagaybulak 56.13 331 P **P** **17 29 22.3 +0.8**
SNR=20
AAK Ala-Archa 56.34 331 P **P** **17 29 23.8 +0.8**
SNR=5.0
AAK Ala-Archa 56.34 331 P **P** **17 29 23.2 +0.3**
SNR=8.4
AML Almayashu 56.36 330 P **P** **17 29 23.6 +0.2**
SNR=11
MK31 Makanchi Array 56.38 339 P **P** **17 29 23.6 +0.6**
MKAR Makanchi Array 56.38 339 P **P** **17 29 23.4 +0.4**
comp=Z,42nm,1.1s,baz=150,slow=7.8,SNR=68
MKAR ScP **ScP** **17 33 10.6 -0.2**
comp=Z,0.3nm,0.6s,baz=217,slow=3.0,SNR=3.6
MKAR Makanchi Array 56.38 339 P **P** **17 29 23.2 +0.2**
MKAR PcP **PcP** **17 30 08.0 -2.7**
SOCY Socotra 56.38 288 P **P** **17 29 23.6 0.0**
MAKZ Makanchi 56.51 339 P **P** **17 29 23.8 -0.1**
EKS2 Erkin-Say 56.71 330 P **P** **17 29 25.9 +0.5**
SNR=16
USP Ospenovka 56.81 331 P **P** **17 29 26.1 +0.1**
SNR=6.8
KLR Kul'dur 57.81 18 P **P** **17 29 32.4 -0.2**
baz=276,slow=6.8
KK31 Karatay Array 58.69 329 P **P** **17 29 36.3 -2.3**
KKAR Karatay Array 58.69 329 P **P** **17 29 37.7 -0.9**
KKAR PcP **PcP** **17 30 19.7 -0.3**
KKAR Karatay Array 58.69 329 P **P** **17 29 37.7 -0.9**
KKAR IAmb IAmb 17 29 40.7
comp=Z,6.7nm,1.2s
OPO Ambohidratompo 60.82 252 P **P** **17 29 53.7 +0.3**
comp=Z,2.1nm,0.5s,baz=102,slow=9.3,SNR=4.3
KURK Kurchatov 61.00 339 P **P** **17 29 54.2 +0.5**
SNR=5.5
KURK Kurchatov 61.00 339 P **P** **17 29 53.9 +0.3**
KURK IAmb IAmb 17 29 54.9
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 61.88 345 P **P** **17 29 58.4 -0.9**
ZAA0 IAmb IAmb 17 29 60.0
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 61.88 345 P **P** **17 29 58.9 -0.3**
comp=Z,5.9nm,0.4s,baz=129,slow=4.4,SNR=35
ZALV Zalesovo Beam 61.88 345 P **P** **17 29 59.2 -0.1**
GEYT Alibeck 62.99 317 P **P** **17 30 06.8 -0.1**
comp=Z,7.5nm,0.9s,baz=120,slow=5.6,SNR=17
BRVK Borovoye 66.02 336 P **P** **17 30 25.4 -0.1**
SNR=9.2
BRVK Borovoye 66.02 336 P **P** **17 30 25.5 0.0**
BRVK IAmb IAmb 17 30 26.6
comp=Z,15nm,1.1s
RPZ Rata Peaks 67.21 136 P **P** **17 30 33.3 +0.3**
comp=Z,1.5nm,0.4s,baz=253,slow=11,SNR=2.1
RPZ Rata Peaks 67.21 136 P **P** **17 30 33.1 0.0**
RAYN Ar Rayn 67.21 298 P **P** **17 30 33.1 -0.4**
RAYN IAmb IAmb 17 30 34.1
comp=Z,8.7nm,0.9s
ABKAR Akbulak array 68.25 328 P **P** **17 30 39.1 0.0**
ABKAR Akbulak array 68.25 328 P **P** **17 30 39.2 0.0**
ABKAR IAmb IAmb 17 30 40.1
comp=Z,28nm,1.0s
BKZ Black Stump Fm 70.19 130 P **P** **17 30 51.4 +0.3**
BKZ IAmb IAmb 17 30 51.6
comp=Z,4.5nm,0.5s
KMBO Kilima Mbogo 70.77 271 P **P** **17 30 56.1 +0.9**
comp=Z,1.0nm,0.4s,baz=65,slow=11,SNR=5.2
PETK Petropavlovsk- 71.35 29 P **P** **17 30 57.0 -0.4**
comp=Z,3.4nm,0.7s,baz=168,slow=1.7,SNR=6.2
PETK Petropavlovsk- 71.35 29 P **P** **17 30 57.1 -0.3**
NRIK Noril'sk 75.50 353 P **P** **17 31 20.1 -0.5**
comp=Z,4.3nm,0.6s,baz=141,slow=6.4,SNR=9.3
SEY Seymchan 75.58 19 P **P** **17 31 21.1 -0.1**
baz=256,slow=4.2
KBZ Khabaz 75.88 317 P **P** **17 31 23.3 +0.1**
comp=Z,7.0nm,1.0s,baz=92,slow=3.5,SNR=14
MBAR Mbarara 77.30 271 P **P** **17 31 32.8 +1.0**
comp=Z,3.5nm,0.2s,baz=90,slow=8.1,SNR=9.1
TIXI Tiksi 77.71 7 P **P** **17 31 31.2 -1.3**
TIXI IAmb IAmb 17 31 32.6
comp=Z,11nm,0.8s
EIL Elat 77.90 302 P **P** **17 31 35.0 +0.4**
comp=Z,8.5nm,0.9s,baz=69,slow=1.9,SNR=4.5
MMAI Mount Meron Ar 78.30 305 P **P** **17 31 37.2 +0.5**
comp=Z,10nm,0.8s,baz=96,slow=7.6,SNR=17
SBA Scott Base 78.81 169 P **P** **17 31 39.5 +1.2**
CSS Mathiatis 80.42 307 P **P** **17 31 47.4 -0.3**
LBTB Lobatse 81.07 246 P **P** **17 31 51.5 +0.2**
comp=Z,5.3nm,0.7s,baz=101,slow=4.5,SNR=12
LBTB Lobatse 81.07 246 P **P** **17 31 51.8 +0.4**
LBTB IAmb IAmb 17 31 53.0
comp=Z,7.1nm,0.8s
BR131 Keskin Array S 81.29 311 P **P** **17 31 51.9 -0.3**
SNR=10
BR131 Keskin Array S 81.29 311 P **P** **17 31 51.9 -0.3**
BR131 IAmb IAmb 17 31 53.0
comp=Z,17nm,1.0s
BRTR Keskin Array B 81.29 311 P **P** **17 31 51.9 -0.3**
comp=Z,10nm,0.9s,baz=128,slow=7.1,SNR=57
BOSA Boshof 81.31 242 P **P** **17 31 52.4 -0.1**
comp=Z,1.8nm,0.6s,baz=102,slow=1.9,SNR=6.8
BOSA Boshof 81.31 242 P **P** **17 31 52.3 -0.2**
KLMR Klimovskoe 84.08 333 *eP* **P** **17 32 03.4 -2.0**
KLMR AMP 17 32 06.3
comp=Z,39nm,1.3s
QSPA South Pole Qui 84.98 180 P **P** **17 32 10.5 +0.6**
comp=Z,1.5nm,0.5s,baz=324,slow=0.0,SNR=10
QSPA South Pole Qui 84.98 180 P **P** **17 32 10.1 +0.2**
SUR Sutherland 85.02 238 P **P** **17 32 12.9 +1.9**
comp=Z,13nm,1.0s,baz=59,slow=5.9,SNR=4.9
TIRR Tirgusor 86.10 315 P **P** **17 32 14.9 -0.5**
AKASG Malin Array Be 86.78 321 P **P** **17 32 17.5 -1.1**
comp=Z,4.5nm,0.8s,baz=87,slow=4.3,SNR=13
AKBB Malin Array Si 86.78 321 P **P** **17 32 17.6 -0.9**
AKBB IAmb IAmb 17 32 18.4
comp=Z,7.6nm,0.9s
TSUM Tsumeb 88.81 251 P **P** **17 32 27.2 -1.7**
TSUM IAmb IAmb 17 32 33.3
comp=Z,5.2nm,1.2s
BURAR Bucovina Array 88.83 318 P **P** **17 32 28.9 +0.6**
BUR08 Bucovina Ar. S 88.84 318 P **P** **17 32 28.7 +0.3**
KOLS Kolonicke sedl 90.95 319 *eP* **P** **17 32 38.9 +0.9**
VYHS Vyhne 93.18 318 *eP* **P** **17 32 49.4 +1.2**
GERES GERESS Array B 96.59 318 P **P** **17 33 04.4 +0.7**
comp=Z,0.4nm,0.7s,baz=49,slow=3.0,SNR=3.3
TORD Torodi Ar. Bea 107.02 282 PKiKP **PKiKP** **17 37 55.8 -0.6**
comp=Z,0.7nm,0.5s,baz=87,slow=1.3,SNR=4.1
NVAR Mina Array Bea 126.42 45 PKP **PKiKP** **17 38 34.9 +1.3**
comp=Z,0.8nm,0.6s,baz=262,slow=1.3,SNR=8.2
NVAR pPKP **pPKPdf** **17 40 51.1 -6.2**
comp=Z,0.3nm,0.6s,baz=257,slow=5.2,SNR=3.5
ELK Elko 127.39 41 PKP **PKPdf** **17 38 34.9 0.0**
comp=Z,0.9nm,0.5s,baz=321,slow=5.4,SNR=6.2
PDAR Pinedale Array 129.77 36 PKP **PKPdf** **17 38 39.8 +0.4**
comp=Z,0.4nm,0.6s,baz=285,slow=1.8,SNR=2.5
PDAR pPKP **pPKPdf** **17 41 03.5 -0.1**
comp=Z,0.9nm,0.5s,baz=318,slow=1.2,SNR=8.9
PFO Pinyon Flats O 129.84 50 pPKP pPKPdf 17 41 04.8 +0.9
comp=Z,4.5nm,0.9s,baz=209,slow=3.8,SNR=3.6
SCHQ Schefferville 130.14 356 pPKP pPKPdf 17 41 03.8 0.0
comp=Z,5.1nm,0.5s,baz=257,slow=15,SNR=4.2
ULM Lac du Bonnet 130.61 20 pPKP pPKPdf 17 41 04.4 -0.3
comp=Z,7.7nm,0.8s,baz=312,slow=4.4,SNR=4.0
TXAR Lajitas Array 141.46 47 PKiKP PKPpre 17 38 58.4
comp=Z,1.2nm,0.7s,baz=285,slow=2.5,SNR=7.2
TXAR SKPbc **SKPbc** **17 41 40.0 -0.3**
comp=Z,1.3nm,0.6s,baz=248,slow=1.0,SNR=4.7
CCM Cathedral Cave 142.69 25 **PKPdf** **17 39 00.9 -2.1**
L59A Walton 142.86 4 **PKPdf** **17 39 01.6 -1.7**
MGMO Mountain Grove 142.99 27 **PKPdf** **17 39 01.8 -1.8**
M54A Oil Creek Stat 143.00 10 **PKPdf** **17 39 01.8 -1.7**
N51A Ashland 143.03 13 PKPbc 17 39 01.9 0.0
M55A Ridgway 143.18 9 PKPbc 17 39 02.5 +0.1
O49A Covington 143.23 16 PKPab 17 39 02.3 +0.1
M56A Emporium 143.24 8 PKPbc 17 39 02.5 0.0
U40A Yellville 143.36 29 PKPbc 17 39 03.1 +0.1
KSCT Kent School, K 143.40 2 PKPab 17 39 02.9 +0.1
X37A Clayton 143.43 33 PKPbc 17 39 03.8 +0.5
CFA Coronel Fontan 143.43 185 PKP **PKPdf** **17 39 04.2 -0.4**
comp=Z,11nm,0.5s,baz=198,slow=3.2,SNR=24
CFA SKPbc **SKPbc** **17 41 44.5 -0.5**
comp=Z,2.6nm,0.7s,baz=211,slow=2.7,SNR=3.9
KSPA Keystone Colle 143.44 5 PKPbc 17 39 03.3 +0.2
JCT Junction City 143.53 43 **PKPdf** **17 39 05.2 +0.4**
ACSO Alum Creek Sta 143.54 14 **PKPdf** **17 39 04.0 -0.4**
P48A Milroy 143.59 18 PKPbc 17 39 03.7 +0.1
O52A Adamsville 143.92 13 PKPab 17 39 04.8 -0.1
ODNJ Ogdensburg 143.99 3 PKPab 17 39 05.1 0.0
N58A Sunbury 144.06 6 PKPbc 17 39 04.9 -0.1
N59A State Game Lan 144.07 5 **PKPab** **17 39 05.5 +0.1**
SSPA Standing Stone 144.12 8 PKPbc 17 39 05.2 0.0
O54A Avella 144.16 11 **PKPab** **17 39 05.8 +0.1**
O56A Blue Knob Stat 144.38 9 **PKPab** **17 39 06.5 -0.2**
LUPA Lehigh Univers 144.42 4 PKPbc 17 39 06.3 +0.1
MIAR Mount Ida 144.42 32 **PKPab** **17 39 07.0 0.0**
WCI Wyandotte Cave 144.44 20 **PKPdf** **17 39 05.7 -0.3**
WHAR Wooly Hollow 144.49 29 **PKPab** **17 39 06.9 -0.3**
Q51A Peebles 144.58 15 PKPbc 17 39 06.9 +0.2
W41B Gary Mavity, V 144.60 29 **PKPab** **17 39 07.8 +0.2**
P53A Whipple 144.62 13 PKPbc 17 39 06.9 +0.2
MVL Millersville 144.93 6 PKPbc 17 39 07.9 +0.3
R50A Paris 145.00 17 **PKPbc** **17 39 07.7 -0.2**
P60A Greenville 145.18 5 **PKPdf** **17 39 07.3 +0.1**
T47A Sharon Grove 145.26 22 **PKPbc** **17 39 08.9 +0.2**
Q56A Snyder Ridge, 145.48 10 **PKPdf** **17 39 08.0 +0.2**
R53A Hurricane 145.59 14 **PKPbc** **17 39 10.0 +0.4**
WVT Waverly 145.75 23 **PKPbc** **17 39 10.6 +0.4**
CPUP Villa Florida 145.78 204 PKPbc **PKPbc** **17 39 11.0 +0.5**
comp=Z,7.0nm,0.9s,baz=147,slow=3.4,SNR=7.4
CPUP Villa Florida 145.78 204 **PKPbc** **17 39 10.8 +0.2**
S51A Beattyville 145.81 17 **PKPbc** **17 39 10.5 +0.2**
CLTN Cedars of Leba 146.34 21 **PKPbc** **17 39 12.2 +0.4**
V48A Smith Brothers 146.48 22 **PKPbc** **17 39 12.1 -0.1**
PLAL Pickwick Lake 146.64 24 **PKPbc** **17 39 12.2 -0.4**
TZTN Tazewell 146.85 17 **PKPbc** **17 39 13.5 +0.3**
SWET Sewanee 147.27 21 **PKPbc** **17 39 14.0 -0.3**
V51A Loudon 147.28 19 **PKPbc** **17 39 14.3 0.0**
V52A Sevierville 147.48 18 **PKPbc** **17 39 15.2 +0.4**
CPCT Cooper Cave 147.55 19 **PKPbc** **17 39 15.4 +0.4**
TKL Tuckaleechee C 147.60 18 PKPbc **PKPbc** **17 39 13.8 -1.4**
comp=Z,11nm,0.8s,baz=66,slow=0.9,SNR=13
T59A Double "B" Far 147.76 8 **PKPbc** **17 39 15.8 +0.3**
V53A Saluda 147.88 17 **PKPbc** **17 39 16.1 +0.3**
Y49A Blount Mountai 148.29 23 **PKPbc** **17 39 16.7 -0.3**
BDFB Brasilia 148.66 229 PKPbc **PKPbc** **17 39 18.5 +0.1**
comp=Z,5.4nm,0.6s,baz=109,slow=2.7,SNR=7.0
BDFB Brasilia 148.66 229 P **PKiKP** **17 39 19.0 -0.4**
LRAL Lakeview Retre 148.77 25 **PKPbc** **17 39 18.2 +0.1**
KMSC Kings Mountain 148.77 15 **PKPbc** **17 39 18.1 0.0**
PAULI Pauline 148.95 16 **PKPbc** **17 39 18.5 0.0**
Z50A Ashland 149.02 23 **PKPbc** **17 39 18.8 +0.1**
Y52A Lilburn 149.15 20 **PKiKP** **17 39 20.0 +0.1**
HODGE Hodges 149.38 17 **PKiKP** **17 39 19.9 -0.3**
BIRD Birdtown, Kers 149.46 14 **PKPbc** **17 39 19.7 0.0**
JSC Jenkinsville 149.61 15 **PKPbc** **17 39 20.4 +0.3**
GOGA Godfrey 149.76 19 **PKPbc** **17 39 20.7 +0.3**
LVC Limon Verde 152.40 186 PKPbc **PKiKP** **17 39 28.3 +0.9**
comp=Z,2.7nm,0.6s,baz=97,slow=2.8,SNR=4.2

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*ISCJB **17** 17:22:06.2±0.4, 60°.54S±0°.07×42°.5W±0°.2, h10km, mb4.0/6, MS3.5/1, Error ellipse: s-maj=13.6km s-min=7.5km az=144.0*
*IDC **17** 17:22:06.6±1.2, 60°.67S×42°.84W, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.9/32, mbtmp4.1/5, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/22, Error ellipse: s-maj=62.0km s-min=22.1km az=49.0*
*NEIC **17** 17:22:08.8±1.4, 60°.5S±0°.1×42°.7W±0°.3, h10km±1km, mb4.4/16*
ISC 17 17:22:08.4±0.5, 60°.51S±0°.09×42°.6W±0°.1, h10km, n46, σ1°37/42, mb4.3/11, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.06**	**31**	Pn	**Pn**	**17 23 51.5**	**-0.2**
VNA3	**Neumayer Olymp**	**16.93**	**143**	P	**Pn**	**17 26 01.2**	**-3.9**
GO10	**Punta Arenas**	**17.11**	**283**	P	**Pn**	**17 26 07.2**	**-0.3**
GO10				IAmb	IAmb	17 26 20.8	
VNA1	**Neumayer--Stat**	**17.16**	**140**	P	**Pn**	**17 26 06.3**	**-1.5**
VNA2	**Neumayer--Watz**	**17.52**	**141**	P	**Pn**	**17 26 09.6**	**-2.7**
baz=291,slow=15							
SNAA	**Sanae**	**19.14**	**142**	P	**P**	**17 26 31.3**	**-0.1**
SNAA	**Sanae**	**19.14**	**142**	P	**P**	**17 26 31.3**	**-0.1**
comp=Z,0.3nm,0.3s,baz=304,slow=14,SNR=13							
SNAA	**Sanae**	**19.14**	**142**	P	**P**	**17 26 31.3**	**-0.1**
SNAA				IAmb	IAmb	17 26 39.7	
comp=Z,20nm,1.2s							
PLCA	**Paso Flores**	**26.23**	**306**	P	**P**	**17 27 46.6**	**+3.2**
comp=Z,3.2nm,0.8s,baz=158,slow=10,SNR=6.6							
PLCA	**Paso Flores**	**26.23**	**306**	P	**P**	**17 27 40.7**	**-2.7**
QSPA	**South Pole Qui**	**29.73**	**180**	P	**P**	**17 28 14.2**	**-0.3**
QSPA				IAmb	IAmb	17 28 25.4	
comp=Z,6.8nm,1.4s							
GO05	**Huala**	**31.75**	**310**	P	**P**	**17 28 33.2**	**+0.9**
CFA	**Coronel Fontan**	**33.51**	**318**	P	**P**	**17 28 48.1**	**+0.3**
comp=Z,1.7nm,0.9s,baz=165,slow=11,SNR=4.1							
CFA				LR	LR	17 41 50.8	
comp=Z,106nm,21.4s,baz=78,slow=35							
CPUP	**Villa Florida**	**35.63**	**337**	P	**P**	**17 29 06.2**	**0.0**
comp=Z,0.9nm,0.5s,baz=170,slow=8.0,SNR=3.7							
CPUP	**Villa Florida**	**35.63**	**337**	P	**P**	**17 29 05.3**	**-0.8**
CPUP				IAmb	IAmb	17 29 24.2	
comp=Z,7.0nm,1.4s							
GO04	**Tololo Observa**	**35.69**	**315**	P	**P**	**17 29 06.1**	**-0.9**
GO04				IAmb	IAmb	17 29 09.0	
comp=Z,12nm,1.1s							
GO02	**Mina Guanaco**	**39.92**	**320**	P	**P**	**17 29 41.5**	**-1.3**
GO02				IAmb	IAmb	17 29 48.8	
comp=Z,10.0nm,0.8s							
SBA	**Scott Base**	**40.72**	**189**	P	**P**	**17 29 49.4**	**+0.9**
MAW	**Mawson**	**41.23**	**146**	P	**P**	**17 29 56.2**	**+3.4**
SIV	**San Ignacio**	**46.43**	**335**	P	**P**	**17 30 35.8**	**+0.6**
comp=Z,1.8nm,1.1s,baz=154,slow=8.7,SNR=7.0							
LPAZ	**La Paz**	**47.86**	**326**	P	**P**	**17 30 44.4**	**-2.6**
comp=Z,0.6nm,0.5s,baz=206,slow=2.3,SNR=2.5							
LPAZ	**La Paz**	**47.86**	**326**	IAmb	IAmb	17 30 54.0	
comp=Z,2.1nm,0.8s							
SAML	**Samuel**	**53.71**	**334**	P	**P**	**17 31 31.4**	**+1.1**
SAML				IAmb	IAmb	17 31 36.9	
comp=Z,4.5nm,1.0s							
TSUM	**Tsumeb**	**58.89**	**73**	P	**P**	**17 32 08.1**	**+0.6**
TSUM				IAmb	IAmb	17 32 16.0	
comp=Z,5.2nm,1.1s							
OTAV	**Otavalo**	**66.58**	**320**	P	**P**	**17 32 59.3**	**+0.1**
TOA0	**Torodi Ar. Sit**	**81.45**	**43**	P	**P**	**17 34 26.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**81.45**	**43**	P	**P**	**17 34 27.0**	**+1.5**
comp=Z,5.9nm,1.0s,baz=203,slow=5.9,SNR=15							
TORD	**Torodi Ar. Bea**	**81.45**	**43**	P	**P**	**17 34 25.5**	**0.0**

H08S1 Diego Garcia H 95.33 116 T T 19 22 15.7
baz=205,slow=76,SNR=8.5
H08S2 Diego Garcia H 95.34 116 T T 19 21 48.4
baz=205,slow=76,SNR=7.0
H08S3 Diego Garcia H 95.35 116 T T 19 22 16.7
baz=205,slow=76,SNR=9.1
INK Inuvik 144.07 321 PKP **PKPab 17 41 40.2 +0.2**
comp=Z,2.5nm,0.8s,baz=122,slow=2.0,SNR=7.5
INK Inuvik 144.07 321 PKPdf 17 41 41.8 -0.6
MK31 Makanchi Array 145.68 88 PKPdf 17 41 46.0 +0.1
MKAR Makanchi Array 145.68 88 PKPbc **PKPdf 17 41 45.7 -0.2**
comp=Z,2.5nm,0.6s,baz=236,slow=3.3,SNR=19
MKAR Makanchi Array 145.68 88 PKPdf 17 41 46.1 +0.2
ILAR Eielson Array 146.88 311 PKPbc **PKPbc 17 41 49.1 -0.2**
comp=Z,2.7nm,0.6s,baz=133,slow=1.9,SNR=34
ILAR Eielson Array 146.88 311 PKPbc 17 41 49.4 +0.1
WRH Wood River Hil 147.19 310 PKPbc **PKPbc 17 41 50.5 +0.4**
BMAR Burnt Mountain 147.28 316 PKPbc 17 41 50.6 +0.2
PPLA Purkeypile 148.05 305 PKPbc **PKPbc 17 41 52.9 +0.2**
BPAW Bear Paw Mtn. 148.13 308 PKPbc 17 41 52.6 -0.1
TOLK Toolik Lake Re 149.49 316 PKPbc 17 41 56.8 +0.7
IMAR Indian Mountai 149.99 310 PKPbc 17 41 57.5 +0.2
ZALV Zalesovo Beam 151.48 80 PKPbc **PKPbc 17 41 60.0 -1.2**
comp=Z,0.6nm,0.4s,baz=268,slow=4.3,SNR=4.1
SONM Songino Array 158.11 111 PKPab **PKPab 17 42 38.1 -0.3**
comp=Z,1.5nm,1.1s,baz=210,slow=5.1,SNR=4.4

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*IDC **17** 17:29:27.8±0.7,23°.45N×143°.38E, h0km, mb3.9/18, mb1 4.0/20, mb1mx3.9/53, mbtmp3.9/20, ML4.0/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/42, Error ellipse: s-maj=23.2km s-min=13.0km az=82.0*
*NEIC **17** 17:29:28.8±2.6,23°.43N±0°.06×143°.4E±0°.1, h10km±1km, mb4.6/21*
*ISCJB **17** 17:29:31.2±0.5,23°.49N±0°.05×143°.3E±0°.1, h39km, mb3.8/18, Error ellipse: s-maj=15.7km s-min=6.5km az=173.2*

ISC 17 17:29:32.8±0.5,**23°.44N**±0°.06×**143°.2E**±0°.1,**h39**km,**n45,** σ1§**62**/42,**mb4.0**/26,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.76**	**346**	Pn	**Pn**	**17 30 27.3**	**-1.0**
	16nm,0.3s,baz=96,slow=21,SNR=13						
JCJ				Sn	**Sn**	**17 31 09.6**	**-1.8**
	38nm,0.3s,baz=238,slow=23,SNR=7.8						
SARN	**Sarigan**	**7.12**	**160**	Pn	**Pn**	**17 31 11.1**	**-3.4**
MJAR	**Matsushiro Arr**	**13.76**	**343**	Pn	**Pn**	**17 32 41.4**	**-4.0**
	0.1nm,0.3s,baz=152,slow=11,SNR=8.1						
JOW	**Kunigami**	**13.97**	**287**	Pn	**Pn**	**17 32 45.6**	**-2.6**
KSRS	**Korea Array**	**19.18**	**320**	P	**P**	**17 33 52.7**	**-0.5**
	0.3nm,0.3s,baz=130,slow=12,SNR=9.0						
KS19	**Wonju Array Si**	**19.25**	**320**	P	**P**	**17 33 52.7**	**-1.2**
KS19				IAmb	IAmb	17 34 08.2	
	comp=Z,45nm,1.4s						
TATO	**Taipei**	**19.90**	**279**	P	**P**	**17 33 58.8**	**-2.3**
USRK	**Ussuriysk Ar.**	**22.68**	**339**	P	**P**	**17 34 31.4**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=173,slow=12,SNR=4.1						
MANU	**Manus Island**	**25.65**	**170**	P	**P**	**17 34 56.0**	**-3.1**
MANU				IAmb	IAmb	17 35 14.9	
	comp=Z,10nm,0.9s						
KLR	**Kul'dur**	**27.29**	**343**	P	**P**	**17 35 13.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=159,slow=9.0,SNR=6.0						
SOEI	**Soe**	**37.85**	**211**	P	**P**	**17 36 46.2**	**0.0**
SOEI				IAmb	IAmb	17 37 04.9	
	comp=Z,28nm,1.4s						
SONM	**Songino Array**	**38.05**	**319**	P	**P**	**17 36 47.7**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=116,slow=6.6,SNR=2.9						
KNRA	**Kununurra**	**41.38**	**201**	P	**P**	**17 37 15.7**	**+0.4**
KNRA				IAmb	IAmb	17 37 22.9	
	comp=Z,24nm,1.4s						
TLY	**Talaya**	**41.40**	**323**	LR	LR	17 54 38.2	
	comp=Z,63nm,19.9s,baz=306,slow=36						
CMAR	**Chiang Mai Arr**	**41.54**	**272**	P	**P**	**17 37 18.7**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=53,slow=8.2,SNR=9.2						
CMAR				LR	LR	17 54 31.8	
	comp=Z,14nm,19.5s,baz=225,slow=36						
CTA	**Charters Tower**	**43.36**	**176**	P	**P**	**17 37 32.5**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=16,slow=7.4,SNR=2.0						
CTAO	**Charters Tower**	**43.36**	**176**	P	**P**	**17 37 32.1**	**+0.6**
CTAO				IAmb	IAmb	17 37 32.6	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**43.97**	**192**	P	**P**	**17 37 36.2**	**-0.3**
WB2	**Warramunga Arr**	**43.98**	**192**	P	**P**	**17 37 37.1**	**+0.6**
WRA	**Warramunga Arr**	**43.98**	**192**	P	**P**	**17 37 36.8**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=17,slow=9.2,SNR=59						
WRA	**Warramunga Arr**	**43.98**	**192**	P	**P**	**17 37 36.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**44.72**	**204**	P	**P**	**17 37 43.6**	**+1.3**
FITZ				IAmb	IAmb	17 37 59.3	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**47.70**	**192**	P	**P**	**17 38 05.8**	**0.0**
	comp=Z,0.5nm,0.4s,baz=11,slow=6.5,SNR=16						
ZALV	**Zalesovo Beam**	**52.89**	**321**	P	**P**	**17 38 45.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=120,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**53.57**	**312**	P	**P**	**17 38 51.3**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=90,slow=9.7,SNR=6.0						
STKA	**Stephens Creek**	**55.03**	**182**	P	**P**	**17 39 00.5**	**0.0**
	comp=Z,1.5nm,0.6s,baz=14,slow=13,SNR=6.1						
NRIK	**Noril'sk**	**56.39**	**339**	P	**P**	**17 39 11.2**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=348,slow=20,SNR=2.7						
DHY	**Denali Highway**	**60.04**	**29**		**PcP**	**17 40 21.6**	**+0.3**
ILAR	**Eielson Array**	**60.47**	**28**	P	**P**	**17 39 38.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=256,slow=5.5,SNR=3.6						
KK31	**Karatay Array**	**62.03**	**308**	IAmb	IAmb	17 39 55.2	
	comp=Z,2.5nm,0.7s						
KKAR	**Karatay Array**	**62.03**	**308**	P	**P**	**17 39 51.1**	**+1.8**
KKAR	**Karatay Array**	**62.03**	**308**	P	**P**	**17 39 51.2**	**+1.8**
KKAR				IAmb	IAmb	17 39 55.2	
	comp=Z,2.5nm,0.7s						
YAH	**Yahtse**	**62.53**	**33**	P	**P**	**17 39 52.9**	**+0.2**
EGAK	**Eagle**	**62.92**	**28**	P	**P**	**17 39 53.0**	**-1.9**
EGAK				IAmb	IAmb	17 40 06.7	
	comp=Z,6.6nm,1.4s						
CHGR	**Chuyangaron**	**63.69**	**303**	P	**P**	**17 40 02.4**	**+1.9**
RAO	**Raoul Island**	**64.35**	**143**	LR	LR	18 01 40.4	
	comp=Z,166nm,20.6s,baz=104,slow=30						
INK	**Inuvik**	**65.96**	**24**	P	**P**	**17 40 14.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=296,slow=5.0,SNR=3.2						
INK	**Inuvik**	**65.96**	**24**	IAmb	IAmb	17 40 19.2	
	comp=Z,2.6nm,1.4s						
ABKAR	**Akbulak array**	**68.34**	**316**	P	**P**	**17 40 31.0**	**+0.9**
ABKAR	**Akbulak array**	**68.34**	**316**	P	**P**	**17 40 30.9**	**+0.7**
ABKAR				IAmb	IAmb	17 40 38.5	
	comp=Z,2.4nm,1.2s						
GEYT	**Alibeck**	**72.31**	**304**	P	**P**	**17 40 57.2**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=57,slow=5.3,SNR=2.6						
KBZ	**Khabaz**	**81.20**	**314**	P	**P**	**17 41 47.1**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=78,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**81.64**	**334**	P	**P**	**17 41 48.2**	**+1.5**
	comp=Z,4.7nm,1.0s,baz=70,slow=6.1,SNR=5.0						
NVAR	**Mina Array Bea**	**82.03**	**52**	P	**P**	**17 41 50.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=3.0						
BRTR	**Keskin Array B**	**89.19**	**313**	P	**P**	**17 42 27.0**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=72,slow=4.7,SNR=2.7						

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*IDC **17** 17:30:12.9±0.7,60°.37S×46°.65W, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.2/25, mbtmp4.3/12, ML4.2/1, Error ellipse: s-maj=23.1km s-min=16.6km az=35.0*
*ISCJB **17** 17:30:14.2±0.4,60°.12S±0°.07×46°.5W±0°.2, h10km, mb4.2/11, MS4.6/1, Error ellipse: s-maj=12.6km s-min=7.8km az=140.2*
*NEIC **17** 17:30:15.9±1.9,60°.20S±0°.07×46°.8W±0°.1, h10km±1km, mb4.6/11*

ISC 17 17:30:15.2±0.4,**60°.23S**±0°.07×**46°.58W**±0°.07,**h10**km,**n53,** σ1§**18**/47,**mb4.5**/14,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.08**	**47**		**Pn**	**17 32 11.6**	**-0.8**
PMSA	**Palmer Station**	**9.26**	**233**	Pn	**Pn**	**17 32 28.0**	**-0.5**
	2.4nm,0.3s,baz=44,slow=10,SNR=11						
PMSA				Sn	**Sn**	**17 34 11.5**	**-1.1**
	0.9nm,0.3s,baz=326,slow=14,SNR=4.1						
PMSA	**Palmer Station**	**9.26**	**233**	Pn	**Pn**	**17 32 26.5**	**-2.1**
USHA	**Ushuaia**	**12.89**	**285**	Pn	**Pn**	**17 33 20.7**	**+2.4**
	0.3nm,0.3s,baz=124,slow=9.2,SNR=3.4						
VNA1	**Neumayer--Stat**	**18.64**	**140**	P	**Pn**	**17 34 35.7**	**+2.8**
VNA2	**Neumayer--Watz**	**18.99**	**140**	P	**Pn**	**17 34 39.4**	**+2.3**
	baz=291,slow=14						
SNAA	**Sanae**	**20.59**	**142**	P	Pn	17 34 58.6	+2.5
SNAA	**Sanae**	**20.59**	**142**	P	Pn	17 34 58.5	+2.4
	9.2nm,0.9s,baz=286,slow=9.9,SNR=25						
SNAA	**Sanae**	**20.59**	**142**		Pn	17 34 57.8	+1.6
SNAA				IAmb	IAmb	17 35 03.2	
	comp=Z,20nm,1.1s						
TRQA	**Tornquist**	**24.25**	**329**	P	**P**	**17 35 32.7**	**+0.6**
TRQA				IAmb	IAmb	17 35 34.8	
	comp=Z,19nm,0.8s						
PLCA	**Paso Flores**	**24.52**	**312**	P	**P**	**17 35 35.0**	**+0.4**
	comp=Z,3.5nm,1.1s,baz=192,slow=10,SNR=5.8						
PLCA	**Paso Flores**	**24.52**	**312**	P	**P**	**17 35 35.0**	**+0.4**
PLCA				IAmb	IAmb	17 35 47.2	
	comp=Z,7.0nm,0.9s						
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**17 36 24.8**	**+1.1**
	comp=Z,6.8nm,0.9s,baz=170,slow=5.0,SNR=14						
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**17 36 24.2**	**+0.4**
QSPA				IAmb	IAmb	17 36 34.8	
	comp=Z,16nm,1.1s						
CFA	**Coronel Fontan**	**32.04**	**324**	P	**P**	**17 36 42.8**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=192,slow=6.0,SNR=5.4						
CPUP	**Villa Florida**	**34.69**	**343**	P	**P**	**17 37 05.5**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=171,slow=7.8,SNR=15						
CPUP	**Villa Florida**	**34.69**	**343**	P	**P**	**17 37 04.2**	**-0.6**
CPUP				IAmb	IAmb	17 37 06.2	
	comp=Z,4.9nm,0.7s						
GO03	**Copiap**	**36.39**	**323**	P	**P**	**17 37 19.0**	**-0.5**
SBA	**Scott Base**	**40.66**	**190**	P	**P**	**17 37 56.0**	**+1.2**
MNMC	**Minye Minye**	**44.23**	**328**	P	**P**	**17 38 26.0**	**+1.3**
BDFB	**Brasilia**	**44.53**	**358**	P	**P**	**17 38 27.5**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=157,slow=3.9,SNR=5.4						
LPAZ	**La Paz**	**46.58**	**331**	P	**P**	**17 38 43.0**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=160,slow=5.4,SNR=6.4						
LPAZ	**La Paz**	**46.58**	**331**	P	**P**	**17 38 42.8**	**-1.0**
SUR	**Sutherland**	**51.38**	**89**	P	**P**	**17 39 21.1**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=217,slow=14,SNR=3.3						
SAML	**Samuel**	**52.67**	**339**	P	**P**	**17 39 29.2**	**-0.3**
SAML				IAmb	IAmb	17 39 30.7	
	comp=Z,8.2nm,0.8s						
H10S2	**ASCENSION HYDR**	**56.46**	**39**	T	T	18 41 29.8	
	baz=200,slow=74,SNR=6.1						
H10S3	**ASCENSION HYDR**	**56.46**	**39**	T	T	18 41 30.0	
	baz=20,slow=74,SNR=7.0						
BOSA	**Boshof**	**56.66**	**90**	P	**P**	**17 39 58.6**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=207,slow=11,SNR=3.2						
H10N3	**ASCENSION HYDR**	**57.56**	**39**	T	T	18 42 52.3	
	baz=199,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**57.56**	**39**	T	T	18 42 54.5	
	baz=199,slow=75,SNR=7.8						
H10N2	**ASCENSION HYDR**	**57.58**	**39**	T	T	18 42 55.6	
	baz=199,slow=75,SNR=10						
LBTB	**Lobatse**	**59.80**	**88**	P	**P**	**17 40 20.5**	**0.0**
	comp=Z,5.1nm,0.8s,baz=205,slow=8.3,SNR=6.1						
OTAV	**Otavalo**	**65.15**	**324**	P	**P**	**17 40 57.6**	**+0.9**
OTAV				IAmb	IAmb	17 40 57.9	
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.66**	**47**	P	**P**	**17 42 38.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=212,slow=5.7,SNR=15						
ASAR	**Alice Springs**	**96.41**	**180**	P	**P**	**17 43 42.3**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=182,slow=5.7,SNR=5.2						
WRA	**Warramunga Arr**	**100.11**	**181**	P	**Pdif**	**17 43 58.9**	**-2.1**
	comp=Z,0.4nm,0.9s,baz=184,slow=4.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**131.54**	**134**	PKP	**PKPdf**	**17 49 26.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=215,slow=3.8,SNR=4.4						
KSH	**Kashi**	**139.19**	**94**	*e*PKP	**PKiKP**	**17 49 44.3**	**+0.5**
ILAR	**Eielson Array**	**145.21**	**312**	PKPbc	**PKPbc**	**17 49 50.1**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=150,slow=2.2,SNR=44						
ILAR	**Eielson Array**	**145.21**	**312**		**PKPdf**	**17 49 51.7**	**+0.4**
RND	**Reindeer**	**145.25**	**310**		**PKPdf**	**17 49 51.6**	**+0.1**
CCB	**Clear Creek Bu**	**145.49**	**312**		**PKPab**	**17 49 52.2**	**+0.1**
WRH	**Wood River Hil**	**145.50**	**311**		**PKPab**	**17 49 51.9**	**-0.3**
BVAR	**Borovoye Array**	**145.82**	**73**	PKPbc	**PKPdf**	**17 49 51.3**	**-1.4**
	comp=Z,6.2nm,0.7s,baz=241,slow=3.4,SNR=39						
MLY	**Manley**	**146.77**	**311**		**PKPab**	**17 49 57.2**	**+0.1**
MKAR	**Makanchi Array**	**147.65**	**91**	PKPbc	**PKPbc**	**17 49 57.5**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=232,slow=1.7,SNR=21						
MKAR	**Makanchi Array**	**147.65**	**91**		**PKPbc**	**17 49 57.6**	**-1.2**
KURBB	**Kurchatov Arra**	**148.30**	**83**	PKPbc	**PKPdf**	**17 49 58.0**	**+1.1**
	comp=Z,0.9nm,0.2s,baz=232,slow=2.9,SNR=7.7						
LZH	**Lanzhou**	**149.28**	**128**	*e*PKPbc	**PKPdf**	**17 50 00.5**	**+1.3**
LZH				pPKP	PKPbc	17 50 03.8	+0.3
LZH				sPKP		17 50 05.1	
LZH				PKPbc	**sPKPab**	**17 50 11.8**	**-0.2**
LZH				LR	LR		
	comp=N,68nm,17.8s						
LZH				LR	LR		
	comp=E,72nm,18.0s						
LZH				LR	LR		
	comp=Z,91nm,20.1s						
GTA	**Gaotai**	**150.45**	**120**	*e*PKPbc	**PKPbc**	**17 50 05.6**	**-0.6**
ZALV	**Zalesovo Beam**	**153.38**	**82**	PKPbc	**PKPbc**	**17 50 10.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=305,slow=5.1,SNR=3.4						
SONM	**Songino Array**	**160.03**	**116**	PKPab	**PKPab**	**17 50 52.8**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=213,slow=5.0,SNR=3.8						
TIXI	**Tiksi**	**168.39**	**7**	PKPab	**PKPab**	**17 51 28.1**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=315,slow=1.4,SNR=3.1						

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*ISCJB **17** 17:31:05.7±0.5,60°.19S±0°.07×45°.2W±0°.2, h10km, mb4.2/4, Error ellipse: s-maj=12.4km s-min=9.7km az=179.4*
*IDC **17** 17:31:07.0±0.8,60°.38S×45°.20W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/23, mbtmp4.3/5, Error ellipse: s-maj=55.1km s-min=27.2km az=76.0*
*NEIC **17** 17:31:07.5±2.8,60°.19S±0°.09×45°.2W±0°.2, h10km±1km, mb4.7/18*

ISC 17 17:31:07.3±0.5,**60°.21S**±0°.08×**45°.18W**±0°.10,**h10**km,**n45,** σ0§**97**/42,**mb4.5**/11,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.58**	**42**	Pn	**Pn**	**17 32 58.5**	**+0.8**
PMSA	**Palmer Station**	**9.84**	**234**	Pn	**Pn**	**17 33 28.2**	**-0.3**
EFI	**East Falkland**	**11.17**	**314**	Pn	**Pn**	**17 33 45.2**	**-1.7**
GO10	**Punta Arenas**	**15.79**	**285**	Pn	**Pn**	**17 34 49.3**	**-0.3**
GO10				IAmb	IAmb	17 35 08.6	
	comp=Z,24nm,1.0s						
SNAA	**Sanae**	**20.17**	**142**	P	Pn	17 35 46.3	+2.9
	comp=Z,9.1nm,0.9s,baz=293,slow=8.7,SNR=3.0						
SNAA	**Sanae**	**20.17**	**142**	P	**P**	**17 35 39.6**	**-1.9**
QSPA	**South Pole Qui**	**30.03**	**180**	P	**P**	**17 37 17.2**	**+1.1**
	comp=Z,6.7nm,0.9s,baz=171,slow=4.4,SNR=4.2						
QSPA	**South Pole Qui**	**30.03**	**180**	P	**P**	**17 37 15.5**	**-0.6**
QSPA				IAmb	IAmb	17 37 18.9	
	comp=Z,9.8nm,1.1s						
GO04	**Tololo Observa**	**34.59**	**319**	P	**P**	**17 37 56.2**	**-0.3**
GO04				IAmb	IAmb	17 37 59.9	
	comp=Z,16nm,1.0s						
SBA	**Scott Base**	**40.80**	**190**	P	**P**	**17 38 49.8**	**+1.7**
PB01	**IPOC Station P**	**42.74**	**325**	P	**P**	**17 39 04.4**	**-0.3**
PB01				IAmb	IAmb	17 39 11.6	
	comp=Z,6.3nm,0.8s						
GO01	**Chusmiza**	**43.97**	**326**	P	**P**	**17 39 16.4**	**+1.4**
GO01				IAmb	IAmb	17 39 20.3	
	comp=Z,7.5nm,1.1s						
MNMC	**Minye Minye**	**44.59**	**326**	P	**P**	**17 39 19.7**	**-0.1**
MNMC				IAmb	IAmb	17 39 25.4	
	comp=Z,9.9nm,0.7s						
LPAZ	**La Paz**	**46.91**	**329**	P	**P**	**17 39 40.5**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=180,slow=5.1,SNR=2.5						
LPAZ	**La Paz**	**46.91**	**329**	IAmb	IAmb	17 39 46.3	
	comp=Z,3.4nm,1.1s						
LBTB	**Lobatse**	**59.10**	**87**	P	**P**	**17 41 06.8**	**-1.0**
LBTB				IAmb	IAmb	17 41 09.9	
	comp=Z,10nm,1.1s						
CMWZ	**Cape Campbell**	**73.38**	**210**	P	**P**	**17 42 39.1**	**0.0**
BBGH	**Gun Hill**	**74.01**	**345**	P	**P**	**17 42 42.5**	**-0.4**
QRZ	**Quartz Range**	**74.67**	**209**	P	**P**	**17 42 46.6**	**0.0**
QRZ				IAmb	IAmb	17 42 48.5	
	comp=Z,15nm,1.3s						
MXZ	**Matakaoa Point**	**76.23**	**214**	P	**P**	**17 42 56.1**	**+0.5**
TAU	**Tasmania Unive**	**76.73**	**189**	P	**P**	**17 42 58.4**	**+0.1**
AOPR	**Arecibo Observ**	**80.21**	**339**	P	**P**	**17 43 17.2**	**-0.5**
AOPR				IAmb	IAmb	17 43 29.3	
	comp=Z,27nm,1.0s						
EMPR	**Esperanza - Ma**	**80.30**	**339**	P	**P**	**17 43 18.3**	**+0.2**
STKA	**Stephens Creek**	**88.08**	**186**	P	**P**	**17 43 57.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=225,slow=8.6,SNR=3.0						
STKA	**Stephens Creek**	**88.08**	**186**	IAmb	IAmb	17 44 00.5	
	comp=Z,1.7nm,1.5s						
ASAR	**Alice Springs**	**96.43**	**179**	P	**P**	**17 44 35.7**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=168,slow=4.3,SNR=7.7						
WRA	**Warramunga Arr**	**100.14**	**180**	P	**Pdif**	**17 44 52.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=182,slow=4.2,SNR=5.5						
CMAR	**Chiang Mai Arr**	**131.05**	**132**	PKP	**PKiKP**	**17 50 20.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=218,slow=3.1,SNR=5.8						
BVAR	**Borovoye Array**	**145.15**	**72**	PKPbc	**PKPdf**	**17 50 45.0**	**+1.3**
	comp=Z,4.2nm,0.7s,baz=247,slow=3.0,SNR=4.9						
IL31		**145.71**	**312**		**PKPab**	**17 50 46.7**	**+1.6**
ILAR	**Eielson Array**	**145.71**	**312**	PKPbc	**PKPab**	**17 50 46.5**	**+1.4**
	comp=Z,6.8nm,0.8s,baz=156,slow=3.5,SNR=16						
ILAR	**Eielson Array**	**145.71**	**312**		**PKiKP**	**17 50 46.8**	**-1.5**
RND	**Reindeer**	**145.77**	**309**	PKPdf	**PKPab**	**17 50 46.6**	**+1.1**
CCB	**Clear Creek Bu**	**145.99**	**311**		**PKiKP**	**17 50 47.7**	**-1.2**
WRH	**Wood River Hil**	**146.01**	**311**		**PKiKP**	**17 50 47.8**	**-1.1**
BMAR	**Burnt Mountain**	**146.17**	**317**		**PKiKP**	**17 50 48.4**	**-0.9**
BWN	**Browne**	**146.39**	**310**	PKPbc	**PKiKP**	**17 50 49.7**	**0.0**
MAKZ	**Makanchi**	**146.81**	**90**		**PKPab**	**17 50 49.6**	**-0.3**
PPLA	**Purkeypile**	**146.83**	**307**	PKPbc	**PKPab**	**17 50 50.2**	**+0.5**
MK31	**Makanchi Array**	**146.95**	**90**		**PKPab**	**17 50 50.1**	**-0.4**
MKAR	**Makanchi Array**	**146.95**	**90**	PKPbc	**PKPab**	**17 50 50.0**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=245,slow=2.5,SNR=11						
TOLK	**Toolik Lake Re**	**148.39**	**317**		**PKiKP**	**17 50 54.8**	**+0.9**
IMAR	**Indian Mountai**	**148.82**	**311**		**PKiKP**	**17 50 55.5**	**+0.8**
ZALV	**Zalesovo Beam**	**152.69**	**81**	PKPbc	**PKiKP**	**17 51 03.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=316,slow=6.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**152.69**	**81**		**PKiKP**	**17 51 03.0**	**-0.1**

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*SOME **17** 17:33:29.2,42°.00N×81°.07E, h5km*
*NNC **17** 17:33:29.4±2.9,42°.16N×81°.32E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=21.9km s-min=11.9km az=168.0*

ISC 17 17:33:31.0±3.1,**42°.1N**±0°.1×**80°.99E**±0°.10,**h16**km±14km,
n17,σ1§**77**/34,**3C-4D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.54**	**313**	*e*P	**Pn**	**17 33 56.4**	**-1.6**
	4.1nm,0.2s						
SHLS				*e*S	**Sn**	**17 34 16.1**	**-1.7**
	100nm,0.3s						
PDGK	**Podgornoye**	**1.65**	**318**	⇓P	**Pb**	**17 34 01.4**	**+0.2**
	12nm,0.4s						
PDGK				⇑S	**Sg**	**17 34 25.5**	**+1.4**
	12nm,0.4s						
UZB	**Uzynbulak**	**1.79**	**306**	*e*P	**Pg**	**17 34 04.7**	**-0.7**
	12nm,0.4s						
UZB				*e*S	**Sg**	**17 34 30.4**	**+1.8**
	18nm,0.2s						
SATY	**Saty**	**2.13**	**297**	*e*P	**Pb**	**17 34 10.3**	**+0.9**
	11nm,0.2s						
SATY				*e*S	**Sg**	**17 34 39.9**	**+0.3**
	44nm,0.1s						
KPKS	**Kokpek**	**2.17**	**309**	*e*P	**Pb**	**17 34 11.5**	**+1.4**
	19nm,0.1s						
KPKS				*e*S	**Sg**	**17 34 41.9**	**+0.9**
	77nm,0.2s						
KURS	**Kuram**	**2.49**	**305**	*e*P	**Pg**	**17 34 17.8**	**-1.0**
	3.3nm,0.3s						
KURS				*e*S	**Sg**	**17 34 53.0**	**+1.8**
	7.9nm,0.4s						
KOTS	**Kotyrbulak**	**3.08**	**293**	*e*P	**Pb**	**17 34 27.8**	**+2.3**
	4.6nm,0.2s						
KOTS				*e*S	**Sg**	**17 35 09.9**	**+0.1**
	25nm,0.3s						
TNSS	**Tian-Shan**	**3.13**	**289**	*e*P	**Pb**	**17 34 29.0**	**+2.5**
	2.6nm,0.2s						
TNSS				*e*S	**Sg**	**17 35 12.1**	**+0.6**
	9.1nm,0.2s						
ARXS	**Arharly**	**3.13**	**313**	*e*P	**Pb**	**17 34 28.6**	**+2.2**
	1.8nm,0.3s						
ARXS				*e*S	**Sg**	**17 35 11.5**	**0.0**
	8.9nm,0.4s						
IZV	**Izvestkoviy**	**3.37**	**288**	*e*P	**Pb**	**17 34 32.5**	**+2.1**
	1.5nm,0.1s						
IZV				*e*S	**Sg**	**17 35 18.3**	**-0.7**
	11nm,0.4s

CNLB	**Canela**	**31.07**	**353**	*eP*	**P**	**17 40 49.1 +0.5**
PEL	**Peldehue**	**31.40**	**319**	P	**P**	**17 40 51.6 +0.2**
CFA	**Coronel Fontan**	**32.06**	**324**	P	**P**	**17 40 56.5 -0.8**
comp=Z,3.4nm,0.7s,baz=197,slow=8.1,SNR=6.6						
ITAB	**Concordia**	**33.23**	**351**	*eP*	**P**	**17 41 09.3 +1.9**
ITAB	**Concordia**	**33.23**	**351**	*eP*	**P**	**17 41 09.3 +1.9**
GO04	**Tololo Observa**	**34.18**	**321**	P	**P**	**17 41 14.9 -1.0**
GO04				IAmb	IAmb	17 41 16.6
comp=Z,14nm,0.9s						
CPUP	**Villa Florida**	**34.71**	**343**	P	**P**	**17 41 20.7 +0.4**
comp=Z,8.9nm,0.6s,baz=168,slow=7.9,SNR=25						
CPUP	**Villa Florida**	**34.71**	**343**	P	**P**	**17 41 20.7 +0.4**
CPUP				IAmb	IAmb	17 41 21.5
comp=Z,9.5nm,0.7s						
CPUP	**Villa Florida**	**34.71**	**343**	*eP*	**P**	**17 41 21.1 +0.8**
PTGB	**Pitanga**	**35.72**	**351**	*eP*	**P**	**17 41 30.6 +1.4**
PTGB	**Pitanga**	**35.72**	**351**	*eP*	**P**	**17 41 30.6 +1.4**
GO03	**Copiap**	**36.41**	**323**	P	**P**	**17 41 34.1 -1.0**
GO03				IAmb	IAmb	17 41 50.0
comp=Z,14nm,0.7s						
SPB	**Sao Paulo**	**36.64**	**359**	*eP*	**P**	**17 41 38.1 +1.2**
SPB	**Sao Paulo**	**36.64**	**359**	*eP*	**P**	**17 41 38.1 +1.2**
FRTB	**Fartura**	**36.94**	**355**	*eP*	**P**	**17 41 43.0 +3.5**
FRTB	**Fartura**	**36.94**	**355**	*eP*	**P**	**17 41 43.0 +3.5**
VAO	**Valinhos**	**37.23**	**359**	*eP*	**P**	**17 41 42.5 +0.5**
VAO	**Valinhos**	**37.23**	**359**	*eP*	**P**	**17 41 42.5 +0.5**
MAN01	**Angra dos Reis**	**37.41**	**4**	*eP*	**P**	**17 41 44.0 +0.5**
MAN01	**Angra dos Reis**	**37.41**	**4**	*eP*	**P**	**17 41 44.0 +0.5**
TRCB	**Terra Rica**	**37.67**	**351**	*eP*	**P**	**17 41 46.6 +0.9**
TRCB	**Terra Rica**	**37.67**	**351**	*eP*	**P**	**17 41 46.6 +0.9**
RCLB	**Rio Claro- Sao**	**37.81**	**359**	*eP*	**P**	**17 41 48.6 +1.6**
RCLB	**Rio Claro- Sao**	**37.81**	**359**	*eP*	**P**	**17 41 48.6 +1.6**
VAS01	**Vassouras-RJ**	**38.01**	**5**	*eP*	**P**	**17 41 49.7 +1.1**
VAS01	**Vassouras-RJ**	**38.01**	**5**	*eP*	**P**	**17 41 49.7 +1.1**
DUB01	**Friburgo-RJ**	**38.26**	**6**	*eP*	**P**	**17 41 52.2 +1.6**
DUB01	**Friburgo-RJ**	**38.26**	**6**	*eP*	**P**	**17 41 52.2 +1.6**
GO02	**Mina Guanaco**	**38.51**	**325**	P	**P**	**17 41 52.7 -0.4**
GO02				IAmb	IAmb	17 41 54.9
comp=Z,11nm,0.8s						
CAM01	**Campos-RJ**	**38.55**	**7**	*eP*	**P**	**17 41 53.8 +0.7**
CAM01	**Campos-RJ**	**38.55**	**7**	*eP*	**P**	**17 41 53.8 +0.7**
PCMB	**Pacaembu**	**38.76**	**353**	*eP*	**P**	**17 41 55.8 +0.9**
PCMB	**Pacaembu**	**38.76**	**353**	*eP*	**P**	**17 41 55.8 +0.9**
BB19B	**Bebedouro**	**39.18**	**357**	*eP*	**P**	**17 41 59.2 +0.8**
BB19B	**Bebedouro**	**39.18**	**357**	*eP*	**P**	**17 41 59.2 +0.8**
BSCB	**Bom Sucesso**	**39.24**	**3**	*eP*	**P**	**17 41 59.8 +0.8**
BSCB	**Bom Sucesso**	**39.24**	**3**	*eP*	**P**	**17 41 59.8 +0.8**
AQDB	**Aquidauana**	**40.27**	**347**	*eP*	**P**	**17 42 07.6 +0.2**
AQDB	**Aquidauana**	**40.27**	**347**	*eP*	**P**	**17 42 07.6 +0.2**
ITRB	**Iturama**	**40.60**	**355**	*eP*	**P**	**17 42 11.2 +1.0**
ITRB	**Iturama**	**40.60**	**355**	*eP*	**P**	**17 42 11.2 +1.0**
SBA	**Scott Base**	**40.63**	**190**	P	**P**	**17 42 11.0 +1.2**
LVC	**Limon Verde**	**40.75**	**327**	P	**P**	**17 42 12.5 +0.7**
comp=Z,4.7nm,0.8s,baz=201,slow=9.1,SNR=4.8						
LVC	**Limon Verde**	**40.75**	**327**	P	**P**	**17 42 10.0 -1.9**
LVC	**Limon Verde**	**40.75**	**327**	*eP*	**P**	**17 42 12.4 +0.6**
PMNB	**Patos De Minas**	**41.67**	**0**	*eP*	**P**	**17 42 20.1 +1.0**
PMNB	**Patos De Minas**	**41.67**	**0**	*eP*	**P**	**17 42 20.1 +1.0**
SJMB	**Sao Joao De Ma**	**41.68**	**8**	*eP*	**P**	**17 42 19.6 +0.5**
SJMB	**Sao Joao De Ma**	**41.68**	**8**	*eP*	**P**	**17 42 19.6 +0.5**
GO01	**Chusmiza**	**43.63**	**328**	P	**P**	**17 42 33.0 -2.5**
MNMC	**Minye Minye**	**44.25**	**328**	P	**P**	**17 42 40.5 +0.3**
BDFB	**Brasilia**	**44.56**	**358**	P	**P**	**17 42 42.8 +0.3**
comp=Z,7.9nm,0.7s,baz=168,slow=5.0,SNR=11						
BDFB	**Brasilia**	**44.56**	**358**	P	**P**	**17 42 41.8 -0.7**
BDFB				IAmb	IAmb	17 42 43.5
comp=Z,11nm,0.8s						
ARAG	**Araguaiana, MT**	**44.65**	**353**	*eP*	**P**	**17 42 43.7 +0.7**
ARAG	**Araguaiana, MT**	**44.65**	**353**	*eP*	**P**	**17 42 43.7 +0.7**
SALV	**Santo Antonio**	**44.78**	**348**	*eP*	**P**	**17 42 45.5 +1.3**
SALV	**Santo Antonio**	**44.78**	**348**	*eP*	**P**	**17 42 45.5 +1.3**
LPAZ	**La Paz**	**46.60**	**331**	P	**P**	**17 42 59.1 -0.1**
comp=Z,3.3nm,0.7s,baz=170,slow=7.3,SNR=11						
LPAZ	**La Paz**	**46.60**	**331**	P	**P**	**17 42 59.0 -0.3**
LPAZ	**La Paz**	**46.60**	**331**	*eP*	**P**	**17 42 59.6 +0.3**
CLDB	**Colider**	**49.76**	**348**	*eP*	**P**	**17 43 22.4 -0.6**
CLDB	**Colider**	**49.76**	**348**	*eP*	**P**	**17 43 22.4 -0.6**
SUR	**Sutherland**	**51.38**	**89**	P	**P**	**17 43 35.7 +0.4**
comp=Z,10nm,0.7s,baz=207,slow=8.7,SNR=12						
SUR	**Sutherland**	**51.38**	**89**	IAmb	IAmb	17 43 51.1
comp=Z,19nm,1.1s						
SAML	**Samuel**	**52.69**	**339**	P	**P**	**17 43 45.1 +0.2**
SAML	**Samuel**	**52.69**	**339**	*eP*	**P**	**17 43 45.6 +0.7**
H10S2	**ASCENSION HYDR**	**56.48**	**39**	T	T	18 45 44.0
baz=200,slow=74,SNR=32						
H10S3	**ASCENSION HYDR**	**56.49**	**39**	T	T	18 45 44.0
baz=20,slow=74,SNR=35						
BOSA	**Boshof**	**56.66**	**90**	P	**P**	**17 44 13.4 -0.4**
comp=Z,4.6nm,0.8s,baz=211,slow=7.5,SNR=9.2						
BOSA	**Boshof**	**56.66**	**90**	IAmb	IAmb	17 44 15.1
comp=Z,4.7nm,0.8s						
H10N3	**ASCENSION HYDR**	**57.58**	**39**	T	T	18 47 07.5
baz=199,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**57.59**	**39**	T	T	18 47 07.0
baz=199,slow=75,SNR=19						
H10N2	**ASCENSION HYDR**	**57.60**	**39**	T	T	18 47 07.6
baz=199,slow=75,SNR=19						
OTAV	**Otavalo**	**65.17**	**324**	P	**P**	**17 45 12.1 -0.1**
OTAV	**Otavalo**	**65.17**	**324**	*eP*	**P**	**17 45 12.9 +0.8**
SDV	**Santo Domingo**	**71.52**	**335**	*eP*	**P**	**17 45 51.9 +0.4**
SDV	**Santo Domingo**	**71.52**	**335**	*eP*	**P**	**17 45 51.9 +0.4**
TORD	**Torodi Ar. Bea**	**82.68**	**47**	P	**P**	**17 46 54.6 +0.6**
comp=Z,5.2nm,0.7s,baz=201,slow=7.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**82.68**	**47**	IAmb	IAmb	17 46 55.5
comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**87.96**	**187**	P	**P**	**17 47 18.8 -1.6**
comp=Z,1.5nm,0.9s,baz=161,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**96.38**	**180**	P	**P**	**17 47 57.5 -2.0**
comp=Z,1.5nm,0.9s,baz=178,slow=4.8,SNR=11						
ASAR	**Alice Springs**	**96.38**	**180**	P	**P**	**17 47 57.4 -2.2**
WRA	**Warramunga Arr**	**100.09**	**181**	P	**Pdif**	**17 48 14.2 -1.9**
comp=Z,0.8nm,0.9s,baz=183,slow=4.2,SNR=5.9						
BRTR	**Keskin Array B**	**119.11**	**60**	PKP	**PKPdf**	**17 53 17.6 -1.2**
comp=Z,0.6nm,0.7s,baz=221,slow=3.3,SNR=2.9						
GERES	**GERESS Array B**	**119.17**	**41**	PKP	**PKPdf**	**17 53 16.7 -1.9**
comp=Z,0.1nm,0.3s,baz=222,slow=1.8,SNR=3.7						
AKASG	**Malin Array Be**	**126.25**	**50**	PKP	**PKPdf**	**17 53 30.4 -1.5**
comp=Z,1.3nm,0.7s,baz=240,slow=2.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**131.53**	**134**	PKP	**PKPdf**	**17 53 42.1 -0.9**
comp=Z,1.4nm,0.8s,baz=221,slow=3.4,SNR=11						
KSH	**Kashi**	**139.19**	**94**	PKP	**PKiKP**	**17 53 59.0 -0.1**
KSH				PP	PP	17 56 54.1 +3.3
KSH				PKS	**PKSdf**	**17 57 33.3 +0.3**
KSH				LR	LR	
comp=Z,110nm,13.0s						
AAK	**Ala-Archa**	**140.80**	**89**	PKhKP	PKPpre	17 53 54.9
comp=Z,1.0nm,0.5s,baz=185,slow=12,SNR=3.1						
CD2	**Chengdu**	**144.64**	**133**	PKP	**PKPdf**	**17 54 06.4 -0.4**
IL31		**145.22**	**312**		**PKPdf**	**17 54 07.6 +1.1**
ILAR	**Eielson Array**	**145.22**	**312**	PKPbc	**PKPbc**	**17 54 05.5 -0.9**
comp=Z,12nm,0.9s,baz=148,slow=2.3,SNR=50						
ILAR	**Eielson Array**	**145.22**	**312**		**PKPbc**	**17 54 06.3 -0.1**
RND	**Reindeer**	**145.26**	**309**		**PKPbc**	**17 54 06.5 -0.2**
CCB	**Clear Creek Bu**	**145.50**	**312**		**PKPdf**	**17 54 06.9 -0.1**
WRH	**Wood River Hil**	**145.52**	**311**		**PKPbc**	**17 54 07.2 -0.1**
BMAR	**Burnt Mountain**	**145.73**	**317**		**PKPab**	**17 54 08.5 +0.1**
BRVK	**Borovoye**	**145.81**	**73**		**PKPbc**	**17 54 08.3 -0.3**
BVAR	**Borovoye Array**	**145.84**	**73**	PKPbc	**PKPdf**	**17 54 08.1 +0.1**
comp=Z,8.0nm,0.5s,baz=220,slow=3.3,SNR=50						
NEA	**Nenana**	**145.94**	**311**	PKPdf	**PKPbc**	**17 54 08.7 0.0**
ENH	**Enshi**	**146.00**	**141**		**PKPdf**	**17 54 08.7 -0.4**
PPLA	**Purkeypile**	**146.30**	**307**	PKPdf	**PKPdf**	**17 54 09.2 +0.5**
BPAW	**Bear Paw Mtn.**	**146.43**	**310**	PKPdf	**PKPdf**	**17 54 09.4 +0.7**
MAKZ	**Makanchi**	**147.51**	**91**		**PKPbc**	**17 54 12.7 -1.0**
COLD	**Coldfoot**	**147.58**	**315**	PKPbc	**PKPbc**	**17 54 13.6 +0.4**
MK31	**Makanchi Array**	**147.66**	**91**		**PKPbc**	**17 54 13.2 -1.0**
MKAR	**Makanchi Array**	**147.66**	**91**	PKPbc	**PKPbc**	**17 54 13.0 -1.1**
comp=Z,6.5nm,0.7s,baz=242,slow=2.6,SNR=27						
MKAR	**Makanchi Array**	**147.66**	**91**		**PKPbc**	**17 54 13.2 -1.0**
WHN	**Wuhan**	**147.66**	**148**	PKPbc	**PKPdf**	**17 54 13.0 +1.2**
TOLK	**Toolik Lake Re**	**147.95**	**318**		**PKPbc**	**17 54 15.0 +0.7**
WMQ	**Urumqi**	**148.22**	**100**	*e*PKPbc	**PKPdf**	**17 54 13.9 +1.5**
KURBB	**Kurchatov Arra**	**148.31**	**83**	PKPbc	**PKPbc**	**17 54 14.8 -0.9**
comp=Z,1.8nm,0.3s,baz=234,slow=3.7,SNR=9.0						
IMAR	**Indian Mountai**	**148.33**	**312**	PKPdf	**PKPbc**	**17 54 14.9 -0.3**
IMAR					**PKiKP**	**17 54 17.0 +0.1**
KURK	**Kurchatov**	**148.41**	**83**		**PKPbc**	**17 54 16.5 +0.5**
LZH	**Lanzhou**	**149.27**	**129**	*e*PKPbc	**PKPdf**	**17 54 14.5 0.0**
LZH				LR	LR	
comp=Z,93nm,18.2s						
LZH				LR	LR	
comp=Z,86nm,17.9s						
LZH				LR	LR	
comp=Z,130nm,20.3s						
XAN	**Xi'an**	**149.29**	**138**	PKPbc	**PKPbc**	**17 54 17.3 -1.5**
XAN				pPKP	PKPab	17 54 23.5 +0.1
XAN				LR	LR	
comp=Z,200nm,21.6s						
XAN				LR	LR	
comp=Z,280nm,26.0s						
NJ2	**Nanjing**	**150.18**	**155**	*e*PKPbc	**PKPdf**	**17 54 16.3 +0.5**
GTA	**Gaotai**	**150.44**	**120**	*e*PKPbc	**PKPdf**	**17 54 15.5 -0.7**
ZALV	**Zalesovo Beam**	**153.39**	**82**	PKPbc	**PKPbc**	**17 54 25.6 -1.9**
comp=Z,1.8nm,0.7s,baz=268,slow=4.5,SNR=6.3						
HHC	**Hu-ho-hao-te**	**156.33**	**135**	*e*PKP	**PKPdf**	**17 54 26.4 +1.8**
SONM	**Songino Array**	**160.02**	**116**	PKP	**PKPdf**	**17 54 28.5 -0.4**
comp=Z,0.7nm,0.9s,baz=199,slow=3.1,SNR=3.0						
SONM				PKPab	**PKPab**	**17 55 08.6 -0.1**
comp=Z,1.1nm,0.8s,baz=220,slow=4.6,SNR=7.1						

BJI ***17*** *17:37:12.6±0.0, 10°.88S×11°.41W, h12km, mb5.4/4, mB5.9/11, Ms5.4/15, Ms7 5.1/15*
ISCJB ***17*** *17:37:12.3±0.1, 10°.35S±0°.03×11°.80W±0°.02, h10km, mb5.5/147, MS4.8/49, Error ellipse: s-maj=4.1km s-min=2.0km az=154.8*
IDC ***17*** *17:37:12.5±0.3, 10°.30S×11°.88W, h0km, mb5.2/32, mb1 5.2/33, mb1mx5.2/34, mbtmp5.1/33, ML4.4/1, MS4.7/22, Ms1 4.7/22, ms1mx4.6/25, Error ellipse: s-maj=12.4km s-min=10.4km az=127.0*
MOS ***17*** *17:37:12.4±0.9, 10°.21S×11°.90W, h10km, mb5.9/39, MS4.8/24, Error ellipse: s-maj=9.2km s-min=4.5km az=64.3*
GCMT ***17*** *17:37:14.1±0.4, 10°.28S±0°.05×11°.82W±0°.02, h13km±1km, MW5.3/70, Moment Tensor Solution. s14,c14; s70,c97; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr1.24±.13; Mθθ-0.06±.08; Mφφ-1.18±.09; Mrθ-0.27±.28; Mrφ0.16±.05; Mθφ-0.01±.17; Best double couple: M0 1.24700×10^17 NP1:φs341.00000°, δ47.00000°, λ75.00000°. NP2:φs183.00000°, δ45.00000°, λ106.00000°. Principal axes: T 1.2930, Plg79.0000°, Azm175.0000°; N -0.0940, Plg11.0000°, Azm352.0000°; P -1.2020, Plg1.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***17*** *17:37:14.1±1.4, 10°.33S±0°.06×11°.83W±0°.07, h10km±1km, mb5.5/225, Ms_20 4.9/287*

ISC 17 17:37:14.0±0.2, 10°.27S±0°.05×11°.87W±0°.04, h10km, n1474, σ1°.25/1350, mb5.5/239, MS4.9/188, 88C-33D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.03**	**295**	Pn	**Pn**	**17 38 02.4**	**+0.5**
H10S3	**ASCENSION HYDR**	**3.05**	**295**	Pn	**Pn**	**17 38 02.3**	**+0.1**
ASCN	**Ascension**	**3.39**	**313**		**Pn**	**17 38 07.4**	**+0.5**
H10N1	**ASCENSION HYDR**	**3.53**	**313**	Pn	**Pn**	**17 38 10.0**	**+1.3**
H10N2	**ASCENSION HYDR**	**3.55**	**313**	Pn	**Pn**	**17 38 10.3**	**+1.3**
H10N3	**ASCENSION HYDR**	**3.55**	**313**	Pn	**Pn**	**17 38 10.3**	**+1.3**
SHEL	**Horse Pasture**	**8.21**	**134**	P	**Pn**	**17 39 11.2**	**-2.2**
SHEL	**Horse Pasture**	**8.21**	**134**	Pn	**Pn**	**17 39 11.2**	**-2.2**
LIC	**Lamto**	**17.75**	**23**	*eP*	**Pn**	**17 41 19.7**	**-1.7**
2μm,1.3s							
LIC	**Lamto**	**17.75**	**23**	P	**Pn**	**17 41 19.7**	**-1.7**
KIC	**Kosan Boka**	**17.98**	**24**	*eP*	**Pn**	**17 41 22.8**	**-1.5**
1μm,1.3s							
KIC	**Kosan Boka**	**17.98**	**24**	P	**Pn**	**17 41 22.8**	**-1.5**
TIC	**Toumodi**	**18.14**	**22**	*eP*	**Pn**	**17 41 24.5**	**-1.7**
TIC	**Toumodi**	**18.14**	**22**	P	**Pn**	**17 41 24.5**	**-1.7**
TIC	**Toumodi**	**18.14**	**22**	P	**Pn**	**17 41 24.5**	**-1.7**
DBIC	**Dimbokro**	**18.22**	**23**	P	**Pn**	**17 41 26.2**	**-1.0**
DBIC				pmax	pmax		
comp=Z,354nm,1.2s							
DBIC	**Dimbokro**	**18.22**	**23**	P	**Pn**	**17 41 25.8**	**-1.4**
comp=Z,1.3nm,0.3s,baz=187,slow=13,SNR=43							
DBIC				LR	LR	17 46 49.4	
comp=Z,2μm,18.7s,slow=32							
DBIC	**Dimbokro**	**18.22**	**23**		**Pn**	**17 41 26.2**	**-1.0**
DBIC				IAmb	IAmb	17 41 30.5	
comp=Z,354nm,1.1s							
NBRF	**Rio Formoso -**	**23.00**	**272**	*eP*	**P**	**17 42 14.7**	**-4.5**
NBRF	**Rio Formoso -**	**23.00**	**272**	*eP*	**P**	**17 42 14.7**	**-4.5**
NBPV	**Pedro Velho**	**23.48**	**278**	*eP*	**P**	**17 42 23.3**	**-0.9**
NBPV	**Pedro Velho**	**23.48**	**278**	*eP*	**P**	**17 42 23.3**	**-0.9**
NBAN	**Anadia - AL**	**24.05**	**269**	*eP*	**P**	**17 42 28.2**	**-1.4**
NBAN	**Anadia - AL**	**24.05**	**269**	*eP*	**P**	**17 42 28.2**	**-1.4**
RCBR	**Riachuelo**	**24.20**	**279**	P	**P**	**17 42 30.7**	**-0.3**
RCBR				pmax	pmax		
comp=Z,48nm,1.1s							
RCBR				MLR	MLR		
comp=Z,3μm,22.0s							
RCBR	**Riachuelo**	**24.20**	**279**	P	**P**	**17 42 31.1**	**0.0**
comp=Z,31nm,0.7s,baz=92,slow=11,SNR=6.6							
RCBR	**Riachuelo**	**24.20**	**279**	P	**P**	**17 42 30.7**	**-0.3**
RCBR	**Riachuelo**	**24.20**	**279**	*eP*	**P**	**17 42 31.4**	**+0.4**
NBPA	**Parau_RN**	**25.39**	**278**	*eP*	**P**	**17 42 42.6**	**+0.7**
NBPA	**Parau_RN**	**25.39**	**278**	*eP*	**P**	**17 42 42.6**	**+0.7**
NBLA	**Lagarto - SE**	**25.48**	**266**	*eP*	**P**	**17 42 41.7**	**-1.0**
NBLA	**Lagarto - SE**	**25.48**	**266**	*eP*	**P**	**17 42 41.7**	**-1.0**
NBTA	**Tacaratu-PE**	**25.84**	**270**	*eP*	**P**	**17 42 45.3**	**-0.7**
NBTA	**Tacaratu-PE**	**25.84**	**270**	*eP*	**P**	**17 42 45.3**	**-0.7**
TRIS	**Tristan da Cun**	**26.68**	**181**	P	**P**	**17 42 54.0**	**+0.7**
NBMA	**Muriti-CE**	**26.73**	**274**	*eP*	**P**	**17 42 53.9**	**-0.1**
NBMA	**Muriti-CE**	**26.73**	**274**	*eP*	**P**	**17 42 53.9**	**-0.1**
TOC5	**Torodi Ar. Sit**	**26.86**	**30**	IAMs_20	IAMs_20	17 51 51.7	
comp=Z,3μm,19.0s							
NBCL	**Cascavel-CE**	**26.88**	**281**	*eP*	**P**	**17 42 56.1**	**+0.7**
NBCL	**Cascavel-CE**	**26.88**	**281**	*eP*	**P**	**17 42 56.1**	**+0.7**
TOA0	**Torodi Ar. Sit**	**26.88**	**30**	P	**P**	**17 42 55.3**	**0.0**
SNR=59							
TOA0	**Torodi Ar. Sit**	**26.88**	**30**	P	**P**	**17 42 55.1**	**-0.2**
TOA0				IAmb	IAmb	17 42 56.8	
comp=Z,146nm,1.1s							
TORD	**Torodi Ar. Bea**	**26.88**	**30**	P	**P**	**17 42 54.3**	**-1.0**
comp=Z,67nm,0.7s,baz=210,slow=7.8,SNR=156							
TORD				LR	LR	17 52 03.4	
comp=Z,2μm,19.9s,baz=280,slow=33							
TORD	**Torodi Ar. Bea**	**26.88**	**30**	IAmb	IAmb	17 42 56.7	
comp=Z,78nm,1.0s							
TOC1	**Torodi Ar. Sit**	**26.91**	**30**	IAMs_20	IAMs_20	17 51 52.1	
comp=Z,3μm,19.0s							
NBIT	**Itapeh - BA**	**27.29**	**257**	*eP*	**P**	**17 42 59.3**	**+0.3**
NBIT	**Itapeh - BA**	**27.29**	**257**	*eP*	**P**	**17 42 59.3**	**+0.3**
NBPB	**Pedra_Branca-C**	**27.84**	**278**	*eP*	**P**	**17 43 04.9**	**+0.9**
NBPB	**Pedra_Branca-C**	**27.84**	**278**	*eP*	**P**	**17 43 04.9**	**+0.9**
NBPN	**Ponto Novo - B**	**27.85**	**266**	*eP*	**P**	**17 43 03.6**	**-0.5**
NBPN	**Ponto Novo - B**	**27.85**	**266**	*eP*	**P**	**17 43 03.6**	**-0.5**
NBMO	**Morrinhos-CE**	**28.80**	**282**	*eP*	**P**	**17 43 13.0**	**+0.4**
NBMO	**Morrinhos-CE**	**28.80**	**282**	*eP*	**P**	**17 43 13.0**	**+0.4**
RIB01	**Linhares ES**	**28.97**	**249**	*eP*	**P**	**17 43 14.0**	**+0.1**
RIB01	**Linhares ES**	**28.97**	**249**	*eP*	**P**	**17 43 14.0**	**+0.1**
BSFB	**Barra de Sao F**	**29.27**	**250**	*eP*	**P**	**17 43 16.7**	**0.0**
BSFB	**Barra de Sao F**	**29.27**	**250**	*eP*	**P**	**17 43 16.7**	**0.0**
SJMB	**Sao Joao De Ma**	**29.56**	**250**	*eP*	**P**	**17 43 18.7**	**-0.5**
SJMB	**Sao Joao De Ma**	**29.56**	**250**	*eP*	**P**	**17 43 18.7**	**-0.5**
ALF01	**Guarapari-ES**	**29.61**	**246**	*eP*	**P**	**17 43 19.6**	**0.0**
ALF01	**Guarapari-ES**	**29.61**	**246**	*eP*	**P**	**17 43 19.6**	**0.0**
TSUM	**Tsumeb**	**29.79**	**111**	P	**P**	**17 43 20.9**	**-0.6**
comp=Z,3.9nm,1.0s,baz=268,slow=7.0,SNR=7.5							
TSUM				LR	LR	17 52 45.6	
comp=Z,4μm,21.5s,baz=277,slow=31							
TSUM	**Tsumeb**	**29.79**	**111**	IAMs_20	IAMs_20	17 52 44.2	
comp=Z,3μm,20.0s							
NBPS	**Pedro II - PI**	**29.90**	**279**	*eP*	**P**	**17 43 22.7**	**+0.3**
NBPS	**Pedro II - PI**	**29.90**	**279**	*eP*	**P**	**17 43 22.7**	**+0.3**
CAM01	**Campos-RJ**	**30.78**	**244**	*eP*	**P**	**17 43 30.1**	**+0.1**
CAM01	**Campos-RJ**	**30.78**	**244**	*eP*	**P**	**17 43 30.1**	**+0.1**
DUB01	**Friburgo-RJ**	**31.49**	**244**	*eP*	**P**	**17 43 36.7**	**+0.3**
DUB01	**Friburgo-RJ**	**31.49**	**244**	*eP*	**P**	**17 43 36.7**	**+0.3**
JANB	**Januaria**	**31.99**	**258**	*eP*	**P**	**17 43 40.1**	**-0.7**
JANB	**Januaria**	**31.99**	**258**	*eP*	**P**	**17 43 40.1**	**-0.7**
VAS01	**Vassouras-RJ**	**32.50**	**245**	*eP*	**P**	**17 43 45.2**	**0.0**
VAS01	**Vassouras-RJ**	**32.50**	**245**	*eP*	**P**	**17 43 45.2**	**0.0**
MAN01	**Angra dos Reis**	**33.13**	**244**	*eP*	**P**	**17 43 51.1**	**+0.4**
MAN01	**Angra dos Reis**	**33.13**	**244**	*eP*	**P**	**17 43 51.1**	**+0.4**
BSCB	**Bom Sucesso**	**33.37**	**247**	*eP*	**P**	**17 43 52.4**	**-0.5**
BSCB	**Bom Sucesso**	**33.37**	**247**	*eP*	**P**	**17 43 52.4**	**-0.5**
PMNB	**Patos De Minas**	**34.43**	**252**	*eP*	**P**	**17 44 01.5**	**-0.6**
PMNB	**Patos De Minas**	**34.43**	**252**	*eP*	**P**	**17 44 01.5**	**-0.6**
SMTB	**Santa Maria do**	**35.24**	**269**	*eP*	**P**	**17 44 09.6**	**+0.5**
SMTB	**Santa Maria do**	**35.24**	**269**	*eP*	**P**	**17 44 09.6**	**+0.5**
BDFB	**Brasilia**	**35.60**	**258**	P	**P**	**17 44 12.4**	**+0.2**
BDFB				pmax	pmax		
comp=Z,104nm,1.2s							
BDFB				MLR	MLR		
comp=Z,3μm,21.0s							
BDFB	**Brasilia**	**35.60**	**258**	P	**P**	**17 44 12.2**	**0.0**
comp=Z,56nm,1.1s,baz=66,slow=8.4,SNR=23							
BDFB				LR	LR	17 55 47.4	
comp=Z,3μm,21.0s,baz=103,slow=31							
BDFB	**Brasilia**	**35.60**	**258**	P	**P**	**17 44 12.4**	**+0.2**
BDFB				IAmb	IAmb	17 44 13.6	
comp=Z,104nm,1.2s							
BDFB				IAMs_20	IAMs_20	17 55 24.9	
comp=Z,3μm,21.0s							
VAO	**Valinhos**	**35.83**	**245**	*eP*	**P**	**17 44 13.4**	**-0.7**
VAO	**Valinhos**	**35.83**	**245**	*eP*	**P**	**17 44 13.4**	**-0.7**
IPMB	**Ipameri, GO**	**36.02**	**254**	*eP*	**P**	**17 44 15.0**	**-0.8**
IPMB	**Ipameri, GO**	**36.02**	**254**	*eP*	**P**	**17 44 15.0**	**-0.8**
RCLB	**Rio Claro- Sao**	**36.19**	**246**	*eP*	**P**	**17 44 16.8**	**-0.4**
RCLB	**Rio Claro- Sao**	**36.19**	**246**	*eP*	**P**	**17 44 16.8**	**-0.4**
SPB	**Sao Paulo**	**36.39**	**244**	P	**P**	**17 44 18.9**	**+0.1**
SPB				IAmb	IAmb	17 44 19.8	
comp=Z,88nm,1.1s							
SPB				IAMs_20	IAMs_20	17 55 19.4	
comp=Z,2μm,21.0s							
SPB	**Sao Paulo**	**36.39**	**244**	*eP*	**P**	**17 44 18.4**	**-0.4**
BB19B	**Bebedouro**	**36.80**	**249**	*eP*	**P**	**17 44 22.2**	**-0.3**
BB19B	**Bebedouro**	**36.80**	**249**	*eP*	**P**	**17 44 22.2**	**-0.3**
TAM	**Tamanrasset**	**37.01**	**27**	P	**P**	**17 44 25.5**	**+1.2**
TAM				pmax	pmax		
comp=Z,12nm,1.1s							
TAM				MLR	MLR		
comp=Z,1μm,19.0s							
TAM	**Tamanrasset**	**37.01**	**27**	P	**P**	**17 44 25.5**	**+1.2**
SUR	**Sutherland**	**37.31**	**131**	P	**P**	**17 44 26.4**	**-0.4**
SUR				P	**P**	**17 44 26.4**	**-0.4**
SUR	**Sutherland**	**37.31**	**131**	P	**P**	**17 44 26.3**	**-0.4**
comp=Z,26nm,1.0s,baz=226,slow=6.2,SNR=5.5							
SUR

CKFL Kef-Lekhel 49.61 20 P **P 17 46 06.2 +0.4**
PMRV Marv??o 49.62 5 *e*P **P 17 46 06.9 +1.2**
comp=Z,170nm,1.3s
PMRV Marv??o 49.62 5 *e*LR LR 18 03 03.4
comp=Z,470nm,22.0s
KMBO Kilima Mbogo 49.65 83 *i* P **P 17 46 08.2 +1.6**
SNR=50
KMBO Kilima Mbogo 49.65 83 P **P 17 46 08.4 +1.7**
KMBO SNR=36
KMBO P **P 17 46 08.4 +1.7**
SNR=36
KMBO Kilima Mbogo 49.65 83 P **P 17 46 08.5 +1.9**
KMBO pmax pmax
comp=Z,11nm,1.1s
KMBO MLR MLR
comp=Z,1µm,18.0s
KMBO Kilima Mbogo 49.65 83 P **P 17 46 08.0 +1.4**
comp=Z,29nm,1.1s,baz=246,slow=8.3,SNR=58
KMBO LR LR 18 06 10.7
comp=Z,1µm,18.2s,baz=272,slow=35
KMBO Kilima Mbogo 49.65 83 P **P 17 46 08.5 +1.9**
PTOM Tomar 49.74 3 *e*P **P 17 46 08.1 +1.6**
comp=Z,154nm,1.7s
KEST Kesra 49.95 23 P **P 17 46 09.9 +1.6**
comp=Z,137nm,1.0s,baz=198,slow=4.5,SNR=66
KEST LR LR 18 06 20.2
comp=Z,757nm,20.5s,baz=174,slow=35
KEST Kesra 49.95 23 P **P 17 46 10.4 +2.1**
CAEH 'Ain El Ouahch 50.00 20 P **P 17 46 09.1 +0.5**
PCBR Castelo Branco 50.02 4 *e*P **P 17 46 10.0 +1.3**
comp=Z,74nm,1.3s
CMAH Djebel Manchou 50.05 20 P **P 17 46 05.9 -3.2**
PCAS Casmilo, Conde 50.17 3 *e*P **P 17 46 11.3 +1.5**
comp=Z,190nm,1.6s
KIBK Kibwezi 50.18 84 P **P 17 46 12.6 +2.1**
SNR=16
ESDC Sonseca Array 50.23 8 P **P 17 46 11.1 +0.7**
comp=Z,9.5nm,0.9s,baz=188,slow=7.0,SNR=44
ESDC PcP **PcP 17 47 30.9 +1.4**
comp=Z,10nm,1.0s,baz=179,slow=4.2,SNR=9.5
ESDC LR LR 18 07 15.0
comp=Z,141nm,18.2s,baz=170,slow=36
ESDC Sonseca Array 50.23 8 P **P 17 46 10.8 +0.4**
COI Coimbra 50.33 3 *e*P **P 17 46 13.2 +2.2**
comp=Z,173nm,1.8s
SAML Samuel 50.57 267 P **P 17 46 13.3 0.0**
SAML pmax pmax
comp=Z,69nm,1.2s
SAML MLR MLR
comp=Z,2µm,21.0s
SAML Samuel 50.57 267 P **P 17 46 13.3 0.0**
SAML IAmb IAmb 17 46 15.3
comp=Z,69nm,1.1s
SAML Samuel 50.57 267 *e*P **P 17 46 14.6 +1.3**
MTE Manteigas 50.57 4 *e*P **P 17 46 13.9 +1.0**
comp=Z,153nm,1.5s
MTE Manteigas 50.57 4 *e*LR LR 18 03 49.8
comp=Z,545nm,20.0s
MTE Manteigas 50.57 4 P **P 17 46 13.4 +0.5**
PVIS Viseu 50.86 4 *e*P **P 17 46 16.1 +1.0**
comp=Z,103nm,1.5s
MVO Moncorvo 51.37 5 *e*P **P 17 46 20.2 +1.3**
comp=Z,180nm,1.8s
MVO Moncorvo 51.37 5 *e*LR LR 18 03 29.3
comp=Z,410nm,20.0s
PVRL Vila Real 51.43 4 *e*P **P 17 46 20.4 +1.0**
comp=Z,121nm,1.6s
POLO Lamas de Olo 51.52 4 *e*P **P 17 46 21.1 +1.0**
comp=Z,54nm,1.4s
PCAB Cabril 51.84 4 *e*P **P 17 46 22.6 +0.2**
comp=Z,209nm,1.4s
PBRG Braganca 52.03 5 *e*P **P 17 46 24.6 +0.8**
comp=Z,87nm,1.7s
TRQA Tornquist 52.63 230 IAMs_20 IAMs_20 18 04 34.7
comp=Z,1µm,21.0s
TRQA Tornquist 52.63 230 *e*P **P 17 46 27.9 -0.5**
TRQA Tornquist 52.63 230 *e*P **P 17 46 27.9 -0.5**
CLTB Caltabellotta 53.09 25 P **P 17 46 32.6 +0.8**
CORL Corleone 53.39 25 P **P 17 46 35.5 +1.5**
CORL IAmb IAmb 17 46 36.6
comp=Z,95nm,1.1s
GRGR Grenville 54.24 293 P **P 17 46 42.5 +1.9**
H05S1 Guadeloupe/Mar 54.40 296 T T 18 45 21.7
SNR=30
LPAZ La Paz 54.95 257 P **P 17 46 45.7 -0.8**
LPAZ 17 47 48.2
LPAZ pmax pmax
comp=Z,18nm,1.1s
LPAZ La Paz 54.95 257 P **P 17 46 45.1 -1.3**
comp=Z,11nm,0.9s,baz=90,slow=6.7,SNR=20
LPAZ PcP **PcP 17 47 46.8 -1.7**
comp=Z,9.6nm,0.9s,baz=198,slow=4.3,SNR=5.6
LPAZ LR LR 18 08 48.7
comp=Z,872nm,20.5s,baz=81,slow=34
LPAZ La Paz 54.95 257 P **P 17 46 45.6 -0.8**
LPAZ **PcP 17 47 48.2 -0.3**
LPAZ La Paz 54.95 257 *e*P **P 17 46 45.7 -0.8**
H05N1 Guadeloupe/Mar 55.38 298 P **P 17 46 49.5 +0.7**
SNR=8.7
H05N1 T T 18 46 29.9
LVC Limon Verde 55.77 250 *e*P **P 17 46 51.8 -0.2**
LVC Limon Verde 55.77 250 *e*P **P 17 46 51.8 -0.2**
TIP Timpagrande 55.95 27 ⇑P **P 17 46 52.4 -0.1**
TIP mb 17 46 55.0
TIP Timpagrande 55.95 27 IAmb IAmb 17 46 55.0
comp=Z,81nm,1.1s
TIP IAMs_20 IAMs_20 18 11 57.3
comp=Z,882nm,19.0s
PB01 IPOC Station P 56.25 252 P **P 17 46 54.3 -0.8**
PB01 IAmb IAmb 17 46 56.1
comp=Z,57nm,1.1s
GVD Gavdhos 56.32 35 P **P 17 46 56.2 +1.0**
MNMC Minye Minye 56.32 254 P **P 17 46 54.0 -1.9**
PB11 IPOC Station P 56.38 253 P **P 17 46 54.9 -1.3**
PB11 IAmb IAmb 17 46 56.1
comp=Z,47nm,1.1s
PYL PYLOS 56.55 32 P **P 17 46 59.2 +2.4**
PAOL Paolisi 56.57 24 P **P 17 46 58.4 +1.4**
PAOL IAmb IAmb 17 46 59.1
comp=Z,81nm,1.1s
CASP Castiglione de 56.75 20 IAMs_20 IAMs_20 18 11 04.7
comp=Z,897nm,20.0s
KLMT Kalamata 56.84 32 P **P 17 47 00.4 +1.5**
ITM Ithomi 56.86 32 P **P 17 47 00.9 +1.8**
ITM Ithomi 56.86 32 P **P 17 47 00.5 +1.4**
PB04 IPOC Station P 56.91 250 P **P 17 46 59.6 -0.3**
PB04 IAmb IAmb 17 47 13.4
comp=Z,42nm,1.1s
LATE Laterza 56.91 21 P **P 17 47 00.4 +1.1**
ACER Acerenza 56.93 25 P **P 17 46 58.8 -0.7**
ACER IAmb IAmb 17 47 12.8
comp=Z,26nm,0.9s
VLS Valsamata 56.95 30 P **P 17 47 00.1 +0.5**
AMT Artemida-Makis 57.02 32 P **P 17 47 02.7 +2.5**
VLI Veliai 57.05 33 P **P 17 47 02.9 +2.5**
FSK Fiskardo 57.15 30 P **P 17 47 02.9 +1.9**
INTR Introdacqua 57.16 23 P **P 17 47 02.3 +1.2**
INTR IAMs_20 IAMs_20 18 11 19.4
comp=Z,872nm,20.0s
VOI Vohitsoka 57.17 110 P **P 17 47 02.9 +1.2**
VLX Vlachokerasia 57.24 32 P **P 17 47 04.7 +2.9**
AQU L'Aquila 57.26 22 P **P 17 47 03.3 +1.5**
AQU pmax pmax
comp=Z,173nm,1.0s
AQU MLR MLR
comp=Z,800nm,21.0s
AQU L'Aquila 57.26 22 ⇑*i*P **P 17 47 02.9 +1.1**
AQU L'Aquila 57.26 22 P **P 17 47 03.3 +1.5**
RLS Riolos of Patr 57.29 31 P **P 17 47 05.1 +3.1**
EVGI Lefkada island 57.32 30 P **P 17 47 04.6 +2.3**
GO03 Copiap 57.33 244 P **P 17 47 02.6 -0.1**
GO03 IAmb IAmb 17 47 03.4
comp=Z,52nm,1.1s
DRO Drossia 57.34 31 P **P 17 47 05.7 +3.3**
TSLK Tsoukalades, L 57.48 30 P **P 17 47 04.3 +0.9**
NPS Neapolis 57.50 36 P **P 17 47 04.9 +1.3**
OSSC Osservatorio P 57.53 20 P **P 17 47 04.4 +0.7**
OSSC IAmb IAmb 17 47 06.9
comp=Z,74nm,1.1s
BNI Bardonecchia 57.56 15 P **P 17 47 05.5 +1.6**
BNI pmax pmax
comp=Z,38nm,1.0s
BNI Bardonecchia 57.56 15 P **P 17 47 05.5 +1.6**
BNI IAmb IAmb 17 47 05.8
comp=Z,38nm,1.0s

PDO Prodromos 57.57 30 P **P 17 47 05.5 +1.5**
NRCA Norcia 57.57 22 P **P 17 47 04.7 +0.7**
NRCA IAmb IAmb 17 47 10.1
comp=Z,49nm,1.1s
ABPO Ambohimpanom 57.61 106 P **P 17 47 05.5 +0.6**
ABPO pmax pmax
comp=Z,10.0nm,1.0s
ABPO MLR MLR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 57.61 106 P **P 17 47 05.5 +0.6**
KLV Kalavryta, Ach 57.63 32 P **P 17 47 06.3 +1.8**
LAKA Lakka 57.69 31 P **P 17 47 07.5 +2.6**
PVO Paravola 57.75 31 P **P 17 47 06.9 +1.6**
DID Didima 57.80 33 P **P 17 47 06.3 +0.6**
EFP Efpalio 57.80 31 P **P 17 47 07.8 +2.2**
TRIZ Trizonia 57.84 31 P **P 17 47 08.2 +2.3**
SERG Sergoula 57.87 31 P **P 17 47 08.3 +2.2**
IGT Igoumenitsa 57.88 29 P **P 17 47 07.5 +1.3**
KALE Kalithea 57.89 31 P **P 17 47 08.3 +2.0**
SRN Sarande 57.99 29 P **P 17 47 07.8 +0.9**
LTK Loutraki 58.04 32 P **P 17 47 08.0 +0.6**
GO04 Tololo Observa 58.10 241 P **P 17 47 06.8 -1.5**
GO04 IAmb IAmb 17 47 13.6
comp=Z,54nm,1.0s
DSF Desfina 58.10 32 P **P 17 47 09.2 +1.4**
EVR Evrytania 58.12 31 P **P 17 47 10.2 +2.2**
PROD Prodromos 58.18 32 P **P 17 47 09.2 +0.9**
SANT Santorini 58.20 35 P **P 17 47 07.8 -0.7**
JAN Janina 58.22 29 P **P 17 47 10.6 +2.0**
TPE Tepelena 58.33 28 P **P 17 47 11.1 +1.8**
VILL Villia 58.33 32 P **P 17 47 10.4 +1.0**
VLY Voula,Athens 58.35 33 P **P 17 47 09.5 0.0**
MAKR Makarokmi, Fth 58.36 31 P **P 17 47 11.2 +1.6**
ATH Athens Observa 58.40 33 P **P 17 47 11.4 +1.6**
PEL Peldehue 58.40 237 P **P 17 47 09.4 -0.7**
PEL pmax pmax
comp=Z,75nm,1.1s
PEL Peldehue 58.40 237 P **P 17 47 09.4 -0.7**
PEL IAmb IAmb 17 47 11.4
comp=Z,75nm,1.1s
AGG Agios Georgios 58.47 31 P **P 17 47 11.6 +1.3**
LKR Lokris 58.53 32 P **P 17 47 11.6 +0.9**
PTL Penteli 58.53 33 P **P 17 47 12.1 +1.3**
KARP Karpathos 58.61 37 P **P 17 47 12.3 +0.9**
KARP Karpathos 58.61 37 IAMs_20 IAMs_20 18 11 42.6
comp=Z,1µm,22.0s
ROC1 El Roble 58.65 238 P **P 17 47 11.9 -0.3**
KPRO Kipourio 58.70 30 P **P 17 47 14.3 +2.3**
THL Klokotos Trika 58.72 30 P **P 17 47 13.4 +1.4**
APE Apeiranthos 58.73 35 *d*P **P 17 47 12.9 +0.7**
APE pmax pmax
comp=Z,177nm,1.5s
MRKA Markates 58.87 32 P **P 17 47 14.4 +1.2**
NEST Nestorio 58.91 29 P **P 17 47 15.7 +2.2**
SENIN Lac Senin/Sane 58.94 15 P **P 17 47 13.8 +0.1**
TIR Tirane 59.09 27 P **P 17 47 16.5 +1.9**
TIR Tirane 59.09 27 IAMs_20 IAMs_20 18 13 01.6
comp=Z,981nm,20.0s
HVAR Hvar 59.14 24 *i* P **P 17 47 14.4 -0.4**
SKIA Skiathos 59.16 32 P **P 17 47 16.1 +1.0**
XOR Xorichti 59.16 31 P **P 17 47 16.2 +1.0**
KZN Kozani 59.17 30 P **P 17 47 16.5 +1.2**
SALO Salr 59.17 18 IAmb IAmb 17 47 30.4
comp=Z,32nm,1.1s
ZIRJ Zirje 59.22 23 *i* P **P 17 47 15.0 -0.4**
TEOL Teolo 59.30 19 P **P 17 47 14.9 -1.1**
TEOL IAmb IAmb 17 47 16.9
comp=Z,45nm,1.1s
ULC Ulcinj 59.31 27 ⇑*i*P **P 17 47 16.5 +0.4**
FNA Florina 59.35 29 P **P 17 47 17.7 +1.2**
FNA Florina 59.35 29 P **P 17 47 17.7 +1.2**
FNA pmax pmax
comp=Z,127nm,1.2s
FNA Florina 59.35 29 P **P 17 47 17.7 +1.2**
LIT Litokhoron 59.37 30 P **P 17 47 17.3 +0.7**
LIT Litokhoron 59.37 30 IAMs_20 IAMs_20 18 11 40.8
comp=Z,777nm,20.0s
AOS Alonnisos 59.37 32 P **P 17 47 17.7 +1.1**
HCY Herceg Novi 59.38 26 *e*P **P 17 47 17.7 +1.2**
HCY Herceg Novi 59.38 26 ⇑*i*P **P 17 47 17.8 +1.2**
CLF Chambon-Foret 59.38 11 P **P 17 47 17.6 +1.2**
STON Ston 59.39 25 *i* P **P 17 47 17.5 +0.9**
STON Ston 59.39 25 ⇑*i*P **P 17 47 16.9 +0.3**
KTI Kastanea 59.41 30 P **P 17 47 17.9 +0.9**
MORI Morici 59.43 23 *i* P **P 17 47 16.7 -0.2**
BUM Brajici-Budva 59.43 26 ⇑*i*P **P 17 47 18.2 +1.2**
MAKA Makarska 59.46 24 *i* P **P 17 47 17.2 +0.2**
DRME Dracevica, Mon 59.46 26 ⇑*i*P **P 17 47 18.7 +1.6**
DRME Dracevica, Mon 59.46 26 ⇑*i*P **P 17 47 18.6 +1.5**
TREB Trebinje 59.53 25 *e*P **P 17 47 18.7 +1.1**
TUE Stuetta 59.60 17 P **P 17 47 18.6 +0.3**
TUE IAmb IAmb 17 47 19.0
comp=Z,32nm,0.9s
BRJN Brijuni 59.60 21 *i* P **P 17 47 18.1 +0.1**
PHP Peshkopia 59.62 28 P **P 17 47 20.1 +1.8**
ARG Arkhangelos 59.63 37 P **P 17 47 19.2 +0.8**
CEME Cevo 59.64 26 ⇑*i*P **P 17 47 19.8 +1.4**
PDG Podgorica 59.69 26 ⇑*i*P **P 17 47 20.0 +1.3**
PDG Podgorica 59.69 26 ⇑P **P 17 47 20.2 +1.5**
PDG mb 17 47 21.3
PDG Podgorica 59.69 26 P **P 17 47 20.3 +1.6**
PDG IAMs_20 IAMs_20 18 14 42.5
comp=Z,738nm,19.0s
TTG Podgorica 59.69 26 ⇑*i*P **P 17 47 19.9 +1.3**
PLCA Paso Flores 59.74 229 P **P 17 47 18.9 -0.4**
PLCA pmax pmax
comp=Z,11nm,1.1s
PLCA Paso Flores 59.74 229 P **P 17 47 18.5 -0.8**
comp=Z,4.1nm,0.9s,baz=96,slow=7.9,SNR=2.9
PLCA LR LR 18 09 27.6
comp=Z,704nm,20.8s,baz=108,slow=32
PLCA Paso Flores 59.74 229 P **P 17 47 18.9 -0.4**
PLCA Paso Flores 59.74 229 *e*P **P 17 47 19.4 0.0**
BRY Bratogost 59.77 25 *e*P **P 17 47 20.4 +1.0**
BRY Bratogost 59.77 25 ⇑*i*P **P 17 47 20.1 +0.7**
NKME Niksic 59.83 26 ⇑*i*P **P 17 47 20.8 +1.1**
PAIG Paliouri 59.83 31 P **P 17 47 20.4 +0.7**
ELOV Elorza 59.88 284 *e*P **P 17 47 21.2 +0.6**
ELOV Elorza 59.88 284 *e*P **P 17 47 21.2 +0.6**
NKY Niksic 59.89 26 ⇑*i*P **P 17 47 21.4 +1.2**
CTI Castel Tesino 59.91 19 P **P 17 47 20.5 +0.3**
CTI pmax pmax
comp=Z,25nm,0.9s
CTI Castel Tesino 59.91 19 P **P 17 47 20.6 +0.3**
CTI IAmb IAmb 17 47 20.7
comp=Z,24nm,0.9s
CHOS Chios island 59.96 34 P **P 17 47 22.3 +1.5**
GRG Griva 59.98 30 P **P 17 47 21.5 +0.7**
THE Thessaloniki 60.01 30 P **P 17 47 21.6 +0.7**
MTP Monte Pirata 60.02 298 P **P 17 47 22.0 +0.6**
HORT Hortiatis 60.05 30 P **P 17 47 22.1 +0.8**
PLG Polygyros 60.05 31 P **P 17 47 22.3 +1.0**
EIL Elat 60.07 47 P **P 17 47 22.6 +1.0**
comp=Z,49nm,1.6s
PVY Piav 60.13 27 ⇑*i*P **P 17 47 22.8 +0.9**
KOME Kolasin 60.14 26 ⇑*i*P **P 17 47 23.3 +1.4**
UPM Unac-Piva 60.17 26 *e*P **P 17 47 23.8 +1.6**
UPM Unac-Piva 60.17 26 ⇑*i*P **P 17 47 23.1 +0.9**
RIY Rijeka 60.23 21 ⇑*i*P **P 17 47 23.1 +0.8**
OUR Ouranopolis 60.29 31 P **P 17 47 24.4 +1.6**
HUMP Col San Antoni 60.30 298 P **P 17 47 24.1 +0.7**
TRI Trieste 60.31 20 P **P 17 47 23.8 +0.9**
TRI pmax pmax
comp=Z,67nm,1.0s
TRI Trieste 60.31 20 P **P 17 47 23.8 +0.9**
SKO Skopje 60.31 28 *i* P **P 17 47 24.1 +1.1**
IVA Berane 60.33 26 ⇑*i*P **P 17 47 24.4 +1.2**
SOH Sokhos 60.34 30 P **P 17 47 24.6 +1.3**
DALY Dalyan (Mula) 60.35 37 *i* P **P 17 47 24.5 +1.2**
DALY IAML_P
comp=Z,945nm,0.9s
DALY Dalyan (Mula) 60.35 37 *e*P **P 17 47 22.9 -0.4**
CBYP Canovanas 60.36 298 P **P 17 47 24.4 +0.6**
CBYP IAmb IAmb 17 47 26.9
comp=Z,23nm,0.9s
VNA1 Neumayer--Stat 60.37 179 P **P 17 47 23.1 +0.2**
KNT Kendrikon 60.38 30 P **P 17 47 24.6 +1.1**
PDPR Patillas Dam, 60.40 297 P **P 17 47 24.0 0.0**
MGRS Mrkonjic Grad 60.42 24 ⇓*i*P **P 17 47 25.3 +1.6**
STAL STALIGIAL 60.44 19 P **P 17 47 24.6 +0.8**
STAL IAmb IAmb 17 47 24.9
comp=Z,50nm,1.0s

STIP Stip 60.44 29 *i* P **P 17 47 25.7 +1.8**
SIGR SIGRI 60.45 33 P **P 17 47 25.4 +1.5**
KSL Kastellorizon 60.46 38 P **P 17 47 25.1 +1.0**
PLE Pljevlja 60.48 26 ⇑*i*P **P 17 47 25.2 +1.0**
FETY Fethiye 60.49 37 P **P 17 47 24.7 +0.4**
FETY Fethiye 60.49 37 *e*P **P 17 47 24.4 +0.1**
DAVA Damuels 60.49 17 *e*P **P 17 47 23.7 -0.6**
comp=Z,68nm,1.1s,SNR=29
FETA Feichten 60.50 18 *e*P **P 17 47 23.5 -0.9**
comp=Z,99nm,1.1s,SNR=40
AKAS Kas 60.53 38 *i* P **P 17 47 25.3 +0.5**
SJG San Juan 60.55 298 P **P 17 47 24.4 -0.6**
SJG pmax pmax
comp=Z,73nm,1.2s
SJG San Juan 60.55 298 P **P 17 47 24.4 -0.6**
CEY Cerknica 60.56 21 ⇑*i*P **P 17 47 25.1 +0.4**
ECH Echery 60.62 14 P **P 17 47 25.0 0.0**
ECH pmax pmax
comp=Z,39nm,1.1s
ECH Echery 60.62 14 P **P 17 47 25.0 0.0**
ECH IAmb IAmb 17 47 27.4
comp=Z,39nm,1.1s
VNA2 Neumayer--Watz 60.67 178 P **P 17 47 24.7 -0.3**
baz=357,slow=6.8
AYDB Zeytinkoy-Aydi 60.68 35 *e*P **P 17 47 26.6 +0.8**
PRK Paraskevi 60.70 33 P **P 17 47 27.9 +2.3**
RUDO Rudo 60.70 26 *e*P **P 17 47 27.0 +1.4**
BLY Banja Luka 60.74 23 ⇑*i*P **P 17 47 26.5 +0.6**
ABTA Abfaltersbach 60.80 19 *e*P **P 17 47 26.7 +0.3**
comp=Z,103nm,2.0s,SNR=27
SQTA Sankt Quirin 60.82 18 *i* P **P 17 47 26.1 -0.4**
comp=Z,132nm,1.2s,SNR=57
LJU Ljubljana 60.86 21 *i* P **P 17 47 27.7 +1.0**
LJU Ljubljana 60.86 21 ⇑*i*P **P 17 47 27.7 +1.0**
THAS Thassos island 60.87 31 P **P 17 47 28.3 +1.5**
MOTA Moosalm 60.90 18 *e*P **P 17 47 26.1 -1.0**
comp=Z,84nm,1.2s,SNR=28
HAPS Han Pijesak,Bl 60.91 25 *e*P **P 17 47 27.4 +0.3**
BBLS Lazići 60.92 25 ⇑*i*P **P 17 47 27.7 +0.5**
RETA Reutte 60.93 17 *e*P **P 17 47 26.3 -0.8**
comp=Z,76nm,1.5s,SNR=19
VNA3 Neumayer Olymp 60.94 179 P **P 17 47 25.6 -1.3**
TAVA DENIZLI_Tavas 60.94 36 *i* P **P 17 47 28.0 +0.5**
TAVA IAML_P
comp=Z,632nm,0.8s
DAMY Dhamar 60.99 67 IAMs_20 IAMs_20 18 10 13.3
comp=Z,866nm,22.0s
WTTA Wattenberg 60.99 18 *e*P **P 17 47 27.3 -0.4**
comp=Z,133nm,1.1s,SNR=53
NVR Nevrokopi 60.99 30 P **P 17 47 28.8 +1.1**
CRES Cresnjev 61.00 22 ⇑*i*P **P 17 47 28.4 +0.8**
KKB Krupnik 61.01 29 *i* P **P 17 47 28.5 +0.8**
BFO Black Forest 61.02 15 *i* P **P 17 47 27.7 -0.1**
BFO Black Forest 61.02 15 P **P 17 47 27.6 -0.2**
BFO IAmb IAmb 17 47 28.1
comp=Z,40nm,1.0s
WATA Walderalm 61.03 18 *e*P **P 17 47 27.3 -0.7**
comp=Z,88nm,1.2s,SNR=36
ELL Elmali 61.05 38 *e*P **P 17 47 29.5 +1.2**
KAVA Kavala 61.05 31 P **P 17 47 29.1 +1.0**
MYKA Terra Mystica 61.07 20 *e*P **P 17 47 28.5 +0.3**
comp=Z,48nm,1.2s,SNR=20
MMB Musomiste 61.11 30 *i* P **P 17 47 29.3 +0.8**
EZN Ezine 61.14 33 P **P 17 47 29.6 +1.0**
GOLH Golhisar 61.17 37 *i* P **P 17 47 31.3 +2.2**
GOLH IAML_P
comp=Z,1µm,0.9s
ZAG Zagreb 61.20 22 ⇑*i*P **P 17 47 30.2 +1.3**
PTJ Puntijarka 61.26 22 *i* P **P 17 47 30.4 +0.9**
OBKA Obir 61.27 21 *e*P **P 17 47 30.2 +0.6**
comp=Z,31nm,1.1s,SNR=16
MOSL Moslavina 61.30 23 *i* P **P 17 47 30.7 +1.0**
LISJ El Lisan 61.33 46 P **P 17 47 31.9 +1.8**
DIVS Divibare 61.35 26 ⇑*i*P **P 17 47 30.9 +0.8**
KBA Koelnbreinsper 61.37 19 *i* P **P 17 47 30.5 +0.2**
comp=Z,48nm,1.3s,SNR=28
MANT Manisa 61.44 35 *i* P **P 17 47 32.7 +1.7**
MANT IAML_P
comp=Z,728nm,0.8s
KORT Korkueli 61.49 38 *e*P **P 17 47 33.2 +1.9**
SDV Santo Domingo 61.50 286 *e*P **P 17 47 33.4 +1.5**
SDV Santo Domingo 61.50 286 *e*P **P 17 47 33.4 +1.5**
KULA Kula-Manisa 61.51 35 P **P 17 47 32.4 +1.1**
TEKS Tekeris 61.52 25 *e*P **P 17 47 32.4 +1.2**
SOCV Socops 61.54 285 *e*P **P 17 47 29.8 -2.1**
SOCV Socops 61.54 285 *e*P **P 17 47 29.8 -2.1**
PERS Pernice 61.58 21 *i* P **P 17 47 32.1 +0.5**
SOKA Soboth 61.59 21 *e*P **P 17 47 32.2 +0.5**
comp=Z,65nm,1.0s,SNR=60
SNAA Sanae 61.60 177 P **P 17 47 31.0 -0.5**
SNAA Sanae 61.60 177 *c i*P **P 17 47 30.4 -1.0**
SNAA pmax pmax
comp=Z,4µm,1.1s
SNAA Sanae 61.60 177 P **P 17 47 31.1 -0.3**
comp=Z,34nm,1.0s,baz=348,slow=6.5,SNR=28
SNAA Sanae 61.60 177 P **P 17 47 31.1 -0.3**
SNAA IAmb IAmb 17 47 32.7
comp=Z,60nm,1.1s
KALN Kalnik 61.63 22 *i* P **P 17 47 32.9 +1.0**
VTS Vitosha 61.65 29 *i* P **P 17 47 32.8 +0.5**
VTS Vitosha 61.65 29 P **P 17 47 33.4 +1.1**
VTS pmax pmax
comp=Z,45nm,1.1s
VTS MLR MLR
comp=Z,600nm,20.0s
VTS Vitosha 61.65 29 ⇑P **P 17 47 33.1 +0.8**
VTS mb 17 47 34.5
VTS Vitosha 61.65 29 P **P 17 47 33.4 +1.1**
VTS IAmb IAmb 17 47 44.0
comp=Z,45nm,1.1s
STU Stuttgart 61.66 16 P **P 17 47 30.9 -1.1**
STU pmax pmax
comp=Z,32nm,1.0s
STU Stuttgart 61.66 16 P **P 17 47 30.9 -1.1**
STU IAmb IAmb 17 47 32.3
comp=Z,32nm,1.0s
RZN Rozhen 61.67 30 *i* P **P 17 47 33.2 +0.7**
RDO Rodhopi 61.69 31 P **P 17 47 33.3 +1.0**
PTGC Puerto Gaitan, 61.71 280 *e*P **P 17 47 31.8 -1.2**
PTGC Puerto Gaitan, 61.71 280 *e*P **P 17 47 31.8 -1.2**
WLF Walferdange 61.74 13 P **P 17 47 32.7 +0.2**
WLF pmax pmax
comp=Z,38nm,1.0s
WLF Walferdange 61.74 13 P **P 17 47 32.7 +0.2**
comp=Z,60nm,1.4s
WLF Walferdange 61.74 13 P **P 17 47 32.7 +0.2**
WLF IAmb IAmb 17 47 33.4
comp=Z,38nm,1.0s
ALN Alexandroupoli 61.77 32 P **P 17 47 33.8 +0.9**
ALN Alexandroupoli 61.77 32 P **P 17 47 34.2 +1.3**
ALN pmax pmax
comp=Z,53nm,1.1s
ALN Alexandroupoli 61.77 32 P **P 17 47 34.2 +1.3**
ALN IAmb IAmb 17 47 35.9
comp=Z,53nm,1.1s
BRDR BURDUR-Merkez 61.77 37 *i* P **P 17 47 34.3 +1.2**
BRDR IAML_P
comp=Z,28nm,0.2s
DOU Dourbes 61.81 12 P **P 17 47 32.7 -0.3**
comp=Z,38nm,1.6s
KOGS Kog 61.82 22 *i* P **P 17 47 34.1 +0.9**
ERIK Erikli-Kesan 61.85 32 *e*P **P 17 47 34.0 +0.6**
BALB Balikesir 61.85 34 *e*P **P 17 47 34.5 +1.0**
USAK Uak-Merkez 61.85 36 *i* P **P 17 47 36.0 +2.4**
USAK IAML_P
comp=Z,1µm,0.9s
LEF Lefka 61.87 41 ⇑P **P 17 47 34.0 +0.3**
LEF mb 17 47 35.7
KHAL Karahalli 61.89 36 *i* P **P 17 47 35.4 +1.5**
KHAL IAML_P
comp=Z,1µm,0.9s
DEMI Demirci 61.91 35 *i* P **P 17 47 35.2 +1.2**
DEMI IAML_P
comp=Z,710nm,0.4s
BCK Bucak 61.93 37 P **P 17 47 35.9 +1.7**
TAMC Tame, Arauca 61.94 283 *e*P **P 17 47 34.5 -0.2**
TAMC Tame, Arauca 61.94 283 *e*P **P 17 47 34.5 -0.2**
MMLI Mount Malkishu 61.97 45 P **P 17 47 35.9 +1.4**
KDZ Kurdzhali 61.99 31 *i* P **P 17 47 34.9 +0.5**
BMRD Maredsous 62.05 12 P **P 17 47 34.6 +0.1**
comp=Z,30nm,1.5s
CSS Mathiatis 62.06 41 IAmb IAmb 17 47 36.5
comp=Z,29nm,1.0s
DABV Dabajuro 62.11 288 *e*P **P 17 47 35.8 +0.1**

DABV	**Dabajuro**	**62.11**	**288**	*e*P	**P**	**17 47 35.8**	**+0.1**
FRGS	**Fruska Gora**	**62.13**	**25⇑**	*i*P	**P**	**17 47 36.2**	**+0.9**
SNF	**Seneffe**	**62.14**	**12**	P	**P**	**17 47 35.4**	**+0.2**
KZIL	**AFYON_Kizioren**	**62.20**	**37**	*i* P	**P**	**17 47 37.7**	**+1.7**
KZIL				IAML_P			
	comp=Z,398nm,1.0s						
ARSA	**Arzberg**	**62.25**	**21**	*i* P	**P**	**17 47 36.5**	**+0.4**
	comp=Z,52nm,1.0s,SNR=47						
BCLA	**Clavier**	**62.27**	**12**	P	**P**	**17 47 35.9**	**-0.2**
	comp=Z,37nm,1.5s						
MOA	**Molln**	**62.34**	**20**	*e*P	**P**	**17 47 36.1**	**-0.5**
	comp=Z,51nm,1.0s,SNR=33						
DIM	**Dimitrovgrad**	**62.35**	**31**	*i* P	**P**	**17 47 37.0**	**+0.2**
BHOU	**Houvegnez**	**62.36**	**13**	P	**P**	**17 47 36.9**	**+0.2**
	comp=Z,46nm,1.7s						
GDZ	**Gediz**	**62.37**	**35**	*i* P	**P**	**17 47 38.8**	**+1.6**
GDZ				IAML_P			
	comp=Z,30nm,0.5s						
UCC	**Uccle**	**62.44**	**12**	P	**P**	**17 47 36.6**	**-0.5**
UCC				pmax	pmax		
	comp=Z,82nm,1.1s						
UCC	**Uccle**	**62.44**	**12**	P	**P**	**17 47 37.1**	**0.0**
	comp=Z,67nm,1.6s						
UCC	**Uccle**	**62.44**	**12**	P	**P**	**17 47 36.6**	**-0.5**
MPEP	**Malo Peshtene**	**62.45**	**29**	*i* P	**P**	**17 47 36.6**	**-0.9**
BSTI	**Sart Tilman**	**62.48**	**12**	P	**P**	**17 47 38.2**	**+0.7**
MEM	**Membach**	**62.60**	**13**	P	**P**	**17 47 38.4**	**+0.2**
	comp=Z,81nm,1.7s						
MEM	**Membach**	**62.60**	**13**	P	**P**	**17 47 38.6**	**+0.3**
	comp=Z,58nm,1.5s						
BTNL	**Ternell**	**62.60**	**13**	P	**P**	**17 47 38.7**	**+0.3**
	comp=Z,90nm,1.6s						
SHUT	**Suhut-Afyon**	**62.63**	**37**	*i* P	**P**	**17 47 40.3**	**+1.4**
MDVR	**Moldovita**	**62.64**	**26**	⇑P	**P**	**17 47 39.8**	**+1.0**
BEBN	**Eben Emael**	**62.70**	**12**	P	**P**	**17 47 39.1**	**+0.2**
HGN	**Heimansgroeve**	**62.73**	**13**	*e*P	**P**	**17 47 39.4**	**+0.3**
HGN				*e*P	**P**	**17 47 39.6**	**+0.5**
HGN				*e*S	S	17 55 37.5	-30
HGN				*e*S	S	17 55 37.8	-30
CAPV	**Capacho**	**62.82**	**284**	*e*P	**P**	**17 47 41.1**	**+0.4**
CAPV	**Capacho**	**62.82**	**284**	*e*P	**P**	**17 47 41.1**	**+0.4**
EDRB	**Edirne**	**62.82**	**32**	P	**P**	**17 47 40.7**	**+0.8**
EDRB	**Edirne**	**62.82**	**32**	*i* P	**P**	**17 47 39.8**	**-0.1**
CRLT	**Corlu**	**62.82**	**33**	*e*P	**P**	**17 47 40.6**	**+0.6**
BERE	**Bereket-Mersin**	**62.84**	**40**	*e*P	**P**	**17 47 40.4**	**0.0**
ASF	**Jabal al Asfar**	**62.85**	**46**	P	**P**	**17 47 42.4**	**+1.9**
BANR	**Banloc**	**62.87**	**26**	⇑P	**P**	**17 47 41.5**	**+1.3**
PLVB	**Pleven**	**62.90**	**29**	⇑P	**P**	**17 47 41.1**	**+0.7**
MACC	**Macarena, Meta**	**62.91**	**278**	*e*P	**P**	**17 47 39.1**	**-2.0**
MACC	**Macarena, Meta**	**62.91**	**278**	*e*P	**P**	**17 47 39.1**	**-2.0**
AKKU	**Akkuyu-Mersin**	**62.94**	**40**	*e*P	**P**	**17 47 41.4**	**+0.6**
CONA	**Conrad Observa**	**62.95**	**21**	*e*P	**P**	**17 47 41.3**	**+0.5**
	comp=Z,67nm,0.9s,SNR=44						
HERR	**Herculane**	**63.03**	**27**	⇑P	**P**	**17 47 42.1**	**+0.8**
GEC2	**GERESS Array S**	**63.03**	**19**	P	**P**	**17 47 41.6**	**+0.2**
GERES	**GERESS Array B**	**63.03**	**19**	P	**P**	**17 47 41.5**	**+0.2**
	comp=Z,41nm,1.0s,baz=193,slow=5.5,SNR=188						
GERES				LR	LR	18 15 17.8	
	comp=Z,528nm,19.4s,baz=216,slow=36						
GERES				PKP2bc		18 16 49.2	
	comp=Z,1.4nm,1.1s,baz=191,slow=1.4,SNR=4.4						
ARMT	**Armutlu**	**63.04**	**34**	*e*P	**P**	**17 47 41.5**	**+0.1**
TEVE	**Tevekalti-Mers**	**63.04**	**40**	*e*P	**P**	**17 47 42.4**	**+0.8**
RUSC	**La Rusia**	**63.04**	**282**	*e*P	**P**	**17 47 41.8**	**-0.8**
RUSC	**La Rusia**	**63.04**	**282**	*e*P	**P**	**17 47 41.8**	**-0.8**
PAMC	**Pamplona, Colo**	**63.05**	**284**	*e*P	**P**	**17 47 41.8**	**-0.8**
PAMC	**Pamplona, Colo**	**63.05**	**284**	*e*P	**P**	**17 47 41.8**	**-0.8**
GRA1	**Grafenberg Arr**	**63.05**	**17**	P	**P**	**17 47 41.3**	**0.0**
GRA1				IAmb	IAmb	17 47 42.4	
	comp=Z,52nm,1.1s						
GRF	**Grafenberg Arr**	**63.05**	**17**	P	**P**	**17 47 41.3**	**0.0**
GRF				pmax	pmax		
	comp=Z,52nm,1.1s						
IKL	**Isikli**	**63.07**	**40**	*e*P	**P**	**17 47 41.1**	**-0.6**
ELND	**Elena**	**63.17**	**30**	⇓P	**P**	**17 47 42.8**	**+0.6**
JMB	**Yambol**	**63.18**	**31**	*i* P	**P**	**17 47 42.6**	**+0.3**
VILC	**Villavicencio,**	**63.20**	**280**	*e*P	P	17 47 33.2	-10
VILC	**Villavicencio,**	**63.20**	**280**	*e*P	P	17 47 33.2	-10
KEBE	**Keben-Mersin**	**63.22**	**40**	*e*P	**P**	**17 47 43.6**	**+0.8**
KHC	**Kasperske Hory**	**63.25**	**18**	*d i*P	**P**	**17 47 42.8**	**+0.1**
KHC				pmax	pmax		
	comp=Z,106nm,1.3s						
KHC	**Kasperske Hory**	**63.25**	**18**	*e*P	**P**	**17 47 42.3**	**-0.4**
KHC				*ex*	x	17 47 56.0	
KHC				*e*PP	**PP**	**17 50 00.0**	**-2.0**
KHC	**Kasperske Hory**	**63.25**	**18**	P	**P**	**17 47 42.7**	**0.0**
BZS	**Buzias**	**63.26**	**26**	⇑P	**P**	**17 47 43.6**	**+0.8**
BARC	**Barichara**	**63.31**	**283**	*e*P	**P**	**17 47 43.8**	**-0.3**
BARC	**Barichara**	**63.31**	**283**	*e*P	**P**	**17 47 43.8**	**-0.3**
KONT	**Konya--Tatoy**	**63.32**	**38**	*e*P	**P**	**17 47 44.1**	**+0.7**
CAVI	**Cavuskoy**	**63.33**	**35**	*e*P	**P**	**17 47 44.2**	**+0.8**
CHIC	**Chingaza**	**63.36**	**280**	*e*P	**P**	**17 47 42.5**	**-2.1**
CHIC	**Chingaza**	**63.36**	**280**	*e*P	**P**	**17 47 42.5**	**-2.1**
PTLC	**Puerto Leguiza**	**63.43**	**275**	*e*P	**P**	**17 47 41.8**	**-2.8**
PTLC	**Puerto Leguiza**	**63.43**	**275**	*e*P	**P**	**17 47 41.8**	**-2.8**
SZH	**Strazhica**	**63.45**	**30**	*i* P	**P**	**17 47 44.3**	**+0.2**
LADK	**Ladik-KONYA**	**63.48**	**38**	P	**P**	**17 47 44.9**	**+0.3**
KIZK	**Mersin**	**63.51**	**40**	P	**P**	**17 47 45.3**	**+0.7**
GZR	**Gura Zlata**	**63.59**	**27**	⇑P	**P**	**17 47 45.6**	**+0.5**
URIC	**Uribia, Colomb**	**63.61**	**289**	*e*P	**P**	**17 47 43.8**	**-1.9**
URIC	**Uribia, Colomb**	**63.61**	**289**	*e*P	**P**	**17 47 43.8**	**-1.9**
KIZT	**Kizilcal**	**63.63**	**37**	*e*P	**P**	**17 47 45.9**	**+0.4**
NNA	**Nana**	**63.65**	**262**	*i* P	**P**	**17 47 46.5**	**+0.5**
SRCK	**Saricakaya, Es**	**63.67**	**35**	*e*P	**P**	**17 47 46.2**	**+0.6**
COPA	**Copaceanca**	**63.74**	**29**	⇑P	**P**	**17 47 46.7**	**+0.7**
SVRH	**Sivrihisar-ESK**	**63.79**	**36**	*e*P	**P**	**17 47 46.9**	**+0.4**
SIRR	**Siria**	**63.80**	**25**	⇓P	**P**	**17 47 47.5**	**+1.1**
MODS	**Modra-Piesok**	**63.83**	**21**	*e*P	**P**	**17 47 46.4**	**-0.1**
MODS				pmax	pmax		
	comp=Z,237nm,1.6s						
MODS	**Modra-Piesok**	**63.83**	**21**	*e*P	**P**	**17 47 46.4**	**-0.1**
PBCC	**Pribram**	**63.87**	**18**	*e*P	**P**	**17 47 46.1**	**-0.6**
PBCC				*ex*	x	17 47 56.5	
GULT	**Gulveren**	**63.87**	**35**	*e*P	**P**	**17 47 47.9**	**+0.9**
NKC	**Novy Kostel**	**63.88**	**17**	*e*P	**P**	**17 47 46.1**	**-0.7**
NKC	**Novy Kostel**	**63.88**	**17**	*e*P	**P**	**17 47 46.1**	**-0.7**
HUMR	**Humele**	**63.93**	**29**	⇑P	**P**	**17 47 48.2**	**+1.0**
SPBC	**San Pablo de B**	**63.93**	**281**	*e*P	**P**	**17 47 44.5**	**-3.6**
SPBC	**San Pablo de B**	**63.93**	**281**	*e*P	**P**	**17 47 44.5**	**-3.6**
BRRC	**Barranca, Sant**	**63.95**	**283**	*e*P	**P**	**17 47 44.5**	**-3.6**
BRRC	**Barranca, Sant**	**63.95**	**283**	*e*P	**P**	**17 47 44.5**	**-3.6**
ROSC	**El Rosal**	**63.98**	**281**	*e*P	**P**	**17 47 48.4**	**-0.2**
ROSC	**El Rosal**	**63.98**	**281**	*e*P	**P**	**17 47 48.4**	**-0.2**
ROSC	**El Rosal**	**63.98**	**281**	P	**P**	**17 47 49.1**	**+0.4**
	comp=Z,64nm,1.1s,baz=99,slow=1.7,SNR=35						
ROSC				LR	LR	18 14 04.6	
	comp=Z,2μm,20.0s,baz=102,slow=35						
ROSC	**El Rosal**	**63.98**	**281**	P	**P**	**17 47 49.2**	**+0.6**
ROSC				IAmb	IAmb	17 48 01.0	
	comp=Z,39nm,1.1s						
MERS	**Mersin**	**63.99**	**40**	P	**P**	**17 47 48.7**	**+0.8**
SMOL	**Smolenice**	**64.00**	**21**	*e*P	**P**	**17 47 48.4**	**+0.8**
SMOL				pmax	pmax		
	comp=Z,52nm,1.5s						
SMOL	**Smolenice**	**64.00**	**21**	*e*P	**P**	**17 47 48.4**	**+0.8**
TREC	**Trest**	**64.00**	**20**	*e*P	**P**	**17 47 47.6**	**0.0**
TREC	**Trest**	**64.00**	**20**	*e*P	**P**	**17 47 47.6**	**0.0**
TREC				*ex*	x	17 47 57.7	
DEV	**Deva**	**64.03**	**26**	⇑P	**P**	**17 47 48.6**	**+0.8**
CHBY	**Cihanbeyli**	**64.04**	**38**	*e*P	**P**	**17 47 47.9**	**-0.3**
WTSB	**Winterswijk**	**64.04**	**13**	*e*P	**P**	**17 47 47.8**	**+0.1**
WTSB				*e*P	**P**	**17 47 47.8**	**+0.1**
LOT	**Lotru**	**64.07**	**27**	⇑P	**P**	**17 47 49.1**	**+0.8**
KRUC	**Moravsky**	**64.11**	**20**	*e*P	**P**	**17 47 48.1**	**-0.2**
GOLR		**64.16**	**28**	⇓P	**P**	**17 47 50.1**	**+1.4**
PRU	**Pruhonice**	**64.30**	**19**	*e*P	**P**	**17 47 49.0**	**-0.5**
PRU	**Pruhonice**	**64.30**	**19**	*e*P	**P**	**17 47 49.0**	**-0.5**
GOPC	**GO Pecny, Ondr**	**64.31**	**19**	*e*P	**P**	**17 47 49.1**	**-0.6**
GOPC				*e*		17 47 54.1	
GOPC	**GO Pecny, Ondr**	**64.31**	**19**	*e*P	**P**	**17 47 49.1**	**-0.6**
GOPC				*ep*P	**sP**	**17 47 54.1**	**+1.3**
GOPC				*ex*	x	17 47 59.2	
PRA	**Prague**	**64.34**	**18**	*e*P	**P**	**17 47 50.5**	**+0.7**
PRA	**Prague**	**64.34**	**18**	*e*P	**P**	**17 47 50.5**	**+0.7**
BANI	**BANI**	**64.35**	**296**	P	**P**	**17 47 52.2**	**+1.5**
JAVC	**Velka Javorina**	**64.38**	**21**	*e*P	**P**	**17 47 51.2**	**+1.1**
VRAC	**Vranov**	**64.38**	**20**	⇓P	**P**	**17 47 50.4**	**+0.3**
VRAC				mb		17 47 52.1	
VRAC	**Vranov**	**64.38**	**20**	*e*P	**P**	**17 47 49.9**	**-0.2**
ARR	**Arges**	**64.40**	**28**	⇑P	**P**	**17 47 51.1**	**+0.6**
KULU	**Kulu**	**64.40**	**38**	*e*P	**P**	**17 47 50.9**	**+0.3**
PSZ	**Piszkesteto**	**64.42**	**23**	P	**P**	**17 47 51.3**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,135nm,1.1s						
PSZ	**Piszkesteto**	**64.42**	**23**	⇑P	**P**	**17 47 50.9**	**+0.4**
PSZ				mb		17 47 53.0	
PSZ	**Piszkesteto**	**64.42**	**23**	P	**P**	**17 47 51.3**	**+0.8**
CODC	**Agustn Codazz**	**64.46**	**286**	*e*P	**P**	**17 47 49.1**	**-2.2**
CODC	**Agustn Codazz**	**64.46**	**286**	*e*P	**P**	**17 47 49.1**	**-2.2**
VYHS	**Vyhne**	**64.49**	**22**	*e*P	**P**	**17 47 51.5**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,189nm,1.4s						
VYHS	**Vyhne**	**64.49**	**22**	*e*P	**P**	**17 47 51.5**	**+0.6**
PTBC	**PUERTO BERRIO,**	**64.52**	**282**	*e*P	**P**	**17 47 48.4**	**-3.3**
PTBC	**PUERTO BERRIO,**	**64.52**	**282**	*e*P	**P**	**17 47 48.4**	**-3.3**
FLOC	**Florencia**	**64.55**	**277**	*e*P	**P**	**17 47 51.8**	**-0.2**
FLOC	**Florencia**	**64.55**	**277**	*e*P	**P**	**17 47 51.8**	**-0.2**
KARA	**Karaisali**	**64.56**	**40**	*e*P	**P**	**17 47 51.8**	**+0.2**
BETC	**Betania**	**64.58**	**278**	*e*P	**P**	**17 47 49.1**	**-3.1**
BETC	**Betania**	**64.58**	**278**	*e*P	**P**	**17 47 49.1**	**-3.1**
DRGR		**64.66**	**26**	⇑P	**P**	**17 47 52.6**	**+0.6**
ORTC	**Ortega, Tolima**	**64.66**	**279**	*e*P	**P**	**17 47 51.8**	**-1.0**
ORTC	**Ortega, Tolima**	**64.66**	**279**	*e*P	**P**	**17 47 51.8**	**-1.0**
NORC	**Norcasia**	**64.68**	**281**	*e*P	**P**	**17 47 49.8**	**-3.1**
NORC	**Norcasia**	**64.68**	**281**	*e*P	**P**	**17 47 49.8**	**-3.1**
AFSR	**Afar-Bala (An**	**64.70**	**37**	*e*P	**P**	**17 47 54.1**	**+1.6**
SMLC	**San Martn de**	**64.74**	**285**	*e*P	**P**	**17 47 50.4**	**-2.7**
SMLC	**San Martn de**	**64.74**	**285**	*e*P	**P**	**17 47 50.4**	**-2.7**
PVCC	**Panska Ves**	**64.78**	**18**	*e*P	**P**	**17 47 52.8**	**+0.1**
PVCC	**Panska Ves**	**64.78**	**18**	*e*P	**P**	**17 47 52.8**	**+0.1**
PVCC				*ex*	x	17 48 02.9	
KALB	**Balgarevo**	**64.80**	**31**	⇑P	**P**	**17 47 52.4**	**-0.5**
LOD	**Lodumlu**	**64.80**	**37**	*e*P	**P**	**17 47 54.7**	**+1.5**
ANTO	**Ankara**	**64.81**	**37**	P	**P**	**17 47 54.4**	**+1.2**
	SNR=25						
ANTO	**Ankara**	**64.81**	**37**	P	**P**	**17 47 54.7**	**+1.5**
ANTO				pmax	pmax		
	comp=Z,121nm,1.1s						
ANTO				MLR	MLR		
	comp=Z,300nm,22.0s						
ANTO	**Ankara**	**64.81**	**37**	P	**P**	**17 47 54.7**	**+1.5**
YAYX	**Yaylak**	**64.83**	**38**	*e*P	**P**	**17 47 53.9**	**+0.5**
CEYT	**Ceyhan**	**64.86**	**41**	*e*P	**P**	**17 47 54.0**	**+0.6**
TOLC	**Tolima**	**64.89**	**280**	*e*P	**P**	**17 47 53.8**	**-0.8**
TOLC	**Tolima**	**64.89**	**280**	*e*P	**P**	**17 47 53.8**	**-0.8**
BRG	**Berggiesshubel**	**64.89**	**18**	*i* P	**P**	**17 47 53.3**	**-0.1**
	comp=Z,55nm,1.3s						
BRG				*e*PP	**PP**	**17 50 14.8**	**-1.5**
	comp=Z,47nm,1.4s						
BRG				*e*PKPPKP	**P'P'df**	**18 16 43.1**	**+7.7**
	comp=Z,6.3nm,1.4s						
BRG	**Berggiesshubel**	**64.89**	**18**	*i* P	**P**	**17 47 53.3**	**-0.1**
BRG				*e*		17 50 14.8	
BRG				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,55nm,1.5s						
BRG				pmax	pmax		
	comp=Z,47nm,1.4s						
CJR	**Cluj-Napoca**	**64.98**	**26**	⇑P	**P**	**17 47 54.7**	**+0.6**
RREF	**El Recreo**	**64.99**	**280**	*e*P	**P**	**17 47 55.8**	**+0.2**
RREF	**El Recreo**	**64.99**	**280**	*e*P	**P**	**17 47 55.8**	**+0.2**
ICOR	**Ion Corvin**	**64.99**	**30**	⇑P	**P**	**17 47 54.1**	**0.0**
CLL	**Collm**	**65.00**	**17⇑**	*i*P	**P**	**17 47 53.3**	**-0.8**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CLL				MLR	MLR		
	comp=Z,500nm,18.4s						
CLL	**Collm**	**65.00**	**17⇑**	*i*P	**P**	**17 47 53.3**	**-0.8**
	comp=Z,49nm,1.5s						
CLL				*e*		17 48 36.0	
CLL				*e*PP	**PP**	**17 50 16.0**	**-1.3**
CLL				*e*SS	SS	18 00 54.0	+5.6
CLL				*e*SSS	SSS	18 03 48.0	
CLL				Lm	MLR	18 15 00.0	
	comp=Z,500nm,18.4s						
CLL	**Collm**	**65.00**	**17**	P	**P**	**17 47 54.2**	**+0.1**
GUY2C	**Guyana, Caldas**	**65.08**	**281**	*e*P	**P**	**17 47 52.4**	**-3.5**
GUY2C	**Guyana, Caldas**	**65.08**	**281**	*e*P	**P**	**17 47 52.4**	**-3.5**
MLR	**Muntele Rosu**	**65.10**	**28**	P	**P**	**17 47 55.5**	**+0.4**
MLR				pmax	pmax		
	comp=Z,86nm,1.1s						
MLR				MLR	MLR		
	comp=Z,1μm,22.0s						
MLR	**Muntele Rosu**	**65.10**	**28**	⇑P	**P**	**17 47 55.2**	**+0.2**
MLR	**Muntele Rosu**	**65.10**	**28**	P	**P**	**17 47 55.5**	**+0.4**
MORC	**Moravsky Berou**	**65.11**	**21**	P	**P**	**17 47 55.5**	**+0.6**
MORC				pmax	pmax		
	comp=Z,50nm,1.1s						
MORC	**Moravsky Berou**	**65.11**	**21**	⇓P	**P**	**17 47 55.7**	**+0.8**
MORC				mb		17 47 57.4	
MORC	**Moravsky Berou**	**65.11**	**21**	*e*P	**P**	**17 47 55.0**	**+0.1**
MORC	**Moravsky Berou**	**65.11**	**21**	P	**P**	**17 47 55.5**	**+0.6**
MORC				IAmb	IAmb	17 47 55.9	
	comp=Z,50nm,1.1s						
ISR	**Istrita**	**65.11**	**29**	⇑P	**P**	**17 47 56.0**	**+1.0**
KECS	**Kecovo**	**65.11**	**23**	*e*P	**P**	**17 47 56.2**	**+1.3**
KECS				pmax	pmax		
	comp=Z,62nm,1.2s						
KECS	**Kecovo**	**65.11**	**23**	*e*P	**P**	**17 47 56.2**	**+1.3**
ZARC	**Zaragoza, Cauc**	**65.15**	**283**	*e*P	**P**	**17 47 53.1**	**-2.8**
ZARC	**Zaragoza, Cauc**	**65.15**	**283**	*e*P	**P**	**17 47 53.1**	**-2.8**
PGOR	**Pogoanele**	**65.17**	**29**	⇓P	**P**	**17 47 56.2**	**+0.9**
PGOR				mb		17 48 07.1	
MANR	**Mangalia**	**65.17**	**31**	⇑P	**P**	**17 47 55.2**	**-0.1**
DPC	**Dobruska-Polom**	**65.19**	**19**	*e*P	**P**	**17 47 55.4**	**0.0**
DPC	**Dobruska-Polom**	**65.19**	**19**	*e*P	**P**	**17 47 55.4**	**0.0**
DOPR	**Dopca**	**65.20**	**28**	⇑P	**P**	**17 47 55.5**	**-0.1**
BR131	**Keskin Array S**	**65.22**	**37**	P	**P**	**17 47 57.0**	**+1.1**
	SNR=58						
BR131	**Keskin Array S**	**65.22**	**37**	P	**P**	**17 47 57.2**	**+1.2**
BR131				pmax	pmax		
	comp=Z,86nm,1.1s						
BR131	**Keskin Array S**	**65.22**	**37**	P	**P**	**17 47 57.2**	**+1.2**
BRTR	**Keskin Array B**	**65.22**	**37**	P	**P**	**17 47 57.0**	**+1.1**
BRTR	**Keskin Array B**	**65.22**	**37**	P	**P**	**17 47 56.6**	**+0.7**
	comp=Z,46nm,1.0s,baz=201,slow=6.5,SNR=182						
BRTR				LR	LR	18 18 15.4	
	comp=Z,169nm,20.3s,baz=222,slow=38						
BRTR	**Keskin Array B**	**65.22**	**37**	P	**P**	**17 47 57.0**	**+1.1**
UPC	**Upice**	**65.22**	**19**	*e*P	**P**	**17 47 55.8**	**+0.2**
UPC	**Upice**	**65.22**	**19**	*e*P	**P**	**17 47 55.8**	**+0.2**
UPC				*ex*	x	17 48 05.8	
PMSA	**Palmer Station**	**65.25**	**202**	P	**P**	**17 47 55.4**	**-0.1**
PMSA				IAmb	IAmb	17 47 56.9	
	comp=Z,54nm,1.1s						
PMSA	**Palmer Station**	**65.25**	**202**	*e*P	**P**	**17 47 55.7**	**+0.2**
LANS	**Liptovska Anna**	**65.27**	**22**	*e*P	**P**	**17 47 57.4**	**+1.4**
LANS				pmax	pmax		
	comp=Z,45nm,1.6s						
LANS	**Liptovska Anna**	**65.27**	**22**	*e*P	**P**	**17 47 57.4**	**+1.4**
CHVC	**Chvalec**	**65.30**	**19**	*e*P	**P**	**17 47 56.0**	**-0.1**
MFTR	**Murfatlar**	**65.35**	**31**	⇑P	**P**	**17 47 57.0**	**+0.6**
MFTR				mb		17 47 58.7	
RAYN	**Ar Rayn**	**65.37**	**58**	*i* P	**P**	**17 47 57.7**	**+0.6**
	SNR=13						
RAYN	**Ar Rayn**	**65.37**	**58**	P	**P**	**17 47 58.1**	**+1.0**
RAYN				MLR	MLR		
	comp=Z,800nm,19.0s						
RAYN	**Ar Rayn**	**65.37**	**58**	P	**P**	**17 47 58.1**	**+1.0**
RAYN				IAMs_20	IAMs_20	18 14 15.5	
	comp=Z,793nm,19.0s						
OKC	**Ostrava-Krasne**	**65.37**	**21**	*e*P	**P**	**17 47 56.7**	**+0.2**
OKC	**Ostrava-Krasne**	**65.37**	**21**	*e*P	**P**	**17 47 56.7**	**+0.2**
OKC				*ex*	x	17 48 11.9	
EFOR	**EFORIE**	**65.38**	**31**	⇓P	**P**	**17 47 56.7**	**0.0**
PCON	**Cinco Dias**	**65.43**	**277**	*e*P	**P**	**17 47 58.4**	**0.0**
PCON	**Cinco Dias**	**65.43**	**277**	*e*P	**P**	**17 47 58.4**	**0.0**
TLB	**Topalu**	**65.45**	**30**	⇑P	**P**	**17 47 57.2**	**+0.1**
HARR	**Harsova**	**65.47**	**30**	⇓P	**P**	**17 47 57.1**	**-0.2**
HARR				mb		17 47 57.8	
HELC	**Santa Helena**	**65.47**	**282**	*e*P	**P**	**17 47 56.4**	**-2.0**
HELC	**Santa Helena**	**65.47**	**282**	*e*P	**P**	**17 47 56.4**	**-2.0**
OZUR		**65.48**	**28**	⇑P	**P**	**17 47 57.7**	**+0.3**
BISRR	**Bisoca**	**65.50**	**29**	⇑P	**P**	**17 47 58.0**	**+0.4**
TIRR	**Tirgusor**	**65.54**	**31**	P	**P**	**17 47 57.4**	**-0.3**
TIRR	**Tirgusor**	**65.54**	**31**	⇑P	**P**	**17 47 57.4**	**-0.3**
TIRR	**Tirgusor**	**65.54**	**31**	P	**P**	**17 47 57.4**	**-0.3**
ARCR	**ARCALIA**	**65.59**	**26**	⇑P	**P**	**17 47 58.5**	**+0.4**
KSP	**Ksiaz**	**65.60**	**19**	*e*P	**P**	**17 47 58.2**	**+0.2**
KSP	**Ksiaz**	**65.60**	**19**	*e*P	**P**	**17 47 58.2**	**+0.2**
KSP				*ep*P	**P**	**17 47 58.2**	**+0.2**
BMR	**Baia Mare**	**65.68**	**25**	⇑P	**P**	**17 47 57.9**	**-0.7**
PLOR	**Plostina**	**65.70**	**29**	⇓P	**P**	**17 47 58.4**	**-0.5**
YOTC	**Yotoco, Valle**	**65.74**	**279**	*e*P	P	17 47 54.4	-5.4
YOTC	**Yotoco, Valle**	**65.74**	**279**	*e*P	P	17 47 54.4	-5.4
ESK	**Eskdalemuir**	**65.75**	**5**	*i* P	**P**	**17 47 59.6**	**+0.8**
VRI	**Vrincioaia**	**65.75**	**29**	⇑P	**P**	**17 47 58.4**	**-0.7**
POPC	**Popayan, Colom**	**65.75**	**277**	*e*P	**P**	**17 47 59.7**	**-0.3**
POPC	**Popayan, Colom**	**65.75**	**277**	*e*P	**P**	**17 47 59.7**	**-0.3**
NIE	**Niedzica**	**65.80**	**22**	*e*P	**P**	**17 48 00.3**	**+0.9**
NIE	**Niedzica**	**65.80**	**22**	*e*P	**P**	**17 48 00.3**	**+0.9**
NIE				*e*P	**P**	**17 48 00.3**	**+0.9**
CRUC	**La Cruz**	**65.82**	**276**	*e*P	**P**	**17 47 59.7**	**-0.9**
CRUC	**La Cruz**	**65.82**	**276**	*e*P	**P**	**17 47 59.7**	**-0.9**
TOPG	**Topolog**	**65.83**	**30**	⇓P	**P**	**17 47 59.4**	**-0.2**
ODBI	**Odobesti**	**65.83**	**29**	⇑P	**P**	**17 47 59.9**	**+0.3**
ODBI				mb		17 48 03.0	
CBOC	**Ciudad Bolivar**	**65.86**	**281**	*e*P	**P**	**17 47 56.4**	**-4.2**
CBOC	**Ciudad Bolivar**	**65.86**	**281**	*e*P	**P**	**17 47 56.4**	**-4.2**
PETR	**Petresti**	**65.88**	**29**	⇑P	**P**	**17 47 60.0**	**+0.1**
KMRS	**Kahramanmaras**	**65.89**	**41**	*e*P	**P**	**17 48 00.4**	**+0.2**
PLMC	**San Jos del P**	**65.89**	**280**	*e*P	**P**	**17 47 58.4**	**-2.4**
PLMC	**San Jos del P**	**65.89**	**280**	*e*P	**P**	**17 47 58.4**	**-2.4**
CFR	**Carcaliu**	**65.92**	**30**	⇑P	**P**	**17 47 59.7**	**-0.5**
UZH	**Uzhgorod**	**65.94**	**24**	⇓*i*P	**P**	**17 48 00.3**	**+0.1**
UZH				*i*		17 48 03.5	
BNN	**Bunyan**	**66.02**	**39**	*e*P	**P**	**17 48 02.1**	**+0.9**
SJCC	**San Jacinto, C**	**66.09**	**286**	*e*P	**P**	**17 48 01.1**	**-0.9**
SJCC	**San Jacinto, C**	**66.09**	**286**	*e*P	**P**	**17 48 01.1**	**-0.9**
CORM	**Corum**	**66.09**	**37**	*e*P	**P**	**17 48 02.1**	**+0.5**
ILGA	**Ilgaz**	**66.11**	**36**	P	**P**	**17 48 02.6**	**+0.9**
KOLS	**Kolonicke sedl**	**66.17**	**24**	*e*P	**P**	**17 48 02.8**	**+1.1**
KOLS				pmax	pmax		
	comp=Z,89nm,1.5s						
KOLS	**Kolonicke sedl**	**66.17**	**24**	*e*P	**P**	**17 48 02.8**	**+1.1**
YOZ	**Yozgat**	**66.18**	**38**	*e*P	**P**	**17 48 02.2**	**0.0**
TESR	**Tescani**	**66.19**	**28**	⇓P	**P**	**17 48 01.7**	**-0.2**
BBAC	**Balboa, Cauca**	**66.20**	**277⇑**	*e*P	**P**	**17 48 03.1**	**+0.2**
BBAC	**Balboa, Cauca**	**66.20

SNR=12
GNI P **P** **17 48 42.1 +1.0**
SNR=12
GNI **Garni** **72.46 42** *c i* P **P** **17 48 41.6 +0.5**
GNI pmax pmax
comp=Z,264nm,1.7s
GNI **Garni** **72.46 42** P **P** **17 48 42.2 +1.1**
GNI IAmb IAmb 17 48 45.6
comp=Z,44nm,1.1s
NACGM **Naroch** **72.59 22** *e* P **P** **17 48 40.0 -1.3**
NACGM PM 17 48 41.0
comp=Z,0.3nm,1.0s
IIGN **Ignalina** **72.72 22** *e* P **P** **17 48 42.5 +0.4**
IIGN IAmb IAmb 17 48 43.9
comp=Z,48nm,1.1s
ISAL **Salakas** **72.86 21** *e* P **P** **17 48 43.1 +0.3**
ISAL IAmb IAmb 17 48 44.4
comp=Z,22nm,0.9s
IDID **Didziasalis** **72.89 22** *e* P **P** **17 48 43.4 +0.4**
IZAR **Zarasai** **73.04 21** *e* P **P** **17 48 44.0 0.0**
IZAR IAmb IAmb 17 48 45.5
comp=Z,39nm,1.2s
KIV **Kislovodsk** **73.16 38** *i* P **P** **17 48 45.6 +0.5**
SNR=22
KIV **Kislovodsk** **73.16 38** P **P** **17 48 45.8 +0.7**
SNR=23
KIV **Kislovodsk** **73.16 38** *e* P **P** **17 48 45.3 +0.2**
KIV pmax pmax
comp=Z,189nm,1.1s
KIV MLR MLR
comp=Z,292nm,18.0s
KIV **Kislovodsk** **73.16 38** ⇑P **P** **17 48 45.6 +0.5**
KIV mb 17 48 47.5
KIV **Kislovodsk** **73.16 38** P **P** **17 48 45.8 +0.7**
KIV IAmb IAmb 17 48 51.5
comp=Z,41nm,1.0s
KBZ **Khabaz** **73.17 38** P **P** **17 48 45.8 +0.8**
comp=Z,28nm,0.9s,baz=241,slow=4.6,SNR=57
LMN **Caledonia Moun** **73.27 324** P **P** **17 48 45.8 +0.2**
LMN IAmb IAmb 17 48 46.6
comp=Z,37nm,1.1s
LMN IAMs_20 IAMs_20 18 14 52.8
comp=Z,807nm,20.0s
ZEI **Tsey** **73.28 39** *e* P **P** **17 48 43.5 -2.5**
ZEI pmax pmax
comp=Z,12nm,0.9s
NB2 **NORSAR Subarra** **73.39 11** P **P** **17 48 46.1 +0.1**
comp=Z,3.5nm,0.9s,baz=204,slow=6.5
NOA **NORSAR Array B** **73.39 11** P **P** **17 48 46.0 +0.1**
comp=Z,11nm,1.0s,baz=204,slow=6.1,SNR=12
NCK **Nalchik** **73.47 39** ⇓ *i* P **P** **17 48 47.9 +1.1**
NCK pmax pmax
comp=Z,72nm,1.1s
GOF **Gofitskoye** **73.98 37** ⇑ *e* P **P** **17 48 49.6 -0.1**
GOF pmax pmax
comp=Z,74nm,1.5s
GGN **Saint George** **74.05 323** IAMs_20 IAMs_20 18 14 19.1
comp=Z,669nm,22.0s
NAZ **Nazwa, Dubai** **74.52 60** P **P** **17 48 53.1 -0.2**
G65A **Princeton** **74.52 323** P **P** **17 48 53.7 +0.8**
baz=123
G65A **Princeton** **74.52 323** IAMs_20 IAMs_20 18 14 17.9
comp=Z,735nm,21.0s
M65A **Busby, Falmout** **74.59 318** IAMs_20 IAMs_20 18 16 28.8
comp=Z,600nm,21.0s
HDC **Heredia** **74.63 283** IAMs_20 IAMs_20 18 20 28.2
comp=Z,631nm,20.0s
H65A **Eastbrook** **74.67 322** P **P** **17 48 54.6 +0.9**
baz=122
GROC **Groznyy** **74.69 40** *e* P **P** **17 48 53.8 -0.1**
GROC *e* 17 51 43.2
GROC pmax pmax
comp=Z,48nm,1.5s
ARQ **Araqi** **74.73 62** P **P** **17 48 56.7 +2.1**
MAW **Mawson** **74.76 157** P **P** **17 48 54.5 +0.6**
comp=Z,24nm,1.0s,baz=286,slow=7.1,SNR=9.2
MAW LR LR 18 14 05.1
comp=Z,388nm,20.7s,baz=289,slow=30
ASHO **Ashiyiah** **74.76 61** P **P** **17 48 53.2 -1.6**
ASHO P **P** **17 48 53.2 -1.6**
BATG **Bathurst New B** **74.79 325** IAMs_20 IAMs_20 18 15 30.0
comp=Z,661nm,20.0s
HATD **Hatta, Dubai** **74.87 61** P **P** **17 48 55.3 -0.1**
HATD **Hatta, Dubai** **74.87 61** P **P** **17 48 56.8 +1.4**
HATD P **P** **17 48 56.8 +1.4**
L64A **Middleborough** **74.90 319** P **P** **17 48 55.9 +0.7**
baz=119
UOSS **Minazif** **74.97 61** *i* P **P** **17 48 55.4 -0.6**
SNR=7.7
UOSS **Minazif** **74.97 61** P **P** **17 48 56.3 +0.3**
UOSS P **P** **17 48 56.3 +0.3**
UOSS **Minazif** **74.97 61** P **P** **17 48 56.6 +0.6**
UOSS IAmb IAmb 17 48 58.7
comp=Z,83nm,1.1s
UOSS **Minazif** **74.97 61** IAMs_20 IAMs_20 18 26 45.8
comp=Z,670nm,18.0s
MSFE **Esma-Masafi** **75.07 60** *i* P **P** **17 48 56.1 -0.4**
SNR=7.7
I64A **Boothbay** **75.12 321** P **P** **17 48 56.8 +0.4**
baz=121
MDH **Madha** **75.17 60** P **P** **17 48 56.9 -0.2**
H64A **Troy** **75.23 322** P **P** **17 48 57.5 +0.5**
baz=121
SHME **Shamm** **75.28 60** P **P** **17 48 58.2 +0.5**
VSU **Vasula** **75.31 20** ⇓ *e* P **P** **17 48 57.1 0.0**
VSU pmax pmax
comp=Z,539nm,2.5s
VSU **Vasula** **75.31 20** *e* P **P** **17 48 56.6 -0.5**
ESPN **Las Esperanzas** **75.33 286** P **P** **17 48 58.6 +0.4**
ESPN IAmb IAmb 17 49 00.3
comp=Z,58nm,1.1s
E64A **Bridgewater** **75.33 324** P **P** **17 48 58.3 +0.8**
baz=123,SNR=12
F64A **Sherman** **75.34 323** P **P** **17 48 58.7 +1.1**
baz=122,SNR=22
F64A **Sherman** **75.34 323** P **P** **17 48 58.8 +1.1**
F64A IAmb IAmb 17 49 00.2
comp=Z,53nm,1.1s
F64A IAMs_20 IAMs_20 18 14 54.6
comp=Z,653nm,21.0s
BRYW **Bryant College** **75.35 318** IAMs_20 IAMs_20 18 15 56.8
comp=Z,620nm,20.0s
BANOM **Banah** **75.37 60** *i* P **P** **17 48 58.3 0.0**
SNR=9.2
BANOM **Banah** **75.37 60** P **P** **17 48 58.3 0.0**
BANOM P **P** **17 48 58.3 0.0**
WES **Weston** **75.43 319** IAMs_20 IAMs_20 18 15 10.0
comp=Z,611nm,21.0s
VSR **Storozhevoye** **75.43 30** *e* P **P** **17 48 57.0 -1.0**
VSR pmax pmax
comp=Z,180nm,1.3s
M63A **Gales Ferry** **75.44 318** P **P** **17 48 58.9 +0.6**
baz=118
JTS **Las Juntas de** **75.50 283** P **P** **17 48 58.6 -0.6**
JTS pmax pmax
comp=Z,17nm,1.1s
JTS MLR MLR
comp=Z,800nm,22.0s
JTS **Las Juntas de** **75.50 283** P **P** **17 48 58.6 -0.6**
JTS **Las Juntas de** **75.50 283** IAMs_20 IAMs_20 18 20 51.4
comp=Z,798nm,22.0s
PQI **Presque Isle** **75.58 324** IAMs_20 IAMs_20 18 15 17.9
comp=Z,605nm,20.0s
PKME **Peaks-Kenny Pk** **75.59 322** P **P** **17 48 59.7 +0.6**
baz=121
HRV **Adam Dziewonsk** **75.64 319** P **P** **17 49 00.4 +1.0**
baz=119
HRV **Adam Dziewonsk** **75.64 319** P **P** **17 48 59.9 +0.5**
HRV pmax pmax
comp=Z,37nm,1.1s
HRV MLR MLR
comp=Z,500nm,21.0s
HRV **Adam Dziewonsk** **75.64 319** P **P** **17 48 59.9 +0.5**
HRV IAmb IAmb 17 49 00.5
comp=Z,37nm,1.1s
HRV **Adam Dziewonsk** **75.64 319** IAMs_20 IAMs_20 18 14 55.6
comp=Z,544nm,21.0s
E63A **Oxbow** **75.68 323** P **P** **17 49 00.5 +1.0**
baz=122,SNR=8.7
E63A **Oxbow** **75.68 323** P **P** **17 49 00.6 +1.0**
E63A IAMs_20 IAMs_20 18 15 19.6
comp=Z,715nm,21.0s
J63A **Strafford** **75.71 320** P **P** **17 49 00.9 +1.1**
baz=119,SNR=7.5
F63A **Nahmakanta, Br** **75.71 323** P **P** **17 49 00.6 +0.9**
baz=122,SNR=16
F63A **Nahmakanta, Br** **75.71 323** IAmb IAmb 17 49 01.6
comp=Z,56nm,1.1s
F63A IAMs_20 IAMs_20 18 14 20.3
comp=Z,583nm,21.0s
K63A **Dunstable** **75.71 319** P **P** **17 49 00.3 +0.5**
baz=119
H63A **New Sharon** **75.74 321** P **P** **17 49 01.0 +1.1**
baz=120,SNR=5.4
I63A **Otisfield** **75.77 321** P **P** **17 49 00.8 +0.6**
baz=120
D63A **Stockholm** **75.83 324** P **P** **17 49 01.1 +0.7**
baz=123,SNR=12
061Z **Ochoppi** **76.09 300** IAMs_20 IAMs_20 18 14 10.1
comp=Z,526nm,20.0s
J62A **Henniker** **76.15 319** P **P** **17 49 03.6 +1.3**
baz=119,SNR=5.3
K62A **Royalston** **76.16 319** P **P** **17 49 03.8 +1.5**
baz=118
K62A **Royalston** **76.16 319** P **P** **17 49 02.8 +0.4**
K62A IAMs_20 IAMs_20 18 16 03.3
comp=Z,611nm,21.0s
I62A **Tamworth** **76.16 320** P **P** **17 49 03.5 +1.1**
baz=119,SNR=12
I62A **Tamworth** **76.16 320** IAmb IAmb 17 49 03.9
comp=Z,33nm,1.1s
I62A P **P** **17 49 04.1 +1.7**
FFD **Franklin Falls** **76.17 320** IAMs_20 IAMs_20 18 16 05.5
comp=Z,588nm,20.0s
LPSR **Galich'ya Gora** **76.17 29** *e* P **P** **17 49 01.1 -1.1**
LPSR pmax pmax
comp=Z,80nm,1.0s
WSPT **Westport, CT** **76.19 317** P **P** **17 49 01.3 -1.3**
V61A **Roper** **76.19 311** P **P** **17 49 03.7 +1.0**
baz=114
V61A **Roper** **76.19 311** IAMs_20 IAMs_20 18 14 11.5
comp=Z,819nm,22.0s
U61A **Possum Corner** **76.31 311** P **P** **17 49 04.6 +1.2**
baz=114,SNR=10
U61A **Possum Corner** **76.31 311** P **P** **17 49 05.0 +1.6**
G62A **West of Eustis** **76.33 322** P **P** **17 49 03.8 +0.5**
baz=120,SNR=5.2
G62A **West of Eustis** **76.33 322** IAMs_20 IAMs_20 18 16 55.7
comp=Z,528nm,20.0s
F62A **Pittston Farm,** **76.33 322** P **P** **17 49 04.2 +0.9**
baz=121,SNR=5.3
L61B **Northampton** **76.34 318** P **P** **17 49 04.2 +0.8**
baz=118
H62A **Milan** **76.39 321** P **P** **17 49 04.5 +0.8**
baz=120,SNR=14
H62A **Milan** **76.39 321** P **P** **17 49 04.1 +0.4**
H62A IAmb IAmb 17 49 05.7
comp=Z,59nm,1.1s
D62A **Allapoint, All** **76.40 324** P **P** **17 49 04.2 +0.6**
baz=122,SNR=14
D62A **Allapoint, All** **76.40 324** IAmb IAmb 17 49 04.5
comp=Z,24nm,0.9s
D62A IAMs_20 IAMs_20 18 15 30.5
comp=Z,802nm,22.0s
E62A **Clayton Lake** **76.43 323** P **P** **17 49 04.5 +0.7**
baz=121,SNR=11
E62A **Clayton Lake** **76.43 323** P **P** **17 49 04.2 +0.3**
E62A IAmb IAmb 17 49 05.3
comp=Z,40nm,1.1s
E62A IAMs_20 IAMs_20 18 15 50.5
comp=Z,702nm,21.0s
M61A **Granite Spring** **76.54 317** P **P** **17 49 05.2 +0.6**
baz=117,SNR=7.3
Q61A **Milford** **76.56 314** P **P** **17 49 06.6 +1.9**
baz=115
N61A **South Mountain** **76.65 316** P **P** **17 49 06.5 +1.2**
baz=116
HNH **Hanover** **76.68 320** IAMs_20 IAMs_20 18 16 20.2
comp=Z,559nm,22.0s
J61A **Chester** **76.68 319** P **P** **17 49 06.5 +1.2**
baz=118,SNR=6.3
V60A **Jim Taylor Roa** **76.69 311** IAMs_20 IAMs_20 18 14 58.7
comp=Z,686nm,22.0s
OBN **Obninsk** **76.69 26** *e* P **P** **17 49 04.1 -1.0**
OBN *e* 17 49 07.2
OBN *e* 17 49 15.9
OBN *e* 17 51 55.3
OBN *e* PPP PPP 17 53 41.8
OBN *e* S **S** **17 58 49.2 -2.6**
OBN pmax pmax
comp=Z,124nm,1.7s
OBN MLR MLR
comp=Z,489nm,17.0s
OBN **Obninsk** **76.69 26** ⇑P **P** **17 49 04.7 -0.3**
OBN mb 17 49 05.9
OBN **Obninsk** **76.69 26** P **P** **17 49 04.9 -0.2**
OBN IAmb IAmb 17 49 05.8
comp=Z,62nm,1.1s
LBNH **Lisbon** **76.71 320** P **P** **17 49 06.5 +1.0**
baz=119
VRH **Novokhopyorsk** **76.71 31** *e* P **P** **17 49 04.4 -0.9**
VRH pmax pmax
comp=Z,140nm,1.6s
I61A **Oroboro, Fairl** **76.74 320** P **P** **17 49 06.5 +0.9**
baz=119,SNR=7.7
L61A **Hillsdale 1, H** **76.80 318** P **P** **17 49 06.9 +0.9**
baz=117,SNR=7.8
K61A **Williamstown** **76.83 318** P **P** **17 49 07.5 +1.2**
baz=118,SNR=8.2
T60A **Surry** **76.85 312** P **P** **17 49 07.8 +1.4**
baz=114,SNR=5.8
T60A **Surry** **76.85 312** P **P** **17 49 07.0 +0.7**
T60A IAMs_20 IAMs_20 18 14 44.8
comp=Z,583nm,20.0s
H61A **Lyndonville** **76.85 320** P **P** **17 49 07.5 +1.2**
baz=119,SNR=8.0
U60A **Pendleton** **76.89 311** P **P** **17 49 07.7 +1.0**
baz=114
E61A **Lac Etchemin** **76.91 323** P **P** **17 49 07.1 +0.5**
baz=120
CNNC **Cliffs of the** **76.96 310** IAMs_20 IAMs_20 18 19 19.8
comp=Z,486nm,20.0s
G61A **St-Isidore-de-** **76.97 321** P **P** **17 49 07.5 +0.5**
baz=120,SNR=7.9
Q60A **Greensboro** **76.97 314** IAMs_20 IAMs_20 18 16 15.0
comp=Z,748nm,20.0s
F61A **St Evariste** **76.98 322** P **P** **17 49 08.0 +1.0**
baz=120,SNR=9.9
PSUB **Penn St. - Bra** **77.09 315** IAMs_20 IAMs_20 18 15 42.1
comp=Z,744nm,20.0s
TRY **Troy** **77.12 318** P **P** **17 49 08.9 +1.1**
M60A **Port Jervis** **77.13 317** P **P** **17 49 08.6 +0.7**
baz=116,SNR=6.6
P60A **Greenville** **77.17 315** P **P** **17 49 08.9 +0.7**
baz=115,SNR=9.0
P60A **Greenville** **77.17 315** P **P** **17 49 08.6 +0.5**
P60A IAmb IAmb 17 49 10.9
comp=Z,27nm,1.1s
J60A **Lant Hill Farm** **77.20 319** P **P** **17 49 08.9 +0.6**
baz=118,SNR=8.4
O60A **Telford** **77.22 315** P **P** **17 49 09.2 +0.8**
baz=116,SNR=6.1
N60A **Cedar Hill Far** **77.25 316** P **P** **17 49 09.5 +0.9**
baz=116,SNR=6.0
VT1 **Waterbury** **77.28 320** IAMs_20 IAMs_20 18 15 15.7
comp=Z,560nm,21.0s
U59A **Littleton** **77.32 311** P **P** **17 49 10.1 +1.1**
baz=113,SNR=13
U59A **Littleton** **77.32 311** P **P** **17 49 09.9 +0.8**
U59A IAmb IAmb 17 49 11.0
comp=Z,57nm,1.1s
U59A IAMs_20 IAMs_20 18 15 39.3
comp=Z,696nm,20.0s
LUPA **Lehigh Univers** **77.32 316** P **P** **17 49 10.2 +1.2**
H60A **Morristown** **77.35 320** P **P** **17 49 10.3 +1.2**
baz=118,SNR=12
G60A **Masonville** **77.38 321** P **P** **17 49 09.8 +0.6**
baz=119,SNR=6.5
T59A **Double "B" Far** **77.38 312** P **P** **17 49 10.4 +1.0**
baz=113,SNR=11
T59A **Double "B" Far** **77.38 312** P **P** **17 49 10.4 +1.0**
T59A IAmb IAmb 17 49 11.3
comp=Z,52nm,1.0s
I60A **Shoreham** **77.39 319** P **P** **17 49 10.2 +1.0**
baz=118,SNR=7.3
D60A **Saint Jean D'O** **77.41 323** P **P** **17 49 09.7 +0.3**
baz=120
ACCN **Adirondack Com** **77.42 319** P **P** **17 49 09.5 0.0**
V59A **Middlesex** **77.42 310** P **P** **17 49 10.6 +0.9**
baz=113,SNR=7.5
FINES **FINESS Array B** **77.43 18** P **P** **17 49 09.1 0.0**
FINES **FINESS Array B** **77.43 18** P **P** **17 49 09.2 +0.1**
comp=Z,40nm,0.9s,baz=226,slow=4.4,SNR=31
FINES LR LR 18 24 09.5
comp=Z,487nm,20.1s,baz=215,slow=36
FINES **FINESS Array B** **77.43 18** P **P** **17 49 09.1 0.0**
FIA1 **FINESS Array S** **77.44 18** P **P** **17 49 09.3 +0.1**
E60A **Ste Agathe de** **77.45 322** P **P** **17 49 10.3 +0.7**
baz=120,SNR=7.4
Q59A **Harwood** **77.49 314** P **P** **17 49 11.2 +1.3**
baz=114
S59A **Mechanicsville** **77.51 312** P **P** **17 49 10.7 +0.6**
baz=114
PUL **Pulkovo** **77.52 20** ⇑ *e* P **P** **17 49 10.2 +0.6**
PUL pmax pmax
comp=Z,66nm,0.6s
R59A **King George, V** **77.55 313** P **P** **17 49 11.5 +1.2**
baz=114,SNR=5.3
MOS **Moscow** **77.56 26** *e* P **P** **17 49 07.9 -2.1**
MOS *e* 17 49 17.9
MOS *e* 17 52 02.1
MOS pmax pmax
comp=Z,195nm,1.2s
F60A **Warwick** **77.56 322** P **P** **17 49 10.5 +0.3**
baz=119,SNR=5.1
P59A **Jarrettsville** **77.64 314** P **P** **17 49 11.6 +0.8**
baz=115,SNR=7.4
N59A **State Game Lan** **77.73 316** P **P** **17 49 12.1 +0.8**
baz=115,SNR=7.7
N59A **State Game Lan** **77.73 316** P **P** **17 49 11.7 +0.3**
I59A **Olmsteadville** **77.74 319** P **P** **17 49 11.8 +0.5**
baz=117,SNR=6.0
MVL **Millersville** **77.75 315** P **P** **17 49 12.2 +0.9**
MVL IAmb IAmb 17 49 13.1
comp=Z,36nm,1.2s
O59A **Robesonia** **77.76 315** P **P** **17 49 12.0 +0.5**
baz=115,SNR=9.1
M59A **Waymart** **77.77 317** P **P** **17 49 11.9 +0.4**
baz=116,SNR=8.5
L59A **Walton** **77.79 317** P **P** **17 49 12.7 +1.1**
baz=116,SNR=12
L59A **Walton** **77.79 317** IAmb IAmb 17 49 13.0
comp=Z,41nm,1.1s
X58A **Rowland** **77.81 309** P **P** **17 49 12.9 +1.1**
baz=112
Y58A **Scranton** **77.82 308** P **P** **17 49 12.5 +0.5**
baz=111
U58A **Oxford** **77.90 311** P **P** **17 49 13.2 +0.9**
baz=113,SNR=10.0
W58A **Raeford** **77.90 309** P **P** **17 49 13.4 +1.0**
baz=112,SNR=5.8
K59A **Cooperstown** **77.92 318** P **P** **17 49 13.6 +1.2**
baz=116,SNR=12
NHSC **New Hope** **77.94 307** P **P** **17 49 13.8 +1.2**
baz=111
NHSC **New Hope** **77.94 307** IAMs_20 IAMs_20 18 15 36.8
comp=Z,584nm,22.0s
S58A **Poland Farm, P** **78.00 312** P **P** **17 49 13.9 +1.1**
baz=113
J59A **Piesco** **78.00 319** P **P** **17 49 13.5 +0.7**
baz=117,SNR=10
J59A **Piesco** **78.00 319** IAmb IAmb 17 49 14.3
comp=Z,62nm,1.1s
KSPA **Keystone Colle** **78.00 316** P **P** **17 49 13.8 +1.0**
R58B **Mineral** **78.01 312** P **P** **17 49 13.9 +1.0**
baz=113,SNR=13
R58B **Mineral** **78.01 312** IAmb IAmb 17 49 14.7
comp=Z,36nm,0.9s
R58B IAMs_20 IAMs_20 18 15 20.6
comp=Z,571nm,21.0s
H59A **Cadyville** **78.02 320** P **P** **17 49 13.7 +0.9**
baz=118,SNR=8.5
FRNY **Flat Rock** **78.04 320** IAMs_20 IAMs_20 18 15 40.0
comp=Z,532nm,22.0s
V58A **Windy Hill, Pi** **78.09 310** P **P** **17 49 14.6 +1.2**
baz=112,SNR=8.9
V58A **Windy Hill, Pi** **78.09 310** IAmb IAmb 17 49 15.4
comp=Z,42nm,1.1s
T58A **Grand View Acr** **78.10 311** P **P** **17 49 14.5 +1.1**
baz=113,SNR=5.7
PAGS **Pennsylvania G** **78.10 315** IAmb IAmb 17 49 14.8
comp=Z,31nm,1.2s
PAGS IAMs_20 IAMs_20 18 16 49.8
comp=Z,657nm,20.0s
O58A **Lewisberry** **78.20 315** P **P** **17 49 14.2 +0.3**
baz=114,SNR=9.1
P58A **Pank, Wackersv** **78.20 314** P **P** **17 49 14.4 +0.5**
baz=114,SNR=12
H58A **Gabriels** **78.22 320** P **P** **17 49 14.4 +0.5**
baz=117
R58A **Rapidan** **78.23 313** P **P** **17 49 14.9 +0.8**
baz=113,SNR=13
Q58A **Fox Den Farm,** **78.26 313** P **P** **17 49 14.5 +0.2**
baz=114,SNR=7.0
L58A **Harry Jones Me** **78.27 317** P **P** **17 49 15.2 +0.9**
baz=116,SNR=7.4
N58A **Sunbury** **78.35 315** P **P** **17 49 14.9 +0.1**
baz=115,SNR=10
N58A **Sunbury** **78.35 315** P **P** **17 49 14.5 -0.2**
N58A IAmb IAmb 17 49 16.2
comp=Z,46nm,1.1s
M58A **Price's Panora** **78.40 316** P **P** **17 49 15.5 +0.5**
baz=115,SNR=11
I58A **Old Forge** **78.41 319** P **P** **17 49 15.8 +0.7**
baz=116,SNR=6.5
BINY **Binghamton** **78.42 317** P **P** **17 49 15.9 +0.7**
baz=116,SNR=7.2
157A **Early Branch** **78.43 306** P **P** **17 49 16.7 +1.4**
baz=110
K58A **Earlville** **78.44 318** P **P** **17 49 16.0 +0.8**
baz=116,SNR=6.3
K58A **Earlville** **78.44 318** P **P** **17 49 15.8 +0.6**
J58A **Remsen** **78.46 318** P **P** **17 49 15.7 +0.4**
baz=116
G58A **Ormstown** **78.48 320** P **P** **17 49 16.0 +0.7**
baz=118,SNR=9.1
U57A **Blanch** **78.50 311** P **P** **17 49 17.0 +1.3**
baz=112,SNR=16
W57A **Gilead** **78.53 309** P **P** **17 49 16.7 +0.9**
baz=111,SNR=5.6
E58A **La Victoria** **78.56 322** P **P** **17 49 16.3 +0.6**
baz=118,SNR=13
LONY **Lake Ozonia** **78.57 320** P **P** **17 49 16.4 +0.5**
baz=117
656A **Willston** **78.58 303** P **P** **17 49 18.0 +1.7**
baz=109
656A **Willston** **78.58 303** IAMs_20 IAMs_20 18 16 21.9
comp=Z,702nm,20.0s
TGUH **Tegucigalpa,Un** **78.59 287** *e* P **P** **17 49 15.5 -1.2**
TGUH **Tegucigalpa,Un** **78.59 287** *e* P **P** **17 49 15.5 -1.2**
456A **Hilliard** **78.60 304** IAMs_20 IAMs_20 18 16 23.4
comp=Z,706nm,20.0s
R57A **Stanardsville** **78.61 313** P **P** **17 49 16.9 +0.6**
baz=113
V57A **Coltrane Farms** **78.63 310** P **P** **17 49 17.1 +0.7**
baz=112,SNR=9.9
T57A **Hurt** **78.65 311** P **P** **17 49 17.7 +1.2**
baz=112,SNR=8.1
T57A **Hurt** **78.65 311** IAmb IAmb 17 49 18.4
comp=Z,31nm,1.1s
D58A **Chemin du LacG** **78.67 322** P **P** **17 49 16.7 +0.3**
baz=119,SNR=8.5
BIRD **Birdtown, Kers** **78.70 308** IAMs_20 IAMs_20 18 23 03.0
comp=Z,426nm,18.0s
P57A **Homestead Farm** **78.71 314** P **P** **17 49 17.5 +0.8**
baz=114,SNR=18
P57A **Homestead Farm** **78.71 314** IAmb IAmb 17 49 18.9
comp=Z,64nm,1.1s
P57A IAMs_20 IAMs_20 18 17 36.9
comp=Z,566nm,20.0s
S57A **Dark Hollow, R** **78.72 312** P **P** **17 49 18.0 +1.2**
baz=112,SNR=7.1
O57A **Amberson** **78.73 315** P **P** **17 49 17.8 +0.9**
baz=114,SNR=19
LATQ **La Tuque** **78.75 323** P **P** **17 49 17.3 +0.6**
baz=119,SNR=9.3
Q57A **Strasburg** **78.81 313** P **P** **17 49 18.8 +1.4**
baz=113,SNR=15
156A **Sylvania** **78.82 306** P **P** **17 49 19.5 +2.0**
baz=110
M57A **Sunshine Farm,** **78.84 316** P **P** **17 49 18.2 +0.8**
baz=114,SNR=6.4
N57A **Milroy** **78.89 315** P **P** **17 49 18.4 +0.7**
baz=114,SNR=16
256A **Glennville** **78.91 306** P **P** **17 49 19.5 +1.5**
baz=110
L57A **Andrews Acres** **78.92 317** P **P** **17 49 18.3 +0.4**
baz=115,SNR=6.2
Z56A **Williston** **78.95 307** P **P** **17 49 19.7 +1.5**
baz=110
Z56A **Williston** **78.95 307** IAMs_20 IAMs_20 18 15 47.6

comp=Z,559nm,22.0s
J57A Williamstown 78.95 318 P P 17 49 18.1 +0.1
baz=116
I57A Carthage 78.96 319 P P 17 49 18.7 +0.7
baz=116
W56A Indian Trail 78.97 309 P P 17 49 19.5 +1.2
baz=111,SNR=7.2
H57A Richville 79.02 319 P P 17 49 18.6 +0.3
baz=116,SNR=6.8
G57A Newington 79.04 320 P P 17 49 19.1 +0.7
baz=117,SNR=7.7
SSPA Standing Stone 79.08 315 P P 17 49 19.4 +0.7
baz=114
X56A White Oak 79.09 308 P P 17 49 20.5 +1.5
baz=111,SNR=9.0
E57A Chemin Saint G 79.11 321 P P 17 49 19.0 +0.1
baz=118,SNR=12
S56A Natural Bridge 79.14 312 P P 17 49 20.8 +1.7
baz=112,SNR=6.5
V56A Mocksville 79.15 310 P P 17 49 20.1 +0.9
baz=111,SNR=8.9
D57A Chemin Vers le 79.24 322 P P 17 49 19.8 +0.3
baz=118,SNR=7.2
T56A Rocky Mt 79.24 311 P P 17 49 21.1 +1.4
baz=112,SNR=11
U56A King 79.25 310 P P 17 49 21.1 +1.3
baz=111
U56A King 79.25 310 IAMs_20 IAMs_20 18 16 37.5
comp=Z,536nm,20.0s
R56A Bull Pasture M 79.29 312 P P 17 49 21.6 +1.5
baz=112,SNR=8.7
P56A Dayton Farm, R 79.30 314 P P 17 49 21.3 +1.2
baz=113,SNR=17
255A Hazlehurst 79.36 305 P P 17 49 22.1 +1.6
baz=109
Q56A Snyder Ridge, 79.38 313 P P 17 49 21.9 +1.4
baz=113,SNR=20
Q56A Snyder Ridge, 79.38 313 IAmb IAmb 17 49 22.8
comp=Z,78nm,1.1s
O56A Blue Knob Stat 79.41 314 P P 17 49 21.4 +0.8
baz=113
O56A Blue Knob Stat 79.41 314 IAMs_20 IAMs_20 18 17 59.5
comp=Z,728nm,22.0s
455A Stateville 79.42 304 P P 17 49 22.9 +2.1
baz=109,SNR=5.6
L56A Greenwood 79.46 316 P P 17 49 21.6 +0.7
baz=114,SNR=12
L56A Greenwood 79.46 316 IAmb IAmb 17 49 22.3
comp=Z,79nm,1.1s
J56A Wolcott 79.46 318 P P 17 49 21.6 +0.8
baz=115,SNR=5.2
355A Pearson 79.47 305 P P 17 49 22.8 +1.6
baz=109
N56A West Decatur 79.47 315 P P 17 49 21.6 +0.7
baz=114,SNR=7.9
SCHQ Schefferville 79.49 331 P P 17 49 20.4 -0.3
comp=Z,6.4nm,0.7s,baz=155,slow=6.1,SNR=4.8
SCHQ LR LR 18 19 10.8
comp=Z,151nm,18.8s,baz=54,slow=32
Z55A Blythe 79.52 307 P P 17 49 22.7 +1.4
baz=110
ORIO Orleans, Innes 79.53 320 P P 17 49 21.5 +0.5
baz=116,SNR=10
K56A Middlesex 79.53 317 P P 17 49 21.9 +0.7
baz=115,SNR=5.7
Y55A Saluda 79.54 307 P P 17 49 22.9 +1.5
baz=110,SNR=14
KMSC Kings Mountain 79.55 309 P P 17 49 22.8 +1.3
baz=110,SNR=12
KMSC Kings Mountain 79.55 309 IAmb IAmb 17 49 23.7
comp=Z,46nm,1.1s
155A Kite 79.58 306 P P 17 49 23.5 +1.8
baz=109,SNR=12
BLA Blacksburg 79.59 311 P P 17 49 23.1 +1.4
baz=112,SNR=9.4
BLA Blacksburg 79.59 311 IAmb IAmb 17 49 24.1
comp=Z,44nm,1.1s
M56A Emporium 79.62 316 P P 17 49 22.4 +0.6
baz=114,SNR=12
H56A Elgin 79.63 319 P P 17 49 21.7 0.0
baz=116
V55A Taylorsville 79.71 309 P P 17 49 23.9 +1.6
baz=111,SNR=10
E56A St. Veronique 79.72 321 P P 17 49 22.5 +0.4
baz=117,SNR=10.0
D56A ZEC Mazanza, M 79.78 322 P P 17 49 22.4 -0.1
baz=117,SNR=7.2
PAULI Pauline 79.81 308 P P 17 49 23.2 +0.4
PAULI IAmb IAmb 17 49 25.2
comp=Z,45nm,1.2s
U55A TA2, Sparta 79.81 310 P P 17 49 24.4 +1.5
baz=111,SNR=7.5
T55A Pulaski 79.83 311 P P 17 49 24.6 +1.6
baz=111,SNR=8.4
S55A Lewisburg 79.86 311 P P 17 49 24.5 +1.4
baz=112,SNR=5.4
QSPA South Pole Qui 79.86 180 P P 17 49 23.1 +0.3
comp=Z,71nm,1.0s,baz=214,slow=2.1,SNR=67
QSPA South Pole Qui 79.86 180 P P 17 49 23.4 +0.7
N55A Marion Center 79.90 315 P P 17 49 23.8 +0.5
baz=113,SNR=6.3
O55A Ligonier 79.91 314 P P 17 49 24.1 +0.8
baz=113,SNR=14
454A Quitman 79.91 304 P P 17 49 24.7 +1.2
baz=108
Q55A Buckhannon 80.00 313 P P 17 49 25.2 +1.3
baz=112,SNR=11
P55A Reedsville 80.01 313 P P 17 49 24.4 +0.5
baz=112,SNR=7.8
M55A Ridgway 80.02 315 P P 17 49 24.3 +0.4
baz=113,SNR=7.9
M55A Ridgway 80.02 315 IAMs_20 IAMs_20 18 17 10.6
comp=Z,706nm,20.0s
254A Abbeville 80.02 305 P P 17 49 26.0 +2.0
baz=109
L55A Hinsdale 80.08 316 P P 17 49 24.8 +0.6
baz=114,SNR=7.5
MCWV Mont Chateau 80.08 313 P P 17 49 24.8 +0.6
baz=112,SNR=5.1
Z54A Sparta 80.08 306 P P 17 49 25.7 +1.4
baz=109,SNR=10
154A Montrose 80.09 306 P P 17 49 26.0 +1.6
baz=109
154A Montrose 80.09 306 IAMs_20 IAMs_20 18 17 56.8
comp=Z,523nm,21.0s
TIGA Tifton 80.10 305 P P 17 49 26.4 +1.9
baz=109
TIGA Tifton 80.10 305 IAMs_20 IAMs_20 18 16 58.2
comp=Z,679nm,22.0s
X54A Belton 80.15 308 P P 17 49 26.2 +1.5
baz=110,SNR=12
Y54A Tignall 80.17 307 P P 17 49 26.3 +1.5
baz=110,SNR=16
W54A Cherokee Point 80.19 308 P P 17 49 26.5 +1.5
baz=110,SNR=11
D55A Sainte-Anne-du 80.20 322 P P 17 49 24.9 +0.2
baz=117,SNR=15
G55A Calabogie 80.21 320 P P 17 49 24.9 +0.1
baz=115,SNR=6.9
H55A Tweed 80.21 319 P P 17 49 25.0 +0.2
baz=115,SNR=7.9
F55A Otter Lake 80.23 320 P P 17 49 25.6 +0.7
baz=116
V54A Nebo 80.24 309 P P 17 49 26.7 +1.5
baz=110,SNR=17
WVNY West Valley, N 80.28 316 IAMs_20 IAMs_20 18 16 40.5
comp=Z,611nm,22.0s
R54A Victor 80.37 312 P P 17 49 26.8 +1.0
baz=111,SNR=8.1
U54A Nelsons Funny 80.40 310 P P 17 49 27.6 +1.5
baz=110,SNR=16
U54A Nelsons Funny 80.40 310 IAmb IAmb 17 49 28.5
comp=Z,71nm,1.1s
T54A Tazewell 80.40 310 P P 17 49 27.4 +1.2
baz=111,SNR=11
K54A Basiliko Farm, 80.42 317 P P 17 49 26.7 +0.7
baz=114,SNR=7.4
S54A Dingess, Beckl 80.47 311 P P 17 49 27.2 +0.8
baz=111,SNR=8.2
S54A Dingess, Beckl 80.47 311 IAmb IAmb 17 49 28.4
comp=Z,51nm,1.1s
P54A Burton 80.51 313 P P 17 49 27.4 +0.8
baz=112,SNR=12
453A Whigham 80.52 304 P P 17 49 28.6 +1.9
baz=108
Q54A Coxs Mills 80.54 312 P P 17 49 27.8 +1.1
baz=112,SNR=8.4
Q54A Coxs Mills 80.54 312 IAMs_20 IAMs_20 18 16 37.6
comp=Z,765nm,22.0s
353A Camilla 80.58 304 P P 17 49 28.6 +1.5
baz=108
GOGA Godfrey 80.63 306 P P 17 49 28.6 +1.3
baz=109,SNR=6.6
GOGA Godfrey 80.63 306 IAMs_20 IAMs_20 18 17 53.2
comp=Z,556nm,20.0s
M54A Oil Creek Stat 80.66 315 P P 17 49 27.9 +0.5
baz=113,SNR=7.8
M54A Oil Creek Stat 80.66 315 IAmb IAmb 17 49 28.9
comp=Z,64nm,1.1s
M54A IAMs_20 IAMs_20 18 17 42.5
comp=Z,644nm,21.0s
O54A Avella 80.66 314 P P 17 49 28.1 +0.8
baz=112,SNR=7.9
O54A Avella 80.66 314 IAMs_20 IAMs_20 18 20 38.5
comp=Z,612nm,19.0s
Z53A Monticello 80.67 306 P P 17 49 28.7 +1.2
baz=109,SNR=9.3
N54A Moraine State 80.67 315 P P 17 49 28.0 +0.6
baz=112,SNR=8.8
N54A Moraine State 80.67 315 IAMs_20 IAMs_20 18 18 40.0
comp=Z,618nm,20.0s
L54A Sinclairville 80.70 316 P P 17 49 28.0 +0.5
baz=113,SNR=6.0
BG3 Lake Jocassee 80.73 308 IAmb IAmb 17 49 30.4
comp=Z,62nm,1.1s
253A Americus 80.73 305 P P 17 49 29.4 +1.5
baz=108,SNR=6.9
253A Americus 80.73 305 IAmb IAmb 17 49 29.8
comp=Z,43nm,0.9s
253A IAMs_20 IAMs_20 18 18 11.9
comp=Z,500nm,20.0s
X53A Estanollee 80.86 308 P P 17 49 30.2 +1.7
baz=109,SNR=15
SCO Scoresbysund 80.86 357 *i* P P 17 49 29.6 +1.9
SCO Scoresbysund 80.86 357 *i* P P 17 49 29.6 +1.9
V53A Saluda 80.86 309 P P 17 49 29.8 +1.2
baz=110,SNR=16
Y53A Monroe 80.87 307 P P 17 49 30.1 +1.5
baz=109,SNR=19
CHGQ Chibougamau 80.88 324 P P 17 49 28.6 +0.3
baz=118
GEYT Alibeck 80.91 49 P P 17 49 29.1 +0.3
comp=Z,5.5nm,0.8s,baz=269,slow=5.9,SNR=20
GEYT LR LR 18 24 46.2
comp=Z,459nm,20.9s,baz=235,slow=35
GEYT Alibeck 80.91 49 P P 17 49 28.8 0.0
U53A Fall Branch 80.92 310 P P 17 49 30.0 +1.2
baz=110,SNR=21
W53A Cullowhee 80.97 308 P P 17 49 30.6 +1.4
baz=109,SNR=29
D54A Lac Fusel, La 80.99 321 P P 17 49 28.9 -0.1
baz=116,SNR=8.6
Q53A Leroy 81.00 312 P P 17 49 30.2 +1.0
baz=111,SNR=12
TEIG Tepich 81.01 292 P P 17 49 29.6 +0.1
E54A Lac Daplat, Po 81.01 320 P P 17 49 29.1 0.0
baz=115,SNR=13
S53A Williamson 81.03 311 P P 17 49 30.4 +0.9
baz=110,SNR=8.0
T53A Wise 81.10 310 P P 17 49 30.5 +0.7
baz=110,SNR=9.0
ERPA Erie 81.11 316 P P 17 49 30.7 +1.0
baz=112
ERPA Erie 81.11 316 P P 17 49 30.6 +0.8
ERPA IAmb IAmb 17 49 31.7
comp=Z,75nm,1.1s
ERPA IAMs_20 IAMs_20 18 17 45.6
comp=Z,721nm,22.0s
P53A Whipple 81.13 313 P P 17 49 30.6 +0.8
baz=111,SNR=9.8
P53A Whipple 81.13 313 IAmb IAmb 17 49 31.5
comp=Z,49nm,1.1s
P53A IAMs_20 IAMs_20 18 17 06.0
comp=Z,586nm,21.0s
R53A Hurricane 81.13 312 P P 17 49 30.7 +0.8
baz=111
R53A Hurricane 81.13 312 P P 17 49 30.3 +0.4
R53A IAMs_20 IAMs_20 18 17 27.1
comp=Z,686nm,20.0s
H53A Bobcaygeon 81.13 318 P P 17 49 30.2 +0.4
baz=114
G54A Lake Saint Pet 81.15 319 P P 17 49 29.8 0.0
baz=114,SNR=9.3
352A Blakely 81.20 304 P P 17 49 32.2 +1.7
baz=108,SNR=6.9
352A Blakely 81.20 304 IAmb IAmb 17 49 32.4
comp=Z,43nm,0.8s
252A Lumpkin 81.20 305 P P 17 49 31.9 +1.5
baz=108,SNR=12
N53A Lisbon 81.21 314 P P 17 49 31.1 +0.8
baz=112,SNR=11
N53A Lisbon 81.21 314 IAMs_20 IAMs_20 18 18 55.3
comp=Z,504nm,20.0s
L53A Girard 81.24 315 P P 17 49 31.1 +0.7
baz=112,SNR=5.2
Y52A Lilburn 81.25 307 P P 17 49 32.1 +1.5
baz=109,SNR=17
Y52A Lilburn 81.25 307 IAMs_20 IAMs_20 18 18 09.5
comp=Z,504nm,20.0s
O53A New Philadelph 81.28 314 P P 17 49 31.7 +1.1
baz=111,SNR=14
E53A Dumoine, Ponti 81.29 320 P P 17 49 30.4 -0.1
baz=115,SNR=6.8
Z52A Williamson 81.32 306 P P 17 49 32.6 +1.5
baz=108,SNR=18
M53A WI Miller and 81.33 315 P P 17 49 31.5 +0.6
baz=112,SNR=9.5
X52A Dahlonega 81.35 307 P P 17 49 32.6 +1.4
baz=109,SNR=33
ALGO Algonquin Park 81.35 320 P P 17 49 30.8 -0.1
baz=114,SNR=7.6
G53A Haliburton 81.38 319 P P 17 49 31.4 +0.3
baz=114,SNR=10.0
152A Waverly Hall 81.40 305 IAMs_20 IAMs_20 18 17 54.4
comp=Z,477nm,21.0s
T52A Hallie 81.48 310 P P 17 49 33.0 +1.2
baz=110,SNR=11
T52A Hallie 81.48 310 IAmb IAmb 17 49 35.2
comp=Z,34nm,1.1s
I53A Kortright Cn E 81.50 317 P P 17 49 32.3 +0.5
baz=113
V52A Sevierville 81.52 309 P P 17 49 33.0 +0.9
baz=109,SNR=14
V52A Sevierville 81.52 309 IAmb IAmb 17 49 33.8
comp=Z,53nm,1.1s
U52A Thorn Hill 81.53 309 P P 17 49 33.2 +1.1
baz=110,SNR=9.0
W52A Murphy 81.54 308 P P 17 49 33.5 +1.4
baz=109,SNR=10
SADO Sadowa 81.58 318 IAmb IAmb 17 49 33.1
comp=Z,63nm,1.1s
Q52A Bidwell 81.58 312 P P 17 49 33.0 +0.8
baz=110,SNR=23
KLMR Klimovskoe 81.59 23 *e*P P 17 49 29.4 -2.4
KLMR *e* 17 52 36.8
KLMR pmax pmax
comp=Z,154nm,1.4s
KLMR Klimovskoe 81.59 23 *e*P P 17 49 29.4 -2.4
KLMR AMP 17 49 32.5
comp=Z,154nm,1.4s
KLMR *e*PP PP 17 52 36.9 -1.6
KLMR LQ LQ 18 22 38.6
KLMR LQ LQ 18 22 38.6
KLMR LR LR 18 24 33.9
D53A Lac Vacive, Po 81.60 321 P P 17 49 32.2 0.0
baz=115,SNR=16
D53A Lac Vacive, Po 81.60 321 IAmb IAmb 17 49 33.0
comp=Z,69nm,1.1s
R52A Catlettsburg 81.64 311 P P 17 49 34.0 +1.3
baz=110,SNR=23
O52A Adamsville 81.67 313 P P 17 49 33.8 +1.1
baz=111,SNR=19
O52A Adamsville 81.67 313 IAMs_20 IAMs_20 18 16 50.5
comp=Z,527nm,21.0s
P52A Corning 81.72 313 P P 17 49 33.7 +0.7
baz=111,SNR=20
TZTN Tazewell 81.72 309 P P 17 49 34.3 +1.2
baz=109,SNR=7.0
S52A Salyersville 81.74 311 P P 17 49 34.3 +1.2
baz=110,SNR=18
N52A McGinn's Farm, 81.82 314 P P 17 49 34.3 +0.8
baz=111,SNR=6.8
M52A Chesterland 81.85 315 P P 17 49 32.9 -0.8
baz=112
M52A Chesterland 81.85 315 IAMs_20 IAMs_20 18 18 29.0
comp=Z,520nm,20.0s
K52A Tillsonburg 81.86 316 P P 17 49 33.3 -0.4
baz=112
J52A Paris 81.87 317 P P 17 49 34.2 +0.5
baz=112
E52A Mattawa 81.87 320 P P 17 49 33.6 0.0
baz=114
Z51A Franklin 81.96 306 P P 17 49 35.4 +1.0
baz=108
I52A Shelburne 81.99 317 P P 17 49 35.0 +0.7
baz=113
D52A ZEK Kipawa Sen 82.00 321 P P 17 49 34.3 -0.1
baz=114
LSQQ Lebel-sur-Quev 82.01 323 P P 17 49 34.4 +0.1
baz=116
H52A Wyevale 82.02 318 P P 17 49 34.9 +0.5
baz=113
U51A La Follette 82.02 309 P P 17 49 35.8 +1.1
baz=109,SNR=23
SFJD Kangerlussuaq 82.03 346 *i* P P 17 49 33.5 -0.4
SFJD Kangerlussuaq 82.03 346 *i* P P 17 49 33.5 -0.4
Y51A Rockmart 82.05 306 P P 17 49 35.3 +0.4
baz=108
V51A Loudon 82.09 308 P P 17 49 36.0 +1.0
baz=109,SNR=12
V51A Loudon 82.09 308 IAmb IAmb 17 49 36.8
comp=Z,54nm,1.1s
X51A Calhoun 82.09 307 P P 17 49 35.9 +0.8
baz=108,SNR=5.1
F52A Sundridge 82.10 319 P P 17 49 34.7 -0.2
baz=114,SNR=7.0
S51A Beattyville 82.11 310 P P 17 49 36.4 +1.3
baz=110,SNR=14
S51A Beattyville 82.11 310 IAMs_20 IAMs_20 18 18 06.2
comp=Z,710nm,22.0s
T51A Gray 82.16 310 P P 17 49 36.4 +1.0
baz=109,SNR=22
W51A Cleveland 82.20 308 P P 17 49 36.3 +0.6
baz=108
O51A Pataskala 82.24 313 P P 17 49 36.5 +0.8
baz=110,SNR=5.9
R51A Hillsboro 82.32 311 P P 17 49 37.2 +1.0
baz=110,SNR=13
P51A Williamsport 82.34 312 P P 17 49 37.0 +0.8
baz=110
P51A Williamsport 82.34 312 IAMs_20 IAMs_20 18 18 14.1
comp=Z,677nm,22.0s
N51A Ashland 82.34 314 P P 17 49 36.9 +0.6
baz=111
M51A Elyria 82.35 314 P P 17 49 37.8 +1.6
baz=111
Q51A Peebles 82.39 312 P P 17 49 37.3 +0.8
baz=110,SNR=14
Q51A Peebles 82.39 312 IAmb IAmb 17 49 38.0
comp=Z,57nm,1.1s
250A Grady 82.44 304 P P 17 49 38.1 +1.1
baz=107,SNR=8.2
250A Grady 82.44 304 IAmb IAmb 17 49 38.4
comp=Z,44nm,0.9s
250A IAMs_20 IAMs_20 18 18 43.1
comp=Z,509nm,21.0s
I51A Listowel 82.45 317 P P 17 49 37.3 +0.5
baz=112
E51A G1948 Merrick 82.50 320 P P 17 49 37.4 +0.4
baz=114,SNR=6.6
F51A Arnstein 82.53 319 P P 17 49 37.2 +0.1
baz=113,SNR=6.5
ACSO Alum Creek Sta 82.54 313 P P 17 49 37.8 +0.5
baz=110,SNR=9.5
ACSO Alum Creek Sta 82.54 313 IAMs_20 IAMs_20 18 23 46.3
comp=Z,426nm,18.0s
Z50A Ashland 82.54 306 P P 17 49 38.1 +0.6
baz=108,SNR=9.1
Z50A Ashland 82.54 306 IAmb IAmb 17 49 39.0
comp=Z,33nm,1.1s
Z50A IAMs_20 IAMs_20 18 18 28.6
comp=Z,670nm,22.0s
V50A Pikevile 82.63 308 P P 17 49 38.3 +0.5
baz=108,SNR=8.7
W50A Signal Mountai 82.65 308 P P 17 49 38.3 +0.3
baz=108,SNR=8.3
W50A Signal Mountai 82.65 308 IAmb IAmb 17 49 39.4
comp=Z,23nm,1.0s
D51A Lot 18 Range I 82.65 320 P P 17 49 37.4 -0.3
baz=114
U50A Jamestown 82.66 309 P P 17 49 38.6 +0.6
baz=108,SNR=8.4
MATQ Matagami 82.70 323 P P 17 49 37.2 -0.7
baz=115
S50A Richmond 82.73 310 P P 17 49 39.4 +1.0
baz=109,SNR=25
Q50A Georgetown 82.80 311 P P 17 49 39.4 +0.8
baz=109,SNR=8.6
N50A Nevada 82.84 314 P P 17 49 39.5 +0.6
baz=110,SNR=9.5
T50A Nancy 82.85 310 P P 17 49 39.8 +0.8
baz=109,SNR=11
R50A Paris 82.87 311 P P 17 49 39.6 +0.6
baz=109,SNR=9.6
R50A Paris 82.87 311 IAMs_20 IAMs_20 18 18 51.2
comp=Z,612nm,20.0s
P50A Jamestown 82.92 312 P P 17 49 40.2 +1.0
baz=110,SNR=6.2
HRA Herat 82.92 53 IAMs_20 IAMs_20 18 25 45.4
comp=Z,573nm,21.0s
O50A Cable 82.97 313 P P 17 49 40.1 +0.5
baz=110,SNR=6.9
D50A G1974 Best Tow 82.97 320 P P 17 49 38.8 -0.6
baz=113
L50A Kingsville 83.04 315 P P 17 49 39.5 -0.3
baz=110
Y49A Blount Mountai 83.11 306 P P 17 49 40.9 +0.5
baz=107,SNR=10
Y49A Blount Mountai 83.11 306 IAmb IAmb 17 49 41.6
comp=Z,29nm,0.9s
SWET Sewanee 83.14 308 IAmb IAmb 17 49 41.7
comp=Z,35nm,1.0s
TMCR Tamitsa 83.19 20 *e*P P 17 49 38.1 -2.0
TMCR pmax pmax
comp=Z,48nm,0.8s
E50A Wahnapitae 83.25 319 P P 17 49 41.0 +0.2
baz=112
V49A McMinnville 83.28 308 P P 17 49 41.2 0.0
baz=108,SNR=7.6
LRAL Lakeview Retre 83.34 305 P P 17 49 42.0 +0.5
baz=107,SNR=13
LRAL Lakeview Retre 83.34 305 IAmb IAmb 17 49 42.3
comp=Z,18nm,0.9s
W49A Belvidere 83.36 307 P P 17 49 42.0 +0.3
baz=108,SNR=9.7
T49A Edmonton 83.41 309 P P 17 49 42.3 +0.4
baz=108,SNR=14
U49A Red Boiling Sp 83.41 309 P P 17 49 42.4 +0.5
baz=108,SNR=14
S49A Springfield 83.43 310 P P 17 49 42.2 +0.2
baz=108,SNR=6.5
O49A Covington 83.50 313 P P 17 49 42.2 -0.1
baz=109,SNR=5.8
O49A Covington 83.50 313 IAMs_20 IAMs_20 18 18 50.8
comp=Z,573nm,21.0s
Q49A Aurora 83.52 311 P P 17 49 42.7 +0.3
baz=109,SNR=7.5
P49A Miami Univ. Ec 83.56 312 P P 17 49 42.8 +0.1
baz=109,SNR=8.6
N49A Columbus Grove 83.63 313 P P 17 49 43.0 +0.1
baz=110
N49A Columbus Grove 83.63 313 IAMs_20 IAMs_20 18 23 06.3
comp=Z,502nm,20.0s
M49A Liberty Center 83.67 314 P P 17 49 43.6 +0.5
baz=110
CLTN Cedars of Leba 83.71 308 IAmb IAmb 17 49 44.5
comp=Z,20nm,1.1s
AAM Ann Arbor 83.72 315 IAMs_20 IAMs_20 18 21 50.6
comp=Z,545nm,21.0s
ARCES ARCESS Array B 83.73 12 P P 17 49 43.0 +0.2
ARCES ARCESS Array B 83.73 12 P P 17 49 42.7 -0.1
comp=Z,18nm,1.0s,baz=210,slow=4.2,SNR=10
ARCES LR LR 18 27 51.7
comp=Z,242nm,19.7s,baz=208,slow=36
ARCES ARCESS Array B 83.73 12 P P 17 49 43.0 +0.2
X48A Hartselle 83.78 307 P P 17 49 44.4 +0.5
baz=107,SNR=16
X48A Hartselle 83.78 307 IAmb IAmb 17 49 45.1
comp=Z,53nm,1.1s
V48A Smith Brothers 83.98 308 P P 17 49 45.2 +0.3
baz=107,SNR=21
V48A Smith Brothers 83.98 308 IAmb IAmb 17 49 46.0
comp=Z,48nm,1.1s
P48A Milroy 84.06 312 P P 17 49 44.9 -0.2

baz=108,SNR=13
P48A Milroy 84.06 312 IAmb IAmb 17 49 47.1
comp=Z,34nm,1.1s
O48A Farmland 84.11 313 P **P** **17 49 45.3 -0.1**
baz=109,SNR=8.1
Q48A North Vernon 84.12 311 P **P** **17 49 45.6 +0.1**
baz=108,SNR=17
L48A N Adams 84.14 314 P **P** **17 49 45.2 -0.4**
baz=109
M48A Edgerton 84.20 314 IAms_20 IAms_20 18 23 06.2
comp=Z,532nm,19.0s
N48A Decatur 84.22 313 P **P** **17 49 45.8 -0.1**
baz=109,SNR=7.9
D48A Paudash Townsh 84.22 320 P **P** **17 49 44.8 -1.0**
baz=112
WCI Wyandotte Cave 84.32 310 P **P** **17 49 46.6 +0.1**
baz=108
WCI Wyandotte Cave 84.32 310 P **P** **17 49 46.4 -0.1**
WCI pmax pmax
comp=Z,32nm,1.0s
WCI MLR MLR
comp=Z,600nm,20.0s
WCI Wyandotte Cave 84.32 310 P **P** **17 49 46.4 -0.1**
WCI IAmb IAmb 17 49 47.4
comp=Z,32nm,1.0s
WCI Wyandotte Cave 84.32 310 IAms_20 IAms_20 18 20 06.7
comp=Z,578nm,20.0s
PRGR Permogore 84.44 24 *e*P **P** **17 49 45.3 -1.2**
PRGR pmax pmax
comp=Z,108nm,1.0s
KIRV Kirov 84.45 27 P **P** **17 49 46.7 +0.1**
baz=250,slow=8.2
SUMG Summit 84.48 352 *i*P **P** **17 49 48.0 +1.0**
SUMG pmax pmax
comp=Z,280nm,1.4s
SUMG Summit 84.48 352 *i*P **P** **17 49 48.0 +1.0**
comp=Z,275nm,1.4s
SUMG Summit 84.48 352 P **P** **17 49 49.0 +2.0**
T47A Sharon Grove 84.57 309 P **P** **17 49 47.9 +0.1**
baz=107,SNR=14
N47A Urbana 84.70 313 P **P** **17 49 48.5 +0.2**
baz=108,SNR=9.8
N47A Urbana 84.70 313 IAms_20 IAms_20 18 18 29.6
comp=Z,569nm,22.0s
LVZ Lovozero 84.70 16 *de*P **P** **17 49 48.4 +0.6**
LVZ pmax pmax
comp=Z,130nm,1.3s
PLAL Pickwick Lake 84.75 307 IAmb IAmb 17 49 49.5
comp=Z,36nm,0.9s
BLO Bloomington 84.78 311 IAms_20 IAms_20 18 19 40.8
comp=Z,661nm,21.0s
K47A Vermontville 84.78 315 P **P** **17 49 48.8 +0.1**
baz=109
M47A Cromwell 84.80 313 P **P** **17 49 48.9 0.0**
baz=108
WVT Waverly 84.88 308 P **P** **17 49 49.3 -0.1**
baz=107
WVT Waverly 84.88 308 P **P** **17 49 49.3 -0.1**
WVT pmax pmax
comp=Z,62nm,1.1s
WVT MLR MLR
comp=Z,400nm,20.0s
WVT Waverly 84.88 308 P **P** **17 49 49.3 -0.1**
I47A Gladwin 84.89 316 IAms_20 IAms_20 18 20 04.4
comp=Z,666nm,21.0s
E47A Iron Bridge 84.90 319 P **P** **17 49 48.6 -0.7**
baz=111
D47A Chapleau 85.00 319 P **P** **17 49 48.9 -0.9**
baz=111
USIN University of 85.28 310 IAms_20 IAms_20 18 19 21.0
comp=Z,518nm,22.0s
AKTO Aktyubinsk 85.40 37 P **P** **17 49 51.9 +0.3**
comp=Z,22nm,0.9s,baz=232,slow=6.2,SNR=13
AKTO PP **PP** **17 53 09.2 -0.7**
comp=Z,6.1nm,1.1s,baz=243,slow=4.5,SNR=3.9
P46A Rosedale 85.42 311 P **P** **17 49 51.4 -0.6**
baz=107
L46A Eue Claire 85.48 314 IAms_20 IAms_20 18 22 16.3
comp=Z,603nm,20.0s
SFIN Lafayette 85.56 312 P **P** **17 49 52.5 -0.2**
baz=108
OXF Oxford 85.68 306 P **P** **17 49 53.0 -0.4**
baz=106
OXF Oxford 85.68 306 IAms_20 IAms_20 18 20 46.7
comp=Z,547nm,21.0s
OLIL Olney 85.83 310 IAms_20 IAms_20 18 20 25.5
comp=Z,439nm,19.0s
ABKAR Akbulak array 86.13 39 P **P** **17 49 55.5 +0.1**
ABKAR Akbulak array 86.13 39 IAmb IAmb 17 49 56.3
comp=Z,25nm,1.1s
SIUC Southern Illin 86.39 309 IAms_20 IAms_20 18 20 40.8
comp=Z,514nm,22.0s
S44A Carbondale 86.41 309 P **P** **17 49 56.6 -0.3**
baz=106
L44A Lake County Fo 86.68 314 IAms_20 IAms_20 18 24 50.0
comp=Z,470nm,19.0s
X43A Marvell 86.85 306 P **P** **17 49 60.0 +0.8**
baz=105
DAG Danmarks Havn 86.98 358⇑ *i*P **P** **17 49 59.6 +0.7**
DAG pmax pmax
comp=Z,140nm,1.3s
DAG Danmarks Havn 86.98 358⇑ *i*P **P** **17 49 59.6 +0.7**
comp=Z,73nm,1.3s
PBMO Poplar Bluff 87.07 308 IAms_20 IAms_20 18 21 00.6
comp=Z,479nm,20.0s
K43A Burlington 87.13 314 IAms_20 IAms_20 18 24 46.9
comp=Z,515nm,19.0s
H43A Windswept, Lux 87.25 316 IAms_20 IAms_20 18 22 17.0
comp=Z,655nm,22.0s
E43A Lone Tree Farm 87.30 318 P **P** **17 50 01.3 +0.2**
baz=108
E43A Lone Tree Farm 87.30 318 IAms_20 IAms_20 18 21 33.3
comp=Z,414nm,20.0s
FVM French Village 87.38 309 IAms_20 IAms_20 18 20 47.7
comp=Z,417nm,21.0s
SLM Saint Louis 87.41 310 IAms_20 IAms_20 18 22 12.4
comp=Z,465nm,22.0s
CCAR Cane Creek 87.42 305 IAms_20 IAms_20 18 23 28.8
comp=Z,566nm,22.0s
LCAR Lake Charles 87.46 307 IAms_20 IAms_20 18 21 21.8
comp=Z,474nm,21.0s
I42A Draeger Farm, 87.87 315 P **P** **17 50 04.3 +0.4**
baz=106
F42A Maple Grove Fa 87.88 317 P **P** **17 50 04.0 +0.2**
baz=107
F42A Maple Grove Fa 87.88 317 IAms_20 IAms_20 18 22 08.5
comp=Z,568nm,20.0s
ARU Arti 87.95 32 *c i*P **P** **17 50 03.7 -0.2**
ARU pmax pmax
comp=Z,67nm,1.3s
ARU Arti 87.95 32 P **P** **17 50 04.3 +0.3**
comp=Z,9.5nm,1.0s,baz=244,slow=4.7,SNR=28
ARU Arti 87.95 32 P **P** **17 50 04.5 +0.5**
CCM Cathedral Cave 88.03 309 P **P** **17 50 05.0 +0.2**
baz=105
CCM Cathedral Cave 88.03 309 P **P** **17 50 04.8 0.0**
CCM pmax pmax
comp=Z,113nm,1.1s
CCM MLR MLR
comp=Z,400nm,20.0s
CCM Cathedral Cave 88.03 309 P **P** **17 50 04.8 0.0**
CCM IAms_20 IAms_20 18 21 40.8
comp=Z,409nm,20.0s
UALR University of 88.08 306 IAmb IAmb 17 50 06.1
comp=Z,35nm,1.1s
UALR IAms_20 IAms_20 18 23 00.4
comp=Z,573nm,20.0s
Z41A Richland Creek 88.10 304 P **P** **17 50 05.8 +0.6**
baz=104
W41B Gary Mavity, V 88.10 306 P **P** **17 50 05.2 0.0**
baz=104
W41B Gary Mavity, V 88.10 306 IAmb IAmb 17 50 06.0
comp=Z,34nm,1.1s
W41B IAms_20 IAms_20 18 21 39.9
comp=Z,555nm,21.0s
WHAR Wooly Hollow 88.16 306 IAmb IAmb 17 50 06.2
comp=Z,23nm,1.1s
WHAR IAms_20 IAms_20 18 22 54.5
comp=Z,458nm,20.0s
X40A Basin Creek Fa 88.41 305 P **P** **17 50 06.4 -0.2**
baz=104
D41A Chassel 88.54 318 P **P** **17 50 07.2 +0.2**
baz=107
JFWS Jewell Farm 88.54 314 P **P** **17 50 06.9 -0.2**
baz=106
JFWS Jewell Farm 88.54 314 IAms_20 IAms_20 18 25 48.3
comp=Z,553nm,21.0s
MGMO Mountain Grove 88.59 308 IAms_20 IAms_20 18 22 06.8
comp=Z,444nm,22.0s
COWI Conover 88.64 317 IAms_20 IAms_20 18 22 32.8
comp=Z,526nm,21.0s
U40A Yellville 88.86 307 P **P** **17 50 08.9 +0.1**
baz=104
U40A Yellville 88.86 307 IAms_20 IAms_20 18 22 24.9
comp=Z,520nm,21.0s
L40A Anamosa 89.02 313 P **P** **17 50 08.9 -0.5**
baz=105
MIAR Mount Ida 89.02 305 P **P** **17 50 09.7 +0.2**
baz=103
MIAR Mount Ida 89.02 305 IAms_20 IAms_20 18 23 34.2
comp=Z,440nm,20.0s
G40A Rib Lake 89.14 316 P **P** **17 50 09.7 -0.1**
baz=106
G40A Rib Lake 89.14 316 IAms_20 IAms_20 18 23 34.8
comp=Z,593nm,20.0s
SVE Sverdlovsk 89.16 32 *e*P **P** **17 50 09.6 -0.1**
SVE pmax pmax
comp=Z,63nm,1.5s
NATX Nacogdoches 89.29 302 IAms_20 IAms_20 18 25 03.5
comp=Z,574nm,20.0s
W39A Magazine 89.33 306 P **P** **17 50 11.6 +0.6**
baz=103
HHAR Hobbs 89.70 307 IAmb IAmb 17 50 13.6
comp=Z,45nm,1.1s
HHAR IAms_20 IAms_20 18 22 16.1
comp=Z,459nm,19.0s
E38A The Farm, Brul 90.39 317 P **P** **17 50 15.5 -0.2**
baz=104
E38A The Farm, Brul 90.39 317 IAms_20 IAms_20 18 23 27.0
comp=Z,549nm,21.0s
SCIA State Center 90.42 312 P **P** **17 50 17.0 +1.1**
baz=103
X37A Clayton 90.47 305 IAms_20 IAms_20 18 24 08.7
comp=Z,603nm,21.0s
EYMN Ely 90.69 319 P **P** **17 50 16.9 -0.1**
baz=105
SPMN Marine on St. 90.90 316 P **P** **17 50 18.1 0.0**
baz=104
TUL1 Leonard 91.08 306 P **P** **17 50 19.4 +0.2**
baz=102
TUL1 Leonard 91.08 306 IAmb IAmb 17 50 20.8
comp=Z,18nm,0.9s
TUL1 IAms_20 IAms_20 18 24 03.8
comp=Z,419nm,22.0s
KKAR Karatay Array 91.43 47 P **P** **17 50 20.1 -0.5**
KKAR Karatay Array 91.43 47 P **P** **17 50 20.1 -0.5**
435B Jarrell 91.55 301 P **P** **17 50 22.1 +0.7**
baz=101
NIL Nilore 91.60 56 P **P** **17 50 22.0 +0.3**
NIL pmax pmax
comp=Z,19nm,1.1s
NIL Nilore 91.60 56 P **P** **17 50 22.0 +0.3**
NIL IAmb IAmb 17 50 22.4
comp=Z,20nm,1.1s
WHTX Lake Whitney, 91.67 302 P **P** **17 50 22.2 +0.2**
baz=101
WHTX Lake Whitney, 91.67 302 IAms_20 IAms_20 18 26 50.5
comp=Z,506nm,19.0s
SBA Scott Base 92.02 180 P **P** **17 50 23.9 +1.2**
SBA pmax pmax
comp=Z,6.0nm,1.0s
SBA Scott Base 92.02 180 P **P** **17 50 23.9 +1.2**
KSU1 Kansas State U 92.36 309 P **P** **17 50 24.7 -0.3**
baz=101
X34A Smith Ranch, M 92.47 305 P **P** **17 50 25.8 +0.2**
X34A IAmb IAmb 17 50 26.8
comp=Z,31nm,1.2s
833A Chaparral WMA, 92.65 298 P **P** **17 50 27.4 +0.8**
baz=100
833A Chaparral WMA, 92.65 298 IAmb IAmb 17 50 28.3
comp=Z,31nm,1.1s
ARSB Arslanbob 92.87 49 IAmb IAmb 17 50 30.1
comp=Z,13nm,1.0s
ECSD EROS Data Cent 93.25 314 P **P** **17 50 29.1 0.0**
baz=101
ECSD EROS Data Cent 93.25 314 IAmb IAmb 17 50 31.9
comp=Z,13nm,1.1s
WMOK Wichita Mounta 93.26 305 P **P** **17 50 29.3 0.0**
baz=100
WMOK Wichita Mounta 93.26 305 IAms_20 IAms_20 18 26 39.5
comp=Z,497nm,21.0s
JCT Junction City 93.37 300 P **P** **17 50 30.6 +0.7**
baz=100
BRVK Borovoye 93.45 37⇑ *e*P **P** **17 50 29.4 -0.3**
BRVK pmax pmax
comp=Z,17nm,1.1s
BRVK Borovoye 93.45 37 P **P** **17 50 29.7 0.0**
BRVK IAmb IAmb 17 50 30.6
comp=Z,14nm,1.0s
BVAR Borovoye Array 93.50 37 P **P** **17 50 30.1 +0.1**
comp=Z,6.2nm,0.8s,baz=252,slow=4.2,SNR=9.2
ABTX Abilene, Hawle 93.60 302 P **P** **17 50 31.9 +1.0**
baz=100
ABTX Abilene, Hawle 93.60 302 IAms_20 IAms_20 18 26 49.7
comp=Z,564nm,22.0s
AGMN Agassiz Nation 93.62 318 P **P** **17 50 30.5 -0.1**
baz=101
AGMN Agassiz Nation 93.62 318 IAmb IAmb 17 50 32.1
comp=Z,15nm,1.1s
U32A Winter Ranch, 93.72 306 IAms_20 IAms_20 18 25 37.7
comp=Z,433nm,22.0s
ULM Lac du Bonnet 94.01 320 P **P** **17 50 31.9 -0.4**
comp=Z,4.3nm,0.9s,baz=113,slow=4.6,SNR=4.7
ULM LR LR 18 27 55.5
comp=Z,455nm,19.1s,baz=88,slow=32
AAK Ala-Archa 94.21 48 *i*P **P** **17 50 33.6 -0.1**
SNR=9.8
AAK Ala-Archa 94.21 48 P **P** **17 50 33.9 +0.2**
SNR=5.4
AAK P **P** **17 50 33.9 +0.2**
SNR=5.4
AAK Ala-Archa 94.21 48⇓ *i*P **P** **17 50 34.0 +0.3**
AAK pmax pmax
comp=Z,13nm,1.2s
AAK Ala-Archa 94.21 48 P **P** **17 50 34.2 +0.5**
comp=Z,7.5nm,1.0s,baz=241,slow=4.7,SNR=12
AAK PP **PP** **17 54 21.7 +1.1**
comp=Z,2.9nm,1.0s,baz=255,slow=13,SNR=4.9
AAK Ala-Archa 94.21 48 P **P** **17 50 34.4 +0.7**
KSH Kashi 94.80 51 P **P** **17 50 34.8 -1.6**
KSH sP pwP 17 50 41.9 -0.9
KSH PP **PP** **17 54 24.3 -0.9**
KSH SKS **SKSac** **18 01 06.8 -5.6**
KSH S **SKKSac** **18 01 42.3 +7.9**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH pmax pmax
comp=Z,410nm,6.7s
KSH LR LR
comp=Z,280nm,12.7s
KSH LR LR
comp=Z,270nm,10.5s
KSH LR LR
comp=Z,320nm,14.2s
SUSD Miller 95.04 314 IAms_20 IAms_20 18 31 05.1
comp=Z,318nm,18.0s
NRN Naryn 95.12 49 IAmb IAmb 17 50 39.4
comp=Z,14nm,1.1s
MDND Maddock 96.01 317 P **P** **17 50 42.0 +0.4**
baz=99
MSTX Muleshoe 96.40 303 P **P** **17 50 44.6 +0.8**
baz=98
TARG Taragay, Kyrgy 96.50 49 IAmb IAmb 17 50 45.4
comp=Z,10nm,1.1s
TXAR Lajitas Array 96.51 299 P **P** **17 50 45.0 +0.7**
comp=Z,4.5nm,0.9s,baz=115,slow=5.9,SNR=30
TXAR PKKPbc **PKKPbc** **18 07 29.1 -0.2**
comp=Z,0.6nm,0.9s,baz=162,slow=5.3,SNR=4.3
TXAR LR LR 18 29 33.5
comp=Z,138nm,21.9s,baz=0.0,slow=32
KSCO Kaye Shedlock' 96.96 308 IAms_20 IAms_20 18 27 19.4
comp=Z,400nm,22.0s
RES Rebolute Bay 97.99 345 PKKPbc PKKPbc 18 07 22.8 -3.8
comp=Z,0.9nm,0.6s,baz=308,slow=7.8,SNR=3.7
KURBB Kurchatov Array 98.10 40 P **P** **17 50 50.4 -0.5**
comp=Z,4.1nm,0.8s,baz=266,slow=5.0,SNR=19
KURBB PP **PP** **17 54 45.0 -5.2**
comp=Z,3.6nm,1.0s,baz=258,slow=4.7,SNR=5.1
KURK Kurchatov 98.17 40⇓ *i*P **P** **17 50 51.2 0.0**
KURK pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 98.61 313 IAms_20 IAms_20 18 32 36.7
comp=Z,432nm,19.0s
SDCO Great Sand Dun 99.06 307 Pdiff **Pdif** **17 50 57.0 +1.1**
baz=96
ISCO Idaho Springs 99.35 309 IAms_20 IAms_20 18 27 41.6
comp=Z,382nm,20.0s
ANMO Albuquerque 99.54 304⇑ *e*P **Pdif** **17 50 58.4 +0.4**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
121A Cookes Peak, D 100.40 301 IAms_20 IAms_20 18 30 40.8
comp=Z,448nm,21.0s
ZALV Zalesovo Beam 102.16 37 PP **PP** **17 55 18.3 -2.6**
comp=Z,1.5nm,0.8s,baz=282,slow=7.1,SNR=4.1
PDAR Pinedale Array 102.52 312 Pdiff **Pdif** **17 51 11.3 +0.1**
comp=Z,0.4nm,0.8s,baz=93,slow=3.6,SNR=2.7
PDAR PP **PP** **17 55 21.1 -3.2**
comp=Z,0.2nm,0.4s,baz=83,slow=9.2,SNR=2.2
PDAR PKKPbc **PKKPbc** **18 07 12.2 -0.8**
comp=Z,1.2nm,0.9s,baz=255,slow=2.9,SNR=5.8
TUC Tucson 102.91 301 IAms_20 IAms_20 18 33 39.2
comp=Z,372nm,20.0s
W13A Hualapai Mount 105.63 304 IAms_20 IAms_20 18 33 17.1
comp=Z,439nm,20.0s
LSA Lhasa 106.27 62 IAms_20 IAms_20 18 40 55.4
comp=Z,408nm,21.0s
MFID Camas Ranch 107.12 312 IAms_20 IAms_20 18 33 53.9
comp=Z,377nm,19.0s
TPNV Topopah Spring 107.57 306 IAms_20 IAms_20 18 35 03.3
comp=Z,428nm,20.0s
BSI Banda Aceh 107.82 87 P **Pdif** **17 51 31.0 -4.1**
BMO Blue Mountains 108.11 314 IAms_20 IAms_20 18 38 29.1
comp=Z,353nm,19.0s
KVN Kaiserville 108.99 308 IAms_20 IAms_20 18 33 41.8
comp=Z,271nm,19.0s
NVAR Mina Array Bea 109.17 307 PP **PP** **17 56 12.0 -1.5**
comp=Z,0.2nm,0.5s,baz=94,slow=4.9,SNR=3.5
NVAR PKKPbc **PKKPbc** **18 06 52.8 +0.5**
comp=Z,2.4nm,1.1s,baz=249,slow=4.3,SNR=9.5
RYN Ryan 109.33 307 IAms_20 IAms_20 18 46 20.9
comp=Z,278nm,20.0s
AFDM Forest Hills D 111.23 308 IAms_20 IAms_20 18 33 46.0
comp=Z,344nm,18.0s
BKNI Bangkinang 112.59 94 P **Pdif** **17 52 11.0 +15**
CMAR Chiang Mai Arr 112.81 74 PKiKP **PKiKP** **17 55 52.0 -0.1**
comp=Z,1.9nm,0.9s,baz=270,slow=3.6,SNR=11
CMAR PP **PP** **17 56 39.3 -0.7**
comp=Z,0.5nm,0.9s,baz=264,slow=7.2,SNR=4.2
CMAR PKKPab **PKKPab** **18 06 48.0 +0.6**
comp=Z,0.2nm,0.6s,baz=122,slow=4.5,SNR=4.1
GTA Gaotai 113.19 52 ⇑PKP **PKiKP** **17 55 52.8 +0.4**
GTA PP **PP** **17 56 47.6 +5.4**
GTA SS SS 18 12 31.6 +4.0
GTA AMB AMB
comp=Z,170nm,7.1s
GTA LR LR
comp=Z,120nm,18.1s
GTA LR LR
comp=Z,340nm,17.1s
GTA LR LR
comp=Z,270nm,18.4s
SONM Songino Array 116.42 42 PKP **PKiKP** **17 55 58.6 +0.3**
comp=Z,4.1nm,1.1s,baz=223,slow=3.7,SNR=12
SONM PP **PP** **17 57 03.3 -1.3**
comp=Z,2.3nm,1.1s,baz=297,slow=6.5,SNR=5.1
KMI Kunming 116.51 67 IAms_20 IAms_20 18 42 48.1
comp=Z,412nm,22.0s
LZH Lanzhou 116.73 55 *e*PKP **PKPdf** **17 55 57.6 -1.7**
LZH sPKP 17 56 02.3
LZH LR LR
comp=Z,450nm,18.0s
LZH LR LR
comp=Z,670nm,20.1s
ULN Ulaanbaatar 116.84 41⇓ *i*PKIKP **PKPdf** **17 55 59.1 -0.1**
ULN Ulaanbaatar 116.84 41 IAms_20 IAms_20 18 50 37.4
comp=Z,370nm,22.0s
CD2 Chengdu 117.16 61 PKP **PKPdf** **17 55 59.3 -0.8**
BOD Bodaibo 117.28 29 *e*PKIKP **PKPdf** **17 55 58.4 -1.1**
BOD pmax pmax
comp=Z,12nm,1.5s
ILAR Eielson Array 117.29 340 PKKPbc PKKPbc 18 06 22.4 -3.1
comp=Z,3.0nm,1.1s,baz=243,slow=4.0,SNR=6.1
SLVN Son La 117.58 71 IAms_20 IAms_20 18 45 24.8
comp=Z,304nm,21.0s
CAST Castle Rocks 119.90 341 IAms_20 IAms_20 18 53 45.7
comp=Z,277nm,20.0s
GYA Guiyang 119.99 65 PKP **PKPdf** **17 56 02.3 -3.5**
GYA PP **PP** **17 57 30.3 0.0**
GYA AMB AMB
comp=Z,140nm,7.8s
XAN Xi'an 121.13 56 PKP **PKPdf** **17 56 07.3 -0.4**
XAN PP **PP** **17 57 42.6 +4.9**
XAN LR LR
comp=Z,130nm,24.9s
XAN LR LR
comp=Z,230nm,18.4s
HHC Hu-ho-hao-te 121.79 48 *e*PKP **PKiKP** **17 56 10.3 +1.3**
ENH Enshi 122.13 61 **PKPdf** **17 56 09.4 -0.4**
BILL Bilibino 122.29 1 *d i*PKIKP **PKPdf** **17 56 08.5 -0.3**
BILL *e* 17 57 46.4
BILL *e*PPP PPP 18 00 17.9
BILL *e* 18 03 20.9
BILL *e*SS SS 18 14 26.3 +3.3
BILL *e*SSS SSS 18 18 57.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
JAGI Jajag, Banyuwa 123.13 107 PKP **PKiKP** **17 56 12.7 +0.4**
QIZ Qiongzhong 123.15 74 PKP **PKPdf** **17 56 10.1 -1.8**
QIZ PP **PP** **17 57 50.5 -1.3**
QIZ LR LR
comp=Z,300nm,18.3s
QIZ LR LR
comp=Z,390nm,18.3s
QIZ LR LR
comp=Z,340nm,17.7s
BJI Beijing 125.39 48 PKP **PKiKP** **17 56 16.0 0.0**
BJI LR LR
comp=Z,190nm,11.7s
BJI LR LR
comp=Z,300nm,16.2s
BJI LR LR
comp=Z,370nm,21.6s
TWSI Taliwang, Sumb 125.61 109 PKP **PKPdf** **17 56 15.7 -1.1**
TWSI PKP **PKiKP** **17 56 15.9 -1.3**
RPZ Rata Peaks 126.21 183 PKP **PKPdf** **17 56 17.2 0.0**
comp=Z,6.9nm,0.9s,baz=198,slow=9.6,SNR=2.9
SEY Seymchan 126.22 9⇓ *i*PKIKP **PKPdf** **17 56 16.3 -0.2**
SEY Seymchan 126.22 9 PKP **PKiKP** **17 56 17.5 +0.5**
comp=Z,7.1nm,0.9s,baz=226,slow=0.8,SNR=9.6
WHN Wuhan 126.25 60 PKP **PKPdf** **17 56 17.1 -0.4**
PLAI Plampang 126.41 109 PKP **PKPdf** **17 56 17.7 -0.6**
PLAI PKP **PKiKP** **17 56 18.5 -0.3**
TBI Tubuai 126.73 231 *e*LR LR 18 36 01.9
comp=Z,404nm,22.2s
WBSI Waikabubak, Su 127.63 111 PKP **PKiKP** **17 56 21.6 +0.4**
WBSI PKP **PKiKP** **17 56 21.6 +0.4**
WSI Waingapu 128.45 111 P **PKiKP** **17 56 25.0 +2.2**
WSI Waingapu 128.45 111 PKP **PKiKP** **17 56 23.0 +0.2**
WSI PKP **PKiKP** **17 56 25.0 +2.2**
FITZ Fitzroy Crossi 129.46 124 PKP **PKPdf** **17 56 24.3 +0.3**
comp=Z,20nm,1.1s,baz=214,slow=3.4,SNR=16
KAPI Kappang 129.48 105 PKIKP **PKiKP** **17 56 24.8 -0.1**
KAPI MLR MLR
comp=Z,400nm,20.0s
KAPI Kappang 129.48 105 PKP **PKPdf** **17 56 24.4 +0.2**
comp=Z,21nm,1.1s,baz=208,slow=3.5,SNR=6.7
KAPI Kappang 129.48 105 **PKiKP** **17 56 24.8 -0.1**
BKSI Bulukumba 129.74 106 P **PKiKP** **17 56 26.0 +0.6**
BKSI Bulukumba 129.74 106 PKP **PKiKP** **17 56 26.0 +0.6**
SPSI Sidrap Palu 129.81 104 P **PKPdf** **17 56 24.5 -0.3**
SPSI Sidrap Palu 129.81 104 PKP **PKiKP** **17 56 25.5 -0.1**
SPSI PKP **PKPdf** **17 56 25.7 +0.9**
PPT2 Papeete2 129.88 237 *e*LR LR 18 37 30.6
comp=Z,422nm,23.5s
BNSI Bone 130.00 105 P **PKPdf** **17 56 24.8 -0.4**
BNSI Bone 130.00 105 PKP **PKPdf** **17 56 26.1 +0.9**
BNSI PKP **PKiKP** **17 56 26.4 +0.4**
TTSI Tana Toraja 130.11 103 P **PKiKP** **17 56 27.3 +1.1**
TTSI Tana Toraja 130.11 103 PKP **PKiKP** **17 56 26.6 +0.4**
TTSI PKP **PKiKP** **17 56 27.3 +1.1**
BKZ Black Stump Fm 130.21 189 **PKiKP** **17 56 25.6 -0.2**
CN2 Changchun 130.24 40 *e*PKP **PKiKP** **17 56 25.3 -0.3**
KLR Kul'dur 130.78 31⇑ *e*PKIKP **PKiKP** **17 56 26.2 -0.3**
KLR Kul'dur 130.78 31 PKP **PKPdf** **17 56 25.5 -0.1**
comp=Z,11nm,1.1s,baz=328,slow=4.2,SNR=8.5
STKA Stephens Creek 130.99 150 PKP **PKPdf** **17 56 26.8 +0.2**
comp=Z,10nm,1.1s,baz=111,slow=1.6,SNR=11
URZ Urewera 131.00 189 PKP **PKPdf** **17 56 25.8 -0.7**
comp=Z,9.5nm,1.0s,baz=252,slow=3.2,SNR=3.2
MPSI Mapaga 131.04 99 P **PKPdf** **17 56 26.4 -0.7**

MPSI	**Mapaga**	**131.04**	**99**	PKP	**PKPdf**	**17 56 27.5**	**+0.4**
MPSI				PKP	**PKiKP**	**17 56 28.1**	**0.0**
SOEI	**Soe**	**132.04**	**113**	PKP	**PKiKP**	**17 56 32.8**	**+2.6**
APSI	**Ampana**	**132.44**	**101**	PKP	**PKiKP**	**17 56 30.6**	**-0.3**
APSI				PKP	**sPKPdf**	**17 56 34.8**	**+1.8**
ASAR	**Alice Springs**	**132.48**	**136**	PKhKP	PKPpre	17 56 14.8	
	comp=Z,1.7nm,0.9s,baz=224,slow=3.3,SNR=6.3						
ASAR				PKP	**PKPdf**	**17 56 29.4**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=217,slow=2.0,SNR=20						
ASAR				SKPbc	**SKPbc**	**17 59 56.5**	**-0.4**
	comp=Z,1.4nm,1.1s,baz=317,slow=3.8,SNR=4.3						
ASAR				SKKPbc	**SKKPbc**	**18 09 11.6**	**-8.1**
	comp=Z,0.8nm,0.9s,baz=82,slow=2.0,SNR=4.7						
AS31	**Alice Springs**	**132.49**	**136**		**PKPdf**	**17 56 30.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**134.00**	**36**	PKP	**PKiKP**	**17 56 32.6**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=20,slow=1.7,SNR=3.9						
KSRS	**Korea Array**	**134.86**	**46**	PKP	**PKiKP**	**17 56 34.6**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=350,slow=1.5,SNR=3.8						
WRA	**Warramunga Arr**	**135.19**	**132**	PKP	**PKPdf**	**17 56 34.3**	**-0.5**
	comp=Z,6.8nm,1.0s,baz=247,slow=2.1,SNR=5.2						
WRA				PP	**PP**	**17 59 08.6**	**-1.0**
	comp=Z,2.8nm,1.2s,baz=238,slow=5.6,SNR=4.9						
WRAB	**Tennant Creek**	**135.20**	**132**	⇑i/PKIKP	**PKPdf**	**17 56 34.5**	**-0.4**
SANI	**Sanana**	**136.30**	**104**	PKP	**PKiKP**	**17 56 39.1**	**+0.4**
PETK	**Petropavlovsk-**	**136.46**	**9**	PKP	**PKPdf**	**17 56 36.5**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=116,slow=3.4,SNR=4.7						
SWI	**Sorong**	**141.68**	**105**	PKP	**PKiKP**	**17 56 48.4**	**-1.3**
SIJI	**Sorong**	**141.69**	**105**	PKP	**PKPdf**	**17 56 44.9**	**-2.0**
	comp=Z,5.4nm,0.8s,baz=228,slow=3.4,SNR=5.7						
INU	**Inuyama**	**142.26**	**44**		**PKPdf**	**17 56 47.7**	**+0.4**
MAJO	**Matsushiro**	**142.37**	**41**	⇓i/PKIKP	**PKPdf**	**17 56 47.4**	**-0.1**
MJAR	**Matsushiro Arr**	**142.37**	**41**	PKhKP	PKPpre	17 56 40.7	
	comp=Z,10nm,1.0s,baz=287,slow=5.8,SNR=8.6						
CTA	**Charters Tower**	**142.93**	**144**	PKP	**PKPdf**	**17 56 46.1**	**-2.8**
	comp=Z,20nm,1.2s,baz=260,slow=5.1,SNR=9.0						
COEN	**Coen**	**145.47**	**134**		**PKPdf**	**17 56 53.5**	**+0.1**
DZM	**Mont Dzumac**	**147.81**	**177**	*e*LR	LR	18 45 49.9	
	comp=Z,264nm,24.9s						
DZM	**Mont Dzumac**	**147.81**	**177**	PKPbc	**PKPbc**	**17 57 00.2**	**0.0**
	comp=Z,29nm,1.0s,baz=57,slow=4.3,SNR=12						
DZM	**Mont Dzumac**	**147.81**	**177**		**PKPbc**	**17 57 00.9**	**+0.7**
JAY	**Jayapura**	**149.88**	**113**	PKPbc	**PKPbc**	**17 57 05.3**	**-0.4**
	comp=Z,63nm,1.0s,baz=263,slow=4.5,SNR=13						
PMG	**Port Moresby**	**151.40**	**132**	PKPbc	**PKiKP**	**17 57 09.9**	**+0.2**
	comp=Z,124nm,1.0s,baz=314,slow=0.3,SNR=38						
HNR	**Honiara**	**158.80**	**157**	PKPab	**PKPab**	**17 57 48.6**	**0.0**
	comp=Z,97nm,1.1s,baz=203,slow=6.0,SNR=12						

*IDC **17** 17:40:49.3±1.2, 60.°60S×45.°35W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/19, mbtmp3.9/5, Error ellipse: s-maj=55.1km s-min=27.0km az=32.0*
*ISCJB **17** 17:40:50.0±0.5, 60.°30S±0.°08×44.°8W±0.°2, h10km, mb3.9/5, Error ellipse: s-maj=12.8km s-min=9.9km az=39.3*
*NEIC **17** 17:40:51.6±1.6, 60.°35S±0.°06×44.°9W±0.°2, h10km±1km, mb4.7/15*
ISC 17 17:40:51.9±0.6, 60.°25S±0.°09×44.°76W±0.°09, h10km, n31, σ1§15/30, mb4.5/11, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.47**	**40**	Pn	**Pn**	**17 42 40.0**	**-0.7**
PMSA	**Palmer Station**	**9.98**	**235**	Pn	**Pn**	**17 43 15.3**	**+0.2**
	1.1nm,0.3s,baz=61,slow=12,SNR=2.9						
PMSA	**Palmer Station**	**9.98**	**235**		**Pn**	**17 43 13.3**	**-1.8**
EFI	**East Falkland**	**11.36**	**313**	Pn	**Pn**	**17 43 33.3**	**-0.7**
USHA	**Ushuaia**	**13.78**	**283**	Pn	**Pn**	**17 44 09.9**	**+2.9**
	0.3nm,0.3s,baz=145,slow=19,SNR=2.0						
SNAA	**Sanae**	**20.01**	**142**	P	**Pn**	**17 45 27.2**	**+1.2**
	0.2nm,0.3s,baz=274,slow=9.7,SNR=9.1						
SNAA	**Sanae**	**20.01**	**142**	P	**P**	**17 45 24.0**	**-0.3**
TRQA	**Tornquist**	**24.75**	**326**	P	**P**	**17 46 14.3**	**+0.9**
PLCA	**Paso Flores**	**25.23**	**309**	P	**P**	**17 46 16.2**	**-1.5**
	2.5nm,0.8s,baz=155,slow=3.7,SNR=3.8						
PLCA	**Paso Flores**	**25.23**	**309**	IAmb	IAmb	17 46 29.3	
	comp=Z,13nm,1.1s						
GO06	**Curarrehue**	**26.57**	**309**	P	**P**	**17 46 27.9**	**-2.1**
CPUP	**Villa Florida**	**34.99**	**340**	P	**P**	**17 47 44.6**	**+0.4**
CPUP				IAmb	IAmb	17 47 56.7	
	comp=Z,8.6nm,1.2s						
GO02	**Mina Guanaco**	**39.05**	**323**	P	**P**	**17 48 19.7**	**+0.7**
GO02				IAmb	IAmb	17 48 31.4	
	comp=Z,18nm,1.1s						
PB10	**IPOC Station P**	**40.88**	**322**	P	**P**	**17 48 33.9**	**0.0**
GO01	**Chusmiza**	**44.12**	**326**	P	**P**	**17 49 00.9**	**+0.1**
GO01				IAmb	IAmb	17 49 13.6	
	comp=Z,17nm,1.3s						
PB11	**IPOC Station P**	**44.16**	**325**	P	**P**	**17 49 00.7**	**-0.1**
PB11				IAmb	IAmb	17 49 13.5	
	comp=Z,38nm,1.4s						
MNMC	**Minye Minye**	**44.74**	**326**	P	**P**	**17 49 05.7**	**+0.2**
LPAZ	**La Paz**	**47.06**	**329**	P	**P**	**17 49 24.6**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=194,slow=4.2,SNR=2.5						
LPAZ	**La Paz**	**47.06**	**329**	P	**P**	**17 49 23.6**	**-0.7**
LPAZ				IAmb	IAmb	17 49 31.1	
	comp=Z,11nm,1.1s						
BOSA	**Boshof**	**55.75**	**88**	P	**P**	**17 50 29.8**	**+1.1**
	comp=Z,3.4nm,1.0s,baz=193,slow=8.4,SNR=3.6						
BOSA	**Boshof**	**55.75**	**88**	P	**P**	**17 50 29.0**	**+0.3**
LBTB	**Lobatse**	**58.89**	**86**	P	**P**	**17 50 51.6**	**+0.7**
OTAV	**Otavalo**	**65.71**	**323**	P	**P**	**17 51 37.2**	**+0.2**
OTAV				IAmb	IAmb	17 51 48.8	
	comp=Z,3.7nm,0.9s						
ODZ	**Otahua Downs**	**71.15**	**206**	P	**P**	**17 52 10.5**	**+0.3**
ODZ				IAmb	IAmb	17 52 24.2	
	comp=Z,14nm,1.3s						
TORD	**Torodi Ar. Bea**	**82.02**	**45**	P	**P**	**17 53 13.2**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=204,slow=6.0,SNR=1.6						
ASAR	**Alice Springs**	**96.38**	**179**	P	**P**	**17 54 18.3**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=165,slow=3.8,SNR=2.4						
BVAR	**Borovoye Array**	**144.96**	**72**	PKPbc	**PKPab**	**18 00 27.1**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=251,slow=4.5,SNR=9.1						
ILAR	**Eielson Array**	**145.90**	**312**	PKPbc	**PKPdf**	**18 00 28.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=146,slow=4.4,SNR=9.0						
ILAR	**Eielson Array**	**145.90**	**312**		**PKPdf**	**18 00 28.6**	**-0.6**
MKAR	**Makanchi Array**	**146.74**	**90**	PKPbc	**PKPdf**	**18 00 31.9**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=223,slow=2.2,SNR=9.3						
MKAR	**Makanchi Array**	**146.74**	**90**		**PKPdf**	**18 00 32.3**	**+1.1**

IDC 17 17:47:52.4±2.4, 60.°48S×47.°34W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.5/20, mbtmp3.7/1, Error ellipse: s-maj=142.6km s-min=78.2km az=2.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**83.11**	**48**	P	P	18 00 19.8	0.0
	0.5nm,0.6s,baz=197,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**145.09**	**312**	PKPbc	PKPbc	18 07 28.6	-0.9
	0.7nm,0.7s,baz=141,slow=1.5,SNR=7.1						
MKAR	**Makanchi Array**	**148.03**	**92**	PKPbc	PKPbc	18 07 38.0	-0.7
	0.3nm,0.4s,baz=222,slow=2.8,SNR=6.1						

DJA 17 17:51:53.2±0.7, 3.°S±5.°×13.°9E±.°, h31km±11km, M3.7/4, MLv3.7/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.73**	**93**	P	Pb	17 52 07.9	+0.5
GENI				S	Sn	17 52 18.3	+0.9
SMPI	**Sarmi**	**0.92**	**308**	P	Pn	17 52 10.1	0.0
JAY	**Jayapura**	**1.26**	**88**	P	Pn	17 52 14.9	+0.1
JAY				S	Sn	17 52 31.2	+0.4
WAMI	**Wamena**	**1.50**	**209**	P	Pb	17 52 19.8	-0.7
WAMI				S	Sb	17 52 39.5	+0.3
SRPI	**Serui, Papua**	**3.27**	**282**	P	Pb	17 52 47.6	-3.0

*ISCJB **17** 17:54:24.5±0.4, 60.°33S±0.°06×44.°0W±0.°2, h10km, mb3.9/6, MS4.3/2, Error ellipse: s-maj=13.6km s-min=6.8km az=148.7*
*IDC **17** 17:54:24.6±0.9, 60.°41S×44.°16W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/24, mbtmp4.1/6, ML3.4/1, MS3.9/3, Ms1 3.9/3, ms1mx3.4/22, Error ellipse: s-maj=47.2km s-min=20.3km az=70.0*
*NEIC **17** 17:54:26.2±1.5, 60.°35S±0.°04×43.°9W±0.°2, h10km±1km, mb4.6/22*
ISC 17 17:54:26.2±0.5, 60.°36S±0.°08×44.°0W±0.°1, h10km, n46, σ1§19/42, mb4.3/14, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.31**	**37**	Pn	**Pn**	**17 56 11.9**	**-1.0**
PMSA	**Palmer Station**	**10.25**	**236**	LR	LR	17 59 59.2	
	comp=Z,228nm,21.3s,baz=60,slow=33						
GO10	**Punta Arenas**	**16.42**	**284**	Pn	**Pn**	**17 58 15.5**	**-1.0**
GO10				IAmb	IAmb	17 58 18.8	
	comp=Z,49nm,1.3s						
VNA3	**Neumayer Olymp**	**17.47**	**143**	P	**P**	**17 58 32.5**	**+1.7**
VNA1	**Neumayer--Stat**	**17.71**	**140**	P	**P**	**17 58 34.0**	**+0.6**
VNA2	**Neumayer--Watz**	**18.06**	**141**	P	**P**	**17 58 37.6**	**+0.2**
	baz=292,slow=14						
SNAA	**Sanae**	**19.68**	**142**	P	**P**	**17 58 55.1**	**-0.1**
SNAA	**Sanae**	**19.68**	**142**	P	**P**	**17 58 54.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=285,slow=9.1,SNR=16						
SNAA	**Sanae**	**19.68**	**142**	P	**P**	**17 58 54.8**	**-0.3**
TRQA	**Tornquist**	**25.07**	**325**	P	**P**	**17 59 52.2**	**+1.6**
PLCA	**Paso Flores**	**25.60**	**308**	P	**P**	**17 59 59.0**	**+3.6**
	comp=Z,1.7nm,0.8s,baz=161,slow=7.9,SNR=5.4						
PLCA	**Paso Flores**	**25.60**	**308**	P	**P**	**17 59 58.6**	**+3.1**
PLCA				IAmb	IAmb	18 00 13.6	
	comp=Z,5.0nm,0.8s						
GO06	**Curarrehue**	**26.95**	**308**	P	**P**	**18 00 07.2**	**-0.5**
GO06				IAmb	IAmb	18 00 16.8	
	comp=Z,8.3nm,1.2s						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**18 00 33.4**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=180,slow=2.5,SNR=8.5						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**18 00 33.7**	**0.0**
QSPA				IAmb	IAmb	18 00 41.5	
	comp=Z,6.3nm,1.2s						
CPUP	**Villa Florida**	**35.23**	**339**	P	**P**	**18 01 21.1**	**+0.5**
CPUP				IAmb	IAmb	18 01 27.1	
	comp=Z,10nm,1.5s						
GO03	**Copiap**	**37.31**	**320**	P	**P**	**18 01 36.7**	**-1.7**
GO02	**Mina Guanaco**	**39.37**	**322**	P	**P**	**18 01 54.9**	**-1.2**
GO02				IAmb	IAmb	18 02 07.1	
	comp=Z,24nm,1.4s						
SBA	**Scott Base**	**40.76**	**190**	P	**P**	**18 02 06.9**	**+0.3**
MAW	**Mawson**	**41.73**	**147**	P	**P**	**18 02 14.9**	**+0.2**
GO01	**Chusmiza**	**44.43**	**325**	P	**P**	**18 02 37.7**	**0.0**
GO01				IAmb	IAmb	18 02 47.5	
	comp=Z,5.4nm,0.9s						
PB11	**IPOC Station P**	**44.48**	**324**	P	**P**	**18 02 37.4**	**-0.3**
PB11				IAmb	IAmb	18 02 53.2	
	comp=Z,23nm,1.3s						
BDFB	**Brasília**	**44.75**	**354**	P	**P**	**18 02 39.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=180,slow=4.0,SNR=2.6						
MNMC	**Minye Minye**	**45.06**	**325**	P	**P**	**18 02 43.0**	**+0.6**
MNMC				IAmb	IAmb	18 02 47.7	
	comp=Z,14nm,0.7s						
SIV	**San Ignacio**	**46.01**	**337**	P	**P**	**18 02 49.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=196,slow=7.8,SNR=6.2						
LPAZ	**La Paz**	**47.36**	**328**	P	**P**	**18 03 00.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=188,slow=6.6,SNR=2.7						
LPAZ	**La Paz**	**47.36**	**328**	IAmb	IAmb	18 03 11.5	
	comp=Z,3.3nm,1.2s						
SAML	**Samuel**	**53.28**	**336**	P	**P**	**18 03 45.3**	**+0.2**
CRZF	**Crozet Islands**	**53.72**	**121**	P	**P**	**18 03 47.7**	**-0.3**
ODZ	**Otahua Downs**	**71.22**	**205**	P	**P**	**18 05 44.3**	**-0.7**
ODZ				IAmb	IAmb	18 05 49.8	
	comp=Z,6.7nm,1.2s						
BBGH	**Gun Hill**	**74.31**	**344**	P	**P**	**18 06 02.3**	**-1.3**
TAU	**Tasmania Unive**	**76.67**	**188**	P	**P**	**18 06 16.2**	**-0.7**
OBIP	**Obispado Ponce**	**80.25**	**338**	P	**P**	**18 06 36.2**	**-0.5**
OBIP				IAmb	IAmb	18 06 42.4	
	comp=Z,30nm,1.4s						
GCPR	**Guaynabo City**	**80.41**	**339**	P	**P**	**18 06 37.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**81.82**	**45**	P	**P**	**18 06 46.3**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=205,slow=3.0,SNR=5.6						
RAR	**Rarotonga**	**83.67**	**238**	LR	LR	18 39 46.8	
	comp=Z,107nm,18.1s,baz=200,slow=33						
ASAR	**Alice Springs**	**96.27**	**178**	LR	LR	18 50 11.3	
	comp=Z,123nm,21.4s,baz=259,slow=35						
NOA	**NORSAR Array B**	**128.31**	**31**	PKP	**PKiKP**	**18 13 35.3**	**+3.3**
	comp=Z,1.4nm,0.9s,baz=211,slow=2.0,SNR=3.3						
ILAR	**Eielson Array**	**146.26**	**311**	PKPbc	**PKPdf**	**18 14 04.3**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=119,slow=1.8,SNR=13						
ILAR	**Eielson Array**	**146.26**	**311**		**PKPab**	**18 14 05.3**	**-0.8**
MK31	**Makanchi Array**	**146.35**	**89**		**PKPbc**	**18 14 05.5**	**-0.7**
MKAR	**Makanchi Array**	**146.35**	**89**	PKPbc	**PKPdf**	**18 14 05.2**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=234,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**146.35**	**89**		**PKPbc**	**18 14 05.4**	**-0.7**
FYU	**Fort Yukon**	**146.53**	**315**		**PKPab**	**18 14 06.2**	**-0.9**
KURK	**Kurchatov**	**147.14**	**81**		**PKPab**	**18 14 09.5**	**-0.5**
IMAR	**Indian Mountai**	**149.38**	**311**		**PKPab**	**18 14 19.0**	**+0.4**

*IDC **17** 18:12:52.6±0.6, 11.°62S×166.°06E, h0km, mb4.5/10, mb1 4.6/13, mb1mx4.3/36, mbtmp4.5/13, ML2.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/27, Error ellipse: s-maj=22.4km s-min=17.5km az=126.0*
*BJI **17** 18:12:53.6±0.0, 12.°20S×166.°50E, h40km, mb4.7/27, mB5.1/20, Ms5.0/8, Ms7 4.8/7*
*ISCJB **17** 18:12:54.4±3.8, 11.°72S±0.°07×165.°95E±0.°09, h20km±26km, mb4.5/15, Error ellipse: s-maj=15.4km s-min=10.1km az=154.2*
*NEIC **17** 18:12:58.1±1.9, 11.°68S±0.°08×166.°0E±0.°1, h34km±4km, mb4.8/21*
ISC 17 18:12:58.9±1.7, 11.°77S±0.°08×165.°9E±0.°1, h42km±13km, n80, σ1§24/81, mb4.8/23, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.32**	**291**	Pn	**Pn**	**18 14 29.7**	**+0.1**
	16nm,0.3s,baz=159,slow=2.9,SNR=13						
HNR				Sn	**Sn**	**18 15 37.3**	**-3.2**
	2.2nm,0.3s,baz=156,slow=20,SNR=2.5						
HNR				LR	LR	18 17 17.0	
	comp=Z,859nm,18.6s,baz=84,slow=41						
HNR	**Honiara**	**6.32**	**291**		**Pn**	**18 14 29.1**	**-0.4**
DZM	**Mont Dzumac**	**10.25**	**177**	Pn	**Pn**	**18 15 25.0**	**+1.4**
	1.8nm,0.3s,baz=329,slow=14,SNR=22						
DZM				Sn	**Sn**	**18 17 11.4**	**-5.9**
	baz=15,slow=20,SNR=1.0						
DZM				LR	LR	18 18 54.7	
	comp=Z,306nm,19.6s,baz=358,slow=35						
DZM	**Mont Dzumac**	**10.25**	**177**		**Pn**	**18 15 25.0**	**+1.4**
KRVT	**Keravat (AS076**	**15.62**	**297**	Pn	**P**	**18 16 40.7**	**+0.8**
	1.1nm,0.3s,baz=192,slow=9.3,SNR=3.4						
KRVT				LR	LR	18 23 00.7	
	comp=Z,267nm,18.4s,baz=121,slow=39						
PMG	**Port Moresby**	**18.59**	**275**	P	**Pn**	**18 17 14.5**	**+1.1**
	0.4nm,0.3s,baz=109,slow=12,SNR=4.2						
PMG				LR	LR	18 24 22.1	
	comp=Z,186nm,21.0s,baz=142,slow=37						
EIDS	**Eidsvold**	**19.48**	**224**		**Pn**	**18 17 25.2**	**+1.2**
EIDS				IAmb	IAmb	18 17 26.4	
	comp=Z,31nm,0.9s						
PATS	**Pohnpei**	**19.98**	**337**	P	**P**	**18 17 26.9**	**-1.0**
CTA	**Charters Tower**	**20.62**	**244**	P	**P**	**18 17 35.5**	**+0.6**
	comp=Z,17nm,0.9s,baz=73,slow=12,SNR=14						
CTAO	**Charters Tower**	**20.62**	**244**	P	**P**	**18 17 34.3**	**-0.7**
CTAO				IAmb	IAmb	18 17 37.9	
	comp=Z,34nm,1.1s						
COEN	**Coen**	**22.28**	**262**	P	**P**	**18 17 52.4**	**-0.4**
ARMA	**Armidale**	**22.80**	**213**	P	**P**	**18 17 59.9**	**+1.6**
ARMA				IAmb	IAmb	18 18 01.2	
	comp=Z,31nm,0.9s						
STKA	**Stephens Creek**	**30.04**	**224**	P	**P**	**18 19 05.1**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=22,slow=8.8,SNR=7.1						
STKA				PcP	**PcP**	**18 22 05.8**	**+0.3**
	comp=Z,3.6nm,1.0s,baz=135,slow=2.9,SNR=4.3						
STKA				LR	LR	18 31 17.4	
	comp=Z,232nm,18.2s,baz=53,slow=36						
STKA	**Stephens Creek**	**30.04**	**224**	IAmb	IAmb	18 19 12.9	
	comp=Z,1.2nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**30.08**	**1**	T	T	18 49 31.2	
	baz=181,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**30.09**	**1**	T	T	18 49 31.4	
	baz=181,slow=76,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**30.10**	**1**	T	T	18 49 32.7	
	baz=181,slow=76,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**31.30**	**2**	T	T	18 51 02.8	
	baz=182,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**31.31**	**2**	T	T	18 51 02.1	
	baz=182,slow=76,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**31.32**	**2**	T	T	18 51 03.6	
	baz=182,slow=76,SNR=2.5						
LTZ	**Lake Taylor**	**31.38**	**171**	P	**P**	**18 19 14.7**	**-1.2**
LTZ				IAmb	IAmb	18 19 26.5	
	comp=Z,22nm,1.2s						
WB2	**Warramunga Arr**	**31.39**	**251**	P	**P**	**18 19 15.9**	**-0.3**
WB2				IAmb	IAmb	18 19 17.2	
	comp=Z,21nm,1.1s						
WB2				PcP	**PcP**	**18 22 10.7**	**+1.4**
WRA	**Warramunga Arr**	**31.40**	**251**	P	**P**	**18 19 16.1**	**-0.2**
	comp=Z,10nm,0.9s,baz=80,slow=9.4,SNR=47						
WRA				PcP	**PcP**	**18 22 09.2**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=80,slow=2.9,SNR=7.3						
WRA	**Warramunga Arr**	**31.40**	**251**	P	**P**	**18 19 13.8**	**-2.5**
WRA				PcP	**PcP**	**18 22 10.6**	**+1.3**
FOZ	**Fox Glacier**	**31.82**	**175**	P	**P**	**18 19 20.6**	**+1.0**
FOZ				IAmb	IAmb	18 19 24.2	
	comp=Z,23nm,1.0s						
RPZ	**Rata Peaks**	**32.13**	**173**	P	**P**	**18 19 23.9**	**+1.6**
	comp=Z,14nm,0.8s,baz=284,slow=1.3,SNR=9.9						
RPZ	**Rata Peaks**	**32.13**	**173**	P	**P**	**18 19 24.0**	**+1.6**
RPZ				IAmb	IAmb	18 19 25.4	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**32.62**	**244**	P	**P**	**18 19 26.9**	**-0.1**
AS31				PcP	**PcP**	**18 22 13.2**	**+0.6**
ASAR	**Alice Springs**	**32.63**	**244**	P	**P**	**18 19 26.6**	**-0.5**
	comp=Z,12nm,0.7s,baz=70,slow=9.5,SNR=180						
ASAR				PcP	**PcP**	**18 22 13.2**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=75,slow=3.2,SNR=11						
ASAR	**Alice Springs**	**32.63**	**244**	P	**P**	**18 19 26.3**	**-0.7**
ASAR				PcP	**PcP**	**18 22 13.4**	**+0.7**
KNRA	**Kununurra**	**36.27**	**260**	P	**P**	**18 19 59.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**39.36**	**256**	P	**P**	**18 20 24.1**	**-0.5**
FITZ				IAmb	IAmb	18 20 25.8	
	comp=Z,7.1nm,0.8s						
TNTI	**Ternate**	**40.27**	**285**	P	**P**	**18 20 31.7**	**-0.6**
BATI	**Baumata**	**41.48**	**268**	P	**P**	**18 20 43.1**	**+0.8**
BNSI	**Bone**	**45.89**	**275**	P	**P**	**18 21 19.0**	**+1.2**
KAPI	**Kappang**	**46.12**	**274**	P	**P**	**18 21 19.9**	**+0.3**
SPSI	**Sidrap Palu**	**46.31**	**276**	P	**P**	**18 21 21.0**	**-0.1**
MPSI	**Mapaga**	**47.25**	**282**	P	**P**	**18 21 28.4**	**0.0**
PLAI	**Plampang**	**47.41**	**269**	P	**P**	**18 21 29.7**	**0.0**
TWSI	**Taliwang, Sumb**	**48.30**	**269**	P	**P**	**18 21 36.8**	**+0.2**
NJ2	**Nanjing**	**62.66**	**316**	*e*P	**P**	**18 23 21.4**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WHN	**Wuhan**	**65.00**	**312**	P	P	18 23 40.9	+6.0
ENH	**Enshi**	**68.49**	**309**	P	**P**	**18 23 57.0**	**-0.3**
ENH				IAmb	IAmb	18 23 57.8	
	comp=Z,10nm,0.9s						
XAN	**Xi'an**	**70.73**	**312**	P	**P**	**18 24 11.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**72.49**	**320**	*e*P	**P**	**18 24 23.8**	**+2.2**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**72.56**	**294**	P	**P**	**18 24 23.3**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=121,slow=4.9,SNR=18						
CMAR	**Chiang Mai Arr**	**72.56**	**294**	P	**P**	**18 24 22.4**	**+0.1**
QSPA	**South Pole Qui**	**78.23**	**180**	P	**P**	**18 24 54.8**	**+0.7**
SONM	**Songino Array**	**79.35**	**324**	P	**P**	**18 25 01.2**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=140,slow=5.6,SNR=8.4						
SONM	**Songino Array**	**79.35**	**324**	P	**P**	**18 25 00.8**	**+0.2**
GTA	**Gaotai**	**79.68**	**314**	⇑P	**P**	**18 25 04.0**	**+1.4**
GTA				pP	pP	18 25 13.5	+0.9
GTA				sP	sP	18 25 18.0	+1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,110nm,6.8s						
GTA				LR	LR		
	comp=Z,88nm,20.9s						
GTA				LR	LR		
	comp=Z,130nm,17.8s						
GTA				LR	LR		
	comp=Z,220nm,20.9s						
ILAR	**Eielson Array**	**84.14**	**18**	P	**P**	**18 25 22.9**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=253,slow=5.1,SNR=13						
EGAK	**Eagle**	**86.00**	**20**	P	**P**	**18 25 33.5**	**-1.1**
EGAK				IAmb	IAmb	18 25 35.1	
	comp=Z,

*ISCJB **17** 18:22:01.2±0.6, 60°.86S±0°.09×45°.3W±0°.2, h10km, mb4.1/5, Error ellipse: s-maj=15.7km s-min=11.1km az=138.1*
*IDC **17** 18:22:02.2±1.9, 60°.82S×45°.78W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/16, mbtmp4.1/5, Error ellipse: s-maj=63.2km s-min=33.1km az=34.0*
*NEIC **17** 18:22:03.2±1.6, 60°.85S±0°.08×45°.4W±0°.2, h10km±1km, mb4.6/15*
ISC 17 18:22:03.0±0.7, 60°.9S±0°.1×45°.5W±0°.1, h10km, n27, σ1§00/21, mb4.5/11, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.16**	**40**	Pn	**Pn**	**18 24 01.2**	**-0.1**
VNA3	**Neumayer Olymp**	**17.52**	**141**	P	Pn	18 25 54.2	-13
VNA1	**Neumayer--Stat**	**17.80**	**139**	P	Pn	18 26 00.1	-10
VNA2	**Neumayer--Watz**	**18.15**	**139**	P	Pn	18 26 04.3	-10
	baz=292,slow=19						
SNAA	**Sanae**	**19.75**	**141**	P	**P**	**18 26 31.0**	**-1.6**
PLCA	**Paso Flores**	**25.36**	**311**	P	**P**	**18 27 28.1**	**-1.9**
	2.6nm,0.9s,baz=165,slow=15,SNR=1.9						
PLCA	**Paso Flores**	**25.36**	**311**	IAmb	IAmb	18 27 37.8	
	comp=Z,4.4nm,0.9s						
CPUP	**Villa Florida**	**35.46**	**341**	P	**P**	**18 28 59.9**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=144,slow=9.0,SNR=4.2						
CPUP	**Villa Florida**	**35.46**	**341**	P	**P**	**18 28 59.2**	**-0.1**
GO01	**Chusmiza**	**44.44**	**327**	P	**P**	**18 30 14.7**	**+0.2**
GO01				IAmb	IAmb	18 30 19.4	
	comp=Z,11nm,0.9s						
MNMC	**Minye Minye**	**45.06**	**327**	P	**P**	**18 30 18.8**	**-0.4**
BDFB	**Brasilia**	**45.20**	**357**	P	**P**	**18 30 18.7**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=332,slow=7.9,SNR=3.6						
BDFB	**Brasilia**	**45.20**	**357**	P	**P**	**18 30 20.3**	**+0.3**
BDFB				IAmb	IAmb	18 30 29.2	
	comp=Z,12nm,1.4s						
LPAZ	**La Paz**	**47.41**	**330**	P	**P**	**18 30 39.3**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=138,slow=10,SNR=4.8						
LPAZ	**La Paz**	**47.41**	**330**	IAmb	IAmb	18 30 46.2	
	comp=Z,1.8nm,0.8s						
SUR	**Sutherland**	**50.84**	**87**	P	**P**	**18 31 02.3**	**-1.5**
SAML	**Samuel**	**53.46**	**338**	P	**P**	**18 31 23.3**	**+0.2**
SAML				IAmb	IAmb	18 31 27.7	
	comp=Z,2.8nm,0.8s						
BOSA	**Boshof**	**56.11**	**89**		**P**	**18 31 43.8**	**+1.4**
LBTB	**Lobatse**	**59.28**	**87**	P	**P**	**18 32 04.3**	**-0.4**
LBTB				IAmb	IAmb	18 32 23.2	
	comp=Z,13nm,1.5s						
OTAV	**Otavalo**	**65.99**	**323**	P	**P**	**18 32 49.4**	**-0.5**
OTAV				IAmb	IAmb	18 32 51.8	
	comp=Z,4.4nm,1.0s						
LTZ	**Lake Taylor**	**72.23**	**208**	P	**P**	**18 33 28.9**	**+1.0**
LTZ				IAmb	IAmb	18 33 35.6	
	comp=Z,9.1nm,1.2s						
ABPO	**Ambohimpanom**	**74.89**	**102**	P	**P**	**18 33 44.1**	**+0.1**
ABPO				IAmb	IAmb	18 33 48.9	
	comp=Z,4.4nm,0.9s						
TAU	**Tasmania Unive**	**76.06**	**190**	P	**P**	**18 33 50.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.70**	**46**	P	**P**	**18 34 28.1**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=209,slow=6.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**82.70**	**46**	IAmb	IAmb	18 34 28.8	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**146.04**	**311**	PKPbc	**PKPbc**	**18 41 41.3**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=167,slow=3.7,SNR=11						
MKAR	**Makanchi Array**	**147.09**	**91**	PKPbc	**PKPbc**	**18 41 45.3**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=233,slow=1.4,SNR=6.6						

*NNC **17** 18:27:27.1±0.6, 44°.18N×79°.39E, h0km, mb2.3, mpv2.7, Error ellipse: s-maj=5.1km s-min=3.8km az=110.0*
*SOME **17** 18:27:28.0, 44°.18N×79°.45E, h20km*
*KRNET **17** 18:27:35.6±0.1, 40°.02N×75°.73E, mb2.0*
ISC 17 18:27:27.7±1.1, 44°.18N±0°.02×79°.37E±0°.03, h6km±10km, n27, σ0§62/53, 8C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.33**	**63**	P	**Pg**	**18 27 34.3**	**0.0**
	11nm,0.3s						
DJR				S	**Sg**	**18 27 39.0**	**+0.3**
	26nm,0.1s						
DJR	**Jarkent**	**0.33**	**63**	*e*P	**Pg**	**18 27 34.3**	**0.0**
	12nm,0.1s						
DJR				*e*S	**Sg**	**18 27 38.9**	**+0.2**
	29nm,0.1s						
PDGK	**Podgornoye**	**0.86**	**174**	P	**Pg**	**18 27 43.9**	**-0.2**
	1.6nm,0.2s						
PDGK				S	**Sg**	**18 27 55.3**	**0.0**
	8.3nm,0.1s						
PDGK	**Podgornoye**	**0.86**	**174**	⇑P	**Pg**	**18 27 43.7**	**-0.4**
	0.5nm,0.2s						
PDGK				⇓S	**Sg**	**18 27 55.6**	**+0.3**
	4.0nm,0.2s						
KPKS	**Kokpek**	**0.87**	**215**	*e*P	**Pg**	**18 27 44.7**	**+0.2**
	24nm,0.1s						
KPKS				*e*S	**Sb**	**18 27 56.8**	**-0.6**
	86nm,0.1s						
SHLS	**Shalkode**	**1.03**	**176**	P	**Pg**	**18 27 47.5**	**+0.1**
	4.5nm,0.2s						
SHLS				S	**Sb**	**18 28 01.8**	**0.0**
	15nm,0.5s						
SHLS	**Shalkode**	**1.03**	**176**	*e*P	**Pb**	**18 27 47.8**	**-0.2**
	0.5nm,0.1s						
SHLS				*e*S	**Sn**	**18 28 02.3**	**-1.3**
	18nm,0.3s						
UZB	**Uzynbulak**	**1.07**	**194**	P	**Pg**	**18 27 48.0**	**-0.1**
	2.3nm,0.2s						
UZB				S	**Sb**	**18 28 02.4**	**-0.6**
	48nm,0.2s						
UZB	**Uzynbulak**	**1.07**	**194**	*e*P	**Pg**	**18 27 47.9**	**-0.2**
	2.2nm,0.1s						
UZB				*e*S	**Sb**	**18 28 02.4**	**-0.6**
	42nm,0.1s						
KAPS	**Kapalarasan**	**1.10**	**359**	P	**Pb**	**18 27 48.2**	**-1.1**
	1.7nm,0.2s						
KAPS				S	**Sg**	**18 28 02.8**	**-0.4**
	13nm,0.2s						
KAPS	**Kapalarasan**	**1.10**	**359**	*e*P	**Pb**	**18 27 48.2**	**-1.1**
	2.2nm,0.1s						
KAPS				*e*S	**Sg**	**18 28 02.7**	**-0.4**
	13nm,0.2s						
ARXS	**Arharly**	**1.11**	**272**	P	**Pb**	**18 27 48.9**	**-0.5**
	1.1nm,0.1s						
ARXS				S	**Sg**	**18 28 03.9**	**+0.4**
	15nm,0.2s						
ARXS	**Arharly**	**1.11**	**272**	*e*P	**Pb**	**18 27 49.3**	**-0.1**
	1.0nm,0.1s						
ARXS				*e*S	**Sb**	**18 28 04.7**	**+0.5**
	18nm,0.2s						
KURS	**Kuram**	**1.11**	**232**	*e*P	**Pn**	**18 27 49.9**	**0.0**
	2.0nm,0.2s						
KURS				*e*S	**Sn**	**18 28 05.6**	**-0.1**
	3.6nm,0.3s						
ZHN	**Zhinishke**	**1.22**	**214**	*e*P	**Pn**	**18 27 51.0**	**-0.5**
	5.9nm,0.1s						
ZHN				*e*S	**Sg**	**18 28 07.4**	**+0.5**
	14nm,0.1s						
SATY	**Saty**	**1.32**	**212**	*e*P	**Pb**	**18 27 53.0**	**-0.1**
	2.2nm,0.2s						
SATY				*e*S	**Sg**	**18 28 11.1**	**+0.9**
	31nm,0.1s						
CHKK	**Chushkaly**	**1.75**	**260**	P	**Pb**	**18 28 00.5**	**+0.2**
	1.2nm,0.1s						
CHKK				S	**Sg**	**18 28 23.8**	**-0.2**
	18nm,0.2s						
CHKK	**Chushkaly**	**1.75**	**260**	*e*P	**Pb**	**18 28 00.3**	**0.0**
	1.4nm,0.1s						
CHKK				*e*S	**Sg**	**18 28 23.6**	**-0.4**
	19nm,0.2s						
KOTS	**Kotyrbulak**	**1.90**	**241**	*e*P	**Pb**	**18 28 02.9**	**+0.1**
	3.2nm,0.1s						
KOTS				*e*S	**Sg**	**18 28 27.9**	**-0.6**
	27nm,0.3s						
KTBS	**Karatobe**	**2.00**	**257**	*e*P	**Pb**	**18 28 04.7**	**+0.1**
	0.4nm,0.2s						
KTBS				*e*S	**Sb**	**18 28 31.0**	**+1.2**
	9.0nm,0.4s						
TNSS	**Tian-Shan**	**2.10**	**238**	*e*P	**Pb**	**18 28 06.6**	**+0.1**
	0.3nm,0.0s						
TNSS				*e*S	**Sb**	**18 28 34.2**	**+1.1**
	2.2nm,0.2s						
KUU	**Kurty**	**2.21**	**264**	*e*P	**Pb**	**18 28 08.2**	**+0.1**
	0.3nm,0.2s						
KUU				*e*S	**Sb**	**18 28 36.9**	**+1.2**
	9.3nm,0.2s						
KDJ	**Kajisay**	**2.60**	**219**	⇑*i*P	**Pg**	**18 28 17.2**	**-0.4**
	baz=27						
KDJ				⇑*i*S	**Sb**	**18 28 48.0**	**+0.7**
	baz=27						
TARG	**Taragay, Kyrgy**	**2.71**	**206**	⇑*e*P	**Pb**	**18 28 16.7**	**-0.1**
	baz=42						
TARG				⇑*i*S	**Sn**	**18 28 46.4**	**+0.9**
	baz=42						
KST	**Kastek**	**2.73**	**246**	Pg	**Pb**	**18 28 17.8**	**+0.8**
	0.5nm,0.1s						
KST				Lg	Lg	18 28 53.1	
	2.0nm,0.3s						
TKM2	**Tokmak 2**	**3.02**	**247**	⇑*i*P	**Pg**	**18 28 24.7**	**-0.9**
	baz=58						
TKM2				⇑*i*S	**Sb**	**18 29 00.3**	**+1.0**
	baz=58						
MK31	**Makanchi Array**	**3.32**	**37**	⇓Pg	**Pb**	**18 28 28.5**	**+1.5**
	0.2nm,0.4s,baz=212,slow=15,SNR=4.1						
MK31				⇓Sn	**Sn**	**18 29 00.2**	**+0.2**
	0.1nm,0.2s,baz=216,slow=25						
MK31				⇑Lg	Lg	18 29 08.1	
	0.8nm,0.6s,baz=213,slow=28,SNR=2.9						

*ISCJB **17** 18:36:12.7±0.6, 60°.4S±0°.1×46°.0W±0°.3, h10km, mb4.0/6, Error ellipse: s-maj=26.0km s-min=10.7km az=155.9*
*IDC **17** 18:36:13.4±0.8, 60°.40S×45°.57W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/27, mbtmp4.0/7, Error ellipse: s-maj=40.1km s-min=18.8km az=62.0*
*NEIC **17** 18:36:14.1±2.5, 60°.33S±0°.05×45°.8W±0°.3, h10km±1km, mb4.4/13*
ISC 17 18:36:14.6±0.7, 60°.4S±0°.1×46°.1W±0°.2, h10km, n33, σ1§40/25, mb4.3/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.06**	**44**		Pn	18 38 06.4	-5.2
SNAA	**Sanae**	**20.27**	**141**	P	**P**	**18 40 50.3**	**+0.4**
	2.4nm,0.8s,baz=287,slow=9.9,SNR=11						
SNAA	**Sanae**	**20.27**	**141**	P	**P**	**18 40 50.5**	**+0.6**
TRQA	**Tornquist**	**24.56**	**329**	P	**P**	**18 41 37.7**	**+3.3**
TRQA				IAmb	IAmb	18 41 40.6	
	comp=Z,7.6nm,0.9s						
PLCA	**Paso Flores**	**24.85**	**312**	P	**P**	**18 41 39.4**	**+2.3**
	comp=Z,2.1nm,0.8s,baz=173,slow=13,SNR=4.0						
PLCA	**Paso Flores**	**24.85**	**312**	P	**P**	**18 41 39.3**	**+2.2**
PLCA				IAmb	IAmb	18 41 46.7	
	comp=Z,9.3nm,1.2s						
GO06	**Curarrehue**	**26.19**	**311**	P	**P**	**18 41 47.7**	**-1.6**
GO06				IAmb	IAmb	18 42 01.8	
	comp=Z,10nm,1.2s						
QSPA	**South Pole Qui**	**29.79**	**180**	P	**P**	**18 42 22.3**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=172,slow=5.6,SNR=6.9						
QSPA	**South Pole Qui**	**29.79**	**180**	IAmb	IAmb	18 42 25.1	
	comp=Z,11nm,1.4s						
GO03	**Copiap**	**36.71**	**323**	P	**P**	**18 43 20.4**	**-1.3**
SBA	**Scott Base**	**40.49**	**190**	P	**P**	**18 43 52.4**	**-0.5**
PB01	**IPOC Station P**	**42.69**	**327**	P	**P**	**18 44 10.8**	**-0.7**
PB01				IAmb	IAmb	18 44 15.8	
	comp=Z,12nm,1.2s						
GO01	**Chusmiza**	**43.92**	**328**	P	**P**	**18 44 22.7**	**+0.8**
GO01				IAmb	IAmb	18 44 24.6	
	comp=Z,6.4nm,0.8s						
MNMC	**Minye Minye**	**44.54**	**327**	P	**P**	**18 44 28.2**	**+1.5**
SIV	**San Ignacio**	**45.70**	**340**	P	**P**	**18 44 35.4**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=193,slow=6.4,SNR=7.7						
LPAZ	**La Paz**	**46.89**	**330**	P	**P**	**18 44 47.4**	**+1.7**
	comp=Z,2.3nm,0.7s,baz=163,slow=6.0,SNR=9.7						
LPAZ	**La Paz**	**46.89**	**330**	P	**P**	**18 44 44.1**	**-1.5**
LPAZ				IAmb	IAmb	18 44 49.2	
	comp=Z,2.4nm,0.8s						
SAML	**Samuel**	**52.96**	**339**	P	**P**	**18 45 29.9**	**-1.2**
H10S2	**ASCENSION HYDR**	**56.48**	**38**	T	T	19 47 13.9	
	baz=200,slow=74,SNR=11						
H10S3	**ASCENSION HYDR**	**56.48**	**38**	T	T	19 47 14.0	
	baz=20,slow=74,SNR=6.4						
H10N3	**ASCENSION HYDR**	**57.58**	**38**	T	T	19 48 36.8	
	baz=199,slow=76,SNR=12						
H10N1	**ASCENSION HYDR**	**57.58**	**38**	T	T	19 48 37.1	
	baz=199,slow=76,SNR=9.3						
H10N2	**ASCENSION HYDR**	**57.60**	**38**	T	T	19 48 37.0	
	baz=199,slow=76,SNR=11						
PTCN	**Pitcairn Islan**	**65.61**	**262**	P	**P**	**18 46 58.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**82.63**	**47**	P	**P**	**18 48 37.0**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=206,slow=5.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**82.63**	**47**	IAmb	IAmb	18 48 38.0	
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**96.20**	**180**	P	**P**	**18 49 41.5**	**-1.3**
	comp=Z,0.4nm,1.0s,baz=160,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**145.53**	**312**	PKPbc	**PKPbc**	**18 55 51.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=151,slow=3.8,SNR=12						
MK31	**Makanchi Array**	**147.41**	**91**		**PKPdf**	**18 55 56.1**	**+1.0**
MKAR	**Makanchi Array**	**147.41**	**91**	PKPbc	**PKPdf**	**18 55 56.0**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=231,slow=2.7,SNR=19						
MKAR	**Makanchi Array**	**147.41**	**91**		**PKPdf**	**18 55 56.2**	**+1.2**
IMAR	**Indian Mountai**	**148.64**	**311**		**PKiKP**	**18 56 01.4**	**-0.3**
SONM	**Songino Array**	**159.72**	**116**	PKPab	**PKPab**	**18 56 51.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=222,slow=1.9,SNR=2.4						

*ISCJB **17** 18:46:60.0±0.6, 18°.4S±0°.1×171°.67W±0°.06, h33km, mb3.9/4, Error ellipse: s-maj=15.8km s-min=7.7km az=8.2*
*NEIC **17** 18:46:59.5±0.9, 18°.5S±0°.2×171°.66W±0°.09, h15km±6km, mb4.5/12*
*IDC **17** 18:47:03.8±25.0, 18°.53S×172°.56W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/39, mbtmp4.0/4, Error ellipse: s-maj=468.7km s-min=166.4km az=72.0*
ISC 17 18:47:01.8±0.8, 18°.5S±0°.1×171°.63W±0°.08, h35km, n16, σ0§97/16, mb4.3/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**1.73**	**111**	Pn	**Pn**	**18 47 29.9**	**+0.5**
NIUE				Sn	**Sn**	**18 47 50.6**	**+0.3**
KNTN	**Kanton**	**15.58**	**360**	Pn	**Pn**	**18 50 38.7**	**-0.1**
KNTN				IAmb	IAmb	18 50 55.7	
	comp=Z,28nm,0.8s						
TAOE	**Nuku Hiva Isla**	**32.00**	**77**	P	**P**	**18 53 24.2**	**-0.9**
EIDS	**Eidsvold**	**35.19**	**252**	P	**P**	**18 53 51.2**	**-1.5**
EIDS				IAmb	IAmb	18 54 03.3	
	comp=Z,18nm,1.4s						
CTA	**Charters Tower**	**39.71**	**261**	P	**P**	**18 54 31.4**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=94,slow=11,SNR=15						
CTAO	**Charters Tower**	**39.71**	**261**	P	**P**	**18 54 31.4**	**+0.3**
CTAO				IAmb	IAmb	18 54 45.2	
	comp=Z,7.7nm,1.3s						
TOO	**Toolangi**	**41.95**	**234**	P	**P**	**18 54 49.2**	**-0.2**
TOO				IAmb	IAmb	18 54 52.5	
	comp=Z,10nm,1.3s						
TAU	**Tasmania Unive**	**42.32**	**226**	P	**P**	**18 54 50.6**	**-1.6**
STKA	**Stephens Creek**	**44.07**	**243**	P	**P**	**18 55 06.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=86,slow=14,SNR=3.3						
BBOO	**Buckleboo**	**48.82**	**242**	P	**P**	**18 55 44.6**	**+0.7**
BBOO				IAmb	IAmb	18 55 58.2	
	comp=Z,7.2nm,1.1s						
AS31	**Alice Springs**	**50.84**	**254**	P	**P**	**18 56 00.0**	**+0.6**
ASAR	**Alice Springs**	**50.84**	**254**	P	**P**	**18 55 59.9**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=92,slow=6.5,SNR=25						
WB2	**Warramunga Arr**	**50.85**	**259**	P	**P**	**18 56 00.1**	**+0.6**
WB2				IAmb	IAmb	18 56 17.0	
	comp=Z,2.9nm,1.2s						
WRA	**Warramunga Arr**	**50.86**	**259**	P	**P**	**18 56 00.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=96,slow=7.7,SNR=41						
WRA	**Warramunga Arr**	**50.86**	**259**	IAmb	IAmb	18 56 05.1	
	comp=Z,0.3nm,1.5s						
FITZ	**Fitzroy Crossi**	**59.28**	**260**	P	**P**	**18 57 02.4**	**+2.1**
FITZ				IAmb	IAmb	18 57 18.1	
	comp=Z,5.7nm,1.2s						

IDC 17 18:57:52.1±1.6, 18°.23N×122°.23E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/39, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/44, Error ellipse: s-maj=341.0km s-min=26.8km az=71.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.24**	**340**	P	P	19 04 22.3	0.0
	0.8nm,0.8s,baz=152,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**39.75**	**162**	P	P	19 05 26.6	-0.1
	0.5nm,0.7s,baz=342,slow=9.0,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**42.17**	**81**	T	T	19 50 09.2	
	baz=275						
H11N2	**WAKE ISLAND Hy**	**42.18**	**81**	T	T	19 50 07.5	
	baz=275						
H11N3	**WAKE ISLAND Hy**	**42.19**	**81**	T	T	19 50 10.7	
	baz=275						
ASAR	**Alice Springs**	**43.17**	**164**	P	P	19 05 54.7	-0.1
	0.2nm,0.5s,baz=351,slow=12,SNR=5.0						
GEYT	**Alibeck**	**58.77**	**304**	LR	LR	19 36 35.1	
	comp=Z,43nm,18.1s,baz=230,slow=40						

*TAP **17** 18:58:47.0, 24°.80N×122°.06E, h11km, ML3.9, C*
*JMA **17** 18:58:47.5±0.1, 24°.76N×122°.05E, h25km, M3.1*
ISC 17 18:58:46.3±0.9, 24°.79N±0°.02×122°.15E±0°.02, h11km±7km, n124, σ0§77/202, 27C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.21**	**287**	⇑*i*P	**Pg**	**18 58 50.5**	**-0.1**
	baz=291						
EGS				*i* S	**Sg**	**18 58 52.8**	**-0.9**
	baz=291						
EOS1	**EOS1**	**0.24**	**184**	P	**Pg**	**18 58 52.7**	**+1.5**
	baz=164						
EOS1				S	**Sg**	**18 58 56.6**	**+2.1**
	baz=164						
TWB1	**Santiao Chiao**	**0.27**	**327**	⇑*i*P	**Pg**	**18 58 51.9**	**+0.1**
	baz=340						
TWB1				*i* S	**Sg**	**18 58 55.4**	**0.0**
	baz=340						
NTC	**Toucheng**	**0.30**	**283**	P	**Pg**	**18 58 52.4**	**0.0**
	baz=283						
NTC				S	**Sg**	**18 58 56.0**	**-0.4**
	baz=283						
TWC	**Suao**	**0.32**	**237**	⇑P	**Pg**	**18 58 52.6**	**-0.2**
	baz=220						
TWC				S	**Sg**	**18 58 56.0**	**-1.1**
	baz=220						
TIPB	**Shuangxi**	**0.35**	**302**	⇑*i*P	**Pg**	**18 58 53.4**	**+0.1**
	baz=299						
TIPB				*i* S	**Sg**	**18 58 57.0**	**-1.0**
	baz=299						
ILA	**Ilan**	**0.36**	**267**	⇑P	**Pg**	**18 58 53.5**	**-0.1**
	baz=261						
ILA				S	**Sg**	**18 58 58.1**	**-0.3**
	baz=261						
NWF	**Wu-fen Shan**	**0.44**	**310**	⇑*i*P	**Pg**	**18 58 55.4**	**+0.4**
	baz=309						
NWF				S	**Sg**	**18 59 00.7**	**-0.1**
	baz=309						
WFSB	**Wu-fen Shan**	**0.44**	**310**	⇑P	**Pg**	**18 58 55.4**	**+0.4**
	baz=309						
WFSB				S	**Sg**	**18 59 00.6**	**-0.2**
	baz=309						
TWE	**Neicheng**	**0.44**	**262**	⇑*i*P	**Pg**	**18 58 54.7**	**-0.3**
	baz=255						
TWE				*e*S	**Sg**	**18 59 00.8**	**-0.1**
	baz=255						
NANB	**Nanao**	**0.51**	**226**	⇑*i*P	**Pg**	**18 58 56.1**	**-0.2**
	baz=208						
NANB				*e*S	**Sg**	**18 59 01.6**	**-1.3**
	baz=208						
ENA	**Nanau**	**0.51**	**226**	*e*P	**Pg**	**18 58 56.2**	**-0.2**
	baz=208						
ENA				*e*S	**Sg**	**18 59 02.4**	**-0.8**
	baz=208						
ENTT	**Nioudou**	**0.55**	**255**	⇓P	**Pg**	**18 58 56.8**	**-0.3**
	baz=248						
TWA	**Mucha**	**0.55**	**291**	⇑*i*P	**Pg**	**18 58 57.1**	**+0.1**
	baz=282						
TWA				*e*S	**Sg**	**18 59 02.9**	**-1.4**
	baz=282						
NWLT	**Wulai**	**0.59**	**269**	*e*P	**Pg**	**18 58 57.4**	**-0.4**
	baz=265						
NWLT				*e*S	**Sg**	**18 59 03.4**	**-2.1**
	baz=265						
NHDH	**Xindian Distri**	**0.59**	**287**	*e*P	**Pg**	**18 58 58.0**	**+0.2**
	baz=278						
NHDH				S	**Sg**	**18 59 04.8**	**-0.9**
	baz=278						
NDT	**Datong Townshi**	**0.61**	**253**	*e*P	**Pg**	**18 58 57.8**	**-0.3**
	baz=254						
NDT				*e*S	**Sg**	**18 59 05.3**	**-0.8**
	baz=254						
TAP1	**Taipei**	**0.62**	**294**	⇑P	**Pb**	**18 58 59.2**	**0.0**
	baz=286						
TAP1				S	**Sg**	**18 59 06.5**	**-0.1**
	baz=286						
TATO	**Taipei**	**0.63**	**288**	⇑P	**Pg**	**18 58 58.7**	**+0.2**
	baz=279						
TATO				S	**Sg**	**18 59 06.1**	**-0.7**
	baz=279						
TAP	**Taipei**	**0.64**	**294**	⇑P	**Pb**	**18 58 59.2**	**-0.3**
	baz=286						
TAP				*e*S	**Sg**	**18 59 06.5**	**-0.6**
	baz=286						
YM01	**YM01**	**0.64**	**304**	⇑*i*P	**Pb**	**18 58 59.2**	**-0.3**
	baz=299						
YM11	**YM11**	**0.64**	**306**	⇑*i*P	**Pb**	**18 58 59.5**	**-0.2**
	baz=301						
YM08	**YM08**	**0.65**	**308**	⇑P	**Pg**	**18 58 59.2**	**+0.3**
	baz=304						
YM10	**YM10**	**0.65**	**305**	⇑*i*P	**Pb**	**18 58 59.5**	**-0.3**
	baz=297						
YM10				S	**Sg**	**18 59 07.8**	**+0.3**
	baz=297						
YM05	**YM05**	**0.65**	**306**	⇑P	**Pb**	**18 58 59.5**	**-0.2**
	baz=298						
YM05				S	**Sg**	**18 59 07.8**	**+0.3**
	baz=298						
YM04	**YM04**	**0.67**	**304**	⇑P	**Pb**	**18 58 59.8**	**-0.2**
	baz=306						
ANP	**Anpu**	**0.70**	**305**	*e*P	**Pg**	**18 58 59.9**	**+0.1**
	baz=298						
TWY	**Chenhua**	**0.70**	**315**	⇑*i*P	**Pb**	**18 59 00.5**	**0.0**
	baz=318						
YHNB	**Yeheng**	**0.71**	**261**	⇑P	**Pg**	**18 58 59.5**	**-0.7**
	baz=251						
YHNB				*e*S	**Sg**	**18 59 07.8**	**-1.7**
	baz=251						
NSK	**Sanguang**	**0.73**	**262**	*e*P	**Pg**	**18 58 59.7**	**-0.7**
	baz=252						
NSK				*e*S	**Sg**	**18 59 07.8**	**-2.1**
	baz=252						
TWS1	**Kuangyinshan**	**0.73**	**295**	⇑P	**Pb**	**18 59 01.4**	**+0.3**
	baz=287						
TWS1				*e*S	**Sg**	**18 59 10.5**	**+0.3**
	baz=287						
NTST	**Danshui**	**0.74**	**301**	⇑*e*P	**Pb**	**18 59 01.4**	**+0.2**
	baz=302						
NNSB	**Datong**	**0.78**	**243**	*e*P	**Pg**	**18 59 01.1**	**-0.4**
	baz=226		

	baz=224						
WHF			eS	Sg	18 59 19.2	-0.4	
	baz=224						
TWT	**Tachien**	1.03 239	eP	Pb	18 59 06.3	0.0	
	baz=223						
TWT			eS	Sb	18 59 20.0	0.0	
	baz=223						
LIOB	**Emei**	1.04 263	eP	Pn	18 59 07.1	+0.2	
	baz=244						
LIOB			eS	Sn	18 59 21.0	-0.4	
	baz=244						
TDCB	**Techi**	1.05 240	eP	Pg	18 59 06.3	-0.2	
	baz=224						
TDCB			eS	Sg	18 59 19.0	-1.1	
	baz=224						
NSTT	**Nanjuang**	1.05 262	eP	Pb	18 59 06.9	+0.3	
	baz=257						
NSTT			eS	Sg	18 59 20.3	-0.1	
	baz=257						
SBCB	**Hsinchu**	1.06 271	eP	Pn	18 59 07.7	+0.6	
	baz=284						
SBCB			eS	Sn	18 59 21.6	-0.3	
	baz=284						
HSN	**Hsinchu**	1.07 271	eP	Pb	18 59 07.1	+0.2	
	baz=287						
HSN			eS	Sg	18 59 20.5	-0.4	
	baz=287						
CHGB	**Renai**	1.15 231	P	Pg	18 59 08.2	-0.2	
	baz=224						
CHGB			S	Sb	18 59 23.2	-0.1	
	baz=224						
ESL	**Shilin**	1.17 214	eP	Pb	18 59 07.9	-0.6	
	baz=206						
ESL			eS	Sb	18 59 24.0	+0.3	
	baz=206						
WHP	**Taichung City**	1.21 245	eP	Pn	18 59 09.7	+0.4	
	baz=240						
WHP			eS	Sg	18 59 25.1	-0.1	
	baz=240						
OWD	**Renai**	1.21 227	eP	Pb	18 59 08.9	-0.4	
	baz=221						
NMLH	**Miaoli**	1.26 259	eP	Pg	18 59 11.1	+0.5	
	baz=243						
NMLH			eS	Sn	18 59 27.6	+0.7	
	baz=243						
EGFH	**Guangfu**	1.29 211	eP	Pg	18 59 10.8	-0.4	
	baz=219						
NSY	**Sanyi**	1.32 254	eP	Pg	18 59 12.4	+0.8	
	baz=249						
NSY			eS	Sg	18 59 30.3	+1.6	
	baz=249						
TWQ1	**Liyutan**	1.33 251	P	Pg	18 59 12.2	+0.4	
	baz=239						
TWQ1			eS	Sg	18 59 30.4	+1.3	
	baz=239						
DPDB	**Guoxing**	1.34 236	⇓P	Pg	18 59 11.8	-0.4	
	baz=230						
DPDB			eS	Sb	18 59 28.8	0.0	
	baz=230						
PTSB	**Yuanli**	1.36 256	eP	Pg	18 59 12.7	+0.3	
	baz=251						
PTSB			eS	Sg	18 59 30.3	+0.2	
	baz=251						
VWDT	**VWDT**	1.38 222	⇓P	Pb	18 59 12.3	+0.2	
	baz=224						
VWDT			eS	Sg	18 59 30.7	0.0	
	baz=224						
WDJ	**Dajia District**	1.44 253	eP	Pg	18 59 14.7	+0.7	
	baz=247						
WDJ			eS	Sg	18 59 33.6	+0.9	
	baz=247						
HGSD	**Ruisui**	1.45 207	eP	Pg	18 59 13.7	-0.5	
	baz=186						
HGSD			eS	Sg	18 59 34.3	+1.3	
	baz=186						
SMLT	**Sun Moon Lake**	1.45 232	⇑P	Pg	18 59 14.0	-0.2	
	baz=225						
SMLT			eS	Sg	18 59 33.1	+0.1	
	baz=225						
TYC	**Yuchr**	1.47 234	P	Pb	18 59 13.8	+0.1	
	baz=227						
TYC			eS	Sb	18 59 32.5	+0.1	
	baz=227						
SSLB	**Suanglung**	1.48 228	⇓P	Pb	18 59 13.8	0.0	
	baz=221						
SSLB			S	Sn	18 59 31.7	-0.5	
	baz=221						
EHY	**Hungye**	1.48 211	eP	Pn	18 59 12.6	-0.3	
	baz=217						
TCU	**Taichung**	1.48 245	eP	Pg	18 59 15.7	+0.8	
	baz=250						
TCU			eS	Sg	18 59 36.0	+1.9	
	baz=250						
IRIF	**Iriomote-Funau**	1.51 107	P	Pb	18 59 14.4	+0.1	
YULB	**Yu-li**	1.59 209	eP	Pn	18 59 15.1	+0.6	
	baz=211						
YULB			eS	Sb	18 59 36.2	+0.4	
	baz=211						
WHYT	**Xinyi Township**	1.60 228	eP	Pg	18 59 16.8	-0.3	
	baz=222						
WCHH	**Zhanghua**	1.61 244	eP	Pg	18 59 17.3	+0.1	
	baz=254						
WCHH			eS	Sg	18 59 39.0	+0.9	
	baz=254						
WJS	**Zhushan**	1.61 234	eP	Pg	18 59 17.8	+0.5	
	baz=218						
WJS			eS	Sg	18 59 39.7	+1.5	
	baz=218						
WNT	**Mingjian**	1.61 236	eP	Pg	18 59 17.0	-0.3	
	baz=224						
WNT			eS	Sg	18 59 38.8	+0.5	
	baz=224						
TWF1	**Yuli**	1.63 209	eP	Pb	18 59 15.7	-0.7	
	baz=215						
TWF1			eS	Sb	18 59 37.2	+0.3	
	baz=215						
HATJ	**Hateruma jima**	1.68 115	P	Pb	18 59 16.5	-0.7	
FULB	**Fuli**	1.76 207	eP	Pn	18 59 17.7	+0.9	
	baz=212						
FULB			eS	Sg	18 59 41.9	-1.2	
	baz=212						
ALS	**Alishan**	1.77 224	eP	Pg	18 59 19.8	-0.4	
	baz=203						
JKRS	**Kuro-shima**	1.78 107	P	Pn	18 59 17.6	+0.6	
CHN5	**Tsauling**	1.79 229	eP	Pg	18 59 20.0	-0.7	
	baz=219						
CHN5			eS	Sg	18 59 44.4	+0.5	
	baz=219						
WGK	**Gukeng**	1.82 233	eP	Pb	18 59 19.9	+0.3	
	baz=225						
CHKT	**Chengkung**	1.82 203	eP	Pn	18 59 18.4	+0.7	
	baz=177						
CHKT			eS	Sn	18 59 41.4	+0.6	
	baz=177						
WDLH	**Douliu**	1.83 234	eP	Pg	18 59 20.8	-0.6	
	baz=243						
WDLH			eS	Sg	18 59 46.4	+1.2	
	baz=243						
RLNB	**Erlin**	1.86 242	eP	Pb	18 59 20.6	+0.3	
	baz=252						
RLNB			eS	Sb	18 59 43.8	+0.2	
	baz=252						
JIJ	**Ishigaki jima**	1.86 103	P	Pb	18 59 19.8	-0.6	
JIJ			eS	Sb	18 59 43.3	-0.4	
ELDTW	**Lidau**	1.90 213	eP	Pn	18 59 19.9	+1.1	
	baz=192						
ELDTW			eS	Sb	18 59 45.0	+0.2	
	baz=192						
CHN2	**Minshiung**	1.97 231	eP	Pg	18 59 23.4	-0.8	
	baz=222						
CHN2			eS	Sg	18 59 49.6	-0.2	
	baz=222						
JISG	**Ishigakijimahi**	1.98 95	P	Pb	18 59 21.7	-0.6	
CHN4	**Tsaushan**	2.02 225	P	Pg	18 59 24.0	-1.0	
	baz=204						
CHN4			eS	Sg	18 59 50.9	-0.3	
	baz=204						
TPUB	**Ta-pu**	2.03 224	eP	Pb	18 59 23.9	+0.7	
	baz=204						
TPUB			eS	Sg	18 59 50.4	-1.1	
	baz=204						
CHY	**Chiayi**	2.03 231	eP	Pb	18 59 23.6	+0.3	
	baz=223						
STYT	**Tauyuan**	2.06 219	eP	Pb	18 59 23.9	+0.2	
	baz=211						
WTP	**Ta-pu**	2.08 223	eP	Pb	18 59 24.3	+0.2	
	baz=201						
WTP			eS	Sg	18 59 53.6	+0.5	
	baz=201						
WSF	**Szhu**	2.10 237	eP	Pn	18 59 22.2	+0.8	
	baz=230						
WLGB	**Puzi**	2.13 233	eP	Pb	18 59 23.8	-1.2	
	baz=225						
TWK	**Hsinying**	2.14 225	eP	Pb	18 59 25.4	+0.1	
	baz=215						
TWK			eS	Sg	18 59 53.6	-1.7	
	baz=215						
SNST	**Tainan City**	2.17 224	eP	Pb	18 59 25.4	-0.2	
	baz=217						
CHN1	**Nanshi**	2.18 223	eP	Pb	18 59 25.9	+0.2	
	baz=214						
CHN1			eS	Sg	18 59 55.1	-1.2	
	baz=214						
TWGBT	**Beinan**	2.19 207	eP	Pn	18 59 24.2	+1.5	
	baz=186						
TWG	**Pinlang**	2.19 207	eP	Pn	18 59 23.9	+1.1	
	baz=198						
TWG			eS	Sn	18 59 51.0	+1.2	
	baz=198						
SGST	**Jiashian**	2.22 221	eP	Pb	18 59 25.8	-0.7	
	baz=211						
SGST			eS	Sg	18 59 55.9	-1.9	
	baz=211						
SLGT	**Liugui**	2.25 218	eP	Pb	18 59 27.4	+0.3	
	baz=210						
PTTC	**Pingtan**	2.27 289	eP	Pn	18 59 23.4	-0.3	
	baz=285						
CHN8	**Yiju**	2.28 231	eP	Pb	18 59 27.2	-0.3	
	baz=222						
CHN8			eS	Sb	18 59 55.8	+0.1	
	baz=222						
MATB	**Ma-tsu**	2.41 305	eP	Pn	18 59 27.0	+1.3	
	baz=300						
ECL	**Taimali**	2.44 207	eP	Pb	18 59 28.5	-1.7	
	baz=189						
SSD	**Sandimen**	2.46 215	eP	Pb	18 59 29.6	-1.0	
	baz=207						
VWUC	**VWUC**	2.46 275	eP	Pn	18 59 25.9	-0.4	
	baz=271						
TWM1	**Shoushan**	2.51 219	eP	Pb	18 59 30.3	-1.2	
	baz=212						
MASBT	**Mashibuluo**	2.57 213	eP	Pb	18 59 30.6	-1.9	
	baz=190						
EAST	**Anshuo**	2.67 207	eP	Pn	18 59 30.7	+1.3	
	baz=189						
PHUB	**P'eng-hu**	2.67 242	eP	Pn	18 59 29.2	-0.1	
	baz=235						
PTMZ	**Houxiangcun**	2.76 276	eP	Pn	18 59 30.0	-0.6	
	baz=272						
XPSS	**Dashiqiu**	2.77 321	eP	Pn	18 59 30.1	-0.6	
	baz=316						
LYJJ	**Jianjiangzhen**	2.78 310	eP	Pn	18 59 30.2	-0.6	
	baz=305						
SCZT	**Fangliau**	2.78 211	eP	Pb	18 59 34.1	-2.0	
	baz=201						
SCZT			eS	Sb	19 00 09.7	-0.5	
	baz=201						
TWKBT	**Hengchun**	3.09 204	eP	Pn	18 59 37.6	+2.6	
	baz=185						
MHZQ	**Yeshan**	3.11 296	eP	Pn	18 59 35.9	+0.6	
	baz=291						
KNM	**Kinmen**	3.40 265	eP	Pn	18 59 41.4	+2.1	
	baz=259						
KNMB	**Chin-men Tao**	3.44 265	eP	Pn	18 59 39.8	-0.1	
	baz=260						
AXDP	**Jialang**	3.80 273	eP	Pn	18 59 45.1	+0.4	
	baz=270						
ZPLA	**Ao Xicun**	4.10 259	eP	Pn	18 59 49.2	+0.2	
	baz=257						

WEL 17 19:03:59.0, 41°S±2°×17°5E±°, h33km±2km, M3.4/19, ML3.8/15, MLv3.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=130.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.22**	**268**	P	Pn	19 04 06.4	+0.6
TCW				S	Sb	19 04 11.4	+1.1
BHW	**Baring Head**	**0.31**	**132**	P	Pn	19 04 07.7	+0.4
BHW				S	Sn	19 04 13.4	+0.9
CAW	**Cannon Point**	**0.39**	**76**	P	Pn	19 04 08.7	+0.3
CAW				S	Sn	19 04 15.6	+1.0
KIW	**Kapiti Island**	**0.43**	**38**	P	Pn	19 04 09.1	+0.1
KIW				S	Sn	19 04 15.8	+0.2
TUWZ	**Tuamarina**	**0.52**	**244**	P	Pb	19 04 10.0	+0.1
TUWZ				S	Sb	19 04 17.2	-0.1
MSWZ	**Moikau Station**	**0.56**	**113**	P	Pn	19 04 11.0	+0.3
MSWZ				S	Sn	19 04 19.8	+0.9
OGWZ	**Otaki Gorge**	**0.60**	**50**	P	Pn	19 04 11.6	+0.4
CMWZ	**Cape Campbell**	**0.61**	**206**	P	Pn	19 04 12.4	+1.1
DUWZ	**D'Urville Isla**	**0.63**	**309**	P	Pb	19 04 11.9	+0.2
PLWZ	**Palliser**	**0.64**	**125**	P	Pb	19 04 11.8	0.0
PAWZ	**Paruwai Farm**	**0.68**	**106**	P	Pn	19 04 12.4	+0.1
MTW	**Mount Morrison**	**0.71**	**87**	P	Pb	19 04 12.9	-0.1
BSWZ	**Blackbirch Sta**	**0.73**	**225**	P	Pb	19 04 13.2	-0.1
HOWZ	**Holdsworth Sta**	**0.78**	**67**	P	Pn	19 04 13.9	+0.2
TRWZ	**Traveller**	**0.87**	**103**	P	Pn	19 04 14.9	-0.1
NNZ	**Nelson**	**0.89**	**269**	P	Pb	19 04 15.7	-0.3
MRZ	**Mangatainoka R**	**0.94**	**55**	P	Pn	19 04 16.2	+0.3
TMWZ	**Te Maipa**	**1.01**	**85**	P	Pn	19 04 16.7	-0.1
TIWZ	**Tintock**	**1.09**	**67**	P	Pn	19 04 17.8	-0.1
OHWZ	**Ohakea**	**1.15**	**30**	P	Pb	19 04 20.4	+0.2
POWZ	**Post Office Ro**	**1.22**	**49**	P	Pn	19 04 19.9	+0.2
PRWZ	**Pori Road**	**1.25**	**59**	P	Pn	19 04 20.2	0.0
CPWZ	**Castlepoint**	**1.27**	**77**	P	Pn	19 04 20.8	+0.3
THZ	**Tophouse**	**1.37**	**245**	P	Pn	19 04 22.3	+0.5
BFZ	**Birch Farm**	**1.38**	**68**	P	Pn	19 04 21.3	-0.6
KHZ	**Kahutara**	**1.44**	**212**	P	Pn	19 04 22.7	0.0
WAZ	**Wanganui**	**1.48**	**13**	P	Pb	19 04 25.4	-0.5
DVHZ	**Dannevirke**	**1.52**	**54**	P	Pn	19 04 23.2	-0.6
TSZ	**Takapari Road**	**1.56**	**43**	P	Pn	19 04 24.4	-0.1
QRZ	**Quartz Range**	**1.58**	**283**	P	Pn	19 04 25.9	+1.2
ANWZ	**Angora Road**	**1.63**	**64**	P	Pn	19 04 24.9	-0.5
PNHZ	**Pukenui**	**1.79**	**45**	P	Pn	19 04 27.2	-0.4
PRHZ	**Porangahau**	**1.83**	**60**	P	Pn	19 04 27.0	-1.1
NMEZ	**Namu Road**	**1.86**	**343**	P	Pb	19 04 30.7	-1.7
KHEZ	**Kahui Hut**	**1.95**	**347**	P	Pb	19 04 32.1	-1.9
PKVZ	**Pokaka**	**2.00**	**18**	P	Pn	19 04 32.6	+2.0
NBEZ	**Newall Road No**	**2.00**	**344**	P	Pn	19 04 32.5	+2.0
MOVZ	**Moawhango**	**2.01**	**27**	P	Pn	19 04 31.2	+0.5
TRVZ	**Turoa**	**2.04**	**22**	P	Pn	19 04 32.8	+1.5
BHHZ	**Black Hill Sta**	**2.06**	**34**	P	Pn	19 04 31.6	+0.3
KRHZ	**Kereru**	**2.08**	**42**	P	Pn	19 04 31.1	-0.5
VRZ	**Vera Road**	**2.08**	**4**	P	Pn	19 04 33.8	+2.2
FWVZ	**Far West T-bar**	**2.09**	**22**	P	Pn	19 04 33.3	+1.4
GVZ	**Greta Valley S**	**2.10**	**212**	P	Pn	19 04 31.3	-0.6
PXZ	**Pawanui**	**2.10**	**57**	P	Pn	19 04 30.8	-1.1
TUVZ	**Tukino**	**2.10**	**24**	P	Pn	19 04 33.3	+1.2
DSZ	**Denniston Nort**	**2.14**	**254**	P	Pn	19 04 33.3	+0.8
NGZ	**Ngauruhoe**	**2.17**	**22**	P	Pn	19 04 34.7	+1.7
WTVZ	**West Tongariro**	**2.23**	**21**	P	Pn	19 04 35.6	+1.9
TWVZ	**Taurewa**	**2.23**	**18**	P	Pn	19 04 35.9	+2.1
KAHZ	**Kahuranaki**	**2.25**	**52**	P	Pn	19 04 32.9	-1.2
KWHZ	**Kaweka Forest**	**2.27**	**39**	P	Pn	19 04 33.7	-0.6
LTZ	**Lake Taylor**	**2.33**	**227**	P	Pn	19 04 34.6	-0.4
AMCZ	**Amberley**	**2.43**	**215**	P	Pn	19 04 36.0	-0.4
BKZ	**Black Stump Fm**	**2.51**	**37**	P	Pn	19 04 39.2	+1.6
HIZ	**Hauiti**	**2.69**	**5**	P	Pn	19 04 42.2	+2.2
OKCZ	**Okains Bay**	**2.75**	**203**	P	Pn	19 04 39.3	-1.6
INZ	**Inchbonnie**	**2.78**	**236**	P	Pn	19 04 41.0	-0.2
OXZ	**Oxford**	**2.83**	**221**	P	Pn	19 04 40.1	-1.8
MQZ	**McQueen's Vall**	**2.88**	**209**	P	Pn	19 04 40.2	-2.2
MTHZ	**Maungataniwha**	**2.93**	**37**	P	Pn	19 04 42.6	-0.7
AKCZ	**Akaroa Harbour**	**2.94**	**204**	P	Pn	19 04 41.7	-1.7
WVZ	**Waitaha Valley**	**3.41**	**235**	P	Pn	19 04 49.6	-0.2
URZ	**Urewera**	**3.53**	**35**	P	Pn	19 04 51.3	-0.3
RPZ	**Rata Peaks**	**3.61**	**225**	P	Pn	19 04 50.8	-1.8
RUGZ	**Raukumara Rang**	**4.03**	**38**	P	Pn	19 04 57.6	-0.9
MKAZ	**Moumakai**	**4.12**	**7**	P	Pn	19 05 01.8	+2.2
AWAZ	**Awhitu Peninsu**	**4.13**	**1**	P	Pn	19 05 01.9	+2.1
FOZ	**Fox Glacier**	**4.22**	**235**	P	Pn	19 05 00.4	-0.6
HAZ	**Te Kaha**	**4.25**	**37**	P	Pn	19 05 02.1	+0.8
PKGZ	**Pakihiroa**	**4.28**	**41**	P	Pn	19 05 01.8	-0.1
WIAZ	**Waiheke Island**	**4.42**	**6**	P	Pn	19 05 05.9	+2.1
ODZ	**Otahua Downs**	**4.79**	**215**	P	Pn	19 05 06.7	-2.2
JCZ	**Jackson Bay**	**5.14**	**234**	P	Pn	19 05 12.9	-0.8
OUZ	**Omahuta**	**6.02**	**352**	P	Pn	19 05 27.3	+1.6
CTZ	**Chatham Island**	**7.00**	**114**	P	Pn	19 05 38.2	-0.9

*ISCJB **17** 19:05:04.1±0.3, 60.20°S±0.05°×46.8°W±0.1, h10km, mb4.5/15, MS3.7/4, Error ellipse: s-maj=9.7km s-min=7.2km az=150.9*
*NEIC **17** 19:05:05.1±2.1, 60.30°S±0.08°×46.7°W±0.2, h10km±1km, mb4.6/21*
*IDC **17** 19:05:14.2±3.4, 60.29°S×47.01°W, h81km±30km, mb4.1/14, mb1 4.1/15, mb1mx4.0/21, mbtmp4.4/15, MS3.6/5, Ms1 3.6/5, ms1mx3.3/17, Error ellipse: s-maj=21.3km s-min=12.0km az=60.0*

ISC 17 19:05:05.3±0.4, 60.24°S±0.07°×46.76°W±0.08, h10km, n84, σ1°15/74, mb4.5/21, MS3.6/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.16**	**47**		**Pn**	**19 07 03.7**	**+0.2**
PMSA	**Palmer Station**	**9.18**	**233**	P	**Pn**	**19 07 17.4**	**-0.2**
	3.9nm,0.3s,baz=47,slow=9.2,SNR=16						
PMSA				LR	LR	19 11 29.7	
	comp=Z,350nm,18.8s,baz=72,slow=42						
PMSA	**Palmer Station**	**9.18**	**233**		**Pn**	**19 07 16.9**	**-0.7**
USHA	**Ushuaia**	**12.81**	**285**	P	**Pn**	**19 08 09.5**	**+2.3**
	0.4nm,0.3s,baz=127,slow=14,SNR=3.3						
USHA				LR	LR	19 11 54.4	
	comp=Z,555nm,19.9s,baz=106,slow=32						
VNA3	**Neumayer Olymp**	**18.42**	**142**	P	**Pn**	**19 09 21.8**	**+1.5**
VNA1	**Neumayer--Stat**	**18.70**	**140**	P	**Pn**	**19 09 26.7**	**+3.0**
VNA2	**Neumayer--Watz**	**19.04**	**140**	P	**Pn**	**19 09 32.0**	**+4.1**
	baz=295,slow=13						
SNAA	**Sanae**	**20.64**	**141**	P	Pn	19 09 49.0	+2.1
SNAA	**Sanae**	**20.64**	**141**	P	Pn	19 09 47.9	+1.0
	19nm,0.9s,baz=288,slow=9.5,SNR=29						
SNAA				LR	LR	19 16 24.9	
	comp=Z,113nm,21.4s,baz=0.0,slow=32						
SNAA	**Sanae**	**20.64**	**141**		Pn	19 09 46.0	-0.9
SNAA				IAmb	IAmb	19 09 54.9	
	comp=Z,22nm,0.9s						
TRQA	**Tornquist**	**24.21**	**330**	P	**P**	**19 10 22.5**	**+0.7**
TRQA				IAmb	IAmb	19 10 29.4	
	comp=Z,12nm,0.8s						
PLCA	**Paso Flores**	**24.46**	**312**	P	**P**	**19 10 25.7**	**+1.5**
	comp=Z,3.2nm,0.6s,baz=205,slow=8.0,SNR=9.9						
PLCA				LR	LR	19 19 18.1	
	comp=Z,155nm,19.6s,baz=182,slow=35						
PLCA	**Paso Flores**	**24.46**	**312**	IAmb	IAmb	19 10 31.4	
	comp=Z,5.8nm,0.8s						
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**19 11 14.9**	**+1.1**
	comp=Z,21nm,0.9s,baz=173,slow=4.0,SNR=43						
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**19 11 14.5**	**+0.7**
CFA	**Coronel Fontan**	**31.99**	**324**	P	**P**	**19 11 30.8**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=206,slow=6.1,SNR=3.7						
CPUP	**Villa Florida**	**34.66**	**343**	P	**P**	**19 11 55.5**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=164,slow=6.8,SNR=7.3						
SBA	**Scott Base**	**40.64**	**190**	P	**P**	**19 12 45.8**	**+1.1**
SBA				IAmb	IAmb	19 12 47.3	
	comp=Z,10nm,0.8s						
MAW	**Mawson**	**42.59**	**148**	P	**P**	**19 13 01.8**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=195,slow=11,SNR=3.6						
MAW				LR	LR	19 30 07.2	
	comp=Z,79nm,18.2s,baz=238,slow=35						
MAW	**Mawson**	**42.59**	**148**	IAmb	IAmb	19 13 08.4	
	comp=Z,2.3nm,1.1s						
MNMC	**Minye Minye**	**44.19**	**328**	P	**P**	**19 13 13.8**	**-0.7**
MNMC				IAmb	IAmb	19 13 21.6	
	comp=Z,9.1nm,0.7s						
BDFB	**Brasilia**	**44.54**	**358**	P	**P**	**19 13 18.3**	**+1.2**
	comp=Z,3.3nm,0.5s,baz=154,slow=6.5,SNR=6.3						
BDFB	**Brasilia**	**44.54**	**358**	IAmb	IAmb	19 13 25.1	
	comp=Z,5.1nm,0.7s						
SIV	**San Ignacio**	**45.39**	**340**	P	**P**	**19 13 24.9**	**+1.0**
	comp=Z,2.7nm,0.5s,baz=179,slow=7.5,SNR=20						
LPAZ	**La Paz**	**46.55**	**331**	P	**P**	**19 13 34.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=157,slow=6.2,SNR=6.2						
LPAZ	**La Paz**	**46.55**	**331**	P	**P**	**19 13 33.7**	**+0.1**
SUR	**Sutherland**	**51.47**	**89**	P	**P**	**19 14 12.1**	**+1.3**
	comp=Z,10nm,0.7s,baz=206,slow=9.4,SNR=11						
SAML	**Samuel**	**52.64**	**339**	P	**P**	**19 14 18.7**	**-0.7**
SAML				IAmb	IAmb	19 14 26.6	
	comp=Z,9.8nm,1.1s						
BOSA	**Boshof**	**56.75**	**90**	P	**P**	**19 14 49.9**	**+0.6**
	comp=Z,6.7nm,0.9s,baz=205,slow=6.6,SNR=12						
BOSA	**Boshof**	**56.75**	**90**	IAmb	IAmb	19 14 55.4	
	comp=Z,9.4nm,1.0s						
H10N3	**ASCENSION HYDR**	**57.62**	**39**	T	T	20 17 46.8	
	baz=199,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**	**57.63**	**39**	T	T	20 17 47.4	
	baz=199,slow=75,SNR=22						
H10N2	**ASCENSION HYDR**	**57.64**	**39**	T	T	20 17 48.0	
	baz=199,slow=75,SNR=25						
LBTB	**Lobatse**	**59.89**	**88**	P	**P**	**19 15 11.6**	**+0.3**
LSZ	**Lusaka**	**69.39**	**85**	P	**P**	**19 16 13.4**	**0.0**
LIC	**Lamto**	**73.93**	**44**	eP	**P**	**19 16 41.4**	**+0.9**
	comp=Z,21nm,0.6s						
KIC	**Kosan Boka**	**74.16**	**44**	eP	**P**	**19 16 42.6**	**+0.8**
	comp=Z,16nm,1.0s						
TIC	**Toumodi**	**74.32**	**43**	eP	**P**	**19 16 43.6**	**+0.8**
DBIC	**Dimbokro**	**74.40**	**44**	P	**P**	**19 16 44.0**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=130,slow=7.2,SNR=3.7						
DBIC	**Dimbokro**	**74.40**	**44**	IAmb	IAmb	19 16 56.8	
	comp=Z,6.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**82.74**	**47**	P	**P**	**19 17 28.4**	**-0.7**
TOA0				IAmb	IAmb	19 17 30.9	
	comp=Z,5.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.74**	**47**	P	**P**	**19 17 30.1**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=210,slow=5.3,SNR=16						
TORD	**Torodi Ar. Bea**	**82.74**	**47**	P	**P**	**19 17 28.4**	**-0.7**
CAN	**Canberra**	**83.91**	**193**	P	**P**	**19 17 35.3**	**+0.2**
CAN				IAmb	IAmb	19 17 49.5	
	comp=Z,3.4nm,0.8s						
ARMA	**Armidale**	**88.42**	**196**	P	**P**	**19 17 56.9**	**-0.6**
FORT	**Forrest**	**89.22**	**176**	P	**P**	**19 18 00.2**	**-0.9**
ASAR	**Alice Springs**	**96.40**	**181**	P	**P**	**19 18 32.5**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=174,slow=3.7,SNR=13						
ASAR				PP	**PP**	**19 22 25.6**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=172,slow=7.8,SNR=5.9						
ASAR	**Alice Springs**	**96.40**	**181**	P	**P**	**19 18 32.6**	**-1.8**
AS31	**Alice Springs**	**96.40**	**181**	P	**P**	**19 18 33.4**	**-1.1**
WRA	**Warramunga Arr**	**100.11**	**181

comp=N,59nm,18.3s
LZH LR LR
comp=E,65nm,18.5s
LZH LR LR
comp=Z,76nm,20.1s
XAN Xi'an 149.37 138 PKPbc **PKPbc 19 24 52.6 -1.2**
XAN pPKP sPKPab 19 25 19.1 +16
GTA Gaotai 150.53 120 *e*PKPbc **PKPdf 19 24 50.5 -0.7**
ZALV Zalesovo Beam 153.48 82 PKPbc **PKPbc 19 25 01.1 -1.4**
comp=Z,1.6nm,0.6s,baz=236,slow=3.5,SNR=6.0
KSRS Korea Array 156.95 169 PKPab **PKPab 19 25 29.9 -0.3**
comp=Z,1.8nm,0.7s,baz=191,slow=5.1,SNR=5.0
SONM Songino Array 160.11 117 PKPab **PKPab 19 25 43.4 -0.5**
comp=Z,1.2nm,0.9s,baz=213,slow=4.6,SNR=6.4

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*ISCJB **17** 19:24:43.5±0.6, 20°.34N±0°.07×145°.3E±0°.2, h81km, mb3.7/9, Error ellipse: s-maj=21.3km s-min=7.5km az=160.3*
*NEIC **17** 19:24:45.4±2.5, 20°.25N±0°.10×145°.2E±0°.2, h74km±11km, mb4.5/14*
*IDC **17** 19:24:51.7±12.0, 20°.29N×145°.35E, h135km±120km, mb3.3/9, mb1 3.4/9, mb1mx3.2/46, mbtmp3.7/9, Error ellipse: s-maj=89.5km s-min=16.2km az=84.0*
ISC 17 19:24:44.9±0.8, **20°.33N**±0°.09×**145°.3E**±0°.2, **h81**km, **n26**, σ1§**44**/22, **mb4.0**/12, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.64**	**173**	Pn	**Pn**	**19 25 37.6**	**-1.4**
JHJ2	**Mitsune**	**13.64**	**340**	Pn	**P**	**19 27 58.4**	**-2.5**
JOW	**Kunigami**	**16.91**	**296**	Pn	**Pn**	**19 28 34.6**	**-1.9**
JOW				IAmb	IAmb	19 28 44.9	
comp=Z,56nm,1.3s							
MJAR	**Matsushiro Arr**	**17.31**	**340**	P	**Pn**	**19 28 39.9**	**-1.4**
JNU	**Nakatsue**	**18.11**	**318**	P	**P**	**19 28 49.4**	**-1.0**
JNU				IAmb	IAmb	19 29 01.1	
comp=Z,34nm,1.4s							
PATS	**Pohnpei**	**18.40**	**135**	P	**P**	**19 28 53.2**	**-0.5**
PATS				IAmb	IAmb	19 29 01.3	
comp=Z,51nm,1.1s							
KLR	**Kul'dur**	**30.81**	**343**	P	**P**	**19 30 55.0**	**+2.1**
comp=Z,0.8nm,0.3s,baz=180,slow=12,SNR=5.0							
BJT	**Baijiatuan**	**31.73**	**315**	P	**P**	**19 30 59.7**	**-1.4**
COEN	**Coen**	**34.14**	**184**	P	**P**	**19 31 22.6**	**+0.2**
COEN				IAmb	IAmb	19 31 26.2	
comp=Z,6.5nm,1.4s							
UBPT	**Khong Chiam**	**38.22**	**269**	P	**P**	**19 31 57.1**	**-0.1**
UBPT				IAmb	IAmb	19 32 06.1	
comp=Z,12nm,1.1s							
CTAO	**Charters Tower**	**40.18**	**179**	P	**P**	**19 32 12.6**	**-0.8**
WRAB	**Tennant Creek**	**41.44**	**196**	P	**P**	**19 32 25.0**	**+1.2**
WB2	**Warramunga Arr**	**41.45**	**196**	P	**P**	**19 32 25.0**	**+1.1**
WB2				IAmb	IAmb	19 32 29.3	
comp=Z,6.3nm,1.3s							
WRA	**Warramunga Arr**	**41.45**	**196**	P	**P**	**19 32 24.5**	**+0.7**
comp=Z,0.3nm,0.6s,baz=10,slow=8.8,SNR=7.9							
WRA	**Warramunga Arr**	**41.45**	**196**	IAmb	IAmb	19 32 27.5	
comp=Z,0.2nm,1.2s							
SONM	**Songino Array**	**41.66**	**320**	P	**P**	**19 32 27.1**	**+1.6**
comp=Z,0.2nm,0.4s,baz=135,slow=8.7,SNR=4.8							
SONM	**Songino Array**	**41.66**	**320**	IAmb	IAmb	19 32 30.4	
comp=Z,0.9nm,1.3s							
FITZ	**Fitzroy Crossi**	**42.80**	**208**	P	**P**	**19 32 36.4**	**+1.5**
comp=Z,1.0nm,0.7s,baz=23,slow=8.2,SNR=7.3							
FITZ	**Fitzroy Crossi**	**42.80**	**208**	IAmb	IAmb	19 32 55.2	
comp=Z,5.9nm,1.2s							
ASAR	**Alice Springs**	**45.13**	**195**	P	**P**	**19 32 54.1**	**+0.6**
comp=Z,0.3nm,0.8s,baz=25,slow=7.8,SNR=5.0							
MKAR	**Makanchi Array**	**57.09**	**313**	P	**P**	**19 34 24.7**	**+1.8**
comp=Z,0.5nm,0.6s,baz=104,slow=6.2,SNR=4.4							
KURK	**Kurchatov**	**59.83**	**318**	P	**P**	**19 34 43.4**	**+1.5**
KURK	**Kurchatov**	**59.83**	**318**	IAmb	IAmb	19 34 47.6	
comp=Z,2.2nm,0.9s							
KURBB	**Kurchatov Arra**	**59.88**	**317**	P	**P**	**19 34 43.4**	**+1.2**
comp=Z,0.7nm,0.5s,baz=91,slow=7.3,SNR=7.7							
BVAR	**Borovoye Array**	**65.00**	**320**	P	**P**	**19 35 17.6**	**+1.3**
comp=Z,1.3nm,0.5s,baz=104,slow=7.5,SNR=7.5							
FINES	**FINESS Array B**	**85.26**	**335**	P	**P**	**19 37 12.8**	**+0.3**
comp=Z,1.6nm,0.7s,baz=59,slow=5.4,SNR=5.4							

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*ISCJB **17** 19:30:27.6±0.8, 61°.1S±0°.1×42°.3W±0°.3, h10km, mb3.6/1, Error ellipse: s-maj=18.8km s-min=16.5km az=43.5*
*NEIC **17** 19:30:30.0±2.2, 60°.99S±0°.10×42°.4W±0°.3, h10km±1km, mb4.5/7*
*IDC **17** 19:30:30.8±2.4, 60°.57S×42°.24W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/15, mbtmp3.8/1, Error ellipse: s-maj=148.7km s-min=74.7km az=171.0*
ISC 17 19:30:29.7±0.8, **61°.1S**±0°.1×**42°.3W**±0°.1, **h10**km, **n12**, σ1§**37**/11, **mb4.3**/5, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.50**	**27**	Pn	**Pn**	**19 32 19.0**	**0.0**
PLCA	**Paso Flores**	**26.70**	**307**	P	**P**	**19 36 08.3**	**-0.5**
PLCA				IAmb	IAmb	19 36 18.1	
comp=Z,6.1nm,1.2s							
GO06	**Curarrehue**	**28.05**	**307**	P	**P**	**19 36 19.4**	**-1.5**
GO06				IAmb	IAmb	19 36 25.7	
comp=Z,9.1nm,1.1s							
MAW	**Mawson**	**40.66**	**145**	P	**P**	**19 38 08.3**	**-1.0**
MNMC	**Minye Minye**	**46.14**	**323**	P	**P**	**19 38 53.7**	**-0.7**
MNMC				IAmb	IAmb	19 38 59.3	
comp=Z,3.0nm,0.8s							
SUR	**Sutherland**	**49.33**	**84**	P	**P**	**19 39 17.9**	**-1.1**
SUR				IAmb	IAmb	19 39 33.1	
comp=Z,24nm,1.4s							
TORD	**Torodi Ar. Bea**	**81.78**	**43**	P	**P**	**19 42 49.0**	**+0.6**
comp=Z,0.6nm,0.8s,baz=206,slow=5.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**81.78**	**43**	IAmb	IAmb	19 42 51.0	
comp=Z,0.9nm,0.9s							
DZM	**Mont Dzumac**	**93.93**	**207**	P	**P**	**19 43 47.8**	**+0.2**
INK	**Inuvik**	**144.61**	**320**	PKP	**PKPab**	**19 50 04.8**	**+1.5**
comp=Z,1.6nm,1.0s,baz=84,slow=1.5,SNR=5.3							
MKAR	**Makanchi Array**	**145.55**	**89**	PKPbc	**PKPdf**	**19 50 09.1**	**+2.2**
comp=Z,0.3nm,0.6s,baz=222,slow=3.7,SNR=2.1							
ILAR	**Eielson Array**	**147.37**	**310**	PKPbc	**PKPbc**	**19 50 13.4**	**+1.5**
comp=Z,1.0nm,0.7s,baz=142,slow=2.5,SNR=6.8							

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*ISCJB **17** 19:37:25.3±0.6, 8°.94N±0°.03×126°.39E±0°.06, h79km±6km, mb3.7/11, Error ellipse: s-maj=9.5km s-min=5.4km az=165.7*
*MAN **17** 19:37:25.6, 8°.94N×126°.40E, h32km, mb4.8, ML3.8, MS3.7*
*NEIC **17** 19:37:26.9±1.8, 8°.96N±0°.06×126°.4E±0°.1, h77km±9km, mb4.4/19*
*IDC **17** 19:37:28.7±3.1, 8°.89N×126°.21E, h92km±30km, mb3.5/11, mb1 3.6/12, mb1mx3.4/67, mbtmp3.9/12, Error ellipse: s-maj=37.2km s-min=13.3km az=73.0*
ISC 17 19:37:25.5±1.0, **8°.94N**±0°.04×**126°.43E**±0°.07, **h60**km±10km, **n47**, σ1§**79**/49, **mb4.1**/18, **5C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.75**	**185⇑**	*e*P	**Pn**	**19 37 40.8**	**+0.3**
BIPH				*e*S	**Sn**	**19 37 50.2**	**-1.2**
BUTP	**Butuan**	**0.80**	**272**	*e*P	**Pn**	**19 37 40.1**	**-0.9**
BUTP				*e*S	**Sn**	**19 37 51.1**	**-1.2**
BUKP	**Musuan**	**1.71**	**232**	*e*P	**Pn**	**19 37 53.4**	**+0.2**
BUKP				*e*S	**Sn**	**19 38 14.7**	**+0.7**
CGP	**Cagayan de Oro**	**1.78**	**254⇑**	*e*P	**Pn**	**19 37 57.9**	**+3.9**
CGP				*i* S	**Sn**	**19 38 13.4**	**-2.1**
MSLP	**Maasin**	**1.95**	**308**	*e*P	**Pn**	**19 37 56.3**	**+0.1**
MSLP				*e*S	**Sn**	**19 38 23.0**	**+3.3**
DAV	**Davao City (W)**	**2.04**	**204**	P	**Pn**	**19 37 59.3**	**+1.8**
134nm,0.3s,baz=344,slow=9.2,SNR=3.3							
KCP	**Kidapawan**	**2.33**	**215⇑**	*i*P	**Pn**	**19 38 04.3**	**+2.8**
KCP				*i* S	**Sn**	**19 38 35.6**	**+6.5**
CTBH	**Cotabato--PC H**	**2.75**	**232⇑**	*e*P	**Pn**	**19 38 07.0**	**-0.3**
LLP	**Lapu-Lapu**	**2.78**	**300⇓**	*e*P	**Pn**	**19 38 09.3**	**+1.6**
LLP				*e*S	**Sn**	**19 38 42.0**	**+1.8**
BESP	**Borongan**	**2.82**	**340**	*e*P	Pn	19 38 13.6	+5.4
BESP				*e*S	**Sn**	**19 38 44.0**	**+3.0**
PAGZ	**Pagadian**	**3.20**	**250**	*e*P	**Pn**	**19 38 13.1**	**-0.3**
PAGZ				*e*S	**Sn**	**19 38 51.7**	**+1.3**
CNP	**Catarman**	**3.95**	**334**	*e*P	**Pn**	**19 38 25.3**	**+1.7**
GUIM	**Jordan**	**4.13**	**294**	*e*P	**Pn**	**19 38 26.3**	**+0.1**
RCP	**Roxas**	**4.46**	**306⇑**	*e*P	**Pn**	**19 38 33.0**	**+2.4**
HKPS	**Hong Kong Po S**	**17.75**	**320**	P	**Pn**	**19 41 27.1**	**-1.5**
HKPS				IAmb	IAmb	19 41 35.0	
comp=Z,84nm,1.3s							

GUMO	**Guam**	**18.66**	**74**	P	**Pn**	**19 41 40.6**	**+0.9**
BATI	**Baumata**	**19.22**	**188**	P	**Pn**	**19 41 46.1**	**-0.2**
comp=Z,1.3nm,0.3s,baz=104,slow=5.3,SNR=5.7							
UBPT	**Khong Chiam**	**21.43**	**289**	P	**P**	**19 42 08.2**	**-0.6**
MTN	**Manton Dam**	**22.14**	**168**	P	**P**	**19 42 17.1**	**+0.7**
MTN				IAmb	IAmb	19 42 18.2	
comp=Z,20nm,1.4s							
KNRA	**Kununurra**	**24.57**	**175**	P	**P**	**19 42 40.8**	**+0.8**
KNRA				IAmb	IAmb	19 42 47.1	
comp=Z,22nm,1.1s							
FITZ	**Fitzroy Crossi**	**26.88**	**182**	P	**P**	**19 43 00.7**	**-0.2**
comp=Z,3.2nm,0.9s,baz=0.0,slow=12,SNR=6.2							
FITZ	**Fitzroy Crossi**	**26.88**	**182**	IAmb	IAmb	19 43 01.5	
comp=Z,8.1nm,1.3s							
JHJ2	**Mitsune**	**27.05**	**25**	P	**P**	**19 43 00.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**28.29**	**292**	P	**P**	**19 43 12.9**	**-0.7**
comp=Z,0.3nm,0.7s,baz=96,slow=7.3,SNR=4.2							
WRAB	**Tennant Creek**	**29.73**	**165**	P	**P**	**19 43 23.8**	**-2.6**
WRA	**Warramunga Arr**	**29.74**	**165**	P	**P**	**19 43 25.8**	**-0.6**
comp=Z,0.4nm,0.7s,baz=330,slow=17,SNR=17							
WB2	**Warramunga Arr**	**29.74**	**165**	P	**P**	**19 43 26.3**	**-0.1**
WB2				IAmb	IAmb	19 43 40.1	
comp=Z,7.6nm,1.4s							
ASAR	**Alice Springs**	**33.22**	**167**	P	**P**	**19 43 56.8**	**-0.2**
comp=Z,0.3nm,0.3s,baz=351,slow=7.2,SNR=8.3							
USRK	**Ussuriysk Ar.**	**35.46**	**7**	P	**P**	**19 44 17.3**	**+1.2**
comp=Z,2.2nm,0.6s,baz=191,slow=8.9,SNR=9.2							
MORW	**Morawa**	**39.09**	**194**	P	**P**	**19 44 47.4**	**+0.3**
MORW				IAmb	IAmb	19 45 02.9	
comp=Z,6.8nm,0.9s							
FORT	**Forrest**	**39.52**	**178**	P	**P**	**19 44 51.7**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**40.17**	**72**	T	T	20 27 57.5	
baz=262,slow=75,SNR=38							
H11S1	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	20 28 03.8	
baz=262,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	20 28 00.7	
baz=262,slow=75,SNR=20							
BBOO	**Buckleboo**	**42.52**	**168**	P	**P**	**19 45 16.3**	**+1.1**
BBOO				IAmb	IAmb	19 45 24.2	
comp=Z,19nm,1.4s							
STKA	**Stephens Creek**	**43.10**	**161**	P	**P**	**19 45 20.5**	**+0.6**
comp=Z,0.8nm,0.5s,baz=353,slow=10,SNR=5.0							
MK31	**Makanchi Array**	**53.17**	**323**	P	**P**	**19 46 37.2**	**-0.3**
MKAR	**Makanchi Array**	**53.17**	**323**	P	**P**	**19 46 36.5**	**-1.0**
comp=Z,0.8nm,0.7s,baz=123,slow=7.9,SNR=6.4							
MAKZ	**Makanchi**	**53.37**	**323**	P	**P**	**19 46 37.8**	**-1.2**
MAKZ				IAmb	IAmb	19 46 39.4	
comp=Z,5.2nm,1.2s							
TAU	**Tasmania Unive**	**55.01**	**161**	P	**P**	**19 46 49.8**	**-1.1**
ZALV	**Zalesovo Beam**	**55.86**	**332**	P	**P**	**19 46 55.3**	**-1.6**
comp=Z,0.3nm,0.4s,baz=128,slow=9.3,SNR=1.9							
KURK	**Kurchatov**	**57.24**	**326**	P	**P**	**19 47 05.5**	**-1.2**
KURK	**Kurchatov**	**57.24**	**326**	IAmb	IAmb	19 47 15.9	
comp=Z,4.4nm,1.4s							
KURBB	**Kurchatov Arra**	**57.25**	**326**	P	**P**	**19 47 05.5**	**-1.3**
comp=Z,0.6nm,0.6s,baz=122,slow=6.2,SNR=4.7							
TIXI	**Tiksi**	**62.67**	**1**	P	**P**	**19 47 43.7**	**+0.2**
comp=Z,1.4nm,0.5s,baz=204,slow=3.5,SNR=5.4							
TIXI	**Tiksi**	**62.67**	**1**	IAmb	IAmb	19 47 44.2	
comp=Z,1.8nm,0.8s							
FINES	**FINESS Array B**	**87.13**	**332**	P	**P**	**19 50 03.5**	**-1.3**
comp=Z,0.7nm,0.6s,baz=152,slow=17,SNR=3.8							

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*IDC **17** 19:45:19.1±1.1, 40°.86N×51°.71E, h0km, mb3.7/5, mb1 3.7/16, mb1mx3.5/61, mbtmp3.7/16, ML3.1/8, Error ellipse: s-maj=17.1km s-min=8.2km az=161.0*
*AZER **17** 19:45:24.5±0.3, 40°.53N×51°.69E, h35km±5km, ml3.5/33, Error ellipse: s-maj=7.3km s-min=3.2km az=258.0*
*NNC **17** 19:45:29.8±16.0, 40°.87N×54°.17E, h0km, mb4.0, Error ellipse: s-maj=186.2km s-min=131.5km az=111.0*
ISC 17 19:45:20.8±1.6, **40°.82N**±0°.05×**51°.89E**±0°.05, **h24**km±13km, **n52**, σ2§**10**/88, **mb3.7**/4, **1C-4D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.38**	**253**	S	**Sn**	**19 46 00.8**	**-1.1**
NDR	**Nardaran**	**1.46**	**261**	P	**Pb**	**19 45 48.0**	**+0.7**
NDR				S	**Sn**	**19 46 04.7**	**+0.7**
GOBA	**Gobu**	**1.69**	**256**	Pn	**Pn**	**19 45 50.5**	**+1.7**
GOBA				Sn	**Sn**	**19 46 09.9**	**+0.2**
ATGJ	**Altiaghaj**	**2.24**	**272**	Pn	**Pb**	**19 45 59.7**	**-0.9**
SNR=3.5							
ATGJ				Sn	**Sb**	**19 46 27.0**	**-0.9**
GBS	**Qobustan**	**2.26**	**264**	Pn	**Pb**	**19 46 00.7**	**-0.2**
SNR=4.6							
GBS				Sn	**Sn**	**19 46 26.4**	**+2.7**
SIZA	**Siyzn**	**2.28**	**277**	Pn	**Pb**	**19 46 01.4**	**+0.2**
SNR=19							
SIZA				Sn	**Sb**	**19 46 27.7**	**-1.3**
ALIB	**Äli-Bayra**	**2.36**	**250**	Pn	**Pb**	**19 46 02.3**	**-0.3**
ALIB				Sn	**Sn**	**19 46 27.4**	**+1.2**
PQL	**Pirkuli**	**2.50**	**270**	Pn	**Pn**	**19 46 03.1**	**+3.1**
SNR=3.1							
PQL				Sn	**Sn**	**19 46 31.9**	**+2.0**
QUBA	**Quba, Azerbaij**	**2.62**	**283**	Pn	**Pb**	**19 46 05.2**	**-1.8**
QUBA				Sn	**Sb**	**19 46 36.3**	**-2.6**
SAAT	**Saatly**	**2.81**	**251**	Pn	**Pn**	**19 46 06.3**	**+2.1**
SAAT				Sn	**Sn**	**19 46 37.7**	**+0.4**
QSAR	**Qusar**	**2.82**	**285**	Pn	**Pn**	**19 46 07.6**	**+3.2**
SNR=14							
QSAR				Sn	**Sn**	**19 46 40.5**	**+2.9**
KDMR	**Kurdemir**	**2.85**	**262**	Sn	**Sn**	**19 46 39.9**	**+1.6**
XNQ	**Khinaliq**	**2.86**	**278**	Pn	**Pn**	**19 46 07.9**	**+2.9**
SNR=86							
XNQ				Sn	**Sn**	**19 46 40.8**	**+2.1**
QBL	**Gabala**	**3.07**	**274**	Pn	**Pn**	**19 46 10.3**	**+2.4**
SNR=5.9							
QBL				Sn	**Sn**	**19 46 45.3**	**+1.4**
GLBA	**Cliilabad**	**3.11**	**241**	Pn	**Pn**	**19 46 10.0**	**+1.7**
SNR=60							
GLBA				Sn	**Sn**	**19 46 44.0**	**-0.7**
LKRN	**Lenkeran, Azer**	**3.19**	**230**	Pn	**Pn**	**19 46 10.0**	**+0.7**
SNR=22							
LKRN				Sn	**Sn**	**19 46 44.1**	**-2.5**
ZRD	**Zardab**	**3.25**	**262**	Pn	**Pn**	**19 46 12.3**	**+2.1**
ZRD				Sn	**Sn**	**19 46 49.1**	**+1.0**
ASTR	**Astara**	**3.28**	**228**	Pn	**Pn**	**19 46 11.2**	**+0.5**
SNR=39							
ASTR				Sn	**Sn**	**19 46 46.1**	**-2.8**
YRD	**Yardimli**	**3.39**	**237**	Pn	**Pn**	**19 46 13.0**	**+0.7**
SNR=29							
YRD				Sn	**Sn**	**19 46 48.5**	**-3.3**
BLQ	**Beylaqan**	**3.49**	**253**	Pn	**Pn**	**19 46 15.0**	**+1.5**
BLQ				Sn	**Sn**	**19 46 52.7**	**-1.3**
LRK	**Lerik**	**3.49**	**233**	Pn	**Pn**	**19 46 14.4**	**+0.7**
SNR=54							
LRK				Sn	**Sn**	**19 46 51.2**	**-3.2**
SEKA	**Sheki**	**3.57**	**278**	Pn	**Pn**	**19 46 17.7**	**+3.0**
SNR=9.5							
SEKA				Sn	**Sn**	**19 46 56.8**	**+0.6**
BRDA	**Brd**	**3.63**	**263**	Pn	**Pn**	**19 46 17.6**	**+2.2**
BRDA				Sn	**Sn**	**19 46 59.0**	**+1.5**
AGDM	**Agdam**	**3.71**	**261**	Pn	**Pn**	**19 46 17.8**	**+1.2**
SNR=20							
AGDM				Sn	**Sn**	**19 46 59.5**	**-0.1**
QRD	**Qoradiz**	**3.75**	**250**	Pn	**Pn**	**19 46 18.8**	**+1.6**
QRD				Sn	**Sn**	**19 46 59.2**	**-1.4**
ZKTA	**Zakatala**	**4.05**	**283**	Pn	Pn	19 46 26.3	+5.0
ZKTA				Sn	**Sn**	**19 47 09.7**	**+1.7**
GANJ	**Ganja**	**4.23**	**269**	Pn	**Pn**	**19 46 25.5**	**+1.7**
SNR=5.0							
GANJ				Sn	**Sn**	**19 47 10.8**	**-1.5**
GDB	**GEDABAY**	**4.66**	**271**	Pn	**Pn**	**19 46 31.6**	**+1.9**
SNR=4.0							
GDB				Sn	**Sn**	**19 47 21.5**	**-1.6**
ORD	**Ordubad**	**4.91**	**249**	Pn	**Pn**	**19 46 35.2**	**+2.1**
SNR=4.6							
ORD				Sn	**Sn**	**19 47 27.1**	**-2.1**
QZX	**Qazax, Azerbai**	**4.94**	**275**	Pn	**Pn**	**19 46 35.5**	**+2.0**
SNR=2.7							
QZX				Sn	**Sn**	**19 47 29.5**	**-0.3**
SBZ	**Shahbuz**	**5.06**	**256**	Pn	**Pn**	**19 46 37.2**	**+1.9**
SNR=4.3							
SBZ				Sn	**Sn**	**19 47 32.5**	**-0.4**
NAX	**Nakhchivan**	**5.18**	**254**	Pn	**Pn**	**19 46 38.8**	**+2.0**
SNR=5.3							
NAX				Sn	**Sn**	**19 47 35.0**	**-0.7**
GNI	**Garni**	**5.49**	**265**	Pn	**Pn**	**19 46 43.6**	**+2.5**
0.7nm,0.3s,baz=14,slow=19,SNR=3.6							
GNI				Sn	**Sn**	**19 47 47.4**	**+3.8**
1.0nm,0.3s,baz=241,slow=13,SNR=3.6							
HYR	**Heyderabad**	**5.49**	**261**	Pn	**Pn**	**19 46 43.7**	**+2.5**
HYR				Sn	**Sn**	**19 47 41.9**	**-1.7**

GEYT	**Alibeck**	**5.62**	**119**	Pn	**Pn**	**19 46 46.2**	**+3.3**
1.1nm,0.3s,baz=307,slow=16,SNR=14							
GEYT				Sn	**Sn**	**19 47 50.1**	**+3.4**
1.7nm,0.3s,baz=316,slow=16,SNR=4.6							
KBZ	**Khabaz**	**7.27**	**297**	Pn	**Pn**	**19 47 07.2**	**+1.7**
0.2nm,0.3s,baz=159,slow=14,SNR=4.1							
KBZ				Sn	**Sn**	**19 48 21.9**	**-5.3**
0.3nm,0.3s,baz=18,slow=15,SNR=2.9							
KVAR	**Kislovodsk Arr**	**7.49**	**298**	Pn	**Pn**	**19 47 08.6**	**0.0**
baz=61,slow=10,SNR=3.0							
KVAR				Sn	**Sn**	**19 48 29.9**	**-2.9**
baz=95,slow=12,SNR=7.8							
AB31	**Akbulak array**	**10.18**	**31**	P	**Pn**	**19 47 45.6**	**+0.3**
0.6nm,0.3s,baz=210,slow=14,SNR=23							
AB31				⇑S	**Sn**	**19 49 34.3**	**-4.2**
3.6nm,0.4s,baz=202,slow=24,SNR=9.2							
AKTO	**Aktyubinsk**	**10.53**	**22**	⇓P	**Pn**	**19 47 50.6**	**+0.6**
2.2nm,0.5s							
AKTO				⇓S	**Sn**	**19 49 42.3**	**-4.8**
22nm,0.5s							
AKTO	**Aktyubinsk**	**10.53**	**22**	Pn	**Pn**	**19 47 50.6**	**+0.6**
0.9nm,0.3s,baz=211,slow=11,SNR=11							
AKTO				Sn	**Sn**	**19 49 42.4**	**-4.8**
4.4nm,0.3s,baz=54,slow=19,SNR=22							
BRTR	**Keskin Array B**	**13.98**	**271**	Pn	**Pn**	**19 48 39.2**	**+1.8**
0.1nm,0.3s,baz=62,slow=18,SNR=2.5							
ARU	**Arti**	**16.22**	**13**	Pn	**Pn**	**19 49 04.5**	**-2.4**
0.0nm,0.3s,baz=192,slow=20,SNR=2.6							
ARU				Sn	Sn	19 51 54.1	-12
0.0nm,0.3s,baz=324,slow=22,SNR=7.1							
AAK	**Ala-Archa**	**16.97**	**76**	P	**P**	**19 49 19.5**	**+1.1**
0.2nm,0.3s,baz=216,slow=8.9,SNR=3.7							
BVB5	**Borovoye Array**	**17.50**	**40**	⇓P	**P**	**19 49 25.5**	**+1.5**
4.1nm,0.8s							
BVB5				⇓S	Sn	19 52 28.0	-8.9
3.0nm,0.7s							
BVAR	**Borovoye Array**	**17.51**	**40**	P	**Pn**	**19 49 23.9**	**+0.8**
0.4nm,0.3s,baz=227,slow=7.9,SNR=8.8							
BVAR				S	Sn	19 52 23.8	-13
0.2nm,0.3s,baz=236,slow=17,SNR=3.7							
KIRV	**Kirov**	**17.86**	**356**	P	**Pn**	**19 49 27.2**	**-0.1**
0.9nm,0.3s,baz=48,slow=1.2,SNR=3.7							
AKASG	**Malin Array Be**	**18.58**	**310**	P	**P**	**19 49 35.1**	**-0.8**
1.0nm,0.3s,baz=115,slow=12,SNR=3.7							
KURBB	**Kurchatov Arra**	**20.93**	**53**	P	Pn	19 50 03.8	-0.2
1.5nm,0.6s,baz=255,slow=11,SNR=10							
MKAR	**Makanchi Array**	**22.65**	**65**	P	**P**	**19 50 22.0**	**+1.9**
0.6nm,0.6s,baz=252,slow=11,SNR=4.9							
ZALV	**Zalesovo Beam**	**25.61**	**48**	P	**P**	**19 50 49.4**	**+1.4**
2.1nm,0.4s,baz=256,slow=11,SNR=9.2							
FINES	**FINESS Array B**	**25.93**	**331**	P	**P**	**19 50 51.0**	**+0.3**
1.0nm,0.6s,baz=132,slow=10,SNR=8.8							
EKA	**Eskdalemuir Ar**	**38.48**	**311**	P	**P**	**19 52 39.5**	**-1.1**
1.5nm,0.9s,baz=97,slow=9.4,SNR=3.7							

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*ISCJB **17** 19:51:13.8±0.5, 38°.12N±0°.03×42°.70E±0°.04, h10km±5km, Error ellipse: s-maj=5.3km s-min=5.0km az=158.7*
*ISK **17** 19:51:13.2, 38°.13N×42°.71E, h9km, ML2.7/11*
*DDA **17** 19:51:13.4, 38°.13N×42°.71E, h7km±2km, ML2.9*
ISC 17 19:51:12.9±1.6, **38°.13N**±0°.03×**42°.71E**±0°.03, **h2**km±15km, **n20**, σ0§**53**/25, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.34**	**56**	*i* P	**Pb**	**19 51 21.0**	**-0.8**
GEVA				*i* S	**Sb**	**19 51 27.2**	**-0.4**
BLIS	**Bitlis-Merkez**	**0.55**	**302**	*i* P	**Pg**	**19 51 24.1**	**+0.7**
BLIS				*i* S	**Sb**	**19 51 33.0**	**-0.7**
SRTM	**Siirt_Merkez**	**0.63**	**258**	*i* P	**Pb**	**19 51 26.4**	**-0.4**
SIRT	**Sirnak**	**0.66**	**199**	PG	**Pb**	**19 51 26.5**	**-0.7**
SIRT				SG	**Sb**	**19 51 36.3**	**-0.5**
SIRN	**Sirnak**	**0.67**	**200**	*i* P	**Pb**	**19 51 27.4**	**0.0**
GURO	**Guroymak-BITLI**	**0.68**	**309**	PG	**Pg**	**19 51 26.4**	**+0.4**
GURO				SG	**Sb**	**19 51 36.8**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.68**	**1**	*i* P	**Pb**	**19 51 27.1**	**-0.6**

SKT					Sn	19 58 12.8	-0.3
ANCK	Angle Creek	2.15	205		Pn	19 57 42.6	0.0
SEW	Seward	2.17	90		Pn	19 57 42.9	+0.3
SEW					Sn	19 58 12.5	-1.2
RC01	Rabbit Creek A	2.21	63		Pn	19 57 42.3	-0.7
CAHL	Cahill	2.25	201		Pn	19 57 43.7	+0.1
KDAK	Kodiak Island	2.46	165	P	Pn	19 57 44.8	-1.1
76nm,0.3s,baz=30,slow=7.4,SNR=1389							
KDAK				S	Sn	19 58 18.0	-1.5
118nm,0.3s,baz=233,slow=23,SNR=20							
KDAK	Kodiak Island	2.46	165		Pn	19 57 44.9	-0.9
PMR	Palmer	2.69	56		Pn	19 57 47.0	-1.5
PLK2	Peulik 2	2.73	210		Pn	19 57 49.3	+0.3
PWL	Port Wells	2.79	73		Pn	19 57 50.0	+0.4
PLK3	Peulik 3	2.79	209		Pn	19 57 49.4	-0.3
PPLA	Purkeypile	2.85	15		Pn	19 57 50.9	+0.5
PLK4	Peulik 4	2.86	209		Pn	19 57 50.2	-0.3
GHO	Glory Hole Cre	2.87	54		Pn	19 57 49.2	-1.4
KNK	Knik Glacier	2.90	62		Pn	19 57 50.0	-0.9
OHAK	Old Harbor	2.95	175		Pn	19 57 50.3	-1.2
TT01	Tatalina	2.96	340		Pn	19 57 51.4	-0.2
TTA	Tatalina	2.98	340		Pn	19 57 51.4	-0.5
SML	Sawmill	3.13	56		Pn	19 57 52.5	-1.1
CAST	Castle Rocks	3.37	13		Pn	19 57 56.3	-0.2
GLI	Glacier Island	3.39	75		Pn	19 57 56.5	-0.1
HUR	Hurricane	3.46	33		Pn	19 57 56.5	-1.0
SCM	Sheep Creek Mo	3.57	59		Pn	19 57 58.5	-0.5
SII	Sitkinak Islan	3.61	183		Pn	19 57 58.5	-1.0
SII	Sitkinak Islan	3.61	183		Sn	19 58 41.8	-2.3
HIN	Hinchinbrook I	3.64	83		Pn	19 58 00.2	+0.4
JPK	Jack Peak	3.66	73		Pn	19 58 00.5	+0.4
FID	Port Fidalgo	3.67	77		Pn	19 57 59.7	-0.4
WAT1	Susitna Watana	3.67	41		Pn	19 57 59.2	-1.0
TRF	Thorofare Moun	3.70	25		Pn	19 57 59.5	-1.1
WAT2	Susitna Watana	3.76	39		Pn	19 58 00.6	-0.8
VMT	TAPS Tl Valdez	3.77	73		Pn	19 58 02.1	+0.8
CHUM	Lake Minchumin	3.80	10		Pn	19 58 01.5	-0.3
ANNE	Aniakchak Nort	3.95	216		Pn	19 58 03.4	-0.3
EYAK	Cordova Ski Ar	4.01	81		Pn	19 58 04.8	+0.4
RND	Reindeer	4.01	34		Pn	19 58 03.3	-1.1
BPAW	Bear Paw Mtn.	4.17	17		Pn	19 58 04.8	-1.5
DHY	Denali Highway	4.24	44		Pn	19 58 06.5	-0.8
MCK	McKinley	4.26	30		Pn	19 58 07.2	-0.2
PS12	TAPS Pump St12	4.43	69		Pn	19 58 10.0	+0.3
CHIR	Chirikof Islan	4.46	193		Sn	19 58 58.5	-4.4
CHIR	Chirikof Islan	4.46	193		Pn	19 58 08.1	-1.9
PS11	TAPS Pump St11	4.47	61		Pn	19 58 10.9	+0.8
BWN	Browne	4.51	25		Pn	19 58 10.5	-0.1
GOAT	Goat Mountain	4.52	81		Pn	19 58 11.7	+0.9
RAGM	Ragged Mountai	4.54	83		Pn	19 58 12.0	+0.9
CHGN	Chignik	4.57	214		Pn	19 58 10.4	-1.1
HMT	Hamilton	4.75	84		Pn	19 58 14.8	+1.1
PAX	Paxson	4.88	51		Pn	19 58 15.7	+0.3
NICHA	Nichawak Mount	4.90	85		Pn	19 58 16.5	+0.9
NEA	Nenana	4.95	24		Pn	19 58 14.9	-1.3
VNSS	Veniaminof 8	4.95	220		Pn	19 58 16.3	-0.1
SUCK	Suckling Hills	5.01	87		Pn	19 58 17.8	+0.8
PS10	TAPS Pump St10	5.02	46		Pn	19 58 18.2	+1.0
GLB	Gilahina Butte	5.05	71		Pn	19 58 18.3	+0.7
WRH	Wood River Hil	5.08	29		Pn	19 58 16.5	-1.3
MLY	Manley	5.09	15		Pn	19 58 16.5	-1.5
VRDI	Verde Repeater	5.19	74		Pn	19 58 20.1	+0.6
GRIN	Grindle Hills	5.22	84		Pn	19 58 20.8	+1.1
KHIT	Khitrov Hills	5.25	82		Pn	19 58 21.0	+0.8
CCB	Clear Creek Bu	5.29	29		Pn	19 58 19.1	-1.5
CRQM	Cirque	5.31	79		Pn	19 58 21.9	+0.9
HDA	Harding Lake	5.33	34		Pn	19 58 20.0	-1.0
MCARA	McCarthy VSAT	5.42	72		Pn	19 58 23.1	+0.9
WAX	Waxell Ridge	5.45	82		Pn	19 58 23.8	+1.1
TGL	Tana Glacier	5.46	79		Pn	19 58 23.9	+1.0
MDM	Murphy Dome	5.46	26		Pn	19 58 21.6	-1.2
PS08	TAPS Pump Stn8	5.47	33		Pn	19 58 21.9	-0.9
TCOL	CIGO, UAF Yank	5.47	28		Pn	19 58 21.9	-0.9
COLA	College	5.47	28		Pn	19 58 21.7	-1.2
KULT	Kultieth River	5.52	84		Pn	19 58 24.8	+1.2
RIDG	Independent Ri	5.54	46		Pn	19 58 23.7	-0.1
MENT	Mentasta	5.56	56		Pn	19 58 24.6	+0.5
IL31		5.63	32		Pn	19 58 23.7	-1.1
ILAR	Eielson Array	5.63	32	P	Pn	19 58 24.0	-0.9
9.8nm,0.3s,baz=229,slow=12,SNR=428							
ILAR				S	Sn	19 59 26.4	-3.4
30nm,0.3s,baz=215,slow=22,SNR=17							
PTPK	Patty Peak	5.66	75		Pn	19 58 26.6	+1.1
KIAG	Kiagna River	5.70	77		Pn	19 58 26.7	+0.8
BALM	Baldy	5.71	76		Pn	19 58 26.8	+0.7
PS07	TAPS Pump Stn7	5.76	24		Pn	19 58 25.9	-0.6
DOT	Dot Lake	5.78	49		Pn	19 58 26.5	-0.3
IM03		5.85	0		Pn	19 58 27.6	-0.1
IMAR	Indian Mountai	5.85	0		Pn	19 58 27.3	-0.4
GRNC	Granite Creek	5.99	79		Pn	19 58 30.6	+0.9
SCRK	Sand Creek	5.99	46		Pn	19 58 28.8	-0.9
YAH	Yahtse	6.00	83		Pn	19 58 31.1	+1.2
PS06	TAPS Pump Stn6	6.01	16		Pn	19 58 28.8	-1.0
BARN	Barnard Glacie	6.04	76		Pn	19 58 31.4	+0.9
CNBA	Chernabura Isl	6.20	213		Pn	19 58 28.9	-3.4
CTGM	Chitina Glacie	6.20	77		Pn	19 58 35.5	+1.0
CHX	Chaix Hills	6.34	85		Pn	19 58 35.9	+1.7
BC03		6.42	58		Pn	19 58 36.1	+1.0
BCAR	Beaver Creek A	6.42	58		Pn	19 58 35.6	+0.3
SAMH	Samovar Hills	6.50	85		Pn	19 58 38.1	+1.8
YUK2	White River	6.51	70		Pn	19 58 37.2	+0.8
PRP	Porcupine Dome	6.57	32		Pn	19 58 35.8	-1.4
BVCY	Beaver Creek	6.63	64		Pn	19 58 39.0	+1.1
YUK3	Moose Creek	6.69	70		Pn	19 58 39.6	+0.8
YUK1	Sand Pete Hill	6.72	67		Pn	19 58 40.2	+1.0
PCA	Pinnacle	6.76	85		Pn	19 58 40.7	+1.0
PS05	TAPS Pump Stn5	6.83	10		Pn	19 58 39.3	-1.1
PNL	Peninsula	7.25	88		Pn	19 58 46.6	+0.6
COLD	Coldfoot	7.27	11		Pn	19 58 45.6	-0.6
EGAK	Eagle	7.46	46		Pn	19 58 48.0	-0.7
FYU	Fort Yukon	7.49	27		Pn	19 58 46.9	-2.0
YUK4	Talbot Arm	7.51	74		Pn	19 58 51.0	+1.4
YUK6	Outpost Mounta	7.65	77		Pn	19 58 52.0	+0.7
YUK7	Dusty Glacier	7.77	80		Pn	19 58 53.9	+0.9
DAWY	Dawson	7.80	54		Pn	19 58 54.0	+0.9
YUK5	Granite Creek	7.89	76		Pn	19 58 55.0	+0.5
DHAK	Deception Hill	7.97	91		Pn	19 58 55.5	+0.1
HYT	Haines Junctio	8.07	78		Pn	19 58 57.7	+1.0
BM03	Burnt Mountain	8.34	25		Pn	19 58 57.8	-2.3
BMAR	Burnt Mountain	8.35	25		Pn	19 58 57.8	-2.5
TOLK	Toolik Lake Re	8.71	10		Pn	19 59 04.5	-0.5
RDOG	Red Dog Mine	8.86	337		Pn	19 59 08.0	+1.1
SKAG	Skagway	9.32	86		Pn	19 59 13.9	+1.0
WHY	Whitehorse	9.37	79		Pn	19 59 14.4	+0.8
UNV	Unalaska Valle	9.38	233		Pn	19 59 12.0	-1.7
EPYK	Eagle Plains	9.87	44		Pn	19 59 20.1	+0.1
INK	Inuvik	11.96	38	P	Pn	19 59 46.4	-0.4
1.5nm,0.3s,baz=242,slow=12,SNR=46							
INK				S	Sn	20 01 56.3	-3.3
baz=305,slow=22,SNR=7.0							
INK	Inuvik	11.96	38	Pn	Pn	19 59 46.5	-0.2
DLBC	Dease Lake	12.25	88	P	Pn	19 59 52.2	+1.6
0.5nm,0.3s,baz=280,slow=14,SNR=9.0							
YKA	Yellowknife Ar	18.75	66	P	Pn	20 01 07.8	-1.4
0.2nm,0.3s,baz=278,slow=10.0,SNR=6.5							
RES	Resolute Bay	25.38	32	P	P	20 02 13.8	+2.5
2.8nm,0.7s,baz=262,slow=15,SNR=4.0							
RES	Resolute Bay	25.38	32	IAmb	IAmb	20 02 20.2	
comp=Z,3.0nm,0.8s							
PETK	Petropavlovsk-	27.05	277	P	P	20 02 26.5	0.0
comp=Z,1.9nm,0.6s,baz=70,slow=14,SNR=9.1							
TIXI	Tiksi	31.12	323	P	P	20 03 02.3	+0.2
comp=Z,1.1nm,0.6s,baz=93,slow=7.1,SNR=3.7							
NVAR	Mina Array Bea	31.14	118	PcP	PcP	20 05 54.7	+1.8
comp=Z,0.4nm,0.6s,baz=318,slow=2.0,SNR=4.2							
NVAR				ScP	ScP	20 09 18.1	+1.4
comp=Z,0.9nm,0.7s,baz=306,slow=2.3,SNR=8.2							
Q16A	Castle Valley	34.01	109		pP	20 04 12.9	+4.4
KLR	Kul'dur	42.12	290	P	P	20 04 35.0	-0.2
comp=Z,3.6nm,0.9s,baz=35,slow=7.8,SNR=5.3							
NRIK	Noril'sk	43.58	333	P	P	20 04 46.4	-0.2
comp=Z,3.6nm,0.6s,baz=56,slow=7.1,SNR=7.6							
TXAR	Lajitas Array	45.41	110	P	P	20 05 01.2	-0.4
comp=Z,0.1nm,0.5s,baz=354,slow=7.3,SNR=2.1							
TXAR				ScP	ScP	20 10 11.8	+0.9
comp=Z,0.5nm,0.7s,baz=8.5,slow=2.5,SNR=4.4							
USRK	Ussuriysk Ar.	45.62	284	P	P	20 05 01.6	-1.4
comp=Z,1.3nm,0.7s,baz=36,slow=10,SNR=3.3							
CN2	Changchun	49.05	289	eP	P	20 05 29.8	+0.4
ARCES	ARCESS Array B	50.60	0	P	P	20 05 41.0	+0.3
comp=Z,8.7nm,1.0s,baz=17,slow=6.6,SNR=2.8							
KSRS	Korea Array	52.76	282	P	P	20 05 58.2	+1.1
comp=Z,2.5nm,0.7s,baz=36,slow=7.4,SNR=6.0							
SONM	Songino Array	54.38	305	P	P	20 06 10.3	+1.4
comp=Z,3.5nm,0.7s,baz=40,slow=7.3,SNR=25							
SONM	Songino Array	54.38	305	P	P	20 06 10.0	+1.1
ZALV	Zalesovo Beam	57.01	323	P	P	20 06 27.9	+0.5
comp=Z,2.5nm,0.6s,baz=19,slow=7.0,SNR=13							
ZALV	Zalesovo Beam	57.01	323	P	P	20 06 27.0	-0.3
MKAR	Makanchi Array	64.06	321	P	P	20 07 14.7	-0.4
comp=Z,0.3nm,0.6s,baz=51,slow=9.0,SNR=3.5							
WMQ	Urumqi	64.87	315	eP	P	20 07 22.6	+2.1
WMQ				pmax	pmax		
comp=Z,12nm,0.8s							
WMQ				pmax	pmax		
comp=Z,65nm,4.7s							
WHN	Wuhan	64.92	288	P	P	20 07 24.1	+3.2
AKASG	Malin Array Be	69.47	358	P	P	20 07 47.9	-1.2
comp=Z,0.2nm,0.3s,baz=357,slow=6.2,SNR=3.7							
AKASG	Malin Array Be	69.47	358	IAmb	IAmb	20 07 51.8	
comp=Z,0.9nm,0.9s							
CMAR	Chiang Mai Arr	82.44	294	P	P	20 09 02.9	0.0
comp=Z,2.2nm,0.9s,baz=19,slow=5.7,SNR=15							
CMAR	Chiang Mai Arr	82.44	294	P	P	20 09 01.6	-1.3

*NEIC **17** 19:59:56.9±3.2, 47.°50N±0.°03×122.°36W±0.°05, h31km±9km*
*ISCJB **17** 19:59:57.2±0.5, 47.°51N±0.°02×122.°35W±0.°05, h30km±4km,*
Error ellipse: s-maj=5.1km s-min=4.1km az=176.7
*ANF **17** 19:59:57.4±0.4, 47.°53N×122.°40W, h29km±5km, ML2.7/7,*
Error ellipse: s-maj=6.5km s-min=2.8km az=115.0

ISC 17 19:59:56.9±0.9,**47.°51N**±0.°03×**122.°37W**±0.°03,**h32**km±9km,
n23,σ1**°01/34**,**Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D05A	Enumclaw	0.42	141		Pb	20 00 06.3	+0.1
D05A					Sb	20 00 12.4	-0.1
D04E	Lakebay	0.43	219	P	Pb	20 00 06.5	+0.2
baz=41,SNR=73							
D04E				S	Sn	20 00 14.4	+0.9
baz=41							
D03D	Eldon	0.49	273	P	Pb	20 00 07.0	-0.1
baz=96,SNR=1000							
D03D				S	Sb	20 00 14.3	0.0
baz=96							
B05A	Bryant	0.78	14	P	Pb	20 00 12.1	+0.1
baz=194,SNR=31							
B05A				S	Sn	20 00 22.9	+0.8
baz=194							
LON	Longmire	0.85	153		Pn	20 00 12.3	-0.4
LON				Sn	Sb	20 00 23.4	-1.0
E04D	Cinebar	0.96	188	P	Pn	20 00 14.2	+0.1
baz=7.7,SNR=102							
E04D				S	Sn	20 00 27.2	+0.5
baz=7.7							
NLWA	Neilton Lookou	1.02	264		Pn	20 00 15.7	+0.8
NLWA				Sn	Sb	20 00 29.9	+0.7
C06D	Leavenworth	1.08	67	P	Pb	20 00 17.0	0.0
baz=247,SNR=8.4							
C06D				S	Sb	20 00 31.0	+0.2
baz=247							
B06A	Marblemount	1.17	30		Pb	20 00 18.6	+0.1
A04D	Lummi Island	1.23	350	S	Sb	20 00 35.3	+0.3
baz=170							
PGC	Sidney	1.35	328	Pn	Pb	20 00 20.8	-0.8
PGC				Sn	Sn	20 00 35.6	-0.5
F04D	Rainier, OR	1.50	197	P	Pn	20 00 22.9	+1.5
baz=17							
F04D				S	Sb	20 00 42.9	+0.3
baz=17							
F04A	Amboy	1.58	181	Pn	Pn	20 00 24.1	+1.6
F04A					Sn	20 00 43.2	+1.4
F05D	White Salmon	1.75	159	S	Sb	20 00 49.8	0.0
baz=339							
E07A	Sunnyside	1.97	118	Pn	Pn	20 00 30.0	+2.1
HAWA	Hanford	2.25	119	Pn	Pn	20 00 32.4	+0.7
F10A	Beach Ranch, E	3.86	112	Pn	Pn	20 00 53.9	-0.1
KEBM	Edson Butte	4.84	197	Pn	Pn	20 01 05.2	-2.3
HUMO	Hull Mountain	4.92	185	Pn	Pn	20 01 06.9	-1.7
PLID	Pearl Lake	5.04	116	Pn	Pn	20 01 08.8	-1.5
JTMT	Jette	5.47	85	Pn	Pn	20 01 15.8	-0.4
JCC	Jacoby Creek,	6.80	191	Pn	Pn	20 01 33.0	-1.3
WDC	Whiskeytown Da	6.93	181	Pn	Pn	20 01 34.6	-1.5

*ISCJB **17** 20:16:32.8±0.4, 14.°44S±0.°06×75.°47W±0.°08, h53km,*
mb4.1/10, MS3.7/5, Error ellipse: s-maj=13.3km
s-min=4.3km az=146.7
*IDC **17** 20:16:34.7±0.7, 14.°51S×75.°69W, h56km±5km, mb3.9/11,*
mb1 4.1/17, mb1mx4.0/29, mbtmp4.2/17, MS3.3/8,
Ms1 3.3/8, ms1mx3.1/26, Error ellipse: s-maj=26.5km
s-min=8.3km az=60.0
*NEIC **17** 20:16:35.3±2.0, 14.°41S±0.°08×75.°5W±0.°1, h59km±1km,*
mb4.5/22, ML4.7(ARE)

ISC 17 20:16:34.7±0.5,**14.°45S**±0.°07×**75.°6W**±0.°1,**h53**km,**n63,**
σ1**°25/61**,**mb4.3/20**,**MS3.6/5**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.73	333	P	Pn	20 17 16.4	+0.1
65nm,0.3s,baz=175,slow=12,SNR=70							
NNA				S	Sn	20 17 49.9	+1.8
382nm,0.3s,baz=184,slow=17,SNR=10							
NNA	Nana	2.73	333		Pn	20 17 15.1	-1.2
MNMC	Minye Minye	7.39	130		Pn	20 18 19.6	-0.6
LPAZ	La Paz	7.42	105	P	Pn	20 18 23.5	+2.5
0.6nm,0.3s,baz=302,slow=7.9,SNR=23							
LPAZ				LR	LR	20 21 01.3	
comp=Z,30nm,20.8s,baz=226,slow=36							
LPAZ	La Paz	7.42	105		Pn	20 18 25.1	+4.1
PB11	IPOC Station P	7.75	134		Pn	20 18 24.1	-1.0
ATAH	Atahualpa	7.77	339	P	Pn	20 18 27.6	+1.9
1.2nm,0.3s,baz=148,slow=5.3,SNR=7.1							
ATAH				S	Sn	20 19 53.7	+1.1
0.6nm,0.3s,baz=353,slow=17,SNR=1.5							
ATAH				LR	LR	20 21 47.9	
comp=Z,144nm,19.0s,baz=126,slow=40							
GO01	Chusmiza	8.02	131		Pn	20 18 28.6	-0.5
LVC	Limon Verde	10.29	143	P	Pn	20 19 01.2	+1.1
0.6nm,0.3s,baz=340,slow=9.1,SNR=14							
LVC				S	Sn	20 20 52.3	-1.9
1.2nm,0.3s,baz=99,slow=19,SNR=5.4							
LVC				LR	LR	20 22 48.2	
comp=Z,88nm,18.9s,baz=322,slow=36							
LVC	Limon Verde	10.29	143		Pn	20 19 00.7	+0.6
SAML	Samuel	13.31	67		Pn	20 19 38.2	-2.9
SIV	San Ignacio	14.09	98	P	Pn	20 19 49.4	-2.3
0.2nm,0.3s,baz=286,slow=15,SNR=6.1							
CFA	Coronel Fontan	18.36	160	P	P	20 20 45.5	+0.5
0.3nm,0.3s,baz=342,slow=12,SNR=15							
ROSC	El Rosal	19.20	4	P	Pn	20 20 56.2	0.0
1.2nm,0.3s,baz=53,slow=20,SNR=2.2							
ROSC				LR	LR	20 29 54.1	
comp=Z,106nm,18.9s,baz=198,slow=42							
CPUP	Villa Florida	20.77	128	P	P	20 21 12.0	+0.6
4.7nm,0.9s,baz=302,slow=11,SNR=9.5							
SDV	Santo Domingo	23.70	12	P	P	20 21 42.1	0.0
6.4nm,0.7s,baz=194,slow=10,SNR=7.7							
PLCA	Paso Flores	26.55	171	P	P	20 22 07.9	+0.2
3.6nm,0.8s,baz=18,slow=8.5,SNR=5.6							
PLCA				LR	LR	20 30 33.6	
comp=Z,72nm,21.6s,baz=346,slow=32							
PLCA	Paso Flores	26.55	171	IAmb	IAmb	20 22 08.8	
comp=Z,8.1nm,1.1s							
BDFB	Brasilia	26.64	96	LR	LR	20 33 38.2	
comp=Z,129nm,19.3s,baz=272,slow=38							
TXAR	Lajitas Array	51.28	328	P	P	20 25 33.6	-0.1
comp=Z,1.3nm,0.6s,baz=147,slow=8.8,SNR=17							
TXAR				pP	pP	20 25 47.0	-1.1
comp=Z,1.6nm,0.6s,baz=146,slow=9.9,SNR=6.6							
TXAR	Lajitas Array	51.28	328	P	P	20 25 33.2	-0.4
TX32	Lajitas Array	51.28	328	P	P	20 25 33.4	-0.3
TX32				IAmb	IAmb	20 25 52.0	
comp=Z,2.1nm,0.8s							
WCI	Wyandotte Cave	53.35	349	P	P	20 25 46.3	-2.4
L59A	Walton	56.35	0	P	P	20 26 11.0	+0.6
SDCO	Great Sand Dun	59.04	333	P	P	20 26 29.2	-0.5
SDCO				IAmb	IAmb	20 26 31.3	
comp=Z,2.9nm,0.8s							
P17A	Butcher Ranch,	62.87	330	P	P	20 26 53.9	-1.6
DUG	Dugway, Tooele	64.44	329	P	P	20 27 06.3	+0.5
DUG				IAmb	IAmb	20 27 07.8	
comp=Z,5.2nm,0.8s							
PDAR	Pinedale Array	64.92	333	P	P	20 27 08.4	-0.7
comp=Z,0.9nm,0.9s,baz=148,slow=8.6,SNR=4.7							
OMMB	Old Mammoth Mi	65.91	323	P	P	20 27 15.7	+0.1
OMMB				IAmb	IAmb	20 27 17.7	
comp=Z,6.0nm,1.2s							
NVAR	Mina Array Bea	66.08	324	P	P	20 27 16.6	+0.1
comp=Z,0.4nm,0.5s,baz=128,slow=9.6,SNR=5.0							
NVAR				LR	LR	20 52 22.7	
comp=Z,38nm,18.9s,baz=299,slow=33							
ELK	Elko	66.08	328	P	P	20 27 16.2	-0.4
FXWY	Fox Creek	66.26	333	P	P	20 27 17.6	-0.1
RLMT	Red Lodge	66.69	335	P	P	20 27 20.3	0.0
RLMT				IAmb	IAmb	20 27 39.5	
comp=Z,3.7nm,0.8s							
ULM	Lac du Bonnet	66.84	346	P	P	20 27 19.2	-1.7
comp=Z,4.6nm,0.7s,baz=181,slow=3.5,SNR=4.7							
ULM				pP	pP	20 27 37.1	+1.3
comp=Z,5.3nm,0.8s,baz=161,slow=8.0,SNR=3.0							
ULM	Lac du Bonnet	66.84	346	IAmb	IAmb	20 27 20.5	
comp=Z,8.3nm,0.9s							
PAHR	Pah Rah Range	67.56	325	P	P	20 27 27.0	+1.1
PAHR				IAmb	IAmb	20 27 27.8	
comp=Z,6.4nm,1.2s							
MFID	Camas Ranch	68.34	330	P	P	20 27 31.6	+0.9
MFID				IAmb	IAmb	20 27 32.2	
comp=Z,7.4nm,0.9s							
F10A	Beach Ranch, E	70.90	331	P	P	20 27 47.3	+0.9
F10A				IAmb	IAmb	20 27 48.3	
comp=Z,3.8nm,0.8s							
SNAA	Sanae	70.97	161	P	P	20 27 47.2	+0.8
SNAA				IAmb	IAmb	20 27 48.1	
comp=Z,5.0nm,0.8s							
DBIC	Dimbokro	73.20	78	LR	LR	20 57 49.3	
comp=Z,50nm,21.3s,baz=172,slow=34							
QSPA	South Pole Qui	75.70	180	P	P	20 28 15.3	+0.8
QSPA				IAmb	IAmb	20 28 16.4	
comp=Z,2.8nm,0.8s							
TOA0	Torodi Ar. Sit	81.27	74	P	P	20 28 46.0	+0.1
TORD	Torodi Ar. Bea	81.27	74	P	P	20 28 45.8	-0.1
comp=Z,10.0nm,0.9s,baz=257,slow=3.9,SNR=28							
TORD				pP	pP	20 29 02.2	+1.0
comp=Z,3.2nm,0.7s,baz=253,slow=4.8,SNR=4.4							
TORD	Torodi Ar. Bea	81.27	74	P	P	20 28 46.0	+0.1
YKA	Yellowknife Ar	82.54	343	P	P	20 28 50.6	-0.8
comp=Z,1.6nm,0.5s,baz=145,slow=6.2,SNR=7.1							
ESDC	Sonseca Array	85.52	47	P	P	20 29 07.7	+0.4
comp=Z,0.2nm,0.5s,baz=272,slow=7.1,SNR=3.0							
ESDC	Sonseca Array	85.52	47	IAmb	IAmb	20 29 15.2	
comp=Z,0.9nm,1.1s							
ILAR	Eielson Array	95.22	336	P	P	20 29 50.5	-1.7
comp=Z,0.7nm,0.8s,baz=148,slow=2.7,SNR=7.4							
H11N3	WAKE ISLAND Hyl	20.31	285	T	T	22 46 19.9	
baz=96,slow=74,SNR=10.0							
H11N2	WAKE ISLAND Hyl	20.32	285	T	T	22 46 21.8	
baz=96,slow=74,SNR=8.0							
H11N1	WAKE ISLAND Hyl	20.33	285	T	T	22 46 17.1	
baz=96,slow=74,SNR=4.3							
H11S2	WAKE ISLAND Hyl	20.38	283	T	T	22 46 43.5	
baz=97,slow=74,SNR=7.0							
H11S1	WAKE ISLAND Hyl	20.38	283	T	T	22 46 43.9	
baz=97,slow=74,SNR=6.3							
H11S3	WAKE ISLAND Hyl	20.39	283	T	T	22 46 40.2	
baz=97,slow=74,SNR=7.4							
ABKAR	Akbulak array	129.81	37	PKPdf	PKiKP	20 35 39.8	+0.9
ASAR	Alice Springs	132.40	218	PKP	PKPdf	20 35 43.9	-0.2
comp=Z,0.6nm,0.6s,baz=133,slow=2.1,SNR=10							
WRA	Warramunga Arr	134.90	221	PKP	PKPdf	20 35 48.4	-0.3
comp=Z,1.5nm,0.8s,baz=134,slow=1.9,SNR=14							
WRA				pPKP	pPKPdf	20 36 03.0	-1.8
comp=Z,0.5nm,0.7s,baz=138,slow=2.0,SNR=3.7							
WRA	Warramunga Arr	134.90	221		PKPdf	20 35 49.1	+0.3
ZALV	Zalesovo Beam	137.68	17	PKP	PKPdf	20 35 53.3	+0.5
comp=Z,3.6nm,0.9s,baz=302,slow=2.8,SNR=13				

BCAR	**Beaver Creek A**	**144.25**	**310**	PKPdf	PKPbc	20 59 07.5	+0.1
EGAK	**Eagle**	**144.95**	**313**		**PKPab**	**20 59 08.8**	**-0.7**
DOT	**Dot Lake**	**145.43**	**310**		**PKPab**	**20 59 11.4**	**+0.1**
MKAR	**Makanchi Array**	**145.53**	**88**	PKPbc	**PKPbc**	**20 59 12.0**	**0.0**
comp=Z,1.4nm,0.7s,baz=184,slow=1.9,SNR=11							
PAX	**Paxson**	**145.61**	**308**	PKPdf	**PKPab**	**20 59 12.0**	**-0.1**
RIDG	**Independent Ri**	**145.78**	**309**		**PKPab**	**20 59 12.7**	**+0.1**
ILAR	**Eielson Array**	**147.06**	**310**	PKPbc	**PKPbc**	**20 59 15.8**	**-0.1**
comp=Z,3.0nm,0.9s,baz=143,slow=2.7,SNR=18							
ILAR	**Eielson Array**	**147.06**	**310**		**PKPbc**	**20 59 15.5**	**-0.4**
ZALV	**Zalesovo Beam**	**151.35**	**79**	PKPbc	**PKPbc**	**20 59 25.8**	**-1.2**
comp=Z,0.6nm,0.6s,baz=288,slow=5.9,SNR=3.0							

IDC 17 20:40:27.6±4.7, 29°.96S×137°.35E, h0km, mb1 2.7/3, mb1mx2.7/37, mbtmp2.5/3, ML2.5/3, Error ellipse: s-maj=104.7km s-min=18.6km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.11**	**119**	Pn	Pn	20 41 33.3	+1.5
0.1nm,0.3s,baz=302,slow=15,SNR=3.8							
STKA				Sn	Sn	20 42 19.3	-1.3
0.4nm,0.3s,baz=183,slow=18,SNR=3.8							
STKA				Lg	Lg	20 42 37.2	
0.2nm,0.3s,baz=150,slow=20,SNR=3.2							
ASAR	**Alice Springs**	**6.99**	**333**	Pn	Pn	20 42 11.3	0.0
0.1nm,0.3s,baz=159,slow=11,SNR=5.3							
ASAR				Sn	Sn	20 43 29.8	-1.7
0.1nm,0.3s,baz=156,slow=21,SNR=3.2							
WRA	**Warramunga Arr**	**10.34**	**344**	Pn	Pn	20 42 57.9	+0.6
0.1nm,0.3s,baz=166,slow=14,SNR=5.5							

KRSC 17 20:41:49.8±1.8, 49°.93N×157°.01E, h17km±25km, ML4.0
SKHL 17 20:41:50.0±0.1, 49°.88N×156°.92E, h38km±6km, mb4.4/1

ISC 17 20:41:49.3±3.1, 49°.94N±0°.10×156°.9E±0°.1, h2km±19km, n23, σ1§82/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.91**	**325**	P	**Pg**	**20 42 06.4**	**-0.3**
SKR				S	**Sg**	**20 42 18.7**	**+0.2**
SKR	**Severo-Kuril's**	**0.91**	**325**	*e*P	**Pg**	**20 42 06.0**	**-0.7**
SKR				AMB	AMB	20 42 06.0	
158nm,0.2s							
SKR				*e*S	**Sg**	**20 42 18.0**	**-0.5**
SKR				A	A	20 42 19.0	
2μm,0.3s							
SKR				A	A	20 42 19.0	
3μm,0.3s							
ALID	**Alaid**	**1.29**	**317**	S	**Sg**	**20 42 32.8**	**+2.2**
PAU	**Pauzhetka**	**1.53**	**357**	P	**Pn**	**20 42 17.2**	**-0.4**
PAU				S	**Sn**	**20 42 37.5**	**-0.6**
KDTR	**Khodutka, Kamc**	**2.00**	**21**	P	**Pn**	**20 42 24.6**	**+0.5**
KDTR				S	**Sb**	**20 42 50.4**	**-1.4**
ASAK	**Asacha**	**2.52**	**13**	P	**Pn**	**20 42 32.6**	**+1.3**
ASAK				S	**Sb**	**20 43 04.4**	**-2.3**
MTVR	**Mutnovka**	**2.66**	**17**	P	**Pn**	**20 42 34.7**	**+1.4**
MTVR				S	**Sn**	**20 43 07.3**	**+1.1**
RUS	**Russkaya**	**2.68**	**21**	S	**Sn**	**20 43 07.4**	**+0.9**
PET	**Petropavlovsk**	**3.27**	**18**	S	**Sn**	**20 43 22.0**	**+1.1**
PET	**Petropavlovsk**	**3.27**	**18**	*e*P	**Pn**	**20 42 39.9**	**-1.6**
PET				*e*S	**Sn**	**20 43 17.4**	**-3.5**
PET				A	A	20 43 26.5	
359nm,0.4s							
PET				A	A	20 43 26.5	
179nm,0.4s							
DALK	**Dalny**	**3.29**	**19**	P	**Pn**	**20 42 43.2**	**+1.3**
DALK				S	**Sn**	**20 43 23.5**	**+1.9**
AVH	**Avacha**	**3.51**	**18**	P	**Pn**	**20 42 47.8**	**+2.9**
KOK	**Koryaka**	**3.52**	**17**	P	**Pn**	**20 42 47.9**	**+2.9**
SMAR	**Somma**	**3.52**	**18**	P	**Pn**	**20 42 47.6**	**+2.4**
KRER	**Koryakskii**	**3.55**	**18**	P	**Pn**	**20 42 48.3**	**+2.7**
SDLR	**Sedlovina**	**3.55**	**19**	P	**Pn**	**20 42 47.1**	**+1.5**
NLC	**Nalytchevo**	**3.56**	**24**	S	**Sn**	**20 43 27.3**	**-0.9**
KRX	**Arik**	**3.58**	**17**	P	**Pn**	**20 42 48.2**	**+2.2**
SPN	**Mys Shipunski**	**3.70**	**30**	P	**Pn**	**20 42 49.3**	**+1.9**
SPN				S	**Sn**	**20 43 32.5**	**+0.9**
GNL	**Ganaly**	**3.81**	**9**	P	**Pn**	**20 42 51.8**	**+2.7**
MKZ	**Mys Kozlova**	**5.48**	**31**	P	**Pn**	**20 43 12.8**	**+1.0**
KBG	**Krutoberegovo**	**7.21**	**27**	*e*P	**Pn**	**20 43 36.2**	**+0.6**
KUR	**Kuril'sk**	**7.73**	**236**	*e*P	**Pn**	**20 43 42.0**	**-0.8**

IDC 17 20:45:06.8±1.7, 59°.99S×47°.21W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=69.0km s-min=32.7km az=93.0
ISCJB 17 20:45:08.1±0.9, 60°.1S±0°.1×46°.7W±0°.3, h10km, mb3.7/2, Error ellipse: s-maj=22.8km s-min=16.1km az=176.0
NEIC 17 20:45:09.3±2.4, 60°.1S±0°.1×46°.8W±0°.2, h10km±2km, mb4.2/5

ISC 17 20:45:09.7±0.9, 60°.1S±0°.1×46°.9W±0°.2, h10km, n14, σ1§36/10, mb3.9/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.09**	**49**		**Pn**	**20 47 06.8**	**-0.4**
SNAA	**Sanae**	**20.80**	**142**	P	**P**	**20 49 52.0**	**+1.3**
2.3nm,1.0s,baz=269,slow=10,SNR=6.6							
SNAA	**Sanae**	**20.80**	**142**	P	**P**	**20 49 52.6**	**+1.8**
QSPA	**South Pole Qui**	**30.16**	**180**	P	**P**	**20 51 18.5**	**-1.1**
1.6nm,1.0s,baz=179,slow=7.0,SNR=3.2							
QSPA	**South Pole Qui**	**30.16**	**180**	IAmb	IAmb	20 51 20.3	
comp=Z,3.2nm,1.1s							
MNMC	**Minye Minye**	**44.02**	**328**	P	**P**	**20 53 17.9**	**+0.3**
SAML	**Samuel**	**52.48**	**340**	P	**P**	**20 54 24.1**	**+1.5**
SAML				IAmb	IAmb	20 54 30.8	
comp=Z,6.0nm,1.5s							
H10N3	**ASCENSION HYDR**	**57.54**	**39**	T	T	21 57 48.1	
baz=199,slow=75,SNR=27							
H10N1	**ASCENSION HYDR**	**57.54**	**39**	T	T	21 57 48.3	
baz=199,slow=75,SNR=22							
H10N2	**ASCENSION HYDR**	**57.55**	**39**	T	T	21 57 49.4	
baz=199,slow=75,SNR=28							
TORD	**Torodi Ar. Bea**	**82.67**	**47**	P	**P**	**20 57 32.0**	**-1.2**
comp=Z,0.7nm,1.0s,baz=196,slow=4.2,SNR=2.6							
ILAR	**Eielson Array**	**145.00**	**313**	PKP	**PKPdf**	**21 04 44.8**	**-0.7**
comp=Z,1.1nm,0.7s,baz=134,slow=2.6,SNR=12							
ILAR	**Eielson Array**	**145.00**	**313**		**PKPab**	**21 04 43.7**	**-1.2**
MKAR	**Makanchi Array**	**147.81**	**91**	PKPbc	**PKPdf**	**21 04 51.8**	**+1.0**
comp=Z,0.8nm,0.8s,baz=247,slow=2.5,SNR=4.9							

ISCJB 17 20:52:14.2±0.5, 60°.27S±0°.07×43°.7W±0°.2, h10km, mb4.1/5, Error ellipse: s-maj=15.9km s-min=7.8km az=149.6
IDC 17 20:52:14.3±1.1, 60°.42S×43°.69W, h0km, mb4.2/5, mb1 4.2/6, mb1mx3.9/21, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=34.8km s-min=25.1km az=66.0
NEIC 17 20:52:15.6±2.4, 60°.3S±0°.1×43°.8W±0°.3, h10km±1km, mb4.5/13

ISC 17 20:52:15.8±0.6, 60°.33S±0°.09×43°.8W±0°.1, h10km, n28, σ1§14/25, mb4.3/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.23**	**36**	Pn	**Pn**	**20 54 01.7**	**+0.3**
VNA3	**Neumayer Olymp**	**17.43**	**143**	P	**P**	**20 56 20.2**	**+0.2**
VNA1	**Neumayer--Stat**	**17.67**	**140**	P	**P**	**20 56 23.2**	**+0.7**
VNA2	**Neumayer--Watz**	**18.03**	**141**	P	**Pn**	**20 56 26.1**	**0.0**
baz=294,slow=12							
SNAA	**Sanae**	**19.65**	**142**	P	**Pn**	**20 56 45.5**	**-0.2**
SNAA	**Sanae**	**19.65**	**142**	P	**P**	**20 56 42.6**	**-1.7**
0.1nm,0.3s,baz=306,slow=9.8,SNR=7.1							
SNAA	**Sanae**	**19.65**	**142**	IAmb	IAmb	20 56 51.0	
comp=Z,2.8nm,0.8s							
TRQA	**Tornquist**	**25.09**	**324**	P	**P**	**20 57 40.4**	**0.0**
TRQA				IAmb	IAmb	20 57 43.3	
comp=Z,4.5nm,0.9s							
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**20 58 22.9**	**-0.6**
comp=Z,0.6nm,0.3s,baz=174,slow=6.0,SNR=3.4							
QSPA	**South Pole Qui**	**29.91**	**180**	IAmb	IAmb	20 58 32.9	
comp=Z,7.2nm,1.5s							
CPUP	**Villa Florida**	**35.24**	**339**	P	**P**	**20 59 08.7**	**-1.4**
GO02	**Mina Guanaco**	**39.40**	**322**	P	**P**	**20 59 47.0**	**+1.1**
GO02				IAmb	IAmb	20 59 55.4	
comp=Z,14nm,1.2s							
SBA	**Scott Base**	**40.80**	**189**	P	**P**	**20 59 58.5**	**+1.9**
PB10	**IPOC Station P**	**41.25**	**321**	P	**P**	**20 59 59.2**	**-1.6**
MAW	**Mawson**	**41.70**	**147**	P	**P**	**21 00 02.9**	**-1.2**
PB04	**IPOC Station P**	**42.23**	**322**	P	**P**	**21 00 06.3**	**-2.7**
GO01	**Chusmiza**	**44.46**	**325**	P	**P**	**21 00 28.4**	**+0.9**
GO01				IAmb	IAmb	21 00 28.9	
comp=Z,13nm,1.5s							
MNMC	**Minye Minye**	**45.09**	**324**	P	**P**	**21 00 32.1**	**-0.1**
SIV	**San Ignacio**	**46.02**	**337**	P	**P**	**21 00 39.4**	**0.0**
comp=Z,0.9nm,0.6s,baz=167,slow=5.0,SNR=4.8							
BOSA	**Boshof**	**55.27**	**88**	P	**P**	**21 01 48.7**	**-0.4**
comp=Z,2.8nm,0.8s,baz=212,slow=9.5,SNR=3.9							
BOSA	**Boshof**	**55.27**	**88**	P	**P**	**21 01 48.6**	**-0.6**
BOSA				IAmb	IAmb	21 02 07.0	
comp=Z,11nm,1.2s							
LBTB	**Lobatse**	**58.41**	**85**	P	**P**	**21 02 11.1**	**-0.4**
comp=Z,4.3nm,0.6s,baz=210,slow=7.6,SNR=7.4							
LBTB	**Lobatse**	**58.41**	**85**	IAmb	IAmb	21 02 12.1	
comp=Z,5.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**81.73**	**45**	P	**P**	**21 04 35.4**	**+1.1**
comp=Z,1.3nm,0.8s,baz=199,slow=6.3,SNR=7.0							
TORD	**Torodi Ar. Bea**	**81.73**	**45**	P	**P**	**21 04 36.1**	**+1.8**
MKAR	**Makanchi Array**	**146.26**	**89**	PKPbc	**PKPdf**	**21 11 54.5**	**+0.3**
comp=Z,1.5nm,0.7s,baz=226,slow=1.7,SNR=11							
ILAR	**Eielson Array**	**146.31**	**311**	PKPbc	**PKPbc**	**21 11 54.9**	**-0.1**
comp=Z,0.8nm,0.6s,baz=144,slow=2.0,SNR=15							
ILAR	**Eielson Array**	**146.31**	**311**		**PKPdf**	**21 11 54.4**	**+0.7**

IDC 17 20:53:14.8±0.9, 60°.24S×46°.55W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, ML4.0/1, Error ellipse: s-maj=33.8km s-min=21.2km az=79.0
ISCJB 17 20:53:15.9±0.5, 60°.13S±0°.07×46°.7W±0°.2, h10km, mb4.0/7, Error ellipse: s-maj=14.3km s-min=8.1km az=147.9
NEIC 17 20:53:17.3±1.6, 60°.15S±0°.09×46°.7W±0°.2, h10km±1km, mb4.4/16

ISC 17 20:53:17.3±0.6, 60°.14S±0°.08×46°.8W±0°.1, h10km, n40, σ1§19/32, mb4.3/12, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.12**	**48**	Pn	**Pn**	**20 55 14.4**	**-0.6**
PMSA	**Palmer Station**	**9.22**	**232**	Pn	**Pn**	**20 55 29.1**	**-1.0**
1.4nm,0.3s,baz=65,slow=11,SNR=5.3							
PMSA	**Palmer Station**	**9.22**	**232**		**Pn**	**20 55 30.8**	**+0.7**
VNA3	**Neumayer Olymp**	**18.51**	**142**	P	**Pn**	**20 57 33.4**	**0.0**
VNA1	**Neumayer--Stat**	**18.79**	**140**	P	**Pn**	**20 57 40.7**	**+3.9**
VNA2	**Neumayer--Watz**	**19.13**	**140**	P	**Pn**	**20 57 43.5**	**+2.5**
SNAA	**Sanae**	**20.73**	**142**	P	Pn	20 58 00.2	+0.3
SNAA	**Sanae**	**20.73**	**142**	P	Pn	20 57 58.0	-1.9
6.1nm,0.9s,baz=281,slow=10,SNR=11							
SNAA	**Sanae**	**20.73**	**142**	P	Pn	20 58 00.4	+0.5
SNAA				IAmb	IAmb	20 58 09.2	
comp=Z,20nm,1.2s							
TRQA	**Tornquist**	**24.11**	**330**	P	**P**	**20 58 34.1**	**+1.1**
TRQA				IAmb	IAmb	20 58 35.4	
comp=Z,11nm,0.9s							
PLCA	**Paso Flores**	**24.37**	**312**	P	**P**	**20 58 35.4**	**0.0**
comp=Z,3.4nm,0.9s,baz=174,slow=9.2,SNR=4.2							
PLCA	**Paso Flores**	**24.37**	**312**	IAmb	IAmb	20 58 35.7	
comp=Z,6.3nm,1.1s							
QSPA	**South Pole Qui**	**30.09**	**180**	P	**P**	**20 59 25.5**	**-1.1**
comp=Z,3.8nm,1.0s,baz=174,slow=5.1,SNR=5.1							
QSPA	**South Pole Qui**	**30.09**	**180**	P	**P**	**20 59 26.3**	**-0.4**
QSPA				IAmb	IAmb	20 59 36.3	
comp=Z,5.7nm,1.1s							
CPUP	**Villa Florida**	**34.57**	**343**	P	**P**	**21 00 06.3**	**+0.4**
comp=Z,2.2nm,0.7s,baz=171,slow=9.0,SNR=6.8							
CPUP	**Villa Florida**	**34.57**	**343**	P	**P**	**21 00 05.5**	**-0.4**
CPUP				IAmb	IAmb	21 00 07.2	
comp=Z,3.8nm,0.8s							
GO02	**Mina Guanaco**	**38.35**	**326**	P	**P**	**21 00 38.9**	**+0.3**
GO02				IAmb	IAmb	21 00 39.5	
comp=Z,7.4nm,0.8s							
PB10	**IPOC Station P**	**40.19**	**325**	P	**P**	**21 00 54.7**	**+1.1**
PB01	**IPOC Station P**	**42.24**	**328**	P	**P**	**21 01 11.3**	**+0.7**
PB01				IAmb	IAmb	21 01 11.8	
comp=Z,7.8nm,0.9s							
MAW	**Mawson**	**42.68**	**148**	P	**P**	**21 01 13.2**	**-0.3**
GO01	**Chusmiza**	**43.47**	**329**	P	**P**	**21 01 21.4**	**+0.4**
GO01				IAmb	IAmb	21 01 37.7	
comp=Z,6.4nm,1.4s							
MNMC	**Minye Minye**	**44.09**	**328**	P	**P**	**21 01 27.0**	**+1.3**
BDFB	**Brasilia**	**44.45**	**358**	P	**P**	**21 01 28.7**	**+0.3**
comp=Z,2.8nm,0.8s,baz=190,slow=11,SNR=3.6							
BDFB	**Brasilia**	**44.45**	**358**		**P**	**21 01 29.7**	**+1.3**
BDFB				IAmb	IAmb	21 01 43.0	
comp=Z,10nm,1.4s							
SIV	**San Ignacio**	**45.30**	**341**	P	**P**	**21 01 35.1**	**+0.1**
comp=Z,3.1nm,0.8s,baz=172,slow=7.3,SNR=13							
LPAZ	**La Paz**	**46.45**	**331**	P	**P**	**21 01 45.1**	**+0.2**
comp=Z,1.5nm,0.7s,baz=181,slow=6.9,SNR=6.1							
LPAZ	**La Paz**	**46.45**	**331**	P	**P**	**21 01 45.9**	**+1.1**
SAML	**Samuel**	**52.55**	**339**	P	**P**	**21 02 31.5**	**+0.8**
H10N3	**ASCENSION HYDR**	**57.57**	**39**	T	T	22 05 55.3	
baz=199,slow=75,SNR=7.3							
H10N1	**ASCENSION HYDR**	**57.57**	**39**	T	T	22 05 55.5	
baz=199,slow=75,SNR=8.6							
H10N2	**ASCENSION HYDR**	**57.59**	**39**	T	T	22 05 57.4	
baz=199,slow=75,SNR=7.5							
LBTB	**Lobatse**	**59.92**	**88**	P	**P**	**21 03 22.9**	**-0.5**
OTAV	**Otavalo**	**65.01**	**325**	P	**P**	**21 03 57.7**	**-0.2**
OTAV				IAmb	IAmb	21 03 59.0	
comp=Z,2.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.69**	**47**	P	**P**	**21 05 39.8**	**-1.0**
comp=Z,1.0nm,1.0s,baz=205,slow=5.4,SNR=2.6							
TORD	**Torodi Ar. Bea**	**82.69**	**47**	IAmb	IAmb	21 05 45.7	
comp=Z,1.3nm,1.0s							
CMAR	**Chiang Mai Arr**	**131.69**	**134**	PKP	**PKPdf**	**21 12 28.2**	**-2.0**
comp=Z,0.4nm,0.8s,baz=218,slow=3.3,SNR=3.4							
ILAR	**Eielson Array**	**145.06**	**313**	PKPbc	**PKPbc**	**21 12 51.6**	**-1.0**
comp=Z,3.7nm,0.9s,baz=142,slow=1.7,SNR=16							
ILAR	**Eielson Array**	**145.06**	**313**		**PKPbc**	**21 12 52.0**	**-0.7**
RND	**Reindeer**	**145.10**	**310**		**PKPbc**	**21 12 52.5**	**-0.4**
MKAR	**Makanchi Array**	**147.78**	**91**	PKPbc	**PKPdf**	**21 12 58.8**	**+0.5**
comp=Z,1.0nm,0.7s,baz=220,slow=1.0,SNR=5.7							

IDC 17 20:54:46.6±1.6, 60°.57S×42°.81W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/22, mbtmp4.2/4, Error ellipse: s-maj=64.1km s-min=30.2km az=29.0
ISCJB 17 20:54:47.3±0.6, 60°.44S±0°.09×43°.1W±0°.2, h18km, mb4.1/4, Error ellipse: s-maj=13.0km s-min=12.2km az=170.9
NEIC 17 20:54:47.7±1.4, 60°.42S±0°.09×43°.0W±0°.2, h10km±1km, mb4.4/7

ISC 17 20:54:49.1±0.7, 60°.4S±0°.1×43°.1W±0°.1, h18km, n20, σ0§97/17, mb4.3/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.12**	**33**	Pn	**Pn**	**20 56 31.8**	**-0.5**
PMSA	**Palmer Station**	**10.56**	**237**	Pn	**Pn**	**20 57 19.3**	**0.0**
SNAA	**Sanae**	**19.35**	**142**	P	**Pn**	**20 59 15.9**	**+1.5**
PLCA	**Paso Flores**	**25.99**	**307**	P	**P**	**21 00 23.1**	**+2.4**
2.8nm,1.0s,baz=8.9,slow=18,SNR=2.9							
PLCA	**Paso Flores**	**25.99**	**307**	IAmb	IAmb	21 00 37.1	
comp=Z,4.8nm,1.1s							
GO06	**Curarrehue**	**27.34**	**307**	P	**P**	**21 00 33.5**	**+0.6**
GO06				IAmb	IAmb	21 00 52.1	
comp=Z,10nm,1.2s							
GO05	**Huala**	**31.51**	**311**	P	**P**	**21 01 09.4**	**-0.4**
ROC1	**El Roble**	**32.99**	**314**	P	**P**	**21 01 22.8**	**-0.3**
CPUP	**Villa Florida**	**35.46**	**338**	P	**P**	**21 01 43.2**	**-1.0**
GO04	**Tololo Observa**	**35.47**	**316**	P	**P**	**21 01 44.7**	**+0.2**
GO04				IAmb	IAmb	21 01 52.1	
comp=Z,26nm,1.4s							
SBA	**Scott Base**	**40.75**	**189**	P	**P**	**21 02 27.2**	**-1.1**
BDFB	**Brasilia**	**44.87**	**353**	P	**P**	**21 03 03.6**	**+1.2**
comp=Z,2.8nm,0.7s,baz=162,slow=6.4,SNR=3.6							
BDFB	**Brasilia**	**44.87**	**353**	IAmb	IAmb	21 03 04.4	
comp=Z,3.3nm,0.9s							
LBTB	**Lobatse**	**58.08**	**85**	P	**P**	**21 04 40.7**	**-0.5**
comp=Z,3.9nm,1.0s,baz=236,slow=7.3,SNR=3.2							
LBTB	**Lobatse**	**58.08**	**85**	IAmb	IAmb	21 04 47.1	
comp=Z,7.4nm,1.2s							
TORD	**Torodi Ar. Bea**	**81.57**	**44**	P	**P**	**21 07 06.1**	**+0.6**
comp=Z,1.9nm,1.0s,baz=198,slow=6.6,SNR=6.0							
MKAR	**Makanchi Array**	**145.92**	**88**	PKPbc	**PKPdf**	**21 14 25.7**	**0.0**
comp=Z,1.4nm,0.8s,baz=242,slow=2.6,SNR=5.3							
ILAR	**Eielson Array**	**146.64**	**311**	PKPbc	**PKPbc**	**21 14 27.9**	**-0.1**
comp=Z,1.2nm,0.9s,baz=114,slow=1.1,SNR=5.3							
IMAR	**Indian Mountai**	**149.76**	**311**		**PKiKP**	**21 14 37.1**	**0.0**
SONM	**Songino Array**	**158.36**	**112**	PKPab	**PKPab**	**21 15 18.3**	**-0.6**
comp=Z,0.7nm,0.9s,baz=242,slow=4.6,SNR=4.9							

ISCJB 17 20:56:04.8±0.6, 60°.27S±0°.09×42°.7W±0°.2, h10km, mb4.0/6, Error ellipse: s-maj=17.6km s-min=11.8km az=148.1
IDC 17 20:56:05.0±1.3, 60°.19S×42°.82W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/22, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=48.6km s-min=21.2km az=40.0
NEIC 17 20:56:07.0±2.1, 60°.3S±0°.1×42°.7W±0°.3, h10km±1km, mb4.4/12

ISC 17 20:56:06.4±0.7, 60°.3S±0°.1×42°.8W±0°.1, h10km, n24, σ1§10/17, mb4.3/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.91**	**32**	Pn	**Pn**	**20 57 47.9**	**+0.3**
SNAA	**Sanae**	**19.36**	**142**	P	**Pn**	**21 00 32.6**	**-0.3**
0.2nm,0.3s,baz=265,slow=11,SNR=3.5							
SNAA	**Sanae**	**19.36**	**142**	IAmb	IAmb	21 00 35.3	
comp=Z,7.0nm,1.1s							
PLCA	**Paso Flores**	**26.04**	**306**	P	**P**	**21 01 38.7**	**-0.9**
comp=Z,2.1nm,0.8s,baz=163,slow=11,SNR=3.0							
PLCA	**Paso Flores**	**26.04**	**306**	IAmb	IAmb	21 01 41.3	
comp=Z,5.0nm,1.0s							
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**21 02 14.4**	**-0.1**
QSPA				IAmb	IAmb	21 02 29.7	
comp=Z,6.4nm,1.5s							
GO01	**Chusmiza**	**44.73**	**323**	P	**P**	**21 04 19.9**	**-0.3**
GO01				IAmb	IAmb	21 04 22.0	
comp=Z,3.6nm,0.8s							
BDFB	**Brasilia**	**44.75**	**353**	P	**P**	**21 04 17.6**	**-2.3**
comp=Z,2.5nm,0.7s,baz=189,slow=13,SNR=2.2							
BDFB	**Brasilia**	**44.75**	**353**	IAmb	IAmb	21 04 28.3	
comp=Z,11nm,1.3s							
MNMC	**Minye Minye**	**45.36**	**323**	P	**P**	**21 04 26.4**	**+1.4**
SIV	**San Ignacio**	**46.20**	**335**	P	**P**	**21 04 30.0**	**-1.3**
comp=Z,0.5nm,0.5s,baz=159,slow=8.6,SNR=2.3							
LPAZ	**La Paz**	**47.63**	**326**	P	**P**	**21 04 43.8**	**+0.6**
comp=Z,0.7nm,0.4s,baz=197,slow=2.1,SNR=5.1							
LPAZ	**La Paz**	**47.63**	**326**	IAmb	IAmb	21 04 51.7	
comp=Z,3.8nm,1.2s							
SAML	**Samuel**	**53.48**	**335**	P	**P**	**21 05 27.6**	**+1.0**
SAML				IAmb	IAmb	21 05 28.6	
comp=Z,7.6nm,1.4s							
NNA	**Nana**	**54.37**	**318**	P	**P**	**21 05 33.8**	**+0.6**
LBTB	**Lobatse**	**57.90**	**85**	P	**P**	**21 05 58.1**	**-0.3**
comp=Z,2.2nm,0.8s,baz=202,slow=11,SNR=3.7							
LBTB	**Lobatse**	**57.90**	**85**	IAmb	IAmb	21 06 01.2	
comp=Z,3.1nm,0.9s							
OTAV	**Otavalo**	**66.36**	**320**	P	**P**	**21 06 57.1**	**+1.3**
OTAV				IAmb	IAmb	21 06 57.8	
comp=Z,2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**81.35**	**44**	P	**P**	**21 08 24.6**	**+1.7**
comp=Z,1.4nm,0.8s,baz=202,slow=7.2,SNR=6.0							
TORD	**Torodi Ar. Bea**	**81.35**	**44**	IAmb	IAmb	21 08 26.3	
comp=Z,1.6nm,0.9s							
INK	**Inuvik**	**143.85**	**321**	PKP	PKPbc	21 15 37.4	-0.4
comp=Z,0.9nm,0.7s,baz=112,slow=1.7,SNR=3.9							
MK31	**Makanchi Array**	**145.74**	**88**	PKPdf	**PKPab**	**21 15 44.5**	**-0.4**
MKAR	**Makanchi Array**	**145.74**	**88**	PKPbc	**PKPbc**	**21 15 44.4**	**-0.1**
comp=Z,1.6nm,0.8s,baz=243,slow=3.7,SNR=6.5							
ILAR	**Eielson Array**	**146.68**	**311**	PKPbc	**PKPbc**	**21 15 46.1**	**-0.6**
comp=Z,1.2nm,0.7s,baz=149,slow=1.8,SNR=6.2							

GCG 17 21:02:15.7±0.4, 14°.00N×92°.21W, h35km±107km, MD4.3
MEX 17 21:02:19.0±0.8, 14°.05N×92°.04W, h16km±110km, MD3.9
SNET 17 21:02:20.1±0.9, 14°.07N×91°.84W, h28km±85km, ML3.9

ISC 17 21:02:17.7±2.5, 14°.1N±0°.1×92°.06W±0°.08, h31km±16km, n18, σ0§47/26, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.78**	**37**	*e*P	**Pb**	**21 02 33.0**	**0.0**
THIG		**0.84**	**346**	*e*P	**Pn**	**21 02 33.1**	**-0.4**
THIG				*e*S	**Sb**	**21 02 44.4**	**-0.4**
FUG	**Fuego 3**	**1.23**	**73**	*e*P	**Pn**	**21 02 39.4**	**+0.4**
IXG	**Ixpaco**	**1.57**	**87**	*e*P	**Pn**	**21 02 43.8**	**+0.1**
NBG	**Las Nubes**	**1.73**	**73**	*e*S	**Sb**	**21 03 10.7**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.51**	**140**	P	Pn	21 25 18.9	0.0
	0.1nm,0.3s,baz=270,slow=9.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**83.22**	**46**	P	P	21 33 18.3	+1.0
	0.7nm,1.1s,baz=224,slow=6.0,SNR=2.0						
ILAR	**Eielson Array**	**146.19**	**311**	PKPbc	PKPbc	21 40 29.8	-0.1
	0.4nm,0.9s,baz=133,slow=1.9,SNR=2.5						
MKAR	**Makanchi Array**	**147.31**	**92**	PKPbc	PKPdf	21 40 30.9	-0.4
	0.3nm,0.5s,baz=239,slow=3.6,SNR=6.7						

*ISCJB **17** 21:24:10.9±0.8, 60°.8S±0°.2×42°.6W±0°.6, h10km, mb3.9/5, Error ellipse: s-maj=46.9km s-min=10.1km az=145.8*
*IDC **17** 21:24:11.8±1.3, 60°.64S×42°.55W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/21, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=55.1km s-min=24.6km az=49.0*
ISC 17 21:24:12.6±1.0, **60°.8S**±0°.2×**42°.6W**±0°.3, **h10km, n12,** σ1§**01**/12, **mb4.1/5, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.73**	**142**	P	**Pn**	**21 28 04.9**	**-1.8**
VNA1	**Neumayer--Stat**	**16.96**	**140**	P	**Pn**	**21 28 08.8**	**-0.7**
VNA2	**Neumayer--Watz**	**17.32**	**140**	P	**Pn**	**21 28 13.8**	**-0.2**
	baz=288,slow=15						
SNAA	**Sanae**	**18.94**	**141**	P	**Pn**	**21 28 35.4**	**+1.4**
SNAA	**Sanae**	**18.94**	**141**	P	**Pn**	**21 28 35.2**	**+1.2**
	0.3nm,0.3s,baz=299,slow=9.7,SNR=18						
PLCA	**Paso Flores**	**26.39**	**307**	P	**P**	**21 29 49.6**	**+0.7**
	2.2nm,0.9s,baz=145,slow=10,SNR=3.6						
CPUP	**Villa Florida**	**35.86**	**337**	P	**P**	**21 31 12.5**	**+0.2**
	2.2nm,0.8s,baz=185,slow=5.7,SNR=4.5						
BDFB	**Brasilia**	**45.23**	**353**	P	**P**	**21 32 29.2**	**-0.7**
	2.1nm,0.8s,baz=47,slow=11,SNR=3.2						
SIV	**San Ignacio**	**46.66**	**335**	P	**P**	**21 32 40.7**	**-0.4**
	0.4nm,0.5s,baz=214,slow=8.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**81.64**	**43**	P	**P**	**21 36 31.4**	**+0.8**
	1.5nm,0.8s,baz=205,slow=6.1,SNR=7.6						
MKAR	**Makanchi Array**	**145.68**	**89**	PKPbc	**PKPdf**	**21 43 50.0**	**-0.1**
	0.8nm,0.7s,baz=231,slow=3.1,SNR=5.8						
ILAR	**Eielson Array**	**147.04**	**310**	PKPbc	**PKPbc**	**21 43 53.7**	**-0.2**
	1.9nm,0.9s,baz=137,slow=2.5,SNR=15						

*ISCJB **17** 21:27:51.7±0.7, 60°.32S±0°.10×47°.2W±0°.2, h10km, mb3.8/4, Error ellipse: s-maj=16.9km s-min=13.6km az=167.1*
*IDC **17** 21:27:52.0±1.0, 60°.27S×47°.25W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=48.4km s-min=27.3km az=69.0*
*NEIC **17** 21:27:52.8±1.9, 60°.4S±0°.1×47°.5W±0°.2, h10km±1km, mb4.2/7*
ISC 17 21:27:52.9±0.6, **60°.3S**±0°.1×**47°.6W**±0°.1, **h10km, n20,** σ1§**00**/19, **mb4.2/7, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.52**	**49**	Pn	**Pn**	**21 29 55.5**	**-0.5**
PMSA	**Palmer Station**	**8.81**	**233**	Pn	**Pn**	**21 29 59.0**	**-1.1**
SNAA	**Sanae**	**20.81**	**141**	P	Pn	21 32 38.9	+2.6
	0.5nm,0.3s,baz=268,slow=7.2,SNR=4.7						
SNAA	**Sanae**	**20.81**	**141**	P	**P**	**21 32 33.2**	**-0.8**
TRQA	**Tornquist**	**24.10**	**331**	P	**P**	**21 33 08.9**	**+0.5**
TRQA				IAmb	IAmb	21 33 12.2	
	comp=Z,10.0nm,0.9s						
PLCA	**Paso Flores**	**24.24**	**314**	P	**P**	**21 33 10.5**	**+0.8**
	comp=Z,4.3nm,0.9s,baz=206,slow=8.9,SNR=4.8						
PLCA	**Paso Flores**	**24.24**	**314**	P	**P**	**21 33 10.1**	**+0.4**
PLCA				IAmb	IAmb	21 33 25.2	
	comp=Z,8.3nm,1.1s						
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**21 34 02.6**	**+2.1**
	comp=Z,3.5nm,0.9s,baz=154,slow=4.1,SNR=5.5						
SBA	**Scott Base**	**40.47**	**191**	P	**P**	**21 35 31.1**	**+0.3**
SBA				IAmb	IAmb	21 35 36.2	
	comp=Z,3.8nm,1.1s						
SIV	**San Ignacio**	**45.36**	**342**	P	**P**	**21 36 12.6**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=159,slow=14,SNR=5.1						
LBTB	**Lobatse**	**60.29**	**89**	P	**P**	**21 38 01.4**	**-0.1**
LBTB				IAmb	IAmb	21 38 12.6	
	comp=Z,2.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.09**	**48**	P	**P**	**21 40 19.2**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=204,slow=4.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.09**	**48**	P	**P**	**21 40 18.8**	**+0.3**
CCIG	**Comitan**	**84.35**	**317**	P	**P**	**21 40 24.2**	**-0.9**
EPYK	**Eagle Plains**	**142.28**	**319**		**PKiKP**	**21 47 25.2**	**-1.6**
ILAR	**Eielson Array**	**144.92**	**313**	PKP	**PKPdf**	**21 47 27.8**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=144,slow=1.5,SNR=16						
ILAR	**Eielson Array**	**144.92**	**313**		**PKPdf**	**21 47 27.9**	**-0.5**
MKAR	**Makanchi Array**	**148.13**	**92**	PKPbc	**PKPbc**	**21 47 36.6**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=242,slow=3.3,SNR=5.7						
MKAR	**Makanchi Array**	**148.13**	**92**		**PKPdf**	**21 47 35.1**	**+0.6**
ZALV	**Zalesovo Beam**	**153.88**	**83**	PKPbc	**PKiKP**	**21 47 50.9**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=224,slow=6.0,SNR=3.1						

*IDC **17** 21:32:17.8±0.9, 0°.43N×119°.53E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/35, mbtmp3.7/9, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/36, Error ellipse: s-maj=61.7km s-min=15.7km az=64.0*
*ISCJB **17** 21:32:18.2±0.6, 0°.41N±0°.06×119°.24E±0°.04, h10km, mb3.6/8, MS3.5/1, Error ellipse: s-maj=8.1km s-min=5.8km az=14.6*
*DJA **17** 21:32:18.9±0.6, 1°N±5°×11°9E±°, h10km, M3.9/6, MLv3.9/6*
ISC 17 21:32:19.9±0.7, **0°.46N**±0°.06×**119°.25E**±0°.05, **h10km, n18,** σ1§**65**/21, **mb3.8/8, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.66**	**100**	P	**Pg**	**21 32 31.6**	**-1.1**
MPSI				S	**Sb**	**21 32 41.7**	**-1.1**
SMKI	**Samarinda**	**2.23**	**246**	P	**Pn**	**21 32 55.7**	**-1.2**
MRSI	**Marisa**	**2.69**	**90**	P	**Pn**	**21 33 02.3**	**-1.0**
MRSI				S	**Sn**	**21 33 34.2**	**-1.8**
APSI	**Ampana**	**2.76**	**120**	P	**Pn**	**21 33 04.3**	**+0.1**
APSI				S	**Sn**	**21 33 37.3**	**-0.3**
TTSI	**Tana Toraja**	**3.53**	**171**	P	**Pn**	**21 33 15.2**	**+0.5**
LUWI	**Luwuk**	**3.83**	**113**	P	**Pn**	**21 33 22.1**	**+3.2**
SPSI	**Sidrap Palu**	**4.42**	**173**	P	**Pg**	**21 33 46.3**	**+1.6**
KMSI	**Cibinong**	**4.73**	**89**	P	**Pb**	**21 33 45.2**	**+2.2**
KAPI	**Kappang**	**5.46**	**175**	Pn	**Pn**	**21 33 39.7**	**-1.6**
	0.6nm,0.3s,baz=218,slow=22,SNR=2.0						
KAPI				Sn	**Sn**	**21 34 44.3**	**+0.1**
	1.4nm,0.3s,baz=19,slow=21,SNR=2.4						
KAPI				LR	LR	21 36 11.8	
	comp=Z,173nm,21.1s,baz=301,slow=43						
WRA	**Warramunga Arr**	**25.10**	**145**	P	**P**	**21 37 42.8**	**-2.2**
	1.7nm,0.8s,baz=334,slow=9.5,SNR=8.4						
CMAR	**Chiang Mai Arr**	**26.79**	**313**	P	**P**	**21 38 01.9**	**+1.6**
	0.4nm,0.6s,baz=138,slow=7.2,SNR=5.3						
ASAR	**Alice Springs**	**27.89**	**150**	P	**P**	**21 38 07.1**	**-3.1**
	0.5nm,0.7s,baz=270,slow=24,SNR=3.0						
STKA	**Stephens Creek**	**38.49**	**149**	P	**P**	**21 39 41.3**	**-1.1**
	1.6nm,0.7s,baz=332,slow=11,SNR=3.9						
SONM	**Songino Array**	**48.49**	**348**	P	**P**	**21 41 03.2**	**+0.3**
	0.2nm,0.4s,baz=183,slow=5.1,SNR=2.0						
MKAR	**Makanchi Array**	**56.30**	**330**	P	**P**	**21 42 02.1**	**+1.3**
	1.2nm,0.8s,baz=133,slow=6.8,SNR=8.8						
ZALV	**Zalesovo Beam**	**60.40**	**337**	P	**P**	**21 42 29.1**	**-0.2**
	0.6nm,0.3s,baz=116,slow=6.8,SNR=4.8						
BRTR	**Keskin Array B**	**86.32**	**310**	P	**P**	**21 45 03.2**	**+0.5**
	0.7nm,0.9s,baz=90,slow=7.8,SNR=2.8						
AKASG	**Malin Array Be**	**89.66**	**321**	LR	LR	22 31 26.7	
	comp=Z,16nm,19.4s,baz=315,slow=40						

*ISCJB **17** 21:38:57.3±0.4, 60°.56S±0°.05×41°.9W±0°.1, h10km, mb4.3/9, Error ellipse: s-maj=8.3km s-min=6.4km az=158.7*
*IDC **17** 21:38:58.5±0.7, 60°.62S×41°.96W, h0km, mb4.4/9, mb1 4.5/12, mb1mx4.3/27, mbtmp4.5/12, ML4.0/3, MS3.6/5, Ms1 3.6/5, ms1mx3.3/17, Error ellipse: s-maj=25.0km s-min=16.3km az=52.0*
*NEIC **17** 21:38:60.0±1.6, 60°.51S±0°.10×42°.0W±0°.2, h15km±3km, mb4.6/20*
ISC 17 21:38:59.4±0.4, **60°.56S**±0°.07×**41°.93W**±0°.08, **h10km, n70,** σ1§**13**/62, **mb4.5**/13, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.95**	**27**	Pn	**Pn**	**21 40 40.8**	**-0.3**
HOPE				Sn	**Sn**	**21 42 01.9**	**+1.8**
PMSA	**Palmer Station**	**10.98**	**238**	Pn	**Pn**	**21 41 37.2**	**+0.9**
	0.9nm,0.3s,baz=87,slow=11,SNR=5.4						
PMSA				LR	LR	21 45 47.3	
	comp=Z,390nm,18.2s,baz=110,slow=37						
PMSA	**Palmer Station**	**10.98**	**238**	Pn	**Pn**	**21 41 36.4**	**+0.1**
USHA	**Ushuaia**	**15.22**	**280**	Pn	**Pn**	**21 42 35.7**	**+1.6**
	0.7nm,0.3s,baz=103,slow=12,SNR=5.3						
VNA3	**Neumayer Olymp**	**16.69**	**143**	P	**Pn**	**21 42 51.2**	**-1.8**
VNA1	**Neumayer--Stat**	**16.90**	**141**	P	**Pn**	**21 42 54.9**	**-0.8**
VNA2	**Neumayer--Watz**	**17.27**	**141**	P	**Pn**	**21 42 59.7**	**-0.6**
	baz=292,slow=15						
SNAA	**Sanae**	**18.89**	**142**	P	**Pn**	**21 43 21.5**	**+1.2**
SNAA	**Sanae**	**18.89**	**142**	P	**Pn**	**21 43 20.9**	**+0.7**
	0.7nm,0.3s,baz=289,slow=9.3,SNR=34						
SNAA				LR	LR	21 48 55.3	
	comp=Z,155nm,21.9s,baz=358,slow=32						
SNAA	**Sanae**	**18.89**	**142**	P	**P**	**21 43 19.7**	**0.0**
SNAA				IAmb	IAmb	21 43 24.7	
	comp=Z,35nm,1.0s						
TRQA	**Tornquist**	**25.84**	**322**	P	**P**	**21 44 30.6**	**-0.2**
PLCA	**Paso Flores**	**26.54**	**305**	P	**P**	**21 44 37.3**	**+0.2**
	comp=Z,9.8nm,0.8s,baz=172,slow=11,SNR=14						
PLCA	**Paso Flores**	**26.54**	**305**	P	**P**	**21 44 35.6**	**-1.5**
PLCA				IAmb	IAmb	21 44 41.1	
	comp=Z,11nm,0.8s						
GO06	**Curarrehue**	**27.88**	**305**	P	**P**	**21 44 48.7**	**-0.6**
QSPA	**South Pole Qui**	**29.67**	**180**	P	**P**	**21 45 04.7**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=180,slow=4.0,SNR=17						
QSPA	**South Pole Qui**	**29.67**	**180**	P	**P**	**21 45 05.0**	**0.0**
QSPA				IAmb	IAmb	21 45 05.3	
	comp=Z,7.7nm,0.9s						
GO05	**Huala**	**32.03**	**309**	P	**P**	**21 45 25.8**	**-0.2**
GO05				IAmb	IAmb	21 45 26.3	
	comp=Z,12nm,1.1s						
ROC1	**El Roble**	**33.51**	**312**	P	**P**	**21 45 38.2**	**-0.9**
CPUP	**Villa Florida**	**35.81**	**336**	P	**P**	**21 45 58.6**	**-0.1**
	comp=Z,9.6nm,1.0s,baz=153,slow=7.2,SNR=4.0						
CPUP				LR	LR	21 58 42.4	
	comp=Z,43nm,21.9s,slow=33						
CPUP	**Villa Florida**	**35.81**	**336**	P	**P**	**21 45 58.2**	**-0.6**
CPUP				IAmb	IAmb	21 46 03.8	
	comp=Z,10.0nm,1.0s						
GO04	**Tololo Observa**	**35.96**	**315**		**P**	**21 45 59.0**	**-1.3**
GO03	**Copiap**	**38.13**	**317**	P	**P**	**21 46 17.0**	**-1.5**
GO02	**Mina Guanaco**	**40.17**	**319**	P	**P**	**21 46 35.1**	**-0.8**
GO02				IAmb	IAmb	21 46 39.4	
	comp=Z,17nm,0.7s						
SBA	**Scott Base**	**40.72**	**189**	P	**P**	**21 46 39.6**	**+0.1**
LVC	**Limon Verde**	**42.34**	**322**	P	**P**	**21 46 53.8**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=173,slow=11,SNR=3.7						
LVC	**Limon Verde**	**42.34**	**322**	P	**P**	**21 46 52.7**	**-1.1**
PB04	**IPOC Station P**	**42.99**	**320**	P	**P**	**21 46 58.5**	**-0.4**
BDFB	**Brasilia**	**45.08**	**352**	P	**P**	**21 47 15.5**	**0.0**
	comp=Z,3.6nm,0.9s,baz=118,slow=4.8,SNR=3.3						
BDFB	**Brasilia**	**45.08**	**352**	P	**P**	**21 47 13.6**	**-1.9**
BDFB				IAmb	IAmb	21 47 21.4	
	comp=Z,12nm,1.2s						
MNMC	**Minye Minye**	**45.83**	**322**	P	**P**	**21 47 19.6**	**-2.1**
SIV	**San Ignacio**	**46.62**	**334**	P	**P**	**21 47 28.9**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=197,slow=10,SNR=18						
LPAZ	**La Paz**	**48.09**	**325**	P	**P**	**21 47 41.4**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=140,slow=7.6,SNR=11						
LPAZ				PcP	**PcP**	**21 49 10.8**	**+3.4**
	comp=Z,1.7nm,0.7s,baz=168,slow=1.8,SNR=4.7						
LPAZ	**La Paz**	**48.09**	**325**	P	**P**	**21 47 39.4**	**-0.4**
LPAZ				IAmb	IAmb	21 47 44.3	
	comp=Z,3.3nm,0.8s						
LPAZ				PcP	**PcP**	**21 49 06.5**	**-0.9**
SAML	**Samuel**	**53.90**	**334**	P	**P**	**21 48 22.1**	**-0.7**
SAML				IAmb	IAmb	21 48 27.1	
	comp=Z,7.4nm,0.8s						
BOSA	**Boshof**	**54.36**	**86**	LR	LR	22 06 40.3	
	comp=Z,91nm,20.3s,baz=177,slow=31						
H10S2	**ASCENSION HYDR**	**55.37**	**33**	T	T	22 49 38.6	
	baz=186,slow=74,SNR=6.7						
H10S3	**ASCENSION HYDR**	**55.37**	**33**	T	T	22 49 38.6	
	baz=34,slow=74,SNR=6.4						
H10N3	**ASCENSION HYDR**	**56.48**	**33**	T	T	22 50 49.7	
	baz=198,slow=76,SNR=21						
H10N1	**ASCENSION HYDR**	**56.48**	**33**	T	T	22 51 03.0	
	baz=198,slow=76,SNR=17						
H10N2	**ASCENSION HYDR**	**56.50**	**33**	T	T	22 50 51.0	
	baz=198,slow=76,SNR=22						
LBTB	**Lobatse**	**57.52**	**84**	P	**P**	**21 48 49.2**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=187,slow=8.7,SNR=4.2						
LBTB	**Lobatse**	**57.52**	**84**	P	**P**	**21 48 49.1**	**+0.2**
LBTB				IAmb	IAmb	21 48 51.3	
	comp=Z,5.1nm,0.9s						
TOA0	**Torodi Ar. Sit**	**81.27**	**43**	P	**P**	**21 51 14.7**	**-0.8**
TOA0				IAmb	IAmb	21 51 23.9	
	comp=Z,4.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.27**	**43**	P	**P**	**21 51 17.6**	**+2.0**
	comp=Z,2.4nm,0.8s,baz=207,slow=6.0,SNR=12						
TORD	**Torodi Ar. Bea**	**81.27**	**43**	P	**P**	**21 51 14.4**	**-1.1**
PPT	**Papeete**	**83.22**	**246**	LR	LR	22 18 35.3	
	comp=Z,56nm,19.9s,baz=38,slow=29						
H08S1	**Diego Garcia H**	**95.01**	**115**	T	T	23 38 39.0	
	baz=213,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**95.02**	**115**	T	T	23 38 44.0	
	baz=213,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**95.03**	**115**	T	T	23 38 47.5	
	baz=213,slow=76,SNR=9.6						
YPP	**Pitchstone Pla**	**118.49**	**310**		**PKiKP**	**21 57 46.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**129.59**	**129**	PKP	**PKPdf**	**21 58 08.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=197,slow=1.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**129.59**	**129**		**PKPdf**	**21 58 07.5**	**-0.8**
KSH	**Kashi**	**136.87**	**90**	*e*PKP	**PKiKP**	**21 58 24.8**	**+1.5**
INK	**Inuvik**	**144.32**	**320**	PKP	PKPbc	21 58 33.0	+0.8
	comp=Z,3.2nm,0.8s,baz=300,slow=4.0,SNR=6.4						
MK31	**Makanchi Array**	**145.35**	**88**		**PKPab**	**21 58 36.5**	**0.0**
MKAR	**Makanchi Array**	**145.35**	**88**	PKPbc	**PKPbc**	**21 58 36.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=246,slow=2.5,SNR=18						
RIDG	**Independent Ri**	**145.88**	**309**		**PKPdf**	**21 58 37.0**	**+0.3**
WMQ	**Urumqi**	**145.89**	**96**	*e*P	**PKPab**	**21 58 39.3**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,95nm,5.5s						
KURK	**Kurchatov**	**146.18**	**80**		**PKPbc**	**21 58 38.8**	**+0.2**
IL31		**147.16**	**310**		**PKPbc**	**21 58 40.4**	**-0.7**
ILAR	**Eielson Array**	**147.16**	**310**	PKPbc	**PKPdf**	**21 58 39.9**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=139,slow=2.2,SNR=26						
LZH	**Lanzhou**	**147.21**	**123**	*e*PKPbc	**PKPbc**	**21 58 42.0**	**-0.3**
LZH				pPKP	sPKPab	21 58 57.3	+10
LZH				PKPbc	pPKPab	21 58 58.5	+12
LZH				sPKP		21 58 59.3	
LZH				LR	LR		
	comp=N,63nm,18.0s						
LZH				LR	LR		
	comp=E,59nm,17.8s						
LZH				LR	LR		
	comp=Z,81nm,20.1s						
RND	**Reindeer**	**147.26**	**307**		**PKPbc**	**21 58 40.7**	**-0.8**
BWN	**Browne**	**147.87**	**308**		**PKPdf**	**21 58 41.3**	**+1.3**
GTA	**Gaotai**	**148.24**	**114**	*e*PKPbc	**PKPbc**	**21 58 45.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**148.43**	**308**		**PKPdf**	**21 58 42.7**	**+1.7**
MLY	**Manley**	**148.75**	**309**	PKPdf	**PKPdf**	**21 58 42.3**	**+0.8**
NJ2	**Nanjing**	**148.79**	**147**	*e*P	**PKPdf**	**21 58 43.8**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZALV	**Zalesovo Beam**	**151.16**	**79**	PKPbc	**PKPbc**	**21 58 50.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=300,slow=6.7,SNR=3.7						
HHC	**Hu-ho-hao-te**	**154.40**	**128**	*e*P	**PKPdf**	**21 58 48.3**	**-2.6**

*ISCJB **17** 21:41:23.7±0.4, 8°.31S±0°.04×109°.03E±0°.03, h88km±3km, mb4.2/25, Error ellipse: s-maj=7.5km s-min=3.4km az=20.1*
*NEIC **17** 21:41:24.5±1.8, 8°.33S±0°.05×108°.97E±0°.05, h84km±6km, mb4.4/24*
*KLM **17** 21:41:25.0, 8°.43S×108°.99E, h60km, mb4.3*
*DJA **17** 21:41:25.9±0.6, 8°S±4°×10°9E±°, h38km±17km, M4.6/16, mB5.0/6, mb4.7/8, MLv4.8/16, Mw(mB)4.3/6*
*IDC **17** 21:41:28.0±1.1, 7°.90S×109°.21E, h95km±10km, mb4.0/22, mb1 4.1/24, mb1mx4.0/43, mbtmp4.3/24, MS3.1/4, Ms1 3.1/4, ms1mx2.8/31, Error ellipse: s-maj=16.2km s-min=9.4km az=44.0*
ISC 17 21:41:24.9±0.8, **8°.30S**±0°.05×**109°.00E**±0°.03, **h79**km±7km, **n105,** σ1§**63**/127, **mb4.3**/32, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.75**	**313**	P	**Pn**	**21 41 40.5**	**-0.5**
CMJI				S	**Sn**	**21 41 51.0**	**-2.0**
KPJI	**Karang Pucung**	**0.97**	**356**	P	**Pn**	**21 41 44.0**	**+0.5**
KPJI				S	**Sn**	**21 41 58.1**	**+0.8**
YOGI	**Yogyakarta**	**1.37**	**69**	P	**Pn**	**21 41 47.8**	**-0.6**
YOGI				S	**Sn**	**21 42 04.3**	**-1.9**
CISI	**Cisompet, Garu**	**1.39**	**302**		**Pn**	**21 41 48.2**	**-0.6**
CISI				Sn	**Sn**	**21 42 05.9**	**-0.9**
SMRI	**Semarang**	**1.89**	**49**	P	**Pn**	**21 41 56.6**	**+1.3**
SMRI				S	**Sn**	**21 42 18.6**	**+0.1**
SMRI	**Semarang**	**1.89**	**49**	Pn	**Pn**	**21 41 54.8**	**-0.5**
SMRI				Sn	**Sn**	**21 42 18.4**	**-0.1**
JCJI	**Jatiwangi**	**1.94**	**338**	P	**Pn**	**21 41 54.3**	**-1.7**
JCJI				S	**Sn**	**21 42 15.4**	**-4.2**
WOJI	**Wonogiri, Jawa**	**1.96**	**76**	P	**Pn**	**21 41 55.1**	**-1.1**
WOJI				S	**Sn**	**21 42 16.6**	**-3.4**
LEM	**Lembang**	**2.01**	**317**	P	**Pn**	**21 41 59.0**	**+2.0**
	96nm,0.3s,baz=178,slow=6.0,SNR=50						
LEM				S	**Sn**	**21 42 23.8**	**+2.3**
	203nm,0.3s,baz=13,slow=19,SNR=12						
LEM				LR	LR	21 42 42.3	
	comp=Z,335nm,19.4s,baz=150,slow=39						
LEM	**Lembang**	**2.01**	**317**	P	**Pn**	**21 41 58.8**	**+1.8**
PCJI	**Pacitan**	**2.15**	**87**	P	**Pn**	**21 41 59.0**	**+0.2**
PCJI				S	**Sn**	**21 42 23.9**	**-0.8**
NGJI	**Ngawi**	**2.61**	**69**	P	**Pn**	**21 42 05.3**	**+0.4**
SKJI	**Sukabumi**	**2.75**	**298**	P	**Pn**	**21 42 08.3**	**+1.5**
SKJI				S	**Sn**	**21 42 41.6**	**+2.6**
GRJI	**Gresik**	**3.71**	**68**	P	**Pn**	**21 42 20.9**	**+1.0**
GRJI				S	**Sn**	**21 43 02.8**	**+0.3**
XMIS	**Christmas Isla**	**3.95**	**237**		**Pn**	**21 42 20.8**	**-2.3**
XMIS				Sn	**Sn**	**21 43 05.1**	**-3.3**
GMJI	**Gumukmas**	**4.40**	**90**	P	**Pn**	**21 42 29.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**5.10**	**92**	P	**Pn**	**21 42 39.0**	**+0.2**
JAGI				S	**Sn**	**21 43 34.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**5.10**	**92**		**Pn**	**21 42 39.2**	**+0.4**
JAGI				Sn	**Sn**	**21 43 35.1**	**-1.3**
KASI	**Kota Agung**	**5.26**	**301**	P	**Pn**	**21 42 44.1**	**+3.1**
TPI	**Tanjungpandan**	**5.67**	**346**	P	**Pn**	**21 42 48.0**	**+1.4**
MNAI	**Manna**	**7.17**	**303**	P	**Pn**	**21 43 09.1**	**+1.9**
MNAI	**Manna**	**7.17**	**303**	Pn	**Pn**	**21 43 05.5**	**-1.7**
MNAI				Sn	**Sn**	**21 44 25.7**	**-1.5**
TWSI	**Taliwang, Sumb**	**7.81**	**94**	P	**Pn**	**21 43 16.2**	**+0.4**
PLAI	**Plampang**	**8.69**	**94**	P	**Pn**	**21 43 29.2**	**+1.3**
PLAI				S	**Sn**	**21 45 03.7**	**-0.7**
DSRI	**Dabo**	**8.94**	**330**	P	**Pn**	**21 43 33.9**	**+2.7**
KAPI	**Kappang**	**11.16**	**74**	LR	LR	21 48 13.2	
	comp=Z,69nm,19.4s,baz=124,slow=37						
MYKOM	**Kota Tinggi**	**11.27**	**333**	P	**Pn**	**21 44 06.0**	**+3.0**
MYKOM	**Kota Tinggi**	**11.27**	**333**	Pn	**Pn**	**21 44 02.5**	**-0.5**
JRMM	**Jerantut**	**13.75**	**332**	P	**P**	**21 44 41.0**	**-1.3**
BATI	**Baumata**	**14.59**	**99**	P	**Pn**	**21 44 48.1**	**+0.6**
	4.0nm,0.3s,baz=323,slow=3.4,SNR=3.9						
BATI	**Baumata**	**14.59**	**99**	P	**P**	**21 44 56.3**	**+4.5**
PSI	**Prapat**	**14.92**	**317**	LR	LR	21 51 00.1	
	comp=Z,66nm,18.4s,baz=30,slow=39						
IPM	**Ipoh**	**14.98**	**328**	P	**Pn**	**21 44 54.0**	**+1.5**
GIRL	**Giralia**	**15.12**	**161**	Pn	**Pn**	**21 44 52.4**	**-1.7**
SOEI	**Soe**	**15.14**	**97**	P	**P**	**21 45 01.8**	**+3.8**
SOEI	**Soe**	**15.14**	**97**		**Pn**	**21 44 54.2**	**-0.4**
KKM	**Kota Kinabalu**	**15.96**	**27**	Pn	**Pn**	**21 45 04.9**	**-0.1**
KKM				IAmb	IAmb	21 45 16.4	
	comp=Z,21nm,1.0s						
PSA00	**Pilbara Seismi**	**16.83**	**143**		**Pn**	**21 45 15.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**18.88**	**123**	P	**Pn**	**21 45 41.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=286,slow=5.3,SNR=5.7						
FITZ	**Fitzroy Crossi**	**18.88**	**123**	P	**P**	**21 45 39.2**	**+0.1**
KNRA	**Kununurra**	**20.66**	**113**	P	**P**	**21 45 58.7**	**+0.3**

MKAR PcP **PcP** **21 52 08.4 +0.7**
comp=Z,1.4nm,0.7s,baz=140,slow=5.9,SNR=4.9
ASAJ Asahikawa 60.38 27 P **P** **21 51 24.4 -1.4**
comp=Z,6.8nm,0.7s,baz=180,slow=9.1
JKA Kamikawa-asahi 60.38 27 P **P** **21 51 24.4 -1.4**
ZALV Zalesovo Beam 65.30 345 P **P** **21 51 56.4 -1.9**
comp=Z,1.7nm,0.3s,baz=152,slow=6.6,SNR=11
ZALV PcP **PcP** **21 52 29.1 -0.8**
comp=Z,0.6nm,0.4s,baz=147,slow=2.9,SNR=2.4
ZALV Zalesovo Beam 65.30 345 P **P** **21 51 56.8 -1.5**
ZALV **PcP** **21 52 29.0 -1.0**
GEYT Alibeck 66.05 318 P **P** **21 52 03.5 -0.1**
comp=Z,1.7nm,0.5s,baz=125,slow=3.8,SNR=6.9
GEYT Alibeck 66.05 318 P **P** **21 52 03.6 0.0**
MAW Mawson 66.71 198 P **P** **21 52 11.3 +4.1**
comp=Z,1.4nm,0.7s,baz=101,slow=21,SNR=1.4
ABKAR Akbulak array 71.55 329 P **P** **21 52 36.6 -0.8**
ABKAR Akbulak array 71.55 329 P **P** **21 52 36.9 -0.5**
ABKAR IAmb IAmb 21 52 37.9
comp=Z,3.8nm,0.5s
PETK Petropavlovsk- 73.78 28 P **P** **21 52 49.6 -1.0**
comp=Z,2.2nm,0.7s,baz=154,slow=2.3,SNR=4.2
PETK Petropavlovsk- 73.78 28 P **P** **21 52 49.7 -0.9**
NRIK Noril'sk 78.89 352 P **P** **21 53 18.1 -1.0**
comp=Z,1.5nm,0.4s,baz=141,slow=6.5,SNR=4.3
KBZ Khabaz 78.94 318 P **P** **21 53 20.4 +0.4**
comp=Z,4.2nm,0.9s,baz=143,slow=4.8,SNR=12
BOSA Boshof 80.61 242 P **P** **21 53 32.5 +2.9**
comp=Z,1.4nm,0.7s,baz=123,slow=6.6,SNR=4.4
BOSA Boshof 80.61 242 P **P** **21 53 28.9 -0.7**
TIXI Tiksi 80.87 6 P **P** **21 53 28.3 -1.5**
TIXI IAmb IAmb 21 53 29.3
comp=Z,6.7nm,0.8s
BR131 Keskin Array S 84.17 311 P **P** **21 53 47.6 -0.3**
BR131 IAmb IAmb 21 53 49.9
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 84.17 311 P **P** **21 53 48.4 +0.5**
comp=Z,2.8nm,0.8s,baz=142,slow=7.4,SNR=18
BRTR Keskin Array B 84.17 311 P **P** **21 53 46.8 -1.1**
SNAA Sanae 88.88 197 P **P** **21 54 12.8 +2.7**
comp=Z,1.2nm,0.6s,baz=183,slow=17,SNR=5.6
SNAA Sanae 88.88 197 P **P** **21 54 10.4 +0.2**
SNAA IAmb IAmb 21 54 14.6
comp=Z,1.7nm,0.8s
AKASG Malin Array Be 89.94 321 P **P** **21 54 14.8 -0.5**
comp=Z,0.2nm,0.3s,baz=83,slow=4.1,SNR=4.1
FINES FINESS Array B 93.86 331 P **P** **21 54 33.2 0.0**
comp=Z,2.5nm,0.9s,baz=57,slow=5.1,SNR=1.5
ARCES ARCESS Array B 95.44 339 P **P** **21 54 40.2 -0.2**
comp=Z,7.0nm,1.0s,baz=64,slow=8.2,SNR=3.9
TXAR Lajitas Array 142.88 51 PKhKP PKPpre 22 00 47.4
comp=Z,0.4nm,0.4s,baz=209,slow=1.5,SNR=7.7
CPUP Villa Florida 143.10 201 PKP **PKPdf** **22 00 49.9 -0.7**
comp=Z,0.7nm,0.4s,baz=153,slow=2.3,SNR=3.3
BDFB Brasilia 147.07 224 PKPbc **PKiKP** **22 01 02.7 +0.4**
comp=Z,1.5nm,0.4s,baz=150,slow=9.9,SNR=3.3

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*ISCJB **17** 21:45:31.1±0.4, 60.°31S±0.°05×46.°9W±0.°1, h10km, mb4.4/15, Error ellipse: s-maj=8.9km s-min=7.8km az=169.8*
*IDC **17** 21:45:31.4±0.6, 60.°30S×46.°67W, h0km, mb4.4/14, mb1 4.4/15, mb1mx4.3/25, mbtmp4.4/15, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/14, Error ellipse: s-maj=20.8km s-min=14.1km az=57.0*
*NEIC **17** 21:45:32.4±1.4, 60.°34S±0.°10×46.°7W±0.°2, h10km±1km, mb4.6/16*
ISC 17 21:45:32.7±0.4, **60.°29S**±0.°07×**46.°82W**±0.°08, **h10**km, **n70**, σ1**9**07/63, **mb4.5**/20, **1D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**9.13**	**233**	Pn	**Pn**	**21 47 45.7**	**+1.5**
	1.3nm,0.3s,baz=49,slow=9.6,SNR=6.6						
PMSA				Sn	**Sn**	**21 49 25.3**	**-1.6**
	0.5nm,0.3s,baz=230,slow=9.6,SNR=1.6						
PMSA	**Palmer Station**	**9.13**	**233**		**Pn**	**21 47 44.4**	**+0.2**
PMSA					**Sn**	**21 49 27.4**	**+0.5**
USHA	**Ushuaia**	**12.79**	**286**	LR	LR	21 52 02.3	
	comp=Z,227nm,18.7s,baz=103,slow=30						
VNA3	**Neumayer Olymp**	**18.39**	**142**	P	**P**	**21 49 50.8**	**+3.4**
VNA1	**Neumayer--Stat**	**18.67**	**140**	P	**Pn**	**21 49 52.9**	**+2.2**
VNA2	**Neumayer--Watz**	**19.02**	**140**	P	**Pn**	**21 49 58.0**	**+3.0**
	baz=288,slow=11						
SNAA	**Sanae**	**20.61**	**141**	P	Pn	21 50 16.3	+2.3
SNAA	**Sanae**	**20.61**	**141**	P	Pn	21 50 13.0	-0.9
	18nm,0.9s,baz=284,slow=9.8,SNR=49						
SNAA	**Sanae**	**20.61**	**141**	P	**P**	**21 50 10.5**	**-1.3**
SNAA				IAmb	IAmb	21 50 17.7	
	comp=Z,29nm,1.0s						
TRQA	**Tornquist**	**24.24**	**330**	P	**P**	**21 50 49.5**	**0.0**
TRQA				IAmb	IAmb	21 50 52.9	
	comp=Z,14nm,0.7s						
PLCA	**Paso Flores**	**24.47**	**312**	P	**P**	**21 50 52.8**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=199,slow=9.5,SNR=6.0						
PLCA	**Paso Flores**	**24.47**	**312**	P	**P**	**21 50 51.4**	**-0.4**
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**21 51 42.1**	**+1.3**
	comp=Z,11nm,0.9s,baz=163,slow=6.4,SNR=22						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**21 51 39.7**	**-1.0**
CFA	**Coronel Fontan**	**32.02**	**324**	P	**P**	**21 51 59.2**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=216,slow=3.6,SNR=3.9						
GO04	**Tololo Observa**	**34.13**	**321**	P	**P**	**21 52 18.1**	**+0.3**
CPUP	**Villa Florida**	**34.71**	**343**	P	**P**	**21 52 23.0**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=176,slow=7.6,SNR=8.3						
CPUP	**Villa Florida**	**34.71**	**343**	P	**P**	**21 52 23.4**	**+0.8**
CPUP				IAmb	IAmb	21 52 24.4	
	comp=Z,4.1nm,0.8s						
SYO	**Syowa Base**	**34.91**	**141**	‖*ep*P	**P**	**21 52 23.0**	**-0.8**
SBA	**Scott Base**	**40.58**	**190**	P	**P**	**21 53 11.2**	**-0.4**
MNMC	**Minye Minye**	**44.22**	**328**	P	**P**	**21 53 42.0**	**-0.2**
MNMC				IAmb	IAmb	21 53 45.3	
	comp=Z,9.8nm,0.7s						
BDFB	**Brasilia**	**44.59**	**358**	P	**P**	**21 53 45.4**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=174,slow=7.8,SNR=5.7						
SIV	**San Ignacio**	**45.43**	**341**	P	**P**	**21 53 52.7**	**+1.1**
	comp=Z,3.6nm,0.6s,baz=171,slow=7.3,SNR=25						
LPAZ	**La Paz**	**46.58**	**331**	P	**P**	**21 54 02.8**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=354,slow=12,SNR=7.5						
LPAZ	**La Paz**	**46.58**	**331**	P	**P**	**21 54 01.2**	**-0.1**
SUR	**Sutherland**	**51.50**	**89**	P	**P**	**21 54 39.3**	**+0.9**
	comp=Z,7.8nm,0.8s,baz=201,slow=11,SNR=6.3						
SUR	**Sutherland**	**51.50**	**89**	P	**P**	**21 54 36.8**	**-1.6**
SAML	**Samuel**	**52.69**	**340**	P	**P**	**21 54 46.9**	**-0.3**
SAML				IAmb	IAmb	21 54 49.2	
	comp=Z,6.5nm,0.9s						
H10S2	**ASCENSION HYDR**	**56.58**	**39**	T	T	22 56 47.8	
	baz=200,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**56.58**	**39**	T	T	22 56 48.2	
	baz=20,slow=74,SNR=22						
BOSA	**Boshof**	**56.77**	**90**	P	**P**	**21 55 16.1**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=227,slow=5.3,SNR=7.3						
BOSA	**Boshof**	**56.77**	**90**	P	**P**	**21 55 15.8**	**-1.1**
BOSA				IAmb	IAmb	21 55 21.7	
	comp=Z,7.0nm,1.1s						
H10N3	**ASCENSION HYDR**	**57.68**	**39**	T	T	22 58 11.3	
	baz=198,slow=76,SNR=29						
H10N1	**ASCENSION HYDR**	**57.68**	**39**	T	T	22 58 11.6	
	baz=198,slow=76,SNR=44						
H10N2	**ASCENSION HYDR**	**57.70**	**39**	T	T	22 58 11.7	
	baz=198,slow=76,SNR=35						
LBTB	**Lobatse**	**59.92**	**88**	P	**P**	**21 55 38.6**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=222,slow=9.5,SNR=10						
LBTB	**Lobatse**	**59.92**	**88**	P	**P**	**21 55 37.5**	**-1.4**
OTAV	**Otavalo**	**65.13**	**325**	P	**P**	**21 56 14.0**	**-0.1**
OTAV				IAmb	IAmb	21 56 16.4	
	comp=Z,3.9nm,0.7s						
LIC	**Lamto**	**73.99**	**44**	*e*P	**P**	**21 57 08.7**	**+0.5**
	comp=Z,25nm,0.9s						
KIC	**Kosan Boka**	**74.21**	**44**	*e*P	**P**	**21 57 09.9**	**+0.4**
	comp=Z,110nm,2.2s						
TIC	**Toumodi**	**74.38**	**43**	*e*P	**P**	**21 57 11.0**	**+0.5**
DBIC	**Dimbokro**	**74.46**	**44**	P	**P**	**21 57 11.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=184,slow=10,SNR=3.8						
DBIC	**Dimbokro**	**74.46**	**44**	P	**P**	**21 57 09.6**	**-1.3**
DBIC				IAmb	IAmb	21 57 24.0	
	comp=Z,5.8nm,1.1s						
OUZ	**Omahuta**	**79.20**	**213**	P	**P**	**21 57 37.5**	**-0.1**
OUZ				IAmb	IAmb	21 57 38.8	
	comp=Z,8.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.79**	**47**	P	**P**	**21 57 57.5**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=213,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**82.79**	**47**	P	**P**	**21 57 56.3**	**-0.5**
ASAR	**Alice Springs**	**96.35**	**181**	P	**P**	**21 59 00.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=177,slow=4.5,SNR=6.5						
ASAR	**Alice Springs**	**96.35**	**181**	P	**P**	**21 59 00.2**	**-1.4**
WRA	**Warramunga Arr**	**100.05**	**181**	P	**Pdif**	**21 59 16.6**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=182,slow=4.2,SNR=6.1						
BRTR	**Keskin Array B**	**119.23**	**61**	PKP	**PKPdf**	**22 04 18.9**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=232,slow=2.5,SNR=4.0						
GERES	**GERESS Array B**	**119.28**	**41**	PKP	**PKPdf**	**22 04 19.5**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=232,slow=1.5,SNR=4.4						
AKASG	**Malin Array Be**	**126.36**	**50**	PKP	**PKPdf**	**22 04 33.2**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=240,slow=1.3,SNR=6.0						
YKA	**Yellowknife Ar**	**132.89**	**324**	PKP	**PKPdf**	**22 04 46.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=157,slow=2.4,SNR=3.9						
INK	**Inuvik**	**142.59**	**322**	PKhKP	PKPpre	22 04 58.6	
	comp=Z,0.3nm,0.5s,baz=180,slow=6.1,SNR=2.2						
IL31		**145.16**	**312**		**PKPdf**	**22 05 09.1**	**+0.4**
ILAR	**Eielson Array**	**145.16**	**312**	PKPbc	**PKPbc**	**22 05 08.3**	**0.0**
	comp=Z,5.8nm,0.9s,baz=152,slow=2.5,SNR=35						
RND	**Reindeer**	**145.19**	**310**		**PKPdf**	**22 05 09.3**	**+0.4**
CCB	**Clear Creek Bu**	**145.44**	**312**		**PKPdf**	**22 05 09.0**	**-0.1**
BMAR	**Burnt Mountain**	**145.68**	**317**		**PKPab**	**22 05 10.6**	**+0.2**
BWN	**Browne**	**145.82**	**310**		**PKPbc**	**22 05 10.5**	**+0.1**
BPAW	**Bear Paw Mtn.**	**146.36**	**310**		**PKPbc**	**22 05 12.1**	**-0.1**
MLY	**Manley**	**146.72**	**311**		**PKPbc**	**22 05 13.2**	**0.0**
MAKZ	**Makanchi**	**147.62**	**91**	PKPdf	**PKPdf**	**22 05 13.1**	**-0.4**
MK31	**Makanchi Array**	**147.77**	**91**	PKPdf	**PKPdf**	**22 05 14.0**	**+0.3**
MKAR	**Makanchi Array**	**147.77**	**91**	PKPbc	**PKPbc**	**22 05 15.6**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=233,slow=2.2,SNR=33						
MKAR	**Makanchi Array**	**147.77**	**91**	PKPdf	**PKPdf**	**22 05 14.4**	**+0.7**
IMAR	**Indian Mountai**	**148.27**	**312**	PKPdf	**PKPdf**	**22 05 14.8**	**+0.9**
KURK	**Kurchatov**	**148.53**	**83**		**PKPdf**	**22 05 15.2**	**+0.5**
KSRS	**Korea Array**	**156.90**	**169**	PKPab	**PKPab**	**22 05 57.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=194,slow=4.6,SNR=3.0						
SONM	**Songino Array**	**160.11**	**117**	PKPab	**PKPab**	**22 06 11.1**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=235,slow=3.5,SNR=6.5						

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*ISCJB **17** 21:45:36.0±0.9, 53.°2S±0.°1×22.°3E±0.°4, h10km, mb4.0/4, Error ellipse: s-maj=32.4km s-min=17.0km az=10.0*
*IDC **17** 21:45:36.5±1.5, 53.°22S×22.°60E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/36, mbtmp4.1/5, Error ellipse: s-maj=69.8km s-min=31.0km az=73.0*
*NEIC **17** 21:45:38.2±1.4, 53.°2S±0.°1×22.°5E±0.°3, h15km±6km, mb4.3/9*
ISC 17 21:45:37.5±1.0, **53.°2S**±0.°1×**22.°5E**±0.°2, **h10**km, **n16**, σ0**9**91/15, **mb4.2**/5, **South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.84**	**356**	P	Pn	21 50 21.2	-0.7
	9.7nm,0.9s,baz=184,slow=14,SNR=3.6						
SUR	**Sutherland**	**20.84**	**356**	P	**P**	**21 50 20.4**	**+0.9**
SUR				IAmb	IAmb	21 50 26.7	
	comp=Z,23nm,1.1s						
BOSA	**Boshof**	**24.65**	**6**	P	**P**	**21 50 57.6**	**-0.7**
LBTB	**Lobatse**	**28.25**	**6**	P	**P**	**21 51 29.6**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=201,slow=8.6,SNR=2.3						
LBTB	**Lobatse**	**28.25**	**6**	P	**P**	**21 51 30.0**	**-0.7**
LBTB				IAmb	IAmb	21 51 38.9	
	comp=Z,5.1nm,1.1s						
TSUM	**Tsumeb**	**34.15**	**352**	P	**P**	**21 52 24.5**	**+1.8**
	comp=Z,3.0nm,0.8s,baz=154,slow=8.4,SNR=4.3						
TSUM	**Tsumeb**	**34.15**	**352**	P	**P**	**21 52 22.6**	**-0.1**
TSUM				IAmb	IAmb	21 52 25.6	
	comp=Z,5.9nm,1.1s						
PMSA	**Palmer Station**	**42.49**	**219**	P	**P**	**21 53 32.6**	**+0.4**
RCBR	**Riachuelo**	**66.77**	**293**	P	**P**	**21 56 28.1**	**-1.0**
TOA0	**Torodi Ar. Sit**	**68.44**	**338**	P	**P**	**21 56 39.7**	**+0.2**
TOA0				IAmb	IAmb	21 56 54.3	
	comp=Z,2.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**68.44**	**338**	P	**P**	**21 56 40.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=168,slow=6.7,SNR=11						
TORD	**Torodi Ar. Bea**	**68.44**	**338**	P	**P**	**21 56 40.1**	**+0.6**
TAM	**Tamanrasset**	**77.09**	**344**	P	**P**	**21 57 30.1**	**-0.7**
ASAR	**Alice Springs**	**83.27**	**121**	P	**P**	**21 58 05.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=213,slow=4.7,SNR=4.4						
ASAR	**Alice Springs**	**83.27**	**121**	P	**P**	**21 58 04.0**	**-0.3**
NVAR	**Mina Array Bea**	**149.36**	**257**	PKPbc	**PKPbc**	**22 05 26.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=145,slow=3.3,SNR=2.9						

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*IDC **17** 21:51:31.8±0.9, 21.°64N×145.°20E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/48, mbtmp3.8/10, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=33.0km s-min=19.0km az=95.0*
*ISCJB **17** 21:51:34.7±0.5, 21.°73N±0.°05×145.°0E±0.°1, h33km, mb3.8/9, MS3.1/2, Error ellipse: s-maj=16.3km s-min=6.9km az=172.2*
*NEIC **17** 21:51:37.0±0.9, 21.°74N±0.°07×145.°0E±0.°1, h38km±7km, mb4.2/10*
ISC 17 21:51:37.0±0.6, **21.°73N**±0.°07×**145.°1E**±0.°1, **h35**km, **n33**, σ0**9**94/27, **mb4.0**/14, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.95**	**335**	Pn	**Pn**	**21 53 01.8**	**-0.8**
	2.9nm,0.3s,baz=135,slow=21,SNR=1.3						
JCJ				Sn	**Sn**	**21 54 09.0**	**-0.5**
	2.9nm,0.3s,baz=304,slow=22,SNR=1.8						
GUMO	**Guam**	**8.10**	**181**	Pn	**Pn**	**21 53 32.2**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**20.53**	**92**	T	T	22 18 16.9	
	baz=278,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**20.53**	**92**	T	T	22 18 17.3	
	baz=278,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**20.54**	**92**	T	T	22 18 18.3	
	baz=278,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**20.57**	**95**	T	T	22 18 13.4	
	baz=281,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**20.58**	**95**	T	T	22 18 20.2	
	baz=281,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**20.59**	**95**	T	T	22 18 14.9	
	baz=281,slow=75,SNR=29						
KSRS	**Korea Array**	**21.57**	**320**	LR	LR	22 03 27.7	
	comp=Z,24nm,18.7s,baz=152,slow=33						
COEN	**Coen**	**35.51**	**183**	P	**P**	**21 58 30.8**	**+0.1**
COEN				IAmb	IAmb	21 58 32.0	
	comp=Z,3.9nm,0.9s						
SLVN	**Son La**	**38.20**	**277**	P	**P**	**21 58 53.0**	**-0.6**
SLVN				IAmb	IAmb	21 58 53.3	
	comp=Z,1.7nm,0.5s						
SONM	**Songino Array**	**40.43**	**320**	P	**P**	**21 59 13.7**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=109,slow=7.8,SNR=3.0						
WR0	**Warramunga Arr**	**42.69**	**195**	P	**P**	**21 59 31.0**	**+0.4**
WR0				IAmb	IAmb	21 59 34.1	
	comp=Z,5.2nm,0.9s						
WB2	**Warramunga Arr**	**42.72**	**195**	P	**P**	**21 59 30.4**	**-0.4**
WRA	**Warramunga Arr**	**42.72**	**195**	P	**P**	**21 59 30.6**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=14,slow=8.8,SNR=18						
WRA	**Warramunga Arr**	**42.72**	**195**	P	**P**	**21 59 29.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**43.91**	**207**	P	**P**	**21 59 40.4**	**0.0**
FITZ				IAmb	IAmb	21 59 47.5	
	comp=Z,5.4nm,1.1s						
AS31	**Alice Springs**	**46.41**	**194**	P	**P**	**22 00 00.0**	**-0.3**
ASAR	**Alice Springs**	**46.41**	**194**	P	**P**	**21 59 59.7**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=18,slow=9.1,SNR=21						
ASAR	**Alice Springs**	**46.41**	**194**	P	**P**	**21 59 59.5**	**-0.8**
UNV	**Unalaska Valle**	**48.55**	**36**	P	**P**	**22 00 16.7**	**+0.1**
TIXI	**Tiksi**	**50.81**	**353**	P	**P**	**22 00 33.8**	**+0.3**
TIXI				IAmb	IAmb	22 00 35.4	
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**55.27**	**321**	P	**P**	**22 01 07.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=110,slow=6.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**55.27**	**321**	P	**P**	**22 01 05.9**	**-0.7**
MKAR	**Makanchi Array**	**55.96**	**313**	P	**P**	**22 01 13.3**	**+1.6**
	comp=Z,1.1nm,1.0s,baz=96,slow=9.9,SNR=4.1						
MKAR	**Makanchi Array**	**55.96**	**313**	P	**P**	**22 01 10.6**	**-1.1**
ILAR	**Eielson Array**	**61.22**	**27**	P	**P**	**22 01 48.9**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=251,slow=5.4,SNR=4.0						
ILAR	**Eielson Array**	**61.22**	**27**	P	**P**	**22 01 48.0**	**-0.1**
INK	**Inuvik**	**66.85**	**24**	P	**P**	**22 02 25.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=252,slow=3.8,SNR=2.6						
INK	**Inuvik**	**66.85**	**24**	P	**P**	**22 02 25.6**	**+0.7**
YKA	**Yellowknife Ar**	**75.61**	**28**	P	**P**	**22 03 19.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=294,slow=6.0,SNR=1.9						
NVAR	**Mina Array Bea**	**81.76**	**52**	P	**P**	**22 03 51.2**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=258,slow=4.3,SNR=2.2						
NVAR				LR	LR	22 34 49.0	
	comp=Z,27nm,19.4s,baz=284,slow=32						
NVAR	**Mina Array Bea**	**81.76**	**52**	P	**P**	**22 03 50.5**	**-2.1**

IDC 17 22:24:52.0±1.9, **60.°70S**×**43.°15W**, **h0**km, **mb3.8**/1, **mb1 3.5**/2, **mb1mx3.3**/20, **mbtmp3.5**/2, **ML3.0**/1, **Error ellipse: s-maj=85.3km s-min=46.3km az=56.0, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.16**	**141**	P	P	22 29 16.7	+0.1
	0.0nm,0.3s,baz=159,slow=17,SNR=1.7						
TORD	**Torodi Ar. Bea**	**81.78**	**44**	P	P	22 37 12.5	+0.1
	0.6nm,0.8s,baz=199,slow=5.4,SNR=3.3						
MKAR	**Makanchi Array**	**145.95**	**89**	PKPbc	PKPdf	22 44 31.4	-0.3
	0.6nm,0.7s,baz=236,slow=2.2,SNR=4.2						
ILAR	**Eielson Array**	**146.79**	**311**	PKPbc	PKPbc	22 44 33.5	-0.8
	0.7nm,0.8s,baz=124,slow=1.4,SNR=5.8						

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*ISCJB **17** 22:26:36.0±0.5, 60.°40S±0.°06×47.°8W±0.°1, h10km, mb4.0/7, Error ellipse: s-maj=9.1km s-min=8.2km az=176.7*
*NEIC **17** 22:26:37.0±1.1, 60.°43S±0.°05×47.°5W±0.°2, h10km±1km, mb4.4/12*
*IDC **17** 22:26:36.7±0.8, 60.°30S×47.°25W, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.7/1, MS3.5/4, Ms1 3.4/4, ms1mx3.2/13, Error ellipse: s-maj=28.6km s-min=19.6km az=71.0*
ISC 17 22:26:37.5±0.6, **60.°36S**±0.°08×**47.°57W**±0.°08, **h10**km, **n35**, σ1**9**05/32, **mb4.3**/9, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**8.79**	**233**	Pn	**Pn**	**22 28 45.8**	**+1.4**
	0.9nm,0.3s,baz=35,slow=8.3,SNR=4.4						
PMSA				Sn	**Sn**	**22 30 23.1**	**-0.2**
	0.3nm,0.3s,baz=215,slow=14,SNR=1.6						
PMSA				LR	LR	22 32 04.8	
	comp=Z,473nm,18.3s,baz=33,slow=37						
PMSA	**Palmer Station**	**8.79**	**233**		**Pn**	**22 28 44.5**	**+0.1**
PMSA					**Sn**	**22 30 22.9**	**-0.4**
VNA3	**Neumayer Olymp**	**18.57**	**141**	P	**Pn**	**22 30 55.8**	**+1.4**
VNA1	**Neumayer--Stat**	**18.86**	**139**	P	**Pn**	**22 30 59.7**	**+1.8**
VNA2	**Neumayer--Watz**	**19.21**	**140**	P	**Pn**	**22 31 03.9**	**+1.8**
	baz=292,slow=12						
SNAA	**Sanae**	**20.79**	**141**	P	Pn	22 31 23.3	+2.4
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**22 31 17.6**	**-0.8**
	1.7nm,1.1s,baz=274,slow=15,SNR=3.0						
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**22 31 17.4**	**-1.1**
TRQA	**Tornquist**	**24.12**	**331**	P	**P**	**22 31 53.1**	**-0.1**
TRQA				IAmb	IAmb	22 32 10.2	
	comp=Z,9.6nm,1.0s						
PLCA	**Paso Flores**	**24.25**	**314**	P	**P**	**22 31 56.0**	**+1.6**
	comp=Z,4.3nm,0.8s,baz=188,slow=6.7,SNR=6.5						
PLCA				LR	LR	22 40 35.0	
	comp=Z,55nm,19.4s,baz=185,slow=34						
PLCA	**Paso Flores**	**24.25**	**314**	P	**P**	**22 31 53.5**	**-1.0**
PLCA				IAmb	IAmb	22 32 04.4	
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**22 32 47.4**	**+2.4**
	comp=Z,3.8nm,0.8s,baz=166,slow=4.3,SNR=13						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**22 32 43.0**	**-2.0**
QSPA				IAmb	IAmb	22 32 48.7	
	comp=Z,5.4nm,0.8s						
SBA	**Scott Base**	**40.44**	**191**	P	**P**	**22 34 14.1**	**-1.2**
PB01	**IPOC Station P**	**42.23**	**329**	P	**P**	**22 34 30.8**	**+0.2**
PB01				IAmb	IAmb	22 34 36.4	
	comp=Z,9.4nm,0.9s						
MNMC	**Minye Minye**	**44.08**	**329**	P	**P**	**22 34 45.6**	**-0.4**
BDFB	**Brasilia**	**44.65**	**359**	P	**P**	**22 34 51.0**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=182,slow=6.4,SNR=3.4						
BDFB				LR	LR	22 50 22.0	
	comp=Z,51nm,21.6s,baz=246,slow=32						
BDFB	**Brasilia**	**44.65**	**359**	P	**P**	**22 34 50.8**	**+0.5**
BDFB				IAmb	IAmb	22 35 07.1	
	comp=Z,6.7nm,1.2s						
SIV	**San Ignacio**	**45.38**	**342**	P	**P**	**22 34 56.0**	**0.0**
	comp=Z,1.3nm,0.8s,baz=186,slow=8.4,SNR=6.6						
SAML	**Samuel**	**52.62**	**340**	P	**P**	**22 35 51.6**	**+0.2**
SAML				IAmb	IAmb	22 36 01.4	
	comp=Z,3.7nm,0.9s						
**

baz=276,SNR=552
O02D Mt. Diablo Mer 1.46 95 Pn 22 45 32.7 +0.6
LGPM Granite Peak 1.53 67 Pn 22 45 33.4 +0.3
GHOM Hamilton Openi 1.55 145 Pn 22 45 33.2 -0.1
GHMM Hull Mountain 1.58 121 Pn 22 45 33.7 -0.1
GROM Round Mountain 1.59 104 Pb 22 45 35.2 -0.4
KSXB Camp Six Broad 1.62 22 Pn 22 45 34.9 +0.6
GVV Valley View 1.64 109 Pn 22 45 34.6 +0.1
N02D Trinity Center 1.64 66 P **Pn 22 45 34.9 +0.3**
baz=245,SNR=152
N02D S **Sn 22 45 54.2 -0.9**
baz=245
N02D Trinity Center 1.64 66 Pn 22 45 34.9 +0.3
GASB Alder Springs 1.65 113 Pn 22 45 34.8 0.0
WDC Whiskeytown Da 1.65 80 Pn 22 45 35.0 +0.4
LBKM Bonanza King 1.71 63 Pn 22 45 36.0 +0.4
GGUM Gualala 1.73 148 Pn 22 45 35.6 -0.1
M02C Callahan 1.75 52 P **Pn 22 45 36.5 +0.5**
baz=230,SNR=453
M02C S **Sn 22 45 57.3 -0.6**
baz=230
M02C Callahan 1.75 52 Pn 22 45 36.5 +0.5
GSNM Snow Mountain 1.80 140 Pn 22 45 36.8 +0.1
GHLM Highland Sprin 1.81 135 Pn 22 45 37.0 0.0
HOPS Hopland Field 1.82 136 Pn 22 45 37.0 +0.1
KTRM Thompson Ridge 1.86 32 Pn 22 45 38.3 +0.6
GCK Clark Valley 1.89 114 Pn 22 45 39.1 +1.1
GTSM Trough Springs 1.89 122 Pn 22 45 38.2 +0.2
GDCM Dry Creek 1.92 144 Pn 22 45 38.0 -0.4
KBO Bosley Butte 1.92 10 Pn 22 45 38.7 +0.4
KBO Bosley Butte 1.92 10 Sn **Sn 22 46 00.5 -1.5**
LTCM Tuscan Springs 1.96 93 Pn 22 45 39.5 +0.6
GMKM Mount Konoctai 1.99 132 Pn 22 45 39.8 +0.4
GPMM Pine Mountain 2.00 137 Pn 22 45 39.8 +0.4
L02E Cave Junction 2.00 24 P **Pn 22 45 40.6 +1.2**
baz=202,SNR=12
L02E S **Sn 22 46 04.3 +0.2**
baz=202
L02E Cave Junction 2.00 24 Pn 22 45 40.3 +0.8
LAMM Antelope Mount 2.02 50 Pn 22 45 40.6 +0.8
GCVM Cloverdale 2.02 140 Pn 22 45 39.7 0.0
GACM Adobe Creek 2.02 135 Pn 22 45 39.9 +0.1
YBH Yreka Blue Hor 2.05 46 Pn 22 45 41.0 +0.8
LCSM College of the 2.05 57 Pn 22 45 41.5 +1.3
LSHM Sage Hen Hill 2.07 76 Pn 22 45 41.2 +0.9
GHCM House Creek 2.07 146 Pn 22 45 40.5 +0.1
GDXM Geysers 2.10 136 Pn 22 45 42.8 +1.9
GSGM Seigler Mounta 2.11 133 Pn 22 45 42.5 +1.6
GWKM Walker Ridge 2.12 126 Pn 22 45 41.8 +0.7
LGBM Gray Butte 2.14 61 Pn 22 45 42.9 +1.3
FTR Fort Ross 2.15 146 Pn 22 45 41.6 +0.1
M03C McCloud 2.16 63 Pn 22 45 43.0 +1.2
O03E Paynes Creek 2.20 90 P **Pn 22 45 42.4 +0.1**
baz=271,SNR=16
O03E Paynes Creek 2.20 90 Pn 22 45 42.1 -0.2
NMCNC Mill Creek, So 2.21 141 Pn 22 45 42.1 -0.2
LDBM Digger Butte 2.21 86 Pn 22 45 43.0 +0.5
LMPM Military Pass 2.23 58 Pb 22 45 44.8 -1.7
MNRC McLaughlin Min 2.25 129 Pn 22 45 44.2 +1.2
LHEM Herd Peak 2.27 54 Pn 22 45 44.9 +1.5
B040 Montague 2.28 48 Pn 22 45 44.5 +1.3
NHSM Mount Saint He 2.31 136 Pn 22 45 44.1 +0.3
LBFM Black Fox Moun 2.35 63 Pn 22 45 46.1 +1.6
LMEM Manzanita Entr 2.38 84 Pn 22 45 46.1 +1.3
NSHM Saint Helena R 2.42 138 Pn 22 45 46.6 +1.5
OSUM Sutter Buttes 2.42 115 Pn 22 45 45.0 -0.2
LCMM Colby Mountain 2.43 93 Pn 22 45 46.0 +0.5
LRDM Redding Peak 2.46 86 Pn 22 45 47.2 +1.4
K02D Willamette Mer 2.49 18 P **Pn 22 45 47.7 +1.5**
baz=196,SNR=108
NTYM Taylor 2.49 140 Pn 22 45 46.9 +0.8
HATC Hat Creek Radi 2.50 78 Pn 22 45 47.9 +1.5
LGMM Garner Mountai 2.50 59 Pn 22 45 48.0 +1.5
NBPM Berryessa Peak 2.54 130 Pn 22 45 47.6 +0.8
LTIM Timbered Crate 2.57 70 Pn 22 45 48.4 +1.1
LBCM Butte Creek Ri 2.59 78 Pn 22 45 48.7 +1.1
MCCM Marconi Confer 2.59 147 Pn 22 45 47.7 +0.2
M04C Macdoel 2.59 55 P **Pn 22 45 49.1 +1.4**
baz=235,SNR=30
M04C Macdoel 2.59 55 Pn 22 45 49.3 +1.5
L04D Klamath Falls 2.60 43 P **Pb 22 45 50.2 -2.5**
baz=222,SNR=284
L04D S **Sn 22 46 20.8 +1.7**
baz=222
L04D Klamath Falls 2.60 43 Pb 22 45 50.4 -2.4
LMHM Little Mount H 2.61 60 Pn 22 45 49.2 +1.2
HUMO Hull Mountain 2.62 29 Pn 22 45 49.1 +1.1
CVS Carmenet Viney 2.62 138 Pn 22 45 48.4 +0.4
OHCM Honcut 2.65 111 Pn 22 45 48.2 -0.2
NPRM Point Reyes 2.66 150 Pn 22 45 49.1 +0.6
LASM Arnica Sink 2.67 61 Pn 22 45 50.0 +1.1
J01E Myrtle Point 2.89 11 P **Pn 22 45 54.0 +2.4**
baz=190
J01E S **Sn 22 46 25.3 -0.6**
baz=190
FARB Farallon Islan 2.93 153 Pn 22 45 53.2 +1.0
AFDM Forest Hills D 3.18 114 Pn 22 45 57.7 +2.0
BEKR Beckworth 3.35 96 Pn 22 45 59.8 +1.7
I03D Drain, OR 3.51 16 P **Pn 22 46 02.2 +2.0**
baz=195
I03D S **Sn 22 46 40.4 -0.9**
baz=195
MOD Modoc Plateau 3.66 63 Pb 22 46 08.0 -2.8
RUBR Rubicon Trail 3.72 109 Pb 22 46 08.5 -3.3
I02D Swisshome 3.83 9 S **Sn 22 46 48.3 -0.7**
baz=188
J05D Fort Rock, OR 3.92 40 P **Pn 22 46 08.1 +2.1**
baz=221,SNR=11
CMB Columbia Colle 4.05 123 Pn 22 46 10.2 +2.6
PNTR Pine Nut 4.11 106 Pn 22 46 11.4 +2.7
PAHR Pah Rah Range 4.11 97 Pn 22 46 09.7 +1.0
YERR Yerington 4.41 106 Pn 22 46 15.2 +2.5
H04D Lebanon 4.43 18 S **Sn 22 47 04.3 +0.3**
baz=198
PINE Pine Mountain 4.44 38 Pb 22 46 22.6 -1.6
WAKR Walker 4.45 112 Pn 22 46 16.8 +3.5
HAST Hastings Reser 4.64 147 Pn 22 46 15.6 -0.1
RYN Ryan 5.06 108 Pb 22 46 33.6 -1.0
KVN Kaiserville 5.23 102 Pn 22 46 25.4 +1.4
MGNR McGee Canyon 5.29 116 Pb 22 46 36.1 -2.6
ANTCA Antelope Range 5.33 115 Pb 22 46 35.9 -3.4
ISA Isabella, Lake 6.76 132 Pn 22 46 48.0 +3.1

IDC 17 23:05:57.6±2.6, 60°.51S×42°.41W, h0^{km}, mb3.8/1, mb1 3.8/1, mb1mx3.5/15, mbtmp3.8/1, Error ellipse: s-maj=145.4km s-min=77.8km az=172.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**81.39**	**43**	P	P	23 18 16.0	0.0
	0.6nm,0.8s,baz=202,slow=4.3,SNR=3.9						
MKAR	**Makanchi Array**	**145.59**	**88**	PKPbc	PKPdf	23 25 36.1	-0.6
	0.3nm,0.6s,baz=231,slow=4.1,SNR=3.6						
ILAR	**Eielson Array**	**146.94**	**310**	PKPbc	PKPbc	23 25 39.5	-0.8
	0.6nm,0.8s,baz=136,slow=2.3,SNR=6.7						

IDC 17 23:09:06.7±2.4, 62°.61S×47°.08W, h0^{km}, mb3.7/2, mb1 3.8/2, mb1mx3.6/14, mbtmp3.7/2, Error ellipse: s-maj=108.4km s-min=54.1km az=36.0, Southwestern Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**48.57**	**333**	P	P	23 17 53.2	+0.9
	0.7nm,0.6s,baz=202,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**84.46**	**47**	P	P	23 21 39.8	-1.2
	0.4nm,0.9s,baz=218,slow=6.8,SNR=1.9						
ILAR	**Eielson Array**	**146.60**	**310**	PKPbc	PKPdf	23 28 46.0	-0.8
	0.3nm,0.5s,baz=141,slow=2.0,SNR=2.3						
MKAR	**Makanchi Array**	**147.75**	**95**	PKPbc	PKPbc	23 28 53.0	+0.8
	0.4nm,0.6s,baz=198,slow=1.2,SNR=4.2						

IDC 17 23:15:22.9±2.5, 60°.69S×43°.15W, h0^{km}, mb3.7/1, mb1 3.7/1, mb1mx3.4/15, mbtmp3.7/1, Error ellipse: s-maj=140.9km s-min=84.3km az=175.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**81.77**	**44**	P	P	23 27 43.3	0.0
	0.5nm,0.8s,baz=203,slow=5.8,SNR=3.4						
MKAR	**Makanchi Array**	**145.96**	**89**	PKPbc	PKPdf	23 35 02.5	-0.1
	0.7nm,0.7s,baz=235,slow=5.1,SNR=5.6						
ILAR	**Eielson Array**	**146.78**	**311**	PKPbc	PKPbc	23 35 04.3	-0.9
	0.4nm,0.7s,baz=132,slow=1.3,SNR=3.5						

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*ISCJB **17** 23:24:11.9±0.5, 60°.36S±0°.06×45°.2W±0°.2, h10^{km}, mb4.0/7, Error ellipse: s-maj=13.5km s-min=9.2km az=173.5*
*IDC **17** 23:24:12.2±0.8, 60°.34S×45°.33W, h0^{km}, mb3.9/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=31.7km s-min=18.4km az=66.0*
*NEIC **17** 23:24:14.7±2.0, 60°.33S±0°.09×45°.2W±0°.2, h17^{km}±4^{km}, mb4.4/20*
ISC 17 23:24:13.6±0.6, 60°.35S±0°.09×45°.2W±0°.1, h10^{km}, n38, σ0°72/27, mb4.3/12, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.69**	**41**		**Pn**	**23 26 05.4**	**+0.1**
PMSA	**Palmer Station**	**9.75**	**235**	Pn	**Pn**	**23 26 34.8**	**+1.1**
	0.7nm,0.3s,baz=56,slow=13,SNR=1.4						
SNAA	**Sanae**	**20.05**	**142**	P	Pn	23 28 47.8	-0.5
	1.0nm,0.9s,baz=304,slow=9.2,SNR=21						
TRQA	**Tornquist**	**24.73**	**327**	P	**P**	**23 29 35.1**	**+0.3**
TRQA				IAmb	IAmb	23 29 36.7	
	comp=Z,5.8nm,0.7s						
PLCA	**Paso Flores**	**25.13**	**310**	P	**P**	**23 29 37.5**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=185,slow=6.8,SNR=4.3						
PLCA	**Paso Flores**	**25.13**	**310**	IAmb	IAmb	23 29 44.7	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**23 30 21.1**	**0.0**
	comp=Z,2.4nm,0.9s,baz=143,slow=2.1,SNR=9.2						
QSPA	**South Pole Qui**	**29.88**	**180**	IAmb	IAmb	23 30 23.3	
	comp=Z,2.0nm,0.8s						
CFA	**Coronel Fontan**	**32.56**	**322**	P	**P**	**23 30 44.8**	**0.0**
	comp=Z,1.0nm,0.5s,baz=180,slow=9.1,SNR=2.5						
PB01	**IPOC Station P**	**42.87**	**326**	P	**P**	**23 32 11.4**	**-0.5**
PB01				IAmb	IAmb	23 32 13.1	
	comp=Z,9.3nm,1.0s						
BDFB	**Brasilia**	**44.69**	**356**	P	**P**	**23 32 27.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=186,slow=10,SNR=1.8						
BDFB	**Brasilia**	**44.69**	**356**	IAmb	IAmb	23 32 33.6	
	comp=Z,0.7nm,0.7s						
MNMC	**Minye Minye**	**44.71**	**326**	P	**P**	**23 32 27.6**	**+0.6**
SIV	**San Ignacio**	**45.78**	**338**	P	**P**	**23 32 34.9**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=182,slow=9.3,SNR=19						
LPAZ	**La Paz**	**47.04**	**329**	P	**P**	**23 32 45.4**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=166,slow=7.3,SNR=7.4						
LPAZ	**La Paz**	**47.04**	**329**	P	**P**	**23 32 46.0**	**+0.3**
LPAZ				IAmb	IAmb	23 32 51.2	
	comp=Z,2.3nm,0.8s						
CASY	**Casey**	**52.40**	**168**	P	**P**	**23 33 25.7**	**+0.4**
SAML	**Samuel**	**53.04**	**338**	P	**P**	**23 33 30.5**	**-0.1**
SAML				IAmb	IAmb	23 33 31.0	
	comp=Z,2.2nm,0.6s						
H10S2	**ASCENSION HYDR**	**56.13**	**37**	T	T	00 35 12.0	
H10S3	**ASCENSION HYDR**	**56.13**	**37**	T	T	00 35 09.2	
	SNR=9.4						
H10N3	**ASCENSION HYDR**	**57.23**	**37**	T	T	00 36 38.9	
	baz=199,slow=75,SNR=9.3						
H10N1	**ASCENSION HYDR**	**57.23**	**37**	T	T	00 36 33.5	
	baz=199,slow=75,SNR=7.4						
H10N2	**ASCENSION HYDR**	**57.25**	**37**	T	T	00 36 38.1	
	baz=199,slow=75,SNR=7.8						
OTAV	**Otavalo**	**65.67**	**323**	P	**P**	**23 34 58.1**	**-0.3**
OTAV				IAmb	IAmb	23 34 59.4	
	comp=Z,1.8nm,0.8s						
OXZ	**Oxford**	**72.28**	**208**	P	**P**	**23 35 37.9**	**-0.8**
CRPR	**Cabo Rojo, PR**	**80.08**	**339**	P	**P**	**23 36 21.9**	**-1.3**
CRPR				IAmb	IAmb	23 36 38.9	
	comp=Z,21nm,1.1s						
PCDR	**Punta Cana, DR**	**80.81**	**338**	P	**P**	**23 36 27.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**82.24**	**46**	P	**P**	**23 36 35.9**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=202,slow=6.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**82.24**	**46**	IAmb	IAmb	23 36 41.5	
	comp=Z,0.7nm,0.8s						
FSCY	**Frank Sound, G**	**84.57**	**326**	P	**P**	**23 36 47.5**	**+0.9**
CBCY	**The Bluff, Cay**	**84.59**	**328**	P	**P**	**23 36 47.5**	**+0.8**
FORT	**Forrest**	**89.03**	**174**	P	**P**	**23 37 07.5**	**-1.0**
NIUE	**Niue**	**89.21**	**231**	P	**P**	**23 37 09.3**	**-0.1**
ILAR	**Eielson Array**	**145.81**	**312**	PKPbc	**PKPdf**	**23 43 50.0**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=135,slow=2.0,SNR=15						
ILAR	**Eielson Array**	**145.81**	**312**		**PKPdf**	**23 43 49.8**	**-0.9**
MK31	**Makanchi Array**	**146.95**	**90**		pPKPab	23 44 00.1	+0.5
MKAR	**Makanchi Array**	**146.95**	**90**	PKPbc	**PKPbc**	**23 43 54.5**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=235,slow=3.6,SNR=19						
MKAR	**Makanchi Array**	**146.95**	**90**		**PKPdf**	**23 43 54.2**	**+1.0**
MKAR				pPKPdf	sPKPbc	23 43 59.6	+0.5

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*ISCJB **17** 23:52:22.5±1.2, 36°.42N±0°.06×31°.88E±0°.07, h10^{km}±4^{km}, Error ellipse: s-maj=13.5km s-min=5.3km az=41.3*
*DDA **17** 23:52:23.2, 36°.51N×31°.95E, h7^{km}±1^{km}, ML2.5*
*ISK **17** 23:52:23.0, 36°.43N×31°.94E, h12^{km}, ML2.0/8*
ISC 17 23:52:23.2±1.4, 36°.45N±0°.07×31°.92E±0°.07, h15^{km}±7^{km}, n12, σ0°48/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.14**	**40**	PG	**Pg**	**23 52 26.9**	**0.0**
ALAN				SG	**Sg**	**23 52 29.9**	**+0.5**
GAZI	**Gazipasa**	**0.38**	**124**	*i* P	**Pb**	**23 52 31.5**	**-0.2**
GAZI				*i* S	**Sb**	**23 52 38.1**	**+0.6**
GAZI				IAML_P			
	comp=Z,2μm,0.2s						
GAZI	**Gazipasa**	**0.38**	**124**	PG	**Pg**	**23 52 30.7**	**-0.2**
GAZI				SG	**Sg**	**23 52 36.4**	**+0.2**
KEPZ	**Antalya-Kepez**	**0.52**	**331**	*i* P	**Pg**	**23 52 33.1**	**-0.3**
KEPZ				*i* S	**Sg**	**23 52 40.4**	**-0.1**
KEPZ				IAML_P			
	comp=Z,1μm,0.2s						
ERMK	**Ermenek**	**0.82**	**76**	*i* P	**Pb**	**23 52 39.2**	**-0.1**
ERMK				IAML_P			
	comp=Z,613nm,0.1s						
TEKE	**Tekeli-Mersin**	**1.01**	**107**	PG	**Pg**	**23 52 42.3**	**-0.4**
TEKE				SG	**Sn**	**23 52 56.6**	**-0.2**
BERE	**Bereket-Mersin**	**1.06**	**95**	PG	**Pb**	**23 52 43.3**	**+0.1**
BERE				SG	**Sn**	**23 52 58.0**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.23**	**90**	PN	**Pn**	**23 52 46.2**	**+0.3**
TEVE				SN	**Sn**	**23 53 03.2**	**+0.9**
AKKU	**Akkuyu-Mersin**	**1.35**	**102**	PN	**Pn**	**23 52 47.6**	**+0.1**
AKKU				SN	**Sg**	**23 53 06.4**	**-0.3**
IKL	**Isikli**	**1.44**	**98**	PN	**Pb**	**23 52 49.4**	**-0.3**
KEBE	**Keben-Mersin**	**1.45**	**90**	PN	**Pn**	**23 52 49.3**	**+0.4**
KEBE				SN	**Sg**	**23 53 08.6**	**-1.2**
KONT	**Konya--Tatoy**	**1.54**	**13**	PN	**Pb**	**23 52 51.0**	**-0.4**

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*IDC **18** 00:11:02.1±2.2, 8°.92S×124°.17E, h0^{km}, mb3.4/1, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/8, Error ellipse: s-maj=249.1km s-min=33.7km az=56.0*
*DJA **18** 00:11:15.4±0.7, 9°.S±4°×12°.4E±°, h35^{km}±22^{km}, M3.4/5, MLv3.4/5*
*ISCJB **18** 00:11:18.3±2.0, 9°.8S±0°.2×124°.78E±0°.08, h35^{km}, mb3.5/1, Error ellipse: s-maj=26.2km s-min=7.3km az=20.5*
ISC 18 00:11:20.6±1.8, 9°.9S±0°.2×124°.7E±0°.1, h35^{km}, n5, σ1°34/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.43**	**295**	P	**Pn**	**00 11 30.1**	**-0.2**
BATI	**Baumata**	**1.02**	**255**	P	**Pn**	**00 11 36.7**	**-1.7**
BATI				S	**Sn**	**00 11 53.3**	**+1.8**
WRA	**Warramunga Arr**	**13.65**	**138**	Pn	**Pn**	**00 14 31.6**	**-0.2**
	0.4nm,0.3s,baz=316,slow=15,SNR=5.8						
WRA				Sn	**Sn**	**00 17 02.7**	**+0.5**
	0.7nm,0.3s,baz=309,slow=24,SNR=8.3						
ASAR	**Alice Springs**	**16.26**	**148**	P	**Pn**	**00 15 06.4**	**0.0**
	0.1nm,0.3s,baz=326,slow=12,SNR=7.0						
ASAR				S	**Sn**	**00 18 06.7**	**+0.8**
	0.2nm,0.3s,baz=317,slow=21,SNR=10						
ASAR				LR	LR	00 22 31.0	
	comp=Z,38nm,21.7s,baz=66,slow=40						
MKAR	**Makanchi Array**	**67.94**	**330**	P	P	00 21 55.8	-20
	0.2nm,0.5s,baz=121,slow=8.1,SNR=1.9						

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*SJA **18** 00:13:33.6±0.7, 23°.95S×66°.73W, h208^{km}±7^{km}, ML2.8, MW2.9*
*ISCJB **18** 00:13:35.2±1.3, 23°.93S±0°.08×66°.86W±0°.05, h190^{km}±14^{km}, Error ellipse: s-maj=12.6km s-min=6.8km az=179.6*
*GUC **18** 00:13:35.5±0.5, 23°.89S×67°.37W, h247^{km}±11^{km}, ML4.2*
ISC 18 00:13:33.3±3.2, 23°.95S±0°.09×66°.79W±0°.06, h212^{km}±29^{km}, n15, σ1°25/25, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.60**	**100**	*i* P	**Pn**	**00 14 09.6**	**+0.4**
AZAP				IAML		00 14 09.9	
	comp=Z,98nm,0.5s						
AZAP				*e*S	**S**	**00 14 35.5**	**-1.3**
YJA	**Yavi**	**2.12**	**34**	*i* P	**Pn**	**00 14 14.9**	**+0.5**
YJA				IAML		00 14 15.6	
	comp=Z,14nm,0.4s						
YJA				*e*S	**S**	**00 14 46.2**	**+0.2**
PB15	**IPOC Station P**	**2.57**	**286⇑**	*i* P	**Pn**	**00 14 20.3**	**+1.4**
PB15				*i* S	**S**	**00 14 54.0**	**-0.2**
PB15	**IPOC Station P**	**2.57**	**286**	*i* P	**Pn**	**00 14 20.5**	**+1.6**
PB15				*e*S	**S**	**00 14 54.5**	**+0.4**
PB06	**IPOC Station P**	**2.84**	**295⇑**	*i* P	**Pn**	**00 14 23.0**	**+1.1**
PB06				*i* S	**S**	**00 14 59.2**	**-0.4**
PB06				IAML		00 15 01.0	
	comp=N,516nm,0.2s						
PB06	**IPOC Station P**	**2.84**	**295**	*i* P	**Pn**	**00 14 23.1**	**+1.2**
PB06				*e*S	**S**	**00 14 59.4**	**-0.2**
PB09	**IPOC Station P**	**3.12**	**313**	*i* P	**Pn**	**00 14 26.5**	**+1.4**
PB03	**IPOC Station P**	**3.32**	**304⇑**	*e*P	**Pn**	**00 14 28.2**	**+0.6**
PB03				*i* S	**S**	**00 15 08.2**	**-1.5**
PB14	**IPOC Station P**	**3.37**	**258**	*e*P	**Pn**	**00 14 29.2**	**+1.1**
PB14				*i* S	**S**	**00 15 09.5**	**-1.3**
PB10	**IPOC Station P**	**3.48**	**276**	*e*P	**Pn**	**00 14 29.5**	**+0.3**
PB10				*e*S	**S**	**00 15 10.4**	**-2.3**
PB10	**IPOC Station P**	**3.48**	**276**	*i* P	**Pn**	**00 14 30.4**	**+1.2**
PB04	**IPOC Station P**	**3.49**	**297⇑**	*e*P	**Pn**	**00 14 30.1**	**+0.7**
PB04				*i* S	**S**	**00 15 11.7**	**-1.4**
PB04	**IPOC Station P**	**3.49**	**297**	*i* P	**Pn**	**00 14 30.3**	**+0.8**
PB07	**IPOC Station P**	**3.61**	**307⇑**	*i* P	**Pn**	**00 14 31.4**	**+0.4**
PB07				*i* S	**S**	**00 15 13.4**	**-2.5**
LPAZ	**La Paz**	**7.72**	**350**	*i* P	Pn	00 15 24.4	+0.8

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*IDC **18** 00:23:51.9±2.2, 60°.51S×44°.63W, h0^{km}, mb3.7/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.7/2, Error ellipse: s-maj=101.1km s-min=45.3km az=33.0*
*ISCJB **18** 00:23:52.1±0.7, 60°.4S±0°.1×44°.4W±0°.3, h10^{km}, mb3.7/2, Error ellipse: s-maj=18.7km s-min=15.6km az=7.6*
*NEIC **18** 00:23:54.7±0.9, 60°.4S±0°.1×44°.5W±0°.3, h15^{km}±1^{km}, mb4.0/5*
ISC 18 00:23:53.6±0.8, 60°.4S±0°.1×44°.5W±0°.2, h10^{km}, n12, σ0°58/11, mb4.0/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.50**	**39**	Pn	**Pn**	**00 25 42.5**	**-0.5**
SNAA	**Sanae**	**19.82**	**142**	P	**Pn**	**00 28 25.2**	**-0.4**
SNAA				IAmb	IAmb	00 28 27.5	
	comp=Z,3.6nm,1.1s						
TRQA	**Tornquist**	**24.94**	**326**	P	**P**	**00 29 16.4**	**-0.3**
TRQA				IAmb	IAmb	00 29 18.6	
	comp=Z,6.8nm,1.1s						
LPAZ	**La Paz**	**47.25**	**328**	P	**P**	**00 32 27.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=163,slow=11,SNR=2.6						
LPAZ	**La Paz**	**47.25**	**328**	IAmb	IAmb	00 32 31.3	
	comp=Z,1.2nm,0.8s						
PLWZ	**Palliser**	**73.30**	**210**	P	**P**	**00 35 24.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.03**	**45**	P	**P**	**00 36 14.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=211,slow=6.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.03**	**45**	P	**P**	**00 36 14.3**	**+0.6**
PPTF	**Pamatai, Papee**	**82.09**	**248**	P	**P**	**00 36 14.7**	**+0.4**
PPT	**Papeete**	**82.11**	**248**	P	**P**	**00 36 14.2**	**0.0**
ILAR	**Eielson Array**	**146.09**	**311**	PKPbc	**PKPbc**	**00 43 31.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=144,slow=1.8,SNR=8.4						
MKAR	**Makanchi Array**	**146.62**	**90**	PKPbc	**PKPdf**	**00 43 33.4**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=240,slow=3.9,SNR=22						

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*ISCJB **18** 00:26:09.5±0.5, 60°.05S±0°.07×46°.5W±0°.2, h10^{km}, mb4.0/4, MS3.1/1, Error ellipse: s-maj=12.1km s-min=10.3km az=6.2*
*IDC **18** 00:26:09.6±2.1, 60°.20S×46°.54W, h0^{km}, mb3.9/4, mb1 4.1/4, mb1mx3.9/13, mbtmp3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/12, Error ellipse: s-maj=83.9km s-min=33.0km az=36.0*
*NEIC **18** 00:26:11.4±2.2, 60°.06S±0°.08×46°.5W±0°.2, h10^{km}±1^{km}, mb4.2/16*
ISC 18 00:26:11.3±0.6, 60°.11S±0°.09×46°.4W±0°.1, h10^{km}, n28, σ1°21/25, mb4.2/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.94**	**47**	Pn	**Pn**	**00 28 08.7**	**+2.1**
PMSA	**Palmer Station**	**9.40**	**233**	Pn	**Pn**	**00 28 27.8**	**+1.2**
EFI	**East Falkland**	**10.67**	**317**	Pn	**Pn**	**00 28 44.4**	**+0.4**
SNAA	**Sanae**	**20.63**	**142**	P	Pn	00 30 53.3	+0.5
TRQA	**Tornquist**	**24.19**	**329**	P	**P**	**00 31 29.6**	**+1.9**
TRQA				IAmb	IAmb	00 31 31.9	
	comp=Z,6.6nm,1.1s						
PLCA	**Paso Flores**	**24.50**	**311**	LR	LR	00 39 59.9	
	comp=Z,56nm,18.6s,baz=166,slow=34						
QSPA	**South Pole Qui**	**30.13**	**180**	P	**P**	**00 32 21.6**	**+0.7**
QSPA				IAmb	IAmb	00 32 26.5	
	comp=Z,2.8nm,0.8s						
CPUP	**Villa Florida**	**34.59**	**343**	P	**P**	**00 32 59.9**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=176,slow=13,SNR=2.1						
CPUP	**Villa Florida**	**34.59**	**343**	P	**P**	**00 33 00.3**	**+0.2**
CPUP				IAmb	IAmb	00 33 06.2	
	comp=Z,2.1nm,0.9s						
LPAZ	**La Paz**	**46.52**	**331**	P	**P**	**00 34 39.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=162,slow=4.4,SNR=2.9						
LPAZ	**La Paz**	**46.52**	**331**	P	**P**	**00 34 38.8**	**-0.6**
SAML	**Samuel**	**52.59**	**339**	P	**P**	**00 35 25.2**	**+0.2**
SAML				IAmb	IAmb	00 35 42.9	
	comp=Z,1.6nm,1.1s						
BOSA	**Boshof**	**56.57**	**90**	P	**P**	**00 35 53.5**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=211,slow=5.9,SNR=3.2						

CHVC	**Chvalec**	**0.86**	**192**	*e*PG	**Pg**	**00 44 08.9**	**+0.6**
CHVC				*e*SG	**Sg**	**00 44 20.1**	**+0.7**
OSTC	**Ostas**	**0.88**	**185**	*e*PG	**Pb**	**00 44 10.2**	**+0.3**
UPC	**Upice**	**0.95**	**193**	*e*PG	**Pg**	**00 44 10.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.08**	**181**	*e*PG	**Pb**	**00 44 12.9**	**-0.5**
DPC				*e*SG	**Sb**	**00 44 27.8**	**-0.2**
	comp=Z,4.5nm,0.4s						
KRLC	**Kraliky**	**1.39**	**168**	*e*PG	**Pb**	**00 44 18.7**	**+0.2**
KRLC				*e*SG	**Sn**	**00 44 37.2**	**-0.2**
PVCC	**Panska Ves**	**1.44**	**232**	*e*PG	**Pn**	**00 44 18.8**	**-0.3**
PVCC				*e*SG	**Sg**	**00 44 37.4**	**-0.5**
	comp=Z,25nm,0.3s						
BRG	**Berggiesshubel**	**1.61**	**251**	PG	**Pn**	**00 44 21.5**	**+0.1**
BRG				SG	**Sn**	**00 44 41.7**	**-1.2**
	5.7nm,0.4s						
MORC	**Moravsky Berou**	**1.82**	**155**	*e*PN	**Pb**	**00 44 25.5**	**-0.5**
MORC				*e*SG	**Sg**	**00 44 51.2**	**+0.9**
CLL	**Collm**	**2.10**	**268**	*e*Pg	**Pb**	**00 44 30.0**	**-0.6**
CLL				*e*Sg	**Sn**	**00 44 56.0**	**+1.2**
VRAC	**Vranov**	**2.13**	**176**	*e*PN	**Pb**	**00 44 29.9**	**-1.3**
VRAC				*e*SG	**Sg**	**00 44 59.7**	**-0.5**
KHC	**Kasperske Hory**	**2.91**	**219**	*e*PN	**Pn**	**00 44 39.3**	**0.0**
KHC				*e*PG	**Pb**	**00 44 45.0**	**+0.6**
KHC				*e*SN	**Sn**	**00 45 12.1**	**-2.8**
KHC				*e*SG	**Sb**	**00 45 21.8**	**+1.3**

*SOME **18** 00:58:17.9, 40.°78N×74.°32E, h20km*
*KRNET **18** 00:58:18.7±0.1, 40.°97N×74.°29E, h18km, mb2.9*
*NNC **18** 00:58:20.1±1.5, 40.°96N×74.°31E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=10.6km s-min=7.7km az=1.0
ISC 18 00:58:16.2±1.5, 40.°85N±0.°05×74.°34E±0.°02, h2km±15km, n58, σ1§31/90, 27C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.01**	**359**	⇓*i*P	**Pb**	**00 58 35.7**	**-0.8**
	baz=2.0						
ARLS				⇓*i*S	**Sg**	**00 58 48.7**	**+0.1**
	baz=2.0						
ARSB	**Arslanbob**	**1.13**	**295**	⇑*i*P	**Pn**	**00 58 38.9**	**-0.2**
	baz=90						
ARSB				⇑*i*S	**Sg**	**00 58 53.7**	**+1.3**
	baz=90						
AML	**Almayashu**	**1.36**	**340**	⇓*i*P	**Pb**	**00 58 42.5**	**-0.2**
	baz=39						
AML				⇓*i*S	**Sg**	**00 59 00.0**	**-0.1**
	baz=39						
AML	**Almayashu**	**1.36**	**340**	P	**Pg**	**00 58 42.7**	**+0.3**
	SNR=16						
UCH	**Uchtor**	**1.38**	**5**	⇑*i*P	**Pb**	**00 58 43.0**	**0.0**
	baz=8.0						
UCH				⇑*i*S	**Sg**	**00 59 00.8**	**+0.2**
	baz=8.0						
UCH	**Uchtor**	**1.38**	**5**	P	**Pg**	**00 58 43.2**	**+0.5**
	SNR=19						
NRN	**Naryn**	**1.38**	**65**	⇑*i*P	**Pb**	**00 58 44.4**	**+1.4**
	baz=70						
NRN				⇑*i*S	**Sg**	**00 59 03.1**	**+2.4**
	baz=70						
KZA	**Kyzart**	**1.40**	**29**	⇑*i*P	**Pg**	**00 58 43.9**	**+0.7**
	baz=33						
KZA				⇑*i*S	**Sg**	**00 59 02.3**	**+0.9**
	baz=33						
KZA	**Kyzart**	**1.40**	**29**	P	**Pg**	**00 58 44.4**	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**1.79**	**4**	⇓Pn	**Pg**	**00 58 50.9**	**+0.5**
	9.0nm,0.6s						
AAK				⇓Sn	**Sg**	**00 59 15.1**	**+1.4**
	8.8nm,0.4s						
AAK	**Ala-Archa**	**1.79**	**4**	⇑*i*P	**Pb**	**00 58 50.0**	**+0.2**
	baz=5.0						
AAK				⇑*i*S	**Sg**	**00 59 13.0**	**-0.7**
	baz=5.0						
AAK	**Ala-Archa**	**1.79**	**4**	P	**Pg**	**00 58 51.2**	**+0.7**
	SNR=15						
EKS2	**Erkin-Say**	**1.85**	**347**	⇑*i*P	**Pb**	**00 58 51.3**	**+0.4**
	baz=47						
EKS2				⇑*i*S	**Sg**	**00 59 14.5**	**-1.3**
	baz=47						
EKS2	**Erkin-Say**	**1.85**	**347**	P	**Pb**	**00 58 51.3**	**+0.4**
	SNR=8.9						
KBK	**Karagaybulak**	**1.86**	**14**	⇓*i*P	**Pb**	**00 58 51.5**	**+0.5**
	baz=16						
KBK				⇓*i*S	**Sg**	**00 59 15.4**	**-0.6**
	baz=16						
KBK	**Karagaybulak**	**1.86**	**14**	P	**Pg**	**00 58 52.3**	**+0.5**
	SNR=15						
ULHL	**Ulahol**	**2.00**	**45**	⇑*i*P	**Pb**	**00 58 54.5**	**+1.1**
	baz=48						
ULHL				⇑*i*S	**Sg**	**00 59 21.0**	**+0.6**
	baz=48						
ULHL	**Ulahol**	**2.00**	**45**	P	**Pb**	**00 58 54.5**	**+1.1**
	SNR=28						
ARK	**Arkit**	**2.02**	**299**	⇑*i*P	**Pb**	**00 58 54.0**	**+0.3**
	baz=96						
ARK				⇑*i*S	**Sb**	**00 59 19.7**	**+0.3**
	baz=96						
BOOM	**Boomskoye usch**	**2.03**	**36**	⇓*i*P	**Pg**	**00 58 55.5**	**+0.4**
	baz=39						
BOOM				⇓*i*S	**Sg**	**00 59 21.6**	**+0.1**
	baz=39						
MRKS	**Merke**	**2.06**	**337**	Pg	**Pb**	**00 58 55.0**	**+0.5**
	43nm,0.4s						
MRKS				Lg	Lg	00 59 21.5	
	19nm,0.4s						
MRKS	**Merke**	**2.06**	**337**	⇑*i*P	**Pb**	**00 58 55.0**	**+0.5**
	42nm,0.2s						
MRKS				⇑*i*S	**Sg**	**00 59 21.5**	**-1.0**
	19nm,0.3s						
CHMS	**Chumysh**	**2.17**	**8**	P	**Pg**	**00 58 57.5**	**-0.2**
	SNR=9.6						
TKM2	**Tokmak 2**	**2.27**	**24**	⇓Pn	**Pg**	**00 58 59.5**	**-0.3**
	1.9nm,0.3s						
TKM2				⇑Lg	Lg	00 59 30.6	
	12nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**24**	⇑*i*P	**Pb**	**00 58 58.3**	**+0.2**
	baz=26						
TKM2				⇑*i*S	**Sg**	**00 59 27.4**	**-1.8**
	baz=26						
TKM2	**Tokmak 2**	**2.27**	**24**	P	**Pg**	**00 58 59.8**	**0.0**
	SNR=9.3						
USP	**Ospenovka**	**2.42**	**3**	⇓*i*P	**Pb**	**00 59 00.0**	**-0.4**
	baz=4.0						
USP				⇓*i*S	**Sb**	**00 59 30.2**	**-0.5**
	baz=4.0						
USP	**Ospenovka**	**2.42**	**3**	P	**Pg**	**00 59 01.8**	**-0.8**
	SNR=27						
KDJ	**Kajisay**	**2.49**	**58**	⇓*i*P	**Pb**	**00 59 01.7**	**-0.1**
	baz=61						
KDJ				⇓*i*S	**Sb**	**00 59 33.6**	**+0.7**
	baz=61						
KST	**Kastek**	**2.50**	**28**	Pg	**Pg**	**00 59 04.0**	**-0.2**
	6.8nm,0.5s						
KST				Lg	Lg	00 59 37.8	
	25nm,0.6s						
KST	**Kastek**	**2.50**	**28**	⇑*i*P	**Pg**	**00 59 04.0**	**-0.2**
	6.9nm,0.2s						
KST				*e*S	**Sg**	**00 59 36.8**	**+0.2**
	22nm,0.4s						
DGS	**Degeres**	**2.62**	**24**	Pg	**Pg**	**00 59 05.9**	**-0.4**
	12nm,0.6s						
DGS				Lg	Lg	00 59 40.7	
	37nm,0.5s						
DGS	**Degeres**	**2.62**	**24**	*e*P	**Pg**	**00 59 05.9**	**-0.4**
	12nm,0.6s						
DGS				*e*S	**Sg**	**00 59 40.0**	**-0.3**
	37nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.76**	**70**	⇑*i*P	**Pb**	**00 59 06.1**	**-0.4**
	baz=73						
TARG				⇑*i*S	**Sb**	**00 59 41.2**	**+0.4**
	baz=73						
MTBS	**Maitube**	**2.76**	**34**	Pg	**Pb**	**00 59 08.2**	**+1.9**
	9.7nm,0.2s						
MTBS				Lg	Lg	00 59 45.1	
	30nm,0.2s						
MTBS	**Maitube**	**2.76**	**34**	*e*P	**Pg**	**00 59 08.7**	**-0.4**
	6.1nm,0.1s						
MTBS				⇑*i*S	**Sg**	**00 59 45.1**	**+0.2**
	30nm,0.3s						
IZV	**Izvestkoviy**	**2.77**	**37**	Pg	**Pg**	**00 59 08.8**	**-0.4**
	4.2nm,0.5s						
IZV				Lg	Lg	00 59 45.7	
	45nm,0.5s						
IZV	**Izvestkoviy**	**2.77**	**37**	*e*P	**Pg**	**00 59 08.8**	**-0.4**
	4.0nm,0.4s						
IZV				*e*S	**Sg**	**00 59 45.0**	**-0.1**
	45nm,0.5s						
BTK	**Batken**	**2.80**	**255**	⇓*i*P	**Pb**	**00 59 06.7**	**-0.3**
	baz=52						
BTK				⇓*i*S	**Sb**	**00 59 42.0**	**+0.3**
	baz=52						
TNSS	**Tian-Shan**	**2.92**	**41**	Pg	**Pg**	**00 59 11.7**	**-0.6**
	6.3nm,0.4s						
TNSS				Lg	Lg	00 59 50.3	
	15nm,0.5s						
TNSS	**Tian-Shan**	**2.92**	**41**	*e*P	**Pg**	**00 59 11.6**	**-0.7**
	5.3nm,0.3s						
TNSS				⇓*i*S	**Sg**	**00 59 50.3**	**+0.1**
	17nm,0.3s						
MDOK	**Medeo**	**3.07**	**40**	Pn	**Pb**	**00 59 12.4**	**+0.8**
	3.1nm,0.5s						
MDOK				Lg	Lg	00 59 55.2	
	17nm,0.6s						
MDOK	**Medeo**	**3.07**	**40**	Pg	**Pb**	**00 59 13.7**	**+2.1**
	4.0nm,0.3s						
MDOK				Lg	Lg	00 59 53.8	
	18nm,0.5s						
MDOK	**Medeo**	**3.07**	**40**	⇑*i*P	**Pb**	**00 59 13.7**	**+2.1**
	5.4nm,0.3s						
MDOK				*e*S	**Sg**	**00 59 53.8**	**-1.0**
	18nm,0.6s						
ANVS	**Anan'yevo**	**3.15**	**51**	⇓*i*P	**Pb**	**00 59 11.0**	**-2.0**
	baz=53						
ANVS				⇓*i*S	**Sb**	**00 59 49.8**	**-2.1**
	baz=53						
KOTS	**Kotyrbulak**	**3.15**	**40**	Pg	**Pg**	**00 59 15.6**	**-1.1**
	13nm,0.4s						
KOTS				Lg	Lg	00 59 57.0	
	64nm,0.5s						
KOTS	**Kotyrbulak**	**3.15**	**40**	*e*P	**Pg**	**00 59 15.6**	**-1.1**
	13nm,0.4s						
KOTS				*e*S	**Sg**	**00 59 57.0**	**-0.5**
	64nm,0.5s						
KTBS	**Karatobe**	**3.34**	**31**	Pg	**Pb**	**00 59 18.4**	**+2.1**
	1.8nm,0.3s						
KTBS				Lg	Lg	01 00 01.8	
	35nm,0.5s						
KTBS	**Karatobe**	**3.34**	**31**	*e*P	**Pb**	**00 59 18.4**	**+2.1**
	1.8nm,0.3s						
KTBS				*e*S	**Sg**	**01 00 01.8**	**-1.9**
	35nm,0.5s						
KUU	**Kurty**	**3.38**	**25**	Pg	**Pb**	**00 59 19.0**	**+2.1**
	1.9nm,0.5s						
KUU				Lg	Lg	01 00 03.3	
	10nm,0.6s						
KK31	**Karatay Array**	**3.63**	**310**	⇑Pg	**Pb**	**00 59 22.4**	**+1.3**
	0.5nm,0.4s,baz=125,slow=15,SNR=5.2						
KK31				Lg	Lg	01 00 10.2	
	2.5nm,0.4s,baz=124,slow=29,SNR=14						
SATY	**Saty**	**3.75**	**53**	Pg	**Pb**	**00 59 26.1**	**+2.9**
	2.9nm,0.2s						
SATY				Lg	Lg	01 00 16.2	
	10nm,0.6s						
ZHN	**Zhinishke**	**3.83**	**52**	*e*P	**Pb**	**00 59 26.8**	**+2.2**
	3.7nm,0.0s						
ZHN				*e*S	**Sg**	**01 00 16.0**	**-3.3**
	21nm,0.5s						
BRLS	**Borolday**	**4.00**	**304**	*e*P	**Pb**	**00 59 30.4**	**+3.0**
	0.3nm,0.1s						
BRLS				*e*S	**Sg**	**01 00 22.1**	**-2.6**
	4.1nm,0.3s						
KPKS	**Kokpek**	**4.16**	**50**	*e*P	**Pg**	**00 59 34.3**	**-1.5**
	5.6nm,0.4s						
KPKS				*e*S	**Sg**	**01 00 28.9**	**-0.8**
	12nm,0.3s						
ARXS	**Arharly**	**4.23**	**36**	Pg	**Pb**	**00 59 34.4**	**+2.9**
	2.3nm,0.6s						
ARXS				Lg	Lg	01 00 29.0	
	11nm,0.5s						
ARXS	**Arharly**	**4.23**	**36**	*e*P	**Pb**	**00 59 34.4**	**+2.9**
	1.0nm,0.2s						
ARXS				*e*S	**Sg**	**01 00 29.0**	**-3.2**
	11nm,0.5s						
PDGK	**Podgornoye**	**4.56**	**55**	⇓Pg	**Pg**	**00 59 42.2**	**-1.4**
	2.5nm,0.7s						
PDGK				⇓Lg	Lg	01 00 43.9	
	7.1nm,1.2s						

*ATH **18** 01:02:35.9, 40.°53N×23.°41E, h13km±1km, ML1.9/12, Error ellipse: s-maj=1.7km s-min=0.6km az=289.0*
*SKO **18** 01:02:36.2, 40.°50N×23.°41E, h1km*
THE 18 01:02:36.1, 40.°54N×23.°42E, h2km±31km, ML1.9/11, 1C, Error ellipse: s-maj=31.0km s-min=0.5km az=203.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.17**	**173**	P	Pg	01 02 39.8	+0.4
PLG				S	Sg	01 02 41.5	-0.1
	605nm,0.2s						
PLG	**Polygyros**	**0.17**	**173**	P	Pg	01 02 39.8	+0.4
PLG				S	Sg	01 02 41.8	+0.2
PLG				AML	AML	01 02 42.8	
	comp=E,1215μm,0.2s						
PLG				AML	AML	01 02 43.8	
	comp=N,1165μm,0.2s						
HORT	**Hortiatis**	**0.25**	**283**	P	Pg	01 02 41.2	+0.3
HORT				S	Sg	01 02 44.6	+0.4
	comp=N,390nm,0.1s						
HORT	**Hortiatis**	**0.25**	**283**	P	Pg	01 02 41.2	+0.3
HORT				S	Sg	01 02 44.4	+0.3
HORT				AML	AML	01 02 44.7	
	comp=N,767μm,0.1s						
HORT				AML	AML	01 02 45.4	
	comp=E,778μm,0.2s						
SOH	**Sokhos**	**0.28**	**350**	P	Pg	01 02 42.0	+0.4
SOH				S	Sg	01 02 46.1	+0.8
	comp=E,485nm,0.3s						
SOH	**Sokhos**	**0.28**	**350**	⇑*i*Pg	Pg	01 02 42.0	+0.5
SOH				*i*Sg	Sg	01 02 46.8	+1.5
SOH	**Sokhos**	**0.28**	**350**	P	Pg	01 02 42.0	+0.5
SOH				S	Sg	01 02 46.5	+1.2
SOH				AML	AML	01 02 48.2	
	comp=N,1049μm,0.2s						
SOH				AML	AML	01 02 48.7	
	comp=E,886μm,0.3s						
THE	**Thessaloniki**	**0.36**	**285**	P	Pg	01 02 42.8	-0.2
THE				S	Sg	01 02 47.6	0.0
THE	**Thessaloniki**	**0.36**	**285**	*i*Pg	Pg	01 02 42.8	-0.1
THE				*i*Sg	Sg	01 02 47.6	0.0
THE	**Thessaloniki**	**0.36**	**285**	P	Pg	01 02 42.8	-0.2
THE				S	Sg	01 02 47.6	0.0
THE				AML	AML	01 02 47.7	
	comp=N,238μm,0.3s						
THE				AML	AML	01 02 48.1	
	comp=E,173μm,0.1s						
OUR	**Ouranopolis**	**0.48**	**116**	P	Pg	01 02 45.5	+0.3
OUR				S	Sg	01 02 52.5	+1.1
	comp=E,238nm,0.3s						
OUR	**Ouranopolis**	**0.48**	**116**	P	Pg	01 02 45.6	+0.4
OUR				S	Sg	01 02 52.4	+1.0
OUR				AML	AML	01 02 53.0	
	comp=N,464μm,0.3s						
OUR				AML	AML	01 02 53.3	
	comp=E,480μm,0.3s						
PAIG	**Paliouri**	**0.65**	**162**	P	Pg	01 02 47.7	-0.8
PAIG	**Paliouri**	**0.65**	**162**	P	Pg	01 02 47.7	-0.8
PAIG				S	Sg	01 02 56.5	-0.3
PAIG				AML	AML	01 03 02.5	
	comp=E,314μm,0.3s						
PAIG				AML	AML	01 03 03.6	
	comp=N,222μm,0.3s						
KNT	**Kendrikon**	**0.73**	**328**	P	Pg	01 02 49.8	-0.4
KNT				S	Sg	01 03 00.5	+0.8
	comp=N,100nm,0.1s						
KNT	**Kendrikon**	**0.73**	**328**	*i*Pg	Pg	01 02 49.9	-0.3
KNT				*i*Sg	Sb	01 03 01.2	-1.0
KNT	**Kendrikon**	**0.73**	**328**	P	Pg	01 02 50.1	-0.1
KNT				S	Sg	01 03 00.5	+0.8
KNT				AML	AML	01 03 01.4	
	comp=E,219μm,0.2s						
KNT				AML	AML	01 03 01.9	
	comp=N,195μm,0.2s						
LIT	**Litokhoron**	**0.84**	**238**	P	Pg	01 02 52.2	+0.1
LIT				S	Sg	01 03 03.7	+0.8
	comp=N,28nm,0.2s						
LIT	**Litokhoron**	**0.84**	**238**	P	Pg	01 02 52.3	+0.1
LIT				S	Sg	01 03 02.9	0.0
NVR	**Nevrokopi**	**0.88**	**22**	P	Pg	01 02 52.7	-0.2
NVR				S	Sg	01 03 04.5	+0.3
	comp=N,62nm,0.2s						
NVR	**Nevrokopi**	**0.88**	**22**	P	Pg	01 02 52.7	-0.2
NVR				S	Sg	01 03 04.7	+0.5
NVR				AML	AML	01 03 05.8	
	comp=E,138μm,0.3s						
NVR				AML	AML	01 03 08.4	
	comp=N,118μm,0.2s						
GRG	**Griva**	**0.88**	**299**	P	Pg	01 02 52.6	-0.3
GRG				S	Sg	01 03 05.2	+0.9
	comp=N,68nm,0.3s						
GRG	**Griva**	**0.88**	**299**	*i*Pg	Pg	01 02 52.6	-0.3
GRG	**Griva**	**0.88**	**299**	P	Pg	01 02 52.5	-0.4
GRG				S	Sg	01 03 05.3	+1.0
GRG				AML	AML	01 03 08.8	
	comp=N,120μm,0.4s						
GRG				AML	AML	01 03 10.5	
	comp=E,147μm,0.3s						
KAVA	**Kavala**	**0.95**	**61**	P	Pg	01 02 54.5	+0.2
KAVA				S	Sb	01 03 07.5	-0.8
	comp=E,115nm,0.4s						
KAVA	**Kavala**	**0.95**	**61**	P	Pg	01 02 54.7	+0.4
KAVA				S	Sg	01 03 06.8	+0.2
KAVA				AML	AML	01 03 09.5	
	comp=E,212μm,0.3s						
KAVA				AML	AML	01 03 09.5	
	comp=N,242μm,0.4s						
THAS	**Thassos island**	**0.99**	**86**	P	Pg	01 02 54.7	-0.4
THAS				S	Sg	01 03 08.1	+0.1
	comp=N,60nm,0.1s						
THAS	**Thassos island**	**0.99**	**86**	P	Pg	01 02 54.8	-0.3
THAS				S	Sg	01 03 08.2	+0.2
THAS				AML	AML	01 03 10.5	
	comp=N,136μm,0.2s						
THAS				AML	AML	01 03 10.7	
	comp=E,101μm,0.1s						
VAY	**Valandovo**	**1.01**	**321**	*i*Pg	Pg	01 02 55.4	-0.1
VAY				*i*Sg	Sb	01 03 09.8	-0.2
MMB	**Musomiste**	**1.07**	**12**	*i*Pg	Pg	01 02 55.7	-1.0
XOR	**Xorichti**	**1.19**	**189**	P	Pg	01 02 58.7	-0.1
XOR				S	Sb	01 03 15.3	+0.1
	comp=E,80nm,0.5s						
XOR	**Xorichti**	**1.19**	**189**	P	Pg	01 02 58.6	-0.2
XOR				S	Sg	01 03 14.6	+0.4
NEO	**Neokhori**	**1.24**	**187**	P	Pg	01 02 59.9	0.0
NEO				S	Sg	01 03 15.4	-0.6
KZN	**Kozani**	**1.28**	**260**	P	Pg	01 03 00.3	-0.3
KZN				S	Sb	01 03 17.6	-0.3
KZN				AML	AML	01 03 23.4	
	comp=E,54μm,0.6s						
KZN				AML	AML	01 03 23.7	
	comp=N,41μm,0.4s						
KKB	**Krupnik**	**1.35**	**349**	*i*Pg	Pg	01 03 01.5	-0.4
SKIA	**Skiathos**	**1.37**	**178**	P	Pn	01 03 01.1	-1.2
SKIA				S	Sg	01 03 19.7	-0.5
AOS	**Alonnisos**	**1.42**	**165**	P	Pn	01 03 01.4	-1.4
THL	**Klokotos Trika**	**1.45**	**228**	P	Pn	01 03 02.1	-1.3
THL				S	Sg	01 03 22.2	-0.6
STIP	**Stip**	**1.48**	**321**	*i*Pg	Pn	01 03 02.2	-1.6
STIP				*i*Sg	Sb	01 03 22.4	-1.2
STIP				*e*Lg	Lg	01 03 24.3	
	comp=E,6.7nm,0.3s						
STIP				*e*Lg	Lg	01 03 24.5	
	comp=N,8.6nm,0.3s						
LIA	**Limnos Island**	**1.50**	**115**	P	Pn	01 03 04.3	+0.3
FNA	**Florina**	**1.57**	**280**	P	Pn	01 03 05.2	+0.1
SMTH	**Samothraki Isl**	**1.61**	**92**	P	Pb	01 03 06.6	0.0
SMTH				S	Sg	01 03 28.2	+0.3
KPRO	**Kipourio**	**1.68**	**250**	P	Pn	01 03 06.4	-0.2
RDO	**Rodhopi**	**1.72**	**69**	P	Pn	01 03 07.7	+0.7
RDO				S	Sg	01 03 31.6	+0.3
AGG	**Agios Georgios**	**1.73**	**209**	P	Pn	01 03 06.8	-0.4
NEST	**Nestorio**	**1.81**	**267**	P	Pn	01 03 08.8	+0.4
MAKR	**Makrakomi, Fth**	**1.82**	**213**	P	Pn	01 03 08.5	0.0

IDC 18 01:02:40.9±2.7, 60.°96S×42.°65W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/14, mbtmp3.8/1, Error ellipse: s-maj=148.3km s-min=84.8km az=171.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**81.80**	**43**	P	P	01 15 01.4	0.0
	0.7nm,0.9s,baz=212,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**145.72**	**89**	PKPbc	PKPdf	01 22 19.7	-0.4
	0.5nm,0.9s,baz=226,slow=2.3,SNR=2.1						
ILAR	**Eielson Array**	**147.15**	**310**	PKPbc	PKPbc	01 22 23.4	-0.8
	0.4nm,0.7s,baz=120,slow=1.5,SNR=3.3						

IDC 18 01:09:08.0±2.5, 60.°72S×45.°32W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.4/20, mbtmp3.6/1, Error ellipse: s-maj=145.5km s-min=82.6km az=178.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**82.55**	**46**	P	P	01 21 32.4	0.0
	0.5nm,0.9s,baz=194,slow=5.4,SNR=2.2						
ILAR	**Eielson Array**	**146.00**	**311**	PKPbc	PKPdf	01 28 47.0	-0.1
	0.3nm,0.6s,baz=110,slow=1.7,SNR=4.4						
MKAR	**Makanchi Array**	**147.02**	**91**	PKPbc	PKPbc	01 28 50.8	-0.7
	0.6nm,0.6s,baz=224,slow=4.0,SNR=4.8						

*JMA **18** 01:15:25.3±0.3, 24.°85N×142.°51E, h0km, M5.0*
*ISCJB **18** 01:15:27.0±0.4, 24.°84N±0.°04×142.°13E±0.°08, h33km, mb4.1/22, MS3.1/5, Error ellipse: s-maj=10.0km s-min=5.8km az=5.0*
*NEIC **18** 01:15:30.4±1.8, 24.°86N±0.°09×142.°0E±0.°2, h51km±6km, mb4.5/17*
*IDC **18** 01:15:30.4±2.4, 24.°86N×142.°02E, h49km±21km, mb3.9/22, mb1 4.1/25, mb1mx4.0/39, mbtmp4.1/25, ML3.9/3, MS3.2/10, Ms1 3.2/10, ms1mx3.0/40, Error ellipse: s-maj=18.3km s-min=13.4km az=93.0*
ISC 18 01:15:28.3±0.5, 24.°74N±0.°05×142.°0E±0.°1, h35km, n78, σ1§48/74, mb4.3/28, MS3.3/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.89**	**4**	P	**Pn**	**01 15 57.6**	**-0.6**
CBIJ	**Chichi jima**	**2.35**	**3**	P	**Pn**	**01 16 04.6**	**+0.1**
CBIJ				*e*S	**Sn**	**01 16 35.5**	**+3.3**
JCJ	**Chichijima**	**2.35**	**3**	P	**Pn**	**01 16 04.3**	**-0.2**
	236nm,0.3s,baz=125,slow=19,SNR=97						
JCJ				S	**Sn**	**01 16 35.6**	**+3.4**
	170nm,0.3s,baz=113,slow=23,SNR=3.6						
BSO3	**Boso 3**	**10.12**	**353**	P	**Pn**	**01 17 49.8**	**-1.1**
BSO3				*e*S	**Sn**	**01 19 44.7**	**+1.7**
JHU	**Hanno**	**11.33**	**349**	P	**Pn**	**01 18 08.1**	**+0.4**
GUMO	**Guam**	**11.41**	**166**	LR	LR	01 21 57.4	
	comp=Z,108nm,21.6s,baz=190,slow=34						
JAG	**Ashikaga**	**11.86**	**350**	P	**Pn**	**01 18 13.6**	**-1.4**
JHO	**Hitachi**	**11.90**	**354**	P	**Pn**	**01 18 14.8**	**-0.7**
MJAR	**Matsushiro Arr**	**12.22**	**345**	P	**Pn**	**01 18 19.5**	**-0.3**
	0.2nm,0.3s,baz=145,slow=11,SNR=6.3						
MJAR				LR	LR	01 22 51.9	
	comp=Z,130nm,19.7s,baz=190,slow=37						
MJAR	**Matsushiro Arr**	**12.22**	**345**		**Pn**	**01 18 19.2**	**-0.6**
MJAR				Sn	**Sn**

comp=Z,2.6nm,0.5s,baz=168,slow=11,SNR=10
KLR LR LR 01 31 07.3
comp=Z,80nm,18.9s,baz=151,slow=37
BJT Baijiatuau 26.50 311 P **P 01 21 02.0 -0.5**
BJT IAmb IAmb 01 21 14.2
comp=Z,18nm,1.5s
PETK Petropavlovsk- 30.70 19 LR LR 01 38 56.9
comp=Z,10.0nm,18.2s,baz=250,slow=46
SONM Songino Array 36.35 319 P **P 01 22 29.2 +0.1**
comp=Z,0.4nm,0.4s,baz=135,slow=8.3,SNR=3.2
SONM PcP **PcP 01 24 53.9 +0.7**
comp=Z,0.4nm,0.4s,baz=116,slow=1.4,SNR=4.5
SONM Songino Array 36.35 319 IAmb IAmb 01 22 35.8
comp=Z,1.6nm,1.3s
CMAR Chiang Mai Arr 40.42 270 P **P 01 23 04.6 +1.0**
comp=Z,1.8nm,0.5s,baz=64,slow=7.7,SNR=10
CMAR LR LR 01 40 51.0
comp=Z,38nm,18.0s,baz=188,slow=38
WB2 Warramunga Arr 45.03 190 P **P 01 23 42.4 +1.6**
WRA Warramunga Arr 45.04 190 P **P 01 23 42.4 +1.6**
comp=Z,6.7nm,0.4s,baz=8.9,slow=8.9,SNR=139
WRA S **S 01 30 16.0 -1.4**
comp=Z,0.5nm,0.7s,baz=5.4,slow=21,SNR=4.7
WRA Warramunga Arr 45.04 190 P **P 01 23 41.6 +0.8**
SHL Shillong 45.18 282 P **P 01 23 44.5 +2.2**
TAPN Taplejung 48.55 285 *eP* **P 01 24 11.8 +3.0**
ASAR Alice Springs 48.76 190 P **P 01 24 11.0 +1.2**
comp=Z,1.5nm,0.5s,baz=17,slow=13,SNR=25
ASAR PcP **PcP 01 25 36.0 +1.5**
comp=Z,0.2nm,0.4s,baz=6.8,slow=3.9,SNR=2.7
ASAR S **S 01 31 09.0 -1.5**
comp=Z,1.2nm,0.9s,baz=18,slow=20,SNR=6.1
ODAN Odare 48.92 285 *eP* **P 01 24 13.9 +2.4**
comp=Z,8.5nm,0.4s
RAMN Ramite 49.60 285 *eP* **P 01 24 18.7 +2.0**
JIRN Jiri 49.83 286 *eP* **P 01 24 21.0 +2.4**
comp=Z,34nm,0.6s
GUN Gumba 50.06 287 *eP* **P 01 24 22.9 +2.6**
comp=Z,10nm,0.3s
PKI Pulchoki 50.53 286 *eP* **P 01 24 25.7 +1.8**
comp=Z,2.7nm,0.4s
PKIN Phulchoki 50.54 286 *eP* **P 01 24 25.9 +2.0**
comp=Z,4.1nm,0.5s
DMN Daman 50.79 286 *eP* **P 01 24 27.7 +2.0**
comp=Z,3.9nm,0.4s
GKN Gorkha 51.12 287 *eP* **P 01 24 30.3 +2.2**
ZALV Zalesovo Beam 51.19 320 P **P 01 24 27.0 -1.1**
comp=Z,0.6nm,0.5s,baz=102,slow=10,SNR=2.4
ZALV PcP **PcP 01 25 41.0 -2.0**
comp=Z,1.1nm,0.5s,baz=119,slow=4.8,SNR=4.2
DANN Dangsing 51.83 288 *eP* **P 01 24 35.6 +2.1**
comp=Z,23nm,0.6s
MKAR Makanchi Array 51.89 311 P **P 01 24 33.2 -0.2**
comp=Z,0.8nm,0.6s,baz=95,slow=9.4,SNR=8.6
MKAR PcP **PcP 01 25 45.6 -0.3**
comp=Z,0.8nm,0.5s,baz=72,slow=6.1,SNR=5.6
KOLN Koldanda 52.07 287 *eP* **P 01 24 36.7 +1.4**
comp=Z,12nm,0.9s
DZM Mont Dzumac 52.22 151 LR LR 01 42 59.9
comp=Z,30nm,20.6s,baz=19,slow=32
NRIK Noril'sk 54.79 339 P **P 01 24 54.2 -0.1**
comp=Z,2.3nm,0.5s,baz=93,slow=6.3,SNR=4.5
NRIK LR LR 01 47 05.9
comp=Z,26nm,21.4s,baz=323,slow=35
STKA Stephens Creek 56.30 180 P **P 01 25 06.3 +0.8**
comp=Z,0.8nm,0.4s,baz=343,slow=10,SNR=3.7
IL31 59.85 28 P **P 01 25 30.0 0.0**
IL31 IAmb IAmb 01 25 30.8
comp=Z,3.7nm,0.8s
ILAR Eielson Array 59.85 28 P **P 01 25 29.8 -0.3**
comp=Z,2.5nm,0.8s,baz=258,slow=5.7,SNR=24
ILAR Eielson Array 59.85 28 P **P 01 25 29.5 -0.5**
KK31 Karatay Array 60.37 307 IAmb IAmb 01 25 35.1
comp=Z,3.2nm,0.6s
KKAR Karatay Array 60.37 307 IAmb IAmb 01 25 35.1
comp=Z,3.2nm,0.6s
GAR Garm 61.11 302 P **P 01 25 38.3 -1.0**
GAR IAmb IAmb 01 25 41.3
comp=Z,4.1nm,0.9s
CHGR Chuyangaron 62.06 302 P **P 01 25 45.0 -0.7**
INK Inuvik 65.23 24 P **P 01 26 05.8 -0.1**
comp=Z,1.4nm,0.5s,baz=288,slow=4.9,SNR=17
YKA Yellowknife Ar 74.28 28 P **P 01 27 02.0 +0.3**
comp=Z,1.0nm,0.5s,baz=290,slow=5.9,SNR=3.9
ARCES ARCESS Array B 75.72 341 P **P 01 27 10.2 +0.3**
comp=Z,3.6nm,0.9s,baz=73,slow=8.2,SNR=12
KBZ Khabaz 79.51 313 P **P 01 27 31.8 +0.2**
comp=Z,2.3nm,0.9s,baz=104,slow=4.2,SNR=11
BEKR Beckworth 80.04 51 P **P 01 27 35.9 +1.1**
NVAR Mina Array Bea 82.09 51 P **P 01 27 46.7 +1.0**
comp=Z,0.8nm,0.8s,baz=298,slow=5.5,SNR=6.4
AKASG Malin Array Be 84.43 324 P **P 01 27 56.5 -0.7**
comp=Z,0.8nm,0.4s,baz=51,slow=5.2,SNR=7.3
RLMT Red Lodge 84.98 42 P **P 01 28 02.4 +1.9**
RLMT IAmb IAmb 01 28 03.1
comp=Z,3.9nm,0.7s
NB2 NORSAR Subarra 85.74 338 P **P 01 28 02.7 -1.0**
comp=Z,2.0nm,0.6s,baz=44,slow=5.1
NOA NORSAR Array B 85.74 338 P **P 01 28 03.0 -0.7**
comp=Z,0.8nm,0.5s,baz=53,slow=6.6,SNR=8.4
RAYN Ar Rayn 85.97 294 P **P 01 28 06.5 +1.0**
PDAR Pinedale Array 85.98 44 P **P 01 28 04.6 -0.9**
comp=Z,0.7nm,0.8s,baz=211,slow=1.7,SNR=5.8
BRTR Keskin Array B 87.50 313 P **P 01 28 12.4 -0.4**
comp=Z,0.9nm,0.7s,baz=96,slow=3.7,SNR=6.7
BRTR Keskin Array B 87.50 313 P **P 01 28 10.2 -2.6**
ANMO Albuquerque 92.10 50 P **P 01 28 34.7 +0.1**
comp=Z,1.1nm,0.7s,baz=272,slow=4.8,SNR=5.3
GERES GERESS Array B 93.45 329 P **P 01 28 39.5 -0.9**
comp=Z,0.8nm,0.7s,baz=35,slow=4.9,SNR=7.8
GERES GERESS Array B 93.45 329 P **P 01 28 39.2 -1.1**
BLY Banja Luka 94.49 324 P **P 01 28 40.8 -4.3**
TORD Torodi Ar. Bea 126.00 310 PKP **PKPdf 01 34 26.9 -0.7**
comp=Z,0.4nm,0.6s,baz=25,slow=1.5,SNR=5.1
PLCA Paso Flores 148.51 128 PKPbc **PKiKP 01 35 12.4 -0.7**
comp=Z,2.5nm,1.0s,baz=222,slow=2.8,SNR=4.8
PLCA Paso Flores 148.51 128 PKPdf 01 35 08.8 +0.8
LPAZ La Paz 150.58 79 PKPbc **PKPbc 01 35 17.1 -1.0**
comp=Z,3.0nm,0.6s,baz=318,slow=2.4,SNR=13
LPAZ La Paz 150.58 79 PKPbc 01 35 17.9 -0.2

*SOME **18** 01:26:47.6,39°.82N×75°.60E,h15km*
*KRNET **18** 01:26:54.3±0.1,40°.06N×75°.70E,mb2.9*
*NNC **18** 01:26:57.1±1.0,40°.16N×75°.68E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=7.8km s-min=5.9km az=150.0
ISC 18 01:26:57.5±2.4,40°.21N±0°.08×75°.69E±0°.03,h0km±13km,
n56,σ1°.58/87,29C-13D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.24**	**11**	⇓*iP*	**Pn**	**01 27 20.6**	**-1.8**
NRN	baz=8.0			⇓*iS*	**Sn**	**01 27 39.8**	**-0.3**
KZA	**Kyzart**	**1.90**	**350**	⇑*iP*	**Pb**	**01 27 32.6**	**-0.6**
KZA	baz=51			⇑*iS*	**Sg**	**01 28 00.1**	**+1.7**
KZA	**Kyzart**	**1.90**	**350**	P	**Pg**	**01 27 33.6**	**-0.2**
ARLS	SNR=10 **Aral**	**1.95**	**328**	⇑*iP*	**Pb**	**01 27 32.7**	**-1.2**
ARLS	baz=31			⇑*iS*	**Sg**	**01 28 00.7**	**+0.6**
ULHL	**Ulahol**	**2.08**	**11**	⇑*iP*	**Pb**	**01 27 34.6**	**-1.6**
ULHL	baz=10.0			⇑*iS*	**Sg**	**01 28 04.0**	**-0.2**
ULHL	baz=10.0 **Ulahol**	**2.08**	**11**	P	**Pb**	**01 27 35.6**	**-0.5**
UCH	SNR=7.1 **Uchtor**	**2.20**	**337**	⇑*iP*	**Pn**	**01 27 36.3**	**+0.6**
UCH	baz=38			⇑*iS*	**Sb**	**01 28 07.4**	**+0.9**
UCH	**Uchtor**	**2.20**	**337**	P	**Pb**	**01 27 36.8**	**-1.7**
TARG	SNR=16 **Taragay, Kyrgy**	**2.21**	**46**	⇑*iP*	**Pn**	**01 27 35.6**	**-0.1**
TARG	baz=43			⇑*iS*	**Sb**	**01 28 06.5**	**0.0**
KDJ	**Kajisay**	**2.22**	**30**	⇑*iP*	**Pn**	**01 27 36.2**	**+0.4**
KDJ	baz=28			⇑*iS*	**Sb**	**01 28 07.3**	**+0.5**
BOOM	baz=28 **Boomskoye usch**	**2.29**	**5**	⇑*iP*	**Pb**	**01 27 37.6**	**-2.1**
BOOM	baz=4.0			⇑*iS*	**Sb**	**01 28 09.3**	**+0.7**
ARSB	baz=4.0 **Arslanbob**	**2.34**	**299**	⇓*iP*	**Pn**	**01 27 37.6**	**+0.3**
ARSB	baz=2.0			⇓*iS*	**Sb**	**01 28 09.3**	**-0.8**
AML	baz=2.0 **Almayashu**	**2.44**	**322**	⇑*iP*	**Pn**	**01 27 39.5**	**+0.5**
AML	baz=24			⇑*iS*	**Sb**	**01 28 12.4**	**-0.8**
AML	baz=24 **Almayashu**	**2.44**	**322**	P	**Pn**	**01 27 39.4**	**+0.5**
KBK	SNR=8.4 **Karagaybulak**	**2.51**	**347**	⇓*iP*	**Pn**	**01 27 40.8**	**+1.1**
KBK	baz=48			⇓*iS*	**Sb**	**01 28 14.7**	**-0.2**
KBK	baz=48 **Karagaybulak**	**2.51**	**347**	P	**Pb**	**01 27 41.6**	**-1.9**
AAK	SNR=8.6 **Ala-Archa**	**2.59**	**340**	⇓Pn	**Pb**	**01 27 42.1**	**-2.7**
AAK	4.3nm,0.4s			⇓Lg	Lg	01 28 19.8	
AAK	14nm,0.6s **Ala-Archa**	**2.59**	**340**	⇑*iP*	**Pn**	**01 27 41.9**	**+1.2**
AAK	baz=41			⇑*iS*	**Sb**	**01 28 16.2**	**-1.0**
AAK	baz=41 **Ala-Archa**	**2.59**	**340**	P	**Pb**	**01 27 42.2**	**-2.7**
TKM2	SNR=7.5 **Tokmak 2**	**2.71**	**359**	⇑Pn	**Pn**	**01 27 44.1**	**+1.6**
TKM2	3.4nm,0.5s			⇓Lg	Lg	01 28 25.8	
TKM2	18nm,0.9s **Tokmak 2**	**2.71**	**359**	⇑*iP*	**Pn**	**01 27 43.6**	**+1.1**
TKM2	baz=58			⇑*iS*	**Sb**	**01 28 19.5**	**-1.3**
TKM2	baz=58 **Tokmak 2**	**2.71**	**359**	P	**Sb**	**01 28 26.4**	**+5.6**
FRU1	SNR=8.8 **Bishkek**	**2.72**	**343**	⇑*iP*	**Pn**	**01 27 43.7**	**+1.2**
FRU1	baz=44			⇑*iS*	**Sb**	**01 28 19.7**	**-1.2**
KST	baz=44 **Kastek**	**2.84**	**4**	Pg	**Pb**	**01 27 49.1**	**0.0**
KST	5.3nm,0.4s			Lg	Lg	01 28 28.8	
KST	14nm,0.4s **Kastek**	**2.84**	**4**	*eP*	**Pb**	**01 27 46.2**	**-2.9**
KST	11nm,0.4s			*eS*	**Sg**	**01 28 28.5**	**-0.1**
EKS2	23nm,0.4s **Erkin-Say**	**2.84**	**330**	⇓*iP*	**Pn**	**01 27 45.2**	**+1.0**
EKS2	baz=31			⇓*iS*	**Sb**	**01 28 22.0**	**-2.5**
IZV	baz=31 **Izvestkoviy**	**2.91**	**13**	Pg	**Pb**	**01 27 51.3**	**+1.1**
IZV	5.9nm,0.4s			Lg	Lg	01 28 33.4	
IZV	12nm,0.5s **Izvestkoviy**	**2.91**	**13**	*eP*	**Pn**	**01 27 47.0**	**+1.8**
IZV	2.7nm,0.4s			*eS*	**Sg**	**01 28 29.7**	**-1.2**
ANVS	12nm,0.5s **Anan'yevo**	**2.97**	**29**	⇑*iP*	**Pn**	**01 27 46.9**	**+0.9**
ANVS	baz=28			⇑*iS*	**Sb**	**01 28 25.2**	**-3.0**
MTBS	baz=28 **Maitube**	**2.97**	**10**	Pg	**Pb**	**01 27 52.1**	**+0.8**
MTBS	4.7nm,0.3s			Lg	Lg	01 28 33.9	
MTBS	11nm,0.4s **Maitube**	**2.97**	**10**	*eP*	**Pb**	**01 27 49.4**	**-1.9**
MTBS	4.7nm,0.3s			*eS*	**Sg**	**01 28 34.1**	**+1.3**
TNSS	12nm,0.3s **Tian-Shan**	**2.98**	**18**	Pg	**Pb**	**01 27 52.4**	**+0.8**
TNSS	8.8nm,0.3s			Lg	Lg	01 28 34.7	
TNSS	8.9nm,0.5s **Tian-Shan**	**2.98**	**18**	*eP*	**Pn**	**01 27 48.0**	**+1.7**
TNSS	8.7nm,0.2s			*eS*	**Sb**	**01 28 31.3**	**+2.6**
DGS	8.8nm,0.4s **Degeres**	**3.03**	**1**	Pg	**Pb**	**01 27 53.0**	**+0.6**
DGS	4.8nm,0.5s			Lg	Lg	01 28 35.8	
DGS	12nm,0.5s **Degeres**	**3.03**	**1**	*eP*	**Pb**	**01 27 50.5**	**-1.9**
DGS	1.8nm,0.5s			*eS*	**Sg**	**01 28 36.3**	**+1.5**
MDOK	12nm,0.5s **Medeo**	**3.12**	**19**	Pg	**Pb**	**01 27 54.3**	**+0.3**
MDOK	3.8nm,0.5s			Lg	Lg	01 28 37.7	
MDOK	10nm,0.6s **Medeo**	**3.12**	**19**	*eP*	**Pb**	**01 27 52.2**	**-1.8**
MDOK	1.7nm,0.5s			*eS*	**Sg**	**01 28 38.9**	**+1.2**
MRKS	15nm,0.6s **Merke**	**3.14**	**325**	Pg	**Pb**	**01 27 54.0**	**-0.1**
MRKS	5.3nm,0.5s			Lg	Lg	01 28 37.4	
MRKS	13nm,0.4s **Merke**	**3.14**	**325**	*eP*	**Pn**	**01 27 49.4**	**+1.2**
MRKS	2.8nm,0.3s			*eS*	**Sb**	**01 28 34.1**	**+1.1**
USP	13nm,0.4s **Ospenovka**	**3.18**	**344**	⇑*iP*	**Pn**	**01 27 49.5**	**+0.7**
USP	baz=45			⇑*iS*	**Sb**	**01 28 30.2**	**-4.0**
USP	baz=45 **Ospenovka**	**3.18**	**344**	P	**Sg**	**01 28 40.8**	**+1.0**
KOTS	SNR=6.0 **Kotyrbulak**	**3.20**	**19**	Pg	**Pb**	**01 27 56.4**	**+1.0**
KOTS	6.7nm,0.5s			Lg	Lg	01 28 41.7	
KOTS	56nm,0.5s **Kotyrbulak**	**3.20**	**19**	*eP*	**Pb**	**01 27 53.8**	**-1.5**
KOTS	3.6nm,0.4s			*eS*	**Sg**	**01 28 41.9**	**+1.5**
SATY	56nm,0.5s **Saty**	**3.50**	**35**	Pg	**Pb**	**01 28 00.7**	**+0.4**
SATY	5.6nm,0.9s			Lg	Lg	01 28 48.8	
KTBS	12nm,0.5s **Karatobe**	**3.58**	**12**	Pg	**Pb**	**01 28 02.8**	**+1.1**
KTBS	4.2nm,0.4s			Lg	Lg	01 28 52.6	
KTBS	9.7nm,0.5s **Karatobe**	**3.58**	**12**	*eP*	**Pb**	**01 28 00.6**	**-1.1**
KTBS	3.8nm,0.5s			*eS*	**Sg**	**01 28 53.4**	**+1.1**
KUU	20nm,0.5s **Kurty**	**3.71**	**7**	Pg	**Pb**	**01 28 05.3**	**+1.4**
KUU	1.1nm,0.4s			Lg	Lg	01 28 56.4	
KUU	6.6nm,0.4s **Kurty**	**3.71**	**7**	*eP*	**Pb**	**01 28 02.6**	**-1.3**
KUU	1.1nm,0.4s			*eS*	**Sg**	**01 28 56.9**	**+0.2**
KURS	6.6nm,0.4s **Kuram**	**3.76**	**29**	*eP*	**Pb**	**01 28 02.5**	**-2.3**
KURS	2.2nm,0.4s			*eS*	**Sg**	**01 28 56.3**	**-2.1**
CHKK	5.2nm,0.5s **Chushkaly**	**3.77**	**14**	Pg	**Pb**	**01 28 06.7**	**+1.8**
CHKK	3.9nm,0.2s			Lg	Lg	01 28 58.8	
CHKK	16nm,0.6s **Chushkaly**	**3.77**	**14**	*eP*	**Pb**	**01 28 03.8**	**-1.1**
CHKK	1.5nm,0.0s			*eS*	**Sg**	**01 28 59.1**	**+0.6**
KPKS	16nm,0.6s **Kokpek**	**3.95**	**34**	*eP*	**Pb**	**01 28 06.3**	**-1.7**
KPKS	1.6nm,0.2s			*eS*	**Sg**	**01 29 02.6**	**-1.7**
PDGK	13nm,0.4s **Podgornoye**	**4.22**	**41**	⇑Pg	**Pb**	**01 28 14.1**	**+1.5**
PDGK	5.6nm,1.3s			⇑Lg	Lg	01 29 11.2	
ARXS	5.3nm,0.9s **Arharly**	**4.30**	**21**	Pg	**Pb**	**01 28 15.4**	**+1.4**
ARXS	1.7nm,0.6s			Lg	Lg	01 29 14.3	
ARXS	4.5nm,0.6s **Arharly**	**4.30**	**21**	*eP*	**Pb**	**01 28 12.8**	**-1.2**
ARXS	0.9nm,0.4s			*eS*	**Sg**	**01 29 13.8**	**-1.9**
KK31	4.5nm,0.6s **Karatay Array**	**4.84**	**308**	⇓Pg	**Pb**	**01 28 24.3**	**+1.2**
KK31	0.6nm,0.5s,baz=136,slow=16,SNR=4.8			⇓Lg	Lg	01 29 29.6	
	3.5nm,0.9s,baz=126,slow=29,SNR=5.4						

IDC 18 01:34:25.6±2.6,17°.13S×178°.18W,h0km,mb3.6/3,
mb1 4.0/3,mb1mx3.7/27,mbtmp3.6/3,Error ellipse:
s-maj=294.2km s-min=35.5km az=159.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.99**	**259**	P	P	01 42 42.6	-0.6
ASAR	0.4nm,0.7s,baz=94,slow=7.7,SNR=5.7 **Alice Springs**	**45.21**	**253**	P	P	01 42 45.1	+0.2
TXAR	2.1nm,0.5s,baz=88,slow=8.3,SNR=31 **Lajitas Array**	**85.40**	**58**	P	P	01 47 05.5	0.0
	0.2nm,0.7s,baz=218,slow=5.6,SNR=2.3						

*IDC **18** 02:11:03.8±0.5,60°.45S×43°.76W,h0km,mb4.6/14,*
mb1 4.6/17,mb1mx4.5/24,mbtmp4.6/17,ML4.1/3,MS4.2/9,
Ms1 4.2/9,ms1mx3.9/22,Error ellipse: s-maj=19.5km
s-min=13.5km az=43.0
*ISCJB **18** 02:11:04.4±0.3,60°.46S±0°.04×43°.72W±0°.09,h10km,*
mb4.6/17,MS4.3/12,Error ellipse: s-maj=6.8km
s-min=5.3km az=150.2
*NEIC **18** 02:11:07.0±1.6,60°.38S±0°.08×43°.68W±0°.10,h18km±2km,*
mb4.9/29
ISC 18 02:11:06.4±0.3,60°.39S±0°.06×43°.77W±0°.06,h10km,n173,
σ1°.73/157,mb4.9/26,MS4.5/13,2C-1D,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.28**	**36**		Pn	02 12 51.4	-1.2
PMSA	**Palmer Station**	**10.31**	**236**	Pn	**Pn**	**02 13 32.3**	**-1.8**
PMSA	1.5nm,0.3s,baz=75,slow=15,SNR=4.3			Sn	**Sn**	**02 15 33.8**	**+4.3**
PMSA	2.3nm,0.3s,baz=69,slow=5.6,SNR=4.4 **Palmer Station**	**10.31**	**236**		**Pn**	**02 13 33.4**	**-0.7**
PMSA	**Palmer Station**	**10.31**	**236**	*eP*	**Pn**	**02 13 36.0**	**+1.9**
EFI	**East Falkland**	**11.81**	**311**	Pn	**Pn**	**02 13 58.5**	**+3.8**
EFI				Sn	**Sn**	**02 16 00.9**	**-5.5**
USHA	**Ushuaia**	**14.29**	**282**	Pn	**Pn**	**02 14 28.9**	**+0.4**
GO10	1.6nm,0.3s,baz=110,slow=13,SNR=15 **Punta Arenas**	**16.52**	**284**	P	**Pn**	**02 15 01.2**	**+3.3**
VNA3	**Neumayer Olymp**	**17.39**	**143**	P	**Pn**	**02 15 08.5**	**-0.3**
VNA1	**Neumayer--Stat**	**17.62**	**140**	P	**Pn**	**02 15 10.0**	**-1.6**
VNA2	**Neumayer--Watz**	**17.98**	**141**	P	**Pn**	**02 15 16.3**	**+0.2**
SNAA	baz=295,slow=14 **Sanae**	**19.60**	**142**	P	**P**	**02 15 36.3**	**+1.9**
SNAA	**Sanae**	**19.60**	**142**	P	**P**	**02 15 33.5**	**-0.9**
SNAA	0.4nm,0.3s,baz=292,slow=12,SNR=17 **Sanae**	**19.60**	**142**	P	**P**	**02 15 33.4**	**-0.9**
TRQA	**Tornquist**	**25.14**	**325**	P	**P**	**02 16 30.9**	**-0.6**
TRQA	**Tornquist**	**25.14**	**325**	*eP*	**P**	**02 16 31.9**	**+0.4**
PLCA	**Paso Flores**	**25.70**	**308**	P	**P**	**02 16 35.4**	**-1.1**
PLCA	11nm,1.1s,baz=192,slow=8.2,SNR=5.3			LR	LR	02 26 32.0	
PLCA	comp=Z,294nm,19.8s,baz=176,slow=36 **Paso Flores**	**25.70**	**308**	P	**P**	**02 16 35.1**	**-1.4**
PLCA	**Paso Flores**	**25.70**	**308**	*eP*	**P**	**02 16 36.4**	**-0.1**
GO06	**Curarrehue**	**27.04**	**308**	P	**P**	**02 16 47.0**	**-1.7**
PLTB	**Pedras Altas**	**29.37**	**343**	P	**P**	**02 17 10.3**	**+0.9**
PLTB	**Pedras Altas**	**29.37**	**343**	*eP*	**P**	**02 17 10.3**	**+0.9**
QSPA	**South Pole Qui**	**29.85**	**180**	P	**P**	**02 17 13.3**	**-0.3**
QSPA	15nm,0.8s,baz=168,slow=2.3,SNR=19			LR	LR	02 29 50.3	
QSPA	comp=Z,267nm,18.4s,baz=208,slow=38 **South Pole Qui**	**29.85**	**180**	P	**P**	**02 17 13.8**	**+0.2**
CPSB	**Cacapava Do Su**	**30.68**	**343**	*eP*	**P**	**02 17 22.6**	**+1.6**
CPSB	**Cacapava Do Su**	**30.68**	**343**	*eP*	**P**	**02 17 22.6**	**+1.6**
GO05	**Huala**	**31.23**	**312**	P	**P**	**02 17 24.7**	**-1.1**
GO05				IAmb	IAmb	02 17 25.0	
CNLB	comp=Z,17nm,1.0s **Canela**	**31.44**	**348**	*eP*	**P**	**02 17 30.2**	**+2.4**
CNLB	**Canela**	**31.44**	**348**	*eP*	**P**	**02 17 30.2**	**+2.4**
PEL	**Peldehue**	**32.45**	**315**	P	**P**	**02 17 36.0**	**-0.6**
ROC1	**El Roble**	**32.72**	**315**	P	**P**	**02 17 39.0**	**-0.2**
CFA	**Coronel Fontan**	**33.03**	**320**	P	**P**	**02 17 39.9**	**-1.8**
CFA	comp=Z,3.0nm,0.5s,baz=171,slow=8.4,SNR=11			PcP	**PcP**	**02 20 24.6**	**-0.5**
SYO	comp=Z,4.3nm,0.7s,baz=143,slow=5.5,SNR=6.8 **Syowa Base**	**33.87**	**140**	‖*eP*	P	02 17 45.6	-2.9
SYO	**Syowa Base**	**33.87**	**140**	‖*ePP*	P	**02 17 50.0**	**+1.5**
GO04	**Tololo Observa**	**35.20**	**317**	P	P	**02 18 00.8**	**0.0**
CPUP	**Villa Florida**	**35.30**	**339**	P	**P**	**02 18 00.6**	**-0.7**
CPUP	comp=Z,5.4nm,1.1s,baz=145,slow=7.6,SNR=4.9			LR	LR	02 32 25.9	
CPUP	comp=Z,217nm,19.8s,baz=170,slow=36 **Villa Florida**	**35.30**	**339**	P	**P**	**02 18 01.0**	**-0.3**
CPUP	**Villa Florida**	**35.30**	**339**	*eP*	**P**	**02 18 02.2**	**+0.9**
PTGB	**Pitanga**	**36.11**	**347**	*eP*	**P**	**02 18 10.3**	**+1.8**
PTGB	**Pitanga**	**36.11**	**347**	*eP*	**P**	**02 18 10.3**	**+1.8**
SPB	**Sao Paulo**	**36.86**	**354**	*eP*	**P**	**02 18 17.1**	**+2.4**
SPB	**Sao Paulo**	**36.86**	**354**	*eP*	**P**	**02 18 17.1**	**+2.4**
GO03	**Copiap**	**37.39**	**319**	P	**P**	**02 18 18.4**	**-0.9**
GO03				IAmb	IAmb	02 18 19.6	
VAO	comp=Z,18nm,0.7s **Valinhos**	**37.43**	**355**	*eP*	**P**	**02 18 21.8**	**+2.2**
VAO	**Valinhos**	**37.43**	**355**	*eP*	**P**	**02 18 21.8**	**+2.2**
GO02	**Mina Guanaco**	**39.45**	**322**	P	**P**	**02 18 37.0**	**+0.1**
GO02				IAmb	IAmb	02 18 37.8	
SBA	comp=Z,20nm,0.7s **Scott Base**	**40.74**	**189**	P	**P**	**02 18 46.7**	**0.0**
SBA				IAmb	IAmb	02 18 52.3	
AQDB	comp=Z,26nm,0.8s **Aquidauana**	**40.76**	**343**	*eP*	**P**	**02 18 48.0**	**+0.5**
AQDB	**Aquidauana**	**40.76**	**343**	*eP*	**P**	**02 18 48.0**	**+0.5**
LVC	**Limon Verde**	**41.65**	**324**	P	**P**	**02 18 55.5**	**+0.4**
LVC	comp=Z,5.9nm,0.6s,baz=159,slow=6.4,SNR=6.9 **Limon Verde**	**41.65**	**324**	P	**P**	**02 18 54.0**	**-1.2**
LVC	**Limon Verde**	**41.65**	**324**	*eP*	**P**	**02 18 55.9**	**+0.8**
MAW	**Mawson**	**41.65**	**146**	P	**P**	**02 18 55.2**	**+1.0**
PMNB	comp=Z,5.4nm,0.9s,baz=227,slow=14,SNR=3.3 **Patos De Minas**	**41.84**	**356**	*eP*	**P**	**02 18 57.9**	**+1.4**
PMNB	**Patos De Minas**	**41.84**	**356**	*eP*	**P**	**02 18 57.9**	**+1.4**
IPMB	**Ipameri, GO**	**42.47**	**354**	*eP*	**P**	**02 19 02.1**	**+0.5**
IPMB	**Ipameri, GO**	**42.47**	**354**	*eP*	**P**	**02 19 02.1**	**+0.5**
BDFB	**Brasilia**	**44.79**	**354**	P	**P**	**02 19 19.6**	**-0.7**
BDFB	comp=Z,3.3nm,0.5s,baz=179,slow=3.8,SNR=5.6			LR	LR	02 36 30.1	
BDFB	comp=Z,180nm,20.1s,baz=166,slow=34 **Brasilia**	**44.79**	**354**	IAmb	IAmb	02 19 25.5	
ARAG	comp=Z,29nm,1.5s **Araguaiana, MT**	**45.00**	**349**	*eP*	**P**	**02 19 23.1**	**+1.3**
ARAG	**Araguaiana, MT**	**45.00**	**349**	*eP*	**P**	**02 19 23.1**	**+1.3**
SALV	**Santo Antonio**	**45.26**	**344**	*eP*	**P**	**02 19 25.2**	**+1.3**
SALV	**Santo Antonio**	**45.26**	**344**	*eP*	**P**	**02 19 25.2**	**+1.3**
JANB	**Januaria**	**45.26**	**359**	*eP*	**P**	**02 19 25.7**	**+1.7**
JANB	**Januaria**	**45.26**	**359**	*eP*	**P**	**02 19 25.7**	**+1.7**
NBIT	**Itapeh - BA**	**45.50**	**6**	*eP*	**P**	**02 19 27.6**	**+1.9**
NBIT	**Itapeh - BA**	**45.50**	**6**	*eP*	**P**	**02 19 27.6**	**+1.9**
LPAZ	**La Paz**	**47.44**	**327**	P	**P**	**02 19 41.8**	**+0.1**
LPAZ	comp=Z,4.0nm,0.8s,baz=143,slow=7.3,SNR=16 **La Paz**	**47.44**	**327**	*eP*	**P**	**02 19 42.0**	**+0.3**
PEXB	**Peixe**	**48.31**	**354**	*eP*	**P**	**02 19 50.3**	**+2.5**
PEXB	**Peixe**	**48.31**	**354**	*eP*	**P**	**02 19 50.3**	**+2.5**
NBPN	**Ponto Novo - B**	**49.52**	**5**	*eP*	**P**	**02 19 57.2**	**+0.2**
NBPN	**Ponto Novo - B**	**49.52**	**5**	*eP*	**P**	**02 19 57.2**	**+0.2**
SUR	**Sutherland**	**49.99**	**86**	P	**P**	**02 19 59.5**	**-1.2**
SUR	comp=Z,13nm,0.9s,baz=215,slow=8.3,SNR=5.9 **Sutherland**	**49.99**	**86**	IAmb	IAmb	02 20 01.8	
CLDB	comp=Z,14nm,0.8s **Colider**	**50.22**	**345**	*eP*	**P**	**02 20 01.6**	**-0.8**
CLDB	**Colider**	**50.22**	**345**	*eP*	**P**	**02 20 01.6**	**-0.8**
NBTA	**Tacaratu-PE**	**51.34**	**7**	*eP*	**P**	**02 20 11.5**	**+0.6**
NBTA	**Tacaratu-PE**	**51.34**	**7**	*eP*	**P**	**02 20 11.5**	**+0.6**
SMTB	**Santa Maria do**	**51.50**	**355**	*eP*	**P**	**02 20 12.6**	**+0.6**
SMTB	**Santa Maria do**

s-min=51.4km az=11.0,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.68**	**142**	LR	LR	02 23 41.2	
	comp=Z,292nm,21.9s,baz=358,slow=30						
BOSA	**Boshof**	**55.41**	**88**	P	P	02 23 32.4	-0.6
	4.6nm,0.9s,baz=198,slow=6.4,SNR=3.0						
LBTB	**Lobatse**	**58.56**	**86**	P	P	02 23 55.3	0.0
	3.1nm,0.8s,baz=225,slow=7.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**81.88**	**45**	P	P	02 26 18.2	+0.2
	1.0nm,0.9s,baz=210,slow=6.7,SNR=3.3						
ILAR	**Eielson Array**	**146.25**	**311**	PKPbc	PKPdf	02 33 36.4	-0.1
	0.3nm,0.6s,baz=139,slow=2.0,SNR=1.7						
MKAR	**Makanchi Array**	**146.41**	**89**	PKPbc	PKPbc	02 33 38.6	-0.2
	1.1nm,0.5s,baz=240,slow=4.1,SNR=4.5						

*ISCJB **18** 02:16:21.6±0.3,60°.15N±0°.02×153°.08W±0°.06, h158km±2km,mb3.6/4,Error ellipse: s-maj=4.9km s-min=3.4km az=34.6*

*NEIC **18** 02:16:22.0±1.6,60°.15N±0°.04×153°.24W±0°.10, h158km±3km*

*IDC **18** 02:16:21.2±1.9,60°.14N×153°.36W,h137km±42km,mb3.4/4, mb1 3.5/7,mb1mx3.1/58,mbtmp3.8/7,MS3.0/1,Ms1 3.0/1, ms1mx2.3/24,Error ellipse: s-maj=64.5km s-min=17.9km az=109.0*

*AEIC **18** 02:16:23.5±1.2,60°.15N±0°.04×153°.2W±0°.1,h152km±1km, ML3.1*

ISC 18 02:16:22.1±0.9,60°.16N±0°.03×153°.16W±0°.04, h160km±5km,n106,σ1$23/125,mb3.7/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.10**	**173**		**Pn**	**02 16 43.2**	**-0.5**
ILW					**Sn**	**02 16 58.6**	**-1.4**
ILIM	**Iliamna**	**0.12**	**127**		**Pn**	**02 16 43.2**	**-0.3**
IVE	**Iliamna Volcan**	**0.16**	**153**		**Pn**	**02 16 43.1**	**-0.5**
IVE					**Sn**	**02 16 59.5**	**-0.5**
ILS	**Iliamna Low So**	**0.20**	**167**		**Pn**	**02 16 43.6**	**-0.1**
RED	**Redoubt Volcan**	**0.33**	**36**		**Pn**	**02 16 43.5**	**-0.4**
RED					**Sn**	**02 16 59.1**	**-1.6**
RSO	**Redoubt South**	**0.37**	**33**		**Pn**	**02 16 44.0**	**-0.2**
RDWB	**Redoubt West**	**0.37**	**25**		**Pn**	**02 16 43.8**	**-0.4**
NCT	**North Crescent**	**0.42**	**15**		**Pn**	**02 16 44.0**	**-0.3**
NCT					**Sn**	**02 17 00.1**	**-1.3**
RDJH	**Redoubt Jeurge**	**0.47**	**22**		**Pn**	**02 16 44.3**	**-0.3**
RDJH					**Sn**	**02 17 00.3**	**-1.5**
DFR	**Drift River**	**0.50**	**28**		**Pn**	**02 16 44.2**	**-0.4**
DFR					**Sn**	**02 17 01.0**	**-0.9**
AUL	**Augustine Lava**	**0.79**	**190**		**Pn**	**02 16 45.9**	**-0.4**
AU22	**Augustine Moun**	**0.79**	**187**		**Pn**	**02 16 46.3**	**+0.1**
AU22					**Sn**	**02 17 03.5**	**-1.2**
AUH	**Augustine H**	**0.81**	**190**		**Pn**	**02 16 46.6**	**+0.2**
AUP	**Augustine Pinn**	**0.81**	**190**		**Pn**	**02 16 46.5**	**0.0**
AUQ	**Augustine Qik'**	**0.81**	**189**		**Pn**	**02 16 46.6**	**+0.2**
HOM	**Homer**	**0.91**	**123**		**Pn**	**02 16 47.5**	**+0.5**
HOM					**Sn**	**02 17 05.6**	**-0.5**
CKL	**Chakachamna La**	**1.12**	**21**		**Pn**	**02 16 49.0**	**+0.2**
SPCR	**Spurr Chakacha**	**1.15**	**24**		**Pn**	**02 16 49.2**	**+0.1**
CKT	**Bend**	**1.15**	**24**		**Pn**	**02 16 49.2**	**+0.1**
CNPM	**China Poot**	**1.16**	**122**		**Pn**	**02 16 49.5**	**+0.3**
CNPM	**China Poot**	**1.16**	**122**		**Sn**	**02 17 08.9**	**-0.9**
SPWE	**Spurr West**	**1.16**	**14**		**Pn**	**02 16 49.5**	**+0.3**
CAPN	**Captain Cook N**	**1.17**	**57**		**Pn**	**02 16 51.1**	**+2.0**
SPBG	**Spurr Blockage**	**1.17**	**19**		**Pn**	**02 16 49.9**	**+0.5**
SPBG					**Sn**	**02 17 10.2**	**-0.1**
BRLK	**Bradley Lake**	**1.21**	**108**		**Pn**	**02 16 50.1**	**+0.5**
BRLK					**Sn**	**02 17 09.3**	**-1.4**
SPCP	**Crater Peak Br**	**1.22**	**23**		**Pn**	**02 16 50.0**	**+0.1**
SPCP					**Sn**	**02 17 10.6**	**-0.6**
SPNN	**North Nagishla**	**1.24**	**10**		**Pn**	**02 16 50.0**	**0.0**
SPCG	**Spurr Capps Gl**	**1.27**	**26**		**Pn**	**02 16 50.2**	**0.0**
BRSE	**Bradley Lake S**	**1.28**	**108**		**Pn**	**02 16 50.9**	**+0.6**
BRSE					**Sn**	**02 17 10.5**	**-1.4**
CGLM	**Capps Glacier**	**1.29**	**26**		**Pn**	**02 16 50.4**	**0.0**
FOSS	**Fourpeaked Sta**	**1.39**	**192**		**Pn**	**02 16 51.2**	**-0.1**
SVW2	**Sparrevohn**	**1.52**	**309**		**Pn**	**02 16 52.1**	**-0.5**
SUA	**Susitna One**	**1.77**	**41**		**Pn**	**02 16 55.8**	**+0.5**
SUA					**Sn**	**02 17 20.8**	**-0.1**
KAHC	**Katmai Hardscr**	**1.78**	**213**		**Pn**	**02 16 55.2**	**-0.3**
KAHG	**Katmai Hook Gl**	**1.81**	**204**		**Pn**	**02 16 56.0**	**+0.2**
KARR	**Katmai Rainbow**	**1.84**	**206**		**Pn**	**02 16 56.2**	**+0.2**
SEW	**Seward**	**1.85**	**90**		**Pn**	**02 16 56.6**	**+0.5**
RC01	**Rabbit Creek A**	**1.93**	**59**	Pn	**Pn**	**02 16 56.8**	**-0.1**
RC01					**Sn**	**02 17 21.5**	**-2.4**
SKT	**Skwentna**	**1.99**	**23**	Pn	**Pn**	**02 16 57.6**	**-0.1**
KAKN	**Katmai Knife C**	**2.10**	**209**		**Pn**	**02 16 59.0**	**-0.1**
KCG	**Knife Ck. Glac**	**2.11**	**209**		**Pn**	**02 16 59.1**	**0.0**
KABU	**Katmai Buttres**	**2.18**	**211**		**Pn**	**02 17 00.2**	**+0.2**
ANCK	**Angle Creek**	**2.30**	**213**		**Pn**	**02 17 01.6**	**+0.2**
KDAK	**Kodiak Island**	**2.40**	**173**	P	**Pn**	**02 17 01.3**	**-1.1**
	2.5nm,0.3s,baz=344,slow=10,SNR=61						
KDAK				S	**Sn**	**02 17 30.9**	**-2.6**
	12nm,0.3s,baz=137,slow=23,SNR=60						
KDAK	**Kodiak Island**	**2.40**	**173**		**Sn**	**02 17 31.6**	**-1.9**
PMR	**Palmer**	**2.44**	**52**	Pn	**Pn**	**02 17 02.1**	**-0.8**
GHO	**Glory Hole Cre**	**2.63**	**50**		**Pn**	**02 17 04.5**	**-0.8**
KNK	**Knik Glacier**	**2.63**	**59**		**Pn**	**02 17 04.5**	**-0.7**
PPLA	**Purkeypile**	**2.79**	**9**		**Pn**	**02 17 08.2**	**+1.0**
SML	**Sawmill**	**2.88**	**53**		**Pn**	**02 17 07.5**	**-0.7**
OHAK	**Old Harbor**	**2.94**	**181**		**Pn**	**02 17 07.8**	**-1.3**
OHAK					**Sn**	**02 17 42.3**	**-3.1**
TT01	**Tatalina**	**3.08**	**335**		**Pn**	**02 17 10.6**	**-0.2**
GLI	**Glacier Island**	**3.08**	**74**		**Sn**	**02 17 47.8**	**-0.9**
GLI	**Glacier Island**	**3.08**	**74**		**Pn**	**02 17 11.2**	**+0.4**
TTA	**Tatalina**	**3.10**	**335**	Pn	**Pn**	**02 17 10.8**	**-0.3**
SCM	**Sheep Creek Mo**	**3.30**	**57**		**Pn**	**02 17 13.5**	**-0.1**
SCM	**Sheep Creek Mo**	**3.30**	**57**		**Sn**	**02 17 50.5**	**-3.2**
FID	**Port Fidalgo**	**3.36**	**77**		**Pn**	**02 17 14.4**	**+0.1**
WAT1	**Susitna Watana**	**3.48**	**37**		**Pn**	**02 17 15.5**	**-0.3**
WAT2	**Susitna Watana**	**3.57**	**36**		**Pn**	**02 17 17.0**	**0.0**
TRF	**Thorofare Moun**	**3.58**	**21**		**Pn**	**02 17 17.7**	**+0.5**
SII	**Sitkinak Islan**	**3.65**	**189**	Pn	**Pn**	**02 17 17.4**	**-0.7**
SII					**Sn**	**02 17 58.6**	**-2.9**
EYAK	**Cordova Ski Ar**	**3.70**	**81**	Pn	**Pn**	**02 17 19.7**	**+1.0**
EYAK					**Sn**	**02 17 58.5**	**-4.1**
RND	**Reindeer**	**3.85**	**30**		**Pn**	**02 17 20.6**	**-0.1**
DHY	**Denali Highway**	**4.03**	**41**		**Pn**	**02 17 22.9**	**-0.1**
DHY	**Denali Highway**	**4.03**	**41**		**Sn**	**02 17 08.0**	**-2.4**
BPAW	**Bear Paw Mtn.**	**4.09**	**13**		**Pn**	**02 17 23.5**	**-0.1**
MCK	**McKinley**	**4.11**	**27**		**Pn**	**02 17 24.2**	**+0.3**
BWN	**Browne**	**4.39**	**22**		**Pn**	**02 17 28.2**	**+0.7**
PAX	**Paxson**	**4.63**	**49**	Pn	**Pn**	**02 17 31.7**	**+0.8**
GLB	**Gilahina Butte**	**4.76**	**70**		**Pn**	**02 17 33.5**	**+1.1**
NEA	**Nenana**	**4.83**	**21**		**Pn**	**02 17 33.1**	**-0.1**
VRDI	**Verde Repeater**	**4.89**	**73**		**Sn**	**02 18 29.3**	**-1.4**
VRDI	**Verde Repeater**	**4.89**	**73**		**Pn**	**02 17 35.5**	**+1.2**
WRH	**Wood River Hil**	**4.93**	**26**		**Pn**	**02 17 34.4**	**-0.2**
MLY	**Manley**	**5.02**	**12**		**Pn**	**02 17 35.6**	**-0.3**
WAX	**Waxell Ridge**	**5.13**	**82**	Pn	**Pn**	**02 17 37.3**	**-0.1**
CCB	**Clear Creek Bu**	**5.15**	**27**		**Pn**	**02 17 36.9**	**-0.5**
HDA	**Harding Lake**	**5.16**	**31**		**Pn**	**02 17 37.5**	**-0.2**
PS08	**TAPS Pump Stn8**	**5.30**	**31**		**Pn**	**02 17 39.5**	**0.0**
MENT	**Mentasta**	**5.31**	**54**		**Pn**	**02 17 40.6**	**+1.0**
RIDG	**Independent Ri**	**5.32**	**44**		**Sn**	**02 18 38.5**	**-2.1**
RIDG	**Independent Ri**	**5.32**	**44**		**Pn**	**02 17 40.5**	**+0.7**
MDM	**Murphy Dome**	**5.33**	**23**		**Pn**	**02 17 40.1**	**+0.2**
COLA	**College**	**5.33**	**25**		**Pn**	**02 17 39.9**	**0.0**
PTPK	**Patty Peak**	**5.36**	**74**		**Pn**	**02 17 41.7**	**+1.2**
BALM	**Baldy**	**5.40**	**76**		**Sn**	**02 18 41.0**	**-1.6**
BALM	**Baldy**	**5.40**	**76**		**Pn**	**02 17 42.3**	**+1.3**
IL31		**5.47**	**29**		**Pn**	**02 17 41.7**	**0.0**
ILAR	**Eielson Array**	**5.47**	**29**	P	**Pn**	**02 17 41.3**	**-0.4**
	5.4nm,0.3s,baz=218,slow=14,SNR=291						
ILAR				S	**Sn**	**02 18 39.6**	**-4.4**
	0.6nm,0.3s,baz=213,slow=23,SNR=3.2						
ILAR	**Eielson Array**	**5.47**	**29**		**Pn**	**02 17 41.1**	**-0.6**
ILAR					**Sn**	**02 18 39.9**	**-4.1**
DOT	**Dot Lake**	**5.54**	**47**	Sn	**Sn**	**02 18 42.7**	**-3.1**
BARN	**Barnard Glacie**	**5.74**	**76**		**Pn**	**02 17 46.8**	**+1.4**
BARN	**Barnard Glacie**	**5.74**	**76**	Sn	**Sn**	**02 18 48.6**	**-2.1**
SCRK	**Sand Creek**	**5.77**	**44**		**Pn**	**02 17 45.9**	**+0.1**
IM03		**5.86**	**358**		**Pn**	**02 17 47.5**	**+0.7**
CTGM	**Chitina Glacie**	**5.89**	**77**	Pn	**Pn**	**02 17 49.4**	**+1.9**
DAWY	**Dawson**	**7.55**	**53**		**Pn**	**02 18 10.2**	**+0.9**
BM03	**Burnt Mountain**	**8.21**	**24**		**Pn**	**02 18 17.9**	**-0.2**
INK	**Inuvik**	**11.76**	**38**	P	**Pn**	**02 19 05.2**	**+0.6**
	0.2nm,0.3s,baz=230,slow=13,SNR=9.7						
INK	**Inuvik**	**11.76**	**38**		**Pn**	**02 19 05.6**	**+0.9**
PDAR	**Pinedale Array**	**31.51**	**104**	LR	LR	02 34 36.9	
	comp=Z,27nm,20.8s,baz=35,slow=35						
SONM	**Songino Array**	**54.63**	**306**	P	**P**	**02 25 35.3**	**+1.4**
	0.4nm,0.5s,baz=35,slow=6.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**57.20**	**323**	P	**P**	**02 25 53.2**	**+1.3**
	0.8nm,0.4s,baz=22,slow=8.1,SNR=2.4						
BVAR	**Borovoye Array**	**61.89**	**332**	P	**P**	**02 26 24.9**	**+0.9**
	0.8nm,0.5s,baz=32,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**64.26**	**321**	P	**P**	**02 26 40.5**	**+0.8**
	0.3nm,0.5s,baz=36,slow=3.5,SNR=4.1						

*JMA **18** 02:20:34.4±0.1,27°.16N×143°.90E,h14km±4km,M4.6*

*IDC **18** 02:20:34.2±0.5,26°.91N×143°.77E,h0km,mb4.2/26, mb1 4.4/29,mb1mx4.3/51,mbtmp4.2/29,ML3.6/3,MS3.3/9, Ms1 3.3/9,ms1mx2.9/38,Error ellipse: s-maj=14.8km s-min=13.2km az=100.0*

*NEIC **18** 02:20:36.4±2.2,27°.02N±0°.09×143°.71E±0°.03,h10km±1km, mb4.6/26*

*ISCJB **18** 02:20:39.5±0.4,27°.31N±0°.04×143°.67E±0°.04,h33km, mb4.3/32,MS3.5/6,Error ellipse: s-maj=6.2km s-min=4.9km az=155.1*

ISC 18 02:20:40.1±0.6,27°.10N±0°.06×143°.67E±0°.07,h35km,n89, σ1$63/78,mb4.4/43,MS3.8/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.32**	**270**	P	**Pn**	**02 21 01.7**	**-0.3**
CBIJ				*e*S	**Sn**	**02 21 21.1**	**+2.7**
JCJ	**Chichijima**	**1.32**	**270**	Pn	**Pn**	**02 21 01.7**	**-0.4**
	33nm,0.3s,baz=251,slow=22,SNR=60						
JCJ				Sn	**Sn**	**02 21 18.7**	**+0.3**
	213nm,0.3s,baz=275,slow=23,SNR=12						
JHH2	**Haha-jima-NKT2**	**1.41**	**251**	P	**Pn**	**02 21 03.0**	**-0.2**
JHH2				*e*S	**Sn**	**02 21 24.1**	**+3.5**
BSO3	**Boso 3**	**8.14**	**341**	P	**Pn**	**02 22 35.6**	**0.0**
BSO4	**Boso 4**	**8.37**	**341**	*e*S	**Sn**	**02 24 11.3**	**-0.7**
JHU	**Hanno**	**9.50**	**338**	P	**Pn**	**02 22 53.6**	**-0.8**
JHU				*e*S	**Sn**	**02 24 37.5**	**-2.3**
JRY	**Ryogami san**	**9.78**	**337**	P	**Pn**	**02 22 57.8**	**-0.4**
JAG	**Ashikaga**	**9.97**	**340**	P	**Pn**	**02 22 59.4**	**-1.4**
JAG				*e*S	**Sn**	**02 24 47.3**	**-4.1**
MJAR	**Matsushiro Arr**	**10.50**	**335**	Pn	**Pn**	**02 23 07.6**	**-0.5**
	0.7nm,0.3s,baz=157,slow=10,SNR=25						
MJAR	**Matsushiro Arr**	**10.50**	**335**		**Pn**	**02 23 06.9**	**-1.2**
MJAR				Sn	**Sn**	**02 25 03.9**	**-0.5**
MAJO	**Matsushiro**	**10.50**	**335**		**Pn**	**02 23 07.8**	**-0.3**
MAT	**Matsushiro**	**10.50**	**335**	P	**Pn**	**02 23 07.7**	**-0.4**
MJB9	**Matsu-Tunnel**	**10.50**	**335**		**Pn**	**02 23 08.4**	**+0.3**
JNU	**Nakatsue**	**12.59**	**302**	LR	LR	02 28 24.3	
	comp=Z,40nm,18.4s,baz=174,slow=37						
GUMO	**Guam**	**13.48**	**175**	LR	LR	02 27 54.3	
	comp=Z,40nm,19.4s,baz=76,slow=33						
KSRS	**Korea Array**	**16.83**	**312**	P	**P**	**02 24 34.2**	**-0.6**
	0.3nm,0.3s,baz=118,slow=11,SNR=9.2						
ASAJ	**Asahikawa**	**17.01**	**357**	LR	LR	02 31 36.9	
	comp=Z,42nm,19.9s,baz=310,slow=38						
USRK	**Ussuriysk Ar.**	**19.49**	**334**	P	**Pn**	**02 25 05.2**	**-0.2**
	baz=139,slow=11,SNR=10						
USRK	**Ussuriysk Ar.**	**19.49**	**334**	P	**P**	**02 25 04.2**	**+0.2**
TPUB	**Ta-pu**	**21.18**	**265**	P	**P**	**02 25 18.9**	**-3.7**
TPUB				IAmb	IAmb	02 25 24.8	
	comp=Z,77nm,1.4s						
NJ2	**Nanjing**	**22.12**	**289**	*e*P	**P**	**02 25 33.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**22.52**	**104**	T	T	02 48 34.8	
	baz=291						
H11N1	**WAKE ISLAND Hy**	**22.52**	**104**	T	T	02 48 37.8	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**22.54**	**104**	T	T	02 48 36.7	
	baz=291						
H11S3	**WAKE ISLAND Hy**	**22.86**	**107**	T	T	02 48 53.2	
	baz=295						
H11S1	**WAKE ISLAND Hy**	**22.86**	**107**	T	T	02 49 03.7	
	baz=295						
H11S2	**WAKE ISLAND Hy**	**22.87**	**107**	T	T	02 48 56.1	
	baz=295						
KLR	**Kul'dur**	**23.95**	**341**	P	**P**	**02 25 52.1**	**+1.3**
	comp=Z,8.1nm,0.7s,baz=152,slow=7.3,SNR=27						
KLR				LR	LR	02 38 13.7	
	comp=Z,12nm,18.8s,baz=59,slow=44						
DAV	**Davao City (W)**	**26.30**	**224**	LR	LR	02 35 02.0	
	comp=Z,45nm,21.5s,baz=336,slow=33						
PETK	**Petropavlovsk-**	**28.01**	**18**	P	**P**	**02 26 28.2**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=170,slow=8.8,SNR=3.4						
HHC	**Hu-ho-hao-te**	**29.76**	**306**	*e*P	**P**	**02 26 44.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,8.0nm,5.6s						
SIJI	**Sorong**	**30.26**	**205**	LR	LR	02 37 40.7	
	comp=Z,146nm,19.1s,baz=2.5,slow=34						
XAN	**Xi'an**	**30.60**	**292**	P	**P**	**02 26 50.8**	**-0.1**
XAN				pP	pP	02 26 54.3	-4.3
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LZH	**Lanzhou**	**34.89**	**295**	*e*P	**P**	**02 27 27.0**	**-1.5**
LZH				pP	pP	02 27 31.6	-4.6
LZH				sP	sP	02 27 34.8	-4.6
LZH				PP	**PnPn**	**02 28 37.0**	**-8.5**
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
LZH				pmax	pmax		
	comp=Z,59nm,4.9s						
CD2	**Chengdu**	**34.98**	**286**	P	**P**	**02 27 28.8**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
SONM	**Songino Array**	**35.63**	**316**	P	**P**	**02 27 36.5**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=117,slow=7.9,SNR=7.8						
SONM	**Songino Array**	**35.63**	**316**	IAmb	IAmb	02 27 42.2	
	comp=Z,1.2nm,0.9s						
SEY	**Seymchan**	**36.30**	**7**	P	**P**	**02 27 40.2**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=167,slow=11,SNR=5.2						
CMAR	**Chiang Mai Arr**	**41.94**	**268**	P	**P**	**02 28 27.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=80,slow=6.5,SNR=3.2						
TIXI	**Tiksi**	**45.35**	**353**	P	**P**	**02 28 55.1**	**+0.6**
TIXI				IAmb	IAmb	02 28 56.3	
	comp=Z,3.8nm,0.7s						
WB2	**Warramunga Arr**	**47.62**	**192**	P	**P**	**02 29 12.0**	**-0.8**
WRA	**Warramunga Arr**	**47.62**	**192**	P	**P**	**02 29 10.9**	**-1.9**
	comp=Z,5.5nm,0.8s,baz=10,slow=8.3,SNR=23						
WMQ	**Urumqi**	**47.65**	**306**	*e*P	**P**	**02 29 16.3**	**+3.3**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,68nm,5.1s						
FITZ	**Fitzroy Crossi**	**48.21**	**203**	P	**P**	**02 29 16.0**	**-1.4**
	comp=Z,3.8nm,0.7s,baz=30,slow=9.8,SNR=6.3						
FITZ	**Fitzroy Crossi**	**48.21**	**203**	IAmb	IAmb	02 29 29.5	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**50.35**	**319**	P	**P**	**02 29 34.0**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=96,slow=8.8,SNR=5.6						
ZALV				PcP	**PcP**	**02 30 51.6**	**0.0**
	comp=Z,1.4nm,0.5s,baz=114,slow=3.2,SNR=4.8						
ASAR	**Alice Springs**	**51.34**	**191**	P	**P**	**02 29 38.5**	**-2.6**
	comp=Z,0.6nm,0.6s,baz=9.0,slow=6.5,SNR=7.9						
MK31	**Makanchi Array**	**51.49**	**310**	P	**P**	**02 29 43.8**	**+1.6**
MKAR	**Makanchi Array**	**51.49**	**310**	P	**P**	**02 29 43.3**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=90,slow=8.3,SNR=13						
NRIK	**Noril'sk**	**53.13**	**338**	P	**P**	**02 29 54.8**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=103,slow=9.5,SNR=4.1						
KDAK	**Kodiak Island**	**53.58**	**37**	P	**P**	**02 29 57.0**	**-0.3**
	comp=Z,7.9nm,0.7s,baz=268,slow=3.1,SNR=6.6						
KDAK	**Kodiak Island**	**53.58**	**37**	IAmb	IAmb	02 30 02.5	
	comp=Z,28nm,1.1s						
KURK	**Kurchatov**	**53.93**	**315**	P	**P**	**02 30 01.1**	**+1.1**
KURK				IAmb	IAmb	02 30 02.2	
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**57.08**	**29**	P	**P**	**02 30 21.9**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=261,slow=5.9,SNR=21						
PRP	**Porcupine Dome**	**57.73**	**28**	P	**P**	**02 30 29.2**	**+1.9**
SCRK	**Sand Creek**	**58.28**	**30**	P	**P**	**02 30 31.7**	**+0.6**
SCRK				IAmb	IAmb	02 30 32.2	
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**58.68**	**182**	P	**P**	**02 30 32.2**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=326,slow=8.3,SNR=4.1						
BVAR	**Borovoye Array**	**58.94**	**318**	P	**P**	**02 30 36.9**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=90,slow=6.9,SNR=16						
BRVK	**Borovoye**	**59.00**	**318**	P	**P**	**02 30 36.6**	**+0.5**
BRVK				IAmb	IAmb	02 30 45.7	
	comp=Z,3.6nm,0.8s						
BCAR	**Beaver Creek A**	**59.24**	**31**	P	**P**	**02 30 36.5**	**-1.2**
KK31	**Karatay Array**	**60.15**	**306**	P	**P**	**02 30 45.7**	**+1.4**
KKAR	**Karatay Array**	**60.15**	**306**	P	**P**	**02 30 45.7**	**+1.4**
INK	**Inuvik**	**62.48**	**25**	P	**P**	**02 30 60.0**	**+0.4**

IDC 18 02:13:57.0±2.6,60°.39S×44°.07W,h0km,mb4.2/3, mb1 4.3/3,mb1mx3.8/22,mbtmp4.2/3,MS3.8/1,Ms1 3.8/1, ms1mx3.3/14,Error ellipse: s-maj=133.4km

comp=Z,1.1nm,0.6s,baz=283,slow=5.0,SNR=3.8
ABKAR Akbulak array 66.04 315 P P 02 31 24.4 +1.2
ABKAR IAmb IAmb 02 31 24.9
comp=Z,4.7nm,1.1s
YBH Yreka Blue Hor 75.03 51 P P 02 32 18.5 +0.2
comp=Z,1.5nm,0.7s,baz=92,slow=5.3,SNR=4.8
NEW Newport 76.01 43 P P 02 32 24.1 +0.3
comp=Z,2.0nm,0.8s,baz=295,slow=7.3,SNR=4.3
BEKR Beckworth 77.42 52 P P 02 32 32.0 0.0
BEKR IAmb IAmb 02 32 33.2
comp=Z,4.6nm,0.8s
CMB Columbia Colle 78.17 53 IAmb IAmb 02 32 37.4
comp=Z,3.6nm,0.8s
PNTR Pine Nut 78.28 52 P P 02 32 38.0 +1.1
YERR Yerington 78.58 52 P P 02 32 38.9 +0.3
YERR IAmb IAmb 02 32 40.2
comp=Z,5.7nm,1.2s
KBZ Khabaz 78.97 313 P P 02 32 41.6 +1.3
comp=Z,5.1nm,0.9s,baz=151,slow=8.6,SNR=12
RYN Ryan 79.24 52 P P 02 32 41.3 -0.8
NVAR Mina Array Bea 79.48 52 P P 02 32 44.1 +0.6
comp=Z,1.7nm,0.8s,baz=283,slow=4.9,SNR=12
RLMT Red Lodge 82.26 43 IAmb IAmb 02 33 00.1
comp=Z,3.9nm,0.5s
DUG Dugway, Tooele 82.44 49 P P 02 33 00.0 +0.8
DUG IAmb IAmb 02 33 00.5
comp=Z,2.8nm,0.6s
PDAR Pinedale Array 83.28 45 P P 02 33 03.5 0.0
comp=Z,0.7nm,0.7s,baz=150,slow=0.2,SNR=7.8
AKASG Malin Array Be 83.39 324 P P 02 33 03.5 -0.1
comp=Z,0.6nm,0.3s,baz=49,slow=5.1,SNR=7.5
AKASG Malin Array Be 83.39 324 IAmb IAmb 02 33 04.3
comp=Z,1.7nm,0.8s
NOA NORSAR Array B 84.09 339 P P 02 33 06.3 -0.8
comp=Z,2.8nm,1.1s,baz=39,slow=5.0,SNR=2.9
BRTR Keskin Array B 86.97 313 P P 02 33 22.1 +0.1
comp=Z,1.2nm,0.8s,baz=73,slow=4.0,SNR=8.3
BRTR LR LR 03 17 19.8
comp=Z,42nm,18.4s,baz=244,slow=39
VYHS Vyhne 90.02 327 *eP* **P 02 33 36.8 +0.7**
MODS Modra-Piesok 90.86 328 *eP* **P 02 33 41.2 +1.2**
GERES GERESS Array B 92.19 330 P P 02 33 45.9 -0.3
comp=Z,0.4nm,0.7s,baz=28,slow=6.7,SNR=3.3
GERES LR LR 03 20 48.4
comp=Z,49nm,18.2s,baz=262,slow=39
SCHQ Schefferville 94.30 17 LR LR 03 24 44.7
comp=Z,36nm,18.1s,baz=327,slow=41
TXAR Lajitas Array 94.54 54 P P 02 33 57.6 +0.1
comp=Z,0.3nm,0.8s,baz=288,slow=3.9,SNR=3.4
TXAR Lajitas Array 94.54 54 P P 02 33 58.8 +1.3
AAM Ann Arbor 98.31 33 P Pdif 02 34 15.3 +1.1
TORD Torodi Ar. Bea 125.57 312 PKP **PKPdf 02 39 38.4 -0.1**
comp=Z,2.3nm,1.3s,baz=35,slow=2.6,SNR=2.9
LPAZ La Paz 148.64 77 PKPbc **PKPbc 02 40 24.5 -0.5**
comp=Z,1.7nm,0.5s,baz=352,slow=2.5,SNR=13

*IDC **18** 02:25:02.4±0.5, 60.°50S×43.°80W, h0km, mb4.4/16, mb1 4.4/18, mb1mx4.4/25, mbtmp4.4/18, ML4.0/2, MS3.9/12, Ms1 3.9/12, ms1mx3.8/19, Error ellipse: s-maj=20.6km s-min=13.1km az=46.0*
*ISCJB **18** 02:25:03.6±0.3, 60.°43S±0.°05×43.°6W±0.°1, h16km, mb4.4/19, MS3.9/10, Error ellipse: s-maj=9.5km s-min=6.0km az=139.2*
*NEIC **18** 02:25:05.6±1.8, 60.°40S±0.°08×43.°6W±0.°1, h18km±2km, mb4.8/24*
ISC 18 02:25:05.3±0.4, 60.°43S±0.°06×43.°69W±0.°06, h16km, n80, σ1°73/74, mb4.6/26, MS3.9/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.29**	**35**		**Pn**	**02 26 49.0**	**-2.0**
HOPE					**Sn**	**02 28 11.5**	**-1.7**
PMSA	**Palmer Station**	**10.32**	**236**	Pn	**Pn**	**02 27 31.1**	**-1.4**
	2.7nm,0.3s,baz=71,slow=9.3,SNR=9.9						
PMSA	**Palmer Station**	**10.32**	**236**	Pn	**Pn**	**02 27 32.3**	**-0.1**
EFI	**East Falkland**	**11.87**	**311**	Pn	**Pn**	**02 27 56.1**	**+2.5**
EFI				Sn	**Sn**	**02 30 00.9**	**-4.7**
USHA	**Ushuaia**	**14.34**	**282**	Pn	**Pn**	**02 28 29.6**	**+2.2**
	1.1nm,0.3s,baz=110,slow=13,SNR=7.0						
USHA				LR	LR	02 32 43.4	
	comp=Z,918nm,18.2s,baz=115,slow=32						
VNA3	**Neumayer Olymp**	**17.33**	**143**	P	**P**	**02 29 06.3**	**-1.2**
VNA1	**Neumayer--Stat**	**17.56**	**140**	P	**P**	**02 29 09.0**	**-1.1**
VNA2	**Neumayer--Watz**	**17.92**	**141**	P	**P**	**02 29 14.0**	**0.0**
	baz=298,slow=15						
SNAA	**Sanae**	**19.54**	**142**	P	**Pn**	**02 29 32.3**	**-0.8**
SNAA	**Sanae**	**19.54**	**142**	P	**Pn**	**02 29 32.1**	**-1.1**
	0.2nm,0.3s,baz=293,slow=7.7,SNR=21						
SNAA				LR	LR	02 35 22.7	
	comp=Z,266nm,20.2s,baz=308,slow=32						
SNAA	**Sanae**	**19.54**	**142**	P	**Pn**	**02 29 32.4**	**-0.8**
TRQA	**Tornquist**	**25.20**	**324**	P	**P**	**02 30 30.5**	**+0.6**
TRQA				IAmb	IAmb	02 30 40.0	
	comp=Z,15nm,1.2s						
PLCA	**Paso Flores**	**25.75**	**308**	P	**P**	**02 30 34.5**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=170,slow=12,SNR=2.8						
PLCA				LR	LR	02 40 26.8	
	comp=Z,99nm,18.7s,baz=172,slow=36						
PLCA	**Paso Flores**	**25.75**	**308**	P	**P**	**02 30 36.7**	**+1.7**
PLCA				IAmb	IAmb	02 30 51.4	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**29.81**	**180**	P	**P**	**02 31 09.8**	**-1.4**
	comp=Z,5.0nm,0.7s,baz=185,slow=5.3,SNR=10						
QSPA	**South Pole Qui**	**29.81**	**180**	P	**P**	**02 31 11.2**	**0.0**
QSPA				IAmb	IAmb	02 31 16.8	
	comp=Z,17nm,1.1s						
GO05	**Huala**	**31.28**	**312**	P	**P**	**02 31 23.3**	**-1.0**
GO05				PP	**PP**	**02 32 38.1**	**+3.2**
CFA	**Coronel Fontan**	**33.09**	**320**	P	**P**	**02 31 39.2**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=168,slow=8.8,SNR=6.0						
CFA				PcP	**PcP**	**02 34 22.6**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=180,slow=1.0,SNR=3.1						
GO04	**Tololo Observa**	**35.26**	**317**	P	**P**	**02 31 58.4**	**-0.8**
CPUP	**Villa Florida**	**35.35**	**339**	P	**P**	**02 31 59.8**	**0.0**
	comp=Z,3.4nm,1.1s,baz=205,slow=6.6,SNR=3.5						
CPUP				LR	LR	02 44 52.1	
	comp=Z,199nm,21.8s,baz=170,slow=34						
CPUP	**Villa Florida**	**35.35**	**339**	P	**P**	**02 32 00.3**	**+0.5**
GO02	**Mina Guanaco**	**39.51**	**322**	P	**P**	**02 32 35.5**	**+0.1**
GO02				IAmb	IAmb	02 32 41.4	
	comp=Z,16nm,0.8s						
SBA	**Scott Base**	**40.71**	**189**	P	**P**	**02 32 44.2**	**-0.2**
SBA				IAmb	IAmb	02 32 50.4	
	comp=Z,12nm,1.0s						
MAW	**Mawson**	**41.59**	**146**	P	**P**	**02 32 51.1**	**-0.7**
	comp=Z,3.9nm,1.0s,baz=216,slow=14,SNR=2.8						
MAW				LR	LR	02 48 16.4	
	comp=Z,149nm,20.8s,baz=238,slow=34						
MAW	**Mawson**	**41.59**	**146**	IAmb	IAmb	02 32 57.7	
	comp=Z,2.4nm,1.1s						
LVC	**Limon Verde**	**41.70**	**324**	P	**P**	**02 32 52.9**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=317,slow=17,SNR=3.8						
LVC	**Limon Verde**	**41.70**	**324**	IAmb	IAmb	02 33 00.5	
	comp=Z,5.1nm,0.8s						
GO01	**Chusmiza**	**44.57**	**325**	P	**P**	**02 33 17.4**	**+0.5**
GO01				IAmb	IAmb	02 33 25.7	
	comp=Z,28nm,1.5s						
BDFB	**Brasilia**	**44.83**	**354**	P	**P**	**02 33 18.7**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=155,slow=9.1,SNR=4.6						
BDFB				LR	LR	02 49 56.3	
	comp=Z,184nm,20.3s,baz=179,slow=33						
BDFB	**Brasilia**	**44.83**	**354**	IAmb	IAmb	02 33 19.5	
	comp=Z,23nm,1.4s						
MNMC	**Minye Minye**	**45.19**	**324**	P	**P**	**02 33 22.2**	**+0.6**
SIV	**San Ignacio**	**46.13**	**337**	P	**P**	**02 33 28.4**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=199,slow=8.5,SNR=20						
LPAZ	**La Paz**	**47.49**	**327**	P	**P**	**02 33 39.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=187,slow=6.3,SNR=5.2						
LPAZ				LR	LR	02 56 47.3	
	comp=Z,78nm,18.1s,baz=157,slow=40						
SUR	**Sutherland**	**49.95**	**86**	P	**P**	**02 33 57.8**	**-0.6**
	comp=Z,7.6nm,1.0s,baz=219,slow=8.1,SNR=5.3						
SUR	**Sutherland**	**49.95**	**86**	IAmb	IAmb	02 34 06.7	
	comp=Z,26nm,1.5s						
SAML	**Samuel**	**53.41**	**336**	P	**P**	**02 34 24.1**	**0.0**
SAML				IAmb	IAmb	02 34 40.5	
	comp=Z,8.6nm,0.7s						
BOSA	**Boshof**	**55.22**	**87**	P	**P**	**02 34 37.0**	**-0.4**
	comp=Z,7.7nm,0.8s,baz=199,slow=8.0,SNR=7.2						
BOSA				LR	LR	02 54 14.4	
	comp=Z,114nm,18.1s,baz=214,slow=32						
BOSA	**Boshof**	**55.22**	**87**	IAmb	IAmb	02 34 43.1	
	comp=Z,14nm,1.1s						
H10S2	**ASCENSION HYDR**	**55.75**	**35**	T	T	03 35 58.5	
	baz=20,slow=74,SNR=7.1						
H10S3	**ASCENSION HYDR**	**55.75**	**35**	T	T	03 35 54.0	
	baz=200,slow=74,SNR=7.0						
H10N3	**ASCENSION HYDR**	**56.86**	**35**	T	T	03 37 09.9	
	baz=197						
H10N1	**ASCENSION HYDR**	**56.86**	**35**	T	T	03 37 23.4	
	baz=197						
H10N2	**ASCENSION HYDR**	**56.87**	**35**	T	T	03 37 12.3	
	baz=197						
LBTB	**Lobatse**	**58.38**	**85**	P	**P**	**02 34 59.5**	**-0.3**
	comp=Z,9.3nm,0.8s,baz=203,slow=8.3,SNR=12						
LBTB				LR	LR	02 53 55.4	
	comp=Z,152nm,18.1s,baz=232,slow=30						
LBTB	**Lobatse**	**58.38**	**85**	P	**P**	**02 34 59.9**	**+0.1**
OTAV	**Otavalo**	**66.18**	**321**	P	**P**	**02 35 52.5**	**0.0**
OTAV				IAmb	IAmb	02 35 56.5	
	comp=Z,6.3nm,0.8s						
LSZ	**Lusaka**	**67.90**	**82**	P	**P**	**02 36 03.6**	**+0.5**
LSZ				IAmb	IAmb	02 36 09.5	
	comp=Z,7.8nm,1.0s						
LIC	**Lamto**	**73.05**	**40**	*eP*	**P**	**02 36 35.2**	**+0.9**
	comp=Z,35nm,1.0s						
LIC	**Lamto**	**73.05**	**40**	P	**P**	**02 36 35.2**	**+0.9**
KIC	**Kosan Boka**	**73.27**	**41**	*eP*	**P**	**02 36 36.4**	**+0.8**
	comp=Z,44nm,1.4s						
TIC	**Toumodi**	**73.45**	**40**	*eP*	**P**	**02 36 37.4**	**+0.7**
DBIC	**Dimbokro**	**73.52**	**41**	P	**P**	**02 36 38.4**	**+1.3**
	comp=Z,5.3nm,1.0s,baz=173,slow=8.8,SNR=4.2						
DBIC				LR	LR	03 01 20.4	
	comp=Z,95nm,21.8s,baz=138,slow=30						
DBIC	**Dimbokro**	**73.52**	**41**	IAmb	IAmb	02 36 39.1	
	comp=Z,9.5nm,1.1s						
TOA0	**Torodi Ar. Sit**	**81.77**	**44**	P	**P**	**02 37 24.3**	**+1.2**
TOA0				IAmb	IAmb	02 37 25.4	
	comp=Z,10nm,1.0s						
TORD	**Torodi Ar. Bea**	**81.77**	**44**	P	**P**	**02 37 24.2**	**+1.1**
	comp=Z,7.2nm,0.9s,baz=205,slow=5.8,SNR=28						
TORD				LR	LR	03 06 30.4	
	comp=Z,88nm,21.8s,baz=290,slow=30						
PPT	**Papeete**	**82.47**	**248**	LR	LR	03 07 49.1	
	comp=Z,32nm,19.4s,baz=140,slow=31						
KMBO	**Kilima Mbogo**	**84.55**	**83**	P	**P**	**02 37 37.5**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=189,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**96.19**	**178**	P	**P**	**02 38 29.3**	**-3.1**
	comp=Z,0.5nm,0.8s,baz=176,slow=3.2,SNR=5.7						
ASAR				PP	**PP**	**02 42 28.3**	**+3.8**
	comp=Z,0.7nm,0.8s,baz=178,slow=8.1,SNR=5.5						
WRA	**Warramunga Arr**	**99.90**	**178**	P	**Pdif**	**02 38 49.3**	**+0.1**
	comp=Z,0.6nm,1.2s,baz=189,slow=4.2,SNR=2.5						
NVAR	**Mina Array Bea**	**115.73**	**303**	PKP	**PKiKP**	**02 43 46.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=173,slow=3.6,SNR=2.0						
PDAR	**Pinedale Array**	**115.98**	**312**	PKP	**PKPdf**	**02 43 45.2**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=126,slow=4.6,SNR=2.3						
VYHS	**Vyhne**	**119.74**	**43**	*e*PKP	**PKiKP**	**02 44 01.1**	**+7.7**
YKA	**Yellowknife Ar**	**133.93**	**322**	PKP	**PKPdf**	**02 44 19.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=136,slow=1.9,SNR=5.6						
ABKAR	**Akbulak array**	**137.10**	**69**	PKPpre	PKPpre	02 44 15.2	
ABKAR					**PKPdf**	**02 44 24.3**	**-2.0**
KSH	**Kashi**	**137.75**	**92**	PKP	**PKiKP**	**02 44 31.3**	**+1.3**
KSH				PP	**PP**	**02 47 20.8**	**+5.1**
KSH				PKS	**PKSdf**	**02 48 06.3**	**+2.1**
CD2	**Chengdu**	**143.44**	**129**	PKP	**PKPdf**	**02 44 38.3**	**-0.1**
INK	**Inuvik**	**143.66**	**321**	PKhKP	PKPpre	02 44 33.9	
	comp=Z,1.9nm,0.8s,baz=219,slow=0.2,SNR=9.1						
KDAK	**Kodiak Island**	**145.01**	**298**	PKP	**PKPbc**	**02 44 38.7**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=268,slow=2.3,SNR=4.6						
KDAK	**Kodiak Island**	**145.01**	**298**		**PKPbc**	**02 44 39.2**	**-0.5**
MAKZ	**Makanchi**	**146.07**	**89**		**PKPbc**	**02 44 42.9**	**-0.5**
MKAR	**Makanchi Array**	**146.22**	**89**	PKPbc	**PKPdf**	**02 44 42.6**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=237,slow=2.3,SNR=32						
MKAR	**Makanchi Array**	**146.22**	**89**		**PKPbc**	**02 44 43.5**	**-0.4**
ILAR	**Eielson Array**	**146.41**	**311**	PKPbc	**PKPbc**	**02 44 43.1**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=153,slow=2.4,SNR=38						
WRH	**Wood River Hil**	**146.72**	**310**		**PKPbc**	**02 44 44.4**	**-0.3**
KURK	**Kurchatov**	**147.01**	**81**		**PKPbc**	**02 44 45.8**	**-0.1**
LZH	**Lanzhou**	**148.01**	**125**	*e*PKPbc	**PKPdf**	**02 44 43.0**	**-3.3**
LZH				pPKP	sPKPdf	02 44 52.8	+0.4
LZH				sPKP		02 44 58.5	
TOLK	**Toolik Lake Re**	**149.06**	**317**		**PKPbc**	**02 44 51.1**	**+0.2**
GTA	**Gaotai**	**149.09**	**116**	*e*PKPbc	**PKPbc**	**02 44 51.3**	**-0.7**
ZALV	**Zalesovo Beam**	**152.00**	**80**	PKPbc	**PKPbc**	**02 44 56.9**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=267,slow=2.5,SNR=3.7						
SONM	**Songino Array**	**158.64**	**113**	PKPab	**PKPab**	**02 45 36.3**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=247,slow=3.1,SNR=5.4						

*SOME **18** 02:28:17.9, 42.°83N×79.°10E, h10km*
*KRNET **18** 02:28:17.6±0.1, 42.°83N×79.°12E, h12km, mb2.6*
*NNC **18** 02:28:18.1±0.6, 42.°87N×79.°12E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=4.2km s-min=1.5km az=156.0*
ISC 18 02:28:18.1±1.2, 42.°84N±0.°03×79.°08E±0.°03, h6km±10km, n47, σ1°10/88, 14C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.31**	**353**	P	**Pg**	**02 28 24.1**	**-0.1**
	26nm,0.2s						
UZB				S	**Sg**	**02 28 28.7**	**+0.4**
	21nm,0.1s						
UZB	**Uzynbulak**	**0.31**	**353**	*eP*	**Pg**	**02 28 24.1**	**-0.1**
	baz=47						
UZB				*eS*	**Sg**	**02 28 28.7**	**+0.4**
	baz=47						
UZB	**Uzynbulak**	**0.31**	**353**	*eP*	**Pg**	**02 28 24.1**	**-0.1**
	26nm,0.2s						
UZB				*eS*	**Sg**	**02 28 28.7**	**+0.4**
	21nm,0.1s						
SHLS	**Shalkode**	**0.42**	**42**	P	**Pn**	**02 28 30.3**	**-0.6**
	3.3nm,0.1s						
SHLS				S	**Sb**	**02 28 39.1**	**+4.3**
	119nm,0.4s						
SHLS	**Shalkode**	**0.42**	**42**	*eP*	**Pn**	**02 28 30.3**	**-0.6**
	baz=60						
SHLS				*eS*	**Sb**	**02 28 39.1**	**+4.3**
	baz=60						
SHLS	**Shalkode**	**0.42**	**42**	*eP*	**Pn**	**02 28 30.2**	**-0.6**
	1.4nm,0.1s						
SHLS				*eS*	**Sb**	**02 28 39.1**	**+4.3**
	119nm,0.4s						
SATY	**Saty**	**0.54**	**294**	P	**Pg**	**02 28 28.6**	**+0.1**
	8.3nm,0.2s						
SATY				S	**Sg**	**02 28 36.2**	**+0.6**
	22nm,0.2s						
SATY	**Saty**	**0.54**	**294**	*eP*	**Pg**	**02 28 28.6**	**+0.1**
	4.2nm,0.1s						
SATY				*eS*	**Sg**	**02 28 36.2**	**+0.6**
	15nm,0.1s						
PDGK	**Podgornoye**	**0.57**	**32**	P	**Pg**	**02 28 28.6**	**-0.6**
	4.0nm,0.1s						
PDGK				S	**Sg**	**02 28 36.2**	**-0.5**
	23nm,0.2s						
PDGK	**Podgornoye**	**0.57**	**32**	⇑P	**Pg**	**02 28 28.5**	**-0.6**
	2.1nm,0.4s						
PDGK				⇑S	**Sg**	**02 28 36.1**	**-0.6**
	22nm,0.4s						
PRZ	**Przheval'sk**	**0.61**	**235**	⇑*iP*	**Pg**	**02 28 29.7**	**-0.2**
	baz=36						
PRZ				⇑*iS*	**Sg**	**02 28 38.3**	**+0.4**
	baz=36						
KPKS	**Kokpek**	**0.69**	**335**	*eP*	**Pg**	**02 28 30.3**	**-1.0**
	baz=32						
KPKS				*eS*	**Sg**	**02 28 39.1**	**-1.2**
	baz=32						
KPKS	**Kokpek**	**0.69**	**335**	*eP*	**Pg**	**02 28 30.3**	**-1.0**
	6.2nm,0.1s						
KPKS				*eS*	**Sg**	**02 28 39.1**	**-1.2**
	13nm,0.1s						
KURS	**Kuram**	**0.93**	**315**	P	**Pg**	**02 28 36.3**	**+0.4**
	2.5nm,0.5s						
KURS				S	**Sb**	**02 28 49.7**	**+0.5**
	2.3nm,0.5s						
ANVS	**Anan'yevo**	**1.04**	**267**	⇑*iP*	**Pn**	**02 28 39.0**	**-0.3**
	baz=68						
ANVS				⇑*iS*	**Sb**	**02 28 53.0**	**+0.5**
	baz=68						
TARG	**Taragay, Kyrgy**	**1.46**	**221**	⇑*iP*	**Pn**	**02 28 44.5**	**-0.8**
	baz=22						
TARG				⇑*iS*	**Sn**	**02 29 03.2**	**-1.7**
	baz=22						
KOTS	**Kotyrbulak**	**1.49**	**286**	P	**Pb**	**02 28 46.2**	**-0.1**
	8.4nm,0.2s						
KOTS				S	**Sg**	**02 29 06.4**	**+0.3**
	14nm,0.2s						
KOTS	**Kotyrbulak**	**1.49**	**286**	*eP*	**Pb**	**02 28 46.2**	**-0.1**
	baz=86						
KOTS				*eS*	**Sg**	**02 29 06.4**	**+0.3**
	baz=86						
KOTS	**Kotyrbulak**	**1.49**	**286**	*eP*	**Pb**	**02 28 46.2**	**-0.1**
	8.4nm,0.2s						
KOTS				*eS*	**Sg**	**02 29 06.4**	**+0.3**
	14nm,0.2s						
KDJ	**Kajisay**	**1.57**	**244**	⇑*iP*	**Pb**	**02 28 47.4**	**-0.3**
	baz=44						
KDJ				⇑*iS*	**Sb**	**02 29 08.4**	**+0.5**
	baz=44						
TNSS	**Tian-Shan**	**1.58**	**278**	P	**Pg**	**02 28 48.4**	**+0.1**
	1.4nm,0.2s						
TNSS				S	**Sg**	**02 29 10.3**	**+1.5**
	2.6nm,0.3s						
TNSS	**Tian-Shan**	**1.58**	**278**	*eP*	**Pg**	**02 28 48.4**	**+0.1**
	baz=78						
TNSS				*eS*	**Sg**	**02 29 10.2**	**+1.5**
	baz=78						
TNSS	**Tian-Shan**	**1.58**	**278**	*eP*	**Pg**	**02 28 48.4**	**+0.1**
	0.3nm,0.1s						
TNSS				*eS*	**Sg**	**02 29 10.3**	**+1.5**
	2.0nm,0.2s						
DJR	**Jarkent**	**1.58**	**19**	P	**Pb**	**02 28 46.9**	**-0.8**
	4.0nm,0.2s						
DJR				S	**Sg**	**02 29 08.1**	**-0.7**
	13nm,0.3s						
DJR	**Jarkent**	**1.58**	**19**	*eP*	**Pb**	**02 28 47.2**	**-0.5**
	1.4nm,0.1s						
DJR				*eS*	**Sg**	**02 29 08.1**	**-0.7**
	15nm,0.4s						
ARXS	**Arharly**	**1.65**	**327**	P	**Pb**	**02 28 48.5**	**-0.3**
	5.3nm,0.3s						
ARXS				S	**Sb**	**02 29 10.4**	**+0.5**
	8.3nm,0.2s						
ARXS	**Arharly**	**1.65**	**327**	*eP*	**Pb**	**02 28 48.6**	**-0.3**
	5.3nm,0.3s						
ARXS				*eS*	**Sb**	**02 29 10.4**	**+0.5**
	8.3nm,0.2s						
IZV	**Izvestkoviy**	**1.82**	**277**	P	**Pb**	**02 28 51.9**	**0.0**
	3.2nm,0.2s						
IZV				S	**Sg**	**02 29 16.6**	**+0.1**
	5.0nm,0.4s						
IZV	**Izvestkoviy**	**1.82**	**277**	*eP*	**Pb**	**02 28 51.9**	**0.0**
	baz=77						
IZV				*eS*	**Sg**	**02 29 16.6**	**+0.1**
	baz=77						
IZV	**Izvestkoviy**	**1.82**	**277**	*eP*	**Pb**	**02 28 51.9**	**0.0**
	3.0nm,0.1s						
IZV				*eS*	**Sg**	**02 29 16.6**	**+0.1**
	5.0nm,0.4s						
CHKK	**Chushkaly**	**1.83**	**304**	P	**Pg**	**02 28 52.9**	**-0.2**
	1.4nm,0.2s						
CHKK				S	**Sg**	**02 29 17.9**	**+1.0**
	6.8nm,0.2s						
CHKK	**Chushkaly**	**1.83**	**304**	*eP*	**Pg**	**02 28 52.9**	**-0.2**
	baz=4.0						
CHKK				*eS*	**Sg**	**02 29 17.9**	**+1.0**
	baz=4.0						
CHKK	**Chushkaly**	**1.83**	**304**	*eP*	**Pg**	**02 28 52.9**	**-0.2**
	0.9nm,0.1s						
CHKK				*eS*	**Sg**	**02 29 17.9**	**+1.0**
	6.8nm,0.1s						
KTBS	**Karatobe**	**1.95**	**297**	Pg	**Pb**	**02 28 54.1**	**+0.1**
	4.6nm,0.2s						
KTBS				Lg	Lg	02 29 20.0	
	11nm,0.4s						
KTBS	**Karatobe**	**1.95**	**297**	*eP*	**Pb**	**02 28 53.9**	**-0.2**
	4.6nm,0.2s						
KTBS				*eS*	**Sb**	**02 29 19.6**	**+0.8**
	11nm,0.4s						
ULHL	**Ulahol**	**2.18**	**255**	⇑*iP*	**Pb**	**02 28 57.9**	**-0.1**
	baz=56						
ULHL				⇑*iS*	**Sb**	**02 29 27.0**	**+1.7**
	baz=56						
KUU	**Kurty**	**2.26**	**299**	Pg	**Pb**	**02 28 59.2**	**0.0**
	1.3nm,0.2s						
KUU				Lg	Lg	02 29 29.3	
	4.4nm,0.3s						
KUU	**Kurty**	**2.26**	**299**	*eP*	**Pb**	**02 28 59.2**	**0.0**
	baz=99						
KUU				*eS*	**Sb**	**02 29 28.7**	**+1.3**
	baz=99						
KUU	**Kurty**	**2.26**	**299**	*eP*	**Pb**	**02 28 59.2**	**0.0**
	1.2nm,0.1s						
KUU				*eS*	**Sb**	**02 29 28.7**	**+1.3**
	4.3nm,0.2s						
KST	**Kastek**	**2.29**	**276**	Pg	**Pb**	**02 29 00.5**	**+0.5**
	7.1nm,0.5s						
KST				Lg	Lg	02 29 31.4	
	3.9nm,0.6s						
BOOM	**Boomskoye usch**	**2.34**	**262**	⇓*iP*	**Pb**	**02 28 59.2**	**-1.5**
	baz=63						
BOOM				⇓*iS*	**Sb**	**02 29 29.1**	**-0.8**
	baz=63						
KAPS	**Kapalarasan**	**2.45**	**5**	Pg	**Pb**	**02 29 02.7**	**+0.1**
	1.0nm,0.3s						
KAPS				Lg	Lg	02 29 34.7	
	9.2nm,0.3s						
KAPS	**Kapalarasan**	**2.45**	**5**	*eP*	**Pb**	**02 29 02.7**	**+0.1**
	1.0nm,0.3s						
KAPS				⇓*iS*	**Sg**	**02 29 34.7**	**-2.1**
	9.2nm,0.3s						
DGS	**Degeres**	**2.46**	**281**	Pg	**Pb**	**02 29 02.8**	**+0.2**
	2.6nm,0.4s						
DGS				Lg	Lg	02 29 34.9	
	6.3nm,0.4s						
DGS	**Degeres**	**2.46**	**281**	*eP*	**Pb**	**02 29 02.9**	**+0.2**
	1.9nm,0.2s						
DGS				*eS*	**Sb**	**02 29 34.9**	**+1.7**
	6.3nm,0.4s						
TKM2	**Tokmak 2**	**2.56**	**273**	⇑Pg	**Pb**	**02 29 04.2**	**-0.3**
	2.0nm,0.7s						
TKM2				⇑Lg	Lg	02 29 40.0	
	1.4nm,0.4s						
TKM2	**Tokmak 2**	**2.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.27**	**36**	Pn	**Pn**	**02 49 35.3**	**-1.3**
HOPE					**Sn**	**02 50 58.4**	**-0.7**
PMSA	**Palmer Station**	**10.33**	**236**	LR	LR	02 53 42.6	
	comp=Z,86nm,20.0s,baz=48,slow=34						
PMSA	**Palmer Station**	**10.33**	**236**	Pn	**Pn**	**02 50 17.3**	**-1.2**
USHA	**Ushuaia**	**14.32**	**282**	Pn	**Pn**	**02 51 13.4**	**+0.3**
	0.1nm,0.3s,baz=98,slow=14,SNR=2.4						
VNA3	**Neumayer Olymp**	**17.36**	**143**	P	**P**	**02 51 54.1**	**+0.3**
VNA1	**Neumayer--Stat**	**17.59**	**140**	P	**Pn**	**02 51 53.9**	**-1.5**
VNA2	**Neumayer--Watz**	**17.95**	**141**	P	**Pn**	**02 51 60.0**	**+0.1**
	baz=312,slow=16						
SNAA	**Sanae**	**19.57**	**142**	P	**P**	**02 52 18.1**	**-0.1**
SNAA	**Sanae**	**19.57**	**142**	P	**P**	**02 52 18.0**	**-0.1**
	0.1nm,0.3s,baz=285,slow=11,SNR=7.2						
SNAA				LR	LR	02 58 18.6	
	comp=Z,62nm,18.4s,baz=354,slow=32						
TRQA	**Tornquist**	**25.17**	**324**	P	**P**	**02 53 16.0**	**+0.2**
TRQA				IAmb	IAmb	02 53 32.9	
	comp=Z,7.8nm,1.4s						
PLCA	**Paso Flores**	**25.73**	**308**	P	**P**	**02 53 21.1**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=168,slow=9.3,SNR=2.2						
PLCA				LR	LR	03 02 06.9	
	comp=Z,57nm,18.2s,baz=174,slow=33						
PLCA	**Paso Flores**	**25.73**	**308**	IAmb	IAmb	02 53 30.1	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**02 53 57.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=169,slow=5.5,SNR=5.9						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**02 53 57.1**	**-0.5**
QSPA				IAmb	IAmb	02 54 03.0	
	comp=Z,3.7nm,0.9s						
CPUP	**Villa Florida**	**35.32**	**339**	LR	LR	03 07 37.8	
	comp=Z,45nm,21.3s,baz=186,slow=34						
BDFB	**Brasilia**	**44.80**	**354**	LR	LR	03 12 19.7	
	comp=Z,70nm,21.6s,baz=110,slow=33						
MNMC	**Minye Minye**	**45.16**	**324**	P	**P**	**02 56 08.2**	**+0.6**
MNMC				IAmb	IAmb	02 56 08.3	
	comp=Z,7.8nm,0.8s						
SIV	**San Ignacio**	**46.10**	**337**	P	**P**	**02 56 14.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=128,slow=5.0,SNR=5.7						
LPAZ	**La Paz**	**47.46**	**327**	P	**P**	**02 56 26.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=185,slow=11,SNR=2.7						
LPAZ				LR	LR	03 19 07.0	
	comp=Z,25nm,18.1s,baz=96,slow=40						
LPAZ	**La Paz**	**47.46**	**327**	P	**P**	**02 56 24.4**	**-1.6**
SUR	**Sutherland**	**49.96**	**86**	P	**P**	**02 56 45.4**	**+0.7**
	comp=Z,5.5nm,1.0s,baz=180,slow=8.1,SNR=2.7						
RCBR	**Riachuelo**	**54.77**	**10**	PcP	**PcP**	**02 58 24.1**	**+1.4**
	comp=Z,39nm,0.8s,baz=264,slow=1.3,SNR=3.2						
BOSA	**Boshof**	**55.23**	**87**	P	**P**	**02 57 25.1**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=203,slow=3.6,SNR=3.9						
BOSA				LR	LR	03 18 12.3	
	comp=Z,48nm,18.6s,baz=131,slow=33						
BOSA	**Boshof**	**55.23**	**87**	P	**P**	**02 57 24.5**	**+0.8**
LBTB	**Lobatse**	**58.39**	**85**	P	**P**	**02 57 47.1**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=214,slow=8.6,SNR=3.3						
LBTB	**Lobatse**	**58.39**	**85**	P	**P**	**02 57 46.4**	**+0.3**
LBTB				IAmb	IAmb	02 57 52.9	
	comp=Z,5.8nm,0.9s						
TOA0	**Torodi Ar. Sit**	**81.76**	**45**	P	**P**	**03 00 10.4**	**+1.2**
TOA0				IAmb	IAmb	03 00 11.5	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**81.76**	**45**	P	**P**	**03 00 10.2**	**+1.0**
	comp=Z,3.6nm,1.1s,baz=211,slow=4.8,SNR=10.0						
TORD	**Torodi Ar. Bea**	**81.76**	**45**	P	**P**	**03 00 09.5**	**+0.3**
H08S1	**Diego Garcia H**	**95.88**	**117**	T	T	04 48 42.9	
	baz=213						
H08S2	**Diego Garcia H**	**95.89**	**117**	T	T	04 48 45.2	
	baz=213						
H08S3	**Diego Garcia H**	**95.90**	**117**	T	T	04 48 51.4	
	baz=213						
ASAR	**Alice Springs**	**96.22**	**178**	P	**P**	**03 01 19.4**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=179,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**133.90**	**322**	PKP	**PKPdf**	**03 07 06.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=134,slow=0.9,SNR=3.3						
BVAR	**Borovoye Array**	**144.51**	**72**	PKP	PKPbc	03 07 24.6	+0.2
	comp=Z,0.9nm,0.6s,baz=248,slow=0.8,SNR=3.0						
MK31	**Makanchi Array**	**146.23**	**89**		**PKPdf**	**03 07 29.1**	**+0.1**
MKAR	**Makanchi Array**	**146.23**	**89**	PKPbc	**PKPdf**	**03 07 29.1**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=242,slow=2.2,SNR=16						
MKAR	**Makanchi Array**	**146.23**	**89**		**PKPdf**	**03 07 28.8**	**-0.1**
ILAR	**Eielson Array**	**146.39**	**311**		**PKPbc**	**03 07 29.8**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=145,slow=2.4,SNR=16						
ILAR	**Eielson Array**	**146.39**	**311**		**PKPbc**	**03 07 29.4**	**-0.5**
KURBB	**Kurchatov Arra**	**146.92**	**81**	PKPbc	**PKPbc**	**03 07 31.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=234,slow=3.7,SNR=9.0						
KURK	**Kurchatov**	**147.02**	**81**		**PKPab**	**03 07 33.7**	**0.0**

*MDD **18** 02:57:27.2±0.6, 33°.10N×16°.73W, h28km±6km, mb4.0/2, Error ellipse: s-maj=9.2km s-min=3.9km az=152.0, PRXIMO*

*INMG **18** 02:57:28.6±1.4, 33°.25N×16°.77W, h10km, MD2.9, ML2.6, Error ellipse: s-maj=13.3km s-min=4.9km az=161.0*

ISC 18 02:57:25.1±1.1, 33°.17N±0°.07×16°.73W±0°.04, h10km, n27, σ1§44/33, 6C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**0.35**	**105**	⇑*i*P	**Pb**	**02 57 34.7**	**+1.3**
PMPST				*e*S	**Sb**	**02 57 39.8**	**+0.8**
PMPST				A	A	02 57 40.6	
	298nm,0.2s						
PMPS	**Porto Santo**	**0.35**	**109**	⇑*i*P	**Pb**	**02 57 34.9**	**+1.4**
PMPS				*e*S	**Sb**	**02 57 40.0**	**+0.9**
PMPS				A	A	02 57 40.7	
	246nm,0.2s						
PMPS	**Porto Santo**	**0.35**	**109**	P	**Pb**	**02 57 34.7**	**+1.2**
PMPS				S	**Sb**	**02 57 39.8**	**+0.7**
	149nm,0.2s						
PMOZ	**Porto Moniz, M**	**0.52**	**228**	⇑*i*P	**Pb**	**02 57 37.0**	**+0.5**
PMOZ				*e*S	**Sg**	**02 57 44.0**	**+1.7**
PMOZ				A	A	02 57 48.5	
	627nm,0.3s						
PMOZ	**Porto Moniz, M**	**0.52**	**228**	⇑P	**Pb**	**02 57 37.0**	**+0.5**
	115nm,0.2s,SNR=18						
PMOZ				S	**Sg**	**02 57 43.8**	**+1.6**
	407nm,0.2s,SNR=7.9						
FUL	**Funchal**	**0.54**	**195**	⇑*e*P	**Pg**	**02 57 37.1**	**+1.5**
FUL				*e*S	**Sg**	**02 57 44.1**	**+1.4**
FUL				A	A	02 57 45.1	
	403nm,0.2s						
FUL	**Funchal**	**0.54**	**195**	P	**Pg**	**02 57 37.1**	**+1.5**
FUL				S	**Sg**	**02 57 44.1**	**+1.4**
	202nm,0.2s						
TBT	**Taburiente**	**4.59**	**193**	⇑P	**Pn**	**02 58 32.9**	**-1.8**
	9.8nm,0.1s,SNR=18						
TBT				S	Sn	02 59 19.8	-8.2
	22nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**4.94**	**179**	P	**Pn**	**02 58 38.6**	**-1.0**
	0.6nm,0.2s,SNR=7.9						
CCAN				S	Sn	02 59 29.0	-7.9
	18nm,0.8s,SNR=7.9						
EGOM	**La Gomera**	**5.01**	**185**	S	Sn	02 59 30.1	-8.4
	12nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**5.11**	**151**	P	**Pn**	**02 58 40.7**	**-1.1**
	1.8nm,0.2s,SNR=7.9						
CFUE				S	**Sn**	**02 59 35.2**	**-5.6**
	5.5nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**7.58**	**56**	P	**Pn**	**02 59 15.2**	**-0.5**
	0.9nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**8.30**	**51**	*e*P	**Pn**	**02 59 25.6**	**+0.1**
PNCL	**Nicolau / Gran**	**8.30**	**51**	P	**Pn**	**02 59 25.6**	**+0.1**
MESJ	**Messejana**	**8.36**	**54**	*e*S	Sn	03 00 47.7	-13
PVAQ	**Vaqueiros**	**8.49**	**58**	*e*P	**Pn**	**02 59 28.0**	**-0.2**
PVAQ	**Vaqueiros**	**8.49**	**58**	P	**Pn**	**02 59 28.0**	**-0.2**
EGRO	**El Granado**	**8.72**	**57**	P	**Pn**	**02 59 30.9**	**-0.4**
	0.2nm,0.1s,SNR=7.9						
EVO	**Evora**	**8.87**	**50**	*e*P	**Pn**	**02 59 33.3**	**0.0**
EVO	**Evora**	**8.87**	**50**	P	**Pn**	**02 59 33.3**	**0.0**
EMIN	**Mina Concepcio**	**9.40**	**58**	P	**Pn**	**02 59 40.4**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**9.53**	**42**	*e*P	**Pn**	**02 59 41.2**	**-1.2**
PCAS	**Casmilo, Conde**	**9.53**	**42**	P	**Pn**	**02 59 41.2**	**-1.2**
EBAD	**Badajoz**	**9.64**	**52**	P	**Pn**	**02 59 43.8**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**10.42**	**59**	P	**Pn**	**02 59 54.1**	**-0.6**
	0.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**11.07**	**60**	P	**Pn**	**03 00 03.3**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**11.83**	**54**	P	**Pn**	**03 00 13.8**	**-0.2**
	0.1nm,0.1s,SNR=4.0						

*SJA **18** 03:04:21.1±0.7, 22°.19S×67°.41W, h180km±7km, ML2.5, MW2.8*

*ISCJB **18** 03:04:22.4±1.0, 22°.31S±0°.05×67°.50W±0°.04, h177km±11km, Error ellipse: s-maj=8.0km s-min=6.3km az=27.8*

*GUC **18** 03:04:22.9±0.7, 22°.26S×67°.85W, h204km±8km, ML3.6*

ISC 18 03:04:21.4±2.1, 22°.31S±0°.06×67°.48W±0°.05, h187km±19km, n20, σ1§03/34, 8C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.36**	**257**	*i*P	**Pn**	**03 04 53.8**	**+0.7**
LVC				*e*S	**Sn**	**03 05 17.8**	**+0.2**
PB09	**IPOC Station P**	**1.72**	**287**	⇑*i*P	**Pn**	**03 04 57.4**	**+1.1**
PB09				*i*S	**Sn**	**03 05 23.4**	**+0.2**
YJA	**Yavi**	**1.82**	**86**	*i*P	**Pn**	**03 04 57.8**	**+0.2**
YJA				IAML		03 04 58.4	
	comp=Z,28nm,0.2s						
YJA				*e*S	**Sn**	**03 05 23.7**	**-1.8**
PB06	**IPOC Station P**	**1.98**	**258**	⇓*i*P	**Pn**	**03 04 59.6**	**+0.7**
PB06				*i*S	**Sn**	**03 05 27.4**	**-0.5**
PB06				IAML		03 05 29.4	
	comp=E,156nm,0.1s						
PB06	**IPOC Station P**	**1.98**	**258**	*i*P	**Pn**	**03 04 59.6**	**+0.7**
PB15	**IPOC Station P**	**2.05**	**244**	⇑*i*P	**Pn**	**03 05 00.6**	**+0.9**
PB15				*i*S	**Sn**	**03 05 29.6**	**+0.1**
PB15	**IPOC Station P**	**2.05**	**244**	*i*P	**Pn**	**03 05 00.6**	**+0.9**
PB03	**IPOC Station P**	**2.13**	**277**	⇑*i*P	**Pn**	**03 05 01.0**	**+0.5**
PB03				*i*S	**Sn**	**03 05 30.0**	**-0.8**
PB03				IAML		03 05 31.3	
	comp=N,492nm,0.1s						
PB01	**IPOC Station P**	**2.26**	**304**	⇑*i*P	**Pn**	**03 05 02.5**	**+0.6**
PB01				*i*S	**Sn**	**03 05 32.5**	**-0.7**
PB01				IAML		03 05 34.3	
	comp=E,358nm,0.2s						
PB07	**IPOC Station P**	**2.31**	**284**	⇑*i*P	**Pn**	**03 05 03.3**	**+0.7**
PB07				*i*S	**Sn**	**03 05 33.1**	**-1.4**
PB07				IAML		03 05 34.9	
	comp=E,392nm,0.1s						
PB02	**IPOC Station P**	**2.46**	**293**	⇓*i*P	**Pn**	**03 05 04.5**	**+0.4**
PB02				*i*S	**Sn**	**03 05 35.6**	**-1.7**
PB02				IAML		03 05 38.1	
	comp=E,390nm,0.2s						
PB04	**IPOC Station P**	**2.48**	**269**	⇑*i*P	**Pn**	**03 05 05.0**	**+0.5**
PB04				*i*S	**Sn**	**03 05 36.2**	**-1.7**
PB04				IAML		03 05 38.8	
	comp=N,250nm,0.2s						
PB04	**IPOC Station P**	**2.48**	**269**	*i*P	**Pn**	**03 05 05.0**	**+0.5**
PB08	**IPOC Station P**	**2.67**	**324**	⇑*i*P	**Pn**	**03 05 08.4**	**+1.5**
PB08				*i*S	**Sn**	**03 05 42.6**	**+0.4**
PB08				IAML		03 05 43.8	
	comp=E,75nm,0.2s						
AZAP	**Zapla**	**2.92**	**131**	*i*P	**Pn**	**03 05 10.5**	**+0.8**
AZAP				IAML		03 05 11.4	
	comp=Z,7.5nm,0.3s						
SLA	**San Lorenzo**	**3.01**	**143**	*i*P	**Pn**	**03 05 11.8**	**+1.1**
SLA				IAML		03 05 12.0	
	comp=Z,10nm,0.4s						
GO01	**Chusmiza**	**3.08**	**328**	*e*P	**Pn**	**03 05 13.0**	**+1.1**
GO01				*i*S	**Sn**	**03 05 51.9**	**+0.7**
PB10	**IPOC Station P**	**3.08**	**247**	⇑*i*P	**Pn**	**03 05 11.7**	**+0.3**
PB10				*i*S	**Sn**	**03 05 48.9**	**-1.5**
PB11	**IPOC Station P**	**3.25**	**321**	*e*P	**Pn**	**03 05 13.6**	**-0.1**
PB11				*i*S	**Sn**	**03 05 52.3**	**-2.1**
MNMC	**Minye Minye**	**3.73**	**328**	⇓*i*P	**Pn**	**03 05 20.4**	**+0.6**

*JMA **18** 03:41:09.7±0.1, 38°.28N×141°.93E, h45km±1km, M3.5*

JMA Felt I J1.

*IDC **18** 03:41:15.3±10.0, 38°.37N×141°.46E, h102km±71km, mb3.2/2, mb1 3.2/4, mb1mx2.9/31, mbtmp3.4/4, ML1.9/2, Error ellipse: s-maj=148.9km s-min=29.4km az=75.0*

ISC 18 03:41:07.5±1.9, 38°.26N±0°.04×142°.02E±0°.09, h30km±12km, n23, σ1§28/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.44**	**276**	P	**Pn**	**03 41 19.1**	**+1.3**
JIKH				S	**Sn**	**03 41 25.4**	**+0.7**
JIO	**Ouri**	**0.56**	**290**	P	**Pn**	**03 41 20.6**	**+1.1**
JIO				S	**Sn**	**03 41 28.0**	**+0.3**
JKMT	**Kesennumamotoy**	**0.69**	**322**	P	**Pn**	**03 41 22.6**	**+1.3**
JKMT				S	**Sn**	**03 41 31.6**	**+0.6**
OFUJ	**Ofunato**	**0.86**	**341**	P	**Pn**	**03 41 25.0**	**+1.4**
OFUJ				*e*S	**Sn**	**03 41 35.9**	**+0.8**
JMK	**Ichinoseki**	**0.93**	**318**	P	**Pn**	**03 41 26.0**	**+1.5**
JMK				S	**Sn**	**03 41 37.5**	**+0.6**
JMM	**Marumori**	**1.05**	**248**	P	**Pb**	**03 41 26.7**	**-0.4**
JOU	**Okura**	**1.07**	**276**	P	**Pb**	**03 41 27.7**	**+0.2**
JOU				*e*S	**Sb**	**03 41 41.0**	**-0.2**
JFK	**Kawauchi**	**1.28**	**226**	P	**Pb**	**03 41 30.3**	**-0.7**
JFK				*e*S	**Sn**	**03 41 45.2**	**-0.2**
JOM	**Ohasama**	**1.33**	**335**	P	**Pb**	**03 41 31.9**	**0.0**
JYK	**Kaneyama**	**1.46**	**297**	P	**Pb**	**03 41 33.1**	**-0.9**
JYK				S	**Sn**	**03 41 49.8**	**-0.1**
JFT	**Otama**	**1.53**	**241**	P	**Pb**	**03 41 34.3**	**-0.9**
JYS	**Shiratake**	**1.54**	**269**	P	**Pb**	**03 41 34.3**	**-1.1**
JYS				*e*S	**Sn**	**03 41 52.7**	**+0.8**
JRG	**Rokugo**	**1.57**	**317**	P	**Pb**	**03 41 35.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.49**	**242**	P	**Pn**	**03 42 03.1**	**+3.4**
	0.1nm,0.3s,baz=51,slow=13,SNR=4.2						
MJAR				S	**Sb**	**03 42 50.4**	**-0.1**
	0.2nm,0.3s,baz=90,slow=19,SNR=2.0						
USRK	**Ussuriysk Ar.**	**9.60**	**311**	P	**Pn**	**03 43 25.0**	**+1.4**
	baz=124,slow=15,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	04 17 16.5	
	baz=316,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	04 17 17.1	
	baz=316,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	04 17 17.5	
	baz=316,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	04 18 12.3	
	baz=318,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	04 18 11.3	
	baz=318,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	**29.17**	**126**	T	T	04 18 14.9	
	baz=318,slow=76,SNR=27						
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	**P**	**03 48 48.4**	**-2.9**
	0.7nm,0.5s,baz=77,slow=9.0,SNR=1.8						
WRA	**Warramunga Arr**	**58.34**	**188**	P	**P**	**03 51 00.0**	**+0.2**
	0.2nm,0.6s,baz=5.4,slow=6.3,SNR=1.9						

*ISCJB **18** 03:52:16.7±0.3, 60°.69S±0°.04×42°.46W±0°.09, h10km, mb4.5/19, MS4.0/18, Error ellipse: s-maj=6.4km s-min=5.6km az=146.7*

*IDC **18** 03:52:16.7±0.5, 60°.71S×42°.61W, h0km, mb4.5/17, mb1 4.5/19, mb1mx4.5/29, mbtmp4.5/19, ML4.0/2, MS3.8/15, Ms1 3.8/15, ms1mx3.7/23, Error ellipse: s-maj=19.6km s-min=13.4km az=49.0*

*NEIC **18** 03:52:19.6±1.7, 60°.64S±0°.08×42°.4W±0°.2, h16km±3km, mb4.9/29*

*GCMT **18** 03:52:23.6±0.5, 60°.85S±0°.02×42°.55W±0°.06, h21km±2km, MW4.9/66, Moment Tensor Solution. s11,c15; s66,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.67±.20; $M_{\theta\theta}$2.17±.15; $M_{\phi\phi}$-1.50±.12; $M_{r\theta}$-0.42±.23; $M_{\theta\phi}$1.24±.12; $M_{\phi r}$0.85±.27; Best double couple: $M_0$2.47300×10^{16} NP1:ϕ_s212.00000°, δ68.00000°, λ-161.00000°. Principal axes: T 2.5580, Plg3.0000°, Azm164.0000°; N -0.1700, Plg61.0000°, Azm259.0000°; P -2.3880, Plg29.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 03:52:18.4±0.3, 60°.66S±0°.06×42°.47W±0°.06, h10km, n106, σ1§47/97, mb4.8/28, MS4.0/18, 1C-1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.16**	**29**		**Pn**	**03 54 02.6**	**-0.4**
HOPE				Sn	**Sn**	**03 55 24.4**	**0.0**
PMSA	**Palmer Station**	**10.70**	**238**	Pn	**Pn**	**03 54 50.9**	**-0.5**
	0.7nm,0.3s,baz=75,slow=16,SNR=3.1						
PMSA				Sn	**Sn**	**03 56 52.9**	**+1.9**
	0.8nm,0.3s,baz=118,slow=16,SNR=1.9						
PMSA				LR	LR	03 58 35.4	
	comp=Z,964nm,19.0s,baz=92,slow=36						
PMSA	**Palmer Station**	**10.70**	**238**	Pn	**Pn**	**03 54 51.4**	**0.0**
EFI	**East Falkland**	**12.48**	**309**	Pn	**Pn**	**03 55 18.2**	**+2.4**
EFI				Sn	**Sn**	**03 57 28.3**	**-6.4**
USHA	**Ushuaia**	**14.97**	**281**	Pn	**P**	**03 55 56.1**	**+0.8**
	2.5nm,0.3s,baz=107,slow=15,SNR=18						
USHA				LR	LR	04 00 22.1	
	comp=Z,628nm,19.9s,baz=115,slow=32						
VNA3	**Neumayer Olymp**	**16.77**	**143**	P	**Pn**	**03 56 11.3**	**-1.8**
VNA3				S	Sn	03 59 05.9	-13
VNA1	**Neumayer--Stat**	**17.00**	**140**	P	**Pn**	**03 56 14.2**	**-1.6**
VNA1				S	Sn	03 59 11.6	-13
VNA2	**Neumayer--Watz**	**17.36**	**141**	P	**Pn**	**03 56 18.0**	**-2.3**
	baz=291,slow=15						
VNA2				S	Sn	03 59 20.7	-12
	baz=290,slow=25						
SNAA	**Sanae**	**18.98**	**142**	P	**Pn**	**03 56 40.8**	**+0.5**
SNAA				S	Sn	04 00 00.7	-12
SNAA	**Sanae**	**18.98**	**142**	P	**Pn**	**03 56 40.6**	**+0.3**
	0.7nm,0.3s,baz=290,slow=9.5,SNR=55						
SNAA				S	Sn	04 00 00.7	-12
	0.4nm,0.3s,baz=219,slow=23,SNR=4.4						
SNAA				LR	LR	04 02 39.0	
	comp=Z,343nm,19.0s,baz=296,slow=33						
SNAA	**Sanae**	**18.98**	**142**	P	**Pn**	**03 56 40.6**	**+0.3**
SNAA				IAmb	IAmb	03 56 50.1	
	comp=Z,74nm,1.0s						
TRQA	**Tornquist**	**25.75**	**323**	P	**P**	**03 57 50.7**	**+1.8**
PLCA	**Paso Flores**	**26.38**	**306**	P	**P**	**03 57 53.3**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=71,slow=6.3,SNR=2.9						
PLCA				LR	LR	04 07 52.7	
	comp=Z,164nm,19.3s,baz=178,slow=36						
PLCA	**Paso Flores**	**26.38**	**306**	P	**P**	**03 57 53.8**	**-0.9**
PLCA				IAmb	IAmb	03 58 01.7	
	comp=Z,19nm,0.8s						
GO06	**Curarrehue**	**27.72**	**306**	P	**P**	**03 58 06.8**	**0.0**
GO06				IAmb	IAmb	03 58 16.6	
	comp=Z,23nm,1.1s						
QSPA	**South Pole Qui**	**29.57**	**180**	P	**P**	**03 58 23.2**	**+0.1**
	comp=Z,6.8nm,0.9s,baz=92,slow=21,SNR=52						
QSPA				LR	LR	04 10 53.6	
	comp=Z,153nm,18.1s,baz=146,slow=38						
QSPA	**South Pole Qui**	**29.57**	**180**	P	**P**	**03 58 24.0**	**+0.9**
GO05	**Huala**	**31.89**	**310**	P	**P**	**03 58 42.8**	**-0.8**
GO05				IAmb	IAmb	03 58 57.8	
	comp=Z,22nm,1.1s						
PEL	**Peldehue**	**33.10**	**313**	P	**P**	**03 58 54.0**	**-0.3**
PEL				IAmb	IAmb	03 59 02.4	
	comp=Z,22nm,0.9s						
PEL				PcP	**PcP**	**04 01 41.4**	**+4.1**
SYO	**Syowa Base**	**33.24**	**139**	⇑*e*P	**P**	**03 58 54.0**	**-1.0**
SYO	**Syowa Base**	**33.24**	**139**	⇓*e*P	**P**	03 59 07.0	+12
ROC1	**El Roble**	**33.38**	**313**	P	**P**	**03 58 56.8**	**-0.1**
ROC1				PcP	**PcP**	**04 01 37.6**	**-0.8**
CFA	**Coronel Fontan**	**33.67**	**318**	P	**P**	**03 58 58.0**	**-1.2**
	comp=Z,2.0nm,0.4s,baz=168,slow=8.6,SNR=9.3						
CPUP	**Villa Florida**	**35.80**	**337**	P	**P**	**03 59 16.8**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=180,slow=5.7,SNR=7.1						
CPUP				LR	LR	04 12 03.5	
	comp=Z,83nm,21.3s,baz=174,slow=33						
CPUP	**Villa Florida**	**35.80**	**337**	P	**P**	**03 59 18.4**	**+0.8**
GO04	**Tololo Observa**	**35.84**	**315**	P	**P**	**03 59 17.9**	**-0.4**
GO03	**Copiap**	**38.02**	**318**	P	**P**	**03 59 36.2**	**-0.4**
GO03				IAmb	IAmb	03 59 41.3	
	comp=Z,16nm,0.8s						
GO02	**Mina Guanaco**	**40.07**	**320**	P	**P**	**03 59 54.4**	**+0.4**
GO02				IAmb	IAmb	03 59 59.3	
	comp=Z,20nm,0.8s						
SBA	**Scott Base**	**40.57**	**189**	P	**P**	**03 59 59.0**	**+1.7**
MAW	**Mawson**	**41.06**	**146**	P	**P**	**04 00 00.4**	**-1.0**
	comp=Z,5.4nm,1.0s,baz=207,slow=6.2,SNR=6.6						
MAW				LR	LR	04 16 46.0	
	comp=Z,166nm,18.0s,baz=239,slow=36						
MAW	**Mawson**	**41.06**	**146**	P	**P**	**04 00 03.2**	**+1.8**
LVC	**Limon Verde**	**42.26**	**322**	P	**P**	**04 00 12.4**	**+0.3**
	comp=Z,4.9nm,0.7s,baz=154,slow=6.4,SNR=3.5						
GO01	**Chusmiza**	**45.12**	**323**	P	**P**	**04 00 35.5**	**+0.3**
GO01				IAmb	IAmb	04 00 42.7	
	comp=Z,8.6nm,0.8s						
BDFB	**Brasilia**	**45.14**	**352**	P	**P**	**04 00 35.1**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=142,slow=6.2,SNR=4.3						
BDFB				LR	LR	04 16 39.9	
	comp=Z,88nm,19.5s,baz=149,slow=32						
BDFB	**Brasilia**	**45.14**	**352**	IAmb	IAmb	04 00 45.5	
	comp=Z,10nm,1.0s						
PB11	**IPOC Station P**	**45.16**	**323**	P	**P**	**04 00 35.5**	**+0.2**
PB11				IAmb	IAmb	04 00 41.9	
	comp=Z,18nm,0.9s						
LPAZ	**La Paz**	**48.02**	**326**	P	**

ASAR PP **PP** **04 09 33.5 -3.1**
comp=Z,0.7nm,0.9s,baz=168,slow=6.8,SNR=5.5
WRA Warramunga Arr 99.64 177 P **Pdif** **04 06 02.6 +0.5**
comp=Z,0.4nm,0.8s,baz=188,slow=4.2,SNR=2.4
BRTR Keskin Array B 117.57 58 PP PP 04 12 15.1 -1.8
comp=Z,0.6nm,0.8s,baz=211,slow=9.8,SNR=3.3
CMAR Chiang Mai Arr 129.74 130 PKP **PKPdf** **04 11 27.3 -0.2**
comp=Z,0.5nm,0.3s,baz=235,slow=3.2,SNR=4.7
KSH Kashi 137.14 91 PKP **PKPdf** **04 11 39.6 -1.4**
KSH PP **PP** **04 14 26.3 +0.3**
KSH PKS **PKSdf** **04 15 13.8 -3.4**
KSH SS SS 04 32 22.6 -9.2
KKAR Karatay Array 137.17 83 PKPpre PKPpre 04 11 31.1
ARCES ARCESS Array B 138.57 30 PKhKP PKPpre 04 11 31.5
comp=Z,3.8nm,0.9s,baz=198,slow=2.7,SNR=4.6
CD2 Chengdu 142.82 128 PKP **PKPdf** **04 11 51.8 +0.3**
INK Inuvik 144.23 321 PKP **PKPab** **04 11 50.1 -0.4**
comp=Z,5.3nm,0.8s,baz=130,slow=1.6,SNR=15
INK Inuvik 144.23 321 **PKPab** **04 11 50.4 -0.1**
MAKZ Makanchi 145.47 88 **PKPdf** **04 11 55.1 -0.4**
MKAR Makanchi Array 145.62 88 PKPbc **PKPdf** **04 11 55.5 -0.3**
comp=Z,7.4nm,0.7s,baz=232,slow=2.2,SNR=45
KDAK Kodiak Island 145.65 297 PKPbc **PKPdf** **04 11 55.4 0.0**
comp=Z,5.4nm,0.8s,baz=84,slow=19,SNR=3.5
WMQ Urumqi 146.14 97 *e*PKPbc **PKPab** **04 11 58.3 -0.2**
KURK Kurchatov 146.46 80 **PKPbc** **04 11 58.4 -0.1**
ILAR Eielson Array 147.03 310 PKPbc **PKPbc** **04 11 59.1 -0.5**
comp=Z,6.2nm,0.9s,baz=162,slow=2.6,SNR=34
WRH Wood River Hil 147.34 309 **PKPbc** **04 12 00.5 0.0**
LZH Lanzhou 147.38 124 *e*PKPbc **PKPdf** **04 11 57.4 -1.9**
LZH PKPbc **PKiKP** **04 12 04.0 0.0**
LZH pPKP sPKPab 04 12 07.1 -0.4
LZH sPKP 04 12 11.5
LZH LR LR
comp=Z,59nm,18.3s
LZH LR LR
comp=Z,65nm,18.5s
LZH LR LR
comp=Z,76nm,20.1s
COLA College 147.44 310 **PKPbc** **04 12 00.7 0.0**
XAN Xi'an 147.56 132 PKPbc **PKPbc** **04 12 00.8 -1.4**
XAN sPKP 04 12 15.1
TRF Thorofare Moun 147.70 307 **PKPdf** **04 11 59.5 +0.6**
GTA Gaotai 148.44 115 *e*PKPbc **PKPbc** **04 12 04.3 -0.2**
GTA LR LR
comp=Z,99nm,19.0s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,110nm,18.7s
NJ2 Nanjing 148.85 148 *e*PKPbc **PKPbc** **04 12 04.3 -1.2**
ZALV Zalesovo Beam 151.45 80 PKPbc **PKPbc** **04 12 10.0 -1.1**
comp=Z,1.7nm,0.4s,baz=248,slow=3.7,SNR=8.0
ZALV PKPab **PKPab** **04 12 18.3 -1.3**
comp=Z,3.1nm,0.7s,baz=258,slow=4.1,SNR=4.5
ZALV Zalesovo Beam 151.45 80 PKPbc **PKPbc** **04 12 10.2 -0.9**
HHC Hu-ho-hao-te 154.55 129 *e*PKPbc **PKPdf** **04 12 13.9 +3.8**
SONM Songino Array 157.99 112 PKPab **PKPab** **04 12 47.4 -0.5**
comp=Z,2.3nm,0.9s,baz=216,slow=5.5,SNR=10

IDC 18 04:00:14.1±1.4, 60°.43S×43°.86W, h0km, mb4.0/2, mb1 3.8/3, mb1mx3.6/25, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=59.6km s-min=32.0km az=88.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.59**	**142**	P	P	04 04 43.6	+0.1
	0.1nm,0.3s,baz=302,slow=9.9,SNR=6.0						
QSPA	**South Pole Qui**	**29.81**	**180**	P	P	04 06 22.6	+0.1
	1.3nm,0.8s,baz=179,slow=3.0,SNR=4.1						
H10N3	**ASCENSION HYDR**	**56.90**	**35**	T	T	05 11 33.4	
	baz=208						
H10N1	**ASCENSION HYDR**	**56.91**	**35**	T	T	05 11 34.0	
	baz=208						
H10N2	**ASCENSION HYDR**	**56.92**	**35**	T	T	05 11 33.0	
	baz=208						
TORD	**Torodi Ar. Bea**	**81.83**	**45**	P	P	04 12 35.2	+0.4
	1.3nm,0.8s,baz=206,slow=6.3,SNR=6.0						
MKAR	**Makanchi Array**	**146.30**	**89**	PKPbc	PKPdf	04 19 54.4	0.0
	1.0nm,0.5s,baz=234,slow=3.9,SNR=9.6						
ILAR	**Eielson Array**	**146.35**	**311**	PKPbc	PKPdf	04 19 54.2	+0.3
	0.2nm,0.6s,baz=111,slow=1.5,SNR=5.0						

*NIED **18** 04:04:00, 45°.40N×150°.40E, h35km, Mw4.0 Best double couple: M0 9.51000×10^14 NP1:φ0=228.00000°, δ=44.00000°, λ=169.00000°. NP2:φ0=326.00000°, δ=82.00000°, λ=46.00000°.*
*IDC **18** 04:04:23.3±1.3, 45°.33N×151°.15E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.7/66, mbtmp3.9/8, ML3.5/2, MS3.2/9, Ms1 3.2/9, ms1mx2.9/59, Error ellipse: s-maj=35.8km s-min=25.7km az=91.0*
*NEIC **18** 04:04:26.6±1.2, 45°.7N±0°.1×151°.06E±0°.07, h35km±2km, mb4.3/6*
*JMA **18** 04:04:29.9±0.8, 45°.37N×150°.40E, h30km, M4.7*
*ISCJB **18** 04:04:30.9±0.6, 44°.95N±0°.06×150°.36E±0°.06, h39km, mb3.7/7, MS3.5/6, Error ellipse: s-maj=9.6km s-min=3.7km az=144.1*
*SKHL **18** 04:04:31.5±1.0, 45°.02N×150°.35E, h36km±5km, mb5.6/2, msh5.1/1*
*MOS **18** 04:04:33.4±1.2, 45°.06N×150°.12E, h55km, mb4.1/5, Error ellipse: s-maj=11.3km s-min=8.4km az=139.3*

ISC 18 04:04:32.2±0.8, 44°.92N±0°.07×150°.30E±0°.07, h39km, n84, σ2°.19/84, mb3.8/10, MS3.4/6, 3C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.75**	**281**	*d* PN	**Pn**	**04 04 59.7**	**-0.4**
KUR				*i* S	**Sn**	**04 05 21.5**	**+0.4**
KUR				pmax	pmax		
	comp=Z,608nm,0.4s						
KUR				pmax	pmax		
	comp=N,310nm,0.2s						
KUR				pmax	pmax		
	comp=E,113nm,0.2s						
KUR				smax	smax		
	comp=N,965nm,0.2s						
KUR				smax	smax		
	comp=E,833nm,0.4s						
KUR	**Kuril'sk**	**1.75**	**281**	*i* P	**Pn**	**04 04 59.0**	**-1.1**
KUR				AMB	AMB	04 05 01.0	
	comp=E,580nm,0.4s						
KUR				*i* S	**Sn**	**04 05 20.2**	**-0.9**
KUR				A	A	04 05 23.0	
	comp=E,880nm,0.4s						
KUR				A	A	04 05 23.0	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.30**	**256**	PN	**Pn**	**04 05 22.8**	**+1.5**
YUK				*e*S	**Sn**	**04 06 02.1**	**+2.9**
YUK				pmax	pmax		
	comp=E,177nm,0.3s						
YUK				pmax	pmax		
	comp=Z,475nm,0.3s						
YUK				pmax	pmax		
	comp=N,193nm,0.2s						
YUK				smax	smax		
	comp=E,672nm,0.5s						
YUK				smax	smax		
	comp=N,355nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.30**	**256**	*e*P	**Pn**	**04 05 22.0**	**+0.7**
YUK				AMB	AMB	04 05 23.9	
	comp=N,780nm,2.0s						
YUK				AMB	AMB	04 05 26.0	
	comp=N,410nm,0.5s						
YUK				*e*S	**Sn**	**04 06 00.5**	**+1.3**
YUK				A	A	04 06 03.0	
	comp=N,2μm,2.0s						
YUK				A	A	04 06 03.0	
	comp=N,1μm,2.0s						
YUK				A	A	04 06 13.0	
	comp=N,810nm,0.5s						
YUK				A	A	04 06 13.0	
	comp=N,672nm,0.5s						
LAGR	**Lagunnoye**	**3.35**	**257**	*e*PN	**Pn**	**04 05 23.1**	**+1.1**
LAGR				*e*S	**Sn**	**04 06 02.9**	**+2.5**
LAGR				pmax	pmax		
	comp=Z,288nm,0.4s						
LAGR				pmax	pmax		
	comp=N,146nm,0.1s						
LAGR				pmax	pmax		
	comp=E,171nm,0.2s						
LAGR				smax	smax		
	comp=N,725nm,0.6s						
LAGR				smax	smax		
	comp=E,1μm,0.5s						
LAGR	**Lagunnoye**	**3.35**	**257**	*e*P	**Pn**	**04 05 23.0**	**+1.1**
LAGR				AMB	AMB	04 05 27.0	
	comp=E,288nm,0.5s						
LAGR				*e*S	**Sn**	**04 06 02.0**	**+1.6**
LAGR				A	A	04 06 18.0	
	comp=E,725nm,0.6s						
LAGR				A	A	04 06 18.0	
	comp=E,1μm,0.6s						
GRPR	**Tuman**	**3.37**	**256**	*c* PN	**Pn**	**04 05 24.9**	**+2.6**
GRPR				*e*S	**Sn**	**04 06 03.6**	**+2.5**
GRPR				pmax	pmax		
	comp=Z,270nm,0.2s						
GRPR				pmax	pmax		
	comp=N,108nm,0.3s						
GRPR				pmax	pmax		
	comp=E,76nm,0.3s						
GRPR				smax	smax		
	comp=N,338nm,0.3s						
GRPR				smax	smax		
	comp=E,368nm,0.5s						
GRPR	**Tuman**	**3.37**	**256**	*i* P	**Pn**	**04 05 24.0**	**+1.7**
GRPR				AMB	AMB	04 05 27.0	
	comp=E,270nm,0.5s						
GRPR				*e*S	**Sn**	**04 06 03.0**	**+1.9**
GRPR				A	A	04 06 12.0	
	comp=E,338nm,0.5s						
GRPR				A	A	04 06 12.0	
	comp=E,368nm,0.5s						
GLVR	**Golovnino**	**3.63**	**253**	*e*PN	**Pn**	**04 05 28.5**	**+2.7**
GLVR				*e*S	**Sn**	**04 06 09.8**	**+2.4**
GLVR				pmax	pmax		
	comp=Z,152nm,0.4s						
GLVR				pmax	pmax		
	comp=N,159nm,0.2s						
GLVR				pmax	pmax		
	comp=E,94nm,0.2s						
GLVR				smax	smax		
	comp=N,505nm,0.3s						
GLVR				smax	smax		
	comp=E,689nm,0.3s						
GLVR	**Golovnino**	**3.63**	**253**	*e*P	**Pn**	**04 05 28.0**	**+2.2**
GLVR				AMB	AMB	04 05 38.0	
	comp=E,152nm,0.4s						
GLVR				*e*S	**Sn**	**04 06 09.0**	**+1.6**
GLVR				A	A	04 06 25.0	
	comp=E,505nm,0.4s						
GLVR				A	A	04 06 25.0	
	comp=E,689nm,0.4s						
NEM2	**Nemuro 2**	**3.63**	**246**	P	**Pn**	**04 05 26.9**	**+1.1**
NEM2				*e*S	**Sn**	**04 06 09.2**	**+1.8**
NMR	**Nemuro--Hokkai**	**3.64**	**246**	*d* PN	**Pn**	**04 05 27.1**	**+1.1**
NMR				*i* S	**Sn**	**04 06 09.9**	**+2.3**
NMR	**Nemuro--Hokkai**	**3.64**	**246**	*i* P	**Pn**	**04 05 27.0**	**+1.1**
NMR				*i* S	**Sn**	**04 06 09.0**	**+1.4**
JRA	**Rausu**	**3.84**	**257**	P	**Pn**	**04 05 31.3**	**+2.6**
JNK	**Nakash**	**4.23**	**254**	P	**Pn**	**04 05 36.4**	**+2.4**
JNK				*e*S	**Sn**	**04 06 26.2**	**+4.1**
JAK	**Akkeshi**	**4.48**	**247**	P	**Pn**	**04 05 38.8**	**+1.3**
JTKR	**Abashiri--Toko**	**4.68**	**261**	P	**Pn**	**04 05 43.4**	**+3.2**
JAR	**Ashorobuto**	**4.98**	**253**	P	**Pn**	**04 05 47.2**	**+2.9**
JAR				*e*S	**Sn**	**04 06 45.4**	**+4.8**
JMP	**Maruseppu**	**5.05**	**262**	P	**Pn**	**04 05 48.8**	**+3.4**
JCH	**Churui**	**5.53**	**248**	P	**Pn**	**04 05 53.5**	**+1.6**
JCH				*e*S	**Sn**	**04 06 55.2**	**+1.0**
JKA	**Kamikawa-asahi**	**5.57**	**264**		**Pn**	**04 05 56.6**	**+4.1**
JKA					Sn	04 07 09.6	+15
ASAJ	**Asahikawa**	**5.57**	**264**	P	**Pn**	**04 05 56.0**	**+3.5**
ASAJ	**Asahikawa**	**5.57**	**264**	Pn	**Pn**	**04 05 56.6**	**+4.1**
	comp=E,2.8nm,0.3s,baz=74,slow=15,SNR=6.8						
ASAJ				Sn	Sn	04 07 09.6	+14
	baz=281,slow=19,SNR=1.4						
ASAJ				LR	LR	04 08 14.7	
	comp=E,160nm,19.2s,baz=28,slow=37						
YSS	**Yuzh-Sakhalins**	**5.64**	**294**	*e*PN	**Pn**	**04 05 52.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**5.64**	**294**	*e*P	**Pn**	**04 05 54.0**	**+0.5**
ERM	**Erimo**	**5.95**	**243**	PN	**Pn**	**04 06 01.2**	**+3.5**
ERM	**Erimo**	**5.95**	**243**		**Pn**	**04 06 01.2**	**+3.5**
JNBK	**Urakawa-nobuka**	**6.08**	**247**	P	**Pn**	**04 06 00.7**	**+1.2**
JBT2	**Biratori 2**	**6.13**	**252**	P	**Pn**	**04 06 01.9**	**+1.8**
SKR	**Severo-Kuril's**	**6.97**	**32**	*e*P	**Pn**	**04 06 11.5**	**-0.1**
UGL	**Uglegorsk**	**7.00**	**309**	*e*P	**Pn**	**04 06 13.2**	**+1.1**
JNB	**Noboribetsu**	**7.15**	**253**	P	**Pn**	**04 06 16.1**	**+2.0**
JNB				*e*S	**Sn**	**04 07 35.8**	**+1.8**
JKB	**Kayabe**	**7.40**	**249**	*e*S	**Sn**	**04 07 38.7**	**-1.5**
JYM2	**Yakumo 2**	**7.74**	**252**	P	**Pn**	**04 06 24.0**	**+1.7**
TYV	**Tymovskoe**	**7.86**	**322**	*e*P	**Pn**	**04 06 24.6**	**+0.8**
TYV				AMB	AMB	04 06 27.4	
	comp=E,740nm,4.0s						
JANG	**Nango**	**7.91**	**238**	*e*S	**Sn**	**04 07 48.9**	**-3.9**
JTM	**Tenmabayashi**	**7.94**	**242**	P	**Pn**	**04 06 25.4**	**+0.4**
JTM				*e*S	**Sn**	**04 07 50.6**	**-2.9**
OFUJ	**Ofunato**	**8.68**	**231**	P	**Pn**	**04 06 34.8**	**-0.3**
JRG	**Rokugo**	**9.05**	**236**	P	**Pn**	**04 06 41.0**	**+0.7**
PEA0B	**Petropavlovsk-**	**9.52**	**28⇑**	*i* PN	**Pn**	**04 06 47.9**	**+1.3**
PETK	**Petropavlovsk-**	**9.52**	**28**	*e*PN	**Pn**	**04 06 48.9**	**+2.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**9.79**	**31**	*i* PN	**Pn**	**04 06 53.2**	**+3.0**
PET	**Petropavlovsk**	**9.79**	**31**	*e*P	**Pn**	**04 06 51.0**	**+0.8**
MJAR	**Matsushiro Arr**	**12.40**	**232**	LR	LR	04 14 00.7	
	comp=Z,28nm,18.4s,baz=55,slow=44						
USA0B	**Ussuriysk Arra**	**13.09**	**273**	PN	**Pn**	**04 07 36.7**	**+1.4**
USA0B	**Ussuriysk Arra**	**13.09**	**273**	Pn	**Pn**	**04 07 36.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**13.09**	**273**	Pn	**Pn**	**04 07 37.2**	**+1.8**
	baz=91,slow=14,SNR=8.4						
USRK				LR	LR	04 12 34.4	
	comp=Z,51nm,19.4s,baz=353,slow=36						
KLR	**Kul'dur**	**13.35**	**295**	*i* PN	**Pn**	**04 07 38.5**	**-0.5**
KLR	**Kul'dur**	**13.35**	**295**	*e*P	**Pn**	**04 07 38.5**	**-0.5**
SEY	**Seymchan**	**18.09**	**3**	*e*P	**P**	**04 08 41.9**	**+1.7**
KSRS	**Korea Array**	**18.39**	**254**	LR	LR	04 15 58.2	
	comp=Z,29nm,18.2s,baz=30,slow=36						
YAK	**Yakutsk**	**20.92**	**332**	*e*P	**P**	**04 09 11.9**	**+0.9**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YAK	**Yakutsk**	**20.92**	**332**	*e*P	**P**	**04 09 11.9**	**+0.9**
HIA	**Hailar**	**21.18**	**293**	*e*P	**P**	**04 09 13.0**	**-1.0**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BILL	**Bilibino**	**24.64**	**14⇑**	*e*P	**P**	**04 09 50.3**	**+1.7**
BILL				*e*		04 10 20.3	
BILL				*e*S	S	04 13 55.2	-12
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,125nm,18.0s						
BILL	**Bilibino**	**24.64**	**14**	*e*P	**P**	**04 09 50.3**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**28.65**	**146**	T	T	04 40 58.5	
	baz=336,slow=76,SNR=655						
H11N1	**WAKE ISLAND Hy**	**28.66**	**146**	T	T	04 40 59.6	
	baz=336,slow=76,SNR=533						
H11N3	**WAKE ISLAND Hy**	**28.67**	**146**	T	T	04 41 10.2	
	baz=336,slow=76,SNR=451						
TIXI	**Tiksi**	**28.72**	**346**	*e*P	**P**	**04 10 27.6**	**+2.3**
TIXI	**Tiksi**	**28.72**	**346**	P	P	04 10 13.6	-12
TIXI				IAmb	IAmb	04 10 14.2	
	comp=Z,4.0nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**29.68**	**147**	T	T	04 42 29.7	
	baz=336,slow=76,SNR=795						
H11S3	**WAKE ISLAND Hy**	**29.69**	**147**	T	T	04 42 29.3	
	baz=336,slow=76,SNR=431						
H11S2	**WAKE ISLAND Hy**	**29.70**	**147**	T	T	04 42 29.7	
	baz=336,slow=76,SNR=461						
DOT	**Dot Lake**	**40.49**	**39**	P	P	04 11 53.4	-13
SCRK	**Sand Creek**	**40.49**	**38**	P	P	04 11 54.4	-13
SCRK				IAmb	IAmb	04 12 10.3	
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**50.02**	**255**	LR	LR	04 36 47.4	
	comp=Z,25nm,18.8s,baz=45,slow=38						
ABKAR	**Akbulak array**	**58.08**	**309**	P	**P**	**04 14 19.2**	**-2.1**
AKTO	**Aktyubinsk**	**58.48**	**311**	LR	LR	04 44 16.6	
	comp=Z,31nm,19.3s,baz=21,slow=41						
WRA	**Warramunga Arr**	**66.17**	**196**	*e*P	**P**	**04 15 16.9**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**66.17**	**196**	P	**P**	**04 15 16.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=24,slow=7.1,SNR=4.8						
WRA	**Warramunga Arr**	**66.17**	**196**	IAmb	IAmb	04 15 17.1	
	comp=Z,0.1nm,1.0s						
ASAR	**Alice Springs**	**69.88**	**196**	P	**P**	**04 15 39.1**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=18,slow=6.2,SNR=4.3						
KBZ	**Khabaz**	**70.69**	**313**	*e*P	**P**	**04 15 43.1**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**70.69**	**313**	P	**P**	**04 15 42.7**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=207,slow=6.8,SNR=7.7						
KBZ	**Khabaz**	**70.69**	**313**	*e*P	**P**	**04 15 43.1**	**-0.7**
AKASG	**Malin Array Be**	**71.95**	**325**	P	**P**	**04 15 47.7**	**-3.5**
	comp=Z,0.4nm,0.4s,baz=38,slow=5.9,SNR=2.5						
GNI	**Garni**	**72.19**	**309**	LR	LR	04 50 45.8	
	comp=Z,19nm,21.4s,baz=287,slow=38						
WSAR	**Wadi Sarin**	**75.11**	**288**	LR	LR	04 55 30.0	
	comp=Z,37nm,19.3s,baz=226,slow=41						
BUR08	**Bucovina Ar. S**	**75.99**	**325**	P	P	04 16 07.9	-7.1
BUR08				IAmb	IAmb	04 16 14.0	
	comp=Z,2.7nm,0.8s						
MLR	**Muntele Rosu**	**77.40**	**323**	LR	LR	04 57 04.6	
	comp=Z,43nm,18.1s,baz=122,slow=41						
EKA	**Eskdalemuir Ar**	**77.62**	**345**	P	**P**	**04 16 20.5**	**-3.5**
	comp=Z,0.7nm,0.6s,baz=23,slow=5.6,SNR=3.9						
GERES	**GERESS Array B**	**79.21**	**332**	P	**P**	**04 16 28.7**	**-4.3**
	comp=Z,0.4nm,0.5s,baz=30,slow=8.0,SNR=4.5						
TXAR	**Lajitas Array**	**80.11**	**58**	*e*P	**P**	**04 16 41.9**	**+3.6**

IDC 18 04:12:05.4±29.0, 20°.22S×172°.77W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/51, mbtmp4.1/4, Error ellipse: s-maj=536.2km s-min=164.9km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.40**	**263**	P	P	04 19 29.3	+0.4
	1.6nm,0.3s,baz=81,slow=8.6,SNR=4.0						
STKA	**Stephens Creek**	**42.33**	**245**	P	P	04 20 01.0	-0.4
	1.2nm,0.5s,baz=79,slow=8.9,SNR=5.5						
ASAR	**Alice Springs**	**49.35**	**256**	P	P	04 20 56.8	-0.2
	2.0nm,0.6s,baz=99,slow=8.0,SNR=23						
WRA	**Warramunga Arr**	**49.49**	**261**	P	P	04 20 57.9	-0.2
	0.7nm,0.3s,baz=96,slow=8.2,SNR=24						

*ATH **18** 04:12:45.2, 39°.92N×19°.99E, h21km±5km, ML2.3/7, Error ellipse: s-maj=5.8km s-min=1.0km az=228.0*
*TIR **18** 04:12:45.6, 39°.95N×20°.06E, h7km, Md2.9/11*
*THE **18** 04:12:46.3, 39°.93N×20°.04E, h1km±1km, ML2.3/8, Error ellipse: s-maj=1.5km s-min=0.6km az=281.0*

ISC 18 04:12:45.9±0.8, 39°.93N±0°.02×20°.01E±0°.02, h11km±5km, n40, σ1°.19/70, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.06**	**190**	P	**Pg**	**04 12 48.0**	**-0.1**
SRN				S	**Sg**	**04 12 49.4**	**-0.4**
	6μm,0.1s						
SRN	**Sarande**	**0.06**	**190**	*i* PG	**Pg**	**04 12 48.1**	**-0.1**
SRN				*i* SG	**Sg**	**04 12 49.8**	**0.0**
KASA	**Kassiopi**	**0.20**	**198**	P	**Pg**	**04 12 50.0**	**-0.2**
KASA				S	**Sg**	**04 12 53.8**	**+0.8**
KASA				AML	AML	04 12 54.4	
	comp=N,3476μm,0.3s						
KASA				AML	AML	04 12 54.7	
	comp=E,4688μm,0.3s						
KEK	**Kerkira**	**0.28**	**217**	P	**Pg**	**04 12 51.3**	**-0.3**
KEK				S	**Sg**	**04 12 56.1**	**+0.7**
	comp=E,1μm,0.2s						
KEK	**Kerkira**	**0.28**	**217**	P	**Pg**	**04 12 51.3**	**-0.3**
KEK				S	**Sg**	**04 12 55.9**	**+0.5**
KEK				AML	AML	04 12 56.9	
	comp=E,3288μm,0.1s						
KEK				AML	AML	04 12 57.7	
	comp=N,1853μm,0.3s						
TPE	**Tepelena**	**0.36**	**360**	P	**Pg**	**04 12 53.0**	**-0.2**
TPE	**Tepelena**	**0.36**	**360**	*i* PG	**Pg**	**04 12 52.9**	**-0.3**
TPE				*i* SG	**Sg**	**04 12 58.2**	**+0.2**
IGT	**Igoumenitsa**	**0.47**	**148**	P	**Pg**	**04 12 54.5**	**-0.7**
IGT				S	**Sb**	**04 13 01.7**	**-1.5**
	comp=N,292nm,0.3s						
IGT	**Igoumenitsa**	**0.47**	**148**	*i* PG	**Pg**	**04 12 54.8**	**-0.4**
IGT				*i* SG	**Sb**	**04 13 02.5**	**-0.7**
IGT	**Igoumenitsa**	**0.47**	**148**	P	**Pg**	**04 12 54.6**	**-0.5**
IGT				S	**Sb**	**04 13 02.3**	**-0.9**
IGT				AML	AML	04 13 03.1	
	comp=E,672μm,0.3s						
IGT				AML	AML	04 13 05.3	
	comp=N,540μm,0.3s						
VLO	**Vlora**	**0.67**	**324**	*i* PG	**Pg**	**04 12 59.1**	**+0.2**
VLO				*i* SG	**Sb**	**04 13 09.3**	**+0.6**
JAN	**Janina**	**0.70**	**113**	P	**Pg**	**04 12 58.8**	**-0.8**
JAN				S	**Sb**	**04 13 09.5**	**-0.4**
	comp=N,260nm,0.4s						
JAN	**Janina**	**0.70**	**113**	P	**Pg**	**04 12 59.0**	**-0.6**
JAN				S	**Sb**	**04 13 09.8**	**0.0**
JAN				AML	AML	04 13 11.5	
	comp=N,437μm,0.5s						
JAN				AML	AML	04 13 12.4	
	comp=E,615μm,0.3s						
PENT	**Pentalofos**	**0.90**	**73**	P	**Pg**	**04 13 02.6**	**-0.8**
PENT	**Pentalofos**	**0.90**	**73**	P	**Pg**	**04 13 02.7**	**-0.6**
PENT				S	**Sb**	**04 13 15.5**	**-0.2**
NEST	**Nestorio**	**0.93**	**59**	P	**Pg**	**04 13 03.4**	**-0.4**
NEST	**Nestorio**	**0.93**	**59**	P	**Pg**	**04 13 03.5**	**-0.4**
NEST				S	**Sb**	**04 13 16.1**	**-0.3**
NEST				AML	AML	04 13 21.6	
	comp=E,124μm,0.3s						
NEST				AML	AML	04 13 25.6	
	comp=N,104μm,0.4s						
MEV	**Metsovon**	**0.95**	**99**	P	**Pb**	**04 13 03.9**	**-0.5**
MEV	**Metsovon**	**0.95**	**99**	P	**Pb**	**04 13 04.0**	**-0.5**
KPRO	**Kipourio**	**1.04**	**88**	P	**Pg**	**04 13 05.2**	**-0.7**
KPRO	**Kipourio**	**1.04**	**88**	P	**Pg**	**04 13 05.3**	**-0.7**
KPRO				S	**Sb**	**04 13 20.0**	**+0.4**
KPRO				AML	AML	04 13 23.6	
	comp=E,310μm,0.6s						
KPRO				AML	AML	04 13 25.2	
	comp=N,229μm,0.6s						
SCTE	**Santa Cesarea**	**1.20**	**277**	*i* PN	**Pn**	**04 13 09.4**	**+0.9**
SCTE				*i* SN	**Sn**	**04 13 27.6**	**+2.8**
TSLK	**Tsoukalades, L**	**1.21**	**156**	P	**Pg**	**04 13 08.0**	**-1.3**
TSLK				S	**Sn**	**04 13 26.4**	**+1.2**
	comp=N,192nm,0.4s						
LKD2	**Lefkada island**	**1.25**	**156**	P	**Pn**	**04 13 09.6**	**+0.3**
LKD2				S	**Sn**	**04 13 27.9**	**+1.8**
	comp=N,120nm,0.4s						
LKD2	**Lefkada island**	**1.25**	**156**	*i* PN	**Pn**	**04 13 09.8**	**+0.5**
LKD2				*i* SN	**Sn**	**04 13 28.7**	**+2.6**
FNA	**Florina**	**1.34**	**50**	P	**Pg**	**04 13 11.3**	**-0.5**
FNA				S	**Sn**	**04 13 31.1**	**+2.6**
	comp=N,208nm,0.5s						
FNA	**Florina**	**1.34**	**50**	*i* PN	**Pg**	**04 13 11.6**	**-0.2**
FNA				*i* SN	**Sn**	**04 13 30.5**	**+1.9**
FNA	**Florina**	**1.34**	**50**	P	**

Moment Tensor Solution.Mantle waves: s4,c7; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.15±.98; $M_{\theta\theta}$-0.48±.40; $M_{\phi\phi}$1.63±.80; $M_{r\theta}$4.74±1.17; $M_{\theta\phi}$0.06±.49; $M_{r\phi}$-1.94±1.37; Best double couple: $M_0$5.20000×10^{15} NP1:ϕ_s296.00000°,δ87.00000°,λ-99.00000°. NP2: ϕ_s188.00000°,δ10.00000°,λ-19.00000°. Principal axes: T 4.5400, Plg41.0000°, Azm35.0000°; N 1.3100, Plg9.0000°, Azm297.0000°; P -5.8600, Plg47.0000°, Azm197.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

MOS **18** *04:12:46.6±1.3,34°.33N×26°.16E,h29km,mb4.7/16 Error ellipse: s-maj=7.3km s-min=4.1km az=94.2*

ISK **18** *04:12:46.2,34°.29N×25°.94E,h59km,ML3.8/23*

ISCJB **18** *04:12:46.1±0.6,34°.22N±0°.02×26°.18E±0°.02,h28km±4km, mb4.3/42,MS3.8/2,Error ellipse: s-maj=3.6km s-min=2.4km az=37.3*

HLW **18** *04:12:47.8,34°.34N×26°.25E,h29km±17km,Md4.1,Ml4.2*

THE **18** *04:12:48.8,34°.41N×26°.13E,h0km±1km,ML3.6/7,Error ellipse: s-maj=2.7km s-min=0.9km az=170.0*

NEIC **18** *04:12:48.0±2.4,34°.33N±0°.06×26°.14E±0°.05,h25km±6km*

ATH **18** *04:12:48.0,34°.38N×26°.12E,h26km±2km,ML3.8/5,Error ellipse: s-maj=4.1km s-min=1.5km az=351.0*

GII **18** *04:12:53.6±0.0,33°.94N×26°.79E,h7km,mb4.1/3,MD3.9/3*

ISC 18 04:12:47.9±0.8,34°.31N±0°.04×26°.17E±0°.03,h31km±5km, n322,σ1985/356,mb4.4/47,13C-14D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.79**	**333**	P	**Pn**	**04 13 01.3**	**-1.6**
FRMA				S	**Sb**	**04 13 12.8**	**-0.8**
	3μm,0.5s						
ZKR	**Zakros**	**0.81**	**3**	P	**Pn**	**04 13 02.4**	**-0.7**
ZKR				S	**Sn**	**04 13 14.3**	**+0.2**
	5μm,0.3s						
ZKR	**Zakros**	**0.81**	**3**	P	**Pn**	**04 13 02.4**	**-0.7**
ZKR				S	**Sb**	**04 13 13.2**	**-0.9**
ZKR				AML	AML	04 13 15.7	
	comp=N,9651μm,0.2s						
ZKR				AML	AML	04 13 18.8	
	comp=E,13486μm,0.4s						
ZKR	**Zakros**	**0.81**	**3**	PG	**Pn**	**04 13 02.6**	**-0.5**
ZKR				SG	**Sn**	**04 13 14.6**	**+0.5**
ZKR	**Zakros**	**0.81**	**3**		**Pn**	**04 13 01.4**	**-1.8**
STIA	**Sitia Lasithi**	**0.90**	**356**	P	**Pn**	**04 13 03.8**	**-0.5**
STIA				S	**Sb**	**04 13 17.1**	**+0.5**
NPS	**Neapolis**	**1.06**	**334**	P	**Pn**	**04 13 06.7**	**+0.1**
NPS				S	**Sb**	**04 13 21.0**	**-0.2**
	comp=E,3μm,0.8s						
NPS	**Neapolis**	**1.06**	**334**	P	**Pn**	**04 13 06.2**	**-0.4**
NPS	**Neapolis**	**1.06**	**334**	P	**Pn**	**04 13 06.8**	**+0.3**
NPS				S	**Sb**	**04 13 21.1**	**-0.1**
NPS				AML	AML	04 13 32.7	
	comp=E,7325μm,0.9s						
NPS				AML	AML	04 13 37.9	
	comp=N,5838μm,0.7s						
NPS	**Neapolis**	**1.06**	**334**		**Pn**	**04 13 06.2**	**-0.4**
SIVA	**Sivas**	**1.33**	**303**	P	**Pb**	**04 13 11.3**	**-0.8**
SIVA	**Sivas**	**1.33**	**303**	P	**Pb**	**04 13 11.4**	**-0.8**
SIVA				AML	AML	04 13 50.8	
	comp=N,8288μm,0.7s						
SIVA				AML	AML	04 13 56.8	
	comp=E,11078μm,0.7s						
SIVA	**Sivas**	**1.33**	**303**		**Pn**	**04 13 11.0**	**+0.8**
HRKL	**Heraklei0**	**1.33**	**319**	P	**Pb**	**04 13 12.6**	**+0.3**
IACM	**Heraklion**	**1.35**	**318**	P	**Pb**	**04 13 13.0**	**+0.5**
IACM	**Heraklion**	**1.35**	**318**	P	**Pb**	**04 13 12.1**	**-0.4**
IACM				S	**Sb**	**04 13 30.2**	**+0.8**
IACM				AML	AML	04 13 43.6	
	comp=N,21731μm,1.1s						
IACM				AML	AML	04 13 45.5	
	comp=E,33406μm,0.7s						
IACM	**Heraklion**	**1.35**	**318**		**Pb**	**04 13 13.0**	**+0.5**
KARP	**Karpathos**	**1.48**	**33**	P	**Pb**	**04 13 15.2**	**+0.4**
KARP				S	**Sb**	**04 13 34.2**	**+0.9**
	comp=E,2μm,1.0s						
KARP	**Karpathos**	**1.48**	**33**	P	**Pb**	**04 13 15.3**	**+0.5**
KARP	**Karpathos**	**1.48**	**33**	PN	**Pb**	**04 13 13.8**	**-1.0**
KARP				SN	**Sb**	**04 13 33.4**	**+0.1**
KARP	**Karpathos**	**1.48**	**33**		**Pb**	**04 13 15.0**	**+0.2**
KARP	**Karpathos**	**1.48**	**33**	Pn	**Pb**	**04 13 14.8**	**0.0**
PRNS	**Prines Rethymn**	**1.73**	**308**	P	**Pb**	**04 13 19.0**	**0.0**
GVDS	**Gavdos**	**1.80**	**288**	P	**Pb**	**04 13 18.8**	**-1.4**
GVD	**Gavdhos**	**1.80**	**288**	P	**Pb**	**04 13 18.6**	**-1.6**
GVD	**Gavdhos**	**1.80**	**288**	P	**Pb**	**04 13 18.7**	**-1.6**
GVD	**Gavdhos**	**1.80**	**288**		**Pb**	**04 13 18.5**	**-1.6**
VAM	**Vamos**	**1.96**	**305**	P	**Pb**	**04 13 21.1**	**-1.8**
VAM	**Vamos**	**1.96**	**305**	P	**Pb**	**04 13 21.0**	**-1.8**
VAM	**Vamos**	**1.96**	**305**	P	**Pb**	**04 13 21.1**	**-1.8**
VAM				AML	AML	04 14 06.5	
	comp=E,1854μm,0.6s						
VAM				AML	AML	04 14 08.8	
	comp=N,2790μm,0.8s						
VAM	**Vamos**	**1.96**	**305**		**Pb**	**04 13 21.0**	**-1.9**
ANAF	**Anafi Island**	**2.07**	**351**	P	**Pn**	**04 13 21.9**	**+1.4**
ANAF	**Anafi Island**	**2.07**	**351**	P	**Pn**	**04 13 22.0**	**+1.5**
CHAN	**Chania**	**2.13**	**305**	P	**Pb**	**04 13 23.6**	**-2.1**
IMMV	**Iera Moni Meta**	**2.14**	**303**	P	**Pb**	**04 13 23.7**	**-2.2**
IMMV	**Iera Moni Meta**	**2.14**	**303**	P	**Pb**	**04 13 23.9**	**-2.1**
IMMV	**Iera Moni Meta**	**2.14**	**303**		**Pn**	**04 13 23.5**	**+2.2**
SANT	**Santorini**	**2.14**	**344**	P	**Pn**	**04 13 22.4**	**+0.9**
SANT	**Santorini**	**2.14**	**344**	⇓P	**Pn**	**04 13 22.8**	**+1.3**
SANT	**Santorini**	**2.14**	**344**	PN	**Pn**	**04 13 20.8**	**-0.7**
SANT	**Santorini**	**2.14**	**344**		**Pn**	**04 13 22.9**	**+1.4**
SANT	**Santorini**	**2.14**	**344**	Pn	**Pn**	**04 13 22.4**	**+0.9**
THR6	**Thira Island,**	**2.14**	**343**	P	**Pn**	**04 13 22.8**	**+1.4**
THR6	**Thira Island,**	**2.14**	**343**	P	**Pn**	**04 13 22.6**	**+1.2**
THR9	**Santorini-Faro**	**2.15**	**342**	P	**Pn**	**04 13 22.8**	**+1.2**
THR8	**Santorini-Mono**	**2.17**	**345**	P	**Pn**	**04 13 23.0**	**+1.2**
THR8	**Santorini-Mono**	**2.17**	**345**	P	**Pn**	**04 13 22.8**	**+1.0**
SAP2K	**Karterados**	**2.18**	**344**	P	**Pn**	**04 13 23.2**	**+1.2**
THR3	**Thira Island,**	**2.19**	**344**	P	**Pn**	**04 13 23.6**	**+1.5**
THR3	**Thira Island,**	**2.19**	**344**	P	**Pn**	**04 13 22.5**	**+0.4**
THR7	**Fira-Santorini**	**2.20**	**344**	P	**Pn**	**04 13 23.5**	**+1.3**
THR7	**Fira-Santorini**	**2.20**	**344**	P	**Pn**	**04 13 23.5**	**+1.3**
THR5	**Thira Island,**	**2.21**	**343**	P	**Pn**	**04 13 23.5**	**+1.1**
THR5	**Thira Island,**	**2.21**	**343**	P	**Pn**	**04 13 23.6**	**+1.2**
SAP3	**Santorini-Thir**	**2.23**	**343**	P	**Pn**	**04 13 23.9**	**+1.2**
KNDR	**Palaiochora Ch**	**2.25**	**295**	P	**Pb**	**04 13 25.4**	**-2.3**
RODP	**Rodopos**	**2.34**	**303**	P	**Pn**	**04 13 26.4**	**+2.1**
ARG	**Arkhangelos**	**2.49**	**39**	P	**Pb**	**04 13 29.2**	**-2.7**
ARG	**Arkhangelos**	**2.49**	**39**	P	**Pb**	**04 13 29.2**	**-2.7**
ARG	**Arkhangelos**	**2.49**	**39**	PN	**Pn**	**04 13 27.9**	**+1.7**
AMGA	**Amorgos Island**	**2.53**	**355**	P	**Pn**	**04 13 27.9**	**+1.1**
AMGA	**Amorgos Island**	**2.53**	**355**	P	**Pn**	**04 13 27.5**	**+0.7**
DAT	**Datca**	**2.68**	**25**	PN	**Pn**	**04 13 29.9**	**+1.0**
MHLO	**Agia Marina, M**	**2.78**	**329**	P	**Pn**	**04 13 31.9**	**+1.6**
APE	**Apeiranthos**	**2.81**	**349**	⇑*i*P	**Pn**	**04 13 31.3**	**+0.7**
APE	**Apeiranthos**	**2.81**	**349**	P	**Pn**	**04 13 31.4**	**+0.7**
APE	**Apeiranthos**	**2.81**	**349**	⇑P	**Pn**	**04 13 33.3**	**+2.7**
APE	**Apeiranthos**	**2.81**	**349**	PN	**Pn**	**04 13 30.4**	**-0.2**
ANKY	**Antikythira Is**	**2.82**	**304**	P	**Pn**	**04 13 33.2**	**+2.4**
ANKY	**Antikythira Is**	**2.82**	**304**	P	**Pn**	**04 13 33.2**	**+2.4**
BODT	**Bodrum**	**2.90**	**18**	P	**Pn**	**04 13 33.4**	**+1.5**
BODT	**Bodrum**	**2.90**	**18**	PN	**Pn**	**04 13 32.8**	**+0.9**
SLUM	**Salum**	**2.92**	**196**	P	**Pn**	**04 13 32.8**	**+0.6**
	baz=198						
SLUM				AMP		04 14 00.0	
	baz=198						
SLUM				S	**Sn**	**04 14 05.4**	**-0.7**
	baz=198						
MATC	**Matruh**	**3.08**	**163**	P	**Pn**	**04 13 35.1**	**+0.7**
	baz=164						
MATC				AMP		04 14 00.0	
	baz=164						
KTHA	**Kythira Island**	**3.20**	**308**	P	**Pn**	**04 13 36.2**	**+0.2**
KTHA	**Kythira Island**	**3.20**	**308**	P	**Pn**	**04 13 36.8**	**+0.7**
DALY	**Dalyan (Mula)**	**3.22**	**38**	PN	**Pn**	**04 13 37.9**	**+1.6**
TURN	**Turunc**	**3.24**	**37**	PN	**Pn**	**04 13 34.8**	**-1.7**
KTHR	**Kythira**	**3.24**	**308**	P	**Pn**	**04 13 37.6**	**+1.0**
MLSB	**Milas**	**3.25**	**23**	PN	**Pn**	**04 13 38.1**	**+1.3**
YER	**Yerkesik**	**3.30**	**31**	P	**Pn**	**04 13 39.5**	**+2.0**
YER	**Yerkesik**	**3.30**	**31**	PN	**Pn**	**04 13 38.9**	**+1.4**
FETY	**Fethiye**	**3.32**	**45**	P	**Pn**	**04 13 39.1**	**+1.4**
FETY	**Fethiye**	**3.32**	**45**	PN	**Pn**	**04 13 39.3**	**+1.6**
KSL	**Kastellorizon**	**3.34**	**56**	P	**Pn**	**04 13 39.7**	**+1.8**
AKAS	**Kas**	**3.40**	**55**	PN	**Pn**	**04 13 40.7**	**+1.8**
SMG	**Samos**	**3.44**	**9**	P	**Pn**	**04 13 40.4**	**+1.2**
GCAM	**G?zelcaml?**	**3.49**	**14**	PN	**Pn**	**04 13 40.9**	**+0.9**
VLI	**Veliai**	**3.57**	**313**	P	**Pn**	**04 13 41.4**	**+0.3**
VLI	**Veliai**	**3.57**	**313**	P	**Pn**	**04 13 41.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.89**	**20**	PN	**Pn**	**04 13 46.9**	**+1.3**
ELL	**Elmali**	**3.90**	**50**	P	**Pn**	**04 13 48.3**	**+2.6**
ELL	**Elmali**	**3.90**	**50**	PN	**Pn**	**04 13 48.0**	**+2.2**
ELL	**Elmali**	**3.90**	**50**		**Pn**	**04 13 48.4**	**+2.6**
VLY	**Voula,Athens**	**4.03**	**332**	P	**Pn**	**04 13 48.6**	**+1.2**
URLA	**Izmir**	**4.06**	**5**	PN	**Pn**	**04 13 48.6**	**+0.7**
CHOS	**Chios island**	**4.07**	**359**	PN	**Pn**	**04 13 48.4**	**+0.3**
KORT	**Korkueli**	**4.34**	**50**	PN	**Pn**	**04 13 54.1**	**+2.4**
ITM	**Ithomi**	**4.49**	**311**	P	**Pn**	**04 13 54.7**	**+1.0**
ITM	**Ithomi**	**4.49**	**311**		**Pn**	**04 13 55.0**	**+1.3**
ITM					**Sn**	**04 14 47.4**	**+2.5**
MANT	**Manisa**	**4.60**	**24**		**Pn**	**04 13 57.6**	**+2.2**
KULA	**Kula-Manisa**	**4.65**	**25**	PN	**Pn**	**04 13 57.7**	**+1.6**
BCK	**Bucak**	**4.77**	**47**	PN	**Pn**	**04 13 59.8**	**+2.1**
HBRG	**Burj al `Arab**	**4.84**	**139**	AMP		04 14 00.0	
	baz=140						
ISP	**Isparta**	**4.97**	**44**	P	**Pn**	**04 14 02.1**	**+1.6**
ISP	**Isparta**	**4.97**	**44**	⇓P	Pb	04 14 09.3	-4.9
ISP	**Isparta**	**4.97**	**44**		**Pn**	**04 14 02.1**	**+1.6**
SWA2		**5.08**	**187**	P	**Pn**	**04 14 02.0**	**+0.1**
	baz=188						
SWA2				S	**Sn**	**04 14 56.9**	**-2.7**
	baz=188						
SWA2				AMP		04 15 00.0	
	baz=188						
SIMA	**Simav-Kutahya**	**5.28**	**25**	PN	**Pn**	**04 14 06.2**	**+1.6**
GAZI	**Gazipasa**	**5.38**	**67**	PN	**Pn**	**04 14 08.3**	**+2.3**
SHUT	**Suhut-Afyon**	**5.52**	**39**	PN	**Pn**	**04 14 09.3**	**+1.4**
AGG	**Agios Georgios**	**5.63**	**328**	P	**Pn**	**04 14 09.9**	**+0.5**
AGG	**Agios Georgios**	**5.63**	**328**		**Pn**	**04 14 09.9**	**+0.5**
CSS	**Mathiatis**	**5.94**	**82**	Pn	**Pn**	**04 14 15.1**	**+1.5**
CSS	**Mathiatis**	**5.94**	**82**		**Pn**	**04 14 15.2**	**+1.5**
CSS					**Sn**	**04 15 21.2**	**+0.6**
HMYD	**Mayadein**	**5.97**	**138**	P	**Pn**	**04 14 14.3**	**+0.2**
	baz=138						
HNAT	**Natroun**	**6.00**	**140**	P	**Pn**	**04 14 15.1**	**+0.6**
	baz=140						
HNAT				AMP		04 15 00.0	
	baz=140						
KONT	**Konya--Tatoy**	**6.19**	**52**	PN	**Pn**	**04 14 19.2**	**+2.1**
LADK	**Ladik-KONYA**	**6.33**	**50**	PN	**Pn**	**04 14 21.0**	**+1.8**
LIT	**Litokhoron**	**6.49**	**334**	P	**Pn**	**04 14 21.2**	**0.0**
LIT	**Litokhoron**	**6.49**	**334**	Pn	**Pn**	**04 14 21.2**	**0.0**
KOT	**Kottamia**	**6.49**	**131**	P	**Pn**	**04 14 21.0**	**-0.2**
	baz=131						
KOT				AMP		04 15 00.0	
	baz=131						
HHAG	**Hagoal**	**6.64**	**129**	P	**Pn**	**04 14 23.8**	**+0.4**
	baz=129						
HHAG				AMP		04 15 00.0	
	baz=129						
NBNS	**Bani Suef**	**7.16**	**141**	P	**Pn**	**04 14 30.5**	**0.0**
	baz=141						
NBNS				AMP		04 15 00.0	
	baz=141						
SUZ	**Suez**	**7.19**	**126**	P	**Pn**	**04 14 30.3**	**-0.6**
	baz=127						
HFRF	**Wahat Farafira**	**7.37**	**165**	P	**Pn**	**04 14 33.1**	**-0.2**
	baz=165						
FNA	**Florina**	**7.50**	**331**	P	**Pn**	**04 14 37.8**	**+2.6**
FNA	**Florina**	**7.50**	**331**	Pn	**Pn**	**04 14 37.8**	**+2.6**
SLTI	**Sal'it**	**7.71**	**103**	Pn	**Pn**	**04 14 37.7**	**-0.2**
SLTI				Sn	**Sn**	**04 15 59.6**	**-4.6**
KZIT	**Kziot**	**7.72**	**114**	Pn	**Pn**	**04 14 38.6**	**+0.4**
KZIT				Sn	**Sn**	**04 15 59.9**	**-4.7**
KZIT	**Kziot**	**7.72**	**114**	P	**Pn**	**04 14 39.1**	**+0.9**
	comp=N,29nm,1.0s,comp=N,0.4nm						
MMAI	**Mount Meron Ar**	**7.80**	**97**	Pn	**Pn**	**04 14 39.1**	**-0.3**
	comp=N,3.3nm,0.3s,baz=265,slow=13,SNR=9.0						
MMAI				Sn	**Sn**	**04 16 04.8**	**-1.9**
	comp=N,4.1nm,0.3s,baz=284,slow=25,SNR=5.4						
AMAZ	**Amatzia**	**7.85**	**108**	Pn	**Pn**	**04 14 40.4**	**+0.4**
AMAZ				Sn	**Sn**	**04 16 03.2**	**-4.6**
MMLI	**Mount Malkishu**	**7.96**	**101**	Pn	**Pn**	**04 14 41.3**	**-0.1**
GEM	**Giv'at Ha'Em**	**7.98**	**95**	Pn	**Pn**	**04 14 43.0**	**+1.3**
KSDI	**Kefar Szold**	**7.98**	**95**	Pn	**Pn**	**04 14 42.2**	**+0.5**
KSDI				Sn	**Sn**	**04 16 08.4**	**-2.5**
NATI	**Neve Ativ**	**8.03**	**95**	Pn	**Pn**	**04 14 43.0**	**+0.6**
BRTR	**Keskin Array B**	**8.05**	**46**	Pn	**Pn**	**04 14 45.6**	**+2.8**
	comp=N,0.2nm,0.3s,baz=222,slow=13,SNR=16						
BRTR				Sn	**Sn**	**04 16 13.1**	**+0.2**
	comp=N,0.1nm,0.3s,baz=216,slow=27,SNR=4.0						
BRTR	**Keskin Array B**	**8.05**	**46**		**Pn**	**04 14 45.4**	**+2.6**
BR131	**Keskin Array S**	**8.06**	**46**	P	**Pn**	**04 14 43.4**	**+0.6**
BR131	**Keskin Array S**	**8.06**	**46**		**Pn**	**04 14 43.4**	**+0.6**
YTIR	**Yattir**	**8.08**	**109**	Pn	**Pn**	**04 14 43.4**	**+0.3**
HMDT	**Nahal Hemdat**	**8.10**	**102**	Pn	**Pn**	**04 14 43.2**	**-0.1**
DSI	**Dead Sea**	**8.21**	**107**	Pn	**Pn**	**04 14 45.3**	**+0.5**
DSI				Sn	**Sn**	**04 16 12.2**	**-4.3**
MZDA	**Masada**	**8.29**	**109**	Pn	**Pn**	**04 14 45.9**	**0.0**
MZDA				Sn	**Sn**	**04 16 13.2**	**-5.3**
KRMI	**Paran Flat**	**8.36**	**118**	Pn	**Pn**	**04 14 47.2**	**+0.2**
KRMI				Sn	**Sn**	**04 16 14.2**	**-6.2**
SCTE	**Santa Cesarea**	**8.42**	**315**	Pn	**Pn**	**04 14 46.7**	**-0.9**
PRNI	**Paran**	**8.45**	**115**	Pn	**Pn**	**04 14 48.3**	**+0.1**
PRNI				Sn	**Sn**	**04 16 16.9**	**-5.6**
WALJ	**Wala**	**8.55**	**106**	P	**Pn**	**04 14 49.5**	**0.0**
	comp=N,35nm,0.9s,comp=N,0.2nm						
VTS	**Vitosha**	**8.61**	**345**	⇑P	**Pn**	**04 14 53.2**	**+2.7**
VTS	**Vitosha**	**8.61**	**345**	⇑P	**Pn**	**04 14 53.2**	**+2.7**
HRFI	**Mount Harif**	**8.63**	**117**	Pn	**Pn**	**04 14 51.6**	**+0.9**
MBRI	**Mt Berech**	**8.68**	**119**	Pn	**Pn**	**04 14 51.8**	**+0.5**
EIL	**Elat**	**8.77**	**119**	Pn	**Pn**	**04 14 52.5**	**0.0**
EIL				Sn	**Sn**	**04 16 25.2**	**-5.2**
EIL	**Elat**	**8.77**	**119**	Pn	**Pn**	**04 14 52.5**	**0.0**
	comp=N,1.4nm,0.3s,baz=303,slow=6.4,SNR=12						
EIL				Sn	**Sn**	**04 16 25.5**	**-4.9**
	comp=N,1.3nm,0.3s,baz=127,slow=20,SNR=3.7						
TIP	**Timpagrande**	**8.98**	**305**	⇑P	**Pn**	**04 14 52.3**	**-3.1**
TIP				⇓S	**Sn**	**04 16 29.1**	**-6.4**
TIP	**Timpagrande**	**8.98**	**305**		**Pn**	**04 14 53.9**	**-1.6**
TIP					**Sn**	**04 16 32.0**	**-3.6**
ASF	**Jabal al Asfar**	**9.23**	**100**	Pn	**Pn**	**04 14 58.4**	**-0.6**
	comp=N,0.5nm,0.3s,baz=250,slow=4.0,SNR=4.4						
ASF				Sn	**Sn**	**04 16 38.7**	**-3.1**
	comp=N,0.4nm,0.3s,baz=120,slow=20,SNR=3.2						
ASF	**Jabal al Asfar**	**9.23**	**100**	P	**Pn**	**04 14 58.4**	**-0.6**
	comp=N,5.2nm,1.2s						
WDD	**Wied Dalam**	**9.67**	**282**	Pn	**Pn**	**04 15 04.9**	**+0.1**
PDG	**Podgorica**	**9.76**	**328**	Pn	**Pn**	**04 15 05.8**	**-0.2**
RAFF	**Raffo Rosso**	**10.03**	**290**		**Pn**	**04 15 09.0**	**-0.7**
VAE	**Valguarnera**	**10.05**	**292**	Pn	**Pn**	**04 15 11.1**	**+1.0**
	comp=N,5.6nm,0.3s,baz=148,slow=3.4,SNR=14						
VAE				Sn	**Sn**	**04 16 53.8**	**-8.0**
	comp=N,1.0nm,0.3s,baz=144,slow=19,SNR=2.2						
HERR	**Herculane**	**10.95**	**346**	⇓P	**Pn**	**04 15 23.4**	**+1.1**
CORL	**Corleone**	**11.01**	**293**		**Pn**	**04 15 24.8**	**+1.6**
SGRT	**San Giovanni R**	**11.08**	**315**	Pn	**Pn**	**04 15 22.1**	**-2.1**
VOIR		**11.15**	**356**	⇑P	**Pn**	**04 15 27.0**	**+1.9**
VOIR		**11.15**	**356**	⇑P	**Pn**	**04 15 27.0**	**+1.9**
MLR	**Muntele Rosu**	**11.17**	**359**	Pn	**Pn**	**04 15 26.0**	**+0.5**
	comp=N,0.1nm,0.3s,baz=188,slow=10.0,SNR=3.3						
MLR				LR	LR	04 20 40.4	
	comp=N,287nm,18.1s,baz=120,slow=43						
MLR	**Muntele Rosu**	**11.17**	**359**	⇓P	**Pn**	**04 15 27.7**	**+2.2**
PAOL	**Paolisi**	**11.38**	**310**	Pn	**Pn**	**04 15 27.1**	**-1.2**
INTR	**Introdacqua**	**12.34**	**312**		**Pn**	**04 15 42.5**	**+1.2**
NRCA	**Norcia**	**13.29**	**314**		**Pn**	**04 15 55.9**	**+1.6**
BURAR	**Bucovina Array**	**13.31**	**357**	⇓P	**P**	**04 15 59.7**	**-4.3**
BURAR	**Bucovina Array**	**13.31**	**357**	⇓P	**P**	**04 15 59.7**	**-4.3**
SORM	**Soroca**	**13.91**	**6**	⇑P	**P**	**04 16 08.3**	**-2.2**
SORM	**Soroca**	**13.91**	**6**	⇑P	**P**	**04 16 08.3**	**-2.2**
KOLS	**Kolonicke sedl**	**14.90**	**350**	*e*P	**Pn**	**04 16 18.7**	**+2.5**
KOLS	**Kolonicke sedl**	**14.90**	**350**	*e*P	**Pn**	**04 16 18.7**	**+2.5**
SOKA	**Soboth**	**14.96**	**329**	*i* P	**P**	**04 16 23.3**	**+1.0**
	comp=N,1.2nm,0.6s						
OBKA	**Obir**	**15.04**	**328**	*i* Pn	**Pn**	**04 16 18.8**	**+0.6**
	comp=N,1.3nm,0.4s						
VYHS	**Vyhne**	**15.19**	**341**	*e*P	**Pn**	**04 16 21.0**	**+0.9**
VYHS	**Vyhne**	**15.19**	**341**	*e*P	**Pn**	**04 16 21.0**	**+0.9**
MODS	**Modra-Piesok**	**15.54**	**337**	*e*P	**P**	**04 16 27.8**	**-0.9**
MODS	**Modra-Piesok**	**15.54**	**337**	*e*P	**P**	**04 16 27.8**	**-0.9**
CONA	**Conrad Observa**	**15.65**	**333**	*i* Pn	**Pn**	**04 16 26.8**	**+0.8**
	SNR=5.4						
STAL	**STALIGIAL**	**15.72**	**323**	P	**P**	**04 16 31.0**	**+0.3**
STAL				IAmb	IAmb	04 16 42.6	
	comp=Z,7.6nm,0.6s						
KIV	**Kislovodsk**	**16.01**	**48**	*e*P	**P**	**04 16 35.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,71nm,1.1s						
KIV	**Kislovodsk**	**16.01**	**48**		**P**	**04 16 35.9**	**+1.9**
KIV				IAmb	IAmb	04 16 37.5	
	comp=Z,19nm,0.9s						
KVAR	**Kislovodsk Arr**	**16.01**	**48**	Pn	**P**	**04 16 34.2**	**+0.2**
	baz=102,slow=19,SNR=6.5						
KBA	**Koelnbreinsper**	**16.02**	**327**	*i* Pn	**Pn**	**04 16 29.2**	**-1.6**
	comp=Z,0.1nm,0.3s						
KBZ	**Khabaz**	**16.02**	**49**	Pn	**P**	**04 16 34.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=234,slow=6.3,SNR=17						
CTI	**Castel Tesino**	**16.11**	**321**	P	**Pn**	**04 16 33.6**	**+1.5**
CTI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CTI	**Castel Tesino**	**16.11**	**321**	P	**Pn**	**04 16 33.6**	**+1.5**
ABTA	**Albaltersbach**	**16.16**	**324**	*i* Pn	**Pn**	**04 16 31.7**	**-1.0**
	comp=Z,7.3nm,0.6s						
MOA	**Molln**	**16.21**	**330**	*i* Pn	**Pn**	**04 16 34.6**	**+1.4**
	comp=Z,3.6nm,1.1s						
ZEI	**Tsey**	**16.23**	**53**	*e*P	**P**	**04 16 38.0**	**+1.5**
ZEI				pmax	pmax		
	comp=Z,11nm,0.9s						
NCK	**Nalchik**	**16.35**	**51**	*e*P	**P**	**04 16 36.9**	**-0.8**
NCK				pmax	pmax		
	comp=Z,5.0nm,0.2s						
KRUC	**Moravsky**	**16.43**	**337**	*e*PN	**Pn**	**04 16 37.0**	**+1.0**
AKASG	**Malin Array Be**	**16.54**	**7**	Pn	**Pn**	**04 16 37.5**	**+0.2**
	comp=Z,3.2nm,0.3s,baz=194,slow=12,SNR=15						
AKASG	**Malin Array Be**	**16.54**	**7**		**P**	**04 16 38.6**	**-1.0**
AKBB	**Malin Array Si**	**16.54**	**7**	P	**P**	**04 16 38.6**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,11nm,0.7s						
AKBB	**Malin Array Si**	**16.54**	**7**		**P**	**04 16 38.6**	**-1.0**
AKBB				IAmb	IAmb	04 16 41.3	
	comp=Z,11nm,0.7s						
VRAC	**Vranov**	**16.58**	**338**	Pn	**Pn**	**04 16 38.9**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=110,slow=2.3,SNR=3.9						
VRAC				LR	LR	04 24 02.0	
	comp=Z,90nm,18.0s,baz=104,slow=41						
VRAC	**Vranov**	**16.58**	**338**	*e*PN	**Pn**	**04 16 38.9**	**+1.0**
MORC	**Moravsky Berou**	**16.71**	**340**	*e*PN	**Pn**	**04 16 39.0**	**-0.6**
WTTA	**Wattenberg**	**16.95**	**324**	*i* Pn	**Pn**	**04 16 43.4**	**+0.6**
	comp=Z,6.3nm,0.9s						
WATA	**Walderalm**	**17.03**	**324**	*i* Pn	**Pn**	**04 16 43.9**	**+0.2**
	comp=Z,7.1nm,0.7s						
SQTA	**Sankt Quirin**	**17.13**	**323**	*i* Pn	**Pn**	**04 16 44.3**	**-0.6**
	comp=Z,5.6nm,0.6s						
GERES	**GERESS Array B**	**17.23**	**331**	P	**Pn**	**04 16 43.6**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=14						
GERES				LR	LR	04 24 00.4	
	comp=Z,44nm,19.1s,baz=99,slow=40						
GERES	**GERESS Array B**	**17.23**	**331**		**P**	**04 16 47.2**	**-0.2**
FETA	**Feichten**	**17.24**	**322**	*i* Pn	**

ABKAR	**Akbulak array**	28.99	49	P	P	04 18 46.1	+1.6
ABKAR				IAmb	IAmb	04 18 53.3	
	comp=Z,2.5nm,0.9s						
ABKAR	**Akbulak array**	28.99	49	P	P	04 18 45.3	+0.7
EKA	**Eskdalemuir Ar**	29.22	325	P	P	04 18 46.5	0.0
	comp=Z,2.6nm,0.5s,baz=119,slow=11,SNR=12						
TOA0	**Torodi Ar. Sit**	30.60	232	P	P	04 18 60.0	+0.8
TORD	**Torodi Ar. Bea**	30.60	232	P	P	04 19 00.4	+1.3
	comp=Z,1.2nm,0.4s,baz=30,slow=8.0,SNR=37						
TORD	**Torodi Ar. Bea**	30.60	232	P	P	04 18 59.3	+0.1
ARCES	**ARCESS Array B**	35.28	360	P	P	04 19 38.3	-1.2
	comp=Z,4.1nm,0.8s,baz=180,slow=7.2,SNR=11						
BRVK	**Borovoye**	36.29	45	eP	P	04 19 50.1	+1.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	38.30	63	iP	P	04 20 08.1	+2.4
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	38.30	63	P	P	04 20 08.1	+2.4
AAK				IAmb	IAmb	04 20 21.3	
	comp=Z,3.7nm,1.0s						
NIL	**Nilore**	38.77	77	P	P	04 20 10.1	+0.5
NIL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NIL	**Nilore**	38.77	77	P	P	04 20 10.1	+0.5
NRN	**Naryn**	39.52	65	IAmb	IAmb	04 20 19.1	
	comp=Z,4.8nm,0.9s						
DBIC	**Dimbokro**	39.70	233	P	P	04 20 17.6	+0.1
	comp=Z,2.1nm,0.8s,baz=31,slow=12,SNR=4.4						
KSH	**Kashi**	39.75	68	P	P	04 20 16.4	-1.4
KSH				PcP	PcP	04 22 21.8	-2.0
KSH				S	S	04 26 12.3	-7.5
KSH				sS	sS	04 26 38.8	+5.3
KSH				SS	SS	04 29 03.0	-13
KSH				pmax	pmax		
	comp=Z,290nm,5.4s						
KSH				LR	LR		
	comp=N,240nm,10.8s						
KSH				LR	LR		
	comp=E,290nm,11.8s						
KSH				LR	LR		
	comp=Z,150nm,11.8s						
KURK	**Kurchatov**	41.08	50	eP	P	04 20 29.9	+1.5
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	41.08	50	P	P	04 20 29.9	+1.5
MAKZ	**Makanchi**	43.34	56	P	P	04 20 48.7	+1.7
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAKZ	**Makanchi**	43.34	56	P	P	04 20 48.7	+1.7
MK31	**Makanchi Array**	43.56	56	iP	P	04 20 50.3	+1.5
MKAR	**Makanchi Array**	43.56	56	P	P	04 20 50.4	+1.6
	comp=Z,11nm,0.6s,baz=270,slow=7.3,SNR=69						
ZALV	**Zalesovo Beam**	45.00	46	P	P	04 21 01.1	+1.0
	comp=Z,4.9nm,0.4s,baz=272,slow=8.6,SNR=14						
DGZ	**Jazzator, Alta**	46.76	51	eP	P	04 21 15.8	+1.5
DAG	**Danmarks Havn**	47.06	347	eP	P	04 21 15.8	-0.3
DAG	**Danmarks Havn**	47.06	347	iP	P	04 21 15.8	-0.3
WMQ	**Urumqi**	47.72	59	eP	P	04 21 25.5	+3.8
DANN	**Dangsing**	49.00	80	eP	P	04 21 34.0	+1.9
	comp=Z,47nm,0.8s						
KOLN	**Koldanda**	49.09	81	eP	P	04 21 33.8	+1.1
	comp=Z,9.9nm,0.7s						
GKN	**Gorkha**	49.84	80	eP	P	04 21 39.6	+1.2
	comp=Z,12nm,0.6s						
SUMG	**Summit**	50.07	339	eP	P	04 21 41.2	+1.5
SUMG	**Summit**	50.07	339	iP	P	04 21 41.2	+1.5
DMN	**Daman**	50.38	81	eP	P	04 21 43.9	+1.3
	comp=Z,15nm,0.8s						
KKN	**Kakani**	50.45	80	eP	P	04 21 44.1	+1.0
	comp=Z,11nm,0.7s						
PKIN	**Phulchoki**	50.63	81	eP	P	04 21 45.5	+1.0
	comp=Z,11nm,0.9s						
PKI	**Pulchoki**	50.64	81	eP	P	04 21 45.5	+0.9
	comp=Z,13nm,0.9s						
GUN	**Gumba**	50.89	80	eP	P	04 21 47.8	+1.2
JIRN	**Jiri**	51.24	80	eP	P	04 21 50.3	+1.1
	comp=Z,13nm,0.7s						
TAPN	**Taplejung**	52.61	80	eP	P	04 22 00.3	+1.0
GTA	**Gaotai**	57.63	62	eP	P	04 22 36.5	+1.3
GTA				pP	pP	04 22 42.9	-0.7
GTA				sP	sP	04 22 46.3	-0.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	59.38	50	P	P	04 22 49.2	+1.9
	comp=Z,2.5nm,0.5s,baz=283,slow=7.3,SNR=21						
SONM	**Songino Array**	59.38	50	IAmb	IAmb	04 22 49.7	
	comp=Z,1.9nm,0.6s						
ULN	**Ulaanbaatar**	59.79	50	eP	P	04 22 52.0	+1.9
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI	**Tiksi**	61.67	21	iP	P	04 23 02.6	+0.3
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s						
FRB	**Frobisher Bay**	61.82	330	P	P	04 23 03.9	+0.5
	comp=Z,16nm,0.9s,baz=207,slow=2.3,SNR=4.0						
LZH	**Lanzhou**	61.83	64	eP	P	04 23 06.0	+1.8
LZH				pP	pP	04 23 10.1	-2.6
LZH				sP	sP	04 23 12.6	-3.3
LZH				PP	PP	04 25 17.5	-2.7
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				pmax	pmax		
	comp=Z,59nm,4.3s						
BOSA	**Boshof**	62.59	181	P	P	04 23 10.4	+1.4
	comp=Z,2.6nm,1.0s,baz=146,slow=11,SNR=3.7						
SCHQ	**Schefferville**	64.37	320	P	P	04 23 20.5	-0.1
	comp=Z,4.0nm,0.4s,baz=83,slow=8.1,SNR=4.5						
RES	**Resolute Bay**	64.70	345	P	P	04 23 21.6	-0.7
	comp=Z,2.0nm,0.9s,baz=250,slow=18,SNR=3.0						
HHC	**Hu-ho-hao-te**	65.42	56	eP	P	04 23 29.3	+1.6
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,9.0nm,5.5s						
CMAR	**Chiang Mai Arr**	65.84	84	P	P	04 23 31.7	+1.0
	comp=Z,1.3nm,0.3s,baz=300,slow=7.9,SNR=4.1						
KLR	**Kul'dur**	73.86	41	eP	P	04 24 21.0	+1.5
SEY	**Seymchan**	74.03	231	eP	P	04 24 21.5	+1.3
SADO	**Sadowa**	76.23	315	P	P	04 24 34.3	+1.1
	comp=Z,4.5nm,0.4s,baz=73,slow=3.1,SNR=3.6						
USRK	**Ussuriysk Ar.**	76.85	45	P	P	04 24 37.6	+0.9
	comp=Z,4.8nm,0.7s,baz=306,slow=4.9,SNR=11						
KSRS	**Korea Array**	78.14	53	P	P	04 24 44.4	+0.3
	comp=Z,2.1nm,0.6s,baz=302,slow=5.4,SNR=4.0						
ILAR	**Eielson Array**	81.10	357	P	P	04 25 00.8	+1.1
	comp=Z,0.4nm,0.9s,baz=337,slow=3.9,SNR=3.8						
MJAR	**Matsushiro Arr**	85.27	49	P	P	04 25 22.1	+0.4
	comp=Z,1.7nm,0.5s,baz=295,slow=6.9,SNR=3.7						
NEW	**Newport**	91.49	336	P	P	04 25 51.8	+0.6
	comp=Z,2.2nm,0.5s,baz=40,slow=4.2,SNR=6.8						
PDAR	**Pinedale Array**	93.26	329	P	P	04 25 59.3	-0.4
	comp=Z,0.2nm,0.4s,baz=45,slow=5.4,SNR=3.4						

ISCJB ***18*** *04:24:40.6±0.8, 60°.2S±0°.1×45°.4W±0°.3, h10km, mb3.7/4, Error ellipse: s-maj=19.2km s-min=13.6km az=154.1*
IDC ***18*** *04:24:40.9±0.9, 60°.30S×45°.78W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/24, mbtmp3.9/5, Error ellipse: s-maj=44.0km s-min=23.2km az=58.0*
NEIC ***18*** *04:24:42.0±1.0, 60°.22S±0°.10×45°.6W±0°.3, h10km±1km, mb4.0/7*
ISC 18 04:24:42.3±0.8, 60°.3S±0°.1×45°.6W±0°.2, h10km, n22,
σ1§00/16, mb3.9/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	7.76	44	Pn	Pn	04 26 34.5	-0.6
SNAA	**Sanae**	20.28	142	P	P	04 29 17.2	-0.5
	3.8nm,1.1s,baz=288,slow=10,SNR=7.1						
SNAA	**Sanae**	20.28	142	P	P	04 29 17.6	0.0
SNAA				IAmb	IAmb	04 29 28.0	
	comp=Z,11nm,1.4s						
TRQA	**Tornquist**	24.52	328	P	P	04 30 01.0	-0.7
PLCA	**Paso Flores**	24.89	310	P	P	04 30 05.4	+0.3
	comp=Z,1.4nm,0.8s,baz=202,slow=6.6,SNR=3.0						
PLCA	**Paso Flores**	24.89	310	P	P	04 30 03.7	-1.4
PLCA				IAmb	IAmb	04 30 21.8	
	comp=Z,5.5nm,1.1s						
QSPA	**South Pole Qui**	29.99	180	P	P	04 30 51.1	+0.4
	comp=Z,2.3nm,1.0s,baz=181,slow=9.0,SNR=4.2						
QSPA	**South Pole Qui**	29.99	180	IAmb	IAmb	04 30 57.0	
	comp=Z,3.1nm,1.2s						
MNMC	**Minye Minye**	44.50	327	P	P	04 32 55.5	+1.5
LPAZ	**La Paz**	46.84	330	P	P	04 33 12.6	-0.3
	comp=Z,1.0nm,0.8s,baz=172,slow=8.6,SNR=5.6						
LPAZ	**La Paz**	46.84	330	IAmb	IAmb	04 33 14.0	
	comp=Z,1.3nm,1.0s						
H10N3	**ASCENSION HYDR**	57.28	37	T	T	05 37 03.1	
	baz=199,slow=76,SNR=6.2						
H10N1	**ASCENSION HYDR**	57.29	38	T	T	05 37 04.6	
	baz=199,slow=76,SNR=4.5						
H10N2	**ASCENSION HYDR**	57.30	38	T	T	05 37 03.7	
	baz=199,slow=76,SNR=5.9						
TORD	**Torodi Ar. Bea**	82.33	46	P	P	04 37 06.1	+2.2
	comp=Z,0.9nm,0.8s,baz=211,slow=6.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	82.33	46	IAmb	IAmb	04 37 07.4	
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	145.38	73	PKPbc	PKPdf	04 44 17.8	-1.2
	comp=Z,2.4nm,0.7s,baz=225,slow=1.8,SNR=8.0						
ILAR	**Eielson Array**	145.57	312	PKPbc	PKPdf	04 44 18.3	-0.7
	comp=Z,0.8nm,0.9s,baz=157,slow=3.5,SNR=7.4						
MKAR	**Makanchi Array**	147.18	90	PKPbc	PKPbc	04 44 24.4	-0.2
	comp=Z,1.9nm,0.8s,baz=234,slow=3.6,SNR=8.5						
MKAR	**Makanchi Array**	147.18	90		PKPbc	04 44 24.3	-0.3
KURBB	**Kurchatov Arra**	147.84	82	PKPbc	PKPbc	04 44 25.7	-0.5
	comp=Z,0.3nm,0.5s,baz=222,slow=2.9,SNR=4.1						
KURK	**Kurchatov**	147.94	82		PKPbc	04 44 25.7	-0.7

IDC ***18*** *04:25:14.7±1.4, 1°.88N×127°.68E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/48, mbtmp3.7/5, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/39, Error ellipse: s-maj=93.5km s-min=19.2km az=73.0*
ISCJB ***18*** *04:25:25.7±0.8, 1°.88N±0°.06×127°.72E±0°.08, h112km, mb3.6/4, Error ellipse: s-maj=11.5km s-min=7.8km az=164.1*
DJA ***18*** *04:25:29.7±0.6, 2°N±3°×12°8E±°, h128km±5km, M4.4/6, mb4.4/3, mB4.9/3, MLv4.4/6, Mw(mB)4.2/3*
ISC 18 04:25:28.3±1.0, 1°.87N±0°.07×127°.6E±0°.1, h112km, n14,
σ2§00/16, mb3.6/4, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.12	192	P	Pn	04 25 53.5	+2.6
TNTI				S	Sn	04 26 11.2	+3.2
KMSI	**Cibinong**	3.84	250	P	Pn	04 26 26.3	+0.8
KMSI				S	Sn	04 27 10.8	+0.9
SANI	**Sanana**	4.21	202	P	Pn	04 26 29.6	-1.0
NLAI	**Namlea**	5.10	186	P	Pn	04 26 43.1	+0.5
SKMP	**Bagumbayan, Su**	5.53	327	eP	Pn	04 26 49.2	+0.8
SKMP	**Bagumbayan, Su**	5.53	327	eS	Sn	04 27 50.1	-0.6
KCP	**Kidapawan**	5.68	334	iP	Pn	04 26 53.8	+3.3
MRSI	**Marisa**	5.82	256	P	Pn	04 26 53.4	+1.1
	30nm,0.6s,697nm						
TTSI	**Tana Toraja**	9.18	238	P	Pn	04 27 37.9	0.0
FITZ	**Fitzroy Crossi**	19.94	185	P	P	04 29 48.8	-2.7
	0.1nm,0.3s,baz=18,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	22.67	163	P	P	04 30 17.9	-2.5
	1.5nm,0.4s,baz=344,slow=11,SNR=32						
ASAR	**Alice Springs**	26.12	167	P	P	04 30 49.6	-2.3
	0.4nm,0.4s,baz=343,slow=6.9,SNR=7.3						
SONM	**Songino Array**	49.32	341	P	P	04 34 06.2	0.0
	0.3nm,0.5s,baz=150,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	59.56	325	P	P	04 35 20.3	+0.1
	0.6nm,0.3s,baz=118,slow=8.4,SNR=8.6						
MKAR				LR	LR	05 02 02.4	
	comp=Z,50nm,18.6s,baz=328,slow=37						

IDC ***18*** *04:28:43.1±0.5, 60°.54S×43°.44W, h0km, mb4.5/19, mb1 4.5/22, mb1mx4.5/25, mbtmp4.5/22, ML3.9/3, MS4.4/14, Ms1 4.4/14, ms1mx4.3/19, Error ellipse: s-maj=18.5km s-min=11.8km az=49.0*
MOS ***18*** *04:28:43.8±1.3, 60°.37S×43°.04W, h10km, mb5.2/13, Error ellipse: s-maj=26.0km s-min=10.6km az=102.0*
ISCJB ***18*** *04:28:44.1±0.2, 60°.60S±0°.03×43°.43W±0°.09, h16km, mb4.6/25, MS4.5/18, Error ellipse: s-maj=6.6km s-min=4.7km az=158.6*
NEIC ***18*** *04:28:44.2±2.2, 60°.52S±0°.07×43°.1W±0°.1, h10km±1km, mb5.0/31*
GCMT ***18*** *04:28:47.2±0.2, 60°.81S±0°.01×43°.26W±0°.05, h12km, MW5.0/81, Moment Tensor Solution. s47,c70; s81,c127; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~3.38±.16; Mθθ3.40±.11; Mφφ~0.01±.15; Mrθ1.31±.36; Mθφ3.01±.12; Mφr~0.60±.43; Best double couple: M0=4.64900×10^16 NP1:φs264.00000°, δ56.00000°, λ-57.00000°. NP2: φs34.00000°, δ46.00000°, λ-129.00000°. Principal axes: T 5.2350, Plg6.0000°, Azm331.0000°; N -1.1650, Plg27.0000°, Azm64.0000°; P -4.0620, Plg62.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 04:28:45.7±0.3, 60°.54S±0°.05×43°.23W±0°.06, h16km, n231,
σ1§46/231, mb4.9/31, MS4.5/18, 6C-6D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	7.25	33	iP	Pn	04 30 28.9	-1.9
HOPE	**Hope Point**	7.25	33		Pn	04 30 28.9	-1.9
PMSA	**Palmer Station**	10.45	237	Pn	Pn	04 31 14.6	0.0
	2.0nm,0.3s,baz=79,slow=13,SNR=10.0						
PMSA				LR	LR	04 35 12.8	
	comp=Z,2μm,22.0s,baz=63,slow=38						
PMSA	**Palmer Station**	10.45	237		Pn	04 31 14.8	+0.2
PMSA				Sn	Sn	04 33 11.1	0.0
PMSA	**Palmer Station**	10.45	237	eP	Pn	04 31 18.8	+4.3
EFI	**East Falkland**	12.12	311	P	Pn	04 31 38.8	+1.4
EFI						04 33 46.7	
EFI	**East Falkland**	12.12	311	Pn	Pn	04 31 38.8	+1.4
EFI				Sn	Sn	04 33 46.7	-5.3
USHA	**Ushuaia**	14.58	282	Pn	Pn	04 32 10.2	-0.9
	0.2nm,0.3s,baz=139,slow=9.3,SNR=2.4						
USHA				LR	LR	04 36 24.9	
	comp=Z,3μm,19.3s,baz=116,slow=32						
VNA3	**Neumayer Olymp**	17.10	143	P	Pn	04 32 44.2	+0.6
VNA1	**Neumayer--Stat**	17.33	140	P	Pn	04 32 46.5	+0.1
VNA2	**Neumayer--Watz**	17.69	141	P	Pn	04 32 50.5	-0.5
	baz=297,slow=16						
SNAA	**Sanae**	19.31	142	P	Pn	04 33 11.0	+0.2
SNAA	**Sanae**	19.31	142	eP	Pn	04 33 10.9	+0.2
SNAA	**Sanae**	19.31	142	P	Pn	04 33 10.7	0.0
	0.5nm,0.3s,baz=294,slow=7.6,SNR=26						
SNAA				LR	LR	04 39 09.7	
	comp=Z,2μm,19.7s,baz=298,slow=32						
SNAA	**Sanae**	19.31	142	P	P	04 33 10.1	+0.5
SNAA				IAmb	IAmb	04 33 23.8	
	comp=Z,119nm,1.2s						
SNAA				Sn	Sn	04 36 39.7	-6.9
TRQA	**Tornquist**	25.43	324	P	P	04 34 12.4	0.0
TRQA				pmax	pmax		
	comp=Z,33nm,1.4s						
TRQA	**Tornquist**	25.43	324	P	P	04 34 12.4	0.0
TRQA				IAmb	IAmb	04 34 40.1	
	comp=Z,33nm,1.4s						
TRQA	**Tornquist**	25.43	324	eP	P	04 34 13.9	+1.5
PLCA	**Paso Flores**	26.00	307	eP	P	04 34 16.2	-1.4
PLCA	**Paso Flores**	26.00	307	P	P	04 34 16.5	-1.2
	comp=Z,3.4nm,0.7s,baz=177,slow=6.6,SNR=9.3						
PLCA				LR	LR	04 44 42.9	
	comp=Z,801nm,18.1s,baz=184,slow=37						
PLCA	**Paso Flores**	26.00	307	P	P	04 34 16.2	-1.4
PLCA				IAmb	IAmb	04 34 24.6	
	comp=Z,64nm,1.9s						
PLCA				PcP	PcP	04 37 41.2	-4.2
PLCA	**Paso Flores**	26.00	307	eP	P	04 34 17.2	-0.5
OGAUY	**Aigu**	27.27	339	eP	P	04 34 29.8	+0.8
OGAUY	**Aigu**	27.27	339	eP	P	04 34 29.8	+0.8
GO06	**Curarrehue**	27.35	307	P	P	04 34 28.8	-1.1
PLTB	**Pedras Altas**	29.59	342	eP	P	04 34 50.6	+0.8
PLTB	**Pedras Altas**	29.59	342	eP	P	04 34 50.6	+0.8
QSPA	**South Pole Qui**	29.69	180	P	P	04 34 51.7	+1.1
	comp=Z,12nm,1.1s,baz=176,slow=5.2,SNR=17						
QSPA				LR	LR	04 47 27.9	
	comp=Z,640nm,19.4s,baz=160,slow=38						
QSPA	**South Pole Qui**	29.69	180	P	P	04 34 51.6	+1.1
QSPA				IAmb	IAmb	04 34 53.4	
	comp=Z,56nm,1.4s						
CPSB	**Cacapava Do Su**	30.90	343	eP	P	04 35 01.9	+0.6
CPSB	**Cacapava Do Su**	30.90	343	eP	P	04 35 01.9	+0.6
CNLB	**Canela**	31.65	347	eP	P	04 35 09.5	+1.6
CNLB	**Canela**	31.65	347	eP	P	04 35 09.5	+1.6
PEL	**Peldehue**	32.75	314	P	P	04 35 16.6	-1.0
PEL				pmax	pmax		
	comp=Z,48nm,1.4s						
PEL	**Peldehue**	32.75	314	P	P	04 35 16.6	-1.0
ROC1	**El Roble**	33.02	314	P	P	04 35 19.4	-0.8
CFA	**Coronel Fontan**	33.33	319	P	P	04 35 21.5	-1.1
	comp=Z,2.4nm,0.5s,baz=189,slow=5.9,SNR=8.5						
SYO	**Syowa Base**	33.58	140	eP	P	04 35 23.6	-0.7
ITAB	**Concordia**	33.85	346	eP	P	04 35 28.0	+0.9
ITAB	**Concordia**	33.85	346	eP	P	04 35 28.0	+0.9
CPUP	**Villa Florida**	35.54	338	P	P	04 35 42.0	+0.3
CPUP				pmax	pmax		
	comp=Z,14nm,1.2s						
CPUP	**Villa Florida**	35.54	338	P	P	04 35 41.2	-0.5
	comp=Z,9.5nm,1.1s,baz=167,slow=8.4,SNR=11						
CPUP				LR	LR	04 48 34.8	
	comp=Z,704nm,21.5s,baz=170,slow=34						
CPUP	**Villa Florida**	35.54	338	P	P	04 35 42.0	+0.3
CPUP	**Villa Florida**	35.54	338	eP	P	04 35 42.0	+0.3
PTGB	**Pitanga**	36.33	346	eP	P	04 35 49.1	+0.5
PTGB	**Pitanga**	36.33	346	eP	P	04 35 49.1	+0.5
SPB	**Sao Paulo**	37.04	354	eP	P	04 35 55.9	+1.3
SPB	**Sao Paulo**	37.04	354	eP	P	04 35 55.9	+1.3
VAO	**Valinhos**	37.60	354	eP	P	04 36 00.6	+1.1
VAO	**Valinhos**	37.60	354	eP	P	04 36 00.6	+1.1
MAN01	**Angra dos Reis**	37.65	359	eP	P	04 36 01.1	+1.2
MAN01	**Angra dos Reis**	37.65	359	eP	P	04 36 01.1	+1.2
GO03	**Copiap**	37.68	319	P	P	04 35 59.3	-0.8
RCLB	**Rio Claro- Sao**	38.21	354	eP	P	04 36 05.6	+1.0
RCLB	**Rio Claro- Sao**	38.21	354	eP	P	04 36 05.6	+1.0
TRCB	**Terra Rica**	38.29	346	eP	P	04 36 06.8	+1.5
TRCB	**Terra Rica**	38.29	346	eP	P	04 36 06.8	+1.5
DUB01	**Friburgo-RJ**	38.44	1	eP	P	04 36 07.7	+1.3
DUB01	**Friburgo-RJ**	38.44	1	eP	P	04 36 07.7	+1.3
CAM01	**Campos-RJ**	38.70	2	eP	P	04 36 10.2	+1.6
CAM01	**Campos-RJ**	38.70	2	eP	P	04 36 10.2	+1.6
PCMB	**Pacaembu**	39.31	348	eP	P	04 36 14.1	+0.3
PCMB	**Pacaembu**	39.31	348	eP	P	04 36 14.1	+0.3
BB19B	**Bebedouro**	39.62	352	eP	P	04 36 16.6	+0.3
BB19B	**Bebedouro**	39.62	352	eP	P	04 36 16.6	+0.3
GO02	**Mina Guanaco**	39.74	321	P	P	04 36 17.3	-0.4
GO02				IAmb	IAmb	04 36 17.9	
	comp=Z,19nm,0.7s						
SBA	**Scott Base**	40.63	189	P	P	04 36 25.6	+1.5
SBA						04 37 57.3	
SBA				pmax	pmax		
	comp=Z,57nm,1.6s						
SBA	**Scott Base**	40.63	189	P	P	04 36 25.6	+1.5
SBA				IAmb	IAmb	04 36 27.2	
	comp=Z,57nm,1.6s						
SBA				PP	PP	04 37 57.2	-0.2
AQDB	**Aquidauana**	40.99	342	eP	P	04 36 27.0	-0.6
AQDB	**Aquidauana**	40.99	342	eP	P	04 36 27.0	-0.6
ITRB	**Iturama**	41.11	350	eP	P	04 36 29.1	+0.5
ITRB	**Iturama**	41.11	350	eP	P	04 36 29.1	+0.5
RIB01	**Linhares ES**	41.23	4	eP	P	04 36 31.1	+1.4
RIB01	**Linhares ES**	41.23	4	eP	P	04 36 31.1	+1.4
MAW	**Mawson**	41.37	146	P	P	04 36 30.9	+0.6
	comp=Z,1.8nm,0.6s,baz=292,slow=19,SNR=2.6						
MAW				LR	LR	04 53 03.6	
	comp=Z,583nm,19.1s,baz=242,slow=35						
BSFB	**Barra de Sao F**	41.70	3	eP	P	04 36 35.0	+1.5
BSFB	**Barra de Sao F**	41.70	3	eP	P	04 36 35.0	+1.5
SJMB	**Sao Joao De Ma**	41.82	3	eP	P	04 36 36.1	+1.7
SJMB	**Sao Joao De Ma**	41.82	3	eP	P	04 36 36.1	+1.7
LVC	**Limon Verde**	41.93	323	eP	P	04 36 35.8	0.0
LVC	**Limon Verde**	41.93	323	P	P	04 36 35.1	-0.7
	comp=Z,6.1nm,0.5s,baz=175,slow=4.3,SNR=9.0						
LVC	**Limon Verde**	41.93	323	P	P	04 36 35.8	0.0
LVC	**Limon Verde**	41.93	323	eP	P	04 36 35.9	+0.1
PMNB	**Patos De Minas**	42.02	355	eP	P	04 36 37.2	+1.0
PMNB	**Patos De Minas**	42.02	355	eP	P	04 36 37.2	+1.0
C2SB	**Chapadao do Su**	42.29	346	eP	P	04 36 38.7	+0.4
C2SB	**Chapadao do Su**	42.29	346	eP	P	04 36 38.7	+0.4
IPMB	**Ipameri, GO**	42.66	353	eP	P	04 36 41.6	+0.2
IPMB	**Ipameri, GO**	42.66	353	eP	P	04 36 41.6	+0.2
PP1B	**Ponte de Pedra**	43.70	344	eP	P	04 36 50.7	+0.9
PP1B	**Ponte de Pedra**	43.70	344	eP	P	04 36 50.7	+0.9
GO01	**Chusmiza**	44.80	324	P	P	04 36 59.0	-0.1
GO01				IAmb	IAmb	04 36 59.9	
	comp=Z,17nm,0.6s						
BDFB	**Brasilia**	44.97	353	P	P	04 37 00.3	+0.2
	comp=Z,15nm,1.0s,baz=167,slow=5.4,SNR=14						
BDFB				LR	LR	04 53 50.2	
	comp=Z,353nm,22.0s,baz=144,slow=34						
BDFB	**Brasilia**	44.97	353	IAmb	IAmb	04 37 01.3	
	comp=Z,26nm,1.1s						
ARAG	**Araguaiana, MT**	45.20	348	eP	P	04 37 02.0	+0.3
ARAG	**Araguaiana, MT**	45.20	348	eP	P	04 37 02.0	+0.3
MNMC	**Minye Minye**	45.42	324	P	P	04 37 03.5	-0.3
JANB	**Januaria**	45.42	359	eP	P	04 37 04.0	+0.4
JANB	**Januaria**	45.42	359	eP

LSZ IAmb IAmb 04 39 49.9
comp=Z,13nm,1.0s
ROSC El Rosal 69.58 327 P P 04 39 54.5 +0.4
comp=Z,4.0nm,0.4s,baz=98,slow=4.3,SNR=5.0
ROSC LR LR 05 12 44.9
comp=Z,318nm,19.4s,baz=202,slow=38
ROSC El Rosal 69.58 327 P P 04 39 53.8 -0.4
ROSC IAmb IAmb 04 39 54.8
comp=Z,27nm,1.8s
SDV Santo Domingo 72.53 332 P P 04 40 09.9 -1.9
SDV IAmb IAmb 04 40 19.8
comp=Z,14nm,1.0s
SDV Santo Domingo 72.53 332 *e*P **P 04 40 11.7 -0.1**
DBIC Dimbokro 73.47 40 P **P 04 40 16.8 -0.3**
DBIC pmax pmax
comp=Z,12nm,1.2s
DBIC Dimbokro 73.47 40 P **P 04 40 18.1 +1.0**
comp=Z,4.4nm,1.0s,baz=174,slow=4.2,SNR=3.5
DBIC LR LR 05 05 28.4
comp=Z,132nm,21.1s,baz=176,slow=30
DBIC Dimbokro 73.47 40 P **P 04 40 16.8 -0.3**
BKZ Black Stump Fm 75.45 211 P **P 04 40 29.5 +0.9**
BKZ IAmb IAmb 04 40 32.5
comp=Z,20nm,1.5s
TBI Tubuai 77.55 245 *e*S **S 04 50 35.4 +4.4**
comp=Z,220nm,32.5s
TBI Tubuai 77.55 245 *e*LR LR 05 04 43.7
comp=Z,269nm,23.5s,baz=153
JTS Las Juntas de 77.95 318 P **P 04 40 41.9 -0.9**
JTS pmax pmax
comp=Z,19nm,1.2s
JTS Las Juntas de 77.95 318 P **P 04 40 41.9 -0.9**
JTS IAmb IAmb 04 40 43.8
comp=Z,20nm,1.2s
OUZ Omahuta 79.91 210 P **P 04 40 52.8 -0.6**
OUZ IAmb IAmb 04 40 54.0
comp=Z,22nm,1.3s
MBAR Mbarara 81.63 76⇑ *i*P **P 04 41 06.5 +3.5**
MBAR pmax pmax
comp=Z,17nm,1.7s
TOA0 Torodi Ar. Sit 81.70 44 P **P 04 41 03.5 +0.5**
TOA0 IAmb IAmb 04 41 05.3
comp=Z,21nm,1.2s
TORD Torodi Ar. Bea 81.70 44 P **P 04 41 03.9 +0.9**
comp=Z,8.6nm,1.0s,baz=204,slow=6.0,SNR=30
PPT2 Papeete2 82.62 247 *e*LR LR 05 07 03.2
comp=Z,118nm,23.2s
KMBO Kilima Mbogo 84.34 82 P **P 04 41 18.0 +0.8**
KMBO pmax pmax
comp=Z,9.0nm,1.4s
KMBO Kilima Mbogo 84.34 82 P **P 04 41 19.5 +2.4**
comp=Z,1.4nm,0.7s,baz=224,slow=5.7,SNR=5.3
KMBO Kilima Mbogo 84.34 82 P **P 04 41 18.0 +0.8**
STKA Stephens Creek 87.83 184 P **P 04 41 33.2 -0.8**
STKA pmax pmax
comp=Z,7.0nm,2.0s
STKA Stephens Creek 87.83 184 P **P 04 41 33.2 -0.8**
comp=Z,0.5nm,0.2s,baz=143,slow=20,SNR=2.9
STKA Stephens Creek 87.83 184 IAmb IAmb 04 41 34.2
comp=Z,6.5nm,1.9s
ASAR Alice Springs 96.06 177 P **P 04 42 10.9 -1.3**
comp=Z,0.3nm,0.4s,baz=182,slow=6.1,SNR=5.8
ASAR PP **PP 04 46 01.8 -2.1**
comp=Z,1.0nm,1.0s,baz=186,slow=7.1,SNR=5.3
ASAR LR LR 05 24 48.5
comp=Z,242nm,20.2s,baz=181,slow=35
WRA Warramunga Arr 99.78 178 P **Pdif 04 42 29.8 +0.8**
comp=Z,0.3nm,0.8s,baz=189,slow=3.9,SNR=3.5
WRA LR LR 05 26 33.3
comp=Z,197nm,20.5s,baz=190,slow=35
PDAR Pinedale Array 116.23 311 PKP **PKPdf 04 47 26.0 -1.5**
comp=Z,0.2nm,0.5s,baz=120,slow=5.5,SNR=3.2
GERES GERESS Array B 118.32 39 PKP **PKPdf 04 47 29.7 -1.4**
comp=Z,0.4nm,0.7s,baz=328,slow=3.5,SNR=4.9
VYHS Vyhne 119.67 43 *e*PKIKP **PKiKP 04 47 40.0 +6.3**
VYHS Vyhne 119.67 43 *e*PKP **PKiKP 04 47 40.0 +6.3**
CLL Collm 120.28 37 *e*PKIKP **PKiKP 04 47 38.0 +3.3**
GNI Garni 123.02 66⇑ *e*PKIKP **PKiKP 04 47 41.4 +0.7**
GNI *i* 04 47 46.7
AKASG Malin Array Be 125.18 48 PKIKP **PKPdf 04 47 43.0 -1.0**
AKASG Malin Array Be 125.18 48 PKP **PKPdf 04 47 43.0 -1.0**
comp=Z,1.7nm,0.8s,baz=245,slow=1.8,SNR=4.3
NCK Nalchik 125.19 63⇑ *e*PKIKP **PKiKP 04 47 45.5 +0.8**
AKT Akhty 125.44 67 *e*PKIKP **PKPdf 04 47 44.6 -0.4**
AKT *e* 04 49 39.6
AKT pmax pmax
comp=Z,19nm,1.4s
VSR Storozhevoye 129.40 54⇓ *i*PKIKP **PKPdf 04 47 51.3 -0.8**
CMAR Chiang Mai Arr 130.10 130 PKP **PKPdf 04 47 54.6 +0.1**
comp=Z,1.5nm,0.3s,baz=266,slow=2.7,SNR=4.7
OBN Obninsk 131.39 49⇓ *e*PKIKP **PKPdf 04 47 55.6 -0.1**
OBN *e* 04 50 18.5
OBN pmax pmax
comp=Z,38nm,1.6s
OBN MLR MLR
comp=Z,145nm,16.0s
YKA Yellowknife Ar 134.16 322 PKIKP **PKPdf 04 47 59.8 -0.9**
YKA Yellowknife Ar 134.16 322 PKP **PKPdf 04 48 00.2 -0.5**
comp=Z,1.0nm,0.5s,baz=139,slow=2.0,SNR=6.1
YKA Yellowknife Ar 134.16 322 **PKPdf 04 47 59.8 -0.9**
ABKAR Abkulak array 136.93 69 **PKPdf 04 48 05.0 -1.4**
KSH Kashi 137.52 91 PKP **PKiKP 04 48 10.0 +0.2**
KSH PP **PP 04 50 58.8 +4.2**
KSH PKS **PKSdf 04 51 45.4 +1.3**
KSH SS SS 05 09 02.6 +0.6
KSH AMB AMB
comp=Z,320nm,7.0s
KSH LR LR
comp=Z,230nm,9.5s
KSH LR LR
comp=Z,360nm,8.4s
KSH LR LR
comp=Z,140nm,11.1s
KKAR Karatay Array 137.53 83 PKIKP **PKPdf 04 48 05.0 -2.7**
KKAR Karatay Array 137.53 83 **PKPdf 04 48 05.0 -2.7**
AAK Ala-Archa 139.15 87⇑ *e*PKIKP **PKiKP 04 48 12.4 -0.7**
GYA Guiyang 140.22 135 *e*PKP **PKPdf 04 48 13.3 0.0**
GYA AMB AMB
comp=Z,120nm,7.8s
CD2 Chengdu 143.19 129 PKP **PKPdf 04 48 18.3 -0.1**
BCAR Beaver Creek A 143.84 310 PKPbc 04 48 16.1 -0.2
INK Inuvik 143.90 321 PKP PKPab 04 48 15.5 -0.1
comp=Z,1.9nm,0.5s,baz=117,slow=0.9,SNR=18
BRVK Borovoye 144.30 72⇓ *i*PKIKP **PKiKP 04 48 24.5 +1.4**
BVAR Borovoye Array 144.33 72 PKP **PKPdf 04 48 19.4 -0.2**
comp=Z,2.3nm,0.9s,baz=251,slow=4.5,SNR=8.2
KDAK Kodiak Island 145.26 297 PKIKP **PKPbc 04 48 20.9 +0.1**
KDAK Kodiak Island 145.26 297 PKPbc **PKPbc 04 48 19.9 -0.9**
comp=Z,8.0nm,0.7s,baz=279,slow=5.9,SNR=5.7
KDAK Kodiak Island 145.26 297 **PKPbc 04 48 20.9 +0.1**
MAKZ Makanchi 145.84 88 PKP2 **PKPdf 04 48 22.7 +0.3**
MAKZ Makanchi 145.84 88 **PKPdf 04 48 22.7 +0.3**
MK31 Makanchi Array 145.99 89 *i* PKP2 **PKPdf 04 48 22.7 0.0**
MKAR Makanchi Array 145.99 89 PKP2 **PKPdf 04 48 22.7 0.0**
MKAR Makanchi Array 145.99 89 PKPbc **PKPdf 04 48 23.1 +0.4**
comp=Z,4.9nm,0.8s,baz=251,slow=3.7,SNR=20
MKAR Makanchi Array 145.99 89 **PKPdf 04 48 22.7 0.0**
WMQ Urumqi 146.53 97 *e*PKPbc **PKPbc 04 48 25.8 +0.5**
ILAR Eielson Array 146.66 311 PKPbc **PKPbc 04 48 24.2 -0.7**
comp=Z,12nm,1.1s,baz=148,slow=1.9,SNR=52
KURBB Kurchatov Arra 146.71 81 PKPbc **PKPbc 04 48 25.1 -0.3**
comp=Z,6.2nm,1.0s,baz=233,slow=3.2,SNR=21
KURK Kurchatov 146.81 81⇑ *i*PKP2 **PKPbc 04 48 25.8 +0.1**
KURK Kurchatov 146.81 81 **PKPbc 04 48 25.9 +0.1**
COLA College 147.07 311 *de*PKP2 **PKPbc 04 48 25.3 -0.7**
COLA College 147.07 311 **PKPbc 04 48 25.9 -0.1**
LZH Lanzhou 147.76 124 *e*PKPbc **PKPdf 04 48 24.8 -1.4**
LZH pPKP sPKPdf 04 48 32.8 +0.2
LZH sPKP 04 48 36.1
LZH LR LR
comp=Z,93nm,18.2s
LZH LR LR
comp=Z,86nm,17.9s
LZH LR LR
comp=Z,130nm,20.3s
XAN Xi'an 147.92 133 PKPbc **PKPdf 04 48 27.5 +1.1**
XAN LR LR
comp=Z,160nm,22.8s
XAN LR LR
comp=Z,200nm,21.7s
XAN LR LR
comp=Z,180nm,25.5s
XAN Xi'an 147.92 133 PKIKP **PKPdf 04 48 26.6 +0.2**
XAN 04 48 29.1
XAN Xi'an 147.92 133 PKPdf **PKPdf 04 48 26.6 +0.2**

XAN **PKPbc 04 48 29.1 -0.3**
GTA Gaotai 148.83 116 *e*PKPbc **PKPbc 04 48 30.8 -0.9**
GTA LR LR
comp=Z,100nm,20.3s
GTA LR LR
comp=Z,100nm,17.5s
GTA LR LR
comp=Z,130nm,19.7s
NJ2 Nanjing 149.15 149 *e*PKPbc **PKPbc 04 48 31.3 -1.2**
IMAR Indian Mountai 149.78 310 **PKPbc 04 48 33.1 +0.1**
DGZ Jazzator, Alta 150.49 89⇓ *e*PKIKP **PKPbc 04 48 34.8 -0.7**
ZALV Zalesovo Beam 151.79 80 PKPbc **PKPbc 04 48 36.9 -1.2**
comp=Z,1.1nm,0.5s,baz=318,slow=2.0,SNR=4.9
HHC Hu-ho-hao-te 154.91 130 *e*PKPbc **PKPdf 04 48 39.5 +2.7**
SONM Songino Array 158.39 112 PKIKP **PKPdf 04 48 38.9 -2.2**
SONM 04 49 14.3
SONM Songino Array 158.39 112 PKPab **PKPab 04 49 15.7 -0.2**
comp=Z,2.4nm,1.0s,baz=217,slow=3.8,SNR=9.6
SONM Songino Array 158.39 112 PKPdf **PKPdf 04 48 38.9 -2.2**
SONM **PKPab 04 49 14.3 -1.6**

MOS ***18*** *04:31:17.0±1.3, 52°.50N×160°.82E, h12km, mb4.7/21, Error ellipse: s-maj=5.8km s-min=3.3km az=98.4*
KRSC ***18*** *04:31:18.0±2.0, 52°.61N×160°.89E, h16km±31km, ML5.0*
IDC ***18*** *04:31:18.2±0.6, 52°.82N×160°.48E, h0km, mb4.4/40, mb1 4.5/44, mb1mx4.4/70, mbtmp4.4/44, ML4.7/4, MS3.6/9, Ms1 3.6/9, ms1mx3.3/39, Error ellipse: s-maj=14.4km s-min=11.5km az=133.0*
ISCJB ***18*** *04:31:22.7±0.5, 52°.68N±0°.03×160°.53E±0°.05, h49km±3km, mb4.5/81, MS3.8/12, Error ellipse: s-maj=6.4km s-min=3.3km az=136.4*
NEIC ***18*** *04:31:25.0±2.1, 52°.9N±0°.1×160°.30E±0°.10, h48km±6km, mb4.6/45*
ISC 18 04:31:19.7±0.8,**52°.86N**±0°.03×**160°.64E**±0°.03,**h12**km±4km, **n318**,σ1§**57**/334,**mb4.6**/91,**MS3.9**/12,**29C-9D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.44**	**303**	*i* P		**Pn**	**04 31 32.0**	**+0.2**
SPN	**Mys Shipunski**	**0.44**	**303**	PN		**Pn**	**04 31 32.0**	**+0.2**
NLC	**Nalytchevo**	**0.84**	**293**	*e*P		**Pn**	**04 31 37.7**	**+0.4**
NLC				*e*S		**Sn**	**04 31 50.1**	**+0.6**
NLC	**Nalytchevo**	**0.84**	**293**	PN		**Pn**	**04 31 37.7**	**+0.4**
NLC				S		**Sn**	**04 31 50.1**	**+0.6**
SDLR	**Sedlovina**	**1.14**	**292**	*e*P		**Pg**	**04 31 42.5**	**+0.9**
SDLR	**Sedlovina**	**1.14**	**292**	PN		**Pg**	**04 31 42.5**	**+0.9**
UGLR	**Uglovaya**	**1.15**	**289**	*e*P		**Pg**	**04 31 43.0**	**+1.2**
UGLR	**Uglovaya**	**1.15**	**289**	PN		**Pg**	**04 31 43.0**	**+1.2**
DALK	**Dalny**	**1.15**	**280**	*e*P		**Pg**	**04 31 42.2**	**+0.4**
DALK				*e*S		**Sn**	**04 32 00.7**	**+3.5**
DALK	**Dalny**	**1.15**	**280**	PN		**Pg**	**04 31 42.2**	**+0.4**
DALK				S		**Sn**	**04 32 00.7**	**+3.5**
SMAR	**Somma**	**1.18**	**291**	*e*P		**Pg**	**04 31 43.2**	**+0.8**
SMAR	**Somma**	**1.18**	**291**	PN		**Pg**	**04 31 43.2**	**+0.8**
PET	**Petropavlovsk**	**1.21**	**279**	*e*P		**Pg**	**04 31 43.4**	**+0.4**
PET				*e*S		**Sg**	**04 32 01.5**	**+2.8**
PET	**Petropavlovsk**	**1.21**	**279**	*i*PN		**Sg**	**04 31 43.1**	**+0.1**
PET				*e*S		**Sn**	**04 31 59.3**	**+0.6**
PET				smax		smax		
	comp=E,6μm,0.6s							
PET				smax		smax		
	comp=N,3μm,0.5s							
PET	**Petropavlovsk**	**1.21**	**279**			**Pb**	**04 31 42.9**	**+0.4**
AVH	**Avacha**	**1.22**	**290**	*e*P		**Pg**	**04 31 43.9**	**+0.8**
AVH	**Avacha**	**1.22**	**290**	PN		**Pg**	**04 31 43.9**	**+0.8**
KRER	**Koryakskii**	**1.22**	**292**	*e*P		**Pg**	**04 31 44.3**	**+1.1**
KRER	**Koryakskii**	**1.22**	**292**	PN		**Pg**	**04 31 44.3**	**+1.1**
KOK	**Koryaka**	**1.28**	**291**	*e*P		**Pg**	**04 31 45.0**	**+0.7**
KOK	**Koryaka**	**1.28**	**291**	PN		**Pg**	**04 31 45.0**	**+0.7**
KRX	**Arik**	**1.30**	**294**	*e*P		**Pg**	**04 31 44.9**	**+0.2**
KRX	**Arik**	**1.30**	**294**	PN		**Pg**	**04 31 44.9**	**+0.2**
RUS	**Russkaya**	**1.36**	**253**	*e*P		**Pn**	**04 31 44.5**	**+0.1**
RUS	**Russkaya**	**1.36**	**253**	PN		**Pn**	**04 31 44.5**	**+0.1**
KII	**Karymskiy**	**1.38**	**329**	*e*P		**Pg**	**04 31 47.4**	**+1.2**
KII	**Karymskiy**	**1.38**	**329**	PN		**Pg**	**04 31 47.4**	**+1.2**
KRMR	**Karymshinskiy**	**1.52**	**270**	*e*P		**Pn**	**04 31 47.1**	**+0.5**
KRMR	**Karymshinskiy**	**1.52**	**270**	PN		**Pn**	**04 31 47.1**	**+0.5**
MTVR	**Mutnovka**	**1.54**	**257**	*e*P		**Pn**	**04 31 47.5**	**+0.5**
MTVR	**Mutnovka**	**1.54**	**257**	PN		**Pn**	**04 31 47.5**	**+0.5**
GRL	**Gorelyy**	**1.59**	**260**	*e*P		**Pb**	**04 31 48.7**	**-0.3**
GRL	**Gorelyy**	**1.59**	**260**	PN		**Pb**	**04 31 48.7**	**-0.3**
ASAK	**Asacha**	**1.73**	**255**	*e*P		**Pn**	**04 31 50.7**	**+1.1**
ASAK	**Asacha**	**1.73**	**255**	PN		**Pn**	**04 31 50.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**1.79**	**279**	*d i*PN		**Pb**	**04 31 51.9**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.79**	**279**			**Pb**	**04 31 52.1**	**-0.3**
PETK	**Petropavlovsk-**	**1.79**	**279**	Pn		**Pb**	**04 31 52.0**	**-0.5**
	comp=N,504nm,0.3s,baz=99,slow=18,SNR=773							
PETK				Sn		**Sg**	**04 32 18.0**	**+0.7**
	comp=N,158nm,0.3s,baz=302,slow=17,SNR=10							
PETK	**Petropavlovsk-**	**1.79**	**279**	Sn		**Sn**	**04 32 06.0**	**-7.1**
MKZ	**Mys Kozlova**	**1.82**	**20**	*e*P		**Pb**	**04 31 53.1**	**+0.2**
MKZ				*e*S		**Sg**	**04 32 17.2**	**-1.0**
MKZ	**Mys Kozlova**	**1.82**	**20**	PN		**Pb**	**04 31 53.1**	**+0.2**
MKZ				S		**Sg**	**04 32 17.2**	**-1.0**
GNL	**Ganaly**	**1.82**	**299**	*e*P		**Pb**	**04 31 53.7**	**+0.7**
GNL	**Ganaly**	**1.82**	**299**	PN		**Pb**	**04 31 53.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.89**	**237**	*e*P		**Pn**	**04 31 52.0**	**+0.3**
KDTR				*e*S		**Sb**	**04 32 17.0**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.89**	**237**	PN		**Pn**	**04 31 52.0**	**+0.3**
KDTR				S		**Sb**	**04 32 17.0**	**-0.5**
APC	**Apacha**	**2.11**	**273**	*e*P		**Pb**	**04 31 57.2**	**-0.6**
APC	**Apacha**	**2.11**	**273**	PN		**Pb**	**04 31 57.2**	**-0.6**
KZV	**Kizimen**	**2.27**	**355**	*e*P		**Pb**	**04 32 01.1**	**+0.5**
KZV				*e*S		**Sg**	**04 32 32.7**	**+0.1**
KZV	**Kizimen**	**2.27**	**355**	PN		**Pb**	**04 32 01.1**	**+0.5**
KZV				S		**Sg**	**04 32 32.7**	**+0.1**
TUMD	**Tumrok D**	**2.36**	**357**	*e*P		**Pb**	**04 32 01.5**	**-0.5**
TUMD				*e*S		**Sb**	**04 32 31.5**	**+0.5**
TUMR	**Tumrok**	**2.45**	**353**	*e*P		**Pb**	**04 32 03.7**	**0.0**
TUMR				*e*S		**Sg**	**04 32 38.1**	**-0.2**
TUMR	**Tumrok**	**2.45**	**353**	PN		**Pb**	**04 32 03.7**	**0.0**
TUMR				S		**Sg**	**04 32 38.1**	**-0.2**
PAU	**Pauzhetka**	**2.74**	**241**	*e*P		**Pn**	**04 32 04.5**	**+1.2**
PAU				*e*S		**Sn**	**04 32 38.0**	**+1.7**
PAU	**Pauzhetka**	**2.74**	**241**	PN		**Pn**	**04 32 04.5**	**+1.2**
PAU				S		**Sn**	**04 32 38.0**	**+1.7**
KMNR	**Kamenistaya**	**2.92**	**356**	*e*P		**Pb**	**04 32 11.2**	**-0.4**
KMNR	**Kamenistaya**	**2.92**	**356**	PN		**Pb**	**04 32 11.2**	**-0.4**
BZMR	**Bezymyannaya**	**3.09**	**358**	*e*P		**Pb**	**04 32 13.7**	**-0.8**
BZMR	**Bezymyannaya**	**3.09**	**358**	PN		**Pb**	**04 32 13.7**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**3.09**	**1**	*e*P		**Pb**	**04 32 13.4**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**3.09**	**1**	PN		**Pb**	**04 32 13.4**	**-1.2**
KIRR	**Kirishev**	**3.11**	**357**	*e*P		**Pb**	**04 32 13.6**	**-1.3**
KIRR	**Kirishev**	**3.11**	**357**	PN		**Pb**	**04 32 13.6**	**-1.3**
BZWR	**Bezymyannyi-We**	**3.12**	**359**	*e*P		**Pb**	**04 32 13.9**	**-1.1**
BZWR	**Bezymyannyi-We**	**3.12**	**359**	PN		**Pb**	**04 32 13.9**	**-1.1**
KPT	**Kopyto**	**3.13**	**356**	*e*P		**Pb**	**04 32 13.7**	**-1.5**
KPT	**Kopyto**	**3.13**	**356**	PN		**Pb**	**04 32 13.7**	**-1.5**
ZLN	**Zelenaya**	**3.17**	**2**	*e*P		**Pb**	**04 32 14.6**	**-1.3**
ZLN	**Zelenaya**	**3.17**	**2**	PN		**Pb**	**04 32 14.6**	**-1.3**
LGNR	**Loginova**	**3.23**	**1**	*e*P		**Pb**	**04 32 16.0**	**-1.1**
LGNR	**Loginova**	**3.23**	**1**	PN		**Pb**	**04 32 16.0**	**-1.1**
KOZ	**Kozyrevsk**	**3.24**	**352**	*e*P		**Pb**	**04 32 15.0**	**-2.1**
KOZ	**Kozyrevsk**	**3.24**	**352**	PN		**Pb**	**04 32 15.0**	**-2.1**
CIRR	**Tsirk**	**3.27**	**1**	*e*P		**Pb**	**04 32 16.2**	**-1.4**
CIRR	**Tsirk**	**3.27**	**1**	PN		**Pb**	**04 32 16.2**	**-1.4**
KRSR	**Krestovskiy**	**3.37**	**359**	*e*P		**Pb**	**04 32 16.9**	**-2.4**
KRSR	**Krestovskiy**	**3.37**	**359**	PN		**Pb**	**04 32 16.9**	**-2.4**
KLY	**Klyuchi**	**3.46**	**0**	*e*P		**Pb**	**04 32 18.7**	**-2.2**
KLY	**Klyuchi**	**3.46**	**0**	PN		**Pb**	**04 32 18.7**	**-2.2**
SRDR	**Sredinnyy**	**3.51**	**352**	*e*P		**Pb**	**04 32 18.3**	**-3.4**
SRDR	**Sredinnyy**	**3.51**	**352**	PN		**Pb**	**04 32 18.3**	**-3.4**
SKR	**Severo-Kuril's**	**3.55**	**234**	*e*P		**Pn**	**04 32 14.5**	**0.0**
SKR	**Severo-Kuril's**	**3.55**	**234**	*e*PN		**Pn**	**04 32 15.2**	**+0.7**
SKR				*e*S		**Sn**	**04 32 53.6**	**-2.8**
SKR				pmax		pmax		
	comp=Z,68nm,0.5s							
SKR				pmax		pmax		
	comp=Z,500nm,2.3s							
SKR				smax		smax		
	comp=E,589nm,0.7s							
SKR				smax		smax		
	comp=N,906nm,0.7s							
SKR				MLR		MLR		
	comp=Z,500nm,11.0s							
KBTR	**Krutoberegovo**	**3.59**	**20**	*e*P		**Pn**	**04 32 18.4**	**+3.3**
KBTR	**Krutoberegovo**	**3.59**	**20**	PN		**Pn**	**04 32 18.4**	**+3.3**
KBG	**Krutoberegovo**	**3.61**	**19**	*e*P		**Pb**	**04 32 21.9**	**-1.5**

KBG	**Krutoberegovo**	**3.61**	**19**	PN		**Pb**	**04 32 21.9**	**-1.5**
BDR	**Baidarnaya**	**3.73**	**5**	*e*P		**Pb**	**04 32 22.4**	**-3.1**
BDR	**Baidarnaya**	**3.73**	**5**	PN		**Pb**	**04 32 22.4**	**-3.1**
SRKR	**Sorokina**	**3.82**	**4**	*e*P		**Pb**	**04 32 23.9**	**-3.0**
SRKR	**Sorokina**	**3.82**	**4**	PN		**Pb**	**04 32 23.9**	**-3.0**
BKI	**Bering**	**3.93**	**51**	*e*P		**Pn**	**04 32 21.0**	**+1.3**
BKI				*e*S		**Sn**	**04 33 02.7**	**-2.9**
BKI	**Bering**	**3.93**	**51**	PN		**Pn**	**04 32 21.0**	**+1.3**
OSSR	**Ossora**	**6.55**	**11**	*e*P		Pn	04 33 01.6	+5.9
OSSR	**Ossora**	**6.55**	**11**	PN		Pn	04 33 01.6	+5.9
SMY	**Shemya**	**8.16**	**86**	PN		**Pn**	**04 33 18.8**	**+1.0**
SMY	**Shemya**	**8.16**	**86**	Pn		**Pn**	**04 33 18.8**	**+1.0**
MA2	**Magadan**	**8.69**	**325**	*i* PN		**Pn**	**04 33 27.5**	**+2.5**
MA2	**Magadan**	**8.69**	**325**	Pn		Pn	04 33 29.9	+4.9
	comp=Z,0.6nm,0.3s,baz=117,slow=6.7,SNR=4.4							
MA2				LR		LR	04 37 21.3	
	comp=Z,481nm,19.4s,baz=148,slow=42							
SEY	**Seymchan**	**11.01**	**340**	*i* PN		**Pn**	**04 33 58.3**	**+1.6**
SEY	**Seymchan**	**11.01**	**340**	Pn		Pn	04 34 05.6	+9.0
	comp=Z,0.1nm,0.3s,baz=136,slow=11,SNR=5.1							
KUR	**Kuril'sk**	**11.32**	**233**	*e*PN		**Pn**	**04 33 59.0**	**-2.0**
YSS	**Yuzh-Sakhalins**	**12.94**	**250**	*e*PN		**Pn**	**04 34 22.9**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**13.17**	**234**	*e*PN		**Pn**	**04 34 24.1**	**-2.2**
JKA	**Kamikawa-asahi**	**14.78**	**241**			**Pn**	**04 34 47.5**	**-0.8**
ASAJ	**Asahikawa**	**14.78**	**241**	Pn		**Pn**	**04 34 47.5**	**-0.9**
	comp=Z,3.8nm,0.3s,baz=78,slow=16,SNR=9.1							
ASAJ				LR		LR	04 39 45.9	
	comp=Z,122nm,21.9s,baz=6.0,slow=35							
GRNR	**Gornyy**	**15.10**	**272⇑**	*i*P		**P**	**04 34 59.0**	**+1.1**
GRNR				pmax		pmax		
	comp=Z,20nm,0.5s							
BILL	**Bilibino**	**15.47**	**8⇑**	*e*P		**P**	**04 35 00.5**	**-1.3**
BILL				*e*S		**S**	**04 37 58.5**	**-5.8**
BILL				pmax		pmax		
	comp=Z,15nm,1.0s							
BILL				MLR		MLR		
	comp=Z,214nm,17.0s							
BILL	**Bilibino**	**15.47**	**8**	P		**P**	**04 35 03.5**	**+1.7**
ERM	**Erimo**	**16.00**	**234⇓**	*i*P		**Pn**	**04 35 02.5**	**-1.8**
KLR	**Kul'dur**	**18.46**	**270**	*d i*P		**Pn**	**04 35 35.4**	**+0.3**
KLR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KLR	**Kul'dur**	**18.46**	**270**	P		**Pn**	**04 35 35.9**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=70,slow=8.1,SNR=20							
YAK	**Yakutsk**	**18.84**	**311**	*e*P		**P**	**04 35 38.8**	**-0.3**
YAK				*e*S		**Sn**	**04 39 07.7**	**-2.4**
YAK				pmax		pmax		
	comp=Z,26nm,0.9s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,19nm,1.0s							
YAK				pmax		pmax		
	comp=Z,37nm,1.9s							
YAK				pmax		pmax		
	comp=N,63nm,1.9s							
YAK				pmax		pmax		
	comp=E,21nm,1.7s							
YAK				smax		smax		
	comp=N,81nm,3.1s							
YAK				smax		smax		
	comp=E,157nm,3.5s							
YAK	**Yakutsk**	**18.84**	**311**	P		**P**	**04 35 39.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=219,slow=3.4,SNR=5.7							
YAK	**Yakutsk**	**18.84**	**311**			**P**	**04 35 39.3**	**+0.2**
YAK				IAmb		IAmb	04 35 45.7	
	comp=Z,42nm,0.9s							
USA0B	**Ussuriysk Arra**	**20.74**	**257⇑**	*e*P		**P**	**04 35 59.0**	**-0.9**
USA0B	**Ussuriysk Arra**	**20.74**	**257**	P		**P**	**04 35 57.2**	**-2.7**
USRK	**Ussuriysk Ar.**	**20.74**	**257**	P		**P**	**04 35 58.8**	**-1.1**
	comp=Z,6.0nm,0.6s,baz=52,slow=12,SNR=12							
USRK				LR		LR	04 44 27.3	
	comp=Z,170nm,20.4s,baz=58,slow=38							
USRK	**Ussuriysk Ar.**	**20.74**	**257**	P		**P**	**04 35 56.3**	**-3.6**
VLA	**Vladivostok**	**21.43**	**255⇑**	*i*P		**P**	**04 36 05.0**	**-2.4**
VLA				pmax		pmax		
	comp=Z,120nm,2.3s							
MSHR	**Mys Shultsa**	**22.19**	**254⇑**	*i*P		**P**	**04 36 14.8**	**-0.7**
MJAR	**Matsushiro Arr**	**22.66**	**233**	P		**P**	**04 36 21.4**	**+0.8**
MJAR				pmax		pmax		
	comp=Z,8.0nm,0.7s							
MJAR	**Matsushiro Arr**	**22.66**	**233**	P		**P**	**04 36 21.6**	**+1.0**
	comp=Z,16nm,0.6s,baz=18,slow=12,SNR=21							
MJAR				LR		LR	04 45 26.4	
	comp=Z,127nm,20.8s,baz=25,slow=38							
MJAR	**Matsushiro Arr**	**22.66**	**233**	P		**P**	**04 36 21.4**	**+0.8**
MJB9	**Matsu-Tunnel**	**22.66**	**233**	P		**P**	**04 36 21.1**	**+0.5**
MAJO	**Matsushiro**	**22.66**	**233**	*c i*P		**P**	**04 36 18.0**	**-2.6**
MAJO				*i* *PP		**P**	**04 36 21.7**	**+1.1**
MAJO				*i* *SP		**sP**	**04 36 23.5**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,11nm,0.4s							
MAJO	**Matsushiro**	**22.66**	**233**	P		**P**	**04 36 21.8**	**+1.1**
MAT	**Matsushiro**	**22.66**	**233**	P		**P**	**04 36 21.0**	**+0.4**
TIXI	**Tiksi**	**23.43**	**335⇓**	*i*P		**P**	**04 36 27.8**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
TIXI	**Tiksi**	**23.43**	**335**	P		**P**	**04 36 27.4**	**-0.8**
	comp=Z,7.0nm,0.4s,baz=0.0,slow=24,SNR=12							
TIXI	**Tiksi**	**23.43**	**335**	P		**P**	**04 36 27.1

comp=N,160nm,13.5s
LZH LR LR
comp=E,170nm,13.3s
LZH LR LR
comp=Z,190nm,16.7s
GTA Gaotai 42.96 277 *eP* **P 04 39 18.6 +0.2**
GTA pP sP 04 39 30.8 +7.5
GTA sP pP 04 39 36.3 +14
GTA PcP **PcP 04 41 09.8 +1.0**
GTA S **S 04 45 39.9 -3.4**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,84nm,6.0s
GTA LR LR
comp=N,170nm,17.5s
GTA LR LR
comp=E,150nm,16.2s
GTA LR LR
comp=Z,170nm,19.0s
ZALV Zalesovo Beam 43.18 303 *i* P **P 04 39 18.2 -1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 43.18 303 P **P 04 39 17.9 -1.9**
comp=Z,1.3nm,0.4s,baz=41,slow=8.6,SNR=4.2
ZALV LR LR 04 57 00.7
comp=Z,88nm,19.1s,baz=66,slow=36
RES Resolute Bay 43.42 22 P **P 04 39 23.5 +2.0**
comp=Z,2.3nm,0.8s,baz=294,slow=10.0,SNR=3.6
WMQ Urumqi 47.36 290 *eP* **P 04 39 54.3 +1.0**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,120nm,5.1s
SPITS Spitsbergen Ar 47.42 351 P **P 04 39 54.2 +1.0**
comp=Z,4.6nm,0.4s,baz=59,slow=9.8,SNR=25
KURK Kurchatov 48.14 302*c i P* **P 04 39 57.6 -1.5**
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 48.14 302 P **P 04 39 58.0 -1.1**
KURK Kurchatov 48.14 302 PcP 04 41 25.1 -1.3
KURBB Kurchatov Arra 48.24 302 P **P 04 39 58.6 -1.2**
comp=Z,5.1nm,0.5s,baz=60,slow=7.5,SNR=29
KURBB PcP **PcP 04 41 25.1 -1.7**
comp=Z,0.7nm,0.5s,baz=64,slow=3.2,SNR=3.2
MK31 Makanchi Array 48.55 296 IAmb IAmb 04 40 01.9
comp=Z,4.2nm,0.5s
MKAR Makanchi Array 48.55 296 *i* P **P 04 40 01.0 -1.4**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 48.55 296 P **P 04 40 00.9 -1.4**
comp=Z,4.6nm,0.5s,baz=55,slow=6.8,SNR=75
DAG Danmarks Havn 50.64 360 *i* P **P 04 40 19.5 +1.6**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 50.64 360 *i* P **P 04 40 19.5 +1.6**
comp=Z,4.8nm,0.8s
BVAR Borovoye Array 50.79 309 P **P 04 40 18.2 -1.2**
comp=Z,3.6nm,0.5s,baz=59,slow=7.7,SNR=17
BRVK Borovoye 50.82 309 ⇑*iP* **P 04 40 18.1 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 50.82 309 P **P 04 40 18.5 -1.0**
BRVK IAmb IAmb 04 40 20.8
comp=Z,5.1nm,0.6s
FFC Flin Flon 52.95 46 *i* P **P 04 40 34.2 -1.2**
ARCES ARCESS Array B 53.62 342 P **P 04 40 40.1 0.0**
comp=Z,3.3nm,0.5s,baz=52,slow=8.0,SNR=25
ARU Arti 53.79 318*c i P* **P 04 40 41.4 -0.1**
ARU S **S 04 48 16.5 +1.0**
ARU pmax pmax
comp=Z,72nm,4.3s
ARU Arti 53.79 318 P **P 04 40 41.4 -0.1**
comp=Z,4.1nm,0.2s,baz=17,slow=6.3,SNR=5.8
ARU Arti 53.79 318 IAmb IAmb 04 40 46.9
comp=Z,11nm,0.7s
SUMG Summit 54.16 7 P **P 04 40 45.8 +1.4**
SUMG pmax pmax
comp=Z,34nm,1.5s
SUMG Summit 54.16 7 *i* P **P 04 40 46.1 +1.6**
comp=Z,34nm,1.1s
SUMG Summit 54.16 7 P **P 04 40 45.8 +1.4**
PNTR Pine Nut 54.32 71 P **P 04 40 48.3 +2.3**
PNTR IAmb IAmb 04 41 01.3
comp=Z,9.1nm,1.3s
WAKR Walker 54.81 71 P **P 04 40 51.6 +2.1**
WAKR IAmb IAmb 04 40 58.6
comp=Z,6.6nm,1.4s
KVN Kaiserville 55.20 70 P **P 04 40 53.8 +1.5**
KVN pmax pmax
comp=Z,5.0nm,1.2s
KVN Kaiserville 55.20 70 P **P 04 40 53.8 +1.5**
KVN IAmb IAmb 04 41 01.4
comp=Z,4.7nm,1.2s
AAK Ala-Archa 55.48 297*ceP* **P 04 40 53.1 -1.1**
AAK pmax pmax
comp=Z,17nm,3.4s
AAK Ala-Archa 55.48 297 P **P 04 40 53.4 -0.8**
comp=Z,4.1nm,0.7s,baz=99,slow=3.4,SNR=5.3
AAK Ala-Archa 55.48 297 P **P 04 40 53.6 -0.6**
AAK IAmb IAmb 04 40 59.1
comp=Z,5.3nm,0.9s
NVAR Mina Array Bea 55.51 70 P **P 04 40 56.2 +1.6**
comp=Z,0.4nm,0.6s,baz=297,slow=7.4,SNR=4.8
NVAR LR LR 05 02 58.8
comp=Z,23nm,21.1s,baz=272,slow=34
KSH Kashi 56.80 293 P **P 04 41 07.6 +4.0**
KSH PcP **PP 04 43 16.3 +6.7**
KSH S **S 04 48 54.8 -1.7**
KSH sS sS 04 49 22.8 +20
KSH Kashi 56.80 293 SS **SS 04 52 43.9 0.0**
KSH pmax pmax
comp=Z,250nm,7.7s
KSH LR LR
comp=N,300nm,9.5s
KSH LR LR
comp=E,260nm,11.3s
KSH LR LR
comp=Z,150nm,10.5s
KK31 Karatay Array 57.29 299 P **P 04 41 04.9 -2.0**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 57.29 299 P **P 04 41 04.9 -2.0**
KK31 IAmb IAmb 04 41 11.3
comp=Z,3.9nm,0.9s
KKAR Karatay Array 57.29 299 P **P 04 41 05.5 -1.4**
KKAR 04 41 57.5
KKAR Karatay Array 57.29 299 P **P 04 41 05.5 -1.4**
KKAR PcP **PcP 04 41 57.5 -3.5**
KKAR Karatay Array 57.29 299 P **P 04 41 05.0 -1.9**
KKAR IAmb IAmb 04 41 11.4
comp=Z,3.9nm,0.9s
KLMR Klimovskoe 57.32 330 *eP* **P 04 41 06.8 0.0**
KLMR pmax pmax
comp=Z,40nm,1.4s
KLMR Klimovskoe 57.32 330 *eP* **P 04 41 06.9 +0.1**
KLMR AMP 04 41 08.6
comp=Z,40nm,1.4s
PDAR Pinedale Array 57.35 61 P **P 04 41 09.0 +1.4**
comp=Z,0.8nm,0.8s,baz=347,slow=3.7,SNR=5.9
SFJD Kangerlussuaq 58.17 14 P **P 04 41 13.4 +0.7**
comp=Z,7.9nm,0.7s,baz=315,slow=7.1,SNR=3.4
SFJD Kangerlussuaq 58.17 14 IAmb IAmb 04 41 13.5
comp=Z,29nm,1.4s
SFJD PcP **PcP 04 41 59.9 -4.1**
CMMT Chiang Mai 58.18 259 P **P 04 41 15.1 +1.7**
ABKAR Akbulak array 58.20 311 IAmb IAmb 04 41 14.6
comp=Z,2.7nm,0.9s
AKTO Aktyubinsk 58.23 313 P **P 04 41 11.7 -1.6**
comp=Z,1.7nm,0.5s,baz=53,slow=8.6,SNR=5.4
CMAR Chiang Mai Arr 58.45 259 P **P 04 41 16.2 +0.8**
comp=Z,5.3nm,0.3s,baz=34,slow=7.0,SNR=12
CMAR LR LR 05 09 49.7
comp=Z,39nm,18.6s,baz=220,slow=40
TAPN Taplejung 58.55 275 *eP* **P 04 41 15.4 -0.9**
comp=Z,16nm,0.5s
ODAN Odare 59.10 275 *eP* **P 04 41 19.2 -0.9**
comp=Z,11nm,0.6s
JIRN Jiri 59.24 276 *eP* **P 04 41 20.5 -0.7**
comp=Z,6.1nm,0.4s
SRU San Rafael Swe 59.39 65 P **P 04 41 21.8 -0.1**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 59.39 65 P **P 04 41 21.8 -0.1**
RAMN Ramite 59.52 275 *eP* **P 04 41 21.8 -1.1**
comp=Z,40nm,0.4s
KKN Kakani 59.70 277 *eP* **P 04 41 24.0 -0.1**
comp=Z,16nm,0.4s
PKI Pulchoki 59.78 277 *eP* **P 04 41 24.0 -0.8**
comp=Z,18nm,0.7s
PKIN Phulchoki 59.78 277 *eP* **P 04 41 24.1 -0.7**
comp=Z,8.3nm,0.4s
GKN Gorkha 59.93 278 *eP* **P 04 41 25.2 -0.5**
comp=Z,14nm,0.3s
DMN Daman 59.93 277 *eP* **P 04 41 25.2 -0.6**
comp=Z,12nm,0.3s
DANN Dangsing 60.20 278 *eP* **P 04 41 27.2 -0.5**
comp=Z,17nm,0.6s
GAR Garm 60.28 296 P **P 04 41 25.8 -2.1**
KOLN Koldanda 60.72 278 *eP* **P 04 41 30.1 -1.0**
comp=Z,7.6nm,0.3s
NIL Nilore 62.51 290 P **P 04 41 42.2 -0.7**
NIL pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 62.51 290 P **P 04 41 42.2 -0.7**
OBN Obninsk 62.89 328⇓*eP* **P 04 41 45.5 +0.4**
OBN *e* 04 44 09.5
OBN *eS* **S 04 50 17.5 +3.4**
OBN pmax pmax
comp=Z,66nm,2.5s
OBN MLR MLR
comp=Z,112nm,17.0s
NB2 NORSAR Subarra 63.86 344 P **P 04 41 51.8 +0.3**
comp=Z,0.9nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 63.86 344 P **P 04 41 52.2 +0.7**
comp=Z,1.9nm,0.6s,baz=28,slow=6.0,SNR=14
LPSR Galich'ya Gora 64.17 325 *eP* **P 04 41 53.4 -0.1**
LPSR pmax pmax
comp=Z,20nm,0.6s
HFS Hagfors 64.28 342 P **P 04 41 54.5 +0.4**
comp=Z,2.4nm,0.5s,baz=46,slow=6.4,SNR=25
VRH Novokhopyorsk 64.30 322 *eP* **P 04 41 53.6 -0.8**
VRH pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 65.22 324 *eP* **P 04 41 59.8 -0.7**
VSR pmax pmax
comp=Z,20nm,1.1s
GEYT Alibeck 67.49 303 P **P 04 42 15.1 -0.2**
comp=Z,2.5nm,0.6s,baz=46,slow=4.3,SNR=4.9
GEYT Alibeck 67.49 303 P **P 04 42 14.2 -1.1**
MNTX Cornudas Mount 67.67 67 P **P 04 42 17.9 +1.4**
AKASG Malin Array Be 68.99 329 P **P 04 42 24.6 +0.2**
comp=Z,2.4nm,0.4s,baz=29,slow=6.3,SNR=14
AKBB Malin Array Si 68.99 329 IAmb IAmb 04 42 25.2
comp=Z,7.6nm,0.8s
KVAR Kislovodsk Arr 69.83 317 P **P 04 42 31.7 +1.9**
comp=Z,3.0nm,0.4s,baz=256,slow=19,SNR=3.5
KIV Kislovodsk 69.83 317 *eP* **P 04 42 27.6 -2.3**
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,209nm,18.0s
KBZ Khabaz 69.93 317 P **P 04 42 31.3 +1.0**
comp=Z,12nm,0.9s,baz=66,slow=3.6,SNR=18
TX32 Lajitas Array 70.43 67 P **P 04 42 36.2 +2.5**
TX32 IAmb IAmb 04 42 47.3
comp=Z,3.6nm,0.8s
EKA Eskdalemuir Ar 71.35 350 P **P 04 42 39.3 +0.6**
comp=Z,0.6nm,0.4s,baz=19,slow=5.5,SNR=9.6
SORM Soroca 71.51 328 ⇑P **P 04 42 40.3 +0.4**
AKH Akhalkalaki 71.59 315 ⇑P **P 04 42 42.1 +1.4**
GNI Garni 72.08 314*ceP* **P 04 42 44.4 +0.7**
GNI pmax pmax
comp=Z,22nm,0.9s
GNI Garni 72.08 314 P **P 04 42 45.4 +1.7**
comp=Z,5.3nm,0.3s,baz=247,slow=0.6,SNR=3.7
GNI Garni 72.08 314 P **P 04 42 44.0 +0.4**
KOLS Kolonicke sedl 72.61 333 *eP* **P 04 42 47.5 +1.0**
KOLS Kolonicke sedl 72.61 333 *eP* **P 04 42 47.5 +1.0**
CLL Collm 72.69 339 *eP* **P 04 42 48.0 +1.1**
CLL *e* 04 42 54.0
CLL pmax pmax
comp=Z,49nm,1.4s
CLL Collm 72.69 339 *eP* **P 04 42 48.0 +1.1**
comp=Z,13nm,1.4s
CLL *e* 04 42 54.0
CLL *i* 04 43 12.8
CLL Collm 72.69 339 P **P 04 42 47.2 +0.3**
CLL IAmb IAmb 04 42 49.8
comp=Z,9.9nm,1.2s
DPC Dobruska-Polom 72.84 337 *eP* **P 04 42 48.7 +0.8**
DPC Dobruska-Polom 72.84 337 *eP* **P 04 42 48.7 +0.8**
BRG Berggiesshubel 72.90 339 *eP* **P 04 42 49.2 +1.1**
comp=Z,12nm,1.5s
BRG Berggiesshubel 72.90 339 *eP* **P 04 42 49.2 +1.1**
BRG pmax pmax
comp=Z,12nm,1.5s
BUR08 Bucovina Ar. S 72.92 330 IAmb IAmb 04 42 51.3
comp=Z,5.5nm,1.0s
BURAR Bucovina Array 72.94 330 ⇑P **P 04 42 49.0 +0.4**
MORC Moravsky Berou 73.08 336 P **P 04 42 51.7 +2.4**
MORC Moravsky Berou 73.08 336 ⇑P **P 04 42 49.8 +0.5**
MORC mb 04 42 51.7
MORC Moravsky Berou 73.08 336 IAmb IAmb 04 42 51.5
comp=Z,5.6nm,1.0s
LANS Liptovska Anna 73.17 335 *eP* **P 04 42 52.2 +2.4**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 73.17 335 *eP* **P 04 42 52.2 +2.4**
TRPA Tarpa 73.26 332 ⇑P **P 04 42 51.3 +1.0**
TRPA mb 04 42 52.6
TESR Tescani 73.49 329 ⇑P **P 04 42 51.9 +0.2**
VRAC Vranov 73.75 336 P **P 04 42 55.8 +2.6**
VRAC Vranov 73.75 336 ⇑P **P 04 42 55.3 +2.2**
VRAC mb 04 42 55.8
VYHS Vyhne 73.94 335 *eP* **P 04 42 54.7 +0.4**
VYHS Vyhne 73.94 335 *eP* **P 04 42 54.7 +0.4**
VRI Vrincioaia 74.04 328 ⇑P **P 04 42 56.8 +1.8**
CFR Carcaliu 74.19 327 ⇑P **P 04 42 56.2 +0.4**
DRGR 74.43 331 ⇑P **P 04 42 58.5 +1.2**
MODS Modra-Piesok 74.44 336 *eP* **P 04 42 58.9 +1.6**
MODS Modra-Piesok 74.44 336 *eP* **P 04 42 58.9 +1.6**
KHC Kasperske Hory 74.61 338 *i P* **P 04 42 59.7 +1.5**
KHC pmax pmax
comp=Z,13nm,1.1s
KHC Kasperske Hory 74.61 338 *eP* **P 04 42 59.8 +1.5**
MLR Muntele Rosu 74.62 329 P **P 04 42 59.9 +1.4**
comp=Z,4.1nm,0.6s,baz=345,slow=6.9,SNR=21
MLR Muntele Rosu 74.62 329 ⇓P **P 04 42 59.8 +1.3**
MLR Muntele Rosu 74.62 329 IAmb IAmb 04 43 02.1
comp=Z,19nm,1.5s
GERES GERESS Array B 74.86 338 P **P 04 43 00.6 +0.8**
comp=Z,0.7nm,0.5s,baz=38,slow=5.8,SNR=10
VOIR 74.95 329 ⇑P **P 04 43 01.6 +1.3**
ARR Arges 75.14 330 ⇑P **P 04 43 02.6 +1.1**
SIRR Siria 75.21 332 ⇑P **P 04 43 03.1 +1.4**
CONA Conrad Observa 75.21 336 *i P* **P 04 43 00.1 -1.7**
comp=Z,6.9nm,1.3s
MOA Molln 75.66 337 *i P* **P 04 43 04.0 -0.3**
comp=Z,4.8nm,1.4s
GZR Gura Zlata 75.68 331 ⇑P **P 04 43 05.6 +1.1**
ILGA Ilgaz 75.83 321 P **P 04 43 05.4 -0.3**
ILGA IAmb IAmb 04 43 19.8
comp=Z,13nm,0.9s
ARSA Arzberg 75.92 336 *i P* **P 04 43 07.4 +1.6**
comp=Z,2.8nm,0.8s
WRA Warramunga Arr 76.00 205 P **P 04 43 05.8 -0.7**
comp=Z,2.7nm,0.9s,baz=21,slow=6.0,SNR=14
HERR Herculane 76.25 331 ⇑P **P 04 43 08.4 +0.7**
SOKA Soboth 76.58 336 *i P* **P 04 43 11.0 +1.4**
comp=Z,4.5nm,0.8s
KBA Koelnbreinsper 76.60 338 *i P* **P 04 43 11.5 +1.6**
comp=Z,17nm,1.0s
WATA Walderalm 76.75 339 *i P* **P 04 43 11.0 +0.3**
comp=Z,2.7nm,0.6s
RETA Reutte 76.78 340 *i P* **P 04 43 09.8 -1.0**
comp=Z,6.6nm,1.4s
WTTA Wattenberg 76.81 339 *i P* **P 04 43 12.3 +1.2**
comp=Z,5.6nm,0.7s
MOTA Moosalm 76.85 339 *i P* **P 04 43 12.6 +1.4**
comp=Z,11nm,1.3s
OBKA Obir 76.85 337 *i P* **P 04 43 11.2 0.0**
comp=Z,6.6nm,1.1s
SQTA Sankt Quirin 76.94 339 *i P* **P 04 43 13.5 +1.8**
comp=Z,11nm,1.3s
MYKA Terra Mystica 76.95 337 *i P* **P 04 43 13.9 +2.2**
comp=Z,4.8nm,1.1s
BR131 Keskin Array S 77.01 321 P **P 04 43 11.2 -1.1**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BR131 Keskin Array S 77.01 321 P **P 04 43 11.2 -1.1**
BR131 IAmb IAmb 04 43 13.9
comp=Z,4.7nm,1.1s
BRTR Keskin Array B 77.01 321 *i P* **P 04 43 13.3 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 77.01 321 P **P 04 43 13.4 +1.1**
comp=Z,1.9nm,0.6s,baz=66,slow=2.4,SNR=16
ABTA Abfaltersbach 77.10 338 *i P* **P 04 43 12.4 -0.2**
comp=Z,7.7nm,1.3s
FETA Feichten 77.23 339 *i P* **P 04 43 13.1 -0.4**
comp=Z,7.4nm,1.0s
DAVOX Davos/Dischmat 77.64 340 P **P 04 43 17.1 +1.4**
comp=Z,1.9nm,0.6s,baz=336,slow=23,SNR=5.9
VTS Vitosha 78.06 329 P **P 04 43 19.8 +1.7**
VTS Vitosha 78.06 329 ⇑P **P 04 43 18.3 +0.2**
VTS mb 04 43 19.8
WSAR Wadi Sarin 78.70 293 P **P 04 43 22.1 +0.3**
comp=Z,4.6nm,0.7s,baz=228,slow=12,SNR=3.5
PDG Podgorica 79.41 332 ⇑P **P 04 43 25.7 +0.4**
ASAR Alice Springs 79.68 205 P **P 04 43 27.0 +0.1**
ASAR Alice Springs 79.68 205 P **P 04 43 26.9 +0.1**
comp=Z,2.3nm,0.8s,baz=17,slow=5.5,SNR=16
NRCA Norcia 80.66 336 P **P 04 43 33.0 +0.9**
MMAI Mount Meron Ar 82.11 316 P **P 04 43 40.8 +0.8**
comp=Z,5.7nm,0.6s,baz=37,slow=7.5,SNR=9.7
ASF Jabal al Asfar 82.20 315 P **P 04 43 41.6 +1.0**
comp=Z,3.5nm,0.6s,baz=293,slow=1.3,SNR=5.0
RAYN Ar Rayn 85.46 304 P **P 04 43 55.3 -2.0**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 85.46 304 P **P 04 43 55.3 -2.0**
RAYN IAmb IAmb 04 44 00.6
comp=Z,3.6nm,0.8s
STKA Stephens Creek 86.00 196 P **P 04 43 58.8 -0.6**
comp=Z,0.5nm,0.3s,baz=347,slow=7.2,SNR=2.8
STKA Stephens Creek 86.00 196 IAmb IAmb 04 44 07.1
comp=Z,1.1nm,1.3s
ESDC Sonseca Array 86.88 348 P **P 04 44 04.8 +0.8**
comp=Z,1.6nm,0.8s,baz=0.9,slow=4.9,SNR=6.8
ESDC Sonseca Array 86.88 348 P **P 04 44 05.0 +1.0**

AZER ***18*** *04:32:48.2±0.2, 38°.16N×48°.08E, h3km±1km, ml3.6/26, Error ellipse: s-maj=2.8km s-min=1.4km az=341.0*
TEH ***18*** *04:32:48.6, 38°.04N×48°.04E, h6km, ML3.8*
THR ***18*** *04:32:49.4, 38°.08N×48°.13E, h14km, ML3.6*
IDC ***18*** *04:32:51.0±2.6, 38°.20N×48°.18E, h0km, mb3.5/3, mb1 3.9/6, mb1mx3.6/55, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=44.5km s-min=27.7km az=2.0*
ISC 18 04:32:49.6±1.2, 38°.07N±0°.03×48°.09E±0°.03, h9km±8km, n89, σ2s09/116, mb3.4/3, 3C-1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTR	**Astara**	**0.73**	**48**	*e*Pg	**Pg**	**04 33 03.8**	**+0.1**
ASTR	**Astara**	**0.73**	**48**	P	**Pg**	**04 33 03.9**	**+0.1**
ASTR	SNR=52			S	**Sb**	**04 33 14.3**	**-0.5**
GRMI	**Germi**	**0.75**	**348**	*e*Pg	**Pg**	**04 33 03.8**	**-0.3**
GRMI	**Germi**	**0.75**	**348**	*e*Pg	**Pg**	**04 33 03.8**	**-0.3**
LKRN	**Lenkeran, Azer**	**0.83**	**40**	*e*Pg	**Pg**	**04 33 05.5**	**-0.1**
LKRN	**Lenkeran, Azer**	**0.83**	**40**	P	**Pg**	**04 33 05.6**	**-0.1**
LKRN	SNR=11			S	**Sn**	**04 33 18.5**	**-1.5**
YRD	**Yardimli**	**0.85**	**8**	P	**Pg**	**04 33 05.5**	**-0.4**
YRD	SNR=131			S	**Sb**	**04 33 18.1**	**-0.2**
IHRS	**Heris**	**0.86**	**287**	*e*Sg	**Sg**	**04 33 15.6**	**-1.8**
IHRS				*e*Pg	**Pg**	**04 33 03.8**	**-2.4**
IBST	**Bostanabad**	**1.02**	**249**	*e*Pg	Pb	04 33 05.8	-3.8
GLBA	**Clilabad**	**1.19**	**11**	*e*Pg	**Pb**	**04 33 12.4**	**+0.1**
GLBA	**Clilabad**	**1.19**	**11**	P	**Pb**	**04 33 12.5**	**+0.1**
GLBA	SNR=60			S	**Sn**	**04 33 30.8**	**+2.0**
ZNJK	**Zanjan**	**1.48**	**161**	*e*Pg	**Pn**	**04 33 16.2**	**-0.5**
ZNJK	**Zanjan**	**1.48**	**161**	*e*Pg	**Pn**	**04 33 16.2**	**-0.5**
ZNJK	**Zanjan**	**1.48**	**161**	*e*Sg	**Sn**	**04 33 36.8**	**+0.6**
QRD	**Qoradiz**	**1.51**	**337**	P	**Pn**	**04 33 17.3**	**+0.5**
QRD	SNR=6.0			S	**Sg**	**04 33 39.1**	**+0.9**
ITBZ	**Tabriz**	**1.54**	**277**	*e*Pg	**Pn**	**04 33 17.1**	**-0.3**
ITBZ				IAMB	IAmb	04 33 41.0	
BLQ	comp=Z,18μm,0.2s SNR=7.5			S	**Sg**	**04 33 45.0**	**+0.9**
BLQ	**Beylaqan**	**1.70**	**346**	P	**Pb**	**04 33 20.9**	**-0.1**
SAAT	**Saatly**	**1.80**	**8**	*e*Pn	**Pb**	**04 33 22.5**	**-0.3**
SAAT	**Saatly**	**1.80**	**8**	P	**Pb**	**04 33 22.5**	**-0.3**
SAAT	SNR=5.3			S	**Sg**	**04 33 49.0**	**+1.5**
ORD	**Ordubad**	**1.85**	**298**	*e*Pn	**Pn**	**04 33 21.5**	**-0.1**
ORD	**Ordubad**	**1.85**	**298**	Pg	**Pn**	**04 33 21.5**	**-0.1**
ORD	SNR=333			Sg	**Sn**	**04 33 45.4**	**+0.2**
AGDM	**Agdam**	**2.17**	**340**	P	**Pn**	**04 33 27.7**	**+1.7**
AGDM	SNR=7.2			S	**Sb**	**04 33 57.2**	**+1.0**
ZRD	**Zardab**	**2.22**	**352**	*e*Pn	**Pn**	**04 33 27.8**	**+1.2**
ZRD	**Zardab**	**2.22**	**352**	P	**Pn**	**04 33 27.9**	**+1.2**
ZRD	SNR=10			S	**Sb**	**04 33 58.1**	**+0.5**
BRDA	**Brd**	**2.30**	**342**	*e*Pn	**Pn**	**04 33 28.8**	**+1.2**
BRDA	**Brd**	**2.30**	**342**	P	**Pn**	**04 33 28.9**	**+1.2**
BRDA	SNR=8.1			S	**Sb**	**04 34 01.1**	**+1.4**
MAHB	**Mahabad**	**2.30**	**236**	*e*Pn	**Pn**	**04 33 29.2**	**+1.3**
MAHB	comp=Z,0.0nm,0.4s			IAMB	IAmb	04 34 05.6	
NAX	**Nakhchivan**	**2.31**	**299**	*e*Pn	**Pn**	**04 33 29.7**	**+1.8**
NAX	**Nakhchivan**	**2.31**	**299**	P	**Pn**	**04 33 29.8**	**+1.8**
NAX	SNR=9.4			S	**Sb**	**04 34 00.9**	**+0.8**
SBZ	**Shahbuz**	**2.38**	**304**	*e*Pn	**Pn**	**04 33 31.2**	**+2.3**
SBZ	**Shahbuz**	**2.38**	**304**	P	**Pn**	**04 33 31.3**	**+2.3**
SBZ	SNR=242			S	**Sb**	**04 34 02.1**	**-0.2**
IGZV	**Ghazvin**	**2.39**	**134**	*e*Pn	**Pn**	**04 33 30.2**	**+1.0**
IGZV	comp=Z,7μm,0.3s			IAMB	IAmb	04 34 08.1	
GBS	**Qobustan**	**2.54**	**15**	*e*Pn	**Pn**	**04 33 33.2**	**+2.1**
GBS	**Qobustan**	**2.54**	**15**	P	**Pn**	**04 33 33.3**	**+2.1**
GBS	SNR=7.8			S	**Sb**	**04 34 07.8**	**+0.8**
QALM	**Alamut, Qazvin**	**2.62**	**128**	*e*Pn	**Pn**	**04 33 33.6**	**+1.3**
QALM	comp=Z,0.0nm,0.5s			IAMB	IAmb	04 34 13.7	
QABG	**Abgarm-Qazvin**	**2.65**	**153**	*e*Pn	**Pn**	**04 33 34.6**	**+1.9**
IML	**Ismayilli**	**2.72**	**1**	*e*Pn	**Pn**	**04 33 34.2**	**+0.7**
IML	**Ismayilli**	**2.72**	**1**	P	**Pn**	**04 33 34.2**	**+0.7**
IML	SNR=2.9			S	**Sb**	**04 34 10.3**	**-1.5**
PQL	**Pirkuli**	**2.74**	**8**	*e*Pn	**Pn**	**04 33 36.2**	**+2.3**
PQL	**Pirkuli**	**2.74**	**8**	P	**Pn**	**04 33 36.2**	**+2.3**
PQL	SNR=12			S	**Sb**	**04 34 12.5**	**-0.1**
HSRG	**Sareghieh**	**2.83**	**177**	*e*Pn	**Pn**	**04 33 36.7**	**+1.4**
QBL	**Gabala**	**2.88**	**356**	*e*Pn	**Pn**	**04 33 37.3**	**+1.7**
QBL	**Gabala**	**2.88**	**356**	P	**Pn**	**04 33 37.4**	**+1.7**
QBL	SNR=7.4			S	**Sb**	**04 34 14.7**	**-1.7**
GANJ	**Ganja**	**2.91**	**332**	*e*Pn	**Pn**	**04 33 38.3**	**+2.2**
GANJ	**Ganja**	**2.91**	**332**	P	**Pn**	**04 33 38.3**	**+2.2**
GANJ	SNR=9.5			S	**Sb**	**04 34 15.6**	**-1.8**
MAKU	**Maku**	**2.96**	**297**	*e*Pn	**Pn**	**04 33 38.7**	**+1.8**
MAKU	**Maku**	**2.96**	**297**	*e*Pn	**Pn**	**04 33 38.7**	**+1.8**
HYR	**Heyderabad**	**3.01**	**304**	*e*Pn	**Pn**	**04 33 39.7**	**+2.1**
HYR	**Heyderabad**	**3.01**	**304**	P	**Pn**	**04 33 39.8**	**+2.1**
HYR	SNR=11			S	**Sb**	**04 34 19.8**	**-0.6**
IRAZ	**Razeghan**	**3.05**	**150**	*e*Pn	**Pn**	**04 33 40.0**	**+1.8**
IRAZ	comp=Z,3μm,0.7s			IAMB	IAmb	04 34 38.1	
SIZA	**Siyzn**	**3.06**	**12**	*e*Pn	**Pn**	**04 33 40.5**	**+2.2**
SIZA	**Siyzn**	**3.06**	**12**	P	**Pn**	**04 33 40.5**	**+2.2**
SIZA	SNR=15			S	**Sb**	**04 34 19.7**	**-2.1**
XNQ	**Khinaliq**	**3.09**	**1**	*e*Pn	**Pn**	**04 33 39.8**	**+1.0**
XNQ	**Khinaliq**	**3.09**	**1**	P	**Pn**	**04 33 39.8**	**+1.0**
XNQ	SNR=19			S	**Sb**	**04 34 20.1**	**-2.7**
THKV	**Tehran--Karaj**	**3.10**	**133**	*e*Pn	**Pn**	**04 33 40.2**	**+1.3**

THKV	**Tehran--Karaj**	**3.10**	133	*e*Pn		**Pn**	**04 33 40.2**	**+1.3**
THKV				*e*AML		AML	04 34 30.2	
comp=E,171nm,0.4s								
GDB	**GEDABAY**	**3.20**	326	*e*Pn		**Pn**	**04 33 42.5**	**+2.2**
GDB	**GEDABAY**	**3.20**	326	P		**Pn**	**04 33 42.6**	**+2.2**
SNR=12								
GDB				S		**Sn**	**04 34 22.2**	**+3.5**
SEKA	**Sheki**	**3.21**	348	*e*Pn		**Pn**	**04 33 41.7**	**+1.5**
SEKA	**Sheki**	**3.21**	348	P		**Pn**	**04 33 41.8**	**+1.5**
SNR=15								
SEKA				S		**Sn**	**04 34 22.2**	**+3.6**
QUBA	**Quba, Azerbaij**	**3.29**	**5**	P		**Pn**	**04 33 43.3**	**+1.9**
SNR=4.0								
QUBA				S		**Sn**	**04 34 23.9**	**+3.2**
QUB	**Quba**	**3.31**	**4**	*e*Pn		**Pn**	**04 33 43.3**	**+1.6**
QSAR	**Qusar**	**3.44**	**2**	*e*Pn		**Pn**	**04 33 45.6**	**+2.2**
QSAR	**Qusar**	**3.44**	**2**	P		**Pn**	**04 33 45.6**	**+2.2**
SNR=5.3								
QSAR				S		**Sb**	**04 34 28.6**	**-4.0**
IDHR	**Dehrash**	**3.64**	203	*e*Pn		**Pn**	**04 33 47.2**	**+0.9**
QZX	**Qazax, Azerbai**	**3.65**	326	*e*Pn		**Pn**	**04 33 48.1**	**+1.9**
QZX	**Qazax, Azerbai**	**3.65**	326	P		**Pn**	**04 33 48.1**	**+1.9**
SNR=8.4								
QZX				S		**Sn**	**04 34 32.7**	**+3.3**
IPRN	**Peran**	**3.85**	117	*e*Pn		**Pn**	**04 33 50.6**	**+1.4**
IKOM	**Komasi**	**3.92**	187	*e*Pn		**Pn**	**04 33 54.4**	**+4.3**
IDMV	**Damavand**	**4.03**	127	*e*Pn		**Pn**	**04 33 55.3**	**+3.6**
IALA	**Alasht**	**4.27**	116	*e*Pn		**Pn**	**04 33 56.5**	**+1.5**
ISHM	**Shahmirzad**	**4.74**	117	*e*Pn		**Pn**	**04 34 03.9**	**+2.3**
ILAS	**Lasjerd**	**4.75**	123	*e*Pn		**Pn**	**04 34 03.6**	**+2.0**
IGLO	**Ghaloghah**	**4.84**	107	*e*Pn		**Pn**	**04 34 03.5**	**+0.7**
IKLH	**Kolahrood**	**5.53**	148	*e*Pn		**Pn**	**04 34 15.2**	**+2.8**
GEYT	**Alibeck**	**7.92**	**88**	Pn		**Pn**	**04 34 45.2**	**+0.3**
comp=E,1.3nm,0.3s,baz=275,slow=16,SNR=8.0								
ISFR	**Sfrayin**	**7.94**	**94**	*e*Pn		**Pn**	**04 34 46.8**	**+1.4**
IEMG	**Emamgholi**	**8.39**	**91**	*e*Pn		**Pn**	**04 34 53.6**	**+1.9**
IAKL	**Akhelmad**	**8.62**	**97**	*e*Pn		**Pn**	**04 34 55.8**	**+0.9**
IPAY	**Payeh**	**8.85**	**97**	*e*Pn		**Pn**	**04 34 59.5**	**+1.6**
AB31	**Akbulak array**	**14.07**	**34**	⇓Pn		**Pn**	**04 36 05.7**	**-3.3**
comp=E,0.5nm,0.3s,baz=206,slow=14,SNR=22								
AB31				⇑Sn		**Sn**	**04 38 38.3**	**-6.9**
comp=E,1.1nm,0.8s,baz=215,slow=22,SNR=4.6								
AKTO	**Aktyubinsk**	**14.24**	**27**	⇑Pn		**Pn**	**04 36 08.5**	**-2.8**
comp=E,1.7nm,0.4s								
AKTO				⇑Sn		**Sn**	**04 38 41.1**	**-8.3**
comp=E,1.6nm,0.5s								
AKTO	**Aktyubinsk**	**14.24**	**27**	Pn		**Pn**	**04 36 09.8**	**-1.6**
baz=211,slow=10								
ARU	**Arti**	**19.65**	**17**	P		**P**	**04 37 17.9**	**-0.6**
baz=196,slow=13								
VYHS	**Vyhne**	**23.57**	306	*e*P		**P**	**04 38 05.1**	**+4.7**
VYHS	**Vyhne**	**23.57**	306	*e*PN		P	04 38 08.8	+8.4
KURBB	**Kurchatov Arra**	**24.93**	**50**	P		**P**	**04 38 15.0**	**+2.0**
comp=E,0.4nm,0.4s,baz=255,slow=9.6,SNR=4.1								
MKAR	**Makanchi Array**	**26.53**	**60**	P		**P**	**04 38 29.7**	**+2.1**
comp=E,0.9nm,0.7s,baz=256,slow=7.5,SNR=6.2								
GERES	**GERESS Array B**	**26.96**	**305**	P		**P**	**04 38 34.2**	**+2.6**
comp=E,0.5nm,0.7s,baz=97,slow=7.0,SNR=5.0								

*ISCJB **18** 04:36:47.8±1.2, 52°.68N±0°.04×160°.65E±0°.06, h6km±6km, mb3.8/7, MS4.7/1, Error ellipse: s-maj=8.7km s-min=4.4km az=140.1*

*IDC **18** 04:36:48.1±2.4, 53°.35N×160°.52E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/71, mbtmp3.7/7, MS4.6/1, Ms1 4.6/1, ms1mx2.9/40, Error ellipse: s-maj=59.6km s-min=22.9km az=165.0*

*KRSC **18** 04:36:48.2±1.1, 52°.72N×160°.67E, h16km±8km, ML3.9*

ISC 18 04:36:48.8±1.5, 52°.87N±0°.07×160°.73E±0°.07, h22km±9km, n45, σ1§29/51, mb3.9/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.48**	298	*e*P	**Pn**	**04 36 59.5**	**-0.8**
SPN				*e*S	**Sn**	**04 37 07.5**	**-0.6**
NLC	**Nalytchevo**	**0.89**	290	*e*P	**Pb**	**04 37 05.2**	**-0.3**
SDLR	**Sedlovina**	**1.19**	291	*e*P	**Pn**	**04 37 10.1**	**0.0**
UGLR	**Uglovaya**	**1.20**	287	*e*P	**Pb**	**04 37 10.4**	**-0.5**
DALK	**Dalny**	**1.21**	278	*e*P	**Pn**	**04 37 09.7**	**-0.6**
DALK				*e*S	**Sn**	**04 37 26.5**	**+0.6**
SMAR	**Somma**	**1.23**	289	*e*P	**Pb**	**04 37 11.3**	**-0.1**
AVH	**Avacha**	**1.27**	289	*e*P	**Pb**	**04 37 11.5**	**-0.4**
PET	**Petropavlovsk**	**1.27**	278	*e*P	**Pn**	**04 37 10.8**	**-0.3**
KRER	**Koryakskii**	**1.27**	291	*e*P	**Pb**	**04 37 11.8**	**-0.3**
KOK	**Koryaka**	**1.33**	289	*e*P	**Pb**	**04 37 13.2**	**+0.1**
KRX	**Arik**	**1.35**	292	*e*P	**Pb**	**04 37 12.9**	**-0.5**
KII	**Karymskiy**	**1.40**	327	*e*P	**Pb**	**04 37 15.2**	**+1.0**
RUS	**Russkaya**	**1.42**	253	*e*P	**Pn**	**04 37 12.2**	**-1.0**
RUS				*e*S	**Sn**	**04 37 30.8**	**-0.4**
KRMR	**Karymshinskiy**	**1.58**	270	*e*P	**Pn**	**04 37 15.1**	**-0.3**
MTVR	**Mutnovka**	**1.60**	257	*e*P	**Pn**	**04 37 15.2**	**-0.6**
MTVR				*e*S	**Sn**	**04 37 35.1**	**-0.7**
GRL	**Gorelyy**	**1.65**	260	*e*P	**Pn**	**04 37 16.4**	**-0.1**
MKZ	**Mys Kozlova**	**1.79**	**19**	*e*S	**Sb**	**04 37 44.6**	**+1.8**
ASAK	**Asacha**	**1.79**	255	*e*P	**Pn**	**04 37 18.5**	**+0.1**
ASAK				*e*S	**Sn**	**04 37 41.6**	**+1.1**
PETK	**Petropavlovsk-**	**1.85**	279	Pn	**Pn**	**04 37 19.8**	**+0.7**
71nm,0.3s,baz=98,slow=18,SNR=59							
PETK				Sn	**Sb**	**04 37 44.6**	**+0.1**
23nm,0.3s,baz=299,slow=42,SNR=6.4							
PETK				LR	LR	04 38 07.1	
comp=Z,165nm,19.5s,baz=214,slow=46							
KDTR	**Khodutka, Kamc**	**1.94**	238	*e*P	**Pn**	**04 37 19.9**	**-0.5**
KDTR				*e*S	**Sn**	**04 37 44.1**	**0.0**
APC	**Apacha**	**2.17**	273	*e*P	**Pn**	**04 37 24.6**	**+1.2**
APC				*e*S	**Sb**	**04 37 52.2**	**-1.4**
KZV	**Kizimen**	**2.26**	354	*e*P	**Pb**	**04 37 28.6**	**-0.4**
KZV				*e*S	**Sb**	**04 37 58.8**	**+2.3**
TUMD	**Tumrok D**	**2.34**	355	*e*P	**Pb**	**04 37 28.7**	**-1.6**
TUMR	**Tumrok**	**2.44**	352	*e*P	**Pb**	**04 37 31.4**	**-0.6**
TUMR				*e*S	**Sb**	**04 38 04.2**	**+2.5**
PAU	**Pauzhetka**	**2.79**	241	*e*P	**Pn**	**04 37 33.4**	**+1.3**
KMNR	**Kamenistaya**	**2.91**	354	*e*P	**Pb**	**04 37 39.0**	**-0.9**
KIRR	**Kirishev**	**3.10**	356	*e*P	**Pb**	**04 37 42.8**	**-0.4**
KPT	**Kopyto**	**3.12**	355	*e*P	**Pb**	**04 37 41.9**	**-1.6**
ZLN	**Zelenaya**	**3.15**	**1**	*e*P	**Pb**	**04 37 42.8**	**-1.3**
LGNR	**Loginova**	**3.22**	360	*e*P	**Pb**	**04 37 43.6**	**-1.7**
KRSR	**Krestovskiy**	**3.35**	358	*e*P	**Pb**	**04 37 45.6**	**-1.9**
SRDR	**Sredinnyy**	**3.50**	351	*e*P	**Pb**	**04 37 47.2**	**-2.9**
BDR	**Baidarnaya**	**3.72**	**4**	*e*P	**Pb**	**04 37 50.9**	**-2.8**
SRKR	**Sorokina**	**3.80**	**4**	*e*P	**Pb**	**04 37 52.1**	**-3.0**
H11N2	**WAKE ISLAND Hy**	**33.42**	169	T	T	05 20 41.0	
baz=359,slow=76,SNR=6.1							
H11N3	**WAKE ISLAND Hy**	**33.44**	169	T	T	05 20 47.3	
baz=359,slow=76,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**33.44**	169	T	T	05 20 47.3	
baz=359,slow=76,SNR=6.2							
KURBB	**Kurchatov Arra**	**48.28**	302	P	**P**	**04 45 26.1**	**-1.7**
0.5nm,0.3s,baz=60,slow=7.5,SNR=4.5							
BVAR	**Borovoye Array**	**50.83**	309	P	**P**	**04 45 46.4**	**-0.8**
0.5nm,0.4s,baz=57,slow=5.3,SNR=2.6							
ARCES	**ARCESS Array B**	**53.62**	342	P	**P**	**04 46 07.8**	**+0.1**
3.4nm,0.9s,baz=42,slow=6.1,SNR=4.9							
NOA	**NORSAR Array B**	**63.86**	344	P	**P**	**04 47 19.0**	**0.0**
0.2nm,0.5s,baz=15,slow=5.4,SNR=3.1							
HFS	**Hagfors**	**64.28**	342	P	**P**	**04 47 21.7**	**+0.1**
2.2nm,0.8s,baz=26,slow=3.7,SNR=4.0							
AKASG	**Malin Array Be**	**69.00**	329	P	**P**	**04 47 51.3**	**-0.6**
0.3nm,0.3s,baz=29,slow=6.7,SNR=3.2							
TXAR	**Lajitas Array**	**70.37**	**67**	P	**P**	**04 48 03.6**	**+2.7**
0.1nm,0.4s,baz=294,slow=6.8,SNR=2.9							
URZ	**Urewera**	**91.87**	167	LR	LR	05 24 00.4	
comp=Z,281nm,20.6s,baz=29,slow=31							

*IDC **18** 04:39:46.2±1.0, 60°.39S×43°.31W, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=47.7km s-min=25.1km az=70.0*

*ISCJB **18** 04:39:47.3±1.1, 60°.5S±0°.2×43°.3W±0°.6, h16km, mb3.6/3, Error ellipse: s-maj=44.1km s-min=19.1km az=157.2*

ISC 18 04:39:48.4±1.0, 60°.5S±0°.2×43°.1W±0°.3, h16km, n10, σ2§19/10, mb3.6/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.12**	143	PKiKP	**P**	**04 43 44.3**	**-4.0**
VNA1	**Neumayer--Stat**	**17.35**	140	PKiKP	**P**	**04 43 49.1**	**-1.6**
VNA2	**Neumayer--Watz**	**17.71**	141	PKiKP	**P**	**04 43 52.8**	**-1.9**
baz=282,slow=14							
SNAA	**Sanae**	**19.33**	142	P	**P**	**04 44 14.6**	**+2.1**
0.1nm,0.3s,baz=282,slow=11,SNR=10.0							
SNAA	**Sanae**	**19.33**	142	PKiKP	**P**	**04 44 14.7**	**+2.1**
QSPA	**South Pole Qui**	**29.78**	180	P	**P**	**04 45 55.0**	**+1.0**
0.7nm,0.7s,baz=170,slow=6.1,SNR=2.8							
LPAZ	**La Paz**	**47.68**	327	P	**P**	**04 48 24.0**	**-0.6**
0.6nm,0.7s,baz=170,slow=6.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**81.58**	**44**	P	**P**	**04 52 06.1**	**+1.0**
0.7nm,1.1s,baz=206,slow=5.7,SNR=2.7							
MKAR	**Makanchi Array**	**145.91**	**88**	PKPbc	**PKPdf**	**04 59 25.1**	**-0.1**
0.5nm,0.7s,baz=200,slow=2.1,SNR=3.2							
ILAR	**Eielson Array**	**146.66**	311	PKPbc	**PKPbc**	**04 59 27.1**	**-0.5**
0.7nm,0.6s,baz=135,slow=2.6,SNR=5.8							

*NEIC **18** 04:46:08.0±1.7, 2°.45N±0°.07×128°.53E±0°.09, h227km±7km, mb4.5/47*

*DJA **18** 04:46:07.8±0.3, 3°N±4°×12°8E±°, h228km±3km, M4.5/14, mB5.1/7, mb4.5/14, MLv4.5/13, Mw(mB)4.5/7*

*ISCJB **18** 04:46:08.5±0.2, 2°.40N±0°.03×128°.54E±0°.04, h250km, mb4.2/28, Error ellipse: s-maj=5.3km s-min=3.5km az=167.6*

*IDC **18** 04:46:09.1±1.2, 2°.46N×128°.66E, h240km±12km, mb3.9/23, mb1 4.0/28, mb1mx3.9/45, mbtmp4.5/28, Error ellipse: s-maj=14.2km s-min=7.5km az=77.0*

ISC 18 04:46:10.1±0.4, 2°.43N±0°.05×128°.53E±0°.06, h250km, n127, σ1§48/129, mb4.4/49, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.01**	215	P	**Pn**	**04 46 49.8**	**-2.9**
TNTI	**Ternate**	**2.01**	215		**Pn**	**04 46 49.6**	**-3.1**
TNTI				S	S	04 47 17.4	-8.9
LBMI	**Labuha**	**3.21**	199	P	**Pn**	**04 47 03.3**	**-1.6**
SGSI	**Sangihe**	**3.25**	293	P	**Pn**	**04 47 01.2**	**-4.1**
SWI	**Sorong**	**4.26**	140	P	**Pn**	**04 47 15.8**	**-1.2**
SIJI	**Sorong**	**4.27**	140	P	**Pn**	**04 47 15.9**	**-1.1**
6.6nm,0.3s,baz=332,slow=15,SNR=8.8							
DDMP	**Don Marcelino,**	**4.61**	323	*e*P	**Pn**	**04 47 16.8**	**-4.3**
KMSI	**Cibinong**	**4.90**	248	P	**Pn**	**04 47 21.6**	**-3.1**
SANI	**Sanana**	**5.12**	210	P	**Pn**	**04 47 23.7**	**-3.7**
187nm,0.5s,6μm1.1nm							
DAV	**Davao City (W)**	**5.47**	328	P	**Pn**	**04 47 32.3**	**+0.6**
95nm,0.3s,baz=78,slow=3.1,SNR=4.0							
DAV	**Davao City (W)**	**5.47**	328		**Pn**	**04 47 30.0**	**-1.7**
SKMP	**Bagumbayan, Su**	**5.68**	316	*e*P	**Pn**	**04 47 31.1**	**-3.2**
KCP	**Kidapawan**	**5.70**	323	⇓*e*P	**Pn**	**04 47 31.6**	**-2.9**
NLAI	**Namlea**	**5.81**	194	P	**Pn**	**04 47 34.1**	**-1.7**
16nm,0.6s,4μm0.2nm							
BUKP	**Musuan**	**6.42**	328	*e*P	**Pn**	**04 47 40.0**	**-3.6**
FAKI	**Fak Fak**	**6.48**	145	P	**Pn**	**04 47 43.8**	**-0.5**
FAKI	**Fak Fak**	**6.48**	145	Pn	**Pn**	**04 47 43.3**	**-1.0**
LUWI	**Luwuk**	**6.71**	239	Pn	**Pn**	**04 47 46.2**	**-0.9**
LUWI					**S**	**04 49 04.9**	**0.0**
MRSI	**Marisa**	**6.86**	254	P	**Pn**	**04 47 47.2**	**-1.9**
27nm,0.6s							
BUTP	**Butuan**	**7.11**	336	*e*P	Pn	04 48 02.5	+10
APSI	**Ampana**	**7.63**	244	P	**Pn**	**04 47 56.5**	**-2.3**
33nm,0.9s,710nm							
SRPI	**Serui, Papua**	**8.81**	119	P	**Pn**	**04 48 10.3**	**-3.4**
TTSI	**Tana Toraja**	**10.26**	238	P	**Pn**	**04 48 30.3**	**-1.7**
24nm,0.4s							
SAUI	**Saumlaki**	**10.70**	165	Pn	**Pn**	**04 48 35.5**	**-2.1**
SPSI	**Sidrap Palu**	**10.81**	234	P	**Pn**	**04 48 37.1**	**-1.8**
9.6nm,0.7s							
KAPI	**Kappang**	**11.47**	230	P	**Pn**	**04 48 49.0**	**+1.9**
0.9nm,0.3s,baz=359,slow=4.8,SNR=3.9							
GENI	**Genyem**	**12.66**	113	P	**P**	**04 49 06.2**	**+2.1**
SOEI	**Soe**	**12.82**	199	P	**Pn**	**04 49 04.7**	**+0.7**
SOEI	**Soe**	**12.82**	199	P	**P**	**04 49 05.5**	**-0.5**
JAY	**Jayapura**	**13.13**	112	P	**Pn**	**04 49 05.8**	**-1.9**
0.5nm,0.3s,baz=297,slow=4.5,SNR=1.9							
BATI	**Baumata**	**13.45**	201	P	**P**	**04 49 12.8**	**-0.1**
12nm,0.3s,baz=344,slow=3.9,SNR=6.2							
MTN	**Manton Dam**	**15.39**	170	P	**P**	**04 49 33.4**	**-0.8**
KNRA	**Kununurra**	**17.99**	179	P	**P**	**04 50 02.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.59**	188	P	**P**	**04 50 29.5**	**-1.0**
2.5nm,0.4s,baz=21,slow=10,SNR=22							
FITZ	**Fitzroy Crossi**	**20.59**	188	P	**P**	**04 50 29.6**	**-1.0**
TWG	**Pinlang**	**21.52**	341	P	**P**	**04 50 36.3**	**-3.4**
COEN	**Coen**	**21.82**	139	P	**P**	**04 50 41.3**	**-1.3**
TPUB	**Ta-pu**	**22.12**	340	P	**P**	**04 50 44.5**	**-0.8**
SSLB	**Suanglung**	**22.46**	342	P	**P**	**04 50 48.6**	**+0.1**
SSLB				IAmb	IAmb	04 50 49.9	
comp=Z,14nm,0.9s							
WB0	**Warramunga Arr**	**22.80**	166	P	**P**	**04 50 51.5**	**+0.1**
WRAB	**Tennant Creek**	**22.94**	166	P	**P**	**04 50 52.7**	**-0.1**
WRA	**Warramunga Arr**	**22.95**	166	P	**P**	**04 50 52.4**	**-0.5**
comp=Z,16nm,0.5s,baz=345,slow=10.0,SNR=123							
WRA				ScP	**ScP**	**04 57 51.6**	**+2.5**
comp=Z,1.3nm,0.6s,baz=342,slow=2.9,SNR=11							
WRA	**Warramunga Arr**	**22.95**	166	P	**P**	**04 50 52.0**	**-0.9**
WB2	**Warramunga Arr**	**22.95**	166	P	**P**	**04 50 52.8**	**-0.1**
WR0	**Warramunga Arr**	**23.02**	165	P	**P**	**04 50 57.9**	**+4.4**
WR0				IAmb	IAmb	04 50 58.0	
comp=Z,8.2nm,0.7s							
PSAC2	**Pilbara Seismi**	**25.29**	199	P	**P**	**04 51 13.1**	**-0.9**
PSAC2				IAmb	IAmb	04 51 30.5	
comp=Z,27nm,1.3s							
PSAC1	**Pilbara Seismi**	**25.29**	199	P	**P**	**04 51 14.2**	**+0.2**
PSAC1				IAmb	IAmb	04 51 29.0	
comp=Z,19nm,1.3s							
PSAB2	**Pilbara Seismi**	**25.30**	199	P	**P**	**04 51 13.9**	**-0.2**
PSAB2				IAmb	IAmb	04 51 25.2	
comp=Z,28nm,1.4s							
PSAA2	**Pilbara Seismi**	**25.31**	199	P	**P**	**04 51 14.0**	**-0.2**
PSAA2				IAmb	IAmb	04 51 25.2	
comp=Z,18nm,1.2s							
PSA00	**Pilbara Seismi**	**25.32**	199	P	**P**	**04 51 13.9**	**-0.4**
PSA00				IAmb	IAmb	04 51 16.7	
comp=Z,8.5nm,0.8s							
PSAA3	**Pilbara Seismi**	**25.32**	199	P	**P**	**04 51 14.2**	**-0.2**
PSAA3				IAmb	IAmb	04 51 16.2	
comp=Z,17nm,1.2s							
PSAB1	**Pilbara Seismi**	**25.32**	199	P	**P**	**04 51 14.2**	**-0.1**
PSAB1				IAmb	IAmb	04 51 16.3	
comp=Z,44nm,1.5s							
PSAD3	**Pilbara Seismi**	**25.41**	199	P	**P**	**04 51 14.7**	**-0.4**
PSAD3				IAmb	IAmb	04 51 30.2	
comp=Z,17nm,1.3s							
ASAR	**Alice Springs**	**26.46**	169	P	**P**	**04 51 24.4**	**-0.1**
comp=Z,6.8nm,0.6s,baz=356,slow=8.0,SNR=117							
ASAR				ScP	**ScP**	**04 58 01.4**	**+2.5**
comp=Z,2.1nm,0.8s,baz=354,slow=2.3,SNR=17							
ASAR	**Alice Springs**	**26.46**	169	P	**P**	**04 51 24.6**	**+0.1**
CTA	**Charters Tower**	**28.34**	143	P	**P**	**04 51 41.3**	**0.0**
comp=Z,3.0nm,0.5s,baz=321,slow=6.5,SNR=2.8							
PSI	**Prapat**	**29.57**	271	P	**P**	**04 51 53.6**	**+1.2**
comp=Z,1.7nm,0.3s,baz=185,slow=19,SNR=3.9							
RPSI	**Rantau Prapat**	**29.57**	271	P	**P**	**04 51 53.6**	**+1.4**
WHN	**Wuhan**	**31.02**	336	⇑P	**P**	**04 52 06.1**	**+1.4**
CM31	**Chiang Mai Arr**	**33.08**	301	P	**P**	**04 52 24.4**	**+1.6**
CM31				IAmb	IAmb	04 52 25.3	
comp=Z,8.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**33.08**	301	P	**P**	**04 52 24.6**	**+1.9**
comp=Z,3.1nm,0.6s,baz=114,slow=7.5,SNR=17							
CHTO	**Chiang Mai**	**33.23**	301	P	**P**	**04 52 24.6**	**+0.6**
CHTO				IAmb	IAmb	04 52 26.2	
comp=Z,8.1nm,0.8s							
KSRS	**Korea Array**	**34.86**	359	P	**P**	**04 52 37.8**	**0.0**
comp=Z,4.2nm,0.5s,baz=175,slow=9.8,SNR=13							
MJAR	**Matsushiro Arr**	**35.11**	**14**	P	**P**	**04 52 37.9**	**-2.0**
comp=Z,6.9nm,0.7s,baz=188,slow=10,SNR=11							
MJAR	**Matsushiro Arr**	**35.11**	**14**	IAmb	IAmb	04 52 39.2	
comp=Z,2.9nm,0.7s							
STKA	**Stephens Creek**	**36.30**	161	P	**P**	**04 52 50.1**	**0.0**
comp=Z,4.6nm,0.3s,baz=343,slow=9.6,SNR=33							
XAN	**Xi'an**	**36.39**	332	P	**P**	**04 52 50.8**	**-0.1**
XAN				pP	pP	04 53 09.4	-32
XAN				pmax	pmax		
comp=Z,8.0nm,0.8s							
XAN	**Xi'an**	**36.39**	332	P	**P**	**04 52 50.4**	**-0.5**
XAN				IAmb	IAmb	04 52 51.6	
comp=Z,6.6nm,0.8s							
LZH	**Lanzhou**	**40.53**	329	*e*P	**P**	**04 53 27.1**	**+1.7**
LZH				pP	pP	04 54 12.4	-4.4
LZH				sP	sP	04 54 37.8	-7.3
LZH				PP	**PnPn**	**04 55 13.8**	**+2.6**
LZH				pmax	pmax		
comp=Z,22nm,1.2s							
LZH				pmax	pmax		
comp=Z,89nm,4.3s							
HHC	**Hu-ho-hao-te**	**41.20**	340	*e*P	**P**	**04 53 32.1**	**+1.4**
HHC				pmax	pmax		
comp=Z,5.0nm,0.9s							
HHC				pmax	pmax		
comp=Z,8.0nm,5.1s							
USRK	**Ussuriysk Ar.**	**41.71**	**4**	P	**P**	**04 53 34.8**	**+0.2**
comp=Z,4.1nm,0.7s,baz=178,slow=6.8,SNR=9.9							
SHL	**Shillong**	**42.09**	306	P	**P**	**04 53 39.2**	**+1.0**
LSA	**Lhasa**	**44.64**	311	P	**P**	**04 53 59.7**	**+0.9**
GTA	**Gaotai**	**45.13**	328	*e*P	**P**	**04 54 02.6**	**+0.5**
GTA				pP	pP	04 54 51.4	-3.0
GTA				sP	sP	04 55 15.9	-6.4
GTA				pmax	pmax		
comp=Z,7.0nm,1.0s							
TAPN	**Taplejung**	**46.23**	306	*e*P	**P**	**04 54 12.0**	**+0.9**
comp=Z,14nm,0.6s							
ODAN	**Odare**	**46.28**	306	*e*P	**P**	**04 54 12.3**	**+0.9**
comp=Z,32nm,0.6s							
RAMN	**Ramite**	**46.96**	305	*e*P	**P**	**04 54 17.7**	**+1.0**
comp=Z,47nm,0.5s							
JIRN	**Jiri**	**47.58**	306	*e*P	**P**	**04 54 22.5**	**+0.9**
comp=Z,45nm,0.5s							
GUN	**Gumba**	**47.94**	306	*e*P	**P**	**04 54 25.1**	**+0.8**
comp=Z,40nm,0.7s							
PKI	**Pulchoki**	**48.18**	305	*e*P	**P**	**04 54 26.4**	**+0.3**
comp=Z,6.5nm,0.4s							
PKIN	**Phulchoki**	**48.19**	305	*e*P	**P**	**04 54 26.4**	**+0.2**
comp=Z,4.5nm,0.3s							
KKN	**Kakani**	**48.37**	306	*e*P	**P**	**04 54 27.9**	**+0.4**
comp=Z,11nm,0.5s							
DMN	**Daman**	**48.44**	305	*e*P	**P**	**04 54 28.5**	**+0.4**
comp=Z,13nm,0.6s							
ULN	**Ulaanbaatar**	**48.92**	341	P	**P**	**04 54 31.1**	**0.0**
GKN	**Gorkha**	**48.98**	306	*e*P	**P**	**04 54 32.4**	**+0.4**
SONM	**Songino Array**	**49.11**	340	P	**P**	**04 54 32.8**	**+0.2**
comp=Z,2.5nm,0.8s,baz=157,slow=8.5,SNR=16							
SONM				PcP	**sP**	**04 55 51.9**	**-1.8**
comp=Z,0.7nm,0.7s,baz=168,slow=3.0,SNR=3.9							
SONM	**Songino Array**	**49.11**	340	IAmb	IAmb	04 54 33.8	
comp=Z,2.3nm,0.9s							
KOLN	**Koldanda**	**49.74**	305	*e*P	**P**	**04 54 38.7**	**+0.9**
comp=Z,49nm,0.6s							
DANN	**Dangsing**	**49.83**	306	*e*P	**P**	**04 54 39.1**	**+0.5**
comp=Z,60nm,0.6s							
WMQ	**Urumqi**	**54.82**	325	*e*P	**P**	**04 55 15.5**	**+0.9**
WMQ				pmax	pmax		
comp=Z,13nm,0.8s							
WMQ				pmax	pmax		
comp=Z,200nm,6.7s							
PETK	**Petropavlovsk-**	**55.98**	**21**	P	**P**	**04 55 23.1**	**+0.6**
comp=Z,3.2nm,0.6s,baz=171,slow=4.9,SNR=4.1							
YAK	**Yakutsk**	**59.47**	**1**	P	**P**	**04 55 46.5**	**-0.1**
MK31	**Makanchi Array**	**59.64**	325	IAmb	IAmb	04 55 48.9	
comp=Z,4.1nm,0.6s							
MKAR	**Makanchi Array**	**59.64**	325	P	**P**	**04 55 48.5**	**+0.3**
comp=Z,4.7nm,0.4s,baz=116,slow=8.1,SNR=80							
MKAR				PcP	**PcP**	**04 56 32.5**	**+0.1**

SMAR	Somma	1.22 290	eP		Pg	04 56 54.6	-0.7
SMAR	Somma	1.22 290	PN		Pg	04 56 54.6	-0.7
PET	Petropavlovsk	1.26 278	ePN		Pg	04 56 54.6	-1.3
PET			eS		Sg	04 57 13.2	+0.9
PET	Petropavlovsk	1.26 278	ePN		Pg	04 56 54.7	-1.2
PET			eS		Sg	04 57 11.4	-0.9
PET			smax		smax		
	comp=E,1μm,0.6s						
PET			smax		smax		
	comp=N,1μm,0.5s						
PET	Petropavlovsk	1.26 278			Pg	04 56 54.8	-1.2
PET			Sn		Sb	04 57 05.2	-5.6
KRER	Koryakskii	1.27 291	eP		Pg	04 56 55.8	-0.3
KRER	Koryakskii	1.27 291	PN		Pg	04 56 55.8	-0.3
KOK	Koryaka	1.33 290	eP		Pg	04 56 56.5	-0.7
KOK	Koryaka	1.33 290	PN		Pg	04 56 56.5	-0.7
KRX	Arik	1.34 292	eP		Pg	04 56 56.5	-1.0
KRX	Arik	1.34 292	PN		Pg	04 56 56.5	-1.0
KII	Karymskiy	1.40 328	eP		Pg	04 56 59.2	+0.7
KII	Karymskiy	1.40 328	PN		Pg	04 56 59.2	+0.7
RUS	Russkaya	1.41 253	eP		Pb	04 56 56.1	-1.4
RUS			eS		Sn	04 57 14.2	-0.4
RUS	Russkaya	1.41 253	PN		Pb	04 56 56.1	-1.4
RUS			S		Sn	04 57 14.2	-0.4
KRMR	Karymshinskiy	1.57 270	eP		Pb	04 56 58.6	-1.6
KRMR			eS		Sb	04 57 20.1	+0.4
KRMR	Karymshinskiy	1.57 270	PN		Pb	04 56 58.6	-1.6
KRMR			S		Sb	04 57 20.1	+0.4
MTVR	Mutnovka	1.59 257	eP		Pb	04 56 59.3	-1.3
MTVR			eS		Sn	04 57 19.3	0.0
MTVR	Mutnovka	1.59 257	PN		Pb	04 56 59.3	-1.3
MTVR			S		Sn	04 57 19.3	0.0
GRL	Gorelyy	1.64 260	eP		Pb	04 57 00.5	-0.9
GRL	Gorelyy	1.64 260	PN		Pb	04 57 00.5	-0.9
ASAK	Asacha	1.78 255	eP		Pb	04 57 02.4	-1.5
ASAK			eS		Sb	04 57 25.6	-0.4
ASAK	Asacha	1.78 255	PN		Pb	04 57 02.4	-1.5
ASAK			S		Sb	04 57 25.6	-0.4
MKZ	Mys Kozlova	1.80 19	eP		Pg	04 57 04.6	-1.6
MKZ			eS		Sg	04 57 29.0	-0.5
MKZ	Mys Kozlova	1.80 19	PN		Pg	04 57 04.6	-1.6
MKZ			S		Sg	04 57 29.0	-0.5
PEA0B	Petropavlovsk-	1.84 279	PN		Pb	04 57 03.6	-1.2
PEA0B	Petropavlovsk-	1.84 279			Pb	04 57 03.6	-1.2
PETK	Petropavlovsk-	1.84 279	PN		Pb	04 57 03.4	-1.4
PETK	Petropavlovsk-	1.84 279	Pn		Pb	04 57 03.6	-1.2
	comp=N,158nm,0.3s,baz=99,slow=18,SNR=307						
PETK			Sn		Sb	04 57 27.4	-0.2
	comp=N,38nm,0.3s,baz=81,slow=18,SNR=4.5						
PETK			LR		LR	04 57 56.8	
	comp=N,339nm,19.4s,baz=53,slow=53						
PETK	Petropavlovsk-	1.84 279			Pb	04 57 03.4	-1.4
PETK					Sn	04 57 17.5	-7.8
GNL	Ganaly	1.86 298	eP		Pb	04 57 05.4	+0.2
GNL			eS		Sg	04 57 30.6	-1.0
GNL	Ganaly	1.86 298	PN		Pb	04 57 05.4	+0.2
GNL			S		Sg	04 57 30.6	-1.0
KDTR	Khodutka, Kamc	1.94 238	eP		Pn	04 57 03.0	-0.7
KDTR			eS		Sn	04 57 25.8	-1.7
KDTR	Khodutka, Kamc	1.94 238	PN		Pn	04 57 03.0	-0.7
KDTR			S		Sn	04 57 25.8	-1.7
APC	Apacha	2.16 273	eP		Pb	04 57 08.7	-1.5
APC			eS		Sb	04 57 36.6	0.0
APC	Apacha	2.16 273	PN		Pb	04 57 08.7	-1.5
APC			S		Sb	04 57 36.6	0.0
KZV	Kizimen	2.27 354	eP		Pg	04 57 12.5	-2.6
KZV			eS		Sg	04 57 44.2	-0.3
KZV	Kizimen	2.27 354	PN		Pg	04 57 12.5	-2.6
KZV			S		Sg	04 57 44.2	-0.3
TUMD	Tumrok D	2.35 356	eP		Pb	04 57 13.2	-0.3
TUMD			eS		Sg	04 57 45.2	-2.0
TUMR	Tumrok	2.45 352	eP		Pb	04 57 15.4	+0.2
TUMR			eS		Sg	04 57 49.0	-1.2
TUMR	Tumrok	2.45 352	PN		Pb	04 57 15.4	+0.2
TUMR			S		Sg	04 57 49.0	-1.2
PAU	Pauzhetka	2.78 241	eP		Pb	04 57 18.5	-2.3
PAU	Pauzhetka	2.78 241	PN		Pb	04 57 18.5	-2.3
KMNR	Kamenistaya	2.91 355	eP		Pb	04 57 22.8	-0.3
KMNR	Kamenistaya	2.91 355	PN		Pb	04 57 22.8	-0.3
BZGR	Bezymyannyi-Gr	3.08 360	eP		Pb	04 57 25.0	-1.0
BZGR	Bezymyannyi-Gr	3.08 360	PN		Pb	04 57 25.0	-1.0
KIRR	Kirishev	3.10 356	eP		Pb	04 57 27.3	+0.9
KIRR	Kirishev	3.10 356	PN		Pb	04 57 27.3	+0.9
BZWR	Bezymyannyi-We	3.11 358	eP		Pb	04 57 25.9	-0.6
BZWR	Bezymyannyi-We	3.11 358	PN		Pb	04 57 25.9	-0.6
KPT	Kopyto	3.12 355	eP		Pb	04 57 25.4	-1.3
KPT	Kopyto	3.12 355	PN		Pb	04 57 25.4	-1.3
ZLN	Zelenaya	3.16 1	eP		Pb	04 57 26.3	-1.0
ZLN			eS		Sg	04 58 08.6	-4.4
ZLN	Zelenaya	3.16 1	PN		Pb	04 57 26.3	-1.0
ZLN			S		Sg	04 58 08.6	-4.4
LGNR	Loginova	3.23 360	eP		Pb	04 57 27.8	-0.7
LGNR			eS		Sg	04 58 10.8	-4.4
LGNR	Loginova	3.23 360	PN		Pb	04 57 27.8	-0.7
LGNR			S		Sg	04 58 10.8	-4.4
CIRR	Tsirk	3.26 0	eP		Pb	04 57 28.1	-0.9
CIRR	Tsirk	3.26 0	PN		Pb	04 57 28.1	-0.9
KRSR	Krestovskiy	3.36 359	eP		Pb	04 57 28.8	-1.9
KRSR	Krestovskiy	3.36 359	PN		Pb	04 57 28.8	-1.9
SRDR	Sredinnyy	3.51 351	eP		Pb	04 57 30.0	-3.2
SRDR	Sredinnyy	3.51 351	PN		Pb	04 57 30.0	-3.2
KBTR	Krutoberegovo	3.57 19	eP		Pb	04 57 32.1	-2.1
KBTR	Krutoberegovo	3.57 19	PN		Pb	04 57 32.1	-2.1
SKR	Severo-Kuril's	3.60 234	eS		Sn	04 58 06.1	-2.4
BDR	Baidarnaya	3.72 4	eP		Pb	04 57 34.9	-2.0
BDR	Baidarnaya	3.72 4	PN		Pb	04 57 34.9	-2.0
SRKR	Sorokina	3.81 4	eP		Pb	04 57 34.3	-4.0
SRKR	Sorokina	3.81 4	PN		Pb	04 57 34.3	-4.0
BKI	Bering	3.88 51	eS		Sn	04 58 15.4	-0.2
MA2	Magadan	8.71 324	LR		LR	05 02 22.2	
	comp=N,64nm,18.9s,baz=150,slow=41						
ERM	Erimo	16.04 234	P		Pn	05 00 14.3	-2.0
ERM			pmax		pmax		
	comp=Z,18nm,1.1s						
ERM	Erimo	16.04 234	Pn		Pn	05 00 14.3	-2.0
ERM			IAmb		IAmb	05 00 16.5	
	comp=Z,18nm,1.1s						
NIKH	Nikolski High	18.29 77	P		P	05 00 45.8	+1.4
KLR	Kul'dur	18.51 270	P		Pn	05 00 47.1	+0.1
	comp=Z,0.2nm,0.3s,baz=77,slow=6.1,SNR=5.5						
KLR			LR		LR	05 08 09.3	
	comp=Z,66nm,19.8s,baz=44,slow=38						
USRK	Ussuriysk Ar.	20.79 257	P		P	05 01 10.2	-1.5
	comp=Z,1.6nm,0.6s,baz=60,slow=10,SNR=5.3						
USRK	Ussuriysk Ar.	20.79 257	P		P	05 01 08.7	-3.0
MJAR	Matsushiro Arr	22.70 233	P		P	05 01 32.3	0.0
MJAR			pmax		pmax		
	comp=Z,2.0nm,0.8s						
MJAR	Matsushiro Arr	22.70 233	P		P	05 01 33.1	+0.8
	comp=Z,3.1nm,0.6s,baz=25,slow=14,SNR=6.5						
MJAR	Matsushiro Arr	22.70 233	P		P	05 01 32.3	0.0
TIXI	Tiksi	23.45 335	P		P	05 01 39.5	-0.1
	comp=Z,2.1nm,0.5s,baz=126,slow=9.2,SNR=5.1						
TIXI	Tiksi	23.45 335	P		P	05 01 38.3	-1.3
SML	Sawmill	28.21 51	P		P	05 02 25.6	+2.5
SML			IAmb		IAmb	05 02 44.1	
	comp=Z,3.7nm,0.9s						
DHY	Denali Highway	28.56 49	P		P	05 02 28.7	+2.4
DHY			IAmb		IAmb	05 02 44.8	
	comp=Z,4.7nm,1.2s						
SONM	Songino Array	34.32 284	P		P	05 03 17.2	+0.1
SONM						05 05 54.6	
SONM			pmax		pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	34.32 284	P		P	05 03 16.5	-0.6
	comp=Z,0.3nm,0.4s,baz=53,slow=9.0,SNR=3.6						
SONM			PcP		PcP	05 05 54.6	+1.8
	comp=Z,0.3nm,0.5s,baz=76,slow=3.4,SNR=3.7						
SONM	Songino Array	34.32 284	P		P	05 03 17.2	+0.1
KURK	Kurchatov	48.17 302	P		P	05 05 09.5	-1.1
KURK			pmax		pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	48.17 302	P		P	05 05 09.5	-1.1
KURK			IAmb		IAmb	05 05 11.3	
	comp=Z,2.6nm,0.7s						
MK31	Makanchi Array	48.59 296	P		P	05 05 12.5	-1.4
MK31			pmax		pmax		
	comp=Z,2.0nm,1.0s						
MK31	Makanchi Array	48.59 296	P		P	05 05 12.6	-1.4
MK31			IAmb		IAmb	05 05 13.6	
	comp=Z,1.7nm,1.0s						
MKAR	Makanchi Array	48.59 296	P		P	05 05 12.4	-1.5
	comp=Z,1.3nm,0.5s,baz=56,slow=6.6,SNR=24						
MKAR	Makanchi Array	48.59 296	P		P	05 05 12.3	-1.6
ARCES	ARCESS Array B	53.62 342	P		P	05 05 52.4	+1.1
	comp=Z,2.5nm,0.6s,baz=46,slow=7.3,SNR=8.6						
NVAR	Mina Array Bea	55.46 70	P		P	05 06 08.4	+3.0
	comp=Z,0.2nm,0.5s,baz=293,slow=5.8,SNR=2.1						
NVAR			LR		LR	05 28 30.6	
	comp=Z,58nm,19.6s,baz=97,slow=34						
PDAR	Pinedale Array	57.30 61	P		P	05 06 22.9	+4.4
	comp=Z,0.2nm,0.4s,baz=338,slow=6.8,SNR=2.3						
CMAR	Chiang Mai Arr	58.51 259	P		P	05 06 27.8	+0.9
	comp=Z,0.8nm,0.3s,baz=32,slow=7.4,SNR=4.3						
CMAR			LR		LR	05 33 09.3	
	comp=Z,81nm,19.0s,baz=182,slow=38						
BORG	Borgarnes	62.71 1	LR		LR	05 35 42.0	
	comp=Z,41nm,18.3s,baz=207,slow=38						
NOA	NORSAR Array B	63.87 344	P		P	05 07 03.1	+0.4
	comp=Z,0.5nm,0.5s,baz=14,slow=5.5,SNR=4.5						
SCHQ	Schefferville	65.68 28	P		P	05 07 16.7	+2.2
	comp=Z,3.6nm,0.7s,baz=221,slow=18,SNR=3.5						
GEYT	Alibeck	67.53 303	P		P	05 07 26.7	0.0
	comp=Z,2.1nm,0.6s,baz=51,slow=12,SNR=4.0						
GEYT	Alibeck	67.53 303	P		P	05 07 25.6	-1.1
AKASG	Malin Array Be	69.00 329	P		P	05 07 36.1	+0.5
	comp=Z,1.0nm,0.4s,baz=29,slow=6.6,SNR=4.2						
AKASG	Malin Array Be	69.00 329	IAmb		IAmb	05 07 41.6	
	comp=Z,1.1nm,0.9s						
KBZ	Khabaz	69.96 317	P		P	05 07 42.2	+0.6
	comp=Z,2.7nm,0.8s,baz=142,slow=2.6,SNR=5.3						
TXAR	Lajitas Array	70.38 67	P		P	05 07 45.6	+1.0
TXAR	Lajitas Array	70.38 67	P		P	05 07 45.8	+1.2
	comp=Z,0.2nm,0.6s,baz=298,slow=4.0,SNR=3.4						
TXAR	Lajitas Array	70.38 67	P		P	05 07 45.6	+1.0
GERES	GERESS Array B	74.87 338	P		P	05 08 12.0	+1.1
	comp=Z,0.4nm,0.6s,baz=32,slow=5.8,SNR=3.2						
GERES	GERESS Array B	74.87 338	P		P	05 08 11.2	+0.2
WRA	Warramunga Arr	76.03 206	P		P	05 08 17.2	-0.6
	comp=Z,0.6nm,1.0s,baz=24,slow=6.4,SNR=2.7						
BRTR	Keskin Array B	77.04 321	P		P	05 08 25.1	+1.5
	comp=Z,0.4nm,0.5s,baz=84,slow=1.5,SNR=3.8						
ASAR	Alice Springs	79.71 205	P		P	05 08 38.4	+0.3
	comp=Z,0.2nm,0.3s,baz=112,slow=41,SNR=4.5						

IDC 18 04:57:15.7±2.4, 60.44S×44.38W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/14, mbtmp3.8/1, Error ellipse: s-maj=135.6km s-min=81.0km az=177.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	82.02	45	P	P	05 09 37.4	0.0
	0.7nm,1.1s,baz=200,slow=7.0,SNR=3.7						
ILAR	Eielson Array	146.16	311	PKPbc	PKPdf	05 16 55.3	+0.2
	0.5nm,0.8s,baz=149,slow=1.9,SNR=4.4						
MKAR	Makanchi Array	146.56	90	PKPbc	PKPdf	05 16 57.1	+0.7
	1.2nm,0.5s,baz=226,slow=4.8,SNR=8.4						

*NEIC **18** 05:18:33.2±2.5, 32.77S±0.07×178.5W±0.1, h10km±1km, mb4.5/7*
*IDC **18** 05:18:34.5±1.0, 32.54S×178.29W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.1/22, mbtmp4.2/4, MS3.9/5, Ms1 3.9/5, ms1mx3.4/27, Error ellipse: s-maj=37.8km s-min=28.5km az=38.0*
*ISCJB **18** 05:18:36.8±0.9, 33.15S±0.05×178.6W±0.1, h33km, mb4.2/4, MS3.8/6, Error ellipse: s-maj=13.2km s-min=6.4km az=17.5*

ISC 18 05:18:38.3±0.7, 32.96S±0.06×178.5W±0.1, h33km, n57, σ2.9 32/61, mb4.4/7, MS3.7/6, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.73	8	Pn	Pn	05 19 27.5	-6.0
RAO				Sn	Sn	05 20 11.5	-4.7
MXZ	Matakaoa Point	5.28	209	Pn	Pn	05 19 53.7	-1.2
URZ	Urewera	6.38	213	Pn	Pn	05 20 10.2	+0.3
	2.6nm,0.3s,baz=273,slow=4.1,SNR=33						
URZ				Sn	Sn	05 21 24.6	+2.9
	4.6nm,0.3s,baz=266,slow=23,SNR=8.7						
URZ	Urewera	6.38	213		Pn	05 20 10.4	+0.5
URZ					Sn	05 21 24.1	+2.5
OUZ	Omahuta	6.93	249	Pn	Pn	05 20 15.8	-1.7
OUZ				Sn	Sn	05 21 35.0	-0.2
BKZ	Black Stump Fm	7.40	212		Pn	05 20 24.4	+0.4
BKZ				Sn	Sn	05 21 50.6	+3.8
BFZ	Birch Farm	8.78	207	Pn	Pn	05 20 40.0	-2.9
BFZ				Sn	Sn	05 22 18.1	-2.6
MSWZ	Moikau Station	9.80	209	Pn	Pn	05 20 55.8	-1.1
MSWZ				Sn	Sn	05 22 41.0	-4.8
PLWZ	Palliser	9.93	208	Pn	Pn	05 20 56.9	-1.8
PLWZ				Sn	Sn	05 22 44.7	-4.2
SNZO	South Karori	9.94	211	Pn	Pn	05 20 57.5	-1.2
SNZO				Sn	Sn	05 22 44.9	-4.2
TUWZ	Tuamarina	10.38	213	Pn	Pn	05 21 03.7	-1.0
TUWZ					Sn	05 22 56.3	-3.5
NNZ	Nelson	10.48	216	Pn	Pn	05 21 04.8	-1.3
NNZ				Sn	Sn	05 23 01.7	-0.7
BSWZ	Blackbirch Sta	10.63	213	Pn	Pn	05 21 07.8	-0.4
BSWZ				Sn	Sn	05 23 03.6	-2.5
QRZ	Quartz Range	10.64	220	Pn	Pn	05 21 06.4	-1.8
QRZ				Sn	Sn	05 23 05.1	-1.0
THZ	Tophouse	11.13	215	Pn	Pn	05 21 16.1	+1.1
THZ					Sn	05 23 16.6	-1.8
KHZ	Kahutara	11.35	211	Pn	Pn	05 21 16.1	-1.8
KHZ					Sn	05 23 19.0	-4.6
LTZ	Lake Taylor	12.21	214	Pn	Pn	05 21 26.7	-3.1
MQZ	McQueen's Vall	12.77	210	Pn	Pn	05 21 38.2	+0.8
MQZ					Sn	05 23 48.5	-10
RPZ	Rata Peaks	13.50	214	Sn	Sn	05 24 12.8	-3.3
	0.7nm,0.3s,baz=354,slow=9.1,SNR=3.1						
RPZ	Rata Peaks	13.50	214	Pn	Pn	05 21 45.3	-2.1
RPZ					Sn	05 24 13.7	-2.4
ODZ	Otahua Downs	14.71	212	Pn	Pn	05 22 01.1	-2.8
WKZ	Wanaka	15.30	216	Pn	Pn	05 22 12.1	+0.3
DZM	Mont Dzumac	17.18	305	eLR	LR	05 26 06.5	
	comp=Z,672nm,22.7s						
DZM	Mont Dzumac	17.18	305	LR	LR	05 28 12.6	
	comp=Z,812nm,18.2s,baz=169,slow=34						
TBI	Tubuai	27.26	77	eLQ	LQ	05 29 32.6	
	187nm,26.3s						
TBI				eLR	LR	05 30 46.3	
	comp=Z,224nm,30.5s						
PPT2	Papeete2	30.17	67	eLR	LR	05 32 00.2	
	comp=Z,223nm,27.2s						
PPT	Papeete	30.19	67	LR	LR	05 33 18.0	
	comp=Z,67nm,21.8s,baz=245,slow=30						
STKA	Stephens Creek	33.57	261	LR	LR	05 37 49.4	
	comp=Z,268nm,19.2s,baz=48,slow=34						
CTA	Charters Tower	33.88	283	P	P	05 25 21.4	+3.3
	2.0nm,0.4s,baz=107,slow=9.8,SNR=4.4						
COEN	Coen	39.63	289	P	P	05 25 60.0	-7.1
AS31	Alice Springs	42.61	270	P	P	05 26 29.6	-2.0
ASAR	Alice Springs	42.61	270	P	P	05 26 33.6	+2.1
	3.0nm,0.7s,baz=111,slow=7.5,SNR=28						
ASAR	Alice Springs	42.61	270	P	P	05 26 30.6	-1.0
WB2	Warramunga Arr	43.82	275	P	P	05 26 40.0	-1.4
WRAB	Tennant Creek	43.83	275	P	P	05 26 38.7	-2.7
WRAB				IAmb	IAmb	05 26 56.0	
	comp=Z,5.4nm,0.8s						
WRA	Warramunga Arr	43.83	275	P	P	05 26 42.8	+1.3
	comp=Z,3.0nm,0.5s,baz=114,slow=7.7,SNR=82						
WRA				LR	LR	05 45 03.4	
	comp=Z,112nm,18.3s,baz=115,slow=36						
WRA	Warramunga Arr	43.83	275	P	P	05 26 41.0	-0.5
FITZ	Fitzroy Crossi	51.98	272	P	P	05 27 44.2	-0.3
FITZ				IAmb	IAmb	05 27 53.5	
	comp=Z,5.2nm,1.1s						
QSPA	South Pole Qui	57.16	180	P	P	05 28 25.0	+3.4
	comp=Z,1.3nm,1.0s,baz=87,slow=1.4,SNR=2.6						
QSPA	South Pole Qui	57.16	180	P	P	05 28 21.7	+0.1
QSPA				IAmb	IAmb	05 28 36.0	
	comp=Z,5.2nm,0.8s						
SYO	Syowa Base	74.53	193	epP	P	05 30 14.4	+1.3
SNAA	Sanae	75.62	179	P	P	05 30 30.8	+11
SNAA	Sanae	75.62	179	P	P	05 30 18.4	-1.1
SNAA				IAmb	IAmb	05 30 32.8	
	comp=Z,8.2nm,1.4s						
VNA3	Neumayer Olymp	75.79	176	P	P	05 30 28.2	+7.7
VNA2	Neumayer--Watz	76.22	177	P	P	05 30 31.7	+8.9
	baz=162,slow=4.9						
VNA1	Neumayer--Stat	76.45	177	P	P	05 30 35.5	+11
BBB	Bella Bella	95.55	28	LR	LR	06 04 56.6	
	comp=Z,111nm,21.1s,baz=274,slow=29						
ARCES	ARCESS Array B	140.98	347	PKP	PKPdf	05 38 02.8	-1.2
	comp=Z,2.9nm,0.8s,baz=59,slow=2.3,SNR=3.5						
NB2	NORSAR Subarra	151.20	350	PKP	PKiKP	05 38 29.3	+1.3
	comp=Z,0.9nm,0.7s,baz=15,slow=2.8						
NOA	NORSAR Array B	151.20	350	PKPbc	PKPbc	05 38 27.6	+0.1
	comp=Z,0.6nm,0.7s,baz=23,slow=4.5,SNR=4.3						
HFS	Hagfors	151.65	347	PKPbc	PKPbc	05 38 28.6	+0.1
	comp=Z,4.2nm,0.8s,baz=70,slow=17,SNR=4.3						
AKASG	Malin Array Be	153.01	319	PKPbc	PKiKP	05 38 33.1	+1.1
	comp=Z,0.2nm,0.3s,baz=35,slow=1.5,SNR=4.4						
AKASG	Malin Array Be	153.01	319		PKPbc	05 38 30.4	-1.3
BRTR	Keskin Array B	153.34	294	PKPbc	PKiKP	05 38 34.7	+1.5
	comp=Z,1.2nm,0.9s,baz=147,slow=2.9,SNR=6.8						
TORD	Torodi Ar. Bea	160.28	181	PKPab	PKPab	05 39 20.0	+4.7
	comp=Z,0.5nm,0.9s,baz=178,slow=6.4,SNR=2.4						
GERES	GERESS Array B	161.68	334	PKPab	PKPab	05 39 20.6	-0.2
	comp=Z,0.2nm,0.3s,baz=33,slow=2.3,SNR=3.6						
GERES	GERESS Array B	161.68	334	PKPdf	PKPdf	05 38 33.0	-2.5
GERES					PKPab	05 39 21.1	+0.3

*ISCJB **18** 05:22:29.0±0.5, 47.1N±0.1×27.13W±0.09, h10km, mb3.5/11, MS3.7/22, Error ellipse: s-maj=15.6km s-min=7.1km az=24.8*
*IDC **18** 05:22:28.8±0.9, 47.10N×27.19W, h0km, mb3.6/10, mb1 3.9/11, mb1mx3.7/55, mbtmp3.6/11, ML4.9/1, MS3.7/23, Ms1 3.7/23, ms1mx3.6/46, Error ellipse: s-maj=35.7km s-min=17.3km az=16.0*
*NEIC **18** 05:22:31.0±0.9, 47.0N±0.2×27.0W±0.2, h10km±1km, mb4.5/10*
*GCMT **18** 05:22:31.0±0.3, 46.88N±0.05×27.07W±0.03, h17km±1km, MW4.8/79, Moment Tensor Solution. s13,c14; s79,c107; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.91±.16; Mθθ0.21±.10; Mφφ 1.71±.11; Mrθ-0.47±.35; Mrφ0.16±.06; Mθφ-0.43±.24; Best double couple: M0 1.92000×10^16 NP1: φs 17.00000°, δ53.00000°, λ-77.00000°. NP2: φs 176.00000°, δ38.00000°, λ-107.00000°. Principal axes: T 1.7900, Plg8.0000°, Azm98.0000°; N 0.2680, Plg10.0000°, Azm189.0000°; P -2.0510, Plg77.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 05:22:30.7±0.7, 47.1N±0.1×27.17W±0.10, h10km, n49, σ1.9 25/28, mb3.7/12, MS3.7/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTE	Manteigas	15.65	108	Pn	Pn	05 26 09.3	-1.9
MTE				IAmb	IAmb	05 26 11.6	
	comp=Z,46nm,1.6s						
PMOZ	Porto Moniz, M	16.13	148	Pn	Pn	05 26 17.9	+0.4
PESTR	Estremoz	16.48	113	Pn	Pn	05 26 20.8	-1.0
ESK	Eskdalemuir	17.07	52	Pn	Pn	05 26 29.4	+0.1
ESK				IAmb	IAmb	05 26 33.6	
	comp=Z,73nm,1.6s						
PVAQ	Vaqueiros	17.30	117	P	Pn	05 26 31.9	-0.3
PVAQ				IAmb	IAmb	05 26 37.3	
	comp=Z,89nm,2.2s						
PAB	San Pablo	18.19	106	P	Pn	05 26 42.7	-0.6
ESDC	Sonseca Array	18.38	105	P	P	05 26 46.9	+1.4
	comp=Z,0.8nm,0.3s,baz=292,slow=12,SNR=11						
ESDC				LR	LR	05 32 21.5	
	comp=Z,274nm,20.0s,baz=295,slow=32						
MDT	Midelt	22.30	122	LR	LR	05 34 29.2	
	comp=Z,150nm,21.9s,baz=341,slow=32						
SFJD	Kangerlussuaq	23.42	337	LR	LR	05 34 11.7	
	comp=Z,63nm,21.8s,baz=146,slow=30						
DAVOX	Davos/Dischmat	25.16	77	P	P	05 27 59.8	+3.7
	comp=Z,2.8nm,0.9s,baz=292,slow=13,SNR=9.9						
DAVOX				LR	LR	05 36 58.1	
	comp=Z,210nm,18.4s,baz=278,slow=34						
SCHQ	Schefferville	25.88	302	LR	LR	05 36 10.6	
	comp=Z,282nm,21.2s,baz=116,slow=32						
NOA	NORSAR Array B	26.05	43	LR	LR	05 37 20.0	
	comp=Z,59nm,18.1s,baz=235,slow=34						
HFS	Hagfors	27.05	46	LR	LR	05 38 15.2	
	comp=Z,45nm,21.8s,baz=246,slow=35						
GERES	GERESS Array B	27.20	71	P	P	05 28 12.8	-1.6
	comp=Z,0.2nm,0.6s,baz=293,slow=11,SNR=3.4						
GERES				LR	LR	05 38 32.3	
	comp=Z,213nm,19.9s,baz=268,slow=35						
VRAC	Vranov	28.96	69	LR	LR	05 39 39.5	
	comp=Z,266nm,19.5s,baz=265,slow=36						
KEST	Kesra	29.38	99	LR	LR	05 38 52.1	
	comp=Z,321nm,20.0s,baz=224,slow=33						
MODS	Modra-Piesok	29.62	71	eP	P	05 28 27.9	-8.0
ARCES	ARCESS Array B	34.01	30	LR	LR	05 41 50.6	
	comp=Z,85nm,19.4s,baz=258,slow=34						
AKASG	Malin Array Be	36.50	63	LR	LR	05 44 02.5	
	comp=Z,95nm,21.

*GUC **18** 05:23:58.4±0.8, 29°.62S×71°.19W, h78km±4km, ML3.0*
ISC 18 05:23:56.8±1.9, **29°.50S**±0°.07×**71°.66W**±0°.09, **h50**km, **n16**, σ1§**97**/25, **1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.54**	**138**	*eP*	**Pn**	**05 24 11.3**	**+2.7**
LSCH				*i* S	**Sn**	**05 24 20.0**	**+3.1**
GO04	**Tololo Observa**	**1.00**	**132**	*eP*	**Pn**	**05 24 15.2**	**+0.5**
GO04				*i* S	**Sn**	**05 24 27.2**	**-0.8**
CO02	**Combarbal**	**1.79**	**162**	⇑*i*P	**Pn**	**05 24 26.4**	**+1.0**
CO02				*i* S	**Sn**	**05 24 47.1**	**+0.1**
GO03	**Copiap**	**2.28**	**34**	*eP*	**Pn**	**05 24 33.8**	**+1.7**
ACCO	**Cerro Coronel**	**2.50**	**116**	*i* P	**Pn**	**05 24 36.6**	**+1.4**
AGUA	**GUANDACOL**	**2.76**	**90**	*i* P	**Pn**	**05 24 40.5**	**+1.8**
AGUA				*i* S	**Sn**	**05 25 12.1**	**+1.1**
RTLS	**Leoncito**	**3.06**	**139**	*i* P	**Pn**	**05 24 45.0**	**+2.0**
RTLS				IAML		05 25 06.4	
	comp=Z,20nm,0.3s						
ROCH	**El Roble**	**3.50**	**171**	*eP*	**Pn**	**05 24 50.0**	**+1.0**
ROCH				IAML		05 25 49.6	
	comp=N,42nm,0.6s						
ROC1	**El Roble**	**3.50**	**171**	*i* P	**Pn**	**05 24 50.0**	**+1.0**
ROC1				*i* S	**Sn**	**05 25 29.5**	**+0.2**
RTCV	**Cerro Valdivia**	**3.57**	**132**	*i* P	**Pn**	**05 24 50.9**	**+1.2**
PEL	**Peldehue**	**3.72**	**167**	*eP*	**Pn**	**05 24 52.9**	**+1.1**
PEL				*eS*	**Sn**	**05 25 33.6**	**-0.8**
PEL				IAML		05 25 35.3	
	comp=E,31nm,0.5s						
PEL	**Peldehue**	**3.72**	**167**	*i* P	**Pn**	**05 24 53.1**	**+1.3**
PEL				*i* S	**Sn**	**05 25 33.8**	**-0.6**
ACAN	**Cantantal**	**4.73**	**127**	*i* P	**Pn**	**05 25 05.8**	**+0.1**
CYA	**Choya**	**5.24**	**80**	*i* P	**Pn**	**05 25 12.1**	**-0.5**
CYA				*i* S	**Sn**	**05 26 06.8**	**-5.0**
GO05	**Huala**	**5.50**	**182**	*i* P	**Pn**	**05 25 15.9**	**-0.2**
GO05				*i* S	**Sn**	**05 26 13.5**	**-4.5**
MRA	**San Martin**	**5.87**	**121**	*i* P	**Pn**	**05 25 20.1**	**-1.2**

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*SOME **18** 05:40:39.7, 40°.77N×77°.67E, h20km*
*KRNET **18** 05:40:39.7±0.1, 40°.86N×77°.60E, h17km, mb3.1*
*NNC **18** 05:40:40.8±0.9, 40°.88N×77°.63E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.0km s-min=4.6km az=172.0*
ISC 18 05:40:43.5±1.4, **40°.96N**±0°.07×**77°.54E**±0°.03, **h10**km, **n71**, σ1§**36**/110, **33C-13D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.79**	**14**	⇓*i*P	**Pg**	**05 40 56.7**	**-2.1**
	baz=10.0						
TARG				⇓*i*S	**Sg**	**05 41 09.1**	**-0.1**
	baz=10.0						
KDJ	**Kajisay**	**1.20**	**347**	⇓*i*P	**Pn**	**05 41 04.4**	**-2.1**
	baz=47						
KDJ				⇓*i*S	**Sb**	**05 41 22.5**	**+0.5**
	baz=47						
NRN	**Naryn**	**1.25**	**293**	⇑*i*P	**Pn**	**05 41 04.9**	**-2.5**
	baz=95						
NRN				⇑*i*S	**Sb**	**05 41 23.3**	**-0.4**
	baz=95						
ULHL	**Ulahol**	**1.61**	**323**	⇑*i*P	**Pn**	**05 41 11.8**	**-0.4**
	baz=24						
ULHL				⇑*i*S	**Sg**	**05 41 35.3**	**0.0**
	baz=24						
ULHL	**Ulahol**	**1.61**	**323**	P	**Pb**	**05 41 12.4**	**-1.0**
	SNR=14						
PRZ	**Przheval'sk**	**1.65**	**23**	⇓*i*P	**Pn**	**05 41 11.8**	**-0.9**
	baz=20						
PRZ				⇓*i*S	**Sb**	**05 41 35.3**	**+0.3**
	baz=20						
ANVS	**Anan'yevo**	**1.82**	**3**	⇑*i*P	**Pb**	**05 41 15.4**	**-1.6**
	baz=2.0						
ANVS				⇑*i*S	**Sb**	**05 41 41.3**	**+1.3**
	baz=2.0						
BOOM	**Boomskoye usch**	**1.94**	**322**	⇓*i*P	**Pb**	**05 41 17.4**	**-1.6**
	baz=23						
BOOM				⇓*i*S	**Sb**	**05 41 44.5**	**+1.1**
	baz=23						
KZA	**Kyzart**	**2.05**	**304**	⇑*i*P	**Pn**	**05 41 18.7**	**+0.3**
	baz=5.0						
KZA				⇑*i*S	**Sb**	**05 41 47.2**	**+0.5**
	baz=5.0						
KZA	**Kyzart**	**2.05**	**304**	P	**Pb**	**05 41 20.4**	**-0.6**
	SNR=14						
TNSS	**Tian-Shan**	**2.12**	**348**	Pg	**Pb**	**05 41 21.7**	**-0.5**
	48nm,0.5s						
TNSS				Lg	Lg	05 41 51.8	
	59nm,0.4s						
TNSS	**Tian-Shan**	**2.12**	**348**	*eP*	**Pb**	**05 41 21.6**	**-0.6**
	49nm,0.4s						
TNSS				*eS*	**Sg**	**05 41 51.9**	**+0.2**
	69nm,0.2s						
IZV	**Izvestkoviy**	**2.19**	**342**	Pg	**Pb**	**05 41 22.9**	**-0.3**
	14nm,0.2s						
IZV				Lg	Lg	05 41 53.8	
	101nm,0.4s						
IZV	**Izvestkoviy**	**2.19**	**342**	*eP*	**Pb**	**05 41 22.9**	**-0.3**
	14nm,0.2s						
IZV				*eS*	**Sg**	**05 41 53.8**	**+0.1**
	101nm,0.4s						
SATY	**Saty**	**2.19**	**17**	Pg	**Pb**	**05 41 21.6**	**-1.7**
	39nm,0.4s						
SATY				Lg	Lg	05 41 51.4	
	79nm,0.5s						
SATY	**Saty**	**2.19**	**17**	*eP*	**Pb**	**05 41 21.6**	**-1.7**
	39nm,0.4s						
SATY				*eS*	**Sb**	**05 41 51.4**	**+0.9**
	125nm,0.9s						
MDOK	**Medeo**	**2.23**	**351**	Pg	**Pb**	**05 41 23.0**	**-1.0**
	30nm,0.8s						
MDOK				Lg	Lg	05 41 54.4	
	90nm,0.7s						
MDOK	**Medeo**	**2.23**	**351**	Pg	**Pb**	**05 41 22.9**	**-1.0**
	29nm,0.7s						
MDOK				Lg	Lg	05 41 54.3	
	79nm,0.6s						
MDOK	**Medeo**	**2.23**	**351**	⇑*i*P	**Pb**	**05 41 22.9**	**-1.0**
	29nm,0.7s						
MDOK				*eS*	**Sg**	**05 41 54.3**	**-0.8**
	90nm,0.5s						
KOTS	**Kotyrbulak**	**2.29**	**352**	Pg	**Pg**	**05 41 26.3**	**-1.1**
	17nm,0.3s						
KOTS				Lg	Lg	05 42 00.0	
	175nm,0.5s						
KOTS	**Kotyrbulak**	**2.29**	**352**	*eP*	**Pg**	**05 41 26.3**	**-1.1**
	12nm,0.1s						
KOTS				*eS*	**Sg**	**05 42 00.0**	**+2.9**
	175nm,0.5s						
AAA	**Alma-Ata**	**2.29**	**348**	Pg	**Pb**	**05 41 25.6**	**+0.6**
	72nm,0.2s						
AAA				Lg	Lg	05 41 58.0	
	74nm,0.4s						
AAA	**Alma-Ata**	**2.29**	**348**	*eP*	**Pb**	**05 41 25.6**	**+0.6**
	67nm,0.1s						
AAA				*eS*	**Sg**	**05 41 58.0**	**+0.8**
	84nm,0.2s						
ZHN	**Zhinishke**	**2.30**	**17**	*eP*	**Pb**	**05 41 23.5**	**-1.7**
	7.3nm,0.1s						
ZHN				*eS*	**Sb**	**05 41 54.8**	**+1.1**
	40nm,0.2s						
MTBS	**Maitube**	**2.32**	**339**	Pg	**Pb**	**05 41 25.4**	**0.0**
	20nm,0.2s						
MTBS				Lg	Lg	05 41 58.1	
	35nm,0.4s						
MTBS	**Maitube**	**2.32**	**339**	⇑*i*P	**Pb**	**05 41 25.4**	**0.0**
	20nm,0.2s						
MTBS				*eS*	**Sg**	**05 41 58.1**	**+0.1**
	35nm,0.4s						
KST	**Kastek**	**2.39**	**331**	Pg	**Pb**	**05 41 26.4**	**-0.2**
	39nm,0.3s						
KST				Lg	Lg	05 41 59.7	
	24nm,0.7s						
KST	**Kastek**	**2.39**	**331**	*eP*	**Pb**	**05 41 26.4**	**-0.2**
	39nm,0.3s						
KST				*eS*	**Sg**	**05 41 59.7**	**-0.5**
	33nm,0.3s						
TKM2	**Tokmak 2**	**2.44**	**324**	⇑Pg	**Pb**	**05 41 26.5**	**-0.9**
	6.3nm,0.5s						
TKM2				⇑Lg	Lg	05 42 01.4	
	22nm,0.8s						
TKM2	**Tokmak 2**	**2.44**	**324**	⇑*i*P	**Pn**	**05 41 24.2**	**+0.7**
	baz=25						
TKM2				⇑*i*S	**Sb**	**05 41 56.7**	**-0.9**
	baz=25						
TKM2	**Tokmak 2**	**2.44**	**324**	P	**Pb**	**05 41 27.7**	**+0.2**
	SNR=9.2						
UZB	**Uzynbulak**	**2.45**	**26**	*eP*	**Pb**	**05 41 26.2**	**-1.4**
	9.5nm,0.2s						
UZB				*eS*	**Sb**	**05 41 59.5**	**+1.6**
	22nm,0.4s						
KURS	**Kuram**	**2.57**	**10**	Pg	**Pb**	**05 41 28.9**	**-0.7**
KURS				Lg	Lg	05 42 04.5	
	24nm,0.7s						
KURS	**Kuram**	**2.57**	**10**	*eP*	**Pb**	**05 41 28.8**	**-0.9**
	9.8nm,0.5s						
KURS				*eS*	**Sg**	**05 42 04.5**	**-1.4**
	27nm,0.5s						
KBK	**Karagaybulak**	**2.57**	**312**	⇑*i*P	**Pn**	**05 41 26.2**	**+0.8**
	baz=13						
KBK				⇑*i*S	**Sb**	**05 41 59.7**	**-1.9**
	baz=13						
KBK	**Karagaybulak**	**2.57**	**312**	P	**Pb**	**05 41 30.1**	**+0.3**
	SNR=15						
ARLS	**Aral**	**2.58**	**291**	⇑*eP*	**Pn**	**05 41 26.0**	**+0.5**
	baz=93						
ARLS				⇑*i*S	**Sn**	**05 41 59.0**	**+2.0**
	baz=93						
UCH	**Uchtor**	**2.60**	**300**	⇑*i*P	**Pn**	**05 41 26.2**	**+0.3**
	baz=2.0						
UCH				⇑*i*S	**Sb**	**05 42 00.5**	**-2.1**
	baz=2.0						
UCH	**Uchtor**	**2.60**	**300**	P	**Pn**	**05 41 26.3**	**+0.3**
	SNR=6.9						
SHLS	**Shalkode**	**2.62**	**32**	*eP*	**Pg**	**05 41 32.5**	**-1.1**
	0.8nm,0.1s						
SHLS				*eS*	**Sg**	**05 42 10.3**	**+2.7**
	73nm,0.3s						
DGS	**Degeres**	**2.63**	**331**	Pg	**Pb**	**05 41 30.7**	**0.0**
	22nm,0.6s						
DGS				Lg	Lg	05 42 07.5	
	26nm,0.5s						
DGS	**Degeres**	**2.63**	**331**	*eP*	**Pb**	**05 41 30.7**	**0.0**
	22nm,0.6s						
DGS				*eS*	**Sg**	**05 42 07.5**	**-0.4**
	49nm,0.5s						
KPKS	**Kokpek**	**2.64**	**18**	*eP*	**Pb**	**05 41 30.2**	**-0.7**
	18nm,0.2s						
KPKS				*eS*	**Sg**	**05 42 06.3**	**-2.2**
	75nm,0.3s						
PDGK	**Podgornoye**	**2.77**	**31**	Pg	**Pb**	**05 41 31.8**	**-1.3**
	5.4nm,0.5s						
PDGK				Lg	Lg	05 42 09.4	
	22nm,0.6s						
PDGK	**Podgornoye**	**2.77**	**31**	⇑Pn	**Pn**	**05 41 27.5**	**-0.6**
	8.7nm,0.6s						
PDGK				⇑Lg	Lg	05 42 08.9	
	70nm,0.9s						
KTBS	**Karatobe**	**2.82**	**347**	Pg	**Pb**	**05 41 33.5**	**-0.5**
	9.2nm,0.4s						
KTBS				Lg	Lg	05 42 12.6	
	88nm,0.4s						
KTBS	**Karatobe**	**2.82**	**347**	*eP*	**Pb**	**05 41 33.5**	**-0.5**
	9.2nm,0.4s						
KTBS				*eS*	**Sg**	**05 42 12.6**	**-1.4**
	88nm,0.4s						
AAK	**Ala-Archa**	**2.83**	**307**	Pg	**Pb**	**05 41 33.9**	**-0.2**
	9.2nm,0.5s						
AAK				Lg	Lg	05 42 12.8	
	42nm,0.7s						
AAK	**Ala-Archa**	**2.83**	**307**	⇓*i*P	**Pn**	**05 41 29.5**	**+0.7**
	baz=8.0						
AAK				⇓*i*S	**Sn**	**05 42 05.7**	**+2.7**
	baz=8.0						
AAK	**Ala-Archa**	**2.83**	**307**	P	**Pb**	**05 41 34.2**	**+0.1**
	SNR=11						
CHMS	**Chumysh**	**2.91**	**315**	⇑*i*P	**Pn**	**05 41 30.5**	**+0.7**
	baz=16						
CHMS				⇑*i*S	**Sn**	**05 42 07.5**	**+2.6**
	baz=16						
CHKK	**Chushkaly**	**2.92**	**352**	Pg	**Pb**	**05 41 35.4**	**-0.2**
	14nm,0.4s						
CHKK				Lg	Lg	05 42 16.2	
	47nm,0.4s						
CHKK	**Chushkaly**	**2.92**	**352**	⇓*i*P	**Pb**	**05 41 35.4**	**-0.2**
	12nm,0.1s						
CHKK				*eS*	**Sg**	**05 42 15.8**	**-1.3**
	47nm,0.2s						
KUU	**Kurty**	**3.06**	**344**	Pg	**Pb**	**05 41 37.6**	**-0.4**
	7.6nm,0.4s						
KUU				Lg	Lg	05 42 19.8	
	23nm,0.6s						
KUU	**Kurty**	**3.06**	**344**	⇑*i*P	**Pb**	**05 41 37.6**	**-0.4**
	5.1nm,0.2s						
KUU				*eS*	**Sg**	**05 42 19.5**	**-2.2**
	31nm,0.3s						
AML	**Almayashu**	**3.11**	**293**	⇑*i*P	**Pn**	**05 41 33.5**	**+0.5**
	baz=95						
AML				⇑*i*S	**Sn**	**05 42 12.5**	**+2.0**
	baz=95						
AML	**Almayashu**	**3.11**	**293**	P	**Pb**	**05 41 40.1**	**+0.9**
	SNR=8.6						
USP	**Ospenovka**	**3.23**	**317**	⇑*i*P	**Pn**	**05 41 34.9**	**+0.7**
	baz=17						
USP				⇑*i*S	**Sn**	**05 42 15.3**	**+2.5**
	baz=17						
USP	**Ospenovka**	**3.23**	**317**	P	**Pb**	**05 41 41.4**	**+0.5**
	SNR=13						
ARXS	**Arharly**	**3.26**	**4**	Pg	**Pb**	**05 41 41.4**	**0.0**
	5.8nm,0.4s						
ARXS				Lg	Lg	05 42 25.8	
	22nm,0.6s						
ARXS	**Arharly**	**3.26**	**4**	*eP*	**Pb**	**05 41 41.4**	**0.0**
	3.8nm,0.3s						
ARXS				*eS*	**Sg**	**05 42 25.8**	**-2.2**
	30nm,0.4s						
EKS2	**Erkin-Say**	**3.29**	**302**	⇓*i*P	**Pn**	**05 41 35.5**	**+0.4**
	baz=4.0						
EKS2				⇓*i*S	**Sn**	**05 42 16.6**	**+2.3**
	baz=4.0						
EKS2	**Erkin-Say**	**3.29**	**302**	P	**Pg**	**05 41 43.9**	**-2.5**
	SNR=6.8						
ARSB	**Arslanbob**	**3.46**	**277**	⇑*i*P	**Pn**	**05 41 37.4**	**-0.1**
	baz=79						
ARSB				⇑*i*S	**Sn**	**05 42 19.4**	**+0.7**
	baz=79						
MRKS	**Merke**	**3.68**	**300**	Pg	**Pb**	**05 41 48.9**	**+0.2**
	10nm,0.5s						
MRKS				Lg	Lg	05 42 39.1	
	8.2nm,0.7s						
MRKS	**Merke**	**3.68**	**300**	*eP*	**Pb**	**05 41 48.9**	**+0.2**
	4.6nm,0.3s						
MRKS				*eS*	**Sg**	**05 42 38.7**	**-3.0**
	8.2nm,0.3s						
DJR	**Jarkent**	**3.75**	**25**	Pg	**Pb**	**05 41 48.9**	**-1.0**
	6.4nm,0.4s						
DJR				Lg	Lg	05 42 38.7	
	17nm,0.4s						
DJR	**Jarkent**	**3.75**	**25**	*eP*	**Pb**	**05 41 48.9**	**-1.0**
	1.9nm,0.3s						
DJR				*eS*	**Sb**	**05 42 38.7**	**+3.3**
	9.9nm,0.3s						
KAPS	**Kapalarasan**	**4.52**	**16**	Pg	**Pb**	**05 42 05.5**	**+2.6**
	2.8nm,0.6s						
KAPS				Lg	Lg	05 43 07.7	
	8.0nm,0.6s						
KAPS	**Kapalarasan**	**4.52**	**16**	*eP*	**Pb**	**05 42 05.5**	**+2.6**
	1.9nm,0.4s						
KAPS				*eS*	**Sg**	**05 43 07.7**	**-0.9**
	8.8nm,0.7s						
KK31	**Karatay Array**	**5.66**	**295**	⇑Pg	**Pb**	**05 42 26.0**	**+3.8**
	0.9nm,0.3s						
KK31				⇑Lg	Lg	05 43 46.0	
	1.2nm,0.4s,baz=97,slow=26,SNR=3.9						

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*SJA **18** 05:40:57.6±1.0, 31°.03S×71°.56W, h41km±8km, ML3.5, MW3.2*
*ISCJB **18** 05:40:58.9±0.9, 31°.01S±0°.03×71°.57W±0°.10, h57km±13km, Error ellipse: s-maj=13.8km s-min=5.7km az=180.0*
*GUC **18** 05:40:58.8±0.8, 30°.99S×71°.23W, h69km±5km, ML3.3*
ISC 18 05:40:59.9±1.5, **31°.00S**±0°.04×**71°.54W**±0°.09, **h46**km±22km, **n18**, σ0§**52**/24, **2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.51**	**114**	⇑*i*P	**Pn**	**05 41 11.0**	**-0.2**
CO02				*i* S	**Sn**	**05 41 19.6**	**+0.4**
GO04	**Tololo Observa**	**1.05**	**38**	⇑*i*P	**Pn**	**05 41 17.7**	**-0.7**
GO04				*i* S	**Sn**	**05 41 31.6**	**-0.5**
GO04	**Tololo Observa**	**1.05**	**38**	*i* P	**Pn**	**05 41 17.5**	**-1.0**
GO04				*eS*	**Sn**	**05 41 32.3**	**+0.3**
LSCH	**La Serena**	**1.12**	**13**	*eP*	**Pn**	**05 41 19.4**	**+0.2**
LSCH				*eS*	**Sn**	**05 41 34.2**	**+0.7**
ROCH	**El Roble**	**2.02**	**167**	⇓*i*P	**Pn**	**05 41 31.5**	**-0.2**
ROCH				*i* S	**Sn**	**05 41 55.7**	**0.0**
ROCH				IAML		05 42 07.5	
	comp=N,268nm,0.5s						
RTLS	**Leoncito**	**2.08**	**113**	⇑*i*P	**Pn**	**05 41 32.8**	**+0.2**
RTLS				*eS*	**Sn**	**05 41 58.1**	**+0.6**
RTLS				IAML		05 41 58.5	
	comp=Z,270nm,0.5s						
ACCO	**Cerro Coronel**	**2.17**	**80**	*i* P	**Pn**	**05 41 34.1**	**+0.2**
PEL	**Peldehue**	**2.25**	**161**	*eP*	**Pn**	**05 41 34.6**	**-0.2**
PEL				*i* S	**Sn**	**05 42 01.1**	**-0.3**
PEL				IAML		05 42 11.0	
	comp=N,234nm,0.4s						
ZON	**Zonda**	**2.51**	**103**	*i* P	**Pn**	**05 41 38.2**	**-0.1**
CLCH	**Cerro Calan**	**2.53**	**161**	*eP*	**Pn**	**05 41 38.5**	**-0.2**
FCH	**Farellones**	**2.55**	**156**	*eP*	**Pn**	**05 41 39.3**	**+0.2**
FCH				IAML		05 42 10.6	
	comp=E,142nm,0.3s						
AMOG	**MOGNA**	**2.62**	**89**	*i* P	**Pn**	**05 41 39.7**	**-0.2**
RTLL	**Cerro Villicun**	**2.65**	**98**	*i* P	**Pn**	**05 41 39.5**	**-0.8**
RTLL				IAML		05 42 10.2	
	comp=Z,189nm,0.4s						
RTCV	**Cerro Valdivia**	**2.71**	**109**	*eP*	**Pn**	**05 41 41.0**	**+0.1**
GO03	**Copiap**	**3.58**	**19**	*eP*	**Pn**	**05 41 52.3**	**-0.8**
GO03	**Copiap**	**3.58**	**19**	*i* P	**Pn**	**05 41 54.0**	**+0.9**
VCA	**Vinchina**	**3.67**	**53**	*i* P	**Pn**	**05 41 55.8**	**+1.4**
COIS	**El Sosneado**	**4.41**	**159**	*i* P	**Pn**	**05 42 04.2**	**-0.1**

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*ISCJB **18** 05:41:40.3±3.0, 60°.59S±0°.03×43°.59W±0°.09, h7km±18km, mb4.9/31, MS4.0/13, Error ellipse: s-maj=7.4km s-min=5.4km az=165.7*
*IDC **18** 05:41:40.7±0.4, 60°.57S×43°.48W, h0km, mb4.8/19, mb1 4.8/21, mb1mx4.8/22, mbtmp4.8/21, ML4.1/2, MS3.9/12, Ms1 3.8/12, ms1mx3.8/18, Error ellipse: s-maj=18.5km s-min=11.8km az=50.0*
*MOS **18** 05:41:41.2±0.9, 60°.47S×43°.36W, h10km, mb5.4/20, Error ellipse: s-maj=23.4km s-min=9.0km az=99.6*
*NEIC **18** 05:41:43.3±1.5, 60°.47S±0°.06×43°.4W±0°.1, h16km±1km, mb5.2/51*
ISC 18 05:41:42.2±1.5, **60°.53S**±0°.05×**43°.45W**±0°.05, **h11**km±9km, **n382**, σ1§**12**/385, **mb5.2**/48, **MS4.0**/14, **3C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.30**	**34**	*eP*	**Pn**	**05 43 27.2**	**-1.4**
HOPE	**Hope Point**	**7.30**	**34**		**Pn**	**05 43 26.9**	**-1.7**
HOPE				Sn	**Sn**	**05 44 50.2**	**-1.2**
PMSA	**Palmer Station**	**10.36**	**237**	Pn	**Pn**	**05 44 11.7**	**+1.3**
	2.0nm,0.3s,baz=71,slow=10,SNR=9.3						
PMSA	**Palmer Station**	**10.36**	**237**		**Pn**	**05 44 11.4**	**+0.9**
PMSA				Sn	**Sn**	**05 46 07.6**	**+1.2**
PMSA	**Palmer Station**	**10.36**	**237**	*eP*	**Pn**	**05 44 10.8**	**+0.3**
EFI	**East Falkland**	**12.03**	**311**	P	**Pn**	**05 44 36.2**	**+2.9**
EFI						05 46 41.5	
EFI	**East Falkland**	**12.03**	**311**	Pn	**Pn**	**05 44 36.2**	**+2.9**
EFI				Sn	**Sn**	**05 46 41.5**	**-5.8**
USHA	**Ushuaia**	**14.48**	**282**	Pn	**P**	**05 45 11.0**	**-2.4**
	0.8nm,0.3s,baz=123,slow=11,SNR=6.4						
USHA				LR	LR	05 49 21.4	
	comp=Z,356nm,18.2s,baz=110,slow=32						
VNA3	**Neumayer Olymp**	**17.17**	**142**	P	**Pn**	**05 45 41.0**	**-0.7**
VNA1	**Neumayer--Stat**	**17.41**	**140**	P	**Pn**	**05 45 43.7**	**-0.8**
VNA2	**Neumayer--Watz**	**17.77**	**141**	P	**Pn**	**05 45 48.2**	**-0.8**
	baz=287,slow=15						
SNAA	**Sanae**	**19.38**	**142**	P	**Pn**	**05 46 08.6**	**-0.1**
SNAA	**Sanae**	**19.38**	**142**	P	**Pn**	**05 46 08.1**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,44nm,1.1s						
SNAA	**Sanae**	**19.38**	**142**	P	**Pn**	**05 46 08.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=304,slow=11,SNR=46						
SNAA	**Sanae**	**19.38**	**142**	P	**Pn**	**05 46 08.1**	**-0.7**
TRQA	**Tornquist**	**25.36**	**324**	P	**P**	**05 47 09.8**	**+0.8**
TRQA				pmax	pmax		
	comp=Z,24nm,0.9s						
TRQA	**Tornquist**	**25.36**	**324**	P	**P**	**05 47 09.8**	**+0.8**
TRQA	**Tornquist**	**25.36**	**324**	*eP*	**P**	**05 47 10.1**	**+1.1**
PLCA	**Paso Flores**	**25.91**	**308**	P	**P**	**05 47 13.7**	**-0.4**
	comp=Z,6.7nm,0.7s,baz=168,slow=8.1,SNR=15						
PLCA				PcP	**PcP**	**05 50 43.2**	**+0.7**
	comp=Z,5.1nm,1.0s,baz=126,slow=5.3,SNR=3.6						
PLCA	**Paso Flores**	**25.91**	**308**	P	**P**	**05 47 13.7**	**-0.4**
PLCA					**PcP**	**05 50 42.9**	**+0.4**
PLCA	**Paso Flores**	**25.91**	**308**	*eP*	**P**	**05 47 13.6**	**-0.4**
GO06	**Curarrehue**	**27.26**	**308**	P	**P**	**05 47 24.9**	**-1.3**
PLTB	**Pedras Altas**	**29.55**	**342**	*eP*	**P**	**05 47 47.9**	**+1.3**
PLTB	**Pedras Altas**	**29.55**	**342**	*eP*	**P**	**05 47 47.9**	**+1.3**
QSPA	**South Pole Qui**	**29.70**	**180**	P	**P**	**05 47 49.5**	**+1.6**
	comp=Z,15nm,1.0s,baz=177,slow=4.9,SNR=30						
QSPA				LR	LR	06 00 34.2	
	comp=Z,184nm,19.2s,baz=171,slow=38						
QSPA	**South Pole Qui**	**29.70**	**180**	P	**P**	**05 47 50.1**	**+2.2**
QSPA				IAmb	IAmb	05 47 51.2	
	comp=Z,38nm,1.2s						
GO05	**Huala**	**31.44**	**311**	P	**P**	**05 48 02.5**	**-0.8**
GO05				IAmb	IAmb	05 48 09.1	
	comp=Z,101nm,1.9s						
PEL	**Peldehue**	**32.67**	**315**	P	**P**	**05 48 13.8**	**-0.3**
PEL				pmax	pmax		
	comp=Z,47nm,0.9s						
PEL	**Peldehue**	**32.67**	**315**	P	**P**	**05 48 13.8**	**-0.3**
ROC1	**El Roble**	**32.94**	**314**	P	**P**	**05 48 16.3**	**-0.4**
SYO	**Syowa Base**	**33.65**	**140**	⇑*eP*	**P**	**05 48 21.8**	**-0.4**
SYO	**Syowa Base**	**33.65**	**140**	⇑*es*P	sP	05 48 27.2	+1.1
ITAB	**Concordia**	**33.81**	**346**	*eP*	**P**	**05 48 25.3**	**+1.3**
ITAB	**Concordia**	**33.81**	**346**	*eP*	**P**	**05 48 25.3**	**+1.3**
GO04	**Tololo Observa**	**35.41**	**317**	P	**P**	**05 48 38.0**	**-0.1**
GO04				IAmb	IAmb	05 48 41.8	
	comp=Z,43nm,1.0s						
CPUP	**Villa Florida**	**35.49**	**338**	P	**P**	**05 48 39.4**	**+0.8**
CPUP						05 51 07.9	
CPUP				pmax	pmax		
	comp=Z,17nm,1.0s						
CPUP	**Villa Florida**	**35.49**	**338**	P	**P**	**05 48 39.3**	**+0.8**
	comp=Z,12nm,0.9s,baz=164,slow=8.6,SNR=17						
CPUP				PcP	**PcP**	**05 51 08.3**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=192,slow=2.1,SNR=5.9						
CPUP	**Villa Florida**	**35.49**	**338**	P	**P**	**05 48 39.4**	**+0.8**
C

RIB01 Linhares ES 41.23 4 *eP* **P 05 49 27.7 +0.8**
RIB01 Linhares ES 41.23 4 *eP* **P 05 49 27.7 +0.8**
MAW Mawson 41.44 146 P **P 05 49 29.6 +1.5**
MAW pmax pmax
comp=Z,10.0nm,1.9s
MAW Mawson 41.44 146 P **P 05 49 28.8 +0.7**
comp=Z,5.0nm,0.8s,baz=225,slow=8.0,SNR=6.2
MAW LR LR 06 06 01.6
comp=Z,191nm,18.8s,baz=242,slow=35
MAW Mawson 41.44 146 P **P 05 49 29.6 +1.5**
BSFB Barra de Sao F 41.70 4 *eP* **P 05 49 32.7 +2.0**
BSFB Barra de Sao F 41.70 4 *eP* **P 05 49 32.7 +2.0**
SJMB Sao Joao De Ma 41.81 3 *eP* **P 05 49 33.1 +1.5**
SJMB Sao Joao De Ma 41.81 3 *eP* **P 05 49 33.1 +1.5**
LVC Limon Verde 41.86 323 P **P 05 49 32.8 +0.3**
LVC pmax pmax
comp=Z,17nm,0.9s
LVC Limon Verde 41.86 323 P **P 05 49 32.8 +0.3**
comp=Z,11nm,0.7s,baz=175,slow=6.7,SNR=12
LVC Limon Verde 41.86 323 P **P 05 49 32.8 +0.3**
LVC Limon Verde 41.86 323 *eP* **P 05 49 33.4 +0.9**
PMNB Patos De Minas 42.00 356 *eP* **P 05 49 34.7 +1.4**
PMNB Patos De Minas 42.00 356 *eP* **P 05 49 34.7 +1.4**
C2SB Chapadao do Su 42.25 347 *eP* **P 05 49 36.5 +1.2**
C2SB Chapadao do Su 42.25 347 *eP* **P 05 49 36.5 +1.2**
PB04 IPOC Station P 42.49 322 P **P 05 49 37.2 -0.2**
PB04 IAmb IAmb 05 49 38.5
comp=Z,54nm,0.9s
IPMB Ipameri, GO 42.63 353 *eP* **P 05 49 39.3 +0.8**
IPMB Ipameri, GO 42.63 353 *eP* **P 05 49 39.3 +0.8**
PB01 IPOC Station P 43.51 323 P **P 05 49 45.8 +0.3**
PP1B Ponte de Pedra 43.66 344 *eP* **P 05 49 47.6 +0.9**
PP1B Ponte de Pedra 43.66 344 *eP* **P 05 49 47.6 +0.9**
GO01 Chusmiza 44.73 324 P **P 05 49 56.0 +0.2**
GO01 IAmb IAmb 05 49 57.4
comp=Z,38nm,0.8s
PB11 IPOC Station P 44.77 324 P **P 05 49 55.1 -0.6**
PB11 IAmb IAmb 05 49 57.0
comp=Z,36nm,0.9s
BDFB Brasilia 44.95 354 P **P 05 49 58.0 +0.9**
BDFB pmax pmax
comp=Z,40nm,0.9s
BDFB Brasilia 44.95 354 P **P 05 49 58.2 +1.1**
comp=Z,26nm,0.8s,baz=174,slow=6.0,SNR=33
BDFB LR LR 06 07 11.6
comp=Z,84nm,20.3s,baz=140,slow=34
BDFB Brasilia 44.95 354 P **P 05 49 58.0 +0.9**
BDFB IAmb IAmb 05 49 59.0
comp=Z,40nm,0.9s
ARAG Araguaiana, MT 45.17 349 *eP* **P 05 49 59.0 +0.3**
ARAG Araguaiana, MT 45.17 349 *eP* **P 05 49 59.0 +0.3**
MNMC Minye Minye 45.35 324 P **P 05 50 01.1 +0.6**
JANB Januaria 45.41 359 *eP* **P 05 50 01.8 +1.1**
JANB Januaria 45.41 359 *eP* **P 05 50 01.8 +1.1**
SALV Santo Antonio 45.45 343 *eP* **P 05 50 02.1 +1.2**
SALV Santo Antonio 45.45 343 *eP* **P 05 50 02.1 +1.2**
NBIT Itapeh - BA 45.63 5 *eP* **P 05 50 04.0 +1.7**
NBIT Itapeh - BA 45.63 5 *eP* **P 05 50 04.0 +1.7**
SIV San Ignacio 46.27 336 P **P 05 50 07.7 +0.1**
comp=Z,13nm,0.6s,baz=188,slow=7.8,SNR=104
LPAZ La Paz 47.65 327 P **P 05 50 19.4 +0.6**
comp=Z,9.2nm,0.7s,baz=157,slow=5.6,SNR=46
LPAZ PcP **PcP 05 51 49.5 +1.1**
comp=Z,4.7nm,0.8s,baz=169,slow=5.6,SNR=3.9
LPAZ LR LR 06 11 53.4
comp=Z,101nm,19.3s,baz=172,slow=38
LPAZ La Paz 47.65 327 P **P 05 50 19.5 +0.6**
LPAZ IAmb IAmb 05 50 20.4
comp=Z,33nm,1.4s
LPAZ **PcP 05 51 49.7 +1.3**
LPAZ La Paz 47.65 327 *eP* **P 05 50 19.5 +0.6**
NBLA Lagarto - SE 49.62 7 *eP* **P 05 50 34.6 +1.2**
NBLA Lagarto - SE 49.62 7 *eP* **P 05 50 34.6 +1.2**
NBPN Ponto Novo - B 49.65 4 *eP* **P 05 50 34.8 +1.1**
NBPN Ponto Novo - B 49.65 4 *eP* **P 05 50 34.8 +1.1**
SUR Sutherland 49.84 86 P **P 05 50 35.8 +0.6**
comp=Z,5.3nm,0.8s,baz=204,slow=12,SNR=2.8
CLDB Colider 50.41 344 *eP* **P 05 50 38.6 -0.8**
CLDB Colider 50.41 344 *eP* **P 05 50 38.6 -0.8**
NBAN Anadia - AL 51.05 9 *eP* **P 05 50 45.3 +1.1**
NBAN Anadia - AL 51.05 9 *eP* **P 05 50 45.3 +1.1**
NBTA Tacaratu-PE 51.46 7 *eP* **P 05 50 48.7 +1.3**
NBTA Tacaratu-PE 51.46 7 *eP* **P 05 50 48.7 +1.3**
SMTB Santa Maria do 51.66 355 *eP* **P 05 50 50.0 +1.2**
SMTB Santa Maria do 51.66 355 *eP* **P 05 50 50.0 +1.2**
NBRF Rio Formoso - 52.12 10 *eP* **P 05 50 53.4 +1.2**
NBRF Rio Formoso - 52.12 10 *eP* **P 05 50 53.4 +1.2**
NBMA Muriti-CE 53.17 6 *eP* **P 05 51 01.6 +1.6**
NBMA Muriti-CE 53.17 6 *eP* **P 05 51 01.6 +1.6**
NBLI Livramento-PB 53.28 8 *eP* **P 05 51 02.5 +1.6**
NBLI Livramento-PB 53.28 8 *eP* **P 05 51 02.5 +1.6**
SAML Samuel 53.55 335 P **P 05 51 02.7 -0.1**
SAML pmax pmax
comp=Z,30nm,0.7s
SAML Samuel 53.55 335 P **P 05 51 02.7 -0.1**
SAML IAmb IAmb 05 51 04.1
comp=Z,30nm,0.7s
SAML Samuel 53.55 335 *eP* **P 05 51 03.3 +0.6**
NNA Nana 54.32 318 *i P* **P 05 51 09.7 +1.2**
NNA Nana 54.32 318 P **P 05 51 08.9 +0.4**
comp=Z,8.4nm,0.7s,baz=148,slow=8.1,SNR=3.8
NBPV Pedro Velho 54.34 10 *eP* **P 05 51 09.9 +1.3**
NBPV Pedro Velho 54.34 10 *eP* **P 05 51 09.9 +1.3**
PRPB Paraupebas 54.45 352 *eP* **P 05 51 09.8 +0.4**
PRPB Paraupebas 54.45 352 *eP* **P 05 51 09.8 +0.4**
NBPA Parau_RN 54.87 8 *eP* **P 05 51 13.9 +1.5**
NBPA Parau_RN 54.87 8 *eP* **P 05 51 13.9 +1.5**
RCBR Riachuelo 54.88 9 *eP* **P 05 51 14.0 +1.5**
RCBR Riachuelo 54.88 9 *eP* **P 05 51 14.0 +1.5**
NBPB Pedra_Branca-C 54.94 5 *eP* **P 05 51 14.9 +2.0**
NBPB Pedra_Branca-C 54.94 5 *eP* **P 05 51 14.9 +2.0**
BOSA Boshof 55.11 87 P **P 05 51 14.8 +0.6**
BOSA pmax pmax
comp=Z,80nm,1.8s
BOSA Boshof 55.11 87 P **P 05 51 13.9 -0.3**
comp=Z,12nm,0.9s,baz=201,slow=6.1,SNR=8.7
BOSA Boshof 55.11 87 P **P 05 51 14.8 +0.6**
NBPS Pedro II - PI 56.02 2 *eP* **P 05 51 21.8 +1.0**
NBPS Pedro II - PI 56.02 2 *eP* **P 05 51 21.8 +1.0**
NBCL Cascavel-CE 56.31 6 *eP* **P 05 51 24.0 +1.3**
NBCL Cascavel-CE 56.31 6 *eP* **P 05 51 24.0 +1.3**
NBMO Morrinhos-CE 57.14 4 *eP* **P 05 51 29.8 +1.2**
NBMO Morrinhos-CE 57.14 4 *eP* **P 05 51 29.8 +1.2**
LBTB Lobatse 58.27 85 P **P 05 51 37.0 +0.3**
LBTB pmax pmax
comp=Z,25nm,0.8s
LBTB Lobatse 58.27 85 P **P 05 51 36.9 +0.2**
comp=Z,24nm,0.8s,baz=211,slow=7.6,SNR=27
LBTB Lobatse 58.27 85 P **P 05 51 37.0 +0.3**
LBTB IAmb IAmb 05 51 37.8
comp=Z,25nm,0.8s
PTLC Puerto Leguiza 65.19 325 *eP* **P 05 52 21.5 -1.7**
OTAV Otavalo 66.33 321 P **P 05 52 31.3 +0.2**
OTAV pmax pmax
comp=Z,27nm,0.8s
OTAV Otavalo 66.33 321 P **P 05 52 31.3 +0.2**
OTAV Otavalo 66.33 321 *eP* **P 05 52 32.6 +1.4**
FLOC Florencia 66.77 325 *eP* **P 05 52 33.5 0.0**
SOTA Rioblanco 67.58 324 *eP* **P 05 52 40.8 +1.7**
PCON Cinco Dias 67.70 324 *eP* **P 05 52 42.8 +2.8**
LSZ Lusaka 67.79 82 P **P 05 52 41.1 +1.0**
LSZ pmax pmax
comp=Z,15nm,0.9s
LSZ Lusaka 67.79 82 P **P 05 52 41.1 +1.0**
LSZ IAmb IAmb 05 52 41.7
comp=Z,15nm,0.8s
ORTC Ortega, Tolima 68.88 326 *eP* **P 05 52 47.4 +0.8**
CHIC Chingaza 69.15 327 *eP* **P 05 52 48.8 -0.1**
YOTC Yotoco, Valle 69.26 325 *eP* **P 05 52 47.4 -1.7**
ROSC El Rosal 69.51 327 P **P 05 52 52.4 +1.4**
comp=Z,11nm,0.7s,baz=21,slow=23,SNR=10
ROSC El Rosal 69.51 327 P **P 05 52 51.8 +0.7**
RREF El Recreo 69.85 326 *eP* **P 05 52 54.1 +0.7**
GUY2C Guyana, Caldas 70.15 326 *eP* **P 05 52 54.8 -0.4**
RUSC La Rusia 70.19 328 *eP* **P 05 52 56.1 +0.8**
SPBC San Pablo de B 70.22 327 *eP* **P 05 52 53.4 -1.6**
CBOC Ciudad Bolivar 70.95 325 *eP* **P 05 52 59.4 -0.2**
HELC Santa Helena 71.13 326 *eP* **P 05 52 59.4 -1.5**
PTBC PUERTO BERRIO, 71.17 327 *eP* **P 05 52 58.1 -2.7**
ZARC Zaragoza, Cauc 72.19 327 *eP* **P 05 53 05.7 -1.2**
RPZ Rata Peaks 72.36 206 LR LR 06 23 50.8
comp=Z,70nm,18.1s,baz=107,slow=35
RPZ Rata Peaks 72.36 206 P **P 05 53 07.9 +0.3**
RPZ IAmb IAmb 05 53 56.2
comp=Z,49nm,1.7s
SDV Santo Domingo 72.47 332 P **P 05 53 09.4 +0.7**
SDV IAmb IAmb 05 53 09.9
comp=Z,22nm,0.9s
SDV Santo Domingo 72.47 332 *eP* **P 05 53 08.8 0.0**
OCAC Ocana 72.50 329 *eP* **P 05 53 07.0 -1.9**
OXZ Oxford 72.51 206 P **P 05 53 08.5 -0.1**
OXZ IAmb IAmb 05 53 39.3
comp=Z,66nm,1.9s
LTZ Lake Taylor 72.98 207 P **P 05 53 12.1 +0.7**
LTZ IAmb IAmb 05 53 12.9
comp=Z,21nm,1.1s
LIC Lamto 73.05 40 *eP* **P 05 53 13.2 +1.2**
comp=Z,45nm,0.8s
LIC Lamto 73.05 40 P **P 05 53 13.2 +1.2**
KIC Kosan Boka 73.27 40 *eP* **P 05 53 14.6 +1.3**
comp=Z,69nm,1.4s
KIC Kosan Boka 73.27 40 P **P 05 53 14.6 +1.3**
TIC Toumodi 73.45 40 *eP* **P 05 53 15.2 +0.9**
TIC Toumodi 73.45 40 P **P 05 53 15.2 +0.9**
TIC Toumodi 73.45 40 P **P 05 53 15.2 +0.9**
DBIC Dimbokro 73.53 40 P **P 05 53 16.5 +1.8**
DBIC pmax pmax
comp=Z,15nm,0.9s
DBIC Dimbokro 73.53 40 P **P 05 53 16.0 +1.2**
comp=Z,12nm,0.8s,baz=193,slow=5.5,SNR=9.4
DBIC LR LR 06 17 39.8
comp=Z,56nm,19.2s,baz=122,slow=29
DBIC Dimbokro 73.53 40 P **P 05 53 16.5 +1.8**
DBIC IAmb IAmb 05 53 16.9
comp=Z,16nm,0.9s
GRGR Grenville 73.87 341 P **P 05 53 17.5 +0.8**
TUWZ Tuamarina 73.88 208 P **P 05 53 17.5 +0.9**
SJCC San Jacinto, C 74.58 327 *eP* **P 05 53 21.3 +0.4**
URZ Urewera 76.10 212 LR LR 06 25 04.3
comp=Z,69nm,18.1s,baz=176,slow=34
FDF Fort de France 76.35 342 P **P 05 53 32.0 +1.0**
FDF pmax pmax
comp=Z,320nm,0.4s
FDF Fort de France 76.35 342 P **P 05 53 32.0 +1.0**
HDC Heredia 77.33 319 P **P 05 53 36.9 +0.2**
JTS Las Juntas de 77.87 318 P **P 05 53 40.3 +0.7**
JTS pmax pmax
comp=Z,22nm,0.9s
JTS Las Juntas de 77.87 318 P **P 05 53 40.3 +0.7**
JTS IAmb IAmb 05 53 41.3
comp=Z,22nm,0.9s
SEUS St. Eustatius 79.34 341 P **P 05 53 46.8 -0.7**
ESPN Las Esperanzas 79.44 319 P **P 05 53 47.9 -0.3**
ESPN IAmb IAmb 05 53 49.0
comp=Z,22nm,0.8s
ACON Acoyapa 79.51 319 P **P 05 53 48.4 -0.2**
ACON IAmb IAmb 05 53 49.3
comp=Z,33nm,1.1s
OUZ Omahuta 79.87 210 P **P 05 53 50.8 +0.3**
OUZ IAmb IAmb 05 53 51.6
comp=Z,22nm,1.1s
MLPR Magueyes Islan 80.52 337 P **P 05 53 53.9 -0.1**
ESTN Estel 80.97 318 P **P 05 53 56.3 -0.3**
ESTN IAmb IAmb 05 53 57.2
comp=Z,31nm,1.0s
MBAR Mbarara 81.73 76 *i P* **P 05 54 03.6 +2.7**
MBAR pmax pmax
comp=Z,17nm,1.6s
TOA0 Torodi Ar. Sit 81.76 44 P **P 05 54 02.1 +1.4**
TOA0 IAmb IAmb 05 54 03.3
comp=Z,25nm,0.9s
TORD Torodi Ar. Bea 81.76 44 P **P 05 54 02.0 +1.3**
comp=Z,18nm,0.9s,baz=205,slow=5.9,SNR=74
TORD LR LR 06 22 28.7
comp=Z,98nm,21.9s,baz=310,slow=30
TORD Torodi Ar. Bea 81.76 44 P **P 05 54 00.8 +0.1**
PPT Papeete 82.55 248 LR LR 06 22 25.3
comp=Z,49nm,21.5s,baz=50,slow=30
KMBO Kilima Mbogo 84.44 82 P **P 05 54 16.0 +1.0**
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 84.44 82 P **P 05 54 17.3 +2.3**
comp=Z,1.2nm,0.3s,baz=170,slow=8.8,SNR=6.4
KMBO Kilima Mbogo 84.44 82 P **P 05 54 16.0 +1.0**
STKA Stephens Creek 87.83 184 P **P 05 54 30.8 -0.5**
comp=Z,1.9nm,0.8s,baz=180,slow=7.0,SNR=3.4
STKA LR LR 06 32 03.3
comp=Z,49nm,19.0s,baz=207,slow=34
STKA Stephens Creek 87.83 184 P **P 05 54 31.3 +0.1**
TLIG Tlapa 89.48 308 P **P 05 54 40.1 +1.0**
MSVF Nonsavu 95.15 219 *i P* **P 05 55 04.5 -1.0**
MSVF pmax pmax
comp=Z,8.0nm,1.0s
H08S1 Diego Carcia H 95.70 116 T T 07 42 25.6
baz=204,slow=76,SNR=6.9
H08S2 Diego Garcia H 95.71 116 T T 07 42 20.3
baz=204,slow=76,SNR=3.2
H08S3 Diego Garcia H 95.72 116 T T 07 42 22.2
baz=204,slow=76,SNR=4.0
ASAR Alice Springs 96.08 178 P **P 05 55 08.6 -1.0**
ASAR Alice Springs 96.08 178 P **P 05 55 08.4 -1.2**
comp=Z,1.9nm,0.9s,baz=180,slow=4.6,SNR=13
ASAR PP **PP 05 58 60.0 -1.4**
comp=Z,1.7nm,0.9s,baz=174,slow=8.8,SNR=10
ASAR Alice Springs 96.08 178 P **P 05 55 08.6 -1.0**
WRA Warramunga Arr 99.79 178 P **Pdif 05 55 26.9 +0.6**
WRA Warramunga Arr 99.79 178 P **Pdif 05 55 25.1 -1.2**
comp=Z,0.9nm,1.1s,baz=181,slow=4.3,SNR=3.3
WRA LR LR 06 39 50.6
comp=Z,60nm,19.3s,baz=190,slow=35
WRA Warramunga Arr 99.79 178 **Pdif 05 55 26.9 +0.6**
WRAB Tennant Creek 99.80 178 *i P* **Pdif 05 55 27.1 +0.7**
WRAB pmax pmax
comp=Z,14nm,2.0s
TPNV Topopah Spring 113.77 303 P **PKiKP 06 00 21.3 +1.2**
baz=149
CWC Cottonwood Cre 114.10 302 P **PKiKP 06 00 22.0 +1.1**
baz=149
NVAR Mina Array Bea 115.89 303 PKP **PKiKP 06 00 25.4 +1.1**
comp=Z,0.7nm,0.7s,baz=149,slow=2.6,SNR=7.4
NVAR Mina Array Bea 115.89 303 **PKiKP 06 00 24.5 +0.2**
PDAR Pinedale Array 116.14 311 PKP **PKiKP 06 00 24.1 -0.6**
comp=Z,0.5nm,0.5s,baz=155,slow=5.0,SNR=5.1
PDAR Pinedale Array 116.14 311 **PKPdf 06 00 23.7 -0.9**
CMB Columbia Colle 116.43 301 PKIKP **PKiKP 06 00 25.3 +0.2**
CMB Columbia Colle 116.43 301 **PKiKP 06 00 25.2 +0.2**
BMN Battle Mountai 117.13 305 PKIKP **PKiKP 06 00 26.2 -0.3**
BMN Battle Mountai 117.13 305 **PKiKP 06 00 26.2 -0.3**
FXWY Fox Creek 117.44 311 **PKiKP 06 00 27.5 +0.4**
AFDM Forest Hills D 117.44 301 **PKiKP 06 00 27.2 +0.2**
BRTR Keskin Array B 117.91 58 PKP **PKiKP 06 00 27.3 -0.7**
comp=Z,0.4nm,0.6s,baz=170,slow=3.4,SNR=6.0
BEKR Beckworth 117.96 302 **PKiKP 06 00 28.9 +0.7**
LAO LASA Array 118.34 316 P **PKiKP 06 00 28.6 +0.1**
baz=150
LAO LASA Array 118.34 316 **PKiKP 06 00 28.1 -0.4**
YHH Holmes Hill 118.36 312 **PKiKP 06 00 29.2 +0.3**
GERES GERESS Array B 118.38 39 PKP **PKiKP 06 00 27.8 -0.7**
comp=Z,2.1nm,1.0s,baz=197,slow=1.4,SNR=9.1
O03E Paynes Creek 118.92 301 P **PKiKP 06 00 31.0 +1.1**
baz=146
WVOR Wild Horse Val 119.39 305 PKIKP **PKiKP 06 00 31.2 +0.4**
WVOR Wild Horse Val 119.39 305 **PKiKP 06 00 31.2 +0.4**
MOD Modoc Plateau 119.63 303 **PKiKP 06 00 31.6 +0.2**
MLR Muntele Rosu 119.70 49 PKIKP **PKiKP 06 00 30.7 -0.6**
MLR Muntele Rosu 119.70 49 **PKiKP 06 00 30.7 -0.6**
VYHS Vyhne 119.74 43 *e*PKIKP **PKiKP 06 00 30.8 -0.3**
VYHS Vyhne 119.74 43 *e*PKP **PKiKP 06 00 30.8 -0.3**
M04C Macdoel 120.17 302 P **PKiKP 06 00 33.3 +0.9**
baz=146
CLL Collm 120.34 37 *e*PKIKP **PKiKP 06 00 32.0 -0.1**
CLL Collm 120.34 37 *e*PKIKP **PKiKP 06 00 32.0 -0.1**
PLID Pearl Lake 120.56 308 **PKiKP 06 00 33.5 +0.3**
BMO Blue Mountains 120.88 307 PKIKP **PKiKP 06 00 33.2 -0.4**
BMO Blue Mountains 120.88 307 **PKiKP 06 00 33.2 -0.4**
J05D Fort Rock, OR 121.16 303 P **PKiKP 06 00 35.4 +1.1**
baz=146
MSO Missoula 121.24 311 P **PKiKP 06 00 34.7 +0.4**
baz=147
K02D Willamette Mer 121.69 301 P **PKiKP 06 00 36.3 +1.1**
baz=145
I05D Terrebonne, OR 122.07 304 P **PKiKP 06 00 37.0 +1.1**
baz=145
NEW Newport 123.63 310 P **PKiKP 06 00 38.5 -0.3**
baz=145
NEW Newport 123.63 310 PKP **PKiKP 06 00 38.2 -0.7**
comp=Z,2.9nm,0.8s,baz=200,slow=5.1,SNR=5.9
B08A Colville Reser 124.56 308 **PKiKP 06 00 40.1 -0.6**
KBZ Khabaz 125.16 62 PKP **PKiKP 06 00 41.4 -0.5**
comp=Z,2.2nm,0.7s,baz=111,slow=2.8,SNR=6.5
KIV Kislovodsk 125.25 62 *i* PKIKP **PKiKP 06 00 41.7 -0.5**
KIV pmax pmax
comp=Z,17nm,1.0s
AKASG Malin Array Be 125.25 48 *e*PKIKP **PKPdf 06 00 40.7 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 125.25 48 PKP **PKPdf 06 00 40.7 -0.8**
comp=Z,6.0nm,0.9s,baz=247,slow=1.7,SNR=17
AKBB Malin Array Si 125.25 48 PKIKP **PKiKP 06 00 40.9 -1.0**
AKBB Malin Array Si 125.25 48 **PKiKP 06 00 40.9 -1.0**
B05A Bryant 125.57 306 P **PKiKP 06 00 43.0 +0.4**
baz=143
SUW Suwalki 125.87 42 PKIKP **PKiKP 06 00 42.6 -0.4**
SUW Suwalki 125.87 42 **PKiKP 06 00 42.6 -0.4**
GEYT Alibeck 127.62 78 PKP **PKiKP 06 00 46.6 -0.5**
comp=Z,2.1nm,0.6s,baz=291,slow=4.1,SNR=4.8
GEYT Alibeck 127.62 78 **PKiKP 06 00 46.2 -0.9**
NOA NORSAR Array B 128.33 30 *e*PKIKP **PKiKP 06 00 47.9 +0.1**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 128.33 30 PKP **PKiKP 06 00 46.7 -1.0**
comp=Z,1.9nm,1.0s,baz=211,slow=1.9,SNR=3.2
VSR Storozhevoye 129.48 54 *e*PKIKP **PKPdf 06 00 48.4 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
CMAR Chiang Mai Arr 130.19 131 PKIKP **PKPdf 06 00 51.3 -0.7**
CMAR Chiang Mai Arr 130.19 131 PKP **PKiKP 06 00 52.0 -0.8**
comp=Z,5.4nm,0.3s,baz=226,slow=3.6,SNR=8.8
CMAR Chiang Mai Arr 130.19 131 **PKPdf 06 00 51.3 -0.7**
LPSR Galich'ya Gora 130.45 53 *e*PKIKP **PKPdf 06 00 49.8 -1.5**
LPSR pmax pmax
comp=Z,30nm,1.1s
VRH Novokhopyorsk 130.50 56 *e*PKIKP **PKPdf 06 00 50.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 131.47 49 *e*PKIKP **PKPdf 06 00 52.3 -0.9**
OBN 06 03 17.2
OBN pmax pmax
comp=Z,19nm,1.4s
OBN MLR MLR
comp=Z,114nm,16.0s
CHGR Chuyangaron 133.59 86 **PKiKP 06 00 59.2 0.0**
YKA Yellowknife Ar 134.08 322 PKP **PKiKP 06 00 58.0 -1.2**
comp=Z,3.2nm,0.6s,baz=137,slow=2.1,SNR=17
GAR Garm 134.43 87 **PKiKP 06 01 00.7 -0.3**
DLBC Dease Lake 136.37 310 PKP **PKPdf 06 01 00.8 -1.6**
comp=Z,3.9nm,0.9s,baz=209,slow=11,SNR=3.6
DLBC Dease Lake 136.37 310 **PKiKP 06 01 03.9 -0.2**
KLMR Klimovskoe 136.74 45 *e*PKIKP **PKPdf 06 01 00.4 -2.5**
KLMR pmax pmax
comp=Z,18nm,1.2s
KLMR Klimovskoe 136.74 45 *e*PKPdf **PKPdf 06 01 00.4 -2.5**
KLMR AMP 06 01 02.3
comp=Z,18nm,1.2s
ABKAR Akbulak array 137.03 69 **PKPdf 06 01 02.7 -1.1**
KSH Kashi 137.62 91 PKP **PKiKP 06 01 07.3 -0.1**
KSH PP **PP 06 03 54.9 +2.3**
KSH PKS **PKSdf 06 04 42.1 +0.5**
KSH SS SS 06 22 00.6 -0.5
KSH AMB AMB
comp=Z,200nm,6.0s
KSH LR LR
comp=Z,180nm,9.5s
KSH LR LR
comp=Z,150nm,11.7s
KSH LR LR
comp=Z,220nm,8.3s
ARCES ARCESS Array B 138.70 30 PKIKP **PKPdf 06 01 06.0 -0.3**
ARCES ARCESS Array B 138.70 30 PKhKP PKPpre 06 00 56.0
comp=Z,3.9nm,0.8s,baz=222,slow=1.6,SNR=8.1
ARCES PKP **PKPdf 06 01 05.3 -1.0**
comp=Z,5.2nm,0.8s,baz=191,slow=2.5,SNR=5.7
ARCES ARCESS Array B 138.70 30 **PKPdf 06 01 06.0 -0.3**
AAK Ala-Archa 139.25 87 PKIKP **PKPdf 06 01 07.9 -0.5**
AAK Ala-Archa 139.25 87 **PKPdf 06 01 07.9 -0.5**
TARG Taragay, Kyrgy 140.21 91 **PKiKP 06 01 11.5 -1.5**
GYA Guiyang 140.31 136 PKP **PKiKP 06 01 11.8 -1.5**
GYA AMB AMB
comp=Z,130nm,7.9s
ARU Arti 141.25 60 PKHKP PKPpre 06 01 04.7
CD2 Chengdu 143.28 129 PKP **PKPdf 06 01 15.8 -0.1**
A36M Sachs Harbour 143.53 329 P PKPbc 06 01 11.9 -0.5
baz=124
EPYK Eagle Plains 143.79 317 P PKPbc 06 01 13.2 -0.2
baz=123
INK Inuvik 143.82 321 PKP PKPbc 06 01 13.0 -0.3
comp=Z,6.0nm,0.7s,baz=145,slow=1.3,SNR=29
MENT Mentasta 144.42 309 PKPdf **PKiKP 06 01 18.2 -2.2**
EGAK Eagle 144.47 313 **PKPdf 06 01 16.8 0.0**
GLI Glacier Island 144.61 305 **PKPdf 06 01 16.9 -0.2**
DOT Dot Lake 144.94 310 **PKPdf 06 01 17.2 -0.5**
SEW Seward 145.14 303 **PKPdf 06 01 17.7 -0.3**
OHAK Old Harbor 145.15 296 **PKPdf 06 01 18.3 +0.2**
SII Sitkinak Islan 145.16 295 **PKPdf 06 01 18.5 +0.2**
KDAK Kodiak Island 145.16 298 PKIKP **PKPdf 06 01 18.1 -0.1**
KDAK Kodiak Island 145.16 298 PKPbc **PKPdf 06 01 17.8 -0.4**
comp=Z,19nm,0.8s,baz=275,slow=1.7,SNR=10
KDAK Kodiak Island 145.16 298 **PKPdf 06 01 18.1 -0.1**
SCM Sheep Creek Mo 145.23 306 PKIKP **PKPdf 06 01 18.8 +0.5**
SCM Sheep Creek Mo 145.23 306 **PKPdf 06 01 18.8 +0.5**
RIDG Independent Ri 145.28 310 **PKPdf 06 01 18.4 +0.1**
KNK Knik Glacier 145.45 305 **PKPab 06 01 18.6 -0.4**
BRLK Bradley Lake 145.56 301 **PKPab 06 01 19.5 +0.1**
SML Sawmill 145.62 306 **PKPab 06 01 19.8 +0.3**
RC01 Rabbit Creek A 145.80 304 **PKPab 06 01 20.4 +0.2**
PMR Palmer 145.82 305 PKP2 **PKPab 06 01 19.8 -0.4**
PMR Palmer 145.82 305 **PKPab 06 01 19.8 -0.4**
GHO Glory Hole Cre 145.83 305 **PKPab 06 01 20.6 +0.2**
DHY Denali Highway 145.91 308 PKPbc **PKPab 06 01 20.7 0.0**
MAKZ Makanchi 145.95 89 PKP2 **PKPab 06 01 20.3 -0.9**
MAKZ Makanchi 145.95 89 **PKPab 06 01 20.4 -0.9**
MK31 Makanchi Array 146.10 89 PKP2 **PKPab 06 01 21.0 -0.8**
MK31 Makanchi Array 146.10 89 PKPbc **PKPab 06 01 21.0 -0.8**
MKAR Makanchi Array 146.10 89 *e*PKIKP **PKPdf 06 01 18.6 -1.6**
MKAR pmax pmax
comp=Z,22nm,0.9s
MKAR Makanchi Array 146.10 89 PKPbc **PKPbc 06 01 20.3 -0.8**
comp=Z,22nm,0.9s,baz=290,slow=3.6,SNR=91
SUA Susitna One 146.41 304 **PKPab 06 01 22.8 +0.1**
PRP Porcupine Dome 146.44 313 **PKPab 06 01 22.6 -0.1**
IL31 146.57 311 **PKPab 06 01 21.9 -1.2**
ILAR Eielson Array 146.57 311 PKPbc **PKPbc 06 01 21.5 -0.5**
comp=Z,25nm,0.9s,baz=157,slow=2.3,SNR=46
ILAR Eielson Array 146.57 311 PKPbc **PKPab 06 01 22.0 -1.1**
WMQ Urumqi 146.64 98 *e*PKPbc **PKPbc 06 01 22.3 -0.6**
RND Reindeer 146.65 308 PKP2 **PKPab 06 01 22.8 -0.7**
RND Reindeer 146.65 308 **PKPab 06 01 22.8 -0.7**
RSO Redoubt South 146.72 302 **PKPab 06 01 23.2 -0.9**
FYU Fort Yukon 146.83 314 **PKiKP 06 01 23.8 -1.4**
CCB Clear Creek Bu 146.86 310 **PKPbc 06 01 22.5 -0.2**
WRH Wood River Hil 146.88 310 PKPbc **PKPab 06 01 23.5 -0.8**
KURK Kurchatov 146.91 81 PKP2 **PKPab 06 01 23.8 -1.0**
KURK Kurchatov 146.91 81 **PKPab 06 01 23.8 -1.0**
COLA College 146.98 311 PKP2 **PKPab 06 01 23.6 -1.0**
COLA College 146.98 311 **PKPab 06 01 23.6 -1.0**
TCOL CIGO, UAF Yank 146.99 311 P **PKPab 06 01 23.1 -1.6**
baz=118
TRF Thorofare Moun 147.23 307 **PKPab 06 01 24.6 -1.3**
BWN Browne 147.26 309 **PKPab 06 01 24.8 -1.0**
PPLA Purkeypile 147.72 306 PKPbc **PKPbc 06 01 25.2 -0.2**
BPAW Bear Paw Mtn. 147.82 308 **PKPbc 06 01 25.4 0.0**
LZH Lanzhou 147.86 125 *e*PKPbc **PKPdf 06 01 22.3 -1.4**
LZH pPKP pPKPab 06 01 30.3 -1.9
LZH sPKP 06 01 34.0
LZH LR LR
comp=Z,93nm,18.0s
LZH LR LR
comp=Z,86nm,17.9s
LZH LR LR
comp=Z,130nm,20.1s
XAN Xi'an 148.00 133 PKPbc **PKPbc 06 01 25.8 -1.1**
MLY Manley 148.15 310 **PKiKP 06 01 26.4 -1.6**
SVW2 Sparrevohn 148.24 301 PKPbc **PKPbc 06 01 26.6 -0.1**
SVW2 PKPab **PKPab 06 01 30.0 +0.2**
COLD Coldfoot 148.88 314 **PKiKP 06 01 28.8 -0.6**
GTA Gaotai 148.94 116 *e*PKPbc **PKiKP 06 01 29.4 -1.2**
NJ2 Nanjing 149.21 150 *e*PKPbc **PKPdf 06 01 23.0 -2.8**
TOLK Toolik Lake Re 149.22 317 P **PKiKP 06 01 29.3 -0.9**
baz=112
TOLK Toolik Lake Re 149.22 317 PKPbc **PKiKP 06 01 29.5 -0.7**
TTA Tatalina 149.28 304 PKP2 **PKiKP 06 01 30.3 -0.2**

TTA	**Tatalina**	**149.28**	**304**		**PKiKP**	**06 01 30.3**	**-0.2**
ZALV	**Zalesovo Beam**	**151.90**	**80**	PKPbc	**PKiKP**	**06 01 35.1**	**-1.0**
	comp=Z,4.9nm,0.7s,baz=230,slow=3.5,SNR=15						
HHC	**Hu-ho-hao-te**	**155.00**	**131**	*e*PKPbc	**PKPdf**	**06 01 37.5**	**+3.2**
SONM	**Songino Array**	**158.49**	**113**	PKP2	**PKPab**	**06 02 13.5**	**-0.1**
SONM	**Songino Array**	**158.49**	**113**	PKP	**PKPdf**	**06 01 37.1**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=225,slow=1.6,SNR=4.1						
SONM				PKPab	**pPKPab**	**06 02 14.1**	**-2.5**
	comp=Z,3.6nm,0.9s,baz=224,slow=4.8,SNR=13						
SONM	**Songino Array**	**158.49**	**113**	PKPab	**PKPab**	**06 02 13.4**	**-0.1**
ULN	**Ulaanbaatar**	**158.81**	**113**	PKP2	**PKPab**	**06 02 14.9**	**-0.1**
ULN	**Ulaanbaatar**	**158.81**	**113**		**PKPab**	**06 02 14.9**	**-0.1**

*ISCJB **18** 06:06:21.3±0.8, 60°.61S±0°.09×42°.4W±0°.3, h10km, mb3.6/1, MS3.3/1, Error ellipse: s-maj=22.9km s-min=12.9km az=172.9*
*IDC **18** 06:06:23.2±2.4, 60°.69S×42°.76W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/20, mbtmp3.8/1, MS3.3/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=127.6km s-min=75.0km az=171.0*
*NEIC **18** 06:06:23.4±1.6, 60°.6S±0°.1×42°.4W±0°.5, h10km±1km, mb4.0/5*
ISC 18 06:06:23.4±0.8, 60°.6S±0°.1×42°.7W±0°.2, h10km, n11, σ1§09/10, mb3.9/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.19**	**31**	Pn	**Pn**	**06 08 07.5**	**-0.9**
SNAA	**Sanae**	**19.09**	**142**		**P**	**06 10 44.9**	**-0.9**
TRQA	**Tornquist**	**25.64**	**323**	P	**P**	**06 11 53.9**	**+0.9**
QSPA	**South Pole Qui**	**29.61**	**180**		**P**	**06 12 28.4**	**0.0**
QSPA				IAmb	IAmb	06 12 32.8	
	comp=Z,2.5nm,1.1s						
SBA	**Scott Base**	**40.59**	**189**	P	**P**	**06 14 02.3**	**-0.1**
SBA				IAmb	IAmb	06 14 14.2	
	comp=Z,2.7nm,1.4s						
MAW	**Mawson**	**41.16**	**146**	LR	LR	06 29 09.9	
	comp=Z,44nm,21.1s,baz=236,slow=33						
MNMC	**Minye Minye**	**45.64**	**323**	P	**P**	**06 14 42.9**	**-1.2**
MNMC				IAmb	IAmb	06 14 58.4	
	comp=Z,5.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**81.58**	**44**	P	**P**	**06 18 42.9**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=193,slow=5.9,SNR=3.6						
MKAR	**Makanchi Array**	**145.74**	**88**	PKPbc	**PKPab**	**06 26 02.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=214,slow=4.3,SNR=3.6						
ILAR	**Eielson Array**	**146.91**	**310**	PKPbc	**PKPbc**	**06 26 05.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=146,slow=1.8,SNR=6.1						
ILAR	**Eielson Array**	**146.91**	**310**		**PKPab**	**06 26 05.2**	**-0.6**

ISC 18 06:07:28.7±1.6, 51°.45N±0°.08×15°.98E±0°.04, h0km, n15, σ2§19/30, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**162**	*e*Pg	**Pg**	**06 07 41.1**	**+0.2**
KSP				*e*Pg	**Pg**	**06 07 41.1**	**+0.2**
KSP				*e*Sg	**Sg**	**06 07 50.7**	**+1.4**
KSP				*e*Sg	**Sg**	**06 07 50.7**	**+1.4**
CHVC	**Chvalec**	**0.86**	**177**	*e*PG	**Pb**	**06 07 46.0**	**-0.6**
CHVC				*e*SG	**Sg**	**06 07 58.4**	**+1.9**
	comp=Z,9.5nm,0.3s						
UPC	**Upice**	**0.94**	**179**	*e*PG	**Pb**	**06 07 47.2**	**-0.8**
UPC				*e*SG	**Sg**	**06 08 00.5**	**+1.5**
	comp=Z,15nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**169**	*e*PG	**Pg**	**06 07 49.6**	**-0.6**
DPC				*e*SG	**Sg**	**06 08 04.5**	**-0.2**
	comp=Z,7.7nm,0.3s						
PVCC	**Panska Ves**	**1.28**	**225**	*e*PG	**Pb**	**06 07 54.7**	**+1.0**
PVCC				*e*SG	**Sn**	**06 08 13.4**	**+1.6**
	comp=Z,30nm,0.2s						
BRG	**Berggiesshubel**	**1.41**	**247**	PG	**Pb**	**06 07 56.5**	**+0.7**
BRG				SG	**Sn**	**06 08 17.2**	**+2.4**
	13nm,0.3s						
KRLC	**Kraliky**	**1.47**	**159**	*e*PG	**Pb**	**06 07 56.0**	**-0.9**
KRLC				*e*SG	**Sn**	**06 08 15.8**	**-0.6**
	comp=Z,9.6nm,0.4s						
PRU	**Pruhonice**	**1.73**	**213**	*e*SG	**Sg**	**06 08 25.9**	**+1.8**
	comp=Z,12nm,0.6s						
CLL	**Collm**	**1.87**	**267**	*e*Pg	Pg	06 08 05.0	+0.5
CLL				*e*Sg	**Sg**	**06 08 31.0**	**+2.2**
MORC	**Moravsky Berou**	**1.95**	**149**	*e*PN	**Pn**	**06 08 01.5**	**-1.6**
MORC				*e*SG	**Sn**	**06 08 29.0**	**+0.7**
NKC	**Novy Kostel**	**2.55**	**243**	*e*PN	**Pg**	**06 08 13.6**	**-3.9**
NKC				*e*PG	Pb	06 08 17.9	+2.6
NKC				*e*SG	**Sg**	**06 08 54.1**	**+3.6**
	comp=Z,6.5nm,0.3s						
KHC	**Kasperske Hory**	**2.79**	**214**	*e*PN	**Pn**	**06 08 13.8**	**-0.8**
KHC				*e*PG	**Pg**	**06 08 21.0**	**-1.1**
KHC				*e*SG	**Sg**	**06 08 59.2**	**+1.0**
MODS	**Modra-Piesok**	**3.19**	**164**	*e*SN	**Sn**	**06 08 54.7**	**-4.2**
LANS	**Liptovska Anna**	**3.21**	**134**	*e*PN	**Pn**	**06 08 19.3**	**-1.1**
LANS				*e*PG	**Pg**	**06 08 31.2**	**+1.0**
LANS				*e*SG	**Sg**	**06 09 12.2**	**+0.4**
VYHS	**Vyhne**	**3.49**	**147**	*e*PN	Pn	06 08 15.3	-8.9
VYHS				*e*SG	**Sg**	**06 09 27.3**	**+6.6**

*ISK **18** 06:18:58.9, 37°.91N×36°.04E, h5km, ML3.2/17*
*DDA **18** 06:18:59.2, 37°.92N×36°.06E, h17km±1km, ML3.6*
*ISCJB **18** 06:19:00.1±0.4, 37°.89N±0°.02×36°.02E±0°.03, h10km±3km, Error ellipse: s-maj=4.0km s-min=3.5km az=36.8*
ISC 18 06:18:59.8±0.9, 37°.90N±0°.03×36°.03E±0°.02, h17km±6km, n32, σ1§16/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIM	**ADANA**	**0.08**	**27**	*i* P	**Pg**	**06 19 03.4**	**+0.1**
SAIM				*i* S	**Sg**	**06 19 06.0**	**+0.4**
ANDN	**Andirin**	**0.41**	**142**	*i* P	**Pb**	**06 19 07.8**	**-0.8**
ANDN				*i* S	**Sb**	**06 19 14.8**	**+0.3**
YAHY	**KAYSERI_Yahyal**	**0.56**	**290**	*i* P	**Pb**	**06 19 11.4**	**+0.1**
YAHY				*i* S	**Sb**	**06 19 19.1**	**0.0**
KMRS	**Kahramanmaras**	**0.79**	**120**	PG	**Pb**	**06 19 14.9**	**-0.3**
KMRS				SG	**Sb**	**06 19 25.9**	**+0.3**
KAMA	**Osmaniye**	**0.87**	**145**	*i* P	**Pn**	**06 19 16.9**	**-0.5**
HCB	**Kahramanmara**	**0.89**	**129**	*i* P	**Pb**	**06 19 16.5**	**-0.3**
HCB				*i* S	**Sb**	**06 19 28.8**	**+0.4**
CEYT	**Ceyhan**	**0.92**	**194**	PG	**Pn**	**06 19 17.7**	**-0.2**
CEYT				SG	**Sn**	**06 19 30.7**	**-0.1**
BNN	**Bunyan**	**0.96**	**351**	PG	**Pb**	**06 19 17.8**	**-0.3**
BNN				SG	**Sn**	**06 19 31.9**	**-0.1**
ELBS	**KAHRAMANMARAS**	**0.96**	**64**	*i* P	**Pn**	**06 19 18.2**	**-0.5**
ELBS				*i* S	**Sn**	**06 19 33.5**	**+1.4**
KARA	**Karaisali**	**1.01**	**231**	PG	**Pg**	**06 19 18.6**	**-0.7**
YURE	**YUREGIR**	**1.12**	**197**	*i* P	**Pn**	**06 19 23.8**	**+3.1**
NIG	**Nigde**	**1.14**	**281**	PN	**Pb**	**06 19 20.7**	**-0.6**
NIG				SN	**Sn**	**06 19 37.2**	**+0.5**
GULE	**Gulek**	**1.17**	**239**	*i* P	**Pg**	**06 19 22.1**	**-0.4**
GULE				IAML_P			
	comp=Z,4μm,0.2s						
CUGUR	**Gurin_SVAS**	**1.27**	**50**	*i* P	**Pg**	**06 19 26.9**	**+2.5**
AVNS	**Nevsehir-Avano**	**1.30**	**314**	*i* P	**Pg**	**06 19 24.5**	**-0.3**
DARE	**Darende-Malaty**	**1.32**	**59**	PN	**Pg**	**06 19 24.2**	**-1.1**
GZT	**Gaziantep**	**1.33**	**114**	*i* P	**Pg**	**06 19 24.9**	**-0.6**
DED	**Mersin**	**1.36**	**227**	*i* P	**Pg**	**06 19 25.5**	**-0.4**
DED				IAML_P			
	comp=Z,4μm,0.3s						
KUZU	**Kuzuini**	**1.40**	**143**	*i* P	**Pg**	**06 19 26.1**	**-0.6**
CUALT	**Altinyayla-SIV**	**1.48**	**22**	*i* P	**Pg**	**06 19 26.9**	**-1.4**
CUSAR	**Sarkisla-SIVAS**	**1.52**	**6**	*i* P	**Pg**	**06 19 28.2**	**-0.9**
MERS	**Mersin**	**1.59**	**230**	PN	**Pn**	**06 19 27.9**	**+0.7**
YOZ	**Yozgat**	**1.82**	**342**	PN	**Pb**	**06 19 31.9**	**-0.9**
MALT	**Malatya**	**1.93**	**77**	PN	**Pb**	**06 19 33.1**	**-1.5**
YAYX	**Yaylak**	**2.03**	**301**	PN	**Pb**	**06 19 35.7**	**-0.6**
SVSK	**Karacayir**	**2.15**	**20**	PN	**Pb**	**06 19 36.4**	**-1.8**
SERE	**Sereflikochisa**	**2.20**	**299**	PN	**Pb**	**06 19 37.8**	**-1.4**
URFA	**Urfa**	**2.26**	**101**	PN	**Pn**	**06 19 37.1**	**+0.6**
KEBE	**Keben-Mersin**	**2.35**	**233**	PN	**Pb**	**06 19 40.3**	**-1.5**
IKL	**Isikli**	**2.51**	**229**	PN	**Pb**	**06 19 42.2**	**-2.2**
TEVE	**Tevekalti-Mers**	**2.54**	**236**	PN	**Pn**	**06 19 42.5**	**+2.2**
SVRC	**Sivrice-ELAZID**	**2.62**	**79**	PN	**Pn**	**06 19 43.1**	**+1.5**

*ISCJB **18** 06:24:20.7±0.4, 24°.16S±0°.04×66°.97W±0°.04, h203km±5km, mb3.1/2, Error ellipse: s-maj=6.7km s-min=5.8km az=17.6*
*SJA **18** 06:24:20.3±0.8, 24°.14S×66°.95W, h208km±6km, ML2.7, MW2.9*
*IDC **18** 06:24:21.0±1.2, 24°.13S×66°.87W, h186km±11km, mb3.0/2, mb1 3.2/8, mb1mx3.1/28, mbtmp3.6/8, Error ellipse: s-maj=19.4km s-min=15.2km az=25.0*
ISC 18 06:24:21.0±0.8, 24°.20S±0°.06×66°.97W±0°.05, h197km±8km, n23, σ1§19/31, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.44**	**112**	*i* P	**Pn**	**06 24 55.5**	**+1.5**
SLA				*e*S	**Sn**	**06 25 20.6**	**+0.9**
SLA				IAML		06 25 21.8	
	comp=Z,66nm,0.6s						
AZAP	**Zapla**	**1.74**	**91**	*i* P	**Pn**	**06 24 57.7**	**+0.8**
AZAP				IAML		06 24 59.0	
	comp=Z,55nm,0.4s						
AZAP				*e*S	**Sn**	**06 25 25.1**	**+0.3**
LVC	**Limon Verde**	**2.38**	**311**	P	**Pn**	**06 25 04.4**	**+0.6**
	comp=Z,20nm,0.3s,baz=112,slow=8.4,SNR=136						
LVC				S	**Sn**	**06 25 36.3**	**-0.6**
	comp=Z,40nm,0.3s,baz=324,slow=20,SNR=43						
YJA	**Yavi**	**2.42**	**34**	⇑*i* P	**Pn**	**06 25 04.8**	**+0.5**
YJA				IAML		06 25 05.8	
	comp=Z,8.8nm,0.4s						
YJA				*e*S	**Sn**	**06 25 37.2**	**-0.7**
PB15	**IPOC Station P**	**2.49**	**293**	*i* P	**Pn**	**06 25 05.7**	**+0.9**
PB15				*e*S	**Sn**	**06 25 38.8**	**-0.1**
PB06	**IPOC Station P**	**2.81**	**301**	*i* P	**Pn**	**06 25 09.0**	**+0.6**
PB06				*e*S	**Sn**	**06 25 44.3**	**-1.1**
AHML	**Horco Molle**	**2.97**	**150**	*i* P	**Pn**	**06 25 11.4**	**+1.3**
PB14	**IPOC Station P**	**3.16**	**262**	*i* P	**Pn**	**06 25 13.5**	**+0.9**
PB09	**IPOC Station P**	**3.17**	**318**	*i* P	**Pn**	**06 25 13.4**	**+0.6**
PB10	**IPOC Station P**	**3.35**	**281**	*i* P	**Pn**	**06 25 15.2**	**+0.6**
PB04	**IPOC Station P**	**3.46**	**302**	*i* P	**Pn**	**06 25 16.2**	**+0.1**
GO03	**Copiap**	**4.48**	**220**	*i* P	**Pn**	**06 25 29.2**	**+0.5**
ACCO	**Cerro Coronel**	**6.63**	**196**	*i* P	**Pn**	**06 25 58.1**	**+1.4**
AMOG	**MOGNA**	**6.85**	**191**	*i* P	**Pn**	**06 25 59.7**	**+0.5**
CFA	**Coronel Fontan**	**7.46**	**188**	P	**Pn**	**06 26 07.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=354,slow=11,SNR=9.9						
CFA				S	**Sn**	**06 27 28.0**	**-3.7**
	comp=Z,1.3nm,0.3s,baz=241,slow=18,SNR=12						
LPAZ	**La Paz**	**7.94**	**352**	P	**Pn**	**06 26 13.6**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=149,slow=8.9,SNR=26						
ACAN	**Cantantal**	**8.05**	**181**	*i* P	**Pn**	**06 26 15.1**	**+0.3**
CPUP	**Villa Florida**	**8.98**	**106**	P	**Pn**	**06 26 27.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=257,slow=9.5,SNR=3.0						
SIV	**San Ignacio**	**9.87**	**35**	P	**Pn**	**06 26 37.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=234,slow=12,SNR=13						
SIV				S	**Sn**	**06 28 26.6**	**-2.4**
	baz=24,slow=19,SNR=2.2						
BDFB	**Brasilia**	**19.74**	**68**	P	**P**	**06 28 35.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=239,slow=7.3,SNR=5.3						
TXAR	**Lajitas Array**	**63.85**	**324**	P	**P**	**06 34 34.4**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=133,slow=6.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**06 35 50.7**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=236,slow=5.4,SNR=4.1						
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc	**PKPbc**	**06 43 39.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=302,slow=3.6,SNR=8.2						

*ISCJB **18** 06:39:46.4±0.9, 5°.61S±0°.06×129°.0E±0°.2, h300km, mb3.6/2, Error ellipse: s-maj=22.3km s-min=7.1km az=7.6*
*IDC **18** 06:39:47.6±2.0, 5°.58S×129°.13E, h320km±26km, mb3.3/2, mb1 3.3/6, mb1mx3.0/34, mbtmp4.0/6, Error ellipse: s-maj=42.5km s-min=12.4km az=77.0*
ISC 18 06:39:47.0±1.0, 5°.65S±0°.07×129°.0E±0°.2, h300km, n6, σ1§82/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.24**	**25**	P	**Pn**	**06 41 09.1**	**+1.7**
	2.8nm,0.3s,baz=301,slow=24,SNR=7.3						
SIJI				S	**S**	**06 42 10.3**	**-1.8**
	8.5nm,0.3s,baz=84,slow=22,SNR=11						
FITZ	**Fitzroy Crossi**	**12.81**	**195**	P	**Pn**	**06 42 40.3**	**+0.9**
	0.3nm,0.3s,baz=24,slow=10,SNR=6.7						
FITZ				S	**S**	**06 45 00.5**	**-1.0**
	0.1nm,0.3s,baz=264,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**15.12**	**161**	P	**P**	**06 43 06.3**	**+0.9**
	0.6nm,0.3s,baz=340,slow=12,SNR=40						
WRA				S	**S**	**06 45 47.5**	**-2.7**
	0.1nm,0.3s,baz=329,slow=21,SNR=3.7						
ASAR	**Alice Springs**	**18.52**	**166**	P	**P**	**06 43 43.5**	**+1.2**
	0.8nm,0.3s,baz=344,slow=11,SNR=39						
ASAR				S	**S**	**06 46 55.9**	**-1.8**
	0.1nm,0.3s,baz=346,slow=17,SNR=9.9						
STKA	**Stephens Creek**	**28.62**	**157**	P	**P**	**06 45 16.9**	**+0.6**
	0.9nm,0.4s,baz=330,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**66.57**	**327**	P	**P**	**06 50 03.9**	**-1.5**
	0.6nm,0.5s,baz=123,slow=7.1,SNR=7.4						

*SOME **18** 06:41:46.2, 42°.67N×75°.65E*
*ISCJB **18** 06:41:47.2±0.5, 42°.67N±0°.03×75°.70E±0°.03, h0km, Error ellipse: s-maj=4.9km s-min=3.0km az=156.3*
*NNC **18** 06:41:47.3±0.6, 42°.67N×75°.69E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=3.8km s-min=2.8km az=142.0, Suspected Mining explosion.*
ISC 18 06:41:47.3±0.9, 42°.69N±0°.03×75°.68E±0°.02, h0km, n19, σ0§62/30, 2C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**345**	⇓P	**Pg**	**06 41 52.2**	**+0.2**
	0.6nm,0.3s						
TKM2				⇑S	**Sg**	**06 41 56.4**	**+1.2**
	2.9nm,0.3s						
TKM2	**Tokmak 2**	**0.24**	**345**	P	**Pg**	**06 41 52.2**	**+0.2**
	SNR=14						
KST	**Kastek**	**0.41**	**30**	P	**Pg**	**06 41 55.4**	**+0.2**
	19nm,0.2s						
KST				S	**Sg**	**06 42 02.1**	**+1.5**
	7.6nm,0.2s						
KBK	**Karagaybulak**	**0.54**	**267**	P	**Pg**	**06 41 58.2**	**+0.5**
	SNR=5.8						
DGS	**Degeres**	**0.56**	**7**	P	**Pg**	**06 41 58.2**	**+0.1**
	3.7nm,0.2s						
DGS				S	**Sg**	**06 42 06.8**	**+1.5**
	4.6nm,0.2s						
ULHL	**Ulahol**	**0.60**	**137**	P	**Pg**	**06 41 59.1**	**+0.2**
	SNR=8.4						
KZA	**Kyzart**	**0.69**	**208**	P	**Pg**	**06 42 01.0**	**+0.5**
	SNR=7.8						
MTBS	**Maitube**	**0.70**	**51**	P	**Pg**	**06 42 00.5**	**-0.3**
	5.6nm,0.2s						
MTBS				S	**Sg**	**06 42 10.6**	**+0.6**
	9.5nm,0.2s						
IZV	**Izvestkoviy**	**0.77**	**63**	P	**Pg**	**06 42 02.1**	**0.0**
	4.1nm,0.1s						
IZV				S	**Sb**	**06 42 13.8**	**-1.0**
	5.2nm,0.2s						
AAK	**Ala-Archa**	**0.88**	**267**	P	**Pn**	**06 42 06.6**	**-0.5**
	0.8nm,0.6s						
AAK				S	**Sg**	**06 42 16.1**	**+0.6**
	1.4nm,0.7s						
TNSS	**Tian-Shan**	**0.99**	**69**	P	**Pg**	**06 42 06.3**	**-0.1**
	3.1nm,0.2s						
TNSS				S	**Sb**	**06 42 20.8**	**-0.7**
	2.9nm,0.3s						
USP	**Ospenovka**	**1.04**	**304**	P	**Pg**	**06 42 06.9**	**-0.4**
	SNR=10.0						
SGDS	**Sogindy**	**1.09**	**315**	P	**Pg**	**06 42 07.9**	**-0.3**
	2.4nm,0.2s						
SGDS				S	**Sb**	**06 42 23.8**	**0.0**
	1.3nm,0.2s						
KTBS	**Karatobe**	**1.26**	**35**	P	**Pg**	**06 42 11.1**	**-0.4**
	2.9nm,0.2s						
KTBS				S	**Sb**	**06 42 28.8**	**+0.1**
	3.5nm,0.2s						
KUU	**Kurty**	**1.30**	**21**	P	**Pg**	**06 42 11.6**	**-0.6**
	1.1nm,0.2s						
KUU				S	**Sb**	**06 42 29.9**	**0.0**
	2.4nm,0.2s						
EKS2	**Erkin-Say**	**1.41**	**270**	P	**Pb**	**06 42 14.5**	**-0.1**
	SNR=28						
MRKS	**Merke**	**1.81**	**273**	P	**Pb**	**06 42 20.7**	**-0.7**
	5.5nm,0.2s						
MRKS				S	**Sg**	**06 42 45.9**	**+0.3**
	4.2nm,0.2s						
ARXS	**Arharly**	**2.18**	**45**	Pg	**Pb**	**06 42 27.8**	**0.0**
	1.4nm,0.2s						
ARXS				Lg	Lg	06 42 57.5	
	2.5nm,0.2s						
PDGK	**Podgornoye**	**2.87**	**76**	⇑Pg	**Pb**	**06 42 39.5**	**+0.1**
	0.2nm,0.4s						
PDGK				⇓Lg	Lg	06 43 12.9	
	0.5nm,0.4s						

BER 18 06:59:38.9±0.4, 71°.46N×9°.94W, h0km±239km, ML2.5, 1D, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.66**	**131**	*e*P	Pg	06 59 52.2	+0.8
JNW				IAML		07 00 04.0	
	comp=Z,157nm,0.2s						
JMI	**Jan Mayen**	**0.67**	**143**	*e*P	Pg	06 59 52.4	+0.8
JMI				*e*S	Sb	07 00 02.0	-1.1
JMIC	**Jan Mayen**	**0.67**	**135**	*e*P	Pg	06 59 52.1	+0.5
JMIC				*e*S	Sb	07 00 02.1	-1.0
JNE	**Jan Mayen East**	**0.71**	**131**	*e*P	Pg	06 59 53.1	+0.5
JNE				*e*S	Sg	07 00 02.7	+1.0
JNE				IAML		07 00 05.2	
	comp=Z,182nm,0.2s						
DAG	**Danmarks Havn**	**5.84**	**340**	⇓*i* P	Pn	07 01 04.0	-2.5
DAG				*i* S	Sn	07 02 06.1	-7.9

*NEIC **18** 07:06:37.5±2.9, 60°.26S±0°.09×43°.4W±0°.2, h10km±1km, mb4.4/12*
*IDC **18** 07:06:39.1±0.7, 60°.63S×42°.64W, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/26, mbtmp4.2/12, ML3.7/2, Error ellipse: s-maj=30.1km s-min=16.1km az=67.0*
ISC 18 07:06:39.7±0.5, 60°.56S±0°.08×42°.7W±0°.1, h10km, n32, σ2§17/27, mb4.2/14, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.12**	**31**		**Pn**	**07 08 22.9**	**-0.8**
PMSA	**Palmer Station**	**10.67**	**237**	Pn	**Pn**	**07 09 13.4**	**+1.1**
	0.4nm,0.3s,baz=70,slow=15,SNR=3.5						
PMSA	**Palmer Station**	**10.67**	**237**	Pn	**Pn**	**07 09 09.7**	**-2.6**
SNAA	**Sanae**	**19.13**	**142**	P	**Pn**	**07 11 03.5**	**0.0**
	0.3nm,0.3s,baz=288,slow=9.6,SNR=31						
SNAA	**Sanae**	**19.13**	**142**	P	**Pn**	**07 11 03.7**	**+0.3**
SNAA				IAmb	IAmb	07 11 06.3	
	comp=Z,24nm,1.1s						
TRQA	**Tornquist**	**25.60**	**323**	P	**P**	**07 12 03.5**	**-5.4**
TRQA				IAmb	IAmb	07 12 08.8	
	comp=Z,5.8nm,1.1s						
PLCA	**Paso Flores**	**26.23**	**307**	P	**P**	**07 12 17.1**	**+2.5**
	comp=Z,3.8nm,0.8s,baz=199,slow=8.8,SNR=8.4						
PLCA	**Paso Flores**	**26.23**	**307**	P	**P**	**07 12 08.2**	**-6.4**
GO06	**Curarrehue**	**27.57**	**306**	P	**P**	**07 12 19.5**	**-7.3**
QSPA	**South Pole Qui**	**29.68**	**180**	P	**P**	**07 12 46.1**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=173,slow=3.0,SNR=18						
QSPA	**South Pole Qui**	**29.68**	**180**	P	**P**	**07 12 46.2**	**+0.8**
QSPA				IAmb	IAmb	07 12 47.2	
	comp=Z,6.6nm,1.0s						
GO05	**Huala**	**31.74**	**310**	P	P	07 12 57.5	-6.1
GO05				IAmb	IAmb	07 12 57.8	
	comp=Z,7.4nm,0.9s						
PEL	**Peldehue**	**32.95**	**314**	P	P	07 13 06.1	-8.2
CFA	**Coronel Fontan**	**33.51**	**318**	P	**P**	**07 13 19.9**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=293,slow=3.4,SNR=5.7						
CPUP	**Villa Florida**	**35.65**	**337**	P	**P**	**07 13 39.1**	**+1.5**
	comp=Z,4.6nm,0.9s,baz=178,slow=9.7,SNR=9.6						
GO04	**Tololo Observa**	**35.69**	**316**	P	P	07 13 31.3	-7.0
GO04				IAmb	IAmb	07 13 35.4	
	comp=Z,7.5nm,1.1s						
SBA	**Scott Base**	**40.66**	**189**	P	**P**	**07 14 20.4**	**+1.0**
SBA				IAmb	IAmb	07 14 21.8	
	comp=Z,10nm,1.1s						
BDFB	**Brasilia**	**45.02**	**353**	P	**P**	**07 14 57.0**	**+1.6**
	comp=Z,1.7nm,0.5s,baz=122,slow=20,SNR=3.2						
SIV	**San Ignacio**	**46.45**	**335**	P	**P**	**07 15 07.6**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=159,slow=8.3,SNR=6.7						
LPAZ	**La Paz**	**47.87**	**326**	P	**P**	**07 15 19.6**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=119,slow=4.9,SNR=5.1						
LPAZ	**La Paz**	**47.87**	**326**	P	P	07 15 10.9	-7.5
SHEL	**Horse Pasture**	**51.87**	**47**	P	**P**	**07 15 46.1**	**-2.0**
CASY	**Casey**	**51.93**	**167**	P	**P**	**07 15 48.8**	**+0.8**
OUZ	**Omahuta**	**80.04**	**209**	P	**P**	**07 18 48.2**	**-0.9**
OUZ				IAmb	IAmb	07 18 53.4	
	comp=Z,4.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.52**	**44**	P	**P**	**07 18 59.0**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=201,slow=6.8,SNR=6.1						
ASAR	**Alice Springs**	**96.04**	**177**	P	**P**	**07 20 06.8**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=183,slow=4.6,SNR=3.9						
ASAR	**Alice Springs**	**96.04**	**177**	P	**P**	**07 20 05.4**	**-1.8**
WRA	**Warramunga Arr**	**99.75**	**177**	P	**Pdif**	**07 20 23.0**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=191,slow=4.4,SNR=3.0						
WRA	**Warramunga Arr**	**99.75**	**177**		**Pdif**	**07 20 22.0**	**-1.9**
INK	**Inuvik**	**144.07**	**321**	PKP	**PKPdf**	**07 26 13.

comp=Z,3.1nm,0.8s,baz=16,slow=7.0,SNR=5.0
ITAB Concordia 33.99 345 *eP* **P 07 14 20.1 +0.5**
ITAB Concordia 33.99 345 *eP* **P 07 14 20.1 +0.5**
CPUP Villa Florida 35.72 337 P **P 07 14 34.7 +0.2**
comp=Z,20nm,0.9s,baz=168,slow=7.4,SNR=28
CPUP Villa Florida 35.72 337 P **P 07 14 34.0 -0.5**
CPUP IAmb IAmb 07 14 35.6
comp=Z,20nm,0.8s
CPUP Villa Florida 35.72 337 *eP* **P 07 14 34.7 +0.2**
GO04 Tololo Observa 35.74 316 P **P 07 14 33.9 -1.2**
GO04 IAmb IAmb 07 14 34.8
comp=Z,27nm,0.8s
PTGB Pitanga 36.47 346 *eP* **P 07 14 41.0 -0.1**
PTGB Pitanga 36.47 346 *eP* **P 07 14 41.0 -0.1**
SPB Sao Paulo 37.15 353 *eP* **P 07 14 48.3 +1.5**
SPB Sao Paulo 37.15 353 *eP* **P 07 14 48.3 +1.5**
FRTB Fartura 37.56 350 *eP* **P 07 14 51.6 +1.3**
FRTB Fartura 37.56 350 *eP* **P 07 14 51.6 +1.3**
GO03 Copiap 37.92 318 P **P 07 14 52.8 -0.6**
GO03 IAmb IAmb 07 14 53.2
comp=Z,30nm,0.7s
PCMB Pacaembu 39.45 347 *eP* **P 07 15 06.8 +0.6**
PCMB Pacaembu 39.45 347 *eP* **P 07 15 06.8 +0.6**
BB19B Bebedouro 39.73 351 *eP* **P 07 15 09.1 +0.5**
BB19B Bebedouro 39.73 351 *eP* **P 07 15 09.1 +0.5**
GO02 Mina Guanaco 39.98 320 P **P 07 15 11.1 +0.2**
ALF01 Guarapari-ES 39.99 3 *eP* **P 07 15 12.7 +2.1**
ALF01 Guarapari-ES 39.99 3 *eP* **P 07 15 12.7 +2.1**
SBA Scott Base 40.60 189 P **P 07 15 16.1 +0.9**
AQDB Aquidauana 41.15 341 *eP* **P 07 15 20.2 -0.1**
AQDB Aquidauana 41.15 341 *eP* **P 07 15 20.2 -0.1**
MAW Mawson 41.16 146 P **P 07 15 20.5 +0.7**
comp=Z,24nm,0.7s,baz=231,slow=13,SNR=6.1
MAW Mawson 41.16 146 P **P 07 15 19.9 +0.1**
ITRB Iturama 41.24 349 *eP* **P 07 15 21.0 0.0**
ITRB Iturama 41.24 349 *eP* **P 07 15 21.0 0.0**
RIB01 Linhares ES 41.30 3 *eP* **P 07 15 22.3 +0.8**
RIB01 Linhares ES 41.30 3 *eP* **P 07 15 22.3 +0.8**
BSFB Barra de Sao F 41.76 3 *eP* **P 07 15 26.6 +1.3**
BSFB Barra de Sao F 41.76 3 *eP* **P 07 15 26.6 +1.3**
PB10 IPOC Station P 41.82 320 P **P 07 15 25.4 -0.4**
SJMB Sao Joao De Ma 41.88 2 *eP* **P 07 15 26.8 +0.5**
SJMB Sao Joao De Ma 41.88 2 *eP* **P 07 15 26.8 +0.5**
PMNB Patos De Minas 42.12 355 *eP* **P 07 15 28.6 +0.3**
PMNB Patos De Minas 42.12 355 *eP* **P 07 15 28.6 +0.3**
LVC Limon Verde 42.16 323 P **P 07 15 28.4 -0.6**
comp=Z,8.8nm,0.7s,baz=175,slow=6.4,SNR=4.2
LVC Limon Verde 42.16 323 P **P 07 15 28.6 -0.4**
LVC Limon Verde 42.16 323 *eP* **P 07 15 28.6 -0.4**
C2SB Chapadao do Su 42.43 346 *eP* **P 07 15 31.4 +0.7**
C2SB Chapadao do Su 42.43 346 *eP* **P 07 15 31.4 +0.7**
PB04 IPOC Station P 42.80 321 P **P 07 15 33.2 -0.8**
PB04 IAmb IAmb 07 15 34.2
comp=Z,33nm,0.7s
PB01 IPOC Station P 43.81 323 P **P 07 15 41.9 -0.1**
PB01 IAmb IAmb 07 15 42.8
comp=Z,37nm,0.8s
GO01 Chusmiza 45.02 324 P **P 07 15 49.7 -2.4**
GO01 IAmb IAmb 07 15 53.1
comp=Z,16nm,0.8s
PB11 IPOC Station P 45.07 323 P **P 07 15 51.2 -0.9**
PB11 IAmb IAmb 07 15 52.6
comp=Z,19nm,0.9s
BDFB Brasilia 45.08 353 P **P 07 15 52.0 -0.3**
comp=Z,10nm,0.8s,baz=92,slow=3.0,SNR=14
BDFB Brasilia 45.08 353 P **P 07 15 52.9 +0.7**
BDFB IAmb IAmb 07 15 53.3
comp=Z,13nm,0.8s
ARAG Araguaiana, MT 45.34 348 *eP* **P 07 15 54.3 +0.1**
ARAG Araguaiana, MT 45.34 348 *eP* **P 07 15 54.3 +0.1**
SALV Santo Antonio 45.64 342 *eP* **P 07 15 57.1 +0.5**
SALV Santo Antonio 45.64 342 *eP* **P 07 15 57.1 +0.5**
MNMC Minye Minye 45.65 323 P **P 07 15 56.0 -0.9**
SIV San Ignacio 46.51 335 P **P 07 16 02.9 -0.6**
comp=Z,7.4nm,0.8s,baz=175,slow=7.5,SNR=18
SIV PcP **PcP 07 17 37.4 -0.3**
comp=Z,2.4nm,0.8s,baz=137,slow=10,SNR=2.8
LPAZ La Paz 47.93 326 P **P 07 16 14.8 -0.3**
comp=Z,4.7nm,0.6s,baz=120,slow=5.9,SNR=13
LPAZ PcP **PcP 07 17 43.8 +0.3**
comp=Z,2.1nm,0.7s,baz=219,slow=6.5,SNR=3.1
LPAZ La Paz 47.93 326 P **P 07 16 15.0 -0.2**
LPAZ PcP **PcP 07 17 43.7 +0.3**
LPAZ La Paz 47.93 326 *eP* **P 07 16 14.5 -0.7**
CLDB Colider 50.60 343 *eP* **P 07 16 33.7 -1.2**
CLDB Colider 50.60 343 *eP* **P 07 16 33.7 -1.2**
NBLI Livramento-PB 53.32 7 *eP* **P 07 16 57.6 +2.4**
NBLI Livramento-PB 53.32 7 *eP* **P 07 16 57.6 +2.4**
SAML Samuel 53.79 335 P **P 07 16 58.2 -0.3**
SAML IAmb IAmb 07 16 58.9
comp=Z,15nm,0.7s
SAML Samuel 53.79 335 *eP* **P 07 16 58.3 -0.3**
LBTB Lobatse 57.90 84 P **P 07 17 27.6 -0.5**
comp=Z,2.5nm,0.7s,baz=212,slow=9.4,SNR=4.2
LBTB Lobatse 57.90 84 P **P 07 17 28.3 +0.1**
LBTB IAmb IAmb 07 17 36.1
comp=Z,40nm,1.8s
PTLC Puerto Leguiza 65.48 324 *eP* P 07 18 14.8 -4.4
PTLC Puerto Leguiza 65.48 324 *eP* P 07 18 14.8 -4.4
OTAV Otavalo 66.64 320 *eP* **P 07 18 28.0 +0.9**
OTAV Otavalo 66.64 320 *eP* **P 07 18 28.0 +0.9**
OTAV Otavalo 66.64 320 P **P 07 18 28.1 +0.9**
OTAV IAmb IAmb 07 18 28.8
comp=Z,15nm,0.8s
OTAV Otavalo 66.64 320 *eP* **P 07 18 27.9 +0.7**
SOTA Rioblanco 67.88 323 *eP* **P 07 18 35.9 +0.9**
SOTA Rioblanco 67.88 323 *eP* **P 07 18 35.9 +0.9**
PCON Cinco Dias 68.00 323 *eP* **P 07 18 37.2 +1.4**
PCON Cinco Dias 68.00 323 *eP* **P 07 18 37.2 +1.4**
YOTC Yotoco, Valle 69.55 324 *eP* **P 07 18 43.7 -1.3**
YOTC Yotoco, Valle 69.55 324 *eP* **P 07 18 43.7 -1.3**
ROSC El Rosal 69.80 326 P **P 07 18 47.3 +0.5**
comp=Z,5.5nm,0.6s,baz=92,slow=7.3,SNR=5.2
ROSC El Rosal 69.80 326 P **P 07 18 45.5 -1.4**
RREF El Recreo 70.14 325 *eP* **P 07 18 48.8 -0.5**
RREF El Recreo 70.14 325 *eP* **P 07 18 48.8 -0.5**
GUY2C Guyana, Caldas 70.45 325 *eP* **P 07 18 50.0 -0.9**
GUY2C Guyana, Caldas 70.45 325 *eP* **P 07 18 50.0 -0.9**
SPBC San Pablo de B 70.50 327 *eP* **P 07 18 48.9 -2.0**
SPBC San Pablo de B 70.50 327 *eP* **P 07 18 48.9 -2.0**
CBOC Ciudad Bolivar 71.25 325 *eP* **P 07 18 53.9 -1.5**
CBOC Ciudad Bolivar 71.25 325 *eP* **P 07 18 53.9 -1.5**
SDV Santo Domingo 72.73 331 *eP* **P 07 19 04.7 +0.3**
SDV Santo Domingo 72.73 331 *eP* **P 07 19 04.7 +0.3**
LTZ Lake Taylor 73.07 206 P **P 07 19 05.5 -0.4**
LTZ IAmb IAmb 07 19 11.9
comp=Z,16nm,1.1s
MSWZ Moikau Station 73.69 209 P **P 07 19 09.5 -0.2**
URZ Urewera 76.22 211 P **P 07 19 24.5 +0.3**
FDF Fort de France 76.55 342 P **P 07 19 27.1 +0.9**
JTS Las Juntas de 78.19 317 P **P 07 19 34.8 -0.7**
OUZ Omahuta 79.98 209 P **P 07 19 45.0 -0.1**
OUZ IAmb IAmb 07 19 49.0
comp=Z,12nm,0.9s
MLPR Magueyes Islan 80.75 337 P **P 07 19 48.6 -0.7**
CRPR Cabo Rojo, PR 80.80 336 P **P 07 19 48.9 -0.6**
CBYP Canovanas 80.82 338 P **P 07 19 48.6 -1.1**
TOA0 Torodi Ar. Sit 81.56 44 P **P 07 19 53.9 +0.3**
TOA0 IAmb IAmb 07 19 55.4
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 81.56 44 P **P 07 19 54.3 +0.6**
comp=Z,8.7nm,0.8s,baz=202,slow=6.1,SNR=26
TORD Torodi Ar. Bea 81.56 44 P **P 07 19 53.3 -0.4**
STKA Stephens Creek 87.77 184 P **P 07 20 24.1 -0.9**
comp=Z,1.4nm,0.7s,baz=158,slow=5.8,SNR=4.0
STKA Stephens Creek 87.77 184 P **P 07 20 23.3 -1.8**
H08S1 Diego Carcia H 95.32 116 T T 09 07 50.0
baz=207,slow=76
H08S2 Diego Garcia H 95.33 116 T T 09 07 17.5
baz=207
H08S3 Diego Garcia H 95.34 116 T T 09 07 45.1
baz=207,slow=76
ASAR Alice Springs 95.97 177 P **P 07 21 01.8 -1.5**
comp=Z,1.2nm,1.0s,baz=173,slow=4.0,SNR=7.9
ASAR PP **PP 07 24 52.8 -1.8**
comp=Z,2.0nm,1.0s,baz=176,slow=8.2,SNR=6.0
ASAR Alice Springs 95.97 177 P **P 07 21 02.2 -1.0**
WRA Warramunga Arr 99.69 177 P **Pdif 07 21 20.2 +0.2**
comp=Z,0.5nm,1.0s,baz=185,slow=4.0,SNR=2.9
LRM Limekiln Ridge 120.18 311 **PKPdf 07 26 26.8 +0.4**
BCAR Beaver Creek A 144.10 310 **PKPab 07 27 08.2 +0.2**
EPYK Eagle Plains 144.12 317 **PKPab 07 27 07.8 -0.2**
INK Inuvik 144.13 321 PKP **PKPab 07 27 07.3 -0.5**
comp=Z,9.1nm,0.8s,baz=93,slow=4.4,SNR=19
INK Inuvik 144.13 321 **PKPab 07 27 07.6 -0.2**
DOT Dot Lake 145.28 310 **PKPbc 07 27 11.8 -0.4**
SCRK Sand Creek 145.43 310 **PKPdf 07 27 12.3 -0.3**
MAKZ Makanchi 145.57 88 **PKPdf 07 27 13.5 +0.1**
SCM Sheep Creek Mo 145.59 306 **PKPdf 07 27 13.3 +0.4**
RIDG Independent Ri 145.63 310 **PKPdf 07 27 13.2 +0.2**
MK31 Makanchi Array 145.72 88 **PKPdf 07 27 13.4 -0.2**
MKAR Makanchi Array 145.72 88 PKPbc **PKPdf 07 27 13.2 -0.4**
comp=Z,2.4nm,0.6s,baz=237,slow=2.8,SNR=11
GHO Glory Hole Cre 146.20 305 PKPdf **PKPdf 07 27 14.9 +0.9**
PRP Porcupine Dome 146.78 312 PKPbc **PKPdf 07 27 17.3 +2.3**
IL31 146.92 310 **PKPdf 07 27 16.6 +1.6**
ILAR Eielson Array 146.92 310 PKPbc **PKPdf 07 27 16.2 +1.2**
comp=Z,8.2nm,0.7s,baz=138,slow=2.2,SNR=28
RND Reindeer 147.00 307 **PKPdf 07 27 17.5 +2.2**
FYU Fort Yukon 147.17 314 **PKPdf 07 27 17.8 +2.5**
CCB Clear Creek Bu 147.21 310 **PKPdf 07 27 17.4 +1.9**
WRH Wood River Hil 147.23 309 **PKPdf 07 27 17.8 +2.2**
COLA College 147.33 310 **PKPdf 07 27 18.1 +2.4**
SKT Skwentna 147.37 304 **PKPdf 07 27 17.9 +2.0**
BWN Browne 147.62 308 **PKPdf 07 27 19.1 +2.9**
XAN Xi'an 147.66 132 PKPbc **PKPab 07 27 24.5 +2.1**
XAN pPKP sPKPab 07 27 34.0 +7.5
PPLA Purkeypile 148.08 305 **PKPdf 07 27 19.9 +2.6**
BPAW Bear Paw Mtn. 148.17 308 **PKPdf 07 27 20.0 +2.8**
MLY Manley 148.50 309 **PKPdf 07 27 21.1 +3.4**
GTA Gaotai 148.55 115 ePKPbc **PKPdf 07 27 21.8 +3.1**
GTA pPKP PKiKP 07 27 26.3 +2.4
GTA sPKP 07 27 29.0
COLD Coldfoot 149.22 313 **PKPbc 07 27 23.8 +0.8**
COLD PKPab **sPKPbc 07 27 28.7 +1.4**
TOLK Toolik Lake Re 149.54 316 **PKPbc 07 27 24.2 +0.3**
TOLK PKPab **pPKPbc 07 27 29.1 +2.0**
TTA Tatalina 149.65 304 **PKPbc 07 27 24.0 -0.3**
ZALV Zalesovo Beam 151.54 80 PKPbc **PKPdf 07 27 27.3 +4.5**
comp=Z,0.9nm,0.3s,baz=222,slow=2.0,SNR=5.0
SONM Songino Array 158.10 112 PKPab **PKPab 07 28 05.8 -0.2**
comp=Z,1.4nm,1.0s,baz=224,slow=4.0,SNR=3.9

*ISCJB **18** 07:18:29.7±0.6, 5°.52S±0°.08×151°.7E±0°.1, h57km, mb3.8/7, Error ellipse: s-maj=19.9km s-min=6.1km az=32.6*
*NEIC **18** 07:18:31.9±2.9, 5°.5S±0°.1×151°.7E±0°.1, h73km±4km, mb4.2/6*
*IDC **18** 07:18:32.4±1.8, 5°.44S×151°.65E, h63km±11km, mb3.6/7, mb1 3.9/8, mb1mx3.6/36, mbtmp3.9/8, Error ellipse: s-maj=45.4km s-min=9.7km az=125.0*
ISC 18 07:18:30.9±0.7, 5°.5S±0°.1×151°.7E±0°.1, h57km, n28, σ1§07/32, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.22**	**15**	P	**Pn**	**07 18 52.0**	**+0.2**
	462nm,0.3s,baz=170,slow=1.2,SNR=258						
KRVT				LR	LR	07 19 05.4	
	comp=Z,45nm,19.1s,baz=150,slow=28						
KRVT				S	**Sn**	**07 19 08.6**	**+1.3**
	1μm,0.3s,baz=338,slow=19,SNR=41						
PMG	**Port Moresby**	**5.96**	**229**	P	**Pn**	**07 19 58.3**	**+1.8**
	5.2nm,0.3s,baz=48,slow=11,SNR=5.9						
PMG				S	**Sn**	**07 21 04.4**	**+0.9**
	3.2nm,0.3s,baz=41,slow=20,SNR=2.8						
PMG	**Port Moresby**	**5.96**	**229**		**Pn**	**07 19 56.4**	**-0.1**
PMG					**Sn**	**07 21 02.5**	**-1.1**
MTN	**Manton Dam**	**21.58**	**249**	P	**P**	**07 23 14.5**	**-1.5**
MTN				IAmb	IAmb	07 23 22.9	
	comp=Z,19nm,1.3s						
WRAB	**Tennant Creek**	**22.16**	**228**	P	**P**	**07 23 21.9**	**-0.5**
WRAB				IAmb	IAmb	07 23 21.9	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**22.18**	**228**	P	**P**	**07 23 23.2**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=52,slow=9.9,SNR=3.9						
KNRA	**Kununurra**	**24.70**	**244**	P	**P**	**07 23 46.1**	**-0.8**
AS31	**Alice Springs**	**24.91**	**222**	P	**P**	**07 23 48.1**	**-0.7**
ASAR	**Alice Springs**	**24.91**	**222**	P	**P**	**07 23 50.8**	**+1.9**
	comp=Z,3.4nm,0.6s,baz=58,slow=8.7,SNR=61						
ASAR	**Alice Springs**	**24.91**	**222**	P	**P**	**07 23 49.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**28.38**	**242**	P	**P**	**07 24 20.6**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=48,slow=4.9,SNR=12						
FITZ	**Fitzroy Crossi**	**28.38**	**242**	P	**P**	**07 24 20.5**	**+0.5**
FITZ				IAmb	IAmb	07 24 24.7	
	comp=Z,4.0nm,0.8s						
MSWZ	**Moikau Station**	**41.49**	**153**	P	**P**	**07 26 13.0**	**+0.6**
SONM	**Songino Array**	**66.34**	**328**	P	**P**	**07 29 14.7**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=143,slow=5.8,SNR=6.5						
SONM	**Songino Array**	**66.34**	**328**	P	**P**	**07 29 14.2**	**+0.4**
MKAR	**Makanchi Array**	**80.14**	**319**	P	**P**	**07 30 34.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=100,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**80.14**	**319**	P	**P**	**07 30 35.4**	**+0.4**
IMAR	**Indian Mountai**	**81.40**	**20**	P	**P**	**07 30 40.9**	**-0.4**
ILAR	**Eielson Array**	**83.21**	**22**	P	**P**	**07 30 50.0**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=251,slow=5.3,SNR=6.7						
ILAR	**Eielson Array**	**83.21**	**22**	P	**P**	**07 30 49.2**	**-1.6**
NVAR	**Mina Array Bea**	**93.36**	**52**	P	**P**	**07 31 42.0**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=239,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**93.36**	**52**	P	**P**	**07 31 38.5**	**-1.9**
PDAR	**Pinedale Array**	**100.11**	**48**	P	**Pdif**	**07 32 11.1**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=217,slow=5.5,SNR=2.7						
PDAR	**Pinedale Array**	**100.11**	**48**	Pdif	**Pdif**	**07 32 10.9**	**0.0**
GERES	**GERESS Array B**	**124.07**	**328**	PKP	**PKPdf**	**07 37 23.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=54,slow=3.4,SNR=3.6						
GERES	**GERESS Array B**	**124.07**	**328**		**PKiKP**	**07 37 23.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.48**	**287**	PKPbc	**PKPbc**	**07 38 15.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=100,slow=3.2,SNR=8.8						
TORD	**Torodi Ar. Bea**	**149.48**	**287**	PKPdf	**PKPdf**	**07 38 08.5**	**-1.9**
TORD					**PKPbc**	**07 38 13.1**	**-1.7**

*ISCJB **18** 07:23:00.3±0.6, 60°.39S±0°.08×43°.5W±0°.2, h16km, mb3.9/3, Error ellipse: s-maj=16.0km s-min=6.8km az=39.2*
*IDC **18** 07:23:00.1±1.0, 60°.53S×43°.14W, h0km, mb4.1/3, mb1 4.1/4, mb1mx3.8/25, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=50.9km s-min=30.0km az=119.0*
*NEIC **18** 07:23:02.6±2.1, 60°.4S±0°.1×43°.4W±0°.2, h13km±4km, mb4.6/8*
ISC 18 07:23:02.5±0.6, 60°.41S±0°.10×43°.4W±0°.1, h16km, n21, σ0§84/27, mb4.5/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.18**	**34**	Pn	**Pn**	**07 24 45.3**	**-1.4**
HOPE				Sn	**Sn**	**07 26 09.1**	**+1.4**
PMSA	**Palmer Station**	**10.47**	**236**	Pn	**Pn**	**07 25 31.5**	**-0.1**
	1.8nm,0.3s,baz=12,slow=14,SNR=5.6						
PMSA	**Palmer Station**	**10.47**	**236**		**Pn**	**07 25 31.9**	**+0.2**
PMSA				Sn	**Sn**	**07 27 28.9**	**+0.6**
QSPA	**South Pole Qui**	**29.82**	**180**	P	**P**	**07 29 06.9**	**-1.6**
	2.6nm,0.9s,baz=172,slow=2.3,SNR=6.4						
QSPA	**South Pole Qui**	**29.82**	**180**	P	**P**	**07 29 08.5**	**0.0**
QSPA				IAmb	IAmb	07 29 15.4	
	comp=Z,18nm,1.8s						
GO04	**Tololo Observa**	**35.36**	**316**	P	**P**	**07 29 57.7**	**+0.4**
GO04				IAmb	IAmb	07 30 00.8	
	comp=Z,16nm,0.4s						
SBA	**Scott Base**	**40.75**	**189**	P	**P**	**07 30 41.3**	**-0.6**
SBA				IAmb	IAmb	07 30 45.7	
	comp=Z,5.2nm,0.9s						
GO01	**Chusmiza**	**44.66**	**324**	P	**P**	**07 31 13.5**	**-1.3**
GO01				IAmb	IAmb	07 31 49.4	
	comp=Z,10nm,1.4s						
MNMC	**Minye Minye**	**45.28**	**324**	P	**P**	**07 31 18.7**	**-0.8**
MNMC				IAmb	IAmb	07 31 25.3	
	comp=Z,6.8nm,0.7s						
LPAZ	**La Paz**	**47.57**	**327**	P	**P**	**07 31 36.8**	**-1.1**
LPAZ				IAmb	IAmb	07 32 36.1	
	comp=Z,10nm,1.9s						
SAML	**Samuel**	**53.46**	**335**	P	**P**	**07 32 20.8**	**-0.9**
SAML				IAmb	IAmb	07 32 33.6	
	comp=Z,11nm,1.7s						
TORD	**Torodi Ar. Bea**	**81.64**	**44**	P	**P**	**07 35 20.2**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=218,slow=4.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**81.64**	**44**	P	**P**	**07 35 20.3**	**+0.7**
TORD				IAmb	IAmb	07 35 21.8	
	comp=Z,2.0nm,1.1s						
ASAR	**Alice Springs**	**96.20**	**177**	P	**P**	**07 36 30.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=172,slow=4.1,SNR=4.8						
YKA	**Yellowknife Ar**	**134.02**	**322**	PKP	**PKiKP**	**07 42 18.7**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=137,slow=1.8,SNR=4.0						
MKAR	**Makanchi Array**	**146.05**	**89**	PKPbc	**PKPdf**	**07 42 39.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=226,slow=2.2,SNR=7.4						
IL31		**146.53**	**311**	PKPdf	**PKPbc**	**07 42 41.1**	**-0.2**
IL31				PKPbc	**PKPab**	**07 42 43.1**	**+0.8**
IL31				PKPab	**pPKPdf**	**07 42 44.3**	**+0.9**
ILAR	**Eielson Array**	**146.53**	**311**	PKPbc	**PKPdf**	**07 42 40.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=138,slow=1.4,SNR=5.8						
ILAR	**Eielson Array**	**146.53**	**311**	PKPdf	**PKPdf**	**07 42 40.8**	**+1.0**
KURBB	**Kurchatov Arra**	**146.74**	**81**	PKPbc	**PKPdf**	**07 42 41.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=235,slow=3.5,SNR=2.9						
KURK	**Kurchatov**	**146.85**	**80**		**PKPdf**	**07 42 41.0**	**+0.3**
KURK				PKPbc	**PKPab**	**07 42 43.9**	**-0.2**
KURK				PKPab	**PKiKP**	**07 42 45.5**	**+0.3**

*ISCJB **18** 07:33:56.7±0.1, 7°.44S±0°.02×128°.52E±0°.02, h151km, mb4.8/33, Error ellipse: s-maj=3.1km s-min=2.8km az=150.0*
*NEIC **18** 07:33:57.2±2.0, 7°.40S±0°.05×128°.48E±0°.05, h139km±4km, mb4.7/73*
*IDC **18** 07:33:59.1±1.4, 7°.33S×128°.46E, h150km±12km, mb4.3/19, mb1 4.3/22, mb1mx4.2/41, mbtmp4.8/22, MS2.9/4, Ms1 2.9/4, ms1mx2.7/34, Error ellipse: s-maj=12.2km s-min=8.4km az=83.0*
*DJA **18** 07:33:59.1±0.2, 8°.S±2°.×12°.9E±°, h155km±3km, M4.8/28, mB5.3/13, mb4.8/28, MLv5.0/12, Mw(mB)4.7/13*
ISC 18 07:33:58.3±0.3, 7°.50S±0°.04×128°.51E±0°.04, h151km, n216, σ1§40/235, mb4.7/63, 4C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.81**	**100**	P	**Pn**	**07 34 45.1**	**+1.9**
SAUI				S	**Sn**	**07 35 19.1**	**+1.1**
SAUI	**Saumlaki**	**2.81**	**100**	Pn	**Pn**	**07 34 44.5**	**+1.3**
SAUI				Sn	**Sn**	**07 35 15.7**	**-2.3**
BNDI	**Bandanaira**	**3.27**	**25**	P	**Pn**	**07 34 50.7**	**+1.6**
AAI	**Ambon**	**3.80**	**355**	P	Pn	07 35 09.1	+13
MSAI	**Masohi**	**4.14**	**6**	P	**Pn**	**07 35 02.5**	**+2.0**
NLAI	**Namlea**	**4.46**	**342**	P	**Pn**	**07 35 07.6**	**+3.0**
SOEI	**Soe**	**4.76**	**242**	P	**Pn**	**07 35 10.3**	**+1.7**
SOEI				S	**Sn**	**07 36 04.5**	**+1.0**
SOEI	**Soe**	**4.76**	**242**		**Pn**	**07 35 10.8**	**+2.2**
SOEI				Sn	**Sn**	**07 36 03.5**	**0.0**
BATI	**Baumata**	**5.49**	**240**	P	**Pn**	**07 35 20.4**	**+2.1**
	564nm,0.3s,baz=353,slow=1.1,SNR=176						
BATI				S	**Sn**	**07 36 22.4**	**+1.5**
	249nm,0.3s,baz=10,slow=6.5,SNR=9.3						
BATI				LR	LR	07 37 20.9	
	comp=Z,202nm,20.2s,baz=306,slow=36						
BATI	**Baumata**	**5.49**	**240**	P	**Pn**	**07 35 20.0**	**+1.7**
FAKI	**Fak Fak**	**5.88**	**39**	P	**Pn**	**07 35 23.9**	**+0.5**
FAKI	**Fak Fak**	**5.88**	**39**		**Pn**	**07 35 22.4**	**-1.1**
FAKI				Sn	**Sn**	**07 36 27.5**	**-2.5**
MTN	**Manton Dam**	**5.91**	**154**		**Pn**	**07 35 24.5**	**+0.7**
MTN				Sn	**Sn**	**07 36 28.8**	**-1.9**
SANI	**Sanana**	**5.97**	**335**	P	**Pn**	**07 35 26.5**	**+1.9**
MMRI	**Maumere**	**6.31**	**259**	P	**Pn**	**07 35 29.8**	**+0.6**
	265nm,0.8s,4μm1.1nm						
MMRI	**Maumere**	**6.31**	**259**		**Pn**	**07 35 30.4**	**+1.2**
MMRI				Sn	**Sn**	**07 36 39.5**	**-0.9**
SIJI	**Sorong**	**7.13**	**23**	P	**Pn**	**07 35 41.0**	**+0.8**
	17nm,0.3s,baz=228,slow=21,SNR=26						
SIJI				S	**Sn**	**07 36 56.9**	**-3.3**
	5.5nm,0.3s,baz=52,slow=19,SNR=4.3						
SWI	**Sorong**	**7.14**	**23**	P	**Pn**	**07 35 40.8**	**+0.6**
KNRA	**Kununurra**	**8.13**	**178**		**Pn**	**07 35 53.5**	**0.0**
KNRA				Sn	**Sn**	**07 37 19.8**	**-4.3**
RKPI	**Ransiki, Papua**	**8.20**	**44**	P	**Pn**	**07 35 54.5**	**+0.1**
	356nm,0.5s,7μm						
BASI	**Baing, Sumba**	**8.29**	**250**	P	**Pn**	**07 35 56.5**	**+0.9**
BKSI	**Bulukumba**	**8.61**	**284**	P	**Pn**	**07 36 02.2**	**+2.3**
KAPI	**Kappang**	**9.05**	**285**	LR	LR	07 39 29.4	
	comp=Z,48nm,18.3s,baz=124,slow=37						
WBSI	**Waikabubak, Su**	**9.27**	**256**	P	**Pn**	**07 36 09.1**	**+0.5**
SPSI	**Sidrap Palu**	**9.38**	**291**	P	**Pn**	**07 36 11.8**	**+1.7**
TTSI	**Tana Toraja**	**9.72**	**297**	P	**Pn**	**07 36 16.2**	**+1.6**
	17nm,1.2s						
MRSI	**Marisa**	**10.28**	**320**	P	**Pn**	**07 36 24.5**	**+2.5**
	10nm,0.8s,513nm						
PLAI	**Plampang**	**10.71**	**262**	P	**Pn**	**07 36 26.4**	**-1.3**
	103nm,0.8s,1μm						
FITZ	**Fitzroy Crossi**	**10.90**	**195**	P	**Pn**	**07 36 28.5**	**-1.7**
	11nm,0.3s,baz=21,slow=9.1,SNR=187						
FITZ				S	Sn	07 38 23.9	-6.9
	20nm,0.3s,baz=63,slow=18,SNR=7.8						
FITZ				LR	LR	07 40 53.3	
	comp=Z,47nm,18.5s,baz=330,slow=38						
FITZ	**Fitzroy Crossi**	**10.90**	**195**		**Pn**	**07 36 28.4**	**-1.7**
FITZ				Sn	**Sn**	**07 38 27.2**	**-3.6**
SMPI	**Sarmi**	**11.54**	**62**	P	P	07 36 54.0	+7.9
TWSI	**Taliwang, Sumb**	**11.58**	**263**	P	**Pn**	**07 36 38.5**	**-0.6**
MMPI	**Merauke**	**11.80**	**95**	P	**Pn**	**07 36 42.7**	**+0.7**
GENI	**Genyem**	**12.59**	**68**	P	**P**	**07 36 57.2**	**-0.5**
WRAB	**Tennant Creek**	**13.60**	**156**		**Pn**	**07 37 04.3**	**-0.8**
WRAB				Sn	Sn	07 39 26.4	-9.4
WRA	**Warramunga Arr**	**13.60**	**156**	P	**Pn**	**07 37 03.5**	**-1.7**
	1.5nm,0.3s,baz=336,slow=13,SNR=54						
WRA				S	Sn	07 39 26.8	-9.1
	8.6nm,0.3s,baz=336,slow=23,SNR=9.2						
WRA				LR	LR	07 43 03.7	
	comp=Z,50nm,18.8s,baz=95,slow=40						
WC3	**Warramunga Arr**	**13.63**	**156**	Pn	**Pn**	**07 37 04.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**14.25**	**265**	P	**P

CAN	**Canberra**	**33.47 149**	P	**P**	**07 40 23.4 +0.2**
CAN			IAmb	IAmb	07 40 30.8
comp=Z,18nm,1.2s					
TOO	**Toolangi**	**33.67 155**	P	**P**	**07 40 25.4 +0.5**
TOO			IAmb	IAmb	07 40 30.2
comp=Z,21nm,1.3s					
CHAI	**Chaiyaphum**	**35.08 312**	P	**P**	**07 40 38.3 +1.2**
comp=Z,27μm,0.8s					
UTHA	**Uthaitani**	**36.80 309**	P	**P**	**07 40 53.1 +1.3**
comp=Z,19μm,1.0s					
SLVN	**Son La**	**37.48 320**	P	**P**	**07 40 57.4 -0.1**
CMAR	**Chiang Mai Arr**	**38.94 312**	P	**P**	**07 41 10.1 +0.3**
comp=Z,3.3nm,0.6s,baz=143,slow=7.5,SNR=12					
CMAR			PcP	**PcP**	**07 43 18.9 +1.5**
comp=Z,1.9nm,0.6s,baz=178,slow=3.5,SNR=7.0					
CMMT	**Chiang Mai**	**39.16 312**	P	**P**	**07 41 12.6 +1.0**
comp=Z,5.2nm,1.0s					
CHTO	**Chiang Mai**	**39.16 312**	P	**P**	**07 41 10.0 -1.6**
WHN	**Wuhan**	**40.19 341**	⇓P	**P**	**07 41 20.8 +0.9**
WHN			pmax	pmax	
comp=Z,64nm,0.8s					
NJ2	**Nanjing**	**40.39 347**	*e*P	**P**	**07 41 21.8 +0.3**
NJ2			pmax	pmax	
comp=Z,30nm,0.9s					
KSAR	**Wonju Array Be**	**44.71 359**	P	**P**	**07 41 56.0 -0.3**
KSRS	**Korea Array**	**44.72 359**	P	**P**	**07 41 56.7 +0.4**
comp=Z,2.4nm,0.9s,baz=211,slow=26,SNR=4.1					
MJAR	**Matsushiro Arr**	**44.74 11**	P	**P**	**07 41 54.9 -1.7**
comp=Z,5.0nm,0.8s,baz=189,slow=9.7,SNR=8.8					
MJAR	**Matsushiro Arr**	**44.74 11**	P	**P**	**07 41 55.6 -1.0**
MAJO	**Matsushiro**	**44.74 11**	P	**P**	**07 41 54.8 -1.8**
MAJO			IAmb	IAmb	07 42 07.3
comp=Z,31nm,1.5s					
MJB9	**Matsu-Tunnel**	**44.74 11**	P	**P**	**07 41 55.3 -1.3**
MJB9			IAmb	IAmb	07 41 56.2
comp=Z,8.6nm,0.6s					
KS19	**Wonju Array Si**	**44.77 359**	P	**P**	**07 41 55.2 -1.6**
KS19			IAmb	IAmb	07 41 58.5
comp=Z,22nm,1.4s					
XAN	**Xi'an**	**45.29 337**	P	**P**	**07 42 00.3 -0.7**
XAN			pP	pP	07 42 24.0 -9.3
XAN			pmax	pmax	
comp=Z,34nm,0.9s					
XAN			pmax	pmax	
comp=Z,36nm,1.0s					
XAN			LR	LR	
comp=N,630nm,10.3s					
XAN			LR	LR	
comp=E,390nm,9.8s					
XAN			LR	LR	
comp=Z,440nm,9.8s					
XAN	**Xi'an**	**45.29 337**	P	**P**	**07 42 00.3 -0.7**
TIY	**Taiyuan**	**47.42 343**	*e*P	**P**	**07 42 17.6 0.0**
TIY			S	**S**	**07 48 58.5 -1.9**
TIY			pmax	pmax	
comp=Z,36nm,0.9s					
TIY			pmax	pmax	
comp=Z,120nm,4.1s					
BJT	**Baijiatuau**	**48.63 347**	P	**P**	**07 42 26.8 0.0**
BJI	**Beijing**	**48.65 347**	⇓*i*P	**P**	**07 42 26.8 -0.1**
BJI			pmax	pmax	
comp=Z,24nm,0.9s					
LZH	**Lanzhou**	**49.17 333**	⇑P	**P**	**07 42 31.8 +0.6**
LZH			pP	pP	07 43 06.6 +2.5
LZH			sP	sP	07 43 27.0 +6.6
LZH			PP	**PP**	**07 44 26.8 +0.3**
LZH			pmax	pmax	
comp=Z,23nm,1.3s					
LZH			pmax	pmax	
comp=Z,96nm,4.8s					
WHZ	**Wether Hill Ro**	**51.12 145**	P	**P**	**07 42 45.9 +0.3**
WHZ			IAmb	IAmb	07 42 50.5
comp=Z,16nm,1.2s					
QRZ	**Quartz Range**	**51.28 137**	P	**P**	**07 42 47.1 +0.3**
QRZ			IAmb	IAmb	07 42 49.8
comp=Z,24nm,1.4s					
USA0B	**Ussuriysk Arra**	**51.55 3**	P	**P**	**07 42 48.7 0.0**
USRK	**Ussuriysk Ar.**	**51.55 3**	P	**P**	**07 42 48.4 -0.3**
comp=Z,4.7nm,0.6s,baz=185,slow=7.0,SNR=20					
USRK	**Ussuriysk Ar.**	**51.55 3**	P	**P**	**07 42 47.6 -1.0**
RPZ	**Rata Peaks**	**51.76 141**	P	**P**	**07 42 52.7 +2.3**
RPZ			IAmb	IAmb	07 42 53.1
comp=Z,13nm,0.9s					
THZ	**Tophouse**	**51.97 138**	P	**P**	**07 42 53.4 +1.3**
THZ			IAmb	IAmb	07 42 59.6
comp=Z,21nm,1.4s					
NNZ	**Nelson**	**52.03 138**	P	**P**	**07 42 53.6 +1.2**
ODAN	**Odare**	**52.48 312**	*e*P	**P**	**07 42 55.9 -0.3**
comp=Z,20nm,0.5s					
TUWZ	**Tuamarina**	**52.51 138**	P	**P**	**07 42 57.0 +1.1**
TAPN	**Taplejung**	**52.53 313**	*e*P	**P**	**07 42 56.3 -0.3**
comp=Z,13nm,0.4s					
KHZ	**Kahutara**	**52.70 139**	P	**P**	**07 42 58.9 +1.6**
KHZ			IAmb	IAmb	07 42 59.4
comp=Z,11nm,0.9s					
MQZ	**McQueen's Vall**	**52.75 141**	P	**P**	**07 42 59.1 +1.4**
MQZ			IAmb	IAmb	07 43 16.8
comp=Z,13nm,1.2s					
SNZO	**South Karori**	**52.96 137**	P	**P**	**07 43 00.2 +0.9**
RAMN	**Ramite**	**53.11 312**	*e*P	**P**	**07 43 00.8 -0.1**
comp=Z,42nm,0.6s					
BHW	**Baring Head**	**53.12 137**	P	**P**	**07 43 01.1 +0.7**
BKZ	**Black Stump Fm**	**53.31 134**	P	**P**	**07 43 03.2 +1.2**
BKZ			IAmb	IAmb	07 43 04.0
comp=Z,7.2nm,0.9s					
MSWZ	**Moikau Station**	**53.38 137**	P	**P**	**07 43 03.1 +0.8**
URZ	**Urewera**	**53.41 133**	P	**P**	**07 43 03.4 +0.9**
URZ			IAmb	IAmb	07 43 21.3
comp=Z,13nm,1.5s					
PLWZ	**Palliser**	**53.45 137**	P	**P**	**07 43 03.6 +0.7**
GTA	**Gaotai**	**53.71 333**	⇑P	**P**	**07 43 05.3 +0.4**
GTA			pP	pwP	07 43 46.4 +3.4
GTA			sP	PcP	07 44 03.3 -5.8
GTA			pmax	pmax	
comp=Z,18nm,1.1s					
BFZ	**Birch Farm**	**53.75 136**	P	**P**	**07 43 05.5 +0.5**
BFZ			IAmb	IAmb	07 43 07.6
comp=Z,12nm,1.1s					
JIRN	**Jiri**	**53.81 312**	*e*P	**P**	**07 43 05.8 -0.3**
comp=Z,13nm,0.3s					
MXZ	**Matakaoa Point**	**54.03 131**	P	**P**	**07 43 05.6 -1.5**
GUN	**Gumba**	**54.18 312**	*e*P	**P**	**07 43 08.4 -0.3**
comp=Z,38nm,0.5s					
PKI	**Pulchoki**	**54.34 312**	*e*P	**P**	**07 43 09.2 -0.7**
comp=Z,17nm,0.5s					
PKIN	**Phulchoki**	**54.35 312**	*e*P	**P**	**07 43 09.1 -0.8**
comp=Z,8.6nm,0.4s					
KKN	**Kakani**	**54.55 312**	*e*P	**P**	**07 43 10.8 -0.5**
comp=Z,16nm,0.5s					
DMN	**Daman**	**54.58 312**	*e*P	**P**	**07 43 11.1 -0.5**
GKN	**Gorkha**	**55.15 312**	*e*P	**P**	**07 43 15.1 -0.4**
comp=Z,42nm,0.3s					
KOLN	**Koldanda**	**55.79 311**	*e*P	**P**	**07 43 19.9 -0.3**
comp=Z,43nm,0.7s					
DANN	**Dangsing**	**55.98 312**	*e*P	**P**	**07 43 21.1 -0.5**
comp=Z,18nm,0.5s					
ULN	**Ulaanbaatar**	**58.29 343**	P	**P**	**07 43 37.6 +0.3**
ULN			IAmb	IAmb	07 43 39.6
comp=Z,13nm,1.1s					
SONM	**Songino Array**	**58.46 343**	P	**P**	**07 43 38.9 +0.5**
comp=Z,5.0nm,0.5s,baz=165,slow=7.1,SNR=34					
SONM	**Songino Array**	**58.46 343**	P	**P**	**07 43 37.5 -0.9**
WMQ	**Urumqi**	**63.02 328**	*e*P	**P**	**07 44 10.0 +0.7**
WMQ			pmax	pmax	
comp=Z,18nm,0.7s					
WMQ			pmax	pmax	
comp=Z,130nm,6.5s					
PEA0B	**Petropavlovsk-**	**65.26 19**	P	**P**	**07 44 24.3 +0.7**
PETK	**Petropavlovsk-**	**65.26 19**	P	**P**	**07 44 23.8 +0.2**
comp=Z,19nm,0.7s,baz=170,slow=3.4,SNR=26					
PETK	**Petropavlovsk-**	**65.26 19**	P	**P**	**07 44 24.2 +0.6**
NIL	**Nilore**	**66.43 312**	P	**P**	**07 44 30.5 -1.0**
KSH	**Kashi**	**67.39 318**	P	**P**	**07 44 38.8 +1.1**
KSH			PP	**PP**	**07 47 11.6 +3.3**
KSH			S	**S**	**07 53 17.1 -4.4**
KSH			sS	SKiKP	07 54 24.3 +3.1
KSH	**Kashi**	**67.39 318**	SS	SS	07 57 43.3 -1.5
KSH			pmax	pmax	
comp=Z,20nm,0.7s					
KSH			pmax	pmax	
comp=Z,570nm,5.9s					
KSH			LR	LR	
comp=N,290nm,13.7s					
KSH			LR	LR	
comp=E,290nm,8.1s					
KSH			LR	LR	
comp=Z,140nm,11.6s					
PRZ	**Przheval'sk**	**67.47 322**	P	**P**	**07 44 36.3 -1.9**
MK31	**Makanchi Array**	**67.84 328**	P	**P**	**07 44 39.9 -0.3**
MK31			IAmb	IAmb	07 44 41.4
comp=Z,11nm,1.0s					
MKAR	**Makanchi Array**	**67.84 328**	P	**P**	**07 44 40.4 +0.2**
comp=Z,10nm,0.5s,baz=120,slow=6.3,SNR=82					
MKAR	**Makanchi Array**	**67.84 328**	P	**P**	**07 44 39.9 -0.3**
MAKZ	**Makanchi**	**68.02 327**	P	**P**	**07 44 41.1 -0.2**
MAKZ			IAmb	IAmb	07 44 42.4
comp=Z,9.8nm,0.9s					
KDJ	**Kajisay**	**68.02 321**	P	**P**	**07 44 41.3 -0.3**
NRN	**Naryn**	**68.39 320**	P	**P**	**07 44 42.4 -1.7**
BOOM	**Boomskoye usch**	**68.99 321**	P	**P**	**07 44 46.0 -1.7**
BOOM			IAmb	IAmb	07 44 49.0
comp=Z,6.3nm,0.8s					
YAK	**Yakutsk**	**69.33 1**	P	**P**	**07 44 48.5 -0.5**
comp=Z,7.0nm,0.3s,baz=198,slow=1.6,SNR=7.4					
YAK	**Yakutsk**	**69.33 1**	P	**P**	**07 44 48.7 -0.2**
TKM2	**Tokmak 2**	**69.44 321**	P	**P**	**07 44 51.2 +0.9**
SNR=6.3					
UCH	**Uchtor**	**69.75 320**	P	**P**	**07 44 53.9 +1.2**
SNR=6.2					
AAK	**Ala-Archa**	**69.97 321**	P	**P**	**07 44 53.5 -0.1**
comp=Z,4.1nm,0.7s,baz=94,slow=5.0,SNR=9.6					
AAK	**Ala-Archa**	**69.97 321**	P	**P**	**07 44 53.8 +0.1**
AAK			IAmb	IAmb	07 44 55.4
comp=Z,8.3nm,1.1s					
AML	**Almayashu**	**70.22 320**	P	**P**	**07 44 55.7 +0.3**
SNR=5.2					
USP	**Osinovka**	**70.30 321**	P	**P**	**07 44 56.0 +0.5**
SNR=13					
EKS2	**Erkin-Say**	**70.44 320**	P	**P**	**07 44 56.9 +0.5**
SNR=5.8					
GAR	**Garm**	**70.97 316**	P	**P**	**07 44 58.0 -1.8**
GAR			IAmb	IAmb	07 45 00.5
comp=Z,10nm,1.0s					
ZAA0	**Zalesovo Array**	**71.38 334**	P	**P**	**07 45 00.9 -0.8**
ZAA0			IAmb	IAmb	07 45 01.8
comp=Z,11nm,0.8s					
ZALV	**Zalesovo Beam**	**71.38 334**	P	**P**	**07 45 01.0 -0.7**
comp=Z,9.4nm,0.6s,baz=137,slow=6.0,SNR=29					
ZALV	**Zalesovo Beam**	**71.38 334**	P	**P**	**07 45 01.1 -0.5**
CHGR	**Chuyangaron**	**71.63 315**	P	**P**	**07 45 03.4 -0.2**
CHGR			IAmb	IAmb	07 45 04.4
comp=Z,25nm,1.4s					
KURBB	**Kurchatov Arra**	**72.17 329**	P	**P**	**07 45 06.5 +0.1**
comp=Z,14nm,0.7s,baz=129,slow=5.0,SNR=104					
KURK	**Kurchatov**	**72.18 329**	P	**P**	**07 45 06.3 -0.1**
SEY	**Seymchan**	**72.57 11**	P	**P**	**07 45 08.8 +0.2**
comp=Z,17nm,0.7s,baz=204,slow=5.7,SNR=14					
KK31	**Karatay Array**	**72.75 319**	P	**P**	**07 45 10.2 +0.1**
KKAR	**Karatay Array**	**72.75 319**	P	**P**	**07 45 10.7 +0.6**
KKAR	**Karatay Array**	**72.75 319**	P	**P**	**07 45 10.2 +0.1**
KKAR			IAmb	IAmb	07 45 11.7
comp=Z,9.1nm,1.2s					
SBA	**Scott Base**	**73.04 172**	P	**P**	**07 45 13.0 +1.8**
MAW	**Mawson**	**73.95 201**	P	**P**	**07 45 18.4 +1.8**
comp=Z,1.6nm,0.6s,baz=68,slow=19,SNR=5.2					
MAW	**Mawson**	**73.95 201**	P	**P**	**07 45 17.4 +0.8**
HRA	**Herat**	**75.10 308**	P	**P**	**07 45 23.1 -1.1**
SOCY	**Socotra**	**76.61 284**	P	**P**	**07 45 32.5 -0.5**
BRVK	**Borovoye**	**77.77 328**	P	**P**	**07 45 37.8 -0.8**
BRVK			IAmb	IAmb	07 45 40.0
comp=Z,14nm,1.1s					
TIXI	**Tiksi**	**78.98 0**	P	**P**	**07 45 43.8 -1.0**
comp=Z,6.2nm,0.7s,baz=180,slow=24,SNR=7.9					
TIXI	**Tiksi**	**78.98 0**	P	**P**	**07 45 43.2 -1.6**
GEYT	**Alibeck**	**79.41 311**	P	**P**	**07 45 48.5 +0.6**
PPT2	**Papeete2**	**80.10 107**	*e*LR	LR	07 45 52.8
comp=Z,74nm,22.0s					
NRIK	**Noril'sk**	**81.69 346**	P	**P**	**07 45 59.4 +0.1**
comp=Z,14nm,1.0s,baz=132,slow=5.7,SNR=15					
ABKAR	**Akbulak array**	**81.98 322**	P	**P**	**07 46 00.9 -0.4**
ABKAR	**Akbulak array**	**81.98 322**	P	**P**	**07 46 00.6 -0.7**
ABKAR			IAmb	IAmb	07 46 04.0
comp=Z,6.9nm,0.9s					
QSPA	**South Pole Qui**	**82.48 180**	P	**P**	**07 46 04.2 +0.4**
QSPA			IAmb	IAmb	07 46 05.2
comp=Z,6.2nm,0.6s					
SYO	**Syowa Base**	**82.67 201**	⇓*e*P	**P**	**07 46 04.2 -0.3**
SYO	**Syowa Base**	**82.67 201**	⇑*e*PcP	**PcP**	**07 46 10.0 +0.9**
AKTO	**Aktyubinsk**	**83.56 323**	P	**P**	**07 46 09.3 -0.1**
comp=Z,6.9nm,0.7s,baz=111,slow=6.0,SNR=18					
GAMB	**Gambell**	**83.94 23**	P	**P**	**07 46 10.8 -0.2**
ARU	**Arti**	**85.35 328**	P	**P**	**07 46 17.9 -0.4**
comp=Z,3.0nm,0.2s,baz=132,slow=3.6,SNR=9.1					
ARU	**Arti**	**85.35 328**	P	**P**	**07 46 16.2 -2.0**
RND	**Reindeer**	**93.36 27**	P	**P**	**07 46 54.7 -1.3**
CCB	**Clear Creek Bu**	**94.02 25**	P	**P**	**07 46 57.8 -1.1**
CCB			IAmb	IAmb	07 46 58.3
comp=Z,7.5nm,1.0s					
ILAR	**Eielson Array**	**94.42 25**	P	**P**	**07 46 58.8 -2.0**
comp=Z,1.5nm,1.0s,baz=276,slow=4.5,SNR=10					
ILAR	**Eielson Array**	**94.42 25**	P	**P**	**07 46 58.3 -2.4**
BMAR	**Burnt Mountain**	**95.68 23**	P	**P**	**07 47 05.9 -0.6**
BCAR	**Beaver Creek A**	**96.49 27**	P	**P**	**07 47 09.1 -1.1**
ARCES	**ARCESS Array B**	**101.53 340**	P	**Pdif**	**07 47 30.7 -1.9**
comp=Z,7.0nm,1.1s,baz=73,slow=6.7,SNR=4.3					
ARCES			PKiKP	**PKiKP**	**07 51 55.3 -0.3**
comp=Z,1.3nm,0.8s,baz=101,slow=0.8,SNR=7.5					
ARCES	**ARCESS Array B**	**101.53 340**		**Pdif**	**07 47 30.5 -2.1**
GERES	**GERESS Array B**	**111.85 320**	PKiKP	**PKiKP**	**07 52 15.2 -0.3**
comp=Z,1.1nm,0.5s,baz=77,slow=2.1,SNR=8.6					
GERES	**GERESS Array B**	**111.85 320**		**PKiKP**	**07 52 14.8 -0.7**
SNOW	**Snow King Moun**	**117.25 45**		**PKiKP**	**07 52 27.3 +1.0**
PDAR	**Pinedale Array**	**118.29 45**	PKP	**PKPdf**	**07 52 28.6 +0.3**
comp=Z,0.8nm,0.7s,baz=286,slow=1.1,SNR=6.5					
PDAR	**Pinedale Array**	**118.29 45**		**PKPdf**	**07 52 28.1 -0.2**
O20A	**White River Ci**	**120.00 48**		**PKiKP**	**07 52 32.5 +0.8**
ANMO	**Albuquerque**	**122.79 53**		**PKiKP**	**07 52 38.2 +1.0**
MNTX	**Cornudas Mount**	**124.46 57**		**PKiKP**	**07 52 41.2 +0.7**
TXAR	**Lajitas Array**	**126.45 59**	PKP	**PKiKP**	**07 52 45.0 +0.5**
comp=Z,0.6nm,0.4s,baz=182,slow=2.7,SNR=19					
TXAR	**Lajitas Array**	**126.45 59**		**PKPdf**	**07 52 44.2 +0.1**
TORD	**Torodi Ar. Bea**	**127.45 281**	PKP	**PKPdf**	**07 52 46.1 -0.1**
comp=Z,2.4nm,0.7s,baz=80,slow=1.9,SNR=12					
PLCA	**Paso Flores**	**128.90 161**	PKP	**PKiKP**	**07 52 49.9 +0.7**
comp=Z,2.0nm,0.9s,baz=36,slow=6.3,SNR=3.4					
PLCA	**Paso Flores**	**128.90 161**	PKPdf	**PKiKP**	**07 52 50.0 +0.8**
JCT	**Junction City**	**129.40 57**		**PKPdf**	**07 52 50.4 +0.7**
DBIC	**Dimbokro**	**133.73 272**	PKP	**PKPdf**	**07 52 59.3 +1.1**
comp=Z,2.5nm,0.7s,baz=161,slow=2.7,SNR=4.4					
DBIC	**Dimbokro**	**133.73 272**		**PKPdf**	**07 52 58.9 +0.7**
CFA	**Coronel Fontan**	**137.95 158**	PKP	**PKPdf**	**07 53 06.8 +1.1**
comp=Z,2.8nm,0.4s,baz=272,slow=4.6,SNR=7.5					
LVC	**Limon Verde**	**145.56 151**	PKPbc	**PKPab**	**07 53 21.8 +1.1**
comp=Z,3.7nm,0.5s,baz=216,slow=2.0,SNR=11					
CPUP	**Villa Florida**	**145.90 171**	PKPbc	**PKPbc**	**07 53 21.7 +0.9**
comp=Z,3.2nm,0.5s,baz=207,slow=2.1,SNR=16					
CPUP	**Villa Florida**	**145.90 171**		**PKPdf**	**07 53 20.5 +0.6**
JTS	**Las Juntas de**	**146.83 83**	PKPbc	**PKPbc**	**07 53 24.9 +1.0**
GO01	**Chusmiza**	**147.86 147**		**PKPbc**	**07 53 28.6 +1.6**
NNA	**Nana**	**148.22 127**	PKPbc	**PKPbc**	**07 53 28.1 +0.5**
comp=Z,5.6nm,0.4s,baz=242,slow=6.1,SNR=4.9					
NNA	**Nana**	**148.22 127**		**PKPbc**	**07 53 28.7 +1.1**
ATAH	**Atahualpa**	**149.48 118**	PKPbc	**PKiKP**	**07 53 33.6 +1.3**
comp=Z,7.1nm,0.6s,baz=336,slow=12,SNR=5.6					
LPAZ	**La Paz**	**151.19 145**	PKPbc	**PKiKP**	**07 53 36.8 +0.7**
comp=Z,3.5nm,0.4s,baz=26,slow=3.0,SNR=44					
LPAZ			PKPab	**PKPab**	**07 53 45.7 +2.0**
comp=Z,6.0nm,0.6s,baz=184,slow=4.6,SNR=18					
LPAZ	**La Paz**	**151.19 145**		**PKiKP**	**07 53 36.8 +0.7**
LPAZ				**PKPab**	**07 53 45.2 +1.5**
SIV	**San Ignacio**	**154.81 158**	PKP	**PKPdf**	**07 53 35.7 +1.7**
comp=Z,1.0nm,0.8s,baz=226,slow=1.3,SNR=5.7					
SIV			PKPbc	**PKPbc**	**07 53 43.6 +0.8**
comp=Z,1.1nm,0.7s,baz=227,slow=1.1,SNR=5.8					
SIV			PKPab	**PKPab**	**07 53 59.4 +1.3**
comp=Z,2.6nm,0.6s,baz=229,slow=4.8,SNR=16					

*SJA **18** 07:34:44.2±0.6, 33°.71S×70°.23W, h100km±17km, ML2.0, MW2.5*

*ISCJB **18** 07:34:45.7±1.4, 33°.62S±0°.08×70°.3W±0°.1, h119km±9km, Error ellipse: s-maj=14.8km s-min=12.5km az=161.2*

*GUC **18** 07:34:47.7±0.5, 33°.41S×70°.10W, h108km±3km, ML2.7*

ISC 18 07:34:46.5±3.0,**33°.6S**±0°.1×**70°.23W**±0°.10,**h113**km±18km,
n12,σ0°.**71/18**,**2C**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.23**	**174**	*e*P	**Pn**	**07 35 03.5**	**+0.8**
LMEL				*i* S	**Sn**	**07 35 15.6**	**+0.8**
LMEL				IAML		07 35 19.1	
comp=N,174nm,0.2s							
FCH	**Farellones**	**0.29**	**351**	⇑*e*P	**Pn**	**07 35 03.1**	**0.0**
FCH				*i* S	**Sn**	**07 35 14.7**	**-0.8**
FCH				IAML		07 35 15.1	
comp=E,413nm,0.2s							
PEL	**Peldehue**	**0.60**	**321**	*e*P	**Pn**	**07 35 04.4**	**-0.1**
PEL				*i* S	**Sn**	**07 35 17.2**	**-0.9**
PEL				IAML		07 35 18.7	
comp=N,397nm,0.4s							
ROCH	**El Roble**	**0.92**	**314**	⇑*i*P	**Pn**	**07 35 07.7**	**+0.3**
ROCH				*i* S	**Sn**	**07 35 22.1**	**-1.0**
ROCH				IAML		07 35 23.4	
comp=N,207nm,0.3s							
RTLS	**Leoncito**	**1.98**	**24**	*i* P	**Pn**	**07 35 19.4**	**-0.3**
RTLS				*e*S	**Sn**	**07 35 45.8**	**+0.8**
RTLS				IAML		07 35 47.8	
comp=Z,8.2nm,0.4s							
CFA	**Coronel Fontan**	**2.62**	**41**	*i* P	**Pn**	**07 35 27.4**	**-0.2**
ACAN	**Cantantal**	**2.89**	**63**	*i* P	**Pn**	**07 35 31.0**	**-0.2**
AMOG	**MOGNA**	**3.05**	**29**	*i* P	**Pn**	**07 35 33.7**	**+0.4**
ACCO	**Cerro Coronel**	**3.18**	**18**	*i* P	**Pn**	**07 35 35.7**	**+0.4**
ACCO				*e*S	**Sn**	**07 36 13.7**	**+0.8**
GO04	**Tololo Observa**	**3.47**	**352**	*i* P	**Pn**	**07 35 39.0**	**-0.1**
ACDV	**Cuesta del Vie**	**3.56**	**16**	*i* P	**Pn**	**07 35 40.9**	**+0.6**
MRA	**San Martin**	**3.98**	**74**	⇑*i*P	**Pn**	**07 35 44.7**	**-1.0**

*IDC **18** 07:43:43.9±0.7, 35°.48N×88°.13E, h0km, mb4.0/13, mb1 4.1/19, mb1mx3.9/60, mbtmp4.0/19, ML3.7/6, MS4.0/31, Ms1 4.0/31, ms1mx3.9/41, Error ellipse: s-maj=21.7km s-min=13.3km az=51.0*

*ISCJB **18** 07:43:47.3±0.2, 35°.65N±0°.03×88°.05E±0°.04, h33km, mb3.9/15, MS4.0/29, Error ellipse: s-maj=4.8km s-min=3.6km az=152.5*

*BJI **18** 07:43:47.8±0.0, 35°.90N×88°.25E, h10km, mb4.5/22, mB4.8/18, ML4.1/7, Ms4.5/28, Ms7 4.3/27*

*NEIC **18** 07:43:49.2±2.1, 35°.63N±0°.08×88°.0E±0°.1, h32km±3km, mb4.6/29*

*GCMT **18** 07:43:49.2±0.3, 35°.62N±0°.02×88°.18E±0°.02, h28km±1km, MW4.9/87, Moment Tensor Solution. s25,c26; s87,c113; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.36±.15; $M_{\theta\theta}$-2.68±.11; $M_{\phi\phi}$3.04±.11; $M_{r\theta}$0.06±.20; $M_{\theta\phi}$-0.36±.09; $M_{\phi r}$-0.21±.19; Best double couple: $M_0$2.89000×10^16 NP1:ϕ_s131.00000°, δ88.00000°, λ177.00000°. NP2: ϕ_s222.00000°, δ87.00000°, λ2.00000°. Principal axes: T 3.0760, Plg4.0000°, Azm86.0000°; N -0.3720, Plg86.0000°, Azm285.0000°; P -2.7030, Plg1.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 07:43:49.6±0.4,**35°.65N**±0°.05×**88°.13E**±0°.04,**h35**km,**n111**,
σ1°.**80/98**,**mb4.2**/25,**MS4.1**/29,**1C**,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.46**	**156**	Pn	**Pn**	**07 45 25.8**	**+3.2**
LSA				smax	smax		
comp=N,88nm,0.7s							
LSA				smax	smax		
comp=E,57nm,0.8s							
LSA	**Lhasa**	**6.46**	**156**	Pn	**Pn**	**07 45 24.8**	**+2.2**
GUN	**Gumba**	**7.95**	**195**	*e*P	**Pn**	**07 45 43.2**	**+0.1**
JIRN	**Jiri**	**8.14**	**192**	*e*P	**Pn**	**07 45 46.6**	**+1.0**
WMQ	**Urumqi**	**8.16**	**358**	*e*P	**Pn**	**07 45 49.5**	**+3.9**
WMQ				S	**Sn**	**07 47 14.3**	**-2.4**
WMQ				smax	smax		
comp=N,56nm,1.3s							
WMQ				smax	smax		
comp=E,48nm,1.3s							
WMQ				LR	LR		
comp=N,1μm,9.1s							
WMQ				LR	LR		
comp=E,990nm,10.5s							
WMQ				LR	LR		
comp=Z,820nm,10.9s							
WMQ	**Urumqi**	**8.16**	**358**	Pn	**Pn**	**07 45 46.9**	**+1.3**
DANN	**Dangsing**	**8.17**	**208**	*e*P	**Pn**	**07 45 45.7**	**-0.3**
27nm,0.7s							
GKN	**Gorkha**	**8.19**	**202**	*e*P	**Pn**	**07 45 46.1**	**0.0**
TAPN	**Taplejung**	**8.29**	**183**	*e*P	**Pn**	**07 45 46.9**	**-0.7**
54nm,0.7s							
PKI	**Pulchoki**	**8.38**	**197**	*e*P	**Pn**	**07 45 49.3**	**+0.3**
DMN	**Daman**	**8.42**	**199**	*e*P	**Pn**	**07 45 50.1**	**+0.7**
20nm,0.8s							
KOLN	**Koldanda**	**8.76**	**207**	*e*P	**Pn**	**07 45 53.7**	**-0.2**
RAMN	**Ramite**	**8.78**	**189**	*e*P	**Pn**	**07 45 52.8**	**-1.4**
20nm,0.7s							
ODAN	**Odare**	**8.79**	**184**	*e*P	**Pn**	**07 45 52.6**	**-1.8**
50nm,0.7s							
GTA	**Gaotai**	**10.01**	**65**	*e*P	**Pn**	**07 46 10.8**	**-0.2**
GTA				pP		07 46 15.8	
GTA				sP		07 46 18.1	
GTA				S	**Sn**	**07 48 01.0**	**-1.0**
GTA				sS		07 48 07.3	
GTA				pmax	pmax		
comp=Z,3.0nm,0.7s							
GTA				pmax	pmax		
comp=Z,130nm,6.2s							
GTA				LR	LR		
comp=N,3μm,14.3s							
GTA				LR	LR		
comp=E,1μm,14.3s							
GTA				LR	LR		
comp=Z,2μm,17.1s							
PRZ	**Przheval'sk**	**10.18**	**315**	Pn	**Pn**	**07

SIMRM	**Sittwe**	**16.02**	**164**	Pn	**Pn**	**07 47 32.8**	**+0.6**
SIMRM				IAmb	IAmb	07 47 33.2	
	comp=Z,12nm,0.4s						
KMI	**Kunming**	**16.38**	**126**	P	**P**	**07 47 38.6**	**-1.0**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
KMI				LR	LR		
	comp=Z,2μm,15.1s						
KMI				LR	LR		
	comp=Z,2μm,15.7s						
KMI				LR	LR		
	comp=Z,840nm,10.9s						
KURBB	**Kurchatov Arra**	**16.50**	**338**	Pn	**Pn**	**07 47 35.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=15						
KURK	**Kurchatov**	**16.55**	**338**	Pn	**Pn**	**07 47 37.2**	**-1.7**
SONM	**Songino Array**	**18.22**	**42**	P	**P**	**07 48 00.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=4.9						
SONM				Lg	Lg	07 53 28.6	
	baz=234,slow=27,SNR=6.7						
GYA	**Guiyang**	**18.31**	**115⇑**	*i*P	**P**	**07 47 58.3**	**-2.5**
GYA				pP	Pn	07 48 05.6	+4.6
GYA				PP	**sP**	**07 48 16.8**	**+0.4**
GYA				S	**Sn**	**07 51 22.3**	**-2.2**
GYA				SS	**SnSn**	**07 51 43.6**	**+5.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.8s						
GYA				LR	LR		
	comp=N,1μm,10.3s						
GYA				LR	LR		
	comp=E,1μm,13.0s						
GYA				LR	LR		
	comp=Z,770nm,10.5s						
ZAA0	**Zalesovo Array**	**18.44**	**354**	P	**P**	**07 48 01.0**	**-0.9**
ZAA0				IAmb	IAmb	07 48 05.5	
	comp=Z,25nm,1.6s						
ZALV	**Zalesovo Beam**	**18.44**	**354**	P	**P**	**07 48 01.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=172,slow=11,SNR=11						
ZALV				LR	LR	07 56 06.3	
	comp=Z,906nm,19.2s,baz=148,slow=40						
ZALV	**Zalesovo Beam**	**18.44**	**354**	P	**P**	**07 48 00.8**	**-1.1**
HHC	**Hu-ho-hao-te**	**19.10**	**67**	*e*P	**Pn**	**07 48 10.6**	**+0.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**19.31**	**147**	P	**P**	**07 48 11.4**	**-0.3**
TLY	**Talaya**	**19.49**	**30**	LR	LR	07 56 15.6	
	comp=Z,508nm,18.3s,baz=219,slow=38						
CMAR	**Chiang Mai Arr**	**19.62**	**148**	P	**P**	**07 48 13.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=325,slow=10.0,SNR=7.2						
HRA	**Herat**	**21.23**	**274**	P	**P**	**07 48 30.1**	**-2.5**
BVAR	**Borovoye Array**	**21.41**	**330**	P	**P**	**07 48 34.3**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=144,slow=11,SNR=8.3						
BRVK	**Borovoye**	**21.48**	**330**	P	**P**	**07 48 33.6**	**-1.3**
BRVK				IAmb	IAmb	07 48 50.2	
	comp=Z,21nm,1.4s						
WHN	**Wuhan**	**22.52**	**96**	P	**P**	**07 48 46.4**	**+0.1**
BJI	**Beijing**	**22.53**	**70**	*e*P	**P**	**07 48 40.4**	**-6.0**
BJI				S	**S**	**07 52 51.1**	**-0.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.9s						
BJI				LR	LR		
	comp=N,1μm,19.6s						
BJI				LR	LR		
	comp=E,550nm,14.3s						
BJI				LR	LR		
	comp=Z,500nm,22.7s						
GEYT	**Alibeck**	**24.10**	**284**	LR	LR	08 00 17.7	
	comp=Z,511nm,20.1s,baz=40,slow=41						
ABKAR	**Akbulak array**	**24.67**	**312**	P	**P**	**07 49 07.9**	**+0.8**
ABKAR	**Akbulak array**	**24.67**	**312**	P	**P**	**07 49 07.3**	**+0.3**
ABKAR				IAmb	IAmb	07 49 11.3	
	comp=Z,7.7nm,1.2s						
QIZ	**Qiongzhong**	**25.33**	**125**	P	**P**	**07 49 13.5**	**+0.3**
QIZ				S	**S**	**07 53 42.0**	**+4.8**
QIZ				LR	LR		
	comp=Z,860nm,11.8s						
QIZ				LR	LR		
	comp=Z,820nm,15.2s						
QIZ				LR	LR		
	comp=Z,680nm,14.1s						
UBPT	**Khong Chiam**	**25.55**	**138**	P	**P**	**07 49 16.8**	**+1.6**
UBPT				IAmb	IAmb	07 49 24.6	
	comp=Z,89nm,1.8s						
NJ2	**Nanjing**	**25.71**	**89**	*e*P	**P**	**07 49 16.1**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,18nm,1.2s						
AKTO	**Aktyubinsk**	**26.28**	**314**	P	**P**	**07 49 22.6**	**+1.0**
	comp=Z,4.2nm,0.6s,baz=99,slow=13,SNR=11						
AKTO				LR	LR	08 01 00.0	
	comp=Z,723nm,18.1s,baz=119,slow=39						
ARU	**Arti**	**28.83**	**325**	LR	LR	08 02 27.5	
	comp=Z,415nm,18.5s,baz=118,slow=39						
KSRS	**Korea Array**	**31.85**	**75**	LR	LR	08 04 47.7	
	comp=Z,194nm,19.8s,baz=294,slow=40						
NRIK	**Noril'sk**	**33.74**	**360**	P	**P**	**07 50 27.6**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=166,slow=5.9,SNR=4.2						
KIRV	**Kirov**	**34.19**	**324**	LR	LR	08 06 12.0	
	comp=Z,328nm,19.4s,baz=192,slow=39						
GNI	**Garni**	**34.28**	**291**	LR	LR	08 08 46.7	
	comp=Z,120nm,18.2s,baz=94,slow=44						
KBZ	**Khabaz**	**35.37**	**297**	LR	LR	08 07 53.6	
	comp=Z,326nm,18.2s,baz=76,slow=41						
KVAR	**Kislovodsk Arr**	**35.50**	**298**	LR	LR	08 07 42.2	
	comp=Z,334nm,18.1s,baz=248,slow=40						
YAK	**Yakutsk**	**36.95**	**31**	LR	LR	08 07 09.4	
	comp=Z,837nm,21.9s,baz=152,slow=38						
MJAR	**Matsushiro Arr**	**40.10**	**74**	LR	LR	08 09 02.7	
	comp=Z,156nm,20.9s,baz=280,slow=38						
ASAJ	**Asahikawa**	**41.97**	**61**	LR	LR	08 09 48.0	
	comp=Z,128nm,19.1s,baz=254,slow=37						
BR131	**Keskin Array S**	**42.76**	**292**	P	**P**	**07 51 43.2**	**-0.6**
BR131				IAmb	IAmb	07 52 37.0	
	comp=Z,11nm,1.9s						
BRTR	**Keskin Array B**	**42.76**	**292**	P	**P**	**07 51 43.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=74,slow=6.2,SNR=4.5						
MMAI	**Mount Meron Ar**	**43.19**	**282**	LR	LR	08 13 07.9	
	comp=Z,128nm,19.7s,baz=60,slow=41						
AKASG	**Malin Array Be**	**44.33**	**309**	P	**P**	**07 51 56.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=77,slow=7.7,SNR=5.7						
AKASG				LR	LR	08 14 11.0	
	comp=Z,317nm,18.8s,baz=80,slow=41						
AKASG	**Malin Array Be**	**44.33**	**309**	P	**P**	**07 51 55.1**	**-1.0**
BURAR	**Bucovina Array**	**47.30**	**305**	P	**P**	**07 52 20.5**	**+0.8**
BUR08	**Bucovina Ar. S**	**47.30**	**305**	P	**P**	**07 52 20.6**	**+0.8**
BUR08				IAmb	IAmb	07 53 56.6	
	comp=Z,11nm,1.8s						
SEY	**Seymchan**	**47.32**	**34**	P	**P**	**07 52 20.8**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=230,slow=11,SNR=5.5						
ARCES	**ARCESS Array B**	**47.55**	**335**	P	**P**	**07 52 22.4**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=102,slow=7.5,SNR=9.8						
ARCES				LR	LR	08 14 39.0	
	comp=Z,330nm,18.1s,baz=102,slow=39						
ARCES	**ARCESS Array B**	**47.55**	**335**	P	**P**	**07 52 22.5**	**+1.3**
ARE0	**ARCESS Array S**	**47.55**	**335**	P	**P**	**07 52 22.9**	**+1.7**
ARE0				IAmb	IAmb	07 52 39.0	
	comp=Z,7.6nm,1.8s						
PETK	**Petropavlovsk-**	**50.62**	**47**	LR	LR	08 15 25.9	
	comp=Z,288nm,19.0s,baz=262,slow=38						
FNA	**Florina**	**51.56**	**297**	P	**P**	**07 52 50.6**	**-1.6**
FNA				IAmb	IAmb	07 54 26.8	
	comp=Z,12nm,1.0s						
NOA	**NORSAR Array B**	**53.37**	**324**	P	**P**	**07 53 05.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=82,slow=7.4,SNR=3.2						
NOA				LR	LR	08 16 57.7	
	comp=Z,183nm,18.4s,baz=95,slow=37						
NC204	**NORSAR Array S**	**53.55**	**324**	P	**P**	**07 53 07.8**	**+1.1**
GERES	**GERESS Array B**	**54.55**	**309**	P	**P**	**07 53 15.6**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=72,slow=4.3,SNR=4.7						
GERES				LR	LR	08 19 34.0	
	comp=Z,195nm,19.5s,baz=82,slow=39						
GERES	**GERESS Array B**	**54.55**	**309**	P	**P**	**07 53 13.8**	**-0.3**
GUMO	**Guam**	**55.26**	**98**	LR	LR	08 15 46.8	
	comp=Z,47nm,20.9s,baz=291,slow=35						
KEST	**Kesra**	**62.21**	**296**	LR	LR	08 26 17.0	
	comp=Z,75nm,20.1s,baz=288,slow=41						
TOLK	**Toolik Lake Re**	**67.63**	**20**	P	**P**	**07 54 43.1**	**+0.6**
TOLK				IAmb	IAmb	07 56 13.7	
	comp=Z,30nm,1.9s						
IMAR	**Indian Mountai**	**68.14**	**23**	P	**P**	**07 54 46.5**	**+0.8**
ESDC	**Sonseca Array**	**69.76**	**305**	LR	LR	08 30 07.1	
	comp=Z,92nm,18.1s,baz=120,slow=40						
BMAR	**Burnt Mountain**	**69.83**	**19**	P	**P**	**07 54 57.1**	**+0.9**
WRA	**Warramunga Arr**	**70.52**	**134**	P	**P**	**07 54 59.4**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=327,slow=6.2,SNR=11						
WRA	**Warramunga Arr**	**70.52**	**134**	P	**P**	**07 54 59.3**	**-1.7**
WRAB	**Tennant Creek**	**70.52**	**134**	P	**P**	**07 55 00.9**	**-0.1**
WB2	**Warramunga Arr**	**70.53**	**134**	P	**P**	**07 55 01.5**	**+0.4**
PPLA	**Purkeypile**	**70.66**	**25**	P	**P**	**07 55 02.0**	**+0.5**
IL31		**71.08**	**22**	P	**P**	**07 55 03.6**	**-0.1**
IL31				IAmb	IAmb	07 56 28.8	
	comp=Z,13nm,1.8s						
ILAR	**Eielson Array**	**71.08**	**22**	P	**P**	**07 55 03.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=326,slow=4.0,SNR=6.1						
ILAR	**Eielson Array**	**71.08**	**22**	P	**P**	**07 55 04.5**	**+0.6**
ILULI	**Ilulissat**	**71.22**	**346**	P	**P**	**07 55 04.7**	**+0.1**
RIDG	**Independent Ri**	**72.45**	**22**	P	**P**	**07 55 12.1**	**-0.1**
RIDG				IAmb	IAmb	07 55 26.4	
	comp=Z,40nm,1.9s						
SCRK	**Sand Creek**	**72.53**	**21**	P	**P**	**07 55 13.1**	**+0.4**
SCRK				IAmb	IAmb	07 56 06.3	
	comp=Z,21nm,2.0s						
SCM	**Sheep Creek Mo**	**73.04**	**24**	P	**P**	**07 55 16.4**	**+0.7**
ASAR	**Alice Springs**	**73.19**	**137**	P	**P**	**07 55 16.6**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=330,slow=5.8,SNR=8.2						
ASAR				LR	LR	08 31 09.1	
	comp=Z,40nm,20.9s,baz=319,slow=39						
ASAR	**Alice Springs**	**73.19**	**137**	P	**P**	**07 55 16.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**79.60**	**279**	P	**P**	**07 55 52.6**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=52,slow=5.1,SNR=2.8						
TORD				LR	LR	08 35 04.3	
	comp=Z,59nm,18.8s,baz=30,slow=39						
TORD	**Torodi Ar. Bea**	**79.60**	**279**	P	**P**	**07 55 52.7**	**-1.0**
YKA	**Yellowknife Ar**	**80.49**	**10**	LR	LR	08 36 27.6	
	comp=Z,10nm,18.4s,baz=22,slow=39						
STKA	**Stephens Creek**	**83.83**	**137**	LR	LR	08 37 59.3	
	comp=Z,31nm,18.8s,baz=1.7,slow=39						
BOSA	**Boshof**	**87.14**	**232**	LR	LR	08 33 48.3	
	comp=Z,28nm,18.2s,baz=38,slow=34						
SCHQ	**Schefferville**	**87.34**	**346**	LR	LR	08 39 52.9	
	comp=Z,58nm,18.1s,baz=1.5,slow=38						
DBIC	**Dimbokro**	**88.58**	**277**	LR	LR	08 40 34.9	
	comp=Z,99nm,19.5s,baz=37,slow=38						

ISCJB ***18*** *07:53:48.5±0.6,26°.27S±0°.04×27°.94E±0°.03,h17km±4km, mb4.0/3,Error ellipse: s-maj=6.4km s-min=5.0km az=168.9*

NEIC ***18*** *07:53:48.4±2.7,26°.22S±0°.06×28°.0E±0°.1,h5km±1km, mb4.3/7*

PRE ***18*** *07:53:48.9±1.4,26°.30S×27°.91E,h2km,ML3.4*

IDC ***18*** *07:53:49.0±1.3,26°.21S×27°.80E,h0km,mb4.0/3, mb1 4.3/8,mb1mx3.9/51,mbtmp4.2/8,ML4.5/4,MS2.9/1, Ms1 2.9/1,ms1mx2.4/30,Error ellipse: s-maj=19.0km s-min=14.6km az=81.0*

ISC 18 07:53:49.0±1.0,26°.24S±0°.04×27°.92E±0°.03,h13km±6km, n37,σ2=03/56,mb4.3/6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.30**	**248**	*e*P	**Pg**	**07 53 55.2**	**-0.1**
KLOF				*e*S	**Sg**	**07 53 58.3**	**-1.2**
KLOF				AML	AML	07 53 59.7	
	comp=Z,7μm,0.5s						
ERPM	**east rand prop**	**0.31**	**110**	*e*P	**Pg**	**07 53 55.3**	**0.0**
ERPM				*e*S	**Sg**	**07 53 58.6**	**-1.0**
ERPM				AML	AML	07 54 02.6	
	comp=Z,6μm,0.6s						
WDLM	**Western Deep L**	**0.49**	**247**	*e*P	**Pg**	**07 53 57.8**	**-0.8**
WDLM				*e*S	**Sg**	**07 54 04.1**	**-1.1**
WDLM				AML	AML	07 54 05.2	
	comp=Z,2μm,0.3s						
PRYS	**Parys**	**0.85**	**216**	*e*P	**Pg**	**07 54 05.5**	**0.0**
PRYS				*e*S	**Sg**	**07 54 14.8**	**-1.9**
PRYS				AML	AML	07 54 22.7	
	comp=Z,1μm,0.3s						
KSR	**Koster**	**1.00**	**292**	*e*P	**Pg**	**07 54 07.8**	**-0.5**
KSR				*e*S	**Sb**	**07 54 21.8**	**+0.3**
KSR				AML	AML	07 54 39.0	
	comp=Z,129nm,0.3s						
LBTB	**Lobatse**	**2.43**	**300**	Pn	**Pn**	**07 54 30.7**	**+2.1**
	comp=Z,43nm,0.3s,baz=122,slow=15,SNR=279						
LBTB				Lg	Lg	07 55 02.4	
	comp=Z,76nm,0.3s,baz=30,slow=18,SNR=29						
LBTB	**Lobatse**	**2.43**	**300**	*e*P	**Pn**	**07 54 30.5**	**+2.0**
LBTB				*e*S	**Sn**	**07 55 01.3**	**+3.1**
LBTB				AML	AML	07 55 06.7	
	comp=Z,302nm,0.7s						
LBTB	**Lobatse**	**2.43**	**300**		**Pn**	**07 54 30.5**	**+2.0**
LBTB				Sn	**Sn**	**07 54 56.0**	**-2.2**
SWZ	**Schweizer**	**2.50**	**247**	*e*P	**Pn**	**07 54 31.0**	**+1.4**
SWZ				*e*S	**Sn**	**07 55 01.9**	**+1.8**
SWZ				AML	AML	07 55 14.2	
	comp=Z,525nm,0.4s						
BOSA	**Boshof**	**3.35**	**224**	*i* P	Pn	07 54 36.2	-5.1
BOSA				*i* S	**Sn**	**07 55 21.0**	**0.0**
BOSA	**Boshof**	**3.35**	**224**	Pn	**Pn**	**07 54 42.0**	**+0.7**
	comp=Z,31nm,0.3s,baz=39,slow=12,SNR=347						
BOSA				Pg	**Pb**	**07 54 50.1**	**+1.7**
	comp=Z,55nm,0.3s,baz=42,slow=17,SNR=53						
BOSA				Lg	Lg	07 55 31.6	
	comp=Z,46nm,0.3s,baz=317,slow=19,SNR=8.8						
BOSA	**Boshof**	**3.35**	**224**	*e*P	**Pn**	**07 54 41.5**	**+0.2**
BOSA				*e*S	**Sn**	**07 55 21.0**	**0.0**
BOSA				AML	AML	07 55 47.0	
	comp=Z,105nm,0.6s						
BOSA	**Boshof**	**3.35**	**224**	*i* P	Pn	07 54 36.2	-5.1
BOSA				*i* S	**Sn**	**07 55 21.0**	**0.0**
BOSA	**Boshof**	**3.35**	**224**		**Pn**	**07 54 42.0**	**+0.7**
BOSA				Sn	**Sn**	**07 55 18.8**	**-2.2**
HVD	**Gariep Dam**	**4.85**	**206**	*e*P	**Pn**	**07 55 02.3**	**+0.5**
HVD				*e*S	**Sn**	**07 55 57.5**	**-0.5**
HVD				AML	AML	07 56 29.0	
	comp=Z,134nm,0.6s						
KEIM	**Keimoes**	**6.65**	**247**	*e*P	**Pn**	**07 55 27.8**	**+1.2**
KEIM				*e*S	**Sn**	**07 56 40.2**	**-2.1**
KEIM				AML	AML	07 57 27.1	
	comp=Z,86nm,0.5s						
BUFB	**Buffelsbos**	**8.35**	**198**	*e*P	**Pn**	**07 55 50.7**	**+0.8**
BUFB				*e*S	**Sn**	**07 57 20.3**	**-3.8**
BUFB				AML	AML	07 57 23.9	
	comp=Z,34nm,0.4s						
SUR	**Sutherland**	**8.71**	**224**	Pn	**Pn**	**07 55 56.1**	**+1.1**
	comp=Z,8.5nm,0.3s,baz=21,slow=9.1,SNR=142						
SUR				Sn	**Sn**	**07 57 29.6**	**-3.7**
	comp=Z,6.9nm,0.3s,baz=350,slow=20,SNR=7.9						
SUR				Lg	Lg	07 58 19.3	
	comp=Z,4.6nm,0.3s,baz=150,slow=23,SNR=5.4						
SUR				LR	LR	07 59 24.9	
	comp=Z,87nm,20.5s,baz=358,slow=39						
SUR	**Sutherland**	**8.71**	**224**		**Pn**	**07 55 56.2**	**+1.1**
SUR					**Sn**	**07 57 27.6**	**-5.7**
KOMG	**Komaggas**	**9.88**	**247**	*e*P	**Pn**	**07 56 12.0**	**+1.2**
KOMG				AML	AML	07 58 58.7	
	comp=Z,36nm,0.6s						
LSZ	**Lusaka**	**10.91**	**1**	*i* P	**Pn**	**07 56 24.9**	**-0.2**
LSZ				*i* S	**Sn**	**07 58 21.5**	**-5.7**
LSZ	**Lusaka**	**10.91**	**1**	Pn	**Pn**	**07 56 24.5**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=167,slow=12,SNR=6.0						
LSZ				Sn	**Sn**	**07 58 24.3**	**-2.9**
	comp=Z,1.4nm,0.3s,baz=64,slow=9.8,SNR=5.5						
LSZ				Lg	Lg	07 59 28.5	
	comp=Z,1.1nm,0.3s,baz=92,slow=12,SNR=6.3						
LSZ	**Lusaka**	**10.91**	**1**	*i* P	**Pn**	**07 56 24.9**	**-0.2**
LSZ				*i* S	**Sn**	**07 58 21.5**	**-5.7**
LSZ	**Lusaka**	**10.91**	**1**		**Pn**	**07 56 24.8**	**-0.3**
TSUM	**Tsumeb**	**11.83**	**304**	Pn	**Pn**	**07 56 37.7**	**0.0**
	comp=Z,1.1nm,0.3s,baz=102,slow=11,SNR=11						
TSUM				Lg	Lg	08 00 00.1	
	comp=Z,0.5nm,0.3s,baz=53,slow=22,SNR=7.6						
TOA0	**Torodi Ar. Sit**	**46.73**	**324**	P	**P**	**08 02 18.8**	**+0.7**
TOA0				IAmb	IAmb	08 02 20.6	
	comp=Z,1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.73**	**324**	P	**P**	**08 02 18.7**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=142,slow=7.0,SNR=15						
TORD	**Torodi Ar. Bea**	**46.73**	**324**	P	**P**	**08 02 18.8**	**+0.6**
SNAA	**Sanae**	**48.60**	**192**	P	**P**	**08 02 32.0**	**0.0**
QSPA	**South Pole Qui**	**63.95**	**180**	P	**P**	**08 04 23.9**	**+2.1**
	comp=Z,1.3nm,0.9s,baz=204,slow=4.0,SNR=4.6						
QSPA	**South Pole Qui**	**63.95**	**180**	P	**P**	**08 04 23.4**	**+1.6**
QSPA				IAmb	IAmb	08 04 29.0	
	comp=Z,2.2nm,1.1s						
ESDC	**Sonseca Array**	**72.00**	**335**	P	**P**	**08 05 14.4**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=151,slow=6.6,SNR=4.7						
KK31	**Karatay Array**	**79.34**	**30**	P	**P**	**08 05 55.9**	**+1.4**
KK31				IAmb	IAmb	08 06 09.2	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**79.34**	**30**	P	**P**	**08 05 55.8**	**+1.3**
KKAR	**Karatay Array**	**79.34**	**30**	P	**P**	**08 05 55.8**	**+1.3**
KKAR				IAmb	IAmb	08 06 09.3	
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**80.40**	**21**	P	**P**	**08 05 58.6**	**-1.4**
ABKAR	**Akbulak array**	**80.40**	**21**	P	**P**	**08 05 58.6**	**-1.4**
ABKAR				IAmb	IAmb	08 05 59.7	
	comp=Z,7.8nm,1.4s						

BJI ***18*** *07:58:39.0±0.0,43°.70N×16°.90E,h5km,mb4.8/31, mB5.2/22,Ms4.9/3,Ms7 4.8/2*

ISCJB ***18*** *07:58:41.0±0.2,43°.672N±0°.007×16°.886E±0°.010, h13km±1km,mb4.9/90,MS3.6/1,Error ellipse: s-maj=1.3km s-min=1.0km az=39.0*

IDC ***18*** *07:58:40.1±0.4,43°.68N×16°.86E,h0km,mb4.6/33, mb1 4.6/49,mb1mx4.6/61,mbtmp4.5/49,ML4.3/14,MS3.5/8, Ms1 3.5/8,ms1mx3.1/50,Error ellipse: s-maj=8.8km s-min=7.3km az=52.0*

PDG ***18*** *07:58:40.8±0.6,43°.67N×16°.87E,h0km±11km,MD4.8/14, ML4.8/12,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

TIR ***18*** *07:58:40.3,43°.37N×16°.90E,h1km,Md5.0/7*

RHSSO ***18*** *07:58:41.6±0.3,43°.68N×16°.87E,h8km±1km,ML4.8/1*

ROM ***18*** *07:58:41.0±0.5,43°.648N±0°.007×16°.95E±0°.01,h8km±2km, ML4.8/126,Error ellipse: s-maj=1.0km s-min=0.4km az=273.0*

LDG ***18*** *07:58:41.0±0.1,43°.70N×16°.90E,h2km,Md4.0/3,Ml4.7/48, Error ellipse: s-maj=2.9km s-min=2.0km az=26.0*

MOS ***18*** *07:58:41.7±0.8,43°.69N×16°.88E,h20km,mb5.0/42,Error ellipse: s-maj=4.7km s-min=2.8km az=92.2*

MED_RC ***18*** *07:58:41.0±0.3,43°.68N×16°.91E,h13km±1km,MW4.4/15, Moment Tensor Solution.Mantle waves: s15,c21; Duration: 1±1 Moment tensor: Scale 1015Nm; Mrr4.31±.47; Mθθ-4.21±.31; Mφφ-0.10±.24; Mrθ-1.61±.40; Mθφ1.02±.16; Mφr0.97±.50; Best double couple: Mo4.77000×1015 NP1:φs290.00000°,δ57.00000°, λ98.00000°. NP2:φs96.00000°,δ34.00000°,λ78.00000°. Principal axes: T 4.7300, Plg77.0000°, Azm226.0000°; N 0.0700, Plg7.0000°, Azm106.0000°; P -4.8000, Plg11.0000°, Azm15.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

BEO ***18*** *07:58:42.2±0.3,43°.72N×16°.95E,h0km±2km,ML4.6/19*

NEIC ***18*** *07:58:43.5±1.3,43°.67N±0°.03×16°.86E±0°.05,h20km±3km, mb4.9/209,mb4.8(VIE)*

PRU ***18*** *07:58:43.0±0.0,43°.69N×16°.83E,h2km,M4.8*

BGR ***18*** *07:59:00.2±0.4,44°.73N×16°.15E,h10km,ML4.4/5,Error ellipse: s-maj=10.0km s-min=8.9km az=40.0*

ISC 18 07:58:41.5±0.9,43°.68N±0°.02×16°.86E±0°.02,h10km±5km, n1037,σ1=83/1171,mb4.9/166,56C-30D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKA	**Makarska**	**0.41**	**164**	*i* Pg	**Pg**	**07 58 49.5**	**0.0**
MAKA				Sg	**Sb**	**07 58 56.2**	**-0.8**
HVAR	**Hvar**	**0.58**	**211**	*e*Pg	**Pg**	**07 58 52.3**	**-0.5**
HVAR				Sg	**Sb**	**07 59 01.9**	**-0.2**
MGRS	**Mrkonjic Grad**	**0.76**	**12**	⇓*i*Pg	**Pg**	**07 58 54.7**	**-1.4**
MGRS				*e*Sg	**Sg**	**07 59 06.3**	**+0.3**
MORI	**Morici**	**0.86**	**283**	*i* Pg	**Pg**	**07 58 57.6**	**-0.4**
MORI				Sg	**Sb**	**07 59 10.9**	**+0.8**
ZIRJ	**Zirje**	**0.88**	**269**	*i* Pg	**Pg**	**07 58 57.9**	**-0.7**
ZIRJ				Sg	**Sb**	**07 59 11.6**	**+0.8**
STON	**Ston**	**1.01**	**142**	*e*Pg	**Pg**	**07 58 59.7**	**-1.2**
STON				*e*Sg	**Sn**	**07 59 15.4**	**-0.6**
STON	**Ston**	**1.01**	**142**	*i* Pg	**Pg**	**07 58 59.5**	**-1.4**
STON				Sg	**Sb**	**07 59 14.9**	**+0.5**
STON	**Ston**	**1.01**	**142**	⇓*i*Pg	**Pg**	**07 58 59.5**	**-1.4**
STON				*e*Sg	**Sg**	**07 59 13.9**	**-0.2**
STON	**Ston**	**1.01**	**142**	P	**Pg**	**07 58 59.5**	**-1.4**
BLY	**Banja Luka**	**1.10**	**12**	*e*Pg	**Pg**	**07 59 02.4**	**-0.2**
BLY				*e*Sg	**Sb**	**07 59 17.1**	**+0.1**
BLY	**Banja Luka**	**1.10**	**12**	⇓*i*Pg	**Pg**	**07 59 01.1**	**-1.5**
BLY				*e*Sg	**Sg**	**07 59 16.8**	**-0.1**
BLY	**Banja Luka**	**1.10**	**12**	⇑P	**Pg**	**07 59 02.5**	**-0.2**
BLY				⇑S	**Sn**	**07 59 17.8**	**-0.4**
BLY				AML	AML	07 59 22.8	
BLY	**Banja Luka**	**1.10**	**12**	P	**Pg**	**07 59 01.5**	**-1.1**
BLY				S	**Sb**	**07 59 17.1**	**+0.1**
BLY				AML	AML		
	comp=E,52250μm,0.4s						
BLY				AML	AML		
	comp=N,38900μm,0.6s						
BLY				AML	AML		
	comp=E,51850μm,0.4s						
BLY				AML	AML		
	comp=N,38800μm,0.7s						
BLY				AML	AML		
	comp=E,51850μm,0.4s						
BLY				AML	AML		
	comp=N,38900μm,0.6s						
BLY	**Banja Luka**	**1.10**	**12**		**Pg**	**07 59 01.6**	**-1.1**
BLY				Sn	**Sn**	**07 59 18.3**	**+0.1**
DUGI	**Dugi Otok**	**1.34**	**284**	*i* Pn	**Pb**	**07 59 06.7**	**-0.2**
DUGI				Sn	**Sg**	**07 59 26.9**	**+2.2**
DBRK	**Dubrovnik**	**1.38**	**

KOME	**Kolasin**	**2.11 112**	⇓*i*Pn	**Pb**	**07 59 19.1**	**-0.8**
KOME			*e*Sn	**Sg**	**07 59 47.9**	**-1.3**
TEKS	**Tekeris**	**2.11 65**	*e*Pg	**Pn**	**07 59 17.6**	**+0.7**
TEKS			*e*Sg	**Sb**	**07 59 46.5**	**+0.4**
TEKS	**Tekeris**	**2.11 65**	*e*Pn	**Pn**	**07 59 16.8**	**-0.1**
TEKS			*e*Sn	**Sn**	**07 59 42.7**	**-0.5**
PDG	**Podgorica**	**2.15 125**	*e*Pg	**Pb**	**07 59 20.0**	**-0.6**
PDG			*e*Sg	**Sg**	**07 59 50.3**	**-0.3**
PDG	**Podgorica**	**2.15 125**	*i* Pn	**Pb**	**07 59 19.5**	**-1.0**
PDG			*e*Sg	**Sg**	**07 59 50.3**	**-0.3**
PDG	**Podgorica**	**2.15 125**	*e*Pn	**Pn**	**07 59 18.4**	**+0.9**
PDG			*e*Sn	**Sn**	**07 59 44.6**	**+0.4**
PDG	**Podgorica**	**2.15 125**	⇑P	**Pb**	**07 59 20.3**	**-0.3**
PDG			⇑S	**Sb**	**07 59 48.8**	**+1.4**
PDG			AML	AML	07 59 51.0	
PDG	**Podgorica**	**2.15 125**	P	**Pn**	**07 59 18.7**	**+1.3**
PDG			AML	AML		
	comp=N,16500µm,1.3s					
PDG			AML	AML		
	comp=N,12800µm,1.3s					
PDG			AML	AML		
	comp=E,10445µm,0.8s					
PDG			AML	AML		
	comp=E,13180µm,0.8s					
PDG	**Podgorica**	**2.15 125**		**Pb**	**07 59 19.6**	**-1.0**
PDG			Sn	**Sn**	**07 59 45.2**	**+1.0**
TTG	**Podgorica**	**2.15 125**	⇓*i*Pn	**Pb**	**07 59 19.2**	**-1.4**
TTG			*e*Sn	**Sb**	**07 59 48.7**	**+1.4**
BOJS	**Bojanci**	**2.16 328**	*e*Pg	**Pb**	**07 59 19.6**	**-1.1**
BOJS			*e*Sg	**Sg**	**07 59 51.2**	**+0.3**
BOJS	**Bojanci**	**2.16 328**	*i* Pn	**Pb**	**07 59 19.2**	**-1.5**
BOJS			*e*Sn	**Sb**	**07 59 48.5**	**+1.0**
	comp=Z,5µm,0.7s					
BOJS	**Bojanci**	**2.16 328**	P	**Pn**	**07 59 18.8**	**+1.2**
BOJS			AML	AML		
	comp=E,15850µm,0.6s					
BOJS			AML	AML		
	comp=N,9000µm,0.4s					
BOJS			AML	AML		
	comp=E,15850µm,0.6s					
ZAG	**Zagreb**	**2.24 344**	*e*Pn	**Pn**	**07 59 20.2**	**+1.6**
ZAG	**Zagreb**	**2.24 344**	*e*Pn	**Pn**	**07 59 19.3**	**+0.6**
ZAG			*e*Sn	**Sn**	**07 59 46.1**	**-0.3**
DRME	**Dracevica, Mon**	**2.26 130**	*e*Pn	**Pn**	**07 59 19.7**	**+0.7**
DRME			*e*Sn	**Sn**	**07 59 47.2**	**+0.2**
DRME	**Dracevica, Mon**	**2.26 130**	⇓*i*Pn	**Pn**	**07 59 20.6**	**+1.6**
DRME			*e*Sn	**Sb**	**07 59 51.8**	**+1.2**
DIVS	**Divibare**	**2.30 78**	*e*Pn	**Pn**	**07 59 20.2**	**+0.6**
DIVS	**Divibare**	**2.30 78**	⇑*i*Pn	**Pn**	**07 59 19.9**	**+0.3**
DIVS			*e*Sn	**Sn**	**07 59 48.4**	**+0.3**
SJES	**Sjenica**	**2.30 99**	*e*Pg	**Pb**	**07 59 21.8**	**-1.4**
SJES			*e*Sg	**Sb**	**07 59 52.5**	**+0.7**
PTJ	**Puntijarka**	**2.32 344**	*e*Pn	**Pn**	**07 59 20.3**	**+0.4**
FRES	**Fresagrandinar**	**2.34 224**	P	**Pn**	**07 59 20.9**	**+0.7**
FRES			AML	AML		
	comp=N,3100µm,0.8s					
FRES			AML	AML		
	comp=E,5980µm,0.3s					
CAFR	**Castel Frentan**	**2.35 233**	P	**Pn**	**07 59 21.3**	**+1.2**
CAFR			AML	AML		
	comp=E,27350µm,0.7s					
CAFR			AML	AML		
	comp=N,22450µm,0.7s					
CAFR			AML	AML		
	comp=E,27350µm,0.7s					
CAFR			AML	AML		
	comp=N,22450µm,0.7s					
BEY	**Berane**	**2.35 109**	*i* Pn	**Pb**	**07 59 23.5**	**-0.6**
IVA	**Berane**	**2.35 109**	⇓*i*Pn	**Pn**	**07 59 22.1**	**+1.7**
IVA			*e*Sn	**Sb**	**07 59 53.8**	**+0.5**
GBRS	**Gornja Briga**	**2.36 322**	*i* Pn	**Pb**	**07 59 23.1**	**-1.1**
GBRS			*e*Sn	**Sb**	**07 59 54.0**	**+0.5**
	comp=Z,4µm,0.8s					
RIY	**Rijeka**	**2.37 315**	*e*Pn	**Pb**	**07 59 23.5**	**-0.8**
RIY			*e*Sn	**Sb**	**07 59 52.5**	**-1.1**
RIY	**Rijeka**	**2.37 315**	*i* Pn	**Pb**	**07 59 22.6**	**-1.7**
RIY			Sg	**Sg**	**07 59 56.8**	**-0.9**
RIY	**Rijeka**	**2.37 315**	⇑*i*Pn	**Pn**	**07 59 21.5**	**+1.0**
RIY			*e*Sn	**Sn**	**07 59 50.0**	**+0.4**
AOI	**Ancona**	**2.37 268**	P	**Pn**	**07 59 22.2**	**+1.7**
AOI			AML	AML		
	comp=E,6415µm,0.5s					
AOI			AML	AML		
	comp=N,6900µm,0.7s					
CRES	**Cresnjev**	**2.37 336**	⇓*i*Pn	**Pn**	**07 59 21.6**	**+1.1**
CRES			*e*Sn	**Sn**	**07 59 49.5**	**-0.2**
IVAS	**Ivanjica**	**2.39 91**	*e*Pn	**Pn**	**07 59 21.8**	**+1.0**
ULC	**Ulcinj**	**2.45 134**	*i* Pn	**Pn**	**07 59 23.0**	**+1.4**
ULC	**Ulcinj**	**2.45 134**	⇑*i*Pn	**Pn**	**07 59 23.3**	**+1.7**
ULC			*e*Sn	**Sb**	**07 59 55.9**	**0.0**
KALN	**Kalnik**	**2.47 353**	*i* Pn	**Pn**	**07 59 22.4**	**+0.5**
CIGN	**Sant'Elia a Pi**	**2.48 216**	P	**Pn**	**07 59 22.7**	**+0.7**
CIGN			AML	AML		
	comp=N,5540µm,0.6s					
CIGN			AML	AML		
	comp=E,4710µm,1.1s					
PVY	**Plav**	**2.51 114**	⇑*i*Pn	**Pb**	**07 59 24.8**	**-2.0**
PVY			*e*Sn	**Sb**	**07 59 57.5**	**-0.3**
BRJN	**Brijuni**	**2.55 300**	*i* Pn	**Pn**	**07 59 24.0**	**+1.1**
LPEL	**Lama dei Pelig**	**2.56 231**	P	**Pn**	**07 59 23.6**	**+0.5**
LPEL			AML	AML		
	comp=E,7920µm,0.3s					
LPEL			AML	AML		
	comp=N,5560µm,0.8s					
BAI	**Bari**	**2.57 180**	*e*Pn	**Pn**	**07 59 22.6**	**-0.6**
BAI			Sn	**Sn**	**07 59 50.8**	**-3.7**
FRGS	**Fruska Gora**	**2.58 54**	*e*Pn	**Pn**	**07 59 23.7**	**+0.3**
FRGS	**Fruska Gora**	**2.58 54**	⇑*i*Pn	**Pn**	**07 59 23.1**	**-0.3**
FRGS			*e*Sn	**Sn**	**07 59 55.2**	**+0.4**
GATE	**Gambatesa**	**2.60 214**	P	**Pn**	**07 59 24.7**	**+1.1**
GATE			AML	AML		
	comp=E,5650µm,0.4s					
GATE			AML	AML		
	comp=E,5955µm,0.4s					
GATE			AML	AML		
	comp=N,8725µm,0.9s					
GATE			AML	AML		
	comp=N,8655µm,0.9s					
TERO	**Teramo**	**2.61 247**	P	**Pn**	**07 59 24.9**	**+1.1**
TERO			S	**Sn**	**07 59 55.8**	**+0.3**
TERO			AML	AML		
	comp=E,5800µm,0.4s					
TERO			AML	AML		
	comp=E,2445µm,0.4s					
TERO			AML	AML		
	comp=N,2490µm,0.5s					
TERO			AML	AML		
	comp=N,6115µm,0.5s					
TRUS	**Trudelj**	**2.62 77**	*e*Pn	**Pn**	**07 59 24.4**	**+0.5**
MRVN	**Minervino Murg**	**2.66 191**	P	**Pn**	**07 59 24.0**	**-0.5**
MRVN			AML	AML		
	comp=N,5525µm,0.5s					
MRVN			AML	AML		
	comp=E,4565µm,0.6s					
CING	**Cingoli**	**2.68 265**	P	**Pn**	**07 59 26.3**	**+1.4**
CING			AML	AML		
	comp=N,3340µm,0.7s					
CING			AML	AML		
	comp=E,4035µm,0.5s					
BCI	**Bajram Curri**	**2.69 118**	*i* PN	**Pb**	**07 59 28.3**	**-1.4**
BCI			*i* SN	**Sb**	**08 00 04.5**	**+1.6**
CEY	**Cerknica**	**2.70 321**	*e*Pn	**Pn**	**07 59 25.2**	**+0.2**
CEY			*e*Sn	**Sn**	**07 59 58.6**	**+0.9**
BSSO	**Busso**	**2.71 219**	P	**Pn**	**07 59 25.8**	**+0.6**
BSSO			AML	AML		
	comp=E,2350µm,0.8s					
BSSO			AML	AML		
	comp=N,1885µm,1.6s					
BSSO			AML	AML		
	comp=E,5330µm,0.8s					
BSSO			AML	AML		
	comp=N,4440µm,0.7s					
INTR	**Introdacqua**	**2.74 234**	P	**Pn**	**07 59 26.0**	**+0.4**
INTR			AML	AML		
	comp=E,8385µm,0.6s					
INTR			AML	AML		
	comp=N,11250µm,0.7s					
INTR	**Introdacqua**	**2.74 234**		**Pn**	**07 59 26.0**	**+0.4**
INTR			Sn	**Sn**	**07 59 57.7**	**-1.1**
EL6	**Elcito**	**2.76 264**	P	**Pn**	**07 59 27.3**	**+1.4**
EL6			AML	AML		
	comp=E,8905µm,0.6s					
EL6			AML	AML		
	comp=N,8670µm,1.3s					
PUK	**Puka**	**2.76 125**	*i* PN	**Pb**	**07 59 28.7**	**-2.3**
PUK			*i* SN	**Sb**	**08 00 04.9**	**-0.1**
PUK	**Puka**	**2.76 125**	P	**Pb**	**07 59 28.7**	**-2.3**
PUK			AML	AML		
	comp=E,6340µm,0.7s					
PUK			AML	AML		
	comp=N,5060µm,1.1s					
SGTA	**Sant Agata di**	**2.77 204**	P	**Pn**	**07 59 26.2**	**+0.2**
SGTA			AML	AML		
	comp=E,10750µm,0.8s					
SGTA			AML	AML		
	comp=N,6850µm,0.6s					
SGTA			AML	AML		
	comp=N,6105µm,0.5s					
SGTA			AML	AML		
	comp=E,10710µm,0.8s					
AMUR	**Altamura**	**2.77 184**	P	**Pn**	**07 59 25.6**	**-0.5**
AMUR			S	**Sn**	**07 59 58.8**	**-0.8**
AMUR			AML	AML		
	comp=N,7410µm,0.3s					
AMUR			AML	AML		
	comp=E,7145µm,0.3s					
CAMP	**Campotosto**	**2.77 247**	P	**Pn**	**07 59 27.3**	**+1.1**
CAMP			AML	AML		
	comp=E,4005µm,0.5s					
CAMP			AML	AML		
	comp=N,5030µm,0.3s					
SACR	**S. Croce Del S**	**2.78 216**	P	**Pn**	**07 59 26.3**	**+0.1**
SACR			AML	AML		
	comp=E,3405µm,0.6s					
SACR			AML	AML		
	comp=N,3505µm,0.5s					
SACR			AML	AML		
	comp=E,3540µm,1.3s					
SACR			AML	AML		
	comp=N,3585µm,0.5s					
SMA1	**SAN MARTINO**	**2.79 249**	P	**Pn**	**07 59 27.5**	**+1.3**
SMA1			AML	AML		
	comp=E,6315µm,0.5s					
SMA1			AML	AML		
	comp=N,8100µm,0.4s					
FAGN	**Fagnano**	**2.79 241**	P	**Pn**	**07 59 27.4**	**+1.1**
FAGN			AML	AML		
	comp=E,15650µm,0.5s					
FAGN			AML	AML		
	comp=N,12750µm,0.4s					
FAGN			AML	AML		
	comp=E,15650µm,0.5s					
GRUS	**Gruza**	**2.80 84**	*e*Pn	**Pn**	**07 59 27.0**	**+0.6**
MIDA	**Miranda**	**2.80 224**	P	**Pn**	**07 59 26.9**	**+0.5**
MIDA			AML	AML		
	comp=N,5300µm,0.6s					
MIDA			AML	AML		
	comp=N,5570µm,0.6s					
MIDA			AML	AML		
	comp=E,5820µm,0.9s					
MIDA			AML	AML		
	comp=E,5655µm,0.9s					
COR1	**Corinaldo**	**2.80 270**	P	**Pn**	**07 59 28.4**	**+1.9**
COR1			AML	AML		
	comp=E,10535µm,0.6s					
COR1			AML	AML		
	comp=N,8870µm,0.5s					
COR1			AML	AML		
	comp=N,9430µm,1.0s					
COR1			AML	AML		
	comp=E,5500µm,0.5s					
KOGS	**Kog**	**2.81 351**	*i* Pn	**Pn**	**07 59 27.0**	**+0.5**
KOGS	**Kog**	**2.81 351**	AML	AML		
	comp=E,9660µm,1.1s					
KOGS			AML	AML		
	comp=N,6995µm,1.3s					
PALZ	**Palazzo San Ge**	**2.81 194**	P	**Pn**	**07 59 26.5**	**-0.1**
PALZ			AML	AML		
	comp=E,11950µm,0.8s					
PALZ			AML	AML		
	comp=N,10130µm,0.9s					
BEO	**Beograd**	**2.83 65**	*e*Pn	**Pn**	**07 59 28.7**	**+1.9**
SG1	**Sgolgore (BA)**	**2.84 183**	*e*Pn	**Pn**	**07 59 26.4**	**-0.5**
SG1			Sn	**Sn**	**08 00 00.9**	**-0.3**
ARVD	**Arcevia**	**2.85 268**	AML	AML		
	comp=E,2475µm,0.7s					
ARVD			AML	AML		
	comp=N,2175µm,0.6s					
AQU	**L'Aquila**	**2.86 244**	P	**Pn**	**07 59 27.5**	**+0.2**
AQU					08 00 02.7	
AQU	**L'Aquila**	**2.86 244**	*e*Pn	**Pn**	**07 59 27.2**	**-0.1**
AQU			*e*Sn	**Sn**	**08 00 01.9**	**+0.1**
AQU	**L'Aquila**	**2.86 244**		**Pn**	**07 59 27.5**	**+0.2**
AQU			Sn	**Sn**	**08 00 02.7**	**+0.9**
NRCA	**Norcia**	**2.87 254**	P	**Pn**	**07 59 28.7**	**+1.3**
NRCA			AML	AML		
	comp=E,4500µm,0.7s					
NRCA			AML	AML		
	comp=N,4770µm,0.4s					
NRCA			AML	AML		
	comp=N,4555µm,0.4s					
NRCA			AML	AML		
	comp=E,4435µm,1.6s					
NRCA	**Norcia**	**2.87 254**		**Pn**	**07 59 28.6**	**+1.3**
NRCA			Sn	**Sn**	**08 00 01.6**	**-0.3**
FASA	**Fasano**	**2.88 173**	*e*Pn	**Pn**	**07 59 27.1**	**-0.4**
FASA			Sn	**Sn**	**08 00 02.9**	**+0.7**
NOCI	**Noci**	**2.89 177**	P	**Pn**	**07 59 27.0**	**-0.6**
NOCI			S	**Sn**	**08 00 01.3**	**-1.2**
NOCI			AML	AML		
	comp=E,6825µm,0.3s					
NOCI			AML	AML		
	comp=N,10500µm,0.3s					
LJU	**Ljubljana**	**2.89 326**	*e*Pn	**Pn**	**07 59 29.6**	**+1.9**
LJU			*e*Sn	**Sn**	**08 00 03.9**	**+1.4**
LJU	**Ljubljana**	**2.89 326**	*i* Pn	**Pn**	**07 59 29.5**	**+1.9**
LJU			*e*Sn	**Sb**	**08 00 06.9**	**-1.8**
	comp=Z,3µm,0.8s					
LJU	**Ljubljana**	**2.89 326**	⇓*i*Pn	**Pn**	**07 59 28.4**	**+0.7**
LJU			*e*Sn	**Sn**	**08 00 03.0**	**+0.5**
LJU	**Ljubljana**	**2.89 326**	AML	AML		
	comp=N,13450µm,1.1s					
LJU			AML	AML		
	comp=E,11450µm,0.9s					
T0104	**Madonna delle**	**2.90 244**	P	**Pn**	**07 59 29.5**	**+1.6**
T0104			AML	AML		
	comp=N,7680µm,0.6s					
T0104			AML	AML		
	comp=N,8040µm,0.6s					
T0104			AML	AML		
	comp=E,11350µm,0.9s					
T0104			AML	AML		
	comp=E,11250µm,0.9s					
MRB1	**Monte Rocchett**	**2.91 209**	AML	AML		
	comp=N,7865µm,0.6s					
MRB1			AML	AML		
	comp=E,8590µm,0.7s					
MRB1			AML	AML		
	comp=E,8750µm,0.7s					
MRB1			AML	AML		
	comp=N,8065µm,0.6s					
CAFE	**Carife**	**2.91 205**	P	**Pn**	**07 59 28.2**	**+0.2**
CAFE			AML	AML		
	comp=E,5820µm,0.4s					
CAFE			AML	AML		
	comp=N,5450µm,1.6s					
CAFE			AML	AML		
	comp=E,5915µm,0.4s					
CAFE			AML	AML		
	comp=N,5425µm,1.6s					
CERA	**Filignano**	**2.95 226**	P	**Pn**	**07 59 30.0**	**+1.5**
CERA			AML	AML		
	comp=E,5800µm,0.4s					
CERA			AML	AML		
	comp=N,4145µm,0.6s					
CERA			AML	AML		
	comp=E,5925µm,0.4s					
CERA			AML	AML		
	comp=N,4225µm,0.6s					
FSSB	**Fossombrone**	**2.96 272**	P	**Pn**	**07 59 29.8**	**+1.1**
FSSB			AML	AML		
	comp=E,5090µm,1.6s					
FSSB			AML	AML		
	comp=N,6335µm,0.5s					
CESI	**CESI - Serrava**	**2.96 258**	P	**Pn**	**07 59 30.3**	**+1.6**
CESI			S	**Sn**	**08 00 05.9**	**+1.5**
CESI			AML	AML		
	comp=E,997µm,0.9s					
CESI			AML	AML		
	comp=N,2695µm,0.6s					
ACER	**Acerenza**	**2.97 194**	P	**Pn**	**07 59 28.7**	**0.0**
ACER			AML	AML		
	comp=N,11950µm,1.0s					
ACER			AML	AML		
	comp=E,16050µm,0.5s					
ACER			AML	AML		
	comp=N,12400µm,1.0s					
ACER			AML	AML		
	comp=E,15600µm,0.5s					
ACER	**Acerenza**	**2.97 194**		**Pn**	**07 59 28.8**	**0.0**
MPAG	**Monte Paganucc**	**2.98 270**	AML	AML		
	comp=E,3855µm,0.4s					
MPAG			AML	AML		
	comp=E,3820µm,0.5s					
MPAG			AML	AML		
	comp=N,4735µm,0.7s					
MPAG			AML	AML		
	comp=N,4765µm,0.7s					
VAGA	**Valle Agricola**	**2.98 222**	AML	AML		
	comp=E,5610µm,0.4s					
VAGA			AML	AML		
	comp=N,10250µm,0.4s					
VAGA			AML	AML		
	comp=N,9965µm,0.4s					
VAGA			AML	AML		
	comp=E,5430µm,0.4s					
LNSS	**Leonessa**	**3.00 250**	AML	AML		
	comp=E,8410µm,0.8s					
LNSS			AML	AML		
	comp=N,9130µm,0.4s					
TRI	**Trieste**	**3.00 314**	P	**Pn**	**07 59 30.5**	**+1.4**
TRI	**Trieste**	**3.00 314**	P	**Pn**	**07 59 30.2**	**+1.1**
TRI			AML	AML		
	comp=E,5325µm,0.5s					
TRI			AML	AML		
	comp=N,4900µm,0.7s					
TRI	**Trieste**	**3.00 314**		**Pn**	**07 59 30.5**	**+1.4**
FOSV	**Fossato di Vic**	**3.01 264**	AML	AML		
	comp=N,3820µm,1.1s					
FOSV			AML	AML		
	comp=N,3815µm,1.1s					
FOSV			AML	AML		
	comp=E,3390µm,0.7s					
FRON	**Frontone**	**3.01 268**	AML	AML		
	comp=E,3805µm,0.6s					
FRON			AML	AML		
	comp=N,4430µm,0.6s					
FRON			AML	AML		
	comp=N,4435µm,0.6s					
SNAL	**S. Angelo Dei**	**3.01 205**	P	**Pn**	**07 59 29.2**	**-0.2**
SNAL			AML	AML		
	comp=N,9705µm,1.0s					
SNAL			AML	AML		
	comp=E,8750µm,1.1s					
MATE	**Matera**	**3.03 182**	⇑P	**Pn**	**07 59 29.4**	**-0.1**
MATE			AML	AML	08 00 28.1	
MATE	**Matera**	**3.03 182**	P	**Pn**	**07 59 29.0**	**-0.5**
MATE			AML	AML		
	comp=E,6670µm,0.7s					
MATE			AML	AML		
	comp=N,5490µm,0.4s					
PTQR	**Pietraquaria**	**3.04 238**	AML	AML		
	comp=N,2885µm,0.8s					
PTQR			AML	AML		
	comp=E,3150µm,0.6s					
POFI	**Posta Fibreno**	**3.04 231**	P	**Pn**	**07 59 30.2**	**+0.5**
POFI			AML	AML		
	comp=E,2900µm,0.5s					
POFI			AML	AML		
	comp=N,2110µm,0.9s					
MASS	**Massafra**	**3.05 176**	*e*Pn	**Pn**	**07 59 29.3**	**-0.5**
MASS			Sn	**Sn**	**08 00 06.6**	**+0.2**
CGL1	**Ceglie Messapi**	**3.05 171**	⇓*i*Pn	**Pn**	**07 59 29.5**	**-0.4**
CGL1			Sn	**Sn**	**08 00 06.9**	**+0.4**
MIGL	**Miglionico**	**3.09 186**	P	**Pn**	**07 59 29.9**	**-0.4**
MIGL			AML	AML		
	comp=E,20500µm,0.7s					
MIGL			AML	AML		
	comp=N,32050µm,0.6s					
MIGL			AML	AML		
	comp=E,20500µm,0.7s					
MRLC	**Muro Lucano**	**3.09 200**	P	**Pn**	**07 59 30.2**	**-0.3**
MRLC			AML	AML		
	comp=N,4360µm,0.6s					
MRLC			AML	AML		
	comp=E,5160µm,0.7s					
MRLC			AML	AML		
	comp=E,5315µm,0.7s					
MRLC			AML	AML		
	comp=N,4585µm,0.6s					
ATCC	**AVT- Casa Cast**	**3.12 262**	AML	AML		
	comp=E,8195µm,0.5s					
ATCC			AML	AML		
	comp=N,8905µm,0.8s					
ASSB	**Assisi San Ben**	**3.13 260**	AML	AML		
	comp=N,5555µm,0.6s					
ASSB			AML	AML		
	comp=E,4710µm,1.3s					
SELS	**Selova**	**3.13 97**	*e*Pn	**Pn**	**07 59 32.1**	**+1.1**
SELS			*e*Sn	**Sn**	**08 00 09.4**	**+0.9**
PAOL	**Paolisi**	**3.14 214**	AML	AML		
	comp=N,2555µm,0.8s					
PAOL			AML	AML		
	comp=E,2780µm,1.3s					
PAOL			AML	AML		
	comp=E,2850µm,1.3s					
PAOL			AML	AML		
	comp=N,2460µm,0.6s					
PAOL	**Paolisi**	**3.14 214**		**Pn**	**07 59 31.6**	**+0.4**
PAOL			Sn	**Sn**	**08 00 08.9**	**+0.1**
TAR1	**Taranto**	**3.16 174**	⇓*i*Pn	**Pn**	**07 59 31.1**	**-0.3**
TAR1			Sn	**Sn**	**08 00 09.3**	**+0.1**
PE3	**Peglio**	**3.17 272**	AML	AML		
	comp=N,10650µm,0.5s					
PE3			AML	AML		
	comp=E,11365µm,0.4s					
PIGN	**Pignataro Magg**	**3.17 220**	AML	AML		
	comp=E,2080µm,0.5s					
PIGN			AML	AML		
	comp=N,2075µm,0.4s					
PIGN			AML	AML		
	comp=N,1930µm,0.4s					
PIGN			AML	AML		
	comp=E,2050µm,0.5s					
MURB	**Monte Urbino**	**3.19 264**	Pn	**Pn**	**07 59 33.2**	**+1.5**
ARRO	**Arrone**	**3.19 251**	AML	AML		
	comp=N,3390µm,0.4s					
ARRO			AML	AML		
	comp=E,3730µm,1.2s					
SVIS	**Svilajnac**	**3.20 78**	*e*Pn	**Pn**	**07 59 31.9**	**+0.1**
SVIS			*e*Sn	**Sn**	**08 00 11.0**	**+1.0**
TIR	**Tirane**	**3.22 135**	*e*Pn	**Pn**	**07 59 33.7**	**+1.6**
TIR			*e*Sn	**Sn**	**08 00 11.3**	**+0.8**
TIR	**Tirane**	**3.22 135**	P	**Pn**	**07 59 33.6**	**+1.5**
TIR			S	**Sn**	**08 00 12.4**	**+1.9**
TIR	**Tirane**	**3.22 135**	*i* Pn	**Pn**	**07 59 33.6**	**+1.5**
TIR	**Tirane**	**3.22 135**	P	**Pn**	**07 59 33.2**	**+1.1**
TIR	**Tirane**	**3.22 135**	*i* PN	**Pn**	**07 59 33.7**	**+1.6**
TIR			*i* SN	**Sn**	**08 00 12.7**	**+2.2**
TIR	**Tirane**	**3.22 135**	⇓P	**Pn**	**07 59 34.0**	**+1.9**
TIR			⇓S	**Sn**	**08 00 13.9**	**+3.5**
TIR			AML	AML	08 00 42.5	
TIR	**Tirane**	**3.22 135**		**Pn**	**07 59 33.2**	**+1.1**
GUAR	**Guarcino**	**3.22 235**	AML	AML		
	comp=E,2510µm,0.6s					
GUAR			AML	AML		
	comp=N,4400µm,0.4s					
ATVO	**AVT- Monte Val**	**3.25 266**	AML	AML		
	comp=E,3740µm,0.4s					
ATVO			AML	AML		
	comp=E,3745µm,0.4s					
ATVO			AML	AML		
	comp=N,4905µm,0.6s					
MOMA	**Monte Martano**	**3.25 256**	AML	AML		
	comp=E,5215µm,0.3s					
MOMA			AML	AML		
	comp=E,5720µm,0.3s					
MOMA			AML	AML		
	comp=N,4265µm,0.5s					
MOMA			AML	AML		
	comp=N,3865µm,0.4s					
SOKA	**Soboth**	**3.27 337**	*i* Pn	**Pn**	**07 59 33.9**	**+1.0**
	comp=N,217nm,0.4s,SNR=238					
SOKA			*i* Sn	**Sn**	**08 00 12.1**	**+0.2**
	comp=N,374nm,0.6s					
SOKA	**Soboth**	**3.27 337**		**Pn**	**07 59 33.9**	**+1.0**

SOKA				Sn	08 00 12.1 +0.2
SABO	**M.te Sabotino**	**3.27 316**	AML	AML	
	comp=N,13800µm,0.6s				
SABO			AML	AML	
	comp=E,9840µm,0.6s				
OBKA	**Obir**	**3.27 331**	*e*Pn	**Pn**	**07 59 34.7 +1.8**
	SNR=117				
OBKA	**Obir**	**3.27 331**	*i* Pn	**Pn**	**07 59 34.5 +1.5**
	comp=E,6.3nm,0.2s,SNR=133				
OBKA			*i* Sn	**Sn**	**08 00 14.4 +2.4**
	comp=E,976nm,0.5s				
OBKA	**Obir**	**3.27 331**		**Pn**	**07 59 34.5 +1.5**
OBKA				**Sn**	**08 00 14.4 +2.4**
PHP	**Peshkopia**	**3.31 126**	P	**Pn**	**07 59 35.6 +2.2**
PHP	**Peshkopia**	**3.31 126**	*i* PN	**Pn**	**07 59 36.2 +2.8**
PHP			*i* SN	**Sb**	**08 00 18.3 -2.3**
CESX	**Cesi**	**3.31 253**	AML	AML	
	comp=E,4920µm,0.5s				
CESX			AML	AML	
	comp=N,6865µm,0.5s				
ATTE	**AVT- Monte Tez**	**3.32 263**	AML	AML	
	comp=N,3985µm,1.0s				
ATTE			AML	AML	
	comp=E,3660µm,0.7s				
PARC	**Parchiule**	**3.35 271**	AML	AML	
	comp=N,2895µm,0.4s				
PARC			AML	AML	
	comp=E,4565µm,0.6s				
MODR	**Mondragone**	**3.36 222**	AML	AML	
	comp=N,3145µm,0.6s				
MODR			AML	AML	
	comp=E,2295µm,0.7s				
ATMI	**Monte Miggiano**	**3.36 266**	AML	AML	
	comp=E,8465µm,0.5s				
ATMI			AML	AML	
	comp=N,11350µm,0.5s				
CADS	**Cadrg**	**3.38 320**	*i* Pn	**Pn**	**07 59 36.3 +1.9**
CADS			*e*Sn	**Sb**	**08 00 18.9 -3.8**
	comp=Z,5µm,1.2s				
CDRU	**Civita di Ruta**	**3.39 201**	AML	AML	
	comp=N,1570µm,1.1s				
CDRU			AML	AML	
	comp=E,2325µm,0.4s				
GIUL	**Giuliano Di Ro**	**3.40 233**	AML	AML	
	comp=E,1790µm,0.5s				
GIUL			AML	AML	
	comp=N,2080µm,0.6s				
SLCN	**Sala Consilina**	**3.41 196**	AML	AML	
	comp=N,4230µm,0.5s				
SLCN			AML	AML	
	comp=E,5410µm,0.6s				
MCEL	**Monticello**	**3.44 194**	AML	AML	
	comp=N,3315µm,0.4s				
MCEL			AML	AML	
	comp=E,2865µm,0.9s				
MCEL			AML	AML	
	comp=E,2935µm,0.9s				
MCEL			AML	AML	
	comp=N,3240µm,0.4s				
MTCE	**Montecelio**	**3.45 243**	AML	AML	
	comp=N,3045µm,0.8s				
MTCE			AML	AML	
	comp=E,4140µm,1.2s				
MTSN	**Montesano sull**	**3.51 194**	AML	AML	
	comp=N,3190µm,0.5s				
MTSN			AML	AML	
	comp=E,2605µm,0.9s				
BOVS	**Bovan**	**3.52 89**	*e*Pn	**Pn**	**07 59 37.2 +1.0**
BOVS			*e*Sn	**Sn**	**08 00 18.1 +0.2**
CMPR	**Campora**	**3.55 200**	AML	AML	
	comp=E,4605µm,0.7s				
CMPR			AML	AML	
	comp=N,2395µm,1.6s				
SIRI	**Monte Sirino -**	**3.57 192**	AML	AML	
	comp=N,4005µm,0.4s				
SIRI			AML	AML	
	comp=E,5720µm,0.3s				
SIRI			AML	AML	
	comp=N,4055µm,0.4s				
SIRI			AML	AML	
	comp=E,5890µm,0.3s				
CAFI	**Castiglion Fio**	**3.58 266**	AML	AML	
	comp=N,1740µm,1.1s				
CAFI			AML	AML	
	comp=E,1590µm,0.8s				
LATB	**Latina**	**3.61 234**	AML	AML	
	comp=E,777µm,0.6s				
LATB			AML	AML	
	comp=N,406µm,1.4s				
SFI	**Santa Sofia**	**3.64 275**	AML	AML	
	comp=E,1795µm,1.0s				
SFI			AML	AML	
	comp=E,1655µm,1.0s				
SFI			AML	AML	
	comp=N,2460µm,0.9s				
SFI			AML	AML	
	comp=N,1930µm,1.1s				
MDVR	**Moldovita**	**3.66 71**	⇓P	**Pn**	**07 59 41.4 +3.1**
MDVR			AML	AML	08 00 46.5
MGR	**Morigerati**	**3.67 196**	AML	AML	
	comp=E,3625µm,0.5s				
MGR			AML	AML	
	comp=E,3535µm,0.6s				
MGR			AML	AML	
	comp=N,3500µm,0.3s				
MGR			AML	AML	
	comp=N,3670µm,0.4s				
ASQU	**Asqua**	**3.68 274**	AML	AML	
	comp=E,1540µm,0.8s				
ASQU			AML	AML	
	comp=N,1640µm,0.9s				
PTCC	**Patocco-Chiusa**	**3.69 319**	AML	AML	
	comp=E,3565µm,1.2s				
PTCC			AML	AML	
	comp=N,3080µm,1.1s				
ARSA	**Arzberg**	**3.70 346**	*e*Pn	**Pn**	**07 59 39.8 +1.0**
	SNR=140				
ARSA			*e*Sg	**Sn**	**08 00 23.0 +0.6**
	SNR=1.0				
ARSA	**Arzberg**	**3.70 346**	AML	AML	
	comp=N,828µm,1.5s				
ARSA			AML	AML	
	comp=E,610µm,1.5s				
ARSA	**Arzberg**	**3.70 346**	*i* Pn	**Pn**	**07 59 39.8 +1.0**
	comp=E,266nm,0.5s,SNR=239				
ARSA			*i* Sn	**Sn**	**08 00 22.7 +0.3**
	comp=E,324nm,0.7s				
ARSA	**Arzberg**	**3.70 346**		**Pn**	**07 59 39.8 +1.0**
ARSA				**Sn**	**08 00 22.7 +0.3**
GEPF	**Gemona**	**3.71 316**	AML	AML	
	comp=E,8820µm,0.7s				
GEPF			AML	AML	
	comp=N,7010µm,0.7s				
SACS	**San Casciano d**	**3.71 259**	AML	AML	
	comp=N,2725µm,0.8s				
SACS			AML	AML	
	comp=E,2135µm,0.7s				
SACS			AML	AML	
	comp=E,2100µm,0.7s				
SACS			AML	AML	
	comp=N,2765µm,0.8s				
BARS	**Barje**	**3.72 102**	*e*Pn	**Pn**	**07 59 39.5 +0.5**
BARS	**Barje**	**3.72 102**	*e*Pn	**Pn**	**07 59 40.9 +1.9**
BARS			*e*Sn	**Sn**	**08 00 22.8 -0.1**
ACOM	**Acomizza, Ital**	**3.72 322**	AML	AML	
	comp=E,7200µm,0.8s				
ACOM			AML	AML	
	comp=N,10255µm,1.1s				
TIM	**Timisoara**	**3.73 55**	⇑P	**Pb**	**07 59 44.2 -3.2**
TIM	**Timisoara**	**3.73 55**	⇑P	**Pb**	**07 59 44.2 -3.2**
TIM			⇑S	**Sn**	**08 00 27.1 +4.0**
TIM			AML	AML	08 01 00.3
MYKA	**Terra Mystica**	**3.73 323**	*i* Pn	**Pn**	**07 59 41.2 +1.9**
	comp=N,17nm,0.5s,SNR=62				
MYKA			*i* Sn	**Sn**	**08 00 25.0 +1.7**
	comp=N,328nm,0.5s				
MYKA	**Terra Mystica**	**3.73 323**		**Pn**	**07 59 41.2 +1.9**
MYKA				**Sn**	**08 00 25.0 +1.7**
VLO	**Vlora**	**3.76 148**	*i* PN	**Pn**	**07 59 41.0 +1.4**
VLO	**Vlora**	**3.76 148**	AML	AML	
	comp=E,3935µm,1.1s				
VLO			AML	AML	
	comp=N,3055µm,0.6s				
CUC	**Castrocucco**	**3.76 192**	AML	AML	
	comp=N,1490µm,1.0s				
CUC			AML	AML	
	comp=N,1850µm,1.6s				
CUC			AML	AML	
	comp=E,2610µm,0.7s				
CUC			AML	AML	
	comp=E,3220µm,0.7s				
SKO	**Skopje**	**3.77 115**	*e*Pn	**Pn**	**07 59 41.6 +1.8**
SKO	**Skopje**	**3.77 115**	*i* Pn	**Pn**	**07 59 42.3 +2.5**
SCTE	**Santa Cesarea**	**3.80 161**	P	**Pn**	**07 59 40.0 -0.1**
SCTE			AML	AML	
	comp=N,2210µm,1.2s				
SCTE			AML	AML	
	comp=E,2055µm,0.6s				
SCTE	**Santa Cesarea**	**3.80 161**		**Pn**	**07 59 40.2 +0.2**
SCTE			Sn	**Sn**	**08 00 25.1 +0.3**
SALB	**San Lorenzo Be**	**3.82 186**	AML	AML	
	comp=N,3195µm,0.6s				
SALB			AML	AML	
	comp=E,5465µm,1.1s				
SALB			AML	AML	
	comp=N,3330µm,0.8s				
SALB			AML	AML	
	comp=E,5840µm,1.1s				
MMN	**Mormanno**	**3.84 190**	AML	AML	
	comp=E,1450µm,0.3s				
MMN			AML	AML	
	comp=N,2485µm,0.3s				
LATE	**Laterza**	**3.85 256**		**Pn**	**07 59 41.4 +0.5**
LATE			Sn	**Sn**	**08 00 25.2 -1.0**
OHR	**Ohrid**	**3.88 130**	*i* Pn	**Pn**	**07 59 43.9 +2.6**
OHR			*e*Sg	**Sg**	**08 00 46.6 +0.5**
OHR			*e*Lg	Lg	08 00 57.6
	comp=N,2µm,1.0s				
OHR			*e*Lg	Lg	08 01 00.2
	comp=E,4µm,1.3s				
POLC	**Polcenigo**	**3.89 309**	P	**Pn**	**07 59 43.1 +1.7**
POLC			AML	AML	
	comp=E,9520µm,0.7s				
POLC			AML	AML	
	comp=N,16100µm,1.4s				
ZAGS	**Zajecar**	**3.89 86**	*e*Pn	**Pn**	**07 59 42.3 +0.9**
ZAGS			*e*Sn	**Sn**	**08 00 27.8 +0.6**
MCIV	**Monte Civitell**	**3.90 258**	AML	AML	
	comp=N,860µm,1.0s				
MCIV			AML	AML	
	comp=E,1210µm,0.7s				
BRIS	**BRISIGHELLA**	**3.90 279**	AML	AML	
	comp=N,2945µm,0.5s				
BRIS			AML	AML	
	comp=E,1625µm,0.7s				
BZS	**Buzias**	**3.91 59**	⇑P	**Pn**	**07 59 43.6 +2.0**
BZS			AML	AML	08 00 06.6
STAL	**STALIGIAL**	**3.92 313**	AML	AML	
	comp=E,9960µm,0.8s				
STAL			AML	AML	
	comp=E,7910µm,0.7s				
STAL			AML	AML	
	comp=N,5605µm,0.5s				
STAL			AML	AML	
	comp=N,6740µm,0.8s				
STAL	**STALIGIAL**	**3.92 313**		**Pn**	**07 59 42.8 +1.0**
TOLF	**Tolfa**	**3.92 247**	AML	AML	
	comp=N,1510µm,0.4s				
TOLF			AML	AML	
	comp=E,1915µm,0.5s				
TEOL	**Teolo**	**4.08 296**	P	**Pn**	**07 59 44.6 +0.7**
TEOL			AML	AML	
	comp=N,8780µm,1.1s				
TEOL			AML	AML	
	comp=E,14100µm,0.7s				
TEOL	**Teolo**	**4.08 296**		**Pn**	**07 59 44.4 +0.4**
TEOL			Sn	**Sn**	**08 00 30.7 -1.0**
OSSC	**Osservatorio P**	**4.08 270**		**Pn**	**07 59 46.1 +2.1**
TPE	**Tepelena**	**4.11 144**	P	**Pn**	**07 59 44.8 +0.3**
TPE	**Tepelena**	**4.11 144**	*i* PN	**Pn**	**07 59 46.2 +1.7**
HERR	**Herculane**	**4.17 71**	⇑P	**Pn**	**07 59 46.1 +1.0**
HERR			AML	AML	08 01 03.5
FNVD	**Fontana Vidola**	**4.17 279**	AML	AML	
	comp=N,1695µm,1.1s				
FNVD			AML	AML	
	comp=E,1605µm,0.8s				
PIPA	**Pietrapaola**	**4.19 180**	AML	AML	
	comp=E,2120µm,0.4s				
PIPA			AML	AML	
	comp=N,1480µm,0.6s				
PIPA			AML	AML	
	comp=N,1445µm,0.5s				
PIPA			AML	AML	
	comp=E,2155µm,0.3s				
DJES	**Djerdap**	**4.19 74**	*e*Pn	**Pn**	**07 59 46.7 +1.2**
CET2	**Cetraro**	**4.20 190**	AML	AML	
	comp=E,5005µm,0.4s				
CET2			AML	AML	
	comp=N,5705µm,0.6s				
KBA	**Koelnbreinsper**	**4.21 325**	P	**Pn**	**07 59 47.9 +2.0**
KBA					08 00 38.5
KBA	**Koelnbreinsper**	**4.21 325**	*e*Pn	**Pn**	**07 59 48.3 +2.4**
	SNR=120				
KBA			*e*Sg	**Sn**	**08 00 39.1 +3.9**
	SNR=2.3				
KBA	**Koelnbreinsper**	**4.21 325**	*i* Pn	**Pn**	**07 59 47.9 +2.0**
	comp=N,56nm,0.3s,SNR=94				
KBA			*i* Sn	**Sn**	**08 00 38.5 +3.3**
	comp=N,293nm,0.6s				
KBA	**Koelnbreinsper**	**4.21 325**		**Pn**	**07 59 47.9 +2.0**
KBA				**Sn**	**08 00 38.5 +3.3**
BLKB	**Belogradchik**	**4.22 89**	⇓S	**Sb**	**08 00 41.6 -5.2**
BLKB			AML	AML	08 01 12.1
CGRP	**Cima Grappa**	**4.22 303**	AML	AML	
	comp=N,3870µm,0.9s				
CGRP			AML	AML	
	comp=E,5460µm,0.8s				
SRO	**Srobarova**	**4.26 13**	*e*P	**Pn**	**07 59 47.6 +1.1**
SRO			*e*		08 00 38.8
SRO			smax	smax	
	comp=N,1µm,0.6s				
SRO	**Srobarova**	**4.26 13**	*e*PN	**Pn**	**07 59 47.5 +1.1**
SRO			*e*SN	**Sn**	**08 00 38.8 +2.6**
SRO			*e*LG	Lg	08 00 47.3
SIRR	**Siria**	**4.28 51**	⇓P	**Pn**	**07 59 49.4 +2.7**
SIRR			AML	AML	08 01 20.3
CELI	**Celico**	**4.28 184**	AML	AML	
	comp=E,2535µm,0.6s				
CELI			AML	AML	
	comp=N,1198µm,0.6s				
CELI			AML	AML	
	comp=E,1036µm,1.2s				
CELI			AML	AML	
	comp=N,2945µm,0.6s				
BOSS	**Bosilegrad**	**4.28 104**	*e*Pn	**Pn**	**07 59 48.2 +1.4**
BOSS			*e*Sn	**Sn**	**08 00 36.5 -0.3**
AGOR	**Agordo**	**4.30 309**	AML	AML	
	comp=N,1218µm,0.7s				
AGOR			AML	AML	
	comp=E,1290µm,0.5s				
ZCCA	**Zocca**	**4.30 281**		**Pn**	**07 59 49.9 +2.9**
CONA	**Conrad Observa**	**4.31 351**	*i* Pn	**Pn**	**07 59 48.0 +0.7**
	comp=E,169nm,0.3s,SNR=116				
CONA			*e*Sn	**Sn**	**08 00 38.8 +1.2**
	comp=E,172nm,0.4s				
CONA	**Conrad Observa**	**4.31 351**		**Pn**	**07 59 48.0 +0.7**
CONA				**Sn**	**08 00 38.8 +1.2**
ABTA	**Abfaltersbach**	**4.34 316**	*i* Pn	**Pn**	**07 59 49.5 +1.8**
	comp=E,22nm,0.2s,SNR=80				
ABTA			*i* Sn	**Sn**	**08 00 40.4 +2.0**
	comp=E,692nm,0.7s				
ABTA	**Abfaltersbach**	**4.34 316**		**Pn**	**07 59 49.5 +1.8**
ABTA				**Sn**	**08 00 40.4 +2.0**
TRIF	**Trifonti**	**4.38 265**	AML	AML	
	comp=N,1175µm,0.5s				
TRIF			AML	AML	
	comp=E,998µm,0.7s				
STIP	**Stip**	**4.40 115**	*i* Pn	**Pn**	**07 59 52.5 +4.1**
CTI	**Castel Tesino**	**4.40 304**	P	**Pn**	**07 59 49.8 +1.3**
CTI					08 00 39.5
CTI	**Castel Tesino**	**4.40 304**	AML	AML	
	comp=N,3670µm,1.0s				
CTI			AML	AML	
	comp=E,3025µm,0.6s				
CTI	**Castel Tesino**	**4.40 304**		**Pn**	**07 59 49.8 +1.3**
CTI			Sn	**Sn**	**08 00 39.5 -0.3**
PUNG	**Punghina**	**4.42 80**	⇑P	**Pn**	**07 59 51.8 +3.2**
PUNG			AML	AML	08 01 19.4
FNA	**Florina**	**4.43 129**	P	**Pn**	**07 59 50.6 +1.8**
FNA			S	**Sn**	**08 00 41.5 +1.1**
FNA	**Florina**	**4.43 129**	*i* Pn	**Pn**	**07 59 50.8 +2.1**
FNA	**Florina**	**4.43 129**	P	**Pn**	**07 59 50.9 +2.1**
FNA					08 00 41.9
FNA	**Florina**	**4.43 129**		**Pn**	**07 59 50.9 +2.1**
FNA			Sn	**Sn**	**08 00 41.9 +1.5**
CAR1	**CAROLEI**	**4.45 187**	AML	AML	
	comp=N,1955µm,0.6s				
CAR1			AML	AML	
	comp=N,1870µm,0.7s				
CAR1			AML	AML	
	comp=E,2330µm,0.9s				
CAR1			AML	AML	
	comp=E,2285µm,0.9s				
SRN	**Sarande**	**4.46 147**	P	**Pn**	**07 59 49.7 +0.5**
SRN	**Sarande**	**4.46 147**	*i* PN	**Pn**	**07 59 50.1 +0.9**
CASP	**Castiglione de**	**4.47 261**	AML	AML	
	comp=N,302µm,0.4s				
CASP			AML	AML	
	comp=E,404µm,0.6s				
CASP	**Castiglione de**	**4.47 261**		**Pn**	**07 59 50.0 +0.6**
TIP	**Timpagrande**	**4.50 181**	P	**Pn**	**07 59 50.3 +0.5**
TIP	**Timpagrande**	**4.50 181**	⇑P	**Pn**	**07 59 49.7 -0.1**
TIP			⇑S	**Sn**	**08 00 43.5 +1.4**
TIP			AML	AML	08 01 34.5
TIP	**Timpagrande**	**4.50 181**	AML	AML	
	comp=E,706µm,0.8s				
TIP			AML	AML	
	comp=N,750µm,1.0s				
TIP			AML	AML	
	comp=E,600µm,0.8s				
TIP			AML	AML	
	comp=N,594µm,1.0s				
TIP	**Timpagrande**	**4.50 181**		**Pn**	**07 59 50.2 +0.4**
NEST	**Nestorio**	**4.51 135**	P	**Pn**	**07 59 52.2 +2.2**
ZST	**Bratislava**	**4.52 2**	*e*P	**Pn**	**07 59 50.3 +0.2**
ZST			*e*		08 00 40.3
ZST	**Bratislava**	**4.52 2**	*e*PN	**Pn**	**07 59 50.3 +0.2**
ZST			*e*SN	**Sn**	**08 00 40.3 -2.4**
KEK	**Kerkira**	**4.53 150**	P	**Pn**	**07 59 50.5 +0.3**
KEK	**Kerkira**	**4.53 150**	AML	AML	
	comp=N,206µm,0.6s				
KEK			AML	AML	
	comp=E,262µm,1.3s				
MOA	**Molln**	**4.55 337**	*e*Pn	**Pn**	**07 59 52.8 +2.3**
	SNR=279				
MOA			*e*Sg	**Sn**	**08 00 47.3 +3.8**
	SNR=2.4				
MOA	**Molln**	**4.55 337**	*i* Pn	**Pn**	**07 59 52.5 +2.1**
	comp=E,49nm,0.3s,SNR=148				
MOA			*i* Sn	**Sn**	**08 00 45.2 +1.8**
	comp=E,220nm,0.4s				
MOA	**Molln**	**4.55 337**		**Pn**	**07 59 52.5 +2.1**
MOA				**Sn**	**08 00 45.2 +1.8**
GZR	**Gura Zlata**	**4.56 66**	⇑P	**Pn**	**07 59 51.2 +0.5**
GZR			⇑S	Sn	08 00 12.7 -31
GZR			AML	AML	08 01 17.3
ROVR	**Rover Verones**	**4.58 297**	AML	AML	
	comp=N,3335µm,0.7s				
ROVR			AML	AML	
	comp=E,2405µm,0.6s				
ROVR			AML	AML	
	comp=N,1310µm,0.7s				
ROVR			AML	AML	
	comp=E,957µm,0.5s				
PII	**Pisa**	**4.60 273**	AML	AML	
	comp=N,1865µm,0.3s				
PII			AML	AML	
	comp=E,1750µm,0.4s				
SERS	**Sersale**	**4.64 182**	AML	AML	
	comp=N,1068µm,0.5s				
SERS			AML	AML	
	comp=E,1135µm,1.1s				
SERS			AML	AML	
	comp=E,1100µm,0.8s				
SERS			AML	AML	
	comp=N,1092µm,1.1s				
SRE	**Strehaia**	**4.67 76**	⇓P	**Pn**	**07 59 54.5 +2.4**
SRE			AML	AML	08 01 25.1
RISI	**Rein**	**4.70 316**	AML	AML	
	comp=N,4540µm,1.6s				
RISI			AML	AML	
	comp=E,5620µm,0.7s				
VLC	**Villacollemand**	**4.70 278**	AML	AML	
	comp=E,530µm,0.9s				
VLC			AML	AML	
	comp=E,534µm,1.3s				
VLC			AML	AML	
	comp=N,790µm,0.9s				
VLC			AML	AML	
	comp=N,812µm,0.9s				
VLC	**Villacollemand**	**4.70 278**		**Pn**	**07 59 54.1 +1.5**
MODS	**Modra-Piesok**	**4.71 3**	*e*P	**Pn**	**07 59 51.5 -1.1**
MODS			*e*		08 00 44.7
MODS			smax	smax	
	comp=N,445nm,0.8s				
MODS	**Modra-Piesok**	**4.71 3**	*e*PN	**Pn**	**07 59 51.5 -1.1**
MODS			*e*SN	**Sn**	**08 00 44.7 -2.6**
MODS			*e*LG	Lg	08 00 49.8
BRES	**Bressanone**	**4.72 312**	AML	AML	
	comp=N,2495µm,1.1s				
BRES			AML	AML	
	comp=E,3240µm,1.0s				
PENT	**Pentalofos**	**4.72 136**	P	**Pn**	**07 59 54.8 +1.9**
PSZ	**Piszkesteto**	**4.74 25**	P	**Pn**	**07 59 53.1 -0.1**
PSZ					08 00 47.0
PSZ	**Piszkesteto**	**4.74 25**	⇑P	**Pn**	**07 59 53.2 +0.1**
PSZ			AML	AML	08 00 49.8
PSZ	**Piszkesteto**	**4.74 25**		**Pn**	**07 59 53.1 -0.1**
PSZ			Sn	**Sn**	**08 00 47.0 -1.2**
KOSI	**Kohlern**	**4.78 308**	AML	AML	
	comp=E,4625µm,1.3s				
KOSI			AML	AML	
	comp=N,4645µm,0.7s				
VTS	**Vitosha**	**4.78 101**	P	**Pn**	**07 59 55.5 +1.7**
VTS	**Vitosha**	**4.78 101**	*i* Pn	**Pn**	**07 59 55.5 +1.7**
VTS	**Vitosha**	**4.78 101**	P	**Pn**	**07 59 55.5 +1.7**
VTS					08 00 51.4
VTS	**Vitosha**	**4.78 101**	⇑P	**Pn**	**07 59 56.0 +2.2**
VTS			AML	AML	08 01 34.0
VTS	**Vitosha**	**4.78 101**	AML	AML	
	comp=E,438µm,0.8s				
VTS			AML	AML	
	comp=N,355µm,1.5s				
VTS	**Vitosha**	**4.78 101**		**Pn**	**07 59 55.5 +1.7**
VTS			Sn	**Sn**	**08 00 51.4 +2.1**
PRMA	**PARMA**	**4.83 285**		**Pn**	**07 59 55.2 +0.9**
VAY	**Valandovo**	**4.83 117**	*i* Pn	**Pn**	**07 59 56.1 +1.8**
DEV	**Deva**	**4.83 61**	P	**Pb**	**08 00 03.8 -2.5**
DEV	**Deva**	**4.83 61**	⇑P	**Pn**	**07 59 56.7 +2.4**
DEV			AML	AML	08 00 03.8
SMOL	**Smolenice**	**4.85 4**	*e*P	**Pn**	**07 59 55.5 +0.9**
SMOL			*e*		08 00 51.2
SMOL			smax	smax	
	comp=N,873nm,0.8s				
SMOL	**Smolenice**	**4.85 4**	*e*PN	**Pn**	**07 59 55.5 +0.9**
SMOL			*e*SN	**Sn**	**08 00 51.2 +0.3**
SMOL			*e*LG	Lg	08 00 54.2
EQUI	**Equi**	**4.87 278**	AML	AML	
	comp=N,818µm,1.1s				
EQUI			AML	AML	
	comp=E,632µm,0.4s				
APPI	**Appiano**	**4.88 307**	AML	AML	
	comp=E,1815µm,0.5s				
APPI			AML	AML	
	comp=N,2740µm,0.9s				
IGT	**Igoumenitsa**	**4.89 147**	P	**Pn**	**07 59 56.1 +1.0**
IGT			S	**Sn**	**08 00 50.4 -1.4**
MAGA	**Magasa**	**4.91 297**	AML	AML	
	comp=N,4065µm,0.5s				
MAGA			AML	AML	
	comp=E,6685µm,0.5s				
SALO	**Salr**	**4.92 295**	AML	AML	
	comp=E,4020µm,0.6s				
SALO			AML	AML	
	comp=N,4085µm,1.3s				
SALO	**Salr**	**4.92 295**		**Pn**	**07 59 56.5 +0.9**
SALO			Sn	**Sn**	**08 00 53.5 +0.9**
GRG	**Griva**	**4.92 122**	P	**Pn**	**07 59 57.4 +1.8**
GRG	**Griva**	**4.92 122**	*e*P	**Sn**	**08 00 55.2 +2.5**
RJOB	**Jochberg**	**4.96 326**	*e*Pn	**Pn**	**07 59 59.2 +3.0**
	SNR=83				
RJOB			*e*Sg	**Sn**	**08 01 00.1 +6.5**
	SNR=3.4				
ABSI	**Aberstueckl**	**4.96 310**	AML	AML	
	comp=N,5220µm,0.8s				
ABSI			AML	AML	
	comp=E,5380µm,0.6s				

GRAM Graiana 4.96 282 AML AML
comp=N,2410µm,0.4s
GRAM AML AML
comp=E,2495µm,0.4s
KZN Kozani 4.97 131 P **Pn 07 59 58.2 +1.9**
JAN Janina 5.00 142 P **Pn 07 59 58.0 +1.3**
VYHS Vyhne 5.01 15 *e*P **Pn 07 59 57.3 +0.5**
VYHS *e* 08 00 54.1
VYHS Vyhne 5.01 15 *e*PN **Pn 07 59 57.3 +0.5**
VYHS *e*SN **Sn 08 00 54.1 -0.6**
KPRO Kipourio 5.01 136 P **Pn 07 59 58.8 +1.9**
KOLL Kolacno 5.02 12 *e*PN **Pn 07 59 57.8 +0.9**
KOLL *e*SN **Sn 08 00 53.9 -1.0**
ROSI Rosskopf 5.04 312 AML AML
comp=N,4225µm,0.7s
ROSI AML AML
comp=E,3375µm,1.6s
MABI Malga Bissina 5.10 300 AML AML
comp=N,959µm,0.4s
MABI AML AML
comp=E,740µm,0.7s
KTI Kastanea 5.11 128 P **Pn 07 59 59.5 +1.3**
JOPP Joppolo 5.12 189 AML AML
comp=E,2010µm,0.6s
JOPP AML AML
comp=N,1740µm,0.4s
KNT Kendrikon 5.13 117 P **Pn 08 00 00.2 +1.8**
WTTA Wattenberg 5.13 316 P **Pn 08 00 00.9 +2.2**
WTTA 08 01 00.1
WTTA Wattenberg 5.13 316 *e*Pn **Pn 08 00 01.2 +2.5**
SNR=220
WTTA *e*Sg **Sn 08 01 03.2 +5.1**
SNR=3.3
WTTA Wattenberg 5.13 316 *i* Pn **Pn 08 00 00.9 +2.2**
comp=N,32nm,0.2s,SNR=216
WTTA *i* Sn **Sn 08 01 00.1 +2.0**
comp=N,892nm,0.9s
WTTA Wattenberg 5.13 316 **Pn 08 00 00.9 +2.2**
WTTA **Sn 08 01 00.1 +2.0**
DRGR 5.17 51 ⇑P **Pn 08 00 00.6 +1.5**
DRGR AML AML 08 01 02.6
JAVC Velka Javorina 5.21 6 *e*Pn **Pn 08 00 00.7 +1.1**
SNR=24
JAVC Velka Javorina 5.21 6 *e*PN **Pn 08 00 00.9 +1.3**
WATA Walderalm 5.21 316 P **Pn 08 00 02.1 +2.4**
WATA 08 01 01.6
WATA Walderalm 5.21 316 *i* Pn **Pn 08 00 02.1 +2.4**
comp=N,41nm,0.2s,SNR=190
WATA *i* Sn **Sn 08 01 01.6 +1.6**
comp=N,125nm,0.3s
WATA Walderalm 5.21 316 **Pn 08 00 02.1 +2.4**
WATA **Sn 08 01 01.6 +1.6**
PLAC Placanica 5.23 184 AML AML
comp=E,921µm,0.5s
PLAC AML AML
comp=N,780µm,1.3s
PLAC AML AML
comp=E,817µm,1.3s
PLAC AML AML
comp=N,941µm,0.5s
LOT Lotru 5.24 68 ⇑P **Pn 08 00 01.8 +1.7**
SQTA Sankt Quirin 5.33 314 P **Pn 08 00 04.0 +2.8**
SQTA 08 01 04.8
SQTA Sankt Quirin 5.33 314 *i* Pn **Pn 08 00 04.0 +2.8**
comp=N,88nm,0.3s,SNR=98
SQTA *i* Sn **Sn 08 01 04.8 +2.1**
comp=N,290nm,0.5s
SQTA Sankt Quirin 5.33 314 **Pn 08 00 04.0 +2.8**
SQTA **Sn 08 01 04.8 +2.1**
MSSA Maissana 5.34 279 **Pn 08 00 02.3 +1.0**
MSSA Sn **Sn 08 01 02.8 -0.1**
KRUC Moravsky 5.40 357 *e*Pn **Pn 08 00 02.9 +0.8**
SNR=42
KRUC Moravsky 5.40 357 *e*PN **Pn 08 00 02.9 +0.8**
KRUC *e*SN **Sn 08 01 01.8 -2.4**
KECS Kecovo 5.43 26 *e*P **Pn 08 00 03.7 +1.2**
KECS *e* 08 01 03.5
KECS smax smax
comp=N,65nm,0.7s
KECS Kecovo 5.43 26 *e*PN **Pn 08 00 03.7 +1.2**
KECS *e*SN **Sn 08 01 03.5 -1.5**
KECS *e*LG Lg 08 01 09.4
MOTA Moosalm 5.46 314 P **Pn 08 00 05.5 +2.4**
MOTA 08 01 09.0
MOTA Moosalm 5.46 314 *i* Pn **Pn 08 00 05.5 +2.4**
comp=N,753nm,0.7s,SNR=280
MOTA *i* Sn **Sn 08 01 09.0 +3.0**
comp=N,328nm,0.8s
MOTA Moosalm 5.46 314 **Pn 08 00 05.5 +2.4**
MOTA **Sn 08 01 09.0 +3.0**
THE Thessaloniki 5.46 122 P **Pn 08 00 04.5 +1.6**
FETA Feichten 5.46 310 *i* Pn **Pn 08 00 05.0 +1.8**
comp=N,125nm,0.8s,SNR=35
FETA *i* Sn **Sn 08 01 09.1 +3.0**
comp=N,55nm,0.4s
FETA Feichten 5.46 310 **Pn 08 00 05.0 +1.8**
FETA **Sn 08 01 09.2 +3.0**
LIT Litokhoron 5.51 128 P **Pn 08 00 04.5 +0.8**
LIT Litokhoron 5.51 128 P **Pn 08 00 04.6 +0.8**
LIT 08 01 07.5
LIT Litokhoron 5.51 128 **Pn 08 00 04.6 +0.8**
LIT Sn **Sn 08 01 07.5 +0.3**
HORT Hortiatis 5.56 121 P **Pn 08 00 05.9 +1.4**
HORT Hortiatis 5.56 121 *e*P **Pn 08 00 04.7 +0.2**
SOH Sokhos 5.60 118 P **Pn 08 00 07.0 +2.1**
GEC2 GERESS Array S 5.61 338 *e*Pn **Pn 08 00 06.5 +1.4**
SNR=28
GEC2 GERESS Array S 5.61 338 **Pn 08 00 06.4 +1.2**
GEC2 Sn **Sn 08 01 09.8 +0.1**
GERES GERESS Array B 5.61 338 P **Pn 08 00 06.2 +1.1**
GERES 08 01 09.5
GERES GERESS Array B 5.61 338 Pn **Pn 08 00 06.3 +1.2**
comp=N,19nm,0.3s,baz=156,slow=15,SNR=170
GERES Sn **Sn 08 01 09.9 +0.2**
comp=N,33nm,0.3s,baz=150,slow=22,SNR=8.8
GERES Lg Lg 08 01 39.4
comp=N,6.2nm,0.3s,baz=162,slow=21,SNR=2.0
GERES GERESS Array B 5.61 338 **Pn 08 00 06.2 +1.1**
GERES **Sn 08 01 09.5 -0.3**
TSLK Tsoukalades, L 5.63 148 P **Pn 08 00 05.6 +0.4**
THL Klokotos Trika 5.64 135 P **Pn 08 00 05.8 +0.4**
THL S **Sn 08 01 08.7 -1.5**
VRAC Vranov 5.64 358 *e*Pn **Pn 08 00 06.1 +0.7**
SNR=16
VRAC Vranov 5.64 358 Pn **Pn 08 00 05.8 +0.4**
comp=N,12nm,0.3s,baz=190,slow=12,SNR=30
VRAC Sn **Sn 08 01 10.5 +0.4**
comp=N,14nm,0.3s,baz=102,slow=22,SNR=5.8
VRAC Vranov 5.64 358 ⇓P **Pn 08 00 05.9 +0.5**
VRAC Vranov 5.64 358 *e*PN **Pn 08 00 05.5 +0.1**
VRAC *e*SN **Sn 08 01 07.7 -2.5**
CJR Cluj-Napoca 5.64 55 ⇑P **Pn 08 00 08.1 +2.5**
PLVB Pleven 5.65 90 ⇓P **Pn 08 00 08.3 +2.8**
LKD2 Lefkada island 5.66 148 P **Pn 08 00 05.9 +0.2**
TREC Trest 5.70 351 *e*P **Pn 08 00 08.2 +1.9**
TREC *e* 08 01 13.2
TREC MLR MLR
comp=Z,3µm,6.7s
TREC Trest 5.70 351 *e*Pn **Pn 08 00 08.1 +1.9**
SNR=3.5
TREC Trest 5.70 351 *e*PN **Pn 08 00 08.2 +1.9**
TREC *e*SN **Sn 08 01 13.2 +1.5**
TREC AMS AMS 08 02 20.0
comp=Z,3µm,6.7s
RETA Reutte 5.73 314 *i* Pn **Pn 08 00 08.7 +2.0**
comp=Z,20nm,0.3s,SNR=45
RETA *i* Sn **Sn 08 01 14.6 +2.0**
comp=Z,327nm,0.7s
RETA Reutte 5.73 314 **Pn 08 00 08.7 +2.0**
RETA **Sn 08 01 14.6 +2.0**
LANS Liptovska Anna 5.76 17 *e*P **Pn 08 00 08.6 +1.4**
LANS *e* 08 01 14.5
LANS smax smax
comp=N,44nm,0.6s
LANS Liptovska Anna 5.76 17 *e*PN **Pn 08 00 08.5 +1.4**
LANS *e*SN **Sn 08 01 14.4 +1.1**
LANS *e*LG Lg 08 01 26.6
EVGI Lefkada island 5.80 149 P **Pn 08 00 07.4 -0.3**
ARR Arges 5.81 70 ⇑P **Pn 08 00 10.2 +2.4**
DAVOX Davos/Dischmat 5.83 305 Pn **Pn 08 00 09.1 +0.9**
comp=N,40nm,0.3s,baz=115,slow=8.4,SNR=63
DAVOX Sn **Sn 08 01 18.4 +3.3**
comp=N,23nm,0.3s,baz=56,slow=4.0,SNR=4.3
DAVOX LR LR 08 03 09.0
comp=N,92nm,19.7s,baz=112,slow=46
PGF Pioggiola 5.87 262 *e*Pn **Pn 08 00 09.7 +1.1**
PGF Pioggiola 5.87 262 *e*P **Pn 08 00 12.5 +3.9**
PGF *e*Sn **Sn 08 01 11.5 -4.5**
comp=N,103nm,0.6s
HUMR Humele 5.91 79 ⇑P **Pn 08 00 11.1 +2.1**
KHC Kasperske Hory 5.91 339 *e*P **Pn 08 00 10.6 +1.5**
KHC *e* 08 01 15.9
KHC MLR MLR
comp=Z,2µm,7.9s
KHC Kasperske Hory 5.91 339 *e*Pn **Pn 08 00 10.7 +1.6**
SNR=32
KHC Kasperske Hory 5.91 339 *e*PN **Pn 08 00 10.6 +1.5**
KHC *ex* x 08 00 21.5
KHC *e*SN **Sn 08 01 15.9 -1.0**
KHC AMS AMS 08 02 20.0
comp=Z,2µm,7.9s
KHC Kasperske Hory 5.91 339 **Pn 08 00 10.6 +1.5**
PLG Polygyros 5.91 122 P **Pn 08 00 11.2 +2.0**
FSK Fiskardo 5.91 151 P **Pn 08 00 08.4 -0.8**
TRPA Tarpa 5.96 40 ⇑P **Pn 08 00 11.8 +2.1**
PLD Plovdiv 5.97 103 *e*P **Pn 08 00 11.0 +1.1**
TUE Stuetta 6.01 300 **Pn 08 00 12.4 +1.7**
PDO Prodromos 6.03 146 P **Pn 08 00 10.8 0.0**
EVR Evrytania 6.04 140 P **Pn 08 00 12.8 +1.8**
DAVA Damuels 6.09 309 *e*Pn **Pn 08 00 15.1 +3.4**
SNR=60
DAVA Damuels 6.09 309 *i* Pn **Pn 08 00 14.2 +2.5**
comp=Z,78nm,0.4s,SNR=37
DAVA *i* Sn **Sn 08 01 23.7 +2.1**
comp=Z,126nm,0.4s
DAVA Damuels 6.09 309 **Pn 08 00 14.2 +2.5**
DAVA **Sn 08 01 23.7 +2.1**
VOIR 6.11 70 ⇓P **Pn 08 00 14.3 +2.4**
MAKR Makrakomi, Fth 6.12 138 P **Pn 08 00 13.1 +1.1**
MORC Moravsky Berou 6.12 4 P **Pn 08 00 13.0 +0.9**
MORC Moravsky Berou 6.12 4 *e*Pn **Pn 08 00 13.3 +1.3**
SNR=52
MORC Moravsky Berou 6.12 4 ⇑P **Pn 08 00 12.9 +0.9**
MORC Moravsky Berou 6.12 4 *e*PN **Pn 08 00 13.0 +0.9**
MORC *e*SN **Sn 08 01 19.6 -2.5**
MORC Moravsky Berou 6.12 4 **Pn 08 00 13.0 +0.9**
WET Wettzell 6.12 335 *e*Pn **Pn 08 00 13.3 +1.3**
SNR=20
BMR Baia Mare 6.13 47 ⇑P **Pn 08 00 14.5 +2.4**
PVO Paravola 6.16 144 P **Pn 08 00 13.4 +0.9**
VLS Valsamata 6.18 152 P **Pn 08 00 12.2 -0.6**
UBR Ueberruh 6.20 313 *e*Pn **Pn 08 00 14.7 +1.6**
SNR=38
AGG Agios Georgios 6.21 137 P **Pn 08 00 14.0 +0.7**
AGG Agios Georgios 6.21 137 P **Pn 08 00 14.2 +0.9**
AGG 08 01 25.1
AGG Agios Georgios 6.21 137 **Pn 08 00 14.2 +0.9**
AGG Sn **Sn 08 01 25.1 +0.8**
NIE Niedzica 6.21 21 *e*P **Pn 08 00 15.4 +2.1**
NIE *e* 08 01 26.4
NIE Niedzica 6.21 21 *e*Pn **Pn 08 00 15.4 +2.1**
NIE *e*Pn **Pn 08 00 15.4 +2.1**
NIE *e* 08 00 18.4
NIE *e* 08 00 18.4
NIE *e*Sn **Sn 08 01 24.2 -0.2**
NIE *e*Sn **Sn 08 01 24.2 -0.2**
NIE *e* 08 01 26.4
NIE *e* 08 01 26.4
OKC Ostrava-Krasne 6.23 8 *e*P **Pn 08 00 15.1 +1.7**
OKC MLR MLR
comp=Z,3µm,7.4s
OKC Ostrava-Krasne 6.23 8 *e*Pn **Pn 08 00 15.1 +1.7**
SNR=5.9
OKC Ostrava-Krasne 6.23 8 *e*PN **Pn 08 00 15.1 +1.7**
OKC AMS AMS 08 03 00.0
comp=Z,3µm,7.4s
UZH Uzhgorod 6.23 35 *e*P **Pn 08 00 16.5 +3.1**
UZH *e*S **Sn 08 01 29.5 +4.9**
UZH MLR MLR
comp=N,180nm,10.5s
UZH MLR MLR
comp=E,220nm,10.5s
UZH MLR MLR
comp=Z,80nm,10.5s
PLONS Plons/SG 6.26 305 *e*Pn **Pn 08 00 16.7 +2.8**
SNR=53
OUR Ouranopolis 6.27 120 *e*P **Pn 08 00 15.4 +1.4**
KAVA Kavala 6.27 113 P **Pn 08 00 17.0 +2.9**
ARCR ARCALIA 6.28 55 ⇑P **Pn 08 00 16.5 +2.3**
KFL Anninata 6.31 151 P **Pn 08 00 14.2 -0.4**
PAIG Paliouri 6.32 124 P **Pn 08 00 15.7 +0.9**
PBCC Pribram 6.33 343 *e*PN **Pn 08 00 16.3 +1.5**
CORL Corleone 6.38 206 **Pn 08 00 16.9 +1.3**
GOPC GO Pecny, Ondr 6.40 348 *e*P **Pn 08 00 16.8 +0.9**
GOPC MLR MLR
comp=Z,2µm,7.8s
GOPC GO Pecny, Ondr 6.40 348 *e*PN **Pn 08 00 16.8 +0.9**
GOPC AMS AMS 08 02 40.0
comp=Z,2µm,7.8s
KRLC Kraliky 6.40 360 *e*P **Pn 08 00 17.8 +1.9**
KRLC Kraliky 6.40 360 *e*PN **Pn 08 00 17.8 +1.9**
XOR Xorichti 6.41 130 P **Pn 08 00 16.2 +0.2**
XOR S **Sn 08 01 27.8 -1.5**
KOLS Kolonicke sedl 6.46 34 *e*P **Pn 08 00 18.2 +1.6**
KOLS *e* 08 01 31.8
KOLS Kolonicke sedl 6.46 34 *e*PN **Pn 08 00 18.2 +1.6**
KOLS *e*PG **Pg 08 00 44.2 -0.9**
KOLS *e*SN **Sn 08 01 31.8 +1.5**
VAE Valguarnera 6.47 198 Pn **Pn 08 00 17.1 +0.3**
comp=Z,7.0nm,0.3s,baz=65,slow=18,SNR=3.4
VAE LR LR 08 03 29.3
comp=Z,153nm,20.3s,baz=26,slow=45
NEO Neokhori 6.47 130 P **Pn 08 00 17.0 +0.2**
DOPR Dopca 6.48 66 ⇑P **Pn 08 00 20.1 +3.1**
EFP Efpalio 6.48 142 P **Pn 08 00 17.8 +0.8**
PRU Pruhonice 6.51 347 *e*P **Pn 08 00 19.1 +1.7**
PRU MLR MLR
comp=Z,2µm,6.9s
PRU Pruhonice 6.51 347 *e*Pn **Pn 08 00 19.4 +2.0**
SNR=6.5
PRU Pruhonice 6.51 347 *e*PN **Pn 08 00 19.1 +1.7**
PRU AMS AMS 08 02 50.0
comp=Z,2µm,6.9s
SERG Sergoula 6.56 142 P **Pn 08 00 19.0 +0.9**
SERG S **Sn 08 01 31.9 -1.1**
TRIZ Trizonia 6.61 142 P **Pn 08 00 19.6 +0.9**
RLS Riolos of Patr 6.61 147 P **Pn 08 00 19.2 +0.5**
KALE Kalithea 6.62 141 P **Pn 08 00 19.3 +0.4**
KALE S **Sn 08 01 33.9 -0.5**
ELND Elena 6.62 93 ⇓P **Pn 08 00 21.2 +2.3**
KDZ Kurdzhali 6.62 105 *e*P **Pn 08 00 19.1 +0.2**
LAKA Lakka 6.67 143 P **Pn 08 00 19.8 +0.2**
DPC Dobruska-Polom 6.69 357 *e*P **Pn 08 00 20.9 +1.1**
DPC MLR MLR
comp=Z,2µm,6.2s
DPC Dobruska-Polom 6.69 357 *e*PN **Pn 08 00 20.9 +1.1**
DPC AMS AMS 08 03 00.0
comp=Z,2µm,6.2s
CLTB Caltabellotta 6.69 206 **Pn 08 00 19.9 -0.1**
WILA Wila 6.72 307 *e*Pn **Pn 08 00 22.4 +2.1**
SNR=15
RAFF Raffo Rosso 6.72 197 Pn **Pn 08 00 20.7 +0.4**
MLR Muntele Rosu 6.74 71 P **Pn 08 00 21.3 +0.7**
MLR Muntele Rosu 6.74 71 Pn **Pn 08 00 22.3 +1.8**
comp=Z,0.9nm,0.3s,baz=302,slow=13,SNR=12
MLR Lg Lg 08 02 17.6
comp=Z,1.0nm,0.3s,baz=106,slow=20,SNR=1.9
MLR LR LR 08 03 22.3
comp=Z,470nm,18.7s,baz=292,slow=42
MLR Muntele Rosu 6.74 71 ⇑P **Pn 08 00 23.7 +3.2**
MLR Muntele Rosu 6.74 71 **Pn 08 00 21.3 +0.7**
SECR 6.74 75 ⇑P **Pn 08 00 23.7 +3.2**
DSF Desfina 6.78 139 P **Pn 08 00 20.9 -0.3**
DRO Drossia 6.80 146 P **Pn 08 00 21.1 -0.2**
SBF Sospel 6.83 275 *e*Pn **Pn 08 00 21.9 +0.1**
SBF Sospel 6.83 275 *e*P **Pn 08 00 25.3 +3.5**
SBF *e*Sn **Sn 08 01 33.8 -5.8**
comp=Z,248nm,0.4s
LKR Lokris 6.83 135 P **Pn 08 00 21.9 +0.2**
OJC Ojcow 6.85 16 P **Pn 08 00 21.7 -0.3**
OJC Ojcow 6.85 16 *e*P **Pn 08 00 23.5 +1.6**
OJC *e*P **Pn 08 00 23.5 +1.6**
OJC *e*S **Sn 08 01 39.0 -1.0**
OJC *e*S **Sn 08 01 39.0 -1.0**
OJC Ojcow 6.85 16 **Pn 08 00 21.7 -0.3**
UPC Upice 6.86 355 *e*P **Pn 08 00 24.0 +1.9**
UPC Upice 6.86 355 *e*Pn **Pn 08 00 24.0 +1.9**
ROTZ Rotzenmuhle 6.88 334 *e*Pn **Pn 08 00 23.2 +0.8**
SNR=17
RDO Rodhopi 6.90 109 *e*P **Pn 08 00 24.3 +1.6**
KLV Kalavryta, Ach 6.91 143 P **Pn 08 00 23.1 +0.2**
AOS Alonnisos 6.93 128 *e*P **Pn 08 00 22.8 -0.4**
CHVC Chvalec 6.94 356 *e*PN **Pn 08 00 24.5 +1.3**
CHVC AMS AMS 08 03 10.0
comp=Z,1µm,6.8s
RAZG Razgrad 7.00 88 ⇑P **Pn 08 00 26.1 +1.9**
PVCC Panska Ves 7.03 348 AMS AMS 08 03 10.0
comp=Z,2µm,7.8s
BURAR Bucovina Array 7.05 53 ⇓P **Pn 08 00 28.1 +3.1**
BURAR Bucovina Array 7.05 53 **Pn 08 00 25.2 +0.3**
BUR08 Bucovina Ar. S 7.06 53 **Pn 08 00 26.2 +1.2**
ISR Istrita 7.08 75 ⇑P **Pn 08 00 27.0 +1.7**
SLE Schleitheim 7.14 308 *e*Pn **Pn 08 00 28.5 +2.4**
SNR=46
GRA1 Grafenberg Arr 7.16 329 **Pn 08 00 27.8 +1.5**
GRF Grafenberg Arr 7.16 329 P **Pn 08 00 27.8 +1.5**
KSP Ksiaz 7.18 357 *e*P **Pn 08 00 27.9 +1.4**
KSP Ksiaz 7.18 357 *e*P **Pn 08 00 27.9 +1.4**
KSP *e*P **Pn 08 00 27.9 +1.4**
KWP Kalwaria Pacla 7.18 32 P **Pn 08 00 27.5 +0.9**
KWP Kalwaria Pacla 7.18 32 **Pn 08 00 27.6 +0.9**
NKC Novy Kostel 7.22 337 *e*P **Pn 08 00 27.9 +0.8**
NKC MLR MLR
comp=Z,1µm,8.4s
NKC Novy Kostel 7.22 337 *e*Pn **Pn 08 00 28.1 +1.0**
SNR=6.7
NKC Novy Kostel 7.22 337 *e*PN **Pn 08 00 27.9 +0.8**
NKC AMS AMS 08 03 10.0
comp=Z,1µm,8.4s
BISRR Bisoca 7.27 72 ⇑P **Pn 08 00 29.2 +1.3**
BIZ Bicaz 7.29 60 ⇑P **Pn 08 00 31.0 +3.0**
SENIN Lac Senin/Sane 7.29 295 **Pn 08 00 29.6 +1.3**
WERN Wernitzgruen 7.29 337 *e*Pn **Pn 08 00 29.4 +1.3**
SNR=14
PLOR Plostina 7.30 69 ⇑P **Pn 08 00 29.9 +1.6**
LTK Loutraki 7.30 139 P **Pn 08 00 27.5 -0.7**
MBDF Montbardon 7.33 282 *e*Pn **Pn 08 00 27.6 -1.1**
MBDF Montbardon 7.33 282 *e*P **Pn 08 00 33.2 +4.5**
MBDF *e*Sn **Sn 08 01 46.5 -5.5**
comp=Z,205nm,0.5s
LOUT Loutraki 7.33 139 P **Pn 08 00 27.1 -1.6**
ALN Alexandroupoli 7.35 109 P **Pn 08 00 30.9 +2.0**
ALN Alexandroupoli 7.35 109 P **Pn 08 00 31.2 +2.3**
ALN Alexandroupoli 7.35 109 *e*P **Pn 08 00 31.5 +2.6**
ALN Alexandroupoli 7.35 109 **Pn 08 00 31.2 +2.3**
VRI Vrincioaia 7.35 69 ⇑P **Pn 08 00 31.5 +2.5**
VILL Villia 7.36 136 P **Pn 08 00 28.9 -0.2**
STU Stuttgart 7.36 316 P **Pn 08 00 30.1 +1.0**
STU Stuttgart 7.36 316 *e*Pn **Pn 08 00 30.0 +1.0**
SNR=8.7
STU Stuttgart 7.36 316 **Pn 08 00 30.1 +1.0**
GUNZ Gunzen 7.37 337 *e*Pn **Pn 08 00 30.7 +1.5**
SNR=12
TANN Tannenbergstha 7.38 338 *e*Pn **Pn 08 00 30.5 +1.2**
SNR=10
BALST Balsthal 7.41 303 *e*Pn **Pn 08 00 31.7 +2.0**
SNR=14
FRF La Foret Royal 7.42 273 *e*Pn **Pn 08 00 29.7 -0.1**
FRF La Foret Royal 7.42 273 *e*P **Pn 08 00 33.3 +3.5**
FRF *e*Sn **Sn 08 01 46.8 -7.2**
comp=Z,90nm,0.7s
BNI Bardonecchia 7.43 284 P **Pn 08 00 29.6 -0.5**
BNI Bardonecchia 7.43 284 **Pn 08 00 29.6 -0.5**
LPG La Plagne 7.45 288 *e*Pn **Pn 08 00 29.2 -1.3**
LPG La Plagne 7.45 288 *e*P **Pn 08 00 33.5 +3.0**
LPG *e*Sn **Sn 08 01 48.8 -6.3**
comp=Z,269nm,0.5s
LPL La Plagne 7.46 288 *e*Pn **Pn 08 00 30.0 -0.6**
LPL La Plagne 7.46 288 *e*P **Pn 08 00 33.5 +2.9**
LPL *e*Sn **Sn 08 01 48.9 -6.5**
comp=Z,292nm,0.5s
BRG Berggiesshubel 7.47 346 PN **Pn 08 00 31.1 +0.6**
BRG PG **Pg 08 01 07.8 +3.4**
BRG SN **Sn 08 01 56.7 +1.5**
BRG *i* 08 02 42.7
comp=Z,93nm,1.3s
BRG Berggiesshubel 7.47 346 P **Pn 08 00 31.1 +0.6**
BRG 08 01 56.7
BRG pmax pmax
comp=Z,13nm,1.3s
BRG Berggiesshubel 7.47 346 *e*Pn **Pn 08 00 31.8 +1.3**
SNR=7.5
TESR Tescani 7.48 64 ⇓P **Pn 08 00 31.9 +1.2**
EDRB Edirne 7.50 101 *e*P **Pn 08 00 31.1 +0.2**
PLN Plauen 7.53 336 *e*Pn **Pn 08 00 32.9 +1.6**
SNR=6.2
LMR La Mourre 7.54 271 *e*Pn **Pn 08 00 31.0 -0.4**
LMR La Mourre 7.54 271 *e*P **Pn 08 00 34.8 +3.4**
LMR *e*Sn **Sn 08 01 51.1 -5.8**
comp=Z,40nm,0.3s
BFO Black Forest 7.54 311 *i* P **Pn 08 00 32.4 +0.8**
BFO Black Forest 7.54 311 *e*Pn **Pn 08 00 32.2 +0.6**
SNR=63
BFO Black Forest 7.54 311 **Pn 08 00 32.7 +1.2**
ITM Ithomi 7.55 148 **Pn 08 00 32.0 +0.4**
FBE Freiberg 7.63 343 *e*Pn **Pn 08 00 33.8 +1.1**
SNR=2.9
UKOP Uzunkopru-Edir 7.67 106 *e*P **Pn 08 00 36.6 +3.4**
PYL PYLOS 7.73 150 P **Pn 08 00 32.8 -1.3**
ERIK Erikli-Kesan 7.77 109 *e*P **Pn 08 00 36.8 +2.1**
MOX Moxa 7.83 335 *e*Pn **Pn 08 00 36.8 +1.3**
SNR=30
DID Didima 7.84 140 P **Pn 08 00 34.4 -1.3**
BOZC Bozcaada 7.87 116 *e*P **Pn 08 00 37.6 +1.6**
GELI Tayfur-Gelibol 7.87 111 *e*P **Pn 08 00 38.5 +2.5**
LVV L'vov 7.87 36 *e*P **Pn 08 00 37.0 +1.0**
LVV *e* 08 02 05.3
LVV pmax pmax
comp=Z,140nm,1.1s
LVV smax smax
comp=N,140nm,1.1s
LVV MLR MLR
comp=N,510nm,9.0s
LVV MLR MLR
comp=Z,480nm,9.0s
ICOR Ion Corvin 7.91 83 ⇑P **Pn 08 00 38.2 +1.6**
ORIF Oris-en-Rattie 7.98 283 *e*Pn **Pn 08 00 37.4 -0.2**
ORIF Oris-en-Rattie 7.98 283 *e*P **Pn 08 00 41.3 +3.7**
ORIF *e*Sn **Sn 08 02 04.5 -3.4**
comp=Z,246nm,0.6s
EZN Ezine 8.05 115 *e*P **Pn 08 00 42.2 +3.7**
CLL Collm 8.07 342 *e*P **Pn 08 00 40.0 +1.3**
CLL Collm 8.07 342 *e*Pn **Pn 08 00 40.0 +1.3**
CLL *e* 08 00 43.0
CLL *e*Sn Sn 08 01 59.0 -11
CLL *e* 08 02 13.0
CLL *e* 08 02 37.0
CLL *e*Sg **Sg 08 02 56.0 -4.3**
CLL Lmax 08 03 00.0
CLL LmH 08 14 00.0
comp=N,300nm,21.5s
CLL LmH 08 14 00.0
comp=E,200nm,18.0s
CLL Collm 8.07 342 **Pn 08 00 39.6 +0.9**
SIGR SIGRI 8.09 120 *e*P **Pn 08 00 36.9 -2.2**
HINF Hinteralfeld 8.13 304 *e*P **Pn 08 00 41.2 +1.6**
HINF *e*Sn **Sn 08 02 05.1 -6.5**
comp=E,158nm,0.7s
ECH Echery 8.14 307 P **Pn 08 00 39.1 -0.7**
ECH Echery 8.14 307 **Pn 08 00 39.1 -0.7**
CABF La Chapelle 8.16 295 *e*Pn **Pn 08 00 39.5 -0.6**
CABF *e*Sn **Sn 08 02 06.9 -5.5**
comp=E,153nm,0.7s
CABF *e*Sg **Sg 08 02 58.9 -4.4**
comp=E,353nm,1.3s
SMRF Simiane la Rot 8.17 276 *e*Pn **Pn 08 00 41.0 +0.8**
SMRF Simiane la Rot 8.17 276 *e*P **Pn 08 00 44.1 +3.9**
SMRF *e*Sn **Sn 08 02 04.7 -7.8**
comp=E,42nm,0.5s
CDF Champ du Feu 8.18 309 *e*Pn **Pn 08 00 40.0 -0.3**
CDF *e*Sn **Sn 08 02 04.9 -7.9**
comp=E,149nm,0.8s
CDF *e*Sg **Sg 08 02 57.9 -5.9**
comp=E,310nm,1.1s
CFR Carcaliu 8.21 76 ⇑P **Pn 08 00 42.0 +1.4**
RKY Sarkoy-Tekirda 8.22 108 *e*P **Pn 08 00 42.5 +1.6**
TOPG Topolog 8.35 78 ⇑P **Pn 08 00 45.2 +2.5**
KRBG Karabiga-Canak 8.43 109 *e*P **Pn 08 00 41.4 -2.3**
HAU Haudompre 8.52 304 *e*P **Pn 08 00 46.5 +1.6**
HAU *e*Sn **Sn 08 02 13.9 -7.2**

comp=E,244nm,0.6s
MRMT Marmara Adasi 8.54 107 *e*P **Pn 08 00 45.3 -0.1**
TLCR 8.69 76 ⇑P **Pn 08 00 49.7 +2.5**
TNS Taunus Mts 8.71 322 *e*Pn **Pn 08 00 49.7 +2.1**
SNR=39
CHOS Chios island 8.73 124 *e*P **Pn 08 00 48.3 +0.5**
KTHR Kythira 8.78 145 P **Pn 08 00 48.8 +0.3**
VIVF Saint-Julien-l 8.83 282 *e*Pn **Pn 08 00 49.2 0.0**
VIVF *e*Sn **Sn 08 02 22.2 -6.5**
comp=E,24nm,0.5s
DKL Dikili 8.84 118 *e*P **Pn 08 00 50.8 +1.5**
BALY Balya 8.95 112 *i*P **Pn 08 00 53.9 +3.0**
BALY *i*S 08 01 07.4
BALY IAML_P
comp=Z,615nm,0.5s
SSB Saint Sauveur 8.96 285 P **Pn 08 00 50.7 -0.3**
SSB Saint Sauveur 8.96 285 Pn 08 00 50.7 -0.3
KIS Kishinev 9.05 64 *e*P **Pn 08 00 51.0 -1.2**
KIS LRM MLR 08 05 00.0
comp=Z,700nm,8.0s
KIS Kishinev 9.05 64 *e*P **Pn 08 00 51.0 -1.2**
KIS MLR MLR
comp=Z,700nm,8.0s
URLA Izmir 9.07 123 *e*P **Pn 08 00 52.6 +0.1**
PAGF Fort de Pagny 9.14 306 *e*P **Pn 08 00 57.0 +3.5**
baz=124
PAGF *e*Sn **Sn 08 02 28.9 -7.5**
comp=Z,224nm,1.0s,baz=138
PAGF *e*Sg 08 03 28.0
comp=Z,180nm,0.9s
STEP BALIKESIR_Sava 9.20 114 *i*P **Pn 08 00 57.7 +3.3**
STEP IAML_P
comp=Z,139nm,0.1s
SFTF Sexfontaines 9.40 303 *e*P **Pn 08 01 00.6 +3.6**
baz=125
SFTF *e*Sn **Sn 08 02 34.4 -8.3**
comp=Z,144nm,1.0s,baz=133
SFTF *e*Sg 08 03 35.4
comp=Z,248nm,1.3s
LASF Ste Croix 9.40 277 *e*Pn **Pn 08 00 58.7 +1.6**
LASF *e*Sn **Sn 08 02 36.2 -6.7**
comp=Z,22nm,0.5s
ARMT Armutlu 9.44 105 *e*P **Pn 08 00 58.1 +0.5**
WLF Walferdange 9.48 313 P **Pn 08 00 58.7 +0.5**
WLF Walferdange 9.48 313 P **Pn 08 01 01.3 +3.2**
WLF Walferdange 9.48 313 Pn 08 00 58.7 +0.5
MEZF Maizieres J'vi 9.52 305 *e*P **Pn 08 01 02.3 +3.7**
baz=121
MEZF *e*Sn **Sn 08 02 37.7 -7.8**
comp=Z,77nm,0.7s,baz=113
MEZF *e*Sg 08 03 39.4
comp=Z,105nm,0.9s
SMF Signal de Mont 9.67 292 *e*Pn **Pn 08 00 59.7 -0.9**
SMF *e*Sn **Sn 08 02 42.1 -7.2**
comp=Z,93nm,0.5s
LOR Lormes 9.81 296 *e*Pn **Pn 08 01 01.9 -0.8**
LOR *e*Sn **Sn 08 02 49.3 -3.6**
comp=Z,112nm,0.4s,baz=109
KEST Kesra 9.82 219 Pn **Pn 08 01 02.4 -0.4**
comp=Z,0.2nm,0.3s,baz=43,slow=19,SNR=1.9
KEST LR LR 08 05 03.4
comp=Z,174nm,18.9s,baz=207,slow=39
BHOU Houvegnez 9.97 316 P **Pn 08 01 07.6 +2.7**
SSF Saint Saulge 9.99 294 *e*Pn **Pn 08 01 04.0 -1.1**
SSF *e*Sn **Sn 08 02 49.3 -7.9**
comp=Z,53nm,0.5s
AVF Avril sur Loir 10.03 293 *e*Pn **Pn 08 01 05.2 -0.3**
AVF *e*Sn **Sn 08 02 50.8 -7.2**
comp=Z,65nm,0.8s
BTNL Ternell 10.05 317 P **Pn 08 01 08.9 +2.9**
MEM Membach 10.13 317 P **Pn 08 01 09.7 +2.7**
MEM Membach 10.13 317 P **Pn 08 01 10.1 +3.1**
HGN Heimansgroeve 10.27 317 *e*P **Pn 08 01 12.7 +3.9**
KULA Kula-Manisa 10.29 116 *e*P **Pn 08 01 05.7 -3.5**
BGF Bois d'Agland 10.32 291 *e*P **Pn 08 01 10.8 +1.2**
BGF *e*Sn **Sn 08 02 57.4 -7.8**
comp=Z,140nm,0.6s
BSTI Sart Tilman 10.34 316 P **Pn 08 01 12.8 +3.1**
BCLA Clavier 10.37 315 P **Pn 08 01 13.3 +3.0**
GIVF Givet 10.44 312 *e*P **Pn 08 01 14.5 +3.3**
GIVF *e*Sn **Sn 08 02 59.4 -8.9**
comp=Z,44nm,0.7s
GIVF *e*Sg 08 04 07.0
comp=Z,115nm,1.1s
DOU Dourbes 10.56 312 P **Pn 08 01 15.9 +3.1**
BMRD Maredsous 10.58 313 P Pn 08 01 18.0 +4.8
HYF Humbligny 10.61 295 *e*P **Pn 08 01 14.4 +0.8**
HYF *e*Sn **Sn 08 03 05.9 -6.6**
MTLF Montolieu 10.65 273 *e*P **Pn 08 01 17.9 +3.8**
MTLF *e*Sn Sn 08 03 04.4 -8.9
comp=Z,13nm,0.7s
GULT Gulveren 10.66 103 *e*P **Pn 08 01 14.8 +0.5**
CAF Calviac 10.68 282 *e*P **Pn 08 01 16.3 +1.7**
CAF *e*Sn **Sn 08 03 07.3 -7.0**
comp=Z,25nm,0.6s
TCF Toulx Ste Croi 10.70 289 *e*P **Pn 08 01 16.8 +1.9**
TCF *e*Sn **Sn 08 03 07.7 -7.1**
comp=Z,47nm,0.5s
BAIF Baives 10.75 311 *e*P **Pn 08 01 19.7 +4.2**
BAIF *e*Sn Sn 08 03 06.9 -9.0
comp=Z,36nm,0.8s
BAIF *e*Sg 08 04 17.6
comp=Z,102nm,1.3s
BORA Eskisehir 10.83 106 *e*P **Pn 08 01 17.8 +1.1**
AKASG Malin Array Be 10.95 46 Pn **Pn 08 01 18.5 +0.3**
comp=Z,1.8nm,0.3s,baz=232,slow=13,SNR=6.3
AKASG Malin Array Be 10.95 46 Pn 08 01 19.5 +1.3
AKBB Malin Array Si 10.95 46 P **Pn 08 01 18.2 0.0**
AKBB Malin Array Si 10.95 46 Pn 08 01 18.1 0.0
CLF Chambon-Foret 11.07 298 Pn 08 01 21.7 +1.9
RJF Les Rejaudoux 11.09 284 *e*P **Pn 08 01 23.9 +3.8**
RJF *e*Sn **Sn 08 03 15.9 -8.2**
comp=Z,23nm,0.6s
KARP Karpathos 11.35 132 Pn **Pn 08 01 24.3 +0.5**
LFF La Frestale 11.62 282 *e*Pn **Pn 08 01 26.5 -0.9**
LFF *e*Sn **Sn 08 03 29.0 -8.2**
comp=Z,33nm,0.7s
MFF Saint Martin d 12.36 290 *e*Pn **Pn 08 01 37.3 -0.2**
MFF *e*Sn Sn 08 03 45.7 -10
comp=Z,25nm,0.6s
ETSF Etsaut 12.72 273 *e*P Pn 08 01 47.4 +4.9
LDF La Druitiere 12.76 299 *e*P **Pn 08 01 46.4 +3.5**
LDF *e*Sn Sn 08 03 55.8 -9.1
comp=Z,28nm,0.8s
FLN La Foliniere 13.04 299 *e*P **Pn 08 01 48.5 +1.8**
baz=116
FLN *e*Sn Sn 08 04 01.6 -10
comp=Z,12nm,0.4s,baz=112
BR131 Keskin Array S 13.14 102 P **Pn 08 01 48.5 +0.2**
BR131 Keskin Array S 13.14 102 Pn **Pn 08 01 48.5 +0.2**
BRTR Keskin Array B 13.14 102 P **Pn 08 01 45.9 -2.4**
BRTR Keskin Array B 13.14 102 Pn **Pn 08 01 50.0 +1.7**
comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=11
BRTR Keskin Array B 13.14 102 Pn 08 01 45.9 -2.4
SJPF Ste Jean 13.17 274 *e*P **Pn 08 01 52.4 +3.8**
SGMF Saint Gilles 14.25 296 *e*Pn **Pn 08 02 01.0 -2.3**
SGMF *e*Sn Sn 08 04 30.6 -11
comp=Z,12nm,0.5s
ROSF Rostrenen 14.74 295 *e*P **Pn 08 02 12.6 +2.7**
ROSF *e*Sn Sn 08 04 42.5 -11
comp=Z,15nm,0.6s
ANN Anapa 14.79 79 *e*P **P 08 02 15.7 -0.9**
ANN pmax pmax
comp=Z,52nm,0.9s
ANN MLR MLR
comp=Z,285nm,11.0s
CSS Mathiatis 15.41 119 Pn 08 02 19.7 +0.6
CSS IAmb IAmb 08 02 29.5
comp=Z,38nm,0.6s
VSU Vasula 16.02 19 *e*P **P 08 02 30.2 0.0**
VSU pmax pmax
comp=Z,349nm,0.7s
ESBB Sonseca Array 16.06 263 Pn 08 02 27.1 -0.3
ESDC Sonseca Array 16.06 263 Pn **Pn 08 02 27.6 +0.2**
comp=Z,1.2nm,0.3s,baz=66,slow=12,SNR=15
PAB San Pablo 16.38 263 P **Pn 08 02 32.4 +0.8**
PAB pmax pmax
comp=Z,11nm,0.8s
PAB San Pablo 16.38 263 Pn 08 02 32.4 +0.8
SOC Sochi 16.54 82 *e*P **Pn 08 02 31.7 -1.8**
SOC *e* 08 05 35.1
SOC pmax pmax
comp=Z,12nm,0.5s
HFS Hagfors 16.59 354 Pn **Pn 08 02 34.3 +0.2**
comp=Z,1.8nm,0.3s,baz=177,slow=13,SNR=29

VSR Storozhevoye 16.82 56 *e*P **P 08 02 38.2 -1.0**
VSR pmax pmax
comp=Z,110nm,2.2s
OBN Obninsk 17.12 41⇑ *e*P **P 08 02 41.7 -0.7**
OBN *e*S **Sn 08 05 54.6 +3.7**
OBN pmax pmax
comp=Z,106nm,1.4s
OBN MLR MLR
comp=Z,349nm,16.0s
LPSR Galich'ya Gora 17.16 51 *e*P **P 08 02 42.6 -0.3**
LPSR pmax pmax
comp=Z,60nm,2.2s
NC602 NORSAR Array S 17.38 351 Pn **Pn 08 02 44.5 +0.6**
EKA Eskdalemuir Ar 17.39 319 P **Pn 08 02 44.6 +0.5**
baz=122,slow=13,SNR=5.9
ESK Eskdalemuir 17.41 319 P **Pn 08 02 43.9 -0.4**
ESK pmax pmax
comp=Z,27nm,1.0s
ESK Eskdalemuir 17.41 319 Pn **Pn 08 02 43.9 -0.4**
PBRG Braganca 17.43 272 *e*P **P 08 02 47.6 +1.6**
comp=Z,34nm,1.8s
NAO01 NORSAR Array S 17.57 350 P **P 08 02 47.3 0.0**
NB2 NORSAR Subarra 17.72 351 P **P 08 02 49.0 0.0**
comp=Z,20nm,1.1s,baz=166,slow=11
NB201 NORSAR Array S 17.72 351 Pn 08 02 48.5 +0.4
NB201 IAmb IAmb 08 02 54.1
comp=Z,121nm,1.5s
NOA NORSAR Array B 17.72 351 P **Pn 08 02 48.3 +0.1**
comp=Z,0.1nm,0.3s,baz=181,slow=12,SNR=11
NC405 NORSAR Array S 17.73 352 P **P 08 02 49.7 +0.5**
NBO00 NORSAR Array S 17.76 350 P 08 02 49.9 +0.4
MVO Moncorvo 17.80 270 *e*P **P 08 02 53.9 +3.7**
comp=Z,27nm,1.6s
NC303 NORSAR Array S 17.88 351 P 08 02 51.8 +1.0
MOS Moscow 17.97 41 *e*P **P 08 02 52.8 +1.0**
MOS pmax pmax
comp=Z,57nm,1.2s
MMAI Mount Meron Ar 17.98 120 P **P 08 02 52.0 -0.2**
comp=Z,4.8nm,0.3s,baz=320,slow=9.9,SNR=9.1
NC204 NORSAR Array S 18.00 350 P **P 08 02 52.5 +0.4**
KSDI Kefar Szold 18.03 119 P **P 08 02 53.4 +0.8**
comp=Z,89nm,1.2s
POLO Lamas de Olo 18.30 271 *e*P **P 08 03 01.1 +5.4**
VRH Novokhopyorsk 18.36 57 *e*P **P 08 02 57.0 +0.9**
VRH pmax pmax
comp=Z,60nm,1.0s
MTE Manteigas 18.41 268 *e*P **P 08 03 00.1 +3.3**
comp=Z,54nm,1.5s
PCBR Castelo Branco 18.54 266 *e*P **Pn 08 02 59.2 +0.8**
KIV Kislovodsk 18.62 80 *e*P **Pn 08 02 59.6 +0.2**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV Kislovodsk 18.62 80 P **Pn 08 02 59.8 +0.4**
PMRV Marv??o 18.62 265 *e*P **Pn 08 03 01.6 +2.2**
comp=Z,29nm,1.1s
KBZ Khabaz 18.80 81 P **Pn 08 03 01.8 +0.3**
comp=Z,0.4nm,0.3s,baz=291,slow=10.0,SNR=15
KZIT Kziot 18.85 127 P **Pn 08 03 02.0 -0.2**
comp=Z,80nm,0.9s
PCAS Casmilo, Conde 19.21 268 *e*P **Pn 08 03 10.0 +3.5**
comp=Z,47nm,1.5s
PTOM Tomar 19.29 267 *e*P **Pn 08 03 09.8 +2.3**
PMTG Montargil 19.35 265 *e*P **Pn 08 03 09.7 +1.5**
EVO Evora 19.41 263 *e*P **Pn 08 03 10.5 +1.6**
comp=Z,18nm,3.1s
ASF Jabal al Asfar 19.48 119 P **Pn 08 03 10.2 +0.2**
comp=Z,0.2nm,0.3s,baz=256,slow=8.3,SNR=3.5
ASF Jabal al Asfar 19.48 119 P **Pn 08 03 10.4 +0.5**
comp=Z,10nm,1.0s
ALMR Almeirim 19.58 265 *e*P **Pn 08 03 13.9 +3.0**
comp=Z,108nm,1.1s
PVAQ Vaqueiros 19.67 260 *e*P **Pn 08 03 12.4 +0.4**
ZEI Tsey 19.70 83 *e*P **Pn 08 03 13.0 +0.5**
ZEI pmax pmax
comp=Z,21nm,1.8s
AKH Akhalkalaki 19.73 87 P **P 08 03 11.4 0.0**
AKH pmax pmax
comp=Z,15nm,1.1s
AKH Akhalkalaki 19.73 87 P **P 08 03 11.4 0.0**
HRFI Mount Harif 19.86 127 P **Pn 08 03 13.6 -0.8**
PBDV Barranco-do-Ve 19.89 260 *e*P **Pn 08 03 18.0 +3.3**
PNCL Nicolau / Gran 19.95 263 *e*P **Pn 08 03 18.9 +3.6**
MDT Midelt 19.99 244 P **Pn 08 03 15.3 -0.6**
comp=Z,1.0nm,0.3s,baz=254,slow=22,SNR=21
EIL Elat 20.09 128 P Pn 08 03 16.3 -0.7
comp=Z,9.5nm,0.5s,baz=60,slow=14,SNR=5.1
TBLG Delisi 20.54 86 P Pn 08 03 21.5 -0.8
TBLG pmax pmax
comp=Z,23nm,0.8s
TBLG Delisi 20.54 86 P Pn 08 03 21.5 -0.8
GROC Groznyy 20.97 81 *e*P **P 08 03 23.9 -0.8**
GROC *e* 08 03 42.8
GROC *e*S **S 08 07 20.4 +2.1**
GROC pmax pmax
comp=Z,34nm,0.5s
GNI Garni 21.00 90 *e*P **P 08 03 26.2 +0.9**
GNI pmax pmax
comp=Z,157nm,1.3s
GNI Garni 21.00 90 P **P 08 03 26.5 +1.3**
comp=Z,6.3nm,0.3s,baz=156,slow=18,SNR=5.0
GNI Garni 21.00 90 P **P 08 03 24.5 -0.8**
GNI IAmb IAmb 08 03 32.8
comp=Z,46nm,1.2s
AKT Akhty 22.77 85 *e*P **P 08 03 44.9 +0.7**
AKT *e* 08 04 08.5
AKT pmax pmax
comp=Z,51nm,1.5s
TAM Tamanrasset 22.84 208 P **P 08 03 46.0 +1.0**
TAM pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 22.84 208 P **P 08 03 46.0 +1.0**
TMCR Tamitsa 23.79 23 *e*P **P 08 03 54.1 +0.1**
TMCR *e*S **S 08 08 13.6 +4.3**
TMCR pmax pmax
comp=Z,91nm,1.4s
PRGR Permogore 24.72 33 *e*P **P 08 04 02.0 -0.7**
PRGR pmax pmax
comp=Z,235nm,0.8s
KIRV Kirov 24.97 42 P **P 08 04 04.3 -0.6**
comp=Z,55nm,0.6s,baz=280,slow=7.1,SNR=10
LVZ Lovozero 26.05 15 P **P 08 04 15.2 +0.5**
LVZ pmax pmax
comp=Z,56nm,1.1s
LVZ Lovozero 26.05 15 P **P 08 04 15.2 +0.5**
ARCES ARCESS Array B 26.30 7 P **P 08 04 16.7 -0.3**
ARCES ARCESS Array B 26.30 7 P **P 08 04 17.0 +0.1**
comp=Z,3.9nm,0.6s,baz=182,slow=7.1,SNR=23
ARCES ARCESS Array B 26.30 7 P **P 08 04 16.7 -0.3**
ARE0 ARCESS Array S 26.30 7 P **P 08 04 16.7 -0.2**
AKTO Aktyubinsk 28.55 62 P **P 08 04 36.2 -1.1**
comp=Z,2.6nm,0.6s,baz=280,slow=12,SNR=6.3
ARU Arti 29.17 49*c* *i*P **P 08 04 42.1 -0.6**
ARU S **S 08 09 36.7 +1.9**
ARU pmax pmax
comp=Z,33nm,1.3s
ARU Arti 29.17 49 P **P 08 04 41.8 -0.9**
comp=Z,5.0nm,0.2s,baz=239,slow=8.7,SNR=13
ARU Arti 29.17 49 P **P 08 04 42.6 -0.1**
ARU IAmb IAmb 08 04 46.0
comp=Z,42nm,1.3s
ABKAR Akbulak array 29.88 64 P **P 08 04 49.5 +0.4**
ABKAR Akbulak array 29.88 64 P **P 08 04 48.7 -0.3**
ABKAR IAmb IAmb 08 04 51.2
comp=Z,3.1nm,1.1s
ABKAR **PcP 08 07 51.4 -0.4**
SVE Sverdlovsk 30.36 49 *e*P **P 08 04 53.0 -0.3**
SVE pmax pmax
comp=Z,27nm,1.2s
GEYT Alibeck 31.51 86 P **P 08 05 04.3 +0.7**
comp=Z,14nm,0.6s,baz=283,slow=8.5,SNR=27
GEYT Alibeck 31.51 86 P **P 08 05 04.3 +0.7**
TOA0 Torodi Ar. Sit 33.10 208 P **P 08 05 18.1 +0.4**
TORD Torodi Ar. Bea 33.10 208 P **P 08 05 17.1 -0.6**
comp=Z,3.7nm,0.5s,baz=18,slow=9.2,SNR=21
TORD Torodi Ar. Bea 33.10 208 P **P 08 05 16.7 -1.0**
SPA0 Spitsbergen Ar 34.62 360 P **P 08 05 31.2 +0.9**
SPA0 IAmb IAmb 08 05 42.8
comp=Z,15nm,1.1s
SPITS Spitsbergen Ar 34.62 360 P **P 08 05 30.6 +0.3**
comp=Z,3.8nm,0.6s,baz=153,slow=11,SNR=8.3
KBS Kingsbay 35.42 358 P **P 08 05 38.1 +0.9**
KBS pmax pmax
comp=Z,18nm,1.0s
KBS Kingsbay 35.42 358 P **P 08 05 38.1 +0.9**
KBS IAmb IAmb 08 05 46.4

comp=Z,18nm,1.0s
BRVK Borovoye 35.94 56⇑ *e*P **P 08 05 42.3 +0.4**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 35.94 56 P **P 08 05 42.4 +0.4**
BRVK IAmb IAmb 08 05 43.1
comp=Z,14nm,0.7s
UOSS Minazif 37.06 107 P **P 08 05 51.1 -0.6**
BTK Batken 39.75 76 P **P 08 06 14.8 +0.4**
BTK pmax pmax
comp=Z,3.0nm,0.8s
BTK Batken 39.75 76 P **P 08 06 14.8 +0.4**
GAR Garm 39.83 78 P **P 08 06 15.7 +0.6**
NRS Narsarsuaq 40.05 318 P **P 08 06 16.5 0.0**
NRS pmax pmax
comp=Z,50nm,1.3s
NRS Narsarsuaq 40.05 318 P **P 08 06 16.5 0.0**
NRS IAmb IAmb 08 06 19.3
comp=Z,50nm,1.3s
ARSB Arslanbob 40.77 73 P **P 08 06 23.4 +0.5**
KBL Kabul 40.92 85 P **P 08 06 24.4 +0.1**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 40.92 85 P **P 08 06 24.4 +0.1**
AAK Ala-Archa 41.32 71 *e*P **P 08 06 25.6 -1.8**
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 41.32 71 P **P 08 06 27.8 +0.4**
KURK Kurchatov 41.46 58 P **P 08 06 27.6 -0.6**
KURK pmax pmax
comp=Z,9.0nm,1.1s
KURK Kurchatov 41.46 58 P **P 08 06 27.6 -0.6**
DBIC Dimbokro 41.50 214 P **P 08 06 29.0 +0.1**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 41.50 214 P **P 08 06 29.1 +0.1**
comp=Z,8.2nm,0.7s,baz=5.7,slow=8.7,SNR=12
DBIC Dimbokro 41.50 214 P **P 08 06 29.0 +0.1**
TIC Toumodi 41.59 214 *e*PKP2 **P 08 06 31.0 +1.3**
TIC Toumodi 41.59 214 P **P 08 06 31.0 +1.3**
TIC Toumodi 41.59 214 P **P 08 06 31.0 +1.3**
KIC Kosan Boka 41.73 213 *e*PKP2 **P 08 06 31.6 +0.7**
comp=Z,28nm,0.8s
KIC Kosan Boka 41.73 213 P **P 08 06 31.6 +0.7**
LIC Lamto 41.97 214 *e*PKP2 **P 08 06 32.7 -0.1**
comp=Z,50nm,0.8s
LIC Lamto 41.97 214 P **P 08 06 32.7 -0.1**
SFJD Kangerlussuaq 42.10 327 P **P 08 06 33.5 +0.3**
comp=Z,9.4nm,0.7s,baz=18,slow=19,SNR=3.2
SFJD Kangerlussuaq 42.10 327 P **P 08 06 33.6 +0.3**
SFJD IAmb IAmb 08 06 42.5
comp=Z,47nm,1.4s
NRIK Noril'sk 43.24 29 P **P 08 06 43.0 +0.5**
comp=Z,11nm,0.8s,baz=245,slow=5.5,SNR=8.4
KSH Kashi 43.59 74 P **P 08 06 46.1 +0.2**
KSH PP **PP 08 08 29.1 +2.0**
KSH S **S 08 13 13.8 -1.5**
KSH sS sS 08 13 21.0 +0.2
KSH SS **SS 08 16 19.5 -10**
KSH pmax pmax
comp=Z,220nm,6.8s
KSH LR LR
comp=Z,240nm,10.7s
KSH LR LR
comp=Z,170nm,9.8s
ZAA0 Zalesovo Array 44.27 52 P **P 08 06 50.9 -0.1**
ZALV Zalesovo Beam 44.27 52 P **P 08 06 50.8 -0.2**
comp=Z,9.3nm,0.6s,baz=282,slow=8.7,SNR=31
ZALV LR LR 08 27 03.9
comp=Z,65nm,18.1s,baz=22,slow=38
NIL Nilore 44.39 83 P **P 08 06 52.7 +0.4**
NIL pmax pmax
comp=Z,14nm,1.1s
NIL Nilore 44.39 83 P **P 08 06 52.7 +0.4**
NIL IAmb IAmb 08 06 54.0
comp=Z,14nm,1.1s
SOCY Socotra 44.77 123 P **P 08 06 53.8 -1.7**
SOCY IAmb IAmb 08 06 57.8
comp=Z,35nm,1.3s
MK31 Makanchi Array 44.98 62 P **P 08 06 57.4 +0.5**
MK31 08 08 37.0
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 44.98 62 P **P 08 06 57.4 +0.5**
MK31 **PcP 08 08 37.0 -0.8**
MKAR Makanchi Array 44.98 62 P **P 08 06 57.3 +0.5**
MKAR 08 08 37.6
MKAR Makanchi Array 44.98 62 P **P 08 06 56.4 -0.5**
comp=Z,3.1nm,0.7s,baz=281,slow=7.2,SNR=18
MKAR PcP **PcP 08 08 37.4 -0.5**
comp=Z,2.7nm,0.6s,baz=292,slow=3.9,SNR=7.9
MKAR Makanchi Array 44.98 62 P **P 08 06 57.3 +0.5**
MKAR **PcP 08 08 37.6 -0.3**
DGZ Jazzator, Alta 47.15 57⇑ *e*P **P 08 07 14.2 +0.2**
DRLN Deer Lake 49.61 304 P **P 08 07 32.0 -0.8**
DRLN IAmb IAmb 08 07 35.5
comp=Z,14nm,0.8s
WMQ Urumqi 49.67 64 *e*P **P 08 07 36.3 +2.9**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.9s
SCHQ Schefferville 52.60 314 P **P 08 07 54.6 -0.5**
comp=Z,12nm,0.7s,baz=84,slow=4.2,SNR=8.7
SCHQ Schefferville 52.60 314 P **P 08 07 54.8 -0.5**
SCHQ IAmb IAmb 08 07 55.6
comp=Z,14nm,0.7s
GBN Guysborough 53.74 301 P **P 08 08 03.7 0.0**
GBN IAmb IAmb 08 08 04.3
comp=Z,12nm,1.0s
DANN Dangsing 54.83 83 *e*P **P 08 08 11.8 -0.5**
comp=Z,41nm,0.7s
KOLN Koldanda 55.05 83 *e*P **P 08 08 13.1 -0.7**
HAL Halifax 55.41 301 *e*P **P 08 08 15.9 +0.1**
HAL Halifax 55.41 301 P **P 08 08 15.9 +0.1**
HAL pmax pmax
comp=Z,18nm,1.2s
HAL Halifax 55.41 301 P **P 08 08 15.9 +0.1**
HAL IAmb IAmb 08 08 18.9
comp=Z,18nm,1.2s
TIXI Tiksi 55.48 21 *e*P **P 08 08 15.9 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
LMN Caledonia Moun 55.55 303 P **P 08 08 16.4 -0.5**
LMN IAmb IAmb 08 08 21.1
comp=Z,12nm,1.0s
BATG Bathurst New B 55.61 305 P **P 08 08 17.3 0.0**
BATG IAmb IAmb 08 08 20.2
comp=Z,11nm,0.7s
GKN Gorkha 55.66 82 *e*P **P 08 08 17.3 -0.8**
comp=Z,28nm,0.6s
TLY Talaya 55.68 49 LR LR 08 35 38.8
comp=Z,45nm,18.6s,baz=303,slow=40
DMN Daman 56.23 83 *e*P **P 08 08 21.6 -0.7**
comp=Z,19nm,0.6s
KKN Kakani 56.25 82 *e*P **P 08 08 21.6 -0.8**
comp=Z,15nm,0.7s
PKIN Phulchoki 56.46 82 *e*P **P 08 08 22.8 -1.1**
comp=Z,6.3nm,0.5s
PKI Pulchoki 56.47 82 *e*P **P 08 08 23.3 -0.8**
comp=Z,14nm,0.7s
GUN Gumba 56.61 82 *e*P **P 08 08 24.4 -0.7**
comp=Z,33nm,0.9s
JIRN Jiri 56.98 82 *e*P **P 08 08 27.2 -0.6**
comp=Z,36nm,0.7s
PQI Presque Isle 57.07 305 P **P 08 08 27.7 0.0**
PQI IAmb IAmb 08 08 31.3
comp=Z,15nm,1.1s
GGN Saint George 57.16 303 P **P 08 08 28.3 0.0**
GGN IAmb IAmb 08 08 33.8
comp=Z,18nm,1.1s
E63A Oxbow 57.44 305 P **P 08 08 30.5 +0.2**
E63A IAmb IAmb 08 08 36.9
comp=Z,9.3nm,0.9s
D62A Allapoint, All 57.47 306 P **P 08 08 30.5 0.0**
D62A IAmb IAmb 08 08 38.6
comp=Z,15nm,1.1s
G65A Princeton 57.55 304 P **P 08 08 31.4 +0.4**
F64A Sherman 57.68 305 P **P 08 08 31.9 -0.1**
F64A IAmb IAmb 08 08 40.4
comp=Z,16nm,1.2s
RAMN Ramite 57.69 82 *e*P **P 08 08 31.5 -1.1**
comp=Z,30nm,0.6s
E62A Clayton Lake 57.99 306 P **P 08 08 34.3 +0.1**
F63A Nahmakanta, Br 58.22 305 P **P 08 08 35.3 -0.5**

F63A IAmb IAmb 08 08 36.1
comp=Z,22nm,1.4s
TAPN Taplejung 58.25 81 *e*P **P 08 08 35.7 -0.9**
comp=Z,23nm,0.7s
ODAN Odare 58.31 82 *e*P **P 08 08 35.9 -1.1**
comp=Z,27nm,0.6s
PKME Peaks-Kenny Pk 58.56 304 P **P 08 08 38.6 +0.4**
PKME IAmb IAmb 08 08 50.8
comp=Z,14nm,1.2s
F62A Pittston Farm, 58.63 305 P **P 08 08 39.3 +0.6**
SONM Songino Array 59.17 52 P **P 08 08 42.6 +0.1**
comp=Z,7.4nm,0.9s,baz=293,slow=8.8,SNR=27
SONM LR LR 08 35 01.4
comp=Z,65nm,19.1s,baz=158,slow=37
SONM Songino Array 59.17 52 P **P 08 08 42.6 +0.1**
G62A West of Eustis 59.33 305 P **P 08 08 42.7 -0.8**
G62A IAmb IAmb 08 08 55.1
comp=Z,18nm,1.4s
ULN Ulaanbaatar 59.53 51 P **P 08 08 44.8 -0.3**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 59.53 51 P **P 08 08 44.8 -0.3**
GTA Gaotai 59.73 63 *e*P **P 08 08 46.6 +0.1**
GTA pP sP 08 08 50.3 -1.0
GTA sP pP 08 08 52.9 +2.9
GTA pmax pmax
comp=Z,4.0nm,0.9s
I63A Otisfield 59.99 304 P **P 08 08 47.4 -0.7**
H62A Milan 60.05 304 P **P 08 08 49.7 +1.2**
H62A IAmb IAmb 08 08 55.3
comp=Z,9.8nm,0.9s
MNCI Minicoy 60.13 108 P **P 08 08 49.6 +0.2**
I62A Tamworth 60.54 304 P **P 08 08 51.6 -0.3**
I62A IAmb IAmb 08 08 54.3
comp=Z,12nm,0.8s
YAK Yakutsk 61.69 30 P **P 08 08 59.6 +0.3**
YAK pmax pmax
comp=Z,21nm,0.4s
YAK Yakutsk 61.69 30 P **P 08 08 59.6 +0.3**
FCC Fort Churchill 63.12 327 P **P 08 09 09.1 +0.2**
FCC pmax pmax
comp=Z,24nm,1.1s
FCC Fort Churchill 63.12 327 P **P 08 09 09.1 +0.2**
LZH Lanzhou 64.25 64 *e*P **P 08 09 16.1 -0.9**
LZH pP sP 08 09 20.8 -1.0
LZH sP pP 08 09 24.8 +4.3
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.3s
N59A State Game Lan 64.93 303 P **P 08 09 21.9 +0.7**
N59A IAmb IAmb 08 09 33.0
comp=Z,15nm,1.2s
M57A Sunshine Farm, 65.50 304 P **P 08 09 26.1 +1.3**
M57A IAmb IAmb 08 09 28.7
comp=Z,8.9nm,0.8s
N58A Sunbury 65.55 304 P **P 08 09 25.2 +0.1**
N58A IAmb IAmb 08 09 28.5
comp=Z,8.7nm,0.8s
WVNY West Valley, N 65.72 306 P **P 08 09 26.4 0.0**
MVL Millersville 65.84 303 P **P 08 09 27.3 +0.2**
MVL IAmb IAmb 08 09 29.8
comp=Z,14nm,1.2s
M56A Emporium 66.03 305 P **P 08 09 26.8 -1.5**
M56A IAmb IAmb 08 09 41.1
comp=Z,12nm,1.1s
INK Inuvik 66.15 348 P **P 08 09 28.2 -0.4**
INK pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 66.15 348 P **P 08 09 28.2 -0.4**
INK IAmb IAmb 08 09 32.5
comp=Z,17nm,1.4s
PALK Pallekele 66.18 103 P **P 08 09 28.9 -0.7**
PALK pmax pmax
comp=Z,16nm,1.5s
PALK Pallekele 66.18 103 P **P 08 09 28.9 -0.7**
PALK IAmb IAmb 08 09 37.9
comp=Z,16nm,1.4s
HHC Hu-ho-hao-te 66.22 56 *e*P **P 08 09 29.1 -0.5**
HHC pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 66.25 12⇓ *e*P **P 08 09 29.1 -0.2**
BILL *e* 08 11 54.0
BILL *e*PPP PPP 08 13 31.8
BILL *e*S S 08 18 33.8 +16
BILL pmax pmax
comp=Z,9.0nm,0.9s
BILL MLR MLR
comp=Z,54nm,18.0s
BILL Bilibino 66.25 12 P **P 08 09 29.3 0.0**
BILL IAmb IAmb 08 09 33.3
comp=Z,7.4nm,0.8s
SSPA Standing Stone 66.38 304 P **P 08 09 31.4 +0.8**
M55A Ridgway 66.39 305 P **P 08 09 30.9 +0.2**
M55A IAmb IAmb 08 09 41.7
comp=Z,18nm,1.2s
M54A Oil Creek Stat 66.90 306 P **P 08 09 34.2 +0.3**
O56A Blue Knob Stat 67.01 304 P **P 08 09 35.9 +1.2**
O56A IAmb IAmb 08 09 43.1
comp=Z,7.9nm,1.3s
YKA Yellowknife Ar 67.27 338 P **P 08 09 36.0 +0.2**
YKA Yellowknife Ar 67.27 338 P **P 08 09 36.0 +0.2**
comp=Z,7.5nm,0.8s,baz=39,slow=5.4,SNR=17
TOLK Toolik Lake Re 67.55 355 P **P 08 09 38.6 +1.0**
TOLK IAmb IAmb 08 09 42.3
comp=Z,8.2nm,0.8s
SEY Seymchan 67.97 20 *e*P **P 08 09 41.1 +0.9**
SEY Seymchan 67.97 20 P **P 08 09 40.8 +0.6**
comp=Z,7.9nm,0.9s,baz=322,slow=4.2,SNR=17
R58B Mineral 68.03 302 P **P 08 09 40.3 -0.7**
R58B IAmb IAmb 08 09 42.5
comp=Z,8.3nm,0.7s
Q56A Snyder Ridge, 68.15 303 P **P 08 09 42.6 +0.7**
MCWV Mont Chateau 68.16 304 P **P 08 09 43.3 +1.4**
MCWV IAmb IAmb 08 09 43.7
comp=Z,9.1nm,0.9s
BMAR Burnt Mountain 68.33 352 P **P 08 09 43.7 +1.2**
EPYK Eagle Plains 68.42 349 P **P 08 09 43.0 -0.1**
EPYK IAmb IAmb 08 09 47.0
comp=Z,6.2nm,0.7s
XAN Xi'an 68.79 63 P **P 08 09 45.8 -0.2**
XAN pmax pmax
comp=Z,12nm,1.1s
XAN Xi'an 68.79 63 P **P 08 09 45.7 -0.2**
XAN pmax pmax
comp=Z,9.0nm,0.6s
XAN Xi'an 68.79 63 P **P 08 09 45.7 -0.2**
COLD Coldfoot 68.99 355 P **P 08 09 47.3 +0.8**
COLD IAmb IAmb 08 09 51.4
comp=Z,13nm,1.0s
FFC Flin Flon 69.05 327 P **P 08 09 47.4 +0.3**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 69.05 327 P **P 08 09 47.4 +0.3**
FFC IAmb IAmb 08 09 51.9
comp=Z,12nm,0.9s
EYMN Ely 69.16 317 P **P 08 09 48.1 +0.1**
P53A Whipple 69.19 305 P **P 08 09 49.8 +1.5**
FYU Fort Yukon 69.23 352 P **P 08 09 49.5 +1.5**
ULM Lac du Bonnet 69.66 321 P **P 08 09 50.5 -0.5**
ULM pmax pmax
comp=Z,17nm,1.5s
ULM Lac du Bonnet 69.66 321 P **P 08 09 51.0 0.0**
comp=Z,2.6nm,0.5s,baz=28,slow=10,SNR=3.1
ULM Lac du Bonnet 69.66 321 P **P 08 09 50.5 -0.5**
ULM IAmb IAmb 08 09 56.2
comp=Z,17nm,1.5s
S54A Dingess, Beckl 70.23 304 P **P 08 09 55.5 +0.7**
R53A Hurricane 70.27 304 P **P 08 09 53.9 -1.1**
PRP Porcupine Dome 70.28 352 P **P 08 09 54.7 -0.1**
PRP IAmb IAmb 08 10 00.1
comp=Z,11nm,1.1s
MA2 Magadan 70.35 23 P **P 08 09 54.8 -0.3**
comp=Z,7.0nm,0.7s,baz=311,slow=6.6,SNR=4.1
MA2 Magadan 70.35 23 P **P 08 09 55.7 +0.7**
IMAR Indian Mountai 70.43 356 P **P 08 09 56.2 +0.7**
EGAK Eagle 70.52 350 P **P 08 09 55.5 -0.5**
Q51A Peebles 70.65 306 P **P 08 09 57.7 +0.4**
Q51A IAmb IAmb 08 09 58.2
comp=Z,7.8nm,0.7s
N47A Urbana 70.79 308 P **P 08 09 58.4 +0.3**
N47A IAmb IAmb 08 10 04.8
comp=Z,16nm,1.1s
DAWY Dawson 70.97 349 P **P 08 09 59.7 +0.8**

MDM Murphy Dome 71.08 353 P **P 08 10 00.3 +0.9**
W57A Gilead 71.13 301 P **P 08 10 01.0 +0.8**
COLA College 71.13 353 *e*P **P 08 10 00.7 +1.0**
COLA pmax pmax
comp=Z,12nm,1.1s
IL31 71.14 353 P **P 08 10 00.6 +0.9**
IL31 IAmb IAmb 08 10 03.8
comp=Z,9.1nm,1.3s
ILAR Eielson Array 71.14 353 P **P 08 09 59.9 +0.1**
comp=Z,4.0nm,1.0s,baz=2.3,slow=6.4,SNR=29
ILAR Eielson Array 71.14 353 P **P 08 10 00.3 +0.5**
MLY Manley 71.20 354 P **P 08 10 01.7 +1.5**
MHMT Maesarieng 71.31 83 P **P 08 10 01.3 -0.2**
comp=Z,88nm,0.6s,comp=Z,1μm
CCB Clear Creek Bu 71.35 353 P **P 08 10 01.8 +0.7**
CCB IAmb IAmb 08 10 05.4
comp=Z,9.5nm,1.4s
KLR Kul'dur 71.37 39 P **P 08 10 00.9 -0.5**
comp=Z,3.1nm,0.6s,baz=326,slow=8.9,SNR=12
HDA Harding Lake 71.50 353 P **P 08 10 01.9 -0.1**
WRH Wood River Hil 71.54 353 P **P 08 10 02.7 +0.5**
CHTO Chiang Mai 71.62 81 P **P 08 10 03.2 -0.3**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 71.62 81 P **P 08 10 03.2 -0.3**
CHTO IAmb IAmb 08 10 03.5
comp=Z,12nm,0.8s
SCRK Sand Creek 71.62 351 P **P 08 10 03.0 +0.1**
SCRK IAmb IAmb 08 10 07.1
comp=Z,7.9nm,1.1s
CMMT Chiang Mai 71.63 81 P **P 08 10 02.7 -0.8**
comp=Z,10.0nm,0.7s
S51A Beattyville 71.70 305 P **P 08 10 04.4 +0.8**
S51A IAmb IAmb 08 10 05.0
comp=Z,7.7nm,0.8s
CM31 Chiang Mai Arr 71.85 82 P **P 08 10 04.5 -0.3**
CMAR Chiang Mai Arr 71.85 82 P **P 08 10 04.2 -0.6**
comp=Z,12nm,0.6s,baz=305,slow=7.2,SNR=55
PAYA Payao 71.93 80 P **P 08 10 05.1 -0.2**
comp=Z,23μm,0.7s
RIDG Independent Ri 71.95 352 P **P 08 10 05.5 +0.7**
DOT Dot Lake 71.95 351 P **P 08 10 06.0 +1.3**
CN2 Changchun 72.11 46 *e*P **P 08 10 05.6 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BPAW Bear Paw Mtn. 72.14 354 P **P 08 10 06.3 +0.4**
BCAR Beaver Creek A 72.25 350 P **P 08 10 07.7 +1.2**
MCK McKinley 72.34 353 P **P 08 10 07.4 +0.3**
MCK pmax pmax
comp=Z,48nm,1.2s
MCK McKinley 72.34 353 P **P 08 10 07.4 +0.3**
BOSA Boshof 72.35 172 P **P 08 10 07.8 +0.3**
BOSA pmax pmax
comp=Z,25nm,1.4s
BOSA Boshof 72.35 172 P **P 08 10 08.4 +0.9**
comp=Z,3.6nm,0.7s,baz=348,slow=4.3,SNR=6.1
BOSA Boshof 72.35 172 P **P 08 10 07.8 +0.3**
BOSA IAmb IAmb 08 10 11.3
comp=Z,24nm,1.4s
V53A Saluda 72.53 303 P **P 08 10 09.1 +0.4**
GCPR Guaynabo City 72.57 279 P **P 08 10 08.3 -0.8**
MENT Mentasta 72.60 351 P **P 08 10 09.4 +0.7**
RND Reindeer 72.66 353 P **P 08 10 08.8 -0.2**
RND pmax pmax
comp=Z,12nm,0.8s
RND Reindeer 72.66 353 P **P 08 10 08.8 -0.2**
RND IAmb IAmb 08 10 13.7
comp=Z,12nm,0.8s
PDPR Patillas Dam, 72.72 279 P **P 08 10 10.9 +1.0**
TRF Thorofare Moun 72.73 354 P **P 08 10 09.3 -0.3**
TRF IAmb IAmb 08 10 13.4
comp=Z,17nm,1.2s
DHY Denali Highway 72.85 353 P **P 08 10 10.9 +0.6**
V52A Sevierville 72.89 303 P **P 08 10 10.9 +0.1**
V52A IAmb IAmb 08 10 13.3
comp=Z,17nm,1.3s
WCI Wyandotte Cave 72.90 307 P **P 08 10 10.8 0.0**
WCI pmax pmax
comp=Z,5.0nm,0.8s
WCI Wyandotte Cave 72.90 307 P **P 08 10 10.8 0.0**
T49A Edmonton 73.21 305 P **P 08 10 13.4 +0.7**
UMPA Umpang Tak 73.27 83 P **P 08 10 17.0 +3.7**
comp=Z,27μm,0.6s
PPLA Purkeypile 73.42 355 P **P 08 10 14.1 +0.5**
GRGR Grenville 73.44 271 P **P 08 10 12.0 -2.3**
WHY Whitehorse 73.49 346 P **P 08 10 14.6 +0.5**
WHY IAmb IAmb 08 10 18.9
comp=Z,13nm,1.1s
TTA Tatalina 73.59 357 P **P 08 10 15.1 +0.6**
TTA pmax pmax
comp=Z,13nm,1.2s
TTA Tatalina 73.59 357 P **P 08 10 15.1 +0.6**
TTA IAmb IAmb 08 10 19.7
comp=Z,12nm,1.2s
HYT Haines Junctio 73.78 347 P **P 08 10 16.4 +0.7**
GLB Gilahina Butte 74.07 350 P **P 08 10 18.0 +0.7**
SCM Sheep Creek Mo 74.07 352 P **P 08 10 18.4 +1.1**
SCM pmax pmax
comp=Z,39nm,1.0s
SCM Sheep Creek Mo 74.07 352 P **P 08 10 18.4 +1.1**
UTHA Uthaitani 74.11 84 P **P 08 10 17.9 -0.3**
comp=Z,46μm,0.7s,comp=Z,382μm
SML Sawmill 74.19 353 P **P 08 10 18.1 +0.1**
CTGM Chitina Glacie 74.21 349 P **P 08 10 19.0 +0.7**
CTGM IAmb IAmb 08 10 22.9
comp=Z,23nm,1.3s
VRDI Verde Repeater 74.23 350 P **P 08 10 19.2 +0.7**
VRDI IAmb IAmb 08 10 23.2
comp=Z,13nm,1.2s
GHO Glory Hole Cre 74.28 353 P **P 08 10 18.9 +0.3**
GHO IAmb IAmb 08 10 25.2
comp=Z,14nm,0.8s
SKT Skwentna 74.28 354 P **P 08 10 18.2 -0.3**
W50A Signal Mountai 74.36 304 P **P 08 10 19.5 0.0**
W50A IAmb IAmb 08 10 31.1
comp=Z,19nm,1.4s
CLTN Cedars of Leba 74.37 305 P **P 08 10 19.9 +0.4**
GOGA Godfrey 74.43 301 P **P 08 10 19.9 0.0**
GOGA pmax pmax
comp=Z,8.0nm,1.1s
GOGA Godfrey 74.43 301 P **P 08 10 19.9 0.0**
PMR Palmer 74.47 353 P **P 08 10 20.2 +0.6**
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 74.47 353 P **P 08 10 20.2 +0.6**
PMR IAmb IAmb 08 10 24.4
comp=Z,13nm,1.0s
Y52A Lilburn 74.50 302 P **P 08 10 20.7 +0.4**
Y52A IAmb IAmb 08 10 23.7
comp=Z,8.2nm,0.9s
PBKT Sadao Pong 74.55 82 P **P 08 10 22.4 +1.7**
comp=Z,4.6nm,0.6s
PBKT Sadao Pong 74.55 82 P **P 08 10 20.3 -0.4**
PBKT IAmb IAmb 08 10 23.9
comp=Z,8.0nm,1.0s
KNK Knik Glacier 74.59 353 P **P 08 10 21.1 +0.7**
KNK IAmb IAmb 08 10 25.8
comp=Z,17nm,0.9s
DR12 Loma Pena Alta 74.61 281 P **P 08 10 21.1 -0.1**
CRQM Cirque 74.65 350 P **P 08 10 21.6 +0.7**
SUA Susitna One 74.73 354 P **P 08 10 22.1 +0.8**
RC01 Rabbit Creek A 75.02 353 P **P 08 10 23.0 +0.2**
USRK Ussuriysk Ar. 75.14 42 P **P 08 10 23.5 -0.3**
comp=Z,2.6nm,0.7s,baz=320,slow=5.1,SNR=6.4
USRK Ussuriysk Ar. 75.14 42 P **P 08 10 23.6 -0.1**
EYAK Cordova Ski Ar 75.16 351 P **P 08 10 23.8 +0.2**
WVT Waverly 75.23 306 P **P 08 10 24.7 +0.2**
WVT pmax pmax
comp=Z,6.0nm,1.2s
WVT Waverly 75.23 306 P **P 08 10 24.6 +0.2**
CHAI Chaiyaphum 75.72 82 P **P 08 10 27.7 +0.2**
comp=Z,21μm,0.5s
HENM Henderson Moun 75.78 307 P **P 08 10 28.1 +0.6**
CCM Cathedral Cave 75.85 309 P **P 08 10 28.1 +0.1**
CCM pmax pmax
comp=Z,6.0nm,0.7s
CCM Cathedral Cave 75.85 309 P **P 08 10 28.1 +0.1**
CCM IAmb IAmb 08 10 29.0
comp=Z,5.6nm,0.7s
Z50A Ashland 76.05 303 P **P 08 10 29.8 +0.5**
NJ2 Nanjing 76.38 59 *e*P **P 08 10 29.1 -2.0**
NJ2 pmax pmax
comp=Z,17nm,0.8s
BRLK Bradley Lake 76.43 354 P **P 08 10 31.3 +0.4**

CNPM China Poot 76.69 354 P **P 08 10 33.0 +0.6**
LRAL Lakeview Retre 76.86 303 P **P 08 10 34.0 +0.3**
LRAL IAmb IAmb 08 10 37.1
comp=Z,10nm,0.9s
EGMT Eagleton 77.32 326 P **P 08 10 36.0 -0.2**
FCAR Ozark Folk Cen 77.88 308 P **P 08 10 39.8 +0.3**
FCAR IAmb IAmb 08 10 42.4
comp=Z,6.8nm,0.8s
PETK Petropavlovsk- 77.89 23 P **P 08 10 38.4 -0.8**
comp=Z,5.8nm,0.9s,baz=288,slow=1.4,SNR=3.7
KSRS Korea Array 77.92 49 P **P 08 10 39.2 -0.4**
comp=Z,4.4nm,0.9s,baz=317,slow=5.5,SNR=5.8
WHAR Wooly Hollow 78.40 308 P **P 08 10 42.6 +0.3**
WHAR IAmb IAmb 08 10 45.5
comp=Z,7.5nm,0.9s
W41B Gary Mavity, V 78.46 308 P **P 08 10 43.2 +0.6**
KDAK Kodiak Island 78.52 354 P **P 08 10 43.5 +0.9**
comp=Z,19nm,0.9s,baz=313,slow=7.8,SNR=9.7
KDAK Kodiak Island 78.52 354 P **P 08 10 43.3 +0.7**
OHAK Old Harbor 79.13 355 P **P 08 10 46.5 +0.5**
X40A Basin Creek Fa 79.29 308 P **P 08 10 46.7 -0.6**
JTMT Jette 79.30 329 P **P 08 10 48.1 +0.8**
JTMT IAmb IAmb 08 10 51.4
comp=Z,13nm,0.8s
MIAR Mount Ida 79.67 308 P **P 08 10 50.1 +0.8**
MIAR pmax pmax
comp=Z,4.0nm,0.8s
MIAR Mount Ida 79.67 308 P **P 08 10 50.1 +0.8**
NEW Newport 79.90 331 P **P 08 10 51.3 +0.9**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 79.90 331 P **P 08 10 51.3 +0.9**
MSO Missoula 79.94 328 P **P 08 10 50.9 +0.2**
MSO IAmb IAmb 08 10 55.6
comp=Z,12nm,1.2s
ASAJ Asahikawa 80.09 36 P **P 08 10 50.9 -0.6**
comp=Z,5.1nm,0.6s,baz=94,slow=31,SNR=4.2
JKA Kamikawa-asahi 80.09 36 P **P 08 10 50.9 -0.6**
YHL Hebgen Lake 80.47 325 P **P 08 10 54.6 +0.8**
DLMT Dillon 80.62 327 P **P 08 10 55.8 +1.3**
DLMT IAmb IAmb 08 11 00.1
comp=Z,7.9nm,0.8s
C09A Chrisman Ranch 80.70 331 P **P 08 10 55.4 +0.7**
C09A IAmb IAmb 08 10 58.7
comp=Z,14nm,0.9s
FLWY Flagg Ranch 80.89 325 P **P 08 10 57.2 +1.2**
FLWY IAmb IAmb 08 11 05.0
comp=Z,8.1nm,0.7s
MCMT McKenzie Canyo 81.16 326 P **P 08 10 57.2 -0.3**
FXWY Fox Creek 81.39 325 P **P 08 10 58.1 -0.6**
PD31 Pinedale Array 81.47 323 P **P 08 10 59.7 +0.5**
PDAR Pinedale Array 81.47 323 P **P 08 10 59.5 +0.3**
comp=Z,1.4nm,0.6s,baz=56,slow=5.2,SNR=17
PDAR LR LR 08 47 30.8
comp=Z,122nm,19.1s,baz=354,slow=36
PGC Sidney 81.67 335 P **P 08 11 00.0 +0.2**
CNBA Chernabura Isl 81.83 358 P **P 08 11 00.1 -0.4**
KULM Kulim 81.88 90 P **P 08 11 00.9 -0.5**
F10A Beach Ranch, E 81.89 330 P **P 08 11 01.6 +0.4**
LTY Liberty 82.00 332 P **P 08 11 02.0 +0.3**
ISCO Idaho Springs 82.03 319 P **P 08 11 01.4 -0.9**
ISCO pmax pmax
comp=Z,7.0nm,1.3s
ISCO Idaho Springs 82.03 319 P **P 08 11 01.4 -0.9**
AHID Auburn Hatcher 82.13 324 P **P 08 11 03.1 +0.5**
PLID Pearl Lake 82.18 328 P **P 08 11 03.1 +0.3**
E07A Sunnyside 82.32 331 P **P 08 11 03.2 -0.1**
E07A IAmb IAmb 08 11 08.4
comp=Z,5.6nm,0.7s
PSI Prapat 82.33 93 P **P 08 11 03.2 -0.7**
PSI pmax pmax
comp=Z,9.0nm,0.6s
RPSI Rantau Prapat 82.40 94 P **P 08 11 03.1 -1.0**
RPSI IAmb IAmb 08 11 03.7
comp=Z,8.7nm,0.6s
BMO Blue Mountains 82.87 329 P **P 08 11 06.7 +0.4**
BMO pmax pmax
comp=Z,22nm,1.4s
BMO Blue Mountains 82.87 329 P **P 08 11 06.7 +0.4**
O20A White River Ci 83.00 321 P **P 08 11 07.8 +0.6**
O20A IAmb IAmb 08 11 10.9
comp=Z,6.9nm,0.8s
SMCO Snowmass 83.17 319 P **P 08 11 09.4 +1.0**
RDMU Red Mountain 83.25 322 P **P 08 11 08.8 +0.3**
MFID Camas Ranch 83.52 327 P **P 08 11 10.4 +0.7**
MFID IAmb IAmb 08 11 13.8
comp=Z,8.7nm,0.7s
T25A Trinidad 83.53 317 P **P 08 11 10.8 +0.9**
T25A IAmb IAmb 08 11 14.9
comp=Z,20nm,1.5s
SDCO Great Sand Dun 83.59 318 P **P 08 11 09.7 -0.7**
SDCO IAmb IAmb 08 11 15.4
comp=Z,9.2nm,1.4s
HVU Hansel Valley 83.65 325 P **P 08 11 10.9 +0.4**
HVU pmax pmax
comp=Z,2.0nm,0.7s
HVU Hansel Valley 83.65 325 P **P 08 11 10.9 +0.4**
MJAR Matsushiro Arr 84.03 44 P **P 08 11 11.7 -0.6**
comp=Z,4.1nm,0.7s,baz=298,slow=4.2,SNR=7.4
MJAR Matsushiro Arr 84.03 44 P **P 08 11 12.6 +0.3**
PV22 Blue Mesa, Par 84.53 320 P **P 08 11 16.0 +0.9**
PV22 IAmb IAmb 08 11 19.4
comp=Z,6.7nm,1.0s
PV07 Paradox Valley 84.54 320 P **P 08 11 15.2 +0.1**
PV07 IAmb IAmb 08 11 22.7
comp=Z,5.8nm,0.9s
PV21 Cone Mtn., Par 84.60 320 P **P 08 11 15.9 +0.4**
PV21 IAmb IAmb 08 11 19.9
comp=Z,11nm,1.2s
PV04 Paradox Valley 84.70 320 P **P 08 11 17.1 +1.2**
PV04 IAmb IAmb 08 11 19.8
comp=Z,11nm,1.2s
PV23 Carpenter Ridg 84.70 320 P **P 08 11 17.1 +1.1**
PV23 IAmb IAmb 08 11 21.5
comp=Z,5.1nm,0.9s
PV12 Saucer Basin, 84.71 320 P **P 08 11 17.0 +1.0**
PV12 IAmb IAmb 08 11 19.9
comp=Z,5.5nm,0.9s
PV09 Paradox Valley 84.72 320 P **P 08 11 16.2 +0.1**
PV01 Paradox Valley 84.75 320 P **P 08 11 17.5 +1.3**
PV01 IAmb IAmb 08 11 21.2
comp=Z,8.5nm,1.4s
PV11 David Mesa, Pa 84.76 320 P **P 08 11 17.3 +1.0**
PV11 IAmb IAmb 08 11 21.4
comp=Z,13nm,1.1s
PV20 West Nyswonger 84.77 320 P **P 08 11 16.2 0.0**
PV20 IAmb IAmb 08 11 17.8
comp=Z,4.8nm,0.8s
PV14 Lion Creek, Pa 84.77 320 P **P 08 11 17.2 +0.9**
PV14 IAmb IAmb 08 11 20.2
comp=Z,7.5nm,0.8s
PV16 Nyswonger Mesa 84.77 320 P **P 08 11 17.0 +0.8**
PV16 IAmb IAmb 08 11 21.4
comp=Z,14nm,1.4s
PV03 Paradox Valley 84.78 320 P **P 08 11 17.1 +0.8**
PV03 IAmb IAmb 08 11 21.5
comp=Z,7.7nm,1.1s
PV17 East Wray Mesa 84.82 320 P **P 08 11 16.3 -0.2**
PV17 IAmb IAmb 08 11 26.3
comp=Z,7.6nm,1.0s
PV18 Skein Mesa, Pa 84.82 320 P **P 08 11 16.9 +0.3**
PV18 IAmb IAmb 08 11 21.4
comp=Z,16nm,1.5s
PV13 Radium Mtn., P 84.85 320 P **P 08 11 18.1 +1.4**
SRU San Rafael Swe 84.86 322 P **P 08 11 17.3 +0.6**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 84.86 322 P **P 08 11 17.4 +0.6**
WVOR Wild Horse Val 85.44 329 P **P 08 11 20.1 +0.7**
WVOR pmax pmax
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 85.44 329 P **P 08 11 20.1 +0.7**
WVOR IAmb IAmb 08 11 24.6
comp=Z,4.1nm,0.8s
JCT Junction City 86.20 309 P **P 08 11 24.8 +1.5**
JCT pmax pmax
comp=Z,6.0nm,1.0s
JCT Junction City 86.20 309 P **P 08 11 24.9 +1.5**
JCT IAmb IAmb 08 11 27.1
comp=Z,5.6nm,0.9s
MTPU Mount Pierson 86.48 322 P **P 08 11 26.2 +1.2**
MOD Modoc Plateau 86.52 329 P **P 08 11 26.2 +1.3**
MOD IAmb IAmb 08 11 29.3
comp=Z,4.5nm,0.8s

PKCU	Pink Cliffs	87.03	322	P	P	08 11 28.2	+0.6
KVN	Kaiserville	88.13	327	P	P	08 11 32.7	0.0
KVN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KVN	Kaiserville	88.13	327	P	P	08 11 32.7	0.0
WUAZ	Wupatki	88.19	320	P	P	08 11 33.6	+0.6
WUAZ				IAmb	IAmb	08 11 36.8	
	comp=Z,4.8nm,1.1s						
MNTX	Cornudas Mount	88.29	314	P	P	08 11 33.5	+0.1
MNTX				IAmb	IAmb	08 11 34.1	
	comp=Z,2.7nm,0.7s						
YERR	Yerington	88.64	327	P	P	08 11 35.4	+0.2
NVAR	Mina Array Bea	88.75	326	P	P	08 11 36.1	+0.4
	comp=Z,1.5nm,0.7s,baz=51,slow=4.6,SNR=17						
NVAR	Mina Array Bea	88.75	326	P	P	08 11 35.2	-0.5
TXAR	Lajitas Array	89.22	311	P	P	08 11 37.6	-0.3
TXAR	Lajitas Array	89.22	311	P	P	08 11 38.9	+1.0
	comp=Z,3.2nm,0.9s,baz=58,slow=5.3,SNR=16						
TXAR	Lajitas Array	89.22	311	P	P	08 11 37.6	-0.3
WRA	Warramunga Arr	123.25	86	PKP	PKPdf	08 17 37.5	-1.3
	comp=Z,1.2nm,0.8s,baz=314,slow=1.9,SNR=13						
WRA	Warramunga Arr	123.25	86		PKPdf	08 17 38.2	-0.6
WRAB	Tennant Creek	123.25	86	*i* PKIKP	PKPdf	08 17 37.8	-1.0
ASAR	Alice Springs	125.25	90	PKP	PKPdf	08 17 41.6	-0.9
	comp=Z,2.2nm,0.7s,baz=327,slow=1.5,SNR=28						
STKA	Stephens Creek	135.51	94	PKIKP	PKPdf	08 18 02.1	+0.4
STKA	Stephens Creek	135.51	94	PKP	PKPdf	08 18 02.5	+0.8
	comp=Z,2.1nm,0.6s,baz=4.7,slow=3.0,SNR=8.4						
STKA	Stephens Creek	135.51	94		PKPdf	08 18 02.1	+0.4

GCG ***18*** *08:08:23.1±0.3, 14°.19N×92°.43W, h35km±999km, MD3.9*
ISCJB ***18*** *08:08:25.6±1.3, 14°.4N±0°.1×92°.24W±0°.09, h78km±12km, Error ellipse: s-maj=21.8km s-min=7.2km az=36.3*
MEX ***18*** *08:08:25.5±0.6, 14°.39N×92°.10W, h83km±7km, MD3.9*
ISC 18 08:08:27.4±1.9, 14°.5N±0°.1×92°.17W±0°.09, h72km±13km, n8, σ1§00/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.39	346	*e*P	Pn	08 08 38.4	-0.9
THIG				*e*S	Sn	08 08 49.1	+0.9
STG3	Santiaguito 3,	0.60	73	*e*P	Pn	08 08 41.0	-0.6
FUG	Fuego 3	1.28	93	*e*P	Pn	08 08 49.0	-0.7
PCIG		1.55	319	*e*P	Pn	08 08 52.4	-0.6
PCIG				*i* S	Sn	08 09 12.8	+0.4
IXG	Ixpaco	1.71	102	*e*P	Pn	08 08 54.1	-1.2
IXG				*i* S	Sn	08 09 18.4	+1.9
CCIG	Comitan	1.74	1	*e*P	Pn	08 08 55.0	-0.7
CCIG				*i* S	Sn	08 09 17.9	+0.6
TGIG		2.42	338	*i* P	Pn	08 09 04.1	-0.7
TGIG				*i* S	Sn	08 09 33.9	+0.5
CMIG	Matias Romero	3.65	315	*e*P	Pn	08 09 21.6	+0.1
CMIG				*e*S	Sn	08 10 03.8	+0.5

IDC ***18*** *08:22:47.4±2.4, 60°.90S×45°.27W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.7/13, mbtmp3.8/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/22, Error ellipse: s-maj=99.4km s-min=50.3km az=29.0*
ISCJB ***18*** *08:22:49.6±1.0, 60°.3S±0°.1×44°.0W±0°.3, h10km, mb3.8/2, MS3.0/3, Error ellipse: s-maj=20.6km s-min=18.1km az=8.3*
NEIC ***18*** *08:22:51.1±1.0, 60°.3S±0°.1×44°.0W±0°.4, h10km±2km, mb4.2/5*
ISC 18 08:22:51.1±0.9, 60°.3S±0°.1×44°.2W±0°.2, h10km, n15, σ1§21/12, mb4.1/4, MS3.1/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.33	38	Pn	Pn	08 24 37.3	-0.8
TRQA	Tornquist	24.95	325	P	P	08 28 13.9	-0.4
TRQA				IAmb	IAmb	08 28 21.6	
	comp=Z,3.4nm,0.8s						
PLCA	Paso Flores	25.47	308	LR	LR	08 38 00.3	
	comp=Z,23nm,18.6s,baz=192,slow=36						
PLCA	Paso Flores	25.47	308	P	P	08 28 18.5	-0.7
PLCA				IAmb	IAmb	08 28 26.8	
	comp=Z,9.3nm,1.4s						
QSPA	South Pole Qui	29.94	180	P	P	08 28 58.9	-0.2
LVC	Limon Verde	41.45	324	LR	LR	08 48 09.0	
	comp=Z,31nm,20.3s,baz=240,slow=36						
MNMC	Minye Minye	44.94	325	P	P	08 31 07.4	+1.0
SIV	San Ignacio	45.91	337	LR	LR	08 52 27.8	
	comp=Z,19nm,18.6s,baz=122,slow=38						
LPAZ	La Paz	47.24	328	P	P	08 31 24.9	0.0
	comp=Z,0.7nm,0.7s,baz=182,slow=1.6,SNR=4.3						
LPAZ	La Paz	47.24	328	P	P	08 31 25.6	+0.7
LPAZ				IAmb	IAmb	08 31 27.3	
	comp=Z,2.8nm,1.1s						
TORD	Torodi Ar. Bea	81.86	45	P	P	08 35 12.0	+1.7
	comp=Z,1.3nm,0.9s,baz=205,slow=6.6,SNR=5.2						
ILAR	Eielson Array	146.14	311	PKPbc	PKPdf	08 42 26.2	-2.5
	comp=Z,1.1nm,0.8s,baz=142,slow=3.2,SNR=7.5						
ILAR	Eielson Array	146.14	311		PKPab	08 42 31.0	+0.5
MKAR	Makanchi Array	146.47	89	PKPbc	PKPdf	08 42 30.8	+0.9
	comp=Z,0.4nm,0.6s,baz=211,slow=2.7,SNR=3.6						
MKAR	Makanchi Array	146.47	89	PKPbc	PKPbc	08 42 31.0	-0.4

NEIC ***18*** *08:37:41.5±5.0, 36°.18N±0°.02×97°.12W±0°.03, h5km±2km*
ANF ***18*** *08:37:42.8±0.8, 36°.14N×96°.91W, h2km±5km, ML3.9/10, Error ellipse: s-maj=7.6km s-min=3.7km az=6.0*
ISC 18 08:37:41.0±1.2, 36°.21N±0°.03×97°.00W±0°.03, h2km±9km, n55, σ1§21/82, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.63	209	Pg	Pb	08 37 54.1	-0.6
ADOK				Sg	Sg	08 38 01.1	0.0
OKCSW	OKLAHOMA CITY	0.88	204		Pb	08 37 58.1	-0.8
OKCSW				Sg	Sg	08 38 09.0	-0.1
FNO	Franklin	1.00	199		Pg	08 38 00.1	0.0
FNO				Sg	Sg	08 38 13.1	-0.1
TUL1	Leonard	1.02	106	P	Pg	08 38 00.4	-0.2
	baz=282						
TUL1				S	Sg	08 38 13.6	-0.2
	baz=282						
TUL1	Leonard	1.02	106		Pg	08 38 00.4	-0.2
TUL1				Sg	Sg	08 38 13.1	-0.8
W35A	Tecumseh	1.06	174		Pg	08 38 00.8	-0.5
W35A				Sg	Sg	08 38 14.3	-0.6
X34A	Smith Ranch, M	1.74	203		Pb	08 38 13.5	-0.1
X34A				Sn	Sn	08 38 34.1	-0.9
WMOK	Wichita Mounta	2.06	225	P	Pb	08 38 18.4	-0.8
	baz=46						
WMOK				S	Sg	08 38 46.4	-0.9
	baz=46						
WMOK	Wichita Mounta	2.06	225		Pb	08 38 18.2	-1.0
WMOK				Sn	Sn	08 38 43.6	+0.6
HHAR	Hobbs	2.48	87		Pn	08 38 23.1	+0.8
HHAR					LR	08 38 59.2	
W39A	Magazine	2.81	110	P	Pn	08 38 28.2	+1.3
	baz=290						
W39A	Magazine	2.81	110		Pn	08 38 28.0	+1.1
W39A				Sn	Sn	08 38 58.7	-2.6
MIAR	Mount Ida	3.25	120	P	Pn	08 38 33.8	+0.8
	baz=300						
MIAR				S	Sn	08 39 12.5	+0.2
	baz=300						
MIAR	Mount Ida	3.25	120		Pn	08 38 33.8	+0.8
MIAR				Sn	Sn	08 39 11.4	-0.9
U40A	Yellville	3.35	86	P	Pn	08 38 35.0	+0.6
	baz=267						
U40A	Yellville	3.35	86		Pn	08 38 34.9	+0.4
U40A					LR	08 39 27.3	
CBKS	Cedar Bluff	3.39	321	Sb	Sg	08 39 29.8	-0.2
	baz=140						
CBKS	Cedar Bluff	3.39	321	Pn	Pn	08 38 36.3	+1.3
CBKS					LR	08 39 31.7	
X40A	Basin Creek Fa	3.81	116	P	Pn	08 38 41.9	+1.2
	baz=297						
X40A	Basin Creek Fa	3.81	116		Pn	08 38 41.5	+0.8
X40A					LR	08 39 40.7	
MGMO	Mountain Grove	3.92	75	Pn	Pn	08 38 43.1	+0.9
MGMO					LR	08 39 47.0	
WHAR	Wooly Hollow	3.94	102	Pn	Pn	08 38 42.4	-0.1
WHAR					LR	08 39 47.0	
FCAR	Ozark Folk Cen	3.96	93	Pn	Pn	08 38 44.2	+1.4
FCAR					LR	08 39 46.0	
W41B	Gary Mavity, V	4.00	104	P	Pn	08 38 43.9	+0.6
	baz=285						
W41B	Gary Mavity, V	4.00	104	Pn	Pn	08 38 42.9	-0.5
W41B					LR	08 39 46.8	
AMTX	Amarillo	4.04	252	Pn	Pn	08 38 45.8	+1.9
AMTX					LR	08 39 50.4	
WLAR	White Oak Lake	4.06	127	Pn	Pn	08 38 44.9	+0.7
WLAR					LR	08 39 50.6	
ABTX	Abilene, Hawle	4.19	212	Pn	Pn	08 38 47.2	+1.2
ABTX				Sn	Sn	08 39 35.0	-0.5
WHTX	Lake Whitney,	4.22	185	Pn	Pn	08 38 46.8	+0.4
WHTX				Sn	Sn	08 39 35.9	-0.3
Z41A	Richland Creek	4.54	129	S	Sn	08 39 42.9	-1.1
	baz=311						
CCM	Cathedral Cave	4.96	66	Pn	Pn	08 38 57.1	+0.7
HBAR	Harrisburg	5.19	95	Pn	Pn	08 38 59.6	0.0
HBAR					LR	08 40 26.8	
MSTX	Muleshoe	5.23	246	Pn	Pn	08 39 01.1	+0.7
MSTX				Sn	Sn	08 40 00.6	-0.8
BGNE	Belgrade	5.27	351	Pn	Pn	08 39 01.9	+1.1
BGNE				Sn	Sn	08 40 01.6	-0.6
X43A	Marvell	5.28	107	Sb	Sb	08 40 23.1	+5.4
	baz=290						
X43A	Marvell	5.28	107		Sg	08 40 28.6	-1.9
MET	Memphis--Engin	5.85	99	Pn	Pn	08 39 06.5	-2.2
MET					LR	08 40 48.6	
T25A	Trinidad	6.03	281	Pn	Pn	08 39 12.2	+0.8
T25A					LR	08 40 56.8	
JCT	Junction City	6.17	203	Pn	Pn	08 39 14.1	+0.9
JCT					LR	08 40 59.7	
SIUC	Southern Illin	6.41	74	Pn	Pn	08 39 16.0	-0.5
SIUC				Sn	Sn	08 40 28.7	-1.5
OXF	Oxford	6.43	103	Pn	Pn	08 39 16.9	+0.2
OXF				Sn	Sn	08 40 29.0	-1.6
SDCO	Great Sand Dun	6.98	285	Pn	Pn	08 39 25.8	+1.3
Q24A	Divide	7.03	295	Pn	Pn	08 39 26.0	+0.8
Q24A				Sn	Sn	08 40 45.1	-0.9
GDL2	Guadalupe Moun	7.29	239	Pn	Pn	08 39 29.5	+0.8
PLAL	Pickwick Lake	7.37	97	Pn	Pn	08 39 29.9	+0.2
PLAL				Sn	Sn	08 40 52.1	-1.8
HDIL	Hopedale	7.45	52	Pn	Pn	08 39 30.3	-0.3
HDIL				Sn	Sn	08 40 54.3	-1.4
ECSD	EROS Data Cent	7.52	2	Pn	Pn	08 39 32.0	+0.2
ECSD				Sn	Sn	08 40 57.9	+0.3
USIN	University of	7.67	74	Pn	Pn	08 39 31.7	-1.9
MNTX	Cornudas Mount	8.29	240	Pn	Pn	08 39 43.4	+1.2
MNTX				Sn	Sn	08 41 15.8	-0.6
LENM	Lemitar	8.41	259	Pn	Pn	08 39 43.9	-0.2
BLO	Bloomington	8.82	67	Pn	Pn	08 39 51.4	+1.9
BLO				Sn	Sn	08 41 28.5	-0.9
LRAL	Lakeview Retre	8.83	108	Pn	Pn	08 39 49.4	-0.3
LRAL				Sn	Sn	08 41 27.4	-2.4
TXAR	Lajitas Array	8.86	221	Pn	Pn	08 39 51.9	+1.8
TXAR				Sn	Sn	08 41 28.7	-1.9
T49A	Edmonton	9.26	81	Pn	Pn	08 39 56.8	+1.3
CPCT	Cooper Cave	10.16	91	Pn	Pn	08 40 08.5	+0.6
CPCT				Sn	Sn	08 42 02.4	0.0

ISCJB ***18*** *08:40:22.2±0.4, 60°.30S±0°.05×45°.2W±0°.1, h10km, mb3.8/6, MS3.3/3, Error ellipse: s-maj=9.5km s-min=7.1km az=154.8*
IDC ***18*** *08:40:22.7±0.8, 60°.44S×45°.26W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/26, mbtmp4.0/7, MS3.3/4, Ms1 3.2/4, ms1mx3.0/17, Error ellipse: s-maj=37.4km s-min=21.3km az=68.0*
NEIC ***18*** *08:40:25.1±2.3, 60°.3S±0°.1×45°.3W±0°.2, h15km±3km, mb4.6/13*
ISC 18 08:40:23.7±0.6, 60°.29S±0°.07×45°.43W±0°.09, h10km, n36, σ1§69/35, mb4.3/10, MS3.3/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.72	43	Pn	Pn	08 42 14.8	-1.2
HOPE				Sn	Sn	08 43 44.0	+0.6
PMSA	Palmer Station	9.69	234	LR	LR	08 46 45.8	
	comp=Z,96nm,20.2s,baz=72,slow=40						
EFI	East Falkland	11.14	315	Pn	Pn	08 43 04.7	+1.9
EFI				Sn	Sn	08 45 01.5	-5.8
VNA3	Neumayer Olymp	17.96	142	P	P	08 44 32.8	-0.9
VNA1	Neumayer--Stat	18.23	140	P	Pn	08 44 33.7	-2.6
VNA2	Neumayer--Watz	18.58	141	P	P	08 44 38.7	-1.7
	baz=304,slow=15						
SNAA	Sanae	20.18	142	P	Pn	08 45 01.0	+1.0
SNAA	Sanae	20.18	142	P	P	08 44 58.1	0.0
TRQA	Tornquist	24.60	327	P	P	08 45 45.0	+1.1
PLCA	Paso Flores	24.99	310	P	P	08 45 49.5	+2.1
	2.7nm,0.9s,baz=192,slow=13,SNR=4.7						
PLCA				LR	LR	08 55 18.4	
	comp=Z,62nm,18.6s,baz=172,slow=36						
PLCA	Paso Flores	24.99	310	P	P	08 45 48.8	+1.4
PLCA				IAmb	IAmb	08 46 45.2	
	comp=Z,17nm,1.6s						
GO06	Curarrehue	26.34	310	P	P	08 45 59.1	-0.5
GO06				IAmb	IAmb	08 46 26.4	
	comp=Z,28nm,1.8s						
QSPA	South Pole Qui	29.95	180	P	P	08 46 32.5	+0.8
	comp=Z,2.1nm,0.8s,baz=223,slow=2.2,SNR=10						
QSPA	South Pole Qui	29.95	180	P	P	08 46 32.6	+0.8
GO05	Huala	30.55	314	P	P	08 46 37.6	+0.5
GO02	Mina Guanaco	38.88	324	P	P	08 47 48.5	-0.8
GO02				IAmb	IAmb	08 47 58.3	
	comp=Z,20nm,1.3s						
SBA	Scott Base	40.70	190	P	P	08 48 04.9	+1.3
MAW	Mawson	42.19	147	LR	LR	09 05 06.8	
	comp=Z,38nm,18.2s,baz=240,slow=35						
PB01	IPOC Station P	42.74	326	P	P	08 48 22.4	+1.3
PB01				IAmb	IAmb	08 48 37.4	
	comp=Z,13nm,0.8s						
GO01	Chusmiza	43.97	327	P	P	08 48 31.1	-0.3
GO01				IAmb	IAmb	08 48 48.0	
	comp=Z,9.3nm,0.9s						
MNMC	Minye Minye	44.59	327	P	P	08 48 38.5	+2.4
SIV	San Ignacio	45.67	339	P	P	08 48 46.3	+1.8
	comp=Z,0.6nm,0.5s,baz=153,slow=11,SNR=6.2						
LPAZ	La Paz	46.92	330	P	P	08 48 57.0	+2.1
	comp=Z,1.0nm,0.6s,baz=188,slow=3.7,SNR=5.7						
LPAZ	La Paz	46.92	330	P	P	08 48 55.0	+0.1
LPAZ				IAmb	IAmb	08 49 20.7	
	comp=Z,11nm,1.6s						
BOSA	Boshof	56.08	89	LR	LR	09 09 56.7	
	comp=Z,39nm,19.1s,baz=338,slow=32						
TORD	Torodi Ar. Bea	82.29	46	P	P	08 52 46.6	+1.5
	comp=Z,0.7nm,0.8s,baz=255,slow=3.6,SNR=3.0						
TORD	Torodi Ar. Bea	82.29	46	P	P	08 52 46.6	+1.5
ASAR	Alice Springs	96.35	179	P	P	08 53 50.9	-1.7
	comp=Z,0.2nm,0.5s,baz=168,slow=4.1,SNR=5.3						
ASAR	Alice Springs	96.35	179	P	P	08 53 51.1	-1.4
WRA	Warramunga Arr	100.06	180	P	Pdif	08 54 07.6	-1.6
	comp=Z,0.2nm,0.7s,baz=176,slow=4.1,SNR=2.6						
BVAR	Borovoye Array	145.29	73	PKPbc	PKPbc	08 59 59.7	-0.4
	comp=Z,3.5nm,0.8s,baz=228,slow=3.8,SNR=10						
ILAR	Eielson Array	145.67	312	PKPbc	PKPdf	09 00 01.1	+0.5
	comp=Z,2.5nm,0.9s,baz=153,slow=2.9,SNR=16						
ILAR	Eielson Array	145.67	312		PKPdf	09 00 00.9	+0.4
MKAR	Makanchi Array	147.08	90	PKPbc	PKPbc	09 00 05.2	-0.5
	comp=Z,2.3nm,0.7s,baz=225,slow=1.9,SNR=11						
MKAR	Makanchi Array	147.08	90	PKPbc	PKPbc	09 00 05.4	-0.3
MKAR				PKPab	pPKPbc	09 00 09.2	+1.2
KURBB	Kurchatov Arra	147.75	82	PKPbc	PKPbc	09 00 07.0	-0.4
	comp=Z,0.9nm,0.7s,baz=236,slow=3.4,SNR=6.3						

IDC ***18*** *08:43:03.5±9.1, 13°.23N×91°.82W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/25, mbtmp3.5/4, Error ellipse: s-maj=208.2km s-min=102.9km az=16.0*
GCG ***18*** *08:43:04.0±0.5, 13°.10N×92°.82W, h39km±999km, MD4.2*
ISCJB ***18*** *08:43:08.7±0.5, 13°.44N±0°.05×92°.48W±0°.03, h32km, mb3.7/3, Error ellipse: s-maj=7.5km s-min=3.0km az=29.0*
MEX ***18*** *08:43:10.4±0.5, 13°.44N×92°.65W, h7km±71km, MD3.9*
NEIC ***18*** *08:43:10.5±2.6, 13°.36N±0°.07×92°.43W±0°.06, h46km±9km, mb4.2/25*
SNET ***18*** *08:43:10.0±2.4, 13°.33N×92°.43W, h26km±119km, ML3.9*
ISC 18 08:43:09.6±0.9, 13°.38N±0°.07×92°.51W±0°.05, h32km, n65, σ1§42/81, mb4.1/13, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.54	9	*e*P	Pn	08 43 34.3	-0.5
THIG				*e*S	Sn	08 43 53.1	-0.6
THIG		1.54	9		Pn	08 43 34.3	-0.5
STG3	Santiaguito 3,	1.61	34	*e*P	Pn	08 43 36.1	+0.1
FUG	Fuego 3	1.94	57	*e*P	Pn	08 43 41.0	+0.5
IXG	Ixpaco	2.16	68	*e*P	Pn	08 43 43.5	-0.1
IXG	Ixpaco	2.16	68	*e*P	Pn	08 43 42.7	-0.9
PCIG		2.41	344	*e*P	Pn	08 43 45.6	-1.3
PCIG				*i* S	Sn	08 44 13.4	-1.9
PCIG		2.41	344		Pn	08 43 45.6	-1.3
NBG	Las Nubes	2.42	60	*i* S	Sb	08 44 21.9	-0.2
RTR	El Retiro	2.83	79	*e*P	Pn	08 43 53.4	+0.6
SBLS	San Blas	2.84	80	*e*P	Pn	08 43 53.1	0.0
SNJE	San Jose	2.86	80	*e*P	Pn	08 43 53.6	+0.3
CCIG	Comitan	2.91	7	*e*P	Pn	08 43 54.6	+0.7
CCIG				*i* S	Sn	08 44 27.8	0.0
CCIG	Comitan	2.91	7		Pn	08 43 56.2	+2.4
CCIG	Comitan	2.91	7	Pn	Pn	08 43 56.3	+2.4
CCIG				Sn	Sn	08 44 28.5	+0.7
UEES	Universidad Ev	3.20	84	*e*P	Pn	08 43 58.3	+0.5
UEES				*e*S	Sn	08 44 35.0	+0.1
UEES				IAML		08 44 42.2	
	comp=Z,243nm,0.3s						
SNET	Serv Nac Est T	3.20	84	*e*P	Pn	08 43 58.3	+0.5
SNET				*e*S	Sn	08 44 34.6	-0.4
SNET				IAML		08 44 42.5	
	comp=Z,216nm,0.3s						
SNET	Serv Nac Est T	3.20	84		Pn	08 43 57.9	+0.1
LFU	La Fuente	3.32	83	*e*P	Pn	08 44 00.5	+1.0
TGIG		3.43	350	*e*P	Pn	08 44 01.3	+0.4
TGIG				*i* S	Sn	08 44 39.3	-1.3
PAVA	Las Pavas	3.49	84	*e*P	Pn	08 44 02.8	+0.9
PAVA				*e*S	Sn	08 44 46.2	+4.0
COEG	Centro de Oper	3.54	86	*e*P	Pn	08 44 03.5	+1.1
COEG				*e*S	Sn	08 44 44.9	+1.6
COEG				IAML		08 44 51.6	
	comp=Z,187nm,0.4s						
ALJI	Alcalda de J	3.83	90	*e*P	Pn	08 44 06.9	+0.4
ALJI				*e*S	Sn	08 44 49.3	-1.2
ALJI				IAML		08 44 58.3	
	comp=Z,128nm,0.2s						
COEB	Comit de Eme	3.87	88	*e*P	Pn	08 44 08.2	+1.1
COEB				*e*S	Sn	08 44 51.2	-0.4
COEB				IAML		08 44 56.1	
	comp=Z,189nm,0.4s						
CMIG	Matias Romero	4.34	328	*i* P	Pn	08 44 13.1	-0.4
CMIG				*i* S	Sn	08 45 00.7	-2.3
LCND	La Caada	4.50	90	*e*P	Pn	08 44 16.3	+0.7
LCND				*e*S	Sn	08 45 05.4	-1.4
CNCH	Conchagua	4.55	91	*e*P	Pn	08 44 17.1	+0.7
CNCH				*e*S	Sn	08 45 09.6	+1.2
CNCH				IAML		08 45 17.5	
	comp=Z,416nm,0.4s						
TGUH	Tegucigalpa,Un	5.13	82		Pn	08 44 24.5	+0.1
ESTN	Estel	5.99	92	Pn	Pn	08 44 36.5	+0.4
TLIG	Tlapa	7.17	306	Pn	Pn	08 44 54.7	+2.3
ACON	Acoyapa	7.29	100	Pn	Pn	08 44 54.2	+0.1
TEIG	Tepich	7.92	30		Pn	08 45 02.8	+0.2
TEIG				Sn	Sn	08 46 30.1	-1.1
JTS	Las Juntas de	8.01	112	Pn	Pn	08 45 03.8	-0.1
JTS				Sn	Sn	08 46 30.8	-2.6
TX32	Lajitas Array	18.95	329	P	Pn	08 47 31.4	+2.3
TXAR	Lajitas Array	18.95	329	P	Pn	08 47 31.6	+2.5
	baz=146,slow=13,SNR=4.1						
TXAR	Lajitas Array	18.95	329	P	Pn	08 47 31.1	+1.9
LRAL	Lakeview Retre	20.20	14	P	P	08 47 41.6	-0.2
ABTX	Abilene, Hawle	20.24	342	P	P	08 47 44.4	+2.1
ABTX				IAmb	IAmb	08 47 44.6	
	comp=Z,8.9nm,0.8s						
Z50A	Ashland	20.68	16	P	P	08 47 47.6	+0.6
Z50A				IAmb	IAmb	08 47 54.1	
	comp=Z,18nm,1.5s						
GOGA	Godfrey	21.58	21	P	P	08 47 56.2	-0.4
GDL2	Guadalupe Moun	21.65	332	P	P	08 47 58.7	+1.1
MNTX	Cornudas Mount	21.73	329	P	P	08 48 00.4	+2.0
WHAR	Wooly Hollow	21.82	0	P	P	08 47 58.9	-0.3
WHAR				IAmb	IAmb	08 48 12.5	
	comp=Z,13nm,1.4s						
PLAL	Pickwick Lake	21.88	10	P	P	08 47 59.1	-0.8
PLAL				IAmb	IAmb	08 47 59.1	
	comp=Z,9.8nm,1.4s						
WMOK	Wichita Mounta	22.01	346	P	P	08 48 02.0	+0.7
WMOK				IAmb	IAmb	08 48 21.1	
	comp=Z,5.6nm,1.0s						
FNO	Franklin	22.23	349	P	P	08 48 04.0	+0.4
MSTX	Muleshoe	22.52	337	P	P	08 48 08.6	+1.7
MSTX				IAmb	IAmb	08 48 10.2	
	comp=Z,6.1nm,1.0s						
SWET	Sewanee	22.54	14	P	P	08 48 06.2	-0.8
SWET				IAmb	IAmb	08 48 06.4	
	comp=Z,4.1nm,0.6s						
LCAR	Lake Charles	22.62	3	P	P	08 48 07.6	-0.3
W50A	Signal Mountai	22.68	15	P	P	08 48 07.0	-1.5
W50A				IAmb	IAmb	08 48 16.8	
	comp=Z,13nm,1.4s						
HHAR	Hobbs	22.84	357	P	P	08 48 09.1	-1.1
AMTX	Amarillo	22.96	340	P	P	08 48 12.4	+0.9
AMTX				IAmb	IAmb	08 48 16.4	
	comp=Z,5.4nm,0.8s						
PBMO	Poplar Bluff	23.37	4	P	P	08 48 15.2	-0.4
SIUC	Southern Illin	24.41	6	P	P	08 48 24.4	-0.8
TZTN	Tazewell	24.43	18	P	P	08 48 26.0	+0.5
WCI	Wyandotte Cave	25.36	11	P	P	08 48 31.7	-2.2
WCI				IAmb	IAmb	08 48 34.8	
	comp=Z,8.5nm,0.8s						
PDPR	Patillas Dam,	25.90	76	P	P	08 48 34.0	-4.9
PDPR				IAmb	IAmb	08 48 49.4	
	comp=Z,16nm,1.1s						
SNOW	Sn

ARSB			⇑iS		Sb	08 49 37.7	-0.6
	baz=5.0						
AML	**Almayashu**	**2.57 323**	⇓iP		**Pn**	**08 49 07.3**	**+1.6**
AML	baz=26		⇓iS		**Sb**	**08 49 41.6**	**-0.4**
	baz=26						
AML	**Almayashu**	**2.57 323**	P		**Pn**	**08 49 07.2**	**+1.4**
	SNR=28						
KBK	**Karagaybulak**	**2.64 347**	⇑iP		**Pn**	**08 49 08.6**	**+2.2**
KBK	baz=48		⇑iS		**Sb**	**08 49 43.5**	**-0.2**
	baz=48						
KBK	**Karagaybulak**	**2.64 347**	P		**Pb**	**08 49 09.3**	**-1.4**
	SNR=19						
AAK	**Ala-Archa**	**2.72 340**	Pn		**Pb**	**08 49 09.9**	**-2.1**
	11nm,0.3s						
AAK			Lg		Lg	08 49 47.8	
	29nm,0.4s						
AAK	**Ala-Archa**	**2.72 340**	⇑iP		**Pb**	**08 49 10.0**	**-2.1**
	baz=41						
AAK			⇑iS		**Sb**	**08 49 45.3**	**-0.7**
	baz=41						
AAK	**Ala-Archa**	**2.72 340**	P		**Pb**	**08 49 10.2**	**-1.9**
	SNR=24						
TKM2	**Tokmak 2**	**2.83 357**	⇑Pn		**Pn**	**08 49 11.2**	**+2.1**
	12nm,0.7s						
TKM2			⇓Lg		Lg	08 49 52.9	
	52nm,0.5s						
TKM2	**Tokmak 2**	**2.83 357**	⇑iP		**Pn**	**08 49 11.4**	**+2.3**
	baz=58						
TKM2			⇑iS		**Sb**	**08 49 48.2**	**-1.1**
	baz=58						
TKM2	**Tokmak 2**	**2.83 357**	P		**Pn**	**08 49 11.4**	**+2.3**
	SNR=15						
FRU1	**Bishkek**	**2.85 343**	⇑iP		**Pn**	**08 49 11.7**	**+2.4**
	baz=44						
FRU1			⇑iS		**Sb**	**08 49 48.5**	**-1.1**
	baz=44						
KST	**Kastek**	**2.95 3**	Pg		**Pb**	**08 49 14.1**	**-2.0**
	16nm,0.4s						
KST			Lg		Lg	08 49 58.3	
	71nm,0.6s						
KST	**Kastek**	**2.95 3**	eP		**Pb**	**08 49 14.2**	**-1.9**
	16nm,0.4s						
KST			eS		**Sg**	**08 49 59.0**	**+1.6**
	71nm,0.6s						
EKS2	**Erkin-Say**	**2.97 330**	⇓iP		**Pn**	**08 49 13.2**	**+2.2**
	baz=32						
EKS2			⇓iS		**Sb**	**08 50 49.9**	**-2.4**
	baz=32						
EKS2	**Erkin-Say**	**2.97 330**	P		**Pn**	**08 49 13.3**	**+2.2**
	SNR=12						
CHMS	**Chumysh**	**3.00 346**	⇑iP		**Pn**	**08 49 13.5**	**+2.1**
CHMS	baz=47		⇑iS		**Sb**	**08 51 8.9**	**-2.2**
	baz=47						
CHMS	**Chumysh**	**3.00 346**	P		**Pn**	**08 49 14.0**	**+2.7**
	SNR=6.8						
IZV	**Izvestkoviy**	**3.01 12**	Pg		**Pb**	**08 49 15.5**	**-1.6**
	52nm,0.6s						
IZV			Lg		Lg	08 50 00.5	
	45nm,0.4s						
IZV	**Izvestkoviy**	**3.01 12**	eP		**Pb**	**08 49 15.3**	**-1.8**
	5.8nm,0.2s						
IZV			eS		**Sg**	**08 50 00.9**	**+1.7**
	52nm,0.7s						
ANVS	**Anan'yevo**	**3.04 27**	⇑iP		**Pn**	**08 49 14.5**	**+2.4**
	baz=26						
ANVS			⇑iS		**Sb**	**08 49 53.4**	**-2.1**
	baz=26						
TNSS	**Tian-Shan**	**3.07 16**	Pg		**Pb**	**08 49 16.2**	**-2.1**
	30nm,0.5s						
TNSS			Lg		Lg	08 50 01.6	
	35nm,0.6s						
TNSS	**Tian-Shan**	**3.07 16**	eP		**Pb**	**08 49 16.2**	**-2.1**
	30nm,0.5s						
TNSS			eS		**Sg**	**08 50 02.9**	**+1.6**
	31nm,0.3s						
MTBS	**Maitube**	**3.08 9**	Pg		**Pb**	**08 49 16.1**	**-2.0**
	10nm,0.4s						
MTBS			Lg		Lg	08 50 01.8	
	37nm,0.3s						
MTBS	**Maitube**	**3.08 9**	eP		**Pb**	**08 49 16.1**	**-2.0**
	10nm,0.4s						
MTBS			eS		**Sg**	**08 50 02.6**	**+1.2**
	37nm,0.3s						
PRZ	**Przheval'sk**	**3.11 39**	⇑iP		**Pn**	**08 49 15.6**	**+2.7**
	baz=38						
PRZ			⇑iS		**Sb**	**08 49 54.9**	**-2.3**
	baz=38						
DGS	**Degeres**	**3.15 0**	Pg		**Pb**	**08 49 16.5**	**-2.9**
	12nm,0.3s						
DGS			Lg		Lg	08 50 02.9	
	76nm,0.6s						
DGS	**Degeres**	**3.15 0**	eP		**Pb**	**08 49 16.5**	**-2.9**
	12nm,0.3s						
DGS			eS		**Sg**	**08 50 02.9**	**-0.8**
	76nm,0.6s						
MDOK	**Medeo**	**3.22 17**	Pg		**Pb**	**08 49 17.6**	**-3.0**
	8.1nm,0.4s						
MDOK			Lg		Lg	08 50 03.9	
	49nm,0.9s						
MDOK	**Medeo**	**3.22 17**	eP		**Pb**	**08 49 17.8**	**-2.8**
	8.1nm,0.4s						
MDOK			eS		**Sg**	**08 50 05.2**	**-0.7**
	49nm,0.9s						
MRKS	**Merke**	**3.27 325**	Pg		**Pn**	**08 49 16.9**	**+1.9**
	19nm,0.5s						
MRKS			Lg		Lg	08 50 02.8	
	37nm,0.4s						
MRKS	**Merke**	**3.27 325**	eP		**Pn**	**08 49 16.9**	**+1.9**
	8.0nm,0.2s						
MRKS			eS		**Sb**	**08 50 03.9**	**+2.2**
	37nm,0.4s						
KOTS	**Kotyrbulak**	**3.30 17**	Pg		**Pb**	**08 49 20.9**	**-1.1**
	25nm,0.4s						
KOTS			Lg		Lg	08 50 09.7	
	197nm,0.5s						
KOTS	**Kotyrbulak**	**3.30 17**	eP		**Pb**	**08 49 20.3**	**-1.7**
	25nm,0.4s						
KOTS			eS		**Sg**	**08 50 09.7**	**+1.2**
	197nm,0.5s						
USP	**Ospenovka**	**3.31 344**	⇓iP		**Pn**	**08 49 18.1**	**+2.5**
	baz=45						
USP			⇓iS		**Sb**	**08 49 59.6**	**-3.4**
	baz=45						
USP	**Ospenovka**	**3.31 344**	P		**Pn**	**08 49 18.0**	**+2.4**
	SNR=22						
SATY	**Saty**	**3.56 33**	Pg		**Pb**	**08 49 26.2**	**-0.3**
	11nm,0.5s						
SATY			Lg		Lg	08 50 18.5	
	17nm,0.4s						
SATY	**Saty**	**3.56 33**	eP		**Pb**	**08 49 26.2**	**-0.3**
	11nm,0.5s						
SATY			eS		**Sg**	**08 50 19.9**	**+2.8**
	17nm,0.4s						
ZHN	**Zhinishke**	**3.67 32**	eP		**Pb**	**08 49 27.3**	**-0.9**
	8.1nm,0.1s						
ZHN			eS		**Sg**	**08 50 21.2**	**+0.9**
	4.7nm,0.1s						
KTBS	**Karatobe**	**3.68 10**	Pg		**Pb**	**08 49 27.4**	**-1.0**
	19nm,0.6s						
KTBS			Lg		Lg	08 50 21.0	
	130nm,0.7s						
KTBS	**Karatobe**	**3.68 10**	eP		**Pb**	**08 49 27.0**	**-1.5**
	3.8nm,0.2s						
KTBS			eS		**Sg**	**08 50 21.2**	**+0.4**
	130nm,0.7s						
BTK	**Batken**	**3.80 271**	⇑iP		**Pn**	**08 49 22.3**	**0.0**
	baz=73						
BTK			⇑iS		**Sn**	**08 50 06.2**	**-1.5**
	baz=73						
KUU	**Kurty**	**3.82 6**	Pg		**Pb**	**08 49 29.3**	**-1.5**
	4.6nm,0.4s						
KUU			Lg		Lg	08 50 23.9	
	29nm,0.5s						
KUU	**Kurty**	**3.82 6**	eP		**Pb**	**08 49 29.0**	**-1.9**
	2.8nm,0.2s						
KUU			eS		**Sg**	**08 50 24.7**	**-0.6**
	64nm,0.7s						
KURS	**Kuram**	**3.84 27**	Pg		**Pb**	**08 49 30.2**	**-0.9**
	4.2nm,0.5s						
KURS			Lg		Lg	08 50 25.5	
	11nm,0.8s						
KURS	**Kuram**	**3.84 27**	eP		**Pb**	**08 49 29.7**	**-1.5**
	4.2nm,0.5s						
KURS			eS		**Sg**	**08 50 26.0**	**+0.1**
	11nm,0.8s						
CHKK	**Chushkaly**	**3.87 13**	Pg		**Pb**	**08 49 30.7**	**-0.9**
	11nm,0.5s						
CHKK			Lg		Lg	08 50 26.3	
	63nm,0.7s						
CHKK	**Chushkaly**	**3.87 13**	eP		**Pb**	**08 49 30.2**	**-1.4**
	0.6nm,0.0s						
CHKK			eS		**Sg**	**08 50 27.0**	**+0.2**
	46nm,0.4s						
UZB	**Uzynbulak**	**3.91 38**	eP		**Pb**	**08 49 30.8**	**-1.6**
	0.9nm,0.2s						
UZB			eS		**Sg**	**08 50 27.2**	**-0.9**
	5.2nm,0.3s						
KPKS	**Kokpek**	**4.02 32**	eP		**Pb**	**08 49 32.5**	**-1.7**
	5.0nm,0.1s						
KPKS			eS		**Sg**	**08 50 30.2**	**-1.4**
	44nm,0.4s						
PDGK	**Podgornoye**	**4.27 40**	⇓Pg		**Pb**	**08 49 39.1**	**+0.6**
	3.2nm,0.5s						
PDGK			⇑Lg		Lg	08 50 38.4	
	9.0nm,0.5s						
ARXS	**Arharly**	**4.39 20**	Pg		**Pb**	**08 49 40.1**	**-0.5**
	4.9nm,0.7s						
ARXS			Lg		Lg	08 50 42.7	
	12nm,0.5s						
ARXS	**Arharly**	**4.39 20**	eP		**Pb**	**08 49 39.6**	**-1.0**
	1.1nm,0.2s						
ARXS			eS		**Sg**	**08 50 42.7**	**-0.9**
	12nm,0.5s						
IUG	**Iuzhnay**	**4.79 297**	eP		Pn	08 49 41.3	+5.3
	0.6nm,0.2s						
IUG			eS		**Sb**	**08 50 45.2**	**-0.4**
	5.9nm,0.1s						
KK31	**Karatay Array**	**4.96 309**	⇑Pn		**Pn**	**08 49 38.5**	**+0.3**
	1.0nm,0.6s,baz=130,slow=10,SNR=4.6						
KK31			⇓Pg		**Pb**	**08 49 51.3**	**+1.1**
	4.2nm,0.7s,baz=125,slow=17,SNR=11						
KK31			⇑Lg		Lg	08 50 56.0	
	4.8nm,0.6s,baz=120,slow=28,SNR=5.6						

*ISCJB **18** 08:57:45.2±0.5, 15°.34S±0°.06×173°.44W±0°.07, h10km, mb3.8/5, MS3.3/2, Error ellipse: s-maj=9.2km s-min=8.6km az=172.9*
*IDC **18** 08:57:45.9±2.6, 15°.41S×173°.37W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/45, mbtmp3.8/5, MS3.5/2, Ms1 3.5/2, ms1mx2.8/34, Error ellipse: s-maj=146.0km s-min=24.5km az=143.0*
*NEIC **18** 08:57:46.7±2.4, 15°.20S±0°.07×173°.4W±0°.1, h10km±1km, mb4.4/13*
ISC 18 08:57:46.5±0.7, **15°.23S**±0°.07×**173°.37W**±0°.09, **h10**km, **n27**, σ**1**§**39**/**27**, **mb4.3**/**11**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**50**	Pn	**Pn**	**08 58 22.6**	**+1.7**
AFI				Sn	**Sn**	**08 58 42.6**	**-3.7**
NIUE	**Niue**	**5.05**	**140**	Pn	**Pn**	**08 59 04.3**	**+1.9**
NIUE				Sn	**Sn**	**08 59 59.7**	**-1.1**
KNTN	**Kanton**	**12.48**	**8**	Pn	**Pn**	**09 00 44.5**	**+0.2**
DZM	**Mont Dzumac**	**20.29**	**247**	LR	LR	09 08 43.7	
	comp=Z,124nm,18.2s,baz=30,slow=32						
URZ	**Urewera**	**24.43**	**198**	LR	LR	09 11 18.2	
	comp=Z,87nm,18.3s,baz=34,slow=34						
URZ	**Urewera**	**24.43**	**198**		**P**	**09 03 05.3**	**-0.1**
URZ				IAmb	IAmb	09 03 19.0	
	comp=Z,15nm,1.3s						
PLWZ	**Palliser**	**28.03**	**198**	P	**P**	**09 03 36.0**	**-2.0**
QRZ	**Quartz Range**	**28.30**	**203**	P	**P**	**09 03 38.7**	**-1.6**
THZ	**Tophouse**	**28.98**	**201**	P	**P**	**09 03 44.2**	**-2.3**
THZ				IAmb	IAmb	09 03 47.0	
	comp=Z,16nm,1.5s						
KHZ	**Kahutara**	**29.34**	**200**	P	**P**	**09 03 49.6**	**+0.1**
KHZ				IAmb	IAmb	09 03 58.6	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**09 05 57.1**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=102,slow=9.3,SNR=3.3						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**09 05 55.4**	**-0.1**
BBOO	**Buckleboo**	**48.92**	**240**	P	**P**	**09 06 32.5**	**-0.5**
WR0	**Warramunga Arr**	**49.72**	**257**	P	**P**	**09 06 40.0**	**+0.7**
WR0				IAmb	IAmb	09 06 41.1	
	comp=Z,4.6nm,1.2s						
WB2	**Warramunga Arr**	**49.90**	**257**	P	**P**	**09 06 41.0**	**+0.2**
WRAB	**Tennant Creek**	**49.90**	**257**	P	**P**	**09 06 40.8**	**+0.1**
WRAB				IAmb	IAmb	09 06 51.3	
	comp=Z,4.8nm,1.2s						
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**09 06 40.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=95,slow=8.1,SNR=37						
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**09 06 40.8**	**0.0**
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**09 06 42.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=89,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**09 06 41.5**	**-1.4**
MDPB	**Devils Postpil**	**73.23**	**42**	P	**P**	**09 09 19.7**	**+1.4**
MDPB				IAmb	IAmb	09 09 22.0	
	comp=Z,1.6nm,0.6s						
OMMB	**Old Mammoth Mi**	**73.27**	**42**	P	**P**	**09 09 19.3**	**+0.7**
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**09 09 24.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=228,slow=8.1,SNR=4.7						
QSPA	**South Pole Qui**	**74.81**	**180**	P	**P**	**09 09 26.5**	**-0.5**
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**09 10 09.8**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=228,slow=6.3,SNR=5.8						
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**09 10 07.8**	**0.0**
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc	**PKiKP**	**09 17 29.6**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=65,slow=2.2,SNR=6.2						

*ISCJB **18** 09:17:06.1±0.6, 23°.02N±0°.02×121°.66E±0°.03, h18km±7km, Error ellipse: s-maj=5.0km s-min=3.1km az=23.7*
*JMA **18** 09:17:06.0±0.1, 23°.03N×121°.67E, h23km±3km*
*TAP **18** 09:17:07.9, 23°.07N×121°.54E, h15km, ML2.5, D*
ISC 18 09:17:06.4±1.1, **23°.03N**±0°.03×**121°.62E**±0°.03, **h19**km±2km, **n47**, σ**0**§**51**/**82**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.24**	**286**	*i* P	**Pb**	**09 17 12.0**	**0.0**
	baz=282						
CHKT				*i* S	**Sb**	**09 17 15.2**	**-0.4**
	baz=282						
FULB	**Fuli**	**0.34**	**299**	*i* P	**Pg**	**09 17 13.7**	**-0.1**
	baz=301						
FULB				*i* S	**Sg**	**09 17 18.2**	**-0.6**
	baz=301						
TWF1	**Yuli**	**0.44**	**317**	*i* P	**Pg**	**09 17 15.6**	**+0.2**
	baz=323						
TWF1				S	**Sb**	**09 17 21.6**	**-0.2**
	baz=323						
YULB	**Yu-li**	**0.47**	**321**	P	**Pb**	**09 17 16.2**	**+0.2**
	baz=326						
YULB				eS	**Sg**	**09 17 22.4**	**0.0**
	baz=326						
HGSD	**Ruisui**	**0.49**	**339**	P	**Pg**	**09 17 16.5**	**+0.1**
	baz=346						
HGSD				S	**Sb**	**09 17 23.4**	**+0.1**
	baz=346						
TTN	**Taitung**	**0.52**	**238**	P	**Pb**	**09 17 17.3**	**+0.5**
	baz=229						
TTN				S	**Sb**	**09 17 24.8**	**+0.9**
	baz=229						
TWGBT	**Beinan**	**0.54**	**247**	P	**Pb**	**09 17 17.6**	**+0.3**
	baz=229						
TWGBT				S	**Sb**	**09 17 25.3**	**+0.8**
	baz=229						
EHY	**Hungye**	**0.55**	**330**	*i* P	**Pg**	**09 17 17.6**	**+0.2**
	baz=337						
EHY				eS	**Sg**	**09 17 24.5**	**-0.3**
	baz=337						
TWG	**Pinlang**	**0.55**	**248**	*i* P	**Pb**	**09 17 17.4**	**+0.1**
	baz=229						
TWG				S	**Sb**	**09 17 25.1**	**+0.4**
	baz=229						
ELDTW	**Lidau**	**0.58**	**286**	*i* P	**Pb**	**09 17 17.4**	**-0.4**
	baz=285						
ELDTW				S	**Sb**	**09 17 24.6**	**-1.1**
	baz=285						
EGFH	**Guangfu**	**0.66**	**344**	P	**Pb**	**09 17 19.5**	**+0.3**
	baz=351						
EGFH				eS	**Sg**	**09 17 28.4**	**+0.1**
	baz=351						
ECL	**Taimali**	**0.75**	**235**	P	**Pb**	**09 17 20.4**	**-0.5**
	baz=243						
ECL				S	**Sb**	**09 17 29.7**	**-1.0**
	baz=243						
YUS	**Yu-Shan**	**0.77**	**307**	*i* P	**Pb**	**09 17 21.4**	**0.0**
	baz=300						
YUS				S	**Sb**	**09 17 31.2**	**-0.4**
	baz=300						
ESL	**Shilin**	**0.80**	**348**	P	**Pb**	**09 17 21.8**	**+0.1**
	baz=353						
ESL				S	**Sb**	**09 17 32.3**	**+0.2**
	baz=353						
STYT	**Tauyuan**	**0.81**	**280**	P	**Pb**	**09 17 21.6**	**-0.3**
	baz=278						
STYT				S	**Sb**	**09 17 31.7**	**-0.6**
	baz=278						
VWDT	**VWDT**	**0.84**	**329**	P	**Pb**	**09 17 22.7**	**+0.3**
	baz=344						
VWDT				eS	**Sb**	**09 17 32.6**	**-0.7**
	baz=344						
SLGT	**Liugui**	**0.90**	**268**	eP	**Pb**	**09 17 23.2**	**-0.1**
	baz=260						
SLGT				eS	**Sb**	**09 17 35.4**	**+0.5**
	baz=260						
TPUB	**Ta-pu**	**0.95**	**287**	P	**Pn**	**09 17 24.9**	**+0.2**
	baz=286						
TPUB				eS	**Sb**	**09 17 36.7**	**+0.3**
	baz=286						
WTP	**Ta-pu**	**0.95**	**283**	eP	**Pb**	**09 17 24.6**	**+0.3**
	baz=282						
EAST	**Anshuo**	**0.96**	**228**	P	**Pb**	**09 17 23.5**	**-0.9**
	baz=222						
WHYT	**Xinyi Township**	**0.97**	**313**	P	**Pg**	**09 17 25.4**	**+0.1**
	baz=312						
WHYT				S	**Sg**	**09 17 37.6**	**-0.4**
	baz=312						
SSLB	**Suanglung**	**0.97**	**321**	P	**Pb**	**09 17 24.5**	**-0.1**
	baz=335						
SSLB				S	**Sb**	**09 17 37.2**	**+0.2**
	baz=335						
CHN4	**Tsaushan**	**1.00**	**289**	P	**Pg**	**09 17 25.9**	**+0.1**
	baz=289						
CHN4				S	**Sb**	**09 17 37.9**	**+0.1**
	baz=289						
MASBT	**Mashibuluo**	**1.00**	**246**	P	**Pb**	**09 17 24.5**	**-0.7**
	baz=232						
CHN1	**Nanshi**	**1.02**	**279**	P	**Pn**	**09 17 26.1**	**+0.5**
	baz=278						
CHN1				S	**Sb**	**09 17 39.0**	**+0.6**
	baz=278						
CHN5	**Tsauling**	**1.03**	**303**	P	**Pn**	**09 17 26.1**	**+0.2**
	baz=296						
CHN5				eS	**Sb**	**09 17 39.2**	**+0.3**
	baz=296						
SNST	**Tainan City**	**1.05**	**281**	eP	**Pb**	**09 17 25.9**	**-0.1**
	baz=279						
SNST				eS	**Sn**	**09 17 39.9**	**-0.3**
	baz=279						
TWK	**Hsinying**	**1.07**	**283**	P	**Pn**	**09 17 26.8**	**+0.5**
	baz=282						
TWK				eS	**Sn**	**09 17 40.6**	**-0.1**
	baz=282						
SMLT	**Sun Moon Lake**	**1.07**	**322**	P	**Pb**	**09 17 26.5**	**0.0**
	baz=336						
CHGB	**Renai**	**1.10**	**338**	P	**Pb**	**09 17 27.1**	**+0.2**
	baz=354						
CHGB				eS	**Sb**	**09 17 40.7**	**-0.4**
	baz=354						
TYC	**Yuchr**	**1.12**	**321**	P	**Pg**	**09 17 27.8**	**-0.3**
	baz=336						
TYC				eS	**Sn**	**09 17 41.7**	**-0.2**
	baz=336						
SCZT	**Fangliau**	**1.13**	**235**	eP	**Pn**	**09 17 27.3**	**+0.1**
	baz=230						
WJS	**Zhushan**	**1.14**	**314**	eS	**Sg**	**09 17 44.1**	**+0.7**
	baz=327						
NACB	**Ninganchiao**	**1.14**	**359**	P	**Pn**	**09 17 26.1**	**-1.2**
	baz=15						
NACB				S	**Sb**	**09 17 41.4**	**-0.5**
	baz=15						
WHF	**Hehuan Shan**	**1.16**	**344**	P	**Pn**	**09 17 27.4**	**-0.5**
	baz=347						
WHF				S	**Sb**	**09 17 42.5**	**-0.3**
	baz=347						
ETLH	**Xiulin Townshi**	**1.18**	**354**	P	**Pn**	**09 17 27.7**	**-0.2**
	baz=358						
WHP	**Taichung City**	**1.39**	**334**	eP	**Pb**	**09 17 32.0**	**+0.3**
	baz=343						
WHP				eS	**Sb**	**09 17 49.8**	**+0.7**
	baz=343						
ENA	**Nanau**	**1.40**	**5**	eS	**Sn**	**09 17 48.7**	**0.0**
	baz=21						
NANB	**Nanao**	**1.40**	**5**	eP	**Pn**	**09 17 30.1**	**-0.7**
	baz=21						
NANB				eS	**Sn**	**09 17 48.3**	**-0.4**
	baz=21						
TWQ1	**Liyutan**	**1.52**	**330**	eP	**Pb**	**09 17 34.6**	**+0.6**
	baz=332						
TWQ1				eS	**Sg**	**09 17 54.4**	**-1.3**
	baz=332						
EOS1	**EOS1**	**1.58**	**17**	S	**Sn**	**09 17 53.7**	**+0.4**
	baz=33						
ENTT	**Nioudou**	**1.60**	**358**	P	**Pn**	**09 17 34.4**	**+0.7**
	baz=2.0						
YHNB	**Yeheng**	**1.65**	**352**	P	**Pn**	**09 17 35.5**	**+1.2**
	baz=9.0						
YHNB				S	**Sn**	**09 17 55.3**	**+0.2**
	baz=9.0						
NWLT	**Wulai**	**1.74**	**356**	eP	**Pb**	**09 17 37.1**	**-0.7**
	baz=359						
NWLT				eS	**Sn**	**09 17 57.3**	**0.0**
	baz=359						
HATJ	**Hateruma jima**	**2.25**	**63**	P	**Pn**	**09 17 42.5**	**-0.1**
HATJ				S	**Sn**	**09 18 09.4**	**-0.4**
JIJ	**Ishigaki jima**	**2.67**	**60**	S	**Sn**	**09 18 19.8**	**-0.3**
JISG	**Ishigakijimahi**	**2.91**	**57**	P	**Pn**	**09 17 53.0**	**+1.3**

*ISCJB **18** 09:22:05.1±0.5, 60°.65S±0°.08×42°.2W±0°.2, h10km, mb3.8/4, Error ellipse: s-maj=15.9km s-min=7.6km az=140.8*
*IDC **18** 09:22:06.0±1.0, 60°.70S×42°.58W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/19, mbtmp4.0/5, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=41.1km s-min=23.2km az=61.0*
*NEIC **18** 09:22:07.7±3.2, 60°.7S±0°.1×42°.3W±0°.2, h15km±5km, mb4.4/8*
ISC 18 09:22:07.0±0.7, **60°.7S**±0°.1×**42°.4W**±0°.1, **h10**km, **n32**, σ**1**§**17**/**23**, **mb4.1**/**6**, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.16**	**29**	Pn	**Pn**	**09 23 51.0**	**-0.7**
PMSA	**Palmer Station**	**10.72**	**238**	LR	LR	09 28 14.4	
	comp=Z,88nm,18.1s,baz=86,slow=35						
EFI	**East Falkland**	**12.54**	**309**	Pn	**Pn**	**09 25 06.7**	**+1.5**
USHA	**Ushuaia**	**15.03**	**281**	Pn	**P**	**09 25 43.4**	**-1.2**
	0.3nm,0.3s,baz=100,slow=10,SNR=5.0						
VNA3	**Neumayer Olymp**	**16.72**	**143**	P	**Pn**	**09 25 59.4**	**-1.6**
VNA1	**Neumayer--Stat**	**16.94**	**140**	P	**Pn**	**09 26 02.9**	**-0.8**
VNA2	**Neumayer--Watz**	**17.30**	**141**	P	**Pn**	**09 26 06.4**	**-1.8**
	baz=288,slow=16						
SNAA	**Sanae**	**18.93**	**142**	P	**Pn**	**09 26 29.5**	**+1.3**
SNAA	**Sanae**	**18.93**	**142**	P	**Pn**	**09 26 29.3**	**+1.1**
	0.1nm,0.3s,baz=285,slow=14,SNR=18						
SNAA				S	Sn	09 29 49.6	-10
	0.1nm,0.3s,baz=315,slow=20,SNR=3.9						
SNAA	**Sanae**	**18.93**	**142**	P	**Pn**	**09 26 29.3**	**+1.1**
TRQA	**Tornquist**	**25.80**	**323**	P	**P**	**09 27 38.6**	**+0.6**
PLCA	**Paso Flores**	**26.43**	**306**	P	**P**	**09 27 43.1**	**-0.6**
	1.4nm,0.7s,baz=165,slow=12,SNR=4.5						
PLCA	**Paso Flores**	**26.43**	**306**	IAmb	IAmb	09 27 49.7	
	comp=Z,7.2nm,1.1s						
QSPA	**South Pole Qui**	**29.54**	**180**	P	**P**	**09 28 12.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=195,slow=1.8,SNR=6.2						
GO05	**Huala**	**31.95**	**310**	P	**P**	**09 28 31.4**	**-1.3**
GO04	**Tololo Observa**	**35.90**	**315**	P	**P**	**09 29 05.6**	**-1.7**
MNMC	**Minye Minye**	**45.80**	**323**	P	**P**	**09 30 28.7**	**-0.3**
MNMC				IAmb	IAmb	09 30 45.9	
	comp=

H08S1	Diego Carcia H	95.15	115	T	T	11 22 16.3	
	baz=204,slow=76,SNR=6.0						
H08S2	Diego Carcia H	95.16	115	T	T	11 22 13.1	
	baz=204,slow=76,SNR=5.1						
H08S3	Diego Carcia H	95.17	115	T	T	11 22 17.6	
	baz=204,slow=76,SNR=5.9						
INK	Inuvik	144.28	320	PKhKP	PKPpre	09 41 38.5	
	comp=Z,1.6nm,0.9s,baz=68,slow=7.0,SNR=5.1						
MKAR	Makanchi Array	145.57	88	PKPbc	PKPdf	09 41 43.9	-0.4
	comp=Z,1.3nm,0.6s,baz=228,slow=3.4,SNR=9.0						
MKAR	Makanchi Array	145.57	88		PKPdf	09 41 44.1	-0.2
ILAR	Eielson Array	147.08	310	PKPbc	PKPbc	09 41 47.6	-0.8
	comp=Z,0.8nm,0.6s,baz=137,slow=2.1,SNR=14						
ILAR	Eielson Array	147.08	310		PKPdf	09 41 47.2	+1.0

*SOME **18** 09:31:02.9, 44°.68N×82°.20E, h20km*
*NNC **18** 09:31:04.4±1.5, 44°.68N×82°.07E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=15.1km s-min=5.5km az=123.0
ISC 18 09:31:01.9±1.4, 44°.68N±0°.05×82°.25E±0°.07, h10km, n30,
σ1§86/48, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.79	260	P	Pg	09 31 35.9	-0.4
	18nm,0.2s						
DJR				S	Sg	09 31 59.7	+0.2
	14nm,0.4s						
DJR	Jarkent	1.79	260	eP	Pg	09 31 35.8	-0.5
	18nm,0.2s						
DJR				eS	Sg	09 32 00.3	+0.8
	18nm,0.2s						
MK31	Makanchi Array	2.12	1	⇓P	Pg	09 31 41.1	-1.5
	6.2nm,0.2s,baz=182,slow=13,SNR=385						
MK31				⇑S	Sg	09 32 08.9	-1.0
	12nm,0.3s,baz=185,slow=28,SNR=33						
KAPS	Kapalarasan	2.14	288	Pg	Pg	09 31 42.6	-0.3
	8.1nm,0.2s						
KAPS				Lg	Lg	09 32 10.5	
	24nm,0.4s						
KAPS	Kapalarasan	2.14	288	eP	Pg	09 31 41.8	-1.2
	6.9nm,0.3s						
KAPS				eS	Sg	09 32 09.6	-1.0
	24nm,0.4s						
MAKZ	Makanchi	2.14	355	⇓P	Pb	09 31 41.1	+0.3
	2.3nm,0.2s						
MAKZ				⇑S	Sg	09 32 09.5	-1.2
	9.6nm,0.5s						
PDGK	Podgornoye	2.40	237	Pg	Pb	09 31 44.9	-0.5
	5.6nm,0.3s						
PDGK				Lg	Lg	09 32 14.2	
	29nm,0.4s						
PDGK	Podgornoye	2.40	237	⇑P	Pb	09 31 45.4	0.0
	3.5nm,0.3s						
PDGK				⇑S	Sg	09 32 17.4	-1.7
	24nm,0.5s						
SHLS	Shalkode	2.52	234	Pg	Pn	09 31 43.6	+0.5
	5.3nm,0.3s						
SHLS				Lg	Lg	09 32 12.2	
	57nm,0.4s						
SHLS	Shalkode	2.52	234	eP	Pn	09 31 44.0	+1.0
	5.6nm,0.2s						
SHLS				eS	Sn	09 32 14.1	+0.2
	57nm,0.4s						
TDK	Taldyqorghan	2.75	278	Pg	Pg	09 31 52.8	-1.9
	74nm,0.3s						
TDK				Lg	Lg	09 32 27.7	
	95nm,0.3s						
TDK	Taldyqorghan	2.75	278	eP	Pb	09 31 51.9	+0.7
	15nm,0.1s						
TDK				eS	Sg	09 32 27.4	-2.8
	61nm,0.1s						
MNBS	Baschi	2.82	259	Pg	Pb	09 31 53.1	+0.7
	10nm,0.2s						
MNBS				Lg	Lg	09 32 28.4	
	33nm,0.3s						
MNBS	Baschi	2.82	259	eP	Pb	09 31 53.2	+0.7
	10nm,0.2s						
MNBS				eS	Sg	09 32 29.6	-2.9
	33nm,0.3s						
KPKS	Kokpek	2.84	246	eP	Pb	09 31 52.1	-0.6
	25nm,0.2s						
KPKS				eS	Sb	09 32 27.5	-0.1
	48nm,0.3s						
KURS	Kuram	3.17	249	Pg	Pb	09 31 59.0	+0.7
	3.9nm,0.4s						
KURS				Lg	Lg	09 32 38.6	
	3.0nm,0.5s						
KURS	Kuram	3.17	249	eP	Pb	09 31 59.0	+0.7
	2.5nm,0.2s						
KURS				eS	Sg	09 32 40.2	-3.5
	3.0nm,0.5s						
ARXS	Arharly	3.20	263	Pg	Pg	09 32 00.6	-2.6
	6.6nm,0.3s						
ARXS				Lg	Lg	09 32 41.4	
	16nm,0.6s						
ARXS	Arharly	3.20	263	eP	Pb	09 32 00.0	+1.2
	6.6nm,0.3s						
ARXS				eS	Sg	09 32 41.6	-3.1
	21nm,0.2s						
SATY	Saty	3.21	241	Pg	Pb	09 31 59.2	+0.1
	9.9nm,0.3s						
SATY				Lg	Lg	09 32 39.5	
	34nm,0.3s						
SATY	Saty	3.21	241	eP	Pb	09 31 59.2	+0.1
	10nm,0.2s						
SATY				eS	Sb	09 32 40.7	+2.3
	34nm,0.3s						
CHKK	Chushkaly	3.87	260	eP	Pb	09 32 10.4	+0.2
	1.0nm,0.0s						
CHKK				eS	Sb	09 32 59.1	+2.1
	12nm,0.2s						
KTBS	Karatobe	4.12	258	Pg	Pb	09 32 16.0	+1.5
	3.3nm,0.4s						
KTBS				Lg	Lg	09 33 07.4	
	16nm,0.6s						
KTBS	Karatobe	4.12	258	eP	Pb	09 32 14.8	+0.4
	0.7nm,0.2s						
KTBS				eS	Sb	09 33 06.6	+2.3
	16nm,0.6s						
KUU	Kurty	4.31	262	Pg	Pg	09 32 20.8	-3.7
	3.3nm,0.3s						
KUU				Lg	Lg	09 33 15.8	
	5.9nm,0.3s						
KUU	Kurty	4.31	262	eP	Pb	09 32 18.3	+0.5
	1.5nm,0.1s						
KUU				eS	Sb	09 33 13.2	+3.3
	5.9nm,0.3s						
IZV	Izvestkoviy	4.39	250	Pg	Pb	09 32 21.6	+2.3
	3.0nm,0.3s						
IZV				Lg	Lg	09 33 17.1	
	3.5nm,0.2s						
MTBS	Maitube	4.48	252	eP	Pb	09 32 23.6	+2.9
	4.4nm,0.1s						
MTBS				eS	Sg	09 33 21.6	-4.1
DGS	Degeres	4.89	255	eP	Pb	09 32 28.8	+1.1
	2.9nm,0.2s						
DGS				eS	Sb	09 33 30.5	+4.0
	8.6nm,0.3s						
TKM2	Tokmak 2	5.12	252	⇑Pg	Pg	09 32 40.3	+0.3
	2.6nm,0.6s						
TKM2				⇓Lg	Lg	09 33 44.4	
	1.6nm,0.5s						

*DDA **18** 09:41:59.3, 37°.89N×36°.03E, h17km±1km, ML3.1*
*ISK **18** 09:41:59.2, 37°.90N×36°.02E, h6km, ML2.4/7*
*ISCJB **18** 09:42:00.1±0.5, 37°.88N±0°.02×35°.99E±0°.03, h6km±5km,*
Error ellipse: s-maj=4.2km s-min=4.1km az=142.5
ISC 18 09:42:00.0±0.9, 37°.90N±0°.03×36°.04E±0°.03, h17km±6km,
n17, σ0§64/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIM	ADANA	0.08	26	i P	Pg	09 42 04.0	+0.4
SAIM				i S	Sg	09 42 05.1	-0.7
ANDN	Andirin	0.40	143	i P	Pb	09 42 08.5	-0.3
ANDN				i S	Sb	09 42 14.9	+0.1
ANDN				IAML_P			
	comp=Z,7μm,0.1s						
YAHY	KAYSERI_Yahyal	0.57	290	i P	Pb	09 42 11.1	-0.5
YAHY				i S	Sb	09 42 19.2	-0.2
KMRS	Kahramanmaras	0.79	120	PG	Pb	09 42 15.1	-0.3
KMRS				SG	Sb	09 42 26.3	+0.5
HCB	Kahramanmara	0.89	129	i P	Pn	09 42 17.4	-0.3
HCB				i S	Sb	09 42 28.7	+0.1
HCB				IAML_P			
	comp=Z,3μm,0.3s						
CEYT	Ceyhan	0.92	195	PG	Pb	09 42 17.4	-0.1
BNN	Bunyan	0.96	351	PG	Pb	09 42 18.1	-0.2
BNN				SG	Sn	09 42 31.8	-0.5
ELBS	KAHRAMANMARAS	0.96	64	i P	Pn	09 42 19.5	+0.7
ELBS				i S	Sn	09 42 33.4	+1.2
ELBS				IAML_P			
	comp=Z,525nm,0.2s						
KARA	Karaisali	1.01	231	PG	Pb	09 42 18.8	-0.3
KARA				SG	Sn	09 42 32.9	-0.4
CUGUR	Gurin_SVAS	1.27	49	i P	Pg	09 42 23.8	-0.8
CUGUR				i S	Sg	09 42 41.4	+0.2
DARE	Darende-Malaty	1.32	59	PN	Pg	09 42 24.7	-0.8
GZT	Gaziantep	1.33	114	i P	Pb	09 42 24.5	-0.1
GZT				i S	Sg	09 42 43.3	+0.3
GZT				IAML_P			
	comp=Z,1μm,0.1s						
KUZU	Kuzuini	1.40	143	i P	Pg	09 42 26.9	0.0
KUZU				i S	Sg	09 42 45.3	+0.1
KUZU				IAML_P			
	comp=Z,2μm,0.2s						
AKCD	Akcadag	1.54	75	i P	Pg	09 42 29.4	-0.2
AKCD				i S	Sg	09 42 50.8	+1.1
AKCD				IAML_P			
	comp=Z,963nm,0.2s						
MERS	Mersin	1.59	230	PN	Pb	09 42 28.7	-0.3
SURC	SANLIURFA_SURC	2.29	116	i P	Pg	09 42 42.8	-1.2
SURC				i S	Sg	09 43 12.7	-1.0
SURC				IAML_P			
	comp=Z,107nm,0.3s						
KEBE	Keben-Mersin	2.36	233	PN	Pn	09 42 39.4	+1.4

IDC 18 09:47:31.9±11.0, 15°.27S×177°.91W, h461km±131km,
mb3.2/5, mb1 3.6/5, mb1mx3.2/30, mbtmp4.1/5, Error
ellipse: s-maj=102.5km s-min=31.1km az=153.0, Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.63	257	P	P	09 55 09.9	-0.2
	1.2nm,0.8s,baz=88,slow=7.5,SNR=10						
ASAR	Alice Springs	46.01	252	P	P	09 55 12.9	-0.1
	5.8nm,0.8s,baz=85,slow=8.0,SNR=68						
NVAR	Mina Array Bea	77.20	44	P	P	09 58 37.7	-0.1
	0.8nm,0.7s,baz=224,slow=8.8,SNR=9.2						
ILAR	Eielson Array	83.23	13	P	P	09 59 08.5	+0.1
	1.7nm,0.9s,baz=230,slow=5.8,SNR=12						
TXAR	Lajitas Array	84.19	58	P	P	09 59 14.2	+0.1
	0.9nm,0.9s,baz=224,slow=5.2,SNR=9.2						
BRTR	Keskin Array B	143.22	318	PKP	PKPdf	10 06 12.6	-0.7
	2.9nm,0.9s,baz=82,slow=2.4,SNR=14						

*SJA **18** 09:52:04.8±0.8, 24°.00S×66°.82W, h220km±6km, ML3.7,*
MW3.1
*ISCJB **18** 09:52:05.3±0.3, 24°.01S±0°.03×66°.87W±0°.04, h200km,*
mb3.3/3, Error ellipse: s-maj=5.1km s-min=3.6km
az=159.1
*NEIC **18** 09:52:05.3±2.1, 24°.03S±0°.07×66°.74W±0°.10, h191km±9km,*
mb4.4/2
*IDC **18** 09:52:05.6±1.1, 24°.00S×66°.71W, h191km±10km, mb3.2/3,*
mb1 3.4/8, mb1mx3.3/23, mbtmp3.8/8, Error ellipse:
s-maj=19.7km s-min=14.3km az=25.0
ISC 18 09:52:05.5±0.7, 24°.05S±0°.05×66°.88W±0°.05, h200km, n42,
σ1§54/55, mb3.2/3, 2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.42	118	eP	Pn	09 52 40.2	+1.5
SLA				IAML		09 52 40.8	
	comp=Z,242nm,0.6s						
SLA				eS	Sn	09 53 06.5	+2.0
AZAP	Zapla	1.67	96	i P	Pn	09 52 41.8	+0.8
AZAP				IAML		09 52 42.1	
	comp=Z,636nm,0.5s						
YJA	Yavi	2.25	34	⇓i P	Pn	09 52 47.6	+0.6
YJA				eS	Sn	09 53 20.6	+1.2
LVC	Limon Verde	2.35	307	P	Pn	09 52 49.6	+1.5
	comp=Z,42nm,0.3s,baz=145,slow=5.7,SNR=622						
LVC				S	Sn	09 53 22.4	+1.2
	comp=Z,15nm,0.3s,baz=260,slow=23,SNR=13						
LVC	Limon Verde	2.35	307		Pn	09 52 49.5	+1.4
GO02	Mina Guanaco	2.71	245		Pn	09 52 54.2	+2.2
GO02				Sn	Sn	09 53 30.8	+2.5
AHML	Horco Molle	3.06	153	i P	Pn	09 52 57.4	+1.5
PB09	IPOC Station P	3.12	315	⇑i P	Pn	09 52 58.2	+1.4
PB14	IPOC Station P	3.27	259	i P	Pn	09 53 00.3	+1.7
PB10	IPOC Station P	3.41	278	i P	Pn	09 53 01.5	+1.5
PB10	IPOC Station P	3.41	278		Pn	09 53 01.5	+1.5
PB10				Sn	Sn	09 53 42.5	-0.2
PB04	IPOC Station P	3.46	299	i P	Pn	09 53 01.8	+1.0
PB04	IPOC Station P	3.46	299		Pn	09 53 01.6	+0.8
PB04				Sn	Sn	09 53 43.1	-1.0
PB01	IPOC Station P	3.84	321	Pn	Pn	09 53 05.8	+0.4
PB01				Sn	Sn	09 53 50.3	-2.1
GO03	Copiap	4.65	220	i P	Pn	09 53 16.2	+0.8
GO03	Copiap	4.65	220		Pn	09 53 16.1	+0.6
GO03					Sn	09 54 08.8	-1.8
GO01	Chusmiza	4.86	333		Pn	09 53 18.6	0.0
GO01				Sn	Sn	09 54 15.5	-0.6
PB11	IPOC Station P	4.98	328		Pn	09 53 18.5	-1.4
PB11				Sn	Sn	09 54 15.3	-3.2
MNMC	Minye Minye	5.50	332		Pn	09 53 25.6	-1.0
MNMC				Sn	Sn	09 54 27.8	-3.0
APLL	PUNTA DE LOS L	6.33	177	⇓i P	Pn	09 53 37.4	+0.4
APLL				eS	Sn	09 54 46.5	-3.1
ACCO	Cerro Coronel	6.80	196	i P	Pn	09 53 45.2	+1.9
GO04	Tololo Observa	7.03	209	Pn	Pn	09 53 46.6	+0.3
RTLL	Cerro Villicun	7.39	191	i P	Pn	09 53 51.7	+0.9
TCA	Tanti	7.54	165	i P	Pn	09 53 52.9	+0.1
CFA	Coronel Fontan	7.63	189	P	Pn	09 53 54.7	+0.8
	comp=Z,0.5nm,0.3s,baz=26,slow=14,SNR=33						
CFA				S	Sn	09 55 16.1	-4.0
	comp=Z,2.7nm,0.3s,baz=167,slow=18,SNR=13						
CFA	Coronel Fontan	7.63	189	i P	Pn	09 53 54.8	+1.0
LPAZ	La Paz	7.81	351	P	Pn	09 53 56.9	+0.1
	comp=Z,0.5nm,0.3s,baz=161,slow=6.8,SNR=15						
LPAZ				S	Sn	09 55 22.0	-3.4
	comp=Z,0.2nm,0.3s,baz=250,slow=15,SNR=4.1						
LPAZ	La Paz	7.81	351	i P	Pn	09 53 56.7	-0.2
LPAZ	La Paz	7.81	351		Pn	09 53 57.4	+0.5
ACAN	Cantantal	8.20	182	i P	Pn	09 54 01.9	+0.6
MRA	San Martin	8.40	173	i P	Pn	09 54 04.2	+0.2
CPUP	Villa Florida	8.94	107	P	Pn	09 54 09.4	-1.6
	comp=Z,0.1nm,0.3s,baz=297,slow=13,SNR=4.6						
SIV	San Ignacio	9.69	35	P	Pn	09 54 19.6	-1.2
	comp=Z,0.1nm,0.3s,baz=223,slow=12,SNR=5.8						
BDFB	Brasilia	19.60	68	P	P	09 56 18.1	-0.7
	comp=Z,0.6nm,0.3s,baz=236,slow=11,SNR=13						
BDFB	Brasilia	19.60	68	P	P	09 56 19.1	+0.3
BDFB				IAmb	IAmb	09 56 19.2	
	comp=Z,12nm,0.8s						
TXAR	Lajitas Array	63.78	324	P	P	10 02 17.9	+1.5
	comp=Z,0.3nm,0.7s,baz=151,slow=7.7,SNR=7.2						
TORD	Torodi Ar. Bea	76.48	69	P	P	10 03 33.3	-0.4
	comp=Z,1.0nm,0.5s,baz=259,slow=5.8,SNR=8.6						
TORD	Torodi Ar. Bea	76.48	69	IAmb	IAmb	10 03 35.1	
	comp=Z,0.6nm,0.6s						
PDAR	Pinedale Array	77.24	329	P	P	10 03 38.9	+1.2
	comp=Z,0.3nm,0.6s,baz=135,slow=7.9,SNR=3.4						
ASAR	Alice Springs	128.46	205	PKP	PKiKP	10 10 50.4	+0.6
	comp=Z,0.3nm,0.7s,baz=137,slow=1.9,SNR=5.5						
WRA	Warramunga Arr	131.63	207	PKP	PKiKP	10 10 56.6	+0.4
	comp=Z,0.1nm,0.4s,baz=162,slow=1.7,SNR=6.1						
MKAR	Makanchi Array	146.49	40	PKPbc	PKPab	10 11 23.9	-0.5
	comp=Z,0.4nm,0.3s,baz=15,slow=5.0,SNR=5.0						

*SNET **18** 10:07:25.1±2.5, 13°.71N×90°.90W, h43km±174km, ML3.4*
*GCG **18** 10:07:27.3±0.4, 13°.68N×90°.79W, h45km±20km, MD4.0*
*MEX **18** 10:07:27.6±0.6, 13°.52N×90°.92W, h60km±45km, MD4.1*
ISC 18 10:07:25.7±2.4, 13°.6N±0°.1×90°.85W±0°.06, h25km±17km,
n22, σ1§14/35, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.71	35	eP	Pb	10 07 40.0	+0.5
IXG	Ixpaco	0.71	35	eP	Pb	10 07 39.1	-0.4
FUG	Fuego 3	0.86	1	eP	Pb	10 07 42.5	+0.5
NBG	Las Nubes	1.11	26	eP	Pn	10 07 45.9	0.0
NBG				eS	Sb	10 08 00.3	-0.3
RTR	El Retiro	1.22	75	eP	Pn	10 07 46.9	-0.3
SBLS	San Blas	1.22	78	eP	Pn	10 07 46.5	-0.9
SNJE	San Jose	1.25	77	eP	Pn	10 07 46.9	-0.7
STG3	Santiaguito 3,	1.32	328	eP	Pn	10 07 49.2	+0.6
STG3				eS	Sn	10 08 06.5	+1.0
UEES	Universidad Ev	1.58	85	eP	Pn	10 07 51.7	-0.4
UEES				eS	Sn	10 08 11.2	-0.6
UEES				IAML		10 08 20.5	
	comp=Z,483nm,0.2s						
SNET	Serv Nac Est T	1.58	86	eP	Pn	10 07 51.0	-1.2
SNET				eS	Sn	10 08 11.1	-0.8
SNET				IAML		10 08 14.3	
	comp=Z,329nm,0.2s						
LFU	La Fuente	1.70	84	eP	Pn	10 07 52.7	-1.1
PAVA	Las Pavas	1.87	86	eP	Pn	10 07 55.0	-1.2
THIG		1.90	314	eP	Pn	10 07 56.4	0.0
THIG				i S	Sn	10 08 18.6	-0.9
COEG	Centro de Oper	1.92	89	eP	Pn	10 07 57.4	+0.5
COEG				eS	Sn	10 08 21.2	+0.9
COEG				IAML		10 08 31.3	
	comp=Z,278nm,0.3s						
ALJI	Alcalda de J	2.24	96	eP	Pn	10 08 01.2	+0.1
ALJI				eS	Sn	10 08 27.3	-0.7
ALJI				IAML		10 08 33.6	
	comp=Z,132nm,0.3s						
COEB	Comit de Eme	2.26	92	eP	Pn	10 08 00.8	-0.8
COEB				eS	Sn	10 08 29.8	+1.0
LCND	La Caada	2.90	95	eP	Pn	10 08 09.5	-0.7
LCND				IAML		10 08 50.5	
	comp=Z,110nm,0.3s						
CCIG	Comitan	2.95	335	i P	Pn	10 08 11.1	-0.1
CCIG				eS	Sn	10 08 46.2	+0.3
CNCH	Conchagua	2.96	96	eP	Pn	10 08 10.3	-0.8
CNCH				eS	Sn	10 08 50.4	+4.6
CNCH				IAML		10 08 56.6	
	comp=Z,301nm,0.3s						
PCIG		3.11	313	eP	Pn	10 08 13.9	+0.8
PCIG				eS	Sn	10 08 48.1	-1.4
TGIG		3.86	326	i P	Pn	10 08 23.9	+0.5
TGIG				i S	Sn	10 09 07.8	-0.2
CMIG	Matias Romero	5.22	312	eP	Pn	10 08 42.3	+0.1
CMIG				eS	Sn	10 09 40.0	-1.6

*TAP **18** 10:18:10.1, 24°.80N×122°.09E, h8km, ML3.0, C*
*JMA **18** 10:18:11.0±0.1, 24°.76N×122°.05E, h28km, M2.6*
ISC 18 10:18:10.3±0.9, 24°.77N±0°.02×122°.09E±0°.02, h13km±7km,
n85, σ0§89/142, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.17	297	i P	Pb	10 18 13.9	-1.3
	baz=289						
EOS1	EOS1	0.22	172	P	Pb	10 18 16.2	0.0
	baz=171						
EOS1				eS	Sb	10 18 19.7	-0.4
	baz=171						
NTC	Toucheng	0.26	289	eP	Pg	10 18 15.9	+0.2
	baz=283						
NTC				eS	Sg	10 18 20.3	+0.9
	baz=283						
TWB1	Santiao Chiao	0.26	338	⇑i P	Pg	10 18 15.3	-0.5
	baz=339						
TWC	Suao	0.27	234	i P	Pg	10 18 16.0	-0.1
	baz=227						
TWC				S	Sg	10 18 19.6	-0.3
	baz=227						
TIPB	Shuangxi	0.32	310	⇑i P	Pg	10 18 16.8	-0.1
	baz=306						
TIPB				S	Sg	10 18 21.0	-0.3
	baz=306						
TWE	Neicheng	0.39	263	i P	Pg	10 18 18.1	-0.1
	baz=256						
TWE				S	Sb	10 18 23.9	-1.1
	baz=256						
NWF	Wu-fen Shan	0.41	317	P	Pg	10 18 18.8	+0.1
	baz=304						
NWF				S	Sb	10 18 25.7	-0.1
	baz=304						
WFSB	Wu-fen Shan	0.41	317	P	Pg	10 18 18.9	+0.2
	baz=315						
WFSB				eS	Sb	10 18 24.6	-1.1
	baz=315						
SLBB	Yuanshan	0.42	268	i P	Pg	10 18 17.9	-0.8
	baz=263						
SLBB				S	Sg	10 18 23.8	-0.6
	baz=263						
NANB	Nanao	0.46	223	P	Pg	10 18 19.5	0.0
	baz=209						
NANB				S	Sg	10 18 25.2	-0.5
	baz=209						
ENA	Nanau	0.47	223	P	Pg	10 18 19.9	+0.3
	baz=209						
ENA				S	Sg	10 18 26.0	+0.1
	baz=209						
ENTT	Nioudou	0.50	255	i P	Pb	10 18 20.5	-0.4
	baz=249						
ENTT				S	Sb	10 18 28.3	+0.2
	baz=249						
TWA	Mucha	0.51	294	P	Pb	10 18 20.7	-0.4
	baz=282						
TWA				S	Sg	10 18 27.1	-0.1
	baz=282						
NWLT	Wulai	0.54	271	P	Pg	10 18 20.8	-0.1
	baz=266						
NWLT				S	Sg	10 18 27.7	-0.4
	baz=266						
NHDH	Xindian Distri	0.55	291	eP	Pb	10 18 21.9	0.0
	baz=279						
NHDH				S	Sb	10 18 28.7	-0.9
	baz=279						
NDT	Datong Townshi	0.55	253	P	Pb	10 18 21.8	-0.1
	baz=248						
TATO	Taipei	0.59	291	P	Pb	10 18 22.2	-0.3
	baz=279						
TATO				S	Sb	10 18 30.5	-0.2
	baz=279						
YM01	YM01	0.61	308	P	Pb	10 18 22.8	-0.1
	baz=307						
YM11	YM11	0.61	310	P	Pb	10 18 23.0	0.0
	baz=308						
YM10	YM10	0.62	309	P	Pg	10 18 22.9	+0.4
	baz=307						
YM08	YM08	0.62	312	P	Pg	10 18 22.8	+0.4
	baz=311						
YHNB	Yeheng	0.66	262	P	Pb	10 18 22.9	-0.9
	baz=267						
ANP	Anpu	0.67	309	P	Pn	10 18 24.2	-1.4
	baz=297						
TWY	Chenhua	0.68	318	P	Pg	10 18 24.0	+0.5
	baz=310						
NSK	Sanguang	0.68	262	P	Pb	10 18 23.2	-0.8
	baz=251						
NSK				eS	Sb	10 18 31.6	-1.7
	baz=251						
TWS1	Kuangyinshan	0.70	298	P	Pn	10 18 24.9	-1.0
	baz=297						
NTST	Danshui	0.70	304	P	Pn	10 18 25.5	-0.5
	baz=302						
NNSB	Datong	0.73	242	P	Pg	10 18 24.7	+0.1
	baz=245						
NNSB				eS	Sg	10 18 35.3	+1.1
	baz=245						
NNS	Nan Shan	0.73	244	P	Pb	10 18 24.6	-0.4
	baz=246						
NNS				S	Sg	10 18 35.3	+1.0
	baz=246						
NACB	Ninganchiao	0.75	218	P	Pb	10 18 24.9	-0.3
	baz=204						
NACB				S	Sg	10 18 35.5	+0.8
	baz=204						
WLTB	Daxi	0.77	276	eP	Pn	10 18 26.4	-0.5
	baz=273						
ETLH	Xiulin Townshi	0.79	225	P	Pg	10 18 26.3	+0.6
	baz=211						
ETLH				eS	Sn	10 18 38.0	-1.0
	baz=211						
TWD	Chiawan	0.82	214	P	Pb	10 18 26.2	-0.3
	baz=209						
TWD	

YOJ	**Yonaguni jima**	**0.89 110**	P	**Pb**	**10 18 27.1 -0.5**
	baz=112				
YOJ			S	**Sg**	**10 18 40.4 +1.2**
	baz=112				
YOJ	**Yonaguni jima**	**0.89 110**	P	**Pb**	**10 18 27.8 +0.2**
YOJ			S	**Sb**	**10 18 39.8 +0.4**
HWA	**Hwalien**	**0.91 210**	*e*P	**Pn**	**10 18 29.2 +0.5**
	baz=212				
WHF	**Hehuan Shan**	**0.98 231**	P	**Pg**	**10 18 29.5 +0.2**
	baz=226				
WHF			S	**Sn**	**10 18 43.5 -0.6**
	baz=226				
LIOB	**Emei**	**0.99 263**	P	**Pg**	**10 18 30.7 +1.2**
	baz=259				
LIOB			*e*S	**Sn**	**10 18 43.8 +0.1**
	baz=259				
TDCB	**Techi**	**0.99 239**	P	**Pg**	**10 18 30.3 +0.7**
	baz=227				
TDCB			S	**Sn**	**10 18 43.5 -0.6**
	baz=227				
NSTT	**Nanjuang**	**1.00 262**	P	**Pg**	**10 18 31.2 +1.4**
	baz=258				
NSTT			S	**Sn**	**10 18 44.7 +0.6**
	baz=258				
SBCB	**Hsinchu**	**1.01 272**	*e*S	**Sn**	**10 18 45.2 +1.0**
	baz=287				
CHGB	**Renai**	**1.10 230**	P	**Pg**	**10 18 31.6 +0.1**
	baz=225				
CHGB			S	**Sg**	**10 18 47.4 +1.5**
	baz=225				
ESL	**Shilin**	**1.13 213**	P	**Pg**	**10 18 32.0 0.0**
	baz=208				
ESL			*e*S	**Sg**	**10 18 47.1 +0.3**
	baz=208				
WHP	**Taichung City**	**1.16 245**	P	**Pg**	**10 18 33.2 +0.5**
	baz=240				
WHP			S	**Sg**	**10 18 48.1 +0.4**
	baz=240				
NMLH	**Miaoli**	**1.21 259**	P	**Pg**	**10 18 35.0 +1.4**
	baz=255				
NMLH			S	**Sg**	**10 18 51.4 +2.0**
	baz=255				
EGFH	**Guangfu**	**1.25 209**	*e*P	**Pb**	**10 18 33.9 +0.1**
	baz=216				
EGFH			*e*S	**Sg**	**10 18 52.5 +1.7**
	baz=216				
NSY	**Sanyi**	**1.26 254**	*e*S	**Sg**	**10 18 53.2 +2.1**
	baz=249				
TWQ1	**Liyutan**	**1.27 251**	P	**Pg**	**10 18 36.7 +1.8**
	baz=237				
TWQ1			S	**Sg**	**10 18 53.3 +1.8**
	baz=237				
DPDB	**Guoxing**	**1.29 236**	*e*S	**Sg**	**10 18 52.7 +0.6**
	baz=231				
PTSB	**Yuanli**	**1.30 256**	*e*P	**Pg**	**10 18 35.9 +0.4**
	baz=251				
PTSB			*e*S	**Sg**	**10 18 54.0 +1.6**
	baz=251				
VWDT	**VWDT**	**1.33 221**	P	**Pg**	**10 18 36.1 +0.1**
	baz=226				
VWDT			*e*S	**Sg**	**10 18 53.9 +0.6**
	baz=226				
WDJ	**Dajia District**	**1.39 253**	*e*S	**Sg**	**10 18 57.2 +2.1**
	baz=248				
HGSD	**Ruisui**	**1.41 206**	P	**Pg**	**10 18 37.4 -0.1**
	baz=217				
HGSD			*e*S	**Sg**	**10 18 57.7 +1.9**
	baz=217				
TYC	**Yuchr**	**1.42 233**	P	**Pg**	**10 18 37.5 -0.1**
	baz=227				
TYC			*e*S	**Sg**	**10 18 56.1 0.0**
	baz=227				
SSLB	**Suanglung**	**1.43 227**	P	**Pg**	**10 18 37.9 +0.1**
	baz=221				
SSLB			*e*S	**Sg**	**10 18 56.0 -0.4**
	baz=221				
TCU	**Taichung**	**1.43 245**	*e*S	**Sg**	**10 18 58.7 +2.2**
	baz=250				
EHY	**Hungye**	**1.44 209**	*e*P	**Pb**	**10 18 37.2 +0.1**
	baz=205				
IRIF	**Iriomote-Funau**	**1.55 106**	P	**Pn**	**10 18 37.5 -0.1**
YULB	**Yu-li**	**1.55 208**	P	**Pb**	**10 18 38.4 -0.5**
	baz=213				
YULB			*e*S	**Sg**	**10 18 59.5 -0.8**
	baz=213				
WHYT	**Xinyi Township**	**1.56 227**	P	**Pg**	**10 18 40.5 +0.2**
	baz=214				
WHYT			S	**Sg**	**10 18 59.9 -0.6**
	baz=214				
WJS	**Zhushan**	**1.56 233**	*e*P	**Pg**	**10 18 42.0 +1.6**
	baz=217				
WJS			S	**Sg**	**10 19 02.9 +2.2**
	baz=217				
WNT	**Mingjian**	**1.56 236**	S	**Sg**	**10 19 03.1 +2.5**
	baz=220				
TWF1	**Yuli**	**1.59 207**	*e*P	**Pb**	**10 18 39.2 -0.3**
	baz=217				
TWF1			*e*S	**Sg**	**10 19 01.1 -0.5**
	baz=217				
YUS	**Yu-Shan**	**1.65 220**	P	**Pg**	**10 18 41.7 -0.4**
	baz=206				
YUS			*e*S	**Sg**	**10 19 04.1 +0.6**
	baz=206				
HATJ	**Hateruma jima**	**1.71 114**	P	**Pn**	**10 18 39.9 +0.1**
HATJ			S	**Sn**	**10 19 00.8 -0.8**
FULB	**Fuli**	**1.73 205**	P	**Pb**	**10 18 41.8 -0.1**
	baz=214				
FULB			*e*S	**Sg**	**10 19 06.3 +0.4**
	baz=214				
CHN5	**Tsauling**	**1.74 228**	P	**Pg**	**10 18 43.7 -0.1**
	baz=222				
CHN5			S	**Sg**	**10 19 08.4 +1.9**
	baz=222				
JKRS	**Kuro-shima**	**1.82 106**	P	**Pn**	**10 18 41.3 -0.1**
JKRS			S	**Sn**	**10 19 03.7 -0.6**
ELDTW	**Lidau**	**1.86 212**	*e*S	**Sb**	**10 19 08.2 +0.9**
	baz=193				
JIJ	**Ishigaki jima**	**1.91 102**	P	**Pn**	**10 18 42.9 +0.4**
JIJ			S	**Sn**	**10 19 05.7 -0.7**
CHN4	**Tsaushan**	**1.97 224**	P	**Pg**	**10 18 47.6 -0.5**
	baz=203				
CHN4			S	**Sg**	**10 19 14.5 +0.8**
	baz=203				
TPUB	**Ta-pu**	**1.98 223**	*e*P	**Pb**	**10 18 47.1 +0.8**
	baz=203				
TPUB			*e*S	**Sg**	**10 19 14.0 -0.2**
	baz=203				
JISG	**Ishigakijimahi**	**2.02 95**	S	**Sn**	**10 19 09.8 +0.5**
WTP	**Ta-pu**	**2.03 222**	P	**Pg**	**10 18 48.2 -1.1**
	baz=202				
WTP			*e*S	**Sg**	**10 19 16.5 +0.7**
	baz=202				
TWK	**Hsinying**	**2.10 225**	P	**Pg**	**10 18 49.4 -1.2**
	baz=215				
TWK			S	**Sg**	**10 19 17.8 0.0**
	baz=215				
SNST	**Tainan City**	**2.12 224**	P	**Pg**	**10 18 49.9 -1.2**
	baz=203				
SNST			*e*S	**Sg**	**10 19 17.8 -0.9**
	baz=203				
CHN1	**Nanshi**	**2.13 223**	P	**Pb**	**10 18 49.7 +0.9**
	baz=202				
CHN1			S	**Sg**	**10 19 18.7 -0.2**
	baz=202				
SGST	**Jiashian**	**2.18 220**	*e*P	**Pb**	**10 18 50.2 +0.6**
	baz=194				
SGST			*e*S	**Sg**	**10 19 19.9 -0.4**
	baz=194				
SLGT	**Liugui**	**2.21 217**	P	**Pb**	**10 18 50.2 0.0**
	baz=210				
SLGT			S	**Sg**	**10 19 20.2 -1.2**
	baz=210				
MATB	**Ma-tsu**	**2.38 306**	*e*P	**Pn**	**10 18 50.2 +1.2**
	baz=301				
EAST	**Anshuo**	**2.64 206**	*e*P	**Pb**	**10 18 55.0 -2.5**
	baz=187				

*ISK **18** 10:18:44.4, 36°.08N×27°.17E, h15km, ML2.4/11*
*ATH **18** 10:18:44.4, 36°.09N×27°.14E, h26km±3km, ML2.6/4, Error ellipse: s-maj=3.4km s-min=1.2km az=93.0*
*DDA **18** 10:18:45.3, 36°.10N×27°.23E, h7km±2km, ML2.6*
*THE **18** 10:18:45.6, 36°.05N×27°.20E, h17km±3km, ML2.6/3, Error ellipse: s-maj=3.5km s-min=0.7km az=174.0*
ISC 18 10:18:45.4±1.0,**36°.06N**±0°.03×**27°.18E**±0°.03,**h24**km±13km,
n31,σ1§**46**/47,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.51**	**182**	P	**Pb**	**10 18 55.7**	**-0.2**
KARP				S	**Sb**	**10 19 03.4**	**+0.4**
	742nm,0.1s						
KARP	**Karpathos**	**0.51**	**182**	P	**Pb**	**10 18 55.6**	**-0.3**
KARP				S	**Sb**	**10 19 03.2**	**+0.2**
KARP				AML	AML	10 19 04.0	
	comp=E,1391μm,0.1s						
KARP				AML	AML	10 19 05.3	
	comp=N,1767μm,0.2s						
KARP	**Karpathos**	**0.51**	**182**	PG	**Pb**	**10 18 55.5**	**-0.3**
KARP				SG	**Sb**	**10 19 03.1**	**+0.2**
NISR	**Nisiros**	**0.55**	**356**	P	**Pb**	**10 18 55.1**	**-1.4**
NISR				S	**Sb**	**10 19 03.5**	**-0.4**
NISR				AML	AML	10 19 06.9	
	comp=N,614μm,0.2s						
NISR				AML	AML	10 19 08.2	
	comp=E,1103μm,0.2s						
DAT	**Datca**	**0.74**	**26**	*i* P	**Pb**	**10 18 59.3**	**-0.4**
DAT				*i* S	**Sn**	**10 19 11.4**	**+0.4**
DAT				IAML_P			
	comp=Z,704nm,0.2s						
DAT	**Datca**	**0.74**	**26**	PG	**Pb**	**10 18 58.9**	**-0.8**
DAT				SG	**Sb**	**10 19 09.8**	**+0.3**
ARG	**Arkhangelos**	**0.78**	**78**	P	**Pb**	**10 19 00.1**	**-0.3**
ARG				S	**Sb**	**10 19 10.7**	**+0.1**
	comp=Z,335nm,0.3s						
ARG	**Arkhangelos**	**0.78**	**78**	P	**Pb**	**10 19 00.2**	**-0.2**
ARG				S	**Sn**	**10 19 11.5**	**-0.3**
ARG				AML	AML	10 19 14.3	
	comp=E,833μm,0.4s						
ARG				AML	AML	10 19 14.9	
	comp=N,497μm,0.2s						
ARG	**Arkhangelos**	**0.78**	**78**	PG	**Pb**	**10 19 00.0**	**-0.3**
ARG				SG	**Sn**	**10 19 11.7**	**-0.2**
BODT	**Bodrum**	**1.00**	**6**	P	**Pn**	**10 19 03.8**	**-0.2**
BODT				S	**Sn**	**10 19 17.3**	**-0.1**
BODT	**Bodrum**	**1.00**	**6**	PG	**Pn**	**10 19 03.7**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.05**	**51**	PG	**Pn**	**10 19 04.6**	**0.0**
ANAF	**Anafi Island**	**1.17**	**285**	P	**Pn**	**10 19 05.4**	**-0.9**
ANAF				S	**Sb**	**10 19 22.4**	**+0.5**
	comp=N,540nm,0.4s						
ANAF	**Anafi Island**	**1.17**	**285**	P	**Pn**	**10 19 06.2**	**-0.1**
ANAF				S	**Sb**	**10 19 22.3**	**+0.5**
ANAF				AML	AML	10 19 25.6	
	comp=E,964μm,0.4s						
ANAF				AML	AML	10 19 26.4	
	comp=N,1103μm,0.4s						
ZKR	**Zakros**	**1.23**	**220**	P	**Pb**	**10 19 08.4**	**+0.5**
AMGA	**Amorgos Island**	**1.29**	**307**	P	**Pn**	**10 19 07.2**	**-0.8**
YER	**Yerkesik**	**1.39**	**39**	PN	**Pn**	**10 19 09.7**	**+0.3**
TURN	**Turunc**	**1.41**	**54**	*i* P	**Pn**	**10 19 06.7**	**-2.8**
TURN				*i* S	**Sn**	**10 19 21.5**	**-5.7**
TURN				IAML_P			
	comp=Z,1μm,0.2s						
TURN	**Turunc**	**1.41**	**54**	PN	**Pn**	**10 19 05.9**	**-3.6**
DALY	**Dalyan (Mula)**	**1.41**	**57**	*i* P	**Pb**	**10 19 12.0**	**+1.0**
DALY				*i* S	**Sb**	**10 19 30.0**	**+1.5**
DALY				IAML_P			
	comp=Z,345nm,0.2s						
DALY	**Dalyan (Mula)**	**1.41**	**57**	PN	**Pn**	**10 19 09.8**	**+0.3**
SANT	**Santorini**	**1.42**	**283**	PN	**Pn**	**10 19 10.6**	**+0.8**
NPS	**Neapolis**	**1.50**	**238**	P	**Pn**	**10 19 11.6**	**+0.8**
FETY	**Fethiye**	**1.64**	**69**	*i* P	**Pb**	**10 19 15.8**	**+0.8**
FETY				*i* S	**Sb**	**10 19 38.8**	**+3.5**
FETY				IAML_P			
	comp=Z,506nm,0.2s						
FETY	**Fethiye**	**1.64**	**69**	PN	**Pn**	**10 19 13.4**	**+0.6**
APE	**Apeiranthos**	**1.66**	**308**	PN	**Pn**	**10 19 13.7**	**+0.6**
AYDN	**Tasoluk**	**1.69**	**19**	*i* P	**Pb**	**10 19 17.3**	**+1.4**
AYDN				*i* S	**Sb**	**10 19 39.8**	**+3.0**
AYDN				IAML_P			
	comp=Z,230nm,0.2s						
AKAS	**Kas**	**1.97**	**84**	*i* P	**Pb**	**10 19 20.1**	**-0.6**
AKAS	**Kas**	**1.97**	**84**	PN	**Pn**	**10 19 18.2**	**+0.8**
GOLH	**Golhisar**	**2.25**	**58**	*i* P	**Pb**	**10 19 25.0**	**-0.4**
GOLH				IAML_P			
	comp=Z,282nm,0.3s						
KULA	**Kula-Manisa**	**2.72**	**25**	PN	**Pn**	**10 19 28.7**	**+1.1**

*SOME **18** 10:19:52.9, 40°.73N×70°.93E, h10km*
*KRNET **18** 10:20:04.8±0.1, 41°.54N×70°.36E, mb2.1*
*NNC **18** 10:20:04.3±4.8, 41°.12N×71°.47E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=41.7km s-min=14.8km az=20.0*
ISC 18 10:20:09.5±1.7,**41°.26N**±0°.05×**70°.93E**±0°.05,**h8**km±13km,
n9,σ1§**71**/13,**10C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.94**	**55**	⇓*i* P	**Pg**	**10 20 27.2**	**-0.4**
ARK				⇓*i* S	**Sn**	**10 20 44.0**	**+1.1**
	baz=78						
BTK	**Batken**	**1.20**	**184**	⇓*i* P	**Pg**	**10 20 31.4**	**-1.1**
BTK				⇓*i* S	**Sn**	**10 20 50.9**	**+1.7**
	baz=67						
ARSB	**Arslanbob**	**1.55**	**87**	⇑*i* P	**Pg**	**10 20 37.9**	**-1.2**
ARSB				⇑*i* S	**Sg**	**10 21 02.0**	**+2.8**
	baz=95						
KK31	**Karatay Array**	**1.87**	**351**	⇑Pn	**Pn**	**10 20 41.8**	**-0.1**
	1.9nm,0.4s,baz=158,slow=13,SNR=18						
KK31				⇑Sn	**Sb**	**10 21 08.6**	**+1.1**
	8.9nm,0.6s,baz=159,slow=26,SNR=16						
BRLS	**Borolday**	**1.95**	**336**	*e*P	Pn	10 20 34.5	-8.4
	0.6nm,0.2s						
BRLS				*e*S	**Sn**	**10 21 06.7**	**-0.9**
	6.3nm,0.5s						
MRKS	**Merke**	**2.27**	**48**	*e*P	Pn	10 20 41.0	-6.4
	1.4nm,0.3s						
MRKS				*e*S	**Sb**	**10 21 18.2**	**-0.7**
	4.1nm,0.6s						
ARLS	**Aral**	**2.62**	**76**	⇑*i* P	**Pn**	**10 20 52.1**	**-0.1**
	baz=82						
ARLS				⇑*i* S	**Sb**	**10 21 26.1**	**-2.9**
	baz=82						
AAK	**Ala-Archa**	**2.99**	**61**	⇑Pg	Pn	10 20 52.0	-5.4
	4.2nm,1.3s						
AAK				⇑Lg	Lg	10 21 33.0	
	3.1nm,1.1s						
TKM2	**Tokmak 2**	**3.85**	**63**	⇑Pg	**Pn**	**10 21 09.4**	**+0.3**
	1.1nm,0.8s						
TKM2				⇑Lg	Lg	10 22 00.8	
	2.3nm,0.8s						

*ISCJB **18** 10:24:11.6±0.5, 60°.28S±0°.08×46°.6W±0°.2, h10km, mb4.5/8, MS3.2/4, Error ellipse: s-maj=12.2km s-min=10.1km az=135.6*
*IDC **18** 10:24:11.5±0.7, 60°.31S×46°.64W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4. 1/24, mbtmp4.2/8, ML4. 1/1, MS3.4/5, Ms1 3.4/5, ms1mx3. 1/21, Error ellipse: s-maj=24.5km s-min=19.5km az=51.0*
*NEIC **18** 10:24:13.3±1.4, 60°.28S±0°.09×46°.6W±0°.2, h10km±4km, mb4.5/12*
ISC 18 10:24:13.0±0.6,**60°.30S**±0°.10×**46°.55W**±0°.10,**h10**km,**n39,**
σ0§**82**/28,**mb4.5**/10,**MS3.1**/4,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.12**	**46**	Pn	**Pn**	**10 26 10.5**	**-0.2**
PMSA	**Palmer Station**	**9.23**	**233**	Pn	**Pn**	**10 26 26.1**	**+0.3**
	1.9nm,0.3s,baz=48,slow=10,SNR=11						
EFI	**East Falkland**	**10.77**	**318**	Pn	**Pn**	**10 26 46.9**	**-0.1**
USHA	**Ushuaia**	**12.93**	**285**	LR	LR	10 30 52.9	
	comp=Z,200nm,18.3s,baz=60,slow=31						
SNAA	**Sanae**	**20.52**	**141**	P	Pn	10 28 55.3	+2.2
	6.7nm,0.8s,baz=279,slow=8.9,SNR=20						
SNAA	**Sanae**	**20.52**	**141**	P	Pn	10 28 54.9	+1.7
TRQA	**Tornquist**	**24.32**	**329**	P	**P**	**10 29 32.0**	**+1.5**
PLCA	**Paso Flores**	**24.58**	**312**	P	**P**	**10 29 32.8**	**-0.2**
	2.3nm,0.9s,baz=159,slow=7.9,SNR=5.7						
PLCA				LR	LR	10 38 36.6	
	comp=Z,54nm,18.5s,baz=208,slow=35						
PLCA	**Paso Flores**	**24.58**	**312**	IAmb	IAmb	10 29 36.6	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	**10 30 21.8**	**+1.0**
	comp=Z,7.2nm,1.0s,baz=162,slow=5.4,SNR=11						
QSPA				LR	LR	10 42 31.7	
	comp=Z,57nm,18.8s,baz=184,slow=37						
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	**10 30 21.9**	**+1.0**
QSPA				IAmb	IAmb	10 30 27.3	
	comp=Z,6.3nm,0.8s						
GO04	**Tololo Observa**	**34.23**	**321**	P	**P**	**10 30 58.7**	**-0.1**
MAW	**Mawson**	**42.48**	**148**	LR	LR	10 49 19.9	
	comp=Z,82nm,18.3s,baz=240,slow=36						
MNMC	**Minye Minye**	**44.30**	**328**	P	**P**	**10 32 24.0**	**+0.9**
MNMC				IAmb	IAmb	10 32 32.3	
	comp=Z,5.7nm,0.7s						
SIV	**San Ignacio**	**45.49**	**340**	P	**P**	**10 32 32.4**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=178,slow=7.8,SNR=17						
LPAZ	**La Paz**	**46.65**	**331**	P	**P**	**10 32 42.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=150,slow=8.6,SNR=3.8						
LPAZ				LR	LR	10 53 17.3	
	comp=Z,18nm,18.9s,baz=162,slow=37						
LPAZ	**La Paz**	**46.65**	**331**	IAmb	IAmb	10 32 50.3	
	comp=Z,1.1nm,0.7s						
SUR	**Sutherland**	**51.37**	**89**	P	**P**	**10 33 18.9**	**+1.2**
	comp=Z,10nm,1.0s,baz=210,slow=12,SNR=4.6						
SUR	**Sutherland**	**51.37**	**89**	IAmb	IAmb	10 33 22.0	
	comp=Z,18nm,1.2s						
SAML	**Samuel**	**52.74**	**339**	P	**P**	**10 33 28.5**	**+0.7**
SAML				IAmb	IAmb	10 33 29.1	
	comp=Z,5.9nm,0.9s						
BOSA	**Boshof**	**56.64**	**90**	P	**P**	**10 33 56.7**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=202,slow=5.0,SNR=4.7						
H10N3	**ASCENSION HYDR**	**57.61**	**39**	T	T	11 36 52.0	
	baz=199,slow=76,SNR=23						
H10N1	**ASCENSION HYDR**	**57.61**	**39**	T	T	11 36 54.8	
	baz=199,slow=76,SNR=26						
H10N2	**ASCENSION HYDR**	**57.63**	**39**	T	T	11 36 53.4	
	baz=199,slow=76,SNR=19						
LBTB	**Lobatse**	**59.79**	**88**	P	**P**	**10 34 18.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.70**	**47**	P	**P**	**10 36 37.1**	**+0.5**
	comp=Z,581nm,1.0s,baz=222,slow=4.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**82.70**	**47**	IAmb	IAmb	10 36 38.5	
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**96.34**	**180**	P	**P**	**10 37 40.5**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=152,slow=4.1,SNR=3.8						
AKASG	**Malin Array Be**	**126.26**	**50**	PKP	**PKPdf**	**10 43 13.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=243,slow=2.2,SNR=3.1						
IL31		**145.27**	**312**		**PKPbc**	**10 43 48.6**	**-0.3**
ILAR	**Eielson Array**	**145.27**	**312**	PKPbc	**PKPbc**	**10 43 48.1**	**-0.8**
	comp=Z,4.5nm,1.0s,baz=151,slow=2.5,SNR=27						
ILAR	**Eielson Array**	**145.27**	**312**		**PKPbc**	**10 43 47.6**	**-1.3**
WRH	**Wood River Hil**	**145.56**	**311**		**PKPdf**	**10 43 49.4**	**-0.2**
BVAR	**Borovoye Array**	**145.83**	**74**	PKPbc	**PKPbc**	**10 43 50.9**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=249,slow=4.1,SNR=19						
MAKZ	**Makanchi**	**147.49**	**91**		**PKPbc**	**10 43 55.5**	**-0.6**
MKAR	**Makanchi Array**	**147.64**	**91**	PKPbc	**PKPbc**	**10 43 55.6**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=249,slow=2.6,SNR=21						
MKAR	**Makanchi Array**	**147.64**	**91**		**PKPbc**	**10 43 55.5**	**-1.0**
KURK	**Kurchatov**	**148.40**	**83**		**PKPbc**	**10 43 58.6**	**+0.3**
SONM	**Songino Array**	**159.99**	**116**	PKPab	**PKPab**	**10 44 50.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=242,slow=3.1,SNR=2.5						

*ISCJB **18** 10:29:01.8±0.5, 35°.26N±0°.05×77°.2E±0°.1, h10km, mb3.7/8, MS3.1/8, Error ellipse: s-maj=13.7km s-min=4.5km az=153.7*
*IDC **18** 10:29:02.0±1.4, 35°.08N×76°.97E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.7/48, mbtmp3.8/12, ML3.0/2, MS3.2/9, Ms1 3.2/9, ms1mx2.9/46, Error ellipse: s-maj=33.1km s-min=19.7km az=36.0*
*BJI **18** 10:29:05.6±0.0, 35°.53N×77°.16E, h11km, mb3.8/6, mB4.1/2, ML4.0/4*
*NNC **18** 10:29:14.9±3.3, 36°.02N×77°.56E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=30.9km s-min=26.5km az=124.0*
ISC 18 10:29:04.0±0.7,**35°.20N**±0°.06×**77°.14E**±0°.08,**h10**km,**n36,**
σ1§**59**/35,**mb3.8**/8,**MS3.1**/8,**8C-2D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**3.10**	**218**	*e*P	**Pg**	**10 30 02.5**	**-0.9**
KSH	**Kashi**	**4.41**	**348**	Pg	**Pn**	**10 30 12.1**	**+1.0**
KSH				Sg	**Sn**	**10 31 03.0**	**+0.4**
KSH				smax	smax		
	comp=N,260nm,0.9s						
KSH				smax	smax		
	comp=E,340nm,0.9s						
AAK	**Ala-Archa**	**7.71**	**345**	Pn	Pn	10 31 00.6	+4.1
	3.5nm,0.7s						
AAK				Pg	**Pb**	**10 31 19.6**	**+1.7**
	9.9nm,0.8s						
AAK				⇑Lg	Lg	10 32 58.5	
	34nm,1.1s						
AAK	**Ala-Archa**	**7.71**	**345**	Pn	Pn	10 31 01.4	+5.0
	0.7nm,0.3s,baz=54,slow=15,SNR=7.2						
AAK				Sn	**Sn**	**10 32 22.2**	**-1.7**
	0.1nm,0.3s,baz=32,slow=22,SNR=1.7						
AAK				LR	LR	10 33 31.2	
	comp=Z,29nm,19.3s,baz=142,slow=35						
TKM2	**Tokmak 2**	**7.80**	**352**	⇑Pn	**Pn**	**10 30 59.8**	**+2.0**
	3.5nm,0.7s						
TKM2				⇑Pg	**Pb**	**10 31 23.0**	**+3.5**
	11nm,0.9s						
TKM2				⇑Lg	Lg	10 32 58.9	
	25nm,1.0s						
PDGK	**Podgornoye**	**8.32**	**12**	⇑Pn	**Pn**	**10 31 05.6**	**+0.8**
	9.0nm,1.0s						
PDGK				⇑Lg	Lg	10 33 13.8	
	61nm,1.0s						
DANN	**Dangsing**	**8.85**	**139**	*e*P	**Pn**	**10 31 13.7**	**+1.4**
KOLN	**Koldanda**	**9.23**	**142**	*e*P	**Pn**	**10 31 19.4**	**+2.0**
	15nm,0.5s						
GKN	**Gorkha**	**9.61**	**136**	*e*P	**Pn**	**10 31 23.5**	**+1.0**
KKN	**Kakani**	**10.14**	**135**	*e*P	**Pn**	**10 31 30.9**	**+1.0**
	13nm,0.6s						
DMN	**Daman**	**10.17**	**136**	*e*P	**Pn**	**10 31 30.8**	**+0.4**
	11nm,0.5s						
PKIN	**Phulchoki**	**10.36**	**135**	*e*P	**Pn**	**10 31 33.2**	**+0.2**
	11nm,0.5s						
PKI	**Pulchoki**	**10.38**	**135**	*e*P	**Pn**	**10 31 33.7**	**+0.5**
	8.3nm,0.5s						
JIRN	**Jiri**	**10.78**	**132**	*e*P	**Pn**	**10 31 38.7**	**-0.1**
	31nm,0.5s						
RAMN	**Ramite**	**11.54**	**133**	*e*P	**Pn**	**10 31 48.3**	**-0.8**
	12nm,0.6s						
WMQ	**Urumqi**	**11.85**	**40**	*e*P	**Pn**	**10 31 55.0**	**+1.9**
TAPN	**Taplejung**	**11.95**	**128**	*e*P	**Pn**	**10 31 53.9**	**-0.9**
	12nm,0.5s						
MAKZ	**Makanchi**	**12.15**	**16**	⇑Pn	**Pn**	**10 31 56.2**	**-1.1**
	4.3nm,1.1s						
MAKZ				⇓Sn	**Sn**	**10 34 07.4**	**-5.3**
	4.7nm,1.4s						
MK31	**Makanchi Array**	**12.21**	**17**	⇓Pn	**Pn**	**10 31 57.3**	**-0.8**
	8.2nm,1.2s,baz=197,slow=14,SNR=18						
MK31				⇑Sn	Sn	10 34 05.1	-9.2
	9.2nm,1.1s,baz=200,slow=22,SNR=3.7						
MKAR	**Makanchi Array**	**12.21**	**17**	Pn	**Pn**	**10 31 56.9**	**-1.2**
	0.4nm,0.3s,baz=199,slow=13,SNR=11						
MKAR				Sn	Sn	10 34 05.5	-8.7
	0.1nm,0.3s,baz=195,slow=19,SNR=5.7						
KURBB	**Kurchatov Arra**	**15.45**	**3**	Pn	**Pn**	**10 32 41.2**	**-0.7**
	0.0nm,0.3s,baz=195,slow=10,SNR=2.9						
KURBB				Lg	Lg	10 37 07.7	
	0.0nm,0.3s,baz=188,slow=33,SNR=5.4						
BVAR	**Borovoye Array**	**18.45**	**347**	P

0.5nm,0.6s,baz=91,slow=10,SNR=2.7
FINES FINESS Array B 41.36 326 P **P 10 36 49.5 -0.4**
1.3nm,0.4s,baz=104,slow=10,SNR=9.3
ARCES ARCESS Array B 44.28 337 P **P 10 37 12.5 -0.9**
2.8nm,0.9s,baz=107,slow=8.6,SNR=5.8
NOA NORSAR Array B 48.40 324 P **P 10 37 45.1 -0.9**
0.5nm,0.6s,baz=91,slow=7.7,SNR=2.4
NOA LR LR 10 59 07.0
comp=Z,35nm,19.9s,baz=350,slow=37
ILAR Eielson Array 74.57 18 P **P 10 40 43.5 +0.7**
0.2nm,0.7s,baz=302,slow=5.2,SNR=3.8
KRVT Keravat (AS076 80.20 102 LR LR 11 16 56.3
comp=Z,54nm,19.2s,baz=149,slow=36

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*IDC **18** 10:31:58.6±10.0, 22°.27S×178°.32W, h329km±103km, mb3.4/12, mb1 3.6/12, mb1mx3.5/24, mbtmp4.1/12, Error ellipse: s-maj=29.6km s-min=23.1km az=77.0*
*ISCJB **18** 10:32:02.2±0.8, 22°.3S±0°.2×178°.5W±0°.1, h377km, mb3.6/12, Error ellipse: s-maj=28.4km s-min=15.0km az=151.7*
ISC 18 10:32:03.4±0.8, 22°.3S±0°.2×178°.4W±0°.2, h377km, n14, σ0§66/14, mb3.6/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.99**	**267**	P		**P**		**10 38 05.1**	**+0.3**
	4.6nm,0.6s,baz=95,slow=9.4,SNR=9.1								
STKA	**Stephens Creek**	**36.71**	**246**	P		**P**		**10 38 36.1**	**0.0**
	1.2nm,0.5s,baz=78,slow=10,SNR=5.2								
ASAR	**Alice Springs**	**43.78**	**259**	P		**P**		**10 39 33.2**	**-0.4**
	2.7nm,0.6s,baz=96,slow=7.4,SNR=35								
WRA	**Warramunga Arr**	**44.02**	**264**	P		**P**		**10 39 34.6**	**-1.0**
	1.4nm,0.7s,baz=96,slow=8.2,SNR=18								
FITZ	**Fitzroy Crossi**	**52.45**	**264**	P		**P**		**10 40 38.9**	**-0.3**
	1.8nm,0.7s,baz=84,slow=9.2,SNR=2.8								
QSPA	**South Pole Qui**	**67.80**	**180**	P		**P**		**10 42 21.8**	**+0.2**
	1.5nm,0.8s,baz=321,slow=0.6,SNR=7.6								
MJAR	**Matsushiro Arr**	**71.42**	**324**	P		**P**		**10 42 44.0**	**+0.2**
	0.9nm,0.5s,baz=158,slow=7.4,SNR=2.8								
PETK	**Petropavlovsk-**	**77.88**	**346**	P		**P**		**10 43 20.9**	**+0.9**
	4.6nm,1.1s,baz=134,slow=8.3,SNR=3.0								
NVAR	**Mina Array Bea**	**82.56**	**43**	P		**P**		**10 43 45.5**	**+0.1**
	0.4nm,0.6s,baz=213,slow=9.3,SNR=4.4								
TXAR	**Lajitas Array**	**88.32**	**57**	P		**P**		**10 44 13.8**	**+0.2**
	0.2nm,0.8s,baz=220,slow=7.5,SNR=4.0								
ILAR	**Eielson Array**	**90.12**	**13**	P		**P**		**10 44 19.7**	**-1.3**
	1.0nm,0.9s,baz=210,slow=5.6,SNR=5.3								
PDAR	**Pinedale Array**	**90.50**	**43**	P		**P**		**10 44 23.0**	**-0.6**
	0.4nm,0.6s,baz=260,slow=2.7,SNR=3.9								
ARCES	**ARCESS Array B**	**130.59**	**349**	PKP		**PKiKP**		**10 50 30.9**	**+0.8**
	3.9nm,1.1s,baz=17,slow=0.9,SNR=3.2								
BRTR	**Keskin Array B**	**147.72**	**310**	PKPbc		**PKPbc**		**10 51 04.7**	**+0.2**
	0.4nm,0.6s,baz=51,slow=2.0,SNR=2.6								

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*ISCJB **18** 10:36:20.7±0.4, 43°.64S±0°.03×172°.77E±0°.03, h20km±3km, mb3.8/2, MS3.2/5, Error ellipse: s-maj=5.9km s-min=2.9km az=143.5*
*IDC **18** 10:36:21.1±1.5, 43°.52S×172°.58E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/20, mbtmp4.0/3, ML4.1/1, MS3.3/5, Ms1 3.2/5, ms1mx3.0/26, Error ellipse: s-maj=46.3km s-min=25.2km az=160.0*
*NEIC **18** 10:36:22.6±1.4, 43°.56S±0°.04×172°.64E±0°.06, h14km±4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.09; $M_{\theta\theta}$1.50; $M_{\phi\phi}$-1.59; $M_{r\theta}$0.19; $M_{\phi\phi}$-2.78; $M_{\phi r}$0.61; Fault plane solution: $M_0$3.24000×10^{15} NP1: ϕ_s255.91000°, δ80.77000°, λ-174.63000°. NP2: ϕ_s165.04000°, δ84.70000°, λ-9.27000°. Principal axes: T 3.1401, Plg3.0000°, Azm211.0000°; N 0.1968, Plg79.0000°, Azm316.0000°; P -3.3370, Plg10.0000°, Azm120.0000°;*
*WEL **18** 10:36:22.4, 44°.3±1°.×17°.3E±°, h9km±1km, M4.6/22, ML4.8/5, MLv4.6/22 Error ellipse: s-maj=0.0km s-min=0.0km az=35.9*
ISC 18 10:36:22.1±0.7, 43°.60S±0°.03×172°.65E±0°.03, h17km±4km, n175, σ0§99/179, mb4.2/4, MS3.3/5, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.03**	**326**	P		**Pg**		**10 36 25.3**	**+0.2**
CRLZ				S		**Sg**		**10 36 26.7**	**-0.3**
CRLZ	**Canterbury Las**	**0.03**	**326**			**Pg**		**10 36 25.1**	**+0.1**
CRLZ					Sg	**Sg**		**10 36 26.4**	**-0.7**
MQZ	**McQueen's Vall**	**0.11**	**177**	P		**Pb**		**10 36 26.5**	**+0.7**
MQZ				S		**Sg**		**10 36 28.5**	**+0.4**
MQZ	**McQueen's Vall**	**0.11**	**177**			**Pb**		**10 36 26.4**	**+0.7**
MQZ					Sg	**Sg**		**10 36 28.4**	**+0.3**
EYCZ	**Eyrewell**	**0.28**	**310**	P		**Pb**		**10 36 28.2**	**-0.4**
EYCZ				S		**Sg**		**10 36 31.3**	**-0.9**
OXZ	**Oxford**	**0.52**	**301**	Pg		**Pg**		**10 36 32.3**	**-0.2**
OXZ				Sg		**Sg**		**10 36 39.2**	**-0.3**
GVZ	**Greta Valley S**	**0.69**	**24**	P		**Pn**		**10 36 37.0**	**-0.1**
LTZ	**Lake Taylor**	**0.86**	**341**	P		**Pn**		**10 36 39.3**	**-0.3**
LTZ	**Lake Taylor**	**0.86**	**341**			**Pn**		**10 36 39.3**	**-0.3**
LTZ					Sn	**Sn**		**10 36 51.0**	**-0.8**
RPZ	**Rata Peaks**	**1.16**	**264**		Pn	**Pn**		**10 36 43.1**	**-0.5**
	1μm,0.3s,baz=121,slow=4.1,SNR=1661								
RPZ						**Sn**		**10 36 58.9**	**-0.2**
	3μm,0.3s,baz=141,slow=20,SNR=34								
RPZ					LR	LR		10 37 07.9	
	comp=Z,537nm,19.9s,baz=215,slow=42								
RPZ	**Rata Peaks**	**1.16**	**264**	P		**Pn**		**10 36 43.2**	**-0.5**
INZ	**Inchbonnie**	**1.24**	**314**	P		**Pn**		**10 36 44.4**	**-0.2**
KHZ	**Kahutara**	**1.35**	**29**	P		**Pb**		**10 36 46.6**	**-0.4**
KHZ	**Kahutara**	**1.35**	**29**			**Pb**		**10 36 46.6**	**-0.4**
WVZ	**Waitaha Valley**	**1.49**	**290**	P		**Pn**		**10 36 48.2**	**+0.1**
THZ	**Tophouse**	**1.84**	**6**	P		**Pn**		**10 36 53.2**	**+0.1**
THZ	**Tophouse**	**1.84**	**6**			**Pn**		**10 36 53.1**	**0.0**
LBZ	**Lake Benmore**	**1.94**	**245**	P		**Pn**		**10 36 54.8**	**+0.4**
LBZ	**Lake Benmore**	**1.94**	**245**			**Pb**		**10 36 56.0**	**-1.1**
DSZ	**Denniston Nort**	**1.95**	**341**	P		**Pn**		**10 36 54.9**	**+0.3**
ODZ	**Otahua Downs**	**2.04**	**224**	P		**Pn**		**10 36 55.5**	**-0.2**
ODZ	**Otahua Downs**	**2.04**	**224**			**Pb**		**10 36 57.4**	**-1.3**
ODZ					Sn	**Sg**		**10 37 26.3**	**-1.3**
FOZ	**Fox Glacier**	**2.06**	**271**	P		**Pn**		**10 36 56.9**	**+1.0**
FOZ	**Fox Glacier**	**2.06**	**271**			**Pn**		**10 36 56.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**2.09**	**26**	P		**Pn**		**10 36 57.0**	**+0.6**
BSWZ	**Blackbirch Sta**	**2.09**	**26**			**Pn**		**10 36 56.9**	**+0.5**
CMWZ	**Cape Campbell**	**2.18**	**33**	P		**Pn**		**10 36 58.4**	**+0.8**
CMWZ	**Cape Campbell**	**2.18**	**33**			**Pn**		**10 36 58.7**	**+1.0**
TUWZ	**Tuamarina**	**2.37**	**24**	P		**Pn**		**10 37 00.4**	**+0.2**
TUWZ	**Tuamarina**	**2.37**	**24**			**Pn**		**10 37 00.3**	**0.0**
NNZ	**Nelson**	**2.44**	**13**	P		**Pn**		**10 37 01.9**	**+0.7**
TCW	**Tory Channel**	**2.67**	**27**	P		**Pn**		**10 37 04.2**	**-0.2**
HHSZ	**Highcliff Hill**	**2.71**	**212**	P		**Pn**		**10 37 05.0**	**+0.1**
BHW	**Baring Head**	**2.74**	**38**	P		**Pn**		**10 37 05.1**	**-0.2**
BHW	**Baring Head**	**2.74**	**38**			**Pn**		**10 37 05.0**	**-0.3**
SNZO	**South Karori**	**2.75**	**34**			**Pn**		**10 37 05.2**	**-0.2**
QRZ	**Quartz Range**	**2.77**	**358**	P		**Pn**		**10 37 05.9**	**+0.1**
QRZ	**Quartz Range**	**2.77**	**358**			**Pn**		**10 37 06.0**	**+0.2**
PLWZ	**Palliser**	**2.80**	**44**	P		**Pn**		**10 37 06.0**	**-0.2**
PLWZ	**Palliser**	**2.80**	**44**			**Pn**		**10 37 05.7**	**-0.4**
JCZ	**Jackson Bay**	**2.83**	**259**	P		**Pn**		**10 37 06.8**	**+0.1**
WKZ	**Wanaka**	**2.88**	**244**	P		**Pn**		**10 37 07.4**	**+0.1**
WKZ	**Wanaka**	**2.88**	**244**			**Pn**		**10 37 08.5**	**+1.1**
EAZ	**Earnscleugh**	**2.90**	**235**	P		**Pn**		**10 37 07.3**	**-0.1**
MSWZ	**Moikau Station**	**2.91**	**42**	P		**Pn**		**10 37 07.4**	**-0.3**
MSWZ	**Moikau Station**	**2.91**	**42**			**Pn**		**10 37 07.1**	**-0.6**
DUWZ	**D'Urville Isla**	**2.95**	**19**	P		**Pn**		**10 37 08.6**	**+0.3**
PAWZ	**Paruwai Farm**	**3.02**	**44**	P		**Pn**		**10 37 08.8**	**-0.4**
CAW	**Cannon Point**	**3.07**	**37**	P		**Pn**		**10 37 09.5**	**-0.3**
TRWZ	**Traveller**	**3.15**	**47**	P		**Pn**		**10 37 10.6**	**-0.3**
TUZ	**Tuapeka**	**3.19**	**221**	P		**Pn**		**10 37 12.1**	**+0.7**
KIW	**Kapiti Island**	**3.21**	**32**	P		**Pn**		**10 37 11.7**	**-0.1**
MTW	**Mount Morrison**	**3.23**	**42**	P		**Pn**		**10 37 11.5**	**-0.6**
OGWZ	**Otaki Gorge**	**3.35**	**35**	P		**Pn**		**10 37 13.3**	**-0.4**
HOWZ	**Holdsworth Sta**	**3.44**	**39**	P		**Pn**		**10 37 14.6**	**-0.4**
TMWZ	**Te Maipa**	**3.46**	**45**	P		**Pn**		**10 37 14.6**	**-0.7**
MSZ	**Milford Sound**	**3.56**	**251**	P		**Pn**		**10 37 16.4**	**-0.2**
MRZ	**Mangatainoka R**	**3.66**	**38**	P		**Pn**		**10 37 17.1**	**-0.9**
MLZ	**Mavora Lakes**	**3.69**	**240**	P		**Pn**		**10 37 18.0**	**-0.4**
MLZ	**Mavora Lakes**	**3.69**	**240**			**Pn**		**10 37 18.2**	**-0.2**
TIWZ	**Tintock**	**3.71**	**42**	P		**Pn**		**10 37 19.2**	**+0.5**
CPWZ	**Castlepoint**	**3.77**	**46**	P		**Pn**		**10 37 19.3**	**-0.1**
SYZ	**Scrubby Hill**	**3.85**	**219**	P		**Pn**		**10 37 20.6**	**+0.1**
PRWZ	**Pori Road**	**3.92**	**40**	P		**Pn**		**10 37 21.0**	**-0.6**
OHWZ	**Ohakea**	**3.93**	**31**	P		**Pn**		**10 37 22.4**	**+0.7**
BFZ	**Birch Farm**	**3.96**	**44**	P		**Pn**		**10 37 21.0**	**-1.1**
BFZ	**Birch Farm**	**3.96**	**44**			**Pn**		**10 37 21.1**	**-1.0**
POWZ	**Post Office Ro**	**3.96**	**37**	P		**Pn**		**10 37 21.7**	**-0.4**
WHZ	**Wether Hill Ro**	**4.06**	**234**	P		**Pn**		**10 37 22.5**	**-0.9**
WHZ	**Wether Hill Ro**	**4.06**	**234**			**Pn**		**10 37 23.0**	**-0.5**
DVHZ	**Dannevirke**	**4.21**	**40**	P		**Pn**		**10 37 24.5**	**-1.2**
WAZ	**Wanganui**	**4.22**	**25**	P		**Pn**		**10 37 27.4**	**+1.7**
ANWZ	**Angora Road**	**4.24**	**44**	P		**Pn**		**10 37 25.5**	**-0.4**
NMEZ	**Namu Road**	**4.28**	**13**	P		**Pn**		**10 37 28.4**	**+1.9**
TSZ	**Takapari Road**	**4.32**	**36**	P		**Pn**		**10 37 25.9**	**-1.2**
LREZ	**Lake Rotokare**	**4.34**	**18**	P		**Pn**		**10 37 29.9**	**+2.6**
DCZ	**Deep Cove**	**4.35**	**243**	P		**Pn**		**10 37 27.5**	**+0.1**
DCZ	**Deep Cove**	**4.35**	**243**			**Pn**		**10 37 27.5**	**+0.1**
PREZ	**Palmer Road**	**4.40**	**15**	P		**Pn**		**10 37 30.0**	**+1.8**
KHEZ	**Kahui Hut**	**4.42**	**14**	P		**Pn**		**10 37 29.8**	**+1.3**
NBEZ	**Newall Road No**	**4.42**	**12**	P		**Pn**		**10 37 29.8**	**+1.3**
PRHZ	**Porangahau**	**4.46**	**43**	P		**Pn**		**10 37 28.0**	**-1.1**
PKE	**Pukeiti**	**4.51**	**13**	P		**Pn**		**10 37 31.1**	**+1.4**
WPHZ	**Waipukurau**	**4.53**	**40**	P		**Pn**		**10 37 30.5**	**+0.6**
PNHZ	**Pukenui**	**4.54**	**37**	P		**Pn**		**10 37 28.8**	**-1.4**
DREZ	**Durham Road**	**4.56**	**15**	P		**Pn**		**10 37 31.9**	**+1.6**
APZ	**The Paps**	**4.61**	**224**	P		**Pn**		**10 37 31.2**	**+0.1**
MHEZ	**Mangahewa**	**4.69**	**16**	P		**Pn**		**10 37 34.1**	**+1.9**
MTVZ	**Mangateitei**	**4.71**	**28**	P		**Pn**		**10 37 34.0**	**+1.4**
VRZ	**Vera Road**	**4.74**	**20**	P		**Pn**		**10 37 34.3**	**+1.4**
PXZ	**Pawanui**	**4.76**	**43**	P		**Pn**		**10 37 32.3**	**-0.7**
PKVZ	**Pokaka**	**4.76**	**26**	P		**Pn**		**10 37 34.4**	**+1.2**
MOVZ	**Moawhango**	**4.79**	**30**	P		**Pn**		**10 37 34.2**	**+0.5**
TRVZ	**Turoa**	**4.82**	**28**	P		**Pn**		**10 37 34.3**	**+0.2**
KRHZ	**Kereru**	**4.84**	**36**	P		**Pn**		**10 37 32.6**	**-1.6**
BHHZ	**Black Hill Sta**	**4.84**	**33**	P		**Pn**		**10 37 33.9**	**-0.4**
DRZ	**Dome Shelter**	**4.84**	**28**	P		**Pn**		**10 37 36.1**	**+1.5**
WHVZ	**Whangaehu Hut**	**4.85**	**28**	P		**Pn**		**10 37 35.3**	**+0.8**
FWVZ	**Far West T-bar**	**4.86**	**28**	P		**Pn**		**10 37 34.9**	**+0.2**
TUVZ	**Tukino**	**4.88**	**29**	P		**Pn**		**10 37 35.3**	**+0.4**
NGZ	**Ngauruhoe**	**4.95**	**28**	P		**Pn**		**10 37 36.4**	**+0.6**
KAHZ	**Kahuranaki**	**4.95**	**41**	P		**Pn**		**10 37 34.7**	**-1.0**
TWVZ	**Taurewa**	**4.99**	**26**	P		**Pn**		**10 37 37.3**	**+1.0**
WTVZ	**West Tongariro**	**5.00**	**27**	P		**Pn**		**10 37 37.4**	**+0.9**
KRVZ	**Karewarewa**	**5.03**	**28**	P		**Pn**		**10 37 37.8**	**+0.8**
KWHZ	**Kaweka Forest**	**5.04**	**35**	P		**Pn**		**10 37 35.6**	**-1.4**
MCHZ	**McNeill Hill**	**5.14**	**38**	P		**Pn**		**10 37 37.0**	**-1.4**
CKHZ	**Cape Kidnapper**	**5.15**	**42**	P		**Pn**		**10 37 39.0**	**+0.6**
KATZ	**Kakaramea**	**5.16**	**27**	P		**Pn**		**10 37 40.3**	**+1.6**
RITZ	**Rihia Road**	**5.21**	**29**	P		**Pn**		**10 37 40.0**	**+0.7**
RATZ	**Rangitukua**	**5.28**	**28**	P		**Pn**		**10 37 41.2**	**+0.8**
BKZ	**Black Stump Fm**	**5.29**	**34**	P		**Pn**		**10 37 38.7**	**-1.7**
HIZ	**Hauiti**	**5.35**	**19**	P		**Pn**		**10 37 41.6**	**+0.4**
WATZ	**Wairara**	**5.41**	**27**	P		**Pn**		**10 37 42.6**	**+0.5**
ARHZ	**Aropaoanui**	**5.43**	**39**	P		**Pn**		**10 37 43.3**	**+1.0**
NMHZ	**Naumai**	**5.48**	**36**	P		**Pn**		**10 37 42.6**	**-0.4**
MRHZ	**Matea Rd**	**5.54**	**32**	P		**Pn**		**10 37 42.0**	**-1.9**
WHHZ	**Waihua**	**5.69**	**39**	P		**Pn**		**10 37 45.3**	**-0.6**
MTHZ	**Maungataniwha**	**5.70**	**35**	P		**Pn**		**10 37 46.3**	**+0.3**
TLZ	**Tolley Road**	**5.70**	**24**	P		**Pn**		**10 37 46.4**	**+0.3**
WPRZ	**Whakapapatarin**	**5.73**	**29**	P		**Pn**		**10 37 46.0**	**-0.4**
RAHZ	**Arahi**	**5.75**	**37**	P		**Pn**		**10 37 45.8**	**-1.0**
ALRZ	**Allen Road**	**5.75**	**30**	P		**Pn**		**10 37 46.2**	**-0.6**
PRRZ	**Plateau Road**	**5.83**	**30**	P		**Pn**		**10 37 47.3**	**-0.5**
HRRZ	**Handcock Road**	**5.89**	**29**	P		**Pn**		**10 37 49.2**	**+0.5**
KNZ	**Kokohu**	**5.94**	**41**	P		**Pn**		**10 37 47.6**	**-1.6**
MHGZ	**Mahia Peninsul**	**5.95**	**43**	P		**Pn**		**10 37 48.6**	**-0.8**
RTZ	**Ruatahuna**	**5.96**	**35**	P		**Pn**		**10 37 48.6**	**-1.0**
SNGZ	**Shannon Statio**	**5.97**	**38**	P		**Pn**		**10 37 49.5**	**-0.3**
MUGZ	**Murupara**	**5.99**	**33**	P		**Pn**		**10 37 48.5**	**-1.5**
TARZ	**Mount Tarawera**	**6.10**	**30**	P		**Pn**		**10 37 51.9**	**+0.2**
PRGZ	**Paritu Road**	**6.11**	**42**	P		**Pn**		**10 37 49.9**	**-1.8**
RIGZ	**Rimuhau**	**6.23**	**40**	P		**Pn**		**10 37 51.8**	**-1.5**
RAGZ	**Rawiri**	**6.24**	**37**	P		**Pn**		**10 37 52.7**	**-0.9**
TOZ	**Tahuroa Road**	**6.26**	**21**	P		**Pn**		**10 37 53.9**	**+0.3**
URZ	**Urewera**	**6.31**	**34**	Pn		**Pn**		**10 37 53.0**	**-1.4**
URZ	4.6nm,0.3s,baz=238,slow=5.6,SNR=16				Sn	**Sn**		**10 39 03.3**	**-2.8**
URZ	**Urewera**	**6.31**	**34**	P		**Pn**		**10 37 52.6**	**-1.9**
MARZ	**Manawahe**	**6.39**	**30**	P		**Pn**		**10 37 54.3**	**-1.2**
MWZ	**Matawai**	**6.43**	**37**	P		**Pn**		**10 37 54.0**	**-2.0**
TGRZ	**Tauranga**	**6.47**	**26**	P		**Pn**		**10 37 57.0**	**+0.3**
TKGZ	**Te Karaka**	**6.48**	**39**	P		**Pn**		**10 37 55.4**	**-1.3**
CNGZ	**Carnagh Statio**	**6.62**	**41**	P		**Pn**		**10 37 57.1**	**-1.5**
AWAZ	**Awhitu Peninsu**	**6.70**	**14**	P		**Pn**		**10 38 00.3**	**+0.5**
KBAZ	**Karaka Road Bo**	**6.72**	**16**	P		**Pn**		**10 38 01.5**	**+1.5**
MKAZ	**Moumakai**	**6.76**	**17**	P		**Pn**		**10 37 59.8**	**-0.9**
RUGZ	**Raukumara Rang**	**6.80**	**36**	P		**Pn**		**10 37 59.2**	**-2.0**
WTAZ	**Waiatarua**	**6.82**	**13**	P		**Pn**		**10 38 02.9**	**+1.5**
ETAZ	**East Tamaki Re**	**6.86**	**15**	P		**Pn**		**10 38 02.6**	**+0.6**
PUZ	**Puketiti**	**6.97**	**40**	P		**Pn**		**10 38 01.3**	**-2.2**
HAZ	**Te Kaha**	**7.02**	**36**	P		**Pn**		**10 38 01.9**	**-2.2**
MBAZ	**Motutapu North**	**7.04**	**15**	P		**Pn**		**10 38 05.5**	**+1.2**
WIAZ	**Waiheke Island**	**7.06**	**16**	P		**Pn**		**10 38 05.3**	**+0.6**
ABAZ	**Army Bay**	**7.19**	**14**	P		**Pn**		**10 38 07.1**	**+0.6**
KUZ	**Kuaotunu**	**7.24**	**20**	P		**Pn**		**10 38 06.8**	**-0.3**
WMGZ	**Waiomatatini S**	**7.25**	**39**	P		**Pn**		**10 38 05.1**	**-2.1**
MXZ	**Matakaoa Point**	**7.41**	**37**	P		**Pn**		**10 38 07.3**	**-2.2**
CTZ	**Chatham Island**	**7.79**	**95**	P		**Pn**		**10 38 14.2**	**-0.4**
OUZ	**Omahuta**	**8.40**	**5**	Pn		**Pn**		**10 38 24.0**	**+1.0**
DZM	**Mont Dzumac**	**22.08**	**345**	LR		LR		10 49 00.9	
	comp=Z,86nm,20.1s,baz=196,slow=34								
STKA	**Stephens Creek**	**27.04**	**285**	LR		LR		10 51 45.8	
	comp=Z,32nm,18.7s,baz=19,slow=34								
ASAR	**Alice Springs**	**37.45**	**289**	P		**P**		**10 43 36.1**	**+1.4**
	1.6nm,0.8s,baz=130,slow=8.5,SNR=13								
WB2	**Warramunga Arr**	**39.70**	**294**	P		**P**		**10 43 54.3**	**+0.8**
WB2					IAmb	IAmb		10 43 58.9	
	comp=Z,11nm,1.2s								
WRAB	**Tennant Creek**	**39.71**	**294**	P		**P**		**10 43 54.6**	**+1.0**
WRA	**Warramunga Arr**	**39.71**	**294**	P		**P**		**10 43 54.5**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=135,slow=7.7,SNR=16								
WRA	**Warramunga Arr**	**39.71**	**294**		IAmb	IAmb		10 43 58.9	
	comp=Z,0.2nm,1.1s								
WB0	**Warramunga Arr**	**39.80**	**294**	P		**P**		**10 43 55.4**	**+1.0**
WB0					IAmb	IAmb		10 44 02.8	
	comp=Z,30nm,1.8s								
FITZ	**Fitzroy Crossi**	**46.89**	**288**	LR		LR		11 03 29.6	
	comp=Z,34nm,20.6s,baz=107,slow=35								
MTN	**Manton Dam**	**46.97**	**298**	P		**P**		**10 44 52.6**	**+0.3**
MAW	**Mawson**	**57.28**	**205**	LR		LR		11 09 38.1	
	comp=Z,24nm,18.5s,baz=176,slow=35								
KAPI	**Kappang**	**60.24**	**294**	LR		LR		11 12 00.8	
	comp=Z,32nm,19.1s,baz=295,slow=36								
TORD	**Torodi Ar. Bea**	**148.67**	**197**	PKPbc		**PKiKP**		**10 56 10.2**	**0.0**
	comp=Z,2μm,1.0s,baz=183,slow=2.7,SNR=1.0								
ARCES	**ARCESS Array B**	**149.08**	**338**	PKPbc		**PKiKP**		**10 56 09.0**	**-0.4**
	comp=Z,5.7nm,1.0s,baz=60,slow=3.6,SNR=7.4								
BRTR	**Keskin Array B**	**149.35**	**277**	PKPbc		**PKiKP**		**10 56 11.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=152,slow=6.4,SNR=4.6								
BRTR	**Keskin Array B**	**149.35**	**277**			**PKiKP**		**10 56 11.1**	**0.0**
FINES	**FINESS Array B**	**153.38**	**324**	PKPab		**PKPab**		**10 56 32.6**	**+2.1**
	comp=Z,3.5nm,0.9s,baz=46,slow=4.0,SNR=3.4								

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*GCG **18** 10:41:13.0±3.0, 15°.95N×91°.65W, h85km, MD3.6*
*ISCJB **18** 10:41:16.1±1.4, 14°.22N±0°.1×92°.43W±0°.09, h85km±16km, Error ellipse: s-maj=21.4km s-min=7.9km az=36.7*
*MEX **18** 10:41:17.1±0.8, 14°.22N×92°.32W, h89km±16km, MD3.5*
ISC 18 10:41:17.5±2.2, 14°.3N±0°.1×92°.38W±0°.10, h79km±19km, n8, σ0§65/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.65**	**10**	*e*P		**Pn**		**10 41 31.5**	**-1.0**
THIG				*e*S		**Sn**		**10 41 44.5**	**+0.8**
STG3	**Santiaguito 3,**	**0.90**	**61**	*e*P		**Pn**		**10 41 35.7**	**+0.2**
FUG	**Fuego 3**	**1.50**	**83**	*e*P		**Pn**		**10 41 42.8**	**-0.2**
FUG				*e*S		**Sn**		**10 42 03.2**	**+1.0**
PCIG		**1.64**	**331**	*e*P		**Pn**		**10 41 44.2**	**-0.4**
PCIG				*e*S		**Sn**		**10 42 05.4**	**+0.2**
IXG	**Ixpaco**	**1.88**	**93**	*e*P		**Pn**		**10 41 47.0**	**-0.9**
CCIG	**Comitan**	**2.02**	**7**	*e*P		**Pn**		**10 41 49.4**	**-0.4**
CCIG				*i* S		**Sn**		**10 42 14.2**	**-0.1**
TGIG		**2.60**	**344**	*e*P		**Pn**		**10 41 57.4**	**-0.1**
TGIG				*i* S		**Sn**		**10 42 28.1**	**0.0**
CMIG	**Matias Romero**	**3.70**	**320**	*e*P		**Pn**		**10 42 12.8**	**+0.5**
CMIG				*i* S		**Sn**		**10 42 54.8**	**-0.1**

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*TIR **18** 10:45:13.2, 41°.96N×20°.28E, h12km, Md2.7/5*
ISC 18 10:45:13.9±1.0, 41°.97N±0°.04×20°.26E±0°.04, h13km±10km, n10, σ1§91/15, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.28**	**285**	*i* PG		**Pg**		**10 45 18.8**	**-1.1**
PUK				*i* SG		**Sg**		**10 45 23.9**	**+0.1**
PHP	**Peshkopia**	**0.32**	**155**	*i* PG		**Pg**		**10 45 19.8**	**-0.6**
PHP				*i* SG		**Sg**		**10 45 24.4**	**-0.4**
BCI	**Bajram Curri**	**0.42**	**340**	*i* PG		**Pg**		**10 45 21.9**	**-0.3**
BCI				*i* SG		**Sb**		**10 45 30.1**	**+0.7**
TIR	**Tirane**	**0.69**	**206**	*i* PG		**Pg**		**10 45 27.1**	**-0.2**
TIR				*i* SG		**Sb**		**10 45 38.5**	**+1.5**
SKO	**Skopje**	**0.88**	**89**	*i* Pn		**Sb**		**10 45 43.8**	**+1.2**
FNA	**Florina**	**1.45**	**144**	*i* PN		**Pb**		**10 45 41.0**	**+0.3**
FNA				*i* SN		**Sg**		**10 46 00.3**	**-0.4**
STIP	**Stip**	**1.47**	**100**	*i* Pn		**Pg**		**10 45 44.0**	**+2.0**
DBRK	**Dubrovnik**	**1.72**	**295**	Sn		**Sg**		**10 46 09.4**	**+0.3**
STON	**Ston**	**2.10**	**296**	Sn		**Sg**		**10 46 24.6**	**+3.3**
TLB	**Topalu**	**6.25**	**63**	∥S		**Sn**		**10 47 52.6**	**-4.3**

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*ISCJB **18** 10:51:58.2±3.1, 20°.5S±0°.7×178°.5W±0°.6, h650km, mb3.4/5, Error ellipse: s-maj=112.6km s-min=26.5km az=145.4*
*IDC **18** 10:52:04.5±9.6, 19°.87S×179°.13W, h678km±96km, mb2.8/5, mb1 3.0/6, mb1mx2.8/30, mbtmp4.0/6,

LZH	**Lanzhou**	**40.58 305**	⇓P	**P**	**11 23 50.3**	**+1.3**
LZH			pP	pP	11 25 01.6	-4.5
LZH			PP	**PP**	**11 25 27.1**	**-6.0**
LZH			sP	sP	11 26 00.1	+7.7
LZH			pmax	pmax		
	comp=Z,20nm,1.0s					
LZH			pmax	pmax		
	comp=Z,120nm,5.4s					
FITZ	**Fitzroy Crossi**	**40.94 209**	P	**P**	**11 23 51.8**	**0.0**
CHAI	**Chaiyaphum**	**41.38 274**	P	**P**	**11 23 55.8**	**+0.3**
	comp=Z,52μm,0.6s,comp=Z,742μm					
MA2	**Magadan**	**41.49 4**	P	**P**	**11 23 56.2**	**+0.5**
MA2			IAmb	IAmb	11 23 57.6	
	comp=Z,14nm,0.6s					
PBKT	**Sadao Pong**	**42.23 275**	P	**P**	**11 24 03.6**	**+1.3**
	comp=Z,6.8nm,1.2s,comp=Z,530nm					
PBKT	**Sadao Pong**	**42.23 275**	P	**P**	**11 24 02.9**	**+0.6**
PBKT			IAmb	IAmb	11 24 04.3	
	comp=Z,9.9nm,0.8s					
ULN	**Ulaanbaatar**	**42.89 322**	P	**P**	**11 24 07.3**	**+0.1**
ULN			IAmb	IAmb	11 24 08.5	
	comp=Z,9.1nm,0.8s					
PAYA	**Payao**	**42.91 279**	P	**P**	**11 24 08.5**	**+0.9**
	comp=Z,41μm,0.7s					
AS31	**Alice Springs**	**43.09 195**	P	**P**	**11 24 08.9**	**-0.1**
ASAR	**Alice Springs**	**43.09 195**	P	**P**	**11 24 08.9**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=13,slow=6.6,SNR=60					
ASAR			PcP	**PcP**	**11 25 50.1**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=14,slow=4.2,SNR=4.7					
ASAR	**Alice Springs**	**43.09 195**	P	**P**	**11 24 08.6**	**-0.3**
SONM	**Songino Array**	**43.26 322**	P	**P**	**11 24 10.4**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=138,slow=7.2,SNR=42					
SONM			PcP	**PcP**	**11 25 49.9**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=138,slow=4.1,SNR=3.8					
SONM	**Songino Array**	**43.26 322**	P	**P**	**11 24 10.2**	**+0.1**
MYKOM	**Kota Tinggi**	**43.78 253**	P	**P**	**11 24 14.8**	**+0.3**
MYKOM			IAmb	IAmb	11 24 16.4	
	comp=Z,14nm,0.9s					
CMMT	**Chiang Mai**	**43.83 278**	P	**P**	**11 24 15.3**	**+0.4**
	comp=Z,7.1nm,1.0s					
CHTO	**Chiang Mai**	**43.84 278**	P	**P**	**11 24 15.0**	**0.0**
CHTO			IAmb	IAmb	11 24 16.1	
	comp=Z,7.5nm,0.7s					
UTHA	**Uthaitani**	**43.85 274**	P	**P**	**11 24 16.4**	**+1.4**
	comp=Z,29μm,0.8s,comp=Z,270μm					
CMAR	**Chiang Mai Arr**	**43.88 278**	P	**P**	**11 24 16.2**	**+0.9**
	comp=Z,19nm,0.8s,baz=71,slow=6.8,SNR=84					
CMAR	**Chiang Mai Arr**	**43.88 278**	P	**P**	**11 24 15.8**	**+0.5**
UMPA	**Umpang Tak**	**44.29 275**	P	**P**	**11 24 20.2**	**+1.7**
	comp=Z,44μm,0.9s					
GTA	**Gaotai**	**44.52 308**	⇓P	**P**	**11 24 20.8**	**+0.7**
GTA			pP	pP	11 25 39.6	+0.5
GTA			PcP	**PcP**	**11 25 55.3**	**+0.2**
GTA			sP	sP	11 26 25.3	+0.1
GTA			ScP	**ScP**	**11 29 06.6**	**-1.0**
GTA			S	**S**	**11 30 29.6**	**+5.2**
GTA			pmax	pmax		
	comp=Z,12nm,1.1s					
GTA			pmax	pmax		
	comp=Z,71nm,6.8s					
YAK	**Yakutsk**	**45.11 350**	P	**P**	**11 24 23.6**	**-0.5**
IPM	**Ipoh**	**45.34 258**	P	**P**	**11 24 26.9**	**+0.1**
IPM			IAmb	IAmb	11 24 28.8	
	comp=Z,9.5nm,0.7s					
KULM	**Kulim**	**45.41 259**	P	**P**	**11 24 27.4**	**+0.2**
KULM			IAmb	IAmb	11 24 29.2	
	comp=Z,14nm,0.7s					
TLY	**Talaya**	**46.72 325**	P	**P**	**11 24 36.7**	**0.0**
GSI	**Gunungsitoli**	**49.72 256**	P	**P**	**11 24 59.6**	**-0.3**
GSI			IAmb	IAmb	11 25 00.7	
	comp=Z,25nm,0.6s					
STKA	**Stephens Creek**	**49.94 184**	P	**P**	**11 25 01.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=51,slow=6.5,SNR=3.2					
STKA	**Stephens Creek**	**49.94 184**	P	**P**	**11 25 01.3**	**+0.1**
LSA	**Lhasa**	**50.37 294**	P	**P**	**11 25 05.0**	**-0.1**
LSA			IAmb	IAmb	11 25 07.5	
	comp=Z,22nm,0.6s					
BBOO	**Buckleboo**	**51.51 190**	P	**P**	**11 25 12.9**	**+0.2**
BBOO			IAmb	IAmb	11 25 31.4	
	comp=Z,19nm,1.5s					
BILL	**Bilibino**	**51.55 10**	P	**P**	**11 25 13.3**	**+0.8**
BILL			IAmb	IAmb	11 25 13.8	
	comp=Z,10.0nm,0.6s					
TAPN	**Taplejung**	**53.45 291**	⇓*i*P	**P**	**11 25 27.8**	**+0.4**
	comp=Z,19nm,0.4s					
ODAN	**Odare**	**53.77 290**	⇓*i*P	**P**	**11 25 29.8**	**+0.3**
	comp=Z,32nm,0.5s					
TIXI	**Tiksi**	**54.29 354**	P	**P**	**11 25 31.5**	**-0.7**
WMQ	**Urumqi**	**54.31 311**	*e*P	**P**	**11 25 34.8**	**+1.8**
WMQ			pmax	pmax		
	comp=Z,18nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,74nm,5.3s					
RAMN	**Ramite**	**54.46 290**	⇓*i*P	**P**	**11 25 34.5**	**0.0**
	comp=Z,14nm,0.4s					
JIRN	**Jiri**	**54.78 291**	⇓*i*P	**P**	**11 25 37.4**	**+0.5**
	comp=Z,71nm,0.6s					
GUN	**Gumba**	**55.04 292**	⇓*i*P	**P**	**11 25 39.1**	**+0.4**
	comp=Z,23nm,0.6s					
PKI	**Pulchoki**	**55.48 291**	⇓*i*P	**P**	**11 25 41.6**	**-0.2**
	comp=Z,19nm,0.5s					
PKIN	**Phulchoki**	**55.49 291**	⇓*i*P	**P**	**11 25 41.5**	**-0.3**
	comp=Z,17nm,0.4s					
KKN	**Kakani**	**55.58 292**	⇓*i*P	**P**	**11 25 42.3**	**0.0**
	comp=Z,19nm,0.7s					
DMN	**Daman**	**55.74 291**	⇓*i*P	**P**	**11 25 43.7**	**+0.1**
	comp=Z,20nm,0.6s					
GKN	**Gorkha**	**56.13 292**	⇓*i*P	**P**	**11 25 46.3**	**+0.2**
	comp=Z,38nm,0.5s					
DANN	**Dangsing**	**56.88 292**	⇓*i*P	**P**	**11 25 51.8**	**+0.3**
	comp=Z,139nm,0.7s					
KOLN	**Koldanda**	**57.06 292**	⇓*i*P	**P**	**11 25 52.6**	**-0.1**
	comp=Z,52nm,0.9s					
ZAA0	**Zalesovo Array**	**58.14 323**	P	**P**	**11 25 59.0**	**-0.3**
ZALV	**Zalesovo Beam**	**58.14 323**	P	**P**	**11 25 59.0**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=102,slow=6.7,SNR=12					
ZALV	**Zalesovo Beam**	**58.14 323**	P	**P**	**11 25 58.9**	**-0.4**
ZALV			PcP	**PcP**	**11 26 44.2**	**-1.6**
MK31	**Makanchi Array**	**58.50 314**	P	**P**	**11 26 01.9**	**-0.1**
MK31			IAmb	IAmb	11 26 03.2	
	comp=Z,12nm,1.2s					
MKAR	**Makanchi Array**	**58.50 314**	P	**P**	**11 26 02.2**	**+0.2**
	comp=Z,6.1nm,0.5s,baz=90,slow=8.0,SNR=25					
MKAR	**Makanchi Array**	**58.50 314**	P	**P**	**11 26 01.9**	**0.0**
MKAR			PcP	**PcP**	**11 26 46.5**	**-0.9**
MAKZ	**Makanchi**	**58.71 314**	P	**P**	**11 26 03.4**	**0.0**
MAKZ			IAmb	IAmb	11 26 04.6	
	comp=Z,19nm,1.1s					
KDAK	**Kodiak Island**	**59.97 33**	P	**P**	**11 26 11.6**	**+0.1**
	comp=Z,10nm,1.0s,baz=270,slow=2.0,SNR=10.0					
KDAK	**Kodiak Island**	**59.97 33**	P	**P**	**11 26 11.7**	**+0.1**
PRZ	**Przheval'sk**	**60.97 309**	P	**P**	**11 26 19.3**	**+0.5**
KURK	**Kurchatov**	**61.35 318**	P	**P**	**11 26 20.8**	**-0.2**
KURK			IAmb	IAmb	11 26 21.5	
	comp=Z,18nm,0.9s					
TARG	**Taragay, Kyrgy**	**61.40 308**	P	**P**	**11 26 21.9**	**-0.1**
TARG			IAmb	IAmb	11 26 23.8	
	comp=Z,13nm,1.2s					
PPLA	**Purkeypile**	**61.50 28**	P	**P**	**11 26 22.3**	**+0.4**
PPLA			IAmb	IAmb	11 26 40.1	
	comp=Z,14nm,1.4s					
IMAR	**Indian Mountai**	**61.81 24**	P	**P**	**11 26 23.8**	**+0.1**
KDJ	**Kajisay**	**61.87 308**	P	**P**	**11 26 24.8**	**0.0**
KDJ			IAmb	IAmb	11 26 26.3	
	comp=Z,26nm,1.2s					
NRIK	**Noril'sk**	**61.91 340**	P	**P**	**11 26 24.1**	**-0.3**
	comp=Z,18nm,0.6s,baz=111,slow=7.4,SNR=13					
BPAW	**Bear Paw Mtn.**	**62.35 26**	P	**P**	**11 26 27.7**	**+0.4**
ULHL	**Ulahol**	**62.56 309**	P	**P**	**11 26 29.8**	**+0.4**
	SNR=8.3					
MLY	**Manley**	**62.71 25**	P	**P**	**11 26 30.0**	**+0.2**
MLY			IAmb	IAmb	11 26 31.8	
	comp=Z,5.0nm,0.8s					
NRN	**Naryn**	**62.75 308**	P	**P**	**11 26 30.3**	**-0.5**
NRN			IAmb	IAmb	11 26 32.0	
	comp=Z,8.1nm,1.0s					
BOOM	**Boomskoye usch**	**62.78 309**	P	**P**	**11 26 30.9**	**+0.1**
KSH	**Kashi**	**62.81 306**	P	**P**	**11 26 32.9**	**+1.9**
KSH			PP	**PP**	**11 28 58.8**	**+3.7**
KSH			S	**S**	**11 34 25.3**	**-2.1**
KSH	**Kashi**	**62.81 306**	sS	sS	11 37 00.6	+0.3
KSH	**Kashi**	**62.81 306**	SS	SS	11 38 42.1	+1.1
KSH			pmax	pmax		
	comp=Z,39nm,0.9s					
KSH			LR	LR		
	comp=N,200nm,11.9s					
KSH			LR	LR		
	comp=E,300nm,12.4s					
KSH			LR	LR		
	comp=Z,260nm,8.6s					
TKM2	**Tokmak 2**	**63.04 309**	P	**P**	**11 26 32.8**	**+0.4**
	SNR=15					
KZA	**Kyzart**	**63.30 308**	P	**P**	**11 26 35.5**	**+1.0**
	SNR=11					
USP	**Ospenovka**	**63.84 310**	P	**P**	**11 26 37.6**	**+0.2**
	SNR=9.0					
UCH	**Uchtor**	**63.85 309**	P	**P**	**11 26 38.9**	**+0.8**
	SNR=20					
AAK	**Ala-Archa**	**63.85 309**	P	**P**	**11 26 37.6**	**-0.1**
AAK			IAmb	IAmb	11 26 38.2	
	comp=Z,5.7nm,0.5s					
IL31		**64.24 26**	P	**P**	**11 26 38.8**	**-0.7**
ILAR	**Eielson Array**	**64.24 26**	P	**P**	**11 26 38.4**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=250,slow=5.7,SNR=40					
ILAR	**Eielson Array**	**64.24 26**	P	**P**	**11 26 38.8**	**-0.8**
RIDG	**Independent Ri**	**64.92 27**	IAmb	IAmb	11 26 45.6	
	comp=Z,5.0nm,0.7s					
DOT	**Dot Lake**	**65.25 28**	IAmb	IAmb	11 26 47.5	
	comp=Z,6.7nm,0.7s					
NIL	**Nilore**	**65.41 299**	P	**P**	**11 26 47.7**	**+0.1**
BMAR	**Burnt Mountain**	**65.71 23**	P	**P**	**11 26 49.8**	**+1.0**
BCAR	**Beaver Creek A**	**66.19 28**	P	**P**	**11 26 52.2**	**+0.2**
BRVK	**Borovoye**	**66.64 321**	P	**P**	**11 26 54.8**	**-0.2**
BRVK			IAmb	IAmb	11 26 55.6	
	comp=Z,8.9nm,0.8s					
EGAK	**Eagle**	**66.66 27**	P	**P**	**11 26 55.5**	**+0.7**
KK31	**Karatay Array**	**66.76 310**	P	**P**	**11 26 55.8**	**-0.1**
GAR	**Garm**	**67.23 305**	P	**P**	**11 26 59.0**	**0.0**
EPYK	**Eagle Plains**	**68.64 25**	IAmb	IAmb	11 27 08.6	
	comp=Z,8.5nm,0.5s					
KBL	**Kabul**	**68.76 301**	P	**P**	**11 27 08.4**	**-0.2**
INK	**Inuvik**	**69.96 23**	P	**P**	**11 27 15.3**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=297,slow=4.9,SNR=22					
INK	**Inuvik**	**69.96 23**	IAmb	IAmb	11 27 15.9	
	comp=Z,4.6nm,0.8s					
KAAM	**Kaadhehdhoo**	**73.03 265**	P	**P**	**11 27 33.5**	**-0.5**
ARU	**Arti**	**73.22 325**	P	**P**	**11 27 34.1**	**-0.2**
ARU			IAmb	IAmb	11 27 34.2	
	comp=Z,9.1nm,0.6s					
ABKAR	**Akbulak array**	**73.41 317**	P	**P**	**11 27 34.8**	**-0.8**
ABKAR			IAmb	IAmb	11 27 35.6	
	comp=Z,9.0nm,0.7s					
HRA	**Herat**	**74.33 302**	P	**P**	**11 27 40.7**	**-0.8**
HRA			IAmb	IAmb	11 27 41.8	
	comp=Z,6.6nm,0.7s					
GEYT	**Alibeck**	**76.84 306**	P	**P**	**11 27 55.5**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=104,slow=6.3,SNR=7.2					
GEYT	**Alibeck**	**76.84 306**	P	**P**	**11 27 54.8**	**-0.5**
NLWA	**Neilton Lookou**	**77.38 44**	P	**P**	**11 27 58.9**	**+0.9**
NLWA			IAmb	IAmb	11 28 06.2	
	comp=Z,11nm,1.2s					
YKA	**Yellowknife Ar**	**78.59 28**	P	**P**	**11 28 03.9**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=287,slow=5.0,SNR=14					
YKA	**Yellowknife Ar**	**78.59 28**	P	**P**	**11 28 04.2**	**-0.1**
RES	**Resolute Bay**	**79.97 14**	P	**P**	**11 28 11.9**	**+0.5**
RES			IAmb	IAmb	11 28 15.4	
	comp=Z,7.2nm,1.2s					
B08A	**Colville Reser**	**80.09 42**	P	**P**	**11 28 12.8**	**+0.2**
KLMR	**Klimovskoe**	**81.68 332**	*e*P	**P**	**11 28 18.7**	**-1.8**
KLMR			AMP		11 28 22.2	
	comp=Z,32nm,1.6s					
BEKR	**Beckworth**	**81.79 51**	P	**P**	**11 28 22.4**	**+0.6**
CMB	**Columbia Colle**	**82.30 53**	P	**P**	**11 28 24.9**	**+0.6**
PNTR	**Pine Nut**	**82.58 51**	IAmb	IAmb	11 28 29.7	
	comp=Z,4.3nm,0.7s					
ARCES	**ARCESS Array B**	**82.81 342**	P	**P**	**11 28 25.9**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=81,slow=7.5,SNR=7.4					
NVAR	**Mina Array Bea**	**83.75 52**	P	**P**	**11 28 32.2**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=267,slow=5.6,SNR=28					
NVAR	**Mina Array Bea**	**83.75 52**	P	**P**	**11 28 32.8**	**+0.9**
NV11	**Mina Array Sit**	**83.85 52**	P	**P**	**11 28 32.8**	**+0.6**
DAG	**Danmarks Havn**	**84.71 356**	*i* P	**P**	**11 28 34.6**	**-0.9**
	comp=Z,10.0nm,0.8s					
ELK	**Elko**	**85.23 49**	P	**P**	**11 28 39.5**	**+0.4**
TPNV	**Topopah Spring**	**85.76 53**	IAmb	IAmb	11 28 43.3	
	comp=Z,2.6nm,0.6s					
KBZ	**Khabaz**	**86.19 315**	P	**P**	**11 28 42.6**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=103,slow=3.1,SNR=7.9					
FIA1	**FINESS Array S**	**87.14 335**	P	**P**	**11 28 45.9**	**-1.6**
FIA1			IAmb	IAmb	11 29 03.9	
	comp=Z,12nm,1.3s					
FINES	**FINESS Array B**	**87.14 335**	P	**P**	**11 28 45.3**	**-2.2**
	comp=Z,2.1nm,0.5s,baz=64,slow=4.5,SNR=16					
FINES	**FINESS Array B**	**87.14 335**	P	**P**	**11 28 45.6**	**-1.9**
PDAR	**Pinedale Array**	**88.44 45**	P	**P**	**11 28 53.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=232,slow=1.7,SNR=4.3					
PDAR	**Pinedale Array**	**88.44 45**	P	**P**	**11 28 54.1**	**-0.3**
SMCO	**Snowmass**	**91.70 48**	IAmb	IAmb	11 29 11.4	
	comp=Z,3.2nm,0.9s					
BRTR	**Keskin Array B**	**94.15 314**	P	**P**	**11 29 18.8**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=137,slow=2.7,SNR=6.3					
TORD	**Torodi Ar. Bea**	**132.44 308**	PKP	**PKPdf**	**11 35 13.6**	**-0.6**
	comp=Z,2μm,1.0s,baz=148,slow=1.9,SNR=2.6					
PB11	**IPOC Station P**	**146.97 98**		**PKPbc**	**11 35 43.5**	**+0.4**
MNMC	**Minye Minye**	**146.99 97**		**PKPbc**	**11 35 44.1**	**+0.7**
LPAZ	**La Paz**	**148.06 92**	PKPbc	**PKPbc**	**11 35 46.7**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=272,slow=8.2,SNR=3.9					
LPAZ	**La Paz**	**148.06 92**		**PKPbc**	**11 35 47.1**	**+0.4**

IDC 18 11:43:43.0±2.3, 60°.93S×42°.11W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/19, mbtmp4.0/1, Error ellipse: s-maj=140.9km s-min=69.0km az=170.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**81.59**	**43**	P	P	11 56 02.4	0.0
	1.1nm,0.8s,baz=209,slow=6.1,SNR=5.0						
INK	**Inuvik**	**144.54**	**320**	PKP	PKPab	12 03 17.4	-0.6
	2.4nm,0.7s,baz=79,slow=3.6,SNR=8.1						
MKAR	**Makanchi Array**	**145.45**	**88**	PKPbc	PKPdf	12 03 21.2	-0.6
	0.4nm,0.8s,baz=223,slow=2.5,SNR=3.7						
ILAR	**Eielson Array**	**147.33**	**310**	PKPbc	PKPbc	12 03 26.5	-0.3
	1.2nm,0.7s,baz=136,slow=2.1,SNR=16						

*ISCJB **18** 11:51:12.0±0.6, 21°.71N±0°.07×143°.6E±0°.2, h200km, mb3.5/14, Error ellipse: s-maj=21.4km s-min=9.0km az=173.9*

*IDC **18** 11:51:13.8±2.6, 21°.69N×143°.67E, h204km±24km, mb3.4/15, mb1 3.5/17, mb1mx3.4/48, mbtmp3.9/17, MS3.6/1, Ms1 3.6/1, ms1mx2.5/19, Error ellipse: s-maj=20.9km s-min=10.5km az=94.0*

ISC 18 11:51:13.6±0.8, 21°.73N±0°.09×143°.6E±0°.2, h200km, n19, σ0°.82/20, mb3.6/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.50**	**347**	P	**Pn**	**11 52 34.8**	**+0.5**
	10nm,0.3s,baz=87,slow=19,SNR=4.8						
JCJ				S	**Sn**	**11 53 35.9**	**-2.3**
	11nm,0.3s,baz=286,slow=22,SNR=5.9						
JHJ	**Hachijo jima 2**	**11.84**	**344**	LR	LR	11 57 57.5	
	comp=Z,296nm,21.0s,baz=114,slow=34						
MJAR	**Matsushiro Arr**	**15.49**	**343**	P	**Pn**	**11 54 42.0**	**+0.3**
	0.1nm,0.3s,baz=170,slow=11,SNR=4.6						
KSRS	**Korea Array**	**20.73**	**323**	P	**P**	**11 55 39.6**	**+1.0**
	1.5nm,0.7s,baz=154,slow=8.4,SNR=5.7						
USRK	**Ussuriysk Ar.**	**24.39**	**339**	P	**P**	**11 56 13.9**	**+0.5**
	0.9nm,0.6s,baz=151,slow=6.6,SNR=3.5						
KLR	**Kul'dur**	**29.02**	**344**	P	**P**	**11 56 55.2**	**+0.5**
	3.0nm,0.5s,baz=163,slow=8.8,SNR=13						
SONM	**Songino Array**	**39.57**	**320**	P	**P**	**11 58 25.7**	**+0.3**
	0.4nm,0.4s,baz=121,slow=5.6,SNR=3.3						
SEY	**Seymchan**	**41.61**	**6**	P	**P**	**11 58 42.5**	**+0.8**
	0.9nm,0.5s,baz=125,slow=3.1,SNR=5.6						
WRA	**Warramunga Arr**	**42.40**	**193**	P	**P**	**11 58 48.2**	**-0.4**
	0.4nm,0.4s,baz=14,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**43.32**	**205**	P	**P**	**11 58 55.9**	**-0.1**
	1.1nm,0.7s,baz=37,slow=7.2,SNR=4.4						
ASAR	**Alice Springs**	**46.11**	**192**	P	**P**	**11 59 17.0**	**-1.0**
	0.2nm,0.3s,baz=10,slow=6.4,SNR=9.8						
ZALV	**Zalesovo Beam**	**54.43**	**322**	P	**P**	**12 00 19.9**	**-0.1**
	0.6nm,0.4s,baz=81,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**54.97**	**313**	P	**P**	**12 00 24.6**	**+0.5**
	0.7nm,0.5s,baz=87,slow=8.5,SNR=8.8						
MKAR				PcP	**PcP**	**12 01 23.0**	**-0.3**
	0.3nm,0.4s,baz=96,slow=1.1,SNR=6.6						
ILAR	**Eielson Array**	**61.82**	**27**	P	**P**	**12 01 10.2**	**-1.0**
	0.9nm,0.8s,baz=256,slow=5.7,SNR=9.7						
INK	**Inuvik**	**67.37**	**24**	P	**P**	**12 01 47.0**	**+0.1**
	1.6nm,0.9s,baz=297,slow=2.3,SNR=3.9						
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**12 02 39.7**	**0.0**
	baz=292,slow=5.8,SNR=7.5						
ARCES	**ARCESS Array B**	**79.02**	**342**	P	**P**	**12 02 54.9**	**-0.2**
	1.3nm,0.6s,baz=60,slow=7.4,SNR=5.8						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	**P**	**12 03 16.5**	**+0.5**
	0.8nm,0.8s,baz=268,slow=5.6,SNR=6.6						
FINES	**FINESS Array B**	**83.32**	**335**	P	**P**	**12 03 16.9**	**-0.9**
	1.2nm,0.3s,baz=77,slow=4.1,SNR=9.6						

*SOME **18** 12:03:45.4, 44°.80N×80°.95E, h15km*
*NNC **18** 12:03:47.8±1.2, 44°.88N×80°.72E, h13km±8km, mb3.6, mpv3.3, Error ellipse: s-maj=9.6km s-min=4.5km az=109.0*

ISC 18 12:03:45.1±1.6, 44°.81N±0°.04×80°.88E±0°.05, h2km±12km, n44, σ1°.54/73, 9C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.92**	**239**	P	**Pb**	**12 04 03.9**	**+0.1**
	16nm,0.2s						
DJR				S	**Sb**	**12 04 16.2**	**-0.2**
	27nm,0.3s						
DJR	**Jarkent**	**0.92**	**239**	*e*P	**Pb**	**12 04 03.9**	**+0.1**
	13nm,0.1s						
DJR				*e*S	**Sb**	**12 04 16.2**	**-0.2**
	27nm,0.1s						
KAPS	**Kapalarasan**	**1.18**	**294**	P	**Pg**	**12 04 07.9**	**+0.2**
	23nm,0.2s						
KAPS				S	**Sn**	**12 04 23.4**	**-2.0**
	216nm,0.5s						
KAPS	**Kapalarasan**	**1.18**	**294**	⇓*i*P	**Pg**	**12 04 07.9**	**+0.2**
	9.7nm,0.1s						
KAPS				⇓*i*S	**Sn**	**12 04 23.4**	**-2.0**
	175nm,0.2s						
TDK	**Taldyqorghan**	**1.77**	**277**	P	**Pg**	**12 04 19.7**	**+0.7**
	116nm,0.5s						
TDK				S	**Sg**	**12 04 42.9**	**+1.0**
	277nm,0.3s						
TDK	**Taldyqorghan**	**1.77**	**277**	*e*P	**Pg**	**12 04 19.7**	**+0.7**
	103nm,0.2s						
TDK				*e*S	**Sg**	**12 04 42.9**	**+1.0**
	277nm,0.2s						
PDGK	**Podgornoye**	**1.79**	**215**	P	**Pb**	**12 04 18.7**	**0.0**
	13nm,0.2s						
PDGK				S	**Sb**	**12 04 41.5**	**-0.1**
	54nm,0.4s						
PDGK	**Podgornoye**	**1.79**	**215**	⇓P	**Pb**	**12 04 18.3**	**-0.5**
	15nm,0.5s						
PDGK				⇓S	**Sb**	**12 04 42.6**	**+0.9**
	29nm,0.4s						
MNBS	**Baschi**	**1.92**	**248**	P	**Pb**	**12 04 21.0**	**+0.1**
	12nm,0.1s						
MNBS	**Baschi**	**1.92**	**248**	*e*P	**Pb**	**12 04 21.2**	**+0.2**
	6.0nm,0.2s						
MNBS				*e*S	**Sg**	**12 04 45.7**	**-1.1**
	163nm,0.2s						
KPKS	**Kokpek**	**2.08**	**230**	*e*P	**Pb**	**12 04 23.6**	**0.0**
	24nm,0.2s						
KPKS				*e*S	**Sb**	**12 04 49.9**	**+0.1**
	217nm,0.2s						
MAKZ	**Makanchi**	**2.14**	**21**	⇓Pn	**Pn**	**12 04 23.1**	**+1.3**
	1.6nm,0.3s						
MAKZ				⇓Sn	**Sb**	**12 04 50.3**	**-1.2**
	7.2nm,0.3s						
UZB	**Uzynbulak**	**2.14**	**219**	*e*P	**Pb**	**12 04 25.0**	**+0.3**
	5.2nm,0.1s						
UZB				*e*S	**Sb**	**12 04 52.2**	**+0.5**
	73nm,0.2s						
MK31	**Makanchi Array**	**2.21**	**26**	⇑Pn	**Pn**	**12 04 23.7**	**+0.8**
	1.7nm,0.3s,baz=207,slow=12,SNR=113						
MK31				⇑Sn	**Sn**	**12 04 51.8**	**+1.0**
	4.4nm,0.2s,baz=209,slow=24,SNR=26						
ARXS	**Arharly**	**2.27**	**256**	Pg	**Pg**	**12 04 28.2**	**-0.3**
	8.1nm,0.2s						
ARXS				Lg	Lg	12 04 56.8	
	54nm,0.4s						
ARXS	**Arharly**	**2.27**	**256**	*e*P	**Pb**	**12 04 27.4**	**+0.6**
	3.2nm,0.2s						
ARXS				*e*S	**Sg**	**12 04 56.8**	**-1.1**
	59nm,0.2s						
KURS	**Kuram**	**2.36**	**237**	Pg	**Pg**	**12 04 31.0**	**+0.7**
	5.2nm,0.4s						
KURS				Lg	Lg	12 05 00.4	
	22nm,0.5s						
KURS	**Kuram**	**2.36**	**237**	*e*P	**Pb**	**12 04 28.9**	**+0.5**
	2.4nm,0.2s						
KURS				*e*S	**Sg**	**12 04 59.4**	**-1.5**
	22nm,0.5s						
ZHN	**Zhinishke**	**2.41**	**228**	*e*P	**Pb**	**12 04 30.2**	**+0.9**
	13nm,0.1s						
ZHN				*e*S	**Sg**	**12 05 01.3**	**-1.3**
	92nm,0.2s						
SATY	**Saty**	**2.50**	**226**	Pg	**Pb**	**12 04 31.1**	**+0.2**
	9.9nm,0.2s						
SATY				Lg	Lg	12 05 01.8	
	84nm,0.2s						
SATY

KST Lg Lg 12 05 48.3
12nm,0.9s
KST Kastek 3.97 245 *eP* **Pb 12 04 57.5 +1.6**
3.6nm,0.2s
KST ⇑*i*S **Sg 12 05 48.3 -4.2**
6.7nm,0.4s
DGS Degeres 4.01 249 Pg **Pg 12 05 01.4 -0.5**
3.6nm,0.3s
DGS Lg Lg 12 05 53.7
14nm,0.5s
DGS Degeres 4.01 249 *eP* **Pb 12 04 57.0 +0.6**
1.3nm,0.2s
DGS *eS* **Sb 12 05 47.2 +1.8**
14nm,0.5s
TKM2 Tokmak 2 4.26 245 ⇑Pg **Pg 12 05 10.0 +3.2**
0.9nm,0.5s
TKM2 ⇓Lg Lg 12 06 02.0
4.8nm,0.5s
KURBB Kurchatov Arra 6.02 346 ⇓Pn **Pn 12 05 16.6 +1.4**
2.3nm,1.2s
KURBB ⇑Sn **Sn 12 06 21.6 -3.1**
3.5nm,0.7s
KURBB ⇑Lg Lg 12 06 58.9
18nm,0.8s
KURK Kurchatov 6.10 346 ⇑Pn **Pn 12 05 16.6 +0.4**
1.2nm,1.2s
KURK ⇑Sn **Sn 12 06 23.3 -3.1**
2.5nm,0.5s
KURK ⇓Lg Lg 12 07 00.1
7.5nm,0.7s

SJA ***18*** *12:18:27.2±0.6,24°.62S×69°.22W,h27km±3km, ML3.2, MW3.2*
GUC ***18*** *12:18:29.3±0.7,24°.58S×69°.26W,h83km±7km, ML3.5*
ISC 18 12:18:31.1±1.3,**24°.58S**±0°.03×**69°.37W**±0°.06,**h76**km±16km, **n26,**σ1°**77**/46,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.61 199**		*eP*	**Pn**	**12 18 45.6**	**-0.3**
GO02				*i* S	**Sn**	**12 18 57.8**	**+0.9**
GO02				IAML		12 18 59.1	
comp=E,3μm,0.1s							
PB14	**IPOC Station P**	**0.94 267**		*i* P	**Pn**	**12 18 50.0**	**+0.4**
PB14				*i* S	**Sn**	**12 19 03.8**	**+0.6**
PB14				IAML		12 19 08.0	
comp=Z,309nm,0.2s							
PB15	**IPOC Station P**	**1.37 356**		*eP*	**Pn**	**12 18 53.9**	**-0.9**
PB15				*i* S	**Sn**	**12 19 13.0**	**+0.4**
PB15	**IPOC Station P**	**1.37 356**		*i* P	**Pn**	**12 18 53.9**	**-0.9**
PB15				*i* S	**Sn**	**12 19 12.9**	**+0.4**
PB15				IAML		12 19 16.0	
comp=Z,2μm,0.1s							
PB10	**IPOC Station P**	**1.52 314**		*eP*	**Pn**	**12 18 56.8**	**+0.3**
PB10				*e*S	**Sn**	**12 19 17.3**	**+1.6**
PB10	**IPOC Station P**	**1.52 314**		*i* P	**Pn**	**12 18 56.9**	**+0.4**
PB10				*i* S	**Sn**	**12 19 18.1**	**+2.4**
PB10				IAML		12 19 20.8	
comp=Z,130nm,0.3s							
PB06	**IPOC Station P**	**1.88 354**		*eP*	**Pn**	**12 19 00.5**	**-0.9**
PB06				*i* S	**Sn**	**12 19 24.4**	**-0.1**
PB06				IAML		12 19 29.9	
comp=N,235nm,0.1s							
PB06	**IPOC Station P**	**1.88 354**		*i* P	**Pn**	**12 19 00.5**	**-0.9**
PB06				*i* S	**Sn**	**12 19 24.3**	**-0.1**
PB06				IAML		12 19 28.7	
comp=Z,179nm,0.1s							
LVC	**Limon Verde**	**2.01**	**12**	*eP*	**Pn**	**12 19 02.4**	**-0.9**
LVC				*i* S	**Sn**	**12 19 27.9**	**+0.1**
LVC	**Limon Verde**	**2.01**	**12**	*i* P	**Pn**	**12 19 02.3**	**-0.9**
LVC				*i* S	**Sn**	**12 19 28.4**	**+0.6**
PB04	**IPOC Station P**	**2.35 342**		*eP*	**Pn**	**12 19 06.3**	**-1.4**
PB04	**IPOC Station P**	**2.35 342**		*i* P	**Pn**	**12 19 06.3**	**-1.4**
PB04				*i* S	**Sn**	**12 19 38.6**	**+2.9**
PB04				IAML		12 19 44.4	
comp=Z,82nm,0.1s							
PB03	**IPOC Station P**	**2.54 352**		*eP*	**Pn**	**12 19 08.8**	**-1.6**
PB03				*i* S	**Sn**	**12 19 39.4**	**-1.1**
PB03				IAML		12 19 46.9	
comp=E,200nm,0.3s							
PB03	**IPOC Station P**	**2.54 352**		*i* P	**Pn**	**12 19 09.1**	**-1.3**
PB03				*i* S	**Sn**	**12 19 39.4**	**-1.1**
PB09	**IPOC Station P**	**2.77**	**2**	*eP*	**Pn**	**12 19 12.8**	**-0.7**
PB09				*i* S	**Sn**	**12 19 46.5**	**+0.4**
PB09	**IPOC Station P**	**2.77**	**2**	*i* P	**Pn**	**12 19 13.1**	**-0.4**
PB09				*i* S	**Sn**	**12 19 52.7**	**+6.7**
PB09				IAML		12 19 55.5	
comp=Z,92nm,0.4s							
PB07	**IPOC Station P**	**2.88 350**		*eP*	**Pn**	**12 19 13.2**	**-1.8**
PB07				IAML		12 19 57.2	
comp=E,115nm,0.1s							
PB07	**IPOC Station P**	**2.88 350**		*i* P	**Pn**	**12 19 13.2**	**-1.8**
PB07				*i* S	**Sn**	**12 19 53.0**	**+4.3**
GO03	**Copiap**	**3.10 194**		*i* P	**Pn**	**12 19 16.5**	**-1.3**
GO03				*i* S	**Sn**	**12 19 54.2**	**+0.4**
PB02	**IPOC Station P**	**3.28 351**		*eP*	**Pn**	**12 19 18.2**	**-2.1**
PB02				*i* S	**Sn**	**12 19 56.8**	**-1.5**
PB02	**IPOC Station P**	**3.28 351**		*i* P	**Pn**	**12 19 18.3**	**-2.1**
PB01	**IPOC Station P**	**3.52 358**		*eP*	**Pn**	**12 19 21.6**	**-2.0**
PB01				*i* S	**Sn**	**12 20 03.0**	**-1.2**
PB01				IAML		12 20 12.5	
comp=E,124nm,0.2s							
AZAP	**Zapla**	**3.94**	**86**	*i* P	**Pn**	**12 19 29.3**	**-0.1**
YJA	**Yavi**	**4.28**	**57**	*i* P	**Pn**	**12 19 35.4**	**+1.3**
ACCO	**Cerro Coronel**	**5.99 177**		*i* P	**Pn**	**12 19 56.4**	**-1.0**
ACCO				*i* S	**Sn**	**12 21 05.2**	**+0.4**
CFA	**Coronel Fontan**	**7.07 172**		*i* P	**Pn**	**12 20 09.7**	**-2.2**

BJI ***18*** *12:20:29.9±0.0,26°.23N×144°.09E,h10km,mb4.5/43, mB5.0/30,Ms4.7/10,Ms7 4.5/7*
IDC ***18*** *12:20:32.8±0.6,26°.57N×144°.03E,h0km,mb4.2/22, mb1 4.4/25,mb1mx4.3/37,mbtmp4.2/25,ML3.6/3,MS3.3/16, Ms1 3.4/16,ms1mx3.2/37,Error ellipse: s-maj=15.6km s-min=13.8km az=70.0*
NEIC ***18*** *12:20:35.6±0.8,26°.64N±0°.07×144°.02E±0°.04,h10km±1km, mb4.7/80*
ISCJB ***18*** *12:20:35.6±0.2,26°.68N±0°.04×144°.05E±0°.03,h35km, mb4.3/29,MS3.6/14,Error ellipse: s-maj=5.1km s-min=4.4km az=2.9*
JMA ***18*** *12:20:35.8±0.1,26°.99N×144°.10E,h58km,M4.5*
ISC 18 12:20:37.7±0.4,**26°.77N**±0°.05×**144°.06E**±0°.06,**h35**km,**n170,** σ2°**17**/165,**mb4.6**/65,**MS3.5**/14,**3C,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.69 266**		P	**Pn**	**12 21 04.6**	**-0.1**
JHH2				*e*S	**Sn**	**12 21 25.4**	**+0.3**
CBIJ	**Chichi jima**	**1.70 282**		P	**Pn**	**12 21 04.0**	**-0.9**
CBIJ				*e*S	**Sn**	**12 21 25.0**	**-0.5**
JCJ	**Chichijima**	**1.70 282**		Pn	**Pn**	**12 21 03.9**	**-1.1**
73nm,0.3s,baz=113,slow=17,SNR=18							
JCJ				Sn	**Sn**	**12 21 26.3**	**+0.8**
347nm,0.3s,baz=270,slow=20,SNR=16							
JHJ2	**Mitsune**	**7.32 331**		*e*S	**Sn**	**12 23 37.6**	**-6.2**
JHJ2	**Mitsune**	**7.32 331**		Pn	**Pn**	**12 22 21.6**	**-0.5**
JHJ2				Sn	**Sn**	**12 23 37.6**	**-6.2**
JHJ	**Hachijo jima 2**	**7.34 331**		Pn	**Pn**	**12 22 24.9**	**+2.5**
5.0nm,0.3s,baz=246,slow=19,SNR=3.0							
JHJ				Sn	**Sn**	**12 23 37.8**	**-6.6**
6.8nm,0.3s,baz=252,slow=20,SNR=3.2							
BSO3	**Boso 3**	**8.57 340**		P	**Pn**	**12 22 37.2**	**-1.8**
BSO3				*e*S	**Sn**	**12 24 11.0**	**-3.3**
JOD2	**Odawara 2**	**9.48 335**		P	**Pn**	**12 22 51.3**	**-0.5**
JHU	**Hanno**	**9.93 337**		P	**Pn**	**12 22 53.6**	**-4.4**
JHU				*e*S	**Sn**	**12 24 40.6**	**-7.6**
JYT	**Yasato**	**9.99 342**		*e*S	**Sn**	**12 24 45.0**	**-4.6**
JRY	**Ryogami san**	**10.22 336**		P	**Pn**	**12 22 59.5**	**-2.4**
JRY				*e*S	**Sn**	**12 24 51.7**	**-3.5**
JHO	**Hitachi**	**10.25 344**		P	**Pn**	**12 22 59.1**	**-3.2**
JHO				*e*S	Sn	12 24 46.2	-10
JAG	**Ashikaga**	**10.40 339**		*e*S	**Sn**	**12 24 51.0**	**-8.6**
JFK	**Kawauchi**	**10.91 346**		*e*S	Sn	12 25 00.5	-12
MJAR	**Matsushiro Arr**	**10.94 334**		Pn	**Pn**	**12 23 11.0**	**-0.8**
0.2nm,0.3s,baz=157,slow=10.0,SNR=14							
MJAR				LR	LR	12 26 40.7	
comp=Z,67nm,21.3s,baz=195,slow=33							
MJAR	**Matsushiro Arr**	**10.94 334**			**Pn**	**12 23 12.0**	**+0.2**
MAJO	**Matsushiro**	**10.94 334**		Pn	**Pn**	**12 23 11.2**	**-0.7**
MAJO				Sn	**Sn**	**12 25 07.6**	**-5.4**
JMK	**Ichinoseki**	**12.38 350**		P	**Pn**	**12 23 27.9**	**-3.5**
JMK				*e*S	Sn	12 25 35.8	-12
JNU	**Nakatsue**	**13.06 302**		LR	LR	12 27 20.1	
comp=Z,113nm,20.7s,baz=166,slow=31							
GUMO	**Guam**	**13.13 177**		LR	LR	12 27 31.3	
comp=Z,186nm,20.7s,baz=350,slow=32							
ERM	**Erimo**	**15.23 357**		Pn	**Pn**	**12 24 05.6**	**-4.5**
ERM				Sn	Sn	12 26 44.1	-13
KSRS	**Korea Array**	**17.31 312**		P	**P**	**12 24 38.7**	**+1.1**
0.3nm,0.3s,baz=120,slow=11,SNR=7.4							
KSRS				LR	LR	12 30 45.6	
comp=Z,46nm,18.1s,baz=116,slow=35							
ASAJ	**Asahikawa**	**17.35 356**		P	**Pn**	**12 24 35.3**	**-1.7**
0.4nm,0.3s,baz=160,slow=8.7,SNR=4.8							
ASAJ				LR	LR	12 30 44.2	
comp=Z,146nm,21.8s,baz=172,slow=35							
USRK	**Ussuriysk Ar.**	**19.94 334**		P	**Pn**	**12 25 08.2**	**-0.2**
1.8nm,0.8s,baz=133,slow=14,SNR=5.1							
USRK				LR	LR	12 34 26.7	
comp=Z,38nm,18.6s,baz=151,slow=42							
USRK	**Ussuriysk Ar.**	**19.94 334**			**P**	**12 25 06.7**	**+0.1**
YHNB	**Yeheng**	**20.54 269**			**P**	**12 25 11.7**	**-1.7**
YHNB				IAmb	IAmb	12 25 17.1	
comp=Z,25nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**22.10 104**		T	T	12 48 27.7	
baz=291,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**22.11 104**		T	T	12 48 21.3	
baz=291,slow=75,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**22.12 104**		T	T	12 48 16.0	
baz=291,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hy**	**22.43 107**		T	T	12 48 41.7	
baz=294,slow=74,SNR=9.5							
H11S1	**WAKE ISLAND Hy**	**22.43 107**		T	T	12 48 39.7	
baz=294							
H11S2	**WAKE ISLAND Hy**	**22.44 107**		T	T	12 48 37.6	
baz=294,slow=74,SNR=3.2							
SNY	**Shenyang**	**22.55 317**		⇑P	P	12 25 44.6	+10
SNY				S	**S**	**12 29 35.4**	**-4.2**
SNY				pmax	pmax		
comp=Z,23nm,1.6s							
SNY				pmax	pmax		
comp=Z,550nm,4.1s							
SNY				LR	LR		
comp=N,690nm,4.0s							
SNY				LR	LR		
comp=E,250nm,2.9s							
SNY				LR	LR		
comp=Z,640nm,4.4s							
NJ2	**Nanjing**	**22.56 289**		*eP*	**P**	**12 25 32.6**	**-2.3**
NJ2				pmax	pmax		
comp=Z,14nm,0.9s							
KLR	**Kul'dur**	**24.37 340**		P	**P**	**12 25 55.2**	**+2.8**
comp=Z,4.2nm,0.8s,baz=137,slow=9.0,SNR=9.4							
WHN	**Wuhan**	**26.30 285**		⇑P	**P**	**12 26 11.4**	**+1.3**
PETK	**Petropavlovsk-**	**28.21 18**		P	**P**	**12 26 30.6**	**+3.5**
comp=Z,4.7nm,1.0s,baz=338,slow=7.7,SNR=5.6							
PETK				LR	LR	12 36 16.3	
comp=Z,60nm,21.1s,baz=236,slow=33							
PETK	**Petropavlovsk-**	**28.21 18**		P	**P**	**12 26 27.5**	**+0.4**
JAY	**Jayapura**	**29.29 187**		LR	LR	12 35 17.1	
comp=Z,97nm,21.9s,baz=13,slow=30							
HIA	**Hailar**	**29.29 327**		P	**P**	**12 26 35.8**	**-0.9**
HIA				IAmb	IAmb	12 26 43.9	
comp=Z,12nm,1.2s							
HHC	**Hu-ho-hao-te**	**30.24 306**		*eP*	**P**	**12 26 46.3**	**+1.0**
HHC				pmax	pmax		
comp=Z,7.0nm,0.9s							
ENH	**Enshi**	**30.51 285**		P	**P**	**12 26 45.4**	**-2.3**
ENH				IAmb	IAmb	12 26 52.9	
comp=Z,13nm,1.0s							
XAN	**Xi'an**	**31.05 292**		P	**P**	**12 26 53.8**	**+1.4**
XAN				pmax	pmax		
comp=Z,7.0nm,1.2s							
XAN				LR	LR		
comp=Z,200nm,23.9s							
XAN				LR	LR		
comp=Z,150nm,18.4s							
XAN	**Xi'an**	**31.05 292**		P	**P**	**12 26 50.5**	**-1.9**
XAN				IAmb	IAmb	12 26 57.6	
comp=Z,12nm,1.2s							
MA2	**Magadan**	**33.12**	**6**	P	**P**	**12 27 11.1**	**+0.8**
MA2				IAmb	IAmb	12 27 20.0	
comp=Z,13nm,1.2s							
LZH	**Lanzhou**	**35.34 295**		*eP*	**P**	**12 27 29.8**	**-0.2**
LZH				pP	pP	12 27 35.0	-3.5
LZH				sP	sP	12 27 40.0	-2.0
LZH				PP	**PnPn**	**12 28 47.3**	**-1.5**
LZH				pmax	pmax		
comp=Z,18nm,1.3s							
LZH				pmax	pmax		
comp=Z,78nm,4.9s							
LZH				LR	LR		
comp=Z,160nm,13.5s							
LZH				LR	LR		
comp=Z,170nm,13.3s							
ULN	**Ulaanbaatar**	**35.72 316**		P	**P**	**12 27 32.8**	**-0.2**
PMG	**Port Moresby**	**36.08 175**		P	**P**	**12 27 33.3**	**-2.9**
PMG				IAmb	IAmb	12 27 36.2	
comp=Z,16nm,1.2s							
SONM	**Songino Array**	**36.11 316**		P	**P**	**12 27 37.7**	**+1.3**
comp=Z,4.4nm,0.8s,baz=118,slow=7.6,SNR=32							
SONM				LR	LR	12 41 35.8	
comp=Z,40nm,19.0s,baz=112,slow=35							
SONM	**Songino Array**	**36.11 316**		P	**P**	**12 27 36.2**	**-0.2**
YAK	**Yakutsk**	**36.55 349**		P	**P**	**12 27 40.0**	**+0.3**
YAK				IAmb	IAmb	12 27 43.6	
comp=Z,15nm,1.1s							
SEY	**Seymchan**	**36.58**	**6**	P	**P**	**12 27 40.7**	**+0.7**
comp=Z,1.4nm,0.7s,baz=210,slow=20,SNR=5.4							
GTA	**Gaotai**	**38.79 300**		⇑P	**P**	**12 27 59.1**	**-0.1**
GTA				pP	pP	12 28 03.8	-4.0
GTA				sP	sP	12 28 06.1	-5.2
GTA				S	**S**	**12 33 55.5**	**+1.0**
GTA				pmax	pmax		
comp=Z,4.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,87nm,6.7s							
GTA				LR	LR		
comp=Z,140nm,14.6s							
GTA				LR	LR		
comp=Z,90nm,16.5s							
TLY	**Talaya**	**39.25 320**		P	**P**	**12 28 03.1**	**+0.3**
COEN	**Coen**	**40.49 181**		P	**P**	**12 28 11.9**	**-1.4**
MMRI	**Maumere**	**41.07 214**		P	**P**	**12 28 16.7**	**-1.4**
SOEI	**Soe**	**41.08 211**		P	**P**	**12 28 16.8**	**-1.5**
SOEI				IAmb	IAmb	12 28 21.9	
comp=Z,13nm,0.8s							
PBKT	**Sadao Pong**	**41.14 265**		P	**P**	**12 28 17.7**	**-1.0**
MTN	**Manton Dam**	**41.33 199**		P	**P**	**12 28 18.9**	**-1.3**
MTN				IAmb	IAmb	12 28 24.8	
comp=Z,21nm,1.2s							
CHTO	**Chiang Mai**	**42.16 269**		P	**P**	**12 28 26.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**42.28 268**		P	**P**	**12 28 28.5**	**+0.3**
comp=Z,1.2nm,0.5s,baz=60,slow=8.3,SNR=13							
CMAR				LR	LR	12 46 21.7	
comp=Z,48nm,18.0s,baz=0.0,slow=37							
CMAR	**Chiang Mai Arr**	**42.28 268**		P	**P**	**12 28 27.3**	**-0.9**
BILL	**Bilibino**	**43.42**	**12**	P	**P**	**12 28 37.6**	**+0.9**
TIXI	**Tiksi**	**45.72 353**		P	**P**	**12 28 55.5**	**+0.5**
TIXI				IAmb	IAmb	12 29 05.1	
comp=Z,7.6nm,1.2s							
LSA	**Lhasa**	**46.37 287**		P	**P**	**12 28 59.3**	**-2.0**
LSA				IAmb	IAmb	12 29 06.6	
comp=Z,4.0nm,0.5s							
KULM	**Kulim**	**46.54 251**		P	**P**	**12 29 00.9**	**-1.3**
CTAO	**Charters Tower**	**46.62 177**		P	**P**	**12 29 01.1**	**-1.5**
WRAB	**Tennant Creek**	**47.37 192**		P	**P**	**12 29 07.1**	**-1.4**
WB2	**Warramunga Arr**	**47.38 192**		P	**P**	**12 29 07.2**	**-1.3**
WRA	**Warramunga Arr**	**47.38 192**		P	**P**	**12 29 07.6**	**-1.0**
comp=Z,3.1nm,0.4s,baz=16,slow=8.7,SNR=86							
WRA	**Warramunga Arr**	**47.38 192**		P	**P**	**12 29 06.4**	**-2.2**
FITZ	**Fitzroy Crossi**	**48.05 204**		P	**P**	**12 29 12.4**	**-1.4**
WMQ	**Urumqi**	**48.12 306**		*eP*	**P**	**12 29 16.6**	**+2.3**
WMQ				pmax	pmax		
comp=Z,18nm,0.9s							
WMQ				pmax	pmax		
comp=Z,150nm,5.7s							
WMQ	**Urumqi**	**48.12 306**		P	**P**	**12 29 14.0**	**-0.3**
RPSI	**Rantau Prapat**	**49.39 249**		P	**P**	**12 29 22.0**	**-2.3**
RPSI				IAmb	IAmb	12 29 29.0	
comp=Z,7.4nm,0.8s							
TAPN	**Taplejung**	**49.80 284**		*eP*	**P**	**12 29 28.1**	**+0.4**
ODAN	**Odare**	**50.20 284**		*eP*	**P**	**12 29 30.7**	**+0.1**
comp=Z,50nm,1.3s							
ZAA0	**Zalesovo Array**	**50.83 319**		P	**P**	**12 29 34.1**	**-0.6**
ZALV	**Zalesovo Beam**	**50.83 319**		P	**P**	**12 29 35.5**	**+0.8**
comp=Z,2.3nm,0.7s,baz=93,slow=8.9,SNR=9.1							
ZALV				PcP	**PcP**	**12 30 51.5**	**+0.4**
comp=Z,1.7nm,0.7s,baz=104,slow=4.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**50.83 319**		P	**P**	**12 29 34.3**	**-0.3**
RAMN	**Ramite**	**50.86 284**		*eP*	**P**	**12 29 35.7**	**+0.1**
comp=Z,26nm,1.1s							
JIRN	**Jiri**	**51.05 285**		*eP*	**P**	**12 29 37.8**	**+0.6**
comp=Z,72nm,1.2s							
AS31	**Alice Springs**	**51.09 192**		P	**P**	**12 29 35.4**	**-1.5**
ASAR	**Alice Springs**	**51.09 192**		P	**P**	**12 29 35.7**	**-1.2**
comp=Z,0.5nm,0.4s,baz=6.6,slow=6.0,SNR=22							
ASAR	**Alice Springs**	**51.09 192**		P	**P**	**12 29 35.3**	**-1.7**
GUN	**Gumba**	**51.26 285**		*eP*	**P**	**12 29 39.2**	**+0.5**
comp=Z,34nm,1.0s							
GSI	**Gunungsitoli**	**51.27 248**		P	**P**	**12 29 37.1**	**-1.4**
PKI	**Pulchoki**	**51.74 285**		*eP*	**P**	**12 29 42.1**	**-0.2**
comp=Z,23nm,1.3s							
PKIN	**Phulchoki**	**51.75 285**		*eP*	**P**	**12 29 42.1**	**-0.2**
KKN	**Kakani**	**51.80 285**		*eP*	**P**	**12 29 42.7**	**0.0**
MK31	**Makanchi Array**	**51.97 310**		P	**P**	**12 29 43.5**	**+0.1**
MKAR	**Makanchi Array**	**51.97 310**		P	**P**	**12 29 44.3**	**+0.9**
comp=Z,5.3nm,0.9s,baz=92,slow=10,SNR=24							
MKAR	**Makanchi Array**	**51.97 310**		P	**P**	**12 29 43.5**	**+0.1**
DMN	**Daman**	**52.00 285**		*eP*	**P**	**12 29 44.0**	**-0.1**
MAKZ	**Makanchi**	**52.19 310**		P	**P**	**12 29 44.8**	**-0.2**
MAKZ				IAmb	IAmb	12 29 47.0	
comp=Z,9.7nm,1.1s							
GKN	**Gorkha**	**52.31 286**		*eP*	**P**	**12 29 46.4**	**+0.1**
DANN	**Dangsing**	**52.98 286**		*eP*	**P**	**12 29 52.0**	**+0.5**
comp=Z,65nm,1.1s							
KOLN	**Koldanda**	**53.26 286**		*eP*	**P**	**12 29 53.8**	**+0.4**
NRIK	**Noril'sk**	**53.57 338**		P	**P**	**12 29 57.1**	**+2.4**
comp=Z,3.5nm,0.5s,baz=111,slow=8.8,SNR=3.6							
KURK	**Kurchatov**	**54.41 315**		P	**P**	**12 30 01.0**	**-0.2**
KURK				IAmb	IAmb	12 30 04.6	
comp=Z,8.9nm,1.1s							
IMAR	**Indian Mountai**	**54.59**	**26**	P	**P**	**12 30 02.4**	**+0.1**
PRZ	**Przheval'sk**	**54.97 305**		P	**P**	**12 30 06.4**	**+0.8**
TARG	**Taragay, Kyrgy**	**55.49 304**		P	**P**	**12 30 09.8**	**+0.1**
KDJ	**Kajisay**	**55.91 304**		P	**P**	**12 30 12.7**	**+0.3**
KDJ				IAmb	IAmb	12 30 16.0	
comp=Z,4.8nm,0.9s							
BOOM	**Boomskoye usch**	**56.77 305**		IAmb	IAmb	12 30 20.9	
comp=Z,7.9nm,0.9s							
NRN	**Naryn**	**56.87 304**		IAmb	IAmb	12 30 25.9	
comp=Z,5.9nm,1.1s							
KSH	**Kashi**	**57.18 301**		P	**P**	**12 30 25.4**	**+4.0**
KSH				PP	**PP**	**12 32 34.3**	**+5.8**
KSH				S	**S**	**12 38 20.9**	**+6.2**
KSH				sS	sS	12 38 28.8	0.0
KSH				SS	**SS**	**12 42 12.3**	**+8.5**
KSH				pmax	pmax		
comp=Z,22nm,0.6s							
KSH				pmax	pmax		
comp=Z,290nm,6.6s							
KSH				LR	LR		
comp=Z,250nm,10.8s							
KSH				LR	LR		
comp=Z,190nm,11.8s							
KSH				LR	LR		
comp=Z,230nm,8.2s							
IL31		**57.20**	**28**	P	**P**	**12 30 21.7**	**+0.7**
IL31				IAmb	IAmb	12 30 30.9	
comp=Z,17nm,1.6s							
ILAR	**Eielson Array**	**57.20**	**28**	P	**P**	**12 30 21.6**	**+0.6**
comp=Z,1.6nm,1.1s,baz=256,slow=6.5,SNR=7.7							
ILAR				LR	LR	12 53 03.6	
comp=Z,33nm,20.6s,baz=282,slow=34							
AAK	**Ala-Archa**	**57.81 305**		P	**P**	**12 30 25.2**	**-0.7**
RIDG	**Independent Ri**	**57.99**	**30**	P	**P**	**12 30 27.1**	**+0.4**
STKA	**Stephens Creek**	**58.36 182**		P	**P**	**12 30 28.2**	**-1.2**
comp=Z,2.0nm,0.8s,baz=5.0,slow=8.8,SNR=3.6							
STKA				LR	LR	12 57 00.0	
comp=Z,22nm,18.1s,baz=34,slow=38							
STKA	**Stephens Creek**	**58.36 182**		P	**P**	**12 30 28.4**	**-1.1**
SCRK	**Sand Creek**	**58.39**	**30**	P	**P**	**12 30 29.5**	**0.0**
BMAR	**Burnt Mountain**	**58.43**	**25**	P	**P**	**12 30 30.7**	**+1.0**
BRVK	**Borovoye**	**59.48 318**		P	**P**	**12 30 37.2**	**+0.2**
BRVK				IAmb	IAmb	12 30 41.3	
comp=Z,6.0nm,0.9s							
NIL	**Nilore**	**60.51 295**		P	**P**	**12 30 44.4**	**-0.2**
KK31	**Karatay Array**	**60.63 306**		IAmb	IAmb	12 30 47.8	
comp=Z,5.9nm,0.8s							
KKAR	**Karatay Array**	**60.63 306**		P	**P**	**12 30 45.2**	**+0.1**
KKAR	**Karatay Array**	**60.63 306**		P	**P**	**12 30 45.2**	**+0.1**
KKAR				IAmb	IAmb	12 30 47.8	
comp=Z,5.9nm,0.8s							
GAR	**Garm**	**61.59 302**		P	**P**	**12 30 52.0**	**+0.1**
CHGR	**Chuyangaron**	**62.55 302**		P	**P**	**12 30 58.0**	**-0.3**
INK	**Inuvik**	**62.63**	**25**	P	**P**	**12 30 58.8**	**+0.6**
comp=Z,1.1nm,0.6s,baz=162,slow=0.9,SNR=5.4							
INK	**Inuvik**	**62.63**	**25**	P	**P**	**12 30 58.9**	**+0.7**
INK				IAmb	IAmb	12 31 01.0	
comp=Z,6.2nm,1.4s							
KBL	**Kabul**	**63.66 297**		P	**P**	**12 31 05.4**	**-0.5**
ABKAR	**Akbulak array**	**66.52 315**		P	**P**	**12 31 23.8**	**-0.1**
ABKAR	**Akbulak array**	**66.52 315**		P	**P**	**12 31 23.8**	**-0.1**
ABKAR				IAmb	IAmb	12 31 27.7	
comp=Z,6.9nm,1.0s							
HRA	**Herat**	**69.08 299**		P	**P**	**12 31 39.5**	**-1.1**
HRA				IAmb	IAmb	12 31 46.6	
comp=Z,10nm,1.4s							
BKZ	**Black Stump Fm**	**72.25 154**		P	**P**	**12 31 58.3**	**-1.0**
BKZ				IAmb	IAmb	12 32 00.1	
comp=Z,11nm,1.7s							
NNZ	**Nelson**	**72.90 157**		P	**P**	**12 32 01.9**	**-1.1**
NEW	**Newport**	**76.02**	**43**	P	**P**	**12 32 22.0**	**+0.6**
NEW				IAmb	IAmb	12 32 32.1	
comp=Z,8.4nm,1.1s							
AFDM	**Forest Hills D**	**77.

comp=Z,3.4nm,0.9s
RSSD Black Hills 85.96 42 P P 12 33 14.8 +0.1
RSSD IAmb IAmb 12 33 19.1
comp=Z,6.1nm,1.2s
ULM Lac du Bonnet 86.80 34 LR LR 13 07 36.1
comp=Z,22nm,21.8s,baz=328,slow=32
BRTR Keskin Array B 87.44 314 P P 12 33 22.1 +0.1
comp=Z,1.4nm,0.8s,baz=108,slow=4.0,SNR=6.5
BRTR Keskin Array B 87.44 314 P P 12 33 21.5 -0.4
KOLS Kolonicke sedl 88.50 326 *eP* **P 12 33 29.0 +2.4**
VYHS Vyhne 90.49 327 *eP* **P 12 33 39.4 +3.5**
MODS Modra-Piesok 91.32 328 *eP* P 12 33 44.8 +5.0
TXAR Lajitas Array 94.45 54 P P 12 33 56.9 +2.2
comp=Z,0.4nm,0.7s,baz=107,slow=1.3,SNR=6.1
TXAR Lajitas Array 94.45 54 P P 12 33 55.3 +0.6
TORD Torodi Ar. Bea 126.05 313 PKP PKiKP 12 39 36.9 -0.5
comp=Z,1.0nm,0.9s,baz=132,slow=2.2,SNR=4.0
LPAZ La Paz 148.38 77 PKPbc PKPbc 12 40 21.9 -0.1
comp=Z,7.1nm,0.9s,baz=337,slow=3.7,SNR=20
LPAZ La Paz 148.38 77 PKPbc 12 40 21.6 -0.3

ISCJB ***18*** *12:43:19.2±0.3, 60°.33S±0°.05×44°.0W±0°.1, h10km, mb4.5/16, MS3.8/13, Error ellipse: s-maj=8.9km s-min=6.2km az=142.5*
IDC ***18*** *12:43:19.1±0.6, 60°.44S×44°.01W, h0km, mb4.5/12, mb1 4.5/14, mb1mx4.3/28, mbtmp4.4/14, ML3.6/2, MS3.8/16, Ms1 3.8/16, ms1mx3.7/28, Error ellipse: s-maj=20.2km s-min=14.4km az=49.0*
NEIC ***18*** *12:43:21.0±1.1, 60°.31S±0°.08×43°.9W±0°.2, h10km±1km, mb4.8/27*
ISC 18 12:43:20.8±0.4, 60°.33S±0°.06×43°.99W±0°.07, h10km, n92, σ1§13/84, mb4.7/25, MS3.8/13, 1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.29**	**37**		**Pn**	**12 45 06.0**	**-1.1**
HOPE				Sn	**Sn**	**12 46 29.1**	**-0.8**
PMSA	**Palmer Station**	**10.25**	**236**	Pn	**Pn**	**12 45 47.9**	**+0.2**
	0.6nm,0.3s,baz=71,slow=12,SNR=4.1						
PMSA				LR	LR	12 49 13.3	
	comp=Z,258nm,19.3s,baz=82,slow=35						
PMSA	**Palmer Station**	**10.25**	**236**	Pn	**Pn**	**12 45 48.6**	**+0.9**
EFI	**East Falkland**	**11.69**	**312**	Pn	**Pn**	**12 46 08.3**	**+1.0**
EFI				Sn	**Sn**	**12 48 14.1**	**-3.6**
USHA	**Ushuaia**	**14.17**	**282**	LR	LR	12 50 50.6	
	comp=Z,555nm,19.1s,baz=64,slow=32						
VNA3	**Neumayer Olymp**	**17.50**	**143**	P	**Pn**	**12 47 23.1**	**-1.4**
VNA1	**Neumayer--Stat**	**17.74**	**140**	P	**P**	**12 47 28.8**	**+0.5**
VNA2	**Neumayer--Watz**	**18.10**	**141**	P	**P**	**12 47 32.2**	**0.0**
	baz=292,slow=14						
SNAA	**Sanae**	**19.71**	**142**	P	**Pn**	**12 47 49.9**	**-1.5**
SNAA	**Sanae**	**19.71**	**142**	P	**P**	**12 47 49.4**	**-0.5**
	0.1nm,0.3s,baz=285,slow=9.7,SNR=14						
SNAA				LR	LR	12 53 43.9	
	comp=Z,347nm,21.7s,baz=356,slow=32						
SNAA	**Sanae**	**19.71**	**142**	P	**P**	**12 47 49.6**	**-0.3**
SNAA				IAmb	IAmb	12 48 06.9	
	comp=Z,37nm,1.5s						
TRQA	**Tornquist**	**25.03**	**325**	P	**P**	**12 48 45.8**	**+1.0**
TRQA				IAmb	IAmb	12 48 50.8	
	comp=Z,18nm,1.2s						
PLCA	**Paso Flores**	**25.57**	**308**	P	**P**	**12 48 50.8**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=181,slow=12,SNR=6.2						
PLCA				LR	LR	12 58 07.0	
	comp=Z,197nm,20.7s,baz=186,slow=35						
PLCA	**Paso Flores**	**25.57**	**308**	P	**P**	**12 48 50.4**	**+0.7**
GO06	**Curarrehue**	**26.92**	**308**	P	**P**	**12 49 01.9**	**0.0**
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**12 49 28.3**	**-0.2**
	comp=Z,6.4nm,0.9s,baz=179,slow=2.1,SNR=21						
QSPA				LR	LR	13 02 06.8	
	comp=Z,104nm,19.6s,baz=156,slow=38						
QSPA	**South Pole Qui**	**29.91**	**180**	P	**P**	**12 49 28.4**	**-0.2**
QSPA				IAmb	IAmb	12 49 32.6	
	comp=Z,19nm,1.3s						
SYO	**Syowa Base**	**33.98**	**140**	‖*es*P	sP	12 50 05.8	-0.9
GO04	**Tololo Observa**	**35.08**	**317**	P	**P**	**12 50 13.9**	**-0.1**
CPUP	**Villa Florida**	**35.20**	**339**	P	**P**	**12 50 16.0**	**+1.2**
	comp=Z,3.0nm,1.0s,baz=130,slow=4.8,SNR=4.0						
CPUP				LR	LR	13 03 05.2	
	comp=Z,130nm,21.9s,baz=204,slow=34						
CPUP	**Villa Florida**	**35.20**	**339**	P	**P**	**12 50 15.5**	**+0.7**
GO02	**Mina Guanaco**	**39.34**	**322**	P	**P**	**12 50 50.3**	**0.0**
GO02				IAmb	IAmb	12 50 55.0	
	comp=Z,22nm,1.3s						
SBA	**Scott Base**	**40.79**	**190**	P	**P**	**12 51 01.4**	**0.0**
LVC	**Limon Verde**	**41.53**	**324**	P	**P**	**12 51 09.0**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=162,slow=9.6,SNR=3.5						
LVC	**Limon Verde**	**41.53**	**324**	P	**P**	**12 51 08.8**	**+0.2**
MAW	**Mawson**	**41.76**	**147**	LR	LR	13 06 47.7	
	comp=Z,127nm,21.8s,baz=234,slow=34						
PB01	**IPOC Station P**	**43.18**	**324**	P	**P**	**12 51 21.8**	**+0.1**
PB01				IAmb	IAmb	12 51 23.5	
	comp=Z,38nm,1.3s						
GO01	**Chusmiza**	**44.40**	**325**	P	**P**	**12 51 32.4**	**+0.5**
GO01				IAmb	IAmb	12 51 37.2	
	comp=Z,17nm,1.1s						
PB11	**IPOC Station P**	**44.44**	**324**	P	**P**	**12 51 32.0**	**+0.1**
PB11				IAmb	IAmb	12 51 36.7	
	comp=Z,27nm,1.3s						
BDFB	**Brasilia**	**44.71**	**354**	P	**P**	**12 51 35.0**	**+1.0**
	comp=Z,5.2nm,0.7s,baz=173,slow=8.9,SNR=5.7						
BDFB				LR	LR	13 08 09.9	
	comp=Z,76nm,21.2s,baz=142,slow=33						
BDFB	**Brasilia**	**44.71**	**354**	P	**P**	**12 51 34.5**	**+0.5**
BDFB				IAmb	IAmb	12 51 35.7	
	comp=Z,10nm,0.9s						
MNMC	**Minye Minye**	**45.02**	**325**	P	**P**	**12 51 37.0**	**+0.4**
SIV	**San Ignacio**	**45.98**	**337**	P	**P**	**12 51 44.1**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=173,slow=8.8,SNR=12						
LPAZ	**La Paz**	**47.32**	**328**	P	**P**	**12 51 55.3**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=138,slow=5.8,SNR=11						
LPAZ				LR	LR	13 14 58.6	
	comp=Z,59nm,18.2s,baz=156,slow=40						
LPAZ	**La Paz**	**47.32**	**328**	P	**P**	**12 51 55.1**	**0.0**
SUR	**Sutherland**	**50.09**	**86**	P	**P**	**12 52 16.4**	**+0.6**
	comp=Z,10nm,0.8s,baz=194,slow=9.8,SNR=8.5						
SUR	**Sutherland**	**50.09**	**86**	P	**P**	**12 52 15.9**	**+0.1**
SAML	**Samuel**	**53.25**	**336**	P	**P**	**12 52 39.4**	**+0.1**
SAML				IAmb	IAmb	12 52 44.2	
	comp=Z,10nm,1.3s						
BOSA	**Boshof**	**55.37**	**88**	P	**P**	**12 52 54.9**	**0.0**
	comp=Z,8.8nm,0.9s,baz=200,slow=6.7,SNR=6.4						
BOSA	**Boshof**	**55.37**	**88**	P	**P**	**12 52 54.9**	**0.0**
LBTB	**Lobatse**	**58.52**	**86**	P	**P**	**12 53 17.2**	**0.0**
	comp=Z,3.9nm,0.6s,baz=201,slow=8.6,SNR=5.5						
LBTB	**Lobatse**	**58.52**	**86**	P	**P**	**12 53 16.7**	**-0.5**
LBTB				IAmb	IAmb	12 53 18.0	
	comp=Z,13nm,1.2s						
OTAV	**Otavalo**	**66.00**	**322**	P	**P**	**12 54 07.5**	**-0.3**
OTAV				IAmb	IAmb	12 54 09.5	
	comp=Z,6.7nm,0.8s						
LSZ	**Lusaka**	**68.03**	**82**	P	**P**	**12 54 20.3**	**0.0**
LSZ				IAmb	IAmb	12 54 21.8	
	comp=Z,11nm,1.0s						
ROSC	**El Rosal**	**69.19**	**327**	LR	LR	13 27 21.1	
	comp=Z,139nm,18.4s,baz=206,slow=38						
LIC	**Lamto**	**73.07**	**41**	*eP*	**P**	**12 54 51.9**	**+1.1**
	comp=Z,58nm,1.0s						
KIC	**Kosan Boka**	**73.29**	**41**	*eP*	**P**	**12 54 53.4**	**+1.2**
	comp=Z,36nm,1.1s						
TIC	**Toumodi**	**73.47**	**41**	*eP*	**P**	**12 54 54.2**	**+1.0**
DBIC	**Dimbokro**	**73.54**	**41**	**P**	**P**	**12 54 54.8**	**+1.2**
	comp=Z,8.5nm,0.9s,baz=172,slow=6.9,SNR=8.8						
DBIC	**Dimbokro**	**73.54**	**41**	**P**	**P**	**12 54 53.9**	**+0.3**
DBIC				IAmb	IAmb	12 54 55.9	
	comp=Z,9.3nm,0.9s						
TUWZ	**Tuamarina**	**73.94**	**209**	**P**	**P**	**12 54 56.9**	**+1.2**
SJG	**San Juan**	**80.20**	**339**	LR	LR	13 30 39.5	
	comp=Z,74nm,20.3s,baz=227,slow=35						
MLPR	**Magueyes Islan**	**80.22**	**338**	P	**P**	**12 55 30.6**	**-0.5**
TOA0	**Torodi Ar. Sit**	**81.80**	**45**	P	**P**	**12 55 39.7**	**0.0**
TORD	**Torodi Ar. Bea**	**81.80**	**45**	P	**P**	**12 55 41.1**	**+1.4**
	comp=Z,12nm,0.9s,baz=204,slow=6.2,SNR=37						
MBAR	**Mbarara**	**81.95**	**77**	P	**P**	**12 55 41.4**	**+0.6**
MBAR				IAmb	IAmb	12 55 44.6	
	comp=Z,3.9nm,0.8s						
KMBO	**Kilima Mbogo**	**84.68**	**83**	P	**P**	**12 55 59.2**	**+4.2**
	comp=Z,1.0nm,0.3s,baz=181,slow=5.0,SNR=5.1						
KMBO	**Kilima Mbogo**	**84.68**	**83**	P	**P**	**12 55 55.2**	**+0.3**
KMBO				IAmb	IAmb	12 55 59.9	
	comp=Z,2.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**85.81**	**164**	LR	LR	13 31 59.6	
	comp=Z,87nm,19.1s,baz=282,slow=34						
STKA	**Stephens Creek**	**88.02**	**185**	LR	LR	13 35 09.8	
	comp=Z,64nm,19.8s,baz=204,slow=35						
ASAR	**Alice Springs**	**96.30**	**178**	P	**P**	**12 56 46.8**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=167,slow=4.6,SNR=3.6						
ASAR				LR	LR	13 40 07.9	
	comp=Z,48nm,18.9s,baz=142,slow=35						
ASAR	**Alice Springs**	**96.30**	**178**	P	**P**	**12 56 49.0**	**-0.4**
ATD	**Arta Tunnel**	**98.36**	**82**	LR	LR	13 38 07.0	
	comp=Z,33nm,19.3s,baz=76,slow=33						
WRA	**Warramunga Arr**	**100.01**	**178**	LR	LR	13 42 22.1	
	comp=Z,37nm,19.4s,baz=270,slow=36						
GERES	**GERESS Array B**	**118.39**	**39**	PKP	**PKPdf**	**13 02 06.2**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=197,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**125.31**	**48**	PKP	**PKPdf**	**13 02 19.2**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=242,slow=1.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**130.53**	**131**	PKP	**PKPdf**	**13 02 31.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=228,slow=4.0,SNR=5.9						
CMAR	**Chiang Mai Arr**	**130.53**	**131**		**PKPdf**	**13 02 30.7**	**-0.7**
FINES	**FINESS Array B**	**132.78**	**38**	PKP	**PKPdf**	**13 02 33.1**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=180,slow=1.9,SNR=4.0						
YKA	**Yellowknife Ar**	**133.75**	**323**	PKP	**PKPdf**	**13 02 35.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=139,slow=1.8,SNR=3.8						
KSH	**Kashi**	**137.90**	**92**	PKP	**PKiKP**	**13 02 46.6**	**-0.1**
KSH				PP	**PP**	**13 05 36.3**	**+3.3**
KSH				PKS	**PKSdf**	**13 06 21.9**	**+1.0**
INK	**Inuvik**	**143.49**	**321**	PKhKP	PKPpre	13 02 49.6	
	comp=Z,3.9nm,1.1s,baz=146,slow=2.5,SNR=5.8						
DOT	**Dot Lake**	**144.60**	**311**		PKPbc	13 02 54.9	+0.2
MAKZ	**Makanchi**	**146.22**	**89**		**PKPdf**	**13 02 59.3**	**+0.1**
ILAR	**Eielson Array**	**146.23**	**311**	PKPbc	**PKPbc**	**13 02 59.1**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=150,slow=2.3,SNR=40						
ILAR	**Eielson Array**	**146.23**	**311**		**PKPdf**	**13 02 59.0**	**+0.4**
MK31	**Makanchi Array**	**146.36**	**89**		**PKPdf**	**13 02 59.7**	**+0.3**
MKAR	**Makanchi Array**	**146.36**	**89**	PKPbc	**PKPbc**	**13 03 00.0**	**-0.7**
	comp=Z,8.3nm,0.7s,baz=234,slow=2.1,SNR=56						
MKAR	**Makanchi Array**	**146.36**	**89**		**PKPbc**	**13 02 59.8**	**-0.9**
COLA	**College**	**146.65**	**311**		**PKPdf**	**13 02 59.9**	**+0.7**
BMAR	**Burnt Mountain**	**146.67**	**316**		**PKPdf**	**13 02 60.0**	**+0.7**
KURK	**Kurchatov**	**147.15**	**81**		**PKPbc**	**13 03 02.1**	**-0.6**
BPAW	**Bear Paw Mtn.**	**147.48**	**309**		**PKPbc**	**13 03 03.0**	**-0.3**
LZH	**Lanzhou**	**148.20**	**125**	*e*PKPbc	**PKPdf**	**13 02 59.4**	**-3.6**
LZH				pPKP	PKPbc	13 03 06.6	+0.3
LZH				sPKP		13 03 15.3	
XAN	**Xi'an**	**148.34**	**134**	PKPbc	PKPab	13 03 19.4	+10
XAN				pPKP	sPKPab	13 03 30.8	+18
COLD	**Coldfoot**	**148.55**	**314**		**PKPbc**	**13 03 06.5**	**+0.5**
GTA	**Gaotai**	**149.27**	**116**	*e*PKPbc	**PKPdf**	**13 03 03.5**	**-1.1**
IMAR	**Indian Mountai**	**149.35**	**311**		**PKPbc**	**13 03 08.2**	**+0.1**
ZALV	**Zalesovo Beam**	**152.13**	**80**	PKPbc	**PKPbc**	**13 03 13.6**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=242,slow=3.2,SNR=6.6						
SONM	**Songino Array**	**158.82**	**113**	PKPab	**PKPab**	**13 03 53.2**	**-0.6**
	comp=Z,1.8nm,1.1s,baz=249,slow=3.9,SNR=7.4						
PETK	**Petropavlovsk-**	**166.12**	**248**	PKPab	**PKPab**	**13 04 25.7**	**+0.3**
	comp=Z,6.9nm,1.1s,baz=32,slow=5.8,SNR=3.6						
PETK	**Petropavlovsk-**	**166.12**	**248**		**PKPab**	**13 04 26.9**	**+1.4**

ISCJB ***18*** *12:44:38.0±0.6, 22°.11S±0°.03×67°.41W±0°.04, h192km±7km, Error ellipse: s-maj=5.9km s-min=4.9km az=140.8*
SJA ***18*** *12:44:37.6±0.6, 22°.05S×67°.35W, h198km±5km, ML3.1, MW3.0*
GUC ***18*** *12:44:39.6±0.6, 22°.02S×67°.81W, h214km±8km, ML3.7*
ISC 18 12:44:37.1±1.7, 22°.10S±0°.05×67°.37W±0°.04, h202km±16km, n29, σ1§42/55, 2C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.51**	**250**	⇑*i*P	**Pn**	**12 45 12.6**	**+1.1**
LVC				*i* S	**Sn**	**12 45 37.8**	**-0.3**
YJA	**Yavi**	**1.72**	**93**	*i* P	**Pn**	**12 45 14.4**	**+0.9**
YJA				IAML		12 45 15.4	
	comp=Z,34nm,0.4s						
YJA				*i* S	**Sn**	**12 45 40.1**	**-1.6**
PB09	**IPOC Station P**	**1.76**	**279**	*e*P	**Pn**	**12 45 14.8**	**+1.2**
PB09				*e*S	**Sn**	**12 45 41.4**	**-0.4**
PB09	**IPOC Station P**	**1.76**	**279**	*i* P	**Pn**	**12 45 14.8**	**+1.2**
PB09				*i* S	**Sn**	**12 45 42.1**	**+0.2**
PB09				IAML		12 45 43.5	
	comp=Z,66nm,0.2s						
HJA	**Humahuaca**	**2.12**	**122**	*i* P	**Pn**	**12 45 19.2**	**+1.8**
HJA				IAML		12 45 19.6	
	comp=Z,77nm,0.4s						
HJA				*i* S	**Sn**	**12 45 47.2**	**-1.6**
PB06	**IPOC Station P**	**2.12**	**253**	*i* P	**Pn**	**12 45 18.2**	**+1.1**
PB06				*i* S	**Sn**	**12 45 48.1**	**-0.2**
PB06				IAML		12 45 49.5	
	comp=Z,55nm,0.1s						
PB03	**IPOC Station P**	**2.21**	**271**	*e*P	**Pn**	**12 45 18.9**	**+0.9**
PB03				*i* S	**Sn**	**12 45 48.6**	**-1.4**
PB03				IAML		12 45 49.8	
	comp=E,334nm,0.1s						
PB03	**IPOC Station P**	**2.21**	**271**	*i* P	**Pn**	**12 45 19.1**	**+1.0**
PB03				*i* S	**Sn**	**12 45 48.5**	**-1.4**
PB01	**IPOC Station P**	**2.23**	**298**	⇑*i*P	**Pn**	**12 45 19.0**	**+0.8**
PB01				*i* S	**Sn**	**12 45 48.7**	**-1.6**
PB01				IAML		12 45 49.8	
	comp=N,377nm,0.3s						
PB01	**IPOC Station P**	**2.23**	**298**	*i* P	**Pn**	**12 45 19.1**	**+0.8**
PB01				*i* S	**Sn**	**12 45 48.6**	**-1.6**
PB15	**IPOC Station P**	**2.23**	**240**	⇑*i*P	**Pn**	**12 45 19.8**	**+1.5**
PB15				*i* S	**Sn**	**12 45 51.1**	**+0.5**
PB15				IAML		12 45 54.3	
	comp=E,322nm,0.2s						
PB15	**IPOC Station P**	**2.23**	**240**	*i* P	**Pn**	**12 45 19.8**	**+1.5**
PB15				*i* S	**Sn**	**12 45 51.1**	**+0.5**
PB15				IAML		12 45 52.9	
	comp=Z,180nm,0.1s						
PB07	**IPOC Station P**	**2.36**	**279**	⇓*i*P	**Pn**	**12 45 20.7**	**+0.9**
PB07				*i* S	**Sn**	**12 45 51.3**	**-1.7**
PB07				IAML		12 45 52.5	
	comp=N,314nm,0.2s						
PB07	**IPOC Station P**	**2.36**	**279**	*i* P	**Pn**	**12 45 20.9**	**+1.1**
PB07				*i* S	**Sn**	**12 45 51.3**	**-1.7**
PB02	**IPOC Station P**	**2.47**	**288**	*e*P	**Pn**	**12 45 21.5**	**+0.6**
PB02				*i* S	**Sn**	**12 45 52.8**	**-2.1**
PB02				IAML		12 45 54.1	
	comp=E,412nm,0.2s						
PB02	**IPOC Station P**	**2.47**	**288**	*i* P	**Pn**	**12 45 21.7**	**+0.8**
PB02				*i* S	**Sn**	**12 45 52.9**	**-2.1**
PB08	**IPOC Station P**	**2.56**	**319**	⇓*i*P	**Pn**	**12 45 23.5**	**+1.4**
PB08				*i* S	**Sn**	**12 45 56.0**	**-1.3**
PB08	**IPOC Station P**	**2.56**	**319**	*i* P	**Pn**	**12 45 23.6**	**+1.4**
PB08				*i* S	**Sn**	**12 45 56.3**	**-1.0**
PB04	**IPOC Station P**	**2.58**	**264**	⇓*i*P	**Pn**	**12 45 23.1**	**+0.9**
PB04				*i* S	**Sn**	**12 45 55.4**	**-1.9**
PB04				IAML		12 45 59.1	
	comp=N,135nm,0.3s						
PB04	**IPOC Station P**	**2.58**	**264**	*i* P	**Pn**	**12 45 23.2**	**+1.0**
PB04				*i* S	**Sn**	**12 45 55.5**	**-1.9**
PB04				IAML		12 45 57.0	
	comp=Z,91nm,0.2s						
GO01	**Chusmiza**	**2.96**	**324**	⇓*i*P	**Pn**	**12 45 27.8**	**+0.9**
GO01				*i* S	**Sn**	**12 46 05.3**	**-0.3**
AZAP	**Zapla**	**3.00**	**135**	⇓*i*P	**Pn**	**12 45 28.6**	**+1.6**
AZAP				IAML		12 45 29.6	
	comp=Z,19nm,0.3s						
SLA	**San Lorenzo**	**3.12**	**147**	*i* P	**Pn**	**12 45 25.6**	**-2.9**
SLA				IAML		12 45 31.3	
	comp=Z,10nm,0.5s						
PB11	**IPOC Station P**	**3.16**	**317**	*i* P	**Pn**	**12 45 29.0**	**+0.1**
PB11				*i* S	**Sn**	**12 46 06.6**	**-2.7**
PB10	**IPOC Station P**	**3.26**	**244**	*i* P	**Pn**	**12 45 31.1**	**+1.2**
PB10				*i* S	**Sn**	**12 46 09.6**	**-1.6**
PB10				IAML		12 46 12.4	
	comp=Z,16nm,0.2s						
LPAZ	**La Paz**	**5.82**	**353**	*i* P	**Pn**	**12 46 04.8**	**+2.0**
LPAZ				*i* S	**Sn**	**12 47 09.0**	**-1.4**
GO03	**Copiap**	**6.06**	**205**	*i* P	**Pn**	**12 46 05.8**	**+0.7**
GO03				*i* S	**Sn**	**12 47 13.7**	**-1.2**
APLL	**PUNTA DE LOS L**	**8.30**	**175**	*i* P	**Pn**	**12 46 36.0**	**+1.8**
APLL				IAML		12 46 36.3	
	comp=Z,2.4nm,0.4s						
APLL				*i* S	**Sn**	**12 48 06.3**	**-1.4**
TCA	**Tanti**	**9.53**	**166**	*i* P	**Pn**	**12 46 51.5**	**+1.3**
TCA				IAML		12 46 53.8	
	comp=Z,1.0nm,0.3s						

ISCJB ***18*** *12:49:12.6±0.5, 60°.16S±0°.07×45°.5W±0°.2, h10km, mb4.5/8, Error ellipse: s-maj=11.8km s-min=9.7km az=158.9*
IDC ***18*** *12:49:12.7±0.8, 60°.24S×45°.81W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/30, mbtmp4.1/8, Error ellipse: s-maj=33.2km s-min=17.4km az=51.0*
NEIC ***18*** *12:49:14.4±1.6, 60°.10S±0°.10×45°.5W±0°.2, h10km±1km, mb4.5/16*
ISC 18 12:49:14.4±0.5, 60°.13S±0°.09×45°.59W±0°.10, h10km, n40, σ0§81/40, mb4.4/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.66**	**44**	Pn	**Pn**	**12 51 05.5**	**-0.3**
PMSA	**Palmer Station**	**9.72**	**234**	Pn	**Pn**	**12 51 35.5**	**+1.6**
SNAA	**Sanae**	**20.36**	**142**	P	**P**	**12 53 51.0**	**+0.4**
	6.9nm,1.0s,baz=291,slow=10,SNR=13						
SNAA	**Sanae**	**20.36**	**142**	P	**P**	**12 53 50.9**	**+0.3**
TRQA	**Tornquist**	**24.42**	**327**	P	**P**	**12 54 33.4**	**+0.5**
TRQA				IAmb	IAmb	12 54 35.7	
	comp=Z,26nm,1.0s						
PLCA	**Paso Flores**	**24.83**	**310**	P	**P**	**12 54 36.5**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=177,slow=9.2,SNR=6.0						
PLCA	**Paso Flores**	**24.83**	**310**	P	**P**	**12 54 35.5**	**-1.0**
PLCA				IAmb	IAmb	12 54 39.0	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**30.11**	**180**	P	**P**	**12 55 22.9**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=188,slow=3.0,SNR=5.7						
QSPA	**South Pole Qui**	**30.11**	**180**	P	**P**	**12 55 23.0**	**-0.9**
QSPA				IAmb	IAmb	12 55 25.9	
	comp=Z,12nm,1.4s						
GO04	**Tololo Observa**	**34.40**	**319**	P	**P**	**12 56 01.6**	**-0.2**
CPUP	**Villa Florida**	**34.74**	**341**	P	**P**	**12 56 05.3**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=170,slow=8.9,SNR=3.5						
CPUP	**Villa Florida**	**34.74**	**341**	P	**P**	**12 56 04.3**	**-0.2**
CPUP				IAmb	IAmb	12 56 05.5	
	comp=Z,5.6nm,1.4s						
SBA	**Scott Base**	**40.85**	**190**	P	**P**	**12 56 54.9**	**-0.5**
LVC	**Limon Verde**	**40.91**	**326**	P	**P**	**12 56 56.4**	**-0.7**
GO01	**Chusmiza**	**43.79**	**327**	P	**P**	**12 57 20.7**	**+0.1**
GO01				IAmb	IAmb	12 57 23.3	
	comp=Z,3.9nm,0.8s						
PB11	**IPOC Station P**	**43.83**	**326**	P	**P**	**12 57 20.5**	**0.0**
PB11				IAmb	IAmb	12 57 45.2	
	comp=Z,21nm,1.5s						
MNMC	**Minye Minye**	**44.41**	**327**	P	**P**	**12 57 25.5**	**+0.2**
SIV	**San Ignacio**	**45.49**	**339**	P	**P**	**12 57 33.9**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=162,slow=8.0,SNR=17						
LPAZ	**La Paz**	**46.74**	**330**	P	**P**	**12 57 44.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=206,slow=7.5,SNR=3.5						
LPAZ	**La Paz**	**46.74**	**330**	P	**P**	**12 57 44.1**	**-0.1**
SAML	**Samuel**	**52.76**	**338**	P	**P**	**12 58 29.1**	**-0.2**
SAML				IAmb	IAmb	12 58 30.6	
	comp=Z,5.8nm,0.8s						
LBTB	**Lobatse**	**59.30**	**87**	P	**P**	**12 59 16.7**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=215,slow=11,SNR=3.5						
LBTB	**Lobatse**	**59.30**	**87**	P	**P**	**12 59 16.4**	**+0.1**
LSZ	**Lusaka**	**68.80**	**84**	P	**P**	**13 00 19.7**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=182,slow=5.7,SNR=5.5						
LSZ	**Lusaka**	**68.80**	**84**	P	**P**	**13 00 18.8**	**+0.1**
TOA0	**Torodi Ar. Sit**	**82.23**	**46**	P	**P**	**13 01 36.6**	**+1.1**
TOA0				IAmb	IAmb	13 01 43.9	
	comp=Z,9.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**82.23**	**46**	P	**P**	**13 01 36.6**	**+1.1**
	comp=Z,2μm,1.0s,baz=215,slow=5.1,SNR=12						
BRVK	**Borovoye**	**145.29**	**73**		**PKPdf**	**13 08 50.1**	**-0.8**
PRP	**Porcupine Dome**	**145.38**	**314**		**PKPbc**	**13 08 49.9**	**-1.0**
IL31		**145.50**	**312**		**PKPdf**	**13 08 49.2**	**-1.7**
ILAR	**Eielson Array**	**145.50**	**312**	PKPbc	**PKPdf**	**13 08 49.7**	**-1.2**
	comp=Z,3.6nm,0.9s,baz=150,slow=3.2,SNR=29						
ILAR	**Eielson Array**	**145.50**	**312**		**PKPdf**	**13 08 49.3**	**-1.6**
RND	**Reindeer**	**145.56**	**309**		**PKPdf**	**13 08 49.7**	**-1.5**
COLA	**College**	**145.91**	**312**		**PKPdf**	**13 08 50.8**	**-0.7**
MAKZ	**Makanchi

IVA eSg Sb 13 15 30.8 -0.6
PVY Plav 0.83 251 ⇓iPg Pg 13 15 18.1 -1.0
PVY i Sg Sb 13 15 31.5 +0.1
BCI Bajram Curri 0.86 235 i PG Pg 13 15 19.7 -0.1
BCI i SG Sb 13 15 33.3 +1.0
SJES Sjenica 0.86 298 ePg Pg 13 15 19.1 -0.7
BOVS Bovan 0.92 33 ePg Pg 13 15 20.9 0.0
SKO Skopje 0.95 161 ePg Pg 13 15 20.4 -1.0
SKO Skopje 0.95 161 i Pg Pg 13 15 20.5 -0.9
SKO i Sg Sb 13 15 34.6 -0.1
SKO eLg Lg 13 15 36.6
comp=N,405nm,0.3s
SKO eLg Lg 13 15 38.1
comp=E,220nm,0.4s
IVAS Ivanjica 0.95 319 ePg Pg 13 15 20.4 -1.1
GRUS Gruza 1.04 348 ePg Pg 13 15 22.6 -0.7
GRUS eSg Sg 13 15 36.1 -0.7
KOME Kolasin 1.10 270 ePg Pg 13 15 23.3 -1.1
KOME eSg Sn 13 15 40.5 -0.3
BOSS Bosilegrad 1.14 108 ePg Pg 13 15 24.7 -0.4
BOSS eSg Sb 13 15 40.4 +0.1
PUK Puka 1.17 226 i PG Pg 13 15 24.9 -0.8
PUK i SG Sn 13 15 42.1 -0.3
PHP Peshkopia 1.26 200 i PN Pg 13 15 25.8 -1.5
PHP i SN Sg 13 15 43.0 -0.5
PLE Pljevlja 1.28 292 ⇑iPg Pn 13 15 26.7 -1.0
PLE eSg Sn 13 15 46.1 +1.0
ZAGS Zajecar 1.30 43 ePg Pn 13 15 27.3 -0.5
PDG Podgorica 1.37 252 ePg Pn 13 15 27.5 -1.3
PDG Podgorica 1.37 252 ⇓iPg Pn 13 15 27.4 -1.3
PDG eSg Sn 13 15 48.0 +0.8
PDG Podgorica 1.37 252 ⇑P Pn 13 15 27.8 -1.0
PDG ⇑S Sb 13 15 46.4 -0.5
PDG AML AML 13 15 51.3
PDG Podgorica 1.37 252 Pn 13 15 27.2 -1.6
PDG Podgorica 1.37 252 Sb 13 15 46.4 -0.5
TTG Podgorica 1.37 252 ⇑iPg Pn 13 15 27.9 -0.9
TTG i Sg Sn 13 15 49.5 +2.3
SVIS Svilajnac 1.41 6 ePg Pn 13 15 29.1 -0.2
SVIS eSg Sg 13 15 48.6 +0.2
RUDO Rudo 1.42 303 ePg Pn 13 15 28.0 -1.5
RUDO eSg Sn 13 15 48.4 0.0
TRUS Trudelj 1.43 342 ePg Pn 13 15 29.4 -0.2
TRUS eSg Sb 13 15 48.1 -0.5
DIVS Divibare 1.44 329 ePg Pn 13 15 29.2 -0.6
DIVS Divibare 1.44 329 ⇑iPg Pn 13 15 29.2 -0.6
DIVS eSg Sb 13 15 48.5 -0.5
STIP Stip 1.46 143 i Pn Pn 13 15 29.6 -0.4
STIP i Sn Sg 13 15 51.8 +1.7
STIP eLg Lg 13 15 53.9
comp=N,391nm,0.3s
STIP eLg Lg 13 15 58.0
comp=E,713nm,0.6s
NKY Niksic 1.49 269 ⇑iPg Pn 13 15 30.7 +0.2
NKY eSg Sg 13 15 52.5 +1.4
DRME Dracevica, Mon 1.52 244 ⇓iPn Pn 13 15 30.4 -0.4
DRME eSg Sg 13 15 52.2 +0.3
DRME Dracevica, Mon 1.52 244 ⇑iPg Pn 13 15 31.1 +0.3
DRME eSg Sg 13 15 53.8 +1.9
NKME Niksic 1.52 267 ⇑iPg Sn 13 15 30.8 -0.1
NKME eSg Sg 13 15 53.8 +1.7
BBLS Lazići 1.54 311 ePg Pn 13 15 31.0 -0.3
BBLS Lazići 1.54 311 ePn Pn 13 15 30.9 -0.3
BBLS eSn Sb 13 15 52.1 +0.1
CEME Cevo 1.58 259 ⇑iPn Pn 13 15 31.9 +0.2
CEME eSn Sg 13 15 55.1 +1.1
UPM Unac-Piva 1.58 283 ⇑iPn Pn 13 15 32.1 +0.1
UPM eSn Sb 13 15 53.5 +0.2
UPM Unac-Piva 1.58 283 ⇑iPn Pn 13 15 32.0 +0.1
UPM eSn Sg 13 15 55.1 +0.9
ULC Ulcinj 1.59 236 i Pn Pb 13 15 33.0 0.0
ULC Ulcinj 1.59 236 ⇓iPn Pb 13 15 32.8 -0.2
ULC i Sn Sg 13 15 55.6 +1.2
KUBS Kucevo 1.62 17 ePg Pn 13 15 30.9 -1.3
KUBS eSg Sg 13 15 55.5 +0.3
VTS Vitosha 1.65 98 ePg Pn 13 15 32.8 0.0
VTS eSg Sg 13 15 56.8 +0.5
VTS Vitosha 1.65 98 ⇓iPn Pn 13 15 32.8 0.0
VTS i Sn Sn 13 15 54.8 +0.4
VTS Vitosha 1.65 98 i P Pn 13 15 33.0 +0.2
VTS Vitosha 1.65 98 P Pn 13 15 32.7 0.0
VTS 13 15 54.5
VTS Vitosha 1.65 98 ⇓P Pn 13 15 32.9 0.0
VTS ⇑S Sn 13 15 54.5 +0.1
VTS AML AML 13 16 00.8
VTS Vitosha 1.65 98 Pn 13 15 32.7 0.0
BUM Brajici-Budva 1.67 251 ⇓iPn Pn 13 15 33.5 +0.6
BUM eSn Sg 13 15 57.1 +0.3
TIR Tirane 1.74 210 ePg Pb 13 15 35.1 -0.4
TIR eSg Sg 13 15 58.7 -0.5
TIR Tirane 1.74 210 i Pn Pn 13 15 34.3 +0.4
TIR Tirane 1.74 210 P Pb 13 15 35.4 -0.1
TIR Tirane 1.74 210 i PN Pg 13 15 37.2 +0.6
TIR i SN Sg 13 16 01.8 +2.6
TIR Tirane 1.74 210 Pb 13 15 35.4 -0.1
OHR Ohrid 1.76 185 ⇓iPn Pn 13 15 34.7 +0.5
OHR i Sn Sb 13 15 57.9 -0.3
OHR eLg Lg 13 16 01.6
comp=N,2µm,0.6s
OHR eLg Lg 13 16 02.6
comp=E,4µm,0.7s
BRY Bratogost 1.82 272 ⇑iPn Pn 13 15 35.2 +0.1
BRY eSn Sb 13 15 59.3 -0.8
BRY Bratogost 1.82 272 ⇓iPn Pn 13 15 35.6 +0.5
BRY i Sn Sb 13 16 00.7 +0.6
KKB Krupnik 1.83 122 ⇓iPn Pn 13 15 35.9 +0.8
KKB i Sn Sn 13 15 59.1 +0.6
KKB Krupnik 1.83 122 i P Pn 13 15 35.0 -0.1
HCY Herceg Novi 1.91 258 ⇑iPn Pb 13 15 37.3 -1.1
HCY eSn Sn 13 16 00.9 +0.4
HCY Herceg Novi 1.91 258 ⇓iPn Pn 13 15 36.9 +0.7
HCY eSn Sb 13 16 03.2 +0.8
VAY Valandovo 1.93 143 ⇑iPn Pn 13 15 36.0 -0.5
VAY eSn Sn 13 16 00.3 -0.6
HAPS Han Pijesak,BI 1.94 310 ePg Pb 13 15 38.6 -0.3
HAPS eSg Sb 13 16 03.2 -0.1
HAPS Han Pijesak,BI 1.94 310 ⇓iPn Pn 13 15 35.6 -1.1
HAPS eSn Sn 13 16 01.0 -0.3
TREB Trebinje 1.97 267 ePg Pb 13 15 38.4 -1.0
TREB eSg Sg 13 16 05.6 -0.9
TREB Trebinje 1.97 267 ⇑iPn Pb 13 15 38.2 -1.2
TREB eSn Sb 13 16 03.4 -0.7
MDVR Moldovita 1.98 14 ⇑P Pn 13 15 36.6 -0.6
MDVR ⇓S Sn 13 16 01.4 -0.9
MDVR AML AML 13 16 10.9
MDVR Moldovita 1.98 14 Pn 13 15 36.6 -0.6
MDVR Sn 13 16 01.4 -0.9
BEO Beograd 1.98 349 ePg Pb 13 15 38.4 -1.2
BEO eSg Sg 13 16 05.6 -1.3
PUNG Punghina 1.98 44 ⇑P Pn 13 15 37.5 +0.3
PUNG ⇑S Sn 13 16 02.3 0.0
PUNG AML AML 13 16 15.0
TEKS Tekeris 2.00 328 ePg Pb 13 15 39.5 -0.4
TEKS Tekeris 2.00 328 ePn Pn 13 15 37.3 -0.2
TEKS eSn Sn 13 16 02.6 -0.2
BAIL Bailesti 2.05 55 ⇑P Pn 13 15 38.0 -0.1
BAIL AML AML 13 16 13.7
FNA Florina 2.10 173 P Pn 13 15 39.6 +0.7
FNA S Sb 13 16 07.3 -0.6
comp=E,2µm,0.6s
FNA Florina 2.10 173 ⇓iPn Pn 13 15 39.2 +0.3
FNA Florina 2.10 173 P Pn 13 15 39.2 +0.3
FNA Florina 2.10 173 i PN Pb 13 15 41.3 -0.4
FNA i SN Sg 13 16 10.5 -0.1
FNA Florina 2.10 173 Pn 13 15 39.2 +0.3
DJES Djerdap 2.10 31 ePg Pb 13 15 41.4 -0.3
DJES eSg Sg 13 16 10.5 -0.3
DBRK Dubrovnik 2.12 266 i Pn Pb 13 15 40.6 -1.5
GRG Griva 2.17 151 P Pn 13 15 40.2 +0.4
GRG Griva 2.17 151 i Pn Pn 13 15 40.0 +0.2
GRG i Sn Sn 13 16 07.0 0.0
KNT Kendrikon 2.21 140 P Pn 13 15 40.2 -0.1
KNT S Sb 13 16 09.9 -1.1
comp=E,842nm,0.7s
KNT Kendrikon 2.21 140 ⇑iPn Pn 13 15 40.1 -0.2
HERR Herculane 2.25 26 ⇑P Pn 13 15 40.8 -0.1
HERR ⇓S Sn 13 16 09.1 +0.1
HERR AML AML 13 16 17.8
PGB Panagyurishte 2.34 97 i P Pn 13 15 43.1 +0.9
MMB Musomiste 2.38 121 i Pn Pn 13 15 43.7 +0.9

MMB Musomiste 2.38 121 P Pn 13 15 44.0 +1.2
SRE Strehaia 2.40 41 P Pn 13 15 43.5 +0.6
SRE 13 16 11.8
SRE Strehaia 2.40 41 ⇑P Pn 13 15 43.5 +0.6
SRE ⇑S Sn 13 16 11.8 -0.6
SRE AML AML 13 16 23.6
SRE Strehaia 2.40 41 Pn 13 15 43.5 +0.6
SRE Sn 13 16 11.8 -0.6
STON Ston 2.44 271 i Pn Pn 13 15 44.6 +1.2
STON Sn Sb 13 16 16.4 -1.2
STON Ston 2.44 271 ⇑iPn Pn 13 15 44.6 +1.2
STON eSn Sn 13 16 14.9 +1.4
FRGS Fruska Gora 2.45 340 ePn Pn 13 15 44.1 +0.4
FRGS eSg Sg 13 16 20.5 -1.4
FRGS Fruska Gora 2.45 340 ⇑iPn Pn 13 15 43.1 -0.6
FRGS eSn Sn 13 16 13.7 -0.2
NEST Nestorio 2.45 179 P Pn 13 15 44.3 +0.6
NEST S Sb 13 16 16.6 -1.5
comp=E,2µm,0.9s
BANR Banloc 2.52 2 ⇑P Pn 13 15 44.9 +0.4
BANR AML AML 13 16 30.1
BANR Banloc 2.52 2 Pn 13 15 44.9 +0.4
KTI Kastanea 2.60 161 P Pn 13 15 46.1 +0.2
KZN Kozani 2.62 167 P Pn 13 15 46.5 +0.5
THE Thessaloniki 2.67 146 i Pn Pn 13 15 46.5 0.0
PENT Pentalofos 2.67 178 P Pn 13 15 46.9 +0.1
TPE Tepelena 2.68 197 i PN Pb 13 15 51.5 +0.1
TPE i SN Sb 13 16 26.3 +1.7
SOH Sokhos 2.69 139 P Pn 13 15 47.2 +0.3
SOH Sokhos 2.69 139 i Pn Pn 13 15 46.9 -0.1
PLVB Pleven 2.69 78 ⇑P Pn 13 15 47.6 +0.7
PLVB AML AML 13 16 34.8
VLAD Vladila 2.71 64 ⇓P Pn 13 15 48.4 +1.2
VLAD AML AML 13 16 42.6
HORT Hortiatis 2.75 145 P Pn 13 15 47.9 +0.1
HORT Hortiatis 2.75 145 eP Pn 13 15 47.8 0.0
BZS Buzias 2.78 9 ePn Pn 13 15 48.0 -0.2
BZS eSg Sg 13 16 31.9 -0.7
BZS Buzias 2.78 9 P Pn 13 15 47.4 -0.8
BZS Buzias 2.78 9 ⇑P Pn 13 15 47.4 -0.8
BZS AML AML 13 16 36.6
BZS Buzias 2.78 9 Pn 13 15 47.4 -0.8
DOB Doboj 2.82 312 ePn Pn 13 15 48.4 -0.3
GZR Gura Zlata 2.83 26 P Pn 13 15 49.1 +0.3
GZR Gura Zlata 2.83 26 ⇓P Pn 13 15 49.1 +0.3
GZR AML AML 13 16 38.4
GZR Gura Zlata 2.83 26 Pn 13 15 49.1 +0.3
PLD Plovdiv 2.83 104 ePn Pb 13 15 52.6 -1.5
PLD Plovdiv 2.83 104 P Pn 13 15 50.8 +1.9
PLD Plovdiv 2.83 104 eP Pn 13 15 49.4 +0.6
KPRO Kipourio 2.92 175 P Pn 13 15 50.7 +0.5
MAKA Makarska 2.96 280 ePn Pn 13 15 50.8 +0.2
MAKA Sn Sb 13 16 29.7 -2.9
LIT Litokhoron 2.98 158 P Pn 13 15 51.0 +0.1
LIT Litokhoron 2.98 158 P Pn 13 15 50.7 -0.2
LIT Litokhoron 2.98 158 Pn 13 15 50.7 -0.2
RZN Rozhen 2.99 112 P Pn 13 15 52.4 +1.2
SRN Sarande 3.08 195 i PN Pb 13 15 57.0 -1.4
SRN i SN Sb 13 16 36.3 +0.2
PLG Polygyros 3.08 143 P Pn 13 15 52.8 +0.4
PVL Pavlikeni 3.18 82 P Pn 13 15 53.1 -0.6
KAVA Kavala 3.21 124 P Pn 13 15 54.3 +0.3
MGRS Mrkonjic Grad 3.25 300 ePn Pn 13 15 55.3 +0.7
MGRS eSn Sn 13 16 33.9 +0.3
LOT Lotru 3.25 37 ⇑P Pn 13 15 54.9 +0.1
LOT AML AML 13 16 52.5
LOT Lotru 3.25 37 Pn 13 15 54.9 +0.1
KEK Kerkira 3.28 197 P Pn 13 15 55.4 +0.3
DEV Deva 3.31 23 P Pn 13 15 56.0 +0.6
DEV Deva 3.31 23 ⇓P Pn 13 15 56.0 +0.6
DEV AML AML 13 16 59.6
DEV Deva 3.31 23 Pn 13 15 56.0 +0.6
COPA Copaceanca 3.31 66 ⇓P Pn 13 15 56.3 +0.9
COPA AML AML 13 16 55.7
HUMR Humele 3.32 59 ⇑P Pn 13 15 55.8 +0.2
HUMR AML AML 13 16 58.0
HUMR Humele 3.32 59 Pn 13 15 55.8 +0.2
BLY Banja Luka 3.35 305 ePn Pn 13 15 56.8 +0.8
BLY Banja Luka 3.35 305 ePn Pn 13 15 56.2 +0.2
BLY eSn Sn 13 16 35.5 -0.6
BLY Banja Luka 3.35 305 ⇑P Pn 13 15 56.2 +0.2
BLY AML AML 13 17 09.6
BLY Banja Luka 3.35 305 Pn 13 15 55.6 -0.4
HVAR Hvar 3.36 277 ePn Pn 13 15 55.4 -0.8
HVAR Sn Sn 13 16 38.5 +2.1
OUR Ouranopolis 3.37 138 P Pn 13 15 56.2 0.0
OUR Ouranopolis 3.37 138 eP Pn 13 15 56.3 0.0
THL Klokotos Trika 3.38 167 P Pn 13 15 56.9 +0.5
SCTE Santa Cesarea 3.39 215 Pn Pn 13 15 56.9 +0.5
FASA Fasano 3.42 234 ePn Pn 13 15 58.1 +1.2
SIRR Siria 3.43 7 ⇓P Pn 13 15 57.5 +0.3
SIRR AML AML 13 17 22.6
SIRR Siria 3.43 7 Pn 13 15 57.5 +0.3
DIM Dimitrovgrad 3.44 102 P Pn 13 15 57.6 +0.4
GOLR 3.47 54 ⇑P Pn 13 15 58.8 +1.2
GOLR AML AML 13 17 13.1
GOLR 3.47 54 Pn 13 15 58.8 +1.2
KDZ Kurdzhali 3.48 109 eP Pn 13 15 57.3 -0.6
BAI Bari 3.55 242 ePn Pn 13 16 01.4 +2.7
PAIG Paliouri 3.55 145 P Pn 13 15 58.8 0.0
ELND Elena 3.57 87 ⇓P Pn 13 16 00.2 +1.2
ELND AML AML 13 17 06.2
THAS Thassos island 3.57 128 P Pn 13 15 59.1 0.0
ARR Arges 3.61 45 ⇑P Pn 13 16 00.2 +0.5
ARR AML AML 13 17 16.6
ARR Arges 3.61 45 Pn 13 16 00.2 +0.5
MASS Massafra 3.66 234 ePn Pn 13 16 00.7 +0.5
RDO Rodhopi 3.78 116 P Pn 13 16 02.6 +0.7
RDO Rodhopi 3.78 116 eP Pn 13 16 02.3 +0.4
SG1 Sgolgore (BA) 3.82 239 ePn Pn 13 16 03.6 +1.1
XOR Xorichti 3.86 154 P Pn 13 16 03.0 -0.1
VOIR 3.88 47 P Pn 13 16 04.1 +0.8
VOIR 3.88 47 ⇓P Pn 13 16 04.1 +0.8
VOIR AML AML 13 17 30.5
VOIR 3.88 47 Pn 13 16 04.1 +0.8
MATE Matera 3.91 237 ⇑P Pn 13 16 04.2 +0.5
MATE AML AML 13 17 31.4
MATE Matera 3.91 237 Pn 13 16 04.2 +0.5
MAKR Makrakomi, Fth 3.94 167 P Pn 13 16 05.1 +0.9
AGG Agios Georgios 3.97 165 P Pn 13 16 04.8 +0.2
AGG Agios Georgios 3.97 165 P Pn 13 16 04.7 +0.2
AGG Agios Georgios 3.97 165 Pn 13 16 04.7 +0.1
EVR Evrytania 3.99 171 P Pn 13 16 05.5 +0.6
MORI Morici 4.00 286 i Pn Pn 13 16 05.7 +0.8
ZIRJ Zirje 4.00 283 ePn Pn 13 16 05.1 +0.2
SGRT San Giovanni R 4.07 256 Pn 13 16 05.5 -0.4
LKD2 Lefkada island 4.08 184 P Pn 13 16 07.0 +0.9
DRGR 4.11 16 P Pn 13 16 07.1 +0.6
DRGR 4.11 16 ⇑P Pn 13 16 07.1 +0.6
DRGR AML AML 13 17 16.6
DRGR 4.11 16 Pn 13 16 07.1 +0.6
MOSL Moslavina 4.11 313 i Pn Pn 13 16 06.3 -0.2
SULR 4.20 63 ⇓P Pn 13 16 08.8 +1.1
SULR AML AML 13 17 51.6
SULR 4.20 63 Pn 13 16 08.8 +1.1
ALN Alexandroupoli 4.24 116 P Pn 13 16 08.6 +0.3
ALN Alexandroupoli 4.24 116 P Pn 13 16 08.5 +0.3
ALN Alexandroupoli 4.24 116 eP Pn 13 16 08.7 +0.5
ALN Alexandroupoli 4.24 116 Pn 13 16 08.5 +0.3
SECR 4.24 58 ⇑P Pn 13 16 09.8 +1.6
SECR 4.24 58 Pn 13 16 09.8 +1.6
CJR Cluj-Napoca 4.26 25 P Pn 13 16 09.0 +0.4
CJR Cluj-Napoca 4.26 25 ⇓P Pn 13 16 09.0 +0.4
CJR AML AML 13 17 29.1
CJR Cluj-Napoca 4.26 25 Pn 13 16 09.0 +0.4
PVO Paravola 4.26 175 P Pn 13 16 10.2 +1.6
PDO Prodromos 4.27 178 P Pn 13 16 09.4 +0.8
AOS Alonnisos 4.28 149 eP Pn 13 16 07.9 -0.9
ACER Acerenza 4.32 243 Pn 13 16 09.4 0.0
EDRB Edirne 4.36 102 eP Pn 13 16 09.7 -0.2
DOPR Dopca 4.41 44 ⇑P Pn 13 16 11.4 +0.9
DOPR AML AML 13 17 35.0
DOPR Dopca 4.41 44 Pn 13 16 11.4 +0.9
MLR Muntele Rosu 4.41 52 P Pn 13 16 10.7 0.0
MLR 13 17 02.0
MLR Muntele Rosu 4.41 52 Pn Pn 13 16 12.0 +1.3
comp=E,6.5nm,0.3s,baz=200,slow=15,SNR=36
MLR Sn Sn 13 17 02.0 -0.4
comp=E,12nm,0.3s,baz=259,slow=23,SNR=3.7

MLR Lg Lg 13 17 23.7
comp=E,8.2nm,0.3s,baz=88,slow=16,SNR=3.2
MLR Muntele Rosu 4.41 52 ⇓P Pn 13 16 11.8 +1.1
MLR AML AML 13 17 31.7
MLR Muntele Rosu 4.41 52 Pn 13 16 10.7 0.0
DUGI Dugi Otok 4.48 287 ePn Pn 13 16 11.7 +0.1
EFP Efpalio 4.49 171 P Pn 13 16 13.3 +1.7
SERG Sergoula 4.52 170 P Pn 13 16 13.0 +0.9
UKOP Uzunkopru-Edir 4.53 111 eP Pn 13 16 14.3 +2.1
KALE Kalithea 4.55 169 P Pn 13 16 13.1 +0.5
KIRK Kırklareli 4.64 101 i P Pn 13 16 14.7 +1.0
KIRK IAML_P
comp=Z,188nm,0.2s
ERIK Erikli-Kesan 4.66 116 eP Pn 13 16 14.5 +0.5
KESN Edirne-Kesan 4.70 114 i P Pn 13 16 17.3 +2.4
KESN i S Sg 13 17 31.1 -2.9
KESN IAML_P
comp=Z,671nm,0.2s
OZUR 4.70 45 ⇓P Pn 13 16 15.2 +0.7
OZUR AML AML 13 18 00.5
OZUR 4.70 45 Pn 13 16 15.2 +0.7
PTJ Puntijarka 4.73 312 i Pn Pn 13 16 14.6 -0.4
NVLJ Novalja 4.77 293 i Pn Pn 13 16 15.8 +0.3
GELI Tayfur-Gelibol 4.78 119 eP Pn 13 16 16.5 +0.9
TIP Timpagrande 4.89 223 Pn 13 16 16.3 -1.0
BOJS Bojanci 4.91 304 i Pn Pn 13 16 18.1 +0.6
CRES Cresnjev 4.96 308 ⇑iPn Pn 13 16 18.3 +0.1
LPR Lapseki 4.97 118 eP Pn 13 16 18.9 +0.6
PHSR Pinarhisar 4.99 102 eP Pn 13 16 20.8 +2.3
EZN Ezine 5.02 125 eP Pn 13 16 19.0 +0.1
PLOR Plostina 5.02 52 P Pn 13 16 19.9 +0.9
PLOR Plostina 5.02 52 ⇓P Pn 13 16 19.9 +0.9
PLOR AML AML 13 18 07.3
PLOR Plostina 5.02 52 Pn 13 16 19.9 +0.9
VRI Vrincioaia 5.07 52 P Pn 13 16 20.8 +1.1
VRI Vrincioaia 5.07 52 ⇑P Pn 13 16 20.8 +1.1
VRI AML AML 13 17 58.9
VRI Vrincioaia 5.07 52 Pn 13 16 20.8 +1.1
ICOR Ion Corvin 5.09 73 ⇑P Pn 13 16 20.9 +1.0
ICOR AML AML 13 17 56.4
PSZ Piszkesteto 5.11 351 P Pn 13 16 17.8 -2.5
PSZ Piszkesteto 5.11 351 Pn 13 16 17.8 -2.5
PAOL Paolisi 5.15 251 Pn 13 16 20.8 0.0
SIGR SIGRI 5.17 133 eP Pn 13 16 20.9 -0.1
SRO Srobarova 5.30 340 eP Pn 13 16 24.3 +1.5
SRO e 13 17 26.3
SRO Srobarova 5.30 340 ePN Pn 13 16 24.3 +1.5
SRO ePG Pg 13 16 46.0 +1.3
SRO eSN Sn 13 17 26.3 +2.2
CVDA Cernavoda 5.30 72 ⇑P Pn 13 16 24.4 +1.5
CVDA Cernavoda 5.30 72 Pn 13 16 24.4 +1.5
RIY Rijeka 5.31 300 ePn Pn 13 16 22.7 -0.2
RIY Rijeka 5.31 300 ePn Pn 13 16 23.5 +0.6
KRBG Karabiga-Canak 5.32 116 eP Pn 13 16 24.0 +1.0
HARR Harsova 5.33 68 P Pn 13 16 24.0 +0.8
HARR Harsova 5.33 68 ⇑P Pn 13 16 24.0 +0.8
HARR Harsova 5.33 68 Pn 13 16 24.0 +0.8
INTR Introdacqua 5.33 263 Pn 13 16 23.3 0.0
TLB Topalu 5.37 69 P Pn 13 16 24.6 +0.8
TLB Topalu 5.37 69 ⇑P Pn 13 16 24.6 +0.8
TLB AML AML 13 18 09.3
TLB Topalu 5.37 69 Pn 13 16 24.6 +0.8
MRMT Marmara Adasi 5.42 112 eP Pn 13 16 24.8 +0.3
BIZ Bicaz 5.44 40 ⇓P Pn 13 16 25.8 +1.0
BIZ Bicaz 5.44 40 Pn 13 16 25.8 +1.0
CEY Cerknica 5.53 304 ⇑iPn Pn 13 16 26.5 +0.5
MFTR Murfatlar 5.54 74 ⇓P Pn 13 16 27.2 +1.1
AYVA Ayvalik 5.57 128 i P Pn 13 16 26.2 -0.2
AYVA IAML_P
comp=Z,614nm,0.3s
CTYL Yalikoy Yolu 5.58 102 ⇑P Pn 13 16 26.9 +0.3
CTYL Yalikoy Yolu 5.58 102 eP Pn 13 16 26.3 -0.3
CTYL Yalikoy Yolu 5.58 102 Pn 13 16 26.9 +0.3
TIRR Tirgusor 5.60 71 P Pn 13 16 26.9 +0.1
TIRR Tirgusor 5.60 71 ⇑P Pn 13 16 27.3 +0.5
TIRR Tirgusor 5.60 71 Pn 13 16 27.3 +0.5
TIRR Tirgusor 5.60 71 Pn 13 16 26.9 +0.1
BURAR Bucovina Array 5.60 31 ⇓P Pn 13 16 28.6 +1.7
BURAR Bucovina Array 5.60 31 Pn 13 16 28.6 +1.7
BURAR Bucovina Array 5.60 31 Pn 13 16 25.7 -1.3
SLVT Silivri 5.60 105 eP Pn 13 16 29.9 +3.0
BUR08 Bucovina Ar. S 5.62 30 Pn 13 16 27.4 +0.2
LJU Ljubljana 5.63 307 ⇑iPn Pn 13 16 27.4 +0.1
CFR Carcaliu 5.63 63 P Pn 13 16 27.1 -0.2
CFR Carcaliu 5.63 63 ⇑P Pn 13 16 27.1 -0.2
CFR Carcaliu 5.63 63 Pn 13 16 27.1 -0.2
KECS Kecovo 5.63 356 eP Pn 13 16 28.6 +1.3
KECS e 13 17 28.4
KECS Kecovo 5.63 356 ePN Pn 13 16 28.6 +1.3
KECS eSN Sn 13 17 28.4 -3.8
BRJN Brijuni 5.63 294 ePn Pn 13 16 26.8 -0.5
AQU L'Aquila 5.64 267 P Pn 13 16 25.1 -2.5
AQU L'Aquila 5.64 267 ePn Pn 13 16 27.2 -0.4
AQU L'Aquila 5.64 267 Pn 13 16 25.1 -2.5
TOPG Topolog 5.69 67 ⇑P Pn 13 16 28.7 +0.6
SOKA Soboth 5.71 314 i Pn Pn 13 16 28.3 -0.3
comp=Z,18nm,0.5s,SNR=36
SOKA i Sn Sn 13 17 34.3 -0.1
comp=Z,21nm,0.5s
SOKA Soboth 5.71 314 Pn 13 16 28.3 -0.3
SOKA Sn 13 17 34.3 -0.1
EDC Edincik 5.72 114 eP Pn 13 16 29.9 +1.4
ITM Ithomi 5.72 173 Pn 13 16 29.2 +0.6
CTKS Kestanelik-??a 5.81 104 eP Pn 13 16 29.1 -0.7
NRCA Norcia 5.81 272 Pn 13 16 29.5 -0.4
VYHS Vyhne 5.83 346 eP Pn 13 16 30.8 +0.7
VYHS e 13 17 38.0
VYHS Vyhne 5.83 346 ePN Pn 13 16 30.8 +0.7
VYHS ePG Pg 13 17 03.3 +8.4
VYHS eSN Sn 13 17 38.0 +0.8
VYHS eSG Sg 13 18 14.9 +4.5
UZH Uzhgorod 5.83 8 eP Pn 13 16 32.5 +2.4
UZH eS Sn 13 17 40.5 +3.3
UZH MLR MLR
comp=N,100nm,9.0s
UZH MLR MLR
comp=E,180nm,9.0s
DKL Dikili 5.85 128 eP Pn 13 16 30.9 +0.6
ARSA Arzberg 5.86 320 i Pn Pn 13 16 30.1 -0.5
comp=E,49nm,0.3s,SNR=32
ARSA eSn Sn 13 17 37.5 -0.5
comp=E,53nm,0.9s
ARSA Arzberg 5.86 320 Pn 13 16 30.1 -0.5
ARSA Sn 13 17 37.5 -0.5
BALY Balya 5.87 120 i P Pn 13 16 33.3 +2.6
BALY IAML_P
comp=Z,722nm,0.3s
OBKA Obir 5.88 311 i Pn Pn 13 16 31.0 +0.2
comp=Z,14nm,0.3s,SNR=27
OBKA i Sn Sn 13 17 38.7 +0.3
comp=Z,46nm,0.6s
OBKA Obir 5.88 311 Pn 13 16 31.0 +0.2
OBKA Sn 13 17 38.7 +0.3
CHOS Chios island 5.89 138 eP Pn 13 16 31.0 0.0
TRI Trieste 5.93 301 P Pn 13 16 29.6 -1.8
TRI Trieste 5.93 301 Pn 13 16 29.6 -1.8
BGKT Bogazkoy 6.02 104 eP Pn 13 16 35.1 +2.5
TLCR 6.08 65 P Pn 13 16 34.5 +1.0
TLCR 6.08 65 ⇓P Pn 13 16 34.5 +1.0
TLCR 6.08 65 Pn 13 16 34.5 +1.0
KCTX Karacabey (Bur 6.09 113 eP Pn 13 16 35.1 +1.5
BALB Balikesir 6.09 120 eP Pn 13 16 33.9 +0.2
MODS Modra-Piesok 6.10 336 eP Pn 13 16 33.5 -0.3
MODS e 13 17 41.0
MODS Modra-Piesok 6.10 336 ePN Pn 13 16 33.5 -0.3
MODS eSN Sn 13 17 41.0 -2.8
KOLS Kolonicke sedl 6.13 8 eP Pn 13 16 35.0 +0.8
KOLS e 13 17 44.9
KOLS Kolonicke sedl 6.13 8 ePN Pn 13 16 35.0 +0.8
KOLS ePG Pg 13 17 03.6 +3.0
KOLS eSN Sn 13 17 44.8 +0.2
KOLS eSG Sg 13 18 26.2 +6.2
STEP BALIKESIR_Sava 6.14 122 i P Pn 13 16 36.1 +1.7
STEP IAML_P
comp=Z,464nm,0.6s
SMOL Smolenice 6.18 337 eP Pn 13 16 36.3 +1.4
SMOL Smolenice 6.18 337 ePN Pn 13 16 36.3 +1.4
SMOL ePG Pg 13 17 08.1 +6.6
URLA Izmir 6.19 135 eP Pn 13 16 35.5 +0.5
KLYT Kilyos 6.19 102 eP Pn 13 16 38.2 +3.2
CONA Conrad Observa 6.23 326 ePn Pn 13 16 34.8 -0.8

comp=Z,18nm,0.6s,SNR=21
CONA *e*Sn **Sn** **13 17 46.4 -0.7**
comp=Z,37nm,0.5s
CONA Conrad Observa 6.23 326 Pn 13 16 34.8 -0.8
CONA **Sn 13 17 46.4 -0.7**
MURB Monte Urbino 6.23 277 Pn 13 16 34.8 -0.9
ISK Istanbul-Kandi 6.26 104 *e*P **Pn 13 16 35.9 -0.1**
ARMT Armutlu 6.30 109 *e*P **Pn 13 16 38.8 +2.2**
BUY Buyukada 6.37 106 *e*P **Pn 13 16 40.1 +2.6**
LANS Liptovska Anna 6.38 351 *e*P **Pn 13 16 41.4 +3.8**
LANS *e* 13 17 51.5
LANS Liptovska Anna 6.38 351 *e*PN **Pn 13 16 41.4 +3.8**
LANS *e*SN **Sn 13 17 51.4 +0.7**
JAVC Velka Javorina 6.43 340 *e*PN **Pn 13 16 39.5 +1.1**
MYKA Terra Mystica 6.46 308 *i* Pn **Pn 13 16 39.5 +0.8**
comp=Z,45nm,0.5s,SNR=30
MYKA *i* Sn **Sn 13 17 52.7 0.0**
comp=Z,8.4nm,0.5s
MYKA Terra Mystica 6.46 308 Pn 13 16 39.5 +0.8
MYKA **Sn 13 17 52.7 0.0**
DURS Dursunbey 6.50 118 *i* P **Pn 13 16 42.1 +2.8**
DURS IAML_P
comp=Z,562nm,0.5s
NIE Niedzica 6.57 356 *e*P **Pn 13 16 42.9 +2.6**
NIE Niedzica 6.57 356 *e*P **Pn 13 16 42.9 +2.6**
NIE *e*P **Pn 13 16 42.9 +2.6**
ULDT Uludag 6.67 111 *i* P **Pn 13 16 41.6 -0.2**
ULDT IAML_P
comp=Z,138nm,0.5s
APE Apeiranthos 6.75 148 *i* P **Pn 13 16 45.4 +2.7**
STAL STALIGIAL 6.83 303 Pn 13 16 43.1 -0.8
KWP Kalwaria Pacla 6.87 9 P **Pn 13 16 42.6 -1.7**
KWP Kalwaria Pacla 6.87 9 Pn **Pn 13 16 42.6 -1.7**
KBA Koelnbreinsper 6.88 310 P **Pn 13 16 45.3 +0.6**
KBA 13 18 03.7
KBA Koelnbreinsper 6.88 310 *i* Pn **Pn 13 16 45.3 +0.6**
comp=Z,8.5nm,0.4s,SNR=12
KBA *i* Sn **Sn 13 18 03.7 +0.5**
comp=Z,34nm,0.8s
KBA Koelnbreinsper 6.88 310 Pn 13 16 45.3 +0.6
KBA **Sn 13 18 03.7 +0.5**
MOA Molln 6.89 319 *e*Pn **Pn 13 16 45.2 +0.6**
comp=Z,22nm,0.6s,SNR=11
MOA *i* Sn **Sn 13 18 06.3 +3.1**
comp=Z,47nm,0.6s
MOA Molln 6.89 319 Pn 13 16 45.2 +0.6
MOA **Sn 13 18 06.3 +3.1**
KIS Kishinev 6.91 51 *e*P Pn 13 16 54.0 +9.2
KIS LRM MLR 13 20 16.0
comp=Z,700nm,8.0s
KIS Kishinev 6.91 51 *e*P Pn 13 16 54.0 +9.2
KIS MLR MLR
comp=Z,700nm,8.0s
KRUC Moravsky 6.98 334 *e*PN **Pn 13 16 45.0 -0.9**
KRUC *e*SN **Sn 13 18 02.5 -3.0**
VRAC Vranov 7.14 336 P **Pn 13 16 48.9 +0.9**
VRAC 13 18 09.8
VRAC Vranov 7.14 336 Pn **Pn 13 16 45.1 -3.0**
comp=Z,0.5nm,0.3s,baz=166,slow=15,SNR=6.2
VRAC Sn **Sn 13 18 09.8 +0.5**
comp=Z,3.4nm,0.3s,baz=274,slow=19,SNR=5.1
VRAC LR LR 13 20 18.3
comp=Z,195nm,18.9s,baz=148,slow=44
VRAC Vranov 7.14 336 ⇑P **Pn 13 16 48.9 +0.9**
VRAC Vranov 7.14 336 *e*PN **Pn 13 16 48.6 +0.6**
VRAC *e*SN **Sn 13 18 07.0 -2.4**
VRAC Vranov 7.14 336 Pn 13 16 48.9 +0.9
OSSC Osservatorio P 7.17 279 Pn **Pn 13 16 47.9 -0.6**
TEOL Teolo 7.17 294 Pn **Pn 13 16 47.7 -0.9**
ABTA Abfaltersbach 7.18 306 *i* Pn **Pn 13 16 49.9 +1.1**
comp=Z,16nm,0.4s,SNR=11
ABTA *i* Sn **Sn 13 18 08.3 -2.3**
comp=Z,19nm,0.6s
ABTA Abfaltersbach 7.18 306 Pn 13 16 49.9 +1.1
ABTA **Sn 13 18 08.3 -2.3**
MANT Manisa 7.21 125 Pn **Pn 13 16 49.5 +0.3**
LVV L'vov 7.26 16 *e*P **Pn 13 16 45.2 -4.5**
LVV *e*S **Sn 13 18 06.5 -5.8**
MORC Moravsky Berou 7.32 342 P **Pn 13 16 49.7 -0.8**
MORC Moravsky Berou 7.32 342 *e*PN **Pn 13 16 50.5 0.0**
MORC *e*SN **Sn 13 18 10.4 -3.4**
MORC Moravsky Berou 7.32 342 Pn 13 16 49.7 -0.8
OJC Ojcow 7.40 354 P **Pn 13 16 49.7 -1.9**
OJC Ojcow 7.40 354 *e*P **Pn 13 16 55.8 +4.1**
OJC *e*P **Pn 13 16 55.8 +4.1**
OJC Ojcow 7.40 354 Pn **Pn 13 16 49.7 -1.9**
CTI Castel Tesino 7.42 299 P **Pn 13 16 51.5 -0.5**
CTI Castel Tesino 7.42 299 Pn 13 16 51.5 -0.5
KRLC Kraliky 7.78 339 *e*SN **Sn 13 18 24.9 -0.3**
VLC Villacollemand 7.84 283 Pn **Pn 13 16 58.0 +0.4**
GEC2 GERESS Array S 7.86 322 Pn 13 16 58.1 +0.1
GERES GERESS Array B 7.86 322 P **Pn 13 16 57.9 -0.1**
GERES GERESS Array B 7.86 322 Pn **Pn 13 16 59.6 +1.6**
comp=Z,1.4nm,0.3s,baz=149,slow=14,SNR=34
GERES LR LR 13 20 27.2
comp=Z,161nm,19.7s,baz=118,slow=41
GERES GERESS Array B 7.86 322 Pn 13 16 57.9 -0.1
WTTA Wattenberg 7.96 307 P **Pn 13 17 00.8 +1.3**
WTTA 13 18 28.3
WTTA Wattenberg 7.96 307 *i* Pn **Pn 13 17 00.8 +1.3**
comp=Z,52nm,0.6s,SNR=39
WTTA *i* Sn **Sn 13 18 28.3 -1.6**
comp=Z,17nm,0.7s
WTTA Wattenberg 7.96 307 Pn 13 17 00.8 +1.3
WTTA **Sn 13 18 28.3 -1.6**
SALO Salr 8.02 294 Pn **Pn 13 16 59.8 -0.4**
WATA Walderalm 8.03 307 P **Pn 13 17 01.7 +1.3**
WATA 13 18 30.6
WATA Walderalm 8.03 307 *i* Pn **Pn 13 17 01.7 +1.3**
comp=Z,40nm,0.5s,SNR=29
WATA *i* Sn **Sn 13 18 30.6 -1.0**
comp=Z,14nm,0.5s
WATA Walderalm 8.03 307 Pn 13 17 01.7 +1.3
WATA **Sn 13 18 30.6 -1.0**
KHC Kasperske Hory 8.12 323 *e*P **Pn 13 17 01.8 +0.2**
KHC *e* 13 18 42.0
KHC Kasperske Hory 8.12 323 *e*PN **Pn 13 17 01.8 +0.2**
KHC *ex* x 13 17 28.0
KHC *ex* x 13 18 42.0
KHC Kasperske Hory 8.12 323 Pn 13 17 01.4 -0.2
DPC Dobruska-Polom 8.15 338 *e*P **Pn 13 17 03.2 +1.2**
DPC *e* 13 18 33.3
DPC Dobruska-Polom 8.15 338 *e*PN **Pn 13 17 03.2 +1.2**
DPC *e*SN **Sn 13 18 33.3 -1.0**
SQTA Sankt Quirin 8.20 305 P **Pn 13 17 04.0 +1.3**
SQTA 13 18 35.5
SQTA Sankt Quirin 8.20 305 *i* Pn **Pn 13 17 04.0 +1.3**
comp=Z,63nm,0.7s,SNR=23
SQTA *i* Sn **Sn 13 18 35.4 -0.1**
comp=Z,6.2nm,0.3s
SQTA Sankt Quirin 8.20 305 Pn 13 17 04.0 +1.3
SQTA **Sn 13 18 35.5 -0.1**
MOTA Moosalm 8.32 306 P **Pn 13 17 05.5 +1.1**
MOTA 13 18 38.0
MOTA Moosalm 8.32 306 *i* Pn **Pn 13 17 05.5 +1.1**
comp=Z,32nm,0.4s,SNR=23
MOTA *i* Sn **Sn 13 18 38.0 -0.6**
comp=Z,13nm,0.5s
MOTA Moosalm 8.32 306 Pn 13 17 05.5 +1.1
MOTA **Sn 13 18 38.0 -0.6**
UPC Upice 8.38 338 *e*P **Pn 13 17 07.2 +2.2**
UPC Upice 8.38 338 *e*PN **Pn 13 17 07.2 +2.2**
FETA Feichten 8.39 303 *i* Pn **Pn 13 17 06.6 +1.2**
comp=Z,19nm,0.8s,SNR=8.7
FETA *i* Sn **Sn 13 18 41.1 +0.6**
comp=Z,4.5nm,0.6s
FETA Feichten 8.39 303 Pn 13 17 06.6 +1.2
FETA **Sn 13 18 41.1 +0.6**
MSSA Maissana 8.47 284 Pn **Pn 13 17 05.7 -0.7**
RETA Reutte 8.59 306 *i* Pn **Pn 13 17 09.2 +1.2**
comp=Z,8.0nm,0.4s
RETA *i* Sn **Sn 13 18 45.3 +0.2**
comp=Z,2.9nm,0.2s
RETA Reutte 8.59 306 Pn 13 17 09.2 +1.2
RETA **Sn 13 18 45.3 +0.2**
PGF Pioggiola 8.86 272 *e*Pn **Pn 13 17 08.1 -3.6**
PGF Pioggiola 8.86 272 *e*P **Pn 13 17 13.9 +2.2**
DAVA Damuels 9.03 303 *i* Pn **Pn 13 17 15.1 +1.0**
comp=Z,9.5nm,0.5s
DAVA Damuels 9.03 303 Pn 13 17 15.1 +1.0
TUE Stuetta 9.06 297 Pn 13 17 13.8 -0.8
BRG Berggiesshubel 9.36 331 *e*(PG) **Pn 13 17 20.9 +2.5**
BRG *e* 13 17 40.7
BRG *e* 13 19 11.1
comp=Z,27nm,1.3s
BRG Berggiesshubel 9.36 331 *e*P **Pn 13 17 20.9 +2.5**
BRG *e* 13 19 11.1
BRG pmax pmax
comp=Z,93nm,1.3s
AKASG Malin Array Be 9.64 33 *c e*P **Pn 13 17 26.5 +4.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 9.64 33 Pn **Pn 13 17 21.9 -0.4**
comp=Z,0.7nm,0.3s,baz=217,slow=12,SNR=4.4
AKASG Lg Lg 13 20 10.1
baz=219,slow=29,SNR=4.5
SBF Sospel 9.94 280 *e*Pn **Pn 13 17 22.4 -4.2**
SBF Sospel 9.94 280 *e*P **Pn 13 17 28.4 +1.8**
BRTR Keskin Array B 10.00 104 P **Pn 13 17 26.0 -1.5**
BRTR Keskin Array B 10.00 104 Pn **Pn 13 17 27.0 -0.5**
comp=Z,0.1nm,0.3s,baz=282,slow=9.7,SNR=2.4
BRTR LR LR 13 21 03.4
comp=Z,122nm,20.3s,baz=282,slow=36
BRTR Keskin Array B 10.00 104 Pn **Pn 13 17 26.0 -1.5**
CLL Collm 10.05 330 *e*P **Pn 13 17 28.0 0.0**
CLL Collm 10.05 330 *e*Pn **Pn 13 17 28.0 0.0**
CLL *e* 13 17 36.0
CLL *e*Sn Sn 13 18 54.0 -27
CLL *e* 13 19 45.0
CLL *e*Sglp 13 20 12.0
CLL *e*Sg 13 20 35.0
CLL Lmax 13 21 00.0
CLL Collm 10.05 330 Pn 13 17 27.9 0.0
SENIN Lac Senin/Sane 10.39 294 Pn 13 17 30.6 -2.1
BFO Black Forest 10.43 306 *c e*P **Pn 13 17 33.6 +0.4**
BFO Black Forest 10.43 306 Pn 13 17 32.9 -0.2
MBDF Montbardon 10.47 285 *e*Pn **Pn 13 17 30.4 -3.4**
MBDF Montbardon 10.47 285 *e*P **Pn 13 17 35.6 +1.8**
MBDF *e*Sn Sn 13 19 19.8 -12
comp=Z,1.3nm,0.3s
FRF La Foret Royal 10.52 279 *e*Pn **Pn 13 17 30.2 -4.1**
FRF La Foret Royal 10.52 279 *e*P **Pn 13 17 35.9 +1.6**
BNI Bardonecchia 10.57 287 P **Pn 13 17 34.5 -0.7**
BNI Bardonecchia 10.57 287 Pn **Pn 13 17 34.5 -0.7**
LPG La Plagne 10.58 289 *e*Pn **Pn 13 17 31.4 -4.1**
LPG La Plagne 10.58 289 *e*P **Pn 13 17 37.7 +2.2**
LPG *e*Sn Sn 13 19 23.6 -11
comp=Z,15nm,0.6s
LPL La Plagne 10.60 289 *e*Pn **Pn 13 17 32.4 -3.2**
LPL La Plagne 10.60 289 *e*P **Pn 13 17 37.8 +2.2**
LPL *e*Sn Sn 13 19 23.9 -11
comp=Z,9.9nm,0.5s
LMR La Mourre 10.62 277 *e*Pn **Pn 13 17 31.7 -4.1**
LMR La Mourre 10.62 277 *e*P **Pn 13 17 38.4 +2.6**
ECH Echery 11.09 304 P **Pn 13 17 41.0 -1.2**
ECH Echery 11.09 304 Pn 13 17 41.0 -1.2
CDF Champ du Feu 11.10 305 *e*P **Pn 13 17 42.6 +0.2**
ORIF Oris-en-Rattie 11.12 286 *e*Pn **Pn 13 17 38.8 -3.8**
ORIF Oris-en-Rattie 11.12 286 *e*P **Pn 13 17 44.7 +2.1**
HINF Hinteralfeld 11.13 301 *e*P **Pn 13 17 44.8 +2.1**
HINF *e*Sn Sn 13 19 36.0 -11
comp=Z,1.6nm,0.3s
CABF La Chapelle 11.26 295 *e*P **Pn 13 17 46.1 +1.5**
HAU Haudompre 11.51 302 *e*P **Pn 13 17 49.0 +1.0**
VIVF Saint-Julien-l 11.97 285 *e*Pn **Pn 13 17 50.3 -3.9**
VIVF Saint-Julien-l 11.97 285 *e*P **Pn 13 17 55.8 +1.6**
RGN Rugen 12.74 339 Pn **Pn 13 18 04.8 +0.2**
AVF Avril sur Loir 13.13 293 *e*P **Pn 13 18 12.0 +1.9**
BMRD Maredsous 13.41 309 P **Pn 13 18 12.7 -1.1**
BGF Bois d'Agland 13.44 292 *e*P **Pn 13 18 15.8 +1.6**
LFF La Frestale 14.76 285 *e*P **Pn 13 18 33.1 +0.7**
VSR Storozhevoye 14.90 50 *e*P **P 13 18 37.4 -2.5**
VSR pmax pmax
comp=Z,5.0nm,0.5s
MMAI Mount Meron Ar 15.00 126 LR LR 13 24 34.5
comp=Z,91nm,20.9s,baz=345,slow=38
LPSR Galich'ya Gora 15.45 45 *e*P **Pn 13 18 40.1 -1.4**
LPSR pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 15.78 79 *e*P **Pn 13 18 47.4 +1.4**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,68nm,13.0s
OBN Obninsk 15.90 34 ⇓*e*P **Pn 13 18 46.1 -1.2**
OBN *e*S **Sn 13 21 40.5 -3.1**
OBN pmax pmax
comp=Z,12nm,1.1s
OBN MLR MLR
comp=Z,76nm,14.0s
KBZ Khabaz 15.95 79 Pn **Pn 13 18 48.9 +0.8**
comp=Z,0.1nm,0.3s,baz=296,slow=10,SNR=2.5
VSU Vasula 16.02 11 *i* P **P 13 18 50.6 -1.7**
VSU pmax pmax
comp=Z,8.0nm,0.2s
VRH Novokhopyorsk 16.35 52 *e*P **Pn 13 18 53.4 +0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
HFS Hagfors 17.86 348 P **Pn 13 19 11.8 -0.2**
comp=Z,0.3nm,0.3s,baz=161,slow=11,SNR=5.5
HFS LR LR 13 26 22.8
comp=Z,191nm,20.5s,baz=158,slow=38
GNI Garni 17.96 91 LR LR 13 27 15.0
comp=Z,47nm,19.8s,baz=248,slow=41
NC602 NORSAR Array S 18.79 345 P **P 13 19 20.4 -2.5**
NC602 IAmb IAmb 13 19 32.6
comp=Z,62nm,1.4s
FINES FINESS Array B 18.85 8 P **P 13 19 22.3 -1.3**
FINES FINESS Array B 18.85 8 P **Pn 13 19 24.1 0.0**
comp=Z,0.3nm,0.3s,baz=181,slow=14,SNR=4.3
FINES LR LR 13 26 35.0
comp=Z,84nm,18.7s,baz=357,slow=37
FINES FINESS Array B 18.85 8 P **P 13 19 22.3 -1.3**
FIA1 FINESS Array S 18.85 8 P **Pn 13 19 24.0 -0.1**
FIA1 IAmb IAmb 13 19 25.8
comp=Z,23nm,1.2s
NC405 NORSAR Array S 19.11 346 P **P 13 19 25.7 -0.8**
NB201 NORSAR Array S 19.13 345 P **P 13 19 26.4 -0.3**
NOA NORSAR Array B 19.14 345 P **P 13 19 26.5 -0.3**
comp=Z,0.0nm,0.3s,baz=160,slow=10,SNR=5.8
NOA LR LR 13 27 10.2
comp=Z,57nm,19.5s,baz=170,slow=38
NC303 NORSAR Array S 19.28 346 P **P 13 19 27.9 -0.4**
NC204 NORSAR Array S 19.44 345 P **P 13 19 30.3 +0.2**
EKA Eskdalemuir Ar 20.03 317 P **P 13 19 36.4 -0.1**
comp=Z,1.6nm,0.5s,baz=116,slow=9.9,SNR=8.6
ESK Eskdalemuir 20.04 317 P **P 13 19 36.3 -0.3**
ESK pmax pmax
comp=Z,47nm,1.5s
ESK Eskdalemuir 20.04 317 P **P 13 19 36.3 -0.3**
ESK IAmb IAmb 13 19 53.8
comp=Z,48nm,1.4s
KLMR Klimovskoe 21.19 25 *e*P **P 13 19 46.7 -2.3**
KLMR pmax pmax
comp=Z,38nm,1.4s
KLMR Klimovskoe 21.19 25 *e*P **P 13 19 46.7 -2.3**
KLMR AMP 13 19 56.0
comp=Z,38nm,1.4s
KLMR LQ LQ 13 25 45.9
KLMR LQ LQ 13 25 45.9
MDT Midelt 22.51 252 LR LR 13 29 50.4
comp=Z,39nm,20.1s,baz=352,slow=39
PRGR Permogore 23.83 29 *e*P **P 13 20 15.1 -1.5**
PRGR pmax pmax
comp=Z,24nm,0.8s
AKTO Aktyubinsk 26.28 60 P **P 13 20 39.0 -0.1**
comp=Z,0.9nm,0.4s,baz=261,slow=8.3,SNR=5.3
AKTO LR LR 13 32 20.3
comp=Z,40nm,18.7s,baz=278,slow=40
ARCES ARCESS Array B 26.84 3 P **P 13 20 43.8 -0.1**
comp=Z,1.8nm,0.7s,baz=179,slow=11,SNR=3.8
ARCES LR LR 13 31 03.9
comp=Z,76nm,18.1s,baz=219,slow=36
ARU Arti 27.44 47 *d i*P **P 13 20 48.7 -0.8**
ARU S **S 13 25 30.3 +0.3**
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 27.44 47 P **P 13 20 49.0 -0.5**
comp=Z,1.8nm,0.6s,baz=281,slow=9.3,SNR=6.7
ARU Arti 27.44 47 P **P 13 20 48.5 -1.0**
ARU IAmb IAmb 13 20 49.8
comp=Z,5.6nm,0.7s
ABKAR Akbulak array 27.52 63 P **P 13 20 49.5 -0.8**
ABKAR Akbulak array 27.52 63 P **P 13 20 49.8 -0.5**
GEYT Alibeck 28.52 87 LR LR 13 34 48.0
comp=Z,27nm,19.1s,baz=205,slow=42
SVE Sverdlovsk 28.65 47 *e*P **P 13 21 00.1 -0.2**
SVE pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 33.90 55 *c e*P **P 13 21 47.5 +1.0**
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 33.90 55 P **P 13 21 46.9 +0.4**
BRVK IAmb IAmb 13 21 47.9
comp=Z,7.3nm,0.6s
TOA0 Torodi Ar. Sit 34.00 215 P **P 13 21 47.3 -0.4**
TOA0 IAmb IAmb 13 22 38.3
comp=Z,7.9nm,1.4s
TORD Torodi Ar. Bea 34.00 215 P **P 13 21 48.1 +0.4**
comp=Z,0.8nm,0.5s,baz=19,slow=8.8,SNR=6.4
KK31 Karatay Array 35.78 72 P **P 13 22 02.4 -0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KK31 Karatay Array 35.78 72 P **P 13 22 02.4 -0.5**
KKAR Karatay Array 35.78 72 P **P 13 22 02.4 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 35.78 72 P **P 13 22 02.6 -0.3**
KKAR Karatay Array 35.78 72 P **P 13 22 02.4 -0.5**
KKAR IAmb IAmb 13 22 06.0
comp=Z,2.4nm,0.8s
AAK Ala-Archa 38.71 71 P **P 13 22 28.9 +1.0**
AAK pmax pmax
comp=Z,10.0nm,1.6s
AAK Ala-Archa 38.71 71 P **P 13 22 28.9 +1.0**
AAK IAmb IAmb 13 22 30.6
comp=Z,10nm,1.6s
KURK Kurchatov 39.32 58 P **P 13 22 32.3 -0.4**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 39.32 58 P **P 13 22 32.3 -0.4**
KSH Kashi 40.88 75 *e*P **P 13 22 45.1 -0.8**
ZAA0 Zalesovo Array 42.39 52 P **P 13 22 57.0 -1.0**
ZAA0 IAmb IAmb 13 22 58.7
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 42.39 52 P **P 13 22 56.9 -1.1**
ZALV Zalesovo Beam 42.39 52 P **P 13 22 57.9 0.0**
comp=Z,5.8nm,0.5s,baz=280,slow=8.7,SNR=23
ZALV LR LR 13 42 46.8
comp=Z,54nm,19.7s,baz=345,slow=39
ZALV Zalesovo Beam 42.39 52 P **P 13 22 56.9 -1.1**
DBIC Dimbokro 42.67 220 P **P 13 23 00.5 -0.1**
comp=Z,1.5nm,0.4s,baz=357,slow=9.3,SNR=5.2
DBIC Dimbokro 42.67 220 P **P 13 23 00.1 -0.5**
DBIC IAmb IAmb 13 23 28.5
comp=Z,12nm,1.2s
MK31 Makanchi Array 42.67 63 P **P 13 23 00.3 -0.1**
MK31 pmax pmax
comp=Z,8.0nm,2.0s
MK31 Makanchi Array 42.67 63 P **P 13 23 00.3 -0.1**
MK31 IAmb IAmb 13 23 24.6
comp=Z,8.4nm,2.0s
MKAR Makanchi Array 42.67 63 *c e*P **P 13 23 00.7 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 42.67 63 P **P 13 23 00.4 0.0**
comp=Z,1.2nm,0.4s,baz=273,slow=7.8,SNR=16
MKAR Makanchi Array 42.67 63 P **P 13 23 00.0 -0.4**
DGZ Jazzator, Alta 45.05 57 *i* P **P 13 23 20.1 +0.5**
WMQ Urumqi 47.28 65 *e*P **P 13 23 39.6 +2.4**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.5s
SONM Songino Array 57.26 53 P **P 13 24 51.2 -0.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 57.26 53 P **P 13 24 51.3 0.0**
comp=Z,1.4nm,0.7s,baz=291,slow=8.8,SNR=9.2
SONM Songino Array 57.26 53 P **P 13 24 51.2 -0.2**
GTA Gaotai 57.37 64 *e*P **P 13 24 53.0 +0.8**
GTA pP sP 13 24 57.5 +1.9
GTA sP pP 13 25 00.0 +5.3
GTA pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 60.87 31 LR LR 13 56 14.0
comp=Z,33nm,18.1s,baz=311,slow=41
LZH Lanzhou 61.84 66 *e*P **P 13 25 23.5 +0.3**
LZH pP sP 13 25 27.3 +0.7
LZH sP pP 13 25 30.3 +4.6
LZH pmax pmax
comp=Z,13nm,1.2s
LZH pmax pmax
comp=Z,59nm,4.9s
HHC Hu-ho-hao-te 64.13 57 *e*P **P 13 25 38.8 +0.5**
HHC pmax pmax
comp=Z,6.0nm,0.9s
BILL Bilibino 66.37 14 ⇑*e*P **P 13 25 54.6 +2.4**
BILL *e* 13 28 24.1
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL MLR MLR
comp=Z,38nm,15.0s
CMAR Chiang Mai Arr 68.94 84 *c e*P **P 13 26 09.8 +0.6**
CMAR Chiang Mai Arr 68.94 84 P **P 13 26 08.8 -0.4**
comp=Z,0.4nm,0.8s,baz=296,slow=7.1,SNR=4.2
ILAR Eielson Array 72.28 355 P **P 13 26 29.7 +0.8**
comp=Z,0.3nm,0.6s,baz=0.8,slow=5.7,SNR=6.4
KSRS Korea Array 76.09 52 LR LR 14 04 08.2
comp=Z,21nm,20.1s,baz=125,slow=39
TXAR Lajitas Array 92.00 314 P **P 13 28 14.7 +1.6**
comp=Z,0.6nm,1.0s,baz=64,slow=4.1,SNR=2.4
PFO Pinyon Flats O 94.51 326 *i* P **P 13 28 24.6 0.0**
ASAR Alice Springs 122.19 94 PKP **PKPdf 13 33 58.3 -0.7**
comp=Z,0.6nm,0.8s,baz=333,slow=0.4,SNR=4.4

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*IDC **18** 13:17:32.8±0.8, 11°.42N×86°.18W, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.9/36, mbtmp3.8/8, ML3.1/2, MS3.3/6, Ms1 3.4/6, ms1mx3.0/46, Error ellipse: s-maj=64.8km s-min=14.3km az=49.0*
*UCR **18** 13:17:36.6±3.3, 11°.09N×86°.52W, h6km±49km, MW4.3*
*NEIC **18** 13:17:39.8±2.1, 11°.19N±0°.08×86°.4W±0°.1, h55km±6km, mb4.4/45*
ISC 18 13:17:38.1±0.6, 11°.23N±0°.06×86°.43W±0°.06, h31km, n94, σ1.29/87, mb4.3/26, MS3.5/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUEV	**Buena Vista**	**1.09**	**113**	*e*S	**Sb**	**13 18 12.7**	**+0.3**
CNGN	**Cerro Negro**	**1.29**	**348**	*e*P	**Pn**	**13 18 00.7**	**+0.6**
PLVR	**Palo Verde**	**1.37**	**130**	*e*S	**Sb**	**13 18 27.6**	**+7.1**
ACON	**Acoyapa**	**1.43**	**59**	*e*P	**Pb**	**13 18 04.2**	**+0.1**
ACON	**Acoyapa**	**1.43**	**59**	Pn	**Pn**	**13 18 01.1**	**-0.8**
CRIN	**San Cristobal**	**1.58**	**337**	*e*P	**Pb**	**13 18 05.5**	**-1.3**
JTS	**Las Juntas de**	**1.72**	**123**	Pn	**Pn**	**13 18 03.5**	**-2.5**
	64nm,0.3s,baz=8.8,slow=6.4,SNR=35						
JTS				LR	LR	13 18 25.4	
	comp=Z,171nm,18.6s,baz=3.5,slow=32						
JTS				Sn	**Sn**	**13 18 25.8**	**-1.2**
	138nm,0.3s,baz=356,slow=19,SNR=9.9						
JTS	**Las Juntas de**	**1.72**	**123**		**Pn**	**13 18 03.3**	**-2.6**
MATN	**Matagalpa**	**1.76**	**16**	*e*P	**Pb**	**13 18 09.8**	**0.0**
ARE1	**Arenal 1**	**1.84**	**114**	*e*P	**Pn**	**13 18 06.8**	**-0.8**
CEDE	**Laguna Cedeo**	**1.85**	**113**	*e*P	**Pn**	**13 18 07.7**	**0.0**
ESTN	**Estel**	**1.86**	**2**	*e*P	**Pb**	**13 18 11.0**	**-0.5**
ESTN	**Estel**	**1.86**	**2**		**Pn**	**13 18 07.3**	**-0.7**
SRA1	**San Ramn**	**2.23**	**121**	*e*P	**Pb**	**13 18 16.6**	**-1.2**
ESPN	**Las Esperanzas**	**2.29**	**65**	*e*P	**Pb**	**13 18 16.7**	**-2.1**
ESPN	**Las Esperanzas**	**2.29**	**65**	Pn	**Pb**	**13 18 16.5**	**-2.3**
HDC	**Heredia**	**2.58**	**118**		**Pn**	**13 18 18.7**	**+0.8**
LCR2	**La Lucha 2**	**2.80**	**122**	*e*P	**Pn**	**13 18 21.1**	**+0.1**
CVTR	**Volcan Turrial**	**2.88**	**114**	*e*P	Pn	13 18 08.3	-14
TGUH	**Tegucigalpa,Un**	**2.93**	**344**		**Pn**	**13 18 21.6**	**-1.1**
APG	**El Apazote**	**5.44**	**314**	Pn	**Pn**	**13 18 56.8**	**-0.5**
	0.2nm,0.3s,baz=140,slow=9.0,SNR=2.1						
BCIP	**Isla Barro Col**	**6.80**	**107**	Pn	**Pn**	**13 19 16.1**	**+0.3**
CMIG	**Matias Romero**	**10.06**	**306**	Pn	**Pn**	**13 19 59.9**	**-0.6**
	0.4nm,0.3s,baz=132,slow=11,SNR=9.2						
CMIG				Sn	**Sn**	**13 21 54.4**	**+2.1**
	0.2nm,0.3s,baz=252,slow=20,SNR=2.7						
ATAH	**Atahualpa**	**19.92**	**156**	LR	LR	13 28 44.9	
	comp=Z,166nm,18.8s,baz=341,slow=34						
HKT	**Hockley**	**20.58**	**336**	P	**P**	**13 22 15.2**	**+0.7**
HKT				IAmb	IAmb	13 22 16.7	
	comp=Z,19nm,1.4s						
152A	**Waverly Hall**	**21.39**	**4**	P	**P**	**13 22 25.4**	**+2.1**
152A				IAmb	IAmb	13 22 36.0	
	comp=Z,13nm,0.9s						
Z50A	**Ashland**	**21.93**	**1**	P	**P**	**13 22 30.6**	**+1.7**
CSU	**Charleston Sou**	**22.43**	**14**	P	**P**	**13 22 34.4**	**+0.1**

Y49A	Blount Mountai	22.52	0	P	P	13 22 36.4	+1.0
Y49A				IAmb	IAmb	13 22 38.1	
comp=Z,11nm,0.7s							
WHTX	Lake Whitney,	23.03	335	P	P	13 22 40.0	-0.8
WHTX				IAmb	IAmb	13 23 05.0	
comp=Z,8.1nm,0.8s							
X48A	Hartselle	23.12	359	P	P	13 22 42.2	+0.6
X48A				IAmb	IAmb	13 22 43.4	
comp=Z,17nm,1.3s							
FPAL	Fort Paine	23.22	2	P	P	13 22 42.8	+0.2
FPAL				IAmb	IAmb	13 22 44.6	
comp=Z,30nm,1.9s							
JSC	Jenkinsville	23.43	11	P	P	13 22 45.4	+0.8
JSC				IAmb	IAmb	13 23 30.2	
comp=Z,31nm,2.0s							
PLAL	Pickwick Lake	23.69	357	P	P	13 22 47.4	+0.3
W52A	Murphy	23.86	5	P	P	13 22 49.4	+0.5
W52A				IAmb	IAmb	13 23 01.9	
comp=Z,8.7nm,0.9s							
BG3	Lake Jocassee	23.87	7	P	P	13 22 49.3	+0.4
SWET	Sewanee	23.88	1	P	P	13 22 49.4	+0.3
W50A	Signal Mountai	23.88	2	P	P	13 22 49.2	+0.2
W50A				IAmb	IAmb	13 22 51.2	
comp=Z,10.0nm,0.8s							
MIAR	Mount Ida	24.11	345	P	P	13 22 50.8	-0.2
TXAR	Lajitas Array	24.15	321	P	P	13 22 51.1	-0.5
comp=Z,3.0nm,0.7s,baz=135,slow=9.7,SNR=41							
TXAR				PcP	PcP	13 26 32.1	-0.1
comp=Z,0.9nm,0.9s,baz=150,slow=5.5,SNR=5.9							
TXAR	Lajitas Array	24.15	321	P	P	13 22 50.5	-1.1
TX32	Lajitas Array	24.15	321	P	P	13 22 50.6	-1.1
CPCT	Cooper Cave	24.17	4	P	P	13 22 52.3	+0.6
CPCT				IAmb	IAmb	13 22 56.0	
comp=Z,11nm,0.8s							
WHAR	Wooly Hollow	24.54	348	P	P	13 22 53.4	-1.6
CLTN	Cedars of Leba	24.75	0	P	P	13 22 57.3	+0.3
W39A	Magazine	24.78	346	P	P	13 22 56.8	-0.4
W39A				IAmb	IAmb	13 22 58.1	
comp=Z,18nm,1.2s							
NNA	Nana	24.95	157	LR	LR	13 33 11.0	
comp=Z,14nm,18.3s,baz=336,slow=38							
FCAR	Ozark Folk Cen	25.09	349	P	P	13 22 58.2	-1.7
LCAR	Lake Charles	25.10	351	P	P	13 22 58.5	-1.6
V58A	Windy Hill, Pi	25.34	14	P	P	13 23 02.7	+0.4
X34A	Smith Ranch, M	25.48	338	P	P	13 23 03.7	+0.1
X34A				IAmb	IAmb	13 23 06.9	
comp=Z,11nm,0.8s							
U40A	Yellville	25.68	348	P	P	13 23 04.4	-1.0
WMOK	Wichita Mounta	25.97	336	P	P	13 23 08.8	+0.8
WMOK				IAmb	IAmb	13 23 10.8	
comp=Z,16nm,0.9s							
LPIG	La Paz	26.05	303	LR	LR	13 34 25.0	
comp=Z,50nm,19.1s,baz=128,slow=39							
WCI	Wyandotte Cave	26.89	0	P	P	13 23 16.5	+0.3
Q51A	Peebles	27.82	5	P	P	13 23 24.4	-0.2
N49A	Columbus Grove	29.64	3	P	P	13 23 40.2	-0.5
ANMO	Albuquerque	29.83	326	P	P	13 23 42.2	-0.5
comp=Z,0.9nm,0.7s,baz=150,slow=7.8,SNR=6.2							
ANMO	Albuquerque	29.83	326	IAmb	IAmb	13 23 49.7	
comp=Z,9.8nm,1.9s							
PV03	Paradox Valley	33.56	327	P	P	13 24 15.3	-0.2
PV03				IAmb	IAmb	13 24 17.1	
comp=Z,3.1nm,0.8s							
PV12	Saucer Basin,	33.58	327	P	P	13 24 15.2	-0.6
PV12				IAmb	IAmb	13 24 18.0	
comp=Z,5.3nm,0.7s							
PV18	Skein Mesa, Pa	33.59	327	P	P	13 24 15.6	-0.2
PV18				IAmb	IAmb	13 24 17.2	
comp=Z,3.9nm,0.8s							
PV17	East Wray Mesa	33.64	327	P	P	13 24 16.7	+0.5
PV04	Paradox Valley	33.69	327	P	P	13 24 16.2	-0.4
PV04				IAmb	IAmb	13 24 18.0	
comp=Z,3.7nm,0.9s							
PV14	Lion Creek, Pa	33.74	327	P	P	13 24 16.4	-0.8
PV14				IAmb	IAmb	13 24 18.6	
comp=Z,3.0nm,0.8s							
SRU	San Rafael Swe	35.08	326	P	P	13 24 28.1	-0.6
P17A	Butcher Ranch,	35.46	327	P	P	13 24 31.6	-0.3
TMUT	Trail Mountain	35.59	326		PcP	13 27 01.5	-0.2
PD31	Pinedale Array	37.32	331	P	P	13 24 46.5	-1.3
PD31				IAmb	IAmb	13 25 54.8	
comp=Z,11nm,1.9s							
PDAR	Pinedale Array	37.32	331	P	P	13 24 46.4	-1.4
comp=Z,0.8nm,0.8s,baz=125,slow=9.4,SNR=6.0							
REDW	Red Top Meadow	38.38	331	P	P	13 24 56.4	-0.4
REDW				IAmb	IAmb	13 24 57.5	
comp=Z,3.5nm,0.8s							
MOOW	Moose Ponds	38.63	331	P	P	13 24 58.6	-0.3
MOOW				IAmb	IAmb	13 25 31.6	
comp=Z,8.5nm,1.9s							
NV11	Mina Array Sit	39.18	319	P	P	13 25 03.4	-0.1
NVAR	Mina Array Bea	39.28	319	P	P	13 25 04.1	-0.2
comp=Z,1.4nm,0.8s,baz=137,slow=7.2,SNR=11							
NVAR				PcP	PcP	13 27 12.9	-0.1
comp=Z,1.2nm,0.7s,baz=140,slow=3.9,SNR=6.5							
NVAR	Mina Array Bea	39.28	319	P	P	13 25 03.9	-0.5
NVAR					PcP	13 27 13.6	+0.6
KVN	Kaiserville	39.51	320	P	P	13 25 06.0	-0.3
GCMT	Greycliff	39.74	334	P	P	13 25 07.5	-0.5
MCMT	McKenzie Canyo	40.43	331	P	P	13 25 14.1	+0.2
PNTR	Pine Nut	40.48	319	P	P	13 25 14.2	-0.2
PNTR				IAmb	IAmb	13 25 21.4	
comp=Z,11nm,1.8s							
BEKR	Beckworth	41.41	319	P	P	13 25 21.4	-0.6
SCHQ	Schefferville	46.16	16	LR	LR	13 46 26.2	
comp=Z,68nm,18.4s,baz=353,slow=38							
BDFB	Brasilia	46.46	124	LR	LR	13 46 13.8	
comp=Z,101nm,18.6s,baz=183,slow=37							
PLCA	Paso Flores	53.75	165	P	P	13 26 57.4	-0.2
comp=Z,3.9nm,0.9s,baz=332,slow=7.0,SNR=5.4							
PLCA	Paso Flores	53.75	165	IAmb	IAmb	13 27 06.5	
comp=Z,58nm,2.0s							
ILAR	Eielson Array	67.53	336	P	P	13 28 29.4	-1.7
comp=Z,0.6nm,0.9s,baz=93,slow=4.6,SNR=5.7							
NOA	NORSAR Array B	83.94	29	LR	LR	14 08 05.0	
comp=Z,11nm,18.2s,baz=40,slow=36							
MODS	Modra-Piesok	90.62	40	eP	P	13 30 39.7	+2.1
VYHS	Vyhne	91.57	40	eP	P	13 30 44.5	+2.5
MLR	Muntele Rosu	97.19	41	LR	LR	14 07 14.8	
comp=Z,367nm,21.9s,baz=296,slow=31							
KSH	Kashi	126.92	17	ePKP	PKiKP	13 36 41.3	+1.3
ASAR	Alice Springs	139.73	247	PKhKP	PKPpre	13 37 00.5	
comp=Z,0.5nm,1.0s,baz=193,slow=32,SNR=3.0							
WRA	Warramunga Arr	139.88	252	PKhKP	PKPpre	13 37 01.0	
comp=Z,0.3nm,0.7s,baz=100,slow=3.0,SNR=3.9							
CMAR	Chiang Mai Arr	150.03	350	PKPbc	PKPbc	13 37 25.6	-0.9
comp=Z,1.4nm,0.7s,baz=352,slow=3.3,SNR=12							
CMAR	Chiang Mai Arr	150.03	350		PKPbc	13 37 24.2	-2.3

BEO 18 13:19:00.2±0.4, 42°.87N×21°.06E, h2km±4km, ML2.5/8, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	Selova	0.35	7	ePg	Pg	13 19 05.7	-1.3
SELS				eSg	Sg	13 19 11.4	-0.1
BARS	Barje	0.56	95	ePg	Pg	13 19 10.3	-0.6
BARS				eSg	Sg	13 19 18.7	+0.6
SJES	Sjenica	0.89	296	ePg	Pg	13 19 16.8	-0.4
SJES				eSg	Sg	13 19 29.1	+0.4
BOVS	Bovan	0.90	31	ePg	Pg	13 19 16.7	-0.7
BOVS				eSg	Sg	13 19 28.9	-0.1
IVAS	Ivanjica	0.97	317	ePg	Pg	13 19 16.4	-2.4
IVAS				eSg	Sg	13 19 30.5	-0.8
GRUS	Gruza	1.05	346	ePg	Pg	13 19 19.6	-0.7
GRUS				eSg	Sg	13 19 34.1	+0.2
BOSS	Bosilegrad	1.11	109	ePg	Pg	13 19 20.5	-1.0
BOSS				eSg	Sg	13 19 34.8	-1.1
ZAGS	Zajecar	1.27	42	ePg	Pg	13 19 23.1	-1.5
ZAGS				eSg	Sg	13 19 40.7	-0.3

*ISCJB **18** 13:21:53.4±0.3, 7°.38S±0°.04×128°.45E±0°.05, h151km, mb4.1/10, Error ellipse: s-maj=6.9km s-min=4.7km az=155.2*
*NEIC **18** 13:21:55.1±2.3, 7°.46S±0°.07×128°.48E±0°.07, h157km±4km, mb4.3/14*
*IDC **18** 13:21:59.1±2.5, 7°.48S×128°.23E, h184km±27km, mb3.7/6, mb1 3.8/9, mb1mx3.5/40, mbtmp4.4/9, Error ellipse: s-maj=24.1km s-min=15.2km az=43.0*
ISC 18 13:21:54.7±0.4, 7°.55S±0°.05×128°.48E±0°.06, h151km, n57, σ1§89/63, mb4.3/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.83	99		Pn	13 22 40.9	+1.0
SOEI	Soe	4.71	242		Pn	13 23 06.0	+1.6
BATI	Baumata	5.45	241	P	Pn	13 23 16.2	+2.2
94nm,0.3s,baz=82,slow=4.0,SNR=69							
BATI				S	Sn	13 24 17.9	+1.8
73nm,0.3s,baz=48,slow=23,SNR=13							
MTN	Manton Dam	5.88	154		Pn	13 23 22.0	+2.2
FAKI	Fak Fak	5.93	39		Pn	13 23 19.0	-1.5
KNRA	Kununurra	8.09	178		Pn	13 23 50.6	+1.3
FITZ	Fitzroy Crossi	10.85	195	P	Pn	13 24 26.0	+0.1
0.8nm,0.3s,baz=29,slow=9.8,SNR=40							
FITZ				S	Sn	13 26 22.2	-3.7
4.7nm,0.3s,baz=162,slow=20,SNR=12							
FITZ	Fitzroy Crossi	10.85	195		Pn	13 24 26.8	+0.9
WRA	Warramunga Arr	13.57	156	P	Pn	13 25 01.3	+0.1
1.1nm,0.3s,baz=216,slow=8.8,SNR=56							
WRA				S	Sn	13 27 24.6	-6.9
3.1nm,0.3s,baz=334,slow=23,SNR=9.4							
WRA	Warramunga Arr	13.57	156	P	Pn	13 25 01.0	-0.1
WB2	Warramunga Arr	13.57	156		Pn	13 25 01.2	0.0
COEN	Coen	15.77	115	P	P	13 25 30.8	+1.3
COEN				IAmb	IAmb	13 25 33.3	
comp=Z,5.8nm,0.6s							
PSA00	Pilbara Seismi	16.25	210		P	13 25 36.5	+1.8
AS31	Alice Springs	16.85	163		Pn	13 25 43.0	+1.2
ASAR	Alice Springs	16.85	163	P	Pn	13 25 44.9	+3.1
comp=Z,1.1nm,0.3s,baz=346,slow=11,SNR=121							
ASAR				S	S	13 28 46.0	-3.2
comp=Z,0.7nm,0.3s,baz=319,slow=15,SNR=4.8							
ASAR	Alice Springs	16.85	163	Pn	Pn	13 25 44.3	+2.5
PMG	Port Moresby	18.57	97	P	Pn	13 26 06.1	+3.9
comp=Z,0.7nm,0.3s,baz=272,slow=7.0,SNR=19							
KSM	Kuching	20.22	296	P	P	13 26 18.4	+0.3
CTAO	Charters Tower	21.26	128	P	P	13 26 32.4	+3.2
BBOO	Buckleboo	26.11	165	P	P	13 27 16.7	+2.2
BBOO				IAmb	IAmb	13 27 32.1	
comp=Z,13nm,1.2s							
STKA	Stephens Creek	27.12	155	P	P	13 27 26.0	+2.4
comp=Z,1.2nm,0.5s,baz=345,slow=7.4,SNR=5.8							
STKA	Stephens Creek	27.12	155	P	P	13 27 25.9	+2.3
RPSI	Rantau Prapat	31.20	288	P	P	13 27 59.0	-0.9
RPSI				IAmb	IAmb	13 28 01.0	
comp=Z,5.2nm,0.8s							
GSI	Gunungsitoli	32.06	285	P	P	13 28 07.1	-0.4
CMAR	Chiang Mai Arr	38.95	312	P	P	13 29 06.4	+0.2
comp=Z,0.6nm,0.3s,baz=140,slow=8.9,SNR=9.3							
CMAR	Chiang Mai Arr	38.95	312	P	P	13 29 04.5	-1.8
CHTO	Chiang Mai	39.17	312	P	P	13 29 07.1	-1.0
CHTO				IAmb	IAmb	13 29 09.5	
comp=Z,5.9nm,1.1s							
XAN	Xi'an	45.32	337	P	P	13 29 55.8	-1.9
XAN				IAmb	IAmb	13 29 56.9	
comp=Z,4.6nm,0.6s							
LZH	Lanzhou	49.20	334	eP	P	13 30 28.8	+1.0
LZH				pP	pP	13 31 03.3	+2.2
LZH				sP	sP	13 31 21.1	+3.6
LZH				PP	PP	13 32 22.3	-0.8
LZH				pmax	pmax		
comp=Z,18nm,1.1s							
LZH				pmax	pmax		
comp=Z,69nm,5.4s							
HHC	Hu-ho-hao-te	50.61	343	eP	P	13 30 40.0	+1.7
HHC				pmax	pmax		
comp=Z,6.0nm,0.9s							
HHC				pmax	pmax		
comp=Z,11nm,5.4s							
TAPN	Taplejung	52.54	313	eP	P	13 30 51.9	-1.2
RAMN	Ramite	53.12	312	eP	P	13 30 57.3	0.0
GTA	Gaotai	53.74	333	eP	P	13 31 01.3	-0.2
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
JIRN	Jiri	53.82	312	eP	P	13 31 01.6	-1.0
GUN	Gumba	54.19	312	eP	P	13 31 03.9	-1.3
PKI	Pulchoki	54.35	312	eP	P	13 31 05.7	-0.6
PKIN	Phulchoki	54.36	312	eP	P	13 31 05.4	-1.0
KKN	Kakani	54.56	312	eP	P	13 31 06.8	-1.0
DMN	Daman	54.59	312	eP	P	13 31 07.1	-0.9
GKN	Gorkha	55.16	312	eP	P	13 31 10.9	-1.1
KOLN	Koldanda	55.80	311	eP	P	13 31 16.6	0.0
DANN	Dangsing	55.99	312	eP	P	13 31 17.4	-0.7
SONM	Songino Array	58.49	343	P	P	13 31 35.7	+0.6
comp=Z,2.8nm,0.9s,baz=165,slow=7.8,SNR=13							
SONM	Songino Array	58.49	343	P	P	13 31 34.9	-0.1
WMQ	Urumqi	63.04	328	eP	P	13 32 06.8	+1.0
WMQ				pmax	pmax		
comp=Z,13nm,1.1s							
WMQ				pmax	pmax		
comp=Z,140nm,4.1s							
PETK	Petropavlovsk-	65.32	19	P	P	13 32 20.8	+0.5
comp=Z,6.3nm,0.9s,baz=135,slow=0.6,SNR=4.9							
KSH	Kashi	67.41	318	P	P	13 32 35.5	+1.3
KSH				PP	PP	13 35 08.3	+3.4
KSH				S	S	13 41 15.3	-2.8
KSH				sS	sS	13 42 22.3	+3.2
KSH	Kashi	67.41	318	SS	SS	13 45 40.5	-1.0
KSH				pmax	pmax		
comp=Z,140nm,4.1s							
KSH				LR	LR		
comp=N,140nm,9.7s							
KSH				LR	LR		
comp=E,190nm,12.3s							
KSH				LR	LR		
comp=Z,100nm,13.1s							
AAK	Ala-Archa	69.99	321	P	P	13 32 48.5	-1.6
AAK				IAmb	IAmb	13 34 27.8	
comp=Z,2.6nm,0.5s							
ZALV	Zalesovo Beam	71.41	334	P	P	13 32 57.2	-1.0
comp=Z,1.2nm,0.3s,baz=146,slow=5.2,SNR=8.7							
ZALV	Zalesovo Beam	71.41	334	P	P	13 32 56.5	-1.7
SEY	Seymchan	72.62	11	P	P	13 33 05.2	0.0
comp=Z,1.4nm,0.7s,baz=214,slow=6.1,SNR=5.0							
KKAR	Karatay Array	72.77	319	P	P	13 33 05.8	-0.8
ABKAR	Akbulak array	82.00	322	P	P	13 33 56.8	-1.0
ABKAR	Akbulak array	82.00	322	P	P	13 33 56.7	-1.0
ABKAR				IAmb	IAmb	13 34 20.0	
comp=Z,11nm,1.9s							
TORD	Torodi Ar. Bea	127.44	281	PKP	PKPdf	13 40 42.5	-0.1
comp=Z,2μm,1.0s,baz=312,slow=4.0,SNR=3.6							
LPAZ	La Paz	151.17	145	PKPbc	PKiKP	13 41 33.4	+1.0
comp=Z,0.8nm,0.5s,baz=190,slow=1.3,SNR=4.4							

*IDC **18** 13:28:52.9±1.9, 21°.66N×143°.11E, h294km±17km, mb3.3/14, mb1 3.5/16, mb1mx3.3/46, mbtmp4.0/16, Error ellipse: s-maj=20.0km s-min=12.7km az=93.0*
*ISCJB **18** 13:28:53.3±0.7, 21°.70N±0°.07×143°.1E±0°.1, h311km, mb3.5/13, Error ellipse: s-maj=18.0km s-min=9.3km az=179.8*
*NEIC **18** 13:28:53.1±0.5, 21°.6N±0°.1×143°.1E±0°.2, h296km±2km, mb4.8/7*
ISC 18 13:28:54.8±0.8, 21°.74N±0°.09×143°.0E±0°.1, h311km, n21, σ0§72/24, mb3.4/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.39	352	P	Pn	13 30 16.4	-0.9
15nm,0.3s,baz=154,slow=12,SNR=8.5							
JCJ				S	S	13 31 22.0	-1.6
14nm,0.3s,baz=91,slow=23,SNR=6.4							
MJAR	Matsushiro Arr	15.34	345	P	P	13 32 15.2	+0.2
0.1nm,0.3s,baz=177,slow=13,SNR=3.6							
MAJO	Matsushiro	15.34	345		Pn	13 32 16.1	-0.7
MJB9	Matsu-Tunnel	15.35	345		P	13 32 16.0	+1.0
MJB9				IAmb	IAmb	13 33 04.3	
comp=Z,48nm,1.5s							
JNU	Nakatsue	15.64	319	P	P	13 32 18.5	+0.2
JNU				IAmb	IAmb	13 32 32.5	
comp=Z,122nm,1.7s							
KSRS	Korea Array	20.41	323	P	P	13 33 09.5	+0.5
comp=Z,3.7nm,0.6s,baz=146,slow=8.9,SNR=13							
KSAR	Wonju Array Be	20.42	323	P	P	13 33 09.8	+0.6
KLR	Kul'dur	28.87	345	P	P	13 34 25.8	+0.6
comp=Z,5.2nm,0.6s,baz=159,slow=8.7,SNR=21							
DLV	T Lat	34.41	259	P	P	13 35 13.7	-0.3
SONM	Songino Array	39.23	321	P	P	13 35 54.3	+0.5
comp=Z,0.4nm,0.4s,baz=130,slow=9.4,SNR=3.1							
CMAR	Chiang Mai Arr	41.44	274	P	P	13 36 12.5	+0.4
comp=Z,0.5nm,0.6s,baz=84,slow=6.2,SNR=5.6							
WRA	Warramunga Arr	42.29	192	P	P	13 36 17.7	-1.1
comp=Z,0.7nm,0.5s,baz=18,slow=8.0,SNR=12							
ASAR	Alice Springs	46.00	192	P	P	13 36 46.9	-1.1
comp=Z,0.3nm,0.8s,baz=17,slow=11,SNR=5.0							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	54.10	322	P	P	13 37 48.3	+0.3
comp=Z,0.7nm,0.4s,baz=97,slow=8.6,SNR=4.1							
ZALV				PcP	PcP	13 38 48.0	-0.4
comp=Z,0.9nm,0.5s,baz=111,slow=4.7,SNR=3.5							
MKAR	Makanchi Array	54.58	313	P	P	13 37 52.1	+0.5
comp=Z,0.9nm,0.6s,baz=96,slow=8.7,SNR=6.0							
MKAR				PcP	PcP	13 38 50.6	+0.1
comp=Z,0.5nm,0.6s,baz=97,slow=3.3,SNR=4.0							
ILAR	Eielson Array	62.06	27	P	P	13 38 42.3	-0.3
comp=Z,0.5nm,0.6s,baz=262,slow=5.2,SNR=8.6							
YKA	Yellowknife Ar	76.48	28	P	P	13 40 10.9	+0.4
comp=Z,0.8nm,0.3s							
ARCES	ARCESS Array B	78.84	341	P	P	13 40 23.9	+0.6
comp=Z,3.7nm,0.7s,baz=64,slow=6.6,SNR=11							
KBZ	Khabaz	82.25	314	P	P	13 40 42.4	+0.6
comp=Z,2.4nm,0.9s,baz=80,slow=4.2,SNR=4.4							
FINES	FINESS Array B	83.09	334	P	P	13 40 45.2	-0.5
comp=Z,1.7nm,0.4s,baz=59,slow=5.0,SNR=14							
NVAR	Mina Array Bea	83.22	51	P	P	13 40 48.0	+0.7
comp=Z,0.6nm,0.7s,baz=257,slow=5.2,SNR=4.4							

*NNC **18** 13:31:48.9±0.6, 44°.67N×80°.41E, h0km±3km, mb3.7, mpv3.4, Error ellipse: s-maj=4.8km s-min=3.1km az=105.0*
*SOME **18** 13:31:49.2, 44°.65N×80°.35E, h20km*
ISC 18 13:31:48.2±1.4, 44°.70N±0°.03×80°.47E±0°.04, h3km±11km, n44, σ1§05/66, 7C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.61	233	P	Pg	13 32 00.3	+0.5
68nm,0.1s							
DJR				S	Sg	13 32 08.3	+0.5
51nm,0.4s							
DJR	Jarkent	0.61	233	eP	Pg	13 31 59.6	-0.2
68nm,0.1s							
DJR				eS	Sg	13 32 08.3	+0.5
63nm,0.2s							
KAPS	Kapalarasan	0.98	307	P	Pb	13 32 07.6	-0.3
18nm,0.2s							
KAPS				S	Sb	13 32 20.6	-0.7
21nm,0.4s							
KAPS	Kapalarasan	0.98	307	eP	Pg	13 32 06.8	-0.2
18nm,0.2s							
KAPS				eS	Sb	13 32 20.6	-0.7
24nm,0.2s							
TDK	Taldyqorghan	1.50	282	P	Pb	13 32 16.6	-0.1
25nm,0.3s							
TDK				S	Sn	13 32 36.0	-0.1
94nm,0.4s							
TDK	Taldyqorghan	1.50	282	eP	Pn	13 32 15.6	-0.4
26nm,0.1s							
TDK				eS	Sn	13 32 36.0	-0.1
94nm,0.4s							
PDGK	Podgornoye	1.54	208	P	Pn	13 32 16.7	0.0
10nm,0.3s							
PDGK				S	Sn	13 32 35.9	-1.5
9.6nm,0.2s							
PDGK	Podgornoye	1.54	208	⇓P	Pn	13 32 16.3	-0.4
11nm,0.4s							
PDGK				⇓S	Sn	13 32 36.6	-0.7
28nm,0.6s							
MNBS	Baschi	1.61	248	eP	Pn	13 32 17.6	0.0
14nm,0.1s							
MNBS				eS	Sn	13 32 38.8	-0.1
194nm,0.2s							
KPKS	Kokpek	1.78	227	eP	Pn	13 32 20.6	+0.6
93nm,0.2s							
KPKS				eS	Sb	13 32 44.1	-0.3
86nm,0.1s							
UZB	Uzynbulak	1.87	214	eP	Pb	13 32 22.6	-0.6
17nm,0.1s							
UZB				eS	Sb	13 32 47.2	+0.2
33nm,0.2s							
ARXS	Arharly	1.95	256	P	Pg	13 32 25.4	-0.2
40nm,0.3s							
ARXS				S	Sg	13 32 50.7	-0.2
44nm,0.4s							
ARXS	Arharly	1.95	256	eP	Pb	13 32 24.6	+0.1
59nm,0.2s							
ARXS				eS	Sg	13 32 50.7	-0.2
114nm,0.2s							
KURS	Kuram	2.05	235	Pg	Pb	13 32 26.2	+0.1
17nm,0.4s							
KURS				Lg	Lg	13 32 52.2	
12nm,0.5s							
KURS	Kuram	2.05	235	eP	Pb	13 32 25.9	-0.2
17nm,0.4s							
KURS				eS	Sb	13 32 53.0	+1.0
22nm,0.3s							
ZHN	Zhinishke	2.12	224	eP	Pb	13 32 26.2	-1.1
46nm,0.2s							
ZHN				eS	Sb	13 32 53.7	-0.5
80nm,0.1s							
SATY	Saty	2.22	223	Pg	Pb	13 32 29.8	+0.8
28nm,0.2s							
SATY				Lg	Lg	13 32 58.2	
100nm,0.3s							
SATY	Saty	2.22	223	eP	Pb	13 32 28.7	-0.3
46nm,0.2s							
SATY				eS	Sb	13 32 58.2	+1.3
117nm,0.1s							
MAKZ	Makanchi	2.36	26	⇓Pg	Pg	13 32 33.7	+0.3
1.0nm,0.3s							
MAKZ				⇑Lg	Lg	13 33 03.0	
2.8nm,0.3s							
MK31	Makanchi Array	2.45	31	Pg	Pb	13 32 33.1	+0.2
0.8nm,0.2s,baz=211,slow=13,SNR=136							
MK31				⇑Lg	Lg	13 33 04.8	
7.8nm,0.3s,baz=208,slow=29,SNR=5.0							
CHKK	Chushkaly	2.64	252	Pg	Pb	13 32 35.4	-0.7
8.5nm,0.5s							
CHKK				Lg	Lg	13 33 08.2	
46nm,0.3s							
CHKK	Chushkaly	2.64	252	eP	Pb	13 32 34.6	-1.5
7.9nm,0.2s							
CHKK				eS	Sb	13 33 08.2	-0.7
98nm,0.2s							
KOTS	Kotyrbulak	2.83	240	Pg	Pb	13 32 40.7

	1.8nm,0.4s					
KST			Lg	Lg	13 33 39.3	
	5.0nm,0.5s					
KST	**Kastek**	**3.66 245**	*e*P	**Pb**	**13 32 52.6**	**-0.9**
	1.6nm,0.1s					
KST			*e*S	**Sb**	**13 33 39.3**	**+1.0**
	8.7nm,0.3s					
DGS	**Degeres**	**3.69 248**	Pg	**Pg**	**13 32 56.7**	**-2.2**
	5.1nm,0.3s					
DGS			Lg	Lg	13 33 44.2	
	9.7nm,0.5s					
DGS	**Degeres**	**3.69 248**	*e*P	**Pb**	**13 32 53.6**	**-0.5**
	3.9nm,0.2s					
DGS			*e*S	**Sb**	**13 33 40.9**	**+1.6**
	13nm,0.4s					
TKM2	**Tokmak 2**	**3.95 245**	⇓Pg	**Pb**	**13 33 00.9**	**+2.4**
	2.6nm,0.5s					
TKM2			⇑Lg	Lg	13 33 52.1	
	4.1nm,0.3s					
SGDS	**Sogindy**	**4.39 256**	Pg	**Pb**	**13 33 06.9**	**+1.0**
	1.6nm,0.6s					
SGDS			Lg	Lg	13 34 02.0	
	2.8nm,0.6s					
AAK	**Ala-Archa**	**4.80 247**	Pg	**Pb**	**13 33 14.8**	**+1.8**
	1.2nm,0.3s					
AAK			⇓Lg	Lg	13 34 17.8	
	1.4nm,0.4s					
KURBB	**Kurchatov Arra**	**6.07 348**	⇓Lg	Lg	13 34 58.6	
	6.0nm,0.7s					
KURK	**Kurchatov**	**6.14 349**	⇑Lg	Lg	13 35 02.0	
	5.7nm,1.0s					
KK31	**Karatay Array**	**7.37 261**	⇑Lg	Lg	13 35 38.7	
	1.3nm,0.6s,baz=75,slow=27,SNR=4.6					

*NNC **18** 13:40:10.3±0.6, 44°.69N×80°.39E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=5.4km s-min=3.3km az=117.0
*SOME **18** 13:40:11.7, 44°.58N×80°.38E, h20km*
ISC 18 13:40:10.9±1.3, 44°.62N±0°.03×80°.38E±0°.04, h1km±11km, n58, σ1°.41/85, 15C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.51**	**237**	P	**Pg**	**13 40 21.5**	**+0.8**
	179nm,0.5s						
DJR				S	**Sb**	**13 40 29.1**	**-1.6**
	109nm,0.7s						
DJR	**Jarkent**	**0.51**	**237**	*e*P	**Pg**	**13 40 21.5**	**+0.8**
	179nm,0.5s						
DJR				*e*S	**Sg**	**13 40 28.4**	**+1.1**
	125nm,0.2s						
KAPS	**Kapalarasan**	**0.99**	**313**	P	**Pg**	**13 40 28.7**	**-1.2**
	36nm,0.2s						
KAPS				S	**Sg**	**13 40 41.4**	**-1.3**
	66nm,0.6s						
KAPS	**Kapalarasan**	**0.99**	**313**	*e*P	**Pg**	**13 40 28.6**	**-1.2**
	53nm,0.1s						
KAPS				*e*S	**Sg**	**13 40 40.7**	**-2.0**
	85nm,0.5s						
PDGK	**Podgornoye**	**1.44**	**207**	⇑P	**Pn**	**13 40 37.8**	**-0.5**
	29nm,0.4s						
PDGK				⇓S	**Sg**	**13 40 58.0**	**+0.9**
	51nm,0.4s						
TDK	**Taldyqorghan**	**1.46**	**286**	P	**Pn**	**13 40 37.9**	**-0.5**
	54nm,0.4s						
TDK				S	**Sn**	**13 40 57.1**	**-1.1**
	153nm,0.5s						
TDK	**Taldyqorghan**	**1.46**	**286**	*e*P	**Pn**	**13 40 37.9**	**-0.5**
	63nm,0.2s						
TDK				*e*S	**Sn**	**13 40 56.5**	**-1.7**
	730nm,0.3s						
MNBS	**Baschi**	**1.52**	**250**	*e*P	**Pn**	**13 40 38.8**	**-0.6**
	27nm,0.1s						
MNBS				*e*S	**Sn**	**13 40 57.9**	**-1.9**
	560nm,0.2s						
KPKS	**Kokpek**	**1.68**	**227**	*e*P	**Pb**	**13 40 42.2**	**-0.5**
	214nm,0.1s						
KPKS				*e*S	**Sb**	**13 41 03.8**	**-0.6**
	205nm,0.2s						
UZB	**Uzynbulak**	**1.77**	**214**	*e*P	**Pb**	**13 40 43.7**	**-0.5**
	27nm,0.3s						
UZB				*e*S	**Sb**	**13 41 06.5**	**-0.4**
	78nm,0.3s						
ARXS	**Arharly**	**1.88**	**259**	P	**Pg**	**13 40 47.0**	**+0.2**
	50nm,0.4s						
ARXS				S	**Sg**	**13 41 12.3**	**+1.2**
	121nm,0.4s						
ARXS	**Arharly**	**1.88**	**259**	*e*P	**Pb**	**13 40 45.9**	**-0.1**
	135nm,0.1s						
ARXS				*e*S	**Sb**	**13 41 10.4**	**+0.4**
	345nm,0.2s						
KURS	**Kuram**	**1.95**	**236**	Pg	**Pb**	**13 40 47.5**	**+0.2**
	45nm,0.5s						
KURS				Lg	Lg	13 41 13.3	
	17nm,0.4s						
KURS	**Kuram**	**1.95**	**236**	*e*P	**Pb**	**13 40 47.2**	**-0.1**
	46nm,0.2s						
KURS				*e*S	**Sb**	**13 41 12.5**	**+0.3**
	59nm,0.2s						
ZHN	**Zhinishke**	**2.02**	**225**	*e*P	**Pb**	**13 40 48.0**	**-0.5**
	106nm,0.2s						
ZHN				*e*S	**Sb**	**13 41 13.8**	**-0.3**
	136nm,0.2s						
SATY	**Saty**	**2.11**	**223**	Pg	**Pb**	**13 40 49.7**	**-0.4**
	108nm,0.3s						
SATY				Lg	Lg	13 41 17.0	
	108nm,0.3s						
SATY	**Saty**	**2.11**	**223**	*e*P	**Pb**	**13 40 49.7**	**-0.4**
	108nm,0.3s						
SATY				*e*S	**Sb**	**13 41 17.0**	**+0.1**
	212nm,0.2s						
MAKZ	**Makanchi**	**2.46**	**26**	⇑Pg	**Pn**	**13 40 54.0**	**+1.8**
	2.2nm,0.3s						
MAKZ				⇑Lg	Lg	13 41 23.3	
	13nm,0.4s						
MK31	**Makanchi Array**	**2.56**	**31**	⇑Pg	**Pn**	**13 40 54.5**	**+1.0**
	2.1nm,0.2s,baz=206,slow=16,SNR=310						
MK31				⇑Lg	Lg	13 41 26.0	
	28nm,0.4s,baz=210,slow=26,SNR=31						
CHKK	**Chushkaly**	**2.56**	**254**	Pg	**Pb**	**13 40 56.8**	**-0.7**
	18nm,0.5s						
CHKK				Lg	Lg	13 41 29.5	
	87nm,0.6s						
CHKK	**Chushkaly**	**2.56**	**254**	*e*P	**Pb**	**13 40 56.7**	**-0.8**
	18nm,0.2s						
CHKK				*e*S	**Sb**	**13 41 28.7**	**-0.8**
	247nm,0.2s						
KOTS	**Kotyrbulak**	**2.74**	**241**	Pg	**Pb**	**13 41 02.2**	**+1.4**
	33nm,0.3s						
KOTS				Lg	Lg	13 41 38.2	
	201nm,0.6s						
KOTS	**Kotyrbulak**	**2.74**	**241**	*e*P	**Pb**	**13 41 01.9**	**+1.1**
	49nm,0.2s						
KOTS				*e*S	**Sg**	**13 41 38.1**	**-0.7**
	212nm,0.2s						
KTBS	**Karatobe**	**2.81**	**253**	Pg	**Pb**	**13 41 00.9**	**-1.0**
	13nm,0.7s						
KTBS				Lg	Lg	13 41 36.1	
	203nm,0.8s						
KTBS	**Karatobe**	**2.81**	**253**	*e*P	**Pb**	**13 41 00.8**	**-1.2**
	13nm,0.2s						
KTBS				*e*S	**Sb**	**13 41 36.1**	**-0.8**
	194nm,0.2s						
MDOK	**Medeo**	**2.81**	**240**	⇑Pg	**Pb**	**13 41 01.2**	**-0.9**
	12nm,0.4s						
MDOK				⇑Lg	Lg	13 41 39.8	
	16nm,0.3s						
MDOK	**Medeo**	**2.81**	**240**	Pg	**Pb**	**13 41 03.0**	**+1.0**
	15nm,0.5s						
MDOK				Lg	Lg	13 41 39.9	
	47nm,0.3s						
MDOK	**Medeo**	**2.81**	**240**	*e*P	**Pb**	**13 41 03.0**	**+1.0**
	26nm,0.3s						
MDOK				*e*S	**Sg**	**13 41 39.8**	**-1.5**
	75nm,0.3s						
KNDC	**Almaty**	**2.84**	**242**	⇑Pg	**Pg**	**13 41 04.8**	**-0.5**
	19nm,0.3s						
KNDC				⇑Lg	Lg	13 41 40.3	
	35nm,0.3s						
AAA	**Alma-Ata**	**2.87**	**242**	Pg	**Pb**	**13 41 04.1**	**+1.1**
	30nm,0.4s						
AAA				Lg	Lg	13 41 42.1	
	49nm,0.4s						
AAA	**Alma-Ata**	**2.87**	**242**	*e*P	**Pb**	**13 41 04.1**	**+1.1**
	20nm,0.1s						
AAA				*e*S	**Sg**	**13 41 42.1**	**-1.1**
	57nm,0.2s						
TNSS	**Tian-Shan**	**2.95**	**239**	Pg	**Pb**	**13 41 05.6**	**+1.1**
	12nm,0.6s						
TNSS				Lg	Lg	13 41 44.2	
	57nm,0.5s						
TNSS	**Tian-Shan**	**2.95**	**239**	*e*P	**Pb**	**13 41 05.6**	**+1.1**
	17nm,0.2s						
TNSS				*e*S	**Sg**	**13 41 44.2**	**-1.3**
	57nm,0.5s						
KUU	**Kurty**	**3.00**	**257**	Pg	**Pb**	**13 41 05.2**	**+0.2**
	7.7nm,0.3s						
KUU				Lg	Lg	13 41 43.8	
	70nm,0.5s						
KUU	**Kurty**	**3.00**	**257**	*e*P	**Pb**	**13 41 05.0**	**-0.1**
	7.7nm,0.3s						
KUU				*e*S	**Sb**	**13 41 43.8**	**+1.7**
	88nm,0.3s						
IZV	**Izvestkoviy**	**3.15**	**241**	*e*P	**Pb**	**13 41 06.8**	**-1.0**
	8.6nm,0.2s						
IZV				*e*S	**Sb**	**13 41 46.0**	**-0.8**
	36nm,0.1s						
MTBS	**Maitube**	**3.22**	**244**	Pg	**Pb**	**13 41 09.5**	**+0.5**
	9.7nm,0.4s						
MTBS				Lg	Lg	13 41 50.9	
	62nm,0.4s						
MTBS	**Maitube**	**3.22**	**244**	*e*P	**Pb**	**13 41 09.5**	**+0.5**
	9.5nm,0.1s						
MTBS				*e*S	**Sb**	**13 41 50.9**	**+2.2**
	140nm,0.2s						
KST	**Kastek**	**3.56**	**245**	Pg	**Pb**	**13 41 14.8**	**0.0**
	10nm,0.5s						
KST				Lg	Lg	13 42 00.3	
	16nm,0.6s						
KST	**Kastek**	**3.56**	**245**	*e*P	**Pb**	**13 41 14.8**	**0.0**
	14nm,0.3s						
KST				*e*S	**Sb**	**13 42 00.3**	**+1.7**
	35nm,0.4s						
DGS	**Degeres**	**3.60**	**249**	Pg	**Pb**	**13 41 17.7**	**+2.2**
	16nm,0.5s						
DGS				Lg	Lg	13 42 04.9	
	32nm,0.3s						
DGS	**Degeres**	**3.60**	**249**	*e*P	**Pb**	**13 41 17.7**	**+2.2**
	16nm,0.5s						
DGS				*e*S	**Sg**	**13 42 04.8**	**-1.8**
	57nm,0.3s						
ULHL	**Ulahol**	**3.84**	**233**	P	**Pg**	**13 41 22.8**	**-1.6**
	SNR=7.2						
TKM2	**Tokmak 2**	**3.86**	**246**	⇓Pg	**Pb**	**13 41 22.1**	**+2.2**
	7.7nm,0.5s						
TKM2				⇓Lg	Lg	13 42 13.1	
	13nm,0.4s						
TKM2	**Tokmak 2**	**3.86**	**246**	P	**Pb**	**13 41 22.1**	**+2.2**
	SNR=15						
ZSN	**Zaisan**	**4.22**	**46**	Pg	**Pb**	**13 41 25.1**	**-0.8**
	7.7nm,0.7s						
ZSN				Lg	Lg	13 42 17.6	
	18nm,0.6s						
ZSN	**Zaisan**	**4.22**	**46**	*e*P	**Pb**	**13 41 25.1**	**-0.8**
	9.2nm,0.2s						
ZSN				*e*S	**Sb**	**13 42 17.6**	**+0.3**
	21nm,0.4s						
CHMS	**Chumysh**	**4.39**	**250**	P	**Pb**	**13 41 30.4**	**+1.6**
	SNR=8.9						
KBK	**Karagaybulak**	**4.41**	**245**	P	**Pn**	**13 41 21.4**	**+2.4**
	SNR=5.2						
USP	**Ospenovka**	**4.46**	**254**	P	**Pb**	**13 41 31.8**	**+1.8**
	SNR=13						
BTLS	**Baital**	**4.53**	**278**	*e*P	**Pb**	**13 41 32.8**	**+1.6**
	5.6nm,0.7s						
BTLS				*e*S	**Sb**	**13 42 30.4**	**+4.2**
	22nm,0.5s						
AAK	**Ala-Archa**	**4.71**	**247**	⇑Pg	**Pb**	**13 41 36.1**	**+1.8**
	3.0nm,0.3s						
AAK				⇑Lg	Lg	13 42 40.4	
	19nm,0.6s						
AAK	**Ala-Archa**	**4.71**	**247**	P	**Pb**	**13 41 36.8**	**+2.4**
	SNR=9.0						
UCH	**Uchtor**	**4.90**	**243**	P	**Pb**	**13 41 40.8**	**+3.1**
	SNR=15						
MRKS	**Merke**	**5.52**	**253**	Pg	**Pb**	**13 41 51.9**	**+3.8**
	3.6nm,0.5s						
MRKS				Lg	Lg	13 43 03.7	
	12nm,0.6s						
KURBB	**Kurchatov Arra**	**6.14**	**349**	⇑Pg	**Pb**	**13 42 00.6**	**+2.1**
	1.2nm,0.4s						
KURBB				⇓Lg	Lg	13 43 18.6	
	20nm,0.6s						
KURK	**Kurchatov**	**6.22**	**350**	⇑Pg	**Pb**	**13 41 59.7**	**-0.2**
	2.0nm,0.7s						
KURK				⇑Lg	Lg	13 43 22.1	
	14nm,0.8s						
KK31	**Karatay Array**	**7.29**	**261**	⇑Lg	Lg	13 44 01.8	
	2.6nm,0.5s,baz=72,slow=28,SNR=6.6						

*SIK **18** 13:42:25.2, 42°.88N×21°.03E, h10km, M3.5*
*PRU **18** 13:42:41.7±0.0, 42°.60N×21°.00E, h0km*
*IDC **18** 13:42:43.7±2.6, 42°.77N×20°.93E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/48, mbtmp3.4/4, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/43, Error ellipse: s-maj=40.3km s-min=17.3km az=174.0*
*SOF **18** 13:42:44.7, 42°.88N×21°.09E, h3km*
*ISCJB **18** 13:42:44.5±0.2, 42°.90N±0°.01×21°.02E±0°.01, h4km±2km, mb3.4/2, MS2.8/1, Error ellipse: s-maj=1.8km s-min=1.7km az=23.5*
*TIR **18** 13:42:45.2, 42°.80N×20°.98E, h1km, Md3.2/7*
*PDG **18** 13:42:45.7±0.3, 42°.89N×20°.98E, h11km, MD3.3/3, ML3.4/13, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0*
*SKO **18** 13:42:45.8, 42°.90N×21°.08E, h0km, M2.7, ML3.5*
*BEO **18** 13:42:46.2±0.2, 42°.87N×21°.02E, h2km±3km, ML3.6/20*
*THE **18** 13:42:47.6, 42°.71N×21°.08E, h3km±3km, ML2.7/2, Error ellipse: s-maj=5.5km s-min=1.0km az=310.0*
ISC 18 13:42:45.4±1.1, 42°.87N±0°.01×21°.02E±0°.02, h3km±9km, n142, σ0°.91/208, 26C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.36**	**12**	*e*Pg	**Pg**	**13 42 52.7**	**+0.3**
SELS				*e*Sg	**Sg**	**13 42 58.3**	**+1.2**
BARS	**Barje**	**0.59**	**94**	*e*Pg	**Pg**	**13 42 57.2**	**+0.5**
BARS				*e*Sg	**Sg**	**13 43 05.4**	**+1.1**
PVY	**Plav**	**0.83**	**251**	⇓*i*Pg	**Pg**	**13 43 00.6**	**-0.7**
PVY				*e*Sg	**Sb**	**13 43 13.4**	**-0.6**
BEY	**Berane**	**0.83**	**271**	*i* Pg	**Pg**	**13 43 00.7**	**-0.7**
IVA	**Berane**	**0.83**	**271**	⇑*i*Pg	**Pg**	**13 43 00.6**	**-0.7**
IVA				*e*Sg	**Sb**	**13 43 13.2**	**-0.8**
BCI	**Bajram Curri**	**0.86**	**235**	*i* PG	**Pg**	**13 43 01.4**	**-0.5**
BCI				*i* SG	**Sg**	**13 43 13.9**	**+0.8**
SJES	**Sjenica**	**0.86**	**298**	*e*Pg	**Pg**	**13 43 01.5**	**-0.5**
SJES				*e*Sg	**Sg**	**13 43 12.7**	**-0.5**
BOVS	**Bovan**	**0.92**	**33**	*e*Pg	**Pb**	**13 43 03.5**	**-0.5**
BOVS				*e*Sg	**Sb**	**13 43 15.7**	**-0.8**
SKO	**Skopje**	**0.94**	**161**	*e*Pg	**Pg**	**13 43 03.0**	**-0.5**
SKO				*e*Sg	**Sg**	**13 43 16.3**	**+0.5**
SKO	**Skopje**	**0.94**	**161**	*i* Pg	**Pg**	**13 43 03.1**	**-0.5**
SKO				*i* Sg	**Sb**	**13 43 17.0**	**-0.3**
SKO				*e*Lg	Lg	13 43 17.5	
	comp=E,65nm,0.3s						
SKO				*e*Lg	Lg	13 43 17.9	
	comp=N,92nm,0.2s						
IVAS	**Ivanjica**	**0.95**	**319**	*e*Pg	**Pg**	**13 43 02.8**	**-0.9**
IVAS				*e*Sg	**Sg**	**13 43 15.6**	**-0.5**
GRUS	**Gruza**	**1.05**	**348**	*e*Pg	**Pg**	**13 43 05.7**	**+0.2**
GRUS				*e*Sg	**Sb**	**13 43 19.7**	**-0.6**
KOME	**Kolasin**	**1.11**	**270**	⇑*i*Pg	**Pg**	**13 43 06.0**	**-0.6**
KOME				*e*Sg	**Sn**	**13 43 22.9**	**-0.8**
BOSS	**Bosilegrad**	**1.14**	**108**	*e*Pg	**Pg**	**13 43 07.1**	**-0.1**
BOSS				*e*Sg	**Sg**	**13 43 21.6**	**-0.4**
PUK	**Puka**	**1.17**	**226**	*i* PG	**Pg**	**13 43 07.6**	**-0.2**
PUK				*i* SG	**Sb**	**13 43 23.9**	**0.0**
PHP	**Peshkopia**	**1.26**	**200**	P	**Pg**	**13 43 08.2**	**-1.2**
PHP	**Peshkopia**	**1.26**	**200**	*i* PN	**Pg**	**13 43 08.3**	**-1.2**
PHP				*i* SN	**Sg**	**13 43 26.0**	**+0.2**
PLE	**Pljevlja**	**1.28**	**292**	⇑*i*Pg	**Pg**	**13 43 09.1**	**-0.9**
PLE				*e*Sg	**Sn**	**13 43 28.5**	**+0.5**
ZAGS	**Zajecar**	**1.30**	**43**	*e*Pg	**Pg**	**13 43 09.5**	**-0.8**
ZAGS				*e*Sg	**Sb**	**13 43 27.4**	**0.0**
PDG	**Podgorica**	**1.37**	**252**	*e*Pg	**Pn**	**13 43 11.4**	**0.0**
PDG				*e*Sg	**Sn**	**13 43 30.2**	**+0.2**
PDG	**Podgorica**	**1.37**	**252**	*i* Pg	**Pn**	**13 43 11.2**	**-0.2**
PDG				*i* Sg	**Sn**	**13 43 31.7**	**+1.6**
PDG	**Podgorica**	**1.37**	**252**	*e*Pn	**Pn**	**13 43 09.7**	**-1.7**
PDG	**Podgorica**	**1.37**	**252**	⇑P	**Pn**	**13 43 10.7**	**-0.6**
PDG				⇑S	**Sn**	**13 43 31.4**	**+1.4**
PDG				AML	AML	13 43 32.8	
TTG	**Podgorica**	**1.37**	**252**	⇑*i*Pg	**Pn**	**13 43 10.8**	**-0.6**
TTG				*e*Sg	**Sn**	**13 43 31.2**	**+1.2**
SVIS	**Svilajnac**	**1.41**	**6**	*e*Pg	**Pn**	**13 43 12.0**	**+0.1**
SVIS				*e*Sg	**Sn**	**13 43 31.5**	**+0.6**
RUDO	**Rudo**	**1.42**	**303**	*e*Pn	**Pn**	**13 43 10.3**	**-1.8**
TRUS	**Trudelj**	**1.43**	**342**	*e*Pg	**Pn**	**13 43 11.5**	**-0.7**
TRUS				*e*Sg	**Sn**	**13 43 32.0**	**+0.5**
DIVS	**Divibare**	**1.44**	**329**	*e*Pg	**Pn**	**13 43 11.6**	**-0.9**
DIVS				*e*Sg	**Sn**	**13 43 32.1**	**+0.2**
DIVS	**Divibare**	**1.44**	**329**	*e*Pn	**Pn**	**13 43 11.5**	**-0.9**
STIP	**Stip**	**1.46**	**143**	*i* Pg	**Pb**	**13 43 13.1**	**0.0**
NKY	**Niksic**	**1.49**	**269**	⇑*i*Pg	**Pn**	**13 43 13.1**	**-0.1**
NKY				*e*Sg	**Sg**	**13 43 35.0**	**+1.7**
DRME	**Dracevica, Mon**	**1.52**	**244**	*e*Pn	**Pn**	**13 43 12.5**	**-0.9**
DRME	**Dracevica, Mon**	**1.52**	**244**	⇑*i*Pg	**Pb**	**13 43 13.8**	**-0.4**
DRME				*e*Sg	**Sg**	**13 43 36.3**	**+2.2**
NKME	**Niksic**	**1.52**	**267**	⇓*i*Pg	**Pn**	**13 43 13.8**	**+0.2**
NKME				*e*Sg	**Sg**	**13 43 35.8**	**+1.4**
BBLS	**Lazići**	**1.54**	**311**	*e*Pg	**Pn**	**13 43 13.7**	**-0.2**
BBLS				*e*Sg	**Sg**	**13 43 35.3**	**+0.2**
BBLS	**Lazići**	**1.54**	**311**	*e*Pn	**Pn**	**13 43 13.4**	**-0.5**
CEME	**Cevo**	**1.58**	**259**	⇑*i*Pg	**Pn**	**13 43 14.4**	**0.0**
CEME				*e*Sg	**Sg**	**13 43 37.2**	**+1.0**
UPM	**Unac-Piva**	**1.59**	**283**	*e*Pn	**Pn**	**13 43 14.5**	**-0.1**
UPM	**Unac-Piva**	**1.59**	**283**	⇑*i*Pg	**Pn**	**13 43 14.2**	**-0.4**
UPM				*e*Sg	**Sg**	**13 43 37.0**	**+0.6**
ULC	**Ulcinj**	**1.59**	**236**	*i* Pg	**Pb**	**13 43 15.2**	**-0.3**
ULC	**Ulcinj**	**1.59**	**236**	⇓*i*Pn	**Pn**	**13 43 14.8**	**+0.3**
ULC				*e*Sn	**Sg**	**13 43 38.0**	**+1.4**
KUBS	**Kucevo**	**1.62**	**17**	*e*Pg	**Pn**	**13 43 13.7**	**-1.1**
KUBS				*e*Sg	**Sg**	**13 43 37.1**	**-0.3**
VTS	**Vitosha**	**1.65**	**98**	P	**Pn**	**13 43 15.2**	**-0.2**
VTS				S	**Sn**	**13 43 37.3**	**+0.2**
VTS	**Vitosha**	**1.65**	**98**	*i* P	**Pn**	**13 43 15.3**	**-0.2**
VTS	**Vitosha**	**1.65**	**98**	⇓P	**Pn**	**13 43 15.1**	**-0.2**
VTS				⇑S	**Sn**	**13 43 37.4**	**+0.3**
VTS				AML	AML	13 43 42.0	
BUM	**Brajici-Budva**	**1.67**	**251**	⇑*i*Pn	**Pn**	**13 43 15.8**	**+0.2**
BUM				*e*Sn	**Sg**	**13 43 39.4**	**+0.4**
TIR	**Tirane**	**1.74**	**210**	*i* PN	**Pb**	**13 43 18.3**	**+0.3**
TIR				*i* SN	**Sg**	**13 43 41.8**	**+0.4**
OHR	**Ohrid**	**1.76**	**185**	*i* Pn	**Pb**	**13 43 18.4**	**0.0**
OHR				*i* Sg	**Sg**	**13 43 42.1**	**+0.2**
OHR				*e*Lg	Lg	13 43 43.5	
	comp=E,388nm,0.5s						
OHR				*e*Lg	Lg	13 43 43.8	
	comp=N,262nm,0.5s						
BRY	**Bratogost**	**1.82**	**272**	*e*Pn	**Pn**	**13 43 17.7**	**-0.1**
BRY	**Bratogost**	**1.82**	**272**	⇑*i*Pn	**Pn**	**13 43 17.9**	**+0.1**
BRY				*e*Sn	**Sb**	**13 43 43.0**	**+0.3**
KKB	**Krupnik**	**1.83**	**122**	*i* Pn	**Pn**	**13 43 17.8**	**+0.2**
KKB	**Krupnik**	**1.83**	**122**	P	**Pn**	**13 43 18.4**	**+0.7**
HCY	**Herceg Novi**	**1.91**	**258**	*e*Pn	**Pn**	**13 43 19.5**	**+0.7**
HCY	**Herceg Novi**	**1.91**	**258**	⇓*i*Pn	**Pn**	**13 43 19.5**	**+0.7**
HCY				*e*Sn	**Sb**	**13 43 45.3**	**+0.2**
VAY	**Valandovo**	**1.93**	**143**	*i* Pn	**Pn**	**13 43 18.7**	**-0.3**
VAY				*i* Sg	**Sg**	**13 43 49.5**	**+2.2**
HAPS	**Han Pijesak,BI**	**1.94**	**310**	*e*Pn	**Pn**	**13 43 18.0**	**-1.3**
TREB	**Trebinje**	**1.97**	**267**	*e*Pn	**Pb**	**13 43 20.9**	**-1.0**
MDVR	**Moldovita**	**1.98**	**14**	⇓P	**Pn**	**13 43 19.8**	**0.0**
MDVR				AML	AML	13 43 50.4	
PUNG	**Punghina**	**1.98**	**44**	⇑P	**Pn**	**13 43 19.8**	**0.0**
PUNG				AML	AML	13 43 50.6	
BEO	**Beograd**	**1.98**	**349**	*e*Pg	**Pb**	**13 43 21.9**	**-0.2**
BEO				*e*Sg	**Sg**	**13 43 48.2**	**-0.9**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pg	**Pb**	**13 43 22.6**	**+0.2**
TEKS				*e*Sg	**Sg**	**13 43 49.5**	**-0.2**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pn	**Pn**	**13 43 19.8**	**-0.3**
MPEP	**Malo Peshtene**	**2.05**	**75**	P	**Pn**	**13 43 21.5**	**+0.7**
FNA	**Florina**	**2.10**	**173**	*i* PN	**Pb**	**13 43 23.5**	**-0.6**
FNA				*i* SN	**Sg**	**13 43 54.1**	**+1.3**
DJES	**Djerdap**	**2.10**	**31**	*e*Sg	**Pb**	**13 43 24.7**	**+0.6**
DJES	**Djerdap**	**2.10**	**31**	*e*Pg	**Sg**	**13 43 52.5**	**-0.5**
DBRK	**Dubrovnik**	**2.12**	**266**	*e*Pn	**Pn**	**13 43 22.9**	**+1.2**
DBRK				Sn	**Sb**	**13 43 51.2**	**0.0**
GRG	**Griva**	**2.17**	**151**	P	**Pn**	**13 43 22.4**	**+0.1**
GRG				S	**Sn**	**13 43 47.9**	**-1.8**
	comp=N,135nm,0.4s						
GRG	**Griva**	**2.17**	**151**	*i* Pn	**Pn**	**13 43 22.5**	**+0.1**
KNT	**Kendrikon**	**2.20**	**140**	P	**Pn**	**13 43 22.5**	**-0.4**
KNT				S	**Sn**	**13 43 49.7**	**-0.9**
	comp=N,85nm,0.5s						
KNT	**Kendrikon**	**2.20**	**140**	*i* Pn	**Pn**	**13 43 22.6**	**-0.2**
HERR	**Herculane**	**2.25**	**26**	⇓P	**Pn**	**13 43 23.1**	**-0.4**
HERR				AML	AML	13 44 00.1	
PGB	**Panagyurishte**	**2.34**	**97**	*i* P	**Pn**	**13 43 25.7**	**+0.9**
MMB	**Musomiste**	**2.38**	**121**	*i* Pn	**Pn**	**13 43 26.2**	**+0.9**
MMB	**Musomiste**	**2.38**	**121**	*i* P	**Pb**	**13 43 27.7**	**-1.2**
SRE	**Strehaia**	**2.39**	**41**	⇑P	**Pn**	**13 43 25.9**	**+0.4**
SRE				AML	AML	13 44 05.9	
STON	**Ston**	**2.44**	**271**	*e*Pn	**Pn**	**13 43 27.8**	**+1.7**
STON				Sn	**Sn**	**13 43 57.5**	**+1.1**
STON	**Ston**	**2.44**	**271**	*e*Pn	**Pb**	**13 43 28.0**	**-1.9**
NEST	**Nestorio**	**2.45**	**179**	P	**Pn**	**13 43 25.6**	**-0.7**
FRGS	**Fruska Gora**	**2.45**	**340**	*e*Pn	**Pn**	**13 43 26.6**	**+0.3**
FRGS				*e*Sn	**Sn**	**13 43 58.6**	**+1.8**
FRGS	**Fruska Gora**	**2.45**	**340**	*e*Pn	**Pn**	**13 43 25.9**	**-

TLB AML AML 13 45 52.1
CEY Cerknica 5.54 304 *e*Pn **Pn 13 44 07.6 -1.1**
BURAR Bucovina Array 5.60 31 ⇓P **Pn 13 44 10.3 +0.7**
CFR Carcaliu 5.63 63 ⇑P **Pn 13 44 09.3 -0.6**
SOKA Soboth 5.72 314 Pn **Pn 13 44 10.6 -0.6**
comp=N,1.8nm,0.2s,SNR=6.4
SOKA *i* Sn **Sn 13 45 18.1 +0.8**
comp=N,2.0nm,0.3s
VYHS Vyhne 5.83 346 *e*PN **Pn 13 44 13.0 +0.3**
VYHS *e*PG **Pg 13 44 41.3 +4.2**
VYHS *e*SN **Sn 13 45 20.7 +0.6**
ARSA Arzberg 5.86 320 Pn **Pn 13 44 12.8 -0.3**
comp=N,7.6nm,0.3s,SNR=4.5
ARSA *i* Sn **Sn 13 45 21.7 +0.9**
comp=N,3.9nm,0.4s
OBKA Obir 5.88 311 *i* Pn **Pn 13 44 13.6 +0.2**
comp=N,4.1nm,0.3s
OBKA *i* Sn **Sn 13 45 22.5 +1.2**
comp=N,8.8nm,0.6s
MODS Modra-Piesok 6.10 336 *e*PN **Pn 13 44 15.9 -0.5**
MODS *e*SN **Sn 13 45 24.6 -2.1**
CONA Conrad Observa 6.23 326 *i* Pn **Pn 13 44 18.0 -0.2**
comp=N,0.9nm,0.3s
CONA *i* Sn **Sn 13 45 31.3 +1.4**
comp=N,0.9nm,0.3s
MYKA Terra Mystica 6.46 308 *i* Pn **Pn 13 44 22.3 +0.9**
comp=N,5.5nm,0.5s,SNR=4.5
MYKA *i* Sn **Sn 13 45 36.0 +0.4**
comp=N,0.7nm,0.3s
KBA Koelnbreinsper 6.88 310 *i* Pn **Pn 13 44 27.9 +0.6**
comp=N,1.3nm,0.2s
KBA *i* Sn **Sn 13 45 47.3 +1.2**
comp=N,1.0nm,0.3s
MOA Molln 6.89 319 *i* Pn **Pn 13 44 28.4 +1.1**
comp=N,0.8nm,0.2s
MOA *i* Sn **Sn 13 45 47.1 +1.0**
comp=N,4.7nm,0.5s
ABTA Abfaltersbach 7.19 306 *i* Pn **Pn 13 44 31.6 +0.2**
comp=N,1.6nm,0.3s
GERES GERESS Array B 7.86 322 Pn **Pn 13 44 41.0 +0.3**
comp=N,0.2nm,0.3s,baz=136,slow=13,SNR=3.5
WTTA Wattenberg 7.96 307 *i* Pn **Pn 13 44 44.0 +1.9**
comp=N,5.3nm,0.3s
WTTA *i* Sn **Sn 13 46 13.6 +0.8**
comp=N,4.8nm,0.6s
WATA Walderalm 8.04 307 *i* Pn **Pn 13 44 43.9 +0.8**
comp=N,3.3nm,0.2s
WATA *i* Sn **Sn 13 46 15.8 +1.3**
comp=N,2.8nm,0.3s
KHC Kasperske Hory 8.13 323 *e*PN **Pn 13 44 44.9 +0.7**
SQTA Sankt Quirin 8.20 305 *i* Pn **Pn 13 44 47.7 +2.4**
comp=N,7.3nm,0.4s
SQTA *i* Sn **Sn 13 46 19.4 +1.0**
comp=N,2.5nm,0.2s
MOTA Moosalm 8.32 306 *i* Pn **Pn 13 44 47.3 +0.3**
comp=N,3.8nm,0.4s
MOTA *i* Sn **Sn 13 46 21.8 +0.4**
comp=N,1.5nm,0.3s
FETA Feichten 8.40 303 *i* Pn **Pn 13 44 49.6 +1.6**
comp=N,1.1nm,0.4s
FETA *i* Sn **Sn 13 46 23.6 +0.2**
comp=N,0.6nm,0.4s
MDT Midelt 22.51 252 LR LR 13 57 43.8
comp=N,34nm,18.1s,baz=345,slow=40
ZALV Zalesovo Beam 42.39 52 P **P 13 50 40.2 -0.4**
comp=N,0.9nm,0.5s,baz=290,slow=9.2,SNR=3.1
MKAR Makanchi Array 42.67 63 P **P 13 50 42.8 -0.3**
comp=N,0.2nm,0.3s,baz=285,slow=6.5,SNR=4.1

*ISCJB **18** 13:45:12.8±0.2, 24°.34S±0°.03×179°.79E±0°.05, h517km, mb4.2/18, Error ellipse: s-maj=6.0km s-min=3.4km az=2.0*
*NEIC **18** 13:45:12.7±2.9, 24°.34S±0°.07×180°.0E±0°.1, h51$4^{km}_{\pm 5}$km, mb4.6/56*
*IDC **18** 13:45:13.1±1.0, 24°.37S×179°.81E, h508$^{km}_{\pm 10}$km, mb3.8/16, mb1 4.0/18, mb1mx3.7/40, mbtmp4.7/18, Error ellipse: s-maj=12.4km s-min=10.5km az=14.0*
ISC 18 13:45:13.0±0.4, 24°.36S±0°.05×179°.99E±0°.07, h517km, n190, σ1$^{s}_{\pm}$54/208, mb4.5/35, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.22 159**		P	**P**	**13 46 42.8**	**+0.1**
	11nm,0.3s,baz=73,slow=19,SNR=4.3						
RAO				S	**S**	**13 47 55.2**	**-1.0**
	57nm,0.3s,baz=53,slow=20,SNR=3.0						
RAO	**Raoul Island**	**5.22 159**		P	**P**	**13 46 42.1**	**-0.7**
GLKZ	**Green Lake**	**5.23 160**		P	**P**	**13 46 43.4**	**+0.5**
GLKZ				S	**S**	**13 47 53.7**	**-2.7**
MSVF	**Nonsavu**	**6.83 344**		P	**P**	**13 46 58.0**	**-0.4**
NIUE	**Niue**	**10.74 63**		P	**P**	**13 47 37.9**	**-0.5**
OUZ	**Omahuta**	**12.16 206**		P	**P**	**13 47 55.1**	**+2.1**
OUZ	**Omahuta**	**12.16 206**		P	**P**	**13 47 54.9**	**+1.9**
WCZ	**Waipu Caves**	**12.53 202**		P	**P**	**13 47 57.8**	**+0.9**
DZM	**Mont Dzumac**	**12.66 278**		P	**P**	**13 48 00.0**	**+1.3**
	2.2nm,0.3s,baz=119,slow=18,SNR=28						
KUZ	**Kuaotunu**	**12.88 196**		P	**P**	**13 48 02.0**	**+1.4**
AFI	**Afiamalu**	**12.97 38**		P	**P**	**13 47 58.1**	**-3.9**
MXZ	**Matakaoa Point**	**13.24 186**		P	**P**	**13 48 05.3**	**+0.9**
MXZ				S	**S**	**13 50 24.9**	**-0.8**
MXZ	**Matakaoa Point**	**13.24 186**		P	**P**	**13 48 04.8**	**+0.5**
WMGZ	**Waiomatatini S**	**13.49 185**		P	**P**	**13 48 07.0**	**+0.1**
WMGZ				S	**S**	**13 50 31.2**	**+0.8**
HAZ	**Te Kaha**	**13.49 188**		P	**P**	**13 48 07.2**	**+0.3**
HAZ				S	**S**	**13 50 29.8**	**-0.6**
PKGZ	**Pakihiroa**	**13.59 186**		P	**P**	**13 48 08.7**	**+0.6**
PKGZ				S	**S**	**13 50 32.0**	**-0.4**
TGRZ	**Tauranga**	**13.71 193**		P	**P**	**13 48 12.6**	**+3.4**
RUGZ	**Raukumara Rang**	**13.71 188**		P	**P**	**13 48 08.7**	**-0.7**
RUGZ				S	**S**	**13 50 33.8**	**-1.0**
PUZ	**Puketiti**	**13.75 186**		P	**P**	**13 48 11.5**	**+1.8**
PUZ				S	**S**	**13 50 35.0**	**-0.4**
KMRZ	**Kaimai**	**13.88 193**		P	**P**	**13 48 13.2**	**+2.0**
KARZ	**Kaharoa**	**13.99 192**		P	**P**	**13 48 14.3**	**+2.1**
URZ	**Urewera**	**14.07 189**		P	**P**	**13 48 11.8**	**-1.3**
	5.7nm,0.3s,baz=305,slow=1.2,SNR=54						
URZ				S	**S**	**13 50 41.0**	**-0.6**
	3.2nm,0.3s,baz=81,slow=20,SNR=16						
URZ	**Urewera**	**14.07 189**		P	**P**	**13 48 11.4**	**-1.7**
URZ				S	**S**	**13 50 38.4**	**-3.2**
URZ	**Urewera**	**14.07 189**		P	**P**	**13 48 11.2**	**-1.9**
MWZ	**Matawai**	**14.09 188**		P	**P**	**13 48 12.4**	**-0.9**
MWZ				S	**S**	**13 50 40.6**	**-1.4**
TKGZ	**Te Karaka**	**14.16 187**		P	**P**	**13 48 11.8**	**-2.2**
TKGZ				S	**S**	**13 50 41.7**	**-1.5**
CNGZ	**Carnagh Statio**	**14.17 186**		P	**P**	**13 48 15.7**	**+1.6**
RAGZ	**Rawiri**	**14.27 188**		P	**P**	**13 48 14.1**	**-1.1**
GRRZ	**Galatos Road**	**14.34 192**		P	**P**	**13 48 17.5**	**+1.6**
MUGZ	**Murupara**	**14.34 190**		P	**P**	**13 48 15.3**	**-0.6**
HRRZ	**Handcock Road**	**14.34 192**		P	**P**	**13 48 16.9**	**+0.9**
RIGZ	**Rimuhau**	**14.43 187**		P	**P**	**13 48 17.5**	**+0.6**
TLZ	**Tolley Road**	**14.44 194**		P	**P**	**13 48 19.4**	**+2.5**
RTZ	**Ruatahuna**	**14.44 189**		P	**P**	**13 48 17.3**	**+0.2**
WPRZ	**Whakapapatarin**	**14.49 192**		P	**P**	**13 48 18.3**	**+0.8**
ALRZ	**Allen Road**	**14.50 191**		P	**P**	**13 48 17.8**	**+0.3**
KUTZ	**Kaahu Road**	**14.53 193**		P	**P**	**13 48 20.4**	**+2.5**
PRGZ	**Paritu Road**	**14.63 187**		P	**P**	**13 48 20.4**	**+1.4**
MTHZ	**Maungataniwha**	**14.70 190**		P	**P**	**13 48 22.3**	**+2.6**
RAHZ	**Arahi**	**14.72 189**		P	**P**	**13 48 18.7**	**-1.2**
KNZ	**Kokohu**	**14.75 187**		P	**P**	**13 48 19.6**	**-0.6**
WATZ	**Wairara**	**14.76 193**		P	**P**	**13 48 21.5**	**+1.2**
HIZ	**Hauiti**	**14.77 196**		P	**P**	**13 48 23.5**	**+3.1**
HIZ	**Hauiti**	**14.77 196**		P	**P**	**13 48 19.4**	**-1.0**
HATZ	**Hinemaiaia**	**14.86 192**		P	**P**	**13 48 21.1**	**-0.3**
RATZ	**Rangitukua**	**14.90 193**		P	**P**	**13 48 22.1**	**+0.3**
NMHZ	**Naumai**	**14.94 190**		P	**P**	**13 48 21.7**	**-0.6**
RITZ	**Rihia Road**	**14.99 193**		P	**P**	**13 48 23.3**	**+0.6**
KATZ	**Kakaramea**	**15.02 193**		P	**P**	**13 48 23.9**	**+0.7**
BKZ	**Black Stump Fm**	**15.06 191**		P	**P**	**13 48 20.7**	**-2.8**
BKZ	**Black Stump Fm**	**15.06 191**		P	**P**	**13 48 20.5**	**-3.0**
BKZ				IAmb	IAmb	13 48 25.9	
	comp=Z,22nm,1.0s						
KRVZ	**Karewarewa**	**15.15 193**		P	**P**	**13 48 23.8**	**-0.7**
WTVZ	**West Tongariro**	**15.18 193**		P	**P**	**13 48 24.5**	**-0.3**
NGZ	**Ngauruhoe**	**15.23 193**		P	**P**	**13 48 25.2**	**-0.3**
MCHZ	**McNeill Hill**	**15.30 190**		P	**P**	**13 48 24.9**	**-1.0**
TUVZ	**Tukino**	**15.31 193**		P	**P**	**13 48 25.6**	**-0.6**
FWVZ	**Far West T-bar**	**15.32 193**		P	**P**	**13 48 25.9**	**-0.5**
WHVZ	**Whangaehu Hut**	**15.34 193**		P	**P**	**13 48 25.9**	**-0.7**
TRVZ	**Turoa**	**15.37 193**		P	**P**	**13 48 25.6**	**-1.3**
VRZ	**Vera Road**	**15.38 196**		P	**P**	**13 48 29.2**	**+2.5**
PKVZ	**Pokaka**	**15.40 194**		P	**P**	**13 48 26.5**	**-0.5**
MOVZ	**Moawhango**	**15.43 192**		P	**P**	**13 48 26.7**	**-0.7**
BHHZ	**Black Hill Sta**	**15.45 191**		P	**P**	**13 48 25.5**	**-2.0**
MTVZ	**Mangateitei**	**15.46 193**		P	**P**	**13 48 27.6**	**-0.1**
KRHZ	**Kereru**	**15.54 190**		P	**P**	**13 48 26.7**	**-1.8**
KAHZ	**Kahuranaki**	**15.62 189**		P	**P**	**13 48 28.4**	**-0.8**
PKE	**Pukeiti**	**15.64 198**		P	**P**	**13 48 32.7**	**+3.2**
KHEZ	**Kahui Hut**	**15.73 197**		P	**P**	**13 48 34.6**	**+4.1**
LREZ	**Lake Rotokare**	**15.78 196**		P	**P**	**13 48 34.0**	**+3.1**
PNHZ	**Pukenui**	**15.84 191**		P	**P**	**13 48 30.2**	**-1.4**
PXZ	**Pawanui**	**15.85 189**		P	**P**	**13 48 30.4**	**-1.2**
NMEZ	**Namu Road**	**15.88 198**		P	**P**	**13 48 35.4**	**+3.5**
WAZ	**Wanganui**	**15.92 194**		P	**P**	**13 48 32.9**	**+0.5**
TSZ	**Takapari Road**	**16.02 191**		P	**P**	**13 48 31.3**	**-2.1**
DVHZ	**Dannevirke**	**16.22 191**		P	**P**	**13 48 33.7**	**-1.7**
ANWZ	**Angora Road**	**16.33 190**		P	**P**	**13 48 34.6**	**-1.8**
POWZ	**Post Office Ro**	**16.38 192**		P	**P**	**13 48 37.3**	**+0.3**
PRWZ	**Pori Road**	**16.50 191**		P	**P**	**13 48 37.8**	**-0.4**
BFZ	**Birch Farm**	**16.58 190**		P	**P**	**13 48 36.5**	**-2.5**
BFZ	**Birch Farm**	**16.58 190**		P	**P**	**13 48 36.1**	**-2.9**
BFZ				IAmb	IAmb	13 48 39.6	
	comp=Z,16nm,0.6s						
MRZ	**Mangatainoka R**	**16.67 192**		P	**P**	**13 48 37.1**	**-2.8**
HOWZ	**Holdsworth Sta**	**16.91 192**		P	**P**	**13 48 40.8**	**-1.5**
TMWZ	**Te Maipa**	**17.05 191**		P	**P**	**13 48 42.3**	**-1.4**
MSWZ	**Moikau Station**	**17.47 192**		P	**P**	**13 48 44.6**	**-2.9**
SNZO	**South Karori**	**17.47 193**		P	**P**	**13 48 45.0**	**-2.4**
SNZO				IAmb	IAmb	13 49 21.1	
	comp=Z,26nm,0.9s						
BHW	**Baring Head**	**17.53 193**		P	**P**	**13 48 44.8**	**-3.2**
QRZ	**Quartz Range**	**17.57 199**		P	**P**	**13 48 47.2**	**-1.2**
PLWZ	**Palliser**	**17.61 192**		P	**P**	**13 48 46.2**	**-2.7**
NNZ	**Nelson**	**17.70 197**		P	**P**	**13 48 47.7**	**-1.9**
TUWZ	**Tuamarina**	**17.76 195**		P	**P**	**13 48 48.2**	**-1.9**
CMWZ	**Cape Campbell**	**18.00 194**		P	**P**	**13 48 52.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**18.05 195**		P	**P**	**13 48 51.9**	**-0.8**
THZ	**Tophouse**	**18.33 197**		P	**P**	**13 48 54.4**	**-1.0**
THZ				IAmb	IAmb	13 48 59.2	
	comp=Z,15nm,0.5s						
KHZ	**Kahutara**	**18.79 195**		P	**P**	**13 48 57.7**	**-1.8**
KHZ				IAmb	IAmb	13 49 03.2	
	comp=Z,20nm,0.8s						
LTZ	**Lake Taylor**	**19.45 197**		P	**P**	**13 49 03.6**	**-2.0**
OXZ	**Oxford**	**20.02 197**		P	**P**	**13 49 08.8**	**-1.9**
MQZ	**McQueen's Vall**	**20.22 196**		P	**P**	**13 49 10.4**	**-2.1**
RPZ	**Rata Peaks**	**20.66 199**		P	**P**	**13 49 16.4**	**-0.1**
	comp=Z,11nm,0.4s,baz=349,slow=1.5,SNR=19						
RPZ	**Rata Peaks**	**20.66 199**		P	**P**	**13 49 14.9**	**-1.6**
RPZ				IAmb	IAmb	13 49 19.7	
	comp=Z,13nm,0.9s						
FOZ	**Fox Glacier**	**20.88 201**		P	**P**	**13 49 16.4**	**-2.1**
FOZ				IAmb	IAmb	13 49 17.3	
	comp=Z,22nm,1.1s						
LBZ	**Lake Benmore**	**21.53 199**		P	**P**	**13 49 22.2**	**-2.2**
WKZ	**Wanaka**	**22.29 201**		P	**P**	**13 49 29.2**	**-2.0**
MLZ	**Mavora Lakes**	**23.06 202**		P	**P**	**13 49 37.0**	**-1.1**
MLZ				IAmb	IAmb	13 49 55.2	
	comp=Z,57nm,2.0s						
DCZ	**Deep Cove**	**23.48 203**		P	**P**	**13 49 41.1**	**-0.7**
DCZ				IAmb	IAmb	13 49 42.9	
	comp=Z,16nm,1.1s						
WHZ	**Wether Hill Ro**	**23.58 201**		P	**P**	**13 49 41.0**	**-1.7**
HNR	**Honiara**	**24.20 304**		P	**P**	**13 49 47.4**	**-1.2**
	comp=Z,26nm,0.4s,baz=224,slow=5.4,SNR=4.1						
HNR	**Honiara**	**24.20 304**		P	**P**	**13 49 47.8**	**-0.8**
ARMA	**Armidale**	**25.86 250**		P	**P**	**13 50 01.8**	**-1.5**
ARMA				IAmb	IAmb	13 50 59.8	
	comp=Z,51nm,1.6s						
EIDS	**Eidsvold**	**26.23 262**		P	**P**	**13 50 05.9**	**-0.6**
EIDS				IAmb	IAmb	13 50 07.7	
	comp=Z,9.8nm,0.9s						
CTA	**Charters Tower**	**31.47 271**		P	**P**	**13 50 52.6**	**+0.4**
	comp=Z,34nm,0.5s,baz=95,slow=11,SNR=21						
CTAO	**Charters Tower**	**31.47 271**		P	**P**	**13 50 52.5**	**+0.4**
TOO	**Toolangi**	**32.19 238**		P	**P**	**13 50 58.5**	**+0.3**
TOO				IAmb	IAmb	13 51 23.1	
	comp=Z,28nm,1.6s						
STKA	**Stephens Creek**	**34.55 249**		P	**P**	**13 51 18.2**	**0.0**
	comp=Z,6.3nm,0.6s,baz=93,slow=11,SNR=35						
STKA	**Stephens Creek**	**34.55 249**		P	**P**	**13 51 18.1**	**0.0**
PMG	**Port Moresby**	**34.63 290**		P	**P**	**13 51 18.9**	**-0.2**
PMG				IAmb	IAmb	13 51 19.8	
	comp=Z,22nm,0.7s						
COEN	**Coen**	**36.18 280**		P	**P**	**13 51 32.0**	**+0.1**
COEN				IAmb	IAmb	13 51 34.9	
	comp=Z,8.9nm,0.7s						
BBOO	**Buckleboo**	**39.26 247**		P	**P**	**13 51 56.0**	**-0.8**
BBOO				IAmb	IAmb	13 52 29.5	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**41.95 261**		P	**P**	**13 52 18.0**	**-0.5**
ASAR	**Alice Springs**	**41.95 261**		P	**P**	**13 52 18.2**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=93,slow=6.9,SNR=178						
ASAR				ScP	**ScP**	**13 57 04.2**	**+1.1**
	comp=Z,3.2nm,1.0s,baz=123,slow=4.8,SNR=9.2						
ASAR				S	**S**	**13 57 57.8**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=102,slow=18,SNR=6.1						
ASAR	**Alice Springs**	**41.95 261**		P	**P**	**13 52 17.4**	**-1.2**
WB2	**Warramunga Arr**	**42.36 267**		P	**P**	**13 52 20.8**	**-1.0**
WB2				IAmb	IAmb	13 52 21.4	
	comp=Z,14nm,0.5s						
WRAB	**Tennant Creek**	**42.36 267**		P	**P**	**13 52 20.7**	**-1.0**
WRAB				IAmb	IAmb	13 52 21.3	
	comp=Z,12nm,0.5s						
WRA	**Warramunga Arr**	**42.37 267**		P	**P**	**13 52 21.1**	**-0.7**
	comp=Z,12nm,0.5s,baz=103,slow=8.1,SNR=198						
WRA				ScP	**ScP**	**13 57 06.6**	**+1.8**
	comp=Z,6.8nm,0.8s,baz=102,slow=4.1,SNR=26						
WRA				S	**S**	**13 58 03.2**	**-2.4**
	comp=Z,1.8nm,0.9s,baz=109,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**42.37 267**		P	**P**	**13 52 20.8**	**-1.1**
WRA					**ScP**	**13 57 07.5**	**+2.7**
FORT	**Forrest**	**46.15 250**		P	**P**	**13 52 49.8**	**-1.1**
MTN	**Manton Dam**	**47.48 275**		P	**P**	**13 53 00.1**	**-1.1**
MTN				IAmb	IAmb	13 54 49.3	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**48.68 270**		P	**P**	**13 53 09.8**	**-0.3**
KNRA				IAmb	IAmb	13 53 10.4	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.78 266**		P	**P**	**13 53 25.5**	**-0.1**
FITZ				IAmb	IAmb	13 53 27.0	
	comp=Z,9.2nm,0.7s						
SBA	**Scott Base**	**53.92 183**		P	**P**	**13 53 49.1**	**+2.0**
SOEI	**Soe**	**54.87 275**		P	**P**	**13 53 55.8**	**+0.7**
SOEI				IAmb	IAmb	13 54 12.0	
	comp=Z,29nm,0.9s						
QSPA	**South Pole Qui**	**65.73 180**		P	**P**	**13 55 07.4**	**+1.2**
	comp=Z,21nm,0.7s,baz=25,slow=2.5,SNR=135						
QSPA	**South Pole Qui**	**65.73 180**		P	**P**	**13 55 07.2**	**+1.1**
QSPA				IAmb	IAmb	13 55 08.3	
	comp=Z,24nm,0.8s						
MAW	**Mawson**	**77.32 200**		P	**P**	**13 56 14.5**	**+0.8**
	comp=Z,4.8nm,0.5s,baz=146,slow=4.7,SNR=20						
MAW	**Mawson**	**77.32 200**		IAmb	IAmb	13 56 14.9	
	comp=Z,14nm,2.0s						
PMSA	**Palmer Station**	**78.50 157**		P	**P**	**13 56 21.2**	**+1.2**
	comp=Z,15nm,0.8s,baz=243,slow=6.8,SNR=3.4						
PMSA	**Palmer Station**	**78.50 157**		IAmb	IAmb	13 56 26.1	
	comp=Z,51nm,1.4s						
KSRS	**Korea Array**	**78.59 320**		P	**P**	**13 56 21.6**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=151,slow=5.9,SNR=3.2						
PETK	**Petropavlovsk-**	**79.54 347**		P	**P**	**13 56 26.6**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=201,slow=2.5,SNR=4.8						
NJ2	**Nanjing**	**80.95 311**	*e*P		**P**	**13 56 33.9**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,16nm,0.9s						
USRK	**Ussuriysk Ar.**	**81.14 327**		P	**P**	**13 56 34.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=150,slow=4.8,SNR=4.6						
SYO	**Syowa Base**	**82.57 193**	*e*P		**P**	**13 56 39.0**	**-2.1**
CMB	**Columbia Colle**	**83.54 43**		P	**P**	**13 56 46.6**	**+0.1**
SNAA	**Sanae**	**84.21 179**		P	**P**	**13 56 48.9**	**-0.5**
SNAA	**Sanae**	**84.21 179**		P	**P**	**13 56 48.6**	**-0.8**
GLA	**Glamis**	**84.33 50**		P	**P**	**13 56 52.8**	**+2.3**
WAKR	**Walker**	**84.42 43**		P	**P**	**13 56 52.9**	**+1.9**
VNA3	**Neumayer Olymp**	**84.42 177**		P	**P**	**13 56 50.2**	**-0.2**
VNA2	**Neumayer--Watz**	**84.84 178**		P	**P**	**13 56 52.4**	**0.0**
	baz=186,slow=3.8						
HSIG		**84.98 55**			**P**	**13 56 55.7**	**+1.9**
HSIG				IAmb	IAmb	13 56 56.4	
	comp=Z,7.6nm,0.8s						
VNA1	**Neumayer--Stat**	**85.08 177**		P	**P**	**13 56 53.7**	**+0.2**
NVAR	**Mina Array Bea**	**85.09 44**		P	**P**	**13 56 55.6**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=224,slow=7.3,SNR=9.5						
NVAR	**Mina Array Bea**	**85.09 44**			**P**	**13 56 55.5**	**+1.2**
TUC	**Tucson**	**86.80 52**		P	**P**	**13 57 04.8**	**+2.2**
319A	**Douglas**	**87.42 54**			**P**	**13 57 07.9**	**+2.4**
319A				IAmb	IAmb	13 57 09.1	
	comp=Z,10nm,1.1s						
X16A	**Lo Mia Camp, P**	**87.44 50**			**P**	**13 57 07.6**	**+2.0**
KNB	**Kanab**	**87.87 48**			**P**	**13 57 09.2**	**+1.7**
U15A	**North Rim**	**87.91 48**			**P**	**13 57 09.6**	**+1.7**
PLCA	**Paso Flores**	**87.95 134**		P	**P**	**13 57 09.8**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=244,slow=9.0,SNR=4.5						
MTPU	**Mount Pierson**	**88.85 47**			**P**	**13 57 14.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**89.67 290**		P	**P**	**13 57 18.8**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=140,slow=3.0,SNR=4.6						
TMUT	**Trail Mountain**	**90.16 46**			**P**	**13 57 19.2**	**+0.9**
HVU	**Hansel Valley**	**90.47 44**		P	**P**	**13 57 19.4**	**-0.1**
MNTX	**Cornudas Mount**	**90.48 55**		P	**P**	**13 57 20.0**	**+0.4**
SRU	**San Rafael Swe**	**90.52 47**		P	**P**	**13 57 20.5**	**+0.7**
TX32	**Lajitas Array**	**90.68 58**		P	**P**	**13 57 22.2**	**+1.6**
TX32				IAmb	IAmb	13 57 23.0	
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**90.68 58**		P	**P**	**13 57 22.6**	**+2.0**
	comp=Z,2.9nm,0.7s,baz=215,slow=6.6,SNR=39						
TXAR	**Lajitas Array**	**90.68 58**		P	**P**	**13 57 22.0**	**+1.3**
PDAR	**Pinedale Array**	**93.02 44**		P	**P**	**13 57 32.3**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=223,slow=3.3,SNR=5.3						
LZH	**Lanzhou**	**93.65 308**	*e*P		**P**	**13 57 35.9**	**+1.7**
LZH				pP	pP	13 59 25.3	-2.6
LZH				sP	sP	14 00 23.3	+3.8
LZH				PP	**PP**	**14 01 26.1**	**-2.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				pmax	pmax		
	comp=Z,89nm,4.9s						
MKAR	**Makanchi Array**	**112.45 313**	PKiKP		**PKiKP**	**14 02 49.4**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=145,slow=1.5,SNR=4.7						
MKAR			PKKPbc		**PKKPbc**	**14 13 41.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=289,slow=3.7,SNR=5.2						
KSH	**Kashi**	**115.52 304**	*e*PKP		**PKPdf**	**14 02 53.3**	**-3.0**
ARCES	**ARCESS Array B**	**132.33 348**	PKP		**PKPdf**	**14 03 27.4**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=87,slow=2.7,SNR=11						
FINES	**FINESS Array B**	**138.87 341**	PKhKP		PKPpre	14 03 32.2	
	comp=Z,1.8nm,0.8s,baz=8.5,slow=3.9,SNR=4.4						
FINES			PKP		sPdif	14 03 40.6	+0.1
	comp=Z,2.7nm,0.7s,baz=215,slow=2.3,SNR=4.8						
FINES			SKPbc		**SKPbc**	**14 06 26.7**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=23,slow=4.5,SNR=7.4						
HFS	**Hagfors**	**142.99 349**	PKhKP		PKPpre	14 03 44.5	
	comp=Z,5.5nm,0.4s,baz=66,slow=3.5,SNR=16						
AKASG	**Malin Array Be**	**145.35 327**	PKPbc		**PKPbc**	**14 03 52.3**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=46,slow=4.0,SNR=9.0						
AKASG			SKPbc		**SKiKP**	**14 06 43.4**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=45,slow=2.6,SNR=5.6						
AKASG	**Malin Array Be**	**145.35 327**			**SKPbc**	**14 06 42.6**	**+0.4**
BRTR	**Keskin Array B**	**147.84 307**	PKPbc		**PKPbc**	**14 03 59.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=145,slow=3.0,SNR=6.3						
BRTR	**Keskin Array B**	**147.84 307**			**PKPbc**	**14 03 59.1**	**-0.9**
BURAR	**Bucovina Array**	**149.34 326**			**PKPbc**	**14 04 03.5**	**+0.1**
KOLS	**Kolonicke sedl**	**149.86 330**	*e*PKP		**PKiKP**	**14 04 06.0**	**+0.9**
CLL	**Collm**	**151.29 343**	*i* PKPbc		**PKPbc**	**14 04 07.8**	**+0.2**
	comp=Z,8.0nm,0.8s						
CLL	**Collm**	**151.29 343**			**PKPbc**	**14 04 07.6**	**0.0**
BRG	**Berggiesshubel**	**151.41 341**	*e*PKP		**PKiKP**	**14 04 08.4**	**+0.2**
	comp=Z,5.4nm,0.5s						
VYHS	**Vyhne**	**151.69 333**	*e*PKP		**PKiKP**	**14 04 09.0**	**+0.1**
BMRD	**Maredsous**	**153.83 353**	PKPdf		**PKPdf**	**14 04 03.5**	**-1.3**
BMRD	**Maredsous**	**153.83 353**	PKPbc		**PKPbc**	**14 04 11.7**	**-1.5**
BMRD	**Maredsous**	**153.83 353**	PKiKP		**PKPbc**	**14 04 12.4**	**-0.8**
BMRD	**Maredsous**	**153.83 353**	PKPab		**PKPab**	**14 04 26.8**

NC4	**NORSAR Subarra**	**2.19 227**	Pn	**Pn**	**14 08 22.8**	**+1.0**
NC4			Pg	**Pb**	**14 08 25.4**	**+0.2**
NC4			Sn	**Sb**	**14 08 50.9**	**-1.4**
NC4	**NORSAR Subarra**	**2.19 227**	Pn	**Pn**	**14 08 22.8**	**+1.0**
NC4			Pg	**Pb**	**14 08 25.4**	**+0.2**
NC2	**NORSAR Subarra**	**2.38 237**	Pn	**Pn**	**14 08 25.8**	**+1.3**
NC2			Pg	**Pb**	**14 08 28.3**	**-0.2**
NC2			Sn	**Sb**	**14 08 55.6**	**-2.2**
NC2	**NORSAR Subarra**	**2.38 237**	Pn	**Pn**	**14 08 25.8**	**+1.3**
NC2			Pg	**Pb**	**14 08 28.3**	**-0.2**
NB2	**NORSAR Subarra**	**2.40 230**	Pn	**Pn**	**14 08 26.0**	**+1.3**
baz=46,slow=18						
NB2			Pg	**Pb**	**14 08 28.7**	**0.0**
NB2			Sn	**Sn**	**14 08 55.5**	**+1.5**
baz=47,slow=37						
NB2	**NORSAR Subarra**	**2.40 230**	Pn	**Pn**	**14 08 26.0**	**+1.3**
baz=46,slow=18						
NB2			Pg	**Pb**	**14 08 28.7**	**0.0**
NOA	**NORSAR Array B**	**2.40 230**	Pn	**Pn**	**14 08 25.8**	**+1.1**
0.2nm,0.3s,baz=39,slow=12,SNR=43						
NOA			Pg	**Pb**	**14 08 28.1**	**-0.6**
0.2nm,0.3s,baz=45,slow=15,SNR=45						
NOA			Sn	**Sb**	**14 08 56.8**	**-1.3**
0.7nm,0.3s,baz=26,slow=21,SNR=15						
NRA0	**NORESS Array S**	**2.51 223**	Pn	**Pn**	**14 08 27.3**	**+1.1**
baz=34,slow=16						
NRA0			Pg	**Pb**	**14 08 30.2**	**-0.3**
baz=36,slow=16						
NRA0			Sn	**Sb**	**14 08 59.3**	**-2.1**
baz=28,slow=22						
NRA0			Lg	Lg	14 09 03.5	
baz=37,slow=28						
NRA0	**NORESS Array S**	**2.51 223**	Pn	**Pn**	**14 08 27.3**	**+1.1**
baz=34,slow=16						
NRA0			Pg	**Pb**	**14 08 30.2**	**-0.3**
baz=36,slow=16						
NRA0			Sg	**Sg**	**14 09 03.5**	**-2.8**
baz=37,slow=28						
NC6	**NORSAR Subarra**	**2.53 223**	Pn	**Pn**	**14 08 27.6**	**+1.2**
NC6			Pg	**Pb**	**14 08 30.0**	**-0.8**
NC6			Lg	Lg	14 09 02.2	
NC6	**NORSAR Subarra**	**2.53 223**	Pn	**Pn**	**14 08 27.6**	**+1.2**
NC6			Pg	**Pb**	**14 08 30.0**	**-0.8**
NC6			Sg	**Sb**	**14 09 02.2**	**+0.4**
NBO	**NORSAR Subarra**	**2.56 233**	Pn	**Pn**	**14 08 28.1**	**+1.2**
NBO			Pg	**Pb**	**14 08 30.3**	**-1.2**
NBO			Sn	**Sn**	**14 08 59.0**	**+1.0**
NBO			Lg	Lg	14 09 03.5	
NBO	**NORSAR Subarra**	**2.56 233**	Pn	**Pn**	**14 08 28.1**	**+1.2**
NBO			Pg	**Pb**	**14 08 30.3**	**-1.2**
HFS	**Hagfors**	**2.58 195**	Pn	**Pn**	**14 08 28.2**	**+1.1**
baz=6.8,slow=12						
HFS			Pg	**Pb**	**14 08 30.6**	**-1.1**
baz=16,slow=16						
HFS			Sn	**Sn**	**14 08 59.5**	**+1.3**
baz=23,slow=28						
HFS			Lg	Lg	14 09 04.2	
baz=6.9,slow=37						
HFS	**Hagfors**	**2.58 195**	Pn	**Pn**	**14 08 28.4**	**+1.3**
2.1nm,0.3s,baz=18,slow=14,SNR=38						
HFS			Pg	**Pb**	**14 08 30.6**	**-1.1**
2.1nm,0.3s,baz=19,slow=19,SNR=38						
HFS			Sn	**Sn**	**14 08 59.8**	**+1.5**
4.8nm,0.3s,baz=18,slow=29,SNR=11						
HFS	**Hagfors**	**2.58 195**	Pn	**Pn**	**14 08 28.2**	**+1.1**
baz=6.8,slow=12						
HFS			Pg	**Pb**	**14 08 30.6**	**-1.1**
baz=16,slow=16						
HFS			Sn	**Sn**	**14 08 59.5**	**+1.3**
baz=23,slow=28						
HFS			Sg	**Sb**	**14 09 04.2**	**+0.9**
baz=6.9,slow=37						
NAO	**NORSAR Subarra**	**2.68 230**	Pn	**Pn**	**14 08 29.3**	**+0.8**
NAO			Pg	**Pb**	**14 08 33.6**	**+0.1**
NAO			Lg	Lg	14 09 08.2	
NAO	**NORSAR Subarra**	**2.68 230**	Pn	**Pn**	**14 08 29.3**	**+0.8**
NAO			Pg	**Pb**	**14 08 33.6**	**+0.1**
NAO			Sg	**Sb**	**14 09 08.2**	**+1.9**
DOMB	**Dombas**	**2.83 261**	*e*P	**Pn**	**14 08 29.8**	**-0.7**
DOMB			*e*Pg	**Pb**	**14 08 36.2**	**+0.2**
DOMB			*e*S	**Sn**	**14 09 01.5**	**-3.0**
DOMB			*e*Sg	**Sb**	**14 09 10.6**	**0.0**
DOMB			IAML		14 09 16.7	
comp=Z,27nm,0.3s						
OSL	**Oslo**	**3.39 219**	*e*Sg	**Sb**	**14 09 29.4**	**+2.7**
AAL	**Aland**	**3.43 133**	*e*P	**Pn**	**14 08 40.1**	**+1.3**
AAL			*e*S	**Sn**	**14 09 21.1**	**+1.8**
MOL	**Molde**	**3.44 272**	*e*Pg	**Pb**	**14 08 44.3**	**-2.2**
MOL			*e*Sg	**Sb**	**14 09 31.4**	**+3.1**
MOL			IAML		14 09 40.6	
comp=Z,17nm,0.4s						
VAF	**Ylistaro**	**3.54 80**	*e*P	**Pn**	**14 08 42.5**	**+2.2**
VAF			*e*S	**Sn**	**14 09 24.0**	**+1.9**
VAF			MSG		14 09 37.8	
comp=Z,6.4nm,0.1s						
VAF	**Ylistaro**	**3.54 80**	*e*P	**Pn**	**14 08 42.5**	**+2.2**
VAF			*e*S	**Sn**	**14 09 24.0**	**+1.9**
VAF			MSG		14 09 37.8	
comp=Z,6.4nm,0.1s						
RAF	**Rauma**	**3.59 114**	*e*P	**Pn**	**14 08 43.0**	**+2.0**
RAF			*e*S	**Sn**	**14 09 25.7**	**+2.5**
RAF			MSG		14 09 42.6	
comp=Z,7.1nm,0.1s						
RAF	**Rauma**	**3.59 114**	*e*P	**Pn**	**14 08 43.0**	**+2.0**
RAF			*e*S	**Sn**	**14 09 25.7**	**+2.5**
RAF			MSG		14 09 42.6	
comp=Z,7.1nm,0.1s						
SKAR	**Skarslia**	**3.74 242**	*e*P	**Pn**	**14 08 43.4**	**+0.3**
SKAR			*e*Sg	**Sb**	**14 09 39.1**	**+2.3**
SKAR			IAML		14 09 43.5	
comp=Z,15nm,0.4s						
AKN	**Aaknes**	**3.75 267**	*e*P	**Pn**	**14 08 43.3**	**+0.1**
AKN			*e*Sg	**Sb**	**14 09 39.1**	**+2.1**
AKN			IAML		14 09 46.4	
comp=Z,14nm,0.3s						
KON	**Kongsberg**	**3.97 224**	Lg	Lg	14 09 47.7	
KONO	**Kongsberg**	**3.97 224**	*e*P	**Pn**	**14 08 45.4**	**-0.8**
KONO			*e*S	**Sn**	**14 09 28.5**	**-4.0**
KONO			*e*Sg	**Sb**	**14 09 47.4**	**+4.1**
HYA	**Hoyanger**	**4.42 255**	*e*P	**Pn**	**14 08 51.8**	**-0.5**
HYA			*e*Sg	**Sb**	**14 09 59.6**	**+3.5**
HYA			IAML		14 10 07.8	
comp=Z,12nm,0.4s						
KEF	**Keuruu**	**4.62 91**	*e*P	**Pn**	**14 08 56.5**	**+1.4**
KEF			*e*S	**Sn**	**14 09 50.0**	**+1.5**
KEF			MSG		14 10 15.3	
comp=Z,6.1nm,0.1s						
KEF	**Keuruu**	**4.62 91**	*e*P	**Pn**	**14 08 56.5**	**+1.4**
KEF			*e*S	**Sn**	**14 09 50.0**	**+1.5**
KEF			MSG		14 10 15.3	
comp=Z,6.1nm,0.1s						
OUF	**Merijarvi**	**4.70 64**	*e*S	**Sn**	**14 09 50.5**	**0.0**
OUF	**Merijarvi**	**4.70 64**	*e*S	**Sn**	**14 09 50.5**	**0.0**
TOF	**Tornio**	**5.33 45**	*e*P	**Pn**	**14 09 05.5**	**+0.6**
TOF			*e*S	**Sn**	**14 10 05.5**	**-0.5**
TOF	**Tornio**	**5.33 45**	*e*P	**Pn**	**14 09 05.5**	**+0.6**
TOF			*e*S	**Sn**	**14 10 05.5**	**-0.5**
FIA0	**FINESS Array S**	**5.35 98**	Pn	**Pn**	**14 09 05.2**	**+0.1**
baz=288,slow=14						
FIA0			Sn	**Sn**	**14 10 08.2**	**+1.7**
baz=286,slow=28						
FIA0			Lg	Lg	14 10 29.9	
baz=291,slow=28						
FIA0	**FINESS Array S**	**5.35 98**	*e*S	**Sn**	**14 10 06.8**	**+0.3**
FIA0	**FINESS Array S**	**5.35 98**	*e*S	**Sn**	**14 10 06.8**	**+0.3**
FIA0			Sn	Sb	14 10 08.2	-15
baz=286,slow=28						
FIA0			Sg	**Sg**	**14 10 29.9**	**-7.3**
baz=291,slow=28						
FIA1	**FINESS Array S**	**5.35 98**	*e*S	**Sn**	**14 10 06.8**	**+0.2**
FIA1	**FINESS Array S**	**5.35 98**	*e*S	**Sn**	**14 10 06.8**	**+0.2**
FINES	**FINESS Array B**	**5.35 98**	Pn	**Pn**	**14 09 07.2**	**+2.1**
comp=Z,0.1nm,0.3s,baz=291,slow=12,SNR=2.2						
FINES			Pg	**Pb**	**14 09 15.4**	**-3.4**
comp=Z,0.2nm,0.3s,baz=289,slow=12,SNR=6.8						
FINES			Sn	**Sn**	**14 10 06.8**	**+0.3**
comp=Z,0.8nm,0.3s,baz=286,slow=23,SNR=6.4						
FINES			Lg	Lg	14 10 29.9	
comp=Z,1.1nm,0.3s,baz=291,slow=27,SNR=7.3						
HOMB	**Homborsund**	**5.42 219**	*e*P	**Pn**	**14 09 04.9**	**-1.2**
PVF	**Pernaja**	**5.59 107**	*e*S	**Sn**	**14 10 12.5**	**0.0**
PVF	**Pernaja**	**5.59 107**	*e*S	**Sn**	**14 10 12.5**	**0.0**
RNF	**Rovaniemi**	**6.20 45**	*e*P	**Pn**	**14 09 17.1**	**+0.4**
RNF			*e*S	**Sn**	**14 10 25.8**	**-1.5**
RNF	**Rovaniemi**	**6.20 45**	*e*P	**Pn**	**14 09 17.1**	**+0.4**
RNF			*e*S	**Sn**	**14 10 25.8**	**-1.5**
KIF	**Kilpisjarvi**	**6.83 18**	Pn	**Pn**	**14 09 26.6**	**+1.1**
KIF			Sn	**Sn**	**14 10 42.4**	**-0.6**
KU6	**Riekki**	**7.31 56**	*e*P	**Pn**	**14 09 32.6**	**+0.6**
KU6			*e*S	**Sn**	**14 10 53.0**	**-1.7**
KU6	**Riekki**	**7.31 56**	*e*P	**Pn**	**14 09 32.6**	**+0.6**
KU6			*e*S	**Sn**	**14 10 53.0**	**-1.7**
ARA0	**ARCESS Array S**	**8.13 27**	Pn	**Pn**	**14 09 43.0**	**-0.3**
baz=211,slow=14						
ARA0			Lg	Lg	14 11 58.9	
baz=215,slow=22						
ARCES	**ARCESS Array B**	**8.13 27**	Pn	**Pn**	**14 09 42.9**	**-0.4**
comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=33						
ARCES			Sn	**Sn**	**14 11 11.4**	**-3.6**
comp=Z,0.3nm,0.3s,baz=208,slow=22,SNR=4.4						
ARCES			Lg	Lg	14 12 00.4	
comp=Z,0.4nm,0.3s,baz=216,slow=26,SNR=4.2						
KEV	**Kevo**	**8.63 29**	Pn	**Pn**	**14 09 50.2**	**+0.1**
KEV			Sn	**Sn**	**14 11 22.4**	**-4.7**

IDC 18 14:08:07.0±1.5, 0°.67N×122°.39E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/41, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=138.0km s-min=23.0km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.92**	**170**	P	Pn	14 12 30.2	+0.1
0.1nm,0.3s,baz=353,slow=8.1,SNR=4.0							
WRA	**Warramunga Arr**	**23.59**	**151**	P	P	14 13 19.8	0.0
0.8nm,0.5s,baz=326,slow=11,SNR=13							
ASAR	**Alice Springs**	**26.65**	**156**	P	P	14 13 47.4	-0.4
0.2nm,0.6s,baz=342,slow=12,SNR=8.2							
MKAR	**Makanchi Array**	**57.73**	**328**	P	P	14 17 59.7	0.0
0.2nm,0.5s,baz=122,slow=7.5,SNR=2.6							

WEL 18 14:18:55.9±1.0, 32°.S±10°.×18°.0E±2°.7, h403km±17km, M4.0/17, mB4.5/7, ML4.4/6, MLv4.4/17, Mw(mB)3.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=109.3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.23**	**35**	P	P	14 19 59.9	-1.3
GLKZ				S	S	14 20 54.8	+0.6
MXZ	**Matakaoa Point**	**5.78**	**193**	P	P	14 20 26.9	+1.1
MXZ				S	S	14 21 40.1	+0.5
KUZ	**Kuaotunu**	**5.94**	**215**	P	P	14 20 29.4	+1.8
WMGZ	**Waiomatatini S**	**6.00**	**192**	P	P	14 20 30.0	+1.8
WMGZ				S	S	14 21 46.6	+2.5
HAZ	**Te Kaha**	**6.08**	**197**	P	P	14 20 29.0	0.0
HAZ				S	S	14 21 45.3	-0.2
PKGZ	**Pakihiroa**	**6.13**	**194**	P	P	14 20 32.0	+2.3
PKGZ				S	S	14 21 47.8	+0.9
PUZ	**Puketiti**	**6.28**	**192**	P	P	14 20 31.7	+0.4
PUZ				S	S	14 21 49.5	-0.1
RUGZ	**Raukumara Rang**	**6.30**	**197**	P	P	14 20 31.8	+0.2
RUGZ				S	S	14 21 50.1	-0.1
MKAZ	**Moumakai**	**6.50**	**216**	P	P	14 20 35.1	+0.6
OPRZ	**Ohinepanea**	**6.53**	**205**	P	P	14 20 35.7	+0.9
MARZ	**Manawahe**	**6.61**	**203**	P	P	14 20 34.7	-1.1
MWZ	**Matawai**	**6.69**	**197**	P	P	14 20 35.1	-1.5
MWZ				S	S	14 21 58.1	+0.2
CNGZ	**Carnagh Statio**	**6.69**	**192**	P	P	14 20 36.8	+0.2
TKGZ	**Te Karaka**	**6.71**	**194**	P	P	14 20 37.1	+0.3
TKGZ				S	S	14 21 57.2	-1.2
URZ	**Urewera**	**6.73**	**200**	P	P	14 20 34.5	-2.5
URZ				S	S	14 21 56.5	-2.1
RAGZ	**Rawiri**	**6.87**	**197**	P	P	14 20 37.3	-1.4
RIGZ	**Rimuhau**	**6.99**	**194**	P	P	14 20 39.8	-0.2
MUGZ	**Murupara**	**7.03**	**201**	P	P	14 20 36.7	-3.7
SNGZ	**Shannon Statio**	**7.16**	**197**	P	P	14 20 42.1	+0.3
PRGZ	**Paritu Road**	**7.17**	**193**	P	P	14 20 42.5	+0.5
KNZ	**Kokohu**	**7.31**	**194**	P	P	14 20 42.7	-0.7
RAHZ	**Arahi**	**7.35**	**198**	P	P	14 20 43.1	-0.9
MTHZ	**Maungataniwha**	**7.36**	**199**	P	P	14 20 41.4	-2.6
MHGZ	**Mahia Peninsul**	**7.39**	**193**	P	P	14 20 44.3	-0.1
WHHZ	**Waihua**	**7.46**	**197**	P	P	14 20 44.4	-0.7
NMHZ	**Naumai**	**7.59**	**199**	P	P	14 20 45.6	-1.1
BKZ	**Black Stump Fm**	**7.75**	**200**	P	P	14 20 45.2	-3.2
HIZ	**Hauiti**	**7.78**	**211**	P	P	14 20 48.7	0.0
MCHZ	**McNeill Hill**	**7.95**	**199**	P	P	14 20 47.0	-3.6
KWHZ	**Kaweka Forest**	**8.01**	**200**	P	P	14 20 47.1	-4.1
NGZ	**Ngauruhoe**	**8.05**	**205**	P	P	14 20 50.3	-1.5
TUVZ	**Tukino**	**8.11**	**204**	P	P	14 20 49.5	-3.0
FWVZ	**Far West T-bar**	**8.14**	**205**	P	P	14 20 50.5	-2.3
BHHZ	**Black Hill Sta**	**8.18**	**202**	P	P	14 20 49.1	-4.0
KAHZ	**Kahuranaki**	**8.23**	**197**	P	P	14 20 52.1	-1.6
PKVZ	**Pokaka**	**8.24**	**206**	P	P	14 20 51.3	-2.5
VRZ	**Vera Road**	**8.33**	**209**	P	P	14 20 53.3	-1.4
LREZ	**Lake Rotokare**	**8.76**	**210**	P	P	14 20 55.0	-4.5

IDC ***18*** *14:20:14.6±0.6, 26°.59N×144°.00E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/41, mbtmp4.0/18, ML3.6/3, MS2.9/4, Ms1 3.0/4, ms1mx2.6/34, Error ellipse: s-maj=18.6km s-min=14.4km az=60.0*
JMA ***18*** *14:20:15.5, 27°.03N×144°.16E, h23km, M4.4*
ISCJB ***18*** *14:20:16.9±0.4, 26°.63N±0°.05×144°.07E±0°.06, h31km, mb4.0/14, MS3.2/2, Error ellipse: s-maj=8.3km s-min=6.3km az=135.3*
NEIC ***18*** *14:20:16.6±1.3, 26°.59N±0°.09×144°.03E±0°.08, h15km±2km, mb4.6/31*

ISC 18 14:20:19.0±0.6, 26°.66N±0°.08×144°.02E±0°.08, h31km, n77, σ1§12/74, mb4.4/28, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.65**	**269**	P	**Pn**	**14 20 46.2**	**+0.3**
CBIJ	**Chichi jima**	**1.70**	**285**	P	**Pn**	**14 20 45.5**	**-1.0**
CBIJ				*e*S	**Sn**	**14 21 07.5**	**+0.3**
JCJ	**Chichijima**	**1.70**	**285**	Pn	**Pn**	**14 20 45.5**	**-1.0**
58nm,0.3s,baz=280,slow=21,SNR=44							
JCJ				LR	LR	14 20 50.5	
comp=Z,48nm,21.5s,baz=35,slow=21							
JCJ				Sn	**Sn**	**14 21 07.8**	**+0.6**
193nm,0.3s,baz=107,slow=23,SNR=11							
JHJ	**Hachijo jima 2**	**7.41**	**331**	Pn	**Pn**	**14 22 04.3**	**-0.7**
6.5nm,0.3s,baz=135,slow=10.0,SNR=3.2							
JHU	**Hanno**	**10.02**	**337**	P	**Pn**	**14 22 36.9**	**-3.9**
JHU				*e*S	Sn	14 24 22.6	-9.5
JHO	**Hitachi**	**10.34**	**344**	P	**Pn**	**14 22 41.5**	**-3.7**
JAG	**Ashikaga**	**10.48**	**339**	P	**Pn**	**14 22 44.3**	**-2.8**
MJAR	**Matsushiro Arr**	**11.02**	**335**	Pn	**Pn**	**14 22 52.3**	**-2.2**
0.1nm,0.3s,baz=159,slow=12,SNR=7.7							
MJAR	**Matsushiro Arr**	**11.02**	**335**	P	**Pn**	**14 22 52.5**	**-2.1**
MAJO	**Matsushiro**	**11.02**	**335**	Pn	**Pn**	**14 22 52.5**	**-2.1**
MJB9	**Matsu-Tunnel**	**11.03**	**335**	Pn	**Pn**	**14 22 52.6**	**-2.1**
JNU	**Nakatsue**	**13.09**	**303**	LR	LR	14 27 00.9	
comp=Z,42nm,21.5s,baz=152,slow=31							
KSRS	**Korea Array**	**17.35**	**312**	P	**Pn**	**14 24 19.1**	**+0.3**
0.4nm,0.3s,baz=125,slow=10,SNR=5.7							
KSRS				LR	LR	14 29 50.4	
comp=Z,27nm,21.0s,baz=50,slow=33							
USA0B	**Ussuriysk Arra**	**20.02**	**334**	P	**P**	**14 24 48.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**20.02**	**334**	P	Pn	14 24 51.4	+0.3
1.7nm,0.5s,baz=144,slow=10,SNR=7.7							
YHNB	**Yeheng**	**20.51**	**269**		**P**	**14 24 55.4**	**+0.7**
SSLB	**Suanglung**	**21.06**	**267**	Pn	**P**	**14 25 02.8**	**+2.1**
H11S3	**WAKE ISLAND Hy**	**22.43**	**107**	T	T	14 48 38.1	
baz=295,SNR=3.9							
H11S1	**WAKE ISLAND Hy**	**22.43**	**107**	T	T	14 48 52.7	
baz=295							
H11S2	**WAKE ISLAND Hy**	**22.44**	**107**	T	T	14 48 45.2	
baz=295							
KLR	**Kul'dur**	**24.46**	**340**	P	**P**	**14 25 35.4**	**+0.4**
1.9nm,0.8s,baz=154,slow=8.1,SNR=4.3							
ULN	**Ulaanbaatar**	**35.77**	**316**	P	**P**	**14 27 15.9**	**+0.6**
ULN				IAmb	IAmb	14 27 17.0	
comp=Z,5.9nm,0.8s							
SONM	**Songino Array**	**36.16**	**316**	P	**P**	**14 27 19.4**	**+0.7**
comp=Z,3.3nm,0.7s,baz=121,slow=7.7,SNR=18							
SONM	**Songino Array**	**36.16**	**316**	P	**P**	**14 27 19.0**	**+0.3**
MTN	**Manton Dam**	**41.22**	**199**	P	**P**	**14 28 00.6**	**-0.6**
MTN				IAmb	IAmb	14 29 13.5	
comp=Z,22nm,1.4s							
CHTO	**Chiang Mai**	**42.13**	**269**	P	**P**	**14 28 08.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.25**	**269**	P	**P**	**14 28 09.9**	**+0.2**
comp=Z,0.7nm,0.4s,baz=56,slow=9.0,SNR=8.0							
CMAR				LR	LR	14 46 27.6	
comp=Z,12nm,18.2s,baz=45,slow=37							
TIXI	**Tiksi**	**45.82**	**353**	P	**P**	**14 28 39.0**	**+1.5**
CTAO	**Charters Tower**	**46.52**	**177**	P	**P**	**14 28 42.6**	**-1.1**
CTAO				IAmb	IAmb	14 28 51.2	
comp=Z,20nm,1.9s							
WB0	**Warramunga Arr**	**47.09**	**192**	P	**P**	**14 28 47.9**	**-0.3**
WRAB	**Tennant Creek**	**47.26**	**192**	P	**P**	**14 28 49.2**	**-0.3**
WRAB				IAmb	IAmb	14 28 50.1	
comp=Z,7.6nm,1.0s							
WB2	**Warramunga Arr**	**47.27**	**192**	P	**P**	**14 28 48.8**	**-0.8**
WRA	**Warramunga Arr**	**47.27**	**192**	P	**P**	**14 28 49.2**	**-0.4**
comp=Z,2.8nm,0.7s,baz=13,slow=8.5,SNR=21							
WRA	**Warramunga Arr**	**47.27**	**192**	P	**P**	**14 28 48.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**47.94**	**204**	P	**P**	**14 28 55.0**	**+0.2**
FITZ				IAmb	IAmb	14 28 55.8	
comp=Z,4.9nm,0.7s							
ODAN	**Odare**	**50.19**	**284**	*e*P	**P**	**14 29 12.6**	**+0.2**
RAMN	**Ramite**	**50.85**	**284**	*e*P	**P**	**14 29 17.5**	**+0.1**
comp=Z,14nm,1.0s							
ZALV	**Zalesovo Beam**	**50.89**	**319**	P	**P**	**14 29 17.1**	**+0.1**
comp=Z,1.0nm,0.5s,baz=92,slow=10,SNR=4.3							
ZALV	**Zalesovo Beam**	**50.89**	**319**	P	**P**	**14 29 16.4**	**-0.6**
ASAR	**Alice Springs**	**50.98**	**192**	P	**P**	**14 29 17.5**	**-0.5**
comp=Z,0.4nm,0.6s,baz=10,slow=5.7,SNR=6.6							
ASAR				PcP	**PcP**	**14 30 34.0**	**+0.1**
comp=Z,0.8nm,0.8s,baz=18,slow=1.1,SNR=5.9							
ASAR	**Alice Springs**	**50.98**	**192**	P	**P**	**14 29 16.4**	**-1.6**
JIRN	**Jiri**	**51.05**	**285**	*e*P	**P**	**14 29 19.5**	**+0.5**
comp=Z,18nm,0.8s							
GSI	**Gunungsitoli**	**51.21**	**248**	P	**P**	**14 29 17.8**	**-2.1**
GSI				IAmb	IAmb	14 30 24.9	
comp=Z,14nm,1.0s							
GUN	**Gumba**	**51.26**	**285**	*e*P	**P**	**14 29 21.1**	**+0.5**
comp=Z,14nm,0.8s							
DMN	**Daman**	**51.99**	**285**	*e*P	**P**	**14 29 26.0**	**0.0**
MK31	**Makanchi Array**	**52.01**	**310**	P	**P**	**14 29 25.4**	**-0.2**
MKAR	**Makanchi Array**	**52.01**	**310**	P	**P**	**14 29 25.9**	**+0.4**
comp=Z,2.7nm,0.9s,baz=95,slow=9.0,SNR=20							
MKAR	**Makanchi Array**	**52.01**	**310**	P	**P**	**14 29 25.7**	**+0.1**
MAKZ	**Makanchi**	**52.23**	**310**	P	**P**	**14 29 27.5**	**+0.3**
MAKZ				IAmb	IAmb	14 29 31.2	
comp=Z,8.8nm,1.4s							
DANN	**Dangsing**	**52.98**	**287**	*e*P	**P**	**14 29 33.5**	**+0.2**
comp=Z,20nm,0.8s							
KOLN	**Koldanda**	**53.26**	**286**	*e*P	**P**	**14 29 35.5**	**+0.3**
KURK	**Kurchatov**	**54.46**	**315**	P	**P**	**14 29 43.2**	**-0.1**
PRZ	**Przheval'sk**	**55.00**	**305**	P	**P**	**14 29 47.0**	**-0.7**
TARG	**Taragay, Kyrgy**	**55.52**	**304**	P	**P**	**14 29 52.5**	**+0.7**
TARG				IAmb	IAmb	14 29 54.2	
comp=Z,7.9nm,1.1s							
KDJ	**Kajisay**	**55.94**	**304**	P	**P**	**14 29 55.0**	**+0.5**
BOOM	**Boomskoye usch**	**56.81**	**305**	P	**P**	**14 30 00.3**	**-0.3**
BOOM				IAmb	IAmb	14 30 02.3	
comp=Z,4.0nm,0.6s							
STKA	**Stephens Creek**	**58.26**	**182**	P	**P**	**14 30 10.6**	**0.0**
comp=Z,1.3nm,0.8s,baz=0.0,slow=6.1,SNR=2.9							
ARSB	**Arslanbob**	**59.16**	**304**	P	**P**	**14 30 17.4**	**+0.3**
ARSB				IAmb	IAmb	14 30 21.3	
comp=Z,6.7nm,1.2s							
BRVK	**Borovoye**	**59.53**	**318**	P	**P**	**14 30 19.1**	**-0.2**
BRVK				IAmb	IAmb	14 30 20.2	
comp=Z,6.7nm,1.1s							
KK31	**Karatay Array**	**60.66**	**306**	P	**P**	**14 30 27.4**	**+0.1**
KK31				IAmb	IAmb	14 30 28.8	
comp=Z,3.8nm,0.8s							
KKAR	**Karatay Array**	**60.66**	**306**	P	**P**	**14 30 27.3**	**0.0**
KKAR				IAmb	IAmb	14 30 28.8	
comp=Z,3.8nm,0.8s							
KKAR	**Karatay Array**	**60.66**	**306**	P	**P**	**14 30 27.4**	**+0.1**
GAR	**Garm**	**61.62**	**302**	P	**P**	**14 30 34.1**	**+0.2**
CHGR	**Chuyangaron**	**62.57**	**302**	P	**P**	**14 30 40.9**	**+0.6**
INK	**Inuvik**	**62.74**	**24**	P	**P**	**14 30 41.8**	**+1.1**
comp=Z,1.2nm,0.9s,baz=276,slow=3.3,SNR=4.9							
INK	**Inuvik**	**62.74**	**24**	P	**P**	**14 30 42.1**	**+1.3**
INK				IAmb	IAmb	14 30 42.8	
comp=Z,9.2nm,1.5s							
ABKAR	**Akbulak array**	**66.57**	**315**	P	**P**	**14 31 05.7**	**-0.4**
ABKAR				IAmb	IAmb	14 31 06.5	
comp=Z,2.2nm,0.7s							
FINES	**FINESS Array B**	**79.05**	**334**	P	**P**	**14 32 21.6**	**+1.7**
comp=Z,2.6nm,0.9s,baz=55,slow=5.6,SNR=4.3							
NVAR	**Mina Array Bea**	**79.49**	**52**	P	**P**	**14 32 23.9**	**+0.8**

LBTB	**Lobatse**	**58.21**	**85**	P	**P**	**15 17 14.4**	**+0.3**
LBTB				IAmb	IAmb	15 17 15.4	
comp=Z,7.8nm,0.8s							
TOA0	**Torodi Ar. Sit**	**81.59**	**44**	P	**P**	**15 19 39.4**	**+1.7**
TOA0				IAmb	IAmb	15 19 40.5	
comp=Z,7.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**81.59**	**44**	P	**P**	**15 19 39.1**	**+1.5**
comp=Z,4.1nm,0.9s,baz=200,slow=5.8,SNR=15							
TORD	**Torodi Ar. Bea**	**81.59**	**44**	P	**P**	**15 19 37.6**	**0.0**
INK	**Inuvik**	**143.69**	**321**	PKhKP	PKPpre	15 26 49.8	
comp=Z,0.5nm,0.5s,baz=87,slow=3.4,SNR=3.4							
INK				PKP	**PKiKP**	**15 26 54.9**	**-1.6**
comp=Z,1.2nm,0.8s,baz=96,slow=3.5,SNR=3.1							
MAKZ	**Makanchi**	**145.91**	**88**		**PKPdf**	**15 26 57.7**	**0.0**
MK31	**Makanchi Array**	**146.05**	**89**		**PKPdf**	**15 26 58.1**	**+0.2**
MKAR	**Makanchi Array**	**146.05**	**89**	PKPbc	**PKPdf**	**15 26 58.2**	**+0.3**
comp=Z,2.2nm,0.6s,baz=244,slow=3.3,SNR=21							
MKAR	**Makanchi Array**	**146.05**	**89**		**PKPdf**	**15 26 58.1**	**+0.2**
PRP	**Porcupine Dome**	**146.33**	**313**		**PKPbc**	**15 26 59.2**	**-0.1**
IL31		**146.47**	**311**		**PKPbc**	**15 26 59.2**	**-0.2**
ILAR	**Eielson Array**	**146.47**	**311**	PKPbc	**PKPbc**	**15 26 58.9**	**-0.6**
comp=Z,2.1nm,0.8s,baz=128,slow=2.3,SNR=17							
ILAR	**Eielson Array**	**146.47**	**311**		**PKPbc**	**15 26 59.0**	**-0.5**
RND	**Reindeer**	**146.56**	**308**	PKPdf	**PKPbc**	**15 26 59.9**	**0.0**
WRH	**Wood River Hil**	**146.78**	**310**	PKPdf	**PKPbc**	**15 27 00.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**147.73**	**308**	PKPdf	**PKPbc**	**15 27 02.6**	**-0.4**
TOLK	**Toolik Lake Re**	**149.10**	**317**		**PKPbc**	**15 27 06.5**	**0.0**
IMAR	**Indian Mountai**	**149.59**	**311**		**PKPbc**	**15 27 07.9**	**+0.2**
ZALV	**Zalesovo Beam**	**151.82**	**80**	PKPbc	**PKPbc**	**15 27 12.4**	**-0.9**
comp=Z,0.4nm,0.4s,baz=230,slow=3.6,SNR=3.2							
TIXI	**Tiksi**	**168.22**	**12**		**PKPdf**	**15 27 25.1**	**+0.5**

*ISCJB **18** 15:20:59.6±0.6, 36°.92N±0°.04×4°.25W±0°.03, h65km±6km, Error ellipse: s-maj=7.1km s-min=3.5km az=165.1*
*INMG **18** 15:21:00.9±1.2, 36°.84N×4°.23W, h60km±5km, ML2.1, Error ellipse: s-maj=3.4km s-min=2.4km az=177.0*
*MDD **18** 15:21:00.8±0.6, 36°.82N×4°.19W, h61km±5km, mb3.0/14, Error ellipse: s-maj=6.1km s-min=3.4km az=165.0, PRXIMO*
*SFS **18** 15:21:00.0, 36°.82N×4°.19W, h61km, ML3.0, BENAMARGOSA (MALAGA)*
*IGIL **18** 15:21:01.4, 36°.82N×4°.19W, h62km, ML1.7*
ISC 18 15:20:59.2±1.5, 36°.83N±0°.06×4°.19W±0°.03, h69km±9km, n44, σ1§38/73, 5C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.20**	**252**	*e*P	**Pn**	**15 21 10.2**	**+0.5**
EMAL				*i* S	**Sn**	15 21 16.7	-0.7
EGOR	**Sierra Gorda,**	**0.29**	**13**	⇓P	**Pn**	**15 21 10.9**	**+0.5**
2.5nm,0.1s,SNR=18							
EGOR				S	**Sn**	15 21 18.1	-0.5
6.9nm,0.1s,SNR=7.9							
ELGU	**Los Guajares,**	**0.45**	**85**	⇓P	**Pn**	**15 21 11.9**	**+0.3**
12nm,0.1s,SNR=18							
ELGU				S	**Sn**	15 21 19.8	-0.9
22nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**0.54**	**241**	⇑P	**Pn**	**15 21 12.8**	**+0.5**
4.1nm,0.1s,SNR=18							
EMIJ				S	**Sn**	15 21 21.2	-0.8
3.8nm,0.1s							
EQUE	**Quentar**	**0.71**	**58**	⇑P	**Pn**	**15 21 15.1**	**+0.9**
1.7nm,0.1s,SNR=18							
EQUE				S	**Sn**	15 21 25.6	+0.3
1.7nm,0.2s							
EBER	**Berja**	**1.04**	**86**	P	**Pn**	**15 21 19.2**	**+0.8**
1.5nm,0.2s,SNR=7.9							
EBER				S	**Sn**	15 21 31.6	-1.0
1.7nm,0.2s,SNR=7.9							
EQES	**Quesada**	**1.32**	**42**	P	**Pn**	**15 21 23.1**	**+1.3**
1.7nm,0.1s,SNR=7.9							
EQES				S	**Sn**	15 21 38.7	-0.1
2.5nm,0.1s,SNR=7.9							
ESPR	**Espera**	**1.34**	**272**	S	**Sn**	**15 21 38.7**	**-0.4**
1.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**1.37**	**347**	⇑P	**Pn**	**15 21 23.4**	**+1.0**
2.4nm,0.1s,SNR=18							
EADA				S	**Sn**	15 21 39.5	-0.5
8.3nm,0.1s,SNR=13							
ECAB	**El Cabril**	**1.58**	**322**	⇑P	**Pn**	**15 21 25.8**	**+0.6**
1.4nm,0.1s,SNR=18							
ECAB				S	**Sn**	15 21 44.2	-0.8
0.9nm,0.1s,SNR=6.0							
SESP	**Santiago Espad**	**1.84**	**45**	P	**Pn**	**15 21 29.4**	**+0.7**
1.0nm,0.1s,SNR=7.9							
SESP				S	**Sn**	15 21 50.1	-1.1
1.4nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.19**	**296**	⇓P	**Pn**	**15 21 33.8**	**+0.5**
1.3nm,0.0s,SNR=18							
EMIN				S	**Sn**	15 21 58.3	-1.2
0.7nm,0.0s,SNR=9.4							
PAB	**San Pablo**	**2.72**	**357**	P	**Pn**	**15 21 41.9**	**+1.3**
0.0nm,0.1s,SNR=7.9							
PAB				S	**Sn**	15 22 09.9	-2.5
0.7nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**2.72**	**286**	P	**Pn**	**15 21 41.1**	**+0.6**
0.9nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	15 22 11.4	-1.0
1.7nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**2.77**	**48**	P	**Pn**	**15 21 42.0**	**+0.7**
1.1nm,0.1s,SNR=5.8							
ETOB				S	**Sn**	15 22 11.6	-2.1
0.4nm,0.2s							
ESDC	**Sonseca Array**	**2.85**	**4**	S	**Sn**	**15 22 13.5**	**-2.1**
0.4nm,0.3s,baz=184,slow=22,SNR=4.0							
PVAQ	**Vaqueiros**	**2.88**	**283**	*e*P	**Pn**	**15 21 43.1**	**+0.4**
PVAQ				*e*S	**Sn**	15 22 14.8	-1.4
PVAQ				A	A	15 22 16.8	
5.3nm,0.2s							
PVAQ	**Vaqueiros**	**2.88**	**283**	P	**Pn**	**15 21 43.1**	**+0.4**
PVAQ				S	**Sn**	15 22 14.8	-1.4
5.3nm,0.2s							
EBAD	**Badajoz**	**2.95**	**312**	P	**Pn**	**15 21 44.6**	**+0.9**
3.6nm,0.1s,SNR=5.9							
EBAD				S	**Sn**	15 22 16.3	-1.6
3.0nm,0.1s							
PBDV	**Barranco-do-Ve**	**3.02**	**279**	*e*S	**Sn**	**15 22 18.0**	**-1.8**
PBDV				A	A	15 22 19.7	
4.4nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.02**	**279**	S	**Sn**	**15 22 18.0**	**-1.8**
4.4nm,0.7s							
PCVE	**Castro Verde**	**3.18**	**286**	*e*P	**Pn**	**15 21 48.0**	**+1.3**
PCVE				*e*S	**Sn**	15 22 22.5	-1.0
PCVE				A	A	15 22 24.6	
2.1nm,0.4s							
PCVE	**Castro Verde**	**3.18**	**286**	P	**Pn**	**15 21 48.0**	**+1.3**
PCVE				S	**Sn**	15 22 22.5	-1.0
2.1nm,0.4s							
MESJ	**Messejana**	**3.37**	**289**	*e*P	**Pn**	**15 21 50.3**	**+0.9**
MESJ				*e*S	**Sn**	15 22 25.7	-2.4
MESJ				AML	AML	15 22 26.8	
comp=N,2.3nm,0.4s							
MESJ	**Messejana**	**3.37**	**289**	*e*P	**Pn**	**15 21 50.6**	**+1.2**
MESJ				*e*S	**Sn**	15 22 27.6	-0.5
MESJ	**Messejana**	**3.37**	**289**	P	**Pn**	**15 21 50.6**	**+1.2**
MESJ				S	**Sn**	15 22 27.6	-0.5
PESTR	**Estremoz**	**3.38**	**308**	*e*P	**Pn**	**15 21 51.1**	**+1.6**
PMRV	**Marv??o**	**3.62**	**317**	*e*P	**Pn**	**15 21 53.8**	**+1.0**
PNCL	**Nicolau / Gran**	**3.68**	**292**	⇑*i*P	**Pn**	**15 21 55.0**	**+1.4**
PNCL				*e*S	**Sn**	15 22 34.8	-1.0
PNCL				A	A	15 22 35.2	
comp=N,4.5nm,0.6s							
PNCL	**Nicolau / Gran**	**3.68**	**292**	P	**Pn**	**15 21 55.0**	**+1.4**
PNCL				S	**Sn**	15 22 34.8	-1.0
comp=N,4.5nm,0.6s							
GUD	**Guadarrama**	**3.81**	**0**	P	**Pn**	**15 21 57.1**	**+1.5**
comp=N,0.3nm,0.1s,SNR=7.9							
GUD				S	**Sn**	15 22 35.1	-4.0
comp=N,0.6nm,0.3s,SNR=7.9							
PMTG	**Montargil**	**3.90**	**306**	*e*P	**Pn**	**15 21 58.0**	**+1.4**
PMTG				*e*S	**Sn**	15 22 40.2	-0.9
PMTG	**Montargil**	**3.90**	**306**	P	**Pn**	**15 21 58.0**	**+1.4**
PMTG				S	**Sn**	15 22 40.2	-0.9
PCBR	**Castelo Branco**	**3.97**	**320**	*e*P	**Pn**	**15 21 59.4**	**+1.9**
PCBR	**Castelo Branco**	**3.97**	**320**	P	**Pn**	**15 21 59.4**	**+1.9**
ETOR	**Torete**	**4.32**	**22**	P	**Pn**	**15 22 03.7**	**+1.3**
comp=N,2.6nm,0.1s,SNR=7.9							
ETOR				S	**Sn**	15 22 50.3	-1.3
comp=N,9.7nm,0.2s,SNR=6.8							
PTOM	**Tomar**	**4.34**	**311**	*e*P	**Pn**	**15 22 04.2**	**+1.6**
PTOM	**Tomar**	**4.34**	**311**	P	**Pn**	**15 22 04.2**	**+1.6**
PVIS	**Viseu**	**4.84**	**324**	*e*P	**Pn**	**15 22 11.2**	**+1.6**
PVIS	**Viseu**	**4.84**	**324**	P	**Pn**	**15 22 11.2**	**+1.6**
MVO	**Moncorvo**	**4.86**	**334**	*e*P	**Pn**	**15 22 11.8**	**+2.0**
MVO	**Moncorvo**	**4.86**	**334**	P	**Pn**	**15 22 11.9**	**+2.1**
comp=N,5.4nm,0.1s,SNR=13							
MVO				S	**Sn**	15 23 03.7	-1.2
comp=N,0.4nm,0.1s							
ECAL	**Calabor**	**5.48**	**340**	P	**Pn**	**15 22 20.2**	**+1.9**
comp=N,0.5nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.86**	**330**	P	**Pn**	**15 22 24.8**	**+1.4**
comp=N,0.5nm,0.1s,SNR=7.9							

*ISCJB **18** 15:33:58.5±0.5, 8°.84N±0°.04×83°.28W±0°.04, h29km±3km, Error ellipse: s-maj=7.8km s-min=3.7km az=42.5*
*UPA **18** 15:33:58.7±0.9, 8°.86N×83°.22W, h10km±4km, MW3.6*
*UCR **18** 15:33:58.6±1.4, 8°.85N×83°.29W, h27km±3km, MW3.5*
ISC 18 15:33:58.0±1.0, 8°.88N±0°.05×83°.26W±0°.05, h29km±8km, n15, σ0§47/30, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.21**	**292**	⇑*e*P	**Pb**	**15 34 04.4**	**+0.1**
EDPN				*e*S	**Sn**	15 34 08.7	+0.1
EDBA	**Buenos Aires**	**0.28**	**357**	⇓*i*P	**Pn**	**15 34 06.1**	**-0.2**
EDBA				*e*S	**Sn**	15 34 11.8	+0.3
PTJ1	**Puerto Jimnez**	**0.35**	**187**	*e*P	**Pb**	**15 34 06.0**	**-0.1**
PTJ1				*e*S	**Sb**	15 34 10.9	-0.7
DRK0	**Durika**	**0.38**	**2**	⇓*e*P	**Pn**	**15 34 07.2**	**-0.5**
DRK0				*e*S	**Sn**	15 34 13.6	-0.5
DRK0	**Durika**	**0.38**	**2**	*e*P	**Pn**	**15 34 07.2**	**-0.5**
DRK0				*e*S	**Sn**	15 34 13.6	-0.5
EDLM	**Las Mercedes**	**0.51**	**320**	*e*P	**Pn**	**15 34 09.8**	**+0.4**
EDLM				*e*S	**Sn**	15 34 17.1	-0.2
BRU2	**Volcan**	**0.57**	**99**	*e*P	**Pn**	**15 34 10.5**	**+0.2**
BRU2				*e*S	**Sn**	15 34 19.3	+0.4
BRU2	**Volcan**	**0.57**	**99**	*e*P	**Pn**	**15 34 10.2**	**-0.2**
BRU2				*e*S	**Sn**	15 34 19.1	+0.3
BCO2	**Palmira**	**0.74**	**103**	⇑*i*P	**Pb**	**15 34 12.7**	**+0.1**
BCO2				*e*S	**Sn**	15 34 23.1	0.0
DVD	**David**	**0.92**	**119**	*e*P	**Pb**	**15 34 15.4**	**0.0**
DVD				*e*S	**Sb**	15 34 27.6	+0.3
PEDE3	**Pedregal, Chir**	**0.97**	**121**	*e*P	**Pb**	**15 34 16.5**	**+0.3**
PEDE3				*e*S	**Sb**	15 34 29.1	+0.5
CHIR3	**Chiriqui UPA,**	**1.04**	**118**	*e*P	**Pb**	**15 34 17.5**	**0.0**
CHIR3				*e*S	**Sn**	15 34 30.5	+0.2
CHGR2	**Aguacate**	**1.10**	**87**	*e*P	**Pb**	**15 34 17.9**	**-0.6**
CHGR2				*e*S	**Sb**	15 34 32.4	-0.2
LCR2	**La Lucha 2**	**1.12**	**319**	*e*P	**Pb**	**15 34 18.6**	**-0.4**
LCR2				*e*S	**Sb**	15 34 33.0	-0.4
CVTR	**Volcan Turrial**	**1.23**	**337**	*e*P	**Pb**	**15 34 21.6**	**+0.6**
CVTR				*e*S	**Sb**	15 34 38.1	+1.4

*ISCJB **18** 15:36:19.6±0.2, 6°.29S±0°.04×154°.67E±0°.04, h50km, mb4.4/23, MS3.7/18, Error ellipse: s-maj=6.0km s-min=4.5km az=143.1*
*NEIC **18** 15:36:19.2±1.5, 6°.23S±0°.04×154°.64E±0°.06, h35km±1km, mb4.9/45*
*IDC **18** 15:36:21.0±1.6, 6°.24S×154°.70E, h50km±13km, mb4.0/17, mb1 4.3/22, mb1mx4.2/30, mbtmp4.4/22, ML4.2/4, MS3.7/20, Ms1 3.7/20, ms1mx3.5/36, Error ellipse: s-maj=15.0km s-min=10.1km az=60.0*
*BJI **18** 15:36:23.3±0.0, 6°.22S×154°.69E, h76km, mb4.7/17, mB5.1/12, Ms4.9/3, Ms7 4.6/3*
ISC 18 15:36:21.4±0.4, 6°.24S±0°.06×154°.63E±0°.06, h50km, n118, σ1§25/117, mb4.8/42, MS3.7/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.23**	**306**	P	**Pn**	**15 37 08.3**	**-1.2**
34nm,0.3s,baz=152,slow=1.7,SNR=146							
KRVT				S	**Sn**	15 37 49.0	+2.2
56nm,0.3s,baz=95,slow=18,SNR=8.5							
KRVT				LR	LR	15 38 49.9	
comp=Z,1μm,18.8s,baz=131,slow=45							
HNR	**Honiara**	**6.15**	**121**	P	**Pn**	**15 37 49.2**	**-0.4**
17nm,0.3s,baz=234,slow=1.9,SNR=16							
HNR				S	**Sn**	15 39 02.9	+4.2
6.7nm,0.3s,baz=340,slow=2.1,SNR=3.8							
HNR				LR	LR	15 40 11.0	
comp=Z,423nm,21.2s,baz=299,slow=38							
HNR	**Honiara**	**6.15**	**121**	P	**Pn**	**15 37 52.0**	**+2.4**
HNR	**Honiara**	**6.15**	**121**		**Pn**	**15 37 51.1**	**+1.5**
PMG	**Port Moresby**	**8.04**	**247**	P	**Pn**	**15 38 16.1**	**+0.4**
6.6nm,0.3s,baz=40,slow=11,SNR=48							
PMG				S	**Sn**	15 39 47.9	+2.6
0.7nm,0.3s,baz=36,slow=8.7,SNR=2.6							
PMG				LR	LR	15 41 18.7	
comp=Z,705nm,19.9s,baz=7.5,slow=37							
PMG	**Port Moresby**	**8.04**	**247**		**Pn**	**15 38 16.5**	**+0.8**
COEN	**Coen**	**13.63**	**235**	Pn	**Pn**	**15 39 33.7**	**+1.5**
JAY	**Jayapura**	**14.37**	**284**	LR	LR	15 45 59.2	
comp=Z,321nm,19.1s,baz=54,slow=40							
CTA	**Charters Tower**	**15.99**	**210**	P	**Pn**	**15 40 03.0**	**-0.1**
0.1nm,0.3s,baz=22,slow=18,SNR=2.9							
CTAO	**Charters Tower**	**15.99**	**210**	Pn	**Pn**	**15 40 03.0**	**-0.1**
CTAO				P	**P**	**15 40 06.5**	**+0.6**
CTAO				IAmb	IAmb	15 40 08.2	
comp=Z,20nm,1.4s							
EIDS	**Eidsvold**	**19.32**	**190**	P	**P**	**15 40 42.8**	**+0.2**
DZM	**Mont Dzumac**	**19.44**	**145**	*e*P	**P**	**15 40 43.8**	**-0.2**
comp=Z,62nm,1.1s							
DZM				*e*LR	LR	15 45 18.6	
comp=Z,382nm,24.9s							
DZM	**Mont Dzumac**	**19.44**	**145**	P	**P**	**15 40 43.6**	**-0.3**
comp=Z,1.5nm,0.3s,baz=272,slow=5.6,SNR=18							
DZM				LR	LR	15 47 07.3	
comp=Z,162nm,19.8s,baz=354,slow=33							
DZM	**Mont Dzumac**	**19.44**	**145**	P	**P**	**15 40 43.5**	**-0.5**
DZM				IAmb	IAmb	15 40 46.7	
comp=Z,56nm,1.4s							
GUMO	**Guam**	**21.96**	**334**	LR	LR	15 50 14.3	
comp=Z,47nm,18.6s,baz=140,slow=38							
FAKI	**Fak Fak**	**22.55**	**277**	P	**P**	**15 41 19.4**	**+1.9**
FAKI				IAmb	IAmb	15 41 58.1	
comp=Z,36nm,1.1s							
WRAB	**Tennant Creek**	**23.95**	**233**	P	**P**	**15 41 31.2**	**+0.1**
WRAB				IAmb	IAmb	15 41 32.5	
comp=Z,32nm,0.9s							
WB2	**Warramunga Arr**	**23.95**	**233**	P	**P**	**15 41 31.2**	**0.0**
WB2				IAmb	IAmb	15 41 32.6	
comp=Z,32nm,0.9s							
WRA	**Warramunga Arr**	**23.96**	**233**	P	**P**	**15 41 31.9**	**+0.6**
comp=Z,21nm,0.8s,baz=56,slow=9.9,SNR=96							
WRA				PcP	**PcP**	**15 45 12.0**	**-0.7**
comp=Z,1.7nm,0.6s,baz=60,slow=2.3,SNR=9.5							
WRA				ScP	**ScP**	**15 48 45.9**	**-1.3**
comp=Z,0.5nm,0.8s,baz=55,slow=3.0,SNR=4.3							
WRA				LR	LR	15 50 44.4	
comp=Z,220nm,19.8s,baz=65,slow=36							
WRA	**Warramunga Arr**	**23.96**	**233**	P	**P**	**15 41 30.3**	**-1.0**
MTN	**Manton Dam**	**24.07**	**252**	P	**P**	**15 41 31.0**	**-1.3**
MTN				IAmb	IAmb	15 41 53.8	
comp=Z,46nm,1.6s							
ARMA	**Armidale**	**24.22**	**186**	P	**P**	**15 41 33.6**	**0.0**
AS31	**Alice Springs**	**26.41**	**227**	P	**P**	**15 41 52.9**	**-0.6**
ASAR	**Alice Springs**	**26.41**	**227**	P	**P**	**15 41 53.1**	**-0.4**
comp=Z,3.2nm,0.4s,baz=56,slow=9.4,SNR=140							
ASAR				PcP	**PcP**	**15 45 18.2**	**0.0**
comp=Z,1.9nm,0.7s,baz=61,slow=2.5,SNR=11							
ASAR				ScP	**ScP**	**15 48 54.9**	**+0.7**
comp=Z,0.4nm,0.7s,baz=58,slow=2.9,SNR=4.6							
ASAR				LR	LR	15 52 07.4	
comp=Z,148nm,18.7s,baz=67,slow=36							
ASAR	**Alice Springs**	**26.41**	**227**	P	**P**	**15 41 52.4**	**-1.1**
ASAR					**PcP**	**15 45 18.0**	**-0.2**
KNRA	**Kununurra**	**27.04**	**248**	P	**P**	**15 41 59.7**	**+0.5**
KNRA				IAmb	IAmb	15 42 51.4	
comp=Z,40nm,1.5s							
H11S3	**WAKE ISLAND Hy**	**27.30**	**26**	T	T	16 10 31.8	
baz=204,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**27.31**	**26**	T	T	16 10 34.4	
baz=204,slow=75,SNR=31							
H11S1	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	16 10 34.4	
baz=204,slow=75,SNR=22							
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**15 42 08.2**	**-1.9**
comp=Z,2.1nm,0.4s,baz=14,slow=9.0,SNR=15							
STKA				PcP	**PcP**	**15 45 22.6**	**+0.2**
comp=Z,1.9nm,0.7s,baz=348,slow=9.3,SNR=3.8							
STKA				LR	LR	15 53 16.6	
comp=Z,166nm,19.9s,baz=26,slow=36							
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**15 42 08.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**30.64**	**245**	LR	LR	15 55 16.6	
comp=Z,203nm,19.4s,baz=75,slow=37							
FITZ	**Fitzroy Crossi**	**30.64**	**245**	P	**P**	**15 42 30.6**	**-0.6**
BATI	**Baumata**	**30.89**	**261**	LR	LR	15 56 10.1	
comp=Z,221nm,20.2s,baz=124,slow=38							
BBOO	**Buckleboo**	**31.59**	**211**	P	**P**	**15 42 38.0**	**-1.5**
BBOO				IAmb	IAmb	15 43 27.4	
comp=Z,26nm,1.4s							
TOO	**Toolangi**	**32.28**	**194**	P	**P**	**15 42 45.0**	**-0.5**
TOO				IAmb	IAmb	15 43 48.9	
comp=Z,40nm,1.9s							
FORT	**Forrest**	**34.89**	**222**	P	**P**	**15 43 08.0**	**-0.3**
PSA00	**Pilbara Seismi**	**36.92**	**242**	P	**P**	**15 43 25.9**	**+0.2**
PSA00				IAmb	IAmb	15 43 35.4	
comp=Z,40nm,1.6s							
TAU	**Tasmania Unive**	**37.09**	**189**	P	**P**	**15 43 26.8**	**0.0**
URZ	**Urewera**	**37.84**	**151**	P	**P**	**15 43 32.7**	**-0.6**
comp=Z,3.2nm,0.5s,baz=350,slow=6.4,SNR=5.0							
URZ	**Urewera**	**37.84**	**151**	P	**P**	**15 43 32.6**	**-0.6**
URZ				IAmb	IAmb	15 43 46.2	
comp=Z,16nm,1.2s							
MXZ	**Matakaoa Point**	**37.90**	**149**	P	**P**	**15 43 33.2**	**-0.6**
MXZ				IAmb	IAmb	15 44 18.2	
comp=Z,20nm,0.9s							
QRZ	**Quartz Range**	**37.98**	**158**	P	**P**	**15 43 34.1**	**-0.3**
BKZ	**Black Stump Fm**	**38.26**	**152**	P	**P**	**15 43 36.1**	**-0.8**
THZ	**Tophouse**	**38.93**	**158**	P	**P**	**15 43 41.4**	**-1.1**
THZ				IAmb	IAmb	15 43 42.9	
comp=Z,12nm,0.8s							
TUWZ	**Tuamarina**	**39.04**	**157**	P	**P**	**15 43 42.5**	**-0.8**
SNZO	**South Karori**	**39.24**	**156**	P	**P**	**15 43 44.5**	**-0.5**
SNZO				IAmb	IAmb	15 45 12.4	
comp=Z,38nm,1.2s							
BSWZ	**Blackbirch Sta**	**39.26**	**157**	P	**P**	**15 43 44.8**	**-0.3**
BFZ	**Birch Farm**	**39.38**	**154**	P	**P**	**15 43 45.3**	**-0.8**
BFZ				IAmb	IAmb	15 44 31.5	
comp=Z,16nm,1.1s							
FOZ	**Fox Glacier**	**39.47**	**163**	P	**P**	**15 43 46.1**	**-0.7**
MSWZ	**Moikau Station**	**39.56**	**155**	P	**P**	**15 43 46.7**	**-0.9**
LTZ	**Lake Taylor**	**39.59**	**160**	P	**P**	**15 43 47.3**	**-0.7**
LTZ				IAmb	IAmb	15 43 49.0	
comp=Z,11nm,0.7s							
RPZ	**Rata Peaks**	**40.02**	**161**	P	**P**	**15 43 51.2**	**-0.3**
comp=Z,7.4nm,0.6s,baz=243,slow=4.6,SNR=8.5							
RPZ	**Rata Peaks**	**40.02**	**161**	P	**P**	**15 43 51.2**	**-0.3**
RPZ				IAmb	IAmb	15 43 52.1	
comp=Z,8.7nm,0.7s							
JAGI	**Jajag, Banyuwa**	**40.20**	**264**	P	**P**	**15 43 51.8**	**-1.5**
JAGI				IAmb	IAmb	15 43 52.5	
comp=Z,22nm,0.7s							
LBZ	**Lake Benmore**	**40.36**	**163**	P	**P**	**15 43 53.3**	**-1.0**
MQZ	**McQueen's Vall**	**40.54**	**160**	P	**P**	**15 43 55.3**	**-0.5**
MQZ				IAmb	IAmb	15 44 53.5	
comp=Z,46nm,1.4s							
MLZ	**Mavora Lakes**	**40.70**	**165**	P	**P**	**15 43 56.3**	**-0.8**
ODZ	**Otahua Downs**	**41.10**	**163**	P	**P**	**15 43 59.2**	**-1.1**
WHZ	**Wether Hill Ro**	**41.15**	**166**	P	**P**	**15 44 00.1**	**-0.7**
WHZ				IAmb	IAmb	15 44 13.0	
comp=Z,55nm,1.8s							
MORW	**Morawa**	**42.91**	**233**	P	**P**	**15 44 14.0**	**-1.4**
NWAO	**Narrogin (SRO)**	**43.73**	**228**	LR	LR	16 01 31.5	
comp=Z,163nm,21.2s,baz=74,slow=34							
NWAO	**Narrogin (SRO)**	**43.73**	**228**	P	**P**	**15 44 21.3**	**-0.6**
KSRS	**Korea Array**	**50.11**	**332**	P	**P**	**15 45 10.9**	**-0.6**
comp=Z,1.2nm,0.8s,baz=140,slow=6.5,SNR=2.9							
NJ2	**Nanjing**	**51.11**	**320**	*e*P	**P**	**15 45 20.5**	**+1.3**
NJ2				pmax	pmax		
comp=Z,8.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**54.20**	**340**	P	**P**	**15 45 41.0**	**-0.8**
comp=Z,1.3nm,0.8s,baz=150,slow=8.0,SNR=3.4							
USRK	**Ussuriysk Ar.**	**54.20**	**340**	P	**P**	**15 45 42.6**	**+0.7**
IPM	**Ipoh**	**54.57**	**280**	P	**P**	**15 45 44.5**	**-0.7**
PPT2	**Papeete2**	**55.56**	**107**	*e*LR	LR	16 02 02.0	
comp=Z,57nm,26.5s							
PPT2	**Papeete2**	**55.56**	**107**	*e*LR	LR	15 45 45.6	
comp=Z,57nm,24.2s							
TBI	**Tubuai**	**56.31**	**114**	*e*LR	LR	16 02 35.0	
comp=Z,106nm,26.0s							

KSH Kashi 85.25 310 P **P** **15 48 55.4 +2.3**
KSH PP **PP** **15 52 16.8 +5.4**
KSH S **S** **15 59 17.0 -3.0**
KSH sS sS 15 59 53.5 +10
KSH SS **SS** **16 04 58.8 +3.5**
KSH LR LR
comp=Z,270nm,9.4s
KSH LR LR
comp=Z,280nm,8.3s
KSH LR LR
comp=Z,220nm,7.7s
NRIK Noril'sk 87.91 341 P **P** **15 49 03.9 -1.4**
comp=Z,1.9nm,0.6s,baz=89,slow=4.2,SNR=4.9
NVAR Mina Array Bea 91.54 52 P **P** **15 49 24.1 +0.8**
comp=Z,2.7nm,0.9s,baz=252,slow=6.3,SNR=12
NVAR Mina Array Bea 91.54 52 P **P** **15 49 23.8 +0.5**
NV11 Mina Array Sit 91.65 52 P **P** **15 49 23.5 -0.2**
NV11 IAmb IAmb 15 49 38.6
comp=Z,11nm,1.6s
KVN Kaiserville 91.77 51 P **P** **15 49 25.2 +0.9**
KVN IAmb IAmb 15 49 38.3
comp=Z,5.8nm,1.4s
NEW Newport 93.44 42 LR LR 16 24 46.8
comp=Z,116nm,21.0s,baz=274,slow=31
ELK Elko 94.12 50 LR LR 16 26 50.6
comp=Z,36nm,19.2s,baz=296,slow=32
PDAR Pinedale Array 98.46 48 P **P** **15 49 54.2 -0.7**
comp=Z,0.3nm,0.6s,baz=263,slow=3.5,SNR=3.3
PDAR LR LR 16 32 06.4
comp=Z,33nm,18.4s,baz=273,slow=34
BDFB Brasilia 148.76 134 PKPbc **PKPbc** **15 56 03.1 -1.4**
comp=Z,1.8nm,0.4s,baz=223,slow=19,SNR=1.8
TOA0 Torodi Ar. Sit 152.47 286 **PKPbc** **15 56 11.9 -1.3**
TORD Torodi Ar. Bea 152.47 286 PKPbc **PKPbc** **15 56 12.3 -0.9**
comp=Z,2.9nm,0.7s,baz=68,slow=2.5,SNR=16
TORD PKPab **PKPab** **15 56 23.1 -0.5**
comp=Z,2.2nm,0.7s,baz=90,slow=3.2,SNR=6.6

MAN 18 15:39:22.4, 10°.02N×124°.08E, h25km, mb3.8, ML2.6, MS2.1, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.32**	**339**	*e*P	Pn	15 39 31.3	-0.2
LLP				*e*S	Sn	15 39 38.9	+1.6
MSLP	**Maasin**	**0.78**	**81**	*e*P	Pb	15 39 36.8	-0.5
MSLP				*e*S	Sn	15 39 49.5	+0.9
SNPH	**Sibulan**	**1.07**	**231**	⇑*i*P	Pn	15 39 41.5	-0.4
SNPH				*i* S	Sn	15 39 56.1	+0.1
GUIM	**Jordan**	**1.59**	**292**	*e*P	Pb	15 39 51.8	+0.7

*IDC **18** 15:52:26.8±1.1, 5°.74N×125°.05E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.5/3, Error ellipse: s-maj=42.2km s-min=17.7km az=89.0*
*ISCJB **18** 15:52:33.2±0.9, 6°.20N±0°.06×126°.47E±0°.07, h76km±9km, mb3.4/3, Error ellipse: s-maj=12.3km s-min=9.2km az=3.2*
*MAN **18** 15:52:33.7, 6°.39N×126°.55E, h80km, mb4.5, ML3.4, MS3.2*
ISC 18 15:52:34.3±1.3, 6°.17N±0°.07×126°.43E±0°.09, h65km±11km, n14, σ1°67/25, mb3.1/3, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.72**	**265**	*e*P	Pn	15 52 50.2	+1.1
DDMP				*e*S	Sn	15 53 02.0	+2.0
MATI	**Mati**	**0.79**	**347**	*e*P	Pn	15 52 48.4	-1.5
MATI				*e*S	Sn	15 53 00.3	-1.1
DAV	**Davao City (W)**	**1.23**	**317**	Pn	Pn	15 52 54.8	-0.7
161nm,0.3s,baz=176,slow=13,SNR=11
DAV Sn **Sn** **15 53 12.8 +1.4**
102nm,0.3s,baz=198,slow=20,SNR=7.2
DMPH Davao City--Mi **1.29** **315** ⇑*i*P **Pn** **15 52 55.8 -0.5**
DMPH *i* S **Sn** **15 53 13.4 +0.6**
GSPH General Santos **1.48** **267** ⇑*i*P **Pn** **15 52 59.0 +0.1**
GSPH *i* S **Sn** **15 53 16.8 -0.7**
KCP Kidapawan **1.57** **302** ⇑*i*P **Pn** **15 52 59.8 -0.3**
KCP *i* S **Sn** **15 53 16.9 -2.7**
SKMP Bagumbayan, Su **1.91** **280** *e*P **Pn** **15 53 05.4 +0.8**
SKMP *e*S **Sn** **15 53 27.9 +0.3**
BUKP Musuan **2.17** **321** *e*P **Pn** **15 53 07.6 -0.6**
BUKP *e*S **Sn** **15 53 34.8 +0.6**
CTBH Cotabato--PC H **2.41** **296** ⇑*i*P **Pn** **15 53 12.1 +0.8**
CGP Cagayan de Oro **2.85** **323** ⇓*e*P **Pn** **15 53 19.9 +2.5**
CGP *e*S **Sn** **15 53 50.7 +0.2**
BUTP Butuan **2.89** **344** *e*P **Pn** **15 53 19.7 +1.7**
BUTP *e*S **Sn** **15 53 56.1 +4.5**
WRA Warramunga Arr **27.09** **163** P **P** **15 58 12.0 +0.9**
0.4nm,0.8s,baz=343,slow=9.4,SNR=3.1
ASAR Alice Springs **30.54** **166** P **P** **15 58 41.5 -0.2**
0.1nm,0.3s,baz=343,slow=7.2,SNR=9.2
ASAR PcP **PcP** **16 01 40.3 +0.9**
0.3nm,0.8s,baz=351,slow=1.9,SNR=3.9
MKAR Makanchi Array **55.40** **324** P **P** **16 01 59.6 -2.4**
1.0nm,0.5s,baz=125,slow=8.2,SNR=12

*ISCJB **18** 15:52:58.9±0.4, 60°.31S±0°.06×45°.05W±0°.1, h10km, mb4.5/15, MS3.6/6, Error ellipse: s-maj=11.0km s-min=6.6km az=44.5*
*IDC **18** 15:52:59.2±0.7, 60°.28S×45°.05W, h0km, mb4.3/11, mb1 4.3/13, mb1mx4.2/25, mbtmp4.3/13, ML4.0/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/22, Error ellipse: s-maj=23.1km s-min=16.1km az=37.0*
*MOS **18** 15:52:59.9±1.5, 60°.25S×45°.05W, h10km, mb5.1/8, Error ellipse: s-maj=30.6km s-min=12.1km az=101.7*
*NEIC **18** 15:53:01.7±1.3, 60°.26S±0°.08×45°.0W±0°.2, h15km±3km, mb5.0/24*
ISC 18 15:53:00.7±0.4, 60°.33S±0°.08×44°.98W±0°.08, h10km, n100, σ0°82/90, mb4.8/19, MS3.5/6, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.60**	**41**	*i* P	**Pn**	**15 54 51.5**	**+0.1**
HOPE	**Hope Point**	**7.60**	**41**		**Pn**	**15 54 50.1**	**-1.2**
PMSA	**Palmer Station**	**9.85**	**235**	Pn	**Pn**	**15 55 20.9**	**-1.2**
1.9nm,0.3s,baz=53,slow=11,SNR=7.5
PMSA LR LR 15 58 32.1
comp=Z,316nm,21.1s,baz=20,slow=34
PMSA Palmer Station **9.85** **235** **Pn** **15 55 21.2 -0.8**
EFI East Falkland **11.33** **314** *i* P **Pn** **15 55 43.3 +0.9**
EFI East Falkland **11.33** **314** Pn **Pn** **15 55 44.1 +1.7**
USHA Ushuaia **13.69** **283** Pn **Pn** **15 56 15.6 +1.0**
0.5nm,0.3s,baz=123,slow=19,SNR=4.1
USHA LR LR 16 00 17.7
comp=Z,280nm,18.8s,baz=84,slow=32
VNA3 Neumayer Olymp **17.80** **142** P **P** **15 57 08.8 0.0**
VNA2 Neumayer--Watz **18.40** **141** P **P** **15 57 13.9 -1.6**
baz=298,slow=14
SNAA Sanae **20.01** **142** P Pn 15 57 35.4 +0.6
SNAA Sanae **20.01** **142** *i* P Pn 15 57 35.2 +0.3
SNAA Sanae **20.01** **142** P Pn 15 57 34.6 -0.2
3.8nm,0.9s,baz=293,slow=8.3,SNR=12
SNAA Sanae **20.01** **142** P **P** **15 57 33.4 +0.2**
TRQA Tornquist **24.76** **327** P **P** **15 58 22.7 +0.5**
TRQA pmax pmax
comp=Z,32nm,1.1s
TRQA Tornquist **24.76** **327** P **P** **15 58 22.7 +0.5**
TRQA IAmb IAmb 15 58 24.9
comp=Z,32nm,1.1s
PLCA Paso Flores **25.19** **310** *e*P **P** **15 58 26.4 +0.2**
PLCA pmax pmax
comp=Z,7.0nm,0.9s
PLCA Paso Flores **25.19** **310** P **P** **15 58 24.4 -1.8**
comp=Z,7.2nm,0.9s,baz=179,slow=11,SNR=8.6
PLCA LR LR 16 07 46.4
comp=Z,95nm,20.6s,baz=176,slow=35
PLCA Paso Flores **25.19** **310** P **P** **15 58 24.4 -1.8**
PLCA IAmb IAmb 15 58 24.8
comp=Z,64nm,2.0s
QSPA South Pole Qui **29.91** **180** P **P** **15 59 09.1 +0.8**
comp=Z,2.9nm,0.7s,baz=174,slow=2.6,SNR=12
QSPA South Pole Qui **29.91** **180** P **P** **15 59 09.2 +0.8**
QSPA IAmb IAmb 15 59 31.7
comp=Z,26nm,1.8s
GO05 Huala **30.75** **313** P **P** **15 59 15.4 -0.4**
GO05 IAmb IAmb 16 00 01.4
comp=Z,37nm,1.4s
PEL Peldehue **31.99** **317** P **P** **15 59 26.2 -0.6**
PEL pmax pmax
comp=Z,21nm,1.0s
PEL Peldehue **31.99** **317** P **P** **15 59 26.2 -0.6**
PEL IAmb IAmb 15 59 40.8
comp=Z,21nm,1.0s
ROC1 El Roble **32.26** **316** P **P** **15 59 29.8 +0.4**
CFA Coronel Fontan **32.61** **321** P **P** **15 59 32.2 0.0**
comp=Z,3.0nm,0.5s,baz=170,slow=8.9,SNR=6.5
SYO Syowa Base **34.29** **140** ⇑*e*pP pP 15 59 49.6 +0.6
GO04 Tololo Observa **34.75** **319** P **P** **15 59 50.3 -0.8**
GO04 IAmb IAmb 15 59 55.5
comp=Z,85nm,2.0s
GO03 Copiap **36.96** **321** P **P** **16 00 08.8 -1.0**
GO03 IAmb IAmb 16 00 10.3
comp=Z,13nm,0.7s
GO02 Mina Guanaco **39.04** **323** P **P** **16 00 27.6 -0.2**
SBA Scott Base **40.70** **190** P **P** **16 00 41.8 +1.2**
SBA pmax pmax
comp=Z,22nm,2.0s
SBA Scott Base **40.70** **190** P **P** **16 00 41.9 +1.2**
PB10 IPOC Station P **40.88** **323** P **P** **16 00 42.2 -0.4**
PB10 IAmb IAmb 16 00 50.9
comp=Z,23nm,0.9s
PB04 IPOC Station P **41.87** **324** P **P** **16 00 50.2 -0.8**
MAW Mawson **42.03** **147** LR LR 16 17 20.3
comp=Z,92nm,19.6s,baz=32,slow=35
PB01 IPOC Station P **42.90** **325** P **P** **16 00 59.6 +0.3**
GO01 Chusmiza **44.13** **326** P **P** **16 01 10.0 +0.4**
BDFB Brasilia **44.68** **356** LR LR 16 18 04.7
comp=Z,45nm,21.5s,baz=259,slow=34
MNMC Minye Minye **44.75** **326** P **P** **16 01 14.6 +0.2**
SIV San Ignacio **45.80** **338** P **P** **16 01 22.4 0.0**
comp=Z,1.3nm,0.6s,baz=145,slow=8.9,SNR=6.8
LPAZ La Paz **47.07** **329** P **P** **16 01 32.9 -0.2**
LPAZ pmax pmax
comp=Z,6.0nm,0.6s
LPAZ La Paz **47.07** **329** P **P** **16 01 33.0 -0.2**
comp=Z,1.1nm,0.6s,baz=168,slow=7.8,SNR=4.9
LPAZ LR LR 16 23 30.7
comp=Z,41nm,18.7s,baz=129,slow=39
LPAZ La Paz **47.07** **329** P **P** **16 01 32.9 -0.2**
LPAZ IAmb IAmb 16 02 33.0
comp=Z,5.8nm,0.6s
SUR Sutherland **50.58** **87** P **P** **16 01 59.7 +0.2**
comp=Z,7.5nm,0.9s,baz=200,slow=12,SNR=3.9
SUR Sutherland **50.58** **87** IAmb IAmb 16 02 02.0
comp=Z,30nm,1.2s
SAML Samuel **53.06** **337** P **P** **16 02 17.6 -0.3**
SAML pmax pmax
comp=Z,9.0nm,1.3s
SAML Samuel **53.06** **337** P **P** **16 02 17.6 -0.3**
NNA Nana **53.67** **320** *i* P **P** **16 02 23.3 +0.9**
NNA pmax pmax
comp=Z,15nm,1.0s
BOSA Boshof **55.86** **89** P **P** **16 02 38.6 +0.3**
BOSA pmax pmax
comp=Z,48nm,1.9s
BOSA Boshof **55.86** **89** P **P** **16 02 38.6 +0.3**
comp=Z,4.2nm,1.0s,baz=217,slow=14,SNR=3.1
BOSA Boshof **55.86** **89** IAmb IAmb 16 04 08.5
comp=Z,48nm,1.9s
LBTB Lobatse **59.01** **86** P **P** **16 03 00.8 +0.3**
LBTB pmax pmax
comp=Z,40nm,1.6s
LBTB Lobatse **59.01** **86** P **P** **16 03 00.8 +0.3**
comp=Z,3.5nm,1.0s,baz=232,slow=13,SNR=3.7
LBTB Lobatse **59.01** **86** IAmb IAmb 16 03 03.9
comp=Z,40nm,1.6s
OTAV Otavalo **65.71** **323** P **P** **16 03 45.3 -0.5**
OTAV pmax pmax
comp=Z,15nm,1.4s
OTAV Otavalo **65.71** **323** P **P** **16 03 45.3 -0.5**
OTAV IAmb IAmb 16 03 48.3
comp=Z,15nm,1.4s
DBIC Dimbokro **73.87** **42** P **P** **16 04 36.3 +0.9**
DBIC pmax pmax
comp=Z,20nm,1.4s
DBIC Dimbokro **73.87** **42** P **P** **16 04 36.3 +0.9**
comp=Z,4.6nm,0.9s,baz=170,slow=8.7,SNR=4.3
DBIC LR LR 16 29 55.4
comp=Z,87nm,21.0s,baz=134,slow=30
DBIC Dimbokro **73.87** **42** IAmb IAmb 16 06 10.4
comp=Z,20nm,1.4s
TOA0 Torodi Ar. Sit **82.16** **46** P **P** **16 05 21.6 +0.2**
TORD Torodi Ar. Bea **82.16** **46** P **P** **16 05 21.0 -0.4**
comp=Z,4.0nm,1.0s,baz=214,slow=4.7,SNR=12
TORD LR LR 16 35 17.8
comp=Z,90nm,21.2s,baz=270,slow=31
TORD Torodi Ar. Bea **82.16** **46** P **P** **16 05 20.9 -0.5**
WRAB Tennant Creek **100.02** **179** *i* P **Pdif** **16 06 43.9 -2.1**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
KIV Kislovodsk **125.83** **63** *e*PKIKP **PKiKP** **16 12 03.6 +1.5**
KIV pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk **131.91** **50** *i* PKIKP **PKiKP** **16 12 15.5 +1.8**
OBN *e* 16 14 31.4
OBN *e*PPP PPP 16 17 28.5
OBN *e*SS SS 16 32 31.3 +21
OBN pmax pmax
comp=Z,91nm,3.5s
KSH Kashi **138.39** **93** *e*PKP **PKiKP** **16 12 28.6 +1.0**
CD2 Chengdu **143.99** **131** PKP **PKPdf** **16 12 35.6 -0.2**
BRVK Borovoye **145.06** **72** PKIKP **PKPab** **16 12 36.3 -0.1**
BRVK Borovoye **145.06** **72** **PKPab** **16 12 36.3 -0.1**
GHO Glory Hole Cre **145.10** **306** **PKPbc** **16 12 35.4 -0.9**
DHY Denali Highway **145.18** **309** **PKPbc** **16 12 36.1 -0.5**
PRP Porcupine Dome **145.74** **313** **PKPbc** **16 12 38.0 -0.3**
IL31 **145.87** **312** **PKPdf** **16 12 37.6 -0.2**
ILAR Eielson Array **145.87** **312** *e*PKP2 **PKPdf** **16 12 37.7 -0.2**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR Eielson Array **145.87** **312** PKPbc **PKPdf** **16 12 38.0 +0.1**
comp=Z,5.3nm,0.8s,baz=150,slow=2.9,SNR=42
ILAR Eielson Array **145.87** **312** **PKPdf** **16 12 37.6 -0.2**
RND Reindeer **145.93** **309** PKP2 **PKPdf** **16 12 38.2 +0.1**
RND Reindeer **145.93** **309** **PKPdf** **16 12 38.2 +0.1**
FYU Fort Yukon **146.15** **315** PKPdf **PKPbc** **16 12 39.2 -0.1**
CCB Clear Creek Bu **146.15** **311** **PKPdf** **16 12 38.5 +0.2**
WRH Wood River Hil **146.17** **311** **PKPdf** **16 12 38.6 +0.2**
BMAR Burnt Mountain **146.33** **317** PKPdf **PKPbc** **16 12 39.6 -0.3**
TRF Thorofare Moun **146.51** **308** PKPdf **PKPbc** **16 12 40.4 -0.3**
BWN Browne **146.55** **310** **PKPbc** **16 12 40.9 +0.3**
MAKZ Makanchi **146.71** **90** PKP2 **PKPbc** **16 12 40.9 -0.7**
MAKZ Makanchi **146.71** **90** **PKPbc** **16 12 40.9 -0.7**
MK31 Makanchi Array **146.85** **90** PKP2 **PKPbc** **16 12 41.4 -0.7**
MK31 Makanchi Array **146.85** **90** **PKPbc** **16 12 41.4 -0.7**
MKAR Makanchi Array **146.85** **90** PKP2 **PKPbc** **16 12 41.2 -0.9**
MKAR Makanchi Array **146.85** **90** PKPbc **PKPbc** **16 12 41.5 -0.5**
comp=Z,4.8nm,0.9s,baz=229,slow=2.4,SNR=21
MKAR Makanchi Array **146.85** **90** **PKPbc** **16 12 41.2 -0.9**
BPAW Bear Paw Mtn. **147.10** **309** PKPdf **PKPbc** **16 12 41.1 -1.1**
MLY Manley **147.44** **311** PKPdf **PKPbc** **16 12 41.9 -1.3**
KURK Kurchatov **147.63** **82** PKP2 **PKiKP** **16 12 45.5 -0.5**
KURK Kurchatov **147.63** **82** **PKiKP** **16 12 45.5 -0.5**
COLD Coldfoot **148.20** **315** **PKPbc** **16 12 45.2 +0.1**
TOLK Toolik Lake Re **148.55** **317** **PKPbc** **16 12 45.8 -0.2**
LZH Lanzhou **148.59** **126** *e*PKPbc **PKPdf** **16 12 40.8 -2.8**
LZH pPKP pPKPbc 16 12 50.0 -0.1
LZH sPKP 16 12 53.0
IMAR Indian Mountai **148.98** **311** **PKPbc** **16 12 47.0 -0.1**
GTA Gaotai **149.70** **118** *e*PKPbc **PKiKP** **16 12 50.6 -0.3**
ZALV Zalesovo Beam **152.61** **81** PKPbc **PKPbc** **16 12 55.3 -0.7**
comp=Z,0.4nm,0.3s,baz=264,slow=2.9,SNR=3.0

*NEIC **18** 15:58:37.4±2.4, 6°.4S±0°.1×129°.14E±0°.07, h198km±16km, mb4.4/5*
*ISCJB **18** 15:58:40.0±1.2, 6°.81S±0°.10×129°.19E±0°.06, h200km, mb3.3/2, Error ellipse: s-maj=13.8km s-min=7.9km az=176.4*
*IDC **18** 15:58:43.1±4.0, 7°.20S×129°.34E, h169km±42km, mb3.1/3, mb1 3.5/7, mb1mx3.2/35, mbtmp3.9/7, Error ellipse: s-maj=35.8km s-min=16.9km az=43.0*
ISC 18 15:58:38.5±1.2, 6°.6S±0°.1×129°.19E±0°.08, h200km, n23, σ1°81/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.49**	**123**	Pn	**Pn**	**15 59 24.4**	**+2.1**
FAKI	**Fak Fak**	**4.78**	**40**	Pn	**Pn**	**15 59 46.6**	**-3.5**
SOEI	**Soe**	**5.79**	**237**	Pn	**Pn**	**16 00 04.7**	**+1.6**
MTN	**Manton Dam**	**6.47**	**163**		**Pn**	**16 00 12.8**	**+0.9**
BATI	**Baumata**	**6.53**	**237**	P	**Pn**	**16 00 13.1**	**+0.5**
3.2nm,0.3s,baz=90,slow=5.2,SNR=6.9
BATI S **Sn** **16 01 26.9 -0.4**
5.3nm,0.3s,baz=94,slow=19,SNR=12

KNRA Kununurra **9.01** **183** **Pn** **16 00 45.7 +0.8**
FITZ Fitzroy Crossi **11.92** **197** P **Pn** **16 01 22.8 +0.4**
0.1nm,0.3s,baz=36,slow=12,SNR=3.1
FITZ S **Sn** **16 03 29.1 -6.2**
0.4nm,0.3s,baz=90,slow=20,SNR=4.7
WB0 Warramunga Arr **14.01** **159** P **P** **16 01 50.7 +0.3**
WRAB Tennant Creek **14.15** **160** Pn **Pn** **16 01 50.4 +0.1**
WRA Warramunga Arr **14.15** **160** P **Pn** **16 01 49.5 -0.9**
1.1nm,0.3s,baz=341,slow=11,SNR=58
WRA S S 16 04 20.4 -7.5
0.3nm,0.3s,baz=337,slow=24,SNR=4.7
WRA Warramunga Arr **14.15** **160** Pn **Pn** **16 01 50.1 -0.3**
WB2 Warramunga Arr **14.15** **160** Pn **Pn** **16 01 50.0 -0.5**
WR0 Warramunga Arr **14.24** **159** P **P** **16 01 53.6 +0.6**
COEN Coen **15.56** **119** **Pn** **16 02 08.5 +0.9**
COEN IAmb IAmb 16 02 12.6
comp=Z,14nm,1.6s
AS31 Alice Springs **17.54** **166** P **Pn** **16 02 31.4 +0.2**
ASAR Alice Springs **17.54** **166** P **Pn** **16 02 31.6 +0.4**
comp=Z,1.4nm,0.3s,baz=345,slow=11,SNR=179
ASAR S **S** **16 05 40.0 -1.3**
comp=Z,0.1nm,0.3s,baz=345,slow=25,SNR=3.7
ASAR Alice Springs **17.54** **166** P **P** **16 02 31.0 +1.6**
CTA Charters Tower **21.29** **131** P **P** **16 03 11.3 +1.6**
comp=Z,0.6nm,0.3s,baz=289,slow=8.4,SNR=2.5
BBOO Buckleboo **26.83** **167** P **P** **16 04 01.0 +0.6**
BBOO IAmb IAmb 16 04 39.0
comp=Z,52nm,1.9s
STKA Stephens Creek **27.67** **157** P **P** **16 04 08.6 +0.7**
comp=Z,3.8nm,1.1s,baz=345,slow=9.1,SNR=3.8
STKA Stephens Creek **27.67** **157** P **P** **16 04 08.7 +0.9**
STKA IAmb IAmb 16 04 14.6
comp=Z,6.8nm,1.8s
NWAO Narrogin (SRO) **28.44** **201** P **P** **16 04 15.6 +0.9**
MKAR Makanchi Array **67.48** **327** P **P** **16 09 24.9 +12**
comp=Z,0.2nm,0.4s,baz=118,slow=7.3,SNR=4.8

*ISCJB **18** 16:01:15.9±0.4, 21°.15S±0°.02×68°.60W±0°.04, h151km±4km, mb3.8/1, Error ellipse: s-maj=7.0km s-min=3.8km az=167.7*
*NEIC **18** 16:01:16.3±1.6, 21°.14S±0°.06×68°.5W±0°.2, h133km±9km*
*SJA **18** 16:01:16.1±0.8, 21°.15S×68°.49W, h137km±5km, ML3.6, MW3.6*
*IDC **18** 16:01:16.8±1.2, 21°.27S×67°.95W, h120km±18km, mb3.8/1, mb1 3.7/3, mb1mx3.3/28, mbtmp4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/20, Error ellipse: s-maj=50.3km s-min=17.3km az=115.0*
*GUC **18** 16:01:17.4±0.6, 21°.10S×68°.67W, h138km±4km, ML3.6*
ISC 18 16:01:16.6±0.8, 21°.14S±0°.03×68°.54W±0°.05, h141km±7km, n52, σ0°91/85, 2C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.89**	**276**	⇓*i*P	**Pn**	**16 01 39.5**	**-0.2**
PB01				*i* S	**Sn**	**16 01 56.7**	**-0.5**
PB01				IAML		16 01 59.1	
comp=N,1μm,0.2s
PB01 IPOC Station P **0.89** **276** *i* P **Pn** **16 01 39.5 -0.2**
PB01 *i* S **Sn** **16 01 56.7 -0.5**
PB01 IPOC Station P **0.89** **276** **Pn** **16 01 39.4 -0.2**
PB01 Sn **Sn** **16 01 56.2 -1.1**
PB09 IPOC Station P **0.92** **225** ⇓*i*P **Pn** **16 01 40.8 +0.7**
PB09 *i* S **Sn** **16 01 58.1 +0.2**
PB09 IAML 16 01 59.7
comp=N,1μm,0.5s
PB09 IPOC Station P **0.92** **225** *i* P **Pn** **16 01 40.8 +0.7**
PB09 *i* S **Sn** **16 01 58.2 +0.2**
PB09 IAML 16 01 59.5
comp=Z,794nm,0.5s
PB08 IPOC Station P **1.15** **330** ⇓*i*P **Pn** **16 01 42.7 +0.3**
PB08 *i* S **Sn** **16 02 01.8 -0.1**
PB08 IAML 16 02 02.9
comp=E,754nm,0.3s
PB08 IPOC Station P **1.15** **330** *i* P **Pn** **16 01 42.7 +0.3**
PB08 *i* S **Sn** **16 02 01.9 -0.1**
PB02 IPOC Station P **1.27** **262** ⇓*i*P **Pn** **16 01 43.7 +0.4**
PB02 *i* S **Sn** **16 02 03.4 -0.2**
PB02 IPOC Station P **1.27** **262** *i* P **Pn** **16 01 43.7 +0.4**
PB02 *i* S **Sn** **16 02 03.8 +0.2**
PB07 IPOC Station P **1.38** **245** *i* P **Pn** **16 01 44.8 +0.4**
PB07 *i* S **Sn** **16 02 05.7 0.0**
PB07 IAML 16 02 07.4
comp=E,1μm,0.4s
PB07 IPOC Station P **1.38** **245** *i* P **Pn** **16 01 44.8 +0.4**
PB07 *i* S **Sn** **16 02 06.2 +0.5**
PB03 IPOC Station P **1.44** **231** ⇑*i*P **Pn** **16 01 45.4 +0.3**
PB03 *i* S **Sn** **16 02 06.7 -0.1**
PB03 IAML 16 02 08.0
comp=N,989nm,0.3s
PB03 IPOC Station P **1.44** **231** *i* P **Pn** **16 01 45.4 +0.3**
PB03 *i* S **Sn** **16 02 06.7 -0.1**
LVC Limon Verde **1.50** **193** *e*P **Pn** **16 01 46.0 +0.1**
LVC *i* S **Sn** **16 02 07.8 -0.5**
LVC Limon Verde **1.50** **193** P **Pn** **16 01 46.0 +0.1**
comp=N,52nm,0.3s,baz=39,slow=8.6,SNR=456
LVC S **Sn** **16 02 07.8 -0.5**
comp=N,32nm,0.3s,baz=105,slow=19,SNR=46
LVC Limon Verde **1.50** **193** *i* P **Pn** **16 01 46.0 +0.1**
LVC *i* S **Sn** **16 02 08.0 -0.3**
LVC Limon Verde **1.50** **193** **Pn** **16 01 46.0 +0.1**
GO01 Chusmiza **1.59** **337** *e*P **Pn** **16 01 47.3 +0.3**
GO01 *i* S **Sn** **16 02 10.3 +0.1**
GO01 IAML 16 02 14.7
comp=N,2μm,0.2s
GO01 Chusmiza **1.59** **337** **Pn** **16 01 47.3 +0.3**
PB11 IPOC Station P **1.73** **323** ⇓*i*P **Pn** **16 01 48.2 0.0**
PB11 *i* S **Sn** **16 02 11.8 -0.6**
PB11 IAML 16 02 13.1
comp=N,761nm,0.2s
PB11 IPOC Station P **1.73** **323** *i* P **Pn** **16 01 48.2 0.0**
PB11 *i* S **Sn** **16 02 11.8 -0.6**
PB11 IPOC Station P **1.73** **323** **Pn** **16 01 48.0 -0.3**
PB06 IPOC Station P **1.83** **211** ⇑*i*P **Pn** **16 01 49.7 +0.3**
PB06 *i* S **Sn** **16 02 14.6 +0.1**
PB06 IPOC Station P **1.83** **211** *i* P **Pn** **16 01 49.6 +0.3**
PB06 *i* S **Sn** **16 02 14.6 +0.1**
PB06 IAML 16 02 19.5
comp=Z,348nm,0.1s
PB04 IPOC Station P **1.91** **231** *e*P **Pn** **16 01 51.0 +0.7**
PB04 *i* S **Sn** **16 02 16.7 +0.5**
PB04 IAML 16 02 21.3
comp=N,537nm,0.3s
PB04 IPOC Station P **1.91** **231** *i* P **Pn** **16 01 51.0 +0.7**
PB04 *i* S **Sn** **16 02 16.7 +0.5**
PB04 IAML 16 02 23.3
comp=Z,333nm,0.2s
PB04 IPOC Station P **1.91** **231** **Pn** **16 01 50.7 +0.4**
PSGC Pisagua **2.13** **316** *e*P **Pn** **16 01 53.0 0.0**
PSGC *i* S **Sn** **16 02 19.8 -1.0**
PSGCX Pisagua **2.13** **316** *i* P **Pn** **16 01 53.1 +0.1**
PSGCX *i* S **Sn** **16 02 19.8 -1.1**
PB15 IPOC Station P **2.23** **203** *e*P **Pn** **16 01 54.5 +0.3**
PB15 *e*S **Sn** **16 02 23.4 +0.3**
PB15 IPOC Station P **2.23** **203** *i* P **Pn** **16 01 54.7 +0.5**
PB15 *i* S **Sn** **16 02 23.6 +0.5**
PB15 IAML 16 02 28.9
comp=Z,1μm,0.2s
MNMC Minye Minye **2.23** **333** *i* P **Pn** **16 01 55.2 +0.9**
MNMC *i* S **Sn** **16 02 23.6 +0.3**
MNMC Minye Minye **2.23** **333** Pn **Pn** **16 01 55.0 +0.6**
MNMCX Minye Minye **2.23** **333** *i* P **Pn** **16 01 55.2 +0.9**
MNMCX *i* S **Sn** **16 02 23.8 +0.5**
PB16 IPOC Station P **2.94** **342** *i* P **Pn** **16 02 04.4 +1.0**
PB16 *i* S **Sn** **16 02 39.7 +0.3**
YJA Yavi **3.00** **111** *i* P **Pn** **16 02 04.1 +0.1**
YJA *i* S **Sn** **16 02 40.0 -0.6**
PB10 IPOC Station P **3.01** **218** *i* P **Pn** **16 02 03.8 0.0**
PB10 *i* S **Sn** **16 02 36.9 -3.3**
PB10 IAML 16 03 00.0
comp=Z,41nm,0.3s
PB10 IPOC Station P **3.01** **218** Pn **Pn** **16 02 03.8 0.0**
PB12 IPOC Station P **3.02** **326** *i* P **Pn** **16 02 03.5 -0.6**
PB12 *i* S **Sn** **16 02 39.9 -0.8**
HJA Humahuaca **3.56** **126** *i* P **Pn** **16 02 11.8 +0.6**
HJA *i* S **Sn** **16 02 55.7 +2.2**
GO02 Mina Guanaco **4.12** **193** **Pn** **16 02 17.8 -0.7**
LPAZ La Paz **4.84** **5** P **Pn** **16 02 29.6 +1.1**
comp=Z,1.6nm,0.3s,baz=168,slow=6.0,SNR=43
LPAZ La Paz **4.84** **5** **Pn** **16 02 29.3 +0.8**
GO03 Copiap **6.61** **193** **Pn** **16 02 48.8 -2.6**
SIV San Ignacio **8.74** **55** P **Pn** **16 03 15.3 -4.7**

comp=Z,2.9nm,0.3s,baz=238,slow=16,SNR=32
TOSP Speyside 33.18 14 P **P 16 07 40.0 0.0**
APG El Apazote 41.87 327 LR LR 16 24 51.3
comp=Z,89nm,21.6s,baz=296,slow=34
Y49A Blount Mountai 57.28 342 P **P 16 10 49.3 -0.2**
PLAL Pickwick Lake 58.82 341 P **P 16 11 00.7 +0.5**
PLAL IAmb IAmb 16 11 12.9
comp=Z,7.3nm,0.8s
TORD Torodi Ar. Bea 76.91 70 P **P 16 12 53.7 -0.1**
comp=Z,1.0nm,0.5s,baz=252,slow=5.2,SNR=10
TORD Torodi Ar. Bea 76.91 70 P **P 16 12 53.5 -0.3**
MKAR Makanchi Array 145.14 36 PKP **PKPdf 16 20 39.0 +1.6**
comp=Z,0.5nm,0.4s,baz=331,slow=2.7,SNR=9.6

*ISCJB **18** 16:11:05.6±0.9,31°.58N±0°.05×131°.76E±0°.08,h40km±8km, mb3.6/5,MS2.9/1,Error ellipse: s-maj=12.7km s-min=6.2km az=25.0*
*JMA **18** 16:11:07.0±0.1,31°.64N×131°.69E,h27km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φ=8.00000°,δ67.00000°,λ8.00000°. NP2:φ=204.00000°, δ23.00000°,λ105.00000°. Principal axes: T Plg67.0000°, Azm267.0000°; N Plg6.0000°, Azm11.0000°; P Plg22.0000°, Azm103.0000°;*
JMA Felt I J1.
*IDC **18** 16:11:09.3±2.9,31°.62N×131°.61E,h60km±24km,mb3.4/5, mb1 3.5/8,mb1mx3.3/44,mbtmp3.6/8,ML3.2/3,MS2.8/2, Ms1 2.8/2,ms1mx2.4/23 Error ellipse: s-maj=31.3km s-min=20.8km az=51.0*
ISC 18 16:11:07.0±1.0,31°.65N±0°.04×131°.64E±0°.05,h34km±2km, n25,σ0°85/27,mb3.5/5,5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	**Nichinankitago**	**0.23**	**273**	||P	**Pn**	**16 11 13.2 -0.1**
JNKG				*e*S	**Sb**	16 11 18.1 -0.5
JNAR	**Kushima--Naru**	**0.34**	**249**	||P	**Pb**	**16 11 15.2 -0.1**
JNAR				S	**Sn**	16 11 23.1 +0.4
JTZ	**Takazaki**	**0.53**	**298**	||P	**Pb**	**16 11 18.1 -0.1**
JTZ				*e*S	**Sn**	16 11 26.6 +0.5
JTSN	**Tsuno**	**0.61**	**349**	||P	**Pn**	**16 11 19.0 -0.2**
JTSN				*e*S	**Sb**	16 11 27.8 +0.1
JTSR	**Tashiro 2**	**0.78**	**232**	||P	**Pb**	**16 11 22.0 -0.2**
JTSR				*e*S	**Sb**	16 11 32.8 +0.2
JHHC	**Hyugahichiya**	**0.79**	**360**	P	**Pb**	**16 11 22.1 -0.3**
JHHC				*e*S	**Sb**	16 11 33.0 +0.2
JKIT	**Kitakata**	**0.98**	**351**	P	**Pb**	**16 11 25.5 -0.1**
JKIT				*e*S	**Sb**	16 11 39.5 +1.2
JZO	**Okuchi**	**1.01**	**299**	P	**Pb**	**16 11 25.7 -0.4**
JSU	**Suzuyama**	**1.02**	**262**	P	**Pb**	**16 11 26.0 -0.3**
JSU				S	**Sb**	16 11 42.1 +2.7
JNU	**Nakatsue**	**1.60**	**336**	P	**Pb**	**16 11 35.7 -0.4**
35nm,0.3s,baz=73,slow=5.4,SNR=285						
JNU				S	**Sb**	**16 11 55.9 -0.1**
23nm,0.3s,baz=218,slow=19,SNR=12						
JNU				LR	LR	16 12 28.0
comp=Z,183nm,19.4s,baz=156,slow=48						
KSRS	**Korea Array**	**6.55**	**333**	P	**Pn**	**16 12 42.4 +1.4**
0.2nm,0.3s,baz=144,slow=15,SNR=3.1						
KSRS				LR	LR	16 15 33.6
comp=Z,65nm,19.0s,baz=165,slow=40						
MJAR	**Matsushiro Arr**	**7.31**	**46**	P	**Pn**	**16 12 52.4 +0.9**
0.2nm,0.3s,baz=247,slow=14,SNR=9.0						
KLR	**Kul'dur**	**17.56**	**0**	P	**Pn**	**16 15 09.2 +0.2**
0.6nm,0.3s,baz=166,slow=7.2,SNR=8.7						
SONM	**Songino Array**	**25.10**	**317**	P	**P**	**16 16 28.6 -0.1**
0.5nm,0.4s,baz=132,slow=8.9,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**33.77**	**102**	T	T	16 53 31.8
baz=297,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**33.77**	**102**	T	T	16 53 35.3
baz=297,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**33.79**	**102**	T	T	16 53 36.5
baz=297,slow=75,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**34.18**	**104**	T	T	16 54 07.7
baz=301						
H11S1	**WAKE ISLAND Hy**	**34.19**	**104**	T	T	16 54 06.4
baz=301						
H11S2	**WAKE ISLAND Hy**	**34.20**	**104**	T	T	16 54 07.6
baz=301						
ZALV	**Zalesovo Beam**	**39.99**	**318**	LR	LR	16 35 02.7
comp=Z,16nm,20.3s,baz=52,slow=36						
MKAR	**Makanchi Array**	**40.44**	**307**	P	**P**	**16 18 41.1 -1.0**
0.5nm,0.6s,baz=89,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**55.05**	**177**	P	**P**	**16 20 35.2 -0.2**
0.3nm,0.9s,baz=12,slow=14,SNR=4.5						
ILAR	**Eielson Array**	**58.27**	**30**	P	**P**	**16 20 58.7 +0.8**
0.3nm,0.7s,baz=293,slow=7.6,SNR=5.1						
FINES	**FINESS Array B**	**69.64**	**330**	P	**P**	**16 22 11.3 -1.3**
7.6nm,1.1s,baz=45,slow=4.7,SNR=4.0						

*ISCJB **18** 16:29:41.5±0.7,26°.73N±0°.08×144°.15E±0°.09,h10km, mb3.7/5,Error ellipse: s-maj=12.7km s-min=9.2km az=137.6*
*IDC **18** 16:29:42.3±1.1,26°.64N×144°.16E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/38,mbtmp3.6/6,ML2.8/1,Error ellipse: s-maj=31.7km s-min=21.3km az=66.0*
*NEIC **18** 16:29:44.0±1.4,26°.76N±0°.06×144°.18E±0°.10,h18km±5km, mb4.8/6*
ISC 18 16:29:43.7±0.9,26°.8N±0°.1×144°.1E±0°.1,h10km,n24, σ1°40/19,mb3.8/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.75**	**281**	Pn	**Pn**	**16 30 14.4 +0.2**
11nm,0.3s,baz=39,slow=14,SNR=13							
JCJ				Sn	**Sn**	**16 30 35.7 -0.9**
63nm,0.3s,baz=357,slow=12,SNR=14							
JHJ	**Hachijo jima 2**	**7.35**	**330**	Sn	**Sn**	**16 32 51.1 -3.4**
5.1nm,0.3s,baz=66,slow=20,SNR=2.9							
MJAR	**Matsushiro Arr**	**10.95**	**334**	Pn	**Pn**	**16 32 21.9 +1.4**
0.1nm,0.3s,baz=149,slow=15,SNR=4.1							
MJAR	**Matsushiro Arr**	**10.95**	**334**		**Pn**	**16 32 20.9 +0.4**
MAJO	**Matsushiro**	**10.95**	**334**	Pn	**Pn**	**16 32 20.5 0.0**
MJB9	**Matsu-Tunnel**	**10.95**	**334**	Pn	**Pn**	**16 32 20.4 -0.1**
H11N2	**WAKE ISLAND Hy**	**22.05**	**104**	T	T	16 57 28.7
baz=299							
H11N1	**WAKE ISLAND Hy**	**22.06**	**104**	T	T	16 57 28.2
baz=299							
H11N3	**WAKE ISLAND Hy**	**22.07**	**104**	T	T	16 57 28.2
baz=299							
H11S3	**WAKE ISLAND Hy**	**22.38**	**107**	T	T	16 57 50.0
baz=293							
H11S1	**WAKE ISLAND Hy**	**22.38**	**107**	T	T	16 57 49.9
baz=293							
H11S2	**WAKE ISLAND Hy**	**22.40**	**107**	T	T	16 57 49.9
baz=293							
SONM	**Songino Array**	**36.14**	**316**	P	**P**	**16 36 47.2 +1.0**
0.7nm,0.5s,baz=121,slow=7.6,SNR=9.4							
SONM	**Songino Array**	**36.14**	**316**	P	**P**	**16 36 47.3 +1.2**
WRAB	**Tennant Creek**	**47.40**	**193**	P	**P**	**16 38 16.9 -1.5**
WRAB				IAmb	IAmb	16 39 19.1
comp=Z,26nm,1.8s							
WB2	**Warramunga Arr**	**47.41**	**193**	P	**P**	**16 38 17.3 -1.1**
WB2				IAmb	IAmb	16 38 36.5
comp=Z,8.7nm,1.4s							
WRA	**Warramunga Arr**	**47.41**	**193**	P	**P**	**16 38 17.7 -0.8**
comp=Z,1.4nm,0.8s,baz=17,slow=8.7,SNR=13							
WRA	**Warramunga Arr**	**47.41**	**193**	P	**P**	**16 38 16.8 -1.7**
ASAR	**Alice Springs**	**51.12**	**192**	P	**P**	**16 38 45.5 -1.3**
comp=Z,0.3nm,0.7s,baz=12,slow=14,SNR=5.9							
MKAR	**Makanchi Array**	**52.00**	**310**	P	**P**	**16 38 54.8 +1.5**
comp=Z,0.3nm,0.4s,baz=84,slow=10,SNR=6.5							
MAKZ	**Makanchi**	**52.22**	**310**	P	**P**	**16 38 56.7 +1.8**
NVAR	**Mina Array Bea**	**79.34**	**52**	P	**P**	**16 41 50.6 +0.4**
comp=Z,0.5nm,0.6s,baz=290,slow=4.4,SNR=5.7							
NVAR	**Mina Array Bea**	**79.34**	**52**	P	**P**	**16 41 50.2 0.0**
PHWY	**Pilot Hill**	**86.58**	**45**	P	**P**	**16 42 27.2 -0.6**

*NEIC **18** 16:36:23.2±1.3,21°.58N±0°.07×143°.2E±0°.1,h284km±6km, mb4.6/34*
*ISCJB **18** 16:36:24.1±0.3,21°.63N±0°.03×143°.21E±0°.07,h311km, mb3.9/26,Error ellipse: s-maj=8.7km s-min=4.2km az=179.0*
*IDC **18** 16:36:24.5±1.3,21°.64N×143°.20E,h299km±12km, mb3.7/22,mb1 3.8/27,mb1mx3.7/49,mbtmp4.5/27,Error ellipse: s-maj=14.9km s-min=7.1km az=86.0*
ISC 18 16:36:25.5±0.4,21°.64N±0°.05×143°.24E±0°.08,h311km, n100,σ1°42/108,mb4.3/41,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.52**	**350**	P	**Pn**	**16 37 48.4 -1.0**
42nm,0.3s,baz=190,slow=5.1,SNR=17							
JCJ				S	**S**	**16 38 53.4 -3.7**
88nm,0.3s,baz=258,slow=20,SNR=15							
ANA2	**Anatahan**	**5.76**	**156**		**Pn**	**16 37 48.4 -4.0**
GUMO	**Guam**	**8.15**	**169**	P	**Pn**	**16 38 21.7 +0.6**
14nm,0.3s,baz=6.0,slow=19,SNR=7.1							
GUMO	**Guam**	**8.15**	**169**	Pn	**Pn**	**16 38 17.7 -3.4**
JHJ2	**Mitsune**	**11.83**	**346**	Pn	**Pn**	**16 39 04.5 -1.1**
JHJ	**Hachijo jima 2**	**11.84**	**346**	P	**Pn**	**16 39 04.3 -1.5**
44nm,0.3s,baz=245,slow=24,SNR=16							
JHJ				S	**S**	**16 41 12.7 -5.1**
3.5nm,0.3s,baz=120,slow=20,SNR=2.3							
INU	**Inuyama**	**14.71**	**340**	P	**P**	**16 39 38.2 -0.5**
MJAR	**Matsushiro Arr**	**15.49**	**345**	P	**P**	**16 39 46.3 -1.0**
0.8nm,0.3s,baz=139,slow=7.5,SNR=29							
MJAR	**Matsushiro Arr**	**15.49**	**345**	P	**P**	**16 39 46.0 -1.3**
MAJO	**Matsushiro**	**15.49**	**345**	P	**P**	**16 39 46.8 -0.4**
MAJO				IAmb	IAmb	16 39 50.8
comp=Z,23nm,0.5s							
MAT	**Matsushiro**	**15.49**	**345**	P	**P**	**16 39 47.0 -0.2**
MJB9	**Matsu-Tunnel**	**15.49**	**345**	P	**P**	**16 39 46.7 -0.6**
MJB9				IAmb	IAmb	16 39 50.8
comp=Z,22nm,0.5s							
JNU	**Nakatsue**	**15.84**	**319**	P	**P**	**16 39 52.0 +0.8**
comp=Z,2.3nm,0.3s,baz=57,slow=3.2,SNR=21							
JNU	**Nakatsue**	**15.84**	**319**		**Pn**	**16 39 52.5 -0.8**
ERM	**Erimo**	**20.32**	**360**	P	**P**	**16 40 41.0 +2.2**
KSRS	**Korea Array**	**20.60**	**323**	P	**P**	**16 40 41.0 -0.6**
comp=Z,4.8nm,0.6s,baz=145,slow=9.2,SNR=23							
KSAR	**Wonju Array Be**	**20.61**	**323**	P	**P**	**16 40 41.0 -0.7**
KS19	**Wonju Array Si**	**20.66**	**323**	P	**P**	**16 40 41.8 -0.4**
JKA	**Kamikawa-asahi**	**22.43**	**359**	P	**P**	**16 40 58.8 +0.5**
ASAJ	**Asahikawa**	**22.43**	**359**	P	**P**	**16 40 58.8 +0.5**
comp=Z,4.5nm,0.6s,baz=158,slow=8.8,SNR=6.1							
NJ2	**Nanjing**	**24.06**	**301**	*e*P	**P**	**16 41 13.3 0.0**
NJ2				pmax	pmax	
comp=Z,9.0nm,0.7s							
USA0B	**Ussuriysk Arra**	**24.36**	**340**	P	**P**	**16 41 16.5 +0.7**
USA0B				IAmb	IAmb	16 42 10.8
comp=Z,50nm,1.9s							
USRK	**Ussuriysk Ar.**	**24.36**	**340**	P	**P**	**16 41 16.3 +0.5**
comp=Z,2.2nm,0.5s,baz=146,slow=6.9,SNR=12							
MDJ	**Mudanjiang**	**25.54**	**337**	P	**P**	**16 41 29.0 +2.6**
MDJ				IAmb	IAmb	16 42 28.9
comp=Z,65nm,1.9s							
FAKI	**Fak Fak**	**26.67**	**205**	P	**P**	**16 41 36.2 -0.6**
FAKI				IAmb	IAmb	16 42 06.3
comp=Z,67nm,1.3s							
KLR	**Kul'dur**	**29.02**	**344**	P	**P**	**16 41 57.7 +0.5**
comp=Z,18nm,0.6s,baz=158,slow=8.0,SNR=68							
KKM	**Kota Kinabalu**	**30.39**	**243**	P	**P**	**16 42 10.2 +0.4**
HHC	**Hu-ho-hao-te**	**32.92**	**313**	*e*P	**P**	**16 42 32.5 +1.1**
HHC				pmax	pmax	
comp=Z,3.0nm,1.0s							
HHC				pmax	pmax	
comp=Z,9.0nm,4.9s							
KAPI	**Kappang**	**35.09**	**224**	P	**P**	**16 42 50.5 +0.3**
KAPI				IAmb	IAmb	16 43 31.8
comp=Z,69nm,1.4s							
SBUM	**Sibu**	**35.69**	**242**	P	**P**	**16 42 56.0 +0.7**
SBUM	**Sibu**	**35.69**	**242**	P	**P**	**16 42 55.7 +0.4**
SBUM				IAmb	IAmb	16 42 56.8
comp=Z,5.3nm,0.5s							
LZH	**Lanzhou**	**37.13**	**302**	*e*P	**P**	**16 43 06.8 -0.5**
LZH				pP	pP	16 44 04.0 -3.4
LZH				sP	PP	16 44 37.8 -1.7
LZH				PP	**sP**	**16 44 38.8 -3.9**
LZH				pmax	pmax	
comp=Z,12nm,1.1s							
LZH				pmax	pmax	
comp=Z,63nm,4.9s							
KSM	**Kuching**	**37.82**	**242**	P	**P**	**16 43 13.0 -0.1**
KSM	**Kuching**	**37.82**	**242**	P	**P**	**16 43 12.5 -0.6**
KSM				IAmb	IAmb	16 43 13.8
comp=Z,6.9nm,0.8s							
SONM	**Songino Array**	**39.42**	**320**	P	**P**	**16 43 26.1 0.0**
comp=Z,1.5nm,0.6s,baz=131,slow=7.7,SNR=14							
SONM	**Songino Array**	**39.42**	**320**	P	**P**	**16 43 26.5 +0.4**
GTA	**Gaotai**	**40.95**	**306**	*e*P	**P**	**16 43 39.3 +0.6**
GTA				pP	pP	16 44 37.0 -3.2
GTA				sP	sP	16 45 08.3 -6.9
GTA				pmax	pmax	
comp=Z,1.0nm,1.2s							
JAGI	**Jajag, Banyuwa**	**41.35**	**227**	P	**P**	**16 43 40.5 -1.6**
JAGI				IAmb	IAmb	16 44 49.4
comp=Z,57nm,1.4s							
YAK	**Yakutsk**	**41.44**	**350**	P	**P**	**16 43 41.5 -0.6**
CTA	**Charters Tower**	**41.57**	**176**	P	**P**	**16 43 44.6 +0.9**
comp=Z,0.8nm,0.4s,baz=356,slow=12,SNR=3.4							
CTAO	**Charters Tower**	**41.57**	**176**	P	**P**	**16 43 44.9 +1.2**
CMAR	**Chiang Mai Arr**	**41.63**	**274**	P	**P**	**16 43 45.0 +0.6**
comp=Z,1.1nm,0.7s,baz=76,slow=6.4,SNR=9.7							
WRAB	**Tennant Creek**	**42.22**	**193**	P	**P**	**16 43 48.8 -0.1**
WRAB				IAmb	IAmb	16 43 49.8
comp=Z,16nm,0.6s							
WB2	**Warramunga Arr**	**42.23**	**192**	P	**P**	**16 43 48.9 -0.1**
WB2				IAmb	IAmb	16 43 49.9
comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**42.23**	**193**	P	**P**	**16 43 49.2 +0.2**
comp=Z,12nm,0.6s,baz=14,slow=8.2,SNR=168							
WRA	**Warramunga Arr**	**42.23**	**193**	P	**P**	**16 43 48.4 -0.6**
TLY	**Talaya**	**42.85**	**324**	P	**P**	**16 43 53.0 -0.6**
FITZ	**Fitzroy Crossi**	**43.09**	**205**	P	**P**	**16 43 55.9 +0.1**
comp=Z,9.5nm,0.7s,baz=26,slow=10,SNR=39							
FITZ	**Fitzroy Crossi**	**43.09**	**205**	P	**P**	**16 43 55.7 -0.1**
UGM	**Wanagama**	**43.51**	**231**	P	**P**	**16 43 59.2 -0.1**
IPM	**Ipoh**	**44.32**	**253**	P	**P**	**16 44 07.0 +1.2**
LEM	**Lembang**	**44.95**	**235**	P	**P**	**16 44 10.3 -0.6**
comp=Z,20nm,0.6s,baz=228,slow=18,SNR=6.3							
CISI	**Cisompet, Garu**	**45.27**	**234**	P	**P**	**16 44 11.2 -2.1**
CISI				IAmb	IAmb	16 44 38.9
comp=Z,44nm,0.9s							
AS31	**Alice Springs**	**45.94**	**192**	P	**P**	**16 44 17.9 -0.3**
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**16 44 18.0 -0.2**
comp=Z,2.5nm,0.6s,baz=17,slow=12,SNR=55							
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**16 44 17.7 -0.5**
BILL	**Bilibino**	**48.57**	**11**	P	**P**	**16 44 39.2 +1.5**
GSI	**Gunungsitoli**	**48.83**	**252**	P	**P**	**16 44 40.0 -0.5**
GSI				IAmb	IAmb	16 45 40.6
comp=Z,25nm,1.2s							
TAPN	**Tapejung**	**50.52**	**288**	*e*P	**P**	**16 44 53.3 -0.1**
comp=Z,4.4nm,0.3s							
WMQ	**Urumqi**	**50.66**	**309**	*e*P	**P**	**16 44 55.0 +1.1**
WMQ				pmax	pmax	
comp=Z,11nm,0.7s							
WMQ				pmax	pmax	
comp=Z,98nm,4.5s							
ODAN	**Odare**	**50.86**	**288**	*e*P	**P**	**16 44 55.7 -0.1**
comp=Z,3.2nm,0.4s							
RAMN	**Ramite**	**51.55**	**288**	*e*P	**P**	**16 45 01.5 +0.6**
JIRN	**Jiri**	**51.82**	**289**	*e*P	**P**	**16 45 03.3 +0.2**
GUN	**Gumba**	**52.07**	**289**	*e*P	**P**	**16 45 04.9 +0.1**
PKI	**Pulchoki**	**52.52**	**289**	*e*P	**P**	**16 45 07.8 -0.3**
PKIN	**Phulchoki**	**52.53**	**289**	*e*P	**P**	**16 45 07.7 -0.4**
KKN	**Kakani**	**52.61**	**289**	*e*P	**P**	**16 45 08.8 +0.2**
DMN	**Daman**	**52.78**	**289**	*e*P	**P**	**16 45 10.4 +0.4**
GKN	**Gorkha**	**53.15**	**289**	*e*P	**P**	**16 45 12.7 +0.2**
STKA	**Stephens Creek**	**53.23**	**182**	P	**P**	**16 45 11.8 -0.9**
comp=Z,3.9nm,0.6s,baz=356,slow=8.5,SNR=14							
STKA	**Stephens Creek**	**53.23**	**182**	P	**P**	**16 45 12.8 +0.1**
DANN	**Dangsing**	**53.87**	**290**	*e*P	**P**	**16 45 18.2 +0.3**
comp=Z,24nm,0.3s							
KOLN	**Koldanda**	**54.09**	**289**	*e*P	**P**	**16 45 19.3 0.0**
FORT	**Forrest**	**54.12**	**196**	P	**P**	**16 45 19.4 +0.4**
FORT				IAmb	IAmb	16 45 21.5
comp=Z,45nm,1.0s							
ZALV	**Zalesovo Beam**	**54.29**	**322**	P	**P**	**16 45 19.8 -0.2**
comp=Z,0.7nm,0.4s,baz=116,slow=6.6,SNR=3.0							
ZALV				PcP	**PcP**	**16 46 19.6 -0.2**
comp=Z,2.3nm,0.4s,baz=133,slow=3.8,SNR=7.2							
ZALV	**Zalesovo Beam**	**54.29**	**322**		**PcP**	**16 46 19.6 -0.3**
BBOO	**Buckleboo**	**54.57**	**187**	P	**P**	**16 45 22.4 +0.1**
BBOO				IAmb	IAmb	16 46 00.2
comp=Z,51nm,1.7s							
MKAR	**Makanchi Array**	**54.78**	**313**	P	**P**	**16 45 23.9 +0.2**
comp=Z,0.4nm,0.5s,baz=90,slow=9.7,SNR=5.5							
MKAR				PcP	**PcP**	**16 46 22.0 +0.1**
comp=Z,1.0nm,0.4s,baz=80,slow=4.0,SNR=10							
MKAR	**Makanchi Array**	**54.78**	**313**	P	**P**	**16 45 24.1 +0.4**
RIM	**Rim**	**57.30**	**80**	P	**P**	**16 45 42.7 +0.8**
KSH	**Kashi**	**59.31**	**304**	P	**P**	**16 45 59.4 +3.9**
KSH				PP	**PP**	**16 48 17.1 +6.7**
KSH				S	**S**	**16 53 41.4 +2.4**
KSH				ScS	**ScS**	**16 55 13.6 -0.4**
KSH				sS	sS	16 55 32.1 -4.9
KSH				pmax	pmax	
comp=Z,340nm,5.1s							
KSH				LR	LR	
comp=N,250nm,9.2s							
KSH				LR	LR	
comp=E,290nm,9.4s							
KSH				LR	LR	
comp=Z,53nm,11.2s							
IMAR	**Indian Mountai**	**59.52**	**25**	P	**P**	**16 45 58.6 +2.3**
NWAO	**Narrogin (SRO)**	**59.67**	**205**	P	**P**	**16 45 56.0 -1.7**
comp=Z,6.1nm,0.8s,baz=38,slow=17,SNR=3.2							
ILAR	**Eielson Array**	**62.07**	**27**	P	**P**	**16 46 13.4 0.0**
comp=Z,0.8nm,0.7s,baz=259,slow=5.4,SNR=11							
KKAR	**Karatay Array**	**63.14**	**308**	P	**P**	**16 46 20.8 -0.1**
CHGR	**Chuyangaron**	**64.67**	**304**	P	**P**	**16 46 31.0 +0.1**
CHGR				IAmb	IAmb	16 46 32.1
comp=Z,5.4nm,0.8s							
ABKAR	**Abkulak array**	**69.63**	**316**	P	**P**	**16 47 01.7 0.0**
ABKAR	**Abkulak array**	**69.63**	**316**	P	**P**	**16 47 01.6 0.0**
ABKAR				IAmb	IAmb	16 47 02.4
comp=Z,3.5nm,0.6s							
YKA	**Yellowknife Ar**	**76.48**	**28**	P	**P**	**16 47 42.0 +0.8**
comp=Z,1.5nm,0.6s,baz=289,slow=5.9,SNR=4.8							
ARCES	**ARCESS Array B**	**79.00**	**342**	P	**P**	**16 47 54.5 -0.3**
comp=Z,2.8nm,0.7s,baz=78,slow=8.1,SNR=14							
KBZ	**Khabaz**	**82.45**	**314**	P	**P**	**16 48 13.8 +0.3**
comp=Z,4.7nm,0.9s,baz=85,slow=3.4,SNR=8.7							
NVAR	**Mina Array Bea**	**83.14**	**51**	P	**P**	**16 48 17.3 -0.2**
comp=Z,1.3nm,0.7s,baz=276,slow=5.1,SNR=9.8							
NVAR	**Mina Array Bea**	**83.14**	**51**	P	**P**	**16 48 18.9 +1.4**
FINES	**FINESS Array B**	**83.26**	**335**	P	**P**	**16 48 16.8 -0.5**
comp=Z,2.2nm,0.4s,baz=64,slow=4.1,SNR=23							
TPNV	**Topopah Spring**	**85.21**	**52**	P	**P**	**16 48 29.2 +1.4**
BRTR	**Keskin Array B**	**90.42**	**313**	P	**P**	**16 48 51.3 -1.2**
comp=Z,0.6nm,0.7s,baz=108,slow=4.0,SNR=4.7							
PLCA	**Paso Flores**	**145.67**	**131**	PKPbc	**PKPbc**	**16 55 28.3 +0.1**
comp=Z,11nm,0.7s,baz=263,slow=3.8,SNR=27							
PLCA	**Paso Flores**	**145.67**	**131**		**PKPab**	**16 55 29.8 +0.7**
LPAZ	**La Paz**	**149.89**	**85**	PKPbc	**PKiKP**	**16 55 41.4 0.0**
comp=Z,4.4nm,0.6s,baz=318,slow=1.5,SNR=17							
LPAZ	**La Paz**	**149.89**	**85**		**PKiKP**	**16 55 42.4 +1.0**

*ISCJB **18** 16:41:29.4±0.6,7°.41S±0°.06×128°.66E±0°.05,h151km, mb3.4/1,Error ellipse: s-maj=8.9km s-min=7.5km az=14.2*
*NEIC **18** 16:41:30.9±3.3,7°.4S±0°.1×128°.69E±0°.07,h158km±13km, mb4.2/6*
*IDC **18** 16:41:32.7±7.4,7°.50S×128°.62E,h169km±79km,mb3.1/1, mb1 3.5/5,mb1mx3.2/29,mbtmp4.0/5,Error ellipse: s-maj=74.1km s-min=24.6km az=38.0*
ISC 18 16:41:30.8±0.8,7°.58S±0°.08×128°.74E±0°.07,h151km,n22, σ2°78/22,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.57**	**99**	Pn	**Pn**	**16 42 15.7 +2.9**
SOEI	**Soe**	**4.92**	**244**	Pn	**Pn**	**16 42 46.0 +2.8**
BATI	**Baumata**	**5.65**	**242**	P	**Pn**	**16 42 55.6 +2.8**
37nm,0.3s,baz=98,slow=8.5,SNR=58							
BATI				S	**Sn**	**16 43 57.4 +0.4**
20nm,0.3s,baz=30,slow=21,SNR=8.7							
MTN	**Manton Dam**	**5.74**	**156**		**Pn**	**16 42 56.8 +2.8**
FAKI	**Fak Fak**	**5.80**	**37**	Pn	**Pn**	**16 42 52.5 -2.5**
KNRA	**Kununurra**	**8.05**	**180**	Pn	**Pn**	**16 43 26.5 +1.7**
FITZ	**Fitzroy Crossi**	**10.88**	**196**	P	**Pn**	**16 44 04.1 +1.7**
0.5nm,0.3s,baz=13,slow=14,SNR=6.2							
FITZ				S	**Sn**	**16 45 56.9 -5.9**
1.4nm,0.3s,baz=307,slow=20,SNR=8.2							
WB0	**Warramunga Arr**	**13.30**	**156**	P	**Pn**	**16 44 35.9 +2.1**
WRAB	**Tennant Creek**	**13.43**	**157**	Pn	Pn	16 44 32.4 -3.1
WRA	**Warramunga Arr**	**13.44**	**157**	P	**Pn**	**16 44 36.5 +0.9**
0.2nm,0.3s,baz=337,slow=12,SNR=2.8							
WRA				S	Sn	16 46 54.3 -10
0.3nm,0.3s,baz=332,slow=22,SNR=5.8							
WRA	**Warramunga Arr**	**13.44**	**157**	Pn	Pn	16 44 32.6 -2.9
WB2	**Warramunga Arr**	**13.44**	**157**	Pn	Pn	16 44 32.4 -3.2
JAGI	**Jajag, Banyuwa**	**14.47**	**266**	Pn	**Pn**	**16 44 47.5 -1.1**
COEN	**Coen**	**15.53**	**115**	P	**P**	**16 45 04.1 +1.2**
COEN				IAmb	IAmb	16 45 38.5
comp=Z,14nm,1.6s							
AS31	**Alice Springs**	**16.74**	**163**		**Pn**	**16 45 19.1 +2.4**
AS31				IAmb	IAmb	16 45 42.1
comp=Z,2.9nm,1.4s							
ASAR	**Alice Springs**	**16.75**	**163**	P	**Pn**	**16 45 19.9 +3.3**
comp=Z,0.5nm,0.3s,baz=341,slow=10,SNR=25							
ASAR				S	**S**	**16 48 17.6 -5.2**
comp=Z,0.1nm,0.3s,baz=353,slow=28,SNR=4.0					

comp=Z,1.4nm,0.3s,baz=360,slow=19,SNR=2.6
JTS LR LR 17 06 00.3
comp=Z,37nm,21.8s,baz=28,slow=34
CMIG Matias Romero 7.46 307 P Pn 17 05 11.3 +5.1
comp=Z,0.4nm,0.3s,baz=122,slow=8.9,SNR=4.5
CMIG S **Sn 17 06 26.0 -3.9**
comp=Z,0.4nm,0.3s,baz=143,slow=10,SNR=2.1
TEIG Tepich 7.59 3 P **Pn 17 05 09.7 +1.8**
comp=Z,1.3nm,0.3s,baz=136,slow=5.1,SNR=9.1
TEIG LR LR 17 08 24.1
comp=Z,54nm,20.6s,baz=231,slow=42
TXAR Lajitas Array 21.70 322 P **P 17 08 07.7 -0.2**
comp=Z,1.4nm,0.7s,baz=137,slow=11,SNR=8.4
PDAR Pinedale Array 35.07 333 P **P 17 10 10.1 +0.2**
comp=Z,0.5nm,0.7s,baz=133,slow=10.0,SNR=3.3
NVAR Mina Array Bea 36.80 320 P **P 17 10 26.3 +1.6**
comp=Z,0.5nm,0.6s,baz=140,slow=7.1,SNR=3.2
NVAR PcP **PcP 17 12 46.6 +0.2**
comp=Z,0.6nm,0.6s,baz=121,slow=3.5,SNR=4.5
YKA Yellowknife Ar 53.15 345 P **P 17 12 31.9 -2.1**
comp=Z,0.9nm,0.6s,baz=152,slow=6.5,SNR=5.8
ILAR Eielson Array 65.39 336 P **P 17 13 57.4 -1.3**
comp=Z,0.5nm,0.8s,baz=172,slow=5.2,SNR=11
WRA Warramunga Arr 138.14 254 PKP **PKPdf 17 22 41.8 -0.4**
comp=Z,0.3nm,0.6s,baz=92,slow=2.3,SNR=3.6
ASAR Alice Springs 138.19 249 PKP **PKPdf 17 22 42.8 +0.6**
comp=Z,0.2nm,0.7s,baz=109,slow=2.7,SNR=2.7
CMAR Chiang Mai Arr 148.23 346 PKPbc **PKPdf 17 23 00.5 +0.5**
comp=Z,0.4nm,0.6s,baz=352,slow=4.1,SNR=3.2

MAN 18 17:18:44.7, 8°.91N×125°.58E, h3km, mb4.6, ML3.4, MS3.3, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.07**	**32**	*e*P	Pg	17 18 48.0	+1.7
BUTP				*e*S	Sg	17 18 51.9	+4.6
CGP	**Cagayan de Oro**	**0.99**	**243**	⇑*i*P	Pg	17 19 03.8	+0.2
CGP				*i* S	Sn	17 19 19.9	-0.1
BIPH	**Bislig**	**1.05**	**133**	⇓*i*P	Pg	17 19 01.7	-3.2
BIPH				*e*S	Sg	17 19 19.0	+0.4
BUKP	**Musuan**	**1.14**	**207**	*e*P	Pb	17 19 07.1	-0.1
BUKP				*e*S	Sn	17 19 26.4	+2.5
MSLP	**Maasin**	**1.41**	**330**	*e*P	Pn	17 19 09.5	-1.9
MSLP				*e*S	Sb	17 19 29.4	-0.8
KCP	**Kidapawan**	**1.95**	**195**	⇓*e*P	Pn	17 19 19.1	+0.4
KCP				*i* S	Sg	17 20 03.1	+16
CTBH	**Cotabato--PC H**	**2.13**	**218**	⇓*i*P	Pn	17 19 21.6	+0.3

MOS ***18*** *17:34:42.7±1.3, 57°.42N×120°.68E, h12km, mb4.1/2, Error ellipse: s-maj=13.2km s-min=8.5km az=85.0*
YARS ***18*** *17:34:42.7, 57°.40N×120°.77E, h6km*
IDC ***18*** *17:34:43.4±0.9, 57°.49N×120°.59E, h0km, mb3.7/13, mb1 3.9/20, mb1mx3.8/53, mbtmp3.8/20, ML3.9/5, MS2.9/7, Ms1 2.9/7, ms1mx2.7/53, Error ellipse: s-maj=20.6km s-min=12.4km az=161.0*
NEIC ***18*** *17:34:44.2±3.0, 57°.62N±0°.07×121°.1E±0°.2, h10km±1km, mb4.2/7*
BYKL ***18*** *17:34:44.2±0.5, 57°.35N×120°.75E*
ISC 18 17:34:43.4±0.4, 57°.44N±0°.02×120°.80E±0°.02, h10km, n102, σ2s72/152, mb3.8/16, MS2.8/3, 5C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.69**	**221**	⇑*i*Pg	**Pg**	**17 34 54.9**	**-1.8**
KHNR				*e*Sg	**Sg**	**17 35 02.8**	**-2.9**
KHN	**Khani**	**0.76**	**227**	*i* Pg	**Pg**	**17 34 55.0**	**-3.1**
KHN	2μm,0.2s			*e*Sg	**Sg**	**17 35 02.7**	**-5.3**
YKLR	12μm,0.5s **Yuktali**	**0.97**	**151**	⇑*i*Pg	**Pg**	**17 35 01.0**	**-1.1**
YKLR				*e*Pb	**Pn**	**17 35 03.1**	**0.0**
YKLR				*e*		17 35 05.5	
YKLR				*e*Sg	**Sg**	**17 35 13.5**	**-1.3**
YKLR	**Yuktali**	**0.97**	**151**	*i* Pg	**Pg**	**17 35 01.0**	**-1.1**
YKLR	141nm,0.3s			*e*Sg	**Sg**	**17 35 13.5**	**-1.3**
YKLR	1μm,0.4s			*e*Sg	**Sg**	**17 35 13.5**	**-1.3**
CRS	2μm,0.5s **Chara**	**1.48**	**250**	⇑*i*Pg	**Pn**	**17 35 09.8**	**-0.4**
CRS				*e*		17 35 17.4	
CRS				max		17 35 19.6	
CRS	438nm,1.0s			*i* Sg	**Sn**	**17 35 28.4**	**-1.2**
CRS				Smax		17 35 32.7	
CRS	1μm,1.1s **Chara**	**1.48**	**250**	*i* Pg	**Pn**	**17 35 09.8**	**-0.4**
CRS	438nm,1.0s			*e*Sg	**Sn**	**17 35 28.4**	**-1.2**
CRS	1μm,1.1s **Chara**	**1.48**	**250**	*e*P	**Pn**	**17 35 09.9**	**-0.3**
CRS				*e*		17 35 28.4	
CRS				pmax	pmax		
CRS	comp=Z,393nm,0.6s			smax	smax		
CLNS	comp=E,1μm,0.7s **Chul'man**	**2.31**	**104**	*e*Pn	**Pb**	**17 35 24.4**	**-0.8**
CLNS				*e*Pg	**Pg**	**17 35 26.1**	**-1.6**
CLNS				*e*		17 35 27.2	
CLNS				*e*		17 35 53.8	
CLNS				*e*Sg	**Sg**	**17 35 56.4**	**-1.3**
CLNS				*e*LR	LR	17 36 14.1	
CLNS	**Chul'man**	**2.31**	**104**	*i* Pn	**Pb**	**17 35 22.8**	**-2.4**
CLNS				*i* Pg	**Pg**	**17 35 24.9**	**-2.8**
CLNS	comp=E,139nm,0.5s			*e*Sg	**Sg**	**17 35 56.4**	**-1.3**
CLNS	comp=E,1μm,0.5s			*e*Sg	**Sg**	**17 35 56.4**	**-1.3**
IENR	comp=E,2μm,0.7s **Iengra**	**2.54**	**117**	*e*Pg	**Pb**	**17 35 30.0**	**+0.9**
IENR				*e*		17 35 35.1	
IENR				*e*Sg	**Sg**	**17 36 02.3**	**-2.7**
IENR				*e*		17 36 12.4	
IENR	**Iengra**	**2.54**	**117**	*e*Pg	**Pb**	**17 35 28.5**	**-0.6**
IENR	comp=E,280nm,0.4s			*e*Sg	**Sg**	**17 36 02.3**	**-2.7**
IENR	comp=E,2μm,0.6s			*e*Sg	**Sg**	**17 36 02.3**	**-2.7**
ALDR	comp=E,782nm,0.5s **Aldan**	**2.72**	**63**	*i* Pn	**Pb**	**17 35 29.3**	**-2.8**
ALDR	comp=E,2.6nm,0.1s			*i* Pg	**Pg**	**17 35 32.0**	**-3.4**
ALDR	comp=E,28nm,0.2s			*e*Sg	**Sg**	**17 36 08.5**	**-2.1**
ALDR	comp=E,1μm,0.4s			*e*Sg	**Sg**	**17 36 08.5**	**-2.1**
NLY	comp=E,748nm,0.4s **Nelyaty**	**2.94**	**254**	*e*Pn	**Pn**	**17 35 31.3**	**+1.0**
NLY				*i* Pg	**Pb**	**17 35 35.1**	**-0.9**
NLY	comp=E,95nm,0.5s			*e*Sg	**Sb**	**17 36 12.9**	**+0.9**
OLMR	comp=E,655nm,1.5s **Olekminsk**	**2.95**	**357**	*i* Pn	**Pn**	**17 35 32.1**	**+1.9**
OLMR	comp=E,17nm,0.3s			*i* Pg	**Pb**	**17 35 36.2**	**+0.2**
OLMR	comp=E,340nm,0.5s			*i* Sg	**Sg**	**17 36 14.7**	**-3.3**
NLYR	comp=E,1μm,0.4s **Nelyaty**	**2.95**	**253**	*e*Pn	**Pn**	**17 35 31.3**	**+1.0**
NLYR				⇓*i*Pg	**Pb**	**17 35 36.0**	**0.0**
NLYR				Pmax		17 35 38.2	
NLYR	comp=E,95nm,0.5s			*e*		17 35 54.5	
NLYR				*e*Sg	**Sb**	**17 36 12.9**	**+0.8**
NLYR				Smax		17 36 26.5	
TUP	comp=E,655nm,1.5s **Tupik**	**3.06**	**189**	⇑*i*Pn	**Pn**	**17 35 31.6**	**-0.3**
TUP				*e*Pg	**Pb**	**17 35 36.1**	**-1.9**
TUP				Pmax		17 35 38.9	
TUP	comp=E,396nm,0.8s			*e*Sg	**Sb**	**17 36 15.1**	**-0.3**
TUP				Smax		17 36 19.6	
TUP	comp=E,1μm,1.0s **Tupik**	**3.06**	**189**	*i* Pn	**Pn**	**17 35 31.6**	**-0.3**
TUP				*e*Pg	**Pb**	**17 35 36.1**	**-1.9**
TUP	comp=E,396nm,0.8s			*e*Sg	**Sb**	**17 36 15.1**	**-0.3**
TUP	comp=E,1μm,1.0s			*e*Sg	**Sb**	**17 36 15.1**	**-0.3**
TUP	**Tupik**	**3.06**	**189**	⇑*i*P	**Pn**	**17 35 30.9**	**-1.0**
TUP				*e*S	**Sn**	**17 36 06.2**	**-2.4**
TUP				pmax	pmax		
TUP	comp=Z,401nm,0.8s			smax	smax		
TUP	comp=E,1μm,1.2s						
BOD	**Bodaibo**	**3.67**	**279**	*e*Pn	**Pn**	**17 35 41.5**	**+1.3**
BOD				*e*		17 35 43.5	
BOD				*e*Pg	**Pb**	**17 35 48.8**	**+0.4**
BOD				Pmax		17 35 52.9	
BOD	comp=E,59nm,1.0s			*e*Sg	**Sb**	**17 36 35.7**	**+2.8**
BOD				Smax		17 36 40.0	
BOD	comp=E,549nm,0.8s **Bodaibo**	**3.67**	**279**	*e*Pn	**Pn**	**17 35 41.5**	**+1.3**
BOD				*e*Pg	**Pb**	**17 35 48.8**	**+0.4**
BOD	comp=E,59nm,1.0s			*e*Sg	**Sb**	**17 36 35.7**	**+2.8**
BOD	comp=E,549nm,0.8s **Bodaibo**	**3.67**	**279**	*e*P	**Pn**	**17 35 42.7**	**+2.5**
SVKR	**Severomuysk**	**4.20**	**255**	*e*	Pn	17 35 52.0	+4.5
SVKR				*e*Pg	**Pb**	**17 35 59.0**	**+1.6**
SVKR				Pmax		17 36 01.8	
SVKR	comp=E,73nm,0.5s			*e*Sg	**Sb**	**17 36 52.9**	**+4.8**
SVKR				Smax		17 37 08.5	
UKT	comp=E,896nm,1.3s **Uakit**	**4.43**	**247**	*e*Pn	**Pn**	**17 35 52.9**	**+2.1**
UKT				*e*Pg	**Pb**	**17 36 01.9**	**+0.5**
UKT				Pmax		17 36 11.8	
UKT	comp=E,37nm,1.0s			*e*Sg	**Sb**	**17 36 58.3**	**+3.4**
UKT				Smax		17 37 05.1	
UKT	comp=E,231nm,1.1s **Uakit**	**4.43**	**247**	*e*Pn	**Pn**	**17 35 52.9**	**+2.1**
UKT				*e*Pg	**Pb**	**17 36 01.9**	**+0.5**
UKT	comp=E,37nm,1.0s			*e*Sg	**Sb**	**17 36 58.3**	**+3.4**
UKT	comp=E,231nm,1.0s						
KROS	**Kirovskiy**	**4.60**	**128**	*i* Pn	**Pn**	**17 35 54.1**	**+1.2**
KROS				*e*Sn	**Sn**	**17 36 42.8**	**-3.5**
VTMR	**Vitim**	**4.78**	**298**	*e*Pn	**Pn**	**17 35 57.8**	**+2.5**
VTMR				*e*Pg	**Pg**	**17 36 10.3**	**-4.5**
VTMR				*e*Sn	**Sn**	**17 36 53.3**	**+2.6**
VTMR				*e*Sg	**Sg**	**17 37 12.2**	**-4.4**
VTMR	**Vitim**	**4.78**	**298**	*i* Pn	**Pn**	**17 35 56.2**	**+0.8**
VTMR				*i* Pg	**Pb**	**17 36 10.0**	**+2.9**
VTMR				*i* Sn	**Sn**	**17 36 51.4**	**+0.7**
VTMR				*i* Sg	**Sg**	**17 37 12.5**	**-4.0**
YOA	**Uoyan**	**5.16**	**259**	*e*Sg	**Sg**	**17 37 22.8**	**-6.1**
YOA				Smax		17 37 43.2	
ZEA	comp=E,2μm,1.6s **Zeya**	**5.21**	**133**	*e*P	**Pn**	**17 36 04.9**	**+3.6**
ZEA				*e*S	**Sn**	**17 37 00.5**	**-0.9**
ZEA				pmax	pmax		
ZEA	comp=N,19nm,0.4s			pmax	pmax		
ZEA	comp=Z,27nm,0.3s			pmax	pmax		
ZEA	comp=N,30nm,0.7s			pmax	pmax		
ZEA	comp=E,65nm,0.7s			pmax	pmax		
ZEA	comp=Z,100nm,0.6s			smax	smax		
ZEA	comp=N,110nm,0.6s			smax	smax		
ZEA	comp=E,150nm,0.8s			smax	smax		
ZEA	comp=E,500nm,1.0s			smax	smax		
ZEA	comp=Z,500nm,1.0s			smax	smax		
ZEA	comp=Z,310nm,0.8s			smax	smax		
ZEA	comp=N,100nm,0.3s			smax	smax		
ZEA	comp=E,400nm,0.7s						
BMKR	**Bomnak**	**5.27**	**118**	*e*Pn	**Pn**	**17 36 03.8**	**+1.6**
BMKR				*e*Pg	**Pb**	**17 36 19.1**	**+3.5**
BMKR	comp=E,47nm,0.3s			*e*Sg	**Sb**	**17 37 24.2**	**+5.4**
KMO	comp=E,290nm,0.4s **Kumora**	**5.52**	**258**	*e*Pn	**Pn**	**17 36 06.4**	**+0.8**
KMO				*e*Pg	**Pb**	**17 36 22.4**	**+2.6**
KMO				*e*		17 36 30.5	
KMO				max		17 36 33.1	
KMO	comp=E,37nm,1.2s			*e*Sg	**Sg**	**17 37 33.3**	**-7.2**
KMO				Smax		17 37 38.9	
BLSR	comp=E,408nm,1.1s **Buluus**	**5.75**	**43**	*i* Pn	**Pn**	**17 36 09.7**	**+0.9**
BLSR				*i* Pg	Pg	17 36 28.0	-5.4
BLSR	comp=E,1μm,0.3s			*e*Sn	**Sn**	**17 37 15.1**	**+0.4**
BLSR				*e*Sg	**Sg**	**17 37 42.6**	**-5.3**
YLYR	comp=E,7μm,0.3s **Ulyunkhan**	**5.97**	**249**	*e*Pn	**Pn**	**17 36 12.9**	**+1.1**
YLYR				*e*Pg	**Pb**	**17 36 30.4**	**+3.0**
YLYR				Pmax		17 36 40.4	
YLYR	comp=E,11nm,0.8s			*e*		17 36 56.4	
YLYR				*e*		17 37 21.8	
YLYR				*e*Sg	**Sg**	**17 37 47.1**	**-7.7**
YLYR				Smax		17 37 53.3	
TBGR	comp=E,105nm,1.1s **Tabaga**	**6.27**	**42**	*i* Pn	**Pn**	**17 36 16.5**	**+0.6**
TBGR	comp=E,86nm,0.4s			*i* Pg	Pb	17 36 36.9	+4.4
TBGR	comp=E,132nm,0.6s			*e*Sn	**Sn**	**17 37 27.6**	**+0.1**
TBGR	comp=E,150nm,0.4s			*i* Sg	**Sg**	**17 38 00.2**	**-4.3**
YAK	comp=E,2μm,0.6s **Yakutsk**	**6.43**	**41**	*i* Pn	**Pn**	**17 36 19.6**	**+1.6**
YAK				*i* Pg	Pb	17 36 39.5	+4.3
YAK				*i* Sn	**Sn**	**17 37 30.9**	**-0.4**
YAK				*i* Sg	**Sg**	**17 38 03.9**	**-5.6**
YAK	**Yakutsk**	**6.43**	**41**	*e*P	**Pn**	**17 36 19.9**	**+1.9**
YAK				*e*		17 37 30.7	
YAK				pmax	pmax		
YAK	comp=Z,9.0nm,0.6s			pmax	pmax		
YAK	comp=Z,29nm,0.6s			smax	smax		
YAK	comp=N,44nm,0.6s			smax	smax		
YAK	comp=E,44nm,0.6s			smax	smax		
YAK	comp=N,587nm,0.6s			smax	smax		
YAK	comp=E,235nm,0.5s						
YAK	**Yakutsk**	**6.43**	**41**	Pn	**Pn**	**17 36 16.8**	**-1.2**
YAK	comp=E,0.1nm,0.3s,baz=246,slow=0.8,SNR=3.0			Sn	**Sn**	**17 37 27.7**	**-3.6**
YAK	comp=E,0.3nm,0.3s,baz=204,slow=20,SNR=4.5			Lg	Lg	17 37 58.4	
YAK	comp=E,0.9nm,0.3s,baz=306,slow=19,SNR=7.9						
YAK	**Yakutsk**	**6.43**	**41**		**Pn**	**17 36 15.3**	**-2.7**
NIZ	**Nizh Angarsk**	**6.44**	**260**	*e*Pg	**Pb**	**17 36 39.4**	**+4.0**
NIZ				Pmax		17 36 56.0	
NIZ	comp=E,7.0nm,0.6s			*e*Sg	**Sb**	**17 38 00.8**	**+8.4**
NIZ				Smax		17 38 38.1	
CIT	comp=E,125nm,1.5s **Chita**	**6.86**	**221**	*e*	**Pb**	**17 36 45.6**	**+2.9**
CIT				*e*Sg	**Sb**	**17 38 12.4**	**+7.8**
CIT				Smax		17 38 24.5	
CIT	comp=E,365nm,1.0s **Chita**	**6.86**	**221**	*e*P	**Pn**	**17 36 25.1**	**+1.0**
CIT				*e*S	**Sn**	**17 37 38.6**	**-3.6**
CIT				pmax	pmax		
CIT	comp=Z,57nm,0.9s			smax	smax		
SYVR	comp=N,368nm,1.3s **Suvo**	**7.20**	**243**	*e*Pg	Pb	17 36 53.9	+5.4
SYVR				Pmax		17 36 56.9	
SYVR	comp=N,17nm,1.3s			*e*Sg	**Sg**	**17 38 25.7**	**-8.7**
SYVR				Smax		17 38 33.2	
MXMB	comp=N,327nm,1.4s **Maximikha**	**8.04**	**244**	*e*Sg	Sg	17 38 51.8	-9.5
OGRR	**Ongureny**	**8.40**	**249**	*e*Sg	**Sg**	**17 39 04.1**	**-8.5**
OGRR				Smax		17 39 16.9	
KELR	comp=N,84nm,1.7s **Kotokel**	**8.67**	**243**	*e*Sg	Sg	17 39 09.6	-12
TRTB	**Turuntaevo**	**9.21**	**241**	*e*Sg	Sn	17 39 27.6	+48
KPC	**Khapcheranga**	**9.22**	**216**	*e*	**Pn**	**17 36 53.0**	**-3.5**
KPC				Smax		17 38 36.2	
KPC	comp=N,145nm,1.4s			*e*		17 39 00.0	
KPC				*e*Sg	Sn	17 39 25.7	+45
KPC	**Khapcheranga**	**9.22**	**216**	*e*P	**Pn**	**17 36 55.7**	**-0.8**
KPC				pmax	pmax		
TRG	comp=Z,3.0nm,0.7s **Tyrgan**	**9.51**	**247**	*e*Sg	Sn	17 39 37.4	+50
TRG				Smax		17 39 51.6	
HRMR	comp=Z,89nm,1.3s **Khuramsha**	**9.92**	**240**	*e*Sg	Sn	17 39 48.5	+51
HRMR				Smax		17 40 09.4	
KLR	comp=Z,465nm,1.0s **Kul'dur**	**10.50**	**137**	P	**Pn**	**17 37 15.0**	**+1.1**
KLR	**Kul'dur**	**10.50**	**137**	Pn	**Pn**	**17 37 15.0**	**+1.1**
KLR	comp=Z,0.8nm,0.3s,baz=319,slow=13,SNR=16			Lg	Lg	17 40 12.0	
KLR	comp=Z,1.0nm,0.3s,baz=53,slow=20,SNR=3.8			LR	LR	17 41 38.6	
TLY	comp=Z,50nm,18.7s,baz=344,slow=39 **Talaya**	**11.49**	**247**	Lg	Lg	17 40 40.4	
ARS	comp=Z,0.0nm,0.3s,baz=87,slow=19,SNR=2.1 **Arshan**	**11.97**	**250**	*e*Sg		17 40 53.7	
ARS				Smax		17 41 22.0	
MOY	comp=Z,66nm,1.9s **Mondy**	**12.84**	**252**	*e*Sg		17 41 21.8	
MOY				Smax		17 41 45.3	
SONM	comp=Z,48nm,1.3s **Songino Array**	**12.97**	**228**	Pn	**Pn**	**17 37 48.1**	**+0.3**
SONM	comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=3.6			Lg	Lg	17 41 26.0	
SONM	comp=Z,0.8nm,0.3s,baz=42,slow=25,SNR=10			LR	LR	17 42 57.1	
TIXI	comp=Z,59nm,20.7s,baz=37,slow=38 **Tiksi**	**14.65**	**10**	Pn	**Pn**	**17 38 07.0**	**-3.4**
TIXI	comp=Z,0.9nm,0.3s,baz=180,slow=24,SNR=29			Sn	Sn	17 40 38.4	-14
TIXI	comp=Z,0.1nm,0.3s,baz=279,slow=13,SNR=2.7			LR	LR	17 43 49.3	
TIXI	comp=Z,39nm,19.9s,baz=228,slow=37 **Tiksi**	**14.65**	**10**		**Pn**	**17 38 07.1**	**-3.4**
TIXI					Sn	17 40 39.5	-13
USRK	**Ussuriysk Ar.**	**15.00**	**147**	Pn	**Pn**	**17 38 17.4**	**+2.2**
SEY	baz=338,slow=11,SNR=2.0 **Seymchan**	**16.52**	**57**	Pn	**P**	**17 38 36.2**	**-1.2**
SEY	comp=Z,0.4nm,0.3s,baz=267,slow=8.2,SNR=14			Lg	Lg	17 43 22.6	
NRIK	comp=Z,0.2nm,0.3s,baz=222,slow=15,SNR=6.8 **Noril'sk**	**18.75**	**323**	P	**P**	**17 39 01.4**	**-0.6**
NRIK	comp=Z,1.4nm,0.3s,baz=108,slow=10.0,SNR=11			LR	LR	17 47 14.6	
ZAA0	comp=Z,54nm,19.8s,baz=136,slow=40 **Zalesovo Array**	**20.42**	**276**	P	**P**	**17 39 19.5**	**-0.9**
ZALV	**Zalesovo Beam**	**20.42**	**276**	P	Pn	17 39 21.6	-0.9
ZALV	**Zalesovo Beam**	**20.42**	**276**	P	**P**	**17 39 20.7**	**+0.3**
ZALV	comp=Z,1.3nm,0.5s,baz=58,slow=9.1,SNR=8.8 **Zalesovo Beam**	**20.42**	**276**	P	Pn	17 39 21.6	-0.9
KSRS	**Korea Array**	**20.55**	**164**	LR	LR	17 48 05.3	
PETK	comp=Z,23nm,18.4s,baz=340,slow=39 **Petropavlovsk-**	**21.28**	**86**	P	**P**	**17 39 32.0**	**+2.3**
BILL	comp=Z,3.6nm,0.7s,baz=324,slow=3.6,SNR=7.4 **Bilibino**	**22.77**	**44**	P	**P**	**17 39 46.2**	**+0.7**
BILL				pmax	pmax		
BILL	comp=Z,4.0nm,1.1s **Bilibino**	**22.77**	**44**	P	**P**	**17 39 46.2**	**+0.7**
BILL				IAmb	IAmb	17 40 02.5	
JNU	comp=Z,4.3nm,1.1s **Nakatsue**	**25.28**	**160**	LR	LR	17 51 48.1	
KURK	comp=Z,32nm,19.2s,baz=4.0,slow=40 **Kurchatov**	**25.30**	**273**	P	**P**	**17 40 11.3**	**+1.5**
KURBB	**Kurchatov Arra**	**25.40**	**273**	P	**P**	**17 40 11.3**	**+0.6**
MK31	comp=Z,1.6nm,1.0s,baz=61,slow=9.1,SNR=4.1 **Makanchi Array**	**25.59**	**262**	P	**P**	**17 40 12.8**	**+0.3**
MK31				pmax	pmax		
MK31	comp=Z,8.0nm,1.8s **Makanchi Array**	**25.59**	**262**	P	**P**	**17 40 12.8**	**+0.3**
MK31				IAmb	IAmb	17 40 16.3	
MKAR	comp=Z,7.5nm,1.8s **Makanchi Array**	**25.59**	**262**	P	**P**	**17 40 13.3**	**+0.8**
MKAR	**Makanchi Array**	**25.59**	**262**	P	**P**	**17 40 12.7**	**+0.2**
MKAR	comp=Z,0.8nm,0.6s,baz=56,slow=7.5,SNR=9.4 **Makanchi Array**	**25.59**	**262**	P	**P**	**17 40 13.3**	**+0.8**
BVAR	**Borovoye Array**	**28.53**	**283**	P	**P**	**17 40 39.2**	**+0.4**
CHGR	comp=Z,0.6nm,0.6s,baz=48,slow=4.7,SNR=3.4 **Chuyangaron**	**38.18**	**263**	P	**P**	**17 42 03.9**	**+1.0**
CHGR				IAmb	IAmb	17 42 06.5	
IMAR	comp=Z,5.2nm,0.7s **Indian Mountai**	**38.27**	**41**	P	**P**	**17 42 04.8**	**+1.5**
SVW2	**Sparrevohn**	**40.14**	**48**	P	**P**	**17 42 19.6**	**+0.6**
BMAR	**Burnt Mountain**	**40.61**	**36**	P	**P**	**17 42 25.3**	**+2.5**
IL31		**41.35**	**40**	P	**P**	**17 42 29.5**	**+0.7**
IL31				IAmb	IAmb	17 42 43.9	
ILAR	comp=Z,13nm,1.9s **Eielson Array**	**41.35**	**40**	P	**P**	**17 42 31.5**	**+2.6**
ILAR	comp=Z,0.7nm,0.5s,baz=293,slow=4.5,SNR=18 **Eielson Array**	**41.35**	**40**	P	**P**	**17 42 31.3**	**+2.3**
FINES	**FINESS Array B**	**44.25**	**317**	P	**P**	**17 42 52.2**	**-0.2**
GEYT	comp=Z,4.9nm,0.8s,baz=34,slow=10,SNR=5.3 **Alibeck**	**44.67**	**272**	P	**P**	**17 42 57.8**	**+1.6**
GEYT	comp=Z,1.1nm,0.7s,baz=357,slow=7.7,SNR=4.0 **Alibeck**	**44.67**	**272**	P	**P**	**17 42 58.0**	**+1.8**
NOA	**NORSAR Array B**	**49.71**	**323**	P	**P**	**17 43 35.6**	**+0.5**
AKASG	comp=Z,0.7nm,0.6s,baz=36,slow=4.5,SNR=3.5 **Malin Array Be**	**50.23**	**304**	P	**P**	**17 43 39.0**	**-0.1**
BURAR	comp=Z,0.3nm,0.3s,baz=38,slow=8.4,SNR=3.0 **Bucovina Array**	**54.28**	**304**	P	**P**	**17 44 11.3**	**+1.9**
DPC	**Dobruska-Polom**	**55.99**	**312**	*e*P	**P**	**17 44 23.4**	**+1.7**
DPC	**Dobruska-Polom**	**55.99**	**312**	*e*P	**P**	**17 44 23.4**	**+1.7**
DPC				*ex*	x	17 44 33.7	
KHC	**Kasperske Hory**	**58.05**	**312**	*e*P	**P**	**17 44 38.0**	**+1.7**
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**17 44 38.8**	**+1.2**
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**17 44 38.4**	**+0.8**
GERES	comp=Z,0.6nm,0.7s,baz=27,slow=7.5,SNR=6.0 **GERESS Array B**	**58.23**	**312**	P	**P**	**17 44 38.8**	**+1.2**
PDAR	**Pinedale Array**	**71.63**	**37**	P	**P**	**17 46 06.2**	**+1.1**
PDAR	comp=Z,0.3nm,0.6s,baz=56,slow=3.9,SNR=3.8 **Pinedale Array**	**71.63**	**37**	P	**P**	**17 46 05.2**	**+0.1**
NVAR	**Mina Array Bea**	**72.38**	**45**	P	**P**	**17 46 12.3**	**+2.7**
NVAR	comp=Z,0.4nm,0.7s,baz=309,slow=5.7,SNR=2.9 **Mina Array Bea**	**72.38**	**45**	P	**P**	**17 46 08.5**	**-1.2**
LPIG	**La Paz**	**88.20**	**45**	LR	LR	18 26 21.8	
	comp=Z,14nm,21.0s,baz=146,slow=35						

ISCJB ***18*** *18:22:00.6±0.3, 30°.97N±0°.03×130°.49E±0°.05, h124km±2km, mb4.0/19, Error ellipse: s-maj=7.5km s-min=4.4km az=19.4*
IDC ***18*** *18:22:01.7±1.1, 31°.02N×130°.46E, h118km±10km, mb3.8/19, mb1 3.9/22, mb1mx3.8/49, mbtmp4.1/22, MS3.5/1, Ms1 3.5/1, ms1mx2.3/43, Error ellipse: s-maj=17.2km s-min=9.1km az=82.0*
NEIC ***18*** *18:22:01.9±1.7, 30°.96N±0°.06×130°.5E±0°.1, h121km±7km, mb4.3/11*
JMA ***18*** *18:22:02.6±0.1, 30°.97N×130°.54E, h110km±1km, M3.6*
JMA Felt I J1.
ISC 18 18:22:01.5±0.6, 30°.98N±0°.04×130°.50E±0°.05, h119km±5km, n71, σ1s14/86, mb4.1/22, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	**Tashiro 2**	**0.41**	**62**	P	**Pn**	**18 22 18.8**	**-0.1**
JTSR				S	**Sn**	**18 22 30.9**	**-1.1**
JTN	**Tanegashima 3**	**0.53**	**127**	P	**Pn**	**18 22 19.6**	**+0.1**
JTN				S	**Sn**	**18 22 32.7**	**-0.4**
JSU	**Suzuyama**	**0.53**	**356**	P	**Pn**	**18 22 20.0**	**+0.4**
JSU				*e*S	**Sn**	**18 22 33.0**	**-0.2**
JKC	**Kuchinoerabu**	**0.57**	**207**	P	**Pn**	**18 22 20.0**	**+0.2**
JKC				S	**Sn**	**18 22 32.7**	**-0.9**
JMTN	**Minamitane**	**0.67**	**149**	P	**Pn**	**18 22 20.7**	**+0.1**
JMTN				S	**Sn**	**18 22 34.6**	**-0.3**
JYAK	**Yakushimahirau**	**0.73**	**179**	P	**Pn**	**18 22 21.2**	**+0.1**
JYAK				*e*S	**Sn**	**18 22 35.2**	**-0.6**
JNAR	**Kushima--Naru**	**0.86**	**50**	P

JNN	Nakanoshima	1.25	206	P	Pn	18 22 26.8 +0.7
JNN				S	Sn	18 22 45.6 +0.9
JTSN	Tsuno	1.53	34	P	Pn	18 22 29.1 -0.1
JTSN				S	Sn	18 22 49.6 -0.7
JIU3	Izumi3	1.59	10	P	Pn	18 22 30.9 +0.9
JNU	Nakatsue	2.17	9	P	Pn	18 22 38.0 +0.9
	26nm,0.3s,baz=184,slow=12,SNR=311					
JNU				S	Sn	18 23 03.3 -1.0
	28nm,0.3s,baz=119,slow=19,SNR=9.7					
JNU	Nakatsue	2.17	9		Pn	18 22 37.6 +0.6
JOW	Kunigami	4.56	206	P	Pn	18 23 08.8 +0.2
	2.1nm,0.3s,baz=102,slow=14,SNR=19					
JOW				S	Sn	18 23 57.2 -3.6
	3.6nm,0.3s,baz=68,slow=27,SNR=9.2					
JOW	Kunigami	4.56	206		Pn	18 23 08.6 -0.1
KSRS	Korea Array	6.80	342	P	Pn	18 23 40.1 +1.4
	0.1nm,0.3s,baz=161,slow=14,SNR=3.5					
INU	Inuyama	6.99	50		Pn	18 23 42.2 +0.9
MAJO	Matsushiro	8.49	47		Pn	18 24 03.0 +1.4
MAT	Matsushiro	8.49	47	P	Pn	18 24 03.1 +1.6
MAT				eS	Sn	18 25 35.3 -0.3
MJAR	Matsushiro Arr	8.49	47	P	Pn	18 24 03.5 +2.0
	1.0nm,0.3s,baz=242,slow=15,SNR=54					
MJAR				S	Sn	18 25 28.5 -7.1
	0.1nm,0.3s,baz=223,slow=17,SNR=4.9					
MJAR	Matsushiro Arr	8.49	47		Pn	18 24 03.1 +1.6
MJB9	Matsu-Tunnel	8.49	47		Pn	18 24 02.8 +1.3
USRK	Ussuriysk Ar.	13.26	5	P	Pn	18 25 05.4 +0.5
	baz=183,slow=9.2,SNR=2.6					
ASAJ	Asahikawa	16.23	33	LR	LR	18 31 03.2
	comp=Z,192nm,20.5s,baz=38,slow=33					
KLR	Kul'dur	18.26	3	P	Pn	18 26 07.0 -0.1
	0.3nm,0.3s,baz=192,slow=7.4,SNR=4.3					
SONM	Songino Array	24.95	319	P	P	18 27 14.2 +0.4
	1.6nm,0.4s,baz=142,slow=9.7,SNR=17					
SONM	Songino Array	24.95	319	P	P	18 27 13.8 -0.1
H11N2	WAKE ISLAND Hy	34.60	100	T	T	19 05 07.8
	baz=296,slow=75,SNR=8.4					
H11N1	WAKE ISLAND Hy	34.61	100	T	T	19 05 07.6
	baz=296,slow=75,SNR=5.5					
H11N3	WAKE ISLAND Hy	34.62	100	T	T	19 05 07.0
	baz=296,slow=75,SNR=5.9					
ZALV	Zalesovo Beam	39.84	319	P	P	18 29 23.3 +0.2
	0.9nm,0.4s,baz=116,slow=8.4,SNR=3.8					
ZALV	Zalesovo Beam	39.84	319	P	P	18 29 22.5 -0.6
MKAR	Makanchi Array	40.06	307	P	P	18 29 25.5 +0.4
	0.6nm,0.5s,baz=85,slow=11,SNR=7.2					
MKAR				PcP	PcP	18 31 26.8 -0.7
	0.2nm,0.3s,baz=75,slow=3.1,SNR=6.1					
MKAR	Makanchi Array	40.06	307	P	P	18 29 24.4 -0.6
TIXI	Tiksi	40.74	359	P	P	18 29 29.4 -0.8
KURK	Kurchatov	42.91	313	P	P	18 29 49.0 +0.9
KURK				IAmb	IAmb	18 29 50.5
	comp=Z,3.2nm,0.6s					
NRIK	Noril'sk	45.42	340	P	P	18 30 07.3 -0.6
	comp=Z,3.6nm,0.5s,baz=118,slow=11,SNR=3.6					
BRVK	Borovoye	48.25	315	P	P	18 30 31.0 +0.8
BRVK				IAmb	IAmb	18 30 32.8
	comp=Z,3.5nm,0.6s					
FITZ	Fitzroy Crossi	49.01	186	P	P	18 30 36.3 0.0
	comp=Z,2.2nm,0.9s,baz=10,slow=11,SNR=2.5					
WRA	Warramunga Arr	50.76	175	P	P	18 30 49.6 +0.1
	comp=Z,1.1nm,0.4s,baz=354,slow=7.9,SNR=14					
WRA	Warramunga Arr	50.76	175	P	P	18 30 49.5 0.0
CTA	Charters Tower	52.98	161	P	P	18 31 06.7 +0.7
	comp=Z,1.9nm,0.9s,baz=352,slow=7.1,SNR=3.2					
ASAR	Alice Springs	54.43	176	P	P	18 31 16.9 +0.4
	comp=Z,1.0nm,0.5s,baz=354,slow=5.4,SNR=13					
ASAR				PcP	PcP	18 32 18.3 -0.4
	comp=Z,0.4nm,0.9s,baz=349,slow=4.3,SNR=2.8					
ASAR	Alice Springs	54.43	176	P	P	18 31 16.1 -0.4
ABKAR	Abkulak array	54.95	311	P	P	18 31 20.9 +0.8
ABKAR	Abkulak array	54.95	311	P	P	18 31 21.0 +1.0
ABKAR				IAmb	IAmb	18 31 21.8
	comp=Z,2.5nm,0.6s					
IL31		59.34	30	P	P	18 31 50.9 +0.3
ILAR	Eielson Array	59.34	30	P	P	18 31 50.4 -0.3
	comp=Z,0.8nm,0.7s,baz=269,slow=6.0,SNR=12					
ILAR	Eielson Array	59.34	30	P	P	18 31 50.0 -0.6
BCAR	Beaver Creek A	61.87	31	P	P	18 32 08.6 +0.7
STKA	Stephens Creek	63.39	169	P	P	18 32 19.1 +0.8
	comp=Z,1.3nm,0.5s,baz=343,slow=6.8,SNR=5.9					
STKA	Stephens Creek	63.39	169	P	P	18 32 19.1 +0.8
STKA				IAmb	IAmb	18 34 17.3
	comp=Z,6.2nm,1.9s					
INK	Inuvik	63.76	24	P	P	18 32 20.9 +0.7
	comp=Z,0.8nm,0.5s,baz=248,slow=8.7,SNR=4.6					
INK	Inuvik	63.76	24	P	P	18 32 20.7 +0.5
ARCES	ARCESS Array B	66.34	338	P	P	18 32 36.6 -0.4
	comp=Z,4.4nm,0.9s,baz=53,slow=7.4,SNR=9.2					
ARCES	ARCESS Array B	66.34	338	P	P	18 32 36.5 -0.5
KBZ	Khabaz	67.74	308	P	P	18 32 47.0 +0.8
	comp=Z,4.5nm,0.8s,baz=112,slow=4.7,SNR=11					
FINES	FINESS Array B	69.73	330	P	P	18 32 57.6 -0.7
	comp=Z,3.1nm,0.4s,baz=60,slow=5.4,SNR=28					
FINES	FINESS Array B	69.73	330	P	P	18 32 57.1 -1.1
AKASG	Malin Array Be	73.23	319	P	P	18 33 19.0 -0.5
	comp=Z,1.3nm,0.4s,baz=56,slow=6.1,SNR=8.4					
AKASG	Malin Array Be	73.23	319	P	P	18 33 18.6 -0.9
YKA	Yellowknife Ar	73.40	26	P	P	18 33 20.5 +0.3
	comp=Z,0.7nm,0.8s,baz=305,slow=5.7,SNR=4.4					
BR131	Keskin Array S	75.70	308	P	P	18 33 33.6 -0.6
BRTR	Keskin Array B	75.70	308	P	P	18 33 34.0 -0.2
	comp=Z,9.2nm,0.9s,baz=88,slow=5.4,SNR=13					
NB2	NORSAR Subarra	75.94	334	P	P	18 33 34.3 -0.7
	comp=Z,0.5nm,0.5s,baz=47,slow=5.6					
NOA	NORSAR Array B	75.94	334	P	P	18 33 33.8 -1.2
	comp=Z,0.6nm,0.4s,baz=49,slow=5.5,SNR=4.3					
NVAR	Mina Array Bea	85.81	47	P	P	18 34 29.1 +1.1
	comp=Z,0.8nm,0.9s,baz=286,slow=5.9,SNR=4.0					
NVAR	Mina Array Bea	85.81	47	P	P	18 34 28.4 +0.3

NIED ***18*** *18:37:00,36°.50N×141°.00E,h44km,Mw3.6 Best double couple: M₀3.33000×10¹⁴ NP1:φ₀236.00000°,δ20.00000°, λ113.00000°. NP2:φ₀32.00000°,δ72.00000°,λ82.00000°.*

IDC ***18*** *18:37:56.5±2.2,36°.45N×141°.10E,h47km±22km,mb3.3/5, mb1 3.5/8,mb1mx3.3/49,mbtmp3.6/8,ML3.3/3,Error ellipse: s-maj=20.9km s-min=12.9km az=66.0*

JMA ***18*** *18:37:56.8±0.1,36°.54N×141°.00E,h47km±1km,M3.8*

JMA Felt II J1.

ISC 18 18:37:53.0±1.6,36°.49N±0°.04×141°.21E±0°.06,h18km±6km, n27,σ0°83/33,mb3.4/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.53	254	P	Pn	18 38 06.6	+1.0
JHYU				S	Sn	18 38 13.2	-0.8
JHO	Hitachi	0.53	283	P	Pn	18 38 06.2	+0.5
JHO				S	Sb	18 38 12.5	+1.4
ONAJ	Iwakimizuishiy	0.69	332	P	Pn	18 38 08.5	+0.5
ONAJ				S	Sb	18 38 16.6	+0.8
JFFD	Fukushimafurud	0.80	319	P	Pn	18 38 09.7	+0.4
JFFD				S	Sb	18 38 18.5	-0.2
JYT	Yasato	0.86	253	P	Pn	18 38 10.6	+0.4
JYT				S	Sb	18 38 20.3	-0.3
JFK	Kawauchi	0.92	343	P	Pn	18 38 11.6	+0.6
JFK				S	Sb	18 38 22.1	-0.1
JFT	Otama	1.24	326	P	Pg	18 38 16.8	-0.2
JFT				eS	Sb	18 38 31.2	-0.4
JMM	Marumori	1.41	346	P	Pb	18 38 18.9	+0.1
JMM				eS	Sn	18 38 35.2	-0.7
JAG	Ashikaga	1.42	268	P	Pn	18 38 18.1	+0.2
JFY	Yanaizu	1.52	308	P	Pn	18 38 19.8	+0.6
JFY				S	Sn	18 38 38.0	-0.5
JKT	Katashina	1.60	280	P	Pn	18 38 21.2	+0.7
MJAR	Matsushiro Arr	2.42	272	P	Pn	18 38 32.6	+1.0
	4.5nm,0.3s,baz=157,slow=27,SNR=196						
MJAR				S	Sn	18 38 59.7	-1.2
	1.3nm,0.3s,baz=76,slow=11,SNR=5.3						
MAT	Matsushiro	2.42	272	P	Pn	18 38 33.3	+1.6
MAT				S	Sn	18 39 01.4	+0.5
JHJ	Hachijo jima 2	3.56	200	P	Pn	18 38 48.4	+1.1
	9.1nm,0.3s,baz=145,slow=22,SNR=9.0						
JHJ				S	Sn	18 39 28.6	-0.4
	17nm,0.3s,baz=53,slow=20,SNR=3.6						
ASAJ	Asahikawa	7.69	7	P	Pn	18 39 45.1	+1.1
	0.6nm,0.3s,baz=188,slow=12,SNR=7.3						
ASAJ				S	Sn	18 41 10.5	-0.1
	0.3nm,0.3s,baz=104,slow=19,SNR=2.2						
USRK	Ussuriysk Ar.	10.43	320	P	Pn	18 40 27.5	+6.0
	baz=150,slow=16,SNR=4.5						
SONM	Songino Array	27.96	305	P	P	18 43 41.6	-0.8
	0.6nm,0.7s,baz=108,slow=9.8,SNR=4.3						
H11N2	WAKE ISLAND Hy	28.02	120	T	T	19 13 40.3	
	baz=312,slow=75,SNR=46						
H11N1	WAKE ISLAND Hy	28.02	120	T	T	19 13 41.4	
	baz=312,slow=75,SNR=36						
H11N3	WAKE ISLAND Hy	28.03	120	T	T	19 13 42.0	
	baz=312,slow=75,SNR=32						
H11S1	WAKE ISLAND Hy	28.71	122	T	T	19 14 30.5	
	baz=314,slow=76,SNR=126						
H11S3	WAKE ISLAND Hy	28.71	122	T	T	19 14 31.7	
	baz=314,slow=76,SNR=68						
H11S2	WAKE ISLAND Hy	28.72	122	T	T	19 14 30.5	
	baz=314,slow=76,SNR=53						
ZALV	Zalesovo Beam	42.16	313	P	P	18 45 43.8	-0.4
	0.4nm,0.3s,baz=78,slow=9.2,SNR=4.2						
MKAR	Makanchi Array	44.27	303	P	P	18 46 00.7	-0.7
	0.3nm,0.6s,baz=84,slow=12,SNR=5.8						
ILAR	Eielson Array	50.04	32	P	P	18 46 47.5	+1.5
	0.2nm,0.5s,baz=273,slow=6.0,SNR=3.1						
WRA	Warramunga Arr	56.50	188	P	P	18 47 33.1	-1.0
	0.5nm,1.0s,baz=1.7,slow=7.4,SNR=4.6						

THE ***18*** *18:59:17.1,35°.32N×24°.18E,h20km±2km,ML2.3/4,Error ellipse: s-maj=2.5km s-min=0.7km az=10.0*

ISCJB ***18*** *18:59:18.3±0.5,35°.28N±0°.03×24°.18E±0°.03,h6km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=44.5*

ATH ***18*** *18:59:18.2,35°.30N×24°.18E,h12km±2km,ML2.5/4,Error ellipse: s-maj=2.4km s-min=1.0km az=254.0*

ISC 18 18:59:17.7±0.9,35°.30N±0°.03×24°.18E±0°.03,h15km±6km, n15,σ0°58/27,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.11	8	P	Pg	18 59 20.9	-0.3
VAM				S	Sg	18 59 24.4	+1.0
	6μm,0.3s						
VAM	Vamos	0.11	8	P	Pg	18 59 20.9	-0.3
VAM				S	Sg	18 59 23.6	+0.1
VAM				AML	AML	18 59 25.6	
	comp=N,7510μm,0.2s						
VAM				AML	AML	18 59 25.7	
	comp=E,14537μm,0.3s						
IMMV	Iera Moni Meta	0.23	314	P	Pg	18 59 22.8	-0.1
IMMV				S	Sb	18 59 27.1	-0.4
IMMV				AML	AML	18 59 30.7	
	comp=E,3273μm,0.5s						
IMMV				AML	AML	18 59 32.6	
	comp=N,2488μm,0.4s						
CHAN	Chania	0.25	333	P	Pg	18 59 22.4	-0.8
CHAN				S	Sg	18 59 26.7	-0.1
	comp=N,262nm,0.4s						
KNDR	Palaiochora Ch	0.41	261	P	Pb	18 59 26.4	-0.3
KNDR				S	Sb	18 59 33.6	+0.9
	comp=N,195nm,0.3s						
RODP	Rodopos	0.43	307	P	Pg	18 59 26.5	+0.1
GVDS	Gavdos	0.46	189	P	Pg	18 59 26.7	-0.2
GVD	Gavdhos	0.47	190	P	Pg	18 59 26.7	-0.3
GVD	Gavdhos	0.47	190	P	Pg	18 59 26.7	-0.3
GVD				S	Sb	18 59 34.6	+0.4
GVD				AML	AML	18 59 39.5	
	comp=N,746μm,0.3s						
GVD				AML	AML	18 59 42.1	
	comp=E,830μm,0.3s						
SIVA	Sivas	0.59	119	P	Pg	18 59 28.6	-0.6
SIVA				S	Sb	18 59 37.5	-0.3
	comp=E,802nm,0.3s						
SIVA	Sivas	0.59	119	P	Pg	18 59 28.7	-0.6
SIVA				S	Sb	18 59 38.7	+0.9
SIVA				AML	AML	18 59 40.4	
	comp=N,1686μm,0.3s						
SIVA				AML	AML	18 59 42.2	
	comp=E,1490μm,0.3s						
ANKY	Antikythira Is	0.91	309	P	Pg	18 59 35.5	0.0
ANKY				S	Sn	18 59 48.1	-0.8
LAST	Lasithi	1.07	97	P	Pb	18 59 37.7	-0.3
LAST				S	Sn	18 59 53.9	+1.0
NPS	Neapolis	1.17	91	P	Pg	18 59 40.2	-0.2
NPS				S	Sg	18 59 55.4	-0.2
ANAF	Anafi Island	1.67	50	P	Pg	18 59 49.4	-0.3
ANAF				S	Sg	19 00 12.4	+0.9

NIED ***18*** *19:10:00,34°.40N×137°.10E,h340km,Mw5.7 Best double couple: M₀3.60000×10¹⁷ NP1:φ₀354.00000°, δ26.00000°,λ108.00000°. NP2:φ₀154.00000°,δ65.00000°, λ81.00000°.*

MOS ***18*** *19:10:43.7±0.9,34°.28N×137°.07E,h327km,mb5.3/42, MS4.7/7,Error ellipse: s-maj=5.4km s-min=3.3km az=104.2*

BJI ***18*** *19:10:43.0±0.0,34°.28N×137°.09E,h332km,mb5.5/71, mB5.3/56*

ISCJB ***18*** *19:10:45.0±0.1,34°.33N±0°.01×137°.04E±0°.01, h335km,mb5.2/266,Error ellipse: s-maj=2.3km s-min=1.5km az=143.5*

NEIC ***18*** *19:10:45.4,34°.33N×137°.05E,h332km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.95; Mθθ-0.29; Mφφ-2.66; Mrθ1.77; Mrφ0.65; Mθφ-2.67; Fault plane solution: M₀4.31000×10¹⁷ NP1:φ₀152.05000°, δ69.25000°,λ80.83000°. NP2:φ₀356.54000°,δ22.60000°, λ112.81000°. Principal axes: T 4.4529, Plg65.0000°, Azm47.0000°; N -0.2906, Plg9.0000°; Azm155.0000°; P -4.1623, Plg24.0000°, Azm249.0000°;*

NEIC ***18*** *19:10:45.4±1.5,34°.33N±0°.04×137°.05E±0°.08, h328km±1km,mb5.5/450,Mwb5.7,Mww5.6,Mwc5.7(GCMT)*

JMA ***18*** *19:10:45.0±0.2,34°.40N×137°.11E,h344km±2km,M5.7 Broadband fault plane solution: P waves. NP1: φ₀147.00000°,δ69.00000°,λ71.00000°. NP2:φ₀11.00000°, δ28.00000°,λ131.00000°. Principal axes: T Plg61.0000°, Azm28.0000°; N Plg18.0000°, Azm154.0000°; P Plg22.0000°, Azm251.0000°;*

JMA Felt II J1.

IDC ***18*** *19:10:46.0±0.3,34°.34N×137°.04E,h334km±2km,mb4.8/45, mb1 4.9/52,mb1mx4.9/53,mbtmp5.5/52 Error ellipse: s-maj=5.6km s-min=4.4km az=76.0*

NEIC ***18*** *19:10:47,34°.34N×137°.19E,h350km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.54; Mθθ0.06; Mφφ-2.59; Mrθ1.16; Mrφ0.86; Mθφ-1.63; Fault plane solution: M₀3.37000×10¹⁷ NP1:φ₀356.00000°, δ29.00000°,λ112.00000°. NP2:φ₀152.00000°,δ64.00000°, λ78.00000°. Principal axes: T 3.2671, Plg69.0000°, Azm38.0000°; N 0.1955, Plg10.0000°, Azm157.0000°; P -3.4627, Plg18.0000°, Azm250.0000°;*

GCMT ***18*** *19:10:47.4±0.2,34°.35N±0°.02×136°.86E±0°.02, h340km±1km,MW5.7/118,Moment Tensor Solution. s118,c226; Duration: 1†7 Moment tensor: Scale 10¹⁷ Nm; Mrr3.07±.05; Mθθ-0.44±.09; Mφφ-2.62±.09; Mrθ1.33±.08; Mrφ0.74±.07; Mθr-2.82±.08; Best double couple: M₀4.29700×10¹⁷ NP1:φ₀157.00000°,δ68.00000°, λ86.00000°. NP2:φ₀348.00000°,δ22.00000°,λ100.00000°. Principal axes: T 4.4220, Plg66.0000°, Azm60.0000°; N -0.2440, Plg4.0000°, Azm159.0000°; P -4.1720, Plg23.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

NEIC ***18*** *19:10:48,34°.30N×136°.98E,h340km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.09; Mθθ-0.45; Mφφ-2.64; Mrθ1.25; Mrφ0.76; Mθr-2.61; Fault plane solution: M₀4.16000×10¹⁷ NP1:φ₀347.00000°, δ23.00000°,λ99.00000°. NP2:φ₀157.00000°,δ67.00000°, λ86.00000°. Principal axes: T 4.2765, Plg68.0000°, Azm60.0000°; N -0.2436, Plg4.0000°, Azm159.0000°; P -4.0329, Plg22.0000°, Azm250.0000°;*

ISC 18 19:10:45.7±0.2,34°.37N±0°.02×137°.03E±0°.02,h334km±1km, h334km:pP-P,n1769,σ1°29/2007,mb5.5/436,130C-106D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.27	276	⇑P	Pn	19 11 28.4	+0.6
JIE				S	S	19 12 01.8	+0.4
JAA	Atsumi	0.28	20	⇑P	Pn	19 11 28.6	+0.9
JAA				S	S	19 12 02.1	+0.7
TSUJ	Tsu 2	0.61	305	⇑P	Pn	19 11 29.3	+0.9
TSUJ				S	S	19 12 02.6	+0.1
JKN2	Miekihoku	0.64	259	S	S	19 12 03.4	+0.7
JSSY	Shinshiroyabe	0.68	36	⇑P	Pn	19 11 29.1	+0.5
TK02	Tokai 2	0.73	124	⇑P	Pn	19 11 29.3	+0.7
HMMJ	Hamamatsu 2	0.75	49	⇑P	Pn	19 11 29.2	+0.4
HMMJ				S	S	19 12 03.4	+0.1
TTO1	TONANKAI O.B.S	0.77	195	⇑P	Pn	19 11 29.6	+0.9
JYZW	Yoshizawa	0.86	43	P	Pn	19 11 29.3	+0.2
JKKS	Kakegawashinom	0.88	64	⇑P	Pn	19 11 30.1	+0.9
JAO	Obara	0.92	12	⇑P	Pn	19 11 30.0	+0.5
JAO				S	S	19 12 05.1	+0.6
JEG	Eigenji	0.93	326	⇑P	Pn	19 11 30.4	+0.9
JICN	Ichinomiyachia	0.95	351	P	Pn	19 11 30.1	+0.6
JICN				S	S	19 12 05.0	+0.5
INU	Inuyama	0.98	359		Pn	19 11 29.7	+0.1
JSG	Sagara	1.00	72	⇑P	Pn	19 11 30.6	+0.9
JHE	Heguri	1.15	285	⇑P	Pn	19 11 31.1	+0.7
JWY	Kouya	1.20	263	⇑P	Pn	19 11 31.5	+0.7
JWY				eS	S	19 12 06.7	-0.1
SHZ3	Shizuoka 3	1.20	54	P	Pn	19 11 31.0	+0.3
SHZ3				S	S	19 12 07.0	+0.3
JYTA	Yamagatataniai	1.25	349	⇑P	Pn	19 11 31.5	+0.7
JYTA				eS	S	19 12 06.9	-0.1
JGF	Kuroka	1.26	12	⇑P	Pn	19 11 31.2	+0.2
JGF				S	S	19 12 07.0	-0.2
JTNC	Tanabenakahech	1.30	246	⇑P	Pn	19 11 31.8	+0.6
JTNC				eS	S	19 12 08.0	+0.4
JFM	Mihama	1.44	324	⇑P	Pn	19 11 32.8	+0.9
JWM	Minabe	1.48	250	⇑P	Pn	19 11 32.4	+0.2
JIZS	Izushimoda	1.57	77	⇓P	Pn	19 11 32.5	-0.1
JFNN	Fujinakano	1.59	58	⇓P	Pn	19 11 32.9	+0.1
JFNN				eS	S	19 12 09.9	-0.6
JWT	Wachi	1.62	305	⇑P	Pn	19 11 33.7	+0.7
JWT				eS	S	19 12 11.1	+0.3
JYN	Shimob	1.68	47	⇓P	Pn	19 11 33.3	-0.1
JMIK	Miki	1.69	286	⇑P	Pn	19 11 34.0	+0.6
JHTM	Izuhatsuma	1.74	70	⇓P	Pn	19 11 33.6	-0.1
JKO	Kozu shima	1.75	95	⇓P	Pn	19 11 34.1	+0.2
JNT	Takato	1.76	31	⇓P	Pn	19 11 34.0	0.0
JAJ2	Tsuna	1.77	272	⇑P	Pn	19 11 34.3	+0.3
JSKK	Shikinejimakit	1.81	90	⇓P	Pn	19 11 34.1	-0.1
AJI	Ajiro2	1.83	68	⇓P	Pn	19 11 34.2	-0.1
JGN	Niukaw	1.87	7	⇓P	Pn	19 11 35.0	+0.4
JGN				S	S	19 12 13.2	-0.7
JTHY	Toshimahigashi	1.88	85	P	Pn	19 11 34.7	0.0
JKS	Kasai	1.90	290	⇑P	Pn	19 11 35.4	+0.6
JOD2	Odawara 2	1.92	62	⇓P	Pn	19 11 34.6	-0.4
JOD2				eS	S	19 12 14.5	+0.1
JKG	Kaga	1.99	344	⇑P	Pn	19 11 35.8	+0.4
JKG				eS	S	19 12 15.3	+0.1
JIM2	Oshima 3	2.02	79	P	Pn	19 11 35.2	-0.5
JKY	Yasaka	2.02	309	⇑P	Pn	19 11 36.4	+0.7
JSGW	Sagamiharawaka	2.17	55	⇓P	Pn	19 11 36.4	-0.4
JMKN	Mikurajimanish	2.18	102	⇓P	Pn	19 11 36.4	-0.5
JAI	Aioi	2.21	256	⇑P	Pn	19 11 37.7	+0.5
JAI				eS	S	19 12 18.4	0.0
JNG	Nsakai	2.22	23	⇓P	Pn	19 11 37.3	+0.1
JNG				S	S	19 12 17.6	-0.9
JTT	Ttatey	2.25	6	⇓P	Pn	19 11 38.1	+0.7
JRY	Ryogami san	2.25	42	⇓P	Pn	19 11 37.5	+0.1
JRY				eS	S	19 12 17.7	-1.2
JKSM	Kasumi	2.29	303	⇑P	Pn	19 11 38.5	+0.8
MAJO	Matsushiro	2.38	24	P	Pn	19 11 38.4	0.0
MAJO	Matsushiro	2.38	24		Pn	19 11 38.4	0.0
MAT	Matsushiro	2.38	24	P	Pn	19 11 38.4	0.0
MAT				S	S	19 12 19.5	-1.2
MAT	Matsushiro	2.38	24	P	Pn	19 11 38.4	0.0
MAT				eS	S	19 12 19.4	-1.2
MJAR	Matsushiro Arr	2.38	24	P	Pn	19 11 38.4	0.0
	71nm,0.3s,baz=193,slow=9.0,SNR=6428						
MJAR				S	S	19 12 19.4	-1.2
	31nm,0.3s,baz=209,slow=18,SNR=12						
MJAR	Matsushiro Arr	2.38	24		Pn	19 11 37.0	-1.4
MJB9	Matsu-Tunnel	2.38	23		Pn	19 11 38.4	0.0
JAD	Aida	2.43	284	⇑P	Pn	19 11 39.4	+0.6
JGK	Kuni	2.56	31	⇓P	Pn	19 11 39.5	-0.4
JJS	Sakaide	2.56	271	⇑P	Pn	19 11 40.6	+0.6
MRT2	Murotomisaki 2	2.59	249	⇑P	Pn	19 11 40.7	+0.4
JHJ	Hachijo jima 2	2.61	118	P	Pn	19 11 40.6	+0.1
	333nm,0.3s,baz=125,slow=23,SNR=87						
JHJ				S	S	19 12 24.8	+0.4
	2μm,0.3s,baz=82,slow=20,SNR=18						
JHJ2	Mitsune	2.64	118	P	Pn	19 11 39.8	-0.9
JHJ2	Mitsune	2.64	118		Pn	19 11 40.0	-0.7
JMN	Monobe	2.69	257	⇑P	Pn	19 11 41.6	+0.4
JMN				eS	S	19 12 26.5	+0.8
BSO4	Boso 4	2.80	76	⇓P	Pn	19 11 40.8	-1.1
JKR	Kurayoshi	2.83	292	⇑P	Pn	19 11 43.1	+0.8
JAG	Ashikaga	2.85	43	⇓P	Pn	19 11 40.9	-1.6
JAG				eS	S	19 12 24.5	-3.6
BSO3	Boso 3	2.91	80	⇓P	Pn	19 11 41.0	-1.7
JKT	Katashina	3.00	36	⇓P	Pn	19 11 42.8	-1.2
JJG	Jouge	3.21	276	⇑P	Pn	19 11 46.9	+1.0
BSO1	Boso 1	3.27	84	⇓P	Pn	19 11 43.6	-2.2
JHS	Saijyo	3.29	282	⇑P	Pn	19 11 47.8	+1.2
JHS				eS	S	19 12 36.7	+1.2
JHK	Hiroka	3.30	29	P	Pn	19 11 45.5	-1.1
JET	Tanbara	3.35	261	⇑P	Pn	19 11 48.3	+0.9
JIZZ	Izumozaki	3.44	23	⇓P	Pn	19 11 48.2	+0.2
JKU	Kubokawa	3.46	253	⇑P	Pn	19 11 49.3	+0.9
JNM	Ikuma	3.47	290	⇑P	Pn	19 11 49.5	+1

JKEN	Kujiedanarisaw	6.92	31	⇓P		Pn	19 12 24.4 -2.3
JANG	Nango	6.98	29	⇓P		Pn	19 12 25.5 -1.9
JTM	Tenmabayashi	7.17	25	⇓P		Pn	19 12 28.3 -1.3
JSI2	Shiura 2	7.20	21	⇓P		Pn	19 12 28.9 -1.0
JARK	Aomorirokkasho	7.47	26	P		Pn	19 12 31.5 -1.6
JAHD	Aomorihigashid	7.69	25	P		Pn	19 12 34.0 -1.7
JOT	Ohata	7.69	23	P		Pn	19 12 34.4 -1.4
KSRS	Korea Array	8.00	295	P		Pn	19 12 41.5 +1.9
	21nm,0.3s,baz=106,slow=13,SNR=430						
KSRS				S		S	19 14 15.0 +2.6
	baz=107,slow=21,SNR=3.2						
KSRS				ScP		ScP	19 21 38.0 -0.1
	0.2nm,0.3s,baz=158,slow=0.8,SNR=17						
KSAR	Wonju Array Be	8.03	295	P		Pn	19 12 40.0 +0.1
KSAR	Wonju Array Be	8.03	295			Pn	19 12 40.0 +0.1
KS19	Wonju Array Si	8.06	295			Pn	19 12 41.2 +0.8
TJN	Taejon	8.14	287	*i* P		Pn	19 12 42.0 +0.7
JYM2	Yakumo 2	8.17	18	P		Pn	19 12 40.5 -1.1
JCJ	Chichijima	8.49	147	P		Pn	19 12 40.8 -4.9
	66nm,0.3s,baz=352,slow=12,SNR=33						
JCJ				S		S	19 14 11.3 -12
	824nm,0.3s,baz=273,slow=21,SNR=16						
ERM	Erimo	9.03	30	*ce*P		Pn	19 12 49.8 -2.0
ERM				pmax		pmax	
	comp=Z,499nm,0.8s						
ERM	Erimo	9.03	30			Pn	19 12 49.2 -2.6
MSHR	Mys Shultsa	9.40	332	*i* P		Pn	19 12 56.5 +0.2
VLA	Vladivostok	9.62	337	*d i* P		P	19 13 00.4 -1.0
JMZ	Minamidaito 2	9.89	212	P		Pn	19 13 03.5 +1.1
JYRO	Yoronjima	10.39	228	P		Pn	19 13 08.6 +0.2
USA0B	Ussuriysk Arra	10.57	340	P		Pn	19 13 10.2 -0.1
USA0B	Ussuriysk Arra	10.57	340	Pn		Pn	19 13 10.2 -0.1
USRK	Ussuriysk Ar.	10.57	340	P		Pn	19 13 11.1 +0.8
	baz=147,slow=9.9,SNR=125						
USRK				S		S	19 15 10.2 +1.1
	baz=190,slow=7.1,SNR=2.0						
USRK	Ussuriysk Ar.	10.57	340	Pn		Pn	19 13 10.0 -0.3
JOW	Kunigami	10.64	227	P		Pn	19 13 11.4 0.0
JOW	Kunigami	10.64	227	P		Pn	19 13 11.8 +0.3
	comp=Z,4.2nm,0.3s,baz=108,slow=17,SNR=50						
JOW	Kunigami	10.64	227	P		Pn	19 13 11.6 +0.2
ASAJ	Asahikawa	10.65	22	P		Pn	19 13 10.0 -1.3
ASAJ	Asahikawa	10.65	22	P		Pn	19 13 10.0 -1.3
	comp=Z,30nm,0.3s,baz=216,slow=13,SNR=128						
ASAJ				S		S	19 15 01.9 -9.0
	comp=Z,19nm,0.3s,baz=140,slow=33,SNR=8.2						
JKA	Kamikawa-asahi	10.65	22	P		Pn	19 13 10.0 -1.4
JKA				S		S	19 15 01.9 -9.0
TEY	Ternei	10.66	358	⇑*i* P		P	19 13 14.2 +1.2
TEY				*e*S		S	19 15 15.3 +4.2
TEY				pmax		pmax	
	comp=E,40nm,1.1s						
TEY				pmax		pmax	
	comp=N,220nm,0.8s						
TEY				pmax		pmax	
	comp=Z,230nm,0.7s						
TEY				smax		smax	
	comp=E,200nm,1.0s						
TEY				smax		smax	
	comp=N,310nm,1.5s						
JIH	Iheya	10.68	229	P		Pn	19 13 12.4 +0.5
JNTH	Nagotoyohara	11.02	227	P		Pn	19 13 16.3 +0.3
NMR	Nemuro--Hokkai	11.25	34	*d i* P		Pn	19 13 16.5 -2.1
NMR				*i* S		S	19 15 13.6 -11
GLVR	Golovnino	11.45	33	*e*P		Pn	19 13 20.6 -0.3
GLVR				*e*S		S	19 15 21.9 -6.9
GLVR				pmax		pmax	
	comp=Z,412nm,0.3s						
JAGN	Aguni-jima	11.45	230	P		Pn	19 13 21.3 +0.1
MDJ	Mudanjiang	11.73	333	P		P	19 13 25.4 +0.5
MDJ				S		S	19 15 28.4 -6.8
MDJ				pmax		pmax	
	comp=Z,130nm,1.3s						
MDJ				pmax		pmax	
	comp=Z,660nm,3.3s						
MDJ	Mudanjiang	11.73	333	P		P	19 13 24.8 -0.1
GRPR	Tuman	11.76	33	⇑*i* P		Pn	19 13 23.6 -1.0
GRPR				*i* S		S	19 15 26.7 -9.0
GRPR				pmax		pmax	
	comp=N,202nm,0.4s						
GRPR				pmax		pmax	
	comp=E,416nm,0.4s						
GRPR				pmax		pmax	
	comp=Z,442nm,0.4s						
LAGR	Lagunnoye	11.81	32	⇑*i* P		Pn	19 13 24.2 -1.1
LAGR				*e*S		S	19 15 29.7 -7.3
LAGR				pmax		pmax	
	comp=N,2μm,0.4s						
LAGR				pmax		pmax	
	comp=Z,1μm,0.4s						
LAGR				pmax		pmax	
	comp=E,350nm,0.2s						
YUK	Yuzh-Kuril'sk	11.83	33	⇑*i* P		Pn	19 13 24.8 -0.7
YUK				*i* S		S	19 15 29.5 -7.8
YUK				pmax		pmax	
	comp=N,101nm,0.3s						
YUK				pmax		pmax	
	comp=E,53nm,0.3s						
YUK				pmax		pmax	
	comp=Z,349nm,0.3s						
JKE	Kume jima 2	11.93	231	P		Pn	19 13 25.8 -1.1
SNY	Shenyang	12.94	309	⇓P		Pn	19 13 39.6 +0.9
SNY				S		S	19 15 59.4 -1.6
SNY				pmax		pmax	
	comp=Z,630nm,0.6s						
SNY				LR		LR	
	comp=Z,3μm,11.0s						
SNY				LR		LR	
	comp=Z,2μm,7.9s						
SNY				LR		LR	
	comp=Z,4μm,8.2s						
CN2	Changchun	13.01	320	*e*P		Pn	19 13 39.9 +0.3
CN2				*es*P			19 14 52.8
CN2				*e*S		S	19 15 59.1 -3.4
CN2				pmax		pmax	
	comp=Z,200nm,4.0s						
CN2				LR		LR	
	comp=Z,3μm,14.0s						
CN2				LR		LR	
	comp=Z,2μm,14.0s						
CN2				LR		LR	
	comp=Z,2μm,14.0s						
DL2	Dalian	13.17	295	P		Pn	19 13 41.3 -0.2
DL2				sP			19 15 00.0
DL2				S		S	19 16 04.9 -0.9
DL2				pmax		pmax	
	comp=Z,590nm,0.6s						
DL2				pmax		pmax	
	comp=Z,2μm,5.7s						
YSS	Yuzh-Sakhalins	13.30	17	⇑*i* P		P	19 13 42.3 +0.1
YSS				*e*S		S	19 16 01.2 -7.1
YSS				pmax		pmax	
	comp=Z,590nm,1.0s						
YSS				pmax		pmax	
	comp=Z,1μm,2.3s						
YSS				MLR		MLR	
	comp=Z,2μm,17.0s						
YSS				MLR		MLR	
	comp=E,2μm,16.0s						
YSS	Yuzh-Sakhalins	13.30	17	P		P	19 13 41.8 -0.4
KUR	Kuril'sk	13.67	34	⇓*i* P		Pn	19 13 48.4 +1.1
KUR				*e*S		S	19 16 14.7 -1.2
KUR				pmax		pmax	
	comp=Z,368nm,0.6s						
KUR				pmax		pmax	
	comp=N,121nm,0.3s						
KUR				pmax		pmax	
	comp=E,84nm,0.3s						
SSE	Sheshan	13.73	261	P		Pn	19 13 48.6 +0.4
SSE				S		S	19 16 15.5 -2.1
SSE				pmax		pmax	
	comp=E,130nm,1.0s						
SSE				pmax		pmax	
	comp=E,1μm,7.0s						
SSE				LR		LR	
	comp=E,1μm,12.6s						
SSE				LR		LR	
	comp=E,1μm,17.0s						
SSE	Sheshan	13.73	261	P		P	19 13 46.8 -0.3
JIKM	Ikemajima	13.90	231	P		Pn	19 13 50.1 -0.1
JOGS	Gusukube	13.91	230	P		Pn	19 13 51.2 +0.8
JMJ2	Miyako jima3	13.98	230	P		Pn	19 13 51.8 +0.6
JIRB	Irabujima	14.01	230	P		Pn	19 13 51.5 -0.1
JTJ	Tarama	14.45	231	P		P	19 13 55.7 +0.6
JISG	Ishigakijimahi	14.74	232	S		S	19 16 35.1 -2.9
JIJ	Ishigaki jima	15.00	232	P		P	19 13 59.9 -1.3
JIJ				S		S	19 16 40.4 -2.9
UGL	Uglegorsk	15.17	13	*e*P		Pn	19 14 04.7 0.0
UGL				*e*S		S	19 16 43.3 -2.7
UGL				pmax		pmax	
	comp=Z,484nm,1.0s						
UGL				smax		smax	
	comp=E,161nm,1.3s						
UGL				smax		smax	
	comp=Z,123nm,1.5s						
UGL				smax		smax	
	comp=N,207nm,1.6s						
UGL				pmax		pmax	
	comp=E,18μm,5.7s						
UGL				pmax		pmax	
	comp=Z,13μm,8.8s						
UGL				pmax		pmax	
	comp=N,12μm,5.1s						
JKRS	Kuro-shima	15.18	232	P		P	19 14 02.4 -0.7
IRIF	Iriomote-Funau	15.29	233	P		P	19 14 02.8 -1.5
IRIF				S		S	19 16 45.9 -3.2
KLR	Kul'dur	15.36	347	P		P	19 14 04.2 -0.6
	comp=N,13nm,0.3s,baz=164,slow=12,SNR=175						
KLR				S		S	19 16 47.5 -2.4
	baz=298,slow=18,SNR=5.0						
KLR				ScP		ScP	19 21 48.8 +0.3
	comp=N,0.3nm,0.3s,baz=268,slow=3.2,SNR=6.4						
NJ2	Nanjing	15.39	266	⇓*i* P		P	19 14 04.9 -0.4
NJ2				sP		sP	19 15 28.4 -7.7
NJ2				S		S	19 16 53.1 +2.2
NJ2				ScP		ScP	19 21 49.0 +0.1
NJ2				pmax		pmax	
	comp=N,350nm,1.1s						
NJ2				pmax		pmax	
	comp=N,1μm,4.3s						
NJ2				LR		LR	
	comp=N,3μm,10.0s						
NJ2				LR		LR	
	comp=N,2μm,12.3s						
NJ2				LR		LR	
	comp=N,2μm,9.9s						
HATJ	Hateruma jima	15.44	232	P		P	19 14 05.5 -0.4
YOJ	Yonaguni jima	15.69	235	P		P	19 14 06.7 -1.9
YOJ				pmax		pmax	
	comp=Z,816nm,0.9s						
YOJ	Yonaguni jima	15.69	235	P		P	19 14 06.8 -1.9
YOJ	Yonaguni jima	15.69	235	P		P	19 14 06.7 -1.9
JYNG	Yonagunijimaku	15.74	235	P		P	19 14 07.6 -1.6
TIA	Tai'an	16.36	282	P		P	19 14 16.3 +0.5
TIA				S		S	19 17 09.8 -0.3
TIA				pmax		pmax	
	comp=Z,240nm,1.3s						
TIA				LR		LR	
	comp=Z,3μm,10.7s						
TIA				LR		LR	
	comp=Z,2μm,5.7s						
TIA				LR		LR	
	comp=Z,3μm,8.5s						
GRNR	Gornyy	16.40	359	⇑*i* P		P	19 14 17.2 +1.1
GRNR				pmax		pmax	
	comp=Z,110nm,0.8s						
TATO	Taipei	16.41	239	P		P	19 14 16.6 +0.1
TATO	Taipei	16.41	239	P		P	19 14 16.1 -0.4
YHNB	Yeheng	16.68	239	P		P	19 14 18.6 -0.9
NACB	Ninganchiao	16.85	237	P		P	19 14 18.9 -2.3
NACB				IAmb		IAmb	19 14 23.3
	comp=Z,168nm,0.6s						
TYV	Tymovskoe	16.99	12	*e*P		Pn	19 14 24.7 -1.2
TYV				*e*S		S	19 17 26.3 +4.1
TYV				pmax		pmax	
	comp=Z,2μm,4.1s						
TYV				pmax		pmax	
	comp=Z,127nm,1.3s						
TYV				smax		smax	
	comp=E,314nm,1.6s						
TYV				smax		smax	
	comp=E,13μm,7.4s						
BJI	Beijing	17.54	295	⇓*i* P		P	19 14 27.6 -0.8
BJI				sP		sP	19 15 57.6 -1.6
BJI				S		S	19 17 30.4 -2.7
BJI				pmax		pmax	
	comp=E,260nm,0.6s						
BJI				pmax		pmax	
	comp=E,1μm,4.3s						
BJT	Baijiatuau	17.54	295	P		P	19 14 27.7 -0.8
BJT				pmax		pmax	
	comp=Z,182nm,0.7s						
BJT	Baijiatuau	17.54	295	P		P	19 14 27.7 -0.8
BJT				IAmb		IAmb	19 14 29.1
	comp=Z,182nm,0.7s						
SSLB	Suanglung	17.54	237	P		P	19 14 26.7 -2.1
SSLB				IAmb		IAmb	19 14 29.8
	comp=Z,182nm,0.8s						
YULB	Yu-li	17.56	236	P		P	19 14 26.6 -2.3
YULB				IAmb		IAmb	19 14 38.7
	comp=Z,179nm,0.8s						
TPUB	Ta-pu	18.08	237	P		P	19 14 32.4 -2.1
TWG	Pinlang	18.10	235	P		P	19 14 32.7 -1.9
QZH	Quanzhou	18.55	244	⇓*i* P		P	19 14 37.3 -2.1
QZH				sP		sP	19 16 09.3 -1.5
QZH				S		S	19 17 49.6 -3.7
QZH				pmax		pmax	
	comp=Z,670nm,0.9s						
QZH				LR		LR	
	comp=Z,990nm,14.2s						
QZH				LR		LR	
	comp=Z,1μm,10.9s						
QZH				LR		LR	
	comp=Z,2μm,11.6s						
NKL	Nikolayevsk	18.96	7	*e*P		P	19 14 43.5 +0.2
NKL				*e*S		S	19 18 06.1 +5.6
NKL				pmax		pmax	
	comp=N,17nm,1.2s						
NKL				pmax		pmax	
	comp=E,99nm,1.2s						
NKL				pmax		pmax	
	comp=Z,609nm,1.3s						
NKL				smax		smax	
	comp=E,849nm,3.1s						
NKL				smax		smax	
	comp=N,41nm,2.0s						
KNMB	Chin-men Tao	18.97	244	P		P	19 14 42.0 -1.9
WHN	Wuhan	19.50	265	⇓P		P	19 14 49.0 -0.5
WHN				sP		sP	19 16 23.3 +1.6
WHN				S		S	19 18 10.9 +0.2
WHN				pmax		pmax	
	comp=N,8μm,3.2s						
WHN				LR		LR	
	comp=N,4μm,10.9s						
WHN				LR		LR	
	comp=N,6μm,8.5s						
WHN				LR		LR	
	comp=N,8μm,11.2s						
HIA	Hailar	19.62	325	P		P	19 14 49.0 -1.6
HIA				pmax		pmax	
	comp=Z,114nm,0.6s						
HIA	Hailar	19.62	325	P		P	19 14 49.0 -1.6
HIA				IAmb		IAmb	19 14 53.8
	comp=Z,114nm,0.6s						
TIY	Taiyuan	20.15	287	*e*P		P	19 14 55.8 -0.4
TIY				sP		sP	19 16 30.3 +1.4
TIY				S		S	19 18 19.8 -1.7
TIY				pmax		pmax	
	comp=Z,580nm,1.4s						
TIY				pmax		pmax	
	comp=Z,2μm,5.4s						
TIY				LR		LR	
	comp=Z,2μm,13.7s						
TIY				LR		LR	
	comp=Z,1μm,12.3s						
TIY				LR		LR	
	comp=Z,1μm,10.5s						
ZEA	Zeya	20.57	343	*e*P		P	19 14 58.7 -1.0
ZEA				*e*S		S	19 18 28.0 +0.3
ZEA				*e*SS			19 19 04.0
ZEA				pmax		pmax	
	comp=E,160nm,0.7s						
ZEA				pmax		pmax	
	comp=N,360nm,1.0s						
ZEA				pmax		pmax	
	comp=Z,640nm,1.0s						
ZEA				pmax		pmax	
	comp=Z,1μm,4.0s						
ZEA				smax		smax	
	comp=E,8μm,5.0s						
ZEA				smax		smax	
	comp=N,7μm,8.0s						
ZEA				MLR		MLR	
	comp=Z,2μm,14.0s						
ZEA				MLR		MLR	
	comp=E,1μm,10.0s						
ZEA				MLR		MLR	
	comp=N,1μm,9.0s						
SGCP	Mt. Cagua	20.89	224	*e*P		P	19 15 01.9 -1.2
HHC	Hu-ho-hao-te	21.15	295	*e*P		P	19 15 05.3 -0.1
HHC				S		S	19 18 37.0 -0.7
HHC				pmax		pmax	
	comp=N,93nm,0.8s						
SKR	Severo-Kuril's	21.44	35	*e*P		P	19 15 06.3 -1.4
SKR				*e*S		S	19 18 39.5 -2.3
SKR				pmax		pmax	
	comp=Z,2μm,7.1s						
SKR				pmax		pmax	
	comp=Z,228nm,1.1s						
SKR				pmax		pmax	
	comp=Z,1μm,7.5s						
SKR				MLR		MLR	
	comp=Z,1μm,14.0s						
SKR				MLR		MLR	
	comp=Z,2μm,14.0s						
APYP	Conner	21.66	225	*e*P		P	19 15 09.2 -0.9
GUMO	Guam	21.87	159	P		P	19 15 11.8 -0.2
	comp=Z,499nm,0.8s,baz=170,slow=4.7,SNR=19						
GUMO	Guam	21.87	159	P		P	19 15 09.6 -2.4
CAUP	Cauayan	22.06	222	*e*P		P	19 15 12.4 -1.4
BTO	Baotou	22.27	294	*e*P		P	19 15 16.3 +0.7
BTO				S		S	19 18 52.8 -3.0
BALP	Baler	23.18	221	*e*P		P	19 15 22.8 -1.1
XAN	Xi'an	23.22	277	P		P	19 15 24.0 -0.3
XAN				sP		sP	19 17 01.3 -1.0
XAN				S		S	19 19 03.6 -7.4
XAN				pmax		pmax	
	comp=Z,670nm,1.6s						
XAN				pmax		pmax	
	comp=Z,3μm,3.6s						
XAN				LR		LR	
	comp=Z,2μm,14.1s						
XAN				LR		LR	
	comp=Z,1μm,12.0s						
XAN				LR		LR	
	comp=Z,2μm,15.3s						
XAN	Xi'an	23.22	277	P		P	19 15 23.7 -0.6
XAN				pmax		pmax	
	comp=Z,1μm,1.4s						
XAN	Xi'an	23.22	277	P		P	19 15 23.7 -0.6
SMPP	San Manuel, Pa	23.34	223	*e*P		P	19 15 21.5 -3.9
HKPS	Hong Kong Po S	23.41	245	P		P	19 15 25.9 -0.1
GZH	Guangzhou	23.56	248	P		P	19 15 21.9 -5.4
GZH				S		S	19 19 07.3 -9.0
GZH				pmax		pmax	
	comp=Z,2μm,2.8s						
BOLP	Bolinao	23.60	225	*e*P		P	19 15 24.0 -3.7
ENH	Enshi	23.60	268	P		P	19 15 26.7 -1.0
PVCP	Virac	23.74	213	*e*P		P	19 15 27.9 -1.1
PEA0B	Petropavlovsk-	23.81	32	P		P	19 15 29.8 +0.6
PEA0B				pmax		pmax	
	comp=Z,371nm,1.2s						
PEA0B	Petropavlovsk-	23.81	32	P		P	19 15 29.8 +0.6
PEA0B				IAmb		IAmb	19 15 31.5
	comp=Z,371nm,1.1s						
PETK	Petropavlovsk-	23.81	32	P		P	19 15 30.2 +1.0
	comp=Z,135nm,0.8s,baz=238,slow=3.9,SNR=198						
PETK				PcP		PcP	19 19 02.4 +0.4
	comp=Z,15nm,0.9s,baz=110,slow=3.4,SNR=3.8						
PETK				ScP		ScP	19 22 08.2 +0.2
	comp=Z,10nm,0.9s,baz=164,slow=4.4,SNR=5.8						
SCZP	Santa Cruz	24.08	224	*e*P		P	19 15 30.9 -1.2
PET	Petropavlovsk	24.17	33	*e*P		P	19 15 33.4 +0.9
PET				*e**SP		sP	19 17 12.2 -0.4
PET				*e*S		S	19 19 24.8 -0.6
PET				pmax		pmax	
	comp=Z,260nm,0.9s						
PET				MLR		MLR	
	comp=Z,1μm,16.0s						
PET	Petropavlovsk	24.17	33	P		P	19 15 32.6 +0.1
PET				IAmb		IAmb	19 15 34.7
	comp=Z,196nm,0.9s						
CIT	Chita	24.41	323	*e*P		P	19 15 36.0 +1.3
CIT				*e*			19 16 36.8
CIT				*e*			19 17 14.6
CIT				pmax		pmax	
	comp=Z,254nm,1.2s						
TGY	Tagaytay City	24.88	220	P		P	19 15 39.7 +0.4
	comp=Z,242nm,0.5s,baz=328,slow=4.9,SNR=7.5						
BOAC	Boac	24.95	217	*e*P		P	19 15 39.0 -0.9
LUBP	Lubang	25.55	221	*e*P		P	19 15 42.6 -2.6
OCLP	Ormoc	25.83	209	*e*P		P	19 15 47.5 -0.3
ULN	Ulaanbaatar	26.11	310	P		P	19 15 52.1 +1.9
	SNR=27						
ULN	Ulaanbaatar	26.11	310	*de*P		P	19 15 52.2 +2.1
ULN				pmax		pmax	
	comp=Z,83nm,1.3s						
ULN	Ulaanbaatar	26.11	310	P		P	19 15 51.5 +1.3
SONM	Songino Array	26.52	310	P		P	19 15 55.7 +2.0
	comp=Z,58nm,0.8s,baz=112,slow=8.8,SNR=162						
SONM				PcP		PcP	19 19 09.6 +1.1
	comp=Z,6.3nm,0.7s,baz=246,slow=0.7,SNR=7.5						
SONM				ScP		ScP	19 22 16.2 +0.1
	comp=Z,6.8nm,0.9s,baz=139,slow=4.9,SNR=7.9						
SONM	Songino Array	26.52	310	P		P	19 15 55.1 +1.4
MSLP	Maasin	26.57	208	*e*P		P	19 15 53.6 -0.7
MSLP				*e*S		pP	19 16 54.9 +0.3
MA2	Magadan	26.80	16	*ce*P		P	19 15 56.3 +0.5
MA2				pmax		pmax	
	comp=Z,349nm,1.2s						
MA2	Magadan	26.80	16	P		P	19 15 56.5 +0.7
	comp=Z,182nm,1.0s,baz=205,slow=8.5,SNR=48						
MA2				PcP		PcP	19 19 09.3 +0.6
	comp=Z,18nm,0.7s,baz=177,slow=4.1,SNR=4.0						
MA2				S		S	19 20 07.1 +0.6
	comp=Z,7.8nm,0.8s,baz=325,slow=23,SNR=5.9						
MA2	Magadan	26.80	16	P		P	19 15 56.0 +0.1
MA2				IAmb		IAmb	19 15 58.0
	comp=Z,425nm,1.3s						
GUIM	Jordan	27.07	213	*e*P		P	19 15 56.8 -2.0
LZH	Lanzhou	27.09	283	⇓P		P	19 15 59.4 +0.4
LZH				pP		pP	19 17 00.4 -0.8
LZH				S		S	19 20 10.3 -1.8
LZH				sS		sS	19 22 01.9 -4.7
LZH				pmax		pmax	
	comp=Z,130nm,1.3s						
LZH				pmax		pmax	
	comp=Z,770nm,5.4s						
LZH				LR		LR	
	comp=Z,2μm,13.6s						
LZH				LR		LR	
	comp=Z,1μm,12.5s						
LZH				LR		LR	
	comp=Z,2μm,16.3s						
GYA	Guiyang	27.27	261	⇑*i* P		P	19 15 59.8 -0.8
GYA				pP		pP	19 17 03.8 +0.8
GYA				sP		sP	19 17 43.3 +1.0
GYA				PcP		PcP	19 19 10.0 -0.7
GYA				S		S	19 20 12.8 -2.2
GYA				ScS		ScS	19 26 06.5 -4.5
GYA				pmax		pmax	
	comp=Z,240nm,0.7s						
GYA				pmax		pmax	
	comp=Z,480nm,4.4s						
GYA				LR		LR	
	comp=Z,2μm,15.4s						
GYA				LR		LR	
	comp=Z,1μm,10.3s						
GYA				LR		LR	
	comp=Z,2μm,11.5s						
YAK	Yakutsk	28.08	353	*c i* P		P	19 16 07.7 +0.6
YAK				*e**PP		pP	19 17 10.0 +0.4
YAK				*e*			19 19 10.7
YAK				*e*S		S	19 20 23.9 -2.6
YAK				pmax		pmax	
	comp=Z,137nm,0.9s						
YAK				pmax		pmax	
	comp=N,133nm,1.2s						
YAK				pmax		pmax	
	comp=E,10.0nm,0.8s						
YAK				smax		smax	
	comp=N,212nm,1.6s						
YAK				smax		smax	
	comp=E,94nm,1.5s						
YAK	Yakutsk	28.08	353	P		P	19 16 07.7 +0.6

comp=E,64nm,0.5s,baz=20,slow=5.2,SNR=98
YAK PcP **PcP** **19 19 12.4 +0.6**
comp=E,55nm,0.8s,baz=110,slow=1.4,SNR=8.7
YAK S **S** **19 20 25.8 -0.7**
comp=E,12nm,0.9s,baz=0.0,slow=20,SNR=5.6
YAK ScP **ScP** **19 22 21.1 +0.8**
comp=E,8.6nm,0.6s,baz=200,slow=1.7,SNR=4.4
YAK Yakutsk 28.08 353 P **P** **19 16 06.8 -0.2**
YAK IAmb IAmb 19 16 08.7
comp=Z,158nm,0.7s
BOD Bodaibo 28.11 334 *e*P **P** **19 16 06.8 -0.6**
BOD pmax pmax
comp=Z,53nm,1.3s
CD2 Chengdu 28.16 272 ⇓P **P** **19 16 07.6 -0.7**
CD2 pP pP 19 17 10.8 -0.1
CD2 PP **PP** **19 17 19.4 -0.4**
CD2 sP sP 19 17 50.8 +0.9
CD2 PcP **PcP** **19 19 13.3 +0.6**
CD2 S **S** **19 20 25.5 -3.2**
CD2 sS sS 19 22 24.5 +1.0
CD2 pmax pmax
comp=Z,570nm,0.6s
CD2 pmax pmax
comp=Z,810nm,5.8s
QIZ Qiongzhong 28.57 245 P **P** **19 16 12.8 +0.8**
QIZ S **S** **19 20 37.1 +1.8**
QIZ sS **sS** **19 22 29.4 -0.8**
QIZ pmax pmax
comp=Z,91nm,1.2s
QIZ pmax pmax
comp=Z,480nm,6.1s
QIZ Qiongzhong 28.57 245 P **P** **19 16 12.5 +0.5**
MATI Mati 29.04 202 *e*P **P** **19 16 14.2 -1.9**
DAV Davao City (W) 29.15 204 P **P** **19 16 15.9 -1.2**
comp=Z,90nm,0.3s,baz=70,slow=6.3,SNR=5.3
DAV Davao City (W) 29.15 204 P **P** **19 16 15.9 -1.2**
DAV IAmb IAmb 19 16 17.5
comp=Z,216nm,1.1s
ZAK Zakamensk 29.31 313 *e*P **P** **19 16 19.2 +0.9**
ZAK pmax pmax
comp=Z,17nm,1.1s
KCP Kidapawan 29.37 205 ⇑*i*P **P** **19 16 18.4 -0.7**
IRK Irkutsk 29.44 317 *e*P **P** **19 16 19.2 -0.1**
IRK *e*S **S** **19 20 50.2 +2.0**
IRK pmax pmax
comp=Z,75nm,2.2s
CTBH Cotabato--PC H 29.48 206 ⇓*i*P **P** **19 16 20.1 +0.1**
TLY Talaya 29.57 316 P **P** **19 16 23.5 +3.1**
SNR=5.2
TLY Talaya 29.57 316*c i*P **P** **19 16 21.5 +1.0**
TLY *i* *PP **pP** **19 17 25.2 +2.2**
TLY *i* *SP **sP** **19 18 01.6 -0.3**
TLY pmax pmax
comp=Z,38nm,0.9s
TLY Talaya 29.57 316 P **P** **19 16 22.8 +2.3**
comp=Z,26nm,0.9s,baz=145,slow=5.4,SNR=7.3
TLY Talaya 29.57 316 P **P** **19 16 22.5 +2.1**
GTA Gaotai 30.04 291 ⇓P **P** **19 16 24.9 0.0**
GTA PP **PnPn** **19 17 35.8 -4.2**
GTA S **S** **19 20 56.5 -1.6**
GTA ScP **ScP** **19 22 26.3 -1.0**
GTA ScS **ScS** **19 26 21.5 -2.1**
GTA pmax pmax
comp=Z,440nm,8.6s
GTA LR LR
comp=Z,1μm,15.9s
GTA LR LR
comp=Z,1μm,13.3s
GTA LR LR
comp=Z,2μm,14.3s
SEY Seymchan 30.17 14*c i*P **P** **19 16 26.3 +0.8**
SEY Seymchan 30.17 14 P **P** **19 16 26.4 +0.9**
comp=Z,34nm,0.6s,baz=199,slow=8.1,SNR=128
BATP Bataraza 30.98 219 *e*P **P** **19 16 31.7 -1.4**
KMI Kunming 31.04 262 P **P** **19 16 33.4 -0.5**
KMI pP pP 19 17 38.6 +1.3
KMI PP **PnPn** **19 17 54.4 +2.1**
KMI sP sP 19 18 16.5 +0.4
KMI S **S** **19 21 11.6 -2.5**
KMI sS sS 19 23 06.6 -2.9
KMI pmax pmax
comp=Z,170nm,0.8s
KMI pmax pmax
comp=Z,700nm,3.1s
KMI LR LR
comp=Z,810nm,9.9s
KMI LR LR
comp=Z,1μm,13.4s
KMI LR LR
comp=Z,2μm,11.3s
KMI Kunming 31.04 262 P **P** **19 16 33.3 -0.6**
KMI pmax pmax
comp=Z,126nm,0.7s
KMI Kunming 31.04 262 P **P** **19 16 33.3 -0.6**
KMI IAmb IAmb 19 16 34.8
comp=Z,126nm,0.7s
MOY Mondy 31.11 315 *e*P **P** **19 16 35.2 +1.2**
MOY pmax pmax
comp=Z,38nm,1.1s
SLVN Son La 31.88 255 P **P** **19 16 40.0 -1.1**
PATS Pohnpei 33.71 140 P **P** **19 16 56.8 0.0**
PATS IAmb IAmb 19 16 58.6
comp=Z,177nm,0.9s
KKM Kota Kinabalu 34.13 219 P **P** **19 16 59.8 -0.7**
KKM IAmb IAmb 19 17 02.2
comp=Z,537nm,1.9s
UBPT Khong Chiam 34.16 244 P **P** **19 17 01.4 +0.8**
comp=Z,132nm,0.8s,comp=Z,2μm
UBPT Khong Chiam 34.16 244 P **P** **19 17 00.9 +0.3**
UBPT IAmb IAmb 19 17 03.5
comp=Z,146nm,0.8s
DLV T Lat 34.24 236 P **P** **19 17 02.2 +0.8**
NONG Nongkai 34.26 250 P **P** **19 17 01.7 +0.3**
comp=Z,15nm,0.7s,comp=Z,345nm
TNTI Ternate 34.62 197 P **P** **19 17 04.2 -0.3**
TNTI Ternate 34.62 197 P **P** **19 17 03.6 -0.8**
TNTI IAmb IAmb 19 17 12.4
comp=Z,468nm,1.9s
SPMM Sapulut 35.14 217 P **P** **19 17 08.0 -0.9**
SWI Sorong 35.46 190 P **P** **19 17 11.8 +0.3**
comp=Z,140nm,1.0s,comp=Z,2μm
SIJI Sorong 35.46 190 S **S** **19 22 20.0 -1.6**
comp=Z,6.0nm,0.7s,baz=247,slow=22,SNR=6.4
KMSI Cibinong 35.77 203 P **P** **19 17 14.8 +0.7**
comp=Z,312nm,0.9s,comp=Z,4μm
RKPI Ransiki, Papua 35.79 185 P **P** **19 17 14.2 -0.1**
comp=Z,65nm,0.8s
SRPI Serui, Papua 36.05 181 P **P** **19 17 19.9 +3.4**
comp=Z,24nm,1.0s
MRSI Marisa 36.55 206 P **P** **19 17 20.6 -0.1**
comp=Z,199nm,1.1s,comp=Z,2μm
LAMP Lampang 36.77 254 P **P** **19 17 23.5 +0.9**
comp=Z,293μm,0.8s
PBKT Sadao Pong 36.81 250 P **P** **19 17 23.0 0.0**
comp=Z,207nm,0.8s,comp=Z,2μm
PBKT Sadao Pong 36.81 250 P **P** **19 17 22.8 -0.2**
PBKT IAmb IAmb 19 17 24.7
comp=Z,246nm,0.8s
JAY Jayapura 36.85 174 S **S** **19 22 40.4 -2.1**
comp=Z,3.4nm,0.5s,baz=58,slow=23,SNR=6.7
CMMT Chiang Mai 37.17 255 P **P** **19 17 26.0 +0.1**
comp=Z,60nm,0.8s,comp=Z,846nm
CHTO Chiang Mai 37.17 255 P **P** **19 17 26.2 +0.2**
SNR=30
CHTO Chiang Mai 37.17 255 P **P** **19 17 25.6 -0.3**
CHTO pmax pmax
comp=Z,99nm,0.9s
CHTO Chiang Mai 37.17 255 P **P** **19 17 25.6 -0.3**
ADK Adak 37.32 48 P **P** **19 17 26.8 0.0**
ADK pmax pmax
comp=Z,294nm,1.5s
ADK Adak 37.32 48 P **P** **19 17 26.8 0.0**
ADK IAmb IAmb 19 17 27.8
comp=Z,294nm,1.4s
FAKI Fak Fak 37.36 188 P **P** **19 17 27.3 -0.2**
comp=Z,242nm,1.0s,comp=Z,3μm
FAKI Fak Fak 37.36 188 P **P** **19 17 26.8 -0.7**
FAKI IAmb IAmb 19 17 29.6
comp=Z,196nm,1.0s
CM31 Chiang Mai Arr 37.36 255 P **P** **19 17 27.9 +0.4**
SNR=30
CM31 Chiang Mai Arr 37.36 255 P **P** **19 17 27.4 -0.1**
CMAR Chiang Mai Arr 37.36 255 P **P** **19 17 27.5 0.0**
comp=Z,58nm,0.8s,baz=48,slow=7.4,SNR=245
CMAR PcP **PcP** **19 19 40.3 +1.7**
comp=Z,6.8nm,0.9s,baz=22,slow=1.0,SNR=4.7
CMAR ScP **ScP** **19 22 54.1 +0.8**
comp=Z,18nm,1.0s,baz=27,slow=3.1,SNR=22
MPSI Mapaga 37.46 209 P **P** **19 17 28.4 +0.1**
comp=Z,88nm,1.5s,comp=Z,1μm
MANU Manus Island 37.50 163 P **P** **19 17 27.8 -0.9**
TIXI Tiksi 37.60 356*ce*P **P** **19 17 28.7 0.0**
TIXI pmax pmax
comp=Z,171nm,0.9s
TIXI Tiksi 37.60 356 P **P** **19 17 28.7 0.0**
comp=Z,81nm,0.5s,baz=0.0,slow=24,SNR=382
TIXI PcP **PcP** **19 19 39.4 +1.0**
comp=Z,12nm,0.6s,baz=171,slow=3.1,SNR=4.0
TIXI Tiksi 37.60 356 P **P** **19 17 28.5 -0.2**
TIXI IAmb IAmb 19 17 30.2
comp=Z,152nm,0.9s
BILL Bilibino 37.62 18*c i*P **P** **19 17 29.8 +0.8**
BILL *e**PP **pP** **19 18 37.5 +2.9**
BILL *e* 19 19 02.7
BILL *i* S **S** **19 22 50.7 -2.2**
BILL pmax pmax
comp=Z,337nm,0.7s
BILL Bilibino 37.62 18 P **P** **19 17 29.4 +0.5**
LUWI Luwuk 37.68 204 P **P** **19 17 28.9 -1.2**
LUWI Luwuk 37.68 204 P **P** **19 17 27.4 -2.7**
LUWI IAmb IAmb 19 17 35.8
comp=Z,176nm,1.0s
SANI Sanana 37.68 198 P **P** **19 17 28.7 -1.4**
comp=Z,134nm,0.9s,comp=Z,2μm
KOHI KOHIMA 37.91 269 *e*P **P** **19 17 30.7 -1.5**
APSI Ampana 37.94 206 P **P** **19 17 32.3 0.0**
comp=Z,180nm,1.5s,comp=Z,2μm
MSAI Masohi 38.28 193 P **P** **19 17 37.3 +2.2**
comp=Z,84nm,1.1s,comp=Z,870nm
MHMT Maesarieng 38.32 255 P **P** **19 17 36.3 +0.8**
comp=Z,156nm,1.4s,comp=Z,2μm
NLAI Namlea 38.55 196 P **P** **19 17 38.5 +1.1**
comp=Z,107nm,0.8s,comp=Z,10μm
UMPA Umpang Tak 38.68 252 P **P** **19 17 40.0 +1.5**
comp=Z,373μm,0.9s
AAI Ambon 38.75 194 P **P** **19 17 39.5 +0.5**
comp=Z,285nm,0.8s,comp=Z,3μm
LSA Lhasa 38.92 276 P **P** **19 17 41.8 +0.9**
LSA pmax pmax
comp=Z,130nm,0.9s
LSA Lhasa 38.92 276 *i* P **P** **19 17 41.7 +0.9**
SNR=44
LSA Lhasa 38.92 276 P **P** **19 17 41.6 +0.7**
LSA Lhasa 38.92 276 P **P** **19 17 40.7 -0.1**
LSA pmax pmax
comp=Z,32nm,0.9s
LSA Lhasa 38.92 276 P **P** **19 17 40.7 -0.1**
WMQ Urumqi 38.93 299 P **P** **19 17 41.5 +1.2**
WMQ pP pP 19 18 50.1 +4.3
WMQ S **S** **19 23 15.8 +2.5**
WMQ pmax pmax
comp=Z,37nm,0.7s
WMQ pmax pmax
comp=Z,370nm,4.3s
WMQ LR LR
comp=Z,670nm,19.1s
WMQ LR LR
comp=Z,400nm,14.1s
WMQ LR LR
comp=Z,470nm,17.7s
PATY Pattaya 39.10 246 P **P** **19 17 43.0 +1.1**
comp=Z,256μm,0.8s
DGZ Jazzator, Alta 39.15 308*c i*P **P** **19 17 43.3 +1.2**
SBUM Sibu 39.28 221 P **P** **19 17 43.0 -0.4**
SBUM Sibu 39.28 221 P **P** **19 17 43.1 -0.3**
SMKI Samarinda 39.30 212 P **P** **19 17 47.2 +3.7**
comp=Z,216nm,1.5s,comp=Z,4μm
SRDT SRDT 39.56 249 P **P** **19 17 46.0 +0.3**
comp=Z,124nm,1.0s
SHL Shillong 39.81 270 *i* P **P** **19 17 46.7 -1.2**
BKB Balikpapan 40.16 212 P **P** **19 17 50.7 +0.1**
BKB IAmb IAmb 19 17 53.2
comp=Z,568nm,1.3s
TTSI Tana Toraja 40.59 207 P P 19 17 59.3 +5.3
KRVT Keravat (AS076 40.98 157 P **P** **19 17 56.9 -0.3**
comp=Z,99nm,0.9s,baz=87,slow=1.6,SNR=13
BELO BELONIA 41.15 267 *e*P **P** **19 17 58.5 +0.1**
BELO IAmb IAmb 19 18 03.8
BELO *i x* x 19 19 07.9
KSM Kuching 41.15 223 P **P** **19 17 59.0 +0.4**
KSM Kuching 41.15 223 P **P** **19 17 58.4 -0.2**
KSM IAmb IAmb 19 18 01.1
comp=Z,202nm,0.8s
ZAA0 Zalesovo Array 41.16 315 P **P** **19 17 58.3 +0.1**
ZALV Zalesovo Beam 41.16 315 P **P** **19 17 58.8 +0.6**
comp=Z,13nm,0.4s,baz=103,slow=8.1,SNR=53
ZALV pP **pP** **19 19 06.3 +2.0**
comp=Z,3.7nm,0.6s,baz=116,slow=6.8,SNR=1.8
ZALV PcP **PcP** **19 19 49.8 -0.4**
comp=Z,72nm,0.9s,baz=98,slow=2.8,SNR=19
ZALV ScP **ScP** **19 23 07.2 -0.3**
comp=Z,10.0nm,0.7s,baz=105,slow=3.7,SNR=7.5
ZALV Zalesovo Beam 41.16 315 P **P** **19 17 58.1 -0.1**
SIMRM Sittwe 41.41 262 P **P** **19 18 01.0 +0.4**
SPSI Sidrap Palu 41.45 207 P **P** **19 18 02.3 +1.3**
comp=Z,37nm,1.3s
STKI Sintang 41.67 220 P **P** **19 18 03.8 +1.0**
comp=Z,87nm,0.9s,comp=Z,5μm
BNSI Bone 41.73 206 P **P** **19 18 05.1 +1.9**
comp=Z,159nm,1.2s,comp=Z,2μm
GTK Tadong 41.85 274 *e*P **P** **19 18 04.3 0.0**
KBKI Kotabaru 42.30 212 P **P** **19 18 09.3 +1.5**
comp=Z,36nm,1.0s,comp=Z,350nm
KAPI Kappang 42.43 206 P **P** **19 18 08.7 0.0**
SNR=9.4
KAPI Kappang 42.43 206 P **P** **19 18 08.8 0.0**
comp=Z,103nm,0.7s,baz=12,slow=6.4,SNR=41
KAPI PcP **PP** **19 19 55.4 0.0**
comp=Z,33nm,0.7s,baz=109,slow=1.9,SNR=5.3
KAPI Kappang 42.43 206 P **P** **19 18 08.4 -0.4**
KAPI IAmb IAmb 19 18 11.1
comp=Z,311nm,1.1s
TAPN Taplejung 42.57 274 *e*P **P** **19 18 10.2 -0.1**
comp=Z,68nm,0.3s
MK31 Makanchi Array 42.58 304 P **P** **19 18 10.5 +0.8**
MK31 pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 42.58 304 P **P** **19 18 10.4 +0.8**
MKAR Makanchi Array 42.58 304 *i* P **P** **19 18 10.8 +1.1**
MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 42.58 304 P **P** **19 18 10.8 +1.1**
comp=Z,19nm,0.6s,baz=86,slow=10,SNR=116
MKAR PcP **PcP** **19 19 55.3 +0.2**
comp=Z,4.4nm,0.3s,baz=73,slow=4.7,SNR=7.9
MKAR ScP **ScP** **19 23 12.4 -1.0**
comp=Z,6.1nm,0.7s,baz=81,slow=5.8,SNR=6.2
MKAR Makanchi Array 42.58 304 P **P** **19 18 10.4 +0.7**
BKSI Bulukumba 42.58 205 P **P** **19 18 10.6 +0.6**
comp=Z,73nm,0.8s,comp=Z,671nm
MAKZ Makanchi 42.79 304 P **P** **19 18 12.2 +0.8**
MAKZ pmax pmax
comp=Z,24nm,0.8s
MAKZ Makanchi 42.79 304 P **P** **19 18 12.2 +0.8**
GAMB Gambell 42.83 31 P **P** **19 18 11.9 +0.5**
ODAN Odare 43.02 274 *e*P **P** **19 18 13.4 -0.4**
comp=Z,213nm,0.9s
SKLT Songkhla 43.09 240 P **P** **19 18 15.4 +1.3**
comp=Z,112nm,0.9s,comp=Z,1μm
SURT Suratani 43.21 243 P **P** **19 18 16.2 +1.1**
comp=Z,270nm,0.9s,comp=Z,3μm
TRTT Trang 43.30 241 P **P** **19 18 16.6 +0.8**
comp=Z,186nm,0.8s,comp=Z,2μm
RAMN Ramite 43.64 274 *e*P **P** **19 18 18.4 -0.3**
comp=Z,362nm,0.8s
JIRN Jiri 43.71 276 *e*P **P** **19 18 19.9 +0.5**
comp=Z,877nm,0.5s
GUN Gumba 43.87 276 *e*P **P** **19 18 20.8 +0.1**
comp=Z,369nm,0.8s
JRMM Jerantut 44.14 234 P **P** **19 18 23.0 +0.5**
PKDT Phuket 44.25 243 P **P** **19 18 24.2 +0.9**
comp=Z,545nm,0.9s,comp=Z,5μm
NRIK Noril'sk 44.27 337 P **P** **19 18 23.3 +0.6**
comp=Z,77nm,0.5s,baz=117,slow=7.9,SNR=78
NRIK PcP **PcP** **19 20 00.7 +0.3**
comp=Z,27nm,0.6s,baz=140,slow=3.2,SNR=5.7
NRIK ScP **ScP** **19 23 19.0 -0.7**
comp=Z,13nm,0.9s,baz=142,slow=4.0,SNR=7.8
NRIK S **S** **19 24 30.5 +0.2**
comp=Z,1.7nm,0.3s,baz=231,slow=23,SNR=8.5
PKI Pulchoki 44.39 276 *e*P **P** **19 18 24.4 -0.3**
comp=Z,137nm,0.7s
PKIN Phulchoki 44.40 276 *e*P **P** **19 18 24.3 -0.4**
comp=Z,98nm,0.6s
KKN Kakani 44.41 276 *e*P **P** **19 18 24.6 -0.1**
comp=Z,308nm,0.7s
PMG Port Moresby 44.58 166 P **P** **19 18 25.2 -0.6**
PMG 19 20 02.5
PMG pmax pmax
comp=Z,40nm,0.9s
PMG Port Moresby 44.58 166 ScP **ScP** **19 23 20.7 -1.1**
comp=Z,7.5nm,0.8s,baz=232,slow=2.6,SNR=3.6
PMG Port Moresby 44.58 166 P **P** **19 18 25.2 -0.6**
PMG **PcP** **19 20 02.5 +0.2**
DMN Daman 44.62 276 *e*P **P** **19 18 26.1 -0.3**
IPM Ipoh 44.70 236 P **P** **19 18 27.0 +0.1**
IPM Ipoh 44.70 236 P **P** **19 18 26.3 -0.6**
IPM IAmb IAmb 19 18 28.6
comp=Z,152nm,0.8s
MYKOM Kota Tinggi 44.81 231 P **P** **19 18 29.0 +1.3**
MYKOM Kota Tinggi 44.81 231 P **P** **19 18 28.0 +0.3**
KURK Kurchatov 44.83 310 P **P** **19 18 27.9 +0.5**
SNR=25
KURK Kurchatov 44.83 310 ⇑P **P** **19 18 27.4 0.0**
KURK pmax pmax
comp=Z,65nm,1.0s
KURK Kurchatov 44.83 310 P **P** **19 18 27.1 -0.2**
KURK Kurchatov 44.83 310 **S** **19 24 38.2 -0.5**
GKN Gorkha 44.86 277 *e*P **P** **19 18 28.2 0.0**
comp=Z,260nm,0.6s
KURBB Kurchatov Arra 44.89 310 P **P** **19 18 28.7 +0.9**
comp=Z,30nm,0.9s,baz=89,slow=7.9,SNR=7.4
KURBB pP **pP** **19 19 35.4 +0.2**
comp=Z,13nm,0.8s,baz=89,slow=8.5,SNR=2.7
KURBB PcP **PcP** **19 20 02.4 -0.5**
comp=Z,6.2nm,0.7s,baz=90,slow=4.6,SNR=4.6
KURBB S **S** **19 24 38.2 -1.4**
comp=Z,0.5nm,0.3s,baz=92,slow=22,SNR=4.7
PDGK Podgornoye 44.91 299 P **P** **19 18 28.2 -0.1**
PDGK pmax pmax
comp=Z,39nm,0.7s
MMRI Maumere 45.01 201 P **P** **19 18 29.6 +0.5**
comp=Z,280nm,0.8s,comp=Z,3μm
MMRI Maumere 45.01 201 P **P** **19 18 28.2 -1.0**
MMRI IAmb IAmb 19 18 30.9
comp=Z,320nm,1.1s
TPRI Tanjung Pinang 45.05 229 P **P** **19 18 31.1 +1.6**
comp=Z,125nm,0.4s,comp=Z,3μm
DGPR DIGLIPUR 45.10 253 *e*P **P** **19 18 29.3 -0.6**
DGPR IAmb IAmb 19 18 36.7
comp=Z,612nm,1.7s
DANN Dangsing 45.45 278 *e*P **P** **19 18 33.4 +0.5**
comp=Z,1μm,0.7s
BOK Bokaro 45.51 271 ⇓*i*P **P** **19 18 32.9 -0.2**
BOK IAmb IAmb 19 18 34.7
comp=Z,116nm,0.7s
SOEI Soe 45.52 198 P **P** **19 18 34.0 +0.7**
comp=Z,250nm,0.9s,comp=Z,2μm
SOEI Soe 45.52 198 P **P** **19 18 32.1 -1.1**
SOEI IAmb IAmb 19 18 44.0
comp=Z,182nm,0.8s
ANM Nome 45.72 31 P **P** **19 18 35.5 +1.4**
ANM pmax pmax
comp=Z,426nm,1.6s
ANM Nome 45.72 31 P **P** **19 18 35.5 +1.4**
ANM IAmb IAmb 19 18 37.7
comp=Z,426nm,1.6s
KOLN Koldanda 45.80 277 *e*P **P** **19 18 35.7 +0.2**
comp=Z,512nm,1.1s
PRZ Przheval'sk 45.84 298 P **P** **19 18 37.4 +1.8**
PRZ Przheval'sk 45.84 298 P **P** **19 18 37.4 +1.8**
DSRI Dabo 46.10 228 P **P** **19 18 38.8 +1.1**
BATI Baumata 46.11 198 S **S** **19 24 55.5 -2.2**
comp=Z,71nm,0.9s,baz=122,slow=23,SNR=16
BATI Baumata 46.11 198 P **P** **19 18 37.4 -0.3**
comp=Z,190nm,1.0s,comp=Z,1μm
TPI Tanjungpandan 46.12 223 P **P** **19 18 39.1 +1.3**
comp=Z,151nm,0.9s,comp=Z,2μm
TARG Taragay, Kyrgy 46.41 297 P **P** **19 18 41.4 +1.1**
WSI Waingapu 46.58 203 P **P** **19 18 41.7 +0.4**
comp=Z,191nm,0.6s
KMMI Kalianget 46.61 212 P **P** **19 18 43.6 +2.0**
comp=Z,131nm,1.0s
PLAI Plampang 46.67 207 P **P** **19 18 41.3 -0.7**
comp=Z,94nm,0.7s,comp=Z,1μm
KDJ Kajisay 46.80 298 P **P** **19 18 43.3 +0.3**
KDJ pmax pmax
comp=Z,44nm,1.4s
KDJ Kajisay 46.80 298 P **P** **19 18 43.3 +0.3**
WBSI Waikabubak, Su 46.85 204 P **P** **19 18 42.3 -1.2**
comp=Z,93nm,0.7s,comp=Z,900nm
TWSI Taliwang, Sumb 46.93 208 P **P** **19 18 43.8 -0.2**
comp=Z,104nm,0.9s,comp=Z,1μm
SRBI Singaraja 47.01 210 P **P** **19 18 45.1 +0.5**
comp=Z,97nm,1.0s,comp=Z,1μm
LHMI Lhok Sumawe 47.06 241 P **P** **19 18 47.2 +2.1**
comp=Z,230nm,1.0s,comp=Z,2μm
LHMI Lhok Sumawe 47.06 241 P **P** **19 18 45.4 +0.3**
LHMI IAmb IAmb 19 18 48.0
comp=Z,249nm,1.1s
BWNR Bhubaneshwar 47.15 266 *i* P **P** **19 18 45.7 0.0**
GRJI Gresik 47.17 214 P **P** **19 18 47.3 +1.5**
comp=Z,166nm,0.8s,comp=Z,1μm
SDPT Sand Point 47.20 44 P **P** **19 18 44.7 -0.9**
SDPT IAmb IAmb 19 18 46.1
comp=Z,174nm,1.0s
MTN Manton Dam 47.28 188 P **P** **19 18 45.8 -0.9**
PSI Prapat 47.36 237 P **P** **19 18 47.6 +0.1**
comp=Z,107nm,0.9s,baz=35,slow=4.0,SNR=48
PSI ScP **ScP** **19 23 34.4 +0.6**
comp=Z,6.8nm,0.5s,baz=345,slow=1.9,SNR=9.3
RPSI Rantau Prapat 47.43 237 P **P** **19 18 47.0 -0.9**
RPSI Rantau Prapat 47.43 237 P **P** **19 18 47.6 -0.3**
RPSI **ScP** **19 23 34.4 +0.5**
RDOG Red Dog Mine 47.48 26 P **P** **19 18 48.6 +1.0**
RDOG IAmb IAmb 19 18 50.8
comp=Z,382nm,1.2s
CNBA Chernabura Isl 47.72 44 P **P** **19 18 49.4 -0.1**
CNBA IAmb IAmb 19 18 50.8
comp=Z,289nm,0.9s
BKNI Bangkinang 47.74 233 P **P** **19 18 50.7 +0.4**
comp=Z,510nm,0.9s,comp=Z,5μm
BKNI Bangkinang 47.74 233 P **P** **19 18 50.3 +0.1**
BKNI IAmb IAmb 19 18 52.8
comp=Z,395nm,0.9s
TKM2 Tokmak 2 47.79 299 *i* P **P** **19 18 51.4 +0.8**
TKM2 pmax pmax
comp=Z,19nm,1.0s
TKM2 Tokmak 2 47.79 299 P **P** **19 18 51.8 +1.2**
SNR=22
JAGI Jajag, Banyuwa 47.80 211 P **P** **19 18 50.3 -0.4**
comp=Z,110nm,1.0s
JAGI Jajag, Banyuwa 47.80 211 P **P** **19 18 49.0 -1.6**
NRN Naryn 47.80 297 P **P** **19 18 51.5 +0.7**
NRN pmax pmax
comp=Z,25nm,1.1s
NRN Naryn 47.80 297 P **P** **19 18 51.5 +0.7**
PMBI Palembang 47.92 226 P **P** **19 18 54.3 +2.7**
comp=Z,569nm,1.1s,comp=Z,6μm
PMBI Palembang 47.92 226 P **P** **19 18 52.8 +1.1**
GMJI Gumukmas 47.93 212 P **P** **19 18 51.3 -0.4**
comp=Z,125nm,1.0s
NGJI Ngawi 48.04 215 P **P** **19 18 54.9 +2.4**
comp=Z,92nm,1.9s
MLSI Meulaboh, Aceh 48.11 241 P **P** **19 18 52.0 -1.1**
comp=Z,164nm,0.7s,comp=Z,3μm
KSH Kashi 48.26 295 P P 19 18 59.1 +5.0
KSH PP **PP** **19 20 56.4 +6.4**
KSH S **S** **19 25 33.8 +6.1**
KSH sS sS 19 27 30.9 +0.6
KSH SS **SS** **19 29 06.4 +4.7**
KSH pmax pmax
comp=Z,87nm,1.3s
KSH pmax pmax
comp=Z,360nm,4.6s
KSH LR LR
comp=Z,590nm,10.2s
KSH LR LR
comp=Z,950nm,15.1s
KSH LR LR
comp=Z,630nm,12.8s
SMRI Semarang 48.26 217 P **P** **19 18 57.2 +3.0**
comp=Z,152nm,0.9s
SMRI Semarang 48.26 217 P **P** **19 18 54.9 +0.7**
SMRI IAmb IAmb 19 18 57.6
comp=Z,473nm,1.7s
KBK Karagaybulak 48.31 299 P **P** **19 18 55.8 +1.2**

SNR=18
CHGN Chignik 48.35 42 P **P 19 18 53.7 -0.6**
COEN Coen 48.41 172 P **P 19 18 53.5 -1.7**
SDSI Sungai Dareh 48.44 231 P **P 19 18 56.2 +0.7**
comp=Z,203nm,0.9s,comp=Z,4µm
USP Ospenovka 48.51 300 P **P 19 18 56.8 +0.9**
SNR=8.0
AAK Ala-Archa 48.64 299 *i* P **P 19 18 57.9 +0.9**
SNR=21
AAK Ala-Archa 48.64 299 P **P 19 18 57.8 +0.8**
AAK Ala-Archa 48.64 299 *de*P **P 19 18 57.9 +0.9**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 48.64 299 P **P 19 18 57.6 +0.6**
comp=Z,7.6nm,0.7s,baz=111,slow=5.7,SNR=39
AAK ScP **ScP 19 23 37.7 -1.2**
comp=Z,5.4nm,0.8s,baz=171,slow=2.7,SNR=4.4
AAK Ala-Archa 48.64 299 P **P 19 18 58.1 +1.1**
SNR=9.4
AAK Ala-Archa 48.64 299 P **P 19 18 57.1 +0.1**
HNR Honiara 48.68 149 ScP **ScP 19 23 37.7 -1.4**
comp=Z,70nm,0.5s,baz=286,slow=7.4,SNR=4.1
WOJI Wonogiri, Jawa 48.71 215 P P 19 19 03.2 +5.7
UCH Uchtor 48.72 299 P **P 19 18 59.7 +1.8**
SNR=11
UGM Wanagama 48.97 216 P **P 19 19 01.1 +1.6**
comp=Z,341nm,1.1s
UGM Wanagama 48.97 216 P **P 19 18 59.6 0.0**
UGM IAmb IAmb 19 19 00.6
comp=Z,333nm,1.0s
PDSI Padang 49.05 232 P **P 19 19 00.2 0.0**
comp=Z,19nm,0.7s,comp=Z,503nm
EKS2 Erkin-Say 49.16 299 P **P 19 19 01.7 +0.9**
SNR=8.5
KPJI Karang Pucung 49.26 218 P **P 19 19 01.5 -0.2**
comp=Z,271nm,1.0s,comp=Z,3µm
AML Almayashu 49.33 299 P **P 19 19 04.1 +1.6**
SNR=12
GSI Gunungsitoli 49.36 237 P **P 19 19 02.7 +0.2**
comp=Z,768nm,1.0s,comp=Z,7µm
GSI Gunungsitoli 49.36 237 P **P 19 19 01.8 -0.7**
KLSI 49.36 225 P **P 19 19 02.6 +0.1**
comp=Z,211nm,1.0s,comp=Z,4µm
LHSI Lahat 49.38 227 P **P 19 19 03.4 +0.8**
comp=Z,469nm,0.9s,comp=Z,6µm
LEM Lembang 49.52 220 P **P 19 19 05.3 +1.5**
BLSI Bandar Lampung 49.62 224 P **P 19 19 03.8 -0.6**
comp=Z,630nm,0.7s,comp=Z,5µm
MASI Maura Aman, Be 49.63 228 P **P 19 19 06.1 +1.6**
comp=Z,614nm,1.0s,comp=Z,6µm
TTA Tatalina 49.63 34 P **P 19 19 04.6 +0.7**
TTA pmax pmax
comp=Z,89nm,1.0s
TTA Tatalina 49.63 34 P **P 19 19 04.6 +0.7**
BVAR Borovoye Array 49.77 313 P **P 19 19 05.5 +0.5**
comp=Z,14nm,0.4s,baz=98,slow=7.3,SNR=5.9
BVAR pP **pP 19 20 15.3 +1.3**
comp=Z,10nm,0.8s,baz=97,slow=8.1,SNR=2.6
BVAR PcP **PcP 19 20 20.9 +0.5**
comp=Z,27nm,0.6s,baz=114,slow=3.5,SNR=13
BVAR ScP **ScP 19 23 42.8 -0.5**
comp=Z,12nm,0.9s,baz=88,slow=4.7,SNR=8.3
BVAR S **S 19 25 47.1 -0.8**
comp=Z,4.8nm,0.7s,baz=85,slow=16,SNR=9.6
SVW2 Sparrevohn 49.79 36 P **P 19 19 06.2 +1.1**
SVW2 IAmb IAmb 19 19 08.5
comp=Z,191nm,1.2s
SMLA Simla 49.82 284⇓ *i* P **P 19 19 05.6 -0.1**
SMLA IAmb IAmb 19 19 13.5
comp=Z,34nm,0.6s
BRVK Borovoye 49.83 313 P **P 19 19 05.5 0.0**
SNR=12
BRVK Borovoye 49.83 313 *ce*P **P 19 19 05.7 +0.2**
BRVK pmax pmax
comp=Z,45nm,1.4s
BRVK Borovoye 49.83 313 P **P 19 19 04.9 -0.6**
CHIR Chirikof Islan 49.94 43 P **P 19 19 06.1 -0.1**
CHIR IAmb IAmb 19 19 08.4
comp=Z,279nm,0.9s
LWLI Liwa 50.02 225 P **P 19 19 08.5 +1.0**
comp=Z,199nm,0.7s
CISI Cisompet, Garu 50.03 219 P **P 19 19 05.7 -1.8**
ARSB Arslanbob 50.04 298 P **P 19 19 08.4 +0.9**
DHRM DHARAMSHALA 50.12 286 *e*P **P 19 19 07.4 -0.9**
KASI Kota Agung 50.17 224 P **P 19 19 07.1 -1.4**
comp=Z,220nm,0.8s,comp=Z,2µm
SISI Saibi 50.26 233 P **P 19 19 09.4 +0.2**
comp=Z,76nm,0.8s,comp=Z,738nm
KNRA Kununurra 50.38 190 P **P 19 19 09.3 -0.7**
CGJI Cibinong 50.38 222 P **P 19 19 08.3 -1.8**
comp=Z,108nm,0.6s,comp=Z,967nm
SII Sitkinak Islan 50.68 42 P **P 19 19 12.2 +0.4**
SII IAmb IAmb 19 19 13.6
comp=Z,464nm,1.3s
JOHN Johnston Islan 50.74 96 P **P 19 19 13.5 +0.8**
JOHN IAmb IAmb 19 19 14.7
comp=Z,245nm,0.8s
IMAR Indian Mountai 50.74 30 P **P 19 19 12.6 +0.5**
OHAK Old Harbor 51.12 41 P **P 19 19 15.3 +0.4**
OHAK IAmb IAmb 19 19 16.7
comp=Z,157nm,1.0s
PPLA Purkeypile 51.38 34 P **P 19 19 18.4 +1.3**
PPLA IAmb IAmb 19 19 20.3
comp=Z,301nm,1.0s
KK31 Karatay Array 51.39 301 *i* P **P 19 19 17.7 +0.4**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KK31 Karatay Array 51.39 301 P **P 19 19 17.6 +0.3**
KKAR Karatay Array 51.39 301 P **P 19 19 18.0 +0.7**
KKAR pmax pmax
comp=Z,76nm,1.4s
KKAR Karatay Array 51.39 301 P **P 19 19 18.0 +0.7**
KKAR Karatay Array 51.39 301 P **P 19 19 17.6 +0.3**
KDAK Kodiak Island 51.45 40 *ce*P **P 19 19 17.5 +0.1**
KDAK Kodiak Island 51.45 40 P **P 19 19 17.9 +0.5**
comp=Z,179nm,0.5s,baz=308,slow=2.0,SNR=524
KDAK PcP **pP 19 20 27.3 -0.1**
comp=Z,54nm,0.9s,baz=303,slow=3.6,SNR=3.8
KDAK Kodiak Island 51.45 40 P **P 19 19 17.5 +0.1**
SKT Skwentna 51.71 35 P **P 19 19 19.6 +0.3**
SKT IAmb IAmb 19 19 21.7
comp=Z,145nm,1.0s
HOM Homer 51.79 38 P **P 19 19 21.3 +1.4**
BPAW Bear Paw Mtn. 51.89 32 P **P 19 19 21.4 +0.8**
BPAW IAmb IAmb 19 19 23.7
comp=Z,199nm,1.3s
BTK Batken 51.95 297 P **P 19 19 21.3 -0.3**
BTK pmax pmax
comp=Z,34nm,1.2s
BTK Batken 51.95 297 P **P 19 19 21.3 -0.3**
MLY Manley 51.98 31 P **P 19 19 22.8 +1.5**
MLY IAmb IAmb 19 19 24.6
comp=Z,311nm,1.2s
CNPM China Poot 52.01 38 P **P 19 19 21.2 -0.3**
CNPM IAmb IAmb 19 19 25.2
comp=Z,265nm,1.2s
NIL Nilore 52.06 288 P **P 19 19 23.3 +0.9**
NIL Nilore 52.06 288 P **P 19 19 23.0 +0.6**
NIL pmax pmax
comp=Z,29nm,0.8s
NIL Nilore 52.06 288 P **P 19 19 23.0 +0.6**
BRLK Bradley Lake 52.16 38 P **P 19 19 22.6 -0.1**
BRLK IAmb IAmb 19 19 25.6
comp=Z,285nm,0.9s
COLD Coldfoot 52.20 28 P **P 19 19 24.5 +1.7**
TRF Thorofare Moun 52.22 33 P **P 19 19 23.9 +0.6**
NGP Nagpur 52.34 271 *e*P **P 19 19 24.4 -0.1**
TOLK Toolik Lake Re 52.45 26 P **P 19 19 26.2 +1.5**
baz=269,SNR=99
TOLK Toolik Lake Re 52.45 26 P **P 19 19 26.0 +1.3**
TOLK IAmb IAmb 19 19 27.9
comp=Z,188nm,1.1s
BWN Browne 52.56 32 P **P 19 19 27.2 +1.8**
RC01 Rabbit Creek A 52.62 36 P **P 19 19 25.6 -0.4**
RC01 IAmb IAmb 19 19 28.0
comp=Z,311nm,1.0s
GAR Garm 52.63 296 P **P 19 19 26.8 +0.3**
BHPL Bhopal 52.74 275⇓ *i* P **P 19 19 24.0 -3.4**
BHPL *i* S **S 19 26 25.6 -3.7**
SEW Seward 52.85 37 P **P 19 19 27.5 -0.1**
RND Reindeer 52.87 33 P **P 19 19 27.8 0.0**
RND pmax pmax
comp=Z,292nm,0.8s
RND Reindeer 52.87 33 P **P 19 19 27.8 0.0**
RND IAmb IAmb 19 19 29.8
comp=Z,292nm,0.8s
PMR Palmer 52.88 35 P **P 19 19 27.3 -0.4**
PMR pmax pmax
comp=Z,374nm,1.2s
PMR Palmer 52.88 35 P **P 19 19 27.3 -0.4**
PMR IAmb IAmb 19 19 29.7
comp=Z,374nm,1.2s
GHO Glory Hole Cre 52.96 35 P **P 19 19 28.9 +0.4**
WRH Wood River Hil 53.14 32 P **P 19 19 30.3 +0.6**
KNK Knik Glacier 53.21 35 P **P 19 19 30.8 +0.5**
TCOL CIGO, UAF Yank 53.21 31 P **P 19 19 31.4 +1.3**
baz=273,SNR=36
COLA College 53.22 31 *c i* P **P 19 19 30.8 +0.7**
COLA pmax pmax
comp=Z,200nm,1.2s
COLA College 53.22 31 P **P 19 19 31.1 +1.0**
COLA IAmb IAmb 19 19 33.4
comp=Z,170nm,0.9s
SML Sawmill 53.23 35 P **P 19 19 31.0 +0.5**
CCB Clear Creek Bu 53.25 31 P **P 19 19 30.0 -0.4**
FITZ Fitzroy Crossi 53.29 194 S **S 19 26 34.7 -1.6**
comp=Z,9.8nm,1.0s,baz=145,slow=19,SNR=7.7
FITZ Fitzroy Crossi 53.29 194 P **P 19 19 31.3 +0.1**
DHY Denali Highway 53.56 33 P **P 19 19 33.3 +0.4**
CHGR Chuyangaron 53.59 296 P **P 19 19 33.7 +0.2**
CHGR IAmb IAmb 19 20 46.2
comp=Z,378nm,1.5s
IL31 53.63 31 P **P 19 19 33.1 -0.1**
ILAR Eielson Array 53.63 31 P **P 19 19 33.4 +0.1**
comp=Z,57nm,0.8s,baz=265,slow=4.7,SNR=449
ILAR Eielson Array 53.63 31 P **P 19 19 32.6 -0.6**
HDA Harding Lake 53.64 32 P **P 19 19 33.5 +0.2**
baz=274,SNR=142
HDA Harding Lake 53.64 32 P **P 19 19 33.1 -0.1**
HDA IAmb IAmb 19 19 35.0
comp=Z,305nm,1.1s
SCM Sheep Creek Mo 53.71 35 P **P 19 19 34.7 +0.8**
SCM pmax pmax
comp=Z,527nm,1.0s
SCM Sheep Creek Mo 53.71 35 P **P 19 19 34.7 +0.8**
GLI Glacier Island 53.93 36 P **P 19 19 35.5 +0.1**
WRAB Tennant Creek 54.06 183 *ce*P **P 19 19 36.4 -0.4**
WRAB pmax pmax
comp=Z,21nm,0.7s
WRAB Tennant Creek 54.06 183 P **P 19 19 35.7 -1.0**
WB2 Warramunga Arr 54.07 183 P **P 19 19 35.9 -0.9**
WB2 PcP **PcP 19 20 37.3 +0.3**
WRA Warramunga Arr 54.07 183 P **P 19 19 36.6 -0.3**
comp=Z,53nm,0.5s,baz=359,slow=7.6,SNR=1034
WRA PcP **PcP 19 20 37.9 +0.9**
comp=Z,21nm,0.8s,baz=356,slow=4.3,SNR=9.7
WRA ScP **ScP 19 24 03.7 +1.4**
comp=Z,3.7nm,0.9s,baz=355,slow=4.3,SNR=3.0
WRA S **S 19 26 44.0 -2.8**
comp=Z,10nm,0.7s,baz=359,slow=12,SNR=6.5
WRA PKP2bc 19 49 58.8
comp=Z,2.6nm,0.9s,baz=179,slow=1.7,SNR=12
WRA Warramunga Arr 54.07 183 P **P 19 19 35.2 -1.7**
WRA PcP **PcP 19 20 37.5 +0.6**
PRP Porcupine Dome 54.15 30 P **P 19 19 37.3 +0.2**
FYU Fort Yukon 54.18 29 P **P 19 19 39.1 +2.0**
FID Port Fidalgo 54.24 36 P **P 19 19 38.2 +0.6**
HIN Hinchinbrook I 54.28 36 P **P 19 19 39.2 +1.3**
BMAR Burnt Mountain 54.37 28 P **P 19 19 39.8 +1.3**
PAX Paxson 54.44 33 P **P 19 19 39.7 +0.6**
PAX pmax pmax
comp=Z,96nm,1.1s
PAX Paxson 54.44 33 P **P 19 19 39.7 +0.6**
HYB Hyderabad 54.54 268 *i* P **P 19 19 39.0 -1.5**
comp=Z,160nm,1.0s
HYB *e* 19 20 14.0
HYB *e*pP **pP 19 20 52.0 +1.0**
HYB *e*S **S 19 26 54.0 +0.6**
HYB Hyderabad 54.54 268 *e*P **P 19 19 40.6 +0.2**
HYB IAmb IAmb 19 19 42.1
comp=Z,55nm,0.9s
RIDG Independent Ri 54.62 32 P **P 19 19 40.0 -0.4**
RIDG IAmb IAmb 19 19 43.7
comp=Z,199nm,1.2s
EYAK Cordova Ski Ar 54.63 36 P **P 19 19 41.1 +0.8**
EYAK IAmb IAmb 19 19 43.2
comp=Z,339nm,1.2s
SVE Sverdlovsk 54.80 319⇓ *e*P **P 19 19 42.5 +0.8**
SVE *e* 19 20 53.3
SVE *e*S **S 19 26 56.6 +0.9**
SVE pmax pmax
comp=Z,126nm,1.4s
CTAO Charters Tower 54.86 169 P **P 19 19 41.7 -0.8**
CTAO *PP **pP 19 20 51.9 0.0**
CTAO pmax pmax
comp=Z,171nm,1.6s
CTAO Charters Tower 54.86 169 P **P 19 19 41.7 -0.8**
CTAO **pP 19 20 51.9 0.0**
SCRK Sand Creek 54.97 32 P **P 19 19 43.0 +0.1**
SCRK IAmb IAmb 19 19 45.1
comp=Z,309nm,1.0s
DOT Dot Lake 54.98 32 P **P 19 19 43.2 +0.3**
DOT IAmb IAmb 19 19 44.9
comp=Z,178nm,1.0s
KBL Kabul 55.03 291 P **P 19 19 42.9 -1.1**
KBL pmax pmax
comp=Z,28nm,1.1s
KBL Kabul 55.03 291 P **P 19 19 42.9 -1.1**
RAGM Ragged Mountai 55.18 36 P **P 19 19 45.5 +1.1**
MENT Mentasta 55.23 33 P **P 19 19 45.9 +1.2**
MENT IAmb IAmb 19 19 47.9
comp=Z,310nm,1.1s
HMT Hamilton 55.39 36 P **P 19 19 47.0 +1.1**
GLB Gilahina Butte 55.42 35 P **P 19 19 47.2 +1.1**
GLB IAmb IAmb 19 19 49.1
comp=Z,277nm,1.1s
VRDI Verde Repeater 55.63 35 P **P 19 19 48.8 +1.1**
SUCK Suckling Hills 55.67 37 P **P 19 19 47.9 +0.1**
CRQM Cirque 55.86 36 P **P 19 19 50.5 +1.1**
ARU Arti 56.01 319 *c i* P **P 19 19 50.3 +0.1**
ARU *PP **pP 19 21 01.2 +0.1**
ARU S **S 19 27 13.0 +1.4**
ARU SS **SS 19 31 00.9 -1.9**
ARU pmax pmax
comp=Z,155nm,1.3s
ARU MLR MLR
comp=Z,399nm,13.0s
ARU Arti 56.01 319 P **P 19 19 50.7 +0.5**
baz=84,slow=6.5
ARU pP **pP 19 21 01.8 +0.7**
comp=Z,14nm,0.9s,baz=35,slow=5.2,SNR=4.2
ARU S **S 19 27 12.0 +0.4**
comp=Z,0.3nm,0.3s,baz=294,slow=21,SNR=11
ARU Arti 56.01 319 P **P 19 19 49.9 -0.3**
ARU IAmb IAmb 19 19 52.6
comp=Z,196nm,1.3s
TGL Tana Glacier 56.01 36 P **P 19 19 51.4 +1.1**
WAX Waxell Ridge 56.06 36 P **P 19 19 52.0 +1.4**
EGAK Eagle 56.07 31 P **P 19 19 50.9 +0.4**
EGAK IAmb IAmb 19 19 54.0
comp=Z,453nm,1.9s
BCAR Beaver Creek A 56.09 33 P **P 19 19 51.5 +0.8**
BALM Baldy 56.19 35 P **P 19 19 52.5 +0.9**
BALM IAmb IAmb 19 19 54.2
comp=Z,322nm,1.1s
CTGM Chitina Glacie 56.69 35 P **P 19 19 56.3 +1.2**
CTGM IAmb IAmb 19 19 57.9
comp=Z,296nm,1.1s
AB31 Akbulak array 56.93 310 *i* P **P 19 19 56.7 -0.1**
AB31 pmax pmax
comp=Z,19nm,0.5s
ABKAR Akbulak array 56.93 310 P **P 19 19 56.9 +0.1**
ABKAR Akbulak array 56.93 310 P **P 19 19 56.7 -0.1**
DAWY Dawson 56.95 31 P **P 19 19 57.5 +0.8**
EPYK Eagle Plains 57.59 28 P **P 19 20 02.7 +1.6**
baz=282,SNR=154
EPYK Eagle Plains 57.59 28 P **P 19 20 02.4 +1.3**
MBWA Marble Bar 57.62 199 P **P 19 20 01.8 0.0**
AS31 Alice Springs 57.79 183 P **P 19 20 02.5 -0.5**
ASAR Alice Springs 57.79 183 P **P 19 20 02.9 -0.1**
comp=Z,28nm,0.6s,baz=359,slow=5.9,SNR=720
ASAR PcP **PcP 19 20 52.6 +1.1**
comp=Z,8.0nm,0.9s,baz=4.9,slow=5.2,SNR=5.6
ASAR ScP **ScP 19 24 20.4 +1.8**
comp=Z,2.3nm,0.7s,baz=3.1,slow=5.5,SNR=3.9
ASAR S **S 19 27 33.4 -2.0**
comp=Z,13nm,0.8s,baz=16,slow=17,SNR=42
ASAR PKP2bc 19 49 54.9
comp=Z,11nm,1.0s,baz=174,slow=1.8,SNR=23
ASAR Alice Springs 57.79 183 P **P 19 20 02.2 -0.7**
AKTO Aktyubinsk 57.80 312 P **P 19 20 03.4 +0.6**
comp=Z,31nm,0.6s,baz=66,slow=15
AKTO S **S 19 27 34.8 -0.4**
comp=Z,2.1nm,0.8s,baz=265,slow=18,SNR=11
OPA Opana 57.86 84 P **P 19 20 03.8 +0.2**
OPA pmax pmax
comp=Z,516nm,1.4s
OPA Opana 57.86 84 P **P 19 20 03.8 +0.2**
PSA00 Pilbara Seismi 57.98 199 P **P 19 20 04.2 -0.1**
PALK Pallekele 58.29 256 *i* P **P 19 20 06.9 +0.2**
SNR=13
PALK Pallekele 58.29 256 P **P 19 20 07.1 +0.4**
PALK Pallekele 58.29 256 P **P 19 20 07.1 +0.4**
comp=Z,41nm,0.8s,baz=117,slow=2.4,SNR=38
PALK Pallekele 58.29 256 P **P 19 20 07.0 +0.2**
INK Inuvik 58.36 26 P **P 19 20 07.1 +0.8**
INK pmax pmax
comp=Z,259nm,1.3s
INK Inuvik 58.36 26 P **P 19 20 07.1 +0.8**
INK IAmb IAmb 19 20 08.7
comp=Z,259nm,1.2s
DHAK Deception Hill 58.65 37 P **P 19 20 10.7 +2.2**
KHLH Kahului Airpor 59.53 84 P **P 19 20 16.1 +1.1**
KHLH IAmb IAmb 19 20 18.5
comp=Z,230nm,1.1s
WHY Whitehorse 59.83 35 P **P 19 20 18.1 +1.5**
SKAG Skagway 59.97 36 P **P 19 20 19.5 +2.2**
SKAG IAmb IAmb 19 20 20.8
comp=Z,304nm,1.3s
HRA Herat 60.30 293 P **P 19 20 21.0 +0.7**
KHLU Kahalu`u 60.59 85 P **P 19 20 23.2 +0.8**
KNTN Kanton 60.65 117 P **P 19 20 22.8 +0.2**
KNTN IAmb IAmb 19 20 24.5
comp=Z,138nm,0.9s
JIS Juneau Island 60.80 37 P **P 19 20 24.6 +1.6**
JIS IAmb IAmb 19 20 26.4
comp=Z,308nm,1.3s
POHA Pohakuloa 60.81 85 P **P 19 20 25.1 +1.2**
POHA IAmb IAmb 19 20 26.6
comp=Z,207nm,0.8s
MLOA Mauna Loa Obse 60.88 85 P **P 19 20 26.2 +1.6**
MLOA IAmb IAmb 19 20 27.4
comp=Z,219nm,0.9s
EIDS Eidsvold 60.89 165 P **P 19 20 23.4 -0.5**
PRGR Permogore 61.05 327 *e*P **P 19 20 24.2 -0.4**
PRGR pmax pmax
comp=Z,77nm,1.1s
C36M Paulatuk 61.32 24 P **P 19 20 27.1 +0.9**
baz=291,SNR=206
GEYT Alibeck 61.98 298 P **P 19 20 32.1 +0.9**
comp=Z,8.8nm,0.7s,baz=41,slow=2.7,SNR=28
GEYT pP **pP 19 21 44.1 +0.2**
comp=Z,13nm,0.8s,baz=45,slow=2.9,SNR=7.7
GEYT Alibeck 61.98 298 P **P 19 20 31.8 +0.6**
GEYT **pP 19 21 44.3 +0.4**
CRAG Craig 62.41 40 P **P 19 20 35.4 +1.8**
CRAG IAmb IAmb 19 20 36.8
comp=Z,150nm,1.2s
SPA0 Spitsbergen Ar 62.43 348 P **P 19 20 34.5 +1.0**
SPA0 IAmb IAmb 19 20 35.7
comp=Z,81nm,0.9s
WRAK Wrangell Islan 62.48 39 P **P 19 20 35.6 +1.6**
WRAK IAmb IAmb 19 20 37.3
comp=Z,390nm,1.9s
KBS Kingsbay 62.65 350 *ce*P **P 19 20 36.4 +1.5**
KBS pmax pmax
comp=Z,395nm,1.1s
KBS Kingsbay 62.65 350 P **P 19 20 35.5 +0.5**
KBS IAmb IAmb 19 20 37.4
comp=Z,140nm,1.1s
DZM Mont Dzumac 62.71 149 *e*P **P 19 20 37.0 +0.8**
comp=Z,305nm,1.2s
DZM Mont Dzumac 62.71 149 P **P 19 20 37.5 +1.3**
DZM IAmb IAmb 19 20 38.9
comp=Z,116nm,1.0s
LVZ Lovozero 63.06 336 *ce*P **P 19 20 39.0 +1.2**
LVZ pmax pmax
comp=Z,84nm,1.2s
LVZ Lovozero 63.06 336 P **P 19 20 37.9 0.0**
TMCR Tamitsa 63.36 331 *e*P **P 19 20 38.8 -0.9**
TMCR pmax pmax
comp=Z,85nm,1.0s
DIB Dawson Inlet, 63.61 42 P **P 19 20 41.7 +0.2**
DIB IAmb IAmb 19 20 43.6
comp=Z,150nm,1.1s
APA Apatity 63.63 335⇑ *i* P **P 19 20 40.9 -0.6**
APA *i* 19 21 19.0
APA *i* S **S 19 28 46.0 -1.8**
APA *i* SS **ScS 19 30 04.0 +3.2**
APA pmax pmax
comp=Z,54nm,1.0s
APA MLR MLR
comp=Z,1µm,13.0s
KLMR Klimovskoe 64.09 327 *e*P **P 19 20 43.3 -1.2**
KLMR *e* 19 21 15.3
KLMR *e*S **S 19 28 52.1 -1.4**
KLMR *e*SS **SS 19 33 08.4 -0.3**
KLMR pmax pmax
comp=Z,74nm,1.1s
KLMR Klimovskoe 64.09 327 *e*P **P 19 20 43.4 -1.1**
KLMR AMP 19 20 45.7
comp=Z,74nm,1.1s
KLMR *e*PcP **PcP 19 21 15.3 -1.2**
KLMR *e*S **S 19 28 52.2 -1.3**
KLMR *e*S **S 19 28 52.2 -1.3**
KLMR *e*SS **SS 19 33 08.4 -0.3**
KLMR *e*SS **SS 19 33 08.4 -0.3**
KEV Kevo 64.65 339 P **P 19 20 48.9 +1.0**
KEV pmax pmax
comp=Z,130nm,1.2s
KEV Kevo 64.65 339 P **P 19 20 48.9 +1.0**
KEV IAmb IAmb 19 20 49.9
comp=Z,130nm,1.2s
MSVF Nonsavu 64.87 136 P **P 19 20 50.0 -0.2**
MSVF pmax pmax
comp=Z,147nm,1.2s
MSVF Nonsavu 64.87 136 P **P 19 20 50.0 -0.2**
MSVF IAmb IAmb 19 20 53.8
comp=Z,147nm,1.1s
ARCES ARCESS Array B 65.21 339 P **P 19 20 52.2 +0.6**
comp=Z,38nm,0.6s,baz=65,slow=8.8,SNR=230
ARCES ARCESS Array B 65.21 339 P **P 19 20 51.6 0.0**
ARE0 ARCESS Array S 65.21 339 P **P 19 20 52.3 +0.7**
FORT Forrest 65.35 188 P **P 19 20 53.0 +0.2**
ARMA Armidale 65.89 166 P **P 19 20 57.3 +0.8**
STKA Stephens Creek 66.03 176 P **P 19 20 57.4 +0.2**
comp=Z,22nm,0.6s,baz=345,slow=6.9,SNR=79
STKA pP **pP 19 22 09.1 -0.5**
comp=Z,14nm,0.9s,baz=346,slow=6.6,SNR=3.1
STKA S **S 19 29 17.8 +0.2**
comp=Z,3.1nm,1.0s,baz=104,slow=19,SNR=4.2
STKA PKP2bc 19 49 30.3
comp=Z,3.3nm,0.9s,baz=172,slow=6.8,SNR=4.1
STKA Stephens Creek 66.03 176 P **P 19 20 56.7 -0.5**
RES Resolute Bay 66.04 13 P **P 19 20 57.1 +0.4**
RES pmax pmax
comp=Z,205nm,1.0s
RES Resolute Bay 66.04 13 P **P 19 20 57.1 +0.4**
MORW Morawa 66.14 200 P **P 19 20 57.1 -0.9**
BBB Bella Bella 66.45 42 P **P 19 21 00.3 +0.7**
BBB IAmb IAmb 19 21 01.7
comp=Z,108nm,1.1s
BBOO Buckleboo 66.83 181 P **P 19 21 02.5 +0.3**
VRH Novokhopyorsk 67.13 317 *e*P **P 19 21 03.2 -0.8**
VRH *e**PP **pP 19 22 17.4 -0.4**
VRH *e*S **S 19 29 28.9 -1.6**
VRH pmax pmax
comp=Z,90nm,1.9s
VRH smax smax
comp=N,140nm,1.4s
MOS Moscow 67.23 323 *e*P **P 19 21 03.7 -0.8**
MOS *e* 19 21 36.7
MOS *e**PP **pP 19 22 16.9 -1.5**
MOS *e*S **S 19 29 32.8 +1.2**
MOS *e* 19 30 01.4
MOS pmax pmax
comp=Z,152nm,1.4s
MOS pmax pmax
comp=Z,200nm,1.7s
MAK Makhachkala 67.26 307 *e*P **P 19 21 04.2 -0.7**
MAK *e**PP **pP 19 22 18.8 -0.1**
MAK *e**SP **sP 19 22 54.3 -0.6**
MAK *e* 19 23 36.5

MAK e S S 19 29 30.7 -1.5
MAK pmax pmax
comp=Z,126nm,1.1s
MAK MLR MLR
comp=Z,571nm,17.0s
AKT Akhty 67.77 306⇑ *i* P P 19 21 08.6 +0.3
AKT e 19 21 33.8
AKT e*PP pP 19 22 22.4 0.0
AKT e*SP sP 19 22 56.7 -1.7
AKT e 19 23 47.7
AKT eS S 19 29 37.7 -0.9
AKT e 19 30 30.9
AKT pmax pmax
comp=Z,49nm,0.5s
YKW3 Yellowknife Ar 67.83 28 P P 19 21 08.5 +0.4
YKW3 IAmb IAmb 19 21 10.3
comp=Z,150nm,1.1s
YKA Yellowknife Ar 67.88 28 P P 19 21 08.8 +0.4
comp=Z,75nm,0.9s,baz=296,slow=6.1,SNR=139
YKA Yellowknife Ar 67.88 28 P P 19 21 08.0 -0.4
LPSR Galich'ya Gora 68.03 319 *eP* P 19 21 09.5 0.0
LPSR e*PP pP 19 22 23.5 -0.1
LPSR eS S 19 29 38.0 -3.0
LPSR pmax pmax
comp=Z,70nm,0.8s
LPSR smax smax
comp=E,60nm,1.6s
OBN Obninsk 68.06 322*c i* P P 19 21 10.0 +0.4
OBN e 19 21 33.8
OBN e*PP pP 19 22 23.2 -0.5
OBN e 19 23 43.2
OBN pmax pmax
comp=Z,149nm,1.6s
OBN Obninsk 68.06 322 P P 19 21 09.7 0.0
WSAR Wadi Sarin 68.07 284 P P 19 21 10.9 +0.6
comp=Z,22nm,1.1s,baz=129,slow=3.9,SNR=7.0
DAG Danmarks Havn 68.09 354⇑ *i* P P 19 21 09.9 +0.4
DAG pmax pmax
comp=Z,210nm,1.0s
DAG Danmarks Havn 68.09 354⇑ *i* P P 19 21 09.9 +0.4
comp=Z,206nm,1.0s
TULEG Thule 68.17 6 P P 19 21 10.1 +0.1
GROC Groznyy 68.27 308 *eP* P 19 21 11.3 +0.1
GROC e 19 21 34.1
GROC e*PP pP 19 22 24.7 -0.7
GROC e*SP sP 19 23 01.0 -0.5
GROC e 19 23 47.5
GROC eS S 19 29 43.9 -0.3
GROC pmax pmax
comp=Z,42nm,1.0s
VSR Storozhevoye 68.55 318 *eP* P 19 21 12.4 -0.4
VSR e*PP pP 19 22 26.6 -0.3
VSR eS S 19 29 44.1 -3.1
VSR pmax pmax
comp=Z,130nm,1.4s
VSR smax smax
comp=N,60nm,1.4s
PUL Pulkovo 68.63 329*ceP* P 19 21 14.2 +1.1
PUL pmax pmax
comp=Z,63nm,0.8s
BANOM Banah 68.63 287 P P 19 21 15.9 +2.1
BANOM Banah 68.63 287 P P 19 21 14.8 +1.0
SNR=8.9
SHME Shamm 68.70 288 P P 19 21 15.3 +1.2
XMAS Kiritimati 68.75 103 P P 19 21 14.7 +0.1
MDH Madha 68.94 287 P P 19 21 16.4 +0.8
GOF Gofitskoye 69.17 311⇑ *i* P P 19 21 17.1 +0.4
GOF pmax pmax
comp=Z,84nm,0.7s
UOSS Minazif 69.18 287 P P 19 21 18.2 +1.1
HATD Hatta, Dubai 69.30 286 P P 19 21 19.1 +1.2
ASHO Ashiyiah 69.42 286 P P 19 21 19.2 +0.5
ASHO Ashiyiah 69.42 286 P P 19 21 19.3 +0.7
BSY Bisya 69.46 284 P P 19 21 19.6 +0.8
SNR=9.4
FIA1 FINESS Array S 69.47 331 P P 19 21 17.9 -0.2
FINES FINESS Array B 69.47 331 P P 19 21 18.1 -0.1
comp=Z,53nm,0.5s,baz=69,slow=5.0,SNR=376
FINES FINESS Array B 69.47 331 P P 19 21 17.9 -0.3
TBLG Delisi 69.64 307 P P 19 21 20.3 +0.6
TBLG *PP pP 19 22 34.6 +0.3
TBLG Delisi 69.64 307 P P 19 21 20.3 +0.6
TBLG pP 19 22 34.6 +0.3
ZEI Tsey 69.69 308 *eP* P 19 21 18.4 -1.8
ZEI pmax pmax
comp=Z,45nm,1.4s
KBZ Khabaz 69.89 310 P P 19 21 21.7 +0.6
comp=Z,56nm,0.9s,baz=73,slow=4.4,SNR=79
KBZ pP pP 19 22 36.7 +1.0
comp=Z,40nm,1.1s,baz=62,slow=6.2,SNR=4.7
KIV Kislovodsk 69.92 310 *i* P P 19 21 22.7 +1.3
SNR=12
KIV Kislovodsk 69.92 310 P P 19 21 22.5 +1.1
SNR=26
KIV Kislovodsk 69.92 310 *eP* P 19 21 22.0 +0.7
KIV e*PP pP 19 22 35.7 -0.3
KIV eS S 19 30 05.3 +1.7
KIV pmax pmax
comp=Z,324nm,1.0s
KIV pmax pmax
comp=Z,281nm,4.8s
KIV MLR MLR
comp=Z,652nm,17.0s
KIV Kislovodsk 69.92 310⇑ P P 19 21 22.1 +0.7
KIV mb 19 21 24.4
KIV Kislovodsk 69.92 310 P P 19 21 21.4 0.0
KIV IAmb IAmb 19 21 24.4
comp=Z,92nm,0.9s
ASUD Al Ashush, Dub 70.03 287 P P 19 21 23.4 +1.2
CAN Canberra 70.22 170 P P 19 21 23.1 0.0
CAN pmax pmax
comp=Z,94nm,1.3s
CAN Canberra 70.22 170 P P 19 21 23.1 0.0
CAN IAmb IAmb 19 21 25.2
comp=Z,94nm,1.3s
GNI Garni 70.39 306 *i* P P 19 21 25.9 +1.5
SNR=8.0
GNI Garni 70.39 306 P P 19 21 25.8 +1.4
SNR=11
GNI Garni 70.39 306*ceP* P 19 21 25.5 +1.1
GNI pmax pmax
comp=Z,222nm,1.7s
GNI Garni 70.39 306 P P 19 21 26.0 +1.6
GNI IAmb IAmb 19 22 42.7
comp=Z,128nm,1.4s
AKH Akhalkalaki 70.62 307 P P 19 21 26.6 +0.9
AKH *PP pP 19 22 42.0 +1.4
AKH pmax pmax
comp=Z,100nm,1.5s
AKH Akhalkalaki 70.62 307⇑ P P 19 21 26.9 +1.2
AKH Akhalkalaki 70.62 307 P P 19 21 26.6 +0.9
AKH pP 19 22 42.0 +1.4
AKH IAmb IAmb 19 22 43.0
comp=Z,100nm,1.5s
PGC Sidney 70.74 44 P P 19 21 26.4 +0.3
VSU Vasula 70.90 329*ceP* P 19 21 27.6 +0.8
VSU pmax pmax
comp=Z,369nm,1.4s
VSU Vasula 70.90 329 *eP* P 19 21 26.6 -0.2
VSU IAmb IAmb 19 21 28.0
comp=Z,217nm,0.7s
KULLO Kullorsuaq 70.92 4 *i* P P 19 21 27.6 +0.9
KULLO pmax pmax
comp=Z,130nm,0.7s
KULLO Kullorsuaq 70.92 4 *i* P P 19 21 27.6 +0.9
comp=Z,128nm,0.7s
A04D Lummi Island 71.13 44 P P 19 21 29.8 +1.5
baz=301,SNR=13
NLWA Neilton Lookou 71.13 45 P P 19 21 29.7 +1.1
D03D Eldon 71.52 45 P P 19 21 32.5 +1.8
baz=301,SNR=49
BATM Batumi 71.70 308⇑ P P 19 21 33.0 +1.1
B05A Bryant 71.72 44 P P 19 21 33.2 +1.3
baz=301,SNR=58
BCA Borcka 71.83 308⇑ P P 19 21 33.1 +0.4
BCA mb 19 21 35.6
D04E Lakebay 71.89 45 P P 19 21 34.5 +1.6
baz=301
B06A Marblemount 71.93 43 P P 19 21 34.0 +0.9
SOC Sochi 71.97 311 *eP* P 19 21 33.3 -0.2
SOC e*PP pP 19 22 47.8 -0.8
SOC e*SP sP 19 23 22.9 -1.5
SOC e PPP PPP 19 26 01.1
SOC eS S 19 30 25.9 -1.0
SOC e 19 31 01.3
SOC eSSS SSS 19 38 24.6
SOC pmax pmax
comp=Z,52nm,1.0s
TOO Toolangi 72.00 173 P P 19 21 34.8 +1.2
TOO pmax pmax
comp=Z,35nm,0.9s
TOO Toolangi 72.00 173 P P 19 21 34.8 +1.2
F04D Rainier, OR 72.31 46 P P 19 21 37.1 +1.7
baz=301
E04D Cinebar 72.33 45 P P 19 21 36.8 +1.3
baz=301,SNR=15
D05A Enumclaw 72.34 45 P P 19 21 35.6 0.0
G03D McMinnville, O 72.61 47 P P 19 21 38.3 +1.1
baz=301,SNR=6.4
MICGM Minsk 72.65 325⇓ *eP* P 19 21 38.0 +0.7
MICGM PM 19 21 39.0
comp=Z,0.4nm,1.0s
MNK Minsk 72.65 325 *eP* P 19 21 38.0 +0.7
MNK pmax pmax
comp=Z,370nm,1.0s
LON Longmire 72.67 45 P P 19 21 38.4 +0.8
LON pmax pmax
comp=Z,74nm,1.3s
LON Longmire 72.67 45 P P 19 21 38.4 +0.8
IZAR Zarasai 72.69 326 *eP* P 19 21 38.5 +1.0
IDID Didziasalis 72.72 326 *eP* P 19 21 38.5 +0.9
F04A Amboy 72.74 46 P P 19 21 38.7 +0.8
ANN Anapa 72.76 313*d i* P P 19 21 38.8 +0.8
ANN *i* *PP pP 19 22 53.0 -0.2
ANN eS S 19 30 34.9 -0.7
ANN e 19 31 06.8
ANN pmax pmax
comp=Z,104nm,1.2s
I02D Swisshome 72.83 48 P P 19 21 39.2 +0.7
baz=301
ISAL Salakas 72.85 326 *eP* P 19 21 39.3 +0.9
COR Corvallis 72.91 47 P P 19 21 40.0 +1.0
COR pmax pmax
comp=Z,270nm,1.0s
COR Corvallis 72.91 47 P P 19 21 40.0 +1.0
IIGN Ignalina 72.94 326 *eP* P 19 21 39.9 +0.9
IIGN IAmb IAmb 19 21 40.8
comp=Z,21nm,0.6s
NACGM Naroch 72.94 325 *e* P 19 21 38.0 -0.9
LTY Liberty 73.06 44 P P 19 21 40.5 +0.6
LTY IAmb IAmb 19 21 42.2
comp=Z,99nm,1.2s
B08A Colville Reser 73.23 43 P P 19 21 41.0 +0.2
B08A IAmb IAmb 19 21 43.2
comp=Z,148nm,1.1s
J01E Myrtle Point 73.27 49 P P 19 21 42.5 +1.4
baz=302,SNR=9.6
H04D Lebanon 73.29 47 P P 19 21 42.8 +1.7
baz=302,SNR=9.7
SLIT Slitere, Latvi 73.30 329 *eP* P 19 21 40.4 -0.5
SLIT IAmb IAmb 19 21 42.5
comp=Z,599nm,0.6s
SUMG Summit 73.30 359⇑ *i* P P 19 21 43.1 +1.9
SUMG pmax pmax
comp=Z,370nm,0.7s
SUMG Summit 73.30 359⇑ *i* P P 19 21 43.1 +1.9
comp=Z,368nm,0.7s
SUMG Summit 73.30 359 P P 19 21 42.4 +1.1
F05D White Salmon 73.33 46 P P 19 21 42.8 +1.4
baz=302,SNR=5.8
I03D Drain, OR 73.35 48 P P 19 21 43.0 +1.4
baz=302,SNR=34
K02D Willamette Mer 73.68 49 P P 19 21 44.7 +1.1
baz=302,SNR=32
G05D Wamic, OR 73.76 46 P P 19 21 45.0 +1.0
baz=302,SNR=10
PABE Paberze 73.87 327 *eP* P 19 21 44.8 +0.5
PABE IAmb IAmb 19 21 45.7
comp=Z,78nm,0.6s
E07A Sunnyside 73.91 44 P P 19 21 45.6 +0.9
E07A IAmb IAmb 19 21 47.6
comp=Z,145nm,1.1s
L02E Cave Junction 74.00 50 P P 19 21 46.6 +1.2
baz=302,SNR=19
C09A Chrisman Ranch 74.13 43 P P 19 21 46.8 +0.8
AKASG Malin Array Be 74.17 321 P P 19 21 45.8 -0.3
comp=Z,23nm,0.7s,baz=49,slow=6.1,SNR=93
AKASG pP pP 19 23 01.7 0.0
comp=Z,5.6nm,0.6s,baz=48,slow=6.6,SNR=2.9
AKASG Malin Array Be 74.17 321 P P 19 21 45.6 -0.5
AKASG pP 19 23 01.6 -0.1
AKBB Malin Array Si 74.17 321 P P 19 21 45.8 -0.3
AKBB pmax pmax
comp=Z,85nm,1.2s
AKBB Malin Array Si 74.17 321 P P 19 21 45.8 -0.3
AKBB IAmb IAmb 19 21 47.4
comp=Z,85nm,1.2s
HUMO Hull Mountain 74.17 49 P P 19 21 47.1 +0.8
HAWA Hanford 74.19 44 P P 19 21 47.4 +1.0
HAWA IAmb IAmb 19 21 49.0
comp=Z,101nm,0.9s
F07A Phinny Hill Vi 74.23 45 P P 19 21 48.1 +1.5
F07A IAmb IAmb 19 21 49.4
comp=Z,158nm,1.0s
I05D Terrebonne, OR 74.24 47 P P 19 21 47.7 +0.9
baz=303,SNR=21
SCO Scoresbysund 74.35 353⇑ *i* P P 19 21 48.1 +1.3
SCO pmax pmax
comp=Z,260nm,1.4s
SCO Scoresbysund 74.35 353⇑ *i* P P 19 21 48.1 +1.3
comp=Z,256nm,1.4s
SCO Scoresbysund 74.35 353 P P 19 21 47.9 +1.1
SCO pP 19 23 02.9 +0.3
J04D Umpqua Nationa 74.36 48 P P 19 21 48.7 +1.1
baz=302,SNR=12
E08A Dider Farm, El 74.41 44 P P 19 21 48.3 +0.7
E08A IAmb IAmb 19 21 50.1
comp=Z,96nm,0.9s
JCC Jacoby Creek, 74.44 51 P P 19 21 49.4 +1.6
JCC IAmb IAmb 19 21 51.0
comp=Z,138nm,1.0s
PBUR Paburg 74.46 328 *eP* P 19 21 48.0 +0.3
NEW Newport 74.51 42 P P 19 21 49.0 +0.8
baz=304,SNR=56
NEW Newport 74.51 42 P P 19 21 48.8 +0.6
NEW pmax pmax
comp=Z,154nm,1.1s
NEW Newport 74.51 42 P P 19 21 48.8 +0.6
NEW IAmb IAmb 19 21 50.6
comp=Z,154nm,1.1s
SIM Simferopol' 74.67 314*de* P P 19 21 50.2 +1.1
SIM e*PP pP 19 23 05.0 +0.3
SIM eS S 19 30 58.0 +1.1
SIM eSS SS 19 35 50.0 -1.4
SIM pmax pmax
comp=Z,44nm,1.0s
PINE Pine Mountain 74.78 47 P P 19 21 51.3 +1.3
L04D Klamath Falls 74.79 49 P P 19 21 51.2 +1.2
baz=303,SNR=63
YBH Yreka Blue Hor 74.79 50 P P 19 21 51.0 +1.0
YBH pmax pmax
comp=Z,94nm,1.0s
YBH Yreka Blue Hor 74.79 50 P P 19 21 51.0 +1.0
YBH IAmb IAmb 19 21 53.0
comp=Z,94nm,0.9s
J05D Fort Rock, OR 74.87 48 P P 19 21 52.0 +1.5
baz=303,SNR=45
M02C Callahan 74.88 50 P P 19 21 52.0 +1.5
baz=302,SNR=51
K04D Chiloquin, OR 74.91 49 P P 19 21 51.9 +1.2
baz=303,SNR=21
NC405 NORSAR Array S 74.99 336 P P 19 21 50.7 +0.1
NC405 IAmb IAmb 19 21 51.8
comp=Z,102nm,0.7s
NC303 NORSAR Array S 75.03 336 P P 19 21 51.0 +0.2
SUW Suwalki 75.16 326 P P 19 21 51.4 -0.3
SUW pmax pmax
comp=Z,124nm,1.1s
SUW Suwalki 75.16 326 *eP* P 19 21 51.3 -0.3
SUW *eP* P 19 21 51.3 -0.3
SUW Suwalki 75.16 326 P P 19 21 51.4 -0.3
SUW IAmb IAmb 19 21 53.1
comp=Z,124nm,1.1s
SEVA Sevastopol 75.16 314 ⇓P P 19 21 52.8 +0.9
NB201 NORSAR Array S 75.18 336 P P 19 21 51.9 +0.1
NC204 NORSAR Array S 75.19 336 P P 19 21 51.9 +0.1
N02D Trinity Center 75.20 50 P P 19 21 53.7 +1.4
baz=303,SNR=54
NB2 NORSAR Subarra 75.21 336 P P 19 21 51.8 -0.1
comp=Z,186nm,1.4s,baz=44,slow=5.9
NOA NORSAR Array B 75.21 336 P P 19 21 51.8 -0.1
comp=Z,19nm,0.5s,baz=54,slow=6.8,SNR=91
NOA pP pP 19 23 07.8 -0.1
comp=Z,11nm,1.0s,baz=43,slow=5.9,SNR=3.9
M04C Macdoel 75.31 49 P P 19 21 54.3 +1.3
baz=303,SNR=69
NC602 NORSAR Array S 75.32 336 P P 19 21 52.0 -0.5
NC602 IAmb IAmb 19 21 53.2
comp=Z,143nm,1.4s
ABTO Aybut 75.36 281 P P 19 21 53.7 +0.2
SNR=12
NBO00 NORSAR Array S 75.36 336 P P 19 21 53.3 +0.6
NBO00 IAmb IAmb 19 21 53.8
comp=Z,82nm,0.9s
NAO01 NORSAR Array S 75.46 336 P P 19 21 53.5 +0.2
NAO01 IAmb IAmb 19 21 54.9
comp=Z,200nm,1.4s
WDC Whiskeytown Da 75.52 51 P P 19 21 54.7 +0.7
WDC pmax pmax
comp=Z,74nm,1.0s
WDC Whiskeytown Da 75.52 51 P P 19 21 54.6 +0.7
WDC IAmb IAmb 19 21 56.7
comp=Z,74nm,1.0s
O02D Mt. Diablo Mer 75.58 51 P P 19 21 55.8 +1.3
baz=303,SNR=54
F10A Beach Ranch, E 75.75 44 P P 19 21 56.3 +1.0
WALA Waterton Lakes 75.79 40 P P 19 21 56.2 +0.7
HOPS Hopland Field 76.04 52 P P 19 21 58.2 +1.3
SORM Soroca 76.13 319⇑ P P 19 21 57.9 +0.7
O03E Paynes Creek 76.15 51 P P 19 21 58.0 +0.3
baz=303,SNR=34
MOD Modoc Plateau 76.21 49 P P 19 21 58.7 +0.6
MOD IAmb IAmb 19 22 00.6
comp=Z,102nm,1.1s
BMO Blue Mountains 76.35 45 P P 19 21 59.4 +0.7
BMO pmax pmax
comp=Z,149nm,1.1s
BMO Blue Mountains 76.35 45 P P 19 21 59.4 +0.7
BMO IAmb IAmb 19 22 01.2
comp=Z,148nm,1.1s
JTMT Jette 76.36 41 P P 19 22 00.0 +1.2
BZK Bozkurt 76.39 312 ⇓P P 19 21 59.3 +0.5
ILULI Ilulissat 76.56 3 *i* P P 19 22 00.9 +1.7
ILULI Ilulissat 76.56 3 *i* P P 19 22 00.9 +1.7
MILM Milestii Mici 76.59 318⇑ P P 19 22 00.5 +0.6
MCCM Marconi Confer 76.62 53 P P 19 22 00.6 +0.4
MCCM IAmb IAmb 19 22 02.3
comp=Z,96nm,0.9s
KONO Kongsberg 76.78 336*ceP* P 19 22 01.0 +0.4
KONO pmax pmax
comp=Z,81nm,1.6s
WVOR Wild Horse Val 76.93 47 P P 19 22 02.9 +0.9
WVOR pmax pmax
comp=Z,135nm,1.3s
WVOR Wild Horse Val 76.93 47 P P 19 22 02.9 +0.9
WVOR IAmb IAmb 19 22 04.8
comp=Z,135nm,1.2s
PLID Pearl Lake 76.97 44 P P 19 22 02.3 0.0
PLID IAmb IAmb 19 22 04.4
comp=Z,145nm,1.6s
ILGA Ilgaz 77.08 311 P P 19 22 04.2 +1.2
ILGA pP 19 23 20.5 +1.2
ILGA IAmb IAmb 19 23 21.7
comp=Z,74nm,1.0s
MSO Missoula 77.10 42 P P 19 22 03.3 +0.4
baz=307,SNR=42
MSO Missoula 77.10 42 P P 19 22 03.1 +0.2
MSO IAmb IAmb 19 22 04.9
comp=Z,210nm,1.6s
OUZ Omahuta 77.21 150 P P 19 22 05.0 +1.8
OUZ IAmb IAmb 19 22 06.7
comp=Z,51nm,0.9s
BEKR Beckworth 77.31 50 P P 19 22 04.7 +0.5
LVV L'vov 77.36 322 *eP* P 19 22 04.6 +0.5
LVV e*PP pP 19 23 19.8 -0.6
LVV eS S 19 31 24.4 -1.5
LVV pmax pmax
comp=Z,230nm,1.6s
SOCY Socotra 77.53 276 P P 19 22 04.1 -1.6
SOCY pP 19 23 21.5 -0.4
SOCY IAmb IAmb 19 23 23.1
comp=Z,189nm,1.8s
TLCR 77.62 317 P P 19 22 08.0 +2.5
TLCR 77.62 317⇑ P P 19 22 06.0 +0.4
TLCR mb 19 22 08.0
BIR Birlad 77.64 318 P P 19 22 11.1 +5.4
BIR Birlad 77.64 318⇑ P P 19 22 07.5 +1.8
BIR mb 19 22 11.1
BEL Belsk 77.66 325 *eP* P 19 22 07.0 +1.4
BEL Belsk 77.66 325 *eP* P 19 22 07.0 +1.4
BEL *eP* P 19 22 07.0 +1.4
PRAR RASCA 77.74 319⇑ P P 19 22 06.8 +0.5
PRAR mb 19 22 07.6
FFC Flin Flon 77.84 31 *i* P P 19 22 07.5 +0.9
FFC Flin Flon 77.84 31 P P 19 22 06.6 0.0
BR131 Keskin Array S 77.88 310 P P 19 22 07.9 +0.6
SNR=22
BR131 Keskin Array S 77.88 310 P P 19 22 06.9 -0.4
BR131 pmax pmax
comp=Z,65nm,1.2s
BR131 Keskin Array S 77.88 310 P P 19 22 06.9 -0.4
BRTR Keskin Array B 77.88 310 P P 19 22 07.7 +0.3
comp=Z,28nm,1.0s,baz=102,slow=4.0,SNR=86
BRTR pP pP 19 23 24.5 +0.7
comp=Z,26nm,1.0s,baz=101,slow=5.2,SNR=12
BRTR PKKPbc PKKPbc 19 41 05.2 +0.7
comp=Z,0.7nm,0.7s,baz=172,slow=2.5,SNR=4.5
BRTR Keskin Array B 77.88 310 P P 19 22 06.5 -0.8
BRTR pP 19 23 24.2 +0.4
RUBR Rubicon Trail 77.90 51 P P 19 22 07.7 +0.2
FCC Fort Churchill 77.94 25 P P 19 22 07.5 +0.5
FCC pmax pmax
comp=Z,173nm,1.2s
FCC Fort Churchill 77.94 25 P P 19 22 07.5 +0.5
CFR Carcaliu 78.01 317⇑ P P 19 22 08.3 +0.7
PAHR Pah Rah Range 78.02 50 P P 19 22 08.6 +0.5
PAHR IAmb IAmb 19 22 10.4
comp=Z,150nm,1.1s
TESR Tescani 78.03 319⇑ P P 19 22 08.5 +0.7
BSD Bornholm Skovb 78.04 330 *i* P P 19 22 07.0 -0.6
BSD pmax pmax
comp=Z,100nm,1.0s
BSD Bornholm Skovb 78.04 330 *i* P P 19 22 07.0 -0.6
comp=Z,100nm,1.0s
MFID Camas Ranch 78.05 45 P P 19 22 08.9 +0.8
MFID IAmb IAmb 19 22 10.8
comp=Z,112nm,0.9s
TOPG Topolog 78.05 316⇑ P P 19 22 08.5 +0.5
BIZ Bicaz 78.06 319⇑ P P 19 22 08.9 +0.9
VCNR Virginia City 78.08 51 P P 19 22 09.3 +0.8
VCNR IAmb IAmb 19 22 11.0
comp=Z,76nm,0.9s
BUR08 Bucovina Ar. S 78.11 320 P P 19 22 09.0 +0.6
BURAR Bucovina Array 78.12 320 P P 19 22 10.7 +2.3
BURAR Bucovina Array 78.12 320 ⇓P P 19 22 08.8 +0.4
BURAR mb 19 22 10.7
KWP Kalwaria Pacla 78.15 323 P P 19 22 09.1 +0.7
KWP pmax pmax
comp=Z,2μm,1.3s
KWP Kalwaria Pacla 78.15 323 *eP* P 19 22 08.7 +0.3
KWP *eP* P 19 22 08.7 +0.3
KWP Kalwaria Pacla 78.15 323 P P 19 22 09.1 +0.7
PETR Petresti 78.19 318⇑ P P 19 22 10.9 +2.2
PNTR Pine Nut 78.23 51 P P 19 22 10.4 +1.0
PNTR IAmb IAmb 19 22 12.0
comp=Z,122nm,0.9s
ODBI Odobesti 78.26 318⇑ P P 19 22 10.9 +1.8
ODBI mb 19 22 12.7
TIRR Tirgusor 78.28 316 ⇓P P 19 22 10.5 +1.3
RAYN Ar Rayn 78.30 290 *i* P P 19 22 10.1 +0.3
SNR=12
RAYN Ar Rayn 78.30 290 P P 19 22 10.0 +0.3
RAYN pmax pmax
comp=Z,101nm,1.8s
RAYN Ar Rayn 78.30 290 P P 19 22 09.9 +0.2
RAYN IAmb IAmb 19 23 29.7
comp=Z,101nm,1.8s
CMB Columbia Colle 78.32 52 P P 19 22 10.2 +0.6
CMB pmax pmax
comp=Z,117nm,1.1s
CMB Columbia Colle 78.32 52 P P 19 22 10.2 +0.6
CMB IAmb IAmb 19 22 11.9
comp=Z,117nm,1.1s

HRY	Holter Researc	78.32	41	P	P	19 22 10.7 +1.1
GKP	Gorka Klasztor	78.32	328	eP	P	19 22 10.0 +0.8
GKP	Gorka Klasztor	78.32	328	eP	P	19 22 10.0 +0.8
GKP				eP	P	19 22 10.0 +0.8
ANTO	Ankara	78.33	310	P	P	19 22 10.5 +0.8
SNR=6.6						
ANTO	Ankara	78.33	310	P	P	19 22 11.5 +1.8
ANTO	Ankara	78.33	310	⇓P	P	19 22 09.5 -0.2
ANTO				mb		19 22 11.4
ANTO	Ankara	78.33	310	P	P	19 22 10.9 +1.2
ANTO					pP	19 23 26.9 +0.7
ANTO				IAmb	IAmb	19 23 28.2
comp=Z,68nm,1.1s						
SAO	San Andreas Ge	78.34	53	P	P	19 22 10.3 +0.6
SAO				pmax	pmax	
comp=Z,45nm,1.0s						
SAO	San Andreas Ge	78.34	53	P	P	19 22 10.3 +0.6
VRI	Vrincioaia	78.38	318	⇑P	P	19 22 11.0 +1.3
HARR	Harsova	78.42	317	P	P	19 22 11.7 +1.8
HARR	Harsova	78.42	317	⇑P	P	19 22 10.9 +1.0
HARR				mb		19 22 11.7
TLB	Topalu	78.42	316	⇓P	P	19 22 11.0 +1.1
PLOR	Plostina	78.43	318	⇓P	P	19 22 11.1 +1.0
YERR	Yerington	78.52	51	P	P	19 22 11.3 +0.4
BISRR	Bisoca	78.58	318	⇑P	P	19 22 12.7 +1.8
EGMT	Eagleton	78.61	39	P	P	19 22 11.8 +0.8
baz=309,SNR=85						
EGMT	Eagleton	78.61	39	P	P	19 22 11.6 +0.6
COP	Copenhagen	78.63	332	eP	P	19 22 10.6 -0.2
COP	Copenhagen	78.63	332	i P	P	19 22 10.6 -0.2
WAKR	Walker	78.67	51	P	P	19 22 12.5 +0.8
WAKR				IAmb	IAmb	19 22 14.4
comp=Z,109nm,1.1s						
DLMT	Dillon	78.73	42	P	P	19 22 12.8 +0.9
OZUR		78.76	319	⇑P	P	19 22 13.6 +1.8
SFJD	Kangerlussuaq	78.79	3	i P	P	19 22 12.7 +1.2
SFJD	Kangerlussuaq	78.79	3	i P	P	19 22 12.7 +1.2
SFJD	Kangerlussuaq	78.79	3	P	P	19 22 12.2 +0.7
SFJD				IAmb	IAmb	19 22 13.7
comp=Z,176nm,1.4s						
KOLS	Kolonicke sedl	78.81	322	eP	P	19 22 13.2 +1.2
KOLS				pmax	pmax	
comp=Z,30nm,1.4s						
KOLS	Kolonicke sedl	78.81	322	eP	P	19 22 13.2 +1.2
ICOR	Ion Corvin	78.84	316	⇑P	P	19 22 13.5 +1.3
ARCR	ARCALIA	78.91	320	⇑P	P	19 22 14.7 +2.1
MCMT	McKenzie Canyo	78.92	43	P	P	19 22 13.1 +0.1
ISR	Istrita	78.94	317	⇓P	P	19 22 14.0 +1.2
BMN	Battle Mountai	78.95	48	P	P	19 22 14.2 +1.0
BMN				pmax	pmax	
comp=Z,138nm,1.2s						
BMN	Battle Mountai	78.95	48	P	P	19 22 14.2 +1.0
BMN				IAmb	IAmb	19 22 16.1
comp=Z,138nm,1.2s						
BMR	Baia Mare	78.99	321	⇑P	P	19 22 14.8 +1.8
UZH	Uzhgorod	79.00	322	eP	P	19 22 10.7 -2.3
UZH				i		19 22 21.0
UZH				e		19 23 29.0
MLR	Muntele Rosu	79.04	318	P	P	19 22 14.1 +0.6
MLR				pmax	pmax	
comp=Z,43nm,1.3s						
MLR	Muntele Rosu	79.04	318	P	P	19 22 14.1 +0.6
DOPR	Dopca	79.05	319	⇑P	P	19 22 14.9 +1.5
BOZ	Bozeman (W)	79.12	42	P	P	19 22 14.9 +1.0
baz=308,SNR=21						
BOZ	Bozeman (W)	79.12	42	P	P	19 22 13.8 -0.2
BOZ				pmax	pmax	
comp=Z,122nm,1.0s						
BOZ	Bozeman (W)	79.12	42	P	P	19 22 13.8 -0.2
BOZ				IAmb	IAmb	19 22 16.5
comp=Z,122nm,1.0s						
RYN	Ryan	79.18	51	P	P	19 22 15.0 +0.6
RYN				IAmb	IAmb	19 22 17.0
comp=Z,112nm,1.1s						
OJC	Ojcow	79.19	324	eP	P	19 22 14.6 +0.5
OJC	Ojcow	79.19	324	eP	P	19 22 14.6 +0.5
OJC				eP	P	19 22 14.6 +0.5
OJC	Ojcow	79.19	324	P	P	19 22 14.3 +0.2
OJC				IAmb	IAmb	19 22 16.2
comp=Z,78nm,1.1s						
TRPA	Tarpa	79.20	322	⇑P	P	19 22 14.9 +0.9
TRPA				mb		19 22 17.2
KVN	Kaiserville	79.21	50	P	P	19 22 15.4 +0.8
KVN				pmax	pmax	
comp=Z,191nm,1.1s						
KVN	Kaiserville	79.21	50	P	P	19 22 15.4 +0.8
SECR		79.26	318	⇓P	P	19 22 16.1 +1.6
SECR				mb		19 22 17.8
MUD	Monsted U'grnd	79.31	334	i P	P	19 22 14.7 +0.2
MUD				pmax	pmax	
comp=Z,71nm,1.1s						
MUD	Monsted U'grnd	79.31	334	i P	P	19 22 14.7 +0.2
comp=Z,71nm,1.1s						
SULR		79.37	317	⇑P	P	19 22 15.9 +0.9
NVAR	Mina Array Bea	79.44	51	P	P	19 22 16.9 +1.0
comp=Z,57nm,0.8s,baz=284,slow=5.2,SNR=232						
NVAR	Mina Array Bea	79.44	51	P	P	19 22 17.0 +1.2
OMMB	Old Mammoth Mi	79.46	52	P	P	19 22 16.8 +0.6
OMMB				IAmb	IAmb	19 22 18.6
comp=Z,60nm,1.1s						
NIE	Niedzica	79.48	324	eP	P	19 22 16.2 +0.5
NIE	Niedzica	79.48	324	eP	P	19 22 16.1 +0.5
NIE				eP	P	19 22 16.1 +0.5
NV11	Mina Array Sit	79.53	51	P	P	19 22 16.8 +0.6
NV11				IAmb	IAmb	19 22 18.9
comp=Z,94nm,1.3s						
CJR	Cluj-Napoca	79.55	320	⇑P	P	19 22 18.0 +1.9
MLAC	Mammoth, Mammo	79.56	52	P	P	19 22 17.6 +1.1
baz=305,SNR=9.8						
VOIR		79.57	318	⇓P	P	19 22 17.6 +1.4
QLMT	Earthquake Lak	79.71	42	P	P	19 22 18.4 +1.2
BORG	Borgarnes	79.76	351	i P	P	19 22 20.8 +4.0
YHL	Hebgen Lake	79.83	42	P	P	19 22 19.1 +1.2
ARR	Arges	79.84	319	⇓P	P	19 22 19.3 +1.6
YHB	Horse Butte	79.89	42	P	P	19 22 19.4 +1.3
RAZG	Razgrad	79.92	316	⇑P	P	19 22 19.1 +1.1
VOG	Valley Oaks Go	79.96	53	P	P	19 22 18.0 -0.4
baz=305						
DRGR		79.97	321	⇓P	P	19 22 19.7 +1.4
ELK	Elko	79.99	47	P	P	19 22 19.8 +1.1
ELK				pmax	pmax	
comp=Z,52nm,1.0s						
ELK	Elko	79.99	47	P	P	19 22 19.9 +1.1
ELK				IAmb	IAmb	19 22 21.6
comp=Z,52nm,1.0s						
KECS	Kecovo	80.01	323	eP	P	19 22 19.3 +0.9
KECS				pmax	pmax	
comp=Z,11nm,1.1s						
KECS	Kecovo	80.01	323	eP	P	19 22 19.3 +0.9
YHH	Holmes Hill	80.06	42	P	P	19 22 19.6 +0.4
LANS	Liptovska Anna	80.07	324	eP	P	19 22 20.6 +1.8
LANS				pmax	pmax	
comp=Z,18nm,1.0s						
LANS	Liptovska Anna	80.07	324	eP	P	19 22 20.6 +1.8
GCMT	Greycliff	80.07	41	P	P	19 22 20.3 +1.3
SMMC	Simmler	80.13	54	P	P	19 22 20.2 +0.8
baz=305,SNR=7.1						
YNM	Yellowstone No	80.18	42	P	P	19 22 20.4 +0.7
HUMR	Humele	80.18	318	⇑P	P	19 22 19.7 +0.3
YNR	Norris Junctio	80.20	42	P	P	19 22 21.6 +1.8
OKC	Ostrava-Krasne	80.24	325	eP	P	19 22 20.4 +0.8
OKC	Ostrava-Krasne	80.24	325	eP	P	19 22 20.4 +0.8
LOT	Lotru	80.26	319	⇑P	P	19 22 21.5 +1.5
TIN	Tinemaha, Big	80.29	52	P	P	19 22 21.3 +1.1
baz=306,SNR=24						
YUF	Upper Falls	80.29	42	P	P	19 22 21.9 +1.6
COPA	Copaceanca	80.29	317	⇑P	P	19 22 21.1 +1.1
YPP	Pitchstone Pla	80.41	42	P	P	19 22 23.1 +2.1
KSP	Ksiaz	80.42	326	eP	P	19 22 21.2 +0.7
KSP	Ksiaz	80.42	326	eP	P	19 22 21.2 +0.7
KSP				eP	P	19 22 21.2 +0.7
VES	Vestal, Richgr	80.43	53	P	P	19 22 20.7 -0.2
baz=306,SNR=14						
LKWY	Lake	80.45	42		PcP	19 22 24.5 -2.6
H17A	Grant Village	80.46	42	P	P	19 22 24.1 +2.9
baz=309,SNR=60						
H17A	Grant Village	80.46	42	P	P	19 22 23.7 +2.5
YMP	Mirror Lake Pl	80.47	42	P	P	19 22 22.8 +1.4
PKM	Mcpherson Peak	80.50	54	P	P	19 22 22.3 +0.8
baz=305,SNR=37						
ZIMR		80.51	317	⇓P	P	19 22 21.6 +0.5
JMB	Yambol	80.55	315	i P	P	19 22 22.2 +0.8
HIZ	Hauiti	80.55	151	P	P	19 22 23.4 +2.2
HIZ				IAmb	IAmb	19 22 24.1
comp=Z,106nm,0.9s						
IMW	Indian Meadow	80.57	43	P	P	19 22 23.4 +1.5
MORC	Moravsky Berou	80.57	325	P	P	19 22 23.6 +2.2
MORC	Moravsky Berou	80.57	325	⇑P	P	19 22 22.0 +0.6
MORC				mb		19 22 23.6
MORC	Moravsky Berou	80.57	325	eP	P	19 22 22.2 +0.8
MORC	Moravsky Berou	80.57	325	P	P	19 22 21.8 +0.4
MORC				IAmb	IAmb	19 22 23.6
comp=Z,89nm,1.4s						
FLWY	Flagg Ranch	80.58	43	P	P	19 22 23.6 +1.7
ELND	Elena	80.67	316	⇑P	P	19 22 22.8 +0.7
PSZ	Piszkesteto	80.68	323	P	P	19 22 22.5 +0.4
PSZ				pmax	pmax	
comp=Z,119nm,1.3s						
PSZ	Piszkesteto	80.68	323	⇓P	P	19 22 22.6 +0.6
PSZ				mb		19 22 24.6
PSZ	Piszkesteto	80.68	323	P	P	19 22 22.4 +0.4
PSZ				IAmb	IAmb	19 22 24.5
comp=Z,119nm,1.3s						
FXWY	Fox Creek	80.68	43	P	P	19 22 23.6 +1.2
FXWY				IAmb	IAmb	19 22 25.6
comp=Z,78nm,1.1s						
CHVC	Chvalec	80.70	326	eP	P	19 22 21.8 -0.3
RLMT	Red Lodge	80.71	41	P	P	19 22 23.5 +1.0
baz=310,SNR=33						
RLMT	Red Lodge	80.71	41	P	P	19 22 23.4 +0.9
KRLC	Kraliky	80.72	326	eP	P	19 22 23.0 +0.8
KRLC	Kraliky	80.72	326	eP	P	19 22 23.0 +0.8
CWC	Cottonwood Cre	80.74	52	P	P	19 22 23.2 +0.4
baz=306						
DPC	Dobruska-Polom	80.75	326	eP	P	19 22 23.3 +1.0
DPC				e		19 23 39.8
DPC	Dobruska-Polom	80.75	326	eP	P	19 22 23.3 +1.0
DPC				epP	pP	19 23 39.8 +0.5
MOOW	Moose Ponds	80.77	43	P	P	19 22 24.1 +1.2
MOOW				IAmb	IAmb	19 22 25.9
comp=Z,72nm,0.9s						
UPC	Upice	80.78	326	eP	P	19 22 23.3 +0.8
UPC	Upice	80.78	326	eP	P	19 22 23.3 +0.8
TPAW	Teton Pass	80.82	43	P	P	19 22 24.2 +1.1
TPAW				IAmb	IAmb	19 22 26.2
comp=Z,105nm,0.8s						
VYHS	Vyhne	80.82	324	eP	P	19 22 24.1 +1.4
VYHS				pmax	pmax	
comp=Z,61nm,1.3s						
VYHS	Vyhne	80.82	324	eP	P	19 22 24.1 +1.4
SBC	Santa Barbara	80.82	55	P	P	19 22 23.5 +0.5
baz=305						
HVU	Hansel Valley	80.83	45	P	P	19 22 24.3 +1.2
HVU				pmax	pmax	
comp=Z,118nm,0.9s						
HVU	Hansel Valley	80.83	45	P	P	19 22 24.3 +1.2
GZR	Gura Zlata	80.83	319	⇓P	P	19 22 23.7 +0.7
VLAD	Vladila	80.83	318	⇑P	P	19 22 23.7 +0.9
GRAC	Grapevine Rang	80.88	51	P	P	19 22 24.3 +1.0
baz=306,SNR=34						
ISA	Isabella, Lake	80.94	53	P	P	19 22 23.4 -0.3
baz=306,SNR=28						
ISA	Isabella, Lake	80.94	53	P	P	19 22 23.3 -0.3
ISA				pmax	pmax	
comp=Z,37nm,1.0s						
ISA	Isabella, Lake	80.94	53	P	P	19 22 23.3 -0.3
SNOW	Snow King Moun	80.94	43	P	P	19 22 24.7 +0.9
SNOW				IAmb	IAmb	19 22 26.9
comp=Z,93nm,0.8s						
REDW	Red Top Meadow	80.95	43	P	P	19 22 25.0 +1.2
REDW				IAmb	IAmb	19 22 26.8
comp=Z,121nm,1.1s						
ISP	Isparta	80.97	310	P	P	19 22 24.7 +0.9
ISP	Isparta	80.97	310	⇑P	P	19 22 23.9 0.0
ISP				mb		19 22 24.6
ARVC	Arvin	81.02	54	P	P	19 22 24.1 +0.1
baz=306,SNR=5.7						
SRE	Strehaia	81.07	319	⇑P	P	19 22 25.2 +1.1
PLVB	Pleven	81.10	317	⇓P	P	19 22 25.7 +1.5
DGMT	Dagmar	81.12	36	P	P	19 22 24.6 +0.3
baz=313,SNR=22						
DGMT	Dagmar	81.12	36	P	P	19 22 25.2 +0.9
SCZ2	Santa Cruz Isl	81.13	55	P	P	19 22 24.7 0.0
baz=306						
DAC	Darwin (Calif)	81.16	52	P	P	19 22 27.0 +2.0
DAC				pmax	pmax	
comp=Z,65nm,0.9s						
DAC	Darwin (Calif)	81.16	52	P	P	19 22 27.0 +2.0
DAC				IAmb	IAmb	19 22 29.1
comp=Z,65nm,0.9s						
AHID	Auburn Hatcher	81.19	44	P	P	19 22 25.8 +0.8
AHID				IAmb	IAmb	19 22 27.4
comp=Z,69nm,0.9s						
BGU	Big Grassy Mou	81.21	46	P	P	19 22 26.1 +1.0
R11A	Troy Canyon, C	81.21	49	P	P	19 22 26.1 +1.0
baz=307,SNR=97						
R11A	Troy Canyon, C	81.21	49	P	P	19 22 26.0 +0.8
URZ	Urewera	81.27	149	P	P	19 22 24.1 -0.9
URZ				IAmb	IAmb	19 22 25.3
comp=Z,59nm,0.8s						
LAO	LASA Array	81.30	38	P	P	19 22 26.1 +0.7
baz=312,SNR=25						
LAO	LASA Array	81.30	38	P	P	19 22 25.9 +0.6
BZS	Buzias	81.31	320	⇑P	P	19 22 25.4 +0.1
SPUT	South Promonto	81.31	46	P	P	19 22 26.7 +1.0
VRAC	Vranov	81.34	325	P	P	19 22 28.0 +2.6
VRAC	Vranov	81.34	325	⇓P	P	19 22 26.9 +1.4
VRAC				mb		19 22 28.0
VRAC	Vranov	81.34	325	eP	P	19 22 26.8 +1.4
MPMC	Manual Prospec	81.35	52	P	P	19 22 26.4 +0.4
baz=306,SNR=90						
OSI	Osito Audit: C	81.38	54	P	P	19 22 26.4 +0.4
baz=306						
PVCC	Panska Ves	81.42	327	eP	P	19 22 26.6 +0.8
PVCC	Panska Ves	81.42	327	eP	P	19 22 26.6 +0.8
DIM	Dimitrovgrad	81.42	316	i P	P	19 22 27.6 +1.7
BLG	Laguna Peak, P	81.45	55	P	P	19 22 26.1 -0.2
baz=306						
BRG	Berggiesshubel	81.45	328	i P	P	19 22 26.8 +0.9
comp=Z,34nm,0.9s						
BRG				epP	pP	19 23 43.4 +0.3
comp=Z,43nm,1.8s						
BRG				ePP	PP	19 25 30.7 -5.9
comp=Z,6.9nm,1.1s						
BRG				S	S	19 32 05.0 -3.6
BRG	Berggiesshubel	81.45	328	i P	P	19 22 26.8 +0.9
BRG				e*PP	pP	19 23 43.4 +0.3
BRG				S	S	19 32 05.0 -3.6
BRG				pmax	pmax	
comp=Z,6.0nm,0.9s						
BRG				pmax	pmax	
comp=Z,34nm,1.8s						
BRG				pmax	pmax	
comp=Z,43nm,1.1s						
PUNG	Punghina	81.47	318	⇓P	P	19 22 27.2 +1.1
SMOL	Smolenice	81.49	324	eP	P	19 22 27.8 +1.6
SMOL				pmax	pmax	
comp=Z,69nm,1.3s						
SMOL	Smolenice	81.49	324	eP	P	19 22 27.8 +1.6
FURC	Furnace Creek,	81.52	52	P	P	19 22 27.3 +0.8
baz=307,SNR=67						
CLL	Collm	81.56	328	i P	P	19 22 26.4 -0.1
CLL				i *PP	pP	19 23 43.5 -0.1
CLL				e		19 25 37.0
CLL				eS	S	19 32 07.0 -2.6
CLL				pmax	pmax	
comp=Z,8.0nm,1.3s						
CLL				pmax	pmax	
comp=Z,97nm,1.6s						
CLL	Collm	81.56	328	i P	P	19 22 26.4 -0.1
comp=Z,97nm,1.3s						
CLL				i pP	pP	19 23 43.5 -0.1
CLL				ePP	PP	19 25 37.0 -0.4
comp=Z,56nm,1.6s						
CLL				e		19 27 12.0
CLL				ePPP	PPP	19 27 30.0
CLL				eS	S	19 32 07.0 -2.6
comp=N,400nm,16.7s						
CLL				eS	S	19 32 07.0 -2.6
comp=E,400nm,24.7s						
CLL				ePS		19 33 42.0
CLL				esS	sS	19 34 21.0 -3.7
CLL				eSS	SS	19 37 33.0 -0.6
CLL				eSSS	SSS	19 41 11.0
CLL				eSSSS		19 43 46.0
CLL	Collm	81.56	328	P	P	19 22 26.4 -0.1
CLL				IAmb	IAmb	19 22 28.1
comp=Z,65nm,1.0s						
CLL					pP	19 23 43.6 -0.1
LRMC	Laurel Mtn Rad	81.57	53	P	P	19 22 27.3 +0.3
baz=306,SNR=36						
KRUC	Moravsky	81.61	325	eP	P	19 22 27.4 +0.6
TPNV	Topopah Spring	81.63	51	P	P	19 22 27.8 +0.4
baz=307,SNR=185						
TPNV	Topopah Spring	81.63	51	P	P	19 22 27.8 +0.4
TPNV				pmax	pmax	
comp=Z,170nm,1.0s						
TPNV	Topopah Spring	81.63	51	P	P	19 22 27.8 +0.4
SNCC	San Nicolas Is	81.64	55	P	P	19 22 27.7 +0.5
baz=306,SNR=6.0						
SNCC	San Nicolas Is	81.64	55	P	P	19 22 28.6 +1.4
SNCC				IAmb	IAmb	19 22 29.5
comp=Z,119nm,1.1s						
MODS	Modra-Piesok	81.66	324	eP	P	19 22 27.9 +0.8
MODS				pmax	pmax	
comp=Z,103nm,1.3s						
MODS	Modra-Piesok	81.66	324	eP	P	19 22 27.9 +0.8
EDW2	Edwards Air Fo	81.71	53	P	P	19 22 28.3 +0.6
baz=306,SNR=55						
GOPC	GO Pecny, Ondr	81.76	326	eP	P	19 22 28.1 +0.5
GOPC				e		19 23 47.5
GOPC				MLR	MLR	
comp=Z,500nm,16.9s						
GOPC	GO Pecny, Ondr	81.76	326	eP	P	19 22 28.1 +0.5
GOPC				epP	pP	19 23 47.5 +2.8
GOPC				AMS	AMS	20 03 30.0
comp=Z,500nm,16.9s						
BKZ	Black Stump Fm	81.78	150	P	P	19 22 26.9 -0.8
DUG	Dugway, Tooele	81.79	47	P	P	19 22 29.3 +1.2
baz=306,SNR=46						
DUG	Dugway, Tooele	81.79	47	P	P	19 22 29.1 +1.0
DUG				pmax	pmax	
comp=Z,137nm,1.2s						
DUG	Dugway, Tooele	81.79	47	P	P	19 22 29.1 +1.0
DUG				IAmb	IAmb	19 22 31.0
comp=Z,137nm,1.1s						
MANT	Manisa	81.80	311	P	P	19 22 27.4 -0.9
MANT					pP	19 23 45.9 +0.3
PRA	Prague	81.81	327	eP	P	19 22 28.3 +0.5
PRA	Prague	81.81	327	eP	P	19 22 28.3 +0.5
PRU	Pruhonice	81.81	327	eP	P	19 22 28.5 +0.6
PRU				e		19 23 48.0
PRU				MLR	MLR	
comp=Z,500nm,16.0s						
PRU	Pruhonice	81.81	327	eP	P	19 22 28.5 +0.6
PRU				ex	x	19 23 48.0
PRU				AMS	AMS	20 03 10.0
comp=Z,500nm,16.0s						
ALN	Alexandroupoli	81.84	314	P	P	19 22 28.9 +0.7
ALN				*PP	pP	19 23 46.0 +0.5
ALN				pmax	pmax	
comp=Z,59nm,1.6s						
ALN	Alexandroupoli	81.84	314	P	P	19 22 28.9 +0.7
ALN					pP	19 23 46.0 +0.5
DECC	Green Verdugo	81.86	54	P	P	19 22 28.6 +0.1
baz=306						
PLD	Plovdiv	81.86	316	i P	P	19 22 28.9 +0.6
TREC	Trest	81.87	326	eP	P	19 22 28.9 +0.7
TREC	Trest	81.87	326	eP	P	19 22 28.9 +0.7
PGB	Panagyurishte	81.89	317	i P	P	19 22 29.6 +1.1
RDO	Rodhopi	81.98	315	P	P	19 22 28.8 -0.1
ELL	Elmali	82.00	309	P	P	19 22 29.2 0.0
ELL				*PP	pP	19 23 46.8 +0.2
ELL	Elmali	82.00	309	P	P	19 22 29.2 0.0
ELL					pP	19 23 46.8 +0.2
PASC	Pasadena Art C	82.00	54	P	P	19 22 29.4 +0.2
PASC				IAmb	IAmb	19 22 31.1
comp=Z,186nm,1.7s						
TCUT	Toone Canyon	82.05	45	P	P	19 22 30.3 +0.8
MWC	Mount Wilson	82.06	54	P	P	19 22 29.8 +0.1
MWC				pmax	pmax	
comp=Z,167nm,1.5s						
MWC	Mount Wilson	82.06	54	P	P	19 22 29.8 +0.1
MWC				IAmb	IAmb	19 22 31.7
comp=Z,167nm,1.4s						
BW06	Boulder Array	82.06	43	P	P	19 22 29.7 +0.2
baz=310,SNR=83						
BW06	Boulder Array	82.06	43	P	P	19 22 29.8 +0.2
BW06				IAmb	IAmb	19 22 31.6
comp=Z,92nm,0.8s						
PD31	Pinedale Array	82.06	43	P	P	19 22 29.6 0.0
PD31				IAmb	IAmb	19 22 31.6
comp=Z,88nm,0.9s						
PDAR	Pinedale Array	82.06	43	P	P	19 22 29.9 +0.3
comp=Z,66nm,0.8s,baz=291,slow=1.8,SNR=316						
PDAR				PP	PP	19 25 43.0 +0.8
comp=Z,1.8nm,0.8s,baz=318,slow=4.9,SNR=3.0						
PDAR				PKKPbc	PKKPbc	19 40 55.7 +0.2
comp=Z,1.2nm,0.9s,baz=103,slow=3.2,SNR=5.4						
PDAR	Pinedale Array	82.06	43	P	P	19 22 29.5 0.0
CTU	Camp Tracy	82.11	46	P	P	19 22 30.4 +0.6
PSUT	Pine Spring	82.18	48	P	P	19 22 31.0 +0.8
FMP	Fort Macarthur	82.20	54	P	P	19 22 30.5 +0.3
baz=306						
SHOC	Shoshone, Teco	82.24	52	P	P	19 22 31.0 +0.6
baz=307,SNR=9.4						
GSC	Goldstone, Bar	82.25	52	P	P	19 22 31.0 +0.5
baz=307,SNR=57						
GSC	Goldstone, Bar	82.25	52	P	P	19 22 30.9 +0.4
GSC				pmax	pmax	
comp=Z,122nm,1.2s						
GSC	Goldstone, Bar	82.25	52	P	P	19 22 30.9 +0.4
GSC				IAmb	IAmb	19 22 32.7
comp=Z,122nm,1.2s						
PBCC	Pribram	82.28	327	eP	P	19 22 30.6 +0.3
CIS	Catalina Islan	82.30	55	P	P	19 22 30.7 -0.1
baz=306,SNR=17						
NNZ	Nelson	82.31	153	P	P	19 22 30.5 +0.2
NNZ				IAmb	IAmb	19 22 31.2
comp=Z,95nm,0.9s						
BFSC	Mount Baldy Ra	82.32	54	P	P	19 22 31.2 +0.3
baz=306,SNR=29						
JLU	Jordanelle	82.35	46	P	P	19 22 32.0 +0.9
VTS	Vitosha	82.37	317	P	P	19 22 31.8 +0.7
VTS	Vitosha	82.37	317	P	P	19 22 33.8 +2.7
VTS	Vitosha	82.37	317	⇑P	P	19 22 31.9 +0.8
VTS				mb		19 22 33.8
VTS	Vitosha	82.37	317	P	P	19 22 31.8 +0.7
VTS				IAmb	IAmb	19 22 33.7
comp=Z,103nm,1.2s						
RRX	Edison Barstow	82.38	53	P	P	19 22 31.4 +0.4
baz=307						
NLU	North Lily Min	82.38	46	P	P	19 22 32.0 +0.7
SCI2	San Clemente I	82.46	55	P	P	19 22 31.6 +0.1
baz=306,SNR=7.6						
FRGS	Fruska Gora	82.57	321	⇑i P	P	19 22 32.3 +0.4
NKC	Novy Kostel	82.58	328	eP	P	19 22 32.5 +0.7
NKC	Novy Kostel	82.58	328	eP	P	19 22 32.5 +0.7
SHPR	Sheep Range	82.59	51	P	P	19 22 32.9 +0.5
SHPR				IAmb	IAmb	19 22 35.1
comp=Z,86nm,1.0s						
FETY	Fethiye	82.60	309	P	P	19 22 31.6 -0.6
MPU	Maple Canyon	82.61	46	P	P	19 22 33.5 +1.1
THZ	Tophouse	82.61	154	P	P	19 22 31.7 -0.2
THZ				IAmb	IAmb	19 22 32.6
comp=Z,66nm,0.9s						
CONA	Conrad Observa	82.65	325	i PcP	P	19 22 33.4 +1.0
comp=Z,114nm,1.2s,S

comp=Z,69nm,0.9s
MURC Murrieta 83.00 54 P **P 19 22 34.3 -0.1**
baz=307,SNR=13
GEC2 GERESS Array S 83.02 326 P **P 19 22 34.1 0.0**
GEC2 IAmb IAmb 19 22 35.7
comp=Z,63nm,1.1s
GERES GERESS Array B 83.02 326 P **P 19 22 34.1 0.0**
comp=Z,27nm,0.7s,baz=39,slow=5.6,SNR=208
GERES pP **pP 19 23 52.1 +0.6**
comp=Z,2.8nm,0.8s,baz=34,slow=5.0,SNR=2.9
GERES PKKPbc **PKKPbc 19 40 50.9 -2.5**
comp=Z,0.7nm,0.7s,baz=195,slow=2.1,SNR=5.9
GERES GERESS Array B 83.02 326 P **P 19 22 33.8 -0.3**
GERES pP **pP 19 23 51.8 +0.2**
BHW Baring Head 83.04 152 P **P 19 22 33.7 -0.3**
CCUT Cedar City 83.09 49 P **P 19 22 35.9 +0.9**
FOZ Fox Glacier 83.10 157 P **P 19 22 34.3 +0.1**
FOZ IAmb IAmb 19 22 35.9
comp=Z,66nm,1.0s
TEKS Tekeris 83.12 320 *e*P **P 19 22 35.6 +0.9**
KAC Achnashellach 83.14 341 *e*P **P 19 22 35.0 +0.6**
MSWZ Moikau Station 83.19 152 P **P 19 22 34.5 -0.3**
MSU Marysvale 83.22 48 P **P 19 22 37.0 +1.4**
MSU Marysvale 83.22 48 P **P 19 22 37.0 +1.4**
SZCU Shurtz Canyon 83.23 49 P **P 19 22 36.5 +0.9**
LTZ Lake Taylor 83.27 155 P **P 19 22 35.1 -0.1**
ARSA Arzberg 83.29 324 *i* P **P 19 22 36.0 +0.4**
comp=Z,35nm,0.8s,SNR=8.3
ARSA *i* pP **pP 19 23 53.6 +0.7**
comp=Z,14nm,1.4s
EDU Dundee 83.30 339 *e*P **P 19 22 35.7 +0.4**
GMRC Granite Mounta 83.31 52 P **P 19 22 36.3 +0.4**
baz=307,SNR=87
TMUT Trail Mountain 83.31 47 P **P 19 22 37.1 +0.9**
PLWZ Palliser 83.33 152 P **P 19 22 34.5 -1.0**
KPL Plockton 83.37 341 *e*P **P 19 22 36.0 +0.4**
KPL IAmb IAmb 19 22 36.3
comp=Z,289nm,1.8s
KHZ Kahutara 83.41 154 P **P 19 22 35.4 -0.4**
KHZ IAmb IAmb 19 22 36.2
comp=Z,53nm,0.9s
BODT Bodrum 83.46 311 P **P 19 22 36.1 -0.4**
MOA Molln 83.47 325 *i* PcP **P 19 22 37.0 +0.6**
comp=Z,71nm,1.2s,SNR=20
MOA *e*pP **pP 19 23 57.4 +3.5**
comp=Z,32nm,1.5s
RDMU Red Mountain 83.47 45 P **P 19 22 37.7 +0.9**
109C Camp Elliot, M 83.49 55 P **P 19 22 36.8 +0.1**
baz=307,SNR=6.5
109C Camp Elliot, M 83.49 55 P **P 19 22 37.1 +0.3**
109C IAmb IAmb 19 22 38.7
comp=Z,103nm,1.0s
PFO Pinyon Flats O 83.49 54 P **P 19 22 37.2 +0.3**
baz=307,SNR=101
PFO Pinyon Flats O 83.49 54 P **P 19 22 37.3 +0.4**
PFO pmax pmax
comp=Z,145nm,1.0s
PFO Pinyon Flats O 83.49 54 P **P 19 22 37.3 +0.4**
LCMT Little Creek M 83.50 49 P **P 19 22 37.9 +1.0**
KNT Kendrikon 83.51 316 P **P 19 22 36.9 +0.2**
MTPU Mount Pierson 83.51 48 P **P 19 22 38.6 +1.3**
GRA1 Grafenberg Arr 83.51 328 P **P 19 22 37.5 +0.9**
GRF Grafenberg Arr 83.51 328 P **P 19 22 37.5 +0.9**
GRF pmax pmax
comp=Z,167nm,1.0s
BELC Belle Mtn. Jos 83.56 53 P **P 19 22 37.4 +0.2**
baz=307,SNR=75
STIP Stip 83.56 317 *i* P **P 19 22 36.9 -0.1**
Q16A Castle Valley 83.58 47 P **P 19 22 38.7 +1.4**
KALN Kalnik 83.62 323 *i* P **P 19 22 37.5 +0.3**
WTSB Winterswijk 83.63 332 *e*P **P 19 22 37.1 +0.1**
BBLS Lazići 83.65 320 ⇑*i*P **P 19 22 38.1 +0.7**
ULM Lac du Bonnet 83.66 31 P **P 19 22 37.9 +0.6**
comp=Z,52nm,0.8s,baz=312,slow=5.7,SNR=44
ULM Lac du Bonnet 83.66 31 P **P 19 22 37.4 +0.2**
ULM IAmb IAmb 19 22 38.7
comp=Z,93nm,1.0s
OXZ Oxford 83.67 155 P **P 19 22 37.1 0.0**
OXZ IAmb IAmb 19 22 38.1
comp=Z,96nm,1.0s
RPZ Rata Peaks 83.67 156 P **P 19 22 37.3 +0.1**
PLG Polygyros 83.70 315 P **P 19 22 37.6 -0.1**
INVG Invergeldie, C 83.70 339 *e*P **P 19 22 37.7 +0.3**
MDND Maddock 83.75 34 P **P 19 22 38.3 +0.5**
baz=316
MDND Maddock 83.75 34 P **P 19 22 38.4 +0.6**
KNB Kanab 83.76 49 P **P 19 22 39.2 +0.9**
KNB pmax pmax
comp=Z,228nm,1.1s
KNB Kanab 83.76 49 P **P 19 22 39.2 +0.9**
SKO Skopje 83.80 317 *i* P **P 19 22 40.2 +2.0**
PKCU Pink Cliffs 83.81 49 P **P 19 22 40.1 +1.4**
K22A Casper 83.83 42 P **P 19 22 38.6 +0.1**
baz=312,SNR=21
K22A Casper 83.83 42 P **P 19 22 38.7 +0.1**
K22A IAmb IAmb 19 22 41.7
comp=Z,78nm,1.1s
RUDO Rudo 83.84 320 *e*P **P 19 22 38.1 -0.2**
SRU San Rafael Swe 83.84 46 P **P 19 22 39.4 +0.7**
SRU pmax pmax
comp=Z,200nm,1.0s
SRU San Rafael Swe 83.84 46 P **P 19 22 39.4 +0.7**
BAR Barrett 83.91 54 P **P 19 22 39.1 +0.2**
BAR IAmb IAmb 19 22 40.8
comp=Z,99nm,0.9s
PERS Pernice 83.92 324 *i* P **P 19 22 38.8 0.0**
GRG Griva 83.92 316 P **P 19 22 38.6 -0.2**
SOKA Soboth 83.93 324 *i* P **P 19 22 39.0 +0.1**
comp=Z,84nm,1.1s,SNR=20
SOKA *i* pP **pP 19 23 56.9 +0.5**
comp=Z,48nm,1.2s
MONP2 Monument Peak 83.95 54 P **P 19 22 39.6 +0.3**
baz=307,SNR=63
EBL Broad Law 83.97 339 *e*P **P 19 22 39.2 +0.6**
LBZ Lake Benmore 83.98 157 P **P 19 22 39.3 +0.6**
LBZ IAmb IAmb 19 22 40.5
comp=Z,70nm,0.9s
EAB Aberfoyle 84.00 339 *e*P **P 19 22 39.5 +0.7**
NEE2 Needles Airpor 84.00 52 P **P 19 22 39.4 +0.1**
baz=308,SNR=5.0
DCZ Deep Cove 84.01 159 P **P 19 22 39.3 +0.5**
PTJ Puntijarka 84.02 323 *i* P **P 19 22 38.9 -0.4**
IRM Iron Mountain 84.03 53 P **P 19 22 39.8 +0.3**
baz=308,SNR=26
RWWY Rawlins 84.09 43 P **P 19 22 39.8 -0.1**
CRLZ Canterbury Las 84.09 155 P **P 19 22 39.5 +0.3**
CRLZ IAmb IAmb 19 22 40.9
comp=Z,225nm,1.8s
BC3 Big Chuckawall 84.13 53 P **P 19 22 40.4 +0.3**
baz=308,SNR=77
RSSD Black Hills 84.17 39 P **P 19 22 40.4 +0.2**
baz=313
RSSD Black Hills 84.17 39 P **P 19 22 40.0 -0.2**
RSSD pmax pmax
comp=Z,216nm,1.8s
RSSD Black Hills 84.17 39 P **P 19 22 40.0 -0.2**
RSSD IAmb IAmb 19 22 42.3
comp=Z,216nm,1.8s
BLY Banja Luka 84.21 322 ⇑*i*P **P 19 22 40.6 +0.5**
BLY Banja Luka 84.21 322 ⇑P **P 19 22 41.1 +1.0**
BLY mb 19 22 42.8
BLY Banja Luka 84.21 322 P **P 19 22 40.4 +0.2**
MLZ Mavora Lakes 84.21 159 P **P 19 22 39.9 +0.1**
MQZ McQueen's Vall 84.22 155 P **P 19 22 41.0 +1.2**
MQZ IAmb IAmb 19 22 41.5
comp=Z,109nm,1.5s
W13A Hualapai Mount 84.27 51 P **P 19 22 40.9 -0.1**
W13A IAmb IAmb 19 22 43.1
comp=Z,62nm,1.1s
OBKA Obir 84.29 324 *e*P **P 19 22 40.2 -0.4**
comp=Z,16nm,1.2s
OBKA *e*pP **pP 19 23 58.1 -0.2**
comp=Z,21nm,2.2s
IKP In-Ko-Pah, Jac 84.30 54 P **P 19 22 41.4 +0.4**
baz=307,SNR=34
CRES Cresnjev 84.33 323 ⇑*i*P **P 19 22 40.4 -0.3**
SWSC Sam W. Stewart 84.33 54 P **P 19 22 40.9 0.0**
baz=308,SNR=20
PGBU Glenifferbraes 84.36 339 *e*P **P 19 22 41.5 +0.9**
PGBU IAmb IAmb 19 22 42.2
comp=Z,85nm,0.9s
ESK Eskdalemuir 84.40 338 *e*P **P 19 22 41.2 +0.4**
ESK Eskdalemuir 84.40 338 *i* P **P 19 22 42.0 +1.1**
ESK Eskdalemuir 84.40 338 P **P 19 22 41.0 +0.2**
ESK IAmb IAmb 19 22 47.0
comp=Z,125nm,1.7s
LIT Litokhoron 84.43 315 P **P 19 22 40.6 -0.8**
LIT Litokhoron 84.43 315 P **P 19 22 41.1 -0.3**
LIT *PP **pP 19 23 59.1 0.0**
LIT pmax pmax
comp=Z,61nm,0.6s
LIT Litokhoron 84.43 315 P **P 19 22 41.1 -0.3**
LIT IAmb IAmb 19 22 42.5
comp=Z,61nm,0.6s
LIT **pP 19 23 59.1 0.0**
KBA Koelnbreinsper 84.45 325 *i* P **P 19 22 41.2 -0.3**
comp=Z,16nm,0.7s,SNR=9.4
KBA *e*pP **pP 19 23 59.5 +0.3**
comp=Z,22nm,1.8s
U15A North Rim 84.46 49 P **P 19 22 42.8 +0.9**
U15A IAmb IAmb 19 22 44.1
comp=Z,48nm,0.9s
KARP Karpathos 84.49 310 P **P 19 22 41.5 -0.3**
KARP IAmb IAmb 19 24 00.8
comp=Z,157nm,1.3s
O20A White River Ci 84.52 44 P **P 19 22 42.6 +0.5**
baz=311,SNR=46
O20A White River Ci 84.52 44 P **P 19 22 42.5 +0.5**
APE Apeiranthos 84.56 312 ⇓P **P 19 22 41.6 -0.5**
PDMCI Parker Dam,Lak 84.60 52 P **P 19 22 42.2 0.0**
baz=308,SNR=25
FNA Florina 84.62 317 P **P 19 22 41.6 -0.7**
FNA *PP **pP 19 24 00.7 +0.6**
FNA pmax pmax
comp=Z,60nm,1.6s
FNA Florina 84.62 317 P **P 19 22 41.6 -0.7**
FNA **pP 19 24 00.7 +0.6**
LJU Ljubljana 84.63 324 *i* P **P 19 22 42.1 -0.1**
LJU Ljubljana 84.63 324 ⇑*i*P **P 19 22 41.7 -0.5**
MYKA Terra Mystica 84.64 325 *i* P **P 19 22 41.8 -0.5**
comp=Z,18nm,0.7s,SNR=7.9
MYKA *e*pP **pP 19 23 60.0 0.0**
comp=Z,26nm,1.7s
BOJS Bojanci 84.66 323 *i* P **P 19 22 42.0 -0.3**
IVI Ivigtut 84.68 3 P **P 19 22 42.2 +0.2**
Y12C Blythe 84.69 53 P **P 19 22 43.4 +0.7**
baz=308,SNR=21
Y12C Blythe 84.69 53 P **P 19 22 43.0 +0.3**
Y12C IAmb IAmb 19 22 45.0
comp=Z,82nm,0.9s
PDG Podgorica 84.70 319 ⇑*i*P **P 19 22 42.8 +0.2**
PDG Podgorica 84.70 319 ⇑P **P 19 22 42.8 +0.2**
PDG mb 19 22 45.4
PDG Podgorica 84.70 319 P **P 19 22 42.7 +0.2**
PDG **pP 19 24 00.0 -0.4**
PDG IAmb IAmb 19 24 02.2
comp=Z,68nm,1.2s
ODZ Otahua Downs 84.72 157 P **P 19 22 42.9 +0.6**
OHR Ohrid 84.73 317 *i* P **P 19 22 44.0 +1.1**
CEY Cerknica 84.90 324 ⇑*i*P **P 19 22 43.3 -0.3**
DRME Dracevica, Mon 84.91 319 ⇑*i*P **P 19 22 43.4 -0.2**
HGN Heimansgroeve 84.91 331 *e*P **P 19 22 43.3 -0.1**
GLA Glamis 84.91 53 P **P 19 22 44.5 +0.6**
baz=308,SNR=65
GLA Glamis 84.91 53 P **P 19 22 44.1 +0.2**
GLA *PP **pP 19 24 02.0 +0.2**
GLA pmax pmax
comp=Z,120nm,0.9s
GLA Glamis 84.91 53 P **P 19 22 44.1 +0.2**
GLA **pP 19 24 02.0 +0.2**
TREB Trebinje 85.00 320 *e*P **P 19 22 43.8 -0.3**
HPK Haverah Park 85.05 337 *e*P **P 19 22 44.7 +0.6**
HPK IAmb IAmb 19 22 45.5
comp=Z,165nm,1.4s
LKR Lokris 85.08 314 P **P 19 22 43.4 -1.2**
STU Stuttgart 85.08 328 P **P 19 22 44.6 +0.2**
STU pmax pmax
comp=Z,91nm,1.1s
STU Stuttgart 85.08 328 P **P 19 22 44.6 +0.2**
STU IAmb IAmb 19 22 46.0
comp=Z,90nm,1.1s
ABTA Abfaltersbach 85.09 325 *i* P **P 19 22 43.4 -1.2**
comp=Z,28nm,0.9s,SNR=8.1
ABTA *e*pP **pP 19 24 00.4 -2.0**
comp=Z,20nm,1.0s
WATA Walderalm 85.09 326 *i* P **P 19 22 44.1 -0.6**
comp=Z,17nm,1.0s,SNR=6.8
WATA *e*pP **pP 19 24 02.3 -0.2**
comp=Z,17nm,1.8s
WTTA Wattenberg 85.12 326 *i* PcP **P 19 22 44.9 +0.1**
comp=Z,24nm,1.0s,SNR=7.3
WTTA *i* pP **pP 19 24 02.9 +0.2**
comp=Z,22nm,1.2s
AGMN Agassiz Nation 85.12 32 P **P 19 22 43.8 -0.8**
baz=319,SNR=9.2
AGMN Agassiz Nation 85.12 32 P **P 19 22 44.0 -0.6**
DBRK Dubrovnik 85.14 320 *i* P **P 19 22 42.7 -2.1**
AGG Agios Georgios 85.23 315 P **P 19 22 44.7 -0.7**
AGG *PP **pP 19 24 02.3 -0.9**
AGG pmax pmax
comp=Z,96nm,1.5s
AGG Agios Georgios 85.23 315 P **P 19 22 44.7 -0.7**
AGG **pP 19 24 02.3 -0.9**
AGG IAmb IAmb 19 24 03.6
comp=Z,96nm,1.5s
STON Ston 85.24 320 *i* P **P 19 22 44.2 -1.0**
STON Ston 85.24 320 *e*P **P 19 22 44.2 -1.0**
GAL1 Galloway 85.24 339 *e*P **P 19 22 45.3 +0.3**
GAL1 IAmb IAmb 19 22 46.1
comp=Z,97nm,1.3s
MOTA Moosalm 85.30 326 *i* PcP **P 19 22 45.5 -0.2**
comp=Z,22nm,0.9s,SNR=7.6
MOTA *e*pP **pP 19 24 03.3 -0.2**
comp=Z,21nm,1.5s
PHWY Pilot Hill 85.32 42 P **P 19 22 46.5 +0.4**
PHWY IAmb IAmb 19 22 48.3
comp=Z,107nm,1.1s
N23A Red Feather La 85.33 43 P **P 19 22 47.4 +1.3**
baz=312,SNR=67
N23A Red Feather La 85.33 43 P **P 19 22 47.1 +1.0**
SQTA Sankt Quirin 85.35 326 *i* PcP **P 19 22 45.9 0.0**
comp=Z,20nm,0.9s,SNR=5.2
SQTA *e*pP **pP 19 24 04.0 +0.3**
comp=Z,24nm,1.7s
STAL STALIGIAL 85.35 325 P **P 19 22 44.8 -1.0**
RETA Reutte 85.35 327 *i* PcP **P 19 22 45.9 +0.1**
comp=Z,74nm,1.5s,SNR=16
RETA *e*pP **pP 19 24 04.2 +0.4**
comp=Z,45nm,1.3s
MAKR Makrakomi, Fth 85.36 315 P **P 19 22 44.2 -1.8**
CLGH Cloghs, Cushen 85.46 340 *e*P **P 19 22 46.8 +0.7**
CLGH IAmb IAmb 19 22 48.2
comp=Z,195nm,1.4s
LBWR Ladybower, Pea 85.55 337 *e*P **P 19 22 46.5 -0.1**
LBWR IAmb IAmb 19 22 48.0
comp=Z,188nm,1.1s
Y14A Wickenburg 85.56 52 P **P 19 22 47.4 +0.3**
Y14A IAmb IAmb 19 22 49.3
comp=Z,71nm,1.1s
MORI Morici 85.58 322 *i* P **P 19 22 45.8 -1.2**
WUAZ Wupatki 85.61 50 P **P 19 22 48.5 +1.0**
baz=310,SNR=42
WUAZ Wupatki 85.61 50 P **P 19 22 48.0 +0.6**
WUAZ IAmb IAmb 19 22 50.1
comp=Z,91nm,1.1s
WLF Walferdange 85.68 330 P **P 19 22 47.2 -0.1**
WLF pmax pmax
comp=Z,97nm,1.2s
WLF Walferdange 85.68 330 P **P 19 22 47.2 -0.1**
WLF IAmb IAmb 19 22 49.2
comp=Z,97nm,1.2s
FETA Feichten 85.71 326 *i* PcP **P 19 22 47.4 -0.4**
comp=Z,32nm,1.1s,SNR=5.5
FETA *e*pP **pP 19 24 05.4 -0.3**
comp=Z,24nm,1.1s
IOMK Kirk Michael 85.72 339 *e*P **P 19 22 47.7 +0.3**
IOMK IAmb IAmb 19 22 48.1
comp=Z,110nm,0.9s
113A Mohawk Valley, 85.79 53 P **P 19 22 48.4 +0.2**
113A IAmb IAmb 19 22 50.2
comp=Z,47nm,1.0s
BFO Black Forest 85.80 329 *i* P **P 19 22 48.2 +0.3**
BFO Black Forest 85.80 329 P **P 19 22 48.0 0.0**
BFO IAmb IAmb 19 22 49.3
comp=Z,65nm,1.2s
BFO **pP 19 24 05.9 +0.1**
LAST Lasithi 85.80 310 P **P 19 22 47.7 -0.6**
SMCO Snowmass 85.89 44 P **P 19 22 49.3 +0.3**
DAVA Damuels 85.90 327 *i* PcP **P 19 22 48.3 -0.4**
comp=Z,60nm,1.0s,SNR=15
DAVA *i* pP **pP 19 24 06.7 +0.1**
comp=Z,59nm,1.3s
CWF Charnwood Fore 85.97 336 *e*P **P 19 22 48.2 -0.3**
CWF IAmb IAmb 19 22 49.5
comp=Z,128nm,1.2s
CTI Castel Tesino 86.01 325 P **P 19 22 48.3 -0.8**
CTI *PP **pP 19 24 06.6 -0.4**
CTI pmax pmax
comp=Z,44nm,1.2s
CTI Castel Tesino 86.01 325 P **P 19 22 48.3 -0.8**
CTI **pP 19 24 06.6 -0.4**
ISCO Idaho Springs 86.25 43 P **P 19 22 51.7 +1.0**
baz=313,SNR=39
ISCO Idaho Springs 86.25 43 P **P 19 22 51.5 +0.8**
ISCO pmax pmax
comp=Z,62nm,1.1s
ISCO Idaho Springs 86.25 43 P **P 19 22 51.5 +0.8**
ISCO IAmb IAmb 19 22 53.4
comp=Z,62nm,1.1s
X16A Lo Mia Camp, P 86.26 50 P **P 19 22 51.3 +0.6**
X16A IAmb IAmb 19 22 53.4
comp=Z,49nm,1.1s
MVCO Mesa Verde 86.29 47 P **P 19 22 51.8 +1.0**
baz=311,SNR=25
MVCO Mesa Verde 86.29 47 P **P 19 22 51.4 +0.5**
ECH Echery 86.38 329 P **P 19 22 50.7 -0.1**
ECH *PP **pP 19 24 08.7 -0.1**
ECH pmax pmax
comp=Z,57nm,1.5s
ECH Echery 86.38 329 P **P 19 22 50.7 -0.1**
ECH **pP 19 24 08.7 -0.1**
FOEL Foel Wylfa 86.46 337 *e*P **P 19 22 51.6 +0.6**
FOEL IAmb IAmb 19 22 52.4
comp=Z,68nm,1.0s
PMOR Pomariorio Ree 86.48 111 *e*P **P 19 22 51.6 0.0**
comp=Z,227nm,1.1s
TEOL Teolo 86.50 325 P **P 19 22 51.4 0.0**
TEOL IAmb IAmb 19 22 52.5
comp=Z,81nm,1.3s
SUSD Miller 86.53 36 P **P 19 22 51.4 -0.1**
baz=317
SUSD Miller 86.53 36 P **P 19 22 52.0 +0.5**
LLW Llanuwychllyn 86.64 337 *e*P **P 19 22 52.3 +0.4**
LLW IAmb IAmb 19 22 53.2
comp=Z,63nm,1.4s
HLM1 Long Mynd 86.67 337 *e*P **P 19 22 51.8 -0.2**
ITM Ithomi 86.69 314 P **P 19 22 51.2 -1.2**
ITM Ithomi 86.69 314 P **P 19 22 51.8 -0.6**
ITM **pP 19 24 10.4 -0.2**
PPT Papeete 86.74 114 P **P 19 22 53.4 +0.5**
comp=Z,46nm,0.8s,baz=53,slow=12,SNR=3.8
PPT2 Papeete2 86.75 114 *e*P **P 19 22 53.2 +0.2**
comp=Z,56nm,1.1s
TUE Stuetta 86.75 327 P **P 19 22 53.1 +0.3**
TUE **pP 19 24 09.7 -1.3**
TUE IAmb IAmb 19 24 14.9
comp=Z,63nm,1.4s
PAE Paea 86.79 114 *e*P **P 19 22 53.1 +0.1**
comp=Z,5.0nm,0.8s
VAH Vaihoa 86.83 111 *e*P **P 19 22 53.0 -0.3**
comp=Z,83nm,1.0s
W18A Petrified Fore 86.89 49 P **P 19 22 54.4 +0.8**
baz=310
W18A Petrified Fore 86.89 49 P **P 19 22 53.5 -0.1**
TIAR Tiarei 86.91 114 *e*P **P 19 22 53.7 +0.1**
comp=Z,32nm,0.9s
214A Organ Pipe Nat 86.93 53 P **P 19 22 54.1 +0.4**
baz=309,SNR=15
214A Organ Pipe Nat 86.93 53 P **P 19 22 53.9 +0.2**
SGRT San Giovanni R 87.06 320 P **P 19 22 54.2 0.0**
SGRT IAmb IAmb 19 22 55.0
comp=Z,71nm,1.1s
STRD Stroud 87.06 336 *e*P **P 19 22 54.2 +0.3**
STRD IAmb IAmb 19 22 55.1
comp=Z,280nm,1.3s
Q24A Divide 87.08 44 P **P 19 22 55.3 +0.6**
baz=313,SNR=16
Q24A Divide 87.08 44 P **P 19 22 54.8 +0.1**
Q24A IAmb IAmb 19 22 56.9
comp=Z,100nm,1.2s
TVO Taravao 87.11 114 *e*P **P 19 22 55.0 +0.3**
comp=Z,43nm,1.2s
WOL Wolverton 87.13 335 *e*P **P 19 22 54.2 0.0**
WOL IAmb IAmb 19 22 55.1
comp=Z,118nm,1.4s
X18A Snowflake 87.14 50 P **P 19 22 54.5 -0.3**
MCH1 Michaelchurch 87.15 337 *e*P **P 19 22 54.3 0.0**
MONM Monmouth 87.22 336 *e*P **P 19 22 55.2 +0.6**
MONM IAmb IAmb 19 22 56.0
comp=Z,78nm,1.1s
EYMN Ely 87.27 30 P **P 19 22 55.1 +0.1**
baz=322,SNR=9.5
EYMN Ely 87.27 30 P **P 19 22 55.2 +0.2**
OGNE Ogallala 87.44 41 P **P 19 22 56.0 0.0**
baz=315,SNR=6.8
OGNE Ogallala 87.44 41 P **P 19 22 55.9 -0.2**
ZCCA Zocca 87.58 325 P **P 19 22 57.5 +0.9**
ZCCA IAmb IAmb 19 22 59.0
comp=Z,47nm,0.9s
MURB Monte Urbino 87.63 323 P **P 19 22 57.5 +0.7**
MURB IAmb IAmb 19 22 59.0
comp=Z,44nm,0.7s
NRCA Norcia 87.64 322 P **P 19 22 56.9 -0.1**
NRCA IAmb IAmb 19 22 58.5
comp=Z,50nm,1.0s
SDCO Great Sand Dun 87.71 45 P **P 19 22 58.6 +1.0**
baz=313,SNR=60
SDCO Great Sand Dun 87.71 45 P **P 19 22 58.4 +0.7**
SDCO IAmb IAmb 19 23 00.4
comp=Z,79nm,1.2s
SENIN Lac Senin/Sane 87.75 328 P **P 19 22 57.5 0.0**
SENIN IAmb IAmb 19 22 58.7
comp=Z,116nm,2.0s
INTR Introdacqua 87.83 321 P **P 19 22 57.6 -0.3**
AQU L'Aquila 87.84 322 P **P 19 22 58.5 +0.7**
AQU pmax pmax
comp=Z,37nm,0.7s
AQU L'Aquila 87.84 322 *e*P **P 19 22 57.3 -0.6**
AQU L'Aquila 87.84 322 P **P 19 22 58.5 +0.7**
AQU IAmb IAmb 19 22 59.5
comp=Z,37nm,0.7s
TUC Tucson 88.03 52 P **P 19 22 59.4 +0.5**
baz=310
TUC Tucson 88.03 52 P **P 19 22 59.0 +0.1**
TUC pmax pmax
comp=Z,23nm,1.4s
TUC Tucson 88.03 52 P **P 19 22 59.0 +0.1**
ECSD EROS Data Cent 88.19 36 P **P 19 22 59.7 +0.3**
baz=318,SNR=26
ECSD EROS Data Cent 88.19 36 P **P 19 22 59.4 0.0**
ECSD IAmb IAmb 19 23 01.2
comp=Z,65nm,1.0s
E38A The Farm, Brul 88.30 31 P **P 19 22 59.7 -0.1**
baz=322,SNR=8.5
TIP Timpagrande 88.31 318 ⇓P **P 19 23 00.5 +0.3**
KSCO Kaye Shedlock' 88.47 42 P **P 19 23 01.4 +0.5**
baz=314,SNR=6.0
KSCO Kaye Shedlock' 88.47 42 P **P 19 23 01.2 +0.3**
T25A Trinidad 88.75 45 P **P 19 23 03.1 +0.6**
baz=314,SNR=34
T25A Trinidad 88.75 45 P **P 19 23 03.1 +0.6**
T25A IAmb IAmb 19 23 04.9
comp=Z,78nm,0.9s
SCHQ Schefferville 88.82 14 P **P 19 23 02.5 +0.4**
comp=Z,14nm,0.8s,baz=348,slow=1.9,SNR=6.3
SCHQ Schefferville 88.82 14 P **P 19 23 02.5 +0.4**
SCHQ IAmb IAmb 19 23 03.9
comp=Z,131nm,1.9s
SPMN Marine on St. 88.83 33 P **P 19 23 02.1 -0.2**
baz=321,SNR=8.2
SPMN Marine on St. 88.83 33 P **P 19 23 02.5 +0.2**
SPMN IAmb IAmb 19 23 04.2
comp=Z,68nm,0.9s
ANMO Albuquerque 89.02 47 P **P 19 23 04.4 +0.7**
ANMO pmax pmax
comp=Z,37nm,1.1s
ANMO Albuquerque 89.02 47 P **P 19 23 04.4 +0.7**
BNI Bardonecchia 89.04 327 P **P 19 23 03.0 -0.5**
BNI pmax pmax
comp=Z,120nm,1.8s
BNI Bardonecchia 89.04 327 P **P 19 23 03.0 -0.5**
BNI IAmb IAmb 19 23 04.9
comp=Z,120nm,1.8s
BGNE Belgrade 89.14 38 P **P 19 23 03.8 -0.2**

baz=317,SNR=6.2
BGNE Belgrade 89.14 38 P P 19 23 04.1 +0.2
D41A Chassel 89.18 29 P P 19 23 04.9 +1.0
baz=324
LENM Lemitar 89.23 48 P P 19 23 05.4 +0.8
JSA Saint Aubin 89.24 335 *e*P **P 19 23 04.4 +0.2**
JSA IAmb IAmb 19 23 05.3
comp=Z,83nm,1.2s
Y22D IRIS PASSCAL I 89.32 48 P P 19 23 06.0 +0.9
baz=312
LPM Los Pinos Moun 89.34 48 P P 19 23 06.1 +0.9
BNM Barren Site 89.45 48 P P 19 23 05.9 +0.1
319A Douglas 89.61 52 P P 19 23 07.0 +0.6
SSB Saint Sauveur 89.80 329 P P 19 23 07.0 0.0
SSB pmax pmax
comp=Z,173nm,1.9s
SSB Saint Sauveur 89.80 329 P P 19 23 07.0 0.0
SSB IAmb IAmb 19 23 07.6
comp=Z,173nm,1.9s
121A Cookes Peak, D 89.81 50 P P 19 23 08.3 +0.9
baz=312,SNR=12
121A Cookes Peak, D 89.81 50 P P 19 23 08.4 +1.0
G40A Rib Lake 89.93 31 P P 19 23 07.9 +0.4
baz=323,SNR=14
HSIG 90.03 54 P P 19 23 08.5 +0.2
CBKS Cedar Bluff 90.20 41 P P 19 23 08.5 -0.4
baz=316
E43A Lone Tree Farm 90.37 29 P P 19 23 09.6 +0.2
baz=325
F42A Maple Grove Fa 90.41 30 P P 19 23 09.7 0.0
baz=324
E44A Grand Marais A 90.59 28 P P 19 23 11.1 +0.6
baz=326
D46A Sault St. Mari 91.08 27 P P 19 23 13.5 +0.7
baz=327,SNR=12
SCIA State Center 91.20 35 P P 19 23 13.7 +0.2
baz=321
SCIA State Center 91.20 35 P P 19 23 14.2 +0.8
SCIA IAmb IAmb 19 23 15.8
comp=Z,63nm,0.8s
D47A Chapleau 91.28 26 P P 19 23 14.0 +0.3
baz=328,SNR=10
E46A Sault Ste Mari 91.42 27 P P 19 23 15.1 +0.8
baz=327,SNR=6.4
F45A CMU Biological 91.52 28 P P 19 23 15.2 +0.4
baz=326
I42A Draeger Farm, 91.59 31 P P 19 23 15.4 +0.2
baz=324
CHGQ Chibougamau 91.59 20 P P 19 23 14.9 -0.2
baz=334,SNR=6.8
LSQQ Lebel-sur-Quev 91.60 22 P P 19 23 15.1 0.0
baz=332
H43A Windswept, Lux 91.60 30 P P 19 23 15.5 +0.2
baz=324
KSU1 Kansas State U 91.64 39 P P 19 23 15.5 0.0
baz=318,SNR=7.5
D48A Paudash Townsh 91.65 25 P P 19 23 15.6 +0.2
baz=329
D49A Beulah Townshi 91.72 25 P P 19 23 15.8 +0.1
baz=329
E47A Iron Bridge 91.73 27 P P 19 23 16.3 +0.6
baz=328
JFWS Jewell Farm 91.78 33 P P 19 23 15.6 -0.5
baz=323,SNR=5.1
JFWS Jewell Farm 91.78 33 P P 19 23 16.3 +0.2
JFWS pmax pmax
comp=Z,36nm,0.9s
JFWS Jewell Farm 91.78 33 P P 19 23 16.3 +0.2
JFWS IAmb IAmb 19 23 17.5
comp=Z,36nm,0.9s
MNTX Cornudas Mount 91.88 49 P P 19 23 17.3 +0.5
baz=313,SNR=38
MNTX Cornudas Mount 91.88 49 P P 19 23 17.2 +0.5
MSTX Muleshoe 91.91 46 P P 19 23 17.3 +0.3
baz=314,SNR=19
MSTX Muleshoe 91.91 46 P P 19 23 17.2 +0.3
MSTX IAmb IAmb 19 23 18.9
comp=Z,84nm,1.2s
AMTX Amarillo 91.91 45 P P 19 23 17.8 +0.8
baz=315
AMTX Amarillo 91.91 45 P P 19 23 17.5 +0.5
G45A Suttons Bay 92.00 29 P P 19 23 17.6 +0.6
baz=326
L40A Anamosa 92.01 34 P P 19 23 17.0 -0.2
baz=322,SNR=6.6
G46A Petoskey 92.08 28 P P 19 23 17.2 -0.2
baz=326
E48A Lockeyer 92.11 26 P P 19 23 17.4 -0.1
baz=328
H45A Beulah 92.19 29 P P 19 23 17.3 -0.6
baz=326
VLDQ Val d'Or 92.29 22 P P 19 23 18.0 -0.2
D50A G1974 Best Tow 92.34 24 P P 19 23 18.5 0.0
baz=330
D51A Lot 18 Range I 92.56 24 P P 19 23 19.0 -0.6
baz=331
G47A Hillman 92.59 28 P P 19 23 19.6 -0.1
baz=327
H46A Fife Lake 92.59 29 P P 19 23 20.2 +0.4
baz=326
I45A Fountain 92.59 30 P P 19 23 20.3 +0.6
baz=326
E50A Wahnapitae 92.67 25 P P 19 23 20.4 +0.3
baz=330
F49A Sandfield 92.77 26 P P 19 23 21.3 +0.8
baz=329
K43A Burlington 92.80 32 P P 19 23 20.9 +0.2
baz=324
H47A Mio 92.94 28 P P 19 23 21.7 +0.3
baz=327
D52A ZEK Kipawa Sen 92.98 23 P P 19 23 21.5 0.0
baz=331
I46A Reed City 92.99 29 P P 19 23 22.4 +0.8
baz=326
E51A G1948 Merrick 93.01 24 P P 19 23 21.8 +0.2
baz=330
H48A Harrisville 93.19 28 P P 19 23 23.2 +0.7
baz=328
I47A Gladwin 93.30 29 P P 19 23 24.0 +1.0
baz=327
F51A Arnstein 93.39 25 P P 19 23 23.5 +0.1
baz=330
D54A Lac Fusel, La 93.39 22 P P 19 23 23.7 +0.3
baz=333
J46A Howard City 93.40 30 P P 19 23 24.3 +0.8
baz=326
L44A Lake County Fo 93.40 32 P P 19 23 23.4 -0.1
baz=324
I48A Sherman Twp 93.48 28 P P 19 23 23.5 -0.4
baz=327
E52A Mattawa 93.50 24 P P 19 23 23.4 -0.5
baz=331
WMOK Wichita Mounta 93.68 43 P P 19 23 24.9 -0.1
baz=317,SNR=27
WMOK Wichita Mounta 93.68 43 P P 19 23 25.2 +0.2
WMOK pmax pmax
comp=Z,42nm,1.0s
WMOK Wichita Mounta 93.68 43 P P 19 23 25.2 +0.2
WMOK IAmb IAmb 19 23 26.9
comp=Z,42nm,0.9s
F52A Sundridge 93.71 25 P P 19 23 25.0 +0.2
baz=331
J47A Sunmer 93.83 29 P P 19 23 25.8 +0.3
baz=326
E54A Lac Daplat, Po 93.86 23 P P 19 23 25.4 -0.2
baz=332
D55A Sainte-Anne-du 93.87 22 P P 19 23 25.9 +0.3
baz=334
K46A Dorr 93.89 30 P P 19 23 25.9 +0.2
baz=326
ALGO Algonquin Park 94.00 24 P P 19 23 26.1 0.0
baz=332
I49A Point Hope 94.03 28 P P 19 23 27.2 +0.9
baz=328
D56A ZEC Mazanza, M 94.06 21 P P 19 23 26.8 +0.3
baz=334,SNR=6.0
FNO Franklin 94.07 42 P P 19 23 27.4 +0.6
HDIL Hopedale 94.09 34 P P 19 23 27.1 +0.4
baz=323
J48A Bridge Port 94.19 29 P P 19 23 27.9 +0.7
baz=327
J48A Bridge Port 94.19 29 P P 19 23 27.3 +0.2
E55A Montcerf-Lytto 94.20 22 P P 19 23 27.1 +0.1
baz=333
K47A Vermontville 94.23 30 P P 19 23 27.6 +0.3
baz=326
L46A Eue Claire 94.23 31 P P 19 23 27.6 +0.3
baz=325
X34A Smith Ranch, M 94.31 43 P P 19 23 28.2 +0.4
X34A IAmb IAmb 19 23 30.1
comp=Z,59nm,1.2s
LATQ La Tuque 94.33 20 P P 19 23 27.8 +0.2
baz=336
D57A Chemin Vers le 94.35 21 P P 19 23 27.6 -0.2
baz=335,SNR=6.0
J49A Marlette 94.39 28 P P 19 23 28.6 +0.5
baz=328
E56A St. Veronique 94.43 22 P P 19 23 28.3 +0.2
baz=334
W35A Tecumseh 94.43 42 P P 19 23 28.6 +0.1
TUL1 Leonard 94.46 40 P P 19 23 28.8 +0.2
baz=319
TUL1 Leonard 94.46 40 P P 19 23 28.7 +0.2
G54A Lake Saint Pet 94.47 24 P P 19 23 28.5 +0.1
baz=332
K48A Perry 94.47 29 P P 19 23 28.8 +0.4
baz=327
G53A Haliburton 94.53 24 P P 19 23 29.1 +0.5
baz=331
D58A Chemin du LacG 94.57 20 P P 19 23 29.0 +0.3
baz=336
TX32 Lajitas Array 94.57 50 P P 19 23 29.9 +0.6
TXAR Lajitas Array 94.57 50 P P 19 23 29.9 +0.7
comp=Z,33nm,0.8s,baz=293,slow=3.2,SNR=230
TXAR pP **pP 19 24 49.8 +1.3**
comp=Z,6.5nm,1.1s,baz=276,slow=2.3,SNR=3.5
TXAR PP **PP 19 27 23.2 +1.7**
comp=Z,2.9nm,0.9s,baz=328,slow=4.4,SNR=4.2
TXAR Lajitas Array 94.57 50 P P 19 23 29.4 +0.2
TXAR **pP 19 24 48.3 -0.2**
ABTX Abilene, Hawle 94.71 45 P P 19 23 29.6 -0.1
baz=316,SNR=7.9
ABTX Abilene, Hawle 94.71 45 P P 19 23 29.6 -0.1
ABTX IAmb IAmb 19 23 31.9
comp=Z,75nm,1.3s
K49A Clarkson 94.76 29 P P 19 23 30.0 +0.2
baz=327
E57A Chemin Saint G 94.82 21 P P 19 23 30.4 +0.4
baz=335,SNR=8.0
I51A Listowel 94.82 27 P P 19 23 30.6 +0.6
baz=329
KEST Kesra 94.86 320 P P 19 23 30.0 -0.4
comp=Z,5.1nm,0.7s,baz=245,slow=0.8,SNR=6.1
KEST Kesra 94.86 320 P P 19 23 30.5 +0.1
HPIG 94.91 53 P P 19 23 31.4 +0.4
H53A Bobcaygeon 95.03 25 P P 19 23 31.6 +0.7
baz=331
G55A Calabogie 95.06 23 P P 19 23 30.9 -0.1
baz=333
M47A Cromwell 95.06 31 P P 19 23 31.7 +0.6
baz=326
L48A N Adams 95.07 30 P P 19 23 31.8 +0.7
baz=327
AAM Ann Arbor 95.08 29 P P 19 23 31.4 +0.3
baz=327
K50A Casco 95.09 28 P P 19 23 31.4 +0.1
baz=328
E58A La Victoria 95.11 21 P P 19 23 31.7 +0.5
baz=335
CCM Cathedral Cave 95.15 36 P P 19 23 31.5 -0.1
baz=322
CCM Cathedral Cave 95.15 36 P P 19 23 31.0 -0.6
CCM pmax pmax
comp=Z,38nm,1.0s
CCM Cathedral Cave 95.15 36 P P 19 23 31.0 -0.6
CCM IAmb IAmb 19 23 33.1
comp=Z,38nm,0.9s
HHAR Hobbs 95.16 39 P P 19 23 31.6 -0.1
D61A St Aubert, Com 95.20 18 P P 19 23 32.0 +0.4
baz=338
L49A Milan 95.20 29 P P 19 23 32.2 +0.5
baz=327
SFIN Lafayette 95.22 32 P P 19 23 32.1 +0.3
baz=325
ORIO Orleans, Innes 95.27 22 P P 19 23 31.4 -0.5
baz=334
ORIO Orleans, Innes 95.27 22 P P 19 23 31.9 -0.1
D60A Saint Jean D'O 95.27 19 P P 19 23 31.9 -0.1
baz=337
M48A Edgerton 95.33 30 P P 19 23 32.0 -0.3
baz=326
MGMO Mountain Grove 95.34 37 P P 19 23 32.0 -0.5
MGMO IAmb IAmb 19 23 33.6
comp=Z,31nm,1.0s
DELO Deloro Mine 95.41 24 P P 19 23 32.4 -0.2
DELO IAmb IAmb 19 23 34.2
comp=Z,57nm,1.2s
N47A Urbana 95.42 31 P P 19 23 32.7 -0.1
baz=326
H55A Tweed 95.53 24 P P 19 23 32.6 -0.6
baz=332
D62A Allapoint, All 95.60 18 P P 19 23 33.7 +0.2
baz=339
M49A Liberty Center 95.65 30 P P 19 23 34.2 +0.5
baz=327
I55A Frankford 95.65 24 P P 19 23 33.1 -0.7
baz=332
U40A Yellville 95.66 38 P P 19 23 33.8 -0.2
baz=321,SNR=24
U40A Yellville 95.66 38 P P 19 23 33.5 -0.4
U40A IAmb IAmb 19 23 35.3
comp=Z,51nm,1.0s
X37A Clayton 95.67 41 pP 19 24 51.6 -1.7
N48A Decatur 95.72 31 P P 19 23 34.1 0.0
baz=326
F59A Saint Guilaume 95.73 20 P P 19 23 34.0 0.0
baz=336
G57A Newington 95.74 22 P P 19 23 34.0 -0.1
baz=334
H56A Elgin 95.79 23 P P 19 23 34.4 0.0
baz=333
K52A Tillsonburg 95.82 27 P P 19 23 34.7 +0.2
baz=329
E61A Lac Etchemin 95.83 19 P P 19 23 34.6 +0.1
baz=337
F60A Warwick 95.86 20 P P 19 23 34.4 -0.2
baz=336
D63A Stockholm 95.87 17 P P 19 23 34.2 -0.5
baz=339
E62A Clayton Lake 95.91 18 P P 19 23 34.5 -0.4
baz=338
N49A Columbus Grove 96.02 30 P P 19 23 35.7 +0.2
baz=327
W39A Magazine 96.07 40 P P 19 23 35.8 0.0
baz=320
M50A Fremont 96.08 29 P P 19 23 35.7 0.0
baz=328
F61A St Evariste 96.12 19 P P 19 23 36.2 +0.4
baz=337
JCT Junction City 96.15 47 P P 19 23 36.7 +0.3
baz=316,SNR=8.1
JCT Junction City 96.15 47 P P 19 23 36.0 -0.4
JCT pmax pmax
comp=Z,115nm,1.8s
JCT Junction City 96.15 47 P P 19 23 36.0 -0.4
O48A Farmland 96.17 31 P P 19 23 36.5 +0.3
baz=326
H57A Richville 96.19 23 P P 19 23 36.5 +0.3
baz=334
LONY Lake Ozonia 96.30 22 P P 19 23 36.8 +0.1
baz=334
E63A Oxbow 96.37 17 P P 19 23 37.1 +0.2
baz=339
S44A Carbondale 96.39 35 P P 19 23 37.3 +0.1
baz=323
FCAR Ozark Folk Cen 96.40 38 P P 19 23 36.7 -0.6
WHTX Lake Whitney, 96.44 44 P P 19 23 37.9 +0.3
baz=317
WHTX Lake Whitney, 96.44 44 P P 19 23 38.1 +0.6
WHTX IAmb IAmb 19 23 39.5
comp=Z,31nm,0.9s
J55A Hilton 96.44 25 P P 19 23 37.5 +0.2
baz=332
F62A Pittston Farm, 96.47 19 P P 19 23 37.6 +0.2
baz=338
E64A Bridgewater 96.52 17 P P 19 23 37.7 +0.1
baz=340
PBMO Poplar Bluff 96.55 37 P P 19 23 38.1 +0.2
PBMO IAmb IAmb 19 23 39.5
comp=Z,30nm,1.0s
H59A Cadyville 96.55 22 P P 19 23 38.1 +0.3
baz=335
O49A Covington 96.57 31 P P 19 23 38.2 +0.2
baz=327
N50A Nevada 96.58 30 P P 19 23 38.5 +0.5
baz=328
G61A St-Isidore-de- 96.61 20 P P 19 23 38.2 +0.2
baz=337
MIAR Mount Ida 96.67 40 P P 19 23 39.0 +0.4
baz=320,SNR=6.6
MIAR Mount Ida 96.67 40 P P 19 23 38.7 +0.2
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 96.67 40 P P 19 23 38.7 +0.2
L53A Girard 96.70 27 P P 19 23 38.5 -0.1
baz=330
K54A Basiliko Farm, 96.71 26 P P 19 23 38.6 0.0
baz=331
P48A Milroy 96.71 32 P P 19 23 38.7 +0.1
baz=326
LCAR Lake Charles 96.75 37 P P 19 23 38.6 -0.2
J56A Wolcott 96.76 24 P P 19 23 38.6 -0.1
baz=332
N51A Ashland 96.76 29 P P 19 23 39.1 +0.3
baz=328
WHAR Wooly Hollow 96.78 39 P P 19 23 38.7 -0.3
WHAR IAmb IAmb 19 23 40.4
comp=Z,40nm,1.3s
K55A Perry 96.83 25 P P 19 23 38.9 -0.2
baz=331
F63A Nahmakanta, Br 96.87 18 P P 19 23 39.1 -0.1
baz=338
W41B Gary Mavity, V 96.89 39 P P 19 23 39.7 +0.2
baz=321
O50A Cable 96.91 30 P P 19 23 39.8 +0.3
baz=327
F64A Sherman 96.91 18 P P 19 23 39.3 0.0
baz=339
J57A Williamstown 96.93 24 P P 19 23 40.1 +0.6
baz=333
G62A West of Eustis 96.94 19 P P 19 23 40.2 +0.6
baz=337
P49A Miami Univ. Ec 96.95 31 P P 19 23 40.0 +0.3
baz=326
Q48A North Vernon 97.01 32 P Pdif 19 23 40.6 +0.6
baz=326
ACSO Alum Creek Sta 97.10 30 P Pdif 19 23 41.1 +0.7
baz=328
ACSO Alum Creek Sta 97.10 30 P Pdif 19 23 40.6 +0.2
ACSO IAmb IAmb 19 23 42.5
comp=Z,26nm,0.9s
X40A Basin Creek Fa 97.11 40 P Pdif 19 23 41.2 +0.6
baz=320
X40A Basin Creek Fa 97.11 40 P Pdif 19 23 41.0 +0.5
X40A IAmb IAmb 19 23 42.3
comp=Z,58nm,1.8s
K56A Middlesex 97.11 25 P Pdif 19 23 41.0 +0.5
baz=332
N52A McGinn's Farm, 97.13 29 P Pdif 19 23 41.1 +0.6
baz=329
H61A Lyndonville 97.18 20 P Pdif 19 23 41.4 +0.8
baz=336
J58A Remsen 97.21 23 P Pdif 19 23 41.4 +0.5
baz=334
P50A Jamestown 97.28 31 P Pdif 19 23 41.8 +0.6
baz=327
M54A Oil Creek Stat 97.31 27 P Pdif 19 23 41.8 +0.4
baz=330
Q49A Aurora 97.32 32 P Pdif 19 23 42.0 +0.6
baz=326
O51A Pataskala 97.32 30 P Pdif 19 23 42.2 +0.8
baz=328
WCI Wyandotte Cave 97.34 33 P Pdif 19 23 41.7 +0.2
baz=325
H62A Milan 97.36 20 P Pdif 19 23 41.9 +0.4
baz=337
K57A Scipio Center 97.36 24 P Pdif 19 23 42.3 +0.8
baz=333
J59A Piesco 97.37 23 P Pdif 19 23 41.9 +0.3
baz=334
G64A Maxfield 97.38 18 P Pdif 19 23 42.3 +0.8
baz=339
N53A Lisbon 97.47 28 P Pdif 19 23 42.7 +0.7
baz=329
L56A Greenwood 97.53 25 P Pdif 19 23 42.7 +0.4
baz=332
K58A Earlville 97.62 24 P Pdif 19 23 43.6 +0.9
baz=333
N54A Moraine State 97.66 27 Pdiff Pdif 19 23 43.2 +0.3
baz=330
O52A Adamsville 97.66 29 Pdiff Pdif 19 23 43.1 +0.2
baz=328
M55A Ridgway 97.68 26 Pdiff Pdif 19 23 43.4 +0.4
baz=331
P51A Williamsport 97.70 30 Pdiff Pdif 19 23 43.2 +0.1
baz=328
G65A Princeton 97.73 17 Pdiff Pdif 19 23 43.4 +0.4
baz=340
O53A New Philadelph 97.80 29 Pdiff Pdif 19 23 44.2 +0.7
baz=329
H64A Troy 97.83 19 Pdiff P 19 23 43.2 -0.3
baz=338
Q50A Georgetown 97.85 31 Pdiff Pdif 19 23 44.2 +0.4
baz=327
K59A Cooperstown 97.87 23 Pdiff Pdif 19 23 44.3 +0.5
baz=334
M56A Emporium 97.88 26 Pdiff Pdif 19 23 44.4 +0.5
baz=331
M56A Emporium 97.88 26 P Pdif 19 23 44.0 +0.2
L57A Andrews Acres 97.89 25 Pdiff Pdif 19 23 44.3 +0.4
baz=332
J60A Lant Hill Farm 97.91 22 Pdiff Pdif 19 23 44.1 +0.2
baz=335
833A Chaparral WMA, 97.94 48 Pdiff Pdif 19 23 44.8 +0.4
baz=316
P52A Corning 97.95 29 Pdiff Pdif 19 23 45.0 +0.8
baz=326
I62A Tamworth 97.95 20 Pdiff Pdif 19 23 44.4 +0.3
baz=337
Q51A Peebles 97.96 31 Pdiff Pdif 19 23 45.0 +0.8
baz=327
T47A Sharon Grove 97.98 34 Pdiff Pdif 19 23 44.8 +0.5
baz=324
ESDC Sonseca Array 97.98 331 P P 19 23 43.6 -0.7
comp=Z,0.8nm,0.5s,baz=20,slow=4.2,SNR=5.3
ESDC PP PP 19 27 34.4 -13
comp=Z,0.7nm,0.6s,baz=19,slow=6.4,SNR=4.4
ESDC Sonseca Array 97.98 331 P P 19 23 43.6 -0.7
I63A Otisfield 98.00 20 Pdiff Pdif 19 23 44.7 +0.3
baz=337
S49A Springfield 98.15 33 Pdiff Pdif 19 23 45.3 +0.2
baz=326
R50A Paris 98.16 32 Pdiff Pdif 19 23 45.7 +0.6
baz=327
O54A Avella 98.18 28 Pdiff Pdif 19 23 46.0 +0.8
baz=330
N55A Marion Center 98.19 27 Pdiff Pdif 19 23 46.1 +0.8
baz=331
L58A Harry Jones Me 98.20 24 Pdiff Pdif 19 23 46.0 +0.7
baz=333
N56A West Decatur 98.33 26 Pdiff Pdif 19 23 46.5 +0.6
baz=331
WVT Waverly 98.33 35 Pdiff Pdif 19 23 46.6 +0.7
baz=324
WVT Waverly 98.33 35 P P 19 23 45.6 -0.3
WVT pmax pmax
comp=Z,13nm,1.2s
WVT Waverly 98.33 35 P P 19 23 45.6 -0.3
L59A Walton 98.34 24 Pdiff Pdif 19 23 46.3 +0.4
baz=334
P53A Whipple 98.38 29 Pdiff P 19 23 46.9 +0.8
baz=329
M57A Sunshine Farm, 98.38 25 Pdiff P 19 23 47.1 +1.0
baz=332
M57A Sunshine Farm, 98.38 25 P P 19 23 46.9 +0.8
J62A Henniker 98.41 21 Pdiff Pdif 19 23 45.9 -0.3
baz=336
R51A Hillsboro 98.47 31 Pdiff Pdif 19 23 46.3 -0.2
baz=327
K61A Williamstown 98.47 22 Pdiff Pdif 19 23 46.4 -0.1
baz=335
O55A Ligonier 98.57 27 Pdiff P 19 23 47.4 +0.4
baz=330
M58A Price's Panora 98.58 25 Pdiff P 19 23 47.4 +0.4
baz=333
T49A Edmonton 98.60 33 Pdiff P 19 23 47.6 +0.4
baz=326
S50A Richmond 98.63 32 Pdiff P 19 23 47.5 +0.2
baz=326
P54A Burton 98.64 28 Pdiff P 19 23 48.0 +0.7
baz=329
KMBO Kilima Mbogo 98.71 275 PP PP 19 27 53.9 -0.3

comp=Z,2.4nm,0.8s,baz=56,slow=10,SNR=5.5
KMBO PKKPbc **PKKPdf** 19 40 15.6 -1.1
comp=Z,1.2nm,0.6s,baz=195,slow=7.6,SNR=3.0
SSPA Standing Stone 98.73 26 Pdiff **P** 19 23 48.0 +0.4
baz=331
N57A Milroy 98.74 26 Pdiff **P** 19 23 48.3 +0.6
baz=332
M59A Waymart 98.79 24 Pdiff **P** 19 23 48.3 +0.4
baz=333
O56A Blue Knob Stat 98.80 27 Pdiff **P** 19 23 48.6 +0.6
baz=331
OXF Oxford 98.85 37 Pdiff **P** 19 23 48.7 +0.4
baz=323
Q53A Leroy 98.86 30 Pdiff **P** 19 23 49.1 +0.8
baz=329
P55A Reedsville 98.98 28 Pdiff **P** 19 23 49.3 +0.5
baz=330
U49A Red Boiling Sp 98.98 34 Pdiff **P** 19 23 49.2 +0.4
baz=325
T50A Nancy 98.98 33 Pdiff **P** 19 23 49.5 +0.6
baz=326
S51A Beattyville 99.02 32 Pdiff **Pdif** 19 23 49.7 +0.8
baz=327
Q54A Coxs Mills 99.03 29 Pdiff **Pdif** 19 23 49.8 +0.8
baz=329
V48A Smith Brothers 99.12 35 Pdiff **Pdif** 19 23 50.1 +0.6
baz=325
HRV Adam Dziewonsk 99.14 21 Pdiff **Pdif** 19 23 50.3 +0.9
baz=336
N59A State Game Lan 99.23 25 Pdiff **Pdif** 19 23 50.6 +0.7
baz=333
M60A Port Jervis 99.25 24 Pdiff **Pdif** 19 23 50.6 +0.6
baz=334
Q55A Buckhannon 99.32 28 Pdiff **Pdif** 19 23 51.2 +0.8
baz=330
P56A Dayton Farm, R 99.36 27 Pdiff **Pdif** 19 23 51.3 +0.9
baz=331
T51A Gray 99.43 32 Pdiff **Pdif** 19 23 51.5 +0.6
baz=327
O58A Lewisberry 99.53 26 Pdiff **Pdif** 19 23 51.6 +0.4
baz=332
V49A McMinnville 99.53 34 Pdiff **Pdif** 19 23 51.4 +0.1
baz=325
M61A Granite Spring 99.54 23 Pdiff **Pdif** 19 23 51.5 +0.3
baz=335
O59A Robesonia 99.62 25 Pdiff **Pdif** 19 23 51.7 0.0
baz=333
WSPT Westport, CT 99.81 23 pP 19 25 11.8 0.0
W49A Belvidere 99.89 35 Pdiff **Pdif** 19 23 53.4 +0.5
baz=325
P58A Pank, Wackersv 99.95 26 Pdiff **Pdif** 19 23 53.6 +0.5
baz=332
X48A Hartselle 100.06 36 Pdiff **Pdif** 19 23 53.8 +0.1
baz=324
V51A Loudon 100.21 33 Pdiff **Pdif** 19 23 54.6 +0.3
baz=326
P60A Greenville 100.26 25 Pdiff **Pdif** 19 23 55.1 +0.6
baz=333
V52A Sevierville 100.52 33 Pdiff **Pdif** 19 23 56.3 +0.6
baz=327
U53A Fall Branch 100.53 32 Pdiff **Pdif** 19 23 55.7 -0.1
baz=328
Y49A Blount Mountai 100.85 36 Pdiff **Pdif** 19 23 56.5 -0.8
baz=325
Y51A Rockmart 101.46 35 Pdiff **Pdif** 19 23 59.7 -0.2
baz=326
Z50A Ashland 101.58 36 Pdiff **Pdif** 19 24 00.9 +0.5
baz=325
Z50A Ashland 101.58 36 **Pdif** 19 24 00.6 +0.1
U57A Blanch 101.83 29 Pdiff **Pdif** 19 24 01.6 +0.1
baz=330
MAW Mawson 115.62 204 PKP **PKiKP** 19 28 47.7 +0.4
comp=Z,3.9nm,0.8s,baz=23,slow=3.5,SNR=6.5
MAW PKKPbc **PKKPbc** 19 39 22.7 -0.1
comp=Z,4.0nm,0.8s,baz=303,slow=7.9,SNR=5.9
LBTB Lobatse 120.70 259 PKIKP **PKiKP** 19 28 59.4 +0.7
LBTB Lobatse 120.70 259 **PKiKP** 19 28 59.4 +0.7
BOSA Boshof 122.51 256 PKIKP **PKPdf** 19 29 01.8 -0.2
BOSA Boshof 122.51 256 PKP **PKPdf** 19 29 01.6 -0.4
comp=Z,9.0nm,0.8s,baz=35,slow=0.5,SNR=12
BOSA PKKPbc **PKKPab** 19 38 58.9 +1.7
comp=Z,5.0nm,1.0s,baz=207,slow=2.5,SNR=3.8
BOSA Boshof 122.51 256 **PKPdf** 19 29 01.9 -0.2
PDPR Patillas Dam, 123.47 27 **PKPdf** 19 29 03.6 -0.4
MTP Monte Pirata 123.57 26 **PKPdf** 19 29 04.1 -0.1
QSPA South Pole Qui 124.11 180 PKP **PKPdf** 19 29 03.3 -0.5
comp=Z,42nm,0.9s,baz=286,slow=0.8,SNR=42
QSPA pPKP **pPKPdf** 19 30 26.5 +0.2
comp=Z,14nm,1.0s,baz=275,slow=2.3,SNR=4.6
SYO Syowa Base 124.24 206⇑ *i* PKPdf **PKPdf** 19 29 03.4 -0.5
SYO Syowa Base 124.24 206⇑ *i* PKiKP **PKiKP** 19 29 05.6 +1.4
DBIC Dimbokro 125.57 311 PKIKP **PKPdf** 19 29 07.9 -0.3
DBIC Dimbokro 125.57 311 PKP **PKPdf** 19 29 07.6 -0.6
comp=Z,15nm,0.6s,baz=32,slow=2.4,SNR=26
DBIC pPKP **pPKPdf** 19 30 31.0 -0.1
comp=Z,4.6nm,0.8s,baz=115,slow=4.4,SNR=3.0
DBIC Dimbokro 125.57 311 **PKPdf** 19 29 07.9 -0.3
TIC Toumodi 125.69 311 *e*PKIKP **PKPdf** 19 29 08.1 -0.3
TIC Toumodi 125.69 311 PKIKP **PKPdf** 19 29 08.1 -0.3
TIC Toumodi 125.69 311 **PKPdf** 19 29 08.1 -0.3
KIC Kosan Boka 125.73 311 *e*PKIKP **PKPdf** 19 29 08.3 -0.2
comp=Z,67nm,1.0s
KIC Kosan Boka 125.73 311 **PKPdf** 19 29 08.3 -0.2
LIC Lamto 126.02 311 *e*PKIKP **PKPdf** 19 29 08.7 -0.3
comp=Z,89nm,1.0s
LIC Lamto 126.02 311 **PKPdf** 19 29 08.7 -0.3
CAPC Capurgana 126.25 44⇓ *e*P **PKiKP** 19 29 17.5 +7.5
CAPC Capurgana 126.25 44⇓ *e*P **PKiKP** 19 29 17.5 +7.5
CODC Agustn Codazz 127.31 39 *e*P **PKPdf** 19 29 10.8 -0.7
CODC Agustn Codazz 127.31 39 *e*P **PKPdf** 19 29 10.8 -0.7
SMLC San Martn de 127.93 40 *e*P **PKPdf** 19 29 10.8 -1.8
SMLC San Martn de 127.93 40 *e*P **PKPdf** 19 29 10.8 -1.8
FDF Fort de France 128.20 23 PKIKP **PKPdf** 19 29 12.7 -0.5
FDF Fort de France 128.20 23 **PKPdf** 19 29 12.7 -0.5
CBOC Ciudad Bolivar 129.26 44⇑ *e*P **PKPdf** 19 29 14.2 -1.3
CBOC Ciudad Bolivar 129.26 44⇑ *e*P **PKPdf** 19 29 14.2 -1.3
BRRC Barranca, Sant 129.53 41 *e*P **PKPdf** 19 29 15.5 -0.3
BRRC Barranca, Sant 129.53 41 *e*P **PKPdf** 19 29 15.5 -0.3
PTBC PUERTO BERRIO 129.59 42 *e*P **PKPdf** 19 29 14.8 -1.1
PTBC PUERTO BERRIO 129.59 42 *e*P **PKPdf** 19 29 14.8 -1.1
SDV Santo Domingo 129.62 37 PKP **PKPdf** 19 29 16.0 -0.1
comp=Z,67nm,0.8s,baz=339,slow=1.0,SNR=84
SDV pPKP **pPKPdf** 19 30 39.5 +0.4
comp=Z,13nm,1.1s,baz=237,slow=2.6,SNR=3.2
SDV Santo Domingo 129.62 37 **PKPdf** 19 29 15.5 -0.7
SDV Santo Domingo 129.62 37 *e*P **PKiKP** 19 29 16.8 -0.2
PAMC Pamplona, Colo 129.88 40 *e*P **PKPdf** 19 29 16.8 -0.2
PAMC Pamplona, Colo 129.88 40 *e*P **PKPdf** 19 29 16.8 -0.2
GUY2C Guyana, Caldas 130.15 44 *e*P **PKPdf** 19 29 15.5 -2.0
GUY2C Guyana, Caldas 130.15 44 *e*P **PKPdf** 19 29 15.5 -2.0
NORC Norcasia 130.16 43 *e*P **PKPdf** 19 29 12.8 -4.2
NORC Norcasia 130.16 43 *e*P **PKPdf** 19 29 12.8 -4.2
BARC Barichara 130.25 41 *e*P **PKPdf** 19 29 17.5 +0.1
BARC Barichara 130.25 41 *e*P **PKPdf** 19 29 17.5 +0.1
RREF El Recreo 130.42 44 *e*P **PKPdf** 19 29 18.1 -0.1
RREF El Recreo 130.42 44 *e*P **PKPdf** 19 29 18.1 -0.1
SPBC San Pablo de B 130.54 43 *e*P **PKPdf** 19 29 16.1 -1.6
SPBC San Pablo de B 130.54 43 *e*P **PKPdf** 19 29 16.1 -1.6
YOTC Yotoco, Valle 130.57 46 *e*P **PKPdf** 19 29 10.2 -7.7
YOTC Yotoco, Valle 130.57 46 *e*P **PKPdf** 19 29 10.2 -7.7
RUSC La Rusia 130.89 41 *e*P **PKPdf** 19 29 18.1 -0.8
RUSC La Rusia 130.89 41 *e*P **PKPdf** 19 29 18.1 -0.8
ROSC El Rosal 131.06 43 PKP **PKPdf** 19 29 19.1 0.0
comp=Z,12nm,0.4s,baz=21,slow=3.2,SNR=13
PCRV Puerto La Cruz 131.16 29 PKP **PKPdf** 19 29 17.9 -0.9
comp=Z,11nm,0.4s,baz=235,slow=1.7,SNR=6.4
PLCV Puerto La Cruz 131.19 29 **PKPdf** 19 29 17.9 -1.0
ORTC Ortega, Tolima 131.28 45 *e*P **PKPdf** 19 29 16.1 -3.0
ORTC Ortega, Tolima 131.28 45 *e*P **PKPdf** 19 29 16.1 -3.0
POPC Popayan, Colom 131.51 48 *e*P **PKPdf** 19 29 18.1 -1.7
POPC Popayan, Colom 131.51 48 *e*P **PKPdf** 19 29 18.1 -1.7
CHIC Chingaza 131.57 43 *e*P **PKPdf** 19 29 18.8 -1.3
CHIC Chingaza 131.57 43 *e*P **PKPdf** 19 29 18.8 -1.3
SOTA Rioblanco 131.87 48 *e*P **PKPdf** 19 29 20.1 -0.7
SOTA Rioblanco 131.87 48 *e*P **PKPdf** 19 29 20.1 -0.7
VILC Villavicencio, 132.01 43⇑ *e*P **PKPdf** 19 29 20.1 -0.5
VILC Villavicencio, 132.01 43⇑ *e*P **PKPdf** 19 29 20.1 -0.5
FLOC Florencia 132.89 47 *e*P **PKPdf** 19 29 20.1 -2.0
FLOC Florencia 132.89 47 *e*P **PKPdf** 19 29 20.1 -2.0
PTLC Puerto Leguiza 134.52 48⇓ *e*P **PKPdf** 19 29 20.8 -4.4
PTLC Puerto Leguiza 134.52 48⇓ *e*P **PKPdf** 19 29 20.8 -4.4
SNAA Sanae 137.15 197 PKPdf PKPdf 19 29 15.6 -13
SNAA Sanae 137.15 197 PKhKP PKPpre 19 29 15.8
comp=Z,3.9nm,0.8s,baz=169,slow=4.8,SNR=9.4
SNAA PKPbc **SKPdf** 19 32 30.1 -0.7
comp=Z,7.7nm,0.8s,baz=152,slow=1.8,SNR=8.6
ATAH Atahualpa 137.59 59 PKhKP PKPpre 19 29 24.7
comp=Z,5.0nm,0.5s,baz=21,slow=9.9,SNR=2.5
ATAH PKP **PKPdf** 19 29 32.4 +1.0
comp=Z,12nm,0.8s,baz=338,slow=9.4,SNR=8.9
ATAH PP **PP** 19 32 21.2 0.0
comp=Z,4.8nm,0.7s,baz=356,slow=14,SNR=4.7
ATAH SKPbc **SKPbc** 19 32 33.2 +0.4
comp=Z,11nm,1.1s,baz=290,slow=2.5,SNR=6.8
VNA2 Neumayer--Watz 138.75 197 PKPdf PKPdf 19 29 22.3 -8.9
baz=123,slow=3.2
VNA3 Neumayer Olymp 139.05 196 PKPdf PKPdf 19 29 22.1 -10
VNA1 Neumayer--Stat 139.15 197 PKPdf PKPdf 19 29 23.5 -8.4
MDP Montagnes des 139.70 15 PKP **PKPdf** 19 29 35.9 +1.1
comp=Z,25nm,0.7s,baz=318,slow=2.6,SNR=12
NNA Nana 142.00 62 PKhKP PKPpre 19 29 34.3
comp=Z,46nm,0.7s,baz=315,slow=6.6,SNR=17
PMSA Palmer Station 146.98 164 PKPbc **PKPbc** 19 29 48.2 -0.1
comp=Z,16nm,0.7s,baz=141,slow=2.4,SNR=8.1
PMSA Palmer Station 146.98 164 **PKPbc** 19 29 47.7 -0.6
PMSA Palmer Station 146.98 164 *e*P **PKPbc** 19 29 47.6 -0.8
SAML Samuel 148.63 41 PKHKP PKPpre 19 29 51.1
SAML Samuel 148.63 41 **PKPdf** 19 29 51.1 +1.0
SAML Samuel 148.63 41 *e*P **PKPdf** 19 29 51.9 +1.8
NBMO Morrinhos-CE 148.98 354 *e*P **PKPdf** 19 29 50.5 -0.2
NBMO Morrinhos-CE 148.98 354 *e*P **PKPdf** 19 29 50.5 -0.2
RCBR Riachuelo 150.86 345 PKIKP **PKPbc** 19 29 59.8 +0.2
RCBR Riachuelo 150.86 345 PKPbc **PKPbc** 19 29 59.8 +0.2
NBPA Parau_RN 151.01 348 *e*P **PKPdf** 19 29 56.0 +2.1
NBPA Parau_RN 151.01 348 *e*P **PKPdf** 19 29 56.0 +2.1
LPAZ La Paz 151.13 58 PKP **PKPdf** 19 29 55.0 +0.3
comp=Z,13nm,1.1s,baz=332,slow=3.2,SNR=25
LPAZ PKPbc **PKiKP** 19 30 01.6 +0.3
comp=Z,78nm,0.9s,baz=18,slow=4.4,SNR=90
LPAZ La Paz 151.13 58 **PKPdf** 19 29 53.8 -0.9
LPAZ La Paz 151.13 58 *e*P **PKPdf** 19 29 55.7 +1.0
PB11 IPOC Station P 152.25 65 **PKPdf** 19 29 55.8 +0.1
NBLI Livramento-PB 152.56 347 *e*P **PKPdf** 19 29 56.9 +0.6
NBLI Livramento-PB 152.56 347 *e*P **PKPdf** 19 29 56.9 +0.6
USHA Ushuaia 152.92 147 PKP **PKPdf** 19 29 55.6 +0.2
comp=Z,6.9nm,0.8s,baz=70,slow=3.4,SNR=2.5
USHA PKPbc **PKiKP** 19 30 03.5 +0.5
comp=Z,47nm,0.8s,baz=249,slow=2.7,SNR=15
CLDB Colider 153.84 30 *e*P **PKPdf** 19 29 59.8 +1.8
CLDB Colider 153.84 30 *e*P **PKPdf** 19 29 59.8 +1.8
LVC Limon Verde 154.45 70 *e*P **PKPdf** 19 30 00.9 +1.9
LVC Limon Verde 154.45 70 *e*P **PKPdf** 19 30 00.9 +1.9
SIV San Ignacio 155.51 46 PKP **PKPdf** 19 30 00.8 +0.6
comp=Z,11nm,0.8s,baz=193,slow=0.4,SNR=24
SIV PKPab **PKPab** 19 30 27.7 -0.1
comp=Z,59nm,0.8s,baz=318,slow=2.7,SNR=32
SIV PP **PP** 19 34 06.1 +0.7
comp=Z,5.3nm,0.9s,baz=355,slow=5.8,SNR=4.4
GO03 Copiap 155.72 81 **PKPdf** 19 30 00.4 +0.1
GO04 Tololo Observa 156.13 88 **PKPdf** 19 30 00.5 -0.4
PLCA Paso Flores 157.28 114 PKP **PKPdf** 19 30 02.3 +0.4
comp=Z,3.9nm,1.0s,baz=244,slow=10,SNR=3.8
PLCA PKPab **PKPab** 19 30 35.7 +0.6
comp=Z,12nm,0.8s,baz=265,slow=4.4,SNR=12
PLCA Paso Flores 157.28 114 **PKPdf** 19 30 01.9 0.0
PLCA Paso Flores 157.28 114 *e*P **PKPdf** 19 30 04.4 +2.5
SALV Santo Antonio 158.34 35 *e*P **PKPdf** 19 30 05.3 +1.5
SALV Santo Antonio 158.34 35 *e*P **PKPdf** 19 30 05.3 +1.5
CFA Coronel Fontan 158.64 90 PKP **PKPdf** 19 30 04.0 +0.3
comp=Z,3.0nm,0.8s,baz=286,slow=2.4,SNR=5.6
CFA PKPab **PKPab** 19 30 41.0 -0.2
comp=Z,50nm,0.9s,baz=270,slow=4.3,SNR=31
PP1B Ponte de Pedra 160.20 36 *e*P **PKPdf** 19 30 06.4 +0.6
PP1B Ponte de Pedra 160.20 36 *e*P **PKPdf** 19 30 06.4 +0.6
BDFB Brasilia 160.81 15 PKP **PKPdf** 19 30 07.2 +0.5
comp=Z,2.0nm,0.4s,baz=149,slow=3.1,SNR=7.4
BDFB PKPab **PKPab** 19 30 51.3 +0.5
comp=Z,5.7nm,0.7s,baz=344,slow=4.5,SNR=6.3
BDFB SKP 19 33 05.8
comp=Z,1.3nm,0.3s,baz=246,slow=12,SNR=3.3
BDFB PP **PP** 19 34 33.7 +0.3
comp=Z,14nm,1.2s,baz=29,slow=4.0,SNR=6.7
AQDB Aquidauana 162.16 42 *e*P **PKPdf** 19 30 10.5 +2.7
AQDB Aquidauana 162.16 42 *e*P **PKPdf** 19 30 10.5 +2.7
ITRB Iturama 163.99 26 *e*P **PKPdf** 19 30 11.7 +2.0
ITRB Iturama 163.99 26 *e*P **PKPdf** 19 30 11.7 +2.0
TRQA Tornquist 164.22 109 *e*P **PKPdf** 19 30 11.1 +1.8
TRQA Tornquist 164.22 109 *e*P **PKPdf** 19 30 11.1 +1.8
SJMB Sao Joao De Ma 164.32 354 *e*P **PKPdf** 19 30 10.8 +0.9
SJMB Sao Joao De Ma 164.32 354 *e*P **PKPdf** 19 30 10.8 +0.9
CPUP Villa Florida 165.25 61 PKP **PKPdf** 19 30 10.8 +0.3
comp=Z,8.2nm,0.9s,baz=8.2,slow=1.7,SNR=14
CPUP PKPab **PKPab** 19 31 10.4 +0.2
comp=Z,8.0nm,0.9s,baz=311,slow=3.8,SNR=9.3
CPUP Villa Florida 165.25 61 **PKPdf** 19 30 10.4 -0.1
FRTB Fartura 167.60 29 *e*P **PKPdf** 19 30 14.0 +1.5
FRTB Fartura 167.60 29 *e*P **PKPdf** 19 30 14.0 +1.5
MAN01 Angra dos Reis 168.51 5 *e*P **PKPdf** 19 30 14.3 +1.2
MAN01 Angra dos Reis 168.51 5 *e*P **PKPdf** 19 30 14.3 +1.2
SPB Sao Paulo 168.58 21 *e*P **PKPdf** 19 30 15.2 +2.1
SPB Sao Paulo 168.58 21 *e*P **PKPdf** 19 30 15.2 +2.1
PLTB Pedras Altas 170.71 77 *e*P **PKPdf** 19 30 16.0 +1.9
PLTB Pedras Altas 170.71 77 *e*P **PKPdf** 19 30 16.0 +1.9

*IDC **18** 19:21:20.6±0.8, 60°.29S×45°.34W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/30, mbtmp4.1/7, ML4.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/22, Error ellipse: s-maj=35.4km s-min=18.7km az=66.0*
*ISCJB **18** 19:21:21.0±0.4, 60°.32S±0°.07×45°.6W±0°.2, h10km, mb4.1/5, Error ellipse: s-maj=14.9km s-min=7.3km az=146.1*
*NEIC **18** 19:21:22.0±1.9, 60°.31S±0°.06×45°.4W±0°.1, h10km±1km, mb4.6/12*
*BJI **18** 19:21:23.5±0.0, 60°.30S×45°.20W, h15km, mB5.6/5, Ms5.3/3, Ms7 5.0/2*
ISC 18 19:21:22.4±0.4, 60°.28S±0°.07×45°.49W±0°.07, h10km, n62, σ1°.31/59, mb4.5/10, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.74**	**43**		**Pn**	**19 23 12.3**	**-2.6**
PMSA	**Palmer Station**	**9.66**	**234**	Pn	**Pn**	**19 23 41.6**	**+0.4**
	1.3nm,0.3s,baz=50,slow=11,SNR=15						
PMSA				Sn	**Sn**	**19 25 27.4**	**-2.3**
	0.4nm,0.3s,baz=311,slow=20,SNR=3.3						
PMSA				LR	LR	19 28 03.6	
	comp=Z,190nm,18.1s,baz=64,slow=41						
PMSA	**Palmer Station**	**9.66**	**234**	Pn	**Pn**	**19 23 40.9**	**-0.3**
EFI	**East Falkland**	**11.12**	**315**	Pn	**Pn**	**19 24 02.3**	**+1.1**
GO10	**Punta Arenas**	**15.66**	**286**	P	**P**	**19 25 07.4**	**+0.4**
GO10				IAmb	IAmb	19 25 16.1	
	comp=Z,22nm,0.7s						
VNA3	**Neumayer Olymp**	**17.99**	**142**	P	**P**	**19 25 33.0**	**+0.3**
VNA1	**Neumayer--Stat**	**18.25**	**140**	P	**P**	**19 25 37.8**	**+2.3**
VNA2	**Neumayer--Watz**	**18.60**	**141**	P	**Pn**	**19 25 40.0**	**+0.3**
	baz=289,slow=16						
SNAA	**Sanae**	**20.21**	**142**	P	Pn	19 25 58.1	-0.8
SNAA	**Sanae**	**20.21**	**142**	P	**P**	**19 25 57.7**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=276,slow=9.6,SNR=14						
SNAA	**Sanae**	**20.21**	**142**	P	**P**	**19 25 55.8**	**-1.2**
TRQA	**Tornquist**	**24.58**	**327**	P	**P**	**19 26 44.2**	**+1.9**
TRQA				IAmb	IAmb	19 26 51.5	
	comp=Z,9.6nm,0.8s						
PLCA	**Paso Flores**	**24.96**	**310**	P	**P**	**19 26 46.6**	**+0.8**
	comp=Z,5.2nm,0.9s,baz=187,slow=12,SNR=3.1						
PLCA				LR	LR	19 36 50.0	
	comp=Z,113nm,19.6s,baz=172,slow=37						
PLCA	**Paso Flores**	**24.96**	**310**	P	**P**	**19 26 45.7**	**-0.1**
PLCA				IAmb	IAmb	19 27 01.4	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**19 27 31.2**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=174,slow=6.0,SNR=12						
QSPA				LR	LR	19 40 35.4	
	comp=Z,68nm,18.0s,baz=158,slow=39						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**19 27 30.9**	**+0.4**
CPUP	**Villa Florida**	**34.90**	**341**	P	**P**	**19 28 14.7**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=153,slow=9.0,SNR=1.8						
PB01	**IPOC Station P**	**42.72**	**326**	P	**P**	**19 29 19.6**	**0.0**
PB01				IAmb	IAmb	19 29 21.8	
	comp=Z,13nm,0.9s						
GO01	**Chusmiza**	**43.95**	**327**	P	**P**	**19 29 29.2**	**-0.7**
GO01				IAmb	IAmb	19 29 31.9	
	comp=Z,8.5nm,0.8s						
PB11	**IPOC Station P**	**43.98**	**326**	P	**P**	**19 29 30.0**	**+0.2**
PB11				IAmb	IAmb	19 29 31.9	
	comp=Z,14nm,1.0s						
MNMC	**Minye Minye**	**44.57**	**327**	P	**P**	**19 29 35.0**	**+0.4**
SIV	**San Ignacio**	**45.66**	**339**	P	**P**	**19 29 42.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=164,slow=5.1,SNR=5.5						
CASY	**Casey**	**52.50**	**168**	P	**P**	**19 30 37.3**	**+2.5**
H10N3	**ASCENSION HYDR**	**57.27**	**37**	T	T	20 33 48.3	
	baz=200,slow=75,SNR=5.7						
H10N1	**ASCENSION HYDR**	**57.27**	**37**	T	T	20 33 45.3	
	baz=200,slow=75,SNR=7.1						
H10N2	**ASCENSION HYDR**	**57.29**	**37**	T	T	20 33 46.5	
	baz=200,slow=75,SNR=7.1						
LSZ	**Lusaka**	**68.77**	**84**	P	**P**	**19 32 25.7**	**-0.9**
LSZ				IAmb	IAmb	19 32 27.4	
	comp=Z,9.7nm,1.2s						
DBIC	**Dimbokro**	**74.01**	**42**	LR	LR	19 58 37.2	
	comp=Z,69nm,20.6s,baz=45,slow=30						
TORD	**Torodi Ar. Bea**	**82.31**	**46**	P	**P**	**19 33 44.2**	**+0.3**
ASAR	**Alice Springs**	**96.36**	**179**	P	**P**	**19 34 49.1**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=186,slow=4.5,SNR=5.9						
ASAR	**Alice Springs**	**96.36**	**179**	P	**P**	**19 34 49.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**131.11**	**133**	PKP	**PKPdf**	**19 40 32.6**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=231,slow=2.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**131.11**	**133**		**PKPdf**	**19 40 32.5**	**-1.7**
YKA	**Yellowknife Ar**	**133.27**	**323**	PKP	**PKPdf**	**19 40 36.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=145,slow=1.8,SNR=3.8						
KSH	**Kashi**	**138.65**	**93**	PKP	**PKiKP**	**19 40 49.8**	**-0.1**
KSH				PP	**PP**	**19 43 44.0**	**+4.7**
KSH				PKS	**PKSdf**	**19 44 25.1**	**+1.2**
KSH				AMB	AMB		
	comp=Z,310nm,5.0s						
KSH				LR	LR		
	comp=Z,170nm,8.0s						
KSH				LR	LR		
	comp=Z,120nm,14.1s						
KSH				LR	LR		
	comp=Z,180nm,10.2s						
BCAR	**Beaver Creek A**	**142.82**	**311**		PKPpre	19 40 47.3	
CD2	**Chengdu**	**144.22**	**131**	PKP	**PKPdf**	**19 40 57.8**	**-0.1**
ENH	**Enshi**	**145.64**	**140**		**PKPdf**	**19 40 58.5**	**-1.9**
IL31		**145.65**	**312**		**PKPdf**	**19 40 58.3**	**-0.8**
ILAR	**Eielson Array**	**145.65**	**312**	PKPbc	**PKPdf**	**19 40 58.5**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=154,slow=3.5,SNR=30						
ILAR	**Eielson Array**	**145.65**	**312**		**PKPdf**	**19 40 58.2**	**-1.0**
RND	**Reindeer**	**145.70**	**309**		**PKPdf**	**19 40 59.3**	**-0.1**
CCB	**Clear Creek Bu**	**145.93**	**311**		**PKPdf**	**19 40 59.1**	**-0.5**
FYU	**Fort Yukon**	**145.93**	**315**		**PKPbc**	**19 41 00.2**	**-0.2**
WRH	**Wood River Hil**	**145.94**	**311**		**PKPdf**	**19 40 59.7**	**0.0**
BMAR	**Burnt Mountain**	**146.12**	**317**		**PKPbc**	**19 41 00.6**	**-0.4**
BPAW	**Bear Paw Mtn.**	**146.87**	**309**		**PKPdf**	**19 41 02.2**	**+0.9**
MAKZ	**Makanchi**	**146.97**	**90**		**PKPdf**	**19 41 01.8**	**-0.2**
MK31	**Makanchi Array**	**147.11**	**90**		**PKPdf**	**19 41 02.5**	**+0.3**
MKAR	**Makanchi Array**	**147.11**	**90**	PKPbc	**PKPdf**	**19 41 02.8**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=244,slow=2.7,SNR=30						
MKAR	**Makanchi Array**	**147.11**	**90**		**PKPdf**	**19 41 02.4**	**+0.1**
MLY	**Manley**	**147.21**	**311**		**PKPbc**	**19 41 03.0**	**-1.2**
WMQ	**Urumqi**	**147.68**	**99**	*e*PKPbc	**PKPdf**	**19 41 04.3**	**+0.9**
WMQ				LR	LR		
	comp=Z,240nm,27.7s						
TOLK	**Toolik Lake Re**	**148.34**	**317**	PKPbc	**PKPbc**	**19 41 07.2**	**+0.1**
IMAR	**Indian Mountai**	**148.76**	**311**	PKPbc	**PKPbc**	**19 41 07.8**	**-0.4**
LZH	**Lanzhou**	**148.83**	**127**	*e*PKPbc	**PKPdf**	**19 41 04.1**	**-1.6**
LZH				pPKP	PKPab	19 41 13.4	-0.1
LZH				sPKP		19 41 17.9	
LZH				LR	LR		
	comp=Z,170nm,17.8s						
LZH				LR	LR		
	comp=Z,170nm,18.0s						
LZH				LR	LR		
	comp=Z,190nm,20.1s						
NJ2	**Nanjing**	**149.92**	**153**	*e*PKPbc	**PKPdf**	**19 41 07.8**	**+0.5**
GTA	**Gaotai**	**149.95**	**118**	⇑PKPbc	**PKPbc**	**19 41 10.9**	**-1.3**
HHC	**Hu-ho-hao-te**	**155.92**	**134**	*e*PKP	**PKPdf**	**19 41 18.6**	**+2.7**
BJI	**Beijing**	**156.73**	**142**	*e*PKP	**PKPdf**	**19 41 16.0**	**-0.8**
SONM	**Songino Array**	**159.52**	**115**	PKPab	**PKPab**	**19 41 58.0**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=242,slow=3.2,SNR=6.6						
SONM	**Songino Array**	**159.52**	**115**		**PKPab**	**19 41 56.5**	**-2.0**

*SJA **18** 19:28:56.8±0.7, 23°.49S×66°.72W, h221km±8km, ML3.6, MW3.6*
*ISCJB **18** 19:28:57.7±0.9, 23°.49S±0°.05×66°.82W±0°.04, h213km±10km, Error ellipse: s-maj=8.2km s-min=5.5km az=25.2*
*GUC **18** 19:28:58.9±0.6, 23°.51S×67°.16W, h228km±9km, ML3.8*
ISC 18 19:28:56.6±2.0, 23°.49S±0°.06×66°.77W±0°.05, h222km±17km, n25, σ1°.22/39, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.28**	**78**	*i* P	**Pn**	**19 29 31.3**	**+0.2**
HJA				*e*S	**S**	**19 29 57.5**	**-0.3**
SLA	**San Lorenzo**	**1.69**	**137**	*i* P	**Pn**	**19 29 34.8**	**+0.7**
AZAP	**Zapla**	**1.72**	**116**	*i* P	**Pn**	**19 29 34.4**	**-0.1**
YJA	**Yavi**	**1.74**	**42**	*i* P	**Pn**	**19 29 35.5**	**+0.5**
YJA				*e*S	**S**	**19 30 04.6**	**-0.1**
LVC	**Limon Verde**	**2.16**	**293**	⇑*i* P	**Pn**	**19 29 39.9**	**+1.1**
LVC				*i* S	**S**	**19 30 11.2**	**-0.3**
PB15	**IPOC Station P**	**2.50**	**276**	*e*P	**Pn**	**19 29 43.3**	**+1.1**
PB15				*i* S	**S**	**19 30 17.5**	**-0.1**
PB15	**IPOC Station P**	**2.50**	**276**	*i* P	**Pn**	**19 29 43.4**	**+1.2**
PB15				IAML		19 30 20.6	
	comp=Z,241nm,0.1s						
PB06	**IPOC Station P**	**2.70**	**286**	⇑*i* P	**Pn**	**19 29 45.4**	**+1.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.88**	**76**	P	**Pn**	**19 31 40.8**	**-0.1**
TNTI				S	**Sn**	**19 31 53.3**	**+0.6**
TNTI	**Ternate**	**0.88**	**76**		**Pn**	**19 31 40.9**	**0.0**
KMSI	**Cibinong**	**2.53**	**270**	P	**Pn**	**19 32 03.1**	**-0.3**
KMSI				S	**Sn**	**19 32 34.5**	**+1.5**
SANI	**Sanana**	**2.64**	**191**	P	**Pn**	**19 32 04.4**	**-0.6**
NLAI	**Namlea**	**3.81**	**171**	P	**Pn**	**19 32 21.4**	**+0.3**
LUWI	**Luwuk**	**4.06**	**247**	Pn	Pn	19 32 19.4	-5.0
FITZ	**Fitzroy Crossi**	**18.56**	**183**	P	**P**	**19 35 37.8**	**-0.1**
	0.0nm,0.3s,baz=18,slow=13,SNR=2.5						
WB0	**Warramunga Arr**	**21.62**	**159**	P	**P**	**19 36 11.1**	**-0.1**
WRAB	**Tennant Creek**	**21.76**	**160**	P	**P**	**19 36 12.6**	**-0.1**
WRAB				IAmb	IAmb	19 36 13.6	
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**21.77**	**160**	P	**P**	**19 36 12.6**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=340,slow=11,SNR=71						
WRA	**Warramunga Arr**	**21.77**	**160**	P	**P**	**19 36 11.2**	**-1.5**
WB2	**Warramunga Arr**	**21.77**	**160**	P	**P**	**19 36 12.7**	**-0.1**
WR0	**Warramunga Arr**	**21.86**	**159**	P	**P**	**19 36 13.2**	**-0.5**
WR0				IAmb	IAmb	19 37 09.2	
	comp=Z,28nm,1.9s						
AS31	**Alice Springs**	**25.12**	**164**	P	**P**	**19 36 45.9**	**+0.3**
AS31				IAmb	IAmb	19 36 55.1	
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**25.13**	**164**	P	**P**	**19 36 47.6**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=341,slow=11,SNR=18						
ASAR	**Alice Springs**	**25.13**	**164**	P	**P**	**19 36 46.4**	**+0.8**
STKA	**Stephens Creek**	**35.28**	**157**	P	**P**	**19 38 15.7**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=335,slow=10,SNR=8.1						
STKA	**Stephens Creek**	**35.28**	**157**	P	**P**	**19 38 15.1**	**-0.2**
STKA				IAmb	IAmb	19 39 21.0	
	comp=Z,4.0nm,1.8s						
MKAR	**Makanchi Array**	**60.04**	**326**	P	**P**	**19 41 26.3**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=118,slow=7.8,SNR=13						

*SJA **18** 19:38:22.0±0.6, 30.°10S×71.°51W, h5km±9km, ML3.7, MW3.1*
*GUC **18** 19:38:26.1±0.4, 30.°39S×71.°39W, h43km±2km, ML3.6*
ISC 18 19:38:27.6±1.5, **30.°51S**±0.°04×**71.°24W**±0.°07, **h17**km±11km, **n15**, σ1°**80**/22, **2C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.51**	**49**	⇑*iP*	**Pg**	**19 38 39.2**	**+1.3**
GO04				*e*S	**Sb**	**19 38 48.7**	**+3.2**
GO04				IAML		19 38 51.6	
	comp=N,5μm,0.5s						
LSCH	**La Serena**	**0.60**	**360**	⇑*iP*	Pg	19 38 37.5	-2.0
LSCH				*i* S	**Sg**	**19 38 45.6**	**-1.8**
CO02	**Combarbal**	**0.72**	**163**	⇓*iP*	**Pg**	**19 38 43.4**	**+1.6**
CO02				*i* S	**Sn**	**19 38 56.4**	**+2.4**
CO02				IAML		19 38 58.4	
	comp=N,5μm,0.3s						
AROD	**Rodeo**	**1.57**	**78**	*e*P	**Pb**	**19 38 56.3**	**-0.1**
AROD				*i* P	**Pg**	**19 38 56.5**	**-1.3**
AROD				*e*S	**Sg**	**19 39 21.7**	**+3.5**
ACCO	**Cerro Coronel**	**1.88**	**93**	*i* P	**Pg**	**19 39 01.9**	**-1.8**
RTLS	**Leoncito**	**2.11**	**128**	*i* P	**Pg**	**19 39 07.4**	**-0.6**
RTLS				IAML		19 39 18.6	
ZON	**Zonda**	**2.43**	**116**	*i* P	**Pb**	**19 39 10.0**	**-0.9**
ROCH	**El Roble**	**2.46**	**175**	*e*P	**Pn**	**19 39 07.4**	**+0.1**
ROCH				*e*S	**Sb**	**19 39 41.1**	**-0.6**
ROCH				IAML		19 39 51.0	
	comp=E,232nm,0.3s						
RTLL	**Cerro Villicun**	**2.52**	**110**	*i* P	**Pb**	**19 39 11.8**	**-0.5**
RTCV	**Cerro Valdivia**	**2.68**	**121**	*i* P	**Pb**	**19 39 14.8**	**-0.4**
ASAL	**Salagasta**	**2.92**	**136**	*i* P	**Pb**	**19 39 18.5**	**-0.8**
FCH	**Farellones**	**2.92**	**164**	*e*P	**Pn**	**19 39 15.4**	**+1.8**
FCH				*e*S	**Sb**	**19 39 52.9**	**-2.2**
FCH				IAML		19 40 05.5	
	comp=E,132nm,0.3s						
ARCO	**CERRO ARCO**	**3.05**	**140**	*i* P	**Pb**	**19 39 20.6**	**-0.9**
ARCO				*e*S	**Sg**	**19 40 03.8**	**-1.7**
VCA	**Vinchina**	**3.18**	**57**	*i* P	**Pn**	**19 39 16.0**	**-1.0**
VCA				IAML		19 39 24.7	
	comp=Z,213nm,0.2s						
FSA	**Cafayete**	**6.38**	**48**	*e*P	**Pn**	**19 39 59.6**	**-1.4**

ISC 18 19:48:37.8±1.4, **50.°24N**±0.°07×**19.°08E**±0.°04, **h0**km, **n5**, σ0°**56**/14, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**92**	*e*Pg	**Pg**	**19 48 46.8**	**+0.1**
OJC				*e*Pg	**Pg**	**19 48 46.8**	**+0.1**
OJC				*e*Sg	**Sg**	**19 48 53.4**	**+0.8**
OJC				*e*Sg	**Sg**	**19 48 53.4**	**+0.8**
MORC	**Moravsky Berou**	**1.09**	**246**	*e*PG	**Pb**	**19 48 59.7**	**0.0**
MORC				*e*SG	**Sg**	**19 49 13.7**	**+0.7**
LANS	**Liptovska Anna**	**1.12**	**167**	*e*PG	**Pg**	**19 48 59.9**	**+0.7**
LANS				*e*SG	**Sg**	**19 49 14.2**	**+0.5**
LANS				*e*LG	Lg	19 49 16.4	
NIE	**Niedzica**	**1.14**	**136**	*e*Pg	**Pb**	**19 49 00.4**	**0.0**
NIE				*e*Pg	**Pb**	**19 49 00.4**	**0.0**
NIE				*e*Sg	**Sb**	**19 49 15.5**	**-0.3**
NIE				*e*Sg	**Sb**	**19 49 15.5**	**-0.3**
VYHS	**Vyhne**	**1.75**	**185**	*e*PN	**Pn**	**19 49 08.8**	**-0.7**
VYHS				*e*SN	**Sn**	**19 49 31.9**	**-0.6**

IDC 18 19:50:55.8±6.4, **7.°42S**×**125.°41E**, **h522**km±60km, **mb2.8**/1, **mb1 2.9**/5, **mb1mx2.7**/52, **mbtmp3.8**/5, **Error ellipse: s-maj=135.5km s-min=97.5km az=81.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.27**	**212**	P	P	19 52 10.6	+0.3
	15nm,0.3s,baz=74,slow=1.4,SNR=28						
BATI				S	S	19 53 11.2	+0.2
	1.7nm,0.3s,baz=219,slow=13,SNR=2.5						
FITZ	**Fitzroy Crossi**	**10.62**	**179**	P	P	19 53 20.2	+0.4
	0.3nm,0.3s,baz=350,slow=10.0,SNR=26						
WRA	**Warramunga Arr**	**15.17**	**146**	P	P	19 54 07.8	+0.3
	0.5nm,0.3s,baz=324,slow=11,SNR=30						
ASAR	**Alice Springs**	**18.10**	**154**	P	P	19 54 36.4	+0.3
	0.4nm,0.3s,baz=335,slow=9.3,SNR=18						
STKA	**Stephens Creek**	**28.64**	**150**	P	P	19 56 09.3	-0.7
	1.0nm,0.7s,baz=309,slow=6.5,SNR=2.9						

*BJI **18** 19:55:59.7±0.0, 55.°54N×110.°45E, h10km, mb4.2/8, mB4.4/7, Ms4.3/4*
*ISCJB **18** 19:56:01.3±0.2, 55.°25N±0.°02×110.°49E±0.°03, h10km, mb3.8/15, MS3.5/1, Error ellipse: s-maj=3.3km s-min=1.9km az=136.3*
*IDC **18** 19:56:02.2±0.6, 55.°20N×110.°63E, h0km, mb3.8/13, mb1 4.0/21, mb1mx3.8/51, mbtmp3.9/21, ML3.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/41, Error ellipse: s-maj=14.1km s-min=8.8km az=148.0*
*MOS **18** 19:56:02.1±1.0, 55.°30N×110.°48E, h13km, mb4.3/1, Error ellipse: s-maj=9.2km s-min=5.6km az=75.3*
*BYKL **18** 19:56:02.5±0.2, 55.°31N×110.°42E*
ISC 18 19:56:02.9±0.4, **55.°33N**±0.°02×**110.°62E**±0.°02, **h10**km, **n93**, σ2°**19**/162, **mb3.9**/15, **15C-6D**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.55**	**145**	⇓*iPg*	**Pb**	**19 56 14.0**	**-0.6**
	3μm,0.5s						
YLYR				⇑*iPg*	**Pb**	**19 56 14.0**	**-0.6**
	3μm,0.5s						
YLYR				⇑*iPg*	**Pb**	**19 56 14.0**	**-0.6**
	4μm,0.5s						
YLYR				Pmax		19 56 14.2	
	4μm,0.5s						
YLYR				*e*Sg	**Sb**	**19 56 22.4**	**-0.2**
YLYR				Smax		19 56 25.1	
	3μm,0.1s						
YLYR	**Ulyunkhan**	**0.55**	**145**	⇑*iPG*	**Pb**	**19 56 14.0**	**-0.6**
YLYR				*e*		19 56 22.3	
YLYR				pmax	pmax		
	comp=Z,4μm,0.4s						
YLYR				smax	smax		
	comp=E,5μm,0.7s						
KMO	**Kumora**	**0.65**	**30**	⇑*iPg*	**Pb**	**19 56 16.1**	**-0.2**
KMO				*e*Pb	**Pn**	**19 56 17.5**	**-0.7**
KMO				max		19 56 19.7	
	comp=E,1μm,0.3s						
KMO				*e*Sg	**Sb**	**19 56 25.8**	**+0.4**
KMO				*e*Sb	**Sn**	**19 56 27.8**	**-0.7**
KMO				max		19 56 32.3	
	comp=E,4μm,0.9s						
KMO	**Kumora**	**0.65**	**30**	⇑*iPG*	**Pb**	**19 56 16.1**	**-0.2**
KMO				*e*		19 56 25.8	
KMO				pmax	pmax		
	comp=Z,1μm,0.2s						
KMO				smax	smax		
	comp=N,4μm,0.7s						
NIZ	**Nizh Angarsk**	**0.76**	**307**	⇑*iPg*	**Pg**	**19 56 15.7**	**-1.8**
NIZ				Pmax		19 56 16.3	
	comp=N,2μm,0.3s						
NIZ				*e*		19 56 24.2	
NIZ				*e*Sg	**Sg**	**19 56 25.3**	**-2.1**
NIZ				*e*Sb	**Sn**	**19 56 31.3**	**+0.1**
NIZ				max		19 56 34.7	
	comp=N,7μm,0.4s						
NIZ	**Nizh Angarsk**	**0.76**	**307**	⇑*iPG*	**Pg**	**19 56 15.5**	**-2.0**
NIZ				*i*		19 56 25.2	
NIZ				pmax	pmax		
	comp=Z,2μm,0.5s						
NIZ				smax	smax		
	comp=N,3μm,0.3s						
YOA	**Uoyan**	**1.02**	**37**	⇑*iPg*	**Pn**	**19 56 23.1**	**-0.1**
YOA				Pmax		19 56 30.6	
	comp=N,2μm,0.2s						
YOA				*e*Sg	**Sn**	**19 56 38.3**	**+0.7**
YOA				Smax		19 56 44.3	
	comp=N,11μm,0.4s						
YOA	**Uoyan**	**1.02**	**37**	⇑*iPG*	**Pn**	**19 56 23.1**	**-0.1**
YOA				*i*		19 56 39.1	
YOA				pmax	pmax		
	comp=Z,601nm,0.2s						
YOA				smax	smax		
	comp=N,8μm,0.4s						
SYVR	**Suvo**	**1.71**	**192**	⇑*iPg*	**Pb**	**19 56 33.1**	**-1.3**
SYVR				Pmax		19 56 34.5	
	comp=N,614nm,0.8s						
SYVR				*e*		19 56 40.4	
SYVR				*e*Sg	**Sb**	**19 56 56.0**	**0.0**
SYVR				Smax		19 56 59.1	
	comp=N,4μm,1.2s						
SYVR	**Suvo**	**1.71**	**192**	⇑*iPN*	**Pb**	**19 56 33.1**	**-1.3**
SYVR				*e*		19 56 56.0	
SYVR				pmax	pmax		
	comp=Z,622nm,0.8s						
SYVR				smax	smax		
	comp=E,4μm,1.0s						
UKT	**Uakit**	**1.72**	**83**	Pmax		19 56 34.5	
	comp=E,2μm,1.0s						
UKT				⇑*iPg*	**Pg**	**19 56 35.5**	**-0.3**
UKT				*e*		19 56 40.4	
UKT				*e*Sg	**Sg**	**19 57 00.0**	**+1.8**
UKT				Smax		19 57 59.1	
	comp=E,5μm,0.4s						
UKT	**Uakit**	**1.72**	**83**	⇑*iPN*	**Pg**	**19 56 35.6**	**-0.3**
UKT				*e*		19 57 00.1	
UKT				pmax	pmax		
	comp=Z,2μm,1.0s						
UKT				smax	smax		
	comp=N,5μm,0.4s						
SVKR	**Severomuysk**	**1.84**	**63**	⇓*iPg*	**Pg**	**19 56 37.7**	**-0.4**
SVKR				*e*		19 56 41.1	
SVKR				max		19 56 42.3	
	comp=N,5μm,0.3s						
SVKR				*e*Sg	**Sg**	**19 57 04.3**	**+2.3**
SVKR				Smax		19 57 13.5	
	comp=N,14μm,0.5s						
MXMB	**Maximikha**	**2.34**	**209**	⇓*iPn*	**Pn**	**19 56 41.7**	**+0.3**
MXMB				*e*Pg	**Pb**	**19 56 44.0**	**-1.2**
MXMB				*e*Sg	**Sb**	**19 57 15.0**	**+0.8**
OGRR	**Ongureny**	**2.44**	**227**	*e*Pn	**Pn**	**19 56 43.7**	**+0.9**
OGRR				*e*Pg	**Pb**	**19 56 45.6**	**-1.3**
OGRR				*e*		19 56 49.9	
OGRR				max		19 56 50.6	
	comp=N,364nm,0.6s						
OGRR				*e*Sn	**Sn**	**19 57 11.6**	**-1.1**
OGRR				*e*Sg	**Sb**	**19 57 16.9**	**-0.1**
OGRR				Smax		19 57 22.5	
	comp=N,2μm,1.0s						
OGRR	**Ongureny**	**2.44**	**227**	*e*PN	**Pn**	**19 56 43.7**	**+0.9**
OGRR				*e*		19 56 46.3	
OGRR				*e*		19 57 14.6	
OGRR				pmax	pmax		
	comp=Z,364nm,0.6s						
OGRR				smax	smax		
	comp=E,2μm,0.9s						
KELR	**Kotokel**	**2.98**	**211**	*e*Pn	**Pn**	**19 56 49.8**	**-0.3**
KELR				*e*Pg	**Pb**	**19 56 54.3**	**-1.7**
KELR				*e*		19 56 59.4	
KELR				*e*Sn	**Sn**	**19 57 22.8**	**-3.1**
KELR				*e*Sg	**Sb**	**19 57 32.8**	**+0.4**
NLYR	**Nelyaty**	**3.09**	**66**	⇓*iPn*	**Pb**	**19 56 54.2**	**-3.7**
NLYR				*e*Pg	**Pg**	**19 56 58.3**	**-3.7**
NLYR				Pmax		19 57 07.1	
	comp=E,203nm,0.7s						
NLYR				*e*Sn	**Sn**	**19 57 29.6**	**+0.9**
NLYR				*e*Sg	**Sg**	**19 57 40.7**	**-1.3**
NLYR				Smax		19 57 44.6	
	comp=E,1μm,0.8s						
BOD	**Bodaibo**	**3.12**	**35**	*e*Pn	**Pn**	**19 56 53.7**	**+1.6**
BOD				*e*Pg	**Pb**	**19 56 58.2**	**-0.2**
BOD				*e*		19 57 01.8	
BOD				Pmax		19 57 02.1	
	comp=E,101nm,0.3s						
BOD				*e*Sg	**Sg**	**19 57 41.4**	**-1.6**
BOD				Smax		19 57 52.1	
	comp=E,727nm,0.3s						
BOD	**Bodaibo**	**3.12**	**35**	*e*PN	**Pn**	**19 56 52.9**	**+0.8**
BOD				*e*		19 56 59.4	
BOD				*e*		19 57 39.2	
BOD				pmax	pmax		
	comp=Z,100nm,0.3s						
BOD				smax	smax		
	comp=E,815nm,0.3s						
TRG	**Tyrgan**	**3.60**	**226**	⇓*iPn*	**Pn**	**19 56 58.5**	**-0.2**
TRG				*e*Pg	**Pb**	**19 57 04.2**	**-2.4**
TRG				*e*		19 57 08.6	
TRG				max		19 57 10.4	
	comp=E,126nm,0.9s						
TRG				*e*		19 57 41.8	
TRG				*e*Sg	**Sb**	**19 57 51.7**	**+1.4**
TRG				Smax		19 58 04.1	
	comp=E,926nm,1.6s						
TRG	**Tyrgan**	**3.60**	**226**	⇓*iPN*	**Pn**	**19 56 58.5**	**-0.2**
TRG				*e*		19 57 06.6	
TRG				*e*S	**Sn**	**19 57 39.7**	**-1.6**
TRG				*e*		19 57 52.2	
TRG				pmax	pmax		
	comp=Z,107nm,0.3s						
TRG				smax	smax		
	comp=E,756nm,0.5s						
CIT	**Chita**	**3.75**	**151**	*e*Pg	**Pb**	**19 57 09.8**	**+0.7**
CIT				Pmax		19 57 12.5	
	comp=E,337nm,1.2s						
CIT				*e*Sn	**Sn**	**19 57 45.6**	**+0.7**
CIT				*e*Sg	**Sg**	**19 57 59.0**	**-4.0**
CIT				Smax		19 58 07.6	
	comp=E,2μm,0.8s						
CIT	**Chita**	**3.75**	**151**	*e*PN	**Pn**	**19 57 02.0**	**+1.3**
CIT				*e*		19 57 10.7	
CIT				*e*S	**Sn**	**19 57 42.9**	**-2.0**
CIT				*e*		19 57 58.0	
CIT				pmax	pmax		
	comp=Z,337nm,1.0s						
CIT				smax	smax		
	comp=E,2μm,0.8s						
UUDB	**Ulan-Yde**	**3.89**	**208**	*e*Pn	**Pn**	**19 57 03.1**	**+0.4**
UUDB				*e*Pg	**Pb**	**19 57 10.6**	**-0.9**
UUDB				Pmax		19 57 17.6	
	comp=E,231nm,1.0s						
UUDB				*e*		19 57 42.2	
UUDB				*e*Sg	**Sb**	**19 58 01.1**	**+2.5**
UUDB				Smax		19 58 11.4	
	comp=E,679nm,0.8s						
KAB	**Kabansk**	**4.04**	**217**	*e*Pg	**Pb**	**19 57 13.9**	**-0.2**
KAB				Pmax		19 57 19.9	
	comp=E,217nm,1.4s						
KAB				*e*Sg	**Sb**	**19 58 06.3**	**+3.3**
KAB				Smax		19 58 28.1	
	comp=E,2μm,1.2s						
VTMR	**Vitim**	**4.25**	**13**	*e*Pn	**Pn**	**19 57 08.5**	**+0.9**
VTMR				*e*Pg	**Pb**	**19 57 18.3**	**+0.7**
VTMR				*e*Sn	**Sn**	**19 57 57.5**	**+0.3**
VTMR				*e*Sg	**Sg**	**19 58 14.6**	**-4.7**
HRMR	**Khuramsha**	**4.31**	**212**	*e*Pn	**Pn**	**19 57 08.9**	**+0.5**
HRMR				*e*Pg	**Pb**	**19 57 17.0**	**-1.6**
HRMR				*e*Sg	**Sb**	**19 58 13.5**	**+2.9**
HRMR				Smax		19 58 22.4	
	comp=E,2μm,0.9s						
BGT	**Bolshoye Golou**	**4.52**	**225**	*e*Pn	**Pn**	**19 57 09.2**	**-2.1**
BGT				*e*Pg	**Pb**	**19 57 21.0**	**-1.2**
BGT				*e*		19 58 04.8	
BGT				*e*Sg	**Sb**	**19 58 19.8**	**+3.1**
CRS	**Chara**	**4.56**	**67**	*e*Pn	**Pn**	**19 57 14.8**	**+2.9**
CRS				Pmax		19 57 18.7	
	comp=E,380nm,1.3s						
CRS				*e*		19 57 18.7	
CRS				*e*Pg	**Pb**	**19 57 25.7**	**+2.7**
CRS				*e*Sg	**Sg**	**19 58 27.6**	**-1.6**
CRS				Smax			
	comp=E,768nm,1.0s						
CRS	**Chara**	**4.56**	**67**	*e*PN	**Pn**	**19 57 14.6**	**+2.7**
CRS				*e*		19 57 27.0	
CRS				*e*		19 58 24.9	
CRS				pmax	pmax		
	comp=Z,379nm,1.3s						
CRS				smax	smax		
	comp=E,774nm,1.3s						
IRK	**Irkutsk**	**4.87**	**233**	*e*Pn	**Pn**	**19 57 12.2**	**-3.9**
IRK				*e*Pg	**Pb**	**19 57 27.5**	**-0.7**
IRK				*e*		19 57 33.5	
IRK				max		19 57 36.2	
	comp=E,163nm,0.7s						
IRK				*e*Sn	**Sn**	**19 58 10.1**	**-2.4**
IRK				*e*Sg	**Sb**	**19 58 30.4**	**+3.6**
IRK				Smax		19 58 32.4	
	comp=E,2μm,1.1s						
IRK	**Irkutsk**	**4.87**	**233**	*e*PN	**Pn**	**19 57 16.0**	**-0.1**
IRK				*e*		19 57 28.9	
IRK				*e*S	**Sn**	**19 58 10.4**	**-2.1**
IRK				*e*		19 58 30.4	
IRK				pmax	pmax		
	comp=Z,160nm,0.5s						
IRK				smax	smax		
	comp=N,2μm,1.2s						
LSTR	**Listvyanka**	**4.89**	**227**	⇑*iPn*	**Pn**	**19 57 15.9**	**-0.5**
LSTR				*e*		19 57 21.5	
LSTR				*e*Pg	**Pb**	**19 57 26.3**	**-2.2**
LSTR				*e*		19 57 33.5	
LSTR				max		19 57 34.9	
	comp=N,52nm,0.8s						
LSTR				*e*Sg	**Sb**	**19 58 29.4**	**+2.1**
LSTR				Smax		19 58 41.9	
	comp=N,399nm,1.3s						
IVK	**Ivanovka**	**5.12**	**229**	*e*Pn	**Pn**	**19 57 18.8**	**-0.7**
IVK				*e*		19 57 32.5	
IVK				*e*Sn	**Sn**	**19 58 13.8**	**-4.8**
IVK				*e*Sg	**Sb**	**19 58 36.2**	**+2.4**
TUP	**Tupik**	**5.47**	**96**	*e*Pn	**Pn**	**19 57 25.9**	**+1.6**
TUP				*e*		19 57 30.0	
TUP				*e*Pg	**Pb**	**19 57 41.8**	**+3.4**
TUP				Pmax		19 57 46.3	
	comp=N,91nm,0.5s						
TUP				*e*Sn	**Sn**	**19 58 27.6**	**+0.4**
TUP				*e*Sg	**Sg**	**19 58 55.0**	**-3.2**
TUP				Smax		19 58 58.5	
	comp=N,845nm,1.5s						
TUP	**Tupik**	**5.47**	**96**	*e*PN	**Pn**	**19 57 26.4**	**+2.1**
TUP				*e*		19 57 42.8	
TUP				*e*S	**Sn**	**19 58 27.9**	**+0.7**
TUP				*e*		19 58 54.3	
TUP				pmax	pmax		
	comp=Z,89nm,0.6s						
TUP				smax	smax		
	comp=N,695nm,0.9s						
KHNR	**Khani**	**5.47**	**69**	*e*	**Pg**	**19 57 45.5**	**-2.1**
KHNR				*e*		19 58 34.5	
KHNR				*e*Sg	**Sg**	**19 58 54.8**	**-3.6**
TLY	**Talaya**	**5.54**	**232**	*e*Pg	**Pb**	**19 57 38.9**	**-0.7**
TLY				Pmax		19 57 48.3	
	comp=N,50nm,0.8s						
TLY				*e*Sn	**Sn**	**19 58 26.9**	**-2.1**
TLY				*e*Sg	**Sb**	**19 58 49.7**	**+3.7**
TLY				Smax		19 58 58.2	
	comp=N,467nm,0.9s						
TLY	**Talaya**	**5.54**	**232**	*e*PN	**Pn**	**19 57 24.9**	**-0.4**
TLY				*e*		19 57 41.4	
TLY				*e*S	**Sn**	**19 58 26.5**	**-2.5**
TLY				*e*		19 58 50.9	
TLY				pmax	pmax		
	comp=Z,75nm,0.4s						
TLY				smax	smax		
	comp=N,542nm,0.4s						
TLY	**Talaya**	**5.54**	**232**	Pn	**Pn**	**19 57 25.0**	**-0.4**
	comp=N,0.0nm,0.3s,baz=77,slow=13,SNR=7.4						
TLY				Pg	**Pb**	**19 57 41.0**	**+1.4**
	comp=N,0.1nm,0.3s,baz=29,slow=12,SNR=11						
TLY				Sn	**Sn**	**19 58 26.7**	**-2.3**
	comp=N,0.1nm,0.3s,baz=95,slow=20,SNR=6.1						
TLY				Lg	Lg	19 58 49.9	
	comp=N,0.3nm,0.3s,baz=172,slow=12,SNR=9.6						
KPC	**Khapcheranga**	**5.74**	**168**	*e*Pn	**Pn**	**19 57 27.7**	**-0.4**
KPC				*e*Pg	**Pb**	**19 57 45.9**	**+2.9**
KPC				Pmax		19 57 50.2	
	comp=N,50nm,1.3s						
KPC				*e*		19 58 36.0	
KPC				*e*Sg	**Sg**	**19 59 00.1**	**-6.8**
KPC				Smax		19 59 02.2	
	comp=N,756nm,1.1s						
KPC	**Khapcheranga**	**5.74**	**168**	*e*PN	**Pn**	**19 57 27.9**	**-0.2**
KPC				*e*		19 57 46.0	
KPC				*e*S	**Sn**	**19 58 31.4**	**-2.6**
KPC				*e*		19 59 00.0	
KPC				pmax	pmax		
	comp=Z,47nm,0.4s						
KPC				smax	smax		
	comp=E,758nm,1.2s						
ARS	**Arshan**	**5.95**	**238**	*e*Pn	**Pn**	**19 57 29.4**	**-1.7**
ARS				*e*		19 57 34.7	
ARS				*e*		19 57 51.5	
ARS				max		19 58 00.7	
	comp=E,104nm,0.5s						
ARS				*e*Sn	**Sn**	**19 58 35.2**	**-4.1**
ARS				*e*Sg	**Sb**	**19 59 02.2**	**+4.2**
ARS				Smax		19 59 08.5	
	comp=E,2μm,0.8s						
ARS	**Arshan**	**5.95**	**238**	*e*PN	**Pn**	**19 57 29.9**	**-1.2**
ARS				*e*S	**Sb**	**19 59 02.2**	**+4.2**
ARS				smax	smax		
	comp=E,2μm,0.9s						
YKLR	**Yuktali**	**6.33**	**74**	*e*Sg	**Sg**	**19 59 21.8**	**-3.9**
ZAK	**Zakamensk**	**6.65**	**225**	*e*PN	**Pn**	**19 57 40.7**	**0.0**
ZAK				*e*		19 59 27.3	
ZAK				pmax	pmax		
	comp=Z,12nm,0.5s						
ZAK				smax	smax		
	comp=E,246nm,1.0s						
MOY	**Mondy**	**6.81**	**241**	⇑*iPn*	**Pn**	**19 57 43.5**	**+0.6**
MOY				max		19 57 49.0	
	comp=E,93nm,1.3s						
MOY				*e*Sn	**Sn**	**19 58 56.5**	**-4.0**
MOY				*e*Sg	Sg	19 59 30.7	-11
MOY				Smax		19 59 44.5	
	comp=E,589nm,1.4s						
MOY	**Mondy**	**6.81**	**241**	*e*Pn	**Pn**	**19 57 42.9**	**0.0**
MOY				*e*		19 58 04.1	
MOY				*e*S	**Sn**	**19 58 57.6**	**-2.9**
MOY				*e*		19 59 30.4	
MOY				pmax	pmax		
	comp=Z,64nm,0.7s						
MOY				smax	smax		
	comp=E,593nm,1.3s						
ORL	**Orlik**	**6.97**	**251**	*e*Pn	**

ULN	**Ulaanbaatar**	**7.80**	**198**	*i* PN	**Pn**	**19 57 55.8**	**-0.6**
SONM	**Songino Array**	**7.95**	**201**	Pn	**Pn**	**19 57 59.4**	**+0.9**
	comp=N,1.1nm,0.3s,baz=9.2,slow=13,SNR=25						
SONM				Pg	Pg	19 58 30.0	-5.0
	comp=N,2.6nm,0.3s,baz=4.4,slow=17,SNR=10.0						
SONM				Lg	Lg	20 00 09.3	
	comp=N,2.4nm,0.3s,baz=25,slow=25,SNR=4.1						
ZEA	**Zeya**	**9.80**	**93**	*e*P	**Pn**	**19 58 27.7**	**+4.0**
ZEA				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK	**Yakutsk**	**11.94**	**48**	Pn	**Pn**	**19 58 49.6**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=92,slow=4.2,SNR=3.3						
YAK				Sn	**Sn**	**20 00 59.7**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=306,slow=19,SNR=3.0						
YAK				Lg	Lg	20 02 12.5	
	comp=Z,0.1nm,0.3s,baz=25,slow=22,SNR=5.1						
KLR	**Kul'dur**	**14.27**	**107**	Pn	**Pn**	**19 59 26.5**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=309,slow=12,SNR=22						
KLR				Lg	Lg	20 03 34.4	
	comp=Z,0.3nm,0.3s,baz=228,slow=8.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**14.97**	**275**	Pn	**Pn**	**19 59 33.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=77,slow=11,SNR=24						
ZALV				Lg	Lg	20 03 43.9	
	comp=Z,0.2nm,0.3s,baz=87,slow=27,SNR=2.5						
DGZ	**Jazzator, Alta**	**15.16**	**258**	*i* P	**Pn**	**19 59 34.6**	**-2.4**
NRIK	**Noril'sk**	**17.48**	**332**	P	**Pn**	**20 00 01.5**	**-4.9**
	comp=Z,0.7nm,0.3s,baz=101,slow=6.9,SNR=3.8						
NRIK				S	Sn	20 03 07.5	-13
	comp=Z,1.2nm,0.3s,baz=136,slow=20,SNR=4.0						
USRK	**Ussuriysk Ar.**	**17.66**	**120**	P	**P**	**20 00 08.8**	**-0.8**
	baz=306,slow=14,SNR=2.2						
USRK				Lg	Lg	20 05 20.9	
	baz=330,slow=22,SNR=4.0						
TIXI	**Tiksi**	**18.14**	**19**	*i* P	**P**	**20 00 13.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TIXI	**Tiksi**	**18.14**	**19**	P	**Pn**	**20 00 11.6**	**-2.9**
	comp=Z,1.0nm,0.3s,baz=360,slow=24,SNR=8.2						
TIXI				Lg	Lg	20 05 27.9	
	comp=Z,0.5nm,0.3s,baz=178,slow=24,SNR=4.9						
MKAR	**Makanchi Array**	**19.63**	**256**	P	**Pn**	**20 00 30.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=46,slow=8.6,SNR=16						
KURK	**Kurchatov**	**19.69**	**270**	P	**Pn**	**20 00 32.3**	**-1.0**
KURBB	**Kurchatov Arra**	**19.78**	**270**	P	**P**	**20 00 32.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=69,slow=12,SNR=15						
KURBB				Lg	Lg	20 06 18.8	
	comp=Z,0.0nm,0.3s,baz=66,slow=32,SNR=4.7						
XAN	**Xi'an**	**21.32**	**184**	P	**P**	**20 00 49.6**	**-0.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SEY	**Seymchan**	**22.37**	**53**	P	**P**	**20 01 03.0**	**+2.2**
	comp=Z,0.7nm,0.2s,baz=236,slow=16,SNR=3.5						
BVAR	**Borovoye Array**	**23.43**	**281**	P	**P**	**20 01 12.9**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=76,slow=12,SNR=11						
BVAR				S	**S**	**20 05 28.8**	**+3.9**
	comp=Z,0.7nm,0.5s,baz=71,slow=18,SNR=2.8						
BRVK	**Borovoye**	**23.48**	**281**	*i* P	**P**	**20 01 11.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AAK	**Ala-Archa**	**26.56**	**257**	P	**P**	**20 01 43.6**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=42,slow=10,SNR=1.7						
PETK	**Petropavlovsk-**	**27.21**	**75**	LR	LR	20 11 47.7	
	comp=Z,110nm,18.4s,baz=246,slow=35						
SVE	**Sverdlovsk**	**27.44**	**294**	*e*P	P	20 01 55.1	+6.6
KSH	**Kashi**	**27.90**	**250**	*e*P	**P**	**20 01 58.8**	**+5.8**
JIRN	**Jiri**	**32.81**	**223**	*e*P	**P**	**20 02 37.8**	**+1.1**
	comp=Z,13nm,0.5s						
KKN	**Kakani**	**33.05**	**224**	*e*P	**P**	**20 02 39.8**	**+1.2**
	comp=Z,16nm,0.8s						
ODAN	**Odare**	**33.08**	**220**	*e*P	**P**	**20 02 39.7**	**+0.8**
	comp=Z,25nm,1.2s						
GKN	**Gorkha**	**33.12**	**225**	*e*P	**P**	**20 02 40.2**	**+1.0**
DANN	**Dangsing**	**33.18**	**227**	*e*P	**P**	**20 02 41.2**	**+1.4**
DMN	**Daman**	**33.28**	**224**	*e*P	**P**	**20 02 41.9**	**+1.2**
KOLN	**Koldanda**	**33.75**	**226**	*e*P	**P**	**20 02 45.7**	**+1.0**
ARCES	**ARCESS Array B**	**38.25**	**326**	P	**P**	**20 03 24.0**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=71,slow=9.3,SNR=10.0						
FINES	**FINESS Array B**	**41.77**	**314**	P	**P**	**20 03 53.9**	**+2.0**
	comp=Z,3.4nm,0.6s,baz=62,slow=7.6,SNR=16						
ILAR	**Eielson Array**	**46.49**	**35**	P	**P**	**20 04 31.5**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=302,slow=6.2,SNR=17						
AKASG	**Malin Array Be**	**46.55**	**300**	P	**P**	**20 04 32.3**	**+2.0**
	comp=Z,1.2nm,0.4s,baz=45,slow=9.0,SNR=7.9						
NOA	**NORSAR Array B**	**47.82**	**320**	P	**P**	**20 04 41.2**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=52,slow=7.8,SNR=5.3						
BRTR	**Keskin Array B**	**51.56**	**286**	P	**P**	**20 05 11.3**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=36,slow=5.2,SNR=3.3						
VYHS	**Vyhne**	**53.06**	**304**	*e*P	P	20 05 23.6	+3.7
VYHS	**Vyhne**	**53.06**	**304**	*e*P	P	20 05 23.6	+3.7
YKA	**Yellowknife Ar**	**57.32**	**23**	P	**P**	**20 05 50.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=336,slow=7.2,SNR=2.8						
ESDC	**Sonseca Array**	**70.22**	**312**	P	**P**	**20 07 17.3**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=26,slow=7.1,SNR=3.4						
WRA	**Warramunga Arr**	**77.65**	**157**	P	**P**	**20 07 59.1**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=350,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**81.16**	**158**	P	**P**	**20 08 18.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=358,slow=6.5,SNR=3.4						
QSPA	**South Pole Qui**	**145.09**	**180**	PKP	**PKPbc**	**20 15 37.5**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=238,slow=1.4,SNR=13						

*SJA **18** 20:24:08.5±1.1, 36.°16S×70.°59W, h215km±23km, ML3.2, MW3.1*
*GUC **18** 20:24:08.5±0.5, 36.°15S×70.°94W, h210km±6km, ML4.0*
ISC 18 20:24:07.6±3.2, 36.°25S±0.°2×70.°6W±0.°1, h200km, n16, σ1§51/30, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.63**	**318**	⇑*i*P	**Pn**	**20 24 42.3**	**-0.3**
GO05				*e*S	**Sn**	**20 25 08.0**	**-1.7**
LMEL	**Las Melosas**	**2.40**	**8**	*e*P	**Pn**	**20 24 52.1**	**+1.5**
LMEL				*e*S	**Sn**	**20 25 25.6**	**+1.5**
LMEL				IAML		20 25 32.3	
	comp=N,316nm,0.2s						
FCH	**Farellones**	**2.91**	**5**	⇑*i*P	**Pn**	**20 24 58.0**	**+1.4**
FCH				*e*S	**Sn**	**20 25 34.4**	**-0.3**
FCH				IAML		20 25 40.2	
	comp=E,128nm,0.2s						
PEL	**Peldehue**	**3.08**	**359**	*i* P	**Pn**	**20 24 60.0**	**+1.6**
PEL				*e*S	**Sn**	**20 25 37.9**	**-0.1**
ROC1	**El Roble**	**3.27**	**354**	*i* P	**Pn**	**20 25 01.9**	**+1.1**
ROC1				*e*S	**Sn**	**20 25 41.1**	**-1.1**
ROCH	**El Roble**	**3.27**	**354**	⇑*i*P	**Pn**	**20 25 01.5**	**+0.8**
ROCH				*e*S	**Sn**	**20 25 41.6**	**-0.6**
ROCH				IAML		20 25 45.0	
	comp=N,181nm,0.3s						
AAGR	**Agrelo**	**3.46**	**25**	*i* P	**Pn**	**20 25 04.1**	**+1.2**
AAGR				IAML		20 25 56.9	
	comp=Z,18nm,3.5s						
ASAL	**Salagasta**	**3.91**	**22**	*i* P	**Pn**	**20 25 10.3**	**+1.9**
ASAL				*e*S	**Sn**	**20 25 55.1**	**-1.0**
ASAL				IAML		20 26 36.8	
	comp=Z,11nm,2.6s						
RTLS	**Leoncito**	**4.55**	**14**	⇓*i*P	**Pn**	**20 25 18.9**	**+2.3**
RTLS				*e*S	**Sn**	**20 26 11.4**	**+0.5**
RTLS				IAML		20 26 13.4	
	comp=Z,10nm,0.3s						
RTCV	**Cerro Valdivia**	**4.68**	**22**	*i* P	**Pn**	**20 25 18.7**	**+0.7**
RTCV				*e*S	**Sn**	**20 26 11.8**	**-1.6**
RTCV				IAML		20 26 12.9	
	comp=Z,23nm,1.9s						
ZON	**Zonda**	**4.94**	**19**	*i* P	**Pn**	**20 25 22.0**	**+0.7**
ZON				IAML		20 25 22.6	
	comp=Z,10nm,0.1s						
ZON				*e*S	**Sn**	**20 26 18.7**	**-0.7**
ZON				IAML		20 26 20.6	
	comp=Z,6.8nm,1.2s						
CFA	**Coronel Fontan**	**5.01**	**24**	*i* P	**Pn**	**20 25 22.7**	**+0.5**
CFA				⇓*e*S	**Sn**	**20 26 17.9**	**-3.2**
RTLL	**Cerro Villicun**	**5.20**	**20**	*i* P	**Pn**	**20 25 25.2**	**+0.5**
RTLL				IAML		20 25 25.2	
	comp=Z,25nm,0.3s						
RTLL				*e*S	**Sn**	**20 26 23.2**	**-2.1**
RTLL				IAML		20 26 24.5	
	comp=Z,16nm,0.4s						
AMOG	**MOGNA**	**5.56**	**19**	*i* P	**Pn**	**20 25 27.5**	**-1.9**
AMOG				IAML		20 26 38.2	
	comp=Z,12nm,0.3s						
ACCO	**Cerro Coronel**	**5.77**	**13**	*i* P	**Pn**	**20 25 33.5**	**+1.3**
ACCO				*e*S	**Sn**	**20 26 36.9**	**-2.3**
AROD	**Rodeo**	**6.12**	**9**	*i* P	**Pn**	**20 25 38.6**	**+1.9**
AROD				*e*S	**Sn**	**20 26 46.2**	**-1.0**

*NIC **18** 21:01:24.4±0.0, 34.°81N×31.°14E, h10km±1km, Ml2.5/4*
*ISK **18** 21:01:24.8, 34.°71N×30.°65E, h70km, ML3.0/10*
*DDA **18** 21:01:30.7, 35.°29N×31.°68E, h8km±6km, ML2.5*
ISC 18 21:01:20.4±2.8, 34.°9N±0.°1×30.°95E±0.°04, h5km±16km, n22, σ1§51/32, 1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**1.15**	**83**	⇓P	**Pn**	**21 01 43.1**	**-0.1**
AKMS				S	**Sb**	**21 01 58.3**	**+0.3**
AKMS				AML	AML	21 02 03.6	
	0.4nm,0.2s						
AKMS				AML	AML	21 02 03.6	
	0.4nm,0.2s						
AKMS				AML	AML	21 02 04.6	
	0.5nm,0.2s						
AKMS				AML	AML	21 02 04.6	
	0.5nm,0.2s						
NATA	**Nata**	**1.34**	**94**	P	**Pn**	**21 01 45.8**	**0.0**
NATA				S	**Sn**	**21 02 03.9**	**-0.1**
NATA				AML	AML	21 02 13.9	
	0.5nm,0.5s						
NATA				AML	AML	21 02 13.9	
	0.5nm,0.5s						
NATA				AML	AML	21 02 17.3	
	0.3nm,0.6s						
NATA				AML	AML	21 02 17.3	
	0.3nm,0.6s						
ALFC	**Alefka**	**1.39**	**78**	P	**Pn**	**21 01 47.0**	**+0.5**
ALFC				S	**Sb**	**21 02 05.7**	**+0.9**
ALFC				AML	AML	21 02 05.9	
	0.4nm,0.1s						
ALFC				AML	AML	21 02 05.9	
	0.4nm,0.1s						
ALFC				AML	AML	21 02 06.5	
	0.3nm,0.1s						
ALFC				AML	AML	21 02 06.5	
	0.3nm,0.1s						
SZAC	**Souni**	**1.60**	**94**	P	**Pn**	**21 01 50.0**	**+0.6**
SZAC				S	**Sn**	**21 02 10.3**	**-0.2**
SZAC				AML	AML	21 02 11.4	
	0.2nm,0.3s						
SZAC				AML	AML	21 02 11.4	
	0.2nm,0.3s						
SZAC				AML	AML	21 02 12.0	
	0.3nm,0.2s						
SZAC				AML	AML	21 02 12.0	
	0.3nm,0.2s						
LEF	**Lefka**	**1.61**	**81**	*i* P	**Pn**	**21 01 49.6**	**+0.1**
LEF				*i* S	**Sn**	**21 02 08.4**	**-2.3**
LEF				IAML_P			
	comp=Z,253nm,0.1s						
GAZI	**Gazipasa**	**1.75**	**39**	*i* P	**Pb**	**21 01 52.6**	**-0.4**
GAZI				*i* S	**Sg**	**21 02 15.4**	**-1.3**
ASGA	**Asgata**	**1.90**	**92**	P	**Pn**	**21 01 54.8**	**+1.4**
ASGA				S	**Sn**	**21 02 17.5**	**-0.3**
CSS	**Mathiatis**	**1.96**	**87**	P	**Pn**	**21 01 55.9**	**+1.6**
CSS				S	**Sn**	**21 02 19.2**	**-0.2**
KEPZ	**Antalya-Kepez**	**2.08**	**15**	*i* P	**Pg**	**21 02 01.1**	**+0.8**
KEPZ				IAML_P			
	comp=Z,73nm,0.1s						
MVOU	**Mavrovouni**	**2.21**	**86**	P	**Pn**	**21 01 59.5**	**+1.7**
FETY	**Fethiye**	**2.31**	**320**	PN	**Pb**	**21 02 01.9**	**-0.7**
FETY				SN	**Sb**	**21 02 29.1**	**-2.4**
ERMK	**Ermenek**	**2.37**	**42**	*i* P	**Pg**	**21 02 05.8**	**-0.1**
ERMK				IAML_P			
	comp=Z,354nm,0.1s						
GULN	**MERSIN_Gulnar**	**2.48**	**58**	*i* P	**Pb**	**21 02 05.9**	**+0.4**
GULN				IAML_P			
	comp=Z,178nm,0.2s						
ARG	**Arkhangelos**	**2.66**	**301**	PN	**Pn**	**21 02 05.5**	**+1.7**
ARG				SN	**Sn**	**21 02 35.1**	**-1.3**
DALY	**Dalyan (Mula)**	**2.68**	**317**	PN	**Pb**	**21 02 06.8**	**-2.0**
TURN	**Turunc**	**2.75**	**317**	PN	**Pb**	**21 02 09.5**	**-0.5**
YER	**Yerkesik**	**3.12**	**317**	PN	**Pn**	**21 02 13.1**	**+2.9**
KARP	**Karpathos**	**3.17**	**283**	PN	**Pn**	**21 02 11.4**	**+0.5**
DAT	**Datca**	**3.30**	**305**	PN	**Pn**	**21 02 14.8**	**+2.0**
MLSB	**Milas**	**3.52**	**314**	PN	**Pn**	**21 02 18.6**	**+2.9**
BODT	**Bodrum**	**3.66**	**307**	PN	**Pn**	**21 02 19.9**	**+2.2**
GCAM	**G?zelcaml?**	**4.11**	**314**	PN	**Pn**	**21 02 26.4**	**+2.6**

*NIED **18** 21:13:00, 36.°70N×141.°10E, h8km, Mw3.6 Best double couple: M0=2.95000×10^14 NP1:φs=168.00000°, δ32.00000°, λ-130.00000°. NP2:φs=33.00000°, δ66.00000°, λ-68.00000°.*
*ISCJB **18** 21:13:22.9±0.8, 36.°73N±0.°03×141.°17E±0.°06, h21km±5km, mb3.5/8, MS3.0/1, Error ellipse: s-maj=7.6km s-min=4.5km az=15.0*
*JMA **18** 21:13:24.0, 36.°73N×141.°08E, h29km±1km, M3.7*
JMA Felt II J1.
*IDC **18** 21:13:28.5±2.8, 36.°68N×140.°91E, h56km±26km, mb3.3/8, mb1 3.5/11, mb1mx3.4/44, mbtmp3.5/11, ML1.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=24.4km s-min=16.9km az=84.0*
ISC 18 21:13:24.1±1.3, 36.°75N±0.°03×141.°06E±0.°05, h18km±8km, n30, σ0§99/37, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.41**	**329**	P	**Pb**	**21 13 33.0**	**+0.1**
ONAJ				S	**Sb**	**21 13 39.2**	**+0.4**
JHO	**Hitachi**	**0.42**	**250**	P	**Pg**	**21 13 32.9**	**+0.1**
JHO				S	**Sg**	**21 13 39.2**	**+0.6**
JFFD	**Fukushimafurud**	**0.52**	**310**	P	**Pb**	**21 13 34.8**	**0.0**
JFFD				S	**Sb**	**21 13 42.2**	**+0.1**
JHYU	**Hitachinakayam**	**0.56**	**223**	P	**Pg**	**21 13 34.8**	**-0.5**
JHYU				S	**Sg**	**21 13 42.6**	**-0.3**
JFK	**Kawauchi**	**0.63**	**346**	P	**Pb**	**21 13 36.2**	**-0.5**
JFK				S	**Sb**	**21 13 44.6**	**-0.6**
JYT	**Yasato**	**0.88**	**233**	P	**Pb**	**21 13 39.6**	**-1.2**
JYT				S	**Sb**	**21 13 50.9**	**-1.3**
JSB	**Shiboa**	**0.94**	**283**	P	**Pb**	**21 13 42.4**	**+0.4**
JSB				S	**Sg**	**21 13 55.5**	**+0.7**
JFT	**Otama**	**0.96**	**323**	P	**Pg**	**21 13 42.3**	**-0.5**
JFT				S	**Sg**	**21 13 55.0**	**-0.4**
JMM	**Marumori**	**1.13**	**349**	P	**Pb**	**21 13 43.9**	**-1.3**
JMM				S	**Sb**	**21 13 58.3**	**-1.2**
JFY	**Yanaizu**	**1.27**	**301**	P	**Pn**	**21 13 47.4**	**+0.4**
JFY				S	**Sn**	**21 14 04.0**	**+0.4**
JAG	**Ashikaga**	**1.34**	**256**	P	**Pn**	**21 13 47.1**	**-0.8**
JAG				S	**Sn**	**21 14 04.3**	**-1.0**
MJAR	**Matsushiro Arr**	**2.31**	**266**	P	**Pn**	**21 14 01.5**	**+0.2**
	0.7nm,0.3s,baz=79,slow=30,SNR=25						
MJAR				S	**Sb**	**21 14 32.7**	**-0.7**
	3.8nm,0.3s,baz=56,slow=28,SNR=9.2						
MAT	**Matsushiro**	**2.31**	**266**	P	**Pn**	**21 14 02.3**	**+1.0**
MAT				S	**Sb**	**21 14 33.5**	**+0.1**
JHJ	**Hachijo jima 2**	**3.78**	**197**	P	**Pn**	**21 14 22.9**	**+1.4**
	14nm,0.3s,baz=24,slow=18,SNR=3.8						
JHJ				S	**Sn**	**21 15 07.8**	**+2.3**
	14nm,0.3s,baz=81,slow=22,SNR=1.7						
USRK	**Ussuriysk Ar.**	**10.15**	**320**	P	**Pn**	**21 15 51.5**	**+2.6**
	baz=127,slow=16,SNR=3.1						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**21 19 10.0**	**-1.4**
	0.5nm,0.6s,baz=106,slow=7.8,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	21 48 45.9	
	baz=313,slow=75,SNR=562						
H11N1	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	21 48 44.8	
	baz=313,slow=75,SNR=463						
H11N3	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	21 48 45.6	
	baz=313,slow=75,SNR=511						
H11S1	**WAKE ISLAND Hy**	**28.95**	**122**	T	T	21 49 36.0	
	baz=314,slow=76,SNR=379						
H11S3	**WAKE ISLAND Hy**	**28.95**	**122**	T	T	21 49 36.0	
	baz=314,slow=76,SNR=267						
H11S2	**WAKE ISLAND Hy**	**28.96**	**122**	T	T	21 49 37.0	
	baz=314,slow=76,SNR=219						
TLY	**Talaya**	**30.30**	**311**	LR	LR	21 31 16.4	
	comp=Z,29nm,18.4s,baz=69,slow=35						
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**21 21 13.1**	**-0.1**
	1.0nm,0.6s,baz=95,slow=6.7,SNR=4.9						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**21 21 30.1**	**-0.6**
	0.7nm,0.6s,baz=81,slow=9.3,SNR=8.6						
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**	**21 22 17.2**	**+1.1**
	0.2nm,0.6s,baz=285,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**56.75**	**188**	P	**P**	**21 23 05.6**	**-1.4**
	0.7nm,0.5s,baz=4.0,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**21 23 32.3**	**-0.7**
	0.3nm,0.6s,baz=8.8,slow=8.4,SNR=3.9						
NVAR	**Mina Array Bea**	**75.38**	**53**	P	**P**	**21 25 06.7**	**-0.3**
	0.2nm,0.4s,baz=299,slow=5.8,SNR=2.2						
PDAR	**Pinedale Array**	**78.06**	**45**	P	**P**	**21 25 22.3**	**+0.2**
	0.2nm,0.5s,baz=298,slow=1.9,SNR=2.7						

IDC 18 21:28:02.1±1.3, 1.°35N×126.°45E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/33, mbtmp3.7/5, Error ellipse: s-maj=147.1km s-min=20.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.53**	**160**	P	P	21 33 03.4	-0.4
	1.5nm,0.6s,baz=338,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**25.90**	**164**	P	P	21 33 35.9	-0.1
	0.3nm,0.3s,baz=339,slow=8.8,SNR=3.0						
STKA	**Stephens Creek**	**36.03**	**158**	P	P	21 35 05.6	+0.3
	2.0nm,0.9s,baz=333,slow=11,SNR=2.1						
SONM	**Songino Array**	**49.46**	**342**	P	P	21 36 53.5	-0.7
	0.1nm,0.6s,baz=139,slow=9.0,SNR=1.4						
MKAR	**Makanchi Array**	**59.35**	**326**	P	P	21 38 06.5	+0.3
	1.0nm,0.6s,baz=121,slow=8.6,SNR=12						

*BJI **18** 21:31:05.3±0.0, 10.°33S×123.°90E, h26km, mb5.3/72, mB5.2/48, Ms4.8/39, Ms7 4.5/27*
*NEIC **18** 21:31:09.5±3.0, 10.°06S±0.°06×123.°76E±0.°06, h29km±3km, mb5.4/97, Ms_20 4.7/72*
*ISCJB **18** 21:31:09.9±0.3, 10.°12S±0.°02×123.°82E±0.°02, h54km±3km, mb5.4/92, MS4.2/39, Error ellipse: s-maj=3.3km s-min=2.9km az=5.3*
*IDC **18** 21:31:09.9±1.1, 9.°80S×123.°77E, h24km±7km, mb4.9/20, mb1 5.0/23, mb1mx5.0/26, mbtmp5.1/23, ML5.6/3, MS4.2/27, Ms1 4.2/27, ms1mx4.0/34, Error ellipse: s-maj=11.7km s-min=8.7km az=60.0*
*MOS **18** 21:31:10.3±1.2, 9.°72S×123.°70E, h35km, mb5.6/30, MS4.4/9, Error ellipse: s-maj=9.3km s-min=6.1km az=111.8*
*DJA **18** 21:31:11.7±0.3, 10.°S±2.°×12.°4E±.°, h35km±3km, M5.5/62, mb5.7/62, mB5.8/50, MLv6.0/17, Mw(mB)5.4/50*
*GCMT **18** 21:31:12.5±0.2, 10.°05S±0.°01×123.°69E±0.°02, h32km, MW5.2/92, Moment Tensor Solution. s68,c93; s92,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.50±.18; Mθθ=1.84±.13; Mφφ=5.34±.14; Mrθ=1.00±.19; Mφφ=2.49±.10; Mφr=4.11±.24; Best double couple: M0=6.68700×10^16 NP1:φs=171.00000°, δ70.00000°, λ-121.00000°. NP2: φs=50.00000°, δ36.00000°, λ-36.00000°. Principal axes: T 7.3810, Plg19.0000°, Azm283.0000°; N -1.3880, Plg29.0000°, Azm182.0000°; P -5.9940, Plg55.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 21:31:10.7±0.5, 10.°05S±0.°03×123.°75E±0.°03, h34km±1km, h34km:pP-P, n921, σ1§67/839, mb5.3/123, MS4.5/69, 26C-10D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.18**	**210**	Pg	**Pb**	**21 31 18.9**	**+1.7**
	29μm,0.3s,baz=174,slow=10.0						
BATI				LR	LR	21 31 39.9	
	comp=Z,683μm,18.6s,baz=155,slow=72						
BATI	**Baumata**	**0.18**	**210**	P	**Pb**	**21 31 18.3**	**+1.1**
SOEI	**Soe**	**0.58**	**60**	P	**Pb**	**21 31 24.4**	**+1.6**
SOEI				S	**Sn**	**21 31 34.5**	**+3.3**
SOEI	**Soe**	**0.58**	**60**		**Pb**	**21 31 24.4**	**+1.6**
MMRI	**Maumere**	**2.05**	**313**	P	**Pb**	**21 31 45.7**	**-1.7**
MMRI	**Maumere**	**2.05**	**313**		**Pb**	**21 31 45.6**	**-1.7**
WSI	**Waingapu**	**3.43**	**276**	P	**Pn**	**21 32 03.6**	**+1.8**
WBSI	**Waikabubak, Su**	**4.32**	**275**	P	**Pn**	**21 32 15.3**	**+1.2**
BBSI	**Bau Bau**	**4.68**	**345**	P	**Pn**	**21 32 22.8**	**+3.7**
BKSI	**Bulukumba**	**5.92**	**322**	P	**Pn**	**21 32 38.6**	**+2.6**
	557nm,0.7s,5μm1.9nm						
PLAI	**Plampang**	**6.02**	**281**	P	**Pn**	**21 32 39.2**	**+1.7**
	5μm,0.8s,36μm14nm						
PLAI				S	**Sn**	**21 33 45.4**	**+0.1**
	5μm,0.8s,36μm14nm						
KDI	**Kendari**	**6.16**	**349**	P	**Pn**	**21 32 42.6**	**+3.3**
	461nm,0.7s						
KAPI	**Kappang**	**6.38**	**321**	P	Pn	21 32 48.0	+5.5
	SNR=30						
KAPI	**Kappang**	**6.38**	**321**	P	**Pn**	**21 32 46.4**	**+3.9**
KAPI	**Kappang**	**6.38**	**321**	Pn	Pn	21 32 47.1	+4.6
	19nm,0.3s,baz=131,slow=20,SNR=39						
KAPI				Sn	Sn	21 33 43.6	-11
	5.8nm,0.3s,baz=143,slow=16,SNR=0.9						
KAPI				LR	LR	21 35 19.6	
	comp=Z,8μm,21.3s,baz=297,slow=40						
KAPI	**Kappang**	**6.38**	**321**		**Pn**	**21 32 46.4**	**+3.9**
BNSI	**Bone**	**6.68**	**327**	P	Pn	21 32 52.0	+5.5
	596nm,0.9s,6μm2.2nm						
TWSI	**Taliwang, Sumb**	**6.90**	**280**	P	**Pn**	**21 32 51.1**	**+1.5**
	2μm,0.8s,19μm6.4nm						
SPSI	**Sidrap Palu**	**7.22**	**327**	P	Pn	21 33 00.2	+6.2
KNRA	**Kununurra**	**7.42**	**139**	P	**Pn**	**21 32 54.3**	**-2.4**
	baz=7.5,SN

PSAC1 Pilbara Seismi 12.03 198 Pn **Pn** **21 34 00.5 +0.6**
PSAC1 Sn **Sn** **21 36 06.4 -6.6**
PSAC2 Pilbara Seismi 12.03 197 Pn **Pn** **21 34 00.1 +0.2**
PSAC2 Sn **Sn** **21 36 05.9 -7.1**
PSAB2 Pilbara Seismi 12.04 198 Pn **Pn** **21 34 00.7 +0.7**
PSAB2 Sn **Sn** **21 36 06.4 -6.7**
PSAA2 Pilbara Seismi 12.05 198 Pn **Pn** **21 33 59.9 -0.3**
PSA00 Pilbara Seismi 12.06 198 **Pn** **21 34 00.3 0.0**
PSA00 Sn **Sn** **21 36 09.6 -4.1**
PSA00 Pilbara Seismi 12.06 198 **Pn** **21 34 00.0 -0.3**
PSAA3 Pilbara Seismi 12.06 198 Pn **Pn** **21 34 00.2 -0.1**
PSAA3 Sn **Sn** **21 36 10.1 -3.6**
PSAB1 Pilbara Seismi 12.06 198 Pn **Pn** **21 34 00.7 +0.3**
PSAA1 Pilbara Seismi 12.06 198 Pn **Pn** **21 34 00.0 -0.3**
PSAA1 Sn **Sn** **21 36 08.8 -5.0**
PSAD2 Pilbara Seismi 12.06 197 Pn **Pn** **21 33 59.9 -0.5**
PSAD2 Sn **Sn** **21 36 09.2 -4.6**
PSAB3 Pilbara Seismi 12.07 198 Pn **Pn** **21 34 00.2 -0.3**
PSAC3 Pilbara Seismi 12.11 198 Pn **Pn** **21 34 00.8 -0.2**
PSAC3 Sn **Sn** **21 36 11.2 -3.7**
PSAD3 Pilbara Seismi 12.14 198 Pn **Pn** **21 34 01.9 +0.4**
NGJI Ngawi 12.44 281 P Pn 21 34 10.3 +4.8
365nm,0.8s
PCJI Pacitan 12.55 277 P **Pn** **21 34 07.1 0.0**
440nm,0.8s,6μm
WOJI Wonogiri, Jawa 12.86 279 P **Pn** **21 34 11.4 +0.1**
278nm,0.9s,3μm
UGM Wanagama 13.24 278 P **P** **21 34 22.7 -3.2**
UGM Wanagama 13.24 278 **Pn** **21 34 16.3 -0.2**
YOGI Yogyakarta 13.48 278 P **P** **21 34 32.6 +4.0**
SMRI Semarang 13.50 282 P **Pn** **21 34 23.1 +3.1**
571nm,0.8s
SMRI Semarang 13.50 282 **Pn** **21 34 20.3 +0.3**
WB0 Warramunga Arr 14.10 134 Pn Pn 21 34 23.4 -4.9
WB0 Sn Sn 21 36 51.9 -12
WRA Warramunga Arr 14.18 135 P Pn 21 34 24.3 -5.0
WRA Warramunga Arr 14.18 135 Pn Pn 21 34 25.0 -4.3
12nm,0.3s,baz=309,slow=14,SNR=133
WRA Sn Sn 21 36 52.5 -13
29nm,0.3s,baz=308,slow=23,SNR=14
WRA LR LR 21 40 39.4
comp=Z,2μm,20.9s,baz=315,slow=40
WRA Warramunga Arr 14.18 135 Pn 21 34 24.2 -5.1
WRAB Tennant Creek 14.18 135*ce*P Pn 21 34 24.8 -4.5
WRAB pmax pmax
comp=Z,169nm,0.8s
WRAB Tennant Creek 14.18 135 Pn 21 34 24.0 -5.3
WRAB Sn 21 36 52.9 -13
WB2 Warramunga Arr 14.19 135 Pn 21 34 24.0 -5.4
WR0 Warramunga Arr 14.33 135 Pn Pn 21 34 26.5 -4.9
SRPI Serui, Papua 14.83 58 P **Pn** **21 34 36.4 -1.8**
comp=Z,844nm,0.7s,comp=Z,8μm
KPJI Karang Pucung 14.90 279 P **Pn** **21 34 38.3 -0.7**
comp=Z,905nm,0.8s,comp=Z,10μm
CMJI Cimerak 15.29 277 P **Pn** **21 34 44.4 +0.2**
comp=Z,1μm,0.7s,comp=Z,8μm
GIRL Giralia 15.49 215 P **Pn** **21 34 46.4 -0.4**
baz=16,SNR=20
GIRL Giralia 15.49 215 **Pn** **21 34 46.8 0.0**
GIRL IAmb IAmb 21 35 22.2
comp=Z,246nm,0.9s
WRKA Warakurna 15.52 164 P **Pn** **21 34 43.6 -3.6**
baz=16,SNR=61
JCJI Jatiwangi 15.72 282 P **P** **21 34 55.5 +2.0**
STKI Sintang 15.82 309 P **Pn** **21 34 52.5 +1.4**
comp=Z,124nm,1.0s
WAMI Wamena 16.05 69 P **P** **21 34 57.3 +0.1**
comp=Z,1μm,0.9s,comp=Z,10μm
DDMP Don Marcelino, 16.16 7 *e*P **Pn** **21 34 56.0 +0.5**
LEM Lembang 16.28 280 Pn **Pn** **21 34 55.8 -1.3**
comp=Z,4.0nm,0.3s,baz=41,slow=11,SNR=16
LEM Sn **Sn** **21 38 02.1 +5.2**
comp=Z,1.6nm,0.3s,baz=171,slow=19,SNR=3.2
LEM LR LR 21 42 54.7
comp=Z,2μm,20.6s,baz=96,slow=43
LEM Lembang 16.28 280 P **Pn** **21 34 58.5 +1.4**
SKMP Bagumbayan, Su 16.48 3 *e*P **P** **21 35 01.0 -0.9**
AS31 Alice Springs 16.65 146 **Pn** **21 34 57.7 -4.0**
ASAR Alice Springs 16.65 146 P **Pn** **21 34 58.2 -3.5**
ASAR Alice Springs 16.65 146 Pn **Pn** **21 34 58.8 -2.9**
comp=Z,6.9nm,0.3s,baz=321,slow=12,SNR=161
ASAR Sn Sn 21 37 53.6 -12
comp=Z,15nm,0.3s,baz=321,slow=24,SNR=10
ASAR LR LR 21 42 04.0
comp=Z,1μm,18.6s,baz=318,slow=39
ASAR Alice Springs 16.65 146 **Pn** **21 34 58.2 -3.5**
SMPI Sarmi 16.88 63 P **Pn** **21 35 03.1 -1.5**
comp=Z,269nm,0.8s,comp=Z,2μm
SBUM Sibu 16.91 317 P **P** **21 35 07.0 +0.3**
SBUM Sibu 16.91 317 P **P** **21 35 06.6 -0.1**
KCP Kidapawan 17.00 5⇑*i*P **P** **21 35 07.4 -0.3**
MATI Mati 17.07 8 *e*P **Pn** **21 35 07.5 +0.6**
DAV Davao City (W) 17.10 6 Pn **Pn** **21 35 05.0 -2.4**
comp=Z,166nm,0.3s,baz=96,slow=5.0,SNR=4.1
DAV Davao City (W) 17.10 6 **P** **21 35 08.6 -0.2**
DAV IAmb IAmb 21 35 25.4
comp=Z,319nm,0.8s
CTBH Cotabato--PC H 17.16 2⇑*i*P **P** **21 35 10.8 +1.4**
MEEK Meekatharra 17.20 196 P **Pn** **21 35 08.6 +0.1**
baz=17,SNR=60
SKJI Sukabumi 17.27 279 P **P** **21 35 11.7 +1.0**
comp=Z,1μm,0.9s,comp=Z,12μm
TPI Tanjungpandan 17.55 293 P **P** **21 35 14.4 +0.6**
comp=Z,41nm,1.0s,comp=Z,660nm
KSM Kuching 17.61 310 P **Pn** **21 35 14.0 +0.3**
KSM Kuching 17.61 310 P **Pn** **21 35 13.6 -0.1**
KKM Kota Kinabalu 17.66 335 P **P** **21 35 17.0 +1.9**
KKM IAmb IAmb 21 35 31.9
comp=Z,190nm,0.8s
PAGZ Pagadian 17.78 359 *e*P **P** **21 35 18.0 +1.7**
XMIS Christmas Isla 17.82 267 P **Pn** **21 35 16.0 -0.3**
XMIS IAmb IAmb 21 35 21.1
comp=Z,263nm,0.7s
BUKP Musuan 17.86 4 *e*P **P** **21 35 17.6 +0.4**
GENI Genyem 17.91 67 P **P** **21 35 17.6 -0.1**
comp=Z,1μm,0.7s,comp=Z,10μm
CGJI Cibinong 18.19 279 P **Pn** **21 35 18.7 -2.1**
comp=Z,565nm,0.6s,comp=Z,7μm
CGP Cagayan de Oro 18.41 3 *e*P **Pn** **21 35 26.5 +3.1**
JAY Jayapura 18.43 67 P **P** **21 35 22.4 -1.0**
comp=Z,18nm,0.3s,baz=229,slow=7.9,SNR=33
JAY S **Sn** **21 38 42.1 -6.7**
comp=Z,0.5nm,0.3s,baz=128,slow=21,SNR=1.0
JAY Jayapura 18.43 67 P **P** **21 35 22.8 -0.7**
comp=Z,3μm,0.9s,comp=Z,27μm
QIS Mount Isa 18.50 126 P **P** **21 35 21.5 -2.8**
baz=18,SNR=54
BLSI Bandar Lampung 18.92 283 P **Pn** **21 35 31.6 +1.9**
comp=Z,439nm,0.9s,comp=Z,4μm
BUTP Butuan 18.98 6 *e*P **Pn** **21 35 30.9 +0.5**
COEN Coen 19.39 103 P **P** **21 35 34.0 0.0**
baz=19,SNR=125
COEN Coen 19.39 103 P **P** **21 35 34.2 +0.2**
COEN S 21 38 55.5 -16
KLSI 19.60 284 P **P** **21 35 36.7 +0.4**
comp=Z,263nm,0.8s,comp=Z,3μm
KASI Kota Agung 19.60 282 P **P** **21 35 36.8 +0.5**
comp=Z,932nm,0.9s,comp=Z,11μm
MSLP Maasin 20.08 3 *e*P **P** **21 35 42.2 +0.7**
PMBI Palembang 20.13 289 IAms_20 IAms_20 21 44 07.5
comp=Z,2μm,22.0s
LWLI Liwa 20.15 283 P **P** **21 35 43.0 +0.6**
comp=Z,488nm,0.7s,comp=Z,7μm
LLP Lapu-Lapu 20.23 1⇓*e*P **P** **21 35 43.3 +0.1**
LLP *e*S **S** **21 39 28.5 -0.1**
MORW Morawa 20.25 200 P **P** **21 35 44.1 +0.7**
baz=20,SNR=8.2
MORW Morawa 20.25 200 Pn 21 35 44.5 -1.0
PALU Palau 20.31 32 P **P** **21 35 43.3 -0.7**
baz=20,SNR=30
GUIM Jordan 20.57 357 *e*P **P** **21 35 46.8 0.0**
JAP San Jose, Anti 20.74 355⇓*e*P Pn 21 35 50.3 -0.8
LHSI Lahat 21.00 286 P **P** **21 35 52.8 +1.2**
comp=Z,294nm,0.9s,comp=Z,3μm
FORT Forrest 21.01 170 P **P** **21 35 51.9 +0.4**
baz=21,SNR=33
FORT Forrest 21.01 170 P **P** **21 35 52.0 +0.4**
KMBL Kambalda 21.28 184 P **P** **21 35 54.4 0.0**
baz=21,SNR=13
MNAI Manna 21.39 284 P **P** **21 35 57.0 +1.3**
comp=Z,559nm,0.4s,comp=Z,10μm
MTSU Mount Surprise 21.49 114 P **P** **21 35 58.3 +1.6**
baz=22,SNR=339
RCP Roxas 21.49 357⇓*e*P **P** **21 35 55.2 -1.5**
TPRI Tanjung Pinang 22.02 299 P **P** **21 36 08.9 +6.4**

KLBR Kellerberrin 22.15 194 P **P** **21 36 05.7 +2.0**
baz=22,SNR=8.0
OTRP Odiongan 22.33 356 *e*P **P** **21 36 06.5 +0.7**
MASI Maura Aman, Be 22.43 286 P **P** **21 36 09.3 +2.3**
comp=Z,354nm,0.8s,comp=Z,7μm
MUN Mundaring 22.91 197 P **P** **21 36 11.7 -0.1**
baz=23,SNR=6.2
MYKOM Kota Tinggi 23.04 300 P **P** **21 36 15.0 +1.7**
MYKOM Kota Tinggi 23.04 300 IAms_20 IAms_20 21 45 32.9
comp=Z,2μm,20.0s
PMG Port Moresby 23.08 90*ce*P **P** **21 36 13.6 -0.1**
PMG pmax pmax
comp=Z,39nm,0.6s
PMG Port Moresby 23.08 90 P **P** **21 36 13.8 +0.1**
comp=Z,80nm,0.7s,baz=276,slow=5.9,SNR=44
PMG S **S** **21 40 23.4 +0.7**
comp=Z,15nm,0.7s,baz=339,slow=24,SNR=7.7
PMG LR LR 21 47 41.2
comp=Z,2μm,18.1s,baz=250,slow=43
PMG Port Moresby 23.08 90 P **P** **21 36 11.1 -2.6**
PMG Port Moresby 23.08 90 IAms_20 IAms_20 21 46 14.5
comp=Z,2μm,21.0s
BOAC Boac 23.43 355 *e*P **P** **21 36 16.4 -0.7**
NWAO Narrogin (SRO) 23.55 194 P **P** **21 36 17.9 -0.2**
baz=24,SNR=4.4
NWAO Narrogin (SRO) 23.55 194 P **P** **21 36 16.3 -1.8**
NWAO pmax pmax
comp=Z,60nm,0.7s
NWAO MLR MLR
comp=Z,700nm,18.0s
NWAO Narrogin (SRO) 23.55 194 P **P** **21 36 17.8 -0.4**
comp=Z,17nm,0.9s,baz=34,slow=7.9,SNR=8.7
NWAO S **S** **21 40 34.4 +4.4**
comp=Z,60nm,1.0s,baz=95,slow=6.3,SNR=4.1
NWAO LR LR 21 47 33.3
comp=Z,532nm,18.3s,baz=326,slow=41
NWAO Narrogin (SRO) 23.55 194 P **P** **21 36 16.4 -1.8**
NWAO IAmb IAmb 21 37 04.2
comp=Z,60nm,0.7s
CTA Charters Tower 23.88 117 P **P** **21 36 22.8 +1.4**
comp=Z,30nm,0.6s,baz=291,slow=12,SNR=41
CTA S **S** **21 40 40.9 +5.2**
comp=Z,8.2nm,0.8s,baz=327,slow=19,SNR=1.4
CTA LR LR 21 47 25.5
comp=Z,2μm,18.9s,baz=297,slow=41
CTAO Charters Tower 23.88 117 P **P** **21 36 22.5 +1.1**
CTAO pmax pmax
comp=Z,100nm,1.0s
CTAO MLR MLR
comp=Z,2μm,19.0s
CTAO Charters Tower 23.88 117 P **P** **21 36 22.5 +1.1**
CTAO IAmb IAmb 21 36 44.5
comp=Z,100nm,0.9s
CTAO Charters Tower 23.88 117 IAms_20 IAms_20 21 47 14.1
comp=Z,2μm,19.0s
LUBP Lubang 23.88 352 *e*P **P** **21 36 21.9 +0.5**
SDSI Sungai Dareh 23.98 291 P P 21 36 29.8 +7.4
TGY Tagaytay City 24.16 353 P **P** **21 36 23.1 -1.0**
comp=Z,1μm,0.8s,baz=150,slow=3.3,SNR=24
TGY LR LR 21 47 01.7
comp=Z,295nm,21.6s,baz=124,slow=40
POLP Polillo Island 24.68 356 *e*P **P** **21 36 27.7 -1.0**
BKNI Bangkinang 24.84 293 P **P** **21 36 31.1 +0.8**
comp=Z,255nm,1.1s,comp=Z,2μm
PDSI Padang 24.88 290 P **P** **21 36 29.3 -1.3**
comp=Z,20nm,0.6s
BBOO Buckleboo 25.34 155 P **P** **21 36 34.6 0.0**
baz=25,SNR=14
BBOO Buckleboo 25.34 155 P **P** **21 36 34.9 +0.3**
BBOO IAmb IAmb 21 36 51.6
comp=Z,106nm,0.9s
PCPH Palayan 25.58 354⇑*e*P **P** **21 36 36.4 -0.5**
BALP Baler 25.71 355 *e*P **P** **21 36 36.2 -1.9**
SCZP Santa Cruz 25.94 352 *e*P **P** **21 36 38.6 -1.6**
DLV T Lat 26.60 325 P **P** **21 36 45.7 -0.7**
DLV IAmb IAmb 21 37 06.3
comp=Z,69nm,1.0s
IPM Ipoh 26.85 301 P **P** **21 36 47.0 -1.5**
IPM IAms_20 IAms_20 21 47 27.6
comp=Z,1μm,22.0s
CAUP Cauayan 26.89 356 *e*P **P** **21 36 47.5 -1.2**
HTT Hallett 27.13 151 P **P** **21 36 51.8 +0.9**
baz=27,SNR=10
STKA Stephens Creek 27.29 145 P **P** **21 36 53.1 +0.8**
baz=27,SNR=7.4
STKA Stephens Creek 27.29 145 P **P** **21 36 53.0 +0.8**
comp=Z,13nm,0.7s,baz=318,slow=9.7,SNR=17
STKA LR LR 21 48 51.2
comp=Z,1μm,19.4s,baz=316,slow=39
STKA Stephens Creek 27.29 145 P **P** **21 36 53.1 +0.8**
RPSI Rantau Prapat 27.78 296 P **P** **21 36 55.5 -1.3**
RPSI IAmb IAmb 21 37 35.4
comp=Z,86nm,1.6s
PSI Prapat 27.83 296 P **P** **21 36 55.6 -1.8**
comp=Z,7.1nm,0.7s,baz=151,slow=8.8,SNR=7.2
PSI LR LR 21 49 13.8
comp=Z,2μm,18.8s,baz=118,slow=39
APYP Conner 27.84 355 *e*P **P** **21 36 57.1 -0.2**
GSI Gunungsitoli 28.39 292 P **P** **21 37 00.0 -2.3**
GSI IAmb IAmb 21 37 43.5
comp=Z,55nm,1.1s
KRVT Keravat (AS076 28.61 81 LR LR 21 50 23.2
comp=Z,698nm,21.3s,baz=259,slow=40
RMQ Roma 28.74 128 P **P** **21 37 07.2 +1.9**
baz=29,SNR=7.1
CMSA Cobar Meteorol 29.51 140 P **P** **21 37 13.8 +1.7**
baz=30,SNR=12
LHMI Lhok Sumawe 30.71 298 P **P** **21 37 21.6 -1.3**
LHMI IAmb IAmb 21 37 59.0
comp=Z,71nm,1.1s
MLSI Meulaboh, Aceh 30.73 296 P **P** **21 37 20.5 -2.5**
UBPT Khong Chiam 31.01 324 P **P** **21 37 25.2 -0.2**
UBPT IAmb IAmb 21 37 29.8
comp=Z,107nm,1.8s
ARPS Mount Arapiles 31.23 151 P **P** **21 37 28.7 +1.5**
baz=31,SNR=13
GUMO Guam 31.48 42 P **P** **21 37 28.9 -0.6**
GUMO pmax pmax
comp=Z,154nm,1.0s
GUMO Guam 31.48 42 P **P** **21 37 28.9 -0.6**
QIZ Qiongzhong 31.98 335 P **P** **21 37 36.1 +2.1**
QIZ S **S** **21 42 46.6 +3.1**
QIZ LR LR
comp=Z,370nm,15.9s
QIZ LR LR
comp=Z,380nm,20.7s
QIZ Qiongzhong 31.98 335 P **P** **21 37 33.1 -0.8**
PATY Pattaya 32.21 315 P P 21 37 43.6 +7.6
TWG Pinlang 32.77 355 P **P** **21 37 40.4 -0.5**
ARMA Armidale 32.93 132 P **P** **21 37 41.6 -0.7**
baz=33,SNR=6.8
ARMA Armidale 32.93 132 P **P** **21 37 41.3 -1.0**
ARMA IAmb IAmb 21 37 58.2
comp=Z,76nm,1.6s
YNG Young 33.04 141 P **P** **21 37 44.4 +1.2**
baz=33,SNR=10
TPUB Ta-pu 33.28 355 P **P** **21 37 43.4 -1.9**
TPUB IAmb IAmb 21 37 45.3
comp=Z,51nm,0.7s
YULB Yu-li 33.32 356 P **P** **21 37 43.5 -2.1**
YULB IAmb IAmb 21 37 43.9
comp=Z,21nm,0.7s
CHAI Chaiyaphum 33.60 320 P **P** **21 37 49.5 +1.3**
comp=Z,41μm,0.7s,comp=Z,562μm
SSLB Suanglung 33.74 355 P **P** **21 37 46.6 -2.7**
SSLB IAmb IAmb 21 37 48.9
comp=Z,34nm,1.0s
MGCD Mangrove Creek 34.12 137 P **P** **21 37 55.7 +3.2**
baz=34,SNR=5.4
CNB Canberra Magne 34.30 141 P **P** **21 37 56.3 +2.1**
baz=34,SNR=6.9
YOJ Yonaguni jima 34.31 359 P **P** **21 37 53.1 -1.0**
YOJ pmax pmax
comp=Z,306nm,1.5s
YOJ Yonaguni jima 34.31 359 P **P** **21 37 53.1 -1.0**
SARN Sarigan 34.37 40 IAms_20 IAms_20 21 54 18.3
comp=Z,1μm,20.0s
SRDT SRDT 34.41 314 P P 21 38 01.4 +6.2
comp=Z,23nm,0.9s
NONG Nongkai 34.56 324 P P 21 38 05.5 +9.1
YHNB Yeheng 34.59 356 P **P** **21 37 54.2 -2.4**
PBKT Sadao Pong 34.75 319 P **P** **21 37 57.9 -0.2**
UTHA Uthaitani 35.03 316 P **P** **21 38 00.7 +0.2**
comp=Z,54μm,1.1s,comp=Z,427μm
MILA Mila 35.34 144 P **P** **21 38 00.3 -2.8**
baz=35,SNR=5.0

UMPA Umpang Tak 35.88 316 P **P** **21 38 07.7 -0.2**
comp=Z,57μm,0.9s,comp=Z,450μm
UMPA P P 21 38 13.1 +5.2
comp=Z,57μm,0.9s,comp=Z,450μm
JOW Kunigami 36.92 7 P **P** **21 38 14.8 -1.7**
comp=Z,5.1nm,0.7s,baz=191,slow=15,SNR=5.4
JOW Kunigami 36.92 7 IAmb IAmb 21 38 15.8
comp=Z,38nm,0.7s
CM31 Chiang Mai Arr 37.44 319 P **P** **21 38 20.8 -0.3**
SNR=15
CMAR Chiang Mai Arr 37.44 319*ce*P **P** **21 38 21.1 0.0**
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 37.44 319 P **P** **21 38 20.6 -0.6**
comp=Z,9.5nm,0.8s,baz=143,slow=6.9,SNR=94
CMAR PcP **PcP** **21 40 40.8 +1.3**
comp=Z,9.5nm,0.8s,baz=174,slow=2.6,SNR=12
CMAR ScP **ScP** **21 44 25.8 +1.4**
comp=Z,5.2nm,0.8s,baz=164,slow=3.0,SNR=11
CMAR LR LR 21 54 55.0
comp=Z,362nm,21.7s,baz=135,slow=38
CMAR Chiang Mai Arr 37.44 319 **ScP** **21 44 25.3 +0.9**
CMAR Chiang Mai Arr 37.44 319 P **P** **21 38 20.9 -0.3**
PAYA Payao 37.52 321 P **P** **21 38 22.3 +0.4**
comp=Z,58μm,0.6s,comp=Z,629μm
CMMT Chiang Mai 37.70 319 P **P** **21 38 22.9 -0.4**
comp=Z,21nm,0.9s,comp=Z,165nm
CHTO Chiang Mai 37.70 319 P **P** **21 38 22.7 -0.6**
SNR=9.9
CHTO Chiang Mai 37.70 319 P **P** **21 38 22.7 -0.6**
CHTO pmax pmax
comp=Z,27nm,0.8s
CHTO MLR MLR
comp=Z,400nm,22.0s
CHTO Chiang Mai 37.70 319 P **P** **21 38 22.7 -0.6**
MHMT Maesarieng 37.90 318 P **P** **21 38 28.2 +3.2**
comp=Z,37nm,0.9s
GYA Guiyang 39.91 336⇑*i*P **P** **21 38 41.3 -0.6**
GYA pP pP 21 38 51.3 -0.5
GYA PP **PnPn** **21 40 18.6 +1.0**
GYA S **S** **21 44 46.4 +1.5**
GYA sS sS 21 44 58.8 -0.8
GYA SS **SS** **21 47 40.0 -2.5**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.5s
GYA LR LR
comp=Z,540nm,17.4s
GYA LR LR
comp=Z,580nm,17.3s
GYA LR LR
comp=Z,600nm,17.5s
KMI Kunming 40.52 330 P **P** **21 38 47.6 +0.5**
KMI pP pP 21 38 56.8 -0.2
KMI sP sP 21 39 01.5 +0.4
KMI S **S** **21 44 50.8 -3.5**
KMI SS **SS** **21 47 55.3 +0.4**
KMI pmax pmax
comp=Z,29nm,0.8s
KMI pmax pmax
comp=Z,130nm,3.1s
KMI LR LR
comp=Z,260nm,19.2s
KMI LR LR
comp=Z,200nm,19.9s
JCJ Chichijima 41.03 25 P **P** **21 38 48.5 -2.4**
comp=Z,173nm,0.5s,baz=248,slow=6.3,SNR=15
WHN Wuhan 41.36 348 ⇓*i*P **P** **21 38 52.8 -0.8**
WHN pmax pmax
comp=Z,170nm,1.3s
NJ2 Nanjing 42.12 354⇓*i*P **P** **21 38 58.6 -1.2**
NJ2 pP **pP** **21 39 08.1 -1.7**
NJ2 pmax pmax
comp=Z,41nm,0.7s
DZM Mont Dzumac 42.59 112 *e*P **P** **21 39 04.7 +0.7**
comp=Z,74nm,0.8s
DZM *e*S **S** **21 45 24.3 -0.6**
comp=Z,331nm,29.6s
DZM *e*LR LR 21 50 57.7
comp=Z,1μm,23.4s
DZM Mont Dzumac 42.59 112 P **P** **21 39 05.0 +1.0**
comp=Z,32nm,0.8s,baz=265,slow=10,SNR=20
DZM Mont Dzumac 42.59 112 P **P** **21 39 04.1 +0.1**
DZM IAmb IAmb 21 39 06.2
comp=Z,94nm,1.4s
CD2 Chengdu 45.02 335 ⇓P **P** **21 39 21.8 -1.5**
CD2 sP pP 21 39 35.5 +2.2
CD2 PP **PP** **21 41 07.6 -1.5**
CD2 S **S** **21 45 52.1 -7.9**
CD2 sS sS 21 46 18.8 +3.8
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,200nm,4.7s
CD2 LR LR
comp=Z,450nm,9.8s
CD2 LR LR
comp=Z,480nm,19.9s
XAN Xi'an 46.05 343 P **P** **21 39 29.4 -2.0**
XAN pmax pmax
comp=Z,58nm,0.8s
XAN pmax pmax
comp=Z,130nm,6.4s
XAN LR LR
comp=Z,330nm,22.8s
XAN LR LR
comp=Z,120nm,30.4s
XAN Xi'an 46.05 343 P **P** **21 39 29.5 -2.0**
XAN pmax pmax
comp=Z,43nm,0.7s
XAN MLR MLR
comp=Z,400nm,22.0s
XAN Xi'an 46.05 343 P **P** **21 39 29.5 -2.0**
XAN IAmb IAmb 21 39 30.3
comp=Z,43nm,0.7s
PALK Pallekele 46.20 290 P **P** **21 39 31.8 -1.1**
PALK pmax pmax
comp=Z,16nm,0.9s
PALK MLR MLR
comp=Z,900nm,21.0s
PALK Pallekele 46.20 290 P **P** **21 39 31.8 -1.1**
PALK IAms_20 IAms_20 21 58 39.3
comp=Z,851nm,21.0s
TJN Taejon 46.30 4*ce*P **P** **21 39 32.6 -0.6**
KSRS Korea Array 47.41 5 P **P** **21 39 40.6 -1.3**
comp=Z,11nm,0.6s,baz=182,slow=9.4,SNR=36
KSRS PcP **PcP** **21 41 11.6 -0.5**
comp=Z,10nm,0.7s,baz=184,slow=3.1,SNR=11
KSRS LR LR 22 00 57.7
comp=Z,70nm,20.1s,baz=192,slow=38
KS19 Wonju Array Si 47.46 4 P **P** **21 39 40.6 -1.6**
MJAR Matsushiro Arr 48.30 16 P **P** **21 39 46.7 -2.1**
comp=Z,68nm,0.6s,baz=195,slow=9.2,SNR=82
MJAR ScP **ScP** **21 45 07.1 -0.6**
comp=Z,4.6nm,0.9s,baz=199,slow=5.4,SNR=5.6
MJAR LR LR 22 00 54.2
comp=Z,77nm,20.4s,baz=190,slow=37
MJAR Matsushiro Arr 48.30 16 P **P** **21 39 46.6 -2.2**
MAJO Matsushiro 48.30 16 P **P** **21 39 46.9 -2.0**
MAJO pmax pmax
comp=Z,76nm,0.8s
MAJO Matsushiro 48.30 16 P **P** **21 39 46.9 -2.0**
MAT Matsushiro 48.30 16 P **P** **21 39 46.8 -2.1**
MJB9 Matsu-Tunnel 48.30 16 P **P** **21 39 47.2 -1.7**
DL2 Dalian 48.74 358 P **P** **21 39 49.9 -2.3**
DL2 pmax pmax
comp=Z,41nm,0.7s
LZH Lanzhou 49.58 339 ⇑P **P** **21 39 58.8 -0.1**
LZH pP pP 21 40 07.9 -1.1
LZH S **S** **21 46 56.9 -8.1**
LZH pmax pmax
comp=Z,49nm,1.2s
LZH pmax pmax
comp=Z,150nm,4.9s
LZH LR LR
comp=Z,240nm,17.4s
LZH LR LR
comp=Z,240nm,17.3s
LZH LR LR
comp=Z,340nm,18.1s
BJT Baijiatuau 50.31 352 IAmb IAmb 21 40 03.0
comp=Z,36nm,0.6s
BJI Beijing 50.33 352⇓*i*P **P** **21 40 01.8 -2.4**
BJI pmax pmax
comp=Z,47nm,0.6s

BJI LR LR
comp=Z,200nm,4.5s
BJI LR LR
comp=Z,150nm,4.8s
LSA Lhasa 50.48 323 P **P** **21 40 05.8 -0.3**
LSA pmax pmax
comp=Z,83nm,0.6s
LSA Lhasa 50.48 323 P **P** **21 40 05.9 -0.3**
LSA Lhasa 50.48 323 P **P** **21 40 06.1 -0.1**
LSA pmax pmax
comp=Z,38nm,0.7s
LSA MLR MLR
comp=Z,300nm,22.0s
LSA Lhasa 50.48 323 P **P** **21 40 06.1 -0.1**
LSA IAmb IAmb 21 40 29.9
comp=Z,38nm,0.7s
ODAN Odare 50.91 317 *e*P **P** **21 40 08.3 -0.9**
comp=Z,41nm,0.6s
TAPN Taplejung 51.02 318 *e*P **P** **21 40 09.2 -0.9**
comp=Z,76nm,0.5s
RAMN Ramite 51.50 316 *e*P **P** **21 40 13.1 -0.6**
comp=Z,135nm,0.6s
SNY Shenyang 51.62 360 ⇑P **P** **21 40 11.8 -2.1**
SNY S **S** **21 47 29.1 -3.6**
SNY pmax pmax
comp=Z,26nm,0.5s
SNY pmax pmax
comp=Z,430nm,4.1s
SNY LR LR
comp=Z,640nm,3.9s
SNY LR LR
comp=Z,150nm,3.5s
SNY LR LR
comp=Z,480nm,4.0s
HHC Hu-ho-hao-te 51.88 348 *e*P **P** **21 40 19.9 +3.8**
HHC pmax pmax
comp=Z,6.0nm,0.9s
BTO Baotou 51.98 347 *e*P **P** **21 40 14.5 -2.3**
JIRN Jiri 52.24 317 *e*P **P** **21 40 18.1 -1.2**
comp=Z,114nm,0.7s
HYB Hyderabad 52.34 301 *i*P **P** **21 40 19.0 -0.8**
HYB *e* 21 40 37.0
HYB *e* 21 40 43.5
GUN Gumba 52.61 317 *e*P **P** **21 40 20.6 -1.4**
comp=Z,117nm,0.7s
PKI Pulchoki 52.71 316 *e*P **P** **21 40 20.9 -1.8**
comp=Z,66nm,0.6s
PKIN Phulchoki 52.72 316 *e*P **P** **21 40 21.0 -1.8**
comp=Z,77nm,0.6s
QRZ Quartz Range 52.74 134 IAMs_20 IAMs_20 22 04 13.9
comp=Z,764nm,21.0s
MSHR Mys Shultsa 52.81 7 *i*P **P** **21 40 23.7 +1.0**
RPZ Rata Peaks 52.87 138 P **P** **21 40 24.9 +1.5**
RPZ IAmb IAmb 21 40 26.0
comp=Z,53nm,0.9s
KKN Kakani 52.94 316 *e*P **P** **21 40 23.0 -1.3**
comp=Z,67nm,0.7s
DMN Daman 52.94 316 *e*P **P** **21 40 22.9 -1.5**
comp=Z,68nm,1.0s
MSVF Nonsavu 53.11 105 P **P** **21 40 26.0 +0.4**
MSVF pmax pmax
comp=Z,48nm,1.3s
MSVF Nonsavu 53.11 105 P **P** **21 40 26.0 +0.4**
MSVF IAmb IAmb 21 40 28.4
comp=Z,48nm,1.3s
THZ Tophouse 53.35 135 P **P** **21 40 28.0 +1.1**
THZ IAmb IAmb 21 40 29.4
comp=Z,29nm,0.7s
OXZ Oxford 53.36 137 P **P** **21 40 26.7 -0.3**
OXZ IAmb IAmb 21 40 46.4
comp=Z,22nm,0.7s
VLA Vladivostok 53.43 7 *i*P **P** **21 40 27.2 -0.1**
VLA pmax pmax
comp=Z,105nm,1.2s
NNZ Nelson 53.48 134 IAMs_20 IAMs_20 22 07 45.5
comp=Z,767nm,20.0s
GKN Gorkha 53.51 316 *e*P **P** **21 40 26.9 -1.5**
comp=Z,54nm,0.5s
CN2 Changchun 53.62 2 *e*P **P** **21 40 26.0 -2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GTA Gaotai 54.01 337 ⇓P **P** **21 40 31.1 -0.7**
GTA pP pP 21 40 40.6 -1.4
GTA sP sP 21 40 44.8 -1.2
GTA S **S** **21 48 05.8 +0.1**
GTA sS pS 21 48 19.3 +2.1
GTA SS **SS** **21 51 47.8 +0.1**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,89nm,7.5s
GTA LR LR
comp=Z,100nm,19.7s
GTA LR LR
comp=Z,180nm,19.4s
KHZ Kahutara 54.03 136 P **P** **21 40 32.1 +0.3**
KHZ IAmb IAmb 21 40 51.4
comp=Z,51nm,1.2s
KOLN Koldanda 54.08 315 *e*P **P** **21 40 31.2 -1.5**
comp=Z,59nm,0.7s
DANN Dangsing 54.33 316 *e*P **P** **21 40 33.0 -1.6**
comp=Z,195nm,0.6s
SNZO South Karori 54.45 134 P **P** **21 40 34.0 -0.9**
USA0B Ussuriysk Arra 54.51 7 IAmb IAmb 21 40 35.2
comp=Z,47nm,0.8s
USRK Ussuriysk Ar. 54.51 7 P **P** **21 40 33.9 -1.2**
comp=Z,27nm,0.4s,baz=191,slow=6.6,SNR=106
USRK ScP **ScP** **21 45 33.9 -0.3**
comp=Z,4.7nm,0.8s,baz=217,slow=3.6,SNR=8.2
USRK LR LR 22 02 27.0
comp=Z,63nm,21.9s,baz=177,slow=35
USRK Ussuriysk Ar. 54.51 7 P **P** **21 40 33.6 -1.5**
USRK PcP **PcP** **21 41 36.2 -2.0**
USRK **ScP** **21 45 34.0 -0.3**
MDJ Mudanjiang 54.66 5 P **P** **21 40 35.9 -0.4**
MDJ pmax pmax
comp=Z,580nm,5.0s
MDJ Mudanjiang 54.66 5 P **P** **21 40 35.2 -1.1**
PLWZ Palliser 54.93 134 P **P** **21 40 37.0 -1.4**
PLWZ PcP **PcP** **21 41 40.1 -0.1**
BFZ Birch Farm 55.35 133 IAMs_20 IAMs_20 22 04 05.9
comp=Z,931nm,19.0s
TEY Ternei 56.04 11 ⇑*i*P **P** **21 40 47.4 +1.2**
TEY pmax pmax
comp=E,30nm,0.8s
TEY pmax pmax
comp=N,80nm,0.7s
TEY pmax pmax
comp=Z,150nm,0.7s
HIA Hailar 59.16 357 IAmb IAmb 21 41 10.4
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 59.23 15 *e*P **P** **21 41 10.3 +1.7**
KLR Kul'dur 59.44 6 *i*P **P** **21 41 09.1 -0.9**
KLR pmax pmax
comp=Z,19nm,0.8s
KLR Kul'dur 59.44 6 LR LR 22 08 05.0
comp=Z,44nm,20.6s,baz=181,slow=37
ULN Ulaanbaatar 59.53 347 P **P** **21 41 09.4 -1.5**
SNR=7.7
ULN Ulaanbaatar 59.53 347 *ce*P **P** **21 41 10.1 -0.8**
ULN pmax pmax
comp=Z,17nm,0.7s
ULN Ulaanbaatar 59.53 347 P **P** **21 41 09.9 -1.0**
ULN IAmb IAmb 21 41 13.9
comp=Z,18nm,0.9s
SONM Songino Array 59.65 347 P **P** **21 41 10.3 -1.4**
comp=Z,11nm,0.7s,baz=163,slow=7.8,SNR=69
SONM ScP **ScP** **21 45 56.9 -0.2**
comp=Z,2.4nm,1.0s,baz=162,slow=5.0,SNR=4.0
SONM Songino Array 59.65 347 P **P** **21 41 10.3 -1.4**
ZAK Zakamensk 62.77 345 *e*P **P** **21 41 30.8 -2.0**
ZAK pmax pmax
comp=Z,9.0nm,0.9s
WMQ Urumqi 62.83 331 P **P** **21 41 33.3 +0.1**
WMQ pP pP 21 41 40.5 -3.1
WMQ sP sP 21 41 47.6 0.0
WMQ S **S** **21 49 58.3 -2.1**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.3s
WMQ LR LR
comp=Z,200nm,21.3s
WMQ LR LR
comp=Z,400nm,25.1s
WMQ LR LR
comp=Z,260nm,25.1s
WMQ Urumqi 62.83 331 IAMs_20 IAMs_20 22 11 12.2
comp=Z,319nm,21.0s
ZEA Zeya 63.61 2 *e*P **P** **21 41 37.0 -1.1**
ZEA pmax pmax
comp=N,65nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,76nm,0.9s
TLY Talaya 63.89 346 *e*P P 21 41 48.9 +8.9
TLY pmax pmax
comp=Z,68nm,1.2s
MOY Mondy 64.53 345 *e*P **P** **21 41 43.5 -0.9**
MOY pmax pmax
comp=Z,25nm,1.9s
NIL Nilore 64.73 315 P **P** **21 41 44.7 -1.2**
NIL pmax pmax
comp=Z,39nm,0.7s
NIL Nilore 64.73 315 P **P** **21 41 44.7 -1.2**
KSH Kashi 66.29 321 P **P** **21 41 55.5 -0.5**
KSH pP pP 21 42 03.5 -3.0
KSH PP **PP** **21 44 23.8 +1.4**
KSH S **S** **21 50 39.1 -4.4**
KSH SS **SS** **21 54 57.8 -2.6**
KSH pmax pmax
comp=Z,39nm,0.9s
KSH pmax pmax
comp=Z,220nm,4.6s
KSH LR LR
comp=Z,160nm,8.2s
KSH LR LR
comp=Z,140nm,9.3s
KSH LR LR
comp=Z,410nm,17.2s
TARG Taragay, Kyrgy 66.57 324 IAmb IAmb 21 42 22.7
comp=Z,24nm,0.8s
TARG IAMs_20 IAMs_20 22 13 52.7
comp=Z,398nm,22.0s
KDJ Kajisay 67.19 324 IAmb IAmb 21 42 30.4
comp=Z,24nm,0.9s
DGZ Jazzator, Alta 67.46 335 *d*P **P** **21 42 02.2 -1.1**
MK31 Makanchi Array 67.60 331 *i*P **P** **21 42 03.2 -0.9**
MK31 Makanchi Array 67.60 331 IAmb IAmb 21 42 24.1
comp=Z,32nm,0.9s
MKAR Makanchi Array 67.60 331 P **P** **21 42 03.1 -0.9**
comp=Z,24nm,0.5s,baz=137,slow=6.8,SNR=278
MKAR LR LR 22 15 12.1
comp=Z,115nm,20.9s,baz=140,slow=39
MAKZ Makanchi 67.76 330 P **P** **21 42 04.1 -1.0**
MAKZ MLR MLR
comp=Z,200nm,22.0s
MAKZ Makanchi 67.76 330 P **P** **21 42 04.1 -1.0**
BOD Bodaibo 68.10 354 *e*P **P** **21 42 05.1 -1.8**
BOD pmax pmax
comp=Z,24nm,1.0s
KBL Kabul 68.17 313 P **P** **21 42 07.2 -0.9**
KBL pmax pmax
comp=Z,37nm,0.9s
KBL MLR MLR
comp=Z,200nm,21.0s
KBL Kabul 68.17 313 P **P** **21 42 07.2 -0.9**
KBL IAmb IAmb 21 42 24.0
comp=Z,36nm,0.8s
TKM2 Tokmak 2 68.59 324 P **P** **21 42 09.9 -0.8**
SNR=10
UCH Uchtor 68.81 323 P **P** **21 42 11.9 -0.4**
SNR=8.0
KBK Karagaybulak 68.81 323 P **P** **21 42 11.6 -0.4**
SNR=6.7
AAK Ala-Archa 69.07 323 *i*P **P** **21 42 13.0 -0.6**
SNR=26
AAK Ala-Archa 69.07 323 P **P** **21 42 13.2 -0.3**
SNR=14
AAK Ala-Archa 69.07 323 *ce*P **P** **21 42 12.9 -0.6**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 69.07 323 P **P** **21 42 12.8 -0.7**
SNR=13
AAK Ala-Archa 69.07 323 P **P** **21 42 12.9 -0.6**
AAK IAmb IAmb 21 42 39.0
comp=Z,36nm,0.8s
AML Almayashu 69.24 322 P **P** **21 42 14.4 -0.5**
SNR=22
PETK Petropavlovsk- 69.25 21 P **P** **21 42 13.6 -0.6**
comp=Z,20nm,0.6s,baz=213,slow=1.9,SNR=62
PETK LR LR 22 14 30.8
comp=Z,21nm,19.2s,baz=238,slow=38
USP Ospenovka 69.44 324 P **P** **21 42 14.8 -0.9**
SNR=8.6
EKS2 Erkin-Say 69.50 323 P **P** **21 42 15.7 -0.4**
SNR=12
PET Petropavlovsk 69.53 22 ⇑*e*P **P** **21 42 13.7 -2.2**
PET pmax pmax
comp=Z,63nm,1.3s
GAR Garm 69.61 318 IAMs_20 IAMs_20 22 15 59.6
comp=Z,774nm,22.0s
BTK Batken 69.85 319 IAmb IAmb 21 42 45.8
comp=Z,22nm,0.9s
MAW Mawson 69.89 201 P **P** **21 42 19.1 +1.1**
baz=70,SNR=23
MAW Mawson 69.89 201 P **P** **21 42 19.1 +1.1**
comp=Z,5.4nm,0.6s,baz=78,slow=6.0,SNR=27
MAW LR LR 22 09 28.6
comp=Z,262nm,21.0s,baz=56,slow=33
MAW Mawson 69.89 201 P **P** **21 42 18.9 +0.9**
MAW PP **PP** **21 44 46.5 -6.2**
SBA Scott Base 71.22 171 P **P** **21 42 27.7 +1.8**
SBA Scott Base 71.22 171 P **P** **21 42 27.7 +1.8**
TAS Tashkent 71.52 320 P **P** **21 42 27.8 -0.6**
ZAA0 Zalesovo Array 71.76 337 IAmb IAmb 21 42 45.7
comp=Z,35nm,0.9s
ZALV Zalesovo Beam 71.76 337 P **P** **21 42 27.8 -1.7**
comp=Z,17nm,0.5s,baz=139,slow=5.0,SNR=75
ZALV LR LR 22 15 32.8
comp=Z,83nm,18.8s,baz=140,slow=37
YAK Yakutsk 72.00 3 *e*P **P** **21 42 30.4 -0.4**
YAK *e**PP **pP** **21 42 39.5 -1.8**
YAK *e* 21 42 49.4
YAK *e* 21 45 09.9
YAK *e*PPP PPP 21 46 59.3
YAK *e*S **S** **21 51 51.2 +1.5**
YAK *e**SS **sS** **21 52 10.0 +3.0**
YAK *e* 21 52 34.7
YAK *e*SS **SS** **21 56 26.5 -0.8**
YAK pmax pmax
comp=Z,58nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,62nm,3.2s
YAK pmax pmax
comp=N,126nm,3.5s
YAK pmax pmax
comp=E,94nm,3.2s
YAK smax smax
comp=N,64nm,1.5s
YAK smax smax
comp=E,32nm,1.9s
YAK Yakutsk 72.00 3 P **P** **21 42 29.4 -1.4**
KURK Kurchatov 72.07 332 P **P** **21 42 30.5 -0.9**
SNR=15
KURK Kurchatov 72.07 332 *de*P **P** **21 42 30.1 -1.3**
KURK pmax pmax
comp=Z,37nm,0.9s
KURK Kurchatov 72.07 332 P **P** **21 42 30.4 -1.0**
KURK IAmb IAmb 21 42 51.3
comp=Z,50nm,1.1s
MA2 Magadan 72.70 14 *ce*P **P** **21 42 34.6 -0.4**
MA2 pmax pmax
comp=Z,53nm,1.0s
MA2 Magadan 72.70 14 P **P** **21 42 33.7 -1.4**
SHAO Shalim 72.80 292 P **P** **21 42 37.0 +0.5**
UOSS Minazif 74.41 299 P **P** **21 42 45.8 -0.1**
UOSS Minazif 74.41 299 P **P** **21 42 44.8 -1.1**
UOSS IAmb IAmb 21 43 00.7
comp=Z,20nm,0.8s
HATD Hatta, Dubai 74.44 299 *i*P **P** **21 42 45.8 -0.2**
SNR=6.1
ASHO Ashiyiah 74.45 299 *i*P **P** **21 42 46.2 +0.1**
SNR=12
WHFO Wadi Hawf 74.46 292 P **P** **21 42 45.7 -0.6**
SNR=48
MSFE Esma-Masafi 74.59 300 P **P** **21 42 47.3 +0.4**
BANOM Banah 74.65 300 P **P** **21 42 48.0 +0.7**
ABTO Aybut 74.74 291 P **P** **21 42 48.0 +0.1**
SNR=11
SHME Shamm 74.83 300 P **P** **21 42 48.4 +0.1**
ASUD Al Ashush, Dub 75.06 299 *i*P **P** **21 42 49.8 +0.2**
SNR=9.1
SEY Seymchan 76.04 13 *i*P **P** **21 42 54.3 0.0**
BRVK Borovoye 77.55 330 P **P** **21 43 02.7 -0.4**
SNR=5.8
BRVK Borovoye 77.55 330 *ce*P **P** **21 43 02.2 -0.9**
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 77.55 330 P **P** **21 43 02.3 -0.8**
GEYT Alibeck 77.58 312 P **P** **21 43 03.5 -0.2**
comp=Z,5.6nm,0.8s,baz=151,slow=3.4,SNR=10
GEYT LR LR 22 23 01.7
comp=Z,125nm,19.9s,baz=175,slow=40
SYO Syowa Base 78.59 201 ⇑*e*P **P** **21 43 07.9 -0.7**
SYO Syowa Base 78.59 201 ⇑*e*PcP **PcP** **21 43 15.4 -2.2**
QSPA South Pole Qui 79.95 180 P **P** **21 43 15.7 -0.6**
TIXI Tiksi 81.59 2 *ce*P **P** **21 43 22.9 -1.7**
TIXI pmax pmax
comp=Z,12nm,0.5s
NRIK Noril'sk 83.11 348 P **P** **21 43 32.2 -0.4**
comp=Z,5.6nm,0.4s,baz=152,slow=5.3,SNR=14
TBI Tubuai 83.16 112 *e*LR LR 22 09 40.0
comp=Z,283nm,25.0s
RAYN Ar Rayn 83.38 295 *i*P **P** **21 43 35.7 +0.5**
SNR=11
RAYN Ar Rayn 83.38 295 P **P** **21 43 35.7 +0.5**
RAYN pmax pmax
comp=Z,25nm,0.9s
RAYN MLR MLR
comp=Z,400nm,21.0s
RAYN Ar Rayn 83.38 295 P **P** **21 43 35.7 +0.5**
RAYN IAmb IAmb 21 43 45.6
comp=Z,25nm,0.9s
RAYN IAMs_20 IAMs_20 22 21 40.6
comp=Z,376nm,21.0s
BILL Bilibino 83.55 15 *c i*P **P** **21 43 34.2 -0.7**
BILL *e* 21 46 47.8
BILL pmax pmax
comp=Z,19nm,1.7s
PPT2 Papeete2 83.88 107 *e*LR LR 22 10 13.4
comp=Z,484nm,26.8s
SVE Sverdlovsk 84.26 330 *ce*P **P** **21 43 37.8 -1.0**
SVE *e*S **S** **21 53 54.1 -7.7**
SVE pmax pmax
comp=Z,61nm,1.0s
ARU Arti 85.10 330 *c i*P **P** **21 43 42.2 -0.9**
ARU 21 46 57.3
ARU S **S** **21 54 03.3 -6.8**
ARU SS **SS** **21 59 34.4 -10**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU Arti 85.10 330 P **P** **21 43 41.9 -1.2**
ARU IAmb IAmb 21 44 05.1
comp=Z,26nm,0.8s
AKT Akhty 86.31 313 *e*P **P** **21 43 49.7 +0.1**
AKT pmax pmax
comp=Z,27nm,0.7s
KMBO Kilima Mbogo 86.36 270 P **P** **21 43 52.3 +1.7**
KMBO Kilima Mbogo 86.36 270 P **P** **21 43 51.6 +1.0**
comp=Z,3.0nm,0.6s,baz=73,slow=8.6,SNR=12
KMBO LR LR 22 18 50.0
comp=Z,215nm,21.3s,baz=96,slow=33
KMBO Kilima Mbogo 86.36 270 IAMs_20 IAMs_20 22 20 05.1
comp=Z,271nm,19.0s
FURI Furi 86.74 280 IAMs_20 IAMs_20 22 19 27.0
comp=Z,348nm,22.0s
GNI Garni 88.14 311 P **P** **21 43 59.9 +1.3**
GROC Groznyy 88.17 314 *e*P **P** **21 43 57.4 -1.0**
GROC *e**PP **pP** **21 44 10.7 +1.5**
GROC *e*S **SKSac** **21 54 21.1 -3.5**
GROC *e* 21 54 39.5
GROC pmax pmax
comp=Z,50nm,1.3s
ZEI Tsey 89.40 314 *e*P **P** **21 44 04.2 -0.3**
ZEI pmax pmax
comp=Z,27nm,1.5s
KBZ Khabaz 90.34 314 P **P** **21 44 08.4 -0.1**
comp=Z,3.8nm,0.8s,baz=139,slow=4.3,SNR=7.3
KBZ LR LR 22 32 08.4
comp=Z,42nm,19.5s,baz=92,slow=41
KIV Kislovodsk 90.54 314 P **P** **21 44 08.5 -1.2**
KIV Kislovodsk 90.54 314 *e*P **P** **21 44 08.6 -1.0**
KIV pmax pmax
comp=Z,13nm,1.0s
GOF Gofitskoye 90.55 316 ⇑*e*P **P** **21 44 09.3 -0.2**
GOF pmax pmax
comp=Z,20nm,0.8s
SNAA Sanae 91.22 195 Pdiff **P** **21 44 13.6 +1.3**
SNAA Sanae 91.22 195 P **P** **21 44 13.4 +1.1**
SNAA pmax pmax
comp=Z,14nm,0.9s
SNAA Sanae 91.22 195 P **P** **21 44 13.4 +1.1**
SNAA IAmb IAmb 21 44 30.6
comp=Z,14nm,0.9s
BOSA Boshof 92.60 241 P **P** **21 44 20.1 +0.4**
comp=Z,3.0nm,0.8s,baz=48,slow=7.2,SNR=3.2
BOSA Boshof 92.60 241 P **P** **21 44 19.5 -0.2**
BOSA IAmb IAmb 21 44 33.0
comp=Z,8.0nm,0.8s
VRH Novokhopyorsk 92.80 321 *e*P **P** **21 44 18.0 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.5s
VNA2 Neumayer--Watz 92.83 194 Pdiff **P** **21 44 21.0 +1.4**
baz=144,slow=5.2
VNA3 Neumayer Olymp 93.15 194 Pdiff **P** **21 44 22.2 +1.1**
PRGR Permogore 93.18 332 *e*P P 21 44 15.9 -5.4
PRGR pmax pmax
comp=Z,15nm,0.8s
VNA1 Neumayer--Stat 93.23 194 Pdiff **P** **21 44 22.9 +1.5**
VSR Storozhevoye 94.38 321 *e*P **P** **21 44 24.8 -2.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 94.77 322 *e*P **P** **21 44 26.4 -2.4**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 95.90 331 *e*P **P** **21 44 30.7 -3.0**
KLMR pmax pmax
comp=Z,23nm,1.6s
KLMR Klimovskoe 95.90 331 *e*P **P** **21 44 30.7 -3.0**
KLMR AMP 21 44 34.0
comp=Z,23nm,1.6s
CSS Mathiatis 96.02 304 IAMs_20 IAMs_20 22 28 55.0
comp=Z,373nm,22.0s
BRTR Keskin Array B 96.42 309 P **P** **21 44 35.7 -1.2**
comp=Z,1.7nm,0.9s,baz=102,slow=5.2,SNR=7.3
BRTR LR LR 22 31 37.7
comp=Z,81nm,21.7s,baz=96,slow=38
OBN Obninsk 96.55 325 ⇑*e*P **P** **21 44 36.0 -0.8**
OBN *e* 21 48 25.1
OBN pmax pmax
comp=Z,12nm,0.6s
RC01 Rabbit Creek A 97.03 29 IAmb IAmb 21 44 42.5
comp=Z,14nm,0.8s
TRF Thorofare Moun 97.10 27 IAMs_20 IAMs_20 22 16 49.3
comp=Z,192nm,22.0s
MLY Manley 97.14 25 IAmb IAmb 21 44 39.5
comp=Z,7.2nm,0.9s
COLD Coldfoot 97.66 23 IAmb IAmb 21 46 07.7
comp=Z,14nm,1.6s
RND Reindeer 97.74 27 IAmb IAmb 21 44 40.8
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 98.07 22 P **P** **21 44 42.6 -0.9**
baz=263
TOLK Toolik Lake Re 98.07 22 IAmb IAmb 21 44 43.8
comp=Z,6.8nm,0.9s
WRH Wood River Hil 98.19 26 IAmb IAmb 21 45 12.0
comp=Z,14nm,1.4s
CCB Clear Creek Bu 98.33 26 IAmb IAmb 21 44 43.8
comp=Z,22nm,1.4s
HDA Harding Lake 98.68 26 P **P** **21 44 44.6 -1.7**
baz=265
ILAR Eielson Array 98.74 26 P **P** **21 44 43.5 -3.0**
comp=Z,1.2nm,0.6s,baz=238,slow=5.0,SNR=18
ILAR PP **PP** **21 48 45.0 -3.0**
comp=Z,3.5nm,1.1s,baz=257,slow=6.5,SNR=11
ILAR LR LR 22 26 57.8
comp=Z,33nm,19.2s,baz=290,slow=34
ELL Elmali 98.99 306 IAMs_20 IAMs_20 22 31 03.6
comp=Z,423nm,20.0s
WAX Waxell Ridge 100.34 30 IAMs_20 IAMs_20 22 33 54.2
comp=Z,347nm,19.0s
AKASG Malin Array Be 100.56 320 P **Pdif** **21 44 53.4 -1.5**

comp=Z,2.2nm,0.7s,baz=79,slow=4.4,SNR=8.5
ARCES ARCESS Array B 102.24 339 P **Pdif** **21 45 00.4 -1.7**
comp=Z,3.4nm,0.8s,baz=77,slow=5.5,SNR=9.1
ARCES PKiKP **PKiKP** **21 49 24.2 +0.4**
comp=Z,3.8nm,0.9s,baz=90,slow=1.8,SNR=5.6
ARCES ARCESS Array B 102.24 339 **Pdif** **21 44 59.6 -2.4**
FINES FINESS Array B 102.43 331 P **Pdif** **21 45 01.5 -1.5**
comp=Z,1.7nm,0.8s,baz=106,slow=4.8,SNR=4.5
FINES PKiKP **PKiKP** **21 49 24.8 +0.5**
comp=Z,3.2nm,0.7s,baz=116,slow=3.2,SNR=6.4
SANT Santorini 102.53 305 IAMs_20 IAMs_20 22 28 43.9
comp=Z,195nm,20.0s
EPYK Eagle Plains 102.97 24 P **Pdif** **21 45 04.6 -0.8**
baz=275
LIT Litokhoron 105.00 309 IAMs_20 IAMs_20 22 33 57.4
comp=Z,140nm,22.0s
KOLS Kolonicke sedl 105.05 318 *e*P **Pdif** **21 45 16.2 +1.2**
KOLS Kolonicke sedl 105.05 318 *e*PDIFF **Pdif** **21 45 16.2 +1.2**
NB2 NORSAR Subarra109.58 332 PKPdf **PKiKP** **21 49 38.1 +0.4**
comp=Z,5.7nm,1.1s,baz=68,slow=1.9
NB2 NORSAR Subarra109.58 332 PKPdf **PKiKP** **21 49 38.1 +0.4**
baz=68,slow=1.9
NOA NORSAR Array B 109.58 332 PKiKP **PKiKP** **21 49 37.4 -0.3**
comp=Z,1.9nm,0.8s,baz=105,slow=3.2,SNR=5.2
DAG Danmarks Havn 110.39 351 *i* PKIKP **PKiKP** **21 49 37.7 -1.1**
DAG pmax pmax
comp=Z,2.0nm,0.5s
DAG Danmarks Havn 110.39 351 *i* P **PKiKP** **21 49 37.7 -1.1**
comp=Z,2.1nm,0.5s
GERES GERESS Array B 110.69 318 PKiKP **PKiKP** **21 49 40.5 +0.3**
comp=Z,1.5nm,0.7s,baz=90,slow=1.3,SNR=13
CLL Collm 110.73 321 *i* PKIKP **PKiKP** **21 49 40.6 +0.5**
CLL *e* 21 49 53.0
CLL Collm 110.73 321 *i* PKiKP **PKiKP** **21 49 40.6 +0.5**
CLL *es*PKiKP **sPKiKP** **21 49 53.0 -1.9**
ABTA Abfaltersbach 111.79 316 *e*PKiKP **PKiKP** **21 49 43.4 +1.1**
comp=Z,3.2nm,0.7s
WTTA Wattenberg 112.30 317 *e*PKiKP **PKiKP** **21 49 44.4 +0.9**
comp=Z,12nm,0.5s,SNR=14
WATA Walderalm 112.33 317 *e*PKiKP **PKiKP** **21 49 44.2 +0.7**
comp=Z,3.9nm,0.5s,SNR=4.8
CTI Castel Tesino 112.49 316 IAMs_20 IAMs_20 22 40 16.4
comp=Z,249nm,21.0s
MOTA Moosalm 112.64 317 *e*PKiKP **PKiKP** **21 49 44.7 +0.6**
comp=Z,3.7nm,0.6s,SNR=5.0
RETA Reutte 112.85 317 *i* PKiKP **PKiKP** **21 49 45.0 +0.6**
comp=Z,3.7nm,0.6s
FETA Feichten 112.95 317 *e*PKiKP **PKiKP** **21 49 46.2 +1.5**
comp=Z,8.3nm,1.5s
YKA Yellowknife Ar 113.17 25 PKiKP **PKiKP** **21 49 44.4 +0.1**
comp=Z,1.9nm,0.5s,baz=307,slow=1.9,SNR=13
YKA SKP **SKPdf** **21 53 18.4 +0.9**
comp=Z,1.2nm,0.8s,baz=300,slow=1.6,SNR=4.2
K02D Willamette Mer 113.32 48 P **PKiKP** **21 49 44.8 -0.6**
baz=278
B05A Bryant 113.47 42 P **PKiKP** **21 49 46.1 +0.7**
baz=282
DAVA Damuels 113.47 317 *i* PKiKP **PKiKP** **21 49 46.2 +0.5**
comp=Z,11nm,0.7s
E04D Cinebar 113.48 44 P **PKiKP** **21 49 46.4 +0.9**
baz=280
H04D Lebanon 113.71 46 P **PKiKP** **21 49 47.3 +1.3**
baz=280
M02C Callahan 114.10 49 P **PKiKP** **21 49 47.9 +1.0**
baz=278
N02D Trinity Center 114.27 50 P **PKiKP** **21 49 47.7 +0.4**
baz=278
BFO Black Forest 114.28 319*c* *i*PKIKP **PKiKP** **21 49 47.7 +0.7**
O02D Mt. Diablo Mer 114.32 50 P **PKiKP** **21 49 48.1 +0.7**
baz=278
L04D Klamath Falls 114.39 48 P **PKiKP** **21 49 48.0 +0.5**
baz=279
J05D Fort Rock, OR 114.99 47 P PKPdf 21 49 49.6 +0.9
baz=280
O03E Paynes Creek 115.05 50 P **PKPdf** **21 49 49.0 +0.3**
baz=278
MEM Membach 115.20 321 PKiKP **PKiKP** **21 49 47.4 -1.2**
BCLA Clavier 115.68 321 PKPdf **PKiKP** **21 49 48.8 -0.8**
BCLA x x 21 49 50.6
SCO Scoresbysund 115.89 348 *i* PKIKP **PKPdf** **21 49 50.3 +0.9**
SCO pmax pmax
comp=Z,8.0nm,1.0s
SCO Scoresbysund 115.89 348 *i* P **PKPdf** **21 49 50.3 +0.9**
comp=Z,7.8nm,1.0s
SCO Scoresbysund 115.89 348 **PKPdf** **21 49 50.7 +1.3**
BMRD Maredsous 116.05 321 x **PKPdf** **21 49 51.4 +1.1**
DOU Dourbes 116.21 321 PKPdf **PKiKP** **21 49 50.6 +0.1**
SUMG Summit 116.60 354 *i* PKIKP **PKiKP** **21 49 52.0 +0.7**
SUMG pmax pmax
comp=Z,18nm,0.8s
SUMG Summit 116.60 354 *i* P **PKiKP** **21 49 52.0 +0.7**
comp=Z,18nm,0.8s
PAHR Pah Rah Range 116.97 51 **PKPdf** **21 49 52.1 -0.5**
NVAR Mina Array Bea 118.02 52 PKP **PKiKP** **21 49 55.6 +0.8**
comp=Z,1.2nm,0.5s,baz=240,slow=2.3,SNR=12
NVAR PP **PP** **21 51 10.2 +0.7**
comp=Z,1.6nm,0.9s,baz=264,slow=8.1,SNR=1.7
NVAR Mina Array Bea 118.02 52 **PKiKP** **21 49 56.2 +1.4**
ISA Isabella, Lake 118.31 55 P **PKPdf** **21 49 55.2 0.0**
baz=278
CWC Cottonwood Cre 118.52 54 P **PKiKP** **21 49 56.5 +0.7**
baz=279
CIS Catalina Islan 118.66 57 P **PKiKP** **21 49 56.1 +0.1**
baz=277
EDW2 Edwards Air Fo 118.81 56 P **PKiKP** **21 49 57.7 +1.5**
baz=278,SNR=9.3
DAC Darwin (Calif) 118.93 54 IAMs_20 IAMs_20 22 41 42.1
comp=Z,248nm,18.0s
LRMC Laurel Mtn Rad 118.98 55 P **PKiKP** **21 49 57.7 +1.1**
baz=279
GRAC Grapevine Rang 118.99 53 P **PKiKP** **21 49 57.7 +1.2**
baz=280
MPMC Manual Prospec 119.05 54 P **PKiKP** **21 49 57.7 +0.9**
baz=279
MSO Missoula 119.17 42 P **PKiKP** **21 49 56.9 +0.3**
baz=288
BFSC Mount Baldy Ra 119.18 56 P **PKPdf** **21 49 57.1 +0.1**
baz=278
FURC Furnace Creek, 119.48 54 P **PKiKP** **21 49 58.9 +1.5**
baz=280
GSC Goldstone, Bar 119.72 55 P **PKiKP** **21 49 59.4 +1.4**
baz=279
TPNV Topopah Spring 119.88 53 P **PKiKP** **21 49 59.2 +0.8**
baz=280
SHOC Shoshone, Teco 120.04 54 P **PKiKP** **21 49 59.5 +1.0**
baz=280
R11A Troy Canyon, C 120.13 51 P **PKiKP** **21 49 59.9 +1.0**
baz=282
HEC Hector,Ludlow 120.17 56 P **PKiKP** **21 49 60.0 +1.1**
baz=279
PFO Pinyon Flats O 120.25 57 P **PKiKP** **21 50 00.2 +1.1**
baz=278
PFO Pinyon Flats O 120.25 57 PKIKP **PKiKP** **21 50 00.6 +1.4**
PFO Pinyon Flats O 120.25 57 **PKiKP** **21 50 00.6 +1.4**
MONP2 Monument Peak 120.39 58 P **PKiKP** **21 50 00.9 +1.4**
baz=278
TUQ Turquoise Moun 120.40 55 P **PKiKP** **21 50 00.5 +1.1**
baz=280
DLMT Dillon 120.51 43 IAMs_20 IAMs_20 22 52 51.5
comp=Z,257nm,21.0s
BELC Belle Mtn. Jos 120.57 56 P **PKiKP** **21 50 00.8 +1.0**
baz=279,SNR=9.2
IKP In-Ko-Pah, Jac 120.68 58 P **PKiKP** **21 50 01.0 +1.1**
baz=278
GMRC Granite Mounta 120.73 56 P **PKiKP** **21 50 01.7 +1.6**
baz=280,SNR=12
SWSC Sam W. Stewart 120.89 58 P **PKiKP** **21 50 01.5 +1.2**
baz=278
BC3 Big Chuckawall 121.08 57 P **PKiKP** **21 50 01.9 +1.1**
baz=279
BOZ Bozeman (W) 121.08 42 P **PKiKP** **21 50 01.4 +0.9**
baz=289
IRM Iron Mountain 121.25 56 P **PKiKP** **21 50 02.2 +1.2**
baz=280,SNR=6.5
EGMT Eagleton 121.44 39 P **PKiKP** **21 50 01.6 +0.6**
baz=292
DUG Dugway, Tooele 121.81 49 P **PKiKP** **21 50 02.8 +0.8**
baz=285
Y12C Blythe 121.83 57 P **PKiKP** **21 50 03.2 +1.2**
baz=280
PDMCI Parker Dam,Lak 122.04 56 P **PKiKP** **21 50 03.1 +0.6**
baz=280
FXWY Fox Creek 122.11 44 IAMs_20 IAMs_20 22 35 44.0
comp=Z,178nm,21.0s
H17A Grant Village 122.18 43 P **PKiKP** **21 50 03.4 +0.6**
baz=289
FFC Flin Flon 122.68 30*c* *i*PKIKP **PKiKP** **21 50 04.1 +1.0**
FFC Flin Flon 122.68 30 **PKiKP** **21 50 03.7 +0.6**
RLMT Red Lodge 122.81 42 P **PKiKP** **21 50 04.8 +0.8**
baz=291
SFJD Kangerlussuaq 123.00 357 *i* PKIKP **PKiKP** **21 50 03.6 +0.3**
SFJD Kangerlussuaq 123.00 357 *i* P **PKiKP** **21 50 03.6 +0.3**
TOB1 Torodi Ar. Sit 123.26 279 IAMs_20 IAMs_20 22 32 19.5
comp=Z,116nm,22.0s
TOA1 Torodi Ar. Sit 123.26 279 IAMs_20 IAMs_20 22 37 51.6
comp=Z,148nm,18.0s
BW06 Boulder Array 123.41 45 P **PKiKP** **21 50 05.7 +0.4**
baz=289
PDAR Pinedale Array 123.41 45 PKP **PKiKP** **21 50 05.7 +0.4**
comp=Z,4.2nm,0.8s,baz=208,slow=1.2,SNR=20
214A Organ Pipe Nat 123.55 58 P **PKiKP** **21 50 06.6 +1.1**
baz=280
WUAZ Wupatki 124.03 54 P **PKiKP** **21 50 07.7 +1.1**
baz=283
LAO LASA Array 124.18 40 P **PKiKP** **21 50 07.5 +1.1**
baz=294
DGMT Dagmar 124.64 37 P **PKiKP** **21 50 08.3 +1.1**
baz=297
ESDC Sonseca Array 125.12 312 PKP **PKiKP** **21 50 09.0 +0.5**
comp=Z,2.5nm,0.7s,baz=15,slow=2.9,SNR=18
TUC Tucson 125.17 58 P **PKiKP** **21 50 09.7 +0.8**
baz=281
TUC Tucson 125.17 58 PKIKP **PKiKP** **21 50 09.6 +0.8**
TUC Tucson 125.17 58 **PKiKP** **21 50 09.6 +0.8**
O20A White River Ci 125.19 48 P **PKiKP** **21 50 09.8 +1.0**
baz=288
PV18 Skein Mesa, Pa 125.25 50 IAMs_20 IAMs_20 22 27 31.6
comp=Z,179nm,18.0s
PV11 David Mesa, Pa 125.27 50 IAMs_20 IAMs_20 22 40 35.9
comp=Z,246nm,19.0s
PV07 Paradox Valley 125.40 50 IAMs_20 IAMs_20 22 52 02.3
comp=Z,220nm,22.0s
W18A Petrified Fore 125.42 54 P **PKiKP** **21 50 10.2 +0.8**
baz=284
K22A Casper 125.55 44 P **PKiKP** **21 50 10.2 +0.8**
baz=292
MVCO Mesa Verde 125.86 51 P **PKiKP** **21 50 11.2 +0.9**
baz=286
PBRG Braganca 126.39 315 *e*PKPdf **PKiKP** **21 50 12.1 +1.2**
SMCO Snowmass 126.42 48 IAMs_20 IAMs_20 22 56 46.2
comp=Z,247nm,19.0s
N23A Red Feather La 126.58 46 P **PKiKP** **21 50 12.4 +0.7**
baz=291
RSSD Black Hills 126.64 42 P **PKiKP** **21 50 12.3 +0.7**
baz=295
RSSD Black Hills 126.64 42 PKIKP **PKPdf** **21 50 11.0 -0.2**
RSSD Black Hills 126.64 42 **PKPdf** **21 50 11.0 -0.2**
MVO Moncorvo 126.83 314 *e*PKPdf **PKiKP** **21 50 12.0 +0.1**
ISCO Idaho Springs 127.20 47 P **PKiKP** **21 50 13.5 +0.6**
baz=290
POLO Lamas de Olo 127.28 315 *e*PKPdf **PKiKP** **21 50 14.4 +1.6**
MTE Manteigas 127.47 314 *e*PKPdf **PKiKP** **21 50 14.7 +1.5**
PVIS Viseu 127.60 314 *e*PKPdf **PKiKP** **21 50 14.7 +1.3**
121A Cookes Peak, D 127.61 57 P **PKiKP** **21 50 14.9 +1.1**
baz=283
PCBR Castelo Branco 127.62 313 *e*PKPdf **PKiKP** **21 50 15.2 +1.8**
MDND Maddock 127.62 36 P **PKiKP** **21 50 14.3 +1.1**
baz=302
PMRV Marv??o 127.70 313 *e*PKPdf **PKiKP** **21 50 15.0 +1.4**
PLCA Paso Flores 127.77 166 PKIKP **PKiKP** **21 50 13.7 -0.2**
PLCA Paso Flores 127.77 166 PKP **PKiKP** **21 50 14.1 +0.2**
comp=Z,3.1nm,0.8s,baz=184,slow=4.9,SNR=4.3
PLCA Paso Flores 127.77 166 **PKiKP** **21 50 13.7 -0.2**
SDCO Great Sand Dun 127.97 50 P **PKiKP** **21 50 15.4 +0.9**
baz=289
ANMO Albuquerque 128.07 53 P **PKiKP** **21 50 15.9 +1.2**
baz=286
ANMO Albuquerque 128.07 53 PKIKP **PKiKP** **21 50 15.6 +0.9**
ANMO 21 52 13.6
ANMO Albuquerque 128.07 53 **PKiKP** **21 50 15.6 +0.9**
ANMO PP **PP** **21 52 13.6 -3.8**
ULM Lac du Bonnet 128.31 31 PKIKP **PKPdf** **21 50 13.9 +0.1**
ULM Lac du Bonnet 128.31 31 PKP **PKiKP** **21 50 14.4 0.0**
comp=Z,13nm,0.7s,baz=282,slow=2.9,SNR=16
ULM Lac du Bonnet 128.31 31 **PKPdf** **21 50 13.9 +0.1**
ALMR Almeirim 128.66 313 *e*PKPdf **PKiKP** **21 50 16.3 +0.8**
KIC Kosan Boka 128.93 270 *e*PKIKP **PKiKP** **21 50 17.2 +0.4**
comp=Z,32nm,1.3s
KIC Kosan Boka 128.93 270 **PKiKP** **21 50 17.2 +0.4**
T25A Trinidad 128.99 50 P **PKiKP** **21 50 17.9 +1.4**
baz=289
DBIC Dimbokro 129.08 270 PKP **PKiKP** **21 50 17.1 +0.1**
comp=Z,6.1nm,0.8s,baz=79,slow=3.1,SNR=6.9
LIC Lamto 129.19 270 *e*PKIKP **PKiKP** **21 50 17.6 +0.3**
comp=Z,30nm,0.8s
TIC Toumodi 129.24 270 *e*PKIKP **PKiKP** **21 50 17.6 +0.2**
TIC Toumodi 129.24 270 PKIKP **PKiKP** **21 50 17.6 +0.2**
TIC Toumodi 129.24 270 **PKiKP** **21 50 17.6 +0.2**
AGMN Agassiz Nation 129.47 33 P **PKiKP** **21 50 16.8 0.0**
baz=306
MNTX Cornudas Mount 129.78 57 P **PKiKP** **21 50 19.1 +1.1**
baz=284
MSTX Muleshoe 131.27 53 P **PKiKP** **21 50 21.4 +0.4**
baz=288
ECSD EROS Data Cent 131.56 39 P **PKiKP** **21 50 21.7 +0.5**
baz=302
ECSD EROS Data Cent 131.56 39 **PKPdf** **21 50 20.6 +0.4**
TXAR Lajitas Array 131.79 60 PKIKP **PKPdf** **21 50 17.0 -4.2**
TXAR 21 52 39.4
TXAR Lajitas Array 131.79 60 PKhKP PKPpre 21 50 15.0
comp=Z,1.6nm,0.7s,baz=250,slow=2.5,SNR=4.2
TXAR PKP **PKPdf** **21 50 21.3 +0.1**
comp=Z,1.1nm,0.6s,baz=251,slow=1.6,SNR=8.7
TXAR SKPbc **SKPab** **21 53 45.5 +0.1**
comp=Z,3.8nm,0.7s,baz=267,slow=2.5,SNR=12
TXAR Lajitas Array 131.79 60 PKPdf **PKPdf** **21 50 17.0 -4.2**
TXAR PP **PP** **21 52 39.4 -2.3**
CBKS Cedar Bluff 131.79 46 IAMs_20 IAMs_20 22 45 07.4
comp=Z,223nm,18.0s
EYMN Ely 132.00 31 P **PKiKP** **21 50 21.9 -0.1**
baz=310
E38A The Farm, Brul 132.82 33 P **PKiKP** **21 50 23.4 -0.2**
baz=305
D41A Chassel 134.07 31 P **PKiKP** **21 50 26.8 +0.6**
baz=313
WMOK Wichita Mounta 134.11 51 P **PKiKP** **21 50 26.9 +0.3**
baz=292
G40A Rib Lake 134.40 34 P **PKiKP** **21 50 27.3 +0.4**
baz=310
SCHQ Schefferville 134.55 9 PKP **PKPdf** **21 50 25.7 +0.2**
comp=Z,11nm,0.6s,baz=25,slow=4.1,SNR=5.1
SCHQ SKPbc **SKPbc** **21 53 53.9 +0.8**
comp=Z,8.2nm,0.7s,baz=246,slow=2.9,SNR=3.9
JCT Junction City 134.72 57 P **PKiKP** **21 50 28.2 +0.2**
baz=287
L40A Anamosa 135.78 38 P **PKiKP** **21 50 29.2 -0.6**
baz=306
JFWS Jewell Farm 135.84 36 P **PKiKP** **21 50 29.3 -0.6**
baz=308
I42A Draeger Farm, 135.99 34 P **PKiKP** **21 50 29.6 -0.5**
baz=310
D46A Sault St. Mari 136.36 28 P **PKiKP** **21 50 30.2 -0.6**
baz=318
E46A Sault Ste Mari 136.63 28 P **PKiKP** **21 50 30.9 -0.5**
baz=318
E47A Iron Bridge 137.03 27 P **PKiKP** **21 50 32.0 -0.2**
baz=319
D48A Paudash Townsh 137.13 26 P **PKiKP** **21 50 32.3 -0.1**
baz=322
LSQQ Lebel-sur-Quev 137.43 20 P **PKiKP** **21 50 32.3 -0.6**
baz=329
CHGQ Chibougamau 137.51 17 P **PKiKP** **21 50 32.5 -0.6**
baz=333
E48A Lockeyer 137.51 27 P **PKiKP** **21 50 32.6 -0.6**
baz=321
W39A Magazine 137.65 48 P **PKiKP** **21 50 33.0 -0.8**
baz=297
U40A Yellville 137.78 46 P **PKPdf** **21 50 32.3 +0.2**
baz=299
HDIL Hopedale 137.84 38 P **PKPdf** **21 50 32.9 +0.9**
baz=307
D50A G1974 Best Tow 137.95 24 P **PKPdf** **21 50 32.7 +0.7**
baz=324
CCM Cathedral Cave 138.01 43 P **PKiKP** **21 50 33.5 -0.9**
baz=303
CCM Cathedral Cave 138.01 43 PKHKP PKPpre 21 50 20.7
CCM 21 50 29.6
CCM Cathedral Cave 138.01 43 PKPpre PKPpre 21 50 20.7
CCM PKPdf **PKPdf** **21 50 29.6 -2.8**
MIAR Mount Ida 138.10 49 P **PKiKP** **21 50 33.9 -0.8**
baz=297
F49A Sandfield 138.12 27 P **PKiKP** **21 50 33.6 -0.8**
baz=320
E50A Wahnapitae 138.17 25 P **PKiKP** **21 50 33.9 -0.6**
baz=322
K46A Dorr 138.50 33 P **PKiKP** **21 50 34.3 -1.0**
baz=313
I48A Sherman Twp 138.51 30 P **PKiKP** **21 50 34.5 -0.8**
baz=317
E51A G1948 Merrick 138.60 24 P **PKiKP** **21 50 34.7 -0.7**
baz=324
J47A Sunmer 138.62 32 P **PKiKP** **21 50 35.0 -0.5**
baz=315
K47A Vermontville 138.93 33 P **PKPdf** **21 50 34.9 +0.9**
baz=314
J48A Bridge Port 139.12 31 P **PKiKP** **21 50 35.8 -0.7**
baz=316
D54A Lac Fusel, La 139.17 21 P **PKiKP** **21 50 35.7 -0.8**
baz=328
L47A Sherwood 139.30 34 P **PKPdf** **21 50 35.8 +1.1**
baz=313
K48A Perry 139.30 32 P **PKiKP** **21 50 36.6 -0.4**
baz=315
J49A Marlette 139.40 30 P **PKiKP** **21 50 36.4 -0.7**
baz=317
E54A Lac Daplat, Po 139.59 22 P **PKiKP** **21 50 36.8 -0.6**
baz=327
ALGO Algonquin Park 139.65 24 P **PKiKP** **21 50 36.8 -0.8**
baz=326
OLIL Olney 139.67 40 IAMs_20 IAMs_20 22 33 31.2
comp=Z,309nm,21.0s
D55A Sainte-Anne-du 139.70 20 P **PKiKP** **21 50 37.4 -0.3**
baz=330
L48A N Adams 139.73 33 P **PKiKP** **21 50 37.1 -0.7**
baz=314
N47A Urbana 139.76 35 P **PKiKP** **21 50 37.3 -0.7**
baz=312
D56A ZEC Mazanza, M 139.92 20 P **PKiKP** **21 50 37.5 -0.6**
baz=331
L49A Milan 139.97 32 P **PKiKP** **21 50 37.4 -0.9**
baz=315
G54A Lake Saint Pet 140.09 24 P **PKiKP** **21 50 38.1 -0.4**
baz=325
G53A Haliburton 140.10 25 P **PKiKP** **21 50 37.6 -0.9**
baz=324
D57A Chemin Vers le 140.23 19 P **PKiKP** **21 50 38.5 -0.2**
baz=332
LATQ La Tuque 140.24 18 P **PKiKP** **21 50 38.5 -0.2**
baz=334
E56A St. Veronique 140.26 20 P **PKiKP** **21 50 38.4 -0.4**
baz=330
M49A Liberty Center 140.31 33 P **PKiKP** **21 50 38.8 -0.2**
baz=314
D58A Chemin du LacG 140.47 18 P **PKiKP** **21 50 38.3 -1.0**
baz=334
O48A Farmland 140.48 36 P **PKiKP** **21 50 38.4 -1.0**
baz=312
H53A Bobcaygeon 140.56 25 P **PKiKP** **21 50 39.3 -0.2**
baz=324
N49A Columbus Grove 140.57 34 P **PKiKP** **21 50 38.8 -0.8**
baz=314
E57A Chemin Saint G 140.68 20 P **PKiKP** **21 50 38.6 -1.1**
baz=332
G55A Calabogie 140.75 23 P **PKiKP** **21 50 39.2 -0.6**
baz=327
M50A Fremont 140.85 32 P **PKiKP** **21 50 39.1 -1.0**
baz=316
O49A Covington 140.99 35 P **PKiKP** **21 50 40.1 -0.4**
baz=313
Q48A North Vernon 141.00 38 P **PKiKP** **21 50 39.9 -0.7**
baz=310
WCI Wyandotte Cave 141.10 39 P **PKiKP** **21 50 40.3 -0.5**
baz=308
OXF Oxford 141.13 46 P **PKiKP** **21 50 40.7 -0.2**
baz=301
I55A Frankford 141.23 25 P **PKiKP** **21 50 40.7 -0.1**
baz=325
N50A Nevada 141.24 33 P **PKiKP** **21 50 40.3 -0.6**
baz=315
WVT Waverly 141.35 43 P **PKiKP** **21 50 40.8 -0.5**
baz=304
M51A Elyria 141.36 32 P **PKiKP** **21 50 40.8 -0.4**
baz=317
E61A Lac Etchemin 141.76 16 P **PKiKP** **21 50 41.1 -0.8**
baz=337
F60A Warwick 141.77 18 P **PKiKP** **21 50 41.1 -0.8**
baz=335
G58A Ormstown 141.82 20 P **PKiKP** **21 50 41.0 -0.9**
baz=331
E62A Clayton Lake 141.84 15 P **PKiKP** **21 50 41.7 -0.3**
baz=339
J55A Hilton 141.95 26 P **PKiKP** **21 50 41.6 -0.7**
baz=324
O51A Pataskala 141.98 34 P **PKiKP** **21 50 41.8 -0.7**
baz=315
N52A McGinn's Farm, 141.99 32 P **PKiKP** **21 50 41.9 -0.6**
baz=317
S49A Springfield 142.00 39 P **PKiKP** **21 50 42.2 -0.4**
baz=309
F61A St Evariste 142.04 17 P **PKiKP** **21 50 41.7 -0.7**
baz=336
CLTN Cedars of Leba 142.36 42 IAMs_20 IAMs_20 22 35 19.8
comp=Z,106nm,20.0s
N53A Lisbon 142.43 31 P **PKiKP** **21 50 42.4 -1.0**
baz=318
M54A Oil Creek Stat 142.49 29 P **PKiKP** **21 50 42.2 -1.3**
baz=320
G61A St-Isidore-de- 142.51 18 P **PKiKP** **21 50 42.6 -0.9**
baz=335
P52A Corning 142.60 34 P **PKiKP** **21 50 43.2 -0.6**
baz=315
S50A Richmond 142.61 38 P **PKiKP** **21 50 42.9 -0.9**
baz=310
O53A New Philadelph 142.65 32 P **PKiKP** **21 50 43.1 -0.8**
baz=317
F64A Sherman 142.84 14 P **PKiKP** **21 50 43.9 -0.2**
baz=340
M55A Ridgway 142.95 29 P **PKPdf** **21 50 38.4 -2.9**
baz=321
L56A Greenwood 142.97 27 P **PKPdf** **21 50 38.2 -3.1**
baz=324
W49A Belvidere 142.97 43 P **PKPdf** **21 50 37.7 -3.8**
baz=305
Q52A Bidwell 142.99 35 P **PKPdf** **21 50 37.8 -3.6**
baz=314
I59A Olmsteadville 143.06 21 P PKPbc 21 50 38.0 -0.2
baz=330
H61A Lyndonville 143.06 19 P PKPbc 21 50 38.3 +0.1
baz=334
P53A Whipple 143.10 33 P PKPbc 21 50 38.4 -0.1
baz=316
J59A Piesco 143.11 22 P PKPbc 21 50 38.7 +0.3
baz=329
S51A Beattyville 143.12 37 P PKPbc 21 50 38.1 -0.5
baz=311
U50A Jamestown 143.13 40 P PKPbc 21 50 38.6 -0.1
baz=308
O54A Avella 143.13 31 P PKPbc 21 50 38.4 -0.1
baz=318
PKME Peaks-Kenny Pk 143.16 15 P PKPbc 21 50 38.7 +0.3
baz=338
M56A Emporium 143.21 28 P PKPbc 21 50 39.0 +0.3
baz=322
G63A Kingsbury 143.21 16 P PKPbc 21 50 39.2 +0.6
baz=338
I60A Shoreham 143.22 21 P PKPbc 21 50 38.8 +0.2
baz=331
K58A Earlville 143.26 24 P PKPbc 21 50 39.2 +0.4
baz=327
H62A Milan 143.27 18 P PKPbc 21 50 39.4 +0.7
baz=335
T51A Gray 143.34 39 P PKPbc 21 50 39.2 0.0
baz=310
N55A Marion Center 143.37 29 P PKPbc 21 50 39.1 -0.1
baz=321
L57A Andrews Acres 143.39 26 P PKPbc 21 50 39.6 +0.4
baz=325
S52A Salyersville 143.40 37 P PKPbc 21 50 39.4 +0.1
baz=312
V50A Pikevile 143.42 41 P PKPbc 21 50 39.3 -0.2
baz=307
Q53A Leroy 143.48 34 P PKPbc 21 50 39.5 -0.1
baz=315
P54A Burton 143.50 32 P PKPbc 21 50 39.6 0.0
baz=317
I61A Oroboro, Fairl 143.51 20 P PKPbc 21 50 40.3 +0.9
baz=333
H63A New Sharon 143.51 17 P PKPbc 21 50 39.7 +0.3
baz=337
W50A Signal Mountai 143.56 42 P PKPbc 21 50 41.2 +1.3
baz=306

K59A	Cooperstown	143.57	23	P		PKPbc	21 50 40.0 +0.3
	baz=328						
Y49A	Blount Mountai	143.58	45	P		PKPbc	21 50 39.9 -0.1
	baz=304,SNR=7.9						
N56A	West Decatur	143.60	29	P		PKPbc	21 50 39.7 -0.2
	baz=322						
R53A	Hurricane	143.61	35	P		PKPbc	21 50 40.7 +0.8
	baz=314						
LRAL	Lakeview Retre	143.61	46	P		PKPbc	21 50 40.4 +0.3
	baz=302						
O55A	Ligonier	143.66	30	P		PKPbc	21 50 40.2 +0.2
	baz=320						
U51A	La Follette	143.67	39	P		PKPbc	21 50 40.3 +0.1
	baz=309						
Q54A	Coxs Mills	143.77	33	P		PKPbc	21 50 40.9 +0.5
	baz=316						
L58A	Harry Jones Me	143.78	25	P		PKPbc	21 50 40.2 -0.1
	baz=326						
MCWV	Mont Chateau	143.79	32	P		PKPbc	21 50 40.5 +0.1
	baz=318						
M57A	Sunshine Farm,	143.80	27	P		PKPab	21 50 40.0 +0.3
	baz=324						
V51A	Loudon	143.82	40	P		PKPab	21 50 40.1 +0.1
	baz=308						
CPUP	Villa Florida	143.82	178	PKIKP		PKPbc	21 50 41.1 +0.2
CPUP	Villa Florida	143.82	178	PKP		PKPbc	21 50 41.8 +0.9
	comp=Z,7.2nm,0.9s,baz=168,slow=2.5,SNR=14						
CPUP	Villa Florida	143.82	178			PKPbc	21 50 41.1 +0.2
T52A	Hallie	143.83	38	P		PKPbc	21 50 40.4 -0.2
	baz=312						
TZTN	Tazewell	143.86	39	P		PKPbc	21 50 40.7 -0.1
	baz=310						
P55A	Reedsville	143.91	32	P		PKPab	21 50 40.6 +0.3
	baz=318						
W51A	Cleveland	143.94	42	P		PKPbc	21 50 41.2 +0.2
	baz=307						
O56A	Blue Knob Stat	143.97	30	P		PKPab	21 50 40.6 +0.1
	baz=321						
L59A	Walton	143.99	24	P		PKPbc	21 50 41.1 +0.1
	baz=328						
SSPA	Standing Stone	144.01	29	P		PKPbc	21 50 41.0 -0.1
	baz=322						
SSPA	Standing Stone	144.01	29			PKPbc	21 50 40.9 -0.1
U52A	Thorn Hill	144.06	39	P		PKPbc	21 50 41.3 -0.1
	baz=310						
M58A	Price's Panora	144.07	26	P		PKPbc	21 50 41.1 -0.1
	baz=325						
K60A	Five Rivers En	144.07	22	P		PKPbc	21 50 41.2 +0.1
	baz=330						
N57A	Milroy	144.07	28	P		PKPbc	21 50 41.5 +0.3
	baz=323						
H66A	Whiting	144.10	13	P		PKPbc	21 50 42.0 +0.9
	baz=341						
Q55A	Buckhannon	144.16	33	P		PKPbc	21 50 41.6 -0.1
	baz=317						
R54A	Victor	144.25	34	P		**PKPab**	**21 50 41.6 0.0**
	baz=315						
Z50A	Ashland	144.25	45	P		PKPbc	21 50 42.1 +0.1
	baz=304,SNR=32						
Z50A	Ashland	144.25	45			PKPbc	21 50 42.6 +0.5
K61A	Williamstown	144.25	22	P		PKPbc	21 50 41.8 0.0
	baz=331						
J62A	Henniker	144.27	20	P		PKPbc	21 50 42.5 +0.7
	baz=333						
V52A	Sevierville	144.27	40	P		PKPbc	21 50 42.0 -0.1
	baz=309						
I64A	Boothbay	144.31	17	P		PKPbc	21 50 42.1 +0.3
	baz=337						
S54A	Dingess, Beckl	144.34	35	P		**PKPab**	**21 50 41.8 -0.1**
	baz=314						
M59A	Waymart	144.37	25	P		PKPbc	21 50 42.5 +0.4
	baz=326,SNR=7.8						
N58A	Sunbury	144.39	27	P		PKPbc	21 50 42.1 -0.1
	baz=324						
P56A	Dayton Farm, R	144.42	31	P		PKPbc	21 50 42.4 0.0
	baz=320						
J63A	Strafford	144.46	19	P		PKPbc	21 50 42.9 +0.6
	baz=334						
O57A	Amberson	144.46	29	P		**PKPab**	**21 50 42.1 -0.2**
	baz=322						
L60A	Shokan	144.48	23	P		PKPbc	21 50 42.5 0.0
	baz=329						
Y51A	Rockmart	144.48	44	P		**PKPab**	**21 50 42.4 -0.1**
	baz=305,SNR=16						
W52A	Murphy	144.53	41	P		**PKPab**	**21 50 42.3 -0.4**
	baz=308						
L61A	Hillsdale 1, H	144.56	22	P		**PKPab**	**21 50 41.6 -0.9**
	baz=330						
U53A	Fall Branch	144.57	38	P		**PKPab**	**21 50 42.5 -0.3**
	baz=311,SNR=6.4						
Q56A	Snyder Ridge,	144.59	32	P		**PKPab**	**21 50 42.0 -0.7**
	baz=319						
K62A	Royalston	144.63	21	P		PKPbc	21 50 42.9 0.0
	baz=332						
L61B	Northampton	144.66	21	P		**PKPab**	**21 50 42.3 -0.5**
	baz=331						
250A	Grady	144.69	47	P		**PKPdf**	**21 50 44.2 -0.4**
	baz=302,SNR=7.1						
T54A	Tazewell	144.70	36	P		**PKPab**	**21 50 43.0 -0.3**
	baz=313						
Z51A	Franklin	144.74	45	P		**PKPab**	**21 50 43.3 -0.2**
	baz=305,SNR=8.7						
N59A	State Game Lan	144.74	26	P		PKPbc	21 50 43.5 +0.1
	baz=325,SNR=18						
S55A	Lewisburg	144.81	34	P		**PKPab**	**21 50 43.3 -0.3**
	baz=316						
K63A	Dunstable	144.84	20	P		PKPbc	21 50 43.9 +0.3
	baz=333						
P57A	Homestead Farm	144.85	30	P		**PKPab**	**21 50 43.6 -0.1**
	baz=321,SNR=17						
X52A	Dahlonega	144.85	42	P		PKPbc	21 50 44.4 +0.4
	baz=308						
O58A	Lewisberry	144.87	28	P		**PKPab**	**21 50 43.6 -0.1**
	baz=323,SNR=12						
V53A	Saluda	144.87	39	P		PKPbc	21 50 44.2 +0.2
	baz=310,SNR=14						
M60A	Port Jervis	144.88	24	P		**PKPab**	**21 50 43.7 0.0**
	baz=328						
U54A	Nelsons Funny	144.92	37	P		**PKPab**	**21 50 44.1 0.0**
	baz=312,SNR=7.1						
R56A	Bull Pasture M	144.95	33	P		**PKPab**	**21 50 44.1 -0.1**
	baz=318,SNR=7.9						
W53A	Cullowhee	144.97	40	P		PKPbc	21 50 44.7 +0.2
	baz=309,SNR=7.3						
Q57A	Strasburg	144.99	31	P		**PKPab**	**21 50 44.1 -0.1**
	baz=320,SNR=12						
O59A	Robesonia	145.05	27	P		**PKPbc**	**21 50 43.9 -0.5**
	baz=324,SNR=8.4						
N60A	Cedar Hill Far	145.07	25	P		**PKPbc**	**21 50 44.2 -0.2**
	baz=326,SNR=7.5						
T55A	Pulaski	145.12	35	P		**PKPab**	**21 50 44.9 +0.1**
	baz=314,SNR=11						
Y52A	Lilburn	145.18	43	P		**PKPdf**	**21 50 45.6 +0.2**
	baz=307,SNR=13						
P58A	Pank, Wackersv	145.19	29	P		**PKPbc**	**21 50 44.8 0.0**
	baz=322,SNR=18						
M61A	Granite Spring	145.24	23	P		**PKPdf**	**21 50 45.4 +0.2**
	baz=329,SNR=5.6						
BLA	Blacksburg	145.26	35	P		**PKPbc**	**21 50 45.3 +0.1**
	baz=315,SNR=8.8						
X53A	Estanollee	145.30	41	P		**PKPdf**	**21 50 46.3 +0.7**
	baz=308,SNR=21						
Z52A	Williamson	145.33	44	P		**PKPdf**	**21 50 45.9 +0.2**
	baz=305,SNR=31						
V54A	Nebo	145.34	38	P		**PKPdf**	**21 50 45.9 +0.3**
	baz=312,SNR=22						
U55A	TA2, Sparta	145.39	37	P		**PKPbc**	**21 50 45.7 0.0**
	baz=314,SNR=14						
O60A	Telford	145.39	26	P		**PKPbc**	**21 50 45.3 -0.1**
	baz=326,SNR=9.0						
S56A	Natural Bridge	145.40	34	P		**PKPbc**	**21 50 45.2 -0.4**
	baz=317,SNR=8.4						
152A	Waverly Hall	145.42	45	P		**PKPab**	**21 50 46.2 +0.2**
	baz=304,SNR=49						
Q58A	Fox Den Farm,	145.43	30	P		**PKPbc**	**21 50 45.6 0.0**
	baz=321,SNR=26						
PAL	Palisades	145.44	24	P		**PKPdf**	**21 50 45.7 +0.1**
	baz=328,SNR=6.6						
M62A	Hamden	145.46	22	P		**PKPbc**	**21 50 45.5 0.0**
	baz=330						
R57A	Stanardsville	145.49	32	P		**PKPab**	**21 50 46.3 +0.3**
	baz=319,SNR=48						
N61A	South Mountain	145.50	25	P		**PKPab**	**21 50 46.3 +0.3**
	baz=328						
P59A	Jarrettsville	145.50	28	P		**PKPdf**	**21 50 45.8 0.0**
	baz=323,SNR=9.8						
Y53A	Monroe	145.50	42	P		**PKPab**	**21 50 46.7 +0.5**
	baz=307,SNR=45						
L63A	North Scituate	145.55	20	P		**PKPab**	**21 50 46.3 +0.1**
	baz=333						
T56A	Rocky Mt	145.61	35	P		**PKPbc**	**21 50 46.4 +0.1**
	baz=316,SNR=19						
W54A	Cherokee Point	145.64	39	P		**PKPab**	**21 50 47.2 +0.5**
	baz=310,SNR=25						
S57A	Dark Hollow, R	145.67	33	P		**PKPbc**	**21 50 46.4 0.0**
	baz=318						
N62A	Caumsett State	145.68	23	P		**PKPbc**	**21 50 46.3 0.0**
	baz=329,SNR=5.5						
P60A	Greenville	145.70	27	P		**PKPbc**	**21 50 46.5 +0.1**
	baz=325,SNR=28						
V55A	Taylorsville	145.73	38	P		**PKPab**	**21 50 47.2 +0.1**
	baz=313,SNR=36						
L64A	Middleborough	145.75	20	P		**PKPab**	**21 50 46.7 -0.1**
	baz=334						
R58A	Rapidan	145.76	31	P		**PKPbc**	**21 50 46.8 +0.1**
	baz=320,SNR=36						
451A	Vernon	145.77	49	P		**PKPab**	**21 50 48.0 +0.7**
	baz=301						
252A	Lumpkin	145.78	46	P		**PKPab**	**21 50 47.7 +0.4**
	baz=304						
M63A	Gales Ferry	145.80	21	P		**PKPdf**	**21 50 46.4 +0.2**
	baz=332						
GOGA	Godfrey	145.85	43	P		**PKPab**	**21 50 47.8 +0.2**
	baz=307,SNR=56						
GOGA	Godfrey	145.85	43	PKP2		**PKPab**	**21 50 47.9 +0.4**
GOGA	Godfrey	145.85	43			**PKPab**	**21 50 47.9 +0.4**
Z53A	Monticello	145.86	43	P		**PKPab**	**21 50 47.9 +0.3**
	baz=306,SNR=94						
X54A	Belton	145.87	40	P		**PKPab**	**21 50 48.2 +0.6**
	baz=310,SNR=21						
U56A	King	145.88	36	P		**PKPbc**	**21 50 47.2 0.0**
	baz=314,SNR=6.7						
352A	Blakely	145.92	47	P		**PKPab**	**21 50 48.0 +0.1**
	baz=303						
O61A	Allentown	145.94	25	P		**PKPbc**	**21 50 47.0 -0.2**
	baz=327						
M64A	Tiverton	145.97	20	P		**PKPbc**	**21 50 47.3 +0.1**
	baz=333						
Q59A	Harwood	145.99	29	P		**PKPab**	**21 50 47.8 -0.1**
	baz=322,SNR=5.9						
PAULI	Pauline	146.04	39			**PKPab**	**21 50 48.3 +0.1**
153A	Fort Valley	146.05	44	P		**PKPab**	**21 50 48.5 +0.1**
	baz=305,SNR=11						
T57A	Hurt	146.06	34	P		**PKPbc**	**21 50 47.7 +0.1**
	baz=317,SNR=27						
R58B	Mineral	146.08	31	P		**PKPbc**	**21 50 47.5 -0.1**
	baz=320,SNR=21						
Y54A	Tignall	146.09	42	P		**PKPab**	**21 50 48.8 +0.3**
	baz=308,SNR=59						
KMSC	Kings Mountain	146.13	39	P		**PKPab**	**21 50 48.5 -0.1**
	baz=312,SNR=16						
M65A	Busby, Falmout	146.14	20	P		**PKPdf**	**21 50 47.1 +0.4**
	baz=334						
CBN	Corbin Frederi	146.15	31	P		**PKPbc**	**21 50 48.1 +0.3**
	baz=321,SNR=6.9						
253A	Americus	146.17	46	P		**PKPab**	**21 50 48.7 -0.1**
	baz=304						
V56A	Mocksville	146.19	37	P		**PKPbc**	**21 50 48.4 +0.3**
	baz=314,SNR=20						
P61A	Hammonton	146.19	26	P		**PKPbc**	**21 50 47.9 0.0**
	baz=326,SNR=5.2						
S58A	Poland Farm, P	146.25	32	P		**PKPbc**	**21 50 48.3 +0.1**
	baz=319,SNR=21						
Q60A	Greensboro	146.26	28	P		**PKPab**	**21 50 48.7 -0.2**
	baz=324						
R59A	King George, V	146.28	30	P		**PKPbc**	**21 50 48.3 0.0**
	baz=321						
Z54A	Sparta	146.37	43	P		**PKPab**	**21 50 49.3 -0.2**
	baz=307,SNR=39						
U57A	Blanch	146.42	35	P		**PKPbc**	**21 50 49.0 +0.2**
	baz=316,SNR=16						
R60A	Leonardtown, M	146.49	30	P		**PKPab**	**21 50 49.4 -0.4**
	baz=322						
353A	Camilla	146.50	47	P		**PKPab**	**21 50 50.2 +0.1**
	baz=303						
S59A	Mechanicsville	146.53	31	P		**PKPbc**	**21 50 49.5 +0.5**
	baz=320,SNR=17						
V57A	Coltrane Farms	146.56	36	P		**PKPbc**	**21 50 49.2 0.0**
	baz=315,SNR=16						
154A	Montrose	146.56	44	P		**PKPab**	**21 50 50.0 -0.3**
	baz=306						
Y55A	Saluda	146.58	41	P		**PKPab**	**21 50 50.1 -0.2**
	baz=310,SNR=29						
W56A	Indian Trail	146.59	38	P		**PKPbc**	**21 50 49.5 +0.2**
	baz=313,SNR=17						
Q61A	Milford	146.60	28	P		**PKPbc**	**21 50 49.4 +0.3**
	baz=324						
453A	Whigham	146.70	47	P		**PKPbc**	**21 50 49.3 -0.4**
	baz=303						
X56A	White Oak	146.75	39	P		**PKPab**	**21 50 50.4 -0.5**
	baz=311,SNR=9.1						
254A	Abbeville	146.82	45	P		**PKPbc**	**21 50 50.6 +0.6**
	baz=305						
U58A	Oxford	146.89	34	P		**PKPbc**	**21 50 50.5 +0.4**
	baz=317,SNR=46						
S60A	Water View	146.90	30	P		**PKPab**	**21 50 50.8 -0.6**
	baz=321,SNR=8.6						
TIGA	Tifton	146.90	46	P		**PKPab**	**21 50 51.1 -0.5**
	baz=304						
W57A	Gilead	146.94	37	P		**PKPbc**	**21 50 50.7 +0.5**
	baz=314,SNR=17						
W57A	Gilead	146.94	37			**PKPbc**	**21 50 50.2 0.0**
553A	Crawfordville	146.97	49	P		**PKPab**	**21 50 51.4 -0.5**
	baz=302						
155A	Kite	146.99	43	P		**PKPbc**	**21 50 51.2 +0.7**
	baz=307						
T59A	Double "B" Far	147.00	32	P		**PKPbc**	**21 50 50.9 +0.6**
	baz=319,SNR=39						
V58A	Windy Hill, Pi	147.00	35	P		**PKPbc**	**21 50 50.8 +0.4**
	baz=316,SNR=27						
Y56A	Pelion	147.03	40	P		**PKPab**	**21 50 51.5 -0.6**
	baz=310						
R61A	Willards	147.04	28	P		**PKPbc**	**21 50 50.9 +0.4**
	baz=324						
454A	Quitman	147.27	47	P		**PKPbc**	**21 50 51.8 +0.5**
	baz=303						
Z56A	Williston	147.28	41	P		**PKPab**	**21 50 52.4 -0.7**
	baz=310,SNR=5.5						
T60A	Surry	147.29	31	P		**PKPbc**	**21 50 51.7 +0.5**
	baz=321,SNR=12						
U59A	Littleton	147.33	33	P		**PKPbc**	**21 50 51.5 +0.2**
	baz=318						
X57A	Johnson Farm,	147.34	38	P		**PKPbc**	**21 50 51.9 +0.5**
	baz=313,SNR=6.5						
255A	Hazlehurst	147.40	44	P		**PKPbc**	**21 50 52.5 +0.9**
	baz=306						
Y57A	Sumter	147.46	39	P		**PKPbc**	**21 50 52.5 +0.8**
	baz=312						
355A	Pearson	147.48	45	P		**PKPbc**	**21 50 52.7 +0.8**
	baz=305						
W58A	Raeford	147.48	37	P		**PKPbc**	**21 50 52.2 +0.4**
	baz=314,SNR=17						
V59A	Middlesex	147.52	35	P		**PKPbc**	**21 50 52.3 +0.4**
	baz=317,SNR=14						
TEIG	Tepich	147.53	68			**PKPbc**	**21 50 51.8 -0.6**
PB11	IPOC Station P	147.57	156			**PKPdf**	**21 50 51.2 +1.2**
U60A	Pendleton	147.58	32	P		**PKPbc**	**21 50 52.3 +0.3**
	baz=319						
156A	Sylvania	147.62	42	P		**PKiKP**	**21 50 53.4 -0.9**
	baz=308						
455A	Stateville	147.69	47	P		**PKPbc**	**21 50 53.2 +0.7**
	baz=304						
Z57A	Bowman	147.73	41	P		**PKPbc**	**21 50 53.2 +0.6**
	baz=310						
X58A	Rowland	147.74	37	P		**PKPbc**	**21 50 53.0 +0.6**
	baz=314,SNR=10						
256A	Glennville	147.77	44	P		**PKiKP**	**21 50 53.7 -0.9**
	baz=307						
W59A	Clinton	147.83	36	P		**PKPbc**	**21 50 53.5 +0.7**
	baz=316						
GO01	Chusmiza	147.83	157			**PKPdf**	**21 50 51.9 +1.0**
157A	Early Branch	147.94	42	P		**PKiKP**	**21 50 54.4 -0.5**
	baz=309						
Y58A	Scranton	147.98	39	P		**PKPbc**	**21 50 53.8 +0.6**
	baz=313						
356A	Blackshear	147.99	45	P		**PKPbc**	**21 50 54.2 +0.9**
	baz=306						
V60A	Jim Taylor Roa	148.06	33	P		**PKPbc**	**21 50 53.7 +0.4**
	baz=318						
U61A	Possum Corner	148.06	32	P		**PKPbc**	**21 50 53.8 +0.5**
	baz=320						
CNNC	Cliffs of the	148.09	35	P		**PKPbc**	**21 50 53.9 +0.5**
	baz=317						
MNMC	Minye Minye	148.16	156			**PKPbc**	**21 50 53.2 -1.2**
X59A	McDuffie Farm,	148.16	37	P		**PKPbc**	**21 50 54.0 +0.3**
	baz=315						
NHSC	New Hope	148.19	40	P		**PKPbc**	**21 50 54.5 +0.8**
	baz=311						
Z58A	St. Stephen	148.27	40	P		**PKiKP**	**21 50 55.1 -0.6**
	baz=312						
W60A	Pink Hill	148.33	35	P		**PKPbc**	**21 50 54.4 +0.4**
	baz=317						
257A	Skidaway Islan	148.35	43	P		**PKPbc**	**21 50 54.5 +0.3**
	baz=308						
357A	Townsend	148.38	44	P		**PKiKP**	**21 50 55.3 -0.6**
	baz=307						
V61A	Roper	148.40	33	P		**PKPbc**	**21 50 54.9 +0.7**
	baz=319						
Y59A	Loris	148.41	38	P		**PKPbc**	**21 50 54.9 +0.6**
	baz=314						
456A	Hilliard	148.41	46	P		**PKiKP**	**21 50 55.8 -0.2**
	baz=305						
158A	Hollywood	148.42	41	P		**PKiKP**	**21 50 55.5 -0.5**
	baz=310						
X60A	Albert Glenn T	148.52	36	P		**PKPbc**	**21 50 55.0 +0.5**
	baz=316						
W61A	Ground Anchor	148.64	34	P		**PKPbc**	**21 50 55.3 +0.4**
	baz=318						
Z59A	Georgetown, SC	148.67	39	P		**PKiKP**	**21 50 56.1 -0.4**
	baz=312						
Y60A	Bolivia	148.79	37	P		**PKPbc**	**21 50 55.7 +0.4**
	baz=315						
656A	Willston	148.80	48	P		**PKPbc**	**21 50 56.1 +0.7**
	baz=303						
457A	Yulee	148.80	45	P		**PKiKP**	**21 50 56.6 -0.2**
	baz=306						
V62A	Hyde County Ai	148.91	32	P		**PKiKP**	**21 50 56.9 +0.1**
	baz=320						
658A	Bunnell	149.70	47	P		**PKiKP**	**21 50 58.4 -0.3**
	baz=305						
NNA	Nana	150.03	136	PKIKP		**PKiKP**	**21 50 59.5 -0.4**
NNA	Nana	150.03	136			**PKiKP**	**21 50 59.5 -0.4**
DWPF	Disney Wildern	150.29	49	P		**PKPbc**	**21 50 59.5 +0.4**
	baz=302						
LPAZ	La Paz	151.31	156	PKIKP		**PKPdf**	**21 50 57.5 +0.8**
LPAZ							21 51 03.5
LPAZ	La Paz	151.31	156	PKPbc		**PKiKP**	**21 51 03.9 +0.7**
	comp=Z,17nm,0.8s,baz=198,slow=1.1,SNR=17						
LPAZ	La Paz	151.31	156	PKPdf		**PKPdf**	**21 50 57.5 +0.8**
LPAZ						**PKiKP**	**21 51 03.5 +0.3**
060A	Indiantown	151.66	50	P		**PKiKP**	**21 51 03.3 +0.5**
	baz=302						
061Z	Ochoppi	151.84	53	P		**PKiKP**	**21 51 04.2 +1.0**
	baz=300						
ESPN	Las Esperanzas	152.40	83	IAMs_20		IAMs_20	22 44 46.9
	comp=Z,208nm,22.0s						
BDFB	Brasilia	153.20	198	PKP		**PKPdf**	**21 50 59.2 +0.4**
	comp=Z,3.1nm,0.6s,baz=30,slow=8.8,SNR=4.2						
BDFB				PKPbc		**PKiKP**	**21 51 07.0 +0.5**
	comp=Z,3.5nm,0.5s,baz=191,slow=8.1,SNR=8.6						
BDFB	Brasilia	153.20	198			**PKPdf**	**21 50 55.7 -3.2**
PNME	Penonome	156.18	92	*eP*		PKPab	21 51 19.3 -11
PNME	Penonome	156.18	92	*eP*		PKPab	21 51 19.3 -11
BETC	Betania	159.58	110	*eP*		PKPdf	21 50 56.5 -11
BETC	Betania	159.58	110	*eP*		PKPdf	21 50 56.5 -11
SAML	Samuel	159.90	160	*eP*		**PKPdf**	**21 51 08.3 +0.9**
SAML	Samuel	159.90	160	*eP*		**PKPdf**	**21 51 08.3 +0.9**
DBBC	Dabeiba	160.03	97	*eP*		**PKPab**	**21 51 49.0 +1.5**
DBBC	Dabeiba	160.03	97	*eP*		**PKPab**	**21 51 49.0 +1.5**
RREF	El Recreo	160.39	104	*eP*		**PKPdf**	**21 51 11.5 +2.7**
RREF	El Recreo	160.39	104	*eP*		**PKPdf**	**21 51 11.5 +2.7**
ZARC	Zaragoza, Cauc	161.43	96	*eP*		**PKPab**	**21 51 55.3 +1.8**
ZARC	Zaragoza, Cauc	161.43	96	*eP*		**PKPab**	**21 51 55.3 +1.8**
SPBC	San Pablo de B	161.81	103	*eP*		**PKPdf**	**21 51 09.6 0.0**
SPBC	San Pablo de B	161.81	103	*eP*		**PKPdf**	**21 51 09.6 0.0**
CHIC	Chingaza	161.85	106	*eP*		**PKPdf**	**21 51 09.6 -0.5**
CHIC	Chingaza	161.85	106	*eP*		**PKPdf**	**21 51 09.6 -0.5**
BARC	Barichara	162.90	100	*eP*		**PKPdf**	**21 51 10.2 -0.7**
BARC	Barichara	162.90	100	*eP*		**PKPdf**	**21 51 10.2 -0.7**
PAMC	Pamplona, Colo	163.51	98	*eP*		**PKPdf**	**21 51 12.7 +0.9**
PAMC	Pamplona, Colo	163.51	98	*eP*		**PKPdf**	**21 51 12.7 +0.9**
CAPV	Capacho	163.98	96	*eP*		**PKPdf**	**21 51 14.0 +2.1**
CAPV	Capacho	163.98	96	*eP*		**PKPdf**	**21 51 14.0 +2.1**
SOCV	Socops	165.47	96	*eP*		**PKPdf**	**21 51 11.1 -1.8**
SOCV	Socops	165.47	96	*eP*		**PKPdf**	**21 51 11.1 -1.8**
SDV	Santo Domingo	165.76	93	*eP*		**PKPdf**	**21 51 12.7 -0.7**
SDV	Santo Domingo	165.76	93	*eP*		**PKPdf**	**21 51 12.7 -0.7**
SDV	Santo Domingo	165.76	93			**PKPdf**	**21 51 12.7 -0.7**
SDV				PKPab		**PKPab**	**21 52 12.2 -0.6**

*ISCJB **18** 21:33:47.3±0.7, 60°.12S±0°.07×46°.8W±0°.1, h10km, mb3.5/1, Error ellipse: s-maj=11.5km s-min=8.4km az=33.5*
*IDC **18** 21:33:47.5±2.2, 60°.25S×45°.99W, h0km, mb3.8/1, mb1 4.0/1, mb1mx3.7/14, mbtmp3.8/1, Error ellipse: s-maj=121.7km s-min=40.8km az=22.0*
*NEIC **18** 21:33:49.3±1.0, 60°.3S±0°.1×46°.6W±0°.1, h10km±1km, mb4.3/5*

ISC 18 21:33:49.6±0.6, 60°.22S±0°.09×46°.65W±0°.09, h10km, n24, σ1°07/18, mb4.3/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**47**	Pn	**Pn**	**21 35 46.6**	**-0.5**
HOPE				Sn	**Sn**	**21 37 19.7**	**+1.1**
PMSA	**Palmer Station**	**9.24**	**233**	Pn	**Pn**	**21 36 02.2**	**-0.5**
EFI	**East Falkland**	**10.67**	**318**	Pn	**Pn**	**21 36 22.9**	**+0.6**
VNA3	**Neumayer Olymp**	**18.40**	**142**	P	**P**	**21 38 04.1**	**-0.3**
VNA1	**Neumayer--Stat**	**18.68**	**140**	P	**Pn**	**21 38 09.5**	**+1.8**
VNA2	**Neumayer--Watz**	**19.02**	**140**	P	**Pn**	**21 38 13.5**	**+1.5**
	baz=287,slow=13						
SNAA	**Sanae**	**20.62**	**142**	P	Pn	21 38 32.9	+1.9
SNAA	**Sanae**	**20.62**	**142**	P	Pn	21 38 30.2	-0.7
SNAA				IAmb	IAmb	21 38 33.7	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**24.49**	**312**	P	**P**	**21 39 10.6**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=174,slow=10,SNR=1.9						
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**21 39 58.8**	**+0.5**
QSPA				IAmb	IAmb	21 40 00.1	
	comp=Z,5.2nm,0.9s						
H10S2	**ASCENSION HYDR**	**56.48**	**39**	T	T	22 45 05.0	
	baz=200,slow=74,SNR=18						
H10S3	**ASCENSION HYDR**	**56.48**	**39**	T	T	22 45 05.1	
	baz=20,slow=74,SNR=22						
H10N3	**ASCENSION HYDR**	**57.58**	**39**	T	T	22 46 27.1	

BJI **18** *22:23:26.3±0.0, 30°.39S×179°.25W, h337km, mb5.0/44, mB5.2/27*
NEIC **18** *22:23:28.4±2.7, 30°.36S±0°.07×179°.7W±0°.1, h335km±3km, mb5.1/164*
MOS **18** *22:23:29.4±1.1, 30°.11S×179°.61W, h345km, mb5.6/6, Error ellipse: s-maj=10.1km s-min=8.6km az=121.5*
ISCJB **18** *22:23:29.3±0.1, 30°.48S±0°.02×179°.65W±0°.04, h350km, mb5.0/58, Error ellipse: s-maj=4.4km s-min=1.9km az=21.1*
IDC **18** *22:23:30.2±0.8, 30°.16S×179°.52W, h346km±7km, mb4.5/27, mb1 4.6/29, mb1mx4.6/33, mbtmp5.2/29, Error ellipse: s-maj=11.2km s-min=8.6km az=176.0*
GCMT **18** *22:23:33.4±0.3, 30°.08S±0°.04×179°.49W±0°.02, h351km±1km, MW5.3/83, Moment Tensor Solution. s83,c117; Duration: 1ŝ1 Moment tensor: Scale 10^17^Nm; Mrr=0.61±.03; Mθθ=0.60±.06; Mφφ=1.22±.04; Mrθ=0.52±.04; Mθφ=0.05±.04; Mφr=0.01±.04; Best double couple: M0=1.17600×10^17^ NP1:φs=37.00000°, δ=60.00000°, λ=-36.00000°. NP2:φs=146.00000°, δ=60.00000°, λ=-144.00000°. Principal axes: T 1.2210, Plg=0.0000°, Azm=92.0000°; N -0.0850, Plg=45.0000°, Azm=182.0000°; P -1.1310, Plg=45.0000°, Azm=2.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 18 22:23:29.6±0.2, 30°.44S±0°.03×179°.56W±0°.05, h350km, n925, σ1ŝ55/927, mb5.1/125, 78C-22D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.84**	**51**	P	**Pn**	**22 24 19.7**	**-0.2**
GLKZ				S	**S**	**22 24 51.6**	**-8.6**
RIZ	**Raoul Island**	**1.85**	**50**	P	**Pn**	**22 24 20.1**	**+0.2**
RIZ				S	S	22 24 50.1	-10
RAO	**Raoul Island**	**1.85**	**51**	P	**Pn**	**22 24 19.2**	**-0.7**
RAO	**Raoul Island**	**1.85**	**51**	P	**Pn**	**22 24 19.4**	**-0.6**
	778nm,0.3s,baz=107,slow=2.7,SNR=29						
RAO				S	**S**	**22 24 54.8**	**-5.5**
	3μm,0.3s,baz=292,slow=23,SNR=6.2						
RAO	**Raoul Island**	**1.85**	**51**		**Pn**	**22 24 19.2**	**-0.7**
RAO				S		22 24 46.6	-14
GRZ	**Great Barrier**	**7.14**	**214**	P	Pn	22 25 19.5	+6.0
MXZ	**Matakaoa Point**	**7.32**	**193**	P	Pn	**22 25 16.2**	**+0.6**
MXZ				S	**S**	**22 26 40.4**	**-1.4**
MXZ	**Matakaoa Point**	**7.32**	**193**		**Pn**	**22 25 15.2**	**-0.3**
MXZ				S	S	22 26 33.7	-8.2
KUZ	**Kuaotunu**	**7.42**	**211**	P	Pn	22 25 21.9	+5.2
OUZ	**Omahuta**	**7.47**	**229**		Pn	22 25 23.1	+5.7
WMGZ	**Waiomatatini S**	**7.55**	**192**	P	**Pn**	**22 25 20.2**	**+1.9**
WMGZ				S	**S**	**22 26 46.4**	**-0.4**
WSRZ	**White Island S**	**7.56**	**200**	P	**Pn**	**22 25 22.8**	**+4.4**
WSRZ				S	**S**	**22 26 49.3**	**+2.2**
WIZ	**White Island**	**7.56**	**200**	P	**Pn**	**22 25 21.6**	**+3.2**
WIZ				S	**S**	**22 26 49.3**	**+2.2**
HAZ	**Te Kaha**	**7.62**	**196**	P	**Pn**	**22 25 20.7**	**+1.6**
HAZ				S	**S**	**22 26 48.3**	**0.0**
PUZ	**Puketiti**	**7.82**	**193**	P	**Pn**	**22 25 22.4**	**+0.9**
PUZ				S	**S**	**22 26 51.3**	**-1.5**
RUGZ	**Raukumara Rang**	**7.85**	**196**	P	**Pn**	**22 25 23.6**	**+1.7**
RUGZ				S	**S**	**22 26 50.8**	**-2.6**
TWGZ	**Tauwhareparae**	**7.98**	**194**	P	**Pn**	**22 25 24.3**	**+0.9**
EDRZ	**Edgecumbe**	**8.24**	**201**	P	**P**	**22 25 29.6**	**+0.3**
EDRZ				S	**S**	**22 27 08.3**	**+1.5**
LIRZ	**Lichensteins R**	**8.26**	**203**	P	**P**	**22 25 33.4**	**+3.9**
URZ	**Urewera**	**8.27**	**199**	P	**Pn**	**22 25 27.4**	**+0.6**
	36nm,0.3s,baz=265,slow=2.8,SNR=89						
URZ				S	**S**	**22 27 01.1**	**-1.3**
	190nm,0.3s,baz=112,slow=21,SNR=16						
URZ	**Urewera**	**8.27**	**199**		**Pn**	**22 25 25.7**	**-1.1**
KARZ	**Kaharoa**	**8.32**	**204**	P	**P**	**22 25 32.8**	**+2.6**
TOZ	**Tahuroa Road**	**8.34**	**208**	P	**P**	**22 25 31.7**	**+1.3**
MKRZ	**Makatiti**	**8.35**	**202**	P	**P**	**22 25 32.8**	**+2.1**
OMRZ	**Omania**	**8.35**	**203**	P	**P**	**22 25 32.4**	**+1.8**
RAGZ	**Rawiri**	**8.41**	**196**	P	**Pn**	**22 25 28.2**	**-0.4**
RAGZ				S	**S**	**22 27 04.1**	**-1.6**
TARZ	**Mount Tarawera**	**8.43**	**202**	P	**P**	**22 25 31.2**	**-0.3**
HLRZ	**Highlands Stat**	**8.49**	**202**	P	**P**	**22 25 34.2**	**+2.0**
RRRZ	**Republican Roa**	**8.52**	**201**	P	**P**	**22 25 32.6**	**+0.2**
RRRZ				S	**S**	**22 27 09.5**	**+1.6**
RIGZ	**Rimuhau**	**8.54**	**194**	P	**Pn**	**22 25 29.0**	**-0.9**
RIGZ				S	**S**	**22 27 05.8**	**-2.5**
MUGZ	**Murupara**	**8.57**	**200**	P	**Pn**	**22 25 30.8**	**+0.5**
MUGZ				S	**S**	**22 27 08.2**	**-0.8**
HSRZ	**Hossack Road**	**8.58**	**203**	P	**P**	**22 25 34.7**	**+1.5**
RTZ	**Ruatahuna**	**8.64**	**198**	P	**Pn**	**22 25 32.7**	**+1.5**
RTZ				S	**S**	**22 27 08.8**	**-1.9**
HRRZ	**Handcock Road**	**8.64**	**202**	P	**P**	**22 25 34.2**	**+0.4**
SNGZ	**Shannon Statio**	**8.70**	**196**	P	**Pn**	**22 25 31.7**	**-0.2**
SNGZ				S	**S**	**22 27 10.3**	**-1.7**
PRRZ	**Plateau Road**	**8.70**	**201**	P	**P**	**22 25 35.7**	**+1.2**
PRGZ	**Paritu Road**	**8.72**	**193**	P	**P**	**22 25 35.4**	**+0.8**
ALRZ	**Allen Road**	**8.78**	**202**	P	**Pn**	**22 25 34.0**	**+1.1**
WPRZ	**Whakapapatarin**	**8.80**	**203**	P	**P**	**22 25 36.0**	**+0.5**
TLZ	**Tolley Road**	**8.85**	**206**	P	**P**	**22 25 35.9**	**-0.2**
KUTZ	**Kaahu Road**	**8.89**	**204**	P	**P**	**22 25 38.7**	**+2.2**
RAHZ	**Arahi**	**8.89**	**197**	P	**Pn**	**22 25 33.2**	**-1.0**
MTHZ	**Maungataniwha**	**8.90**	**198**	P	**Pn**	**22 25 32.9**	**-1.4**
MRHZ	**Matea Rd**	**9.00**	**201**	P	**Pn**	**22 25 36.2**	**+0.6**
WHHZ	**Waihua**	**9.01**	**196**	P	**Pn**	**22 25 34.4**	**-1.2**
NMHZ	**Naumai**	**9.14**	**198**	P	**Pn**	**22 25 36.0**	**-1.1**
ARHZ	**Aropaoanui**	**9.24**	**197**	P	**Pn**	**22 25 36.9**	**-1.5**
HIZ	**Hauiti**	**9.28**	**208**	P	**P**	**22 25 41.5**	**+0.6**
HIZ	**Hauiti**	**9.28**	**208**	P	**P**	**22 25 41.3**	**+0.5**
BKZ	**Black Stump Fm**	**9.29**	**199**	P	**Pn**	**22 25 37.0**	**-1.9**
BKZ	**Black Stump Fm**	**9.29**	**199**		**Pn**	**22 25 36.9**	**-2.0**
BKZ				S	**S**	**22 27 19.9**	**-5.0**
KRVZ	**Karewarewa**	**9.49**	**203**	P	**P**	**22 25 43.0**	**-0.3**
MCHZ	**McNeill Hill**	**9.49**	**198**	P	**Pn**	**22 25 39.8**	**-1.5**
WTVZ	**West Tongariro**	**9.53**	**203**	P	**P**	**22 25 43.6**	**-0.2**
TWVZ	**Taurewa**	**9.54**	**204**	P	**Pn**	**22 25 41.5**	**-0.5**
TUVZ	**Tukino**	**9.64**	**203**	P	**Pn**	**22 25 41.8**	**-1.5**
FWVZ	**Far West T-bar**	**9.66**	**203**	P	**Pn**	**22 25 42.2**	**-1.5**
WHVZ	**Whangaehu Hut**	**9.68**	**203**	P	**Pn**	**22 25 42.1**	**-1.7**
DRZ	**Dome Shelter**	**9.68**	**203**	P	**P**	**22 25 45.0**	**-0.6**
TRVZ	**Turoa**	**9.71**	**203**	P	**Pn**	**22 25 43.1**	**-1.0**
BHHZ	**Black Hill Sta**	**9.71**	**200**	P	**Pn**	**22 25 41.4**	**-2.6**
MOVZ	**Moawhango**	**9.73**	**202**	P	**Pn**	**22 25 41.8**	**-2.5**
KRHZ	**Kereru**	**9.77**	**199**	P	**Pn**	**22 25 42.1**	**-2.5**
PKVZ	**Pokaka**	**9.77**	**204**	P	**Pn**	**22 25 43.5**	**-1.1**
KAHZ	**Kahuranaki**	**9.78**	**196**	P	**Pn**	**22 25 42.7**	**-2.0**
MTVZ	**Mangateitei**	**9.81**	**203**	P	**P**	**22 25 46.5**	**-0.3**
VRZ	**Vera Road**	**9.84**	**207**	P	**P**	**22 25 46.6**	**-0.4**
PXZ	**Pawanui**	**10.00**	**196**	P	**Pn**	**22 25 44.9**	**-2.5**
PNHZ	**Pukenui**	**10.07**	**199**	P	**Pn**	**22 25 45.4**	**-2.8**
WPHZ	**Waipukurau**	**10.14**	**198**	P	**Pn**	**22 25 48.8**	**-0.3**
PKE	**Pukeiti**	**10.21**	**210**	P	**P**	**22 25 53.4**	**+2.2**
PREZ	**Palmer Road**	**10.27**	**208**	P	**P**	**22 25 55.2**	**+3.3**
LREZ	**Lake Rotokare**	**10.27**	**207**	P	**P**	**22 25 53.2**	**+1.4**
TSZ	**Takapari Road**	**10.27**	**200**	P	**Pn**	**22 25 47.5**	**-3.1**
PRHZ	**Porangahau**	**10.28**	**197**	P	**Pn**	**22 25 48.3**	**-2.4**
KHEZ	**Kahui Hut**	**10.29**	**209**	P	**P**	**22 25 54.0**	**+1.9**
WAZ	**Wanganui**	**10.31**	**204**	P	**Pn**	**22 25 50.0**	**-1.1**
NBEZ	**Newall Road No**	**10.33**	**210**	P	P	22 25 57.4	+4.9
DVHZ	**Dannevirke**	**10.43**	**198**	P	**Pn**	**22 25 49.5**	**-3.1**
NMEZ	**Namu Road**	**10.44**	**209**	P	**P**	**22 25 57.4**	**+3.6**
ANWZ	**Angora Road**	**10.50**	**197**	P	**Pn**	**22 25 52.6**	**-0.8**
OHWZ	**Ohakea**	**10.60**	**202**	P	**P**	**22 25 55.4**	**-0.1**
POWZ	**Post Office Ro**	**10.63**	**200**	P	**Pn**	**22 25 54.0**	**-0.9**
PRWZ	**Pori Road**	**10.73**	**199**	P	**Pn**	**22 25 54.2**	**-1.8**
BFZ	**Birch Farm**	**10.77**	**197**	P	**Pn**	**22 25 53.6**	**-2.9**
BFZ	**Birch Farm**	**10.77**	**197**		**Pn**	**22 25 53.6**	**-2.9**
BFZ				S	**S**	**22 27 51.1**	**-6.3**
MRZ	**Mangatainoka R**	**10.94**	**200**	P	Pn	22 25 54.6	-4.0
TIWZ	**Tintock**	**10.96**	**199**	P	**Pn**	**22 25 56.5**	**-2.3**
CPWZ	**Castlepoint**	**11.00**	**197**	P	**Pn**	**22 25 57.8**	**-1.5**
HOWZ	**Holdsworth Sta**	**11.17**	**200**	P	Pn	22 25 57.5	-3.9
OGWZ	**Otaki Gorge**	**11.20**	**201**	P	**Pn**	**22 25 58.2**	**-3.5**
TMWZ	**Te Maipa**	**11.26**	**198**	P	**Pn**	**22 25 59.4**	**-3.1**
KIW	**Kapiti Island**	**11.32**	**202**	P	**Pn**	**22 25 59.7**	**-3.5**
MTW	**Mount Morrison**	**11.42**	**199**	P	**Pn**	**22 26 01.4**	**-2.9**
CAW	**Cannon Point**	**11.50**	**201**	P	**Pn**	**22 26 01.6**	**-3.6**
TRWZ	**Traveller**	**11.59**	**198**	P	**Pn**	**22 26 03.1**	**-3.2**
DUWZ	**D'Urville Isla**	**11.61**	**205**	P	**Pn**	**22 26 03.6**	**-3.0**
PAWZ	**Paruwai Farm**	**11.65**	**199**	P	**Pn**	**22 26 03.3**	**-3.7**
MSWZ	**Moikau Station**	**11.73**	**200**	P	**Pn**	**22 26 04.5**	**-3.4**
MSWZ	**Moikau Station**	**11.73**	**200**	P	**Pn**	**22 26 04.4**	**-3.5**
SNZO	**South Karori**	**11.80**	**202**	P	**P**	**22 26 05.9**	**-2.8**
SNZO				S	**S**	**22 28 14.1**	**-6.0**
BHW	**Baring Head**	**11.83**	**201**	P	P	22 26 05.1	-4.1
BHW	**Baring Head**	**11.83**	**201**	P	**P**	**22 26 05.6**	**-3.6**
TCW	**Tory Channel**	**11.85**	**203**	P	**P**	**22 26 05.7**	**-3.6**
PLWZ	**Palliser**	**11.87**	**199**	P	**P**	**22 26 06.4**	**-3.2**
PLWZ	**Palliser**	**11.87**	**199**	P	**P**	**22 26 06.4**	**-3.2**
TUWZ	**Tuamarina**	**12.16**	**204**	P	**P**	**22 26 09.7**	**-3.1**
TUWZ	**Tuamarina**	**12.16**	**204**	P	**P**	**22 26 09.6**	**-3.1**
TUWZ				S	**S**	**22 28 20.3**	**-7.5**
NNZ	**Nelson**	**12.18**	**206**	P	**P**	**22 26 10.1**	**-2.8**
NNZ	**Nelson**	**12.18**	**206**	P	**P**	**22 26 09.9**	**-3.1**
NNZ				S	**S**	**22 28 21.4**	**-6.8**
QRZ	**Quartz Range**	**12.19**	**210**	P	**P**	**22 26 10.7**	**-2.5**
QRZ	**Quartz Range**	**12.19**	**210**	P	**P**	**22 26 11.0**	**-2.1**
QRZ				S	**S**	**22 28 23.2**	**-5.3**
CMWZ	**Cape Campbell**	**12.35**	**202**	P	**P**	**22 26 15.0**	**+0.1**
CMWZ	**Cape Campbell**	**12.35**	**202**	P	**P**	**22 26 14.1**	**-0.8**
BSWZ	**Blackbirch Sta**	**12.43**	**203**	P	**P**	**22 26 13.8**	**-2.0**
BSWZ	**Blackbirch Sta**	**12.43**	**203**	P	**P**	**22 26 13.6**	**-2.3**
THZ	**Tophouse**	**12.83**	**206**	P	**P**	**22 26 17.7**	**-2.6**
THZ	**Tophouse**	**12.83**	**206**	P	**P**	**22 26 18.0**	**-2.3**
THZ				S	**S**	**22 28 36.0**	**-5.7**
MSVF	**Nonsavu**	**12.84**	**350**	*d* P	**P**	**22 26 17.9**	**-2.8**
MSVF	**Nonsavu**	**12.84**	**350**	P	**P**	**22 26 19.4**	**-1.2**
KHZ	**Kahutara**	**13.17**	**203**	P	**P**	**22 26 21.7**	**-2.2**
DSZ	**Denniston Nort**	**13.26**	**209**	P	**P**	**22 26 24.3**	**-0.6**
CTZ	**Chatham Island**	**13.47**	**171**	P	**Pn**	**22 26 33.0**	**+4.6**
LTZ	**Lake Taylor**	**13.94**	**206**	P	**P**	**22 26 31.0**	**-1.6**
NIUE	**Niue**	**14.29**	**40**	P	**P**	**22 26 34.2**	**-2.4**
NIUE					**S**	**22 29 12.9**	**+1.3**
OXZ	**Oxford**	**14.50**	**205**	P	**P**	**22 26 37.0**	**-1.6**
CRLZ	**Canterbury Las**	**14.51**	**203**	P	**P**	**22 26 39.0**	**+0.3**
CRLZ				S	**S**	**22 29 10.9**	**-4.5**
MQZ	**McQueen's Vall**	**14.62**	**203**	P	**P**	**22 26 38.4**	**-1.4**
MQZ				S	**S**	**22 29 14.6**	**-2.9**
DZM	**Mont Dzumac**	**15.06**	**300**	*eP*	**Pn**	**22 26 47.8**	**+0.5**
	528nm,1.1s						
DZM	**Mont Dzumac**	**15.06**	**300**	P	**P**	**22 26 45.5**	**+0.4**
	13nm,0.3s,baz=97,slow=12,SNR=25						
DZM				S	**S**	**22 29 26.6**	**-0.5**
	baz=4.1,slow=18,SNR=1.0						
DZM	**Mont Dzumac**	**15.06**	**300**	P	**P**	**22 26 43.5**	**-1.6**
RPZ	**Rata Peaks**	**15.20**	**207**	P	**P**	**22 26 46.6**	**+0.3**
	4.0nm,0.3s,baz=262,slow=3.6,SNR=18						
RPZ				S	**S**	**22 29 28.2**	**-1.2**
	5.1nm,0.3s,baz=70,slow=19,SNR=6.5						
RPZ	**Rata Peaks**	**15.20**	**207**	P	**P**	**22 26 46.9**	**+0.6**
RPZ				IAmb	IAmb	22 27 12.9	
	comp=Z,38nm,0.6s						
FOZ	**Fox Glacier**	**15.56**	**210**	P	**P**	**22 26 49.8**	**-0.4**
FOZ				S	**S**	**22 29 30.9**	**-5.6**
LBZ	**Lake Benmore**	**16.11**	**207**	P	**Pn**	**22 27 02.3**	**+3.2**
WKZ	**Wanaka**	**16.95**	**209**	P	**P**	**22 27 04.3**	**-0.9**
WKZ				IAmb	IAmb	22 27 41.3	
	comp=Z,128nm,1.8s						
MLZ	**Mavora Lakes**	**17.76**	**210**	P	**P**	**22 27 14.9**	**+1.1**
AFI	**Afiamalu**	**17.95**	**25**	P	**P**	**22 27 13.5**	**-2.7**
AFI				S	**S**	**22 30 15.9**	**-8.2**
AFI				pmax	pmax		
	comp=Z,232nm,0.9s						
AFI	**Afiamalu**	**17.95**	**25**	P	**P**	**22 27 13.6**	**-2.7**
	comp=Z,14nm,0.3s,baz=266,slow=2.2,SNR=22						
AFI				S	**S**	**22 30 15.9**	**-8.2**
	comp=Z,17nm,0.3s,baz=48,slow=22,SNR=5.5						
AFI	**Afiamalu**	**17.95**	**25**	P	**P**	**22 27 13.5**	**-2.7**
WHZ	**Wether Hill Ro**	**18.25**	**209**	P	**P**	**22 27 20.3**	**+1.3**
DCZ	**Deep Cove**	**18.26**	**211**	P	**P**	**22 27 19.3**	**+0.3**
RAR	**Rarotonga**	**20.02**	**67**	P	**P**	**22 27 36.0**	**-1.8**
RAR	**Rarotonga**	**20.02**	**67**	P	**P**	**22 27 36.0**	**-1.8**
	comp=Z,13nm,0.3s,baz=217,slow=10,SNR=2.2						
RAR	**Rarotonga**	**20.02**	**67**	IAmb	IAmb	22 27 41.4	
	comp=Z,237nm,1.8s						
FUNA	**Funafuti**	**21.84**	**357**	P	**P**	**22 27 52.5**	**-1.9**
TBI	**Tubuai**	**27.70**	**83**	*eP*	**P**	**22 28 47.5**	**+0.6**
	comp=Z,147nm,1.0s						
HNR	**Honiara**	**28.33**	**313**	P	**P**	**22 28 51.0**	**-1.5**
	comp=Z,172nm,0.7s,baz=122,slow=0.9,SNR=5.3						
HNR	**Honiara**	**28.33**	**313**	P	**P**	**22 28 50.9**	**-1.6**
KNTN	**Kanton**	**28.50**	**17**	P	**P**	**22 28 52.4**	**-1.6**
TOO	**Toolangi**	**29.71**	**247**	P	**P**	**22 29 07.8**	**+3.3**
TOO				pmax	pmax		
	comp=Z,14nm,1.1s						
TOO	**Toolangi**	**29.71**	**247**	P	**P**	**22 29 07.8**	**+3.3**
PPT	**Papeete**	**30.14**	**72**	P	**P**	**22 29 08.1**	**-0.3**
	comp=Z,28nm,0.6s,baz=221,slow=20,SNR=2.4						
TIAR	**Tiarei**	**30.33**	**72**	*eP*	**P**	**22 29 10.3**	**+0.2**
	comp=Z,25nm,0.7s						
TARA	**Tarawa**	**32.42**	**346**	P	**P**	**22 29 27.1**	**-1.1**
CTA	**Charters Tower**	**32.48**	**280**	P	**P**	**22 29 30.6**	**+1.8**
	comp=Z,37nm,0.7s,baz=104,slow=11,SNR=71						
CTA				ScP	**ScP**	**22 35 16.9**	**+0.6**
	comp=Z,12nm,0.9s,baz=165,slow=3.6,SNR=7.9						
CTAO	**Charters Tower**	**32.48**	**280**	P	**P**	**22 29 30.8**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,41nm,0.8s						
CTAO	**Charters Tower**	**32.48**	**280**	P	**P**	**22 29 30.8**	**+2.0**
CTAO				IAmb	IAmb	22 29 32.8	
	comp=Z,40nm,0.8s						
STKA	**Stephens Creek**	**33.16**	**257**	P	**P**	**22 29 37.1**	**+2.6**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
STKA	**Stephens Creek**	**33.16**	**257**	P	**P**	**22 29 36.9**	**+2.5**
	comp=Z,23nm,0.7s,baz=91,slow=9.5,SNR=36						
STKA				ScP	**ScP**	**22 35 20.3**	**+1.8**
	comp=Z,10nm,0.9s,baz=62,slow=6.2,SNR=5.2						
STKA	**Stephens Creek**	**33.16**	**257**	P	**P**	**22 29 37.1**	**+2.6**
KRVT	**Keravat (AS076**	**37.34**	**309**	P	**P**	**22 30 09.7**	**-0.3**
	comp=Z,432nm,0.6s,baz=317,slow=0.1,SNR=52						
PMG	**Port Moresby**	**37.42**	**297**	P	**P**	**22 30 11.9**	**+1.3**
PMG						22 32 22.4	
PMG				pmax	pmax		
	comp=Z,37nm,1.0s						
PMG	**Port Moresby**	**37.42**	**297**	P	**P**	**22 30 10.9**	**+0.3**
	comp=Z,22nm,0.7s,baz=113,slow=4.6,SNR=12						
PMG				PcP	**PcP**	**22 32 22.4**	**+1.4**
	comp=Z,24nm,0.8s,baz=157,slow=3.0,SNR=5.9						
PMG	**Port Moresby**	**37.42**	**297**	P	**P**	**22 30 11.9**	**+1.3**
BBOO	**Buckleboo**	**37.66**	**255**	P	**P**	**22 30 13.6**	**+1.2**
BBOO				IAmb	IAmb	22 30 14.7	
	comp=Z,173nm,1.9s						
COEN	**Coen**	**37.99**	**287**	P	**P**	**22 30 16.7**	**+1.3**
KWAJ	**Kwajalein Atol**	**40.92**	**340**	*i* P	**P**	**22 30 39.7**	**+0.5**
AS31	**Alice Springs**	**41.76**	**268**	ScP	**ScP**	**22 35 51.5**	**+0.3**
ASAR	**Alice Springs**	**41.76**	**268**	P	**P**	**22 30 46.7**	**+0.6**
	comp=Z,13nm,0.8s,baz=106,slow=7.4,SNR=63						
ASAR				ScP	**ScP**	**22 35 52.0**	**+0.8**
	comp=Z,19nm,0.9s,baz=116,slow=4.3,SNR=21						
ASAR				S	**S**	**22 36 30.1**	**-6.6**
	comp=Z,2.0nm,0.9s,baz=107,slow=16,SNR=2.9						
ASAR				ScS	**ScS**	**22 40 09.6**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=96,slow=6.2,SNR=4.3						
ASAR	**Alice Springs**	**41.76**	**268**	P	**P**	**22 30 46.2**	**+0.1**
ASAR					**ScP**	**22 35 51.4**	**+0.2**
MANU	**Manus Island**	**42.18**	**306**	P	**P**	**22 30 49.5**	**+0.1**
MANU				IAmb	IAmb	22 30 50.9	
	comp=Z,119nm,0.9s						
WR0	**Warramunga Arr**	**42.57**	**273**	P	**P**	**22 30 53.5**	**+0.9**
WRAB	**Tennant Creek**	**42.75**	**273**	*i* P	**P**	**22 30 55.0**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,54nm,0.9s						
WRAB	**Tennant Creek**	**42.75**	**273**	P	**P**	**22 30 54.4**	**+0.5**
WRA	**Warramunga Arr**	**42.76**	**273**	P	**P**	**22 30 54.7**	**+0.7**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**42.76**	**273**	P	**P**	**22 30 54.5**	**+0.5**
	comp=Z,58nm,0.7s,baz=111,slow=7.8,SNR=146						
WRA				ScP	**ScP**	**22 35 56.4**	**+1.2**
	comp=Z,10nm,0.9s,baz=110,slow=4.0,SNR=12						
WRA				S	**S**	**22 36 49.1**	**-2.1**
	comp=Z,9.9nm,0.7s,baz=111,slow=14,SNR=14						
WRA	**Warramunga Arr**	**42.76**	**273**	P	**P**	**22 30 54.7**	**+0.7**
WRA					**ScP**	**22 35 56.4**	**+1.2**
FORT	**Forrest**	**44.73**	**256**	P	**P**	**22 31 10.0**	**+0.5**
FORT				IAmb	IAmb	22 31 12.1	
	comp=Z,80nm,0.8s						
JAY	**Jayapura**	**46.73**	**299**	P	**P**	**22 31 25.5**	**+0.4**
	comp=Z,40nm,0.9s,baz=108,slow=3.0,SNR=10						
GENI	**Genyem**	**47.09**	**298**	P	**P**	**22 31 29.4**	**+1.6**
SBA	**Scott Base**	**47.90**	**184**	P	P	22 31 37.9	+4.8
SBA				pmax	pmax		
	comp=Z,15nm,1.1s						
SBA	**Scott Base**	**47.90**	**184**	P	P	22 31 37.9	+4.8
KNRA	**Kununurra**	**49.37**	**275**	IAmb	IAmb	22 31 46.9	
	comp=Z,41nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.01**	**271**	P	**P**	**22 31 58.4**	**+1.1**
	comp=Z,33nm,0.9s,baz=131,slow=6.7,SNR=30						
FITZ	**Fitzroy Crossi**	**51.01**	**271**	P	**P**	**22 31 58.4**	**+1.1**
NWAO	**Narrogin (SRO)**	**53.12**	**250**	P	**P**	**22 32 13.5**	**+1.0**
	comp=Z,13nm,1.0s,baz=77,slow=4.4,SNR=4.1						
AIN	**Ainahou**	**54.69**	**28**	IAmb	IAmb	22 32 25.9	
	comp=Z,173nm,1.2s						
MWH	**Moku'aweowe**	**54.73**	**28**	IAmb	IAmb	22 32 25.5	
	comp=Z,100nm,0.9s						
HUH	**Hualalai**	**54.82**	**28**	IAmb	IAmb	22 32 27.0	
	comp=Z,123nm,1.1s						
MLH	**Mauna Loa**	**54.83**	**28**	P	**P**	**22 32 24.8**	**-0.2**
SIJI	**Sorong**	**55.10**	**293**	P	**P**	**22 32 27.2**	**+0.3**
	comp=Z,13nm,0.5s,baz=34,slow=15,SNR=4.7						
KEKH	**Kekaha**	**55.50**	**22**	IAmb	IAmb	22 32 30.6	
	comp=Z,111nm,0.8s						
KIP	**Kipapa**	**55.57**	**25**	P	**P**	**22 32 30.1**	**+0.2**
KIP				pmax	pmax		
	comp=Z,385nm,1.6s						
KIP	**Kipapa**	**55.57**	**25**	P	**P**	**22 32 30.1**	**+0.2**
GUMO	**Guam**	**55.58**	**317**	P	**P**	**22 32 29.2**	**-0.9**
	comp=Z,123nm,0.7s,baz=167,slow=11,SNR=6.4						
GUMO	**Guam**	**55.58**	**317**	P	**P**	**22 32 28.1**	**-2.0**
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**22 33 01.4**	**+3.5**
	comp=Z,35nm,0.9s,baz=30,slow=2.0,SNR=54						
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**22 33 01.3**	**+3.5**
QSPA				PcP	**PcP**	**22 33 43.8**	**+3.0**
QSPA				IAmb	IAmb	22 34 16.8	
	comp=Z,48nm,0.9s						
KAPI	**Kappang**	**62.29**	**281**	P	**P**	**22 33 16.8**	**+0.9**
	comp=Z,12nm,0.8s,baz=180,slow=2.0,SNR=3.7						
JAGI	**Jajag, Banyuwa**	**65.34**	**275**	P	**P**	**22 33 34.7**	**-0.9**
JAGI				IAmb	IAmb	22 33 36.7	
	comp=Z,43nm,1.1s						
SPMM	**Sapulut**	**70.33**	**288**	P	**P**	**22 34 08.0**	**+1.4**
LEM	**Lembang**	**71.77**	**273**	P	**P**	**22 34 14.7**	**-0.7**
	comp=Z,28nm,0.7s,baz=225,slow=20,SNR=5.6						
MAW	**Mawson**	**71.79**	**201**	P	**P**	**22 34 16.5**	**+2.2**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MAW	**Mawson**	**71.79**	**201**	P	**P**	**22 34 16.4**	**+2.2**
	comp=Z,2.9nm,0.7s,baz=154,slow=7.3,SNR=7.3						
MAW	**Mawson**	**71.79**	**201**	P	**P**	**22 34 16.5**	**+2.2**
TGY	**Tagaytay City**	**72.35**	**299**	P	**P**	**22 34 18.7**	**+0.2**
	comp=Z,141nm,0.4s,baz=197,slow=8.3,SNR=4.0						
SBUM	**Sibu**	**72.62**	**284**	P	**P**	**22 34 21.0**	**+0.9**
SBUM	**Sibu**	**72.62**	**284**	P	**P**	**22 34 20.6**	**+0.5**
KSM	**Kuching**	**73.71**	**282**	P

WHN	Wuhan	87.30	308	⇑P		P	22 35 38.8 +1.3
KMRM	Mail Ridge	87.31	39	IAmb		IAmb	22 35 41.1
	comp=Z,20nm,0.9s						
BBRC	Big Bear Solar	87.35	47	P		P	22 35 39.6 +1.7
	baz=230						
LRMC	Laurel Mtn Rad	87.65	46	P		P	22 35 40.6 +1.3
	baz=230,SNR=13						
RRX	Edison Barstow	87.69	47	P		P	22 35 40.4 +1.2
	baz=230						
KHMM	Horse Mountain	87.75	39	IAmb		IAmb	22 35 41.8
	comp=Z,19nm,0.8s						
BELC	Belle Mtn. Jos	87.77	48	P		P	22 35 41.5 +1.6
	baz=231,SNR=36						
O02D	Mt. Diablo Mer	87.78	40	P		P	22 35 41.5 +1.8
	baz=226,SNR=25						
MDJ	Mudanjiang	87.91	326	P		P	22 35 41.5 +1.5
MDJ				pmax		pmax	
	comp=Z,64nm,1.2s						
MDJ				pmax		pmax	
	comp=Z,640nm,4.7s						
BC3	Big Chuckawall	87.91	49	P		P	22 35 42.4 +1.9
	baz=231,SNR=26						
GLA	Glamis	87.94	49	P		P	22 35 42.6 +2.1
	baz=231,SNR=14						
AFDM	Forest Hills D	87.97	42	IAmb		IAmb	22 35 42.5
	comp=Z,22nm,1.2s						
CWC	Cottonwood Cre	88.03	45	P		P	22 35 42.0 +1.0
	baz=229						
DL2	Dalian	88.08	318	P		P	22 35 42.1 +1.2
DL2				pmax		pmax	
	comp=Z,62nm,0.8s						
HEC	Hector,Ludlow	88.08	47	P		P	22 35 42.6 +1.4
	baz=230,SNR=11						
GSC	Goldstone, Bar	88.09	47	P		P	22 35 42.5 +1.3
	baz=230,SNR=23						
GSC	Goldstone, Bar	88.09	47	IAmb		IAmb	22 35 43.7
	comp=Z,38nm,1.1s						
HSIG		88.13	55	IAmb		IAmb	22 35 43.9
	comp=Z,25nm,1.1s						
MPMC	Manual Prospec	88.15	46	P		P	22 35 42.8 +1.1
	baz=230,SNR=21						
WDC	Whiskeytown Da	88.20	40	IAmb		IAmb	22 35 43.9
	comp=Z,32nm,1.1s						
OMMB	Old Mammoth Mi	88.24	44	IAmb		IAmb	22 35 44.5
	comp=Z,32nm,1.5s						
CHAI	Chaiyaphum	88.34	289	P		P	22 35 44.1 +1.4
TIN	Tinemaha, Big	88.34	45	P		P	22 35 43.6 +1.3
	baz=229,SNR=5.4						
MLAC	Mammoth, Mammo	88.35	44	P		P	22 35 43.6 +1.0
	baz=229						
N02D	Trinity Center	88.38	39	P		P	22 35 44.0 +1.6
	baz=226,SNR=10						
O03E	Paynes Creek	88.41	40	P		P	22 35 43.4 +0.7
	baz=227,SNR=16						
IRM	Iron Mountain	88.42	48	P		P	22 35 44.7 +1.9
	baz=231,SNR=37						
113A	Mohawk Valley,	88.46	50	IAmb		IAmb	22 35 45.9
	comp=Z,48nm,1.2s						
GMRC	Granite Mounta	88.48	48	P		P	22 35 44.7 +1.5
	baz=231,SNR=16						
NONG	Nongkai	88.55	292	P		P	22 35 45.6 +2.0
WAKR	Walker	88.57	43	IAmb		IAmb	22 35 46.0
	comp=Z,54nm,1.3s						
Y12C	Blythe	88.57	49	P		P	22 35 45.3 +1.9
	baz=231,SNR=7.6						
Y12C	Blythe	88.57	49	IAmb		IAmb	22 35 46.4
	comp=Z,37nm,1.0s						
M02C	Callahan	88.59	39	P		P	22 35 45.1 +1.7
	baz=226,SNR=12						
214A	Organ Pipe Nat	88.61	51	P		P	22 35 45.6 +2.0
	baz=232						
214A	Organ Pipe Nat	88.61	51	IAmb		IAmb	22 35 46.9
	comp=Z,43nm,1.2s						
L02E	Cave Junction	88.72	38	P		P	22 35 45.5 +1.6
	baz=226						
TUQ	Turquoise Moun	88.73	47	P		P	22 35 45.6 +1.4
	baz=231,SNR=12						
FURC	Furnace Creek,	88.80	46	P		P	22 35 45.5 +1.2
	baz=230						
SHOC	Shoshone, Teco	88.80	47	P		P	22 35 45.7 +1.3
	baz=230,SNR=6.3						
GRAC	Grapevine Rang	88.83	45	P		P	22 35 45.9 +1.4
	baz=230						
PNTR	Pine Nut	88.86	42	IAmb		IAmb	22 35 47.1
	comp=Z,48nm,1.2s						
YBH	Yreka Blue Hor	88.90	39	IAmb		IAmb	22 35 47.4
	comp=Z,34nm,1.1s						
BEKR	Beckworth	88.94	41	IAmb		IAmb	22 35 47.2
	comp=Z,18nm,1.1s						
SNY	Shenyang	88.98	321	⇑P		P	22 35 46.0 +1.0
SNY				pmax		pmax	
	comp=Z,49nm,1.2s						
SNY				pmax		pmax	
	comp=Z,390nm,3.7s						
SNY				LR		LR	
	comp=Z,660nm,4.1s						
SNY				LR		LR	
	comp=Z,470nm,4.4s						
SNY				LR		LR	
	comp=Z,430nm,4.4s						
YERR	Yerington	89.00	43	IAmb		IAmb	22 35 47.6
	comp=Z,39nm,1.3s						
TIA	Tai'an	89.02	314	P		P	22 35 47.0 +1.6
TIA				pmax		pmax	
	comp=Z,41nm,0.7s						
K02D	Willamette Mer	89.06	38	P		P	22 35 46.9 +1.4
	baz=226,SNR=5.5						
PDMCI	Parker Dam,Lak	89.16	49	P		P	22 35 47.9 +1.8
	baz=232,SNR=19						
RYN	Ryan	89.19	43	IAmb		IAmb	22 35 48.5
	comp=Z,38nm,1.5s						
NVAR	Mina Array Bea	89.19	44	P		P	22 35 47.2 +0.8
	comp=Z,18nm,1.0s,baz=220,slow=7.5,SNR=51						
J01E	Myrtle Point	89.25	37	P		P	22 35 47.7 +1.4
	baz=225						
NV11	Mina Array Sit	89.28	44	IAmb		IAmb	22 35 48.9
	comp=Z,30nm,1.2s						
CN2	Changchun	89.37	324	eP		P	22 35 47.0 +0.1
CN2				pmax		pmax	
	comp=Z,120nm,1.0s						
PAHR	Pah Rah Range	89.39	42	IAmb		IAmb	22 35 49.3
	comp=Z,25nm,1.2s						
M04C	Macdoel	89.41	39	P		P	22 35 48.5 +1.2
	baz=227,SNR=6.4						
L04D	Klamath Falls	89.45	39	P		P	22 35 48.6 +1.1
	baz=226,SNR=11						
TPNV	Topopah Spring	89.48	46	P		P	22 35 49.1 +1.3
	baz=230,SNR=28						
TPNV	Topopah Spring	89.48	46	IAmb		IAmb	22 35 50.2
	comp=Z,27nm,1.0s						
PBKT	Sadao Pong	89.52	289	P		P	22 35 50.6 +2.5
Y14A	Wickenburg	89.68	50	IAmb		IAmb	22 35 51.4
	comp=Z,25nm,0.9s						
KVN	Kaiserville	89.71	43	IAmb		IAmb	22 35 50.8
	comp=Z,30nm,1.3s						
GRNR	Gornyy	89.72	334	⇓iP		P	22 35 50.0 +1.7
GRNR				pmax		pmax	
	comp=Z,50nm,1.3s						
I03D	Drain, OR	89.92	37	P		P	22 35 50.8 +1.4
	baz=226						
K04D	Chiloquin, OR	90.03	39	P		P	22 35 51.4 +1.2
	baz=227						
TUC	Tucson	90.19	52	P		P	22 35 53.2 +2.1
	baz=234						
TUC	Tucson	90.19	52	P		P	22 35 53.0 +1.9
TUC				pmax		pmax	
	comp=Z,28nm,1.0s						
TUC	Tucson	90.19	52	P		P	22 35 53.0 +1.9
TUC				IAmb		IAmb	22 35 54.5
	comp=Z,28nm,0.9s						
UTHA	Uthaitani	90.24	288	P		P	22 35 53.9 +2.4
J04D	Umpqua Nationa	90.26	38	P		P	22 35 52.5 +1.2
	baz=227						
MOD	Modoc Plateau	90.33	40	IAmb		IAmb	22 35 53.6
	comp=Z,29nm,0.9s						
KLR	Kul'dur	90.40	330	iP		P	22 35 51.9 +0.4
KLR				pmax		pmax	
	comp=Z,55nm,0.9s						
KLR	Kul'dur	90.40	330	P		P	22 35 52.7 +1.2
	comp=Z,36nm,0.7s,baz=115,slow=3.8						
GYA	Guiyang	90.41	301	⇑iP		P	22 35 53.6 +1.3
GYA				pmax		pmax	
	comp=Z,20nm,0.8s						
J05D	Fort Rock, OR	90.76	38	P		P	22 35 54.8 +1.2
	baz=227,SNR=12						
KDAK	Kodiak Island	90.77	14	ceP		P	22 35 54.3 +1.3
R11A	Troy Canyon, C	90.78	45	P		P	22 35 54.6 +0.8
	baz=231,SNR=8.7						
H04D	Lebanon	90.81	37	P		P	22 35 55.1 +1.6
	baz=226						
X16A	Lo Mia Camp, P	91.00	50	IAmb		IAmb	22 35 58.0
	comp=Z,15nm,0.9s						
BMN	Battle Mountai	91.12	43	IAmb		IAmb	22 35 57.3
	comp=Z,21nm,1.1s						
I05D	Terrebonne, OR	91.42	38	P		P	22 35 57.6 +1.1
	baz=227						
WVOR	Wild Horse Val	91.61	40	IAmb		IAmb	22 35 59.6
	comp=Z,24nm,1.1s						
U15A	North Rim	91.66	48	IAmb		IAmb	22 36 00.8
	comp=Z,21nm,0.8s						
WUAZ	Wupatki	91.70	49	P		P	22 35 59.7 +1.5
	baz=233						
WUAZ	Wupatki	91.70	49	IAmb		IAmb	22 36 00.7
	comp=Z,16nm,0.9s						
BJT	Baijiatuau	92.01	316	IAmb		IAmb	22 36 01.2
	comp=Z,19nm,0.8s						
BJI	Beijing	92.02	316	⇓iP		P	22 36 00.4 +1.2
BJI				sP		sP	22 37 55.1 -1.1
BJI				S		S	22 46 34.3 +4.3
BJI				pmax		pmax	
	comp=Z,24nm,0.9s						
CMAR	Chiang Mai Arr	92.15	290	P		P	22 36 00.7 +0.4
	comp=Z,2.0nm,0.7s,baz=144,slow=4.1,SNR=13						
E04D	Cinebar	92.30	35	P		P	22 36 01.8 +1.4
	baz=226						
CMMT	Chiang Mai	92.33	290	P		P	22 36 03.7 +2.5
CHTO	Chiang Mai	92.33	290	P		P	22 36 01.0 -0.2
CHTO				pmax		pmax	
	comp=Z,9.0nm,1.3s						
CHTO	Chiang Mai	92.33	290	P		P	22 36 01.0 -0.2
121A	Cookes Peak, D	92.39	53	P		P	22 36 01.8 +0.4
	baz=235						
D03D	Eldon	92.72	34	P		P	22 36 03.8 +1.5
	baz=226						
TIY	Taiyuan	92.90	313	eP		P	22 36 05.5 +2.0
TIY				pP		pP	22 37 24.1 -0.6
TIY				S		S	22 46 40.3 +2.2
TIY				pmax		pmax	
	comp=Z,56nm,1.4s						
TIY				LR		LR	
	comp=Z,110nm,4.7s						
TIY				LR		LR	
	comp=Z,200nm,4.1s						
MA2	Magadan	92.98	345	ceP		P	22 36 02.5 -0.7
MA2				pmax		pmax	
	comp=Z,27nm,1.2s						
XAN	Xi'an	93.07	308	P		P	22 36 05.8 +1.5
XAN				pP		pP	22 37 24.3 -1.2
TXAR	Lajitas Array	93.55	58	P		P	22 36 07.5 +0.8
	comp=Z,1.6nm,1.0s,baz=216,slow=6.2,SNR=9.2						
MNTX	Cornudas Mount	93.60	55	P		P	22 36 07.3 +0.6
	baz=236						
DUG	Dugway, Tooele	93.61	45	P		P	22 36 07.6 +0.8
	baz=232						
E07A	Sunnyside	93.68	37	IAmb		IAmb	22 36 08.8
	comp=Z,9.4nm,0.8s						
B05A	Bryant	93.71	34	P		P	22 36 08.3 +1.5
	baz=227						
HAWA	Hanford	93.74	37	P		P	22 36 07.2 +0.2
HAWA				IAmb		IAmb	22 36 08.9
	comp=Z,11nm,0.9s						
MFID	Camas Ranch	93.83	41	IAmb		IAmb	22 36 09.4
	comp=Z,14nm,0.8s						
RC01	Rabbit Creek A	94.39	14	IAmb		IAmb	22 36 11.2
	comp=Z,20nm,1.1s						
MVCO	Mesa Verde	94.58	49	P		P	22 36 12.3 +1.0
	baz=235						
ANMO	Albuquerque	94.66	52	P		P	22 36 12.4 +0.7
	baz=236						
ANMO	Albuquerque	94.66	52	P		P	22 36 11.3 -0.5
ANMO				pmax		pmax	
	comp=Z,9.0nm,1.4s						
ANMO	Albuquerque	94.66	52	P		P	22 36 11.3 -0.5
F10A	Beach Ranch, E	94.68	38	IAmb		IAmb	22 36 12.4
	comp=Z,9.3nm,0.8s						
PLID	Pearl Lake	94.78	40	IAmb		IAmb	22 36 13.6
	comp=Z,16nm,1.3s						
TTA	Tatalina	94.94	11	IAmb		IAmb	22 36 13.4
	comp=Z,17nm,1.2s						
CD2	Chengdu	94.97	303	P		P	22 36 13.8 +0.7
GHO	Glory Hole Cre	95.17	14	IAmb		IAmb	22 36 15.9
	comp=Z,15nm,0.8s						
HHC	Hu-ho-hao-te	95.30	315	eP		P	22 36 14.8 +0.4
HHC				pmax		pmax	
	comp=Z,4.0nm,1.0s						
C09A	Chrisman Ranch	95.31	36	IAmb		IAmb	22 36 16.2
	comp=Z,27nm,1.6s						
SCM	Sheep Creek Mo	95.57	15	IAmb		IAmb	22 36 16.2
	comp=Z,22nm,0.9s						
AHID	Auburn Hatcher	96.17	44	IAmb		IAmb	22 36 20.4
	comp=Z,11nm,1.0s						
MCARA	McCarthy VSAT	96.19	17	IAmb		IAmb	22 36 20.3
	comp=Z,21nm,1.0s						
NEW	Newport	96.20	37	P		P	22 36 18.4 +0.2
	baz=230						
O20A	White River Ci	96.41	47	P		P	22 36 20.0 +0.4
	baz=235						
TRF	Thorofare Moun	96.42	13	IAmb		IAmb	22 36 22.2
	comp=Z,14nm,0.8s						
RND	Reindeer	96.66	13	IAmb		IAmb	22 36 20.9
	comp=Z,18nm,1.2s						
REDW	Red Top Meadow	96.67	43	IAmb		IAmb	22 36 22.6
	comp=Z,13nm,1.2s						
MSTX	Muleshoe	96.68	55	P		P	22 36 21.5 +0.7
	baz=238						
SDCO	Great Sand Dun	96.85	50	P		P	22 36 22.6 +0.9
	baz=237						
MCK	McKinley	96.94	13	IAmb		IAmb	22 36 24.1
	comp=Z,15nm,1.0s						
BW06	Boulder Array	97.10	44	P		Pdif	22 36 23.1 +0.4
	baz=235						
PDAR	Pinedale Array	97.10	44	P		Pdif	22 36 22.9 +0.2
	comp=Z,2.0nm,0.8s,baz=216,slow=3.1,SNR=13						
PDAR				PP		PP	22 40 23.2 -1.2
	comp=Z,0.3nm,0.7s,baz=213,slow=3.1,SNR=2.8						
PDAR				PKKP		PKKPbc	22 53 02.1 +0.1
	comp=Z,0.5nm,0.6s,baz=100,slow=6.2,SNR=4.1						
PDAR	Pinedale Array	97.10	44	P		P	22 36 21.6 -1.0
T25A	Trinidad	97.25	51	P		Pdif	22 36 23.7 +0.3
	baz=237						
MENT	Mentasta	97.36	16	IAmb		IAmb	22 36 24.2
	comp=Z,8.2nm,0.8s						
LZH	Lanzhou	97.67	307	eP		Pdif	22 36 27.9 +2.6
LZH				pP		pwP	22 37 49.4 -1.1
LZH				sP		sP	22 38 23.5 +1.0
LZH				pmax		pmax	
	comp=Z,18nm,1.2s						
LZH				pmax		pmax	
	comp=Z,61nm,5.4s						
WRH	Wood River Hil	97.77	13	IAmb		IAmb	22 36 28.6
	comp=Z,9.1nm,0.9s						
DOT	Dot Lake	97.89	15	IAmb		IAmb	22 36 26.4
	comp=Z,6.8nm,0.8s						
HDA	Harding Lake	97.94	14	P		Pdif	22 36 27.3 +1.7
	baz=208						
HDA	Harding Lake	97.94	14	IAmb		IAmb	22 36 29.4
	comp=Z,6.9nm,0.8s						
CCB	Clear Creek Bu	97.98	13	IAmb		IAmb	22 36 29.4
	comp=Z,7.7nm,0.9s						
COLA	College	98.17	13	P		P	22 36 26.0 -0.6
COLA				pmax		pmax	
	comp=Z,74nm,0.3s						
COLA	College	98.17	13	P		P	22 36 26.0 -0.6
SCRK	Sand Creek	98.20	15	IAmb		IAmb	22 36 44.9
	comp=Z,27nm,2.0s						
IL31		98.28	14	IAmb		IAmb	22 38 18.0
	comp=Z,26nm,1.9s						
ILAR	Eielson Array	98.28	14	P		Pdif	22 36 26.3 -0.7
	comp=Z,4.0nm,1.1s,baz=238,slow=7.0,SNR=10						
ILAR				PKKP		PKKPbc	22 52 58.2 -1.3
	comp=Z,0.7nm,0.8s,baz=12,slow=2.4,SNR=5.4						
ILAR	Eielson Array	98.28	14	P		Pdif	22 36 25.5 -1.6
N23A	Red Feather La	98.28	47	P		P	22 36 28.2 +0.1
	baz=237						
BILL	Bilibino	98.75	355	⇑eP		P	22 36 29.3 +0.2
BILL				e			22 40 32.0
BILL				pmax		pmax	
	comp=Z,8.0nm,1.1s						
K22A	Casper	98.88	46	P		P	22 36 31.2 +0.7
	baz=237						
DAWY	Dawson	99.36	17	IAmb		IAmb	22 36 33.0
	comp=Z,12nm,1.4s						
YAK	Yakutsk	100.78	338	eP		Pdif	22 36 37.1 -1.1
YAK				pmax		pmax	
	comp=Z,11nm,0.9s						
CPUP	Villa Florida	101.01	129	PKKPbc		PKKPbc	22 52 49.7 0.0
	comp=Z,2.9nm,0.8s,baz=48,slow=3.8,SNR=5.6						
RSSD	Black Hills	101.20	45	P		Pdif	22 36 42.0 +1.1
	baz=238						
RSSD	Black Hills	101.20	45	P		Pdif	22 36 41.9 +1.1
RSSD	Black Hills	101.20	45			Pdif	22 36 41.9 +1.1
CBKS	Cedar Bluff	101.27	52	P		Pdif	22 36 41.8 +0.7
	baz=240						
GTA	Gaotai	102.11	309	eP		Pdif	22 36 46.4 +1.5
GTA				pmax		pmax	
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	102.28	318	P		Pdif	22 36 45.1 -0.3
	comp=Z,1.3nm,0.7s,baz=135,slow=5.8,SNR=7.4						
SONM				PKiKP		PKiKP	22 41 06.2 +0.9
	comp=Z,1.4nm,0.8s,baz=143,slow=4.1,SNR=5.7						
SONM				PKKPbc		PKKPbc	22 52 47.7 +0.3
	comp=Z,0.6nm,0.9s,baz=273,slow=4.2,SNR=3.8						
INK	Inuvik	104.19	16	Pdiff		Pdif	22 36 52.3 -0.9
	comp=Z,1.9nm,1.0s,baz=193,slow=3.8,SNR=3.8						
INK				PKiKP		PKiKP	22 41 07.8 -0.1
	comp=Z,1.6nm,0.7s,baz=245,slow=0.8,SNR=5.0						
W41B	Gary Mavity, V	104.83	58	P		Pdif	22 36 57.3 +0.4
	baz=243						
ODAN	Odare	105.52	292	eP		PKiKP	22 41 12.9 +0.9
YKA	Yellowknife Ar	106.07	26	PKiKP		PKiKP	22 41 10.5 -1.0
	comp=Z,0.9nm,0.7s,baz=256,slow=1.7,SNR=5.8						
JIRN	Jiri	106.83	292	eP		PKiKP	22 41 14.5 -0.1
GUN	Gumba	107.19	293	eP		PKiKP	22 41 15.0 -0.2
PKI	Pulchoki	107.42	292	eP		PKiKP	22 41 15.4 -0.3
PKIN	Phulchoki	107.43	292	eP		PKiKP	22 41 15.3 -0.3
	comp=Z,8.0nm,0.8s						
KKN	Kakani	107.62	292	eP		PKiKP	22 41 15.8 -0.1
	comp=Z,10nm,0.8s						
DMN	Daman	107.68	292	eP		PKiKP	22 41 16.1 +0.1
TIXI	Tiksi	107.95	345	PKiKP		PKiKP	22 41 14.1 -0.8
	comp=Z,3.7nm,0.6s,baz=180,slow=24,SNR=6.5						
553A	Crawfordville	108.61	65	P		PKiKP	22 41 17.4 +0.1
	baz=245						
Z50A	Ashland	108.72	62	P		PKiKP	22 41 17.2 -0.3
	baz=245						
KOLN	Koldanda	108.95	292	eP		PKiKP	22 41 19.3 +0.9
DANN	Dangsing	109.07	292	eP		PKiKP	22 41 18.2 -0.5
WCI	Wyandotte Cave	110.45	57	P		PKiKP	22 41 21.2 +0.6
	baz=247						
GOGA	Godfrey	110.67	63	P		PKiKP	22 41 21.4 +0.3
	baz=246						
Z54A	Sparta	111.08	63	P		PKiKP	22 41 22.2 +0.3
	baz=247						
V52A	Sevierville	111.52	60	P		PKiKP	22 41 22.8 +0.1
	baz=247						
V53A	Saluda	112.04	61	P		PKiKP	22 41 23.9 +0.2
	baz=248						
WMQ	Urumqi	112.20	309	ePKP		PKiKP	22 41 23.9 +0.1
T53A	Wise	112.74	60	P		PKiKP	22 41 25.6 +0.5
	baz=248						
Q52A	Bidwell	113.65	58	P		PKiKP	22 41 26.8 +0.1
	baz=249						
F45A	CMU Biological	113.72	50	P		PKiKP	22 41 27.4 +0.9
	baz=250						
T55A	Pulaski	114.09	60	P		PKiKP	22 41 28.3 +0.7
	baz=249						
N51A	Ashland	114.25	56	P		PKiKP	22 41 28.6 +0.9
	baz=250						
G47A	Hillman	114.65	51	P		PKiKP	22 41 29.2 +0.8
	baz=251						
Q54A	Coxs Mills	114.70	58	P		PKiKP	22 41 28.9 +0.2
	baz=250						
O53A	New Philadelph	114.86	57	P		PKiKP	22 41 29.2 +0.3
	baz=250						
D46A	Sault St. Mari	115.08	49	P		PKiKP	22 41 29.9 +0.8
	baz=252						
P54A	Burton	115.17	57	P		PKiKP	22 41 29.7 +0.1
	baz=250						
T57A	Hurt	115.20	61	P		PKiKP	22 41 29.9 +0.2
	baz=250						
N53A	Lisbon	115.31	56	P		PKiKP	22 41 30.2 +0.4
	baz=251						
O54A	Avella	115.44	57	P		PKiKP	22 41 30.3 +0.3
	baz=251						
T59A	Double "B" Far	116.47	61	P		PKiKP	22 41 32.4 +0.3
	baz=251						
BOSA	Boshof	116.68	204	PKP		PKiKP	22 41 33.3 +0.2
	comp=Z,2.5nm,0.6s,baz=145,slow=2.8,SNR=7.9						
BOSA				PKKPbc		PKKPbc	22 52 00.4 -0.6
	comp=Z,2.4nm,0.8s,baz=359,slow=4.4,SNR=3.9						
MKAR	Makanchi Array	116.77	310	PKP		PKPdf	22 41 32.0 -0.5
	comp=Z,5.7nm,0.7s,baz=210,slow=1.3,SNR=51						
MKAR				PKKPbc		PKKPbc	22 52 00.1 -0.6
	comp=Z,1.1nm,0.8s,baz=292,slow=3.5,SNR=7.4						
MKAR	Makanchi Array	116.77	310			PKPdf	22 41 31.9 -0.6
MAKZ	Makanchi	116.98	310	PKIKP		PKPdf	22 41 32.2 -0.7
MAKZ	Makanchi	116.98	310			PKPdf	22 41 32.2 -0.7
ZALV	Zalesovo Beam	117.17	319	PKP		PKPdf	22 41 31.9 -1.0
	comp=Z,2.9nm,0.6s,baz=174,slow=1.0,SNR=17						
RES	Resolute Bay	117.69	17	PKIKP		PKiKP	22 41 33.0 -0.4
RES	Resolute Bay	117.69	17			PKiKP	22 41 33.0 -0.4
M57A	Sunshine Farm,	118.14	57	P		PKiKP	22 41 35.4 +0.1
	baz=253						
J55A	Hilton	118.21	54	P		PKiKP	22 41 35.7 +0.4
	baz=254						
N58A	Sunbury	118.30	57	P		PKiKP	22 41 35.9 +0.3
	baz=253						
Q60A	Greensboro	118.39	59	P		PKiKP	22 41 36.3 +0.5
	baz=252						
E52A	Mattawa	118.45	51	P		PKiKP	22 41 35.8 +0.1
	baz=255						
O59A	Robesonia	118.53	58	P		PKiKP	22 41 36.1 +0.1
	baz=253						
L57A	Andrews Acres	118.53	56	P		PKiKP	22 41 36.2 +0.2
	baz=253						
I55A	Frankford	118.56	53	P		PKiKP	22 41 36.1 +0.1
	baz=254						
R61A	Willards	118.57	60	P		PKiKP	22 41 36.4 +0.2
	baz=252						
G54A	Lake Saint Pet	118.60	52	P		PKiKP	22 41 35.9 -0.1
	baz=254						
M58A	Price's Panora	118.64	57	P		PKiKP	22 41 36.2 -0.1
	baz=253						
KSH	Kashi	119.11	301	PKP		PKiKP	22 41 38.6 +1.2
KSH				PP		PP	22 43 09.9 +6.5
KSH				PKS		PKSdf	22 45 15.1 +1.0
KSH				SS		SS	22 59 03.8 +7.2
KSH				AMB		AMB	
	comp=Z,190nm,5.3s						
KSH				LR		LR	
	comp=Z,190nm,13.0s						
KSH				LR		LR	
	comp=Z,200nm,13.1s						
KSH				LR		LR	
	comp=Z,89nm,11.4s						
NRIK	Noril'sk	119.13	336	PKIKP		PKiKP	22 41 36.0 -0.3
NRIK	Noril'sk	119.13	336	PKP		PKiKP	22 41 36.0 -0.3
	comp=Z,12nm,0.8s,baz=117,slow=2.0,SNR=12						
L58A	Harry Jones Me	119.26	56	P		PKiKP	22 41 37.6 +0.2
	baz=254						
NIL	Nilore	119.40	294	PKIKP		PKPdf	22 41 37.6 -0.3
NIL	Nilore	119.40	294			PKPdf	22 41 37.6 -0.3
M59A	Waymart	119.42	57	P		PKiKP	22 41 38.3 +0.5
	baz=254				

CHMS	Chumysh	120.93	305	P	PKiKP	22 41 40.7	0.0
	SNR=23						
L61A	Hillsdale 1, H	120.95	56	P	PKiKP	22 41 40.9	+0.1
	baz=255						
AAK	Ala-Archa	121.02	304	PKIKP	PKiKP	22 41 41.1	0.0
AAK	Ala-Archa	121.02	304	P	PKiKP	22 41 41.1	0.0
	SNR=14						
AAK	Ala-Archa	121.02	304		PKiKP	22 41 41.1	0.0
USP	Ospenovka	121.17	305	P	PKiKP	22 41 41.2	0.0
	SNR=17						
D56A	ZEC Mazanza, M	121.25	51	P	PKiKP	22 41 41.1	-0.1
	baz=258						
AML	Almayashu	121.47	303	P	PKiKP	22 41 42.7	+0.4
	SNR=22						
E57A	Chemin Saint G	121.52	51	P	PKiKP	22 41 41.6	-0.2
	baz=258						
EKS2	Erkin-Say	121.54	304	P	PKiKP	22 41 42.5	+0.4
	SNR=24						
L61B	Northampton	121.64	56	P	PKiKP	22 41 42.1	0.0
	baz=256						
D57A	Chemin Vers le	121.82	51	P	PKiKP	22 41 42.4	+0.1
	baz=258						
J61A	Chester	121.94	55	P	PKiKP	22 41 43.3	+0.7
	baz=257						
J62A	Henniker	122.44	56	P	PKiKP	22 41 43.8	+0.2
	baz=257						
D58A	Chemin du LacG	122.51	51	P	PKiKP	22 41 43.6	-0.1
	baz=259						
K63A	Dunstable	122.52	56	P	PKiKP	22 41 43.6	-0.2
	baz=257						
LBNH	Lisbon	122.58	54	P	PKiKP	22 41 44.0	+0.1
	baz=258						
KBL	Kabul	123.00	294	PKIKP	PKiKP	22 41 46.1	+0.8
KBL	Kabul	123.00	294		PKiKP	22 41 46.1	+0.8
I63A	Otisfield	123.49	55	P	PKiKP	22 41 46.0	+0.4
	baz=258						
G62A	West of Eustis	123.75	53	P	PKiKP	22 41 46.3	+0.1
	baz=259						
E61A	Lac Etchemin	124.00	52	P	PKiKP	22 41 47.2	+0.6
	baz=260						
H64A	Troy	124.56	54	P	PKiKP	22 41 47.7	0.0
	baz=260						
PKME	Peaks-Kenny Pk	124.62	54	P	PKiKP	22 41 48.4	+0.6
	baz=260						
E62A	Clayton Lake	124.69	52	P	PKiKP	22 41 48.0	0.0
	baz=261						
F63A	Nahmakanta, Br	124.83	53	P	PKiKP	22 41 48.5	+0.2
	baz=260						
G64A	Maxfield	124.99	54	P	PKiKP	22 41 48.8	+0.2
	baz=260						
D62A	Allapoint, All	125.09	51	P	PKiKP	22 41 48.5	-0.2
	baz=261						
H65A	Eastbrook	125.26	54	P	PKiKP	22 41 48.7	-0.4
	baz=260						
F64A	Sherman	125.38	53	P	PKiKP	22 41 49.0	-0.3
	baz=261						
E63A	Oxbow	125.41	52	P	PKiKP	22 41 49.2	-0.2
	baz=261						
BRVK	Borovoye	125.56	316	*c i* PKIKP	PKiKP	22 41 49.1	-0.4
BRVK				pmax	pmax		
	comp=Z,35nm,1.0s						
BRVK	Borovoye	125.56	316		PKiKP	22 41 49.1	-0.4
D63A	Stockholm	125.72	52	P	PKiKP	22 41 49.7	-0.3
	baz=262						
E64A	Bridgewater	125.82	52	P	PKiKP	22 41 49.8	-0.5
	baz=262						
SCHQ	Schefferville	127.17	42	PKP	PKPdf	22 41 51.8	-0.3
	comp=Z,13nm,0.9s,baz=247,slow=3.7,SNR=5.3						
LSZ	Lusaka	127.28	214	PKIKP	PKiKP	22 41 55.0	+0.7
LSZ	Lusaka	127.28	214		PKiKP	22 41 55.0	+0.7
LMN	Caledonia Moun	127.83	53		PKiKP	22 41 53.9	-0.4
HRA	Herat	128.38	292	PKPdf	PKiKP	22 41 56.1	0.0
SPA0	Spitsbergen Ar	131.65	356	*e* PKPdf	PKiKP	22 42 00.9	-0.2
SPA0	Spitsbergen Ar	131.65	356		PKiKP	22 42 01.4	+0.3
SPITS	Spitsbergen Ar	131.65	356	PKP	PKiKP	22 42 00.5	-0.6
	comp=Z,24nm,0.7s,baz=100,slow=2.5,SNR=11						
SPITS				SKPbc	SKPab	22 44 52.6	-0.5
	comp=Z,7.9nm,0.8s,baz=105,slow=9.6,SNR=5.3						
ABKAR	Akbulak array	131.91	311	PKPdf	PKiKP	22 42 01.6	-0.7
ARU	Arti	132.27	320	*i* PKIKP	PKiKP	22 42 02.3	-0.6
ARU						22 44 27.3	
ARU				SS	SS	23 01 34.9	-4.0
ARU	Arti	132.27	320		PKPdf	22 42 01.6	-0.2
GEYT	Alibeck	132.36	295	PKP	PKiKP	22 42 03.4	-0.4
	comp=Z,14nm,0.8s,baz=225,slow=0.8,SNR=27						
GEYT				SKPbc	SKPab	22 44 56.7	-0.8
	comp=Z,16nm,1.0s,baz=180,slow=0.7,SNR=16						
SFJD	Kangerlussuaq	132.60	25	PKP	PKiKP	22 42 02.8	-0.4
	comp=Z,5.7nm,0.6s,baz=56,slow=3.6,SNR=3.8						
DAG	Danmarks Havn	132.73	6	*i* PKIKP	PKPdf	22 42 01.1	-1.0
DAG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DAG	Danmarks Havn	132.73	6	*i* P	PKPdf	22 42 01.1	-1.0
	comp=Z,11nm,0.8s						
KMBO	Kilima Mbogo	132.96	235	PKIKP	PKiKP	22 42 06.5	+0.6
KMBO	Kilima Mbogo	132.96	235	PKP	PKiKP	22 42 05.5	-0.4
	comp=Z,3.6nm,0.9s,baz=19,slow=1.4,SNR=7.3						
KMBO				SKPbc	SKPab	22 45 00.1	-1.0
	comp=Z,5.7nm,1.0s,baz=127,slow=2.7,SNR=11						
KMBO	Kilima Mbogo	132.96	235		PKiKP	22 42 06.5	+0.6
SUMG	Summit	133.09	15	PKIKP	PKiKP	22 42 04.2	-0.4
SUMG	Summit	133.09	15	*i* P	PKiKP	22 42 04.0	-0.6
	comp=Z,29nm,0.8s						
SUMG	Summit	133.09	15		PKiKP	22 42 04.2	-0.4
HAMF	Hammerfest	137.72	349	*e* PKPdf	PKiKP	22 42 12.2	-1.3
ARCES	ARCESS Array B	138.34	347	PKIKP	PKiKP	22 42 14.2	-0.7
ARCES	ARCESS Array B	138.34	347	PKhKP	PKPpre	22 42 02.4	
	comp=Z,8.6nm,0.6s,baz=48,slow=1.8,SNR=40						
ARCES				SKP		22 45 13.6	
	comp=Z,9.7nm,0.8s,baz=20,slow=3.9,SNR=7.0						
ARCES	ARCESS Array B	138.34	347	PKPdf	PKiKP	22 42 14.2	-0.7
ARE0	ARCESS Array S	138.34	347	PKPdf	PKiKP	22 42 14.1	-0.8
KTK1	Kautokeino	139.21	348	*e* PKPdf	PKiKP	22 42 16.0	-0.7
RAYN	Ar Rayn	139.46	271	PKIKP	PKPdf	22 42 16.7	+0.5
RAYN	Ar Rayn	139.46	271		PKPdf	22 42 16.7	+0.5
KLMR	Klimovskoe	140.16	331	*e* PKIKP	PKPdf	22 42 13.9	-2.3
KLMR				pmax	pmax		
	comp=Z,61nm,1.5s						
KLMR	Klimovskoe	140.16	331	*e* PKPdf	PKPdf	22 42 13.9	-2.3
KLMR				AMP		22 42 19.6	
	comp=Z,61nm,1.5s						
KLMR				*e* PP	PP	22 45 12.4	-5.8
AKT	Akhty	140.61	300	*e* PKHKP	PKPpre	22 42 12.9	
AKT				*e*		22 45 20.7	
AKT				pmax	pmax		
	comp=Z,24nm,0.9s						
STEI	Steigen	141.47	351	*e* PKPdf	PKiKP	22 42 19.7	-1.6
GROC	Groznyy	141.97	302	*e* PKHKP	PKPpre	22 42 15.2	
GROC				pmax	pmax		
	comp=Z,27nm,0.7s						
GNI	Garni	142.90	297	*c i* PKIKP	PKPdf	22 42 20.3	-1.7
GNI				pmax	pmax		
	comp=Z,163nm,1.7s						
GNI	Garni	142.90	297		PKPdf	22 42 20.3	-1.7
KONS	Konsvik	143.10	352	*e* PKPdf	PKPbc	22 42 19.1	-0.2
VRH	Novokhopyorsk	143.15	316	*e* PKIKP	PKPbc	22 42 19.2	-0.7
VRH				pmax	pmax		
	comp=Z,50nm,0.6s						
MOR8	Moi Rana	143.24	351	*e* PKPdf	PKPab	22 42 18.2	-0.2
ZEI	Tsey	143.39	302	*i* PHKP	PKPpre	22 42 19.3	
ZEI				pmax	pmax		
	comp=Z,34nm,1.1s						
CLDR	Caldiran	143.54	296	*e* P	PKPdf	22 42 22.7	-0.6
MOS	Moscow	143.60	325	*e* PKHKP	PKPpre	22 42 19.6	
MOS				pmax	pmax		
	comp=Z,186nm,1.0s						
MOS				pmax	pmax		
	comp=Z,200nm,1.0s						
GOF	Gofitskoye	143.73	306	⇓*i* PKIKP	PKPdf	22 42 22.3	-0.8
GOF				pmax	pmax		
	comp=Z,120nm,0.7s						
AKH	Akhalkalaki	143.79	300	⇑P	PKPdf	22 42 23.6	+0.1
VANB	Van	143.96	295	*e* P	PKPdf	22 42 23.5	-0.3
KBZ	Khabaz	144.01	304	PKP	PKPdf	22 42 23.0	-0.5
	comp=Z,34nm,0.7s,baz=128,slow=1.7,SNR=69						
KIV	Kislovodsk	144.14	304	*e* PKIKP	PKPbc	22 42 23.0	-0.1
KIV				pmax	pmax		
	comp=Z,154nm,1.1s						
KIV	Kislovodsk	144.14	304		PKPdf	22 42 23.4	-0.5
KARS	Kars	144.15	298	*e* P	PKPdf	22 42 24.5	+0.3
LPSR	Galich'ya Gora	144.27	319	*e* PKIKP	PKPdf	22 42 23.0	-0.7
LPSR				pmax	pmax		
	comp=Z,190nm,0.8s						
OBN	Obninsk	144.43	324	⇓*e* PKIKP	PKPdf	22 42 23.5	-0.4
OBN				*e*		22 45 42.8	
OBN				*e* PPP	PPP	22 48 56.6	
OBN				pmax	pmax		
	comp=Z,241nm,1.0s						
OBN	Obninsk	144.43	324	PKP	PKPdf	22 42 23.5	-0.4
	comp=Z,50nm,0.5s,baz=48,slow=1.0,SNR=70						
OBN	Obninsk	144.43	324		PKPdf	22 42 23.7	-0.2
PUL	Pulkovo	144.46	334	*i* PKIKP	PKPdf	22 42 23.9	+0.1
MLAZ	Malazgirt-MUS	144.61	296	*e* P	PKPdf	22 42 25.9	+0.9
EATA	Eleskirt	144.63	297	*i* P	PKiKP	22 42 26.9	-2.2
EATA				IAML_P			
	comp=Z,74nm,0.4s						
VSR	Storozhevoye	144.66	317	*i* PKIKP	PKPab	22 42 23.9	-0.5
SIRT	Sirnak	144.69	293	*e* P	PKPab	22 42 25.4	+0.3
SENK	Senkaya-Erzuru	144.71	298	*e* P	PKPab	22 42 25.7	+0.4
FINES	FINESS Array B	144.71	339	PKP	PKPab	22 42 23.8	-0.5
	comp=Z,307nm,0.8s,baz=56,slow=3.3,SNR=767						
ARTV	Artvin	144.99	299	*i* P	PKPab	22 42 26.4	+0.1
ARTV				IAML_P			
	comp=Z,2μm,0.9s						
DAGI	Agillar	145.00	299	*i* P	PKiKP	22 42 27.7	-1.9
DAGI				IAML_P			
	comp=Z,476nm,0.7s						
GURO	Guroymak-BITLI	145.02	295	*e* P	PKPab	22 42 27.6	+1.2
HOMI	Horasan	145.07	297	*i* P	PKPab	22 42 27.2	+0.5
HOMI				IAML_P			
	comp=Z,218nm,0.2s						
BATM	Batumi	145.13	300	⇑P	PKPab	22 42 26.9	+0.4
NSS	Namsos	145.13	351	*e* PKPbc	PKPab	22 42 25.1	-0.7
DDEM	Demirkent	145.14	299	*i* P	PKPab	22 42 27.8	+1.0
DDEM				IAML_P			
	comp=Z,1μm,0.5s						
DBOC	Borcka	145.17	300	*i* P	PKPab	22 42 26.8	0.0
DBOC				IAML_P			
	comp=Z,1μm,0.7s						
DBAD	Bademkaya	145.17	299	*i* P	PKPab	22 42 27.3	+0.4
DBAD				IAML_P			
	comp=Z,1μm,0.7s						
BCA	Borcka	145.19	300	*e* P	PKPbc	22 42 25.7	-0.5
MUSM	Mu-Merkez	145.42	295	*i* P	PKPab	22 42 28.7	+0.8
MUSM				IAML_P			
	comp=Z,2μm,0.8s						
VRTB	Varto-Mus	145.46	296	*i* P	PKiKP	22 42 30.5	-0.1
VRTB				IAML_P			
	comp=Z,3μm,0.9s						
VRTB	Varto-Mus	145.46	296	*e* P	PKiKP	22 42 29.9	-0.7
AKDA	Akdag	145.49	298	*i* P	PKiKP	22 42 35.9	+5.2
SVAN	Silvan-Diyarba	145.68	294	*e* P	PKPab	22 42 28.5	-0.4
BNGL	BINGOL	145.70	296	*i* P	PKiKP	22 42 31.0	-0.2
KARO	Karliova-Bingo	145.77	296	*e* P	PKiKP	22 42 30.3	-1.0
EMRE	Erzurum,Aziziy	145.79	297	*i* P	PKPab	22 42 30.0	+0.6
KRIK	Erzurum-spir	145.81	298	*i* P	PKPab	22 42 29.2	-0.3
KRIK				IAML_P			
	comp=Z,2μm,0.8s						
ECAT	Cat-ERZURUM	145.81	297	*i* P	PKPab	22 42 29.0	-0.6
CHOM	Cayeli-Rize	145.87	299	*e* P	PKPab	22 42 29.4	-0.1
BNGB	Bingl	146.07	296	*e* P	PKPab	22 42 29.9	-0.5
BGOL	Bingol	146.07	296	*i* P	PKPab	22 42 29.5	-0.9
BGOL				IAML_P			
	comp=Z,458nm,0.7s						
KOPT	Kop Dagi	146.16	297	*i* P	PKPab	22 42 31.1	+0.1
KOPT				IAML_P			
	comp=Z,1μm,0.6s						
MAZI	Mazidag	146.28	293	*e* P	PKPab	22 42 30.2	-1.1
SOC	Sochi	146.32	304	*i* PKIKP	PKPbc	22 42 28.6	-0.8
SOC				*e* PPP	PPP	22 49 10.6	
SOC				*e* SS	SS	23 04 19.0	-4.7
SOC				pmax	pmax		
	comp=Z,57nm,0.8s						
BAYT	Aydıntepe-Bayb	146.40	298	*e* P	PKPab	22 42 31.2	-0.6
DYBB	Diyarbakir	146.52	294	*e* P	PKPab	22 42 31.7	-0.5
TBLU	Trondheim	146.58	352	*e* PKPbc	PKPbc	22 42 29.2	-0.3
MACK	Trabzon	146.63	299	*i* P	PKiKP	22 42 32.5	-0.4
MACK				IAML_P			
	comp=Z,6μm,0.8s						
VSU	Vasula	146.71	335	*c i* PKP2	PKPbc	22 42 30.1	+0.1
VSU				pmax	pmax		
	comp=Z,1μm,1.3s						
VSU	Vasula	146.71	335	*e* P	PKPbc	22 42 30.2	+0.2
VSU				IAmb	IAmb	22 42 31.1	
	comp=Z,709nm,0.7s						
EUZM	Uzumlu	146.79	297	*i* P	PKPab	22 42 32.5	-0.7
EUZM				IAML_P			
	comp=Z,2μm,0.6s						
TNCL	Tunceli-Merkez	146.95	296	*i* P	PKPab	22 42 38.7	+4.8
TNCL				IAML_P			
	comp=Z,313nm,0.8s						
KELT	Kelkit	147.10	298	*i* P	PKPab	22 42 34.1	-0.5
KELT				IAML_P			
	comp=Z,3μm,0.9s						
SVRC	Sivrice-ELAZID	147.16	295	*e* P	PKiKP	22 42 33.3	-0.9
MOL	Molde	147.53	354	*e* PKPbc	PKPbc	22 42 31.8	-0.3
URFA	Urfa	147.57	293	*e* P	PKiKP	22 42 34.0	-0.9
ILIC	ilic-Erzincan	147.68	297	*e* P	PKPab	22 42 40.1	+3.2
ANN	Anapa	147.69	307	*d i* PKP2	PKPbc	22 42 33.4	+0.3
ANN				pmax	pmax		
	comp=Z,168nm,1.0s						
MALT	Malatya	147.86	294	*e* P	PKiKP	22 42 34.9	-0.6
DOMB	Dombas	147.89	352	*e* PKPbc	PKPbc	22 42 33.1	0.0
AKN	Aaknes	147.97	354	*e* PKPbc	PKiKP	22 42 33.7	-1.2
NC303	NORSAR Array S	148.37	350	PKPbc	PKPbc	22 42 34.5	+0.2
NB2	NORSAR Subarra	148.57	350	PKP	PKPbc	22 42 34.5	-0.4
	comp=Z,68nm,0.7s,baz=17,slow=2.6						
NB2	NORSAR Subarra	148.57	350	PKPab	PKPbc	22 42 34.5	-0.4
	baz=17,slow=2.6						
NOA	NORSAR Array B	148.57	350	PKPbc	PKPbc	22 42 34.7	-0.2
	comp=Z,50nm,0.7s,baz=16,slow=4.2,SNR=88						
DARE	Darende-Malaty	148.58	295	*e* P	PKiKP	22 42 37.1	+0.1
NBO00	NORSAR Array S	148.65	350		PKPdf	22 42 31.1	+0.3
NBO00				PKPbc	PKiKP	22 42 35.2	-1.0
NBO00				PKPab	PKPab	22 42 41.0	+1.1
FOO	Floro	148.69	356	*e* PKPbc	PKPbc	22 42 35.2	+0.1
IZAR	Zarasai	148.81	332	*e* P	PKiKP	22 42 36.4	-0.3
IZAR				IAmb	IAmb	22 42 37.6	
	comp=Z,62nm,0.9s						
NC602	NORSAR Array S	148.81	349	*e* PKPbc	PKPbc	22 42 35.1	-0.3
SVSK	Karacayir	148.84	298	*e* P	PKiKP	22 42 37.5	+0.2
ASF	Jabal al Asfar	148.90	283	P	PKiKP	22 42 38.2	+0.4
IDID	Didziasalis	148.90	331	*e* P	PKiKP	22 42 36.5	-0.4
MICGM	Minsk	148.93	329	⇑*e* P	PKPbc	22 42 36.0	+0.1
MICGM				PM		22 42 37.0	
	comp=Z,0.6nm,1.0s						
MNK	Minsk	148.93	329	*e* PKP2	PKPbc	22 42 36.0	+0.1
MNK				pmax	pmax		
	comp=Z,600nm,1.0s						
ISAL	Salakas	148.98	331	*e* P	PKiKP	22 42 36.7	-0.4
ISAL				IAmb	IAmb	22 42 43.1	
	comp=Z,60nm,1.0s						
HFS	Hagfors	149.00	347	PKPbc	PKPbc	22 42 35.4	-0.6
	comp=Z,80nm,0.7s,baz=143,slow=5.2,SNR=40						
HYA	Hoyanger	149.04	355	*e* PKPbc	PKiKP	22 42 36.3	-0.7
IIGN	Ignalina	149.09	331	*e* P	PKiKP	22 42 37.0	-0.3
IIGN				IAmb	IAmb	22 42 37.9	
	comp=Z,46nm,0.8s						
KMRS	Kahramanmaras	149.10	293	*e* P	PKiKP	22 42 38.3	+0.3
TOKT	Tokat	149.14	299	*e* P	PKiKP	22 42 37.6	-0.4
NACGM	Naroch	149.15	330	*e*	PKPbc	22 42 36.0	-0.5
SKAR	Skarslia	149.31	352	*e* PKPbc	PKiKP	22 42 37.2	-0.5
KVT	Kavak	149.41	300	*e* P	PKiKP	22 42 38.4	-0.1
HSUJ	Al Zarqa	149.48	282	P	PKiKP	22 42 39.6	+0.6
HSNJ	Maan	149.66	279	P	PKiKP	22 42 40.5	+1.0
OSL	Oslo	149.70	350	*e* PKPbc	PKiKP	22 42 37.9	-0.6
ASK	Askoy	149.79	355	*e* PKPbc	PKiKP	22 42 38.1	-0.5
BNN	Bunyan	149.84	296	*e* P	PKiKP	22 42 39.9	+0.3
YEL1	Yell	149.87	2	*e* P	PKPbc	22 42 37.6	-0.4
BER	Bergen	149.88	355	*e* PKPbc	PKiKP	22 42 38.1	-0.6
PABE	Paberze	149.89	333	*e* P	PKiKP	22 42 38.8	-0.2
PABE				IAmb	IAmb	22 42 40.0	
	comp=Z,320nm,1.0s						
DIKM	Dikmen	149.90	301	⇑P	PKiKP	22 42 40.3	+0.8
DIKM	Dikmen	149.90	301	*e* P	PKiKP	22 42 38.9	-0.6
SIM	Simferopol'	149.92	308	*e* PKP2	PKiKP	22 42 39.6	+0.2
SIM				pmax	pmax		
	comp=Z,72nm,0.8s						
CEYT	Ceyhan	150.03	292	*e* P	PKiKP	22 42 40.7	+0.8
QRWL	Qaraoun	150.04	285	*e* P	PKiKP	22 42 40.6	+0.4
BHL	Bhannes	150.08	286	*e* P	PKiKP	22 42 40.7	+0.5
AQBJ	Aqaba	150.11	278	P	PKiKP	22 42 41.2	+0.9
YURE	YÜREGIR	150.13	292	*e* P	PKiKP	22 42 40.8	+0.7
DQRL	Deir Qamar	150.14	286	*e* P	PKiKP	22 42 41.1	+0.7
KONO	Kongsberg	150.14	351	*c i* PKHKP	PKPbc	22 42 38.4	-0.3
KONO				pmax	pmax		
	comp=Z,109nm,0.7s						
KONO	Kongsberg	150.14	351	*e* PKPbc	PKiKP	22 42 38.9	-0.4
KONO	Kongsberg	150.14	351	PKPdf	PKPdf	22 42 32.6	-0.7
KONO					PKiKP	22 42 39.1	-0.2
KONO				PKPab	PKPab	22 42 45.2	-0.9
YOZ	Yozgat	150.16	297	*e* P	PKiKP	22 42 39.9	-0.4
EIL	Elat	150.19	277	P	PKiKP	22 42 41.1	+0.7
ODD1	Odda	150.24	354	*e* PKPbc	PKiKP	22 42 39.5	-0.1
PBUR	Paburg	150.27	336	*e* P	PKiKP	22 42 39.7	0.0
PBUR				IAmb	IAmb	22 42 40.7	
	comp=Z,292nm,0.8s						
LRW	Lerwick	150.28	2	*e* P	PKiKP	22 42 39.4	-0.2
SEVA	Sevastopol	150.34	308	⇑P	PKiKP	22 42 41.1	+0.8
SAN1	Sandwick	150.40	2	*e* P	PKiKP	22 42 39.1	-0.8
AMAZ	Amatzia	150.50	281	P	PKPdf	22 42 35.2	+0.5
AKASG	Malin Array Be	150.51	322	PKIKP	PKPdf	22 42 33.7	-0.4
AKASG						22 42 48.1	
AKASG	Malin Array Be	150.51	322	PKP	PKPdf	22 42 33.3	-0.7
	comp=Z,2.7nm,0.9s,baz=54,slow=2.3,SNR=9.5						
AKASG				PKPbc	PKPbc	22 42 39.2	-0.6
	comp=Z,76nm,0.7s,baz=49,slow=2.4,SNR=163						
AKASG	Malin Array Be	150.51	322		PKPdf	22 42 33.7	-0.4
AKASG					PKiKP	22 42 40.1	-0.3
AKASG				PKPab	PKPab	22 42 48.1	+0.2
KARA	Karaisali	150.58	293	*e* P	PKiKP	22 42 41.5	+0.5
BLS5	Blasjo	150.73	354	*e* PKPbc	PKiKP	22 42 40.5	-0.2
BZK	Bozkurt	150.76	302	*e* P	PKiKP	22 42 41.9	+0.7
MERS	Mersin	151.02	292	*e* P	PKiKP	22 42 41.9	-0.1
KMY	Karmoy	151.05	355	*e* PKPbc	PKiKP	22 42 41.4	+0.2
SUW	Suwalki	151.29	332	*e* PKIKP	PKiKP	22 42 41.7	-0.2
SUW	Suwalki	151.29	332	*e* PKPdf	PKiKP	22 42 41.7	-0.2
SUW				*e* PKPdf	PKiKP	22 42 41.7	-0.2
SUW				*e* PKPab	PKPab	22 42 50.9	-0.2
SUW				*e* PKPab	PKPab	22 42 50.9	-0.2
KIZK	Mersin	151.34	291	*e* P	PKiKP	22 42 43.1	+0.5
EREN	Erenkoy	151.34	289	*e* P	PKiKP	22 42 43.4	+0.8
BRTR	Keskin Array B	151.43	298	PKIKP	PKPdf	22 42 36.6	+0.5
BRTR	Keskin Array B	151.43	298	PKP	PKPdf	22 42 35.6	-0.4
	comp=Z,1.7nm,1.0s,baz=117,slow=1.4,SNR=7.9						
BRTR				PKPbc	PKiKP	22 42 42.4	-0.5
	comp=Z,21nm,0.7s,baz=140,slow=4.7,SNR=88						
BRTR	Keskin Array B	151.43	298		PKPdf	22 42 36.6	+0.5
HOMB	Homborsund	151.63	351	*e* PKPbc	PKiKP	22 42 42.8	+0.4
SNART	Snartemo	151.72	352	*e* PKPbc	PKiKP	22 42 43.0	+0.3
RSC	Scourie	151.83	6	*e* P	PKiKP	22 42 42.2	-0.6
MLA1	Latheron	152.02	4	*e* P	PKiKP	22 42 43.4	+0.2
ANTO	Ankara	152.05	299	PKIKP	PKPdf	22 42 36.5	-0.4
ANTO	Ankara	152.05	299	PKPdf	PKPdf	22 42 36.5	-0.4
ANTO					PKiKP	22 42 43.8	-0.3
ANTO				PKPab	PKPab	22 42 53.5	-1.4
RRR	Rubha Reidh	152.25	7	*e* P	PKiKP	22 42 43.3	-0.4
SORM	Soroca	152.32	318	⇑PKIKP	PKiKP	22 42 44.8	+0.6
SORM	Soroca	152.32	318	⇑P	PKiKP	22 42 44.8	+0.6
LEF	Lefka	152.39	288	⇑P	PKiKP	22 42 45.6	+0.7
MILM	Milestii Mici	152.62	315	⇑P	PKiKP	22 42 45.1	+0.2
KAC	Achnashellach	152.66	7	*e* P	PKiKP	22 42 44.2	-0.4
MCD	Coleburn Disti	152.74	4	*e* P	PKiKP	22 42 44.5	-0.3
KPL	Plockton	152.78	7	*e* P	PKPbc	22 42 44.2	-0.5
BSD	Bornholm Skovb	153.26	341	*i* PKIKP	PKiKP	22 42 46.2	+0.3
BSD				pmax	pmax		
	comp=Z,38nm,0.8s						
BSD	Bornholm Skovb	153.26	341	*i* P	PKiKP	22 42 46.2	+0.3
	comp=Z,38nm,0.8s						
MUD	Monsted U'grnd	153.28	349	*i* PKIKP	PKPbc	22 42 43.4	-2.4
MUD	Monsted U'grnd	153.28	349	*i* P	PKPbc	22 42 43.4	-2.4
TLCR		153.36	311	⇑PKIKP	PKiKP	22 42 47.3	+0.8
TLCR		153.36	311	⇑P	PKiKP	22 42 47.3	+0.8
BIR	Birlad	153.64	314	⇑PKP2	PKPab	22 43 03.0	+1.7
BIR	Birlad	153.64	314	⇑P	PKPab	22 43 03.0	+1.7
LVV	L'vov	153.73	324	*e* PKP2	PKPab	22 43 01.7	+0.1
LAWE	Loch Awe, Argy	153.86	7	*e* P	PKiKP	22 42 47.2	+0.1
BEL	Belsk	153.87	331	*e* PKIKP	PKiKP	22 42 48.2	+0.9
BEL	Belsk	153.87	331	*e* PKPd

CHVC				*ex*	x	22 42 54.7
CHVC				*e*PKPAB	**PKPab**	**22 43 14.9 +0.5**
MORC	**Moravsky Berou**	**156.78**	**331**	⇑PKP2	**PKPab**	**22 43 15.3 +0.6**
MORC	**Moravsky Berou**	**156.78**	**331**	⇑P	**PKPab**	**22 43 15.3 +0.6**
MORC	**Moravsky Berou**	**156.78**	**331**	*e*PKP	**PKPdf**	**22 42 43.2 +0.1**
MORC				*e*		22 43 14.8
UPC	**Upice**	**156.81**	**334**	*e*PKP2	**PKPab**	**22 43 15.3 +0.6**
UPC	**Upice**	**156.81**	**334**	*e*PKPAB	**PKPab**	**22 43 15.3 +0.6**
DPC	**Dobruska-Polom**	**156.82**	**334**	*e*PKIKP	**PKPdf**	**22 42 39.2 -3.9**
DPC	**Dobruska-Polom**	**156.82**	**334**	*e*PKPDF	**PKPdf**	**22 42 39.2 -3.9**
DPC				*ex*	x	22 42 54.7
DPC				*e*PKPAB	**PKPab**	**22 43 15.5 +0.7**
PLVB	**Pleven**	**156.84**	**311**	⇑P	**PKPab**	**22 43 16.7 +1.5**
KRLC	**Kraliky**	**156.85**	**333**	*e*PKP2	**PKPab**	**22 43 15.7 +0.7**
KRLC	**Kraliky**	**156.85**	**333**	*e*PKPAB	**PKPab**	**22 43 15.7 +0.7**
PSZ	**Piszkesteto**	**157.04**	**325**	⇑PKP2	**PKPab**	**22 43 15.7 -0.2**
PSZ	**Piszkesteto**	**157.04**	**325**	⇑P	**PKPab**	**22 43 15.7 -0.2**
VYHS	**Vyhne**	**157.15**	**327**	*e*PKIKP	PKPdf	22 42 55.1 +12
VYHS	**Vyhne**	**157.15**	**327**	*e*PKP	PKPdf	22 42 55.1 +12
VYHS				*e*		22 43 17.2
CLL	**Collm**	**157.16**	**339**	⇓*e*PKIKP	**PKPdf**	**22 42 44.0 +0.6**
CLL				pmax	pmax	
	comp=Z,56nm,0.9s					
CLL				pmax	pmax	
	comp=Z,17nm,0.8s					
CLL	**Collm**	**157.16**	**339**	*e*PKPdf	**PKPdf**	**22 42 44.0 +0.6**
CLL				*e*PKPdiff	PKPdf	22 42 55.0 +12
	comp=Z,17nm,0.9s					
CLL				⇓*i*PKPab	**PKPab**	**22 43 15.9 -0.3**
	comp=Z,70nm,0.8s					
CLL				*e*pPKPab	**pPKPab**	**22 44 37.0 -1.6**
BRG	**Berggiesshubel**	**157.23**	**338**	*e*PKP	**PKPdf**	**22 42 44.0 +0.4**
	comp=Z,20nm,1.5s					
BRG	**Berggiesshubel**	**157.23**	**338**	*i* PKP	PKPdf	22 42 56.0 +12
	comp=Z,11nm,1.0s					
BRG				*e*SKP		22 46 07.5
	comp=Z,12nm,1.4s					
BRG	**Berggiesshubel**	**157.23**	**338**	*e*PKIKP	**PKPdf**	**22 42 44.0 +0.4**
BRG				pmax	pmax	
	comp=Z,3.0nm,1.5s					
BRG				pmax	pmax	
	comp=Z,21nm,1.0s					
BRG				pmax	pmax	
	comp=N,11nm,1.5s					
PVCC	**Panska Ves**	**157.31**	**336**	*e*PKP2	**PKPab**	**22 43 17.6 +0.7**
PVCC	**Panska Ves**	**157.31**	**336**	*e*PKPAB	**PKPab**	**22 43 17.6 +0.7**
BAIL	**Bailesti**	**157.37**	**313**	⇑P	**PKPab**	**22 43 19.3 +1.9**
JAVC	**Velka Javorina**	**157.42**	**329**	*e*PKP	**PKPdf**	**22 42 43.6 -0.3**
JAVC				*e*		22 43 18.7
PUNG	**Punghina**	**157.50**	**314**	⇓P	**PKPab**	**22 43 19.6 +1.6**
HERR	**Herculane**	**157.50**	**316**	⇑P	**PKPab**	**22 43 18.6 +0.6**
VRAC	**Vranov**	**157.53**	**332**	PKPab	**PKPab**	**22 43 17.7 -0.2**
	comp=N,26nm,1.1s,baz=49,slow=5.0,SNR=19					
VRAC	**Vranov**	**157.53**	**332**	⇑P	**PKPab**	**22 43 18.7 +0.8**
VRAC	**Vranov**	**157.53**	**332**	*e*PKP	**PKPdf**	**22 42 44.1 +0.1**
VRAC				*e*		22 43 18.1
BZS	**Buzias**	**157.57**	**318**	⇓PKP2	**PKPab**	**22 43 18.3 +0.1**
BZS	**Buzias**	**157.57**	**318**	⇓P	**PKPab**	**22 43 18.3 +0.1**
GOPC	**GO Pecny, Ondr**	**157.75**	**335**	*e*PKP2	**PKPab**	**22 43 18.9 +0.1**
GOPC	**GO Pecny, Ondr**	**157.75**	**335**	*e*PKPAB	**PKPab**	**22 43 18.9 +0.1**
PRU	**Pruhonice**	**157.78**	**335**	*e*PKP2	**PKPab**	**22 43 18.9 0.0**
PRU	**Pruhonice**	**157.78**	**335**	*e*PKPAB	**PKPab**	**22 43 18.9 0.0**
SMOL	**Smolenice**	**157.78**	**329**	*e*PKP2	**PKPab**	**22 43 20.1 +1.1**
SMOL	**Smolenice**	**157.78**	**329**	*e*PKP	**PKPab**	**22 43 20.1 +1.1**
KRUC	**Moravsky**	**157.81**	**331**	*e*PKP	**PKPdf**	**22 42 44.2 -0.1**
KRUC				*e*		22 43 18.5
SRO	**Srobarova**	**157.88**	**327**	*e*PKP2	**PKPab**	**22 43 20.4 +0.9**
SRO	**Srobarova**	**157.88**	**327**	*e*PKP	**PKPab**	**22 43 20.4 +0.9**
MODS	**Modra-Piesok**	**157.95**	**329**	*e*PKP2	**PKPab**	**22 43 19.6 -0.2**
MODS	**Modra-Piesok**	**157.95**	**329**	*e*PKP	**PKPab**	**22 43 19.6 -0.2**
TREC	**Trest**	**157.99**	**333**	*e*PKP2	**PKPab**	**22 43 20.2 +0.3**
TREC	**Trest**	**157.99**	**333**	*e*PKPAB	**PKPab**	**22 43 20.2 +0.3**
WTSB	**Winterswijk**	**157.99**	**349**	*e*PKP	**PKPab**	**22 43 19.4 -0.3**
VTS	**Vitosha**	**158.10**	**310**	⇑PKP2	**PKPab**	**22 43 22.3 +1.5**
VTS	**Vitosha**	**158.10**	**310**	⇑P	**PKPab**	**22 43 22.3 +1.5**
PBCC	**Pribram**	**158.22**	**336**	*e*PKPAB	**PKPab**	**22 43 21.3 +0.4**
NKC	**Novy Kostel**	**158.27**	**339**	*e*PKP2	**PKPab**	**22 43 21.1 0.0**
NKC	**Novy Kostel**	**158.27**	**339**	*e*PKPAB	**PKPab**	**22 43 21.1 0.0**
KHC	**Kasperske Hory**	**158.84**	**336**	*e*PKIKP	**PKPdf**	**22 42 45.8 +0.2**
KHC				*e*		22 43 23.9
KHC	**Kasperske Hory**	**158.84**	**336**	*e*PKPDF	**PKPdf**	**22 42 45.8 +0.2**
KHC				*ex*	x	22 42 58.4
KHC				*e*PKPAB	**PKPab**	**22 43 23.9 +0.3**
FRGS	**Fruska Gora**	**158.86**	**319**	⇑*i*P	**PKPab**	**22 43 24.5 +0.6**
CONA	**Conrad Observa**	**158.91**	**330**	*i* PKPab	**PKPab**	**22 43 24.9 +0.9**
	comp=N,42nm,0.9s,SNR=12					
GERES	**GERESS Array B**	**159.03**	**335**	PKP	**PKPdf**	**22 42 45.8 -0.2**
	comp=N,1.3nm,0.8s,baz=70,slow=1.6,SNR=12					
GERES				PKPab	**PKPab**	**22 43 24.7 +0.1**
	comp=N,13nm,0.9s,baz=36,slow=5.0,SNR=30					
STIP	**Stip**	**159.20**	**309**	*i* P	**PKPab**	**22 43 25.2 -0.3**
HGN	**Heimansgroeve**	**159.29**	**350**	*e*PKP	**PKPab**	**22 43 25.2 -0.2**
BEBN	**Eben Emael**	**159.29**	**351**	PKPdf	**PKPab**	**22 43 25.2 -0.2**
DIVS	**Divibare**	**159.38**	**317**	⇑*i*P	**PKPab**	**22 43 26.8 +0.5**
MEM	**Membach**	**159.43**	**350**	PKPab	**PKPab**	**22 43 25.6 -0.4**
BSTI	**Sart Tilman**	**159.52**	**351**	PKPab	**PKPab**	**22 43 26.3 -0.1**
ARSA	**Arzberg**	**159.57**	**329**	*i* PKPab	**PKPab**	**22 43 27.3 +0.4**
	comp=N,29nm,1.7s,SNR=7.7					
SKO	**Skopje**	**159.58**	**310**	*i* P	**PKPab**	**22 43 28.2 +1.1**
MOA	**Molln**	**159.63**	**332**	*i* PKPab	**PKPab**	**22 43 27.7 +0.6**
	comp=N,24nm,1.0s,SNR=7.9					
BHOU	**Houvegnez**	**159.68**	**350**	PKPab	**PKPab**	**22 43 27.3 +0.1**
BCLA	**Clavier**	**159.71**	**351**	PKPab	**PKPab**	**22 43 26.9 -0.4**
SNF	**Seneffe**	**159.75**	**353**	PKPab	**PKPab**	**22 43 27.2 -0.2**
BBLS	**Lazići**	**159.86**	**317**	⇑*i*P	**PKPab**	**22 43 29.4 +1.0**
BMRD	**Maredsous**	**159.90**	**352**	PKPdf	**PKPdf**	**22 42 47.4 +0.7**
BMRD				PKPab	**PKPab**	**22 43 27.8 -0.3**
HAPS	**Han Pijesak,BI**	**160.00**	**318**	⇑*i*P	**PKPab**	**22 43 28.4 -0.6**
RUDO	**Rudo**	**160.03**	**316**	⇑*i*P	**PKPab**	**22 43 29.3 +0.3**
DOB	**Doboj**	**160.08**	**321**	*e*P	**PKPab**	**22 43 28.8 -0.3**
DOU	**Dourbes**	**160.12**	**352**	PKPdf	**PKPdf**	**22 42 47.2 +0.3**
DOU				x	x	22 43 05.9
DOU				PKPab	**PKPab**	**22 43 28.1 -0.9**
SOKA	**Soboth**	**160.23**	**329**	*i* PKPab	**PKPab**	**22 43 29.9 +0.1**
	comp=N,31nm,1.1s,SNR=9.6					
WLF	**Walferdange**	**160.32**	**349**	PKPab	**PKPab**	**22 43 30.1 +0.1**
BLY	**Banja Luka**	**160.56**	**322**	⇑*i*P	**PKPab**	**22 43 31.6 +0.3**
OBKA	**Obir**	**160.57**	**330**	*i* PKPab	**PKPab**	**22 43 31.2 -0.2**
	comp=N,13nm,0.8s					
KBA	**Koelnbreinsper**	**160.62**	**333**	*i* PKPab	**PKPab**	**22 43 31.6 -0.1**
	comp=N,14nm,1.0s					
CRES	**Cresnjev**	**160.68**	**327**	⇑*i*P	**PKPab**	**22 43 31.5 -0.2**
PDG	**Podgorica**	**160.75**	**314**	⇑*i*P	**PKPab**	**22 43 32.9 +0.7**
PDG	**Podgorica**	**160.75**	**314**	⇑P	**PKPab**	**22 43 33.1 +0.9**
MGRS	**Mrkonjic Grad**	**160.84**	**321**	⇑*i*P	**PKPab**	**22 43 33.4 +0.9**
MYKA	**Terra Mystica**	**160.86**	**331**	*i* PKPab	**PKPab**	**22 43 32.0 -0.6**
	comp=N,20nm,0.8s,SNR=6.4					
TIR	**Tirane**	**160.91**	**310**	⇑PKP2	**PKPab**	**22 43 34.2 +1.3**
TIR	**Tirane**	**160.91**	**310**	⇑P	**PKPab**	**22 43 34.2 +1.3**
DRME	**Dracevica, Mon**	**160.93**	**313**	⇑*i*P	**PKPab**	**22 43 33.8 +0.8**
BRY	**Bratogost**	**160.94**	**316**	⇑*i*P	**PKPab**	**22 43 33.5 +0.3**
LJU	**Ljubljana**	**160.94**	**329**	*i* PKPab	**PKPab**	**22 43 32.6 -0.3**
LJU	**Ljubljana**	**160.94**	**329**	⇑*i*P	**PKPab**	**22 43 32.6 -0.3**
CRNS	**Crni Vrh**	**161.03**	**329**	*i* PKPab	**PKPab**	**22 43 32.6 -0.7**
WATA	**Walderalm**	**161.07**	**336**	*i* PKPab	**PKPab**	**22 43 33.8 +0.3**
	comp=N,16nm,0.7s,SNR=6.3					
WTTA	**Wattenberg**	**161.11**	**336**	*i* PKPab	**PKPab**	**22 43 34.2 +0.4**
	comp=N,24nm,0.8s					
BFO	**Black Forest**	**161.14**	**344**	PKIKP	**PKPdf**	**22 42 48.7 +0.5**
BFO						22 43 32.9
BFO	**Black Forest**	**161.14**	**344**	PKPdf	**PKPdf**	**22 42 48.7 +0.5**
BFO					**PKPab**	**22 43 32.9 -0.8**
TREB	**Trebinje**	**161.15**	**315**	*e*P	**PKPab**	**22 43 34.1 +0.1**
RETA	**Reutte**	**161.21**	**338**	*i* PKPab	**PKPab**	**22 43 34.6 +0.6**
	comp=N,58nm,1.0s,SNR=13					
HCY	**Herceg Novi**	**161.22**	**315**	⇑*i*P	**PKPab**	**22 43 34.5 +0.3**
CEY	**Cerknica**	**161.22**	**328**	⇑*i*P	**PKPab**	**22 43 33.8 -0.3**
ABTA	**Abfaltersbach**	**161.22**	**333**	*i* PKPab	**PKPab**	**22 43 33.6 -0.5**
	comp=N,43nm,1.1s,SNR=9.0					
MOTA	**Moosalm**	**161.22**	**337**	*i* PKPab	**PKPab**	**22 43 34.7 +0.4**
	comp=N,48nm,1.0s,SNR=9.1					
SQTA	**Sankt Quirin**	**161.29**	**337**	*i* PKPab	**PKPab**	**22 43 35.0 +0.5**
	comp=N,26nm,0.7s,SNR=9.9					
FETA	**Feichten**	**161.63**	**337**	*i* PKPab	**PKPab**	**22 43 36.5 +0.4**
	comp=N,45nm,1.1s,SNR=7.5					
DAVA	**Damuels**	**161.67**	**339**	*i* PKPab	**PKPab**	**22 43 36.7 +0.5**
	comp=N,70nm,1.1s,SNR=12					
TORD	**Torodi Ar. Bea**	**162.75**	**184**	PKP	**PKPdf**	**22 42 51.5 +0.8**
	comp=N,117nm,0.8s,baz=157,slow=1.8,SNR=1.7					
TORD				PKPab	**PKPab**	**22 43 42.8 +1.4**
	comp=N,92nm,0.7s,baz=174,slow=5.8,SNR=1.6					
PCAB	**Cabril**	**166.84**	**29**	*e*PKPdf	**PKPdf**	**22 42 54.6 +1.1**
POLO	**Lamas de Olo**	**167.22**	**29**	*e*PKPab	**PKPab**	**22 44 01.0 +0.3**
PBRG	**Braganca**	**167.27**	**25**	*e*PKPab	**PKPab**	**22 44 01.9 +1.0**
PVRL	**Vila Real**	**167.33**	**29**	*e*PKPab	**PKPab**	**22 44 01.3 +0.1**
MVO	**Moncorvo**	**167.71**	**27**	*e*PKPdf	**PKPdf**	**22 42 56.0 +1.8**
MVO	**Moncorvo**	**167.71**	**27**	*e*PKPab	**PKPab**	**22 44 02.9 0.0**
PVIS	**Viseu**	**167.71**	**31**	*e*PKPab	**PKPab**	**22 44 03.0 +0.1**
MTE	**Manteigas**	**168.13**	**31**	*e*PKPdf	**PKPdf**	**22 42 58.4 +3.9**
MTE	**Manteigas**	**168.13**	**31**	*e*PKPab	**PKPab**	**22 44 04.8 0.0**
ALMR	**Almeirim**	**168.58**	**38**	*e*PKPdf	**PKPdf**	**22 42 54.5 -0.2**
ALMR	**Almeirim**	**168.58**	**38**	*e*PKPdf	**PKPdf**	**22 43 00.4 +5.7**
PCBR	**Castelo Branco**	**168.61**	**32**	*e*PKPdf	**PKPdf**	**22 42 56.2 +1.5**
PCBR	**Castelo Branco**	**168.61**	**32**	*e*PKPab	**PKPab**	**22 44 06.4 -0.4**
PMTG	**Montargil**	**168.83**	**37**	*e*PKPab	**PKPab**	**22 44 07.4 -0.4**
PMRV	**Marv??o**	**168.97**	**34**	*e*PKPdf	**PKPdf**	**22 42 55.9 +0.9**
PMRV	**Marv??o**	**168.97**	**34**	*e*PKPab	**PKPab**	**22 44 08.3 -0.2**
EVO	**Evora**	**169.34**	**39**	*e*PKPab	**PKPab**	**22 44 13.5 +3.4**
PNCL	**Nicolau / Gran**	**169.35**	**42**	*e*PKPdf	**PKPdf**	**22 42 57.1 +1.8**
MESJ	**Messejana**	**169.71**	**42**	*e*PKPdf	**PKPdf**	**22 42 55.2 -0.3**
MESJ	**Messejana**	**169.71**	**42**	*e*PKPdf	**PKPdf**	**22 42 55.6 +0.1**
MORF	**Marmelete**	**169.81**	**45**	*e*PKPdf	**PKPdf**	**22 42 58.1 +2.5**
ESDC	**Sonseca Array**	**170.11**	**20**	PKP	**PKPdf**	**22 42 56.7 +1.0**
	comp=N,6.5nm,0.9s,baz=352,slow=2.8,SNR=20					
ESDC				PKPab	**PKPab**	**22 44 13.6 +0.1**
	comp=N,7.3nm,1.0s,baz=334,slow=4.3,SNR=16					
PBDV	**Barranco-do-Ve**	**170.28**	**44**	*e*PKPdf	**PKPdf**	**22 42 58.3 +2.4**
PVAQ	**Vaqueiros**	**170.30**	**42**	*e*PKPdf	**PKPdf**	**22 42 57.4 +1.6**
MDT	**Midelt**	**175.09**	**60**	PKP	**PKPdf**	**22 42 59.9 +1.7**
	comp=N,7.4nm,1.0s,baz=349,slow=4.1,SNR=5.1					

ATH 18 22:41:36.1, 38.72N×22.74E, h8km±3km, ML1.8/5, Error ellipse: s-maj=3.7km s-min=0.8km az=15.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.08**	**309**	P	Pg	22 41 38.0	-0.3
AXAR				S	Sg	22 41 39.6	-0.2
AXAR				AML	AML	22 41 39.9	
	comp=E,7677μm,0.1s						
AXAR				AML	AML	22 41 40.3	
	comp=N,7262μm,0.2s						
LKR	**Lokris**	**0.21**	**108**	P	Pg	22 41 40.5	0.0
LKR				S	Sg	22 41 44.1	+0.7
LKR				AML	AML	22 41 45.3	
	comp=E,1805μm,0.2s						
LKR				AML	AML	22 41 45.6	
	comp=N,1047μm,0.1s						
DSF	**Desfina**	**0.35**	**209**	P	Pg	22 41 42.7	-0.3
DSF				S	Sg	22 41 48.6	+1.0
DSF				AML	AML	22 41 49.6	
	comp=E,349μm,0.2s						
DSF				AML	AML	22 41 51.5	
	comp=N,249μm,0.1s						
AGG	**Agios Georgios**	**0.44**	**314**	P	Pg	22 41 44.5	-0.3
AGG				S	Sg	22 41 51.1	+0.5
PROD	**Prodromos**	**0.47**	**164**	P	Pg	22 41 45.0	-0.3
PROD				S	Sb	22 41 52.8	-1.0
MAKR	**Makrakomi, Fth**	**0.56**	**302**	P	Pg	22 41 46.9	-0.1
MAKR				S	Sg	22 41 55.1	+0.7
KALE	**Kalithea**	**0.57**	**236**	P	Pg	22 41 46.6	-0.6
KALE				S	Sg	22 41 55.6	+0.9
KALE				AML	AML	22 41 58.1	
	comp=N,154μm,0.2s						
KALE				AML	AML	22 41 58.5	
	comp=E,105μm,0.2s						
SERG	**Sergoula**	**0.61**	**241**	P	Pg	22 41 47.3	-0.7
SERG				S	Sg	22 41 56.9	+0.8
SERG				AML	AML	22 42 00.3	
	comp=N,140μm,0.4s						
SERG				AML	AML	22 42 00.5	
	comp=E,127μm,0.4s						
TRIZ	**Trizonia**	**0.63**	**236**	P	Pg	22 41 47.8	-0.5
TRIZ				S	Sb	22 41 57.4	-0.8
VIL2	**Platees**	**0.65**	**140**	P	Pb	22 41 49.3	-0.5
VIL2				S	Sb	22 42 00.5	+1.5
NEO	**Neokhori**	**0.70**	**32**	P	Pg	22 41 49.8	+0.1
EFP	**Efpalio**	**0.71**	**246**	P	Pg	22 41 49.6	-0.3
EFP				S	Sb	22 42 00.1	-0.6
LTK	**Loutraki**	**0.71**	**165**	P	Pg	22 41 49.7	-0.2
XOR	**Xorichti**	**0.74**	**28**	P	Pb	22 41 50.9	-0.4

*ISCJB **18** 22:55:04.9±0.3, 60.54S±0.06×42.61W±0.1, h10km, mb4.3/15, Error ellipse: s-maj=12.3km s-min=6.1km az=142.8*
*IDC **18** 22:55:05.1±0.6, 60.55S×42.94W, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.3/29, mbtmp4.3/16, ML3.7/2, Error ellipse: s-maj=23.3km s-min=13.3km az=49.0*
*NEIC **18** 22:55:07.1±2.0, 60.63S±0.06×42.7W±0.2, h15km±4km, mb4.6/24*

ISC 18 22:55:06.7±0.4, 60.61S±0.06×42.61W±0.08, h10km, n60, σ1s83/62, mb4.5/21, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.15**	**30**	Pn	**Pn**	**22 56 51.5**	**+0.4**
HOPE				Sn	**Sn**	**22 58 09.3**	**-2.9**
PMSA	**Palmer Station**	**10.67**	**238**	Pn	**Pn**	**22 57 37.3**	**-2.0**
	0.8nm,0.3s,baz=92,slow=11,SNR=5.2						
EFI	**East Falkland**	**12.39**	**309**	Pn	**Pn**	**22 58 04.7**	**+1.7**
VNA3	**Neumayer Olymp**	**16.86**	**143**	P	**Pn**	**22 59 01.3**	**-1.1**
VNA1	**Neumayer--Stat**	**17.08**	**140**	P	**Pn**	**22 59 05.6**	**+0.5**
VNA2	**Neumayer--Watz**	**17.44**	**141**	P	**Pn**	**22 59 09.4**	**-0.3**
	baz=292,slow=16						
SNAA	**Sanae**	**19.07**	**142**	P	**Pn**	**22 59 31.3**	**+1.7**
SNAA	**Sanae**	**19.07**	**142**	P	**Pn**	**22 59 31.0**	**+1.5**
	0.2nm,0.3s,baz=297,slow=9.4,SNR=23						
SNAA	**Sanae**	**19.07**	**142**	P	**Pn**	**22 59 31.2**	**+1.7**
SNAA				Sn	**Sn**	**23 02 53.6**	**-9.2**
SNAA				PcP	**PcP**	**23 03 52.9**	**+0.1**
TRQA	**Tornquist**	**25.67**	**323**	P	**P**	**23 00 37.3**	**+0.8**
TRQA				IAmb	IAmb	23 00 38.0	
	comp=Z,12nm,0.8s						
PLCA	**Paso Flores**	**26.29**	**306**	P	**P**	**23 00 39.6**	**-2.6**
	comp=Z,4.0nm,0.7s,baz=184,slow=7.9,SNR=7.7						
PLCA	**Paso Flores**	**26.29**	**306**	P	**P**	**23 00 40.1**	**-2.1**
GO06	**Curarrehue**	**27.64**	**306**	P	**P**	**23 00 52.5**	**-1.8**
GO06				IAmb	IAmb	23 01 01.8	
	comp=Z,9.3nm,1.2s						
QSPA	**South Pole Qui**	**29.63**	**180**	P	**P**	**23 01 12.7**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=195,slow=4.1,SNR=5.7						
CFA	**Coronel Fontan**	**33.58**	**318**	P	**P**	**23 01 45.4**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=166,slow=8.3,SNR=3.2						
CFA				PcP	**PcP**	**23 04 26.4**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=87,slow=1.1,SNR=4.1						
CPUP	**Villa Florida**	**35.72**	**337**	P	**P**	**23 02 04.1**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=168,slow=7.9,SNR=8.6						
CPUP	**Villa Florida**	**35.72**	**337**	IAmb	IAmb	23 02 06.0	
	comp=Z,5.3nm,0.9s						
GO04	**Tololo Observa**	**35.76**	**316**	P	**P**	**23 02 04.5**	**-1.3**
GO04				IAmb	IAmb	23 02 05.0	
	comp=Z,13nm,0.9s						
GO02	**Mina Guanaco**	**39.99**	**320**	P	**P**	**23 02 40.7**	**-0.9**
SBA	**Scott Base**	**40.62**	**189**	P	**P**	**23 02 47.8**	**+1.9**
MAW	**Mawson**	**41.15**	**146**	P	**P**	**23 02 51.3**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=238,slow=5.9,SNR=5.8						
MAW	**Mawson**	**41.15**	**146**	IAmb	IAmb	23 02 52.5	
	comp=Z,1.2nm,1.1s						
PB10	**IPOC Station P**	**41.84**	**320**	P	**P**	**23 02 54.7**	**-1.8**
LVC	**Limon Verde**	**42.17**	**322**	P	**P**	**23 02 57.8**	**-1.8**
	comp=Z,5.5nm,0.8s,baz=167,slow=7.2,SNR=8.6						
LVC	**Limon Verde**	**42.17**	**322**	P	**P**	**23 02 59.2**	**-0.5**
PB04	**IPOC Station P**	**42.81**	**321**	P	**P**	**23 03 03.1**	**-1.6**
PB01	**IPOC Station P**	**43.82**	**322**	P	**P**	**23 03 12.2**	**-0.5**
GO01	**Chusmiza**	**45.03**	**323**	P	**P**	**23 03 22.4**	**-0.4**
GO01				IAmb	IAmb	23 03 23.2	
	comp=Z,8.9nm,0.7s						
BDFB	**Brasilia**	**45.08**	**353**	P	**P**	**23 03 22.6**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=152,slow=4.3,SNR=7.2						
BDFB	**Brasilia**	**45.08**	**353**	IAmb	IAmb	23 03 24.1	
	comp=Z,7.3nm,0.9s						
PB11	**IPOC Station P**	**45.08**	**323**	P	**P**	**23 03 21.8**	**-1.1**
PB11				IAmb	IAmb	23 03 22.4	
	comp=Z,6.8nm,0.7s						
MNMC	**Minye Minye**	**45.66**	**323**	P	**P**	**23 03 27.3**	**-0.3**
SIV	**San Ignacio**	**46.52**	**335**	P	**P**	**23 03 33.4**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=165,slow=8.3,SNR=13						
LPAZ	**La Paz**	**47.94**	**326**	P	**P**	**23 03 45.1**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=139,slow=5.7,SNR=9.4						
LPAZ				PcP	**PcP**	**23 05 14.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=218,slow=12,SNR=2.8						
LPAZ	**La Paz**	**47.94**	**326**	P	**P**	**23 03 45.3**	**-0.6**
LPAZ				IAmb	IAmb	23 03 46.3	
SAML	**Samuel**	**53.80**	**335**	P	**P**	**23 04 29.1**	**-0.1**
SAML				IAmb	IAmb	23 04 29.4	
	comp=Z,3.8nm,0.7s						
BOSA	**Boshof**	**54.70**	**86**	P	**P**	**23 04 36.8**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=194,slow=8.3,SNR=2.7						
BOSA	**Boshof**	**54.70**	**86**	P	**P**	**23 04 36.5**	**+0.6**
BOSA				IAmb	IAmb	23 04 41.0	
	comp=Z,15nm,1.4s						
LBTB	**Lobatse**	**57.86**	**84**	P	**P**	**23 04 59.6**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=222,slow=9.7,SNR=5.5						
LBTB	**Lobatse**	**57.86**	**84**	P	**P**	**23 04 58.5**	**0.0**
LBTB				IAmb	IAmb	23 04 59.2	
	comp=Z,9.0nm,1.1s						
TSUM	**Tsumeb**	**58.93**	**73**	P	**P**	**23 05 07.2**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=175,slow=6.3,SNR=3.1						
OTAV	**Otavalo**	**66.66**	**320**	P	**P**	**23 05 57.9**	**0.0**
OTAV				IAmb	IAmb	23 05 59.0	
	comp=Z,5.3nm,0.8s						
SDV	**Santo Domingo**	**72.74**	**331**	P	**P**	**23 06 34.2**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=279,slow=3.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**81.53**	**43**	P	**P**	**23 07 24.2**	**+0.1**
	comp=Z,108nm,0.7s,baz=197,slow=5.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**81.53**	**43**	P	**P**	**23 07 24.3**	**+0.1**
WRA	**Warramunga Arr**	**99.70**	**177**	P	**Pdif**	**23 08 50.9**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=186,slow=4.1,SNR=2.7						
VYHS	**Vyhne**	**119.52**	**42**	*e*PKP	**PKiKP**	**23 13 59.9**	**+4.5**
NOA	**NORSAR Array B**	**128.18**	**30**	PKP	**PKPdf**	**23 14 11.5**	**0.0**
	comp=Z,1.3nm,0.9s,baz=194,slow=4.0,SNR=3.2						
FINES	**FINESS Array B**	**132.59**	**37**	PKP	**PKPdf**	**23 14 19.0**	**-0.8**
	comp=Z,5.8nm,1.0s,baz=243,slow=0.9,SNR=6.4						
YKA	**Yellowknife Ar**	**134.40**	**322**	PKP	**PKPdf**	**23 14 21.7**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=146,slow=2.2,SNR=5.1						
INK	**Inuvik**	**144.14**	**321**	PKP	**PKPab**	**23 14 37.9**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=96,slow=5.9,SNR=7.3						
KDAK	**Kodiak Island**	**145.57**	**297**	PKPbc	**PKPdf**	**23 14 43.1**	**-0.4**
	comp=Z,6.5nm,0.9s,baz=219,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**145.68**	**88**	PKPbc	**PKPdf**	**23 14 44.5**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=234,slow

LBTB Lg Lg 00 24 05.8
0.5nm,0.3s,baz=44,slow=14,SNR=3.9
LBTB LR LR 00 25 47.6
comp=Z,116nm,18.6s,baz=50,slow=37
LBTB Lobatse 16.63 143 Pn Pn 00 19 15.6 +0.9
BOSA Boshof 19.34 151 P **Pn 00 19 50.5 +2.4**
0.2nm,0.3s,baz=326,slow=13,SNR=4.1
BOSA S Sn 00 23 14.1 -11
0.2nm,0.3s,baz=348,slow=9.3,SNR=2.1
BOSA Lg Lg 00 25 35.1
0.2nm,0.3s,baz=41,slow=20,SNR=2.4
BOSA Boshof 19.34 151 P **P 00 19 45.6 -1.4**
MBAR Mbarara 19.43 56 P **Pn 00 19 52.9 +3.6**
0.5nm,0.3s,baz=247,slow=15,SNR=3.5
MBAR S **Sn 00 23 31.8 +4.3**
0.6nm,0.3s,baz=292,slow=19,SNR=1.8
MBAR Lg Lg 00 25 30.0
baz=286,slow=13,SNR=3.6
MBAR Mbarara 19.43 56 P **P 00 19 46.1 -2.1**
MBAR IAmb IAmb 00 20 00.4
comp=Z,15nm,1.5s
MBAR **S 00 23 24.4 -3.7**
SUR Sutherland 21.17 166 P 00 20 12.0 +5.0
SUR IAmb IAmb 00 20 19.8
comp=Z,26nm,1.4s
KMBO Kilima Mbogo 24.75 66 Lg Lg 00 28 23.3
comp=Z,3.4nm,0.9s,baz=358,slow=23,SNR=3.9
KMBO LR LR 00 30 49.1
comp=Z,84nm,21.0s,baz=89,slow=37
KIC Kosan Boka 26.52 312 *e*PKP2 **P 00 20 57.9 -1.4**
comp=Z,65nm,0.8s
LIC Lamto 26.64 311 *e*PKP2 **P 00 20 58.9 -1.4**
comp=Z,70nm,0.8s
DBIC Dimbokro 26.81 312 P **P 00 21 00.5 -1.4**
comp=Z,9.7nm,0.9s,baz=123,slow=11,SNR=8.5
DBIC Dimbokro 26.81 312 IAmb IAmb 00 21 06.4
comp=Z,9.2nm,0.8s
TIC Toumodi 26.92 312 *e*PKP2 **P 00 20 57.3 -5.6**
TOA0 Torodi Ar. Sit 28.02 332 P **P 00 21 11.4 -1.4**
TOA0 IAmb IAmb 00 21 26.6
comp=Z,3.5nm,1.1s
TORD Torodi Ar. Bea 28.02 332 P **P 00 21 10.8 -1.9**
comp=Z,94nm,0.7s,baz=158,slow=6.9,SNR=9.2
H10S2 ASCENSION HYDR29.04 273 T T 00 50 47.7
baz=116,slow=74,SNR=486
H10N1 ASCENSION HYDR29.05 275 T T 00 50 49.0
baz=97,slow=76,SNR=38
H10S3 ASCENSION HYDR29.05 273 T T 00 50 49.1
baz=104,slow=74,SNR=458
H10N2 ASCENSION HYDR29.06 275 T T 00 50 49.8
baz=97,slow=76,SNR=164
H10N3 ASCENSION HYDR29.08 275 T T 00 50 50.7
baz=97,slow=76,SNR=23
MMAI Mount Meron Ar 48.80 23 P **P 00 24 08.9 +2.2**
comp=Z,0.9nm,0.6s,baz=160,slow=9.0,SNR=2.5
BR131 Keskin Array S 54.26 18 P **P 00 24 48.3 +0.7**
BR131 IAmb IAmb 00 24 50.1
comp=Z,3.8nm,0.9s
BRTR Keskin Array B 54.26 18 P **P 00 24 47.6 0.0**
comp=Z,2.4nm,0.8s,baz=180,slow=7.4,SNR=15
BRTR Keskin Array B 54.26 18 P **P 00 24 47.5 -0.1**
GERES GERESS Array B 60.45 359 P **P 00 25 30.2 -1.0**
comp=Z,1.2nm,0.7s,baz=184,slow=7.9,SNR=5.3
VNA1 Neumayer--Stat 60.46 189 P **P 00 25 30.2 -0.6**
VNA2 Neumayer--Watz 60.59 188 P **P 00 25 32.5 +0.8**
baz=16,slow=6.3
SNAA Sanae 60.72 186 P **P 00 25 33.6 +0.9**
SNAA Sanae 60.72 186 P **P 00 25 31.5 -1.2**
comp=Z,1.6nm,0.8s,baz=348,slow=4.4,SNR=6.6
SNAA Sanae 60.72 186 IAmb IAmb 00 25 37.6
comp=Z,3.9nm,1.0s
VNA3 Neumayer Olymp 61.20 189 P **P 00 25 36.1 +0.2**
AKASG Malin Array Be 63.58 10 P **P 00 25 50.9 -1.1**
comp=Z,0.4nm,0.4s,baz=199,slow=7.4,SNR=3.0
AKASG Malin Array Be 63.58 10 IAmb IAmb 00 25 52.2
comp=Z,0.7nm,0.8s
NOA NORSAR Array B 72.72 358 P **P 00 26 50.1 +0.8**
comp=Z,1.0nm,0.8s,baz=172,slow=4.8,SNR=2.7
QSPA South Pole Qui 78.26 180 P **P 00 27 22.0 +0.8**
comp=Z,1.1nm,0.6s,baz=87,slow=5.2,SNR=3.7
H05S1 Guadeloupe/Mar 79.30 287 T T 01 53 40.3
SNR=12
KURBB Kurchatov Arra 83.23 35 P **P 00 27 48.2 +0.4**
comp=Z,0.5nm,0.6s,baz=252,slow=5.5,SNR=3.3
MKAR Makanchi Array 83.78 40 P **P 00 27 51.9 +1.1**
comp=Z,1.0nm,0.8s,baz=243,slow=4.9,SNR=4.3
MKAR Makanchi Array 83.78 40 P **P 00 27 51.2 +0.4**

*ISCJB **19** 00:17:19.3±0.5, 60°.06S±0°.06×47°.2W±0°.2, h10km, mb4.0/6, MS3.1/2, Error ellipse: s-maj=12.0km s-min=7.0km az=148.9*
*IDC **19** 00:17:20.1±0.8, 60°.12S×46°.21W, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.9/24, mbtmp4.1/5, MS3.1/2, Ms1 3.1/2, ms1mx2.8/20, Error ellipse: s-maj=45.8km s-min=20.1km az=72.0*
*NEIC **19** 00:17:21.1±2.5, 60°.12S±0°.05×47°.0W±0°.1, h10km±1km, mb4.4/7*
ISC 19 00:17:21.2±0.5, 60°.10S±0°.06×47°.09W±0°.07, h10km, n42, σ1º64/39, mb4.2/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.19**	**49**	Pn	**Pn**	**00 19 19.6**	**-0.3**
HOPE				Sn	**Sn**	**00 20 51.1**	**-1.3**
PMSA	**Palmer Station**	**9.13**	**232**	Pn	**Pn**	**00 19 32.8**	**0.0**
0.9nm,0.3s,baz=37,slow=9.5,SNR=7.3							
PMSA				Sn	**Sn**	**00 21 13.4**	**-2.1**
baz=198,slow=16,SNR=1.7							
PMSA	**Palmer Station**	**9.13**	**232**		**Pn**	**00 19 33.8**	**+1.0**
EFI	**East Falkland**	**10.44**	**319**	Pn	**Pn**	**00 19 51.1**	**+0.4**
EFI				Sn	**Sn**	**00 21 46.2**	**-1.4**
VNA3	**Neumayer Olymp**	**18.62**	**142**	P	**P**	**00 21 38.2**	**-0.2**
VNA1	**Neumayer--Stat**	**18.90**	**140**	P	**Pn**	**00 21 44.0**	**+1.9**
VNA2	**Neumayer--Watz**	**19.25**	**140**	P	**P**	**00 21 46.8**	**+1.5**
baz=290,slow=13							
SNAA	**Sanae**	**20.84**	**142**	P	**P**	**00 22 05.4**	**+2.6**
SNAA	**Sanae**	**20.84**	**142**	P	**P**	**00 22 05.3**	**+2.6**
17nm,1.1s,baz=287,slow=10.0,SNR=37							
SNAA	**Sanae**	**20.84**	**142**	P	**P**	**00 22 03.4**	**+0.7**
SNAA				IAmb	IAmb	00 22 08.9	
comp=Z,14nm,0.9s							
TRQA	**Tornquist**	**24.01**	**330**	P	**P**	**00 22 38.4**	**+2.5**
TRQA				IAmb	IAmb	00 22 41.6	
comp=Z,17nm,1.2s							
PLCA	**Paso Flores**	**24.25**	**313**	LR	LR	00 30 55.3	
comp=Z,61nm,18.2s,baz=186,slow=33							
QSPA	**South Pole Qui**	**30.13**	**180**	P	**P**	**00 23 31.5**	**+0.6**
comp=Z,2.2nm,0.3s,baz=159,slow=6.4,SNR=16							
QSPA	**South Pole Qui**	**30.13**	**180**	P	**P**	**00 23 30.6**	**-0.2**
ROC1	**El Roble**	**31.38**	**319**	P	**P**	**00 23 42.7**	**+0.5**
CPUP	**Villa Florida**	**34.49**	**344**	P	**P**	**00 24 09.6**	**+0.5**
comp=Z,1.5nm,0.8s,baz=13,slow=4.4,SNR=4.4							
CPUP	**Villa Florida**	**34.49**	**344**	IAmb	IAmb	00 24 11.2	
comp=Z,6.4nm,1.3s							
GO03	**Copiap**	**36.14**	**324**	P	**P**	**00 24 24.4**	**+1.0**
GO03				IAmb	IAmb	00 24 32.1	
comp=Z,5.3nm,0.7s							
SBA	**Scott Base**	**40.74**	**190**	P	**P**	**00 25 00.5**	**-0.9**
BDFB	**Brasilia**	**44.40**	**359**	P	**P**	**00 25 31.1**	**-0.8**
comp=Z,1.1nm,0.4s,baz=151,slow=13,SNR=3.4							
SIV	**San Ignacio**	**45.21**	**341**	P	**P**	**00 25 41.2**	**+2.9**
comp=Z,1.8nm,0.5s,baz=182,slow=7.3,SNR=14							
SIV				LR	LR	00 45 27.7	
comp=Z,16nm,18.3s,baz=123,slow=37							
LPAZ	**La Paz**	**46.35**	**332**	P	**P**	**00 25 51.5**	**+3.5**
comp=Z,0.9nm,0.7s,baz=189,slow=11,SNR=3.6							
SAML	**Samuel**	**52.46**	**340**	P	**P**	**00 26 33.5**	**-0.5**
SAML				IAmb	IAmb	00 26 37.5	
comp=Z,3.3nm,0.8s							
H10S2	**ASCENSION HYDR56.53**	**39**		T	T	01 28 37.2	
baz=200,slow=74,SNR=20							
H10S3	**ASCENSION HYDR56.53**	**39**		T	T	01 28 38.3	
baz=20,slow=74,SNR=20							
H10N3	**ASCENSION HYDR57.62**	**39**		T	T	01 30 00.5	
baz=199,slow=75,SNR=40							
H10N1	**ASCENSION HYDR57.63**	**39**		T	T	01 30 00.7	
baz=199,slow=75,SNR=38							
H10N2	**ASCENSION HYDR57.64**	**39**		T	T	01 30 01.8	
baz=199,slow=75,SNR=25							
TORD	**Torodi Ar. Bea**	**82.77**	**48**	P	**P**	**00 29 45.4**	**+0.3**
comp=Z,1.0nm,0.6s,baz=211,slow=5.3,SNR=6.3							
AKASG	**Malin Array Be**	**126.34**	**50**	PKP	**PKPdf**	**00 36 21.7**	**-1.1**
comp=Z,0.2nm,0.3s,baz=250,slow=0.9,SNR=3.5							
AKASG	**Malin Array Be**	**126.34**	**50**		**PKPdf**	**00 36 20.0**	**-2.8**
CMAR	**Chiang Mai Arr**	**131.81**	**135**	PKP	**PKPdf**	**00 36 33.2**	**-1.1**
comp=Z,0.5nm,0.4s,baz=233,slow=4.2,SNR=3.0							
CMAR	**Chiang Mai Arr**	**131.81**	**135**		**PKPdf**	**00 36 30.6**	**-3.7**
FINES	**FINESS Array B**	**133.58**	**39**	PKP	**PKPdf**	**00 36 35.1**	**-1.1**
comp=Z,3.0nm,1.0s,baz=251,slow=4.3,SNR=2.8							
FINES	**FINESS Array B**	**133.58**	**39**	PKPdf	**PKPdf**	**00 36 35.5**	**-0.6**
ILAR	**Eielson Array**	**144.93**	**313**	PKPbc	**PKPdf**	**00 36 56.6**	**-0.1**
comp=Z,3.9nm,1.0s,baz=155,slow=2.3,SNR=24							
ILAR	**Eielson Array**	**144.93**	**313**		**PKPdf**	**00 36 57.2**	**+0.4**
MKAR	**Makanchi Array**	**147.91**	**91**	PKPbc	**PKPdf**	**00 37 04.2**	**+1.7**
comp=Z,1.8nm,0.5s,baz=242,slow=3.5,SNR=26							
MKAR	**Makanchi Array**	**147.91**	**91**		**PKPbc**	**00 37 04.5**	**-1.0**
MKAR				PKPab	**sPKPab**	**00 37 11.4**	**-0.9**
ZALV	**Zalesovo Beam**	**153.62**	**82**	PKPbc	**PKPbc**	**00 37 16.9**	**-1.8**
comp=Z,0.8nm,0.6s,baz=276,slow=5.7,SNR=3.3							
ZALV	**Zalesovo Beam**	**153.62**	**82**		**PKPbc**	**00 37 17.1**	**-1.6**
SONM	**Songino Array**	**160.32**	**117**	PKPab	**PKPab**	**00 38 00.6**	**-0.2**
comp=Z,0.3nm,0.4s,baz=197,slow=4.5,SNR=3.5							

*IDC **19** 00:22:08.6±3.0, 36°.19N×70°.23E, h183km±28km, mb3.4/7, mb1 3.4/12, mb1mx3.1/59, mbtmp3.9/12, Error ellipse: s-maj=20.8km s-min=14.6km az=17.0*
*ISCJB **19** 00:22:11.0±0.5, 36°.50N±0°.03×70°.42E±0°.08, h204km, Error ellipse: s-maj=8.9km s-min=4.5km az=166.4*
*NNC **19** 00:22:13.4±3.2, 37°.00N×70°.33E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=27.9km s-min=19.8km az=150.0*
ISC 19 00:22:11.9±0.6, 36°.49N±0°.06×70°.42E±0°.08, h204km, n41, σ1º81/46, 4C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**155**	P	**Pn**	**00 23 02.2**	**+1.1**
CEP				S	**S**	**00 23 39.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.66**	**140**	⇓P	**Pn**	**00 23 11.1**	**+1.4**
THW	**Thamme Wali**	**3.84**	**163**	⇓P	**Pn**	**00 23 12.4**	**+0.4**
AML	**Almayashu**	**6.18**	**23**	P	**Pn**	**00 23 42.1**	**+0.3**
SNR=29							
UCH	**Uchtor**	**6.55**	**28**	P	**Pn**	**00 23 46.9**	**+0.2**
SNR=22							
KK31	**Karatay Array**	**6.61**	**1**	⇓Pn	**Pn**	**00 23 46.4**	**-0.5**
2.2nm,0.2s							
KK31				⇑Pg		00 24 03.2	
6.9nm,0.6s,baz=191,slow=15,SNR=6.4							
KK31				⇑Sn	**S**	**00 24 57.2**	**-5.1**
5.1nm,0.5s,baz=191,slow=23,SNR=6.7							
EKS2	**Erkin-Say**	**6.69**	**22**	P	**Pn**	**00 23 48.4**	**+0.3**
SNR=11							
AAK	**Ala-Archa**	**6.90**	**26**	⇓Pn	**Pn**	**00 23 51.2**	**+0.3**
7.5nm,0.7s							
AAK				Sn	**S**	**00 25 05.7**	**-3.7**
28nm,0.8s							
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**00 23 51.2**	**+0.3**
2.4nm,0.3s,baz=180,slow=7.1,SNR=44							
AAK				S	**S**	**00 25 06.2**	**-3.2**
2.2nm,0.3s,baz=357,slow=22,SNR=16							
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**00 23 51.4**	**+0.5**
SNR=12							
KBK	**Karagaybulak**	**7.08**	**28**	P	**Pn**	**00 23 53.9**	**+0.6**
SNR=6.8							
USP	**Ospenovka**	**7.46**	**24**	P	**Pn**	**00 23 57.9**	**-0.1**
SNR=16							
TKM2	**Tokmak 2**	**7.56**	**30**	⇓Pn	**Pn**	**00 23 59.3**	**-0.3**
8.8nm,0.5s							
TKM2				⇑Sn	**S**	**00 25 22.0**	**-3.1**
8.9nm,0.8s							
TKM2				⇓Lg	Lg	00 26 03.2	
4.3nm,0.7s							
TKM2	**Tokmak 2**	**7.56**	**30**	P	**Pn**	**00 23 59.6**	**+0.1**
SNR=24							
GEYT	**Alibeck**	**9.92**	**282**	P	**Pn**	**00 24 28.0**	**-2.1**
0.4nm,0.3s,baz=80,slow=8.3,SNR=4.8							
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**00 25 16.6**	**+0.3**
0.2nm,0.3s,baz=221,slow=13,SNR=11							
DANN	**Dangsing**	**13.87**	**122**	*e*P	**Pn**	**00 25 19.8**	**-0.6**
KOLN	**Koldanda**	**14.14**	**124**	*e*P	**Pn**	**00 25 22.6**	**-1.0**
9.9nm,0.4s							
GKN	**Gorkha**	**14.69**	**121**	*e*P	**Pn**	**00 25 29.9**	**-0.5**
30nm,0.3s							
AB31	**Akbulak array**	**14.87**	**332**	⇑Pn	**P**	**00 25 36.8**	**+3.8**
1.8nm,0.4s,baz=152,slow=12,SNR=92							
DMN	**Daman**	**15.26**	**121**	*e*P	**Pn**	**00 25 37.2**	**-0.2**
18nm,0.6s							
KKN	**Kakani**	**15.27**	**120**	*e*P	**Pn**	**00 25 37.3**	**-0.2**
KURBB	**Kurchatov Arra**	**15.29**	**20**	P	**P**	**00 25 38.1**	**+0.6**
0.1nm,0.3s,baz=210,slow=10,SNR=6.0							
PKIN	**Phulchoki**	**15.48**	**121**	*e*P	**Pn**	**00 25 39.7**	**-0.4**
22nm,0.5s							
PKI	**Pulchoki**	**15.49**	**121**	*e*P	**Pn**	**00 25 39.9**	**-0.4**
32nm,0.6s							
GUN	**Gumba**	**15.62**	**119**	*e*P	**P**	**00 25 41.4**	**-0.3**
54nm,0.9s							
JIRN	**Jiri**	**15.99**	**119**	*e*P	**Pn**	**00 25 46.3**	**0.0**
71nm,0.5s							
AKTO	**Aktyubinsk**	**16.56**	**331**	⇓Pn	**Pn**	**00 25 58.2**	**+5.7**
3.7nm,0.9s							
AKTO	**Aktyubinsk**	**16.56**	**331**	P	**Pn**	**00 25 52.9**	**+0.3**
0.6nm,0.3s,baz=141,slow=7.9,SNR=7.5							
RAMN	**Ramite**	**16.71**	**120**	*e*P	**Pn**	**00 25 54.7**	**-0.1**
TAPN	**Taplejung**	**17.25**	**117**	*e*P	**Pn**	**00 26 01.7**	**+0.4**
11nm,0.4s							
ODAN	**Odare**	**17.32**	**119**	*e*P	**Pn**	**00 26 01.7**	**-0.3**
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**00 26 30.6**	**+0.6**
3.2nm,0.3s,baz=214,slow=11,SNR=16							
SONM	**Songino Array**	**28.72**	**55**	P	**P**	**00 27 52.2**	**+2.0**
0.3nm,0.5s,baz=269,slow=10,SNR=3.2							
NRIK	**Noril'sk**	**34.22**	**11**	P	**P**	**00 28 39.1**	**+1.3**
2.6nm,0.4s,baz=202,slow=4.8,SNR=5.6							
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**00 29 03.7**	**+0.2**
3.3nm,1.0s,baz=125,slow=9.6,SNR=4.4							
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**00 29 35.1**	**+0.8**
4.4nm,1.1s,baz=110,slow=6.7,SNR=7.8							
NOA	**NORSAR Array B**	**44.11**	**323**	P	**P**	**00 29 59.9**	**+0.2**
0.9nm,0.7s,baz=97,slow=7.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P	**P**	**00 32 28.2**	**-3.8**
119nm,0.8s,baz=48,slow=6.0,SNR=6.3							
BATI	**Baumata**	**68.25**	**122**	P	**P**	**00 32 50.0**	**-0.9**
43nm,0.3s,baz=271,slow=2.7,SNR=15							
WRA	**Warramunga Arr**	**82.38**	**122**	P	**P**	**00 34 10.3**	**-0.9**
0.4nm,0.8s,baz=325,slow=4.8,SNR=3.9							

*ISCJB **19** 00:30:09.5±0.7, 6°.40S±0°.07×154°.18E±0°.07, h48km, mb4.0/12, MS3.3/5, Error ellipse: s-maj=10.4km s-min=9.7km az=2.4*
*IDC **19** 00:30:11.6±4.0, 6°.43S×154°.09E, h51km±31km, mb3.8/12, mb1 4.1/14, mb1mx3.9/34, mbtmp4.2/14, ML3.5/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/33, Error ellipse: s-maj=32.9km s-min=14.2km az=92.0*
ISC 19 00:30:10.8±0.8, 6°.36S±0°.08×154°.2E±0°.1, h48km, n20, σ1º23/18, mb4.0/12, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.99**	**313**	P	**Pn**	**00 30 55.9**	**+0.1**
46nm,0.3s,baz=146,slow=0.6,SNR=18							
KRVT				S	**Sn**	**00 31 30.6**	**+0.2**
100nm,0.3s,baz=102,slow=19,SNR=9.5							
HNR	**Honiara**	**6.44**	**119**	LR	LR	00 34 02.0	
comp=Z,86nm,18.5s,baz=300,slow=35							
PMG	**Port Moresby**	**7.62**	**246**	P	**Pn**	**00 31 59.5**	**+0.1**
12nm,0.3s,baz=52,slow=8.9,SNR=23							
PMG				S	**Sn**	**00 33 26.5**	**+2.1**
1.7nm,0.3s,baz=181,slow=23,SNR=7.5							
JAY	**Jayapura**	**14.00**	**285**	LR	LR	00 38 58.0	
comp=Z,87nm,18.3s,baz=6.5,slow=38							
CTA	**Charters Tower**	**15.68**	**209**	P	**P**	**00 33 52.0**	**-0.1**
0.3nm,0.3s,baz=35,slow=13,SNR=6.2							
WRA	**Warramunga Arr**	**23.56**	**233**	P	**P**	**00 35 15.9**	**-1.3**
5.2nm,0.8s,baz=60,slow=10,SNR=67							
WRA				LR	LR	00 44 46.4	
comp=Z,95nm,19.4s,baz=75,slow=37							
ASAR	**Alice Springs**	**26.03**	**226**	P	**P**	**00 35 38.6**	**-1.2**
1.5nm,0.4s,baz=57,slow=9.5,SNR=16							
STKA	**Stephens Creek**	**27.99**	**203**	P	**P**	**00 35 55.1**	**-2.1**
2.0nm,0.6s,baz=338,slow=9.1,SNR=3.5							
STKA				LR	LR	00 47 31.8	
comp=Z,74nm,18.4s,baz=180,slow=37							
FITZ	**Fitzroy Crossi**	**30.21**	**245**	P	**P**	**00 36 16.1**	**-1.1**
6.7nm,0.7s,baz=83,slow=6.0,SNR=15							
FITZ				LR	LR	00 48 23.1	
comp=Z,50nm,21.0s,baz=3.5,slow=36							
BATI	**Baumata**	**30.47**	**261**	LR	LR	00 50 07.4	
comp=Z,72nm,21.6s,baz=273,slow=39							
ASAJ	**Asahikawa**	**51.33**	**349**	LR	LR	00 59 30.3	
comp=Z,34nm,19.1s,baz=180,slow=34							
CMAR	**Chiang Mai Arr**	**59.82**	**296**	P	**P**	**00 40 10.3**	**-1.5**
0.9nm,0.3s,baz=96,slow=8.3,SNR=5.0							
SONM	**Songino Array**	**68.39**	**328**	P	**P**	**00 41 08.2**	**+0.5**
0.6nm,0.6s,baz=132,slow=6.3,SNR=4.1							
MKAR	**Makanchi Array**	**82.42**	**319**	P	**P**	**00 42 29.6**	**+1.4**
0.6nm,0.6s,baz=109,slow=6.2,SNR=7.8							
ILAR	**Eielson Array**	**83.07**	**22**	P	**P**	**00 42 30.0**	**-1.1**
0.2nm,0.5s,baz=251,slow=4.6,SNR=4.2							
ZALV	**Zalesovo Beam**	**83.23**	**326**	P	**P**	**00 42 32.4**	**+0.4**
0.8nm,0.5s,baz=120,slow=6.6,SNR=4.2							
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**00 42 35.2**	**+1.2**
2.8nm,0.8s,baz=325,slow=1.0,SNR=6.7							
MAW	**Mawson**	**84.68**	**203**	P	**P**	**00 42 39.9**	**+0.6**
1.3nm,0.6s,baz=96,slow=7.1,SNR=4.1							
NVAR	**Mina Array Bea**	**91.94**	**52**	P	**P**	**00 43 16.1**	**+1.2**
0.5nm,0.8s,baz=258,slow=6.5,SNR=4.4							
TORD	**Torodi Ar. Bea**	**152.11**	**286**	PKPbc	**PKPbc**	**00 50 02.4**	**+0.3**
1.8nm,0.8s,baz=68,slow=2.7,SNR=7.0							

*NEIC **19** 00:30:05.9±2.7, 53°.9N±0°.1×147°.19W±0°.07, h10km±2km*
AEIC 19 00:30:12.5±2.4, 54°.2N±0°.1×147°.3W±0°.2, h25km±9km, ML3.7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**4.57**	**314**		Pn	00 31 19.4	-0.5
OHAK				Sn	Sn	00 32 05.7	-6.4
KDAK	**Kodiak Island**	**4.68**	**322**	Pn	Pn	00 31 20.3	-1.1
CNPM	**China Poot**	**5.78**	**339**		Pn	00 31 35.4	-1.2
CNPM				Sn	Sn	00 32 38.6	-3.4
BRSE	**Bradley Lake S**	**5.89**	**343**		Pn	00 31 38.0	0.0
BRSE					Sn	00 32 45.4	+0.8
BRLK	**Bradley Lake**	**5.93**	**342**		Pn	00 31 38.5	-0.2
BRLK	**Bradley Lake**	**5.93**	**342**	Sn	Sn	00 32 43.8	-2.0
SEW	**Seward**	**6.05**	**350**		Pn	00 31 38.5	-1.8
SEW				Sn	Sn	00 32 47.0	-1.6
HIN	**Hinchinbrook I**	**6.24**	**3**		Pn	00 31 41.6	-1.3
HMT	**Hamilton**	**6.38**	**14**		Pn	00 31 44.6	-0.1
SLKM	**Skilak Lake**	**6.54**	**347**		Pn	00 31 46.6	-0.3
SLKM					Sn	00 32 59.9	-0.7
KULT	**Kultieth River**	**6.56**	**20**		Pn	00 31 46.9	-0.4
MESA	**MESA**	**6.66**	**23**		Pn	00 31 48.1	-0.7
PWL	**Port Wells**	**6.72**	**356**		Pn	00 31 49.0	-0.4
CHX	**Chaix Hills**	**6.77**	**27**		Pn	00 31 49.5	-0.7
YAH	**Yahtse**	**6.88**	**24**		Pn	00 31 50.9	-0.9
SAMH	**Samovar Hills**	**6.92**	**28**		Pn	00 31 51.3	-0.9
PNL	**Peninsula**	**6.98**	**35**		Pn	00 31 51.0	-2.0
DHAK	**Deception Hill**	**7.00**	**42**		Pn	00 31 50.5	-2.9
PCA	**Pinnacle**	**7.04**	**30**		Pn	00 31 52.3	-1.7
GRNC	**Granite Creek**	**7.20**	**22**		Pn	00 31 55.5	-0.8
CNBA	**Chernabura Isl**	**7.21**	**280**		Pn	00 31 53.7	-2.4
KIAG	**Kiagna River**	**7.25**	**19**		Pn	00 31 56.3	-0.6
VRDI	**Verde Repeater**	**7.35**	**15**		Pn	00 31 57.7	-0.5
BALM	**Baldy**	**7.36**	**19**		Pn	00 31 58.0	-0.3
CTGM	**Chitina Glacie**	**7.50**	**23**		Pn	00 31 59.4	-0.9
BARN	**Barnard Glacie**	**7.52**	**21**		Pn	00 31 59.9	-0.7
BARN	**Barnard Glacie**	**7.52**	**21**	Sn	Sn	00 33 22.5	-2.4
SCM	**Sheep Creek Mo**	**7.67**	**360**		Pn	00 32 03.2	+0.7
YUK2	**White River**	**8.35**	**21**		Pn	00 32 12.4	+0.6
YUK3	**Moose Creek**	**8.42**	**23**		Pn	00 32 13.5	+0.6
WAT6	**Susitna Watana**	**8.42**	**358**		Pn	00 32 13.9	+1.0
WAT1	**Susitna Watana**	**8.70**	**356**		Pn	00 32 17.1	+0.5
YUK1	**Sand Pete Hill**	**8.74**	**21**		Pn	00 32 17.7	+0.4
BVCY	**Beaver Creek**	**8.91**	**20**		Pn	00 32 20.4	+1.0
WHY	**Whitehorse**	**9.30**	**41**		Pn	00 32 22.7	-2.2
BC03		**9.35**	**16**		Pn	00 32 25.0	-0.4
DAWY	**Dawson**	**10.69**	**19**		Pn	00 32 44.1	+0.2

*ISCJB **19** 00:35:37.4±1.5, 60°.2S±0°.3×44°.0W±0°.9, h10km, mb4.5/3, Error ellipse: s-maj=80.1km s-min=19.7km az=146.0*
*IDC **19** 00:35:37.1±1.5, 60°.14S×44°.11W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/19, mbtmp3.7/3, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=76.0km s-min=28.1km az=51.0*
ISC 19 00:35:38.6±1.4, 60°.2S±0°.3×44°.1W±0°.4, h10km, n7, σ0º66/6, mb3.9/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**10.29**	**235**	LR	LR	00 42 17.2	
comp=Z,110nm,21.5s,baz=87,slow=39							
SNAA	**Sanae**	**19.85**	**142**	P	**Pn**	**00 40 10.9**	**+0.1**
0.1nm,0.3s,baz=283,slow=7.6,SNR=5.7							
SIV	**San Ignacio**	**45.84**	**337**	P	**P**	**00 43 60.0**	**-0.6**
0.6nm,0.5s,baz=184,slow=8.3,SNR=7.0							
LPAZ	**La Paz**	**47.19**	**328**	P	**P**	**00 44 12.6**	**+0.7**
0.8nm,0.7s,baz=159,slow=8.6,SNR=2.5							
TORD	**Torod

CMAR	Chiang Mai Arr	33.20	334	P	P	00 47 12.6 +7.0
	0.5nm,0.3s,baz=154,slow=6.5,SNR=4.7					
H08S2	Diego Garcia H	40.66	272	T	T	01 31 34.4
	baz=95					
H08S3	Diego Garcia H	40.67	272	T	T	01 31 35.1
	baz=95					
H08S1	Diego Carcia H	40.67	272	T	T	01 31 53.4
	baz=95					
WHN	Wuhan	41.94	1	P	P	00 48 20.3 +0.9
XAN	Xi'an	45.63	355	P	P	00 48 55.3 +6.2
XAN				pP	sP	00 49 02.0 +0.3
XAN				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SONM	Songino Array	59.54	354	P	P	00 50 39.7 +7.7
	comp=Z,1.1nm,0.4s,baz=174,slow=8.8,SNR=11					
KSH	Kashi	61.73	328	P	P	00 50 49.3 +2.2
KSH				PP	PP	00 53 08.1 +4.7
KSH				S	S	00 59 10.6 +2.8
KSH				sS	pS	00 59 19.5 +0.5
KSH	Kashi	61.73	328	SS	SS	01 03 15.8 +5.6
KSH				pmax	pmax	
	comp=Z,200nm,6.5s					
KSH				LR	LR	
	comp=N,240nm,14.1s					
KSH				LR	LR	
	comp=E,210nm,7.8s					
KSH				LR	LR	
	comp=Z,97nm,12.3s					
MKAR	Makanchi Array	64.55	337	P	P	00 51 10.3 +4.8
	comp=Z,0.7nm,0.5s,baz=141,slow=7.9,SNR=11					
ZALV	Zalesovo Beam	69.75	342	P	P	00 51 44.8 +6.5
	comp=Z,0.7nm,0.5s,baz=145,slow=5.3,SNR=3.2					

*SOME **19** 01:09:05.4, 42°.73N×72°.88E, h15km*
*NNC **19** 01:09:05.3±0.6, 42°.68N×72°.90E, h0km, mb2.6, mpv2.7, Error ellipse: s-maj=12.7km s-min=2.8km az=3.0*
*KRNET **19** 01:09:06.2±0.1, 42°.68N×72°.92E, h20km, mb2.2*
ISC 19 01:09:05.5±1.0, 42°.68N±0°.04×72°.92E±0°.03, h14km±6km, n25, σ0°.68/46, 24C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	0.24	75	P	Pb	01 09 11.4	-0.3
	7.8nm,0.0s						
MRKS				S	Sb	01 09 15.5	-0.5
	43nm,0.1s						
MRKS	Merke	0.24	75	⇑iP	Pb	01 09 11.4	-0.3
	baz=75						
MRKS				⇓iS	Sb	01 09 15.4	-0.5
	baz=75						
MRKS	Merke	0.24	75	⇑iP	Pb	01 09 11.4	-0.3
	7.8nm,0.1s						
MRKS				⇓iS	Sb	01 09 15.4	-0.5
	83nm,0.1s						
EKS2	Erkin-Say	0.64	92	⇑iP	Pb	01 09 18.5	-0.1
	baz=92						
EKS2				⇑iS	Sb	01 09 27.2	-0.2
	baz=92						
AML	Almayashu	0.80	133	⇑iP	Pg	01 09 21.0	-0.1
	baz=34						
AML				⇑iS	Sb	01 09 32.1	-0.2
	baz=34						
ARK	Arkit	1.13	219	⇓iP	Pg	01 09 27.5	+0.1
	baz=18						
ARK				⇓iS	Sn	01 09 42.9	+0.4
	baz=18						
AAK	Ala-Archa	1.17	92	⇓P	Pg	01 09 28.3	+0.2
	1.3nm,0.3s						
AAK				⇑S	Sg	01 09 43.6	+0.4
	2.5nm,0.7s						
AAK	Ala-Archa	1.17	92	⇓iP	Pg	01 09 28.1	+0.1
	baz=92						
AAK				⇓iS	Sg	01 09 43.5	+0.3
	baz=92						
UCH	Uchtor	1.27	110	⇑iP	Pb	01 09 29.5	0.0
	baz=11						
UCH				⇑iS	Sn	01 09 46.4	0.0
	baz=11						
USP	Ospenovka	1.30	63	⇓iP	Pb	01 09 29.6	-0.3
	baz=63						
USP				⇓iS	Sn	01 09 47.1	+0.4
	baz=63						
ARLS	Aral	1.33	128	⇑eP	Pb	01 09 30.1	-0.3
	baz=27						
ARLS				⇑iS	Sg	01 09 48.2	-0.2
	baz=27						
ARSB	Arslanbob	1.36	178	⇑iP	Pg	01 09 31.3	-0.4
	baz=78						
ARSB				⇑iS	Sg	01 09 49.6	+0.3
	baz=78						
CHMS	Chumysh	1.39	76	⇑iP	Pb	01 09 31.3	0.0
	baz=76						
CHMS				⇑iS	Sg	01 09 49.9	-0.4
	baz=76						
SGDS	Sogindy	1.47	58	P	Pb	01 09 32.6	-0.2
	6.9nm,0.2s						
SGDS				S	Sb	01 09 52.2	+0.8
	6.6nm,0.2s						
KBK	Karagaybulak	1.50	90	⇑iP	Pb	01 09 33.7	+0.4
	baz=90						
KBK				⇑iS	Sg	01 09 53.9	0.0
	baz=90						
KK31	Karatay Array	1.82	284	⇑P	Pb	01 09 38.3	-0.3
	0.5nm,0.3s,baz=102,slow=16,SNR=18						
KK31				S	Sb	01 10 01.4	+0.2
	1.6nm,0.4s,baz=98,slow=30,SNR=17						
TKM2	Tokmak 2	1.99	82	⇑Pn	Pb	01 09 40.9	-0.7
	3.2nm,0.8s						
TKM2				⇑Lg	Lg	01 10 07.8	
	1.0nm,0.3s						
TKM2	Tokmak 2	1.99	82	⇑iP	Pb	01 09 41.4	-0.3
	baz=82						
TKM2				⇑iS	Sb	01 10 07.8	+1.4
	baz=82						
DGS	Degeres	2.17	74	Pg	Pb	01 09 44.9	+0.1
	1.0nm,0.2s						
DGS				Lg	Lg	01 10 13.7	
	3.6nm,0.3s						
DGS	Degeres	2.17	74	eP	Pb	01 09 44.9	+0.1
	1.0nm,0.3s						
DGS				eS	Sg	01 10 13.7	-1.6
	4.4nm,0.3s						
BOOM	Boomskoye usch	2.24	94	⇑iP	Pb	01 09 45.4	-0.6
	baz=94						
BOOM				⇑iS	Sb	01 10 14.1	+0.4
	baz=94						
KST	Kastek	2.27	80	Pg	Pb	01 09 46.4	0.0
	1.8nm,0.1s						
KST				Lg	Lg	01 10 17.0	
	4.6nm,0.4s						
KST	Kastek	2.27	80	eP	Pb	01 09 46.4	0.0
	1.9nm,0.2s						
KST				eS	Sg	01 10 17.0	-1.6
	5.4nm,0.6s						
KTBS	Karatobe	2.94	68	Pg	Pb	01 09 59.4	+1.6
	0.4nm,0.2s						
KTBS				Lg	Lg	01 10 38.1	
	4.6nm,0.3s						
KTBS	Karatobe	2.94	68	eP	Pb	01 09 59.1	+1.3
	0.4nm,0.2s						
KTBS				eS	Sg	01 10 38.1	-1.9
	4.6nm,0.3s						

*ISCJB **19** 01:27:05.3±0.5, 4°.11S±0°.05×127°.30E±0°.06, h200km, mb3.4/4, Error ellipse: s-maj=9.2km s-min=5.9km az=35.3*
*NEIC **19** 01:27:06.6±1.6, 4°.10S±0°.10×127°.3E±0°.1, h197km±13km, mb4.3/13*
*IDC **19** 01:27:08.8±2.8, 4°.01S×127°.48E, h214km±35km, mb3.3/5, mb1 3.5/8, mb1mx3.3/32, mbtmp4.0/8, Error ellipse: s-maj=36.8km s-min=11.9km az=85.0*
ISC 19 01:27:07.3±0.7, 4°.05S±0°.07×127°.35E±0°.08, h200km, n28, σ1°.23/31, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	5.02	77	Pn	Pn	01 28 22.8	+0.8
FAKI					Sn	01 29 19.0	-1.9
SIJI	Sorong	5.03	51	P	Pn	01 28 23.6	+1.4
	5.8nm,0.3s,baz=254,slow=23,SNR=23						
SIJI				S	Sn	01 29 20.2	-1.0
	14nm,0.3s,baz=63,slow=24,SNR=15						
MTN	Manton Dam	9.50	157	Pn	Pn	01 29 20.1	-0.1
KNRA	Kununurra	11.64	173	Pn	Pn	01 29 47.0	-0.6
FITZ	Fitzroy Crossi	14.06	187	P	P	01 30 21.1	+1.2
	0.4nm,0.3s,baz=16,slow=9.2,SNR=11						
FITZ	Fitzroy Crossi	14.06	187	P	Pn	01 30 18.6	+0.5
WB0	Warramunga Arr	17.06	157	P	P	01 30 53.0	-0.1
WRAB	Tennant Creek	17.20	157	P	P	01 30 54.7	+0.2
WRAB				IAmb	IAmb	01 30 57.3	
	comp=Z,8.9nm,0.7s						
WRA	Warramunga Arr	17.20	157	P	P	01 30 55.2	+0.6
	comp=Z,1.4nm,0.3s,baz=335,slow=13,SNR=82						
WRA				S	S	01 34 07.3	+3.9
	comp=Z,0.0nm,0.3s,baz=322,slow=23,SNR=3.0						
WB2	Warramunga Arr	17.21	157	P	P	01 30 53.3	-1.3
WB2				IAmb	IAmb	01 30 57.3	
	comp=Z,7.8nm,0.6s						
WR0	Warramunga Arr	17.30	157	P	P	01 30 55.0	-0.6
WR0				IAmb	IAmb	01 30 58.5	
	comp=Z,8.9nm,0.8s						
COEN	Coen	18.46	123	P	P	01 31 07.8	-0.5
PSAC2	Pilbara Seismi	18.85	202	P	P	01 31 10.8	-1.6
PSAB2	Pilbara Seismi	18.86	202	P	P	01 31 11.0	-1.5
PSAA2	Pilbara Seismi	18.87	202	P	P	01 31 10.8	-1.8
PSAA2				IAmb	IAmb	01 31 13.8	
	comp=Z,7.1nm,0.7s						
PSA00	Pilbara Seismi	18.88	202	P	P	01 31 10.9	-1.8
PSA00				IAmb	IAmb	01 31 13.5	
	comp=Z,12nm,1.1s						
PSAA3	Pilbara Seismi	18.88	202	P	P	01 31 12.4	-0.4
PSAA3				IAmb	IAmb	01 31 13.5	
	comp=Z,11nm,1.0s						
PSAA1	Pilbara Seismi	18.89	202	P	P	01 31 11.5	-1.4
PSAA1				IAmb	IAmb	01 31 13.5	
	comp=Z,9.1nm,1.0s						
AS31	Alice Springs	20.50	163	P	P	01 31 30.2	0.0
ASAR	Alice Springs	20.50	163	P	P	01 31 30.3	+0.1
	comp=Z,1.2nm,0.3s,baz=344,slow=11,SNR=19						
ASAR	Alice Springs	20.50	163	P	P	01 31 29.4	-0.8
NWAO	Narrogin (SRO)	30.24	197	P	P	01 32 59.4	-0.1
CMAR	Chiang Mai Arr	35.83	310	P	P	01 33 48.4	+0.3
	comp=Z,1.0nm,0.3s,baz=141,slow=7.1,SNR=6.5						
USRK	Ussuriysk Ar.	48.21	4	P	P	01 35 28.0	+0.3
	comp=Z,0.7nm,0.5s,baz=168,slow=4.8,SNR=4.4						
USRK	Ussuriysk Ar.	48.21	4	P	P	01 35 28.1	+0.4
SONM	Songino Array	54.85	343	P	P	01 36 17.2	+0.2
	comp=Z,0.2nm,0.4s,baz=148,slow=8.5,SNR=2.8						
MKAR	Makanchi Array	64.33	327	P	P	01 37 21.7	+0.1
	comp=Z,1.1nm,0.5s,baz=122,slow=8.3,SNR=16						
MKAR	Makanchi Array	64.33	327	P	P	01 37 21.0	-0.6

*ISCJB **19** 01:35:02.0±0.9, 16°.24N±0°.08×97°.90W±0°.04, h27km±7km, Error ellipse: s-maj=14.5km s-min=5.9km az=16.6*
*NEIC **19** 01:35:02.9±1.9, 16°.34N±0°.04×97°.88W±0°.05, h25km±11km*
*MEX **19** 01:35:04.7±0.9, 16°.30N×97°.89W, h7km±6km, MD4.0*
ISC 19 01:35:02.8±1.0, 16°.32N±0°.07×97°.90W±0°.04, h26km±8km, n13, σ1°.08/26, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.23	288	eP	Pb	01 35 09.2	+0.1
PNIG				eS	Sb	01 35 13.1	-0.2
PNIG	Pinotepa	0.23	288		Pb	01 35 09.2	+0.1
PNIG					Sb	01 35 13.1	-0.2
VHO	Vista Hermosa	1.34	56	eP	Pn	01 35 26.9	+0.8
VHO				i S	Sb	01 35 44.2	-0.1
TLIG	Tlapa	1.39	333	eP	Pn	01 35 27.6	+0.9
TLIG				i S	Sn	01 35 45.2	+0.9
TLIG	Tlapa	1.39	333		Pn	01 35 26.8	+0.1
TLIG				Sn	Sn	01 35 45.1	+0.8
HUIG	Huatulco	1.81	107	eP	Pn	01 35 32.3	0.0
HUIG				i S	Sn	01 35 55.0	+0.6
HUIG	Huatulco	1.81	107		Pn	01 35 32.3	0.0
HUIG					Sn	01 35 55.0	+0.6
CAIG	El Cayaco	2.38	288	eP	Pn	01 35 40.5	+0.3
CAIG				i S	Sn	01 36 09.8	+1.1
CAIG	El Cayaco	2.38	288		Pn	01 35 40.5	+0.3
CAIG					Sn	01 36 09.8	+1.1
CMIG	Matias Romero	2.99	75	eP	Pn	01 35 49.1	+0.5
CMIG				i S	Sn	01 36 25.3	+1.8
CMIG	Matias Romero	2.99	75		Pn	01 35 49.1	+0.5
CMIG					Sn	01 36 25.3	+1.8
CCIG	Comitan	5.53	90	Pn	Pn	01 36 22.6	-1.1
CCIG				Sn	Sn	01 37 25.8	-0.9
TEIG	Tepich	9.93	66	Pn	Pn	01 37 23.9	0.0
TEIG				Sn	Sn	01 39 11.3	-3.3

*ISCJB **19** 01:38:47.3±0.5, 60°.19S±0°.05×43°.6W±0°.1, h10km, mb3.8/3, MS3.5/7, Error ellipse: s-maj=8.8km s-min=7.3km az=142.0*
*IDC **19** 01:38:48.2±1.0, 60°.20S×43°.67W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.8/19, mbtmp4.0/4, ML3.5/2, MS3.5/9, Ms1 3.5/9, ms1mx3.4/17, Error ellipse: s-maj=41.4km s-min=24.9km az=62.0*
*NEIC **19** 01:38:49.1±1.7, 60°.3S±0°.1×43°.7W±0°.2, h15km±6km, mb4.3/9*
ISC 19 01:38:49.0±0.7, 60°.22S±0°.08×43°.65W±0°.09, h10km, n35, σ0°.96/24, mb4.2/7, MS3.5/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.11	36	Pn	Pn	01 40 33.2	+0.4
HOPE				Sn	Sn	01 41 54.4	+0.8
PMSA	Palmer Station	10.45	235	LR	LR	01 44 42.3	
	comp=Z,211nm,19.3s,baz=69,slow=34						
EFI	East Falkland	11.75	310	Pn	Pn	01 41 35.8	-0.6
USHA	Ushuaia	14.31	281	Pn	Pn	01 42 12.5	+1.1
	0.5nm,0.3s,baz=328,slow=13,SNR=1.2						
USHA				LR	LR	01 46 34.6	
	comp=Z,222nm,19.7s,baz=86,slow=33						
GO10	Punta Arenas	16.54	283	Pn	Pn	01 42 41.0	+0.2
GO10				IAmb	IAmb	01 42 54.4	
	comp=Z,56nm,1.0s						
VNA3	Neumayer Olymp	17.48	143	P	Pn	01 42 51.3	-1.2
VNA1	Neumayer--Stat	17.71	141	P	Pn	01 42 55.2	-0.1
VNA2	Neumayer--Watz	18.07	141	P	P	01 43 00.1	-0.1
	baz=300,slow=15						
SNAA	Sanae	19.69	142	P	Pn	01 43 20.2	+0.8
SNAA	Sanae	19.69	142	P	Pn	01 43 20.7	+1.3
	comp=Z,0.1nm,0.3s,baz=274,slow=12,SNR=14						
SNAA	Sanae	19.69	142	P	P	01 43 17.3	-0.6
PLCA	Paso Flores	25.64	307	LR	LR	01 53 23.0	
	comp=Z,128nm,19.7s,baz=182,slow=34						
PLCA	Paso Flores	25.64	307	P	P	01 44 18.6	0.0
PLCA				IAmb	IAmb	01 44 27.4	
	comp=Z,7.4nm,1.1s						
QSPA	South Pole Qui	30.02	180	P	P	01 44 58.5	+0.8
	comp=Z,0.9nm,0.7s,baz=153,slow=3.8,SNR=2.7						
QSPA				LR	LR	01 57 54.0	
	comp=Z,72nm,18.7s,baz=167,slow=38						
CPUP	Villa Florida	35.16	338	LR	LR	01 58 54.6	
	comp=Z,56nm,22.0s,baz=176,slow=34						
MAW	Mawson	41.76	147	LR	LR	02 03 15.5	
	comp=Z,71nm,18.2s,baz=238,slow=35						
GO01	Chusmiza	44.41	325	P	P	01 46 59.8	-0.5
GO01				IAmb	IAmb	01 47 09.1	
	comp=Z,3.8nm,1.0s						
PB11	IPOC Station P	44.46	324	P	P	01 47 01.3	+1.0
PB11				IAmb	IAmb	01 47 04.5	
	comp=Z,4.8nm,0.8s						
BDFB	Brasilia	44.63	354	LR	LR	02 03 14.0	
	comp=Z,72nm,19.3s,baz=136,slow=33						
MNMC	Minye Minye	45.04	324	P	P	01 47 04.8	-0.3
SIV	San Ignacio	45.95	336	P	P	01 47 13.3	+1.3
	comp=Z,1.0nm,0.5s,baz=194,slow=7.0,SNR=9.1						
LPAZ	La Paz	47.33	327	LR	LR	02 07 54.6	
	comp=Z,36nm,20.1s,baz=151,slow=37						
LPAZ	La Paz	47.33	327	P	P	01 47 21.5	-1.9
LPAZ				IAmb	IAmb	01 47 34.9	
	comp=Z,1.9nm,0.9s						
SAML	Samuel	53.22	336	P	P	01 48 06.4	-1.0
BOSA	Boshof	55.20	87	LR	LR	02 07 09.5	
	comp=Z,56nm,20.4s,baz=139,slow=31						
H10S2	ASCENSION HYDR	55.57	36	T	T	02 49 37.9	
	baz=201,slow=74,SNR=3.7						
H10S3	ASCENSION HYDR	55.57	35	T	T	02 49 41.5	
	baz=19,slow=74,SNR=3.9						
H10N3	ASCENSION HYDR	56.68	35	T	T	02 51 00.4	
	baz=195						
H10N1	ASCENSION HYDR	56.68	35	T	T	02 50 56.7	
	baz=195						
H10N2	ASCENSION HYDR	56.69	35	T	T	02 51 06.6	
	baz=195						
LBTB	Lobatse	58.34	85	P	P	01 48 43.1	-1.1
TORD	Torodi Ar. Bea	81.61	44	P	P	01 51 08.0	+1.1
	comp=Z,1.3nm,0.9s,baz=196,slow=5.8,SNR=6.3						
MKAR	Makanchi Array	146.19	89	PKPbc	PKPbc	01 58 27.4	-1.0
	comp=Z,1.5nm,0.8s,baz=231,slow=2.5,SNR=12						
ILAR	Eielson Array	146.29	311	PKPbc	PKPbc	01 58 27.3	-0.9
	comp=Z,1.0nm,0.7s,baz=148,slow=1.9,SNR=9.5						
KURBB	Kurchatov Arra	146.86	80	PKPbc	PKPbc	01 58 29.9	-0.3
	comp=Z,1.3nm,0.5s,baz=236,slow=3.8,SNR=6.1						

*ISCJB **19** 02:28:15.3±0.3, 9°.00S±0°.03×118°.74E±0°.02, h33km, mb4.3/13, MS3.2/4, Error ellipse: s-maj=4.9km s-min=3.2km az=19.5*
*DJA **19** 02:28:16.3±0.2, 9°.5±3°.×11°.9E±°, h10km, M4.7/18, mb5.0/7, mB5.0/5, MLv4.8/18, Mw(mB)4.4/5*
*IDC **19** 02:28:18.6±1.8, 8°.83S×118°.66E, h42km±16km, mb4.0/13, mb1 4.1/16, mb1mx3.9/35, mbtmp4.3/16, ML4.1/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/41, Error ellipse: s-maj=17.4km s-min=9.1km az=64.0*
*NEIC **19** 02:28:19.3±1.4, 8°.94S±0°.07×118°.72E±0°.06, h77km±4km, mb4.1/12*
ISC 19 02:28:17.1±0.4, 9°.03S±0°.04×118°.69E±0°.03, h35km, n77, σ2°.50/94, mb4.2/17, MS3.2/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.92	131	P	Pn	02 28 33.1	-0.5
PLAI	Plampang	0.93	283	P	Pn	02 28 32.7	-0.9
WSI	Waingapu	1.71	112	P	Pn	02 28 46.2	+1.8
TWSI	Taliwang, Sumb	1.81	279	P	Pn	02 28 47.2	+1.4
DNP	Denpasar	3.46	276	P	Pn	02 29 12.8	+4.3
IGBI	Denpasar	3.51	273	P	Pn	02 29 11.4	+2.2
IGBI				S	Sn	02 29 52.7	+3.2
MMRI	Maumere	3.53	84	P	Pn	02 29 11.9	+2.4
MMRI				S	Sn	02 29 54.4	+4.4
MMRI	Maumere	3.53	84		Pn	02 29 12.2	+2.7
MMRI				Sn	Sn	02 29 51.7	+1.7
SRBI	Singaraja	3.57	285	P	Pn	02 29 11.3	+1.3
BKSI	Bulukumba	3.95	21	P	Pn	02 29 15.8	+0.5
KAPI	Kappang	4.13	15	P	Pn	02 29 18.0	+0.3
	16nm,0.3s,baz=194,slow=6.1,SNR=58						
KAPI				S	Sn	02 30 03.3	-1.6
	36nm,0.3s,baz=180,slow=23,SNR=17						
KAPI				LR	LR	02 31 04.7	
	comp=Z,412nm,19.0s,baz=296,slow=42						
KAPI	Kappang	4.13	15		Pn	02 29 18.1	+0.3
KAPI					Sn	02 30 04.4	-0.5
JAGI	Jajag, Banyuwa	4.52	277	P	Pn	02 29 24.6	+1.5
JAGI				S	Sn	02 30 17.5	+3.0
JAGI	Jajag, Banyuwa	4.52	277		Pn	02 29 25.2	+2.0
JAGI				Sn	Sn	02 30 16.7	+2.2
BNSI	Bone	4.81	17	P	Pn	02 29 29.7	+2.6
BATI	Baumata	5.04	104	P	Pn	02 29 33.3	+3.0
	20nm,0.3s,baz=282,slow=1.8,SNR=10						
BATI				S	Sn	02 30 31.9	+4.5
	26nm,0.3s,baz=177,slow=14,SNR=3.7						
BATI	Baumata	5.04	104	P	Pn	02 29 32.5	+2.2
KMMI	Kalianget	5.08	293	S	Sn	02 30 32.5	+4.3
SPSI	Sidrap Palu	5.15	12	P	Pn	02 29 33.5	+1.7
SOEI	Soe	5.55	98	P	Pn	02 29 40.5	+3.1
SOEI	Soe	5.55	98		Pn	02 29 41.0	+3.6
SOEI				Sn	Sn	02 30 40.8	+0.8
TTSI	Tana Toraja	6.05	11	P	Pn	02 29 46.2	+2.0
FITZ	Fitzroy Crossi	11.26	144	P	Pn	02 30 55.8	+0.2
	1.0nm,0.3s,baz=343,slow=7.4,SNR=21						
FITZ				S	Sn	02 32 56.7	-3.6
	2.8nm,0.3s,baz=184,slow=20,SNR=9.4						
FITZ				LR	LR	02 35 20.9	
	comp=Z,59nm,18.1s,baz=282,slow=37						
FITZ	Fitzroy Crossi	11.26	144		Pn	02 30 55.1	-0.4
KNRA	Kununurra	11.85	125		Pn	02 31 04.4	+0.7
KNRA				Sn	Sn	02 33 14.4	-0.2
MTN	Manton Dam	12.79	108		Pn	02 31 15.7	-0.8
WRA	Warramunga Arr	18.61	127	P	P	02 32 32.3	+0.6
	0.4nm,0.3s,baz=301,slow=12,SNR=23						
WRA				S	Sn	02 35 50.6	-8.8
	0.5nm,0.3s,baz=307,slow=24,SNR=5.7						
WRA				ScP	ScP	02 40 34.0	+0.9
	0.0nm,0.3s,baz=323,slow=2.0,SNR=5.1						
WRA				LR	LR	02 40 53.5	
	comp=Z,30nm,18.1s,baz=65,slow=40						
WRA	Warramunga Arr	18.61	127	P	P	02 32 31.4	-0.3
WRAB	Tennant Creek	18.62	127	P	P	02 32 31.5	-0.2
WRAB				IAmb	IAmb	02 32 46.5	
	comp=Z,7.6nm,0.8s						
WB2	Warramunga Arr	18.62	127	P	P	02 32 32.5	+0.7
WB2				IAmb	IAmb	02 32 50.6	
	comp=Z,7.0nm,0.6s						
AS31	Alice Springs	20.58	137	P	P	02 32 54.0	+0.8
ASAR	Alice Springs	20.58	137	P	Pn	02 32 55.9	+0.3
	comp=Z,5.9nm,0.9s,baz=322,slow=12,SNR=27						
ASAR				S	S	02 36 40.0	-1.6
	comp=Z,1.1nm,0.7s,baz=316,slow=26,SNR=3.1						
ASAR				PcP	PcP	02 37 04.0	+0.5
	comp=Z,1.5nm,0.5s,baz=313,slow=1.3,SNR=9.0						
ASAR				ScP	ScP	02 40 39.2	+1.7
	comp=Z,2.3nm,1.0s,baz=324,slow=1.2,SNR=6.5						
ASAR	Alice Springs	20.58	137	P	P	02 32 52.6	-0.5
RPSI	Rantau Prapat	22.89	300	P	P	02 33 18.6	+0.6
PSI	Prapat	22.94	300	P	P	02 33 18.6	-0.1
	comp=Z,7.2nm,0.9s,baz=115,slow=16,SNR=3.2						
PSI				LR	LR	02 42 17.7	
	comp=Z,118nm,18.5s,baz=90,slow=37						
NWAO	Narrogin (SRO)	23.82	183	P	P	02 33 30.7	+3.8
	comp=Z,17nm,1.1s,baz=350,slow=8.7,SNR=5.6						
NWAO				S	S	02 37 45.1	+4.7
	comp=Z,6.9nm,0.6s,baz=155,slow=2.2,SNR=4.0						
NWAO	Narrogin (SRO)	23.82	183	P	P	02 33 26.0	-0.9
COEN	Coen	24.48	104	P	P	02 33 30.1	-3.1
COEN				IAmb	IAmb	02 33 35.6	
	comp=Z,8.5nm,0.7s						
CTA	Charters Tower	28.80	115	P	P	02 34 12.7	+0.5
	comp=Z,0.7nm,0.3s,baz=286,slow=15,SNR=2.6						
STKA	Stephens Creek	31.12	140	P	P	02 34 34.2	+1.7
	comp=Z,2.2nm,0.6s,baz=297,slow=9.0,SNR=3.2						
STKA				LR	LR	02 48 02.0	
	comp=Z,53nm,18.5s,baz=9.2,slow=38						
STKA	Stephens Creek	31.12	140	P	P	02 34 30.7	-1.8
CMAR	Chiang Mai Arr	33.56	325	P	P	02 34 52.8	-1.1
	comp=Z,0.9nm,0.3s,baz=143,slow=9.1,SNR=4.3						
CMAR				PcP	PcP	02 37 35.7	+1.5
	comp=Z,0.5nm,0.3s,baz=172,slow=2.7,SNR=4.3						
CMAR				LR	LR	02 49 07.8	
	comp=Z,38nm,18.7s,baz=185,slow=37						
WHN	Wuhan	39.57	354	P	P	02 35 48.3	+3.3
TAPN	Taplejung	47.00	321	eP	P	02 36 45.

comp=Z,2.7nm,1.1s
MKAR Makanchi Array 64.35 333 P **P** **02 38 47.9 -1.4**
comp=Z,1.3nm,0.6s,baz=149,slow=7.3,SNR=13
MKAR LR LR 03 09 49.8
comp=Z,14nm,21.4s,baz=101,slow=39
MKAR Makanchi Array 64.35 333 P **P** **02 38 46.5 -2.8**
ZAA0 Zalesovo Array 68.97 339 P **P** **02 39 16.2 -2.4**
ZAA0 IAmb IAmb 02 39 17.5
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 68.97 339 P **P** **02 39 16.4 -2.2**
comp=Z,3.6nm,0.4s,baz=152,slow=5.1,SNR=15
ZALV Zalesovo Beam 68.97 339 P **P** **02 39 16.2 -2.4**
ABKAR Abkulak array 77.41 325 P **P** **02 40 06.1 -2.5**
ABKAR Abkulak array 77.41 325 P **P** **02 40 06.0 -2.6**
ABKAR IAmb IAmb 02 40 07.2
comp=Z,1.9nm,0.9s
KMBO Kilima Mbogo 81.37 270 P **P** **02 40 32.0 +0.7**
comp=Z,2.0nm,0.8s,baz=86,slow=6.3,SNR=5.3
LSZ Lusaka 88.14 255 P **P** **02 41 02.2 -3.0**
BOSA Boshof 88.72 241 P **P** **02 41 09.4 +1.6**
comp=Z,1.9nm,0.6s,baz=54,slow=3.9,SNR=4.3
BOSA Boshof 88.72 241 P **P** **02 41 05.7 -2.0**
YKA Yellowknife Ar 114.35 24 PKP **PKiKP** **02 46 52.1 -0.7**
comp=Z,0.2nm,0.4s,baz=298,slow=2.1,SNR=2.7
H09W1 TRISTAN DA CUNI 15.13 222 T T 04 52 42.6
SNR=5.7
TORD Torodi Ar. Bea 118.17 280 PKP **PKiKP** **02 47 01.8 +0.2**
comp=Z,50nm,0.3s,baz=108,slow=1.9,SNR=15
NVAR Mina Array Bea 121.28 50 PKP **PKiKP** **02 47 07.3 0.0**
comp=Z,0.2nm,0.5s,baz=253,slow=2.0,SNR=2.9
NVAR Mina Array Bea 121.28 50 **PKPdf** **02 47 01.9 -5.3**
TXAR Lajitas Array 135.51 57 PKP **PKiKP** **02 47 35.8 -0.1**
comp=Z,0.1nm,0.4s,baz=194,slow=1.5,SNR=3.5
CPUP Villa Florida 144.63 186 PKP **PKPdf** **02 47 51.8 +0.9**
comp=Z,5.2nm,1.1s,baz=168,slow=1.8,SNR=5.4

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*IDC **19** 02:46:56.8±1.1, 36°.82N×144°.89E, h0km, mb3.4/5, mb1 3.8/10, mb1mx3.6/37, mbtmp3.7/10, ML3.2/5, MS2.6/2, Ms1 2.6/2, ms1mx2.2/32, Error ellipse: s-maj=25.5km s-min=22.7km az=158.0*
*ISCJB **19** 02:47:00.3±0.8, 37°.05N±0°.07×144°.47E±0°.06, h26km, mb3.4/5, MS2.4/1, Error ellipse: s-maj=10.3km s-min=7.0km az=179.4*
*JMA **19** 02:47:02.1±0.1, 37°.12N×144°.44E, h69km, M3.8*
ISC 19 02:47:01.1±1.0, 36°.99N±0°.07×144°.56E±0°.08, h26km, n26, σ1§50/26, mb3.3/5, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.79**	**299**	P	**Pn**	**02 47 43.4**	**-0.6**
JIO	**Ouri**	**2.94**	**301**	P	**Pn**	**02 47 45.6**	**-0.5**
JIO				S	**Sn**	**02 48 18.3**	**-2.2**
JFK	**Kawauchi**	**2.96**	**278**	P	**Pn**	**02 47 46.3**	**-0.2**
JFK				S	**Sn**	**02 48 19.5**	**-1.8**
ONAJ	**Iwakimizuishiy**	**3.01**	**273**	P	**Pn**	**02 47 47.3**	**+0.1**
ONAJ				S	**Sn**	**02 48 21.1**	**-1.3**
JMST	**Minamisoumatoc**	**3.02**	**285**	P	**Pn**	**02 47 46.7**	**-0.5**
JMST				S	**Sn**	**02 48 20.6**	**-1.8**
JKMT	**Kesennumamotoy**	**3.04**	**308**	P	**Pn**	**02 47 46.8**	**-0.8**
JKMT				S	**Sn**	**02 48 20.6**	**-2.5**
OFUJ	**Ofunato**	**3.09**	**313**	P	**Pn**	**02 47 47.4**	**-0.9**
JMK	**Ichinoseki**	**3.29**	**308**	P	**Pn**	**02 47 50.5**	**-0.4**
MJAR	**Matsushiro Arr**	**5.12**	**267**	Pn	**Pn**	**02 48 17.4**	**+1.4**
	0.6nm,0.3s,baz=88,slow=13,SNR=16						
MJAR				Sn	**Sn**	**02 49 14.4**	**+0.1**
	0.1nm,0.3s,baz=75,slow=29,SNR=4.7						
MAT	**Matsushiro**	**5.12**	**267**	P	**Pn**	**02 48 16.9**	**+0.8**
MAT				eS	**Sn**	**02 49 14.6**	**+0.3**
JHJ	**Hachijo jima 2**	**5.50**	**227**	Pn	**Pn**	**02 48 21.9**	**+0.6**
	17nm,0.3s,baz=112,slow=22,SNR=2.7						
JHJ				Sn	**Sn**	**02 49 19.8**	**-3.8**
	16nm,0.3s,baz=217,slow=16,SNR=3.5						
USRK	**Ussuriysk Ar.**	**11.96**	**311**	Pn	**Pn**	**02 49 51.2**	**+1.4**
	baz=118,slow=14,SNR=4.7						
KSRS	**Korea Array**	**13.27**	**277**	Pn	P	02 50 11.8	-5.4
	0.2nm,0.3s,baz=99,slow=15,SNR=3.2						
KSRS				LR	LR	02 54 31.3	
	comp=Z,26nm,20.7s,baz=150,slow=34						
KLR	**Kul'dur**	**15.37**	**327**	Pn	**P**	**02 50 41.0**	**+0.4**
	0.1nm,0.3s,baz=135,slow=12,SNR=3.1						
GUMO	**Guam**	**23.30**	**179**	LR	LR	02 58 32.1	
	comp=Z,13nm,20.0s,baz=136,slow=30						
H11N2	**WAKE ISLAND Hy**	**26.01**	**125**	T	T	03 19 18.4	
	baz=317,slow=75,SNR=372						
H11N1	**WAKE ISLAND Hy**	**26.02**	**125**	T	T	03 19 19.1	
	baz=317,slow=75,SNR=157						
H11N3	**WAKE ISLAND Hy**	**26.03**	**125**	T	T	03 19 16.0	
	baz=317,slow=75,SNR=251						
H11S1	**WAKE ISLAND Hy**	**26.77**	**127**	T	T	03 20 20.0	
	baz=318,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**26.78**	**127**	T	T	03 20 15.0	
	baz=318,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**26.79**	**127**	T	T	03 20 18.2	
	baz=318,slow=76,SNR=62						
SONM	**Songino Array**	**29.91**	**303**	P	**P**	**02 53 09.1**	**+2.3**
	0.4nm,0.9s,baz=339,slow=23,SNR=3.0						
MKAR	**Makanchi Array**	**46.27**	**303**	P	**P**	**02 55 26.0**	**+1.7**
	0.7nm,0.8s,baz=83,slow=9.9,SNR=5.5						
ILAR	**Eielson Array**	**48.19**	**32**	P	**P**	**02 55 38.6**	**-0.3**
	0.1nm,0.5s,baz=268,slow=7.1,SNR=3.1						
WRA	**Warramunga Arr**	**57.44**	**191**	P	**P**	**02 56 46.4**	**-1.3**
	0.6nm,0.9s,baz=9.4,slow=6.8,SNR=2.7						
TXAR	**Lajitas Array**	**88.13**	**54**	P	**P**	**02 59 49.1**	**-0.8**
	0.1nm,0.6s,baz=316,slow=5.0,SNR=3.0						

IDC 19 02:48:55.1±2.4, 61°.05S×43°.70W, h0km, mb3.7/1, mb1 3.9/1, mb1mx3.6/13, mbtmp3.7/1, Error ellipse: s-maj=113.0km s-min=39.0km az=18.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**26.13**	**309**	P	P	02 54 31.3	+0.6
	1.3nm,1.0s,baz=159,slow=19,SNR=1.9						
TORD	**Torodi Ar. Bea**	**82.22**	**44**	P	P	03 01 17.6	-0.3
	0.4nm,0.7s,baz=194,slow=6.7,SNR=5.3						
MKAR	**Makanchi Array**	**146.23**	**90**	PKPbc	PKPbc	03 08 36.5	+0.1
	0.5nm,0.6s,baz=252,slow=2.3,SNR=5.2						
ILAR	**Eielson Array**	**146.81**	**310**	PKPbc	PKPdf	03 08 35.5	-0.1
	0.2nm,0.7s,baz=149,slow=2.1,SNR=6.2						

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*IDC **19** 02:51:46.0±2.1, 60°.80S×43°.92W, h0km, mb3.7/1, mb1 3.9/1, mb1mx3.6/14, mbtmp3.7/1, Error ellipse: s-maj=98.1km s-min=43.0km az=33.0*
*ISCJB **19** 02:51:49.2±1.4, 60°.25S±0°.3×43°.2W±0°.9, h10km, mb4.9/2, Error ellipse: s-maj=75.1km s-min=14.9km az=149.2*
ISC 19 02:51:49.5±1.3, 60°.35S±0°.3×43°.6W±0°.4, h10km, n9, σ1§13/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.41**	**143**	P	**P**	**02 55 54.3**	**+0.9**
VNA1	**Neumayer--Stat**	**17.65**	**141**	P	**Pn**	**02 55 54.2**	**-0.7**
VNA2	**Neumayer--Watz**	**18.00**	**141**	P	**Pn**	**02 55 59.6**	**+0.1**
	baz=296,slow=15						
SNAA	**Sanae**	**19.62**	**142**	P	**Pn**	**02 56 20.1**	**+1.0**
LPAZ	**La Paz**	**47.39**	**327**	P	**P**	**03 00 25.4**	**+1.0**
	0.9nm,0.8s,baz=190,slow=6.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.62**	**44**	P	**P**	**03 04 07.8**	**+0.4**
	235nm,1.1s,baz=204,slow=7.0,SNR=4.7						
MKAR	**Makanchi Array**	**146.15**	**89**	PKPbc	**PKPdf**	**03 11 26.8**	**-0.9**
	0.4nm,0.5s,baz=234,slow=4.8,SNR=5.5						
ILAR	**Eielson Array**	**146.36**	**311**	PKPbc	**PKPdf**	**03 11 26.2**	**-1.3**
	0.7nm,0.9s,baz=141,slow=3.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**146.82**	**80**	PKPbc	**PKPbc**	**03 11 29.3**	**-1.3**
	0.2nm,0.4s,baz=242,slow=2.0,SNR=3.5						

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*IDC **19** 02:56:12.0±0.9, 55°.33N×162°.54E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/59, mbtmp3.8/11, ML2.7/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/40, Error ellipse: s-maj=28.1km s-min=16.3km az=166.0*
*KRSC **19** 02:56:13.9±0.8, 54°.98N×162°.98E, h60km±21km, ML4.3*
*ISCJB **19** 02:56:16.2±0.4, 54°.99N±0°.02×162°.89E±0°.05, h53km±5km, mb3.9/12, Error ellipse: s-maj=5.4km s-min=3.1km az=32.4*
*MOS **19** 02:56:16.3±0.7, 55°.03N×162°.86E, h60km, mb4.4/4, Error ellipse: s-maj=7.1km s-min=4.9km az=81.9*
*NEIC **19** 02:56:19.5±1.3, 55°.0N±0°.2×162°.6E±0°.2, h78km±11km, mb4.5/21*

ISC 19 02:56:16.2±1.2, 55°.00N±0°.03×162°.97E±0°.03, h40km±12km, n142, σ1§16/173, mb4.3/21, Near east of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.21**	**356**	*eP*	**Pn**	**02 56 36.2**	**-0.5**
KBTR				*eS*	**Sn**	**02 56 52.1**	**+0.2**
KBTR	**Krutoberegovo**	**1.21**	**356**	PN	**Pn**	**02 56 36.2**	**-0.5**
KBTR				S	**Sn**	**02 56 52.1**	**+0.2**
KBG	**Krutoberegovo**	**1.27**	**353**	*i P*	**Pn**	**02 56 37.1**	**-0.3**
KBG				*eS*	**Sn**	**02 56 53.8**	**+0.6**
KBG	**Krutoberegovo**	**1.27**	**353**	PN	**Pn**	**02 56 37.1**	**-0.3**
KBG				S	**Sn**	**02 56 53.8**	**+0.6**
TUMD	**Tumrok D**	**1.49**	**279**	*eP*	**Pn**	**02 56 40.3**	**-0.2**
TUMD				*eS*	**Sn**	**02 56 59.4**	**+0.6**
KZV	**Kizimen**	**1.54**	**275**	*i P*	**Pn**	**02 56 41.2**	**-0.2**
KZV				*eS*	**Sn**	**02 57 00.5**	**+0.2**
KZV	**Kizimen**	**1.54**	**275**	PN	**Pn**	**02 56 41.2**	**-0.2**
KZV				S	**Sn**	**02 57 00.5**	**+0.2**
ZLN	**Zelenaya**	**1.60**	**310**	*eP*	**Pn**	**02 56 42.8**	**+0.7**
ZLN	**Zelenaya**	**1.60**	**310**	PN	**Pn**	**02 56 42.8**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.60**	**307**	*i P*	**Pn**	**02 56 42.6**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.60**	**307**	PN	**Pn**	**02 56 42.6**	**+0.5**
TUMR	**Tumrok**	**1.65**	**281**	*eP*	**Pn**	**02 56 43.0**	**+0.3**
TUMR				*eS*	**Sn**	**02 57 03.8**	**+1.1**
TUMR	**Tumrok**	**1.65**	**281**	PN	**Pn**	**02 56 43.0**	**+0.3**
TUMR				S	**Sn**	**02 57 03.8**	**+1.1**
CIRR	**Tsirk**	**1.69**	**312**	*eP*	**Pn**	**02 56 43.1**	**-0.2**
CIRR	**Tsirk**	**1.69**	**312**	PN	**Pn**	**02 56 43.1**	**-0.2**
LGNR	**Loginova**	**1.69**	**311**	*eP*	**Pn**	**02 56 43.9**	**+0.4**
LGNR				*eS*	**Sn**	**02 57 05.3**	**+1.3**
LGNR	**Loginova**	**1.69**	**311**	PN	**Pn**	**02 56 43.9**	**+0.4**
LGNR				S	**Sn**	**02 57 05.3**	**+1.3**
BZWR	**Bezymyannyi-We**	**1.71**	**305**	*eP*	**Pn**	**02 56 44.1**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.71**	**305**	PN	**Pn**	**02 56 44.1**	**+0.5**
KMNR	**Kamenistaya**	**1.73**	**297**	*i P*	**Pn**	**02 56 44.3**	**+0.4**
KMNR	**Kamenistaya**	**1.73**	**297**	PN	**Pn**	**02 56 44.3**	**+0.4**
BKI	**Bering**	**1.74**	**82**	*i P*	**Pn**	**02 56 44.0**	**+0.2**
BKI				*eS*	**Sn**	**02 57 03.9**	**-0.8**
BKI	**Bering**	**1.74**	**82**	PN	**Pn**	**02 56 44.0**	**+0.2**
BKI				S	**Sn**	**02 57 03.9**	**-0.8**
KIRR	**Kirishev**	**1.77**	**304**	*eP*	**Pn**	**02 56 45.2**	**+0.7**
KIRR	**Kirishev**	**1.77**	**304**	PN	**Pn**	**02 56 45.2**	**+0.7**
SMKR	**Semkarok**	**1.80**	**332**	*eP*	**Pn**	**02 56 45.1**	**+0.3**
SMKR	**Semkarok**	**1.80**	**332**	PN	**Pn**	**02 56 45.1**	**+0.3**
KRSR	**Krestovskiy**	**1.83**	**313**	*eP*	**Pn**	**02 56 45.6**	**+0.4**
KRSR	**Krestovskiy**	**1.83**	**313**	PN	**Pn**	**02 56 45.6**	**+0.4**
KPT	**Kopyto**	**1.84**	**303**	*eP*	**Pn**	**02 56 46.1**	**+0.7**
KPT	**Kopyto**	**1.84**	**303**	PN	**Pn**	**02 56 46.1**	**+0.7**
KLY	**Klyuchi**	**1.86**	**316**	*i P*	**Pn**	**02 56 45.2**	**-0.3**
KLY				*eS*	**Sn**	**02 57 07.0**	**-0.8**
KLY	**Klyuchi**	**1.86**	**316**	PN	**Pn**	**02 56 45.2**	**-0.3**
KLY				S	**Sn**	**02 57 07.0**	**-0.8**
BDR	**Baidarnaya**	**1.86**	**328**	*eP*	**Pn**	**02 56 45.8**	**+0.2**
BDR				*eS*	**Sn**	**02 57 08.4**	**+0.5**
BDR	**Baidarnaya**	**1.86**	**328**	PN	**Pn**	**02 56 45.8**	**+0.2**
BDR				S	**Sn**	**02 57 08.4**	**+0.5**
SRKR	**Sorokina**	**1.94**	**329**	*eP*	**Pn**	**02 56 47.5**	**+0.7**
SRKR	**Sorokina**	**1.94**	**329**	PN	**Pn**	**02 56 47.5**	**+0.7**
KOZ	**Kozyrevsk**	**2.06**	**302**	*eP*	**Pn**	**02 56 49.2**	**+0.9**
KOZ	**Kozyrevsk**	**2.06**	**302**	PN	**Pn**	**02 56 49.2**	**+0.9**
SRDR	**Sredinnyy**	**2.27**	**307**	*eP*	**Pn**	**02 56 51.9**	**+0.7**
SRDR				*eS*	**Sn**	**02 57 18.5**	**+0.6**
SRDR	**Sredinnyy**	**2.27**	**307**	PN	**Pn**	**02 56 51.9**	**+0.7**
SRDR				S	**Sn**	**02 57 18.5**	**+0.6**
KII	**Karymskiy**	**2.27**	**246**	*eP*	**Pn**	**02 56 51.8**	**+0.5**
KII				*eS*	**Sn**	**02 57 18.5**	**+0.5**
KII	**Karymskiy**	**2.27**	**246**	PN	**Pn**	**02 56 51.8**	**+0.5**
KII				S	**Sn**	**02 57 18.5**	**+0.5**
SPN	**Mys Shipunski**	**2.58**	**224**	*eP*	**Pn**	**02 56 54.3**	**-1.1**
SPN				*eS*	**Sn**	**02 57 23.1**	**-2.4**
SPN	**Mys Shipunski**	**2.58**	**224**	PN	**Pn**	**02 56 54.3**	**-1.1**
SPN				S	**Sn**	**02 57 23.1**	**-2.4**
ESO	**Esso**	**2.60**	**293**	*eP*	**Pn**	**02 56 56.0**	**+0.2**
ESO				*eS*	**Sn**	**02 57 25.8**	**-0.3**
ESO	**Esso**	**2.60**	**293**	PN	**Pn**	**02 56 56.0**	**+0.2**
ESO				S	**Sn**	**02 57 25.8**	**-0.3**
NLC	**Nalytchevo**	**2.81**	**231**	*eP*	**Pn**	**02 56 59.0**	**+0.4**
NLC				*eS*	**Sn**	**02 57 31.1**	**-0.2**
NLC	**Nalytchevo**	**2.81**	**231**	PN	**Pn**	**02 56 59.0**	**+0.4**
NLC				S	**Sn**	**02 57 31.1**	**-0.2**
KRER	**Koryakskii**	**3.01**	**237**	*eP*	**Pn**	**02 57 02.7**	**+1.2**
KRER	**Koryakskii**	**3.01**	**237**	PN	**Pn**	**02 57 02.7**	**+1.2**
SMAR	**Somma**	**3.01**	**236**	*eP*	**Pn**	**02 57 02.5**	**+1.0**
SMAR	**Somma**	**3.01**	**236**	PN	**Pn**	**02 57 02.5**	**+1.0**
KRX	**Arik**	**3.02**	**239**	*eP*	**Pn**	**02 57 02.9**	**+1.2**
KRX	**Arik**	**3.02**	**239**	PN	**Pn**	**02 57 02.9**	**+1.2**
UGLR	**Uglovaya**	**3.03**	**235**	*eP*	**Pn**	**02 57 02.8**	**+1.1**
UGLR	**Uglovaya**	**3.03**	**235**	PN	**Pn**	**02 57 02.8**	**+1.1**
AVH	**Avacha**	**3.04**	**237**	*eP*	**Pn**	**02 57 03.2**	**+1.4**
AVH	**Avacha**	**3.04**	**237**	PN	**Pn**	**02 57 03.2**	**+1.4**
KOK	**Koryaka**	**3.07**	**238**	*eP*	**Pn**	**02 57 03.5**	**+1.2**
KOK	**Koryaka**	**3.07**	**238**	PN	**Pn**	**02 57 03.5**	**+1.2**
DALK	**Dalny**	**3.17**	**233**	*eP*	**Pn**	**02 57 03.9**	**+0.3**
DALK				*eS*	**Sn**	**02 57 39.7**	**-0.5**
DALK	**Dalny**	**3.17**	**233**	PN	**Pn**	**02 57 03.9**	**+0.3**
DALK				S	**Sn**	**02 57 39.7**	**-0.5**
GNL	**Ganaly**	**3.22**	**248**	*eP*	**Pn**	**02 57 05.7**	**+1.3**
GNL	**Ganaly**	**3.22**	**248**	PN	**Pn**	**02 57 05.7**	**+1.3**
PET	**Petropavlovsk**	**3.23**	**234**	*ePN*	**Pn**	**02 57 06.3**	**+2.0**
PET				*eS*	**Sn**	**02 57 40.3**	**-1.1**
PET				pmax	pmax		
	comp=Z,72nm,0.4s						
PET				smax	smax		
	comp=E,267nm,0.5s						
PET				smax	smax		
	comp=N,293nm,0.4s						
PET	**Petropavlovsk**	**3.23**	**234**		**Pn**	**02 57 06.3**	**+2.0**
PET				Sn	**Sn**	**02 57 41.6**	**+0.2**
KRMR	**Karymshinskiy**	**3.59**	**235**	*eP*	**Pn**	**02 57 10.8**	**+1.4**
KRMR				*eS*	**Sn**	**02 57 51.3**	**+0.8**
KRMR	**Karymshinskiy**	**3.59**	**235**	PN	**Pn**	**02 57 10.8**	**+1.4**
KRMR				S	**Sn**	**02 57 51.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**3.64**	**241**	PN	**Pn**	**02 57 10.7**	**+0.7**
PEA0B						02 57 50.6	
PEA0B	**Petropavlovsk-**	**3.64**	**241**	Pn	**Pn**	**02 57 10.7**	**+0.7**
PEA0B				Sn	**Sn**	**02 57 50.6**	**-1.0**
PETK	**Petropavlovsk-**	**3.64**	**241**	PN	**Pn**	**02 57 11.1**	**+1.1**
PETK						02 57 52.3	
PETK	**Petropavlovsk-**	**3.64**	**241**	Pn	**Pn**	**02 57 11.2**	**+1.1**
	comp=N,3.3nm,0.3s,baz=68,slow=19,SNR=34						
PETK				Sn	**Sn**	**02 57 54.9**	**+3.2**
	comp=N,3.2nm,0.3s,baz=90,slow=20,SNR=4.2						
PETK	**Petropavlovsk-**	**3.64**	**241**		**Pn**	**02 57 11.1**	**+1.1**
PETK					**Sn**	**02 57 52.3**	**+0.6**
RUS	**Russkaya**	**3.69**	**228**	*eS*	**Sn**	**02 57 53.4**	**+0.5**
MTVR	**Mutnovka**	**3.80**	**230**	*eP*	**Pn**	**02 57 13.3**	**+1.0**
MTVR	**Mutnovka**	**3.80**	**230**	PN	**Pn**	**02 57 13.3**	**+1.0**
ASAK	**Asacha**	**4.00**	**231**	*eP*	**Pn**	**02 57 17.0**	**+2.0**
ASAK	**Asacha**	**4.00**	**231**	PN	**Pn**	**02 57 17.0**	**+2.0**
APC	**Apacha**	**4.01**	**241**	*eP*	**Pn**	**02 57 16.3**	**+1.2**
APC	**Apacha**	**4.01**	**241**	PN	**Pn**	**02 57 16.3**	**+1.2**
OSSR	**Ossora**	**4.26**	**1**	*eP*	**Pn**	**02 57 18.6**	**+0.1**
OSSR	**Ossora**	**4.26**	**1**	PN	**Pn**	**02 57 18.6**	**+0.1**
KDTR	**Khodutka, Kamc**	**4.33**	**224**	*eP*	**Pn**	**02 57 21.5**	**+2.0**
KDTR	**Khodutka, Kamc**	**4.33**	**224**	PN	**Pn**	**02 57 21.5**	**+2.0**
TILK	**Tilichiki**	**5.72**	**16**	*eP*	**Pn**	**02 57 40.2**	**+1.7**
TILK	**Tilichiki**	**5.72**	**16**	PN	**Pn**	**02 57 40.2**	**+1.7**
MA2	**Magadan**	**8.04**	**310**	LR	LR	03 01 36.0	
	comp=N,52nm,20.2s,baz=130,slow=42						
YAK	**Yakutsk**	**18.58**	**306**	*i P*	**P**	**03 00 26.3**	**-3.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	**Kul'dur**	**19.91**	**266**	*i P*	**P**	**03 00 44.9**	**+0.7**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KLR	**Kul'dur**	**19.91**	**266**	LR	LR	03 09 34.1	
	comp=Z,35nm,18.3s,baz=126,slow=41						
TIXI	**Tiksi**	**22.12**	**332**	*i P*	**P**	**03 01 08.0**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
IMAR	**Indian Mountai**	**23.45**	**45**	P	**P**	**03 01 21.6**	**0.0**
PPLA	**Purkeypile**	**23.98**	**53**	P	**P**	**03 01 26.6**	**-0.1**
PPLA				IAmb	IAmb	03 01 39.4	
	comp=Z,32nm,1.6s						
KDAK	**Kodiak Island**	**24.42**	**65**	P	**P**	**03 01 32.3**	**+1.7**
	comp=Z,5.0nm,0.6s,baz=288,slow=1.2,SNR=9.5						
KDAK	**Kodiak Island**	**24.42**	**65**	P	**P**	**03 01 32.6**	**+2.0**
MLY	**Manley**	**24.63**	**47**	P	**P**	**03 01 33.7**	**+1.2**
CNPM	**China Poot**	**24.77**	**61**	P	**P**	**03 01 35.3**	**+1.5**
TRF	**Thorofare Moun**	**24.82**	**51**	P	**P**	**03 01 35.1**	**+0.7**
TRF				IAmb	IAmb	03 02 26.8	
	comp=Z,48nm,1.8s						
MJAR	**Matsushiro Arr**	**25.06**	**233**	P	**P**	**03 01 35.5**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MJAR	**Matsushiro Arr**	**25.06**	**233**	P	**P**	**03 01 35.5**	**-1.1**
BWN	**Browne**	**25.17**	**49**	P	**P**	**03 01 39.7**	**+2.3**
BWN				IAmb	IAmb	03 02 20.1	
	comp=Z,33nm,1.6s						
NEA	**Nenana**	**25.33**	**49**	P	**P**	**03 01 40.0**	**+1.1**
TOLK	**Toolik Lake Re**	**25.41**	**39**	P	**P**	**03 01 41.2**	**+1.6**
RND	**Reindeer**	**25.47**	**51**	P	**P**	**03 01 41.0**	**+0.8**
RND				pmax	pmax		
	comp=Z,19nm,1.6s						
RND	**Reindeer**	**25.47**	**51**	P	**P**	**03 01 41.0**	**+0.8**
RND				IAmb	IAmb	03 01 44.1	
	comp=Z,19nm,1.6s						
WRH	**Wood River Hil**	**25.76**	**49**	P	**P**	**03 01 44.3**	**+1.6**
WRH				IAmb	IAmb	03 01 45.7	
	comp=Z,10.0nm,1.1s						
CCB	**Clear Creek Bu**	**25.88**	**48**	P	**P**	**03 01 45.0**	**+1.3**
DHY	**Denali Highway**	**26.16**	**52**	P	**P**	**03 01 46.9**	**+0.4**
DHY				IAmb	IAmb	03 02 10.2	
	comp=Z,26nm,1.8s						
HDA	**Harding Lake**	**26.26**	**49**	P	**P**	**03 01 48.4**	**+1.2**
ILAR	**Eielson Array**	**26.27**	**48**	P	**P**	**03 01 48.2**	**+0.9**
ILAR	**Eielson Array**	**26.27**	**48**	P	**P**	**03 01 48.6**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=269,slow=8.3,SNR=22						
ILAR	**Eielson Array**	**26.27**	**48**	P	**P**	**03 01 48.2**	**+0.9**
SCM	**Sheep Creek Mo**	**26.33**	**55**	P	**P**	**03 01 48.8**	**+0.9**
SCM	**Sheep Creek Mo**	**26.33**	**55**	P	**P**	**03 01 48.8**	**+0.9**
BMAR	**Burnt Mountain**	**27.18**	**42**	P	**P**	**03 01 57.5**	**+1.9**
RIDG	**Independent Ri**	**27.23**	**50**	P	**P**	**03 01 56.7**	**+0.7**
RIDG				IAmb	IAmb	03 02 25.3	
	comp=Z,57nm,1.9s						
DOT	**Dot Lake**	**27.59**	**50**	P	**P**	**03 01 59.5**	**+0.3**
DOT				IAmb	IAmb	03 02 26.8	
	comp=Z,19nm,1.9s						
BCAR	**Beaver Creek A**	**28.69**	**51**	P	**P**	**03 02 09.6**	**+0.6**
EGAK	**Eagle**	**28.71**	**48**	P	**P**	**03 02 10.1**	**+0.9**
EGAK				IAmb	IAmb	03 03 08.1	
	comp=Z,9.4nm,1.3s						
CTGM	**Chitina Glacie**	**29.32**	**55**	P	**P**	**03 02 16.2**	**+1.4**
KS19	**Wonju Array Si**	**29.50**	**248**	P	**P**	**03 02 12.7**	**-3.7**
DAWY	**Dawson**	**29.58**	**49**	P	**P**	**03 02 18.2**	**+1.3**
DAWY				IAmb	IAmb	03 03 09.7	
	comp=Z,21nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**35.34**	**174**	T	T	03 40 35.8	
	baz=355,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**35.35**	**174**	T	T	03 40 37.1	
	baz=355,slow=38,SNR=38						
H11N1	**WAKE ISLAND Hy**	**35.35**	**174**	T	T	03 40 38.8	
	baz=355,slow=76,SNR=31						
LON	**Longmire**	**46.01**	**68**	P	**P**	**03 04 36.1**	**+0.7**
LON	**Longmire**	**46.01**	**68**	P	**P**	**03 04 36.1**	**+0.7**
KURK	**Kurchatov**	**48.16**	**302**	P	**P**	**03 04 50.8**	**-1.2**
KURBB	**Kurchatov Arra**	**48.27**	**302**	P	**P**	**03 04 50.8**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=56,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**48.85**	**296**	P	**P**	**03 04 55.9**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=49,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	**48.85**	**296**	P	**P**	**03 04 55.1**	**-2.3**
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**03 05 07.8**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=47,slow=8.7,SNR=3.0						
PDAR	**Pinedale Array**	**55.13**

IVAS	Ivanjica	0.96	318	*e*Pg	Pb	03 40 05.9	-1.1
IVAS				*e*Sg	Sb	03 40 19.8	+0.2
GRUS	Gruza	1.04	347	*e*Pg	Pg	03 40 09.1	+0.3
GRUS				*e*Sg	Sn	03 40 23.7	+0.5
BOSS	Bosilegrad	1.12	109	*e*Pg	Pg	03 40 09.9	-0.3
BOSS				*e*Sg	Sg	03 40 25.4	+0.5
PUK	Puka	1.19	226	*i* PN	Pb	03 40 10.9	0.0
PUK				*i* SN	Sg	03 40 28.3	+1.3
PHP	Peshkopia	1.27	201	*i* PN	Pb	03 40 12.3	+0.1
PHP				*i* SN	Sn	03 40 29.0	+0.3
ZAGS	Zajecar	1.28	42	*e*Pg	Pg	03 40 12.8	-0.4
ZAGS				*e*Sg	Sg	03 40 30.3	+0.4
PDG	Podgorica	1.39	252	*e*Pg	Pb	03 40 14.7	+0.4
PDG				*e*Sg	Sg	03 40 33.8	+0.4
PDG	Podgorica	1.39	252	*e*Pn	Pn	03 40 13.9	+0.4
PDG	Podgorica	1.39	252	⇊P	Pn	03 40 13.3	-0.2
PDG				⇊S	Sn	03 40 31.4	-0.3
PDG				AML	AML	03 40 40.3	
SVIS	Svilajnac	1.40	5	*e*Pg	Pg	03 40 15.3	-0.2
BLKB	Belogradchik	1.41	57	⇈S	Sg	03 40 34.6	+0.6
BLKB				AML	AML	03 40 36.9	
TRUS	Trudelj	1.43	341	*e*Pg	Pg	03 40 16.0	-0.1
TRUS				*e*Sg	Sg	03 40 34.2	-0.5
RUDO	Rudo	1.43	302	*e*Pn	Pn	03 40 13.0	-1.2
DIVS	Divibare	1.45	328	*e*Pg	Pb	03 40 15.4	+0.1
DIVS				*e*Sg	Sg	03 40 35.3	+0.1
DIVS	Divibare	1.45	328	*e*Pn	Pb	03 40 15.7	+0.4
STIP	Stip	1.45	144	*e*Pn	Pg	03 40 16.1	-0.4
DRME	Dracevica, Mon	1.54	244	*e*Pn	Pb	03 40 16.9	+0.1
BBLS	Lazići	1.56	310	*e*Pg	Pg	03 40 18.0	-0.5
BBLS				*e*Sg	Sg	03 40 39.9	+1.2
BBLS	Lazići	1.56	310	*e*Pn	Pn	03 40 16.4	+0.5
KUBS	Kucevo	1.61	16	*e*Pg	Pb	03 40 18.1	+0.1
KUBS				*e*Sg	Sg	03 40 40.4	0.0
VTS	Vitosha	1.63	98	*e*Pg	Pb	03 40 18.3	-0.2
VTS				*e*Sg	Sg	03 40 41.1	-0.1
VTS	Vitosha	1.63	98	*i* P	Pb	03 40 18.4	-0.1
VTS	Vitosha	1.63	98	⇈P	Pb	03 40 18.6	0.0
VTS				⇊S	Sg	03 40 40.2	-1.0
VTS				AML	AML	03 40 44.0	
KKB	Krupnik	1.81	123	*i* P	Pg	03 40 22.9	-0.5
BRY	Bratogost	1.84	272	*e*Pn	Pb	03 40 21.4	-0.7
HAPS	Han Pijesak,BI	1.95	309	*e*Pg	Pb	03 40 24.5	+0.6
HAPS				*e*Sg	Sg	03 40 51.8	+0.5
HAPS	Han Pijesak,BI	1.95	309	*e*Pn	Pn	03 40 21.0	-0.3
TREB	Trebinje	1.99	266	*e*Pn	Pb	03 40 24.7	+0.2
TEKS	Tekeris	2.01	327	*e*Pg	Pb	03 40 25.9	+1.1
TEKS				*e*Sg	Sg	03 40 53.4	+0.3
TEKS	Tekeris	2.01	327	*e*Pn	Pn	03 40 22.7	+0.7
FNA	Florina	2.10	173	*i* PN	Pb	03 40 27.1	+0.7
FNA				*i* SN	Sg	03 40 56.1	0.0
DBRK	Dubrovnik	2.14	266	*e*Pn	Pb	03 40 26.5	-0.7
DBRK				Sn	Sb	03 40 53.6	0.0
HERR	Herculane	2.24	26	⇈P	Pb	03 40 26.8	-2.0
HERR				⇊S	Sb	03 40 55.1	-1.3
HERR				AML	AML	03 41 02.7	
MMB	Musomiste	2.37	122	*i* P	Pg	03 40 33.1	-0.9
FRGS	Fruska Gora	2.45	339	*e*Pn	Pn	03 40 28.4	+0.2
STON	Ston	2.46	271	*i* Pn	Pb	03 40 31.2	-1.3
STON				Sn	Sb	03 41 01.7	-0.9
STON	Ston	2.46	271	*e*Pn	Pb	03 40 31.0	-1.5
PLVB	Pleven	2.67	78	⇊P	Pn	03 40 33.0	+1.9
PLVB				⇊S	Sb	03 41 05.2	-3.5
PLVB				AML	AML	03 41 42.3	
BZS	Buzias	2.78	8	*e*Pn	Pn	03 40 34.8	+2.2
BZS				*e*Sg	Sg	03 41 17.8	+0.1
BZS	Buzias	2.78	8	⇈P	Pn	03 40 33.6	+1.1
BZS				⇊S	Sn	03 41 06.7	+0.9
BZS				AML	AML	03 41 24.3	
GZR	Gura Zlata	2.81	26	⇊P	Pn	03 40 34.5	+1.4
GZR				⇊S	Sn	03 41 08.8	+1.9
GZR				AML	AML	03 41 20.1	
MAKA	Makarska	2.98	279	*e*Pn	Pn	03 40 38.1	+2.8
MAKA				Sn	Sb	03 41 15.0	-2.5
LOT	Lotru	3.24	36	⇈S	Sn	03 41 18.8	+1.3
LOT				AML	AML	03 41 36.2	
BLY	Banja Luka	3.37	305	*e*Pn	Pn	03 40 41.1	+0.4
BLY	Banja Luka	3.37	305	⇈P	Pn	03 40 39.7	-1.0
BLY				⇊S	Sn	03 41 19.6	-0.9
DRGR		4.10	16	⇊P	Pn	03 40 52.2	+1.4
DRGR				⇊S	Sn	03 41 39.7	+1.2
VYHS	Vyhne	5.83	345	*e*PN	Pn	03 41 15.9	+1.3
VYHS				*e*SN	Sn	03 42 23.1	+1.9
MODS	Modra-Piesok	6.10	336	*e*SN	Sn	03 42 26.9	-1.0

IDC 19 03:52:44.2±1.5, 29°90N×99°77E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/42, mbtmp3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/33, Error ellipse: s-maj=51.1km s-min=24.0km az=47.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	21.66	326	P	P	03 57 37.8	+1.6
	0.9nm,0.6s,baz=131,slow=11,SNR=7.6						
KSRS	Korea Array	24.55	65	P	P	03 58 05.4	-0.2
	1.1nm,0.6s,baz=265,slow=9.3,SNR=3.1						
KURBB	Kurchatov Arra	26.12	328	P	P	03 58 18.7	-1.0
	0.8nm,0.6s,baz=136,slow=10,SNR=10						
GEYT	Alibeck	35.25	294	LR	LR	04 15 58.3	
	comp=Z,35nm,19.4s,baz=80,slow=40						
WRA	Warramunga Arr	59.70	142	P	P	04 02 50.7	0.0
	0.8nm,0.9s,baz=334,slow=7.2,SNR=3.4						
SFJD	Kangerlussuaq	80.83	349	LR	LR	04 46 24.7	
	comp=Z,18nm,18.4s,baz=102,slow=40						

*ISCJB **19** 03:58:17.8±0.9, 14°81S±0°08×167°3E±0°2, h150km, mb3.4/6, Error ellipse: s-maj=27.0km s-min=10.8km az=4.0*
*IDC **19** 03:58:18.8±7.5, 14°88S×167°40E, h150km±77km, mb3.3/6, mb1 3.6/7, mb1mx3.5/21, mbtmp3.9/7, Error ellipse: s-maj=64.0km s-min=26.1km az=166.0*
ISC 19 03:58:18.6±1.0, 14°8S±0°1×167°4E±0°2, h150km, n8, σ1°15/8, mb3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.25	187	P	Pn	04 00 01.4	-0.7
	11nm,0.3s,baz=359,slow=16,SNR=49						
DZM				S	Sn	04 01 24.6	+1.3
	9.9nm,0.3s,baz=335,slow=17,SNR=14						
WRA	Warramunga Arr	31.91	256	P	P	04 04 29.8	-0.4
	0.6nm,0.9s,baz=93,slow=13,SNR=3.0						
ASAR	Alice Springs	32.74	249	P	P	04 04 36.5	-1.0
	0.3nm,0.3s,baz=77,slow=8.5,SNR=5.5						
SONM	Songino Array	82.66	324	P	P	04 10 26.5	+1.1
	0.3nm,0.5s,baz=116,slow=3.4,SNR=3.3						
ILAR	Eielson Array	86.59	18	P	P	04 10 45.3	+0.7
	0.5nm,0.8s,baz=225,slow=5.7,SNR=6.1						
NVAR	Mina Array Bea	87.25	49	P	P	04 10 47.5	-1.2
	0.2nm,0.6s,baz=228,slow=3.5,SNR=2.7						
MKAR	Makanchi Array	97.36	316	P	Pdif	04 11 36.2	+1.2
	0.4nm,0.6s,baz=97,slow=5.9,SNR=3.7						
ARCES	ARCESS Array B	120.39	345	PKP	PKiKP	04 16 52.1	+0.4
	5.0nm,0.9s,baz=45,slow=2.7,SNR=3.0						

AEIC 19 03:59:42.6±1.1, 61°27N±0°02×146°79W±0°04, h15km±4km, ML3.1, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JPK	Jack Peak	0.24	157		Pb	03 59 48.6	-0.1
VMT	TAPS TI Valdez	0.28	133		Pg	03 59 48.9	+0.3
VMT					Sb	03 59 54.2	+0.3
GLI	Glacier Island	0.42	201		Pg	03 59 50.7	-0.4
GLI					Sb	03 59 57.9	-0.1
FID	Port Fidalgo	0.55	164		Pg	03 59 52.5	-0.9
FID					Sg	04 00 01.1	+0.4
SCM	Sheep Creek Mo	0.62	336		Pg	03 59 53.7	-1.1
SCM					Sg	04 00 03.0	0.0
KNK	Knik Glacier	0.82	281		Pg	03 59 57.1	-1.4
KNK					Sg	04 00 08.6	-0.6
PS12	TAPS Pump St12	0.82	75		Pg	03 59 56.2	-2.3
PS12					Sg	04 00 07.2	-2.1
PWL	Port Wells	0.86	242		Pb	03 59 57.5	-1.7
EYAK	Cordova Ski Ar	0.89	145		Pb	03 59 58.2	-1.5
HIN	Hinchinbrook I	0.89	171		Pb	03 59 58.3	-1.5
SML	Sawmill	0.91	307		Pb	03 59 58.2	-2.0
SML					Sb	04 00 10.9	-1.3
PS11	TAPS Pump St11	1.02	37		Pb	04 00 00.5	-1.6
PS11					Sb	04 00 15.1	-0.3
GHO	Glory Hole Cre	1.14	297		Pb	04 00 01.8	-2.2
PMR	Palmer	1.17	287		Pn	04 00 02.2	-2.2
PMR					Sb	04 00 17.9	-1.6
GOAT	Goat Mountain	1.22	124		Pn	04 00 03.5	-1.8
RAGM	Ragged Mountai	1.37	130		Pn	04 00 05.8	-1.4
WAT6	Susitna Watana	1.39	342		Pn	04 00 04.8	-2.8
RC01	Rabbit Creek A	1.44	264		Pn	04 00 06.8	-1.4
GLB	Gilahina Butte	1.45	82		Pn	04 00 05.8	-2.5
GLB					Sn	04 00 25.1	-1.9
HMT	Hamilton	1.56	126		Pn	04 00 08.7	-1.1
VRDI	Verde Repeater	1.61	90		Pn	04 00 08.5	-2.3
NICHA	Nichawak Mount	1.73	126		Pn	04 00 10.2	-2.1
SEW	Seward	1.76	229		Pn	04 00 10.7	-1.8
WAT1	Susitna Watana	1.77	333		Pn	04 00 10.9	-1.8
PAX	Paxson	1.81	19		Pn	04 00 12.5	-0.9
MCARA	McCarthy VSAT	1.82	85		Pn	04 00 11.8	-1.6
DHY	Denali Highway	1.83	352		Pn	04 00 12.0	-1.7
SLKM	Skilak Lake	1.84	247		Pn	04 00 12.6	-1.2
CRQM	Cirque	1.85	105		Pn	04 00 12.6	-1.5
WAT2	Susitna Watana	1.89	334		Pn	04 00 13.2	-1.3
SUCK	Suckling Hills	1.91	128		Pn	04 00 13.2	-1.4
SUA	Susitna One	1.91	277		Pn	04 00 13.5	-1.3
KHIT	Khitrov Hills	1.92	114		Pn	04 00 12.9	-2.0
GRIN	Grindle Hills	1.97	119		Pn	04 00 13.9	-1.6
TGL	Tana Glacier	2.00	103		Pn	04 00 14.1	-1.9
PTPK	Patty Peak	2.10	90		Pn	04 00 15.6	-1.8
WAX	Waxell Ridge	2.10	111		Pn	04 00 15.6	-1.7
BALM	Baldy	2.17	94		Pn	04 00 16.5	-1.8
HUR	Hurricane	2.17	323		Pn	04 00 17.4	-0.9
KIAG	Kiagna River	2.18	97		Pn	04 00 16.5	-2.0
KULT	Kultieth River	2.25	115		Pn	04 00 17.3	-2.0
RND	Reindeer	2.35	337		Pn	04 00 19.9	-0.8
SKT	Skwentna	2.37	289		Pn	04 00 19.8	-1.3
BARN	Barnard Glacie	2.50	93		Pn	04 00 21.5	-1.4
GRNC	Granite Creek	2.51	100		Pn	04 00 21.5	-1.6
CGLM	Capps Glacier	2.52	273		Pn	04 00 22.2	-0.9
SPCG	Spurr Capps Gl	2.52	273		Pn	04 00 22.7	-0.5
SPCP	Crater Peak Br	2.59	272		Pn	04 00 23.0	-1.1
MESA	MESA	2.62	113		Pn	04 00 21.9	-2.6
RIDG	Independent Ri	2.64	19		Pn	04 00 24.3	-0.4
YAH	Yahtse	2.64	108		Pn	04 00 23.1	-1.7
MCK	McKinley	2.66	339		Pn	04 00 24.5	-0.5
CTGM	Chitina Glacie	2.67	94		Pn	04 00 23.7	-1.5
DOT	Dot Lake	2.70	27		Pn	04 00 25.1	-0.4
TRF	Thorofare Moun	2.73	325		Pn	04 00 25.4	-0.7
CNPM	China Poot	2.82	233		Pn	04 00 25.7	-1.4
SPNN	North Nagishla	2.85	274		Pn	04 00 26.5	-1.2
YUK2	White River	2.90	77		Pn	04 00 26.9	-1.3
DFR	Drift River	2.96	259		Pn	04 00 28.5	-0.6
SCRK	Sand Creek	3.01	24		Pn	04 00 28.8	-1.0
RDJH	Redoubt Jeurge	3.01	260		Pn	04 00 28.6	-1.3
PPLA	Purkeypile	3.02	305		Pn	04 00 28.5	-1.5
RSO	Redoubt South	3.03	257		Pn	04 00 28.9	-1.3
RED	Redoubt Volcan	3.05	256		Pn	04 00 28.9	-1.5
RDWB	Redoubt West	3.06	258		Pn	04 00 29.2	-1.4
YUK3	Moose Creek	3.08	78		Pn	04 00 29.5	-1.3
NCT	North Crescent	3.08	259		Pn	04 00 29.3	-1.6
HDA	Harding Lake	3.15	359		Pn	04 00 30.9	-0.7
BWN	Browne	3.16	338		Pn	04 00 30.5	-1.3
SAMH	Samovar Hills	3.17	109		Pn	04 00 30.9	-1.2
WRH	Wood River Hil	3.27	350		Pn	04 00 32.0	-1.2
IVE	Iliamna Volcan	3.31	250		Pn	04 00 32.4	-1.7
CCB	Clear Creek Bu	3.42	353		Pn	04 00 34.0	-1.3
BPAW	Bear Paw Mtn.	3.43	328		Pn	04 00 34.1	-1.5
NEA	Nenana	3.48	344		Pn	04 00 35.1	-1.0
IL31		3.51	359		Pn	04 00 34.6	-2.0
COLA	College	3.65	353		Pn	04 00 37.6	-0.8
TCOL	CIGO, UAF Yank	3.65	353		Pn	04 00 37.5	-1.0
MDM	Murphy Dome	3.76	351		Pn	04 00 39.0	-1.0
POKR	Poker Plat Res	3.87	356		Pn	04 00 40.5	-1.0
MLY	Manley	4.17	336		Pn	04 00 44.5	-1.3
SVW2	Sparrevohn	4.26	271		Pn	04 00 44.5	-2.4
PRP	Porcupine Dome	4.30	7		Pn	04 00 45.9	-1.6
TTA	Tatalina	4.64	295		Pn	04 00 50.3	-1.9
OHAK	Old Harbor	5.25	222		Pn	04 00 58.0	-2.6

*IDC **19** 04:27:25.4±0.9, 23°41N×143°60E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/48, mbtmp3.8/12, ML3.3/2, MS3.0/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=28.5km s-min=17.2km az=88.0*
*ISCJB **19** 04:27:27.6±0.5, 23°39N±0°06×143°4E±0°1, h31km, mb3.7/10, MS3.0/1, Error ellipse: s-maj=17.5km s-min=8.4km az=178.5*
*NEIC **19** 04:27:31.2±1.0, 23°4N±0°1×143°4E±0°2, h45km±6km, mb4.6/14*
ISC 19 04:27:29.6±0.8, 23°40N±0°09×143°5E±0°2, h31km, n32, σ0°94/33, mb3.9/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	13.86	342	Pn	Pn	04 30 42.1	-1.9
	0.1nm,0.3s,baz=173,slow=13,SNR=3.6						
JNU	Nakatsue	14.71	314	LR	LR	04 35 42.7	
	comp=Z,49nm,18.9s,baz=188,slow=34						
KSRS	Korea Array	19.34	320	P	P	04 31 52.7	+0.2
	0.3nm,0.3s,baz=130,slow=11,SNR=2.9						
USRK	Ussuriysk Ar.	22.79	338	P	P	04 32 30.3	+0.7
	1.8nm,0.7s,baz=152,slow=11,SNR=5.6						
KLR	Kul'dur	27.39	343	P	P	04 33 12.8	+0.7
	2.0nm,0.7s,baz=156,slow=5.0,SNR=5.9						
LUWI	Luwuk	31.55	222	P	P	04 33 47.6	-1.8
SOEI	Soe	37.93	212	P	P	04 34 43.2	-1.4
SONM	Songino Array	38.21	319	P	P	04 34 47.9	+1.1
	0.5nm,0.8s,baz=119,slow=5.1,SNR=3.6						
CMAR	Chiang Mai Arr	41.75	272	P	P	04 35 18.8	+2.4
	0.8nm,0.3s,baz=55,slow=8.3,SNR=2.9						
CMAR				LR	LR	04 51 11.1	
	comp=Z,23nm,21.6s,baz=75,slow=34						
WB0	Warramunga Arr	43.81	192	P	P	04 35 33.0	+0.1
WRAB	Tennant Creek	43.98	192	P	P	04 35 34.1	-0.1
WB2	Warramunga Arr	43.99	192	P	P	04 35 33.9	-0.4
WB2				IAmb	IAmb	04 35 49.5	
	comp=Z,5.5nm,1.1s						
WRA	Warramunga Arr	43.99	192	P	P	04 35 34.3	0.0
	comp=Z,1.0nm,0.6s,baz=17,slow=9.1,SNR=20						
WRA				PcP	PcP	04 37 20.5	+0.7
	comp=Z,0.5nm,0.6s,baz=7.6,slow=3.4,SNR=4.8						
WRA	Warramunga Arr	43.99	192	P	P	04 35 33.7	-0.6
WRA					PcP	04 37 19.3	-0.5
FITZ	Fitzroy Crossi	44.77	204	P	P	04 35 40.4	-0.1
ASAR	Alice Springs	47.70	192	P	P	04 36 04.1	+0.5
	comp=Z,0.2nm,0.3s,baz=11,slow=9.4,SNR=4.2						
MKAR	Makanchi Array	53.75	312	P	P	04 36 49.0	0.0
	comp=Z,0.8nm,0.7s,baz=100,slow=7.8,SNR=7.9						
MKAR	Makanchi Array	53.75	312	P	P	04 36 47.4	-1.6
KURK	Kurchatov	56.42	316	P	P	04 37 07.7	-0.5
KURK				IAmb	IAmb	04 37 08.3	
	comp=Z,4.5nm,1.0s						
ILAR	Eielson Array	60.41	28	P	P	04 37 35.7	-0.2
	comp=Z,0.4nm,0.9s,baz=234,slow=6.2,SNR=3.4						
ILAR	Eielson Array	60.41	28	P	P	04 37 35.4	-0.4
BRVK	Borovoye	61.62	319	P	P	04 37 44.2	0.0
BRVK				IAmb	IAmb	04 37 45.0	
	comp=Z,6.5nm,0.9s						
WAX	Waxell Ridge	61.91	33	P	P	04 37 46.0	-0.1
KK31	Karatay Array	62.21	308	P	P	04 37 48.4	0.0
KK31				IAmb	IAmb	04 37 49.5	
	comp=Z,5.3nm,0.8s						
KKAR	Karatay Array	62.21	308	P	P	04 37 48.6	+0.2
KKAR	Karatay Array	62.21	308	P	P	04 37 47.9	-0.5
KKAR				IAmb	IAmb	04 37 49.5	
	comp=Z,5.3nm,0.8s						
GAR	Garm	62.93	303	P	P	04 37 53.7	+0.3
CRAG	Craig	67.38	38	P	P	04 38 22.2	+0.4
CRAG				IAmb	IAmb	04 38 31.7	
	comp=Z,15nm,1.1s						
ABKAR	Abkulak array	68.51	316	P	P	04 38 28.5	-0.5
ABKAR	Abkulak array	68.51	316	P	P	04 38 27.4	-1.6
ABKAR				IAmb	IAmb	04 38 29.6	
	comp=Z,1.3nm,0.7s						
YKA	Yellowknife Ar	74.84	28	P	P	04 39 07.6	+0.8
	comp=Z,0.4nm,0.5s,baz=236,slow=7.6,SNR=2.6						
KBZ	Khabaz	81.38	314	P	P	04 39 44.4	+0.9
	comp=Z,2.4nm,0.8s,baz=314,slow=3.6,SNR=5.1						

IDC 19 04:49:57.4±2.3, 6°50S×128°94E, h250km±34km, mb3.1/1, mb1 3.4/5, mb1mx3.1/28, mbtmp4.0/5, Error ellipse: s-maj=53.2km s-min=15.0km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.06	23	P	Pn	04 51 27.5	+1.2
	2.3nm,0.3s,baz=285,slow=15,SNR=19						
SIJI				S	S	04 52 36.5	-1.0
	1.5nm,0.3s,baz=216,slow=22,SNR=2.3						
BATI	Baumata	6.39	234	S	S	04 52 33.3	-12
	5.8nm,0.3s,baz=183,slow=21,SNR=5.2						
FITZ	Fitzroy Crossi	11.97	195	P	Pn	04 52 40.9	+0.3
	1.0nm,0.3s,baz=30,slow=14,SNR=33						
FITZ				S	S	04 54 44.8	-9.3
	0.3nm,0.3s,baz=281,slow=20,SNR=5.0						
WRA	Warramunga Arr	14.36	159	P	Pn	04 53 08.5	-1.4
	0.3nm,0.3s,baz=335,slow=12,SNR=22						
WRA				S	S	04 55 45.6	-3.2
	0.2nm,0.3s,baz=332,slow=23,SNR=5.5						
ASAR	Alice Springs	17.72	165	P	P	04 53 47.7	+0.6
	0.9nm,0.3s,baz=343,slow=11,SNR=44						
MKAR	Makanchi Array	67.23	327	P	P	05 00 24.8	-0.1
	0.5nm,0.6s,baz=134,slow=8.3,SNR=3.7						

*AZER **19** 04:54:44.9±0.4, 38°39N×47°06E, h5km±2km, ml3.0/15, Error ellipse: s-maj=3.0km s-min=1.4km az=4.0*
*TEH **19** 04:54:47.8, 38°36N×47°05E, h5km, ML3.0*
*THR **19** 04:54:48.0, 38°43N×47°02E, h14km, ML3.1*
ISC 19 04:54:48.0±1.1, 38°37N±0°02×47°01E±0°02, h9km±10km, n31, σ1°20/47, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.68	188	*e*Pg	Pg	04 54 59.9	-1.2
IBST				*e*Sg	Sg	04 55 09.8	-0.2
ITBZ	Tabriz	0.69	259	*e*Pg	Pg	04 55 01.8	+0.4
ITBZ				*e*Sg	Sb	04 55 11.8	-0.3
GRMI	Germi	0.82	58	*e*Pg	Pg	04 55 02.8	-0.9
GRMI	Germi	0.82	58	*e*Pg	Pg	04 55 02.8	-0.9
GRMI	Germi	0.82	58	*e*AML	AML	04 55 15.3	
	comp=N,854nm,0.1s						
GRMI				*e*AML	AML	04 55 16.1	
	comp=E,705nm,0.1s						
ORD	Ordubad	0.97	305	P	Pg	04 55 06.0	-0.7
	SNR=45						
ORD				S	Sg	04 55 19.1	-0.1
LRK	Lerik	1.08	75	S	Sn	04 55 23.3	-1.3
YRD	Yardimli	1.10	60	P	Pg	04 55 08.5	-0.7
	SNR=14						
YRD				S	Sn	04 55 24.3	-1.0
QRD	Qoradiz	1.11	12	P	Pg	04 55 08.9	-0.5
	SNR=4.6						
QRD				S	Sn	04 55 25.1	-0.1
GLBA	Ciilabad	1.39	51	P	Pg	04 55 13.9	-0.7
	SNR=8.0						
GLBA				S	Sg	04 55 34.9	+2.4
ASTR	Astara	1.41	82	P	Pb	04 55 14.1	-0.3
	SNR=3.1						
ASTR				S	Sg	04 55 34.6	+1.3
BLQ	Beylaqan	1.41	17	P	Pg	04 55 14.3	-0.7
BLQ				S	Sg	04 55 35.0	+1.6
LKRN	Lenkeran, Azer	1.43	76	P	Pg	04 55 14.6	-0.7
	SNR=4.0						
LKRN				S	Sg	04 55 34.9	+1.1
NAX	Nakhchivan	1.43	304	P	Pb	04 55 14.9	0.0
	SNR=4.2						
NAX				S	Sg	04 55 34.9	+1.0
SBZ	Shahbuz	1.53	312	P	Pb	04 55 16.2	-0.4
	SNR=16						
SBZ				S	Sg	04 55 37.2	+0.1
AGDM	Agdam	1.73	2	P	Pb	04 55 19.4	-0.7
	SNR=5.2						
AGDM				S	Sg	04 55 45.0	+1.2
MAHB	Mahabad	1.91	213	*e*Pn	Pg	04 55 24.4	-0.2
MAHB				IAMB	IAmb	04 55 55.8	
	comp=Z,0.0nm,0.3s						
MAKU	Maku	2.06	299	*e*Pn	Pb	04 55 24.6	-1.1
MAKU	Maku	2.06	299	*e*Sg	Sb	04 55 52.1	+0.5
MAKU	Maku	2.06	299	*e*Pn	Pb	04 55 24.6	-1.1
HYR	Heyderabad	2.15	309	P	Pb	04 55 25.4	-1.7
HYR				S	Sb	04 55 55.2	+1.2
ZNJK	Zanjan	2.16	141	*e*Pn	Pb	04 55 26.5	-0.9
ZNJK	Zanjan	2.16	141	*e*Pn	Pb	04 55 26.5	-0.9
ZNJK	Zanjan	2.16	141	*e*Sg	Sg	04 55 57.1	-0.3
GANJ	Ganja	2.33	347	P	Pn	04 55 27.6	+1.1
	SNR=5.3						
GANJ				S	Sb	04 55 59.2	+0.1
GDB	GEDABAY	2.54	338	P	Pn	04 55 30.4	+0.9
	SNR=8.3						
GDB				S	Sb	04 56 06.2	+1.0
SEKA	Sheki	2.84	3	P	Pn	04 55 34.4	+0.9
	SNR=3.4						
SEKA				S	Sb	04 56 10.6	-3.0
QZX	Qazax, Azerbai	2.96	335	P	Pn	04 55 36.

H08S1	Diego Carcia H	42.23	270	T	T	05 52 37.8
	baz=95,slow=76,SNR=5.1					
SONM	Songino Array	58.04	353	P	P	05 09 21.4 -0.2
	0.3nm,0.6s,baz=165,slow=6.0,SNR=2.7					
KSH	Kashi	61.18	326	SS	SS	05 22 11.0 +9.4
KSH				pmax	pmax	
	comp=Z,120nm,4.2s					
KSH				LR	LR	
	comp=N,170nm,8.8s					
KSH				LR	LR	
	comp=E,98nm,7.3s					
KSH				LR	LR	
	comp=Z,130nm,7.4s					
MKAR	Makanchi Array	63.64	335	P	P	05 09 58.9 -0.7
	comp=Z,0.2nm,0.4s,baz=138,slow=7.7,SNR=3.3					
ZALV	Zalesovo Beam	68.63	341	P	P	05 10 30.6 -0.8
	comp=Z,0.3nm,0.3s,baz=131,slow=8.0,SNR=2.1					
ZALV				pP	pwP	05 10 46.4 -0.3
	comp=Z,0.7nm,0.5s,baz=134,slow=4.2,SNR=1.7					

IDC 19 05:05:05.1±4.0, 8°29S×120°65E, h375km±25km, mb3.4/1, mb1 3.2/4, mb1mx2.9/39, mbtmp4.0/4, Error ellipse: s-maj=166.0km s-min=40.9km az=34.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	3.53	123	P	Pn	05 06 12.3	+1.1
	5.7nm,0.3s,baz=304,slow=3.6,SNR=8.4						
BATI				S	S	05 07 04.4	-0.1
	14nm,0.3s,baz=276,slow=9.2,SNR=4.6						
WRA	Warramunga Arr	17.60	133	P	P	05 08 47.0	+0.4
	0.4nm,0.3s,baz=314,slow=10,SNR=9.4						
WRA				S	S	05 11 52.0	+1.8
	0.0nm,0.3s,baz=308,slow=24,SNR=2.2						
ASAR	Alice Springs	19.87	142	P	P	05 09 09.8	-0.4
	0.3nm,0.3s,baz=325,slow=9.1,SNR=12						
STKA	Stephens Creek	30.50	143	P	P	05 10 44.8	-0.4
	1.4nm,0.4s,baz=330,slow=8.4,SNR=7.0						

NIED **19** *05:10:00, 36°60N×140°80E, h56km, Mw4.0 Best double couple: M0 1.2000×10^15 NP1:φs82.00000°, δ27.00000°, λ-42.00000°. NP2:φs210.00000°, δ72.00000°, λ-111.00000°.*
ISCJB **19** *05:10:21.1±0.5, 36°54N±0°03×140°84E±0°05, h59km±3km, mb3.9/14, MS3.0/5, Error ellipse: s-maj=6.7km s-min=4.9km az=31.2*
JMA **19** *05:10:22.1±0.1, 36°55N×140°78E, h53km±1km, M4.1*
JMA Felt II J1.
NEIC **19** *05:10:23.9±1.4, 36°58N±0°08×140°8E±0°1, h65km±10km, mb4.4/7*
IDC **19** *05:10:24.2±2.5, 36°52N×140°67E, h75km±22km, mb3.6/14, mb1 3.8/15, mb1mx3.6/56, mbtmp3.9/15, MS3.0/8, Ms1 3.0/8, ms1mx2.7/48, Error ellipse: s-maj=19.2km s-min=18.2km az=121.0*

ISC 19 05:10:22.1±0.8, 36°54N±0°05×140°85E±0°06, h53km±6km, n56, σ1s04/57, mb3.9/16, MS2.9/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.23	288	P	Pn	05 10 30.8	-0.1
JHO				S	Sn	05 10 36.7	-0.6
JHYU	Hitachinakayam	0.29	226	P	Pn	05 10 31.3	0.0
JHYU				S	Sn	05 10 37.7	-0.3
ONAJ	Iwakimizuishiy	0.56	356	P	Pn	05 10 33.7	-0.6
JYT	Yasato	0.61	240	P	Pn	05 10 34.5	-0.3
JYT				S	Sn	05 10 42.9	-1.1
JFK	Kawauchi	0.82	2	P	Pn	05 10 36.8	-0.8
JSB	Shiboa	0.86	300	P	Pn	05 10 37.8	-0.2
JSB				S	Sn	05 10 48.7	-1.0
JFT	Otama	1.06	338	P	Pn	05 10 40.8	+0.1
JFT				S	Sn	05 10 54.2	-0.2
JAG	Ashikaga	1.13	265	P	Pn	05 10 41.3	-0.3
JAG				S	Sn	05 10 54.7	-1.4
JFY	Yanaizu	1.26	314	P	Pn	05 10 43.2	-0.2
JFY				S	Sn	05 10 58.7	-0.5
JKT	Katashina	1.30	280	P	Pn	05 10 44.0	0.0
JKT				S	Sn	05 10 59.9	-0.5
JMM	Marumori	1.32	358	P	Pn	05 10 44.0	-0.2
JMM				S	Sn	05 11 00.3	-0.5
MJAR	Matsushiro Arr	2.12	271	P	Pn	05 10 54.9	-0.2
	7.4nm,0.3s,baz=92,slow=12,SNR=188						
MJAR				S	Sn	05 11 19.6	-0.8
	9.3nm,0.3s,baz=83,slow=30,SNR=11						
MJAR	Matsushiro Arr	2.12	271		Pn	05 10 55.5	+0.4
MAJO	Matsushiro	2.12	271		Pn	05 10 56.0	+0.9
MAT	Matsushiro	2.12	271	P	Pn	05 10 56.2	+1.1
MAT				S	Sn	05 11 21.3	+0.9
MJB9	Matsu-Tunnel	2.13	271		Pn	05 10 56.4	+1.2
INU	Inuyama	3.33	250		Pn	05 11 13.8	+2.2
JHJ	Hachijo jima 2	3.52	195	S	Sn	05 11 54.8	+0.1
	86nm,0.3s,baz=56,slow=21,SNR=4.0						
ERM	Erimo	5.75	17	Pn	Pn	05 11 44.5	-0.4
ERM					Sn	05 12 50.5	+1.1
USA0B	Ussuriysk Arra	10.20	321	Pn	Pn	05 12 47.8	+2.1
USRK	Ussuriysk Ar.	10.20	321	P	Pn	05 12 49.1	+3.4
	baz=145,slow=13,SNR=14						
USRK				LR	LR	05 16 48.1	
	comp=Z,48nm,20.1s,baz=24,slow=38						
USRK	Ussuriysk Ar.	10.20	321	Pn	Pn	05 12 45.0	-0.7
KSRS	Korea Array	10.38	279	P	Pn	05 12 49.2	+1.0
	0.2nm,0.3s,baz=91,slow=13,SNR=3.4						
KSRS				LR	LR	05 16 04.1	
	comp=Z,76nm,18.1s,baz=64,slow=33						
KLR	Kul'dur	14.31	335	LR	LR	05 19 00.4	
	comp=Z,46nm,18.2s,baz=108,slow=36						
SONM	Songino Array	27.69	305	P	P	05 16 03.9	-1.2
	3.3nm,0.6s,baz=108,slow=9.1,SNR=23						
SONM	Songino Array	27.69	305	P	P	05 16 05.7	+0.5
H11N2	WAKE ISLAND Hy	28.30	119	T	T	05 45 55.5	
	baz=313,slow=75						
H11N1	WAKE ISLAND Hy	28.30	119	T	T	05 45 51.7	
	baz=313,slow=75						
H11N3	WAKE ISLAND Hy	28.31	119	T	T	05 46 00.9	
	baz=313,slow=75						
H11S1	WAKE ISLAND Hy	28.98	121	T	T	05 47 02.7	
	baz=314,slow=76						
H11S3	WAKE ISLAND Hy	28.98	121	T	T	05 46 52.0	
	baz=314,slow=76						
H11S2	WAKE ISLAND Hy	29.00	121	T	T	05 47 03.8	
	baz=314,slow=76						
TLY	Talaya	30.31	312	LR	LR	05 29 08.1	
	comp=Z,25nm,19.4s,baz=83,slow=37						
CMAR	Chiang Mai Arr	40.93	255	LR	LR	05 37 13.9	
	comp=Z,12nm,18.7s,baz=180,slow=40						
ZALV	Zalesovo Beam	41.91	313	P	P	05 18 06.6	-0.5
	4.3nm,0.6s,baz=93,slow=7.3,SNR=11						
ZALV				LR	LR	05 35 51.5	
	comp=Z,13nm,18.6s,baz=358,slow=36						
ZALV	Zalesovo Beam	41.91	313	P	P	05 18 05.9	-1.2
MKAR	Makanchi Array	44.00	302	P	P	05 18 21.8	-2.3
	0.3nm,0.5s,baz=79,slow=9.8,SNR=5.3						
KURK	Kurchatov	45.88	308	P	P	05 18 38.7	-0.3
KURK				IAmb	IAmb	05 18 43.3	
	comp=Z,3.8nm,0.7s						
KURBB	Kurchatov Arra	45.95	308	P	P	05 18 38.3	-1.2
	comp=Z,2.2nm,0.5s,baz=80,slow=7.2,SNR=3.9						
KDAK	Kodiak Island	47.77	42	P	P	05 18 54.0	+0.3
	comp=Z,5.8nm,0.9s,baz=336,slow=1.3,SNR=11						
MLY	Manley	48.51	32	P	P	05 19 01.1	+1.8
ILAR	Eielson Array	50.15	32	P	P	05 19 12.5	+0.7
	comp=Z,0.7nm,0.7s,baz=268,slow=5.5,SNR=9.8						
AAK	Ala-Archa	50.32	299	LR	LR	05 40 43.4	
	comp=Z,24nm,18.1s,baz=49,slow=36						
BVAR	Borovoye Array	50.57	313	P	P	05 19 15.3	+0.1
	comp=Z,0.5nm,0.5s,baz=92,slow=7.4,SNR=2.8						
SCRK	Sand Creek	51.47	33	P	P	05 19 22.7	+0.8
MENT	Mentasta	51.70	34	P	P	05 19 25.3	+1.8
INK	Inuvik	55.03	27	P	P	05 19 48.5	+0.8
WRA	Warramunga Arr	56.51	187	P	P	05 19 58.2	-0.7
	comp=Z,1.2nm,0.6s,baz=4.3,slow=7.4,SNR=12						
ABKAR	Akbulak array	57.91	310	P	P	05 20 07.8	-0.7
ABKAR	Akbulak array	57.91	310	P	P	05 20 08.2	-0.3
ABKAR				IAmb	IAmb	05 20 09.2	
	comp=Z,3.3nm,1.1s						
ASAR	Alice Springs	60.24	187	P	P	05 20 24.7	-0.2
	comp=Z,0.4nm,0.5s,baz=12,slow=9.6,SNR=2.8						
STKA	Stephens Creek	68.06	179	LR	LR	05 50 23.9	
	comp=Z,17nm,18.2s,baz=27,slow=35						
NOA	NORSAR Array B	74.46	337	P	P	05 21 54.2	-0.3
	comp=Z,0.7nm,0.8s,baz=41,slow=5.8,SNR=2.7						
NVAR	Mina Array Bea	75.65	53	P	P	05 22 02.5	+0.6
	comp=Z,0.4nm,0.6s,baz=311,slow=5.5,SNR=4.9						
PDAR	Pinedale Array	78.34	45	P	P	05 22 16.2	-0.7
	comp=Z,0.4nm,0.7s,baz=240,slow=1.5,SNR=4.9						
TXAR	Lajitas Array	90.78	52	P	P	05 23 20.4	+0.6
	comp=Z,0.2nm,0.5s,baz=304,slow=2.8,SNR=7.9						

IDC **19** *05:14:55.4±4.3, 30°61S×138°18E, h0km, mb1 3.2/3, mb1mx2.9/44, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=85.8km s-min=16.6km az=40.0*
ISCJB **19** *05:14:56.5±1.1, 30°32S±0°04×138°46E±0°05, h5km±7km, Error ellipse: s-maj=8.2km s-min=6.1km az=152.9*
AUST **19** *05:15:00.1±0.4, 30°48S×138°37E, h5km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=44.0*

ISC 19 05:14:59.9±1.3, 30°41S±0°06×138°38E±0°05, h7km±9km, n8, σ1s26/16, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	Leigh Creek	0.14	255	P	Pg	05 15 02.4	-0.5
	baz=0.1						
LCRK				S	Sg	05 15 05.3	+0.4
	baz=0.1						
HTT	Hallett	3.05	171	P	Pn	05 15 48.1	-0.5
	baz=3.0						
HTT				S	Sn	05 16 25.5	+0.2
	baz=3.0						
BBOO	Buckleboo	3.10	219	P	Pn	05 15 49.3	0.0
	baz=3.0						
BBOO				S	Sn	05 16 26.7	0.0
	baz=3.0						
STKA	Stephens Creek	3.12	119	P	Pn	05 15 49.2	-0.4
	baz=3.1						
STKA				S	Sn	05 16 28.1	+1.0
	baz=3.1						
STKA	Stephens Creek	3.12	119	Pn	Pn	05 15 45.7	-3.8
	0.2nm,0.3s,baz=278,slow=7.1,SNR=3.1						
STKA				Pg	Pb	05 15 56.8	+1.1
	1.8nm,0.3s,baz=296,slow=15,SNR=19						
STKA				Sn	Sn	05 16 26.4	-0.7
	2.0nm,0.3s,baz=348,slow=6.2,SNR=8.4						
STKA				Lg	Lg	05 16 37.7	
	2.0nm,0.3s,baz=10.0,slow=23,SNR=5.3						
OOD	Oodnadatta	3.51	317	P	Pn	05 15 56.6	+1.6
	baz=3.6						
OOD				S	Sn	05 16 39.3	+2.5
	baz=3.6						
ASAR	Alice Springs	7.81	328	Pn	Pn	05 16 52.1	-1.9
	0.1nm,0.3s,baz=150,slow=12,SNR=5.9						
ASAR				Sn	Sn	05 18 21.9	-0.9
	0.1nm,0.3s,baz=153,slow=22,SNR=3.6						
WRA	Warramunga Arr	11.04	340	Pn	Pn	05 17 37.0	-1.4
	0.1nm,0.3s,baz=156,slow=12,SNR=6.6						
WRA				Sn	Sn	05 19 42.5	+0.2
	0.1nm,0.3s,baz=164,slow=24,SNR=4.2						

IDC **19** *05:15:03.5±4.2, 42°49N×144°12E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/59, mbtmp3.6/3, Error ellipse: s-maj=132.4km s-min=34.4km az=175.0*
ISCJB **19** *05:15:18.4±0.6, 42°95N±0°04×143°84E±0°04, h120km±4km, mb3.4/3, Error ellipse: s-maj=7.7km s-min=4.3km az=155.1*
JMA **19** *05:15:19.2±0.1, 42°96N×143°81E, h117km±1km, M3.5*
SKHL **19** *05:15:19.4±0.3, 42°49N×143°91E, h61km±6km, mb4.4/3*

ISC 19 05:15:19.2±0.9, 42°93N±0°05×143°83E±0°04, h115km±6km, n32, σ1s10/43, mb3.4/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	Onbets	0.03	175	P	Pn	05 15 35.6	+0.7
JOB				eS	Sn	05 15 47.8	+1.1
JAR	Ashorobuto	0.37	353	P	Pn	05 15 36.0	+0.2
JAR				eS	Sn	05 15 48.6	+0.2
JCH	Churui	0.47	228	P	Pn	05 15 36.6	+0.2
JCH				S	Sn	05 15 48.9	-0.4
JAK	Akkeshi	0.64	84	P	Pn	05 15 37.6	+0.1
JAK				S	Sn	05 15 51.8	+0.5
JNK	Nakash	0.92	44	P	Pn	05 15 39.9	-0.1
JNK				S	Sn	05 15 55.9	+0.2
JFR	Furan	0.94	285	P	Pn	05 15 39.9	-0.3
JKHN	Kushirohamanak	0.99	81	P	Pn	05 15 40.8	+0.2
JKHN				S	Sn	05 15 56.9	+0.1
JNBK	Urakawa-nobuka	1.03	231	P	Pn	05 15 41.3	+0.3
JNBK				eS	Sn	05 15 57.7	+0.1
JEM	Erimo	1.04	209	P	Pn	05 15 41.5	+0.3
JEM				eS	Sn	05 15 59.2	+1.4
JTKR	Abashiri--Toko	1.04	3	P	Pn	05 15 41.3	+0.1
JTKR				S	Sn	05 15 57.4	-0.4
JBT2	Biratori 2	1.09	262	P	Pn	05 15 41.8	+0.1
JBT2				eS	Sn	05 15 59.0	+0.3
JMP	Maruseppu	1.13	342	P	Pn	05 15 42.0	-0.1
JMP				eS	Sn	05 15 58.6	-0.9
JKK2	Kamakawa 2	1.23	320	P	Pn	05 15 43.4	+0.2
JKK2				eS	Sn	05 16 01.0	-0.4
JRA	Rausu	1.38	43	eS	Sn	05 16 06.4	+2.1
NMR	Nemuro--Hokkai	1.46	72	eP	Pn	05 15 45.0	-0.7
NMR				eS	Sn	05 16 04.0	-1.9
NEM2	Nemuro 2	1.47	72	P	Pn	05 15 45.2	-0.6
NEM2				eS	Sn	05 16 04.4	-1.7
GLVR	Golovnino	1.47	56	eP	Pn	05 15 46.0	+0.1
GLVR				AMB	AMB	05 15 46.0	
	90nm,0.3s						
GLVR				eS	Sn	05 16 06.0	-0.2
GLVR				A	A	05 16 07.0	
	492nm,0.3s						
GLVR				A	A	05 16 07.0	
	362nm,0.3s						
JHR	Hokuryu	1.74	299	P	Pn	05 15 50.0	+0.9
JEW	Eniwo	1.75	268	eS	Sn	05 16 12.5	+0.2
GRPR	Tuman	1.77	52	eP	Pn	05 15 49.0	-0.5
GRPR				AMB	AMB	05 15 50.0	
	64nm,0.4s						
GRPR				eS	Sn	05 16 13.0	+0.4
GRPR				A	A	05 16 13.0	
	333nm,0.4s						
GRPR				A	A	05 16 13.0	
	310nm,0.4s						
LAGR	Lagunnoye	1.81	51	eS	Sn	05 16 15.0	+1.4
YUK	Yuzh-Kuril'sk	1.84	53	eP	Pn	05 15 51.0	+0.6
YUK				AMB	AMB	05 15 51.0	
	60nm,0.3s						
YUK				eS	Sn	05 16 15.0	+0.8
YUK				A	A	05 16 18.0	
	331nm,0.3s						
YUK				A	A	05 16 18.0	
	249nm,0.3s						
KUR	Kuril'sk	3.71	50	eS	Sn	05 17 02.5	+4.9
SONM	Songino Array	26.57	294	P	P	05 20 46.6	+0.2
	1.3nm,0.7s,baz=86,slow=8.2,SNR=7.5						
H11N2	WAKE ISLAND Hy	30.20	133	T	T	05 52 33.0	
	baz=327,slow=75						
H11N1	WAKE ISLAND Hy	30.21	133	T	T	05 52 50.8	
	baz=327,slow=75						
H11N3	WAKE ISLAND Hy	30.21	133	T	T	05 52 49.9	
	baz=327,slow=75						
H11S1	WAKE ISLAND Hy	31.10	134	T	T	05 53 56.9	
	baz=325,slow=74						
H11S3	WAKE ISLAND Hy	31.10	134	T	T	05 53 59.8	
	baz=325,slow=74						
H11S2	WAKE ISLAND Hy	31.11	134	T	T	05 53 58.9	
	baz=325						
ILAR	Eielson Array	43.57	36	P	P	05 23 10.5	-0.8
	0.3nm,0.4s,baz=256,slow=5.7,SNR=7.1						
TXAR	Lajitas Array	85.10	54	P	P	05 27 42.1	-0.4
	0.2nm,0.5s,baz=289,slow=3.2,SNR=6.7						

ISCJB **19** *05:17:43.7±0.2, 4°03S±0°03×127°37E±0°04, h200km, mb4.0/13, Error ellipse: s-maj=5.5km s-min=4.4km az=140.2*
IDC **19** *05:17:46.7±1.2, 4°04S×127°53E, h221km±12km, mb3.8/13, mb1 4.0/18, mb1mx3.6/58, mbtmp4.5/18, Error ellipse: s-maj=14.1km s-min=7.9km az=75.0*
DJA **19** *05:17:47.0±0.2, 4°S±3°×12°7E±°, h207km±2km, M4.5/17, mB5.0/5, mb4.6/15, MLv4.6/17, Mw(mB)4.4/5*
NEIC **19** *05:17:47.1±1.8, 4°04S±0°08×127°52E±0°09, h228km±8km, mb4.6/20*

ISC 19 05:17:45.4±0.4, 4°04S±0°05×127°50E±0°05, h200km, n72, σ1s73/77, mb4.2/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.78	64	P	Pn	05 18 17.3	+3.5
AAI				S	Sn	05 18 39.4	+3.7
NLAI	Namlea	0.89	334	P	Pn	05 18 18.2	+3.8
NLAI				S	Sn	05 18 41.2	+4.2
MSAI	Masohi	1.59	64	P	Pn	05 18 22.5	+2.6
MSAI				S	Sn	05 18 50.1	+3.5
BNDI	Bandanaira	2.45	101	P	Pn	05 18 32.1	+3.4
SANI	Sanana	2.48	323	P	Pn	05 18 30.2	+1.1
FAKI	Fak Fak	4.87	77	P	Pn	05 19 00.4	+2.2
FAKI	Fak Fak	4.87	77		Pn	05 19 00.3	+2.1
FAKI					Sn	05 19 55.0	-0.5
SWI	Sorong	4.91	50	P	Pn	05 19 00.9	+2.3
SIJI	Sorong	4.91	50	P	Pn	05 19 01.1	+2.4
	54nm,0.3s,baz=233,slow=7.3,SNR=120						
SIJI				S	Sn	05 19 57.2	+0.8
	47nm,0.3s,baz=297,slow=24,SNR=16						
RKPI	Ransiki, Papua	7.13	70	P	Pn	05 19 29.0	+1.6
MRSI	Marisa	7.13	309	P	Pn	05 19 28.9	+1.5
BATI	Baumata	7.21	212	P	Pn	05 19 30.8	+2.4
	6.9nm,0.3s,baz=231,slow=1.3,SNR=5.8						
BATI	Baumata	7.21	212	P	Pn	05 19 30.9	+2.4
SPSI	Sidrap Palu	7.71	270	P	Pn	05 19 36.8	+1.9
TTSI	Tana Toraja	7.72	277	P	Pn	05 19 35.3	+0.2
KAPI	Kappang	7.78	263	P	Pn	05 19 37.4	+1.6
	2.8nm,0.3s,baz=163,slow=15,SNR=4.9						
MTN	Manton Dam	9.46	158		Pn	05 19 59.1	+1.5
KNRA	Kununurra	11.63	174		Pn	05 20 26.4	+0.8
KMMI	Kalianget	13.79	257	P	P	05 20 58.5	+3.5
JAGI	Jajag, Banyuwa	13.97	251		Pn	05 20 56.0	+0.9
FITZ	Fitzroy Crossi	14.09	187	P	Pn	05 20 56.0	-0.5
	1.2nm,0.3s,baz=22,slow=10.0,SNR=26						
FITZ	Fitzroy Crossi	14.09	187	P	Pn	05 20 56.9	+0.4
SBUM	Sibu	16.57	293	P	P	05 21 25.9	+0.2
WB0	Warramunga Arr	17.02	157	P	P	05 21 31.1	+0.5
WRAB	Tennant Creek	17.16	158	P	P	05 21 32.6	+0.5
WRA	Warramunga Arr	17.16	158	P	P	05 21 31.8	-0.4
	7.4nm,0.3s,baz=336,slow=13,SNR=162						
WRA				S	S	05 24 38.0	-2.7
	0.0nm,0.3s,baz=339,slow=21,SNR=2.8						
WR0	Warramunga Arr	17.25	157	P	P	05 21 33.7	+0.5
KSM	Kuching	18.03	287	P	P	05 21 41.7	+0.1
PSA00	Pilbara Seismi	18.95	202	P	P	05 21 50.2	-1.3
AS31	Alice Springs	20.47	163	P	P	05 22 07.9	0.0
AS31				IAmb	IAmb	05 22 16.8	
	comp=Z,9.3nm,0.3s						
ASAR	Alice Springs	20.47	163	P	P	05 22 07.8	-0.1
	comp=Z,8.4nm,0.4s,baz=344,slow=11,SNR=66						
ASAR				S	S	05 25 43.5	-2.5
	comp=Z,1.8nm,0.6s,baz=353,slow=22,SNR=4.6						
ASAR	Alice Springs	20.47	163	P	P	05 22 07.3	-0.7
CTA	Charters Tower	24.26	133	P	P	05 22 45.1	+0.8
	comp=Z,1.5nm,0.3s,baz=310,slow=15,SNR=5.7						
STKA	Stephens Creek	30.70	156	P	P	05 23 41.5	-0.1
	comp=Z,1.3nm,0.2s,baz=332,slow=7.9,SNR=7.3						
CHAI	Chaiyaphum	32.09	309	P	P	05 23 54.1	+0.2
ARMA	Armidale	34.75	142	P	P	05 24 16.2	-0.7
ARMA				IAmb	IAmb	05 24 23.7	
	comp=Z,28nm,1.4s						
CMAR	Chiang Mai Arr	35.93	309	P	P	05 24 27.1	+0.2
	comp=Z,4.4nm,0.5s,baz=133,slow=7.2,SNR=22						
CHTO	Chiang Mai	36.14	310	P	P	05 24 28.7	0.0
CHTO				IAmb	IAmb	05 24 29.8	
	comp=Z,11nm,0.6s						
CAN	Canberra	36.94	150	P	P	05 24 31.7	-3.7
USA0B	Ussuriysk Arra	48.19	4	P	P	05 26 05.7	+0.2
USRK	Ussuriysk Ar.	48.19	4	P	P	05 26 05.0	-0.5
	comp=Z,1.2nm,0.5s,baz=195,slow=7.0,SNR=7.6						
ODAN	Odare	49.45	311	eP	P	05 26 14.8	-0.9
	comp=Z,14nm,0.7s						
TAPN	Taplejung	49.47	312	eP	P	05 26 14.9	-1.1
	comp=Z,19nm,0.8s						
RAMN	Ramite	50.09	310	eP	P	05 26 20.0	-0.6
	comp=Z,28nm,0.6s						
GTA	Gaotai	50.20	332	eP	P	05 26 19.9	-1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JIRN	Jiri	50.77	311	eP	P	05 26 25.1	-0.8
	comp=Z,23nm,0.7s						
GUN	Gumba	51.14	311	eP	P	05 26 27.7	-0.9
	comp=Z,25nm,0.7s						
PKI	Pulchoki	51.32	310	eP	P	05 26 28.2	-1.7
	comp=Z,8.4nm,0.7s						
PKIN	Phulchoki	51.33	310	eP	P	05 26 28.6	-1.3
	comp=Z,4.7nm,0.6s						
KKN	Kakani	51.53	311	eP	P	05 26 30.2	-1.1
	comp=Z,10.0nm,0.7s						
DMN	Daman	51.57	310	eP	P	05 26 30.8	-0.9
	comp=Z,21nm,0.9s						
GKN	Gorkha	52.13	310	eP	P	05 26 34.7	-1.0
	comp=Z,26nm,0.6s						
KOLN	Koldanda	52.80	310	eP	P	05 26 39.8	-0.9
	comp=Z,17nm,0.6s						
DANN	Dangsing	52.97	310	eP	P	05 26 41.0	-1.0
	comp=Z,35nm,0.7s						
SONM	Songino Array	54.88	343	P	P	05 26 54.7	-0.5
	comp=Z,0.5nm,0.4s,baz=157,slow=7.3,SNR=4.9						
HIZ	Hauiti	55.01	135	P	P	05 26 54.0	-2.3
MKAR	Makanchi Array	64.40	327	P	P	05 27 59.2	-0.9
	comp=Z,5.1nm,0.6s,baz=122,slow=8.4,SNR=24						
MAKZ	Makanchi	64.58	327	P	P	05 27 58.8	-2.5
MAKZ				IAmb	IAmb	05 28 00.8	
	comp=Z,4.2nm,0.6s						
AAK	Ala-Archa	66.68	320	P	P	05 28 13.6	-1.4
	comp=Z,1.3nm,0.4s,baz=148,slow=7.3,SNR=5.6						
ARSB	Arslanbob	67.03	318	P	P	05 28 14.1	-3.1
ARSB				IAmb	IAmb	05 28 17.0	
	comp=Z,7.4nm,0.8s						
GAR	Garm	67.82	315	P	P	05 28 21.3	-0.9
GAR				IAmb	IAmb	05 28 22.4	
	comp=Z,9.1nm,1.0s						
ZALV	Zalesovo Beam	67.84	334	P	P	05 28 20.1	-1.8
	comp=Z,1.3nm,0.3s,baz=116,slow=4.7,SNR=7.5						
KURBB	Kurchatov Arra	68.70	329	P	P	05 28 26.3	-0.9
	comp=Z,5.1nm,0.7s,baz=134,slow=5.5,SNR=35						
KURK	Kurchatov	68.71	329	P	P	05 28 26.0	-1.3
SEY	Seymchan	69.40	12	P	P	05 28 31.9	+0.6
	comp=Z,3.0nm,0.5s,baz=212,slow=5.4,SNR=6.4						
BVAR	Borovoye Array	74.25	328	P	P	05 28 58.9	-1.4
	comp=Z,1

IDC 19 05:45:56.8±6.2, 17°.79S×178°.15W, h618km±69km, mb3.0/5, mb1 3.3/5, mb1mx2.9/27, mbtmp4.0/5, Error ellipse: s-maj=81.7km s-min=32.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.90**	**241**	P	P	05 52 31.0	-0.4
	2.7nm,0.8s,baz=102,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**44.90**	**259**	P	P	05 53 18.6	+0.1
	1.4nm,0.3s,baz=94,slow=6.9,SNR=94						
WRA				PcP	PcP	05 54 45.8	-0.6
	0.4nm,0.9s,baz=90,slow=3.4,SNR=4.6						
ASAR	**Alice Springs**	**45.06**	**254**	P	P	05 53 19.9	+0.2
	3.2nm,0.5s,baz=91,slow=7.7,SNR=44						
ASAR				PcP	PcP	05 54 46.2	-0.7
	0.5nm,0.5s,baz=96,slow=3.7,SNR=6.6						
ILAR	**Eielson Array**	**85.72**	**13**	P	P	05 57 30.8	-0.5
	0.2nm,0.5s,baz=219,slow=5.2,SNR=7.1						
TXAR	**Lajitas Array**	**85.72**	**58**	P	P	05 57 32.7	+0.4
	0.2nm,0.7s,baz=231,slow=5.7,SNR=3.9						
BRTR	**Keskin Array B**	**144.87**	**315**	PKP	PKPbc	06 04 26.0	+0.1
	0.4nm,0.4s,baz=113,slow=3.0,SNR=3.0						
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	PKPbc	06 04 32.2	-0.7
	0.7nm,0.6s,baz=42,slow=4.6,SNR=3.0						

*IDC **19** 06:04:40.7±0.7, 60°.12S×47°.15W, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/21, mbtmp4.0/11, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=30.2km s-min=15.5km az=66.0*
*ISCJB **19** 06:04:41.1±0.5, 60°.24S±0°.05×47°.4W±0°.1, h10km, mb3.8/9, MS3.2/3, Error ellipse: s-maj=9.2km s-min=7.1km az=154.5*
*NEIC **19** 06:04:43.0±2.8, 60°.14S±0°.08×47°.2W±0°.2, h12km±4km, mb4.3/9*

ISC 19 06:04:42.8±0.6, 60°.15S±0°.07×47°.40W±0°.07, h10km, n33, σ1§54/30, mb4.1/11, MS3.1/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.34**	**50**	Pn	Pn	06 06 40.2	-3.4
PMSA	**Palmer Station**	**8.98**	**232**	Pn	**Pn**	**06 06 52.2**	**-0.2**
	4.0nm,0.3s,baz=46,slow=10,SNR=25						
PMSA				Sn	**Sn**	**06 08 33.8**	**+0.3**
	1.3nm,0.3s,baz=202,slow=18,SNR=7.1						
PMSA	**Palmer Station**	**8.98**	**232**		**Pn**	**06 06 52.5**	**+0.1**
EFI	**East Falkland**	**10.37**	**320**	Pn	**Pn**	**06 07 14.4**	**+2.9**
USHA	**Ushuaia**	**12.47**	**286**	Pn	**Pn**	**06 07 43.8**	**+3.6**
	0.1nm,0.3s,baz=112,slow=16,SNR=2.2						
USHA				Sn	**Sn**	**06 09 54.5**	**-4.5**
	0.5nm,0.3s,baz=274,slow=13,SNR=3.4						
VNA3	**Neumayer Olymp**	**18.68**	**142**	P	**P**	**06 08 59.4**	**-1.4**
VNA1	**Neumayer--Stat**	**18.97**	**140**	P	**Pn**	**06 09 05.2**	**+0.7**
VNA2	**Neumayer--Watz**	**19.32**	**140**	P	**P**	**06 09 07.1**	**-0.5**
	baz=292,slow=13						
SNAA	**Sanae**	**20.91**	**142**	P	**P**	**06 09 26.7**	**+1.6**
SNAA	**Sanae**	**20.91**	**142**	P	**P**	**06 09 25.3**	**+0.2**
	4.5nm,0.7s,baz=295,slow=8.1,SNR=21						
SNAA	**Sanae**	**20.91**	**142**	P	**P**	**06 09 26.4**	**+1.3**
TRQA	**Tornquist**	**23.97**	**331**	P	**P**	**06 09 58.4**	**+1.2**
TRQA				IAmb	IAmb	06 10 16.4	
	comp=Z,17nm,1.2s						
PLCA	**Paso Flores**	**24.16**	**313**	P	**P**	**06 09 59.2**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=174,slow=9.2,SNR=5.6						
PLCA	**Paso Flores**	**24.16**	**313**	IAmb	IAmb	06 10 14.2	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**30.09**	**180**	P	**P**	**06 10 51.8**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=174,slow=4.9,SNR=8.3						
QSPA	**South Pole Qui**	**30.09**	**180**	P	**P**	**06 10 52.5**	**+0.4**
QSPA				IAmb	IAmb	06 11 00.7	
	comp=Z,5.0nm,1.1s						
CFA	**Coronel Fontan**	**31.73**	**325**	P	**P**	**06 11 05.0**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=184,slow=12,SNR=4.8						
GO04	**Tololo Observa**	**33.84**	**322**	P	**P**	**06 11 24.8**	**-0.6**
CPUP	**Villa Florida**	**34.49**	**344**	P	**P**	**06 11 31.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=155,slow=12,SNR=3.5						
CPUP				LR	LR	06 25 58.1	
	comp=Z,28nm,19.3s,baz=216,slow=37						
MAW	**Mawson**	**42.83**	**148**	P	**P**	**06 12 40.2**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=324,slow=5.5,SNR=4.0						
MAW				LR	LR	06 29 48.3	
	comp=Z,62nm,18.5s,baz=244,slow=35						
MAW	**Mawson**	**42.83**	**148**	IAmb	IAmb	06 12 41.2	
	comp=Z,0.8nm,1.0s						
MNMC	**Minye Minye**	**43.94**	**329**	P	**P**	**06 12 50.6**	**+0.5**
BDFB	**Brasilia**	**44.44**	**359**	P	**P**	**06 12 54.2**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=234,slow=3.0,SNR=4.3						
SIV	**San Ignacio**	**45.20**	**341**	P	**P**	**06 12 59.4**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=164,slow=7.4,SNR=12						
LPAZ	**La Paz**	**46.31**	**332**	P	**P**	**06 13 10.3**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=161,slow=4.1,SNR=4.1						
LPAZ				LR	LR	06 35 27.3	
	comp=Z,22nm,19.1s,baz=168,slow=40						
SAML	**Samuel**	**52.45**	**340**	P	**P**	**06 13 56.8**	**+1.3**
SAML				IAmb	IAmb	06 14 11.9	
	comp=Z,3.0nm,0.9s						
H10S2	**ASCENSION HYDR**	**56.66**	**40**	T	T	07 16 01.4	
	baz=20,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**56.66**	**40**	T	T	07 16 01.4	
	baz=200,slow=74,SNR=4.8						
TORD	**Torodi Ar. Bea**	**82.91**	**48**	P	**P**	**06 17 05.5**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=204,slow=6.4,SNR=2.7						
ILAR	**Eielson Array**	**144.85**	**313**	PKP	**PKPab**	**06 24 16.2**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=143,slow=1.6,SNR=29						
BVAR	**Borovoye Array**	**146.19**	**74**	PKPbc	**PKPdf**	**06 24 19.8**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=207,slow=1.3,SNR=6.7						
MKAR	**Makanchi Array**	**148.06**	**92**	PKPbc	**PKPdf**	**06 24 24.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=251,slow=3.2,SNR=6.3						
MKAR	**Makanchi Array**	**148.06**	**92**		**PKPdf**	**06 24 24.5**	**+0.2**

*STR **19** 06:31:28.9±0.6, 49°.N±2°.×°.±°., h5km±15km, MLv1.1/6*

LDG 19 06:31:29.3±0.1, 49°.20N×8°.07E, h2km, Ml1.7/3, Error ellipse: s-maj=2.3km s-min=1.2km az=106.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTD	**Kalmit**	**0.12**	**6**	Pg	Pg	06 31 31.4	-0.2
LANF	**Langenberg**	**0.28**	**218**	Pg	Pg	06 31 34.7	0.0
OPP	**Oppenau**	**0.71**	**174**	Pg	Pg	06 31 42.7	-0.2
ABH	**Alteburg**	**0.76**	**334**	Pg	Pg	06 31 43.9	0.0
ABH				Sg	Sg	06 31 54.2	+0.5
WLS	**Welschbruch**	**0.92**	**211**	Pg	Pg	06 31 46.1	-0.8
WLS				Sg	Sb	06 31 59.8	-0.9
CDF	**Champ du Feu**	**0.95**	**214**	*e*Pg	Pg	06 31 47.2	-0.3
CDF				*e*Sg	Sg	06 31 59.8	+0.1
	1.6nm,0.2s						
ECH	**Echery**	**1.16**	**212**	Pg	Pg	06 31 51.0	-0.5
ECH				Sg	Sg	06 32 06.6	+0.2
KIZ	**Kirchzarten**	**1.25**	**185**	Pg	Pg	06 31 51.7	-1.6
KIZ				Sg	Sg	06 32 09.0	-0.5
HINF	**Hinteralfeld**	**1.60**	**211**	*e*Pg	Pb	06 31 59.2	-0.5
HINF				*e*Sg	Sn	06 32 19.7	-0.3
	1.0nm,0.2s						
HAU	**Haudompre**	**1.66**	**224**	*e*Pg	Pn	06 31 59.8	+0.4
HAU				*e*Sg	Sn	06 32 21.5	+0.3
	1.1nm,0.2s						
MEZF	**Maizieres J'vi**	**2.11**	**252**	*e*P	Pn	06 32 06.2	+0.6
SFTF	**Sexfontaines**	**2.24**	**245**	*e*Pn	Pn	06 32 06.0	-1.4

*IDC **19** 06:31:56.6±0.9, 10°.71S×165°.60E, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.0/43, mbtmp4.1/10, ML4.6/2, MS3.6/16, Ms1 3.6/16, ms1mx3.4/37, Error ellipse: s-maj=23.5km s-min=19.9km az=139.0*
*ISCJB **19** 06:31:59.8±0.5, 10°.80S±0°.07×165°.56E±0°.06, h31km, mb4.0/8, MS3.6/16, Error ellipse: s-maj=10.6km s-min=7.3km az=36.1*
*NEIC **19** 06:32:03.7±1.6, 10°.7S±0°.1×165°.5E±0°.1, h50km±4km, mb4.5/9*

ISC 19 06:32:01.1±0.6, 10°.82S±0°.07×165°.62E±0°.09, h31km, n40, σ1§54/31, mb4.1/10, MS3.7/16, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.75**	**283**	Pn	**Pn**	**06 33 23.9**	**-0.5**
	30nm,0.3s,baz=148,slow=9.5,SNR=1.8						
HNR				Sn	**Sn**	**06 34 30.5**	**+1.0**
	baz=120,slow=16,SNR=2.0						
HNR				LR	LR	06 35 48.0	
	comp=Z,992nm,18.6s,baz=116,slow=40						
DZM	**Mont Dzumac**	**11.22**	**176**	*e*Pn	**Pn**	**06 34 41.3**	**+1.7**
	6.8nm,0.2s						
DZM				*e*Sn	**Sn**	**06 36 39.3**	**-4.7**
	3.9nm,0.3s						
DZM	**Mont Dzumac**	**11.22**	**176**	Pn	**Pn**	**06 34 41.2**	**+1.7**
	1.9nm,0.3s,baz=313,slow=12,SNR=39						
DZM				Sn	**Sn**	**06 36 42.3**	**-1.6**
	0.5nm,0.3s,baz=37,slow=20,SNR=3.9						
DZM				LR	LR	06 38 31.1	
	comp=Z,180nm,18.2s,baz=14,slow=35						
CTA	**Charters Tower**	**20.80**	**241**	P	**P**	**06 36 39.4**	**-0.7**
	3.1nm,0.7s,baz=59,slow=11,SNR=2.0						
OUZ	**Omahuta**	**25.35**	**165**	P	**P**	**06 37 26.8**	**+1.4**
OUZ				IAmb	IAmb	06 37 29.0	
	comp=Z,14nm,0.9s						
URZ	**Urewera**	**29.20**	**161**	P	**P**	**06 38 00.4**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=308,slow=5.6,SNR=4.4						
URZ				LR	LR	06 47 37.2	
	comp=Z,236nm,20.4s,baz=332,slow=32						
URZ	**Urewera**	**29.20**	**161**	IAmb	IAmb	06 38 01.7	
	comp=Z,14nm,0.9s						
BKZ	**Black Stump Fm**	**29.85**	**163**	P	**P**	**06 38 07.2**	**+1.5**
STKA	**Stephens Creek**	**30.52**	**223**	LR	LR	06 49 44.6	
	comp=Z,169nm,18.2s,baz=28,slow=35						
BFZ	**Birch Farm**	**31.19**	**164**	P	**P**	**06 38 18.5**	**+1.0**
TUWZ	**Tuamarina**	**31.36**	**168**	P	**P**	**06 38 20.8**	**+1.8**
WB0	**Warramunga Arr**	**31.36**	**250**	P	**P**	**06 38 19.9**	**+0.6**
WB0				IAmb	IAmb	06 38 34.5	
	comp=Z,7.2nm,1.0s						
WRA	**Warramunga Arr**	**31.45**	**249**	P	**P**	**06 38 20.4**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=80,slow=9.2,SNR=5.4						
THZ	**Tophouse**	**31.48**	**170**	P	**P**	**06 38 21.9**	**+1.8**
MSWZ	**Moikau Station**	**31.63**	**166**	P	**P**	**06 38 22.3**	**+0.8**
PLWZ	**Palliser**	**31.78**	**166**	P	**P**	**06 38 23.6**	**+0.8**
LTZ	**Lake Taylor**	**32.37**	**171**	P	**P**	**06 38 28.5**	**+0.6**
ASAR	**Alice Springs**	**32.79**	**243**	P	**P**	**06 38 31.6**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=63,slow=10,SNR=8.3						
ASAR				PcP	**PcP**	**06 41 16.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=65,slow=3.8,SNR=3.2						
ASAR				LR	LR	06 52 27.4	
	comp=Z,17nm,18.8s,baz=84,slow=38						
FITZ	**Fitzroy Crossi**	**39.32**	**255**	P	**P**	**06 39 28.6**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=112,slow=5.4,SNR=2.3						
PPT2	**Papeete2**	**43.87**	**104**	*e*LR	LR	06 52 08.8	
	comp=Z,44nm,23.8s						
TBI	**Tubuai**	**44.53**	**112**	*e*LR	LR	06 52 42.9	
	comp=Z,123nm,27.0s						
KAPI	**Kappang**	**45.76**	**274**	LR	LR	07 01 11.0	
	comp=Z,27nm,18.8s,baz=115,slow=38						
MLOA	**Mauna Loa Obse**	**48.69**	**52**	P	**P**	**06 40 44.1**	**+0.7**
JHJ	**Hachijo jima 2**	**50.16**	**332**	LR	LR	06 58 43.3	
	comp=Z,208nm,20.8s,baz=87,slow=32						
MJAR	**Matsushiro Arr**	**53.71**	**333**	P	**P**	**06 41 19.0**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=160,slow=8.0,SNR=3.3						
JNU	**Nakatsue**	**54.83**	**324**	LR	LR	06 59 52.4	
	comp=Z,71nm,20.3s,baz=169,slow=31						
ASAJ	**Asahikawa**	**58.54**	**341**	LR	LR	07 04 08.7	
	comp=Z,91nm,19.5s,baz=166,slow=33						
PETK	**Petropavlovsk-**	**64.03**	**355**	LR	LR	07 05 00.6	
	comp=Z,66nm,21.9s,baz=239,slow=31						
CMAR	**Chiang Mai Arr**	**71.91**	**294**	LR	LR	07 16 29.9	
	comp=Z,18nm,18.4s,baz=190,slow=37						
SONM	**Songino Array**	**78.41**	**324**	LR	LR	07 17 46.4	
	comp=Z,21nm,19.4s,baz=140,slow=35						
RIDG	**Independent Ri**	**83.30**	**20**	P	**P**	**06 44 25.1**	**+0.5**
ILAR	**Eielson Array**	**83.34**	**19**	P	**P**	**06 44 25.5**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=230,slow=6.8,SNR=14						
ILAR				LR	LR	07 15 09.3	
	comp=Z,34nm,20.6s,baz=264,slow=31						
SCRK	**Sand Creek**	**83.75**	**20**	P	**P**	**06 44 27.4**	**+0.4**
NVAR	**Mina Array Bea**	**85.97**	**50**	P	**P**	**06 44 38.9**	**0.0**
	comp=Z,0.7nm,0.8s,baz=230,slow=6.7,SNR=5.8						
NVAR				LR	LR	07 16 14.0	
	comp=Z,53nm,19.1s,baz=274,slow=31						
NVAR	**Mina Array Bea**	**85.97**	**50**	P	**P**	**06 44 35.4**	**-3.5**
SYO	**Syowa Base**	**91.97**	**197⇑**	*e*P	**P**	**06 45 07.6**	**+1.2**
MKAR	**Makanchi Array**	**93.27**	**317**	P	**P**	**06 45 11.6**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=101,slow=6.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**93.30**	**324**	LR	LR	07 26 53.7	
	comp=Z,66nm,19.9s,baz=42,slow=35						
NRIK	**Noril'sk**	**95.87**	**340**	LR	LR	07 25 37.5	
	comp=Z,38nm,21.6s,baz=101,slow=34						
WSPT	**Westport, CT**	**120.32**	**49**		**PKiKP**	**06 50 50.0**	**+0.4**

*KRNET **19** 06:55:01.0±0.1, 41°.97N×72°.24E, h14km, mb3.1*
*SOME **19** 06:55:01.1, 42°.07N×72°.27E, h5km*
*NNC **19** 06:55:02.0±1.0, 42°.09N×72°.21E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=10.8km s-min=2.7km az=7.0*
*KNET **19** 06:55:03.1±0.7, 42°.01N×72°.41E, h4km±3km, ml2.8, Error ellipse: s-maj=5.8km s-min=3.9km az=161.0*

ISC 19 06:55:01.3±1.2, 42°.00N±0°.03×72°.32E±0°.03, h1km±10km, n51, σ1§55/83, 35C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.34**	**234**	⇓*i*P	Pg	06 55 06.1	-1.6
	baz=26						
ARK				⇓*i*S	**Sg**	**06 55 10.5**	**-1.6**
	baz=26						
ARSB	**Arslanbob**	**0.83**	**144**	⇓*i*P	**Pg**	**06 55 16.9**	**-0.4**
	baz=39						
ARSB				⇓*i*S	**Sg**	**06 55 29.4**	**+1.3**
	baz=39						
MRKS	**Merke**	**1.00**	**42**	P	**Pg**	**06 55 21.2**	**+0.7**
	10nm,0.1s						
MRKS				S	**Sn**	**06 55 35.8**	**-1.6**
	29nm,0.1s						
MRKS	**Merke**	**1.00**	**42**	⇑*i*P	**Pg**	**06 55 21.2**	**+0.7**
	6.5nm,0.2s						
MRKS				⇓*i*S	**Sn**	**06 55 35.8**	**-1.6**
	118nm,0.4s						
AML	**Almayashu**	**1.03**	**82**	⇑*i*P	**Pg**	**06 55 21.7**	**+0.7**
	baz=81						
AML				⇑*i*S	**Sb**	**06 55 35.8**	**-0.5**
	baz=81						
AML	**Almayashu**	**1.03**	**82**	⇑P	**Pg**	**06 55 21.8**	**+0.7**
	32nm,0.1s,SNR=75						
AML				⇓S	**Sn**	**06 55 36.5**	**-2.0**
	59nm,0.2s						
EKS2	**Erkin-Say**	**1.27**	**58**	⇑*i*P	**Pb**	**06 55 26.0**	**0.0**
	baz=58						
EKS2				⇑*i*S	**Sn**	**06 55 42.8**	**-1.2**
	baz=58						
EKS2	**Erkin-Say**	**1.27**	**58**	⇓P	**Pb**	**06 55 26.1**	**0.0**
	4.4nm,0.1s,SNR=25						
EKS2				⇑S	**Sn**	**06 55 44.2**	**+0.2**
	22nm,0.2s						
ARLS	**Aral**	**1.50**	**95**	⇓*i*P	**Pb**	**06 55 30.1**	**+0.1**
	baz=93						
ARLS				⇓*i*S	**Sg**	**06 55 50.9**	**+1.5**
	baz=93						
UCH	**Uchtor**	**1.65**	**81**	⇓*e*P	**Pb**	**06 55 32.6**	**-0.1**
	baz=80						
UCH				⇓*i*S	**Sg**	**06 55 55.5**	**+1.3**
	baz=80						
UCH	**Uchtor**	**1.65**	**81**	⇓P	**Pb**	**06 55 32.9**	**+0.2**
	22nm,0.1s,SNR=34						
UCH				⇓S	**Sg**	**06 55 56.2**	**+2.0**
	72nm,0.3s						
AAK	**Ala-Archa**	**1.73**	**68**	⇑Pg	**Pg**	**06 55 34.8**	**+0.3**
	4.9nm,0.3s						
AAK				⇑Lg	Lg	06 55 59.7	
	27nm,0.5s						
AAK	**Ala-Archa**	**1.73**	**68**	⇑*i*P	**Pb**	**06 55 34.4**	**+0.4**
	baz=67						
AAK				⇑*i*S	**Sg**	**06 55 58.1**	**+1.2**
	baz=67						
AAK	**Ala-Archa**	**1.73**	**68**	⇑P	**Pb**	**06 55 34.5**	**+0.4**
	16nm,0.2s,SNR=19						
AAK				⇑S	**Sg**	**06 55 59.8**	**+2.9**
	28nm,0.2s						
KK31	**Karatay Array**	**1.74**	**310**	⇑P	**Pn**	**06 55 31.0**	**-1.6**
	8.9nm,0.3s,baz=134,slow=16,SNR=172						
KK31				⇑S	**Sn**	**06 55 53.2**	**-2.3**
	23nm,0.3s,baz=134,slow=29,SNR=18						
USP	**Ospenovka**	**2.05**	**51**	⇑*i*P	**Pb**	**06 55 39.5**	**+0.2**
	baz=51						
USP				⇑*i*S	**Sg**	**06 56 06.7**	**-0.3**
	baz=51						
USP	**Ospenovka**	**2.05**	**51**	⇑P	**Pb**	**06 55 39.5**	**+0.2**
	22nm,0.4s,SNR=22						
CHM	**Chimkent**	**2.05**	**280**	*e*P	**Pn**	**06 55 38.7**	**+1.7**
	75nm,0.2s						
CHM				*e*S	**Sn**	**06 56 05.2**	**+2.0**
	320nm,0.2s						
CHMS	**Chumysh**	**2.05**	**60**	⇑*i*P	**Pb**	**06 55 39.8**	**+0.4**
	baz=60						
CHMS				⇑*i*S	**Sg**	**06 56 07.4**	**+0.1**
	baz=60						
CHMS	**Chumysh**	**2.05**	**60**	⇓P	**Pb**	**06 55 40.1**	**+0.7**
	8.1nm,0.2s,SNR=9.1						
KBK	**Karagaybulak**	**2.05**	**70**	⇑*i*P	**Pb**	**06 55 40.1**	**+0.6**
	baz=70						
KBK				⇑*i*S	**Sg**	**06 56 07.8**	**+0.5**
	baz=70						
KBK	**Karagaybulak**	**2.05**	**70**	⇓P	**Pg**	**06 55 41.0**	**+0.3**
	10nm,0.1s,SNR=16						
BRLS	**Borolday**	**2.11**	**300**	*e*P	**Pn**	**06 55 39.8**	**+2.1**
	11nm,0.2s						
BRLS				*e*S	**Sn**	**06 56 07.1**	**+2.5**
	118nm,0.4s						
KZA	**Kyzart**	**2.18**	**87**	⇑*i*P	**Pb**	**06 55 41.8**	**0.0**
	baz=86						
KZA				⇑*i*S	**Sg**	**06 56 10.9**	**-0.5**
	baz=86						
KZA	**Kyzart**	**2.18**	**87**	P	**Pb**	**06 55 42.7**	**+0.9**
	113nm,0.6s,SNR=59						
SGDS	**Sogindy**	**2.24**	**49**	Pg	**Pb**	**06 55 42.4**	**-0.1**
	16nm,0.2s						
SGDS				Lg	Lg	06 56 13.7	
	48nm,0.2s						
BTK	**Batken**	**2.25**	**211**	⇓*i*P	**Pn**	**06 55 39.5**	**-0.2**
	baz=10.0						
BTK				⇓*i*S	**Sn**	**06 56 07.9**	**-0.2**
	baz=10.0						
TAS	**Tashkent**	**2.37**	**255**	⇑*i*P	**Pn**	**06 55 40.9**	**-0.5**
	baz=55						
TAS				⇑*i*S	**Sn**	**06 56 10.2**	**-0.9**
	baz=55						
TKM2	**Tokmak 2**	**2.59**	**68**	⇑Pn	**Pb**	**06 55 48.0**	**-0.7**
	12nm,0.6s						
TKM2				⇑Lg	Lg	06 56 25.7	
	34nm,0.5s						
BOOM	**Boomskoye usch**	**2.73**	**78**	⇑*i*P	**Pn**	**06 55 48.2**	**+1.8**
	baz=78						
BOOM				⇑*i*S	**Sb**	**06 56 22.2**	**-2.8**
	baz=78						
DGS	**Degeres**	**2.83**	**63**	Pg	**Pb**	**06 55 54.3**	**+1.5**
	4.3nm,0.2s						
DGS				Lg	Lg	06 56 32.5	
	37nm,0.5s						
DGS	**Degeres**	**2.83**	**63**	*e*P	**Pb**	**06 55 54.2**	**+1.5**
	6.1nm,0.4s						
DGS				*e*S	**Sg**	**06 56 32.5**	**+0.2**
	49nm,0.5s						
KST	**Kastek**	**2.88**	**68**	Pg	**Pb**	**06 55 52.5**	**-1.1**
	15nm,0.3s						
KST				Lg	Lg	06 56 31.3	
	24nm,0.5s						
KST	**Kastek**	**2.88**	**68**	*e*P	**Pb**	**06 55 54.0**	**+0.3**
	15nm,0.3s						
KST				*e*S	**Sg**	**06 56 31.3**	**-2.7**
	62nm,0.6s						
MTBS	**Maitube**	**3.24**	**68**	Pg	**Pg**	**06 56 02.0**	**-1.3**
	4.2nm,0.2s						
MTBS				Lg	Lg	06 56 45.1	
	21nm,0.3s						
MTBS	**Maitube**	**3.24**	**68**	*e*P	**Pb**	**06 56 00.6**	**+1.0**
	5.8nm,0.3s						
MTBS				*e*S	**Sg**	**06 56 43.8**	**-1.5**
	21nm,0.3s						
BTLS	**Baital**	**3.29**	**22**	*e*P	**Pb**	**06 56 02.4**	**+1.9**
	2.3nm,0.2s						
BTLS				*e*S	**Sg**	**06 56 46.1**	**-0.8**
	8.8nm,0.4s						
IZV	**Izvestkoviy**	**3.34**	**70**	Pg	**Pg**	**06 56 04.1**	**-1.1**
IZV				Lg	Lg	06 56 47.6	
IZV	**Izvestkoviy**	**3.34**	**70**	*e*P	**Pb**	**06 56 01.9**	**+0.5**
	6.5nm,0.6s						
IZV				*e*S	**Sg**	**06 56 45.2**	**-3.2**
	21nm,0.5s						
KUU	**Kurty**	**3.50**	**56**	Pg	**Pb**	**06 56 05.9**	**+1.8**
	3.5nm,0.4s						
KUU				Lg	Lg	06 56 52.7	
	24nm,0.4s						
KUU	**Kurty**	**3.50**	**56**	*e*P	**Pb**	**06 56 05.9**	**+1.8**
	3.5nm,0.4s						
KUU				⇑*i*S	**Sg**	**06 56 52.7**	**-1.1**
	24nm,0.4s						
KDJ	**Kajisay**	**3.62**	**86**	⇑*i*P	**Pn**	**06 56 01.0**	**+2.4**
	baz=86						
KDJ				⇑*i*S	**Sn**	**06 56 43.8**	**+1.7**
	baz=86						
KTBS	**Karatobe**	**3.63**	**60**	Pg	**Pb**	**06 56 08.0**	**+1.6**
	3.8nm,0.3s						
KTBS				Lg	Lg	06 56 56.2	
	32nm,0.5s						
KTBS	**Karatobe**	**3.63**	**60**	*e*P	**Pb**	**06 56 08.0**	**+1.6**
	3.8nm,0.3s						
KTBS				*e*S	**Sg**	**06 56 56.2**	**-1.8**
	39nm,0.4s						
MDOK	**Medeo**	**3.68**	**70**	Pg	**Pg**	**06 56 10.9**	**-0.9**
	3.7nm,0.5s						
MDOK				⇑Lg	Lg	06 57 00.4	
	9.9nm,0.5s						
MDOK	**Medeo**	**3.68**	**70**	Pg	**Pb**	**06 56 08.5**	**+1.3**
	5.1nm,0.3s						
MDOK				Lg	Lg	06 56 58.4	
	10nm,0.4s						
MDOK	**Medeo**	**3.68**	**70**	*e*P	**Pb**	**06 56 08.4**	**+1.3**
	5.1nm,0.3s						
MDOK				*e*S	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNCC				Sn	**Sn**	**07 11 30.2**	**-0.1**
MURC	**Murrieta**	**1.27**	**44**	P	**Pn**	**07 11 14.1**	**-1.1**
	baz=225,SNR=15						
BAR	**Barrett**	**1.33**	**89**		**Pn**	**07 11 15.2**	**-0.7**
BAR				Sn	**Sn**	**07 11 31.6**	**-1.6**
BAR	**Barrett**	**1.33**	**89**	*eP*	**Pn**	**07 11 15.3**	**-0.7**
BAR				IAML		07 11 33.9	
	comp=N,261nm,0.2s						
BAR			⇓*e*			07 11 33.9	
TJIG	**Tijuana**	**1.35**	**100**	*eP*	**Pn**	**07 11 15.5**	**-0.7**
CBX	**Cerro Bola**	**1.39**	**105**	*eP*	**Pn**	**07 11 16.6**	**-0.3**
CBX				*eS*	**Sn**	**07 11 34.3**	**-0.5**
CBX				IAML		07 11 41.1	
	comp=E,238nm,0.4s						
CBX			⇑*e*			07 11 41.1	
TKX	**Tecate**	**1.39**	**94**	*eP*	**Pn**	**07 11 16.5**	**-0.3**
PASC	**Pasadena Art C**	**1.49**	**2**		**Pn**	**07 11 17.2**	**-0.9**
PASC				Sn	**Sn**	**07 11 34.7**	**-2.5**
MWC	**Mount Wilson**	**1.55**	**6**		**Pn**	**07 11 18.2**	**-0.9**
MWC				Sn	**Sn**	**07 11 36.4**	**-2.5**
MONP2	**Monument Peak**	**1.55**	**82**	P	**Pn**	**07 11 18.8**	**-0.4**
	baz=263,SNR=19						
MONP2				S	**Sn**	**07 11 38.3**	**-0.7**
	baz=263						
MONP2	**Monument Peak**	**1.55**	**82**	*eP*	**Pn**	**07 11 18.8**	**-0.4**
DECC	**Green Verdugo**	**1.57**	**357**	P	**Pn**	**07 11 18.6**	**-0.7**
	baz=178						
DECC				S	**Sn**	**07 11 37.2**	**-2.0**
	baz=178						
BLG	**Laguna Peak, P**	**1.58**	**335**	P	**Pn**	**07 11 19.1**	**-0.3**
	baz=154,SNR=6.4						
BLG				Sb	**Sb**	**07 11 41.6**	**+1.0**
	baz=154						
BFSC	**Mount Baldy Ra**	**1.63**	**17**	P	**Pn**	**07 11 19.8**	**-0.5**
	baz=198,SNR=39						
BFSC				S	**Sn**	**07 11 39.1**	**-1.8**
	baz=198						
SCZ2	**Santa Cruz Isl**	**1.75**	**319**	P	**Pn**	**07 11 21.8**	**0.0**
	baz=138						
SCZ2				Sb	**Sb**	**07 11 46.9**	**+1.3**
	baz=138						
PFO	**Pinyon Flats O**	**1.77**	**58**	P	**Pn**	**07 11 22.0**	**0.0**
	baz=239,SNR=22						
PFO				S	**Sn**	**07 11 43.5**	**-0.6**
	baz=239						
PFO	**Pinyon Flats O**	**1.77**	**58**		**Pn**	**07 11 22.2**	**+0.1**
PFO				Sn	**Sn**	**07 11 43.3**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**1.80**	**90**	P	**Pn**	**07 11 23.0**	**+0.5**
	baz=272,SNR=9.7						
IKP				Sb	**Sb**	**07 11 48.2**	**+1.0**
	baz=272						
IKP	**In-Ko-Pah, Jac**	**1.80**	**90**	*eP*	**Pn**	**07 11 23.1**	**+0.5**
BBRC	**Big Bear Solar**	**1.93**	**35**	Sb	**Sb**	**07 11 51.0**	**+0.1**
	baz=216						
OSI	**Osito Audit: C**	**1.97**	**349**		**Pn**	**07 11 25.7**	**+0.9**
SWSC	**Sam W. Stewart**	**2.08**	**82**	P	**Pn**	**07 11 27.2**	**+1.0**
	baz=264,SNR=25						
SWSC				Sb	**Sb**	**07 11 56.1**	**+1.1**
	baz=264						
SWSC	**Sam W. Stewart**	**2.08**	**82**	*eP*	**Pn**	**07 11 27.1**	**+0.9**
EDW2	**Edwards Air Fo**	**2.21**	**5**	P	**Pn**	**07 11 28.5**	**+0.4**
	baz=186,SNR=15						
EDW2				S	**Sn**	**07 11 54.6**	**-0.3**
	baz=186						
BELC	**Belle Mtn. Jos**	**2.30**	**54**	P	**Pn**	**07 11 29.4**	**0.0**
	baz=236,SNR=23						
BELC				Sb	**Sb**	**07 12 02.0**	**+0.5**
	baz=236						
RRX	**Edison Barstow**	**2.43**	**25**	P	**Pn**	**07 11 30.7**	**-0.3**
	baz=206						
RRX				Sb	**Sb**	**07 12 06.2**	**+1.2**
	baz=206						
ARVC	**Arvin**	**2.49**	**349**	P	**Pn**	**07 11 32.6**	**+0.7**
	baz=169						
ARVC				S	**Sn**	**07 12 02.2**	**+0.4**
	baz=169						
BC3	**Big Chuckawall**	**2.54**	**67**	Sb	**Sb**	**07 12 09.4**	**+1.1**
	baz=248						
PKM	**Mcpherson Peak**	**2.56**	**330**	P	**Pn**	**07 11 33.8**	**+0.7**
	baz=149						
HEC	**Hector,Ludlow**	**2.67**	**36**	Sb	**Sb**	**07 12 14.0**	**+1.8**
	baz=217						
GSC	**Goldstone, Bar**	**2.88**	**24**	Sb	**Sb**	**07 12 20.2**	**+2.2**
	baz=205						
GSC	**Goldstone, Bar**	**2.88**	**24**		**Pn**	**07 11 37.8**	**+0.5**
GLA	**Glamis**	**2.90**	**82**	P	**Pn**	**07 11 37.7**	**+0.1**
	baz=264						
GLA				Sb	**Sb**	**07 12 21.1**	**+2.4**
	baz=264						
GLA	**Glamis**	**2.90**	**82**		**Pn**	**07 11 38.3**	**+0.7**
ISA	**Isabella, Lake**	**2.98**	**356**	P	**Pn**	**07 11 39.2**	**+0.5**
	baz=177,SNR=6.2						
ISA	**Isabella, Lake**	**2.98**	**356**		**Pn**	**07 11 39.2**	**+0.5**
IRM	**Iron Mountain**	**2.98**	**60**	P	**Pn**	**07 11 39.0**	**+0.2**
	baz=242						
IRM				Sb	**Sb**	**07 12 23.1**	**+2.0**
	baz=242						
SMMC	**Simmler**	**3.00**	**332**	S	**Sn**	**07 12 15.4**	**+0.8**
	baz=151						
GMRC	**Granite Mounta**	**3.01**	**45**	Sb	**Sb**	**07 12 23.4**	**+1.5**
	baz=227						
Y12C	**Blythe**	**3.30**	**70**		**Pn**	**07 11 43.6**	**+0.6**
DAC	**Darwin (Calif)**	**3.63**	**8**		**Pn**	**07 11 48.8**	**+1.1**
PMPB	**Monarch Peak**	**4.11**	**330**	Pn	**Pn**	**07 11 54.8**	**+0.5**
W13A	**Hualapai Mount**	**4.36**	**55**	Pn	**Pn**	**07 11 58.8**	**+1.0**
TPNV	**Topopah Spring**	**4.57**	**21**	P	**Pn**	**07 12 02.5**	**+1.9**
	baz=202,SNR=5.8						
TPNV	**Topopah Spring**	**4.57**	**21**		**Pn**	**07 12 02.2**	**+1.6**
Y14A	**Wickenburg**	**4.57**	**73**		**Pn**	**07 12 02.8**	**+2.3**
SHPR	**Sheep Range**	**4.59**	**33**	Pn	**Pn**	**07 12 02.6**	**+1.7**
214A	**Organ Pipe Nat**	**4.66**	**97**	Pn	**Pn**	**07 12 02.2**	**+0.5**
SAO	**San Andreas Ge**	**4.85**	**328**	Pn	**Pn**	**07 12 04.9**	**+0.5**

TIR ***19*** *08:16:32.7, 39°.55N×22°.02E, h8km, Md4.1/8*
ATH ***19*** *08:16:33.8, 39°.58N×21°.96E, h25km, ML3.7/34, Error ellipse: s-maj=0.9km s-min=0.6km az=260.0*
ISCJB ***19*** *08:16:34.9±0.2, 39°.59N±0°.01×21°.99E±0°.02, h23km±2km, mb3.9/8, MS3.0/1, Error ellipse: s-maj=2.4km s-min=1.7km az=156.4*
PDG ***19*** *08:16:34.4±0.4, 39°.61N×22°.00E, h15km, ML3.8/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
ISK ***19*** *08:16:34.5, 39°.63N×22°.08E, h13km, ML3.6/8*
THE ***19*** *08:16:35.0, 39°.57N×21°.95E, h12km, ML3.8/19, Error ellipse: s-maj=0.9km s-min=0.5km az=49.0*
SOF ***19*** *08:16:35.3, 39°.82N×22°.08E, h1km, MD3.5*
NEIC ***19*** *08:16:35.2±2.0, 39°.58N±0°.02×21°.97E±0°.03, h20km±4km*
IDC ***19*** *08:16:41.2±2.6, 39°.76N×21°.92E, h84km±26km, mb3.6/8, mb1 3.6/12, mb1mx3.4/45, mbtmp3.8/12, MS3.0/3, Ms1 3.0/3, ms1mx2.6/30, Error ellipse: s-maj=19.7km s-min=16.8km az=151.0*
ISC 19 08:16:34.6±0.7, 39°.58N±0°.01×21°.98E±0°.02, h18km±3km, n233, σ1§23/303, mb4.0/12, 21C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.03**	**125**	P	**Pg**	**08 16 37.5**	**-0.2**
THL				S	**Sg**	**08 16 39.9**	**+0.1**
	211μm,0.5s						
THL	**Klokotos Trika**	**0.03**	**125**	P	**Pg**	**08 16 37.6**	**-0.2**
THL				S	**Sg**	**08 16 40.0**	**+0.1**
THL				AML	AML	08 16 40.2	
THL				AML	AML	08 16 40.6	
THL	**Klokotos Trika**	**0.03**	**125**		**Pg**	**08 16 37.5**	**-0.2**
THL					**Sg**	**08 16 39.9**	**+0.1**
LRSO	**Larissa Observ**	**0.33**	**74**	P	**Pb**	**08 16 42.0**	**0.0**
LRSO				S	**Sb**	**08 16 48.1**	**+1.1**
	28μm,0.3s						
LRSO	**Larissa Observ**	**0.33**	**74**	P	**Pb**	**08 16 41.9**	**-0.1**
LRSO				S	**Sb**	**08 16 47.9**	**+0.9**
LRSO				AML	AML	08 16 50.8	
	comp=N,62551μm,0.4s						
LRSO				AML	AML	08 16 51.3	
	comp=E,50566μm,0.4s						
LRSO	**Larissa Observ**	**0.33**	**74**		**Pb**	**08 16 42.0**	**0.0**
LRSO					**Sb**	**08 16 48.1**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.58**	**168**	P	**Pg**	**08 16 46.0**	**-0.1**
MAKR				S	**Sb**	**08 16 54.5**	**+0.3**
	comp=E,20μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.58**	**168**	P	**Pg**	**08 16 46.3**	**+0.2**
MAKR				S	**Sg**	**08 16 54.0**	**+0.1**
MAKR				AML	AML	08 16 57.5	
	comp=E,47928μm,0.2s						
MAKR				AML	AML	08 17 00.0	
	comp=N,30795μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.58**	**168**		**Pg**	**08 16 46.0**	**-0.1**
MAKR					**Sb**	**08 16 54.5**	**+0.3**
KPRO	**Kipourio**	**0.60**	**308**	P	**Pg**	**08 16 45.5**	**-1.0**
KPRO				S	**Sb**	**08 16 55.3**	**+0.4**
	comp=N,14μm,0.4s						
KPRO	**Kipourio**	**0.60**	**308**	P	**Pg**	**08 16 45.5**	**-1.0**
KPRO				S	**Sg**	**08 16 54.0**	**-0.7**
KPRO				AML	AML	08 16 57.4	
	comp=N,30974μm,0.3s						
KPRO				AML	AML	08 17 02.1	
	comp=E,23386μm,0.6s						
KPRO	**Kipourio**	**0.60**	**308**		**Pg**	**08 16 45.5**	**-1.0**
KPRO					**Sb**	**08 16 55.3**	**+0.4**
MEV	**Metsovon**	**0.61**	**289**	P	**Pg**	**08 16 45.9**	**-0.9**
AGG	**Agios Georgios**	**0.62**	**154**	P	**Pg**	**08 16 46.7**	**-0.2**
AGG				S	**Sb**	**08 16 56.0**	**+0.6**
	comp=E,10μm,0.4s						
AGG	**Agios Georgios**	**0.62**	**154**	P	**Pg**	**08 16 46.7**	**-0.2**
AGG				S	**Sb**	**08 16 56.7**	**+1.3**
AGG				AML	AML	08 17 00.2	
	comp=E,20191μm,0.3s						
AGG				AML	AML	08 17 00.8	
	comp=N,18373μm,0.5s						
AGG	**Agios Georgios**	**0.62**	**154**	PG	**Pb**	**08 16 47.1**	**+0.1**
AGG				SG	**Sn**	**08 16 57.3**	**-0.9**
AGG	**Agios Georgios**	**0.62**	**154**		**Pb**	**08 16 47.2**	**+0.2**
LIT	**Litokhoron**	**0.65**	**37**	P	**Pg**	**08 16 47.0**	**-0.4**
LIT				S	**Sn**	**08 16 58.2**	**-0.6**
LIT	**Litokhoron**	**0.65**	**37**	P	**Pg**	**08 16 47.1**	**-0.2**
LIT				S	**Sb**	**08 16 57.3**	**+1.1**
LIT				AML	AML	08 16 58.6	
	comp=N,30014μm,0.5s						
LIT				AML	AML	08 16 59.2	
	comp=E,33838μm,0.4s						
LIT	**Litokhoron**	**0.65**	**37**		**Pg**	**08 16 47.2**	**-0.2**
EVR	**Evrytania**	**0.68**	**191**	P	**Pg**	**08 16 47.1**	**-0.8**
EVR				S	**Sb**	**08 16 57.6**	**+0.5**
	comp=E,7μm,0.6s						
EVR	**Evrytania**	**0.68**	**191**	P	**Pg**	**08 16 47.2**	**-0.8**
EVR				S	**Sg**	**08 16 56.2**	**-0.8**
EVR				AML	AML	08 17 02.7	
	comp=E,11072μm,0.4s						
EVR				AML	AML	08 17 05.1	
	comp=N,17843μm,0.6s						
EVR	**Evrytania**	**0.68**	**191**		**Pg**	**08 16 47.1**	**-0.8**
EVR					**Sb**	**08 16 57.6**	**+0.5**
KZN	**Kozani**	**0.74**	**348**	P	**Pb**	**08 16 48.5**	**-0.5**
KZN				S	**Sn**	**08 17 00.7**	**-0.5**
	comp=N,7μm,0.4s						
KZN	**Kozani**	**0.74**	**348**	P	**Pb**	**08 16 48.5**	**-0.5**
KZN				AML	AML	08 17 02.4	
	comp=N,8394μm,0.5s						
KZN				AML	AML	08 17 04.9	
	comp=E,18268μm,0.4s						
KZN	**Kozani**	**0.74**	**348**		**Pb**	**08 16 48.5**	**-0.5**
KZN					**Sn**	**08 17 00.7**	**-0.5**
KTI	**Kastanea**	**0.81**	**7**	P	**Pb**	**08 16 50.3**	**0.0**
KTI	**Kastanea**	**0.81**	**7**		**Pb**	**08 16 50.3**	**0.0**
JAN	**Janina**	**0.88**	**275**	P	**Pb**	**08 16 50.8**	**-0.5**
JAN				S	**Sg**	**08 17 03.1**	**-0.1**
	comp=E,4μm,0.7s						
JAN	**Janina**	**0.88**	**275**	P	**Pb**	**08 16 50.6**	**-0.7**
JAN				AML	AML	08 17 10.3	
	comp=N,5651μm,0.6s						
JAN				AML	AML	08 17 15.0	
	comp=E,9952μm,0.7s						
JAN	**Janina**	**0.88**	**275**		**Pb**	**08 16 50.8**	**-0.5**
JAN					**Sg**	**08 17 03.1**	**-0.1**
PENT	**Pentalofos**	**0.89**	**314**	P	**Pb**	**08 16 50.9**	**-0.7**
PENT				S	**Sn**	**08 17 04.5**	**-0.4**
	comp=E,4μm,0.4s						
PENT	**Pentalofos**	**0.89**	**314**	P	**Pb**	**08 16 50.8**	**-0.7**
PENT				S	**Sb**	**08 17 02.8**	**-0.4**
PENT				AML	AML	08 17 08.0	
	comp=N,9892μm,0.3s						
PENT				AML	AML	08 17 08.0	
	comp=E,8085μm,0.5s						
PENT	**Pentalofos**	**0.89**	**314**		**Pb**	**08 16 50.9**	**-0.7**
PENT					**Sn**	**08 17 04.5**	**-0.4**
XOR	**Xorichti**	**0.96**	**103**	P	**Pb**	**08 16 52.7**	**-0.1**
XOR				S	**Sn**	**08 17 07.2**	**+0.6**
	comp=E,7μm,0.7s						
XOR	**Xorichti**	**0.96**	**103**	P	**Pb**	**08 16 52.8**	**-0.1**
XOR				AML	AML	08 17 12.6	
	comp=N,17857μm,0.5s						
XOR				AML	AML	08 17 12.6	
	comp=E,8022μm,0.7s						
XOR	**Xorichti**	**0.96**	**103**		**Pb**	**08 16 52.7**	**-0.1**
XOR					**Sn**	**08 17 07.2**	**+0.6**
AXAR	**Agios Charalam**	**0.97**	**147**	P	**Pb**	**08 16 53.0**	**+0.1**
AXAR				S	**Sg**	**08 17 06.5**	**+0.2**
AXAR				AML	AML	08 17 12.8	
	comp=E,11566μm,0.7s						
AXAR				AML	AML	08 17 13.9	
	comp=N,15088μm,0.4s						
NEO	**Neokhori**	**1.00**	**106**	P	**Pb**	**08 16 53.4**	**0.0**
NEO				S	**Sn**	**08 17 08.9**	**+1.4**
	comp=N,13μm,0.5s						
NEO	**Neokhori**	**1.00**	**106**	P	**Pb**	**08 16 53.4**	**0.0**
NEO				AML	AML	08 17 12.6	
	comp=E,25996μm,0.6s						
NEO				AML	AML	08 17 14.3	
	comp=N,25968μm,0.6s						
NEO	**Neokhori**	**1.00**	**106**		**Pb**	**08 16 53.4**	**0.0**
NEO					**Sn**	**08 17 08.9**	**+1.4**
PVO	**Paravola**	**1.03**	**200**	P	**Pb**	**08 16 53.1**	**-0.8**
PVO				S	**Sn**	**08 17 08.8**	**+0.7**
	comp=N,3μm,0.6s						
PVO	**Paravola**	**1.03**	**200**	P	**Pb**	**08 16 52.9**	**-0.9**
PVO				AML	AML	08 17 15.5	
	comp=E,6452μm,0.7s						
PVO				AML	AML	08 17 16.4	
	comp=N,6586μm,0.9s						
PVO	**Paravola**	**1.03**	**200**		**Pb**	**08 16 53.1**	**-0.8**
PVO					**Sn**	**08 17 08.8**	**+0.7**
NEST	**Nestorio**	**1.09**	**320**	P	**Pb**	**08 16 55.1**	**0.0**
NEST				S	**Sg**	**08 17 12.1**	**+1.9**
	comp=N,4μm,0.7s						
NEST	**Nestorio**	**1.09**	**320**	P	**Pb**	**08 16 54.9**	**-0.2**
NEST	**Nestorio**	**1.09**	**320**		**Pb**	**08 16 55.1**	**0.0**
NEST					**Sg**	**08 17 12.1**	**+1.9**
EFP	**Efpalio**	**1.16**	**183**	P	**Pn**	**08 16 55.5**	**-0.4**
EFP				S	**Sg**	**08 17 12.5**	**+0.4**
	comp=N,5μm,0.9s						
EFP	**Efpalio**	**1.16**	**183**	P	**Pn**	**08 16 55.7**	**-0.2**
EFP				AML	AML	08 17 14.3	
	comp=E,8392μm,1.0s						
EFP				AML	AML	08 17 20.1	
	comp=N,10547μm,0.9s						
EFP	**Efpalio**	**1.16**	**183**		**Pn**	**08 16 55.5**	**-0.4**
EFP					**Sg**	**08 17 12.5**	**+0.4**
PDO	**Prodromos**	**1.16**	**212**	P	**Pn**	**08 16 55.8**	**-0.2**
PDO				S	**Sn**	**08 17 12.1**	**+0.7**
	comp=N,6μm,0.5s						
PDO	**Prodromos**	**1.16**	**212**	P	**Pn**	**08 16 56.2**	**+0.2**
PDO				AML	AML	08 17 17.7	
	comp=N,10002μm,0.6s						
PDO				AML	AML	08 17 18.8	
	comp=E,7176μm,0.6s						
PDO	**Prodromos**	**1.16**	**212**		**Pn**	**08 16 55.8**	**-0.2**
PDO					**Sn**	**08 17 12.1**	**+0.7**
SERG	**Sergoula**	**1.17**	**177**	P	**Pn**	**08 16 56.2**	**+0.1**
SERG				S	**Sg**	**08 17 12.9**	**+0.4**
	comp=E,4μm,0.6s						
SERG	**Sergoula**	**1.17**	**177**	P	**Pn**	**08 16 55.7**	**-0.5**
SERG				AML	AML	08 17 15.7	
	comp=E,8722μm,0.6s						
SERG				AML	AML	08 17 16.0	
	comp=N,7226μm,0.6s						
SERG	**Sergoula**	**1.17**	**177**		**Pn**	**08 16 56.2**	**+0.1**
SERG					**Sg**	**08 17 12.9**	**+0.4**
DLFA	**Delphi**	**1.18**	**160**	P	**Pn**	**08 16 55.8**	**-0.4**
KALE	**Kalithea**	**1.20**	**174**	P	**Pn**	**08 16 56.5**	**0.0**
KALE				S	**Sn**	**08 17 13.0**	**+0.6**
	comp=N,4μm,0.5s						
KALE	**Kalithea**	**1.20**	**174**	P	**Pn**	**08 16 56.6**	**0.0**
KALE				S	**Sg**	**08 17 13.2**	**-0.2**
KALE				AML	AML	08 17 14.6	
	comp=N,7424μm,0.5s						
KALE				AML	AML	08 17 17.8	
	comp=E,7766μm,0.6s						
KALE	**Kalithea**	**1.20**	**174**		**Pn**	**08 16 56.5**	**0.0**
KALE					**Sn**	**08 17 13.0**	**+0.6**
TRIZ	**Trizonia**	**1.22**	**177**	P	**Pn**	**08 16 57.0**	**+0.2**
TRIZ				S	**Sg**	**08 17 13.7**	**-0.3**
LKR	**Lokris**	**1.22**	**139**	P	**Pb**	**08 16 57.4**	**+0.2**
LKR				AML	AML	08 17 14.9	
	comp=E,1718μm,0.7s						
LKR				AML	AML	08 17 19.6	
	comp=N,1519μm,0.3s						
SKIA	**Skiathos**	**1.23**	**109**	P	**Pb**	**08 16 57.2**	**0.0**
DSF	**Desfina**	**1.25**	**160**	P	**Pn**	**08 16 57.3**	**+0.1**
DSF				AML	AML	08 17 18.8	
	comp=E,3322μm,0.5s						
DSF				AML	AML	08 17 22.8	
	comp=N,2559μm,0.3s						
IGT	**Igoumenitsa**	**1.27**	**268**	P	**Pn**	**08 16 57.7**	**+0.2**
IGT				S	**Sg**	**08 17 15.7**	**-0.1**
	comp=N,3μm,0.6s						
IGT	**Igoumenitsa**	**1.27**	**268**	*i* PN	**Pb**	**08 16 58.0**	**-0.1**
IGT				*i* SN	**Sg**	**08 17 17.1**	**+1.3**
IGT	**Igoumenitsa**	**1.27**	**268**	P	**Pn**	**08 16 57.5**	**-0.1**
IGT				AML	AML	08 17 24.0	
	comp=N,5373μm,0.5s						
IGT				AML	AML	08 17 24.2	
	comp=E,5494μm,0.8s						
IGT	**Igoumenitsa**	**1.27**	**268**		**Pn**	**08 16 57.7**	**+0.2**
IGT					**Sg**	**08 17 15.7**	**-0.1**
TSLK	**Tsoukalades, L**	**1.28**	**234**	P	**Pb**	**08 16 58.1**	**0.0**
FNA	**Florina**	**1.28**	**339**	P	**Pn**	**08 16 58.0**	**+0.3**
FNA				S	**Sg**	**08 17 16.5**	**+0.3**
	comp=E,4μm,0.7s						
FNA	**Florina**	**1.28**	**339**	*i* PN	**Pb**	**08 16 58.2**	**-0.1**
FNA				*i* SN	**Sg**	**08 17 17.6**	**+1.4**
FNA	**Florina**	**1.28**	**339**	P	**Pn**	**08 16 58.0**	**+0.3**
FNA				AML	AML	08 17 20.8	
	comp=N,6535μm,0.7s						
FNA				AML	AML	08 17 24.5	
	comp=E,7406μm,0.8s						
FNA	**Florina**	**1.28**	**339**	PN	**Pn**	**08 16 58.1**	**+0.3**
FNA				SN	**Sg**	**08 17 16.1**	**-0.1**
FNA	**Florina**	**1.28**	**339**		**Pb**	**08 16 58.2**	**-0.1**
THE	**Thessaloniki**	**1.29**	**36**	P	**Pn**	**08 16 57.8**	**0.0**
THE				AML	AML	08 17 17.8	
	comp=E,1311μm,1.0s						
THE				AML	AML	08 17 19.7	
	comp=N,1528μm,0.9s						
LKD2	**Lefkada island**	**1.30**	**233**	P	**Pn**	**08 16 58.0**	**+0.1**
LKD2				AML	AML	08 17 23.9	
	comp=E,8612μm,0.7s						
LKD2				AML	AML	08 17 24.1	
	comp=N,10165μm,0.7s						
HORT	**Hortiatis**	**1.33**	**40**	P	**Pn**	**08 16 58.0**	**-0.3**
HORT				AML	AML	08 17 19.5	
	comp=E,1436μm,0.5s						
HORT				AML	AML	08 17 20.1	
	comp=N,1524μm,0.6s						
HORT	**Hortiatis**	**1.33**	**40**	PN	**Pb**	**08 16 59.0**	**-0.1**
HORT				SN	**Sb**	**08 17 15.7**	**-0.1**
LAKA	**Lakka**	**1.34**	**180**	P	**Pb**	**08 16 59.1**	**-0.1**
LAKA				S	**Sb**	**08 17 16.4**	**+0.3**
LAKA				AML	AML	08 17 24.6	
	comp=E,1389μm,0.5s						
LAKA				AML	AML	08 17 32.0	
	comp=N,1775μm,1.0s						
PAIG	**Paliouri**	**1.35**	**75**	P	**Pn**	**08 16 58.2**	**-0.4**
PLG	**Polygyros**	**1.38**	**55**	P	**Pn**	**08 16 58.8**	**-0.2**
PLG				AML	AML	08 17 24.6	
	comp=N,3026μm,0.7s						
PLG				AML	AML	08 17 25.1	
	comp=E,3355μm,0.9s						
EVGI	**Lefkada island**	**1.41**	**227**	P	**Pn**	**08 16 60.0**	**+0.6**
GRG	**Griva**	**1.41**	**13**	P	**Pn**	**08 16 59.7**	**+0.2**
GRG				AML	AML	08 17 28.3	
	comp=E,2342μm,0.6s						
GRG				AML	AML	08 17 33.9	
	comp=N,3020μm,0.6s						
GRG	**Griva**	**1.41**	**13**	PN	**Pn**	**08 16 59.6**	**+0.2**
PROD	**Prodromos**	**1.50**	**151**	P	**Pn**	**08 17 00.9**	**+0.2**
PROD				AML	AML	08 17 28.7	
	comp=N,2472μm,0.4s						
PROD				AML	AML	08 17 29.4	
	comp=E,2240μm,0.5s						
AOS	**Alonnisos**	**1.53**	**105**	P	**Pn**	**08 17 00.8**	**-0.3**
AOS				AML	AML	08 17 28.9	
	comp=E,2855μm,1.2s						
AOS				AML	AML	08 17 30.1	
	comp=N,3959μm,0.9s						
AOS	**Alonnisos**	**1.53**	**105**	PN	**Pn**	**08 17 00.9**	**-0.1**
KLV	**Kalavryta, Ach**	**1.54**	**175**	P	**Pn**	**08 17 01.9**	**+0.6**
KLV				AML	AML	08 17 31.3	
	comp=N,1298μm,0.7s						
KLV				AML	AML	08 17 35.1	
	comp=E,1357μm,0.5s						
SRN	**Sarande**	**1.55**	**282**	*i* PN	**Pb**	**08 17 03.6**	**+0.8**
SRN				*i* SN	**Sg**	**08 17 24.6**	**-0.2**
FSK	**Fiskardo**	**1.57**	**225**	P	**Pb**	**08 17 02.7**	**-0.4**
RLS	**Riolos of Patr**	**1.57**	**195**	P	**Pb**	**08 17 03.3**	**+0.1**
SOH	**Sokhos**	**1.62**	**40**	P	**Pn**	**08 17 03.0**	**+0.6**
SOH				AML	AML	08 17 26.0	
	comp=E,3282μm,0.6s						
SOH				AML	AML	08 17 26.3	
	comp=N,3457μm,0.7s						
DRO	**Drossia**	**1.64**	**187**	P	**Pb**	**08 17 04.0**	**-0.3**
TPE	**Tepelena**	**1.67**	**296**	*i* PN	**Pb**	**08 17 05.8**	**+0.9**
TPE				*i* SN	**Sg**	**08 17 29.8**	**+1.3**
VIL2	**Platees**	**1.70**	**143**	P	**Pn**	**08 17 04.3**	**+0.9**
VIL2				AML	AML	08 17 44.5	
	comp=N,1310μm,0.7s						
VIL2				AML	AML	08 17 45.1	
	comp=E,3268μm,0.7s						
OUR	**Ouranopolis**	**1.71**	**63**	P	**Pn**	**08 17 04.0**	**+0.5**
OUR	**Ouranopolis**	**1.71**	**63**	PN	**Pn**	**08 17 03.9**	**+0.4**
KNT	**Kendrikon**	**1.73**	**24**	P	**Pn**	**08 17 04.3**	**+0.5**
KNT				AML	AML	08 17 34.7	
	comp=N,1381μm,0.6s						
KNT				AML	AML	08 17 36.8	
	comp=E,1480μm,1.0s						
KNT	**Kendrikon**	**1.73**	**24**	PN	**Pn**	**08 17 04.1**	**+0.3**
LTK	**Loutraki**	**1.74**	**153**	P	**Pn**	**08 17 04.3**	**+0.3**
KFL	**Anninata**	**1.74**	**213**	P	**Pb**	**08 17 06.0**	**-0.1**
LOUT	**Loutraki**	**1.77**	**154**	P	**Pn**	**08 17 04

PDG	Podgorica	3.51	325	ePn	Pn	08 17 28.9	+0.6
PDG	Podgorica	3.51	325	⇑P	Pn	08 17 31.1	+2.8
PDG	Podgorica	3.51	325		Pn	08 17 29.5	+1.3
TTG	Podgorica	3.51	325	⇓iPn	Pn	08 17 29.6	+1.3
TTG				i Sn	Sn	08 18 11.9	+2.5
GELI	Tayfur-Gelibol	3.55	75	PN	Pn	08 17 29.1	+0.3
BUM	Brajici-Budva	3.58	320	⇑iPn	Pn	08 17 30.6	+1.3
BUM				i Sn	Sn	08 18 13.5	+2.3
ERIK	Erikli-Kesan	3.64	71	PN	Pn	08 17 30.0	-0.1
IVA	Berane	3.64	335	⇑iPn	Pn	08 17 31.5	+1.3
IVA				i Sn	Sn	08 18 14.6	+1.8
APE	Apeiranthos	3.75	131	⇑P	Pn	08 17 33.0	+1.3
APE				AML	AML	08 18 51.1	
KOME	Kolasin	3.76	331	⇓iPn	Pn	08 17 34.7	+3.0
KOME				eSn	Sn	08 18 17.8	+2.2
CEME	Cevo	3.76	323	⇓iPn	Pn	08 17 32.8	+1.1
CEME				eSn	Sn	08 18 17.2	+1.6
HCY	Herceg Novi	3.89	318	ePn	Pn	08 17 35.2	+1.7
HCY	Herceg Novi	3.89	318	⇓iPn	Pn	08 17 34.8	+1.3
HCY				i Sn	Sn	08 18 20.8	+2.1
NKME	Niksic	3.92	325	⇑iPn	Pn	08 17 35.6	+1.7
NKME				eSn	Sn	08 18 21.4	+2.0
NKY	Niksic	3.94	326	⇑iPn	Pn	08 17 35.7	+1.5
NKY				i Sn	Sn	08 18 22.1	+2.1
TREB	Trebinje	4.16	320	ePn	Pn	08 17 37.4	+0.2
BRY	Bratogost	4.21	323	ePn	Pn	08 17 40.0	+2.0
BRY	Bratogost	4.21	323	⇓iPn	Pn	08 17 39.4	+1.4
BRY				i Sn	Sn	08 18 28.6	+1.8
PLE	Pljevlja	4.22	333	⇑iPn	Pn	08 17 39.4	+1.3
PLE				i Sn	Sn	08 18 28.6	+1.6
SANT	Santorini	4.22	138	Pn	Pn	08 17 38.5	+0.3
DBRK	Dubrovnik	4.23	318	i Pn	Pn	08 17 41.0	+2.8
DBRK				Sn	Sn	08 18 26.2	-0.9
UPM	Unac-Piva	4.29	328	ePn	Pn	08 17 40.1	+0.9
UPM	Unac-Piva	4.29	328	⇑iPn	Pn	08 17 40.6	+1.4
UPM				i Sn	Sn	08 18 30.7	+1.8
ELND	Elena	4.45	40	⇑P	Pn	08 17 42.1	+1.0
ELND				AML	AML	08 18 33.5	
RUDO	Rudo	4.48	335	ePn	Pn	08 17 41.6	0.0
STON	Ston	4.60	317	ePn	Pn	08 17 44.3	+1.0
STON	Ston	4.60	317	ePn	Pn	08 17 43.7	+0.4
BBLS	Lazići	4.69	337	ePn	Pn	08 17 45.4	+0.8
DIVS	Divibare	4.75	342	ePn	Pn	08 17 46.5	+1.1
HAPS	Han Pijesak,BI	5.04	334	ePn	Pn	08 17 44.5	-4.8
SGRT	San Giovanni R	5.21	297	Pn	Pn	08 17 52.6	+0.8
TEKS	Tekeris	5.29	341	ePn	Pn	08 17 52.9	+0.2
HERR	Herculane	5.30	3	⇑P	Pn	08 17 56.5	+3.6
HERR				AML	AML	08 19 53.5	
KARP	Karpathos	5.76	133		Pn	08 18 00.6	+1.4
FRGS	Fruska Gora	5.80	345	ePn	Pn	08 18 00.6	+0.9
GZR	Gura Zlata	5.84	6	⇑P	Pn	08 18 03.8	+3.5
PAOL	Paolisi	5.85	287		Pn	08 18 01.2	+0.8
BZS	Buzias	6.04	358	⇑P	Pn	08 18 07.1	+4.1
MGRS	Mrkonjic Grad	6.05	325	ePn	Pn	08 18 07.3	+4.1
BLY	Banja Luka	6.27	327	ePn	Pn	08 18 11.0	+4.8
BLY	Banja Luka	6.27	327	⇓P	Pn	08 18 11.2	+5.1
BLY	Banja Luka	6.27	327	Pn	Pn	08 18 07.3	+1.1
VOIR		6.27	20	⇑P	Pn	08 18 08.2	+1.9
VAE	Valguarnera	6.29	253	S	Sn	08 19 20.9	+2.9
	comp=E,6.5nm,0.3s,baz=163,slow=9.8,SNR=3.0						
MORI	Morici	6.35	314	ePn	Pn	08 18 09.3	+2.0
RAFF	Raffo Rosso	6.43	251	Pn	Pn	08 18 08.6	+0.2
INTR	Introdacqua	6.59	294		Pn	08 18 11.5	+0.9
MLR	Muntele Rosu	6.59	25	⇑P	Pn	08 18 13.8	+3.1
MLR	Muntele Rosu	6.59	25		Pn	08 18 12.1	+1.4
DUGI	Dugi Otok	6.79	313	ePn	Pn	08 18 14.7	+1.3
TIRR	Tirgusor	6.83	42	Pn	Pn	08 18 15.0	+1.1
PLOR	Plostina	7.14	27	⇑P	Pn	08 18 20.5	+2.3
VRI	Vrincioaia	7.18	28	⇑P	Pn	08 18 21.3	+2.6
DRGR		7.22	4	⇑P	Pn	08 18 19.7	+0.4
NRCA	Norcia	7.43	299		Pn	08 18 23.3	+1.1
CRES	Cresnjev	7.87	325	ePn	Pn	08 18 28.5	+0.3
MURB	Monte Urbino	8.00	300	Pn	Pn	08 18 31.8	+1.8
CEY	Cerknica	8.29	320	ePn	Pn	08 18 33.1	-0.8
BURAR	Bucovina Array	8.36	15	⇑P	Pn	08 18 37.6	+2.6
BUR08	Bucovina Ar. S	8.39	15	Pn	Pn	08 18 35.3	-0.1
PSZ	Piszkesteto	8.47	350		Pn	08 18 37.8	+1.5
BRTR	Keskin Array B	9.00	85	P	Pn	08 18 47.8	+4.1
	comp=E,0.2nm,0.3s,baz=261,slow=11,SNR=4.5						
VYHS	Vyhne	9.19	347	ePN	Pn	08 18 48.8	+2.6
VYHS				eSN	Sn	08 20 26.3	-2.9
KOLS	Kolonicke sedl	9.35	1	ePN	Pn	08 18 54.0	+5.6
MODS	Modra-Piesok	9.42	340	ePN	Pn	08 18 55.8	+6.5
TEOL	Teolo	9.55	311	Pn	Pn	08 18 52.5	+1.2
CTI	Castel Tesino	9.96	314	Pn	Pn	08 18 59.0	+2.1
MORC	Moravsky Berou	10.67	344	Pn	Pn	08 19 09.0	+2.5
KEST	Kesra	10.73	253	P	Pn	08 19 13.3	+5.9
	comp=E,0.3nm,0.3s,baz=321,slow=3.4,SNR=4.8						
KEST				LR	LR	08 24 27.1	
	comp=E,82nm,19.6s,baz=334,slow=43						
KEST	Kesra	10.73	253		Pn	08 19 10.0	+2.6
GERES	GERESS Array B	10.99	330	P	Pn	08 19 13.8	+2.8
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=3.0						
GERES				S	Sn	08 21 13.8	+0.3
	comp=E,0.2nm,0.3s,baz=142,slow=22,SNR=2.5						
GERES				LR	LR	08 24 00.5	
	comp=E,54nm,20.0s,baz=148,slow=41						
GERES	GERESS Array B	10.99	330		Pn	08 19 12.2	+1.2
SENIN	Lac Senin/Sane	12.70	307	Pn	Pn	08 19 36.3	+1.9
ESDC	Sonseca Array	19.96	279	P	P	08 21 06.0	+0.2
	comp=E,0.2nm,0.3s,baz=83,slow=11,SNR=3.0						
HFS	Hagfors	21.22	349	P	P	08 21 17.4	-1.8
	comp=E,2.4nm,0.6s,baz=168,slow=9.7,SNR=4.7						
FINES	FINESS Array B	22.03	5	P	P	08 21 26.3	-1.6
	comp=E,6.1nm,1.0s,baz=171,slow=9.8,SNR=2.9						
FINES				LR	LR	08 32 01.8	
	comp=E,50nm,18.7s,baz=90,slow=42						
FINES	FINESS Array B	22.03	5	P	P	08 21 27.6	-0.3
FIA1	FINESS Array S	22.03	5	P	P	08 21 28.4	+0.5
FIA1				IAmb	IAmb	08 21 33.1	
	comp=Z,8.7nm,1.1s						
NC602	NORSAR Array S	22.15	346	P	P	08 21 29.7	+0.5
NB2	NORSAR Subarra	22.50	346	P	P	08 21 31.6	-1.3
	comp=Z,2.6nm,0.7s,baz=152,slow=10						
NOA	NORSAR Array B	22.50	346	P	P	08 21 31.3	-1.6
	comp=Z,3.6nm,0.9s,baz=159,slow=11,SNR=8.2						
NC303	NORSAR Array S	22.64	347	P	P	08 21 34.2	-0.2
NC303				IAmb	IAmb	08 21 42.1	
	comp=Z,3.5nm,0.6s						
EKA	Eskdalemuir Ar	22.99	322	P	P	08 21 36.6	-1.5
	comp=Z,4.6nm,0.9s,baz=121,slow=8.0,SNR=6.5						
TOA0	Torodi Ar. Sit	31.84	220	P	P	08 22 59.0	+0.5
TORD	Torodi Ar. Bea	31.84	220	P	P	08 22 58.3	-0.2
	comp=Z,1.7nm,0.7s,baz=31,slow=9.5,SNR=8.5						
KK31	Karatay Array	36.20	68	P	P	08 23 36.7	+0.5
KK31				IAmb	IAmb	08 23 39.0	
	comp=Z,2.0nm,0.6s						
SOCY	Socotra	39.30	125	P	P	08 24 00.3	-2.4
DBIC	Dimbokro	40.70	223	P	P	08 24 14.9	+0.8
MK31	Makanchi Array	43.60	60	P	P	08 24 37.8	+0.1
MKAR	Makanchi Array	43.60	60	P	P	08 24 37.1	-0.6
	comp=Z,0.9nm,0.5s,baz=281,slow=6.8,SNR=12						
MKAR	Makanchi Array	43.60	60	P	P	08 24 37.5	-0.2
ZAA0	Zalesovo Array	43.91	49	P	P	08 24 39.2	-0.8
ZAA0				IAmb	IAmb	08 24 42.0	
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	43.91	49	P	P	08 24 39.2	-0.8
	comp=Z,2.2nm,0.6s,baz=280,slow=10,SNR=6.5						
ZALV	Zalesovo Beam	43.91	49	P	P	08 24 39.5	-0.5
SONM	Songino Array	58.69	52	P	P	08 26 28.1	-3.0
	comp=Z,0.7nm,0.8s,baz=326,slow=7.0,SNR=2.3						
ASAR	Alice Springs	121.19	96	PKP	PKPdf	08 35 25.1	-1.5
	comp=Z,0.4nm,0.7s,baz=328,slow=1.7,SNR=6.9						

*DRS **19** 08:28:58.3±0.0, 41°.91N×45°.97E, h8km*
*NORS **19** 08:28:59.7±0.0, 41°.82N×46°.03E, h12km, MPVA3.2*
*TIF **19** 08:29:02.2, 41°.97N×45°.80E, h13km±6km*
ISC 19 08:29:01.6±1.2, 41°.89N±0°.04×45°.90E±0°.02, h15km±10km, n14, σ1§76/32, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	Lagodekhi	0.26	103	P	Pb	08 29 07.4	-0.6
LGD				S	Sb	08 29 12.2	0.0
DDFL	Dedoflistskaro	0.47	160	P	Pn	08 29 13.9	+0.1
DDFL				S	Sb	08 29 25.4	+7.0
BTLR	Botlikh	0.81	17	ePg	Pg	08 29 16.7	-0.5
BTLR				eSg	Sb	08 29 28.7	+0.7
BTNK	Botanikuri	0.85	256	P	Pb	08 29 17.7	-0.3
BTNK				S	Sb	08 29 30.0	+0.7
KMKR	Kumukh	0.92	75	ePg	Pg	08 29 18.0	-1.5
KMKR				i Sg	Sg	08 29 31.0	-0.6
GNBR	Gunib	0.93	57	ePg	Pg	08 29 18.6	-1.0
GNBR				ePg	Pg	08 29 18.6	-1.0
GNBR				eSg	Sg	08 29 31.4	-0.5
GNBR				eSg	Sb	08 29 31.9	+0.3
UNCR	Uncukul	1.05	39	ePg	Pg	08 29 21.0	-1.0
UNCR				eSg	Sb	08 29 36.0	+0.9
ARKR	Arakani	1.08	48	ePg	Pg	08 29 21.5	-0.9
ARKR				eSg	Sn	08 29 37.0	+0.2
GUDG	Gudauri	1.20	299	P	Pb	08 29 23.5	-0.6
GUDG				S	Sb	08 29 40.1	+0.5
KZRT	Kazreti	1.24	246	P	Pn	08 29 22.5	-1.8
KZRT				S	Sb	08 29 39.4	-0.9
DBC	Dubki	1.32	31	ePg	Pg	08 29 26.4	-0.6
DBC				ePg	Pb	08 29 27.5	+1.4
DBC				eSg	Sg	08 29 46.4	+2.2
DBC				eSg	Sg	08 29 46.4	+2.2
KMGR	Komgaron	1.39	327	ePg	Pg	08 29 29.0	+0.6
KMGR				eSg	Sg	08 29 49.5	+3.0
AKT	Akhty	1.43	106	ePg	Pn	08 29 25.6	-1.4
AKT				eSg	Sn	08 29 45.0	-0.6
ZEI	Tsey	1.73	302	ePg	Pb	08 29 33.0	-0.2
ZEI				eSg	Sg	08 29 56.9	-0.5

*ISCJB **19** 08:30:06.7±0.2, 28°.43N±0°.02×129°.17E±0°.04, h78km±2km, mb3.9/12, Error ellipse: s-maj=5.9km s-min=2.8km az=27.4*
*JMA **19** 08:30:07.7±0.2, 28°.50N×129°.08E, h60km±3km, M4.1*
JMA Felt III J1.
*NEIC **19** 08:30:09.9±1.3, 28°.38N±0°.06×129°.0E±0°.1, h91km±8km, mb4.4/21*
*IDC **19** 08:30:09.2±0.9, 28°.41N×129°.01E, h89km±8km, mb3.7/12, mb1 3.9/16, mb1mx3.7/38, mbtmp4.0/16, MS2.9/7, Ms1 3.0/7, ms1mx2.8/43, Error ellipse: s-maj=18.5km s-min=7.5km az=101.0*
ISC 19 08:30:07.7±0.6, 28°.42N±0°.03×129°.14E±0°.04, h70km±6km, n84, σ1§52/103, mb4.3/22, 5C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	0.18	170	⇑P	Pn	08 30 17.7	-0.5
JAMN				eS	Sn	08 30 25.2	-0.7
JAM	Amami Oshima	0.41	91	⇑P	Pn	08 30 19.0	-0.7
JAM				eS	Sn	08 30 27.5	-1.0
JTK	Tokunoshima	0.65	195	⇓P	Pn	08 30 22.1	0.0
JTK				eS	Sn	08 30 32.9	+0.2
JTAJ	Takarajima	0.74	4	⇑P	Pn	08 30 21.5	-1.5
JTAJ				eS	Sn	08 30 32.0	-2.3
JZK	Kikaishima	0.74	98	P	Pn	08 30 24.5	+1.4
JZK				eS	Sn	08 30 38.1	+3.7
JOKE	Okinoerabujima	1.17	206	⇓P	Pn	08 30 28.7	+0.4
JOKE				eS	Sn	08 30 44.4	+0.6
JYRO	Yoronjima	1.52	204	⇑P	Pn	08 30 33.4	+0.5
JYRO				eS	Sn	08 30 52.6	+0.7
JNN	Nakanoshima	1.56	24	P	Pn	08 30 32.5	-1.0
JNN				eS	Sn	08 30 51.7	-1.2
JIH	Iheya	1.73	217	P	Pn	08 30 36.0	+0.3
JIH				eS	Sn	08 30 57.1	+0.2
JOW	Kunigami	1.76	206	P	Pn	08 30 36.5	+0.4
JOW	Kunigami	1.76	206	P	Pn	08 30 37.5	+1.3
	22nm,0.3s,baz=92,slow=20,SNR=134						
JOW				S	Sn	08 30 58.8	+1.2
	22nm,0.3s,baz=98,slow=17,SNR=11						
JOW	Kunigami	1.76	206		Pn	08 30 37.2	+1.1
JOW				Sn	Sn	08 30 59.1	+1.5
JNTH	Nagotoyohara	2.14	208	P	Pn	08 30 42.1	+0.9
JNTH				eS	Sn	08 31 08.1	+1.4
JYAK	Yakushimahirau	2.17	33	P	Pn	08 30 40.9	-0.8
JYAK				eS	Sn	08 31 06.4	-1.2
JKC	Kuchinoerabu	2.24	24	⇑P	Pn	08 30 41.9	-0.6
JKC				eS	Sn	08 31 08.2	-0.9
JAGN	Aguni-jima	2.48	223	P	Pn	08 30 46.7	+0.8
JAGN				eS	Sn	08 31 16.8	+1.7
JMTN	Minamitane	2.50	37	P	Pn	08 30 45.9	-0.2
JMTN				eS	Sn	08 31 16.5	+0.9
JJT3	Tamagusuku3	2.57	208	P	Pn	08 30 48.4	+1.4
JJT3				eS	Sn	08 31 20.1	+2.9
JTN	Tanegashima 3	2.75	35	P	Pn	08 30 50.0	+0.5
JTN				eS	Sn	08 31 21.7	+0.1
JKE	Kume jima 2	2.95	226	P	Pn	08 30 52.9	+0.6
JKE				eS	Sn	08 31 28.0	+1.4
JKDJ	Kitadaitoujima	3.12	141	P	Pn	08 30 54.9	+0.4
JKDJ				eS	Sn	08 31 30.0	-0.7
JMZ	Minamidaito 2	3.18	144	P	Pn	08 30 55.2	-0.2
JMZ				eS	Sn	08 31 30.2	-2.0
JNU	Nakatsue	4.92	17	P	Pn	08 31 21.1	+2.0
	27nm,0.3s,baz=0.1,slow=3.7,SNR=67						
JNU				S	Sn	08 32 19.2	+4.4
	baz=150,slow=20,SNR=2.1						
JNU				LR	LR	08 33 25.2	
	comp=Z,114nm,19.9s,baz=180,slow=40						
JNU	Nakatsue	4.92	17		Pn	08 31 21.5	+2.3
JNU				Sn	Sn	08 32 19.9	+5.1
YOJ	Yonaguni jima	6.76	236	Pn	Pn	08 31 43.5	-0.8
YHNB	Yeheng	7.89	244	Pn	Pn	08 32 01.1	+1.3
YULB	Yu-li	8.65	236	Pn	Pn	08 32 08.1	-2.1
KSRS	Korea Array	9.07	354	P	Pn	08 32 17.1	+1.3
	0.6nm,0.3s,baz=177,slow=14,SNR=14						
KSRS				LR	LR	08 35 50.2	
	comp=Z,74nm,19.4s,baz=174,slow=38						
KS19	Wonju Array Si	9.12	354	Pn	Pn	08 32 19.2	+2.6
TPUB	Ta-pu	9.20	238	Pn	Pn	08 32 16.6	-1.1
INU	Inuyama	9.62	42		Pn	08 32 25.6	+2.3
MAJO	Matsushiro	11.14	41	Pn	Pn	08 32 48.5	+4.4
MAT	Matsushiro	11.14	41	P	Pn	08 32 47.5	+3.4
MAT				S		08 33 01.8	
MJAR	Matsushiro Arr	11.14	41	P	Pn	08 32 46.8	+2.7
	0.3nm,0.3s,baz=243,slow=15,SNR=12						
MJAR				LR	LR	08 37 30.1	
	comp=Z,39nm,18.5s,baz=215,slow=39						
MJAR	Matsushiro Arr	11.14	41		Pn	08 32 47.1	+2.9
MJB9	Matsu-Tunnel	11.14	41	Pn	Pn	08 32 48.2	+4.1
JCJ	Chichijima	11.63	93	LR	LR	08 37 04.1	
	comp=Z,77nm,18.7s,baz=354,slow=35						
BJT	Baijiatuau	15.76	321	P	P	08 33 48.6	+0.7
BJT				IAmb	IAmb	08 33 52.9	
	comp=Z,18nm,0.9s						
USRK	Ussuriysk Ar.	15.92	7	P	Pn	08 33 47.6	+0.4
	baz=191,slow=14,SNR=2.2						
USRK	Ussuriysk Ar.	15.92	7	P	P	08 33 51.1	+1.5
XAN	Xi'an	18.17	293	P	P	08 34 14.7	0.0
SONM	Songino Array	26.21	324	P	P	08 35 36.1	+0.1
	comp=Z,2.5nm,0.8s,baz=129,slow=9.4,SNR=11						
SONM				LR	LR	08 48 20.9	
	comp=Z,15nm,20.8s,baz=204,slow=42						
SONM	Songino Array	26.21	324	P	P	08 35 36.2	+0.1
CMAR	Chiang Mai Arr	29.35	257	LR	LR	08 49 34.8	
	comp=Z,44nm,18.1s,baz=179,slow=40						
H11N2	WAKE ISLAND Hy	35.42	96	T	T	09 14 36.5	
	baz=290,slow=75,SNR=7.8						
H11N1	WAKE ISLAND Hy	35.42	96	T	T	09 14 41.4	
	baz=290,slow=75,SNR=6.3						
H11N3	WAKE ISLAND Hy	35.44	96	T	T	09 14 43.6	
	baz=290,slow=75,SNR=8.6						
MKAR	Makanchi Array	40.72	310	P	P	08 37 40.5	-1.0
	comp=Z,0.4nm,0.4s,baz=89,slow=9.9,SNR=5.1						
MKAR	Makanchi Array	40.72	310	P	P	08 37 41.3	-0.3
MAKZ	Makanchi	40.94	310	P	P	08 37 43.3	0.0
MAKZ				IAmb	IAmb	08 37 43.9	
	comp=Z,5.1nm,1.4s						
ZALV	Zalesovo Beam	41.03	321	P	P	08 37 42.8	-1.1
	comp=Z,0.8nm,0.5s,baz=120,slow=8.5,SNR=3.4						
ZALV	Zalesovo Beam	41.03	321	P	P	08 37 42.6	-1.2
MTN	Manton Dam	41.06	177	P	P	08 37 43.2	-1.3
KNRA	Kununurra	43.48	181	P	P	08 38 06.7	-0.3
KURBB	Kurchatov Arra	43.86	315	P	P	08 38 06.4	-0.6
	comp=Z,1.2nm,0.2s,baz=102,slow=9.0,SNR=3.6						
COEN	Coen	44.26	160	P	P	08 38 10.7	+0.3
COEN				IAmb	IAmb	08 38 17.4	
	comp=Z,16nm,1.4s						
FITZ	Fitzroy Crossi	46.37	185	P	P	08 38 27.3	+0.3
FITZ				IAmb	IAmb	08 38 28.0	
	comp=Z,6.4nm,1.0s						
WRA	Warramunga Arr	48.34	173	P	P	08 38 42.3	0.0
	comp=Z,6.1nm,0.7s,baz=354,slow=8.1,SNR=48						
WRA				PcP	PcP	08 40 07.5	-0.6
	comp=Z,0.3nm,0.6s,baz=355,slow=4.4,SNR=3.1						
WRA	Warramunga Arr	48.34	173	P	P	08 38 42.0	-0.3
WB2	Warramunga Arr	48.34	173	P	P	08 38 42.3	-0.1
WB2				IAmb	IAmb	08 38 42.8	
	comp=Z,5.1nm,0.7s						
KKAR	Karatay Array	48.84	304	P	P	08 38 45.5	-0.6
GAR	Garm	49.30	298	P	P	08 38 49.6	-0.3
GAR				IAmb	IAmb	08 38 51.0	
	comp=Z,2.9nm,0.7s						
CTAO	Charters Tower	50.98	159	P	P	08 39 02.8	+0.4
AS31	Alice Springs	51.98	174	P	P	08 39 10.0	+0.1
ASAR	Alice Springs	51.98	174	P	P	08 39 10.1	+0.1
	comp=Z,1.5nm,0.5s,baz=4.4,slow=14,SNR=30						
ASAR				PcP	PcP	08 40 21.4	-0.1
	comp=Z,0.2nm,0.5s,baz=358,slow=3.0,SNR=2.8						
ASAR	Alice Springs	51.98	174	P	P	08 39 10.0	+0.1
ABKAR	Akbulak array	55.76	312	P	P	08 39 36.9	-0.3
IMAR	Indian Mountai	59.18	28	P	P	08 40 02.2	+1.2
PPLA	Purkeypile	59.99	31	P	P	08 40 06.7	-0.1
PPLA				IAmb	IAmb	08 40 17.7	
	comp=Z,5.3nm,1.2s						
STKA	Stephens Creek	61.12	168	P	P	08 40 13.8	-0.8
	comp=Z,2.4nm,0.5s,baz=354,slow=6.4,SNR=7.1						
STKA	Stephens Creek	61.12	168	P	P	08 40 14.6	0.0
RND	Reindeer	61.45	30	P	P	08 40 15.9	-0.8
IL31		62.14	29	P	P	08 40 21.8	+0.7
ILAR	Eielson Array	62.14	29	P	P	08 40 20.4	-0.8
	comp=Z,0.8nm,0.7s,baz=288,slow=8.5,SNR=14						
HDA	Harding Lake	62.16	29	IAmb	IAmb	08 40 20.9	
	comp=Z,4.5nm,0.9s						
EPYK	Eagle Plains	65.94	26	P	P	08 40 46.0	-0.1
EPYK				IAmb	IAmb	08 40 55.2	
	comp=Z,2.0nm,0.7s						
INK	Inuvik	66.57	24	P	P	08 40 49.6	-0.3
WHY	Whitehorse	68.48	32	P	P	08 41 02.4	+0.1
WHY				IAmb	IAmb	08 41 09.6	
	comp=Z,11nm,1.4s						
RES	Resolute Bay	73.25	11	P	P	08 41 30.3	-0.6
RES				IAmb	IAmb	08 41 46.5	
	comp=Z,3.8nm,0.9s						
YKA	Yellowknife Ar	76.21	25	P	P	08 41 47.8	-0.3
	comp=Z,0.7nm,0.6s,baz=304,slow=5.8,SNR=3.9						
NOA	NORSAR Array B	77.71	334	P	P	08 41 54.3	-2.3
	comp=Z,0.8nm,0.8s,baz=76,slow=4.5,SNR=2.6						
NOA				LR	LR	09 21 53.4	
	comp=Z,11nm,18.3s,baz=135,slow=40						
NVAR	Mina Array Bea	88.41	47	P	P	08 42 51.9	-0.6
	comp=Z,0.4nm,0.6s,baz=300,slow=5.3,SNR=4.5						
NVAR	Mina Array Bea	88.41	47	P	P	08 42 51.8	-0.7
PDAR	Pinedale Array	90.96	39	P	P	08 43 02.6	-1.7
	comp=Z,0.3nm,0.7s,baz=289,slow=4.5,SNR=3.7						

*SOME **19** 08:33:31.5, 44°.33N×83°.08E, h25km*
*NNC **19** 08:33:32.8±2.0, 44°.38N×82°.79E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=22.0km s-min=5.2km az=117.0*
ISC 19 08:33:34.3±3.1, 44°.4N±0°.1×82°.8E±0°.1, h17km, n5, σ0§97/7, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.17	269	eP	Pb	08 34 14.1	+0.8
	4.0nm,0.2s						
DJR				eS	Sg	08 34 44.9	+0.6
	3.4nm,0.2s						
MK31	Makanchi Array	2.40	351	⇑Pg	Pb	08 34 17.7	+0.7
	0.2nm,0.2s,baz=171,slow=16,SNR=32						
MK31				⇑Lg	Lg	08 34 50.5	
	1.2nm,0.3s,baz=168,slow=27,SNR=15						
MAKZ	Makanchi	2.46	346	⇓Pg	Pb	08 34 17.6	-0.5
	2.4nm,1.0s						
MAKZ				⇓Lg	Lg	08 34 52.3	
	0.7nm,0.5s						
KAPS	Kapalarasan	2.61	290	eP	Pb	08 34 21.1	+0.4
	1.6nm,1.4s						
KAPS				eS	Sg	08 34 56.9	-1.3
	2.4nm,0.2s						
PDGK	Podgornoye	2.64	247	⇓Pg	Pb	08 34 20.7	-0.6
	0.4nm,0.2s						
PDGK				⇑Lg	Lg	08 34 55.5	
	2.5nm,0.5s						

*UCR **19** 09:03:11.9±0.7, 8°.34N×83°.09W, h8km±7km, MD3.7*
*ISCJB **19** 09:03:12.5±2.3, 8°.35N±0°.09×83°.11W±0°.06, h13km±25km, Error ellipse: s-maj=17.4km s-min=5.4km az=27.7*
*UPA **19** 09:03:15.4±1.8, 8°.45N×82°.97W, h12km±9km, MWJ3.1*
**

ROKH **ROKH** 3.84 353 *e*Pn Pn 09 07 25.4 +0.3
ROKH **ROKH** 3.84 353 Pn Pn 09 07 25.4 +0.3
ISAD **Sadrabad** 3.84 28 *e*Pn Pn 09 07 26.7 +1.6
ISAD **Sadrabad** 3.84 28 Pn Pn 09 07 27.0 +1.9
IMEH **Mehriz** 3.89 42 *e*Pn Pn 09 07 28.0 +2.3
IGAR **Gharneh** 3.89 6 *e*Pn Pn 09 07 26.8 +1.0
IPIR **Pirpir** 4.19 352 *e*Pn Pn 09 07 30.9 +0.9
BNDS **Bandar-Abbas** 4.21 104 *e*Pn Pn 09 07 27.4 -2.7
BNDS **Bandar-Abbas** 4.21 104 *e*P Pn 09 07 27.4 -2.7
BNDS **Bandar-Abbas** 4.21 104 Pn Pn 09 07 27.3 -2.8
GENO **Geno** 4.21 104 *e*Pn Pn 09 07 31.0 +0.9
GENO **Geno** 4.21 104 Pn Pn 09 07 31.7 +1.6
SHGR **Shooshtar-Gavs** 4.31 327 *e*Pn Pn 09 07 32.4 +1.1
SHGR **Shooshtar-Gavs** 4.31 327 *e*Pn Pn 09 07 32.4 +1.1
SHGR *e*S Sn 09 08 22.8 +1.7
SHGR **Shooshtar-Gavs** 4.31 327 Pn Pn 09 07 32.3 +1.1
SHGR **Shooshtar-Gavs** 4.31 327 Sn 09 08 22.0 +0.9
IZEF **Zefreh** 4.41 8 *e*Pn Pn 09 07 33.5 +0.6
ICHK **Chekchek** 4.45 33 *e*Pn Pn 09 07 35.0 +1.6
ICHK **Chekchek** 4.45 33 Pn Pn 09 07 35.0 +1.6
IBAF **Bafgh** 4.62 48 *e*Pn Pn 09 07 37.0 +1.3
IBAF **Bafgh** 4.62 48 Pn Pn 09 07 37.0 +1.3
NGRK **Negar Kerman** 4.65 75 *e*Pn Pn 09 07 37.8 +1.5
KHGB **Koh Gabri** 4.66 65 *e*Pn Pn 09 07 37.8 +1.5
UMQ **Umm Al-Quwin** 4.71 128 P Pn 09 07 38.7 +2.0
UMQ **Umm Al-Quwin** 4.71 128 P Pn 09 07 40.0 +3.3
UMQ **Umm Al-Quwin** 4.71 128 *e*Pn Pn 09 07 37.6 +0.9
NIAN **Nian** 4.74 100 *e*Pn Pn 09 07 37.8 +0.5
NIAN **Nian** 4.74 100 Pn Pn 09 07 37.6 +0.3
SHME **Shamm** 4.75 120 *i* P Pn 09 07 38.6 +1.3
SNR=12
SHME **Shamm** 4.75 120 *e*Pn Pn 09 07 38.8 +1.5
KRBR **Kerman** 4.76 71 *e*Pn Pn 09 07 37.0 -0.7
KRBR **Kerman** 4.76 71 *e*Pn Pn 09 07 37.0 -0.7
KRBR **Kerman** 4.76 71 Pn Pn 09 07 37.0 -0.7
TVBK **TV Kerman** 4.76 71 *e*Pn Pn 09 07 39.8 +2.0
IKLH **Kolahrood** 4.79 0 *e*Pn Pn 09 07 38.5 +0.4
BANOM **Banah** 4.94 120 *i* P Pn 09 07 41.5 +1.5
SNR=93
BANOM S Sn 09 08 35.5 -1.1
BANOM **Banah** 4.94 120 P Pn 09 07 41.6 +1.7
SNR=93
AJN **Ajban** 4.98 141 *i* P Pn 09 07 42.5 +2.0
SNR=8.5
AJN **Ajban** 4.98 141 P Pn 09 07 43.8 +3.3
SNR=8.5
AJN S Sn 09 08 40.8 +3.0
AJN **Ajban** 4.98 141 *e*Pn Pn 09 07 44.3 +3.8
ANAR **Anarak** 5.01 21 *e*Pn Pn 09 07 41.5 +0.4
ANAR **Anarak** 5.01 21 Pn Pn 09 07 41.4 +0.4
ASUD **Al Ashush, Dub** 5.13 138 *i* P Pn 09 07 44.9 +2.4
SNR=89
ASUD **Al Ashush, Dub** 5.13 138 P Pn 09 07 45.7 +3.2
SNR=89
ASUD S Sn 09 08 44.1 +2.7
ASUD **Al Ashush, Dub** 5.13 138 *e*Pn Pn 09 07 46.1 +3.5
ASUD **Al Ashush, Dub** 5.13 138 Pn Pn 09 07 46.0 +3.5
MSFE **Esma-Masafi** 5.16 127 *i* P Pn 09 07 44.8 +1.8
SNR=22
MSFE **Esma-Masafi** 5.16 127 *e*Pn Pn 09 07 44.8 +1.8
FAQ **Al Faqa, Dubai** 5.20 135 P Pn 09 07 46.5 +3.0
SNR=5.1
FAQ S Sn 09 08 46.2 +3.1
QAM **Ghamsar** 5.23 359 *e*Pn Pn 09 07 45.3 +1.2
MDH **Madha** 5.30 126 *i* P Pn 09 07 46.4 +1.6
SNR=21
MDH **Madha** 5.30 126 P Pn 09 07 46.4 +1.6
SNR=21
MDH S Sn 09 08 45.7 +0.2
MDH **Madha** 5.30 126 *e*Pn Pn 09 07 46.5 +1.6
CHMN **Cheshme madani** 5.38 74 *e*Pn Pn 09 07 48.2 +1.9
CHMN **Cheshme madani** 5.38 74 Pn Pn 09 07 48.1 +1.8
KHMZ **Khomeyn** 5.39 345 *e*Pn Pn 09 07 47.3 +1.1
KHMZ **Khomeyn** 5.39 345 *e*Pn Pn 09 07 47.3 +1.1
KHMZ *e*S Sn 09 08 50.1 +2.2
KHMZ **Khomeyn** 5.39 345 Pn Pn 09 07 47.0 +0.7
KHMZ Sn 09 08 50.0 +2.0
KRSH **Karshahi** 5.46 5 *e*Pn Pn 09 07 47.4 +0.2
KRSH **Karshahi** 5.46 5 Pn Pn 09 07 46.9 -0.3
UOSS **Minazif** 5.46 130 *i* P Pn 09 07 48.6 +1.5
SNR=64
UOSS **Minazif** 5.46 130 P Pn 09 07 48.7 +1.7
SNR=92
UOSS **Minazif** 5.46 130 *e*Pn Pn 09 07 48.5 +1.4
UOSS **Minazif** 5.46 130 Pn Pn 09 07 48.0 +1.0
UOSS Sn Sn 09 08 48.1 -1.3
HATD **Hatta, Dubai** 5.49 131 *i* P Pn 09 07 49.6 +2.1
SNR=39
HATD **Hatta, Dubai** 5.49 131 P Pn 09 07 49.7 +2.1
SNR=39
HATD S Sn 09 08 51.7 +1.4
HATD **Hatta, Dubai** 5.49 131 *e*Pn Pn 09 07 49.5 +2.0
ASHO **Ashiyiah** 5.54 133 *i* P Pn 09 07 50.2 +1.9
SNR=32
ASHO **Ashiyiah** 5.54 133 P Pn 09 07 50.2 +1.9
SNR=32
ASHO S Sn 09 08 51.4 -0.1
ASHO **Ashiyiah** 5.54 133 *e*Pn Pn 09 07 50.1 +1.9
ASHO **Ashiyiah** 5.54 133 Pn Pn 09 07 50.1 +1.9
BMDN **Meydan** 5.65 336 *e*Pn Pn 09 07 50.6 +0.7
BMDN **Meydan** 5.65 336 Pn Pn 09 07 50.6 +0.7
IKMR **Kamar-syah** 5.69 332 *e*Pn Pn 09 07 51.9 +1.7
MZR **Muzera** 5.75 162 *i* P Pn 09 07 52.3 +1.1
SNR=10
MZR **Muzera** 5.75 162 P Pn 09 07 55.2 +4.1
SNR=10
MZR **Muzera** 5.75 162 *e*Pn Pn 09 07 55.5 +4.3
ALNE **Al Ain** 5.81 139 *i* P Pn 09 07 53.3 +1.3
SNR=22
ALNE **Al Ain** 5.81 139 *e*Pn Pn 09 07 54.5 +2.5
ALNE **Al Ain** 5.81 139 Pn Pn 09 07 54.4 +2.5
ISFB **Sefidab** 5.84 5 *e*Pn Pn 09 07 52.5 +0.1
BDRS **Dareh Seyedi** 5.89 338 *e*Pn Pn 09 07 53.7 +0.4
BDRS **Dareh Seyedi** 5.89 338 Pn Pn 09 07 53.7 +0.4
IKFM **Kafar-mosalman** 5.93 328 *e*Pn Pn 09 07 54.4 +0.9
IDOB **Doab** 6.01 332 *e*Pn Pn 09 07 55.7 +0.9
IDOB **Doab** 6.01 332 Pn Pn 09 07 55.6 +0.8
HSAM **Samen** 6.22 337 *e*Pn Pn 09 07 58.7 +0.9
TPRV **Parvadeh(Tabas** 6.29 43 *e*Pn Pn 09 07 59.9 +1.4
IQOM **Qom** 6.32 356 *e*Pn Pn 09 07 59.3 +0.2
IVRN **Varamin** 6.46 1 *e*Pn Pn 09 08 01.3 +0.4
HAGD **Aghdareh** 6.62 342 *e*Pn Pn 09 08 04.0 +0.8
IKOM **Komasi** 6.62 329 *e*Pn Pn 09 08 04.2 +1.0
IBZA **Bozab** 6.73 333 *e*Pn Pn 09 08 04.5 -0.2
IBZA **Bozab** 6.73 333 Pn Pn 09 08 04.5 -0.2
ARQ **Araqi** 6.81 138 P Pn 09 08 07.5 +1.8
SNR=53
ARQ S Sn 09 09 24.3 +1.3
IHSB **Hasanabad** 6.90 358 *e*Pn Pn 09 08 05.7 -1.3
TNSJ **Nastanj** 6.93 37 *e*Pn Pn 09 08 08.0 +0.6
ILAS **Lasjerd** 6.94 9 *e*Pn Pn 09 08 08.2 +0.5
TKDS **Koohdasht(Taba** 6.96 42 *e*Pn Pn 09 07 56.8 -11
IRAZ **Razeghan** 7.01 349 *e*Pn Pn 09 08 10.7 +2.2
IDMV **Damavand** 7.05 3 *e*Pn Pn 09 08 09.0 -0.2
IDMV **Damavand** 7.05 3 Pn Pn 09 08 09.0 -0.2
HOQ **Hoqain** 7.12 132 P Pn 09 08 10.1 +0.1
SNR=12
HOQ S Sn 09 09 30.0 -0.5
IGHG **Ghaleghazi** 7.20 325 *e*Pn Pn 09 08 12.6 +1.4
HSRG **Sareghieh** 7.27 338 *e*Pn Pn 09 08 13.2 +1.0
QABG **Abgarm-Qazvin** 7.37 347 *e*Pn Pn 09 08 14.5 +1.0
RAYN **Ar Rayn** 7.39 229 *i* P Pn 09 08 15.1 +1.4
SNR=22
RAYN **Ar Rayn** 7.39 229 P Pn 09 08 14.7 +1.0
RAYN 09 09 38.0
RAYN **Ar Rayn** 7.39 229 *e*Pn Pn 09 08 14.7 +1.0
RAYN **Ar Rayn** 7.39 229 Pn Pn 09 08 14.7 +1.0
RAYN Sn Sn 09 09 38.0 +0.9
ISHM **Shahmirzad** 7.41 11 *e*Pn Pn 09 08 14.5 +0.4
ILIN **Lien** 7.49 330 *e*Pn Pn 09 08 15.8 +0.6
IKOO **Kooshah** 7.50 57 *e*Pn Pn 09 08 16.7 +1.4
ITEG **Tejag** 7.56 53 *e*Pn Pn 09 08 16.9 +0.8
IDHR **Dehrash** 7.59 326 *e*Pn Pn 09 08 16.5 0.0
IDHR **Dehrash** 7.59 326 Pn Pn 09 08 16.5 0.0
BSY **Bisya** 7.67 137 P Pn 09 08 19.2 +1.8
SNR=97
BSY S Sn 09 09 43.0 -1.0
SNR=5.9
BIDO **Bidbid** 7.71 129 P Pn 09 08 18.7 +0.6
SNR=6.7
BIDO **Bidbid** 7.71 129 *e*Pn Pn 09 08 18.5 +0.4
BIDO **Bidbid** 7.71 129 Pn Pn 09 08 18.4 +0.4

IPRN **Peran** 7.73 5 *e*Pn Pn 09 08 19.6 +1.3
QALM **Alamut, Qazvin** 7.93 355 *e*Pn Pn 09 08 21.7 +0.5
SMDO **Samad** 7.97 132 P Pn 09 08 23.1 +1.4
SNR=44
SMDO S Sn 09 09 51.8 +0.2
IGLO **Ghaloghah** 8.19 13 *e*Pn Pn 09 08 26.7 +2.0
WSAR **Wadi Sarin** 8.24 128 P Pn 09 08 26.2 +0.9
SNR=22
WSAR **Wadi Sarin** 8.24 128 Pn Pn 09 08 26.2 +0.9
comp=Z,10nm,0.3s,baz=308,slow=12,SNR=75
WSAR Sn Sn 09 09 56.4 -1.8
comp=Z,12nm,0.3s,baz=167,slow=19,SNR=6.8
WSAR LR LR 09 12 25.6
comp=Z,106nm,21.0s,baz=316,slow=44
IMON **Monand** 8.37 54 *e*Pn Pn 09 08 29.3 +2.1
JMDO **Jabal Madar** 8.50 135 P Pn 09 08 29.6 +0.8
SNR=32
JMDO S Sn 09 10 02.4 -2.0
WBK **Wadi Bani Khal** 8.89 130 P Pn 09 08 34.7 +0.4
SNR=49
JLN **Jalan Bani Buh** 9.51 130 P Pn 09 08 42.8 +0.2
SNR=22
JLN S Sn 09 10 27.0 -2.1
SNR=5.5
ISFR **Sfrayin** 10.08 31 *e*Pn Pn 09 08 52.2 +1.5
DQM **DQM** 10.13 146 P Pn 09 08 51.1 -0.1
DQM S Sn 09 10 42.0 -2.6
IMYA **Miami** 10.61 41 *e*Pn Pn 09 08 59.1 +1.2
IEMG **Emamgholi** 10.67 32 *e*Pn Pn 09 09 01.3 +2.4
IEMG **Emamgholi** 10.67 32 Pn Pn 09 09 01.2 +2.4
WHFO **Wadi Hawf** 10.74 169 P Pn 09 08 59.4 -0.3
SNR=47
WHFO S Sn 09 10 52.6 -7.0
GEYT **Alibeck** 10.86 29 Pn Pn 09 09 02.4 +1.2
comp=Z,1.0nm,0.3s,baz=198,slow=9.3,SNR=7.6
GEYT **Alibeck** 10.86 29 Pn 09 09 02.2 +1.0
GEYT Sn Sn 09 11 00.3 -2.0
SHAO **Shalim** 11.09 160 P Pn 09 09 04.1 -0.2
SHAO **Shalim** 11.09 160 P Pn 09 09 04.2 -0.2
SNR=27
SHAO S Sn 09 11 04.2 -3.8
DMTO **DMTO** 11.19 163 P Pn 09 09 05.6 -0.2
SNR=70
DMTO S Sn 09 11 03.6 -6.9
ABTO **Aybut** 11.22 172 P Pn 09 09 06.0 -0.3
ABTO S Sn 09 11 06.2 -5.3
RBK **Rabkut** 11.23 167 P Pn 09 09 06.2 -0.1
SNR=6.7
RBK S Sn 09 11 04.5 -7.0
GNI **Garni** 12.90 336 Pn Pn 09 09 32.8 +3.6
comp=Z,1.7nm,0.3s,baz=315,slow=16,SNR=2.8
GNI LR LR 09 15 11.6
comp=Z,95nm,20.6s,baz=152,slow=41
ASF **Jabal al Asfar** 13.19 290 Pn Pn 09 09 31.6 -1.5
comp=Z,0.6nm,0.3s,baz=53,slow=5.1,SNR=3.2
AKH **Akhalkalaki** 14.46 335 P Pn 09 09 51.1 +0.6
AKH **Akhalkalaki** 14.46 335 Pn Pn 09 09 51.1 +0.6
EIL **Elat** 14.58 279 Pn Pn 09 09 53.9 +1.8
comp=Z,0.4nm,0.3s,baz=328,slow=9.3,SNR=2.8
EIL LR LR 09 16 31.5
comp=Z,190nm,19.1s,baz=96,slow=42
MMAI **Mount Meron Ar** 14.61 292 Pn Pn 09 09 50.2 -2.3
comp=Z,1.2nm,0.3s,baz=115,slow=13,SNR=3.4
MMAI LR LR 09 16 36.1
comp=Z,139nm,19.4s,baz=140,slow=42
BCA **Borcka** 15.24 330 ⇑P P 09 10 06.5 +0.7
DAMY **Dhamar** 15.40 207 Pn Pn 09 10 04.8 +1.5
DAMY IAmb IAmb 09 10 10.4
comp=Z,19nm,0.6s
ZEI **Tsey** 15.53 338 *e*P Pn 09 10 05.8 +0.9
ZEI pmax pmax
comp=Z,15nm,0.6s
KBL **Kabul** 16.05 64 P Pn 09 10 12.2 +0.6
KBL pmax pmax
comp=Z,14nm,1.2s
KBL **Kabul** 16.05 64 Pn Pn 09 10 12.2 +0.6
NCK **Nalchik** 16.27 339⇓*e*P P 09 10 15.7 -1.4
SOCY **Socotra** 16.41 172 Pn 09 10 13.6 -2.5
KBZ **Khabaz** 16.70 338 Pn Pn 09 10 20.5 +0.9
comp=Z,0.4nm,0.3s,baz=154,slow=8.7,SNR=10
SHA1 **Shidzhatmaz** 16.79 337⇓*e*P P 09 10 22.3 -0.9
KIV **Kislovodsk** 16.98 338 *e*P Pn 09 10 23.2 0.0
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,63nm,13.0s
KIV **Kislovodsk** 16.98 338 Pn 09 10 22.7 -0.5
CHGR **Chuyangaron** 17.77 51 Pn 09 10 31.1 -2.0
CHGR IAmb IAmb 09 10 35.8
comp=Z,30nm,0.7s
SOC **Sochi** 17.80 331 *e*P Pn 09 10 32.9 -0.5
SOC *e* 09 13 52.0
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,88nm,14.0s
BR131 **Keskin Array S** 18.55 312 P P 09 10 42.4 -0.2
BR131 pmax pmax
comp=Z,10.0nm,0.9s
BR131 **Keskin Array S** 18.55 312 P P 09 10 42.4 -0.2
BRTR **Keskin Array B** 18.55 312 P P 09 10 42.2 -0.3
BRTR **Keskin Array B** 18.55 312 P Pn 09 10 43.2 +0.4
comp=Z,0.7nm,0.3s,baz=133,slow=12,SNR=34
BRTR **Keskin Array B** 18.55 312 P P 09 10 42.2 -0.3
GAR **Garm** 18.73 51 P P 09 10 43.0 -1.5
ATD **Arta Tunnel** 18.77 208 LR LR 09 19 22.5
comp=Z,66nm,20.4s,baz=62,slow=42
ANTO **Ankara** 19.18 311 P P 09 10 49.5 +0.1
ANTO pmax pmax
comp=Z,27nm,1.0s
ANTO **Ankara** 19.18 311 P P 09 10 49.5 +0.1
ILGA **Ilgaz** 19.23 315 P P 09 10 49.8 -0.3
NIL **Nilore** 19.25 69 P P 09 10 50.4 +0.3
NIL pmax pmax
comp=Z,20nm,0.9s
NIL **Nilore** 19.25 69 P P 09 10 50.4 +0.3
ANN **Anapa** 19.77 329 *e*P P 09 10 54.5 -1.1
ANN *e*S S 09 14 35.1 -2.7
ANN pmax pmax
comp=Z,44nm,1.1s
ELL **Elmali** 19.98 300 P P 09 10 58.4 +0.2
ELL pmax pmax
comp=Z,61nm,0.7s
ELL **Elmali** 19.98 300 P P 09 10 58.4 +0.2
ELL IAmb IAmb 09 11 07.7
comp=Z,60nm,0.7s
KK31 **Karatay Array** 21.09 41 P P 09 11 09.4 -0.6
KK31 pmax pmax
comp=Z,27nm,0.8s
KK31 **Karatay Array** 21.09 41 P P 09 11 09.4 -0.6
KK31 IAmb IAmb 09 11 11.3
comp=Z,27nm,0.8s
KKAR **Karatay Array** 21.09 41 P P 09 11 09.4 -0.6
KKAR pmax pmax
comp=Z,27nm,0.8s
KKAR **Karatay Array** 21.09 41 P P 09 11 09.7 -0.3
KKAR **Karatay Array** 21.09 41 P P 09 11 09.4 -0.6
KKAR IAmb IAmb 09 11 11.3
comp=Z,27nm,0.8s
SEVA **Sevastopol** 21.43 323 ⇑P P 09 11 13.1 -0.4
SIM **Simferopol'** 21.48 324 *e*P P 09 11 16.9 +2.7
SIM pmax pmax
comp=Z,54nm,0.5s
SIM MLR MLR
comp=Z,50nm,15.6s
MANT **Manisa** 21.57 303 P P 09 11 13.1 -2.3
ARSB **Arslanbob** 21.64 48 P P 09 11 15.5 -0.6
ARSB IAmb IAmb 09 11 17.9
comp=Z,32nm,0.8s
AB31 **Akbulak array** 21.68 15 *e*P P 09 11 15.9 -0.4
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR **Akbulak array** 21.68 15 P P 09 11 16.4 +0.2
ABKAR **Akbulak array** 21.68 15 P P 09 11 16.3 +0.1
AKTO **Aktyubinsk** 22.43 11 P P 09 11 24.4 +0.1
AKTO pmax pmax
comp=Z,11nm,0.8s
AKTO **Aktyubinsk** 22.43 11 P P 09 11 24.6 +0.3
comp=Z,8.2nm,0.6s,baz=190,slow=12,SNR=16
KSH **Kashi** 22.93 55 P P 09 11 25.4 -4.5
KSH PcP PcP 09 15 20.1 +0.1
KSH S S 09 15 22.8 -17
KSH sS pS 09 15 42.5 -2.7
KSH SS SnSn 09 16 06.1 -5.0

KSH pmax pmax
comp=Z,54nm,0.9s
KSH pmax pmax
comp=Z,220nm,5.0s
KSH LR LR
comp=Z,230nm,12.7s
KSH LR LR
comp=Z,100nm,9.5s
AAK **Ala-Archa** 23.27 47*de*P P 09 11 35.3 +2.0
AAK pmax pmax
comp=Z,15nm,0.9s
AAK **Ala-Archa** 23.27 47 P P 09 11 34.5 +1.2
comp=Z,11nm,0.8s,baz=239,slow=7.6,SNR=20
AAK **Ala-Archa** 23.27 47 P P 09 11 33.9 +0.6
AAK IAmb IAmb 09 11 40.8
comp=Z,15nm,0.9s
SANT **Santorini** 23.34 296 ⇑P P 09 11 34.5 +0.5
SANT **Santorini** 23.34 296 P P 09 11 34.1 +0.1
SANT IAmb IAmb 09 11 38.8
comp=Z,28nm,0.7s
VRH **Novokhopyorsk** 23.84 345 *e*P P 09 11 39.0 +0.4
VRH pmax pmax
comp=Z,40nm,0.5s
TKM2 **Tokmak 2** 24.11 47 *i* P P 09 11 40.9 -0.7
TKM2 pmax pmax
comp=Z,11nm,1.3s
BOOM **Boomskoye usch** 24.14 48 P P 09 11 41.1 -0.6
BOOM pmax pmax
comp=Z,13nm,0.9s
BOOM **Boomskoye usch** 24.14 48 P P 09 11 41.1 -0.6
BOOM IAmb IAmb 09 11 48.3
comp=Z,12nm,0.8s
ALN **Alexandroupoli** 24.26 307 P P 09 11 40.3 -2.3
ALN pmax pmax
comp=Z,9.0nm,0.8s
ALN **Alexandroupoli** 24.26 307 P P 09 11 40.3 -2.3
VSR **Storozhevoye** 24.52 341 *e*P P 09 11 43.9 -1.0
VSR pmax pmax
comp=Z,10.0nm,1.1s
KDJ **Kajisay** 24.80 50 P P 09 11 45.3 -2.5
KDJ pmax pmax
comp=Z,13nm,0.8s
KDJ **Kajisay** 24.80 50 P P 09 11 45.3 -2.5
KDJ IAmb IAmb 09 11 51.3
comp=Z,13nm,0.8s
CFR **Carcaliu** 24.93 318 ⇓P P 09 11 48.2 -0.4
TARG **Taragay, Kyrgy** 25.06 51 P P 09 11 51.8 +1.4
KIS **Kishinev** 25.62 322 *e*P P 09 11 55.0 +0.1
KIS **Kishinev** 25.62 322 *e*P P 09 11 55.0 +0.1
KIS *e* 09 12 04.0
KIS *e* 09 12 09.0
LPSR **Galich'ya Gora** 25.83 342 *e*P P 09 11 57.3 +0.6
LPSR pmax pmax
comp=Z,30nm,0.7s
VRI **Vrincioaia** 26.14 318 P P 09 12 00.2 +0.5
PLOR **Plostina** 26.18 318 ⇑P P 09 11 59.3 -0.7
ITM **Ithomi** 26.28 297 P P 09 12 00.9 -0.2
MLR **Muntele Rosu** 26.40 317 P P 09 12 03.7 +1.5
MLR pmax pmax
comp=Z,11nm,0.9s
MLR **Muntele Rosu** 26.40 317 P P 09 12 03.8 +1.5
comp=Z,3.1nm,0.5s,baz=79,slow=6.6,SNR=8.0
MLR **Muntele Rosu** 26.40 317 ⇓P P 09 12 04.8 +2.6
MLR **Muntele Rosu** 26.40 317 P P 09 12 03.7 +1.5
MLR IAmb IAmb 09 12 11.2
comp=Z,11nm,0.9s
TESR **Tescani** 26.54 319 ⇓P P 09 12 04.4 +1.1
PDGK **Podgornoye** 26.85 49 P P 09 12 05.6 -0.7
PDGK pmax pmax
comp=Z,14nm,1.4s
VTS **Vitosha** 26.86 309 P P 09 12 05.5 -0.9
VTS pmax pmax
comp=Z,10.0nm,1.1s
VTS **Vitosha** 26.86 309 P P 09 12 05.5 -0.9
VOIR 26.92 316 ⇑P P 09 12 08.6 +1.8
BIZ **Bicaz** 27.09 320 ⇓P P 09 12 09.1 +0.8
AKASG **Malin Array Be** 27.86 329 P P 09 12 15.4 +0.4
comp=Z,0.7nm,0.3s,baz=131,slow=9.9,SNR=7.7
AKASG **Malin Array Be** 27.86 329 P P 09 12 11.1 -3.9
AKBB **Malin Array Si** 27.86 329 P P 09 12 15.2 +0.1
AKBB pmax pmax
comp=Z,8.0nm,1.0s
AKBB **Malin Array Si** 27.86 329 P P 09 12 15.2 +0.1
BURAR **Bucovina Array** 27.96 320 ⇑P P 09 12 17.3 +1.2
BURAR **Bucovina Array** 27.96 320 P P 09 12 16.8 +0.6
BUR08 **Bucovina Ar. S** 27.99 320 P P 09 12 16.1 -0.4
BUR08 IAmb IAmb 09 12 27.0
comp=Z,14nm,1.5s
BRVK **Borovoye** 28.14 24 P P 09 12 17.4 -0.1
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK **Borovoye** 28.14 24 P P 09 12 17.4 -0.1
BRVK IAmb IAmb 09 12 19.1
comp=Z,9.7nm,0.9s
BVAR **Borovoye Array** 28.15 24 P P 09 12 18.4 +0.7
comp=Z,6.9nm,0.5s,baz=218,slow=7.0,SNR=42
BVAR PcP PcP 09 15 31.8 +0.5
comp=Z,2.0nm,0.4s,baz=193,slow=2.5,SNR=10
KOLN **Koldanda** 28.20 84 *e*P P 09 12 18.9 +0.2
comp=Z,60nm,1.2s
DANN **Dangsing** 28.26 83 *e*P P 09 12 20.2 +1.0
comp=Z,114nm,0.9s
ARU **Arti** 28.34 8*c i*P P 09 12 20.1 +0.9
ARU 09 13 09.3
ARU S S 09 17 06.7 +1.8
ARU SS SnSn 09 18 20.6 -2.0
ARU pmax pmax
comp=Z,16nm,1.7s
ARU **Arti** 28.34 8 P P 09 12 19.7 +0.5
comp=Z,1.6nm,0.2s,baz=42,slow=5.8,SNR=3.8
OBN **Obninsk** 28.71 342 *e*P P 09 12 23.5 +1.0
OBN pmax pmax
comp=Z,39nm,1.8s
GKN **Gorkha** 29.07 83 *e*P P 09 12 26.3 -0.1
DMN **Daman** 29.55 84 *e*P P 09 12 30.8 +0.1
comp=Z,42nm,1.1s
KKN **Kakani** 29.67 83 *e*P P 09 12 32.0 +0.3
PKIN **Phulchoki** 29.81 84 *e*P P 09 12 32.9 -0.1
comp=Z,26nm,0.9s
PKI **Pulchoki** 29.82 84 *e*P P 09 12 33.2 0.0
comp=Z,43nm,1.0s
MAKZ **Makanchi** 29.94 44 P P 09 12 32.8 -0.9
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MAKZ **Makanchi** 29.94 44 P P 09 12 34.0 +0.3
KURBB **Kurchatov Arra** 30.03 35 P P 09 12 34.9 +0.5
comp=Z,7.0nm,0.7s,baz=234,slow=9.3,SNR=8.1
KURBB PcP PcP 09 15 35.9 -0.2
comp=Z,0.9nm,0.6s,baz=241,slow=3.6,SNR=4.6
KIRV **Kirov** 30.09 358 P P 09 12 35.4 +0.6
comp=Z,27nm,0.6s,baz=199,slow=2.1,SNR=7.1
MK31 **Makanchi Array** 30.13 44 P P 09 12 33.7 -1.6
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 **Makanchi Array** 30.13 44 P P 09 12 33.7 -1.6
MKAR **Makanchi Array** 30.13 44 P P 09 12 34.9 -0.4
MKAR 09 15 35.8
MKAR **Makanchi Array** 30.13 44 P P 09 12 35.8 +0.5
comp=Z,1.9nm,0.4s,baz=237,slow=8.4,SNR=21
MKAR PcP PcP 09 15 35.6 -0.9
comp=Z,1.1nm,0.7s,baz=272,slow=2.2,SNR=3.9
MKAR LR LR 09 25 38.5
comp=Z,44nm,18.5s,baz=240,slow=38
MKAR **Makanchi Array** 30.13 44 P P 09 12 34.9 -0.4
MKAR PcP 09 15 35.8 -0.7
KURK **Kurchatov** 30.13 35*ce*P P 09 12 35.9 +0.7
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK **Kurchatov** 30.13 35 P P 09 12 32.5 -2.7
KURK IAmb IAmb 09 12 36.9
comp=Z,11nm,0.9s
GUN **Gumba** 30.17 83 *e*P P 09 12 36.8 +0.5
comp=Z,63nm,1.0s
KOLS **Kolonicke sedl** 30.33 320 *e*P P 09 12 37.4 +0.3
KOLS **Kolonicke sedl** 30.33 320 *e*P P 09 12 37.4 +0.3
KWP **Kalwaria Pacla** 30.46 322 P P 09 12 39.0 +0.8
KWP pmax pmax
comp=Z,257nm,1.4s
KWP **Kalwaria Pacla** 30.46 322 P P 09 12 39.0 +0.8
JIRN **Jiri** 30.49 83 *e*P P 09 12 39.1 0.0
comp=Z,30nm,0.8s
RAMN **Ramite** 30.98 84 *e*P P 09 12 42.7 -0.6
comp=Z,20nm,0.7s
KECS **Kecovo** 31.13 318 *e*P P 09 12 45.7 +1.6
KECS pmax pmax

comp=Z,6.0nm,0.6s
KECS Kecovo 31.13 318 *e*P P 09 12 45.7 +1.6
ODAN Odare 31.68 84 *e*P P 09 12 49.1 -0.4
TAPN Taplejung 31.87 83 *e*P P 09 12 51.8 +0.6
LANS Liptovska Anna 32.04 319 *e*P P 09 12 53.6 +1.4
LANS pmax pmax
comp=Z,7.0nm,0.6s
LANS Liptovska Anna 32.04 319 *e*P P 09 12 53.6 +1.4
VYHS Vyhne 32.11 317 *e*P P 09 12 55.8 +3.0
VYHS Vyhne 32.11 317 *e*P P 09 12 55.8 +3.0
OJC Ojcow 32.38 321 P **P 09 12 55.0 0.0**
OJC pmax pmax
comp=Z,12nm,0.6s
OJC Ojcow 32.38 321 P **P 09 12 55.0 0.0**
OJC IAmb IAmb 09 12 58.8
comp=Z,12nm,0.6s
WMQ Urumqi 32.62 52 *e*P P 09 12 58.5 +1.1
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,77nm,4.3s
KLMR Klimovskoe 33.34 349 *e*P P 09 13 01.7 -1.5
KLMR pmax pmax
comp=Z,49nm,0.7s
KLMR Klimovskoe 33.34 349 *e*P P 09 13 01.8 -1.5
KLMR AMP 09 13 03.6
comp=Z,49nm,0.7s
PRGR Permogore 33.35 355 *e*P P 09 13 01.1 -2.3
PRGR pmax pmax
comp=Z,14nm,0.6s
MORC Moravsky Berou 33.45 319 P **P 09 13 05.0 +0.5**
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 33.45 319 P **P 09 13 05.0 +0.5**
MORC IAmb IAmb 09 13 07.8
comp=Z,5.4nm,0.7s
NRCA Norcia 34.04 305 P **P 09 13 09.2 -0.6**
DGZ Jazzator, Alta 34.48 42*de*P P 09 13 14.6 +1.0
PALK Pallekele 34.68 122 P **P 09 13 16.3 +0.8**
PALK pmax pmax
comp=Z,7.0nm,0.7s
PALK Pallekele 34.68 122 P **P 09 13 16.7 +1.2**
comp=Z,6.9nm,0.6s,baz=296,slow=9.2,SNR=6.6
PALK Pallekele 34.68 122 P **P 09 13 16.3 +0.8**
PALK IAmb IAmb 09 13 18.2
comp=Z,6.6nm,0.7s
ZAA0 Zalesovo Array 35.10 34 P **P 09 13 18.5 -0.1**
ZAA0 IAmb IAmb 09 13 19.5
comp=Z,18nm,0.9s
ZALV Zalesovo Beam 35.10 34 P **P 09 13 18.3 -0.3**
ZALV Zalesovo Beam 35.10 34 P **P 09 13 18.7 +0.1**
comp=Z,10nm,0.4s,baz=242,slow=9.2,SNR=25
ZALV LR LR 09 28 58.7
comp=Z,34nm,20.2s,baz=36,slow=39
ZALV Zalesovo Beam 35.10 34 P **P 09 13 18.4 -0.3**
GERES GERESS Array B 35.37 316 P **P 09 13 19.8 -1.4**
GERES 09 15 51.0
GERES GERESS Array B 35.37 316 P **P 09 13 20.9 -0.3**
comp=Z,0.8nm,0.5s,baz=100,slow=8.1,SNR=4.1
GERES PcP **PcP 09 15 51.3 +0.2**
comp=Z,0.8nm,0.5s,baz=134,slow=3.9,SNR=5.3
GERES GERESS Array B 35.37 316 P **P 09 13 19.8 -1.4**
GERES **PcP 09 15 51.0 0.0**
KHC Kasperske Hory 35.55 316⇓*e*P P 09 13 23.4 +0.7
KHC pmax pmax
comp=Z,5.0nm,1.3s
BRG Berggiesshubel 36.00 319 *e*P P 09 13 29.8 +3.3
comp=Z,6.9nm,1.0s
BRG Berggiesshubel 36.00 319 *e*P P 09 13 29.8 +3.3
BRG pmax pmax
comp=Z,7.0nm,1.0s
WTTA Wattenberg 36.17 312 *e*P P 09 13 27.7 -0.4
comp=Z,6.9nm,0.6s
WATA Walderalm 36.23 312 *i*P P 09 13 28.2 -0.4
comp=Z,4.1nm,0.5s
KEST Kesra 36.27 292 P **P 09 13 31.2 +2.1**
comp=Z,7.8nm,0.6s,baz=89,slow=1.0,SNR=6.6
SQTA Sankt Quirin 36.43 312 *i*P P 09 13 30.1 -0.3
comp=Z,6.2nm,0.5s
MOTA Moosalm 36.54 312 *i*P P 09 13 30.7 -0.6
comp=Z,6.9nm,0.6s
FETA Feichten 36.69 312 *i*P P 09 13 32.2 -0.5
comp=Z,13nm,1.3s
CLL Collm 36.72 319 *i*P P 09 13 32.6 0.0
CLL *e* 09 13 46.0
CLL Collm 36.72 319 *i*P P 09 13 32.6 0.0
CLL *e*pP **pP 09 13 35.0 -2.9**
comp=Z,5.0nm,0.6s
CLL *e* 09 13 46.0
FIA1 FINESS Array S 37.04 340 P **P 09 13 34.9 -0.3**
FIA1 IAmb IAmb 09 13 35.6
comp=Z,14nm,0.6s
FINES FINESS Array B 37.04 340 P **P 09 13 35.1 -0.1**
comp=Z,11nm,0.4s,baz=149,slow=8.4,SNR=99
FINES PcP **PcP 09 15 55.6 -0.1**
comp=Z,2.4nm,0.7s,baz=113,slow=3.6,SNR=3.1
FINES LR LR 09 31 19.0
comp=Z,75nm,18.8s,baz=326,slow=40
FINES FINESS Array B 37.04 340 P **P 09 13 35.1 -0.1**
FINES **PcP 09 15 55.1 -0.6**
DAVA Damuels 37.32 312 *i*P P 09 13 37.4 -0.5
comp=Z,7.1nm,0.5s
SENIN Lac Senin/Sane 38.84 310 P **P 09 13 51.2 +0.4**
SENIN IAmb IAmb 09 13 57.4
comp=Z,21nm,1.3s
BNI Bardonecchia 39.02 307 P **P 09 13 52.4 +0.1**
BNI pmax pmax
comp=Z,5.0nm,0.7s
BNI Bardonecchia 39.02 307 P **P 09 13 52.4 +0.1**
LVZ Lovozero 40.69 350 P **P 09 14 03.9 -1.8**
LVZ pmax pmax
comp=Z,40nm,1.1s
LVZ Lovozero 40.69 350 P **P 09 14 03.9 -1.8**
LVZ IAmb IAmb 09 14 08.3
comp=Z,40nm,1.1s
GTA Gaotai 41.03 62 ⇑P **P 09 14 10.4 +1.4**
GTA pP sP 09 14 22.6 +6.0
GTA sP pP 09 14 28.0 +14
GTA S **S 09 20 20.6 -0.2**
GTA sS sS 09 20 42.0 +12
GTA SS **SS 09 23 19.8 -3.2**
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,53nm,6.5s
GTA LR LR
comp=Z,74nm,17.5s
GTA LR LR
comp=Z,64nm,16.8s
GTA LR LR
comp=Z,91nm,15.9s
NC405 NORSAR Array S 41.99 332 P **P 09 14 15.6 -0.9**
NB201 NORSAR Array S 42.13 332 P **P 09 14 15.1 -2.6**
NB2 NORSAR Subarra 42.16 332 P **P 09 14 16.9 -1.0**
comp=Z,1.4nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 42.16 332 P **P 09 14 16.9 -1.0**
comp=Z,1.8nm,0.5s,baz=122,slow=8.3,SNR=9.4
NOA LR LR 09 34 48.3
comp=Z,33nm,19.0s,baz=115,slow=40
NBO00 NORSAR Array S 42.34 332 P **P 09 14 18.9 -0.4**
NBO00 IAmb IAmb 09 14 33.3
comp=Z,38nm,1.4s
NC204 NORSAR Array S 42.47 332 P **P 09 14 18.2 -2.2**
NC204 IAmb IAmb 09 14 23.4
comp=Z,39nm,1.2s
MOY Mondy 43.27 44 *e*P **P 09 14 28.7 +1.6**
MHMT Maesarieng 43.55 93 P **P 09 14 32.1 +2.4**
comp=Z,29nm,1.0s,comp=Z,2μm
KEV Kevo 43.63 348 P **P 09 14 27.5 -2.1**
KEV pmax pmax
comp=Z,31nm,1.2s
KEV Kevo 43.63 348 P **P 09 14 27.5 -2.1**
KEV IAmb IAmb 09 14 34.1
comp=Z,31nm,1.2s
ARCES ARCESS Array B 43.73 347 P **P 09 14 30.5 +0.1**
ARCES ARCESS Array B 43.73 347 P **P 09 14 30.7 +0.3**
comp=Z,5.6nm,0.7s,baz=148,slow=8.4,SNR=24
ARCES PcP **PcP 09 16 17.0 -0.1**
comp=Z,5.9nm,0.9s,baz=166,slow=2.5,SNR=5.4
ARCES ARCESS Array B 43.73 347 P **P 09 14 30.5 +0.1**
ARE0 ARCESS Array S 43.73 347 P **P 09 14 30.4 0.0**
CHTO Chiang Mai 44.21 92 P **P 09 14 35.7 +0.7**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 44.21 92 P **P 09 14 35.7 +0.7**
CMMT Chiang Mai 44.21 92 P **P 09 14 36.4 +1.4**
comp=Z,3.5nm,0.8s
CMAR Chiang Mai Arr 44.34 92 P **P 09 14 36.5 +0.4**
comp=Z,3.1nm,0.7s,baz=290,slow=8.6,SNR=12
CMAR PcP **PP 09 16 19.7 +0.3**
comp=Z,1.2nm,0.3s,baz=293,slow=4.7,SNR=7.0
CMAR Chiang Mai Arr 44.34 92 P **P 09 14 36.7 +0.7**
LZH Lanzhou 44.38 66 *e*P **P 09 14 37.0 +0.7**
LZH pP sP 09 14 47.8 +3.9
LZH sP pP 09 14 51.8 +10
LZH PP **PP 09 16 19.8 0.0**
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,89nm,4.3s
LZH LR LR
comp=Z,320nm,14.6s
LZH LR LR
comp=Z,400nm,13.0s
LZH LR LR
comp=Z,460nm,16.1s
PAYA Payao 44.82 91 P **P 09 14 41.1 +1.2**
comp=Z,28μm,0.9s
TLY Talaya 44.89 44⇓*e*P P 09 14 41.2 +1.2
TLY pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 44.89 44 LR LR 09 34 07.9
comp=Z,31nm,18.7s,baz=256,slow=37
UMPA Umpang Tak 45.15 95 P **P 09 14 44.4 +1.9**
comp=Z,70μm,0.8s
KMI Kunming 45.51 82 P **P 09 14 46.4 +0.9**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,80nm,3.5s
NRIK Noril'sk 45.83 17 P **P 09 14 48.0 +0.8**
comp=Z,7.3nm,0.5s,baz=214,slow=4.6,SNR=5.8
UTHA Uthaitani 45.92 96 P **P 09 14 50.0 +1.4**
comp=Z,29μm,0.7s,comp=Z,360μm
SONM Songino Array 46.16 50 P **P 09 14 50.8 +0.6**
comp=Z,3.4nm,0.9s,baz=264,slow=8.8,SNR=9.8
SONM PcP **PcP 09 16 26.1 0.0**
comp=Z,0.9nm,0.4s,baz=252,slow=4.5,SNR=6.2
SONM Songino Array 46.16 50 P **P 09 14 50.9 +0.6**
SONM **PcP 09 16 25.5 -0.6**
ULN Ulaanbaatar 46.61 50⇓*e*P P 09 14 54.4 +0.6
ULN pmax pmax
comp=Z,10.0nm,1.7s
ESBB Sonseca Array 46.66 299 P **P 09 14 54.9 +0.7**
ESBB IAmb IAmb 09 14 55.3
comp=Z,5.6nm,0.9s
ESDC Sonseca Array 46.66 299 P **P 09 14 54.6 +0.3**
comp=Z,1.7nm,0.4s,baz=69,slow=7.7,SNR=16
ESDC Sonseca Array 46.66 299 P **P 09 14 54.1 -0.1**
PBKT Sadao Pong 46.85 94 P **P 09 14 56.9 +1.0**
comp=Z,13nm,0.9s,comp=Z,721nm
PBKT Sadao Pong 46.85 94 P **P 09 14 56.8 +0.9**
PAB San Pablo 46.97 299 P **P 09 14 57.5 +0.8**
PAB pmax pmax
comp=Z,23nm,1.4s
PAB San Pablo 46.97 299 P **P 09 14 57.5 +0.8**
PHET Kaeng Krachan 47.23 99 P **P 09 15 00.5 +1.6**
comp=Z,65μm,0.9s,comp=Z,652μm
ABPO Ambohimpanom 47.44 186 P **P 09 15 03.6 +3.1**
ABPO pmax pmax
comp=Z,7.0nm,0.7s
ABPO Ambohimpanom 47.44 186 P **P 09 15 03.6 +3.1**
ABPO IAmb IAmb 09 15 03.8
comp=Z,6.9nm,0.7s
DSB Dublin 48.68 317 P **P 09 15 09.5 -0.1**
TOA0 Torodi Ar. Sit 48.72 262 P **P 09 15 09.8 -0.6**
TOA0 IAmb IAmb 09 15 14.3
comp=Z,6.8nm,0.7s
TORD Torodi Ar. Bea 48.72 262 P **P 09 15 10.9 +0.4**
comp=Z,5.2nm,0.5s,baz=58,slow=7.4,SNR=36
XAN Xi'an 48.78 68 P **P 09 15 10.3 -0.4**
XAN pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 49.95 59 *e*P **P 09 15 19.3 -0.4**
HHC pmax pmax
comp=Z,4.0nm,0.8s
KCSI Kotacane, Aceh 50.43 111 P **P 09 15 22.3 -1.2**
BOD Bodaibo 51.74 37 *e*P **P 09 15 31.8 -0.9**
BOD pmax pmax
comp=Z,16nm,0.9s
PSI Prapat 51.78 111 P **P 09 15 33.7 -0.1**
comp=Z,8.7nm,0.5s,baz=302,slow=10,SNR=9.2
RPSI Rantau Prapat 51.84 111 P **P 09 15 33.7 -0.4**
RPSI Rantau Prapat 51.84 111 P **P 09 15 31.2 -2.9**
RPSI IAmb IAmb 09 15 36.3
comp=Z,9.3nm,0.6s
SPA0 Spitsbergen Ar 52.19 351 P **P 09 15 35.6 -0.2**
KBS Kingsbay 53.34 351 P **P 09 15 44.2 -0.1**
KBS Kingsbay 53.34 351 P **P 09 15 44.2 -0.1**
QIZ Qiongzhong 53.71 87 P **P 09 15 46.8 -1.1**
QIZ S **S 09 23 17.8 -3.8**
QIZ pmax pmax
comp=Z,28nm,1.6s
QIZ pmax pmax
comp=Z,300nm,2.8s
QIZ LR LR
comp=Z,550nm,17.2s
QIZ LR LR
comp=Z,500nm,21.1s
QIZ LR LR
comp=Z,630nm,30.4s
BKNI Bangkinang 54.93 112 P **P 09 15 57.1 +0.4**
NJ2 Nanjing 57.35 68 *e*P **P 09 16 12.8 -1.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
DBIC Dimbokro 57.45 259 P **P 09 16 14.6 -0.2**
DBIC pmax pmax
comp=Z,17nm,0.7s
DBIC Dimbokro 57.45 259 P **P 09 16 15.2 +0.5**
comp=Z,15nm,0.7s,baz=38,slow=7.8,SNR=18
DBIC Dimbokro 57.45 259 P **P 09 16 14.6 -0.2**
KIC Kosan Boka 57.50 259 *e*P **P 09 16 15.9 +0.7**
comp=Z,36nm,1.1s
KIC Kosan Boka 57.50 259 P **P 09 16 15.9 +0.7**
TIC Toumodi 57.60 259 *e*P **P 09 16 16.5 +0.6**
TIC Toumodi 57.60 259 P **P 09 16 16.5 +0.6**
TIC Toumodi 57.60 259 P **P 09 16 16.5 +0.6**
LIC Lamto 57.81 259 *e*P **P 09 16 18.1 +0.7**
comp=Z,38nm,0.5s
LIC Lamto 57.81 259 P **P 09 16 18.1 +0.7**
SCO Scoresbysund 57.91 338 P **P 09 16 18.8 +1.6**
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 57.91 338 P **P 09 16 18.8 +1.6**
DAG Danmarks Havn 57.94 345 *i*P **P 09 16 17.2 -0.2**
DAG pmax pmax
comp=Z,1.0nm,0.6s
DAG Danmarks Havn 57.94 345 *i*P **P 09 16 17.2 -0.2**
comp=Z,2.0nm,0.6s
LBTB Lobatse 58.80 208 P **P 09 16 25.5 +1.4**
LBTB pmax pmax
comp=Z,21nm,1.4s
LBTB Lobatse 58.80 208 P **P 09 16 25.5 +1.4**
TIXI Tiksi 59.21 21 P **P 09 16 26.3 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 59.21 21 P **P 09 16 26.3 +0.1**
TIXI IAmb IAmb 09 16 27.6
comp=Z,3.1nm,0.5s
YAK Yakutsk 59.71 32⇑*i*P **P 09 16 29.8 0.0**
YAK pmax pmax
comp=Z,8.0nm,0.8s
LWLI Liwa 60.48 115 P **P 09 16 35.7 -0.3**
KLSI 60.83 114 P **P 09 16 37.0 -1.2**
KASI Kota Agung 61.13 115 P **P 09 16 40.3 0.0**
BOSA Boshof 62.15 206 P **P 09 16 47.7 +0.8**
comp=Z,2.0nm,0.8s,baz=343,slow=7.8,SNR=3.3
BOSA Boshof 62.15 206 P **P 09 16 48.9 +2.0**
BOSA IAmb IAmb 09 16 54.9
comp=Z,5.5nm,1.2s
KLR Kul'dur 62.80 47 *i*P **P 09 16 50.7 -0.3**
KS19 Wonju Array Si 63.01 60 P **P 09 16 51.9 -0.7**
KSAR Wonju Array Be 63.04 60 P **P 09 16 52.4 -0.4**
KSAR Wonju Array Be 63.04 60 P **P 09 16 52.4 -0.4**
KSRS Korea Array 63.07 60 P **P 09 16 51.6 -1.4**
comp=Z,2.9nm,0.6s,baz=278,slow=7.0,SNR=7.1
SUMG Summit 63.08 340 *e*P **P 09 16 53.3 +0.3**
SUMG Summit 63.08 340 *i*P **P 09 16 53.3 +0.3**
SUMG Summit 63.08 340 P **P 09 16 53.8 +0.8**
SBUM Sibu 63.18 103 P **P 09 16 53.1 -1.0**
SBUM IAmb IAmb 09 16 55.1
comp=Z,5.2nm,0.8s
USRK Ussuriysk Ar. 64.19 52 P **P 09 16 58.3 -2.0**
USRK Ussuriysk Ar. 64.19 52 P **P 09 16 59.1 -1.2**
comp=Z,1.9nm,0.7s,baz=276,slow=5.3,SNR=7.4
USRK Ussuriysk Ar. 64.19 52 P **P 09 16 58.3 -2.0**
SFJD Kangerlussuaq 68.67 336 P **P 09 17 28.4 -0.1**
comp=Z,4.9nm,0.6s,baz=130,slow=9.2,SNR=4.4
SEY Seymchan 69.70 29 *i*P **P 09 17 35.6 +0.6**
YSS Yuzh-Sakhalins 70.51 47⇑*e*P P 09 17 42.9 +2.7
YSS pmax pmax
comp=Z,38nm,1.2s
JAGI Jajag, Banyuwa 70.64 111 P **P 09 17 40.1 -1.5**
MPSI Mapaga 70.86 100 P **P 09 17 43.9 +1.0**
comp=Z,11nm,1.0s,comp=Z,435nm
BILL Bilibino 72.43 21 *c i*P **P 09 17 52.5 +1.0**
BILL *i* 09 18 13.2
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 72.43 21 P **P 09 17 52.1 +0.6**
BILL IAmb IAmb 09 17 54.0
comp=Z,7.7nm,0.9s
FRB Frobisher Bay 76.76 337 P **P 09 18 17.1 +0.5**
comp=Z,13nm,0.8s,baz=52,slow=6.7,SNR=7.6
SKR Severo-Kuril's 76.94 39⇑*e*P P 09 18 18.5 +0.6
SCHQ Schefferville 81.65 329 P **P 09 18 43.9 +0.3**
comp=Z,8.5nm,0.6s,baz=126,slow=4.5,SNR=5.6
SCHQ Schefferville 81.65 329 P **P 09 18 43.6 0.0**
TOLK Toolik Lake Re 81.88 8 P **P 09 18 44.9 +0.3**
TOLK IAmb IAmb 09 18 47.1
comp=Z,5.8nm,0.8s
PSAD3 Pilbara Seismi 82.54 119 P **P 09 18 49.1 +0.4**
PSAD3 IAmb IAmb 09 18 50.3
comp=Z,9.9nm,1.0s
PSAA1 Pilbara Seismi 82.55 119 P **P 09 18 49.0 +0.3**
PSAA1 IAmb IAmb 09 18 58.5
comp=Z,8.0nm,0.9s
PSA00 Pilbara Seismi 82.55 119 P **P 09 18 49.7 +1.0**
PSA00 IAmb IAmb 09 18 55.2
comp=Z,12nm,1.2s
PSAD2 Pilbara Seismi 82.67 119 P **P 09 18 49.1 -0.3**
PSAD2 IAmb IAmb 09 18 57.4
comp=Z,8.9nm,0.9s
COLD Coldfoot 83.14 8 P **P 09 18 50.1 -1.1**
INK Inuvik 83.39 2 P **P 09 18 52.4 +0.1**
comp=Z,2.9nm,0.7s,baz=359,slow=8.2,SNR=18
INK Inuvik 83.39 2 P **P 09 18 52.4 +0.1**
INK IAmb IAmb 09 18 53.7
comp=Z,3.8nm,0.8s
BMAR Burnt Mountain 83.58 6 P **P 09 18 54.8 +1.4**
IMAR Indian Mountai 83.81 10 P **P 09 18 55.1 +0.5**
MLY Manley 85.15 9 P **P 09 19 02.1 +0.7**
MLY IAmb IAmb 09 19 03.1
comp=Z,5.5nm,0.7s
FITZ Fitzroy Crossi 85.23 113 P **P 09 19 03.1 +0.6**
FITZ IAmb IAmb 09 19 04.0
comp=Z,10nm,0.9s
ILAR Eielson Array 85.91 8 P **P 09 19 04.9 -0.3**
comp=Z,1.6nm,0.7s,baz=330,slow=3.1,SNR=24
BPAW Bear Paw Mtn. 86.00 10 P **P 09 19 06.3 +0.7**
MCK McKinley 86.64 9 P **P 09 19 09.1 +0.3**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 86.64 9 P **P 09 19 09.1 +0.3**
SCRK Sand Creek 87.00 7 P **P 09 19 11.4 +0.7**
DOT Dot Lake 87.31 7 P **P 09 19 12.4 +0.2**
DOT IAmb IAmb 09 19 13.7
comp=Z,3.1nm,0.7s
BCAR Beaver Creek A 88.11 6 P **P 09 19 15.3 -0.7**
YKA Yellowknife Ar 88.63 354 P **P 09 19 16.9 -1.5**
YKA Yellowknife Ar 88.63 354 P **P 09 19 18.7 +0.4**
comp=Z,3.9nm,0.6s,baz=14,slow=5.6,SNR=15
YKA Yellowknife Ar 88.63 354 P **P 09 19 16.9 -1.5**
KDAK Kodiak Island 91.67 13 *i*P **P 09 19 33.3 +0.7**
WRA Warramunga Arr 93.25 111 P **P 09 19 40.0 -0.5**
comp=Z,1.4nm,0.6s,baz=312,slow=4.0,SNR=17
WRA Warramunga Arr 93.25 111 P **P 09 19 40.8 +0.2**
ASAR Alice Springs 94.69 114 P **P 09 19 46.8 -0.4**
comp=Z,3.1nm,0.6s,baz=303,slow=4.6,SNR=59
ASAR Alice Springs 94.69 114 P **P 09 19 47.1 -0.1**
TXAR Lajitas Array 117.79 336 PKP **PKPdf 09 25 12.2 -0.3**
comp=Z,0.2nm,0.7s,baz=79,slow=1.9,SNR=3.4
QSPA South Pole Qui 118.36 180 PKP **PKPdf 09 25 11.8 -0.5**
comp=Z,2.6nm,0.9s,baz=118,slow=1.8,SNR=14
QSPA South Pole Qui 118.36 180 **PKPdf 09 25 12.3 0.0**
CMIG Matias Romero 124.25 320 PKP **PKPdf 09 25 24.5 -0.6**
comp=Z,2.4nm,0.8s,baz=80,slow=4.4,SNR=4.0
CFA Coronel Fontan 128.39 251 PKP **PKPdf 09 25 32.7 +0.1**
comp=Z,2.5nm,0.6s,baz=63,slow=2.3,SNR=6.1
PLCA Paso Flores 131.63 239 PKP **PKiKP 09 25 39.4 -0.1**
comp=Z,1.0nm,0.5s,baz=193,slow=8.5,SNR=5.5

*ISCJB **19** 09:13:59.7±0.6, 60°.08S±0°.05×47°.1W±0°.1, h10km, mb3.9/2, MS3.2/1, Error ellipse: s-maj=8.7km s-min=7.4km az=150.6*
*IDC **19** 09:14:00.3±1.3, 60°.10S×47°.04W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/25, mbtmp4.1/4, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=40.9km s-min=27.5km az=58.0*
*NEIC **19** 09:14:01.1±1.2, 60°.28S±0°.08×46°.9W±0°.1, h10km±6km, mb4.4/6*
ISC 19 09:14:01.4±0.6, 60°.24S±0°.07×47°.18W±0°.07, h10km, n24, σ1§94/23, mb4.4/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.31**	**49**	Pn	**Pn**	**09 16 00.6**	**-1.2**
HOPE					**Sn**	**09 17 33.7**	**-2.0**
PMSA	**Palmer Station**	**9.02**	**233**	Pn	**Pn**	**09 16 13.5**	**+2.1**
	2.0nm,0.3s,baz=62,slow=12,SNR=12						
PMSA				Sn	**Sn**	**09 17 46.9**	**-5.9**
	0.2nm,0.3s,baz=236,slow=6.6,SNR=6.8						
PMSA	**Palmer Station**	**9.02**	**233**		**Pn**	**09 16 12.1**	**+0.7**
PMSA					**Sn**	**09 17 50.3**	**-2.5**
EFI	**East Falkland**	**10.52**	**320**	Pn	**Pn**	**09 16 33.2**	**+1.2**
EFI				Sn	**Sn**	**09 18 28.5**	**-1.2**
VNA3	**Neumayer Olymp**	**18.54**	**142**	P	**Pn**	**09 18 19.3**	**+1.3**
VNA1	**Neumayer--Stat**	**18.83**	**140**	P	**Pn**	**09 18 22.9**	**+1.5**
VNA2	**Neumayer--Watz**	**19.17**	**140**	P	**Pn**	**09 18 25.9**	**+0.3**
	baz=293,slow=14						
SNAA	**Sanae**	**20.77**	**141**	P	Pn	09 18 46.1	+1.6
SNAA	**Sanae**	**20.77**	**141**	P	Pn	09 18 44.8	+0.3
	5.1nm,0.9s,baz=287,slow=9.9,SNR=11						
SNAA	**Sanae**	**20.77**	**141**	P	**P**	**09 18 40.5**	**-1.6**
SNAA				IAmb	IAmb	09 18 58.5	
	comp=Z,15nm,1.2s						
TRQA	**Tornquist**	**24.11**	**330**	P	**P**	**09 19 18.6**	**+1.6**
PLCA	**Paso Flores**	**24.31**	**313**	P	**P**	**09 19 20.1**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=180,slow=11,SNR=2.9						
PLCA				LR	LR	09 27 28.2	
	comp=Z,66nm,18.2s,baz=176,slow=33						
PLCA	**Paso Flores**	**24.31**	**313**	P	**P**	**09 19 20.1**	**+1.1**
PLCA				IAmb	IAmb	09 19 33.9	
	comp=Z,35nm,1.9s						
GO06	**Curarrehue**	**25.65**	**313**	P	**P**	**09 19 33.1**	**+1.9**
GO06				IAmb	IAmb	09 19 48.0	
	comp=Z,9.7nm,1.2s						
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**09 20 11.1**	**+1.2**
	comp=Z,5.4nm,0.9s,baz=169,slow=10,SNR=16						
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**09 20 10.2**	**+0.3**
QSPA				IAmb	IAmb	09 20 12.5	
	comp=Z,8.1nm,1.0s						
SBA	**Scott Base**	**40.59**	**190**	P	**P**	**09 21 41.9**	**+1.4**
H10N3	**ASCENSION HYDR**	**57.76**	**39**	T	T	10 26 51.8	
	baz=199,slow=74,SNR=10						
H10N1	**ASCENSION HYDR**	**57.76**	**39**	T	T	10 26 49.6	
	baz=199,slow=74,SNR=5.9						
H10N2	**ASCENSION HYDR**	**57.77**	**39**	T	T	10 26 51.3	
	baz=199,slow=74,SNR=5.0						
ILAR	**Eielson Array**	**144.99**	**313**	PKP	**PKPbc**	**09 33 36.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=142,slow=2.0,SNR=21						
ILAR	**Eielson Array**	**144.99**	**313**		**PKPab**	**09 33 36.6**	**0.0**
MKAR	**Makanchi Array**	**147.95**	**92**	PKPbc	**PKPbc**	**09 33 44.8**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=246,slow=2.4,SNR=8.1						
MKAR	**Makanchi Array**	**147.95**	**92**		**PKPbc**	**09 33 44.9**	**-0.9**

*BJI **19** 09:15:11.3±0.0, 35°.13N×77°.10E, h20km, mb3.8/1, ML3.5/2*
*IDC **19** 09:15:15.1±2.9, 35°.21N×77°.51E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/53, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=75.9km s-min=26.3km az=75.0*
*ISCJB **19** 09:15:18.3±1.3, 35°.46N±0°.09×77°.8E±0°.2, h21km, mb3.4/3,*

Error ellipse: s-maj=22.5km s-min=9.9km az=156.1

ISC 19 09:15:19.6±1.5,35°.4N±0°.1×77°.7E±0°.2,h21km,n7,σ1s57/9, mb3.4/3,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.37**	**342**	Pg	**Pn**	**09 16 26.1**	**+1.3**
KSH				Sn	**Sn**	**09 17 13.4**	**-1.8**
KSH				smax	smax		
	comp=N,75nm,0.8s						
KSH				smax	smax		
	comp=E,63nm,1.0s						
WMQ	**Urumqi**	**11.42**	**39**	*e*P	**Pn**	**09 18 02.3**	**+0.8**
MKAR	**Makanchi Array**	**11.93**	**15**	Pn	**Pn**	**09 18 09.4**	**+1.1**
	0.2nm,0.3s,baz=193,slow=12,SNR=8.3						
MKAR				Sn	**Sn**	**09 20 18.6**	**-2.1**
	0.1nm,0.3s,baz=202,slow=21,SNR=5.5						
BVAR	**Borovoye Array**	**18.40**	**346**	P	**P**	**09 19 33.3**	**+0.1**
	0.2nm,0.3s,baz=153,slow=9.7,SNR=3.4						
SONM	**Songino Array**	**24.65**	**51**	P	**P**	**09 20 40.2**	**+1.5**
	0.5nm,0.5s,baz=248,slow=11,SNR=3.9						
CMAR	**Chiang Mai Arr**	**25.25**	**126**	P	**P**	**09 20 43.7**	**-0.6**
	1.3nm,0.3s,baz=316,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**76.84**	**126**	P	**P**	**09 27 08.9**	**-1.2**
	0.2nm,0.7s,baz=332,slow=5.8,SNR=3.5						

*ISCJB **19** 09:20:50.3±0.4, 55°.14S±0°.07×28°.40W±0°.10, h10km, mb4.3/9, MS3.6/8, Error ellipse: s-maj=10.9km s-min=6.2km az=34.5*

*IDC **19** 09:20:50.8±0.6, 55°.15S×28°.29W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/22, mbtmp4.3/11, ML4.6/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/23, Error ellipse: s-maj=21.5km s-min=16.0km az=43.0*

*NEIC **19** 09:20:55.7±1.8, 55°.2S±0°.1×28°.4W±0°.2, h35km±1km, mb4.6/20*

ISC 19 09:20:51.9±0.5,55°.12S±0°.09×28°.38W±0°.08,h10km,n62, σ0s83/64,mb4.5/14,MS3.5/8,1C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.78**	**277**	Pn	**Pn**	**09 22 03.6**	**-0.2**
HOPE				Sn	**Sn**	**09 22 59.6**	**+0.4**
VNA1	**Neumayer--Stat**	**17.91**	**158**	P	**P**	**09 25 03.3**	**+2.0**
VNA3	**Neumayer Olymp**	**18.10**	**160**	P	**Pn**	**09 25 03.0**	**0.0**
VNA2	**Neumayer--Watz**	**18.31**	**158**	P	**Pn**	**09 25 05.8**	**+0.2**
	baz=313,slow=12						
SNAA	**Sanae**	**19.87**	**156**	P	**P**	**09 25 22.4**	**-0.4**
SNAA	**Sanae**	**19.87**	**156**	P	**P**	**09 25 22.5**	**-0.3**
	1.7nm,0.3s,baz=300,slow=10,SNR=48						
SNAA	**Sanae**	**19.87**	**156**	P	**P**	**09 25 22.3**	**-0.4**
PMSA	**Palmer Station**	**20.02**	**227**	P	**P**	**09 25 25.2**	**+0.7**
	13nm,1.0s,baz=74,slow=12,SNR=3.8						
PMSA				LR	LR	09 31 44.3	
	comp=Z,191nm,19.4s,baz=106,slow=33						
PMSA	**Palmer Station**	**20.02**	**227**	P	**P**	**09 25 24.7**	**+0.3**
PMSA				IAmb	IAmb	09 25 39.8	
	comp=Z,17nm,0.8s						
PLCA	**Paso Flores**	**31.18**	**280**	LR	LR	09 40 23.3	
	comp=Z,95nm,18.5s,baz=165,slow=38						
PLCA	**Paso Flores**	**31.18**	**280**	P	**P**	**09 27 09.4**	**-1.5**
SYO	**Syowa Base**	**32.73**	**142**⇑*e*X		**P**	**09 27 24.6**	**+0.5**
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**09 27 45.5**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=188,slow=2.6,SNR=47						
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**09 27 46.0**	**+0.7**
QSPA				IAmb	IAmb	09 27 47.8	
	comp=Z,6.3nm,0.7s						
CPUP	**Villa Florida**	**35.69**	**312**	P	**P**	**09 27 50.5**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=147,slow=7.3,SNR=8.1						
CPUP				LR	LR	09 43 46.0	
	comp=Z,67nm,18.0s,baz=202,slow=38						
CPUP	**Villa Florida**	**35.69**	**312**	P	**P**	**09 27 50.5**	**+0.4**
CPUP				IAmb	IAmb	09 27 54.1	
	comp=Z,13nm,1.3s						
CFA	**Coronel Fontan**	**36.57**	**293**	P	**P**	**09 27 57.7**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=136,slow=8.2,SNR=4.2						
ROC1	**El Roble**	**37.00**	**289**	P	**P**	**09 28 02.6**	**+0.9**
GO04	**Tololo Observa**	**39.05**	**292**	P	**P**	**09 28 18.8**	**-0.2**
MAW	**Mawson**	**41.30**	**145**	P	**P**	**09 28 36.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=217,slow=7.2,SNR=7.1						
MAW	**Mawson**	**41.30**	**145**	P	**P**	**09 28 37.0**	**+0.1**
BDFB	**Brasilia**	**42.22**	**331**	LR	LR	09 46 41.0	
	comp=Z,132nm,18.1s,baz=128,slow=37						
GO02	**Mina Guanaco**	**42.46**	**298**	P	**P**	**09 28 48.4**	**+1.2**
GO02				IAmb	IAmb	09 29 06.1	
	comp=Z,12nm,1.1s						
LVC	**Limon Verde**	**44.25**	**301**	P	**P**	**09 29 03.4**	**+1.7**
	comp=Z,2.3nm,0.5s,baz=45,slow=2.9,SNR=4.8						
LVC	**Limon Verde**	**44.25**	**301**	P	**P**	**09 28 59.9**	**-1.8**
BOSA	**Boshof**	**46.41**	**78**	P	**P**	**09 29 18.6**	**0.0**
	comp=Z,2.9nm,0.9s,baz=196,slow=9.9,SNR=3.0						
BOSA				LR	LR	09 45 53.9	
	comp=Z,104nm,18.4s,baz=206,slow=32						
BOSA	**Boshof**	**46.41**	**78**	P	**P**	**09 29 18.7**	**+0.1**
BOSA				IAmb	IAmb	09 29 19.3	
	comp=Z,5.9nm,1.0s						
SIV	**San Ignacio**	**46.44**	**314**	LR	LR	09 48 05.4	
	comp=Z,32nm,20.1s,baz=129,slow=35						
GO01	**Chusmiza**	**46.88**	**302**	P	**P**	**09 29 23.0**	**+0.3**
GO01				IAmb	IAmb	09 29 25.2	
	comp=Z,5.6nm,0.7s						
SBA	**Scott Base**	**46.96**	**184**	P	**P**	**09 29 22.7**	**+0.5**
SBA				IAmb	IAmb	09 29 36.0	
	comp=Z,5.8nm,1.3s						
PB11	**IPOC Station P**	**47.02**	**302**	P	**P**	**09 29 23.8**	**+0.3**
MNMC	**Minye Minye**	**47.53**	**302**	P	**P**	**09 29 28.8**	**+1.3**
LPAZ	**La Paz**	**49.29**	**306**	P	**P**	**09 29 42.4**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=161,slow=3.7,SNR=10						
LPAZ	**La Paz**	**49.29**	**306**	P	**P**	**09 29 42.3**	**+0.9**
LPAZ				IAmb	IAmb	09 29 44.0	
	comp=Z,11nm,1.4s						
LBTB	**Lobatse**	**49.40**	**75**	P	**P**	**09 29 42.3**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=223,slow=6.3,SNR=4.9						
LBTB	**Lobatse**	**49.40**	**75**	P	**P**	**09 29 41.9**	**+0.1**
SAML	**Samuel**	**53.66**	**316**	P	**P**	**09 30 13.3**	**-0.2**
SAML				IAmb	IAmb	09 30 16.9	
	comp=Z,4.0nm,0.9s						
NNA	**Nana**	**57.21**	**299**	LR	LR	09 55 29.3	
	comp=Z,24nm,18.9s,baz=154,slow=36						
TOA0	**Torodi Ar. Sit**	**72.59**	**31**	P	**P**	**09 32 18.3**	**-0.8**
TOA0				IAmb	IAmb	09 32 22.7	
	comp=Z,4.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.59**	**31**	P	**P**	**09 32 19.6**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=199,slow=6.3,SNR=13						
SDV	**Santo Domingo**	**72.87**	**316**	P	**P**	**09 32 20.9**	**-0.2**
CAN	**Canberra**	**89.89**	**178**	P	**P**	**09 33 48.0**	**-3.0**
KEST	**Kesra**	**96.10**	**30**	LR	LR	10 14 13.7	
	comp=Z,83nm,18.0s,baz=281,slow=33						
ASAR	**Alice Springs**	**100.08**	**164**	P	**Pdif**	**09 34 37.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=180,slow=2.6,SNR=4.3						
KSH	**Kashi**	**128.97**	**75**	*e*PKP	**PKPdf**	**09 39 59.1**	**-0.1**
LZH	**Lanzhou**	**142.44**	**100**	*e*PKP	**PKPdf**	**09 40 24.9**	**+0.5**
LZH				pPKP	PKiKP	09 40 35.8	+8.4
LZH				sPKP		09 40 40.3	
INK	**Inuvik**	**144.65**	**322**	PKP	**PKPab**	**09 40 25.8**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=61,slow=3.9,SNR=7.8						
INK	**Inuvik**	**144.65**	**322**	PKPbc		09 40 26.8	+1.0
BCAR	**Beaver Creek A**	**146.37**	**311**	PKPdf	**PKPdf**	**09 40 28.6**	**-1.7**
RIDG	**Independent Ri**	**147.89**	**311**		**PKPbc**	**09 40 36.7**	**+1.0**
PAX	**Paxson**	**147.96**	**310**		**PKPbc**	**09 40 35.6**	**-0.4**
PRP	**Porcupine Dome**	**148.57**	**315**	PKPbc	**PKPbc**	**09 40 38.5**	**+0.8**
PRP				PKPab	**PKPab**	**09 40 41.5**	**+0.2**
IL31		**148.99**	**313**		**PKPbc**	**09 40 39.2**	**+0.7**
IL31				PKPab	**PKPab**	**09 40 43.5**	**+0.8**
ILAR	**Eielson Array**	**148.99**	**313**	PKPbc	**PKPbc**	**09 40 39.0**	**+0.5**
	comp=Z,5.5nm,0.8s,baz=109,slow=1.5,SNR=38						
ILAR	**Eielson Array**	**148.99**	**313**		**PKPbc**	**09 40 39.2**	**+0.7**
ILAR				PKPab	**PKPab**	**09 40 43.3**	**+0.6**
CCB	**Clear Creek Bu**	**149.35**	**313**		**PKPbc**	**09 40 39.5**	**+0.1**
CCB				PKPab	**PKPab**	**09 40 43.6**	**-0.6**
RND	**Reindeer**	**149.55**	**310**		**PKPbc**	**09 40 40.3**	**+0.3**
MCK	**McKinley**	**149.66**	**311**	PKPdf	**PKPdf**	**09 40 34.4**	**-1.1**
MCK					**PKPbc**	**09 40 40.0**	**-0.2**
MCK				PKPab	**PKPab**	**09 40 45.3**	**-0.2**
TOLK	**Toolik Lake Re**	**150.53**	**320**		**PKiKP**	**09 40 43.4**	**+0.4**
TOLK				PKPab	**PKPab**	**09 40 50.0**	**+1.0**
BPAW	**Bear Paw Mtn.**	**150.62**	**311**		**PKPbc**	**09 40 43.4**	**+0.8**
SONM	**Songino Array**	**151.34**	**86**	PKPbc	**PKPbc**	**09 40 45.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=216,slow=4.4,SNR=7.8						
SONM	**Songino Array**	**151.34**	**86**		**PKPbc**	**09 40 45.0**	**+0.1**

*IDC **19** 09:25:15.1±1.3, 15°.91N×145°.16E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/41, mbtmp4.1/9, ML3.3/1, Error ellipse: s-maj=45.8km s-min=21.1km az=88.0*

*ISCJB **19** 09:25:16.4±0.4, 15°.92N±0°.05×144°.93E±0°.05, h17km, mb4.1/8, Error ellipse: s-maj=8.1km s-min=5.8km az=34.4*

*NEIC **19** 09:25:19.2±1.3, 15°.88N±0°.06×145°.07E±0°.09, h28km±6km, mb4.5/12*

ISC 19 09:25:17.8±0.6,15°.89N±0°.06×145°.05E±0°.09,h17km,n38, σ0s73/36,mb4.3/15,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.78**	**55**		**Pn**	**09 25 34.7**	**+0.6**
ANA2				Sn	**Sn**	**09 25 44.9**	**-0.5**
SARN	**Sarigan**	**1.07**	**41**		**Pg**	**09 25 38.1**	**-0.5**
SARN				Sn	**Sn**	**09 25 52.7**	**0.0**
GUMO	**Guam**	**2.29**	**184**	Pn	**Pn**	**09 25 55.6**	**+0.7**
	7.2nm,0.3s,baz=16,slow=15,SNR=5.9						
GUMO				Sn	**Sn**	**09 26 22.9**	**+0.2**
	5.6nm,0.3s,baz=217,slow=20,SNR=2.9						
GUMO	**Guam**	**2.29**	**184**		**Pn**	**09 25 54.1**	**-0.8**
GUMO					**Sn**	**09 26 22.4**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**20.84**	**80**	T	T	09 51 55.5	
	baz=268,slow=75						
H11S1	**WAKE ISLAND Hy**	**20.85**	**80**	T	T	09 51 56.1	
	baz=268,slow=75						
H11S2	**WAKE ISLAND Hy**	**20.85**	**80**	T	T	09 51 58.4	
	baz=268,slow=75						
H11N1	**WAKE ISLAND Hy**	**21.14**	**76**	T	T	09 52 07.5	
	baz=264,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.15**	**76**	T	T	09 52 08.0	
	baz=264,slow=75						
H11N3	**WAKE ISLAND Hy**	**21.16**	**76**	T	T	09 52 08.9	
	baz=264,slow=75						
YULB	**Yu-li**	**23.56**	**292**	P	**P**	**09 30 27.3**	**-0.3**
YULB				IAmb	IAmb	09 30 34.7	
	comp=Z,23nm,1.1s						
TPUB	**Ta-pu**	**24.13**	**292**	P	**P**	**09 30 31.3**	**-1.8**
KSRS	**Korea Array**	**26.29**	**328**	P	**P**	**09 30 53.2**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=140,slow=9.8,SNR=8.3						
KSRS	**Korea Array**	**26.29**	**328**	P	**P**	**09 30 53.2**	**+0.7**
USA0B	**Ussuriysk Arra**	**30.32**	**341**	P	**P**	**09 31 27.4**	**-0.9**
USA0B				IAmb	IAmb	09 31 32.6	
	comp=Z,5.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**30.32**	**341**	P	**P**	**09 31 28.8**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=176,slow=13,SNR=5.0						
USRK	**Ussuriysk Ar.**	**30.32**	**341**	P	**P**	**09 31 28.9**	**+0.5**
KLR	**Kul'dur**	**34.98**	**345**	P	**P**	**09 32 09.2**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=146,slow=7.5,SNR=14						
KLR	**Kul'dur**	**34.98**	**345**	P	**P**	**09 32 09.2**	**+0.1**
WB0	**Warramunga Arr**	**36.95**	**197**	P	**P**	**09 32 25.6**	**-0.6**
WB0				IAmb	IAmb	09 32 26.7	
	comp=Z,7.8nm,0.9s						
WRAB	**Tennant Creek**	**37.12**	**197**	P	**P**	**09 32 29.3**	**+1.6**
WRAB				IAmb	IAmb	09 32 30.6	
	comp=Z,9.0nm,1.1s						
ULN	**Ulaanbaatar**	**44.62**	**324**	P	**P**	**09 33 29.4**	**-0.1**
ULN				IAmb	IAmb	09 33 31.6	
	comp=Z,2.1nm,0.5s						
SONM	**Songino Array**	**44.98**	**323**	P	**P**	**09 33 32.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=136,slow=9.6,SNR=4.6						
SONM	**Songino Array**	**44.98**	**323**	P	**P**	**09 33 32.6**	**+0.3**
YAK	**Yakutsk**	**47.36**	**350**	P	**P**	**09 33 51.0**	**+0.4**
ZAA0	**Zalesovo Array**	**59.88**	**324**	P	**P**	**09 35 21.0**	**-1.6**
ZAA0				IAmb	IAmb	09 35 27.1	
	comp=Z,2.1nm,1.0s						
ZALV	**Zalesovo Beam**	**59.88**	**324**	P	**P**	**09 35 22.6**	**+0.1**
	comp=Z,0.6nm,0.2s,baz=106,slow=4.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**59.88**	**324**	P	**P**	**09 35 21.4**	**-1.2**
MK31	**Makanchi Array**	**59.98**	**315**	P	**P**	**09 35 23.0**	**-0.5**
MKAR	**Makanchi Array**	**59.98**	**315**	P	**P**	**09 35 23.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=91,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**59.98**	**315**	P	**P**	**09 35 23.0**	**-0.4**
KURK	**Kurchatov**	**62.96**	**319**	P	**P**	**09 35 42.6**	**-0.8**
KURK				IAmb	IAmb	09 35 48.5	
	comp=Z,7.4nm,1.1s						
ILAR	**Eielson Array**	**66.43**	**26**	P	**P**	**09 36 05.3**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=258,slow=4.5,SNR=4.1						
KKAR	**Karatay Array**	**68.09**	**310**	P	**P**	**09 36 17.1**	**+0.2**
ABKAR	**Akbulak array**	**74.97**	**317**	P	**P**	**09 36 58.5**	**+0.3**
ABKAR	**Akbulak array**	**74.97**	**317**	P	**P**	**09 36 58.5**	**+0.3**
ABKAR				IAmb	IAmb	09 37 05.8	
	comp=Z,1.4nm,0.9s						
ARCES	**ARCESS Array B**	**84.96**	**342**	P	**P**	**09 37 52.2**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=72,slow=5.8,SNR=5.6						
ARCES	**ARCESS Array B**	**84.96**	**342**	P	**P**	**09 37 52.5**	**+0.7**

*BJI **19** 09:25:26.3±0.0, 8°.80N×138°.86E, h6km, mb4.7/47, mB5.0/37, Ms4.6/33, Ms7 4.3/32*

*ISCJB **19** 09:25:27.6±0.1, 8°.80N±0°.02×138°.64E±0°.03, h7km, mb4.8/87, MS4.1/28, Error ellipse: s-maj=4.3km s-min=3.1km az=12.7*

*MOS **19** 09:25:28.4±1.2, 8°.84N×138°.67E, h11km, mb5.2/51, MS4.2/4, Error ellipse: s-maj=9.1km s-min=5.4km az=106.0*

*IDC **19** 09:25:29.3±0.4, 8°.87N×138°.54E, h0km, mb4.7/28, mb1 4.8/31, mb1mx4.7/40, mbtmp4.7/31, ML4.8/3, MS3.8/18, Ms1 3.8/18, ms1mx3.8/24, Error ellipse: s-maj=16.1km s-min=10.2km az=81.0*

*NEIC **19** 09:25:29.6±2.2, 8°.82N±0°.06×138°.63E±0°.07, h10km±2km, mb5.0/134*

*DJA **19** 09:25:30.8±1.2, 9°N±8°×13°9E±°, h50km±8km, M4.8/25, mB5.4/13, mb4.9/25, Mw(mB)4.8/13*

*GCMT **19** 09:25:33.6±0.2, 9°.00N±0°.02×138°.55E±0°.01, h12km, MW5.0/119, Moment Tension Solution. s55,c72; s119,c187; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=4.15±.08; $M_{\theta\theta}$0.23±.07; $M_{\phi\phi}$3.93±.08; $M_{r\theta}$1.41±.28; $M_{\theta\phi}$1.44±.07; $M_{\phi r}$0.59±.23; Best double couple: M_{o}=4.55800×10^16^ NP1:φs213.00000°, δ54.00000°, λ-72.00000°. NP2:φs5.00000°, δ40.00000°, λ-113.00000°. Principal axes: T 4.5470, Plg7.0000°, Azm291.0000°; N 0.0260, Plg14.0000°, Azm22.0000°; P -4.5680, Plg74.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 09:25:30.4±0.7,8°.86N±0°.04×138°.69E±0°.05,h12km±3km, n365,σ1s49/372,mb5.0/132,MS4.2/28,15C-9D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.67**	**52**	P	**Pn**	**09 27 23.0**	**+0.9**
GUMO						09 28 49.6	
GUMO	**Guam**	**7.67**	**52**	Pn	**Pn**	**09 27 23.5**	**+1.4**
	26nm,0.3s,baz=174,slow=1.7,SNR=5.6						
GUMO				Sn	**Sn**	**09 28 46.4**	**-2.6**
	16nm,0.3s,baz=143,slow=22,SNR=5.8						
GUMO				LR	LR	09 30 57.4	
	comp=Z,627nm,18.0s,baz=235,slow=42						
GUMO	**Guam**	**7.67**	**52**	Pn	**Pn**	**09 27 23.0**	**+0.9**
GUMO				Sn	**Sn**	**09 28 49.6**	**+0.6**
SMPI	**Sarmi**	**10.77**	**180**	P	Pn	09 28 11.2	+6.6
GENI	**Genyem**	**11.47**	**173**	S	**Sn**	**09 30 25.3**	**+3.1**
JAY	**Jayapura**	**11.47**	**170**	Pn	**Pn**	**09 28 16.9**	**+2.7**
	6.0nm,0.3s,baz=253,slow=5.4,SNR=14						
JAY				Sn	**Sn**	**09 30 21.2**	**-1.2**
	7.0nm,0.3s,baz=119,slow=18,SNR=8.1						
JAY				LR	LR	09 30 53.1	
	comp=Z,244nm,19.7s,baz=358,slow=28						
JAY	**Jayapura**	**11.47**	**170**	P	**Pn**	**09 28 17.8**	**+3.6**
JAY				S	**Sn**	**09 30 24.9**	**+2.5**
SIJI	**Sorong**	**12.16**	**218**	Pn	**Pn**	**09 28 24.9**	**+1.2**
	2.6nm,0.3s,baz=22,slow=19,SNR=4.1						
SIJI				LR	LR	09 32 19.5	
	comp=Z,348nm,19.2s,baz=36,slow=34						
DAV	**Davao City (W)**	**13.10**	**263**	LR	LR	09 33 14.1	
	comp=Z,593nm,20.9s,baz=123,slow=36						
FAKI	**Fak Fak**	**13.34**	**209**	Pn	**Pn**	**09 28 44.0**	**+4.2**
TNTI	**Ternate**	**13.84**	**235**	P	**Pn**	**09 28 50.7**	**+4.2**
MSAI	**Masohi**	**15.54**	**219**	P	**P**	**09 29 16.0**	**+2.2**
BNDI	**Bandanaira**	**15.91**	**214**	P	**P**	**09 29 20.2**	**+2.2**
AAI	**Ambon**	**16.27**	**220**	P	**P**	**09 29 23.4**	**+1.5**
SANI	**Sanana**	**16.66**	**230**	P	**Pn**	**09 29 19.4**	**-4.5**
MRSI	**Marisa**	**18.64**	**244**	P	**P**	**09 29 47.5**	**-0.6**
LUWI	**Luwuk**	**18.66**	**239**	P	Pn	09 30 03.4	+15
LUWI	**Luwuk**	**18.66**	**239**	P	**P**	**09 29 47.7**	**-0.7**
APSI	**Ampana**	**19.55**	**241**	P	**P**	**09 29 58.7**	**+0.5**
PMG	**Port Moresby**	**20.01**	**155**	*ce*P	Pn	09 30 04.8	-0.1
PMG				pmax	pmax		
	comp=Z,157nm,1.7s						
PMG	**Port Moresby**	**20.01**	**155**	P	Pn	09 30 04.7	-0.1
	comp=Z,24nm,1.0s,baz=303,slow=4.0,SNR=4.5						
PMG	**Port Moresby**	**20.01**	**155**	P	Pn	09 30 03.8	-1.1
KDI	**Kendari**	**20.46**	**232**	P	Pn	09 30 09.4	-0.8
MPSI	**Mapaga**	**20.53**	**247**	P	**P**	**09 30 07.6**	**-1.3**
TWG	**Pinlang**	**21.87**	**311**	P	**P**	**09 30 23.1**	**-0.2**
TWG				IAmb	IAmb	09 30 27.8	
	comp=Z,70nm,0.8s						
YULB	**Yu-li**	**22.05**	**313**	P	**P**	**09 30 23.0**	**-2.2**
YULB				IAmb	IAmb	09 30 37.5	
	comp=Z,16nm,0.8s						
TTSI	**Tana Toraja**	**22.21**	**239**	P	**P**	**09 30 29.5**	**+2.5**
SSLB	**Suanglung**	**22.54**	**313**	P	**P**	**09 30 29.4**	**-1.1**
BNSI	**Bone**	**22.73**	**235**	P	**P**	**09 30 34.1**	**+1.6**
SPSI	**Sidrap Palu**	**22.76**	**237**	P	**P**	**09 30 33.5**	**+0.7**
YHNB	**Yeheng**	**22.80**	**316**	P	**P**	**09 30 31.7**	**-1.5**
YHNB				IAmb	IAmb	09 30 38.4	
	comp=Z,32nm,0.8s						
COEN	**Coen**	**23.10**	**169**	P	**P**	**09 30 32.8**	**-3.5**
KAPI	**Kappang**	**23.37**	**235**	P	**P**	**09 30 38.9**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,48nm,1.3s						
KAPI	**Kappang**	**23.37**	**235**	P	**P**	**09 30 38.9**	**-0.2**
KAPI				IAmb	IAmb	09 30 43.2	
	comp=Z,48nm,1.3s						
SOEI	**Soe**	**23.41**	**218**	P	**P**	**09 30 39.4**	**-0.2**
SOEI	**Soe**	**23.41**	**218**	P	**P**	**09 30 36.6**	**-3.0**
SOEI				IAmb	IAmb	09 30 46.6	
	comp=Z,48nm,0.8s						
MMRI	**Maumere**	**23.88**	**224**	P	**P**	**09 30 43.9**	**-0.2**
BKB	**Balikpapan**	**23.93**	**246**	P	**P**	**09 30 41.6**	**-2.9**
BATI	**Baumata**	**24.13**	**219**	P	**P**	**09 30 45.8**	**-0.6**
QZH	**Quanzhou**	**24.95**	**312**	⇓P	**P**	**09 30 53.8**	**0.0**
QZH				S	**S**	**09 35 16.3**	**-1.0**
JNU	**Nakatsue**	**25.20**	**344**	P	**P**	**09 30 56.2**	**+0.2**
	comp=Z,21nm,1.0s,baz=150,slow=5.2,SNR=4.1						
JNU				LR	LR	09 39 12.5	
	comp=Z,168nm,20.2s,baz=151,slow=33						
JNU	**Nakatsue**	**25.20**	**344**	P	**P**	**09 30 55.2**	**-0.9**
JNU				IAmb	IAmb	09 30 57.1	
	comp=Z,35nm,1.1s						
KNRA	**Kununurra**	**26.28**	**202**	P	**P**	**09 31 05.7**	**-0.1**
MJAR	**Matsushiro Arr**	**27.56**	**359**	PcP	**PcP**	**09 34 34.0**	**-1.1**
	comp=Z,5.2nm,1.0s,baz=193,slow=4.0,SNR=4.3						
MAJO	**Matsushiro**	**27.57**	**359**⇓*e*P		**P**	**09 31 18.3**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WB0	**Warramunga Arr**	**28.75**	**188**	P	**P**	**09 31 26.2**	**-1.9**
H11S3	**WAKE ISLAND Hy**	**28.81**	**68**	T	T	10 01 50.3	
	baz=253,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.82**	**68**	T	T	10 01 58.7	
	baz=253,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.82**	**68**	T	T	10 01 50.7	
	baz=253,slow=75						
WR0	**Warramunga Arr**	**28.92**	**188**	P	**P**	**09 31 29.4**	**-0.1**
WR0				IAmb	IAmb	09 31 43.3	
	comp=Z,28nm,1.4s						
WRAB	**Tennant Creek**	**28.92**	**188**⇑*i*P		**P**	**09 31 30.6**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRAB	**Tennant Creek**	**28.92**	**188**	P	**P**	**09 31 28.2**	**-1.3**
WB2	**Warramunga Arr**	**28.93**	**188**	P	**P**	**09 31 29.1**	**-0.6**
WRA	**Warramunga Arr**	**28.93**	**188**	P	**P**	**09 31 29.3**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=7.1,slow=9.7,SNR=23						
WRA				PcP	**PcP**	**09 34 39.4**	**+0.6**
	comp=Z,4.1nm,1.1s,baz=331,slow=3.0,SNR=6.6						
WRA				LR	LR	09 44 00.5	
	comp=Z,175nm,18.7s,baz=5.0,slow=38						
WRA	**Warramunga Arr**	**28.93**	**188**	P	**P**	**09 31 27.3**	**-2.4**
WRA					**PcP**	**09 34 39.5**	**+0.8**
TJN	**Taejon**	**29.27**	**341**	*ce*P	**P**	**09 31 35.3**	**+2.8**
H11N1	**WAKE ISLAND Hy**	**29.34**	**65**	T	T	10 02 44.7	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**29.35**	**65**	T	T	10 02 46.2	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**29.36**	**65**	T	T	10 02 48.2	
	baz=255,slow=75						
NJ2	**Nanjing**	**29.52**	**324**	*e*P	**P**	**09 31 36.8**	**+2.

comp=Z,15nm,1.0s
BJT Baijiatuau 36.96 331 P **P** **09 32 38.9 -0.6**
BJI Beijing 36.98 331 P **P** **09 32 40.3 +0.7**
BJI pmax pmax
comp=Z,12nm,1.2s
XAN Xi'an 37.10 317 P **P** **09 32 41.8 +0.9**
XAN PP **PnPn** **09 34 12.8 +7.0**
XAN S **S** **09 38 29.4 +2.4**
XAN SS SS 09 40 53.6 -16
XAN pmax pmax
comp=Z,9.0nm,1.6s
XAN pmax pmax
comp=Z,120nm,6.4s
XAN LR LR
comp=Z,280nm,17.7s
XAN LR LR
comp=Z,340nm,14.7s
XAN LR LR
comp=Z,470nm,21.1s
XAN Xi'an 37.10 317 P **P** **09 32 39.9 -1.0**
XAN pmax pmax
comp=Z,12nm,1.1s
XAN Xi'an 37.10 317 P **P** **09 32 39.9 -1.0**
PBKT Sadao Pong 37.53 286 P P 09 32 56.4 +12
PBKT Sadao Pong 37.53 286 P **P** **09 32 44.5 -0.2**
KMI Kunming 37.83 300 P **P** **09 32 48.3 +0.9**
KMI pP sP 09 32 50.3 -0.7
KMI sP pP 09 32 51.9 +2.2
KMI PP **PP** **09 34 13.8 -0.1**
KMI S **S** **09 38 38.9 +0.2**
KMI sS sS 09 38 45.6 +3.1
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,140nm,4.4s
KMI LR LR
comp=Z,400nm,17.9s
KMI LR LR
comp=Z,460nm,18.4s
KMI LR LR
comp=Z,660nm,21.3s
PAYA Payao 38.98 290 P P 09 33 05.4 +8.5
CM31 Chiang Mai Arr 39.70 288 P **P** **09 33 00.7 -2.2**
CMAR Chiang Mai Arr 39.70 288 *ce*P **P** **09 33 03.5 +0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 39.70 288 P **P** **09 33 03.1 +0.1**
comp=Z,7.5nm,1.0s,baz=97,slow=6.8,SNR=19
CMAR PcP **PcP** **09 35 11.6 +1.9**
comp=Z,2.2nm,0.3s,baz=113,slow=1.7,SNR=8.3
CMAR Chiang Mai Arr 39.70 288 P **P** **09 33 03.5 +0.6**
CMMT Chiang Mai 39.75 289 P P 09 33 14.8 +11
CHTO Chiang Mai 39.75 289 P **P** **09 33 02.2 -1.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 39.75 289 P **P** **09 33 02.2 -1.2**
HHC Hu-ho-hao-te 39.92 327 *e*P **P** **09 33 04.9 +0.3**
HHC pmax pmax
comp=Z,3.0nm,0.9s
PSI Prapat 39.99 264 P **P** **09 33 03.8 -1.7**
comp=Z,14nm,0.9s,baz=102,slow=1.3,SNR=8.1
PSI PcP **PcP** **09 35 10.5 -0.3**
comp=Z,4.2nm,0.6s,baz=295,slow=2.1,SNR=4.2
RPSI Rantau Prapat 40.01 264 P **P** **09 33 04.5 -1.0**
RPSI Rantau Prapat 40.01 264 P **P** **09 33 03.8 -1.7**
RPSI **PcP** **09 35 10.5 -0.2**
PPSI Pulau Pagai 40.24 255 P **P** **09 33 05.9 -1.6**
STKA Stephens Creek 40.60 176 P **P** **09 33 08.7 -1.4**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 40.60 176 P **P** **09 33 10.3 +0.2**
comp=Z,8.1nm,0.8s,baz=340,slow=8.7,SNR=10
STKA LR LR 09 49 58.9
comp=Z,300nm,20.5s,baz=16,slow=36
STKA Stephens Creek 40.60 176 P **P** **09 33 08.7 -1.4**
MHMT Maesarieng 40.61 288 P **P** **09 33 14.3 +3.8**
comp=Z,24nm,1.2s,comp=Z,2μm
KLR Kul'dur 40.66 353⇑ *e*P **P** **09 33 11.8 +1.4**
KLR pmax pmax
comp=Z,44nm,1.0s
KLR Kul'dur 40.66 353 P **P** **09 33 11.2 +0.8**
comp=Z,30nm,0.9s,baz=158,slow=6.7,SNR=25
KLR LR LR 09 47 10.0
comp=Z,127nm,21.6s,baz=170,slow=32
FORT Forrest 40.71 194 P **P** **09 33 09.3 -1.7**
ARMA Armidale 40.98 163 P **P** **09 33 14.2 +0.8**
ARMA IAmb IAmb 09 33 15.7
comp=Z,28nm,1.1s
KCSI Kotacane, Aceh 41.00 265 P **P** **09 33 12.5 -1.2**
DZM Mont Dzumac 41.06 139 *e*S **S** **09 39 29.7 +2.9**
comp=Z,279nm,28.5s
DZM *e*LR LR 09 44 35.2
comp=Z,1μm,26.1s
GSI Gunungsitoli 41.59 262 P **P** **09 33 16.1 -2.6**
GSI IAmb IAmb 09 33 30.1
comp=Z,62nm,1.5s
LZH Lanzhou 41.70 316 *e*P **P** **09 33 19.4 0.0**
LZH pP sP 09 33 23.1 +0.1
LZH S **S** **09 39 39.8 +3.5**
LZH sS sS 09 39 48.9 +8.8
LZH SS **SS** **09 42 35.4 -6.5**
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,78nm,4.3s
LZH LR LR
comp=Z,340nm,16.8s
LZH LR LR
comp=Z,300nm,17.4s
LZH LR LR
comp=Z,400nm,17.3s
HIA Hailar 43.29 342 P **P** **09 33 32.6 +0.6**
HIA pmax pmax
comp=Z,13nm,1.2s
HIA Hailar 43.29 342 P **P** **09 33 32.6 +0.6**
MORW Morawa 43.57 209 P **P** **09 33 33.0 -1.4**
MORW IAmb IAmb 09 33 34.6
comp=Z,36nm,1.2s
GTA Gaotai 46.15 318⇑ P **P** **09 33 56.0 +0.9**
GTA pP pwP 09 34 00.3 -3.7
GTA sP sP 09 34 02.9 +4.1
GTA PcP **PcP** **09 35 32.8 +1.8**
GTA S **S** **09 40 44.3 +3.2**
GTA sS sS 09 40 52.3 +7.3
GTA SS **SS** **09 44 03.8 -2.6**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,47nm,7.5s
GTA LR LR
comp=Z,120nm,17.5s
GTA LR LR
comp=Z,170nm,18.7s
GTA LR LR
comp=Z,290nm,16.5s
PETK Petropavlovsk- 46.74 16 P **P** **09 33 59.9 +0.6**
comp=Z,11nm,0.9s,baz=188,slow=3.0,SNR=6.5
PETK Petropavlovsk- 46.74 16 P **P** **09 34 00.3 +1.0**
PET Petropavlovsk 46.93 16⇑ *e*P **P** **09 34 02.4 +1.7**
ULN Ulaanbaatar 47.19 331 *d i*P **P** **09 34 03.9 +0.8**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 47.19 331 P **P** **09 34 03.3 +0.2**
ULN IAmb IAmb 09 34 05.6
comp=Z,9.8nm,1.0s
SONM Songino Array 47.48 331 P **P** **09 34 05.9 +0.6**
comp=Z,9.6nm,1.0s,baz=142,slow=7.6,SNR=25
SONM PcP **PcP** **09 35 35.7 +0.2**
comp=Z,6.2nm,1.0s,baz=152,slow=4.9,SNR=7.9
SONM LR LR 09 55 29.4
comp=Z,95nm,19.5s,baz=150,slow=38
SONM Songino Array 47.48 331 P **P** **09 34 05.1 -0.2**
SONM PcP **PcP** **09 35 35.3 -0.2**
LSA Lhasa 49.01 302 P **P** **09 34 18.1 +0.2**
LSA pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 49.01 302 P **P** **09 34 18.1 +0.2**
ZAK Zakamensk 50.72 331 *e*P **P** **09 34 30.5 +0.4**
ZAK pmax pmax
comp=E,7.0nm,1.0s
TLY Talaya 51.43 333 *e*P **P** **09 34 36.9 +1.6**
TLY *e*S **S** **09 41 53.6 -1.3**
TLY pmax pmax
comp=Z,33nm,1.6s
TLY MLR MLR
comp=Z,226nm,15.0s
TLY Talaya 51.43 333 P **P** **09 34 36.1 +0.7**
comp=Z,4.7nm,0.8s,baz=152,slow=6.3,SNR=4.6
TLY PcP **PcP** **09 35 50.2 +0.5**
comp=Z,1.4nm,0.6s,baz=132,slow=5.6,SNR=3.0
TLY Talaya 51.43 333 P **P** **09 34 36.1 +0.7**
TLY **PcP** **09 35 50.0 +0.3**
TAPN Taplejung 51.44 298 *e*P **P** **09 34 35.7 -0.4**
comp=Z,65nm,1.3s
ODAN Odare 51.63 297 *e*P **P** **09 34 37.6 +0.1**
comp=Z,24nm,0.9s
RAMN Ramite 52.34 297 *e*P **P** **09 34 43.2 +0.4**
MOY Mondy 52.65 331 *e*P **P** **09 34 45.5 +1.0**
MOY pmax pmax
comp=Z,30nm,2.3s
JIRN Jiri 52.82 298 *e*P **P** **09 34 46.7 +0.2**
comp=Z,67nm,1.1s
GUN Gumba 53.14 298 *e*P **P** **09 34 49.4 +0.6**
comp=Z,88nm,1.1s
YAK Yakutsk 53.48 355 *e*P **P** **09 34 50.6 +0.3**
YAK *e**PP **pwP** **09 34 57.5 -0.6**
YAK *e*S **S** **09 42 24.3 +1.7**
YAK *e* 09 44 33.4
YAK *e*SS **SKiKP** **09 46 06.4 +0.1**
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=E,123nm,2.7s
YAK smax smax
comp=N,75nm,2.7s
YAK Yakutsk 53.48 355 P **P** **09 34 50.2 -0.1**
PKI Pulchoki 53.49 298 *e*P **P** **09 34 50.9 -0.5**
comp=N,76nm,1.5s
PKIN Phulchoki 53.50 298 *e*P **P** **09 34 51.0 -0.4**
KKN Kakani 53.64 298 *e*P **P** **09 34 51.9 -0.5**
comp=N,59nm,1.3s
DMN Daman 53.76 298 *e*P **P** **09 34 53.2 -0.1**
comp=N,55nm,1.0s
GKN Gorkha 54.24 298 *e*P **P** **09 34 57.0 +0.4**
comp=N,62nm,1.1s
SEY Seymchan 54.88 8⇓ *e*P **P** **09 35 01.5 +1.0**
SEY Seymchan 54.88 8 P **P** **09 35 02.0 +1.5**
comp=N,28nm,0.9s,baz=179,slow=6.0,SNR=50
DANN Dangsing 55.06 298 *e*P **P** **09 35 03.1 +0.3**
comp=N,66nm,1.0s
KOLN Koldanda 55.10 298 *e*P **P** **09 35 03.5 +0.5**
comp=N,118nm,1.5s
WMQ Urumqi 56.24 317 *e*P **P** **09 35 12.3 +1.6**
WMQ pmax pmax
comp=N,24nm,0.7s
WMQ pmax pmax
comp=N,110nm,6.5s
WMQ LR LR
comp=N,250nm,19.3s
WMQ LR LR
comp=N,210nm,21.1s
DGZ Jazzator, Alta 58.81 324⇑ *e*P **P** **09 35 30.2 +1.4**
MK31 Makanchi Array 60.86 319 P **P** **09 35 43.2 +0.3**
MK31 pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 60.86 319 P **P** **09 35 43.1 +0.3**
MK31 IAmb IAmb 09 35 56.6
comp=Z,11nm,1.0s
MKAR Makanchi Array 60.86 319 *ce*P **P** **09 35 43.5 +0.6**
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 60.86 319 P **P** **09 35 43.6 +0.8**
comp=Z,9.1nm,1.0s,baz=108,slow=8.0,SNR=26
MKAR Makanchi Array 60.86 319 P **P** **09 35 43.1 +0.3**
MAKZ Makanchi 61.07 319 P **P** **09 35 43.7 -0.6**
MAKZ pmax pmax
comp=Z,29nm,1.4s
MAKZ Makanchi 61.07 319 P **P** **09 35 43.9 -0.4**
PDGK Podgornoye 61.71 315 P **P** **09 35 48.7 -0.1**
PDGK pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 61.89 11 *d i*P **P** **09 35 49.5 +0.1**
BILL *i* 09 36 30.5
BILL *i* 09 38 05.7
BILL pmax pmax
comp=Z,16nm,1.0s
BILL MLR MLR
comp=Z,53nm,16.0s
BILL Bilibino 61.89 11 P **P** **09 35 49.1 -0.3**
ZAA0 Zalesovo Array 62.11 327 P **P** **09 35 51.0 -0.1**
ZAA0 IAmb IAmb 09 35 55.3
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 62.11 327 P **P** **09 35 50.3 -0.8**
ZALV 09 36 30.7
ZALV Zalesovo Beam 62.11 327 P **P** **09 35 51.0 -0.1**
comp=Z,7.1nm,0.9s,baz=98,slow=5.5,SNR=12
ZALV PcP **PcP** **09 36 31.2 -0.1**
comp=Z,3.7nm,0.9s,baz=92,slow=4.5,SNR=3.7
ZALV Zalesovo Beam 62.11 327 P **P** **09 35 50.3 -0.8**
ZALV **PcP** **09 36 30.7 -0.6**
TARG Taragay, Kyrgy 62.52 313 P **P** **09 35 53.8 -0.9**
TIXI Tiksi 63.03 357 P **P** **09 35 56.6 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 63.03 357 P **P** **09 35 56.6 -0.3**
KDJ Kajisay 63.07 313 P **P** **09 35 57.0 -1.0**
KDJ pmax pmax
comp=Z,13nm,1.2s
KDJ Kajisay 63.07 313 P **P** **09 35 57.0 -1.0**
KDJ IAmb IAmb 09 36 00.2
comp=Z,13nm,1.1s
KSH Kashi 63.42 310 P **P** **09 36 00.4 +0.1**
KSH PcP **PcP** **09 36 36.9 -0.3**
KSH PcS 09 40 37.3
KSH ScP 09 40 38.4
KSH S **S** **09 44 30.9 -2.3**
KSH pmax pmax
comp=Z,290nm,6.7s
KSH LR LR
comp=Z,150nm,8.5s
KSH LR LR
comp=Z,170nm,9.4s
KSH LR LR
comp=Z,140nm,9.7s
BOOM Boomskoye usch 64.05 313 P **P** **09 36 02.1 -2.3**
BOOM pmax pmax
comp=Z,5.0nm,1.0s
BOOM Boomskoye usch 64.05 313 P **P** **09 36 02.1 -2.3**
TKM2 Tokmak 2 64.38 313 *i* P **P** **09 36 07.2 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 64.43 322 *d i*P **P** **09 36 06.6 0.0**
KURK pmax pmax
comp=Z,47nm,1.7s
KURK Kurchatov 64.43 322 P **P** **09 36 05.4 -1.2**
NIL Nilore 64.72 303 P **P** **09 36 07.7 -1.1**
NIL pmax pmax
comp=Z,35nm,1.0s
NIL Nilore 64.72 303 P **P** **09 36 07.7 -1.1**
AAK Ala-Archa 65.12 313⇑ *e*P **P** **09 36 12.3 +0.8**
AAK pmax pmax
comp=Z,12nm,2.4s
AAK Ala-Archa 65.12 313 P **P** **09 36 09.2 -2.2**
ARSB Arslanbob 65.99 311 pP 09 36 18.1 -1.4
SDPT Sand Point 66.39 33 P **P** **09 36 20.0 +0.9**
GAR Garm 67.68 308 P **P** **09 36 26.8 -1.1**
KK31 Karatay Array 68.08 313 *i* P **P** **09 36 29.9 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KK31 Karatay Array 68.08 313 P **P** **09 36 30.4 +0.2**
KK31 IAmb IAmb 09 36 34.0
comp=Z,17nm,1.4s
KKAR Karatay Array 68.08 313 P **P** **09 36 29.7 -0.5**
KKAR 09 36 30.2
KKAR pmax pmax
comp=Z,17nm,1.4s
KKAR Karatay Array 68.08 313 P **P** **09 36 30.2 0.0**
KKAR IAmb IAmb 09 36 34.0
comp=Z,17nm,1.4s
KKAR Karatay Array 68.08 313 P **P** **09 36 29.7 -0.5**
CHGR Chuyangaron 68.55 308 P **P** **09 36 32.8 -0.4**
NRIK Noril'sk 68.71 343 P **P** **09 36 33.1 -0.4**
comp=Z,5.9nm,0.5s,baz=107,slow=5.5,SNR=7.5
NRIK LR LR 10 06 18.9
comp=Z,96nm,21.4s,baz=133,slow=36
BRVK Borovoye 70.03 323 *de*P **P** **09 36 41.9 -0.2**
BRVK pmax pmax
comp=Z,23nm,1.1s
BRVK Borovoye 70.03 323 P **P** **09 36 42.6 +0.5**
RDOG Red Dog Mine 70.35 20 P **P** **09 36 44.5 +0.8**
SVW2 Sparrevohn 70.67 28 P **P** **09 36 45.9 0.0**
TTA Tatalina 71.04 26 P **P** **09 36 47.4 -0.7**
TTA pmax pmax
comp=Z,19nm,1.2s
TTA Tatalina 71.04 26 P **P** **09 36 47.4 -0.7**
TTA IAmb IAmb 09 36 50.9
comp=Z,19nm,1.2s
RSO Redoubt South 71.83 29 P **P** **09 36 53.1 0.0**
CNPM China Poot 72.35 30 P **P** **09 36 55.2 -0.8**
PPLA Purkeypile 72.71 27 P **P** **09 36 59.1 +0.8**
PPLA IAmb IAmb 09 37 12.5
comp=Z,16nm,1.0s
SKT Skwentna 72.78 28 P **P** **09 36 58.4 -0.1**
SKT IAmb IAmb 09 37 00.1
comp=Z,25nm,1.3s
IMAR Indian Mountai 72.91 23 P **P** **09 36 58.2 -1.0**
SUA Susitna One 73.02 28 P **P** **09 36 60.0 -0.1**
BPAW Bear Paw Mtn. 73.53 26 P **P** **09 37 01.9 -1.0**
TRF Thorofare Moun 73.68 26 P **P** **09 37 03.7 -0.3**
PMR Palmer 73.81 28 P **P** **09 37 03.6 -0.9**
PMR pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 73.81 28 P **P** **09 37 03.6 -0.9**
PMR IAmb IAmb 09 37 06.6
comp=Z,17nm,0.9s
MLY Manley 73.86 25 P **P** **09 37 04.5 -0.4**
GHO Glory Hole Cre 73.94 28 P **P** **09 37 03.8 -1.7**
GHO IAmb IAmb 09 37 07.4
comp=Z,19nm,0.9s
KNK Knik Glacier 74.09 29 P **P** **09 37 06.2 -0.1**
BWN Browne 74.20 26 P **P** **09 37 05.6 -1.2**
SML Sawmill 74.22 28 P **P** **09 37 06.0 -1.0**
RND Reindeer 74.30 26 P **P** **09 37 06.4 -1.1**
RND pmax pmax
comp=Z,26nm,1.0s
RND Reindeer 74.30 26 P **P** **09 37 06.4 -1.1**
MCK McKinley 74.33 26 P **P** **09 37 06.9 -0.7**
MCK pmax pmax
comp=Z,54nm,1.0s
MCK McKinley 74.33 26 P **P** **09 37 06.9 -0.7**
NEA Nenana 74.45 25 P **P** **09 37 07.4 -0.9**
COLD Coldfoot 74.61 22 P **P** **09 37 08.8 -0.3**
SCM Sheep Creek Mo 74.69 28 P **P** **09 37 10.3 +0.5**
SCM pmax pmax
comp=Z,74nm,1.0s
SCM Sheep Creek Mo 74.69 28 P **P** **09 37 10.3 +0.5**
WRH Wood River Hil 74.85 25 P **P** **09 37 06.7 -3.9**
WRH IAmb IAmb 09 37 12.2
comp=Z,23nm,1.1s
DHY Denali Highway 74.89 27 P **P** **09 37 09.7 -1.3**
DHY IAmb IAmb 09 37 13.5
comp=Z,26nm,1.2s
CCB Clear Creek Bu 75.00 25 P **P** **09 37 11.1 -0.3**
CCB IAmb IAmb 09 37 12.8
comp=Z,22nm,1.2s
COLA College 75.03 25⇑ *e*P **P** **09 37 12.1 +0.6**
COLA pmax pmax
comp=Z,5.0nm,1.1s
TOLK Toolik Lake Re 75.18 21 P **P** **09 37 13.2 +0.7**
TOLK IAmb IAmb 09 37 15.3
comp=Z,18nm,1.1s
HDA Harding Lake 75.32 26 P **P** **09 37 12.6 -0.7**
HDA IAmb IAmb 09 37 15.4
comp=Z,11nm,0.9s
IL31 75.41 25 P **P** **09 37 12.3 -1.5**
ILAR Eielson Array 75.41 25 P **P** **09 37 13.3 -0.5**
ILAR Eielson Array 75.41 25 P **P** **09 37 13.8 0.0**
comp=Z,4.5nm,0.8s,baz=252,slow=6.0,SNR=50
ILAR LR LR 10 10 10.4
comp=Z,33nm,19.1s,baz=264,slow=36
ILAR Eielson Array 75.41 25 P **P** **09 37 13.3 -0.5**
PPT2 Papeete2 75.56 111 *e*S **S** **09 46 53.4 -3.3**
comp=Z,134nm,28.2s
PPT2 Papeete2 75.56 111 *e*LR LR 10 00 25.7
comp=Z,349nm,25.0s
PAX Paxson 75.73 27 P **P** **09 37 13.9 -1.9**
PAX pmax pmax
comp=Z,11nm,1.0s
PAX Paxson 75.73 27 P **P** **09 37 13.9 -1.9**
PAX IAmb IAmb 09 37 17.6
comp=Z,11nm,1.0s
AB31 Akbulak array 76.00 319 P **P** **09 37 16.8 -0.7**
AB31 pmax pmax
comp=Z,14nm,1.0s
ABKAR Akbulak array 76.00 319 P **P** **09 37 17.5 0.0**
ABKAR IAmb IAmb 09 37 18.7
comp=Z,13nm,0.9s
ABKAR Akbulak array 76.00 319 P **P** **09 37 17.6 +0.1**
RIDG Independent Ri 76.12 26 P **P** **09 37 18.5 +0.5**
GLB Gilahina Butte 76.30 29 P **P** **09 37 20.4 +1.4**
GLB IAmb IAmb 09 37 21.6
comp=Z,20nm,1.0s
FYU Fort Yukon 76.39 24 P **P** **09 37 20.0 +0.7**
DOT Dot Lake 76.46 27 P **P** **09 37 20.1 +0.2**
DOT IAmb IAmb 09 37 21.9
comp=Z,11nm,0.9s
MENT Mentasta 76.52 27 P **P** **09 37 20.5 +0.2**
MENT IAmb IAmb 09 37 22.9
comp=Z,11nm,1.0s
TBI Tubuai 77.14 116 *e*S **S** **09 47 10.2 -3.5**
comp=Z,103nm,36.2s
TBI Tubuai 77.14 116 *e*LR LR 10 01 08.5
comp=Z,548nm,33.5s,baz=297
GEYT Alibeck 77.19 307 P **P** **09 37 25.2 +0.6**
comp=Z,6.2nm,0.9s,baz=172,slow=1.0,SNR=9.7
GYA0B ALIBECK ARRAY 77.19 307 P **P** **09 37 22.8 -1.7**
GYA0B IAmb IAmb 09 37 31.8
comp=Z,19nm,0.9s
ARU Arti 77.21 326 *d i*P **P** **09 37 24.2 0.0**
ARU 09 40 12.7
ARU S **S** **09 47 16.9 +3.4**
ARU SS **SS** **09 52 15.5 +4.5**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 77.21 326 P **P** **09 37 23.6 -0.6**
ARU IAmb IAmb 09 37 25.2
comp=Z,17nm,1.0s
BCAR Beaver Creek A 77.41 27 P **P** **09 37 26.1 +0.8**
CTGM Chitina Glacie 77.45 29 P **P** **09 37 27.7 +2.1**
DAWY Dawson 78.56 26 P **P** **09 37 32.7 +1.1**
DAWY IAmb IAmb 09 37 34.5
comp=Z,28nm,1.4s
EPYK Eagle Plains 79.78 24 P **P** **09 37 39.7 +1.4**
EPYK IAmb IAmb 09 37 41.6
comp=Z,27nm,1.3s
WHY Whitehorse 80.60 30 P **P** **09 37 43.7 +0.8**
WHY IAmb IAmb 09 37 45.5
comp=Z,22nm,1.1s
INK Inuvik 81.02 22 P **P** **09 37 45.2 +0.5**
comp=Z,8.6nm,0.9s,baz=280,slow=7.5,SNR=19
INK Inuvik 81.02 22 P **P** **09 37 45.4 +0.6**
INK IAmb IAmb 09 37 46.5
comp=Z,15nm,1.1s
TAOE Nuku Hiva Isla 82.73 100 *e*LR LR 10 03 43.9
comp=Z,656nm,24.9s
DLBC Dease Lake 83.20 32 P **P** **09 37 58.6 +2.0**
PRGR Permogore 83.73 331 *e*P **P** **09 37 58.5 -0.6**
PRGR pmax pmax
comp=Z,19nm,0.6s
AKT Akhty 84.92 311 *ce*P **P** **09 38 06.8 +1.0**
AKT pmax pmax
comp=Z,27nm,1.0s
GNBR Gunib 85.37 312 *de*P **P** **09 38 09.2 +1.3**
GNBR pmax pmax
comp=Z,55nm,0.9s
KLMR Klimovskoe 86.77 331 *e*P **P** **09 38 12.9 -1.4**
KLMR pmax pmax
comp=Z,32nm,1.4s
KLMR Klimovskoe 86.77 331 *e*P **P** **09 38 12.9 -1.4**
KLMR AMP 09 38 15.1
comp=Z,32nm,1.4s
GNI Garni 87.36 310⇑ *e*P **P** **09 38 19.6 +1.7**
GNI pmax pmax
comp=Z,35nm,1.4s
VRH Novokhopyorsk 87.51 321 *e*P **P** **09 38 19.0 +0.9**
VRH pmax pmax
comp=Z,10.0nm,0.4s
ZEI Tsey 87.55 313 *i* P **P** **09 38 16.3 -2.5**
ZEI pmax pmax
comp=Z,11nm,1.1s

SBA Scott Base 87.98 174 P **P** **09 38 22.2 +2.5**
SBA pmax pmax
comp=Z,14nm,1.4s
SBA Scott Base 87.98 174 P **P** **09 38 22.2 +2.5**
SBA IAmb IAmb 09 38 23.4
comp=Z,14nm,1.4s
KBZ Khabaz 88.10 314 P **P** **09 38 22.8 +1.7**
comp=Z,3.0nm,0.9s,baz=308,slow=2.5,SNR=4.8
KIV Kislovodsk 88.21 314 *eP* **P** **09 38 23.1 +1.3**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,226nm,20.0s
LPSR Galich'ya Gora 88.91 323 *eP* **P** **09 38 22.8 -1.9**
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 89.08 322 *eP* **P** **09 38 22.8 -2.8**
VSR pmax pmax
comp=Z,9.0nm,0.6s
RAYN Ar Rayn 89.41 294 P **P** **09 38 26.7 -1.1**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 89.41 294 P **P** **09 38 26.7 -1.1**
RAYN IAmb IAmb 09 38 31.4
comp=Z,6.5nm,0.8s
OBN Obninsk 89.66 326⇑ *iP* **P** **09 38 26.6 -1.6**
OBN *i* 09 38 34.3
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,159nm,20.0s
YKA Yellowknife Ar 89.80 26 P **P** **09 38 29.2 +0.5**
YKA Yellowknife Ar 89.80 26 P **P** **09 38 29.5 +0.8**
comp=Z,3.0nm,0.8s,baz=292,slow=4.9,SNR=6.8
YKA Yellowknife Ar 89.80 26 P **P** **09 38 29.2 +0.5**
WDC Whiskeytown Da 90.90 49 P **P** **09 38 35.6 +1.3**
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC Whiskeytown Da 90.90 49 P **P** **09 38 35.6 +1.3**
WDC IAmb IAmb 09 38 37.7
comp=Z,9.1nm,1.1s
B08A Colville Reser 91.31 41 P **P** **09 38 37.3 +1.1**
PINE Pine Mountain 91.34 45 P **P** **09 38 37.6 +1.0**
E08A Dider Farm, El 91.97 42 P **P** **09 38 40.1 +1.0**
E08A IAmb IAmb 09 38 51.8
comp=Z,5.1nm,1.0s
NEW Newport 92.76 40 P **P** **09 38 42.7 -0.1**
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 92.76 40 P **P** **09 38 42.7 -0.1**
NEW IAmb IAmb 09 38 45.2
comp=Z,7.9nm,0.9s
FINES FINESS Array B 92.78 334 P **P** **09 38 42.4 -0.1**
comp=Z,1.4nm,0.6s,baz=132,slow=2.8,SNR=3.9
MAW Mawson 92.78 202 P **P** **09 38 42.3 0.0**
MAW pmax pmax
comp=Z,1.0nm,1.1s
MAW Mawson 92.78 202 P **P** **09 38 42.9 +0.7**
comp=Z,4.5nm,1.0s,baz=50,slow=7.3,SNR=7.5
MAW Mawson 92.78 202 P **P** **09 38 42.3 0.0**
PAHR Pah Rah Range 93.46 49 P **P** **09 38 47.0 +0.6**
PAHR IAmb IAmb 09 38 49.2
comp=Z,8.3nm,1.0s
DAG Danmarks Havn 93.51 355 *iP* **P** **09 38 45.0 -0.6**
DAG pmax pmax
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 93.51 355 *iP* **P** **09 38 45.0 -0.6**
comp=Z,10nm,1.0s
BMO Blue Mountains 93.59 44 P **P** **09 38 46.3 -0.5**
BMO pmax pmax
comp=Z,7.0nm,1.1s
BMO Blue Mountains 93.59 44 P **P** **09 38 46.3 -0.5**
BMO IAmb IAmb 09 38 49.4
comp=Z,7.2nm,1.1s
YERR Yerington 93.74 50 P **P** **09 38 47.8 0.0**
YERR IAmb IAmb 09 38 50.6
comp=Z,6.6nm,1.0s
RYN Ryan 94.38 50 P **P** **09 38 51.4 +0.7**
RYN IAmb IAmb 09 38 53.6
comp=Z,5.8nm,0.9s
KVN Kaiserville 94.59 50 P **P** **09 38 52.4 +0.7**
KVN pmax pmax
comp=Z,6.0nm,1.0s
KVN Kaiserville 94.59 50 P **P** **09 38 52.4 +0.7**
KVN IAmb IAmb 09 38 54.4
comp=Z,5.7nm,1.0s
NVAR Mina Array Bea 94.59 50 P **P** **09 38 53.2 +1.4**
comp=Z,5.6nm,0.8s,baz=262,slow=6.1,SNR=41
NVAR LR LR 10 18 36.2
comp=Z,31nm,18.4s,baz=274,slow=34
NVAR Mina Array Bea 94.59 50 P **P** **09 38 51.4 -0.3**
NV11 Mina Array Sit 94.70 50 P **P** **09 38 53.2 +1.0**
NV11 IAmb IAmb 09 38 55.0
comp=Z,6.1nm,0.9s
MFID Camas Ranch 95.02 45 P **P** **09 38 51.9 -1.6**
AKASG Malin Array Be 95.24 323 LR LR 10 23 39.3
comp=Z,62nm,21.0s,baz=25,slow=37
BRTR Keskin Array B 95.77 312 *ceP* **P** **09 38 56.9 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 95.77 312 P **P** **09 38 55.8 -1.2**
comp=Z,1.3nm,0.7s,baz=80,slow=4.6,SNR=5.5
BRTR LR LR 10 27 32.2
comp=Z,27nm,19.1s,baz=84,slow=39
BRTR Keskin Array B 95.77 312 P **P** **09 38 54.9 -2.1**
ELK Elko 96.23 47 P **P** **09 38 55.9 -3.3**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 96.23 47 P **P** **09 38 55.9 -3.3**
TPNV Topopah Spring 96.56 51 P **P** **09 38 58.9 -1.8**
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 96.56 51 P **P** **09 38 58.9 -1.8**
TPNV IAmb IAmb 09 39 04.0
comp=Z,4.1nm,0.9s
DLMT Dillon 96.61 42 P **P** **09 38 57.7 -3.0**
DLMT IAmb IAmb 09 39 04.9
comp=Z,6.9nm,1.2s
R11A Troy Canyon, C 96.67 50 P **P** **09 38 59.0 -2.1**
PSUT Pine Spring 97.91 49 P Pdif 09 39 06.8 0.0
DUG Dugway, Tooele 98.16 47 P **P** **09 39 07.0 -0.8**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 98.16 47 P **P** **09 39 07.0 -0.8**
DUG IAmb IAmb 09 39 10.2
comp=Z,3.7nm,0.9s
FLWY Flagg Ranch 98.32 43 P Pdif 09 39 09.0 +0.4
FLWY IAmb IAmb 09 39 12.0
comp=Z,4.3nm,0.8s
CCUT Cedar City 98.58 50 P Pdif 09 39 10.0 +0.1
QSPA South Pole Qui 98.72 180 LR LR 10 22 52.9
comp=Z,89nm,21.3s,baz=7.5,slow=35
QSPA South Pole Qui 98.72 180 P Pdif 09 39 10.1 +0.5
PDAR Pinedale Array 99.57 44 P **Pdif** **09 39 15.7 +1.5**
comp=Z,0.8nm,1.0s,baz=304,slow=1.6,SNR=4.7
PDAR LR LR 10 19 36.3
comp=Z,33nm,19.3s,baz=306,slow=33
PDAR Pinedale Array 99.57 44 **Pdif** **09 39 12.4 -1.8**
VNA2 Neumayer--Watz 114.46 192 P PKPdf 09 44 10.6 +0.8
VNA3 Neumayer Olymp 114.64 191 P PKPdf 09 44 10.7 +0.6
VNA1 Neumayer--Stat 114.85 192 P PKPdf 09 44 11.6 +1.1
TORD Torodi Ar. Bea 132.02 297 PKP **PKPdf** **09 44 45.0 0.0**
comp=Z,2.8nm,1.1s,baz=15,slow=4.1,SNR=6.9
PLCA Paso Flores 139.00 146 PKP **PKiKP** **09 44 59.1 -0.5**
comp=Z,2.9nm,0.8s,baz=218,slow=2.6,SNR=5.8
ATAH Atahualpa 143.25 90 PKP **PKPdf** **09 45 05.8 -0.4**
comp=Z,9.9nm,0.9s,baz=271,slow=4.0,SNR=7.1
GUY2C Guyana, Caldas 143.28 69 *eP* **PKPdf** **09 45 05.0 -1.3**
GUY2C Guyana, Caldas 143.28 69 *eP* **PKPdf** **09 45 05.0 -1.3**
RREF El Recreo 143.42 69 *eP* **PKPdf** **09 45 05.7 -1.1**
RREF El Recreo 143.42 69 *eP* **PKPdf** **09 45 05.7 -1.1**
PTBC PUERTO BERRIO 143.60 66 *eP* PKPab 09 45 02.3 -0.5
PTBC PUERTO BERRIO 143.60 66 *eP* PKPab 09 45 02.3 -0.5
NORC Norcasia 143.61 68 *eP* **PKPdf** **09 45 05.0 -1.4**
NORC Norcasia 143.61 68 *eP* **PKPdf** **09 45 05.0 -1.4**
ORTC Ortega, Tolima 143.87 71 *eP* PKPbc 09 45 05.0 +0.4
ORTC Ortega, Tolima 143.87 71 *eP* PKPbc 09 45 05.0 +0.4
MTP Monte Pirata 144.08 42 **PKPdf** **09 45 06.4 -0.6**
ROSC El Rosal 144.39 69 PKP **PKPdf** **09 45 08.2 0.0**
comp=Z,24nm,0.8s,baz=235,slow=2.4,SNR=15
BARC Barichara 144.72 65 *eP* **PKPdf** **09 45 08.6 +0.1**
BARC Barichara 144.72 65 *eP* **PKPdf** **09 45 08.6 +0.1**
PAMC Pamplona, Colo 144.83 64 *eP* **PKPdf** **09 45 09.6 +0.6**
PAMC Pamplona, Colo 144.83 64 *eP* **PKPdf** **09 45 09.6 +0.6**
NNA Nana 144.94 98 PKPbc **PKPdf** **09 45 08.7 +0.1**
comp=Z,19nm,0.8s,baz=267,slow=7.7,SNR=7.9
CHIC Chingaza 145.01 69 *eP* **PKPdf** **09 45 09.2 -0.1**
CHIC Chingaza 145.01 69 *eP* **PKPdf** **09 45 09.2 -0.1**
RUSC La Rusia 145.10 66 *eP* **PKPab** **09 45 09.0 -0.1**
RUSC La Rusia 145.10 66 *eP* **PKPab** **09 45 09.0 -0.1**
VILC Villavicencio, 145.24 70 *eP* **PKPdf** **09 45 10.6 +1.2**
VILC Villavicencio, 145.24 70 *eP* **PKPdf** **09 45 10.6 +1.2**
CFA Coronel Fontan 146.26 136 PKPbc **PKPab** **09 45 12.1 -0.2**
comp=Z,15nm,0.9s,baz=249,slow=3.5,SNR=22
LVC Limon Verde 150.20 121 PKPbc **PKiKP** **09 45 25.0 +1.5**
comp=Z,16nm,0.7s,baz=155,slow=0.9,SNR=5.1
LPAZ La Paz 152.83 108 PKIKP **PKPdf** **09 45 19.4 -2.6**
LPAZ 09 45 26.8
LPAZ 09 45 36.6
LPAZ La Paz 152.83 108 PKP **PKPdf** **09 45 23.5 +1.5**
comp=Z,3.2nm,0.9s,baz=335,slow=2.7,SNR=7.5
LPAZ PKPbc **pPKPbc** **09 45 31.1 -0.8**
comp=Z,5.7nm,0.8s,baz=275,slow=3.0,SNR=14
LPAZ PKPab **PKPab** **09 45 40.5 +0.4**
comp=Z,6.6nm,1.0s,baz=271,slow=7.7,SNR=5.2
LPAZ La Paz 152.83 108 **PKPdf** **09 45 19.4 -2.6**
LPAZ **sPKPdf** **09 45 26.8 +1.0**
LPAZ **PKPab** **09 45 36.6 -3.5**
CPUP Villa Florida 156.91 141 PKPab **PKPab** **09 45 57.9 +1.5**
comp=Z,0.7nm,0.3s,baz=255,slow=3.8,SNR=6.1
SIV San Ignacio 159.46 112 PKP **PKPdf** **09 45 31.3 +1.3**
comp=Z,0.6nm,0.4s,baz=70,slow=22,SNR=3.7
SIV PKPab **pPKPab** **09 46 09.9 -0.6**
comp=Z,4.8nm,0.9s,baz=248,slow=4.0,SNR=11

*ISCJB **19** 09:42:06.8±0.4, 23°.65S±0°.04×66°.76W±0°.04, h219km±4km, mb3.0/4, Error ellipse: s-maj=6.8km s-min=4.7km az=34.4*
*SJA **19** 09:42:06.6±0.7, 23°.66S×66°.66W, h224km±5km, ML2.8, MW3.1*
*IDC **19** 09:42:06.9±1.2, 23°.66S×66°.71W, h204km±12km, mb2.9/4, mb1 3.2/8, mb1mx3.1/27, mbtmp3.5/8, Error ellipse: s-maj=22.6km s-min=15.9km az=71.0*
*GUC **19** 09:42:09.4±0.5, 23°.43S×67°.27W, h253km±10km, ML4.0*
ISC 19 09:42:07.2±0.8, 23°.70S±0°.06×66°.74W±0°.04, h213km±7km, n38, σ1§36/54, mb3.1/4, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.32**	**69**	*i* P	**Pn**	**09 42 41.7**	**+0.7**
HJA				IAML		09 42 42.5	
HJA	comp=Z,74nm,0.5s						
				*e*S	**S**	**09 43 07.6**	**+0.5**
AZAP	**Zapla**	**1.62**	**109**⇓	*i*P	**Pn**	**09 42 44.1**	**+0.8**
AZAP				IAML		09 42 44.5	
AZAP	comp=Z,71nm,0.5s						
				*e*S	**S**	**09 43 11.2**	**0.0**
YJA	**Yavi**	**1.89**	**37**⇓	*i*P	**Pn**	**09 42 46.8**	**+0.7**
YJA				*e*S	**S**	**09 43 15.9**	**-0.1**
YJA				IAML		09 43 17.4	
YJA	comp=Z,14nm,0.6s						
LVC	**Limon Verde**	**2.27**	**298**	*i* P	**Pn**	**09 42 50.8**	**+1.0**
LVC	comp=Z,29nm,0.3s,baz=115,slow=7.4,SNR=211			S	**S**	**09 43 21.5**	**-1.1**
LVC	comp=Z,19nm,0.3s,baz=115,slow=6.7,SNR=5.4						
LVC	**Limon Verde**	**2.27**	**298**	*i* P	**Pn**	**09 42 51.3**	**+1.5**
LVC				*e*S	**S**	**09 43 23.7**	**+1.0**
PB15	**IPOC Station P**	**2.55**	**280**⇑	*i*P	**Pn**	**09 42 54.2**	**+1.5**
PB15				*i* S	**S**	**09 43 28.6**	**+0.8**
PB15	**IPOC Station P**	**2.55**	**280**	*i* P	**Pn**	**09 42 54.3**	**+1.6**
PB06	**IPOC Station P**	**2.78**	**290**⇑	*i*P	**Pn**	**09 42 56.5**	**+1.4**
PB06				*i* S	**S**	**09 43 32.5**	**+0.2**
PB06				IAML		09 43 33.0	
PB06	comp=N,375nm,0.3s						
PB06	**IPOC Station P**	**2.78**	**290**	*i* P	**Pn**	**09 42 56.6**	**+1.4**
PB09	**IPOC Station P**	**2.98**	**309**⇑	*e*P	**Pn**	**09 42 58.9**	**+1.4**
PB09				*i* S	**S**	**09 43 35.8**	**-0.7**
PB09				IAML		09 43 39.8	
PB09	comp=N,146nm,0.4s						
PB09	**IPOC Station P**	**2.98**	**309**	*i* P	**Pn**	**09 42 59.0**	**+1.5**
PB03	**IPOC Station P**	**3.23**	**300**⇑	*i*P	**Pn**	**09 43 01.2**	**+0.9**
PB03				*i* S	**S**	**09 43 40.2**	**-1.3**
PB03				IAML		09 43 43.2	
PB03	comp=N,372nm,0.1s						
AHML	**Horco Molle**	**3.33**	**158**	*e*P	**Pn**	**09 43 02.2**	**+0.9**
PB04	**IPOC Station P**	**3.42**	**293**⇑	*i*P	**Pn**	**09 43 03.4**	**+0.8**
PB04				*i* S	**S**	**09 43 44.3**	**-1.4**
PB04	**IPOC Station P**	**3.42**	**293**	*i* P	**Pn**	**09 43 03.6**	**+1.0**
PB14	**IPOC Station P**	**3.47**	**254**	*i* P	**Pn**	**09 43 04.7**	**+1.4**
PB10	**IPOC Station P**	**3.50**	**272**⇑	*i*P	**Pn**	**09 43 04.7**	**+1.4**
PB10				*i* S	**S**	**09 43 46.1**	**-1.0**
PB10	**IPOC Station P**	**3.50**	**272**	*i* P	**Pn**	**09 43 04.8**	**+1.4**
PB07	**IPOC Station P**	**3.50**	**303**⇑	*i*P	**Pn**	**09 43 04.3**	**+0.7**
PB07				*i* S	**S**	**09 43 45.8**	**-1.7**
PB01	**IPOC Station P**	**3.67**	**316**	*e*P	**Pn**	**09 43 05.7**	**+0.2**
PB01				*i* S	**S**	**09 43 49.1**	**-1.8**
PB02	**IPOC Station P**	**3.75**	**308**⇑	*e*P	**Pn**	**09 43 06.8**	**+0.2**
PB02				*i* S	**S**	**09 43 50.4**	**-2.5**
PB08	**IPOC Station P**	**4.19**	**327**	*e*P	**Pn**	**09 43 13.4**	**+1.2**
PB08				*i* S	**S**	**09 44 01.8**	**-1.1**
GO03	**Copiap**	**5.00**	**218**	*i* P	**Pn**	**09 43 22.7**	**+0.8**
AMOG	**MOGNA**	**7.38**	**192**	*i* P	**Pn**	**09 43 53.0**	**+0.6**
LPAZ	**La Paz**	**7.49**	**350**	P	**Pn**	**09 43 54.4**	**0.0**
	comp=N,0.4nm,0.3s,baz=168,slow=14,SNR=14						
LPAZ	**La Paz**	**7.49**	**350**	*i* P	**Pn**	**09 43 53.5**	**-0.9**
RTLL	**Cerro Villicun**	**7.76**	**191**	*i* P	**Pn**	**09 43 57.9**	**+0.7**
TCA	**Tanti**	**7.84**	**166**	*i* P	**Pn**	**09 43 58.8**	**+0.3**
CFA	**Coronel Fontan**	**7.99**	**189**	P	**Pn**	**09 44 00.5**	**+0.3**
	comp=N,1.1nm,0.3s,baz=28,slow=15,SNR=32						
CFA				S	**S**	**09 45 25.1**	**-5.5**
	comp=N,1.0nm,0.3s,baz=156,slow=18,SNR=7.6						
CFA	**Coronel Fontan**	**7.99**	**189**	*i* P	**Pn**	**09 44 00.5**	**+0.3**
ACAN	**Cantantal**	**8.55**	**183**	*i* P	**Pn**	**09 44 08.1**	**+0.6**
ASAL	**Salagasta**	**9.05**	**191**	*i* P	**Pn**	**09 44 15.2**	**+1.2**
SIV	**San Ignacio**	**9.34**	**36**	P	**Pn**	**09 44 15.9**	**-2.0**
	comp=N,0.4nm,0.3s,baz=230,slow=14,SNR=11						
SNAA	**Sanae**	**59.56**	**161**	P	**P**	**09 51 48.5**	**+0.5**
	comp=N,0.5nm,0.6s,baz=275,slow=11,SNR=4.0						
TXAR	**Lajitas Array**	**63.57**	**324**	P	**P**	**09 52 14.9**	**-0.5**
	comp=N,0.1nm,0.4s,baz=153,slow=6.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P	**P**	**09 53 32.9**	**+0.2**
	comp=N,0.3nm,0.5s,baz=246,slow=5.7,SNR=3.8						
PDAR	**Pinedale Array**	**77.01**	**329**	P	**P**	**09 53 37.9**	**+1.2**
	comp=N,0.2nm,0.6s,baz=140,slow=9.0,SNR=2.7						
MKAR	**Makanchi Array**	**146.14**	**39**	PKPbc	**PKiKP**	**10 01 24.1**	**-1.1**
	comp=N,0.7nm,0.8s,baz=309,slow=4.8,SNR=3.6						

*IDC **19** 09:42:35.6±0.5, 26°.68N×144°.09E, h0km, mb4.1/21, mb1 4.3/24, mb1mx4.3/40, mbtmp4.1/24, ML3.7/3, MS3.2/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=17.1km s-min=13.0km az=76.0*
*ISCJB **19** 09:42:36.2±0.4, 26°.99N±0°.03×144°.09E±0°.04, h10km, mb4.1/20, MS3.2/3, Error ellipse: s-maj=5.7km s-min=4.9km az=1.3*
*NEIC **19** 09:42:37.5±1.4, 26°.71N±0°.09×144°.08E±0°.08, h15km±4km, mb4.7/30*
*JMA **19** 09:42:38.3±0.1, 27°.07N×144°.07E, h19km, M4.7*
ISC 19 09:42:37.3±0.5, 26°.85N±0°.06×144°.07E±0°.08, h10km, n95, σ1§42/109, mb4.5/32, MS3.3/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.70**	**279**	P	**Pn**	**09 43 07.6**	**+0.5**
CBIJ				*e*S	**Sn**	**09 43 28.9**	**-0.1**
JCJ	**Chichijima**	**1.70**	**279**	Pn	**Pn**	**09 43 07.5**	**+0.3**
JCJ	46nm,0.3s,baz=284,slow=23,SNR=14			Sn	**Sn**	**09 43 28.0**	**-0.9**
	233nm,0.3s,baz=267,slow=23,SNR=19						
JHH2	**Haha-jima-NKT2**	**1.71**	**263**	P	**Pn**	**09 43 08.3**	**+1.1**
JHH2				*e*S	**Sn**	**09 43 30.2**	**+1.1**
JHJ	**Hachijo jima 2**	**7.27**	**330**	Pn	**Pn**	**09 44 23.9**	**+0.3**
JHJ	6.0nm,0.3s,baz=131,slow=19,SNR=3.0			Sn	**Sn**	**09 45 41.1**	**-5.1**
	16nm,0.3s,baz=90,slow=20,SNR=3.3						
BSO1	**Boso 1**	**8.22**	**342**	*e*S	**Sn**	**09 46 06.1**	**-2.8**
BSO3	**Boso 3**	**8.50**	**340**	P	**Pn**	**09 44 40.1**	**-0.1**
BSO3				*e*S	**Sn**	**09 46 14.3**	**-1.8**
BSO4	**Boso 4**	**8.73**	**339**	*e*S	**Sn**	**09 46 20.3**	**-1.6**
JOD2	**Odawara 2**	**9.41**	**334**	P	**Pn**	**09 44 53.8**	**+0.8**
JHU	**Hanno**	**9.86**	**337**	P	**Pn**	**09 44 58.6**	**-0.6**
JHU				*e*S	**Sn**	**09 46 43.4**	**-6.6**
JRY	**Ryogami san**	**10.15**	**335**	P	**Pn**	**09 45 03.3**	**+0.2**
JRY				*e*S	**Sn**	**09 46 53.7**	**-3.4**
JAG	**Ashikaga**	**10.33**	**339**	*e*S	**Sn**	**09 46 56.1**	**-5.2**
MJAR	**Matsushiro Arr**	**10.88**	**334**	Pn	**Pn**	**09 45 13.5**	**+0.5**
	0.3nm,0.3s,baz=155,slow=12,SNR=12						
MJAR				Sn	**Sn**	**09 47 13.2**	**-1.6**
	0.2nm,0.3s,baz=292,slow=4.4,SNR=6.1						
MJAR	**Matsushiro Arr**	**10.88**	**334**		**Pn**	**09 45 14.8**	**+1.8**
MJAR					**Sn**	**09 47 13.3**	**-1.6**
MAJO	**Matsushiro**	**10.88**	**334**	Pn	**Pn**	**09 45 14.5**	**+1.4**
MAJO				Sn	**Sn**	**09 47 16.9**	**+2.0**
MAT	**Matsushiro**	**10.88**	**334**	P	**Pn**	**09 45 12.7**	**-0.4**
MAT				*e*S	**Sn**	**09 47 14.0**	**-0.9**
MJB9	**Matsu-Tunnel**	**10.88**	**334**	Pn	**Pn**	**09 45 14.4**	**+1.3**
MJB9				Sn	**Sn**	**09 47 13.3**	**-1.7**
GUMO	**Guam**	**13.21**	**177**	LR	LR	09 49 52.9	
	comp=Z,64nm,19.5s,baz=309,slow=34						
KSRS	**Korea Array**	**17.26**	**312**	P	**P**	**09 46 41.0**	**+1.0**
	0.4nm,0.3s,baz=121,slow=11,SNR=9.3						
USRK	**Ussuriysk Ar.**	**19.87**	**334**	P	**Pn**	**09 47 11.7**	**+1.5**
	1.7nm,0.4s,baz=140,slow=10,SNR=16						
USRK	**Ussuriysk Ar.**	**19.87**	**334**	P	**P**	**09 47 07.8**	**-0.8**
YHNB	**Yeheng**	**20.56**	**269**	P	**P**	**09 47 14.3**	**-2.0**
YHNB				IAmb	IAmb	09 47 17.5	
	comp=Z,22nm,0.8s						
YULB	**Yu-li**	**20.90**	**266**	P	**P**	**09 47 19.6**	**-0.4**
SSLB	**Suanglung**	**21.12**	**267**	P	**P**	**09 47 21.5**	**-0.9**
KLR	**Kul'dur**	**24.30**	**340**	P	**P**	**09 47 56.8**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=142,slow=7.6,SNR=5.3						
DAV	**Davao City (W)**	**26.38**	**225**	LR	LR	09 58 40.6	
	comp=Z,78nm,18.1s,baz=323,slow=37						
JAY	**Jayapura**	**29.37**	**187**	LR	LR	09 57 33.4	
	comp=Z,83nm,21.4s,baz=334,slow=31						
ULN	**Ulaanbaatar**	**35.67**	**316**	P	**P**	**09 49 36.4**	**+0.7**
ULN				IAmb	IAmb	09 49 39.0	
	comp=Z,10nm,0.8s						
SONM	**Songino Array**	**36.06**	**316**	P	**P**	**09 49 41.0**	**+1.8**
	comp=Z,5.6nm,0.8s,baz=116,slow=8.0,SNR=28						
SONM	**Songino Array**	**36.06**	**316**	P	**P**	**09 49 40.4**	**+1.2**
SEY	**Seymchan**	**36.50**	**6**	P	**P**	**09 49 43.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=118,slow=17,SNR=3.9						
HNR	**Honiara**	**39.22**	**155**	P	P	09 50 01.9	-4.0
PBKT	**Sadao Pong**	**41.16**	**265**	P	**P**	**09 50 21.4**	**-0.7**
PBKT				IAmb	IAmb	09 50 23.8	
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.30**	**268**	P	**P**	**09 50 31.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=59,slow=8.7,SNR=12						
CMAR				LR	LR	10 08 07.8	
	comp=Z,22nm,18.6s,baz=110,slow=36						
CMAR	**Chiang Mai Arr**	**42.30**	**268**	P	**P**	**09 50 30.8**	**-0.7**
WB0	**Warramunga Arr**	**47.28**	**192**	P	**P**	**09 51 09.7**	**-1.3**
WB0				IAmb	IAmb	09 51 09.9	
	comp=Z,8.9nm,1.0s						
WR0	**Warramunga Arr**	**47.44**	**192**	P	**P**	**09 51 10.2**	**-2.1**
WRAB	**Tennant Creek**	**47.45**	**192**	P	**P**	**09 51 10.5**	**-1.9**
WB2	**Warramunga Arr**	**47.46**	**192**	P	**P**	**09 51 11.2**	**-1.2**
WRA	**Warramunga Arr**	**47.46**	**192**	P	**P**	**09 51 10.9**	**-1.5**
	comp=Z,8.3nm,0.7s,baz=12,slow=8.3,SNR=52						
WRA				PcP	**PcP**	**09 52 42.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=11,slow=8.7,SNR=2.9						
WRA	**Warramunga Arr**	**47.46**	**192**	P	**P**	**09 51 10.4**	**-2.0**
TAPN	**Taplejung**	**49.80**	**284**	*e*P	**P**	**09 51 31.3**	**+0.4**
	comp=Z,18nm,1.0s						
ODAN	**Odare**	**50.19**	**284**	*e*P	**P**	**09 51 34.0**	**+0.2**
ZAA0	**Zalesovo Array**	**50.78**	**319**	P	**P**	**09 51 38.2**	**+0.7**
ZALV	**Zalesovo Beam**	**50.78**	**319**	P	**P**	**09 51 38.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=95,slow=6.2,SNR=6.4						
ZALV				PcP	**PcP**	**09 52 54.1**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=104,slow=1.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**50.78**	**319**	P	**P**	**09 51 37.4**	**-0.1**
ZALV					**PcP**	**09 52 54.0**	**-0.4**
RAMN	**Ramite**	**50.85**	**284**	*e*P	**P**	**09 51 39.3**	**+0.5**
	comp=Z,17nm,0.8s						
JIRN	**Jiri**	**51.04**	**285**	*e*P	**P**	**09 51 41.3**	**+0.9**
	comp=Z,41nm,0.8s						
ASAR	**Alice Springs**	**51.17**	**192**	P	**P**	**09 51 39.1**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=5.3,slow=7.0,SNR=14						
ASAR				PcP	**PcP**	**09 52 55.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=16,slow=4.1,SNR=8.3						
ASAR	**Alice Springs**	**51.17**	**192**	P	P	09 51 37.5	-3.3
ASAR					**PcP**	**09 52 55.0**	**-1.3**
GUN	**Gumba**	**51.25**	**285**	*e*P	**P**	**09 51 42.4**	**+0.5**
	comp=Z,34nm,0.9s						
PKI	**Pulchoki**	**51.74**	**285**	*e*P	**P**	**09 51 45.6**	**0.0**
	comp=Z,8.6nm,0.8s						
KKN	**Kakani**	**51.80**	**285**	*e*P	**P**	**09 51 46.1**	**+0.2**
MK31	**Makanchi Array**	**51.93**	**310**	P	**P**	**09 51 47.5**	**+1.2**
MKAR	**Makanchi Array**	**51.93**	**310**	P	**P**	**09 51 47.5**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=92,slow=9.7,SNR=32						
MKAR				PcP	**PcP**	**09 52 59.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=104,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**51.93**	**310**	P	**P**	**09 51 47.3**	**+0.9**
MKAR					**PcP**	**09 53 00.1**	**+1.2**
DMN	**Daman**	**51.99**	**285**	*e*P	**P**	**09 51 47.8**	**+0.4**
MAKZ	**Makanchi**	**52.15**	**310**	P	**P**	**09 51 48.0**	**+0.1**
MAKZ				IAmb	IAmb	09 51 50.3	
	comp=Z,5.5nm,0.9s						
DANN	**Dangsing**	**52.97**	**286**	*e*P	**P**	**09 51 55.2**	**+0.5**
	comp=Z,38nm,0.8s						
KOLN	**Koldanda**	**53.25**	**286**	*e*P	**P**	**09 51 57.1**	**+0.5**
	comp=Z,19nm,0.8s						
NRIK	**Noril'sk**	**53.49**	**338**	P	**P**	**09 51 58.5**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=112,slow=8.5,SNR=4.0						
KURK	**Kurchatov**	**54.36**	**315**	P	**P**	**09 52 04.8**	**+0.7**
KURK				IAmb	IAmb	09 52 07.5	
	comp=Z,11nm,1.3s						
TARG	**Taragay, Kyrgy**	**55.46**	**304**	P	**P**	**09 52 13.4**	**+0.6**
TARG				IAmb	IAmb	09 52 16.1	
	comp=Z,9.9nm,0.9s						
KDJ	**Kajisay**	**55.87**	**304**	P	**P**	**09 52 15.6**	**+0.2**
KDJ				IAmb	IAmb	09 52 17.9	
	comp=Z,4.6nm,0.8s						
BOOM	**Boomskoye usch**	**56.74**	**305**	P	**P**	**09 52 21.6**	**0.0**
BOOM				IAmb	IAmb	09 52 24.2	
	comp=Z,5.9nm,0.8s						
ILAR	**Eielson Array**	**57.12**	**28**	P	**P**	**09

*NEIC **19** 09:46:42.0±2.4, 26°.11N±0°.09×143°.7E±0°.1, h10km±1km, mb4.6/11*
*ISCJB **19** 09:46:43.2±0.5, 26°.07N±0°.05×143°.77E±0°.09, h33km, mb3.7/5, Error ellipse: s-maj=12.8km s-min=6.5km az=156.4*
*IDC **19** 09:46:44.7±1.2, 26°.19N×143°.33E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, Error ellipse: s-maj=36.3km s-min=18.5km az=61.0*
ISC 19 09:46:45.5±0.8, 26°.09N±0°.09×143°.7E±0°.1, h35km, n25, σ1§36/25, mb4.1/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.69**	**307**	Pn	**Pn**	**09 47 12.7**	**+0.1**
	11nm,0.3s,baz=287,slow=20,SNR=5.6						
JCJ				Sn	**Sn**	**09 47 32.7**	**-0.4**
	21nm,0.3s,baz=258,slow=24,SNR=6.4						
ANA2	**Anatahan**	**9.88**	**169**	Pn	**Pn**	**09 49 03.1**	**-2.0**
ANA2				Sn	**Sn**	**09 50 55.6**	**+0.8**
SONM	**Songino Array**	**36.38**	**316**	P	**P**	**09 53 46.6**	**0.0**
	1.2nm,0.9s,baz=114,slow=6.6,SNR=5.4						
SONM	**Songino Array**	**36.38**	**316**	P	**P**	**09 53 47.0**	**+0.4**
WB0	**Warramunga Arr**	**46.47**	**192**	P	**P**	**09 55 10.5**	**+1.2**
WR0	**Warramunga Arr**	**46.63**	**192**	P	**P**	**09 55 12.4**	**+1.9**
WRAB	**Tennant Creek**	**46.64**	**192**	P	**P**	**09 55 08.6**	**-2.0**
WRAB				IAmb	IAmb	09 55 12.4	
	comp=Z,4.6nm,1.1s						
WB2	**Warramunga Arr**	**46.65**	**192**	P	**P**	**09 55 10.9**	**+0.1**
WB2				IAmb	IAmb	09 55 17.6	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**46.66**	**192**	P	P	09 55 15.9	+5.1
	comp=Z,0.7nm,0.5s,baz=14,slow=8.5,SNR=9.6						
WRA	**Warramunga Arr**	**46.66**	**192**	P	**P**	**09 55 11.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**47.31**	**204**	P	**P**	**09 55 16.7**	**+0.9**
FITZ				IAmb	IAmb	09 55 25.6	
	comp=Z,6.4nm,1.1s						
ASAR	**Alice Springs**	**50.37**	**192**	P	**P**	**09 55 43.6**	**+4.3**
	comp=Z,0.3nm,0.7s,baz=12,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**52.17**	**310**	P	**P**	**09 55 53.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=101,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	**52.17**	**310**	P	**P**	**09 55 52.5**	**-0.1**
RSO	**Redoubt South**	**54.65**	**33**	P	**P**	**09 56 10.6**	**-0.3**
RC01	**Rabbit Creek A**	**56.21**	**32**	P	**P**	**09 56 22.7**	**+0.9**
SML	**Sawmill**	**56.96**	**32**	P	**P**	**09 56 27.5**	**+0.3**
SML				IAmb	IAmb	09 56 35.7	
	comp=Z,8.1nm,1.0s						
COLD	**Coldfoot**	**56.99**	**25**	P	**P**	**09 56 28.1**	**+0.9**
NIL	**Nilore**	**60.52**	**295**	P	**P**	**09 56 52.5**	**+0.1**
NIL				IAmb	IAmb	09 56 54.3	
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**60.78**	**307**	P	**P**	**09 56 54.9**	**+0.9**
ABKAR	**Akbulak array**	**66.77**	**315**	P	**P**	**09 57 32.7**	**-0.6**
ABKAR	**Akbulak array**	**66.77**	**315**	P	**P**	**09 57 32.3**	**-1.1**
FIA1	**FINESS Array S**	**79.44**	**334**	P	**P**	**09 58 46.9**	**-1.1**
FINES	**FINESS Array B**	**79.44**	**334**	P	**P**	**09 58 46.9**	**-1.0**
NVAR	**Mina Array Bea**	**80.06**	**52**	P	P	09 58 58.7	+6.6
	comp=Z,0.6nm,0.7s,baz=286,slow=3.4,SNR=5.1						

*ISCJB **19** 10:06:29.1±0.4, 24°.80N±0°.02×122°.28E±0°.02, h6km±3km, Error ellipse: s-maj=3.6km s-min=2.8km az=16.2*
*TAP **19** 10:06:29.4, 24°.84N×122°.24E, h13km, ML2.9, C*
*JMA **19** 10:06:30.0, 24°.75N×122°.28E, h17km, M2.2*
ISC 19 10:06:29.3±1.0, 24°.79N±0°.02×122°.28E±0°.02, h10km±9km, n48, σ0§35/78, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.27**	**209**	⇑*iP*	**Pb**	**10 06 36.1**	**-0.1**
	baz=212						
EOS1				*i*S	**Sb**	**10 06 41.3**	**+0.5**
	baz=212						
EGS		**0.32**	**280**	*eP*	**Pg**	**10 06 35.7**	**+0.1**
	baz=271						
EGS				*eS*	**Sg**	**10 06 40.2**	**+0.3**
	baz=271						
TWB1	**Santiao Chiao**	**0.34**	**310**	⇓*iP*	**Pg**	**10 06 35.7**	**-0.4**
	baz=306						
TWB1				*i*S	**Sg**	**10 06 40.0**	**-0.6**
	baz=306						
NTC	**Toucheng**	**0.41**	**279**	⇓*iP*	**Pg**	**10 06 37.5**	**+0.2**
	baz=272						
NTC				*eS*	**Sg**	**10 06 42.7**	**-0.1**
	baz=272						
TWC	**Suao**	**0.43**	**245**	*eP*	**Pg**	**10 06 37.6**	**0.0**
	baz=237						
TWC				*eS*	**Sg**	**10 06 43.9**	**+0.6**
	baz=237						
NWF	**Wu-fen Shan**	**0.53**	**302**	*eP*	**Pb**	**10 06 40.5**	**-0.2**
	baz=297						
NWF				*eS*	**Sg**	**10 06 47.1**	**+0.5**
	baz=297						
WFSB	**Wu-fen Shan**	**0.53**	**302**	*eP*	**Pg**	**10 06 40.0**	**+0.4**
	baz=297						
WFSB				*eS*	**Sg**	**10 06 46.7**	**+0.1**
	baz=297						
TWE	**Neicheng**	**0.56**	**263**	P	**Pg**	**10 06 40.0**	**-0.1**
	baz=249						
TWE				*eS*	**Sg**	**10 06 48.0**	**+0.6**
	baz=249						
SLBB	**Yuanshan**	**0.58**	**267**	*eP*	**Pg**	**10 06 39.7**	**-0.9**
	baz=254						
SLBB				*eS*	**Sb**	**10 06 49.5**	**-0.4**
	baz=254						
NANB	**Nanao**	**0.60**	**233**	*eP*	**Pg**	**10 06 40.8**	**-0.1**
	baz=221						
NANB				*eS*	**Sg**	**10 06 49.3**	**+0.5**
	baz=221						
ENA	**Nanau**	**0.60**	**234**	*eP*	**Pg**	**10 06 41.0**	**0.0**
	baz=224						
TWA	**Mucha**	**0.66**	**287**	*eP*	**Pb**	**10 06 42.5**	**-0.4**
	baz=283						
ENTT	**Nioudou**	**0.66**	**257**	*eP*	**Pg**	**10 06 42.2**	**+0.1**
	baz=252						
ENTT				*eS*	**Sb**	**10 06 52.0**	**-0.2**
	baz=252						
JYNG	**Yonagunijimaku**	**0.70**	**119**	P	**Pg**	**10 06 42.9**	**+0.2**
JYNG				S	**Sb**	**10 06 52.7**	**-0.4**
NWLT	**Wulai**	**0.70**	**269**	*eP*	**Pg**	**10 06 43.1**	**+0.2**
	baz=265						
NWLT				*eS*	**Sg**	**10 06 52.3**	**+0.2**
	baz=265						
NHDH	**Xindian Distri**	**0.70**	**284**	*eP*	**Pb**	**10 06 43.8**	**+0.2**
	baz=271						
NDT	**Datong Townshi**	**0.72**	**255**	*eP*	**Pg**	**10 06 43.3**	**+0.2**
	baz=251						
NDT				*eS*	**Sg**	**10 06 52.8**	**+0.3**
	baz=251						
YM01	**YM01**	**0.73**	**299**	*eP*	**Pb**	**10 06 43.8**	**-0.3**
	baz=295						
YM01				*eS*	**Sg**	**10 06 53.3**	**+0.2**
	baz=295						
TATO	**Taipei**	**0.74**	**285**	*eP*	**Pb**	**10 06 44.3**	**+0.1**
	baz=281						
YM08	**YM08**	**0.74**	**303**	*eP*	**Pg**	**10 06 43.6**	**+0.1**
	baz=300						
YM11	**YM11**	**0.74**	**301**	*eP*	**Pg**	**10 06 43.7**	**+0.1**
	baz=298						
YOJ	**Yonaguni jima**	**0.74**	**116**	*eP*	**Pg**	**10 06 43.7**	**+0.1**
	baz=110						
YOJ	**Yonaguni jima**	**0.74**	**116**	P	**Pg**	**10 06 43.7**	**+0.1**
YOJ				S	**Sg**	**10 06 53.8**	**+0.4**
YM05	**YM05**	**0.74**	**300**	P	**Pg**	**10 06 43.9**	**+0.2**
	baz=297						
YM10	**YM10**	**0.74**	**300**	*eP*	**Pg**	**10 06 43.9**	**+0.2**
	baz=296						
YM04	**YM04**	**0.76**	**299**	*eP*	**Pg**	**10 06 44.2**	**+0.2**
	baz=295						
TWY	**Chenhua**	**0.78**	**309**	P	**Pb**	**10 06 44.9**	**-0.1**
	baz=305						
TWY				*eS*	**Sb**	**10 06 55.6**	**0.0**
	baz=305						
YHNB	**Yeheng**	**0.83**	**262**	*eP*	**Pg**	**10 06 44.8**	**-0.5**
	baz=252						
YHNB				*eS*	**Sb**	**10 06 57.4**	**+0.4**
	baz=252						
TWS1	**Kuangyinshan**	**0.84**	**292**	*eP*	**Pb**	**10 06 45.7**	**-0.2**
	baz=289						
PCYT	**Pengchaiyu**	**0.86**	**348**	*eP*	**Pg**	**10 06 45.7**	**-0.1**
	baz=346						
PCYT				*eS*	**Sb**	**10 06 57.8**	**0.0**
	baz=346						
NACB	**Ninganchiao**	**0.87**	**226**	*eP*	**Pg**	**10 06 46.2**	**+0.2**
	baz=223						
NACB				*eS*	**Sg**	**10 06 57.5**	**0.0**
	baz=223						
NNSB	**Datong**	**0.89**	**246**	*eP*	**Pg**	**10 06 46.5**	**+0.1**
	baz=234						
NNSB				*eS*	**Sb**	**10 06 58.6**	**-0.2**
	baz=234						
NNS	**Nan Shan**	**0.89**	**247**	P	**Pb**	**10 06 47.2**	**+0.3**
	baz=234						
NNS				*eS*	**Sb**	**10 06 59.4**	**+0.5**
	baz=234						
ETLH	**Xiulin Townshi**	**0.93**	**232**	*eP*	**Pg**	**10 06 47.0**	**-0.2**
	baz=229						
ETLH				*eS*	**Sg**	**10 06 59.1**	**-0.1**
	baz=229						
TWD	**Chiawan**	**0.94**	**221**	*eP*	**Pg**	**10 06 47.1**	**-0.2**
	baz=227						
TWD				*eS*	**Sb**	**10 07 00.1**	**0.0**
	baz=227						
WHF	**Hehuan Shan**	**1.12**	**235**	P	**Pn**	**10 06 51.1**	**-0.3**
	baz=234						
WHF				*eS*	**Sb**	**10 07 05.2**	**-0.5**
	baz=234						
TDCB	**Techi**	**1.15**	**243**	*eP*	**Pg**	**10 06 52.0**	**+0.6**
	baz=232						
TDCB				*eS*	**Sg**	**10 07 06.3**	**0.0**
	baz=232						
LIOB	**Emei**	**1.16**	**263**	*eP*	**Pn**	**10 06 51.2**	**-0.2**
	baz=280						
NSTT	**Nanjuang**	**1.17**	**263**	*eP*	**Pn**	**10 06 51.4**	**-0.2**
	baz=260						
NSTT				*eS*	**Sn**	**10 07 08.3**	**+0.7**
	baz=260						
ESL	**Shilin**	**1.24**	**219**	*eP*	**Pb**	**10 06 52.7**	**0.0**
	baz=219						
CHGB	**Renai**	**1.24**	**234**	*eP*	**Pg**	**10 06 53.3**	**+0.2**
	baz=233						
CHGB				*eS*	**Sb**	**10 07 08.3**	**-0.6**
	baz=233						
WHP	**Taichung City**	**1.31**	**248**	*eP*	**Pg**	**10 06 55.3**	**+0.8**
	baz=246						
IRIF	**Iriomote-Funau**	**1.40**	**109**	P	**Pn**	**10 06 54.7**	**-0.1**
IRIF				*eS*	**Sb**	**10 07 13.4**	**+0.1**
TWQ1	**Liyutan**	**1.44**	**253**	*eP*	**Pb**	**10 06 56.3**	**+0.2**
	baz=268						
VWDT	**VWDT**	**1.46**	**225**	*eP*	**Pg**	**10 06 56.9**	**-0.4**
	baz=233						
VWDT				*eS*	**Sg**	**10 07 15.8**	**-0.4**
	baz=233						
YULB	**Yu-li**	**1.65**	**213**	*eP*	**Pn**	**10 06 58.1**	**-0.2**
	baz=215						
WHYT	**Xinyi Township**	**1.69**	**230**	*eP*	**Pb**	**10 07 00.2**	**-0.3**
	baz=222						
CHN5	**Tsauling**	**1.88**	**231**	*eP*	**Pb**	**10 07 02.6**	**-1.1**
	baz=232						

*ISCJB **19** 10:10:26.7±1.0, 26°.93N±0°.09×144°.3E±0°.1, h10km, mb3.9/2, Error ellipse: s-maj=15.0km s-min=11.2km az=144.7*
*NEIC **19** 10:10:29.2±2.0, 26°.9N±0°.1×144°.24E±0°.07, h10km±2km, mb4.4/4*
*IDC **19** 10:10:31.4±2.4, 26°.50N×143°.90E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/44, mbtmp3.7/3, ML2.7/1, Error ellipse: s-maj=54.8km s-min=24.2km az=57.0*
ISC 19 10:10:29.9±1.4, 26°.8N±0°.1×144°.2E±0°.1, h10km, n12, σ1§53/12, mb4.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.78**	**280**	Pn	**Pb**	**10 11 02.4**	**-0.1**
	7.0nm,0.3s,baz=180,slow=18,SNR=5.4						
JCJ				Sn	**Sn**	**10 11 23.2**	**-0.2**
	49nm,0.3s,baz=277,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**10.95**	**334**	Pn	Pn	10 13 11.8	+5.2
	0.1nm,0.3s,baz=144,slow=17,SNR=3.4						
MJAR	**Matsushiro Arr**	**10.95**	**334**		**Pn**	**10 13 07.5**	**+0.8**
MAJO	**Matsushiro**	**10.95**	**334**	Pn	**Pn**	**10 13 05.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**10.95**	**334**	Pn	**Pn**	**10 13 05.7**	**-1.0**
SONM	**Songino Array**	**36.14**	**316**	P	**P**	**10 17 35.5**	**+3.1**
	0.8nm,0.7s,baz=117,slow=9.2,SNR=4.5						
WRAB	**Tennant Creek**	**47.42**	**193**	P	**P**	**10 19 04.7**	**+0.1**
WRAB				IAmb	IAmb	10 19 05.8	
	comp=Z,6.1nm,1.1s						
WB2	**Warramunga Arr**	**47.43**	**193**	P	**P**	**10 19 04.7**	**-0.1**
WB2				IAmb	IAmb	10 19 18.4	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**47.43**	**193**	P	**P**	**10 19 05.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=13,slow=8.2,SNR=9.8						
WRA	**Warramunga Arr**	**47.43**	**193**	P	**P**	**10 19 04.8**	**0.0**
ABKAR	**Akbulak array**	**66.55**	**315**	P	**P**	**10 21 18.2**	**-1.8**
ABKAR	**Akbulak array**	**66.55**	**315**	P	**P**	**10 21 17.8**	**-2.3**
ABKAR				IAmb	IAmb	10 21 25.2	
	comp=Z,2.1nm,1.3s						

*SOME **19** 10:11:59.0, 41°.17N×72°.93E, h0km*
KRNET 19 10:12:05.2±0.1, 42°.14N×71°.30E, h35km, mb2.1, 8C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.60**	**124**	⇓*iP*	Pn	10 12 18.2	+0.8
	baz=25						
ARK				⇓*i*S	Sn	10 12 27.0	+1.1
	baz=25						
ARSB	**Arslanbob**	**1.50**	**122**	⇑*eP*	Pn	10 12 31.5	+1.7
	baz=22						
ARSB				⇑*i*S	Sn	10 12 51.1	+2.9
	baz=22						
MRKS	**Merke**	**1.55**	**66**	*eP*	Pn	10 12 30.1	-0.4
	2.9nm,0.1s						
MRKS				*eS*	Sn	10 12 52.4	+3.0
	11nm,0.3s						
AML	**Almayashu**	**1.78**	**89**	⇑*iP*	Pn	10 12 35.7	+1.8
	baz=89						
AML				⇑*i*S	Sn	10 12 58.0	+2.5
	baz=89						
EKS2	**Erkin-Say**	**1.91**	**73**	⇑*iP*	Pn	10 12 37.3	+1.9
	baz=73						
EKS2				⇑*i*S	Sn	10 13 00.6	+2.4
	baz=73						
ARLS	**Aral**	**2.27**	**96**	⇓*iP*	Pn	10 12 42.2	+1.8
	baz=96						
ARLS				⇓*i*S	Sn	10 13 09.3	+2.1
	baz=96						
UCH	**Uchtor**	**2.39**	**87**	⇑*iP*	Pn	10 12 44.2	+1.9
	baz=87						
UCH				⇑*i*S	Sn	10 13 12.7	+2.1
	baz=87						
KST	**Kastek**	**3.56**	**74**	*eP*	Pn	10 12 54.5	-3.6
	1.1nm,0.3s						
KST				*eS*	Sn	10 13 34.3	-4.7
	0.9nm,0.2s						

NNC 19 10:12:14.1±0.2, 42°.91N×70°.96E, h0km, mpv1.8, 14C-6D, Error ellipse: s-maj=19.8km s-min=1.1km az=30.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.37**	**300**	⇓P	Pg	10 12 21.4	+0.2
KK06				⇑S	Sg	10 12 26.8	+0.8
KK02	**Karatay Array**	**0.38**	**300**	⇑P	Pg	10 12 21.7	+0.2
KK02				⇑S	Sg	10 12 27.1	+0.7
KK05	**Karatay Array**	**0.38**	**303**	⇑P	Pg	10 12 21.7	+0.2
KK05				⇑S	Sg	10 12 27.1	+0.7
KK07	**Karatay Array**	**0.38**	**298**	⇑P	Pg	10 12 21.7	+0.2
KK07				⇑S	Sg	10 12 27.1	+0.7
KK31	**Karatay Array**	**0.38**	**300**	⇑P	Pg	10 12 21.8	+0.3
	0.9nm,0.2s,baz=77,slow=37,SNR=27						
KK31				⇑S	Sg	10 12 27.2	+0.7
	2.4nm,0.2s,baz=136,slow=17,SNR=8.7						
KK01	**Karatay Array**	**0.39**	**300**	⇑P	Pg	10 12 21.7	+0.1
KK01				⇓S	Sg	10 12 27.0	+0.4
KK03	**Karatay Array**	**0.39**	**300**	⇑P	Pg	10 12 21.7	+0.1
KK03				⇓S	Sg	10 12 27.1	+0.5
KK04	**Karatay Array**	**0.39**	**301**	⇑P	Pg	10 12 21.9	+0.2
KK04				⇑S	Sg	10 12 27.3	+0.6
KK08	**Karatay Array**	**0.40**	**299**	⇓P	Pg	10 12 21.9	+0.1
KK08				⇑S	Sg	10 12 27.3	+0.3
KK09	**Karatay Array**	**0.40**	**302**	⇓P	Pg	10 12 22.1	+0.3
KK09				⇓S	Sg	10 12 27.4	+0.4

NNC 19 10:12:27.4±0.9, 42°.82N×70°.88E, h0km, mpv2.1, 11C-9D, Error ellipse: s-maj=13.2km s-min=4.3km az=46.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.38**	**316**	⇑P	Pg	10 12 35.5	+0.8
KK06				⇑S	Sg	10 12 40.0	+0.4
KK07	**Karatay Array**	**0.39**	**314**	⇓P	Pg	10 12 35.3	+0.4
KK07				⇑S	Sg	10 12 39.7	-0.3
KK02	**Karatay Array**	**0.39**	**316**	⇑P	Pg	10 12 35.4	+0.4
KK02				⇑S	Sg	10 12 39.9	-0.1
KK31	**Karatay Array**	**0.39**	**316**	⇓P	Pg	10 12 35.0	+0.1
	3.5nm,0.4s						
KK31				⇓S	Sg	10 12 41.1	+1.0
	6.8nm,0.4s,baz=135,slow=30,SNR=9.4						
KK01	**Karatay Array**	**0.40**	**316**	⇓P	Pg	10 12 35.3	+0.2
KK01				⇑S	Sg	10 12 39.9	-0.3
KK05	**Karatay Array**	**0.40**	**318**	⇑P	Pg	10 12 35.9	+0.8
KK05				⇓S	Sg	10 12 40.5	+0.2
KK03	**Karatay Array**	**0.40**	**315**	⇑P	Pg	10 12 35.7	+0.7
KK03				⇑S	Sg	10 12 40.1	-0.1
KK04	**Karatay Array**	**0.40**	**316**	⇓P	Pg	10 12 35.6	+0.5
KK04				⇑S	Sg	10 12 40.2	-0.2
KK08	**Karatay Array**	**0.41**	**315**	⇓P	Pg	10 12 35.6	+0.3
KK08				⇑S	Sg	10 12 40.4	-0.1
KK09	**Karatay Array**	**0.41**	**317**	⇓P	Pg	10 12 36.4	+1.0
KK09				⇓S	Sg	10 12 41.0	+0.3

*ISCJB **19** 10:23:39.0±0.3, 60°.27S±0°.05×43°.6W±0°.1, h16km, mb4.2/8, MS3.8/15, Error ellipse: s-maj=8.1km s-min=6.5km az=151.2*
*IDC **19** 10:23:38.3±0.7, 60°.33S×43°.56W, h0km, mb4.3/8, mb1 4.3/10, mb1mx4.2/22, mbtmp4.3/10, ML3.7/2, MS3.8/17, Ms1 3.8/17, ms1mx3.7/21, Error ellipse: s-maj=24.8km s-min=18.4km az=41.0*
*NEIC **19** 10:23:40.6±1.7, 60°.29S±0°.07×43°.5W±0°.2, h15km±3km, mb4.6/22*
ISC 19 10:23:40.4±0.4, 60°.32S±0°.07×43°.61W±0°.08, h16km, n77, σ0§90/66, mb4.5/16, MS3.8/15, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.17**	**36**	Pn	**Pn**	**10 25 23.1**	**-1.3**
HOPE				Sn	**Sn**	**10 26 46.0**	**+0.5**
PMSA	**Palmer Station**	**10.41**	**236**	Pn	**Pn**	**10 26 09.0**	**+0.2**
	0.5nm,0.3s,baz=64,slow=11,SNR=3.3						
PMSA				LR	LR	10 29 36.4	
	comp=Z,521nm,19.1s,baz=54,slow=34						
EFI	**East Falkland**	**11.82**	**311**	Pn	**Pn**	**10 26 27.1**	**-1.0**
USHA	**Ushuaia**	**14.35**	**282**	LR	LR	10 31 11.8	
	comp=Z,642nm,18.3s,baz=116,slow=32						
VNA3	**Neumayer Olymp**	**17.39**	**143**	P	**P**	**10 27 42.9**	**-0.3**
VNA1	**Neumayer--Stat**	**17.62**	**140**	P	**P**	**10 27 45.1**	**-0.6**
VNA2	**Neumayer--Watz**	**17.98**	**141**	P	**P**	**10 27 52.1**	**+2.3**
	baz=296,slow=13						
SNAA	**Sanae**	**19.60**	**142**	P	**Pn**	**10 28 09.1**	**+0.1**
SNAA	**Sanae**	**19.60**	**142**	P	**Pn**	**10 28 08.9**	**-0.1**
	0.2nm,0.3s,baz=295,slow=8.4,SNR=7.6						
SNAA	**Sanae**	**19.60**	**142**	P	**P**	**10 28 06.0**	**-1.5**
TRQA	**Tornquist**	**25.13**	**324**	P	**P**	**10 29 05.2**	**+0.7**
TRQA				IAmb	IAmb	10 29 08.2	
	comp=Z,22nm,1.5s						
PLCA	**Paso Flores**	**25.71**	**307**	P	**P**	**10 29 11.7**	**+2.0**
	comp=Z,3.1nm,1.0s,baz=204,slow=7.2,SNR=4.8						
PLCA				LR	LR	10 39 20.9	
	comp=Z,298nm,18.5s,baz=192,slow=37						
PLCA	**Paso Flores**	**25.71**	**307**	P	**P**	**10 29 10.2**	**+0.5**
PLCA				IAmb	IAmb	10 29 12.9	
	comp=Z,22nm,1.4s						
GO06	**Curarrehue**	**27.06**	**307**	P	**P**	**10 29 21.5**	**-0.5**
GO06				IAmb	IAmb	10 29 28.0	
	comp=Z,13nm,1.2s						
QSPA	**South Pole Qui**	**29.92**	**180**	P	**P**	**10 29 47.6**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=192,slow=5.0,SNR=5.2						
QSPA				LR	LR	10 42 54.9	
	comp=Z,100nm,18.1s,baz=151,slow=39						
QSPA	**South Pole Qui**	**29.92**	**180**	P	**P**	**10 29 46.7**	**-0.5**
QSPA				IAmb	IAmb	10 29 56.7	
	comp=Z,10nm,1.1s						
GO04	**Tololo Observa**	**35.20**	**317**	P	**P**	**10 30 32.9**	**-0.9**
CPUP	**Villa Florida**	**35.26**	**338**	LR	LR	10 47 54.5	
	comp=Z,72nm,18.0s,baz=199,slow=41						
GO02	**Mina Guanaco**	**39.45**	**321**	P	**P**	**10 31 10.2**	**+0.3**
GO02				IAmb	IAmb	10 31 15.6	
	comp=Z,13nm,0.8s						
SBA	**Scott Base**	**40.83**	**189**	P	**P**	**10 31 20.9**	**+0.5**
LVC	**Limon Verde**	**41.64**	**324**	P	**P**	**10 31 28.2**	**+0.2**
MAW	**Mawson**	**41.67**	**146**	LR	LR	10 48 04.4	
	comp=Z,117nm,18.5s,baz=240,slow=35						
MAW	**Mawson**	**41.67**	**146**	P	**P**	**10 31 27.2**	**-0.2**
PB11	**IPOC Station P**	**44.55**	**324**	P	**P**	**10 31 51.7**	**+0.3**
MNMC	**Minye Minye**	**45.13**	**324**	P	**P**	**10 31 56.7**	**+0.6**
SIV	**San Ignacio**	**46.04**	**336**	P	**P**	**10 32 03.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=176,slow=5.6,SNR=9.5						
LPAZ	**La Paz**	**47.42**	**327**	P	**P**	**10 32 15.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=140,slow=7.7,SNR=4.7						
LPAZ				LR	LR	10 54 58.9	
	comp=Z,89nm,18.7s,baz=246,slow=40						
LPAZ	**La Paz**	**47.42**	**327**	P	**P**	**10 32 15.2**	**+0.6**
SUR	**Sutherland**	**49.90**	**86**	P	**P**	**10 32 34.7**	**+1.6**
SUR				IAmb	IAmb	10 32 35.1	
	comp=Z,5.8nm,0.8s						
SAML	**Samuel**	**53.32**	**336**	P	**P**	**10 32 58.8**	**+0.2**
SAML				IAmb	IAmb	10 33 04.6	
	comp=Z,3.9nm,0.8s						
BOSA	**Boshof**	**55.18**	**87**	P	**P**	**10 33 11.8**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=224,slow=6.4,SNR=6.0						
BOSA				LR	LR	10 51 56.7	
	comp=Z,86nm,19.9s,baz=208,slow=31						
BOSA	**Boshof**	**55.18**	**87**	P	**P**	**10 33 12.1**	**-0.1**
BOSA				IAmb	IAmb	10 33 14.1	
	comp=Z,4.3nm,0.8s						
LBTB	**Lobatse**	**58.33**	**85**	P	**P**	**10 33 34.9**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=215,slow=4.5,SNR=7.5						
LBTB				LR	LR	10 53 14.4	
	comp=Z,99nm,21.8s,baz=196,slow=30						
LBTB	**Lobatse**	**58.33**	**85**	P	**P**	**10 33 35.1**	**+0.6**
LBTB				IAmb	IAmb	10 33 35.4	
	comp=Z,6.6nm,0.8s						
TSUM	**Tsumeb**	**59.32**	**74**	LR	LR	10 55 25.1	
	comp=Z,62nm,19.6s,baz=140,slow=32						
OTAV	**Otavalo**	**

KSH	Kashi	137.71	91	ePKP	PKiKP	10 43 05.3	+0.4
INK	Inuvik	143.60	321	PKhKP	PKPpre	10 43 09.9	
comp=Z,0.5nm,0.5s,baz=125,slow=1.6,SNR=5.4							
MAKZ	Makanchi	146.03	88		PKPbc	10 43 18.3	0.0
MK31	Makanchi Array	146.17	89		PKPbc	10 43 18.6	-0.1
MKAR	Makanchi Array	146.17	89	PKPbc	PKPbc	10 43 18.3	-0.5
comp=Z,4.6nm,0.6s,baz=222,slow=1.7,SNR=36							
MKAR	Makanchi Array	146.17	89		PKPbc	10 43 18.5	-0.3
PRP	Porcupine Dome	146.23	313		PKPbc	10 43 18.4	-0.1
IL31		146.37	311		PKPbc	10 43 18.5	-0.2
ILAR	Eielson Array	146.37	311	PKPbc	PKPbc	10 43 18.1	-0.6
comp=Z,1.8nm,0.7s,baz=143,slow=1.9,SNR=17							
ILAR	Eielson Array	146.37	311	PKPdf	PKPbc	10 43 18.5	-0.3
RND	Reindeer	146.45	308		PKPbc	10 43 19.0	-0.1
MCK	McKinley	146.65	309	PKPdf	PKPbc	10 43 20.0	+0.4
CCB	Clear Creek Bu	146.66	311	PKPdf	PKPbc	10 43 19.9	+0.4
BMAR	Burnt Mountain	146.79	316		PKPbc	10 43 19.4	-0.6
KURK	Kurchatov	146.96	80		PKPdf	10 43 18.0	-0.8
BPAW	Bear Paw Mtn.	147.62	308	PKPdf	PKPbc	10 43 21.3	-1.0
MLY	Manley	147.95	310	PKPbc	PKPbc	10 43 23.0	-0.2
LZH	Lanzhou	148.05	125	ePKPbc	PKPdf	10 43 17.8	-3.6
LZH				pPKP	sPKPbc	10 43 29.6	+0.3
LZH				sPKP		10 43 32.8	
GTA	Gaotai	149.10	116	ePKPbc	PKPdf	10 43 21.8	-1.1
IMAR	Indian Mountai	149.49	311		PKPbc	10 43 27.2	+0.1
IMAR				PKPab	PKPab	10 43 33.7	+1.6
SONM	Songino Array	158.65	112	PKPab	PKPab	10 44 11.8	+0.2
comp=Z,0.8nm,0.6s,baz=219,slow=5.7,SNR=4.4							
SONM	Songino Array	158.65	112	PKPab	PKPab	10 44 12.0	+0.3

MAN 19 10:39:20.5, 9°.99N×124°.26E, h10km, mb4.0, ML2.8, MS2.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.43	319	⇓iP	Pg	10 39 29.0	+0.1
LLP				i S	Sb	10 39 36.0	-0.8
MSLP	Maasin	0.61	76	eP	Pb	10 39 33.3	+0.1
MSLP				eS	Sn	10 39 44.3	-0.8
SNPH	Sibulan	1.19	237	⇑iP	Pb	10 39 41.1	-2.1
SNPH				i S	Sb	10 39 57.3	-1.5
CGP	Cagayan de Oro	1.59	164	⇑eP	Pn	10 39 46.7	-1.9
CGP				eS	Sn	10 40 06.6	-2.6
RCP	Roxas	2.15	317	⇑eP	Pn	10 39 56.7	+0.3
RCP				eS	Sb	10 40 25.0	-1.4
BUKP	Musuan	2.25	159	eP	Pn	10 39 58.6	+0.9
BUKP				eS	Sn	10 40 26.6	+1.1
PAGZ	Pagadian	2.30	202	eP	Pn	10 39 59.1	+0.6
PAGZ				eS	Sn	10 40 24.8	-2.0

*ISCJB **19** 10:52:40.7±1.8, 14°.45N±0°.07×92°.83W±0°.07, h30km±10km, Error ellipse: s-maj=15.1km s-min=7.0km az=39.3*
*MEX **19** 10:52:41.9±0.6, 14°.39N×92°.82W, h13km±16km, MD3.9*
*GCG **19** 10:52:50.2±0.6, 14°.76N×92°.11W, h51km±207km, MD4.0*

ISC 19 10:52:41.0±2.6, 14°.5N±0°.1×92°.82W±0°.08, h25km±17km, n9, σ0°60/15, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.70	50	eP	Pb	10 52 54.6	0.0
THIG				i S	Sb	10 53 03.8	0.0
ERG	Entre ros, C	1.21	91	eP	Pn	10 53 02.9	+0.6
STG3	Santiaguito 3,	1.23	78	⇑eP	Pn	10 53 02.5	-0.4
PCIG		1.30	343	eP	Pn	10 53 02.7	-0.9
PCIG				i S	Sn	10 53 19.4	-0.7
FUG	Fuego 3	1.91	90	eP	Pn	10 53 12.4	+0.2
FUG				eS	Sn	10 53 34.5	-1.0
CCIG	Comitan	1.93	20	eP	Pn	10 53 12.8	+0.4
CCIG				i S	Sn	10 53 36.4	+0.4
IXG	Ixpaco	2.32	97	eP	Pn	10 53 18.1	+0.3
TGIG		2.33	353	eP	Pn	10 53 18.1	+0.3
TGIG				eS	Sn	10 53 45.8	+0.2
CMIG	Matias Romero	3.29	323	eP	Pn	10 53 31.0	0.0
CMIG				i S	Sn	10 54 10.1	+0.8

*ISCJB **19** 11:05:17.1±0.4, 60°.45S±0°.06×44°.9W±0°.1, h10km, mb3.8/5, MS3.4/3, Error ellipse: s-maj=12.1km s-min=6.9km az=144.2*
*IDC **19** 11:05:17.7±1.3, 60°.65S×44°.71W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/21, mbtmp3.9/5, ML3.4/1, MS3.4/4, Ms1 3.3/4, ms1mx3.1/16, Error ellipse: s-maj=67.2km s-min=25.4km az=45.0*
*NEIC **19** 11:05:18.7±2.4, 60°.46S±0°.09×44°.8W±0°.2, h9km±4km, mb4.4/16*

ISC 19 11:05:19.2±0.5, 60°.43S±0°.07×44°.73W±0°.08, h10km, n40, σ1°44/41, mb4.2/9, MS3.4/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.60	39	Pn	Pn	11 07 09.4	-0.4
HOPE				Sn	Sn	11 08 33.5	-2.4
PMSA	Palmer Station	9.89	236	LR	LR	11 11 05.9	
comp=Z,111nm,20.5s,baz=38,slow=36							
PMSA	Palmer Station	9.89	236	Pn	Pn	11 07 40.4	-0.8
EFI	East Falkland	11.49	314	Pn	Pn	11 08 03.8	+0.7
VNA3	Neumayer Olymp	17.64	142	P	Pn	11 09 26.0	+1.4
GO09	Cerro Castillo	17.88	289	Pn	Pn	11 09 26.5	-1.2
GO09				IAmb	IAmb	11 09 38.5	
comp=Z,74nm,1.5s							
VNA1	Neumayer--Stat	17.89	140	P	Pn	11 09 28.9	+1.2
VNA2	Neumayer--Watz	18.25	140	P	Pn	11 09 31.0	-1.0
baz=294,slow=15							
SNAA	Sanae	19.86	142	P	P	11 09 51.0	+1.0
SNAA	Sanae	19.86	142	P	P	11 09 50.0	0.0
comp=Z,0.1nm,0.3s,baz=272,slow=10.0,SNR=4.4							
SNAA	Sanae	19.86	142	P	P	11 09 49.2	-0.8
TRQA	Tornquist	24.91	326	P	P	11 10 42.1	0.0
PLCA	Paso Flores	25.35	309	P	P	11 10 48.7	+2.6
comp=Z,1.9nm,0.7s,baz=157,slow=13,SNR=5.4							
PLCA				LR	LR	11 18 59.9	
comp=Z,68nm,20.7s,baz=182,slow=32							
PLCA	Paso Flores	25.35	309	P	P	11 10 45.7	-0.4
PLCA				IAmb	IAmb	11 10 56.7	
comp=Z,8.4nm,1.4s							
GO06	Curarrehue	26.70	309	P	P	11 10 57.2	-1.2
GO06				IAmb	IAmb	11 11 02.2	
comp=Z,8.9nm,1.4s							
QSPA	South Pole Qui	29.80	180	P	P	11 11 26.6	+0.7
comp=Z,1.0nm,0.7s,baz=202,slow=2.3,SNR=6.7							
QSPA	South Pole Qui	29.80	180	P	P	11 11 25.9	0.0
QSPA				IAmb	IAmb	11 11 28.2	
comp=Z,6.1nm,1.5s							
GO04	Tololo Observa	34.91	318	P	P	11 12 11.1	+0.1
GO02	Mina Guanaco	39.20	323	P	P	11 12 45.4	-2.1
GO02				IAmb	IAmb	11 12 51.7	
comp=Z,6.9nm,0.6s							
SBA	Scott Base	40.62	190	P	P	11 12 56.1	-2.3
PB10	IPOC Station P	41.04	322	P	P	11 13 02.6	+0.1
LVC	Limon Verde	41.41	325	P	P	11 13 05.0	-0.9
MAW	Mawson	41.88	147	LR	LR	11 28 33.5	
comp=Z,48nm,20.6s,baz=251,slow=34							
PB01	IPOC Station P	43.06	325	P	P	11 13 18.2	-0.9
PB01				IAmb	IAmb	11 13 23.1	
comp=Z,9.7nm,0.5s							
GO01	Chusmiza	44.28	326	P	P	11 13 26.3	-3.0
GO01				IAmb	IAmb	11 13 35.3	
comp=Z,17nm,1.4s							
PB11	IPOC Station P	44.32	325	P	P	11 13 27.5	-1.8
MNMC	Minye Minye	44.90	326	P	P	11 13 33.9	-0.2
SIV	San Ignacio	45.94	338	P	P	11 13 43.4	+1.4
comp=Z,1.4nm,0.5s,baz=161,slow=8.2,SNR=7.2							
LPAZ	La Paz	47.22	329	P	P	11 13 55.4	+2.6
comp=Z,1.1nm,0.7s,baz=165,slow=6.4,SNR=5.0							
LPAZ	La Paz	47.22	329	P	P	11 13 52.5	-0.2
LPAZ				IAmb	IAmb	11 13 58.0	
comp=Z,1.7nm,0.8s							
BOSA	Boshof	55.74	88	LR	LR	11 34 08.7	
comp=Z,71nm,18.8s,baz=196,slow=31							
TORD	Torodi Ar. Bea	82.14	45	P	P	11 17 41.0	+1.2
comp=Z,0.6nm,0.5s,baz=204,slow=6.5,SNR=3.7							
IL31		146.03	311	PKPbc	PKPab	11 24 59.4	+1.3
ILAR	Eielson Array	146.03	311	PKPbc	PKPdf	11 24 55.2	-1.4
comp=Z,2.4nm,0.7s,baz=148,slow=2.3,SNR=22							
ILAR	Eielson Array	146.03	311		PKPdf	11 24 54.9	-1.8
ILAR				PKPbc	PKPbc	11 24 58.1	+0.5
BMAR	Burnt Mountain	146.49	316		PKPdf	11 24 57.0	-0.4
BMAR				PKPbc	PKPbc	11 24 59.6	+0.7
MK31	Makanchi Array	146.73	90		PKPdf	11 24 58.2	-0.2
MKAR	Makanchi Array	146.73	90	PKPbc	PKPdf	11 24 59.2	+0.7
comp=Z,1.1nm,0.6s,baz=234,slow=2.1,SNR=9.5							
TOLK	Toolik Lake Re	148.71	317	PKPbc	PKPbc	11 25 06.6	+1.7
IMAR	Indian Mountai	149.14	311	PKPdf	PKPdf	11 25 04.6	+2.8
IMAR				PKPbc	PKiKP	11 25 08.3	+1.1

WEL 19 11:19:05.3±0.9, 34°.S±14°.×18°.0E±1°.7, h236km±24km, M3.8/24, mB4.3/2, MLv3.8/24, Mw(mB)3.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=125.5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	3.50	197	P	Pn	11 20 02.6	+0.2
WMGZ				S	S	11 20 48.6	+1.0
HAZ	Te Kaha	3.63	205	P	Pn	11 20 04.6	+0.6
HAZ				S	S	11 20 51.8	+1.4
PKGZ	Pakihiroa	3.65	201	P	Pn	11 20 03.7	-0.7
PKGZ				S	S	11 20 49.4	-1.7
PUZ	Puketiti	3.77	198	P	Pn	11 20 05.6	-0.1
PUZ				S	S	11 20 54.3	+0.7
RUGZ	Raukumara Rang	3.85	205	P	Pn	11 20 07.2	+0.5
RUGZ				S	S	11 20 54.3	-1.1
TWGZ	Tauwhareparae	3.95	200	P	Pn	11 20 08.7	+0.9
TWGZ				S	S	11 20 59.6	+2.3
KUZ	Kuaotunu	3.97	234	P	Pn	11 20 06.6	-1.3
CNGZ	Carnagh Statio	4.18	197	P	Pn	11 20 11.0	+0.5
OPRZ	Ohinepanea	4.22	216	P	Pn	11 20 11.7	+0.7
TKGZ	Te Karaka	4.23	200	P	Pn	11 20 10.3	-0.8
TKGZ				S	S	11 21 03.8	+0.5
MWZ	Matawai	4.23	204	P	Pn	11 20 10.5	-0.7
MWZ				S	S	11 21 03.3	-0.2
MARZ	Manawahe	4.28	214	P	Pn	11 20 12.8	+1.1
URZ	Urewera	4.32	208	P	Pn	11 20 11.9	-0.3
URZ				S	S	11 21 05.7	+0.4
RAGZ	Rawiri	4.42	204	P	Pn	11 20 14.5	+1.0
RAGZ				S	S	11 21 07.6	0.0
RIGZ	Rimuhau	4.50	200	P	Pn	11 20 14.0	-0.4
RIGZ				S	S	11 21 09.6	+0.2
MUGZ	Murupara	4.64	210	P	Pn	11 20 16.3	+0.1
MUGZ				S	S	11 21 12.8	+0.4
RTZ	Ruatahuna	4.68	207	P	Pn	11 20 15.2	-1.5
RTZ				S	S	11 21 13.8	+0.5
SNGZ	Shannon Statio	4.70	203	P	Pn	11 20 16.6	-0.3
SNGZ				S	S	11 21 14.9	+1.1
KNZ	Kokohu	4.82	199	P	Pn	11 20 17.0	-1.3
ALRZ	Allen Road	4.90	213	P	Pn	11 20 19.9	+0.6
RAHZ	Arahi	4.91	205	P	Pn	11 20 20.1	+0.7
RAHZ				S	S	11 21 18.4	+0.1
MTHZ	Maungataniwha	4.94	207	P	Pn	11 20 20.3	+0.5
MTHZ				S	S	11 21 18.5	-0.6
TLZ	Tolley Road	5.11	220	P	Pn	11 20 23.7	+1.8
NMHZ	Naumai	5.17	206	P	Pn	11 20 22.8	+0.1
NMHZ				S	S	11 21 25.7	+1.4
ARHZ	Aropaoanui	5.25	204	P	Pn	11 20 22.9	-0.7
HATZ	Hinemaiaia	5.28	212	P	Pn	11 20 24.2	+0.1
BKZ	Black Stump Fm	5.34	208	P	Pn	11 20 23.4	-1.5
MCHZ	McNeill Hill	5.51	205	P	Pn	11 20 27.3	+0.4
KWHZ	Kaweka Forest	5.60	207	P	Pn	11 20 27.6	-0.4
HIZ	Hauiti	5.62	223	P	Pn	11 20 30.6	+2.3
NGZ	Ngauruhoe	5.73	214	P	Pn	11 20 28.9	+0.1
KAHZ	Kahuranaki	5.77	202	P	Pn	11 20 29.8	-0.4
BHHZ	Black Hill Sta	5.79	209	P	Pn	11 20 29.6	-0.8
KRHZ	Kereru	5.81	206	P	Pn	11 20 29.4	-1.3
FWVZ	Far West T-bar	5.82	214	P	Pn	11 20 30.8	-0.2
MOVZ	Moawhango	5.85	212	P	Pn	11 20 30.4	-0.9
TRVZ	Turoa	5.86	214	P	Pn	11 20 31.2	-0.3
PXZ	Pawanui	5.99	202	P	Pn	11 20 31.8	-1.1
PNHZ	Pukenui	6.11	206	P	Pn	11 20 32.8	-1.6
PRHZ	Porangahau	6.28	202	P	Pn	11 20 35.8	-0.7
ANWZ	Angora Road	6.50	202	P	Pn	11 20 37.2	-2.1
POWZ	Post Office Ro	6.69	207	P	Pn	11 20 40.8	-0.9
PRWZ	Pori Road	6.76	205	P	Pn	11 20 41.9	-0.7
BFZ	Birch Farm	6.78	203	P	Pn	11 20 41.2	-1.7
TIWZ	Tintock	6.98	205	P	Pn	11 20 43.2	-2.2
MRZ	Mangatainoka R	6.99	207	P	Pn	11 20 43.1	-2.5
HOWZ	Holdsworth Sta	7.22	206	P	Pn	11 20 46.1	-2.4
TMWZ	Te Maipa	7.28	203	P	Pn	11 20 47.5	-1.7
OGWZ	Otaki Gorge	7.28	208	P	Pn	11 20 46.7	-2.6
KIW	Kapiti Island	7.42	210	P	Pn	11 20 48.2	-2.9
MTW	Mount Morrison	7.46	205	P	Pn	11 20 48.9	-2.5
CAW	Cannon Point	7.57	208	P	Pn	11 20 49.8	-3.1
TRWZ	Traveller	7.61	204	P	Pn	11 20 51.4	-1.9
PAWZ	Paruwai Farm	7.68	205	P	Pn	11 20 52.0	-2.4
MSWZ	Moikau Station	7.77	206	P	Pn	11 20 53.0	-2.5
BHW	Baring Head	7.91	208	P	Pn	11 20 53.8	-3.4

*ISCJB **19** 11:31:32.7±0.6, 32°.34N±0°.04×115°.34W±0°.05, h19km±6km, Error ellipse: s-maj=8.3km s-min=5.3km az=142.6*
*MEX **19** 11:31:32.7±0.7, 32°.47N×115°.14W, h35km±6km, MD3.6*
*ECX **19** 11:31:33.2±0.6, 32°.28N×115°.33W, h5km, MD2.2, ML2.4*

ISC 19 11:31:31.9±1.1, 32°.27N±0°.05×115°.31W±0°.07, h19km±4km, n21, σ0°74/27, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.15	3	eP	Pg	11 31 35.6	-0.7
CPBX				eS	Sg	11 31 38.0	-1.3
CPBX				IAML		11 31 41.8	
comp=N,4μm,0.1s							
CPBX				⇓e		11 31 41.8	
CPBX				IAML		11 31 42.5	
comp=E,5μm,0.2s							
CPBX				⇓e		11 31 42.5	
MBIG	Mexicali	0.17	36	i P	Pg	11 31 37.0	+0.5
MBIG				i S	Sg	11 31 40.8	+1.2
DREC	Desert Rsrch C	0.55	348	eP	Pg	11 31 43.1	+0.2
WESC	Westside Schoo	0.60	324	⇑eP	Pb	11 31 43.7	0.0
COK2	Cook Ranch 2	0.68	329	⇑eP	Pb	11 31 45.2	+0.2
RMX	La Rumorosa	0.73	297	eP	Pb	11 31 44.4	-1.6
IKP	In-Ko-Pah, Jac	0.77	300	eP	Pb	11 31 46.3	-0.5
SWSC	Sam W. Stewart	0.79	329	eP	Pb	11 31 46.1	-0.8
CRR	Carrizo Plain	0.83	318	⇑iP	Pb	11 31 47.4	-0.2
MONP2	Monument Peak	1.12	304	eP	Pn	11 31 52.5	-0.2
CBX	Cerro Bola	1.14	273	eP	Pn	11 31 53.3	+0.3
CBX				eS	Sb	11 32 08.6	+1.0
CBX				IAML		11 32 14.6	
comp=E,98nm,0.5s							
CBX				⇑e		11 32 14.6	
TJIG	Tijuana	1.16	278	eP	Pn	11 31 53.0	-0.1
TJIG				i S	Sb	11 32 07.8	-0.2
TJIG	Tijuana	1.16	278	eP	Pn	11 31 53.2	+0.1
TJIG				eS	Sb	11 32 08.4	+0.4
BAR	Barrett	1.22	290	eP	Pn	11 31 54.2	+0.3
SPIG	San Pedro Mart	1.23	186	eP	Pn	11 31 54.5	+0.3
SPIG				i S	Sg	11 32 12.7	+0.9
SPIG	San Pedro Mart	1.23	186	eP	Pn	11 31 54.8	+0.5
SPX	San Pedro Mart	1.23	186	IAML		11 32 12.9	
comp=N,47nm,0.3s							
SPX				e		11 32 12.9	
SFX	San Felipe	1.29	162	eP	Pn	11 31 57.0	-0.2
SFX				eS	Sn	11 32 14.9	-0.9
OLP	Otay Lakes Par	1.41	284	eP	Pn	11 31 57.2	+0.8
EML	El Monte Cty P	1.43	296	eP	Pn	11 31 57.5	+0.7
SDRC	San Diego Road	1.45	289	eP	Pn	11 31 57.9	+0.9

MAN 19 11:39:18.1, 9°.86N×124°.04E, h3km, mb4.6, ML3.5, MS3.3, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.46	351	⇓iP	Pg	11 39 27.1	+0.1
LLP				i S	Sg	11 39 34.1	+1.2
MSLP	Maasin	0.85	71	eP	Pg	11 39 34.9	+0.3
MSLP				eS	Sb	11 39 48.4	+0.9
SNPH	Sibulan	0.94	237	⇓iP	Pb	11 39 36.9	-0.3
SNPH				i S	Sb	11 39 50.4	+0.2
OCLP	Ormoc	1.31	25	eP	Pg	11 39 42.5	-0.8
OCLP				eS	Sn	11 40 01.9	+0.6
DCPH	Dipolog City	1.44	208	⇑eP	Pn	11 39 45.4	+0.2
DCPH				eS	Sn	11 40 04.8	+0.3
CGP	Cagayan de Oro	1.54	155	⇓eP	Pn	11 39 46.0	-0.6
GUIM	Jordan	1.61	298	eP	Pn	11 39 46.9	-0.7
GUIM				eS	Sn	11 40 07.7	-1.2
BUTP	Butuan	1.80	119	eP	Pg	11 39 58.2	+5.5
BUTP				eS	Sb	11 40 14.4	-0.3
PAGZ	Pagadian	2.10	198	eP	Pn	11 39 52.1	-2.2
PAGZ				eS	Sb	11 40 23.1	-0.4
RCP	Roxas	2.11	323	⇓eP	Pn	11 39 53.9	-0.5
RCP				eS	Sb	11 40 22.7	-1.1
BUKP	Musuan	2.21	153	eP	Pn	11 39 56.4	+0.5
BUKP				eS	Sb	11 40 26.5	-0.3
JAP	San Jose, Anti	2.24	293	⇓iP	Pg	11 40 03.7	+2.6
CTBH	Cotabato--PC H	2.63	175	⇑iP	Pn	11 40 01.7	+0.2
KCP	Kidapawan	3.02	160	⇑eP	Pb	11 40 11.1	-1.6
KCP				i S	Sg	11 41 09.1	+14

*IDC **19** 11:57:35.4±2.0, 4°.80N×126°.24E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/60, mbtmp3.6/4, Error ellipse: s-maj=116.5km s-min=24.4km az=69.0*
*ISCJB **19** 11:57:51.9±0.8, 4°.44N±0°.08×125°.9E±0°.2, h150km, mb3.5/4, Error ellipse: s-maj=29.5km s-min=7.5km az=164.6*
*MAN **19** 11:57:53.1, 4°.37N×125°.44E, h1km, mb4.5, ML3.4, MS3.2*

ISC 19 11:57:53.2±1.1, 4°.47N±0°.10×125°.9E±0°.2, h150km, n9, σ0°55/11, mb3.5/4, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.63	355	eP	Pn	11 58 24.7	+0.5
DDMP				eS	Sn	11 58 47.8	-0.3
SKMP	Bagumbayan, Su	2.42	328	eP	Pn	11 58 33.8	+0.5
SKMP				eS	Sn	11 59 04.3	0.0
DMPH	Davao City--Mi	2.62	353	⇑eP	Pn	11 58 57.1	+21
DMPH				eS	Sn	11 59 08.7	-0.1
KCP	Kidapawan	2.64	343	⇑eP	Pn	11 58 36.8	+0.7
CTBH	Cotabato--PC H	3.17	330	⇑iP	Pn	11 58 42.9	+0.2
FITZ	Fitzroy Crossi	22.42	181	P	P	12 02 40.0	+0.4
0.7nm,0.4s,baz=359,slow=8.1,SNR=10							
WRA	Warramunga Arr	25.65	161	P	P	12 03 08.4	-0.7
0.4nm,0.3s,baz=340,slow=9.9,SNR=14							
ASAR	Alice Springs	29.05	165	P	P	12 03 39.5	0.0
0.4nm,0.5s,baz=346,slow=7.6,SNR=8.8							
MKAR	Makanchi Array	56.45	325	P	P	12 07 18.6	-0.8
0.4nm,0.4s,baz=120,slow=8.0,SNR=6.1							

*ISCJB **19** 12:01:21.4±0.7, 18°.99N±0°.06×145°.7E±0°.3, h214km, Error ellipse: s-maj=35.5km s-min=7.7km az=2.9*
*NEIC **19** 12:01:21.1±0.8, 19°.05N±0°.08×145°.4E±0°.6, h184km±22km, mb4.5/7*
*IDC **19** 12:01:21.3±4.5, 19°.13N×145°.46E, h171km±37km, mb3.0/5, mb1 3.4/6, mb1mx3.0/60, mbtmp3.6/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/11, Error ellipse: s-maj=93.1km s-min=18.9km az=118.0*

ISC 19 12:01:22.8±0.8, 18°.96N±0°.08×145°.6E±0°.3, h214km, n16, σ1°58/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	2.25	176	Pn	Pn	12 02 02.5	-2.5
SARN				Sn	S	12 02 36.1	-1.6
GUMO	Guam	5.39	188	P	Pn	12 02 42.9	+0.3
5.3nm,0.3s,baz=30,slow=20,SNR=2.9							
GUMO				S	S	12 03 46.6	+1.1
5.2nm,0.3s,baz=22,slow=19,SNR=3.1							
GUMO				LR	LR	12 04 02.3	
comp=Z,84nm,18.1s,baz=118,slow=29							
GUMO	Guam	5.39	188		Pn	12 02 41.0	-1.5
GUMO					S	12 03 44.1	-1.4
JHJ2	Mitsune	15.03	341		Pn	12 04 42.8	-1.9
ERM	Erimo	23.08	355	P	P	12 06 09.3	-0.2
WB0	Warramunga Arr	40.03	197	P	P	12 08 38.6	+1.3
WB0				IAmb	IAmb	12 09 54.3	
comp=Z,27nm,1.8s							
WR0	Warramunga Arr	40.18	196	P	P	12 08 39.7	+1.3
WR0				IAmb	IAmb	12 09 56.9	
comp=Z,30nm,1.8s							
WRAB	Tennant Creek	40.20	197	P	P	12 08 36.6	-2.1
WB2	Warramunga Arr	40.21	197	P	P	12 08 40.5	+1.8
WB2				IAmb	IAmb	12 10 05.9	
comp=Z,16nm,1.5s							
WRA	Warramunga Arr	40.22	197	P	P	12 08 40.1	+1.3
comp=Z,0.6nm,0.6s,baz=22,slow=9.0,SNR=6.8							
WRA				PcP	PcP	12 10 39.2	+0.8
comp=Z,0.4nm,1.0s,baz=11,slow=4.3,SNR=2.9							
WRA	Warramunga Arr	40.22	197	P	P	12 08 39.8	+1.1
FITZ	Fitzroy Crossi	41.74	209	P	P	12 08 52.4	+1.3
comp=Z,1.9nm,0.8s,baz=18,slow=9.7,SNR=6.9							
FITZ	Fitzroy Crossi	41.74	209	P	P	12 08 52.7	+1.6
FITZ				IAmb	IAmb	12 08 53.0	
comp=Z,17nm,1.6s							
ASAR	Alice Springs	43.88	196	P	P	12 09 10.0	+1.6
comp=Z,0.2nm,0.5s,baz=16,slow=12,SNR=3.9							
ILAR	Eielson Array	63.44	26	P	P	12 11 29.2	-0.3
comp=Z,0.2nm,0.3s,baz=254,slow=5.9,SNR=4.4							
NVAR	Mina Array Bea	83.03	52	P	P	12 13 26.6	+1.9
comp=Z,0.2nm,0.5s,baz=297,slow=6.0,SNR=2.9							

IDC 19 12:28:58.1±7.4, 16°.99S×176°.51W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/36, mbtmp3.8/3, Error ellipse: s-maj=326.0km s-min=35.1km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.59	258	P	P

comp=Z,325nm,0.1s
PB03 IPOC Station P 3.15 281 ⇑ *i* P **Pn 12 35 16.4 +1.2**
PB03 *i* S **S 12 35 57.5 -1.1**
PB03 IPOC Station P 3.15 281 *i* P **Pn 12 35 16.4 +1.2**
PB03 *i* S **S 12 35 57.8 -0.7**
PB01 IPOC Station P 3.29 300 ⇑ *i* P **Pn 12 35 17.6 +0.9**
PB01 *i* S **S 12 36 00.1 -1.1**
PB01 IPOC Station P 3.29 300 *i* P **Pn 12 35 17.7 +0.9**
PB01 *i* S **S 12 36 00.5 -0.7**
PB01 IPOC Station P 3.29 300 **Pn 12 35 17.6 +0.9**
PB01 S **S 12 36 00.4 -0.9**
PB07 IPOC Station P 3.35 286 ⇑ *eP* **Pn 12 35 18.6 +1.1**
PB07 ⇑ *i* P 12 35 18.7
PB07 *i* S **S 12 36 01.1 -1.5**
PB07 IPOC Station P 3.35 286 *i* P **Pn 12 35 18.7 +1.2**
PB07 *i* S **S 12 36 01.6 -1.0**
PB04 IPOC Station P 3.46 275 ⇑ *i* P **Pn 12 35 20.0 +1.3**
PB04 *i* S **S 12 36 03.9 -1.0**
PB04 IPOC Station P 3.46 275 *i* P **Pn 12 35 20.1 +1.3**
PB04 *i* S **S 12 36 03.8 -1.0**
PB04 IPOC Station P 3.46 275 **Pn 12 35 19.9 +1.3**
PB04 S **S 12 36 03.8 -1.0**
PB02 IPOC Station P 3.50 293 ⇑ *i* P **Pn 12 35 19.9 +0.8**
PB02 *i* S **S 12 36 04.3 -1.2**
PB02 IPOC Station P 3.50 293 *i* P **Pn 12 35 19.9 +0.8**
PB02 *i* S **S 12 36 03.7 -1.8**
PB08 IPOC Station P 3.60 315 ⇑ *i* P **Pn 12 35 21.9 +1.5**
PB08 *i* S **S 12 36 07.8 -0.3**
PB08 IPOC Station P 3.60 315 *i* P **Pn 12 35 22.0 +1.5**
PB08 *i* S **S 12 36 08.1 0.0**
GO02 Mina Guanaco 3.79 229 **Pn 12 35 24.7 +2.2**
GO02 S **S 12 36 12.6 +0.8**
PB10 IPOC Station P 3.88 257 ⇑ *i* P **Pn 12 35 24.4 +1.1**
PB10 *i* S **S 12 36 12.0 -1.2**
PB10 IPOC Station P 3.88 257 *i* P **Pn 12 35 24.4 +1.1**
PB10 *i* S **S 12 36 12.0 -1.2**
PB10 IAML 12 36 13.9
comp=Z,406nm,0.5s
PB10 IPOC Station P 3.88 257 **Pn 12 35 24.1 +0.8**
PB10 S **S 12 36 11.7 -1.5**
GO01 Chusmiza 3.98 319 ⇑ *i* P **Pn 12 35 25.7 +0.8**
GO01 *i* S **S 12 36 15.5 -0.5**
GO01 Chusmiza 3.98 319 **Pn 12 35 25.8 +0.8**
GO01 S **S 12 36 15.6 -0.4**
PB14 IPOC Station P 4.12 242 *i* P **Pn 12 35 28.3 +2.0**
PB14 *i* S **S 12 36 18.0 -0.6**
PB14 IAML 12 36 22.1
comp=Z,770nm,0.3s
AHML Horco Molle 4.18 167 *i* P **Pn 12 35 28.1 +1.3**
PB11 IPOC Station P 4.20 314 *i* P **Pn 12 35 27.2 0.0**
PB11 *i* S **S 12 36 17.8 -2.5**
PB11 IPOC Station P 4.20 314 **Pn 12 35 27.1 0.0**
PB11 S **S 12 36 17.8 -2.5**
MNMC Minye Minye 4.63 320 **Pn 12 35 32.8 +0.4**
MNMC S **S 12 36 27.8 -1.8**
MNMCX Minye Minye 4.63 320 *i* P **Pn 12 35 32.9 +0.5**
MNMCX *i* S **S 12 36 27.8 -1.9**
PSGC Pisagua 4.63 311 ⇑ *i* P **Pn 12 35 31.3 -1.0**
PSGC *i* S **S 12 36 25.3 -4.1**
PSGCX Pisagua 4.63 311 *i* P **Pn 12 35 31.5 -0.7**
PSGCX *i* S **S 12 36 26.5 -2.9**
PB16 IPOC Station P 5.22 326 *i* P **Pn 12 35 40.8 +0.9**
PB16 *i* S **S 12 36 42.7 -0.4**
PB12 IPOC Station P 5.47 317 *i* P **Pn 12 35 41.1 -1.3**
PB12 *i* S **S 12 36 44.4 -3.5**
CYA Choya 5.74 175 *i* P **Pn 12 35 48.1 +2.6**
GO03 Copiap 5.97 215 *i* P **Pn 12 35 49.0 +0.6**
GO03 *i* S **S 12 36 57.2 -1.6**
GO03 Copiap 5.97 215 **Pn 12 35 48.9 +0.6**
GO03 S **S 12 36 57.1 -1.6**
LPAZ La Paz 6.58 346 P **Pn 12 35 57.1 +0.3**
comp=Z,1.7nm,0.3s,baz=156,slow=9.9,SNR=21
LPAZ S **S 12 37 11.2 -2.6**
comp=Z,0.7nm,0.3s,baz=67,slow=7.7,SNR=12
LPAZ La Paz 6.58 346 *i* P **Pn 12 35 58.1 +1.4**
LPAZ *i* S **S 12 37 12.8 -1.1**
LPAZ La Paz 6.58 346 *eP* **Pn 12 35 57.5 +0.8**
LPAZ La Paz 6.58 346 *eP* **Pn 12 35 57.5 +0.8**
LPAZ La Paz 6.58 346 **Pn 12 35 57.5 +0.8**
LPAZ S **S 12 37 11.0 -2.9**
SIV San Ignacio 8.37 38 P **Pn 12 36 16.6 -2.1**
comp=Z,7.1nm,0.3s,baz=229,slow=12,SNR=142
AMOG MOGNA 8.40 192 *i* P **Pn 12 36 19.0 +0.1**
AMOG *i* S **S 12 37 49.5 -5.1**
GO04 Tololo Observa 8.40 207 *i* P **Pn 12 36 19.5 +0.4**
GO04 *i* S **S 12 37 52.3 -2.5**
GO04 Tololo Observa 8.40 207 **Pn 12 36 19.5 +0.4**
GO04 S **S 12 37 52.5 -2.4**
TCA Tanti 8.75 170 *i* P **Pn 12 36 24.1 +0.7**
TCA IAML 12 36 24.1
comp=Z,9.9nm,0.2s
TCA *i* S **S 12 38 01.0 -1.6**
RTLL Cerro Villicun 8.78 192 *i* P **Pn 12 36 23.7 +0.1**
RTLL IAML 12 36 25.5
comp=Z,20nm,0.2s
RTLL *i* S **S 12 37 57.6 -5.6**
CFA Coronel Fontan 9.01 190 P **Pn 12 36 26.4 -0.1**
comp=Z,3.9nm,0.3s,baz=20,slow=12,SNR=121
CFA S **S 12 38 02.0 -6.6**
comp=Z,4.0nm,0.3s,baz=9.5,slow=6.8,SNR=16
CFA Coronel Fontan 9.01 190 *i* P **Pn 12 36 26.5 -0.1**
CFA *i* S **S 12 38 03.4 -5.1**
RTLS Leoncito 9.41 195 *i* P **Pn 12 36 33.7 +1.8**
RTLS IAML 12 36 37.7
comp=Z,8.0nm,0.2s
RTLS *i* S **S 12 38 16.6 -1.6**
MRA San Martin 9.70 176 *i* P **Pn 12 36 35.3 +0.1**
MRA *i* S **S 12 38 18.8 -5.7**
MRA IAML 12 38 37.1
comp=E,5.7nm,0.5s
ASAL Salagasta 10.08 192 *i* P **Pn 12 36 40.6 +0.6**
ASAL *i* S **S 12 38 29.2 -4.1**
AQDB Aquidauana 10.22 79 *eP* **Pn 12 36 42.6 +0.8**
AQDB Aquidauana 10.22 79 *eP* **Pn 12 36 42.6 +0.8**
AAGR Agrelo 10.56 191 *i* P **Pn 12 36 47.4 +1.4**
ROC1 El Roble 11.01 201 **Pn 12 36 51.8 0.0**
ROC1 S **S 12 38 49.7 -5.4**
SALV Santo Antonio 12.18 58 *eP* **Pn 12 37 06.2 -0.1**
SALV Santo Antonio 12.18 58 *eP* **Pn 12 37 06.2 -0.1**
TRCB Terra Rica 12.73 93 *eP* **P 12 37 14.3 -0.6**
TRCB Terra Rica 12.73 93 *eP* **P 12 37 14.3 -0.6**
GO05 Huala 13.17 200 Pn **Pn 12 37 18.3 0.0**
PTGB Pitanga 13.31 101 *eP* **P 12 37 21.3 0.0**
PTGB Pitanga 13.31 101 *eP* **P 12 37 21.3 0.0**
ITAB Concordia 13.72 112 *eP* **P 12 37 26.7 +0.9**
ITAB Concordia 13.72 112 *eP* **P 12 37 26.7 +0.9**
CPSB Cacapava Do Su 13.91 126 *eP* **P 12 37 29.4 +1.5**
CPSB Cacapava Do Su 13.91 126 *eP* **P 12 37 29.4 +1.5**
SAML Samuel 14.03 13 *eP* **P 12 37 28.8 -0.5**
SAML Samuel 14.03 13 *eP* **P 12 37 28.8 -0.5**
SAML Samuel 14.03 13 Pn **Pn 12 37 27.0 -1.9**
PCMB Pacaembu 14.09 88 *eP* **P 12 37 31.9 +1.8**
PCMB Pacaembu 14.09 88 *eP* **P 12 37 31.9 +1.8**
PLTB Pedras Altas 14.53 131 *eP* **P 12 37 35.9 +1.1**
PLTB Pedras Altas 14.53 131 *eP* **P 12 37 35.9 +1.1**
ITRB Iturama 15.28 82 *eP* **Pn 12 37 44.1 +0.2**
ITRB Iturama 15.28 82 *eP* **Pn 12 37 44.1 +0.2**
ARAG Araguaiana, MT 15.45 66 *eP* **Pn 12 37 45.9 0.0**
ARAG Araguaiana, MT 15.45 66 *eP* **Pn 12 37 45.9 0.0**
CNLB Canela 15.46 118 *eP* **Pn 12 37 46.1 0.0**
CNLB Canela 15.46 118 *eP* **Pn 12 37 46.1 0.0**
FRTB Fartura 15.54 96 *eP* **Pn 12 37 47.0 +0.1**
FRTB Fartura 15.54 96 *eP* **Pn 12 37 47.0 +0.1**
CLDB Colider 15.54 43 *eP* **Pn 12 37 47.0 -0.1**
CLDB Colider 15.54 43 *eP* **Pn 12 37 47.0 -0.1**
TRQA Tornquist 15.77 167 *eP* **P 12 37 49.2 +0.9**
TRQA Tornquist 15.77 167 *eP* **P 12 37 49.2 +0.9**
TRQA Tornquist 15.77 167 P **P 12 37 48.7 +0.4**
TRQA IAmb IAmb 12 38 33.4
comp=Z,37nm,1.9s
BB19B Bebedouro 16.69 88 *eP* **Pn 12 37 59.8 -0.8**
BB19B Bebedouro 16.69 88 *eP* **Pn 12 37 59.8 -0.8**
GO06 Curarrehue 17.36 193 P **P 12 38 06.7 +0.9**
RCLB Rio Claro- Sao 17.46 93 *eP* **P 12 38 07.5 +0.5**
RCLB Rio Claro- Sao 17.46 93 *eP* **P 12 38 07.5 +0.5**
SPB Sao Paulo 17.49 97 *eP* **Pn 12 38 08.2 -1.7**
SPB Sao Paulo 17.49 97 *eP* **Pn 12 38 08.2 -1.7**
VAO Valinhos 17.94 95 *eP* **P 12 38 12.8 +0.5**
VAO Valinhos 17.94 95 *eP* **P 12 38 12.8 +0.5**
PLCA Paso Flores 18.31 190 P **P 12 38 18.2 +2.2**
comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=8.1
PLCA Paso Flores 18.31 190 P **P 12 38 16.4 +0.4**
PLCA IAmb IAmb 12 38 43.4
comp=Z,17nm,1.5s
BDFB Brasilia 18.75 71 P **P 12 38 20.3 -0.7**
comp=Z,1.0nm,0.3s,baz=242,slow=13,SNR=15
BDFB Brasilia 18.75 71 P **P 12 38 21.2 +0.2**
SDV Santo Domingo 31.67 352 P **P 12 40 19.7 -0.8**
SDV IAmb IAmb 12 40 38.4
comp=Z,13nm,1.5s
SNAA Sanae 60.39 161 P **P 12 44 05.5 +2.9**
DBIC Dimbokro 66.89 72 P **P 12 44 45.2 -0.5**
comp=Z,1.6nm,0.3s,baz=224,slow=2.1,SNR=8.6
DBIC Dimbokro 66.89 72 P **P 12 44 45.2 -0.5**
QSPA South Pole Qui 67.49 180 P **P 12 44 49.3 +0.5**
QSPA IAmb IAmb 12 45 14.2
comp=Z,14nm,1.7s
TORD Torodi Ar. Bea 75.61 69 P **P 12 45 37.9 +0.1**
comp=Z,3.3nm,0.3s,baz=264,slow=5.9,SNR=51
PDAR Pinedale Array 76.31 329 P **P 12 45 45.1 +3.7**
comp=Z,0.1nm,0.6s,baz=119,slow=9.4,SNR=1.8
KSH Kashi 144.01 53 *e*PKP PKPab 12 53 22.3 -1.6
MKAR Makanchi Array 145.19 39 PKPbc **PKPab 12 53 29.9 +1.8**
comp=Z,0.7nm,0.4s,baz=323,slow=3.5,SNR=8.5
MKAR Makanchi Array 145.19 39 **PKPab 12 53 29.7 +1.6**
LZH Lanzhou 164.21 30 *e*PKP **PKPdf 12 53 48.1 -5.5**
LZH pPKP pPKPdf 12 55 00.4 -0.4
LZH sPKP 12 55 30.0

*NEIC **19** 12:45:23.8±1.4, 10.°69S±0.°09×166.°20E±0.°04, h62km±7km, mb4.7/27*
*ISCJB **19** 12:45:26.5±0.4, 10.°86S±0.°05×166.°14E±0.°06, h100km, mb3.9/12, Error ellipse: s-maj=9.5km s-min=6.5km az=149.0*
*IDC **19** 12:45:27.6±3.0, 10.°86S×166.°14E, h91km±25km, mb3.8/12, mb1 4.0/14, mb1mx3.8/43, mbtmp4.2/14, MS3.1/2, Ms1 3.1/2, ms1mx2.6/38, Error ellipse: s-maj=22.3km s-min=15.2km az=51.0*
ISC 19 12:45:27.6±0.6, 10.°82S±0.°07×166.°14E±0.°08, h100km, n61, σ 1°49/60, mb4.3/23, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.25 282**		P		**Pn**		**12 46 58.2**	**+0.8**
	15nm,0.3s,baz=90,slow=1.0,SNR=12								
HNR				S			**Sn**	**12 48 07.6**	**+0.2**
	10nm,0.3s,baz=80,slow=18,SNR=2.7								
HNR				LR		LR		12 49 24.5	
	comp=Z,126nm,19.6s,baz=32,slow=38								
HNR	**Honiara**	**6.25 282**				**Pn**		**12 46 53.8**	**-3.5**
HNR						**Sn**		**12 48 02.9**	**-4.6**
DZM	**Mont Dzumac**	**11.19 179**		P		**Pn**		**12 48 05.1**	**+0.5**
	2.6nm,0.3s,baz=315,slow=8.6,SNR=33								
DZM				S			**Sn**	**12 50 04.8**	**-3.0**
	0.3nm,0.3s,baz=307,slow=20,SNR=3.7								
DZM	**Mont Dzumac**	**11.19 179**				**Pn**		**12 48 03.3**	**-1.3**
DZM						**Sn**		**12 50 06.7**	**-1.1**
MSVF	**Nonsavu**	**13.43 122**		Pn		**Pn**		**12 48 30.5**	**-3.9**
CTA	**Charters Tower**	**21.24 242**		P		**P**		**12 50 06.5**	**+0.6**
	2.4nm,0.6s,baz=66,slow=13,SNR=4.4								
URZ	**Urewera**	**29.04 162**		P		**P**		**12 51 18.6**	**+0.3**
	2.0nm,0.4s,baz=315,slow=2.9,SNR=5.4								
URZ	**Urewera**	**29.04 162**		P		**P**		**12 51 18.6**	**+0.3**
URZ				IAmb		IAmb		12 51 19.7	
	comp=Z,16nm,1.2s								
H11S2	**WAKE ISLAND Hy 29.13**		**1**	T		T		13 21 55.5	
	baz=181,slow=76,SNR=19								
H11S3	**WAKE ISLAND Hy 29.14**		**1**	T		T		13 21 55.7	
	baz=181,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy 29.15**		**1**	T		T		13 21 56.9	
	baz=181,slow=76,SNR=17								
BKZ	**Black Stump Fm**	**29.70 164**		P		**P**		**12 51 25.3**	**+1.1**
BKZ				IAmb		IAmb		12 51 27.6	
	comp=Z,12nm,0.5s								
H11N1	**WAKE ISLAND Hy 30.35**		**1**	T		T		13 23 27.0	
	baz=182,slow=76,SNR=8.8								
H11N3	**WAKE ISLAND Hy 30.36**		**1**	T		T		13 23 17.6	
	baz=182,slow=76,SNR=5.7								
H11N2	**WAKE ISLAND Hy 30.37**		**1**	T		T		13 23 28.4	
	baz=182,slow=76,SNR=5.7								
QRZ	**Quartz Range**	**30.41 170**		P		**P**		**12 51 32.8**	**+2.4**
QRZ				IAmb		IAmb		12 51 49.7	
	comp=Z,40nm,1.4s								
BFZ	**Birch Farm**	**31.05 165**		P		**P**		**12 51 36.1**	**0.0**
BFZ				IAmb		IAmb		12 51 43.4	
	comp=Z,32nm,1.1s								
SNZO	**South Karori**	**31.29 168**		P		**P**		**12 51 39.2**	**+1.1**
THZ	**Tophouse**	**31.39 170**		P		**P**		**12 51 40.6**	**+1.5**
THZ				IAmb		IAmb		12 51 44.5	
	comp=Z,8.2nm,0.8s								
BHW	**Baring Head**	**31.42 167**		P		**P**		**12 51 39.0**	**-0.3**
MSWZ	**Moikau Station**	**31.51 167**		P		**P**		**12 51 40.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**31.51 169**		P		**P**		**12 51 40.4**	**+0.2**
PLWZ	**Palliser**	**31.66 167**		P		**P**		**12 51 38.3**	**-3.2**
WR0	**Warramunga Arr**	**31.74 250**		P		**P**		**12 51 43.2**	**+0.8**
WB0	**Warramunga Arr**	**31.84 250**		P		**P**		**12 51 43.7**	**+0.4**
WB2	**Warramunga Arr**	**31.91 250**		P		**P**		**12 51 44.5**	**+0.6**
WRA	**Warramunga Arr**	**31.92 250**		P		**P**		**12 51 44.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=82,slow=9.0,SNR=13								
WRA				PcP		**PcP**		**12 54 33.8**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=76,slow=3.3,SNR=7.9								
WRA	**Warramunga Arr**	**31.92 250**		P		**P**		**12 51 43.9**	**-0.1**
KHZ	**Kahutara**	**32.13 170**		P		**P**		**12 51 46.0**	**+0.5**
LTZ	**Lake Taylor**	**32.28 172**		P		**P**		**12 51 47.1**	**+0.1**
LTZ				IAmb		IAmb		12 51 48.6	
	comp=Z,13nm,0.6s								
FOZ	**Fox Glacier**	**32.74 175**		P		**P**		**12 51 52.4**	**+1.5**
FOZ				IAmb		IAmb		12 52 05.5	
	comp=Z,6.6nm,1.0s								
OXZ	**Oxford**	**32.79 172**		P		**P**		**12 51 52.0**	**+0.8**
OXZ				IAmb		IAmb		12 51 52.1	
	comp=Z,13nm,1.0s								
RPZ	**Rata Peaks**	**33.05 173**		P		**P**		**12 51 53.8**	**+0.3**
	comp=Z,8.0nm,0.6s,baz=62,slow=1.5,SNR=6.6								
RPZ	**Rata Peaks**	**33.05 173**		P		**P**		**12 51 53.2**	**-0.3**
RPZ				IAmb		IAmb		12 51 57.8	
	comp=Z,33nm,1.4s								
AS31	**Alice Springs**	**33.23 243**		P		**P**		**12 51 56.1**	**+0.6**
ASAR	**Alice Springs**	**33.24 243**		P		**P**		**12 51 55.6**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=64,slow=10,SNR=41								
ASAR				PcP		**PcP**		**12 54 36.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=75,slow=2.5,SNR=11								
ASAR	**Alice Springs**	**33.24 243**		P		**P**		**12 51 56.3**	**+0.8**
MQZ	**McQueen's Vall**	**33.25 171**		P		**P**		**12 51 56.6**	**+1.4**
LBZ	**Lake Benmore**	**33.62 175**		P		**P**		**12 51 59.4**	**+0.9**
LBZ				IAmb		IAmb		12 52 13.8	
	comp=Z,8.8nm,1.1s								
SARN	**Sarigan**	**33.96 323**		P		**P**		**12 51 58.6**	**-3.2**
BBOO	**Buckleboo**	**35.26 227**		P		**P**		**12 52 14.0**	**+1.1**
KNRA	**Kununurra**	**36.66 258**		P		**P**		**12 52 26.0**	**+1.0**
KNRA				IAmb		IAmb		12 52 28.7	
	comp=Z,7.9nm,0.8s								
FITZ	**Fitzroy Crossi**	**39.81 255**		P		**P**		**12 52 52.2**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=78,slow=8.4,SNR=14								
FITZ	**Fitzroy Crossi**	**39.81 255**		P		**P**		**12 52 52.2**	**+0.8**
FITZ				IAmb		IAmb		12 52 53.8	
	comp=Z,2.9nm,0.6s								
KAPI	**Kappang**	**46.27 273**		LR		LR		13 16 37.6	
	comp=Z,26nm,18.9s,baz=103,slow=40								
ERM	**Erimo**	**56.66 340**		P		**P**		**12 55 01.1**	**+0.6**
SBA	**Scott Base**	**67.02 180**		P		**P**		**12 56 11.7**	**+2.2**
CMAR	**Chiang Mai Arr**	**72.38 293**		P		**P**		**12 56 44.9**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=116,slow=4.5,SNR=4.8								
CMAR	**Chiang Mai Arr**	**72.38 293**		P		**P**		**12 56 44.2**	**+0.8**
SONM	**Songino Array**	**78.72 324**		P		**P**		**12 57 19.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=164,slow=7.5,SNR=2.5								
QSPA	**South Pole Qui**	**79.18 180**		P		**P**		**12 57 22.2**	**+0.7**
QSPA				IAmb		IAmb		12 57 23.1	
	comp=Z,6.1nm,1.4s								
IL31		**83.18**	**18**	P		**P**		**12 57 42.5**	**+0.2**
IL31				IAmb		IAmb		12 57 52.3	
	comp=Z,9.9nm,1.5s								
ILAR	**Eielson Array**	**83.18**	**18**	P		**P**		**12 57 43.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=236,slow=5.0,SNR=4.3								
BCAR	**Beaver Creek A**	**83.75**	**21**	P		**P**		**12 57 46.0**	**+0.6**
MAW	**Mawson**	**85.07 202**		P		**P**		**12 57 53.0**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=44,slow=6.4,SNR=6.3								
MAW	**Mawson**	**85.07 202**		P		**P**		**12 57 53.7**	**+1.7**
NVAR	**Mina Array Bea**	**85.59**	**50**	P		**P**		**12 57 56.8**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=228,slow=6.4,SNR=5.7								
NVAR	**Mina Array Bea**	**85.59**	**50**	P		**P**		**12 57 55.2**	**-0.1**
BMAR	**Burnt Mountain**	**85.68**	**17**	P		**P**		**12 57 53.2**	**-1.8**
MKAR	**Makanchi Array**	**93.62 317**		P		**P**		**12 58 33.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=97,slow=6.2,SNR=7.3								
MKAR	**Makanchi Array**	**93.62 317**		P		**P**		**12 58 32.7**	**-0.1**

IDC 19 12:50:10.8±2.1, 5.°72N×122.°49E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, Error ellipse: s-maj=281.3km s-min=26.0km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.04 156**		P		P		12 56 03.4	-0.6
	1.0nm,1.1s,baz=331,slow=10,SNR=6.6								
ASAR	**Alice Springs**	**31.26 160**		P		P		12 56 33.0	+0.5
	0.2nm,0.3s,baz=345,slow=6.9,SNR=8.5								
MKAR	**Makanchi Array**	**53.55 327**		P		P		12 59 33.4	-0.1
	0.5nm,0.3s,baz=115,slow=7.1,SNR=6.9								

*IDC **19** 12:54:24.4±1.3, 10.°22S×123.°98E, h0km, mb3.7/2, mb1 3.7/6, mb1mx3.6/33, mbtmp3.6/6, ML3.4/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/51, Error ellipse: s-maj=25.7km s-min=9.0km az=1.0*
*ISCJB **19** 12:54:25.1±0.9, 10.°42S±0.°07×123.°73E±0.°09, h20km±9km, mb3.7/2, MS3.6/1, Error ellipse: s-maj=17.9km s-min=7.9km az=144.3*
*DJA **19** 12:54:26.9±0.5, 10.°S±5.°×12.°4E±.°, h11km±4km, M4.2/8, mb4.4/5, mbM4.7/1, MLv4.2/8, Mw(mB)4.0/1*
ISC 19 12:54:25.8±1.3, 10.°39S±0.°10×123.°8E±0.°1, h13km±10km, n13, σ 1°52/15, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.21 332**		Pg		**Pg**		**12 54 30.2**	**-0.1**
	4μm,0.3s,baz=124,slow=3.6,SNR=347								
BATI				Lg		Lg		12 54 34.5	
	6μm,0.3s,baz=37,slow=20,SNR=421								
BATI	**Baumata**	**0.21 332**		P		**Pg**		**12 54 30.3**	**-0.1**
BATI				S		**Sg**		**12 54 33.5**	**-0.1**
SOEI	**Soe**	**0.81 38**		P		**Pn**		**12 54 42.5**	**-0.6**
MMRI	**Maumere**	**2.30 319**		P		**Pn**		**12 55 03.1**	**-0.5**
PLAI	**Plampang**	**6.10 284**		P		**Pn**		**12 55 55.7**	**-0.1**
KAPI	**Kappang**	**6.66 323**		Pn		**Pn**		**12 56 05.2**	**+1.7**
	0.9nm,0.3s,baz=135,slow=16,SNR=5.3								
FITZ	**Fitzroy Crossi**	**7.87 167**		Pn		**Pn**		**12 56 23.2**	**+3.1**
	0.4nm,0.3s,baz=356,slow=13,SNR=22								
FITZ				Sn		**Sn**		**12 57 50.8**	**+1.6**
	3.4nm,0.3s,baz=90,slow=16,SNR=12								
WRA	**Warramunga Arr**	**13.93 134**		Pn		**Pn**		**12 57 42.0**	**-1.2**
	0.1nm,0.3s,baz=308,slow=14,SNR=7.5								
WRA				Sn		**Sn**		**13 00 15.5**	**-2.4**
	0.6nm,0.3s,baz=300,slow=24,SNR=10.0								
ASAR	**Alice Springs**	**16.37 145**		Pn		**Pn**		**12 58 15.7**	**+0.2**
	0.1nm,0.3s,baz=323,slow=14,SNR=12								
ASAR				Sn		**Sn**		**13 01 15.6**	**-1.6**
	0.2nm,0.3s,baz=320,slow=24,SNR=6.7								
DAV	**Davao City (W)**	**17.44 6**		LR		LR		13 04 43.9	
	comp=Z,65nm,21.2s,baz=300,slow=36								
RPZ	**Rata Peaks**	**52.61 138**		LR		LR		13 26 37.1	
	comp=Z,61nm,20.3s,baz=239,slow=37								
MKAR	**Makanchi Array**	**67.90 331**		P		**P**		**13 05 24.2**	**+0.1**
	0.5nm,0.6s,baz=124,slow=7.8,SNR=4.2								
ZALV	**Zalesovo Beam**	**72.08 337**		P		**P**		**13 05 49.7**	**0.0**
	0.4nm,0.4s,baz=142,slow=5.9,SNR=2.6								

*IDC **19** 12:59:25.2±0.8, 3.°43S×135.°64E, h0km, mb4.0/7, mb1 4.2/14, mb1mx4.1/35, mbtmp4.1/14, ML3.9/4, MS3.3/11, Ms1 3.3/11, ms1mx3.1/47, Error ellipse: s-maj=23.2km s-min=15.8km az=51.0*
*ISCJB **19** 12:59:26.5±0.3, 3.°64S±0.°03×135.°62E±0.°03, h22km, mb4.2/10, MS3.4/7, Error ellipse: s-maj=4.8km s-min=3.5km az=147.1*
*DJA **19** 12:59:28.6±0.4, 3.°S±3.°×13.°6E±.°, h22km±2km, M4.7/12, mB5.4/7, mb4.6/12, MLv4.7/11, Mw(mB)4.8/7*
*NEIC **19** 12:59:29.7±2.4, 3.°66S±0.°07×135.°59E±0.°07, h38km±8km, mb4.3/16*
ISC 19 12:59:28.3±0.4, 3.°70S±0.°04×135.°63E±0.°05, h22km, n89, σ 2°23/96, mb4.3/14, MS3.3/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.91 19**		P		Pn		12 59 54.4	-5.2
RKPI	**Ransiki, Papua**	**2.61 326**		P		**Pn**		**13 00 07.2**	**-2.0**
RKPI				S		**Sn**		**13 00 37.3**	**-2.9**
FAKI	**Fak Fak**	**3.46 283**		P		**Pn**		**13 00 21.6**	**+0.7**
FAKI				S		**Sn**		**13 01 03.1**	**+1.8**
FAKI	**Fak Fak**	**3.46 283**				**Pn**		**13 00 21.7**	**+0.7**
FAKI				Sn		**Sn**		**13 01 01.8**	**+0.6**
SMPI	**Sarmi**	**3.51 61**		P		**Pn**		**13 00 20.7**	**-0.9**
GENI	**Genyem**	**4.66 77**		P		**Pn**		**13 00 38.1**	**+0.7**
SIJI	**Sorong**	**5.18 303**		Pn		**Pn**		**13 00 43.4**	**-1.3**
	21nm,0.3s,baz=195,slow=20,SNR=72								
SIJI				Sn		**Sn**		**13 01 43.0**	**-0.9**
	90nm,0.3s,baz=180,slow=20,SNR=21								
SWI	**Sorong**	**5.19 303**		P		**Pn**		**13 00 44.1**	**-0.6**
SWI				S		**Sn**		**13 01 41.8**	**-2.2**
JAY	**Jayapura**	**5.20 77**		Pn		**Pn**		**13 00 44.4**	**-0.6**
	2.7nm,0.3s,baz=283,slow=14,SNR=8.5								
MSAI	**Masohi**	**6.70 273**		P		**Pn**		**13 01 07.1**	**+1.7**
	16nm,0.6s,2μm0.1nm								
AAI	**Ambon**	**7.42 270**		P		**Pn**		**13 01 18.1**	**+2.8**
KDU	**Kakadu**	**9.46 199**		P		**Pn**		**13 01 45.6**	**+2.3**
	baz=9.6,SNR=41								
SANI	**Sanana**	**9.77 279**		P		**Pn**		**13 01 47.9**	**+0.4**
MTN	**Manton Dam**	**10.12 206**		P		**Pn**		**13 01 54.5**	**+2.1**
	baz=10,SNR=29								
MTN	**Manton Dam**

CTA	Charters Tower	19.31	148	P	Pn	13 03 55.0 +1.8
	comp=Z,0.2nm,0.3s,baz=336,slow=14,SNR=3.3					
CTAO	Charters Tower	19.31	148	P	P	13 03 52.5 +0.4
GUMO	Guam	19.47	28	LR	LR	13 11 37.8
	comp=Z,82nm,18.2s,baz=178,slow=38					
AS31	Alice Springs	19.92	185	P	Pn	13 04 00.9 +0.4
AS31				IAmb	IAmb	13 04 08.3
	comp=Z,20nm,0.8s					
ASAR	Alice Springs	19.92	185	P	Pn	13 04 01.7 +1.2
	comp=Z,22nm,0.7s,baz=6.1,slow=12,SNR=68					
ASAR				S	S	13 07 38.4 -3.7
	comp=Z,1.7nm,0.8s,baz=5.4,slow=28,SNR=4.9					
ASAR	Alice Springs	19.92	185	P	Pn	13 04 02.5 +2.0
ASAR					S	13 07 38.5 -3.6
WRKA	Warakurna	22.36	198	P	P	13 04 27.7 +2.6
	baz=23,SNR=19					
PSA00	Pilbara Seismi	23.47	219	P	P	13 04 39.7 +3.1
SBUM	Sibu	24.18	284	P	P	13 04 42.3 -1.1
SBUM				IAmb	IAmb	13 04 47.8
	comp=Z,16nm,1.5s					
QLP	Quilpie	24.20	161	P	P	13 04 46.1 +2.7
	baz=24,SNR=6.0					
HNR	Honiara	24.81	104	LR	LR	13 14 08.9
	comp=Z,102nm,19.3s,baz=332,slow=36					
LEM	Lembang	28.06	262	LR	LR	13 18 03.3
	comp=Z,75nm,21.0s,baz=257,slow=40					
STKA	Stephens Creek	28.59	169	P	P	13 05 25.2 +2.2
	comp=Z,1.6nm,0.6s,baz=342,slow=9.5,SNR=4.3					
STKA				LR	LR	13 17 44.0
	comp=Z,97nm,18.5s,baz=6.2,slow=38					
STKA	Stephens Creek	28.59	169	P	P	13 05 24.9 +1.9
JCJ	Chichijima	31.26	11	LR	LR	13 17 40.8
	comp=Z,40nm,18.8s,baz=167,slow=35					
NWAO	Narrogin (SRO)	33.79	208	LR	LR	13 20 10.6
	comp=Z,66nm,19.2s,baz=33,slow=37					
MJAR	Matsushiro Arr	40.10	3	LR	LR	13 22 54.7
	comp=Z,38nm,18.4s,baz=165,slow=35					
CMAR	Chiang Mai Arr	42.31	303	P	P	13 07 20.8 -0.1
	comp=Z,0.4nm,0.3s,baz=128,slow=5.8,SNR=7.0					
CMAR	Chiang Mai Arr	42.31	303	P	P	13 07 19.9 -1.0
LZH	Lanzhou	49.49	326	eP	P	13 08 19.1 +1.7
LZH				pP	sP	13 08 31.3 +4.1
LZH				sP	pP	13 08 35.6 +11
LZH				PP	PP	13 10 21.3 +9.4
LZH				pmax	pmax	
	comp=Z,16nm,1.1s					
LZH				pmax	pmax	
	comp=Z,69nm,4.9s					
HHC	Hu-ho-hao-te	49.49	336	eP	P	13 08 20.0 +2.7
HHC				pmax	pmax	
	comp=Z,11nm,0.5s					
HHC				pmax	pmax	
	comp=Z,9.0nm,5.7s					
GTA	Gaotai	54.09	326	eP	P	13 08 53.4 +1.7
GTA				pP	sP	13 09 02.8 +1.3
GTA				sP	pP	13 09 07.1 +8.3
GTA				S	S	13 16 26.5 -0.7
GTA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,88nm,7.1s					
GTA				LR	LR	
	comp=N,69nm,17.1s					
GTA				LR	LR	
	comp=E,76nm,17.5s					
GTA				LR	LR	
	comp=Z,87nm,15.2s					
TAPN	Taplejung	55.55	307	eP	P	13 09 03.2 +0.5
ODAN	Odare	55.60	306	eP	P	13 09 03.4 +0.4
	comp=Z,7.7nm,0.6s					
RAMN	Ramite	56.27	306	eP	P	13 09 07.9 +0.1
	comp=Z,44nm,1.4s					
JIRN	Jiri	56.91	306	eP	P	13 09 12.5 0.0
GUN	Gumba	57.26	307	eP	P	13 09 14.9 0.0
SONM	Songino Array	57.36	337	P	P	13 09 14.2 -0.8
	comp=Z,0.2nm,0.5s,baz=162,slow=10,SNR=2.9					
PKI	Pulchoki	57.50	306	eP	P	13 09 15.8 -0.8
KKN	Kakani	57.69	306	eP	P	13 09 17.4 -0.4
DMN	Daman	57.76	306	eP	P	13 09 17.8 -0.5
GKN	Gorkha	58.30	306	eP	P	13 09 22.0 0.0
KOLN	Koldanda	59.04	305	eP	P	13 09 27.8 +0.5
	comp=Z,22nm,0.8s					
DANN	Dangsing	59.15	306	eP	P	13 09 28.3 +0.2
	comp=Z,37nm,1.0s					
WMQ	Urumqi	63.91	323	eP	P	13 10 01.4 +1.7
WMQ				pP	sP	13 10 13.6 +4.1
WMQ				pmax	pmax	
	comp=Z,13nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,74nm,3.9s					
MK31	Makanchi Array	68.72	324	P	P	13 10 29.2 -1.2
MK31				IAmb	IAmb	13 10 41.9
	comp=Z,3.2nm,1.1s					
MKAR	Makanchi Array	68.72	324	P	P	13 10 29.2 -1.2
	comp=Z,1.3nm,0.4s,baz=110,slow=7.5,SNR=23					
KSH	Kashi	69.55	315	eP	P	13 10 38.3 +2.5
ZAA0	Zalesovo Array	71.27	331	P	P	13 10 44.7 -1.2
ZALV	Zalesovo Beam	71.27	331	P	P	13 10 44.9 -1.0
	comp=Z,0.8nm,0.5s,baz=128,slow=4.5,SNR=3.3					
KKAR	Karatay Array	74.69	316	P	P	13 11 05.3 -1.1
BRVK	Borovoye	78.45	326	P	P	13 11 26.5 -0.9
BRVK				IAmb	IAmb	13 11 36.1
	comp=Z,5.2nm,1.2s					
SOCY	Socotra	82.62	283	P	P	13 11 49.8 -1.0
ABKAR	Abkulak array	83.50	320	P	P	13 11 53.7 -0.7
ABKAR	Abkulak array	83.50	320	P	P	13 11 54.0 -0.4
ABKAR				IAmb	IAmb	13 11 55.6
	comp=Z,1.9nm,1.1s					
RSO	Redoubt South	84.24	28	P	P	13 11 59.5 +1.3
ILAR	Eielson Array	88.00	25	P	P	13 12 14.2 -2.3
	comp=Z,0.3nm,0.6s,baz=261,slow=4.5,SNR=7.0					
ILAR	Eielson Array	88.00	25	P	P	13 12 15.2 -1.3
CPUP	Villa Florida	147.62	158	PKPbc	PKPbc	13 19 11.9 +0.1
	comp=Z,1.2nm,0.6s,baz=180,slow=5.1,SNR=2.6					
LPAZ	La Paz	149.24	131	PKPbc	PKPab	13 19 19.5 -2.0
	comp=Z,2.7nm,0.9s,baz=270,slow=3.0,SNR=2.5					

*IDC **19** 13:11:34.0±1.2, 14°.90S×174°.34W, h0km, mb4.2/4, mb1 4.5/5, mb1mx3.9/41, mbtmp4.2/5, ML4.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/57, Error ellipse: s-maj=44.9km s-min=23.5km az=145.0*

*ISCJB **19** 13:11:39.6±0.5, 15°.00S±0°.08×174°.04W±0°.06, h73km, mb4.0/4, Error ellipse: s-maj=12.6km s-min=7.0km az=150.6*

*NEIC **19** 13:11:41.8±1.3, 15°.01S±0°.10×174°.03W±0°.08, h79km±10km, mb5.0/19*

ISC 19 13:11:41.4±0.7, 15°.00S±0°.1×174°.00W±0°.09, h73km, n31, σ0°.88/29, mb4.9/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.42	64	Pn	Pn	13 12 20.5	+1.7
	116nm,0.3s,baz=197,slow=2.8,SNR=174						
AFI				Sn	Sn	13 12 45.0	-2.5
	33nm,0.3s,baz=0.0,slow=20,SNR=4.6						
AFI				LR	LR	13 13 10.8	
	comp=Z,164nm,19.9s,baz=256,slow=36						
AFI	Afiamalu	2.42	64		Pn	13 12 20.4	+1.6
NIUE	Niue	5.62	137	Pn	Pn	13 13 03.6	+1.0
MSVF	Nonsavu	8.10	249	Pn	Pn	13 13 36.5	0.0
URZ	Urewera	24.46	197	P	P	13 16 53.6	+0.1
	2.8nm,0.6s,baz=63,slow=2.3,SNR=3.5						
URZ	Urewera	24.46	197	P	P	13 16 53.4	-0.1
BKZ	Black Stump Fm	25.48	197	P	P	13 17 02.1	-0.7
THZ	Tophouse	28.97	200	P	P	13 17 33.7	-0.4
THZ				IAmb	IAmb	13 18 16.6	
	comp=Z,48nm,1.5s						
LTZ	Lake Taylor	30.09	200	P	P	13 17 44.4	+0.3
LTZ				IAmb	IAmb	13 18 24.3	
	comp=Z,85nm,1.9s						
FOZ	Fox Glacier	31.62	203	P	P	13 17 57.8	+0.4
FOZ				IAmb	IAmb	13 18 23.3	
	comp=Z,59nm,1.7s						
LBZ	Lake Benmore	32.23	201	P	P	13 18 02.0	-0.8
LBZ				IAmb	IAmb	13 19 07.1	
	comp=Z,40nm,1.4s						
WKZ	Wanaka	33.03	202	P	P	13 18 08.9	-0.8
DCZ	Deep Cove	34.27	204	P	P	13 18 20.3	-0.2
DCZ				IAmb	IAmb	13 19 19.2	
	comp=Z,58nm,1.7s						
WHZ	Wether Hill Ro	34.33	203	P	P	13 18 22.5	+1.4
H11S2	WAKE ISLAND Hy	38.32	330	T	T	13 59 29.9	
	baz=146,slow=75,SNR=8.4						
H11S3	WAKE ISLAND Hy	38.34	330	T	T	13 59 32.2	
	baz=146,slow=75,SNR=5.8						
H11S1	WAKE ISLAND Hy	38.34	330	T	T	13 59 27.7	
	baz=146,slow=75,SNR=5.3						
AIN	Ainahou	38.73	29	P	P	13 18 58.5	-0.4
STKA	Stephens Creek	43.73	239	P	P	13 19 39.9	+0.2
BBOO	Buckleboo	48.51	239	P	P	13 20 16.7	-0.6
WR0	Warramunga Arr	49.18	256	P	P	13 20 22.0	-0.6
WR0				IAmb	IAmb	13 21 53.7	
	comp=Z,13nm,1.4s						
WB0	Warramunga Arr	49.33	257	P	P	13 20 23.2	-0.5
WB0				IAmb	IAmb	13 20 35.3	
	comp=Z,17nm,1.7s						
WB2	Warramunga Arr	49.36	256	P	P	13 20 24.0	0.0
WB2				IAmb	IAmb	13 20 25.5	
	comp=Z,10nm,1.4s						
WRAB	Tennant Creek	49.36	256	P	P	13 20 23.9	0.0
WRAB				IAmb	IAmb	13 22 14.4	
	comp=Z,28nm,1.9s						
WRA	Warramunga Arr	49.37	256	P	P	13 20 24.1	+0.1
	comp=Z,1.7nm,0.6s,baz=91,slow=7.5,SNR=46						
WRA	Warramunga Arr	49.37	256	P	P	13 20 23.6	-0.4
AS31	Alice Springs	49.68	252	P	P	13 20 26.4	0.0
ASAR	Alice Springs	49.68	252	P	P	13 20 26.4	0.0
	comp=Z,14nm,0.6s,baz=87,slow=8.0,SNR=190						
ASAR	Alice Springs	49.68	252	P	P	13 20 25.9	-0.4
FORT	Forrest	55.08	243	P	P	13 21 05.3	-0.9
FORT				IAmb	IAmb	13 21 23.4	
	comp=Z,31nm,1.0s						
ILAR	Eielson Array	82.17	11	P	P	13 23 54.8	+0.8
	comp=Z,0.2nm,0.6s,baz=227,slow=6.0,SNR=5.7						

*THR **19** 13:31:36.8, 27°.63N×53°.83E, h14km, ML4.4*

*IDC **19** 13:31:36.1±0.8, 27°.71N×53°.59E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.1/66, mbtmp4.1/23, ML3.9/2, MS3.4/3, Ms1 3.4/3, ms1mx3.1/60, Error ellipse: s-maj=17.6km s-min=14.5km az=172.0*

*ISCJB **19** 13:31:37.1±0.2, 27°.71N±0°.02×53°.61E±0°.03, h16km, mb4.3/33, MS4.4/1, Error ellipse: s-maj=3.5km s-min=2.1km az=149.6*

*NEIC **19** 13:31:37.6±1.5, 27°.72N±0°.04×53°.65E±0°.08, h10km±1km, mb4.7/36, mb_Lg4.3(TEH), ML4.4(THR)*

*TEH **19** 13:31:38.3, 27°.73N×53°.68E, h15km, ML4.3*

*DSN **19** 13:31:38.2±1.7, 27°.75N×53°.62E, h10km, ML4.8/8, Error ellipse: s-maj=26.8km s-min=6.0km az=12.0*

*OMAN **19** 13:31:43.1±2.3, 27°.41N×53°.83E, h197km±23km, Error ellipse: s-maj=21.9km s-min=10.7km az=25.0*

ISC 19 13:31:38.4±0.4, 27°.69N±0°.03×53°.67E±0°.04, h16km, n209, σ1°.59/225, mb4.4/45, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.57	232	ePg	Pg	13 31 49.8	+0.1
LMD1				eSg	Sb	13 31 59.0	+1.1
LMD1				IAMB	IAmb	13 32 03.2	
	comp=Z,0.0nm,0.4s						
JHRM	Jahrom	0.82	354	ePg	Pb	13 31 53.4	-0.9
JHRM				eSg	Sb	13 32 04.8	-0.3
JHRM				IAMB	IAmb	13 32 16.5	
	comp=Z,0.0nm,0.4s						
SHI	Shiraz	2.19	333	ePn	Pn	13 32 14.6	+0.2
SHI				IAMB	IAmb	13 32 59.7	
	comp=Z,7μm,0.9s						
BNDS	Bandar-Abbas	2.24	97	ePn	Pn	13 32 14.1	-0.9
BNDS	Bandar-Abbas	2.24	97	eSg	Sn	13 32 42.3	-0.1
BNDS	Bandar-Abbas	2.24	97	ePn	Pn	13 32 14.1	-0.9
BNDS	Bandar-Abbas	2.24	97	eAML	AML	13 32 56.6	
	comp=N,2μm,0.4s						
GENO	Geno	2.24	97	ePn	Pn	13 32 16.2	+1.2
GENO				IAMB	IAmb	13 33 04.2	
	comp=Z,0.0nm,0.7s						
IKAZ	Kazeroun	2.63	323	ePn	Pn	13 32 22.1	+1.6
IKAZ				IAMB	IAmb	13 33 19.1	
	comp=Z,7μm,0.5s						
SHME	Shamm	2.75	126	eP	Pn	13 32 24.3	+2.5
	SNR=6.4						
SHME	Shamm	2.75	126	ePn	Pn	13 32 22.9	+1.0
UMQ	Umm Al-Quwin	2.80	140	P	Pb	13 32 28.5	+0.5
UMQ	Umm Al-Quwin	2.80	140	ePn	Pn	13 32 23.9	+1.4
NIAN	Nian	2.81	92	ePn	Pn	13 32 24.1	+1.4
NIAN				IAMB	IAmb	13 33 25.2	
	comp=Z,0.0nm,0.6s						
BANOM	Banah	2.94	126	iP	Pn	13 32 25.7	+1.2
	SNR=14						
BANOM				S	Sn	13 33 02.5	+3.1
BANOM	Banah	2.94	126	P	Pb	13 32 27.7	-2.7
	SNR=9.4						
MSFE	Esma-Masafi	3.22	136	iP	Pn	13 32 30.4	+2.0
	SNR=11						
MSFE	Esma-Masafi	3.22	136	ePn	Pn	13 32 31.0	+2.6
NGRK	Negar Kerman	3.32	53	ePn	Pn	13 32 30.9	+0.9
NGRK				IAMB	IAmb	13 33 30.3	
	comp=Z,0.0nm,0.7s						
AJN	Ajban	3.33	159	P	Pn	13 32 32.8	+3.0
AJN	Ajban	3.33	159	ePn	Pn	13 32 33.1	+3.2
MDH	Madha	3.35	135	iP	Pn	13 32 31.6	+1.4
	SNR=11						
MDH	Madha	3.35	135	P	Pn	13 32 32.3	+2.1
	SNR=6.1						
MDH				S	Sn	13 33 12.8	+3.2
MDH	Madha	3.35	135	ePn	Pn	13 32 32.2	+2.1
ASUD	Al Ashush, Dub	3.40	154	iP	Pn	13 32 34.0	+3.2
	SNR=12						
ASUD	Al Ashush, Dub	3.40	154	P	Pn	13 32 33.9	+3.2
	SNR=12						
ASUD	Al Ashush, Dub	3.40	154	ePn	Pn	13 32 34.2	+3.4
FAQ	Al Faqa, Dubai	3.40	149	P	Pn	13 32 32.8	+2.0
FAQ	Al Faqa, Dubai	3.40	149	P	Pn	13 32 33.6	+2.8
FAQ				S	Sn	13 33 14.0	+3.1
FAQ	Al Faqa, Dubai	3.40	149	ePn	Pn	13 32 34.0	+3.1
KRBR	Kerman	3.54	49	ePn	Pn	13 32 32.8	-0.3
KRBR	Kerman	3.54	49	ePn	Pn	13 32 32.8	-0.3
TVBK	TV Kerman	3.55	49	ePn	Pn	13 32 35.1	+2.0
TVBK				IAMB	IAmb	13 33 40.1	
	comp=Z,0.0nm,0.8s						
UOSS	Minazif	3.56	140	iP	Pn	13 32 33.8	+0.8
	SNR=17						
UOSS	Minazif	3.56	140	P	Pn	13 32 34.8	+1.8
	SNR=6.9						
UOSS	Minazif	3.56	140	ePn	Pn	13 32 35.0	+2.0
UOSS	Minazif	3.56	140		Pn	13 32 34.3	+1.3
KHNJ	Kahnooj	3.58	85	ePn	Pn	13 32 35.5	+2.2
HATD	Hatta, Dubai	3.61	142	iP	Pn	13 32 35.0	+1.3
	SNR=18						
HATD	Hatta, Dubai	3.61	142	P	Pn	13 32 36.0	+2.3
	SNR=18						
HATD				S	Sn	13 33 19.1	+3.1
HATD	Hatta, Dubai	3.61	142	ePn	Pn	13 32 35.8	+2.1
KHGB	Koh Gabri	3.63	42	ePn	Pn	13 32 35.4	+1.2
KHGB				IAMB	IAmb	13 33 46.8	
	comp=Z,0.0nm,0.8s						
ASHO	Ashiyiah	3.68	144	iP	Pn	13 32 36.5	+1.7
	SNR=8.5						
ASHO	Ashiyiah	3.68	144	P	Pn	13 32 37.0	+2.2
	SNR=23						
ASHO				S	Sn	13 33 20.5	+2.6
ASHO	Ashiyiah	3.68	144	ePn	Pn	13 32 36.9	+2.2
IMEH	Mehriz	3.78	12	ePn	Pn	13 32 37.7	+1.5
CHMN	Cheshme madani	4.03	57	ePn	Pn	13 32 41.4	+1.7
CHMN				IAMB	IAmb	13 34 03.9	
	comp=Z,0.0nm,0.9s						
ALNE	Al Ain	4.08	152	iP	Pn	13 32 41.6	+1.5
	SNR=12						
ALNE	Al Ain	4.08	152	ePn	Pn	13 32 42.5	+2.4
ISAD	Sadrabad	4.21	0	ePn	Pn	13 32 44.3	+2.1
IBAF	Bafgh	4.22	23	ePn	Pn	13 32 43.6	+1.3
IRAM	Ramesheh	4.25	345	ePn	Pn	13 32 44.0	+1.2
ICHK	Chekchek	4.58	8	ePn	Pn	13 32 49.0	+1.7
IBRJ	Brojen	4.70	334	ePn	Pn	13 32 50.6	+1.7
IGAR	Gharneh	4.91	344	ePn	Pn	13 32 52.9	+1.2
ARQ	Araqi	5.04	149	P	Pn	13 32 55.3	+1.8
	SNR=12						
ARQ				S	Sn	13 33 54.0	+2.6
JHBN	Jahan bin	5.22	331	ePn	Pn	13 32 57.0	+0.9
HOQ	Hoqain	5.25	140	P	Pn	13 32 56.9	+0.7
	SNR=6.8						
HOQ				S	Sn	13 33 55.7	-0.7
IZEF	Zefreh	5.32	348	ePn	Pn	13 32 57.4	0.0
ANAR	Anarak	5.48	1	ePn	Pn	13 33 00.8	+1.3
IPIR	Pirpir	5.53	335	ePn	Pn	13 33 00.3	0.0
BIDO	Bidbid	5.78	135	P	Pn	13 33 05.2	+1.7
BIDO				S	Sn	13 34 07.7	-1.8
BIDO	Bidbid	5.78	135	ePn	Pn	13 33 04.7	+1.2
BSY	Bisya	5.87	146	P	Pn	13 33 07.0	+2.2
	SNR=10						
BSY				S	Sn	13 34 11.9	+0.1
TPRV	Parvadeh(Tabas	5.92	25	ePn	Pn	13 33 06.6	+1.0
SMDO	Samad	6.08	138	P	Pn	13 33 09.8	+2.0
	SNR=9.7						
SMDO				S	Sn	13 34 18.7	+1.6
WSAR	Wadi Sarin	6.30	134	P	Pn	13 33 12.0	+1.3
	SNR=11						
WSAR	Wadi Sarin	6.30	134	Pn	Pn	13 33 12.2	+1.5
	comp=Z,6.0nm,0.3s,baz=326,slow=8.5,SNR=40						
WSAR				Sn	Sn	13 34 20.0	-2.5
	comp=Z,21nm,0.3s,baz=145,slow=19,SNR=21						
WSAR				LR	LR	13 36 17.8	
	comp=Z,260nm,20.7s,baz=330,slow=44						
BSRN	Basiran	6.37	47	ePn	Pn	13 33 12.1	+0.3
BSRN	Basiran	6.37	47	eAML	AML	13 35 09.7	
	comp=N,107nm,0.9s						
BSRN	Basiran	6.37	47	ePn	Pn	13 33 12.1	+0.3
KRSH	Karshahi	6.40	348	ePn	Pn	13 33 12.5	+0.4
CHBR	Chabahar	6.44	107	ePn	Pn	13 33 10.6	-2.0
CHBR	Chabahar	6.44	107	ePn	Pn	13 33 10.6	-2.0
TABS	Tabas	6.64	26	ePn	Pn	13 33 16.3	+0.9
TABS	Tabas	6.64	26	ePn	Pn	13 33 16.3	+0.9
JMDO	Jabal Madar	6.65	142	P	Pn	13 33 16.3	+0.8
	SNR=13						
JMDO				S	Sn	13 34 30.6	-0.4
NHDN	Nehbandan	6.67	55	ePn	Pn	13 33 16.9	+1.0
TNSJ	Nastanj	6.74	21	ePn	Pn	13 33 17.4	+0.6
ITEG	Tejag	6.79	39	ePn	Pn	13 33 18.9	+1.3
WBK	Wadi Bani Khal	6.97	135	P	Pn	13 33 21.0	+1.0
	SNR=14						
WBK				S	Sn	13 34 37.6	-1.4
BMDN	Meydan	7.28	326	ePn	Pn	13 33 24.9	+0.7
AFRZ	Afriz	7.34	38	ePn	Pn	13 33 26.7	+1.6
IVRN	Varamin	7.47	348	ePn	Pn	13 33 26.8	0.0
JLN	Jalan Bani Buh	7.59	135	P	Pn	13 33 28.5	+0.2
	SNR=9.6						
JLN				S	Sn	13 34 50.4	-3.6
	SNR=7.7						
IDOB	Doab	7.70	323	ePn	Pn	13 33 31.8	+1.7
HAGD	Aghdareh	8.10	333	ePn	Pn	13 33 35.4	-0.1
ISHM	Shahmirzad	8.10	358	ePn	Pn	13 33 36.4	+0.8
SHRT	Shahrakht	8.23	42	ePn	Pn	13 33 37.6	+0.4
SHRT	Shahrakht	8.23	42	ePn	Pn	13 33 37.6	+0.4
IRAZ	Razeghan	8.32	338	ePn	Pn	13 33 38.7	0.0
RAYN	Ar Rayn	8.46	242	iP	Pn	13 33 39.9	-0.5
	SNR=23						
RAYN	Ar Rayn	8.46	242		Pn	13 33 40.9	+0.5
DQM	DQM	8.50	155	P	Pn	13 33 39.1	-1.8
DQM				S	Sn	13 35 12.8	-3.7
IGLO	Ghaloghah	8.79	1	ePn	Pn	13 33 46.6	+1.6
HSRG	Sareghieh	8.82	330	ePn	Pn	13 33 44.8	-0.8
WHFO	Wadi Hawf	9.73	179	P	Pn	13 33 56.5	-1.2
	SNR=8.0						
SHAO	Shalim	9.79	169	P	Pn	13 33 55.6	-3.0
	SNR=13						
IAKL	Akhelmad	9.87	25	ePn	Pn	13 34 01.6	+1.7
HRA	Herat	9.93	46		Pn	13 34 01.9	+1.2
DMTO	DMTO	10.00	173	P	Pn	13 34 00.1	-1.4
DMTO				S	Sn	13 35 47.5	-5.8
RBK	Rabkut	10.15	177	P	Pn	13 34 03.8	+0.2
IMYA	Miami	10.20	31	ePn	Pn	13 34 05.5	+1.1
ABTO	Aybut	10.29	182	P	Pn	13 34 04.9	-0.7
GEYT	Alibeck	10.87	19	Pn	Pn	13 34 15.6	+2.2
	comp=N,0.5nm,0.3s,baz=206,slow=13,SNR=11						
GEYT				LR	LR	13 39 12.7	
	comp=N,711nm,18.1s,baz=195,slow=42						
GEYT	Alibeck	10.87	19		Pn	13 34 13.6	+0.2
GYA0B	ALIBECK ARRAY	10.87	19		Pn	13 34 12.9	-0.5
GNI	Garni	14.46	332	Pn	P	13 35 11.2	+2.0
	comp=N,2.0nm,0.3s,baz=199,slow=5.1,SNR=5.2						
KBL	Kabul	14.82	59		Pn	13 35 09.0	+1.4
ASF	Jabal al Asfar	15.21	291	Pn	P	13 35 19.2	+1.6
	comp=N,0.5nm,0.3s,baz=70,slow=6.4,SNR=4.9						
SOCY	Socotra	15.43	179	Pn	Pn	13 35 11.1	-4.4
SOCY				IAmb	IAmb	13 35 30.3	
	comp=Z,31nm,1.3s						
AKH	Akhalkalaki	16.03	331	P	P	13 35 25.6	-1.2
THW	Thamme Wali	16.42	68	P	Pn	13 35 27.6	-0.6
EIL	Elat	16.55	281	Pn	P	13 35 33.5	+1.1
	comp=Z,0.4nm,0.3s,baz=102,slow=9.3,SNR=3.1						
EIL				LR	LR	13 42 18.8	
	comp=Z,54nm,19.3s,baz=106,slow=39						
CEP	Cherat	16.82	64	P	Pn	13 35 33.1	-0.3
NIL	Nilore	17.85	66	P	P	13 35 47.1	+0.3
NIL				IAmb	IAmb	13 35 50.0	
	comp=Z,64nm,1.2s						
CHCP	Chirah Chowk	17.86	66	P	P	13 35 47.6	+0.7
KBZ	Khabaz	18.21	334	P	P	13 35 50.9	+0.3
	comp=Z,0.1nm,0.3s,baz=143,slow=7.3,SNR=8.1						
KIV	Kislovodsk	18.48	334	P	P	13 35 53.3	-0.4
ATD	Arta Tunnel	19.02	214	P	Pn	13 36 02.5	+2.0
	comp=Z,0.5nm,0.3s,baz=170,slow=14,SNR=3.8						
ATD	Arta Tunnel	19.02	214	IAmb	IAmb	13 36 06.2	
	comp=Z,60nm,1.5s						
BR131	Keskin Array S	20.48	311	P	P	13 36 14.5	-1.3
BRTR	Keskin Array B	20.48	311	P	P	13 36 16.7	+1.0
	comp=Z,3.8nm,0.8s,baz=130,slow=11,SNR=6.9						
BRTR	Keskin Array B	20.48	311	P	P	13 36 16.8	+1.1
KK31	Karatay Array	20.55	37	P	P	13 36 16.9	+0.5
KK31				IAmb	IAmb	13 36 21.6	
	comp=Z,32nm,1.0s						
KKAR	Karatay Array	20.55	37	P	P	13 36 16.2	-0.1
KKAR	Karatay Array	20.55	37	P	P	13 36 16.7	+0.4
KKAR				IAmb	IAmb	13 36 21.7	
	comp=Z,32nm,1.0s						
ARSB	Arslanbob	20.87	44	P	P

BVAR	Borovoye Array	28.19	22	P		P	13 37 30.2 +0.1
	comp=Z,4.7nm,0.8s,baz=205,slow=6.4,SNR=15						
GUN	Gumba	28.45	82	*eP*		P	13 37 33.4 +0.3
JIRN	Jiri	28.75	82	*eP*		P	13 37 35.6 -0.2
RAMN	Ramite	29.22	84	*eP*		P	13 37 40.1 +0.3
MK31	Makanchi Array	29.46	42	P		P	13 37 41.0 -0.5
MKAR	Makanchi Array	29.46	42	P		P	13 37 41.7 +0.2
	comp=Z,0.6nm,0.5s,baz=227,slow=8.9,SNR=9.1						
MKAR	Makanchi Array	29.46	42	P		P	13 37 40.8 -0.7
AKASG	Malin Array Be	29.53	328	P		P	13 37 40.8 -1.2
	comp=Z,0.3nm,0.3s,baz=135,slow=8.5,SNR=6.0						
AKASG	Malin Array Be	29.53	328	P		P	13 37 39.6 -2.4
AKBB	Malin Array Si	29.53	328	P		P	13 37 40.0 -2.0
AKBB					IAmb	IAmb	13 38 39.9
	comp=Z,19nm,1.5s						
KURBB	Kurchatov Arra	29.68	33	P		P	13 37 43.5 +0.3
	comp=Z,1.5nm,0.8s,baz=235,slow=9.1,SNR=9.6						
KURK	Kurchatov	29.78	33	P		P	13 37 44.7 +0.5
BURAR	Bucovina Array	29.79	320	P		P	13 37 43.7 -0.8
WMQ	Urumqi	31.69	50	*eP*		P	13 38 03.6 +2.3
WMQ				pP		sP	13 38 09.8 +1.3
WMQ				sP		pP	13 38 14.3 +7.9
WMQ				pmax		pmax	
	comp=Z,9.0nm,0.7s						
WMQ				pmax		pmax	
	comp=Z,100nm,4.3s						
KOLS	Kolonicke sedl	32.15	320	*eP*		P	13 38 06.7 +1.5
LANS	Liptovska Anna	33.88	319	*eP*		P	13 38 21.3 +0.9
VYHS	Vyhne	33.97	317	*eP*		P	13 38 23.5 +2.4
ZAA0	Zalesovo Array	34.77	32	P		P	13 38 26.0 -1.9
ZAA0					IAmb	IAmb	13 38 38.5
	comp=Z,5.3nm,0.7s						
ZALV	Zalesovo Beam	34.77	32	P		P	13 38 26.9 -1.0
	comp=Z,0.9nm,0.3s,baz=231,slow=9.4,SNR=7.6						
ZALV	Zalesovo Beam	34.77	32	P		P	13 38 26.1 -1.8
GERES	GERESS Array B	37.25	315	P		P	13 38 48.9 -0.5
	comp=Z,0.5nm,0.3s,baz=119,slow=5.7,SNR=3.1						
ABTA	Abfaltersbach	37.37	312	*eP*		P	13 38 52.3 +1.9
	comp=Z,3.4nm,0.6s						
WTTA	Wattenberg	38.09	312	P		P	13 38 56.4 -0.2
	comp=Z,4.0nm,0.6s						
WATA	Walderalm	38.15	312	pP		P	13 38 58.7 +1.6
	comp=Z,5.6nm,0.9s						
SQTA	Sankt Quirin	38.36	312	*eP*		P	13 38 58.4 -0.3
	comp=Z,5.3nm,0.6s						
MOTA	Moosalm	38.46	312	P		P	13 38 59.0 -0.7
	comp=Z,6.8nm,1.0s						
FINES	FINESS Array B	38.46	339	P		P	13 38 58.6 -0.7
	comp=Z,5.5nm,0.8s,baz=143,slow=9.6,SNR=15						
CLL	Collm	38.55	319	*eP*		P	13 39 01.0 +0.8
FETA	Feichten	38.62	312	*eP*		P	13 39 00.9 -0.2
	comp=Z,4.6nm,0.8s						
DAVA	Damuels	39.25	312	P		P	13 39 05.1 -1.2
	comp=Z,10.0nm,0.6s						
GTA	Gaotai	39.80	61	⇑P		P	13 39 12.1 +1.1
GTA				pP		sP	13 39 19.6 +1.3
GTA				sP		pP	13 39 22.6 +6.4
GTA				pmax		pmax	
	comp=Z,2.0nm,1.0s						
LZH	Lanzhou	43.02	66	*eP*		P	13 39 38.5 +1.0
LZH				pP		sP	13 39 46.0 +1.2
LZH				sP		pP	13 39 49.3 +6.6
LZH				PP		**PP**	13 41 15.1 -2.2
LZH				pmax		pmax	
	comp=Z,13nm,1.0s						
LZH				pmax		pmax	
	comp=Z,62nm,5.4s						
LZH				LR		LR	
	comp=N,290nm,16.5s						
LZH				LR		LR	
	comp=E,290nm,16.3s						
LZH				LR		LR	
	comp=Z,370nm,18.2s						
NB2	NORSAR Subarra	43.76	332	P		P	13 39 41.7 -1.3
	comp=Z,1.8nm,0.7s,baz=119,slow=7.9						
NOA	NORSAR Array B	43.76	332	P		P	13 39 41.7 -1.3
	comp=Z,1.4nm,0.7s,baz=122,slow=7.8,SNR=4.6						
ARCES	ARCESS Array B	44.95	346	P		P	13 39 51.9 -0.4
	comp=Z,1.2nm,0.6s,baz=148,slow=9.4,SNR=9.9						
SONM	Songino Array	45.30	49	P		P	13 39 56.3 +0.8
	comp=Z,2.6nm,0.9s,baz=258,slow=7.2,SNR=10						
SONM	Songino Array	45.30	49	P		P	13 39 55.2 -0.3
ULN	Ulaanbaatar	45.74	49	P		P	13 39 58.7 -0.4
NRIK	Noril'sk	46.10	16	P		P	13 40 02.0 +0.7
	comp=Z,1.4nm,0.3s,baz=183,slow=13,SNR=3.0						
ESDC	Sonseca Array	48.68	300	P		P	13 40 21.5 -0.5
	comp=Z,1.0nm,0.7s,baz=77,slow=6.8,SNR=3.4						
HHC	Hu-ho-hao-te	48.80	59	*eP*		P	13 40 24.0 +1.1
HHC				pmax		pmax	
	comp=Z,4.0nm,0.8s						
HHC				pmax		pmax	
	comp=Z,40nm,5.7s						
PSI	Prapat	49.76	112	P		P	13 40 31.5 +0.9
	comp=Z,30nm,1.0s,baz=302,slow=12,SNR=7.7						
RPSI	Rantau Prapat	49.82	112	P		P	13 40 31.5 +0.6
MDT	Midelt	50.06	291	P		P	13 40 33.6 +0.9
	comp=Z,5.1nm,0.9s,baz=97,slow=5.3,SNR=2.9						
TOA0	Torodi Ar. Sit	50.46	264	P		P	13 40 35.4 -0.4
TOA0					IAmb	IAmb	13 41 00.5
	comp=Z,5.9nm,1.1s						
TORD	Torodi Ar. Bea	50.46	264	P		P	13 40 34.9 -0.9
	comp=Z,178nm,1.0s,baz=62,slow=8.6,SNR=16						
NJ2	Nanjing	55.93	69	*eP*		P	13 41 16.1 +0.2
NJ2				pmax		pmax	
	comp=Z,32nm,0.7s						
BORG	Borgarnes	58.93	331	P		P	13 41 35.2 -1.3
LBTB	Lobatse	58.97	210	P		P	13 41 38.1 +0.7
TIXI	Tiksi	59.32	21	P		P	13 41 39.4 +0.3
	comp=Z,1.2nm,0.3s,baz=307,slow=4.8,SNR=5.1						
BOSA	Boshof	62.26	208	P		P	13 42 00.2 +0.5
	comp=Z,1.8nm,0.5s,baz=29,slow=5.9,SNR=3.5						
BOSA	Boshof	62.26	208	IAmb		IAmb	13 42 05.8
	comp=Z,34nm,1.7s						
TOLK	Toolik Lake Re	82.44	8	P		P	13 44 00.3 +0.6
INK	Inuvik	84.14	3	P		P	13 44 08.6 +0.3
	comp=Z,0.9nm,0.6s,baz=350,slow=9.4,SNR=4.3						
BMAR	Burnt Mountain	84.18	7	P		P	13 44 08.4 -0.3
IMAR	Indian Mountai	84.28	11	P		P	13 44 08.7 -0.4
PRP	Porcupine Dome	85.92	8	P		P	13 44 17.9 +0.5
ILAR	Eielson Array	86.46	9	P		P	13 44 19.4 -0.5
	comp=Z,0.8nm,0.8s,baz=331,slow=4.8,SNR=9.1						
ILAR	Eielson Array	86.46	9	P		P	13 44 19.3 -0.7
BPAW	Bear Paw Mtn.	86.48	11	P		P	13 44 20.0 -0.1
YKA	Yellowknife Ar	89.64	355	P		P	13 44 35.6 +0.4
	comp=Z,1.2nm,0.8s,baz=6.6,slow=5.0,SNR=4.7						

MOS ***19*** *13:32:49.6±0.8, 2°.74N×128°.36E, h33km, mb6.3/99, MS5.6/73, Error ellipse: s-maj=6.6km s-min=3.9km az=113.6*

NEIC ***19*** *13:32:51.2±2.0, 2°.64N±0°.05×128°.43E±0°.05, h38km±1km, mb6.0/238, Ms_20 5.8/631, Mwb6.1, Mwc6.0, Mww6.0, Mwc6.1(GCMT), Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.67; Mθθ-1.41; Mφφ0.74; Mrθ0.19; Mθφ-0.60; Mφr0.75; Fault plane solution: M0 1.56000×1018 NP1:φs293.33000°, δ54.10000°, λ155.16000°. NP2:φs38.52000°, δ70.11000°, λ38.57000°. Principal axes: T 1.4858, Plg41.0000°, Azm261.0000°; N 0.1450, Plg47.0000°, Azm62.0000°; P -1.6308, Plg10.0000°, Azm163.0000°;*

BJI ***19*** *13:32:51.6±0.0, 2°.69N×128°.24E, h50km, mb5.8/81, mB5.8/78, Ms5.9/99, Ms7 5.8/88*

ISCJB ***19*** *13:32:53.0±0.3, 2°.69N±0°.01×128°.44E±0°.02, h64km±2km, mb6.0/217, Error ellipse: s-maj=2.7km s-min=2.1km az=155.5*

KLM ***19*** *13:32:52.0, 2°.82N×128°.62E, h35km, mb6.3*

DJA ***19*** *13:32:53.7±0.2, 3°N±2°×12°8E±°, h53km±2km, M6.1/124, mB6.4/118, mb6.1/124, MLv6.4/19, Mw6.0/67, Mw(mB)6.2/118, Mwp6.0/54*

NEIC ***19*** *13:32:54.2, 2°.75N×128°.60E, h60km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.63; Mθθ-0.82; Mφφ0.20; Mrθ-0.04; Mθφ-0.44; Mφr0.69; Fault plane solution: M0 1.11000×1018 NP1:φs36.00000°, δ64.00000°, λ47.00000°. NP2:φs281.00000°, δ49.00000°, λ144.00000°. Principal axes: T 1.1789, Plg51.0000°, Azm256.0000°; N -0.1610, Plg38.0000°, Azm59.0000°; P -1.0179, Plg9.0000°, Azm155.0000°;*

IDC ***19*** *13:32:54.3±0.8, 2°.69N×128°.32E, h58km±6km, mb5.5/47, mb1 5.5/52, mb1mx5.5/54, mbtmp5.8/52, MS5.5/42, Ms1 5.5/42, ms1mx5.3/59 Error ellipse: s-maj=9.1km s-min=6.1km az=87.0*

NEIC ***19*** *13:32:55, 2°.79N×128°.35E, h38km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.51; Mθθ-1.38; Mφφ0.87; Mrθ0.22; Mθφ-0.48; Mφr1.34; Fault plane solution: M0 1.88000×1018 NP1:φs37.00000°, δ76.00000°, λ44.00000°. NP2:φs294.00000°, δ48.00000°, λ160.00000°. Principal axes: T 2.0560, Plg40.0000°, Azm265.0000°; N -0.4259, Plg44.0000°, Azm52.0000°; P -1.6301, Plg17.0000°, Azm160.0000°;*

MAN ***19*** *13:32:55.9, 2°.81N×128°.33E, h176km, mb6.1, ML5.1, MS5.6*

GCMT ***19*** *13:32:55.2±0.1, 2°.79N×128°.34E, h38km, MW6.1/143, Moment Tensor Solution. s140, c320; s143, c528; Duration: 28 Moment tensor: Scale 1018Nm; Mrr0.69±.01; Mθθ-1.40±.01; Mφφ0.70±.01; Mrθ0.19±.01; Mθφ-0.50±.01; Mφr1.32±.02; Best double couple: M0 1.83800×1018 NP1:φs38.00000°, δ72.00000°, λ45.00000°. NP2:φs291.00000°, δ47.00000°, λ156.00000°. Principal axes: T 2.0340, Plg44.0000°, Azm265.0000°; N -0.3940, Plg42.0000°, Azm55.0000°; P -1.6420, Plg15.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *13:33:08.1, 3°.23N×128°.97E, h42km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.58; Mθθ-1.40; Mφφ0.83; Mrθ0.08; Mθφ-0.50; Mφr0.53; Fault plane solution: M0 1.41000×1018 NP1:φs39.22000°, δ69.87000°, λ30.64000°. NP2:φs297.70000°, δ61.41000°, λ156.93000°. Principal axes: T 1.2950, Plg36.0000°, Azm261.0000°; N 0.2326, Plg54.0000°, Azm69.0000°; P -1.5276, Plg5.0000°, Azm167.0000°;*

ISC 19 13:32:53.4±0.3, 2°.72N±0°.02×128°.45E±0°.03, h56km±1km, h56km:pP-P, n2024, σ1962/2086, mb6.0/304, MS5.8/441, 105C-43D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.21	209	P	Pn	13 33 28.8	+1.0
TNTI	Ternate	2.21	209		Pn	13 33 28.4	+0.7
SGSI	Sangihe	3.07	288	P	Pn	13 33 40.9	+1.4
SWI	Sorong	4.53	142	P	Pn	13 33 59.4	-0.1
SIJI	Sorong	4.54	142	P	Pn	13 33 59.9	+0.2
	1μm,0.3s,baz=331,slow=17,SNR=3639						
SIJI				S	Sn	13 34 48.6	-2.6
	941nm,0.3s,baz=38,slow=20,SNR=32						
SIJI				LR	LR	13 36 04.7	
	comp=Z,121μm,20.0s,baz=333,slow=41						
GSPH	General Santos	4.84	314	⇑P	Pn	13 34 06.9	+3.0
KMSI	Cibinong	4.95	245	P	Pn	13 34 07.3	+2.1
DAV	Davao City (W)	5.18	327	P	Pn	13 34 11.9	+3.4
	233nm,0.3s,baz=62,slow=0.9,SNR=11						
DAV				S	Sn	13 35 09.6	+2.6
	baz=252,slow=19,SNR=3.7						
DAV	Davao City (W)	5.18	327	P	Pn	13 34 10.8	+2.3
DAV	Davao City (W)	5.18	327		Pn	13 34 10.5	+2.0
DMPH	Davao City--Mi	5.23	326	⇑*eP*	Pn	13 34 11.0	+1.8
DMPH				*eS*	Sn	13 35 14.8	+6.5
SANI	Sanana	5.33	207	P	Pn	13 34 11.7	+1.2
	2μm,1.1s,30μm102μm11nm						
KCP	Kidapawan	5.42	322	‖*eP*	Pn	13 34 16.9	+5.1
KCP				*i* S	Sn	13 35 26.7	+14
SKMP	Bagumbayan, Su	5.42	314	*eP*	Pn	13 34 14.3	+2.5
SKMP				*eS*	Sn	13 35 15.2	+2.3
BIPH	Bislig	5.82	339	⇑*iP*	Pn	13 34 19.1	+2.0
BIPH				*i* S	Sn	13 35 18.5	-4.0
MSAI	Masohi	6.04	175	P	Pn	13 34 22.1	+1.9
	468nm,0.9s,6μm45μm1.7nm						
NLAI	Namlea	6.07	193	P	Pn	13 34 22.4	+1.8
	845nm,0.6s,12μm3.8nm						
CTBH	Cotabato--PC H	6.13	317	⇑*iP*	Pn	13 34 24.1	+2.7
BUKP	Musuan	6.14	327	*eP*	Pn	13 34 24.7	+3.1
BUKP				*eS*	Sn	13 35 43.8	+13
AAI	Ambon	6.37	182	P	Pn	13 34 26.6	+1.9
	1000nm,0.9s,19μm132μm4.8nm						
FAKI	Fak Fak	6.76	146	P	Pn	13 34 30.0	-0.2
	2μm,1.1s,23μm94μm8.1nm						
FAKI	Fak Fak	6.76	146		Pn	13 34 29.5	-0.7
LUWI	Luwuk	6.79	237	P	Pn	13 34 32.1	+1.6
	4μm,1.1s,44μm45μm32nm						
LUWI	Luwuk	6.79	237		Pn	13 34 30.9	+0.4
CGP	Cagayan de Oro	6.82	327	‖*eP*	Pn	13 34 35.5	+4.6
BUTP	Butuan	6.82	336	*eP*	Pn	13 34 33.2	+2.3
BUTP				*eS*	Sn	13 35 50.3	+3.1
MRSI	Marisa	6.87	251	P	Pn	13 34 34.0	+2.4
	11μm,0.8s,123μm44μm34nm						
RKPI	Ransiki, Papua	7.10	126	P	Pn	13 34 36.5	+1.7
	2μm,1.3s,23μm22nm						
PAGZ	Pagadian	7.17	316	*eP*	Pn	13 34 36.4	+0.7
PAGZ				*eS*	Sn	13 35 55.6	-0.3
BNDI	Bandanaira	7.33	169	P	Pn	13 34 40.0	+2.0
	6μm,1.2s,69μm22nm						
PALU	Palau	7.56	52	P	Pn	13 34 40.9	-0.2
	baz=7.6,SNR=133						
ZCP	Zamboanga City	7.61	304	⇑*iP*	Pn	13 34 42.5	+0.8
ZCP				*i* S	Sn	13 36 06.5	0.0
APSI	Ampana	7.69	242	P	Pn	13 34 44.8	+1.9
	3μm,0.7s,35μm28μm16nm						
DCPH	Dipolog City	7.72	319	⇑*eP*	Pn	13 34 49.0	+5.6
I39PW	PALAU INFRASON	7.73	52	P	Pn	13 34 44.1	+0.6
	baz=206,slow=16,SNR=2.1						
I39PW				*i*		14 20 50.0	
	baz=230,slow=309,SNR=1.7						
MSLP	Maasin	8.19	334	*eP*	Pn	13 34 50.8	+1.1
SNPH	Sibulan	8.38	322	*eP*	Pn	13 34 57.1	+4.8
LLP	Lapu-Lapu	8.77	330	⇑*eP*	Pn	13 35 00.3	+2.7
LLP				*eS*	Sn	13 36 34.6	-0.4
KDI	Kendari	8.82	221	P	Pn	13 34 59.5	+1.1
	2μm,1.1s,99μm						
MPSI	Mapaga	8.87	255	P	Pn	13 35 00.9	+1.9
	2μm,1.1s,23μm33μm						
SRPI	Serui, Papua	9.02	120	P	Pn	13 35 03.3	+2.2
BESP	Borongan	9.32	341	*eP*	Pn	13 35 04.8	-0.3
BESP				*eS*	Sn	13 36 43.0	-5.6
GUIM	Jordan	9.78	324	*eP*	Pn	13 35 15.3	+3.9
GUIM				*eS*	Sn	13 37 19.1	+19
BBSI	Bau Bau	10.04	216	P	Pn	13 35 18.8	+3.7
	761nm,1.1s,6μm						
JAP	San Jose, Anti	10.26	321	⇑*eP*	Pn	13 35 23.5	+5.4
TTSI	Tana Toraja	10.35	236	P	Pn	13 35 19.6	+0.3
	2μm,0.8s,21μm						
CNP	Catarman	10.43	339	*eP*	Pn	13 35 20.1	-0.2
CNP				*eS*	Sn	13 37 07.8	-8.0
RCP	Roxas	10.45	328	‖*eP*	Pn	13 35 23.3	+2.7
SPSI	Sidrap Palu	10.92	233	P	Pn	13 35 27.1	0.0
	660nm,0.9s,7μm11μm						
BNSI	Bone	10.93	230	P	Pn	13 35 27.5	+0.3
	1μm,1.1s,11μm20μm						
SAUI	Saumlaki	11.00	165	P	Pn	13 35 27.2	-1.0
	2μm,0.8s,15μm64μm						
SAUI	Saumlaki	11.00	165		Pn	13 35 26.6	-1.5
SMPI	Sarmi	11.27	114	P	Pn	13 35 34.5	+2.6
	643nm,0.9s,8μm						
BKSI	Bulukumba	11.53	226	P	Pn	13 35 36.7	+1.3
	544nm,0.6s,8μm11μm						
KAPI	Kappang	11.59	229	P	Pn	13 35 37.9	+1.6
	SNR=58						
KAPI				P	Pn	13 35 37.9	+1.6
	SNR=58						
KAPI	Kappang	11.59	229	P	Pn	13 35 37.4	+1.1
	18nm,0.3s,baz=20,slow=7.9,SNR=65						
KAPI				S	Sn	13 37 40.1	-4.1
	2.7nm,0.3s,baz=13,slow=14,SNR=1.5						
KAPI				ScP	ScP	13 44 50.9	-1.2
	1.8nm,0.3s,baz=41,slow=0.4,SNR=6.3						
KAPI	Kappang	11.59	229	Pn		13 35 36.3	0.0
PVCP	Virac	11.61	339	*eP*	Pn	13 35 36.4	-0.1
PVCP				*eS*	Sn	13 38 17.3	+33
SMKI	Samarinda	11.67	255	P	Pn	13 35 39.2	+1.9
	3μm,1.1s,22μm24μm						
BATP	Bataraza	12.19	300	*eP*	Pn	13 35 43.0	-1.4
BKB	Balikpapan	12.20	251	P	Pn	13 35 45.3	+0.7
	3μm,1.1s,31μm40μm						
BKB	Balikpapan	12.20	251		Pn	13 35 44.7	+0.1
ENPP	El Nido	12.30	314	*eP*	Pn	13 35 42.8	-3.0
KKM	Kota Kinabalu	12.64	286		Pn	13 35 51.8	+1.2
GENI	Genyem	12.85	114	P	Pn	13 35 56.5	+3.1
	3μm,1.2s,26μm47μm						
MMRI	Maumere	12.86	209	P	P	13 35 59.4	-3.3
MMRI	Maumere	12.86	209		Pn	13 35 50.4	-3.2
SOEI	Soe	13.07	199	P	Pn	13 35 59.1	+2.6
JAY	Jayapura	13.31	113	P	Pn	13 36 01.5	+1.8
	0.4nm,0.3s,baz=285,slow=13,SNR=16						
JAY				LR	LR	13 40 25.1	
	comp=Z,38μm,19.9s,baz=306,slow=34						
JAY	Jayapura	13.31	113	P	Pn	13 36 00.9	+1.2
TGY	Tagaytay City	13.53	327	P	P	13 36 06.7	-3.4
	55nm,0.3s,baz=317,slow=5.7,SNR=3.9						
TGY				S	Sn	13 38 22.0	-10
	45nm,0.3s,baz=14,slow=19,SNR=3.8						
TGY				LR	LR	13 42 43.0	
	comp=Z,43μm,19.1s,baz=144,slow=44						
LUBP	Lubang	13.62	324	*eP*	Pn	13 36 05.2	+1.2
BATI	Baumata	13.69	200	P	Pn	13 36 06.8	+1.8
	11nm,0.3s,baz=265,slow=1.3,SNR=12						
BATI				LR	LR	13 41 47.4	
	comp=Z,53μm,20.6s,baz=21,slow=39						
BATI				ScP	ScP	13 44 55.5	+0.1
	7.8nm,0.3s,baz=190,slow=4.1,SNR=4.8						
BATI	Baumata	13.69	200	P	Pn	13 36 07.7	+2.8
	465nm,1.1s,9μm24μm						
PCPH	Palayan	14.68	331	‖*eP*	P	13 36 21.1	-1.7
WSI	Waingapu	14.74	213	P	Pn	13 36 20.8	+2.0
	1μm,0.7s,31μm						
WBSI	Waikabubak, Su	15.23	216	P	Pn	13 36 25.4	+0.2
	936nm,1.0s,10μm						
SMPP	San Manuel, Pa	15.38	331	*eP*	Pn	13 36 27.5	+0.4
SCZP	Santa Cruz	15.46	328	*eP*	P	13 36 33.8	+2.2
SCZP				*eS*	S	13 39 58.9	+27
CAUP	Cauayan	15.57	336	*eP*	Pn	13 36 29.3	-0.1
PLAI	Plampang	15.64	223	P	Pn	13 36 31.8	+1.4
	1μm,1.0s,19μm						
MTN	Manton Dam	15.69	170	P	Pn	13 36 29.2	-1.7
	baz=16,SNR=81						
MTN	Manton Dam	15.69	170		Pn	13 36 27.1	-3.9
KDU	Kakadu	15.82	165	P	Pn	13 36 29.1	-3.5
	baz=16,SNR=105						
BOLP	Bolinao	15.97	329	*eP*	P	13 36 36.3	-0.9
BOLP				*eS*	S	13 40 05.7	+24
TWSI	Taliwang, Sumb	16.20	225	P	P	13 36 38.7	-1.1
	966nm,1.2s,11μm						
SBUM	Sibu	16.21	269	P	P	13 36 39.0	-0.9
SBUM	Sibu	16.21	269	P	P	13 36 38.8	-1.1
SBUM				IAmb	IAmb	13 36 50.0	
	comp=Z,1μm,1.2s						
MMPI	Merauke	16.28	133	P	Pn	13 36 38.5	0.0
APYP	Conner	16.63	335	*eP*	P	13 36 44.1	-0.4
APYP				*eS*	S	13 40 19.6	+24
SRBI	Singaraja	17.01	231	P	P	13 36 49.9	+1.1
	comp=Z,1μm,1.1s,comp=Z,16μm						
STKI	Sintang	17.17	261	P	Pn	13 36 50.0	+0.4
	comp=Z,1μm,2.5s,comp=Z,40μmcomp=Z,48μm						
DNP	Denpasar	17.39	229	P	P	13 36 55.0	+2.1
	comp=Z,3μm,1.6s,comp=Z,83μmcomp=Z,79μm						
KMMI	Kalianget	17.41	236	P	P	13 36 53.4	+0.3
	comp=Z,1μm,1.8s,comp=Z,36μm						
IGBI	Denpasar	17.52	229	P	P	13 36 56.4	+2.0
	comp=Z,2μm,0.9s,comp=Z,97μmcomp=Z,85μm						
JAGI	Jajag, Banyuwa	18.07	232	P	Pn	13 37 01.7	+1.0
	comp=Z,2μm,1.2s,comp=Z,56μmcomp=Z,69μm						
JAGI	Jajag, Banyuwa	18.07	232	P	Pn	13 37 02.0	+1.3
JAGI				IAmb	IAmb	13 37 20.2	
	comp=Z,2μm,1.0s						
KSM	Kuching	18.17	266	P	Pn	13 37 03.0	+1.1
KSM	Kuching	18.17	266	P	Pn	13 37 02.6	+0.7
KSM				IAmb	IAmb	13 37 11.6	
	comp=Z,1μm,1.1s						
KNRA	Kununurra	18.28	179	P	P	13 37 01.7	-1.0
	baz=18,SNR=208						
KNRA	Kununurra	18.28	179	P	P	13 37 01.7	-1.0
KNRA				IAmb	IAmb	13 37 29.4	
	comp=Z,753nm,1.1s						
GRJI	Gresik	18.59	239	P	Pn	13 37 06.9	-0.1
	comp=Z,390nm,0.8s,comp=Z,4μm						
TBJI	Tambak Boyo	19.09	240	P	Pn	13 37 14.2	+1.3
	comp=Z,969nm,1.3s,comp=Z,28μmcomp=Z,29μm						
MANU	Manus Island	19.50	104	Pn	Pn	13 37 18.6	+0.8
GUMO	Guam	19.50	55	P	Pn	13 37 17.9	+0.1
	comp=Z,12nm,0.3s,baz=194,slow=12,SNR=11						
GUMO				LR	LR	13 43 36.0	
	comp=Z,17μm,21.7s,baz=232,slow=33						
GUMO	Guam	19.50	55	Pn	Pn	13 37 17.6	-0.2
GUMO				IAmb	IAmb	13 37 21.0	
	comp=Z,645nm,1.1s						
NGJI	Ngawi	19.69	239	P	Pn	13 37 20.0	-0.1
	comp=Z,1μm,1.3s,comp=Z,28μm						
PCJI	Pacitan	20.35	238	P	P	13 37 26.4	+1.0
	comp=Z,2μm,1.0s,comp=Z,24μmcomp=Z,34μm						
WOJI	Wonogiri, Jawa	20.38	239	P	P	13 37 22.8	-3.0
SMRI	Semarang	20.42	242	P	P	13 37 23.9	-2.3
SMRI	Semarang	20.42	242	P	P	13 37 25.3	-0.9
UGM	Wanagama	20.77	239	P	P	13 37 30.2	+0.3
UGM	Wanagama	20.77	239	P	P	13 37 29.6	-0.4
FITZ	Fitzroy Crossi	20.87	188	P	P	13 37 30.5	-0.4
	baz=21,SNR=36						
FITZ	Fitzroy Crossi	20.87	188	P	P	13 37 30.6	-0.3
	comp=Z,38nm,0.7s,baz=16,slow=9.1,SNR=61						
FITZ				S	S	13 41 19.4	-1.2
	comp=Z,15nm,0.8s,baz=346,slow=12,SNR=1.8						
FITZ				ScP	ScP	13 45 08.6	-1.3
	comp=Z,32nm,0.9s,baz=201,slow=2.2,SNR=3.9						
FITZ				LR	LR	13 46 39.6	
	comp=Z,20μm,21.0s,baz=8.5,slow=40						
FITZ	Fitzroy Crossi	20.87	188	P	P	13 37 30.3	-0.7
YOGI	Yogyakarta	20.91	240	P	P	13 37 31.6	+0.1
	comp=Z

WRAB MLR MLR
comp=Z,18µm,22.0s
WRAB Tennant Creek 23.24 166 P **P 13 37 55.8 -0.3**
WRAB IAmb IAmb 13 38 11.7
comp=Z,648nm,0.9s
WRA Warramunga Arr 23.25 166 P **P 13 37 55.9 -0.2**
comp=Z,322nm,0.7s,baz=343,slow=10,SNR=324
WRA S **S 13 42 00.8 -3.3**
comp=Z,46nm,0.9s,baz=341,slow=16,SNR=5.1
WRA ScP **ScP 13 45 14.6 -1.3**
comp=Z,54nm,0.8s,baz=339,slow=3.0,SNR=15
WRA LR LR 13 48 31.4
comp=Z,15µm,20.7s,baz=340,slow=40
WRA P3KPbc 14 11 16.2
comp=Z,2.1nm,1.0s,baz=168,slow=3.3,SNR=10
WRA Warramunga Arr 23.25 166 P **P 13 37 54.7 -1.5**
WB2 Warramunga Arr 23.25 166 P **P 13 37 55.7 -0.4**
WB2 IAmb IAmb 13 38 11.8
comp=Z,710nm,1.0s
KNMB Chin-men Tao 23.70 337 P **P 13 38 00.2 -0.1**
KNMB IAmb IAmb 13 38 14.0
comp=Z,633nm,1.1s
SKJI Sukabumi 23.89 246 P **P 13 38 00.4 -1.7**
HKPS Hong Kong Po S 23.90 326 P **P 13 38 02.0 -0.2**
HKPS IAmb IAmb 13 38 33.9
comp=Z,366nm,1.2s
HKC Hong Kong Obse 23.90 326 ⇑P **P 13 38 03.0 +0.9**
TPRI Tanjung Pinang 23.98 266 P **P 13 38 03.2 +0.3**
comp=Z,751nm,1.2s,comp=Z,40µm
JOW Kunigami 23.98 360 P **P 13 38 04.7 +1.9**
comp=Z,27nm,0.9s,baz=177,slow=14,SNR=20
JOW Kunigami 23.98 360 P **P 13 38 03.3 +0.5**
QZH Quanzhou 24.05 338⇑ *i*P **P 13 38 04.3 +0.8**
QZH pP **pP 13 38 15.1 -1.2**
QZH S **S 13 42 15.3 -1.8**
QZH pmax pmax
comp=Z,200nm,0.9s
QZH pmax pmax
comp=Z,7µm,5.3s
QZH LR LR
comp=Z,9µm,21.3s
QZH LR LR
comp=Z,4µm,21.3s
QZH LR LR
comp=Z,16µm,22.6s
DSRI Dabo 24.07 263 P **P 13 38 06.6 +2.8**
comp=Z,902nm,2.1s,comp=Z,25µmcomp=Z,151µm
PMBI Palembang 24.32 257 P **P 13 38 06.2 +0.1**
comp=Z,1µm,1.0s,comp=Z,35µmcomp=Z,36µm
PMBI Palembang 24.32 257 P **P 13 38 05.0 -1.1**
QIZ Qiongzhong 24.38 313 P **P 13 38 07.5 +1.0**
QIZ sS **sS 13 42 41.4 -4.6**
QIZ pmax pmax
comp=Z,260nm,1.4s
QIZ pmax pmax
comp=Z,7µm,7.5s
QIZ LR LR
comp=Z,25µm,15.2s
QIZ LR LR
comp=Z,17µm,14.7s
QIZ LR LR
comp=Z,24µm,23.0s
QIZ Qiongzhong 24.38 313 P **P 13 38 07.2 +0.7**
QIZ IAmb IAmb 13 38 10.3
comp=Z,707nm,1.4s
BLSI Bandar Lampung 24.53 251 P **P 13 38 08.4 +0.4**
comp=Z,674nm,0.5s,comp=Z,16µmcomp=Z,27µm
KRVT Keravat (AS076 24.57 106 P **P 13 38 09.7 +1.3**
comp=Z,574nm,0.8s,baz=122,slow=1.7,SNR=87
KRVT ScP **ScP 13 45 17.5 -2.2**
comp=Z,32nm,0.9s,baz=270,slow=7.1,SNR=3.9
KRVT LR LR 13 45 54.4
comp=Z,35µm,19.7s,baz=282,slow=32
MYKOM Kota Tinggi 24.59 268 P **P 13 38 10.0 +1.4**
MYKOM Kota Tinggi 24.59 268 P **P 13 38 09.4 +0.8**
KLSI 24.81 253 P **P 13 38 11.0 +0.4**
GZH Guangzhou 24.99 325 P **P 13 38 14.8 +2.8**
GZH S **S 13 42 37.0 +4.9**
GZH pmax pmax
comp=Z,6µm,7.1s
GZH LR LR
comp=Z,21µm,21.8s
GZH LR LR
comp=Z,20µm,23.5s
MBWA Marble Bar 25.22 199 P **P 13 38 14.2 +0.1**
MBWA P **P 13 38 14.2 +0.1**
MBWA Marble Bar 25.22 199 P **P 13 38 14.1 0.0**
KASI Kota Agung 25.28 251 P **P 13 38 14.6 -0.2**
comp=Z,1µm,0.9s,comp=Z,15µmcomp=Z,25µm
LWLI Liwa 25.55 253 P **P 13 38 17.6 +0.2**
comp=Z,557nm,0.9s
PSA00 Pilbara Seismi 25.56 199 P **P 13 38 17.1 -0.1**
PSA00 Pilbara Seismi 25.56 199 P **P 13 38 16.1 -1.2**
PSA00 IAmb IAmb 13 38 44.5
comp=Z,68nm,0.9s
QIS Mount Isa 25.59 155 P **P 13 38 17.7 +0.2**
baz=26,SNR=289
LHSI Lahat 25.74 255 P **P 13 38 18.9 -0.1**
comp=Z,537nm,1.0s,comp=Z,14µm
UBPT Khong Chiam 25.86 300 P **P 13 38 21.1 +1.1**
comp=Z,418nm,1.1s,comp=Z,7µm
UBPT Khong Chiam 25.86 300 P **P 13 38 20.6 +0.6**
JRMM Jerantut 25.95 273 P **P 13 38 22.0 +1.1**
MTSU Mount Surprise 25.96 144 P **P 13 38 21.4 +0.5**
baz=26,SNR=142
XMIS Christmas Isla 26.21 240 P **P 13 38 22.5 -0.7**
MNAI Manna 26.43 255 P P 13 38 35.0 +10
MNAI Manna 26.43 255 P **P 13 38 24.9 -0.3**
AS31 Alice Springs 26.75 169 P **P 13 38 27.6 -0.5**
ASAR Alice Springs 26.76 169 P **P 13 38 27.9 -0.2**
comp=Z,49nm,0.6s,baz=342,slow=6.0,SNR=254
ASAR PcP **PcP 13 41 50.9 +0.6**
comp=Z,45nm,0.5s,baz=351,slow=2.1,SNR=15
ASAR S **S 13 42 58.5 -1.7**
comp=Z,18nm,0.8s,baz=357,slow=19,SNR=4.7
ASAR ScP **ScP 13 45 24.5 -1.3**
comp=Z,119nm,0.8s,baz=351,slow=2.2,SNR=39
ASAR LR LR 13 50 40.6
comp=Z,12µm,18.8s,baz=338,slow=40
ASAR P3KPbc 14 11 03.9
comp=Z,4.4nm,0.8s,baz=159,slow=4.3,SNR=15
ASAR Alice Springs 26.76 169 P **P 13 38 27.7 -0.4**
MASI Maura Aman, Be 26.84 258 P **P 13 38 30.1 +1.2**
comp=Z,2µm,1.1s,comp=Z,19µm
SDSI Sungai Dareh 27.25 263 P **P 13 38 36.0 +3.3**
comp=Z,101nm,0.9s,comp=Z,6µm
IPM Ipoh 27.42 274 P **P 13 38 35.0 +0.8**
IPM Ipoh 27.42 274 P **P 13 38 34.4 +0.2**
IPM IAmb IAmb 13 38 36.2
comp=Z,193nm,0.8s
BKNI Bangkinang 27.50 266 P **P 13 38 36.2 +1.3**
comp=Z,416nm,1.3s,comp=Z,14µm
BKNI Bangkinang 27.50 266 P **P 13 38 34.8 0.0**
BKNI IAmb IAmb 13 38 47.2
comp=Z,533nm,1.1s
JCJ Chichijima 27.58 27 P **P 13 38 34.9 -0.5**
comp=Z,302nm,0.8s,baz=267,slow=10,SNR=7.3
JCJ LR LR 13 49 57.0
comp=Z,4µm,18.9s,baz=216,slow=37
WRKA Warakurna 27.59 180 P **P 13 38 35.4 -0.1**
baz=28,SNR=71
SKLT Songkhla 28.07 280 P **P 13 38 41.5 +1.6**
comp=Z,230nm,1.1s,comp=Z,3µm
PDSI Padang 28.21 263 P **P 13 38 43.7 +2.5**
comp=Z,79nm,1.1s,comp=Z,3µm
CTA Charters Tower 28.62 143 P **P 13 38 46.6 +1.8**
comp=Z,137nm,0.8s,baz=325,slow=11,SNR=36
CTA ScP **ScP 13 45 31.8 +0.2**
comp=Z,39nm,0.9s,baz=342,slow=3.0,SNR=5.0
CTA LR LR 13 51 35.6
comp=Z,14µm,21.3s,baz=332,slow=39
CTAO Charters Tower 28.62 143 P **P 13 38 45.2 +0.5**
CTAO pmax pmax
comp=Z,318nm,1.0s
CTAO MLR MLR
comp=Z,14µm,21.0s
CTAO Charters Tower 28.62 143 P **P 13 38 45.2 +0.5**
CTAO IAmb IAmb 13 39 02.0
comp=Z,318nm,1.0s
GIRL Giralia 28.77 208 P **P 13 38 47.0 +1.0**
baz=29,SNR=11
GIRL Giralia 28.77 208 P **P 13 38 46.1 0.0**
GIRL IAmb IAmb 13 39 09.2
comp=Z,388nm,1.0s
PPSI Pulau Pagai 28.94 259 P **P 13 38 48.8 +1.1**
comp=Z,570nm,1.0s,comp=Z,11µm

SSE Sheshan 29.05 347 P **P 13 38 49.5 +1.1**
SSE S **S 13 43 36.8 +0.8**
SSE pmax pmax
comp=Z,57nm,0.9s
SSE pmax pmax
comp=Z,560nm,5.5s
SSE LR LR
comp=Z,3µm,19.0s
SSE LR LR
comp=Z,2µm,15.9s
SSE Sheshan 29.05 347 P **P 13 38 47.7 -0.7**
TRTT Trang 29.07 281 P **P 13 38 50.1 +1.2**
comp=Z,303nm,1.1s,comp=Z,6µm
PATY Pattaya 29.11 292 P **P 13 38 50.3 +1.1**
comp=Z,107µm,1.1s
NONG Nongkai 29.12 303 P **P 13 38 49.9 +0.7**
comp=Z,9.9nm,1.0s,comp=Z,120nm
CHAI Chaiyaphum 29.16 298 P **P 13 38 50.3 +0.7**
comp=Z,579µm,0.9s
PSI Prapat 29.49 271 P **P 13 38 52.5 -0.2**
comp=Z,158nm,1.1s,baz=83,slow=7.4,SNR=50
PSI ScP **ScP 13 45 33.2 -1.4**
comp=Z,40nm,1.0s,baz=239,slow=6.1,SNR=9.3
PSI LR LR 13 52 50.9
comp=Z,6µm,20.1s,baz=118,slow=41
RPSI Rantau Prapat 29.49 271 P **P 13 38 51.7 -0.9**
RPSI Rantau Prapat 29.49 271 P **P 13 38 52.5 -0.1**
RPSI **ScP 13 45 33.2 -1.2**
SISI Saibi 29.62 263 P **P 13 38 56.1 +2.3**
comp=Z,128nm,0.9s,comp=Z,4µm
PATS Pohnpei 30.03 81 IAMs_20 IAMs_20 13 47 56.7
comp=Z,26µm,22.0s
SURT Suratani 30.13 283 P **P 13 38 59.3 +1.1**
comp=Z,320nm,1.2s,comp=Z,5µm
SLVN Son La 30.21 310 P **P 13 38 59.9 +0.9**
SLVN IAmb IAmb 13 39 20.0
comp=Z,468nm,1.9s
PHET Kaeng Krachan 30.25 291 P **P 13 39 00.8 +1.5**
comp=Z,279µm,1.0s
PBKT Sadao Pong 30.32 299 P **P 13 39 00.8 +0.9**
comp=Z,140nm,1.2s,comp=Z,2µm
PBKT Sadao Pong 30.32 299 P **P 13 39 00.5 +0.6**
PBKT IAmb IAmb 13 39 03.7
comp=Z,474nm,1.4s
JNU Nakatsue 30.33 4 P **P 13 38 60.0 +0.1**
comp=Z,270nm,0.9s,baz=181,slow=4.3,SNR=59
JNU ScP **ScP 13 45 36.1 -0.8**
comp=Z,29nm,0.9s,baz=75,slow=3.5,SNR=4.8
JNU LR LR 13 50 17.1
comp=Z,8µm,21.2s,baz=179,slow=34
JNU Nakatsue 30.33 4 P **P 13 38 59.8 -0.1**
JNU IAmb IAmb 13 39 02.5
comp=Z,273nm,0.9s
PKDT Phuket 30.41 281 P **P 13 39 01.7 +1.0**
comp=Z,586nm,0.9s,comp=Z,7µm
NJ2 Nanjing 30.55 344 *e*P **P 13 39 02.8 +1.1**
NJ2 pP **pP 13 39 10.8 -4.1**
NJ2 sP **pwP 13 39 16.5 -2.1**
NJ2 S **S 13 44 01.3 +1.8**
NJ2 sS **sS 13 44 15.9 -7.4**
NJ2 pmax pmax
comp=Z,76nm,0.7s
NJ2 pmax pmax
comp=Z,1µm,6.6s
NJ2 LR LR
comp=Z,10µm,22.3s
NJ2 LR LR
comp=Z,8µm,20.8s
NJ2 LR LR
comp=Z,16µm,21.3s
KCSI Kotacane, Aceh 30.64 272 P **P 13 39 02.5 -0.3**
comp=Z,221nm,1.3s,comp=Z,4µmcomp=Z,16µm
MEEK Meekatharra 30.69 197 P **P 13 39 01.5 -1.5**
baz=31,SNR=106
WHN Wuhan 30.73 336 P **P 13 39 04.9 +1.6**
WHN S **S 13 44 05.9 +3.5**
WHN pmax pmax
comp=Z,160nm,0.8s
WHN pmax pmax
comp=Z,3µm,9.5s
WHN LR LR
comp=Z,61µm,25.5s
WHN LR LR
comp=Z,62µm,24.0s
WHN LR LR
comp=Z,82µm,22.8s
GSI Gunungsitoli 30.88 268 P **P 13 39 04.3 -0.6**
comp=Z,420nm,1.3s,comp=Z,7µm
GSI Gunungsitoli 30.88 268 P **P 13 39 04.0 -0.9**
GSI IAmb IAmb 13 39 06.8
comp=Z,255nm,0.8s
SRDT SRDT 31.17 293 P **P 13 39 08.9 +1.5**
comp=Z,100nm,1.0s,comp=Z,7µm
TPTI 31.23 272 P **P 13 39 10.8 +2.9**
comp=Z,69nm,1.0s,comp=Z,4µm
UTHA Uthaitani 31.29 296 P **P 13 39 09.4 +1.0**
comp=Z,362µm,0.8s
LHMI Lhok Sumawe 31.52 276 P **P 13 39 12.1 +1.6**
comp=Z,571nm,0.9s,comp=Z,8µm
LHMI Lhok Sumawe 31.52 276 P **P 13 39 10.2 -0.3**
GYA Guiyang 31.53 320⇑ *i*P **P 13 39 12.0 +1.4**
GYA sP pwP 13 39 28.9 +0.6
GYA PP **PnPn 13 40 18.3 +2.6**
GYA PcP **PcP 13 42 03.5 +1.1**
GYA S **S 13 44 16.8 +1.5**
GYA sS sS 13 44 35.4 -3.8
GYA ScP **ScP 13 45 41.1 0.0**
GYA PcS **PcS 13 45 46.8 -0.3**
GYA ScS **ScS 13 49 38.9 -0.3**
GYA pmax pmax
comp=Z,90nm,0.7s
GYA pmax pmax
comp=Z,2µm,8.6s
GYA LR LR
comp=Z,11µm,20.5s
GYA LR LR
comp=Z,7µm,22.1s
GYA LR LR
comp=Z,12µm,21.5s
MLSI Meulaboh, Aceh 32.02 274 P **P 13 39 15.3 +0.4**
comp=Z,511nm,1.1s,comp=Z,8µm
UMPA Umpang Tak 32.05 297 P **P 13 39 15.9 +0.8**
comp=Z,279µm,1.0s
JHJ Hachijo jima 2 32.06 18 P **P 13 39 15.8 +0.9**
comp=Z,155nm,0.7s,baz=72,slow=9.6,SNR=3.1
JHJ2 Mitsune 32.06 18 P **P 13 39 13.6 -1.3**
SNSI Sinabang, Aceh 32.09 270 P **P 13 39 17.4 +1.9**
comp=Z,247nm,1.3s,comp=Z,9µm
LAMP Lampang 32.30 301 P **P 13 39 19.0 +1.7**
comp=Z,678µm,1.0s
PAYA Payao 32.47 303 P **P 13 39 19.9 +1.1**
comp=Z,642µm,0.9s
ENH Enshi 32.77 329 P **P 13 39 22.0 +0.7**
ENH IAmb IAmb 13 39 40.1
comp=Z,360nm,1.1s
ENH IAMs_20 IAMs_20 13 53 47.9
comp=Z,18µm,20.0s
CM31 Chiang Mai Arr 32.86 301 P **P 13 39 24.1 +1.8**
SNR=88
CM31 Chiang Mai Arr 32.86 301 P **P 13 39 23.3 +1.1**
CM31 IAmb IAmb 13 39 25.7
comp=Z,330nm,1.1s
CMAR Chiang Mai Arr 32.86 301 P **P 13 39 23.8 +1.5**
comp=Z,184nm,1.0s,baz=134,slow=4.1,SNR=4.8
CMAR PcP **PcP 13 42 08.2 +2.2**
comp=Z,20nm,1.0s,baz=122,slow=3.8,SNR=6.3
CMAR ScP **ScP 13 45 46.2 +0.6**
comp=Z,64nm,1.0s,baz=142,slow=2.1,SNR=36
CMAR LR LR 13 53 24.6
comp=Z,7µm,21.9s,baz=123,slow=38
CMAR Chiang Mai Arr 32.86 301 **ScP 13 45 45.1 -0.5**
CMAR Chiang Mai Arr 32.86 301 P **P 13 39 23.3 +1.1**
QLP Quilpie 32.88 153 P **P 13 39 22.2 0.0**
baz=33,SNR=14
CMMT Chiang Mai 33.01 301 P **P 13 39 24.4 +0.9**
comp=Z,221nm,1.1s,comp=Z,3µm
CHTO Chiang Mai 33.01 301 P **P 13 39 25.1 +1.6**
SNR=103
CHTO P **P 13 39 25.1 +1.6**
SNR=103
CHTO Chiang Mai 33.01 301 P **P 13 39 24.6 +1.1**
CHTO pmax pmax
comp=Z,406nm,1.1s
CHTO MLR MLR
comp=Z,7µm,22.0s
CHTO Chiang Mai 33.01 301 P **P 13 39 24.6 +1.1**

KMI Kunming 33.31 314 P **P 13 39 28.3 +2.0**
KMI pP pP 13 39 39.3 -0.1
KMI sP sP 13 39 45.1 -0.5
KMI PP **PnPn 13 40 40.0 +1.6**
KMI S **S 13 44 40.8 -2.5**
KMI sS sS 13 45 07.9 +0.7
KMI pmax pmax
comp=Z,120nm,1.1s
KMI pmax pmax
comp=Z,3µm,7.1s
KMI LR LR
comp=Z,8µm,22.9s
KMI LR LR
comp=Z,13µm,22.9s
KMI LR LR
comp=Z,19µm,23.3s
KMI Kunming 33.31 314 P **P 13 39 26.3 0.0**
KMI pmax pmax
comp=Z,204nm,1.1s
KMI MLR MLR
comp=Z,18µm,22.0s
KMI Kunming 33.31 314 P **P 13 39 26.3 0.0**
KMI IAmb IAmb 13 39 35.3
comp=Z,204nm,1.1s
KMI Kunming 33.31 314 IAMs_20 IAMs_20 13 52 00.0
comp=Z,18µm,22.0s
FORT Forrest 33.31 181 P **P 13 39 25.9 -0.1**
baz=33,SNR=34
FORT Forrest 33.31 181 P **P 13 39 25.5 -0.4**
FORT IAmb IAmb 13 39 28.7
comp=Z,264nm,0.8s
INU Inuyama 33.43 13 P **P 13 39 27.7 +0.7**
INU IAmb IAmb 13 39 29.8
comp=Z,196nm,0.8s
TJN Taejon 33.51 358*de*P **P 13 39 28.8 +1.2**
MHMT Maesarieng 33.62 299 P **P 13 39 29.9 +1.1**
comp=Z,444nm,1.0s,comp=Z,6µm
HNR Honiara 33.62 111 P **P 13 39 29.1 +0.2**
comp=Z,240nm,0.7s,baz=222,slow=1.8,SNR=31
HNR ScP **ScP 13 45 48.7 +0.3**
comp=Z,26nm,0.6s,baz=236,slow=7.3,SNR=5.4
HNR LR LR 13 53 51.8
comp=Z,6µm,20.0s,baz=288,slow=37
HNR Honiara 33.62 111 P **P 13 39 28.8 -0.1**
MORW Morawa 33.77 200 P **P 13 39 29.3 -0.7**
baz=34,SNR=37
MORW Morawa 33.77 200 P **P 13 39 29.4 -0.5**
KMBL Kambalda 34.47 190 P **P 13 39 35.5 -0.4**
baz=35,SNR=60
KSAR Wonju Array Be 34.56 359 P **P 13 39 37.1 +0.4**
KSAR Wonju Array Be 34.56 359 P **P 13 39 37.1 +0.4**
KSRS Korea Array 34.58 359 P **P 13 39 37.7 +0.9**
comp=Z,162nm,0.9s,baz=175,slow=9.9,SNR=193
KSRS PcP **PcP 13 42 11.7 +1.2**
comp=Z,31nm,0.9s,baz=182,slow=3.3,SNR=10
KSRS S **S 13 45 08.0 +6.0**
comp=Z,6.7nm,1.0s,baz=192,slow=13,SNR=5.6
KSRS ScP **ScP 13 45 51.2 0.0**
comp=Z,15nm,0.8s,baz=181,slow=3.2,SNR=12
KSRS PKiKP **PKiKP 13 49 33.1 -0.4**
comp=Z,2.6nm,0.8s,baz=12,slow=0.8,SNR=4.5
KSRS LR LR 13 52 36.0
comp=Z,6µm,20.6s,baz=194,slow=34
KS19 Wonju Array Si 34.62 359 P **P 13 39 37.0 -0.2**
KS19 IAmb IAmb 13 39 39.4
comp=Z,180nm,0.8s
MJAR Matsushiro Arr 34.85 14 P **P 13 39 38.7 -0.5**
comp=Z,79nm,0.7s,baz=183,slow=9.5,SNR=158
MJAR PcP **PcP 13 42 12.8 +1.4**
comp=Z,32nm,0.9s,baz=222,slow=3.8,SNR=5.0
MJAR S **S 13 45 03.7 -2.6**
comp=Z,9.9nm,1.0s,baz=180,slow=21,SNR=4.1
MJAR ScP **ScP 13 45 51.5 -0.8**
comp=Z,7.3nm,0.9s,baz=204,slow=6.0,SNR=3.4
MJAR Matsushiro Arr 34.85 14 P **P 13 39 37.9 -1.3**
MAJO Matsushiro 34.85 14*c i*P **P 13 39 38.8 -0.4**
MAJO pmax pmax
comp=Z,126nm,0.9s
MAJO MLR MLR
comp=Z,8µm,19.0s
MAJO Matsushiro 34.85 14 P **P 13 39 38.4 -0.8**
MAJO IAmb IAmb 13 39 41.3
comp=Z,167nm,1.1s
MAT Matsushiro 34.85 14 P **P 13 39 38.6 -0.6**
MAT S **S 13 45 03.4 -2.9**
MJB9 Matsu-Tunnel 34.85 14 P **P 13 39 38.5 -0.8**
MJB9 IAmb IAmb 13 39 41.3
comp=Z,162nm,1.0s
TIA Tai'an 34.94 344 P **P 13 39 40.0 0.0**
TIA S **S 13 45 07.0 -0.7**
TIA pmax pmax
comp=Z,72nm,1.0s
TIA pmax pmax
comp=Z,1µm,6.3s
TIA LR LR
comp=Z,6µm,22.4s
TIA LR LR
comp=Z,2µm,11.6s
TIA LR LR
comp=Z,12µm,24.0s
RMQ Roma 35.05 147 P **P 13 39 41.4 +0.4**
baz=35,SNR=23
EIDS Eidsvold 35.51 143 P **P 13 39 45.1 0.0**
baz=36,SNR=68
EIDS Eidsvold 35.51 143 P **P 13 39 44.4 -0.7**
EIDS IAMs_20 IAMs_20 13 55 14.9
comp=Z,18µm,20.0s
KLBR Kellerberrin 35.60 196 P **P 13 39 45.3 -0.5**
baz=36,SNR=43
BBOO Buckleboo 36.06 169 P **P 13 39 50.2 +0.5**
baz=36,SNR=8.5
BBOO Buckleboo 36.06 169 P **P 13 39 49.3 -0.3**
XAN Xi'an 36.10 332 P **P 13 39 50.3 +0.2**
XAN pP pwP 13 40 08.1 +0.1
XAN S **S 13 45 23.0 -2.7**
XAN SS **SnSn 13 47 48.6 -7.0**
XAN pmax pmax
comp=Z,630nm,1.2s
XAN pmax pmax
comp=Z,3µm,4.3s
XAN LR LR
comp=Z,7µm,24.0s
XAN LR LR
comp=Z,9µm,21.6s
XAN LR LR
comp=Z,16µm,29.4s
XAN Xi'an 36.10 332 P **P 13 39 50.3 +0.2**
XAN pmax pmax
comp=Z,664nm,1.0s
XAN MLR MLR
comp=Z,10µm,19.0s
XAN Xi'an 36.10 332 P **P 13 39 50.3 +0.2**
MUN Mundaring 36.41 198 P **P 13 39 51.9 -0.7**
baz=36,SNR=16
CD2 Chengdu 36.48 323⇑ *i*P **P 13 39 53.9 +0.6**
CD2 pP pwP 13 40 09.6 -1.1
CD2 S **S 13 45 28.3 -3.2**
CD2 sS sS 13 45 54.5 -1.1
CD2 pmax pmax
comp=Z,320nm,1.0s
CD2 pmax pmax
comp=Z,4µm,7.7s
CD2 LR LR
comp=Z,19µm,24.2s
CD2 LR LR
comp=Z,22µm,24.2s
CD2 LR LR
comp=Z,27µm,21.4s
DL2 Dalian 36.55 351 P **P 13 39 54.4 +0.6**
DL2 sP **sP 13 40 18.0 +4.7**
DL2 PcP **PcP 13 42 17.9 +1.6**
DL2 S **S 13 45 31.8 -0.5**
DL2 pmax pmax
comp=Z,190nm,0.8s
DL2 pmax pmax
comp=Z,1µm,9.2s
DL2 LR LR
comp=Z,6µm,22.4s
DL2 LR LR
comp=Z,17µm,19.0s
DL2 LR LR
comp=Z,9µm,20.5s
STKA Stephens Creek 36.60 161 P **P 13 39 54.1 -0.1**
baz=37,SNR=162
STKA Stephens Creek 36.60 161 P **P 13 39 54.5 +0.2**
comp=Z,147nm,0.7s,baz=338,slow=8.7,SNR=102

STKA			PcP	PcP	13 42 17.5	+0.9
	comp=Z,29nm,0.5s,baz=316,slow=6.4,SNR=3.0					
STKA			S	S	13 45 29.6	-3.7
	comp=Z,62nm,1.2s,baz=154,slow=17,SNR=4.2					
STKA			ScP	ScP	13 45 58.6	-0.1
	comp=Z,42nm,0.8s,baz=15,slow=8.2,SNR=6.4					
STKA			LR	LR	13 56 52.8	
	comp=Z,10μm,20.9s,baz=330,slow=39					
STKA	**Stephens Creek**	**36.60 161**	P	**P**	**13 39 53.9**	**-0.4**
DGPR	**DIGLIPUR**	**36.62 288**	⇑*i*P	**P**	**13 39 53.8**	**-0.9**
DGPR			IAmb	IAmb	13 40 00.1	
	comp=Z,80nm,0.5s					
NWAO	**Narrogin (SRO)**	**37.00 196**	P	**P**	**13 39 57.5**	**-0.2**
	baz=37,SNR=41					
NWAO	**Narrogin (SRO)**	**37.00 196**	P	**P**	**13 39 56.8**	**-0.8**
NWAO			P	**P**	**13 39 56.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**37.00 196**	P	**P**	**13 39 56.9**	**-0.8**
NWAO			pmax	pmax		
	comp=Z,140nm,1.2s					
NWAO			MLR	MLR		
	comp=Z,8μm,21.0s					
NWAO	**Narrogin (SRO)**	**37.00 196**	S	**S**	**13 45 35.6**	**-3.8**
	comp=Z,16nm,0.9s,baz=288,slow=16,SNR=2.5					
NWAO			ScP	**ScP**	**13 45 59.1**	**-1.1**
	comp=Z,62nm,1.0s,baz=65,slow=4.6,SNR=8.5					
NWAO	**Narrogin (SRO)**	**37.00 196**	P	**P**	**13 39 56.9**	**-0.8**
HTT	**Hallett**	**37.29 165**	P	**P**	**13 40 00.7**	**+0.6**
	baz=37,SNR=35					
TIY	**Taiyuan**	**37.80 339**	*e*P	**P**	**13 40 05.1**	**+0.6**
TIY			pP	**pP**	**13 40 16.6**	**-1.5**
TIY			sP	**pwP**	**13 40 22.0**	**+0.7**
TIY			S	**S**	**13 45 54.3**	**+2.7**
TIY			sS	**sS**	**13 46 11.8**	**-4.0**
TIY			pmax	pmax		
	comp=Z,150nm,0.8s					
TIY			pmax	pmax		
	comp=Z,1μm,7.9s					
TIY			LR	LR		
	comp=Z,4μm,13.2s					
TIY			LR	LR		
	comp=Z,8μm,21.3s					
TIY			LR	LR		
	comp=Z,14μm,24.2s					
CMSA	**Cobar Meteorol**	**37.81 156**	P	**P**	**13 40 04.5**	**0.0**
	baz=38,SNR=53					
RKGY	**Rocky Gully**	**38.66 195**	P	**P**	**13 40 12.0**	**+0.3**
	baz=39,SNR=36					
BJT	**Baijiatuau**	**38.77 345**	P	**P**	**13 40 12.6**	**+0.1**
BJT					13 42 24.1	
BJT			pmax	pmax		
	comp=Z,366nm,1.2s					
BJT			MLR	MLR		
	comp=Z,8μm,21.0s					
BJT	**Baijiatuau**	**38.77 345**	P	**P**	**13 40 12.6**	**+0.1**
BJT			IAmb	IAmb	13 40 30.2	
	comp=Z,366nm,1.2s					
BJT				**PcP**	**13 42 24.1**	**+0.9**
SIMRM	**Sittwe**	**38.77 299**	P	**P**	**13 40 14.1**	**+1.3**
SIMRM			IAmb	IAmb	13 40 16.2	
	comp=Z,152nm,1.0s					
BJI	**Beijing**	**38.79 345**	P	**P**	**13 40 12.9**	**+0.3**
BJI			sP	**pP**	**13 40 27.3**	**+1.2**
BJI			S	**S**	**13 46 05.8**	**-0.3**
BJI			pmax	pmax		
	comp=Z,110nm,0.8s					
BJI			LR	LR		
	comp=Z,5μm,20.6s					
BJI			LR	LR		
	comp=Z,6μm,25.5s					
SNY	**Shenyang**	**39.18 354**	⇑P	**P**	**13 40 16.3**	**+0.4**
SNY			S	**S**	**13 46 10.8**	**-1.3**
SNY			pmax	pmax		
	comp=Z,1μm,6.1s					
SNY			LR	LR		
	comp=Z,7μm,23.7s					
SNY			LR	LR		
	comp=Z,5μm,26.9s					
SNY			LR	LR		
	comp=Z,15μm,22.6s					
KWAJ	**Kwajalein Atol**	**39.41 79**	P	**P**	**13 40 19.2**	**+0.9**
KWAJ			pmax	pmax		
	comp=Z,188nm,0.8s					
KWAJ	**Kwajalein Atol**	**39.41 79**	P	**P**	**13 40 19.2**	**+0.9**
KWAJ			IAmb	IAmb	13 40 20.7	
	comp=Z,188nm,0.8s					
KWAJ	**Kwajalein Atol**	**39.41 79**	IAMs_20	IAMs_20	13 53 30.1	
	comp=Z,12μm,20.0s					
LKP	**Lekhapani**	**39.64 311**	*e*P	**P**	**13 40 20.0**	**+0.1**
LKP			IAmb	IAmb	13 40 21.4	
	comp=Z,554nm,0.4s					
ARMA	**Armidale**	**39.69 148**	P	**P**	**13 40 20.8**	**+0.4**
	baz=40,SNR=65					
ARMA	**Armidale**	**39.69 148**	P	**P**	**13 40 20.8**	**+0.4**
H01W3	**Cape Leeuwin H**	**39.74 199**	P	**P**	**13 40 22.4**	**+2.0**
H01W1	**Cape Leeuwin H**	**39.74 199**	P	**P**	**13 40 22.4**	**+2.0**
H01W2	**Cape Leeuwin H**	**39.76 199**	P	**P**	**13 40 22.5**	**+2.0**
MSHR	**Mys Shultsa**	**39.77 3**	⇑*e*P	**P**	**13 40 21.8**	**+1.1**
KOHI	**KOHIMA**	**40.15 308**	⇑*i*P	**P**	**13 40 24.0**	**-0.4**
KOHI			IAmb	IAmb	13 40 28.1	
	comp=Z,589nm,1.0s					
LZH	**Lanzhou**	**40.25 329**	⇑P	**P**	**13 40 26.9**	**+1.8**
LZH			sP	pP	13 40 40.6	+2.0
LZH			S	**S**	**13 46 30.8**	**+2.2**
LZH			pmax	pmax		
	comp=Z,580nm,1.4s					
LZH			pmax	pmax		
	comp=Z,3μm,7.6s					
LZH			LR	LR		
	comp=Z,14μm,17.9s					
LZH			LR	LR		
	comp=Z,13μm,19.0s					
LZH			LR	LR		
	comp=Z,17μm,19.3s					
VLA	**Vladivostok**	**40.35 4**	*ce*P	**P**	**13 40 26.9**	**+1.3**
VLA			pmax	pmax		
	comp=Z,198nm,1.3s					
VLA			MLR	MLR		
	comp=Z,5μm,20.0s					
JORH	**JORHAT**	**40.55 309**	⇑*i*P	**P**	**13 40 25.4**	**-2.1**
JORH			IAmb	IAmb	13 40 30.1	
	comp=Z,516nm,0.7s					
H11S3	**WAKE ISLAND Hy 40.59 65**		T	T	14 23 50.2	
	baz=252,slow=75,SNR=115					
H11S2	**WAKE ISLAND Hy 40.61 65**		T	T	14 23 55.4	
	baz=252,slow=75,SNR=79					
H11S1	**WAKE ISLAND Hy 40.61 65**		T	T	14 23 51.4	
	baz=252,slow=75,SNR=97					
HHC	**Hu-ho-hao-te**	**40.91 340**	*e*P	**P**	**13 40 32.1**	**+1.7**
HHC			pP	pwP	13 40 47.1	-0.3
HHC			S	**S**	**13 46 41.3**	**+3.1**
HHC			SS	**SS**	**13 49 39.9**	**-1.7**
CN2	**Changchun**	**41.00 357**	*e*P	**P**	**13 40 30.9**	**0.0**
CN2			*ep*P	pP	13 40 43.8	-0.9
CN2			*e*S	**S**	**13 46 37.6**	**-1.6**
CN2			SS	**SS**	**13 49 39.9**	**-3.2**
CN2			pmax	pmax		
	comp=Z,990nm,10.0s					
CN2			LR	LR		
	comp=Z,6μm,21.0s					
CN2			LR	LR		
	comp=Z,4μm,21.0s					
CN2			LR	LR		
	comp=Z,5μm,23.0s					
H11N1	**WAKE ISLAND Hy 41.16 63**		T	T	14 24 26.5	
	baz=250,slow=75,SNR=114					
H11N2	**WAKE ISLAND Hy 41.17 63**		T	T	14 24 27.4	
	baz=250,slow=75,SNR=73					
H11N3	**WAKE ISLAND Hy 41.18 63**		T	T	14 24 27.5	
	baz=250,slow=75,SNR=193					
ARPS	**Mount Arapiles**	**41.22 164**	P	**P**	**13 40 33.7**	**+0.9**
	baz=41,SNR=52					
BELO	**BELONIA**	**41.22 303**	IAmb	IAmb	13 40 58.1	
BTO	**Baotou**	**41.23 339**	*e*P	**P**	**13 40 33.8**	**+0.7**
BTO			S	**S**	**13 46 38.1**	**-4.9**
ERM	**Erimo**	**41.29 17**	⇓*e*P	**P**	**13 40 35.0**	**+1.6**
ERM			pmax	pmax		
	comp=Z,85nm,0.9s					
ERM	**Erimo**	**41.29 17**	P	**P**	**13 40 34.6**	**+1.2**
YNG	**Young**	**41.33 155**	P	**P**	**13 40 35.1**	**+1.2**
	baz=41,SNR=11					
USA0B	**Ussuriysk Arra**	**41.43 4**	P	**P**	**13 40 35.0**	**+0.6**
USA0B			pmax	pmax		
	comp=Z,205nm,1.0s					
USA0B	**Ussuriysk Arra**	**41.43 4**	P	**P**	**13 40 35.0**	**+0.6**
USA0B			IAmb	IAmb	13 40 37.3	
	comp=Z,205nm,1.0s					
USRK	**Ussuriysk Ar.**	**41.43 4**	P	**P**	**13 40 35.3**	**+0.8**
	comp=Z,161nm,0.9s,baz=185,slow=7.2,SNR=167					
USRK			PcP	**PcP**	**13 42 32.5**	**+0.9**
	comp=Z,8.9nm,0.5s,baz=159,slow=1.9,SNR=4.7					
USRK			S	**S**	**13 46 45.0**	**-0.5**
	comp=Z,11nm,1.0s,baz=201,slow=7.7,SNR=3.8					
USRK	**Ussuriysk Ar.**	**41.43 4**	P	**P**	**13 40 35.0**	**+0.5**
MGCD	**Mangrove Creek**	**41.66 151**	P	**P**	**13 40 36.9**	**+0.4**
	baz=42,SNR=4.6					
MDJ	**Mudanjiang**	**41.74 1**	P	**P**	**13 40 37.8**	**+0.8**
MDJ			pP	pP	13 40 48.1	-2.7
MDJ			sP	pwP	13 40 53.0	-0.9
MDJ			S	**S**	**13 46 48.1**	**-2.0**
MDJ			SS	**SS**	**13 49 57.9**	**+0.1**
MDJ			pmax	pmax		
	comp=Z,100nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,1μm,4.4s					
MDJ			LR	LR		
	comp=Z,5μm,20.8s					
MDJ			LR	LR		
	comp=Z,3μm,23.9s					
MDJ			LR	LR		
	comp=Z,10μm,20.2s					
MDJ	**Mudanjiang**	**41.74 1**	P	**P**	**13 40 37.5**	**+0.4**
MDJ			IAmb	IAmb	13 40 55.2	
	comp=Z,176nm,0.9s					
RIV	**Riverview**	**42.19 151**	P	**P**	**13 40 41.2**	**+0.4**
	baz=42,SNR=7.8					
CAN	**Canberra**	**42.46 155**	P	**P**	**13 40 42.5**	**-0.6**
CAN			pmax	pmax		
	comp=Z,234nm,1.1s					
CAN			MLR	MLR		
	comp=Z,12μm,20.0s					
CAN	**Canberra**	**42.46 155**	P	**P**	**13 40 42.5**	**-0.6**
CAN			IAmb	IAmb	13 41 00.3	
	comp=Z,234nm,1.1s					
CAN			IAMs_20	IAMs_20	14 00 06.5	
	comp=Z,12μm,20.0s					
CNB	**Canberra Magne**	**42.61 154**	P	**P**	**13 40 44.9**	**+0.6**
	baz=43,SNR=11					
TEY	**Ternei**	**42.75 9**	⇓*i*P	**P**	**13 40 46.9**	**+1.7**
TEY			*e*		13 41 05.0	
TEY			*e*		13 47 03.4	
TEY			pmax	pmax		
	comp=N,130nm,1.1s					
TEY			pmax	pmax		
	comp=Z,190nm,1.0s					
ASAJ	**Asahikawa**	**43.09 15**	P	**P**	**13 40 49.2**	**+1.3**
	comp=Z,31nm,0.4s,baz=231,slow=9.2,SNR=104					
JKA	**Kamikawa-asahi**	**43.09 15**	P	**P**	**13 40 49.2**	**+1.3**
TOO	**Toolangi**	**43.09 160**	P	**P**	**13 40 48.5**	**+0.3**
	baz=43,SNR=40					
TOO	**Toolangi**	**43.09 160**	P	**P**	**13 40 49.0**	**+0.8**
TOO			pmax	pmax		
	comp=Z,111nm,0.9s					
TOO	**Toolangi**	**43.09 160**	P	**P**	**13 40 49.0**	**+0.8**
MILA	**Mila**	**44.01 156**	P	**P**	**13 40 56.7**	**+1.2**
	baz=44,SNR=14					
LSA	**Lhasa**	**44.39 311**	P	**P**	**13 41 01.5**	**+2.2**
LSA			S	**S**	**13 47 32.8**	**+2.4**
LSA			LR	LR		
	comp=Z,16μm,20.6s					
LSA			LR	LR		
	comp=Z,17μm,23.5s					
LSA			LR	LR		
	comp=Z,28μm,21.4s					
LSA	**Lhasa**	**44.39 311**	P	**P**	**13 41 01.3**	**+2.0**
LSA	**Lhasa**	**44.39 311**	P	**P**	**13 41 01.4**	**+2.2**
LSA			P	**P**	**13 41 01.4**	**+2.2**
LSA	**Lhasa**	**44.39 311**	P	**P**	**13 41 01.0**	**+1.7**
LSA			pmax	pmax		
	comp=Z,1μm,1.6s					
LSA			MLR	MLR		
	comp=Z,5μm,21.0s					
LSA	**Lhasa**	**44.39 311**	P	**P**	**13 41 01.0**	**+1.7**
TARA	**Tarawa**	**44.47 91**	P	**P**	**13 40 59.7**	**+0.2**
TARA			IAmb	IAmb	13 41 16.9	
	comp=Z,266nm,1.2s					
TARA	**Tarawa**	**44.47 91**	IAMs_20	IAMs_20	13 55 07.1	
	comp=Z,14μm,22.0s					
DZM	**Mont Dzumac**	**44.55 126**	*e*P	**P**	**13 41 01.0**	**+0.8**
	comp=Z,198nm,1.4s					
DZM			*e*S	**S**	**13 47 27.1**	**-5.1**
	comp=Z,11μm,28.9s					
DZM			*e*LQ	LQ	13 51 29.0	
	comp=Z,13μm,30.7s					
DZM			*e*LR	LR	13 53 21.7	
	comp=Z,11μm,29.6s					
DZM	**Mont Dzumac**	**44.55 126**	LR	LR	14 01 03.3	
	comp=Z,4μm,19.4s,baz=323,slow=38					
DZM	**Mont Dzumac**	**44.55 126**	P	**P**	**13 40 59.7**	**-0.5**
GTA	**Gaotai**	**44.85 328**	⇑P	**P**	**13 41 03.4**	**+1.0**
GTA			pP	pwP	13 41 19.8	-0.5
GTA			PcP	**PcP**	**13 42 45.0**	**+1.6**
GTA			ScP	**ScP**	**13 46 30.9**	**-0.3**
GTA			S	**S**	**13 47 36.9**	**+0.8**
GTA			ScS	**ScS**	**13 50 54.1**	**-0.9**
GTA			pmax	pmax		
	comp=Z,150nm,1.2s					
GTA			pmax	pmax		
	comp=Z,2μm,9.2s					
GTA			LR	LR		
	comp=Z,6μm,20.3s					
GTA			LR	LR		
	comp=Z,8μm,21.3s					
GTA			LR	LR		
	comp=Z,14μm,19.4s					
GTK	**Tadong**	**45.27 307**	⇑*i*P	**P**	**13 41 07.5**	**+1.6**
GTK			IAmb	IAmb	13 41 13.9	
	comp=Z,228nm,0.5s					
KUR	**Kuril'sk**	**45.66 19**	*e*P	**P**	**13 41 06.4**	**-2.0**
KUR			*e*		13 42 44.9	
KUR			*e*PPP	PPP	13 43 32.1	
KUR			*e*S	**S**	**13 47 48.2**	**+1.0**
KUR			*e*SSS	SSS	13 52 05.5	
KUR			MLR	MLR		
	comp=Z,3μm,21.0s					
KUR			MLR	MLR		
	comp=N,2μm,20.0s					
KUR			MLR	MLR		
	comp=E,3μm,20.0s					
YSS	**Yuzh-Sakhalins**	**45.79 14**	⇑*i*P	**P**	**13 41 10.2**	**+0.7**
YSS			*e*		13 41 28.2	
YSS			*e*		13 42 45.9	
YSS			*e*S	**S**	**13 47 48.0**	**-1.1**
YSS			pmax	pmax		
	comp=Z,80nm,1.1s					
YSS			smax	smax		
	comp=N,2μm,9.0s					
YSS			smax	smax		
	comp=E,2μm,8.0s					
YSS			MLR	MLR		
	comp=Z,3μm,12.0s					
YSS			MLR	MLR		
	comp=N,2μm,16.0s					
YSS			MLR	MLR		
	comp=E,2μm,15.0s					
YSS	**Yuzh-Sakhalins**	**45.79 14**	P	**P**	**13 41 10.2**	**+0.7**
YSS			IAmb	IAmb	13 41 29.4	
	comp=Z,230nm,1.1s					
TAPN	**Taplejung**	**45.99 306**	*e*P	**P**	**13 41 13.1**	**+1.3**
	comp=Z,1μm,1.1s					
ODAN	**Odare**	**46.05 305**	*e*P	**P**	**13 41 13.6**	**+1.4**
	comp=Z,1μm,0.7s					
BOK	**Bokaro**	**46.15 301**	⇑*i*P	**P**	**13 41 13.9**	**+1.1**
BOK			IAmb	IAmb	13 41 33.3	
	comp=Z,91nm,0.9s					
KLR	**Kul'dur**	**46.43 3**	*c i*P	**P**	**13 41 14.7**	**+0.2**
KLR			pmax	pmax		
	comp=Z,71nm,1.0s					
KLR			MLR	MLR		
	comp=Z,6μm,20.0s					
KLR	**Kul'dur**	**46.43 3**	P	**P**	**13 41 14.9**	**+0.4**
	comp=Z,44nm,0.8s,baz=200,slow=6.0,SNR=75					
KLR			PcP	**PcP**	**13 42 49.4**	**+0.9**
	comp=Z,25nm,0.8s,baz=203,slow=5.9,SNR=1.7					
KLR			ScP	**ScP**	**13 46 37.4**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=178,slow=6.2,SNR=3.6					
KLR			S	**S**	**13 47 57.8**	**-0.5**
	comp=Z,12nm,1.2s,baz=15,slow=18,SNR=4.6					
KLR			LR	LR	14 00 56.0	
	comp=Z,1μm,20.1s,baz=194,slow=36					
RAMN	**Ramite**	**46.73 305**	*e*P	**P**	**13 41 19.1**	**+1.5**
	comp=Z,1μm,0.7s					
HIA	**Hailar**	**46.97 352**	*c i*P	**P**	**13 41 18.7**	**-0.1**
HIA			pmax	pmax		
	comp=Z,454nm,1.5s					
HIA	**Hailar**	**46.97 352**	P	**P**	**13 41 18.7**	**-0.1**
JIRN	**Jiri**	**47.35 306**	*e*P	**P**	**13 41 23.9**	**+1.4**
	comp=Z,2μm,0.8s					
GUN	**Gumba**	**47.70 306**	*e*P	**P**	**13 41 26.6**	**+1.4**
	comp=Z,1μm,0.7s					
PALK	**Pallekele**	**47.76 277**	*i* P	**P**	**13 41 26.1**	**+0.6**
	SNR=36					
PALK	**Pallekele**	**47.76 277**	P	**P**	**13 41 26.5**	**+1.0**
PALK	**Pallekele**	**47.76 277**	P	**P**	**13 41 25.8**	**+0.3**
	comp=Z,163nm,1.0s,baz=116,slow=7.6,SNR=40					
PALK			PcP	**PcP**	**13 42 54.4**	**+0.4**
	comp=Z,27nm,0.7s,baz=116,slow=4.2,SNR=2.6					
PALK			ScP	**ScP**	**13 46 43.2**	**-0.5**
	comp=Z,27nm,1.0s,baz=116,slow=6.2,SNR=5.6					
PALK	**Pallekele**	**47.76 277**		**ScP**	**13 46 43.3**	**-0.5**
PALK	**Pallekele**	**47.76 277**	P	**P**	**13 41 25.2**	**-0.3**
PKI	**Pulchoki**	**47.95 305**	*e*P	**P**	**13 41 28.0**	**+0.9**
	comp=Z,445nm,0.6s					
PKIN	**Phulchoki**	**47.96 305**	*e*P	**P**	**13 41 27.9**	**+0.7**
	comp=Z,353nm,0.7s					
KKN	**Kakani**	**48.14 306**	*e*P	**P**	**13 41 29.5**	**+1.0**
	comp=Z,680nm,0.8s					
DMN	**Daman**	**48.21 305**	*e*P	**P**	**13 41 30.1**	**+1.0**
	comp=Z,1μm,0.9s					
GRNR	**Gornyy**	**48.35 7**	⇑*i*P	**P**	**13 41 30.5**	**+1.0**
GRNR			*e**PP	**pP**	**13 41 43.8**	**+0.3**
GRNR			*e*		13 42 57.2	
GRNR			*e*		13 43 17.9	
GRNR			*e*S	**S**	**13 48 19.1**	**-6.5**
GRNR			*e*SS	**SS**	**13 51 50.1**	**-5.9**
GRNR			pmax	pmax		
	comp=Z,70nm,0.9s					
ULN	**Ulaanbaatar**	**48.62 341**	P	**P**	**13 41 32.7**	**+0.9**
	SNR=65					
ULN			P	**P**	**13 41 32.7**	**+0.9**
	SNR=65					
ULN	**Ulaanbaatar**	**48.62 341**	*c i*P	**P**	**13 41 32.2**	**+0.5**
ULN			pmax	pmax		
	comp=Z,164nm,1.0s					
ULN			MLR	MLR		
	comp=Z,11μm,23.0s					
ULN	**Ulaanbaatar**	**48.62 341**	P	**P**	**13 41 32.3**	**+0.5**
ULN			IAmb	IAmb	13 41 38.5	
	comp=Z,161nm,0.8s					
ULN	**Ulaanbaatar**	**48.62 341**	IAMs_20	IAMs_20	14 02 12.0	
	comp=Z,10μm,22.0s					
GKN	**Gorkha**	**48.75 305**	*e*P	**P**	**13 41 34.0**	**+0.9**
	comp=Z,736nm,0.7s					
MDRS	**Chennai**	**48.75 285**	⇑*i*P	**P**	**13 41 34.7**	**+1.6**
MDRS			IAmb	IAmb	13 41 37.2	
MDRS			*i* x	x	13 43 35.1	
MDRS			*ex*	x	13 48 34.4	
SONM	**Songino Array**	**48.81 340**	P	**P**	**13 41 33.6**	**+0.4**
	comp=Z,54nm,0.7s,baz=154,slow=7.9,SNR=190					
SONM			PcP	**PcP**	**13 42 57.4**	**+0.2**
	comp=Z,64nm,0.8s,baz=148,slow=3.6,SNR=5.7					
SONM			ScP	**ScP**	**13 46 47.5**	**-0.1**
	comp=Z,22nm,1.0s,baz=162,slow=3.8,SNR=7.6					
SONM			PKP2bc		14 13 32.1	
	comp=Z,0.9nm,0.9s,baz=23,slow=4.8,SNR=3.6					
SONM	**Songino Array**	**48.81 340**	P	**P**	**13 41 32.6**	**-0.6**
SONM	**Songino Array**	**48.81 340**	IAmb	IAmb	13 42 59.2	
	comp=Z,57nm,0.8s					
TYV	**Tymovskoe**	**49.45 12**	*e*P	**P**	**13 41 38.1**	**+0.3**
TYV			*e*S	**S**	**13 48 43.2**	**+2.2**
TYV			pmax	pmax		
	comp=Z,62nm,1.1s					
TYV			pmax	pmax		
	comp=Z,2μm,5.1s					
TYV			smax	smax		
	comp=N,2μm,5.0s					
TYV			smax	smax		
	comp=E,32nm,2.5s					
TYV			MLR	MLR		
	comp=Z,3μm,20.0s					
KOLN	**Koldanda**	**49.51 305**	*e*P	**P**	**13 41 40.5**	**+1.6**
	comp=Z,2μm,0.8s					
DANN	**Dangsing**	**49.60 306**	*e*P	**P**	**13 41 40.9**	**+1.2**
CIT	**Chita**	**50.69 348**	*e*P	**P**	**13 41 48.1**	**+0.8**
CIT			*e*		13 42 02.7	
CIT			*e*		13 43 05.8	
CIT			pmax	pmax		
	comp=Z,196nm,2.5s					
ZEA	**Zeya**	**50.87 359**	*e*P	**P**	**13 41 48.0**	**-0.5**
ZEA			*e*S	S	13 49 22.0	+21
ZEA			*e*		13 51 36.0	
ZEA			pmax	pmax		
	comp=N,47nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,58nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,1μm,10.0s					
ZEA			pmax	pmax		
	comp=Z,1μm,14.0s					
ZEA			pmax	pmax		
	comp=N,1μm,16.0s					
ZEA			smax	smax		
	comp=N,2μm,13.0s					
HYB	**Hyderabad**	**51.07 290**	*i* P	**P**	**13 41 50.0**	**-0.7**
	comp=N,560nm,1.0s					
HYB			*e*PP	**PP**	**13 43 50.0**	**+2.2**
HYB			*e*S	**S**	**13 49 02.0**	**-2.6**
HYB			*e*SS	**SS**	**13 52 48.0**	**+7.5**
HYB	**Hyderabad**	**51.07 290**	*e*P	**P**	**13 41 51.9**	**+1.2**
HYB			IAmb	IAmb	13 41 53.8	
	comp=Z,1μm,1.1s					
JBP	**Jabalpur**	**51.10 298**	⇑*e*P	**P**	**13 41 52.6**	**+1.9**
JBP			AMB	AMB	13 41 53.1	
	comp=Z,412nm,0.8s					
JBP			*e*S	**S**	**13 49 06.7**	**+2.0**
HYD	**Hyderabad**	**51.17 290**	*e*S	**S**	**13 49 02.0**	**-4.0**
NKL	**Nikolayevsk**	**51.28 9**	*e*P	**P**	**13 41 49.7**	**-1.8**
NKL			*e*		13 43 07.5	
NKL			*e*		13 43 46.0	
NKL			*e*S	**S**	**13 49 07.6**	**+1.4**
NKL			*e*		13 51 42.1	
NKL			pmax	pmax		
	comp=N,11nm,0.8s					
NKL			pmax	pmax		
	comp=E,37nm,1.0s					
NKL			pmax	pmax		
	comp=Z,236nm,1.0s					
NKL			pmax	pmax		
	comp=Z,362nm,4.2s					
NKL			smax	smax		
	comp=E,323nm,5.8s					
NKL			smax	smax		
	comp=N,14nm,2.6s					
NKL			MLR	MLR		
	comp=N,171nm,16.0s					
NKL			MLR	MLR		
	comp=E,957nm,16.0s					
NKL			MLR	MLR		
	comp=Z,4μm,18.0s					
NGP	**Nagpur**	**51.41 295**	*i* P	**P**	**13 41 54.1**	**+0.9**
NGP			*e*S	**S**	**13 49 11.2**	**+2.0**
TRD	**Trivandrum**	**51.53 279**	⇑*i*P	**P**	**13 41 54.7**	**+0.5**
TRD			IAmb	IAmb	13 41 57.1	
	comp=Z,508nm,0.6s					
ZAK	**Zakamensk**	**52.05 340**	*e*P	**P**	**13 41 57.3**	**-0.3**
ZAK			pmax	pmax		
	comp=Z,51nm,1.2s					
MSVF	**Nonsavu**	**52.93 115**	*d i*P	**P**	**13 42 05.3**	**+0.7**
MSVF			pmax	pmax		
	comp=Z,93nm,0.8s					
MSVF	**Nonsavu**	**52.93 115**	P	**P**	**13 42 05.7**	**+1.1**
MSVF			IAmb	IAmb	13 42 08.2	
	comp=Z,91nm,0.8s					
TLY	**Talaya**	**53.03 341**	P	**P**	**13 42 05.6**	**+0.9**
	SNR=22					
TLY			P	**P**	**13 42 05.6**	**+0.9**
	SNR=22					
TLY	**Talaya**	**53.03 341**	*c i*P	**P**	**13 42 04.8**	**+0.1**
TLY			*e*S	**S**	**13 49 31.4**	**+1.0**
TLY			*e*		13 51 51.3	
TLY			pmax	pmax		
	comp=Z,188nm,1.2s					
TLY			MLR	MLR		
	comp=Z,8μm,19.0s					
TLY	**Talaya**	**53.03 341**	PcP	**PcP**	**13 43 14.1**	**+1.5**
	comp=Z,19nm,0.6s,baz=159,slow=8.6,SNR=5.0					
TLY	**Talaya**	**53.03 341**	P	**P**	**13 42 05.2**	**+0.5**
TLY	**Talaya**	**53.03 341**	IAMs_20	IAMs_20	14 05 16.7	
	comp=Z,9μm,22.0s					

SKR	**Severo-Kuril's**	**53.20**	**22**	*e*P	**P**	**13 42 04.7**	**-1.1**
SKR				*e*S	**S**	**13 49 33.0**	**+0.4**
SKR				*e**SS	**sS**	**13 49 54.7**	**-0.4**
SKR				pmax	pmax		
	comp=Z,48nm,1.1s						
SKR				pmax	pmax		
	comp=Z,2μm,4.5s						
SKR				pmax	pmax		
	comp=Z,600nm,4.4s						
SKR				MLR	MLR		
	comp=Z,2μm,19.0s						
SKR				MLR	MLR		
	comp=Z,2μm,20.0s						
IRK	**Irkutsk**	**53.31**	**342**	*e*P	**P**	**13 42 06.8**	**+0.1**
IRK				*e*		13 43 13.8	
IRK				*e*S	**S**	**13 49 36.6**	**+2.4**
IRK				*e*		13 51 52.8	
IRK				pmax	pmax		
	comp=Z,280nm,1.4s						
BHPL	**Bhopal**	**53.39**	**297⇑**	*i*P	**P**	**13 42 06.7**	**-1.1**
BHPL				IAmb	IAmb	13 42 11.4	
MOY	**Mondy**	**53.92**	**339**	*e*P	**P**	**13 42 12.0**	**+0.7**
MOY				pmax	pmax		
	comp=Z,179nm,3.4s						
WMQ	**Urumqi**	**54.54**	**325**	P	**P**	**13 42 17.8**	**+1.9**
WMQ				pP	pP	13 42 26.3	-3.5
WMQ				sP	sP	13 42 36.3	+0.5
WMQ				S	**S**	**13 49 53.1**	**+1.9**
WMQ				sS	sS	13 50 11.4	-4.3
WMQ				ScS	**ScS**	**13 52 00.4**	**0.0**
WMQ				pmax	pmax		
	comp=Z,300nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,1μm,4.1s						
WMQ				LR	LR		
	comp=Z,10μm,18.7s						
WMQ				LR	LR		
	comp=Z,6μm,23.3s						
WMQ				LR	LR		
	comp=Z,14μm,23.3s						
WMQ	**Urumqi**	**54.54**	**325**	P	**P**	**13 42 16.5**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,797nm,1.3s						
WMQ				MLR	MLR		
	comp=Z,9μm,19.0s						
WMQ	**Urumqi**	**54.54**	**325**	P	**P**	**13 42 16.5**	**+0.6**
WMQ	**Urumqi**	**54.54**	**325**	IAms_20	IAms_20	14 08 26.5	
	comp=Z,9μm,19.0s						
DDI	**Dehra Dun**	**54.95**	**306⇑**	*i*P	**P**	**13 42 19.7**	**+0.6**
DDI				IAmb	IAmb	13 42 22.4	
	comp=Z,1μm,1.2s						
NDI	**New Delhi**	**55.11**	**303**	*e*P	**P**	**13 42 20.0**	**-0.2**
NDI				*e*P	**P**	**13 42 20.0**	**-0.2**
NDI				*e*x	x	13 53 08.0	
NDI				*e*x	x	13 53 08.0	
HMDM	**Hanimaadhoo**	**55.20**	**276**	P	**P**	**13 42 22.6**	**+1.5**
	SNR=19						
HMDM	**Hanimaadhoo**	**55.20**	**276**	P	**P**	**13 42 21.6**	**+0.5**
GOA	**Goa**	**55.24**	**287**	*e*P	**P**	**13 42 21.8**	**+0.4**
GOA				IAmb	IAmb	13 42 25.1	
	comp=Z,369nm,1.2s						
MNCY	**Minicoy**	**55.40**	**278⇑**	*i*P	**P**	**13 42 21.8**	**-0.7**
MNCY				IAmb	IAmb	13 42 30.6	
	comp=Z,1μm,1.4s						
KAAM	**Kaadhehdhoo**	**55.47**	**269**	P	**P**	**13 42 24.1**	**+1.0**
	SNR=14						
KAAM	**Kaadhehdhoo**	**55.47**	**269**	P	**P**	**13 42 23.8**	**+0.7**
POO	**Poona**	**55.67**	**291⇑**	*i*x	P	13 42 30.0	+5.5
	comp=Z,310nm,0.6s						
POO			⇑	*i*x	x	13 42 30.0	
	comp=Z,310nm,0.6s						
POO				*i*x	x	13 50 11.0	
POO				*i*x	x	13 50 11.0	
PEA0B	**Petropavlovsk-**	**55.74**	**21**	P	**P**	**13 42 25.9**	**+1.6**
PEA0B				pmax	pmax		
	comp=Z,235nm,1.1s						
PEA0B	**Petropavlovsk-**	**55.74**	**21**	P	**P**	**13 42 25.9**	**+1.6**
PEA0B				IAmb	IAmb	13 42 38.4	
	comp=Z,235nm,1.1s						
PETK	**Petropavlovsk-**	**55.74**	**21**	P	**P**	**13 42 25.6**	**+1.4**
	comp=Z,221nm,1.1s,baz=201,slow=1.9,SNR=81						
PETK				ScP	**ScP**	**13 47 18.9**	**+1.6**
	comp=Z,5.9nm,0.8s,baz=134,slow=4.2,SNR=4.1						
PETK	**Petropavlovsk-**	**55.74**	**21**	P	**P**	**13 42 25.2**	**+0.9**
SMLA	**Simla**	**55.94**	**306⇑**	*i*P	**P**	**13 42 26.2**	**+0.1**
SMLA				IAmb	IAmb	13 42 41.0	
	comp=Z,402nm,1.0s						
PET	**Petropavlovsk**	**56.02**	**22**	*e*P	**P**	**13 42 27.9**	**+1.7**
PET				*e*S	**S**	**13 50 13.1**	**+2.7**
PET				*e*PS	**PnS**	**13 50 26.9**	**-1.0**
PET				*e*PPS	PPS	13 50 30.1	
PET				*e*SS	**SS**	**13 54 00.7**	**+3.4**
PET				MLR	MLR		
	comp=Z,2μm,21.0s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
PET	**Petropavlovsk**	**56.02**	**22**	P	**P**	**13 42 27.5**	**+1.3**
PET				IAmb	IAmb	13 42 29.8	
	comp=Z,158nm,1.1s						
BOD	**Bodaibo**	**56.12**	**351**	*e*P	**P**	**13 42 26.6**	**-0.3**
BOD				pmax	pmax		
	comp=Z,113nm,1.2s						
OUZ	**Omahuta**	**56.65**	**136**	IAms_20	IAms_20	14 05 20.4	
	comp=Z,8μm,22.0s						
H08S2	**Diego Garcia H**	**56.76**	**259**	P	**P**	**13 42 33.1**	**+1.2**
	baz=45,slow=9.1,SNR=32						
DGAR	**Diego Garcia**	**56.77**	**259**	P	**P**	**13 42 33.5**	**+1.2**
	SNR=9.1						
DGAR	**Diego Garcia**	**56.77**	**259**	*d*iP	**P**	**13 42 31.5**	**-0.8**
DGAR				pmax	pmax		
	comp=Z,632nm,1.2s						
DGAR	**Diego Garcia**	**56.77**	**259**	P	**P**	**13 42 33.0**	**+0.7**
H08S3	**Diego Garcia H**	**56.77**	**259**	P	**P**	**13 42 33.0**	**+1.0**
	baz=45,slow=9.1,SNR=28						
H08S1	**Diego Garcia H**	**56.78**	**259**	P	**P**	**13 42 33.2**	**+1.1**
	baz=45,slow=9.1,SNR=38						
DHRM	**DHARAMSHALA**	**57.02**	**307**	*e*P	**P**	**13 42 34.4**	**+0.3**
DHRM				IAmb	IAmb	13 42 36.7	
	comp=Z,505nm,0.7s						
H08N1	**Diego Garcia H**	**58.04**	**261**	P	**P**	**13 42 37.2**	**-3.7**
	baz=112,slow=4.1,SNR=20						
H08N2	**Diego Garcia H**	**58.05**	**261**	P	**P**	**13 42 37.4**	**-3.6**
	baz=112,slow=4.1,SNR=24						
H08N3	**Diego Garcia H**	**58.07**	**261**	P	**P**	**13 42 37.4**	**-3.7**
	baz=112,slow=4.1,SNR=11						
ZSN	**Zaisan**	**58.29**	**327⇑**	*i*P	**P**	**13 42 42.8**	**+0.3**
	comp=Z,142nm,1.6s						
ZSN				*e*S	**S**	**13 50 40.5**	**-0.1**
ZSN				*e*LR	LR	14 08 49.5	
ZSN	**Zaisan**	**58.29**	**327***c*	*i*P	**P**	**13 42 42.7**	**+0.3**
ZSN				*e*S	**S**	**13 50 40.5**	**-0.1**
ZSN				pmax	pmax		
	comp=Z,142nm,1.6s						
JMU	**Jammu**	**58.29**	**307**	*e*P	**P**	**13 42 42.5**	**-0.2**
DGZ	**Jazzator, Alta**	**58.32**	**330***c*	*i*P	**P**	**13 42 43.3**	**+0.5**
DCZ	**Deep Cove**	**58.99**	**149**	P	**P**	**13 42 47.7**	**+0.4**
QRZ	**Quartz Range**	**59.08**	**142**	P	**P**	**13 42 49.0**	**+1.0**
QRZ	**Quartz Range**	**59.08**	**142**	P	**P**	**13 42 48.9**	**+0.9**
QRZ				IAmb	IAmb	13 43 02.1	
	comp=Z,190nm,1.5s						
FOZ	**Fox Glacier**	**59.14**	**146**	IAms_20	IAms_20	14 07 36.5	
	comp=Z,5μm,20.0s						
YAK	**Yakutsk**	**59.18**	**1***c*	*i*P	**P**	**13 42 48.7**	**+0.4**
YAK				*e**PP	**pP**	**13 43 01.9**	**-0.8**
YAK				*e*		13 43 36.6	
YAK				*e*S	**S**	**13 50 45.7**	**-5.9**
YAK				*e*		13 52 29.2	
YAK				pmax	pmax		
	comp=Z,379nm,0.9s						
YAK				pmax	pmax		
	comp=N,215nm,1.1s						
YAK				pmax	pmax		
	comp=E,47nm,1.0s						
YAK				pmax	pmax		
	comp=Z,243nm,2.8s						
YAK				pmax	pmax		
	comp=N,271nm,2.5s						
YAK				pmax	pmax		
	comp=E,111nm,2.3s						
YAK				smax	smax		
	comp=E,1μm,5.6s						
YAK				smax	smax		
	comp=N,2μm,5.6s						
YAK	**Yakutsk**	**59.18**	**1**	P	**P**	**13 42 48.8**	**+0.4**
	comp=N,149nm,0.7s,baz=2.5,slow=2.2,SNR=156						
YAK				PcP	**PcP**	**13 43 37.0**	**+0.7**
	comp=N,114nm,0.8s,baz=225,slow=1.8,SNR=4.2						
YAK				S	**S**	**13 50 50.9**	**-0.6**
	comp=N,3.0nm,0.4s,baz=304,slow=3.6,SNR=6.5						
YAK	**Yakutsk**	**59.18**	**1**	P	**P**	**13 42 48.6**	**+0.3**
DSZ	**Denniston Nort**	**59.18**	**143**	P	**P**	**13 42 51.1**	**+2.3**
HIZ	**Hauiti**	**59.26**	**139**	IAms_20	IAms_20	14 09 51.5	
	comp=Z,5μm,19.0s						
PDGK	**Podgornoye**	**59.28**	**320**	P	**P**	**13 42 49.8**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,293nm,0.9s						
MA2	**Magadan**	**59.28**	**13***c*	*i*P	**P**	**13 42 50.5**	**+1.4**
MA2				pmax	pmax		
	comp=Z,197nm,1.0s						
MA2	**Magadan**	**59.28**	**13**	P	**P**	**13 42 50.3**	**+1.2**
	comp=Z,169nm,1.0s,baz=195,slow=6.9,SNR=47						
MA2	**Magadan**	**59.28**	**13**	P	**P**	**13 42 49.9**	**+0.8**
MA2				IAmb	IAmb	13 42 52.1	
	comp=Z,157nm,0.9s						
MK31	**Makanchi Array**	**59.36**	**325**	P	**P**	**13 42 50.5**	**+0.6**
MK31				pmax	pmax		
	comp=Z,448nm,1.4s						
MK31	**Makanchi Array**	**59.36**	**325**	P	**P**	**13 42 50.5**	**+0.6**
MKAR	**Makanchi Array**	**59.36**	**325**	P	**P**	**13 42 50.4**	**+0.4**
	comp=Z,187nm,0.5s,baz=119,slow=8.3,SNR=1175						
MKAR				ScP	**ScP**	**13 47 32.6**	**-1.0**
	comp=Z,31nm,1.0s,baz=111,slow=6.6,SNR=6.3						
MKAR				S	**S**	**13 50 55.3**	**+0.7**
	comp=Z,9.0nm,1.1s,baz=116,slow=14,SNR=6.2						
MKAR				LR	LR	14 10 01.6	
	comp=Z,8μm,20.5s,baz=126,slow=38						
MKAR				PKPPKP	**P'P'df**	**14 12 18.4**	**-2.8**
	comp=Z,0.9nm,0.8s,baz=266,slow=3.6,SNR=4.3						
MKAR				PKP2bc		14 12 28.5	
	comp=Z,6.3nm,1.1s,baz=293,slow=3.3,SNR=11						
WVZ	**Waitaha Valley**	**59.37**	**145**	P	P	13 42 56.2	+6.2
MLZ	**Mavora Lakes**	**59.43**	**148**	P	**P**	**13 42 50.3**	**-0.1**
UZB	**Uzynbulak**	**59.50**	**320⇑**	*i*P	**P**	**13 42 51.9**	**+0.7**
	comp=Z,173nm,1.2s						
UZB				*e*S	**S**	**13 50 55.6**	**-1.2**
UZB				*e*LR	LR	14 07 28.8	
UZB	**Uzynbulak**	**59.50**	**320***c*	*i*P	**P**	**13 42 51.8**	**+0.7**
UZB				*e*S	**S**	**13 50 55.5**	**-1.2**
UZB				pmax	pmax		
	comp=Z,173nm,1.2s						
WKZ	**Wanaka**	**59.54**	**148**	P	**P**	**13 42 50.9**	**-0.3**
WKZ				IAmb	IAmb	13 43 17.8	
	comp=Z,81nm,1.1s						
WKZ				IAms_20	IAms_20	14 09 23.6	
	comp=Z,6μm,19.0s						
MAKZ	**Makanchi**	**59.55**	**325**	P	**P**	**13 42 51.8**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,887nm,1.4s						
MAKZ				MLR	MLR		
	comp=Z,9μm,20.0s						
MAKZ	**Makanchi**	**59.55**	**325**	P	**P**	**13 42 51.8**	**+0.5**
PRZ	**Przheval'sk**	**59.59**	**319**	P	**P**	**13 42 53.3**	**+1.5**
PRZ				pmax	pmax		
	comp=Z,1μm,1.5s						
PRZ				MLR	MLR		
	comp=Z,14μm,22.0s						
PRZ	**Przheval'sk**	**59.59**	**319**	P	**P**	**13 42 53.3**	**+1.5**
TARG	**Taragay, Kyrgy**	**59.65**	**318**	P	**P**	**13 42 53.4**	**+1.0**
WHZ	**Wether Hill Ro**	**59.69**	**149**	P	**P**	**13 42 52.4**	**+0.2**
WHZ				IAms_20	IAms_20	14 09 32.5	
	comp=Z,5μm,20.0s						
NNZ	**Nelson**	**59.83**	**142**	P	**P**	**13 42 53.3**	**+0.2**
NNZ	**Nelson**	**59.83**	**142**	P	**P**	**13 42 53.4**	**+0.3**
SATY	**Saty**	**59.85**	**319⇑**	*i*P	**P**	**13 42 54.5**	**+0.9**
	comp=Z,525nm,1.1s						
SATY				*e*S	**S**	**13 50 57.2**	**-4.1**
SATY				*e*LR	LR	14 07 59.8	
SATY	**Saty**	**59.85**	**319***c*	*i*P	**P**	**13 42 54.4**	**+0.9**
SATY				*e*S	**S**	**13 50 57.2**	**-4.1**
SATY				pmax	pmax		
	comp=Z,525nm,1.1s						
THZ	**Tophouse**	**59.86**	**143**	P	**P**	**13 42 53.0**	**-0.4**
THZ	**Tophouse**	**59.86**	**143**	P	**P**	**13 42 52.9**	**-0.6**
KPKS	**Kokpek**	**59.87**	**320⇑**	*i*P	**P**	**13 42 54.1**	**+0.6**
	comp=Z,305nm,1.0s						
KPKS				*i*S	**S**	**13 51 01.9**	**+0.5**
KPKS	**Kokpek**	**59.87**	**320***c*	*i*P	**P**	**13 42 54.1**	**+0.6**
KPKS				*i*S	**S**	**13 51 01.8**	**+0.5**
KPKS				pmax	pmax		
	comp=Z,305nm,1.0s						
ZHN	**Zhinishke**	**59.89**	**320⇑**	*i*P	**P**	**13 42 54.3**	**+0.5**
	comp=Z,154nm,1.3s						
ZHN	**Zhinishke**	**59.89**	**320***c*	*i*P	**P**	**13 42 54.2**	**+0.5**
ZHN				pmax	pmax		
	comp=Z,154nm,1.3s						
LBZ	**Lake Benmore**	**59.89**	**147**	P	**P**	**13 42 53.8**	**+0.2**
LBZ				IAmb	IAmb	13 43 09.0	
	comp=Z,70nm,0.8s						
LBZ				IAms_20	IAms_20	14 09 16.6	
	comp=Z,8μm,21.0s						
NIL	**Nilore**	**59.90**	**308**	P	**P**	**13 42 55.1**	**+1.2**
NIL				P	**P**	**13 42 55.1**	**+1.2**
NIL	**Nilore**	**59.90**	**308**	P	**P**	**13 42 54.4**	**+0.5**
NIL				pmax	pmax		
	comp=Z,364nm,1.1s						
NIL	**Nilore**	**59.90**	**308**	P	**P**	**13 42 54.4**	**+0.5**
RPZ	**Rata Peaks**	**59.95**	**145**	P	**P**	**13 42 54.3**	**+0.3**
KSH	**Kashi**	**59.97**	**315**	P	**P**	**13 42 56.4**	**+2.0**
KSH				pP	pwP	13 43 12.8	+0.9
KSH				PP	**PP**	**13 45 11.3**	**+4.1**
KSH				S	**S**	**13 51 01.1**	**-1.8**
KSH				sS	sS	13 51 29.0	+1.9
KSH				SS	**SS**	**13 55 00.9**	**+0.6**
KSH				pmax	pmax		
	comp=Z,670nm,1.2s						
KSH				pmax	pmax		
	comp=Z,4μm,6.7s						
KSH				LR	LR		
	comp=Z,3μm,18.8s						
KSH				LR	LR		
	comp=Z,2μm,15.0s						
KSH				LR	LR		
	comp=Z,3μm,19.2s						
KNTN	**Kanton**	**60.06**	**95**	IAms_20	IAms_20	14 03 55.8	
	comp=Z,8μm,20.0s						
LTZ	**Lake Taylor**	**60.08**	**144**	P	**P**	**13 42 56.7**	**+1.7**
LTZ	**Lake Taylor**	**60.08**	**144**	P	**P**	**13 42 55.8**	**+0.8**
LTZ				IAms_20	IAms_20	14 08 29.8	
	comp=Z,8μm,20.0s						
KDJ	**Kajisay**	**60.24**	**318**	P	**P**	**13 42 57.9**	**+1.6**
KDJ				pmax	pmax		
	comp=Z,242nm,0.8s						
KDJ				MLR	MLR		
	comp=Z,13μm,22.0s						
KDJ	**Kajisay**	**60.24**	**318**	P	**P**	**13 42 57.9**	**+1.6**
OXZ	**Oxford**	**60.28**	**145**	P	**P**	**13 42 58.0**	**+1.8**
OXZ	**Oxford**	**60.28**	**145**	P	**P**	**13 42 56.6**	**+0.4**
TUWZ	**Tuamarina**	**60.30**	**142**	P	**P**	**13 42 56.9**	**+0.5**
TUWZ	**Tuamarina**	**60.30**	**142**	P	**P**	**13 42 55.9**	**-0.4**
TCW	**Tory Channel**	**60.38**	**142**	P	**P**	**13 42 57.2**	**+0.2**
KHZ	**Kahutara**	**60.62**	**143**	P	**P**	**13 42 58.0**	**-0.6**
URZ	**Urewera**	**60.64**	**137**	LR	LR	14 09 17.5	
	comp=Z,11μm,20.2s,baz=314,slow=36						
URZ	**Urewera**	**60.64**	**137**	P	**P**	**13 42 59.2**	**+0.5**
GVZ	**Greta Valley S**	**60.65**	**144**	P	**P**	**13 42 58.8**	**+0.1**
BKZ	**Black Stump Fm**	**60.69**	**138**	P	**P**	**13 42 59.0**	**-0.2**
BKZ				IAmb	IAmb	13 43 19.9	
	comp=Z,86nm,1.0s						
BKZ				IAms_20	IAms_20	14 07 56.1	
	comp=Z,7μm,22.0s						
NRN	**Naryn**	**60.74**	**317**	P	**P**	**13 43 00.5**	**+0.7**
NRN				pmax	pmax		
	comp=Z,87nm,0.8s						
NRN				MLR	MLR		
	comp=Z,9μm,22.0s						
NRN	**Naryn**	**60.74**	**317**	P	**P**	**13 43 00.6**	**+0.7**
NRN				IAmb	IAmb	13 43 01.7	
	comp=Z,86nm,0.8s						
TDK	**Taldyqorghan**	**60.77**	**321**	*i*P	**P**	**13 43 00.0**	**+0.4**
	comp=Z,615nm,2.1s						
TDK				*e*S	**S**	**13 51 12.8**	**+0.1**
TDK	**Taldyqorghan**	**60.77**	**321**	*i*P	**P**	**13 43 00.0**	**+0.4**
TDK				*e*S	**S**	**13 51 12.8**	**+0.1**
TDK				pmax	pmax		
	comp=Z,615nm,2.1s						
MDOK	**Medeo**	**60.79**	**319**	*i*P	**P**	**13 43 00.7**	**+0.8**
MDOK				*e*S	**S**	**13 51 13.8**	**+0.5**
MDOK				*e*LR	LR	14 08 21.6	
	comp=Z,4μm,24.3s						
MDOK	**Medeo**	**60.79**	**319**	*i*P	**P**	**13 43 00.7**	**+0.8**
MDOK				*e*S	**S**	**13 51 13.7**	**+0.5**
MDOK				MLR	MLR		
	comp=Z,4μm,24.0s						
TNSS	**Tian-Shan**	**60.80**	**319⇑**	*i*P	**P**	**13 43 01.4**	**+1.0**
TNSS	**Tian-Shan**	**60.80**	**319⇑**	*i*P	**P**	**13 43 01.3**	**+1.0**
BHW	**Baring Head**	**60.86**	**141**	P	**P**	**13 42 59.9**	**-0.3**
AAA	**Alma-Ata**	**60.89**	**319**	*e*P	**P**	**13 42 60.0**	**-0.6**
AAA				*e*LR	LR	14 08 32.9	
	comp=Z,4μm,22.2s						
AAA	**Alma-Ata**	**60.89**	**319**	*i*P	**P**	**13 43 01.6**	**+1.0**
AAA				*i*S	**S**	**13 51 11.7**	**-2.8**
AAA				pmax	pmax		
	comp=Z,1μm,6.0s						
AAA				smax	smax		
	comp=N,2μm,9.8s						
AAA				MLR	MLR		
	comp=Z,4μm,23.0s						
ULHL	**Ulahol**	**60.92**	**318**	P	**P**	**13 43 02.8**	**+1.9**
	SNR=5.8						
CHKK	**Chushkaly**	**61.14**	**320⇑**	*i*P	**P**	**13 43 02.3**	**+0.1**
CHKK	**Chushkaly**	**61.14**	**320⇑**	*i*P	**P**	**13 43 02.2**	**+0.1**
MTBS	**Maitube**	**61.18**	**319⇑**	*i*P	**P**	**13 43 03.0**	**+0.5**
MTBS	**Maitube**	**61.18**	**319⇑**	*i*P	**P**	**13 43 03.0**	**+0.5**
TRWZ	**Traveller**	**61.37**	**141**	P	**P**	**13 43 05.0**	**+1.3**
AFI	**Afiamalu**	**61.51**	**107**	LR	LR	14 04 53.7	
	comp=Z,3μm,21.3s,baz=272,slow=31						
AFI	**Afiamalu**	**61.51**	**107**	IAms_20	IAms_20	14 07 24.3	
	comp=Z,5μm,20.0s						
KZA	**Kyzart**	**61.52**	**317**	P	**P**	**13 43 06.8**	**+1.6**
	SNR=184						
KUU	**Kurty**	**61.57**	**320⇑**	*i*P	**P**	**13 43 05.5**	**+0.4**
	comp=Z,442nm,1.2s						
KUU				*i*S	**S**	**13 51 22.8**	**-0.2**
	comp=Z,615nm,4.0s						
KUU	**Kurty**	**61.57**	**320***c*	*i*P	**P**	**13 43 05.5**	**+0.4**
KUU				*i*S	**S**	**13 51 22.7**	**-0.2**
KUU				pmax	pmax		
	comp=Z,442nm,1.2s						
KUU				smax	smax		
	comp=N,615nm,4.0s						
TKM2	**Tokmak 2**	**61.64**	**318**	*i*P	**P**	**13 43 05.9**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,106nm,0.6s						
TKM2	**Tokmak 2**	**61.64**	**318**	P	**P**	**13 43 06.6**	**+0.9**
	SNR=229						
KBK	**Karagaybulak**	**61.96**	**318**	P	**P**	**13 43 08.8**	**+0.9**
	SNR=92						
UCH	**Uchtor**	**62.08**	**317**	P	**P**	**13 43 10.3**	**+1.2**
	SNR=340						
CHMS	**Chumysh**	**62.23**	**318**	P	**P**	**13 43 10.0**	**+0.4**
	SNR=75						
FRU1	**Bishkek**	**62.24**	**318**	P	**P**	**13 43 10.0**	**+0.4**
FRU1				pmax	pmax		
	comp=Z,215nm,1.4s						
FRU1				MLR	MLR		
	comp=Z,11μm,22.0s						
FRU1	**Bishkek**	**62.24**	**318**	P	**P**	**13 43 10.0**	**+0.4**
FRU1				IAmb	IAmb	13 43 12.6	
	comp=Z,215nm,1.4s						
AAK	**Ala-Archa**	**62.26**	**318**	*i*P	**P**	**13 43 10.8**	**+0.9**
	SNR=107						
AAK	**Ala-Archa**	**62.26**	**318**	P	**P**	**13 43 10.9**	**+1.1**
	SNR=56						
AAK				P	**P**	**13 43 10.9**	**+1.1**
	SNR=56						
AAK	**Ala-Archa**	**62.26**	**318***c*	*i*P	**P**	**13 43 10.8**	**+0.9**
AAK				pmax	pmax		
	comp=Z,79nm,0.9s						
AAK				MLR	MLR		
	comp=Z,14μm,23.0s						
AAK	**Ala-Archa**	**62.26**	**318**	S	**S**	**13 51 31.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=252,slow=20,SNR=2.1						
AAK				LR	LR	14 10 40.7	
	comp=Z,3μm,21.3s,baz=78,slow=36						
AAK				PKPPKP		14 12 13.9	
	comp=Z,2.2nm,0.9s,baz=186,slow=6.3,SNR=3.6						
AAK				PKP2bc		14 12 23.8	
	comp=Z,2.9nm,0.7s,baz=80,slow=1.2,SNR=4.9						
AAK				PKP2ab		14 12 35.2	
	comp=Z,8.0nm,0.9s,baz=188,slow=2.4,SNR=9.4						
AAK	**Ala-Archa**	**62.26**	**318**	P	**P**	**13 43 10.8**	**+0.9**
	SNR=67						
AAK	**Ala-Archa**	**62.26**	**318**	P	**P**	**13 43 10.3**	**+0.4**
AAK				IAmb	IAmb	13 43 22.4	
	comp=Z,121nm,1.1s						
ZAA0	**Zalesovo Array**	**62.27**	**333**	P	**P**	**13 43 08.9**	**-0.6**
ZAA0				IAmb	IAmb	13 43 10.7	
	comp=Z,145nm,1.1s						
ZAA0				IAms_20	IAms_20	14 11 55.5	
	comp=Z,5μm,20.0s						
ZALV	**Zalesovo Beam**	**62.27**	**333**	P	**P**	**13 43 08.9**	**-0.6**
	comp=Z,124nm,0.9s,baz=121,slow=6.4,SNR=257						
ZALV				S	**S**	**13 51 29.2**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=134,slow=8.3,SNR=4.5						
ZALV				PKPPKP		14 12 12.3	
	comp=Z,1.0nm,0.5s,baz=260,slow=5.9,SNR=5.8						
ZALV				LR	LR	14 12 17.5	
	comp=Z,6μm,20.9s,baz=128,slow=38						
ZALV				PKP2bc		14 12 22.4	
	comp=Z,10nm,1.1s,baz=298,slow=3.2,SNR=8.5						
SEM	**Semipalatinsk**	**62.47**	**327**	*e*P	**P**	**13 43 08.4**	**-2.8**
SEM	**Semipalatinsk**	**62.47**	**327**	*e*P	**P**	**13 43 08.4**	**-2.8**
SGDS	**Sogindy**	**62.50**	**318⇑**	*i*P	**P**	**13 43 10.5**	**-0.9**
	comp=Z,468nm,5.3s						
SGDS				*e*PP	**PP**	**13 45 29.7**	**+0.3**
SGDS				*e*S	**S**	**13 51 35.7**	**+0.9**
SGDS				*e*LR	LR	14 09 22.5	
	comp=Z,6μm,25.4s						
USP	**Ospenovka**	**62.51**	**318**	P	**P**	**13 43 11.9**	**+0.4**
	SNR=219						
AML	**Almayashu**	**62.60**	**317**	P	**P**	**13 43 13.6**	**+1.2**
	SNR=230						
SEY	**Seymchan**	**62.65**	**12***c*	*i*P	**P**	**13 43 13.6**	**+1.8**
SEY	**Seymchan**	**62.65**	**12**	P	**P**	**13 43 13.8**	**+2.0**
	comp=Z,154nm,0.9s,baz=215,slow=5.5,SNR=107						
SEY				S	**S**	**13 51 38.1**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=24,slow=20,SNR=1.9						
EKS2	**Erkin-Say**	**62.75**	**317**	P	**P**	**13 43 14.3**	**+1.2**
	SNR=157						
ARSB	**Arslanbob**	**62.78**	**316**	P	**P**	**13 43 13.9**	**+0.6**
KBL	**Kabul**	**63.50**	**307**	P	**P**	**13 43 18.7**	**+0.4**
KBL				P	**P**	**13 43 18.7**	**+0.4**
KBL	**Kabul**	**63.50**	**307**	P	**P**	**13 43 18.3**	**0.0**
KBL				pmax	pmax		
	comp=Z,215nm,1.1s						
KBL				MLR	MLR

comp=Z,279nm,1.2s
KK31 Karatay Array 65.14 317 P P 13 43 28.9 +0.2
KKAR Karatay Array 65.14 317 P P 13 43 29.0 +0.3
KKAR pmax pmax
comp=Z,279nm,1.2s
KKAR Karatay Array 65.14 317 P P 13 43 29.0 +0.3
KKAR Karatay Array 65.14 317 P P 13 43 28.9 +0.3
TAS Tashkent 65.38 315 P P 13 43 30.7 +0.4
TAS pmax pmax
comp=Z,282nm,0.7s
TAS MLR MLR
comp=Z,5µm,22.0s
TAS Tashkent 65.38 315 P P 13 43 30.7 +0.4
TAS IAMs_20 IAMs_20 14 15 49.0
comp=Z,5µm,22.0s
BRLS Boroldoy 65.58 317 *e*S **S 13 52 11.7 -1.2**
BRZS Berezniki 66.50 324⇑*i*P **P 13 43 37.3 0.0**
comp=Z,152nm,1.1s
BRZS *e*PP **PP 13 46 03.4 -0.9**
BRZS *i* S **S 13 52 23.7 -0.2**
comp=Z,275nm,4.5s
BRZS *e*LR LR 14 11 59.6
comp=Z,3µm,24.2s
BRZS Berezniki 66.50 324*c i*P **P 13 43 37.3 0.0**
BRZS *e* 13 46 03.4
BRZS *i* S **S 13 52 23.6 -0.2**
BRZS pmax pmax
comp=Z,152nm,1.1s
BRZS smax smax
comp=N,275nm,4.5s
BRZS MLR MLR
comp=Z,3µm,24.0s
ADK Adak 66.84 33 P P 13 43 40.0 +0.6
ADK pmax pmax
comp=Z,131nm,1.0s
ADK Adak 66.84 33 P P 13 43 40.0 +0.6
ADK IAmb IAmb 13 43 53.8
comp=Z,131nm,1.0s
TIXI Tiksi 68.84 0*c i*P **P 13 43 50.8 -0.7**
TIXI pmax pmax
comp=Z,287nm,1.3s
TIXI MLR MLR
comp=Z,4µm,19.0s
TIXI Tiksi 68.84 0 P P 13 43 51.1 -0.4
comp=Z,76nm,0.4s,baz=180,slow=24,SNR=157
TIXI S **S 13 52 50.3 -0.6**
comp=Z,15nm,1.0s,baz=360,slow=24,SNR=8.9
TIXI Tiksi 68.84 0 P **P 13 43 50.8 -0.7**
TIXI IAMs_20 IAMs_20 14 18 30.9
comp=Z,4µm,20.0s
HRA Herat 68.91 306 P **P 13 43 52.5 -0.6**
HRA IAmb IAmb 13 44 04.5
comp=Z,168nm,1.3s
BVAR Borovoye Array 69.10 327 S **S 13 52 52.0 -2.7**
comp=Z,6.6nm,1.0s,baz=108,slow=9.3,SNR=5.1
BVAR PKP2bc 14 12 02.1
comp=Z,0.2nm,0.3s,baz=251,slow=7.7,SNR=3.8
BRVK Borovoye 69.17 327 P **P 13 43 54.0 0.0**
SNR=142
BRVK P **P 13 43 54.0 0.0**
SNR=142
BRVK Borovoye 69.17 327*c i*P **P 13 43 53.6 -0.4**
BRVK pmax pmax
comp=Z,418nm,1.3s
BRVK MLR MLR
comp=Z,6µm,25.0s
BRVK Borovoye 69.17 327 P **P 13 43 54.0 0.0**
JLN Jalan Bani Buh 69.58 293 P **P 13 43 57.6 +0.5**
SNR=5.8
JLN P **P 13 43 57.6 +0.5**
SNR=5.8
WBK Wadi Bani Khal 70.03 293 P **P 13 44 00.4 +0.5**
SNR=11
CASY Casey 70.03 188 P **P 13 43 58.9 -0.1**
BILL Bilibino 70.10 14*c i*P **P 13 43 59.5 0.0**
BILL *i* 13 44 22.1
BILL *i* S **S 13 53 02.8 -3.1**
BILL *i* SS **SS 13 57 34.0 -2.5**
BILL pmax pmax
comp=Z,72nm,1.7s
BILL Bilibino 70.10 14 P **P 13 43 59.4 0.0**
WSAR Wadi Sarin 70.40 294 P **P 13 44 02.4 +0.3**
SNR=7.4
JMDO Jabal Madar 70.80 293 P **P 13 44 05.1 +0.5**
SNR=11
BIDO Bidbid 70.89 294 P **P 13 44 05.7 +0.6**
SNR=17
SMDO Samad 70.92 293 P **P 13 44 05.7 +0.3**
SNR=12
DQM DQM 71.14 290 P **P 13 44 07.3 +0.7**
SNR=17
DQM P **P 13 44 07.3 +0.7**
SNR=17
HOQ Hoqain 71.64 294 P **P 13 44 10.3 +0.6**
SNR=16
NIKH Nikolski High 71.67 34 P **P 13 44 08.3 -0.9**
NIKH IAmb IAmb 13 46 03.3
comp=Z,201nm,1.0s
BSY Bisya 71.67 293 P **P 13 44 10.1 +0.2**
SNR=11
NRIK Noril'sk 71.82 346 P **P 13 44 10.0 +0.2**
comp=Z,148nm,0.7s,baz=129,slow=6.3,SNR=257
NRIK S **S 13 53 23.5 -2.3**
comp=Z,7.1nm,0.8s,baz=64,slow=14,SNR=13
NRIK LR LR 14 18 17.2
comp=Z,5µm,21.8s,baz=144,slow=38
ARQ Araqi 72.34 294 P **P 13 44 14.1 +0.2**
SNR=6.9
SPIA Saint Paul Isl 72.50 30 P **P 13 44 15.1 +1.0**
MDH Madha 72.71 296 P **P 13 44 14.8 -1.2**
UOSS Minazif 72.77 295 P **P 13 44 15.4 -0.9**
UOSS Minazif 72.77 295 P **P 13 44 16.3 -0.1**
UOSS Minazif 72.77 295 P **P 13 44 15.9 -0.5**
BANOM Banah 72.77 296 *i* P **P 13 44 16.6 +0.2**
SNR=5.9
BANOM Banah 72.77 296 P **P 13 44 16.7 +0.2**
HATD Hatta, Dubai 72.82 295 *i* P **P 13 44 16.3 -0.4**
SNR=14
HATD Hatta, Dubai 72.82 295 P **P 13 44 17.0 +0.3**
SNR=11
SHAO Shalim 72.83 288 P **P 13 44 16.7 -0.2**
SHAO P **P 13 44 16.7 -0.2**
MSFE Esma-Masafi 72.84 296 *i* P **P 13 44 16.7 -0.2**
SNR=11
GEYT Alibeck 72.86 309 P **P 13 44 17.3 +0.5**
comp=Z,82nm,1.1s,baz=131,slow=4.1,SNR=95
GEYT LR LR 14 21 05.3
comp=Z,3µm,20.2s,baz=70,slow=40
GEYT Alibeck 72.86 309 P **P 13 44 16.4 -0.4**
GYA0B ALIBECK ARRAY 72.86 309 P **P 13 44 16.7 0.0**
GYA0B IAmb IAmb 13 44 38.1
comp=Z,116nm,1.0s
GYA0B IAMs_20 IAMs_20 14 20 55.2
comp=Z,4µm,20.0s
ASHO Ashiyiah 72.88 295 *i* P **P 13 44 16.9 -0.1**
SNR=7.9
ASHO Ashiyiah 72.88 295 P **P 13 44 17.4 +0.3**
SNR=11
SHME Shamm 72.92 296 *i* P **P 13 44 17.5 +0.1**
SNR=7.4
ALNE Al Ain 73.10 294 *i* P **P 13 44 18.9 +0.5**
SNR=28
MSEY Mahe Island 73.27 264 *i* P **P 13 44 19.8 +0.2**
SNR=10
MSEY Mahe Island 73.27 264 P **P 13 44 19.6 0.0**
MSEY Mahe Island 73.27 264 *i* P **P 13 44 20.1 +0.5**
MSEY Mahe Island 73.27 264 P **P 13 44 19.3 -0.3**
UNV Unalaska Valle 73.29 34 P **P 13 44 19.8 +1.1**
UNV IAmb IAmb 13 44 27.7
comp=Z,94nm,0.7s
UNV IAMs_20 IAMs_20 14 14 49.5
comp=Z,5µm,22.0s
FAQ Al Faqa, Dubai 73.30 295 P **P 13 44 20.1 +0.6**
DMTO DMTO 73.46 288 P **P 13 44 20.5 -0.1**
DMTO P **P 13 44 20.5 -0.1**
ASUD Al Ashush, Dub 73.53 295 *i* P **P 13 44 21.6 +0.8**
SNR=7.9
ASUD Al Ashush, Dub 73.53 295 P **P 13 44 21.7 +0.8**
SNR=7.2
KIP Kipapa 73.69 69⇑*e*P **P 13 44 24.7 +2.9**
KIP pmax pmax
comp=Z,74nm,1.0s
KIP MLR MLR
comp=Z,4µm,18.0s
KIP Kipapa 73.69 69 P **P 13 44 21.7 -0.1**
KIP Kipapa 73.69 69 IAMs_20 IAMs_20 14 16 32.5
comp=Z,5µm,19.0s
HON Honolulu 73.70 69 IAMs_20 IAMs_20 14 16 33.6
comp=Z,5µm,20.0s
AKUT Akutan 73.79 34 P **P 13 44 23.0 +1.3**
AKUT IAmb IAmb 13 44 43.0
comp=Z,186nm,0.8s
AJN Ajban 73.84 295 *i* P **P 13 44 22.7 0.0**
SNR=5.8
AB31 Akbulak array 74.02 321 *i* P **P 13 44 22.7 -0.5**
AB31 pmax pmax
comp=Z,255nm,1.4s
ABKAR Akbulak array 74.02 321 P **P 13 44 22.8 -0.4**
ABKAR Akbulak array 74.02 321 P **P 13 44 22.6 -0.6**
ABKAR IAmb IAmb 13 44 25.5
comp=Z,224nm,1.2s
RBK Rabkut 74.16 287 P **P 13 44 25.0 +0.3**
SNR=8.6
RBK P **P 13 44 25.0 +0.3**
SNR=8.6
SOCY Socotra 74.25 282 P **P 13 44 24.3 -1.1**
SNR=22
SOCY Socotra 74.25 282 P **P 13 44 23.7 -1.6**
WHFO Wadi Hawf 74.59 288 P **P 13 44 26.3 -0.9**
SNR=12
WHFO P **P 13 44 26.3 -0.9**
SNR=12
RER Riviere de l'E 74.91 247 P **P 13 44 29.1 +0.1**
RER IAmb IAmb 13 44 31.4
comp=Z,175nm,1.3s
RER IAMs_20 IAMs_20 14 13 32.4
comp=Z,4µm,21.0s
ABTO Aybut 75.02 287 P **P 13 44 29.3 -0.5**
SNR=12
ABTO P **P 13 44 29.3 -0.5**
SNR=12
HLK Haleakala 75.30 69 IAMs_20 IAMs_20 14 13 20.1
comp=Z,5µm,20.0s
FALS False Pass 75.32 34 P **P 13 44 31.1 +0.5**
AKTO Aktyubinsk 75.52 322 S **S 13 54 06.3 -1.9**
comp=Z,3.9nm,1.2s,baz=17,slow=20,SNR=5.9
AKTO PKKPbc PKKPbc 14 03 51.9 -1.6
baz=315,slow=4.3
AKTO LR LR 14 21 19.1
comp=Z,5µm,20.4s,baz=104,slow=38
KHLU Kahalu`u 75.58 71 IAMs_20 IAMs_20 14 12 58.9
comp=Z,5µm,21.0s
SVE Sverdlovsk 75.72 328*d i*P **P 13 44 32.6 -0.3**
SVE *e*S **S 13 54 08.2 -1.9**
SVE *e* 13 59 01.8
SVE pmax pmax
comp=Z,291nm,1.0s
SVE MLR MLR
comp=Z,4µm,23.0s
HPAH Hawaii Prepara 75.79 70 P **P 13 44 34.7 +0.6**
HPAH IAMs_20 IAMs_20 14 15 04.0
comp=Z,4µm,20.0s
KHU Kahuku 75.83 71 IAMs_20 IAMs_20 14 11 26.3
comp=Z,5µm,20.0s
POHA Pohakuloa 75.93 70 IAMs_20 IAMs_20 14 12 58.8
comp=Z,5µm,20.0s
ARU Arti 76.70 328*c i*P **P 13 44 37.7 -0.8**
ARU *PP **pP 13 44 54.1 +0.4**
ARU 13 47 30.9
ARU PPP PPP 13 49 19.2
ARU S **S 13 54 22.0 +1.0**
ARU SS **SS 13 59 16.0 -1.6**
ARU pmax pmax
comp=Z,141nm,0.7s
ARU MLR MLR
comp=Z,3µm,22.0s
ARU Arti 76.70 328 S **S 13 54 17.7 -3.3**
comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=3.8
ARU LR LR 14 20 06.8
comp=Z,2µm,18.6s,baz=104,slow=37
ARU Arti 76.70 328 P **P 13 44 37.6 -0.9**
ARU IAmb IAmb 13 44 38.9
comp=Z,145nm,0.7s
ARU Arti 76.70 328 IAMs_20 IAMs_20 14 24 26.1
comp=Z,3µm,19.0s
SDPT Sand Point 77.08 34 P **P 13 44 40.9 +0.3**
CNBA Chernabura Isl 77.45 34 P **P 13 44 43.5 +0.8**
CHGN Chignik 78.43 33 P **P 13 44 48.7 +0.7**
CHGN IAmb IAmb 13 44 59.8
comp=Z,109nm,0.9s
CHGN IAMs_20 IAMs_20 14 14 13.5
comp=Z,4µm,22.0s
SBV Sambava 79.49 256 P **P 13 44 55.1 +0.4**
SNR=5.5
RDOG Red Dog Mine 79.61 21 P **P 13 44 55.5 +1.2**
RDOG IAmb IAmb 13 45 15.1
comp=Z,157nm,1.1s
CHIR Chirikof Islan 79.87 34 P **P 13 44 57.7 +1.8**
CHIR IAmb IAmb 13 47 21.4
comp=Z,354nm,1.4s
SII Sitkinak Islan 80.79 33 P **P 13 45 01.6 +0.7**
SII IAmb IAmb 13 45 09.7
comp=Z,154nm,0.7s
SII IAMs_20 IAMs_20 14 15 27.8
comp=Z,5µm,22.0s
SVW2 Sparrevohn 80.86 29 P **P 13 45 02.6 +1.4**
TTA Tatalina 81.03 27 P **P 13 45 03.3 +1.1**
TTA pmax pmax
comp=Z,87nm,1.2s
TTA Tatalina 81.03 27 P **P 13 45 03.3 +1.1**
AKT Akhty 81.25 311*e*P **P 13 45 04.0 +0.1**
AKT *e*PP **pP 13 45 18.4 -0.3**
AKT pmax pmax
comp=Z,163nm,1.2s
OHAK Old Harbor 81.37 33 P **P 13 45 05.8 +1.8**
OHAK IAmb IAmb 13 45 23.3
comp=Z,163nm,1.1s
MAK Makhachkala 81.52 313*e*P **P 13 45 02.4 -2.7**
MAK *e*PP **pP 13 45 17.2 -2.7**
MAK *e* 13 48 07.0
MAK *e*S **S 13 55 09.4 -3.3**
MAK pmax pmax
comp=Z,109nm,0.8s
MAK MLR MLR
comp=Z,2µm,19.0s
KDAK Kodiak Island 81.83 32 P **P 13 45 08.1 +1.7**
KDAK S **S 13 55 11.2 -4.1**
KDAK pmax pmax
comp=Z,125nm,0.8s
KDAK Kodiak Island 81.83 32 P **P 13 45 07.6 +1.3**
comp=Z,56nm,0.5s,baz=255,slow=3.9,SNR=94
KDAK S **S 13 55 11.2 -4.1**
comp=Z,4.0nm,0.9s,baz=155,slow=17,SNR=2.1
KDAK Kodiak Island 81.83 32 P **P 13 45 08.1 +1.7**
KDAK IAmb IAmb 13 45 14.3
comp=Z,125nm,0.8s
KDAK Kodiak Island 81.83 32 IAMs_20 IAMs_20 14 16 01.4
comp=Z,4µm,22.0s
GNBR Gunib 81.88 312*c i*P **P 13 45 07.4 +0.3**
GNBR pmax pmax
comp=Z,302nm,1.1s
KIRV Kirov 81.97 329 P **P 13 45 07.0 -0.1**
comp=Z,367nm,0.8s,baz=105,slow=1.5,SNR=99
KIRV S **S 13 55 12.1 -4.6**
comp=Z,5.4nm,0.5s,baz=349,slow=23,SNR=6.5
KIRV LR LR 14 24 41.8
comp=Z,4µm,21.3s,baz=86,slow=38
RSO Redoubt South 82.12 29 P **P 13 45 09.0 +0.9**
RAYN Ar Rayn 82.45 293 *i* P **P 13 45 10.3 -0.2**
SNR=43
RAYN Ar Rayn 82.45 293 P **P 13 45 09.8 -0.7**
RAYN pmax pmax
comp=Z,169nm,1.0s
RAYN MLR MLR
comp=Z,3µm,21.0s
RAYN Ar Rayn 82.45 293 P **P 13 45 09.8 -0.7**
RAYN IAmb IAmb 13 45 22.7
comp=Z,170nm,1.0s
IMAR Indian Mountai 82.57 24 P **P 13 45 11.3 +1.2**
ABPO Ambohimpanom 82.59 251 P **P 13 45 10.7 -0.7**
ABPO pmax pmax
comp=Z,54nm,1.0s
ABPO MLR MLR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 82.59 251 P **P 13 45 10.7 -0.7**
PPLA Purkeypile 82.75 27 P **P 13 45 12.1 +0.8**
PPLA IAmb IAmb 13 45 48.0
comp=Z,211nm,1.5s
CNPM China Poot 82.75 30 P **P 13 45 12.3 +1.1**
CNPM IAmb IAmb 13 45 27.7
comp=Z,246nm,1.5s
GROC Groznyy 82.79 313 *e*P **P 13 45 11.2 -0.5**
GROC *e* 13 45 17.5
GROC *e* 13 48 25.1
GROC *e*S **S 13 55 21.3 -4.4**
GROC pmax pmax
comp=Z,213nm,1.1s
SKT Skwentna 82.92 28 P **P 13 45 12.9 +0.8**
SKT IAmb IAmb 13 45 14.9
comp=Z,111nm,1.2s
BRLK Bradley Lake 82.96 30 P **P 13 45 13.1 +0.8**
BRLK IAmb IAmb 13 45 43.0
comp=Z,82nm,1.0s
SBA Scott Base 83.11 172 P **P 13 45 13.4 +0.8**
SBA pmax pmax
comp=Z,42nm,0.9s
SBA MLR MLR
comp=Z,3µm,20.0s
SBA Scott Base 83.11 172 P **P 13 45 13.4 +0.8**
PPT Papeete 83.17 108 P **P 13 45 17.2 +3.0**
comp=Z,58nm,0.9s,baz=311,slow=16,SNR=4.3
PPT LR LR 14 18 18.2
comp=Z,2µm,19.6s,baz=272,slow=33
PPT2 Papeete2 83.17 108*e*P **P 13 45 16.3 +2.0**
comp=Z,96nm,1.2s
PPT2 Papeete2 83.17 108*e*S **S 13 55 26.7 -4.0**
comp=Z,5µm,28.2s
PPT2 Papeete2 83.17 108*e*LQ LQ 14 07 44.5
comp=Z,8µm,33.0s
PPT2 *e*LR LR 14 11 16.5
comp=Z,13µm,27.8s
PAE Paea 83.18 108*e*P **P 13 45 15.9 +1.7**
comp=Z,7.3nm,0.9s
SUA Susitna One 83.23 29 P **P 13 45 14.3 +0.5**
SUA IAmb IAmb 13 45 21.1
comp=Z,97nm,0.8s
VOI Vohitsoka 83.36 248 P **P 13 45 14.5 -0.7**
SNR=9.4
MAW Mawson 83.41 201 P **P 13 45 14.3 0.0**
baz=83,SNR=28
MAW Mawson 83.41 201 P **P 13 45 14.2 -0.2**
comp=Z,26nm,1.0s,baz=55,slow=6.3,SNR=50
MAW PKKPbc **PKKPbc 14 03 34.2 -2.4**
comp=Z,5.5nm,0.9s,baz=257,slow=4.7,SNR=11
MAW LR LR 14 20 18.1
comp=Z,2µm,20.5s,baz=62,slow=34
MAW Mawson 83.41 201 P **P 13 45 14.1 -0.2**
FOMA Nahampoana Res 83.41 245 P **P 13 45 15.9 +0.6**
BPAW Bear Paw Mtn. 83.44 26 P **P 13 45 15.5 +0.8**
BPAW IAmb IAmb 13 45 37.4
comp=Z,142nm,1.4s
GNI Garni 83.44 310 *i* P **P 13 45 16.3 +0.9**
SNR=7.1
GNI Garni 83.44 310 P **P 13 45 17.3 +1.8**
SNR=8.0
GNI Garni 83.44 310*c i*P **P 13 45 16.3 +0.9**
GNI pmax pmax
comp=Z,137nm,1.2s
GNI MLR MLR
comp=Z,6µm,25.0s
GNI Garni 83.44 310 LR LR 14 28 51.8
comp=Z,801nm,19.8s,baz=78,slow=40
GNI Garni 83.44 310*e*P **P 13 45 15.4 0.0**
GNI Garni 83.44 310 P **P 13 45 15.4 0.0**
TVO Taravao 83.50 108*e*P **P 13 45 17.9 +1.9**
comp=Z,47nm,1.2s
TBLG Delisi 83.50 312 P **P 13 45 15.6 +0.1**
TBLG pmax pmax
comp=Z,130nm,1.0s
TBLG Delisi 83.50 312*e*P **P 13 45 16.3 +0.8**
TBLG Delisi 83.50 312 P **P 13 45 15.6 +0.1**
TBLG IAmb IAmb 13 45 17.7
comp=Z,130nm,1.0s
DAMY Dhamar 83.57 284 P **P 13 45 18.2 +1.5**
SNR=15
DAMY Dhamar 83.57 284 P **P 13 45 17.1 +0.4**
DAMY IAmb IAmb 13 45 32.2
comp=Z,152nm,1.0s
MLY Manley 83.67 25 P **P 13 45 16.9 +1.1**
MLY IAmb IAmb 13 45 35.8
comp=Z,108nm,1.2s
RC01 Rabbit Creek A 83.67 29 P **P 13 45 17.0 +1.1**
RC01 IAmb IAmb 13 45 22.6
comp=Z,202nm,1.3s
TRF Thorofare Moun 83.67 27 P **P 13 45 16.4 +0.4**
TRF IAmb IAmb 13 45 38.0
comp=Z,156nm,1.2s
TRF IAMs_20 IAMs_20 14 18 56.7
comp=Z,3µm,22.0s
SEW Seward 83.71 30 P **P 13 45 16.9 +0.8**
SEW IAmb IAmb 13 45 26.6
comp=Z,150nm,1.1s
TBI Tubuai 83.81 114*e*S **S 13 55 34.0 -2.8**
comp=Z,4µm,33.0s
TBI Tubuai 83.81 114*e*LQ LQ 14 07 59.0
comp=Z,4µm,38.0s
TBI *e*LR LR 14 11 27.7
comp=Z,11µm,37.0s
TASB TASBURUN-IGDIR 83.83 310*e*P **P 13 45 18.4 +1.1**
PMR Palmer 84.01 28 P **P 13 45 17.9 +0.3**
PMR pmax pmax
comp=Z,123nm,1.0s
PMR Palmer 84.01 28 P **P 13 45 17.9 +0.3**
PMR IAmb IAmb 13 45 24.8
comp=Z,123nm,1.0s
CLDR Caldiran 84.05 309*e*P **P 13 45 19.8 +1.2**
BWN Browne 84.11 26 P **P 13 45 19.3 +1.2**
GHO Glory Hole Cre 84.13 28 P **P 13 45 18.9 +0.5**
GHO IAmb IAmb 13 45 35.1
comp=Z,108nm,1.0s
COLD Coldfoot 84.16 23 P **P 13 45 19.5 +1.3**
COLD IAmb IAmb 13 45 37.6
comp=Z,130nm,1.2s
ZEI Tsey 84.16 313*e*P **P 13 45 17.4 -1.7**
ZEI pmax pmax
comp=Z,91nm,1.3s
PRGR Permogore 84.20 332⇑*i*P **P 13 45 18.2 -0.4**
PRGR *e*S **S 13 55 34.4 -4.8**
PRGR pmax pmax
comp=Z,375nm,0.9s
MCK McKinley 84.30 26 P **P 13 45 19.5 +0.4**
MCK pmax pmax
comp=Z,242nm,1.2s
MCK McKinley 84.30 26 P **P 13 45 19.5 +0.4**
RND Reindeer 84.31 27 P **P 13 45 19.5 +0.3**
RND pmax pmax
comp=Z,161nm,1.1s
RND Reindeer 84.31 27 P **P 13 45 19.6 +0.3**
RND IAmb IAmb 13 45 36.9
comp=Z,161nm,1.1s
KNK Knik Glacier 84.32 29 P **P 13 45 20.0 +0.7**
NCK Nalchik 84.41 313⇓*e*P **P 13 45 20.3 +0.2**
NCK pmax pmax
comp=Z,49nm,1.4s
SML Sawmill 84.41 28 P **P 13 45 20.4 +0.7**
AKH Akhalkalaki 84.43 311 P **P 13 45 21.0 +0.5**
AKH pmax pmax
comp=Z,222nm,1.1s
AKH Akhalkalaki 84.43 311 ⇓P **P 13 45 22.0 +1.5**
AKH Akhalkalaki 84.43 311*e*P **P 13 45 21.9 +1.5**
AKH Akhalkalaki 84.43 311 P **P 13 45 20.9 +0.5**
VANB Van 84.45 308*e*P **P 13 45 19.9 -0.6**
ONI Oni 84.49 312*e*P **P 13 45 21.7 +1.2**
TOLK Toolik Lake Re 84.56 21 P **P 13 45 21.8 +1.4**
baz=264
TOLK Toolik Lake Re 84.56 21 P **P 13 45 21.5 +1.2**
TOLK IAmb IAmb 13 45 24.1
comp=Z,102nm,0.8s
PMOR Pomariorio Ree 84.58 105*e*P **P 13 45 23.2 +1.8**
comp=Z,108nm,1.0s
MDM Murphy Dome 84.72 25 P **P 13 45 21.4 +0.3**
WRH Wood River Hil 84.74 26 P **P 13 45 21.1 -0.1**
WRH IAmb IAmb 13 45 43.7
comp=Z,158nm,1.3s
GOF Gofitskoye 84.84 315⇑*i*P **P 13 45 22.1 -0.1**
GOF pmax pmax
comp=Z,237nm,1.1s
VAH Vaihoa 84.85 105*e*P **P 13 45 24.5 +1.7**
comp=Z,80nm,1.1s
TCOL CIGO, UAF Yank 84.87 25 P **P 13 45 21.6 -0.3**
baz=265
COLA College 84.87 25⇑*e*P **P 13 45 22.7 +0.8**
COLA pmax pmax
comp=Z,28nm,1.3s
COLA College 84.87 25 P **P 13 45 21.4 -0.5**
CCB Clear Creek Bu 84.88 25 P **P 13 45 21.5 -0.4**
CCB IAmb IAmb 13 45 24.4

comp=Z,111nm,1.3s
SCM Sheep Creek Mo 84.89 28 P P 13 45 23.2 +1.0
SCM pmax pmax
comp=Z,249nm,1.0s
SCM Sheep Creek Mo 84.89 28 P P 13 45 23.2 +1.0
KBZ Khabaz 84.92 313 P P 13 45 22.6 0.0
comp=Z,43nm,1.1s,baz=88,slow=2.0,SNR=39
KBZ S **S 13 55 46.4 -0.6**
comp=Z,0.7nm,0.5s,baz=15,slow=20,SNR=4.0
KBZ LR LR 14 27 39.4
comp=Z,2μm,20.8s,baz=80,slow=39
GLI Glacier Island 84.94 29 P P 13 45 23.4 +1.0
DHY Denali Highway 84.95 27 P P 13 45 23.0 +0.4
DHY IAmb IAmb 13 45 50.8
comp=Z,73nm,1.0s
POKR Poker Plat Res 85.07 25 P P 13 45 22.7 -0.2
baz=266
KIV Kislovodsk 85.07 314 *i* P **P 13 45 23.6 +0.1**
SNR=9.0
KIV Kislovodsk 85.07 314 P P 13 45 23.8 +0.3
SNR=12
KIV Kislovodsk 85.07 314 *e*P **P 13 45 23.2 -0.3**
KIV *e* 13 48 40.3
KIV *e* 13 55 42.5
KIV pmax pmax
comp=Z,160nm,1.1s
KIV pmax pmax
comp=Z,1μm,4.7s
KIV MLR MLR
comp=Z,5μm,20.0s
KIV Kislovodsk 85.07 314 ⇑P **P 13 45 24.2 +0.7**
KIV Kislovodsk 85.07 314 *e*P **P 13 45 23.7 +0.1**
KIV Kislovodsk 85.07 314 P P 13 45 23.0 -0.5
KIV IAmb IAmb 13 46 00.2
comp=Z,88nm,1.2s
SHA1 Shidzhatmaz 85.09 313*c i*P **P 13 45 23.3 -0.5**
MLAZ Malazgirt-MUS 85.11 309 *e*P **P 13 45 24.3 +0.4**
ATD Arta Tunnel 85.16 281 P P 13 45 25.8 +1.3
SNR=7.3
ATD Arta Tunnel 85.16 281 P P 13 45 23.6 -0.9
ATD IAmb IAmb 13 45 42.1
comp=Z,65nm,0.9s
HIN Hinchinbrook I 85.20 30 P P 13 45 25.0 +1.3
HIN IAmb IAmb 13 45 32.0
comp=Z,127nm,0.9s
HDA Harding Lake 85.23 26 P P 13 45 23.3 -0.4
baz=266
HDA Harding Lake 85.23 26 P P 13 45 23.0 -0.8
FID Port Fidalgo 85.23 29 P P 13 45 24.6 +0.7
FID IAmb IAmb 13 45 37.5
comp=Z,89nm,0.8s
IL31 85.28 25 P P 13 45 23.4 -0.4
ILAR Eielson Array 85.28 25 P P 13 45 23.4 -0.5
comp=Z,6.4nm,0.4s,baz=248,slow=4.6,SNR=85
ILAR PKiKP **PKiKP 13 50 36.1 +1.5**
comp=Z,0.3nm,0.4s,baz=263,slow=3.9,SNR=4.1
ILAR S **S 13 55 47.0 -2.9**
comp=Z,1.9nm,1.2s,baz=274,slow=12,SNR=4.7
ILAR PKKPbc **PKKPbc 14 03 28.3 -3.6**
comp=Z,1.5nm,0.9s,baz=35,slow=2.4,SNR=8.7
ILAR PKPPKP 14 11 30.9
comp=Z,1.0nm,1.1s,baz=105,slow=1.3,SNR=4.5
ILAR LR LR 14 20 38.6
comp=Z,684nm,21.5s,baz=278,slow=34
ILAR Eielson Array 85.28 25 P P 13 45 22.9 -1.0
SENK Senkaya-Erzuru 85.28 310 *e*P **P 13 45 25.3 +0.5**
GURO Guroymak-BITLI 85.52 308 *e*P **P 13 45 26.8 +0.9**
EYAK Cordova Ski Ar 85.58 30 P P 13 45 26.2 +0.7
EYAK IAmb IAmb 13 45 50.4
comp=Z,78nm,1.0s
KOPR Koprukoy-ERZUR 85.66 310 *e*P **P 13 45 27.6 +1.0**
BATM Batumi 85.78 311 ⇓P **P 13 45 27.5 +0.6**
BATM Batumi 85.78 311 *e*P **P 13 45 26.8 -0.2**
PAX Paxson 85.81 27 P P 13 45 27.5 +0.7
PAX pmax pmax
comp=Z,136nm,1.4s
PAX Paxson 85.81 27 P P 13 45 27.5 +0.7
PAX IAmb IAmb 13 45 44.6
comp=Z,136nm,1.4s
BCA Borcka 85.83 311 ⇓P **P 13 45 27.7 +0.5**
BCA Borcka 85.83 311 *e*P **P 13 45 27.0 -0.3**
DOMR Dombai 85.84 313*ce*P **P 13 45 27.7 +0.3**
DOMR pmax pmax
comp=Z,117nm,1.1s
VRH Novokhopyorsk 85.84 321 *e*P **P 13 45 26.2 -0.8**
VRH *e*S **S 13 55 50.4 -5.5**
VRH pmax pmax
comp=Z,240nm,0.8s
VRH pmax pmax
comp=Z,190nm,0.7s
VRH smax smax
comp=N,840nm,7.7s
VRH MLR MLR
comp=Z,4μm,22.0s
PRP Porcupine Dome 85.89 25 P P 13 45 26.7 -0.5
VRTB Varto-Mus 85.97 309 *e*P **P 13 45 31.1 +3.0**
RIDG Independent Ri 86.12 26 P P 13 45 28.6 +0.4
RIDG IAmb IAmb 13 46 02.5
comp=Z,71nm,1.0s
SVAN Silvan-Diyarba 86.17 308 *e*P **P 13 45 29.2 +0.2**
BMAR Burnt Mountain 86.34 23 P P 13 45 30.4 +1.2
DOT Dot Lake 86.47 27 P P 13 45 30.2 +0.3
CHOM Cayeli-Rize 86.49 311 *e*P **P 13 45 30.4 -0.1**
SCRK Sand Creek 86.51 26 P P 13 45 31.2 +1.0
GLB Gilahina Butte 86.55 29 P P 13 45 30.8 +0.4
GLB IAmb IAmb 13 45 54.6
comp=Z,109nm,1.0s
BNGB Bingl 86.57 309 *e*P **P 13 45 31.6 +0.5**
MENT Mentasta 86.61 27 P P 13 45 31.2 +0.5
VRDI Verde Repeater 86.72 29 P P 13 45 32.2 +0.8
VRDI IAmb IAmb 13 46 03.6
comp=Z,70nm,1.0s
CRQM Cirque 86.87 29 P P 13 45 33.2 +1.1
CRQM IAmb IAmb 13 45 50.3
comp=Z,137nm,1.0s
MCARA McCarthy VSAT 86.93 29 P P 13 45 32.7 +0.5
MCARA IAmb IAmb 13 45 51.8
comp=Z,100nm,0.9s
BAYT Aydıntepe-Bayb 86.97 310 *e*P **P 13 45 34.3 +1.3**
TGL Tana Glacier 87.02 29 P P 13 45 33.5 +0.8
TGL IAmb IAmb 13 45 51.0
comp=Z,94nm,1.0s
KLMR Klimovskoe 87.12 331 *e*P **P 13 45 31.5 -1.6**
KLMR *e* 13 48 54.6
KLMR *e*S **SKSac 13 55 52.5 -2.9**
KLMR pmax pmax
comp=Z,264nm,1.2s
KLMR MLR MLR
comp=Z,5μm,21.0s
KLMR Klimovskoe 87.12 331 *e*P **P 13 45 31.5 -1.6**
KLMR AMP 13 45 33.7
comp=Z,264nm,1.2s
KLMR *e*PP **PP 13 48 54.6 -2.5**
KLMR *e*S **SKSac 13 55 52.6 -2.9**
KLMR *e*S **SKSac 13 55 52.6 -2.9**
KLMR LQ LQ 14 18 11.9
KLMR LQ LQ 14 18 11.9
KLMR LR LR 14 22 45.8
KLMR AMP 14 26 59.6
comp=Z,5μm,21.3s
SOC Sochi 87.22 313*c i*P **P 13 45 32.6 -1.4**
SOC *e**PP **pP 13 45 45.8 -3.3**
SOC *e* 13 48 52.4
SOC *e*S **SKSac 13 55 54.5 -2.4**
SOC *e**SS **ScS 13 56 18.0 +1.2**
SOC *e*SSS SSS 14 05 22.7
SOC pmax pmax
comp=Z,36nm,0.9s
SOC MLR MLR
comp=Z,3μm,21.0s
BALM Baldy 87.26 29 P P 13 45 34.4 +0.4
ERZN Erzincan 87.30 309 *e*P **P 13 45 34.1 -0.5**
VORR Voronezh 87.42 321 P P 13 45 33.0 -1.7
VORR pmax pmax
comp=Z,300nm,1.2s
VSR Storozhevoye 87.45 321*c i*P **P 13 45 33.2 -1.7**
VSR pmax pmax
comp=Z,137nm,1.0s
VSR MLR MLR
comp=Z,6μm,26.0s
BCAR Beaver Creek A 87.49 27 P P 13 45 35.2 +0.2
LPSR Galich'ya Gora 87.57 322 *e*P **P 13 45 34.4 -1.0**
LPSR *e*S **S 13 56 06.6 -5.9**
LPSR pmax pmax
comp=Z,260nm,1.0s
LPSR pmax pmax
comp=Z,260nm,1.0s
LPSR smax smax
comp=N,800nm,7.2s
LPSR MLR MLR
comp=Z,3μm,21.0s
SVRC Siwrice-ELAZID 87.66 308 *e*P **P 13 45 37.1 +0.7**
EGAK Eagle 87.73 25 P P 13 45 35.9 0.0
CTGM Chitina Glacie 87.75 29 P P 13 45 37.4 +1.1
CTGM IAmb IAmb 13 45 46.7
comp=Z,83nm,1.0s
TMCR Tamitsa 87.76 334 *e*P **P 13 45 34.8 -1.2**
TMCR *e*S **SKSac 13 55 57.4 -1.8**
TMCR pmax pmax
comp=Z,123nm,1.0s
MOS Moscow 88.24 326 *e*P **P 13 45 36.3 -2.2**
MOS *e* 13 45 46.9
MOS *e* 13 49 07.3
MOS *e*S **SKSac 13 56 00.7 -1.8**
MOS *e* 13 56 12.1
MOS pmax pmax
comp=Z,348nm,1.2s
MOS pmax pmax
comp=Z,500nm,1.3s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,3μm,20.0s
MOS MLR MLR
comp=Z,4μm,20.0s
DAWY Dawson 88.53 26 P P 13 45 40.2 +0.4
DAWY IAMs_20 IAMs_20 14 22 15.2
comp=Z,3μm,22.0s
ANN Anapa 88.83 315 *e*P **P 13 45 39.0 -2.5**
ANN *e**PP **pP 13 45 54.0 -3.5**
ANN *e*S **SKSac 13 56 02.1 -4.3**
ANN *e* 13 56 21.1
ANN pmax pmax
comp=Z,143nm,1.1s
ANN MLR MLR
comp=E,3μm,21.0s
ANN MLR MLR
comp=N,3μm,21.0s
ANN MLR MLR
comp=Z,3μm,21.0s
OBN Obninsk 88.87 325*c i*P **P 13 45 40.4 -1.1**
OBN *i* 13 45 51.1
OBN *e* 13 49 10.8
OBN *i*S **SKSac 13 56 04.2 -2.0**
OBN *e*PS **PS 13 57 36.0 +0.1**
OBN *e*SS **SS 14 02 13.8 -4.0**
OBN pmax pmax
comp=Z,274nm,1.3s
OBN MLR MLR
comp=Z,5μm,21.0s
OBN Obninsk 88.87 325 P **P 13 45 40.5 -0.9**
comp=Z,29nm,0.8s,baz=85,slow=0.9,SNR=28
OBN S **SKSac 13 56 04.7 -1.6**
comp=Z,3.3nm,0.4s,baz=110,slow=22,SNR=5.4
OBN PKKP **PKKPdf 14 03 19.8 +2.4**
comp=Z,4.9nm,0.4s,baz=288,slow=3.2,SNR=3.4
OBN LR LR 14 28 02.5
comp=Z,1μm,21.3s,baz=89,slow=37
OBN Obninsk 88.87 325 ⇓P **P 13 45 40.9 -0.6**
OBN Obninsk 88.87 325 P **P 13 45 39.9 -1.6**
LVZ Lovozero 88.94 338*d i*P **P 13 45 40.6 -1.0**
LVZ pmax pmax
comp=Z,120nm,1.3s
LVZ MLR MLR
comp=Z,6μm,22.0s
RSDY Resadiye-TOKAT 89.11 310 *e*P **P 13 45 42.9 -0.2**
APA Apatity 89.44 338 ⇑P **P 13 45 41.7 -2.2**
APA *i*S **S 13 56 26.0 -3.6**
APA *i*PS PS 13 57 47.0 +5.2
APA pmax pmax
comp=Z,59nm,1.1s
APA MLR MLR
comp=Z,8μm,29.0s
EPYK Eagle Plains 89.48 24 P P 13 45 44.4 +0.2
baz=276
EPYK Eagle Plains 89.48 24 P P 13 45 44.2 0.0
EPYK IAmb IAmb 13 46 03.1
comp=Z,76nm,1.1s
INK Inuvik 90.47 22 P P 13 45 48.6 0.0
comp=Z,59nm,1.2s,baz=295,slow=3.5,SNR=49
INK PKiKP **PKiKP 13 50 43.6 +0.5**
comp=Z,3.1nm,0.9s,baz=292,slow=6.6,SNR=5.2
INK S **SKSac 13 56 13.9 -1.1**
comp=Z,5.8nm,1.1s,baz=7.9,slow=14,SNR=21
INK PKKPbc **PKKPdf 14 03 16.4 +1.5**
comp=Z,6.1nm,0.9s,baz=54,slow=4.3,SNR=13
INK LR LR 14 26 36.5
comp=Z,764nm,22.0s,baz=266,slow=36
INK Inuvik 90.47 22 P P 13 45 48.2 -0.5
INK IAmb IAmb 13 45 50.5
comp=Z,45nm,1.1s
HOPEN Hopen 90.50 347 *e*PP PP 13 49 23.0 -0.7
KIBK Kibwezi 90.51 268 P P 13 45 50.8 +0.6
SNR=17
SKAG Skagway 90.85 31 IAMs_20 IAMs_20 14 21 41.8
comp=Z,3μm,22.0s
WHY Whitehorse 90.93 29 P P 13 45 51.8 +0.6
HSNJ Maan 91.03 300 P P 13 46 05.1 +13
SIM Simferopol' 91.17 315*de*P **P 13 45 52.2 -0.3**
SIM *e* 13 49 34.0
SIM *e*S **S 13 56 45.2 -1.3**
SIM *e*PS PS 13 58 26.0 +24
SIM *e*SS **SS 14 03 02.0 +10**
SIM pmax pmax
comp=Z,39nm,0.9s
SIM pmax pmax
comp=Z,480nm,9.1s
SIM MLR MLR
comp=Z,1μm,24.9s
KMBO Kilima Mbogo 91.25 269 *i* P **P 13 45 54.2 +0.3**
SNR=12
KMBO Kilima Mbogo 91.25 269 P **P 13 45 54.5 +0.7**
SNR=20
KMBO Kilima Mbogo 91.25 269 P **P 13 45 54.1 +0.3**
comp=Z,11nm,0.9s,baz=60,slow=5.8,SNR=25
KMBO LR LR 14 28 52.6
comp=Z,990nm,18.2s,baz=90,slow=37
KMBO Kilima Mbogo 91.25 269 P **P 13 45 53.3 -0.5**
KMBO IAmb IAmb 13 46 23.8
comp=Z,47nm,1.1s
KEV Kevo 91.42 340 IAMs_20 IAMs_20 14 30 29.4
comp=Z,4μm,22.0s
JIS Juneau Island 91.48 32 P P 13 45 54.0 +0.4
JIS IAMs_20 IAMs_20 14 22 12.7
comp=Z,3μm,22.0s
EIL Elat 91.71 300 P **P 13 45 53.0 -2.4**
comp=Z,24nm,0.8s
PUL Pulkovo 91.77 330⇓*e*P **P 13 45 54.2 -0.7**
PUL pmax pmax
comp=Z,81nm,0.4s
SPA0 Spitsbergen Ar 91.80 349 *e*P **P 13 45 54.4 -0.4**
SPA0 *e*PP **PP 13 49 34.4 +0.5**
SPA0 *e*ScS **S 13 56 55.2 +4.2**
SPA0 Spitsbergen Ar 91.80 349 P **P 13 45 53.8 -1.0**
SPITS Spitsbergen Ar 91.80 349 P **P 13 45 54.3 -0.4**
comp=Z,84nm,0.8s,baz=89,slow=12,SNR=6.4
TAOE Nuku Hiva Isla 91.80 99 *e*LR LR 14 15 19.3
comp=Z,9μm,25.0s
TAOE Nuku Hiva Isla 91.80 99 *e*T T 15 27 18.9
comp=Z,114nm,0.2s
ILGA Ilgaz 91.81 311 P **P 13 45 55.0 -0.8**
ILGA IAmb IAmb 13 46 16.2
comp=Z,46nm,1.0s
ARCES ARCESS Array B 91.98 340 P **P 13 45 54.8 -0.9**
comp=Z,63nm,0.6s,baz=81,slow=6.0,SNR=176
ARCES PKiKP **PKiKP 13 50 46.3 +0.5**
comp=Z,3.3nm,0.6s,baz=100,slow=1.4,SNR=7.3
ARCES PKKPbc **PKKPdf 14 03 13.0 +0.8**
comp=Z,1.2nm,0.6s,baz=286,slow=2.5,SNR=7.8
ARCES LR LR 14 30 55.4
comp=Z,3μm,21.1s,baz=84,slow=38
ARCES ARCESS Array B 91.98 340 P **P 13 45 54.4 -1.4**
ARE0 ARCESS Array S 91.98 340 *e*P **P 13 45 55.2 -0.6**
ARE0 *e*ScS **S 13 56 56.8 +3.8**
ARE0 *e*SS **SS 14 03 06.8 +4.7**
ARE0 IVMs_BB IVMs_BB 14 22 18.4
comp=Z,4μm,4.5s
ARE0 ARCESS Array S 91.98 340 P **P 13 45 54.5 -1.3**
BR131 Keskin Array S 91.98 310 P **P 13 45 56.0 -0.6**
SNR=7.4
BR131 Keskin Array S 91.98 310 P **P 13 45 55.1 -1.5**
BR131 pmax pmax
comp=Z,17nm,1.0s
BR131 Keskin Array S 91.98 310 P **P 13 45 55.1 -1.5**
BRTR Keskin Array B 91.98 310 P **P 13 45 55.6 -1.0**
comp=Z,8.4nm,0.9s,baz=107,slow=4.3,SNR=22
BRTR PP **PP 13 49 36.8 +0.2**
comp=Z,17nm,1.0s,baz=122,slow=6.1,SNR=4.8
BRTR S **SKSac 13 56 31.2 +6.0**
comp=Z,0.7nm,0.4s,baz=62,slow=14,SNR=5.8
BRTR PKKPbc **PKKPbc 14 03 14.8 +0.2**
comp=Z,1.3nm,0.9s,baz=299,slow=2.5,SNR=4.6
BRTR LR LR 14 33 44.4
comp=Z,938nm,21.3s,baz=50,slow=40
BRTR Keskin Array B 91.98 310 P **P 13 45 54.8 -1.8**
SYO Syowa Base 92.10 201 ⇓*i*P **P 13 45 54.6 -1.6**
SYO Syowa Base 92.10 201 ⇑*i*PcP **PcP 13 45 58.4 +1.4**
KBS Kingsbay 92.29 350 P **P 13 45 56.4 -0.6**
KBS pmax pmax
comp=Z,150nm,1.5s
KBS MLR MLR
comp=Z,6μm,22.0s
KBS Kingsbay 92.29 350 *e*P **P 13 45 56.7 -0.3**
KBS IVmBBB 13 46 05.8
comp=Z,2μm,4.1s
KBS *e*ScS **S 13 56 59.4 +4.0**
KBS Kingsbay 92.29 350 P **P 13 45 56.4 -0.6**
HAMF Hammerfest 92.32 341 *e*P **P 13 45 56.4 -0.8**
HAMF *e*ScS **S 13 56 59.4 +3.6**
HAMF *e*SS **SS 14 03 09.8 +3.0**
HAMF IVMs_BB IVMs_BB 14 25 08.3
comp=Z,4μm,4.0s
HSPB Hornsund (broa 92.42 348 *e*P **P 13 45 57.3 -0.3**
HSPB *e*PP **PP 13 49 39.9 +1.1**
HSPB *e*SKSac **S 13 56 55.6 -0.9**
HSPB *e*ScS **ScS 13 57 00.5 +1.9**
QSPA South Pole Qui 92.63 180 P **P 13 45 59.0 +0.1**
QSPA IAmb IAmb 13 46 01.7
comp=Z,97nm,1.2s
CSS Mathiatis 92.66 305 P **P 13 45 57.9 -1.7**
comp=Z,10nm,1.1s
CSS Mathiatis 92.66 305 P **P 13 45 58.8 -0.9**
CSS IAmb IAmb 13 46 35.7
comp=Z,43nm,1.0s
WRAK Wrangell Islan 92.85 33 P **P 13 46 00.1 +0.2**
WRAK IAmb IAmb 13 46 17.1
comp=Z,45nm,0.9s
KTK1 Kautokeino 92.90 340 *e*P **P 13 45 59.2 -0.8**
KTK1 *e*ScS **S 13 57 05.0 +3.9**
HEF Hetta 92.90 339 *e*P **P 13 45 59.0 -1.0**
H02S1 DAWSON INLET T 93.28 37 P **P 13 46 03.7 +1.7**
H02S1 T T 15 30 02.0
SNR=102
FIA1 FINESS Array S 93.53 332 P **P 13 46 01.6 -1.4**
FIA1 IAmb IAmb 13 46 02.9
comp=Z,105nm,1.4s
FINES FINESS Array B 93.53 332 P **P 13 46 02.0 -1.0**
comp=Z,16nm,0.6s,baz=58,slow=4.8,SNR=42
FINES PKKPbc **PKKPdf 14 03 07.7 -1.6**
comp=Z,3.3nm,1.0s,baz=93,slow=3.8,SNR=4.1
FINES LR LR 14 33 08.9
comp=Z,4μm,19.3s,baz=84,slow=39
FINES FINESS Array B 93.53 332 P **P 13 46 01.4 -1.6**
C36M Paulatuk 93.58 20 P **P 13 46 03.1 0.0**
baz=287
DLBC Dease Lake 93.72 31 P **P 13 46 05.5 +1.4**
comp=Z,16nm,1.0s,baz=262,slow=6.9,SNR=9.0
DLBC Dease Lake 93.72 31 P **P 13 46 04.4 +0.3**
DLBC IAMs_20 IAMs_20 14 23 00.8
comp=Z,3μm,22.0s
KIF Kilpisjarvi 93.74 340 *e*P **P 13 46 02.9 -0.9**
AKASG Malin Array Be 93.75 321 P **P 13 46 02.7 -1.6**
comp=Z,36nm,1.1s,baz=66,slow=4.1,SNR=54
AKASG PP **PP 13 49 50.0 +0.1**
comp=Z,4.9nm,0.8s,baz=66,slow=7.7,SNR=3.4
AKASG LR LR 14 31 25.1
comp=Z,2μm,21.6s,baz=75,slow=38
AKASG Malin Array Be 93.75 321 P **P 13 46 02.5 -1.7**
AKBB Malin Array Si 93.75 321 P **P 13 46 02.7 -1.6**
AKBB pmax pmax
comp=Z,56nm,1.1s
AKBB Malin Array Si 93.75 321 P **P 13 46 02.7 -1.6**
AKBB IAmb IAmb 13 46 05.1
comp=Z,56nm,1.1s
AKBB IAMs_20 IAMs_20 14 33 00.4
comp=Z,3μm,22.0s
VSU Vasula 93.82 329*c i*P **P 13 46 02.9 -1.5**
VSU pmax pmax
comp=Z,245nm,1.3s
VSU MLR MLR
comp=Z,10μm,20.0s
VSU Vasula 93.82 329 *e*P **P 13 46 02.8 -1.6**
VSU IAmb IAmb 13 46 04.0
comp=Z,170nm,1.0s
MICGM Minsk 93.93 325 *e*P **P 13 46 04.0 -1.0**
MICGM *e*pP **sP 13 46 24.0 -2.2**
MICGM *e*PP PP 13 49 16.0 -35
MICGM *e*SKS **SKSac 13 56 32.0 -3.1**
MICGM *e*S **SKSKSac 13 57 00.0 +4.4**
MICGM *e*sS **sS 13 57 36.0 -0.5**
MICGM *e*PS PS 13 58 44.0 +12
MICGM *e*SS SS 14 02 48.0 -43
MICGM *e*SSS SSS 14 06 56.0
MICGM *e*LQ LQ 14 17 58.0
MICGM *e*LR LR 14 24 28.0
MICGM LRM MLR 14 31 06.0
comp=Z,6.7nm,20.0s
MNK Minsk 93.93 325 *e*P **P 13 46 04.0 -1.0**
MNK *e* 13 56 32.0
MNK *e*S S 13 57 00.0 -11
MNK MLR MLR
comp=Z,7μm,20.0s
TRO Tromso 94.17 341 *e*P **P 13 46 05.4 -0.4**
TRO *e*PP **PP 13 49 57.4 +4.7**
TRO *e*SKSac **SKSac 13 56 42.6 +6.9**
TRO *e*SS **SS 14 03 34.6 +1.3**
TRO IVMs_BB IVMs_BB 14 30 55.2
comp=Z,3μm,4.2s
IDID Didziasalis 94.43 326 *e*P **P 13 46 09.1 +1.9**
NACGM Naroch 94.49 325 *e*P **P 13 46 07.0 -0.6**
NACGM *e*PP **PP 13 50 01.0 +5.5**
NACGM *e*PPP PPP 13 52 08.0
NACGM *e*SKS **SKSac 13 56 38.0 0.0**
NACGM *e*S **SKKSac 13 57 03.0 +3.3**
NACGM *e*PS pS 13 57 44.0 +8.9
NACGM *e*SS **SS 14 03 34.0 -4.5**
NACGM *e*SSS SSS 14 07 30.0
NACGM *e*LQ LQ 14 18 18.0
NACGM *e*LR LR 14 24 40.0
NACGM LRM MLR 14 29 31.0
comp=Z,6.6nm,25.0s
KIS Kishinev 94.59 317 *e*P **P 13 46 07.0 -1.2**
KIS *e*pP **sP 13 46 32.0 +1.7**
KIS Kishinev 94.59 317 *e*PP **PP 13 50 00.0 +3.4**
KIS Kishinev 94.59 317 *e*PPP PPP 13 52 06.0
KIS *e*SKS **SKSac 13 56 42.0 +3.0**
KIS *e*SKKS **SKKSac 13 56 57.0 -3.8**
KIS *e*S **S 13 57 12.0 -4.8**
KIS Kishinev 94.59 317 *e*P **P 13 46 07.0 -1.2**
KIS *e* 13 50 00.0
KIS *e*PPP PPP 13 52 06.0
KIS *e* 13 56 42.0
KIS *e*S **S 13 57 12.0 -4.8**
KIS *e*PS PS 13 58 30.0 -10
KIS *e*PPS PPS 13 59 21.0
KIS *e*SS **SS 14 03 46.0 +5.5**
IIGN Ignalina 94.71 326 *e*P **P 13 46 08.7 +0.1**
IIGN IAmb IAmb 13 46 10.2
comp=Z,15nm,1.1s
ISAL Salakas 94.72 326 *e*P **P 13 46 08.1 -0.5**
ISAL IAmb IAmb 13 46 10.6
comp=Z,10nm,0.9s
TOPG Topolog 95.23 315 ⇓P **P 13 46 10.5 -0.7**
ELL Elmali 95.23 307 P **P 13 46 10.0 -1.6**
ELL pmax pmax
comp=Z,87nm,1.1s
ELL Elmali 95.23 307 P **P 13 46 10.0 -1.6**
ELL IAmb IAmb 13 50 00.3
comp=Z,87nm,1.1s
ELL IAMs_20 IAMs_20 14 37 55.3
comp=Z,3μm,22.0s
TIRR Tirgusor 95.27 315 ⇓P P 13 46 05.1 -6.3
TIRR Tirgusor 95.27 315 ⇓P P 13 46 05.1 -6.2
CFR Carcaliu 95.35 316 ⇓P **P 13 46 11.1 -0.6**

CFR	Carcaliu	95.35 316	⇓P	P	13 46 11.1	-0.6
TLB	Topalu	95.51 315	⇑P	P	13 46 12.3	-0.1
TLB	Topalu	95.51 315	⇑P	P	13 46 12.3	-0.1
ICOR	Ion Corvin	95.75 315	⇑P	P	13 46 14.0	+0.4
CTYL	Yalikoy Yolu	95.82 312	⇓P	P	13 46 13.6	-0.3
PABE	Paberze	95.93 326	eP	P	13 46 12.9	-1.2
PABE			IAmb	IAmb	13 46 14.9	
	comp=Z,34nm,0.8s					
PABE			ePP	PP	13 50 07.7	+1.0
STEI	Steigen	96.04 340	eP	P	13 46 13.0	-1.3
STEI			ePP	PP	13 50 07.0	-0.1
STEI			eSKSac	SKSac	13 56 49.7	+4.0
STEI			IVMs_BB	IVMs_BB	14 28 04.2	
	comp=Z,3μm,4.0s					
GRER		96.12 316	⇓P	P	13 46 17.0	+1.8
TESR	Tescani	96.14 317	⇓P	P	13 46 14.8	-0.6
VRI	Vrincioaia	96.21 317	⇓P	P	13 46 15.7	0.0
VRI	Vrincioaia	96.21 317	⇓P	P	13 46 15.7	0.0
PLOR	Plostina	96.26 317	⇓P	P	13 46 15.6	-0.4
PLOR	Plostina	96.26 317	⇓P	P	13 46 15.6	-0.4
BISRR	Bisoca	96.28 316	⇓P	P	13 46 16.8	+0.8
BIZ	Bicaz	96.43 318	⇑P	P	13 46 16.2	-0.4
ISR	Istrita	96.47 316	⇑P	P	13 46 18.7	+1.8
ISR	Istrita	96.47 316	⇑P	P	13 46 18.7	+1.8
LOF	Lofoten	96.54 340	eP	P	13 46 16.6	0.0
LOF			IVmBBB		13 46 19.7	
	comp=Z,2μm,3.7s					
LOF			ePP	PP	13 50 11.6	+0.5
LOF			eSKSac	SKSac	13 56 58.9	+11
LOF			eSS	SS	14 04 12.2	+5.3
LOF			IVMs_BB	IVMs_BB	14 30 31.0	
	comp=Z,3μm,4.4s					
SUW	Suwalki	96.73 325	eP	P	13 46 16.9	-0.9
SUW			MLR	MLR		
	comp=Z,4μm,24.9s					
SUW	Suwalki	96.73 325	eP	P	13 46 16.9	-0.9
SUW			eP	P	13 46 16.9	-0.9
SUW			eL	L	14 30 33.0	
	comp=Z,4μm,24.9s					
SUW			eL	L	14 30 33.0	
	comp=Z,4μm,24.9s					
MLR	Muntele Rosu	96.81 316	⇑P	P	13 46 18.0	-0.6
MLR	Muntele Rosu	96.81 316	P	P	13 46 17.8	-0.8
	comp=Z,24nm,1.0s,baz=72,slow=1.6,SNR=16					
MLR			PP	PP	13 50 15.5	+1.5
	comp=Z,40nm,1.1s,baz=71,slow=3.1,SNR=4.6					
MLR			S	SKSac	13 56 49.4	-1.7
	comp=Z,4.2nm,0.9s,baz=170,slow=19,SNR=4.6					
MLR	Muntele Rosu	96.81 316	⇑P	P	13 46 18.0	-0.6
MLR	Muntele Rosu	96.81 316	P	P	13 46 17.5	-1.1
BURAR	Bucovina Array	96.89 318	⇓P	P	13 46 19.0	+0.2
BURAR	Bucovina Array	96.89 318	⇓P	P	13 46 19.0	+0.2
BURAR	Bucovina Array	96.89 318	P	P	13 46 17.9	-0.9
BUR08	Bucovina Ar. S	96.90 318	P	P	13 46 18.2	-0.7
BUR08			IAmb	IAmb	13 46 49.4	
	comp=Z,44nm,1.1s					
PBUR	Paburg	96.92 327	eP	P	13 46 16.1	-2.6
PBUR			ePP	PP	13 50 14.6	+0.3
MOR8	Moi Rana	97.01 338	eP	P	13 46 16.7	-2.2
MOR8			eSKSac	SKSac	13 56 50.5	-0.5
MOR8			eSS	SS	14 04 17.7	+4.0
MOR8			IVMs_BB	IVMs_BB	14 29 51.9	
	comp=Z,3μm,4.0s					
DOPR	Dopca	97.11 317	⇑P	P	13 46 19.8	0.0
LVV	L'vov	97.19 321	eP	P	13 46 17.7	-2.3
LVV			e		13 50 16.0	
LVV			eS	S	13 57 34.0	-5.2
LVV			pmax	pmax		
	comp=Z,500nm,5.0s					
LVV			MLR	MLR		
	comp=Z,2μm,23.0s					
SZH	Strazhica	97.24 314	eP	PP	13 50 21.4	+4.2
ELND	Elena	97.34 314	⇑P	P	13 46 20.2	-0.6
KONS	Konsvik	97.37 339	eP	P	13 46 19.9	-0.4
VOIR		97.44 316	⇓P	P	13 46 20.1	-1.3
VOIR		97.44 316	⇓P	P	13 46 20.1	-1.3
ALN	Alexandroupoli	97.58 312	P	P	13 46 20.0	-2.0
ALN			pmax	pmax		
	comp=Z,18nm,1.5s					
ALN	Alexandroupoli	97.58 312	P	P	13 46 19.9	-2.0
COPA	Copaceanca	97.58 315	⇓P	P	13 46 21.7	-0.1
KARP	Karpathos	97.60 306	P	P	13 46 20.7	-1.5
KARP			IAmb	IAmb	13 46 50.1	
	comp=Z,72nm,1.1s					
MBAR	Mbarara	97.73 270	⇓eP	P	13 46 22.6	-0.8
MBAR			pmax	pmax		
	comp=Z,8.0nm,1.2s					
MBAR			MLR	MLR		
	comp=Z,1μm,21.0s					
MBAR	Mbarara	97.73 270	P	P	13 46 22.2	-1.2
ARR	Arges	97.74 316	⇓P	P	13 46 22.4	-0.3
RZN	Rozhen	98.42 313	eP	PP	13 50 29.8	+3.3
DAG	Danmarks Havn	98.47 353	⇑iP	P	13 46 24.2	-1.0
DAG			pmax	pmax		
	comp=Z,61nm,0.8s					
DAG	Danmarks Havn	98.47 353	⇑iP	P	13 46 24.2	-1.0
	comp=Z,81nm,0.8s					
RES	Resolute Bay	98.49 11	P	Pdif	13 46 25.4	+0.1
RES			pmax	pmax		
	comp=Z,61nm,1.0s					
RES	Resolute Bay	98.49 11	P	Pdif	13 46 25.4	+0.1
RES			IAmb	IAmb	13 46 27.5	
	comp=Z,61nm,0.9s					
RES			IAMs_20	IAMs_20	14 35 11.9	
	comp=Z,2μm,22.0s					
KOLS	Kolonicke sedl	98.52 320	eP	Pdif	13 46 26.3	+0.3
KOLS	Kolonicke sedl	98.52 320	eP	PP	13 50 31.4	+4.6
KOLS	Kolonicke sedl	98.52 320	ePDIFF	P	13 46 26.3	+0.3
UZH	Uzhgorod	98.58 320	eP	P	13 46 25.8	-0.4
UZH			e*PP	pP	13 46 42.0	-0.2
UZH			i		13 56 55.0	
UZH			eS	S	13 57 45.0	-5.9
UZH			MLR	MLR		
	comp=Z,450nm,23.0s					
NSS	Namsos	98.64 337	eP	P	13 46 24.7	-1.5
NSS			eSKSac	SKSac	13 56 56.7	-2.5
NSS			IVMs_BB	IVMs_BB	14 31 37.4	
	comp=Z,4μm,4.1s					
APE	Apeiranthos	98.65 308	c iP	P	13 46 25.4	-1.5
APE			pmax	pmax		
	comp=Z,13nm,1.2s					
PGB	Panagyurishte	98.65 314	eP	PP	13 50 31.9	+3.8
MMB	Musomiste	99.17 313	eP	PP	13 50 35.2	+3.2
VTS	Vitosha	99.31 314	eP	PP	13 50 35.7	+2.5
VTS	Vitosha	99.31 314	P	Pdif	13 46 28.3	-1.6
VTS			pmax	pmax		
	comp=Z,14nm,1.2s					
VTS	Vitosha	99.31 314	P	Pdif	13 46 28.4	-1.6
VTS			IAMs_20	IAMs_20	14 38 07.8	
	comp=Z,2μm,22.0s					
SIRR	Siria	99.57 318	⇑P	Pdif	13 46 30.6	-0.2
KKB	Krupnik	99.58 313	eP	PP	13 50 31.2	-4.0
NIE	Niedzica	99.64 321	eP	Pdif	13 46 31.3	+0.3
NIE	Niedzica	99.64 321	eP	Pdif	13 46 31.3	+0.3
NIE			eP	Pdif	13 46 31.3	+0.3
NIE			eL	L	14 36 51.8	
	comp=Z,2μm,21.9s					
NIE			eL	L	14 36 51.8	
	comp=Z,2μm,21.9s					
YKA	Yellowknife Ar	99.70 25	P	Pdif	13 46 31.8	+0.9
	comp=Z,7.2nm,0.9s,baz=297,slow=4.8,SNR=15					
YKA			PKiKP	PKiKP	13 50 59.9	+0.5
	comp=Z,2.3nm,0.5s,baz=314,slow=1.9,SNR=15					
YKA			PKKPbc	PKKPbc	14 02 51.9	-2.5
	comp=Z,0.9nm,0.8s,baz=104,slow=3.0,SNR=3.6					
YKA	Yellowknife Ar	99.70 25		Pdif	13 46 30.8	-0.1
HFS	Hagfors	99.71 333	P	Pdif	13 46 29.9	-1.1
	comp=Z,39nm,0.9s,baz=98,slow=4.4,SNR=39					
HFS			PKKPbc	PKKPbc	14 02 52.0	-2.3
	comp=Z,1.1nm,0.4s,baz=210,slow=5.0,SNR=7.3					
OJC	Ojcow	99.74 322	eP	Pdif	13 46 31.3	-0.1
OJC			e		13 50 38.7	
OJC			MLR	MLR		
	comp=Z,4μm,22.8s					
OJC	Ojcow	99.74 322	eP	Pdif	13 46 31.3	-0.1
OJC			eP	Pdif	13 46 31.3	-0.1
OJC			ePP	PP	13 50 38.7	+2.7
OJC			ePP	PP	13 50 38.7	+2.7
OJC			eL	L	14 34 02.5	
	comp=Z,4μm,22.8s					
OJC			eL	L	14 34 02.5	
	comp=Z,4μm,22.8s					
BZS	Buzias	99.76 317	⇓P	Pdif	13 46 45.2	+14

KECS	Kecovo	99.78 320	eP	Pdif	13 46 31.4	-0.2
KECS	Kecovo	99.78 320	ePDIFF	Pdif	13 46 31.4	-0.2
TBLU	Trondheim	99.88 336	ePdif	Pdif	13 46 30.8	-0.9
TBLU			ePP	PP	13 50 35.9	-0.8
STIP	Stip	100.27 313	i P	Pdif	13 46 31.9	-2.0
PSZ	Piszkesteto	100.31 320	⇑P	Pdif	13 46 53.5	+19
NC602	NORSAR Array S	100.44 334	ePdif	Pdif	13 46 33.0	-1.2
NC602			IVmB_BB		13 46 38.5	
	comp=Z,2μm,5.0s					
NC602			ePP	PP	13 50 40.7	-0.2
NC602			eSP	SP	13 59 37.7	+3.0
NC602			IVMs_BB	IVMs_BB	14 31 47.1	
	comp=Z,4μm,33.3s					
NB2	NORSAR Subarra	100.45 334	P	Pdif	13 46 32.7	-1.7
	comp=Z,26nm,0.9s,baz=65,slow=4.4					
NB2	NORSAR Subarra	100.45 334	P	Pdif	13 46 32.7	-1.7
	baz=65,slow=4.4					
NOA	NORSAR Array B	100.45 334	P	Pdif	13 46 32.8	-1.6
	comp=Z,23nm,1.0s,baz=65,slow=4.5,SNR=29					
NOA			PP	PP	13 50 38.9	-2.2
	comp=Z,5.9nm,1.1s,baz=63,slow=7.5,SNR=2.6					
NOA			PKKPbc	PKKPbc	14 02 51.1	-1.3
	comp=Z,1.1nm,0.9s,baz=250,slow=2.3,SNR=3.4					
SKO	Skopje	100.75 313	i P	Pdif	13 46 31.4	-4.7
VYHS	Vyhne	100.83 320	eP	Pdif	13 46 36.0	-0.3
VYHS	Vyhne	100.83 320	eP	PP	13 50 47.2	+2.8
VYHS	Vyhne	100.83 320	ePDIFF	Pdif	13 46 36.0	-0.3
OKC	Ostrava-Krasne	100.87 322	eSKS	SKSac	13 57 32.0	+21
OKC			AMS	AMS	14 34 40.0	
	comp=Z,3μm,20.5s					
DOMB	Dombas	100.92 335	ePdif	Pdif	13 46 35.8	-0.7
DOMB			ePP	PP	13 50 46.0	+1.4
DOMB			e		13 57 39.6	
DOMB			ePS	PS	13 59 59.5	+12
DOMB			eSS	SS	14 05 12.8	+4.3
DOMB			IVMs_BB	IVMs_BB	14 33 13.3	
	comp=Z,4μm,22.5s					
B06A	Marblemount	101.11 40	IAMs_20	IAMs_20	14 27 33.5	
	comp=Z,3μm,20.0s					
OSL	Oslo	101.15 333	ePdif	Pdif	13 46 37.0	-0.4
JMIC	Jan Mayen	101.23 347	P	Pdif	13 46 38.2	+0.6
	comp=Z,59nm,0.8s,baz=67,slow=19,SNR=3.5					
JMIC			PKKPbc	PKKPbc	14 02 49.8	-0.5
	comp=Z,45nm,0.6s,baz=214,slow=3.6,SNR=2.8					
JMIC	Jan Mayen	101.23 347	ePdif	Pdif	13 46 34.3	-3.3
JMIC			ePS	PS	13 59 54.9	+4.4
JMIC			IVMs_BB	IVMs_BB	14 26 23.6	
	comp=Z,2μm,3.2s					
MORC	Moravsky Berou	101.26 322	⇓P	Pdif	13 46 38.3	0.0
MORC	Moravsky Berou	101.26 322	⇓P	Pdif	13 46 38.3	0.0
MORC	Moravsky Berou	101.26 322	ePDIFF	Pdif	13 46 37.7	-0.6
MORC			ePP	PP	13 50 50.6	+3.0
MORC	Moravsky Berou	101.26 322	IAMs_20	IAMs_20	14 35 17.2	
	comp=Z,3μm,21.0s					
MOL	Molde	101.29 336	ePdif	Pdif	13 46 37.7	-0.3
MOL			IVMs_BB	IVMs_BB	14 32 29.6	
	comp=Z,3μm,3.9s					
KRMB	Red Mountain	101.32 47	IAMs_20	IAMs_20	14 33 55.7	
	comp=Z,2μm,20.0s					
JCC	Jacoby Creek,	101.40 48	IAMs_20	IAMs_20	14 24 23.8	
	comp=Z,3μm,21.0s					
JAVC	Velka Javorina	101.46 321	ePDIFF	Pdif	13 46 39.8	+0.6
JAVC			ePP	PP	13 50 52.8	+3.6
KHMM	Horse Mountain	101.60 47	IAMs_20	IAMs_20	14 24 54.3	
	comp=Z,3μm,20.0s					
KRLC	Kraliky	101.63 322	ePP	PP	13 50 50.2	-0.2
KRLC			AMS	AMS	14 35 10.0	
	comp=Z,3μm,22.7s					
KSP	Ksiaz	101.68 323	eP	Pdif	13 46 40.2	+0.1
KSP			MLR	MLR		
	comp=Z,4μm,21.6s					
KSP	Ksiaz	101.68 323	eP	Pdif	13 46 40.2	+0.1
KSP			eP	Pdif	13 46 40.2	+0.1
KSP			eL	L	14 36 04.9	
	comp=Z,4μm,21.6s					
KSP			eL	L	14 36 04.9	
	comp=Z,4μm,21.6s					
AKN	Aaknes	101.71 336	ePdif	Pdif	13 46 39.8	-0.2
AKN			ePP	PP	13 50 51.7	+1.2
AKN			eSKSac	SKSac	13 57 18.5	+4.0
AKN			eSe		14 05 19.6	
AKN			eSS	SS	14 05 19.6	+0.2
AKN			IVMs_BB	IVMs_BB	14 37 23.8	
	comp=Z,4μm,4.3s					
HUMO	Hull Mountain	101.74 46	IAMs_20	IAMs_20	14 26 17.6	
	comp=Z,3μm,22.0s					
KMRM	Mail Ridge	101.78 48	IAMs_20	IAMs_20	14 24 56.0	
	comp=Z,3μm,21.0s					
KONO	Kongsberg	101.78 333	ePdif	Pdif	13 46 36.9	-3.4
KONO			ePP	PP	13 50 47.4	-3.7
KONO			eSKSac	SKSac	13 57 23.6	+8.7
KONO			IVMs_BB	IVMs_BB	14 32 40.5	
	comp=Z,2μm,4.0s					
DPC	Dobruska-Polom	101.82 323	ePP	PP	13 50 54.3	+2.5
DPC			eSKS		13 57 39.0	
DPC			AMS	AMS	14 35 20.0	
	comp=Z,4μm,21.6s					
MODS	Modra-Piesok	101.86 321	eP	Pdif	13 46 39.6	-1.3
MODS	Modra-Piesok	101.86 321	ePDIFF	Pdif	13 46 39.6	-1.3
SKAR	Skarslia	101.88 334	ePdif	Pdif	13 46 38.7	-2.1
SKAR			ePP	PP	13 50 50.9	-1.0
SKAR			eSKSac	SKSac	13 57 18.2	+2.8
SKAR			eSP	SP	13 59 52.8	+2.6
SKAR			eSS	SS	14 05 28.4	+6.5
SKAR			IVMs_BB	IVMs_BB	14 31 50.4	
	comp=Z,3μm,34.0s					
CHVC	Chvalec	101.91 323	ePP	PP	13 50 52.3	-0.1
CHVC			AMS	AMS	14 35 50.0	
	comp=Z,4μm,21.6s					
UPC	Upice	101.96 323	eSKS	SKSac	13 57 39.4	+23
UPC			AMS	AMS	14 35 40.0	
	comp=Z,4μm,20.7s					
VRAC	Vranov	101.99 322	P	Pdif	13 46 41.3	-0.1
	comp=Z,8.2nm,0.8s,baz=89,slow=6.3,SNR=6.9					
VRAC			PP	PP	13 50 56.2	+3.1
	comp=Z,16nm,1.1s,baz=90,slow=9.3,SNR=4.8					
VRAC	Vranov	101.99 322	ePDIFF	Pdif	13 46 41.1	-0.4
VRAC			ePP	PP	13 50 56.4	+3.3
KCPM	Cahto Peak	102.00 49	IAMs_20	IAMs_20	14 29 35.8	
	comp=Z,2μm,19.0s					
LTY	Liberty	102.01 41	IAMs_20	IAMs_20	14 23 38.5	
	comp=Z,3μm,22.0s					
TIR	Tirane	102.05 313	IAMs_20	IAMs_20	14 39 51.4	
	comp=Z,2μm,21.0s					
RGN	Rugen	102.06 327	IAMs_20	IAMs_20	14 35 25.9	
	comp=Z,3μm,21.0s					
KRUC	Moravsky	102.19 321	ePDIFF	Pdif	13 46 42.2	-0.2
KRUC			ePP	PP	13 50 57.7	+3.1
PDG	Podgorica	102.21 314	IAMs_20	IAMs_20	14 36 33.5	
	comp=Z,3μm,22.0s					
HOPS	Hopland Field	102.55 49	IAMs_20	IAMs_20	14 35 32.4	
	comp=Z,2μm,18.0s					
HYA	Hoyanger	102.55 335	ePdif	Pdif	13 46 43.0	-0.6
E07A	Sunnyside	102.75 41	IAMs_20	IAMs_20	14 24 00.1	
	comp=Z,2μm,22.0s					
FOO	Floro	102.80 336	ePdif	Pdif	13 46 44.0	-0.7
GDXM	Geysers	102.80 49	IAMs_20	IAMs_20	14 27 23.1	
	comp=Z,2μm,21.0s					
PVCC	Panska Ves	102.82 323	AMS	AMS	14 36 50.0	
	comp=Z,5μm,21.8s					
PINE	Pine Mountain	102.84 44	IAMs_20	IAMs_20	14 30 57.6	
	comp=Z,3μm,20.0s					
BOSA	Boshof	102.88 241	P	Pdif	13 46 45.6	-0.4
	comp=Z,9.4nm,1.1s,baz=114,slow=7.5,SNR=5.5					
BOSA			PP	PP	13 51 00.2	-0.5
	comp=Z,9.0nm,1.1s,baz=107,slow=9.0,SNR=4.9					
CONA	Conrad Observa	102.90 320	Pdiff	Pdif	13 46 46.2	+0.6
	comp=Z,5.6nm,1.2s					
CONA			PP	PP	13 50 57.8	-2.2
	comp=Z,31nm,1.3s					
MCCM	Marconi Confer	102.90 50	IAMs_20	IAMs_20	14 32 36.7	
	comp=Z,2μm,19.0s					
GOPC	GO Pecny, Ondr	102.90 323	ePP	PKiKP	13 51 01.9	-3.7
GOPC			AMS	AMS	14 36 00.0	
	comp=Z,3μm,19.7s					
HOMB	Homborsund	102.92 332	ePP	PP	13 51 02.3	+2.7
HOMB			eSKSac	SKSac	13 57 32.9	+13
ODD1	Odda	102.99 334	ePdif	Pdif	13 46 44.6	-1.1
BLY	Banja Luka	103.01 317	IAMs_20	IAMs_20	14 41 14.5	
	comp=Z,3μm,21.0s					
HAWA	Hanford	103.02 41	IAMs_20	IAMs_20	14 28 53.1	
	comp=Z,3μm,20.0s					
PRU	Pruhonice	103.02 323	ePP	PP	13 50 59.4	-1.3
PRU			ex	x	13 57 43.2	
PRU			AMS	AMS	14 36 20.0	

	comp=Z,4μm,20.0s					
PRA	Prague	103.06 323	ePP	PP	13 51 02.6	+1.6
PRA			AMS	AMS	14 36 20.0	
	comp=Z,4μm,17.9s					
BRG	Berggiesshubel	103.07 324	ePDIFF	Pdif	13 46 46.0	-0.2
	comp=Z,18nm,1.2s					
BRG			sPDIFF		13 47 09.0	
BRG			ePP	PP	13 50 56.6	-4.5
	comp=Z,18nm,1.5s					
BRG	Berggiesshubel	103.07 324	PKP	PKiKP	13 51 05.0	-0.8
BRG			SKS		13 57 18.0	
BRG			SDIFF	Sdif	13 58 25.0	-3.4
BRG			SS	SS	14 05 29.0	-10
	comp=N,3μm,20.8s					
	comp=E,4μm,19.5s					
	comp=Z,3μm,21.1s					
BRG	Berggiesshubel	103.07 324	eP	Pdif	13 46 46.0	-0.2
BRG					13 51 05.0	
BRG					13 57 18.0	
BRG			S	Sdif	13 58 25.0	-3.4
BRG			pmax	pmax		
	comp=Z,18nm,1.2s					
BRG			pmax	pmax		
	comp=Z,18nm,1.5s					
BRG			MLR	MLR		
	comp=N,3μm,20.8s					
BRG			MLR	MLR		
	comp=E,4μm,19.5s					
BRG			MLR	MLR		
	comp=Z,3μm,21.1s					
SUE	Sulen	103.20 335	ePP	PP	13 51 03.9	+2.3
SUE			eSKSac	SKSac	13 57 22.7	+1.2
E08A	Dider Farm, El	103.30 41	IAMs_20	IAMs_20	14 29 01.5	
	comp=Z,2μm,21.0s					
BLS5	Blasjo	103.30 334	ePdif	Pdif	13 46 46.1	-1.0
BLS5			ePP	PP	13 51 03.5	+1.0
BLS5			eSP	SP	14 00 04.9	-0.3
BLS5			eSS	SS	14 05 42.5	+1.0
BLS5			IVMs_BB	IVMs_BB	14 35 25.8	
	comp=Z,2μm,5.3s					
BER	Bergen	103.31 335	ePP	PP	13 51 03.2	+0.8
BER			eSP	SP	14 00 09.9	+4.7
BER			IVMs_BB	IVMs_BB	14 33 16.0	
	comp=Z,3μm,4.3s					
ARSA	Arzberg	103.33 320	PKiKP	PKiKP	13 51 04.5	-2.0
	comp=Z,15nm,1.1s					
C09A	Chrisman Ranch	103.38 40	IAMs_20	IAMs_20	14 29 04.5	
	comp=Z,3μm,20.0s					
CLL	Collm	103.46 324	eP	Pdif	13 46 47.0	-0.9
CLL			e		13 51 02.0	
CLL			pmax	pmax		
	comp=Z,16nm,1.3s					
CLL			MLR	MLR		
	comp=Z,3μm,18.3s					
CLL	Collm	103.46 324	ePdif	Pdif	13 46 47.0	-0.9
	comp=Z,16nm,1.3s					
CLL			e		13 50 49.0	
CLL			ePP	PP	13 51 02.0	-1.9
CLL			ePPP	PPP	13 53 18.0	
CLL			e		13 55 24.0	
CLL			ePS	PS	14 00 18.0	+3.2
CLL			ePPS	PPS	14 01 06.0	
CLL			eSS	SS	14 05 48.0	+3.9
CLL			eSSS	SSS	14 09 24.0	
CLL			e		14 10 54.0	
CLL			e		14 11 54.0	
CLL			e		14 14 12.0	
CLL			LmV		14 48 00.0	
	comp=Z,3μm,18.3s					
CLL	Collm	103.46 324	IAMs_20	IAMs_20	14 36 49.5	
	comp=Z,3μm,20.0s					
SOKA	Soboth	103.84 319	PKiKP	PKiKP	13 51 06.9	-0.6
	comp=Z,16nm,1.0s					
KHC	Kasperske Hory	103.91 322	eP	Pdif	13 46 50.0	-0.1
KHC			e		13 51 09.4	
KHC			MLR	MLR		
	comp=Z,4μm,20.1s					
KHC	Kasperske Hory	103.91 322	ePDIF	Pdif	13 46 50.0	-0.1
KHC			ePP	PKiKP	13 51 09.4	+1.9
KHC			ex	x	13 57 48.2	
KHC			AMS	AMS	14 36 30.0	
	comp=Z,4μm,20.1s					
MOA	Molln	103.94 321	Pdiff	Pdif	13 46 50.4	+0.3
	comp=Z,15nm,1.1s					
MOA			PKiKP	PP	13 51 08.8	+1.2
	comp=Z,6.0nm,0.9s					
GEC2	GERESS Array S	103.94 322	IAMs_20	IAMs_20	14 36 49.4	
	comp=Z,3μm,21.0s					
GERES	GERESS Array B	103.94 322	P	Pdif	13 46 49.3	-0.9
GERES	GERESS Array B	103.94 322	Pdiff	Pdif	13 46 50.3	+0.1
	comp=Z,3.9nm,1.0s,baz=58,slow=5.0,SNR=12					
GERES			PKiKP	PP	13 51 08.2	+0.4
	comp=Z,9.2nm,1.0s,baz=90,slow=1.9,SNR=5.6					
GERES	GERESS Array B	103.94 322		Pdif	13 46 49.4	-0.9
NEW	Newport	103.95 39	Pdiff	Pdif	13 46 51.8	+1.6
	comp=Z,0.7nm,0.3s,baz=315,slow=16,SNR=3.1					
NKC	Novy Kostel	104.19 323	AMS	AMS	14 37 40.0	
	comp=Z,5μm,22.0s					
OBKA	Obir	104.21 319	PP	PKiKP	13 51 09.0	+0.8
	comp=Z,19nm,1.3s					
SCO	Scoresbysund	104.33 350	i P	Pdif	13 46 52.0	+0.6
SCO	Scoresbysund	104.33 350	i P	Pdif	13 46 52.0	+0.6
SCO	Scoresbysund	104.33 350	IAMs_20	IAMs_20	14 38 22.1	
	comp=Z,3μm,20.0s					
SAO	San Andreas Ge	104.34 51	IAMs_20	IAMs_20	14 32 31.0	
	comp=Z,3μm,19.0s					
BEKR	Beckworth	104.35 48	IAMs_20	IAMs_20	14 31 16.0	
	comp=Z,2μm,20.0s					
SNAA	Sanae	104.67 194	PKKP	PKKPbc	14 02 37.7	-2.6
SNAA	Sanae	104.67 194	Pdiff	Pdif	13 46 53.6	+0.7
SNAA			SKS		13 57 26.9	
SNAA	Sanae	104.67 194	PKKPbc	PKKPbc	14 02 37.8	-2.5
	comp=Z,12nm,0.9s,baz=268,slow=6.6,SNR=34					
SNAA	Sanae	104.67 194		PKKPbc	14 02 37.0	-3.3
SNAA			IAMs_20	IAMs_20	14 39 43.6	
	comp=Z,3μm,19.0s					
F10A	Beach Ranch, E	104.67 41	IAMs_20	IAMs_20	14 30 24.7	
	comp=Z,2μm,20.0s					
MYKA	Terra Mystica	104.76 320	PKiKP	PKiKP	13 51 09.6	+0.5
	comp=Z,4.9nm,0.8s					
KBA	Koelnbreinsper	104.79 320	PP	PKiKP	13 51 15.1	+5.8
	comp=Z,9.1nm,1.2s					
CMB	Columbia Colle	104.83 50	IAMs_20	IAMs_20	14 33 46.8	
	comp=Z,2μm,20.0s					
WVOR	Wild Horse Val	104.85 45	IAMs_20	IAMs_20	14 28 20.9	
	comp=Z,2μm,21.0s					
TIP	Timpagrande	104.91 312	IAMs_20	IAMs_20	14 33 20.0	
	comp=Z,2μm,18.0s					
BMO	Blue Mountains	104.99 42	IAMs_20	IAMs_20	14 29 16.4	
	comp=Z,3μm,22.0s					
PAHR	Pah Rah Range	105.12 48	IAMs_20	IAMs_20	14 31 41.2	
	comp=Z,2μm,20.0s					
WAKR	Walker	105

baz=119,slow=1.8
VNA2 Neumayer--Watz 106.26 194 Pdiff **Pdif 13 47 02.3 +2.4**
baz=129,slow=3.3
VNA2 SKS **SKSac 13 57 34.2 -0.8**
baz=215,slow=3.3
RETA Reutte 106.27 321 PKiKP **PKiKP 13 51 11.7 -0.3**
comp=Z,7.4nm,0.9s
NVAR Mina Array Bea 106.29 49 Pdiff **Pdif 13 47 01.0 -0.2**
comp=Z,0.6nm,0.8s,baz=271,slow=4.2,SNR=3.1
NVAR PKiKP **PKiKP 13 51 12.9 +0.5**
comp=Z,1.3nm,0.7s,baz=240,slow=2.3,SNR=5.7
NVAR PKKPbc **PKKPbc 14 02 34.6 +0.1**
comp=Z,2.2nm,1.0s,baz=126,slow=3.7,SNR=8.3
NVAR Mina Array Bea 106.29 49 PKKPbc 14 02 34.2 -0.3
NV11 Mina Array Sit 106.40 49 IAMs_20 IAMs_20 14 43 30.4
comp=Z,µm,18.0s
FETA Feichten 106.47 321 Pdiff **Pdif 13 47 03.0 +1.4**
comp=Z,7.0nm,1.7s
MSO Missoula 106.48 39 P **PKiKP 13 51 12.1 -0.3**
baz=293
MSO Missoula 106.48 39 IAMs_20 IAMs_20 14 31 18.5
comp=Z,2µm,21.0s
BMN Battle Mountai 106.48 46 IAMs_20 IAMs_20 14 28 47.5
comp=Z,3µm,22.0s
TEOL Teolo 106.49 319 IAMs_20 IAMs_20 14 41 49.5
comp=Z,2µm,21.0s
VNA3 Neumayer Olymp 106.56 193 PKKP **PKKPbc 14 02 32.0 -2.4**
VNA3 Neumayer Olymp 106.56 193 PKiKP **PKiKP 13 51 11.9 +0.1**
VNA3 Neumayer Olymp 106.56 193 Pdiff **Pdif 13 47 02.1 +0.8**
VNA3 SKS **SKSac 13 57 35.5 -0.9**
VNA1 Neumayer--Stat 106.66 194 PKKP **PKKPbc 14 02 32.3 -1.7**
MURB Monte Urbino 106.67 317 IAMs_20 IAMs_20 14 40 11.4
comp=Z,3µm,22.0s
STU Stuttgart 106.72 323 IAMs_20 IAMs_20 14 39 48.5
comp=Z,3µm,22.0s
DAVA Damuels 106.90 321 PKiKP **PKiKP 13 51 14.0 +0.8**
comp=Z,9.5nm,0.8s
ISA Isabella, Lake 106.95 52 IAMs_20 IAMs_20 14 27 47.1
comp=Z,3µm,22.0s
CWC Cottonwood Cre 107.04 51 P **PKiKP 13 51 13.7 -0.1**
baz=287
BFO Black Forest 107.42 323 IAMs_20 IAMs_20 14 40 19.8
comp=Z,2µm,21.0s
OSSC Osservatorio P 107.45 317 IAMs_20 IAMs_20 14 43 06.0
comp=Z,3µm,21.0s
EDW2 Edwards Air Fo 107.54 52 P **PKiKP 13 51 14.8 +0.1**
baz=286
TUE Stuetta 107.56 321 IAMs_20 IAMs_20 14 40 42.7
comp=Z,2µm,22.0s
PASC Pasadena Art C 107.59 53 IAMs_20 IAMs_20 14 32 59.2
comp=Z,3µm,19.0s
MPMC Manual Prospec 107.61 51 P **PKiKP 13 51 15.0 +0.1**
baz=287
PRMA PARMA 107.61 319 IAMs_20 IAMs_20 14 40 34.8
comp=Z,2µm,20.0s
LRMC Laurel Mtn Rad 107.62 52 P **PKiKP 13 51 15.7 +0.8**
baz=287
VLC Villacollemand 107.79 318 IAMs_20 IAMs_20 14 42 32.0
comp=Z,2µm,22.0s
FURC Furnace Creek, 107.97 50 P **PKiKP 13 51 16.0 +0.7**
baz=287
TPNV Topopah Spring 108.29 50 P **PKiKP 13 51 17.2 +1.0**
baz=288
TPNV Topopah Spring 108.29 50 IAMs_20 IAMs_20 14 35 12.6
comp=Z,2µm,19.0s
MSSA Maissana 108.31 319 IAMs_20 IAMs_20 14 42 49.9
comp=Z,2µm,20.0s
R11A Troy Canyon, C 108.35 48 P **PKiKP 13 51 17.4 +1.2**
baz=289
GSC Goldstone, Bar 108.36 52 P **PKiKP 13 51 17.4 +1.2**
baz=287
BOZ Bozeman (W) 108.44 40 P **PKiKP 13 51 17.6 +1.5**
baz=294
BOZ Bozeman (W) 108.44 40 IAMs_20 IAMs_20 14 32 03.6
comp=Z,2µm,21.0s
MURC Murrieta 108.54 53 P **PKiKP 13 51 17.2 +0.7**
baz=286
EGMT Eagleton 108.57 37 P **PKiKP 13 51 17.4 +1.2**
baz=296
HEC Hector,Ludlow 108.87 52 P **PKiKP 13 51 18.6 +1.4**
baz=287
PFO Pinyon Flats O 109.12 53 P **PKiKP 13 51 18.5 +0.8**
baz=287
PFO Pinyon Flats O 109.12 53 PKiKP **PKiKP 13 51 18.8 +1.0**
comp=Z,10nm,1.2s,baz=256,slow=6.1,SNR=4.8
PFO PKKPbc **PKKPbc 14 02 26.0 +0.7**
comp=Z,3.0nm,0.8s,baz=45,slow=2.9,SNR=3.1
PFO Pinyon Flats O 109.12 53 **PKiKP 13 51 17.3 -0.4**
PFO Pinyon Flats O 109.12 53 IAMs_20 IAMs_20 14 32 28.9
comp=Z,3µm,20.0s
BORG Borgarnes 109.13 347 PKKPbc PKKPbc 14 02 20.7 -5.4
comp=Z,43nm,1.1s,baz=294,slow=3.1,SNR=3.4
FFC Flin Flon 109.32 28 IAMs_20 IAMs_20 14 45 45.9
comp=Z,2µm,21.0s
MONP2 Monument Peak 109.36 54 P **PKiKP 13 51 19.0 +0.7**
baz=287
BELC Belle Mtn. Jos 109.38 53 P **PKiKP 13 51 19.2 +1.0**
baz=287
GMRC Granite Mounta 109.41 52 P **PKiKP 13 51 19.3 +1.0**
baz=288
IMW Indian Meadow 109.59 41 IAMs_20 IAMs_20 14 32 51.1
comp=Z,3µm,22.0s
H17A Grant Village 109.62 41 P **PKiKP 13 51 20.0 +1.4**
baz=295
FLWY Flagg Ranch 109.67 41 IAMs_20 IAMs_20 14 32 54.3
comp=Z,3µm,20.0s
IKP In-Ko-Pah, Jac 109.68 54 P **PKiKP 13 51 20.0 +1.3**
baz=287
DUG Dugway, Tooele 109.73 46 P **PKiKP 13 51 20.1 +1.4**
baz=292
MOOW Moose Ponds 109.78 41 IAMs_20 IAMs_20 14 38 10.1
comp=Z,2µm,21.0s
SWSC Sam W. Stewart 109.84 54 P **PKiKP 13 51 20.3 +1.4**
baz=287
EKA Eskdalemuir Ar 109.90 333 PKiKP **PKiKP 13 51 19.3 +0.9**
comp=Z,0.8nm,0.4s,baz=36,slow=3.2,SNR=4.8
EKA PP **PP 13 51 51.6 +0.7**
comp=Z,6.2nm,1.1s,baz=92,slow=16,SNR=3.5
EKA PKKPbc **PKKPbc 14 02 21.9 -1.5**
comp=Z,0.8nm,0.4s,baz=236,slow=3.3,SNR=6.1
BC3 Big Chuckawall 109.91 53 P **PKiKP 13 51 20.2 +1.0**
baz=287
AHID Auburn Hatcher 109.94 42 IAMs_20 IAMs_20 14 32 14.5
comp=Z,2µm,20.0s
IRM Iron Mountain 110.00 52 P **PKiKP 13 51 21.0 +1.7**
baz=288
GLA Glamis 110.59 53 P **PKiKP 13 51 21.3 +0.9**
baz=288
Y12C Blythe 110.62 52 P **PKiKP 13 51 22.0 +1.7**
baz=288
Y12C Blythe 110.62 52 IAMs_20 IAMs_20 14 33 20.4
comp=Z,2µm,20.0s
PDMCI Parker Dam,Lak 110.75 52 P **PKiKP 13 51 21.6 +1.0**
baz=288
BW06 Boulder Array 110.97 42 P **PKiKP 13 51 21.9 +0.7**
baz=295
PDAR Pinedale Array 110.97 42 PKiKP **PKiKP 13 51 21.4 +0.3**
comp=Z,0.8nm,0.4s,baz=270,slow=0.2,SNR=8.5
PDAR PKKPbc **PKKPbc 14 02 18.3 -1.5**
comp=Z,2.5nm,0.9s,baz=121,slow=5.5,SNR=9.1
PDAR PKKPab **PKKPab 14 02 27.6 -1.9**
comp=Z,3.6nm,0.9s,baz=119,slow=5.5,SNR=11
PDAR PKKP **PKKPdf 14 02 36.9 -0.5**
comp=Z,4.5nm,0.8s,baz=114,slow=5.0,SNR=8.5
PDAR Pinedale Array 110.97 42 **PKiKP 13 51 20.6 -0.5**
PDAR **PKKPbc 14 02 16.4 -3.4**
PDAR **PKKPab 14 02 26.9 -2.5**
SSB Saint Sauveur 111.11 321 IAMs_20 IAMs_20 14 42 07.7
comp=Z,2µm,22.0s
LAO LASA Array 111.32 37 P **PKiKP 13 51 22.5 +1.1**
baz=299
KEST Kesra 111.59 310 PKiKP **PKiKP 13 51 23.0 +0.7**
comp=Z,5.0nm,0.6s,baz=291,slow=6.8,SNR=4.3
KEST PP **PP 13 52 08.1 +4.0**
comp=Z,35nm,1.0s,baz=338,slow=6.2,SNR=6.7
KEST Kesra 111.59 310 IAMs_20 IAMs_20 14 45 15.9
comp=Z,2µm,20.0s
DGMT Dagmar 111.61 35 IAMs_20 IAMs_20 14 36 52.9
comp=Z,2µm,22.0s
Y14A Wickenburg 111.76 52 IAMs_20 IAMs_20 14 34 46.5
comp=Z,2µm,20.0s
WUAZ Wupatki 112.48 50 P **PKiKP 13 51 24.9 +0.8**
baz=291
WUAZ Wupatki 112.48 50 IAMs_20 IAMs_20 14 36 51.5
comp=Z,2µm,19.0s
DSB Dublin 112.68 332 IAMs_20 IAMs_20 14 42 10.3
comp=Z,2µm,20.0s
X16A Lo Mia Camp, P 112.82 51 IAMs_20 IAMs_20 14 39 41.5
comp=Z,2µm,19.0s
O20A White River Ci 112.98 44 P **PKiKP 13 51 25.8 +0.9**
baz=295,SNR=7.7
O20A White River Ci 112.98 44 IAMs_20 IAMs_20 14 40 55.1
comp=Z,2µm,22.0s
K22A Casper 113.03 41 P **PKiKP 13 51 25.4 +0.5**
baz=297
K22A Casper 113.03 41 IAMs_20 IAMs_20 14 35 04.3
comp=Z,2µm,21.0s
PV21 Cone Mtn., Par 113.11 46 IAMs_20 IAMs_20 14 39 13.7
comp=Z,2µm,19.0s
PV23 Carpenter Ridg 113.12 46 IAMs_20 IAMs_20 14 43 13.2
comp=Z,2µm,20.0s
PV14 Lion Creek, Pa 113.15 46 IAMs_20 IAMs_20 14 38 55.8
comp=Z,2µm,20.0s
PV19 Morning Glory 113.20 46 IAMs_20 IAMs_20 14 38 37.2
comp=Z,2µm,22.0s
PV16 Nyswonger Mesa 113.25 46 IAMs_20 IAMs_20 14 42 56.5
comp=Z,2µm,19.0s
PV22 Blue Mesa, Par 113.25 46 IAMs_20 IAMs_20 14 41 11.5
comp=Z,2µm,21.0s
PV18 Skein Mesa, Pa 113.28 46 IAMs_20 IAMs_20 14 38 58.3
comp=Z,2µm,20.0s
PV11 David Mesa, Pa 113.29 46 IAMs_20 IAMs_20 14 42 58.5
comp=Z,2µm,19.0s
PV13 Radium Mtn., P 113.38 46 IAMs_20 IAMs_20 14 49 43.0
comp=Z,2µm,20.0s
PV01 Paradox Valley 113.57 46 IAMs_20 IAMs_20 14 40 23.0
comp=Z,2µm,22.0s
MAHO Mahon 113.68 316 PP **PP 13 52 26.2 +7.6**
W18A Petrified Fore 113.88 50 P **PKiKP 13 51 27.1 +0.3**
baz=292
RSSD Black Hills 113.92 39 P **PKiKP 13 51 26.8 +0.1**
baz=300
RSSD Black Hills 113.92 39 IAMs_20 IAMs_20 14 35 58.8
comp=Z,2µm,20.0s
MVCO Mesa Verde 113.99 47 P **PKiKP 13 51 27.3 +0.2**
baz=294
MVCO Mesa Verde 113.99 47 IAMs_20 IAMs_20 14 39 02.3
comp=Z,2µm,20.0s
TUC Tucson 114.06 53 P **PKiKP 13 51 27.6 +0.5**
baz=290
TUC Tucson 114.06 53 IAMs_20 IAMs_20 14 32 26.5
comp=Z,3µm,20.0s
N23A Red Feather La 114.22 43 P **PKiKP 13 51 27.7 +0.3**
baz=297
SMCO Snowmass 114.27 45 IAMs_20 IAMs_20 14 33 34.4
comp=Z,3µm,22.0s
SRIG Santa Rosalia 114.43 58 IAMs_20 IAMs_20 14 33 08.8
comp=Z,2µm,21.0s
MDND Maddock 114.52 33 IAMs_20 IAMs_20 14 36 27.8
comp=Z,2µm,22.0s
ISCO Idaho Springs 114.94 43 P PKPdf 13 51 29.0 +0.2
baz=297,SNR=9.0
ISCO Idaho Springs 114.94 43 IAMs_20 IAMs_20 14 38 12.0
comp=Z,2µm,20.0s
ULM Lac du Bonnet 115.00 30 PKP **PKiKP 13 51 27.8 -0.5**
comp=Z,9.1nm,0.9s,baz=344,slow=3.4,SNR=5.4
ULM PKKPbc **PKKPbc 14 02 04.7 -1.6**
comp=Z,2.8nm,0.7s,baz=146,slow=7.3,SNR=2.7
319A Douglas 115.58 53 **PKiKP 13 51 29.3 -0.8**
Q24A Divide 115.64 44 IAMs_20 IAMs_20 14 34 44.5
comp=Z,2µm,20.0s
SDCO Great Sand Dun 115.93 45 P **PKPdf 13 51 31.2 +0.3**
baz=296
SDCO Great Sand Dun 115.93 45 **PKPdf 13 51 31.1 +0.3**
SDCO IAMs_20 IAMs_20 14 40 26.5
comp=Z,2µm,20.0s
AGMN Agassiz Nation 116.25 31 IAMs_20 IAMs_20 14 37 40.6
comp=Z,2µm,22.0s
LENM Lemitar 116.34 50 **PKPdf 13 51 31.0 -0.6**
121A Cookes Peak, D 116.35 52 P **PKiKP 13 51 31.9 +0.3**
baz=292
ANMO Albuquerque 116.42 49 P **PKiKP 13 51 31.9 +0.2**
baz=294
ANMO Albuquerque 116.42 49 *c i*PKIKP **PKiKP 13 51 32.9 +1.2**
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO MLR MLR
comp=Z,1µm,19.0s
ANMO Albuquerque 116.42 49 PKP **PKiKP 13 51 33.5 +1.7**
comp=Z,6.0nm,0.6s,baz=205,slow=2.2,SNR=16
ANMO Albuquerque 116.42 49 **PKiKP 13 51 32.5 +0.7**
LPM Los Pinos Moun 116.55 49 **PKiKP 13 51 32.5 +0.5**
BNM Barren Site 116.61 50 **PKiKP 13 51 32.5 +0.3**
SUSD Miller 116.84 36 IAMs_20 IAMs_20 14 38 35.5
comp=Z,2µm,22.0s
T25A Trinidad 116.98 46 P **PKPdf 13 51 32.8 0.0**
baz=297
T25A Trinidad 116.98 46 **PKiKP 13 51 33.8 +1.0**
T25A IAMs_20 IAMs_20 14 39 32.2
comp=Z,2µm,20.0s
KSCO Kaye Shedlock' 117.35 43 IAMs_20 IAMs_20 14 35 34.7
comp=Z,2µm,22.0s
PMSA Palmer Station 117.42 174 PKKPbc PKKPbc 14 01 56.6 -1.6
comp=Z,4.4nm,0.5s,baz=336,slow=10.0,SNR=2.8
EPT El Paso 117.64 52 IAMs_20 IAMs_20 14 34 44.2
comp=Z,2µm,20.0s
CART Cartagena 118.40 316 PP PP 13 52 58.4 +6.8
UCM Universidad Co 118.54 319 PP PP 13 52 48.4 -4.1
MNTX Cornudas Mount 118.55 52 P **PKiKP 13 51 35.8 +0.1**
baz=293
MNTX Cornudas Mount 118.55 52 **PKiKP 13 51 36.5 +0.8**
MNTX IAMs_20 IAMs_20 14 35 05.3
comp=Z,2µm,22.0s
ECSD EROS Data Cent 118.62 36 P **PKiKP 13 51 35.7 +0.2**
baz=306
ECSD EROS Data Cent 118.62 36 **PKPdf 13 51 35.2 -0.3**
EYMN Ely 118.69 29 P **PKPdf 13 51 35.5 0.0**
baz=313
EYMN Ely 118.69 29 **PKPdf 13 51 35.4 0.0**
BGNE Belgrade 119.03 39 P **PKPdf 13 51 36.2 -0.1**
baz=304
BGNE Belgrade 119.03 39 **PKPdf 13 51 36.3 -0.1**
BGNE IAMs_20 IAMs_20 14 46 42.8
comp=Z,2µm,20.0s
ESDC Sonseca Array 119.34 319 PKP **PKiKP 13 51 37.7 +0.6**
comp=Z,2.3nm,0.6s,baz=23,slow=2.0,SNR=14
ESDC PP **PP 13 53 00.1 +2.0**
comp=Z,9.9nm,1.0s,baz=54,slow=6.9,SNR=7.4
ESDC Sonseca Array 119.34 319 **PKPdf 13 51 36.8 -0.2**
CBKS Cedar Bluff 119.40 42 P **PKPdf 13 51 36.9 -0.2**
baz=301
E38A The Farm, Brul 119.57 31 P **PKPdf 13 51 37.2 0.0**
baz=312
E38A The Farm, Brul 119.57 31 **PKPdf 13 51 36.8 -0.4**
E38A IAMs_20 IAMs_20 14 39 41.3
comp=Z,2µm,21.0s
MSTX Muleshoe 119.59 48 P **PKPdf 13 51 37.4 -0.3**
baz=296
MSTX Muleshoe 119.59 48 **PKPdf 13 51 37.5 -0.3**
PAB San Pablo 119.66 319 IAMs_20 IAMs_20 14 50 03.2
comp=Z,2µm,22.0s
SPMN Marine on St. 119.83 32 P **PKPdf 13 51 37.7 0.0**
baz=311
SPMN Marine on St. 119.83 32 **PKPdf 13 51 37.1 -0.6**
SPMN IAMs_20 IAMs_20 14 40 01.4
comp=Z,2µm,21.0s
AMTX Amarillo 119.98 47 P **PKPdf 13 51 38.0 -0.4**
baz=298
AMTX Amarillo 119.98 47 **PKiKP 13 51 38.6 +0.1**
HPIG 120.10 57 **PKPdf 13 51 38.7 -0.3**
HPIG IAMs_20 IAMs_20 14 41 56.8
comp=Z,2µm,19.0s
MVO Moncorvo 120.45 322 *e*PKPdf **PKiKP 13 51 40.2 +1.0**
MVO Moncorvo 120.45 322 *e*SS SS 14 09 34.6 +4.3
MVO Moncorvo 120.45 322 *e*LR LR 14 35 41.7
comp=Z,1µm,22.0s
D41A Chassel 120.73 29 P **PKiKP 13 51 39.5 0.0**
baz=316
POLO Lamas de Olo 120.80 323 *e*PKPdf **PKiKP 13 51 40.7 +0.8**
POLO Lamas de Olo 120.80 323 *e*SS SS 14 09 49.3 +15
PVRL Vila Real 120.81 323 *e*PKPdf **PKiKP 13 51 41.1 +1.2**
TX31 Lajitas Ar. Si 120.84 53 **PKiKP 13 51 40.4 0.0**
TX32 Lajitas Array 120.84 53 **PKPdf 13 51 39.9 -0.3**
TXAR Lajitas Array 120.84 53 PKP **PKiKP 13 51 41.2 +0.9**
comp=Z,4.3nm,0.7s,baz=214,slow=2.1,SNR=35
TXAR SKP 13 55 09.7
comp=Z,1.5nm,0.8s,baz=300,slow=1.6,SNR=3.7
TXAR PKKPbc **PKKPab 14 01 45.5 -0.4**
comp=Z,3.1nm,0.9s,baz=120,slow=6.2,SNR=9.7
TXAR Lajitas Array 120.84 53 PKKPbc 14 01 44.8 0.0
TXAR Lajitas Array 120.84 53 **PKPdf 13 51 40.1 -0.1**
COWI Conover 121.13 30 **PKiKP 13 51 40.3 0.0**
COWI IAMs_20 IAMs_20 14 43 59.6
comp=Z,2µm,22.0s
U32A Winter Ranch, 121.15 44 **PKiKP 13 51 41.1 +0.5**
U32A IAMs_20 IAMs_20 14 39 22.5
comp=Z,2µm,22.0s
G40A Rib Lake 121.17 31 P **PKPdf 13 51 40.3 0.0**
baz=313
G40A Rib Lake 121.17 31 **PKPdf 13 51 40.3 0.0**
G40A IAMs_20 IAMs_20 14 40 51.7
comp=Z,2µm,22.0s
EMAL Malaga-Limoner 121.18 317 PP PP 13 53 16.0 +5.2
MTE Manteigas 121.22 322 *e*PKPdf **PKiKP 13 51 41.6 +0.9**
MTE Manteigas 121.22 322 *e*SS SS 14 09 44.6 +4.5
MTE Manteigas 121.22 322 *e*LR LR 14 35 53.9
comp=Z,2µm,22.0s
MTE Manteigas 121.22 322 **PKiKP 13 51 41.3 +0.6**
MTE IAMs_20 IAMs_20 14 50 16.9
comp=Z,2µm,21.0s
PVIS Viseu 121.25 322 *e*PKPdf **PKiKP 13 51 41.3 +0.5**
SCHQ Schefferville 121.27 10 PKP **PKiKP 13 51 41.1 +0.7**
comp=Z,8.5nm,0.4s,baz=272,slow=3.1,SNR=11
SCHQ Schefferville 121.27 10 **PKiKP 13 51 40.4 +0.1**
KSU1 Kansas State U 121.30 40 P **PKPdf 13 51 40.7 0.0**
baz=304,SNR=7.3
KSU1 Kansas State U 121.30 40 IAMs_20 IAMs_20 14 39 15.0
comp=Z,2µm,20.0s
PCBR Castelo Branco 121.50 321 *e*PKPdf **PKiKP 13 51 42.0 +0.8**
PMRV Marv??o 121.68 321 *e*PKPdf **PKiKP 13 51 42.5 +0.9**
PMRV Marv??o 121.68 321 *e*LR LR 14 40 00.2
comp=Z,1µm,18.0s
SCIA State Center 121.72 36 P **PKPdf 13 51 41.5 +0.1**
baz=309
SCIA State Center 121.72 36 IAMs_20 IAMs_20 14 39 50.6
comp=Z,2µm,22.0s
LIJA Lijar 121.77 317 PKP **PKiKP 13 51 42.8 +0.8**
COI Coimbra 121.87 322 *e*SS SS 14 09 56.1 +7.9
F42A Maple Grove Fa 121.87 29 P **PKiKP 13 51 41.9 +0.1**
baz=316
F42A Maple Grove Fa 121.87 29 **PKiKP 13 51 42.1 +0.3**
F42A IAMs_20 IAMs_20 14 47 16.0
comp=Z,2µm,21.0s
E43A Lone Tree Farm 121.97 28 P **PKPdf 13 51 41.9 0.0**
baz=317
E43A Lone Tree Farm 121.97 28 **PKPdf 13 51 41.8 0.0**
E43A IAMs_20 IAMs_20 14 50 00.6
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 122.01 322 *e*PKPdf **PKiKP 13 51 43.1 +0.9**
PCAS Casmilo, Conde 122.01 322 *e*SS SS 14 09 56.2 +6.1
WMOK Wichita Mounta 122.14 46 P **PKPdf 13 51 42.2 -0.3**
baz=300
WMOK Wichita Mounta 122.14 46 PKIKP **PKPdf 13 51 42.4 -0.1**
WMOK MLR MLR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 122.14 46 **PKPdf 13 51 42.4 -0.1**
WMOK Wichita Mounta 122.14 46 IAMs_20 IAMs_20 14 45 24.7
comp=Z,2µm,20.0s
PTOM Tomar 122.21 321 *e*PKPdf **PKiKP 13 51 43.5 +0.9**
CEU Ceuta 122.28 316 PP PP 13 53 21.9 +3.6
E44A Grand Marais A 122.29 27 P **PKPdf 13 51 42.0 -0.4**
baz=318
E44A Grand Marais A 122.29 27 IAMs_20 IAMs_20 14 48 55.1
comp=Z,2µm,22.0s
PMTG Montargil 122.42 321 *e*PKPdf **PKiKP 13 51 43.5 +0.5**
ABTX Abilene, Hawle 122.53 48 P **PKPdf 13 51 42.8 -0.5**
baz=298
ABTX Abilene, Hawle 122.53 48 IAMs_20 IAMs_20 14 38 35.5
comp=Z,2µm,22.0s
SFS San Fernando 122.55 317 IAMs_20 IAMs_20 14 53 57.7
comp=Z,2µm,21.0s
EVO Evora 122.60 320 PP PP 13 53 25.8 +5.5
JFWS Jewell Farm 122.74 33 P **PKPdf 13 51 42.9 -0.5**
baz=312
JFWS Jewell Farm 122.74 33 PKIKP **PKPdf 13 51 42.9 -0.5**
JFWS Jewell Farm 122.74 33 **PKPdf 13 51 42.9 -0.5**
L40A Anamosa 122.76 34 P **PKPdf 13 51 43.2 -0.3**
baz=311
L40A Anamosa 122.76 34 **PKPdf 13 51 42.9 -0.5**
I42A Draeger Farm, 122.79 31 P **PKPdf 13 51 43.0 -0.5**
baz=314
I42A Draeger Farm, 122.79 31 **PKPdf 13 51 42.7 -0.7**
PBEJ Beja 122.79 320 *e*PKPdf **PKiKP 13 51 44.3 +0.5**
FNO Franklin 122.85 44 **PKPdf 13 51 43.8 -0.1**
X34A Smith Ranch, M 122.88 45 **PKiKP 13 51 44.0 -0.1**
D46A Sault St. Mari 122.93 26 P **PKPdf 13 51 43.2 -0.4**
baz=320
H43A Windswept, Lux 122.97 30 IAMs_20 IAMs_20 14 49 40.2
comp=Z,2µm,20.0s
PVAQ Vaqueiros 123.05 319 *e*PKPdf **PKiKP 13 51 45.1 +0.8**
PVAQ Vaqueiros 123.05 319 *e*SS SS 14 10 10.5 +7.0
PVAQ Vaqueiros 123.05 319 *e*LR LR 14 38 16.6
comp=Z,2µm,20.0s
PVAQ Vaqueiros 123.05 319 **PKiKP 13 51 44.7 +0.4**
PVAQ IAMs_20 IAMs_20 14 53 10.8
comp=Z,2µm,20.0s
MATQ Matagami 123.09 20 P **PKPdf 13 51 43.4 -0.5**
baz=328
MESJ Messejana 123.13 320 *e*PKPdf **PKPdf 13 51 43.8 -0.5**
MESJ *e*PP **PP 13 53 23.8 -0.1**
MESJ AMS AMS 14 40 38.9
comp=N,1µm,25.3s
MESJ Messejana 123.13 320 *e*PKPdf **PKiKP 13 51 45.2 +0.7**
MESJ Messejana 123.13 320 *e*PKIKP **PKPdf 13 51 43.8 -0.5**
MESJ *e* 13 53 23.8
PCVE Castro Verde 123.13 319 *e*PKPdf **PKiKP 13 51 45.5 +1.0**
PNCL Nicolau / Gran 123.17 320 *e*PKPdf **PKiKP 13 51 45.7 +1.2**
F45A CMU Biological 123.18 28 P **PKPdf 13 51 43.9 -0.2**
baz=318
LIS Lisbon 123.21 321 *e*PKPdf **PKPdf 13 51 43.9 -0.5**
LIS *e*PP **PP 13 53 24.3 -0.1**
LIS AMS AMS 14 46 12.5
comp=E,2µm,20.0s
LIS Lisbon 123.21 321 *e*PKIKP **PKPdf 13 51 43.9 -0.5**
LIS *e* 13 53 24.3
E46A Sault Ste Mari 123.21 27 P **PKPdf 13 51 43.9 -0.3**
baz=320
E46A Sault Ste Mari 123.21 27 **PKiKP 13 51 44.6 +0.2**
E46A IAMs_20 IAMs_20 14 49 36.4
comp=Z,2µm,22.0s
W35A Tecumseh 123.27 44 **PKiKP 13 51 44.9 +0.1**
PBDV Barranco-do-Ve 123.28 319 *e*PKPdf **PKiKP 13 51 46.3 +1.5**
MDT Midelt 123.29 313 PKP **PKiKP 13 51 46.3 +1.2**
comp=Z,18nm,1.0s,baz=85,slow=3.8,SNR=15
MDT PP **PP 13 53 26.2 +0.8**
comp=Z,7.7nm,1.0s,baz=83,slow=4.3,SNR=4.1
IFR Ifrane 123.32 314 PP PP 13 53 29.4 +3.8
JCT Junction City 123.40 50 P **PKPdf 13 51 44.7 -0.4**
baz=297
JCT Junction City 123.40 50 PKIKP **PKiKP 13 51 45.4 +0.1**
JCT MLR MLR
comp=Z,3µm,19.0s
JCT Junction City 123.40 50 **PKiKP 13 51 45.4 +0.1**
G45A Suttons Bay 123.59 29 P **PKPdf 13 51 44.8 -0.1**
baz=318
G45A Suttons Bay 123.59 29 **PKiKP 13 51 45.5 +0.3**
G45A IAMs_20 IAMs_20 14 46 18.5
comp=Z,2µm,21.0s
E47A Iron Bridge 123.60 26 P **PKiKP 13 51 45.2 0.0**
baz=321
TUL1 Leonard 123.61 43 P **PKPdf 13 51 45.1 -0.2**
baz=303
TUL1 Leonard 123.61 43 **PKiKP 13 51 45.8 +0.3**
TUL1 IAMs_20 IAMs_20 14 43 24.3
comp=Z,2µm,20.0s
PTEO Sao Teotonio 123.62 320 *e*PKPdf **PKiKP 13 51 46.6 +1.1**
D48A Paudash Townsh 123.66 24 P **PKPdf 13 51 44.9 -0.1**
baz=323
H45A Beulah 123.71 29 P **PKPdf 13 51 44.9 -0.2**
baz=317
MORF Marmelete 123.71 319 *e*PKPdf **PKPdf 13 51 45.1 -0.4**
MORF *e*PP **PP 13 53 27.8 -0.1**
MORF AMS AMS 14 50 40.2
comp=Z,2µm,19.9s
MORF Marmelete 123.71 319 *e*PKPdf **PKiKP 13 51 47.0 +1.3**
MORF Marmelete 123.71 319 *e*SS SS 14 10 29.8 +18
MORF Marmelete 123.71 319 *e*PKIKP **PKPdf 13 51 45.1 -0.4**
MORF *e* 13 53 27.7
G46A Petoskey 123.75 28 P **PKPdf 13 51 45.0 -0.2**
baz=319
N41A Harden Midland 123.85 35 IAMs_20 IAMs_20 14 41 27.1
comp=Z,2µm,22.0s
K43A Burlington 123.91 32 P **PKPdf 13 51 45.2 -0.4**
baz=314
K43A Burlington 123.91 32 IAMs_20 IAMs_20 14 50 23.4
comp=Z,2µm,22.0s
LSQQ Lebel-sur-Quev 123.92 20 P **PKPdf 13 51 45.5 +0.1**
baz=329
PFVI Vila Bisbo 123.93 319 *e*PKPdf **PKiKP 13 51 47.1 +1.0**
PFVI Vila Bisbo 123.93 319 **PKiKP 13 51 46.6 +0.5**

PFVI				IAMs_20	IAMs_20	14 50 32.1		
	comp=Z,2µm,21.0s							
CHGQ	**Chibougamau**	**124.01**	**18**	P	**PKPdf**	**13 51 45.2**	**-0.4**	
	baz=332							
I45A	**Fountain**	**124.04**	**30**	IAMs_20	IAMs_20	14 53 36.7		
	comp=Z,2µm,21.0s							
E48A	**Lockeyer**	**124.06**	**25**	P	**PKPdf**	**13 51 45.8**	**0.0**	
	baz=322							
H46A	**Fife Lake**	**124.18**	**29**	P	**PKPdf**	**13 51 46.2**	**+0.1**	
	baz=318							
ZAIG	**Zacatecas**	**124.19**	**60**	IAMs_20	IAMs_20	14 44 14.0		
	comp=Z,2µm,18.0s							
G47A	**Hillman**	**124.33**	**27**	P	**PKPdf**	**13 51 46.2**	**-0.1**	
	baz=320							
F48A	**Evansville**	**124.38**	**26**	P	**PKPdf**	**13 51 46.3**	**-0.1**	
	baz=321							
D50A	**G1974 Best Tow**	**124.45**	**23**	P	**PKPdf**	**13 51 46.3**	**-0.2**	
	baz=325							
WHTX	**Lake Whitney,**	**124.46**	**48**	P	**PKiKP**	**13 51 47.2**	**-0.1**	
	baz=300							
WHTX	**Lake Whitney,**	**124.46**	**48**		**PKiKP**	**13 51 47.3**	**0.0**	
WHTX				IAMs_20	IAMs_20	14 45 55.7		
	comp=Z,2µm,19.0s							
I46A	**Reed City**	**124.50**	**29**	P	**PKPdf**	**13 51 46.4**	**-0.3**	
	baz=318							
L44A	**Lake County Fo**	**124.50**	**32**	P	**PKPdf**	**13 51 46.4**	**-0.4**	
	baz=314							
L44A	**Lake County Fo**	**124.50**	**32**	IAMs_20	IAMs_20	14 50 28.0		
	comp=Z,2µm,20.0s							
VLDQ	**Val d'Or**	**124.56**	**21**		**PKPdf**	**13 51 46.0**	**-0.6**	
H47A	**Mio**	**124.60**	**28**	P	**PKiKP**	**13 51 47.1**	**-0.1**	
	baz=319							
HHAR	**Hobbs**	**124.64**	**41**		**PKPdf**	**13 51 47.1**	**-0.2**	
833A	**Chaparral WMA,**	**124.67**	**53**	P	**PKPdf**	**13 51 47.5**	**0.0**	
	baz=296							
833A	**Chaparral WMA,**	**124.67**	**53**		**PKiKP**	**13 51 48.5**	**+0.7**	
F49A	**Sandfield**	**124.68**	**26**	P	**PKPdf**	**13 51 47.0**	**0.0**	
	baz=322							
D51A	**Lot 18 Range I**	**124.70**	**23**	P	**PKPdf**	**13 51 47.0**	**0.0**	
	baz=326							
E50A	**Wahnapitae**	**124.70**	**24**	P	**PKPdf**	**13 51 47.1**	**+0.1**	
	baz=324							
J46A	**Howard City**	**124.84**	**30**	P	**PKPdf**	**13 51 47.1**	**-0.3**	
	baz=317							
HDIL	**Hopedale**	**124.85**	**35**	P	**PKPdf**	**13 51 47.5**	**0.0**	
	baz=312							
HDIL	**Hopedale**	**124.85**	**35**	IAMs_20	IAMs_20	14 42 21.3		
	comp=Z,2µm,22.0s							
TOA0	**Torodi Ar. Sit**	**124.86**	**288**	P	**PKiKP**	**13 51 48.8**	**+0.3**	
	SNR=9.3							
TOA0	**Torodi Ar. Sit**	**124.86**	**288**		**PKPdf**	**13 51 47.4**	**-0.8**	
TORD	**Torodi Ar. Bea**	**124.86**	**288**	PKP	**PKPdf**	**13 51 47.9**	**-0.2**	
	comp=Z,43nm,0.9s,baz=52,slow=1.7,SNR=93							
TORD				PP	**PP**	**13 53 38.4**	**+1.7**	
	comp=Z,8.1nm,1.0s,baz=74,slow=5.6,SNR=3.9							
TORD				PKKPbc	**PKKPbc**	**14 01 29.5**	**+0.8**	
	comp=Z,2.0nm,0.9s,baz=262,slow=3.6,SNR=3.9							
H48A	**Harrisville**	**124.93**	**27**	IAMs_20	IAMs_20	14 53 58.0		
	comp=Z,2µm,21.0s							
435B	**Jarrell**	**124.95**	**49**	P	**PKPdf**	**13 51 47.5**	**-0.4**	
	baz=299							
435B	**Jarrell**	**124.95**	**49**		**PKiKP**	**13 51 48.3**	**0.0**	
435B				IAMs_20	IAMs_20	14 43 53.6		
	comp=Z,2µm,20.0s							
E51A	**G1948 Merrick**	**125.11**	**23**	P	**PKPdf**	**13 51 47.6**	**-0.2**	
	baz=325							
I48A	**Sherman Twp**	**125.15**	**28**	P	**PKiKP**	**13 51 48.2**	**0.0**	
	baz=320							
D52A	**ZEK Kipawa Sen**	**125.16**	**22**	P	**PKPdf**	**13 51 47.6**	**-0.3**	
	baz=326							
MGMO	**Mountain Grove**	**125.21**	**40**		**PKPdf**	**13 51 48.3**	**0.0**	
K46A	**Dorr**	**125.25**	**31**	P	**PKPdf**	**13 51 48.0**	**-0.2**	
	baz=317							
CCM	**Cathedral Cave**	**125.30**	**38**	P	**PKPdf**	**13 51 48.2**	**-0.1**	
	baz=309							
CCM	**Cathedral Cave**	**125.30**	**38**	PKIKP	**PKPdf**	**13 51 48.3**	**-0.1**	
CCM	**Cathedral Cave**	**125.30**	**38**		**PKPdf**	**13 51 48.4**	**-0.1**	
CCM	**Cathedral Cave**	**125.30**	**38**	IAMs_20	IAMs_20	14 52 52.8		
	comp=Z,2µm,21.0s							
U40A	**Yellville**	**125.31**	**41**	P	**PKPdf**	**13 51 48.3**	**-0.2**	
	baz=306							
U40A	**Yellville**	**125.31**	**41**		**PKPdf**	**13 51 48.4**	**-0.2**	
U40A				IAMs_20	IAMs_20	14 37 54.2		
	comp=Z,2µm,22.0s							
J47A	**Sunmer**	**125.33**	**29**	P	**PKPdf**	**13 51 48.4**	**0.0**	
	baz=318							
J47A	**Sunmer**	**125.33**	**29**		**PKiKP**	**13 51 48.5**	**-0.1**	
J47A				IAMs_20	IAMs_20	14 43 55.6		
	comp=Z,2µm,21.0s							
D53A	**Lac Vacive, Po**	**125.34**	**22**		**PKPdf**	**13 51 47.8**	**-0.5**	
D53A				IAMs_20	IAMs_20	14 56 57.3		
	comp=Z,2µm,21.0s							
W39A	**Magazine**	**125.36**	**42**	P	**PKPdf**	**13 51 48.5**	**-0.1**	
	baz=305							
W39A	**Magazine**	**125.36**	**42**		**PKPdf**	**13 51 48.1**	**-0.5**	
W39A				IAMs_20	IAMs_20	14 43 33.8		
	comp=Z,2µm,21.0s							
F51A	**Arnstein**	**125.44**	**24**	P	**PKPdf**	**13 51 48.4**	**0.0**	
	baz=324							
L46A	**Eue Claire**	**125.47**	**31**	P	**PKPdf**	**13 51 48.8**	**+0.1**	
	baz=316							
SLM	**Saint Louis**	**125.55**	**37**	IAMs_20	IAMs_20	14 52 41.2		
	comp=Z,2µm,22.0s							
O44A	**Mansfield**	**125.58**	**34**	IAMs_20	IAMs_20	14 53 01.1		
	comp=Z,2µm,19.0s							
E52A	**Mattawa**	**125.64**	**23**	P	**PKPdf**	**13 51 48.5**	**-0.4**	
	baz=326							
K47A	**Vermontville**	**125.66**	**30**	P	**PKPdf**	**13 51 48.9**	**-0.1**	
	baz=317							
D54A	**Lac Fusel, La**	**125.66**	**21**	P	**PKPdf**	**13 51 48.5**	**-0.4**	
	baz=329							
I49A	**Point Hope**	**125.75**	**28**	P	**PKPdf**	**13 51 49.1**	**+0.1**	
	baz=320							
I49A	**Point Hope**	**125.75**	**28**	IAMs_20	IAMs_20	14 52 45.5		
	comp=Z,2µm,22.0s							
J48A	**Bridge Port**	**125.78**	**29**	P	**PKiKP**	**13 51 49.4**	**-0.1**	
	baz=319							
J48A	**Bridge Port**	**125.78**	**29**		**PKiKP**	**13 51 49.4**	**-0.1**	
J48A				IAMs_20	IAMs_20	14 53 32.6		
	comp=Z,2µm,20.0s							
F52A	**Sundridge**	**125.78**	**24**	P	**PKiKP**	**13 51 49.4**	**-0.1**	
	baz=325							
FVM	**French Village**	**125.85**	**38**	PKIKP	**PKPdf**	**13 51 49.6**	**+0.1**	
FVM	**French Village**	**125.85**	**38**		**PKPdf**	**13 51 49.6**	**+0.1**	
FVM				IAMs_20	IAMs_20	14 58 29.3		
	comp=Z,1µm,19.0s							
MIAR	**Mount Ida**	**125.87**	**43**	P	**PKPdf**	**13 51 49.8**	**+0.2**	
	baz=304							
MIAR	**Mount Ida**	**125.87**	**43**	PKIKP	**PKiKP**	**13 51 50.1**	**+0.1**	
MIAR				MLR	MLR			
	comp=Z,3µm,21.0s							
MIAR	**Mount Ida**	**125.87**	**43**		**PKiKP**	**13 51 50.1**	**+0.1**	
K48A	**Perry**	**125.99**	**29**	P	**PKPdf**	**13 51 49.7**	**+0.1**	
	baz=318							
J49A	**Marlette**	**126.05**	**28**	P	**PKPdf**	**13 51 49.5**	**-0.2**	
	baz=320							
FCAR	**Ozark Folk Cen**	**126.06**	**41**		**PKPdf**	**13 51 49.0**	**-0.9**	
L47A	**Sherwood**	**126.06**	**31**	P	**PKPdf**	**13 51 49.8**	**0.0**	
	baz=317							
ALGO	**Algonquin Park**	**126.15**	**23**	P	**PKiKP**	**13 51 50.1**	**-0.1**	
	baz=326							
D55A	**Sainte-Anne-du**	**126.19**	**20**	P	**PKPdf**	**13 51 49.9**	**+0.1**	
	baz=330							
SFIN	**Lafayette**	**126.19**	**33**	P	**PKPdf**	**13 51 50.3**	**+0.2**	
	baz=314							
SFIN	**Lafayette**	**126.19**	**33**		**PKPdf**	**13 51 50.1**	**0.0**	
SFIN				IAMs_20	IAMs_20	14 49 39.9		
	comp=Z,2µm,22.0s							
USHA	**Ushuaia**	**126.26**	**168**	PP	PP	13 53 48.9	+5.0	
	comp=Z,4.8nm,0.6s,baz=104,slow=4.2,SNR=2.2							
M47A	**Cromwell**	**126.29**	**32**	P	**PKPdf**	**13 51 50.1**	**-0.1**	
	baz=316							
W41B	**Gary Mavity, V**	**126.40**	**42**	P	**PKPdf**	**13 51 50.6**	**0.0**	
	baz=306							
W41B	**Gary Mavity, V**	**126.40**	**42**		**PKPdf**	**13 51 50.6**	**0.0**	
D56A	**ZEC Mazanza, M**	**126.40**	**20**	P	**PKPdf**	**13 51 50.2**	**0.0**	
	baz=331							
X40A	**Basin Creek Fa**	**126.41**	**43**	P	**PKPdf**	**13 51 50.8**	**+0.2**	
	baz=305							
X40A	**Basin Creek Fa**	**126.41**	**43**	IAMs_20	IAMs_20	14 42 58.7		
	comp=Z,2µm,21.0s							
E55A	**Montcerf-Lytto**	**126.47**	**21**	P	**PKiKP**	**13 51 50.8**	**0.0**	
	baz=329							
L48A	**N Adams**	**126.48**	**30**	P	**PKPdf**	**13 51 50.5**	**0.0**	
	baz=318							
UALR	**University of**	**126.57**	**42**		**PKPdf**	**13 51 50.0**	**-1.0**	
LCAR	**Lake Charles**	**126.58**	**40**		**PKPdf**	**13 51 50.6**	**-0.3**	
AAM	**Ann Arbor**	**126.60**	**29**	IAMs_20	IAMs_20	14 43 51.2		
	comp=Z,2µm,22.0s							
N47A	**Urbana**	**126.60**	**32**	P	**PKiKP**	**13 51 51.1**	**-0.2**	
	baz=316							
N47A	**Urbana**	**126.60**	**32**		**PKPdf**	**13 51 50.6**	**-0.2**	
N47A				IAMs_20	IAMs_20	14 52 08.5		
	comp=Z,2µm,21.0s							
G54A	**Lake Saint Pet**	**126.60**	**23**	P	**PKPdf**	**13 51 50.7**	**0.0**	
	baz=326							
PBMO	**Poplar Bluff**	**126.61**	**39**		**PKPdf**	**13 51 50.8**	**-0.1**	
PBMO				IAMs_20	IAMs_20	14 57 20.3		
	comp=Z,2µm,20.0s							
G53A	**Haliburton**	**126.62**	**24**	P	**PKPdf**	**13 51 50.9**	**+0.1**	
	baz=326							
NATX	**Nacogdoches**	**126.62**	**46**	P	**PKPdf**	**13 51 51.0**	**-0.1**	
	baz=302							
NATX	**Nacogdoches**	**126.62**	**46**		**PKPdf**	**13 51 51.2**	**+0.1**	
P46A	**Rosedale**	**126.66**	**34**	P	**PKiKP**	**13 51 51.3**	**-0.2**	
	baz=314,SNR=6.7							
I51A	**Listowel**	**126.67**	**26**	P	**PKPdf**	**13 51 51.0**	**+0.1**	
	baz=322							
M48A	**Edgerton**	**126.67**	**31**	P	**PKPdf**	**13 51 51.0**	**+0.1**	
	baz=317							
M48A	**Edgerton**	**126.67**	**31**	IAMs_20	IAMs_20	14 58 06.2		
	comp=Z,2µm,19.0s							
WLAR	**White Oak Lake**	**126.67**	**44**		**PKiKP**	**13 51 52.1**	**+0.5**	
WLAR				IAMs_20	IAMs_20	14 42 20.6		
	comp=Z,2µm,21.0s							
HKT	**Hockley**	**126.68**	**49**	PKIKP	**PKiKP**	**13 51 51.8**	**+0.2**	
HKT				MLR	MLR			
	comp=Z,3µm,19.0s							
HKT	**Hockley**	**126.68**	**49**		**PKiKP**	**13 51 51.8**	**+0.2**	
L49A	**Milan**	**126.69**	**30**	P	**PKPdf**	**13 51 50.9**	**0.0**	
	baz=318							
SADO	**Sadowa**	**126.70**	**24**		**PKiKP**	**13 51 51.6**	**+0.2**	
SADO				IAMs_20	IAMs_20	14 42 46.4		
	comp=Z,2µm,22.0s							
D57A	**Chemin Vers le**	**126.72**	**19**	P	**PKPdf**	**13 51 50.9**	**+0.1**	
	baz=332							
K50A	**Casco**	**126.74**	**28**	IAMs_20	IAMs_20	14 44 33.8		
	comp=Z,2µm,20.0s							
LATQ	**La Tuque**	**126.74**	**18**	P	**PKPdf**	**13 51 50.9**	**0.0**	
	baz=333							
LATQ	**La Tuque**	**126.74**	**18**		**PKPdf**	**13 51 50.9**	**0.0**	
S44A	**Carbondale**	**126.75**	**37**	P	**PKPdf**	**13 51 51.0**	**-0.2**	
	baz=310							
OLIL	**Olney**	**126.75**	**36**		**PKPdf**	**13 51 51.2**	**0.0**	
E56A	**St. Veronique**	**126.75**	**20**	P	**PKPdf**	**13 51 51.0**	**+0.1**	
	baz=330							
SIUC	**Southern Illin**	**126.76**	**37**		**PKPdf**	**13 51 50.3**	**-0.9**	
SIUC				IAMs_20	IAMs_20	14 41 52.9		
	comp=Z,2µm,21.0s							
I52A	**Shelburne**	**126.83**	**26**	P	**PKPdf**	**13 51 51.1**	**-0.1**	
	baz=323							
F55A	**Otter Lake**	**126.89**	**22**	P	**PKPdf**	**13 51 50.9**	**-0.3**	
	baz=328							
N48A	**Decatur**	**126.96**	**32**	P	**PKPdf**	**13 51 51.1**	**-0.4**	
	baz=316							
D58A	**Chemin du LacG**	**126.97**	**18**	P	**PKPdf**	**13 51 51.4**	**+0.1**	
	baz=333							
M49A	**Liberty Center**	**127.05**	**30**	P	**PKPdf**	**13 51 51.5**	**-0.1**	
	baz=318							
H53A	**Bobcaygeon**	**127.09**	**24**	P	**PKPdf**	**13 51 51.7**	**0.0**	
	baz=325							
PARMO	**Parma**	**127.10**	**39**	IAMs_20	IAMs_20	14 50 13.4		
	comp=Z,2µm,22.0s							
Z41A	**Richland Creek**	**127.13**	**44**	P	**PKPdf**	**13 51 52.0**	**-0.1**	
	baz=304							
E57A	**Chemin Saint G**	**127.17**	**19**	P	**PKPdf**	**13 51 51.8**	**0.0**	
	baz=331							
L50A	**Kingsville**	**127.20**	**29**	P	**PKPdf**	**13 51 52.0**	**+0.1**	
	baz=319							
HBAR	**Harrisburg**	**127.22**	**40**	IAMs_20	IAMs_20	14 39 12.6		
	comp=Z,2µm,21.0s							
HENM	**Henderson Moun**	**127.24**	**38**	IAMs_20	IAMs_20	14 49 28.1		
	comp=Z,2µm,20.0s							
G55A	**Calabogie**	**127.25**	**22**	P	**PKPdf**	**13 51 51.7**	**-0.2**	
	baz=328							
I53A	**Kortright Cn E**	**127.28**	**25**	P	**PKPdf**	**13 51 51.8**	**-0.2**	
	baz=324							
PVMO	**Portageville**	**127.29**	**39**	IAMs_20	IAMs_20	14 50 16.5		
	comp=Z,2µm,22.0s							
PLVO	**Plevna**	**127.29**	**23**		**PKPdf**	**13 51 52.3**	**+0.2**	
K51A	**Iona Station**	**127.30**	**28**	P	**PKPdf**	**13 51 52.1**	**0.0**	
	baz=321							
PENMO	**Penman**	**127.31**	**39**	IAMs_20	IAMs_20	14 50 18.0		
	comp=Z,2µm,20.0s							
O48A	**Farmland**	**127.33**	**32**	P	**PKPdf**	**13 51 52.2**	**-0.1**	
	baz=316,SNR=5.3							
BLO	**Bloomington**	**127.35**	**34**	PKIKP	**PKPdf**	**13 51 52.4**	**+0.1**	
BLO	**Bloomington**	**127.35**	**34**		**PKPdf**	**13 51 52.4**	**+0.1**	
BLO				IAMs_20	IAMs_20	14 52 27.6		
	comp=Z,2µm,21.0s							
N49A	**Columbus Grove**	**127.36**	**31**	P	**PKPdf**	**13 51 52.1**	**-0.2**	
	baz=317,SNR=11							
N49A	**Columbus Grove**	**127.36**	**31**		**PKiKP**	**13 51 52.6**	**-0.2**	
N49A				IAMs_20	IAMs_20	14 46 39.4		
	comp=Z,2µm,21.0s							
D59A	**Saint-Raymond**	**127.36**	**17**	P	**PKPdf**	**13 51 51.9**	**-0.2**	
	baz=334							
GNAR	**Gosnell**	**127.37**	**39**		**PKiKP**	**13 51 53.8**	**+0.8**	
GNAR				IAMs_20	IAMs_20	14 54 31.7		
	comp=Z,2µm,20.0s							
LPAR	**Lepanto**	**127.42**	**40**		**PKiKP**	**13 51 53.5**	**+0.5**	
LPAR				IAMs_20	IAMs_20	14 38 58.9		
	comp=Z,2µm,22.0s							
CCAR	**Cane Creek**	**127.45**	**43**	IAMs_20	IAMs_20	14 44 50.2		
	comp=Z,2µm,20.0s							
E58A	**La Victoria**	**127.48**	**19**	P	**PKPdf**	**13 51 52.2**	**-0.2**	
	baz=332							
HICK	**Hickman**	**127.50**	**38**	IAMs_20	IAMs_20	14 49 36.1		
	comp=Z,2µm,20.0s							
USIN	**University of**	**127.52**	**36**		**PKPdf**	**13 51 52.8**	**+0.1**	
USIN				IAMs_20	IAMs_20	14 51 27.1		
	comp=Z,2µm,22.0s							
DELO	**Deloro Mine**	**127.52**	**23**	IAMs_20	IAMs_20	14 48 56.1		
	comp=Z,2µm,20.0s							
ORIO	**Orleans, Innes**	**127.53**	**21**	P	**PKPdf**	**13 51 52.1**	**-0.3**	
	baz=329							
ORIO	**Orleans, Innes**	**127.53**	**21**		**PKiKP**	**13 51 52.7**	**-0.3**	
M50A	**Fremont**	**127.57**	**30**	P	**PKPdf**	**13 51 52.3**	**-0.4**	
	baz=319							
M50A	**Fremont**	**127.57**	**30**		**PKPdf**	**13 51 52.2**	**-0.4**	
M50A				IAMs_20	IAMs_20	14 44 41.0		
	comp=Z,2µm,21.0s							
K52A	**Tillsonburg**	**127.61**	**27**	P	**PKPdf**	**13 51 52.6**	**-0.1**	
	baz=322							
LNXT	**Lenox**	**127.62**	**39**	IAMs_20	IAMs_20	14 47 24.2		
	comp=Z,2µm,20.0s							
GLAT	**Glass**	**127.64**	**39**	IAMs_20	IAMs_20	14 47 57.7		
	comp=Z,2µm,20.0s							
H55A	**Tweed**	**127.66**	**23**	P	**PKPdf**	**13 51 52.9**	**+0.1**	
	baz=327							
X43A	**Marvell**	**127.69**	**41**	IAMs_20	IAMs_20	14 38 53.5		
	comp=Z,2µm,21.0s							
P48A	**Milroy**	**127.75**	**33**	P	**PKPdf**	**13 51 53.0**	**-0.1**	
	baz=315,SNR=8.4							
P48A	**Milroy**	**127.75**	**33**		**PKPdf**	**13 51 53.1**	**0.0**	
P48A				IAMs_20	IAMs_20	14 55 32.1		
	comp=Z,2µm,21.0s							
O49A	**Covington**	**127.81**	**32**	P	**PKPdf**	**13 51 53.0**	**-0.1**	
	baz=317,SNR=7.7							
O49A	**Covington**	**127.81**	**32**		**PKPdf**	**13 51 52.6**	**-0.5**	
HALT	**Halls**	**127.83**	**39**	IAMs_20	IAMs_20	14 48 32.9		
	comp=Z,2µm,20.0s							
MET	**Memphis--Engin**	**127.95**	**40**	IAMs_20	IAMs_20	14 47 29.0		
	comp=Z,2µm,19.0s							
Q48A	**North Vernon**	**127.96**	**34**	P	**PKPdf**	**13 51 53.6**	**+0.2**	
	baz=315,SNR=8.7							
DRLN	**Deer Lake**	**127.98**	**5**	IAMs_20	IAMs_20	14 50 53.3		
	comp=Z,2µm,22.0s							
H56A	**Elgin**	**127.98**	**22**	P	**PKPdf**	**13 51 53.4**	**0.0**	
	baz=328							
N50A	**Nevada**	**127.99**	**30**	P	**PKPdf**	**13 51 53.5**	**0.0**	
	baz=318,SNR=6.4							
G57A	**Newington**	**128.01**	**21**	P	**PKPdf**	**13 51 53.6**	**+0.3**	
	baz=330							
M51A	**Elyria**	**128.05**	**29**	P	**PKPdf**	**13 51 53.4**	**-0.2**	
	baz=320							
E60A	**Ste Agathe de**	**128.06**	**17**	P	**PKiKP**	**13 51 53.8**	**-0.2**	
	baz=334							
D62A	**Allapoint, All**	**128.08**	**15**	P	**PKPdf**	**13 51 53.6**	**+0.2**	
	baz=338							
D62A	**Allapoint, All**	**128.08**	**15**		**PKPdf**	**13 51 53.3**	**-0.1**	
D62A				IAMs_20	IAMs_20	14 57 55.2		
	comp=Z,1µm,18.0s							
P49A	**Miami Univ. Ec**	**128.08**	**33**	P	**PKPdf**	**13 51 53.8**	**+0.1**	
	baz=316,SNR=5.7							
J54A	**Appleton**	**128.13**	**25**	P	**PKPdf**	**13 51 53.6**	**0.0**	
	baz=325							
J54A	**Appleton**	**128.13**	**25**	IAMs_20	IAMs_20	14 54 21.3		
	comp=Z,2µm,20.0s							
WCI	**Wyandotte Cave**	**128.13**	**35**	P	**PKPdf**	**13 51 53.2**	**-0.6**	
	baz=314							
WCI	**Wyandotte Cave**	**128.13**	**35**	PKIKP	**PKPdf**	**13 51 52.4**	**-1.4**	
WCI	**Wyandotte Cave**	**128.13**	**35**		**PKPdf**	**13 51 52.4**	**-1.4**	
WCI	**Wyandotte Cave**	**128.13**	**35**	IAMs_20	IAMs_20	14 39 58.3		
	comp=Z,2µm,22.0s							
O50A	**Cable**	**128.22**	**31**	P	**PKPdf**	**13 51 53.8**	**-0.1**	
	baz=318,SNR=7.2							
PECO	**Prince Edward**	**128.25**	**23**	IAMs_20	IAMs_20	14 56 37.5		
	comp=Z,2µm,20.0s							
F60A	**Warwick**	**128.26**	**18**	P	**PKPdf**	**13 51 53.7**	**-0.1**	
	baz=334,SNR=6.2							
N51A	**Ashland**	**128.27**	**30**	P	**PKPdf**	**13 51 53.5**	**-0.5**	
	baz=319							
N51A	**Ashland**	**128.27**	**30**		**PKPdf**	**13 51 53.6**	**-0.4**	
N51A				IAMs_20	IAMs_20	14 55 42.5		
	comp=Z,2µm,22.0s							
E61A	**Lac Etchemin**	**128.28**	**17**	P	**PKPdf**	**13 51 54.2**	**+0.3**	
	baz=336,SNR=9.4							
M52A	**Chesterland**	**128.29**	**28**	P	**PKPdf**	**13 51 53.7**	**-0.3**	
	baz=321							
MEDO	**Medina**	**128.29**	**25**	IAMs_20	IAMs_20	14 52 43.7		
	comp=Z,2µm,21.0s							
G58A	**Ormstown**	**128.30**	**20**	P	**PKPdf**	**13 51 53.8**	**-0.1**	
	baz=331							
D63A	**Stockholm**	**128.36**	**14**	P	**PKPdf**	**13 51 53.9**	**-0.1**	
	baz=339							
Q49A	**Aurora**	**128.37**	**33**	P	**PKPdf**	**13 51 54.3**	**0.0**	
	baz=316							
E62A	**Clayton Lake**	**128.38**	**16**	P	**PKPdf**	**13 51 54.2**	**+0.1**	
	baz=337							
E62A	**Clayton Lake**	**128.38**	**16**		**PKPdf**	**13 51 53.8**	**-0.3**	
E62A				IAMs_20	IAMs_20	14 49 46.2		
	comp=Z,2µm,22.0s							
H57A	**Richville**	**128.42**	**22**	P	**PKPdf**	**13 51 54.4**	**+0.2**	
	baz=329							
ERPA	**Erie**	**128.47**	**27**	P	**PKPdf**	**13 51 54.3**	**-0.1**	
	baz=323							
ERPA	**Erie**	**128.47**	**27**	IAMs_20	IAMs_20	14 51 12.5		
	comp=Z,2µm,22.0s							
L53A	**Girard**	**128.47**	**27**	P	**PKPdf**	**13 51 54.1**	**-0.3**	
	baz=322							
J55A	**Hilton**	**128.48**	**24**	P	**PKPdf**	**13 51 54.2**	**-0.1**	
	baz=326							
J55A	**Hilton**	**128.48**	**24**		**PKiKP**	**13 51 54.8**	**-0.2**	
J55A				IAMs_20	IAMs_20	14 57 34.5		
	comp=Z,2µm,20.0s							
ACSO	**Alum Creek Sta**	**128.48**	**31**	P	**PKPdf**	**13 51 54.6**	**+0.1**	
	baz=318,SNR=8.0							
ACSO	**Alum Creek Sta**	**128.48**	**31**		**PKPdf**	**13 51 54.2**	**-0.3**	
ACSO				IAMs_20	IAMs_20	14 57 41.2		
	comp=Z,2µm,20.0s							
T47A	**Sharon Grove**	**128.50**	**37**		**PKPdf**	**13 51 54.1**	**-0.5**	
P50A	**Jamestown**	**128.52**	**32**	P	**PKPdf**	**13 51 54.3**	**-0.3**	
	baz=317,SNR=7.9							
F61A	**St Evariste**	**128.55**	**17**	P	**PKPdf**	**13 51 54.5**	**+0.1**	
	baz=335,SNR=5.2							
LONY	**Lake Ozonia**	**128.58**	**21**	P	**PKPdf**	**13 51 54.7**	**+0.2**	
	baz=330							
LONY	**Lake Ozonia**	**128.58**	**21**		**PKiKP**	**13 51 55.1**	**-0.1**	
LONY				IAMs_20	IAMs_20	14 54 20.8		
	comp=Z,2µm,21.0s							
WVT	**Waverly**	**128.63**	**38**	P	**PKPdf**	**13 51 54.9**	**+0.1**	
	baz=311							
WVT	**Waverly**	**128.63**	**38**	PKIKP	**PKiKP**	**13 51 55.2**	**-0.3**	
WVT				MLR	MLR			
	comp=Z,2µm,21.0s							
WVT	**Waverly**	**128.63**	**38**		**PKiKP**	**13 51 55.2**	**-0.3**	
WVT	**Waverly**	**128.63**	**38**	IAMs_20	IAMs_20	14 48 13.8		
	comp=Z,2µm,21.0s							
K54A	**Basiliko Farm,**	**128.65**	**26**	P	**PKPdf**	**13 51 55.0**	**+0.2**	
	baz=324							
OXF	**Oxford**	**128.66**	**40**	P	**PKPdf**	**13 51 55.2**	**+0.3**	
	baz=308							
OXF	**Oxford**	**128.66**	**40**	PKIKP	**PKiKP**	**13 51 55.3**	**-0.3**

H60A	Morristown baz=332	129.28	19	P	PKPdf	13 51 56.0	+0.2	
F63A	Nahmakanta, Br baz=337	129.34	16	P	PKiKP	13 51 56.3	-0.3	
F63A	Nahmakanta, Br comp=Z,2μm,20.0s	129.34	16	IAMs_20	IAMs_20	14 56 39.6		
T49A	Edmonton baz=314	129.34	35	P	PKPdf	13 51 56.4	+0.3	
T49A	Edmonton comp=Z,2μm,22.0s	129.34	35	IAMs_20	IAMs_20	14 53 33.4		
O53A	New Philadelph baz=320,SNR=7.5	129.35	29	P	PKPdf	13 51 56.1	0.0	
P52A	Corning baz=319	129.36	31	P	PKPdf	13 51 56.3	+0.2	
G62A	West of Eustis baz=335	129.37	17	P	PKPdf	13 51 56.3	+0.3	
N54A	Moraine State baz=322,SNR=7.4	129.38	28	P	PKPdf	13 51 55.9	-0.2	
N54A	Moraine State	129.38	28		PKPdf	13 51 55.9	-0.2	
F64A	Sherman baz=338	129.39	15	P	PKiKP	13 51 56.5	-0.2	
F64A	Sherman comp=Z,2μm,21.0s	129.39	15	IAMs_20	IAMs_20	14 50 03.9		
J58A	Remsen baz=329,SNR=8.5	129.40	22	P	PKPdf	13 51 56.2	+0.1	
J58A	Remsen	129.40	22		PKiKP	13 51 57.0	+0.1	
J58A comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 52 42.8		
VT1	Waterbury comp=Z,2μm,19.0s	129.46	20	IAMs_20	IAMs_20	14 54 31.4		
TLIG	Tlapa	129.47	65		PKPdf	13 51 55.6	-1.4	
V48A	Smith Brothers baz=312	129.50	38	P	PKPdf	13 51 56.2	-0.3	
V48A	Smith Brothers	129.50	38		PKPdf	13 51 56.0	-0.5	
V48A comp=Z,1μm,20.0s				IAMs_20	IAMs_20	14 51 58.9		
L56A	Greenwood baz=326,SNR=7.1	129.51	25	P	PKPdf	13 51 56.3	-0.2	
L56A	Greenwood	129.51	25		PKPdf	13 51 56.2	-0.2	
M55A	Ridgway baz=324,SNR=6.4	129.54	26	P	PKPdf	13 51 56.6	+0.1	
M55A	Ridgway	129.54	26		PKPdf	13 51 56.2	-0.2	
M55A comp=Z,2μm,20.0s				IAMs_20	IAMs_20	14 55 32.7		
I59A	Olmsteadville baz=331,SNR=8.1	129.54	21	P	PKPdf	13 51 56.4	+0.1	
H61A	Lyndonville baz=333	129.55	19	P	PKPdf	13 51 56.6	+0.3	
CLTN	Cedars of Leba	129.56	37		PKPdf	13 51 56.2	-0.4	
S50A	Richmond baz=315	129.58	34	P	PKPdf	13 51 56.6	-0.1	
R51A	Hillsboro baz=317	129.59	33	P	PKPdf	13 51 56.3	-0.3	
J59A	Piesco baz=330,SNR=11	129.60	22	P	PKPdf	13 51 56.5	-0.1	
J59A	Piesco	129.60	22		PKPdf	13 51 56.6	0.0	
J59A comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 57 20.1		
U49A	Red Boiling Sp baz=313	129.60	36	P	PKPdf	13 51 56.8	+0.1	
PKME	Peaks-Kenny Pk baz=337	129.69	16	P	PKPdf	13 51 56.7	+0.1	
I60A	Shoreham baz=331,SNR=6.3	129.71	20	P	PKPdf	13 51 56.5	-0.1	
G63A	Kingsbury baz=336	129.73	17	P	PKPdf	13 51 56.9	+0.2	
H62A	Milan baz=334	129.76	18	P	PKPdf	13 51 56.9	+0.2	
H62A	Milan comp=Z,2μm,22.0s	129.76	18	IAMs_20	IAMs_20	14 57 41.0		
K58A	Earlville baz=328,SNR=5.1	129.77	23	P	PKPdf	13 51 56.4	-0.5	
K58A	Earlville	129.77	23		PKPdf	13 51 57.0	+0.2	
K58A comp=Z,2μm,20.0s				IAMs_20	IAMs_20	14 59 15.6		
M56A	Emporium baz=324,SNR=7.2	129.78	26	P	PKPdf	13 51 56.8	-0.1	
M56A	Emporium	129.78	26		PKPdf	13 51 57.0	+0.1	
M56A comp=Z,2μm,20.0s				IAMs_20	IAMs_20	14 59 44.2		
Q52A	Bidwell baz=318,SNR=6.5	129.79	31	P	PKPdf	13 51 56.5	-0.4	
T50A	Nancy baz=314	129.80	35	P	PKPdf	13 51 57.1	0.0	
O54A	Avella baz=321,SNR=9.2	129.81	29	P	PKPdf	13 51 56.8	-0.1	
O54A	Avella	129.81	29		PKPdf	13 51 57.0	0.0	
LBNH	Lisbon baz=333	129.82	19	P	PKPdf	13 51 57.3	+0.4	
LBNH	Lisbon comp=Z,2μm,20.0s	129.82	19	IAMs_20	IAMs_20	15 00 10.5		
G64A	Maxfield baz=337	129.84	16	P	PKPdf	13 51 57.2	+0.3	
P53A	Whipple baz=320,SNR=7.8	129.85	30	P	PKPdf	13 51 57.0	0.0	
L57A	Andrews Acres baz=326,SNR=6.2	129.92	25	P	PKPdf	13 51 57.4	+0.2	
ACCN	Adirondack Com comp=Z,2μm,22.0s	129.98	21	IAMs_20	IAMs_20	14 53 04.9		
N55A	Marion Center baz=323	129.99	27	P	PKPdf	13 51 57.4	0.0	
I61A	Oroboro, Fairl baz=333	130.00	19	P	PKPdf	13 51 57.1	-0.1	
V49A	McMinnville baz=313	130.04	37	P	PKPdf	13 51 57.5	0.0	
S51A	Beattyville baz=316	130.06	33	P	PKPdf	13 51 57.7	+0.1	
S51A	Beattyville	130.06	33		PKPdf	13 51 56.5	-1.0	
S51A comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 52 48.3		
R52A	Catlettsburg baz=318	130.06	32	P	PKPdf	13 51 57.6	0.0	
K59A	Cooperstown baz=329	130.06	22	P	PKPdf	13 51 57.6	+0.2	
BINY	Binghamton baz=327,SNR=5.3	130.11	24	P	PKPdf	13 51 57.4	0.0	
BINY	Binghamton	130.11	24		PKPdf	13 51 57.5	0.0	
BINY comp=Z,2μm,21.0s				IAMs_20	IAMs_20	15 01 36.7		
HNH	Hanover comp=Z,2μm,22.0s	130.17	20	IAMs_20	IAMs_20	14 46 20.0		
J60A	Lant Hill Farm baz=331	130.19	21	P	PKiKP	13 51 58.1	-0.3	
N56A	West Decatur baz=324	130.19	27	P	PKPdf	13 51 57.8	0.0	
G65A	Princeton baz=339	130.21	15	P	PKPdf	13 51 57.5	0.0	
P54A	Burton baz=321,SNR=7.3	130.21	29	P	PKPdf	13 51 57.8	0.0	
X48A	Hartselle baz=311	130.21	39	P	PKPdf	13 51 57.8	-0.1	
X48A	Hartselle	130.21	39		PKPdf	13 51 57.5	-0.4	
X48A comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 51 06.8		
U50A	Jamestown baz=314	130.22	35	P	PKPdf	13 51 58.1	+0.2	
LMN	Caledonia Moun	130.23	12		PKiKP	13 51 58.1	-0.3	
Q53A	Leroy baz=319	130.25	31	P	PKPdf	13 51 58.3	+0.4	
W49A	Belvidere baz=312	130.25	38	P	PKPdf	13 51 58.0	0.0	
L58A	Harry Jones Me baz=327	130.29	24	P	PKPdf	13 51 58.1	+0.2	
O55A	Ligonier baz=322	130.30	28	P	PKPdf	13 51 58.3	+0.4	
S52A	Salyersville baz=317	130.31	33	P	PKiKP	13 51 58.5	-0.4	
TRIS	Tristan da Cun comp=Z,1μm,19.0s	130.32	222	IAMs_20	IAMs_20	14 59 30.8		
I62A	Tamworth baz=334	130.33	19	P	PKPdf	13 51 58.1	+0.3	
M57A	Sunshine Farm, baz=326,SNR=7.2	130.36	25	P	PKPdf	13 51 58.4	+0.4	
M57A	Sunshine Farm,	130.36	25		PKPdf	13 51 57.9	-0.1	
SWET	Sewanee	130.39	37		PKPdf	13 51 57.4	-0.9	
SWET comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 52 56.4		
J61A	Chester baz=332	130.40	20	P	PKiKP	13 51 58.6	-0.2	
I63A	Otisfield baz=335	130.41	18	P	PKiKP	13 51 59.1	+0.2	
I63A	Otisfield comp=Z,2μm,21.0s	130.41	18	IAMs_20	IAMs_20	15 01 51.2		
R53A	Hurricane comp=Z,2μm,19.0s	130.43	32	IAMs_20	IAMs_20	14 52 15.9		
MCWV	Mont Chateau baz=322	130.47	29	P	PKiKP	13 51 58.8	-0.3	
L59A	Walton baz=328	130.49	23	P	PKPdf	13 51 58.7	+0.4	
L59A	Walton comp=Z,2μm,20.0s	130.49	23	IAMs_20	IAMs_20	14 59 16.7		
H65A	Eastbrook baz=338	130.50	16	P	PKiKP	13 51 58.7	-0.2	
Q54A	Coxs Mills baz=320	130.51	30	P	PKPdf	13 51 58.3	-0.1	
Q54A	Coxs Mills	130.51	30		PKiKP	13 51 59.3	+0.1	
TRY	Troy	130.54	21		PKiKP	13 51 59.4	+0.3	
TRY comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 49 03.0		
K60A	Five Rivers En baz=330	130.56	22	P	PKPdf	13 51 58.7	+0.4	
V50A	Pikevile baz=313	130.58	36	P	PKPdf	13 51 58.7	+0.1	
O56A	Blue Knob Stat baz=323	130.59	27	P	PKPdf	13 51 58.6	+0.1	
O56A	Blue Knob Stat	130.59	27		PKiKP	13 51 59.1	-0.3	
P55A	Reedsville baz=322	130.60	29	P	PKPdf	13 51 58.8	+0.2	
SSPA	Standing Stone baz=324	130.60	26	P	PKPdf	13 51 58.5	+0.1	
SSPA	Standing Stone	130.60	26		PKPdf	13 51 58.3	-0.2	
SSPA	Standing Stone comp=Z,2μm,20.0s	130.60	26	IAMs_20	IAMs_20	14 55 44.8		
M58A	Price's Panora baz=326	130.61	25	P	PKPdf	13 51 58.9	+0.4	
N57A	Milroy baz=325,SNR=6.2	130.65	26	P	PKPdf	13 51 58.9	+0.3	
H66A	Whiting baz=339	130.66	15	P	PKPdf	13 51 58.7	+0.3	
K61A	Williamstown baz=331,SNR=5.5	130.74	21	P	PKPdf	13 51 58.8	+0.1	
J62A	Henniker baz=333	130.76	20	P	PKiKP	13 51 59.6	0.0	
T52A	Hallie baz=317	130.78	33	P	PKiKP	13 51 59.9	+0.1	
T52A	Hallie comp=Z,2μm,21.0s	130.78	33	IAMs_20	IAMs_20	14 54 38.2		
W50A	Signal Mountai baz=313	130.78	37	P	PKiKP	13 52 00.1	+0.2	
W50A	Signal Mountai	130.78	37		PKPdf	13 51 59.0	0.0	
W50A comp=Z,2μm,22.0s				IAMs_20	IAMs_20	14 52 42.6		
I64A	Boothbay baz=336	130.82	17	P	PKiKP	13 51 59.4	-0.3	
TZTN	Tazewell baz=316	130.87	34	P	PKiKP	13 51 59.7	-0.4	
TZTN	Tazewell	130.87	34		PKPdf	13 51 58.4	-0.7	
Q55A	Buckhannon baz=321	130.87	29	P	PKPdf	13 51 59.5	+0.4	
M59A	Waymart baz=328	130.89	24	P	PKPdf	13 51 59.4	+0.4	
V51A	Loudon baz=314	130.93	36	P	PKiKP	13 52 00.1	0.0	
V51A	Loudon	130.93	36		PKPdf	13 51 57.9	-1.3	
V51A comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 52 06.5		
N58A	Sunbury baz=326,SNR=5.7	130.94	25	P	PKPdf	13 51 59.0	-0.1	
N58A	Sunbury	130.94	25		PKPdf	13 51 59.0	-0.1	
J63A	Strafford baz=334	130.95	19	P	PKPdf	13 51 59.0	0.0	
L60A	Shokan baz=329	130.98	22	P	PKiKP	13 51 59.9	-0.2	
Y49A	Blount Mountai comp=Z,2μm,20.0s	130.99	39	IAMs_20	IAMs_20	14 49 13.5		
FPAL	Fort Paine	131.04	38		PKPdf	13 51 59.4	-0.1	
R54A	Victor baz=319	131.04	31	P	PKPdf	13 51 59.6	+0.2	
L61A	Hillsdale 1, H baz=330	131.05	22	P	PKPdf	13 51 59.7	+0.4	
O57A	Amberson baz=324	131.06	27	P	PKPdf	13 51 59.5	+0.2	
P56A	Dayton Farm, R baz=323	131.07	28	P	PKPdf	13 51 59.3	-0.1	
CPCT	Cooper Cave	131.07	36		PKPdf	13 51 59.4	-0.1	
CPCT comp=Z,2μm,21.0s				IAMs_20	IAMs_20	14 55 55.4		
K62A	Royalston baz=332	131.11	20	P	PKPdf	13 51 59.8	+0.4	
K62A	Royalston comp=Z,2μm,20.0s	131.11	20	IAMs_20	IAMs_20	14 55 23.9		
W51A	Cleveland baz=314	131.13	37	P	PKiKP	13 52 00.2	-0.4	
L61B	Northampton baz=332	131.15	21	P	PKPdf	13 51 59.6	+0.2	
LRAL	Lakeview Retre baz=310	131.15	40	P	PKPdf	13 52 00.1	+0.4	
LRAL	Lakeview Retre	131.15	40		PKPdf	13 52 00.1	+0.4	
S54A	Dingess, Beckl baz=319	131.16	31	P	PKiKP	13 52 00.2	-0.4	
Q56A	Snyder Ridge, baz=322	131.27	29	P	PKiKP	13 52 00.4	-0.4	
Q56A	Snyder Ridge, comp=Z,2μm,22.0s	131.27	29	IAMs_20	IAMs_20	14 47 11.9		
N59A	State Game Lan baz=327	131.28	24	P	PKiKP	13 52 00.4	-0.4	
N59A	State Game Lan	131.28	24		PKPdf	13 51 59.4	-0.4	
N59A comp=Z,2μm,22.0s				IAMs_20	IAMs_20	14 55 44.5		
K63A	Dunstable baz=333	131.33	20	P	PKPdf	13 52 00.1	+0.4	
V52A	Sevierville baz=315	131.34	35	P	PKPdf	13 52 00.1	+0.1	
O58A	Lewisberry baz=325	131.44	26	P	PKPdf	13 52 00.2	+0.2	
P57A	Homestead Farm baz=324	131.47	27	P	PKiKP	13 52 00.9	-0.2	
X51A	Calhoun baz=313	131.48	37	P	PKPdf	13 52 00.3	0.0	
X51A	Calhoun comp=Z,2μm,21.0s	131.48	37	IAMs_20	IAMs_20	14 49 39.3		
HRV	Adam Dziewonsk baz=333	131.48	20	P	PKPdf	13 51 59.9	-0.1	
HRV	Adam Dziewonsk comp=Z,2μm,21.0s	131.48	20	IAMs_20	IAMs_20	14 47 20.7		
U53A	Fall Branch baz=317	131.54	34	P	PKPdf	13 52 00.2	-0.2	
T54A	Tazewell baz=318	131.57	32	P	PKPdf	13 52 00.3	-0.2	
N60A	Cedar Hill Far baz=328	131.59	24	P	PKPdf	13 52 00.6	+0.3	
S55A	Lewisburg baz=320	131.60	31	P	PKPdf	13 51 60.0	-0.5	
O59A	Robesonia baz=326	131.60	25	P	PKPdf	13 52 00.2	-0.2	
ODNJ	Ogdensburg comp=Z,2μm,20.0s	131.60	23	IAMs_20	IAMs_20	14 58 06.2		
Q57A	Strasburg baz=323	131.65	28	P	PKPdf	13 52 00.6	+0.1	
R56A	Bull Pasture M baz=321	131.66	29	P	PKPdf	13 52 00.8	+0.1	
WES	Weston comp=Z,2μm,22.0s	131.67	20	IAMs_20	IAMs_20	14 47 25.6		
W52A	Murphy baz=314	131.67	36	P	PKPdf	13 52 00.8	+0.1	
W52A	Murphy comp=Z,2μm,20.0s	131.67	36	IAMs_20	IAMs_20	14 59 07.2		
Z50A	Ashland baz=311	131.70	39	P	PKPdf	13 52 00.9	+0.1	
Z50A	Ashland	131.70	39		PKPdf	13 51 59.4	-1.4	
M61A	Granite Spring baz=330	131.74	22	P	PKPdf	13 52 00.9	+0.3	
BCX	Boston College comp=Z,2μm,21.0s	131.76	19	IAMs_20	IAMs_20	15 02 59.1		
P58A	Pank, Wackersv baz=324	131.79	27	P	PKPdf	13 52 01.0	+0.3	
MVL	Millersville	131.79	26		PKPdf	13 52 00.0	-0.7	
MVL comp=Z,2μm,20.0s				IAMs_20	IAMs_20	14 56 11.4		
Y51A	Rockmart baz=312	131.81	38	P	PKPdf	13 52 01.1	+0.1	
U54A	Nelsons Funny comp=Z,2μm,21.0s	131.84	33	IAMs_20	IAMs_20	15 00 19.4		
PMAR	Madeira	131.87	320	*e*PKPdf	PKiKP	13 52 03.4	+1.0	
V53A	Saluda baz=316	131.91	35	P	PKPdf	13 52 01.2	0.0	
V53A	Saluda	131.91	35		PKPdf	13 52 00.7	-0.4	
O60A	Telford baz=327	131.93	25	P	PKPdf	13 52 01.0	+0.1	
PAL	Palisades baz=329	131.94	23	P	PKPdf	13 52 01.2	+0.2	
T55A	Pulaski baz=319	131.95	32	P	PKPdf	13 52 01.3	+0.1	
BRNJ	Basking Ridge comp=Z,2μm,19.0s	131.96	24	IAMs_20	IAMs_20	14 59 54.6		
PMOZ	Porto Moniz, M comp=Z,1μm,20.0s	131.99	320	*e*LR	LR	14 37 26.2		
X52A	Dahlonega baz=314	132.03	36	P	PKPdf	13 52 01.9	+0.5	
YLE	Yale comp=Z,2μm,22.0s	132.04	22	IAMs_20	IAMs_20	14 54 08.7		
Q58A	Fox Den Farm, baz=324	132.06	28	P	PKPdf	13 52 01.6	+0.4	
W53A	Cullowhee baz=315	132.06	35	P	PKPdf	13 52 01.9	+0.4	
P59A	Jarrettsville baz=326	132.08	26	P	PKiKP	13 52 02.1	-0.2	
R57A	Stanardsville baz=322	132.18	29	P	PKPdf	13 52 02.0	+0.5	
L64A	Middleborough baz=334	132.23	19	P	PKiKP	13 52 02.1	-0.4	
P60A	Greenville baz=327	132.25	25	P	PKiKP	13 52 02.2	-0.5	
P60A	Greenville	132.25	25		PKPdf	13 52 02.0	+0.4	
U55A	TA2, Sparta baz=318	132.27	32	P	PKiKP	13 52 02.6	-0.3	
M63A	Gales Ferry baz=332	132.29	21	P	PKiKP	13 52 02.2	-0.4	
V54A	Nebo baz=317	132.32	34	P	PKiKP	13 52 02.7	-0.3	
BG3	Lake Jocassee comp=Z,1μm,22.0s	132.32	35	IAMs_20	IAMs_20	14 45 57.5		
S57A	Dark Hollow, R comp=Z,2μm,22.0s	132.39	30	IAMs_20	IAMs_20	14 53 47.5		
KIC	Kosan Boka comp=Z,115nm,1.2s	132.40	281	*e*PKIKP	PKiKP	13 52 03.5	-0.2	
KIC	Kosan Boka	132.40	281		PKiKP	13 52 03.5	-0.2	
T56A	Rocky Mt baz=320	132.41	31	P	PKPdf	13 52 02.4	+0.4	
R58A	Rapidan baz=323	132.42	28	P	PKPdf	13 52 02.4	+0.5	
Y52A	Lilburn baz=313	132.44	37	P	PKPdf	13 52 02.6	+0.5	
Y52A	Lilburn	132.44	37		PKPdf	13 52 01.6	-0.5	
DBIC	Dimbokro comp=Z,22nm,0.8s,baz=73,slow=1.8,SNR=15	132.46	282	PKP	PKPdf	13 52 02.7	0.0	
DBIC comp=Z,46nm,0.9s,baz=58,slow=3.3,SNR=16				SKPbc	SKPbc	13 55 24.3	-0.7	
DBIC	Dimbokro	132.46	282		PKPdf	13 52 02.2	-0.5	
DBIC					SKPbc	13 55 23.3	-1.7	
TIC	Toumodi	132.63	282	*e*PKIKP	PKiKP	13 52 03.7	-0.5	
TIC	Toumodi	132.63	282	PKIKP	PKiKP	13 52 03.7	-0.5	
TIC	Toumodi	132.63	282		PKiKP	13 52 03.7	-0.5	
V55A	Taylorsville baz=318	132.66	33	P	PKPdf	13 52 02.7	+0.1	
V55A	Taylorsville	132.66	33		PKPdf	13 52 02.6	+0.1	
Z52A	Williamson baz=313	132.68	38	P	PKPdf	13 52 03.0	+0.3	
W54A	Cherokee Point baz=316	132.68	35	P	PKPdf	13 52 02.6	0.0	
LIC	Lamto comp=Z,82nm,0.8s	132.70	281	*e*PKIKP	PKPdf	13 52 03.2	0.0	
LIC	Lamto	132.70	281		PKPdf	13 52 03.2	0.0	
Y53A	Monroe baz=314	132.74	37	P	PKPdf	13 52 03.2	+0.5	
R58B	Mineral baz=323	132.75	29	P	PKPdf	13 52 02.8	+0.2	
R58B	Mineral	132.75	29		PKPdf	13 52 02.1	-0.4	
CBN	Corbin Frederi baz=324	132.80	28	P	PKPdf	13 52 02.9	+0.2	
T57A	Hurt baz=321	132.83	30	P	PKiKP	13 52 03.8	-0.2	
152A	Waverly Hall baz=312	132.84	39	P	PKPdf	13 52 03.5	+0.6	
152A	Waverly Hall	132.84	39		PKPdf	13 52 02.0	-0.9	
152A comp=Z,2μm,20.0s				IAMs_20	IAMs_20	14 52 14.5		
BART	Pico Bartolome	132.87	331	*e*PP	PP	13 54 28.9	+1.3	
R59A	King George, V baz=324	132.92	28	P	PKPdf	13 52 02.6	-0.3	
CMIG	Matias Romero comp=Z,17nm,1.0s,baz=286,slow=4.1,SNR=9.3	132.93	64	SKPbc	SKPbc	13 55 27.0	+0.4	
S58A	Poland Farm, P baz=323	132.95	29	P	PKPdf	13 52 02.7	-0.2	
X54A	Belton baz=316	132.96	35	P	PKPdf	13 52 03.0	-0.1	
CMLA	Cha da Macela	133.05	332	*e*PP	PP	13 54 29.5	+0.9	
CMLA	Cha da Macela comp=Z,2μm,22.0s	133.05	332	IAMs_20	IAMs_20	14 51 11.1		
SHEL	Horse Pasture comp=Z,2μm,22.0s	133.05	251	IAMs_20	IAMs_20	14 44 39.0		
PSET	Sete Cidades	133.10	332	*e*PKP	PKiKP	13 52 06.3	+1.8	
PSET	Sete Cidades	133.10	332	*e*PP	PP	13 54 29.8	+0.9	
GOGA	Godfrey baz=314	133.11	37	P	PKiKP	13 52 04.1	-0.5	
KMSC	Kings Mountain baz=317	133.12	34	P	PKiKP	13 52 04.3	-0.2	
PGRA	Graciosa	133.12	335	*e*PKP	PKPdf	13 52 00.9	-2.4	
PGRA	Graciosa	133.12	335	*e*PP	PP	13 54 30.7	+1.7	
Z53A	Monticello baz=314	133.14	37	P	PKiKP	13 52 04.3	-0.4	
SRBC	Serra Branca	133.15	335	*e*PKP	PKiKP	13 52 11.7	+7.2	
U57A	Blanch baz=320	133.23	31	P	PKPdf	13 52 03.8	+0.3	
T58A	Grand View Acr baz=322	133.24	30	P	PKiKP	13 52 04.5	-0.2	
HODGE	Hodges comp=Z,2μm,21.0s	133.25	36	IAMs_20	IAMs_20	14 51 05.0		
Y54A	Tignall baz=315	133.26	36	P	PKiKP	13 52 04.6	-0.3	
252A	Lumpkin baz=311	133.28	40	P	PKiKP	13 52 04.5	-0.4	
V57A	Coltrane Farms baz=320	133.41	32	P	PKiKP	13 52 04.7	-0.4	
PSMN	Pico do Norte,	133.43	331	*e*PKP	PKPdf	13 52 03.6	-0.3	
PSMN	Pico do Norte,	133.43	331	*e*PP	PP	13 54 31.9	+0.8	
PSMA	Santa Maria	133.47	331	*e*PKP	PKPdf	13 52 04.5	+0.5	
PSMA	Santa Maria	133.47	331	*e*PP	PP	13 54 31.6	+0.3	
352A	Blakely baz=311	133.49	40	P	PKiKP	13 52 05.3	-0.1	
ROSA	Rosais	133.50	335	*e*PKP	PKPdf	13 52 03.6	-0.4	
ROSA	Rosais	133.50	335	*e*PP	PP	13 54 32.8	+1.5	
S60A	Water View baz=324	133.53	28	P	PKiKP	13 52 05.1	-0.2	
W56A	Indian Trail baz=318	133.54	33	P	PKiKP	13 52 05.0	-0.4	
Z54A	Sparta baz=314	133.61	37	P	PKPdf	13 52 04.9	+0.6	
253A	Americus comp=Z,2μm,22.0s	133.62	39	IAMs_20	IAMs_20	14 45 18.0		
U58A	Oxford baz=321	133.66	30	P	PKPdf	13 52 04.6	+0.3	
T59A	Double "B" Far baz=323	133.70	29	P	PKiKP	13 52 05.1	-0.5	
X56A	White Oak baz=317	133.77	34	P	PKPdf	13 52 05.0	+0.4	
PCED	Cedros	133.77	335	*e*PKP	PKiKP	13 52 11.7	+5.9	
V58A	Windy Hill, Pi baz=320	133.83	31	P	PKPdf	13 52 05.1	+0.4	
V58A	Windy Hill, Pi	133.83	31		PKPdf	13 52 02.9	-1.8	
V58A comp=Z,2μm,20.0s				IAMs_20	IAMs_20	14 59 12.8		
W57A	Gilead baz=319	133.85	33	P	PKiKP	13 52 05.9	-0.1	
BIRD	Birdtown, Kers comp=Z,2μm,22.0s	133.97	34	IAMs_20	IAMs_20	14 47 55.0		
155A	Kite baz=314	134.26	37	P	PKPdf	13 52 06.0	+0.4	
V59A	Middlesex baz=321	134.30	31	P	PKPdf	13 52 05.9	+0.4	
Z57A	Bowman baz=317	134.82	35	P	PKiKP	13 52 07.8	-0.2	
CNNC	Cliffs of the comp=Z,2μm,21.0s	134.89	31	IAMs_20	IAMs_20	14 51 28.8		
Y58A	Scranton comp=Z,2μm,20.0s	134.96	34	IAMs_20	IAMs_20	14 55 04.0		
NHSC	New Hope comp=Z,2μm,20.0s	135.26	35	IAMs_20	IAMs_20	15 00 14.1		
Z58A	St. Stephen baz=318	135.30	34	P	PKiKP	13 52 08.6	-0.4	
257A	Skidaway Islan comp=Z,2μm,21.0s	135.58	37	IAMs_20	IAMs_20	14 53 46.8		
Y60A	Bolivia comp=Z,2μm,20.0s	135.67	32	IAMs_20	IAMs_20	14 55 30.7		
CCIG	Comitan	135.68	63		PKPdf	13 52 07.4	-1.4	
CCIG comp=Z,2μm,22.0s				IAMs_20	IAMs_20	14 42 48.1		
656A	Willston comp=Z,2μm,20.0s	136.43	41	IAMs_20	IAMs_20	14 54 40.9		
TEIG	Tepich comp=Z,24nm,1.0s,baz=319,slow=12,SNR=6.0

TEIG	Tepich	137.37	56		IAMs_20	IAMs_20	14 46 09.1	
	comp=Z,1μm,22.0s							
APG	El Apazote	137.65	64		SKPbc	SKPbc	13 55 41.4	-0.3
	comp=Z,21nm,1.0s,baz=309,slow=4.9,SNR=9.1							
PLCA	Paso Flores	138.44	158		PKhKP	PKPpre	13 52 04.6	
	comp=Z,3.3nm,0.5s,baz=220,slow=3.6,SNR=5.1							
PLCA					PKP	PKiKP	13 52 15.4	0.0
	comp=Z,26nm,0.9s,baz=249,slow=2.7,SNR=20							
PLCA					SKPbc	SKPbc	13 55 43.0	-0.1
	comp=Z,26nm,0.9s,baz=215,slow=4.8,SNR=16							
PLCA	Paso Flores	138.44	158	eP		PKiKP	13 52 16.1	+0.7
PLCA	Paso Flores	138.44	158	eP		PKiKP	13 52 16.1	+0.7
PLCA	Paso Flores	138.44	158			SKPbc	13 55 42.4	-0.7
061Z	Ochoppi	139.82	43		P	PKPdf	13 52 16.6	+0.5
	baz=311							
061Z	Ochoppi	139.82	43		IAMs_20	IAMs_20	14 49 48.7	
	comp=Z,1μm,22.0s							
TGUH	Tegucigalpa,Un	140.86	64		IAMs_20	IAMs_20	14 49 07.5	
	comp=Z,1μm,21.0s							
ACON	Acoyapa	143.54	66	eP		PKPdf	13 52 22.2	-0.7
ACON	Acoyapa	143.54	66	eP		PKPdf	13 52 22.2	-0.7
ACON	Acoyapa	143.54	66			PKPbc	13 52 21.3	+0.9
TRQA	Tornquist	143.55	166		PKIKP	PKPbc	13 52 20.2	+0.4
TRQA					MLR	MLR		
	comp=Z,3μm,20.0s							
TRQA	Tornquist	143.55	166		PKPdf	PKPbc	13 52 20.2	+0.4
FSCY	Frank Sound, G	143.56	52			PKPdf	13 52 23.0	+0.1
GB1A	Borinquen Arri	143.74	68	eP		PKPdf	13 52 23.8	+0.3
PLVR	Palo Verde	143.94	68	eP		PKPdf	13 52 24.3	+0.3
PLVR	Palo Verde	143.94	68	eP		PKPdf	13 52 24.2	+0.3
CUI	Cuipilapa	144.01	68	eP		PKPdf	13 52 23.2	-0.7
CUI	Cuipilapa	144.01	68	eP		PKPbc	13 52 22.9	+1.0
ESPN	Las Esperanzas	144.25	65[]	eP		PKPbc	13 52 23.1	+0.6
ESPN	Las Esperanzas	144.25	65	eP		PKPdf	13 52 24.2	0.0
ESPN	Las Esperanzas	144.25	65			PKPdf	13 52 23.6	-0.6
ESPN					IAMs_20	IAMs_20	14 50 19.2	
	comp=Z,1μm,22.0s							
JTS	Las Juntas de	144.32	68		PKIKP	PKPdf	13 52 23.9	-0.5
JTS	Las Juntas de	144.32	68	eP		PKPdf	13 52 24.2	-0.2
JTS	Las Juntas de	144.32	68	eP		PKPdf	13 52 24.4	0.0
JTS	Las Juntas de	144.32	68			PKPdf	13 52 23.9	-0.5
CBCY	The Bluff, Cay	144.43	50			PKPdf	13 52 24.5	+0.1
ARE1	Arenal 1	144.48	68	eP		PKPdf	13 52 24.7	0.0
ARE1	Arenal 1	144.48	68	eP		PKPdf	13 52 24.7	0.0
CEDE	Laguna Cedeo	144.49	68	eP		PKPdf	13 52 24.9	+0.2
CEDE	Laguna Cedeo	144.49	68	eP		PKPdf	13 52 25.0	+0.2
ROC1	El Roble	144.80	151			PKPdf	13 52 24.7	-0.3
HDC	Heredia	145.20	68	eP		PKPbc	13 52 25.2	-0.5
LCR2	La Lucha 2	145.39	69[]	eP		PKPab	13 52 28.5	+1.9
LCR2	La Lucha 2	145.39	69	eP		PKiKP	13 52 29.4	-1.1
CVTR	Volcan Turrial	145.52	68	eP		PKPdf	13 52 15.4	-12
PRVC	Isla de Provid	146.38	61	eP		PKPdf	13 52 28.2	+0.4
PRVC	Isla de Provid	146.38	61	eP		PKPdf	13 52 28.2	+0.4
BRU2	Volcan	146.92	69	eP		PKPab	13 52 32.5	+0.1
MTDJ	Mount Denham	147.01	50	eP		PKPbc	13 52 31.0	0.0
MTDJ	Mount Denham	147.01	50	eP		PKPbc	13 52 31.0	0.0
GO04	Tololo Observa	147.16	148		PKPbc	PKPdf	13 52 29.7	+0.5
SACV	Santiago Islan	147.22	303			PKPbc	13 52 30.9	-0.7
SACV					IAMs_20	IAMs_20	15 04 04.9	
	comp=Z,2μm,22.0s							
CFA	Coronel Fontan	147.24	153		PKPbc	PKPbc	13 52 31.9	+0.6
	comp=Z,80nm,0.4s,baz=231,slow=2.6,SNR=95							
GTBY	Guantanamo Bay	147.73	45	eP		PKPbc	13 52 33.6	+0.8
GTBY	Guantanamo Bay	147.73	45	eP		PKPbc	13 52 33.6	+0.8
GTBY	Guantanamo Bay	147.73	45		IAMs_20	IAMs_20	15 06 02.7	
	comp=Z,1μm,22.0s							
BCIP	Isla Barro Col	149.44	67	eP		PKiKP	13 52 38.2	-0.4
BCIP	Isla Barro Col	149.44	67	eP		PKiKP	13 52 38.2	-0.4
BCIP	Isla Barro Col	149.44	67		PKP2	PKPbc	13 52 37.2	-0.2
BCIP	Isla Barro Col	149.44	67	eP		PKiKP	13 52 38.4	-0.1
BCIP	Isla Barro Col	149.44	67	eP		PKPbc	13 52 37.2	-0.2
BCIP	Isla Barro Col	149.44	67			PKPbc	13 52 37.2	-0.2
GO03	Copiap	149.49	146			PKPdf	13 52 33.0	+0.2
ZANG	Zanguenga, Cho	149.49	67	eP		PKPdf	13 52 31.8	-1.2
AZU	Azuero	149.50	70	eP		PKPbc	13 52 36.7	-0.8
AZU	Azuero	149.50	70	eP		PKPbc	13 52 36.7	-0.8
AZU	Azuero	149.50	70	eP		PKPbc	13 52 38.1	+0.5
UPA	Univ. de Panam	149.79	67	eP		PKPdf	13 52 35.8	+2.3
LGNH	Logne	150.43	44			PKPbc	13 52 37.8	-1.9
SDDR	Presa de Saban	150.99	41		IAMs_20	IAMs_20	15 06 11.5	
	comp=Z,1μm,20.0s							
SC01	Santiago de lo	151.03	40		IAMs_20	IAMs_20	15 04 36.4	
	comp=Z,2μm,21.0s							
GO02	Mina Guanaco	151.72	144			PKPdf	13 52 35.0	-1.6
PB10	IPOC Station P	152.33	140			PKiKP	13 52 44.7	+0.4
DR12	Loma Pena Alta	152.35	39			PKPdf	13 52 37.4	0.0
ATAH	Atahualpa	152.91	100		PKP	PKPdf	13 52 41.3	+2.5
	comp=Z,33nm,1.0s,baz=199,slow=1.3,SNR=19							
ATAH					PKPbc	PKiKP	13 52 48.9	+2.7
	comp=Z,28nm,0.8s,baz=260,slow=0.6,SNR=10							
OTAV	Otavalo	152.95	84	eP		PKPdf	13 52 40.9	+1.9
OTAV	Otavalo	152.95	84	eP		PKPdf	13 52 40.9	+1.9
OTAV	Otavalo	152.95	84		PKIKP	PKPdf	13 52 38.0	-1.0
OTAV	Otavalo	152.95	84			PKPdf	13 52 38.0	-1.0
NNA	Nana	153.31	111		PKP	PKPdf	13 52 40.5	+1.6
	comp=Z,12nm,0.4s,baz=267,slow=5.7,SNR=6.3							
NNA					PKPbc	PKiKP	13 52 48.3	+1.8
	comp=Z,31nm,0.9s,baz=240,slow=6.2,SNR=4.0							
NNA					PKPab	PKPab	13 52 57.7	-0.7
	comp=Z,28nm,0.9s,baz=262,slow=6.7,SNR=7.3							
NNA	Nana	153.31	111			PKPdf	13 52 37.1	-1.8
SJCC	San Jacinto, C	153.34	62	eP		PKPdf	13 52 40.5	+1.5
SJCC	San Jacinto, C	153.34	62	eP		PKPdf	13 52 40.5	+1.5
CNLB	Canela	153.54	181	eP		PKPbc	13 52 43.6	-3.0
CNLB	Canela	153.54	181	eP		PKPbc	13 52 43.6	-3.0
BBAC	Balboa, Cauca	153.89	80	eP		PKPbc	13 52 46.2	-1.8
BBAC	Balboa, Cauca	153.89	80	eP		PKPbc	13 52 46.2	-1.8
LVC	Limon Verde	154.03	141		PKP	PKPdf	13 52 41.7	+1.6
	comp=Z,6.8nm,0.9s,baz=129,slow=6.6,SNR=10.0							
LVC					PKPbc	PKiKP	13 52 50.1	+1.8
	comp=Z,12nm,0.4s,baz=247,slow=2.7,SNR=14							
CBOC	Ciudad Bolivar	154.13	71	eP		PKPdf	13 52 41.3	+1.1
CBOC	Ciudad Bolivar	154.13	71	eP		PKPdf	13 52 41.3	+1.1
YOTC	Yotoco, Valle	154.34	75	eP		PKPdf	13 52 38.9	-1.6
YOTC	Yotoco, Valle	154.34	75	eP		PKPdf	13 52 38.9	-1.6
POPC	Popayan, Colom	154.35	78	eP		PKPdf	13 52 40.3	-0.4
POPC	Popayan, Colom	154.35	78	eP		PKPdf	13 52 40.3	-0.4
SOTA	Rioblanco	154.49	79	eP		PKPdf	13 52 43.1	+1.9
SOTA	Rioblanco	154.49	79	eP		PKPdf	13 52 43.1	+1.9
OBIP	Obispado Ponce	154.59	35			PKPab	13 53 08.3	+0.1
PCON	Cinco Dias	154.66	79	eP		PKPdf	13 52 43.5	+2.0
PCON	Cinco Dias	154.66	79	eP		PKPdf	13 52 43.5	+2.0
SJG	San Juan	154.80	34		IAMs_20	IAMs_20	15 07 37.7	
	comp=Z,1μm,20.0s							
SMLC	San Martn de	154.80	63	eP		PKPdf	13 52 41.4	+0.4
SMLC	San Martn de	154.80	63	eP		PKPdf	13 52 41.4	+0.4
CODC	Agustn Codazz	154.83	60	eP		PKPdf	13 52 40.7	-0.2
CODC	Agustn Codazz	154.83	60	eP		PKPdf	13 52 40.7	-0.2
GUY2C	Guyana, Caldas	154.94	72	eP		PKPdf	13 52 42.5	+0.7
GUY2C	Guyana, Caldas	154.94	72	eP		PKPdf	13 52 42.5	+0.7
PDPR	Patillas Dam,	154.94	34			PKPdf	13 52 39.6	-1.4
RREF	El Recreo	155.05	72	eP		PKPdf	13 52 45.2	+3.1
RREF	El Recreo	155.05	72	eP		PKPdf	13 52 45.2	+3.1
URIC	Uribia, Colomb	155.14	54	eP		PKPdf	13 52 42.5	+1.2
URIC	Uribia, Colomb	155.14	54	eP		PKPdf	13 52 42.5	+1.2
NORC	Norcasia	155.30	71	eP		PKPdf	13 52 42.0	+0.3
NORC	Norcasia	155.30	71	eP		PKPdf	13 52 42.0	+0.3
PTBC	PUERTO BERRIO	155.35	68	eP		PKPdf	13 52 41.5	-0.3
PTBC	PUERTO BERRIO	155.35	68	eP		PKPdf	13 52 41.5	-0.3
ORTC	Ortega, Tolima	155.42	75	eP		PKPdf	13 52 39.7	-2.2
ORTC	Ortega, Tolima	155.42	75	eP		PKPdf	13 52 39.7	-2.2
PB11	IPOC Station P	155.51	135			PKPdf	13 52 41.0	-0.9
PB11					IAMs_20	IAMs_20	14 52 10.4	
	comp=Z,1μm,20.0s							
OCAC	Ocana	155.72	63	eP		PKPdf	13 52 39.7	-2.7
OCAC	Ocana	155.72	63	eP		PKPdf	13 52 39.7	-2.7
CPUP	Villa Florida	155.87	167		PKP	PKPdf	13 52 42.6	+0.5
	comp=Z,17nm,1.1s,baz=188,slow=0.1,SNR=13							
CPUP					PKPab	PKPab	13 53 09.2	+0.4
	comp=Z,73nm,1.2s,baz=169,slow=2.6,SNR=9.6							
CPUP	Villa Florida	155.87	167			PKPdf	13 52 41.8	-0.3
GO01	Chusmiza	155.90	136		IAMs_20	IAMs_20	14 52 13.5	
	comp=Z,2μm,21.0s							
MNMC	Minye Minye	155.96	134			PKPdf	13 52 43.5	+0.8
MNMC					IAMs_20	IAMs_20	14 50 29.6	
	comp=Z,1μm,20.0s							
ROSC	El Rosal	156.05	72		PKP	PKPdf	13 52 43.5	+0.3
	comp=Z,15nm,0.6s,baz=357,slow=2.0,SNR=6.4							
ROSC					PKPab	PKPab	13 53 14.0	+3.3
	comp=Z,22nm,0.6s,baz=59,slow=15,SNR=6.1							
BARC	Barichara	156.51	67	eP		PKPdf	13 52 45.0	+1.5
BARC	Barichara	156.51	67	eP		PKPdf	13 52 45.0	+1.5
PTLC	Puerto Leguiza	156.59	83	eP		PKPdf	13 52 44.1	+0.7
PTLC	Puerto Leguiza	156.59	83	eP		PKPdf	13 52 44.1	+0.7
PAMC	Pamplona, Colo	156.65	65	eP		PKPdf	13 52 42.9	-1.1
PAMC	Pamplona, Colo	156.65	65	eP		PKPdf	13 52 42.9	-1.1
CHIC	Chingaza	156.67	72	eP		PKPdf	13 52 44.2	+0.2
CHIC	Chingaza	156.67	72	eP		PKPdf	13 52 44.2	+0.2
RUSC	La Rusia	156.86	68	eP		PKPdf	13 52 44.6	+0.3
RUSC	La Rusia	156.86	68	eP		PKPdf	13 52 44.6	+0.3
SEUS	St. Eustatius	156.97	29		IAMs_20	IAMs_20	15 02 09.5	
	comp=Z,1μm,20.0s							
SDV	Santo Domingo	157.76	59	eP		PKPdf	13 52 44.9	-0.2
SDV	Santo Domingo	157.76	59	eP		PKPdf	13 52 44.9	-0.2
SDV	Santo Domingo	157.76	59		PKP	PKPdf	13 52 45.3	+0.3
	comp=Z,37nm,0.9s,baz=305,slow=0.8,SNR=41							
SDV					PKPab	PKPab	13 53 19.9	+2.2
	comp=Z,18nm,0.8s,baz=317,slow=4.3,SNR=3.6							
SDV	Santo Domingo	157.76	59	eP		PKPdf	13 52 45.3	+0.3
SDV	Santo Domingo	157.76	59	eP		PKPdf	13 52 45.3	+0.3
SDV	Santo Domingo	157.76	59			PKPdf	13 52 44.6	-0.4
ESAR	Angra dos Reis	158.67	198	eP		PKPdf	13 52 52.0	+6.4
ESAR	Angra dos Reis	158.67	198	eP		PKPdf	13 52 52.0	+6.4
LPAZ	La Paz	158.84	131		PKP	PKPdf	13 52 47.5	+0.7
	comp=Z,68nm,1.4s,baz=27,slow=0.9,SNR=33							
LPAZ					PKPab	PKPab	13 53 24.2	+1.5
	comp=Z,19nm,0.8s,baz=179,slow=2.5,SNR=3.7							
LPAZ	La Paz	158.84	131			PKPdf	13 52 46.7	-0.1
SPB	Sao Paulo	158.87	191		IAMs_20	IAMs_20	15 04 26.3	
	comp=Z,1μm,19.0s							
VAO	Valinhos	159.35	192	eP		PKPdf	13 52 53.1	+6.5
VAO	Valinhos	159.35	192	eP		PKPdf	13 52 53.1	+6.5
FRTB	Fartura	159.40	185	eP		PKPdf	13 52 52.3	+5.7
FRTB	Fartura	159.40	185	eP		PKPdf	13 52 52.3	+5.7
ELOV	Elorza	159.67	62	eP		PKPab	13 53 28.5	+2.7
ELOV	Elorza	159.67	62	eP		PKPab	13 53 28.5	+2.7
FDF	Fort de France	160.23	28		PKIKP	PKPdf	13 52 48.1	+0.4
FDF	Fort de France	160.23	28			PKPdf	13 52 48.1	+0.4
H05S1	Guadeloupe/Mar	160.64	28		PKPab	PKPab	13 53 30.4	+0.7
BSFB	Barra de Sao F	160.86	212	eP		PKPdf	13 52 56.3	+8.1
BSFB	Barra de Sao F	160.86	212	eP		PKPdf	13 52 56.3	+8.1
BB19B	Bebedouro	161.52	189	eP		PKPdf	13 52 56.1	+7.1
BB19B	Bebedouro	161.52	189	eP		PKPdf	13 52 56.1	+7.1
PCRV	Puerto La Cruz	161.73	45		PKP	PKPdf	13 52 47.3	-2.1
	comp=Z,6.5nm,0.7s,baz=45,slow=7.1,SNR=2.7							
PLCV	Puerto La Cruz	161.77	45			PKPdf	13 52 47.3	-2.1
NBRF	Rio Formoso -	162.62	249	eP		PKPdf	13 52 59.8	+10
NBRF	Rio Formoso -	162.62	249	eP		PKPdf	13 52 59.8	+10
NBIT	Itapeh - BA	162.97	224	eP		PKPdf	13 52 57.7	+7.2
NBIT	Itapeh - BA	162.97	224	eP		PKPdf	13 52 57.7	+7.2
NBAN	Anadia - AL	163.32	245	eP		PKPdf	13 53 00.4	+9.5
NBAN	Anadia - AL	163.32	245	eP		PKPdf	13 53 00.4	+9.5
TOSP	Speyside	163.46	33			PKPab	13 53 41.3	-0.7
PMNB	Patos De Minas	163.50	197	eP		PKPdf	13 52 58.6	+7.5
PMNB	Patos De Minas	163.50	197	eP		PKPdf	13 52 58.6	+7.5
SIV	San Ignacio	163.82	145		PKP	PKPdf	13 52 52.2	+0.8
	comp=Z,15nm,1.0s,baz=207,slow=1.3,SNR=42							
SIV					PKPab	PKPab	13 53 45.8	+2.1
	comp=Z,7.1nm,0.8s,baz=214,slow=4.1,SNR=2.9							
BDFB	Brasilia	166.69	195		PKP	PKPdf	13 52 53.6	-0.3
	comp=Z,12nm,0.9s,baz=167,slow=3.7,SNR=9.6							
BDFB					PKPab	PKPab	13 53 56.7	+0.4
	comp=Z,4.7nm,0.5s,baz=145,slow=6.5,SNR=4.3							
BDFB	Brasilia	166.69	195			PKPdf	13 52 52.5	-1.4
SAML	Samuel	166.88	119		PKIKP	PKPdf	13 52 53.4	-0.5
SAML	Samuel	166.88	119	eP		PKPdf	13 52 54.9	+1.0
SAML	Samuel	166.88	119	eP		PKPdf	13 52 54.9	+1.0
SAML	Samuel	166.88	119			PKPdf	13 52 53.4	-0.5
NBPS	Pedro II - PI	169.78	260	eP		PKPdf	13 53 04.6	+8.6
NBPS	Pedro II - PI	169.78	260	eP		PKPdf	13 53 04.6	+8.6
MDP	Montagnes des	172.16	8		PKP	PKPdf	13 52 57.1	-0.1
	comp=Z,60nm,1.2s,baz=265,slow=4.0,SNR=8.6							
MDP					PKPab	PKPab	13 54 21.2	+0.8
	comp=Z,100nm,1.1s,baz=357,slow=5.3,SNR=16							

*ISCJB **19** 13:42:21.4±0.6,36°.12N±0°.03×4°.70W±0°.03,h105km±6km, Error ellipse: s-maj=4.9km s-min=4.0km az=22.4*
*SFS **19** 13:42:22.0,36°.00N×4°.60W,h94km,ML2.3,ALBORAN W.*
*MDD **19** 13:42:22.8±1.2,36°.01N×4°.63W,h92km±8km,mb2.1/6, Error ellipse: s-maj=10.4km s-min=4.9km az=171.0, PRXIMO*
*CNRM **19** 13:42:34.2,32°.18N×7°.91W,h0km*
ISC 19 13:42:22.6±1.3,36°.12N±0°.03×4°.67W±0°.03,h96km±8km, n49,σ1§29/68,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.46	349	P	Pn	13 42 37.6	-0.1
	4.8nm,0.1s,SNR=33						
EMIJ				S	Sn	13 42 50.0	+1.0
	2.5nm,0.1s,SNR=6.1						
CEU	Ceuta	0.61	250	eS	Sn	13 42 49.1	-1.8
CEU	Ceuta	0.61	250	S	Sn	13 42 49.1	-1.8
EMAL	Malaga-Limoner	0.67	16[]	eP	Pn	13 42 39.6	+0.2
EMAL				i S	Sn	13 42 52.1	+0.2
EGOR	Sierra Gorda,	1.09	24	P	Pn	13 42 44.1	+0.3
	0.5nm,0.1s,SNR=7.9						
EGOR				S	Sn	13 43 00.9	+1.0
	2.5nm,0.2s,SNR=7.9						
ELGU	Los Guajares,	1.13	48	P	Pn	13 42 43.4	-0.8
	1.1nm,0.0s,SNR=7.9						
ELGU				S	Sn	13 42 58.8	-1.7
	4.4nm,0.1s,SNR=7.9						
ESPR	Espera	1.22	308	P	Pn	13 42 46.6	+1.4
	1.1nm,0.1s,SNR=7.9						
ESPR				S	Sn	13 43 03.2	+0.9
	0.7nm,0.1s,SNR=7.9						
EQUE	Quentar	1.47	42	P	Pn	13 42 50.1	+1.8
	0.2nm,0.1s,SNR=7.9						
EQUE				S	Sn	13 43 09.0	+1.2
	0.3nm,0.2s,SNR=7.9						
EBER	Berja	1.63	61	P	Pn	13 42 50.2	-0.2
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	13 43 09.9	-1.6
	1.8nm,0.2s,SNR=7.9						
AKLM	AKL	1.73	157	P	Pn	13 42 50.9	-0.7
AKLM				S	Sn	13 43 13.3	-0.3
HORN	Hornachuelos	1.79	345	P	Pn	13 42 54.5	+2.2
HORN				S	Sn	13 43 16.0	+1.1
ECAB	El Cabril	2.05	343	P	Pn	13 42 56.5	+0.9
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	13 43 20.6	-0.3
	5.8nm,0.1s,SNR=54						
EADA	Adamuz	2.05	2	P	Pn	13 42 56.8	+1.1
	1.2nm,0.0s,SNR=7.9						
EADA				S	Sn	13 43 21.1	+0.2
	4.2nm,0.0s,SNR=18						
EQES	Quesada	2.12	37	P	Pn	13 42 58.0	+1.5
	1.2nm,0.1s,SNR=7.9						
EQES				S	Sn	13 43 22.4	-0.1
	2.7nm,0.1s,SNR=14						
EMIN	Mina Concepcio	2.30	316	P	Pn	13 42 59.8	+0.9
	0.4nm,0.0s,SNR=6.6						
EMIN				S	Sn	13 43 26.3	-0.5
	4.4nm,0.1s,SNR=24						
EGRO	El Granado	2.67	303	P	Pn	13 43 04.5	+0.8
	1.0nm,0.0s,SNR=7.9						
EGRO				S	Sn	13 43 34.8	-0.6
	16nm,0.1s,SNR=14						
PVAQ	Vaqueiros	2.77	299	eP	Pn	13 43 05.6	+0.5
PVAQ				eS	Sn	13 43 37.0	-0.8
PVAQ				A	A	13 43 38.4	
	5.5nm,0.2s						
PVAQ	Vaqueiros	2.77	299	P	Pn	13 43 05.6	+0.5
PVAQ				S	Sn	13 43 37.0	-0.8
	5.5nm,0.2s						
PBDV	Barranco-do-Ve	2.85	294	eS	Sn	13 43 39.3	-0.6
PBDV				A	A	13 43 40.8	
	3.4nm,0.5s						
PBDV	Barranco-do-Ve	2.85	294	S	Sn	13 43 39.3	-0.6
	3.4nm,0.5s						
PCVE	Castro Verde	3.10	300	eS	Sn	13 43 44.6	-1.1
PCVE				A	A	13 43 44.9	
	3.4nm,0.3s						
PCVE	Castro Verde	3.10	300	S	Sn	13 43 44.6	-1.1
	3.4nm,0.3s						
ZHG	ZHG	3.12	212	P	Pn	13 43 01.3	-8.6
ZHG				S	Sn	13 43 24.9	-21
PBEJ	Beja	3.19	308	eS	Sn	13 43 47.2	-0.8
PBEJ				A	A	13 43 48.1	
	7.0nm,0.2s						
PBEJ	Beja	3.19	308	S	Sn	13 43 47.2	-0.8
	3.5nm,0.2s						
EBAD	Badajoz	3.23	325	P	Pn	13 43 12.3	+1.1
	0.7nm,0.1s,SNR=7.9						
EBAD				S	Sn	13 43 48.7	-0.2
	3.5nm,0.1s,SNR=10						
MD31	MD31	3.24	181	P	Pn	13 43 11.0	-0.6
MD31				S	Sn	13 43 56.3	+7.0
MDT	Midelt	3.29	179	P	Pn	13 43 11.6	-0.7
MDT				S	Sn	13 43 56.3	+5.7
MESJ	Messejana	3.33	302	eS	Sn	13 43 50.4	-0.8
MESJ				A	A	13 43 50.7	
	3.4nm,0.2s						
MESJ	Messejana	3.33	302	S	Sn	13 43 50.4	-0.8
	3.4nm,0.2s						
MORF	Marmelete	3.41	292	eS	Sn	13 43 52.6	-0.8
MORF	Marmelete	3.41	292	S	Sn	13 43 52.6	-0.8
PAB	San Pablo	3.43	4	S	Sn	13 43 52.1	-1.9
	1.2nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	3.50	288	eS	Sn	13 43 54.4	-0.9
PFVI	Vila Bisbo	3.50	288	S	Sn	13 43 54.2	-1.1
	2.9nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.54	44	S	Sn	13 43 54.4	-2.1
	0.4nm,0.1s,SNR=7.9						
EVO	Evora	3.60	313	eS	Sn	13 43 57.0	-0.7
EVO				A	A	13 43 59.8	
	9.6nm,0.2s						
EVO	Evora	3.60	313	S	Sn	13 43 57.0	-0.7
	9.6nm,0.2s						
ESDC	Sonseca Array	3.60	9	S	Sn	13 43 56.1	-1.7
	0.3nm,0.1s,baz=189,slow=23,SNR=6.4						
PESTR	Estremoz	3.60	321	eS	Sn	13 43 57.3	-0.5
PESTR				A	A	13 43 58.5	
	2.9nm,0.7s						
PNCL	Nicolau / Gran	3.67	304	eP	Pn	13 43 18.2	+1.0
PNCL				eS	Sn	13 43 58.3	-1.3
PNCL				A	A	13 44 03.9	
	3.2nm,0.6s						
PNCL	Nicolau / Gran	3.67	304	P	Pn	13 43 18.2	+1.0
PNCL				S	Sn	13 43 58.3	-1.3
	3.2nm,0.6s						
PMRV	Marv??o	3.95	328	eS	Sn	13 44 05.4	-0.9
PMRV	Marv??o	3.95	328	S	Sn	13 44 05.4	-0.9
PMTG	Montargil	4.08	317	eS	Sn	13 44 08.3	-1.2
PMTG				A	A	13 44 10.7	
	2.5nm,0.9s						
PMTG	Montargil	4.08	317	S	Sn	13 44 08.3	-1.2
	2.5nm,0.9s						
EPLA	Plasencia	4.10	345	S	Sn	13 44 08.7	-1.1
	1.9nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	4.33	330	eS	Sn	13 44 14.3	-1.2
PCBR	Castelo Branco	4.33	330	S	Sn	13 44 14.3	-1.2

*IDC **19** 13:42:48.5±1.3,2°.60N×127°.89E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.7/68,mbtmp4.1/5,ML4.5/1,Error ellipse: s-maj=98.7km s-min=20.2km az=62.0*
*ISCJB **19** 13:42:50.8±0.6,2°.90N±0°.07×128°.6E

NOA	NORSAR Array B	8.62	278	Pn	Pn	13 49 12.8	+0.2
	comp=Z,0.0nm,0.3s,baz=76,slow=10,SNR=3.8						
ARCES	ARCESS Array B	8.68	352	Pn	Pn	13 49 14.4	+1.0
	comp=Z,0.2nm,0.3s,baz=171,slow=13,SNR=5.3						

*IDC **19** 14:13:46.5±1.2, 13°.63S×112°.34W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/35, mbtmp4.2/10, MS4.6/2, Ms1 4.6/2, ms1mx3.9/29, Error ellipse: s-maj=34.2km s-min=18.8km az=55.0*
*ISCJB **19** 14:13:47.3±0.5, 13°.43S±0°.06×111°.88W±0°.09, h10km, mb4.2/10, MS4.6/2, Error ellipse: s-maj=14.5km s-min=6.1km az=151.3*
*NEIC **19** 14:13:48.6±2.5, 13°.5S±0°.1×112°.0W±0°.1, h10km±1km, mb4.8/98*
ISC 19 14:13:48.1±0.6, 13°.5S±0°.1×112°.1W±0°.1, h10km, n139, σ1§24/138, mb4.8/46, 1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	13.78	169	P	P	14 20 33.9	+3.1
	comp=Z,2μm,18.0s,baz=355,slow=32			LR	LR	14 21 05.4	
ATAH	Atahualpa	33.77	83	P	P	14 20 33.9	+3.1
	3.4nm,0.7s,baz=278,slow=15,SNR=2.6						
APG	El Apazote	35.55	38	P	P	14 20 47.7	+1.8
	1.2nm,0.3s,baz=223,slow=18,SNR=2.8						
JTS	Las Juntas de	35.88	50	P	P	14 20 46.2	-2.5
PB04	IPOC Station P	40.78	109	P	P	14 21 28.0	-2.1
PB11	IPOC Station P	41.08	105	P	P	14 21 33.0	+0.5
MNMC	Minye Minye	41.12	104	P	P	14 21 29.9	-3.1
MNMC				IAmb	IAmb	14 21 41.1	
	comp=Z,22nm,1.1s						
PB01	IPOC Station P	41.30	107	P	P	14 21 32.0	-2.3
PB01				IAmb	IAmb	14 21 43.1	
	comp=Z,21nm,1.1s						
LVC	Limon Verde	41.95	109	P	P	14 21 38.3	-1.5
LVC				IAmb	IAmb	14 21 47.8	
	comp=Z,24nm,1.8s						
LPAZ	La Paz	42.55	99	P	P	14 21 46.4	+1.2
	comp=Z,3.0nm,0.7s,baz=259,slow=4.5,SNR=11						
LPAZ	La Paz	42.55	99	P	P	14 21 41.9	-3.2
LPAZ				IAmb	IAmb	14 21 53.4	
	comp=Z,14nm,1.0s						
TX31	Lajitas Ar. Si	43.39	11	P	P	14 21 51.0	0.0
TX32	Lajitas Array	43.39	11	P	P	14 21 51.2	+0.1
TXAR	Lajitas Array	43.39	11	P	P	14 21 52.6	+1.6
	comp=Z,0.8nm,1.0s,baz=187,slow=8.7,SNR=5.0						
TXAR	Lajitas Array	43.39	11	P	P	14 21 51.3	+0.2
833A	Chaparral WMA,	43.40	16	P	P	14 21 50.7	-0.3
CFA	Coronel Fontan	44.01	122	P	P	14 21 56.6	+0.5
	comp=Z,9.1nm,1.0s,baz=274,slow=7.7,SNR=8.2						
319A	Douglas	44.73	3	P	P	14 22 01.7	-0.1
214A	Organ Pipe Nat	45.23	359	P	P	14 22 06.0	+0.3
214A				IAmb	IAmb	14 22 13.9	
	comp=Z,18nm,1.8s						
PLCA	Paso Flores	45.25	135	P	P	14 22 05.8	-0.1
	comp=Z,4.8nm,1.0s,baz=307,slow=9.4,SNR=7.3						
PLCA	Paso Flores	45.25	135	P	P	14 22 05.0	-0.9
JCT	Junction City	45.34	15	P	P	14 22 05.1	-1.4
MNTX	Cornudas Mount	45.43	8	P	P	14 22 08.9	+1.6
MNTX				IAmb	IAmb	14 22 17.2	
	comp=Z,29nm,1.9s						
TUC	Tucson	45.60	2	P	P	14 22 10.7	+2.1
435B	Jarrell	46.23	17	P	P	14 22 13.9	+0.4
GLA	Glamis	46.39	357	P	P	14 22 15.2	+0.3
SDV	Santo Domingo	46.83	64	P	P	14 22 19.7	+0.9
	comp=Z,4.4nm,0.7s,baz=245,slow=12,SNR=5.9						
SDV	Santo Domingo	46.83	64	P	P	14 22 18.8	-0.1
SDV				IAmb	IAmb	14 22 31.1	
	comp=Z,9.7nm,1.0s						
PFO	Pinyon Flats O	47.06	355	P	P	14 22 19.8	-0.4
PFO				IAmb	IAmb	14 22 29.3	
	comp=Z,15nm,1.5s						
LENM	Lemitar	47.68	6	P	P	14 22 26.6	+1.5
X16A	Lo Mia Camp, P	47.69	1	P	P	14 22 25.6	+0.5
BNM	Barren Site	47.70	6	P	P	14 22 24.7	-0.6
PASC	Pasadena Art C	47.78	353	P	P	14 22 25.0	-0.7
MWC	Mount Wilson	47.82	353	P	P	14 22 27.3	+1.1
X18A	Snowflake	47.84	2	P	P	14 22 26.7	+0.4
X18A				IAmb	IAmb	14 22 34.9	
	comp=Z,8.5nm,1.1s						
MSTX	Muleshoe	48.07	10	P	P	14 22 28.7	+0.7
MSTX				IAmb	IAmb	14 22 35.2	
	comp=Z,9.9nm,0.9s						
SAML	Samuel	48.16	90	P	P	14 22 28.1	-0.9
W13A	Hualapai Mount	48.39	358	P	P	14 22 30.0	-0.6
W13A				IAmb	IAmb	14 22 39.3	
	comp=Z,16nm,1.5s						
ANMO	Albuquerque	48.51	6	P	P	14 22 30.7	-0.8
GSC	Goldstone, Bar	48.76	355	P	P	14 22 33.5	+0.1
GSC				IAmb	IAmb	14 22 42.5	
	comp=Z,18nm,1.7s						
WUAZ	Wupatki	48.78	1	P	P	14 22 33.8	+0.3
ISA	Isabella, Lake	49.29	353	P	P	14 22 38.5	+1.2
ISA				IAmb	IAmb	14 22 45.8	
	comp=Z,20nm,1.7s						
PAGB	Antelope Grade	49.59	351	P	P	14 22 38.9	-0.7
U15A	North Rim	49.69	360	P	P	14 22 38.6	-2.0
U15A				IAmb	IAmb	14 22 44.3	
	comp=Z,18nm,1.8s						
DAC	Darwin (Calif)	49.80	354	P	P	14 22 42.1	+0.7
DAC				IAmb	IAmb	14 22 47.6	
	comp=Z,12nm,1.6s						
SHPR	Sheep Range	49.85	357	P	P	14 22 42.1	+0.5
SHPR				IAmb	IAmb	14 22 51.1	
	comp=Z,23nm,1.6s						
PMPB	Monarch Peak	50.15	351	P	P	14 22 45.0	+1.1
KNB	Kanab	50.28	359	P	P	14 22 46.4	+1.5
LCMT	Little Creek M	50.28	359	P	P	14 22 45.4	+0.5
TPNV	Topopah Spring	50.36	356	P	P	14 22 46.0	+0.4
TPNV				IAmb	IAmb	14 23 03.8	
	comp=Z,18nm,1.9s						
X37A	Clayton	50.43	18	P	P	14 22 45.0	-1.0
PKCU	Pink Cliffs	50.70	360	P	P	14 22 47.9	-0.5
SAO	San Andreas Ge	50.79	350	P	P	14 22 47.5	-1.1
CCUT	Cedar City	50.82	359	P	P	14 22 48.5	-0.7
SZCU	Shurtz Canyon	50.86	359	P	P	14 22 50.1	+0.7
MTPU	Mount Pierson	51.30	360	P	P	14 22 50.2	-2.6
MDPB	Devils Postpil	51.31	353	P	P	14 22 53.3	+0.5
MDPB				IAmb	IAmb	14 23 18.5	
	comp=Z,12nm,0.9s						
SDCO	Great Sand Dun	51.38	7	P	P	14 22 52.8	-0.6
SDCO				IAmb	IAmb	14 23 02.0	
	comp=Z,18nm,1.4s						
PV01	Paradox Valley	51.50	4	P	P	14 22 54.4	+0.1
PV02	Paradox Valley	51.56	3	P	P	14 22 53.9	-0.8
PV11	David Mesa, Pa	51.64	3	P	P	14 22 55.5	+0.3
PV11				IAmb	IAmb	14 24 06.5	
	comp=Z,29nm,1.9s						
R11A	Troy Canyon, C	51.70	357	P	P	14 22 57.0	+1.3
PV14	Lion Creek, Pa	51.71	3	P	P	14 22 55.6	-0.2
MSU	Marysvale	51.77	360	P	P	14 22 59.4	+3.2
PV23	Carpenter Ridg	51.79	3	P	P	14 22 58.0	+1.5
PV23				IAmb	IAmb	14 23 40.5	
	comp=Z,27nm,1.8s						
PSUT	Pine Spring	51.81	358	P	P	14 22 57.7	+1.2
TCRU	Three Creeks R	51.87	360	P	P	14 22 58.3	+1.3
CMB	Columbia Colle	51.87	352	P	P	14 22 59.1	+2.3
CMB				IAmb	IAmb	14 23 07.2	
	comp=Z,12nm,1.4s						
PV22	Blue Mesa, Par	51.88	3	P	P	14 22 57.1	+0.1
PV22				IAmb	IAmb	14 24 48.6	
	comp=Z,17nm,1.8s						
PV21	Cone Mtn., Par	51.90	3	P	P	14 22 58.7	+1.5
PV21				IAmb	IAmb	14 23 05.9	
	comp=Z,23nm,1.9s						
W41B	Gary Mavity, V	51.98	21	P	P	14 22 59.0	+1.4
NV11	Mina Array Sit	51.99	354	P	P	14 22 58.8	+1.0
NV11				IAmb	IAmb	14 23 11.4	
	comp=Z,14nm,1.4s						
NVAR	Mina Array Bea	52.01	354	P	P	14 22 58.8	+0.8
	comp=Z,2.3nm,0.8s,baz=180,slow=9.3,SNR=18						
NVAR	Mina Array Bea	52.01	354	P	P	14 22 58.2	+0.2
Q16A	Castle Valley	52.18	1	P	P	14 23 00.4	+1.2
RYN	Ryan	52.23	354	P	P	14 22 60.0	+0.4
SRU	San Rafael Swe	52.39	2	P	P	14 23 00.6	-0.2
KVN	Kaiserville	52.60	354	P	P	14 23 03.4	+1.1
YERR	Yerington	52.66	353	P	P	14 23 03.2	+0.4
YERR				IAmb	IAmb	14 23 11.3	
	comp=Z,20nm,1.5s						
CPUP	Villa Florida	52.72	113	P	P	14 23 04.7	+1.3
	comp=Z,4.7nm,1.0s,baz=287,slow=8.1,SNR=3.7						
CPUP	Villa Florida	52.72	113	IAmb	IAmb	14 24 25.9	
	comp=Z,33nm,1.9s						
P17A	Butcher Ranch,	52.74	1	P	P	14 23 04.2	+0.8
PNTR	Pine Nut	52.81	353	P	P	14 23 06.0	+2.1
PNTR				IAmb	IAmb	14 23 12.4	
	comp=Z,13nm,1.1s						
AFDM	Forest Hills D	52.85	351	P	P	14 23 05.4	+1.4
MPU	Maple Canyon	53.27	0	P	P	14 23 07.1	-0.2
PLAL	Pickwick Lake	53.37	25	P	P	14 23 06.1	-1.8
PAHR	Pah Rah Range	53.39	353	P	P	14 23 07.6	-0.5
ISCO	Idaho Springs	53.40	6	P	P	14 23 08.8	+0.4
ISCO				IAmb	IAmb	14 23 19.3	
	comp=Z,19nm,1.8s						
DUG	Dugway, Tooele	53.45	359	P	P	14 23 10.2	+1.7
DUG				IAmb	IAmb	14 23 17.6	
	comp=Z,8.5nm,1.1s						
BEKR	Beckworth	53.67	352	P	P	14 23 12.6	+2.3
BEKR				IAmb	IAmb	14 23 19.2	
	comp=Z,21nm,1.9s						
JLU	Jordanelle	53.86	1	P	P	14 23 12.3	+0.7
HMH	Humu'ula Sheep	53.90	307	P	P	14 23 12.6	+0.2
CTU	Camp Tracy	53.95	0	P	P	14 23 12.6	+0.4
ELK	Elko	54.07	357	P	P	14 23 14.3	+1.1
ELK				IAmb	IAmb	14 23 22.3	
	comp=Z,12nm,1.3s						
BGU	Big Grassy Mou	54.18	359	P	P	14 23 13.1	-0.9
TCUT	Toone Canyon	54.37	1	P	P	14 23 17.1	+1.7
X51A	Calhoun	54.40	28	P	P	14 23 15.2	-0.3
SPUT	South Promonto	54.56	360	P	P	14 23 16.5	-0.2
WVOR	Wild Horse Val	56.01	354	P	P	14 23 27.2	+0.2
WVOR				IAmb	IAmb	14 23 35.6	
	comp=Z,11nm,1.2s						
PD31	Pinedale Array	56.07	2	P	P	14 23 25.9	-1.7
PDAR	Pinedale Array	56.07	2	P	P	14 23 26.9	-0.6
	comp=Z,1.4nm,0.7s,baz=163,slow=6.7,SNR=8.0						
PDAR	Pinedale Array	56.07	2	P	P	14 23 26.1	-1.5
K22A	Casper	56.14	5	P	P	14 23 27.0	-1.0
REDW	Red Top Meadow	56.62	1	P	P	14 23 32.9	+1.3
REDW				IAmb	IAmb	14 23 36.0	
	comp=Z,15nm,1.8s						
OLIL	Olney	56.64	22	P	P	14 23 31.1	-0.4
TPAW	Teton Pass	56.75	1	P	P	14 23 32.7	+0.2
TPAW				IAmb	IAmb	14 23 40.9	
	comp=Z,14nm,1.4s						
MFID	Camas Ranch	56.77	357	P	P	14 23 33.3	+0.9
MFID				IAmb	IAmb	14 23 41.1	
	comp=Z,18nm,1.4s						
TOSP	Speyside	56.81	67	P	P	14 23 31.7	-1.4
FXWY	Fox Creek	56.90	1	P	P	14 23 33.7	+0.2
MOOW	Moose Ponds	57.01	1	P	P	14 23 33.8	-0.5
MOOW				IAmb	IAmb	14 24 55.4	
	comp=Z,17nm,2.0s						
IMW	Indian Meadow	57.16	1	P	P	14 23 34.6	-0.7
IMW				IAmb	IAmb	14 23 43.2	
	comp=Z,8.9nm,1.1s						
RSSD	Black Hills	57.84	7	P	P	14 23 39.0	-1.2
YHH	Holmes Hill	58.05	1	P	P	14 23 42.5	+0.8
MCMT	McKenzie Canyo	58.08	359	P	P	14 23 41.2	-0.6
NEW	Newport	61.67	356	LR	LR	14 47 54.8	
	comp=Z,644nm,19.4s,baz=349,slow=33						
QSPA	South Pole Qui	76.57	180	P	P	14 25 40.3	+1.7
VNA3	Neumayer Olymp	81.25	161	P	P	14 26 04.4	+0.3
VNA1	Neumayer--Stat	81.87	161	P	P	14 26 08.6	+1.3
VNA2	Neumayer--Watz	82.06	161	P	P	14 26 08.8	+0.5
	baz=274,slow=2.9						
ILAR	Eielson Array	82.39	346	P	P	14 26 11.6	+1.6
SNAA	Sanae	83.17	162	P	P	14 26 14.4	+0.2
COLD	Coldfoot	85.18	346	P	P	14 26 26.5	+2.2
COLD				IAmb	IAmb	14 26 36.8	
	comp=Z,9.0nm,1.3s						
H11S1	WAKE ISLAND Hy	86.08	290	T	T	16 01 24.9	
	SNR=32						
CLL	Collm	122.16	37	⇑ i PKPdf	PKPdf	14 32 41.5	-1.6
BRTR	Keskin Array B	140.19	43	PKP	PKPdf	14 33 17.1	-0.5
	comp=Z,0.7nm,0.7s,baz=308,slow=7.0,SNR=3.7						
LZH	Lanzhou	140.70	311	e PKP	PKPdf	14 33 15.0	-3.8
LZH				pPKP	sPKPdf	14 33 25.3	+3.3
LZH				sPKP		14 33 28.4	
LZH				LR	LR		
	comp=N,59nm,18.3s						
LZH				LR	LR		
	comp=E,65nm,18.5s						
LZH				LR	LR		
	comp=Z,76nm,20.1s						
CD2	Chengdu	142.76	304	PKP	PKPdf	14 33 21.3	-1.1
KBZ	Khabaz	143.06	31	PKP	PKPdf	14 33 22.2	-0.3
	comp=Z,2.2nm,0.9s,baz=291,slow=8.6,SNR=3.8						
ABKAR	Abkulak array	143.78	9		PKPdf	14 33 23.5	-0.1
ABKAR	Abkulak array	143.78	9		PKPdf	14 33 23.5	-0.1
MKAR	Makanchi Array	144.70	343	PKP	PKPdf	14 33 24.2	-1.1
	comp=Z,1.7nm,1.0s,baz=20,slow=3.9,SNR=4.8						
MKAR	Makanchi Array	144.70	343		PKPdf	14 33 24.7	-0.6
MAKZ	Makanchi	144.77	343		PKPdf	14 33 24.9	-0.6
CMAR	Chiang Mai Arr	149.75	283	PKPbc	PKiKP	14 33 39.4	-0.8
	comp=Z,0.3nm,0.3s,baz=104,slow=3.8,SNR=3.3						
CMAR	Chiang Mai Arr	149.75	283	PKPdf	PKPdf	14 33 34.4	-0.2
CMAR					sPKPbc	14 33 41.5	-1.0
KDJ	Kajisay	150.38	346		PKiKP	14 33 41.3	+0.2
AAK	Ala-Archa	150.44	350	PKPdf	PKPdf	14 33 35.0	-0.1
AAK					pPKPbc	14 33 41.7	-1.1
TARG	Taragay, Kyrgy	150.60	345		PKPbc	14 33 40.7	-0.5
KSH	Kashi	153.15	346	PKPbc	PKPdf	14 33 41.5	+2.2
KSH				PKS	PKSdf	14 37 13.4	-0.4
KSH				PP	PP	14 37 39.0	+8.7

*KRSC **19** 14:18:21.8±1.2, 48°.76N×152°.18E, h263km±24km, ML5.0*
*ISCJB **19** 14:18:23.5±0.2, 48°.97N±0°.02×151°.80E±0°.03, h228km±1km, mb4.3/74, Error ellipse: s-maj=4.9km s-min=1.8km az=139.4*
*SKHL **19** 14:18:24.7±0.4, 48°.62N×152°.16E, h243km±7km, mb5.5/3, msh5.6/3*
*MOS **19** 14:18:24.0±0.8, 48°.96N×151°.84E, h237km, mb4.4/31, Error ellipse: s-maj=7.9km s-min=3.3km az=65.4*
*NEIC **19** 14:18:26.2±1.3, 48°.98N±0°.08×151°.8E±0°.1, h240km±3km, mb4.6/167*
*IDC **19** 14:18:26.4±0.6, 49°.03N×151°.80E, h240km±5km, mb4.0/31, mb1 4.1/38, mb1mx4.0/54, mbtmp4.6/38, Error ellipse: s-maj=9.2km s-min=6.2km az=139.0*
ISC 19 14:18:25.0±0.3, 48°.85N±0°.04×152°.02E±0°.04, h235km±3km, h234km:pP-P, n568, σ1§66/642, mb4.5/131, 11C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.23	54	e P	Pn	14 19 18.8	-0.2
SKR				e S	S	14 20 01.2	-0.4
SKR	Severo-Kuril's	3.23	54	e PN	Pn	14 19 19.1	+0.1
SKR				e S	S	14 19 59.9	-1.7
SKR				pmax	pmax		
	comp=Z,430nm,0.6s						
SKR				smax	smax		
	comp=E,116nm,0.2s						
SKR				smax	smax		
	comp=N,435nm,0.7s						
SKR				MLR	MLR		
	comp=Z,500nm,12.0s						
SKR	Severo-Kuril's	3.23	54	e P	Pn	14 19 19.0	+0.1
SKR				AMB	AMB	14 19 19.0	
	comp=Z,430nm,0.6s						
SKR				e S	S	14 20 01.0	-0.6
SKR				A	A	14 20 09.0	
	comp=Z,450nm,0.6s						
SKR				A	A	14 20 09.0	
	comp=Z,116nm,0.6s						
PAU	Pauzhetka	4.05	48	e P	Pn	14 19 28.0	-0.5
PAU				e S	S	14 20 18.3	-0.5
PAU	Pauzhetka	4.05	48	PN	Pn	14 19 28.0	-0.5
PAU				S	S	14 20 18.3	-0.5
KUR	Kuril'sk	4.59	220	⇑ i PN	Pn	14 19 35.5	+0.2
KUR				e S	S	14 20 32.4	+1.5
KUR				pmax	pmax		
	comp=Z,148nm,0.7s						
KUR				pmax	pmax		
	comp=E,46nm,0.4s						
KUR				pmax	pmax		
	comp=N,87nm,0.7s						
KUR	Kuril'sk	4.59	220	i P	Pn	14 19 35.3	0.0
KUR				AMB	AMB	14 19 36.9	
	comp=N,2μm,2.0s						
KUR				AMB	AMB	14 19 37.0	
	comp=N,480nm,0.6s						
KUR				e S	S	14 20 30.7	-0.2
KUR				A	A	14 20 32.0	
	comp=N,3μm,3.0s						
KUR				A	A	14 20 32.0	
	comp=N,2μm,3.0s						
KUR				A	A	14 20 40.0	
	comp=N,815nm,0.6s						
KUR				A	A	14 20 40.0	
	comp=N,406nm,0.6s						
KDTR	Khodutka, Kamc	4.88	50	e P	Pn	14 19 37.1	-1.6
KDTR				e S	S	14 20 31.5	-5.7
KDTR	Khodutka, Kamc	4.88	50	PN	Pn	14 19 37.1	-1.6
KDTR				S	S	14 20 31.5	-5.7
ASAK	Asacha	5.15	44	e P	Pn	14 19 42.3	+0.2
ASAK				e S	S	14 20 41.7	-1.7
ASAK	Asacha	5.15	44	PN	Pn	14 19 42.3	+0.2
ASAK				S	S	14 20 41.7	-1.7
APC	Apacha	5.22	37	e P	Pn	14 19 43.0	+0.2
APC				e S	S	14 20 43.2	-1.6
APC	Apacha	5.22	37	PN	Pn	14 19 43.0	+0.2
APC				S	S	14 20 43.2	-1.6
MTVR	Mutnovka	5.35	45	e P	Pn	14 19 44.3	-0.3
MTVR				e S	S	14 20 45.4	-2.6
MTVR	Mutnovka	5.35	45	PN	Pn	14 19 44.3	-0.3
MTVR				S	S	14 20 45.4	-2.6
RUS	Russkaya	5.47	47	e P	Pn	14 19 45.0	-1.0
RUS				e S	S	14 20 45.8	-4.7
RUS	Russkaya	5.47	47	PN	Pn	14 19 45.0	-1.0
RUS				S	S	14 20 45.8	-4.7
PEA0B	Petropavlovsk-	5.57	38	PN	Pn	14 19 47.1	-0.2
PEA0B	Petropavlovsk-	5.57	38		Pn	14 19 47.1	-0.2
PETK	Petropavlovsk-	5.57	38	PN	Pn	14 19 47.0	-0.3
PETK				S	S	14 20 55.8	+2.9
PETK	Petropavlovsk-	5.57	38	P	Pn	14 19 48.2	+0.9
	comp=N,5.9nm,0.3s,baz=211,slow=10,SNR=128						
PETK				S	S	14 20 55.8	+2.9
	comp=N,0.1nm,0.3s,baz=219,slow=20,SNR=2.8						
PETK	Petropavlovsk-	5.57	38		Pn	14 19 47.0	-0.3
PET	Petropavlovsk	5.92	43	e P	Pn	14 19 52.1	+0.5
PET	Petropavlovsk	5.92	43	e PN	Pn	14 19 50.9	-0.7
PET				e S	S	14 20 57.2	-3.5
PET				pmax	pmax		
	comp=Z,51nm,0.6s						
PET				smax	smax		
	comp=N,184nm,0.6s						
PET				smax	smax		
	comp=E,217nm,0.5s						
PET	Petropavlovsk	5.92	43		Pn	14 19 51.3	-0.3
KOK	Koryaka	6.10	41	e P	Pn	14 19 54.4	+0.4
KOK				e S	S	14 21 02.0	-3.0
KOK	Koryaka	6.10	41	PN	Pn	14 19 54.4	+0.4
KOK				S	S	14 21 02.0	-3.0
GNL	Ganaly	6.11	35	e P	Pn	14 19 54.1	-0.1
GNL	Ganaly	6.11	35	PN	Pn	14 19 54.1	-0.1
UGLR	Uglovaya	6.12	42	e P	Pn	14 19 55.0	+0.7
UGLR				e S	S	14 21 02.3	-3.2
UGLR	Uglovaya	6.12	42	PN	Pn	14 19 55.0	+0.7
UGLR				S	S	14 21 02.3	-3.2
AVH	Avacha	6.12	41	e P	Pn	14 19 54.8	+0.5
AVH				e S	S	14 21 03.6	-1.9
AVH	Avacha	6.12	41	PN	Pn	14 19 54.8	+0.5
AVH				S	S	14 21 03.6	-1.9
SMAR	Somma	6.15	41	e P	Pn	14 19 55.3	+0.6
SMAR				e S	S	14 21 02.8	-3.5
SMAR	Somma	6.15	41	PN	Pn	14 19 55.3	+0.6
SMAR				S	S	14 21 02.8	-3.5
KRX	Arik	6.15	40	e P	Pn	14 19 54.8	+0.1
KRX	Arik	6.15	40	PN	Pn	14 19 54.8	+0.1
KRER	Koryakskii	6.16	41	e P	Pn	14 19 54.4	-0.4
KRER				e S	S	14 21 02.7	-3.7
KRER	Koryakskii	6.16	41	PN	Pn	14 19 54.4	-0.4
KRER				S	S	14 21 02.7	-3.7
NLC	Nalytchevo	6.33	44	e P	Pn	14 19 54.8	-2.0
NLC				e S	S	14 21 04.7	-5.4
NLC	Nalytchevo	6.33	44	PN	Pn	14 19 54.8	-2.0
NLC				S	S	14 21 04.7	-5.4
TYV	Tymovskoe	6.38	292	e PN	Pn	14 20 08.9	+11
TYV				pmax	pmax		
	comp=Z,14nm,0.8s						
TYV				pmax	pmax		
	comp=Z,300nm,2.4s						
TYV	Tymovskoe	6.38	292	e P	Pn	14 20 00.1	+2.6
TYV				AMB	AMB	14 20 11.0	
	comp=Z,550nm,4.0s						
TYV				e S	S	14 21 15.4	+4.1
TYV				A	A	14 21 23.2	
	comp=Z,740nm,3.0s						
TYV				A	A	14 21 23.2	
	comp=Z,470nm,3.0s						
YUK	Yuzh-Kuril'sk	6.42	224	d i PN	Pn	14 19 57.3	-0.8
YUK				e S	S	14 21 10.9	-1.5
YUK				pmax	pmax		
	comp=N,106nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK	Yuzh-Kuril'sk	6.42	224	i P	Pn	14 19 57.0	-1.1
YUK				AMB	AMB	14 19 57.0	
	comp=Z,1μm,0.5s						
YUK				AMB	AMB	14 20 00.2	
	comp=Z,3μm,2.0s						
YUK				e S	S	14 21 11.2	-1.2
YUK				A	A	14 21 14.5	
	comp=Z,4μm,3.0s						
YUK				A	A	14 21 14.5	
	comp=Z,5μm,3.0s						
LAGR	Lagunnoye	6.44	224	e PN	Pn	14 19 57.2	-1.1
LAGR				e S	S	14 21 11.0	-1.8
LAGR				pmax	pmax		
	comp=Z,426nm,0.5s						
LAGR				pmax	pmax		
	comp=N,318nm,0.3s						
LAGR				pmax	pmax		
	comp=E,445nm,0.5s						
LAGR	Lagunnoye	6.44	224	e P	Pn	14 19 57.0	-1.3
LAGR				AMB	AMB	14 20 07.0	
	comp=E,426nm,0.5s						
LAGR				e S	S	14 21 12.0	-0.8
GRPR	Tuman	6.50	224	e PN	Pn	14 19 57.4	-1.6
GRPR				e S	S	14 21 11.4	-2.7
GRPR				pmax	pmax		
	comp=Z,427nm,0.4s						
GRPR				pmax	pmax		
	comp=N,131nm,0.3s						
GRPR				pmax	pmax		
	comp=E,120nm,0.3s						
GRPR	Tuman	6.50	224	e P	Pn	14 19 57.0	-2.0
GRPR				AMB	AMB	14 19 59.0	
	comp=E,427nm,0.4s					

JKA Kamikawa-asahi 8.04 237 Pn 14 20 20.6 +2.0
JKA S 14 21 52.4 +2.5
ASAJ Asahikawa 8.04 237 P **Pn 14 20 20.1 +1.5**
ASAJ Asahikawa 8.04 237 P **Pn 14 20 20.6 +2.0**
comp=E,16nm,0.3s,baz=65,slow=12,SNR=143
ASAJ S **S 14 21 52.4 +2.5**
comp=E,1.2nm,0.3s,baz=270,slow=20,SNR=3.5
JKK2 Kamakawa 2 8.11 236 P **Pn 14 20 21.2 +1.6**
TUMR Tumrok 8.16 35 PN **Pn 14 20 20.3 +0.2**
TUMR S **S 14 21 48.3 -4.4**
ESO Esso 8.18 27 P **Pn 14 20 20.9 +0.6**
ESO Esso 8.18 27 PN **Pn 14 20 20.9 +0.6**
TUMD Tumrok D 8.20 36 *e*P **Pn 14 20 20.3 -0.2**
TUMD *e*S **S 14 21 48.3 -5.1**
JRBN Rebuntou 8.21 249 P **Pn 14 20 22.4 +1.5**
JOB Onbets 8.24 227 P **Pn 14 20 18.5 -2.7**
JOB *e*S S 14 21 45.5 -9.1
JAB Ashibetsu 8.64 235 P **Pn 14 20 27.2 +0.9**
JFR Furan 8.68 233 P **Pn 14 20 26.5 -0.3**
JCH Churui 8.68 227 P **Pn 14 20 23.3 -3.6**
JCH *e*S S 14 21 54.3 -11
KIRR Kirishev 8.74 32 *e*P **Pn 14 20 27.6 0.0**
KIRR Kirishev 8.74 32 PN **Pn 14 20 27.6 0.0**
ZLN Zelenaya 8.96 33 *e*P **Pn 14 20 31.1 +0.8**
ZLN Zelenaya 8.96 33 PN **Pn 14 20 31.1 +0.8**
LGNR Loginova 8.97 33 *e*P **Pn 14 20 31.2 +0.6**
LGNR Loginova 8.97 33 PN **Pn 14 20 31.2 +0.6**
CIRR Tsirk 9.02 33 P **Pn 14 20 29.3 -1.8**
CIRR Tsirk 9.02 33 PN **Pn 14 20 29.3 -1.8**
KRSR Krestovskiy 9.03 32 *e*P **Pn 14 20 30.2 -1.0**
KRSR Krestovskiy 9.03 32 PN **Pn 14 20 30.2 -1.0**
JBT2 Biratori 2 9.07 232 P **Pn 14 20 29.4 -2.4**
JBT2 *e*S **S 14 22 05.9 -8.1**
KLY Klyuchi 9.13 32 *e*P **Pn 14 20 33.0 +0.6**
KLY *e*S **S 14 22 12.2 -3.1**
KLY Klyuchi 9.13 32 PN **Pn 14 20 33.0 +0.6**
KLY S **S 14 22 12.2 -3.1**
JNBK Urakawa-nobuka 9.23 228 P **Pn 14 20 29.6 -4.3**
JNBK *e*S S 14 22 05.9 -12
JEM Erimo 9.24 226 P **Pn 14 20 30.7 -3.3**
ERM Erimo 9.24 226 *d i* PN **Pn 14 20 32.7 -1.3**
ERM Erimo 9.24 226 **Pn 14 20 31.2 -2.7**
JEW Eniwo 9.51 235 P **Pn 14 20 36.5 -0.9**
BDR Baidarnaya 9.53 32 *e*P **Pn 14 20 37.0 -0.5**
BDR Baidarnaya 9.53 32 PN **Pn 14 20 37.0 -0.5**
SRKR Sorokina 9.58 32 *e*P **Pn 14 20 37.3 -0.9**
SRKR Sorokina 9.58 32 PN **Pn 14 20 37.3 -0.9**
SMKR Semkarok 9.63 33 *e*P **Pn 14 20 38.8 0.0**
SMKR Semkarok 9.63 33 PN **Pn 14 20 38.8 0.0**
KBG Krutoberegovo 9.86 37 *e*P **Pn 14 20 40.6 -1.1**
KBG *e*S **S 14 22 24.4 -7.9**
KBG Krutoberegovo 9.86 37 PN **Pn 14 20 40.6 -1.1**
KBG S **S 14 22 24.4 -7.9**
KBTR Krutoberegovo 9.87 38 *e*P **Pn 14 20 40.1 -1.7**
KBTR Krutoberegovo 9.87 38 PN **Pn 14 20 40.1 -1.7**
JNB Noboribetsu 9.98 234 P **Pn 14 20 41.3 -2.1**
JNB *e*S **S 14 22 28.3 -7.2**
GRNR Gornyy 10.27 287⇑ *i* PN **Pn 14 20 48.0 +1.1**
GRNR pmax pmax
comp=Z,11nm,1.0s
JKB Kayabe 10.39 232 P **Pn 14 20 44.7 -3.9**
JKB *e*S S 14 22 32.3 -13
JSH Shimam 10.41 238 P **Pn 14 20 48.6 -0.2**
JYM2 Yakumo 2 10.58 235 P **Pn 14 20 48.9 -2.1**
BKI Bering 10.69 48 *e*P **Pn 14 20 49.4 -2.7**
BKI *e*S S 14 22 38.1 -14
BKI Bering 10.69 48 PN **Pn 14 20 49.4 -2.7**
MA2 Magadan 10.78 357 *ce*PN **Pn 14 20 52.0 -1.3**
MA2 pmax pmax
comp=Z,36nm,1.3s
MA2 Magadan 10.78 357 P **Pn 14 20 52.8 -0.4**
comp=Z,0.7nm,0.3s,baz=178,slow=6.6,SNR=9.3
MA2 Magadan 10.78 357 **Pn 14 20 52.6 -0.7**
JTM Tenmabayashi 11.19 228 P Pn 14 20 53.7 -5.0
JTM *e*S S 14 22 48.6 -14
TEY Ternei 11.21 256⇓ *e*PN **Pn 14 21 00.9 +2.1**
TEY pmax pmax
comp=E,30nm,1.0s
TEY pmax pmax
comp=N,10.0nm,1.6s
TEY pmax pmax
comp=Z,40nm,1.4s
TEY Ternei 11.21 256 *e*P **Pn 14 21 00.1 +1.3**
TEY AMB AMB 14 21 01.8
comp=Z,40nm,1.4s
PALN Palana 11.27 21 *e*P **Pn 14 20 59.6 +0.2**
PALN Palana 11.27 21 PN **Pn 14 20 59.6 +0.2**
JANG Nango 11.29 225 P Pn 14 20 54.2 -5.8
JTH Tanohata 11.48 223 P Pn 14 20 57.2 -5.2
OSSR Ossora 12.26 28 *e*P **Pn 14 21 10.5 -1.3**
OSSR Ossora 12.26 28 PN **Pn 14 21 10.5 -1.3**
JRG Rokugo 12.48 225 P **Pn 14 21 10.6 -4.2**
JIO Ouri 12.93 221 P **Pn 14 21 16.1 -4.3**
KLR Kul'dur 13.30 279 P **P 14 21 27.0 +0.3**
comp=Z,5.0nm,0.3s,baz=77,slow=12,SNR=42
JYA Atsumi 13.55 225 P **Pn 14 21 27.0 -1.1**
SEY Seymchan 14.12 1⇑ *e*P **Pn 14 21 35.0 +0.3**
SEY Seymchan 14.12 1 P **P 14 21 35.5 0.0**
comp=Z,2.4nm,0.3s,baz=178,slow=10,SNR=72
TILK Tilichiki 14.17 30 *e*P **Pn 14 21 35.4 +0.1**
TILK Tilichiki 14.17 30 P **Pn 14 21 35.4 +0.1**
USA0B Ussuriysk Arra 14.54 259 P **Pn 14 21 39.9 -0.1**
USA0B Ussuriysk Arra 14.54 259 **Pn 14 21 39.9 -0.1**
USRK Ussuriysk Ar. 14.54 259 P **P 14 21 40.2 -0.2**
USRK Ussuriysk Ar. 14.54 259 P **P 14 21 40.5 +0.1**
baz=70,slow=11,SNR=22
USRK Ussuriysk Ar. 14.54 259 P **P 14 21 40.2 -0.2**
KMSK Kamenskaya 15.77 25 *e*P **P 14 21 53.0 -0.7**
KMSK Kamenskaya 15.77 25 P **P 14 21 53.0 -0.7**
MJB9 Matsu-Tunnel 15.91 225 P **P 14 21 56.0 +0.4**
MJB9 IAmb IAmb 14 21 57.4
comp=Z,31nm,0.9s
MAJO Matsushiro 15.91 225 P **P 14 21 56.0 +0.3**
MAJO pmax pmax
comp=Z,30nm,0.9s
MAJO Matsushiro 15.91 225 P **P 14 21 56.0 +0.3**
MAJO IAmb IAmb 14 21 57.4
comp=Z,30nm,0.9s
MAT Matsushiro 15.91 225 P **P 14 21 55.7 0.0**
MJAR Matsushiro Arr 15.91 225 P **P 14 21 56.1 +0.5**
MJAR pmax pmax
comp=Z,6.0nm,0.6s
MJAR Matsushiro Arr 15.91 225 P **P 14 21 56.2 +0.5**
comp=Z,0.6nm,0.3s,baz=22,slow=12,SNR=31
MJAR Matsushiro Arr 15.91 225 P **P 14 21 56.1 +0.5**
MDJ Mudanjiang 15.93 263 P **Pn 14 21 56.3 -0.4**
MDJ pmax pmax
comp=Z,13nm,1.0s
MDJ pmax pmax
comp=Z,520nm,4.5s
MDJ Mudanjiang 15.93 263 P **P 14 21 55.2 -0.5**
MDJ IAmb IAmb 14 21 57.6
comp=Z,12nm,0.7s
INU Inuyama 17.44 225 P **P 14 22 13.1 +0.7**
YAK Yakutsk 18.17 325 *e*P **P 14 22 20.7 +0.8**
YAK *e*S **S 14 25 34.7 -0.5**
YAK pmax pmax
comp=Z,137nm,0.8s
YAK pmax pmax
comp=N,16nm,0.9s
YAK pmax pmax
comp=E,43nm,1.0s
YAK smax smax
comp=E,100nm,2.5s
YAK smax smax
comp=N,94nm,2.2s
YAK Yakutsk 18.17 325 P **P 14 22 19.8 -0.1**
JHJ2 Mitsune 18.18 215 P **Pn 14 22 22.2 -1.1**
JHJ Hachijo jima 2 18.19 215 P **P 14 22 21.9 +1.5**
comp=N,8.1nm,0.3s,baz=61,slow=19,SNR=3.4
CN2 Changchun 18.98 265 *e*P **P 14 22 26.8 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BILL Bilibino 20.54 15 *i* P **P 14 22 42.8 -2.5**
BILL *i* 14 23 51.8
BILL *i* 14 26 44.8
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 20.54 15 P **P 14 22 43.0 -2.3**
BILL pP **pP 14 23 24.9 +2.0**
BILL IAmb IAmb 14 23 26.1
comp=Z,23nm,1.4s

KSRS Korea Array 20.85 246 P **P 14 22 49.6 +0.8**
comp=Z,6.0nm,0.7s,baz=52,slow=10,SNR=14
KSAR Wonju Array Be 20.88 246 P **P 14 22 47.3 -1.9**
KSAR Wonju Array Be 20.88 246 P **P 14 22 47.3 -1.9**
JNU Nakatsue 22.28 233 P **P 14 23 04.0 +1.3**
comp=Z,11nm,0.8s,baz=46,slow=2.6,SNR=8.7
JNU Nakatsue 22.28 233 P **P 14 23 03.1 +0.3**
SPIA Saint Paul Isl 23.91 55 P **P 14 23 18.2 +1.0**
TIXI Tiksi 25.25 343⇓ *e*P **P 14 23 27.9 -1.2**
TIXI pmax pmax
comp=Z,12nm,1.6s
TIXI Tiksi 25.25 343 P **P 14 23 29.2 +0.1**
comp=Z,5.5nm,0.4s,baz=180,slow=24,SNR=14
TIXI Tiksi 25.25 343 P **P 14 23 27.9 -1.2**
TIXI IAmb IAmb 14 24 18.3
comp=Z,30nm,1.7s
ANM Nome 27.49 39 P **P 14 23 50.5 +1.3**
ANM pmax pmax
comp=Z,51nm,1.2s
ANM Nome 27.49 39 P **P 14 23 50.5 +1.3**
RDOG Red Dog Mine 29.42 33 P **P 14 24 06.6 +0.4**
RDOG IAmb IAmb 14 24 07.8
comp=Z,7.9nm,0.9s
HHC Hu-ho-hao-te 29.49 270 *e*P **P 14 24 05.1 -2.2**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,8.0nm,6.6s
ULN Ulaanbaatar 29.57 285⇓ *e*P **P 14 24 07.1 -0.9**
ULN pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 29.57 285 *e*P **P 14 24 07.1 -0.9**
NJ2 Nanjing 30.00 248 *e*P **P 14 24 11.1 -0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 30.00 286 P **P 14 24 10.8 -0.9**
comp=Z,1.1nm,0.7s,baz=66,slow=7.9,SNR=8.5
SONM ScP **ScP 14 30 27.9 +1.0**
comp=Z,2.2nm,0.9s,baz=98,slow=3.1,SNR=8.5
SONM Songino Array 30.00 286 P **P 14 24 11.1 -0.7**
SONM **ScP 14 30 26.8 -0.1**
TLY Talaya 30.61 294⇓ *e*P **P 14 24 17.3 +0.4**
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 30.61 294 P **P 14 24 17.8 +0.9**
comp=Z,1.4nm,0.4s,baz=55,slow=9.6,SNR=4.2
TLY Talaya 30.61 294 *e*P **P 14 24 17.3 +0.4**
TLY Talaya 30.61 294 P **P 14 24 16.8 -0.1**
TTA Tatalina 31.38 44 P **P 14 24 24.1 +0.6**
TTA pmax pmax
comp=Z,10.0nm,0.6s
TTA Tatalina 31.38 44 P **P 14 24 24.1 +0.6**
TTA IAmb IAmb 14 24 25.2
comp=Z,9.7nm,0.6s
H11N2 WAKE ISLAND Hy 31.42 152 T T 14 56 47.7
baz=340,slow=75,SNR=14
H11N1 WAKE ISLAND Hy 31.43 152 T T 14 56 57.6
baz=340,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 31.44 152 T T 14 56 45.2
baz=340,slow=75,SNR=7.3
SVW2 Sparrevohn 31.57 47 P **P 14 24 26.3 +1.2**
SVW2 IAmb IAmb 14 24 35.4
comp=Z,33nm,1.7s
CHIR Chirikof Islan 32.06 57 P **P 14 24 30.0 +0.5**
SARN Sarigan 32.46 191 P **P 14 24 33.4 +0.1**
H11S1 WAKE ISLAND Hy 32.51 153 T T 14 58 16.6
baz=343,slow=76,SNR=19
H11S3 WAKE ISLAND Hy 32.52 153 T T 14 58 17.2
baz=343,slow=76,SNR=26
H11S2 WAKE ISLAND Hy 32.53 153 T T 14 58 17.2
baz=343,slow=76,SNR=17
IMAR Indian Mountai 32.54 38 P **P 14 24 33.9 +0.4**
IMAR pP **pP 14 25 21.7 +1.4**
OHAK Old Harbor 33.11 54 P **P 14 24 38.3 -0.2**
PPLA Purkeypile 33.13 44 P **P 14 24 39.4 +0.6**
PPLA IAmb IAmb 14 24 57.2
comp=Z,37nm,1.6s
KDAK Kodiak Island 33.40 53 P **P 14 24 40.9 -0.1**
comp=Z,10.0nm,0.7s,baz=165,slow=2.7,SNR=23
KDAK Kodiak Island 33.40 53 P **P 14 24 41.1 +0.1**
BPAW Bear Paw Mtn. 33.64 42 P **P 14 24 44.0 +0.9**
BPAW IAmb IAmb 14 24 45.0
comp=Z,6.6nm,0.7s
MLY Manley 33.75 40 P **P 14 24 44.8 +0.8**
WHN Wuhan 33.83 251 P P 14 24 51.3 +6.3
CNPM China Poot 33.84 50 P **P 14 24 45.2 +0.3**
SUA Susitna One 33.88 46 P **P 14 24 45.8 +0.5**
SUA IAmb IAmb 14 25 29.5
comp=Z,31nm,1.0s
TRF Thorofare Moun 33.97 43 P **P 14 24 46.4 +0.3**
TRF IAmb IAmb 14 24 47.4
comp=Z,7.8nm,0.6s
BRLK Bradley Lake 33.99 49 P **P 14 24 46.4 +0.2**
COLD Coldfoot 34.04 36 P **P 14 24 47.2 +0.8**
BWN Browne 34.31 42 P **P 14 24 50.4 +1.6**
BWN IAmb IAmb 14 24 51.7
comp=Z,22nm,0.6s
TOLK Toolik Lake Re 34.38 34 P **P 14 24 50.2 +0.8**
baz=266
TOLK Toolik Lake Re 34.38 34 P **P 14 24 50.0 +0.7**
TOLK IAmb IAmb 14 24 50.8
comp=Z,12nm,0.6s
RC01 Rabbit Creek A 34.40 47 P **P 14 24 49.9 +0.3**
RC01 IAmb IAmb 14 26 06.0
comp=Z,27nm,1.3s
NEA Nenana 34.47 41 P **P 14 24 50.5 +0.4**
NEA IAmb IAmb 14 24 51.8
comp=Z,9.8nm,0.7s
MCK McKinley 34.56 42 P **P 14 24 51.5 +0.5**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 34.56 42 P **P 14 24 51.5 +0.5**
MCK IAmb IAmb 14 24 52.5
comp=Z,9.3nm,0.8s
RND Reindeer 34.62 43 P **P 14 24 51.6 +0.1**
RND pmax pmax
comp=Z,10.0nm,0.7s
RND Reindeer 34.62 43 P **P 14 24 51.6 +0.1**
RND IAmb IAmb 14 24 52.6
comp=Z,10nm,0.7s
SEW Seward 34.66 49 P **P 14 24 51.7 -0.1**
GHO Glory Hole Cre 34.72 46 P **P 14 24 52.9 +0.5**
GHO IAmb IAmb 14 26 05.4
comp=Z,78nm,1.9s
MDM Murphy Dome 34.82 40 P **P 14 24 53.0 -0.1**
WRH Wood River Hil 34.90 41 P **P 14 24 55.0 +1.3**
WRH IAmb IAmb 14 25 01.7
comp=Z,21nm,1.3s
TCOL CIGO, UAF Yank 34.98 40 P **P 14 24 55.3 +0.9**
baz=273,SNR=7.2
KNK Knik Glacier 34.98 46 P **P 14 24 55.1 +0.5**
COLA College 34.98 40 *ce*P **P 14 24 55.3 +0.8**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 34.98 40 P **P 14 24 55.5 +1.0**
COLA IAmb IAmb 14 24 56.4
comp=Z,22nm,0.8s
SML Sawmill 34.99 46 P **P 14 24 54.8 0.0**
CCB Clear Creek Bu 35.01 41 P **P 14 24 55.5 +0.7**
POKR Poker Plat Res 35.15 40 P **P 14 24 57.0 +1.1**
baz=273,SNR=5.2
DHY Denali Highway 35.31 43 P **P 14 24 58.0 +0.5**
DHY IAmb IAmb 14 24 58.3
comp=Z,31nm,1.6s
HDA Harding Lake 35.39 41 P **P 14 24 58.0 0.0**
baz=274,SNR=7.5
HDA Harding Lake 35.39 41 P **P 14 24 58.1 0.0**
HDA IAmb IAmb 14 24 59.6
comp=Z,7.4nm,0.7s
IL31 35.40 40 P **P 14 24 58.6 +0.6**
ILAR Eielson Array 35.40 40 P **P 14 24 58.1 +0.1**
ILAR Eielson Array 35.40 40 P **P 14 24 58.3 +0.2**
comp=Z,5.7nm,0.8s,baz=267,slow=7.4,SNR=34
ILAR Eielson Array 35.40 40 P **P 14 24 58.1 +0.1**
SCM Sheep Creek Mo 35.47 45 P **P 14 24 59.6 +0.8**
SCM pmax pmax
comp=Z,127nm,2.0s
SCM Sheep Creek Mo 35.47 45 P **P 14 24 59.6 +0.8**
PRP Porcupine Dome 35.93 39 P **P 14 25 03.3 +0.6**
PRP IAmb IAmb 14 25 04.8
comp=Z,11nm,0.8s
PRP pP **pP 14 25 52.2 +2.0**
FYU Fort Yukon 36.00 37 P **P 14 25 04.4 +1.3**
FYU IAmb IAmb 14 25 05.5
comp=Z,21nm,0.5s

FID Port Fidalgo 36.02 47 P **P 14 25 03.6 +0.2**
HIN Hinchinbrook I 36.07 48 P **P 14 25 05.1 +1.2**
PAX Paxson 36.19 43 P **P 14 25 06.0 +1.2**
PAX pmax pmax
comp=Z,27nm,1.8s
PAX Paxson 36.19 43 P **P 14 25 06.0 +1.2**
PAX IAmb IAmb 14 25 06.2
comp=Z,27nm,1.8s
BMAR Burnt Mountain 36.22 36 P **P 14 25 06.3 +1.2**
RIDG Independent Ri 36.37 42 P **P 14 25 06.3 -0.1**
NRIK Noril'sk 36.59 328 P **P 14 25 06.7 -1.4**
comp=Z,1.9nm,0.4s,baz=92,slow=8.1,SNR=4.1
SCRK Sand Creek 36.73 42 P **P 14 25 09.2 -0.2**
SCRK IAmb IAmb 14 25 10.1
comp=Z,6.1nm,0.5s
DOT Dot Lake 36.73 42 P **P 14 25 08.9 -0.5**
LZH Lanzhou 37.15 268 *e*P **P 14 25 13.3 -0.1**
LZH pP pP 14 25 58.0 -3.0
LZH sP sP 14 26 26.8 -0.9
LZH PP **PnPn 14 26 52.9 +6.0**
LZH pmax pmax
comp=Z,14nm,1.3s
LZH pmax pmax
comp=Z,59nm,4.3s
LZH LR LR
comp=N,59nm,18.3s
LZH LR LR
comp=E,65nm,18.5s
LZH LR LR
comp=Z,76nm,20.1s
VRDI Verde Repeater 37.39 46 P **P 14 25 16.5 +1.3**
VRDI IAmb IAmb 14 25 38.8
comp=Z,79nm,2.0s
CRQM Cirque 37.64 47 P **P 14 25 18.6 +1.5**
CRQM IAmb IAmb 14 25 19.5
comp=Z,15nm,0.8s
BCAR Beaver Creek A 37.83 43 P **P 14 25 20.0 +1.4**
EGAK Eagle 37.84 40 P **P 14 25 18.6 +0.1**
BARN Barnard Glacie 38.28 46 P **P 14 25 24.1 +1.5**
BARN IAmb IAmb 14 26 07.8
comp=Z,64nm,1.7s
YAH Yahtse 38.39 47 P **P 14 25 25.6 +2.1**
CTGM Chitina Glacie 38.46 46 P **P 14 25 25.6 +1.6**
CTGM IAmb IAmb 14 26 52.5
comp=Z,42nm,1.6s
DAWY Dawson 38.71 41 P **P 14 25 27.0 +1.1**
DAWY IAmb IAmb 14 26 06.8
comp=Z,21nm,1.9s
PCA Pinnacle 39.18 47 P **P 14 25 31.3 +1.4**
EPYK Eagle Plains 39.41 37 P **P 14 25 32.7 +1.0**
baz=280
EPYK Eagle Plains 39.41 37 P **P 14 25 32.9 +1.2**
EPYK IAmb IAmb 14 26 11.5
comp=Z,61nm,2.0s
INK Inuvik 40.29 34 P **P 14 25 39.7 +0.9**
INK pmax pmax
comp=Z,8.0nm,0.5s
INK Inuvik 40.29 34 P **P 14 25 39.9 +1.1**
comp=Z,5.8nm,0.4s,baz=285,slow=6.1,SNR=78
INK Inuvik 40.29 34 P **P 14 25 39.7 +0.9**
INK IAmb IAmb 14 25 40.4
comp=Z,7.6nm,0.5s
ZAA0 Zalesovo Array 40.81 304 P **P 14 25 42.1 -1.1**
ZALV Zalesovo Beam 40.81 304 P **P 14 25 42.3 -0.9**
ZALV 14 27 39.7
ZALV Zalesovo Beam 40.81 304 P **P 14 25 42.6 -0.6**
comp=Z,3.2nm,0.4s,baz=63,slow=6.8,SNR=14
ZALV PcP **PcP 14 27 39.8 +0.6**
comp=Z,3.7nm,0.3s,baz=91,slow=2.3,SNR=12
ZALV Zalesovo Beam 40.81 304 P **P 14 25 42.3 -0.9**
ZALV **PcP 14 27 39.7 +0.5**
DGZ Jazzator, Alta 40.97 297⇑ *e*P **P 14 25 45.3 +0.5**
WHY Whitehorse 41.59 45 P **P 14 25 51.5 +1.9**
WHY IAmb IAmb 14 26 46.1
comp=Z,38nm,1.7s
C36M Paulatuk 43.38 31 P **P 14 26 04.3 +0.6**
baz=287,SNR=16
WMQ Urumqi 43.52 289 *e*P **P 14 26 05.9 +0.7**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,64nm,5.9s
CRAG Craig 44.32 52 P **P 14 26 14.2 +2.8**
CRAG IAmb IAmb 14 26 33.9
comp=Z,57nm,1.5s
MK31 Makanchi Array 45.35 295 P **P 14 26 18.8 -0.9**
MK31 *PP **pP 14 27 08.7 -0.5**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 45.35 295 P **P 14 26 18.8 -0.9**
MK31 pP **pP 14 27 08.7 -0.5**
MKAR Makanchi Array 45.35 295 P **P 14 26 18.6 -1.0**
MKAR *PP **pP 14 27 08.8 -0.4**
MKAR 14 27 55.1
MKAR Makanchi Array 45.35 295 P **P 14 26 19.1 -0.5**
comp=Z,5.6nm,0.5s,baz=69,slow=8.2,SNR=64
MKAR pP **pP 14 27 09.2 0.0**
comp=Z,3.8nm,0.8s,baz=64,slow=8.5,SNR=5.6
MKAR PcP **PcP 14 27 55.1 +0.3**
comp=Z,1.8nm,0.4s,baz=67,slow=4.0,SNR=8.3
MKAR ScP **ScP 14 31 25.0 +0.4**
comp=Z,0.8nm,0.6s,baz=55,slow=3.9,SNR=6.3
MKAR Makanchi Array 45.35 295 *e*P **P 14 26 18.7 -1.0**
MKAR Makanchi Array 45.35 295 P **P 14 26 18.6 -1.0**
MKAR **pP 14 27 08.8 -0.4**
MAKZ Makanchi 45.53 295 P **P 14 26 20.3 -0.7**
MAKZ *PP **pP 14 27 10.4 -0.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.5s
MAKZ Makanchi 45.53 295 P **P 14 26 20.4 -0.7**
MAKZ pP **pP 14 27 10.4 -0.2**
KURK Kurchatov 45.61 302 *ce*P **P 14 26 21.1 -0.5**
KURK pmax pmax
comp=Z,14nm,0.6s
KURK Kurchatov 45.61 302 *e*P **P 14 26 21.1 -0.5**
KURK Kurchatov 45.61 302 P **P 14 26 21.0 -0.5**
KURK IAmb IAmb 14 26 21.9
comp=Z,18nm,0.6s
BRVK Borovoye 49.01 308 *ce*P **P 14 26 47.5 -0.1**
BRVK *i* *PP **pP 14 27 39.4 +1.4**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 49.01 308 *e*P **P 14 26 47.6 -0.1**
BRVK Borovoye 49.01 308 P **P 14 26 47.1 -0.5**
BRVK IAmb IAmb 14 26 48.0
comp=Z,14nm,0.6s
RES Resolute Bay 49.09 19 P **P 14 26 47.3 -0.6**
comp=Z,3.0nm,0.5s,baz=270,slow=5.7,SNR=7.2
RES Resolute Bay 49.09 19 P **P 14 26 47.5 -0.3**
RES IAmb IAmb 14 27 00.4
comp=Z,23nm,1.4s
LSA Lhasa 49.47 271 P **P 14 26 49.8 -2.2**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 49.47 271 P **P 14 26 49.8 -2.2**
YKW3 Yellowknife Ar 49.66 37 P **P 14 26 53.3 +0.9**
YKW3 IAmb IAmb 14 28 08.9
comp=Z,41nm,1.8s
YKA Yellowknife Ar 49.70 37 P **P 14 26 52.8 +0.1**
YKA Yellowknife Ar 49.70 37 P **P 14 26 53.6 +1.0**
comp=Z,5.8nm,0.6s,baz=300,slow=7.0,SNR=21
YKA Yellowknife Ar 49.70 37 P **P 14 26 52.8 +0.1**
SPA0 Spitsbergen Ar 50.42 349 P **P 14 26 56.4 -1.5**
HPAH Hawaii Prepara 50.54 106 P **P 14 27 01.2 +1.6**
KHLU Kahalu`u 50.73 106 P **P 14 27 02.6 +1.5**
POHA Pohakuloa 50.84 106 P **P 14 27 04.0 +1.9**
MANU Manus Island 50.84 186 P **P 14 27 03.0 +1.2**
MANU IAmb IAmb 14 27 03.8
comp=Z,25nm,0.9s
KDJ Kajisay 50.93 292 P **P 14 27 02.2 -0.3**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
KDJ Kajisay 50.93 292 P **P 14 27 02.2 -0.3**
MLOA Mauna Loa Obse 50.98 106 P **P 14 27 05.0 +1.7**
HMH Humu'ula Sheep 50.99 106 P **P 14 27 05.2 +2.0**
MLH Mauna Loa 51.13 106 P **P 14 27 06.0 +1.7**
KHU Kahuku 51.16 106 P **P 14 27 06.2 +1.7**
KHU pmax pmax
comp=Z,155nm,1.4s
KHU Kahuku 51.16 106 P **P 14 27 06.2 +1.7**
AIN Ainahou 51.17 106 P **P 14 27 06.6 +2.1**
SVE Sverdlovsk 51.80 316 *e*P **P 14 27 08.1 -0.3**
SVE pmax pmax
comp=Z,15nm,0.6s

CMAR Chiang Mai Arr 52.20 254 P **P** **14 27 13.1 +1.3**
comp=Z,1.0nm,0.6s,baz=37,slow=6.5,SNR=7.8
CMAR PcP **PcP** **14 28 21.6 +1.6**
comp=Z,0.9nm,0.7s,baz=16,slow=3.3,SNR=4.2
CMAR ScP **ScP** **14 31 54.0 -0.1**
comp=Z,0.7nm,0.5s,baz=14,slow=4.3,SNR=5.0
TULEG Thule 52.21 11 P **P** **14 27 11.4 +0.2**
TULEG IAmb IAmb 14 28 03.0
comp=Z,100nm,1.9s
AAK Ala-Archa 52.27 294‖ *e*P **P** **14 27 12.3 0.0**
AAK *i* *PP **pP** **14 28 03.1 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 52.27 294 *e*P **P** **14 27 12.3 0.0**
AAK Ala-Archa 52.27 294 P **P** **14 27 11.8 -0.4**
KKM Kota Kinabalu 52.31 227 P **P** **14 27 12.8 0.0**
PBKT Sadao Pong 52.34 250 P **P** **14 27 13.3 +0.5**
ARU Arti 52.98 316*c i*P **P** **14 27 16.0 -1.1**
ARU *PP **pP** **14 28 06.9 -1.2**
ARU 14 29 15.1
ARU S **S** **14 34 26.3 -1.3**
ARU SS **SKiKP** **14 38 08.9 +0.2**
ARU pmax pmax
comp=Z,20nm,0.6s
ARU Arti 52.98 316 *e*P **P** **14 27 15.9 -1.1**
ARU Arti 52.98 316 P **P** **14 27 15.4 -1.7**
ARU IAmb IAmb 14 27 16.8
comp=Z,24nm,0.6s
KSH Kashi 53.20 290 *e*P **P** **14 27 19.8 +0.7**
TAPN Taplejung 53.29 271 *e*P **P** **14 27 20.2 +0.1**
comp=Z,4.9nm,0.3s
B05A Bryant 53.83 56 P **P** **14 27 24.6 +1.3**
baz=306
ARSB Arslanbob 53.95 294 P **P** **14 27 24.8 +0.3**
JIRN Jiri 54.08 272 *e*P **P** **14 27 25.6 -0.3**
GUN Gumba 54.12 273 *e*P **P** **14 27 25.7 -0.5**
RAMN Ramite 54.29 271 *e*P **P** **14 27 26.8 -0.5**
comp=Z,16nm,0.4s
FAKI Fak Fak 54.35 205 P **P** **14 27 27.8 +0.4**
FAKI IAmb IAmb 14 28 13.7
comp=Z,43nm,1.1s
KK31 Karatay Array 54.37 297 P **P** **14 27 26.8 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 54.37 297 P **P** **14 27 26.8 -0.5**
KKAR Karatay Array 54.37 297 P **P** **14 27 26.3 -1.1**
KKAR *PP **pP** **14 28 17.9 -0.8**
KKAR Karatay Array 54.37 297 P **P** **14 27 26.2 -1.1**
KKAR **pP** **14 28 17.9 -0.8**
KKAR Karatay Array 54.37 297 P **P** **14 27 26.9 -0.4**
KKAR IAmb IAmb 14 27 27.4
comp=Z,4.2nm,0.8s
KKN Kakani 54.60 273 *e*P **P** **14 27 29.3 -0.1**
PKI Pulchoki 54.66 273 *e*P **P** **14 27 29.3 -0.7**
PKIN Phulchoki 54.66 273 *e*P **P** **14 27 29.2 -0.8**
DMN Daman 54.83 273 *e*P **P** **14 27 30.7 -0.5**
comp=Z,33nm,1.0s
GKN Gorkha 54.88 274 *e*P **P** **14 27 31.2 -0.2**
comp=Z,13nm,0.3s
KEV Kevo 55.12 340 P **P** **14 27 30.7 -1.5**
KEV pmax pmax
comp=Z,162nm,1.7s
KEV Kevo 55.12 340 P **P** **14 27 30.7 -1.5**
DANN Dangsing 55.23 275 *e*P **P** **14 27 33.9 -0.1**
comp=Z,28nm,0.6s
B08A Colville Reser 55.27 54 P **P** **14 27 34.6 +0.9**
ARCES ARCESS Array B 55.63 340 P **P** **14 27 34.3 -1.6**
ARCES ARCESS Array B 55.63 340 P **P** **14 27 34.6 -1.4**
comp=Z,2.9nm,0.4s,baz=23,slow=7.4,SNR=48
ARCES ARCESS Array B 55.63 340 P **P** **14 27 34.3 -1.6**
ARE0 ARCESS Array S 55.63 340 P **P** **14 27 34.6 -1.4**
KOLN Koldanda 55.72 274 *e*P **P** **14 27 37.2 -0.2**
KEBM Edson Butte 55.76 62 P **P** **14 27 37.0 -0.4**
NEW Newport 56.50 53 P **P** **14 27 43.9 +1.4**
baz=308
ABKAR Akbulak array 56.53 308 P **P** **14 27 41.6 -1.0**
ABKAR **pP** **14 28 34.1 -0.3**
ABKAR Akbulak array 56.53 308 P **P** **14 27 41.6 -1.0**
ABKAR IAmb IAmb 14 27 42.8
comp=Z,10.0nm,0.6s
I05D Terrebonne, OR 56.59 59 P **P** **14 27 45.2 +2.0**
baz=308
J05D Fort Rock, OR 57.30 60 P **P** **14 27 50.6 +2.4**
baz=309
L04D Klamath Falls 57.34 62 P **P** **14 27 51.3 +2.8**
baz=309
YBH Yreka Blue Hor 57.41 62 P **P** **14 27 51.4 +2.4**
YBH pmax pmax
comp=Z,32nm,1.8s
YBH Yreka Blue Hor 57.41 62 P **P** **14 27 51.4 +2.4**
YBH IAmb IAmb 14 29 06.1
comp=Z,32nm,1.8s
WALA Waterton Lakes 57.68 51 P **P** **14 27 51.9 +1.1**
WALA IAmb IAmb 14 27 52.6
comp=Z,6.5nm,0.7s
M04C Macdoel 57.89 62 P **P** **14 27 55.0 +2.7**
baz=309
N02D Trinity Center 57.89 63 P **P** **14 27 55.2 +2.9**
baz=309
PMG Port Moresby 58.16 186*d i*P **P** **14 27 55.1 +0.9**
PMG pmax pmax
comp=Z,120nm,0.9s
PMG Port Moresby 58.16 186 P **P** **14 27 55.3 +1.1**
PMG IAmb IAmb 14 27 56.3
comp=Z,27nm,0.9s
WDC Whiskeytown Da 58.23 63 P **P** **14 27 56.5 +1.9**
WDC pmax pmax
comp=Z,6.0nm,0.8s
WDC Whiskeytown Da 58.23 63 P **P** **14 27 56.5 +1.9**
JTMT Jette 58.32 52 P **P** **14 27 57.0 +1.8**
JTMT IAmb IAmb 14 29 58.2
comp=Z,11nm,1.1s
O02D Mt. Diablo Mer 58.34 64 P **P** **14 27 58.3 +2.9**
baz=310
HNR Honiara 58.44 171 P **P** **14 27 57.8 +1.6**
HNR pmax pmax
comp=Z,47nm,0.9s
HNR Honiara 58.44 171 P **P** **14 27 58.6 +2.4**
comp=Z,15nm,0.4s,baz=180,slow=10,SNR=2.7
HNR Honiara 58.44 171 P **P** **14 27 57.8 +1.6**
BMO Blue Mountains 58.52 57 P **P** **14 27 57.3 +0.7**
BMO pmax pmax
comp=Z,21nm,2.0s
BMO Blue Mountains 58.52 57 P **P** **14 27 57.3 +0.7**
BMO IAmb IAmb 14 28 04.8
comp=Z,21nm,2.0s
NIL Nilore 58.57 286 P **P** **14 27 55.8 -1.3**
NIL pmax pmax
comp=Z,17nm,1.1s
NIL Nilore 58.57 286 P **P** **14 27 55.8 -1.3**
NIL IAmb IAmb 14 27 58.0
comp=Z,17nm,1.1s
SUMG Summit 58.66 4 P **P** **14 27 57.1 -0.4**
SUMG pmax pmax
comp=Z,29nm,1.7s
SUMG Summit 58.66 4 P **P** **14 27 57.1 -0.4**
SUMG IAmb IAmb 14 29 00.4
comp=Z,29nm,1.7s
MOD Modoc Plateau 58.70 61 P **P** **14 27 59.6 +1.6**
MOD IAmb IAmb 14 28 01.0
comp=Z,7.8nm,0.8s
O03E Paynes Creek 58.85 63 P **P** **14 28 00.8 +1.9**
baz=310
HOPS Hopland Field 58.92 65 P **P** **14 28 01.2 +1.8**
MSO Missoula 59.08 53 P **P** **14 28 01.7 +1.3**
MSO IAmb IAmb 14 29 20.8
comp=Z,26nm,1.9s
PLID Pearl Lake 59.09 56 P **P** **14 28 02.0 +1.4**
PLID IAmb IAmb 14 28 04.3
comp=Z,8.4nm,0.8s
FFC Flin Flon 59.61 40 P **P** **14 28 04.7 +0.9**
FFC pmax pmax
comp=Z,48nm,2.0s
FFC Flin Flon 59.61 40 P **P** **14 28 04.7 +0.9**
FFC IAmb IAmb 14 29 14.2
comp=Z,48nm,1.9s
FCC Fort Churchill 59.91 33 P **P** **14 28 06.1 +0.4**
FCC pmax pmax
comp=Z,66nm,1.4s
FCC Fort Churchill 59.91 33 P **P** **14 28 06.1 +0.4**
BEKR Beckworth 59.97 63 P **P** **14 28 08.3 +1.6**
BEKR IAmb IAmb 14 28 09.2
comp=Z,9.9nm,0.8s
AFDM Forest Hills D 60.21 64 P **P** **14 28 09.6 +1.5**
PAHR Pah Rah Range 60.65 62 P **P** **14 28 12.6 +1.3**
PAHR IAmb IAmb 14 28 13.9
comp=Z,9.3nm,0.9s
VCNR Virginia City 60.76 63 P **P** **14 28 13.9 +1.9**
VCNR IAmb IAmb 14 28 14.9
comp=Z,10.0nm,0.8s
PNTR Pine Nut 60.92 63 P **P** **14 28 15.3 +2.1**
PNTR IAmb IAmb 14 28 16.5
comp=Z,13nm,0.7s
BOZ Bozeman (W) 61.10 53 P **P** **14 28 15.8 +1.6**
baz=312
BOZ Bozeman (W) 61.10 53 P **P** **14 28 15.8 +1.6**
BOZ pmax pmax
comp=Z,11nm,1.5s
BOZ Bozeman (W) 61.10 53 P **P** **14 28 15.8 +1.6**
CMB Columbia Colle 61.15 64 P **P** **14 28 16.2 +1.7**
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 61.15 64 P **P** **14 28 16.2 +1.7**
YERR Yerington 61.20 63 P **P** **14 28 16.7 +1.7**
YERR IAmb IAmb 14 28 17.9
comp=Z,12nm,0.7s
WAKR Walker 61.40 63 P **P** **14 28 17.8 +1.4**
WAKR IAmb IAmb 14 28 19.4
comp=Z,8.4nm,0.7s
KVN Kaiserville 61.83 62 P **P** **14 28 20.7 +1.5**
KVN pmax pmax
comp=Z,12nm,0.9s
KVN Kaiserville 61.83 62 P **P** **14 28 20.7 +1.5**
KVN IAmb IAmb 14 28 22.5
comp=Z,12nm,0.9s
FINES FINESS Array B 61.83 334 P **P** **14 28 17.2 -1.4**
comp=Z,8.8nm,0.5s,baz=33,slow=7.6,SNR=48
RYN Ryan 61.86 63 P **P** **14 28 20.7 +1.3**
RYN IAmb IAmb 14 28 22.1
comp=Z,8.3nm,0.7s
NVAR Mina Array Bea 62.12 63 P **P** **14 28 23.2 +2.0**
comp=Z,7.3nm,0.7s,baz=294,slow=7.2,SNR=70
NVAR Mina Array Bea 62.12 63 P **P** **14 28 22.7 +1.5**
NV11 Mina Array Sit 62.20 63 P **P** **14 28 23.4 +1.7**
OMMB Old Mammoth Mi 62.25 64 P **P** **14 28 24.0 +1.8**
MLAC Mammoth, Mammo 62.34 64 P **P** **14 28 25.7 +3.0**
baz=312
RLMT Red Lodge 62.66 52 P **P** **14 28 26.3 +1.7**
baz=313
FXWY Fox Creek 62.73 54 P **P** **14 28 27.4 +2.3**
OBN Obninsk 63.17 324*de*P **P** **14 28 27.0 -0.5**
OBN *i* *PP **pP** **14 29 19.2 -1.3**
OBN *e*S **S** **14 36 39.7 +0.4**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 63.17 324 *e*P **P** **14 28 27.0 -0.5**
CWC Cottonwood Cre 63.58 64 P **P** **14 28 32.3 +1.6**
baz=313
PKM Mcpherson Peak 63.59 67 P **P** **14 28 33.2 +2.3**
baz=313
GRAC Grapevine Rang 63.63 63 P **P** **14 28 33.2 +2.2**
baz=313
R11A Troy Canyon, C 63.76 61 P **P** **14 28 33.1 +1.2**
baz=313,SNR=8.8
R11A Troy Canyon, C 63.76 61 P **P** **14 28 33.4 +1.5**
ISA Isabella, Lake 63.87 65 P **P** **14 28 33.5 +0.9**
baz=313
VRH Novokhopyorsk 63.94 319 *e*P **P** **14 28 30.2 -2.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ARVC Arvin 64.02 66 P **P** **14 28 34.9 +1.4**
baz=313
DUG Dugway, Tooele 64.08 58 P **P** **14 28 35.7 +1.7**
baz=313
DUG Dugway, Tooele 64.08 58 P **P** **14 28 35.6 +1.7**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 64.08 58 P **P** **14 28 35.6 +1.6**
LPSR Galich'ya Gora 64.09 321 *e*P **P** **14 28 31.2 -2.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BW06 Boulder Array 64.11 54 P **P** **14 28 35.5 +1.3**
baz=314
BW06 Boulder Array 64.11 54 P **P** **14 28 35.0 +0.9**
BW06 pP **pwP** **14 29 28.7 -1.0**
PD31 Pinedale Array 64.11 54 P **P** **14 28 35.1 +0.9**
PDAR Pinedale Array 64.11 54 P **P** **14 28 35.7 +1.5**
comp=Z,2.9nm,0.5s,baz=308,slow=0.9,SNR=31
PDAR pP **pwP** **14 29 29.9 +0.2**
comp=Z,1.8nm,0.9s,baz=342,slow=3.8,SNR=3.4
PDAR Pinedale Array 64.11 54 P **P** **14 28 35.3 +1.1**
PDAR pP **pwP** **14 29 29.1 -0.5**
MTN Manton Dam 64.14 203 P **P** **14 28 35.2 +0.9**
MPMC Manual Prospec 64.19 64 P **P** **14 28 36.0 +1.2**
baz=313
FURC Furnace Creek, 64.29 63 P **P** **14 28 36.9 +1.8**
baz=313,SNR=11
TPNV Topopah Spring 64.32 63 P **P** **14 28 37.1 +1.6**
baz=313,SNR=9.5
TPNV Topopah Spring 64.32 63 P **P** **14 28 36.4 +0.9**
TPNV pmax pmax
comp=Z,7.0nm,0.7s
TPNV Topopah Spring 64.32 63 P **P** **14 28 36.4 +0.9**
TPNV IAmb IAmb 14 28 38.1
comp=Z,6.7nm,0.7s
LRMC Laurel Mtn Rad 64.47 65 P **P** **14 28 37.6 +1.0**
baz=313
PSUT Pine Spring 64.63 60 P **P** **14 28 38.9 +1.3**
EDW2 Edwards Air Fo 64.69 65 P **P** **14 28 39.4 +1.5**
baz=313,SNR=6.5
GEYT Alibeck 64.91 299 P **P** **14 28 38.9 -0.3**
comp=Z,16nm,0.5s,baz=353,slow=7.5,SNR=4.4
GEYT Alibeck 64.91 299 IAmb IAmb 14 28 40.3
comp=Z,1.6nm,0.8s
VSR Storozhevoye 65.02 320‖ *e*P **P** **14 28 38.0 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
SHOC Shoshone, Teco 65.02 64 P **P** **14 28 41.3 +1.4**
baz=314
GSC Goldstone, Bar 65.11 64 P **P** **14 28 41.7 +1.1**
baz=314
GSC Goldstone, Bar 65.11 64 P **P** **14 28 41.7 +1.1**
GSC pmax pmax
comp=Z,10.0nm,1.2s
GSC Goldstone, Bar 65.11 64 P **P** **14 28 41.7 +1.1**
GSC IAmb IAmb 14 28 43.4
comp=Z,10.0nm,1.1s
SHPR Sheep Range 65.26 62 P **P** **14 28 43.1 +1.4**
BFSC Mount Baldy Ra 65.33 66 P **P** **14 28 43.7 +1.6**
baz=314
ULM Lac du Bonnet 65.42 41 P **P** **14 28 42.4 +0.3**
comp=Z,2.6nm,0.5s,baz=324,slow=14,SNR=3.9
ULM Lac du Bonnet 65.42 41 IAmb IAmb 14 31 03.6
comp=Z,35nm,1.6s
TUQ Turquoise Moun 65.55 64 P **P** **14 28 44.9 +1.5**
baz=314
TMUT Trail Mountain 65.60 58 P **P** **14 28 45.6 +1.6**
HEC Hector,Ludlow 65.72 64 P **P** **14 28 45.9 +1.4**
baz=314
BBRC Big Bear Solar 65.76 65 P **P** **14 28 46.5 +1.5**
baz=314
MTPU Mount Pierson 65.92 59 P **P** **14 28 48.2 +2.1**
NB2 NORSAR Subarra 66.00 340 P **P** **14 28 44.4 -1.4**
comp=Z,1.8nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 66.00 340 P **P** **14 28 44.7 -1.1**
comp=Z,1.5nm,0.5s,baz=27,slow=6.4,SNR=12
NOA pP **pP** **14 29 39.0 -0.1**
comp=Z,1.8nm,0.9s,baz=28,slow=6.4,SNR=2.2
LCMT Little Creek M 66.03 61 P **P** **14 28 48.4 +1.9**
RSSD Black Hills 66.03 50 P **P** **14 28 47.5 +1.0**
baz=316
MURC Murrieta 66.05 66 P **P** **14 28 48.1 +1.6**
baz=314
SRU San Rafael Swe 66.11 58 P **P** **14 28 48.4 +1.3**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 66.11 58 P **P** **14 28 48.4 +1.3**
GMRC Granite Mounta 66.15 64 P **P** **14 28 48.7 +1.4**
baz=314
BELC Belle Mtn. Jos 66.49 65 P **P** **14 28 50.4 +0.9**
baz=314
O20A White River Ci 66.65 55 P **P** **14 28 51.5 +1.1**
baz=315
IRM Iron Mountain 66.89 64 P **P** **14 28 53.2 +1.3**
baz=314,SNR=6.7
U15A North Rim 66.98 61 P **P** **14 28 54.4 +1.7**
BC3 Big Chuckawall 67.06 65 P **P** **14 28 54.5 +1.5**
baz=315
PV21 Cone Mtn., Par 67.36 57 P **P** **14 28 56.8 +1.8**
PV21 IAmb IAmb 14 28 57.8
comp=Z,6.8nm,0.7s
IKP In-Ko-Pah, Jac 67.36 66 P **P** **14 28 56.4 +1.5**
baz=315
PDMCI Parker Dam,Lak 67.39 63 P **P** **14 28 56.2 +1.3**
baz=315
PV14 Lion Creek, Pa 67.46 57 P **P** **14 28 56.2 +0.6**
PV14 IAmb IAmb 14 28 57.9
comp=Z,7.3nm,0.8s
PV22 Blue Mesa, Par 67.48 57 P **P** **14 28 56.8 +1.1**
PV22 IAmb IAmb 14 28 58.1
comp=Z,5.8nm,0.8s
PV04 Paradox Valley 67.52 57 P **P** **14 28 57.4 +1.5**
PV04 IAmb IAmb 14 28 58.4
comp=Z,6.9nm,0.8s
Y12C Blythe 67.54 64 P **P** **14 28 57.8 +1.9**
baz=315
PV17 East Wray Mesa 67.56 57 P **P** **14 28 57.3 +1.1**
PV17 IAmb IAmb 14 28 58.7
comp=Z,11nm,0.7s
PV18 Skein Mesa, Pa 67.62 57 P **P** **14 28 57.9 +1.3**
PV18 IAmb IAmb 14 28 59.0
comp=Z,8.5nm,0.8s
GLA Glamis 67.85 65 P **P** **14 28 59.6 +1.7**
baz=315
AKT Akhty 68.11 308 *e*P **P** **14 28 59.5 +0.1**
AKT pmax pmax
comp=Z,24nm,0.8s
WUAZ Wupatki 68.15 61 P **P** **14 29 02.3 +2.5**
baz=315
ISCO Idaho Springs 68.31 54 P **P** **14 29 02.7 +1.7**
baz=316
MVCO Mesa Verde 68.58 58 P **P** **14 29 03.7 +1.1**
baz=316
MVCO Mesa Verde 68.58 58 P **P** **14 29 03.9 +1.3**
KIV Kislovodsk 68.82 313 *e*P **P** **14 29 03.0 -0.7**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV Kislovodsk 68.82 313 *e*P **P** **14 29 03.0 -0.7**
KBZ Khabaz 68.88 313 P **P** **14 29 04.3 +0.3**
comp=Z,5.2nm,0.7s,baz=39,slow=4.9,SNR=11
X16A Lo Mia Camp, P 68.89 62 P **P** **14 29 06.0 +1.5**
OGNE Ogallala 69.35 51 P **P** **14 29 08.2 +1.1**
baz=318
AKASG Malin Array Be 69.40 325 P **P** **14 29 04.9 -2.2**
comp=Z,1.1nm,0.4s,baz=34,slow=6.1,SNR=7.0
214A Organ Pipe Nat 69.83 64 P **P** **14 29 11.5 +1.4**
baz=316
SDCO Great Sand Dun 69.85 56 P **P** **14 29 11.7 +1.3**
baz=317
ECSD EROS Data Cent 69.96 46 P **P** **14 29 10.9 +0.3**
baz=319,SNR=7.6
ECSD EROS Data Cent 69.96 46 P **P** **14 29 11.2 +0.6**
ECSD IAmb IAmb 14 29 12.2
comp=Z,7.8nm,0.8s
E38A The Farm, Brul 70.06 41 P **P** **14 29 11.4 +0.3**
baz=321
WRAB Tennant Creek 70.26 198*d i*P **P** **14 29 13.1 +0.5**
WRAB pmax pmax
comp=Z,37nm,1.1s
WRAB Tennant Creek 70.26 198 P **P** **14 29 13.3 +0.7**
WB2 Warramunga Arr 70.27 198 P **P** **14 29 13.2 +0.5**
WB2 IAmb IAmb 14 29 14.3
comp=Z,30nm,1.1s
WRA Warramunga Arr 70.27 198 P **P** **14 29 12.8 +0.1**
WRA *PP **pP** **14 30 08.1 +2.0**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 70.27 198 P **P** **14 29 13.3 +0.7**
comp=Z,20nm,0.8s,baz=19,slow=6.6,SNR=116
WRA pP **pwP** **14 30 09.7 -0.8**
comp=Z,3.1nm,0.8s,baz=15,slow=6.5,SNR=3.7
WRA Warramunga Arr 70.27 198 P **P** **14 29 12.8 +0.1**
WRA pP **pP** **14 30 08.1 +2.0**
FITZ Fitzroy Crossi 70.67 207 P **P** **14 29 16.2 +1.2**
T25A Trinidad 70.89 55 P **P** **14 29 17.8 +1.2**
baz=318
ANMO Albuquerque 71.36 58 P **P** **14 29 21.1 +1.7**
baz=317
ANMO Albuquerque 71.36 58‖ *e*P **P** **14 29 21.1 +1.7**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
SCHQ Schefferville 71.66 22 P **P** **14 29 20.8 +0.2**
comp=Z,3.9nm,0.4s,baz=340,slow=5.0,SNR=6.2
319A Douglas 72.33 63 P **P** **14 29 26.5 +1.3**
319A IAmb IAmb 14 29 27.8
comp=Z,7.4nm,0.8s
121A Cookes Peak, D 72.36 61 P **P** **14 29 27.4 +2.1**
baz=317
LSQQ Lebel-sur-Quev 73.72 31 P **P** **14 29 33.1 +0.2**
baz=329
AS31 Alice Springs 73.98 197 P **P** **14 29 36.0 +1.5**
AS31 IAmb IAmb 14 29 36.9
comp=Z,6.5nm,0.5s
ASAR Alice Springs 73.98 197 P **P** **14 29 36.0 +1.5**
ASAR Alice Springs 73.98 197 P **P** **14 29 36.4 +1.9**
comp=Z,11nm,0.4s,baz=7.7,slow=5.5,SNR=456
ASAR pP **pwP** **14 30 33.5 +0.5**
comp=Z,2.4nm,0.8s,baz=14,slow=7.0,SNR=3.9
ASAR Alice Springs 73.98 197 P **P** **14 29 36.0 +1.5**
AMTX Amarillo 74.04 55 P **P** **14 29 36.4 +1.4**
baz=319
MSTX Muleshoe 74.13 56 P **P** **14 29 37.2 +1.6**
baz=319
CLL Collm 74.25 335 *e*P **P** **14 29 35.0 -0.8**
CLL *i* *PP **pP** **14 30 29.5 -1.0**
CLL Collm 74.25 335 *e*P **P** **14 29 35.0 -0.8**
CLL *e*PcP **PcP** **14 29 48.0 -1.5**
CLL *i* pP **pP** **14 30 29.5 -1.0**
comp=Z,15nm,1.2s
MNTX Cornudas Mount 74.35 60 P **P** **14 29 38.2 +1.4**
baz=318
MNTX Cornudas Mount 74.35 60 P **P** **14 29 37.9 +1.1**
F48A Evansville 74.37 36 P **P** **14 29 36.8 +0.1**
baz=326
D54A Lac Fusel, La 75.46 32 P **P** **14 29 43.3 +0.4**
baz=329
WMOK Wichita Mounta 75.70 53 P **P** **14 29 45.5 +1.0**
baz=320
KHC Kasperske Hory 76.03 333 *e*pP pP 14 30 40.0 -1.0
D56A ZEC Mazanza, M 76.21 31 P **P** **14 29 47.4 +0.4**
baz=331
GERES GERESS Array B 76.25 333 P **P** **14 29 46.2 -1.1**
comp=Z,0.7nm,0.5s,baz=32,slow=5.8,SNR=3.6
BRTR Keskin Array B 76.36 316*ce*P **P** **14 29 47.2 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 76.36 316 P **P** **14 29 48.0 -0.3**
comp=Z,1.7nm,0.9s,baz=165,slow=1.6,SNR=4.2
G53A Haliburton 76.49 34 P **P** **14 29 48.7 0.0**
baz=329
D57A Chemin Vers le 76.53 30 P **P** **14 29 49.3 +0.5**
baz=331
E56A St. Veronique 76.55 31 P **P** **14 29 49.0 0.0**
baz=330
LATQ La Tuque 76.57 29 P **P** **14 29 49.7 +0.6**
baz=332
E57A Chemin Saint G 76.97 31 P **P** **14 29 51.7 +0.3**
baz=331
TX31 Lajitas Ar. Si 77.10 60 P **P** **14 29 53.8 +1.3**
TX32 Lajitas Array 77.10 60 P **P** **14 29 53.8 +1.4**
TX32 IAmb IAmb 14 29 54.7
comp=Z,5.7nm,0.7s
TXAR Lajitas Array 77.10 60 P **P** **14 29 53.5 +1.1**
TXAR Lajitas Array 77.10 60 P **P** **14 29 54.1 +1.6**
comp=Z,4.2nm,0.5s,baz=295,slow=4.5,SNR=48
TXAR Lajitas Array 77.10 60 P **P** **14 29 53.5 +1.1**
E58A La Victoria 77.30 30 P **P** **14 29 53.2 +0.1**
baz=332
D60A Saint Jean D'O 77.58 29 P **P** **14 29 55.1 +0.4**
baz=333
O48A Farmland 77.92 41 P **P** **14 29 57.1 +0.4**
baz=326
D62A Allapoint, All 78.01 27 P **P** **14 29 57.5 +0.5**
baz=334
E62A Clayton Lake 78.28 28 P **P** **14 29 58.9 +0.3**
baz=334
M51A Elyria 78.29 39 P **P** **14 29 58.8 +0.1**
baz=327
D63A Stockholm 78.33 27 P **P** **14 29 59.0 +0.2**
baz=334
WHTX Lake Whitney, 78.52 54 P **P** **14 30 01.3 +1.1**
baz=321
G61A St-Isidore-de- 78.83 30 P **P** **14 30 02.2 +0.6**
baz=333
E64A Bridgewater 78.98 27 P **P** **14 30 02.3 0.0**
baz=335
WCI Wyandotte Cave 79.08 43 P **P** **14 30 04.1 +1.0**

baz=325
H62A Milan 79.58 30 P **P 14 30 06.4 +0.8**
baz=333
O53A New Philadelph 79.60 39 P **P 14 30 06.3 +0.5**
baz=328
Q51A Peebles 79.73 41 P **P 14 30 07.2 +0.7**
baz=327
T49A Edmonton 80.35 43 P **P 14 30 11.1 +1.2**
baz=326
T50A Nancy 80.73 43 P **P 14 30 12.2 +0.3**
baz=326
STKA Stephens Creek 80.90 189 P **P 14 30 13.7 +1.2**
comp=Z,6.2nm,0.8s,baz=2.7,slow=8.1,SNR=6.5
STKA Stephens Creek 80.90 189 IAmb IAmb 14 30 14.9
comp=Z,2.3nm,1.1s
P56A Dayton Farm, R 81.20 37 P **P 14 30 14.4 +0.1**
baz=329
U50A Jamestown 81.23 43 P **P 14 30 15.9 +1.3**
baz=326
T52A Hallie 81.48 41 P **P 14 30 16.5 +0.6**
baz=327
P60A Greenville 82.18 35 pP 14 31 15.8 +0.8
CBN Corbin Frederi 82.90 37 P **P 14 30 23.8 +0.6**
Z50A Ashland 83.34 46 P **P 14 30 26.0 +0.4**
baz=326
Y54A Tignall 84.33 43 P **P 14 30 31.4 +0.9**
baz=328
JSC Jenkinsville 84.61 42 P **P 14 30 31.6 -0.3**
JSC pmax pmax
comp=Z,30nm,1.4s
JSC Jenkinsville 84.61 42 P **P 14 30 31.6 -0.3**
JSC IAmb IAmb 14 30 33.6
comp=Z,30nm,1.4s
Z54A Sparta 84.78 43 P **P 14 30 34.2 +1.4**
baz=328
TORD Torodi Ar. Bea 112.92 328 PKKPbc PKKPbc 14 47 19.8 +0.2
comp=Z,0.6nm,0.5s,baz=178,slow=1.8,SNR=4.8
CFA Coronel Fontan 145.25 75 PKPbc **PKPbc 14 37 34.6 +0.1**
comp=Z,8.9nm,0.7s,baz=309,slow=3.7,SNR=17
CPUP Villa Florida 147.99 56 PKPbc **PKPbc 14 37 42.0 -0.3**
comp=Z,0.9nm,0.4s,baz=49,slow=2.9,SNR=3.5
PLCA Paso Flores 149.06 91 PKP2 **PKiKP 14 37 45.4 -0.5**
PLCA Paso Flores 149.06 91 PKPbc **PKiKP 14 37 46.0 +0.2**
comp=Z,9.0nm,0.7s,baz=308,slow=3.7,SNR=19
PLCA Paso Flores 149.06 91 PKiKP 14 37 45.4 -0.5
SNAA Sanae 154.34 198 PKPab **PKPab 14 38 11.4 +0.3**
SNAA Sanae 154.34 198 PKPdf **PKPbc 14 37 55.7 -0.1**
VNA2 Neumayer--Watz 155.83 196 PKPab **PKPab 14 38 17.9 +0.5**
baz=122,slow=3.1
VNA2 Neumayer--Watz 155.83 196 PKPdf PKPdf 14 37 59.2 +10
VNA3 Neumayer Olymp 155.96 194 PKPab **PKPab 14 38 18.3 +0.3**
VNA3 Neumayer Olymp 155.96 194 PKPdf PKPdf 14 37 59.1 +10
VNA1 Neumayer--Stat 156.22 196 PKPdf PKPdf 14 37 58.8 +9.1

*ISCJB **19** 14:30:51.9±0.5, 6°.01S±0°.07×80°.32W±0°.09, h70km, mb3.9/7, Error ellipse: s-maj=15.3km s-min=6.0km az=145.7*
*NEIC **19** 14:30:52.5±1.6, 6°.03S±0°.09×80°.4W±0°.1, h63km±7km*
*IDC **19** 14:30:55.4±2.6, 5°.89S×79°.98W, h80km±25km, mb3.4/6, mb1 3.8/10, mb1mx3.6/44, mbtmp3.8/10, Error ellipse: s-maj=41.1km s-min=19.0km az=57.0*
ISC 19 14:30:53.7±0.6, 6°.00S±0°.09×80°.2W±0°.1, h70km, n36, σ0°.88/39, mb3.8/8, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.14**	**122**	P	**Pn**	**14 31 28.1**	**+0.5**
	40nm,0.3s,baz=16,slow=9.5,SNR=151						
ATAH				S	**Sn**	**14 31 55.2**	**+1.8**
	185nm,0.3s,baz=143,slow=15,SNR=9.4						
OTAV	**Otavalo**	**6.44**	**16**		**Pn**	**14 32 26.7**	**+0.3**
NNA	**Nana**	**6.83**	**151**	P	**Pn**	**14 32 30.9**	**-0.3**
	6.5nm,0.3s,baz=342,slow=6.5,SNR=12						
NNA				S	**Sn**	**14 33 49.6**	**+2.0**
	9.2nm,0.3s,baz=279,slow=16,SNR=3.1						
NNA	**Nana**	**6.83**	**151**		**Pn**	**14 32 30.2**	**-1.0**
LPAZ	**La Paz**	**15.65**	**132**	P	**Pn**	**14 34 29.9**	**-0.8**
	0.2nm,0.3s,baz=320,slow=4.5,SNR=3.8						
LPAZ	**La Paz**	**15.65**	**132**		**Pn**	**14 34 29.5**	**-1.3**
LPAZ				IAmb	IAmb	14 34 36.7	
	comp=Z,5.5nm,0.8s						
MNMC	**Minye Minye**	**16.66**	**143**	P	**Pn**	**14 34 43.8**	**+0.8**
MNMC				IAmb	IAmb	14 35 20.8	
	comp=Z,8.5nm,1.0s						
PB11	**IPOC Station P**	**17.11**	**144**	Pn	**Pn**	**14 34 47.6**	**-0.9**
PB11				IAmb	IAmb	14 34 57.2	
	comp=Z,11nm,1.1s						
SAML	**Samuel**	**17.15**	**101**	Pn	**Pn**	**14 34 47.8**	**-1.1**
SDV	**Santo Domingo**	**17.61**	**33**	P	P	14 35 01.7	+6.9
	comp=Z,0.4nm,0.3s,baz=242,slow=12,SNR=4.7						
LVC	**Limon Verde**	**19.80**	**148**	P	**Pn**	**14 35 20.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=324,slow=8.7,SNR=3.4						
LVC	**Limon Verde**	**19.80**	**148**	Pn	**Pn**	**14 35 20.6**	**-0.4**
LVC				IAmb	IAmb	14 35 26.2	
	comp=Z,6.4nm,0.9s						
SIV	**San Ignacio**	**21.24**	**119**	P	**P**	**14 35 33.5**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=309,slow=9.3,SNR=14						
GO02	**Mina Guanaco**	**21.61**	**153**	P	**P**	**14 35 38.5**	**+0.1**
GO02				IAmb	IAmb	14 35 42.7	
	comp=Z,12nm,0.7s						
TXAR	**Lajitas Array**	**41.74**	**329**	P	**P**	**14 38 38.2**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=164,slow=7.3,SNR=3.7						
TXAR				PcP	**PcP**	**14 40 31.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=138,slow=5.8,SNR=4.4						
LPM	**Los Pinos Moun**	**47.22**	**330**	P	**P**	**14 39 18.4**	**-1.6**
PDAR	**Pinedale Array**	**55.37**	**334**	P	**P**	**14 40 20.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=138,slow=12,SNR=2.7						
PDAR				PcP	**PcP**	**14 41 20.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=118,slow=6.6,SNR=3.6						
PDAR	**Pinedale Array**	**55.37**	**334**		**PcP**	**14 41 19.9**	**-0.7**
NVAR	**Mina Array Bea**	**56.59**	**325**	P	**P**	**14 40 31.6**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=145,slow=7.1,SNR=4.1						
NVAR	**Mina Array Bea**	**56.59**	**325**	P	**P**	**14 40 28.8**	**-0.9**
YKA	**Yellowknife Ar**	**73.19**	**344**	P	**P**	**14 42 16.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=142,slow=5.6,SNR=2.8						
VNA3	**Neumayer Olymp**	**78.15**	**162**	P	**P**	**14 42 45.2**	**+0.2**
VNA2	**Neumayer--Watz**	**78.78**	**161**	P	**P**	**14 42 48.0**	**-0.5**
	baz=296,slow=6.8						
SNAA	**Sanae**	**80.38**	**162**	P	**P**	**14 42 56.9**	**-0.3**
INK	**Inuvik**	**82.84**	**343**	P	**P**	**14 43 10.3**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=111,slow=3.4,SNR=5.7						
INK	**Inuvik**	**82.84**	**343**	P	**P**	**14 43 10.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.53**	**76**	P	**P**	**14 43 14.3**	**-0.4**
	comp=Z,117nm,0.8s,baz=291,slow=5.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**130.67**	**12**	PKP	**PKPdf**	**14 49 56.8**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=269,slow=3.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**130.67**	**12**		**PKPdf**	**14 49 56.3**	**-0.3**
ASAR	**Alice Springs**	**135.52**	**227**	PKP	**PKPdf**	**14 50 06.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=111,slow=2.2,SNR=8.0						
ASAR	**Alice Springs**	**135.52**	**227**		**PKPdf**	**14 50 06.4**	**-0.3**
MKAR	**Makanchi Array**	**136.65**	**18**	PKP	**PKPdf**	**14 50 07.5**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=282,slow=2.4,SNR=3.3						
WRA	**Warramunga Arr**	**137.34**	**232**	PKP	**PKPdf**	**14 50 10.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=113,slow=2.4,SNR=13						
WRA	**Warramunga Arr**	**137.34**	**232**	PKPdf	**PKPdf**	**14 50 10.2**	**0.0**
FITZ	**Fitzroy Crossi**	**145.00**	**226**	PKPbc	**PKPdf**	**14 50 24.2**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=94,slow=4.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	**145.00**	**226**		**PKPdf**	**14 50 24.1**	**+0.2**

*IDC **19** 14:44:20.0±0.6, 59°.54N×139°.00W, h0km, mb4.0/20, mb1 4.2/25, mb1mx4.1/59, mbtmp4.0/25, ML3.7/5, MS4.0/1, Ms1 4.0/1, ms1mx3.1/50, Error ellipse: s-maj=15.7km s-min=8.1km az=24.0*
*ISCJB **19** 14:44:20.3±0.5, 59°.50N±0°.02×139°.02W±0°.03, h16km±3km, mb4.1/24, MS3.8/1, Error ellipse: s-maj=4.1km s-min=2.5km az=29.0*
*NEIC **19** 14:44:21.8±1.3, 59°.51N±0°.04×139°.04W±0°.06, h16km±4km*
*AEIC **19** 14:44:21±1.4, 59°.51N±0°.04×139°.00W±0°.06, h18km±4km*
*PGC **19** 14:44:21.7±0.0, 59°.59N×138°.91W, h5km, ML4.1/11, Mw4.5, 46km Ene of Yakutat, Ak Southeastern Alaska*
ISC 19 14:44:21.0±1.0, 59°.54N±0°.03×138°.95W±0°.02, h12km±6km, n208, σ1°07/230, mb4.3/33, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.26**	**301**	P	**Pg**	**14 44 27.0**	**+0.5**
PNL				S	**Sg**	**14 44 30.8**	**+0.7**
PNL	**Peninsula**	**0.26**	**301**		**Pg**	**14 44 26.9**	**+0.5**
PNL					**Sb**	**14 44 31.9**	**-0.3**
YKU2	**Yakutat**	**0.37**	**267**		**Pb**	**14 44 29.8**	**+0.3**
BCPM	**Bancas Point**	**0.54**	**321**		**Pg**	**14 44 31.3**	**-0.3**
BCPM					**Sb**	**14 44 39.8**	**-0.5**
DHAK	**Deception Hill**	**0.58**	**139**		**Pg**	**14 44 32.5**	**+0.2**
DHAK					**Sb**	**14 44 41.1**	**-0.3**
PCA	**Pinnacle**	**0.87**	**311**	P	**Pg**	**14 44 36.7**	**-1.0**
PCA				S	**Sg**	**14 44 48.2**	**-0.8**
PCA	**Pinnacle**	**0.87**	**311**		**Pg**	**14 44 36.8**	**-1.0**
PCA					**Sb**	**14 44 49.8**	**+0.1**
YUK7	**Dusty Glacier**	**1.08**	**22**	S	**Sb**	**14 44 53.0**	**-2.9**
YUK7	**Dusty Glacier**	**1.08**	**22**		**Pb**	**14 44 40.9**	**-0.9**
SAMH	**Samovar Hills**	**1.10**	**304**	P	**Pb**	**14 44 41.1**	**-1.0**
SAMH				S	**Sb**	**14 44 54.6**	**-1.8**
SAMH	**Samovar Hills**	**1.10**	**304**		**Pb**	**14 44 41.1**	**-1.0**
SAMH					**Sg**	**14 44 56.8**	**+0.3**
CHX	**Chaix Hills**	**1.22**	**297**		**Pn**	**14 44 43.0**	**-0.9**
YUK6	**Outpost Mounta**	**1.44**	**11**	Pn	**Pn**	**14 44 47.1**	**-0.1**
YUK6				Sg	**Sn**	**14 45 03.9**	**-2.3**
YUK6	**Outpost Mounta**	**1.44**	**11**		**Pn**	**14 44 47.3**	**+0.1**
YUK6					**Sb**	**14 45 06.8**	**+0.4**
HYT	**Haines Junctio**	**1.48**	**29**	Pn	**Pn**	**14 44 47.8**	**+0.1**
HYT				Sg	**Sn**	**14 45 06.1**	**-0.9**
YAH	**Yahtse**	**1.63**	**302**		**Pn**	**14 44 49.4**	**-0.4**
MESA	**MESA**	**1.65**	**294**		**Pn**	**14 44 49.1**	**-0.9**
YUK4	**Talbot Arm**	**1.82**	**5**	Pn	**Pb**	**14 44 54.9**	**+0.5**
GRNC	**Granite Creek**	**1.85**	**312**	Pn	**Pn**	**14 44 51.9**	**-0.8**
GRNC				Sg	**Sb**	**14 45 17.0**	**-1.0**
GRNC	**Granite Creek**	**1.85**	**312**		**Pn**	**14 44 51.9**	**-0.8**
SKAG	**Skagway**	**1.85**	**91**		**Pn**	**14 44 53.6**	**+1.1**
CTGM	**Chitina Glacie**	**1.86**	**321**	Pn	**Pn**	**14 44 52.8**	**-0.1**
CTGM				Sg	**Sb**	**14 45 17.3**	**-1.0**
CTGM	**Chitina Glacie**	**1.86**	**321**		**Pn**	**14 44 52.8**	**-0.1**
KULT	**Kultieth River**	**2.03**	**292**		**Pn**	**14 44 54.2**	**-0.9**
KULT					**Sn**	**14 45 21.4**	**+0.9**
BARN	**Barnard Glacie**	**2.04**	**320**		**Pn**	**14 44 55.9**	**+0.5**
KIAG	**Kiagna River**	**2.20**	**311**	Pn	**Pn**	**14 44 57.7**	**+0.2**
KIAG				Sn	**Sn**	**14 45 24.8**	**+0.1**
KIAG	**Kiagna River**	**2.20**	**311**		**Pn**	**14 44 57.5**	**0.0**
BALM	**Baldy**	**2.26**	**313**	Pn	**Pn**	**14 44 58.3**	**0.0**
BALM				Sn	**Sn**	**14 45 27.5**	**+1.2**
BALM	**Baldy**	**2.26**	**313**		**Pn**	**14 44 58.5**	**+0.1**
TGL	**Tana Glacier**	**2.29**	**304**		**Pn**	**14 44 58.3**	**-0.5**
GRIN	**Grindle Hills**	**2.33**	**291**		**Pn**	**14 44 58.9**	**-0.2**
WHY	**Whitehorse**	**2.33**	**59**	Pn	**Pn**	**14 44 59.9**	**+0.6**
WHY				Sn	**Sn**	**14 45 28.9**	**+1.1**
WHY	**Whitehorse**	**2.33**	**59**		**Pn**	**14 44 59.8**	**+0.6**
KHIT	**Khitrov Hills**	**2.34**	**295**		**Pn**	**14 44 58.5**	**-0.9**
YUK3	**Moose Creek**	**2.37**	**342**	Pn	**Pn**	**14 45 00.0**	**+0.2**
YUK3				Sg	**Sb**	**14 45 33.8**	**+0.9**
YUK3	**Moose Creek**	**2.37**	**342**		**Pn**	**14 45 00.3**	**+0.4**
PTPK	**Patty Peak**	**2.41**	**315**	Pn	**Pn**	**14 45 00.9**	**+0.5**
PTPK				Sg	**Sb**	**14 45 34.2**	**+0.2**
PTPK	**Patty Peak**	**2.41**	**315**		**Pn**	**14 45 00.8**	**+0.4**
CRQM	**Cirque**	**2.43**	**302**		**Pn**	**14 45 00.1**	**-0.5**
YUK2	**White River**	**2.44**	**338**	Pn	**Pn**	**14 45 01.1**	**+0.3**
YUK2				Sg	**Sb**	**14 45 35.7**	**+0.7**
YUK2	**White River**	**2.44**	**338**		**Pn**	**14 45 01.1**	**+0.3**
SUCK	**Suckling Hills**	**2.50**	**285**		**Pn**	**14 45 01.3**	**-0.2**
NICHA	**Nichawak Mount**	**2.62**	**288**		**Pn**	**14 45 02.6**	**-0.6**
JIS	**Juneau Island**	**2.69**	**116**	Pn	**Pn**	**14 45 03.4**	**-0.6**
JIS					**Sn**	**14 45 38.2**	**+1.8**
YUK1	**Sand Pete Hill**	**2.74**	**344**	Pn	**Pn**	**14 45 05.2**	**+0.3**
YUK1				Sg	**Sb**	**14 45 44.1**	**+0.6**
YUK1	**Sand Pete Hill**	**2.74**	**344**		**Pn**	**14 45 06.0**	**+1.1**
MCARA	**McCarthy VSAT**	**2.74**	**314**		**Pn**	**14 45 05.2**	**+0.4**
HMT	**Hamilton**	**2.79**	**289**		**Pn**	**14 45 05.2**	**-0.3**
VRDI	**Verde Repeater**	**2.81**	**309**		**Pn**	**14 45 05.9**	**0.0**
RAGM	**Ragged Mountai**	**3.00**	**289**		**Pn**	**14 45 07.7**	**-0.7**
BVCY	**Beaver Creek**	**3.04**	**343**	Pn	**Pn**	**14 45 09.9**	**+1.1**
BVCY				Sg	**Sb**	**14 45 54.8**	**+2.9**
BVCY	**Beaver Creek**	**3.04**	**343**		**Pn**	**14 45 09.6**	**+0.7**
GLB	**Gilahina Butte**	**3.07**	**311**		**Pn**	**14 45 09.5**	**+0.1**
GOAT	**Goat Mountain**	**3.08**	**292**		**Pn**	**14 45 09.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.56**	**290**		**Pn**	**14 45 16.0**	**0.0**
BC03		**3.80**	**340**		**Pn**	**14 45 19.6**	**+0.3**
BCAR	**Beaver Creek A**	**3.80**	**340**		**Pn**	**14 45 18.7**	**-0.6**
HIN	**Hinchinbrook I**	**3.89**	**286**		**Pn**	**14 45 20.5**	**-0.2**
FID	**Port Fidalgo**	**3.96**	**291**		**Pn**	**14 45 22.2**	**+0.7**
MENT	**Mentasta**	**4.12**	**328**		**Pn**	**14 45 25.4**	**+1.6**
GLI	**Glacier Island**	**4.28**	**292**		**Pn**	**14 45 25.7**	**-0.3**
DAWY	**Dawson**	**4.55**	**358**	Pn	**Pn**	**14 45 30.1**	**+0.4**
DAWY				Sn	**Sn**	**14 46 19.7**	**-2.8**
DAWY	**Dawson**	**4.55**	**358**		**Pn**	**14 45 30.4**	**+0.7**
PAX	**Paxson**	**4.67**	**320**	Pn	**Pn**	**14 45 29.2**	**-2.1**
PAX	**Paxson**	**4.67**	**320**		**Pn**	**14 45 31.1**	**-0.2**
WRAK	**Wrangell Islan**	**4.70**	**129**		**Pn**	**14 45 31.8**	**+0.1**
SCM	**Sheep Creek Mo**	**4.72**	**303**		**Pn**	**14 45 32.1**	**0.0**
DLBC	**Dease Lake**	**4.75**	**100**	Pn	**Pn**	**14 45 32.9**	**+0.5**
	2.8nm,0.3s,baz=287,slow=6.9,SNR=33						
DLBC				Sn	**Sn**	**14 46 27.6**	**+0.3**
	10nm,0.3s,baz=234,slow=24,SNR=4.8						
DLBC				Lg	Lg	14 46 48.6	
	33nm,0.3s,baz=168,slow=24,SNR=9.5						
DLBC	**Dease Lake**	**4.75**	**100**	Pn	**Pn**	**14 45 32.4**	**0.0**
DLBC				Sn	**Sn**	**14 46 25.1**	**-2.2**
DLBC				Sg	**Sg**	**14 46 49.1**	**-4.2**
DLBC	**Dease Lake**	**4.75**	**100**		**Pn**	**14 45 32.5**	**+0.1**
DOT	**Dot Lake**	**4.79**	**332**	Pn	**Pn**	**14 45 33.1**	**+0.1**
DOT	**Dot Lake**	**4.79**	**332**		**Pn**	**14 45 34.6**	**+1.6**
PWL	**Port Wells**	**4.87**	**290**		**Pn**	**14 45 34.0**	**0.0**
SCRK	**Sand Creek**	**5.06**	**334**		**Pn**	**14 45 36.5**	**-0.2**
KNK	**Knik Glacier**	**5.07**	**296**		**Pn**	**14 45 37.7**	**+0.9**
RIDG	**Independent Ri**	**5.07**	**329**		**Pn**	**14 45 38.1**	**+1.3**
SML	**Sawmill**	**5.14**	**300**		**Pn**	**14 45 37.6**	**-0.3**
WAT6	**Susitna Watana**	**5.25**	**309**		**Pn**	**14 45 39.5**	**+0.2**
SEW	**Seward**	**5.33**	**281**		**Pn**	**14 45 39.1**	**-1.2**
EGAK	**Eagle**	**5.36**	**350**		**Pn**	**14 45 42.5**	**+1.8**
DHY	**Denali Highway**	**5.39**	**315**		**Pn**	**14 45 42.1**	**+0.7**
GHO	**Glory Hole Cre**	**5.39**	**299**		**Pn**	**14 45 41.6**	**+0.3**
PMR	**Palmer**	**5.43**	**297**		**Pn**	**14 45 42.6**	**+0.9**
RC01	**Rabbit Creek A**	**5.58**	**291**		**Pn**	**14 45 43.8**	**0.0**
WAT1	**Susitna Watana**	**5.70**	**310**		**Pn**	**14 45 45.7**	**+0.3**
SLKM	**Skilak Lake**	**5.74**	**285**		**Pn**	**14 45 44.8**	**-1.1**
WAT2	**Susitna Watana**	**5.78**	**311**		**Pn**	**14 45 47.5**	**+0.9**
BRSE	**Bradley Lake S**	**5.99**	**277**		**Pn**	**14 45 49.5**	**+0.1**
BRLK	**Bradley Lake**	**6.06**	**277**		**Pn**	**14 45 50.5**	**+0.2**
RND	**Reindeer**	**6.13**	**314**		**Pn**	**14 45 52.5**	**+1.1**
SUA	**Susitna One**	**6.14**	**293**		**Pn**	**14 45 51.8**	**+0.2**
HDA	**Harding Lake**	**6.17**	**326**		**Pn**	**14 45 52.6**	**+0.8**
MCK	**McKinley**	**6.35**	**316**		**Pn**	**14 45 55.6**	**+1.3**
IL31		**6.43**	**328**		**Pn**	**14 45 55.8**	**+0.3**
ILAR	**Eielson Array**	**6.43**	**328**	Pn	**Pn**	**14 45 55.8**	**+0.3**
	1.5nm,0.3s,baz=153,slow=13,SNR=73						
ILAR				Lg	Lg	14 47 41.2	
	0.9nm,0.3s,baz=119,slow=24,SNR=5.6						
ILAR	**Eielson Array**	**6.43**	**328**		**Pn**	**14 45 55.3**	**-0.2**
WRH	**Wood River Hil**	**6.56**	**323**		**Pn**	**14 45 57.7**	**+0.5**
CCB	**Clear Creek Bu**	**6.60**	**325**		**Pn**	**14 45 58.5**	**+0.8**
SKT	**Skwentna**	**6.63**	**297**		**Pn**	**14 45 58.2**	**0.0**
TRF	**Thorofare Moun**	**6.70**	**311**		**Pn**	**14 46 00.1**	**+0.9**
PRP	**Porcupine Dome**	**6.73**	**336**		**Pn**	**14 46 00.7**	**+1.1**
SPCP	**Crater Peak Br**	**6.77**	**291**		**Pn**	**14 45 60.0**	**-0.2**
BWN	**Browne**	**6.80**	**318**		**Pn**	**14 46 00.6**	**0.0**
EPYK	**Eagle Plains**	**6.94**	**7**		**Pn**	**14 46 03.9**	**+1.5**
RSO	**Redoubt South**	**6.99**	**284**		**Pn**	**14 46 02.0**	**-1.2**
IVE	**Iliamna Volcan**	**7.12**	**280**		**Pn**	**14 46 04.4**	**-0.6**
ILS	**Iliamna Low So**	**7.15**	**279**		**Pn**	**14 46 04.8**	**-0.5**
PPLA	**Purkeypile**	**7.22**	**303**		**Pn**	**14 46 06.3**	**-0.1**
DIB	**Dawson Inlet,**	**7.29**	**148**	Pn	**Pn**	**14 46 07.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.30**	**314**		**Pn**	**14 46 06.9**	**-0.5**
KDAK	**Kodiak Island**	**7.33**	**262**	Pn	**Pn**	**14 46 07.2**	**-0.5**
	8.7nm,0.3s,baz=66,slow=8.5,SNR=109						
KDAK				Sn	**Sn**	**14 47 25.4**	**-5.2**
	3.3nm,0.3s,baz=216,slow=22,SNR=9.9						
MLY	**Manley**	**7.78**	**320**		**Pn**	**14 46 13.8**	**-0.1**
OHAK	**Old Harbor**	**7.88**	**259**		**Pn**	**14 46 13.7**	**-1.6**
FNBB	**Fort Nelson**	**8.21**	**88**	Pn	**Pn**	**14 46 19.9**	**+0.1**
FNBB				Sg	Sb	14 48 32.1	+12
BM03	**Burnt Mountain**	**8.30**	**345**		**Pn**	**14 46 21.6**	**+0.5**
SVW2	**Sparrevohn**	**8.40**	**288**		**Pn**	**14 46 21.4**	**-1.0**
NBC5	**NorthernBC 5**	**8.75**	**96**	Pn	**Pn**	**14 46 27.6**	**+0.3**
TT01	**Tatalina**	**8.89**	**300**		**Pn**	**14 46 29.0**	**-0.2**
TTA	**Tatalina**	**8.89**	**300**		**Pn**	**14 46 28.7**	**-0.6**
INK	**Inuvik**	**9.12**	**13**	Pn	**Pn**	**14 46 33.5**	**+1.3**
	0.2nm,0.3s,baz=205,slow=8.6,SNR=7.0						
INK				Lg	Lg	14 49 07.0	
	0.5nm,0.3s,baz=265,slow=33,SNR=5.9						
INK	**Inuvik**	**9.12**	**13**	Pn	**Pn**	**14 46 31.7**	**-0.5**
INK	**Inuvik**	**9.12**	**13**		**Pn**	**14 46 33.6**	**+1.4**
NBC6	**NorthernBC 6**	**9.12**	**88**	Pn	**Pn**	**14 46 31.0**	**-1.3**
COLD	**Coldfoot**	**9.21**	**332**	Pn	**Pn**	**14 46 35.6**	**+2.2**
COLD	**Coldfoot**	**9.21**	**332**		**Pn**	**14 46 35.2**	**+1.8**
IM03		**9.35**	**320**		**Pn**	**14 46 35.9**	**+0.5**
IMAR	**Indian Mountai**	**9.35**	**320**		**Pn**	**14 46 35.4**	**-0.1**
BMBC	**Bull Mountain**	**9.63**	**104**	Pn	**Pn**	**14 46 41.9**	**+2.5**
TOLK	**Toolik Lake Re**	**10.23**	**338**		**Pn**	**14 46 49.4**	**+1.9**
YKA	**Yellowknife Ar**	**12.14**	**65**	Pn	**Pn**	**14 47 13.0**	**-0.6**
	0.4nm,0.3s,baz=267,slow=13,SNR=12						
YKA				Lg	Lg	14 50 39.6	
	baz=266,slow=30,SNR=4.3						
NEW	**Newport**	**17.02**	**122**	P	**P**	**14 48 22.2**	**+1.7**
	0.1nm,0.3s,baz=325,slow=6.5,SNR=3.2						
YBH	**Yreka Blue Hor**	**20.48**	**143**	LR	LR	14 56 08.3	
	comp=Z,448nm,20.6s,baz=347,slow=34						
EGMT	**Eagleton**	**20.55**	**111**		Pn	14 49 01.0	-0.5
EGMT				IAmb	IAmb	14 49 12.7	
	comp=Z,15nm,1.1s						
MFID	**Camas Ranch**	**21.45**	**129**	P	**P**	**14 49 09.6**	**+0.6**
BOZ	**Bozeman (W)**	**21.48**	**118**	P	**P**	**14 49 06.1**	**-3.3**
MCMT	**McKenzie Canyo**	**21.54**	**121**	P	**P**	**14 49 11.6**	**+1.5**
RES	**Resolute Bay**	**22.05**	**29**	P	**P**	**14 49 15.5**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=242,slow=9.8,SNR=4.2						
RES	**Resolute Bay**	**22.05**	**29**	IAmb	IAmb	14 49 41.3	
	comp=Z,18nm,1.3s						
ELK	**Elko**	**23.95**	**131**	P	**P**	**14 49 36.5**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=322,slow=8.8,SNR=4.4						
ELK	**Elko**	**23.95**	**131**	IAmb	IAmb	14 49 41.9	
	comp=Z,3.6nm,1.1s						
HVU	**Hansel Valley**	**24.05**	**126**	P	**P**	**14 49 37.9**	**+1.9**
PDAR	**Pinedale Array**	**24.62**	**120**	P	**P**	**14 49 42.8**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=309,slow=6.0,SNR=6.1						
PDAR	**Pinedale Array**	**24.62**	**120**	P	**P**	**14 49 42.4**	**+1.1**
NVAR	**Mina Array Bea**	**24.89**	**139**	P	**P**	**14 49 45.1**	**+1.4**
	comp=Z,2.5nm,0.9s,baz=313,slow=8.0,SNR=12						
NVAR	**Mina Array Bea**	**24.89**	**139**	P	**P**	**14 49 44.3**	**+0.5**
NV11	**Mina Array Sit**	**24.94**	**139**	P	**P**	**14 49 45.0**	**+0.9**
NV11				IAmb	IAmb	14 49 55.4	
	comp=Z,13nm,1.4s						
MDPB	**Devils Postpil**	**25.36**	**141**	P	**P**	**14 49 48.1**	**0.0**
MDPB				IAmb	IAmb	14 50 14.6	
	comp=Z,6.4nm,0.9s						
DUG	**Dugway, Tooele**	**25.37**	**128**	P	**P**	**14 49 48.2**	**+0.2**
DUG				IAmb	IAmb	14 49 57.4	
	comp=Z,11nm,1.2s						
R11A	**Troy Canyon, C**	**25.91**	**134**	P	**P**	**14 49 53.6**	**+0.6**
PSUT	**Pine Spring**	**26.40**	**132**	P	**P**	**14 49 57.6**	**+0.3**
RWWY	**Rawlins**	**26.53**	**118**	P	**P**	**14 49 58.0**	**-0.6**
TPNV	**Topopah Spring**	**26.93**	**137**	P	**P**	**14 50 02.8**	**+0.7**
TPNV				IAmb	IAmb	14 50 09.3	
	comp=Z,6.8nm,1.2s						
SSP	**Shoshone Peak**	**26.96**	**137**			14 44 55.5	
MSU	**Marysvale**	**27.07**	**129**	P	**P**	**14 50 04.1**	**+0.7**
PV13	**Radium Mtn., P**	**28.74**

*NEIC **19** 14:45:27.4±1.6,2°.5N±0°.1×128°.55E±0°.10,h35km±2km, mb4.3/8*

ISC 19 14:45:23.5±1.3,2°.9N±0°.1×128°.6E±0°.1,h35km,n28, σ1§72/27,mb4.3/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	2.40	210	P	Pn	14 45 57.9	-2.4
TNTI	**Ternate**	2.40	210		Pn	14 46 01.5	+1.2
SWI	**Sorong**	4.58	144	P	Pn	14 46 32.4	+2.0
SIJI	**Sorong**	4.59	144	Pn	Pn	14 46 32.7	+2.1
	18nm,0.3s,baz=127,slow=9.1,SNR=107						
SIJI				Sn	Sn	14 47 21.9	-0.9
	6.6nm,0.3s,baz=215,slow=23,SNR=12						
SANI	**Sanana**	5.52	208	P	Pn	14 46 45.7	+2.5
FAKI	**Fak Fak**	6.83	147	P	Pn	14 47 03.2	+1.9
FAKI	**Fak Fak**	6.83	147	Pn	Pn	14 47 03.1	+1.8
MRSI	**Marisa**	7.03	250	P	Pn	14 47 07.1	+3.1
APSI	**Ampana**	7.86	242	P	Pn	14 47 17.2	+1.8
KDI	**Kendari**	9.01	221	P	Pn	14 47 34.4	+3.2
MPSI	**Mapaga**	9.01	254	P	Pn	14 47 32.7	+1.5
BBSI	**Bau Bau**	10.23	216	P	Pn	14 47 48.6	+0.7
TTSI	**Tana Toraja**	10.52	236	P	Pn	14 47 52.9	+0.9
KKM	**Kota Kinabalu**	12.70	285	Pn	P	14 48 30.0	-2.7
MTN	**Manton Dam**	15.81	171	Pn	Pn	14 49 02.2	-1.5
MTN				IAmb	IAmb	14 49 22.1	
	comp=Z,46nm,1.6s						
KNRA	**Kununurra**	18.43	179		P	14 49 35.4	-0.6
KNRA				IAmb	IAmb	14 49 42.0	
	comp=Z,24nm,1.3s						
WB0	**Warramunga Arr**	23.21	166	P	P	14 50 26.8	-0.8
WB0				IAmb	IAmb	14 50 44.8	
	comp=Z,18nm,1.6s						
WRAB	**Tennant Creek**	23.36	166	P	P	14 50 28.4	-0.6
WRA	**Warramunga Arr**	23.37	166	P	P	14 50 28.6	-0.5
	comp=Z,1.7nm,0.7s,baz=343,slow=10.0,SNR=15						
WRA	**Warramunga Arr**	23.37	166	IAmb	IAmb	14 50 37.1	
	comp=Z,0.1nm,0.7s						
WB2	**Warramunga Arr**	23.37	166	P	P	14 50 28.6	-0.6
WR0	**Warramunga Arr**	23.43	166	P	P	14 50 29.1	-0.7
WR0				IAmb	IAmb	14 51 23.3	
	comp=Z,16nm,1.6s						
ASAR	**Alice Springs**	26.88	169	P	P	14 51 01.1	-0.2
	comp=Z,0.5nm,0.8s,baz=345,slow=7.7,SNR=9.0						
ASAR	**Alice Springs**	26.88	169	P	P	14 51 00.9	-0.5
XAN	**Xi'an**	36.02	332	P	P	14 52 28.8	+7.2
XAN				IAmb	IAmb	14 53 39.9	
	comp=Z,4.4nm,0.9s						
MK31	**Makanchi Array**	59.30	325	P	P	14 55 23.0	+1.1
MK31				IAmb	IAmb	14 55 25.2	
	comp=Z,4.7nm,1.6s						
MKAR	**Makanchi Array**	59.30	325	P	P	14 55 23.1	+1.1
	comp=Z,0.9nm,0.3s,baz=109,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	59.30	325	P	P	14 55 22.7	+0.8

*IDC **19** 14:51:49.1±2.1,55°.52S×28°.99W,h0km,mb3.9/2, mb1 4.1/2,mb1mx3.7/17,mbtmp3.9/2,Error ellipse: s-maj=82.6km s-min=39.8km az=14.0*

*ISCJB **19** 14:51:51.3±0.8,55°.5S±0°.1×29°.1W±0°.4,h24km,mb4.0/3, Error ellipse: s-maj=33.8km s-min=11.5km az=156.2*

*NEIC **19** 14:51:55.1±0.8,55°.51S±0°.07×29°.1W±0°.3,h39km±8km, mb4.6/5*

ISC 19 14:51:52.9±0.8,55°.5S±0°.1×29°.1W±0°.2,h24km,n22, σ0§94/22,mb4.2/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	17.72	157	P	P	14 56 01.2	+3.0
VNA3	**Neumayer Olymp**	17.88	159	P	P	14 56 01.0	+0.9
VNA2	**Neumayer--Watz**	18.12	157	P	P	14 56 02.9	+0.3
	baz=313,slow=14						
SNAA	**Sanae**	19.69	155	P	Pn	14 56 20.7	-0.8
SNAA	**Sanae**	19.69	155	P	Pn	14 56 20.4	-1.1
QSPA	**South Pole Qui**	34.75	180	P	P	14 58 41.4	+0.5
QSPA				IAmb	IAmb	14 59 10.0	
	comp=Z,16nm,1.8s						
QSPA					S	15 04 08.2	-1.2
CPUP	**Villa Florida**	35.63	313	P	P	14 58 48.3	-0.4
	comp=Z,0.6nm,0.4s,baz=143,slow=7.2,SNR=3.1						
CPUP	**Villa Florida**	35.63	313	IAmb	IAmb	14 58 50.9	
	comp=Z,28nm,1.8s						
LPAZ	**La Paz**	49.17	307	P	P	15 00 40.4	+0.9
	comp=Z,1.2nm,0.7s,baz=127,slow=5.1,SNR=4.0						
LPAZ	**La Paz**	49.17	307	P	P	15 00 39.9	+0.4
LPAZ				IAmb	IAmb	15 00 42.9	
	comp=Z,12nm,1.9s						
TORD	**Torodi Ar. Bea**	73.14	31	P	P	15 03 21.2	0.0
	comp=Z,1.1nm,0.6s,baz=206,slow=5.0,SNR=5.8						
RIDG	**Independent Ri**	147.82	311		PKiKP	15 11 35.0	-1.2
IL31		148.94	313		PKPbc	15 11 37.1	+0.1
ILAR	**Eielson Array**	148.94	313	PKPbc	PKPbc	15 11 37.0	0.0
	comp=Z,3.1nm,0.7s,baz=124,slow=1.9,SNR=34						
ILAR	**Eielson Array**	148.94	313		PKPbc	15 11 36.8	-0.2
RND	**Reindeer**	149.47	310		PKiKP	15 11 39.0	-0.6
MCK	**McKinley**	149.58	310		PKiKP	15 11 39.4	-0.3
BPAW	**Bear Paw Mtn.**	150.45	310		PKPbc	15 11 41.0	0.0
TOLK	**Toolik Lake Re**	150.56	320		PKiKP	15 11 41.5	-0.1
SONM	**Songino Array**	151.79	87	PKPbc	PKPbc	15 11 44.2	-0.4
	comp=Z,0.4nm,0.4s,baz=209,slow=2.1,SNR=2.3						
SONM	**Songino Array**	151.79	87		PKPbc	15 11 43.9	-0.6
IMAR	**Indian Mountai**	151.97	314		PKiKP	15 11 44.9	+0.4

*ISCJB **19** 15:05:03.3±0.4,19°.38S±0°.06×177°.49W±0°.07,h550km, mb4.0/4,Error ellipse: s-maj=10.2km s-min=6.6km az=43.7*

*IDC **19** 15:05:03.5±1.5,19°.42S×177°.43W,h537km±22km,mb3.5/4, mb1 3.6/6,mb1mx3.2/28,mbtmp4.4/6,Error ellipse: s-maj=31.1km s-min=16.9km az=128.0*

*NEIC **19** 15:05:04.5±2.1,19°.3S±0°.1×177°.3W±0°.1,h564km±10km, mb4.7/33*

ISC 19 15:05:04.4±0.6,19°.4S±0°.1×177°.34W±0°.09,h550km,n52, σ1§28/58,mb4.7/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.66	289	P	P	15 06 35.1	+3.5
NIUE	**Niue**	7.01	89	P	P	15 06 55.5	+2.9
AFI	**Afiamalu**	7.59	45	P	P	15 06 59.6	+1.2
	3.8nm,0.3s,baz=218,slow=2.8,SNR=6.1						
AFI				S	S	15 08 30.4	-1.2
	12nm,0.3s,baz=80,slow=23,SNR=11						
AFI	**Afiamalu**	7.59	45	P	P	15 06 59.4	+1.0
AFI					S	15 08 30.6	-1.0
DZM	**Mont Dzumac**	15.41	257	P	P	15 08 19.3	+1.0
	0.8nm,0.3s,baz=123,slow=22,SNR=15						
DZM	**Mont Dzumac**	15.41	257	P		15 08 19.3	+1.0
DZM				IAmb	IAmb	15 08 21.4	
	comp=Z,30nm,1.4s						
KNTN	**Kanton**	17.36	19	P	P	15 08 35.8	-0.8
KNTN				IAmb	IAmb	15 09 25.4	
	comp=Z,36nm,0.9s						
OUZ	**Omahuta**	17.73	205	P	P	15 08 42.3	+2.6
URZ	**Urewera**	19.45	193	P	P	15 08 54.1	-1.3
	comp=Z,1.9nm,0.3s,baz=18,slow=3.2,SNR=13						
URZ	**Urewera**	19.45	193	P	P	15 08 54.0	-1.4
URZ				IAmb	IAmb	15 09 01.4	
	comp=Z,14nm,1.2s						
BKZ	**Black Stump Fm**	20.46	194	P	P	15 09 02.6	-2.0
BKZ				IAmb	IAmb	15 09 10.8	
	comp=Z,18nm,1.4s						
QRZ	**Quartz Range**	23.10	200	P	P	15 09 27.7	-0.4
BSWZ	**Blackbirch Sta**	23.52	197	P	P	15 09 31.9	+0.1
THZ	**Tophouse**	23.84	198	P	P	15 09 34.3	-0.5
THZ				IAmb	IAmb	15 10 21.5	
	comp=Z,86nm,2.0s						
LHI	**Lord Howe Isla**	24.45	236	P	P	15 09 40.7	+0.3
LTZ	**Lake Taylor**	24.96	198	P	P	15 09 42.4	-2.3
LTZ				IAmb	IAmb	15 09 55.6	
	comp=Z,22nm,1.2s						
OXZ	**Oxford**	25.52	198	P	P	15 09 47.8	-1.8
WKZ	**Wanaka**	27.83	201	P	P	15 10 09.2	-0.7
MLZ	**Mavora Lakes**	28.61	202	P	P	15 10 17.2	+0.5
WHZ	**Wether Hill Ro**	29.13	201	P	P	15 10 22.2	+1.1
WHZ				IAmb	IAmb	15 10 39.4	
	comp=Z,74nm,1.7s						
CTAO	**Charters Tower**	34.24	263	P	P	15 11 04.5	-0.5
CTAO				IAmb	IAmb	15 11 06.0	
	comp=Z,13nm,1.1s						
PMG	**Port Moresby**	35.71	281	P	P	15 11 17.3	-0.1
PMG				IAmb	IAmb	15 11 18.4	
	comp=Z,15nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	37.08	233	P	P	15 11 28.3	-0.1
TOO				IAmb	IAmb	15 11 43.1	
	comp=Z,46nm,1.7s						
COEN	**Coen**	38.15	272	P	P	15 11 37.1	-0.3
STKA	**Stephens Creek**	38.85	243	P	P	15 11 43.0	+0.1
	comp=Z,2.7nm,0.6s,baz=54,slow=5.6,SNR=3.5						
STKA	**Stephens Creek**	38.85	243	P	P	15 11 42.8	-0.1
BBOO	**Buckleboo**	43.62	242	P	P	15 12 19.8	-0.8
SBLHI	**Steaming Bluff**	44.20	31	P	P	15 12 25.3	0.0
WR0	**Warramunga Arr**	45.19	261	P	P	15 12 31.6	-1.4
WB0	**Warramunga Arr**	45.36	261	P	P	15 12 32.7	-1.5
WB2	**Warramunga Arr**	45.37	261	P	P	15 12 32.9	-1.4
WRAB	**Tennant Creek**	45.38	261	P	P	15 12 32.5	-1.8
WRAB				IAmb	IAmb	15 13 21.8	
	comp=Z,47nm,1.9s						
WRA	**Warramunga Arr**	45.38	261	P	P	15 12 32.7	-1.7
	comp=Z,2.8nm,0.4s,baz=98,slow=8.0,SNR=99						
WRA				PcP	PcP	15 14 01.6	-0.6
	comp=Z,1.0nm,0.8s,baz=91,slow=3.3,SNR=5.8						
WRA	**Warramunga Arr**	45.38	261	P	P	15 12 32.9	-1.5
WRA					PcP	15 14 01.5	-0.6
AS31	**Alice Springs**	45.39	256	P	P	15 12 33.3	-1.2
ASAR	**Alice Springs**	45.39	256	P	P	15 12 33.5	-1.0
	comp=Z,6.5nm,0.8s,baz=86,slow=8.2,SNR=116						
ASAR				PcP	PcP	15 14 01.6	-0.5
	comp=Z,1.2nm,0.7s,baz=98,slow=4.6,SNR=8.2						
ASAR	**Alice Springs**	45.39	256	P	P	15 12 33.1	-1.3
ASAR					PcP	15 14 01.0	-1.2
MTN	**Manton Dam**	49.78	269	P	P	15 13 06.0	-1.4
MTN				IAmb	IAmb	15 13 06.7	
	comp=Z,12nm,0.8s						
FORT	**Forrest**	50.32	246	P	P	15 13 09.7	-1.4
FORT				IAmb	IAmb	15 13 49.1	
	comp=Z,84nm,1.5s						
KNRA	**Kununurra**	51.36	265	P	P	15 13 17.7	-1.1
KNRA				IAmb	IAmb	15 15 11.2	
	comp=Z,77nm,1.8s						
FITZ	**Fitzroy Crossi**	53.80	261	P	P	15 13 35.2	-1.0
SOEI	**Soe**	57.09	271	P	P	15 13 59.8	+0.5
SOEI				IAmb	IAmb	15 14 00.8	
	comp=Z,31nm,0.7s						
PSA00	**Pilbara Seismi**	58.54	256	P	P	15 14 07.5	-1.3
MENT	**Mentasta**	86.17	15	P	P	15 16 46.1	-1.1
MENT				IAmb	IAmb	15 16 54.0	
	comp=Z,7.1nm,0.7s						
VNA3	**Neumayer Olymp**	89.25	176	P	P	15 17 01.4	-0.3
VNA2	**Neumayer--Watz**	89.69	177	P	P	15 17 03.8	+0.1
	baz=206,slow=4.3						
CMAR	**Chiang Mai Arr**	90.32	289	P	P	15 17 08.8	+1.2
	comp=Z,1.8nm,0.9s,baz=120,slow=2.8,SNR=11						
CMAR	**Chiang Mai Arr**	90.32	289	P	P	15 17 08.0	+0.5
BRTR	**Keskin Array B**	146.51	314	PKPbc	PKPbc	15 23 44.1	-0.6
	comp=Z,1.5nm,0.6s,baz=150,slow=6.0,SNR=8.1						
BRTR	**Keskin Array B**	146.51	314		PKPdf	15 23 43.5	+1.3
GERES	**GERESS Array B**	149.25	346	PKPbc	PKPbc	15 23 51.3	-0.1
	comp=Z,1.4nm,0.7s,baz=38,slow=2.4,SNR=6.5						
GERES	**GERESS Array B**	149.25	346		PKPbc	15 23 50.6	-0.8

*BJI **19** 15:16:42.0±0.0,8°.56N×138°.99E,h5km,mb5.5/61, mB6.0/76,Ms5.8/91,Ms7 5.7/82*

*ISCJB **19** 15:16:46.4±0.1,8°.88N±0°.02×138°.51E±0°.02,h8km, mb5.6/196,MS5.5/127,Error ellipse: s-maj=2.3km s-min=2.1km az=150.0*

*IDC **19** 15:16:46.9±0.3,8°.90N×138°.53E,h0km,mb5.4/50, mb1 5.4/54,mb1mx5.3/62,mbtmp5.3/54,ML5.5/5,MS5.3/46, Ms1 5.3/46,ms1mx5.3/50,Error ellipse: s-maj=12.3km s-min=7.8km az=79.0*

*MOS **19** 15:16:46.4±0.9,8°.89N×138°.50E,h10km,mb5.9/110, MS5.5/54,Error ellipse: s-maj=6.3km s-min=3.7km az=111.0*

*NEIC **19** 15:16:48.0±1.7,8°.92N±0°.06×138°.53E±0°.05,h10km±1km, mb5.8/296,Ms_20 5.5/626,Mwb5.8,Mww5.9, Mwc6.0(GCMT),Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-6.03; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$6.49; $M_{r\theta}$0.88; $M_{\theta\phi}$3.50; $M_{\phi r}$0.34; Fault plane solution: $M_0$7.24000×10^{17} NP1:ϕ_s211.41000°,δ48.38000°, λ-77.77000°. NP2:ϕ_s13.33000°,δ43.06000°, λ-103.42000°. Principal axes: T 7.9764, Plg3.0000°, Azm293.0000°; N -1.8102, Plg9.0000°, Azm23.0000°; P -6.1662, Plg80.0000°, Azm186.0000°;*

*NEIC **19** 15:16:50, 9.05N×138°.46E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-7.75; $M_{\theta\theta}$0.43; $M_{\phi\phi}$7.31; $M_{r\theta}$-1.52; $M_{\theta\phi}$2.41; $M_{\phi r}$-1.73; Fault plane solution: $M_0$8.24000×10^{17} NP1:ϕ_s24.00000°, δ53.00000°,λ-81.00000°. NP2:ϕ_s191.00000°,δ38.00000°, λ-100.00000°. Principal axes: T 8.3528, Plg7.0000°, Azm108.0000°; N -0.2209, Plg7.0000°, Azm199.0000°; P -8.1320, Plg80.0000°, Azm330.0000°;*

*DJA **19** 15:16:50.0±0.5,9°N±2°×13°9E±°,h20km±3km,M5.7/85, mb5.4/85,mB6.0/78,MLv6.4/1,Mw(mB)5.6/78,Mwp6.0/9*

*NEIC **19** 15:16:52, 8°.99N×138°.53E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.94; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$0.97; $M_{r\theta}$0.20; $M_{\theta\phi}$0.34; $M_{\phi r}$0.16; Fault plane solution: $M_0$1.05000×10^{18} NP1:ϕ_s206.00000°, δ52.00000°,λ-78.00000°. NP2:ϕ_s7.00000°,δ40.00000°, λ-105.00000°. Principal axes: T 1.0996, Plg6.0000°, Azm288.0000°; N -0.1100, Plg9.0000°, Azm19.0000°; P -0.9896, Plg79.0000°, Azm166.0000°;*

*GCMT **19** 15:16:52.0±0.1,8°.98N±0°.01×138°.52E,h12km,MW5.9/147, Moment Tensor Solution. s116,c230; s147,c528; Duration: 2§3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.91±.01; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$0.93±.01; $M_{\theta\phi}$0.19±.02; $M_{\theta\phi}$0.34±.01; $M_{\phi r}$0.26±.02; Best double couple: $M_0$1.03000×10^{18} NP1:ϕ_s204.00000°,δ54.00000°, λ-82.00000°. NP2:ϕ_s11.00000°,δ37.00000°, λ-101.00000°. Principal axes: T 1.0890, Plg9.0000°, Azm288.0000°; N -0.1180, Plg7.0000°, Azm19.0000°; P -0.9710, Plg79.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 19 15:16:50.1±0.4,8°.85N±0°.03×138°.57E±0°.03,h24km±2km, h24km:pP-P,n1753,σ1§68/1355,mb5.8/385,MS5.5/705, 17C-31D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	4.19	252	Pn	Pn	15 17 49.1	-3.5
	baz=88,slow=12,SNR=2.5						
I39PW				Sn	Sn	15 18 34.5	-6.4
PALU	**Palau**	4.32	250	P	Pn	15 17 50.9	-3.6
	baz=4.3,SNR=223						
GUMO	**Guam**	7.77	52	Pn	Pn	15 18 40.3	-1.6
	195nm,0.3s,baz=241,slow=3.7,SNR=64						
GUMO				Sn	Sn	15 20 02.7	-6.4
	76nm,0.3s,baz=93,slow=23,SNR=2.7						
GUMO	**Guam**	7.77	52		Pn	15 18 40.0	-1.8
ANA2	**Anatahan**	10.20	42		Pn	15 19 13.8	-1.4
SARN	**Sarigan**	10.50	41		Pn	15 19 18.6	-0.8
SMPI	**Sarmi**	10.77	179	P	Pn	15 19 24.6	+1.6
SRPI	**Serui, Papua**	10.90	192	P	Pn	15 19 28.5	+3.7
GENI	**Genyem**	11.48	172	P	Pn	15 19 36.7	+3.9
JAY	**Jayapura**	11.49	169	Pn	Pn	15 19 34.7	+1.8
	24nm,0.3s,baz=354,slow=8.6,SNR=50						
JAY				Sn	Sn	15 21 40.0	-0.8
	14nm,0.3s,baz=100,slow=22,SNR=3.6						
JAY				LR	LR	15 23 11.7	
	comp=Z,14μm,19.5s,baz=346,slow=33						
JAY	**Jayapura**	11.49	169	P	Pn	15 19 35.3	+2.3
SWI	**Sorong**	12.09	217	P	Pn	15 19 43.0	+1.9
SIJI	**Sorong**	12.09	217	Pn	Pn	15 19 41.2	+0.1
	22nm,0.3s,baz=29,slow=15,SNR=48						
MATI	**Mati**	12.34	262	*eP*	Pn	15 19 41.0	-3.5
WAMI	**Wamena**	12.65	179	P	P	15 19 56.0	-3.9
DAV	**Davao City (W)**	12.98	263	Pn	Pn	15 19 55.9	+2.6
	baz=72,slow=3.8,SNR=10						
DAV				LR	LR	15 24 32.7	
	comp=Z,13μm,20.8s,baz=126,slow=36						
DAV	**Davao City (W)**	12.98	263	P	Pn	15 19 53.6	+0.3
DDMP	**Don Marcelino,**	13.04	259	*eP*	Pn	15 19 53.0	-1.1
FAKI	**Fak Fak**	13.28	209	P	Pn	15 20 00.8	+3.4
FAKI	**Fak Fak**	13.28	209		Pn	15 19 59.0	+1.5
BUKP	**Musuan**	13.40	267	*eP*	Pn	15 20 00.6	+1.6
KCP	**Kidapawan**	13.47	263	*iP*	Pn	15 20 01.3	+1.2
CGP	**Cagayan de Oro**	13.72	269	*eP*	Pn	15 20 04.4	+1.0
TNTI	**Ternate**	13.74	235	P	Pn	15 20 05.6	+1.9
TNTI	**Ternate**	13.74	235		Pn	15 20 04.4	+0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	13.93	141		Pn	15 20 07.5	+1.2
SKMP	**Bagumbayan, Su**	14.09	262	*eP*	Pn	15 20 06.0	-2.5
CTBH	**Cotabato--PC H**	14.27	265	*iP*	Pn	15 20 11.8	+0.8
PVCP	**Virac**	14.90	290	*eP*	Pn	15 20 15.7	-3.7
PAGZ	**Pagadian**	15.06	267	*eP*	Pn	15 20 19.0	-2.6
MSAI	**Masohi**	15.47	219	P	Pn	15 20 27.7	+0.7
RCP	**Roxas**	15.80	281	*eP*	P	15 20 35.0	0.0
GUIM	**Jordan**	15.85	278	*eP*	Pn	15 20 29.8	-2.1
AAI	**Ambon**	16.19	220	P	Pn	15 20 36.5	+0.2
SANI	**Sanana**	16.57	230	P	Pn	15 20 37.9	-3.2
NLAI	**Namlea**	16.58	224	P	Pn	15 20 39.6	-1.7
KMSI	**Cibinong**	16.69	241	P	Pn	15 20 41.8	-0.9
MMPI	**Merauke**	17.30	174	P	Pn	15 20 51.0	+0.7
TGY	**Tagaytay City**	18.04	288	P	P	15 21 01.8	+1.9
	baz=126,slow=8.7,SNR=5.2						
TGY				LR	LR	15 26 51.8	
	comp=Z,32μm,20.6s,baz=90,slow=34						
CAUP	**Cauayan**	18.18	298	*eP*	P	15 21 01.2	-0.1
SAUI	**Saumlaki**	18.23	204	P	Pn	15 21 01.3	-0.4
SAUI	**Saumlaki**	18.23	204		P	15 21 03.1	+1.3
SAUI				IAmb	IAmb	15 21 13.3	
	comp=Z,480nm,1.3s						
PCPH	**Palayan**	18.32	293	*eP*	Pn	15 21 03.0	+0.1
JCJ	**Chichijima**	18.46	10	P	Pn	15 21 04.8	+0.3
	comp=Z,27nm,0.3s,baz=161,slow=4.3,SNR=14						
JCJ				LR	LR	15 27 08.7	
	comp=Z,3μm,20.6s,baz=182,slow=34						
MRSI	**Marisa**	18.53	244	P	P	15 21 04.6	-0.6
LUWI	**Luwuk**	18.56	239	P	P	15 21 05.1	-0.4
LUWI	**Luwuk**	18.56	239	P	P	15 21 05.4	0.0
LUWI				IAmb	IAmb	15 21 25.3	
	comp=Z,1μm,1.7s						
LUBP	**Lubang**	18.60	287	*eP*	P	15 21 03.4	-2.6
KRVT	**Keravat (AS076**	18.73	134	P	P	15 21 06.3	-1.1
	comp=Z,6.7nm,0.3s,baz=260,slow=12,SNR=6.1						
KRVT				LR	LR	15 26 50.8	
	comp=Z,35μm,21.4s,baz=318,slow=32						
SMPP	**San Manuel, Pa**	18.90	294	*eP*	P	15 21 07.7	-1.5
ENPP	**El Nido**	18.99	279	*eP*	P	15 21 09.9	-0.4
APYP	**Conner**	19.07	300	*eP*	Pn	15 21 12.2	+0.2
APSI	**Ampana**	19.45	241	P	P	15 21 15.5	+0.2
SCZP	**Santa Cruz**	19.47	292	*eP*	P	15 21 12.1	-3.4
PATS	**Pohnpei**	19.66	94	P	P	15 21 16.7	-0.9
	baz=20,SNR=5.4						
PATS	**Pohnpei**	19.66	94	P	P	15 21 16.5	-1.1
PATS				IAmb	IAmb	15 21 21.3	
	comp=Z,966nm,1.7s						
PMG	**Port Moresby**	20.06	155	*cP*	P	15 21 22.7	+0.8
PMG				pmax	pmax		
	comp=Z,1μm,1.7s						
PMG	**Port Moresby**	20.06	155	P	P	15 21 21.9	+0.1
	comp=Z,93nm,1.0s,baz=347,slow=9.4,SNR=34						
PMG				LR	LR	15 28 27.4	
	comp=Z,19μm,20.8s,baz=344,slow=35						
PMG	**Port Moresby**	20.06	155	P	P	15 21 21.7	-0.2
PMG				IAmb	IAmb	15 21 26.4	
	comp=Z,189nm,1.1s						
PMG	**Port Moresby**	20.06	155	IAMs_20	IAMs_20	15 27 25.8	
	comp=Z,28μm,22.0s						
KDI	**Kendari**	20.37	232	P	P	15 21 25.2	-0.1
	comp=Z,172nm,1.4s,comp=Z,6μm						
JOW	**Kunigami**	20.37	333	P	P	15 21 26.1	+0.9
	comp=Z,14nm,0.8s,baz=145,slow=13,SNR=9.0						
JOW	**Kunigami**	20.37	333	P	P	15 21 24.9	-0.3
JOW				IAmb	IAmb	15 21 44.9	
	comp=Z,168nm,1.0s						
MPSI	**Mapaga**	20.43	247	P	P	15 21 24.6	-1.3
BATP	**Bataraza**	20.52	271	*eP*	P	15 21 27.2	+0.3
BBSI	**Bau Bau**	21.38	229	P	P	15 21 38.1	+1.8
YOJ	**Yonaguni jima**	21.48	318	P	P	15 21 37.5	+0.3
YOJ				pmax	pmax		
	comp=Z,644nm,1.2s						
YOJ				MLR	MLR		
	comp=Z,20μm,21.0s						
YOJ	**Yonaguni jima**	21.48	318	P	P	15 21 37.5	+0.3
YOJ				IAmb	IAmb	15 21 57.5	
	comp=Z,644nm,1.2s						
YOJ				IAMs_20	IAMs_20	15 27 59.1	
	comp=Z,20μm,21.0s						
TWG	**Pinlang**	21.78	312	P	P	15 21 40.5	0.0
TWG				IAmb	IAmb	15 21 55.5	
	comp=Z,1μm,1.2s						
TWG				IAMs_20	IAMs_20	15 27 43.2	
	comp=Z,61μm,21.0s						
YULB	**Yu-li**	21.97	313	P	P	15 21 42.7	+0.2
YULB				IAmb	IAmb	15 22 12.6	
	comp=Z,906nm,2.0s						
YULB				IAMs_20	IAMs_20	15 27 47.0	
	comp=Z,22μm,20.0s						
TTSI	**Tana Toraja**	22.11	238	P	P	15 21 45.4	+1.3
KDU	**Kakadu**	22.24	196	P	P	15 21 45.0	-0.4
	baz=22,SNR=12						
NACB	**Ninganchiao**	22.25

comp=Z,11μm,19.0s
BATI Baumata 24.05 218 P **P 15 22 03.7 -0.1**
comp=Z,291nm,0.9s,baz=110,slow=2.0,SNR=23
BATI LR LR 15 31 14.0
comp=Z,5μm,20.7s,baz=18,slow=36
BATI Baumata 24.05 218 P **P 15 22 03.4 -0.4**
JHJ2 Mitsune 24.17 3 P **P 15 22 02.0 -2.7**
JHJ2 IAmb IAmb 15 22 49.0
comp=Z,2μm,1.8s
JHJ Hachijo jima 2 24.17 2 P **P 15 22 02.6 -2.1**
comp=Z,225nm,0.8s,baz=129,slow=6.5,SNR=2.7
JHJ LR LR 15 29 38.3
comp=Z,8μm,19.5s,baz=213,slow=32
KNMB Chin-men Tao 24.73 311 P **P 15 22 08.4 -1.6**
KNMB IAmb IAmb 15 22 14.1
comp=Z,141nm,0.9s
KNMB IAMs_20 IAMs_20 15 29 25.4
comp=Z,10μm,22.0s
QZH Quanzhou 24.87 312 P **P 15 22 11.5 +0.4**
QZH S **S 15 26 35.3 +2.4**
QZH pmax pmax
comp=Z,6μm,7.0s
QZH LR LR
comp=Z,11μm,17.7s
QZH LR LR
comp=Z,9μm,19.4s
QZH LR LR
comp=Z,10μm,20.8s
JNU Nakatsue 25.17 345 P **P 15 22 13.3 -0.6**
comp=Z,128nm,0.9s,baz=154,slow=4.0,SNR=35
JNU LR LR 15 31 27.1
comp=Z,5μm,19.0s,baz=150,slow=35
JNU Nakatsue 25.17 345 P **P 15 22 12.9 -0.9**
JNU IAmb IAmb 15 22 21.6
comp=Z,197nm,1.0s
JNU IAMs_20 IAMs_20 15 29 56.6
comp=Z,8μm,21.0s
KNRA Kununurra 26.24 202 P **P 15 22 23.3 -0.3**
baz=26,SNR=38
KNRA Kununurra 26.24 202 P **P 15 22 22.9 -0.6**
KNRA IAmb IAmb 15 22 27.2
comp=Z,280nm,1.1s
INU Inuyama 26.41 357 P **P 15 22 24.2 -0.8**
INU IAmb IAmb 15 22 29.1
comp=Z,176nm,1.3s
INU IAMs_20 IAMs_20 15 31 05.6
comp=Z,5μm,21.0s
SBUM Sibu 26.96 258 P **P 15 22 31.0 +0.7**
SBUM Sibu 26.96 258 P **P 15 22 29.2 -1.0**
SBUM IAmb IAmb 15 23 06.8
comp=Z,37nm,1.3s
SBUM IAMs_20 IAMs_20 15 33 26.0
comp=Z,3μm,18.0s
HKPS Hong Kong Po S 26.99 302 IAMs_20 IAMs_20 15 30 56.6
comp=Z,21μm,22.0s
PLAI Plampang 27.15 230 P **P 15 22 30.2 -1.7**
MTSU Mount Surprise 27.41 168 P **P 15 22 35.5 +1.3**
baz=28,SNR=9.7
SSE Sheshan 27.42 326 P **P 15 22 34.8 +0.6**
SSE S **S 15 27 19.1 +5.8**
SSE pmax pmax
comp=Z,1μm,7.4s
SSE LR LR
comp=Z,5μm,16.7s
SSE LR LR
comp=Z,7μm,17.8s
SSE Sheshan 27.42 326 IAMs_20 IAMs_20 15 31 13.1
comp=Z,13μm,22.0s
MJAR Matsushiro Arr 27.56 359 P **P 15 22 32.1 -3.3**
MJAR 15 25 53.2
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 27.56 359 P **P 15 22 32.4 -3.0**
comp=Z,15nm,0.8s,baz=184,slow=9.4,SNR=22
MJAR PcP **PcP 15 25 53.6 +0.6**
comp=Z,16nm,0.9s,baz=193,slow=3.5,SNR=11
MJAR Matsushiro Arr 27.56 359 P **P 15 22 32.1 -3.3**
MJAR IAmb IAmb 15 22 38.0
comp=Z,10nm,0.8s
MJAR **PcP 15 25 53.2 +0.2**
MAJO Matsushiro 27.57 359⇓ *e*P **P 15 22 32.8 -2.6**
MAJO pmax pmax
comp=Z,32nm,0.9s
MAJO Matsushiro 27.57 359 P **P 15 22 32.5 -2.9**
MAJO IAmb IAmb 15 22 42.4
comp=Z,43nm,0.9s
MAJO **PcP 15 25 53.5 +0.5**
MAJO Matsushiro 27.57 359 IAMs_20 IAMs_20 15 31 58.8
comp=Z,5μm,21.0s
MAT Matsushiro 27.57 359 P **P 15 22 32.6 -2.8**
MAT S **S 15 27 17.0 +1.5**
MJB9 Matsu-Tunnel 27.57 359 P **P 15 22 32.6 -2.9**
MJB9 IAmb IAmb 15 22 42.4
comp=Z,46nm,0.9s
MJB9 IAMs_20 IAMs_20 15 29 02.8
comp=Z,5μm,22.0s
HNR Honiara 27.99 130 P **P 15 22 38.0 -1.4**
HNR pmax pmax
comp=Z,159nm,1.1s
HNR MLR MLR
comp=Z,14μm,19.0s
HNR Honiara 27.99 130 P **P 15 22 40.2 +0.8**
comp=Z,25nm,0.6s,baz=333,slow=10.0,SNR=3.2
HNR LR LR 15 33 49.7
comp=Z,13μm,19.4s,baz=300,slow=36
HNR Honiara 27.99 130 P **P 15 22 38.0 -1.4**
HNR IAmb IAmb 15 23 34.2
comp=Z,159nm,1.1s
HNR Honiara 27.99 130 IAMs_20 IAMs_20 15 33 37.6
comp=Z,14μm,19.0s
GZH Guangzhou 28.01 303 P **P 15 22 40.0 +0.5**
GZH PP **PnPn 15 23 26.8 -0.3**
GZH S **S 15 27 24.0 +1.3**
GZH pmax pmax
comp=Z,3μm,8.6s
GZH LR LR
comp=Z,10μm,16.3s
GZH LR LR
comp=Z,9μm,20.1s
WB9 Warramunga Arr 28.76 188 IAMs_20 IAMs_20 15 34 19.1
comp=Z,592nm,19.0s
WB8 Warramunga Arr 28.78 188 IAMs_20 IAMs_20 15 35 12.7
comp=Z,1μm,18.0s
WB7 Warramunga Arr 28.81 188 IAMs_20 IAMs_20 15 35 13.4
comp=Z,893nm,18.0s
WB5 Warramunga Arr 28.85 188 IAMs_20 IAMs_20 15 35 14.5
comp=Z,1μm,18.0s
WB4 Warramunga Arr 28.88 188 IAMs_20 IAMs_20 15 35 16.1
comp=Z,1μm,19.0s
WB3 Warramunga Arr 28.89 188 IAMs_20 IAMs_20 15 35 15.7
comp=Z,1μm,18.0s
WC1 Warramunga Arr 28.90 188 IAMs_20 IAMs_20 15 35 16.8
comp=Z,995nm,18.0s
WRAB Tennant Creek 28.91 188 P **P 15 22 46.3 -1.2**
WRAB pmax pmax
comp=Z,82nm,1.2s
WRAB MLR MLR
comp=Z,8μm,18.0s
WRAB Tennant Creek 28.91 188 P **P 15 22 46.3 -1.2**
WRAB IAmb IAmb 15 23 06.1
comp=Z,82nm,1.1s
WRAB Tennant Creek 28.91 188 IAMs_20 IAMs_20 15 35 17.4
comp=Z,8μm,18.0s
WR9 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 15.5
comp=Z,766nm,19.0s
WR8 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 17.5
comp=Z,939nm,19.0s
WR7 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 16.6
comp=Z,833nm,19.0s
WR6 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 16.6
comp=Z,866nm,19.0s
WR5 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 16.7
comp=Z,891nm,19.0s
WB2 Warramunga Arr 28.91 188 P **P 15 22 46.3 -1.3**
WB2 IAmb IAmb 15 23 06.3
comp=Z,58nm,1.1s
WB2 IAMs_20 IAMs_20 15 35 17.7
comp=Z,1μm,18.0s
WR4 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 16.7
comp=Z,899nm,19.0s
H11S3 WAKE ISLAND Hy 28.91 68 T T 15 53 05.9
baz=254,slow=75,SNR=6421
WR3 Warramunga Arr 28.91 188 IAMs_20 IAMs_20 15 35 16.7
comp=Z,953nm,19.0s
WR1 Warramunga Arr 28.92 188 IAMs_20 IAMs_20 15 35 16.8
comp=Z,849nm,18.0s
WRA Warramunga Arr 28.92 188 P **P 15 22 46.4 -1.2**
comp=Z,7.6nm,0.7s,baz=7.2,slow=9.8,SNR=63
WRA PcP **PcP 15 25 57.6 +1.0**
comp=Z,20nm,1.2s,baz=357,slow=2.8,SNR=6.4
WRA ScP **ScP 15 29 42.7 +5.9**
comp=Z,5.3nm,1.1s,baz=3.6,slow=2.9,SNR=4.6
WRA LR LR 15 35 28.0
comp=Z,7μm,18.2s,baz=20,slow=39
WRA Warramunga Arr 28.92 188 P **P 15 22 45.4 -2.2**
WRA IAmb IAmb 15 23 06.2
comp=Z,4,4nm,1.1s
WR2 Warramunga Arr 28.92 188 IAMs_20 IAMs_20 15 35 16.8
comp=Z,826nm,18.0s
WC3 Warramunga Arr 28.93 188 IAMs_20 IAMs_20 15 35 17.1
comp=Z,937nm,18.0s
H11S1 WAKE ISLAND Hy 28.93 68 T T 15 53 07.1
baz=254,slow=75,SNR=648
H11S2 WAKE ISLAND Hy 28.93 68 T T 15 53 09.8
baz=254,slow=75,SNR=1108
WB1 Warramunga Ar. 28.93 188 IAMs_20 IAMs_20 15 35 17.2
comp=Z,1μm,19.0s
WC4 Warramunga Arr 28.93 188 IAMs_20 IAMs_20 15 35 17.3
comp=Z,1μm,19.0s
KSM Kuching 29.06 257 P **P 15 22 50.0 +1.0**
KSM Kuching 29.06 257 P **P 15 22 48.9 -0.1**
KSM IAmb IAmb 15 22 52.8
comp=Z,73nm,1.2s
KSM **PcP 15 25 57.4 +0.3**
KSM IAMs_20 IAMs_20 15 34 04.5
comp=Z,4μm,22.0s
TJN Taejon 29.23 341 *de*P **P 15 22 49.4 -0.8**
QIS Mount Isa 29.25 178 P **P 15 22 50.9 +0.4**
baz=29,SNR=12
H11N1 WAKE ISLAND Hy 29.45 65 T T 15 53 58.1
baz=244,slow=77,SNR=119
NJ2 Nanjing 29.45 324 *e*P **P 15 22 54.5 +2.3**
NJ2 pP **pP 15 22 57.4 -0.6**
NJ2 sP **sP 15 23 00.8 +0.5**
NJ2 S **S 15 27 47.8 +2.6**
NJ2 sS **sS 15 27 57.3 +2.6**
NJ2 pmax pmax
comp=Z,2μm,7.8s
NJ2 LR LR
comp=Z,14μm,15.2s
NJ2 LR LR
comp=Z,14μm,16.1s
NJ2 LR LR
comp=Z,14μm,24.6s
H11N2 WAKE ISLAND Hy 29.45 65 T T 15 53 58.5
baz=244,slow=77,SNR=106
H11N3 WAKE ISLAND Hy 29.46 65 T T 15 54 00.5
baz=244,slow=77,SNR=96
QIZ Qiongzhong 29.61 293 P **P 15 22 52.1 -1.7**
QIZ sP **pP 15 22 58.6 -0.8**
QIZ S **S 15 27 47.5 -0.5**
QIZ LR LR
comp=Z,4μm,23.5s
QIZ LR LR
comp=Z,6μm,17.7s
QIZ LR LR
comp=Z,11μm,29.9s
QIZ Qiongzhong 29.61 293 IAMs_20 IAMs_20 15 33 03.2
comp=Z,6μm,20.0s
FITZ Fitzroy Crossi 29.67 205 P **P 15 22 53.3 -1.0**
baz=30,SNR=22
FITZ Fitzroy Crossi 29.67 205 P **P 15 22 53.3 -1.0**
comp=Z,35nm,0.8s,baz=32,slow=9.6,SNR=36
FITZ LR LR 15 36 17.5
comp=Z,2μm,18.4s,baz=23,slow=39
FITZ Fitzroy Crossi 29.67 205 P **P 15 22 53.2 -1.0**
FITZ IAmb IAmb 15 22 55.4
comp=Z,106nm,1.4s
DLV T Lat 29.74 279 IAMs_20 IAMs_20 15 33 00.6
comp=Z,10μm,21.0s
CTA Charters Tower 29.74 165 P **P 15 22 56.2 +1.3**
comp=Z,29nm,1.0s,baz=342,slow=10,SNR=23
CTA LR LR 15 33 47.0
comp=Z,7μm,19.4s,baz=1.0,slow=34
CTAO Charters Tower 29.74 165 P **P 15 22 55.6 +0.7**
CTAO pmax pmax
comp=Z,45nm,1.1s
CTAO MLR MLR
comp=Z,7μm,20.0s
CTAO Charters Tower 29.74 165 P **P 15 22 55.6 +0.7**
CTAO IAmb IAmb 15 22 59.0
comp=Z,45nm,1.1s
CTAO Charters Tower 29.74 165 IAMs_20 IAMs_20 15 33 46.0
comp=Z,7μm,20.0s
JAGI Jajag, Banyuwa 29.80 235 P **P 15 22 58.3 +2.8**
comp=Z,38nm,1.5s
JAGI Jajag, Banyuwa 29.80 235 P **P 15 22 54.0 -1.5**
JAGI IAmb IAmb 15 23 32.5
comp=Z,52nm,1.2s
KSAR Wonju Array Be 30.06 343 P **P 15 22 55.5 -2.0**
KSAR Wonju Array Be 30.06 343 P **P 15 22 55.5 -2.0**
KSRS Korea Array 30.06 343 P **P 15 22 56.9 -0.7**
comp=Z,14nm,1.0s,baz=165,slow=10,SNR=16
KSRS PcP **PcP 15 26 00.8 +1.7**
comp=Z,8.9nm,0.8s,baz=194,slow=2.2,SNR=12
KSRS LR LR 15 33 09.9
comp=Z,4μm,21.8s,baz=152,slow=33
KS19 Wonju Array Si 30.12 343 P **P 15 22 56.6 -1.5**
KS19 IAmb IAmb 15 23 07.3
comp=Z,51nm,1.1s
WHN Wuhan 31.25 317 P **P 15 23 10.1 +1.9**
WHN pmax pmax
comp=Z,68nm,0.9s
WHN pmax pmax
comp=Z,3μm,7.9s
WHN LR LR
comp=Z,16μm,11.2s
WHN LR LR
comp=Z,16μm,12.6s
WHN LR LR
comp=Z,36μm,20.5s
SMRI Semarang 32.18 241 IAMs_20 IAMs_20 15 34 06.9
comp=Z,8μm,22.0s
UGM Wanagama 32.53 240 IAMs_20 IAMs_20 15 35 26.3
comp=Z,4μm,21.0s
AS31 Alice Springs 32.64 188 P **P 15 23 19.9 -0.6**
AS31 IAmb IAmb 15 23 46.0
comp=Z,5.6nm,0.7s
AS31 IAMs_20 IAMs_20 15 37 19.4
comp=Z,61nm,20.0s
ASAR Alice Springs 32.64 188 P **P 15 23 19.3 -1.2**
ASAR 15 26 07.8
ASAR Alice Springs 32.64 188 P **P 15 23 20.1 -0.4**
comp=Z,7.2nm,0.8s,baz=18,slow=12,SNR=145
ASAR PcP **PcP 15 26 07.8 +1.4**
comp=Z,6.6nm,0.8s,baz=5.7,slow=2.9,SNR=4.4
ASAR LR LR 15 37 43.0
comp=Z,6μm,18.4s,baz=21,slow=38
ASAR Alice Springs 32.64 188 P **P 15 23 19.3 -1.2**
UBPT Khong Chiam 32.96 284 IAMs_20 IAMs_20 15 34 15.7
comp=Z,11μm,22.0s
ERM Erimo 33.28 6 P **P 15 23 25.3 -0.5**
ERM pmax pmax
comp=Z,241nm,1.7s
ERM Erimo 33.28 6 P **P 15 23 25.3 -0.5**
ERM IAmb IAmb 15 23 49.2
comp=Z,241nm,1.6s
TIA Tai'an 33.51 328 P **P 15 23 28.5 +0.6**
TIA S **S 15 28 51.0 +2.5**
TIA pmax pmax
comp=Z,2μm,6.7s
TIA LR LR
comp=Z,7μm,14.4s
TIA LR LR
comp=Z,9μm,15.2s
TIA LR LR
comp=Z,11μm,27.0s
DL2 Dalian 33.57 336⇓P **P 15 23 27.8 -0.5**
DL2 S **S 15 28 50.8 +1.5**
DL2 pmax pmax
comp=Z,54nm,1.5s
DL2 pmax pmax
comp=Z,2μm,7.1s
DL2 LR LR
comp=Z,7μm,21.8s
DL2 LR LR
comp=Z,8μm,21.5s
DL2 LR LR
comp=Z,6μm,34.4s
KPJI Karang Pucung 33.63 242 P **P 15 23 27.9 -1.3**
MSHR Mys Shultsa 34.22 350⇓ *i*P **P 15 23 34.0 0.0**
ENH Enshi 34.53 312 P **P 15 23 37.2 +0.3**
ENH IAmb IAmb 15 24 15.4
comp=Z,112nm,1.1s
ENH IAMs_20 IAMs_20 15 36 49.6
comp=Z,8μm,20.0s
CISI Cisompet, Garu 34.71 243 **PcP 15 26 12.0 -0.5**
CISI IAMs_20 IAMs_20 15 37 08.9
comp=Z,4μm,19.0s
GYA Guiyang 34.93 304⇓ *i*P **P 15 23 42.4 +1.9**
GYA PP **PP 15 24 56.8 -3.2**
GYA PcP **PcP 15 26 15.0 +2.0**
GYA S **S 15 29 13.3 +2.3**
GYA pmax pmax
comp=Z,2μm,7.2s
GYA LR LR
comp=Z,5μm,19.3s
GYA LR LR
comp=Z,3μm,20.2s
GYA LR LR
comp=Z,5μm,21.8s
TARA Tarawa 34.99 100 IAMs_20 IAMs_20 15 34 20.1
comp=Z,18μm,22.0s
MBWA Marble Bar 35.10 212 IAMs_20 IAMs_20 15 33 43.1
comp=Z,3μm,18.0s
DSRI Dabo 35.10 256 P P 15 23 51.8 +10
WRKA Warakurna 35.14 196 P **P 15 23 41.6 -0.6**
baz=35,SNR=13
MYKOM Kota Tinggi 35.25 261 P **P 15 23 44.0 +0.7**
MYKOM Kota Tinggi 35.25 261 P **P 15 23 42.4 -0.9**
MYKOM IAmb IAmb 15 24 02.7
comp=Z,29nm,1.1s
MYKOM IAMs_20 IAMs_20 15 38 24.5
comp=Z,7μm,22.0s
ASAJ Asahikawa 35.30 5 LR LR 15 39 36.2
comp=Z,2μm,18.9s,baz=213,slow=39
PSAC2 Pilbara Seismi 35.35 211 IAMs_20 IAMs_20 15 39 02.7
comp=Z,2μm,22.0s
PSAB2 Pilbara Seismi 35.36 211 IAMs_20 IAMs_20 15 36 40.1
comp=Z,2μm,20.0s
PSAA2 Pilbara Seismi 35.38 211 IAMs_20 IAMs_20 15 34 21.5
comp=Z,2μm,22.0s
PSA00 Pilbara Seismi 35.38 211 P **P 15 23 42.9 -1.4**
PSA00 Pilbara Seismi 35.38 211 P **P 15 23 42.5 -1.8**
PSA00 IAmb IAmb 15 23 47.6
comp=Z,42nm,1.1s
SNY Shenyang 35.41 341⇑P **P 15 23 45.3 +1.1**
SNY S **S 15 29 20.4 +2.7**
SNY pmax pmax
comp=Z,100nm,2.4s
SNY pmax pmax
comp=Z,3μm,6.3s
SNY LR LR
comp=Z,4μm,18.1s
SNY LR LR
comp=Z,10μm,23.5s
SNY LR LR
comp=Z,6μm,22.5s
NONG Nongkai 35.58 289 P **P 15 23 49.5 +3.4**
comp=Z,0.7nm,1.1s
SLVN Son La 35.60 294 P **P 15 23 46.1 -0.1**
SLVN IAmb IAmb 15 23 57.7
comp=Z,35nm,1.1s
SLVN IAMs_20 IAMs_20 15 37 01.0
comp=Z,6μm,20.0s
YUK Yuzh-Kuril'sk 35.62 9 *e*P P 15 23 34.4 -12
YUK *e*SS SS 15 31 46.4 -10
YUK *e*SSS SSS 15 32 09.0
YUK pmax pmax
comp=E,406nm,1.2s
YUK pmax pmax
comp=Z,608nm,1.2s
YUK pmax pmax
comp=N,427nm,0.9s
YUK MLR MLR
comp=Z,2μm,22.0s
QLP Quilpie 35.65 171 P **P 15 23 47.2 +0.7**
baz=36,SNR=4.7
PMBI Palembang 35.66 252 IAMs_20 IAMs_20 15 38 15.6
comp=Z,4μm,20.0s
USA0B Ussuriysk Arra 35.67 352 P **P 15 23 45.2 -1.3**
USA0B pmax pmax
comp=Z,36nm,0.9s
USA0B Ussuriysk Arra 35.67 352 P **P 15 23 45.2 -1.3**
USA0B IAmb IAmb 15 23 47.6
comp=Z,36nm,0.9s
USRK Ussuriysk Ar. 35.67 352 P **P 15 23 45.6 -0.9**
USRK Ussuriysk Ar. 35.67 352 P **P 15 23 46.5 0.0**
comp=Z,23nm,0.8s,baz=176,slow=8.5,SNR=41
USRK LR LR 15 35 40.4
comp=Z,6μm,21.6s,baz=152,slow=32
USRK Ussuriysk Ar. 35.67 352 P **P 15 23 45.6 -0.9**
TEY Ternei 36.09 358⇓ *i*P **P 15 23 50.7 +0.7**
TEY *e* 15 25 07.0
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=N,110nm,1.0s
TEY pmax pmax
comp=Z,130nm,1.1s
EIDS Eidsvold 36.13 161 IAMs_20 IAMs_20 15 38 57.8
comp=Z,3μm,19.0s
KLSI 36.32 250 P **P 15 23 50.7 -1.7**
CHAI Chaiyaphum 36.37 285 P **P 15 23 53.2 +0.4**
comp=Z,109μm,0.9s,comp=Z,719μm
MDJ Mudanjiang 36.47 349 P **P 15 23 53.3 0.0**
MDJ pP pP 15 23 55.9 -3.1
MDJ PP **PP 15 25 17.3 +0.7**
MDJ S **S 15 29 39.9 +6.0**
MDJ sS sS 15 29 44.8 +1.4
MDJ pmax pmax
comp=Z,2μm,4.5s
MDJ LR LR
comp=Z,4μm,19.6s
MDJ LR LR
comp=Z,4μm,15.2s
MDJ LR LR
comp=Z,4μm,20.8s
MDJ Mudanjiang 36.47 349 P **P 15 23 53.0 -0.3**
MDJ IAmb IAmb 15 24 01.4
comp=Z,60nm,1.3s
MDJ IAMs_20 IAMs_20 15 35 20.1
comp=Z,5μm,22.0s
RMQ Roma 36.50 165 P **P 15 23 54.9 +1.1**
baz=37,SNR=7.0
CN2 Changchun 36.65 344 *e*P **P 15 23 54.4 -0.4**
CN2 *es*P pwP 15 24 07.8 +1.1
CN2 *e*PP **PP 15 25 22.4 +3.9**
CN2 *e*S **S 15 29 36.8 +0.2**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,2μm,6.6s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,5μm,19.0s
CN2 LR LR
comp=Z,4μm,24.0s
KASI Kota Agung 36.85 248 P **P 15 23 55.2 -1.7**
BJT Baijiatuau 36.91 331 P **P 15 23 56.8 -0.3**
BJT pmax pmax
comp=Z,85nm,1.0s
BJT Baijiatuau 36.91 331 P **P 15 23 56.8 -0.3**
BJT IAmb IAmb 15 24 01.5
comp=Z,85nm,1.0s
BJT Baijiatuau 36.91 331 IAMs_20 IAMs_20 15 37 29.1
comp=Z,5μm,18.0s
BJI Beijing 36.92 331 P **P 15 23 58.1 +0.9**
BJI PP **PnPn 15 25 22.5 +0.7**
BJI S **S 15 29 40.3 -0.6**
BJI pmax pmax
comp=Z,57nm,0.9s
BJI LR LR
comp=Z,7μm,18.8s
XAN Xi'an 37.02 317 P **P 15 23 59.1 +0.8**
XAN pP pwP 15 24 09.3 -0.4
XAN PP **PnPn 15 25 23.8 +0.6**
XAN S **S 15 29 41.9 -0.8**
XAN SS **SnSn 15 32 14.8 -2.3**
XAN pmax pmax
comp=Z,53nm,1.4s
XAN pmax pmax
comp=Z,3μm,7.9s
XAN LR LR
comp=Z,6μm,17.6s
XAN LR LR
comp=Z,7μm,20.6s
XAN LR LR
comp=Z,10μm,20.6s

XAN	**Xi'an**	**37.02 317**	P	**P**	**15 23 58.5 +0.3**
XAN			pmax	pmax	
	comp=Z,66nm,1.1s				
XAN			MLR	MLR	
	comp=Z,11μm,20.0s				
XAN	**Xi'an**	**37.02 317**	P	**P**	**15 23 58.5 +0.3**
XAN			IAmb	IAmb	15 24 02.1
	comp=Z,66nm,1.1s				
XAN	**Xi'an**	**37.02 317**	IAMs_20	IAMs_20	15 38 01.4
	comp=Z,11μm,20.0s				
KUR	**Kuril'sk**	**37.13 11**	*e*P	**P**	**15 23 59.0 +0.1**
KUR			*e*		15 25 22.7
KUR			*e*PPP	PPP	15 25 38.3
KUR			*e*		15 26 16.4
KUR			*i* S	**S**	**15 29 44.3 +0.5**
KUR			pmax	pmax	
	comp=Z,755nm,1.7s				
KUR			MLR	MLR	
	comp=Z,900nm,10.0s				
LHSI	**Lahat**	**37.14 252**	P	**P**	**15 23 59.3 -0.1**
TIY	**Taiyuan**	**37.18 325**	*e*P	**P**	**15 24 01.0 +1.4**
TIY			PP	**PP**	**15 25 26.9 +2.4**
TIY			S	**S**	**15 29 42.4 -2.7**
TIY			ScS	**ScS**	**15 34 14.0 +1.1**
TIY			pmax	pmax	
	comp=Z,50nm,1.2s				
TIY			pmax	pmax	
	comp=Z,2μm,7.4s				
TIY			LR	LR	
	comp=Z,3μm,10.6s				
TIY			LR	LR	
	comp=Z,430nm,6.1s				
TIY			LR	LR	
	comp=Z,8μm,24.0s				
PBKT	**Sadao Pong**	**37.42 286**	P	**P**	**15 24 02.8 +1.1**
	comp=Z,35nm,1.0s,comp=Z,947nm				
PBKT	**Sadao Pong**	**37.42 286**	P	**P**	**15 24 01.6 -0.2**
PBKT			IAmb	IAmb	15 24 15.1
	comp=Z,47nm,0.9s				
PBKT			IAMs_20	IAMs_20	15 37 49.8
	comp=Z,8μm,20.0s				
IPM	**Ipoh**	**37.52 266**	P	**P**	**15 24 01.4 -1.4**
IPM			IAmb	IAmb	15 24 23.0
	comp=Z,33nm,1.0s				
IPM				**PcP**	**15 26 21.2 +0.4**
IPM			IAMs_20	IAMs_20	15 37 49.5
	comp=Z,8μm,21.0s				
KMI	**Kunming**	**37.73 300**	P	**P**	**15 24 04.1 -0.5**
KMI			pP	pP	15 24 06.8 -3.5
KMI			sP	sP	15 24 08.5 -4.2
KMI			PP	**PnPn**	**15 25 32.8 +0.7**
KMI			S	**S**	**15 29 49.9 -4.2**
KMI			SS	**SnSn**	**15 32 32.9 -1.8**
KMI			pmax	pmax	
	comp=Z,20nm,0.5s				
KMI			pmax	pmax	
	comp=Z,2μm,6.7s				
KMI			LR	LR	
	comp=Z,9μm,19.2s				
KMI			LR	LR	
	comp=Z,10μm,23.9s				
KMI			LR	LR	
	comp=Z,17μm,23.1s				
KMI	**Kunming**	**37.73 300**	IAMs_20	IAMs_20	15 37 34.1
	comp=Z,17μm,22.0s				
MNAI	**Manna**	**37.85 251**	IAMs_20	IAMs_20	15 39 55.9
	comp=Z,5μm,21.0s				
XMIS	**Christmas Isla**	**37.97 240**	IAMs_20	IAMs_20	15 40 25.4
	comp=Z,2μm,19.0s				
NANT	**Nan**	**38.00 289**	P	**P**	**15 24 06.5 -0.2**
	comp=Z,334μm,1.2s				
MASI	**Maura Aman, Be**	**38.12 253**	P	P	15 24 21.8 +14
YSS	**Yuzh-Sakhalins**	**38.13 5**	⇓*i*P	**P**	**15 24 07.8 +0.4**
YSS			*e*S	**S**	**15 29 59.7 +0.6**
YSS			pmax	pmax	
	comp=Z,190nm,0.9s				
YSS			pmax	pmax	
	comp=Z,3μm,4.0s				
YSS			smax	smax	
	comp=N,2μm,5.0s				
YSS			MLR	MLR	
	comp=Z,2μm,17.0s				
YSS			MLR	MLR	
	comp=N,2μm,18.0s				
YSS			MLR	MLR	
	comp=E,3μm,11.0s				
YSS	**Yuzh-Sakhalins**	**38.13 5**	P	**P**	**15 24 07.2 -0.2**
YSS			IAmb	IAmb	15 24 08.5
	comp=Z,170nm,0.9s				
YSS			IAMs_20	IAMs_20	15 36 35.7
	comp=Z,3μm,22.0s				
BKNI	**Bangkinang**	**38.32 259**	IAMs_20	IAMs_20	15 40 31.8
	comp=Z,6μm,20.0s				
PHET	**Kaeng Krachan**	**38.42 280**	P	**P**	**15 24 12.6 +2.3**
	comp=Z,44μm,1.0s,comp=Z,495μm				
TRTT	**Trang**	**38.47 271**	P	**P**	**15 24 12.0 +1.3**
	comp=Z,45nm,1.1s,comp=Z,1μm				
UTHA	**Uthaitani**	**38.77 284**	P	**P**	**15 24 14.5 +1.3**
	comp=Z,28μm,1.0s,comp=Z,292μm				
PAYA	**Payao**	**38.87 290**	P	**P**	**15 24 15.3 +1.3**
	comp=Z,50μm,1.0s,comp=Z,697μm				
LAMP	**Lampang**	**38.95 288**	P	P	15 24 21.6 +6.9
SRDT	**SRDT**	**38.98 282**	P	**P**	**15 24 16.2 +1.2**
	comp=Z,11nm,1.2s,comp=Z,6μm				
CD2	**Chengdu**	**39.14 309**	P	**P**	**15 24 17.5 +1.3**
CD2			PP	**PP**	**15 25 46.4 +0.2**
CD2			S	**S**	**15 30 12.6 -2.4**
CD2			SS	**SnSn**	**15 33 11.8 +3.4**
CD2			pmax	pmax	
	comp=Z,160nm,1.2s				
CD2			pmax	pmax	
	comp=Z,4μm,7.0s				
CD2			LR	LR	
	comp=Z,12μm,18.5s				
CD2			LR	LR	
	comp=Z,11μm,21.4s				
CD2			LR	LR	
	comp=Z,16μm,18.5s				
SURT	**Suratani**	**39.28 273**	P	**P**	**15 24 19.0 +1.5**
	comp=Z,59nm,1.0s,comp=Z,1μm				
GIRL	**Giralia**	**39.34 217**	P	**P**	**15 24 18.8 +0.9**
	baz=39,SNR=4.0				
GIRL	**Giralia**	**39.34 217**	IAMs_20	IAMs_20	15 38 22.5
	comp=Z,4μm,21.0s				
UMPA	**Umpang Tak**	**39.39 285**	P	**P**	**15 24 20.3 +1.9**
	comp=Z,48μm,0.9s				
CM31	**Chiang Mai Arr**	**39.59 288**	P	**P**	**15 24 21.6 +1.6**
	SNR=35				
CM31	**Chiang Mai Arr**	**39.59 288**	P	**P**	**15 24 20.6 +0.6**
CM31			IAmb	IAmb	15 24 33.0
	comp=Z,86nm,0.9s				
CMAR	**Chiang Mai Arr**	**39.59 288**	P	**P**	**15 24 20.2 +0.1**
CMAR					15 26 28.7
CMAR	**Chiang Mai Arr**	**39.59 288**	P	**P**	**15 24 20.5 +0.5**
	comp=Z,23nm,0.8s,baz=100,slow=6.9,SNR=124				
CMAR			PcP	**PcP**	**15 26 28.9 +1.7**
	comp=Z,15nm,0.8s,baz=107,slow=1.9,SNR=18				
CMAR			LR	LR	15 39 09.7
	comp=Z,6μm,21.7s,baz=98,slow=34				
CMAR	**Chiang Mai Arr**	**39.59 288**	P	**P**	**15 24 20.2 +0.1**
CMAR				**PcP**	**15 26 28.7 +1.5**
CMMT	**Chiang Mai**	**39.64 289**	P	**P**	**15 24 21.1 +0.6**
	comp=Z,17nm,1.0s,comp=Z,764nm				
CHTO	**Chiang Mai**	**39.64 289**	P	**P**	**15 24 21.3 +0.9**
	SNR=6.0				
CHTO			P	**P**	**15 24 21.3 +0.9**
	SNR=6.0				
CHTO	**Chiang Mai**	**39.64 289**	P	**P**	**15 24 20.0 -0.5**
CHTO			pmax	pmax	
	comp=Z,29nm,1.0s				
CHTO	**Chiang Mai**	**39.64 289**	P	**P**	**15 24 20.0 -0.5**
CHTO			IAmb	IAmb	15 24 30.4
	comp=Z,29nm,0.9s				
CHTO	**Chiang Mai**	**39.64 289**	IAMs_20	IAMs_20	15 38 49.5
	comp=Z,7μm,22.0s				
HHC	**Hu-ho-hao-te**	**39.86 327**	*e*P	**P**	**15 24 24.6 +2.5**
HHC			sP	pwP	15 24 35.3 +1.2
HHC			PP	**PnPn**	**15 26 00.3 +3.0**
HHC			S	**S**	**15 30 30.3 +4.7**
PSI	**Prapat**	**39.87 264**	P	**P**	**15 24 21.4 -1.2**
PSI					15 26 28.3
PSI			pmax	pmax	
	comp=Z,87nm,0.9s				
PSI			MLR	MLR	
	comp=Z,5μm,21.0s				
RPSI	**Rantau Prapat**	**39.89 264**	P	**P**	**15 24 21.4 -1.2**
RPSI			IAmb	IAmb	15 24 32.8
	comp=Z,87nm,0.9s				
RPSI				**PcP**	**15 26 28.3 +0.1**
RPSI			IAMs_20	IAMs_20	15 40 38.3
	comp=Z,5μm,21.0s				
MEEK	**Meekatharra**	**40.25 208**	P	**P**	**15 24 24.7 -0.7**
	baz=40,SNR=10.0				
MHMT	**Maesarieng**	**40.50 288**	P	**P**	**15 24 28.9 +1.3**
	comp=Z,75nm,0.9s,comp=Z,2μm				
BTO	**Baotou**	**40.53 326**	*e*P	**P**	**15 24 29.5 +1.8**
STKA	**Stephens Creek**	**40.60 176**	P	**P**	**15 24 28.5 +0.3**
	baz=41,SNR=21				
STKA	**Stephens Creek**	**40.60 176**	P	**P**	**15 24 27.2 -1.0**
STKA			pmax	pmax	
	comp=Z,9.0nm,1.1s				
STKA			MLR	MLR	
	comp=Z,2μm,19.0s				
STKA	**Stephens Creek**	**40.60 176**	P	**P**	**15 24 28.3 +0.1**
	comp=Z,19nm,0.7s,baz=342,slow=8.9,SNR=30				
STKA			LR	LR	15 41 18.8
	comp=Z,6μm,20.2s,baz=0.7,slow=36				
STKA	**Stephens Creek**	**40.60 176**	P	**P**	**15 24 27.2 -1.0**
STKA			IAmb	IAmb	15 24 48.3
	comp=Z,9.5nm,1.1s				
STKA			IAMs_20	IAMs_20	15 40 57.3
	comp=Z,2μm,19.0s				
SISI	**Saibi**	**40.62 258**	P	**P**	**15 24 26.6 -2.0**
KLR	**Kul'dur**	**40.65 353**	*de*P	**P**	**15 24 29.0 +0.6**
KLR			pmax	pmax	
	comp=Z,236nm,0.9s				
KLR	**Kul'dur**	**40.65 353**	LR	LR	15 38 26.5
	comp=Z,3μm,21.7s,baz=169,slow=32				
FORT	**Forrest**	**40.68 194**	P	**P**	**15 24 29.9 +1.1**
	baz=41,SNR=13				
FORT	**Forrest**	**40.68 194**	P	**P**	**15 24 28.5 -0.3**
FORT			IAmb	IAmb	15 24 30.5
	comp=Z,192nm,0.9s				
FORT			IAMs_20	IAMs_20	15 42 26.1
	comp=Z,3μm,19.0s				
CMSA	**Cobar Meteorol**	**40.74 171**	P	**P**	**15 24 30.6 +1.3**
	baz=41,SNR=16				
KCSI	**Kotacane, Aceh**	**40.88 265**	P	**P**	**15 24 29.6 -1.2**
	comp=Z,158nm,1.0s,comp=Z,2μm				
ARMA	**Armidale**	**41.01 163**	P	**P**	**15 24 32.7 +1.0**
	baz=41,SNR=4.9				
ARMA	**Armidale**	**41.01 163**	P	**P**	**15 24 31.1 -0.6**
ARMA			IAmb	IAmb	15 24 46.1
	comp=Z,59nm,1.0s				
ARMA			IAMs_20	IAMs_20	15 38 24.1
	comp=Z,5μm,22.0s				
DZM	**Mont Dzumac**	**41.13 139**	*e*P	**P**	**15 24 36.1 +3.3**
	comp=Z,132nm,1.1s				
DZM			*e*S	**S**	**15 30 49.5 +4.6**
	comp=Z,10μm,23.9s				
DZM			*e*LQ	LQ	15 34 21.5
	comp=Z,11μm,30.1s				
DZM			*e*LR	LR	15 36 03.0
	comp=Z,33μm,26.1s				
DZM	**Mont Dzumac**	**41.13 139**	LR	LR	15 38 48.4
	comp=Z,14μm,21.8s,baz=318,slow=32				
DZM	**Mont Dzumac**	**41.13 139**	P	**P**	**15 24 34.0 +1.2**
DZM			IAmb	IAmb	15 24 49.4
	comp=Z,63nm,1.1s				
DZM			IAMs_20	IAMs_20	15 38 25.2
	comp=Z,15μm,21.0s				
GSI	**Gunungsitoli**	**41.48 262**	P	**P**	**15 24 34.8 -0.9**
	comp=Z,146nm,1.6s,comp=Z,3μm				
GSI	**Gunungsitoli**	**41.48 262**	P	**P**	**15 24 33.9 -1.9**
GSI			IAmb	IAmb	15 24 45.5
	comp=Z,225nm,1.3s				
GSI			IAMs_20	IAMs_20	15 40 32.8
	comp=Z,8μm,22.0s				
BBOO	**Buckleboo**	**41.50 183**	P	**P**	**15 24 35.5 0.0**
	baz=42,SNR=6.3				
BBOO	**Buckleboo**	**41.50 183**	IAMs_20	IAMs_20	15 40 39.6
	comp=Z,3μm,20.0s				
TPTI		**41.51 265**	P	**P**	**15 24 35.7 -0.2**
LZH	**Lanzhou**	**41.62 316**	⇑P	**P**	**15 24 38.9 +2.1**
LZH			sP	sP	15 24 46.5 +1.8
LZH			PP	**PP**	**15 26 17.8 +4.6**
LZH			S	**S**	**15 30 52.8 +0.8**
LZH			pmax	pmax	
	comp=Z,81nm,1.3s				
LZH			pmax	pmax	
	comp=Z,680nm,4.3s				
LZH			LR	LR	
	comp=Z,5μm,17.0s				
LZH			LR	LR	
	comp=Z,7μm,17.5s				
LZH			LR	LR	
	comp=Z,9μm,17.9s				
GRNR	**Gornyy**	**41.82 358**	⇑*i*P	**P**	**15 24 38.1 +0.1**
GRNR			*i*		15 24 39.8
GRNR			pmax	pmax	
	comp=Z,80nm,0.8s				
TYV	**Tymovskoe**	**42.02 4**	*e*P	**P**	**15 24 40.6 +1.1**
TYV			pmax	pmax	
	comp=Z,2μm,2.7s				
TYV			pmax	pmax	
	comp=Z,96nm,1.2s				
HTT	**Hallett**	**42.05 180**	P	**P**	**15 24 40.9 +0.8**
	baz=42,SNR=3.5				
KMBL	**Kambalda**	**43.07 201**	P	**P**	**15 24 48.5 +0.1**
	baz=43,SNR=5.8				
HIA	**Hailar**	**43.26 342**	P	**P**	**15 24 50.1 +0.4**
HIA			pmax	pmax	
	comp=Z,45nm,1.0s				
HIA	**Hailar**	**43.26 342**	P	**P**	**15 24 50.1 +0.4**
HIA			IAmb	IAmb	15 24 52.0
	comp=Z,45nm,1.0s				
HIA	**Hailar**	**43.26 342**	IAMs_20	IAMs_20	15 40 13.9
	comp=Z,5μm,22.0s				
MORW	**Morawa**	**43.51 209**	P	**P**	**15 24 51.1 -0.9**
	baz=44,SNR=6.1				
MORW	**Morawa**	**43.51 209**	P	**P**	**15 24 51.0 -1.0**
MORW			IAmb	IAmb	15 24 53.1
	comp=Z,141nm,1.3s				
MORW			IAMs_20	IAMs_20	15 41 37.0
	comp=Z,2μm,18.0s				
YNG	**Young**	**43.92 168**	P	**P**	**15 24 56.6 +1.4**
	baz=44,SNR=11				
SKR	**Severo-Kuril's**	**44.16 16**	*e*P	**P**	**15 24 53.5 -3.4**
SKR			*e*		15 26 36.5
SKR			*e*S	**S**	**15 31 28.6 +0.1**
SKR			*e*SS	**SS**	**15 34 39.2 -7.5**
SKR			pmax	pmax	
	comp=Z,1μm,4.7s				
SKR			pmax	pmax	
	comp=Z,2μm,5.4s				
SKR			pmax	pmax	
	comp=Z,157nm,0.9s				
SKR			MLR	MLR	
	comp=Z,800nm,16.0s				
SKR			MLR	MLR	
	comp=Z,1μm,15.0s				
NKL	**Nikolayevsk**	**44.20 2**	*e*P	**P**	**15 24 56.7 -0.5**
NKL			*e*		15 26 41.4
NKL			*e*S	**S**	**15 31 31.9 +2.8**
NKL			*e*SS	**ScS**	**15 34 52.8 -1.3**
NKL			pmax	pmax	
	comp=Z,258nm,0.9s				
NKL			pmax	pmax	
	comp=E,19nm,0.8s				
NKL			pmax	pmax	
	comp=N,9.0nm,0.7s				
NKL			pmax	pmax	
	comp=Z,280nm,3.2s				
NKL			smax	smax	
	comp=E,150nm,5.8s				
NKL			smax	smax	
	comp=N,12nm,3.5s				
LKP	**Lekhapani**	**44.30 300**	*e*P	**P**	**15 24 58.5 +0.1**
LKP			IAMs_20	IAMs_20	15 41 56.7
	comp=Z,19μm,21.1s				
KLBR	**Kellerberrin**	**44.88 205**	P	**P**	**15 25 02.8 -0.1**
	baz=45,SNR=6.6				
CAN	**Canberra**	**45.03 168**	P	**P**	**15 25 04.9 +0.8**
CAN			pmax	pmax	
	comp=Z,60nm,1.3s				
CAN	**Canberra**	**45.03 168**	P	**P**	**15 25 04.9 +0.8**
CAN			IAmb	IAmb	15 25 09.6
	comp=Z,60nm,1.3s				
CAN			IAMs_20	IAMs_20	15 41 23.8
	comp=Z,5μm,19.0s				
CNB	**Canberra Magne**	**45.10 168**	P	**P**	**15 25 06.2 +1.5**
	baz=45,SNR=15				
KOHI	**KOHIMA**	**45.39 297**	*e*P	**P**	**15 25 04.8 -2.6**
KOHI			IAmb	IAmb	15 25 13.2
	comp=Z,67nm,1.0s				
ARPS	**Mount Arapiles**	**45.48 176**	P	**P**	**15 25 09.3 +1.7**
	baz=46,SNR=5.2				
SIMRM	**Sittwe**	**45.49 289**	IAMs_20	IAMs_20	15 42 36.1
	comp=Z,2μm,22.0s				
ZEA	**Zeya**	**45.68 351**	*e*P	**P**	**15 25 08.8 -0.2**
ZEA			*e*S	**S**	**15 31 43.0 -7.5**
ZEA			*e*		15 35 08.0
ZEA			pmax	pmax	
	comp=N,53nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,58nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,2μm,7.0s				
ZEA			pmax	pmax	
	comp=N,1μm,5.0s				
ZEA			pmax	pmax	
	comp=Z,1μm,9.0s				
ZEA			smax	smax	
	comp=N,3μm,13.0s				
MUN	**Mundaring**	**45.88 207**	P	**P**	**15 25 10.6 -0.3**
	baz=46,SNR=7.5				
GTA	**Gaotai**	**46.07 318**	*e*P	**P**	**15 25 13.8 +1.3**
GTA			pP	pP	15 25 18.1 -0.2
GTA			sP	sP	15 25 21.0 +0.6
GTA			PcP	**PcP**	**15 26 50.3 +1.6**
GTA			PP	**PP**	**15 27 02.5 +1.7**
GTA			S	**S**	**15 31 57.4 +0.5**
GTA			pmax	pmax	
	comp=N,2μm,8.1s				
GTA			LR	LR	
	comp=N,2μm,18.4s				
GTA			LR	LR	
	comp=N,5μm,18.7s				
GTA			LR	LR	
	comp=N,7μm,17.8s				
NWAO	**Narrogin (SRO)**	**46.25 205**	P	**P**	**15 25 14.1 +0.3**
	baz=46,SNR=17				
NWAO	**Narrogin (SRO)**	**46.25 205**	P	**P**	**15 25 13.4 -0.4**
NWAO			pmax	pmax	
	comp=Z,104nm,1.1s				
NWAO	**Narrogin (SRO)**	**46.25 205**	P	**P**	**15 25 13.4 -0.4**
NWAO			IAmb	IAmb	15 25 17.7
	comp=Z,104nm,1.1s				
NWAO	**Narrogin (SRO)**	**46.25 205**	IAMs_20	IAMs_20	15 43 26.1
	comp=Z,2μm,20.0s				
COCO	**West Island**	**46.45 244**	IAMs_20	IAMs_20	15 41 40.1
	comp=Z,0.4nm,18.0s				
TOO	**Toolangi**	**46.63 172**	P	**P**	**15 25 19.1 +2.4**
	baz=47,SNR=13				
TOO	**Toolangi**	**46.63 172**	P	**P**	**15 25 18.2 +1.5**
TOO			pmax	pmax	
	comp=Z,114nm,1.3s				
TOO			MLR	MLR	
	comp=Z,9μm,18.0s				
TOO	**Toolangi**	**46.63 172**	P	**P**	**15 25 18.2 +1.5**
TOO			IAmb	IAmb	15 25 22.8
	comp=Z,114nm,1.2s				
TOO			IAMs_20	IAMs_20	15 45 59.4
	comp=Z,9μm,18.0s				
MILA	**Mila**	**46.73 168**	P	**P**	**15 25 19.1 +1.6**
	baz=47,SNR=4.3				
PEA0B	**Petropavlovsk-**	**46.77 16**	P	**P**	**15 25 17.5 -0.1**
PEA0B			pmax	pmax	
	comp=Z,152nm,1.2s				
PEA0B	**Petropavlovsk-**	**46.77 16**	P	**P**	**15 25 17.5 -0.1**
PEA0B			IAmb	IAmb	15 25 19.9
	comp=Z,152nm,1.1s				
PETK	**Petropavlovsk-**	**46.77 16**	P	**P**	**15 25 17.2 -0.4**
PETK					15 26 51.0
PETK	**Petropavlovsk-**	**46.77 16**	P	**P**	**15 25 17.7 +0.1**
	comp=Z,58nm,0.9s,baz=179,slow=5.4,SNR=32				
PETK			PcP	**PcP**	**15 26 51.0 +0.4**
	comp=Z,8.4nm,0.8s,baz=154,slow=1.8,SNR=4.3				
PETK			LR	LR	15 42 52.0
	comp=Z,1μm,20.7s,baz=206,slow=34				
PETK	**Petropavlovsk-**	**46.77 16**	P	**P**	**15 25 17.2 -0.4**
PET	**Petropavlovsk**	**46.96 16**	*e*P	**P**	**15 25 18.0 -1.0**
PET			*e*S	**S**	**15 32 06.3 -2.6**
PET			*e*SS	**SS**	**15 35 32.3 -3.6**
PET			pmax	pmax	
	comp=Z,3μm,4.5s				
PET			pmax	pmax	
	comp=Z,140nm,1.5s				
PET			pmax	pmax	
	comp=Z,2μm,6.2s				
PET			MLR	MLR	
	comp=Z,900nm,20.0s				
PET			MLR	MLR	
	comp=Z,1μm,19.0s				
PET	**Petropavlovsk**	**46.96 16**	P	**P**	**15 25 18.5 -0.5**
PET			IAmb	IAmb	15 25 21.3
	comp=Z,361nm,1.6s				
MSVF	**Nonsavu**	**47.11 124**	*ce*P	**P**	**15 25 24.0 +3.2**
MSVF			pmax	pmax	
	comp=Z,44nm,1.1s				
MSVF	**Nonsavu**	**47.11 124**	P	**P**	**15 25 22.8 +2.0**
MSVF			IAmb	IAmb	15 25 34.6
	comp=Z,54nm,1.1s				
ULN	**Ulaanbaatar**	**47.13 331**	P	**P**	**15 25 21.5 +0.8**
ULN	SNR=30				
			P	**P**	**15 25 21.5 +0.8**
	SNR=30				
ULN	**Ulaanbaatar**	**47.13 331**	*de*P	**P**	**15 25 21.4 +0.7**
ULN			pmax	pmax	
	comp=Z,76nm,1.0s				
ULN	**Ulaanbaatar**	**47.13 331**	P	**P**	**15 25 20.8 +0.2**
ULN			IAmb	IAmb	15 25 22.8
	comp=Z,58nm,0.9s				
ULN	**Ulaanbaatar**	**47.13 331**	IAMs_20	IAMs_20	15 42 25.6
	comp=Z,6μm,22.0s				
BELO	**BELONIA**	**47.27 293**	⇑*i*P	**P**	**15 25 23.0 +1.1**
SONM	**Songino Array**	**47.42 331**	P	**P**	**15 25 23.2 +0.3**
SONM					15 26 53.8
SONM			pmax	pmax	
	comp=Z,58nm,1.1s				
SONM	**Songino Array**	**47.42 331**	P	**P**	**15 25 23.4 +0.4**
	comp=Z,52nm,0.9s,baz=144,slow=8.0,SNR=161				
SONM			PcP	**PcP**	**15 26 53.8 +0.6**
	comp=Z,33nm,1.0s,baz=154,slow=2.9,SNR=7.8				
SONM			LR	LR	15 46 46.5
	comp=Z,2μm,19.8s,baz=136,slow=38				
SONM			PKP2ab		15 57 36.5
	comp=Z,1.4nm,1.2s,baz=225,slow=1.3,SNR=5.2				
SONM	**Songino Array**	**47.42 331**	P	**P**	**15 25 23.2 +0.3**
SONM			IAmb	IAmb	15 25 25.7
	comp=Z,58nm,1.1s				
CIT	**Chita**	**47.65 339**	*e*P	**P**	**15 25 26.3 +1.8**
CIT			*e*		15 25 32.4
CIT			*e*		15 26 55.3
CIT			*e*S	**S**	**15 32 24.6 +5.6**
CIT			pmax	pmax	
	comp=Z,246nm,2.4s				
RKGY	**Rocky Gully**	**47.82 204**	P	**P**	**15 25 27.5 +1.5**
	baz=48,SNR=11				
LSA	**Lhasa**	**48.91 302**	P	**P**	**15 25 37.1 +1.9**
LSA			pmax	pmax	
	comp=Z,120nm,1.0s				
LSA			LR	LR	
	comp=Z,12μm,22.8s				
LSA			LR	LR	
	comp=Z,15μm,23.5s				
LSA			LR	LR	
	comp=Z,30μm,19.9s				
LSA	**Lhasa**	**48.91 302**	*i* P	**P**	**15 25 36.7 +1.6**
	SNR=18				
LSA	**Lhasa**	**48.91 302**	P	**P**	**15 25 37.3 +2.2**
LSA			P	**P**	**15 25 37.3 +2.2**
LSA	**Lhasa**	**48.91 302**	P	**P**	**15 25 34.5 -0.6**
LSA			pmax	pmax	
	comp=Z,50nm,1.0s				
LSA	**Lhasa**	**48.91 302**	P	**P**	**15 25 34.5 -0.6**
LSA			IAmb	IAmb	15 25 46.2
	comp=Z,50nm,1.0s				
LSA			IAMs_20	IAMs_20	15 44 52.8
	comp=Z,7μm,21.0s				
GTK	**Tadong**	**50.55 298**	*e*P	**P**	**15 25 47.8 +0.5**
GTK			IAmb	IAmb	15 25 54.2
	comp=Z,27nm,0.7s				
ZAK	**Zakamensk**	**50.66 331**	*e*P	**P**	**15 25 49.0 +1.3**
ZAK			*e*		15 27 05.1
ZAK			pmax	pmax	
	comp=Z,73nm,1.0s				
ZAK			pmax	pmax	
	comp=Z,43nm,1.0s				

KNTN	**Kanton**	**50.88 101**	P	**P**	**15 25 50.0 +0.2**
KNTN			IAmb	IAmb	15 25 53.0
	comp=Z,285nm,1.7s				
KNTN			IAMs_20	IAMs_20	15 42 00.8
	comp=Z,11μm,21.0s				
TAPN	**Taplejung**	**51.34 298**	*e*P	**P**	**15 25 53.6 +0.2**
TLY	**Talaya**	**51.38 333**	P	**P**	**15 25 54.2 +1.2**
	SNR=20				
TLY	**Talaya**	**51.38 333**	*d i*P	**P**	**15 25 53.0 0.0**
TLY			*e*		15 27 53.4
TLY			*e*S	**S**	**15 33 14.7 +3.6**
TLY			pmax	pmax	
	comp=Z,94nm,0.9s				
TLY			MLR	MLR	
	comp=Z,5μm,16.0s				
TLY	**Talaya**	**51.38 333**	LR	LR	15 46 48.1
	comp=Z,2μm,21.4s,baz=126,slow=35				
TLY	**Talaya**	**51.38 333**	P	**P**	**15 25 53.3 +0.3**
TLY			IAmb	IAmb	15 25 55.2
	comp=Z,36nm,0.9s				
TLY			IAMs_20	IAMs_20	15 46 00.0
	comp=Z,3μm,19.0s				
MA2	**Magadan**	**51.45 8**	*d i*P	**P**	**15 25 53.6 +0.3**
MA2			pmax	pmax	
	comp=Z,339nm,2.5s				
MA2	**Magadan**	**51.45 8**	P	**P**	**15 25 53.3 0.0**
MA2			IAmb	IAmb	15 25 54.5
	comp=Z,70nm,0.8s				
IRK	**Irkutsk**	**51.49 334**	*e*P	**P**	**15 25 54.1 +0.3**
IRK			*e*S	**S**	**15 33 16.8 +4.2**
IRK			pmax	pmax	
	comp=Z,269nm,3.5s				
ODAN	**Odare**	**51.52 297**	*e*P	**P**	**15 25 55.4 +0.7**
	comp=Z,125nm,0.9s				
BWNR	**Bhubaneshwar**	**52.12 289**	*e*P	**P**	**15 25 57.3 -1.6**
BWNR			*e*S	**S**	**15 33 21.0 -1.0**
BWNR			IAMs_20	IAMs_20	15 44 13.6
	comp=Z,7μm,32.8s				
TAU	**Tasmania Unive**	**52.13 172**	P	**P**	**15 25 59.5 +1.0**
TAU			pmax	pmax	
	comp=Z,125nm,1.5s				
TAU			MLR	MLR	
	comp=Z,4μm,19.0s				
TAU	**Tasmania Unive**	**52.13 172**	P	**P**	**15 25 59.5 +1.0**
TAU			IAmb	IAmb	15 26 05.9
	comp=Z,125nm,1.5s				
TAU	**Tasmania Unive**	**52.13 172**	IAMs_20	IAMs_20	15 50 45.8
	comp=Z,4μm,19.0s				
RAMN	**Ramite**	**52.23 297**	*e*P	**P**	**15 26 00.8 +0.8**
	comp=Z,160nm,1.2s				
BOD	**Bodaibo**	**52.40 344**	*e*P	**P**	**15 25 59.9 -0.5**
BOD			pmax	pmax	
	comp=Z,56nm,2.3s				
BOK	**Bokaro**	**52.40 293**	*e*P	**P**	**15 26 02.5 +1.5**
BOK			IAmb	IAmb	15 26 13.1
	comp=Z,89nm,1.4s				
MOY	**Mondy**	**52.59 331**	*e*P	**P**	**15 26 02.9 +0.8**
MOY			pmax	pmax	
	comp=Z,274nm,1.7s				
JIRN	**Jiri**	**52.72 298**	*e*P	**P**	**15 26 03.9 +0.1**
	comp=Z,423nm,1.3s				
GUN	**Gumba**	**53.03 298**	*e*P	**P**	**15 26 06.7 +0.6**
	comp=Z,415nm,0.9s				
PKI	**Pulchoki**	**53.38 298**	*e*P	**P**	**15 26 08.9 +0.3**
	comp=Z,220nm,1.3s				
PKIN	**Phulchoki**	**53.40 298**	*e*P	**P**	**15 26 08.8 +0.2**
YAK	**Yakutsk**	**53.48 355**	*e*P	**P**	**15 26 08.5 +0.3**
YAK			*e*		15 27 14.1
YAK			*e*S	**S**	**15 33 38.8 -0.5**
YAK			*e*SS	**SS**	**15 37 14.7 -5.0**
YAK			pmax	pmax	
	comp=Z,133nm,1.1s				
YAK			pmax	pmax	
	comp=E,16nm,0.9s				
YAK			pmax	pmax	
	comp=N,81nm,1.0s				
YAK			pmax	pmax	
	comp=Z,138nm,2.3s				
YAK			pmax	pmax	
	comp=N,71nm,2.3s				
YAK			pmax	pmax	
	comp=E,74nm,2.3s				
YAK			smax	smax	
	comp=E,549nm,3.9s				
YAK			smax	smax	
	comp=N,1μm,4.4s				
YAK	**Yakutsk**	**53.48 355**	LR	LR	15 46 54.2
	comp=N,1μm,21.8s,baz=175,slow=34				
YAK	**Yakutsk**	**53.48 355**	P	**P**	**15 26 07.1 -1.2**
YAK			IAmb	IAmb	15 26 09.8
	comp=Z,513nm,1.7s				
YAK			IAMs_20	IAMs_20	15 45 12.8
	comp=Z,3μm,22.0s				
KKN	**Kakani**	**53.54 298**	*e*P	**P**	**15 26 09.6 0.0**
	comp=Z,119nm,0.9s				
DMN	**Daman**	**53.66 298**	*e*P	**P**	**15 26 11.0 +0.5**
	comp=Z,226nm,1.1s				
GKN	**Gorkha**	**54.13 298**	*e*P	**P**	**15 26 14.3 +0.4**
	comp=Z,221nm,1.1s				
AFI	**Afiamalu**	**54.22 114**	LR	LR	15 45 37.2
	comp=Z,10μm,20.4s,baz=280,slow=32				
AFI	**Afiamalu**	**54.22 114**	IAMs_20	IAMs_20	15 45 15.2
	comp=Z,11μm,20.0s				
SEY	**Seymchan**	**54.90 8**	*d i*P	**P**	**15 26 20.1 +1.5**
OUZ	**Omahuta**	**54.92 145**	IAMs_20	IAMs_20	15 46 45.2
	comp=Z,7μm,20.0s				
DANN	**Dangsing**	**54.95 298**	*e*P	**P**	**15 26 20.5 +0.5**
	comp=Z,256nm,1.0s				
KOLN	**Koldanda**	**55.00 298**	*e*P	**P**	**15 26 20.8 +0.5**
	comp=Z,152nm,1.0s				
KIWB	**Kanaga Island**	**56.03 31**	P	**P**	**15 26 26.7 -0.3**
WMQ	**Urumqi**	**56.16 317**	P	**P**	**15 26 29.8 +1.7**
WMQ			pP	pP	15 26 32.4 -1.7
WMQ			sP	pwP	15 26 38.6 -1.6
WMQ			PcP	**PcP**	**15 27 25.8 -0.1**
WMQ			S	**S**	**15 34 17.0 +0.8**
WMQ			sS	sS	15 34 26.6 +0.6
WMQ			ScS	**ScS**	**15 36 12.3 -3.9**
WMQ			pmax	pmax	
	comp=Z,62nm,1.1s				
WMQ			pmax	pmax	
	comp=Z,1μm,4.9s				
WMQ			LR	LR	
	comp=Z,3μm,20.9s				
WMQ			LR	LR	
	comp=Z,2μm,18.1s				
WMQ			LR	LR	
	comp=Z,4μm,26.5s				
WMQ	**Urumqi**	**56.16 317**	P	**P**	**15 26 29.0 +0.8**
WMQ			pmax	pmax	
	comp=Z,101nm,1.0s				
WMQ	**Urumqi**	**56.16 317**	P	**P**	**15 26 29.0 +0.8**
WMQ			IAmb	IAmb	15 26 41.6
	comp=Z,101nm,1.0s				
WMQ	**Urumqi**	**56.16 317**	IAMs_20	IAMs_20	15 48 32.9
	comp=Z,4μm,20.0s				
ADK	**Adak**	**56.29 32**	P	**P**	**15 26 29.1 +0.3**
ADK			pmax	pmax	
	comp=Z,779nm,1.8s				
ADK	**Adak**	**56.29 32**	P	**P**	**15 26 29.1 +0.3**
ADK			IAmb	IAmb	15 26 31.1
	comp=Z,779nm,1.8s				
RAO	**Raoul Island**	**56.50 134**	LR	LR	15 46 53.7
	comp=Z,5μm,21.8s,baz=310,slow=32				
RAO	**Raoul Island**	**56.50 134**	IAMs_20	IAMs_20	15 46 31.8
	comp=Z,5μm,22.0s				
PALK	**Pallekele**	**57.27 273**	P	**P**	**15 26 37.4 +0.9**
PALK	**Pallekele**	**57.27 273**	P	**P**	**15 26 36.9 +0.4**
PALK			pmax	pmax	
	comp=Z,90nm,1.7s				
PALK	**Pallekele**	**57.27 273**	P	**P**	**15 26 36.9 +0.4**
PALK			IAmb	IAmb	15 26 38.7
	comp=Z,90nm,1.7s				
PALK			IAMs_20	IAMs_20	15 49 05.0
	comp=Z,3μm,22.0s				
MDRS	**Chennai**	**57.31 280**	*e*P	**P**	**15 26 38.0 +1.3**
MDRS			IAMs_20	IAMs_20	15 46 20.6
	comp=Z,6μm,23.6s				
NIUE	**Niue**	**57.85 119**	IAMs_20	IAMs_20	15 46 46.7
	comp=Z,6μm,21.0s				
HIZ	**Hauiti**	**57.99 147**	IAMs_20	IAMs_20	15 46 57.3
	comp=Z,5μm,20.0s				
NGP	**Nagpur**	**58.48 289**	*e*P	**P**	**15 26 43.6 -1.3**
NGP			*e*S	**S**	**15 34 48.4 +1.1**
NGP			IAMs_20	IAMs_20	15 48 13.8
	comp=Z,5μm,25.9s				
QRZ	**Quartz Range**	**58.51 150**	IAMs_20	IAMs_20	15 49 52.4
	comp=Z,3μm,20.0s				
DGZ	**Jazzator, Alta**	**58.74 324**	*d i*P	**P**	**15 26 47.7 +1.4**
HYB	**Hyderabad**	**58.87 285**	*i* P	**P**	**15 26 47.0 -0.6**
HYB			*e*S	**S**	**15 34 50.0 -2.5**
HYB	**Hyderabad**	**58.87 285**	*e*P	**P**	**15 26 48.2 +0.6**
HYB			IAMs_20	IAMs_20	15 47 05.7
	comp=Z,4μm,26.5s				
URZ	**Urewera**	**59.06 145**	P	**P**	**15 26 49.4 +1.0**
	comp=Z,12nm,0.9s,baz=317,slow=5.6,SNR=5.7				
URZ			LR	LR	15 48 27.6
	comp=Z,5μm,21.9s,baz=315,slow=32				
URZ	**Urewera**	**59.06 145**	P	**P**	**15 26 49.2 +0.8**
URZ			IAmb	IAmb	15 27 38.5
	comp=Z,25nm,1.0s				
URZ			IAMs_20	IAMs_20	15 47 53.9
	comp=Z,7μm,22.0s				
NNZ	**Nelson**	**59.22 150**	IAMs_20	IAMs_20	15 47 34.3
	comp=Z,3μm,20.0s				
MXZ	**Matakaoa Point**	**59.27 144**	IAMs_20	IAMs_20	15 48 12.5
	comp=Z,4μm,21.0s				
BKZ	**Black Stump Fm**	**59.35 146**	P	**P**	**15 26 50.6 0.0**
BKZ			IAmb	IAmb	15 27 08.9
	comp=Z,120nm,1.8s				
BKZ			IAMs_20	IAMs_20	15 47 45.6
	comp=Z,5μm,22.0s				
FOZ	**Fox Glacier**	**59.37 154**	IAMs_20	IAMs_20	15 47 37.2
	comp=Z,5μm,22.0s				
ZSN	**Zaisan**	**59.38 321**	*e*P	**P**	**15 26 50.9 +0.2**
	comp=Z,312nm,3.6s				
ZSN			*e*S	**S**	**15 35 01.7 +3.5**
ZSN	**Zaisan**	**59.38 321**	*e*P	**P**	**15 26 50.8 +0.2**
ZSN			*e*S	**S**	**15 35 01.7 +3.5**
ZSN			pmax	pmax	
	comp=Z,311nm,3.6s				
LTZ	**Lake Taylor**	**59.88 152**	IAMs_20	IAMs_20	15 50 23.8
	comp=Z,7μm,19.0s				
SNZO	**South Karori**	**59.95 149**	IAMs_20	IAMs_20	15 50 24.7
	comp=Z,4μm,20.0s				
RPZ	**Rata Peaks**	**60.06 153**	P	**P**	**15 26 55.3 0.0**
	comp=Z,22nm,0.9s,baz=41,slow=5.3,SNR=3.8				
RPZ			LR	LR	15 48 22.9
	comp=Z,4μm,22.0s,baz=325,slow=32				
RPZ	**Rata Peaks**	**60.06 153**	P	**P**	**15 26 55.0 -0.3**
RPZ			IAmb	IAmb	15 27 04.9
	comp=Z,49nm,1.1s				
RPZ			IAMs_20	IAMs_20	15 48 10.4
	comp=Z,6μm,20.0s				
WKZ	**Wanaka**	**60.08 155**	IAMs_20	IAMs_20	15 50 43.1
	comp=Z,4μm,18.0s				
BHPL	**Bhopal**	**60.09 292** ⇑	*i*P	**P**	**15 26 55.1 -0.9**
BHPL			IAmb	IAmb	15 27 03.5
	comp=Z,48nm,1.1s				
DDI	**Dehra Dun**	**60.17 300** ⇓	*i*P	**P**	**15 26 57.0 +0.6**
DDI			IAmb	IAmb	15 27 14.1
OXZ	**Oxford**	**60.20 152**	IAMs_20	IAMs_20	15 48 07.1
	comp=Z,6μm,21.0s				
KHZ	**Kahutara**	**60.20 151**	IAMs_20	IAMs_20	15 49 18.3
	comp=Z,5μm,18.0s				
LBZ	**Lake Benmore**	**60.21 154**	IAMs_20	IAMs_20	15 49 04.0
	comp=Z,4μm,21.0s				
BFZ	**Birch Farm**	**60.30 148**	P	**P**	**15 26 57.5 +0.5**
BFZ			IAmb	IAmb	15 27 12.6
	comp=Z,122nm,1.5s				
BFZ			IAMs_20	IAMs_20	15 49 30.7
	comp=Z,6μm,20.0s				
KEKH	**Kekaha**	**60.56 70**	P	**P**	**15 27 00.6 +1.4**
KEKH			IAmb	IAmb	15 27 01.8
	comp=Z,142nm,1.0s				
CRLZ	**Canterbury Las**	**60.66 152**	IAMs_20	IAMs_20	15 50 48.4
	comp=Z,5μm,19.0s				
MQZ	**McQuen's Vall**	**60.77 152**	IAMs_20	IAMs_20	15 50 51.4
	comp=Z,5μm,20.0s				
MK31	**Makanchi Array**	**60.79 319**	P	**P**	**15 27 00.5 +0.2**
MK31			pmax	pmax	
	comp=Z,106nm,1.4s				
MK31	**Makanchi Array**	**60.79 319**	P	**P**	**15 27 00.5 +0.2**
MK31			IAmb	IAmb	15 27 04.6
	comp=Z,106nm,1.4s				
MKAR	**Makanchi Array**	**60.79 319**	P	**P**	**15 27 00.2 -0.1**
	comp=Z,41nm,0.9s,baz=104,slow=8.9,SNR=114				
MKAR			LR	LR	15 53 31.1
	comp=Z,4μm,19.6s,baz=97,slow=36				
MKAR			PKP2bc		15 56 23.4
	comp=Z,3.6nm,1.2s,baz=256,slow=5.3,SNR=3.6				
MKAR			PKP2ab		15 56 37.8
	comp=Z,1.2nm,0.7s,baz=336,slow=2.7,SNR=4.3				
MKAR	**Makanchi Array**	**60.79 319**	P	**P**	**15 27 00.3 0.0**
TRD	**Trivandrum**	**60.84 275**	*e*P	**P**	**15 27 01.5 +0.3**
TRD			IAmb	IAmb	15 27 15.4
	comp=Z,44nm,1.2s				
ODZ	**Otahua Downs**	**60.94 154**	IAMs_20	IAMs_20	15 51 36.7
	comp=Z,4μm,18.0s				
MAKZ	**Makanchi**	**60.99 319**	P	**P**	**15 27 02.0 +0.3**
MAKZ			pmax	pmax	
	comp=Z,77nm,1.1s				
MAKZ			MLR	MLR	
	comp=Z,5μm,18.0s				
MAKZ	**Makanchi**	**60.99 319**	P	**P**	**15 27 02.0 +0.3**
MAKZ			IAmb	IAmb	15 27 06.7
	comp=Z,77nm,1.1s				
MAKZ			IAMs_20	IAMs_20	15 53 17.0
	comp=Z,5μm,18.0s				
SMLA	**Simla**	**61.03 301**	*e*P	**P**	**15 27 01.5 -0.7**
SHLS	**Shalkode**	**61.60 314**	*e*S	**S**	**15 35 26.6 -0.5**
PDGK	**Podgornoye**	**61.63 315**	P	**P**	**15 27 05.9 -0.4**
PDGK			pmax	pmax	
	comp=Z,71nm,1.0s				
DHRM	**DHARAMSHALA**	**61.91 302**	*i* P	**P**	**15 27 07.0 -1.5**
DHRM			IAMs_20	IAMs_20	15 52 56.8
	comp=Z,8μm,24.6s				
UZB	**Uzynbulak**	**61.91 314**	*e*P	**P**	**15 27 08.3 +0.1**
	comp=Z,147nm,2.5s				
UZB			*e*S	**S**	**15 35 33.8 +2.8**
UZB	**Uzynbulak**	**61.91 314**	*e*P	**P**	**15 27 08.3 +0.1**
UZB			*e*S	**S**	**15 35 33.8 +2.8**
UZB			pmax	pmax	
	comp=Z,147nm,2.5s				
BILL	**Biiibino**	**61.91 11**	*i* P	**P**	**15 27 06.3 -1.2**
BILL			*i*		15 27 50.1
BILL			*i*		15 29 28.1
BILL			*i* S	**S**	**15 35 37.0 +7.1**
BILL			pmax	pmax	
	comp=Z,84nm,0.9s				
BILL			MLR	MLR	
	comp=Z,1μm,21.0s				
BILL	**Biiibino**	**61.91 11**	P	**P**	**15 27 06.9 -0.6**
BILL			IAmb	IAmb	15 27 08.7
	comp=Z,95nm,0.9s				
ZAA0	**Zalesovo Array**	**62.05 327**	P	**P**	**15 27 07.7 -1.0**
ZAA0			IAmb	IAmb	15 27 09.7
	comp=Z,36nm,0.9s				
ZAA0			IAMs_20	IAMs_20	15 53 17.3
	comp=Z,3μm,19.0s				
ZALV	**Zalesovo Beam**	**62.05 327**	P	**P**	**15 27 07.5 -1.2**
ZALV	**Zalesovo Beam**	**62.05 327**	P	**P**	**15 27 07.9 -0.8**
	comp=Z,27nm,0.7s,baz=106,slow=5.7,SNR=94				
ZALV			LR	LR	15 54 02.0
	comp=Z,3μm,21.4s,baz=118,slow=36				
ZALV			PKP2bc		15 56 24.2
	comp=Z,5.9nm,0.9s,baz=279,slow=2.9,SNR=12				
ZALV	**Zalesovo Beam**	**62.05 327**	P	**P**	**15 27 07.5 -1.2**
KIP	**Kipapa**	**62.13 70** ⇑	*e*P	**P**	**15 27 11.3 +1.5**
KIP			pmax	pmax	
	comp=Z,201nm,1.3s				
KIP	**Kipapa**	**62.13 70**	P	**P**	**15 27 08.9 -0.8**
KIP			IAmb	IAmb	15 27 12.8
	comp=Z,118nm,0.9s				
HON	**Honolulu**	**62.14 71**	P	**P**	**15 27 10.1 +0.3**
HON			pmax	pmax	
	comp=Z,368nm,1.3s				
HON	**Honolulu**	**62.14 71**	P	**P**	**15 27 10.1 +0.3**
HON			IAmb	IAmb	15 27 13.1
	comp=Z,368nm,1.3s				
OPA	**Opana**	**62.14 70**	P	**P**	**15 27 10.3 +0.5**
OPA			pmax	pmax	
	comp=Z,230nm,1.4s				
OPA	**Opana**	**62.14 70**	P	**P**	**15 27 10.3 +0.5**
OPA			IAmb	IAmb	15 27 13.2
	comp=Z,230nm,1.4s				
PRZ	**Przheval'sk**	**62.19 313**	P	**P**	**15 27 09.4 -0.7**
PRZ			pmax	pmax	
	comp=Z,108nm,0.9s				
PRZ			MLR	MLR	
	comp=Z,6μm,21.0s				
PRZ	**Przheval'sk**	**62.19 313**	P	**P**	**15 27 09.4 -0.7**
PRZ			IAmb	IAmb	15 27 24.6
	comp=Z,108nm,0.9s				
PRZ			IAMs_20	IAMs_20	15 54 50.9
	comp=Z,6μm,21.0s				
KPKS	**Kokpek**	**62.23 315**	*e*P	**P**	**15 27 10.5 +0.2**
	comp=Z,244nm,2.6s				
KPKS			*e*S	**S**	**15 35 35.5 +0.5**
	comp=Z,173nm,4.9s				
KPKS	**Kokpek**	**62.23 315**	*e*P	**P**	**15 27 10.5 +0.2**
KPKS			*e*S	**S**	**15 35 35.4 +0.5**
KPKS			pmax	pmax	
	comp=Z,244nm,2.6s				
KPKS			smax	smax	
	comp=E,173nm,4.9s				
SPIA	**Saint Paul Isl**	**62.25 29**	P	**P**	**15 27 09.7 -0.3**
SPIA			IAmb	IAmb	15 27 11.1
	comp=Z,241nm,0.8s				
SPIA			IAMs_20	IAMs_20	15 50 13.1
	comp=Z,2μm,19.0s				
SATY	**Saty**	**62.33 314**	*e*P	**P**	**15 27 11.1 +0.1**
	comp=Z,279nm,2.5s				
SATY			*e*S	**S**	**15 35 39.5 +3.2**
	comp=Z,193nm,5.1s				
SATY	**Saty**	**62.33 314**	*e*P	**P**	**15 27 11.0 +0.1**
SATY			*e*S	**S**	**15 35 39.4 +3.2**
SATY			pmax	pmax	
	comp=Z,279nm,2.5s				
SATY			smax	smax	
	comp=N,193nm,5.1s				
TARG	**Taragay, Kyrgy**	**62.44 313**	P	**P**	**15 27 12.1 0.0**
TARG			IAmb	IAmb	15 27 41.6
	comp=Z,61nm,1.4s				
TARG			IAMs_20	IAMs_20	15 55 11.9
	comp=Z,5μm,20.0s				
UNV	**Unalaska Valle**	**62.64 33**	P	**P**	**15 27 12.5 -0.1**
UNV			IAmb	IAmb	15 27 14.3
	comp=Z,178nm,1.0s				
UNV			IAMs_20	IAMs_20	15 49 48.4
	comp=Z,3μm,22.0s				
TDK	**Taldyqorghan**	**62.83 316**	*e*P	**P**	**15 27 14.8 +0.6**
	comp=Z,630nm,2.4s				
TDK			*e*S	**S**	**15 35 46.2 +3.9**
TDK			*e*LR	LR	15 51 51.0
TDK	**Taldyqorghan**	**62.83 316**	*e*P	**P**	**15 27 14.7 +0.6**
TDK			*e*S	**S**	**15 35 46.2 +3.9**
TDK			pmax	pmax	
	comp=Z,630nm,2.4s				
KDJ	**Kajisay**	**62.98 313**	P	**P**	**15 27 15.5 +0.1**
KDJ			pmax	pmax	
	comp=Z,27nm,0.9s				
KDJ			MLR	MLR	
	comp=Z,5μm,20.0s				
KDJ	**Kajisay**	**62.98 313**	P	**P**	**15 27 15.5 +0.1**
KDJ			IAmb	IAmb	15 27 36.4
	comp=Z,27nm,0.9s				
KDJ			IAMs_20	IAMs_20	15 55 32.0
	comp=Z,5μm,20.0s				
TIXI	**Tiksi**	**63.03 357**	*d i*P	**P**	**15 27 14.6 -0.3**
TIXI			pmax	pmax	
	comp=Z,20nm,0.6s				
TIXI	**Tiksi**	**63.03 357**	P	**P**	**15 27 13.7 -1.2**
TIXI			IAmb	IAmb	15 27 19.4
	comp=Z,56nm,0.9s				
TIXI			IAMs_20	IAMs_20	15 53 43.7
	comp=Z,2μm,18.0s				
AKUT	**Akutan**	**63.15 33**	P	**P**	**15 27 16.2 +0.3**
AKUT			IAmb	IAmb	15 27 18.2
	comp=Z,239nm,0.9s				
AKUT			IAMs_20	IAMs_20	15 50 05.0
	comp=Z,2μm,22.0s				
MDOK	**Medeo**	**63.32 314**	*e*P	**P**	**15 27 17.8 +0.2**
MDOK			*e*S	**S**	**15 35 51.9 +3.2**
MDOK	**Medeo**	**63.32 314**	*e*P	**P**	**15 27 17.7 +0.2**
MDOK			*e*S	**S**	**15 35 51.9 +3.2**
AAA	**Alma-Ata**	**63.42 314**	*e*P	**P**	**15 27 18.0 -0.1**
AAA			*e*LR	LR	15 54 51.0
	comp=Z,2μm,21.4s				
AAA	**Alma-Ata**	**63.42 314**	*e*P	**P**	**15 27 18.8 +0.6**
AAA			*e*S	**S**	**15 35 51.3 +1.5**
AAA			pmax	pmax	
	comp=Z,900nm,7.0s				
AAA			smax	smax	
	comp=N,1μm,10.3s				
AAA			MLR	MLR	
	comp=Z,2μm,17.0s				
GOA	**Goa**	**63.44 283**	*e*P	**P**	**15 27 18.4 -0.2**
GOA			IAMs_20	IAMs_20	15 49 46.0
	comp=Z,8μm,30.0s				
CHKK	**Chushkaly**	**63.52 315**	*e*P	**P**	**15 27 18.8 +0.1**
CHKK	**Chushkaly**	**63.52 315**	*e*P	**P**	**15 27 18.8 +0.1**
KHLH	**Kahului Airpor**	**63.60 71**	P	**P**	**15 27 18.8 -0.8**
KHLH			IAmb	IAmb	15 27 23.4
	comp=Z,697nm,1.6s				
ULHL	**Ulahol**	**63.69 313**	P	**P**	**15 27 21.5 +1.4**
	SNR=12				
NRN	**Naryn**	**63.69 312**	P	**P**	**15 27 19.9 -0.4**
NRN			pmax	pmax	
	comp=Z,42nm,1.2s				
NRN			MLR	MLR	
	comp=Z,4μm,21.0s				
NRN	**Naryn**	**63.69 312**	P	**P**	**15 27 19.9 -0.4**
NRN			IAmb	IAmb	15 27 24.7
	comp=Z,42nm,1.1s				
NRN			IAMs_20	IAMs_20	15 55 26.2
	comp=Z,4μm,21.0s				
HLK	**Haleakala**	**63.77 71**	IAMs_20	IAMs_20	15 48 01.9
	comp=Z,5μm,22.0s				
KKH	**Kailua Kona**	**63.98 72**	P	**P**	**15 27 22.6 +0.5**
KKH	**Kailua Kona**	**63.98 72**	P	**P**	**15 27 22.6 +0.5**
KUU	**Kurty**	**63.99 315**	*e*P	**P**	**15 27 21.4 -0.4**
	comp=Z,833nm,3.3s				
KUU			*e*S	**S**	**15 35 58.9 +2.2**
	comp=Z,525nm,4.9s				
KUU			*e*LR	LR	15 53 48.4
	comp=Z,4μm,24.6s				
KUU	**Kurty**	**63.99 315**	*e*P	**P**	**15 27 21.4 -0.4**
KUU			*e*S	**S**	**15 35 58.9 +2.2**
KUU			pmax	pmax	
	comp=Z,833nm,3.3s				
KUU			smax	smax	
	comp=N,525nm,4.9s				
KHLU	**Kahalu`u**	**64.10 73**	IAMs_20	IAMs_20	15 49 56.9
	comp=Z,3μm,19.0s				
HUH	**Hualalai**	**64.16 72**	P	**P**	**15 27 23.4 -0.2**
HUH			IAmb	IAmb	15 27 26.7
	comp=Z,230nm,1.4s				
HPAH	**Hawaii Prepara**	**64.28 72**	P	**P**	**15 27 23.4 -0.8**
HPAH			IAmb	IAmb	15 27 27.2
	comp=Z,345nm,1.7s				
HPAH			IAMs_20	IAMs_20	15 49 53.7
	comp=Z,3μm,20.0s				
TKM2	**Tokmak 2**	**64.30 313**	*i* P	**P**	**15 27 24.3 +0.2**
TKM2			pmax	pmax	
	comp=Z,50nm,1.4s				
TKM2	**Tokmak 2**	**64.30 313**	P	**P**	**15 27 24.9 +0.7**
	SNR=22				
BOM	**Bombay**	**64.31 287**	*e*P	P	15 27 29.1 +4.8
BOM			*ex*	x	15 36 06.6
KURK	**Kurchatov**	**64.36 322**	P	**P**	**15 27 24.2 +0.1**
	SNR=76				
KURK	**Kurchatov**	**64.36 322**	*de*P	**P**	**15 27 23.7 -0.4**
KURK			pmax	pmax	
	comp=Z,387nm,2.5s				
KURK			MLR	MLR	
	comp=Z,2μm,18.0s				
KURK	**Kurchatov**	**64.36 322**	P	**P**	**15 27 23.7 -0.4**
KURK			IAmb	IAmb	15 27 37.1
	comp=Z,123nm,0.9s				
KURK	**Kurchatov**	**64.36 322**	IAMs_20	IAMs_20	15 56 50.9
	comp=Z,2μm,19.0s				
KHU	**Kahuku**	**64.37 73**	P	**P**	**15 27 23.0 -2.0**
KHU			pmax	pmax	
	comp=Z,331nm,1.4s				
KHU	**Kahuku**	**64.37 73**	P	**P**	**15 27 23.1 -2.0**
KHU			IAmb	IAmb	15 27 28.0
	comp=Z,331nm,1.4s				
KHU			IAMs_20	IAMs_20	15 51 51.0
	comp=Z,3μm,19.0s				
KZA	**Kyzart**	**64.38 312**	P	**P**	**15 27 27.3 +2.4**
	SNR=9.9				
MWH	**Moku'aweowe**	**64.38 73**	P	**P**	**15 27 22.8 -2.6**
MWH			IAmb	IAmb	15 27 28.4
	comp=Z,182nm,1.1s				
KURBB	**Kurchatov Arra**	**64.39 322**	P	**P**	**15 27 24.2 0.0**
	comp=Z,39nm,0.8s,baz=105,slow=6.8,SNR=122				
MLOA	**Mauna Loa Obse**	**64.40 73**	P	**P**	**15 27 26.0 +0.6**

MLOA				IAmb	IAmb	15 27 28.6		
	comp=Z,442nm,1.5s							
MLOA				IAms_20	IAms_20	15 50 16.8		
	comp=Z,4μm,20.0s							
POHA	**Pohakuloa**	**64.44**	**72**	IAms_20	IAms_20	15 49 57.8		
	comp=Z,4μm,18.0s							
HMH	**Humu'ula Sheep**	**64.49**	**73**	P	**P**	**15 27 25.8**	**0.0**	
HMH				IAmb	IAmb	15 27 29.6		
	comp=Z,338nm,1.4s							
AIN	**Ainahou**	**64.52**	**73**	P	**P**	**15 27 25.9**	**0.0**	
AIN				IAmb	IAmb	15 27 29.2		
	comp=Z,231nm,0.9s							
MLH	**Mauna Loa**	**64.58**	**73**	P	**P**	**15 27 25.6**	**-0.8**	
MLH				IAmb	IAmb	15 27 29.7		
	comp=Z,309nm,1.0s							
NIL	**Nilore**	**64.62**	**303**	P	**P**	**15 27 26.8**	**+0.6**	
NIL	**Nilore**	**64.62**	**303**	P	**P**	**15 27 25.2**	**-1.0**	
NIL				pmax	pmax			
	comp=Z,131nm,0.9s							
NIL				MLR	MLR			
	comp=Z,4μm,20.0s							
NIL	**Nilore**	**64.62**	**303**	P	**P**	**15 27 25.2**	**-1.0**	
NIL				IAmb	IAmb	15 27 34.5		
	comp=Z,131nm,0.9s							
NIL	**Nilore**	**64.62**	**303**	IAms_20	IAms_20	15 57 19.7		
	comp=Z,4μm,20.0s							
FALS	**False Pass**	**64.70**	**33**	P	**P**	**15 27 25.5**	**-0.7**	
FALS				IAmb	IAmb	15 27 27.9		
	comp=Z,357nm,1.1s							
FALS				IAms_20	IAms_20	15 51 04.9		
	comp=Z,2μm,21.0s							
KBK	**Karagaybulak**	**64.71**	**313**	P	**P**	**15 27 27.9**	**+1.2**	
	SNR=16							
HMDM	**Hanimaadhoo**	**64.74**	**273**	IAms_20	IAms_20	15 52 06.1		
	comp=Z,3μm,21.0s							
PUH	**Pauahi**	**64.75**	**73**	P	**P**	**15 27 27.4**	**+0.1**	
PUH				IAmb	IAmb	15 27 30.4		
	comp=Z,180nm,0.9s							
CHMS	**Chumysh**	**64.92**	**313**	P	**P**	**15 27 28.1**	**+0.2**	
	SNR=20							
UCH	**Uchtor**	**64.94**	**313**	P	**P**	**15 27 29.5**	**+0.9**	
	SNR=61							
FRU1	**Bishkek**	**64.97**	**313**	IAms_20	IAms_20	15 56 45.6		
	comp=Z,3μm,20.0s							
AAK	**Ala-Archa**	**65.04**	**313**	*i* P	**P**	**15 27 29.5**	**+0.7**	
	SNR=14							
AAK	**Ala-Archa**	**65.04**	**313**	P	**P**	**15 27 29.9**	**+1.0**	
	SNR=17							
AAK	**Ala-Archa**	**65.04**	**313**	*d iP*	**P**	**15 27 29.8**	**+1.0**	
AAK				pmax	pmax			
	comp=Z,88nm,3.3s							
AAK	**Ala-Archa**	**65.04**	**313**	P	**P**	**15 27 29.9**	**+1.0**	
	comp=Z,7.2nm,0.8s,baz=102,slow=5.4,SNR=21							
AAK	**Ala-Archa**	**65.04**	**313**	P	**P**	**15 27 30.1**	**+1.2**	
	SNR=9.9							
AAK	**Ala-Archa**	**65.04**	**313**	P	**P**	**15 27 28.7**	**-0.2**	
AAK				IAmb	IAmb	15 27 48.4		
	comp=Z,32nm,1.2s							
AAK	**Ala-Archa**	**65.04**	**313**	IAms_20	IAms_20	15 56 21.3		
	comp=Z,5μm,22.0s							
SGDS	**Sogindy**	**65.10**	**314**	*e*P	**P**	**15 27 29.1**	**-0.1**	
	comp=Z,232nm,3.5s							
SGDS				*e*S	**S**	**15 36 12.9**	**+2.3**	
	comp=Z,163nm,5.7s							
GAMB	**Gambell**	**65.12**	**22**	IAms_20	IAms_20	15 52 18.5		
	comp=Z,2μm,20.0s							
USP	**Ospenovka**	**65.16**	**314**	P	**P**	**15 27 30.5**	**+1.0**	
	SNR=15							
AML	**Almayashu**	**65.52**	**312**	P	**P**	**15 27 34.0**	**+1.7**	
	SNR=22							
EKS2	**Erkin-Say**	**65.56**	**313**	P	**P**	**15 27 33.1**	**+0.9**	
	SNR=25							
KAAM	**Kaadhehdhoo**	**65.80**	**267**	IAms_20	IAms_20	15 53 38.1		
	comp=Z,2μm,22.0s							
BTLS	**Baital**	**65.84**	**315**	*e*P	**P**	**15 27 34.2**	**+0.3**	
BTLS				*e*S	**S**	**15 36 17.8**	**-1.7**	
BTLS	**Baital**	**65.84**	**315**	*e*P	**P**	**15 27 34.1**	**+0.3**	
BTLS				*e*S	**S**	**15 36 17.8**	**-1.7**	
ARSB	**Arslanbob**	**65.91**	**311**	P	**P**	**15 27 35.3**	**+0.8**	
ARSB				IAmb	IAmb	15 27 55.4		
	comp=Z,56nm,0.9s							
SDPT	**Sand Point**	**66.45**	**33**	P	**P**	**15 27 37.1**	**-0.4**	
SDPT				IAmb	IAmb	15 27 39.1		
	comp=Z,370nm,0.8s							
SDPT				IAms_20	IAms_20	15 51 15.3		
	comp=Z,2μm,20.0s							
CNBA	**Chernabura Isl**	**66.76**	**34**	P	**P**	**15 27 39.6**	**+0.2**	
CNBA				IAmb	IAmb	15 27 40.9		
	comp=Z,94nm,0.8s							
CNBA				IAms_20	IAms_20	15 52 03.6		
	comp=Z,2μm,22.0s							
DZA	**Taraz**	**67.37**	**313**	*e*P	**P**	**15 27 43.1**	**-0.7**	
DZA	**Taraz**	**67.37**	**313**	*e*P	**P**	**15 27 43.0**	**-0.7**	
RAR	**Rarotonga**	**67.50**	**117**	LR	LR	15 51 34.4		
	comp=Z,4μm,21.3s,baz=318,slow=31							
BRZS	**Berezniki**	**67.83**	**320**	*e*P	**P**	**15 27 45.8**	**-0.6**	
	comp=Z,316nm,2.7s							
BRZS				*e*S	**S**	**15 36 44.8**	**+1.5**	
BRZS	**Berezniki**	**67.83**	**320**	*e*P	**P**	**15 27 45.8**	**-0.6**	
BRZS				*e*S	**S**	**15 36 44.8**	**+1.5**	
BRZS				pmax	pmax			
	comp=Z,316nm,2.7s							
DGAR	**Diego Garcia**	**67.84**	**258**	IAms_20	IAms_20	15 53 54.5		
	comp=Z,3μm,22.0s							
CHGN	**Chignik**	**67.86**	**32**	P	**P**	**15 27 46.0**	**-0.4**	
CHGN				IAmb	IAmb	15 27 48.3		
	comp=Z,640nm,1.9s							
CHGN				IAms_20	IAms_20	16 02 40.5		
	comp=Z,1μm,20.0s							
JBG	**Jabagly**	**67.88**	**312**	*e*P	**P**	**15 27 47.1**	**+0.1**	
JBG				*e*S	**S**	**15 36 46.7**	**+2.3**	
JBG				pmax	pmax			
	comp=Z,206nm,2.7s							
KK31	**Karatay Array**	**68.00**	**313**	P	**P**	**15 27 47.5**	**-0.1**	
KK31				pmax	pmax			
	comp=Z,208nm,1.9s							
KK31	**Karatay Array**	**68.00**	**313**	P	**P**	**15 27 47.5**	**-0.1**	
KK31				IAmb	IAmb	15 27 50.4		
	comp=Z,208nm,1.9s							
KKAR	**Karatay Array**	**68.00**	**313**	P	**P**	**15 27 47.3**	**-0.4**	
KKAR						15 27 47.5		
KKAR				pmax	pmax			
	comp=Z,208nm,1.9s							
KKAR	**Karatay Array**	**68.00**	**313**	P	**P**	**15 27 47.3**	**-0.4**	
KKAR	**Karatay Array**	**68.00**	**313**	P	**P**	**15 27 47.5**	**-0.1**	
KKAR				IAmb	IAmb	15 27 50.4		
	comp=Z,208nm,1.9s							
KBL	**Kabul**	**68.18**	**304**	P	**P**	**15 27 48.9**	**-0.3**	
KBL				pmax	pmax			
	comp=Z,51nm,1.5s							
KBL				MLR	MLR			
	comp=Z,7μm,22.0s							
KBL	**Kabul**	**68.18**	**304**	P	**P**	**15 27 48.9**	**-0.3**	
KBL				IAmb	IAmb	15 28 02.9		
	comp=Z,51nm,1.4s							
KBL				IAms_20	IAms_20	15 57 35.3		
	comp=Z,7μm,22.0s							
IUG	**Iuzhnay**	**68.21**	**312**	*e*P	**P**	**15 27 49.4**	**+0.2**	
IUG				*e*S	**S**	**15 36 51.0**	**+2.5**	
IUG	**Iuzhnay**	**68.21**	**312**	*e*P	**P**	**15 27 49.3**	**+0.2**	
IUG				*e*S	**S**	**15 36 50.9**	**+2.5**	
BRLS	**Boroldaу**	**68.48**	**313**	*e*S	**S**	**15 36 55.2**	**+3.9**	
	comp=Z,184nm,6.0s							
CHM	**Chimkent**	**68.55**	**312**	*e*P	**P**	**15 27 49.6**	**-1.6**	
CHM	**Chimkent**	**68.55**	**312**	*e*P	**P**	**15 27 49.5**	**-1.6**	
TAS	**Tashkent**	**68.66**	**311**	P	**P**	**15 27 51.7**	**-0.1**	
TAS				pmax	pmax			
	comp=Z,193nm,1.2s							
TAS				MLR	MLR			
	comp=Z,2μm,20.0s							
TAS	**Tashkent**	**68.66**	**311**	P	**P**	**15 27 51.7**	**-0.1**	
TAS				IAmb	IAmb	15 27 54.8		
	comp=Z,193nm,1.2s							
TAS				IAms_20	IAms_20	15 58 30.2		
	comp=Z,2μm,20.0s							
NRIK	**Noril'sk**	**68.68**	**343**	P	**P**	**15 27 50.6**	**-0.7**	
	comp=Z,41nm,1.0s,baz=124,slow=6.5,SNR=47							
NRIK				LR	LR	15 57 45.9		
	comp=Z,3μm,20.4s,baz=132,slow=36							
CHIR	**Chirikof Islan**	**69.22**	**33**	P	**P**	**15 27 56.0**	**+1.1**	
CHIR				IAmb	IAmb	15 27 57.7		
	comp=Z,319nm,0.8s							
BVAR	**Borovoye Array**	**69.89**	**323**	P	**P**	**15 27 59.1**	**-0.1**	
	comp=Z,48nm,0.8s,baz=101,slow=7.7,SNR=173							
BRVK	**Borovoye**	**69.96**	**323**	P	**P**	**15 28 00.1**	**+0.5**	
	SNR=51							
BRVK				P	**P**	**15 28 00.1**	**+0.5**	
	SNR=51							
BRVK	**Borovoye**	**69.96**	**323**	*d iP*	**P**	**15 27 59.5**	**-0.1**	
BRVK				pmax	pmax			
	comp=Z,109nm,1.0s							
BRVK	**Borovoye**	**69.96**	**323**	P	**P**	**15 27 59.3**	**-0.3**	
BRVK				IAmb	IAmb	15 28 01.4		
	comp=Z,92nm,0.9s							
BRVK	**Borovoye**	**69.96**	**323**	IAms_20	IAms_20	15 59 22.0		
	comp=Z,3μm,18.0s							
SII	**Sitkinak Islan**	**70.19**	**33**	P	**P**	**15 28 01.4**	**+0.4**	
SII				IAmb	IAmb	15 28 03.3		
	comp=Z,351nm,0.8s							
RDOG	**Red Dog Mine**	**70.39**	**20**	P	**P**	**15 28 02.5**	**+0.6**	
RDOG				IAmb	IAmb	15 28 04.1		
	comp=Z,112nm,0.9s							
SVW2	**Sparrevohn**	**70.73**	**28**	P	**P**	**15 28 04.8**	**+0.6**	
SVW2				IAmb	IAmb	15 28 07.2		
	comp=Z,150nm,1.2s							
OHAK	**Old Harbor**	**70.83**	**32**	P	**P**	**15 28 05.5**	**+0.8**	
OHAK				IAmb	IAmb	15 28 06.9		
	comp=Z,134nm,0.9s							
OHAK				IAms_20	IAms_20	15 56 20.7		
	comp=Z,2μm,20.0s							
TTA	**Tatalina**	**71.09**	**26**	P	**P**	**15 28 07.0**	**+0.6**	
TTA				pmax	pmax			
	comp=Z,157nm,1.3s							
TTA	**Tatalina**	**71.09**	**26**	P	**P**	**15 28 07.0**	**+0.6**	
TTA				IAmb	IAmb	15 28 09.3		
	comp=Z,157nm,1.3s							
KDAK	**Kodiak Island**	**71.33**	**32**	P	**P**	**15 28 08.3**	**+0.5**	
KDAK				pmax	pmax			
	comp=Z,409nm,1.5s							
KDAK	**Kodiak Island**	**71.33**	**32**	P	**P**	**15 28 08.8**	**+1.0**	
	comp=Z,92nm,0.8s,baz=250,slow=1.1,SNR=29							
KDAK	**Kodiak Island**	**71.33**	**32**	P	**P**	**15 28 08.2**	**+0.5**	
KDAK				IAmb	IAmb	15 28 10.4		
	comp=Z,409nm,1.5s							
KDAK	**Kodiak Island**	**71.33**	**32**	IAms_20	IAms_20	15 57 41.2		
	comp=Z,2μm,20.0s							
RSO	**Redoubt South**	**71.89**	**29**	P	**P**	**15 28 10.4**	**-1.0**	
CNPM	**China Poot**	**72.41**	**30**	P	**P**	**15 28 14.5**	**+0.1**	
CNPM				IAmb	IAmb	15 28 16.2		
	comp=Z,1μm,1.9s							
CNPM				IAms_20	IAms_20	15 55 46.7		
	comp=Z,2μm,22.0s							
BRLK	**Bradley Lake**	**72.64**	**30**	P	**P**	**15 28 15.3**	**-0.4**	
BRLK				IAmb	IAmb	15 28 16.7		
	comp=Z,133nm,0.8s							
BRLK				IAms_20	IAms_20	16 01 35.5		
	comp=Z,1μm,21.0s							
PPLA	**Purkeypile**	**72.76**	**27**	P	**P**	**15 28 16.7**	**+0.2**	
PPLA				IAmb	IAmb	15 28 19.3		
	comp=Z,630nm,2.0s							
SKT	**Skwentna**	**72.83**	**28**	P	**P**	**15 28 17.0**	**+0.2**	
SKT				IAmb	IAmb	15 28 18.4		
	comp=Z,104nm,1.0s							
SKT				IAms_20	IAms_20	15 58 46.8		
	comp=Z,1μm,20.0s							
IMAR	**Indian Mountai**	**72.96**	**23**	P	**P**	**15 28 17.4**	**0.0**	
SUA	**Susitna One**	**73.08**	**28**	P	**P**	**15 28 18.2**	**-0.2**	
SUA				IAmb	IAmb	15 28 19.9		
	comp=Z,114nm,1.0s							
SEW	**Seward**	**73.41**	**30**	P	**P**	**15 28 20.1**	**-0.1**	
SEW				IAmb	IAmb	15 28 21.8		
	comp=Z,106nm,1.0s							
SEW				IAms_20	IAms_20	15 57 31.2		
	comp=Z,2μm,22.0s							
RC01	**Rabbit Creek A**	**73.47**	**29**	P	**P**	**15 28 20.1**	**-0.5**	
RC01				IAmb	IAmb	15 28 22.4		
	comp=Z,120nm,1.1s							
RC01				IAms_20	IAms_20	15 57 25.7		
	comp=Z,2μm,22.0s							
BPAW	**Bear Paw Mtn.**	**73.58**	**26**	P	**P**	**15 28 21.4**	**+0.2**	
BPAW				IAmb	IAmb	15 28 23.8		
	comp=Z,251nm,1.2s							
BPAW				IAms_20	IAms_20	15 59 30.5		
	comp=Z,1μm,20.0s							
TRF	**Thorofare Moun**	**73.73**	**26**	P	**P**	**15 28 21.6**	**-0.6**	
TRF				IAmb	IAmb	15 28 24.0		
	comp=Z,152nm,1.0s							
TRF				IAms_20	IAms_20	16 02 10.5		
	comp=Z,1μm,20.0s							
HRA	**Herat**	**73.79**	**303**	P	**P**	**15 28 22.6**	**-0.7**	
HRA				IAmb	IAmb	15 28 27.1		
	comp=Z,46nm,1.1s							
HRA				IAms_20	IAms_20	16 01 37.5		
	comp=Z,3μm,21.0s							
PMR	**Palmer**	**73.86**	**28**	P	**P**	**15 28 22.1**	**-0.7**	
PMR				pmax	pmax			
	comp=Z,107nm,0.9s							
PMR	**Palmer**	**73.86**	**28**	P	**P**	**15 28 22.1**	**-0.7**	
PMR				IAmb	IAmb	15 28 24.4		
	comp=Z,107nm,0.9s							
PMR				IAms_20	IAms_20	15 57 31.7		
	comp=Z,2μm,21.0s							
MLY	**Manley**	**73.91**	**25**	P	**P**	**15 28 22.9**	**-0.2**	
MLY				IAmb	IAmb	15 28 25.9		
	comp=Z,324nm,1.4s							
MLY				IAms_20	IAms_20	15 59 11.1		
	comp=Z,2μm,20.0s							
GHO	**Glory Hole Cre**	**73.99**	**28**	P	**P**	**15 28 23.0**	**-0.7**	
GHO				IAmb	IAmb	15 28 25.1		
	comp=Z,99nm,0.8s							
GHO				IAms_20	IAms_20	15 58 22.5		
	comp=Z,1μm,20.0s							
KNK	**Knik Glacier**	**74.14**	**29**	P	**P**	**15 28 24.9**	**+0.4**	
KNK				IAmb	IAmb	15 28 26.9		
	comp=Z,193nm,1.0s							
KNK				IAms_20	IAms_20	15 57 56.5		
	comp=Z,2μm,22.0s							
BWN	**Browne**	**74.25**	**26**	P	**P**	**15 28 25.7**	**+0.7**	
BWN				IAmb	IAmb	15 28 27.6		
	comp=Z,472nm,1.3s							
SML	**Sawmill**	**74.28**	**28**	P	**P**	**15 28 25.5**	**+0.2**	
SML				IAmb	IAmb	15 28 27.5		
	comp=Z,544nm,1.5s							
SML				IAms_20	IAms_20	15 59 47.0		
	comp=Z,1μm,20.0s							
RND	**Reindeer**	**74.35**	**26**	P	**P**	**15 28 25.8**	**0.0**	
RND				pmax	pmax			
	comp=Z,192nm,1.0s							
RND	**Reindeer**	**74.35**	**26**	P	**P**	**15 28 25.8**	**0.0**	
RND				IAmb	IAmb	15 28 27.5		
	comp=Z,192nm,1.0s							
RND				IAms_20	IAms_20	16 02 47.8		
	comp=Z,1μm,20.0s							
MCK	**McKinley**	**74.39**	**26**	P	**P**	**15 28 25.5**	**-0.4**	
MCK				pmax	pmax			
	comp=Z,334nm,1.0s							
MCK				MLR	MLR			
	comp=Z,1μm,18.0s							
MCK	**McKinley**	**74.39**	**26**	P	**P**	**15 28 25.5**	**-0.4**	
MCK				IAmb	IAmb	15 28 27.8		
	comp=Z,334nm,1.0s							
MCK				IAms_20	IAms_20	16 04 15.7		
	comp=Z,1μm,18.0s							
COLD	**Coldfoot**	**74.66**	**22**	P	**P**	**15 28 27.8**	**+0.4**	
COLD				IAmb	IAmb	15 28 30.4		
	comp=Z,38nm,1.0s							
GLI	**Glacier Island**	**74.70**	**29**	P	**P**	**15 28 27.6**	**-0.1**	
GLI				IAmb	IAmb	15 28 29.4		
	comp=Z,127nm,0.9s							
GLI				IAms_20	IAms_20	15 58 13.2		
	comp=Z,2μm,21.0s							
SCM	**Sheep Creek Mo**	**74.75**	**28**	P	**P**	**15 28 27.9**	**-0.2**	
SCM				pmax	pmax			
	comp=Z,422nm,1.0s							
SCM	**Sheep Creek Mo**	**74.75**	**28**	P	**P**	**15 28 27.9**	**-0.2**	
SCM				IAmb	IAmb	15 28 30.6		
	comp=Z,422nm,1.0s							
SCM				IAms_20	IAms_20	15 58 58.5		
	comp=Z,2μm,20.0s							
WRH	**Wood River Hil**	**74.90**	**25**	P	**P**	**15 28 27.9**	**-0.9**	
WRH				IAmb	IAmb	15 28 30.5		
	comp=Z,188nm,1.2s							
WRH				IAms_20	IAms_20	16 01 09.2		
	comp=Z,1μm,19.0s							
HIN	**Hinchinbrook I**	**74.91**	**30**	IAms_20	IAms_20	15 56 50.8		
	comp=Z,3μm,22.0s							
MDM	**Murphy Dome**	**74.94**	**25**	P	**P**	**15 28 28.6**	**-0.4**	
MDM				IAmb	IAmb	15 28 30.7		
	comp=Z,34nm,0.9s							
DHY	**Denali Highway**	**74.95**	**27**	P	**P**	**15 28 29.1**	**-0.2**	
DHY				IAmb	IAmb	15 28 31.8		
	comp=Z,210nm,1.2s							
FID	**Port Fidalgo**	**74.98**	**29**	P	**P**	**15 28 29.0**	**-0.4**	
FID				IAmb	IAmb	15 28 31.0		
	comp=Z,160nm,0.9s							
FID				IAms_20	IAms_20	16 01 08.0		
	comp=Z,2μm,19.0s							
CCB	**Clear Creek Bu**	**75.05**	**25**	P	**P**	**15 28 29.3**	**-0.4**	
CCB				IAmb	IAmb	15 28 31.2		
	comp=Z,251nm,1.4s							
CCB				IAms_20	IAms_20	15 59 16.3		
	comp=Z,1μm,21.0s							
TCOL	**CIGO, UAF Yank**	**75.07**	**25**	P	**P**	**15 28 29.0**	**-0.8**	
	baz=259							
COLA	**College**	**75.08**	**25**	*d iP*	**P**	**15 28 30.1**	**+0.3**	
COLA				pmax	pmax			
	comp=Z,26nm,0.8s							
COLA	**College**	**75.08**	**25**	P	**P**	**15 28 28.6**	**-1.2**	
COLA				IAmb	IAmb	15 28 31.6		
	comp=Z,36nm,0.7s							
COLA	**College**	**75.08**	**25**	IAms_20	IAms_20	16 00 36.5		
	comp=Z,1μm,20.0s							
TOLK	**Toolik Lake Re**	**75.23**	**21**	P	**P**	**15 28 31.6**	**+0.9**	
	baz=256							
TOLK	**Toolik Lake Re**	**75.23**	**21**	P	**P**	**15 28 29.9**	**-0.8**	
TOLK				IAmb	IAmb	15 28 33.0		
	comp=Z,94nm,0.9s							
POKR	**Poker Plat Res**	**75.30**	**25**	P	**P**	**15 28 30.1**	**-1.0**	
	baz=259							
EYAK	**Cordova Ski Ar**	**75.30**	**30**	P	**P**	**15 28 30.8**	**-0.4**	
EYAK				IAmb	IAmb	15 28 33.3		
	comp=Z,88nm,0.9s							
EYAK				IAms_20	IAms_20	15 57 49.2		
	comp=Z,2μm,20.0s							
HDA	**Harding Lake**	**75.37**	**26**	P	**P**	**15 28 30.8**	**-0.7**	
	baz=260							
HDA	**Harding Lake**	**75.37**	**26**	P	**P**	**15 28 30.8**	**-0.7**	
HDA				IAmb	IAmb	15 28 33.1		
	comp=Z,72nm,0.8s							
HDA				IAms_20	IAms_20	16 00 36.8		
	comp=Z,1μm,20.0s							
IL31		**75.46**	**25**	P	**P**	**15 28 30.7**	**-1.3**	
IL31				IAmb	IAmb	15 28 32.3		
	comp=Z,54nm,0.8s							
ILAR	**Eielson Array**	**75.46**	**25**	P	**P**	**15 28 30.4**	**-1.7**	
ILAR	**Eielson Array**	**75.46**	**25**	P	**P**	**15 28 30.7**	**-1.4**	
	comp=Z,35nm,0.7s,baz=247,slow=5.6,SNR=288							
ILAR				LR	LR	16 00 49.9		
	comp=Z,807nm,19.7s,baz=252,slow=35							
ILAR	**Eielson Array**	**75.46**	**25**	P	**P**	**15 28 30.4**	**-1.7**	
PPT	**Papeete**	**75.66**	**111**	LR	LR	15 55 41.7		
	comp=Z,3μm,20.3s,baz=277,slow=31							
PPT2	**Papeete2**	**75.67**	**111**	*e*P	**P**	**15 28 36.7**	**+2.5**	
	comp=Z,70nm,1.2s							
PPT2				*e*S	**S**	**15 38 16.0**	**+1.3**	
	comp=Z,10μm,29.5s							
PPT2				*e*SS	**SS**	**15 43 06.9**	**+0.3**	
	comp=Z,3μm,27.0s							
PPT2				*e*LQ	LQ	15 48 48.9		
	comp=Z,3μm,25.5s							
PPT2				*e*LR	LR	15 51 45.0		
	comp=Z,8μm,25.0s,baz=293							
PAX	**Paxson**	**75.79**	**27**	P	**P**	**15 28 33.9**	**-0.2**	
PAX				pmax	pmax			
	comp=Z,78nm,0.9s							
PAX				MLR	MLR			
	comp=Z,2μm,20.0s							
PAX	**Paxson**	**75.79**	**27**	P	**P**	**15 28 33.9**	**-0.2**	
PAX				IAmb	IAmb	15 28 35.9		
	comp=Z,78nm,0.9s							
PAX				IAms_20	IAms_20	16 02 32.8		
	comp=Z,1μm,20.0s							
TIAR	**Tiarei**	**75.87**	**111**	*e*P	**P**	**15 28 37.0**	**+1.7**	
	comp=Z,16nm,0.9s							
AB31	**Akbulak array**	**75.92**	**319**	P	**P**	**15 28 34.6**	**-0.4**	
AB31				pmax	pmax			
	comp=Z,84nm,1.0s							
ABKAR	**Akbulak array**	**75.92**	**319**	P	**P**	**15 28 34.3**	**-0.7**	
HMT	**Hamilton**	**76.01**	**30**	IAms_20	IAms_20	15 58 42.8		
	comp=Z,2μm,20.0s							
SVE	**Sverdlovsk**	**76.03**	**326**	*c e*P	**P**	**15 28 35.7**	**+0.2**	
SVE				*e*PPP	PPP	15 33 09.9		
SVE				*e*S	**S**	**15 38 12.3**	**-5.0**	
SVE				*e*SS	**SS**	**15 43 09.0**	**-1.2**	
SVE				pmax	pmax			
	comp=Z,139nm,1.9s							
PRP	**Porcupine Dome**	**76.16**	**25**	P	**P**	**15 28 34.3**	**-1.9**	
PRP				IAmb	IAmb	15 28 36.0		
	comp=Z,16nm,0.9s							
PRP				IAms_20	IAms_20	16 00 11.5		
	comp=Z,1μm,20.0s							
RIDG	**Independent Ri**	**76.18**	**26**	P	**P**	**15 28 35.8**	**-0.5**	
RIDG				IAmb	IAmb	15 28 38.5		
	comp=Z,504nm,1.8s							
GLB	**Gilahina Butte**	**76.36**	**29**	P	**P**	**15 28 37.5**	**+0.2**	
GLB				IAmb	IAmb	15 28 39.9		
	comp=Z,147nm,1.1s							
GLB				IAms_20	IAms_20	15 58 51.7		
	comp=Z,2μm,22.0s							
FYU	**Fort Yukon**	**76.44**	**24**	P	**P**	**15 28 38.3**	**+0.8**	
FYU				IAmb	IAmb	15 28 40.9		
	comp=Z,408nm,1.4s							
FYU				IAms_20	IAms_20	16 00 23.0		
	comp=Z,2μm,20.0s							
VRDI	**Verde Repeater**	**76.50**	**29**	P	**P**	**15 28 38.8**	**+0.5**	
VRDI				IAmb	IAmb	15 28 40.1		
	comp=Z,73nm,0.8s							
VRDI				IAms_20	IAms_20	15 58 05.9		
	comp=Z,2μm,22.0s							
DOT	**Dot Lake**	**76.51**	**27**	P	**P**	**15 28 37.7**	**-0.4**	
DOT				IAmb	IAmb	15 28 39.6		
	comp=Z,74nm,0.8s							
MENT	**Mentasta**	**76.58**	**27**	P	**P**	**15 28 38.8**	**+0.3**	
MENT				IAmb	IAmb	15 28 40.6		
	comp=Z,64nm,0.9s							
SCRK	**Sand Creek**	**76.59**	**26**	P	**P**	**15 28 38.6**	**-0.1**	
SCRK				IAmb	IAmb	15 28 40.1		
	comp=Z,50nm,1.0s							
CRQM	**Cirque**	**76.61**	**30**	P	**P**	**15 28 38.7**	**-0.2**	
CRQM				IAmb	IAmb	15 28 41.6		
	comp=Z,201nm,1.2s							
CRQM				IAms_20	IAms_20	16 00 57.2		
	comp=Z,2μm,20.0s							
PMOR	**Pomariorio Ree**	**76.63**	**108**	*e*P	**P**	**15 28 41.7**	**+

comp=Z,6μm,23.0s
ARU Arti 77.15 326 P **P 15 28 41.2 -0.6**
comp=Z,19nm,0.7s,baz=111,slow=1.9,SNR=78
ARU Arti 77.15 326 P **P 15 28 40.9 -0.9**
ARU IAmb IAmb 15 28 45.7
comp=Z,77nm,0.9s
ARU IAMs_20 IAMs_20 16 02 38.8
comp=Z,5μm,21.0s
AKTO Aktyubinsk 77.21 320 P **P 15 28 42.0 -0.3**
comp=Z,23nm,0.7s,baz=96,slow=7.7,SNR=75
TBI Tubuai 77.24 116 *e*S **S 15 38 33.4 +1.7**
comp=Z,8μm,31.0s
TBI *e*SS **SS 15 43 27.8 -2.4**
comp=Z,2μm,24.5s
TBI *e*LQ LQ 15 49 25.5
comp=Z,2μm,28.0s
TBI *e*LR LR 15 52 28.0
comp=Z,12μm,34.0s,baz=292
YAH Yahtse 77.26 30 IAMs_20 IAMs_20 15 57 37.7
comp=Z,3μm,22.0s
BCAR Beaver Creek A 77.47 27 P **P 15 28 43.1 -0.4**
CTGM Chitina Glacie 77.50 29 P **P 15 28 45.1 +1.2**
CTGM IAmb IAmb 15 28 47.2
comp=Z,363nm,1.5s
CTGM IAMs_20 IAMs_20 16 01 11.3
comp=Z,1μm,21.0s
CASY Casey 77.70 191 IAMs_20 IAMs_20 16 01 58.2
comp=Z,1μm,18.0s
BIDO Bidbid 77.80 292 P **P 15 28 47.7 +1.6**
SNR=8.6
EGAK Eagle 77.90 26 P **P 15 28 46.1 +0.3**
EGAK IAmb IAmb 15 28 47.4
comp=Z,170nm,1.9s
EGAK IAMs_20 IAMs_20 16 06 14.5
comp=Z,1μm,19.0s
SMDO Samad 77.91 292 P **P 15 28 49.0 +2.1**
SNR=6.1
JMDO Jabal Madar 77.91 291 P **P 15 28 46.3 -0.5**
SNR=5.1
PCA Pinnacle 77.98 30 P **P 15 28 47.1 +0.6**
PCA IAmb IAmb 15 28 48.8
comp=Z,110nm,1.1s
HOQ Hoqain 78.54 292 P **P 15 28 51.1 +0.8**
SNR=12
DAWY Dawson 78.61 26 P **P 15 28 50.5 +0.7**
DAWY IAmb IAmb 15 28 53.0
comp=Z,139nm,1.2s
DAWY IAMs_20 IAMs_20 16 04 02.4
comp=Z,2μm,20.0s
BSY Bisya 78.71 291 P **P 15 28 51.9 +0.7**
SNR=8.6
DHAK Deception Hill 78.98 31 IAMs_20 IAMs_20 16 02 37.4
comp=Z,298nm,20.0s
BANOM Banah 79.27 295 *i* P **P 15 28 54.8 +0.6**
SNR=17
BANOM Banah 79.27 295 P **P 15 28 55.7 +1.5**
SNR=9.4
ARQ Araqi 79.28 292 P **P 15 28 55.8 +1.5**
SNR=16
MDH Madha 79.32 294 *i* P **P 15 28 53.9 -0.5**
SNR=8.6
SHME Shamm 79.40 295 *i* P **P 15 28 55.6 +0.7**
SNR=7.1
UOSS Minazif 79.43 294 *i* P **P 15 28 54.4 -0.7**
SNR=7.0
UOSS Minazif 79.43 294 P **P 15 28 55.5 +0.4**
SNR=5.1
UOSS Minazif 79.43 294 P **P 15 28 53.8 -1.3**
UOSS IAmb IAmb 15 28 58.7
comp=Z,99nm,1.4s
UOSS Minazif 79.43 294 IAMs_20 IAMs_20 16 02 58.1
comp=Z,1μm,20.0s
MSFE Esma-Masafi 79.44 294 *i* P **P 15 28 55.1 0.0**
SNR=20
HATD Hatta, Dubai 79.51 294 *i* P **P 15 28 55.7 +0.2**
SNR=13
HATD Hatta, Dubai 79.51 294 P **P 15 28 57.2 +1.7**
SNR=9.3
ASHO Ashiyiah 79.59 294 *i* P **P 15 28 55.6 -0.4**
SNR=16
ASHO Ashiyiah 79.59 294 P **P 15 28 56.5 +0.5**
SNR=7.4
EPYK Eagle Plains 79.83 24 P **P 15 28 56.8 +0.4**
baz=269
EPYK Eagle Plains 79.83 24 P **P 15 28 56.3 -0.2**
EPYK IAmb IAmb 15 28 59.3
comp=Z,257nm,1.5s
EPYK IAMs_20 IAMs_20 16 02 57.5
comp=Z,2μm,19.0s
ALNE Al Ain 79.92 293 *i* P **P 15 28 57.0 -0.7**
SNR=16
ASUD Al Ashush, Dub 80.25 294 P **P 15 28 59.2 -0.4**
SKAG Skagway 80.46 31 P **P 15 28 60.0 +0.1**
SKAG IAmb IAmb 15 29 03.4
comp=Z,229nm,1.4s
SKAG IAMs_20 IAMs_20 16 10 52.6
comp=Z,1μm,21.0s
WHY Whitehorse 80.66 30 IAMs_20 IAMs_20 16 03 44.7
comp=Z,1μm,20.0s
JIS Juneau Island 80.98 32 P **P 15 29 02.4 -0.3**
JIS IAmb IAmb 15 29 06.1
comp=Z,173nm,1.4s
JIS IAMs_20 IAMs_20 16 10 14.6
comp=Z,1μm,20.0s
INK Inuvik 81.06 22 P **P 15 29 02.1 -0.8**
INK pmax pmax
comp=Z,87nm,1.1s
INK Inuvik 81.06 22 P **P 15 29 03.1 +0.2**
comp=Z,49nm,0.9s,baz=266,slow=5.4,SNR=115
INK PKKPbc **PKKPbc 15 47 39.9 -2.5**
comp=Z,3.8nm,1.0s,baz=66,slow=5.7,SNR=6.5
INK Inuvik 81.06 22 P **P 15 29 02.1 -0.8**
INK IAmb IAmb 15 29 04.8
comp=Z,87nm,1.1s
DMTO DMTO 81.32 287 P **P 15 29 06.0 +0.7**
CRAG Craig 81.82 35 P **P 15 29 06.5 -0.7**
CRAG IAmb IAmb 15 29 10.5
comp=Z,244nm,1.7s
CRAG IAMs_20 IAMs_20 16 09 49.8
comp=Z,1μm,20.0s
RBK Rabkut 82.05 286 P **P 15 29 10.0 +0.8**
SNR=9.0
KIRV Kirov 82.07 328 P **P 15 29 09.0 +0.6**
comp=Z,48nm,0.7s,baz=106,slow=4.2,SNR=37
WRAK Wrangell Islan 82.19 34 P **P 15 29 09.3 +0.1**
WRAK IAmb IAmb 15 29 12.3
comp=Z,474nm,1.8s
DIB Dawson Inlet, 82.36 37 P **P 15 29 09.7 -0.3**
DIB IAmb IAmb 15 29 12.5
comp=Z,272nm,1.7s
DIB IAMs_20 IAMs_20 15 59 14.3
comp=Z,2μm,21.0s
H02S1 DAWSON INLET T 82.36 37 T T 17 00 15.2
SNR=3.8
WHFO Wadi Hawf 82.41 287 P **P 15 29 10.7 -0.5**
TAOE Nuku Hiva Isla 82.84 100 *e*S **S 15 39 32.6 +1.3**
comp=Z,1μm,39.5s
TAOE *e*SS **SS 15 44 54.6 0.0**
comp=Z,2μm,25.3s
TAOE *e*LR LR 15 54 49.8
comp=Z,17μm,25.1s,baz=282
TAOE Nuku Hiva Isla 82.84 100 IAMs_20 IAMs_20 15 57 27.8
comp=Z,9μm,20.0s
SOCY Socotra 82.91 281 P **P 15 29 13.5 -0.4**
SNR=7.2
SOCY Socotra 82.91 281 P **P 15 29 12.5 -1.4**
SOCY IAmb IAmb 15 29 15.4
comp=Z,249nm,1.8s
SOCY IAMs_20 IAMs_20 16 08 46.1
comp=Z,1μm,22.0s
ABTO Aybut 82.92 286 P **P 15 29 14.4 +0.5**
SNR=7.4
DLBC Dease Lake 83.27 32 P **P 15 29 16.4 +1.6**
comp=Z,65nm,1.1s,baz=278,slow=5.0,SNR=39
DLBC Dease Lake 83.27 32 P **P 15 29 15.1 +0.3**
DLBC IAmb IAmb 15 29 18.2
comp=Z,231nm,1.5s
PRGR Permogore 83.68 331 *e*P **P 15 29 16.3 -0.4**
PRGR pmax pmax
comp=Z,146nm,0.9s
MSEY Mahe Island 83.91 264 P **P 15 29 19.3 +0.4**
MSEY Mahe Island 83.91 264 IAMs_20 IAMs_20 16 01 58.2
comp=Z,2μm,21.0s
C36M Paulatuk 84.38 21 P **P 15 29 19.9 -0.3**
baz=280
MAK Makhachkala 84.81 313 *e*P P 15 29 17.1 -5.8
MAK *e* 15 32 33.4
MAK *e*S **SKSac 15 39 37.1 -8.9**
MAK pmax pmax
comp=Z,233nm,1.4s
MAK MLR MLR
comp=Z,2μm,19.0s
AKT Akhty 84.83 311 *e*P **P 15 29 23.6 +0.4**
AKT *e* 15 29 26.9
AKT *e* 15 32 40.3
AKT pmax pmax
comp=Z,86nm,0.8s
BBB Bella Bella 85.11 38 P **P 15 29 25.2 +1.0**
comp=Z,28nm,0.9s,baz=250,slow=8.6,SNR=5.4
BBB Bella Bella 85.11 38 IAmb IAmb 15 29 26.3
comp=Z,54nm,1.0s
GNBR Gunib 85.28 312 *c i*P **P 15 29 26.3 +0.9**
GNBR pmax pmax
comp=Z,235nm,0.9s
GROC Groznyy 86.02 313 *e*P **P 15 29 28.4 -0.6**
GROC *e* 15 32 44.7
GROC *e*S **SKSac 15 39 52.0 -1.7**
GROC pmax pmax
comp=Z,96nm,1.1s
RER Riviere de l'E 86.54 248 P **P 15 29 31.7 -0.3**
RER IAmb IAmb 15 29 34.1
comp=Z,151nm,1.1s
TMCR Tamitsa 86.66 334 *e*P **P 15 29 31.3 -0.3**
TMCR *e*S **SKSac 15 39 57.4 +0.7**
TMCR pmax pmax
comp=Z,66nm,0.8s
KLMR Klimovskoe 86.72 331 *e*P **P 15 29 30.6 -1.4**
KLMR *e* 15 32 54.4
KLMR *e*S **SKSac 15 39 57.6 +0.4**
KLMR *e*SS **SS 15 45 58.3 +9.3**
KLMR pmax pmax
comp=Z,79nm,0.9s
KLMR MLR MLR
comp=Z,5μm,16.0s
KLMR Klimovskoe 86.72 331 *e*P **P 15 29 30.6 -1.4**
KLMR AMP 15 29 32.3
comp=Z,79nm,0.9s
KLMR *e*PP **PP 15 32 54.4 +0.3**
KLMR *e*S **SKSac 15 39 57.7 +0.5**
KLMR *e*S **SKSac 15 39 57.7 +0.5**
KLMR *e*SS **SS 15 45 58.3 +9.3**
KLMR *e*SS **SS 15 45 58.3 +9.3**
KLMR LQ LQ 15 59 49.2
KLMR LQ LQ 15 59 49.2
KLMR LR LR 16 06 47.2
KLMR AMP 16 09 27.0
comp=Z,5μm,16.0s
TBLG Delisi 87.02 312 P **P 15 29 33.1 -0.8**
TBLG Delisi 87.02 312 P **P 15 29 33.1 -0.8**
LVZ Lovozero 87.04 338 IAMs_20 IAMs_20 16 10 22.4
comp=Z,4μm,21.0s
GNI Garni 87.27 310 *i* P **P 15 29 35.5 +0.2**
SNR=7.6
GNI Garni 87.27 310 P **P 15 29 36.3 +0.9**
SNR=5.6
GNI Garni 87.27 310 *d i*P **P 15 29 35.5 +0.2**
GNI pmax pmax
comp=Z,71nm,1.7s
GNI Garni 87.27 310 P **P 15 29 36.8 +1.4**
comp=Z,20nm,1.2s,baz=71,slow=0.7,SNR=6.7
GNI Garni 87.27 310 P **P 15 29 35.0 -0.3**
GNI IAmb IAmb 15 30 00.3
comp=Z,205nm,1.6s
GNI Garni 87.27 310 IAMs_20 IAMs_20 16 10 06.0
comp=Z,1μm,21.0s
VRH Novokhopyorsk 87.44 321 *e*P **P 15 29 33.6 -2.1**
VRH *e*S **S 15 40 12.1 -3.1**
VRH pmax pmax
comp=Z,50nm,0.8s
VRH smax smax
comp=N,650nm,6.8s
VRH MLR MLR
comp=Z,1μm,19.0s
ZEI Tsey 87.46 313 *e*P **P 15 29 34.1 -2.2**
ZEI pmax pmax
comp=Z,26nm,0.9s
NCK Nalchik 87.56 313 ↓ *e*P **P 15 29 36.5 0.0**
NCK pmax pmax
comp=Z,24nm,0.8s
APA Apatity 87.59 338 ↑ *i*P **P 15 29 31.5 -4.6**
APA pmax pmax
comp=Z,17nm,1.2s
APA MLR MLR
comp=Z,4μm,22.0s
SPA0 Spitsbergen Ar 87.65 350 P **P 15 29 36.2 0.0**
SPA0 IAmb IAmb 15 29 38.3
comp=Z,182nm,1.2s
SPITS Spitsbergen Ar 87.65 350 P **P 15 29 36.7 +0.5**
comp=Z,73nm,1.0s,baz=67,slow=11,SNR=12
GOF Gofitskoye 87.68 315 ↑ *e*P **P 15 29 37.7 +0.7**
KBS Kingsbay 87.93 351 *de*P **P 15 29 38.5 +0.9**
KBS pmax pmax
comp=Z,380nm,1.3s
KBS Kingsbay 87.93 351 P **P 15 29 37.9 +0.3**
KBS IAmb IAmb 15 29 39.8
comp=Z,154nm,1.5s
SBA Scott Base 87.99 174 P **P 15 29 39.0 +1.3**
SBA pmax pmax
comp=Z,81nm,1.5s
SBA Scott Base 87.99 174 P **P 15 29 39.0 +1.3**
SBA IAmb IAmb 15 29 42.0
comp=Z,81nm,1.4s
SBA IAMs_20 IAMs_20 16 07 00.9
comp=Z,1μm,20.0s
AKH Akhalkalaki 87.99 311 P **P 15 29 38.5 -0.3**
AKH pmax pmax
comp=Z,88nm,1.5s
AKH MLR MLR
comp=Z,2μm,21.0s
AKH Akhalkalaki 87.99 311 P **P 15 29 38.5 -0.3**
AKH IAmb IAmb 15 29 42.9
comp=Z,88nm,1.5s
AKH IAMs_20 IAMs_20 16 12 46.0
comp=Z,2μm,21.0s
KBZ Khabaz 88.02 314 P **P 15 29 38.3 -0.3**
comp=Z,10nm,0.9s,baz=93,slow=2.2,SNR=12
KBZ LR LR 16 11 20.4
comp=Z,2μm,21.8s,baz=71,slow=37
KIV Kislovodsk 88.13 314 *i* P **P 15 29 38.6 -0.8**
SNR=5.2
KIV Kislovodsk 88.13 314 P **P 15 29 40.4 +1.1**
SNR=6.6
KIV Kislovodsk 88.13 314 *e*P **P 15 29 39.8 +0.5**
KIV *e* 15 40 07.7
KIV *e*SS SS 15 46 14.3 +3.5
KIV pmax pmax
comp=Z,42nm,1.0s
KIV pmax pmax
comp=Z,646nm,4.1s
KIV MLR MLR
comp=Z,5μm,20.0s
KIV Kislovodsk 88.13 314 P **P 15 29 39.0 -0.3**
KIV IAmb IAmb 15 30 24.1
comp=Z,19nm,1.0s
KIV IAMs_20 IAMs_20 16 11 08.3
comp=Z,2μm,19.0s
SHA1 Shidzhatmaz 88.19 314 ↑ *e*P **P 15 29 39.7 -0.1**
NLWA Neilton Lookou 88.64 42 P **P 15 29 43.0 +1.4**
NLWA IAmb IAmb 15 29 45.2
comp=Z,230nm,1.4s
PGC Sidney 88.66 41 P **P 15 29 43.0 +1.5**
PGC IAmb IAmb 15 29 44.6
comp=Z,101nm,1.2s
LPSR Galich'ya Gora 88.84 323 *e*P **P 15 29 40.5 -1.8**
LPSR *e*S **S 15 40 20.6 -7.9**
LPSR pmax pmax
comp=Z,50nm,0.8s
LPSR smax smax
comp=E,630nm,6.2s
LPSR MLR MLR
comp=Z,2μm,17.0s
MOS Moscow 88.85 326 *e*P **P 15 29 40.7 -1.6**
MOS *e* 15 33 11.1
MOS *e*SS SS 15 46 14.6 -5.7
MOS pmax pmax
comp=Z,97nm,0.9s
MOS MLR MLR
comp=Z,5μm,22.0s
VSR Storozhevoye 89.00 322 *e*P **P 15 29 41.1 -2.0**
VSR *e*S **S 15 40 23.5 -6.6**
VSR pmax pmax
comp=Z,90nm,1.7s
VSR smax smax
comp=E,380nm,7.0s
VSR MLR MLR
comp=Z,2μm,15.0s
DOMR Dombai 89.01 314 ↓ *e*P **P 15 29 43.9 +0.3**
DOMR pmax pmax
comp=Z,16nm,0.9s
KEV Kevo 89.03 341 IAMs_20 IAMs_20 16 13 21.7
comp=Z,3μm,19.0s
A04D Lummi Island 89.12 41 P **P 15 29 44.7 +1.0**
baz=282
D03D Eldon 89.12 42 P **P 15 29 44.9 +1.1**
baz=282
KEBM Edson Butte 89.21 47 P **P 15 29 44.5 +0.1**
KEBM IAmb IAmb 15 29 47.9
comp=Z,596nm,1.7s
RAYN Ar Rayn 89.30 294 *i* P **P 15 29 45.5 +0.3**
SNR=26
RAYN Ar Rayn 89.30 294 P **P 15 29 45.3 +0.1**
RAYN pmax pmax
comp=Z,115nm,1.7s
RAYN MLR MLR
comp=Z,1μm,22.0s
RAYN Ar Rayn 89.30 294 P **P 15 29 45.2 +0.1**
RAYN IAmb IAmb 15 29 48.0
comp=Z,115nm,1.6s
RAYN IAMs_20 IAMs_20 16 09 16.5
comp=Z,1μm,22.0s
D04E Lakebay 89.41 42 P **P 15 29 45.9 +0.8**
baz=282
J01E Myrtle Point 89.44 47 P **P 15 29 47.4 +2.0**
baz=282,SNR=6.0
F04D Rainier, OR 89.48 44 P **P 15 29 46.1 +0.6**
baz=282
G03D McMinnville, O 89.49 44 P **P 15 29 46.3 +0.8**
baz=282
OBN Obninsk 89.59 326 *c i*P **P 15 29 44.8 -1.0**
OBN *i* 15 29 47.8
OBN *e* 15 33 19.5
OBN *e*PPP PPP 15 35 14.2
OBN *i* S S 15 40 25.3 -10
OBN *i* PS **PS 15 41 49.7 +6.3**
OBN *i* SS **SS 15 46 31.4 +0.3**
OBN pmax pmax
comp=Z,143nm,1.7s
OBN Obninsk 89.59 326 P **P 15 29 44.8 -1.0**
comp=Z,8.6nm,0.5s,baz=84,slow=10,SNR=12
OBN Obninsk 89.59 326 P **P 15 29 44.5 -1.2**
OBN IAmb IAmb 15 29 46.4
comp=Z,132nm,1.3s
OBN IAMs_20 IAMs_20 16 08 20.8
comp=Z,4μm,22.0s
ARCES ARCESS Array B 89.60 341 P **P 15 29 44.8 -0.8**
ARCES ARCESS Array B 89.60 341 P **P 15 29 45.2 -0.4**
comp=Z,15nm,0.7s,baz=71,slow=4.8,SNR=18
ARCES LR LR 16 13 32.1
comp=Z,2μm,21.1s,baz=65,slow=38
ARCES ARCESS Array B 89.60 341 P **P 15 29 44.8 -0.8**
B05A Bryant 89.62 41 P **P 15 29 46.6 +0.5**
baz=283
E04D Cinebar 89.68 43 P **P 15 29 47.7 +1.2**
baz=283
K02D Willamette Mer 89.72 47 P **P 15 29 48.0 +1.2**
baz=282
I03D Drain, OR 89.75 46 P **P 15 29 48.8 +2.0**
baz=282,SNR=5.0
KRMB Red Mountain 89.78 48 P **P 15 29 48.2 +1.0**
KRMB IAmb IAmb 15 29 50.8
comp=Z,188nm,1.6s
KRMB IAMs_20 IAMs_20 16 00 49.6
comp=Z,2μm,22.0s
YKW3 Yellowknife Ar 89.83 26 P **P 15 29 46.0 -0.7**
YKW3 IAmb IAmb 15 29 49.5
comp=Z,44nm,1.0s
YKA Yellowknife Ar 89.85 26 P **P 15 29 46.6 -0.3**
YKA Yellowknife Ar 89.85 26 P **P 15 29 47.3 +0.4**
comp=Z,18nm,0.7s,baz=293,slow=5.0,SNR=35
YKA LR LR 16 11 12.1
comp=Z,89nm,19.1s,baz=286,slow=36
YKA Yellowknife Ar 89.85 26 P **P 15 29 46.6 -0.3**
L02E Cave Junction 89.88 47 P **P 15 29 49.5 +2.0**
baz=282,SNR=5.4
F04A Amboy 89.92 44 P **P 15 29 48.7 +1.2**
F04A IAmb IAmb 15 29 50.4
comp=Z,267nm,1.5s
D05A Enumclaw 89.93 42 P **P 15 29 48.8 +1.2**
D05A IAmb IAmb 15 29 52.1
comp=Z,57nm,1.0s
B06A Marblemount 89.96 41 P **P 15 29 47.7 +0.1**
B06A IAmb IAmb 15 29 50.4
comp=Z,71nm,1.4s
B06A IAMs_20 IAMs_20 16 02 26.6
comp=Z,1μm,20.0s
H04D Lebanon 90.00 45 P **P 15 29 49.2 +1.2**
baz=282
KHMM Horse Mountain 90.04 49 P **P 15 29 50.2 +1.7**
KHMM IAmb IAmb 15 29 51.6
comp=Z,96nm,1.0s
KHMM IAMs_20 IAMs_20 16 07 08.5
comp=Z,2μm,18.0s
LON Longmire 90.15 43 P **P 15 29 49.8 +1.1**
LON pmax pmax
comp=Z,29nm,1.2s
LON MLR MLR
comp=Z,2μm,19.0s
LON Longmire 90.15 43 P **P 15 29 49.8 +1.1**
LON IAmb IAmb 15 29 50.5
comp=Z,29nm,1.2s
LON IAMs_20 IAMs_20 16 13 43.8
comp=Z,2μm,19.0s
KMRM Mail Ridge 90.19 49 P **P 15 29 50.2 +1.1**
KMRM IAmb IAmb 15 29 52.7
comp=Z,438nm,2.0s
KMRM IAMs_20 IAMs_20 15 58 25.7
comp=Z,2μm,21.0s
HUMO Hull Mountain 90.25 47 P **P 15 29 50.1 +0.9**
HUMO IAmb IAmb 15 29 52.1
comp=Z,49nm,0.9s
HUMO IAMs_20 IAMs_20 16 01 41.9
comp=Z,2μm,22.0s
SOC Sochi 90.31 314 *d i*P **P 15 29 46.7 -2.7**
SOC *e*PPP PPP 15 35 17.3
SOC *e*S **SKSac 15 40 16.4 -3.1**
SOC pmax pmax
comp=Z,29nm,1.1s
SOC MLR MLR
comp=Z,3μm,20.0s
KCPM Cahto Peak 90.40 50 P **P 15 29 50.5 +0.4**
KCPM IAmb IAmb 15 29 53.5
comp=Z,112nm,0.9s
KCPM IAMs_20 IAMs_20 16 12 22.0
comp=Z,2μm,19.0s
RES Resolute Bay 90.51 12 P **P 15 29 49.3 -0.4**
RES pmax pmax
comp=Z,30nm,1.0s
RES Resolute Bay 90.51 12 P **P 15 29 49.5 -0.2**
comp=Z,19nm,0.8s,baz=306,slow=5.0,SNR=21
RES Resolute Bay 90.51 12 P **P 15 29 49.3 -0.4**
RES IAmb IAmb 15 29 50.5
comp=Z,30nm,0.9s
F05D White Salmon 90.58 43 P **P 15 29 52.5 +1.9**
baz=283
M02C Callahan 90.58 48 P **P 15 29 53.1 +2.2**
baz=282,SNR=12
YBH Yreka Blue Hor 90.62 48 P **P 15 29 52.5 +1.5**
comp=Z,26nm,0.9s,baz=277,slow=0.9,SNR=33
YBH Yreka Blue Hor 90.62 48 IAMs_20 IAMs_20 16 04 33.7
comp=Z,2μm,20.0s
J04D Umpqua Nationa 90.72 46 P **P 15 29 53.4 +1.8**
baz=283,SNR=5.6
N02D Trinity Center 90.78 48 P **P 15 29 54.0 +2.2**
baz=282,SNR=12
LTY Liberty 90.79 42 IAMs_20 IAMs_20 16 03 53.7
comp=Z,2μm,21.0s
L04D Klamath Falls 90.81 47 P **P 15 29 53.6 +1.6**
baz=283,SNR=10
G05D Wamic, OR 90.83 44 P **P 15 29 52.6 +0.8**
baz=284
O02D Mt. Diablo Mer 90.89 49 P **P 15 29 54.9 +2.5**
baz=282,SNR=18
HOPS Hopland Field 90.93 50 P **P 15 29 52.8 +0.4**
HOPS IAmb IAmb 15 29 55.6
comp=Z,86nm,1.1s
HOPS IAMs_20 IAMs_20 16 16 04.4
comp=Z,3μm,19.0s
WDC Whiskeytown Da 90.99 49 P **P 15 29 53.0 +0.3**

WDC pmax pmax
comp=Z,280nm,2.0s
WDC Whiskeytown Da 90.99 49 P P 15 29 53.0 +0.3
WDC lAmb lAmb 15 29 56.0
comp=Z,280nm,1.9s
WDC IAMs_20 IAMs_20 16 05 24.6
comp=Z,2μm,20.0s
I05D Terrebonne, OR 91.02 45 P P 15 29 54.5 +1.7
baz=283
K04D Chiloquin, OR 91.12 47 P P 15 29 55.1 +1.7
baz=283,SNR=5.3
GDXM Geysers 91.18 51 P P 15 29 54.5 +0.9
GDXM lAmb lAmb 15 29 57.4
comp=Z,81nm,1.3s
GDXM IAMs_20 IAMs_20 16 16 12.1
comp=Z,3μm,18.0s
M04C Macdoel 91.24 48 P P 15 29 55.7 +1.7
baz=283,SNR=15
MCCM Marconi Confer 91.25 51 IAMs_20 IAMs_20 16 13 07.1
comp=Z,2μm,19.0s
J05D Fort Rock, OR 91.34 46 P P 15 29 56.3 +1.8
baz=284,SNR=10.0
B08A Colville Reser 91.39 41 P P 15 29 54.5 +0.1
B08A lAmb lAmb 15 29 56.8
comp=Z,49nm,0.9s
B08A IAMs_20 IAMs_20 16 04 58.4
comp=Z,1μm,20.0s
PINE Pine Mountain 91.43 45 P P 15 29 54.9 0.0
PINE lAmb lAmb 15 29 57.5
comp=Z,71nm,0.9s
PINE IAMs_20 IAMs_20 16 04 22.8
comp=Z,2μm,21.0s
E07A Sunnyside 91.50 43 P P 15 29 55.3 +0.4
E07A lAmb lAmb 15 29 57.2
comp=Z,45nm,0.9s
O03E Paynes Creek 91.60 49 P P 15 29 57.0 +1.4
baz=283,SNR=16
F07A Phinny Hill Vi 91.62 43 P P 15 29 55.9 +0.4
F07A lAmb lAmb 15 29 57.8
comp=Z,36nm,0.9s
ANN Anapa 91.63 316 *e*P **P 15 29 54.5 -1.0**
ANN *e**PP **PcP 15 29 57.2 +0.8**
ANN *e*S **SKSac 15 40 27.2 +0.3**
ANN pmax pmax
comp=Z,75nm,1.2s
ANN MLR MLR
comp=Z,2μm,20.0s
ANN MLR MLR
comp=N,2μm,20.0s
ANN MLR MLR
comp=E,2μm,20.0s
HAWA Hanford 91.76 43 P P 15 29 56.4 +0.3
HAWA lAmb lAmb 15 29 58.3
comp=Z,34nm,0.8s
HAWA IAMs_20 IAMs_20 16 10 38.4
comp=Z,1μm,20.0s
DAMY Dhamar 91.80 285 IAMs_20 IAMs_20 16 06 35.5
comp=Z,2μm,22.0s
E08A Dider Farm, El 92.05 42 P P 15 29 57.5 +0.1
E08A lAmb lAmb 15 30 00.3
comp=Z,122nm,1.5s
E08A IAMs_20 IAMs_20 16 14 54.1
comp=Z,2μm,20.0s
C09A Chrisman Ranch 92.22 41 P P 15 29 58.0 -0.2
C09A lAmb lAmb 15 30 00.1
comp=Z,33nm,0.9s
C09A IAMs_20 IAMs_20 16 05 33.4
comp=Z,1μm,20.0s
MOD Modoc Plateau 92.33 47 P P 15 29 58.9 -0.2
MOD lAmb lAmb 15 30 02.0
comp=Z,90nm,1.4s
MOD IAMs_20 IAMs_20 16 06 30.0
comp=Z,1μm,20.0s
AFDM Forest Hills D 92.53 50 P P 15 29 59.7 -0.2
AFDM lAmb lAmb 15 30 02.9
comp=Z,59nm,1.2s
AFDM IAMs_20 IAMs_20 16 13 18.7
comp=Z,2μm,20.0s
SAO San Andreas Ge 92.67 52 P P 15 30 00.1 -0.4
SAO pmax pmax
comp=Z,34nm,1.4s
SAO San Andreas Ge 92.67 52 P P 15 30 00.1 -0.4
SAO lAmb lAmb 15 30 02.8
comp=Z,34nm,1.4s
SAO IAMs_20 IAMs_20 16 09 12.6
comp=Z,2μm,19.0s
FIA1 FINESS Array S 92.72 334 P P 15 29 59.0 -1.2
FIA1 lAmb lAmb 15 30 01.1
comp=Z,148nm,1.8s
FINES FINESS Array B 92.72 334 P P 15 29 58.8 -1.4
FINES FINESS Array B 92.72 334 P P 15 29 59.3 -0.9
comp=Z,9.5nm,0.8s,baz=110,slow=2.3,SNR=16
FINES LR LR 16 13 36.8
comp=Z,3μm,21.0s,baz=67,slow=37
FINES FINESS Array B 92.72 334 P P 15 29 58.8 -1.4
MAW Mawson 92.73 202 P P 15 30 00.4 +0.4
baz=93,SNR=30
MAW Mawson 92.73 202 P P 15 30 00.3 +0.3
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW MLR MLR
comp=Z,300nm,18.0s
MAW Mawson 92.73 202 P P 15 30 00.4 +0.4
comp=Z,20nm,1.0s,baz=70,slow=5.2,SNR=39
MAW PP **PP 15 33 38.8 -3.3**
comp=Z,8.4nm,1.2s,baz=41,slow=11,SNR=3.8
MAW PKKP **PKKPdf 15 47 10.7 -1.9**
comp=Z,2.8nm,0.9s,baz=287,slow=4.9,SNR=7.0
MAW LR LR 16 10 00.5
comp=Z,502nm,20.0s,baz=60,slow=34
MAW Mawson 92.73 202 P P 15 30 00.2 +0.3
MAW lAmb lAmb 15 30 02.6
comp=Z,7.8nm,1.1s
MAW IAMs_20 IAMs_20 16 12 33.8
comp=Z,293nm,18.0s
BEKR Beckworth 92.78 49 P P 15 29 59.8 -1.5
BEKR lAmb lAmb 15 30 03.8
comp=Z,286nm,1.9s
BEKR IAMs_20 IAMs_20 16 12 36.0
comp=Z,2μm,19.0s
NEW Newport 92.83 40 P P 15 30 02.3 +1.2
baz=287
NEW Newport 92.83 40 P P 15 30 01.8 +0.7
NEW pmax pmax
comp=Z,47nm,1.0s
NEW Newport 92.83 40 P P 15 30 01.9 +0.7
comp=Z,32nm,0.9s,baz=267,slow=3.9,SNR=28
NEW Newport 92.83 40 P P 15 30 01.8 +0.7
NEW lAmb lAmb 15 30 03.5
comp=Z,46nm,1.0s
NEW Newport 92.83 40 IAMs_20 IAMs_20 16 05 40.6
comp=Z,2μm,22.0s
RUBR Rubicon Trail 93.13 50 IAMs_20 IAMs_20 16 13 38.3
comp=Z,2μm,20.0s
CMB Columbia Colle 93.19 51 P P 15 30 03.2 +0.2
CMB pmax pmax
comp=Z,60nm,1.3s
CMB MLR MLR
comp=Z,2μm,19.0s
CMB Columbia Colle 93.19 51 P P 15 30 03.2 +0.2
CMB lAmb lAmb 15 30 05.9
comp=Z,60nm,1.2s
CMB IAMs_20 IAMs_20 16 14 18.5
comp=Z,2μm,19.0s
PMPB Monarch Peak 93.30 53 P P 15 30 04.3 +0.8
PMPB lAmb lAmb 15 30 06.1
comp=Z,36nm,1.1s
PMPB IAMs_20 IAMs_20 16 13 44.4
comp=Z,2μm,20.0s
WVOR Wild Horse Val 93.40 46 P P 15 30 04.2 +0.3
WVOR pmax pmax
comp=Z,44nm,1.0s
WVOR MLR MLR
comp=Z,1μm,19.0s
WVOR Wild Horse Val 93.40 46 P P 15 30 04.2 +0.3
WVOR lAmb lAmb 15 30 06.7
comp=Z,44nm,1.0s
WVOR IAMs_20 IAMs_20 16 10 07.1
comp=Z,1μm,19.0s
F10A Beach Ranch, E 93.41 43 P P 15 30 04.5 +0.6
F10A lAmb lAmb 15 30 05.7
comp=Z,27nm,1.1s
F10A IAMs_20 IAMs_20 16 15 34.2
comp=Z,2μm,21.0s
VCNR Virginia City 93.45 50 P P 15 30 04.3 0.0
VCNR lAmb lAmb 15 30 06.8
comp=Z,34nm,1.0s
VCNR IAMs_20 IAMs_20 16 14 02.8
comp=Z,2μm,20.0s
DAG Danmarks Havn 93.50 355 *i* P **P 15 30 02.7 -0.8**
DAG pmax pmax
comp=Z,33nm,0.9s
DAG Danmarks Havn 93.50 355 *i* P **P 15 30 02.7 -0.8**
comp=Z,39nm,0.9s
PNTR Pine Nut 93.54 50 P P 15 30 05.5 +0.7
PNTR lAmb lAmb 15 30 07.9
comp=Z,299nm,1.8s
PNTR IAMs_20 IAMs_20 16 13 53.0
comp=Z,2μm,20.0s
PAHR Pah Rah Range 93.55 49 P P 15 30 04.5 -0.2
PAHR lAmb lAmb 15 30 07.5
comp=Z,35nm,1.0s
PAHR IAMs_20 IAMs_20 16 13 09.3
comp=Z,1μm,19.0s
VSU Vasula 93.62 331 *de*P **P 15 30 03.8 -0.6**
VSU pmax pmax
comp=Z,359nm,1.9s
BMO Blue Mountains 93.67 44 P P 15 30 05.5 +0.4
BMO Blue Mountains 93.67 44 P P 15 30 05.5 +0.4
BMO IAMs_20 IAMs_20 16 05 57.2
comp=Z,2μm,21.0s
ATD Arta Tunnel 93.79 282 IAMs_20 IAMs_20 16 00 18.4
comp=Z,660nm,20.0s
WAKR Walker 93.81 50 P P 15 30 06.7 +0.7
WAKR lAmb lAmb 15 30 09.5
comp=Z,143nm,1.8s
WAKR IAMs_20 IAMs_20 16 14 52.3
comp=Z,2μm,20.0s
YERR Yerington 93.83 50 P P 15 30 06.2 +0.1
YERR lAmb lAmb 15 30 09.1
comp=Z,163nm,1.8s
YERR IAMs_20 IAMs_20 16 14 02.0
comp=Z,2μm,20.0s
PAGB Antelope Grade 93.84 53 IAMs_20 IAMs_20 16 06 40.0
comp=Z,2μm,20.0s
SIM Simferopol' 93.87 316 *de*P **P 15 30 05.5 -0.4**
SIM *e* 15 34 00.0
SIM *e*PPP PPP 15 36 02.0
SIM *e*S **S 15 41 12.2 -2.3**
SIM *e*PS PS 15 42 29.0 -2.3
SIM pmax pmax
comp=Z,37nm,0.9s
SIM pmax pmax
comp=Z,240nm,11.1s
SIM MLR MLR
comp=Z,580nm,18.2s
ABPO Ambohimpanom 94.09 251 IAMs_20 IAMs_20 16 07 18.3
comp=Z,1μm,21.0s
SMMC Simmler 94.14 53 P P 15 30 09.3 +1.9
baz=284
MDPB Devils Postpil 94.30 51 P P 15 30 08.2 -0.2
MDPB lAmb lAmb 15 30 11.2
comp=Z,32nm,1.0s
MDPB IAMs_20 IAMs_20 16 15 56.7
comp=Z,1μm,20.0s
OMMB Old Mammoth Mi 94.36 51 P P 15 30 08.6 -0.1
OMMB lAmb lAmb 15 30 11.7
comp=Z,33nm,1.1s
OMMB IAMs_20 IAMs_20 16 13 16.4
comp=Z,1μm,20.0s
VOG Valley Oaks Go 94.39 52 P P 15 30 09.1 +0.7
baz=284
PKM Mcpherson Peak 94.39 54 P P 15 30 10.5 +1.8
baz=284
RYN Ryan 94.47 50 P P 15 30 07.7 -1.3
RYN lAmb lAmb 15 30 11.4
comp=Z,30nm,0.9s
RYN IAMs_20 IAMs_20 16 15 16.8
comp=Z,2μm,20.0s
MLAC Mammoth, Mammo 94.48 51 P P 15 30 11.3 +2.2
baz=285,SNR=5.3
PLID Pearl Lake 94.50 43 P P 15 30 08.3 -0.7
PLID lAmb lAmb 15 30 10.8
comp=Z,22nm,1.0s
MICGM Minsk 94.55 327 *e*P **P 15 30 09.0 +0.2**
MICGM *e*LQ LQ 16 02 18.0
MICGM *e*LR LR 16 06 50.0
MICGM LRM MLR 16 12 20.0
comp=E,3.4nm,24.0s
MICGM LRM MLR 16 12 28.0
comp=Z,6.8nm,24.0s
MNK Minsk 94.55 327 *e*P **P 15 30 09.0 +0.2**
MNK MLR MLR
comp=Z,7μm,24.0s
SBC Santa Barbara 94.58 54 P P 15 30 10.1 +0.8
baz=284
WALA Waterton Lakes 94.62 39 P P 15 30 09.5 +0.1
WALA lAmb lAmb 15 30 12.7
comp=Z,192nm,1.9s
KVN Kaiserville 94.68 49 P P 15 30 10.1 +0.1
KVN pmax pmax
comp=Z,27nm,0.9s
KVN MLR MLR
comp=Z,1μm,20.0s
KVN Kaiserville 94.68 49 P P 15 30 10.1 +0.1
KVN lAmb lAmb 15 30 12.2
comp=Z,27nm,0.9s
KVN IAMs_20 IAMs_20 16 14 49.2
comp=Z,1μm,20.0s
NVAR Mina Array Bea 94.69 50 P P 15 30 11.1 +1.0
comp=Z,31nm,0.8s,baz=264,slow=5.8,SNR=180
NVAR Mina Array Bea 94.69 50 P P 15 30 10.2 +0.2
VES Vestal, Richgr 94.74 53 P P 15 30 10.5 +0.4
baz=284
NV11 Mina Array Sit 94.80 50 P P 15 30 10.7 +0.3
NV11 lAmb lAmb 15 30 12.8
comp=Z,27nm,0.9s
NV11 IAMs_20 IAMs_20 16 15 34.5
comp=Z,2μm,19.0s
JTMT Jette 94.81 40 P P 15 30 10.5 +0.2
JTMT lAmb lAmb 15 30 12.7
comp=Z,64nm,1.7s
BMN Battle Mountai 94.96 48 P P 15 30 11.3 +0.1
BMN pmax pmax
comp=Z,30nm,1.2s
BMN Battle Mountai 94.96 48 P P 15 30 11.3 +0.1
BMN lAmb lAmb 15 30 14.0
comp=Z,30nm,1.2s
BMN IAMs_20 IAMs_20 16 03 42.8
comp=Z,2μm,22.0s
NACGM Naroch 94.99 327 *e*P **P 15 30 10.0 -0.8**
NACGM *e*PP **PP 15 34 04.0 +4.3**
NACGM *e*PS **PS 15 42 42.0 -1.1**
NACGM *e*SS SS 15 47 50.0 +1.5
NACGM *e*LQ LQ 16 01 40.0
NACGM *e*LR LR 16 08 14.0
NACGM LRM MLR 16 12 40.0
comp=Z,7.1nm,23.0s
SNCC San Nicolas Is 95.02 55 IAMs_20 IAMs_20 16 05 43.3
comp=Z,2μm,20.0s
TIN Tinemaha, Big 95.10 51 P P 15 30 12.8 +0.9
baz=285
MFID Camas Ranch 95.11 45 P P 15 30 11.7 -0.1
MFID lAmb lAmb 15 30 14.6
comp=Z,105nm,1.7s
MFID IAMs_20 IAMs_20 16 06 52.2
comp=Z,1μm,19.0s
ARVC Arvin 95.12 53 P P 15 30 12.5 +0.6
baz=285
AKASG Malin Array Be 95.17 323 P P 15 30 09.4 -2.3
AKASG 15 34 01.0
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 95.17 323 P P 15 30 09.6 -2.1
comp=Z,3.8nm,0.7s,baz=54,slow=4.5,SNR=20
AKASG PP **PP 15 34 01.0 -0.3**
comp=Z,0.3nm,0.3s,baz=55,slow=6.3,SNR=3.4
AKASG PKKPbc **PKKPdf 15 47 06.3 -0.5**
comp=Z,0.7nm,0.3s,baz=255,slow=4.0,SNR=5.2
AKASG LR LR 16 14 56.2
comp=Z,1μm,21.3s,baz=50,slow=37
AKASG Malin Array Be 95.17 323 P P 15 30 09.4 -2.3
AKASG lAmb lAmb 15 30 11.0
comp=Z,5.4nm,1.0s
AKBB Malin Array Si 95.17 323 P P 15 30 09.5 -2.2
AKBB pmax pmax
comp=Z,11nm,1.0s
AKBB MLR MLR
comp=Z,3μm,21.0s
AKBB Malin Array Si 95.17 323 P P 15 30 09.5 -2.2
AKBB lAmb lAmb 15 30 10.7
comp=Z,11nm,1.0s
AKBB IAMs_20 IAMs_20 16 12 51.7
comp=Z,3μm,21.0s
BLG Laguna Peak, P 95.18 54 P P 15 30 12.5 +0.4
baz=284
ILGA Ilgaz 95.25 313 IAMs_20 IAMs_20 16 16 06.9
comp=Z,1μm,21.0s
ISA Isabella, Lake 95.26 53 P P 15 30 13.5 +0.9
baz=285,SNR=5.8
ISA Isabella, Lake 95.26 53 P P 15 30 11.4 -1.2
ISA pmax pmax
comp=Z,18nm,1.3s
ISA Isabella, Lake 95.26 53 P P 15 30 11.4 -1.2
ISA lAmb lAmb 15 30 14.9
comp=Z,18nm,1.2s
ISA IAMs_20 IAMs_20 16 03 23.5
comp=Z,2μm,21.0s
MSO Missoula 95.33 41 P P 15 30 12.8 +0.1
baz=289
MSO Missoula 95.33 41 P P 15 30 12.1 -0.6
MSO lAmb lAmb 15 30 14.4
comp=Z,26nm,1.4s
MSO IAMs_20 IAMs_20 16 09 27.6
comp=Z,1μm,20.0s
OSI Osito Audit: C 95.33 54 P P 15 30 13.8 +0.9
baz=285
OSI Osito Audit: C 95.33 54 IAMs_20 IAMs_20 16 06 21.3
comp=Z,3μm,20.0s
CWC Cottonwood Cre 95.37 52 P P 15 30 13.8 +0.6
baz=285
BR131 Keskin Array S 95.68 312 P P 15 30 12.6 -1.9
BR131 pmax pmax
comp=Z,16nm,1.0s
BR131 Keskin Array S 95.68 312 P P 15 30 12.6 -1.9
BR131 lAmb lAmb 15 33 45.3
comp=Z,16nm,1.0s
BRTR Keskin Array B 95.68 312 P P 15 30 12.3 -2.2
BRTR Keskin Array B 95.68 312 P P 15 30 12.9 -1.6
comp=Z,5.0nm,0.8s,baz=97,slow=4.0,SNR=16
BRTR LR LR 16 18 49.5
comp=Z,643nm,19.4s,baz=45,slow=39
BRTR Keskin Array B 95.68 312 P P 15 30 12.3 -2.2
DECC Green Verdugo 95.73 54 P P 15 30 15.3 +0.6
baz=285
GRAC Grapevine Rang 95.78 51 P P 15 30 16.5 +1.6
baz=286,SNR=6.3
DAC Darwin (Calif) 95.79 52 IAMs_20 IAMs_20 16 15 38.4
comp=Z,2μm,20.0s
EDW2 Edwards Air Fo 95.84 53 P P 15 30 16.8 +1.6
baz=285,SNR=6.8
PASC Pasadena Art C 95.87 54 IAMs_20 IAMs_20 16 06 24.7
comp=Z,2μm,21.0s
CIS Catalina Islan 95.88 55 P P 15 30 15.6 +0.2
baz=285
MPMC Manual Prospec 95.93 52 P P 15 30 17.2 +1.4
baz=286,SNR=23
LRMC Laurel Mtn Rad 95.93 53 P P 15 30 17.2 +1.5
baz=285,SNR=15
MWC Mount Wilson 95.96 54 P P 15 30 14.8 -1.2
MWC pmax pmax
comp=Z,41nm,1.5s
MWC Mount Wilson 95.96 54 P P 15 30 14.8 -1.2
MWC lAmb lAmb 15 30 18.5
comp=Z,41nm,1.4s
MWC IAMs_20 IAMs_20 16 06 29.1
comp=Z,2μm,21.0s
BFSC Mount Baldy Ra 96.28 54 P P 15 30 17.9 +0.6
baz=285
FURC Furnace Creek, 96.31 52 P P 15 30 18.7 +1.6
baz=286,SNR=7.5
ELK Elko 96.31 47 P P 15 30 17.2 -0.3
ELK pmax pmax
comp=Z,14nm,0.9s
ELK MLR MLR
comp=Z,1μm,20.0s
ELK Elko 96.31 47 P P 15 30 17.2 -0.3
ELK lAmb lAmb 15 30 19.5
comp=Z,14nm,0.8s
ELK IAMs_20 IAMs_20 16 11 43.4
comp=Z,1μm,20.0s
LRM Limekiln Ridge 96.63 42 P P 15 30 18.5 -0.3
TPNV Topopah Spring 96.65 51 P P 15 30 19.9 +0.9
baz=286,SNR=24
TPNV Topopah Spring 96.65 51 P P 15 30 19.5 +0.5
TPNV pmax pmax
comp=Z,23nm,1.1s
TPNV Topopah Spring 96.65 51 P P 15 30 19.5 +0.5
TPNV lAmb lAmb 15 30 23.0
comp=Z,23nm,1.1s
GSC Goldstone, Bar 96.67 53 P P 15 30 20.5 +1.5
baz=286,SNR=11
GSC Goldstone, Bar 96.67 53 P P 15 30 19.8 +0.8
GSC pmax pmax
comp=Z,40nm,1.5s
GSC Goldstone, Bar 96.67 53 P P 15 30 19.8 +0.8
GSC lAmb lAmb 15 30 21.9
comp=Z,40nm,1.4s
GSC IAMs_20 IAMs_20 16 08 38.7
comp=Z,2μm,20.0s
DLMT Dillon 96.69 42 P P 15 30 19.5 +0.6
DLMT lAmb lAmb 15 30 21.4
comp=Z,28nm,1.1s
DLMT IAMs_20 IAMs_20 16 17 56.0
comp=Z,1μm,20.0s
MCMT McKenzie Canyo 96.70 43 P P 15 30 19.7 +0.5
KIS Kishinev 96.72 320 *e*P **P 15 30 16.0 -2.8**
KIS Kishinev 96.72 320 *e*PP **PP 15 34 12.0 -1.4**
KIS Kishinev 96.72 320 *e*PS PS 15 43 12.0 +10
KIS Kishinev 96.72 320 *e*P **P 15 30 16.0 -2.8**
KIS *e* 15 34 12.0
KIS *e*S **S 15 41 32.0 -7.2**
KIS *e*SS SS 15 48 29.0 +15
KIS MLR MLR
comp=Z,2μm,22.0s
R11A Troy Canyon, C 96.76 50 P P 15 30 19.8 +0.3
baz=287
R11A Troy Canyon, C 96.76 50 P P 15 30 20.1 +0.6
R11A lAmb lAmb 15 30 21.6
comp=Z,17nm,1.3s
R11A IAMs_20 IAMs_20 16 17 55.4
comp=Z,1μm,20.0s
MURC Murrieta 96.81 55 P P 15 30 19.9 +0.3
baz=285
BBRC Big Bear Solar 96.86 54 P P 15 30 20.3 +0.3
baz=286
SHOC Shoshone, Teco 96.92 52 P P 15 30 20.9 +0.9
baz=286
109C Camp Elliot, M 97.07 55 P Pdif 15 30 21.5 +0.7
baz=285
109C Camp Elliot, M 97.07 55 IAMs_20 IAMs_20 16 09 45.7
comp=Z,2μm,20.0s
HRFI Mount Harif 97.14 302 P P 15 30 18.3 -2.9
HEC Hector,Ludlow 97.17 53 P Pdif 15 30 22.7 +1.3
baz=286,SNR=7.6
CSS Mathiatis 97.24 307 IAMs_20 IAMs_20 16 17 40.4
comp=Z,2μm,22.0s
BOZ Bozeman (W) 97.25 42 P Pdif 15 30 22.3 +0.7
baz=290
BOZ Bozeman (W) 97.25 42 P Pdif 15 30 21.9 +0.3
BOZ pmax pmax
comp=Z,15nm,1.1s
BOZ MLR MLR
comp=Z,900nm,20.0s
BOZ Bozeman (W) 97.25 42 P Pdif 15 30 21.9 +0.3
BOZ lAmb lAmb 15 30 24.1
comp=Z,15nm,1.1s
BOZ IAMs_20 IAMs_20 16 17 08.6
comp=Z,923nm,20.0s
SUW Suwalki 97.27 327 P P 15 30 19.5 -1.7
SUW pmax pmax
comp=Z,98nm,1.2s
SUW MLR MLR
comp=Z,3μm,19.0s
SUW Suwalki 97.27 327 *e*P **P 15 30 19.7 -1.5**
SUW *e*P **P 15 30 19.7 -1.5**
SUW Suwalki 97.27 327 P P 15 30 19.5 -1.7
SUW lAmb lAmb 15 30 21.6
comp=Z,98nm,1.2s
SUW IAMs_20 IAMs_20 16 15 25.8
comp=Z,3μm,19.0s
TUQ Turquoise Moun 97.33 52 P Pdif 15 30 23.4 +1.3
baz=286,SNR=6.3
PFO Pinyon Flats O 97.40 54 P Pdif 15 30 22.9 +0.4
baz=286
PFO Pinyon Flats O 97.40 54 *i* P Pdif 15 30 24.4 +1.9
PFO Pinyon Flats O 97.40 54 IAMs_20 IAMs_20 16 10 55.9
comp=Z,2μm,19.0s
BAR Barrett 97.48 55 IAMs_20 IAMs_20 16 06 58.5
comp=Z,2μm,20.0s

EGMT	**Eagleton**	**97.57**	**39**	P	Pdif	15 30 23.7	+0.9
	baz=292						
EGMT	**Eagleton**	**97.57**	**39**	P	**P**	**15 30 21.4**	**-1.4**
EGMT				IAmb	IAmb	15 30 25.0	
	comp=Z,41nm,1.4s						
EGMT				IAMs_20	IAMs_20	16 07 42.7	
	comp=Z,1µm,22.0s						
SHPR	**Sheep Range**	**97.62**	**51**	P	Pdif	15 30 23.4	0.0
SHPR				IAmb	IAmb	15 30 25.9	
	comp=Z,11nm,1.0s						
SHPR				IAMs_20	IAMs_20	16 17 10.7	
	comp=Z,2µm,20.0s						
MONP2	**Monument Peak**	**97.63**	**55**	P	Pdif	15 30 24.7	+1.1
	baz=286,SNR=5.8						
QLMT	**Earthquake Lak**	**97.65**	**42**	P	Pdif	15 30 23.8	+0.4
BELC	**Belle Mtn. Jos**	**97.67**	**54**	P	Pdif	15 30 24.7	+1.0
	baz=286,SNR=6.7						
GMRC	**Granite Mounta**	**97.72**	**53**	P	Pdif	15 30 25.1	+1.3
	baz=286,SNR=11						
HVU	**Hansel Valley**	**97.76**	**46**	P	Pdif	15 30 24.2	+0.3
HVU				pmax	pmax		
	comp=Z,35nm,1.5s						
HVU	**Hansel Valley**	**97.76**	**46**	P	Pdif	15 30 24.2	+0.2
HVU				IAmb	IAmb	15 30 28.3	
	comp=Z,35nm,1.5s						
YHL	**Hebgen Lake**	**97.81**	**42**	P	Pdif	15 30 24.7	+0.5
YHL				IAmb	IAmb	15 30 27.6	
	comp=Z,55nm,1.2s						
YHB	**Horse Butte**	**97.83**	**42**	P	Pdif	15 30 25.3	+1.0
YHB				IAmb	IAmb	15 30 27.7	
	comp=Z,121nm,1.9s						
BGU	**Big Grassy Mou**	**97.85**	**47**	P	Pdif	15 30 25.3	+0.9
BGU				IAmb	IAmb	15 30 26.1	
	comp=Z,5.7nm,0.9s						
TIRR	**Tirgusor**	**97.88**	**317**	IAMs_20	IAMs_20	16 15 53.0	
	comp=Z,6µm,22.0s						
IKP	**In-Ko-Pah, Jac**	**97.95**	**55**	P	Pdif	15 30 25.9	+1.0
	baz=286						
PSUT	**Pine Spring**	**98.00**	**49**	P	Pdif	15 30 25.9	+0.7
PSUT				IAmb	IAmb	15 30 27.6	
	comp=Z,25nm,1.0s						
YMR	**Madison River**	**98.02**	**42**	P	Pdif	15 30 25.9	+0.8
YMR				IAmb	IAmb	15 30 28.8	
	comp=Z,26nm,0.9s						
YHH	**Holmes Hill**	**98.05**	**42**	P	Pdif	15 30 25.9	+0.6
YHH				IAmb	IAmb	15 30 28.8	
	comp=Z,54nm,1.8s						
SWSC	**Sam W. Stewart**	**98.12**	**55**	P	Pdif	15 30 26.4	+0.9
	baz=286						
SPUT	**South Promonto**	**98.14**	**46**	P	Pdif	15 30 26.1	+0.5
SPUT				IAmb	IAmb	15 30 27.6	
	comp=Z,17nm,1.1s						
YNR	**Norris Junctio**	**98.19**	**42**	P	Pdif	15 30 26.9	+1.0
YNR				IAmb	IAmb	15 30 29.9	
	comp=Z,117nm,1.9s						
BC3	**Big Chuckawall**	**98.20**	**54**	P	Pdif	15 30 27.3	+1.3
	baz=286,SNR=6.2						
DUG	**Dugway, Tooele**	**98.25**	**47**	P	Pdif	15 30 26.6	+0.5
	baz=289						
DUG	**Dugway, Tooele**	**98.25**	**47**	P	Pdif	15 30 26.8	+0.7
DUG				pmax	pmax		
	comp=Z,16nm,0.9s						
DUG				MLR	MLR		
	comp=Z,1µm,20.0s						
DUG	**Dugway, Tooele**	**98.25**	**47**	P	Pdif	15 30 26.8	+0.6
DUG				IAmb	IAmb	15 30 28.0	
	comp=Z,16nm,0.9s						
DUG				IAMs_20	IAMs_20	16 12 51.5	
	comp=Z,1µm,20.0s						
FURI	**Furi**	**98.29**	**280**	IAMs_20	IAMs_20	16 10 37.8	
	comp=Z,2µm,21.0s						
IRM	**Iron Mountain**	**98.30**	**54**	P	Pdif	15 30 27.2	+0.9
	baz=287,SNR=8.9						
IMW	**Indian Meadow**	**98.31**	**43**	P	Pdif	15 30 27.2	+0.7
IMW				IAmb	IAmb	15 30 28.7	
	comp=Z,11nm,0.9s						
IMW				IAMs_20	IAMs_20	16 09 01.7	
	comp=Z,1µm,20.0s						
FXWY	**Fox Creek**	**98.34**	**43**	P	Pdif	15 30 26.9	+0.3
FXWY				IAmb	IAmb	15 30 28.6	
	comp=Z,6.8nm,1.0s						
FXWY				IAMs_20	IAMs_20	16 24 05.6	
	comp=Z,1µm,20.0s						
H17A	**Grant Village**	**98.37**	**43**	P	Pdif	15 30 27.5	+0.7
	baz=291						
FLWY	**Flagg Ranch**	**98.40**	**43**	P	Pdif	15 30 27.9	+1.1
FLWY				IAmb	IAmb	15 30 30.6	
	comp=Z,22nm,0.8s						
FLWY				IAMs_20	IAMs_20	16 09 36.2	
	comp=Z,1µm,19.0s						
TPAW	**Teton Pass**	**98.44**	**44**	P	**P**	**15 30 27.1**	**0.0**
TPAW				IAmb	IAmb	15 30 31.6	
	comp=Z,20nm,1.5s						
MOOW	**Moose Ponds**	**98.49**	**43**	P	Pdif	15 30 27.3	+0.1
MOOW				IAmb	IAmb	15 30 31.3	
	comp=Z,15nm,1.2s						
MOOW				IAMs_20	IAMs_20	16 09 07.6	
	comp=Z,1µm,20.0s						
NEE2	**Needles Airpor**	**98.54**	**53**	P	Pdif	15 30 28.1	+0.7
	baz=287						
REDW	**Red Top Meadow**	**98.56**	**44**	P	**P**	**15 30 27.1**	**-0.5**
REDW				IAmb	IAmb	15 30 36.5	
	comp=Z,14nm,1.2s						
REDW				IAMs_20	IAMs_20	16 18 21.3	
	comp=Z,1µm,19.0s						
SNOW	**Snow King Moun**	**98.59**	**44**	IAMs_20	IAMs_20	16 08 49.1	
	comp=Z,1µm,21.0s						
LVV	**L'vov**	**98.59**	**323**	*e*P	Pdif	15 30 27.6	+0.4
LVV				*e*		15 34 35.5	
LVV				*e*PPP	PPP	15 36 30.1	
LVV				*e*		15 41 03.9	
LVV				*e*S	**S**	**15 41 48.5**	**-6.5**
LVV				*e*PS	PS	15 43 22.4	-0.2
LVV				*e*SS	**SS**	**15 48 40.7**	**+1.1**
LVV				*e*SSS	SSS	15 52 26.8	
LVV				MLR	MLR		
	comp=E,1µm,22.0s						
LVV				MLR	MLR		
	comp=N,500nm,20.0s						
LVV				MLR	MLR		
	comp=Z,1µm,20.0s						
AHID	**Auburn Hatcher**	**98.59**	**44**	P	Pdif	15 30 27.9	+0.2
AHID				IAmb	IAmb	15 30 30.2	
	comp=Z,12nm,1.0s						
AHID				IAMs_20	IAMs_20	16 09 27.4	
	comp=Z,2µm,20.0s						
CCUT	**Cedar City**	**98.68**	**50**	P	**P**	**15 30 27.7**	**-0.5**
CCUT				IAmb	IAmb	15 30 30.6	
	comp=Z,11nm,1.0s						
SUMG	**Summit**	**98.72**	**359**	*i* P	Pdif	15 30 28.0	+0.2
SUMG	**Summit**	**98.72**	**359**	*i* P	Pdif	15 30 28.0	+0.2
QSPA	**South Pole Qui**	**98.72**	**180**	P	Pdif	15 30 28.4	+0.9
	comp=Z,17nm,1.1s,baz=306,slow=1.2,SNR=11						
QSPA				PP	**PP**	**15 34 27.6**	**-1.0**
	comp=Z,5.3nm,1.1s,baz=342,slow=3.2,SNR=3.5						
QSPA				PKKPbc	**PKKPbc**	**15 46 56.8**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=238,slow=2.6,SNR=6.0						
QSPA				LR	LR	16 16 34.4	
	comp=Z,2µm,18.2s,baz=0.5,slow=36						
QSPA	**South Pole Qui**	**98.72**	**180**	P	Pdif	15 30 27.6	+0.2
QSPA				IAmb	IAmb	15 30 30.3	
	comp=Z,31nm,1.2s						
QSPA	**South Pole Qui**	**98.72**	**180**	IAMs_20	IAMs_20	16 16 50.5	
	comp=Z,3µm,18.0s						
BUR08	**Bucovina Ar. S**	**98.77**	**321**	P	**P**	**15 30 27.2**	**-1.0**
BUR08				IAmb	IAmb	15 30 38.8	
	comp=Z,7.3nm,1.0s						
BURAR	**Bucovina Array**	**98.77**	**321**	P	**P**	**15 30 27.2**	**-1.0**
SZCU	**Shurtz Canyon**	**98.87**	**50**	P	**P**	**15 30 28.9**	**-0.1**
SZCU				IAmb	IAmb	15 30 31.2	
	comp=Z,9.7nm,1.0s						
GLA	**Glamis**	**98.87**	**55**	P	Pdif	15 30 29.5	+0.6
	baz=287						
Y12C	**Blythe**	**98.91**	**54**	P	Pdif	15 30 30.0	+1.0
	baz=287						
Y12C	**Blythe**	**98.91**	**54**	IAMs_20	IAMs_20	16 08 41.2	
	comp=Z,2µm,20.0s						
LCMT	**Little Creek M**	**98.93**	**50**	P	Pdif	15 30 29.5	+0.3
LCMT				IAmb	IAmb	15 30 31.6	
	comp=Z,13nm,1.1s						
TCUT	**Toone Canyon**	**98.95**	**46**	P	Pdif	15 30 29.6	+0.2
TCUT				IAmb	IAmb	15 30 30.9	
	comp=Z,10nm,0.9s						
RLMT	**Red Lodge**	**98.97**	**42**	IAMs_20	IAMs_20	16 19 22.2	
	comp=Z,1µm,20.0s						
W13A	**Hualapai Mount**	**99.02**	**52**	P	**Pdif**	**15 30 29.8**	**0.0**
W13A				IAmb	IAmb	15 30 32.9	
	comp=Z,14nm,1.1s						
W13A				IAMs_20	IAMs_20	16 09 33.9	
	comp=Z,1µm,19.0s						
TCRU	**Three Creeks R**	**99.03**	**49**	P	**Pdif**	**15 30 29.4**	**-0.4**
TCRU				IAmb	IAmb	15 30 31.9	
	comp=Z,14nm,1.0s						
FFC	**Flin Flon**	**99.05**	**31**	*i* P	**Pdif**	**15 30 30.2**	**+1.0**
FFC	**Flin Flon**	**99.05**	**31**	IAMs_20	IAMs_20	16 09 25.2	
	comp=Z,1µm,21.0s						
PDMCI	**Parker Dam,Lak**	**99.06**	**53**	P	**Pdif**	**15 30 30.7**	**+1.1**
	baz=287,SNR=5.6						
JLU	**Jordanelle**	**99.09**	**46**	P	**Pdif**	**15 30 29.1**	**-0.9**
JLU				IAmb	IAmb	15 30 32.5	
	comp=Z,91nm,2.0s						
NB2	**NORSAR Subarra**	**99.10**	**337**	P	**Pdif**	**15 30 27.7**	**-1.6**
	comp=Z,61nm,1.7s,baz=59,slow=4.6						
NB2	**NORSAR Subarra**	**99.10**	**337**	P	**Pdif**	**15 30 27.7**	**-1.6**
	baz=59,slow=4.6						
NOA	**NORSAR Array B**	**99.10**	**337**	P	**Pdif**	**15 30 27.9**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=56,slow=4.5,SNR=4.2						
NOA				LR	LR	16 18 35.2	
	comp=Z,981nm,21.5s,baz=65,slow=37						
MLR	**Muntele Rosu**	**99.13**	**319**	P	**Pdif**	**15 30 28.6**	**-1.3**
MLR				pmax	pmax		
	comp=Z,22nm,1.5s						
MLR	**Muntele Rosu**	**99.13**	**319**	P	**Pdif**	**15 30 29.6**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=72,slow=9.6,SNR=4.5						
MLR	**Muntele Rosu**	**99.13**	**319**	P	**Pdif**	**15 30 28.6**	**-1.3**
MLR				IAmb	IAmb	15 30 55.6	
	comp=Z,22nm,1.5s						
MLR				IAMs_20	IAMs_20	16 20 52.9	
	comp=Z,4µm,21.0s						
KNB	**Kanab**	**99.25**	**50**	P	**Pdif**	**15 30 30.4**	**-0.3**
KNB				pmax	pmax		
	comp=Z,39nm,1.2s						
KNB	**Kanab**	**99.25**	**50**	P	**Pdif**	**15 30 30.4**	**-0.3**
KNB				IAmb	IAmb	15 30 34.0	
	comp=Z,39nm,1.2s						
MSU	**Marysvale**	**99.26**	**49**	P	**Pdif**	**15 30 30.0**	**-0.8**
MSU	**Marysvale**	**99.26**	**49**	P	**Pdif**	**15 30 30.0**	**-0.8**
ELL	**Elmali**	**99.37**	**310**	IAMs_20	IAMs_20	16 21 22.4	
	comp=Z,4µm,21.0s						
KWP	**Kalwaria Pacla**	**99.44**	**324**	P	**Pdif**	**15 30 29.8**	**-1.3**
KWP				pmax	pmax		
	comp=Z,204nm,1.2s						
KWP				MLR	MLR		
	comp=Z,23µm,22.0s						
KWP	**Kalwaria Pacla**	**99.44**	**324**	*e*P	**Pdif**	**15 30 30.4**	**-0.6**
KWP				*e*P	**Pdif**	**15 30 30.4**	**-0.6**
KWP	**Kalwaria Pacla**	**99.44**	**324**	P	**Pdif**	**15 30 29.8**	**-1.3**
KWP				IAmb	IAmb	15 31 05.8	
	comp=Z,204nm,1.2s						
KWP				IAMs_20	IAMs_20	16 15 29.7	
	comp=Z,23µm,22.0s						
PKCU	**Pink Cliffs**	**99.50**	**50**	P	**Pdif**	**15 30 30.6**	**-1.4**
PKCU				IAmb	IAmb	15 30 35.8	
	comp=Z,55nm,1.5s						
BW06	**Boulder Array**	**99.65**	**44**	P	**Pdif**	**15 30 33.0**	**+0.6**
	baz=292						
BW06	**Boulder Array**	**99.65**	**44**	IAMs_20	IAMs_20	16 20 22.4	
	comp=Z,1µm,19.0s						
PDAR	**Pinedale Array**	**99.65**	**44**	P	**Pdif**	**15 30 32.5**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=302,slow=1.4,SNR=11						
PDAR				PP	**PP**	**15 34 35.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=310,slow=5.6,SNR=4.9						
PDAR				LR	LR	16 11 42.5	
	comp=Z,671nm,18.8s,baz=298,slow=33						
PDAR	**Pinedale Array**	**99.65**	**44**		**Pdif**	**15 30 31.7**	**-0.8**
SCO	**Scoresbysund**	**99.73**	**353**	*i* P	**Pdif**	**15 30 31.1**	**-0.7**
SCO	**Scoresbysund**	**99.73**	**353**	*i* P	**Pdif**	**15 30 31.1**	**-0.7**
MANT	**Manisa**	**99.82**	**312**	IAMs_20	IAMs_20	16 21 25.1	
	comp=Z,5µm,20.0s						
U15A	**North Rim**	**99.84**	**51**	IAMs_20	IAMs_20	16 18 13.5	
	comp=Z,2µm,20.0s						
KOLS	**Kolonicke sedl**	**100.00**	**323**	*e*P	**Pdif**	**15 30 33.7**	**+0.1**
KOLS	**Kolonicke sedl**	**100.00**	**323**	*e*PDIFF	**Pdif**	**15 30 33.7**	**+0.1**
Y14A	**Wickenburg**	**100.06**	**53**	IAMs_20	IAMs_20	16 09 29.1	
	comp=Z,2µm,20.0s						
UZH	**Uzhgorod**	**100.12**	**323**	*e*P	**Pdif**	**15 30 29.7**	**-4.4**
UZH				*e*S	**Sdif**	**15 41 58.0**	**-10**
UZH				MLR	MLR		
	comp=Z,500nm,20.0s						
LAO	**LASA Array**	**100.30**	**39**	P	**Pdif**	**15 30 35.9**	**+0.8**
	baz=295						
LAO	**LASA Array**	**100.30**	**39**	IAMs_20	IAMs_20	16 10 00.1	
	comp=Z,1µm,21.0s						
DGMT	**Dagmar**	**100.77**	**37**	P	**Pdif**	**15 30 37.8**	**+0.8**
	baz=297						
DGMT	**Dagmar**	**100.77**	**37**	IAMs_20	IAMs_20	16 10 02.2	
	comp=Z,2µm,22.0s						
ALN	**Alexandroupoli**	**100.79**	**315**	IAMs_20	IAMs_20	16 22 31.3	
	comp=Z,518nm,22.0s						
214A	**Organ Pipe Nat**	**100.82**	**55**	P	**Pdif**	**15 30 38.5**	**+0.9**
	baz=288						
WUAZ	**Wupatki**	**100.84**	**51**	P	**Pdif**	**15 30 38.9**	**+1.1**
	baz=289						
WUAZ	**Wupatki**	**100.84**	**51**	IAMs_20	IAMs_20	16 11 58.0	
	comp=Z,1µm,20.0s						
OJC	**Ojcow**	**100.86**	**325**	*e*P	**Pdif**	**15 30 36.6**	**-0.7**
OJC	**Ojcow**	**100.86**	**325**	*e*P	**Pdif**	**15 30 36.6**	**-0.7**
OJC				*e*P	**Pdif**	**15 30 36.6**	**-0.7**
NIE	**Niedzica**	**100.94**	**324**	*e*P	**Pdif**	**15 30 37.0**	**-0.8**
NIE	**Niedzica**	**100.94**	**324**	*e*P	**Pdif**	**15 30 37.0**	**-0.8**
NIE				*e*P	**Pdif**	**15 30 37.0**	**-0.8**
X16A	**Lo Mia Camp, P**	**101.14**	**52**	IAMs_20	IAMs_20	16 10 30.1	
	comp=Z,2µm,20.0s						
KMBO	**Kilima Mbogo**	**101.35**	**271**	P	**Pdif**	**15 30 40.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=101,slow=8.5,SNR=4.1						
KMBO	**Kilima Mbogo**	**101.35**	**271**	IAMs_20	IAMs_20	16 13 45.3	
	comp=Z,969nm,19.0s						
SYO	**Syowa Base**	**101.43**	**201⇑**	*e*PP	**PP**	**15 34 50.4**	**+1.4**
O20A	**White River Ci**	**101.55**	**46**	P	**Pdif**	**15 30 41.2**	**+0.4**
	baz=292						
O20A	**White River Ci**	**101.55**	**46**	IAMs_20	IAMs_20	16 15 14.8	
	comp=Z,1µm,20.0s						
LANS	**Liptovska Anna**	**101.55**	**324**	*e*P	**Pdif**	**15 30 40.1**	**-0.4**
LANS	**Liptovska Anna**	**101.55**	**324**	*e*PDIFF	**Pdif**	**15 30 40.1**	**-0.4**
PV21	**Cone Mtn., Par**	**101.60**	**48**	IAMs_20	IAMs_20	16 21 24.3	
	comp=Z,1µm,20.0s						
PV14	**Lion Creek, Pa**	**101.63**	**48**	IAMs_20	IAMs_20	16 11 39.5	
	comp=Z,1µm,20.0s						
RWWY	**Rawlins**	**101.68**	**44**	IAMs_20	IAMs_20	16 11 48.0	
	comp=Z,2µm,20.0s						
PV19	**Morning Glory**	**101.68**	**48**	IAMs_20	IAMs_20	16 08 16.9	
	comp=Z,1µm,22.0s						
PV17	**East Wray Mesa**	**101.71**	**48**	IAMs_20	IAMs_20	16 24 25.3	
	comp=Z,2µm,21.0s						
PV16	**Nyswonger Mesa**	**101.73**	**48**	IAMs_20	IAMs_20	16 08 29.8	
	comp=Z,1µm,20.0s						
PV22	**Blue Mesa, Par**	**101.75**	**48**	IAMs_20	IAMs_20	16 08 27.2	
	comp=Z,1µm,20.0s						
K22A	**Casper**	**101.76**	**43**	P	**Pdif**	**15 30 42.9**	**+1.2**
	baz=294						
K22A	**Casper**	**101.76**	**43**	IAMs_20	IAMs_20	16 20 36.1	
	comp=Z,1µm,20.0s						
PV11	**David Mesa, Pa**	**101.77**	**48**	IAMs_20	IAMs_20	16 07 51.8	
	comp=Z,2µm,20.0s						
PV13	**Radium Mtn., P**	**101.86**	**48**	IAMs_20	IAMs_20	16 08 20.2	
	comp=Z,2µm,22.0s						
KARP	**Karpathos**	**101.87**	**309**	IAMs_20	IAMs_20	16 21 11.5	
	comp=Z,750nm,21.0s						
PSZ	**Piszkesteto**	**101.88**	**323**	IAMs_20	IAMs_20	16 17 15.1	
	comp=Z,2µm,21.0s						
PV07	**Paradox Valley**	**101.88**	**48**	IAMs_20	IAMs_20	16 07 42.8	
	comp=Z,2µm,22.0s						
OKC	**Ostrava-Krasne**	**101.97**	**325**	AMS	AMS	16 15 50.0	
	comp=Z,2µm,20.4s						
RGN	**Rugen**	**102.00**	**331**	IAMs_20	IAMs_20	16 18 46.6	
	comp=Z,3µm,19.0s						
VTS	**Vitosha**	**102.06**	**317**	P	**Pdif**	**15 30 42.3**	**-0.8**
VTS				MLR	MLR		
	comp=Z,2µm,22.0s						
VTS	**Vitosha**	**102.06**	**317**		**Pdif**	**15 30 42.2**	**-0.8**
VTS				IAMs_20	IAMs_20	16 20 13.7	
	comp=Z,2µm,22.0s						
VYHS	**Vyhne**	**102.23**	**324**	*e*P	**Pdif**	**15 30 44.0**	**+0.5**
VYHS	**Vyhne**	**102.23**	**324**	*e*PDIFF	**Pdif**	**15 30 44.0**	**+0.5**
W18A	**Petrified Fore**	**102.24**	**51**	P	**Pdif**	**15 30 44.7**	**+0.7**
	baz=290						
X18A	**Snowflake**	**102.27**	**52**	IAMs_20	IAMs_20	16 12 16.9	
	comp=Z,2µm,20.0s						
TUC	**Tucson**	**102.34**	**54**	P	**Pdif**	**15 30 45.3**	**+0.8**
	baz=289						
TUC	**Tucson**	**102.34**	**54**	IAMs_20	IAMs_20	16 19 08.1	
	comp=Z,2µm,19.0s						
MORC	**Moravsky Berou**	**102.34**	**325**	IAMs_20	IAMs_20	16 16 25.1	
	comp=Z,3µm,22.0s						
MVCO	**Mesa Verde**	**102.44**	**49**	P	**Pdif**	**15 30 46.0**	**+1.1**
	baz=291						
MVCO	**Mesa Verde**	**102.44**	**49**	IAMs_20	IAMs_20	16 20 27.6	
	comp=Z,2µm,21.0s						
KSP	**Ksiaz**	**102.49**	**327**	*e*P	**Pdif**	**15 30 44.6**	**0.0**
KSP	**Ksiaz**	**102.49**	**327**	*e*P	**Pdif**	**15 30 44.6**	**0.0**
KSP				*e*P	**Pdif**	**15 30 44.6**	**0.0**
SRIG	**Santa Rosalia**	**102.67**	**59**	IAMs_20	IAMs_20	16 07 38.2	
	comp=Z,1µm,20.0s						
DPC	**Dobruska-Polom**	**102.73**	**326**	*e*PP	**PKiKP**	**15 35 02.4**	**-4.0**
DPC				AMS	AMS	16 16 50.0	
	comp=Z,3µm,22.0s						
CHVC	**Chvalec**	**102.75**	**327**	AMS	AMS	16 18 40.0	
	comp=Z,3µm,20.7s						
RSSD	**Black Hills**	**102.79**	**41**	P	**Pdif**	**15 30 47.5**	**+1.1**
	baz=296						
RSSD	**Black Hills**	**102.79**	**41**	IAMs_20	IAMs_20	16 20 26.2	
	comp=Z,992nm,19.0s						
UPC	**Upice**	**102.82**	**326**	*e*PP	**PKiKP**	**15 35 02.8**	**-3.7**
UPC				AMS	AMS	16 18 50.0	
	comp=Z,3µm,19.9s						
N23A	**Red Feather La**	**102.87**	**45**	P	**Pdif**	**15 30 47.4**	**+0.6**
	baz=294						
N23A	**Red Feather La**	**102.87**	**45**	IAMs_20	IAMs_20	16 12 27.5	
	comp=Z,1µm,19.0s						
SANT	**Santorini**	**102.87**	**310**	IAMs_20	IAMs_20	16 21 39.9	
	comp=Z,873nm,22.0s						
PHWY	**Pilot Hill**	**103.04**	**44**	IAMs_20	IAMs_20	16 22 31.0	
	comp=Z,1µm,18.0s						
VRAC	**Vranov**	**103.11**	**325**	Pdiff	**Pdif**	**15 30 47.3**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=27,slow=6.9,SNR=4.7						
MODS	**Modra-Piesok**	**103.19**	**324**	*e*P	**Pdif**	**15 30 48.9**	**+1.1**
MODS	**Modra-Piesok**	**103.19**	**324**	*e*PDIFF	**Pdif**	**15 30 48.8**	**+1.0**
HSIG		**103.24**	**57**	IAMs_20	IAMs_20	16 19 19.4	
	comp=Z,2µm,20.0s						
ISCO	**Idaho Springs**	**103.54**	**46**	P	**Pdif**	**15 30 50.5**	**+0.6**
	baz=294						
ISCO	**Idaho Springs**	**103.54**	**46**	IAMs_20	IAMs_20	16 23 01.4	
	comp=Z,2µm,20.0s						
PVCC	**Panska Ves**	**103.59**	**327**	AMS	AMS	16 19 20.0	
	comp=Z,3µm,17.3s						
LIT	**Litokhoron**	**103.60**	**315**	IAMs_20	IAMs_20	16 19 49.6	
	comp=Z,790nm,21.0s						
BRG	**Berggiesshubel**	**103.74**	**328**	*e*PDIFF	**Pdif**	**15 30 49.9**	**-0.2**
	comp=Z,11nm,1.2s						
BRG				*e*		15 35 04.0	
BRG				SKS		15 41 24.0	
BRG				SDIFF	**Sdif**	**15 42 39.0**	**+1.0**
BRG				SS	**SS**	**15 49 57.0**	**+6.2**
	comp=N,2µm,20.2s						
	comp=E,3µm,21.7s						
	comp=Z,5µm,24.2s						
BRG	**Berggiesshubel**	**103.74**	**328**	*e*P	**Pdif**	**15 30 49.9**	**-0.2**
BRG				*e*		15 35 04.0	
BRG						15 41 24.0	
BRG				S	**Sdif**	**15 42 39.0**	**+1.0**
BRG				SS	**SS**	**15 49 57.0**	**+6.2**
BRG				pmax	pmax		
	comp=Z,11nm,1.2s						
BRG				MLR	MLR		
	comp=N,2µm,20.2s						
BRG				MLR	MLR		
	comp=E,3µm,21.7s						
BRG				MLR	MLR		
	comp=Z,5µm,24.2s						
TREC	**Trest**	**103.74**	**326**	AMS	AMS	16 18 10.0	
	comp=Z,3µm,19.8s						
MDND	**Maddock**	**103.77**	**36**	IAMs_20	IAMs_20	16 12 31.5	
	comp=Z,2µm,21.0s						
GOPC	**GO Pecny, Ondr**	**103.80**	**326**	*e*PP	**PKiKP**	**15 35 03.6**	**-4.7**
GOPC				*e*SP	SP	15 44 14.8	+0.3
GOPC				AMS	AMS	16 19 40.0	
	comp=Z,3µm,23.4s						
319A	**Douglas**	**103.86**	**55**	IAMs_20	IAMs_20	16 13 42.3	
	comp=Z,2µm,19.0s						
PRU	**Pruhonice**	**103.89**	**327**	*e*PP	**PKiKP**	**15 35 09.2**	**+0.8**
PRU				AMS	AMS	16 19 30.0	
	comp=Z,3µm,18.7s						
PRA	**Prague**	**103.91**	**327**	AMS	AMS	16 19 30.0	
	comp=Z,3µm,20.6s						
CLL	**Collm**	**103.99**	**328⇓**	*i*P	**Pdif**	**15 30 50.9**	**-0.3**
CLL				*e*		15 35 09.0	
CLL				*e*		15 41 33.0	
CLL				*e*S	**Sdif**	**15 42 44.0**	**+3.9**
CLL	**Collm**	**103.99**	**328⇓**	*i*Pdif	**Pdif**	**15 30 50.9**	**-0.3**
CLL				*e*(sPdif)		15 30 58.0	
CLL				*e*PP	**PKiKP**	**15 35 09.0**	**+0.4**
CLL				*e*SKSac	**SKSac**	**15 41 33.0**	**+3.2**
CLL				*e*Sdif	**Sdif**	**15 42 44.0**	**+3.9**
CLL				*e*PS	**PS**	**15 44 20.0**	**+0.1**
CLL				*e*PPS	PPS	15 45 12.0	
CLL				*e*SS	**SS**	**15 50 01.0**	**+6.8**
CLL				*e*SSS	SSS	15 53 53.0	
CLL				*e*SSSS		15 57 48.0	
CLL				*e*		15 59 42.0	
FNA	**Florina**	**104.09**	**316**	IAMs_20	IAMs_20	16 21 50.3	
	comp=Z,1µm,20.0s					

comp=Z,2µm,20.0s
TEOL Teolo 108.05 324 IAMs_20 IAMs_20 16 21 19.3
comp=Z,1µm,20.0s
CBKS Cedar Bluff 108.07 44 IAMs_20 IAMs_20 16 15 55.2
comp=Z,1µm,20.0s
BFO Black Forest 108.19 328 IAMs_20 IAMs_20 16 20 42.5
comp=Z,3µm,20.0s
EYMN Ely 108.26 33 IAMs_20 IAMs_20 16 26 29.9
comp=Z,1µm,19.0s
HPIG 108.34 58 IAMs_20 IAMs_20 16 11 20.4
comp=Z,2µm,21.0s
AMTX Amarillo 108.43 49 IAMs_20 IAMs_20 16 18 57.2
comp=Z,2µm,20.0s
WLF Walferdange 108.47 330 IAMs_20 IAMs_20 16 23 59.8
comp=Z,4µm,19.0s
ESK Eskdalemuir 108.56 338 IAMs_20 IAMs_20 16 21 05.2
comp=Z,2µm,22.0s
UCC Uccle 108.61 331 IAMs_20 IAMs_20 16 24 50.2
comp=Z,2µm,19.0s
AQU L'Aquila 108.62 320 IAMs_20 IAMs_20 16 24 03.7
comp=Z,2µm,21.0s
TUE Stuetta 108.74 326 IAMs_20 IAMs_20 16 21 43.5
comp=Z,4µm,22.0s
ECH Echery 108.87 328 IAMs_20 IAMs_20 16 21 12.6
comp=Z,3µm,21.0s
ZCCA Zocca 109.02 323 IAMs_20 IAMs_20 16 27 01.2
comp=Z,3µm,20.0s
E38A The Farm, Brul 109.03 34 IAMs_20 IAMs_20 16 15 01.5
comp=Z,2µm,20.0s
TXAR Lajitas Array 109.12 55 Pdiff **Pdif** 15 31 16.7 +2.1
comp=Z,0.2nm,0.5s,baz=330,slow=3.1,SNR=2.7
TXAR PKiKP **PKiKP** 15 35 19.2 +0.4
comp=Z,0.5nm,0.7s,baz=243,slow=0.8,SNR=3.9
TXAR PP **PP** 15 35 45.0 -1.9
comp=Z,0.6nm,0.9s,baz=267,slow=4.5,SNR=3.5
TXAR PKKPbc **PKKPbc** 15 46 26.4 +0.3
comp=Z,0.2nm,0.5s,baz=93,slow=3.1,SNR=3.9
TXAR PKKPab **PKKPab** 15 46 38.2 -0.7
comp=Z,0.5nm,0.6s,baz=126,slow=6.4,SNR=5.8
SPMN Marine on St. 109.14 36 IAMs_20 IAMs_20 16 14 51.4
comp=Z,2µm,22.0s
PRMA PARMA 109.18 324 IAMs_20 IAMs_20 16 26 56.3
comp=Z,2µm,20.0s
VLC Villacollemand 109.48 323 IAMs_20 IAMs_20 16 27 07.3
comp=Z,2µm,20.0s
U32A Winter Ranch, 109.72 46 IAMs_20 IAMs_20 16 15 48.1
comp=Z,2µm,21.0s
MSSA Maissana 109.90 324 IAMs_20 IAMs_20 16 26 05.4
comp=Z,3µm,21.0s
SENIN Lac Senin/Sane 109.94 326 IAMs_20 IAMs_20 16 25 57.1
comp=Z,2µm,20.0s
KSU1 Kansas State U 110.06 43 IAMs_20 IAMs_20 16 16 17.8
comp=Z,1µm,21.0s
D41A Chassel 110.37 32 P **PKiKP** 15 35 21.9 +1.3
baz=310
G40A Rib Lake 110.59 35 IAMs_20 IAMs_20 16 16 10.8
comp=Z,2µm,22.0s
WMOK Wichita Mounta 110.63 48 IAMs_20 IAMs_20 16 13 43.5
comp=Z,1µm,22.0s
COWI Conover 110.67 33 IAMs_20 IAMs_20 16 15 40.7
comp=Z,2µm,22.0s
SCIA State Center 110.77 39 IAMs_20 IAMs_20 16 16 47.8
comp=Z,1µm,20.0s
ABTX Abilene, Hawle 110.93 50 IAMs_20 IAMs_20 16 19 21.7
comp=Z,2µm,20.0s
BNI Bardonecchia 111.09 326 IAMs_20 IAMs_20 16 27 46.6
comp=Z,2µm,20.0s
X34A Smith Ranch, M 111.39 48 IAMs_20 IAMs_20 16 25 59.5
comp=Z,1µm,19.0s
F42A Maple Grove Fa 111.43 33 IAMs_20 IAMs_20 16 16 02.7
comp=Z,2µm,22.0s
CLF Chambon-Foret 111.49 330 IAMs_20 IAMs_20 16 24 36.5
comp=Z,4µm,19.0s
E43A Lone Tree Farm 111.64 32 IAMs_20 IAMs_20 16 16 55.2
comp=Z,1µm,22.0s
JCT Junction City 111.73 52 P **PKiKP** 15 35 24.3 +0.6
baz=295
JCT Junction City 111.73 52 IAMs_20 IAMs_20 16 18 48.5
comp=Z,2µm,20.0s
LSZ Lusaka 111.85 257 IAMs_20 IAMs_20 16 17 18.0
comp=Z,2µm,21.0s
L40A Anamosa 111.90 38 IAMs_20 IAMs_20 16 15 53.9
comp=Z,1µm,20.0s
JFWS Jewell Farm 111.98 37 IAMs_20 IAMs_20 16 16 27.9
comp=Z,2µm,22.0s
SSB Saint Sauveur 112.12 327 IAMs_20 IAMs_20 16 23 23.4
comp=Z,2µm,20.0s
I42A Draeger Farm, 112.16 35 IAMs_20 IAMs_20 16 17 30.4
comp=Z,2µm,21.0s
TUL1 Leonard 112.22 45 IAMs_20 IAMs_20 16 19 07.3
comp=Z,2µm,20.0s
ZAIG Zacatecas 112.43 61 IAMs_20 IAMs_20 16 12 51.0
comp=Z,2µm,22.0s
H43A Windswept, Lux 112.44 34 IAMs_20 IAMs_20 16 17 28.7
comp=Z,1µm,20.0s
WHTX Lake Whitney, 112.87 50 IAMs_20 IAMs_20 16 26 16.0
comp=Z,2µm,19.0s
N41A Harden Midland 112.91 39 IAMs_20 IAMs_20 16 18 14.8
comp=Z,998nm,20.0s
SNAA Sanae 112.92 192 PKiKP **PKiKP** 15 35 24.9 +0.2
SNAA Sanae 112.92 192 *i* PKIKP **PKiKP** 15 35 24.8 0.0
SNAA MLR MLR
comp=Z,2µm,18.0s
SNAA Sanae 112.92 192 PKiKP **PKiKP** 15 35 25.3 +0.5
comp=Z,4.4nm,0.8s,baz=188,slow=1.8,SNR=8.9
SNAA Sanae 112.92 192 **PKiKP** 15 35 24.8 0.0
SNAA IAMs_20 IAMs_20 16 26 10.8
comp=Z,2µm,18.0s
833A Chaparral WMA, 112.96 54 P **PKiKP** 15 35 27.0 +1.0
baz=295
833A Chaparral WMA, 112.96 54 IAMs_20 IAMs_20 16 13 28.2
comp=Z,2µm,22.0s
E46A Sault Ste Mari 113.03 31 P **PKiKP** 15 35 26.6 +0.9
baz=313
X37A Clayton 113.17 47 IAMs_20 IAMs_20 16 27 02.6
comp=Z,2µm,20.0s
G45A Suttons Bay 113.22 33 IAMs_20 IAMs_20 16 27 54.1
comp=Z,2µm,20.0s
K43A Burlington 113.23 36 IAMs_20 IAMs_20 16 17 28.8
comp=Z,3µm,22.0s
435B Jarrell 113.32 51 IAMs_20 IAMs_20 16 26 10.4
comp=Z,1µm,20.0s
HHAR Hobbs 113.33 44 IAMs_20 IAMs_20 16 22 35.3
comp=Z,1µm,20.0s
I45A Fountain 113.57 34 IAMs_20 IAMs_20 16 17 29.4
comp=Z,2µm,22.0s
L44A Lake County Fo 113.80 36 IAMs_20 IAMs_20 16 17 55.9
comp=Z,3µm,22.0s
J45A Montague 113.87 34 IAMs_20 IAMs_20 16 18 10.5
comp=Z,2µm,20.0s
HDIL Hopedale 113.96 38 IAMs_20 IAMs_20 16 16 30.5
comp=Z,1µm,22.0s
W39A Magazine 114.00 45 P **PKiKP** 15 35 28.0 +0.2
baz=301
W39A Magazine 114.00 45 IAMs_20 IAMs_20 16 20 11.2
comp=Z,2µm,20.0s
MGMO Mountain Grove 114.00 43 IAMs_20 IAMs_20 16 28 36.9
comp=Z,1µm,19.0s
E48A Lockeyer 114.01 30 P PKPdf 15 35 28.1 +0.6
baz=315
U40A Yellville 114.03 44 P **PKiKP** 15 35 28.3 +0.4
baz=302
U40A Yellville 114.03 44 IAMs_20 IAMs_20 16 18 17.9
comp=Z,2µm,21.0s
CCM Cathedral Cave 114.18 41 P **PKiKP** 15 35 28.5 +0.4
baz=304
CCM Cathedral Cave 114.18 41 IAMs_20 IAMs_20 16 19 26.5
comp=Z,1µm,20.0s
VNA2 Neumayer--Watz 114.43 192 PKiKP PKPdf 15 35 28.3 +0.7
VNA2 Neumayer--Watz 114.43 192 SKiKP **SKSdf** 15 42 39.3 +1.3
baz=262,slow=17
LSQQ Lebel-sur-Quev 114.44 25 P PKPdf 15 35 28.6 +0.3
baz=321
MIAR Mount Ida 114.48 46 P PKPdf 15 35 30.1 +1.3
baz=301
MIAR Mount Ida 114.48 46 IAMs_20 IAMs_20 16 19 45.9
comp=Z,2µm,20.0s
VNA3 Neumayer Olymp 114.61 191 PKiKP PKPdf 15 35 28.3 +0.3
VNA3 Neumayer Olymp 114.61 191 SKiKP **SKSdf** 15 42 42.5 +4.2
H48A Harrisville 114.67 32 IAMs_20 IAMs_20 16 29 11.5
comp=Z,2µm,20.0s
O44A Mansfield 114.71 38 IAMs_20 IAMs_20 16 17 04.3
comp=Z,1µm,22.0s
E50A Wahnapitae 114.74 29 P PKPdf 15 35 29.9 +0.9
baz=317
FVM French Village 114.75 41 IAMs_20 IAMs_20 16 29 54.7
comp=Z,1µm,20.0s
FCAR Ozark Folk Cen 114.78 44 IAMs_20 IAMs_20 16 19 42.7
comp=Z,2µm,21.0s
VNA1 Neumayer--Stat 114.83 192 PKiKP PKPdf 15 35 29.0 +0.8
VNA1 Neumayer--Stat 114.83 192 SKiKP SKSdf 15 42 54.9 +16
L46A Eue Claire 114.84 35 IAMs_20 IAMs_20 16 18 51.4
comp=Z,3µm,21.0s
J47A Sunmer 114.86 34 IAMs_20 IAMs_20 16 23 08.8
comp=Z,1µm,20.0s
WHAR Wooly Hollow 114.99 44 IAMs_20 IAMs_20 16 21 34.3
comp=Z,1µm,20.0s
X40A Basin Creek Fa 115.03 45 IAMs_20 IAMs_20 16 20 12.6
comp=Z,2µm,20.0s
HKT Hockley 115.05 51 IAMs_20 IAMs_20 16 21 35.8
comp=Z,2µm,20.0s
NATX Nacogdoches 115.08 49 IAMs_20 IAMs_20 16 28 59.3
comp=Z,2µm,20.0s
W41B Gary Mavity, V 115.08 45 IAMs_20 IAMs_20 16 32 23.5
comp=Z,1µm,20.0s
UALR University of 115.22 45 IAMs_20 IAMs_20 16 19 32.6
comp=Z,2µm,21.0s
WLAR White Oak Lake 115.25 46 IAMs_20 IAMs_20 16 20 43.4
comp=Z,2µm,20.0s
E51A G1948 Merrick 115.25 28 P **PKPdf** 15 35 30.8 +0.9
baz=318
LCAR Lake Charles 115.34 43 IAMs_20 IAMs_20 16 19 09.5
comp=Z,2µm,22.0s
J48A Bridge Port 115.39 33 P **PKPdf** 15 35 30.7 +0.4
baz=313
J48A Bridge Port 115.39 33 IAMs_20 IAMs_20 16 17 47.5
comp=Z,2µm,22.0s
SFIN Lafayette 115.40 37 IAMs_20 IAMs_20 16 18 12.1
comp=Z,1µm,21.0s
PBMO Poplar Bluff 115.43 42 IAMs_20 IAMs_20 16 22 00.8
comp=Z,1µm,20.0s
I49A Point Hope 115.46 32 P **PKPdf** 15 35 30.9 +0.5
baz=314
K48A Perry 115.54 34 P **PKPdf** 15 35 31.2 +0.6
baz=312
D53A Lac Vacive, Po 115.65 27 IAMs_20 IAMs_20 16 31 08.9
comp=Z,1µm,19.0s
SIUC Southern Illin 115.69 41 IAMs_20 IAMs_20 16 28 01.1
comp=Z,1µm,20.0s
Z41A Richland Creek 115.69 47 IAMs_20 IAMs_20 16 21 15.2
comp=Z,2µm,20.0s
OLIL Olney 115.79 39 IAMs_20 IAMs_20 16 28 23.0
comp=Z,1µm,19.0s
F52A Sundridge 115.88 29 P **PKPdf** 15 35 31.4 +0.3
baz=318
N47A Urbana 115.91 36 IAMs_20 IAMs_20 16 19 11.7
comp=Z,2µm,22.0s
L48A N Adams 115.94 34 P **PKPdf** 15 35 31.9 +0.6
baz=312
PARMO Parma 115.94 42 IAMs_20 IAMs_20 16 30 37.4
comp=Z,972nm,18.0s
HBAR Harrisburg 115.96 43 IAMs_20 IAMs_20 16 19 36.8
comp=Z,2µm,22.0s
CCAR Cane Creek 116.08 45 IAMs_20 IAMs_20 16 25 31.4
comp=Z,2µm,19.0s
M48A Edgerton 116.08 35 IAMs_20 IAMs_20 16 19 38.1
comp=Z,2µm,21.0s
HENM Henderson Moun 116.10 42 IAMs_20 IAMs_20 16 21 53.4
comp=Z,976nm,20.0s
PVMO Portageville 116.12 42 IAMs_20 IAMs_20 16 22 40.1
comp=Z,1µm,20.0s
AAM Ann Arbor 116.13 34 IAMs_20 IAMs_20 16 24 07.2
comp=Z,1µm,19.0s
PENMO Penman 116.15 42 IAMs_20 IAMs_20 16 22 31.8
comp=Z,1µm,19.0s
LPAR Lepanto 116.18 43 IAMs_20 IAMs_20 16 19 43.7
comp=Z,2µm,20.0s
HICK Hickman 116.36 42 IAMs_20 IAMs_20 16 26 33.3
comp=Z,1µm,20.0s
K50A Casco 116.37 33 IAMs_20 IAMs_20 16 30 44.4
comp=Z,1µm,18.0s
X43A Marvell 116.38 44 IAMs_20 IAMs_20 16 21 56.1
comp=Z,2µm,20.0s
GLAT Glass 116.48 42 IAMs_20 IAMs_20 16 22 31.5
comp=Z,2µm,19.0s
M49A Liberty Center 116.50 35 P **PKiKP** 15 35 32.8 +0.3
baz=312
USIN University of 116.53 40 IAMs_20 IAMs_20 16 30 16.5
comp=Z,1µm,19.0s
O48A Farmland 116.62 36 P **PKiKP** 15 35 32.9 +0.2
baz=310
HALT Halls 116.65 42 IAMs_20 IAMs_20 16 29 25.0
comp=Z,1µm,19.0s
D55A Sainte-Ange-du 116.67 25 P **PKiKP** 15 35 32.9 +0.3
baz=322
MET Memphis--Engin 116.69 43 IAMs_20 IAMs_20 16 19 48.2
comp=Z,1µm,21.0s
G53A Haliburton 116.70 29 P **PKiKP** 15 35 33.0 +0.3
baz=318
N49A Columbus Grove 116.75 35 P **PKiKP** 15 35 33.5 +0.5
baz=312
N49A Columbus Grove 116.75 35 IAMs_20 IAMs_20 16 20 09.9
comp=Z,2µm,21.0s
P48A Milroy 116.98 37 P **PKiKP** 15 35 33.5 0.0
baz=310
P48A Milroy 116.98 37 IAMs_20 IAMs_20 16 21 06.1
comp=Z,1µm,20.0s
M50A Fremont 117.07 34 IAMs_20 IAMs_20 16 23 38.3
comp=Z,2µm,21.0s
Q48A North Vernon 117.13 38 P **PKPdf** 15 35 33.6 -0.2
baz=309
H53A Bobcaygeon 117.13 29 P **PKiKP** 15 35 33.8 +0.3
baz=318
O49A Covington 117.15 36 P **PKiKP** 15 35 34.0 +0.3
baz=311
O49A Covington 117.15 36 IAMs_20 IAMs_20 16 20 11.5
comp=Z,3µm,21.0s
WCI Wyandotte Cave 117.22 39 P **PKiKP** 15 35 34.0 0.0
baz=309
WCI Wyandotte Cave 117.22 39 IAMs_20 IAMs_20 16 29 00.8
comp=Z,1µm,20.0s
E56A St. Veronique 117.23 25 P **PKiKP** 15 35 33.9 +0.2
baz=322
D57A Chemin Vers le 117.33 24 P **PKiKP** 15 35 34.4 +0.5
baz=324
P49A Miami Univ. Ec 117.35 37 P **PKPdf** 15 35 34.1 -0.1
baz=310
OXF Oxford 117.39 44 IAMs_20 IAMs_20 16 25 16.9
comp=Z,1µm,19.0s
N50A Nevada 117.44 35 P **PKPdf** 15 35 34.3 0.0
baz=312
T47A Sharon Grove 117.47 40 IAMs_20 IAMs_20 16 31 00.6
comp=Z,1µm,20.0s
LATQ La Tuque 117.47 23 P **PKiKP** 15 35 34.4 +0.2
baz=325
PLVO Plevna 117.49 28 IAMs_20 IAMs_20 16 21 05.6
comp=Z,1µm,21.0s
WVT Waverly 117.52 41 P **PKiKP** 15 35 34.7 +0.1
baz=306
WVT Waverly 117.52 41 IAMs_20 IAMs_20 16 22 55.7
comp=Z,1µm,20.0s
O50A Cable 117.59 36 P **PKiKP** 15 35 34.7 0.0
baz=312
DELO Deloro Mine 117.63 28 IAMs_20 IAMs_20 16 26 41.4
comp=Z,1µm,20.0s
E57A Chemin Saint G 117.70 25 P **PKiKP** 15 35 35.1 +0.4
baz=323
N51A Ashland 117.77 34 P **PKPdf** 15 35 34.7 -0.3
baz=313
N51A Ashland 117.77 34 IAMs_20 IAMs_20 16 20 31.8
comp=Z,2µm,20.0s
P50A Jamestown 117.84 36 P **PKPdf** 15 35 34.9 -0.2
baz=311
VBMS Vicksburg 117.87 46 IAMs_20 IAMs_20 16 21 53.0
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 117.89 35 P **PKPdf** 15 35 35.1 -0.1
baz=312
ACSO Alum Creek Sta 117.89 35 IAMs_20 IAMs_20 16 20 33.9
comp=Z,2µm,21.0s
M52A Chesterland 117.90 33 P **PKiKP** 15 35 35.3 +0.1
baz=314
M52A Chesterland 117.90 33 IAMs_20 IAMs_20 16 30 37.0
comp=Z,1µm,20.0s
PLAL Pickwick Lake 118.03 43 **PKPdf** 15 35 35.1 -0.4
PLAL IAMs_20 IAMs_20 16 21 24.5
comp=Z,1µm,21.0s
SUR Sutherland 118.09 238 PKP **PKiKP** 15 35 37.5 +1.4
comp=Z,7.5nm,0.8s,baz=153,slow=4.5,SNR=4.3
E58A La Victoria 118.10 24 P **PKiKP** 15 35 36.0 +0.6
baz=324
S49A Springfield 118.12 38 P **PKiKP** 15 35 35.8 +0.1
baz=309
O51A Pataskala 118.17 35 P **PKiKP** 15 35 35.9 +0.1
baz=313
Q50A Georgetown 118.23 37 P **PKPdf** 15 35 35.8 -0.1
baz=311
MEDO Medina 118.23 30 IAMs_20 IAMs_20 16 36 37.6
comp=Z,1µm,18.0s
M53A WI Miller and 118.34 33 P **PKiKP** 15 35 36.3 +0.3
baz=315
P51A Williamsport 118.35 36 P **PKiKP** 15 35 36.1 0.0
baz=312
P51A Williamsport 118.35 36 IAMs_20 IAMs_20 16 20 46.3
comp=Z,3µm,21.0s
PECO Prince Edward 118.37 29 IAMs_20 IAMs_20 16 21 03.9
comp=Z,1µm,20.0s
G57A Newington 118.38 26 P **PKiKP** 15 35 36.1 +0.1
baz=322
R50A Paris 118.39 38 P **PKPdf** 15 35 36.2 0.0
baz=310
R50A Paris 118.39 38 IAMs_20 IAMs_20 16 19 52.5
comp=Z,2µm,21.0s
T49A Edmonton 118.39 39 P **PKiKP** 15 35 36.6 +0.3
baz=309
T49A Edmonton 118.39 39 IAMs_20 IAMs_20 16 25 57.9
comp=Z,719nm,19.0s
V48A Smith Brothers 118.41 41 P **PKPdf** 15 35 36.3 0.0
baz=307
V48A Smith Brothers 118.41 41 IAMs_20 IAMs_20 16 36 38.4
comp=Z,1µm,19.0s
ALLY Alegheny Colle 118.47 32 IAMs_20 IAMs_20 16 37 51.0
comp=Z,6µm,22.0s
Q51A Peebles 118.49 36 IAMs_20 IAMs_20 16 21 13.0
comp=Z,2µm,20.0s
CLTN Cedars of Leba 118.51 41 IAMs_20 IAMs_20 16 21 51.1
comp=Z,735nm,20.0s
U49A Red Boiling Sp 118.61 40 P **PKPdf** 15 35 36.4 -0.2
baz=308
O52A Adamsville 118.62 34 IAMs_20 IAMs_20 16 21 08.2
comp=Z,2µm,21.0s
N53A Lisbon 118.69 33 P **PKiKP** 15 35 36.8 0.0
baz=314
N53A Lisbon 118.69 33 IAMs_20 IAMs_20 16 24 49.0
comp=Z,2µm,19.0s
WVNY West Valley, N 118.72 31 IAMs_20 IAMs_20 16 28 26.4
comp=Z,2µm,20.0s
S50A Richmond 118.73 38 P **PKiKP** 15 35 37.1 +0.2
baz=310
P52A Corning 118.78 35 P **PKiKP** 15 35 37.2 +0.2
baz=313
M54A Oil Creek Stat 118.82 32 P **PKiKP** 15 35 37.0 0.0
baz=316
MMNY Mt. Morris Dam 118.83 30 IAMs_20 IAMs_20 16 29 51.2
comp=Z,1µm,19.0s
T50A Nancy 118.88 39 P **PKPdf** 15 35 36.8 -0.4
baz=309
J56A Wolcott 118.93 29 IAMs_20 IAMs_20 16 33 33.8
comp=Z,1µm,19.0s
LONY Lake Ozonia 118.94 27 P **PKiKP** 15 35 37.4 +0.3
baz=322
F60A Warwick 118.96 24 P **PKiKP** 15 35 37.3 +0.2
baz=325
L55A Hinsdale 118.97 31 P **PKPdf** 15 35 37.1 -0.1
baz=317
I57A Carthage 118.98 28 P **PKPdf** 15 35 37.2 0.0
baz=321
V49A McMinnville 118.98 41 P **PKPdf** 15 35 37.4 -0.1
baz=308
X48A Hartselle 119.02 42 P **PKPdf** 15 35 37.4 -0.2
baz=306
X48A Hartselle 119.02 42 IAMs_20 IAMs_20 16 21 43.9
comp=Z,2µm,21.0s
N54A Moraine State 119.04 33 P **PKPdf** 15 35 37.3 -0.1
baz=315
N54A Moraine State 119.04 33 IAMs_20 IAMs_20 16 31 23.2
comp=Z,2µm,20.0s
D62A Allapoint, All 119.13 21 P **PKiKP** 15 35 37.8 +0.5
baz=328
W49A Belvidere 119.14 41 P **PKiKP** 15 35 37.9 +0.1
baz=307
E61A Lac Etchemin 119.15 23 P **PKPdf** 15 35 37.0 -0.5
baz=327
Q52A Bidwell 119.16 36 P **PKiKP** 15 35 38.1 +0.4
baz=312
FRNY Flat Rock 119.20 26 IAMs_20 IAMs_20 16 32 59.3
comp=Z,1µm,18.0s
J57A Williamstown 119.23 28 P **PKiKP** 15 35 38.2 +0.5
baz=320
S51A Beattyville 119.25 38 P **PKiKP** 15 35 38.1 +0.1
baz=311
S51A Beattyville 119.25 38 **PKPdf** 15 35 37.5 -0.4
S51A IAMs_20 IAMs_20 16 20 41.2
comp=Z,1µm,20.0s
U50A Jamestown 119.26 39 P **PKiKP** 15 35 38.5 +0.4
baz=309
H58A Gabriels 119.27 26 P **PKiKP** 15 35 38.1 +0.3
baz=322
P53A Whipple 119.30 35 P **PKiKP** 15 35 38.3 +0.3
baz=314
P53A Whipple 119.30 35 IAMs_20 IAMs_20 16 21 29.3
comp=Z,2µm,21.0s
SWET Sewanee 119.30 41 IAMs_20 IAMs_20 16 32 00.1
comp=Z,1µm,19.0s
H59A Cadyville 119.31 26 P **PKiKP** 15 35 38.3 +0.5
baz=323
M55A Ridgway 119.32 32 P **PKiKP** 15 35 38.3 +0.3
baz=317
F61A St Evariste 119.33 23 P **PKiKP** 15 35 38.5 +0.6
baz=326
E62A Clayton Lake 119.35 22 P **PKiKP** 15 35 38.3 +0.4
baz=328
E62A Clayton Lake 119.35 22 IAMs_20 IAMs_20 16 31 46.2
comp=Z,951nm,20.0s
O54A Avella 119.38 34 P **PKiKP** 15 35 38.5 +0.4
baz=315
O54A Avella 119.38 34 IAMs_20 IAMs_20 16 24 59.3
comp=Z,2µm,19.0s
L56A Greenwood 119.44 30 P **PKiKP** 15 35 38.3 0.0
baz=318
T51A Gray 119.47 38 P **PKiKP** 15 35 38.7 +0.3
baz=310
V50A Pikevile 119.56 40 P **PKiKP** 15 35 38.7 +0.1
baz=308
J58A Remsen 119.60 28 P **PKiKP** 15 35 38.7 +0.2
baz=321
M56A Emporium 119.61 31 P **PKPdf** 15 35 38.5 0.0
baz=317
NCB Newcomb 119.61 27 IAMs_20 IAMs_20 16 26 30.5
comp=Z,898nm,20.0s
W50A Signal Mountai 119.71 41 P **PKPdf** 15 35 38.4 -0.5
baz=308
W50A Signal Mountai 119.71 41 **PKPdf** 15 35 38.0 -0.9
W50A IAMs_20 IAMs_20 16 36 55.0
comp=Z,1µm,20.0s
P54A Burton 119.73 34 P **PKPdf** 15 35 38.6 -0.1
baz=314
R53A Hurricane 119.76 36 P **PKPdf** 15 35 38.6 -0.3
baz=312
R53A Hurricane 119.76 36 IAMs_20 IAMs_20 16 21 50.7
comp=Z,2µm,21.0s
U51A La Follette 119.80 39 P **PKiKP** 15 35 39.9 +0.9
baz=310
Y49A Blount Mountai 119.80 43 IAMs_20 IAMs_20 16 25 48.5
comp=Z,2µm,20.0s
J59A Piesco 119.88 27 P **PKiKP** 15 35 39.5 +0.5
baz=322
J59A Piesco 119.88 27 **PKPdf** 15 35 38.6 -0.4
LRAL Lakeview Retre 119.88 44 P **PKiKP** 15 35 39.7 +0.4
baz=306
LRAL Lakeview Retre 119.88 44 **PKPdf** 15 35 39.0 -0.2
LRAL IAMs_20 IAMs_20 16 35 23.9
comp=Z,1µm,19.0s
K58A Earlville 119.89 29 P **PKiKP** 15 35 39.6 +0.5
baz=320
L57A Andrews Acres 119.89 30 P **PKiKP** 15 35 39.6 +0.5
baz=319
I59A Olmsteadville 119.90 27 P **PKiKP** 15 35 39.6 +0.5
baz=322
E63A Oxbow 119.92 21 P **PKiKP** 15 35 39.6 +0.6
baz=329
FPAL Fort Paine 119.92 42 IAMs_20 IAMs_20 16 30 50.6
comp=Z,539nm,19.0s
V51A Loudon 119.95 40 IAMs_20 IAMs_20 16 28 14.1
comp=Z,1µm,20.0s
Q54A Coxs Mills 119.96 35 P **PKiKP** 15 35 39.9 +0.6
baz=314
Q54A Coxs Mills 119.96 35 IAMs_20 IAMs_20 16 22 09.7
comp=Z,3µm,21.0s
T52A Hallie 119.96 38 IAMs_20 IAMs_20 16 20 52.1
comp=Z,1µm,22.0s
N56A West Decatur 119.96 32 P **PKiKP** 15 35 39.6 +0.3
baz=317
TZTN Tazewell 119.98 39 IAMs_20 IAMs_20 16 29 37.8
comp=Z,1µm,20.0s

BATG **Bathurst New B** 119.98 19 IAMs_20 IAMs_20 16 24 00.8
comp=Z,1µm,22.0s
MCWV **Mont Chateau** 120.04 34 IAMs_20 IAMs_20 16 25 29.7
comp=Z,874nm,18.0s
CPCT **Cooper Cave** 120.06 40 IAMs_20 IAMs_20 16 35 22.2
comp=Z,1µm,18.0s
W51A **Cleveland** 120.09 41 P **PKiKP** 15 35 40.3 +0.6
baz=309
I60A **Shoreham** 120.12 26 P **PKiKP** 15 35 40.3 +0.9
baz=323
G62A **West of Eustis** 120.14 23 P **PKiKP** 15 35 40.4 +0.9
baz=326
G62A **West of Eustis** 120.14 23 IAMs_20 IAMs_20 16 30 15.3
comp=Z,1µm,21.0s
H61A **Lyndonville** 120.14 25 P **PKiKP** 15 35 40.3 +0.8
baz=325
P55A **Reedsville** 120.15 34 P **PKiKP** 15 35 40.1 +0.4
baz=315
BINY **Binghamton** 120.16 29 P **PKiKP** 15 35 39.9 +0.3
baz=320
M57A **Sunshine Farm,** 120.25 31 P **PKiKP** 15 35 39.8 0.0
baz=318
K59A **Cooperstown** 120.26 28 P **PKiKP** 15 35 39.9 +0.1
baz=321
O56A **Blue Knob Stat** 120.29 32 P **PKiKP** 15 35 40.3 +0.3
baz=316
O56A **Blue Knob Stat** 120.29 32 IAMs_20 IAMs_20 16 27 19.3
comp=Z,1µm,20.0s
L58A **Harry Jones Me** 120.35 29 P **PKiKP** 15 35 40.4 +0.5
baz=320
Q55A **Buckhannon** 120.37 34 P **PKiKP** 15 35 40.3 +0.2
baz=314
SSPA **Standing Stone** 120.38 32 P **PKiKP** 15 35 40.4 +0.4
baz=317
SSPA **Standing Stone** 120.38 32 IAMs_20 IAMs_20 16 33 47.5
comp=Z,1µm,19.0s
LBNH **Lisbon** 120.38 25 IAMs_20 IAMs_20 16 28 09.8
comp=Z,1µm,18.0s
X51A **Calhoun** 120.40 41 IAMs_20 IAMs_20 16 31 08.1
comp=Z,1µm,20.0s
V52A **Sevierville** 120.40 39 P **PKiKP** 15 35 40.6 +0.4
baz=310
V52A **Sevierville** 120.40 39 IAMs_20 IAMs_20 16 29 47.0
comp=Z,1µm,20.0s
F64A **Sherman** 120.42 22 P **PKiKP** 15 35 40.4 +0.5
baz=329
H62A **Milan** 120.43 24 P **PKiKP** 15 35 40.6 +0.5
baz=326
N57A **Milroy** 120.47 31 P **PKiKP** 15 35 40.4 +0.1
baz=318
Z50A **Ashland** 120.48 43 P **PKiKP** 15 35 40.7 +0.2
baz=307
Z50A **Ashland** 120.48 43 **PKPdf** 15 35 39.7 -0.7
Z50A IAMs_20 IAMs_20 16 22 46.7
comp=Z,1µm,20.0s
S54A **Dingess, Beckl** 120.49 36 P **PKiKP** 15 35 40.4 0.0
baz=313
S54A **Dingess, Beckl** 120.49 36 IAMs_20 IAMs_20 16 22 14.1
comp=Z,2µm,21.0s
ESBB **Sonseca Array** 120.54 327 IAMs_20 IAMs_20 16 28 27.3
comp=Z,2µm,20.0s
ESDC **Sonseca Array** 120.54 327 PKP **PKiKP** 15 35 41.8 +1.3
comp=Z,0.9nm,0.3s,baz=25,slow=3.9,SNR=9.4
J60A **Lant Hill Farm** 120.54 27 P **PKiKP** 15 35 40.2 -0.1
baz=323
M58A **Price's Panora** 120.56 30 P **PKiKP** 15 35 40.5 +0.1
baz=319
PKME **Peaks-Kenny Pk** 120.58 23 P **PKiKP** 15 35 40.7 +0.5
baz=328
G63A **Kingsbury** 120.58 23 P **PKiKP** 15 35 40.7 +0.4
baz=327
W52A **Murphy** 120.67 40 P **PKiKP** 15 35 41.4 +0.6
baz=309
W52A **Murphy** 120.67 40 IAMs_20 IAMs_20 16 21 47.1
comp=Z,936nm,20.0s
Y51A **Rockmart** 120.67 42 P **PKiKP** 15 35 41.2 +0.3
baz=308
U53A **Fall Branch** 120.69 38 P **PKiKP** 15 35 41.2 +0.3
baz=311
P56A **Dayton Farm, R** 120.69 33 P **PKiKP** 15 35 41.3 +0.6
baz=316
G64A **Maxfield** 120.79 22 P **PKiKP** 15 35 41.6 +0.9
baz=328
O57A **Amberson** 120.82 32 P **PKiKP** 15 35 41.1 +0.2
baz=317
N58A **Sunbury** 120.83 31 P **PKiKP** 15 35 41.3 +0.4
baz=318
Q56A **Snyder Ridge,** 120.83 34 P **PKiKP** 15 35 41.3 +0.3
baz=315
Q56A **Snyder Ridge,** 120.83 34 IAMs_20 IAMs_20 16 22 29.8
comp=Z,2µm,21.0s
T54A **Tazewell** 120.83 37 P **PKiKP** 15 35 41.3 +0.2
baz=312
J61A **Chester** 120.84 26 P **PKiKP** 15 35 41.5 +0.6
baz=324
PAB **San Pablo** 120.84 327 IAMs_20 IAMs_20 16 28 58.3
comp=Z,2µm,21.0s
BRAL **Brewton** 120.92 46 IAMs_20 IAMs_20 16 23 50.7
comp=Z,2µm,21.0s
I62A **Tamworth** 120.93 25 P **PKiKP** 15 35 41.4 +0.4
baz=325
M59A **Waymart** 120.93 29 P **PKiKP** 15 35 41.8 +0.7
baz=320
Z51A **Franklin** 120.95 42 P **PKiKP** 15 35 41.5 +0.1
baz=307
X52A **Dahlonega** 121.00 41 P **PKiKP** 15 35 42.1 +0.7
baz=309
250A **Grady** 121.00 44 IAMs_20 IAMs_20 16 32 26.5
comp=Z,2µm,20.0s
V53A **Saluda** 121.00 39 P **PKiKP** 15 35 41.9 +0.4
baz=311
V53A **Saluda** 121.00 39 **PKPdf** 15 35 40.6 -0.7
V53A IAMs_20 IAMs_20 16 31 07.8
comp=Z,986nm,22.0s
U54A **Nelsons Funny** 121.05 38 IAMs_20 IAMs_20 16 21 25.9
comp=Z,1µm,20.0s
K61A **Williamstown** 121.06 27 P **PKiKP** 15 35 42.3 +0.9
baz=323
W53A **Cullowhee** 121.10 40 P **PKiKP** 15 35 42.2 +0.4
baz=310
P57A **Homestead Farm** 121.15 33 IAMs_20 IAMs_20 16 26 09.1
comp=Z,1µm,20.0s
R56A **Bull Pasture M** 121.16 34 P **PKiKP** 15 35 41.9 +0.2
baz=315
N59A **State Game Lan** 121.24 30 P **PKiKP** 15 35 42.2 +0.4
baz=320
J62A **Henniker** 121.25 26 P **PKiKP** 15 35 42.2 +0.5
baz=324
O58A **Lewisberry** 121.25 31 P **PKiKP** 15 35 42.2 +0.4
baz=318
G65A **Princeton** 121.28 21 P **PKiKP** 15 35 42.2 +0.5
baz=330
L61A **Hillsdale 1, H** 121.31 28 P **PKiKP** 15 35 42.4 +0.6
baz=322
Y52A **Lilburn** 121.35 41 P **PKiKP** 15 35 42.5 +0.3
baz=309
Y52A **Lilburn** 121.35 41 **PKPdf** 15 35 41.2 -0.8
Y52A IAMs_20 IAMs_20 16 35 45.3
comp=Z,1µm,20.0s
BG3 **Lake Jocassee** 121.36 40 IAMs_20 IAMs_20 16 29 40.4
comp=Z,867nm,20.0s
BLA **Blacksburg** 121.41 36 P **PKiKP** 15 35 42.5 +0.3
baz=313
BLA **Blacksburg** 121.41 36 IAMs_20 IAMs_20 16 22 54.4
comp=Z,2µm,22.0s
X53A **Estanollee** 121.44 40 P **PKiKP** 15 35 43.0 +0.7
baz=310
V54A **Nebo** 121.46 38 P **PKiKP** 15 35 42.4 +0.1
baz=311
O59A **Robesonia** 121.49 31 P **PKiKP** 15 35 42.5 +0.3
baz=319
L61B **Northampton** 121.50 27 P **PKiKP** 15 35 42.6 +0.4
baz=323
J63A **Strafford** 121.52 25 P **PKiKP** 15 35 42.5 +0.4
baz=325
K62A **Royalston** 121.52 26 P **PKiKP** 15 35 42.6 +0.3
baz=324
U55A **TA2, Sparta** 121.52 37 P **PKiKP** 15 35 42.5 0.0
baz=312
P58A **Pank, Wackersv** 121.53 32 P **PKiKP** 15 35 42.6 +0.3
baz=317
Z52A **Williamson** 121.53 42 P **PKiKP** 15 35 42.8 +0.3
baz=308
I64A **Boothbay** 121.58 24 P **PKiKP** 15 35 42.5 +0.3
baz=327
N60A **Cedar Hill Far** 121.61 30 P **PKiKP** 15 35 42.9 +0.4
baz=320
MVL **Millersville** 121.64 31 IAMs_20 IAMs_20 16 33 45.8
comp=Z,1µm,18.0s
152A **Waverly Hall** 121.64 43 P **PKiKP** 15 35 42.9 +0.2
baz=308
152A **Waverly Hall** 121.64 43 IAMs_20 IAMs_20 16 23 42.4
comp=Z,2µm,21.0s
ODNJ **Ogdensburg** 121.68 29 IAMs_20 IAMs_20 16 21 56.7
comp=Z,1µm,21.0s
KSCT **Kent School, K** 121.71 28 IAMs_20 IAMs_20 16 30 34.2
comp=Z,1µm,20.0s
W54A **Cherokee Point** 121.77 39 P **PKiKP** 15 35 43.2 +0.3
baz=311
K63A **Dunstable** 121.81 26 P **PKiKP** 15 35 42.9 +0.1
baz=324
SDMD **Soldier's Deli** 121.83 32 IAMs_20 IAMs_20 16 30 31.8
comp=Z,597nm,20.0s
MTE **Manteigas** 121.86 330 IAMs_20 IAMs_20 16 32 41.9
comp=Z,2µm,19.0s
V55A **Taylorsville** 121.86 38 P **PKiKP** 15 35 43.5 +0.4
baz=312
V55A **Taylorsville** 121.86 38 IAMs_20 IAMs_20 16 24 17.4
comp=Z,2µm,21.0s
S57A **Dark Hollow, R** 121.87 35 IAMs_20 IAMs_20 16 22 48.3
comp=Z,2µm,22.0s
O60A **Telford** 121.88 30 P **PKiKP** 15 35 43.3 +0.3
baz=320
M61A **Granite Spring** 121.90 28 P **PKiKP** 15 35 43.6 +0.6
baz=322
GOGA **Godfrey** 122.02 41 P **PKiKP** 15 35 43.7 +0.3
baz=309
GOGA **Godfrey** 122.02 41 IAMs_20 IAMs_20 16 35 09.1
comp=Z,1µm,20.0s
U56A **King** 122.02 37 IAMs_20 IAMs_20 16 23 02.6
comp=Z,3µm,22.0s
PAL **Palisades** 122.08 29 P **PKiKP** 15 35 43.9 +0.5
baz=321
P60A **Greenville** 122.14 31 IAMs_20 IAMs_20 16 34 11.1
comp=Z,2µm,19.0s
451A **Vernon** 122.15 45 IAMs_20 IAMs_20 16 25 00.1
comp=Z,2µm,20.0s
PAULI **Pauline** 122.17 39 IAMs_20 IAMs_20 16 21 51.8
comp=Z,1µm,21.0s
352A **Blakely** 122.21 44 IAMs_20 IAMs_20 16 23 31.6
comp=Z,2µm,20.0s
T57A **Hurt** 122.23 35 IAMs_20 IAMs_20 16 23 30.0
comp=Z,2µm,21.0s
Y54A **Tignall** 122.24 40 P **PKiKP** 15 35 44.5 +0.6
baz=310
KMSC **Kings Mountain** 122.26 38 P **PKiKP** 15 35 44.4 +0.5
baz=312
KMSC **Kings Mountain** 122.26 38 **PKPdf** 15 35 43.7 0.0
KMSC IAMs_20 IAMs_20 16 38 12.0
comp=Z,1µm,19.0s
HODGE **Hodges** 122.27 40 IAMs_20 IAMs_20 16 24 40.7
comp=Z,1µm,21.0s
YLE **Yale** 122.29 28 IAMs_20 IAMs_20 16 28 32.5
comp=Z,1µm,20.0s
V56A **Mocksville** 122.32 37 P **PKiKP** 15 35 44.3 +0.3
baz=313
R58B **Mineral** 122.32 34 IAMs_20 IAMs_20 16 23 04.2
comp=Z,2µm,21.0s
253A **Americus** 122.41 43 IAMs_20 IAMs_20 16 30 09.6
comp=Z,2µm,20.0s
CBN **Corbin Frederi** 122.42 33 IAMs_20 IAMs_20 16 25 39.8
comp=Z,1µm,20.0s
COI **Coimbra** 122.43 330 IAMs_20 IAMs_20 16 31 56.0
comp=Z,3µm,21.0s
S58A **Poland Farm, P** 122.48 34 IAMs_20 IAMs_20 16 23 08.4
comp=Z,2µm,22.0s
Z54A **Sparta** 122.53 41 P **PKiKP** 15 35 44.7 +0.2
baz=309
U57A **Blanch** 122.58 36 P **PKiKP** 15 35 44.9 +0.4
baz=314
V57A **Coltrane Farms** 122.69 37 P **PKiKP** 15 35 45.2 +0.5
baz=313
Y55A **Saluda** 122.72 40 P **PKPdf** 15 35 44.7 +0.1
baz=311
L64A **Middleborough** 122.72 26 P **PKiKP** 15 35 45.0 +0.4
baz=325
154A **Montrose** 122.75 42 IAMs_20 IAMs_20 16 23 28.5
comp=Z,2µm,22.0s
JSC **Jenkinsville** 122.87 39 IAMs_20 IAMs_20 16 32 23.3
comp=Z,755nm,20.0s
453A **Whigham** 123.00 44 IAMs_20 IAMs_20 16 28 07.6
comp=Z,2µm,20.0s
U58A **Oxford** 123.06 36 P **PKiKP** 15 35 45.7 +0.2
baz=315
W57A **Gilead** 123.06 38 P **PKiKP** 15 35 45.7 +0.2
baz=313
W57A **Gilead** 123.06 38 IAMs_20 IAMs_20 16 25 03.3
comp=Z,1µm,20.0s
HAL **Halifax** 123.12 19 IAMs_20 IAMs_20 16 31 34.7
comp=Z,2µm,18.0s
BIRD **Birdtown, Kers** 123.12 38 IAMs_20 IAMs_20 16 30 43.9
comp=Z,987nm,20.0s
V58A **Windy Hill, Pi** 123.15 36 IAMs_20 IAMs_20 16 23 36.4
comp=Z,2µm,21.0s
TIGA **Tifton** 123.15 43 IAMs_20 IAMs_20 16 26 36.6
comp=Z,1µm,20.0s
T59A **Double "B" Far** 123.21 34 IAMs_20 IAMs_20 16 23 39.8
comp=Z,2µm,22.0s
Z56A **Williston** 123.42 40 IAMs_20 IAMs_20 16 37 15.1
comp=Z,1µm,18.0s
U59A **Littleton** 123.52 35 IAMs_20 IAMs_20 16 24 41.8
comp=Z,2µm,21.0s
T60A **Surry** 123.54 34 IAMs_20 IAMs_20 16 24 03.5
comp=Z,2µm,21.0s
Y57A **Sumter** 123.58 39 IAMs_20 IAMs_20 16 31 24.2
comp=Z,1µm,21.0s
255A **Hazlehurst** 123.59 42 IAMs_20 IAMs_20 16 27 28.0
comp=Z,2µm,20.0s
X58A **Rowland** 123.86 38 IAMs_20 IAMs_20 16 29 37.5
comp=Z,1µm,20.0s
LIS **Lisbon** 123.94 330 *e*PP PP 15 37 29.5 +0.1
LIS *e*SS SS 15 54 22.9 +3.0
LIS AMS AMS 16 32 55.5
comp=E,2µm,22.7s
CCIG **Comitan** 123.95 64 IAMs_20 IAMs_20 16 19 44.7
comp=Z,1µm,21.0s
SFS **San Fernando** 124.07 326 IAMs_20 IAMs_20 16 39 01.1
comp=Z,1µm,19.0s
Y58A **Scranton** 124.11 38 IAMs_20 IAMs_20 16 22 48.0
comp=Z,1µm,22.0s
MESJ **Messejana** 124.14 328 *e*PP PP 15 37 30.8 0.0
MESJ *e*SS SS 15 54 22.9 +3.0
MESJ AMS AMS 16 24 50.5
comp=E,1µm,21.7s
PVAQ **Vaqueiros** 124.20 328 IAMs_20 IAMs_20 16 30 59.3
comp=Z,2µm,21.0s
V60A **Jim Taylor Roa** 124.24 35 IAMs_20 IAMs_20 16 25 12.1
comp=Z,2µm,22.0s
CNNC **Cliffs of the** 124.25 36 IAMs_20 IAMs_20 16 24 41.5
comp=Z,3µm,22.0s
TAM **Tamanrasset** 124.30 305 IAMs_20 IAMs_20 16 32 20.2
comp=Z,1µm,22.0s
257A **Skidaway Islan** 124.52 41 IAMs_20 IAMs_20 16 25 37.2
comp=Z,3µm,20.0s
Y59A **Loris** 124.53 38 IAMs_20 IAMs_20 16 39 55.2
comp=Z,1µm,20.0s
456A **Hilliard** 124.65 43 IAMs_20 IAMs_20 16 34 41.9
comp=Z,2µm,18.0s
MORF **Marmelete** 124.76 328 *e*PP PP 15 37 35.1 0.0
MORF *e*SS SS 15 54 30.8 +2.8
MORF AMS AMS 16 25 18.0
comp=E,2µm,21.7s
Y60A **Bolivia** 124.92 37 IAMs_20 IAMs_20 16 27 31.3
comp=Z,2µm,20.0s
656A **Willston** 125.13 45 IAMs_20 IAMs_20 16 35 02.7
comp=Z,2µm,21.0s
TEIG **Tepich** 125.61 57 IAMs_20 IAMs_20 16 21 38.7
comp=Z,1µm,22.0s
658A **Bunnell** 125.97 44 IAMs_20 IAMs_20 16 34 03.2
comp=Z,2µm,20.0s
RTC **Rabat Centre** 126.23 324 IAMs_20 IAMs_20 16 36 27.4
comp=Z,4µm,22.0s
DWPF **Disney Wildern** 126.66 45 IAMs_20 IAMs_20 16 23 39.5
comp=Z,2µm,22.0s
SNET **Serv Nac Est T** 127.54 65 IAMs_20 IAMs_20 16 26 21.9
comp=Z,961nm,21.0s
060A **Indiantown** 128.07 45 IAMs_20 IAMs_20 16 28 10.8
comp=Z,1µm,20.0s
061Z **Ochoppi** 128.39 47 IAMs_20 IAMs_20 16 34 01.5
comp=Z,1µm,20.0s
TGUH **Tegucigalpa,Un** 129.14 64 IAMs_20 IAMs_20 16 23 26.3
comp=Z,1µm,21.0s
PAYG **Puerto Ayora** 130.69 83 IAMs_20 IAMs_20 16 23 14.4
comp=Z,3µm,20.0s
ACON **Acoyapa** 131.85 65 IAMs_20 IAMs_20 16 19 39.6
comp=Z,466nm,20.0s
TOC2 **Torodi Ar. Sit** 131.89 296 IAMs_20 IAMs_20 16 37 37.5
comp=Z,976nm,22.0s
TOC3 **Torodi Ar. Sit** 131.90 296 IAMs_20 IAMs_20 16 37 15.7
comp=Z,1µm,22.0s
TOC1 **Torodi Ar. Sit** 131.90 297 IAMs_20 IAMs_20 16 37 36.7
comp=Z,1µm,22.0s
TOB2 **Torodi Ar. Sit** 131.90 297 IAMs_20 IAMs_20 16 37 26.8
comp=Z,1µm,22.0s
TOA2 **Torodi Ar. Sit** 131.91 296 IAMs_20 IAMs_20 16 37 16.0
comp=Z,1µm,22.0s
TOB3 **Torodi Ar. Sit** 131.91 296 IAMs_20 IAMs_20 16 39 20.0
comp=Z,825nm,21.0s
TOA0 **Torodi Ar. Sit** 131.91 297 P **PKiKP** 15 36 05.0 +1.3
SNR=7.0
TOA0 **Torodi Ar. Sit** 131.91 297 IAMs_20 IAMs_20 16 39 20.2
comp=Z,785nm,20.0s
TORD **Torodi Ar. Bea** 131.91 297 PKhKP PKPpre 15 35 52.2
comp=Z,0.9nm,0.6s,baz=14,slow=1.8,SNR=5.2
TORD PKP **PKPdf** 15 36 02.6 0.0
comp=Z,54nm,0.4s,baz=27,slow=2.5,SNR=26
TORD SKKPbc SKKPbc 15 48 39.4 -15
comp=Z,1.5nm,1.0s,baz=204,slow=3.2,SNR=4.4
TOA1 **Torodi Ar. Sit** 131.91 297 IAMs_20 IAMs_20 16 37 16.2
comp=Z,1µm,22.0s
TOA3 **Torodi Ar. Sit** 131.92 296 IAMs_20 IAMs_20 16 37 15.3
comp=Z,1µm,22.0s
TOC4 **Torodi Ar. Sit** 131.92 296 IAMs_20 IAMs_20 16 37 15.3
comp=Z,1µm,22.0s
TOC7 **Torodi Ar. Sit** 131.92 297 IAMs_20 IAMs_20 16 37 24.4
comp=Z,1µm,22.0s
TOB5 **Torodi Ar. Sit** 131.92 297 IAMs_20 IAMs_20 16 37 15.4
comp=Z,1µm,22.0s
TOC5 **Torodi Ar. Sit** 131.94 296 IAMs_20 IAMs_20 16 37 27.8
comp=Z,1µm,22.0s
ESPN **Las Esperanzas** 132.54 65 IAMs_20 IAMs_20 16 20 27.3
comp=Z,413nm,22.0s
JTS **Las Juntas de** 132.70 67 IAMs_20 IAMs_20 16 30 01.0
comp=Z,1µm,18.0s
HDC **Heredia** 133.57 67 IAMs_20 IAMs_20 16 30 11.2
comp=Z,1µm,20.0s
PLCA **Paso Flores** 139.07 146 PKHKP PKPpre 15 36 06.4
PLCA **Paso Flores** 139.07 146 PKhKP PKPpre 15 36 07.4
comp=Z,2.5nm,0.8s,baz=262,slow=5.1,SNR=6.3
PLCA PKP **PKiKP** 15 36 17.2 -0.4
comp=Z,19nm,0.9s,baz=220,slow=2.2,SNR=8.5
PLCA PKKP **PKKPdf** 15 45 42.0 -2.6
comp=Z,2.0nm,0.9s,baz=34,slow=7.3,SNR=3.1
PLCA **Paso Flores** 139.07 146 PKPpre 15 36 06.4
SDDR **Presa de Saban** 139.61 47 IAMs_20 IAMs_20 16 31 26.0
comp=Z,1µm,22.0s
DBIC **Dimbokro** 140.41 292 PKHKP PKPpre 15 36 09.9
DBIC **Dimbokro** 140.41 292 PKhKP PKPpre 15 36 11.1
comp=Z,9.2nm,0.7s,baz=52,slow=3.5,SNR=7.5
DBIC **Dimbokro** 140.41 292 PKPpre 15 36 09.9
KIC **Kosan Boka** 140.42 291 *e*PKIKP **PKPdf** 15 36 12.2 -6.3
comp=Z,143nm,1.6s
TIC **Toumodi** 140.57 292 *e*PKIKP **PKPdf** 15 36 11.7 -7.1
LIC **Lamto** 140.74 291 *e*PKIKP **PKPdf** 15 36 12.4 -6.7
comp=Z,92nm,1.3s
SDD **Santo Domingo** 140.93 46 IAMs_20 IAMs_20 16 30 53.8
comp=Z,2µm,20.0s
SJCC **San Jacinto, C** 141.59 62 *e*P **PKPdf** 15 36 14.0 -6.7
SJCC **San Jacinto, C** 141.59 62 *e*P **PKPdf** 15 36 14.0 -6.7
GO05 **Huala** 141.84 138 IAMs_20 IAMs_20 16 26 26.9
comp=Z,2µm,22.0s
OTAV **Otavalo** 142.04 78 *e*P **PKPdf** 15 36 18.3 -3.7
OTAV **Otavalo** 142.04 78 *e*P **PKPdf** 15 36 18.3 -3.7
OTAV **Otavalo** 142.04 78 IAMs_20 IAMs_20 16 27 49.1
comp=Z,2µm,20.0s
CBOC **Ciudad Bolivar** 142.56 68 *e*P **PKPdf** 15 36 18.4 -4.2
CBOC **Ciudad Bolivar** 142.56 68 *e*P **PKPdf** 15 36 18.4 -4.2
PLMC **San Jos del P** 142.66 70 *e*P **PKPdf** 15 36 18.9 -3.7
PLMC **San Jos del P** 142.66 70 *e*P **PKPdf** 15 36 18.9 -3.7
BBAC **Balboa, Cauca** 142.71 75 *e*P **PKPdf** 15 36 18.9 -3.9
BBAC **Balboa, Cauca** 142.71 75 *e*P **PKPdf** 15 36 18.9 -3.9
GCUF **Volcan Galeras** 142.84 76 *e*P **PKPdf** 15 36 21.7 -1.7
GCUF **Volcan Galeras** 142.84 76 *e*P **PKPdf** 15 36 21.7 -1.7
HELC **Santa Helena** 142.87 67 *e*P **PKPdf** 15 36 19.1 -4.3
HELC **Santa Helena** 142.87 67 *e*P **PKPdf** 15 36 19.1 -4.3
YOTC **Yotoco, Valle** 142.93 71 *e*P **PKPdf** 15 36 18.5 -4.7
YOTC **Yotoco, Valle** 142.93 71 *e*P **PKPdf** 15 36 18.5 -4.7
ZARC **Zaragoza, Cauc** 142.94 65 *e*P **PKPdf** 15 36 19.2 -3.8
ZARC **Zaragoza, Cauc** 142.94 65 *e*P **PKPdf** 15 36 19.2 -3.8
SMLC **San Martn de** 143.06 63 *e*P PKPab 15 36 19.0 +0.5
SMLC **San Martn de** 143.06 63 *e*P PKPab 15 36 19.0 +0.5
CODC **Agustn Codazz** 143.07 60 *e*P PKPbc 15 36 19.7 -0.4
CODC **Agustn Codazz** 143.07 60 *e*P PKPbc 15 36 19.7 -0.4
POPC **Popayan, Colom** 143.09 74 *e*P PKPab 15 36 19.1 +0.2
POPC **Popayan, Colom** 143.09 74 *e*P PKPab 15 36 19.1 +0.2
CRPR **Cabo Rojo, PR** 143.19 43 PKPbc 15 36 20.6 +0.5
URIC **Uribia, Colomb** 143.39 57 *e*P PKPab 15 36 19.4 -0.4
URIC **Uribia, Colomb** 143.39 57 *e*P PKPab 15 36 19.4 -0.4
GUY2C **Guyana, Caldas** 143.40 69 *e*P PKPab 15 36 20.9 +0.4
GUY2C **Guyana, Caldas** 143.40 69 *e*P PKPab 15 36 20.9 +0.4
OBIP **Obispado Ponce** 143.50 43 PKPbc 15 36 22.4 +1.3
RREF **El Recreo** 143.53 69 *e*P PKPbc 15 36 23.0 +0.8
RREF **El Recreo** 143.53 69 *e*P PKPbc 15 36 23.0 +0.8
ANIL **Santa Ana** 143.63 70 *e*P **PKPdf** 15 36 24.0 -0.6
ANIL **Santa Ana** 143.63 70 *e*P **PKPdf** 15 36 24.0 -0.6
ROC1 **El Roble** 143.63 136 **PKPdf** 15 36 22.8 -1.2
TOLC **Tolima** 143.67 70 *e*P PKPbc 15 36 23.0 +0.8
TOLC **Tolima** 143.67 70 *e*P PKPbc 15 36 23.0 +0.8
PTBC **PUERTO BERRIO** 143.71 66 *e*P PKPab 15 36 20.4 -0.7
PTBC **PUERTO BERRIO** 143.71 66 *e*P PKPab 15 36 20.4 -0.7
NORC **Norcasia** 143.72 68 *e*P PKPab 15 36 21.5 +0.3
NORC **Norcasia** 143.72 68 *e*P PKPab 15 36 21.5 +0.3
SJG **San Juan** 143.76 42 *e*P PKPab 15 36 20.2 -0.9
SJG **San Juan** 143.76 42 *e*P PKPab 15 36 20.2 -0.9
SJG **San Juan** 143.76 42 PKIKP PKPbc 15 36 22.2 +0.4
SJG **San Juan** 143.76 42 PKPbc 15 36 22.2 +0.4
PEL **Peldehue** 143.76 136 PKIKP PKPbc 15 36 22.8 +1.2
PEL MLR MLR
comp=Z,3µm,22.0s
PEL **Peldehue** 143.76 136 PKPbc 15 36 22.8 +1.2
PEL IAMs_20 IAMs_20 16 29 20.5
comp=Z,3µm,22.0s
PDPR **Patillas Dam,** 143.91 42 PKPbc 15 36 22.6 +0.3
HUMP **Col San Antoni** 143.94 42 PKPbc 15 36 22.8 +0.5
OCAC **Ocana** 143.98 63 *e*P PKPbc 15 36 23.7 +0.9
OCAC **Ocana** 143.98 63 *e*P PKPbc 15 36 23.7 +0.9
ORTC **Ortega, Tolima** 143.98 71 *e*P PKPbc 15 36 22.9 +0.1
ORTC **Ortega, Tolima** 143.98 71 *e*P PKPbc 15 36 22.9 +0.1
BRRC **Barranca, Sant** 144.13 65 *e*P PKPbc 15 36 23.0 -0.1
BRRC **Barranca, Sant** 144.13 65 *e*P PKPbc 15 36 23.0 -0.1
MTP **Monte Pirata** 144.16 42 PKPbc 15 36 23.1 0.0
FLOC **Florencia** 144.36 75 *e*P PKPbc 15 36 24.1 +0.2
FLOC **Florencia** 144.36 75 *e*P PKPbc 15 36 24.1 +0.2
STVI **Saint Thomas** 144.37 41 PKPbc 15 36 23.6 -0.1
SPBC **San Pablo de B** 144.41 67 *e*P **PKPab** 15 36 22.8 -1.1
SPBC **San Pablo de B** 144.41 67 *e*P **PKPab** 15 36 22.8 -1.1
SHEL **Horse Pasture** 144.48 255 PKIKP **PKPdf** 15 36 25.0 -0.6
SHEL **Horse Pasture** 144.48 255 **PKPdf** 15 36 25.0 -0.6
ABVI **Anegada Island** 144.48 39 **PKPdf** 15 36 24.8 -0.7
ROSC **El Rosal** 144.50 69 *e*P **PKPdf** 15 36 26.1 -0.2
ROSC **El Rosal** 144.50 69 *e*P **PKPdf** 15 36 26.1 -0.2
ROSC **El Rosal** 144.50 69 PKP **PKPdf** 15 36 26.3 0.0
comp=Z,128nm,0.8s,baz=357,slow=2.2,SNR=50
ROSC **El Rosal** 144.50 69 **PKPdf** 15 36 25.6 -0.6
BARC **Barichara** 144.83 65 *e*P PKPbc 15 36 25.9 +0.2
BARC **Barichara** 144.83 65 *e*P PKPbc 15 36 25.9 +0.2
PAMC **Pamplona, Colo** 144.93 64 *e*P **PKPdf** 15 36 26.9 -0.2
PAMC **Pamplona, Colo** 144.93 64 *e*P **PKPdf** 15 36 26.9 -0.2
NNA **Nana** 145.05 98 PKIKP **PKPbc** 15 36 26.1 0.0
NNA MLR MLR
comp=Z,2µm,21.0s
NNA **Nana** 145.05 98 **PKPbc** 15 36 26.1 0.0
NNA **Nana** 145.05 98 IAMs_20 IAMs_20 16 27 10.4
comp=Z,2µm,21.0s
AAGR **Agrelo** 145.05 138 *e*P **PKPdf** 15 36 26.9 +0.6
CHIC **Chingaza** 145.12 69 *e*P **PKPbc** 15 36 26.4 -0.4
CHIC **Chingaza** 145.12 69 *e*P **PKPbc** 15 36 26.4 -0.4
RUSC **La Rusia** 145.21 66 *e*P **PKPbc** 15 36 26.8 -0.5
RUSC **La Rusia** 145.21 66 *e*P **PKPbc** 15 36 26.8 -0.5
GO04 **Tololo Observa** 145.31 132 **PKPbc** 15 36 26.3 -0.5
ASAL **Salagasta** 145.35 137 *e*P **PKPdf** 15 36 27.8 +1.0
VILC **Villavicencio,** 145.35 69 *e*P **PKPbc** 15 36 27.1 -0.1
VILC **Villavicencio,** 145.35 69 *e*P **PKPbc** 15 36 27.1 -0.1
RTLS **Leoncito** 145.50 135 *e*P **PKPab** 15 36 28.5 +0.9
TRQA **Tornquist** 145.52 151 PKIKP **PKPdf** 15 36 26.7 -0.2
TRQA **Tornquist** 145.52 151 **PKPdf** 15 36 26.7 -0.2
PTLC **Puerto Leguiza** 145.58 77 *e*P **PKPab** 15 36 28.2 +0.1
PTLC **Puerto Leguiza** 145.58 77 *e*P **PKPab** 15 36 28.2 +0.1
MACC **Macarena, Meta** 145.90 73 *e*P **PKPdf** 15 36 28.3 +0.1
MACC **Macarena, Meta** 145.90 73 *e*P **PKPdf** 15 36 28.3 +0.1

RTCV	Cerro Valdivia	145.98	136	eP		PKPbc	15 36 28.5	-0.1
SDV	Santo Domingo	145.99	60	eP		PKPdf	15 36 28.2	-0.3
SDV	Santo Domingo	145.99	60	eP		PKPdf	15 36 28.2	-0.3
SDV	Santo Domingo	145.99	60			PKPbc	15 36 29.0	-0.3
SDV	Santo Domingo	145.99	60	IAMs_20		IAMs_20	16 35 22.7	
	comp=Z,1μm,20.0s							
SABA	Saba	146.00	39	eP		PKPbc	15 36 29.0	+0.1
SABA	Saba	146.00	39	IAMs_20		IAMs_20	16 35 56.6	
	comp=Z,2μm,20.0s							
TAMC	Tame, Arauca	146.14	64	eP		PKPbc	15 36 29.6	0.0
TAMC	Tame, Arauca	146.14	64	eP		PKPbc	15 36 29.6	0.0
SEUS	St. Eustatius	146.25	39	eP		PKPdf	15 36 29.0	+0.4
SEUS	St. Eustatius	146.25	39	IAMs_20		IAMs_20	16 35 20.5	
	comp=Z,2μm,21.0s							
CFA	Coronel Fontan	146.34	136	PKPbc		PKPbc	15 36 29.8	+0.1
	comp=Z,68nm,0.9s,baz=237,slow=3.3,SNR=84							
SKI	Saint Kitts	146.53	39	eP		PKPdf	15 36 28.7	-0.4
AMOG	MOGNA	146.55	135	eP		PKPdf	15 36 29.3	+0.4
ACAN	Cantantal	146.64	138	eP		PKPdf	15 36 29.5	+0.6
PTGC	Puerto Gaitan,	146.76	68	eP		PKPdf	15 36 30.4	+0.7
PTGC	Puerto Gaitan,	146.76	68	eP		PKPdf	15 36 30.4	+0.7
ANWB	Willy Bob	146.85	37	eP		PKPbc	15 36 31.9	+0.5
GO03	Copiap	147.04	128			PKPbc	15 36 31.2	-0.6
MRA	San Martin	147.51	140	eP		PKPdf	15 36 31.0	+0.5
VCA	Vinchina	147.99	132	eP		PKPdf	15 36 31.9	+0.4
BAUV	El Baul	148.14	57	eP		PKPdf	15 36 18.4	-13
GO02	Mina Guanaco	148.67	125			PKPbc	15 36 35.1	-1.6
BBL	Barber's Block	148.68	39	eP		PKPdf	15 36 32.7	0.0
DWS	Wesley	148.75	39	eP		PKPdf	15 36 23.3	-10
TCA	Tanti	148.94	139	eP		PKPdf	15 36 33.4	+0.5
DLPL	La Plaine	148.97	39	eP		PKPdf	15 36 33.6	+0.4
PB04	IPOC Station P	149.34	119			PKiKP	15 36 40.0	+0.7
FDF	Fort de France	149.48	40	eP		PKPdf	15 36 34.9	+0.8
FDF	Fort de France	149.48	40			PKPdf	15 36 35.7	+1.6
FDF				IAMs_20		IAMs_20	16 38 37.4	
	comp=Z,1μm,20.0s							
SLB	Belfond	150.23	41	eP		PKPdf	15 36 33.8	-1.4
LVC	Limon Verde	150.30	121	PKIKP		PKPbc	15 36 38.7	-2.1
LVC				MLR		MLR		
	comp=Z,2μm,22.0s							
LVC	Limon Verde	150.30	121			PKPbc	15 36 38.7	-2.1
LVC	Limon Verde	150.30	121	IAMs_20		IAMs_20	16 29 57.1	
	comp=Z,2μm,22.0s							
PB01	IPOC Station P	150.37	117	IAMs_20		IAMs_20	16 32 04.9	
	comp=Z,2μm,21.0s							
MCLT	Moule a Chique	150.38	41	eP		PKPdf	15 36 24.4	-11
SVB	Belmont	150.50	42	eP		PKPdf	15 36 29.2	-6.4
SVCV	St. Vincent, C	150.57	42	eP		PKPdf	15 36 37.3	+1.5
PB11	IPOC Station P	150.63	115			PKPdf	15 36 37.1	+1.2
MNMC	Minye Minye	150.87	114			PKPdf	15 36 37.1	+0.7
GO01	Chusmiza	151.08	115			PKPdf	15 36 38.3	+1.3
GUIV	Guiria	151.66	47	eP		PKPdf	15 36 24.5	-13
ORIV	Oritupano	151.79	51	eP		PKPdf	15 36 32.1	-5.5
TOSP	Speyside	152.40	44	eP		PKPdf	15 36 41.8	+3.3
TOSP	Speyside	152.40	44	PKPdf		PKPdf	15 36 39.0	+0.5
LPAZ	La Paz	152.94	108	PKIKP		PKPdf	15 36 41.1	+1.1
LPAZ							15 36 48.8	
LPAZ	La Paz	152.94	108	PKP		PKPdf	15 36 41.6	+1.6
	comp=Z,18nm,1.0s,baz=314,slow=1.3,SNR=40							
LPAZ				PKPbc		sPKPdf	15 36 48.8	+0.2
	comp=Z,28nm,0.8s,baz=250,slow=3.7,SNR=21							
LPAZ				PKPab		PKPab	15 36 58.6	+0.1
	comp=Z,21nm,0.8s,baz=302,slow=5.3,SNR=9.6							
LPAZ	La Paz	152.94	108			PKPdf	15 36 41.1	+1.1
CPUP	Villa Florida	156.99	141	PKP		PKPdf	15 36 45.6	+1.0
	comp=Z,5.0nm,0.9s,baz=174,slow=0.4,SNR=9.5							
CPUP				PKPbc		sPKPdf	15 36 55.7	+2.7
	comp=Z,11nm,1.0s,baz=297,slow=2.8,SNR=12							
CPUP				PKPab		PKPab	15 37 15.3	+0.7
	comp=Z,19nm,1.0s,baz=237,slow=3.4,SNR=10							
SAML	Samuel	158.51	92	PKIKP		PKPdf	15 36 47.3	+0.5
SAML							15 37 21.9	
SAML				MLR		MLR		
	comp=Z,2μm,21.0s							
SAML	Samuel	158.51	92			PKPdf	15 36 47.3	+0.5
SAML				PKPab		PKPab	15 37 21.9	+0.2
SAML	Samuel	158.51	92	IAMs_20		IAMs_20	16 38 51.5	
	comp=Z,2μm,21.0s							
SPB	Sao Paulo	164.26	159			PKPdf	15 36 52.2	-0.4
BDFB	Brasilia	170.68	137	PKP		PKPdf	15 36 58.6	+1.1
	comp=Z,15nm,1.2s,baz=180,slow=1.3,SNR=6.4							
BDFB				PKPab		PKPab	15 38 16.5	+1.5
	comp=Z,1.8nm,0.3s,baz=240,slow=3.8,SNR=5.5							

DJA 19 15:21:12.1±0.8, 10°S±6°×11°9E±°, h34km±7km, M3.5/7, MLv3.5/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.55	20	P	Pb	15 21 25.4	+1.8
WBSI				S	Sn	15 21 33.0	+1.5
BASI	Baing, Sumba	1.36	93	P	Pn	15 21 34.9	+0.2
PLAI	Plampang	1.93	313	P	Pn	15 21 42.3	-0.3
TWSI	Taliwang, Sumb	2.69	302	P	Pn	15 21 53.2	+0.2

*IDC **19** 15:22:42.7±0.7, 60°.52S×43°.23W, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.1/27, mbtmp4.2/9, ML3.5/1, Error ellipse: s-maj=32.8km s-min=17.0km az=56.0*
*ISCJB **19** 15:22:43.2±0.4, 60°.53S±0°.06×43°.2W±0°.2, h18km, mb4.1/9, Error ellipse: s-maj=12.5km s-min=6.8km az=144.1*
*NEIC **19** 15:22:44.9±1.2, 60°.44S±0°.09×43°.1W±0°.2, h15km±3km, mb4.6/19*

ISC 19 15:22:45.3±0.5, 60°.47S±0°.08×43°.11W±0°.09, h18km, n63, σ0°88/60, mb4.4/15, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.16	33	Pn	Pn	15 24 27.8	-1.1
PMSA	Palmer Station	10.53	237	Pn	Pn	15 25 14.6	-0.5
EFI	East Falkland	12.11	310	Pn	Pn	15 25 35.8	-1.0
VNA3	Neumayer Olymp	17.12	143	P	Pn	15 26 40.8	-2.4
VNA1	Neumayer--Stat	17.35	140	P	Pn	15 26 44.8	-1.2
VNA2	Neumayer--Watz	17.71	141	P	Pn	15 26 48.3	-2.2
	baz=288,slow=15						
SNAA	Sanae	19.33	142	P	Pn	15 27 10.7	+0.5
SNAA	Sanae	19.33	142	P	Pn	15 27 09.9	-0.3
	0.1nm,0.3s,baz=249,slow=6.0,SNR=13						
SNAA	Sanae	19.33	142	P	Pn	15 27 09.6	-0.7
PLCA	Paso Flores	26.01	307	P	P	15 28 16.3	-0.7
	2.0nm,0.7s,baz=192,slow=9.3,SNR=5.7						
PLCA	Paso Flores	26.01	307	P	P	15 28 16.1	-0.9
PLCA				IAmb	IAmb	15 28 34.0	
	comp=Z,22nm,1.8s						
GO06	Curarrehue	27.35	307	P	P	15 28 28.3	-0.9
QSPA	South Pole Qui	29.76	180	P	P	15 28 51.3	+0.9
	comp=Z,3.2nm,1.0s,baz=172,slow=5.3,SNR=6.6						
QSPA	South Pole Qui	29.76	180	P	P	15 28 50.6	+0.2
QSPA				IAmb	IAmb	15 28 52.9	
	comp=Z,14nm,1.5s						
GO05	Huala	31.53	311	P	P	15 29 05.6	-0.4
ROC1	El Roble	33.01	314	P	P	15 29 19.2	-0.2
CPUP	Villa Florida	35.50	338	P	P	15 29 42.0	+1.4
	comp=Z,1.8nm,0.8s,baz=125,slow=7.9,SNR=2.9						
CPUP	Villa Florida	35.50	338	P	P	15 29 41.4	+0.8
CPUP				IAmb	IAmb	15 30 01.0	
	comp=Z,18nm,1.7s						
GO02	Mina Guanaco	39.73	321	P	P	15 30 17.1	+0.3
GO02				IAmb	IAmb	15 30 18.1	
	comp=Z,13nm,0.9s						
SBA	Scott Base	40.71	189	P	P	15 30 25.6	+1.5
SBA				IAmb	IAmb	15 30 27.1	
	comp=Z,16nm,1.1s						
LVC	Limon Verde	41.91	323	P	P	15 30 34.9	0.0
	comp=Z,5.0nm,0.9s,baz=188,slow=8.7,SNR=5.7						
LVC	Limon Verde	41.91	323	P	P	15 30 34.8	0.0
PB01	IPOC Station P	43.56	323	P	P	15 30 46.5	-1.5
PB01				IAmb	IAmb	15 30 50.3	
	comp=Z,10.0nm,0.7s						
GO01	Chusmiza	44.77	324	P	P	15 30 58.0	-0.1
GO01				IAmb	IAmb	15 31 00.1	
	comp=Z,7.8nm,1.1s						
PB11	IPOC Station P	44.82	323	P	P	15 30 58.3	+0.2
PB11				IAmb	IAmb	15 31 22.2	
	comp=Z,9.3nm,1.0s						
BDFB	Brasilia	44.91	353	P	P	15 30 59.2	+0.4
	comp=Z,4.3nm,0.7s,baz=145,slow=7.1,SNR=5.6						
BDFB	Brasilia	44.91	353	P	P	15 30 59.1	+0.3
BDFB				IAmb	IAmb	15 31 00.6	
	comp=Z,6.7nm,0.9s						
MNMC	Minye Minye	45.40	324	P	P	15 31 03.4	+0.5
SIV	San Ignacio	46.29	336	P	P	15 31 10.2	+0.6
	comp=Z,1.4nm,0.8s,baz=132,slow=2.8,SNR=4.4						
LPAZ	La Paz	47.69	327	P	P	15 31 21.9	+0.6
	comp=Z,1.2nm,0.7s,baz=146,slow=6.9,SNR=5.3						
LPAZ	La Paz	47.69	327	P	P	15 31 21.2	0.0
SAML	Samuel	53.56	335	P	P	15 32 05.3	+0.4
SAML				IAmb	IAmb	15 32 31.3	
	comp=Z,4.6nm,1.1s						
LBTB	Lobatse	58.10	85	P	P	15 32 37.6	+0.2
DBIC	Dimbokro	73.38	40	P	P	15 34 16.9	+1.1
	comp=Z,5.2nm,0.9s,baz=166,slow=8.3,SNR=3.4						
DBIC	Dimbokro	73.38	40	P	P	15 34 16.5	+0.7
TORD	Torodi Ar. Bea	81.61	44	P	P	15 35 03.8	+2.0
	comp=Z,2.8nm,0.8s,baz=205,slow=6.4,SNR=12						
TORD	Torodi Ar. Bea	81.61	44	P	P	15 35 01.8	0.0
AKASG	Malin Array Be	125.09	48	PKP	PKPdf	15 41 41.9	-1.2
	comp=Z,0.3nm,0.3s,baz=204,slow=0.8,SNR=4.7						
AKASG	Malin Array Be	125.09	48		PKPdf	15 41 42.1	-1.0
FINES	FINESS Array B	132.63	38	PKP	PKPdf	15 41 56.8	-0.3
	comp=Z,9.3nm,1.1s,baz=193,slow=7.8,SNR=3.9						
FINES	FINESS Array B	132.63	38		PKPdf	15 41 56.6	-0.5
YKA	Yellowknife Ar	134.14	322	PKP	PKPdf	15 42 00.0	+0.1
	comp=Z,0.7nm,0.6s,baz=139,slow=2.0,SNR=4.5						
YKA	Yellowknife Ar	134.14	322		PKPdf	15 41 59.8	-0.1
BCAR	Beaver Creek A	143.84	310	PKPpre	PKPpre	15 42 14.9	
INK	Inuvik	143.88	321	PKP	PKPbc	15 42 15.9	+0.5
	comp=Z,1.4nm,0.7s,baz=135,slow=1.4,SNR=4.4						
INK	Inuvik	143.88	321	PKPpre	PKPpre	15 42 15.2	
INK				PKPdf	PKPdf	15 42 18.7	+1.2
BVAR	Borovoye Array	144.26	71	PKP	PKPbc	15 42 17.7	+0.7
	comp=Z,1.0nm,0.7s,baz=249,slow=4.1,SNR=4.4						
SCM	Sheep Creek Mo	145.32	306		PKPab	15 42 21.1	+0.6
MAKZ	Makanchi	145.78	88		PKPdf	15 42 21.5	0.0
MK31	Makanchi Array	145.93	89		PKPbc	15 42 22.2	-0.4
MKAR	Makanchi Array	145.93	89	PKPbc	PKPbc	15 42 22.4	-0.2
	comp=Z,3.6nm,0.7s,baz=241,slow=2.4,SNR=28						
MKAR	Makanchi Array	145.93	89		PKPdf	15 42 21.9	+0.1
PRP	Porcupine Dome	146.52	312	PKPdf	PKPab	15 42 24.4	-0.5
KURBB	Kurchatov Arra	146.64	80	PKPbc	PKPbc	15 42 24.6	+0.1
	comp=Z,2.5nm,0.7s,baz=230,slow=3.3,SNR=21						
ILAR	Eielson Array	146.66	311	PKPbc	PKPbc	15 42 24.2	+0.1
	comp=Z,3.2nm,0.7s,baz=156,slow=2.9,SNR=32						
KURK	Kurchatov	146.74	80		PKPbc	15 42 25.0	+0.3
BMAR	Burnt Mountain	147.07	316		PKPab	15 42 26.2	-0.8
BPAW	Bear Paw Mtn.	147.91	308		PKPbc	15 42 27.8	+0.2
TOLK	Toolik Lake Re	149.29	317		PKiKP	15 42 31.6	-0.6
IMAR	Indian Mountai	149.78	310		PKiKP	15 42 32.7	-0.5
ZALV	Zalesovo Beam	151.72	80	PKPbc	PKPbc	15 42 35.2	-2.0
	comp=Z,0.2nm,0.3s,baz=241,slow=3.0,SNR=3.9						
ZALV	Zalesovo Beam	151.72	80		PKPbc	15 42 36.1	-1.1
SONM	Songino Array	158.36	112	PKPab	PKPab	15 43 15.0	+0.1
	comp=Z,1.1nm,0.8s,baz=249,slow=3.8,SNR=7.6						

IDC 19 15:37:36.0±2.7, 3°.06N×128°.89E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/41, mbtmp3.3/3, Error ellipse: s-maj=195.6km s-min=25.7km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.47	167	P	P	15 42 46.8	-0.7
	0.5nm,0.6s,baz=345,slow=10.0,SNR=5.8						
ASAR	Alice Springs	27.00	170	P	P	15 43 19.3	-0.6
	0.3nm,0.9s,baz=343,slow=8.7,SNR=3.7						
MKAR	Makanchi Array	59.34	325	P	P	15 47 40.9	+0.9
	0.2nm,0.3s,baz=117,slow=6.6,SNR=4.7						

*ISCJB **19** 15:49:40.3±0.5, 55°.86S±0°.08×25°.8W±0°.2, h10km, mb4.5/7, MS4.3/1, Error ellipse: s-maj=15.8km s-min=7.2km az=140.4*
*IDC **19** 15:49:40.6±0.7, 55°.88S×25°.72W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.2/23, mbtmp4.3/8, ML4.2/1, MS4.3/1, Ms1 4.3/1, ms1mx3.5/21, Error ellipse: s-maj=25.0km s-min=18.4km az=58.0*
*NEIC **19** 15:49:47.6±1.4, 55°.9S±0°.1×25°.9W±0°.2, h52km±7km, mb4.8/17*

ISC 19 15:49:41.8±0.6, 55°.86S±0°.10×25°.8W±0°.1, h10km, n38, σ0°56/37, mb4.7/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.37	280	Pn	Pn	15 51 15.4	-0.1
VNA1	Neumayer--Stat	16.68	160	P	P	15 53 37.0	-0.7
VNA3	Neumayer Olymp	16.92	162	P	Pn	15 53 38.4	+0.2
VNA2	Neumayer--Watz	17.08	159	P	Pn	15 53 40.8	+0.5
	baz=333,slow=16						
SNAA	Sanae	18.60	157	P	P	15 53 58.5	-0.4
SNAA	Sanae	18.60	157	P	P	15 53 58.5	-0.4
	0.8nm,0.3s,baz=305,slow=13,SNR=27						
SNAA	Sanae	18.60	157	P	P	15 53 58.6	-0.3
PMSA	Palmer Station	20.64	229	P	P	15 54 21.0	0.0
	16nm,0.7s,baz=61,slow=10,SNR=8.9						
PMSA	Palmer Station	20.64	229	P	P	15 54 21.9	+0.9
PMSA				IAmb	IAmb	15 54 28.6	
	comp=Z,32nm,1.0s						
TRQA	Tornquist	30.00	291	P	P	15 55 50.1	-0.3
QSPA	South Pole Qui	34.40	180	P	P	15 56 28.5	-0.3
	comp=Z,6.9nm,0.6s,baz=198,slow=2.8,SNR=81						
QSPA	South Pole Qui	34.40	180	P	P	15 56 28.1	-0.8
QSPA				IAmb	IAmb	15 56 41.9	
	comp=Z,9.2nm,0.8s						
CPUP	Villa Florida	37.30	309	P	P	15 56 54.1	+0.2
	comp=Z,2.8nm,0.6s,baz=155,slow=9.3,SNR=8.9						
CPUP	Villa Florida	37.30	309	P	P	15 56 53.6	-0.3
CPUP				IAmb	IAmb	15 56 55.3	
	comp=Z,20nm,1.8s						
MAW	Mawson	39.82	143	P	P	15 57 15.7	+1.1
	comp=Z,1.3nm,0.6s,baz=217,slow=7.0,SNR=8.7						
MAW	Mawson	39.82	143	P	P	15 57 15.3	+0.7
GO03	Copiap	42.48	293	P	P	15 57 36.6	-0.4
GO03				IAmb	IAmb	15 57 37.3	
	comp=Z,9.5nm,0.8s						
BDFB	Brasilia	43.61	328	LR	LR	16 14 39.1	
	comp=Z,396nm,19.6s,baz=67,slow=34						
GO02	Mina Guanaco	44.13	296	P	P	15 57 51.0	+0.4
LVC	Limon Verde	45.91	298	P	P	15 58 05.2	+0.3
LVC				IAmb	IAmb	15 58 07.5	
	comp=Z,8.7nm,0.7s						
SBA	Scott Base	46.33	184	P	P	15 58 07.6	+0.5
PB01	IPOC Station P	47.52	299	P	P	15 58 17.9	+0.8
PB01				IAmb	IAmb	15 58 22.7	
	comp=Z,13nm,0.9s						
LBTB	Lobatse	48.18	72	P	P	15 58 21.9	-0.4
	comp=Z,3.4nm,1.0s,baz=233,slow=5.1,SNR=4.0						
GO01	Chusmiza	48.54	300	P	P	15 58 26.0	+0.5
GO01				IAmb	IAmb	15 58 27.2	
	comp=Z,6.4nm,0.8s						
PB11	IPOC Station P	48.69	300	P	P	15 58 25.5	-0.8
MNMC	Minye Minye	49.19	300	P	P	15 58 30.8	+0.5
LPAZ	La Paz	50.94	304	P	P	15 58 45.0	+1.0
	comp=Z,5.4nm,0.6s,baz=153,slow=5.4,SNR=26						
LPAZ	La Paz	50.94	304	P	P	15 58 44.5	+0.5
LPAZ				IAmb	IAmb	15 58 45.8	
	comp=Z,7.3nm,0.7s						
SAML	Samuel	55.25	313	P	P	15 59 15.1	0.0
TORD	Torodi Ar. Bea	72.49	28	P	P	16 01 09.2	+0.8
	comp=Z,122nm,0.8s,baz=204,slow=6.4,SNR=5.6						
TORD	Torodi Ar. Bea	72.49	28	P	P	16 01 08.9	+0.5
ASAR	Alice Springs	98.92	161	P	P	16 03 21.5	-0.9
	comp=Z,0.3nm,0.6s,baz=183,slow=4.6,SNR=4.2						
SONM	Songino Array	149.91	85	PKPbc	PKPbc	16 09 31.1	-0.3
	comp=Z,0.5nm,0.4s,baz=227,slow=3.4,SNR=7.1						
SONM	Songino Array	149.91	85		PKPbc	16 09 30.7	-0.7
IL31		150.59	312		PKPbc	16 09 32.5	+0.2
ILAR	Eielson Array	150.59	312	PKPbc	PKPbc	16 09 32.4	+0.1
	comp=Z,1.5nm,0.8s,baz=139,slow=3.8,SNR=22						
ILAR	Eielson Array	150.59	312		PKPbc	16 09 31.9	-0.4
TOLK	Toolik Lake Re	152.06	319		PKiKP	16 09 35.9	-0.1

ISC 19 15:56:40.3±1.2, 50°.15N±0°.06×19°.14E±0°.04, h0km, n5, σ0°69/14, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.43	80	ePg	Pg	15 56 48.5	+0.1
OJC				ePg	Pg	15 56 48.5	+0.1
OJC				eSg	Sg	15 56 54.4	+0.3
OJC				eSg	Sg	15 56 54.4	+0.3
LANS	Liptovska Anna	1.02	168	ePG	Pg	15 57 00.1	+0.2
LANS				eSG	Sg	15 57 13.5	+0.4
LANS				eLG	Lg	15 57 15.1	
NIE	Niedzica	1.05	134	ePg	Pb	15 57 01.4	+0.1
NIE				ePg	Pb	15 57 01.4	+0.1
NIE				eSg	Sb	15 57 16.5	+0.9
NIE				eSg	Sb	15 57 16.5	+0.9
MORC	Moravsky Berou	1.10	251	ePG	Pg	15 57 02.0	+0.7
MORC				eSG	Sb	15 57 17.3	+0.3
VYHS	Vyhne	1.67	187	ePN	Pn	15 57 10.0	-0.8
VYHS				eSN	Sn	15 57 31.5	-1.4

*ISCJB **19** 16:03:29.0±0.6, 55°.86S±0°.09×25°.7W±0°.2, h10km, mb4.0/5, Error ellipse: s-maj=18.6km s-min=8.6km az=139.6*
*IDC **19** 16:03:28.7±0.9, 55°.86S×25°.69W, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.8/23, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=36.7km s-min=20.5km az=57.0*
*NEIC **19** 16:03:36.2±1.3, 56°.0S±0°.2×25°.9W±0°.2, h52km±6km, mb4.5/8*

ISC 19 16:03:30.8±0.7, 55°.9S±0°.1×25°.7W±0°.1, h10km, n23, σ0°77/23, mb4.1/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.39	280	Pn	Pn	16 05 05.8	+0.9
VNA1	Neumayer--Stat	16.64	160	P	Pn	16 07 24.7	+0.9
VNA3	Neumayer Olymp	16.88	162	P	Pn	16 07 26.8	0.0
VNA2	Neumayer--Watz	17.04	159	P	Pn	16 07 29.1	+0.3
	baz=320,slow=14						
SNAA	Sanae	18.56	157	P	P	16 07 47.2	-0.2
SNAA	Sanae	18.56	157	P	P	16 07 47.3	-0.2
	0.3nm,0.3s,baz=308,slow=12,SNR=12						
SNAA	Sanae	18.56	157	P	P	16 07 47.0	-0.5
TRQA	Tornquist	30.03	291	P	P	16 09 39.0	-0.7
QSPA	South Pole Qui	34.36	180	P	P	16 10 17.1	-0.4
	3.4nm,0.6s,baz=210,slow=1.7,SNR=51						
QSPA	South Pole Qui	34.36	180	P	P	16 10 17.2	-0.4
QSPA				IAmb	IAmb	16 10 30.2	
	comp=Z,6.7nm,1.0s						
CPUP	Villa Florida	37.34	309	P	P	16 10 43.3	0.0
CPUP				IAmb	IAmb	16 11 02.6	
	comp=Z,19nm,1.9s						
CFA	Coronel Fontan	38.27	291	P	P	16 10 49.0	-2.1
	comp=Z,1.1nm,0.4s,baz=152,slow=14,SNR=2.6						
MAW	Mawson	39.78	143	P	P	16 11 03.6	+0.3
	comp=Z,1.3nm,0.7s,baz=241,slow=4.8,SNR=6.0						
MAW	Mawson	39.78	143	P	P	16 11 03.3	0.0
LVC	Limon Verde	45.95	298	P	P	16 11 54.8	+0.6
LVC				IAmb	IAmb	16 12 01.1	
	comp=Z,8.9nm,1.2s						
LPAZ	La Paz	50.97	304	P	P	16 12 34.4	+1.1
	comp=Z,1.0nm,0.7s,baz=157,slow=7.7,SNR=3.8						
LPAZ	La Paz	50.97	304	P	P	16 12 33.4	+0.1
LPAZ				IAmb	IAmb	16 12 46.8	
	comp=Z,2.3nm,0.8s						
LSZ	Lusaka	57.55	68	P	P	16 13 20.8	+0.2
TORD	Torodi Ar. Bea	72.52	28	P	P	16 14 57.5	-0.2
	comp=Z,1.0nm,0.6s,baz=198,slow=6.1,SNR=4.4						
SONM	Songino Array	149.89	85	PKPbc	PKPdf	16 23 17.0	+1.5
	comp=Z,0.7nm,0.7s,baz=215,slow=3.5,SNR=4.5						
SONM	Songino Array	149.89	85	PKPdf	PKPdf	16 23 15.4	-0.1
ILAR	Eielson Array	150.63	312	PKPbc	PKPbc	16 23 21.5	+0.1
	comp=Z,0.5nm,0.7s,baz=116,slow=2.1,SNR=5.3						
ILAR	Eielson Array	150.63	312		PKPbc	16 23 20.8	-0.7

*IDC **19** 16:09:26.2±0.7, 12°.67N×122°.68E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/37, mbtmp4.0/13, ML4.6/1, Error ellipse: s-maj=27.3km s-min=14.2km az=68.0*
*MAN **19** 16:09:28.1, 12°.98N×122°.76E, h12km, mb4.9, ML3.8, MS3.8*
*NEIC **19** 16:09:30.3±1.0, 12°.66N±0°.10×122°.64E±0°.10, h33km±6km, mb4.6/19*

ISC 19 16:09:27.1±1.3, 12°.92N±0°.02×122°.79E±0°.04, h5km±9km, n58, σ1°83/76, mb4.4/21, 6C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.42	345	eP	Pb	16 09 36.8	-0.2
AUQP				eS	Sb	16 09 45.8	+2.0
OTRP	Odiongan	0.93	234	eP	Pg	16 09 44.9	-0.1
OTRP				eS	Sg	16 09 58.5	+1.4
GQP	Guinayangan	1.04	341⇑	eP	Pg	16 09 46.2	-0.8
GQP				eS	Sn	16 10 01.0	-2.3
BOAC	Boac	1.06	300	eP	Pb	16 09 46.9	-1.2
BOAC				eS	Sn	16 10 02.6	-1.4
RCP	Roxas	1.35	182⇑	eP	Pn	16 09 50.9	-1.8
PV

MAKZ	**Makanchi**	**48.06 323**	P	**P**	**16 18 07.8**	**+0.1**
MAKZ			IAmb	IAmb	16 18 33.5	
comp=Z,16nm,2.0s						
YAK	**Yakutsk**	**49.29 4**	P	**P**	**16 18 17.9**	**+1.1**
YAK			IAmb	IAmb	16 18 20.8	
comp=Z,3.6nm,0.7s						
NIL	**Nilore**	**49.43 303**	P	**P**	**16 18 17.1**	**-1.3**
NIL			IAmb	IAmb	16 18 18.4	
comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**51.97 326**	P	**P**	**16 18 37.0**	**-0.3**
KURK			IAmb	IAmb	16 18 37.8	
comp=Z,5.5nm,0.8s						
KK31	**Karatay Array**	**53.97 314**	P	**P**	**16 18 51.5**	**-0.7**
KKAR	**Karatay Array**	**53.97 314**	P	**P**	**16 18 51.5**	**-0.8**
BRVK	**Borovoye**	**57.63 325**	P	**P**	**16 19 18.1**	**-0.2**
BRVK			IAmb	IAmb	16 19 28.7	
comp=Z,3.8nm,1.1s						
NRIK	**Noril'sk**	**60.64 346**	P	**P**	**16 19 38.6**	**-0.2**
comp=Z,1.9nm,0.6s,baz=144,slow=9.0,SNR=3.7						
ILAR	**Eielson Array**	**78.56 26**	P	**P**	**16 21 31.4**	**+1.8**
comp=Z,0.5nm,0.9s,baz=257,slow=4.9,SNR=3.7						
FINES	**FINESS Array B**	**81.95 331**	P	**P**	**16 21 49.1**	**+1.2**
comp=Z,5.6nm,1.0s,baz=57,slow=5.1,SNR=3.3						

*ISCJB **19** 16:09:57.7±0.5, 55°.86S±0°.08×25°.7W±0°.1, h10km, mb4.3/7, Error ellipse: s-maj=13.0km s-min=7.3km az=40.2*
*IDC **19** 16:09:57.8±0.8, 55°.88S×25°.84W, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.0/22, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=29.6km s-min=18.2km az=56.0*
*NEIC **19** 16:10:04.9±1.3, 55°.95S±0°.2×25°.91W±0°.09, h51km±7km, mb4.9/15*

ISC 19 16:09:59.4±0.5, 55°.86S±0°.10×25°.68W±0°.08, h10km, n35, σ0§91/34, mb4.8/11, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.41**	**280**	Pn	**Pn**	**16 11 35.4**	**+1.8**
VNA1	**Neumayer--Stat**	**16.67**	**160**	P	**Pn**	**16 13 54.1**	**+1.4**
VNA3	**Neumayer Olymp**	**16.90**	**162**	P	**Pn**	**16 13 55.7**	**0.0**
VNA2	**Neumayer--Watz**	**17.06**	**159**	P	**Pn**	**16 13 58.0**	**+0.3**
baz=323,slow=14							
SNAA	**Sanae**	**18.59**	**157**	P	**P**	**16 14 16.3**	**0.0**
SNAA	**Sanae**	**18.59**	**157**	P	**P**	**16 14 16.1**	**-0.2**
0.4nm,0.3s,baz=316,slow=15,SNR=22							
SNAA	**Sanae**	**18.59**	**157**	P	**P**	**16 14 15.8**	**-0.5**
EFI	**East Falkland**	**19.49**	**269**	P	**P**	**16 14 25.9**	**-0.3**
EFI				IAmb	IAmb	16 14 49.2	
comp=Z,174nm,1.6s							
PMSA	**Palmer Station**	**20.67**	**229**	P	**P**	**16 14 38.8**	**-0.1**
comp=Z,13nm,0.9s,baz=58,slow=3.8,SNR=4.1							
PMSA	**Palmer Station**	**20.67**	**229**	P	**P**	**16 14 38.6**	**-0.3**
TRQA	**Tornquist**	**30.04**	**291**	P	**P**	**16 16 07.7**	**-0.6**
TRQA				IAmb	IAmb	16 16 38.5	
comp=Z,28nm,1.8s							
SYO	**Syowa Base**	**31.20**	**141⇑**	*e*P	**P**	**16 16 16.8**	**-1.4**
GO06	**Curarrehue**	**34.11**	**279**	P	**P**	**16 16 43.9**	**-0.2**
GO06				IAmb	IAmb	16 17 22.4	
comp=Z,29nm,1.9s							
QSPA	**South Pole Qui**	**34.40**	**180**	P	**P**	**16 16 45.9**	**-0.5**
comp=Z,6.5nm,0.6s,baz=199,slow=1.8,SNR=45							
QSPA	**South Pole Qui**	**34.40**	**180**	P	**P**	**16 16 45.8**	**-0.7**
QSPA				IAmb	IAmb	16 16 59.8	
comp=Z,42nm,1.8s							
CPUP	**Villa Florida**	**37.33**	**309**	P	**P**	**16 17 09.8**	**-2.0**
comp=Z,0.6nm,0.5s,baz=135,slow=7.1,SNR=2.4							
CPUP	**Villa Florida**	**37.33**	**309**	P	**P**	**16 17 11.4**	**-0.3**
CPUP				IAmb	IAmb	16 17 24.6	
comp=Z,17nm,1.8s							
CFA	**Coronel Fontan**	**38.27**	**291**	P	**P**	**16 17 18.2**	**-1.4**
comp=Z,3.0nm,0.6s,baz=186,slow=9.2,SNR=4.3							
SUR	**Sutherland**	**39.77**	**74**	P	**P**	**16 17 31.1**	**-1.3**
MAW	**Mawson**	**39.80**	**143**	P	**P**	**16 17 31.2**	**-0.8**
comp=Z,1.4nm,0.6s,baz=232,slow=7.9,SNR=4.4							
MAW	**Mawson**	**39.80**	**143**	P	**P**	**16 17 32.6**	**+0.6**
LVC	**Limon Verde**	**45.95**	**298**	P	**P**	**16 18 21.8**	**-1.0**
LVC				IAmb	IAmb	16 18 38.9	
comp=Z,18nm,1.4s							
CRZF	**Crozet Islands**	**47.11**	**113**	P	**P**	**16 18 33.2**	**+2.0**
GO01	**Chusmiza**	**48.57**	**300**	P	**P**	**16 18 44.4**	**+1.0**
GO01				IAmb	IAmb	16 18 57.9	
comp=Z,28nm,1.9s							
MNMC	**Minye Minye**	**49.23**	**300**	P	**P**	**16 18 48.2**	**0.0**
LPAZ	**La Paz**	**50.97**	**303**	P	**P**	**16 19 02.4**	**+0.6**
comp=Z,1.8nm,0.7s,baz=128,slow=5.3,SNR=5.3							
LPAZ	**La Paz**	**50.97**	**303**	P	**P**	**16 19 02.4**	**+0.6**
LPAZ				IAmb	IAmb	16 19 03.7	
comp=Z,18nm,1.9s							
LSZ	**Lusaka**	**57.51**	**68**	P	**P**	**16 19 49.6**	**+0.7**
LSZ				IAmb	IAmb	16 20 58.2	
comp=Z,18nm,1.8s							
TORD	**Torodi Ar. Bea**	**72.48**	**28**	P	**P**	**16 21 26.7**	**+0.7**
comp=Z,82nm,0.7s,baz=195,slow=7.7,SNR=4.8							
ASAR	**Alice Springs**	**98.91**	**161**	P	Pdif	16 23 40.8	+0.9
comp=Z,0.3nm,0.8s,baz=186,slow=4.0,SNR=5.2							
ASAR	**Alice Springs**	**98.91**	**161**	P	**P**	**16 23 39.8**	**-0.1**
SONM	**Songino Array**	**149.87**	**85**	PKPbc	**PKPbc**	**16 29 48.6**	**-0.3**
comp=Z,0.5nm,0.4s,baz=227,slow=4.0,SNR=5.7							
SONM	**Songino Array**	**149.87**	**85**		**PKPbc**	**16 29 48.6**	**-0.3**
ILAR	**Eielson Array**	**150.62**	**312**	PKPbc	**PKiKP**	**16 29 50.4**	**-0.3**
comp=Z,2.0nm,0.8s,baz=147,slow=3.3,SNR=13							
ILAR	**Eielson Array**	**150.62**	**312**		**PKPbc**	**16 29 49.9**	**-0.1**

*ISCJB **19** 16:16:58.0±0.8, 13°.2N±0°.1×144°.3E±0°.2, h129km, Error ellipse: s-maj=24.4km s-min=16.3km az=33.8*
*NEIC **19** 16:16:59.1±1.1, 13°.3N±0°.1×144°.8E±0°.4, h141km±10km, mb4.4/3*
*IDC **19** 16:16:59.1±1.9, 13°.30N×144°.73E, h133km±41km, mb3.1/3, mb1 3.2/3, mb1mx2.9/33, mbtmp3.5/3, Error ellipse: s-maj=229.0km s-min=24.2km az=82.0*

ISC 19 16:16:59.3±1.0, 13°.3N±0°.2×144°.5E±0°.2, h129km, n8, σ0§42/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.51**	**50**	P	**Pn**	**16 17 18.4**	**+0.1**
19nm,0.3s,baz=343,slow=19,SNR=22							
GUMO				S	**Sn**	**16 17 33.3**	**+0.6**
38nm,0.3s,baz=178,slow=22,SNR=8.7							
GUMO	**Guam**	**0.51**	**50**		**Pn**	**16 17 18.3**	**-0.1**
GUMO				Sn	**Sn**	**16 17 32.2**	**-0.6**
WRAB	**Tennant Creek**	**34.45**	**197**	P	**P**	**16 23 34.5**	**-0.3**
WRAB				IAmb	IAmb	16 24 51.5	
comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**34.46**	**197**	P	**P**	**16 23 35.3**	**+0.4**
comp=Z,0.1nm,0.4s,baz=20,slow=9.3,SNR=3.7							
SONM	**Songino Array**	**46.77**	**325**	P	**P**	**16 25 16.1**	**+0.2**
comp=Z,0.5nm,0.5s,baz=135,slow=8.4,SNR=5.1							
SONM	**Songino Array**	**46.77**	**325**	P	**P**	**16 25 15.8**	**-0.1**
MKAR	**Makanchi Array**	**61.45**	**316**	P	**P**	**16 27 02.5**	**+0.3**
comp=Z,0.4nm,0.5s,baz=98,slow=8.2,SNR=8.6							
MKAR	**Makanchi Array**	**61.45**	**316**	P	**P**	**16 27 01.8**	**-0.4**

SJA 19 16:19:45.1±0.5, 27°.90S×71°.00W, h126km±7km, ML3.5, MW3.1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.74**	**66**	*e*P	Pn	16 20 06.1	+0.7
AMOG	**MOGNA**	**3.73**	**145**	*e*P	Pn	16 20 42.5	+1.2
AMOG				*e*S	Sn	16 21 25.0	+0.2
RTLS	**Leoncito**	**4.16**	**160**	*e*P	Pn	16 20 48.7	+1.6
RTCV	**Cerro Valdivia**	**4.49**	**152**	*e*P	Pn	16 20 52.5	+1.2
RTCV				*e*S	Sn	16 21 42.7	-0.1
CYA	**Choya**	**4.62**	**98**	*e*P	Pn	16 20 54.4	+1.3
CYA				*e*S	Sn	16 21 45.1	-0.8
CYA				IAML		16 21 49.0	
comp=Z,38nm,0.4s							
ASAL	**Salagasta**	**5.04**	**159**	*e*P	Pn	16 20 59.9	+1.2
ASAL				*e*S	Sn	16 21 54.7	-1.3
MRA	**San Martin**	**6.42**	**136**	*e*P	Pn	16 21 18.3	+1.1
MRA				IAML		16 21 20.6	
comp=Z,13nm,0.5s							
TCA	**Tanti**	**6.54**	**123**	*e*P	Pn	16 21 19.8	+0.8

*ISCJB **19** 16:27:53.9±0.6, 41°.35N±0°.07×29°.2W±0°.1, h10km, mb3.7/6, Error ellipse: s-maj=13.4km s-min=6.3km az=141.1*
*IDC **19** 16:27:54.7±1.3, 41°.60N×29°.20W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=54.7km s-min=28.1km az=16.0*

*NEIC **19** 16:27:55.5±1.2, 41°.4N±0°.1×29°.2W±0°.1, h10km±1km, mb4.6/3*

ISC 19 16:27:55.8±0.7, 41°.4N±0°.1×29°.22W±0°.08, h10km, n17, σ1§03/19, mb3.7/6, 4C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**2.48**	**218**	Pn	**Pn**	**16 28 36.2**	**-0.1**
SNR=5.6							
ADH	**Angra Heroismo**	**3.09**	**150**	*e*P	**Pn**	**16 28 43.7**	**-0.9**
PSET	**Sete Cidades**	**4.44**	**141**	*e*P	**Pn**	**16 29 02.8**	**-0.3**
CMLA	**Cha da Macela**	**4.58**	**140**	*e*P	**Pn**	**16 29 03.2**	**-1.9**
BART	**Pico Bartolome**	**4.74**	**137**	*e*P	**Pn**	**16 29 07.3**	**-0.1**
PSMA	**Santa Maria**	**5.38**	**143**	*e*P	**Pn**	**16 29 15.6**	**-0.5**
PSMA				*e*S	**Sn**	**16 30 18.3**	**+0.2**
PSMA				A	A	16 30 22.3	
6.7nm,0.2s							
PSMN	**Pico do Norte,**	**5.41**	**142**	*e*P	**Pn**	**16 29 16.9**	**+0.5**
PSMN				*e*S	**Sn**	**16 30 18.7**	**0.0**
PSMN				A	A	16 30 21.2	
9.2nm,0.4s							
PAB	**San Pablo**	**19.00**	**87**	P	**P**	**16 32 17.0**	**-0.6**
PAB				IAmb	IAmb	16 32 34.0	
comp=Z,72nm,2.0s							
NRS	**Narsarsuaq**	**22.16**	**339**	P	**P**	**16 32 51.7**	**+0.2**
M52A	**Chesterland**	**38.59**	**288**	P	**P**	**16 35 18.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**38.92**	**127**	P	**P**	**16 35 23.5**	**+1.7**
comp=Z,0.9nm,0.8s,baz=323,slow=9.3,SNR=3.2							
PDAR	**Pinedale Array**	**57.43**	**301**	P	**P**	**16 37 45.1**	**+0.3**
comp=Z,0.7nm,0.8s,baz=64,slow=8.1,SNR=4.6							
TXAR	**Lajitas Array**	**60.20**	**284**	P	**P**	**16 38 03.9**	**-0.2**
comp=Z,0.4nm,0.7s,baz=87,slow=6.4,SNR=5.3							
MAKZ	**Makanchi**	**73.06**	**42**	⇑Pg	**P**	**16 39 28.4**	**+2.5**
comp=Z,2.0nm,1.2s							
MAKZ				⇑Lg	Lg	16 40 36.1	
comp=Z,1.6nm,1.0s							
MK31	**Makanchi Array**	**73.23**	**42**	⇑Pg	**P**	**16 39 25.8**	**-1.1**
comp=Z,1.0nm,0.8s,baz=170,slow=15,SNR=5.7							
MK31				⇑Lg	Lg	16 40 33.9	
comp=Z,0.8nm,0.6s,baz=170,slow=27,SNR=3.6							
MKAR	**Makanchi Array**	**73.23**	**42**	P	**P**	**16 39 26.5**	**-0.4**
comp=Z,0.4nm,0.6s,baz=309,slow=5.2,SNR=5.1							
ASAR	**Alice Springs**	**157.41**	**44**	PKPab	**PKPab**	**16 48 22.8**	**-0.9**
comp=Z,0.5nm,1.0s,baz=348,slow=4.2,SNR=4.1							

*ISCJB **19** 16:50:54.3±0.4, 41°.62N±0°.02×24°.65E±0°.02, h4km±3km, Error ellipse: s-maj=2.8km s-min=2.3km az=167.6*
*SOF **19** 16:50:54.5, 41°.62N×24°.65E, h17km, MD2.9*
*ISK **19** 16:50:54.5, 41°.60N×24°.66E, h10km, ML3.0/21*
*ATH **19** 16:50:55.2, 41°.59N×24°.65E, h25km±1km, ML2.8/10, Error ellipse: s-maj=2.8km s-min=1.0km az=184.0*
*THE **19** 16:50:55.5, 41°.61N×24°.65E, h6km±1km, ML2.6/10, Error ellipse: s-maj=1.3km s-min=0.6km az=188.0*
*SKO **19** 16:50:56.7, 41°.64N×24°.62E, h0km, M2.3, ML2.7*

ISC 19 16:50:55.4±0.9, 41°.60N±0°.02×24°.63E±0°.02, h10km±8km, n92, σ0§77/125, 11C-5D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.11**	**34**	*i* Pg	**Pg**	**16 50 58.4**	**0.0**
PLD	**Plovdiv**	**0.51**	**6**	⇑*i*Pg	**Pg**	**16 51 05.4**	**0.0**
PLD				*i* Sg	**Sg**	**16 51 12.3**	**+0.2**
PLD	**Plovdiv**	**0.51**	**6**	*i* Pg	**Pg**	**16 51 05.4**	**0.0**
PLD	**Plovdiv**	**0.51**	**6**	PG	**Pg**	**16 51 05.4**	**0.0**
PLD				SG	**Sg**	**16 51 12.0**	**-0.2**
KDZ	**Kurdzhali**	**0.59**	**84**	*i* Pg	**Pg**	**16 51 05.4**	**-1.5**
KDZ	**Kurdzhali**	**0.59**	**84**	PG	**Pg**	**16 51 05.4**	**-1.5**
KDZ				SG	**Sg**	**16 51 12.3**	**-2.4**
KAVA	**Kavala**	**0.60**	**189**	P	**Pg**	**16 51 07.6**	**+0.4**
KAVA				S	**Sb**	**16 51 16.7**	**+0.1**
305nm,0.2s							
KAVA	**Kavala**	**0.60**	**189**	P	**Pg**	**16 51 07.6**	**+0.4**
KAVA				S	**Sb**	**16 51 16.6**	**-0.1**
KAVA				AML	AML	16 51 17.4	
comp=E,566μm,0.2s							
KAVA				AML	AML	16 51 21.5	
comp=N,962μm,0.2s							
NVR	**Nevrokopi**	**0.63**	**247**	P	**Pg**	**16 51 07.6**	**0.0**
NVR				S	**Sb**	**16 51 16.8**	**-0.6**
comp=N,440nm,0.3s							
NVR	**Nevrokopi**	**0.63**	**247**	P	**Pg**	**16 51 07.6**	**0.0**
NVR				S	**Sg**	**16 51 16.4**	**+0.5**
NVR				AML	AML	16 51 17.2	
comp=E,907μm,0.2s							
NVR				AML	AML	16 51 19.4	
comp=N,828μm,0.3s							
MMB	**Musomiste**	**0.68**	**270**	*i* Pg	**Pg**	**16 51 08.2**	**-0.3**
MMB				*i* Sg	**Sb**	**16 51 18.3**	**-0.5**
MMB	**Musomiste**	**0.68**	**270**	*i* Pg	**Pg**	**16 51 08.3**	**-0.3**
DIM	**Dimitrovgrad**	**0.81**	**56**	*i* Pg	**Pg**	**16 51 10.9**	**-0.2**
RDO	**Rodhopi**	**0.82**	**123**	P	**Pg**	**16 51 11.0**	**-0.1**
RDO				S	**Sb**	**16 51 22.1**	**-0.6**
comp=N,832nm,0.2s							
RDO	**Rodhopi**	**0.82**	**123**	P	**Pg**	**16 51 11.1**	**-0.1**
RDO				S	**Sg**	**16 51 21.7**	**-0.1**
RDO				AML	AML	16 51 23.3	
comp=N,2113μm,0.2s							
RDO				AML	AML	16 51 26.0	
comp=E,1118μm,0.5s							
RDO	**Rodhopi**	**0.82**	**123**	PG	**Pg**	**16 51 10.7**	**-0.5**
RDO				SG	**Sg**	**16 51 21.7**	**-0.1**
THAS	**Thassos island**	**0.99**	**176**	P	**Pg**	**16 51 14.4**	**-0.1**
THAS				S	**Sn**	**16 51 28.8**	**-0.6**
comp=E,282nm,0.3s							
THAS	**Thassos island**	**0.99**	**176**	P	**Pg**	**16 51 14.4**	**-0.1**
THAS				AML	AML	16 51 31.2	
comp=N,585μm,0.2s							
THAS				AML	AML	16 51 31.6	
comp=E,650μm,0.2s							
PGB	**Panagyurishte**	**1.01**	**340**	P	**Pg**	**16 51 13.1**	**-1.9**
KKB	**Krupnik**	**1.19**	**284**	*i* Pg	**Pn**	**16 51 17.0**	**-1.2**
KKB				*i* Sg	**Sg**	**16 51 34.0**	**+0.2**
KKB	**Krupnik**	**1.19**	**284**	Pg	**Pn**	**16 51 17.0**	**-1.2**
SOH	**Sokhos**	**1.24**	**232**	P	**Pg**	**16 51 19.1**	**-0.1**
SOH				S	**Sn**	**16 51 36.4**	**+0.9**
comp=E,542nm,0.5s							
SOH	**Sokhos**	**1.24**	**232**	*i* Pg	**Pg**	**16 51 19.1**	**-0.1**
SOH				*i* Sg	**Sn**	**16 51 36.5**	**+0.9**
SOH	**Sokhos**	**1.24**	**232**	P	**Pb**	**16 51 19.0**	**+0.1**
SOH				S	**Sn**	**16 51 35.8**	**+0.2**
SOH				AML	AML	16 51 38.2	
comp=E,1390μm,0.5s							
SOH				AML	AML	16 51 38.8	
comp=N,723μm,0.4s							
ALN	**Alexandroupoli**	**1.27**	**123**	P	**Pn**	**16 51 19.1**	**-0.2**
ALN				S	**Sg**	**16 51 36.3**	**-0.1**
comp=N,352nm,0.9s							
ALN	**Alexandroupoli**	**1.27**	**123**	P	**Pb**	**16 51 19.2**	**-0.3**
ALN				S	**Sg**	**16 51 36.3**	**-0.1**
ALN				AML	AML	16 51 38.7	
comp=E,819μm,0.6s							
ALN				AML	AML	16 51 41.6	
comp=N,543μm,0.6s							
ALN	**Alexandroupoli**	**1.27**	**123**	PN	**Pb**	**16 51 19.4**	**-0.1**
SMTH	**Samothraki Isl**	**1.31**	**149**	P	**Pb**	**16 51 20.0**	**-0.2**
SMTH				S	**Sg**	**16 51 38.6**	**+0.9**
comp=N,125nm,0.3s							
SMTH	**Samothraki Isl**	**1.31**	**149**	P	**Pn**	**16 51 19.4**	**-0.4**
SMTH				AML	AML	16 51 40.3	
comp=N,220μm,0.3s							
SMTH				AML	AML	16 51 40.4	
comp=E,281μm,0.3s							
OUR	**Ouranopolis**	**1.35**	**202**	P	**Pn**	**16 51 19.8**	**-0.5**
OUR	**Ouranopolis**	**1.35**	**202**	P	**Pn**	**16 51 19.6**	**-0.7**
OUR				S	**Sg**	**16 51 38.8**	**-0.1**
OUR				AML	AML	16 51 43.2	
comp=E,1270μm,0.3s							
OUR				AML	AML	16 51 43.5	
comp=N,1040μm,0.3s							
OUR	**Ouranopolis**	**1.35**	**202**	PN	**Pn**	**16 51 19.9**	**-0.4**
KNT	**Kendrikon**	**1.38**	**252**	P	**Pb**	**16 51 21.0**	**-0.2**
KNT	**Kendrikon**	**1.38**	**252**	*i* Pg	**Pb**	**16 51 21.1**	**-0.2**
KNT				*i* Sg	**Sg**	**16 51 40.5**	**+0.9**
KNT	**Kendrikon**	**1.38**	**252**	P	**Pb**	**16 51 21.0**	**-0.2**
KNT				S	**Sg**	**16 51 40.2**	**+0.6**
KNT				AML	AML	16 51 41.9	
comp=E,1064μm,0.2s							
KNT				AML	AML	16 51 42.2	
comp=N,988μm,0.2s							
KNT	**Kendrikon**	**1.38**	**252**	PN	**Pn**	**16 51 20.7**	**0.0**
VTS	**Vitosha**	**1.46**	**315**	P	**Pn**	**16 51 21.6**	**-0.4**
VTS				S	**Sb**	**16 51 41.4**	**0.0**
VTS	**Vitosha**	**1.46**	**315**	*i* Pg	**Pn**	**16 51 21.7**	**-0.2**
VTS				*i* Sg	**Sb**	**16 51 41.7**	**+0.3**
VTS	**Vitosha**	**1.46**	**315**	P	**Pn**	**16 51 21.7**	**-0.2**
VTS	**Vitosha**	**1.46**	**315**	⇓P	**Pb**	**16 51 22.8**	**+0.1**
VTS				⇑S	**Sn**	**16 51 40.8**	**-0.4**
VTS				AML	AML	16 51 43.2	
PLG	**Polygyros**	**1.52**	**217**	P	**Pn**	**16 51 22.6**	**0.0**
PLG				S	**Sg**	**16 51 44.9**	**+0.7**
comp=N,375nm,0.5s							
PLG	**Polygyros**	**1.52**	**217**	P	**Pn**	**16 51 22.7**	**0.0**
PLG				AML	AML	16 51 46.8	
comp=N,840μm,0.5s							
PLG				AML	AML	16 51 47.8	
comp=E,674μm,0.3s							
HORT	**Hortiatis**	**1.53**	**230**	P	**Pn**	**16 51 23.1**	**+0.3**
HORT				S	**Sg**	**16 51 44.5**	**-0.1**
comp=E,220nm,0.5s							
HORT	**Hortiatis**	**1.53**	**230**	P	**Pn**	**16 51 23.0**	**+0.2**
HORT	**Hortiatis**	**1.53**	**230**	PN	**Pn**	**16 51 22.5**	**-0.3**
VAY	**Valandovo**	**1.57**	**261**	*i* Pg	**Pg**	**16 51 25.5**	**-0.1**
VAY				*i* Sg	**Sg**	**16 51 46.0**	**0.0**
VAY				*e*Lg	Lg	16 51 50.6	
comp=E,61nm,0.4s							
VAY				*e*Lg	Lg	16 51 50.9	
comp=N,51nm,0.4s							
UKOP	**Uzunkopru-Edir**	**1.58**	**107**	PN	**Pn**	**16 51 23.1**	**-0.3**
THE	**Thessaloniki**	**1.58**	**233**	P	**Pn**	**16 51 23.6**	**+0.1**
EDRB	**Edirne**	**1.60**	**80**	P	**Pn**	**16 51 22.8**	**-1.0**
EDRB				S	**Sb**	**16 51 45.5**	**+0.2**
comp=N,62nm,0.3s							
EDRB	**Edirne**	**1.60**	**80**	PN	**Pn**	**16 51 22.7**	**-1.0**
ELND	**Elena**	**1.62**	**34**	⇓P	**Pn**	**16 51 23.9**	**-0.2**
ELND				⇑S	**Sb**	**16 51 45.1**	**-0.9**
ELND				AML	AML	16 51 49.8	
ERIK	**Erikli-Kesan**	**1.69**	**122**	PN	**Pn**	**16 51 24.9**	**-0.1**
GADA	**Gvkgeada**	**1.70**	**145**	P	**Pn**	**16 51 25.2**	**+0.1**
GADA	**Gvkgeada**	**1.70**	**145**	PN	**Pn**	**16 51 25.1**	**0.0**
PLVB	**Pleven**	**1.79**	**360**	⇑P	**Pg**	**16 51 29.0**	**-0.8**
PLVB				⇑S	**Sg**	**16 51 53.2**	**+0.2**
GRG	**Griva**	**1.80**	**250**	*i* Pn	**Pb**	**16 51 28.6**	**+0.1**
GRG	**Griva**	**1.80**	**250**	P	**Pb**	**16 51 27.9**	**-0.6**
GRG	**Griva**	**1.80**	**250**	PN	**Pn**	**16 51 26.2**	**-0.3**
PAIG	**Paliouri**	**1.82**	**204**	P	**Pn**	**16 51 26.4**	**-0.3**
PAIG	**Paliouri**	**1.82**	**204**	P	**Pn**	**16 51 26.2**	**-0.5**
STIP	**Stip**	**1.84**	**274**	*i* Pn	**Pn**	**16 51 24.9**	**-2.1**
STIP				*i* Sn	**Sn**	**16 51 48.4**	**-1.9**
STIP				*e*Lg	Lg	16 51 50.8	
comp=E,59nm,0.3s							
STIP				*e*Lg	Lg	16 51 51.2	
comp=N,56nm,0.3s							
GELI	**Tayfur-Gelibol**	**1.84**	**130**	PN	**Pn**	**16 51 26.3**	**-0.7**
MPEP	**Malo Peshtene**	**1.88**	**340**	P	**Pn**	**16 51 27.4**	**-0.2**
SZH	**Strazhica**	**1.93**	**30**	P	**Pg**	**16 51 31.3**	**-1.1**
LPK	**Lapseki**	**2.02**	**126**	PN	**Pn**	**16 51 28.9**	**-0.7**
BOZC	**Bozcaada**	**2.06**	**148**	PN	**Pn**	**16 51 29.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.13**	**114**	PN	**Pn**	**16 51 30.4**	**-0.6**
EZN	**Ezine**	**2.19**	**143**	PN	**Pn**	**16 51 31.4**	**-0.4**
KRBG	**Karabiga-Canak**	**2.35**	**120**	PN	**Pn**	**16 51 33.8**	**-0.2**
BARS	**Barje**	**2.42**	**301**	*e*Pg	**Pn**	**16 51 35.5**	**+0.4**
BARS				*e*Sg	Sn	16 51 54.4	-10
MRMT	**Marmara Adasi**	**2.45**	**113**	PN	**Pn**	**16 51 35.1**	**-0.4**
XOR	**Xorichti**	**2.48**	**207**	P	**Pn**	**16 51 34.6**	**-1.3**
AOS	**Alonnisos**	**2.49**	**194**	P	**Pn**	**16 51 35.3**	**-0.7**
AOS	**Alonnisos**	**2.49**	**194**	PN	**Pn**	**16 51 35.9**	**-0.1**
SIGR	**SIGRI**	**2.56**	**158**	PN	**Pn**	**16 51 36.9**	**0.0**
FNA	**Florina**	**2.59**	**253**	PN	**Pn**	**16 51 37.2**	**-0.2**
SLVT	**Silivri**	**2.72**	**97**	PN	**Pn**	**16 51 38.9**	**-0.2**
EDC	**Edincik**	**2.75**	**116**	PN	**Pn**	**16 51 39.4**	**-0.1**
CTYL	**Yalikoy Yolu**	**2.75**	**91**	⇑P	**Pb**	**16 51 46.0**	**+1.4**
CTYL	**Yalikoy Yolu**	**2.75**	**91**	PN	**Pn**	**16 51 39.5**	**0.0**
AGG	**Agios Georgios**	**3.12**	**215**	PN	**Pn**	**16 51 44.5**	**-0.1**
KLYT	**Kilyos**	**3.33**	**94**	PN	**Pn**	**16 51 47.5**	**-0.1**
ARMT	**Armutlu**	**3.36**	**106**	PN	**Pn**	**16 51 48.1**	**+0.1**
CHOS	**Chios island**	**3.39**	**161**	P	**Pn**	**16 51 48.7**	**+0.3**
BUY	**Buyukada**	**3.46**	**101**	PN	**Pn**	**16 51 49.6**	**+0.2**
HERR	**Herculane**	**3.66**	**335**	⇓P	**Pn**	**16 51 53.0**	**+0.9**
HERR				AML	AML	16 51 57.8	
TLB	**Topalu**	**3.90**	**39**	⇓P	**Pn**	**16 51 58.0**	**+2.8**
TLB				⇑S	**Sb**	**16 52 54.3**	**+3.0**
**

h515km, MW6.0/140, Moment Tensor Solution. s140, c298; s107, c124; Duration: 2s5 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.26±.01; $M_{\theta\theta}$0.23±.02; $M_{\phi\phi}$1.03±.02; $M_{r\theta}$-0.01±.02; $M_{\theta\phi}$0.27±.02; $M_{r\phi}$0.47±.02; Best double couple: $M_0$1.27700×10^{18} NP1:ϕ_s191.00000°, δ56.00000°, λ-96.00000°. NP2:ϕ_s22.00000°, δ35.00000°, λ-81.00000°. Principal axes: T 1.1970, Plg10.0000°, Azm286.0000°; N 0.1570, Plg5.0000°, Azm195.0000°; P -1.3570, Plg78.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function

NEIC ***19*** *17:00:57.9, 19.00N×144.98E, h538km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.31; $M_{\theta\theta}$0.31; $M_{\phi\phi}$1.00; $M_{r\theta}$-0.22; $M_{\theta\phi}$0.42; $M_{r\phi}$0.26; Fault plane solution: $M_0$1.30000×10^{18} NP1:ϕ_s36.26000°, δ42.96000°, λ-72.80000°. NP2:ϕ_s193.34000°, δ49.38000°, λ-105.39000°. Principal axes: T 1.2067, Plg3.0000°, Azm294.0000°; N 0.1769, Plg12.0000°, Azm203.0000°; P -1.3836, Plg78.0000°, Azm40.0000°;*

ISC 19 17:00:45.0±0.2, 18.46N±0.02×145.17E±0.02, h531km±1km, h532km; pP-P, n1857, σ1.52/2432, mb5.8/470, 58C-71D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.85**	**161**	P	**P**	**17 01 50.8**	**-1.7**
SARN				S	**S**	**17 02 44.4**	**-2.6**
ANA2	**Anatahan**	**2.17**	**166**	P	**P**	**17 01 52.9**	**-1.0**
ANA2				S	**S**	**17 02 46.7**	**-3.1**
GUMO	**Guam**	**4.86**	**183**	P	**P**	**17 02 11.3**	**-1.3**
GUMO				S	**S**	**17 03 19.5**	**-4.5**
GUMO	**Guam**	**4.86**	**183**	P	**P**	**17 02 12.2**	**-0.4**
	770nm,0.3s,baz=172,slow=3.1,SNR=136						
GUMO				S	**S**	**17 03 19.4**	**-4.5**
	842nm,0.3s,baz=252,slow=24,SNR=16						
GUMO	**Guam**	**4.86**	**183**	P	**P**	**17 02 11.3**	**-1.3**
GUMO				S	**S**	**17 03 19.5**	**-4.5**
JCJ	**Chichijima**	**9.02**	**343**	P	**P**	**17 02 53.5**	**+1.0**
	1μm,0.3s,baz=135,slow=4.3,SNR=307						
JCJ				S	**S**	**17 04 36.9**	**-0.3**
	99nm,0.3s,baz=271,slow=22,SNR=2.4						
JHJ2	**Mitsune**	**15.36**	**343**	P	**P**	**17 03 56.5**	**-1.9**
JHJ	**Hachijo jima 2**	**15.37**	**343**	P	**P**	**17 03 56.5**	**-2.0**
	450nm,0.3s,baz=84,slow=22,SNR=119						
JHJ				S	**S**	**17 06 30.6**	**-7.2**
	142nm,0.3s,baz=22,slow=20,SNR=6.1						
PATS	**Pohnpei**	**17.25**	**130**	P	**P**	**17 04 16.9**	**-0.2**
JOW	**Kunigami**	**17.66**	**301**	P	**P**	**17 04 22.7**	**+2.0**
	46nm,0.3s,baz=127,slow=13,SNR=285						
JOW				S	**S**	**17 07 14.4**	**-2.2**
	baz=180,slow=14,SNR=7.2						
JOW	**Kunigami**	**17.66**	**301**	P	**P**	**17 04 22.4**	**+1.6**
JOW					**S**	**17 07 13.4**	**-3.2**
INU	**Inuyama**	**18.31**	**338**	P	**P**	**17 04 26.5**	**0.0**
MJAR	**Matsushiro Arr**	**19.02**	**343**	P	**P**	**17 04 35.0**	**+2.0**
MJAR				S	**S**	**17 07 36.2**	**-2.3**
MJAR				pmax	pmax		
	comp=Z,245nm,0.7s						
MJAR	**Matsushiro Arr**	**19.02**	**343**	P	**P**	**17 04 32.6**	**-0.4**
	comp=Z,13nm,0.3s,baz=157,slow=8.9,SNR=503						
MJAR				S	**S**	**17 07 36.2**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=174,slow=17,SNR=4.0						
MJAR				ScP	**ScP**	**17 11 15.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=191,slow=3.6,SNR=9.7						
MJAR	**Matsushiro Arr**	**19.02**	**343**	P	**P**	**17 04 35.0**	**+2.0**
MJAR					**S**	**17 07 36.2**	**-2.3**
MJAR					**ScP**	**17 11 15.9**	**-1.2**
MAJO	**Matsushiro**	**19.03**	**343**	*c iP*	**P**	**17 04 32.9**	**-0.2**
MAJO	**Matsushiro**	**19.03**	**343**	P	**P**	**17 04 32.8**	**-0.2**
MAT	**Matsushiro**	**19.03**	**343**	P	**P**	**17 04 32.9**	**-0.2**
MAT				S	**S**	**17 07 37.4**	**-1.1**
MJB9	**Matsu-Tunnel**	**19.03**	**343**	P	**P**	**17 04 32.9**	**-0.2**
JNU	**Nakatsue**	**19.42**	**321**	P	**P**	**17 04 37.7**	**+1.0**
	comp=Z,33nm,0.3s,baz=122,slow=5.2,SNR=307						
JNU				ScP	**ScP**	**17 11 16.9**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=127,slow=5.1,SNR=5.0						
JNU	**Nakatsue**	**19.42**	**321**	P	**P**	**17 04 37.3**	**+0.6**
JNU					**ScP**	**17 11 17.9**	**-0.2**
BESP	**Borongan**	**20.23**	**253**	*eP*	**P**	**17 04 47.5**	**+3.2**
WAKE	**Wake Island**	**20.35**	**84**	P	**P**	**17 04 44.9**	**-0.4**
WAKE				IAmb	IAmb	17 04 47.9	
	comp=Z,524nm,1.4s						
MANU	**Manus Island**	**20.49**	**174**	P	**P**	**17 04 47.0**	**+0.4**
MANU				IAmb	IAmb	17 04 53.7	
	comp=Z,262nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**20.57**	**83**	P	**P**	**17 04 47.4**	**+0.4**
	baz=258,slow=12,SNR=11						
H11N2	**WAKE ISLAND Hy**	**20.57**	**83**	P	**P**	**17 04 47.5**	**+0.4**
	baz=258,slow=12,SNR=25						
H11N3	**WAKE ISLAND Hy**	**20.59**	**83**	P	**P**	**17 04 47.6**	**+0.4**
	baz=258,slow=12,SNR=14						
CNP	**Catarman**	**20.62**	**256**	*eP*	**P**	**17 04 50.2**	**+2.4**
BUTP	**Butuan**	**21.18**	**246**	*eP*	**P**	**17 04 55.0**	**+2.1**
SMPI	**Sarmi**	**21.29**	**198**	P	**P**	**17 04 55.4**	**+1.5**
JAY	**Jayapura**	**21.30**	**192**	P	**P**	**17 04 55.2**	**+1.2**
	comp=Z,34nm,0.8s,baz=230,slow=4.9,SNR=13						
JAY				S	**S**	**17 08 16.8**	**+1.4**
	comp=Z,30nm,1.1s,baz=356,slow=14,SNR=1.6						
JAY	**Jayapura**	**21.30**	**192**	P	**P**	**17 04 55.1**	**+1.1**
MSLP	**Maasin**	**21.33**	**250**	*eP*	**P**	**17 04 56.0**	**+1.8**
MSLP				*eS*	**S**	**17 08 15.4**	**-0.4**
YOJ	**Yonaguni jima**	**21.45**	**290**	P	**P**	**17 04 56.8**	**+1.6**
YOJ				pmax	pmax		
	comp=Z,4μm,1.3s						
YOJ	**Yonaguni jima**	**21.45**	**290**	P	**P**	**17 04 56.8**	**+1.6**
GENI	**Genyem**	**21.49**	**194**	P	**P**	**17 04 56.4**	**+0.7**
MATI	**Mati**	**21.68**	**241**	*eP*	**P**	**17 04 58.2**	**+0.8**
MATI				*eS*	**S**	**17 08 17.4**	**-3.9**
SGCP	**Mt. Cagua**	**21.94**	**273**	*eP*	**P**	**17 05 01.5**	**+1.8**
SRPI	**Serui, Papua**	**22.03**	**204**	P	**P**	**17 05 02.5**	**+2.0**
LLP	**Lapu-Lapu**	**22.05**	**251**	*eP*	**P**	**17 05 02.8**	**+2.0**
LLP				*eS*	**S**	**17 08 26.8**	**-0.4**
DAV	**Davao City (W)**	**22.18**	**242**	P	**P**	**17 05 04.1**	**+2.2**
	SNR=16						
DAV	**Davao City (W)**	**22.18**	**242**	P	**P**	**17 05 02.5**	**+0.7**
	comp=Z,425nm,0.5s,baz=86,slow=3.8,SNR=17						
DAV				S	**S**	**17 08 30.3**	**+1.1**
	comp=Z,42nm,0.3s,baz=230,slow=22,SNR=1.5						
DAV	**Davao City (W)**	**22.18**	**242**	P	**P**	**17 05 03.1**	**+1.2**
DAV					**S**	**17 08 29.7**	**+0.5**
BUKP	**Musuan**	**22.20**	**244**	*eP*	**P**	**17 05 03.3**	**+1.2**
BUKP				*eS*	**S**	**17 08 31.4**	**+1.8**
AUQP	**San Andres**	**22.22**	**260**	*eP*	**P**	**17 05 05.5**	**+3.3**
CGP	**Cagayan de Oro**	**22.23**	**246⇓**	*eP*	**P**	**17 05 03.8**	**+1.4**
GQP	**Guinayangan**	**22.28**	**262⇑**	*eP*	**P**	**17 05 04.9**	**+2.2**
CAUP	**Cauayan**	**22.29**	**270**	*eP*	**P**	**17 05 04.7**	**+1.9**
POLP	**Polilio Island**	**22.56**	**264**	*eP*	**P**	**17 05 07.2**	**+2.0**
DDMP	**Don Marcelino,**	**22.60**	**240**	*eP*	**P**	**17 05 05.5**	**-0.1**
DDMP				*eS*	**S**	**17 08 34.2**	**-1.6**
NACB	**Ninganchiao**	**22.67**	**289**	P	**P**	**17 05 07.3**	**+1.2**
RCP	**Roxas**	**22.70**	**256⇑**	*eP*	**P**	**17 05 08.3**	**+1.7**
BALP	**Baler**	**22.70**	**267**	*eP*	**P**	**17 05 08.2**	**+1.7**
BALP				*eS*	**S**	**17 08 36.7**	**-0.7**
APYP	**Conner**	**22.74**	**272**	*eP*	**P**	**17 05 07.5**	**+0.7**
APYP				*eS*	**S**	**17 08 36.4**	**-1.5**
YULB	**Yu-li**	**22.82**	**287**	P	**P**	**17 05 08.3**	**+0.8**
TATO	**Taipei**	**22.91**	**291**	P	**P**	**17 05 09.8**	**+1.5**
	SNR=6.2						
TATO	**Taipei**	**22.91**	**291**	P	**P**	**17 05 09.3**	**+1.0**
TWG	**Pinlang**	**22.95**	**285**	P	**P**	**17 05 09.3**	**+0.6**
YHNB	**Yeheng**	**22.95**	**290**	P	**P**	**17 05 10.4**	**+1.7**
BOAC	**Boac**	**22.96**	**261**	*eP*	**P**	**17 05 10.2**	**+1.4**
BOAC				*eS*	**S**	**17 08 41.9**	**+0.4**
LQP	**Lukban**	**23.08**	**263⇓**	*iP*	**P**	**17 05 13.0**	**+2.8**
OTRP	**Odiongan**	**23.11**	**258**	*eP*	**P**	**17 05 12.5**	**+2.4**
SNPH	**Sibulan**	**23.11**	**250**	*eP*	**P**	**17 05 13.6**	**+3.3**
GUIM	**Jordan**	**23.18**	**253**	*eP*	**P**	**17 05 12.4**	**+1.6**
SSLB	**Suanglung**	**23.18**	**287**	P	**P**	**17 05 12.4**	**+1.6**
PCPH	**Palayan**	**23.19**	**267⇑**	*eP*	**P**	**17 05 12.9**	**+2.0**
CTBH	**Cotabato--PC H**	**23.22**	**244⇑**	*iP*	**P**	**17 05 13.5**	**+2.2**
GSPH	**General Santos**	**23.23**	**241**	*eP*	**P**	**17 05 13.2**	**+1.8**
SKMP	**Bagumbayan, Su**	**23.34**	**242**	*eP*	**P**	**17 05 13.0**	**+0.8**
TPUB	**Ta-pu**	**23.41**	**286**	P	**P**	**17 05 13.6**	**+0.8**
TPUB				IAmb	IAmb	17 05 32.1	
	comp=Z,358nm,0.9s						
SIPP	**Brgy, Tapao**	**23.48**	**273⇑**	*eP*	**P**	**17 05 15.0**	**+1.6**
SMPP	**San Manuel, Pa**	**23.48**	**268**	*eP*	**P**	**17 05 14.9**	**+1.4**
ERM	**Erimo**	**23.54**	**356**	*c iP*	**P**	**17 05 14.8**	**+1.2**
ERM				pmax	pmax		
	comp=Z,139nm,0.8s						
ERM	**Erimo**	**23.54**	**356**	P	**P**	**17 05 14.7**	**+1.1**
SWI	**Sorong**	**23.57**	**217**	P	**P**	**17 05 15.2**	**+0.9**
KRVT	**Keravat (AS076**	**23.61**	**163**	P	**P**	**17 05 15.2**	**+0.6**
	comp=Z,42nm,0.4s,baz=225,slow=2.4,SNR=8.9						
TGY	**Tagaytay City**	**23.65**	**263**	P	**P**	**17 05 17.7**	**+2.7**
	comp=Z,2μm,0.6s,baz=170,slow=0.4,SNR=34						
TGY	**Tagaytay City**	**23.65**	**263⇓**	*iP*	**P**	**17 05 18.1**	**+3.0**
PAGZ	**Pagadian**	**23.66**	**246**	*eP*	**P**	**17 05 17.4**	**+2.3**
PAGZ				*eS*	**S**	**17 08 54.6**	**+2.0**
JAP	**San Jose, Anti**	**23.72**	**254⇑**	*eP*	**P**	**17 05 17.7**	**+2.1**
TJN	**Taejon**	**23.76**	**322**	*c iP*	**P**	**17 05 15.8**	**+0.1**
KWAJ	**Kwajalein Atol**	**23.81**	**111**	P	**P**	**17 05 16.7**	**+0.3**
KWAJ				pmax	pmax		
	comp=Z,720nm,1.5s						
KWAJ	**Kwajalein Atol**	**23.81**	**111**	P	**P**	**17 05 16.7**	**+0.3**
KSRS	**Korea Array**	**24.21**	**325**	P	**P**	**17 05 20.6**	**+0.9**
	comp=Z,478nm,0.9s,baz=146,slow=9.4,SNR=529						
KSRS				PcP	**PcP**	**17 08 42.2**	**+0.4**
	comp=Z,36nm,1.1s,baz=144,slow=2.2,SNR=5.1						
KSRS				ScP	**ScP**	**17 11 29.7**	**-0.5**
	comp=Z,11nm,0.8s,baz=131,slow=3.0,SNR=7.6						
KSAR	**Wonju Array Be**	**24.23**	**325**	P	**P**	**17 05 20.0**	**+0.2**
KSAR	**Wonju Array Be**	**24.23**	**325**	P	**P**	**17 05 20.0**	**+0.2**
KSAR				pP	**pP**	**17 06 41.8**	**-3.7**
SCZP	**Santa Cruz**	**24.28**	**268**	*eP*	**P**	**17 05 21.3**	**+0.8**
KS19	**Wonju Array Si**	**24.28**	**325**	P	**P**	**17 05 20.5**	**+0.2**
KS19				pP	**pP**	**17 06 42.2**	**-3.9**
FAKI	**Fak Fak**	**24.76**	**212**	P	**P**	**17 05 25.8**	**+0.9**
FAKI	**Fak Fak**	**24.76**	**212**	P	**P**	**17 05 24.7**	**-0.2**
TNTI	**Ternate**	**24.79**	**227**	P	**P**	**17 05 25.3**	**+0.2**
TNTI	**Ternate**	**24.79**	**227**	P	**P**	**17 05 25.4**	**+0.2**
SSE	**Sheshan**	**25.08**	**305**	P	**P**	**17 05 28.3**	**+0.9**
SSE				sP	**sP**	**17 07 52.3**	**-1.4**
SSE				S	**S**	**17 09 11.8**	**-2.6**
SSE				pmax	pmax		
	comp=Z,210nm,0.9s						
SSE	**Sheshan**	**25.08**	**305**	P	**P**	**17 05 28.0**	**+0.6**
SSE				IAmb	IAmb	17 05 36.8	
	comp=Z,465nm,1.0s						
QZH	**Quanzhou**	**25.49**	**289⇑**	*iP*	**P**	**17 05 32.8**	**+1.6**
QZH				sP	**sP**	**17 07 58.0**	**+0.2**
QZH				S	**S**	**17 09 19.9**	**-1.2**
QZH				pmax	pmax		
	comp=Z,380nm,0.8s						
QZH				pmax	pmax		
	comp=Z,1μm,5.4s						
YUK	**Yuzh-Kuril'sk**	**25.50**	**1**	*eP*	**P**	**17 05 31.8**	**+0.8**
YUK				*i*		17 08 43.4	
YUK				*i S*	**S**	**17 09 21.2**	**+0.5**
YUK				pmax	pmax		
	comp=Z,1μm,0.8s						
YUK				pmax	pmax		
	comp=E,270nm,0.9s						
YUK				pmax	pmax		
	comp=N,173nm,0.5s						
YUK				pmax	pmax		
	comp=Z,642nm,1.6s						
KNMB	**Chin-men Tao**	**25.60**	**288**	P	**P**	**17 05 33.0**	**+0.9**
KNMB				IAmb	IAmb	17 05 42.3	
	comp=Z,277nm,1.0s						
JKA	**Kamikawa-asahi**	**25.67**	**356**		**S**	**17 09 22.3**	**-1.0**
ASAJ	**Asahikawa**	**25.67**	**356**	P	**P**	**17 05 33.8**	**+1.4**
	comp=Z,326nm,0.7s,baz=222,slow=12,SNR=181						
ASAJ				S	**S**	**17 09 22.3**	**-1.0**
	comp=Z,57nm,1.0s,baz=80,slow=26,SNR=1.8						
KUR	**Kuril'sk**	**26.79**	**4⇓**	*iP*	**P**	**17 05 44.0**	**+1.7**
KUR				*e*		17 08 43.9	
KUR				*eS*	**S**	**17 09 41.3**	**+0.5**
KUR				pmax	pmax		
	comp=Z,834nm,0.8s						
KUR				MLR	MLR		
	comp=Z,2μm,13.0s						
MSHR	**Mys Shultsa**	**26.82**	**337**	*d iP*	**P**	**17 05 44.3**	**+1.7**
MSAI	**Masohi**	**26.93**	**218**	P	**P**	**17 05 45.0**	**+1.0**
VLA	**Vladivostok**	**27.03**	**338**	*c iP*	**P**	**17 05 46.1**	**+1.7**
VLA				pmax	pmax		
	comp=Z,534nm,1.1s						
NJ2	**Nanjing**	**27.28**	**305⇑**	*iP*	**P**	**17 05 47.5**	**+0.6**
NJ2				sP	**sP**	**17 08 11.1**	**-3.5**
NJ2				PcP	**PcP**	**17 08 50.9**	**+1.7**
NJ2				S	**S**	**17 09 49.0**	**0.0**
NJ2				ScP	**ScP**	**17 11 39.6**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,68nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,330nm,3.5s						
KMSI	**Cibinong**	**27.36**	**232**	P	**P**	**17 05 49.3**	**+1.5**
TEY	**Ternei**	**27.44**	**347⇑**	*iP*	**P**	**17 05 49.0**	**+1.0**
TEY				*e*		17 09 51.2	
TEY				pmax	pmax		
	comp=Z,300nm,0.8s						
TEY				pmax	pmax		
	comp=N,200nm,0.8s						
TEY				pmax	pmax		
	comp=Z,370nm,0.7s						
TEY				pmax	pmax		
	comp=E,100nm,0.8s						
AAI	**Ambon**	**27.64**	**219**	P	**P**	**17 05 51.6**	**+1.4**
PMG	**Port Moresby**	**27.76**	**176**	P	**P**	**17 05 51.6**	**+0.4**
PMG				S	**S**	**17 09 54.8**	**-1.9**
PMG				pmax	pmax		
	comp=Z,95nm,0.9s						
PMG	**Port Moresby**	**27.76**	**176**	P	**P**	**17 05 51.9**	**+0.7**
	comp=Z,116nm,0.9s,baz=7.3,slow=6.0,SNR=84						
PMG				S	**S**	**17 09 53.7**	**-3.1**
	comp=Z,12nm,0.8s,baz=213,slow=14,SNR=7.8						
PMG				ScP	**ScP**	**17 11 38.6**	**-2.5**
	comp=Z,49nm,1.2s,baz=315,slow=16,SNR=1.6						
PMG	**Port Moresby**	**27.76**	**176**	P	**P**	**17 05 51.6**	**+0.4**
PMG				pP	**pP**	**17 07 13.2**	**-3.2**
PMG					**S**	**17 09 54.8**	**-1.9**
PMG					**ScP**	**17 11 41.8**	**+0.7**
SANI	**Sanana**	**27.78**	**225**	P	**P**	**17 05 50.6**	**-0.8**
USA0B	**Ussuriysk Arra**	**27.94**	**340**	P	**P**	**17 05 53.7**	**+1.2**
USA0B				pmax	pmax		
	comp=Z,168nm,0.9s						
USA0B	**Ussuriysk Arra**	**27.94**	**340**	P	**P**	**17 05 53.7**	**+1.2**
USRK	**Ussuriysk Ar.**	**27.94**	**340**	P	**P**	**17 05 53.6**	**+1.2**
	comp=Z,155nm,0.8s,baz=155,slow=8.9,SNR=234						
USRK				ScP	**ScP**	**17 11 38.6**	**-2.6**
	comp=Z,3.7nm,0.7s,baz=149,slow=4.1,SNR=3.4						
USRK				P3KPbc		17 38 02.1	
	comp=Z,5.1nm,1.0s,baz=328,slow=5.2,SNR=7.0						
USRK	**Ussuriysk Ar.**	**27.94**	**340**	P	**P**	**17 05 53.2**	**+0.8**
USRK					**ScP**	**17 11 38.1**	**-3.1**
NLAI	**Namlea**	**27.96**	**221**	P	**P**	**17 05 54.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**28.48**	**357**	*eP*	**P**	**17 05 58.1**	**+1.0**
YSS				*eS*	**S**	**17 10 05.0**	**-2.2**
YSS				pmax	pmax		
	comp=E,240nm,0.8s						
YSS				pmax	pmax		
	comp=Z,490nm,0.8s						
YSS				smax	smax		
	comp=N,300nm,1.2s						
YSS				smax	smax		
	comp=E,300nm,1.0s						
YSS				smax	smax		
	comp=N,2μm,5.8s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**28.48**	**357**	P	**P**	**17 05 57.7**	**+0.6**
DL2	**Dalian**	**28.86**	**320**	⇑P	**P**	**17 06 01.8**	**+1.3**
DL2				sP	**sP**	**17 08 25.3**	**-3.7**
DL2				PcP	**PcP**	**17 08 55.1**	**+2.1**
DL2				S	**S**	**17 10 16.4**	**+3.2**
DL2				ScP	**ScP**	**17 11 44.8**	**+0.6**
DL2				ScS	**ScS**	**17 15 38.3**	**-0.8**
DL2				pmax	pmax		
	comp=Z,320nm,1.0s						
DL2				pmax	pmax		
	comp=Z,980nm,5.8s						
MRSI	**Marisa**	**28.98**	**234**	P	**P**	**17 06 03.6**	**+1.7**
MDJ	**Mudanjiang**	**29.15**	**337**	P	**P**	**17 06 04.3**	**+1.3**
MDJ				sP	sP	17 08 31.8	-0.2
MDJ				S	**S**	**17 10 20.8**	**+3.1**
MDJ				ScS	**ScS**	**17 15 39.1**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,120nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,350nm,3.5s						
MDJ	**Mudanjiang**	**29.15**	**337**	P	**P**	**17 06 04.1**	**+1.1**
HKC	**Hong Kong Obse**	**29.27**	**283**	⇑P	**P**	**17 06 08.0**	**+3.6**
HKPS	**Hong Kong Po S**	**29.30**	**283**	P	**P**	**17 06 06.9**	**+2.2**
HKPS				IAmb	IAmb	17 06 08.8	
	comp=Z,378nm,0.8s						
HKPS				pP	**pP**	**17 07 27.9**	**-3.7**
LUWI	**Luwuk**	**29.34**	**231**	P	**P**	**17 06 05.2**	**+0.2**
LUWI	**Luwuk**	**29.34**	**231**	P	**P**	**17 06 05.4**	**+0.4**
LUWI					**S**	**17 10 20.6**	**-0.6**
SAUI	**Saumlaki**	**29.63**	**209**	P	**P**	**17 06 08.8**	**+1.3**
SAUI	**Saumlaki**	**29.63**	**209**	P	**P**	**17 06 08.5**	**+1.0**
SAUI				IAmb	IAmb	17 06 10.9	
	comp=Z,371nm,1.1s						
SNY	**Shenyang**	**29.68**	**326**	⇑P	**P**	**17 06 08.3**	**+0.7**
SNY				sP	**sP**	**17 08 36.8**	**-0.3**
SNY				S	**S**	**17 10 24.4**	**-1.5**
SNY				pmax	pmax		
	comp=Z,150nm,1.0s						
MCO	**Taipa Grande**	**29.84**	**282**	P	**P**	**17 06 12.0**	**+2.7**
GZH	**Guangzhou**	**30.07**	**284**	P	**P**	**17 06 11.5**	**+0.2**
GZH				sP	**sP**	**17 08 35.3**	**-4.5**
GZH				S	**S**	**17 10 32.8**	**+0.4**
GZH				pmax	pmax		
	comp=Z,700nm,1.0s						
APSI	**Ampana**	**30.09**	**233**	P	**P**	**17 06 12.6**	**+1.1**
CN2	**Changchun**	**30.22**	**331**	*eP*	**P**	**17 06 13.0**	**+0.7**
CN2				*eS*	**S**	**17 10 33.3**	**-0.9**
CN2				pmax	pmax		
	comp=Z,140nm,1.2s						
TIA	**Tai'an**	**30.38**	**311**	P	**P**	**17 06 15.1**	**+1.3**
TIA				PP	**pP**	**17 07 38.8**	**-2.4**
TIA				S	**S**	**17 10 38.0**	**+1.0**
TIA				pmax	pmax		
	comp=Z,84nm,1.1s						
WHN	**Wuhan**	**30.41**	**299**	⇑P	**P**	**17 06 16.3**	**+2.2**
WHN				sP	**sP**	**17 08 43.8**	**+1.1**
WHN				S	**S**	**17 10 38.4**	**+1.0**
WHN				pmax	pmax		
	comp=Z,1μm,1.1s						
MPSI	**Mapaga**	**30.66**	**237**	P	**P**	**17 06 17.9**	**+1.4**
	comp=Z,264nm,0.9s,comp=Z,4μm						
KKM	**Kota Kinabalu**	**30.80**	**250**	P	**P**	**17 06 20.0**	**+2.2**
KKM				pP	**pP**	**17 07 44.4**	**-1.1**
SPMM	**Sapulut**	**31.19**	**248**	P	**P**	**17 06 23.0**	**+1.9**
HNR	**Honiara**	**31.32**	**151**	P	**P**	**17 06 22.5**	**+0.5**
HNR				*PP	**pP**	**17 07 49.6**	**-0.1**
HNR				pmax	pmax		
	comp=Z,157nm,0.7s						
HNR	**Honiara**	**31.32**	**151**	P	**P**	**17 06 22.3**	**+0.2**
	comp=Z,66nm,0.3s,baz=201,slow=7.2,SNR=18						
HNR				S	**S**	**17 10 47.4**	**-4.4**
	comp=Z,42nm,0.8s,baz=336,slow=23,SNR=2.4						
HNR	**Honiara**	**31.32**	**151**	P	**P**	**17 06 22.6**	**+0.5**
HNR				IAmb	IAmb	17 06 34.0	
	comp=Z,157nm,0.7s						
HNR				pP	**pP**	**17 07 49.6**	**-0.1**
KDI	**Kendari**	**31.46**	**227**	P	**P**	**17 06 25.1**	**+1.8**
	comp=Z,426nm,0.9s						
TARA	**Tarawa**	**32.10**	**119**	P	**P**	**17 06 29.4**	**+0.7**
TARA				IAmb	IAmb	17 06 30.2	
	comp=Z,487nm,1.1s						
COEN	**Coen**	**32.27**	**184**	P	**P**	**17 06 31.6**	**+1.4**
COEN				pP	**pwP**	**17 08 02.0**	**-1.1**
TYV	**Tymovskoe**	**32.39**	**357**	*eP*	**P**	**17 06 31.6**	**+0.9**
TYV				pmax	pmax		
	comp=Z,900nm,2.1s						
TYV				pmax	pmax		
	comp=Z,449nm,0.8s						
KLR	**Kul'dur**	**32.55**	**344**	*c iP*	**P**	**17 06 32.7**	**+0.6**
KLR				pmax	pmax		
	comp=Z,192nm,1.0s						
KLR	**Kul'dur**	**32.55**	**344**	P	**P**	**17 06 32.7**	**+0.6**
	comp=Z,232nm,1.1s,baz=150,slow=7.7,SNR=243						
KLR				PcP	**PcP**	**17 09 03.5**	**+0.7**
	comp=Z,25nm,0.4s,baz=307,slow=0.8,SNR=7.4						
BBSI	**Bau Bau**	**32.60**	**225**	P	**P**	**17 06 35.9**	**+2.9**
	comp=Z,114nm,0.8s,comp=Z,1μm						
TTSI	**Tana Toraja**	**32.86**	**232**	P	**P**	**17 06 37.8**	**+2.6**
	comp=Z,2μm,0.7s,comp=Z,10μm						
BJT	**Baijiatuau**	**32.95**	**317**	P	**P**	**17 06 36.8**	**+1.2**
BJT				*PP	**pP**	**17 08 05.6**	**+1.1**
BJT				S	**S**	**17 11 16.3**	**+0.2**
BJT				pmax	pmax		
	comp=Z,241nm,1.1s						
BJT	**Baijiatuau**	**32.95**	**317**	P	**P**	**17 06 36.8**	**+1.2**
BJT				IAmb	IAmb	17 06 38.2	
	comp=Z,241nm,1.1s						
BJT				pP	**pP**	**17 08 05.6**	**+1.1**
BJT					**S**	**17 11 16.3**	**+0.2**
BJI	**Beijing**	**32.95**	**317**	P	**P**	**17 06 37.1**	**+1.4**
BJI				S	**S**	**17 11 16.1**	**0.0**
BJI				pmax	pmax		
	comp=Z,200nm,0.9s						
GRNR	**Gornyy**	**32.98**	**350⇓**	*iP*	**P**	**17 06 37.4**	**+1.7**
GRNR				*e*		17 09 04.7	
GRNR				*eS*	**S**	**17 11 10.5**	**-5.7**
GRNR				pmax	pmax		
	comp=Z,

comp=E,507nm,14.0s
NKL MLR MLR
comp=N,51nm,16.0s
NKL MLR MLR
comp=Z,593nm,15.0s
SOEI Soe 34.81 218 P **P** **17 06 51.5 -0.2**
comp=Z,274nm,0.8s,comp=Z,2μm
SOEI Soe 34.81 218 P **P** **17 06 51.4 -0.3**
SOEI IAmb IAmb 17 07 05.6
comp=Z,195nm,0.7s
SOEI **pwP** **17 08 25.6 -1.7**
MMRI Maumere 35.17 222 P **P** **17 06 55.7 +1.1**
comp=Z,240nm,0.8s,comp=Z,4μm
MMRI Maumere 35.17 222 P **P** **17 06 55.2 +0.6**
MMRI IAmb IAmb 17 06 56.5
comp=Z,267nm,0.9s
MMRI **pwP** **17 08 29.5 -1.2**
BATI Baumata 35.52 218 P **P** **17 06 57.4 -0.1**
comp=Z,270nm,0.6s,baz=28,slow=1.7,SNR=38
BATI S **S** **17 11 51.2 -4.3**
comp=Z,50nm,0.7s,baz=100,slow=21,SNR=2.5
BATI Baumata 35.52 218 P **P** **17 06 57.9 +0.4**
comp=Z,149nm,0.7s,comp=Z,1μm
MIDW Midway 35.62 67 P **P** **17 06 59.2 +1.1**
MIDW IAmb IAmb 17 07 00.5
comp=Z,385nm,0.9s
MIDW **pwP** **17 08 35.7 +1.1**
XAN Xi'an 35.80 303 P **P** **17 07 01.3 +1.6**
XAN pP pwP 17 08 36.8 +0.8
XAN sP sP 17 09 32.4 +2.0
XAN S **S** **17 11 58.8 -0.6**
XAN pmax pmax
comp=Z,240nm,0.8s
XAN pmax pmax
comp=Z,990nm,2.7s
XAN Xi'an 35.80 303 P **P** **17 07 01.1 +1.4**
XAN pmax pmax
comp=Z,523nm,1.4s
XAN Xi'an 35.80 303 P **P** **17 07 01.1 +1.4**
XAN IAmb IAmb 17 07 02.5
comp=Z,523nm,1.4s
PEA0B Petropavlovsk- 35.93 13 P **P** **17 07 01.8 +1.4**
PEA0B S **S** **17 12 02.2 +1.6**
PEA0B pmax pmax
comp=Z,132nm,1.0s
PEA0B Petropavlovsk- 35.93 13 P **P** **17 07 01.8 +1.4**
PEA0B **S** **17 12 02.2 +1.6**
PETK Petropavlovsk- 35.93 13 P **P** **17 07 01.3 +0.9**
comp=Z,88nm,0.8s,baz=144,slow=6.1,SNR=96
PETK PcP **PcP** **17 09 12.9 +0.2**
comp=Z,60nm,1.0s,baz=130,slow=3.4,SNR=5.2
PETK ScP **S** **17 12 03.7 +3.1**
comp=Z,66nm,1.1s,baz=297,slow=9.8,SNR=9.5
PETK Petropavlovsk- 35.93 13 P **P** **17 07 01.3 +0.9**
PETK **PcP** **17 09 12.4 -0.3**
PETK **S** **17 12 03.2 +2.6**
DLV T Lat 35.93 265 P **P** **17 07 03.4 +2.1**
SBUM Sibu 35.98 248 P **P** **17 07 04.0 +2.6**
SBUM Sibu 35.98 248 P **P** **17 07 03.3 +1.9**
SBUM IAmb IAmb 17 07 04.9
comp=Z,249nm,0.8s
SBUM **S** **17 11 57.5 -5.0**
PET Petropavlovsk 36.06 14 *e*P **P** **17 07 02.4 +1.0**
PET *e* 17 09 15.2
PET *e*S **S** **17 12 03.1 +0.6**
PET 17 14 47.2
PET pmax pmax
comp=Z,244nm,1.4s
PET pmax pmax
comp=Z,1μm,5.5s
PET pmax pmax
comp=Z,600nm,14.3s
PET MLR MLR
comp=Z,500nm,21.0s
PET MLR MLR
comp=Z,700nm,21.0s
PET Petropavlovsk 36.06 14 P **P** **17 07 02.6 +1.2**
PET IAmb IAmb 17 07 04.2
comp=Z,372nm,1.3s
PET pP **pP** **17 08 31.3 0.0**
GYA Guiyang 36.35 290 ⇑*i*P **P** **17 07 07.1 +2.6**
GYA pP pwP 17 08 40.0 -1.1
GYA PP **PP** **17 08 43.9 -2.3**
GYA PcP **PcP** **17 09 16.8 +2.1**
GYA sP sP 17 09 30.8 -4.5
GYA S **S** **17 12 04.6 -3.4**
GYA ScP **ScP** **17 12 15.0 +4.2**
GYA PcS **PcS** **17 13 04.8 +1.2**
GYA sS sS 17 14 58.4 +3.0
GYA ScS **ScS** **17 16 19.8 +0.6**
GYA pmax pmax
comp=Z,280nm,0.9s
GYA pmax pmax
comp=Z,820nm,7.5s
HHC Hu-ho-hao-te 36.41 315 *e*P **P** **17 07 07.3 +2.6**
HHC S **S** **17 12 11.1 +2.7**
HHC pmax pmax
comp=Z,110nm,0.8s
HIA Hailar 36.93 332 P **P** **17 07 10.0 +1.3**
HIA pmax pmax
comp=Z,231nm,0.7s
HIA Hailar 36.93 332 P **P** **17 07 10.0 +1.3**
HIA IAmb IAmb 17 07 11.7
comp=Z,231nm,0.7s
WSI Waingapu 37.20 223 P **P** **17 07 10.6 -0.7**
comp=Z,1μm,0.7s,comp=Z,19μm
BTO Baotou 37.34 314 *e*P **P** **17 07 14.9 +2.5**
BTO *e*pP **pP** **17 08 45.8 +2.2**
BTO *e*sP **sP** **17 09 42.3 -1.6**
KNRA Kununurra 37.57 206 P **P** **17 07 15.7 +1.3**
WBSI Waikabubak, Su 37.77 224 P **P** **17 07 15.2 -0.9**
comp=Z,532nm,0.7s,comp=Z,7μm
STKI Sintang 37.80 245 P **P** **17 07 17.9 +1.5**
comp=Z,378nm,0.9s,comp=Z,5μm
ZEA Zeya 37.84 343 *e*P **P** **17 07 16.0 0.0**
ZEA *e*S **S** **17 12 26.0 -3.0**
ZEA *e* 17 15 42.0
ZEA pmax pmax
comp=N,150nm,1.0s
ZEA pmax pmax
comp=E,71nm,1.0s
ZEA pmax pmax
comp=Z,230nm,1.0s
ZEA pmax pmax
comp=Z,600nm,1.0s
ZEA smax smax
comp=Z,1μm,8.0s
ZEA smax smax
comp=E,1μm,10.0s
ZEA smax smax
comp=N,3μm,13.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=N,800nm,14.0s
UBPT Khong Chiam 38.07 271 P **P** **17 07 21.6 +3.1**
comp=N,223nm,0.9s,comp=N,2μm
UBPT Khong Chiam 38.07 271 P **P** **17 07 21.2 +2.7**
UBPT IAmb IAmb 17 07 22.8
comp=Z,255nm,0.8s
KSM Kuching 38.13 248 P **P** **17 07 21.0 +2.0**
KSM Kuching 38.13 248 P **P** **17 07 19.6 +0.7**
KSM **pwP** **17 08 56.5 -0.4**
PLAI Plampang 38.29 227 P **P** **17 07 20.3 +0.1**
comp=Z,455nm,0.6s,comp=Z,10μm
CTA Charters Tower 38.33 178 P **P** **17 07 21.3 +0.8**
comp=Z,120nm,0.9s,baz=358,slow=8.5,SNR=103
CTA PcP **PcP** **17 09 21.6 +0.9**
comp=Z,17nm,0.8s,baz=1.5,slow=4.5,SNR=4.7
CTA ScP **ScP** **17 12 18.8 +0.7**
comp=Z,17nm,0.9s,baz=354,slow=7.0,SNR=5.5
CTA S **S** **17 12 35.5 -1.5**
comp=Z,9.9nm,1.0s,baz=208,slow=15,SNR=12
SLVN Son La 38.83 281 P **P** **17 07 27.0 +2.4**
SLVN IAmb IAmb 17 07 29.1
comp=Z,382nm,1.3s
TWSI Taliwang, Sumb 38.85 228 P **P** **17 07 25.5 +0.7**
comp=Z,595nm,0.8s,comp=Z,5μm
CD2 Chengdu 39.40 296 ⇑P **P** **17 07 30.9 +1.8**
CD2 pP pwP 17 09 05.4 -2.3
CD2 PP **PP** **17 09 12.5 -3.4**
CD2 sP sP 17 09 59.5 -1.7
CD2 S **S** **17 12 49.3 -3.4**
CD2 sS sS 17 15 42.8 +0.3
CD2 pmax pmax
comp=Z,640nm,0.7s
CD2 pmax pmax
comp=Z,1μm,14.2s
WB0 Warramunga Arr 39.44 196 P **P** **17 07 30.5 +1.0**
WB0 PcP **PcP** **17 09 25.1 +0.8**
WR0 Warramunga Arr 39.58 196 P **P** **17 07 31.8 +1.1**
WR0 IAmb IAmb 17 07 33.1
comp=Z,509nm,1.8s
WR0 PcP **PcP** **17 09 25.6 +0.9**
WRAB Tennant Creek 39.61 196 *d i*P **P** **17 07 31.9 +1.1**
WRAB pmax pmax
comp=Z,232nm,1.1s
WRAB Tennant Creek 39.61 196 P **P** **17 07 32.0 +1.1**
WRAB pP **pP** **17 09 04.7 +1.0**
WB2 Warramunga Arr 39.61 196 P **P** **17 07 32.0 +1.1**
WB2 pP **pP** **17 09 04.5 +0.7**
SRBI Singaraja 39.62 231 P **P** **17 07 33.2 +2.2**
comp=Z,200nm,0.8s,comp=Z,2μm
WRA Warramunga Arr 39.62 196 P **P** **17 07 31.8 +0.9**
comp=Z,66nm,0.5s,baz=19,slow=8.3,SNR=391
WRA PcP **PcP** **17 09 25.7 +0.9**
comp=Z,30nm,0.6s,baz=16,slow=3.8,SNR=11
WRA ScP **ScP** **17 12 20.6 -2.6**
comp=Z,32nm,0.7s,baz=16,slow=4.2,SNR=13
WRA S **S** **17 12 54.7 -1.2**
comp=Z,48nm,1.2s,baz=16,slow=14,SNR=7.0
WRA PKiKP **PKiKP** **17 16 34.2 -0.7**
comp=Z,2.7nm,0.8s,baz=18,slow=0.7,SNR=7.3
WRA P3KPbc 17 37 11.8
comp=Z,0.6nm,0.5s,baz=198,slow=3.8,SNR=11
WRA P3KP 17 38 59.0
comp=Z,1.8nm,0.9s,baz=130,slow=2.5,SNR=6.6
WRA P4KPbc 17 45 31.6
comp=Z,0.2nm,0.4s,baz=358,slow=5.5,SNR=8.6
WRA Warramunga Arr 39.62 196 P **P** **17 07 31.1 +0.2**
WRA pP **pP** **17 09 04.9 +1.1**
WRA **PcP** **17 09 25.0 +0.2**
KMI Kunming 39.82 287 P **P** **17 07 35.3 +2.4**
KMI pP pwP 17 09 12.8 +1.3
KMI PP **PP** **17 09 19.3 -1.1**
KMI sP sP 17 10 05.3 +0.3
KMI S **S** **17 12 58.9 -0.5**
KMI SS **SS** **17 16 10.6 -11**
KMI pmax pmax
comp=Z,150nm,0.7s
KMI pmax pmax
comp=Z,830nm,4.7s
KMI Kunming 39.82 287 P **P** **17 07 34.9 +2.1**
KMI pmax pmax
comp=Z,342nm,1.4s
KMI Kunming 39.82 287 P **P** **17 07 34.9 +2.1**
KMI IAmb IAmb 17 07 37.1
comp=Z,342nm,1.4s
KMI **pwP** **17 09 08.8 -2.8**
NONG Nongkai 39.84 276 P **P** **17 07 35.5 +2.7**
comp=Z,11nm,1.1s,comp=Z,191nm
KMMI Kalianget 39.87 233 P **P** **17 07 37.0 +3.9**
comp=Z,199nm,0.8s
DNP Denpasar 40.01 230 P **P** **17 07 34.5 +0.3**
comp=Z,692nm,0.7s,comp=Z,8μm
IGBI Denpasar 40.15 230 P **P** **17 07 35.7 +0.4**
comp=Z,803nm,0.6s,comp=Z,14μm
LZH Lanzhou 40.36 304 ⇑P **P** **17 07 39.6 +2.7**
LZH PP **PP** **17 09 25.8 +0.5**
LZH sP sP 17 10 12.3 +2.8
LZH S **S** **17 13 08.3 +1.5**
LZH pmax pmax
comp=Z,190nm,1.3s
LZH pmax pmax
comp=Z,1μm,4.8s
JAGI Jajag, Banyuwa 40.65 231 P **P** **17 07 39.4 +0.1**
comp=Z,256nm,0.9s,comp=Z,3μm
JAGI Jajag, Banyuwa 40.65 231 P **P** **17 07 38.6 -0.7**
JAGI IAmb IAmb 17 07 43.3
comp=Z,188nm,0.8s
JAGI pP **pP** **17 09 12.7 +0.3**
GRJI Gresik 40.93 235 P **P** **17 07 44.1 +2.6**
comp=Z,424nm,0.6s,comp=Z,5μm
FITZ Fitzroy Crossi 41.09 209 PcP **PcP** **17 09 30.9 +1.2**
comp=Z,52nm,0.8s,baz=0.4,slow=4.0,SNR=5.9
FITZ ScP **ScP** **17 12 27.2 -1.8**
comp=Z,33nm,0.9s,baz=0.3,slow=5.5,SNR=8.0
FITZ S **S** **17 13 16.9 -0.4**
comp=Z,25nm,0.8s,baz=213,slow=17,SNR=13
FITZ Fitzroy Crossi 41.09 209 P **P** **17 07 44.3 +1.6**
FITZ **pwP** **17 09 19.2 -0.9**
FITZ **PcP** **17 09 30.7 +1.1**
MA2 Magadan 41.26 4 *d i*P **P** **17 07 44.4 +1.0**
MA2 pmax pmax
comp=Z,448nm,0.8s
MA2 Magadan 41.26 4 P **P** **17 07 44.4 +1.0**
comp=Z,377nm,0.8s,baz=180,slow=7.6,SNR=126
MA2 S **S** **17 13 18.3 -0.5**
comp=Z,71nm,1.2s,baz=351,slow=20,SNR=6.5
MA2 Magadan 41.26 4 P **P** **17 07 44.5 +1.0**
MA2 IAmb IAmb 17 07 45.9
comp=Z,405nm,0.8s
CHAI Chaiyaphum 41.26 273 P **P** **17 07 46.0 +1.8**
comp=Z,540μm,0.7s
CIT Chita 41.67 331 *e*P **P** **17 07 48.3 +1.4**
CIT *e* 17 09 29.5
CIT *e*S **S** **17 13 25.7 +0.6**
CIT pmax pmax
comp=Z,239nm,1.3s
NGJI Ngawi 42.00 235 P **P** **17 07 53.2 +3.2**
comp=Z,158nm,0.8s,comp=Z,3μm
PBKT Sadao Pong 42.11 274 P **P** **17 07 53.4 +2.6**
comp=Z,141nm,1.2s,comp=Z,2μm
PBKT Sadao Pong 42.11 274 P **P** **17 07 53.1 +2.2**
PBKT IAmb IAmb 17 07 55.1
comp=Z,684nm,1.5s
TPI Tanjungpandan 42.52 244 P **P** **17 07 55.7 +1.6**
comp=Z,124nm,0.8s,comp=Z,2μm
SMRI Semarang 42.62 237 P **P** **17 07 57.3 +2.5**
comp=Z,322nm,0.8s
SMRI Semarang 42.62 237 P **P** **17 07 56.4 +1.5**
SMRI IAmb IAmb 17 07 57.7
comp=Z,243nm,0.9s
ULN Ulaanbaatar 42.64 322 P **P** **17 07 56.9 +2.1**
SNR=57
ULN Ulaanbaatar 42.64 322 *c i*P **P** **17 07 56.4 +1.6**
ULN pmax pmax
comp=Z,119nm,0.8s
ULN Ulaanbaatar 42.64 322 P **P** **17 07 56.1 +1.3**
ULN P 17 07 56.5 +1.7
ULN **PcP** **17 09 35.2 +0.5**
ULN PcP **pwP** **17 09 35.3 +2.9**
WOJI Wonogiri, Jawa 42.71 235 P **P** **17 07 56.9 +1.3**
comp=Z,130nm,0.8s
PCJI Pacitan 42.73 235 P **P** **17 07 57.2 +1.5**
comp=Z,318nm,0.5s,comp=Z,5μm
PAYA Payao 42.77 279 P **P** **17 07 58.3 +2.3**
comp=Z,659μm,0.9s
PATY Pattaya 42.92 269 P **P** **17 08 00.5 +3.3**
comp=Z,175μm,1.0s
FUNA Funafuti 42.97 126 P **P** **17 07 58.6 +1.0**
SONM Songino Array 43.01 322 P **P** **17 07 58.9 +1.3**
SONM 17 09 35.9
SONM 17 16 57.7
SONM pmax pmax
comp=Z,91nm,1.0s
SONM Songino Array 43.01 322 P **P** **17 07 59.2 +1.5**
comp=Z,66nm,0.6s,baz=132,slow=8.6,SNR=253
SONM PcP **PcP** **17 09 36.3 +0.4**
comp=Z,80nm,1.0s,baz=128,slow=2.0,SNR=10
SONM ScP **ScP** **17 12 34.9 -1.6**
comp=Z,19nm,1.0s,baz=116,slow=6.6,SNR=4.7
SONM PKiKP **PKiKP** **17 16 36.0 -1.4**
comp=Z,1.6nm,0.8s,baz=112,slow=0.8,SNR=3.7
SONM ScS **ScS** **17 16 58.0 -0.5**
comp=Z,11nm,1.3s,baz=133,slow=6.1,SNR=5.4
SONM PKPPKP **P'P'df** **17 39 40.6 -1.2**
comp=Z,3.1nm,1.2s,baz=324,slow=1.6,SNR=4.7
SONM PKP2ab 17 40 45.1
comp=Z,0.9nm,1.1s,baz=295,slow=2.6,SNR=3.2
SONM Songino Array 43.01 322 P **P** **17 07 58.9 +1.3**
SONM **PcP** **17 09 35.9 0.0**
SONM **ScP** **17 12 35.5 -1.1**
SONM **ScS** **17 16 57.6 -0.9**
UGM Wanagama 43.07 236 P **P** **17 07 59.6 +1.2**
comp=Z,541nm,1.2s,comp=Z,6μm
UGM Wanagama 43.07 236 P **P** **17 07 59.0 +0.6**
LAMP Lampang 43.09 278 P **P** **17 08 01.0 +2.5**
comp=Z,372μm,0.8s
JOHN Johnston Islan 43.14 85 P **P** **17 08 00.1 +1.2**
JOHN IAmb IAmb 17 08 01.7
comp=Z,583nm,1.2s
YOGI Yogyakarta 43.19 236 P **P** **17 08 00.7 +1.4**
comp=Z,2μm,0.8s,comp=Z,13μm
AS31 Alice Springs 43.29 195 P **P** **17 08 00.9 +0.9**
ASAR Alice Springs 43.29 195 P **P** **17 08 00.9 +1.0**
comp=Z,47nm,0.5s,baz=12,slow=7.0,SNR=1311
ASAR PcP **PcP** **17 09 36.8 -0.3**
comp=Z,34nm,1.0s,baz=19,slow=3.5,SNR=11
ASAR ScP **ScP** **17 12 35.0 -2.9**
comp=Z,13nm,0.7s,baz=13,slow=4.2,SNR=2.5
ASAR S **S** **17 13 48.9 0.0**
comp=Z,18nm,0.8s,baz=24,slow=18,SNR=11
ASAR PKiKP **PKiKP** **17 16 36.6 -1.5**
comp=Z,1.7nm,0.8s,baz=8.5,slow=1.9,SNR=3.8
ASAR ScS **ScS** **17 17 00.0 -0.7**
comp=Z,1.8nm,0.8s,baz=2.5,slow=4.2,SNR=2.3
ASAR P3KPbc 17 36 56.9
comp=Z,0.6nm,0.6s,baz=190,slow=3.9,SNR=18
ASAR P4KPbc 17 45 46.4
comp=Z,0.4nm,0.5s,baz=20,slow=4.1,SNR=13
ASAR Alice Springs 43.29 195 P **P** **17 08 00.3 +0.3**
ASAR PcP **PcP** **17 09 37.7 +0.6**
ASAR **ScP** **17 12 38.3 +0.4**
ASAR **S** **17 13 49.5 +0.6**
TPRI Tanjung Pinang 43.52 251 P **P** **17 08 04.6 +2.7**
comp=Z,134nm,1.0s,comp=Z,3μm
CMMT Chiang Mai 43.70 278 P **P** **17 08 05.1 +1.8**
comp=Z,99nm,1.0s,comp=Z,1μm
CHTO Chiang Mai 43.70 278 P **P** **17 08 05.4 +2.1**
SNR=28
CHTO Chiang Mai 43.70 278 P **P** **17 08 05.1 +1.8**
CHTO pmax pmax
comp=Z,107nm,0.7s
CHTO Chiang Mai 43.70 278 P **P** **17 08 05.1 +1.8**
UTHA Uthaitani 43.73 273 P **P** **17 08 06.2 +2.7**
comp=Z,322μm,0.6s
CM31 Chiang Mai Arr 43.75 278 P **P** **17 08 06.6 +2.9**
SNR=132
CM31 Chiang Mai Arr 43.75 278 P **P** **17 08 06.2 +2.6**
CM31 IAmb IAmb 17 08 07.7
comp=Z,375nm,0.8s
CMAR Chiang Mai Arr 43.75 278 *i*P **P** **17 08 06.3 +2.6**
CMAR pmax pmax
comp=Z,345nm,0.9s
CMAR Chiang Mai Arr 43.75 278 P **P** **17 08 06.2 +2.6**
comp=Z,266nm,0.7s,baz=71,slow=6.6,SNR=1769
CMAR PP **PP** **17 09 55.7 -0.8**
comp=Z,14nm,0.7s,baz=70,slow=6.5,SNR=4.2
CMAR ScP **ScP** **17 12 36.3 -3.7**
comp=Z,15nm,1.2s,baz=81,slow=2.7,SNR=2.6
CMAR S **S** **17 13 56.1 +0.5**
comp=Z,16nm,1.2s,baz=45,slow=18,SNR=7.5
CMAR P3KPbc 17 36 57.3
comp=Z,0.7nm,0.8s,baz=258,slow=6.9,SNR=6.5
CMAR P3KP 17 38 50.2
comp=Z,0.3nm,0.8s,baz=309,slow=4.6,SNR=4.1
CMAR Chiang Mai Arr 43.75 278 **S** **17 13 56.5 +0.8**
MYKOM Kota Tinggi 43.75 253 P **P** **17 08 07.0 +3.3**
MYKOM Kota Tinggi 43.75 253 P **P** **17 08 06.3 +2.6**
EIDS Eidsvold 43.95 172 P **P** **17 08 05.2 +0.2**
EIDS PcP **PcP** **17 09 39.7 +0.5**
KPJI Karang Pucung 43.99 238 P **P** **17 08 06.4 +0.9**
comp=Z,351nm,1.1s,comp=Z,4μm
PHET Kaeng Krachan 44.10 270 P **P** **17 08 09.4 +3.0**
comp=Z,542μm,0.8s
JRMM Jerantut 44.17 256 P **P** **17 08 10.0 +3.0**
UMPA Umpang Tak 44.17 274 P **P** **17 08 10.0 +3.0**
comp=Z,606μm,0.9s
SRDT SRDT 44.27 272 P **P** **17 08 10.3 +2.6**
comp=Z,139nm,1.1s
GTA Gaotai 44.29 308 ⇑P **P** **17 08 09.8 +2.1**
GTA PcP **pP** **17 09 42.3 -0.9**
GTA pP pwP 17 09 47.4 -1.5
GTA PP **PP** **17 10 03.0 +1.8**
GTA sP sP 17 10 40.9 -1.2
GTA ScP **ScP** **17 12 42.3 +0.3**
GTA S **S** **17 14 04.3 +1.3**
GTA sS sS 17 16 51.5 -5.4
GTA ScS **ScS** **17 17 06.3 -0.8**
GTA SS **SS** **17 17 28.8 -4.8**
GTA pmax pmax
comp=Z,82nm,1.1s
GTA pmax pmax
comp=Z,470nm,7.1s
KIWB Kanaga Island 44.53 33 P **P** **17 08 10.2 +1.0**
SEY Seymchan 44.71 5 *d i*P **P** **17 08 11.8 +1.5**
SEY Seymchan 44.71 5 P **P** **17 08 11.9 +1.6**
comp=Z,116nm,0.8s,baz=179,slow=6.8,SNR=288
SEY ScP **ScP** **17 12 40.1 -2.8**
comp=Z,12nm,0.9s,baz=160,slow=4.3,SNR=2.3
SEY S **S** **17 14 08.4 +0.5**
comp=Z,8.8nm,1.1s,baz=7.7,slow=21,SNR=1.8
MHMT Maesarieng 44.74 277 P **P** **17 08 13.9 +2.6**
comp=Z,312nm,0.7s,comp=Z,5μm
SKLT Songkhla 44.74 261 P **P** **17 08 14.5 +3.1**
comp=Z,235nm,0.7s,comp=Z,2μm
LEM Lembang 44.76 239 P **P** **17 08 12.5 +0.9**
comp=Z,224nm,0.7s,baz=33,slow=6.2,SNR=68
ADK Adak 44.79 33 P **P** **17 08 12.0 +0.8**
ADK pmax pmax
comp=Z,756nm,0.9s
ADK Adak 44.79 33 P **P** **17 08 12.0 +0.8**
YAK Yakutsk 44.86 350 *d i*P **P** **17 08 12.1 +0.6**
YAK *e* 17 09 40.3
YAK *e'*PP **pwP** **17 09 53.6 +0.1**
YAK *e* 17 10 12.0
YAK *e*S **S** **17 14 07.5 -2.5**
YAK *e* 17 17 04.0
YAK *e*SS **SS** **17 17 41.4 -0.2**
YAK pmax pmax
comp=Z,889nm,0.8s
YAK pmax pmax
comp=N,280nm,1.0s
YAK pmax pmax
comp=E,52nm,0.9s
YAK pmax pmax
comp=Z,109nm,1.2s
YAK pmax pmax
comp=N,57nm,1.3s
YAK pmax pmax
comp=E,57nm,1.3s
YAK smax smax
comp=N,580nm,1.0s
YAK smax smax
comp=E,385nm,0.9s
YAK Yakutsk 44.86 350 P **P** **17 08 12.1 +0.6**
comp=E,583nm,0.7s,baz=25,slow=3.0,SNR=582
YAK ScP **ScP** **17 12 40.4 -3.2**
comp=E,32nm,0.7s,baz=70,slow=1.6,SNR=6.1
YAK S **S** **17 14 05.3 -4.6**
comp=E,72nm,0.8s,baz=65,slow=21,SNR=28
YAK Yakutsk 44.86 350 P **P** **17 08 11.9 +0.4**
YAK **ScP** **17 12 40.0 -3.6**
YAK **S** **17 14 06.1 -3.9**
CISI Cisompet, Garu 45.01 238 P **P** **17 08 12.3 -1.2**
CISI PcP **PcP** **17 09 43.9 +0.6**
PMBI Palembang 45.09 246 P **P** **17 08 17.2 +3.2**
PMBI Palembang 45.09 246 P **P** **17 08 15.2 +1.2**
PMBI IAmb IAmb 17 08 16.9
comp=Z,316nm,1.0s
GSTR Great Sitkin T 45.23 33 P **P** **17 08 15.6 +1.1**
IPM Ipoh 45.29 258 P **P** **17 08 18.0 +2.4**
IPM Ipoh 45.29 258 P **P** **17 08 17.8 +2.1**
IPM IAmb IAmb 17 08 21.2
comp=Z,176nm,0.7s
IPM PcP **PcP** **17 09 44.8 +0.5**
DZM Mont Dzumac 45.35 152 P **P** **17 08 16.5 +0.6**
comp=Z,57nm,0.5s,baz=333,slow=7.6,SNR=129
DZM PcP **PcP** **17 09 45.2 +0.9**
comp=Z,50nm,1.0s,baz=16,slow=8.5,SNR=6.8
DZM S **S** **17 14 15.8 -2.3**
comp=Z,16nm,1.2s,baz=344,slow=5.4,SNR=2.7
DZM Mont Dzumac 45.35 152 P **P** **17 08 17.0 +1.0**
DZM PcP **PcP** **17 09 45.2 +0.9**
DZM **S** **17 14 14.8 -3.3**
TRTT Trang 45.41 263 P **P** **17 08 19.5 +3.0**
comp=Z,174nm,1.2s,comp=Z,2μm
BOD Bodaibo 45.53 337 ⇑*i*P **P** **17 08 17.5 +0.8**
BOD *e*S **S** **17 14 18.5 -1.0**
BOD pmax pmax
comp=Z,151nm,1.5s
SURT Suratani 45.91 265 P **P** **17 08 23.3 +2.9**
comp=Z,244nm,0.8s,comp=Z,3μm
BLSI Bandar Lampung 45.93 243 P **P** **17 08 21.6 +1.1**

comp=Z,1µm,0.9s,comp=Z,7µm
KLSI **46.01 244** P **P** **17 08 22.1 +1.0**
comp=Z,182nm,1.0s,comp=Z,4µm
ZAK **Zakamensk** **46.03 324** *e*P **P** **17 08 22.2 +1.3**
ZAK pmax pmax
comp=Z,13nm,1.1s
LKP **Lekhapani** **46.04 290** *e*P **P** **17 08 23.1 +1.9**
RGRI **Rengat** **46.04 251** P **P** **17 08 24.5 +3.2**
comp=Z,160nm,0.9s
IRK **Irkutsk** **46.42 326** *e*P **P** **17 08 24.6 +1.0**
IRK *e* 17 09 48.6
IRK *e* 17 14 32.8
IRK pmax pmax
comp=Z,248nm,1.4s
TLY **Talaya** **46.47 325** P **P** **17 08 26.1 +2.1**
SNR=25
TLY **Talaya** **46.47 325***c* *i*P **P** **17 08 25.7 +1.7**
TLY *e* 17 09 48.4
TLY *e* 17 11 00.6
TLY *e*S **S** **17 14 26.9 -6.1**
TLY *e* 17 17 18.1
TLY pmax pmax
comp=Z,541nm,1.3s
TLY **Talaya** **46.47 325** P **P** **17 08 25.6 +1.7**
comp=Z,68nm,0.6s,baz=154,slow=5.4,SNR=32
TLY PcP **PcP** **17 09 48.8 +1.0**
comp=Z,23nm,0.8s,baz=175,slow=5.0,SNR=4.7
TLY S **S** **17 14 28.4 -4.6**
comp=Z,1.7nm,0.4s,baz=177,slow=21,SNR=1.0
TLY **Talaya** **46.47 325** P **P** **17 08 25.7 +1.7**
TLY IAmb IAmb 17 08 27.4
comp=Z,378nm,1.5s
TLY PcP **PcP** **17 09 48.8 +1.0**
TLY **S** **17 14 33.8 +0.8**
MBWA **Marble Bar** **46.60 213** P **P** **17 08 26.6 +1.2**
SNR=11
MBWA **Marble Bar** **46.60 213** P **P** **17 08 26.3 +1.0**
MBWA PcP **PcP** **17 09 49.8 +1.1**
LHSI **Lahat** **46.62 246** P **P** **17 08 26.8 +1.1**
comp=Z,189nm,1.0s,comp=Z,2µm
KASI **Kota Agung** **46.64 243** P **P** **17 08 25.7 -0.2**
comp=Z,544nm,1.0s,comp=Z,5µm
PKDT **Phuket** **46.67 263** P **P** **17 08 28.9 +2.8**
comp=Z,168nm,0.6s,comp=Z,2µm
LWLI **Liwa** **46.75 244** P **P** **17 08 27.2 +0.3**
comp=Z,208nm,0.6s
PSA00 **Pilbara Seismi** **46.88 213** P **P** **17 08 28.6 +1.1**
PSA00 PcP **PcP** **17 09 50.8 +1.1**
PSA00 **Pilbara Seismi** **46.88 213** P **P** **17 08 27.4 -0.1**
PSA00 IAmb IAmb 17 08 29.7
comp=Z,84nm,0.9s
PSA00 PcP **PcP** **17 09 49.1 -0.6**
BKNI **Bangkinang** **46.91 252** P **P** **17 08 30.2 +2.3**
comp=Z,259nm,0.9s,comp=Z,3µm
BKNI **Bangkinang** **46.91 252** P **P** **17 08 29.1 +1.2**
BKNI IAmb IAmb 17 08 31.3
comp=Z,189nm,0.8s
SDSI **Sungai Dareh** **47.11 251** P **P** **17 08 31.2 +1.8**
comp=Z,68nm,0.7s
MNAI **Manna** **47.37 246** P **P** **17 08 30.9 -0.4**
MNAI IAmb IAmb 17 08 32.3
comp=Z,355nm,1.0s
KNTN **Kanton** **47.40 112** P **P** **17 08 32.1 +0.6**
KNTN IAmb IAmb 17 08 36.4
comp=Z,565nm,1.8s
KNTN **PcP** **17 09 51.7 -0.1**
MASI **Maura Aman, Be** **47.40 247** P **P** **17 08 33.3 +1.6**
comp=Z,326nm,1.0s,comp=Z,6µm
JORH **JORHAT** **47.47 290** *e*P **P** **17 08 33.5 +1.6**
KOHI **KOHIMA** **47.62 288** *e*P **P** **17 08 33.9 +0.6**
KOHI *i* x x 17 12 54.7
KOHI *e*S **S** **17 14 47.4 -2.6**
PSI **Prapat** **47.86 257** P **P** **17 08 37.4 +2.2**
comp=Z,82nm,0.8s,baz=52,slow=4.1,SNR=56
PSI PP **PP** **17 10 33.6 -0.4**
comp=Z,83nm,1.3s,baz=83,slow=7.4,SNR=5.5
PSI S **S** **17 14 55.6 +2.1**
comp=Z,2.4nm,0.4s,baz=295,slow=24,SNR=1.5
RPSI **Rantau Prapat** **47.90 257** P **P** **17 08 36.4 +1.1**
RPSI PcP **PcP** **17 09 53.9 +0.3**
RPSI **Rantau Prapat** **47.90 257** **S** **17 14 55.6 +1.8**
MOY **Mondy** **47.91 324** *e*P **P** **17 08 36.2 +1.2**
MOY *e* 17 09 54.1
MOY *e* 17 14 54.7
MOY pmax pmax
comp=Z,117nm,1.6s
PDSI **Padang** **47.97 251** P **P** **17 08 36.5 +0.6**
comp=Z,95nm,0.6s,comp=Z,1µm
MSVF **Nonsavu** **48.37 136***d* *i*P **P** **17 08 40.6 +1.8**
MSVF pmax pmax
comp=Z,144nm,0.8s
MSVF **Nonsavu** **48.37 136** P **P** **17 08 39.8 +1.1**
MSVF PcP **PcP** **17 09 57.4 +2.1**
XMIS **Christmas Isla** **48.45 237** P **P** **17 08 39.5 +0.1**
XMIS IAmb IAmb 17 08 40.5
comp=Z,365nm,0.9s
XMIS PcP **PcP** **17 09 56.3 +0.8**
LHMI **Lhok Sumawe** **48.83 261** P **P** **17 08 45.7 +3.4**
comp=Z,650nm,0.7s,comp=Z,5µm
LHMI **Lhok Sumawe** **48.83 261** P **P** **17 08 44.8 +2.6**
LHMI IAmb IAmb 17 08 46.8
comp=Z,429nm,0.7s
ARMA **Armidale** **48.99 173** P **P** **17 08 44.1 +0.9**
ARMA PcP **PcP** **17 09 57.7 +0.3**
SIMRM **Sittwe** **49.20 281** P **P** **17 08 46.7 +1.8**
SIMRM PcP **PcP** **17 09 58.5 +0.2**
SIMRM **pwP** **17 10 29.0 -0.5**
TPTI **49.30 258** P **P** **17 08 49.0 +3.2**
comp=Z,76nm,0.8s,comp=Z,772nm
SISI **Saibi** **49.38 252** P **P** **17 08 47.0 +0.7**
comp=Z,300nm,0.8s,comp=Z,3µm
NIKH **Nikolski High** **49.49 35** P **P** **17 08 46.3 -0.2**
MLSI **Meulaboh, Aceh** **49.67 260** P **P** **17 08 50.5 +2.0**
comp=Z,96nm,0.7s
GSI **Gunungsitoli** **49.68 256** P **P** **17 08 50.0 +1.5**
comp=Z,895nm,0.6s,comp=Z,7µm
GSI **Gunungsitoli** **49.68 256** P **P** **17 08 49.6 +1.1**
GSI PcP **PcP** **17 10 01.4 +1.2**
GSI **S** **17 15 19.2 +1.1**
STKA **Stephens Creek** **50.17 184** P **P** **17 08 52.5 +0.7**
comp=Z,21nm,0.4s,baz=15,slow=7.3,SNR=107
STKA PcP **PcP** **17 10 01.6 +0.1**
comp=Z,9.3nm,0.6s,baz=328,slow=10,SNR=3.9
STKA S **S** **17 15 22.0 -2.2**
comp=Z,2.3nm,0.8s,baz=242,slow=18,SNR=1.6
STKA **Stephens Creek** **50.17 184** P **P** **17 08 51.7 -0.1**
STKA PcP **PcP** **17 10 02.6 +1.1**
LSA **Lhasa** **50.18 294** P **P** **17 08 56.1 +3.5**
LSA pmax pmax
comp=Z,320nm,0.6s
LSA **Lhasa** **50.18 294** P **P** **17 08 55.9 +3.4**
LSA **Lhasa** **50.18 294** P **P** **17 08 56.0 +3.5**
LSA **Lhasa** **50.18 294** P **P** **17 08 56.0 +3.5**
LSA **17 10 03.0**
LSA S **S** **17 15 28.4 +2.9**
LSA pmax pmax
comp=Z,270nm,0.7s
LSA **Lhasa** **50.18 294** P **P** **17 08 56.0 +3.4**
LSA IAmb IAmb 17 08 57.2
comp=Z,270nm,0.7s
LSA PcP **PcP** **17 10 03.0 +0.6**
LSA **S** **17 15 28.4 +2.9**
BELO **BELONIA** **50.20 285**⇑ *i*P **P** **17 08 55.0 +2.8**
BELO IVmB_BB 17 08 55.6
DGPR **DIGLIPUR** **50.40 272** *i*P **P** **17 08 55.4 +1.6**
SNSI **Sinabang, Aceh** **50.41 257** P **P** **17 08 56.8 +2.9**
comp=Z,243nm,0.6s
SPIA **Saint Paul Isl** **50.79 30** P **P** **17 08 56.2 +0.3**
GIRL **Giralia** **50.83 218** P **P** **17 08 58.8 +2.1**
GIRL IAmb IAmb 17 09 00.0
comp=Z,462nm,1.2s
UNV **Unalaska Valle** **51.13 35** P **P** **17 08 58.4 -0.1**
UNV PcP **PcP** **17 10 05.1 +0.3**
UNV **S** **17 15 37.6 +1.0**
BILL **Bilibino** **51.34 10***d* *i*P **P** **17 09 00.6 +0.8**
BILL *e* 17 10 05.0
BILL *i* 17 11 01.1
BILL *i*S **S** **17 15 37.4 -1.5**
BILL *i* *SS **sS** **17 18 35.4 -3.4**
BILL pmax pmax
comp=Z,654nm,1.0s
BILL **Bilibino** **51.34 10** P **P** **17 09 00.3 +0.5**
BILL IAmb IAmb 17 09 02.1
comp=Z,709nm,1.1s

BILL PcP **PcP** **17 10 05.0 -0.4**
LHI **Lord Howe Isla** **51.46 165** P **P** **17 09 01.7 +0.6**
KEKH **Kekaha** **51.62 76** P **P** **17 09 02.9 +0.4**
KEKH IAmb IAmb 17 09 05.4
comp=Z,428nm,1.0s
AKUT **Akutan** **51.65 35** P **P** **17 09 02.4 +0.2**
AKUT IAmb IAmb 17 09 04.1
comp=Z,677nm,1.2s
AKUT **S** **17 15 45.3 +1.8**
FORT **Forrest** **51.65 199** P **P** **17 09 02.9 +0.4**
FORT IAmb IAmb 17 09 04.8
comp=Z,304nm,0.8s
BBOO **Buckleboo** **51.72 190** P **P** **17 09 03.6 +0.6**
GTK **Tadong** **52.48 291** *i*P **P** **17 09 11.0 +2.1**
FALS **False Pass** **53.20 34** P **P** **17 09 13.4 +0.1**
OPA **Opana** **53.22 76** P **P** **17 09 15.0 +0.9**
OPA pmax pmax
comp=Z,558nm,1.5s
OPA **Opana** **53.22 76** P **P** **17 09 15.0 +0.9**
OPA IAmb IAmb 17 09 16.9
comp=Z,558nm,1.5s
KIP **Kipapa** **53.25 77***d* *i*P **P** **17 09 15.6 +1.3**
KIP pmax pmax
comp=Z,440nm,1.0s
KIP **Kipapa** **53.25 77** P **P** **17 09 14.9 +0.6**
KIP IAmb IAmb 17 09 16.9
comp=Z,377nm,0.9s
AFI **Afiamalu** **53.26 124** P **P** **17 09 15.1 +0.7**
AFI pmax pmax
comp=Z,140nm,1.2s
AFI **Afiamalu** **53.26 124** P **P** **17 09 15.1 +0.7**
TAPN **Taplejung** **53.27 291** *e*P **P** **17 09 16.8 +2.1**
comp=Z,101nm,0.3s
HON **Honolulu** **53.28 77** P **P** **17 09 16.1 +1.6**
HON pmax pmax
comp=Z,364nm,0.9s
HON **Honolulu** **53.28 77** P **P** **17 09 16.1 +1.6**
HON IAmb IAmb 17 09 17.2
comp=Z,364nm,0.9s
ODAN **Odare** **53.59 290** *e*P **P** **17 09 18.9 +2.0**
comp=Z,404nm,0.4s
CAN **Canberra** **53.61 176** P **P** **17 09 18.0 +1.5**
CAN 17 10 14.8
CAN pmax pmax
comp=Z,254nm,1.3s
CAN **Canberra** **53.61 176** P **P** **17 09 18.0 +1.5**
CAN PcP **PcP** **17 10 14.8 +0.2**
GAMB **Gambell** **53.86 22** **P** **17 09 18.9 +1.1**
TIXI **Tiksi** **54.05 354***d* *i*P **P** **17 09 18.9 -0.1**
TIXI pmax pmax
comp=Z,138nm,1.0s
TIXI **Tiksi** **54.05 354** P **P** **17 09 18.5 -0.6**
TIXI PcP **PcP** **17 10 16.3 +0.7**
TIXI pP **pP** **17 10 59.6 -0.4**
WMQ **Urumqi** **54.08 311** P **P** **17 09 22.5 +2.6**
WMQ PcP **PcP** **17 10 18.1 +1.6**
WMQ pP pwP 17 11 04.1 -2.1
WMQ PP **PP** **17 11 31.4 +2.5**
WMQ sP sP 17 11 59.5 +0.9
WMQ S **S** **17 16 19.3 +3.0**
WMQ ScS **ScS** **17 18 15.0 +1.2**
WMQ sS sS 17 19 19.0 +0.5
WMQ pmax pmax
comp=Z,220nm,1.3s
WMQ pmax pmax
comp=Z,320nm,3.7s
WMQ **Urumqi** **54.08 311** P **P** **17 09 22.1 +2.2**
WMQ 17 10 17.9
WMQ pmax pmax
comp=Z,573nm,1.3s
WMQ **Urumqi** **54.08 311** P **P** **17 09 22.1 +2.2**
WMQ IAmb IAmb 17 09 24.7
comp=Z,573nm,1.3s
WMQ PcP **PcP** **17 10 17.9 +1.5**
WMQ pP **pP** **17 10 59.3 -1.8**
RAMN **Ramite** **54.28 290** *e*P **P** **17 09 23.6 +1.8**
comp=Z,145nm,0.7s
JIRN **Jiri** **54.60 291** *e*P **P** **17 09 26.4 +2.2**
comp=Z,825nm,0.6s
KHLH **Kahului Airpor** **54.79 77** P **P** **17 09 26.9 +1.7**
KHLH IAmb IAmb 17 09 28.5
comp=Z,513nm,1.2s
GUN **Gumba** **54.86 291** *e*P **P** **17 09 28.1 +2.1**
comp=Z,519nm,0.6s
SDPT **Sand Point** **54.95 35** P **P** **17 09 25.5 -0.2**
SDPT PcP **PcP** **17 10 19.4 -0.1**
HLK **Haleakala** **54.98 77** P **P** **17 09 27.2 +0.4**
HLK IAmb IAmb 17 09 29.8
comp=Z,468nm,1.2s
MORW **Morawa** **54.99 211** P **P** **17 09 26.4 0.0**
BOK **Bokaro** **55.22 287** *e*P **P** **17 09 30.2 +2.1**
BOK IVmB_BB 17 09 31.2
comp=Z,2µm,0.7s
BOK *i* x x 17 09 43.9
CNBA **Chernabura Isl** **55.26 35** P **P** **17 09 27.9 +0.1**
CNBA PcP **PcP** **17 10 21.2 +0.5**
PKI **Pulchoki** **55.30 291** *e*P **P** **17 09 30.6 +1.6**
comp=Z,275nm,0.6s
PKIN **Phulchoki** **55.31 291** *e*P **P** **17 09 30.5 +1.5**
comp=Z,130nm,0.4s
KKH **Kailua Kona** **55.36 79** P **P** **17 09 30.3 +1.2**
KKH **Kailua Kona** **55.36 79** P **P** **17 09 30.3 +1.2**
KKN **Kakani** **55.40 291** *e*P **P** **17 09 31.3 +1.7**
comp=Z,323nm,0.8s
KHLU **Kahalu`u** **55.49 79** P **P** **17 09 30.9 +0.7**
HUH **Hualalai** **55.52 78** P **P** **17 09 31.1 +0.5**
DMN **Daman** **55.56 291** *e*P **P** **17 09 32.6 +1.8**
comp=Z,203nm,0.5s
HPAH **Hawaii Prepara** **55.60 78** P **P** **17 09 31.9 +1.0**
TOO **Toolangi** **55.73 180** P **P** **17 09 32.3 +0.9**
TOO pmax pmax
comp=Z,82nm,1.0s
TOO **Toolangi** **55.73 180** P **P** **17 09 32.3 +0.9**
BWNR **Bhubaneshwar** **55.76 282** *i*P **P** **17 09 31.1 -0.8**
BWNR *e*S **S** **17 16 35.0 -3.7**
MWH **Moku'aweowe** **55.78 79** P **P** **17 09 33.6 +0.9**
MLOA **Mauna Loa Obse** **55.79 79** P **P** **17 09 34.1 +1.4**
MLOA IAmb IAmb 17 09 35.4
comp=Z,842nm,1.6s
POHA **Pohakuloa** **55.80 78** P **P** **17 09 33.7 +1.2**
KHU **Kahuku** **55.80 79** P **P** **17 09 33.3 +0.8**
KHU pmax pmax
comp=Z,447nm,1.1s
KHU **Kahuku** **55.80 79** P **P** **17 09 33.3 +0.8**
KHU IAmb IAmb 17 09 35.0
comp=Z,447nm,1.1s
HMH **Humu'ula Sheep** **55.87 78** P **P** **17 09 34.4 +1.4**
AIN **Ainahou** **55.93 79** P **P** **17 09 34.7 +1.4**
AIN IAmb IAmb 17 09 36.1
comp=Z,572nm,1.0s
AIN PcP **PcP** **17 10 26.0 +1.8**
GKN **Gorkha** **55.95 292** *e*P **P** **17 09 35.1 +1.8**
comp=Z,414nm,0.5s
MLH **Mauna Loa** **55.97 79** P **P** **17 09 35.2 +1.4**
MLH IAmb IAmb 17 09 36.5
comp=Z,474nm,1.2s
MLH PcP **PcP** **17 10 26.5 +2.0**
MLH **pP** **17 11 18.1 +2.7**
WRMHI **West Rim** **56.07 79** P **P** **17 09 35.5 +1.3**
WRMHI IAmb IAmb 17 09 36.7
comp=Z,401nm,0.9s
UWE **Uwekahuna** **56.07 79** P **P** **17 09 35.6 +1.3**
UWE IAmb IAmb 17 09 36.9
comp=Z,565nm,1.2s
SDHHI **Sand Hill** **56.08 79** P **P** **17 09 35.7 +1.4**
SDHHI IAmb IAmb 17 09 36.8
comp=Z,456nm,0.9s
HLP **Hilina Pali** **56.08 79** P **P** **17 09 35.2 +1.0**
HLP IAmb IAmb 17 09 36.9
comp=Z,484nm,1.1s
OBL **Observatory Le** **56.08 79** P **P** **17 09 36.2 +1.9**
OBL IAmb IAmb 17 09 36.9
comp=Z,450nm,1.0s
NPH **North Pit** **56.09 79** P **P** **17 09 35.3 +0.9**
UWB **Uwekahuna B** **56.09 79** P **P** **17 09 35.4 +1.0**
RIM **Rim** **56.09 79** P **P** **17 09 35.3 +0.9**
RIM IAmb IAmb 17 09 36.9
comp=Z,460nm,0.9s
SBLHI **Steaming Bluff** **56.09 79** P **P** **17 09 35.5 +1.1**
HATHI **Halema'uma'u T** **56.10 79** P **P** **17 09 34.4 -0.1**
KKO **Keanakako`i** **56.10 79** P **P** **17 09 35.6 +1.2**
KKO IAmb IAmb 17 09 37.0
comp=Z,456nm,1.0s
BYL **Byron's Ledge** **56.10 79** P **P** **17 09 35.4 +0.9**

PUH **Pauahi** **56.15 79** P **P** **17 09 36.0 +1.2**
PUH IAmb IAmb 17 09 37.3
comp=Z,437nm,0.9s
STCH **Steam Cracks** **56.23 79** P **P** **17 09 36.3 +0.9**
STCH IAmb IAmb 17 09 37.8
comp=Z,428nm,0.7s
NPOC **North of Pu'u** **56.25 79** P **P** **17 09 36.8 +1.4**
NPOC IAmb IAmb 17 09 37.9
comp=Z,590nm,1.0s
CHGN **Chignik** **56.36 34** P **P** **17 09 35.0 -0.4**
CHGN IAmb IAmb 17 09 36.8
comp=Z,788nm,1.3s
ZSN **Zaisan** **56.61 315** *e*P **P** **17 09 39.2 +1.8**
ZSN *i* S **S** **17 16 50.6 +1.7**
ZSN *e*sS **sS** **17 19 58.2 +5.1**
ZSN **Zaisan** **56.61 315** *e*P **P** **17 09 39.1 +1.8**
ZSN *i* S **S** **17 16 50.6 +1.7**
ANM **Nome** **56.61 23** P **P** **17 09 38.3 +1.2**
ANM pmax pmax
comp=Z,388nm,1.0s
ANM **Nome** **56.61 23** P **P** **17 09 38.3 +1.2**
ANM IAmb IAmb 17 09 39.7
comp=Z,388nm,1.0s
DANN **Dangsing** **56.70 292** *e*P **P** **17 09 40.7 +2.0**
comp=Z,1µm,0.5s
KOLN **Koldanda** **56.88 292** *e*P **P** **17 09 41.6 +1.8**
comp=Z,218nm,0.5s
NWAO **Narrogin (SRO)** **57.66 208** P **P** **17 09 45.6 +1.0**
NWAO **Narrogin (SRO)** **57.66 208** P **P** **17 09 44.8 +0.2**
NWAO 17 10 30.6
NWAO pmax pmax
comp=Z,98nm,0.9s
NWAO **Narrogin (SRO)** **57.66 208** S **S** **17 16 57.2 -5.4**
comp=Z,6.5nm,0.9s,baz=229,slow=14,SNR=1.1
NWAO **Narrogin (SRO)** **57.66 208** P **P** **17 09 44.8 +0.2**
NWAO **PcP** **17 10 30.6 +0.1**
CHIR **Chirikof Islan** **57.72 35** P **P** **17 09 46.0 +1.2**
NIUE **Niue** **57.76 128** P **P** **17 09 46.7 +1.2**
NIUE IAmb IAmb 17 09 51.2
comp=Z,472nm,1.2s
ZAA0 **Zalesovo Array** **57.89 323** P **P** **17 09 46.8 +0.8**
ZAA0 PcP **PcP** **17 10 30.2 -0.9**
ZAA0 pP **pP** **17 11 28.9 -0.3**
ZALV **Zalesovo Beam** **57.89 323** P **P** **17 09 46.7 +0.8**
comp=Z,36nm,0.4s,baz=103,slow=6.5,SNR=201
ZALV PcP **PcP** **17 10 30.8 -0.3**
comp=Z,26nm,0.7s,baz=103,slow=4.6,SNR=5.4
ZALV pP **pP** **17 11 29.5 +0.3**
comp=Z,24nm,0.9s,baz=97,slow=7.2,SNR=2.6
ZALV ScP **ScP** **17 13 39.7 -0.5**
comp=Z,5.3nm,0.6s,baz=115,slow=4.1,SNR=2.8
ZALV S **S** **17 17 04.8 -0.2**
comp=Z,30nm,1.0s,baz=97,slow=11,SNR=17
ZALV PKPPKP 17 39 19.4
comp=Z,4.6nm,0.9s,baz=298,slow=3.2,SNR=7.0
ZALV **Zalesovo Beam** **57.89 323** P **P** **17 09 46.4 +0.4**
ZALV PcP **PcP** **17 10 30.5 -0.7**
ZALV pP **pP** **17 11 29.7 +0.5**
MK31 **Makanchi Array** **58.26 314** *e*P **P** **17 09 50.5 +1.8**
MK31 pmax pmax
comp=Z,79nm,0.6s
MK31 **Makanchi Array** **58.26 314** P **P** **17 09 50.4 +1.7**
MK31 PcP **PcP** **17 10 33.0 +0.1**
MKAR **Makanchi Array** **58.26 314** P **P** **17 09 50.5 +1.9**
comp=Z,71nm,0.5s,baz=90,slow=7.9,SNR=122
MKAR PcP **PcP** **17 10 33.7 +0.9**
comp=Z,52nm,0.9s,baz=91,slow=5.1,SNR=7.8
MKAR PP **PP** **17 12 06.8 +1.1**
comp=Z,30nm,0.9s,baz=94,slow=10,SNR=3.3
MKAR ScP **ScP** **17 13 38.3 -3.7**
comp=Z,5.2nm,0.8s,baz=108,slow=4.7,SNR=1.8
MKAR S **S** **17 17 09.9 -0.2**
comp=Z,16nm,1.1s,baz=101,slow=13,SNR=6.8
MKAR ScS **ScS** **17 18 42.8 -1.5**
comp=Z,10.0nm,1.0s,baz=111,slow=7.9,SNR=3.8
MKAR PKPPKP **P'P'df** **17 39 19.1 -2.1**
comp=Z,1.5nm,0.9s,baz=300,slow=1.1,SNR=3.7
MKAR P4KPbc 17 46 53.6
comp=Z,0.7nm,0.8s,baz=101,slow=5.1,SNR=5.1
MKAR **Makanchi Array** **58.26 314** P **P** **17 09 49.9 +1.3**
MKAR PcP **PcP** **17 10 33.5 +0.7**
MKAR **PP** **17 12 05.6 -0.1**
MKAR **Makanchi Array** **58.26 314** **S** **17 17 10.6 +0.5**
MKAR **ScS** **17 18 42.1 -2.1**
MKAR P'P'bc 17 39 31.0 -2.1
MAKZ **Makanchi** **58.48 314** P **P** **17 09 51.9 +1.7**
MAKZ pmax pmax
comp=Z,135nm,0.7s
MAKZ **Makanchi** **58.48 314** P **P** **17 09 51.8 +1.7**
MAKZ PcP **PcP** **17 10 33.2 -0.5**
XMAS **Kiritimati** **58.51 99** P **P** **17 09 52.2 +1.4**
XMAS IAmb IAmb 17 09 53.9
comp=Z,634nm,1.4s
XMAS pP **pP** **17 11 35.0 +1.2**
SII **Sitkinak Islan** **58.69 34** P **P** **17 09 52.4 +1.0**
SII PcP **PcP** **17 10 35.4 +1.1**
RDOG **Red Dog Mine** **59.22 20** P **P** **17 09 55.6 +0.9**
RDOG IAmb IAmb 17 09 57.4
comp=Z,482nm,0.9s
RDOG **S** **17 17 22.8 +1.3**
SVW2 **Sparrevohn** **59.28 29** P **P** **17 09 55.8 +0.6**
OHAK **Old Harbor** **59.33 34** P **P** **17 09 56.1 +0.6**
OHAK IAmb IAmb 17 09 57.8
comp=Z,428nm,0.9s
OHAK **S** **17 17 22.7 -0.4**
TTA **Tatalina** **59.69 27** P **P** **17 09 58.7 +0.7**
TTA **Tatalina** **59.69 27** P **P** **17 09 58.7 +0.7**
OUZ **Omahuta** **59.82 153** P **P** **17 10 01.5 +2.4**
KDAK **Kodiak Island** **59.83 33** P **P** **17 09 59.8 +0.9**
comp=Z,78nm,0.3s,baz=245,slow=1.7,SNR=527
KDAK S **S** **17 17 28.4 -0.9**
comp=Z,20nm,0.9s,baz=108,slow=21,SNR=8.3
KDAK **Kodiak Island** **59.83 33** P **P** **17 09 59.3 +0.4**
KDAK IAmb IAmb 17 10 01.0
comp=Z,383nm,1.0s
KDAK **S** **17 17 29.4 0.0**
PDGK **Podgornoye** **59.97 310** P **P** **17 10 01.9 +1.6**
PDGK pmax pmax
comp=Z,117nm,0.6s
SHLS **Shalkode** **59.98 310** *e*S **S** **17 17 30.6 -1.5**
SEM **Semipalatinsk** **60.04 318** *e*P **P** **17 09 59.5 -1.3**
SEM *e*S **S** **17 17 31.6 -1.2**
SEM **Semipalatinsk** **60.04 318** *e*P **P** **17 09 59.4 -1.3**
SEM *e*S **S** **17 17 31.5 -1.2**
UZB **Uzynbulak** **60.30 310**⇓ *i*P **P** **17 10 04.3 +1.8**
comp=Z,105nm,1.4s
UZB *e*pP **pP** **17 11 48.1 +0.9**
UZB *i* S **S** **17 17 38.0 +1.8**
comp=Z,424nm,2.4s
UZB **Uzynbulak** **60.30 310***d* *i*P **P** **17 10 04.3 +1.8**
UZB *e**PP **pP** **17 11 48.0 +0.9**
UZB *i* S **S** **17 17 37.9 +1.8**
UZB pmax pmax
comp=Z,105nm,1.4s
UZB smax smax
comp=N,424nm,2.4s
RSO **Redoubt South** **60.42 30** P **P** **17 10 02.7 -0.3**
KPKS **Kokpek** **60.56 310**⇓ *i*P **P** **17 10 05.9 +1.8**
comp=N,38nm,0.4s
KPKS *e*pP **pP** **17 11 49.7 +0.8**
KPKS *i* S **S** **17 17 41.6 +2.4**
KPKS **Kokpek** **60.56 310***d* *i*P **P** **17 10 05.9 +1.8**
KPKS *e**PP **pP** **17 11 49.6 +0.8**
KPKS *i* S **S** **17 17 41.6 +2.4**
KPKS pmax pmax
comp=Z,38nm,0.4s
ZHN **Zhinishke** **60.73 310**⇓ *i*P **P** **17 10 07.0 +1.6**
comp=Z,96nm,1.6s
ZHN *e*pP **pP** **17 11 51.4 +1.3**
ZHN *e*S **S** **17 17 44.0 +2.5**
ZHN **Zhinishke** **60.73 310***d* *i*P **P** **17 10 06.9 +1.6**
ZHN *e**PP **pP** **17 11 51.4 +1.3**
ZHN *e*S **S** **17 17 43.9 +2.5**
ZHN pmax pmax
comp=Z,96nm,1.6s
PRZ **Przheval'sk** **60.74 309** P **P** **17 10 08.1 +2.6**
PRZ pmax pmax
comp=Z,990nm,1.6s
PRZ **Przheval'sk** **60.74 309** P **P** **17 10 08.1 +2.6**
PRZ IAmb IAmb 17 10 10.6
comp=Z,990nm,1.6s
SATY **Saty** **60.75 309**⇓ *i*P **P** **17 10 07.5 +2.0**
comp=Z,246nm,1.5s
SATY *e*pP **pP** **17 11 51.7 +1.4**

SATY *i* S **S** **17 17 44.1 +2.5**
SATY Saty 60.75 309 *d* iP **P** **17 10 07.5 +2.0**
SATY *e**PP **pP** **17 11 51.7 +1.4**
SATY *i* S **S** **17 17 44.1 +2.5**
SATY pmax pmax
comp=Z,246nm,1.5s
WCZ Waipu Caves 60.75 153 P **P** **17 10 07.8 +2.5**
HOM Homer 60.76 31 P **P** **17 10 05.5 +0.5**
TDK Taldyqorghan 60.82 312 *i* P **P** **17 10 07.8 +2.0**
comp=Z,440nm,1.5s
TDK *e*pP **pP** **17 11 50.6 -0.4**
TDK *i* S **S** **17 17 44.4 +2.2**
TDK Taldyqorghan 60.82 312 *i* P **P** **17 10 07.7 +2.0**
TDK *i* S **S** **17 17 44.4 +2.2**
TDK pmax pmax
comp=Z,441nm,1.5s
CNPM China Poot 60.93 31 P **P** **17 10 06.0 -0.1**
TAU Tasmania Unive 61.10 178 P **P** **17 10 08.2 +0.8**
TAU pmax pmax
comp=Z,172nm,1.3s
TAU Tasmania Unive 61.10 178 P **P** **17 10 08.2 +0.8**
KURK Kurchatov 61.11 318 P **P** **17 10 09.2 +1.7**
SNR=351
KURK Kurchatov 61.11 318 P **P** **17 10 08.7 +1.2**
KURK 17 10 44.3
KURK *PP **pP** **17 11 52.0 -0.3**
KURK S **S** **17 17 44.1 -1.4**
KURK pmax pmax
comp=Z,594nm,1.0s
KURK Kurchatov 61.11 318 P **P** **17 10 08.7 +1.2**
KURK lAmb lAmb 17 10 10.9
comp=Z,594nm,1.0s
KURK PcP **PcP** **17 10 44.3 +0.1**
KURK pP **pP** **17 11 52.0 -0.3**
KURK S **S** **17 17 44.1 -1.4**
BRLK Bradley Lake 61.15 31 P **P** **17 10 07.2 -0.5**
BRLK lAmb lAmb 17 10 08.8
comp=Z,309nm,0.8s
KURBB Kurchatov Arra 61.16 318 PcP **PcP** **17 10 44.1 -0.3**
comp=Z,12nm,0.5s,baz=96,slow=4.5,SNR=4.3
KURBB pP **pP** **17 11 53.3 +0.6**
comp=Z,25nm,0.8s,baz=96,slow=7.9,SNR=2.8
KURBB S **S** **17 17 40.8 -5.4**
comp=Z,19nm,0.9s,baz=98,slow=14,SNR=13
TARG Taragay, Kyrgy 61.17 308 P **P** **17 10 10.2 +1.5**
PPLA Purkeypile 61.34 28 P **P** **17 10 09.6 +0.6**
PPLA lAmb lAmb 17 10 11.4
comp=Z,253nm,1.0s
SKT Skwentna 61.39 29 P **P** **17 10 08.7 -0.5**
SKT lAmb lAmb 17 10 10.4
comp=Z,511nm,1.2s
GRZ Great Barrier 61.50 152 P **P** **17 10 13.3 +3.1**
SUA Susitna One 61.62 29 P **P** **17 10 11.0 +0.2**
SUA lAmb lAmb 17 10 12.1
comp=Z,318nm,1.0s
SUA **S** **17 17 51.9 +0.1**
IMAR Indian Mountai 61.64 24 P **P** **17 10 10.7 0.0**
KDJ Kajisay 61.64 308 P **P** **17 10 13.5 +2.1**
KDJ 17 10 44.9
KDJ pmax pmax
comp=Z,293nm,1.5s
KDJ Kajisay 61.64 308 P **P** **17 10 13.5 +2.1**
KDJ PcP **PcP** **17 10 44.9 -1.9**
KDJ **pP** **17 11 56.8 +0.2**
KDJ **S** **17 17 57.1 +4.3**
NRIK Noril'sk 61.66 340 P **P** **17 10 11.7 +0.9**
comp=Z,154nm,1.0s,baz=110,slow=7.6,SNR=121
NRIK S **S** **17 17 49.6 -2.1**
comp=Z,3.6nm,0.4s,baz=356,slow=22,SNR=19
NRIK PKPPKP **P'P'df** **17 39 11.1 -3.7**
comp=Z,1.1nm,0.3s,baz=346,slow=4.2,SNR=3.4
MBAZ Motutapu North 61.69 153 P **P** **17 10 14.6 +3.2**
WTAZ Waiatarua 61.69 153 P **P** **17 10 14.1 +2.6**
MDOK Medeo 61.74 310 *i* P **P** **17 10 14.1 +2.1**
comp=Z,3µm,1.7s
MDOK *e*pP **pP** **17 11 56.8 -0.7**
MDOK *i* S **S** **17 17 56.1 +2.0**
MDOK Medeo 61.74 310 *i* P **P** **17 10 14.1 +2.1**
MDOK *i* S **S** **17 17 56.0 +2.0**
MDOK pmax pmax
comp=Z,3µm,1.7s
CHKK Chushkaly 61.80 310 ǁ *i* P **P** **17 10 13.9 +1.6**
CHKK Chushkaly 61.80 310 ǁ *i* P **P** **17 10 13.8 +1.6**
WIAZ Waiheke Island 61.81 153 P **P** **17 10 14.4 +2.1**
AAA Alma-Ata 61.84 310 *e*P **P** **17 10 11.9 -0.7**
AAA *e*S **S** **17 17 57.2 +2.2**
AAA Alma-Ata 61.84 310 *e*P **P** **17 10 11.9 -0.7**
AAA *e*S **S** **17 17 57.2 +2.2**
NGP Nagpur 61.86 285 *e*S **S** **17 17 55.9 +0.1**
SEW Seward 61.93 31 P **P** **17 10 12.6 0.0**
SEW PcP **PcP** **17 10 48.0 +0.7**
RC01 Rabbit Creek A 62.01 30 P **P** **17 10 13.1 -0.1**
RC01 lAmb lAmb 17 10 14.7
comp=Z,455nm,0.8s
RC01 PcP **PcP** **17 10 48.4 +0.7**
RC01 **S** **17 17 55.9 -0.4**
KUZ Kuaotunu 62.03 152 P **P** **17 10 13.7 +0.1**
MKAZ Moumakai 62.09 153 P **P** **17 10 16.0 +2.0**
SMLA Simla 62.17 296 *i* P **P** **17 10 16.4 +1.6**
BPAW Bear Paw Mtn. 62.19 26 P **P** **17 10 15.0 +0.6**
BPAW **S** **17 17 57.5 -1.0**
MTBS Maitube 62.20 310 *e*P **P** **17 10 16.8 +1.9**
MTBS Maitube 62.20 310 *e*P **P** **17 10 16.7 +1.9**
KUU Kurty 62.27 310 ǁ *i* P **P** **17 10 17.1 +1.8**
comp=Z,545nm,1.6s
KUU *e*pP **pP** **17 12 01.8 +0.9**
KUU *e*S **S** **17 18 01.9 +1.7**
KUU Kurty 62.27 310 *d* iP **P** **17 10 17.0 +1.8**
KUU *e**PP **pP** **17 12 01.7 +0.9**
KUU *e*S **S** **17 18 01.8 +1.7**
KUU pmax pmax
comp=Z,545nm,1.5s
TRF Thorofare Moun 62.32 27 P **P** **17 10 15.3 -0.1**
TRF lAmb lAmb 17 10 16.8
comp=Z,505nm,1.1s
TRF **S** **17 17 59.4 -1.0**
ULHL Ulahol 62.34 309 P **P** **17 10 18.2 +2.3**
SNR=39
NDI New Delhi 62.39 293 *e*P **P** **17 10 17.5 +1.2**
NDI *e*P **P** **17 10 17.5 +1.2**
PMR Palmer 62.41 29 P **P** **17 10 15.7 0.0**
PMR Palmer 62.41 29 P **P** **17 10 15.7 0.0**
PMR lAmb lAmb 17 10 17.0
comp=Z,271nm,0.8s
PMR **S** **17 17 58.8 -2.2**
MDRS Chennai 62.43 275 *e*P **P** **17 10 18.8 +2.1**
NRN Naryn 62.52 308 P **P** **17 10 19.0 +1.7**
NRN S **S** **17 18 05.8 +1.8**
NRN pmax pmax
comp=Z,56nm,1.0s
NRN Naryn 62.52 308 P **P** **17 10 19.0 +1.7**
NRN **S** **17 18 05.8 +1.8**
GHO Glory Hole Cre 62.54 29 P **P** **17 10 17.0 +0.3**
GHO lAmb lAmb 17 10 18.2
comp=Z,333nm,0.8s
GHO **S** **17 18 02.1 -0.9**
MLY Manley 62.55 25 P **P** **17 10 17.7 +1.0**
MLY **S** **17 18 02.9 0.0**
KSH Kashi 62.59 305 P **P** **17 10 22.3 +4.7**
KSH pP pwP 17 12 07.6 -0.6
KSH PP **PP** **17 12 50.1 +6.2**
KSH sP *s*P 17 12 59.8 +0.6
KSH S **S** **17 18 06.3 +1.8**
KSH SS **SS** **17 22 24.8 +3.6**
KSH pmax pmax
comp=Z,790nm,1.7s
KSH pmax pmax
comp=Z,910nm,6.5s
KNK Knik Glacier 62.68 30 P **P** **17 10 18.1 +0.5**
KNK **S** **17 18 03.2 -1.4**
TOZ Tahuroa Road 62.76 153 P **P** **17 10 20.3 +2.0**
DHRM DHARAMSHALA 62.80 297 *e*P **P** **17 10 19.6 +0.5**
DHRM *i* x x 17 12 05.8
DHRM *e*S **S** **17 18 06.7 -0.7**
TKM2 Tokmak 2 62.81 309 *i* P **P** **17 10 20.2 +1.2**
TKM2 pmax pmax
comp=Z,109nm,1.0s
TKM2 Tokmak 2 62.81 309 P **P** **17 10 21.2 +2.2**
SNR=54
SML Sawmill 62.82 29 P **P** **17 10 18.9 +0.3**
SML **S** **17 18 05.6 -0.7**
BWN Browne 62.85 27 P **P** **17 10 19.4 +0.7**
BWN **S** **17 18 08.3 +1.8**

RND Reindeer 62.94 27 P **P** **17 10 18.9 -0.4**
RND pmax pmax
comp=Z,237nm,1.0s
RND Reindeer 62.94 27 P **P** **17 10 18.9 -0.4**
RND lAmb lAmb 17 10 21.1
comp=Z,237nm,1.0s
RND pP **pP** **17 12 02.3 -1.9**
MCK McKinley 62.98 27 P **P** **17 10 19.1 -0.3**
MCK S **S** **17 18 05.7 -2.4**
MCK pmax pmax
comp=Z,414nm,1.2s
MCK McKinley 62.98 27 P **P** **17 10 19.1 -0.3**
MCK lAmb lAmb 17 10 20.9
comp=Z,414nm,1.2s
MCK **S** **17 18 05.7 -2.4**
BHPL Bhopal 62.98 287 ǁ *i* P **P** **17 10 21.2 +0.9**
HYB Hyderabad 63.04 281 *i* P **P** **17 10 20.0 -0.7**
comp=Z,107nm,0.8s
HYB *e*PcP **PcP** **17 10 52.5 -0.3**
HYB *e*pP **pP** **17 12 07.0 +0.8**
HYB *e*PP **PP** **17 12 49.0 +0.8**
HYB *e*S **S** **17 18 09.5 -0.9**
KZA Kyzart 63.08 308 P **P** **17 10 23.8 +2.8**
SNR=20
TGRZ Tauranga 63.09 153 P **P** **17 10 22.8 +2.3**
NEA Nenana 63.12 26 P **P** **17 10 20.1 -0.2**
NEA lAmb lAmb 17 10 23.1
comp=Z,311nm,1.0s
HIZ Hauiti 63.15 154 P **P** **17 10 23.2 +2.4**
HIZ Hauiti 63.15 154 P **P** **17 10 20.4 -0.5**
GLI Glacier Island 63.23 30 P **P** **17 10 21.6 +0.5**
GLI lAmb lAmb 17 10 22.9
comp=Z,378nm,1.0s
GLI PcP **PcP** **17 10 53.0 +0.3**
KBK Karagaybulak 63.29 309 P **P** **17 10 24.1 +2.1**
SNR=7.4
SCM Sheep Creek Mo 63.30 29 P **P** **17 10 22.4 +0.8**
SCM pmax pmax
comp=Z,1µm,1.1s
SCM Sheep Creek Mo 63.30 29 P **P** **17 10 22.4 +0.8**
OPRZ Ohinepanea 63.31 153 P **P** **17 10 23.7 +1.9**
COLD Coldfoot 63.37 23 P **P** **17 10 23.0 +1.1**
COLD **S** **17 18 12.2 -0.6**
CHMS Chumysh 63.43 309 P **P** **17 10 24.6 +1.8**
SNR=45
HIN Hinchinbrook I 63.43 31 P **P** **17 10 23.3 +0.9**
HIN lAmb lAmb 17 10 24.7
comp=Z,498nm,1.0s
FID Port Fidalgo 63.50 31 P **P** **17 10 23.4 +0.5**
WRH Wood River Hil 63.51 26 P **P** **17 10 22.3 -0.5**
WRH lAmb lAmb 17 10 24.0
comp=Z,287nm,0.8s
SGDS Sogindy 63.51 310 ǁ *i* P **P** **17 10 24.6 +1.3**
comp=Z,56nm,1.3s
SGDS *e*pP **pP** **17 12 10.0 +0.2**
SGDS *e*S **S** **17 18 17.1 +1.8**
DHY Denali Highway 63.52 28 P **P** **17 10 23.1 0.0**
FRU1 Bishkek 63.52 309 P **P** **17 10 25.3 +1.9**
FRU1 pmax pmax
comp=Z,83nm,0.9s
FRU1 Bishkek 63.52 309 P **P** **17 10 25.3 +1.9**
PALK Pallekele 63.54 269 *i* P **P** **17 10 25.6 +1.6**
SNR=12
PALK Pallekele 63.54 269 P **P** **17 10 25.6 +1.6**
PALK Pallekele 63.54 269 P **P** **17 10 25.4 +1.4**
comp=Z,43nm,0.8s,baz=114,slow=5.5,SNR=28
PALK Pallekele 63.54 269 P **P** **17 10 25.0 +1.0**
MDM Murphy Dome 63.56 26 P **P** **17 10 23.2 0.0**
MDM lAmb lAmb 17 10 26.0
comp=Z,294nm,0.8s
USP Ospenovka 63.61 310 P **P** **17 10 25.7 +1.8**
SNR=10
UCH Uchtor 63.62 309 P **P** **17 10 27.2 +2.6**
SNR=166
AAK Ala-Archa 63.62 309 *i* P **P** **17 10 26.0 +1.8**
SNR=14
AAK Ala-Archa 63.62 309 P **P** **17 10 26.0 +1.8**
SNR=43
AAK Ala-Archa 63.62 309 *d* iP **P** **17 10 25.7 +1.5**
AAK pmax pmax
comp=Z,125nm,1.5s
AAK Ala-Archa 63.62 309 P **P** **17 10 25.5 +1.3**
comp=Z,21nm,0.4s,baz=105,slow=6.8
AAK **S** **17 18 19.1 +2.2**
comp=Z,12nm,1.1s,baz=271,slow=19,SNR=14
AAK Ala-Archa 63.62 309 P **P** **17 10 26.1 +1.8**
SNR=7.1
AAK Ala-Archa 63.62 309 P **P** **17 10 25.9 +1.7**
AAK **S** **17 18 19.2 +2.2**
VRZ Vera Road 63.63 155 P **P** **17 10 26.5 +2.6**
CCB Clear Creek Bu 63.67 26 P **P** **17 10 23.2 -0.6**
CCB lAmb lAmb 17 10 25.0
comp=Z,268nm,1.2s
CCB PcP **PcP** **17 10 54.3 -0.1**
TCOL CIGO, UAF Yank 63.69 26 P **P** **17 10 23.9 -0.1**
baz=257
COLA College 63.70 26 *d* iP **P** **17 10 23.5 -0.5**
COLA *i* *PP **pwP** **17 12 15.6 -2.4**
COLA pmax pmax
comp=Z,246nm,0.9s
COLA College 63.70 26 P **P** **17 10 23.5 -0.5**
COLA lAmb lAmb 17 10 27.6
comp=Z,228nm,0.8s
COLA **S** **17 18 17.2 +0.6**
HAZ Te Kaha 63.78 152 P **P** **17 10 26.2 +1.3**
EYAK Cordova Ski Ar 63.83 31 P **P** **17 10 25.7 +0.8**
EYAK lAmb lAmb 17 10 27.2
comp=Z,327nm,0.8s
RATZ Rangitukua 63.83 154 P **P** **17 10 29.5 +4.3**
MXZ Matakaoa Point 63.87 151 P **P** **17 10 25.3 -0.2**
MXZ Matakaoa Point 63.87 151 P **P** **17 10 24.2 -1.3**
URZ Urewera 63.90 152 P **P** **17 10 26.0 +0.3**
URZ Urewera 63.90 152 P **P** **17 10 25.3 -0.3**
URZ lAmb lAmb 17 10 27.1
comp=Z,373nm,1.7s
RUGZ Raukumara Rang 63.91 152 P **P** **17 10 25.3 -0.6**
BTLS Baital 63.91 312 ǁ *i* P **P** **17 10 27.1 +1.3**
BTLS *e*pP **pP** **17 12 10.9 -1.6**
BTLS *e*S **S** **17 18 19.8 -0.3**
BTLS Baital 63.91 312 *d* iP **P** **17 10 27.1 +1.3**
BTLS *e*S **S** **17 18 19.7 -0.3**
POKR Poker Plat Res 63.93 26 P **P** **17 10 25.4 -0.1**
baz=257
WTVZ West Tongariro 63.96 154 P **P** **17 10 27.9 +1.7**
HDA Harding Lake 63.98 27 P **P** **17 10 25.4 -0.4**
baz=258
HDA Harding Lake 63.98 27 P **P** **17 10 25.1 -0.7**
HDA lAmb lAmb 17 10 26.6
comp=Z,230nm,0.9s
TOLK Toolik Lake Re 64.00 22 P **P** **17 10 27.7 +1.8**
baz=254
TOLK **S** **17 18 21.9 +1.5**
baz=254
TOLK Toolik Lake Re 64.00 22 P **P** **17 10 27.4 +1.5**
TOLK **S** **17 18 21.4 +1.0**
NGZ Ngauruhoe 64.02 154 P **P** **17 10 28.1 +1.5**
FWVZ Far West T-bar 64.07 154 P **P** **17 10 28.4 +1.4**
IL31 64.08 26 P **P** **17 10 25.6 -0.7**
ILAR Eielson Array 64.08 26 P **P** **17 10 25.8 -0.7**
comp=Z,238nm,0.9s,baz=243,slow=6.1,SNR=1539
ILAR **S** **17 18 16.5 -4.9**
comp=Z,4.2nm,1.0s,baz=272,slow=8.9,SNR=5.2
ILAR PKPPKP **P'P'df** **17 39 10.7 -0.5**
comp=Z,2.0nm,0.9s,baz=72,slow=2.0,SNR=6.8
ILAR P4KPbc 17 47 16.4
comp=Z,1.4nm,1.1s,baz=253,slow=4.0,SNR=6.9
ILAR Eielson Array 64.08 26 P **P** **17 10 25.6 -0.8**
TRVZ Turoa 64.10 154 P **P** **17 10 28.6 +1.4**
WHVZ Whangaehu Hut 64.11 154 P **P** **17 10 28.3 +1.1**
TUVZ Tukino 64.12 154 P **P** **17 10 28.6 +1.4**
WMGZ Waiomatatini S 64.12 151 P **P** **17 10 27.5 +0.4**
RTZ Ruatahuna 64.14 153 P **P** **17 10 27.5 +0.3**
MTVZ Mangateitei 64.14 154 P **P** **17 10 28.6 +1.3**
MWZ Matawai 64.15 152 P **P** **17 10 27.6 +0.3**
EKS2 Erkin-Say 64.15 309 P **P** **17 10 29.5 +2.0**
SNR=60
AML Almayashu 64.23 308 P **P** **17 10 30.7 +2.4**
SNR=88
RAGZ Rawiri 64.23 152 P **P** **17 10 28.6 +0.8**
QRZ Quartz Range 64.23 157 P **P** **17 10 29.2 +1.5**
QRZ lAmb lAmb 17 10 30.5
comp=Z,272nm,1.1s
WAZ Wanganui 64.26 155 P **P** **17 10 30.5 +2.6**
MOVZ Moawhango 64.28 154 P **P** **17 10 28.9 +0.8**

RAGM Ragged Mountai 64.33 31 P **P** **17 10 29.3 +1.1**
PAX Paxson 64.35 28 P **P** **17 10 28.8 +0.5**
PAX S **S** **17 18 23.2 -1.7**
PAX pmax pmax
comp=Z,264nm,0.6s
PAX Paxson 64.35 28 P **P** **17 10 28.8 +0.5**
PAX lAmb lAmb 17 10 30.2
comp=Z,264nm,0.6s
PAX **S** **17 18 23.2 -1.7**
BKZ Black Stump Fm 64.39 153 P **P** **17 10 29.2 +0.4**
BKZ Black Stump Fm 64.39 153 P **P** **17 10 28.8 -0.1**
BKZ lAmb lAmb 17 10 33.0
comp=Z,250nm,1.4s
RAHZ Arahi 64.43 153 P **P** **17 10 29.9 +0.9**
NMHZ Naumai 64.46 153 P **P** **17 10 30.6 +1.3**
BHHZ Black Hill Sta 64.48 154 P **P** **17 10 30.0 +0.6**
HMT Hamilton 64.53 31 P **P** **17 10 29.6 +0.2**
RIGZ Rimuhau 64.56 152 P **P** **17 10 30.1 +0.3**
CNGZ Carnagh Statio 64.57 152 P **P** **17 10 30.4 +0.5**
KWHZ Kaweka Forest 64.57 154 P **P** **17 10 31.0 +1.0**
WHHZ Waihua 64.63 153 P **P** **17 10 31.5 +1.2**
MCHZ McNeill Hill 64.71 153 P **P** **17 10 31.5 +0.8**
SUCK Suckling Hills 64.73 32 P **P** **17 10 32.0 +1.3**
KRHZ Kereru 64.73 154 P **P** **17 10 31.3 +0.3**
RIDG Independent Ri 64.76 28 P **P** **17 10 31.1 +0.3**
KNZ Kokohu 64.78 152 P **P** **17 10 32.5 +1.3**
PRP Porcupine Dome 64.79 26 P **P** **17 10 29.6 -1.5**
ARSB Arslanbob 64.80 308 P **P** **17 10 33.4 +1.7**
BRZS Berezniki 64.86 317 ǁ *i* P **P** **17 10 32.2 +0.5**
comp=Z,252nm,1.9s
BRZS *i* S **S** **17 18 31.9 +0.5**
BRZS Berezniki 64.86 317 *d* iP **P** **17 10 32.2 +0.5**
BRZS *i* S **S** **17 18 31.8 +0.5**
BRZS pmax pmax
comp=Z,253nm,2.0s
GLB Gilahina Butte 64.89 30 P **P** **17 10 32.5 +0.7**
NNZ Nelson 64.89 157 P **P** **17 10 32.9 +1.1**
NNZ lAmb lAmb 17 10 33.7
comp=Z,222nm,1.2s
PNHZ Pukenui 64.89 154 P **P** **17 10 32.0 +0.1**
TSZ Takapari Road 64.91 154 P **P** **17 10 32.6 +0.5**
MHGZ Mahia Peninsul 64.99 152 P **P** **17 10 33.0 +0.5**
VRDI Verde Repeater 65.03 30 P **P** **17 10 33.5 +0.7**
VRDI lAmb lAmb 17 10 34.8
comp=Z,326nm,1.0s
KAHZ Kahuranaki 65.07 153 P **P** **17 10 33.8 +0.7**
DOT Dot Lake 65.09 28 P **P** **17 10 33.3 +0.4**
FYU Fort Yukon 65.11 24 P **P** **17 10 34.3 +1.4**
CRQM Cirque 65.13 31 P **P** **17 10 34.1 +0.8**
MENT Mentasta 65.14 28 P **P** **17 10 34.0 +0.7**
MENT lAmb lAmb 17 10 35.5
comp=Z,254nm,1.2s
SCRK Sand Creek 65.17 27 P **P** **17 10 33.7 +0.1**
THZ Tophouse 65.19 157 P **P** **17 10 33.8 0.0**
NIL Nilore 65.20 299 P **P** **17 10 36.4 +2.2**
NIL Nilore 65.20 299 P **P** **17 10 36.0 +1.8**
NIL pmax pmax
comp=Z,366nm,1.2s
NIL Nilore 65.20 299 P **P** **17 10 36.0 +1.8**
NIL lAmb lAmb 17 10 38.4
comp=Z,366nm,1.1s
WAX Waxell Ridge 65.23 31 P **P** **17 10 34.9 +1.0**
MCARA McCarthy VSAT 65.26 30 P **P** **17 10 34.7 +0.7**
MCARA lAmb lAmb 17 10 36.2
comp=Z,388nm,0.9s
PXZ Pawanui 65.27 154 P **P** **17 10 35.2 +0.9**
TGL Tana Glacier 65.28 31 P **P** **17 10 34.5 +0.3**
TGL lAmb lAmb 17 10 36.5
comp=Z,486nm,1.1s
TUWZ Tuamarina 65.29 157 P **P** **17 10 34.2 -0.2**
PRHZ Porangahau 65.37 154 P **P** **17 10 35.5 +0.6**
SNZO South Karori 65.47 156 P **P** **17 10 34.9 -0.6**
SNZO lAmb lAmb 17 10 36.7
comp=Z,322nm,1.3s
BSWZ Blackbirch Sta 65.51 157 P **P** **17 10 35.7 0.0**
BMAR Burnt Mountain 65.53 24 P **P** **17 10 36.6 +1.0**
BALM Baldy 65.55 31 P **P** **17 10 36.6 +0.7**
BALM lAmb lAmb 17 10 37.9
comp=Z,260nm,1.0s
BFZ Birch Farm 65.56 154 P **P** **17 10 36.6 +0.6**
BFZ Birch Farm 65.56 154 P **P** **17 10 35.6 -0.5**
BFZ lAmb lAmb 17 10 37.6
comp=Z,658nm,1.9s
BHW Baring Head 65.62 156 P **P** **17 10 35.7 -0.7**
MESA MESA 65.65 32 P **P** **17 10 37.9 +1.2**
CMWZ Cape Campbell 65.66 156 P **P** **17 10 36.7 0.0**
FOZ Fox Glacier 65.71 161 P **P** **17 10 37.1 +0.2**
CPWZ Castlepoint 65.73 155 P **P** **17 10 39.5 +2.4**
YAH Yahtse 65.77 31 P **P** **17 10 37.9 +0.5**
YAH lAmb lAmb 17 10 40.1
comp=Z,409nm,1.0s
MSWZ Moikau Station 65.78 156 P **P** **17 10 37.0 -0.4**
LTZ Lake Taylor 65.86 158 P **P** **17 10 37.9 0.0**
BARN Barnard Glacie 65.88 31 P **P** **17 10 38.7 +0.6**
PLWZ Palliser 65.91 156 P **P** **17 10 38.0 -0.3**
DZA Taraz 65.94 309 *e*P **P** **17 10 38.3 -0.4**
DZA Taraz 65.94 309 *e*P **P** **17 10 38.2 -0.4**
KHZ Kahutara 65.99 157 P **P** **17 10 38.0 -0.7**
CTGM Chitina Glacie 66.03 31 P **P** **17 10 39.9 +0.9**
CTGM lAmb lAmb 17 10 41.5
comp=Z,401nm,1.0s
BCAR Beaver Creek A 66.03 28 P **P** **17 10 39.1 +0.2**
BCAR PcP **PcP** **17 11 05.8 +1.4**
OXZ Oxford 66.26 159 P **P** **17 10 40.2 -0.2**
OXZ PcP **PcP** **17 11 05.7 +0.3**
RPZ Rata Peaks 66.27 160 P **P** **17 10 40.3 -0.2**
RPZ lAmb lAmb 17 10 43.2
comp=Z,197nm,1.0s
BVAR Borovoye Array 66.33 320 P **P** **17 10 41.7 +0.9**
comp=Z,145nm,0.5s,baz=104,slow=8.1,SNR=532
BVAR S **S** **17 18 47.8 -0.9**
comp=Z,116nm,1.1s,baz=92,slow=7.4,SNR=40
BRVK Borovoye 66.40 321 P **P** **17 10 42.8 +1.6**
SNR=135
BRVK Borovoye 66.40 321 *d* iP **P** **17 10 42.4 +1.2**
BRVK *i* *PP **pP** **17 12 28.6 0.0**
BRVK pmax pmax
comp=Z,347nm,1.0s
BRVK Borovoye 66.40 321 P **P** **17 10 42.0 +0.8**
BRVK lAmb lAmb 17 10 43.9
comp=Z,296nm,1.0s
PCA Pinnacle 66.49 32 P **P** **17 10 42.5 +0.8**
PCA lAmb lAmb 17 10 44.2
comp=Z,325nm,0.9s
EGAK Eagle 66.50 27 P **P** **17 10 41.7 +0.1**
EGAK lAmb lAmb 17 10 43.7
comp=Z,318nm,1.3s
BTK Batken 66.53 306 P **P** **17 10 43.1 +0.7**
BTK pmax pmax
comp=Z,178nm,1.6s
BTK Batken 66.53 306 P **P** **17 10 43.1 +0.7**
KK31 Karatay Array 66.53 310 *e*P **P** **17 10 44.1 +1.8**
KK31 pmax pmax
comp=Z,63nm,0.6s
KK31 Karatay Array 66.53 310 P **P** **17 10 43.3 +1.0**
KK31 lAmb lAmb 17 10 45.3
comp=Z,388nm,1.4s
KKAR Karatay Array 66.53 310 P **P** **17 10 43.4 +1.2**
KKAR pmax pmax
comp=Z,388nm,1.4s
KKAR Karatay Array 66.53 310 P **P** **17 10 43.4 +1.2**
KKAR Karatay Array 66.53 310 P **P** **17 10 43.5 +1.2**
KKAR lAmb lAmb 17 10 45.2
comp=Z,388nm,1.4s
JBG Jabagly 66.55 309 *d* iP **P** **17 10 44.6 +2.0**
JBG *e*S **S** **17 18 50.9 -1.0**
JBG pmax pmax
comp=Z,153nm,1.6s
LBZ Lake Benmore 66.59 161 P **P** **17 10 42.4 0.0**
WKZ Wanaka 66.64 162 P **P** **17 10 43.2 +0.5**
WKZ **PcP** **17 11 08.4 +1.4**
CRLZ Canterbury Las 66.68 159 P **P** **17 10 43.4 +0.5**
CRLZ lAmb lAmb 17 10 44.7
comp=Z,317nm,1.4s
DCZ Deep Cove 66.69 163 P **P** **17 10 43.5 +0.6**
TRD Trivandrum 66.75 271 *e*P **P** **17 10 45.1 +1.1**
BCPM Bancas Point 66.79 32 P **P** **17 10 44.6 +1.0**
RAR Rarotonga 66.80 124 P **P** **17 10 45.1 +0.9**
RAR pmax pmax
comp=Z,142nm,1.1s
RAR Rarotonga 66.80 124 P **P** **17 10 45.1 +0.9**
MQZ McQueen's Vall 66.80 159 P **P** **17 10 44.7 +1.0**
MQZ lAmb lAmb 17 10 45.5

comp=Z,387nm,1.7s
MLZ Mavora Lakes 66.87 163 P **P 17 10 44.2 +0.1**
IUG luzhnay 66.95 309 *e*P **P 17 10 46.7 +1.6**
IUG *e*pP **pP 17 12 33.7 +0.6**
IUG *i* S **S 17 18 56.6 0.0**
IUG luzhnay 66.95 309 *e*P **P 17 10 46.6 +1.6**
IUG *e**PP **pP 17 12 33.7 +0.6**
IUG *i* S **S 17 18 56.5 0.0**
BRLS Borolday 67.03 310 *i* S **S 17 18 59.5 +2.3**
comp=Z,114nm,3.3s
POO Poona 67.17 283 *i* x P 17 10 55.0 +8.3
comp=Z,290nm,0.3s
DAWY Dawson 67.19 27 P **P 17 10 46.7 +0.7**
DAWY lAmb lAmb 17 10 48.5
comp=Z,333nm,1.1s
CHM Chimkent 67.25 309 *e*P **P 17 10 47.2 +0.4**
CHM Chimkent 67.25 309 *e*P **P 17 10 47.1 +0.4**
WHZ Wether Hill Ro 67.30 163 P **P 17 10 46.9 +0.2**
ODZ Otahua Downs 67.33 161 P **P 17 10 47.6 +0.7**
DHAK Deception Hill 67.48 33 P **P 17 10 48.8 +0.9**
TAS Tashkent 67.57 308 P **P 17 10 50.4 +1.6**
TAS pmax pmax
comp=Z,473nm,1.6s
TAS Tashkent 67.57 308 P **P 17 10 50.4 +1.6**
TAS lAmb lAmb 17 10 52.1
comp=Z,473nm,1.6s
BOM Bombay 68.05 283 *e*S **S 17 19 11.9 +2.1**
EPYK Eagle Plains 68.48 25 P **P 17 10 55.0 +1.3**
baz=267
EPYK Eagle Plains 68.48 25 P **P 17 10 54.6 +0.8**
KBL Kabul 68.56 301 P **P 17 10 56.6 +1.5**
KBL Kabul 68.56 301 P **P 17 10 55.9 +0.8**
KBL pmax pmax
comp=Z,365nm,1.5s
KBL Kabul 68.56 301 P **P 17 10 55.9 +0.8**
KBL lAmb lAmb 17 10 57.8
comp=Z,365nm,1.4s
SKAG Skagway 68.97 33 P **P 17 10 57.7 +0.9**
SKAG lAmb lAmb 17 10 59.7
comp=Z,316nm,1.1s
WHY Whitehorse 69.18 31 P **P 17 10 59.1 +0.9**
WHY lAmb lAmb 17 11 01.1
comp=Z,329nm,1.1s
JIS Juneau Island 69.49 34 P **P 17 11 00.9 +1.0**
JIS lAmb lAmb 17 11 02.7
comp=Z,538nm,1.2s
INK Inuvik 69.78 23 P **P 17 11 01.9 +0.4**
INK S **S 17 19 25.6 -2.5**
INK pmax pmax
comp=Z,494nm,1.0s
INK Inuvik 69.78 23 S **S 17 19 26.1 -2.0**
comp=Z,32nm,0.9s,baz=45,slow=29,SNR=52
INK PKPPKP 17 38 54.5
comp=Z,4.6nm,1.0s,baz=40,slow=2.5,SNR=6.5
INK Inuvik 69.78 23 P **P 17 11 01.9 +0.4**
INK lAmb lAmb 17 11 03.5
comp=Z,494nm,1.0s
INK **S 17 19 25.6 -2.5**
INK **P'P'df 17 38 54.4 -7.0**
CRAG Craig 70.33 37 P **P 17 11 06.2 +1.3**
CRAG lAmb lAmb 17 11 07.8
comp=Z,288nm,1.2s
MNCY Minicoy 70.54 272 *e*P **P 17 11 09.4 +2.4**
WRAK Wrangell Islan 70.69 36 P **P 17 11 08.4 +1.3**
WRAK lAmb lAmb 17 11 09.9
comp=Z,365nm,0.9s
HMDM Hanimaadhoo 70.83 271 P **P 17 11 11.0 +2.3**
SNR=7.5
HMDM Hanimaadhoo 70.83 271 P **P 17 11 10.2 +1.5**
DIB Dawson Inlet, 70.89 39 P **P 17 11 08.7 +0.4**
DIB lAmb lAmb 17 11 10.3
comp=Z,264nm,0.9s
DLBC Dease Lake 71.77 33 PKPPKP **P'P'ab 17 38 54.6 -1.2**
comp=Z,2.2nm,0.7s,baz=141,slow=6.3,SNR=4.5
DLBC Dease Lake 71.77 33 P **P 17 11 14.9 +1.4**
DLBC lAmb lAmb 17 11 16.5
comp=Z,551nm,1.1s
SVE Sverdlovsk 71.78 325*c i*P **P 17 11 15.0 +1.5**
SVE *i* S **S 17 19 50.6 -0.5**
SVE *e* 17 20 23.7
SVE *e* 17 28 03.7
SVE pmax pmax
comp=Z,453nm,1.3s
KAAM Kaadhehdhoo 72.94 265 P **P 17 11 23.1 +2.1**
KAAM Kaadhehdhoo 72.94 265 P **P 17 11 21.8 +0.8**
ARU Arti 72.96 325*d i*P **P 17 11 21.4 +1.1**
ARU 17 11 33.8
ARU *PP **pP 17 13 11.1 +0.9**
ARU 17 14 14.3
ARU S **S 17 20 04.1 -0.2**
ARU 17 20 32.3
ARU SSS SSS 17 28 22.7
ARU pmax pmax
comp=Z,495nm,1.1s
ARU Arti 72.96 325 P **P 17 11 21.2 +0.9**
comp=Z,43nm,0.4s,baz=93,slow=3.7,SNR=202
ARU S **S 17 20 02.4 -1.9**
comp=Z,9.3nm,1.2s,baz=321,slow=22,SNR=35
ARU Arti 72.96 325 P **P 17 11 21.2 +0.9**
ARU lAmb lAmb 17 11 22.8
comp=Z,498nm,1.1s
C36M Paulatuk 73.15 22 P **P 17 11 21.6 +0.5**
baz=277
C36M S **S 17 20 03.1 -2.8**
baz=277
AB31 Akbulak array 73.17 317 *i* P **P 17 11 22.4 +0.8**
AB31 pmax pmax
comp=Z,46nm,0.5s
ABKAR Akbulak array 73.17 317 P **P 17 11 22.1 +0.5**
ABKAR Akbulak array 73.17 317 P **P 17 11 22.4 +0.7**
ABKAR lAmb lAmb 17 11 23.8
comp=Z,142nm,0.9s
PPT Papeete 73.47 115 P **P 17 11 26.1 +2.2**
comp=Z,86nm,0.7s,baz=14,slow=3.4,SNR=8.2
PPT2 Papeete2 73.48 115⇓*e*P **P 17 11 26.6 +2.6**
comp=Z,238nm,1.0s
PPTF Pamatai, Papee 73.49 115 P **P 17 11 26.2 +2.1**
PPTF lAmb lAmb 17 11 31.9
comp=Z,258nm,0.9s
PAE Paea 73.51 115⇓*e*P **P 17 11 26.4 +2.3**
comp=Z,18nm,0.8s
BBB Bella Bella 73.65 40 P **P 17 11 25.0 +0.7**
BBB lAmb lAmb 17 11 26.6
comp=Z,366nm,1.1s
TIAR Tiarei 73.66 115⇓*e*P **P 17 11 27.4 +2.4**
comp=Z,142nm,1.5s
PMOR Pomariorio Ree 73.84 112⇓*e*P **P 17 11 28.0 +2.0**
comp=Z,1μm,1.3s
TVO Taravao 73.84 115⇓*e*P **P 17 11 28.7 +2.6**
comp=Z,90nm,1.4s
HRA Herat 74.11 301 P **P 17 11 28.9 +1.3**
VAH Vaihoa 74.17 112⇓*e*P **P 17 11 29.5 +1.6**
comp=Z,280nm,1.1s
AKTO Aktyubinsk 74.20 318 P **P 17 11 27.9 +0.4**
comp=Z,33nm,0.5s,baz=92,slow=7.6,SNR=75
AKTO S **S 17 20 14.5 -3.6**
comp=Z,29nm,1.0s,baz=259,slow=20,SNR=25
MEH Mehetia 74.90 115 *e*P **P 17 11 34.2 +2.2**
comp=Z,80nm,1.2s
TBI Tubuai 76.15 121⇓*e*P **P 17 11 41.3 +2.5**
comp=Z,503nm,1.2s
DGAR Diego Garcia 76.15 257 P **P 17 11 40.7 +1.7**
DGAR Diego Garcia 76.15 257*d i*P **P 17 11 40.2 +1.2**
DGAR pmax pmax
comp=Z,329nm,1.4s
DGAR Diego Garcia 76.15 257 P **P 17 11 40.3 +1.3**
DGAR lAmb lAmb 17 11 42.0
comp=Z,376nm,1.4s
ASHT Ashkhabad 76.42 306 P **P 17 11 42.0 +1.9**
ASHT pmax pmax
comp=Z,255nm,1.2s
ASHT Ashkhabad 76.42 306 P **P 17 11 42.0 +1.9**
GEYT Alibeck 76.62 306 P **P 17 11 42.6 +1.3**
comp=Z,60nm,1.1s,baz=64,slow=3.4,SNR=104
GEYT pP **pwP 17 13 34.8 -1.3**
comp=Z,28nm,1.1s,baz=66,slow=3.7,SNR=5.4
GEYT PP **PP 17 14 44.7 +1.8**
comp=Z,29nm,1.1s,baz=116,slow=6.6,SNR=4.3
GEYT Alibeck 76.62 306 P **P 17 11 42.8 +1.5**
GEYT **pP 17 13 30.1 -3.2**
GEYT **PP 17 14 45.3 +2.4**
PGC Sidney 77.27 43 P **P 17 11 45.8 +1.3**
PGC lAmb lAmb 17 11 47.2
comp=Z,448nm,1.1s
NLWA Neilton Lookou 77.29 44 P **P 17 11 46.6 +1.9**

KIRV Kirov 77.39 328 P **P 17 11 46.1 +1.2**
comp=Z,107nm,0.4s,baz=75,slow=2.3,SNR=117
KIRV S **S 17 20 50.4 -1.5**
comp=Z,8.5nm,0.9s,baz=278,slow=21,SNR=19
A04D Lummi Island 77.73 43 P **P 17 11 48.7 +1.7**
baz=284,SNR=10
D03D Eldon 77.77 44 P **P 17 11 49.3 +2.0**
baz=284,SNR=137
KEBM Edson Butte 78.04 49 P **P 17 11 50.4 +1.5**
D04E Lakebay 78.06 44 P **P 17 11 51.1 +2.2**
baz=284,SNR=14
F04D Rainier, OR 78.17 45 P **P 17 11 51.2 +1.7**
baz=284,SNR=6.6
G03D McMinnville, O 78.21 46 P **P 17 11 51.4 +1.6**
baz=284,SNR=14
B05A Bryant 78.24 43 P **P 17 11 51.3 +1.6**
baz=284,SNR=44
J01E Myrtle Point 78.25 48 P **P 17 11 51.8 +1.8**
baz=284,SNR=17
KBO Bosley Butte 78.28 49 P **P 17 11 52.3 +2.0**
KBO lAmb lAmb 17 11 53.5
comp=Z,688nm,1.2s
COR Corvallis 78.34 47 P **P 17 11 52.5 +2.1**
COR pmax pmax
comp=Z,744nm,1.3s
COR Corvallis 78.34 47 P **P 17 11 52.5 +2.1**
COR lAmb lAmb 17 11 53.7
comp=Z,744nm,1.2s
E04D Cinebar 78.35 45 P **P 17 11 52.2 +1.7**
baz=284,SNR=50
PRGR Permogore 78.38 331⇓*i*P **P 17 11 50.7 +0.5**
PRGR *e*S **S 17 21 00.2 -2.0**
PRGR pmax pmax
comp=Z,243nm,1.0s
YKW3 Yellowknife Ar 78.41 28 P **P 17 11 50.8 +0.5**
YKW3 lAmb lAmb 17 11 52.2
comp=Z,598nm,1.3s
YKA Yellowknife Ar 78.43 28 P **P 17 11 51.1 +0.6**
comp=Z,270nm,0.9s,baz=287,slow=5.1,SNR=512
YKA pP **pP 17 13 41.9 -0.6**
comp=Z,25nm,0.9s,baz=291,slow=5.5,SNR=5.2
YKA S **S 17 20 59.1 -3.6**
comp=Z,5.2nm,1.0s,baz=290,slow=9.6,SNR=4.5
YKA PKKPbc **PKKPbc 17 30 42.0 -2.5**
comp=Z,0.6nm,0.4s,baz=111,slow=2.2,SNR=8.2
YKA Yellowknife Ar 78.43 28 P **P 17 11 50.0 -0.5**
YKA **pP 17 13 41.5 -1.0**
TAOE Nuku Hiva Isla 78.49 103 *e*P **P 17 11 53.6 +1.8**
comp=Z,313nm,1.0s
I03D Drain, OR 78.53 48 P **P 17 11 53.0 +1.6**
baz=284,SNR=27
K02D Willamette Mer 78.56 49 P **P 17 11 53.2 +1.4**
baz=284,SNR=38
B06A Marblemount 78.57 43 P **P 17 11 52.3 +0.8**
B06A lAmb lAmb 17 11 53.9
comp=Z,465nm,1.2s
D05A Enumclaw 78.58 44 P **P 17 11 52.8 +1.2**
F04A Amboy 78.61 45 P **P 17 11 52.8 +1.0**
F04A lAmb lAmb 17 11 54.4
comp=Z,532nm,1.1s
KRMB Red Mountain 78.68 50 P **P 17 11 52.9 +0.4**
KRMB lAmb lAmb 17 11 55.5
comp=Z,351nm,1.2s
L02E Cave Junction 78.74 49 P **P 17 11 54.3 +1.7**
baz=285,SNR=32
H04D Lebanon 78.75 47 P **P 17 11 54.2 +1.5**
baz=285,SNR=18
JCC Jacoby Creek, 78.77 51 P **P 17 11 54.0 +1.3**
JCC lAmb lAmb 17 11 56.1
comp=Z,666nm,1.3s
LON Longmire 78.81 44 P **P 17 11 53.7 +0.7**
LON pmax pmax
comp=Z,294nm,1.4s
LON Longmire 78.81 44 P **P 17 11 53.6 +0.7**
HOPEN Hopen 78.81 348 *e*P **P 17 11 53.8 +1.5**
HOPEN lVmB_BB 17 11 54.7
comp=Z,4μm,1.2s
KHMM Horse Mountain 78.97 51 P **P 17 11 55.7 +1.7**
KHMM lAmb lAmb 17 11 57.4
comp=Z,602nm,1.1s
HUMO Hull Mountain 79.08 49 P **P 17 11 55.9 +1.4**
HUMO lAmb lAmb 17 11 57.5
comp=Z,416nm,1.2s
KMRM Mail Ridge 79.15 51 P **P 17 11 56.4 +1.4**
KMRM lAmb lAmb 17 11 58.2
comp=Z,424nm,1.1s
F05D White Salmon 79.27 45 P **P 17 11 56.8 +1.4**
baz=285
SPA0 Spitsbergen Ar 79.32 351 *e*P **P 17 11 55.5 +0.5**
SPA0 *e*S **S 17 21 12.6 +1.1**
SPA0 *e*SS **SS 17 26 36.8 +4.2**
SPA0 Spitsbergen Ar 79.32 351 P **P 17 11 55.4 +0.4**
SPA0 lAmb lAmb 17 11 57.1
comp=Z,622nm,1.6s
KCPM Cahto Peak 79.39 52 P **P 17 11 57.4 +1.2**
LTY Liberty 79.43 44 P **P 17 11 56.9 +0.7**
LTY lAmb lAmb 17 11 58.4
comp=Z,488nm,1.2s
KBS Kingsbay 79.44 352*d i*P **P 17 11 56.4 +0.8**
KBS pmax pmax
comp=Z,665nm,0.8s
KBS Kingsbay 79.44 352 *e*P **P 17 11 56.7 +1.1**
KBS lVmB_BB 17 11 57.7
comp=Z,2μm,0.8s
KBS *e*S **S 17 21 17.5 +4.7**
KBS *e*SS **SS 17 26 37.1 +2.6**
KBS Kingsbay 79.44 352 P **P 17 11 56.4 +0.8**
JLN Jalan Bani Buh 79.45 290 P **P 17 11 58.0 +1.3**
SNR=12
M02C Callahan 79.47 50 P **P 17 11 58.3 +1.7**
baz=285,SNR=78
YBH Yreka Blue Hor 79.49 50 P **P 17 11 58.0 +1.3**
comp=Z,284nm,1.1s,baz=286,slow=1.3,SNR=196
YBH Yreka Blue Hor 79.49 50 P **P 17 11 57.8 +1.1**
YBH lAmb lAmb 17 11 59.6
comp=Z,354nm,1.0s
J04D Umpqua Nationa 79.52 48 P **P 17 11 58.3 +1.3**
baz=285,SNR=33
G05D Wamic, OR 79.53 46 P **P 17 11 58.2 +1.4**
baz=286,SNR=11
L04D Klamath Falls 79.65 49 P **P 17 11 58.8 +1.2**
baz=286,SNR=63
N02D Trinity Center 79.69 50 P **P 17 11 59.4 +1.6**
baz=286,SNR=68
WBK Wadi Bani Khal 79.72 290 P **P 17 12 01.0 +2.8**
SNR=14
I05D Terrebonne, OR 79.76 47 P **P 17 11 59.0 +0.9**
baz=286,SNR=28
RES Resolute Bay 79.77 14 P **P 17 11 58.2 +0.8**
RES pmax pmax
comp=Z,315nm,1.0s
RES Resolute Bay 79.77 14 P **P 17 11 58.2 +0.8**
RES lAmb lAmb 17 11 59.6
comp=Z,315nm,0.9s
O02D Mt. Diablo Mer 79.84 51 P **P 17 12 00.4 +1.8**
baz=286,SNR=78
WSAR Wadi Sarin 79.85 291 P **P 17 12 00.5 +1.7**
SNR=25
WSAR Wadi Sarin 79.85 291 P **P 17 12 00.3 +1.4**
comp=Z,22nm,0.4s,baz=111,slow=4.5,SNR=18
WSAR S **S 17 21 17.1 -1.8**
comp=Z,8.5nm,1.0s,baz=330,slow=14,SNR=3.0
WDC Whiskeytown Da 79.92 51 P **P 17 12 00.1 +1.2**
WDC pmax pmax
comp=Z,455nm,1.3s
WDC Whiskeytown Da 79.92 51 P **P 17 12 00.1 +1.2**
WDC lAmb lAmb 17 12 01.6
comp=Z,455nm,1.3s
K04D Chiloquin, OR 79.94 48 P **P 17 12 00.4 +1.3**
baz=286,SNR=44
HOPS Hopland Field 79.95 52 P **P 17 12 00.2 +1.1**
HOPS lAmb lAmb 17 12 01.7
comp=Z,435nm,1.2s
B08A Colville Reser 79.99 42 P **P 17 11 59.9 +0.7**
B08A lAmb lAmb 17 12 01.3
comp=Z,422nm,1.0s
M04C Macdoel 80.10 49 P **P 17 12 01.3 +1.2**
baz=286,SNR=129
J05D Fort Rock, OR 80.12 48 P **P 17 12 01.7 +1.6**
baz=286,SNR=101
E07A Sunnyside 80.16 44 P **P 17 12 01.2 +1.2**
E07A lAmb lAmb 17 12 02.6
comp=Z,283nm,1.0s
PINE Pine Mountain 80.19 47 P **P 17 12 01.8 +1.3**
GDXM Geysers 80.21 52 P **P 17 12 02.0 +1.4**
GDXM lAmb lAmb 17 12 03.6

comp=Z,471nm,1.2s
BIDO Bidbid 80.22 292 P **P 17 12 02.6 +1.9**
SNR=29
HSPB Hornsund (broa 80.24 350 *e*P **P 17 12 00.8 +1.0**
HSPB Hornsund (broa 80.24 350 *e*P **P 17 12 00.8 +1.0**
HSPB *e*P **P 17 12 00.8 +1.0**
HSPB Hornsund (broa 80.24 350 *e*P **P 17 12 01.0 +1.2**
HSPB lVmBBB 17 12 02.4
comp=Z,3μm,1.6s
HSPB *e*S **S 17 21 19.3 -1.6**
HSPB *e*SS **SS 17 26 48.0 +1.9**
F07A Phinny Hill Vi 80.29 45 P **P 17 12 01.7 +1.0**
MCCM Marconi Confer 80.32 53 P **P 17 12 01.9 +0.9**
MCCM lAmb lAmb 17 12 03.3
comp=Z,397nm,1.2s
SMDO Samad 80.41 291 P **P 17 12 03.4 +1.5**
SNR=14
HAWA Hanford 80.42 44 P **P 17 12 02.4 +1.0**
LVZ Lovozero 80.47 339⇑*e*P **P 17 12 01.8 +0.5**
LVZ pmax pmax
comp=Z,185nm,1.2s
LVZ Lovozero 80.47 339 P **P 17 12 01.5 +0.3**
O03E Paynes Creek 80.54 51 P **P 17 12 02.9 +0.6**
baz=286,SNR=109
JMDO Jabal Madar 80.55 290 P **P 17 12 04.0 +1.4**
SNR=13
E08A Dider Farm, El 80.70 44 P **P 17 12 03.6 +0.8**
E08A lAmb lAmb 17 12 05.4
comp=Z,410nm,1.3s
TMCR Tamitsa 80.77 335 *e*P **P 17 12 02.5 -0.2**
TMCR *e*S **S 17 21 25.1 -1.6**
TMCR pmax pmax
comp=Z,499nm,1.2s
C09A Chrisman Ranch 80.83 43 P **P 17 12 04.2 +0.7**
C09A lAmb lAmb 17 12 05.7
comp=Z,466nm,1.3s
HOQ Hoqain 80.92 292 P **P 17 12 06.0 +1.6**
SNR=30
APA Apatity 81.05 339⇑*i*P **P 17 12 03.2 -1.0**
APA *i* *PP **pP 17 13 58.0 +0.7**
APA pmax pmax
comp=Z,122nm,1.1s
APA MLR MLR
comp=Z,900nm,18.0s
BANOM Banah 81.15 294 *i* P **P 17 12 07.4 +1.8**
SNR=9.4
BANOM Banah 81.15 294 P **P 17 12 07.7 +2.1**
SNR=16
MOD Modoc Plateau 81.17 49 P **P 17 12 06.3 +0.7**
MOD lAmb lAmb 17 12 08.0
comp=Z,458nm,1.2s
BSY Bisya 81.25 291 P **P 17 12 07.7 +1.5**
SNR=14
SHME Shamm 81.25 294 *i* P **P 17 12 08.0 +1.8**
SNR=21
MDH Madha 81.33 294 *i* P **P 17 12 07.1 +0.6**
SNR=7.0
MDH Madha 81.33 294 P **P 17 12 08.2 +1.7**
SNR=7.4
KLMR Klimovskoe 81.42 332 *e*P **P 17 12 06.1 -0.1**
KLMR *e* 17 15 21.4
KLMR *e*S **S 17 21 30.9 -2.5**
KLMR pmax pmax
comp=Z,670nm,1.3s
KLMR Klimovskoe 81.42 332 *e*P **P 17 12 06.2 0.0**
KLMR AMP 17 12 07.8
comp=Z,670nm,1.3s
KLMR *e*PP **PP 17 15 21.4 0.0**
KLMR *e*S **S 17 21 30.9 -2.5**
KLMR *e*S **S 17 21 30.9 -2.5**
KLMR *e*SS **SS 17 27 00.3 -3.9**
KLMR *e*SS **SS 17 27 00.3 -3.9**
NEW Newport 81.43 42 P **P 17 12 07.5 +0.9**
baz=288
NEW Newport 81.43 42 P **P 17 12 07.0 +0.4**
comp=Z,256nm,1.0s,baz=280,slow=5.3,SNR=134
NEW Newport 81.43 42 P **P 17 12 06.9 +0.4**
NEW lAmb lAmb 17 12 08.8
comp=Z,262nm,0.9s
MSFE Esma-Masafi 81.43 294 *i* P **P 17 12 08.9 +1.8**
SNR=12
UOSS Minazif 81.51 293 *i* P **P 17 12 08.4 +1.0**
SNR=14
UOSS Minazif 81.51 293 P **P 17 12 08.8 +1.3**
SNR=16
UOSS Minazif 81.51 293 P **P 17 12 08.4 +1.0**
UOSS lAmb lAmb 17 12 10.2
comp=Z,377nm,1.5s
UOSS **pP 17 14 01.2 +0.1**
AFDM Forest Hills D 81.53 52 P **P 17 12 07.9 +0.5**
AFDM lAmb lAmb 17 12 09.7
comp=Z,336nm,1.0s
HATD Hatta, Dubai 81.61 293 *i* P **P 17 12 09.4 +1.5**
SNR=25
HATD Hatta, Dubai 81.61 293 P **P 17 12 09.8 +1.9**
SNR=28
ARQ Araqi 81.68 292 P **P 17 12 11.0 +2.6**
SNR=33
ASHO Ashiyiah 81.71 293 *i* P **P 17 12 09.8 +1.3**
SNR=27
ASHO Ashiyiah 81.71 293 P **P 17 12 10.1 +1.6**
SNR=22
BEKR Beckworth 81.72 51 P **P 17 12 09.1 +0.6**
BEKR lAmb lAmb 17 12 10.6
comp=Z,497nm,1.0s
DQM DQM 81.74 288 P **P 17 12 10.3 +1.6**
SNR=5.1
SAO San Andreas Ge 81.81 54 P **P 17 12 09.3 +0.6**
SAO pmax pmax
comp=Z,258nm,1.2s
SAO San Andreas Ge 81.81 54 P **P 17 12 09.3 +0.6**
SAO lAmb lAmb 17 12 11.1
comp=Z,258nm,1.2s
KEV Kevo 82.00 342 P **P 17 12 09.1 +0.1**
KEV pmax pmax
comp=Z,172nm,0.9s
KEV Kevo 82.00 342 P **P 17 12 09.1 +0.1**
F10A Beach Ranch, E 82.07 44 P **P 17 12 10.2 +0.1**
FAQ Al Faqa, Dubai 82.10 293 *i* P **P 17 12 11.7 +1.3**
SNR=5.9
FAQ Al Faqa, Dubai 82.10 293 P **P 17 12 12.7 +2.2**
SNR=5.1
RUBR Rubicon Trail 82.11 52 P **P 17 12 11.6 +1.0**
RUBR lAmb lAmb 17 12 13.1
comp=Z,459nm,1.0s
ALNE Al Ain 82.16 293 *i* P **P 17 12 12.6 +1.9**
SNR=22
WVOR Wild Horse Val 82.20 48 P **P 17 12 11.5 +0.7**
WVOR pmax pmax
comp=Z,253nm,1.1s
WVOR Wild Horse Val 82.20 48 P **P 17 12 11.5 +0.7**
WVOR lAmb lAmb 17 12 13.2
comp=Z,253nm,1.1s
CMB Columbia Colle 82.24 53 P **P 17 12 11.8 +0.8**
CMB pmax pmax
comp=Z,334nm,0.9s
CMB Columbia Colle 82.24 53 P **P 17 12 11.8 +0.8**
CMB lAmb lAmb 17 12 13.3
comp=Z,334nm,0.9s
ASUD Al Ashush, Dub 82.36 293 *i* P **P 17 12 13.6 +1.9**
SNR=40
ASUD Al Ashush, Dub 82.36 293 P **P 17 12 13.8 +2.0**
SNR=11
BMO Blue Mountains 82.37 45 P **P 17 12 12.3 +0.8**
BMO S **S 17 21 42.8 -1.0**
BMO pmax pmax
comp=Z,494nm,1.2s
BMO Blue Mountains 82.37 45 P **P 17 12 12.3 +0.8**
BMO lAmb lAmb 17 12 13.8
comp=Z,494nm,1.2s
BMO **S 17 21 42.8 -1.0**
VCNR Virginia City 82.42 51 P **P 17 12 12.6 +0.6**
VCNR lAmb lAmb 17 12 14.6
comp=Z,230nm,1.0s
HAMF Hammerfest 82.44 343 *e*P **P 17 12 11.3 +0.1**
HAMF lVmBBB 17 12 12.8
comp=Z,3μm,1.8s
HAMF *e*SKSac **SKSac 17 21 40.9 -0.2**
PMPB Monarch Peak 82.46 54 P **P 17 12 13.2 +1.0**
PMPB lAmb lAmb 17 12 14.8
comp=Z,312nm,1.1s
PAHR Pah Rah Range 82.49 51 P **P 17 12 13.1 +0.8**
PNTR Pine Nut 82.52 51 P **P 17 12 13.8 +1.3**
PNTR lAmb lAmb 17 12 15.2
comp=Z,476nm,1.0s

ARCES ARCESS Array B 82.56 342 P **P** 17 12 12.3 +0.4
comp=Z,106nm,0.7s,baz=69,slow=5.9,SNR=176
ARCES PKKPbc **PKKPbc** 17 30 32.4 -3.2
comp=Z,2.4nm,0.7s,baz=241,slow=3.5,SNR=8.8
ARCES ARCESS Array B 82.56 342 P **P** 17 12 12.0 +0.2
ARE0 ARCESS Array S 82.56 342 *e*P **P** 17 12 12.6 +0.7
ARE0 IVmB_BB 17 12 13.9
comp=Z,3μm,1.9s
ARE0 *e*SKSac **SKSac** 17 21 41.9 -0.2
ARE0 ARCESS Array S 82.56 342 P **P** 17 12 12.4 +0.5
AJN Ajban 82.68 293 *i* P **P** 17 12 14.6 +1.2
SNR=13
AJN Ajban 82.68 293 P **P** 17 12 15.2 +1.8
SNR=11
WAKR Walker 82.81 52 P **P** 17 12 15.2 +1.1
WAKR IAmb IAmb 17 12 16.8
comp=Z,171nm,0.7s
YERR Yerington 82.81 51 P **P** 17 12 14.9 +0.9
YERR IAmb IAmb 17 12 16.5
comp=Z,554nm,1.2s
TULEG Thule 83.01 8 P **P** 17 12 14.9 +0.9
PAGB Antelope Grade 83.03 55 P **P** 17 12 16.1 +1.1
PAGB IAmb IAmb 17 12 17.7
comp=Z,397nm,1.0s
MAK Makhachkala 83.06 313*c i*P **P** 17 12 15.9 +1.0
MAK *e*S **S** 17 21 47.0 -3.4
MAK *e*SS **SS** 17 27 32.9 +3.8
MAK *e*SSS SSS 17 31 09.1
MAK pmax pmax
comp=Z,404nm,1.4s
MAK MLR MLR
comp=Z,739nm,15.0s
PLID Pearl Lake 83.17 45 P **P** 17 12 15.8 0.0
PLID IAmb IAmb 17 12 17.3
comp=Z,244nm,0.9s
WALA Waterton Lakes 83.18 41 P **P** 17 12 16.5 +1.0
WALA IAmb IAmb 17 12 18.4
comp=Z,687nm,1.4s
WALA pP **pP** 17 14 08.7 -0.7
MDPB Devils Postpil 83.35 53 P **P** 17 12 17.7 +0.8
MDPB IAmb IAmb 17 12 19.2
comp=Z,236nm,1.1s
SMMC Simmler 83.36 55 P **P** 17 12 18.0 +1.3
baz=288,SNR=27
AKT Akhty 83.37 311 *e*P **P** 17 12 17.3 +0.6
AKT *e**PP **pP** 17 14 11.0 +0.4
AKT *e**SP **sP** 17 15 05.7 +1.1
AKT *e* 17 15 41.7
AKT *e*S **SKSac** 17 21 46.6 -1.9
AKT pmax pmax
comp=Z,137nm,1.0s
JTMT Jette 83.40 42 P **P** 17 12 17.3 +0.6
JTMT pP **pP** 17 14 10.2 -0.4
OMMB Old Mammoth Mi 83.41 53 P **P** 17 12 17.9 +0.7
OMMB IAmb IAmb 17 12 19.6
comp=Z,223nm,1.1s
RYN Ryan 83.46 52 P **P** 17 12 18.2 +0.9
RYN IAmb IAmb 17 12 19.8
comp=Z,312nm,1.0s
KTK1 Kautokeino 83.52 342 *e*P **P** 17 12 17.0 +0.3
KTK1 IVmB_BB 17 12 17.4
comp=Z,3μm,1.6s
KTK1 *e*SKSac **S** 17 21 51.7 -2.4
VOG Valley Oaks Go 83.52 54 P **P** 17 12 18.1 +0.7
baz=288
MLAC Mammoth, Mammo 83.53 53 P **P** 17 12 19.0 +1.3
baz=288,SNR=57
PKM Mcpherson Peak 83.63 55 P **P** 17 12 19.5 +1.3
baz=288,SNR=111
KVN Kaiserville 83.64 51 P **P** 17 12 18.9 +0.8
KVN Kaiserville 83.64 51 P **P** 17 12 18.9 +0.8
KVN IAmb IAmb 17 12 20.6
comp=Z,531nm,1.3s
NVAR Mina Array Bea 83.68 52 P **P** 17 12 19.7 +1.3
comp=Z,273nm,0.8s,baz=264,slow=6.1,SNR=977
NVAR pP **pP** 17 14 13.3 +1.0
comp=Z,26nm,0.9s,baz=262,slow=6.2,SNR=4.5
NVAR S **SKSac** 17 21 49.5 -1.4
comp=Z,0.4nm,0.7s,baz=270,slow=8.1,SNR=2.0
NVAR PKKPbc **PKKPbc** 17 30 32.0 -0.1
comp=Z,0.9nm,0.8s,baz=117,slow=4.9,SNR=7.6
NVAR Mina Array Bea 83.68 52 P **P** 17 12 19.3 +0.9
NVAR **pP** 17 14 12.4 +0.1
NV11 Mina Array Sit 83.79 52 P **P** 17 12 19.7 +0.9
NV11 IAmb IAmb 17 12 21.4
comp=Z,298nm,1.0s
BMN Battle Mountai 83.84 50 P **P** 17 12 19.8 +0.7
BMN pmax pmax
comp=Z,355nm,1.3s
BMN Battle Mountai 83.84 50 P **P** 17 12 19.8 +0.7
BMN IAmb IAmb 17 12 21.7
comp=Z,355nm,1.3s
MFID Camas Ranch 83.84 46 P **P** 17 12 19.9 +0.9
SBC Santa Barbara 83.85 56 P **P** 17 12 20.2 +1.2
baz=288,SNR=6.9
VES Vestal, Richgr 83.90 54 P **P** 17 12 19.5 +0.2
baz=288,SNR=21
VRH Novokhopyorsk 83.92 322 *e*P **P** 17 12 18.1 -0.9
VRH *e**PP **pP** 17 14 10.7 -2.5
VRH *e* 17 21 48.8
VRH pmax pmax
comp=Z,80nm,1.0s
MSO Missoula 83.93 43 P **P** 17 12 19.3 0.0
baz=290
MSO Missoula 83.93 43 P **P** 17 12 19.2 -0.2
SHAO Shalim 84.03 287 *i* P **P** 17 12 21.3 +1.1
SNR=15
SHAO Shalim 84.03 287 P **P** 17 12 21.5 +1.3
SNR=5.6
SCZ2 Santa Cruz Isl 84.05 56 P **P** 17 12 20.8 +0.8
baz=288,SNR=8.5
GROC Groznyy 84.16 314 *e*P **P** 17 12 20.5 +0.1
GROC *e**PP **pP** 17 14 15.1 +0.7
GROC *e*S **SKSac** 17 21 51.9 -1.3
GROC pmax pmax
comp=Z,229nm,1.1s
TIN Tinemaha, Big 84.17 53 P **P** 17 12 22.2 +1.5
baz=289,SNR=175
ARVC Arvin 84.32 55 P **P** 17 12 22.2 +0.8
baz=288,SNR=8.3
TRO Tromso 84.35 344 *e*P **P** 17 12 20.8 +0.1
TRO IVmB_BB 17 12 21.4
comp=Z,3μm,1.0s
TRO *e*SKSac **SKSac** 17 21 52.9 -0.5
SNCC San Nicolas Is 84.37 57 P **P** 17 12 22.6 +1.0
baz=288,SNR=9.2
SNCC San Nicolas Is 84.37 57 P **P** 17 12 21.8 +0.2
SNCC IAmb IAmb 17 12 23.8
comp=Z,371nm,1.1s
MOS Moscow 84.39 327 *e*P **P** 17 12 20.4 -0.8
MOS *e**PP **pP** 17 14 12.8 -2.6
MOS *i* 17 21 59.7
MOS pmax pmax
comp=Z,442nm,1.7s
MOS pmax pmax
comp=Z,1μm,2.1s
ISA Isabella, Lake 84.43 54 P **P** 17 12 22.4 +0.4
baz=289,SNR=18
ISA Isabella, Lake 84.43 54 P **P** 17 12 22.2 +0.2
ISA pmax pmax
comp=Z,190nm,1.5s
ISA Isabella, Lake 84.43 54 P **P** 17 12 22.1 +0.2
BLG Laguna Peak, P 84.46 56 P **P** 17 12 22.5 +0.4
baz=288,SNR=17
DAG Danmarks Havn 84.47 356⇓ *i*P **P** 17 12 21.4 +0.2
DAG pmax pmax
comp=Z,520nm,1.1s
DAG Danmarks Havn 84.47 356⇓ *i*P **P** 17 12 21.4 +0.2
comp=Z,411nm,1.1s
CWC Cottonwood Cre 84.48 54 P **P** 17 12 23.1 +0.7
baz=289
OSI Osito Audit: C 84.57 55 P **P** 17 12 23.5 +0.9
baz=289,SNR=5.5
OSI Osito Audit: C 84.57 55 P **P** 17 12 23.6 +0.9
OSI IAmb IAmb 17 12 25.2
comp=Z,457nm,1.6s
DMTO DMTO 84.73 287 P **P** 17 12 24.6 +1.0
SNR=9.8
GRAC Grapevine Rang 84.85 53 P **P** 17 12 25.2 +1.2
baz=289,SNR=113
DAC Darwin (Calif) 84.91 54 P **P** 17 12 26.8 +2.3
DAC pmax pmax
comp=Z,282nm,1.3s
DAC Darwin (Calif) 84.91 54 P **P** 17 12 26.8 +2.3
DAC IAmb IAmb 17 12 28.9
comp=Z,282nm,1.2s
LPSR Galich'ya Gora 84.98 324 *e*P **P** 17 12 23.5 -0.6
LPSR *e**PP **pP** 17 14 18.3 -0.4
LPSR *e* 17 21 53.5
LPSR pmax pmax
comp=Z,240nm,1.1s
DECC Green Verdugo 84.99 56 P **P** 17 12 25.1 +0.4
baz=289,SNR=7.7
EDW2 Edwards Air Fo 85.05 55 P **P** 17 12 26.1 +1.1
baz=289,SNR=91
MPMC Manual Prospec 85.06 54 P **P** 17 12 26.3 +1.1
baz=289,SNR=326
LRMC Laurel Mtn Rad 85.10 54 P **P** 17 12 26.4 +1.0
baz=289,SNR=103
PASC Pasadena Art C 85.13 56 P **P** 17 12 25.6 +0.2
PASC IAmb IAmb 17 12 27.4
comp=Z,419nm,1.4s
ELK Elko 85.16 49 P **P** 17 12 26.8 +1.1
ELK pmax pmax
comp=Z,436nm,1.0s
ELK Elko 85.16 49 P **P** 17 12 26.8 +1.1
VORR Voronezh 85.19 323 *e*P **P** 17 12 24.0 -1.2
VORR pmax pmax
comp=Z,350nm,1.6s
FMP Fort Macarthur 85.19 56 P **P** 17 12 26.3 +0.7
baz=289,SNR=6.5
OBN Obninsk 85.20 327*d i*P **P** 17 12 25.0 -0.2
OBN *i* *PP **pP** 17 14 19.6 -0.2
OBN *i* 17 15 54.6
OBN *i* S **SKSac** 17 21 56.8 -2.3
OBN *i* 17 22 09.3
OBN *i* SS **SS** 17 28 01.7 +2.2
OBN pmax pmax
comp=Z,318nm,1.5s
OBN Obninsk 85.20 327 P **P** 17 12 24.9 -0.2
comp=Z,20nm,1.0s,baz=69,slow=6.4,SNR=37
OBN Obninsk 85.20 327 P **P** 17 12 24.9 -0.2
OBN IAmb IAmb 17 12 26.4
comp=Z,354nm,1.4s
CIS Catalina Islan 85.20 57 P **P** 17 12 26.2 +0.4
baz=289,SNR=30
MWC Mount Wilson 85.22 56 P **P** 17 12 26.3 +0.3
MWC pmax pmax
comp=Z,455nm,1.5s
MWC Mount Wilson 85.22 56 P **P** 17 12 26.3 +0.3
MWC IAmb IAmb 17 12 28.1
comp=Z,455nm,1.4s
SCI2 San Clemente I 85.23 57 P **P** 17 12 26.2 +0.4
baz=289,SNR=5.3
LRM Limekiln Ridge 85.26 43 P **P** 17 12 26.5 +0.5
HRY Holter Researc 85.33 42 P **P** 17 12 26.9 +0.7
DLMT Dillon 85.33 44 P **P** 17 12 26.8 +0.5
DLMT IAmb IAmb 17 12 28.4
comp=Z,341nm,1.2s
MCMT McKenzie Canyo 85.36 44 P **P** 17 12 27.0 +0.4
GOF Gofitskoye 85.37 316⇓ *i*P **P** 17 12 26.3 +0.1
GOF *e*S **SKSac** 17 22 01.2 +0.5
GOF pmax pmax
comp=Z,268nm,1.7s
GOF smax smax
comp=E,737nm,1.4s
VSR Storozhevoye 85.40 323 *e*P **P** 17 12 24.7 -1.5
VSR *e**PP **pP** 17 14 19.7 -1.2
VSR *e* 17 21 53.5
VSR pmax pmax
comp=Z,260nm,1.1s
FURC Furnace Creek, 85.40 53 P **P** 17 12 27.9 +1.4
baz=290,SNR=193
TBLG Delisi 85.40 312 P **P** 17 12 27.0 +0.5
TBLG *PP **pP** 17 14 21.1 0.0
TBLG pmax pmax
comp=Z,157nm,1.0s
TBLG Delisi 85.40 312 P **P** 17 12 27.0 +0.5
TBLG **pP** 17 14 21.1 0.0
RBK Rabkut 85.47 287 P **P** 17 12 30.0 +2.6
SNR=13
BFSC Mount Baldy Ra 85.52 56 P **P** 17 12 27.9 +0.5
baz=289,SNR=39
NCK Nalchik 85.56 314*d i*P **P** 17 12 27.6 +0.4
NCK pmax pmax
comp=Z,248nm,0.8s
ZEI Tsey 85.61 314 *e*P **P** 17 12 23.1 -4.6
ZEI pmax pmax
comp=Z,138nm,0.9s
TPNV Topopah Spring 85.70 53 P **P** 17 12 29.4 +1.2
baz=290,SNR=453
TPNV Topopah Spring 85.70 53 P **P** 17 12 29.0 +0.7
TPNV pmax pmax
comp=Z,435nm,1.0s
TPNV Topopah Spring 85.70 53 P **P** 17 12 29.0 +0.7
R11A Troy Canyon, C 85.72 51 P **P** 17 12 29.5 +1.2
baz=290,SNR=429
R11A Troy Canyon, C 85.72 51 P **P** 17 12 29.3 +0.9
WHFO Wadi Hawf 85.74 287 P **P** 17 12 29.5 +0.9
SNR=6.3
RRX Edison Barstow 85.83 55 P **P** 17 12 29.6 +0.9
baz=290
GSC Goldstone, Bar 85.83 54 P **P** 17 12 30.0 +1.1
baz=290,SNR=208
GSC Goldstone, Bar 85.83 54 P **P** 17 12 29.8 +1.0
GSC pmax pmax
comp=Z,381nm,1.1s
GSC Goldstone, Bar 85.83 54 P **P** 17 12 29.8 +1.0
BOZ Bozeman (W) 85.88 43 P **P** 17 12 29.6 +0.7
baz=292
BOZ Bozeman (W) 85.88 43 P **P** 17 12 29.4 +0.5
BOZ *PP **pP** 17 14 23.3 -0.4
BOZ pmax pmax
comp=Z,272nm,1.4s
BOZ Bozeman (W) 85.88 43 P **P** 17 12 29.4 +0.5
BOZ IAmb IAmb 17 12 31.2
comp=Z,272nm,1.4s
BOZ pP **pP** 17 14 23.2 -0.4
KBZ Khabaz 85.95 315 P **P** 17 12 29.3 +0.3
comp=Z,131nm,0.9s,baz=92,slow=2.5,SNR=135
KBZ pP **pP** 17 14 24.5 +0.9
comp=Z,13nm,0.9s,baz=97,slow=7.6,SNR=1.9
KBZ S **SKSac** 17 22 05.0 +0.8
comp=Z,2.4nm,0.9s,baz=220,slow=22,SNR=7.7
GNI Garni 85.95 311 *i* P **P** 17 12 30.4 +1.0
SNR=9.8
GNI Garni 85.95 311 P **P** 17 12 30.8 +1.4
SNR=9.7
GNI Garni 85.95 311*d i*P **P** 17 12 30.0 +0.6
GNI pmax pmax
comp=Z,656nm,1.6s
GNI Garni 85.95 311 P **P** 17 12 29.9 +0.5
comp=Z,65nm,1.1s,baz=218,slow=2.7,SNR=14
GNI pP **pP** 17 14 26.3 +2.2
comp=Z,24nm,1.0s,baz=155,slow=8.9,SNR=2.5
GNI Garni 85.95 311 P **P** 17 12 30.4 +1.0
GNI IAmb IAmb 17 12 32.6
comp=Z,400nm,1.8s
GNI **pP** 17 14 24.4 +0.4
PUL Pulkovo 86.00 333*ce*P **P** 17 12 29.3 +0.4
PUL pmax pmax
comp=Z,95nm,0.8s
KIV Kislovodsk 86.01 315 *i* P **P** 17 12 29.7 +0.3
SNR=35
KIV Kislovodsk 86.01 315 P **P** 17 12 29.9 +0.5
SNR=32
KIV Kislovodsk 86.01 315 *e*P **P** 17 12 29.6 +0.1
KIV *e**PP **pP** 17 14 25.4 +1.3
KIV *e**SP **sP** 17 15 19.5 +1.8
KIV *e* 17 22 04.2
KIV *e*SS SS 17 28 14.2 +2.0
KIV pmax pmax
comp=Z,416nm,1.0s
KIV pmax pmax
comp=Z,406nm,3.7s
KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 86.01 315 ⇑P **P** 17 12 30.2 +0.7
KIV Kislovodsk 86.01 315 P **P** 17 12 29.4 -0.1
KIV IAmb IAmb 17 12 32.5
comp=Z,128nm,0.9s
KIV pP **pP** 17 14 22.9 -1.2
SHOC Shoshone, Teco 86.04 54 P **P** 17 12 30.7 +1.1
baz=290,SNR=128
KULLO Kullorsuaq 86.07 6⇓ *i*P **P** 17 12 29.4 +0.4
KULLO pmax pmax
comp=Z,200nm,1.2s
KULLO Kullorsuaq 86.07 6⇓ *i*P **P** 17 12 29.4 +0.4
comp=Z,195nm,1.2s
BBRC Big Bear Solar 86.09 55 P **P** 17 12 30.8 +0.6
baz=290
MURC Murrieta 86.10 56 P **P** 17 12 30.8 +0.7
baz=290,SNR=24
SHA1 Shidzhatmaz 86.11 315*d i*P **P** 17 12 30.0 -0.1
EGMT Eagleton 86.13 41 P **P** 17 12 30.5 +0.5
baz=293
EGMT Eagleton 86.13 41 P **P** 17 12 30.2 +0.2
EGMT IAmb IAmb 17 12 31.9
comp=Z,335nm,1.2s
QLMT Earthquake Lak 86.30 44 P **P** 17 12 32.2 +1.2
QLMT pP **pP** 17 14 26.2 +0.2
ABTO Aybut 86.34 287 P **P** 17 12 32.7 +1.2
SNR=10
HEC Hector,Ludlow 86.36 55 P **P** 17 12 32.3 +1.0
baz=290,SNR=180
AKH Akhalkalaki 86.39 312 P **P** 17 12 32.4 +1.0
AKH *PP **pP** 17 14 26.9 +0.5
AKH pmax pmax
comp=Z,219nm,1.1s
AKH Akhalkalaki 86.39 312 ⇑P **P** 17 12 32.9 +1.5
AKH Akhalkalaki 86.39 312 P **P** 17 12 32.4 +1.0
AKH IAmb IAmb 17 12 33.7
comp=Z,219nm,1.1s
AKH pP **pP** 17 14 26.9 +0.5
109C Camp Elliot, M 86.41 57 P **P** 17 12 32.2 +0.8
baz=290,SNR=15
109C Camp Elliot, M 86.41 57 P **P** 17 12 32.3 +0.8
109C IAmb IAmb 17 12 33.5
comp=Z,332nm,1.1s
YHL Hebgen Lake 86.45 44 P **P** 17 12 33.3 +1.5
TUQ Turquoise Moun 86.47 54 P **P** 17 12 33.1 +1.2
baz=290,SNR=89
YHB Horse Butte 86.48 44 P **P** 17 12 33.4 +1.5
STEI Steigen 86.49 343 *e*P **P** 17 12 31.1 0.0
STEI IVmB_BB 17 12 31.7
comp=Z,4μm,1.2s
STEI *e*SKSac **SKSac** 17 22 07.4 +0.9
HVU Hansel Valley 86.53 47 P **P** 17 12 33.1 +1.0
HVU pmax pmax
comp=Z,428nm,1.2s
HVU Hansel Valley 86.53 47 P **P** 17 12 33.1 +1.0
BGU Big Grassy Mou 86.66 48 P **P** 17 12 33.6 +0.9
YMR Madison River 86.66 44 P **P** 17 12 34.5 +1.8
PFO Pinyon Flats O 86.67 56 P **P** 17 12 33.6 +0.8
baz=290,SNR=107
PFO Pinyon Flats O 86.67 56 *i* P **P** 17 12 33.5 +0.6
PFO Pinyon Flats O 86.67 56 P **P** 17 12 32.8 0.0
comp=Z,208nm,1.1s,baz=276,slow=5.6,SNR=116
PFO S **SKSac** 17 22 08.8 -0.6
comp=Z,0.8nm,0.4s,baz=241,slow=22,SNR=1.2
PFO Pinyon Flats O 86.67 56 P **P** 17 12 33.5 +0.6
PFO IAmb IAmb 17 12 35.0
comp=Z,376nm,1.2s
SHPR Sheep Range 86.68 53 P **P** 17 12 34.3 +1.4
SHPR IAmb IAmb 17 12 35.8
comp=Z,290nm,1.0s
YHH Holmes Hill 86.69 44 P **P** 17 12 34.2 +1.3
YHH **pP** 17 14 28.8 +0.7
LOF Lofoten 86.81 344 *e*P **P** 17 12 32.7 +0.1
LOF IVmB_BB 17 12 33.9
comp=Z,3μm,3.8s
LOF *e*SKSac **SKSac** 17 22 11.2 +2.7
YNM Yellowstone No 86.81 44 P **P** 17 12 35.5 +2.0
YNM pP **pP** 17 14 28.2 -0.3
BAR Barrett 86.82 57 P **P** 17 12 34.1 +0.6
BAR IAmb IAmb 17 12 35.5
comp=Z,379nm,1.6s
YNR Norris Junctio 86.83 44 P **P** 17 12 35.7 +2.2
YNR pP **pP** 17 14 27.8 -0.9
FIA1 FINESS Array S 86.88 335 P **P** 17 12 32.3 -0.7
FIA1 IAmb IAmb 17 12 33.7
comp=Z,150nm,1.1s
FINES FINESS Array B 86.89 335 P **P** 17 12 32.3 -0.7
comp=Z,29nm,0.3s,baz=64,slow=4.1,SNR=307
FINES pP **pP** 17 14 26.4 -1.7
comp=Z,24nm,0.9s,baz=35,slow=7.5,SNR=3.7
FINES PKKPbc **PKKPbc** 17 30 23.1 -2.1
comp=Z,3.2nm,0.8s,baz=236,slow=2.1,SNR=4.7
FINES FINESS Array B 86.89 335 P **P** 17 12 32.1 -1.0
FINES **pP** 17 14 25.8 -2.4
GMRC Granite Mounta 86.89 54 P **P** 17 12 35.1 +1.2
baz=290,SNR=185
BELC Belle Mtn. Jos 86.90 55 P **P** 17 12 34.8 +0.9
baz=290,SNR=122
YPP Pitchstone Pla 86.92 44 P **P** 17 12 35.5 +1.5
SPUT South Promonto 86.93 47 P **P** 17 12 34.9 +1.0
PSUT Pine Spring 86.93 50 P **P** 17 12 34.7 +0.6
MONP2 Monument Peak 86.94 56 P **P** 17 12 35.1 +0.8
baz=290,SNR=68
YUF Upper Falls 86.94 44 P **P** 17 12 36.0 +1.9
DOMR Dombai 86.97 315*d i*P **P** 17 12 34.6 +0.5
DOMR pmax pmax
comp=Z,146nm,0.9s
IMW Indian Meadow 86.98 45 P **P** 17 12 35.0 +0.7
IMW IAmb IAmb 17 12 37.1
comp=Z,226nm,1.2s
FXWY Fox Creek 87.02 45 P **P** 17 12 35.2 +0.8
FXWY IAmb IAmb 17 12 37.2
comp=Z,189nm,1.3s
H17A Grant Village 87.03 44 P **P** 17 12 37.2 +2.7
baz=293
H17A Grant Village 87.03 44 P **P** 17 12 36.8 +2.3
H17A IAmb IAmb 17 12 38.7
comp=Z,217nm,1.1s
FLWY Flagg Ranch 87.07 44 P **P** 17 12 36.0 +1.4
FLWY IAmb IAmb 17 12 37.8
comp=Z,356nm,1.2s
GCMT Greycliff 87.07 43 P **P** 17 12 35.1 +0.6
LKWY Lake 87.08 44 P **P** 17 12 36.7 +2.0
LKWY pmax pmax
comp=Z,309nm,1.5s
LKWY Lake 87.08 44 P **P** 17 12 36.7 +2.0
LKWY IAmb IAmb 17 12 39.1
comp=Z,309nm,1.4s
DUG Dugway, Tooele 87.08 49 P **P** 17 12 35.9 +1.2
baz=292
DUG Dugway, Tooele 87.08 49 P **P** 17 12 35.4 +0.7
DUG pmax pmax
comp=Z,430nm,1.1s
DUG Dugway, Tooele 87.08 49 P **P** 17 12 35.4 +0.7
TPAW Teton Pass 87.13 45 P **P** 17 12 35.5 +0.5
TPAW IAmb IAmb 17 12 37.8
comp=Z,232nm,1.4s
MOOW Moose Ponds 87.17 45 P **P** 17 12 36.1 +1.0
MOOW pP **pP** 17 14 29.9 -0.4
YMP Mirror Lake Pl 87.17 44 P **P** 17 12 35.7 +0.5
REDW Red Top Meadow 87.24 45 P **P** 17 12 35.9 +0.4
REDW IAmb IAmb 17 12 38.2
comp=Z,216nm,1.4s
REDW pP **pP** 17 14 30.2 -0.5
SNOW Snow King Moun 87.27 45 P **P** 17 12 36.7 +1.0
IKP In-Ko-Pah, Jac 87.28 57 P **P** 17 12 36.7 +1.0
baz=290,SNR=27
AHID Auburn Hatcher 87.31 46 P **P** 17 12 36.6 +0.8
AHID IAmb IAmb 17 12 38.1
comp=Z,259nm,1.2s
SOCY Socotra 87.31 282 P **P** 17 12 35.5 -0.6
SNR=5.4
SOCY Socotra 87.31 282 P **P** 17 12 34.5 -1.6
SOCY **pP** 17 14 30.9 -0.8
SWSC Sam W. Stewart 87.42 56 P **P** 17 12 36.9 +0.7
baz=290,SNR=27
BC3 Big Chuckawall 87.44 55 P **P** 17 12 37.7 +1.2
baz=290,SNR=147
IRM Iron Mountain 87.51 55 P **P** 17 12 37.9 +1.2
baz=291,SNR=134
FFC Flin Flon 87.56 32 *i* P **P** 17 12 37.0 +0.6
FFC Flin Flon 87.56 32 P **P** 17 12 36.6 +0.2
RLMT Red Lodge 87.59 43 P **P** 17 12 38.6 +1.5
baz=294
RLMT Red Lodge 87.59 43 P **P** 17 12 38.4 +1.3
CTU Camp Tracy 87.65 48 P **P** 17 12 37.5 +0.1
CCUT Cedar City 87.65 51 P **P** 17 12 38.5 +0.9
NLU North Lily Min 87.70 49 P **P** 17 12 38.1 +0.5
NEE2 Needles Airpor 87.70 54 P **P** 17 12 39.0 +1.5
baz=291,SNR=12
TCUT Toone Canyon 87.72 47 P **P** 17 12 38.1 +0.3
SZCU Shurtz Canyon 87.84 51 P **P** 17 12 39.3 +1.0
JLU Jordanelle 87.89 48 P **P** 17 12 39.2 +0.6
TCRU Three Creeks R 87.93 50 P **P** 17 12 40.0 +1.2
MOR8 Moi Rana 87.93 342 *e*P **P** 17 12 36.9 -1.0
MOR8 IVmB_BB 17 12 37.2
comp=Z,3μm,4.5s
MOR8 *e*SKSac **SKSac** 17 22 13.6 -1.8

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LCMT  Little Creek M   87.94  52  P          P     17 12 39.9 +1.2
MPU   Maple Canyon     87.99  48  P          P     17 12 39.8 +0.8
KONS  Konsvik          88.08 343  eP         P     17 12 38.9 +0.3
KONS                               IVmB_BB        17 12 40.1
      comp=Z,2µm,3.7s
KONS                               ePP        pP    17 14 31.9 -2.3
SOC   Sochi            88.14 316 d iP        P     17 12 38.4 -0.9
SOC                                e*PP       pP    17 14 34.5 -0.3
SOC                                e*SP       sP    17 15 27.5 -0.6
SOC                                e          17 16 14.3
SOC                                i S        SKSac 17 22 16.2 -1.2
SOC                                eSS        SS    17 28 38.7 -3.9
SOC                                eSSS       SSS   17 32 21.0
SOC                                pmax       pmax
      comp=Z,40nm,0.5s
Y12C  Blythe           88.14  55  P          P     17 12 40.9 +1.3
      baz=291,SNR=51
Y12C  Blythe           88.14  55  P          P     17 12 40.5 +0.9
W13A  Hualapai Mount   88.15  54  P          P     17 12 40.9 +1.0
W13A                               IAmb       IAmb  17 12 42.5
      comp=Z,227nm,1.1s
GLA   Glamis           88.15  56  P          P     17 12 41.1 +1.4
      baz=291,SNR=52
GLA   Glamis           88.15  56  P          P     17 12 40.8 +1.1
GLA                                pmax       pmax
      comp=Z,274nm,0.9s
GLA   Glamis           88.15  56  P          P     17 12 40.8 +1.1
MSU   Marysvale        88.16  50  P          P     17 12 41.1 +1.2
MSU   Marysvale        88.16  50  P          P     17 12 41.1 +1.2
PDMCI Parker Dam,Lak   88.23  54  P          P     17 12 41.4 +1.4
      baz=291,SNR=134
KNB   Kanab            88.25  52  P          P     17 12 41.8 +1.6
KNB                                pmax       pmax
      comp=Z,795nm,1.2s
KNB   Kanab            88.25  52  P          P     17 12 41.8 +1.6
VSU   Vasula           88.27 332 d iP        P     17 12 39.1 -0.5
VSU                                pmax       pmax
      comp=Z,838nm,1.1s
VSU   Vasula           88.27 332  eP         P     17 12 39.2 -0.4
VSU                                IAmb       IAmb  17 12 40.6
      comp=Z,808nm,1.2s
MTPU  Mount Pierson    88.34  50  P          P     17 12 42.4 +1.5
BW06  Boulder Array    88.35  45  P          P     17 12 41.1 +0.4
      baz=294
BW06  Boulder Array    88.35  45  P          P     17 12 40.4 -0.3
BW06                               IAmb       IAmb  17 12 42.7
      comp=Z,272nm,2.0s
PD31  Pinedale Array   88.35  45  P          P     17 12 40.7  0.0
PD31                               IAmb       IAmb  17 12 42.7
      comp=Z,230nm,1.9s
PDAR  Pinedale Array   88.35  45  P          P     17 12 40.9 +0.2
      comp=Z,22nm,0.8s,baz=238,slow=1.6,SNR=98
PDAR                               PP         PP    17 16 21.9 +4.4
      comp=Z,7.2nm,1.0s,baz=300,slow=6.1,SNR=2.8
PDAR                               PKKPbc     PKKPbc 17 30 20.4 -1.0
      comp=Z,0.2nm,0.3s,baz=132,slow=4.2,SNR=3.6
PDAR                               PKKPab     PKKPab 17 31 08.6
      comp=Z,0.9nm,0.8s,baz=120,slow=6.0,SNR=4.1
PDAR                               PKPPKP         17 38 22.6
      comp=Z,0.4nm,0.7s,baz=134,slow=4.3,SNR=3.8
PDAR  Pinedale Array   88.35  45  P          P     17 12 40.2 -0.4
CASY  Casey            88.39 193  P          P     17 12 40.0 +0.2
PKCU  Pink Cliffs      88.47  51  P          P     17 12 42.7 +1.2
TMUT  Trail Mountain   88.56  49  P          P     17 12 42.3 +0.5
Q16A  Castle Valley    88.74  49  P          P     17 12 43.5 +1.0
P17A  Butcher Ranch,   88.83  49  P          P     17 12 43.6 +0.7
U15A  North Rim        88.86  52  P          P     17 12 44.1 +0.9
LAO   LASA Array       88.87  41  P          P     17 12 43.8 +1.1
      baz=296
LAO   LASA Array       88.87  41  P          P     17 12 43.4 +0.6
JMIC  Jan Mayen        88.94 352  eP         P     17 12 43.7 +1.2
JMIC                               IVmBBB         17 12 45.5
      comp=Z,3µm,2.8s
JMIC                               eSKSac     SKSac 17 22 24.2 +3.3
FCC   Fort Churchill   89.10  27  P          P     17 12 43.2 -0.2
FCC                                pmax       pmax
      comp=Z,336nm,1.2s
FCC   Fort Churchill   89.10  27  P          P     17 12 43.2 -0.2
ANN   Anapa            89.13 317 d iP        P     17 12 43.0 -0.9
ANN                                e*PP       pP    17 14 38.5 -1.1
ANN                                e          17 16 22.9
ANN                                i S        SKSac 17 22 21.8 -1.2
ANN                                e          17 22 42.9
ANN                                eSS        SS    17 28 58.6 +1.9
ANN                                pmax       pmax
      comp=Z,242nm,1.2s
ANN                                pmax       pmax
      comp=E,46nm,1.1s
ANN                                smax       smax
      comp=E,167nm,2.3s
SRU   San Rafael Swe   89.13  49  P          P     17 12 44.7 +0.4
SRU                                pmax       pmax
      comp=Z,259nm,0.7s
SRU   San Rafael Swe   89.13  49  P          P     17 12 44.7 +0.4
SUMG  Summit           89.15   1 i P         P     17 12 44.6 +0.6
SUMG  Summit           89.15   1 i P         P     17 12 44.6 +0.6
SUMG  Summit           89.15   1  P          P     17 12 44.5 +0.6
SUMG                               IAmb       IAmb  17 12 49.0
      comp=Z,107nm,1.0s
SUMG                               pP         pP    17 14 39.7 -0.4
RDMU  Red Mountain     89.22  47  P          P     17 12 45.1 +0.4
Y14A  Wickenburg       89.25  54  P          P     17 12 45.5 +0.7
DGMT  Dagmar           89.30  39  P          P     17 12 44.7  0.0
      baz=297
DGMT  Dagmar           89.30  39  P          P     17 12 44.7  0.0
DGMT                               IAmb       IAmb  17 12 46.2
      comp=Z,136nm,0.8s
NSS   Namsos           89.83 342  eP         P     17 12 45.6 -1.1
NSS                                IVmB_BB        17 12 47.4
      comp=Z,1µm,1.2s
NSS                                ePP        PP    17 16 28.6 +0.5
NSS                                eSKSac     SKSac 17 22 27.8 +1.5
MICGM Minsk            89.89 329⇓ eP         P     17 12 46.0 -1.2
MICGM                              PM             17 12 47.0
      comp=Z,0.9nm,1.5s
MICGM                              PM             17 12 49.0
      comp=E,0.4nm,1.7s
MICGM                              epP        pP    17 14 42.0 -1.0
MICGM                              eSKS       SKSac 17 22 24.0 -3.1
MICGM                              eS         SKKSac 17 22 46.0 +3.4
MICGM                              eSP        SP    17 24 00.0 -4.0
MNK   Minsk            89.89 329  eP         P     17 12 46.0 -1.2
MNK                                e          17 22 24.0
MNK                                eS         S     17 22 46.0 -8.4
MNK                                pmax       pmax
      comp=Z,880nm,1.5s
WUAZ  Wupatki          89.90  53  P          P     17 12 49.4 +1.5
      baz=293
WUAZ  Wupatki          89.90  53  P          P     17 12 49.0 +1.1
IZAR  Zarasai          89.99 330  eP         P     17 12 47.8 +0.1
IZAR                               IAmb       IAmb  17 12 49.4
      comp=Z,138nm,0.9s
IZAR                               epP        pP    17 14 43.7 +0.1
IDID  Didziasalis      90.00 330  eP         P     17 12 47.6 -0.1
214A  Organ Pipe Nat   90.13  56  P          P     17 12 50.5 +1.6
      baz=292,SNR=150
214A  Organ Pipe Nat   90.13  56  P          P     17 12 49.7 +0.8
ISAL  Salakas          90.15 330  eP         P     17 12 48.4  0.0
ISAL                               IAmb       IAmb  17 12 50.2
      comp=Z,104nm,0.9s
ISAL                               epP        pP    17 14 44.4  0.0
NACGM Naroch           90.21 329  eP         P     17 12 48.0 -0.7
NACGM                              PM             17 12 49.0
      comp=Z,0.9nm,1.0s
IIGN  Ignalina         90.23 330  eP         P     17 12 48.8  0.0
IIGN                               IAmb       IAmb  17 12 50.5
      comp=Z,67nm,0.9s
IIGN                               epP        pP    17 14 45.4 +0.6
X16A  Lo Mia Camp, P   90.27  54  P          P     17 12 51.0 +1.3
X16A                               IAmb       IAmb  17 12 52.7
      comp=Z,136nm,1.2s
O20A  White River Ci   90.33  47  P          P     17 12 50.6 +0.8
      baz=295
O20A  White River Ci   90.33  47  P          P     17 12 50.2 +0.4
PV09  Paradox Valley   90.37  49  P          P     17 12 50.8 +0.6
RWWY  Rawlins          90.38  46  P          P     17 12 50.1  -0.1
K22A  Casper           90.43  44  P          P     17 12 50.9 +0.6
      baz=296
K22A  Casper           90.43  44  P          P     17 12 49.9  -0.3
PV21  Cone Mtn., Par   90.45  49  P          P     17 12 51.1 +0.6
PV23  Carpenter Ridg   90.47  49  P          P     17 12 51.5 +0.8
PV14  Lion Creek, Pa   90.50  49  P          P     17 12 51.1 +0.4
PV20  West Nyswonger   90.55  49  P          P     17 12 51.3 +0.3
PV19  Morning Glory    90.55  49  P          P     17 12 51.5 +0.6
PV05  Paradox Valley   90.56  49  P          P     17 12 51.2 +0.2
PV04  Paradox Valley   90.57  49  P          P     17 12 51.6 +0.6
PV17  East Wray Mesa   90.58  49  P          P     17 12 51.7 +0.6
PV16  Nyswonger Mesa   90.60  49  P          P     17 12 51.6 +0.4
PV22  Blue Mesa, Par   90.60  49  P          P     17 12 51.4 +0.2
PV18  Skein Mesa, Pa   90.63  49  P          P     17 12 51.9 +0.6
PV11  David Mesa, Pa   90.64  49  P          P     17 12 51.9 +0.6
PV03  Paradox Valley   90.67  49  P          P     17 12 51.8 +0.3
PV12  Saucer Basin,    90.68  49  P          P     17 12 52.0 +0.4
PV13  Radium Mtn., P   90.73  49  P          P     17 12 52.0 +0.1
PV07  Paradox Valley   90.74  49  P          P     17 12 52.0 +0.2
PV07                               IAmb       IAmb  17 12 53.9
      comp=Z,202nm,1.1s
PV02  Paradox Valley   90.77  49  P          P     17 12 52.4 +0.4
SCO   Scoresbysund     90.83 356⇓ iP         P     17 12 51.8 +0.6
SCO                                pmax       pmax
      comp=Z,67nm,1.1s
SCO   Scoresbysund     90.83 356⇓ iP         P     17 12 51.8 +0.6
      comp=Z,67nm,1.1s
SCO   Scoresbysund     90.83 356  P          P     17 12 51.5 +0.3
SCO                                            pP    17 14 47.0  -0.8
PV01  Paradox Valley   90.92  49  P          P     17 12 53.0 +0.3
MSEY  Mahe Island      91.16 265  P          P     17 12 54.2 +0.2
MSEY  Mahe Island      91.16 265  P          P     17 12 53.5  -0.5
MSEY                               pmax       pmax
      comp=Z,59nm,1.4s
MSEY  Mahe Island      91.16 265  P          P     17 12 53.5  -0.5
SIM   Simferopol'      91.17 318 d iP        P     17 12 52.8  -0.6
SIM                                e          17 22 36.0
SIM                                i          17 24 17.0
SIM                                pmax       pmax
      comp=Z,78nm,1.4s
PABE  Paberze          91.19 331  eP         P     17 12 52.9  -0.3
AKASG Malin Array Be   91.21 325  P          P     17 12 52.0  -1.4
      comp=Z,1.9nm,0.5s,baz=46,slow=5.1,SNR=44
AKASG                              pP         pP    17 14 48.0  -1.0
      comp=Z,4.7nm,0.9s,baz=39,slow=3.9,SNR=3.9
AKASG                              S          SKSac 17 22 31.4  -3.2
      comp=Z,0.2nm,0.3s,baz=51,slow=5.3,SNR=4.4
AKASG                              PKKPbc     PKKPbc 17 30 12.2  -2.2
      comp=Z,0.7nm,0.4s,baz=253,slow=2.5,SNR=5.7
AKASG                              PKPPKP         17 38 20.6
      comp=Z,0.2nm,0.3s,baz=275,slow=2.0,SNR=6.8
AKASG Malin Array Be   91.21 325  P          P     17 12 51.7  -1.7
AKASG                                          pP    17 14 47.5  -1.4
AKBB  Malin Array Si   91.21 325  P          P     17 12 52.0  -1.4
AKBB                               *PP        pP    17 14 47.7  -1.3
AKBB                               pmax       pmax
      comp=Z,62nm,1.5s
AKBB  Malin Array Si   91.21 325  P          P     17 12 52.0  -1.4
AKBB                                           pP    17 14 47.7  -1.3
RAYN  Ar Rayn          91.22 295 i P         P     17 12 54.7 +0.6
      SNR=6.4
RAYN  Ar Rayn          91.22 295  P          P     17 12 54.0  -0.1
RAYN                               pmax       pmax
      comp=Z,84nm,1.1s
RAYN  Ar Rayn          91.22 295  P          P     17 12 54.0  -0.1
RAYN                               IAmb       IAmb  17 12 55.4
      comp=Z,84nm,1.1s
W18A  Petrified Fore   91.28  52  P          P     17 12 55.6 +1.3
      baz=294
W18A  Petrified Fore   91.28  52  P          P     17 12 55.3 +0.9
MVCO  Mesa Verde       91.35  50  P          P     17 12 55.6 +0.9
      baz=294
MVCO  Mesa Verde       91.35  50  P          P     17 12 55.2 +0.5
X18A  Snowflake        91.36  53  P          P     17 12 55.6 +0.9
X18A                               IAmb       IAmb  17 12 57.4
      comp=Z,117nm,1.0s
RSSD  Black Hills      91.39  42  P          P     17 12 54.9 +0.2
      baz=298
RSSD  Black Hills      91.39  42  P          P     17 12 54.5  -0.2
RSSD                               pmax       pmax
      comp=Z,261nm,1.4s
RSSD  Black Hills      91.39  42  P          P     17 12 54.5  -0.2
N23A  Red Feather La   91.59  46  P          P     17 12 56.9 +1.1
      baz=296,SNR=215
N23A  Red Feather La   91.59  46  P          P     17 12 56.9 +1.1
N23A                                           pP    17 14 53.1 +1.2
TUC   Tucson           91.59  55  P          P     17 12 57.3 +1.6
      baz=293
TUC   Tucson           91.59  55  P          P     17 12 56.7 +1.0
TUC                                pmax       pmax
      comp=Z,184nm,1.2s
TUC   Tucson           91.59  55  P          P     17 12 56.7 +1.0
TUC                                IAmb       IAmb  17 12 58.6
      comp=Z,184nm,1.2s
PHWY  Pilot Hill       91.74  45  P          P     17 12 56.9 +0.4
PHWY                               IAmb       IAmb  17 12 58.7
      comp=Z,190nm,1.2s
PHWY                               pP         pP    17 14 52.2  -0.4
ILULI Ilulissat        91.79   6  P          P     17 12 55.5  -0.2
ILULI                              pmax       pmax
      comp=Z,88nm,1.0s
ILULI Ilulissat        91.79   6  P          P     17 12 55.5  -0.2
ILULI                              IAmb       IAmb  17 12 57.1
      comp=Z,88nm,1.0s
PBUR  Paburg           91.81 332  eP         P     17 12 54.9  -1.1
PBUR                               IAmb       IAmb  17 12 57.4
      comp=Z,370nm,1.3s
MDND  Maddock          92.28  38  P          P     17 12 58.9 +0.4
      baz=301
MDND  Maddock          92.28  38  P          P     17 12 58.2  -0.3
ISCO  Idaho Springs    92.30  47  P          P     17 13 00.2 +1.2
      baz=296,SNR=104
ISCO  Idaho Springs    92.30  47  P          P     17 12 59.6 +0.5
ISCO                               pmax       pmax
      comp=Z,127nm,1.0s
ISCO  Idaho Springs    92.30  47  P          P     17 12 59.6 +0.5
ISCO                               IAmb       IAmb  17 13 01.6
      comp=Z,127nm,1.0s
SRIG  Santa Rosalia    92.32  60  P          P     17 13 00.1 +1.1
SRIG                               IAmb       IAmb  17 13 01.4
      comp=Z,148nm,1.1s
NC405 NORSAR Array S   92.39 339  P          P     17 12 57.5  -1.2
NC405                              pP         pP    17 14 53.0  -1.9
HFS   Hagfors          92.41 338  P          P     17 12 57.6  -1.1
      comp=Z,12nm,0.4s,baz=101,slow=3.3,SNR=64
HFS                                PP         PP    17 16 49.5 +1.3
      comp=Z,6.7nm,0.8s,baz=78,slow=9.2,SNR=4.5
NC303 NORSAR Array S   92.43 340  P          P     17 12 57.9  -0.9
NC303                              IAmb       IAmb  17 12 59.9
      comp=Z,297nm,1.9s
SUW   Suwalki          92.44 330  eP         P     17 12 58.3  -0.7
SUW   Suwalki          92.44 330  eP         P     17 12 58.3  -0.7
SUW                                eP         P     17 12 58.3  -0.7
SUW   Suwalki          92.44 330  P          P     17 12 57.8  -1.2
SUW                                            pP    17 14 51.2  -4.1
DOMB  Dombas           92.56 341  eP         P     17 12 60.0 +0.5
DOMB                               eSKSac     SKSac 17 22 42.1 +0.3
NB201 NORSAR Array S   92.58 339  P          P     17 12 58.6  -0.9
NC204 NORSAR Array S   92.59 340  P          P     17 12 58.7  -0.9
NC204                              IAmb       IAmb  17 12 59.9
      comp=Z,113nm,1.1s
NB2   NORSAR Subarra   92.61 339  P          P     17 12 58.6  -1.1
      comp=Z,2.3nm,0.4s,baz=44,slow=4.6
NB2   NORSAR Subarra   92.61 339  P          P     17 12 58.6  -1.1
      baz=44,slow=4.6
NOA   NORSAR Array B   92.61 339  P          P     17 12 58.7  -1.1
      comp=Z,0.6nm,0.3s,baz=332,slow=12,SNR=28
NOA                                PP         PP    17 16 48.4  -1.5
      comp=Z,9.4nm,1.0s,baz=44,slow=8.1,SNR=7.4
NOA                                PKKPbc     PKKPdf 17 30 08.6 +1.8
      comp=Z,0.7nm,0.6s,baz=178,slow=1.8,SNR=3.7
MOL   Molde            92.62 342  eP         P     17 12 59.5  -0.1
MOL                                IVmB_BB        17 13 01.4
      comp=Z,2µm,1.5s
MOL                                eSKSac     SKSac 17 22 46.5 +4.5
HSIG                   92.73  58  P          P     17 13 01.7 +0.8
HSIG                               IAmb       IAmb  17 13 03.2
      comp=Z,158nm,1.0s
HSIG                               pP         pP    17 14 57.0 +0.5
NC602 NORSAR Array S   92.73 339  eP         P     17 13 00.2 +0.1
NC602                              ePP        PP    17 16 52.1 +1.5
NC602                              eSKSac     SKSac 17 22 41.5  -1.2
NBO00 NORSAR Array S   92.77 340  P          P     17 12 59.6  -0.8
NBO00                              IAmb       IAmb  17 12 59.9
      comp=Z,226nm,1.8s
Q24A  Divide           92.99  47  P          P     17 13 02.9 +0.6
      baz=297,SNR=22
Q24A  Divide           92.99  47  P          P     17 13 02.2  -0.1
Q24A                               IAmb       IAmb  17 13 04.4
      comp=Z,69nm,0.9s
SORM  Soroca           93.04 323  P          P     17 13 01.3  -0.6
ULM   Lac du Bonnet    93.08  34  P          P     17 13 01.8  -0.3
      comp=Z,40nm,0.9s,baz=309,slow=4.8,SNR=21
ULM   Lac du Bonnet    93.08  34  P          P     17 13 01.4  -0.6
ULM                                IAmb       IAmb  17 13 03.3
      comp=Z,88nm,1.1s
AKN   Aaknes           93.09 342  eP         P     17 13 02.7 +0.9
AKN                                eSKSac     SKSac 17 22 46.1 +1.5
319A  Douglas          93.13  56  P          P     17 13 03.2 +0.4
319A                               IAmb       IAmb  17 13 05.7
      comp=Z,72nm,1.1s
ILGA  Ilgaz            93.24 315  P          P     17 13 03.5 +0.2
SDCO  Great Sand Dun   93.28  49  P          P     17 13 04.2 +0.6
      baz=296,SNR=51
SDCO  Great Sand Dun   93.28  49  P          P     17 13 03.8 +0.2
SDCO                               IAmb       IAmb  17 13 05.8
      comp=Z,153nm,1.5s
KIS   Kishinev         93.37 322  eP         P     17 13 02.5  -0.9
KIS                                i SKS      SKSac 17 22 43.0  -3.7
KIS                                eSKKS      SKKSac 17 23 06.0  -2.7
KIS                                eS         S     17 23 21.0  -4.4
KIS   Kishinev         93.37 322  ePS        PS    17 25 44.0  -10
KIS                                eSS        sS    17 26 40.0  -15
KIS                                LRM        MLR   17 58 14.0
      comp=Z,500nm,18.0s
KIS   Kishinev         93.37 322  eP         P     17 13 02.5  -0.9
KIS                                i          17 22 43.0
KIS                                eS         S     17 23 21.0  -4.4
KIS                                pmax       pmax
      comp=Z,500nm,18.0s
OSL   Oslo             93.59 339  eP         P     17 13 05.1 +1.0
OSL                                eSKSac     SKSac 17 22 47.2  -0.1
LENM  Lemitar          93.75  52  P          P     17 13 05.8 +0.1
ANMO  Albuquerque      93.80  51  P          P     17 13 06.9 +1.0
      baz=296
ANMO  Albuquerque      93.80  51 d iP        P     17 13 06.8 +0.9
ANMO                               pmax       pmax
      comp=Z,99nm,1.4s
ANMO  Albuquerque      93.80  51  P          P     17 13 06.6 +0.6
      comp=Z,46nm,1.1s,baz=279,slow=4.4,SNR=54
ANMO                               PP         PP    17 17 01.1 +1.0
      comp=Z,4.0nm,0.8s,baz=310,slow=7.9,SNR=4.7
ANMO  Albuquerque      93.80  51  P          P     17 13 06.5 +0.6
ANMO                               IAmb       IAmb  17 13 08.3
      comp=Z,113nm,1.4s
ANMO                               PP         PP    17 16 59.9  -0.2
121A  Cookes Peak, D   93.82  54  P          P     17 13 07.7 +1.6
      baz=295
121A  Cookes Peak, D   93.82  54  P          P     17 13 06.9 +0.9
Y22D  IRIS PASSCAL I   93.83  52  P          P     17 13 07.2 +1.2
      baz=295
SKAR  Skarslia         93.83 340  eP         P     17 13 04.8  -0.5
SKAR                               IVmB_BB        17 13 06.8
      comp=Z,2µm,3.5s
SKAR                               eSKSac     SKSac 17 22 49.2 +0.4
BR131 Keskin Array S   93.91 314  P          P     17 13 06.0  -0.2
      SNR=31
BR131 Keskin Array S   93.91 314  P          P     17 13 05.3  -0.9
BR131                              *PP        pP    17 15 00.9  -1.5
BR131                              pmax       pmax
      comp=Z,95nm,1.2s
BR131 Keskin Array S   93.91 314  P          P     17 13 05.3  -0.9
BR131                              IAmb       IAmb  17 13 07.1
      comp=Z,95nm,1.1s
BR131                              pP         pP    17 15 00.9  -1.5
BRTR  Keskin Array B   93.91 314  P          P     17 13 05.7  -0.6
      comp=Z,46nm,1.0s,baz=97,slow=3.0,SNR=128
BRTR                               pP         pP    17 15 01.9  -0.5
      comp=Z,10nm,1.0s,baz=129,slow=3.3,SNR=7.0
BRTR                               PKKPbc     PKKPbc 17 30 07.2  -0.1
      comp=Z,1.7nm,0.5s,baz=232,slow=4.3,SNR=8.6
BRTR  Keskin Array B   93.91 314  P          P     17 13 05.0  -1.2
BRTR                               pP         pP    17 15 01.3  -1.1
BRTR                                           PKKPdf 17 30 05.0 +0.5
LPM   Los Pinos Moun   93.94  52  P          P     17 13 06.0  -0.6
SFJD  Kangerlussuaq    93.99   6  P          P     17 13 05.7  -0.1
SFJD                               pmax       pmax
      comp=Z,147nm,1.4s
SFJD  Kangerlussuaq    93.99   6 i P         P     17 13 05.0  -0.8
SFJD  Kangerlussuaq    93.99   6  PKKP       PKKPdf 17 30 04.2  -0.1
      comp=Z,11nm,0.9s,baz=225,slow=1.4,SNR=3.2
SFJD  Kangerlussuaq    93.99   6  P          P     17 13 05.7  -0.1
SFJD                               IAmb       IAmb  17 13 06.8
      comp=Z,147nm,1.4s
BNM   Barren Site      94.02  52  P          P     17 13 06.9  -0.1
FOO   Floro            94.12 342  eP         P     17 13 07.2 +0.8
HYA   Hoyanger         94.12 341  eP         P     17 13 07.0 +0.5
AGMN  Agassiz Nation   94.17  36  P          P     17 13 06.6  -0.4
      baz=304
AGMN  Agassiz Nation   94.17  36  P          P     17 13 06.3  -0.8
AGMN                               IAmb       IAmb  17 13 08.2
      comp=Z,103nm,1.2s
KONO  Kongsberg        94.19 339  eP         P     17 13 06.7  -0.1
KONO                               eSKSac     SKSac 17 22 49.4  -1.1
OGNE  Ogallala         94.19  44  P          P     17 13 07.4  -0.1
      baz=299
OGNE  Ogallala         94.19  44  P          P     17 13 06.9  -0.5
OGNE                               IAmb       IAmb  17 13 08.8
      comp=Z,126nm,1.2s
T25A  Trinidad         94.33  49  P          P     17 13 09.1 +0.8
      baz=297,SNR=26
T25A  Trinidad         94.33  49  P          P     17 13 08.4 +0.1
T25A                               IAmb       IAmb  17 13 10.6
      comp=Z,93nm,1.1s
T25A                               pP         pP    17 15 03.6  -0.9
ANTO  Ankara           94.42 314  P          P     17 13 08.8 +0.4
      SNR=12
ANTO  Ankara           94.42 314  P          P     17 13 07.8  -0.7
ANTO                               pmax       pmax
      comp=Z,95nm,1.3s
ANTO  Ankara           94.42 314 ⇑P          P     17 13 08.5  0.0
ANTO                               mb         17 13 09.7
ANTO  Ankara           94.42 314  P          P     17 13 07.8  -0.7
ANTO                               IAmb       IAmb  17 13 09.6
      comp=Z,95nm,1.2s
SUSD  Miller           94.42  40  P          P     17 13 07.9  -0.4
      baz=301
SUSD  Miller           94.42  40  P          P     17 13 07.5  -0.8
LVV   L'vov            94.48 326  eP         P     17 13 07.7  -0.7
SUE   Sulen            94.63 342  eP         P     17 13 09.3 +0.5
SUE                                eSKSac     SKSac 17 22 53.7 +1.0
KSCO  Kaye Shedlock'   94.71  46  P          P     17 13 10.5 +0.6
      baz=298
CFR   Carcaliu         94.73 321 ⇑P          P     17 13 09.2  -0.4
GIRR  Girov            94.73 323 ⇓P          P     17 13 09.3  -0.3
TESR  Tescani          94.89 322 ⇑P          P     17 13 10.2  -0.1
ASF   Jabal al Asfar   94.91 306  P          P     17 13 10.8  -0.1
      comp=Z,17nm,1.0s,baz=305,slow=0.6,SNR=17
ASF                                PP         PP    17 17 09.8 +1.3
      comp=Z,5.2nm,0.8s,baz=44,slow=5.4,SNR=3.6
ASF   Jabal al Asfar   94.91 306  P          P     17 13 10.9  0.0
      comp=Z,32nm,1.6s
ASK   Askoy            94.96 341  eP         P     17 13 11.1 +0.8
ODD1  Odda             94.96 340  eP         P     17 13 10.7 +0.3
BIZ   Bicaz            94.97 323 ⇑P          P     17 13 11.0 +0.3
BER   Bergen           94.99 341  eP         P     17 13 11.3 +0.9
BER                                IVmBBB         17 13 12.1
      comp=Z,1µm,1.4s
BER                                eSKSac     SKSac 17 22 55.6 +0.9
BUR08 Bucovina Ar. S   95.09 324  P          P     17 13 10.5  -0.9
BURAR Bucovina Array   95.09 324 ⇑P          P     17 13 11.5 +0.1
BURAR                              mb         17 13 12.6
BURAR Bucovina Array   95.09 324  P          P     17 13 10.3  -1.1
TLB   Topalu           95.11 320 ⇑P          P     17 13 11.4 +0.1
HARR  Harsova          95.12 320 ⇑P          P     17 13 11.5 +0.1
HARR                               mb         17 13 12.2
LPIG  La Paz           95.15  63  P          P     17 13 12.2 +0.2
      comp=Z,26nm,0.3s,baz=91,slow=1.1,SNR=16
VRI   Vrincioaia       95.20 322 ⇑P          P     17 13 12.1 +0.4
PLOR  Plostina         95.25 322 ⇑P          P     17 13 11.6  -0.5
KWP   Kalwaria Pacla   95.28 327  eP         P     17 13 11.8  -0.3
KWP   Kalwaria Pacla   95.28 327  eP         P     17 13 11.8  -0.3
KWP                                eP         P     17 13 11.8  -0.3
KWP   Kalwaria Pacla   95.28 327  P          P     17 13 11.0  -1.1
KWP                                pP         pP    17 15 06.6  -1.6
BLS5  Blasjo           95.40 340  eSKSac     SKSac 17 22 56.8  -0.2
BSD   Bornholm Skovb   95.43 334 i P         P     17 13 10.9  -1.7
BSD                                pmax       pmax
      comp=Z,89nm,1.1s
BSD   Bornholm Skovb   95.43 334 i P         P     17 13 10.9  -1.7
      comp=Z,89nm,1.1s
ICOR  Ion Corvin       95.50 320 ⇑P          P     17 13 14.0 +0.9
HOMB  Homborsund       95.60 339  eP         P     17 13 12.4  -0.8
HOMB                               eSKSac     SKSac 17 22 57.8  -0.2
OZUR                   95.62 322 ⇑P          P     17 13 14.3 +0.6
GKP   Gorka Klasztor   95.67 332  eP         P     17 13 13.5  -0.2
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GKP	Gorka Klasztor	95.67	332	*e*P		P	17 13 13.5	-0.2
GKP				*e*P		P	17 13 13.5	-0.2
MMAI	Mount Meron Ar	95.68	307	P		P	17 13 13.8	-0.5
	comp=Z,26nm,0.9s,baz=52,slow=5.5,SNR=33							
MMAI				pP		pP	17 15 10.2	-0.4
	comp=Z,13nm,1.1s,baz=66,slow=5.0,SNR=5.5							
ISR	Istrita	95.72	321	⇓P		P	17 13 13.5	-0.7
MLR	Muntele Rosu	95.86	322	P		P	17 13 14.4	-0.6
	comp=Z,7.0nm,0.9s,baz=21,slow=5.6,SNR=7.4							
MLR				PKiKP		PKiKP	17 17 51.2	+0.6
	comp=Z,8.3nm,1.1s,baz=82,slow=2.4,SNR=3.1							
MLR	Muntele Rosu	95.86	322	⇑P		P	17 13 14.7	-0.3
MLR	Muntele Rosu	95.86	322	P		P	17 13 14.2	-0.8
MLR						PKiKP	17 17 50.5	0.0
DOPR	Dopca	95.92	323	⇑P		P	17 13 15.4	+0.3
KOLS	Kolonicke sedl	95.93	326	*e*P		P	17 13 15.1	+0.1
KOLS	Kolonicke sedl	95.93	326	*e*PDIFF		P	17 13 15.1	+0.1
SNART	Snartemo	95.99	339	*e*P		P	17 13 15.7	+0.6
WALJ	Wala	96.00	306	P		P	17 13 15.9	+0.2
	comp=Z,54nm,1.0s							
BMR	Baia Mare	96.01	325	⇑P		P	17 13 15.4	0.0
MNTX	Cornudas Mount	96.02	54	P		P	17 13 16.7	+0.9
	baz=296							
MNTX	Cornudas Mount	96.02	54	P		P	17 13 15.9	+0.1
MNTX				IAmb		IAmb	17 13 18.1	
	comp=Z,50nm,0.9s							
SECR		96.05	321	⇓P		P	17 13 16.6	+1.0
SECR				mb			17 13 19.1	
UZH	Uzhgorod	96.10	326	⇓*i*P		P	17 13 14.6	-1.1
UZH				*e*			17 15 16.7	
ECSD	EROS Data Cent	96.23	40	P		P	17 13 15.8	-0.7
	baz=303							
ECSD	EROS Data Cent	96.23	40	P		P	17 13 15.6	-0.9
ECSD				IAmb		IAmb	17 13 17.5	
	comp=Z,105nm,1.4s							
CSS	Mathiatis	96.34	310	P		P	17 13 16.3	-0.9
	comp=Z,8.2nm,1.1s							
CSS	Mathiatis	96.34	310	P		P	17 13 16.3	-0.9
LISJ	El Lisan	96.40	306	P		P	17 13 17.8	+0.4
	comp=Z,28nm,1.4s							
OJC	Ojcow	96.41	328	*e*P		P	17 13 16.8	-0.3
OJC	Ojcow	96.41	328	*e*P		P	17 13 16.8	-0.3
OJC				*e*P		P	17 13 16.8	-0.3
OJC	Ojcow	96.41	328	P		P	17 13 16.5	-0.7
OJC				pP		pP	17 15 12.2	-1.0
VOIR		96.42	322	⇑P		P	17 13 17.2	-0.2
BGNE	Belgrade	96.50	43	P		P	17 13 16.5	-1.2
	baz=302							
BGNE	Belgrade	96.50	43	P		P	17 13 16.4	-1.4
GDL2	Guadalupe Moun	96.58	53	P		P	17 13 18.9	+0.4
CPRX	Cap Rock	96.58	52	P		P	17 13 18.7	+0.3
NIE	Niedzica	96.66	327	*e*P		P	17 13 18.7	+0.4
NIE	Niedzica	96.66	327	*e*P		P	17 13 18.7	+0.4
NIE				*e*P		P	17 13 18.7	+0.4
ARR	Arges	96.70	322	⇑P		P	17 13 19.2	+0.6
EYMN	Ely	96.76	34	P		P	17 13 18.2	-0.5
	baz=307							
EYMN	Ely	96.76	34	P		P	17 13 18.0	-0.8
EYMN				IAmb		IAmb	17 13 19.0	
	comp=Z,60nm,1.6s							
CBKS	Cedar Bluff	96.78	45	P		P	17 13 18.7	-0.4
	baz=300							
CBKS	Cedar Bluff	96.78	45	P		P	17 13 18.7	-0.4
CBKS				pmax		pmax		
	comp=Z,76nm,1.0s							
CBKS	Cedar Bluff	96.78	45	P		P	17 13 18.7	-0.4
CBKS				IAmb		IAmb	17 13 20.1	
	comp=Z,76nm,1.0s							
CLNB	Carlsbad	96.91	53	P		P	17 13 20.5	+0.6
SBA	Scott Base	96.93	175	P		P	17 13 21.0	+2.3
SBA				pmax		pmax		
	comp=Z,21nm,1.4s							
SBA	Scott Base	96.93	175	P		P	17 13 21.0	+2.3
MSTX	Muleshoe	96.96	51	P		P	17 13 19.8	-0.3
	baz=298,SNR=7.0							
MSTX	Muleshoe	96.96	51	P		P	17 13 19.6	-0.5
DRGR		96.96	324	⇑P		P	17 13 19.9	+0.1
HUMR	Humele	96.97	321	⇑P		P	17 13 19.2	-0.5
LOT	Lotru	97.15	323	⇑P		Pdif	17 13 21.6	+0.9
LANS	Liptovska Anna	97.25	327	*e*PP		PP	17 17 28.9	+3.4
ELND	Elena	97.32	320	⇑P		P	17 13 21.8	+0.4
AMTX	Amarillo	97.33	50	P		P	17 13 22.4	+0.7
	baz=298							
AMTX	Amarillo	97.33	50	P		P	17 13 22.1	+0.4
OKC	Ostrava-Krasne	97.48	329	*e*P		P	17 13 22.2	+0.3
OKC				*e*			17 23 06.1	
OKC				*e*			17 25 24.3	
OKC				MLR		MLR		
	comp=Z,800nm,17.5s							
OKC	Ostrava-Krasne	97.48	329	*e*P		P	17 13 22.2	+0.3
OKC				*e*SKS		SKSac	17 23 06.1	-1.9
OKC				*ex*		x	17 25 24.3	
OKC				AMS		AMS	17 58 50.0	
	comp=Z,800nm,17.5s							
EIL	Elat	97.49	305	P		Pdif	17 13 22.1	-0.4
	comp=Z,21nm,1.1s,baz=76,slow=0.9,SNR=7.1							
EIL				PP		PP	17 17 30.0	+1.9
	comp=Z,8.0nm,0.9s,baz=30,slow=7.3,SNR=3.6							
E38A	The Farm, Brul	97.53	36	P		Pdif	17 13 21.8	-0.4
	baz=307							
E38A	The Farm, Brul	97.53	36	P		Pdif	17 13 21.3	-0.9
SPMN	Marine on St.	97.65	37	P		Pdif	17 13 22.6	-0.2
	baz=306							
SPMN	Marine on St.	97.65	37	P		Pdif	17 13 22.3	-0.4
SPMN				IAmb		IAmb	17 13 24.0	
	comp=Z,51nm,1.1s							
KSP	Ksiaz	97.71	330	*e*P		Pdif	17 13 22.7	-0.2
KSP	Ksiaz	97.71	330	*e*P		Pdif	17 13 22.7	-0.2
KSP				*e*P		Pdif	17 13 22.7	-0.2
PSZ	Piszkesteto	97.80	326	P		Pdif	17 13 23.0	-0.5
PSZ				*PP		pP	17 15 17.9	-2.1
PSZ				pmax		pmax		
	comp=Z,25nm,1.1s							
PSZ	Piszkesteto	97.80	326	⇑P		P	17 13 23.6	+0.1
PSZ				mb			17 13 24.8	
PSZ	Piszkesteto	97.80	326	P		Pdif	17 13 22.9	-0.5
PSZ				pP		pP	17 15 17.9	-2.1
MORC	Moravsky Berou	97.81	329	⇑P		Pdif	17 13 22.3	-1.1
MORC				mb			17 13 24.6	
MORC	Moravsky Berou	97.81	329	*e*PDIFF		Pdif	17 13 22.8	-0.7
PLVB	Pleven	97.83	321	⇑P		P	17 13 24.1	+0.5
ELL	Elmali	97.92	313			Pdif	17 13 24.0	-0.3
ELL						pP	17 15 17.4	-3.5
KRLC	Kraliky	97.99	329	AMS		AMS	18 00 20.0	
	comp=Z,600nm,14.2s							
VYHS	Vyhne	97.99	327	*e*P		P	17 13 24.6	+0.3
VYHS				*e*			17 17 32.7	
VYHS	Vyhne	97.99	327	*e*PDIFF		P	17 13 24.5	+0.3
VYHS				*e*PP		PP	17 17 32.7	+1.6
CHVC	Chvalec	98.00	330	*e*P		Pdif	17 13 24.1	-0.1
DPC	Dobruska-Polom	98.03	330	*e*P		P	17 13 24.5	+0.1
DPC				*e*			17 23 10.5	
DPC				MLR		MLR		
	comp=Z,700nm,14.5s							
DPC	Dobruska-Polom	98.03	330	*e*P		P	17 13 24.5	+0.1
DPC				*ex*		x	17 15 35.6	
DPC				*e*SKS		SKSac	17 23 10.5	-0.4
DPC				AMS		AMS	17 57 50.0	
	comp=Z,700nm,14.5s							
UPC	Upice	98.07	330	*e*P		Pdif	17 13 24.4	-0.1
UPC				*e*			17 23 09.7	
UPC	Upice	98.07	330	*e*P		Pdif	17 13 24.4	-0.1
UPC				*e*SKS		SKSac	17 23 09.7	-1.3
JAVC	Velka Javorina	98.35	328	*e*PDIFF		P	17 13 26.7	+0.8
TXAR	Lajitas Array	98.39	55	P		P	17 13 27.3	+0.7
TXAR	Lajitas Array	98.39	55	P		P	17 13 27.0	+0.5
	comp=Z,16nm,1.1s,baz=298,slow=2.7,SNR=32							
TXAR				PP		PP	17 17 36.4	+1.4
	comp=Z,4.5nm,0.9s,baz=296,slow=4.0,SNR=4.0							
TXAR				PKiKP		PKiKP	17 17 55.0	-0.5
	comp=Z,3.9nm,0.9s,baz=302,slow=4.1,SNR=3.8							
TXAR				PKKP		PKKPdf	17 29 56.0	-0.5
	comp=Z,2.2nm,0.9s,baz=108,slow=2.8,SNR=9.2							
TXAR	Lajitas Array	98.39	55			P	17 13 27.3	+0.7
TXAR						PP	17 17 30.0	-5.0
TXAR						PKiKP	17 17 54.2	-1.2
VRAC	Vranov	98.59	329	P		Pdif	17 13 26.3	-0.6
	comp=Z,8.7nm,0.8s,baz=66,slow=5.9,SNR=8.3							
VRAC	Vranov	98.59	329	*e*PDIFF		Pdif	17 13 26.7	-0.2
VRAC				*e*PP		PP	17 17 37.8	+2.3
KSU1	Kansas State U	98.72	44	P		Pdif	17 13 26.8	-0.9
	baz=302							
BRG	Berggiesshubel	98.79	331	*i* P		Pdif	17 13 27.5	-0.2
	comp=Z,64nm,1.6s							
BRG				*e*PP		PP	17 17 27.7	-9.3
	comp=Z,46nm,1.5s							
BRG				*e*			17 18 00.3	
	comp=Z,14nm,1.1s							
BRG				SKS		SKSac	17 23 15.0	+0.5
BRG				*e*PKKP		PKKPbc	17 29 53.3	-1.4
	comp=Z,8.6nm,1.2s							
BRG				*e*PKPPKP			17 38 03.6	
	comp=Z,13nm,1.5s							
	comp=N,463nm,15.4s							
	comp=E,578nm,13.7s							
	comp=Z,886nm,13.5s							
BRG	Berggiesshubel	98.79	331	*i* P		Pdif	17 13 27.5	-0.2
BRG							17 23 15.0	
BRG				pmax		pmax		
	comp=Z,64nm,1.6s							
BRG				pmax		pmax		
	comp=Z,46nm,1.5s							
BRG				pmax		pmax		
	comp=Z,14nm,1.1s							
BRG				pmax		pmax		
	comp=Z,9.0nm,1.2s							
BRG				MLR		MLR		
	comp=N,463nm,15.4s							
BRG				MLR		MLR		
	comp=E,578nm,13.7s							
BRG				MLR		MLR		
	comp=Z,886nm,13.5s							
KRUC	Moravsky	98.85	329	*e*PDIFF		Pdif	17 13 27.6	-0.4
KRUC				*e*PP		PP	17 17 39.2	+1.7
MODS	Modra-Piesok	98.86	328	*e*P		Pdif	17 13 28.0	-0.1
MODS	Modra-Piesok	98.86	328	*e*PDIFF		Pdif	17 13 28.0	-0.1
CLL	Collm	98.91	332	⇓*i*P		Pdif	17 13 27.7	-0.5
CLL				*e*			17 17 35.0	
CLL				*e*S		ScS	17 24 08.0	-4.2
CLL				pmax		pmax		
	comp=Z,55nm,1.4s							
CLL	Collm	98.91	332	⇓*i*Pdif		Pdif	17 13 27.7	-0.5
	comp=Z,55nm,1.4s							
CLL				*e*pP		pP	17 15 23.0	-2.0
CLL				*e*			17 16 34.0	
CLL				*e*PP		PP	17 17 35.0	-2.8
CLL				*e*pPP			17 19 17.0	
CLL				*e*PPP		PPP	17 19 55.0	
CLL				*e*PPPP			17 21 24.0	
CLL				*e*SKSac		SKSac	17 23 05.0	-10
CLL				*e*Sdif		ScS	17 24 08.0	-4.2
CLL				*e*SP		SP	17 25 34.0	-8.1
CLL				*e*SPP		SPP	17 26 30.0	
CLL				*e*PKKPdf		PKKPbc	17 29 52.0	-2.3
CLL				*e*SS		SS	17 31 15.0	+1.5
CLL				*e*SS			17 34 17.0	
CLL				*e*SSS		SSS	17 35 12.0	
CLL				*e*SSSS			17 38 30.0	
GOPC	GO Pecny, Ondr	99.05	330	*e*P		Pdif	17 13 28.7	-0.2
GOPC				*e*			17 23 16.3	
GOPC				*e*			17 25 40.8	
GOPC				MLR		MLR		
	comp=Z,700nm,16.5s							
GOPC	GO Pecny, Ondr	99.05	330	*e*P		Pdif	17 13 28.7	-0.2
GOPC				*e*SKS		SKSac	17 23 16.3	+0.4
GOPC				*ex*		x	17 25 40.8	
GOPC				AMS		AMS	18 01 00.0	
	comp=Z,700nm,16.5s							
G40A	Rib Lake	99.09	36	P		Pdif	17 13 29.2	0.0
	baz=308							
VTS	Vitosha	99.10	321	P		Pdif	17 13 29.1	-0.4
VTS				*PP		pP	17 15 24.3	-1.9
VTS				pmax		pmax		
	comp=Z,34nm,1.0s							
VTS	Vitosha	99.10	321	⇑P		Pdif	17 13 30.4	+0.9
VTS				mb			17 13 31.4	
VTS	Vitosha	99.10	321			Pdif	17 13 29.1	-0.4
VTS				IAmb		IAmb	17 13 31.3	
	comp=Z,34nm,1.0s							
VTS						pP	17 15 24.3	-1.9
PRU	Pruhonice	99.12	330	*e*P		Pdif	17 13 29.1	-0.1
PRU				*e*			17 17 42.1	
PRU				*e*			17 23 10.9	
PRU				MLR		MLR		
	comp=N,400nm,16.5s							
PRU	Pruhonice	99.12	330	*e*P		Pdif	17 13 29.1	-0.1
PRU				*e*PP		PP	17 17 42.1	+2.7
PRU				*e*SKS			17 23 10.9	
PRU				AMS		AMS	18 01 10.0	
SCIA	State Center	99.32	40	P		Pdif	17 13 30.3	0.0
	baz=305							
WMOK	Wichita Mounta	99.48	49	P		Pdif	17 13 31.5	+0.3
	baz=300							
CONA	Conrad Observa	99.87	328	*e*Pdiff		Pdif	17 13 32.3	-0.4
	comp=N,17nm,1.2s,SNR=9.1							
CONA				*e*PKiKP		PKiKP	17 17 59.7	+2.1
	comp=N,22nm,2.0s							
ABTX	Abilene, Hawle	99.91	51	P		Pdif	17 13 33.4	+0.3
	baz=299							
NKC	Novy Kostel	99.92	331	*e*P		Pdif	17 13 32.3	-0.5
NKC				MLR		MLR		
	comp=Z,900nm,16.1s							
NKC	Novy Kostel	99.92	331	*e*P		Pdif	17 13 32.3	-0.5
NKC				AMS		AMS	18 00 50.0	
	comp=Z,900nm,16.1s							
E43A	Lone Tree Farm	100.14	34	P		Pdif	17 13 33.0	-0.8
	baz=310							
KHC	Kasperske Hory	100.16	330	*e*P		Pdif	17 13 33.4	-0.5
KHC				*e*			17 17 48.5	
KHC				*e*			17 23 17.3	
KHC				*e*			17 25 54.4	
KHC				MLR		MLR		
	comp=Z,700nm,14.6s							
KHC	Kasperske Hory	100.16	330	*e*P		Pdif	17 13 33.4	-0.5
KHC				*e*pP		pPdif	17 15 28.0	-2.5
KHC				*ex*		x	17 15 44.2	
KHC				*e*PP		PP	17 17 48.5	+1.2
KHC				*e*SKS			17 23 17.3	
KHC				*e*SP		SP	17 25 54.4	-1.2
KHC				*e*PKKP		PKKPbc	17 29 45.0	-5.9
KHC				AMS		AMS	17 58 40.0	
	comp=Z,700nm,14.6s							
VAY	Valandovo	100.26	320	*i* P		Pdif	17 13 34.4	0.0
STIP	Stip	100.27	320	*i* P		Pdif	17 13 33.9	-0.6
GERES	GERESS Array B	100.30	330	P		Pdif	17 13 34.1	-0.6
	comp=Z,9.0nm,1.0s,baz=48,slow=4.2,SNR=27							
GERES				PP		PP	17 17 50.6	+2.2
	comp=Z,5.6nm,1.0s,baz=60,slow=6.3,SNR=7.1							
GERES				PKKP		PKKPbc	17 29 49.0	-1.5
	comp=Z,2.3nm,0.8s,baz=217,slow=2.5,SNR=11							
GERES	GERESS Array B	100.30	330			Pdif	17 13 33.9	-0.7
GERES						PP	17 17 48.7	+0.3
GERES						PKKPbc	17 29 48.2	-2.3
L40A	Anamosa	100.44	39	P		Pdif	17 13 34.9	-0.3
	baz=307							
ARSA	Arzberg	100.49	328	*e*Pdiff		Pdif	17 13 35.7	+0.3
	comp=Z,13nm,1.1s							
ARSA				*e*PKKPbc		PKKPbc	17 29 49.4	-0.4
	comp=Z,11nm,1.4s							
JFWS	Jewell Farm	100.50	38	P		Pdif	17 13 35.2	-0.4
	baz=308							
JFWS	Jewell Farm	100.50	38	P		Pdif	17 13 35.0	-0.5
E44A	Grand Marais A	100.54	33	P		Pdif	17 13 35.8	+0.2
	baz=311							
SKO	Skopje	100.56	321	*i* P		Pdif	17 13 36.5	+0.7
I42A	Draeger Farm,	100.67	37	P		Pdif	17 13 36.3	+0.1
	baz=309,SNR=7.1							
MOA	Molln	100.71	329	*e*Pdiff		Pdif	17 13 35.9	-0.5
	comp=Z,12nm,1.3s							
MOA				PKiKP		PKiKP	17 17 58.2	-0.9
	comp=Z,22nm,1.4s							
MOA				SKSac		SKSac	17 23 30.5	+6.5
	comp=Z,9.7nm,1.6s							
MOA				*e*PKKPbc		PKKPbc	17 29 48.3	-1.0
	comp=Z,10nm,1.4s							
JCT	Junction City	100.83	53	P		Pdif	17 13 37.5	+0.2
	baz=299,SNR=8.5							
H43A	Windswept, Lux	100.94	36	P		Pdif	17 13 37.5	0.0
	baz=310							
TUL1	Leonard	100.97	46	P		Pdif	17 13 37.8	+0.1
	baz=302							
SOKA	Soboth	101.12	328	Pdiff		Pdif	17 13 38.5	+0.2
	comp=Z,29nm,1.5s,SNR=6.7							
SOKA				*e*PKKPbc		PKKPbc	17 29 47.7	-0.4
	comp=Z,6.1nm,1.1s							
OHR	Ohrid	101.46	320	*i* P		Pdif	17 13 32.2	-7.7
OBKA	Obir	101.48	328	PKiKP		PKiKP	17 17 58.5	-2.0
	comp=Z,23nm,1.3s							
E46A	Sault Ste Mari	101.54	32	P		Pdif	17 13 40.4	+0.3
	baz=313							
KBA	Koelnbreinsper	101.70	329	*e*PP		PKiKP	17 17 58.8	-2.2
	comp=Z,18nm,1.0s							
EKA	Eskdalemuir Ar	101.72	342	P		Pdif	17 13 40.6	0.0
	comp=Z,9.6nm,1.0s,baz=23,slow=4.5,SNR=7.5							
EKA				PKiKP		PKiKP	17 17 59.7	-0.9
	comp=Z,19nm,0.9s,baz=37,slow=6.9,SNR=14							
EKA				PKKPbc		PKKPbc	17 29 44.6	-2.0
	comp=Z,1.2nm,0.4s,baz=246,slow=3.1,SNR=5.8							
MYKA	Terra Mystica	101.86	328	PP		PKiKP	17 17 59.2	-2.0
	comp=Z,21nm,1.1s							
MYKA				*e*PKKPbc		PKKPbc	17 29 45.3	-0.7
	comp=Z,7.1nm,1.0s							
E47A	Iron Bridge	102.00	32	P		Pdif	17 13 41.8	-0.3
	baz=314							
SCHQ	Schefferville	102.06	18	P		Pdif	17 13 42.7	+0.5
	comp=Z,9.6nm,0.9s,baz=306,slow=8.2,SNR=4.0							
SCHQ	Schefferville	102.06	18			Pdif	17 13 42.1	-0.1
ABTA	Abfaltersbach	102.34	329	Pdiff		Pdif	17 13 42.8	-0.9
	comp=Z,11nm,1.1s							
ABTA				PKiKP		PKiKP	17 18 01.1	-1.0
	comp=Z,8.2nm,1.1s							
ABTA				SKSac		SKSac	17 23 35.9	+4.0
	comp=Z,12nm,1.5s							
ABTA				*e*PKKPbc		PKKPbc	17 29 44.0	-0.7
	comp=Z,15nm,1.5s							
WATA	Walderalm	102.38	330	PKiKP		PKiKP	17 18 01.9	-0.3
	comp=Z,28nm,1.4s							
WATA				SKSac		SKSac	17 23 36.3	+4.1
	comp=Z,16nm,1.5s							
WATA				*e*PKKPbc		PKKPbc	17 29 43.1	-1.5
	comp=Z,11nm,1.2s							
WTTA	Wattenberg	102.40	330	*e*Pdiff		Pdif	17 13 43.8	-0.3
	comp=Z,9.1nm,1.0s							
WTTA				PP		PKiKP	17 18 03.0	+0.7
	comp=Z,54nm,1.5s							
WTTA				SKSac		SKSac	17 23 38.9	+6.6
	comp=Z,19nm,1.6s							
WTTA				*e*PKKPbc		PKKPbc	17 29 43.0	-1.7
	comp=Z,10nm,1.0s							
E48A	Lockeyer	102.53	31	P		Pdif	17 13 44.5	0.0
	baz=314							
G47A	Hillman	102.58	33	P		Pdif	17 13 44.6	-0.1
	baz=313							
MOTA	Moosalm	102.60	330	*e*Pdiff		Pdif	17 13 44.7	-0.2
	comp=Z,6.7nm,1.1s							
MOTA				PP		PP	17 18 05.6	+0.1
	comp=Z,45nm,1.5s							
MOTA				*e*SKSac		SKSac	17 23 40.5	+7.3
	comp=Z,17nm,1.8s							
MOTA				*e*PKKPbc		PKKPbc	17 29 43.2	-0.8
	comp=Z,9.3nm,1.2s							
SQTA	Sankt Quirin	102.64	330	*e*PP		PKiKP	17 18 04.6	+2.0
	comp=Z,30nm,1.2s							
SQTA				*e*PKKPbc		PKKPbc	17 29 42.1	-1.8
	comp=Z,3.5nm,0.5s							
RETA	Reutte	102.66	330	*e*PKKPbc		PKKPbc	17 29 41.8	-1.9
	comp=Z,7.2nm,1.0s							
U40A	Yellville	102.71	45	P		Pdif	17 13 45.2	-0.3
	baz=304							
CCM	Cathedral Cave	102.79	42	P		Pdif	17 13 45.5	-0.2
	baz=306							
OPO	Ambohidratompo	102.98	255	PKKPbc		PKKPbc	17 29 42.7	+0.9
	comp=Z,1.7nm,0.4s,baz=274,slow=16,SNR=3.0							
FETA	Feichten	103.01	330	PKiKP		PKiKP	17 18 04.2	+0.8
	comp=Z,15nm,1.1s							
FETA				*e*SKSac		SKSac	17 23 37.3	+2.2
	comp=Z,19nm,1.7s							
LSQQ	Lebel-sur-Quev	103.05	27	P		Pdif	17 13 46.8	+0.1
	baz=319							
DAVA	Damuels	103.22	331	*e*Pdiff		Pdif	17 13 47.8	+0.1
	comp=Z,15nm,1.2s							
DAVA				PP		PP	17 18 07.4	-2.6
	comp=Z,64nm,1.6s							
DAVA				*e*PKKPbc		PKKPbc	17 29 41.5	-0.8
	comp=Z,17nm,1.5s							
MIAR	Mount Ida	103.23	46	P		Pdif	17 13 47.9	+0.1
	baz=304							
CHGQ	Chibougamau	103.48	25	P		Pdif	17 13 48.7	+0.1
	baz=322							
DAVOX	Davos/Dischmat	103.58	330	Pdiff		Pdif	17 13 49.1	-0.3
	comp=Z,3.7nm,0.9s,baz=354,slow=9.5,SNR=3.2							
DAVOX				PP		PP	17 18 13.2	+0.4
	comp=Z,5.5nm,0.8s,baz=19,slow=7.5,SNR=4.2							
DAVOX				PKKPbc		PKKPbc	17 29 40.0	-1.2
	comp=Z,2.5nm,0.5s,baz=228,slow=20,SNR=5.7							
J48A	Bridge Port	103.89	35	P		Pdif	17 13 50.7	+0.1
	baz=313							
MAW	Mawson	104.00	203	P		Pdif	17 13 51.8	+1.5
MAW	Mawson	104.00	203	Pdiff		Pdif	17 13 50.8	+0.5
	comp=Z,3.8nm,0.9s,baz=50,slow=6.4,SNR=10							
MAW				PKiKP		PKiKP	17 18 03.9	-0.3
	comp=Z,2.7nm,0.8s,baz=89,slow=5.8,SNR=11							
MAW				PP		PP	17 18 14.9	-1.2
	comp=Z,2.4nm,0.7s,baz=86,slow=6.8,SNR=4.7							
MAW				PKKPbc		PKKPbc	17 29 38.3	-1.6
	comp=Z,2.9nm,0.6s,baz=243,slow=5.2,SNR=15							
MAW	Mawson	104.00	203			Pdif	17 13 51.8	+1.5
MAW						PKiKP	17 18 04.2	0.0
P46A	Rosedale	104.34	39	P		Pdif	17 13 52.7	+0.1
	baz=309							
F52A	Sundridge	104.41	30	P		Pdif	17 13 53.1	+0.3
	baz=317							
N48A	Decatur	104.82	37	P		Pdif	17 13 55.0	+0.2
	baz=311							
Q48A	North Vernon	105.66	39	P		PKiKP	17 18 08.8	+0.5
	baz=310							
P49A	Miami Univ. Ec	105.87	38	P		PKiKP	17 18 08.8	+0.2
	baz=311							
LATQ	La Tuque	106.12	26	P		PKiKP	17 18 09.3	+0.4
	baz=323							
ACSO

U50A **Jamestown** 107.82 40 P PKiKP 17 18 12.8 +0.4
baz=310
M55A **Ridgway** 107.82 33 P PKiKP 17 18 12.7 +0.4
baz=316
E61A **Lac Etchemin** 107.82 25 P PKiKP 17 18 12.6 +0.4
baz=325
H58A **Gabriels** 107.85 29 P PKiKP 17 18 12.9 +0.6
baz=321
R52A **Catlettsburg** 107.87 38 P PKiKP 17 18 12.7 +0.3
baz=312
H59A **Cadyville** 107.89 28 P PKiKP 17 18 12.8 +0.5
baz=321
L56A **Greenwood** 107.95 32 P PKiKP 17 18 12.7 +0.2
baz=318
F61A **St Evariste** 107.99 26 P PKiKP 17 18 13.1 +0.7
baz=324
T51A **Gray** 108.01 40 P PKiKP 17 18 12.9 +0.2
baz=311
I58A **Old Forge** 108.04 29 P PKiKP 17 18 12.9 +0.3
baz=320
M56A **Emporium** 108.11 33 P PKiKP 17 18 12.9 +0.1
baz=317
V50A **Pikevile** 108.14 41 P PKiKP 17 18 13.3 +0.2
baz=310
J58A **Remsen** 108.15 30 P PKiKP 17 18 13.0 +0.2
baz=320
QSPA **South Pole Qui** 108.28 180 PKiKP PKiKP 17 18 12.4 +0.1
comp=Z,13nm,0.9s,baz=303,slow=0.8,SNR=47
QSPA PP PP 17 18 49.4 +2.3
comp=Z,17nm,1.1s,baz=11,slow=1.4,SNR=16
QSPA PKKPbc PKKPbc 17 29 24.6 -3.1
comp=Z,8.8nm,0.9s,baz=195,slow=4.1,SNR=15
QSPA PKKP PKKPdf 17 29 40.8 -0.1
comp=Z,3.8nm,0.9s,baz=162,slow=1.3,SNR=3.5
QSPA **South Pole Qui** 108.28 180 PKiKP 17 18 12.2 -0.1
QSPA PP 17 18 46.1 -1.0
QSPA PKKPbc 17 29 22.7 -4.9
W50A **Signal Mountai** 108.30 42 P PKiKP 17 18 13.4 0.0
baz=310
G61A **St-Isidore-de-** 108.32 26 P PKiKP 17 18 13.2 +0.1
baz=323
U51A **La Follette** 108.35 40 P PKiKP 17 18 12.9 -0.6
baz=311
H60A **Morristown** 108.39 28 P PKiKP 17 18 12.9 -0.3
baz=322
K58A **Earlville** 108.43 30 P PKiKP 17 18 14.0 +0.6
baz=319
J59A **Piesco** 108.43 29 P PKiKP 17 18 13.9 +0.5
baz=320
Y49A **Blount Mountai** 108.44 43 P PKiKP 17 18 13.6 -0.1
baz=308
O55A **Ligonier** 108.44 34 P PKiKP 17 18 13.2 -0.3
baz=316
Q54A **Coxs Mills** 108.46 36 P PKiKP 17 18 13.6 +0.1
baz=314
N56A **West Decatur** 108.47 33 P PKiKP 17 18 13.6 0.0
baz=317
I59A **Olmsteadville** 108.47 29 P PKiKP 17 18 13.5 +0.1
baz=321
T52A **Hallie** 108.49 39 P PKiKP 17 18 13.6 0.0
baz=312
V51A **Loudon** 108.52 41 P PKiKP 17 18 13.4 -0.3
baz=310
TZTN **Tazewell** 108.53 40 P PKiKP 17 18 13.7 -0.1
baz=311
LRAL **Lakeview Retre** 108.56 44 P PKiKP 17 18 13.7 -0.2
baz=308
E63A **Oxbow** 108.64 24 P PKiKP 17 18 13.6 -0.1
baz=326
W51A **Cleveland** 108.68 41 P PKiKP 17 18 14.0 0.0
baz=310
I60A **Shoreham** 108.69 28 P PKiKP 17 18 13.8 0.0
baz=322
U52A **Thorn Hill** 108.73 40 P PKiKP 17 18 13.8 -0.3
baz=311
M57A **Sunshine Farm,** 108.76 32 P PKiKP 17 18 13.8 -0.2
baz=318
K59A **Cooperstown** 108.80 30 P PKiKP 17 18 14.2 +0.1
baz=320
Q55A **Buckhannon** 108.87 36 P PKiKP 17 18 14.0 -0.4
baz=315
SSPA **Standing Stone** 108.88 33 P PKiKP 17 18 14.3 0.0
baz=317
R54A **Victor** 108.93 37 P PKiKP 17 18 14.3 -0.2
baz=314
V52A **Sevierville** 108.96 40 P PKiKP 17 18 14.4 -0.1
baz=311
X51A **Calhoun** 109.00 42 P PKiKP 17 18 14.5 -0.2
baz=310
Z50A **Ashland** 109.13 44 P PKiKP 17 18 15.1 +0.1
baz=309
O57A **Amberson** 109.32 33 P PKiKP 17 18 15.4 +0.3
baz=317
N58A **Sunbury** 109.34 32 P PKiKP 17 18 15.4 +0.3
baz=318
T54A **Tazewell** 109.36 38 P PKiKP 17 18 15.7 +0.3
baz=313
M59A **Waymart** 109.45 31 P PKiKP 17 18 15.7 +0.4
baz=319
S55A **Lewisburg** 109.49 37 P PKiKP 17 18 15.5 -0.1
baz=314
V53A **Saluda** 109.55 40 P PKiKP 17 18 16.1 +0.3
baz=312
U54A **Nelsons Funny** 109.58 39 P PKiKP 17 18 16.0 +0.2
baz=313
X52A **Dahlonega** 109.58 41 P PKiKP 17 18 16.1 +0.3
baz=311
W53A **Cullowhee** 109.66 41 P PKiKP 17 18 16.5 +0.4
baz=311
N59A **State Game Lan** 109.76 32 P PKiKP 17 18 16.2 +0.3
baz=319
Q57A **Strasburg** 109.76 35 P PKiKP 17 18 16.3 +0.3
baz=316
T55A **Pulaski** 109.78 38 P PKiKP 17 18 16.2 +0.1
baz=314
BLA **Blacksburg** 109.92 37 P PKiKP 17 18 16.6 +0.2
baz=314
Y52A **Lilburn** 109.95 42 P PKiKP 17 18 17.1 +0.6
baz=310
G65A **Princeton** 109.99 24 P PKiKP 17 18 16.6 +0.5
baz=327
X53A **Estanollee** 110.02 41 P PKiKP 17 18 16.8 +0.2
baz=311
P58A **Pank, Wackersv** 110.03 34 P PKiKP 17 18 17.0 +0.5
baz=317
U55A **TA2, Sparta** 110.05 38 P PKiKP 17 18 17.0 +0.3
baz=313
L61B **Northampton** 110.06 29 P PKiKP 17 18 16.8 +0.4
baz=322
S56A **Natural Bridge** 110.09 36 P PKiKP 17 18 17.0 +0.3
baz=315
K62A **Royalston** 110.10 28 P PKiKP 17 18 17.1 +0.6
baz=322
N60A **Cedar Hill Far** 110.12 31 P PKiKP 17 18 16.9 +0.3
baz=319
Z52A **Williamson** 110.15 43 P PKiKP 17 18 17.1 +0.2
baz=310
Q58A **Fox Den Farm,** 110.22 34 P PKiKP 17 18 17.2 +0.4
baz=317
R57A **Stanardsville** 110.23 35 P PKiKP 17 18 17.3 +0.5
baz=316
Y53A **Monroe** 110.26 42 P PKiKP 17 18 17.3 +0.2
baz=311
T56A **Rocky Mt** 110.27 37 P PKiKP 17 18 17.4 +0.4
baz=314
152A **Waverly Hall** 110.29 43 P PKiKP 17 18 17.4 +0.3
baz=309
W54A **Cherokee Point** 110.32 40 P PKiKP 17 18 17.2 +0.1
baz=312
V55A **Taylorsville** 110.39 39 P PKiKP 17 18 17.6 +0.4
baz=313
K63A **Dunstable** 110.40 28 P PKiKP 17 18 17.6 +0.6
baz=323
X54A **Belton** 110.56 41 P PKiKP 17 18 18.0 +0.4
baz=312
P60A **Greenville** 110.65 33 P PKiKP 17 18 17.5 -0.1
baz=319
252A **Lumpkin** 110.70 44 P PKiKP 17 18 18.4 +0.5
baz=309
KMSC **Kings Mountain** 110.80 39 P PKiKP 17 18 18.1 0.0
baz=313
Y54A **Tignall** 110.82 41 P PKiKP 17 18 18.2 +0.1
baz=311
R58B **Mineral** 110.82 35 P PKiKP 17 18 18.2 +0.2
baz=316
V56A **Mocksville** 110.84 38 P PKiKP 17 18 18.4 +0.3
baz=314
U57A **Blanch** 111.09 37 P PKiKP 17 18 18.8 +0.2
baz=315
Z54A **Sparta** 111.13 42 P PKiKP 17 18 19.2 +0.5
baz=311
M63A **Gales Ferry** 111.18 29 P PKiKP 17 18 19.0 +0.5
baz=322
CMIG **Matias Romero** 111.18 63 PKiKP PKiKP 17 18 19.5 +0.3
comp=Z,4.3nm,0.5s,baz=272,slow=1.6,SNR=9.3
CMIG PKKPab PKKPab 17 29 29.0 -0.4
comp=Z,2.1nm,0.5s,baz=73,slow=7.5,SNR=4.5
T58A **Grand View Acr** 111.19 36 P PKiKP 17 18 18.8 +0.1
baz=315
V57A **Coltrane Farms** 111.21 38 P PKiKP 17 18 19.0 +0.2
baz=314
Y55A **Saluda** 111.28 41 P PKiKP 17 18 18.8 -0.2
baz=312
353A **Camilla** 111.45 44 P PKiKP 17 18 19.6 +0.3
baz=309
254A **Abbeville** 111.68 43 P PKiKP 17 18 20.3 +0.5
baz=310
T59A **Double "B" Far** 111.71 36 P PKiKP 17 18 20.1 +0.4
baz=316
KEST **Kesra** 111.77 322 PKiKP PKiKP 17 18 19.4 -0.6
comp=Z,10nm,1.0s,baz=182,slow=9.9,SNR=4.1
X58A **Rowland** 112.39 39 P PKiKP 17 18 21.6 +0.5
baz=314
Z57A **Bowman** 112.43 41 P PKiKP 17 18 21.8 +0.6
baz=313
SYO **Syowa Base** 112.67 202 *e*Pdiff Pdif 17 14 30.4 +1.5
MBAR **Mbarara** 113.31 278 PKKPab PKKPab 17 29 13.2 -6.2
comp=Z,1.8nm,0.2s,baz=278,slow=4.0,SNR=5.2
MBAR **Mbarara** 113.31 278 PKKPab 17 29 12.4 -6.9
TEIG **Tepich** 115.01 56 PKP PKiKP 17 18 26.7 +0.2
comp=Z,2.8nm,0.4s,baz=135,slow=1.4,SNR=4.4
TEIG **Tepich** 115.01 56 PKPdf 17 18 25.7 -0.8
MVO **Moncorvo** 115.31 337 *e*PKPdf PKiKP 17 18 27.2 +0.6
ESDC **Sonseca Array** 115.38 334 PKP PKiKP 17 18 27.1 +0.3
comp=Z,1.0nm,0.4s,baz=26,slow=2.0,SNR=13
ESDC PP PP 17 19 37.2 +0.7
comp=Z,6.6nm,1.1s,baz=30,slow=6.2,SNR=5.5
ESDC PKKPbc PKKPbc 17 29 03.0 -0.7
comp=Z,4.5nm,0.9s,baz=212,slow=3.1,SNR=5.3
ESDC PKKPab PKKPab 17 29 11.4 -0.4
comp=Z,7.8nm,0.9s,baz=219,slow=4.4,SNR=14
ESDC **Sonseca Array** 115.38 334 PKPdf 17 18 25.4 -1.3
ESDC PP 17 19 27.9 -8.6
ESDC PKKPbc 17 29 03.3 -0.4
ESDC PKKPab 17 29 10.4 -1.4
POLO **Lamas de Olo** 115.40 338 *e*PKPdf PKiKP 17 18 28.1 +1.3
PVRL **Vila Real** 115.46 338 *e*PKPdf PKiKP 17 18 27.6 +0.7
PVIS **Viseu** 116.02 337 *e*PKPdf PKiKP 17 18 29.1 +1.1
MTE **Manteigas** 116.17 337 *e*PKPdf PKiKP 17 18 29.1 +0.8
MTE **Manteigas** 116.17 337 PKiKP 17 18 28.3 0.0
PCBR **Castelo Branco** 116.63 337 *e*PKPdf PKiKP 17 18 29.9 +0.8
PCAS **Casmilo, Conde** 116.82 338 *e*PKPdf PKiKP 17 18 30.0 +0.5
PMRV **Marv??o** 116.95 336 *e*PKPdf PKiKP 17 18 30.3 +0.5
PTOM **Tomar** 117.17 337 *e*PKPdf PKiKP 17 18 31.0 +0.8
061Z **Ochoppi** 117.17 47 P PKiKP 17 18 31.2 +0.7
baz=310
PMTG **Montargil** 117.58 337 *e*PKPdf PKiKP 17 18 31.7 +0.7
EVO **Evora** 117.97 336 *e*PKPdf PKiKP 17 18 32.9 +1.1
PBEJ **Beja** 118.36 336 *e*PKPdf PKiKP 17 18 33.4 +0.9
PNCL **Nicolau / Gran** 118.53 337 *e*PKPdf PKiKP 17 18 33.8 +1.0
MESJ **Messejana** 118.66 336 *e*PKPdf PKiKP 17 18 33.8 +0.7
MESJ **Messejana** 118.66 336 *e*PKPdf PKiKP 17 18 34.5 +1.4
PCVE **Castro Verde** 118.77 336 *e*PKPdf PKiKP 17 18 34.7 +1.4
PVAQ **Vaqueiros** 118.84 336 *e*PKPdf PKiKP 17 18 34.0 +0.5
PVAQ **Vaqueiros** 118.84 336 PKiKP 17 18 33.4 0.0
PVAQ PP 17 19 58.4 -1.8
PBDV **Barranco-do-Ve** 119.06 336 *e*PKPdf PKiKP 17 18 35.9 +1.9
MORF **Marmelete** 119.29 336 *e*PKPdf PKiKP 17 18 34.8 +0.3
MORF **Marmelete** 119.29 336 *e*PKPdf PKiKP 17 18 34.8 +0.3
PFVI **Vila Bisbo** 119.51 336 *e*PKPdf PKiKP 17 18 36.5 +1.7
LSZ **Lusaka** 119.87 263 P PKiKP 17 18 37.3 +1.2
LSZ **Lusaka** 119.87 263 PKIKP PKiKP 17 18 36.4 +0.3
LSZ **Lusaka** 119.87 263 PKKPab PKKPab 17 28 49.8 -0.2
comp=Z,3.1nm,0.8s,baz=236,slow=2.4,SNR=4.7
LSZ **Lusaka** 119.87 263 PKiKP 17 18 36.4 +0.3
LSZ pPKPdf pPKPdf 17 20 38.9 -0.8
LSZ PKKPab 17 28 49.0 -1.0
MDT **Midelt** 121.39 330 PKKPab PKKPab 17 28 45.4 +0.2
comp=Z,6.6nm,0.9s,baz=221,slow=5.0,SNR=7.5
ACON **Acoyapa** 121.87 62 PKPdf 17 18 38.9 -0.9
ACON PP PP 17 20 17.1 -4.9
ESPN **Las Esperanzas** 122.48 62 PKPdf 17 18 40.7 -0.2
ESPN PP 17 20 21.8 -4.3
JTS **Las Juntas de** 122.89 64 PKP PKPdf 17 18 41.4 -0.4
comp=Z,15nm,0.5s,baz=54,slow=5.0,SNR=15
JTS **Las Juntas de** 122.89 64 PKPdf 17 18 40.9 -0.9
TAM **Tamanrasset** 123.11 314 PKIKP PKiKP 17 18 43.0 +0.5
TAM 17 20 29.8
TAM **Tamanrasset** 123.11 314 PKiKP 17 18 43.0 +0.5
TAM PP 17 20 29.8 -0.1
SNAA **Sanae** 123.59 192 PKKP PKKPab 17 28 31.2 -0.8
SNAA **Sanae** 123.59 192 PKPdf PKiKP 17 18 41.8 0.0
SNAA **Sanae** 123.59 192 PKP PKiKP 17 18 41.9 0.0
comp=Z,36nm,0.9s,baz=199,slow=4.1,SNR=73
SNAA PKKPbc PKKPab 17 28 31.2 -0.8
comp=Z,4.7nm,0.8s,baz=290,slow=7.1,SNR=22
SNAA **Sanae** 123.59 192 PKPdf 17 18 41.1 -0.4
SNAA PP PP 17 20 27.6 -4.7
SNAA PKKPab 17 28 31.8 -0.2
LBTB **Lobatse** 123.87 252 PKIKP PKiKP 17 18 43.7 -0.1
LBTB **Lobatse** 123.87 252 PKiKP 17 18 43.6 -0.1
PRVC **Isla de Provid** 124.28 59 *e*P PKPdf 17 18 43.9 -0.5
PRVC **Isla de Provid** 124.28 59 *e*P PKPdf 17 18 43.9 -0.5
MTDJ **Mount Denham** 124.41 51 PKPdf 17 18 44.3 -0.4
BOSA **Boshof** 124.48 248 PKP PKPdf 17 18 44.6 0.0
comp=Z,3.3nm,0.3s,baz=107,slow=3.1,SNR=7.5
BOSA PKKPbc PKKPbc 17 28 30.8 +1.0
comp=Z,3.3nm,0.8s,baz=260,slow=6.7,SNR=4.8
BOSA **Boshof** 124.48 248 PKiKP 17 18 44.8 -0.1
VNA2 **Neumayer--Watz** 125.05 191 PKKP PKKPbc 17 28 26.0 -2.4
baz=320,slow=5.6
VNA2 **Neumayer--Watz** 125.05 191 PKPdf PKiKP 17 18 44.6 0.0
GTBY **Guantanamo Bay** 125.08 48 PKPdf 17 18 45.7 -0.1
VNA3 **Neumayer Olymp** 125.15 190 PKKP PKKPbc 17 28 26.2 -1.8
VNA3 **Neumayer Olymp** 125.15 190 PKPdf PKPdf 17 18 44.5 0.0
VNA1 **Neumayer--Stat** 125.43 191 PKKP PKKPbc 17 28 25.5 -1.3
VNA1 **Neumayer--Stat** 125.43 191 PKPdf PKiKP 17 18 45.3 0.0
PMOZ **Porto Moniz, M** 126.29 342 *e*PKPdf PKiKP 17 18 50.2 +1.7
PMAR **Madeira** 126.29 341 *e*PKPdf PKiKP 17 18 49.8 +1.2
LGNH **Logne** 127.78 47 PKiKP 17 18 51.8 +0.2
BCIP **Isla Barro Col** 127.80 62 PKIKP PKPdf 17 18 50.9 -0.2
BCIP **Isla Barro Col** 127.80 62 PKPdf 17 18 50.9 -0.2
SDDR **Presa de Saban** 128.37 46 PKPdf 17 18 51.2 -1.0
SUR **Sutherland** 128.39 243 SKPab SKPab 17 21 23.6
comp=Z,24nm,1.0s,baz=158,slow=2.8,SNR=2.8
SC01 **Santiago de lo** 128.43 45 PKPdf 17 18 52.5 +0.3
BANI **BANI** 129.41 46 PKPdf 17 18 53.7 -0.6
PMSA **Palmer Station** 129.75 164 *e*P PKiKP 17 18 54.1 0.0
PMSA **Palmer Station** 129.75 164 *e*P PKiKP 17 18 54.1 0.0
PMSA **Palmer Station** 129.75 164 PKiKP 17 18 54.1 0.0
DR12 **Loma Pena Alta** 129.78 44 PKPdf 17 18 54.6 -0.3
AOPR **Arecibo Observ** 131.81 42 PKPdf 17 18 57.7 -1.0
CRPR **Cabo Rojo, PR** 131.84 43 PKPdf 17 18 57.4 -1.3
MLPR **Magueyes Islan** 131.90 43 PKPdf 17 18 58.7 -0.1
OBIP **Obispado Ponce** 132.13 42 PKPdf 17 18 57.4 -1.9
TOA0 **Torodi Ar. Sit** 132.21 308 P PKiKP 17 19 00.3 -0.3
SNR=9.3
TOA0 **Torodi Ar. Sit** 132.21 308 PKPdf 17 18 59.2 -0.2
TORD **Torodi Ar. Bea** 132.21 308 PKP PKPdf 17 18 59.6 +0.1
comp=Z,13nm,0.4s,baz=52,slow=1.0,SNR=56
TORD PP PP 17 21 29.6 +0.7
comp=Z,20nm,1.1s,baz=37,slow=6.1,SNR=8.4
TORD SKPab SKPbc 17 21 35.2 -1.3
comp=Z,45nm,0.8s,baz=38,slow=3.0,SNR=23
SJG **San Juan** 132.37 42 PKIKP PKPdf 17 18 56.9 -2.8
SJG 17 21 35.6
SJG **San Juan** 132.37 42 SKPab SKPbc 17 21 35.4 -1.6
comp=Z,39nm,0.7s,baz=304,slow=4.8,SNR=12
SJG **San Juan** 132.37 42 PKPdf 17 18 56.9 -2.8
SJG SKPbc 17 21 35.6 -1.4
PDPR **Patillas Dam,** 132.52 42 PKPpre PKPpre 17 18 44.2
PDPR PKPdf 17 18 58.4 -1.6
HUMP **Col San Antoni** 132.54 42 PKPdf 17 19 00.1 0.0
MTP **Monte Pirata** 132.76 41 PKPpre PKPpre 17 18 47.2
MTP PKPdf 17 18 59.5 -0.9
STVI **Saint Thomas** 132.94 41 PKPpre PKPpre 17 18 46.6
STVI PKPdf 17 19 00.2 -0.5
OTAV **Otavalo** 133.30 71 PKHKP PKPpre 17 18 47.6
OTAV 17 19 02.1
OTAV **Otavalo** 133.30 71 PKPpre 17 18 47.6
OTAV PKPdf PKPdf 17 19 02.1 0.0
YOTC **Yotoco, Valle** 133.42 66 *e*P PKPpre 17 18 45.5
YOTC **Yotoco, Valle** 133.42 66 *e*P PKPpre 17 18 45.5
BBAC **Balboa, Cauca** 133.58 68 *e*P PKPpre 17 18 52.9
BBAC **Balboa, Cauca** 133.58 68 *e*P PKPpre 17 18 52.9
GUY2C **Guyana, Caldas** 133.63 63 *e*P PKPpre 17 18 47.2
GUY2C **Guyana, Caldas** 133.63 63 *e*P PKPpre 17 18 47.2
RREF **El Recreo** 133.81 64 *e*P PKPpre 17 18 51.5
RREF **El Recreo** 133.81 64 *e*P PKPpre 17 18 51.5
GCUF **Volcan Galeras** 133.85 70 *e*P PKiKP 17 19 05.2 +0.5
GCUF **Volcan Galeras** 133.85 70 *e*P PKiKP 17 19 05.2 +0.5
PCON **Cinco Dias** 134.18 68 *e*P PKPpre 17 18 53.4
PCON **Cinco Dias** 134.18 68 *e*P PKPpre 17 18 53.4
ORTC **Ortega, Tolima** 134.41 65 *e*P PKPpre 17 18 48.4
ORTC **Ortega, Tolima** 134.41 65 *e*P PKPpre 17 18 48.4
ROSC **El Rosal** 134.72 63 PKhKP PKPpre 17 18 55.2
comp=Z,15nm,0.5s,baz=324,slow=13,SNR=4.3
ROSC PKP PKPdf 17 19 04.4 -0.3
comp=Z,19nm,0.4s,baz=23,slow=5.7,SNR=11
ROSC SKPbc SKPbc 17 21 42.8 -2.5
comp=Z,7.3nm,0.4s,baz=86,slow=3.1,SNR=6.4
ROSC **El Rosal** 134.72 63 PKPpre 17 18 49.2
ROSC PKPdf PKPdf 17 19 04.5 -0.3
FLOC **Florencia** 135.19 68 *e*P PKPpre 17 18 53.5
FLOC **Florencia** 135.19 68 *e*P PKPpre 17 18 53.5
SDV **Santo Domingo** 135.43 55 PKhKP PKPpre 17 18 51.8
comp=Z,5.5nm,0.4s,baz=274,slow=5.8,SNR=1.4
SDV SKP 17 21 46.9
comp=Z,72nm,0.8s,baz=295,slow=1.9,SNR=20
SDV **Santo Domingo** 135.43 55 PKPpre 17 18 51.0
SDV PKPdf PKPdf 17 19 05.7 -0.1
GO09 **Cerro Castillo** 135.88 147 PKPpre PKPpre 17 18 54.4
GO09 PKPdf 17 19 05.7 +0.5
ATAH **Atahualpa** 136.17 81 PKhKP PKPpre 17 18 57.8
comp=Z,7.7nm,0.8s,baz=358,slow=3.1,SNR=8.0
ATAH SKPab SKPbc 17 21 52.0 +2.3
comp=Z,39nm,0.9s,baz=312,slow=2.9,SNR=7.4
PTLC **Puerto Leguiza** 136.60 69 *e*P PKPpre 17 18 57.1
PTLC **Puerto Leguiza** 136.60 69 *e*P PKPpre 17 18 57.1
FDF **Fort de France** 138.04 40 PKHKP PKPpre 17 19 00.2
FDF 17 19 10.0
FDF **Fort de France** 138.04 40 PKPpre 17 19 00.2
FDF PKPdf 17 19 10.0 -0.4
NNA **Nana** 139.03 87 *i* PKIKP PKPdf 17 19 08.9 -3.3
NNA **Nana** 139.03 87 PKhKP PKPpre 17 19 07.8
comp=Z,37nm,0.9s,baz=316,slow=2.7,SNR=9.3
NNA **Nana** 139.03 87 PKPpre 17 19 08.4
PCRV **Puerto La Cruz** 139.08 48 PKhKP PKPpre 17 19 04.5
comp=Z,11nm,0.4s,baz=284,slow=5.4,SNR=6.0
SVB **Belmont** 139.10 41 PKPpre 17 19 02.6
TOSP **Speyside** 141.04 43 PKPpre 17 19 09.3
DBIC **Dimbokro** 141.29 307 PKHKP PKPpre 17 19 11.3
DBIC 17 19 16.6
DBIC **Dimbokro** 141.29 307 PKhKP PKPpre 17 19 11.5
comp=Z,28nm,0.4s,baz=34,slow=3.2,SNR=95
DBIC SKPbc SKPbc 17 22 02.3 -1.1
comp=Z,31nm,0.9s,baz=43,slow=3.2,SNR=12
DBIC **Dimbokro** 141.29 307 PKPpre 17 19 11.2
DBIC PKPdf PKPdf 17 19 16.6 +0.3
DBIC SKPbc 17 22 02.2 -1.1
KIC **Kosan Boka** 141.41 307 *e*PKP1 PKPdf 17 19 12.0 -4.5
comp=Z,200nm,1.1s
TIC **Toumodi** 141.43 308 *e*PKP1 PKPdf 17 19 12.0 -4.6
LIC **Lamto** 141.71 307 *e*PKP1 PKPdf 17 19 12.8 -4.2
comp=Z,291nm,1.1s
PLCA **Paso Flores** 142.21 134 PKP PKPdf 17 19 15.1 -2.2
comp=Z,112nm,1.1s,baz=268,slow=4.7,SNR=78
PLCA SKPbc SKiKP 17 22 06.2 0.0
comp=Z,9.0nm,0.8s,baz=194,slow=1.9,SNR=3.5
PLCA PKKP PKKPdf 17 28 34.0 -0.7
comp=Z,2.1nm,0.9s,baz=94,slow=4.5,SNR=2.9
PLCA **Paso Flores** 142.21 134 *e*P PKPdf 17 19 15.0 -2.2
PLCA **Paso Flores** 142.21 134 *e*P PKPdf 17 19 15.0 -2.2
PLCA **Paso Flores** 142.21 134 SKPbc 17 22 05.0 +0.1
GO05 **Huala** 143.25 124 PKPdf 17 19 18.5 -0.7
HOPE **Hope Point** 144.22 178 PKPdf 17 19 20.5 +0.4
ROC1 **El Roble** 144.54 121 *e*P PKPab 17 19 22.6 +0.3
ROC1 **El Roble** 144.54 121 PKPab 17 19 22.1 -0.3
PEL **Peldehue** 144.76 122 PKIKP PKPbc 17 19 22.6 +0.3
PEL **Peldehue** 144.76 122 PKPab 17 19 22.6 -0.3
SACV **Santiago Islan** 144.99 341 PKPbc 17 19 23.6 +0.2
GO04 **Tololo Observa** 145.35 117 *e*P PKPbc 17 19 24.0 -0.4
GO04 **Tololo Observa** 145.35 117 PKPbc 17 19 24.1 -0.4
AAGR **Agrelo** 146.27 122 *e*P PKPdf 17 19 25.5 +1.0
GO03 **Copiap** 146.28 112 PKPbc 17 19 26.3 -0.5
PB10 **IPOC Station P** 146.33 105 PKPbc 17 19 26.9 -0.1
ASAL **Salagasta** 146.41 121 *e*P PKPdf 17 19 25.7 +0.9
PB04 **IPOC Station P** 146.72 103 PKPdf 17 19 25.7 0.0
ACCO **Cerro Coronel** 146.73 118 *e*P PKPdf 17 19 26.7 +1.0
ACDV **Cuesta del Vie** 146.78 117 *e*P PKPdf 17 19 26.5 +1.0
RTCV **Cerro Valdivia** 146.85 120 *e*P PKPdf 17 19 26.2 +0.8
PB07 **IPOC Station P** 146.97 102 *e*P PKPdf 17 19 26.1 +0.1
PB11 **IPOC Station P** 147.11 98 *e*P PKPdf 17 19 26.5 +0.2
PB11 **IPOC Station P** 147.11 98 PKPdf 17 19 27.1 +0.8
GO02 **Mina Guanaco** 147.12 108 PKPdf 17 19 27.6 +1.2
MNMC **Minye Minye** 147.12 97 PKPdf 17 19 27.6 +1.1
AMOG **MOGNA** 147.13 119 *e*P PKPdf 17 19 26.7 +0.8
PB16 **IPOC Station P** 147.13 95 *e*P PKPdf 17 19 27.4 +0.5
CFA **Coronel Fontan** 147.17 120 PKPbc PKPbc 17 19 29.5 +0.4
comp=Z,270nm,0.9s,baz=260,slow=2.7,SNR=75
CFA **Coronel Fontan** 147.17 120 *e*P PKPdf 17 19 26.5 +0.6
PB01 **IPOC Station P** 147.32 100 PKPdf 17 19 26.9 +0.4
GO01 **Chusmiza** 147.53 98 PKPdf 17 19 27.7 +0.3
PB09 **IPOC Station P** 147.56 102 *e*P PKPdf 17 19 27.5 +0.4
ACAN **Cantantal** 147.83 122 *e*P PKPdf 17 19 28.1 +1.1
LVC **Limon Verde** 147.87 103 PKPbc PKPbc 17 19 30.1 -1.5
comp=Z,108nm,0.6s,baz=268,slow=2.5,SNR=24
LVC **Limon Verde** 147.87 103 *e*P PKPdf 17 19 28.0 +0.2
LVC **Limon Verde** 147.87 103 *e*P PKPbc 17 19 29.8 -1.8
LVC **Limon Verde** 147.87 103 *e*P PKPbc 17 19 29.8 -1.8
LVC **Limon Verde** 147.87 103 PKPdf 17 19 28.8 +1.0
LPAZ **La Paz** 148.17 91 PKPbc PKPdf 17 19 30.5 +1.8
comp=Z,116nm,0.6s,baz=283,slow=1.9,SNR=159
LPAZ **La Paz** 148.17 91 *e*P PKPdf 17 19 29.0 +0.3
LPAZ **La Paz** 148.17 91 *e*P PKPdf 17 19 27.7 -1.0
LPAZ **La Paz** 148.17 91 *e*P PKPdf 17 19 27.7 -1.0
LPAZ **La Paz** 148.17 91 PKPdf 17 19 29.3 +0.6
MRA **San Martin** 148.97 123 *e*P PKPdf 17 19 29.7 +0.8
MRA IAML 17 19 37.8
comp=Z,75nm,0.6s
TRQA **Tornquist** 149.31 135 PKPdf 17 19 29.5 +0.3
CYA **Choya** 149.98 115 *e*P PKPdf 17 19 31.2 +0.6
CYA IAML 17 19 41.0
comp=Z,160nm,0.8s
TCA **Tanti** 150.22 121 *e*P PKPdf 17 19 31.7 +0.8
TCA IAML 17 19 40.9
comp=Z,66nm,0.6s
AHML **Horco Molle** 150.71 112 *e*P PKPdf 17 19 32.4 +0.6
MDP **Montagnes des** 150.73 39 PKPbc PKiKP 17 19 38.9 +0.2
comp=Z,123nm,0.5s,baz=331,slow=3.0,SNR=23
SLA **San Lorenzo** 150.85 108 *e*P PKPdf 17 19 32.9 +0.7
SAML **Samuel** 150.92 75 PKIKP PKPdf 17 19 32.5 +0.2
SAML 17 19 46.9
SAML **Samuel** 150.92 75 *e*P PKPdf 17 19 32.0 -0.4
SAML **Samuel** 150.92 75 *e*P PKPdf 17 19 32.0 -0.4
SAML **Samuel** 150.92 75 PKPdf 17 19 32.5 +0.2
SAML PKPbc PKPbc 17 19 38.6 0.0
SAML PKPab PKPab 17 19 46.9 -1.5
HJA **Humahuaca** 151.07 105 *e*P PKPdf 17 19 33.8 +1.0
AZAP **Zapla** 151.30 107 *e*P PKPdf 17 19 33.8 +0.8
SHEL **Horse Pasture** 152.12 271 PKIKP PKPdf 17 19 33.6 -0.5
SHEL **Horse Pasture** 152.12 271 PKPdf PKPdf 17 19 33.6 -0.5
SHEL PKiKP 17 19 41.9 +0.5
SIV **San Ignacio** 154.83 88 PKP PKPdf 17 19 38.7 +0.8
comp=Z,33nm,1.0s,baz=279,slow=1.1,SNR=78
SIV PKPbc PKPbc 17 19 47.8 +0.7
comp=Z,13nm,0.8s,baz=297,slow=1.7,SNR=10
SIV PKPab PKPab 17 20 04.7 -0.3
comp=Z,27nm,0.9s,baz=283,slow=5.4,SNR=7.4
OGAUY **Aigu** 156.26 136 *e*P PKPdf 17 19 39.3 0.0
OGAUY **Aigu** 156.26 136 *e*P PKPdf 17 19 39.3 0.0
CPUP **Villa Florida** 157.80 115 PKIKP PKPdf 17 19 41.3 -0.1
CPUP 17 20 18.2
CPUP **Villa Florida** 157.80 115 PKP PKPdf 17 19 41.4 0.0
comp=Z,26nm,1.2s,baz=282,slow=1.5,SNR=17
CPUP PKPab PKPab 17 20 18.8 +1.1
comp=Z,54nm,0.9s,baz=264,slow=5.1,SNR=24
CPUP SKP 17 22 19.6
comp=Z,3.6nm,0.4s,baz=281,slow=2.1,SNR=5.4
CPUP **Villa Florida** 157.80 115 *e*P PKPdf 17 19 41.8 +0.4
CPUP **Villa Florida** 157.80 115 *e*P PKPdf 17 19 41.8 +0.4
CPUP **Villa Florida** 157.80 115 PKPdf 17 19 41.2 -0.1
CPUP PKPab PKPab 17 20 18.1 +0.5

CLDB	Colider	158.38	72	eP		PKPdf	17 19 42.3	-0.1
CLDB	Colider	158.38	72	eP		PKPdf	17 19 42.3	-0.1
PLTB	Pedras Altas	158.50	132	eP		PKPdf	17 19 42.0	-0.1
PLTB	Pedras Altas	158.50	132	eP		PKPdf	17 19 42.0	-0.1
CPSB	Cacapava Do Su	159.34	129	eP		PKPdf	17 19 42.9	-0.3
CPSB	Cacapava Do Su	159.34	129	eP		PKPdf	17 19 42.9	-0.3
AQDB	Aquidauana	160.23	99	eP		PKPdf	17 19 44.1	-0.3
AQDB	Aquidauana	160.23	99	eP		PKPdf	17 19 44.1	-0.3
PP1B	Ponte de Pedra	160.92	91	eP		PKPdf	17 19 45.0	-0.3
PP1B	Ponte de Pedra	160.92	91	eP		PKPdf	17 19 45.0	-0.3
CNLB	Canela	161.82	129	eP		PKPdf	17 19 44.5	-1.4
CNLB	Canela	161.82	129	eP		PKPdf	17 19 44.5	-1.4
ITAB	Concordia	161.84	122	eP		PKPdf	17 19 46.8	+0.9
ITAB	Concordia	161.84	122	eP		PKPdf	17 19 46.8	+0.9
TRCB	Terra Rica	162.79	108	eP		PKPdf	17 19 47.9	+0.8
TRCB	Terra Rica	162.79	108	eP		PKPdf	17 19 47.9	+0.8
PTGB	Pitanga	162.82	114	eP		PKPdf	17 19 47.4	+0.4
PTGB	Pitanga	162.82	114	eP		PKPdf	17 19 47.4	+0.4
ARAG	Araguaiana, MT	163.54	83	eP		PKPdf	17 19 48.3	+0.4
ARAG	Araguaiana, MT	163.54	83	eP		PKPdf	17 19 48.3	+0.4
NBMO	Morrinhos-CE	164.10	19	eP		PKPdf	17 19 47.3	-1.1
NBMO	Morrinhos-CE	164.10	19	eP		PKPdf	17 19 47.3	-1.1
NBPS	Pedro II - PI	164.60	26	eP		PKPdf	17 19 48.5	-0.4
NBPS	Pedro II - PI	164.60	26	eP		PKPdf	17 19 48.5	-0.4
ITRB	Iturama	165.27	97	eP		PKPdf	17 19 49.8	+0.5
ITRB	Iturama	165.27	97	eP		PKPdf	17 19 49.8	+0.5
FRTB	Fartura	165.41	112	eP		PKPdf	17 19 50.1	+0.7
FRTB	Fartura	165.41	112	eP		PKPdf	17 19 50.1	+0.7
NBCL	Cascavel-CE	165.45	14	eP		PKPdf	17 19 49.6	+0.1
NBCL	Cascavel-CE	165.45	14	eP		PKPdf	17 19 49.6	+0.1
NBPB	Pedra_Branca-C	166.35	20	eP		PKPdf	17 19 50.5	+0.2
NBPB	Pedra_Branca-C	166.35	20	eP		PKPdf	17 19 50.5	+0.2
BB19B	Bebedouro	166.85	104	eP		PKPdf	17 19 50.6	+0.1
BB19B	Bebedouro	166.85	104	eP		PKPdf	17 19 50.6	+0.1
BDFB	Brasilia	167.09	79	PKP		PKPdf	17 19 50.7	-0.2
	comp=Z,56nm,1.1s,baz=336,slow=1.4,SNR=29							
BDFB					PKPab	PKPab	17 20 59.3	+0.4
	comp=Z,15nm,0.9s,baz=296,slow=4.3,SNR=5.3							
BDFB	Brasilia	167.09	79			PKPdf	17 19 51.0	+0.1
BDFB						PKPab	17 20 59.0	0.0
NBPA	Parau_RN	167.17	10	eP		PKPdf	17 19 51.3	+0.4
NBPA	Parau_RN	167.17	10	eP		PKPdf	17 19 51.3	+0.4
SPB	Sao Paulo	167.18	116	eP		PKPdf	17 19 51.5	+0.9
SPB	Sao Paulo	167.18	116	eP		PKPdf	17 19 51.5	+0.9
SPB	Sao Paulo	167.18	116			PKPdf	17 19 51.4	+0.9
SPB						PKPab	17 20 59.5	+0.6
RCBR	Riachuelo	167.40	5	PKIKP		PKPdf	17 19 51.2	+0.1
RCBR							17 20 58.7	
RCBR	Riachuelo	167.40	5	eP		PKPdf	17 19 49.8	-1.3
RCBR	Riachuelo	167.40	5	eP		PKPdf	17 19 49.8	-1.3
RCBR	Riachuelo	167.40	5			PKPdf	17 19 51.2	+0.1
RCBR					PKPab	PKPab	17 20 58.7	-1.1
RCLB	Rio Claro- Sao	167.47	110	eP		PKPdf	17 19 50.9	0.0
RCLB	Rio Claro- Sao	167.47	110	eP		PKPdf	17 19 50.9	0.0
VAO	Valinhos	167.79	114	eP		PKPdf	17 19 50.4	-0.8
VAO	Valinhos	167.79	114	eP		PKPdf	17 19 50.4	-0.8
NBMA	Muriti-CE	168.32	20	eP		PKPdf	17 19 52.0	+0.3
NBMA	Muriti-CE	168.32	20	eP		PKPdf	17 19 52.0	+0.3
NBLI	Livramento-PB	168.78	11	eP		PKPdf	17 19 51.5	-0.6
NBLI	Livramento-PB	168.78	11	eP		PKPdf	17 19 51.5	-0.6
NBTA	Tacaratu-PE	170.20	19	eP		PKPdf	17 19 54.2	+1.4
NBTA	Tacaratu-PE	170.20	19	eP		PKPdf	17 19 54.2	+1.4
NBRF	Rio Formoso -	170.27	2	eP		PKPdf	17 19 53.1	+0.3
NBRF	Rio Formoso -	170.27	2	eP		PKPdf	17 19 53.1	+0.3
BSCB	Bom Sucesso	170.31	107	eP		PKPdf	17 19 53.7	+0.9
BSCB	Bom Sucesso	170.31	107	eP		PKPdf	17 19 53.7	+0.9
MAN01	Angra dos Reis	170.40	119	eP		PKPdf	17 19 52.8	+0.1
MAN01	Angra dos Reis	170.40	119	eP		PKPdf	17 19 52.8	+0.1
NBPN	Ponto Novo - B	170.82	35	eP		PKPdf	17 19 53.1	0.0
NBPN	Ponto Novo - B	170.82	35	eP		PKPdf	17 19 53.1	0.0
VAS01	Vassouras-RJ	171.08	117	eP		PKPdf	17 19 52.3	-0.8
VAS01	Vassouras-RJ	171.08	117	eP		PKPdf	17 19 52.3	-0.8
NBAN	Anadia - AL	171.15	9	eP		PKPdf	17 19 53.1	-0.2
NBAN	Anadia - AL	171.15	9	eP		PKPdf	17 19 53.1	-0.2
NBLA	Lagarto - SE	172.04	21	eP		PKPdf	17 19 52.8	-0.9
NBLA	Lagarto - SE	172.04	21	eP		PKPdf	17 19 52.8	-0.9
DUB01	Friburgo-RJ	172.06	118	eP		PKPdf	17 19 53.4	-0.2
DUB01	Friburgo-RJ	172.06	118	eP		PKPdf	17 19 53.4	-0.2
CAM01	Campos-RJ	172.77	119	eP		PKPdf	17 19 53.1	-0.7
CAM01	Campos-RJ	172.77	119	eP		PKPdf	17 19 53.1	-0.7
SJMB	Sao Joao De Ma	173.97	93	eP		PKPdf	17 19 54.2	-0.1
SJMB	Sao Joao De Ma	173.97	93	eP		PKPdf	17 19 54.2	-0.1
ALF01	Guarapari-ES	174.05	112	eP		PKPdf	17 19 54.5	+0.2
ALF01	Guarapari-ES	174.05	112	eP		PKPdf	17 19 54.5	+0.2
BSFB	Barra de Sao F	174.29	95	eP		PKPdf	17 19 54.2	-0.2
BSFB	Barra de Sao F	174.29	95	eP		PKPdf	17 19 54.2	-0.2
NBIT	Itapeh - BA	174.36	52	eP		PKPdf	17 19 53.4	-1.1
NBIT	Itapeh - BA	174.36	52	eP		PKPdf	17 19 53.4	-1.1
RIB01	Linhares ES	174.67	100	eP		PKPdf	17 19 54.2	-0.3
RIB01	Linhares ES	174.67	100	eP		PKPdf	17 19 54.2	-0.3

*ISCJB **19** 17:02:21.2±0.9, 60°.1S±0°.2×45°.4W±0°.5, h10km, mb4.3/4, MS4.6/1, Error ellipse: s-maj=40.9km s-min=12.1km az=150.7*
*IDC **19** 17:02:21.0±1.0, 60°.04S×45°.44W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/31, mbtmp3.9/4, MS4.6/1, Ms1 4.6/1, ms1mx3.5/27, Error ellipse: s-maj=49.5km s-min=23.1km az=67.0*

ISC 19 17:02:22.5±0.9, 60°.1S±0°.2×45°.4W±0°.3, h10km, n13, σ0°84/11, mb4.0/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	18.15	143	P	Pn	17 06 33.7	-0.6
VNA1	Neumayer--Stat	18.41	140	P	P	17 06 37.3	0.0
VNA2	Neumayer--Watz	18.76	141	P	P	17 06 41.3	+0.1
	baz=291,slow=15						
SNAA	Sanae	20.37	142	P	Pn	17 07 01.1	+0.2
SNAA	Sanae	20.37	142	P	P	17 07 00.1	+1.3
	4.8nm,0.8s,baz=279,slow=10,SNR=19						
QSPA	South Pole Qui	30.18	180	P	P	17 08 32.8	+0.2
	1.8nm,1.0s,baz=173,slow=9.7,SNR=3.8						
SIV	San Ignacio	45.46	339	P	P	17 10 41.9	+0.3
	0.8nm,0.4s,baz=194,slow=8.3,SNR=5.8						
LPAZ	La Paz	46.72	329	P	P	17 10 52.7	+0.5
	1.0nm,0.8s,baz=227,slow=3.6,SNR=2.7						
RPN	Rapa Nui	53.91	278	LR	LR	17 28 25.9	
	comp=Z,526nm,20.7s,baz=56,slow=29						
TORD	Torodi Ar. Bea	82.13	46	P	P	17 14 43.4	+0.3
	116nm,0.8s,baz=219,slow=3.9,SNR=7.0						
BVAR	Borovoye Array	145.23	72	PKPbc	PKPbc	17 21 57.7	-1.0
	4.0nm,0.9s,baz=211,slow=1.7,SNR=4.3						
ILAR	Eielson Array	145.52	312	PKPbc	PKPbc	17 21 57.9	-1.4
	0.3nm,0.5s,baz=141,slow=3.0,SNR=5.4						
MKAR	Makanchi Array	147.08	90	PKPbc	PKPdf	17 22 02.8	+0.4
	1.9nm,0.9s,baz=242,slow=2.6,SNR=4.4						

*IDC **19** 17:06:29.1±1.7, 8°.19N×103°.97W, h0km, mb3.9/4, mb1 4.3/5, mb1mx4.0/39, mbtmp4.0/5, ML4.0/1, MS4.1/4, Ms1 4.1/4, ms1mx3.7/44, Error ellipse: s-maj=60.0km s-min=24.9km az=55.0*
*NEIC **19** 17:06:30.9±2.8, 8°.2N±0°.1×104°.1W±0°.2, h10km±6km, mb4.6/39*
*ISCJB **19** 17:06:32.6±0.8, 8°.19N±0°.09×104°.1W±0°.1, h33km, mb3.9/4, MS4.2/1, Error ellipse: s-maj=18.0km s-min=7.1km az=140.0*

ISC 19 17:06:34.8±1.1, 8°.2N±0°.1×104°.0W±0°.1, h35km, n55, σ1°13/51, mb4.5/21, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	12.48	328	T	T	17 21 54.6	
	SNR=10						
CMIG	Matias Romero	12.49	44	LR	LR	17 13 17.0	
	comp=Z,948nm,19.4s,baz=150,slow=33						
APG	El Apazote	14.84	62	Pn	Pn	17 10 01.0	-1.4
	0.6nm,0.3s,baz=95,slow=18,SNR=6.7						
APG				LR	LR	17 14 29.8	
	comp=Z,810nm,21.9s,baz=144,slow=32						
HPIG		18.67	355	P	Pn	17 10 52.9	+2.1
TEIG	Tepich	19.30	50	LR	LR	17 17 43.7	
	comp=Z,502nm,18.7s,baz=229,slow=35						
TX31	Lajitas Ar. Si	21.00	1	P	P	17 11 15.3	-0.1
TX32	Lajitas Array	21.00	1	P	P	17 11 15.6	+0.2
TXAR	Lajitas Array	21.00	1	P	P	17 11 15.3	-0.1
	3.5nm,0.9s,baz=182,slow=11,SNR=15						
TXAR	Lajitas Array	21.00	1	P	P	17 11 15.6	+0.1
JCT	Junction City	22.48	9	P	P	17 11 32.2	+1.0
JCT				IAmb	IAmb	17 11 36.9	
	comp=Z,24nm,1.5s						
HKT	Hockley	22.91	18	P	P	17 11 36.4	+0.7
HKT				IAmb	IAmb	17 11 43.0	
	comp=Z,73nm,2.0s						
435B	Jarrell	23.22	14	P	P	17 11 40.2	+1.3
435B				IAmb	IAmb	17 11 48.5	
	comp=Z,16nm,0.8s						
MNTX	Cornudas Mount	23.39	357	P	P	17 11 39.5	-1.1
MNTX				IAmb	IAmb	17 11 45.8	
	comp=Z,26nm,1.6s						
319A	Douglas	23.56	349	P	P	17 11 41.8	-0.5
GDL2	Guadalupe Moun	23.85	359	P	P	17 11 43.1	-2.0
BCIP	Isla Barro Col	23.87	86	P	P	17 11 44.0	-1.3
BCIP				IAmb	IAmb	17 11 50.5	
	comp=Z,33nm,1.3s						
121A	Cookes Peak, D	24.44	352	P	P	17 11 51.5	+0.9
121A				IAmb	IAmb	17 11 56.5	
	comp=Z,46nm,1.9s						
ABTX	Abilene, Hawle	24.60	9	P	P	17 11 51.3	-0.6
ABTX				IAmb	IAmb	17 11 58.0	
	comp=Z,26nm,1.1s						
FSCY	Frank Sound, G	24.68	61	P	P	17 11 54.2	+1.5
TUC	Tucson	24.78	346	P	P	17 11 54.5	+0.8
214A	Organ Pipe Nat	25.00	342	P	P	17 11 55.3	-0.3
MSTX	Muleshoe	25.64	2	P	P	17 12 01.5	+0.1
MSTX				IAmb	IAmb	17 12 04.6	
	comp=Z,16nm,1.1s						
BNM	Barren Site	25.91	355	P	P	17 12 03.0	-0.9
LENM	Lemitar	25.96	354	P	P	17 12 04.2	-0.2
LPM	Los Pinos Moun	26.07	355	P	P	17 12 04.5	-0.9
AMTX	Amarillo	26.61	4	P	P	17 12 10.0	-0.1
AMTX				IAmb	IAmb	17 12 12.4	
	comp=Z,10nm,0.6s						
OTAV	Otavalo	26.64	106	P	P	17 12 13.2	+2.2
OTAV				IAmb	IAmb	17 12 15.2	
	comp=Z,15nm,1.3s						
GLA	Glamis	26.67	339	P	P	17 12 09.8	-0.8
GLA				IAmb	IAmb	17 12 17.1	
	comp=Z,9.0nm,0.8s						
ANMO	Albuquerque	26.69	355	P	P	17 12 09.5	-1.4
X18A	Snowflake	26.75	349	P	P	17 12 10.3	-1.1
X16A	Lo Mia Camp, P	26.96	346	P	P	17 12 13.6	+0.2
T25A	Trinidad	28.78	359	P	P	17 12 29.9	+0.2
T25A				IAmb	IAmb	17 12 36.1	
	comp=Z,8.4nm,1.2s						
SDCO	Great Sand Dun	29.42	358	P	P	17 12 35.8	+0.4
SDCO				IAmb	IAmb	17 12 50.2	
	comp=Z,12nm,2.0s						
FCAR	Ozark Folk Cen	29.58	20	P	P	17 12 37.8	+1.2
FCAR				IAmb	IAmb	17 12 39.7	
	comp=Z,17nm,1.6s						
ATAH	Atahualpa	29.71	120	LR	LR	17 22 13.0	
	comp=Z,531nm,21.0s,baz=29,slow=32						
SMCO	Snowmass	30.93	355	P	P	17 12 49.9	+1.0
PAGB	Antelope Grade	31.16	334	P	P	17 12 50.6	+0.1
SDV	Santo Domingo	32.96	86	P	P	17 13 08.4	+1.6
SDV				IAmb	IAmb	17 13 15.3	
	comp=Z,12nm,1.0s						
USIN	University of	33.07	24	P	P	17 13 09.3	+2.1
LKWY	Lake	36.63	352	P	P	17 13 37.9	-0.3
YNM	Yellowstone No	36.83	352	P	P	17 13 37.4	-2.5
KHMM	Horse Mountain	36.96	335	P	P	17 13 39.6	-1.3
AGPR	Aguadilla, PR	37.20	70	P	P	17 13 41.6	-1.5
YBH	Yreka Blue Hor	37.26	337	P	P	17 13 44.0	+0.6
PINE	Pine Mountain	38.40	340	P	P	17 13 54.0	+0.9
AGMN	Agassiz Nation	40.52	8	P	P	17 14 09.8	-0.7
AGMN				IAmb	IAmb	17 14 21.4	
	comp=Z,30nm,1.2s						
LPAZ	La Paz	43.03	125	P	P	17 14 32.4	+0.2
	comp=Z,3.3nm,1.0s,baz=294,slow=11,SNR=8.1						
LPAZ	La Paz	43.03	125	P	P	17 14 33.0	+0.9
LPAZ				IAmb	IAmb	17 14 42.3	
	comp=Z,14nm,1.2s						
MNMC	Minye Minye	43.44	129	P	P	17 14 35.9	+0.9
MNMC				IAmb	IAmb	17 14 43.6	
	comp=Z,25nm,1.8s						
GO01	Chusmiza	44.06	129	P	P	17 14 39.7	-0.5
GO01				IAmb	IAmb	17 14 53.9	
	comp=Z,25nm,1.8s						
SAML	Samuel	44.07	112	P	P	17 14 39.4	-0.4
SIV	San Ignacio	48.81	120	P	P	17 15 14.8	-2.3
	comp=Z,1.6nm,0.9s,baz=292,slow=9.9,SNR=4.5						
ILAR	Eielson Array	63.95	341	P	P	17 17 03.0	-1.2
	comp=Z,1.2nm,0.9s,baz=125,slow=4.5,SNR=3.1						
CMAR	Chiang Mai Arr	145.15	320	PKPbc	PKPdf	17 26 09.5	-0.2
	comp=Z,0.8nm,0.7s,baz=14,slow=2.8,SNR=2.8						
CMAR	Chiang Mai Arr	145.15	320		PKPab	17 26 09.3	0.0

*IDC **19** 17:24:48.1±2.1, 8°.24N×104°.07W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/51, mbtmp4.0/5, MS4.1/2, Ms1 4.1/2, ms1mx3.4/27, Error ellipse: s-maj=55.9km s-min=27.3km az=53.0*
*NEIC **19** 17:24:49.6±2.8, 8°.3N±0°.2×104°.1W±0°.2, h12km±6km, mb4.4/30*
*ISCJB **19** 17:24:51.4±1.2, 8°.4N±0°.1×104°.0W±0°.1, h33km, mb4.0/3, MS4.1/2, Error ellipse: s-maj=27.1km s-min=10.5km az=44.7*

ISC 19 17:24:52.6±1.3, 8°.3N±0°.2×104°.1W±0°.2, h35km, n41, σ1°26/38, mb4.3/16, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	12.38	328	T	T	17 40 17.1	
	SNR=4.0						
APG	El Apazote	14.94	62	Pn	Pn	17 28 20.4	-1.1
	baz=225,slow=20,SNR=3.3						
HPIG		18.64	356		Pn	17 29 09.1	+1.0
TX31	Lajitas Ar. Si	20.97	1	P	P	17 29 32.2	-0.7
TXAR	Lajitas Array	20.97	1	P	P	17 29 34.2	+1.3
	1.5nm,0.8s,baz=184,slow=12,SNR=5.6						
TXAR	Lajitas Array	20.97	1	P	P	17 29 34.0	+1.1
JCT	Junction City	22.47	10	P	P	17 29 47.6	-1.3
JCT				IAmb	IAmb	17 29 50.8	
	comp=Z,27nm,1.4s						
MNTX	Cornudas Mount	23.35	357	P	P	17 29 57.3	-0.6
MNTX				IAmb	IAmb	17 30 08.3	
	comp=Z,13nm,1.4s						
319A	Douglas	23.50	349	P	P	17 29 57.4	-2.2
319A				IAmb	IAmb	17 30 11.7	
	comp=Z,24nm,1.9s						
121A	Cookes Peak, D	24.40	352	P	P	17 30 07.0	-0.9
ABTX	Abilene, Hawle	24.60	9	P	P	17 30 08.2	-1.4
TUC	Tucson	24.73	346	P	P	17 30 11.9	+1.1
MSTX	Muleshoe	25.62	3	P	P	17 30 19.9	+1.0
BNM	Barren Site	25.87	355	P	P	17 30 18.7	-2.7
ANMO	Albuquerque	26.65	356	LR	LR	17 40 26.6	
	comp=Z,406nm,21.4s,baz=154,slow=35						
OTAV	Otavalo	26.77	106	P	P	17 30 31.0	+1.0
Y14A	Wickenburg	26.84	343	P	P	17 30 30.6	+0.6
Y14A				IAmb	IAmb	17 30 43.0	
	comp=Z,11nm,1.6s						
X16A	Lo Mia Camp, P	26.90	346	P	P	17 30 32.4	+1.8
PV01	Paradox Valley	30.02	353	P	P	17 30 58.9	+0.5
PV01				IAmb	IAmb	17 31 00.2	
	comp=Z,17nm,1.7s						
PV13	Radium Mtn., P	30.07	353	P	P	17 30 57.1	-1.9
PV13				IAmb	IAmb	17 31 01.6	
	comp=Z,7.1nm,1.3s						
PV02	Paradox Valley	30.11	353	P	P	17 30 59.0	-0.2
PV02				IAmb	IAmb	17 31 00.9	
	comp=Z,8.5nm,1.1s						
PV03	Paradox Valley	30.17	353	P	P	17 30 58.9	-0.9
PV03				IAmb	IAmb	17 31 01.1	
	comp=Z,4.0nm,0.9s						
PV17	East Wray Mesa	30.21	352	P	P	17 30 58.4	-1.7
PV17				IAmb	IAmb	17 31 01.0	
	comp=Z,20nm,1.8s						
PV11	David Mesa, Pa	30.22	353	P	P	17 30 59.8	-0.3
PV16	Nyswonger Mesa	30.24	352	P	P	17 30 59.5	-0.9
PV16				IAmb	IAmb	17 31 01.5	
	comp=Z,6.6nm,1.2s						
PV22	Blue Mesa, Par	30.44	353	P	P	17 31 00.7	-1.4
PV22				IAmb	IAmb	17 31 01.6	
	comp=Z,7.2nm,1.2s						
MTPU	Mount Pierson	30.54	347	P	P	17 31 03.1	-0.1
TMUT	Trail Mountain	31.56	349	P	P	17 31 09.9	-2.2
SDV	Santo Domingo	33.09	86	P	P	17 31 25.1	-0.6
	comp=Z,3.0nm,0.7s,baz=251,slow=10,SNR=3.5						
WAKR	Walker	33.14	338	P	P	17 31 27.0	+1.2
WAKR				IAmb	IAmb	17 31 29.2	
	comp=Z,8.8nm,1.4s						
BGU	Big Grassy Mou	33.49	348	P	P	17 31 29.1	+0.3
K22A	Casper	34.32	357	P	P	17 31 36.4	+0.3
BW06	Boulder Array	34.71	353	P	P	17 31 38.0	-1.4
BW06				IAmb	IAmb	17 31 40.9	
	comp=Z,16nm,1.8s						
PD31	Pinedale Array	34.71	353	P	P	17 31 37.6	-1.8
PD31				IAmb	IAmb	17 31 40.9	
	comp=Z,11nm,1.6s						
PDAR	Pinedale Array	34.71	353	P	P	17 31 40.0	+0.5
	comp=Z,0.9nm,0.9s,baz=161,slow=11,SNR=4.8						
PDAR	Pinedale Array	34.71	353	P	P	17 31 39.3	-0.2
LPAZ	La Paz	43.15	124	P	P	17 32 51.9	+1.0
	comp=Z,3.6nm,1.1s,baz=285,slow=4.7,SNR=4.9						
LPAZ	La Paz	43.15	124	P	P	17 32 51.4	+0.5
LPAZ				IAmb	IAmb	17 32 59.1	
	comp=Z,10.0nm,1.4s						
DZM	Mont Dzumac	92.56	248	LR	LR	18 09 45.8	
	comp=Z,98nm,21.2s,baz=106,slow=29						
CMAR	Chiang Mai Arr	145.05	320	PKPbc	PKPdf	17 44 26.4	-0.9
	comp=Z,0.3nm,0.5s,baz=22,slow=1.4,SNR=2.3						
CMAR	Chiang Mai Arr	145.05	320		PKPbc	17 44 25.2	-1.4

*ISCJB **19** 17:41:23.7±0.8, 60°.39N±0°.06×60°.2E±0°.1, h10km, mb3.7/1, Error ellipse: s-maj=8.5km s-min=7.0km az=23.6*
*IDC **19** 17:41:24.5±2.0, 60°.52N×60°.52E, h0km, mb3.4/2, mb1 3.7/8, mb1mx3.4/46, mbtmp3.6/8, ML3.1/6, Error ellipse: s-maj=37.8km s-min=21.5km az=13.0*
*MIRAS **19** 17:41:25.2±0.0, 60°.30N×59°.97E, h1km, ML3.0/3*
*NNC **19** 17:41:35.0±12.0, 59°.69N×60°.89E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=105.8km s-min=64.8km az=162.0*

ISC 19 17:41:25.6±1.1, 60°.35N±0°.08×60°.29E±0°.06, h10km, n17, σ2°53/25, 5C-2D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PR1R	Pomanovo	2.14	238	⇓iP	Pn	17 41 59.5	-1.8
	124μm,1.4s						
PR1R				eS	Sn	17 42 25.6	-2.4
PR3R	Kungur	3.38	212	eP	Pn	17 42 18.6	+0.3
	257μm,0.7s						
PR3R				eS	Sn	17 42 58.4	0.0
KAUR	Kamensk Uralsk	3.99	170	eP	Pn	17 42 27.1	+0.5
	322μm,0.5s						
KAUR				eS	Sn	17 43 14.2	+0.8
ARU	Arti	4.04	194	Sn	Sn	17 43 19.7	+5.0
	baz=323,slow=20						
KIRV	Kirov	5.82	257	Pn	Pn	17 42 53.6	+1.8
	0.6nm,0.3s,baz=72,slow=20,SNR=1.5						
KIRV				Pg	Pb	17 43 09.7	+2.6
	1.4nm,0.3s,baz=262,slow=12,SNR=3.6						
KIRV				Sn	Sn	17 43 55.4	-3.2
	1.2nm,0.3s,baz=75,slow=6.7,SNR=1.8						
KIRV				Lg	Lg	17 44 18.6	
	1.9nm,0.3s,baz=217,slow=23,SNR=4.9						
BRVK	Borovoye	9.14	139	⇑P	Pn	17 43 39.0	+1.6
	1.3nm,0.5s						
BRVK				⇑S	Sn	17 45 16.3	-3.8
	2.0nm,0.6s						
BVAR	Borovoye Array	9.20	139	Sn	Sn	17 45 19.0	-2.7
	0.6nm,0.3s,baz=328,slow=24,SNR=3.3						
AKTO	Aktyubinsk	10.03	188	⇑P	Pn	17 43 51.8	+2.2
	3.7nm,1.1s						
AKTO				⇑S	Sn	17 45 39.2	-2.7
	6.1nm,1.4s						
AKTO	Aktyubinsk	10.03	188	Sn	Sn	17 45 37.4	-4.5
	0.2nm,0.3s,baz=158,slow=20,SNR=1.4						
AKTO				Lg	Lg	17 46 45.3	
	0.2nm,0.3s,baz=216,slow=12,SNR=1.8						
AB31	Akbulak array	11.12	181	⇑P	Pn	17 44 04.9	+0.3
	0.4nm,0.3s,baz=16,slow=12,SNR=21						
AB31				⇓S	Sn	17 46 05.9	-3.0
	2.8nm,0.8s,baz=18,slow=27,SNR=4.7						
ZALV	Zalesovo Beam	14.71	105	Pn	Pn	17 44 53.7	+0.2
	0.1nm,0.3s,baz=302,slow=15,SNR=2.0						
FINES	FINESS Array B	16.57	289	Pn	Pn	17 45 13.8	-3.8
	0.1nm,0.3s,baz=92,slow=15,SNR=2.3						
ARCES	ARCESS Array B	17.09	317	P	Pn	17 45 22.8	-1.5
	0.2nm,0.3s,baz=98,slow=13,SNR=2.2						
MKAR	Makanchi Array	18.71	127	P	Pn	17 45 44.3	0.0
	0.0nm,0.3s,baz=330,slow=9.4,SNR=2.5						
KVAR	Kislovodsk Arr	19.54	221	P	Pn	17 45 55.9	+1.4
	baz=355,slow=11,SNR=2.7					

PB09			*i* S	**Sn**	**18 11 08.3**	**-0.2**
PB09	**IPOC Station P**	**3.18 314**	*i* P	**Pn**	**18 10 29.0**	**+1.8**
PB09			IAML		18 11 11.1	
	comp=Z,162nm,0.3s					
PB03	**IPOC Station P**	**3.38 305**	*i* P	**Pn**	**18 10 30.6**	**+1.0**
PB03			*i* S	**Sn**	**18 11 10.6**	**-2.2**
PB03	**IPOC Station P**	**3.38 305**	*i* P	**Pn**	**18 10 30.6**	**+1.0**
PB10	**IPOC Station P**	**3.51 277**	*e*P	**Pn**	**18 10 32.2**	**+1.2**
PB10			*i* S	**Sn**	**18 11 13.4**	**-1.8**
PB10	**IPOC Station P**	**3.51 277**	*i* P	**Pn**	**18 10 32.1**	**+1.2**
PB04	**IPOC Station P**	**3.54 298**	*e*P	**Pn**	**18 10 32.6**	**+1.1**
PB04	**IPOC Station P**	**3.54 298**	*i* P	**Pn**	**18 10 32.6**	**+1.1**
PB04			IAML		18 11 19.3	
	comp=Z,149nm,0.1s					
PB07	**IPOC Station P**	**3.67 308**	*e*P	**Pn**	**18 10 33.9**	**+0.7**
PB07			*i* S	**Sn**	**18 11 16.5**	**-2.6**
PB01	**IPOC Station P**	**3.88 319**	*e*P	**Pn**	**18 10 36.2**	**+0.6**
PB01			*i* S	**Sn**	**18 11 21.5**	**-2.1**
PB02	**IPOC Station P**	**3.95 312**	*e*P	**Pn**	**18 10 37.0**	**+0.6**
PB02			*i* S	**Sn**	**18 11 22.0**	**-3.0**
PB08	**IPOC Station P**	**4.45 330**	*e*P	**Pn**	**18 10 44.2**	**+1.3**
PB08			*e*S	**Sn**	**18 11 35.7**	**-0.9**
CYA	**Choya**	**4.49 169**	*i* P	Pn	18 10 44.3	+1.3
LPAZ	**La Paz**	**7.79 350**	*i* P	**Pn**	**18 11 26.8**	**+1.0**

*ISCJB **19** 18:21:06.8±0.5, 34°.55N±0°.04×138°.71E±0°.04, h231km±4km, mb3.0/2, Error ellipse: s-maj=6.6km s-min=5.5km az=159.5*
*IDC **19** 18:21:07.2±1.1, 34°.69N×139°.20E, h239km±8km, mb2.8/2, mb1 3.0/4, mb1mx2.8/51, mbtmp3.6/4, Error ellipse: s-maj=37.6km s-min=10.6km az=70.0*
*JMA **19** 18:21:07.4±0.1, 34°.46N×138°.69E, h226km±2km, M3.2*
ISC 19 18:21:07.7±0.9, 34°.54N±0°.05×138°.69E±0°.04, h229km±7km, n35, σ0°80/53, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**0.23**	**41**	P	**Pn**	**18 21 37.4**	**-0.1**
JSG	**Sagara**	**0.44**	**288**	P	**Pn**	**18 21 38.1**	**+0.2**
JOD2	**Odawara 2**	**0.79**	**24**	P	**Pn**	**18 21 39.4**	**+0.1**
JHMK	**Hamakita**	**0.82**	**290**	P	**Pn**	**18 21 38.8**	**-0.5**
HMMJ	**Hamamatsu 2**	**0.86**	**292**	P	**Pn**	**18 21 39.3**	**-0.3**
HMMJ				*e*S	**S**	**18 22 03.3**	**-1.3**
JYN	**Shimob**	**0.96**	**353**	P	**Pn**	**18 21 40.7**	**+0.4**
TK02	**Tokai 2**	**0.98**	**233**	P	**Pn**	**18 21 39.9**	**-0.2**
TK02				*e*S	**S**	**18 22 05.1**	**-0.2**
JNY	**Yasuok**	**1.06**	**320**	P	**Pn**	**18 21 41.2**	**+0.3**
JNY				S	**S**	**18 22 06.6**	**-0.4**
JAO	**Obara**	**1.38**	**302**	P	**Pn**	**18 21 43.1**	**0.0**
JAO				*e*S	**S**	**18 22 10.6**	**-0.2**
JHU	**Hanno**	**1.39**	**20**	P	**Pn**	**18 21 43.6**	**+0.5**
JHU				*e*S	**S**	**18 22 09.5**	**-1.5**
BSO4	**Boso 4**	**1.43**	**71**	P	**Pn**	**18 21 44.2**	**+0.9**
BSO4				S	**S**	**18 22 12.1**	**+1.0**
JRY	**Ryogami san**	**1.48**	**7**	P	**Pn**	**18 21 44.9**	**+1.0**
JRY				*e*S	**S**	**18 22 12.9**	**+0.6**
BSO3	**Boso 3**	**1.52**	**80**	P	**Pn**	**18 21 43.9**	**+0.1**
BSO3				S	**S**	**18 22 12.1**	**0.0**
JIE	**Ise**	**1.65**	**265**	P	**Pn**	**18 21 44.8**	**-0.4**
JHJ	**Hachijo jima 2**	**1.68**	**147**	P	**Pn**	**18 21 45.1**	**-0.4**
	46nm,0.3s,baz=60,slow=16,SNR=3.5						
JHJ				S	**S**	**18 22 16.3**	**+1.1**
	43nm,0.3s,baz=150,slow=22,SNR=3.1						
JHJ2	**Mitsune**	**1.71**	**146**	P	**Pn**	**18 21 45.2**	**-0.6**
TTO1	**TONANKAI O.B.S**	**1.83**	**240**	P	**Pn**	**18 21 46.4**	**-0.1**
BSO1	**Boso 1**	**1.89**	**86**	P	**Pn**	**18 21 46.6**	**-0.1**
BSO1				S	**S**	**18 22 16.6**	**-0.7**
JYTA	**Yamagatataniai**	**1.92**	**304**	P	**Pn**	**18 21 47.5**	**-0.1**
JYTA				*e*S	**S**	**18 22 17.9**	**-0.9**
JAG	**Ashikaga**	**1.98**	**18**	P	**Pn**	**18 21 48.3**	**+0.1**
JAG				S	**S**	**18 22 18.4**	**-1.6**
JEG	**Eigenji**	**1.98**	**288**	P	**Pn**	**18 21 48.4**	**+0.1**
JKN2	**Miekihoku**	**2.02**	**262**	P	**Pn**	**18 21 48.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.04**	**349**	P	**Pn**	**18 21 48.3**	**-0.4**
	0.3nm,0.3s,baz=167,slow=11,SNR=6.3						
MJAR				S	**S**	**18 22 21.5**	**+0.6**
	0.1nm,0.3s,baz=154,slow=31,SNR=3.3						
MAT	**Matsushiro**	**2.04**	**349**	P	**Pn**	**18 21 49.5**	**+0.8**
MAT				S	**S**	**18 22 21.2**	**+0.2**
MAT	**Matsushiro**	**2.04**	**349**	P	**Pn**	**18 21 49.9**	**+1.2**
JYT	**Yasato**	**2.08**	**36**	P	**Pn**	**18 21 48.8**	**-0.3**
JYT				S	**S**	**18 22 19.7**	**-1.9**
JHO	**Hitachi**	**2.57**	**36**	P	**Pn**	**18 21 53.6**	**-0.5**
JHO				*e*S	**S**	**18 22 29.0**	**-1.6**
JWY	**Kouya**	**2.58**	**264**	P	**Pn**	**18 21 54.1**	**-0.3**
JTNC	**Tanabenakahech**	**2.65**	**255**	P	**Pn**	**18 21 54.5**	**-0.6**
JWT	**Wachi**	**2.80**	**286**	P	**Pn**	**18 21 56.7**	**0.0**
JWT				S	**S**	**18 22 34.8**	**-0.3**
JFK	**Kawauchi**	**3.33**	**31**	P	**Pn**	**18 22 02.9**	**+0.3**
JFK				S	**S**	**18 22 43.5**	**-2.4**
USRK	**Ussuriysk Ar.**	**10.95**	**334**	P	**Pn**	**18 23 39.4**	**+1.0**
	baz=162,slow=13,SNR=4.5						
KLR	**Kul'dur**	**15.55**	**343**	P	**P**	**18 24 34.6**	**0.0**
	0.2nm,0.3s,baz=155,slow=9.8,SNR=2.3						
MKAR	**Makanchi Array**	**43.62**	**304**	P	**P**	**18 28 49.2**	**-0.2**
	0.6nm,0.6s,baz=69,slow=9.6,SNR=4.6						
WRA	**Warramunga Arr**	**54.34**	**185**	P	**P**	**18 30 10.9**	**+0.2**
	0.2nm,0.5s,baz=360,slow=7.5,SNR=1.7						

*ISCJB **19** 18:32:50.6±0.4, 34°.37N±0°.05×137°.17E±0°.05, h347km±3km, mb3.2/3, Error ellipse: s-maj=8.7km s-min=6.7km az=153.2*
*JMA **19** 18:32:50.1±0.2, 34°.32N×137°.19E, h353km±2km, M3.3*
*NEIC **19** 18:32:51.5±2.3, 34°.37N±0°.09×137°.0E±0°.1, h336km±11km, mb4.3/4*
*IDC **19** 18:32:51.7±0.9, 34°.56N×137°.62E, h356km±40km, mb3.2/3, mb1 3.3/5, mb1mx2.7/63, mbtmp3.8/5, Error ellipse: s-maj=134.3km s-min=16.9km az=68.0*
ISC 19 18:32:51.6±0.8, 34°.38N±0°.06×137°.15E±0°.06, h342km±6km, n47, σ0°91/63, mb3.6/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.25**	**360**	P	**Pn**	**18 33 34.9**	**+0.4**
JAA				*e*S	**S**	**18 34 08.4**	**-0.4**
JIE	**Ise**	**0.36**	**272**	P	**Pn**	**18 33 34.8**	**+0.1**
JIE				*e*S	**S**	**18 34 08.2**	**-0.9**
TK02	**Tokai 2**	**0.67**	**130**	P	**Pn**	**18 33 35.1**	**0.0**
TK02				*e*S	**S**	**18 34 10.3**	**+0.4**
HMMJ	**Hamamatsu 2**	**0.67**	**45**	P	**Pn**	**18 33 35.4**	**+0.1**
HMMJ				*e*S	**S**	**18 34 10.1**	**-0.2**
JKN2	**Miekihoku**	**0.73**	**259**	P	**Pn**	**18 33 35.4**	**-0.2**
TTO1	**TONANKAI O.B.S**	**0.81**	**202**	P	**Pn**	**18 33 35.9**	**+0.4**
JAO	**Obara**	**0.89**	**6**	P	**Pn**	**18 33 36.3**	**+0.2**
JAO				*e*S	**S**	**18 34 11.8**	**+0.1**
INU	**Inuyama**	**0.97**	**354**	Pn	**Pn**	**18 33 36.4**	**+0.1**
JEG	**Eigenji**	**0.97**	**321**	P	**Pn**	**18 33 36.7**	**+0.3**
JNY	**Yasuok**	**1.14**	**31**	P	**Pn**	**18 33 37.3**	**+0.2**
JNY				*e*S	**S**	**18 34 13.2**	**-0.4**
JYTA	**Yamagatataniai**	**1.25**	**345**	P	**Pn**	**18 33 37.8**	**+0.2**
JYTA				*e*S	**S**	**18 34 13.2**	**-1.2**
JWY	**Kouya**	**1.29**	**263**	P	**Pn**	**18 33 37.8**	**-0.1**
JTNC	**Tanabenakahech**	**1.39**	**247**	P	**Pn**	**18 33 38.2**	**-0.2**
JWT	**Wachi**	**1.69**	**303**	P	**Pn**	**18 33 40.0**	**0.0**
JOD2	**Odawara 2**	**1.82**	**61**	P	**Pn**	**18 33 41.5**	**+0.6**
JKG	**Kaga**	**2.00**	**341**	P	**Pn**	**18 33 42.2**	**+0.1**
JRY	**Ryogami san**	**2.17**	**41**	P	**Pn**	**18 33 44.0**	**+0.6**
JRY				*e*S	**S**	**18 34 25.2**	**+0.2**
JHU	**Hanno**	**2.28**	**49**	P	**Pn**	**18 33 44.2**	**0.0**
JHU				S	**S**	**18 34 25.7**	**-0.8**
JAI	**Aioi**	**2.31**	**256**	P	**Pn**	**18 33 44.1**	**-0.4**
MAJO	**Matsushiro**	**2.32**	**22**		**Pn**	**18 33 44.6**	**0.0**
MAT	**Matsushiro**	**2.32**	**22**	P	**Pn**	**18 33 44.7**	**+0.2**
MAT				S	**S**	**18 34 25.8**	**-1.2**
MAT	**Matsushiro**	**2.32**	**22**	P	**Pn**	**18 33 44.7**	**+0.2**
MAT				S	**S**	**18 34 25.9**	**-1.1**
MJAR	**Matsushiro Arr**	**2.32**	**22**	P	**Pn**	**18 33 44.6**	**+0.1**
	1.0nm,0.3s,baz=192,slow=8.8,SNR=72						
MJAR				S	**S**	**18 34 25.5**	**-1.5**
	0.2nm,0.3s,baz=320,slow=31,SNR=5.3						
MJB9	**Matsu-Tunnel**	**2.33**	**22**		**Pn**	**18 33 44.6**	**0.0**
JHJ	**Hachijo jima 2**	**2.53**	**119**	P	**Pn**	**18 33 47.0**	**+0.6**
	2.0nm,0.3s,baz=252,slow=19,SNR=1.7						
JHJ				S	**S**	**18 34 29.7**	**-0.5**
	6.2nm,0.3s,baz=61,slow=21,SNR=1.8						
JHJ2	**Mitsune**	**2.56**	**119**	Pn	**Pn**	**18 33 48.7**	**+2.2**
BSO4	**Boso 4**	**2.70**	**76**	P	**Pn**	**18 33 47.3**	**-0.2**
BSO4				*e*S	**S**	**18 34 31.0**	**-1.5**
JAG	**Ashikaga**	**2.78**	**42**	P	**Pn**	**18 33 47.3**	**-1.0**
JMN	**Monobe**	**2.79**	**257**	P	**Pn**	**18 33 47.9**	**-0.7**
BSO3	**Boso 3**	**2.81**	**80**	P	**Pn**	**18 33 47.5**	**-0.8**
BSO3				S	**S**	**18 34 32.9**	**-1.0**
JYT	**Yasato**	**3.10**	**53**	P	**Pn**	**18 33 49.9**	**-1.3**
BSO1	**Boso 1**	**3.18**	**84**	P	**Pn**	**18 33 50.0**	**-1.3**
BSO1				S	**S**	**18 34 38.2**	**-1.3**
JHS	**Saijyo**	**3.38**	**282**	P	**Pn**	**18 33 54.2**	**+0.3**
JHO	**Hitachi**	**3.57**	**51**	P	**Pn**	**18 33 54.5**	**-1.2**
JFK	**Kawauchi**	**4.25**	**44**	P	**Pn**	**18 34 01.8**	**-0.9**
ERM	**Erimo**	**8.97**	**30**	Pn	**Pn**	**18 34 56.6**	**-0.4**
MDJ	**Mudanjiang**	**11.76**	**333**		**Pn**	**18 35 31.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**13.26**	**17**		**Pn**	**18 35 49.4**	**+1.2**
SSLB	**Suanglung**	**17.63**	**237**		**P**	**18 36 32.6**	**-2.6**
SSLB				IAmb	IAmb	18 36 58.1	
	comp=Z,24nm,1.4s						
TPUB	**Ta-pu**	**18.17**	**237**		**P**	**18 36 39.2**	**-1.8**
TPUB				IAmb	IAmb	18 36 53.0	
	comp=Z,36nm,1.3s						
PETK	**Petropavlovsk-**	**23.74**	**32**	P	**P**	**18 37 35.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**53.33**	**194**	P	**P**	**18 41 37.9**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=27,slow=6.8,SNR=2.2						
FITZ	**Fitzroy Crossi**	**53.33**	**194**	P	**P**	**18 41 38.5**	**+1.8**
FITZ				IAmb	IAmb	18 41 39.6	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**54.09**	**183**	P	**P**	**18 41 42.0**	**-0.2**
	comp=Z,0.8nm,0.2s,baz=360,slow=7.4,SNR=58						
WRA	**Warramunga Arr**	**54.09**	**183**	P	**P**	**18 41 41.8**	**-0.5**
ASAR	**Alice Springs**	**57.81**	**184**	P	**P**	**18 42 08.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=356,slow=4.6,SNR=5.9						
ASAR	**Alice Springs**	**57.81**	**184**	P	**P**	**18 42 07.9**	**-0.4**

MAN 19 18:43:35.5, 9°.89N×124°.13E, h3km, mb4.1, ML2.9, MS2.5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.46**	**339**	⇓*i*P	Pg	18 43 44.6	+0.3
LLP				*i* S	Sg	18 43 51.4	+1.1
MSLP	**Maasin**	**0.76**	**71**	*e*P	Pg	18 43 50.2	+0.2
MSLP				*e*S	Sb	18 44 01.4	-0.7
SNPH	**Sibulan**	**1.04**	**239**	⇑*i*P	Pb	18 43 56.2	+0.1
SNPH				*i* S	Sn	18 44 12.2	+0.1
OCLP	**Ormoc**	**1.25**	**22**	*e*P	Pg	18 43 58.6	-0.8
OCLP				*e*S	Sn	18 44 17.3	0.0
DCPH	**Dipolog City**	**1.51**	**211**	⇑*e*P	Pn	18 44 03.8	+0.3
DCPH				*e*S	Sn	18 44 23.1	-0.6
GUIM	**Jordan**	**1.69**	**296**	*e*P	Pn	18 44 05.2	-0.7
GUIM				*e*S	Sn	18 44 28.4	+0.3
RCP	**Roxas**	**2.15**	**321**	⇓*e*P	Pn	18 44 13.6	+1.3

*IDC **19** 18:52:05.0±3.9, 38°.19N×143°.50E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/48, mbtmp3.3/4, ML2.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/30, Error ellipse: s-maj=96.2km s-min=28.6km az=152.0*
*ISCJB **19** 18:52:06.4±2.1, 37°.94N±0°.07×143°.55E±0°.08, h31km±19km, mb3.5/3, MS3.4/1, Error ellipse: s-maj=12.2km s-min=10.0km az=6.6*
*JMA **19** 18:52:06.0±0.1, 37°.94N×143°.55E, h37km, M3.4*
ISC 19 18:52:09.4±1.7, 38°.01N±0°.09×143°.5E±0°.2, h38km±7km, n20, σ1°31/23, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.62**	**281**	P	**Pn**	**18 52 34.1**	**-1.4**
JIKH				S	**Sn**	**18 52 54.5**	**-0.6**
JIO	**Ouri**	**1.74**	**285**	P	**Pn**	**18 52 35.8**	**-1.3**
JIO				*e*S	**Sn**	**18 52 58.0**	**-0.1**
JKMT	**Kesennumamotoy**	**1.77**	**297**	P	**Pn**	**18 52 36.4**	**-1.1**
JKMT				S	**Sn**	**18 52 58.7**	**-0.1**
OFUJ	**Ofunato**	**1.78**	**307**	P	**Pn**	**18 52 36.5**	**-1.2**
OFUJ				*e*S	**Sn**	**18 52 59.2**	**+0.1**
JMK	**Ichinoseki**	**2.01**	**298**	P	**Pn**	**18 52 39.9**	**-0.9**
JMK				*e*S	**Sn**	**18 53 05.5**	**+0.7**
JOM	**Ohasama**	**2.25**	**311**	P	**Pn**	**18 52 43.6**	**-0.6**
JOM				S	**Sn**	**18 53 11.9**	**+1.2**
JFT	**Otama**	**2.55**	**260**	P	**Pn**	**18 52 47.2**	**-1.0**
JFT				S	**Sn**	**18 53 17.5**	**-0.5**
JYK	**Kaneyama**	**2.62**	**291**	P	**Pn**	**18 52 49.1**	**-0.1**
JYK				*e*S	**Sn**	**18 53 20.8**	**+1.1**
JANG	**Nango**	**2.81**	**328**	P	**Pn**	**18 52 52.2**	**+0.3**
JAG	**Ashikaga**	**3.59**	**245**	P	**Pn**	**18 53 01.3**	**-1.2**
MJAR	**Matsushiro Arr**	**4.46**	**252**	Pn	**Pn**	**18 53 14.0**	**-0.5**
	0.2nm,0.3s,baz=64,slow=13,SNR=8.6						
MJAR				Sn	**Sn**	**18 54 09.4**	**+4.3**
	0.1nm,0.3s,baz=80,slow=28,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**27.30**	**125**	T	T	19 26 09.8	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.30**	**125**	T	T	19 26 05.5	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**27.31**	**125**	T	T	19 26 03.9	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.07**	**127**	T	T	19 27 07.7	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**28.07**	**127**	T	T	19 27 11.8	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**28.09**	**127**	T	T	19 27 11.5	
	baz=319						
MKAR	**Makanchi Array**	**45.01**	**302**	P	**P**	**19 00 21.5**	**+0.5**
	0.3nm,0.7s,baz=72,slow=9.4,SNR=2.8						
MKAR				LR	LR	19 17 52.9	
	comp=Z,48nm,20.8s,baz=78,slow=34						
KURBB	**Kurchatov Arra**	**46.71**	**308**	P	**P**	**19 00 34.5**	**+0.2**
	0.4nm,0.4s,baz=81,slow=7.9,SNR=5.8						
ILAR	**Eielson Array**	**47.78**	**33**	P	**P**	**19 00 42.2**	**-0.2**
	0.3nm,0.7s,baz=278,slow=6.3,SNR=4.0						

*IDC **19** 18:56:59.6±22.0, 19°.01S×177°.39W, h520km±199km, mb2.9/3, mb1 3.1/3, mb1mx2.7/35, mbtmp3.8/3, Error ellipse: s-maj=168.8km s-min=91.0km az=114.0*
*NEIC **19** 18:57:10.8±2.5, 19°.8S±0°.2×178°.4W±0°.2, h551km±9km, mb4.3/9*
ISC 19 18:57:09.0±1.0, 19°.8S±0°.2×178°.3W±0°.2, h550km, n18, σ2°40/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**300**	P	**P**	**18 58 33.9**	**+2.3**
THZ	**Tophouse**	**23.14**	**197**	P	**P**	**19 01 34.1**	**+0.9**
THZ				IAmb	IAmb	19 01 39.4	
	comp=Z,13nm,1.1s						
LTZ	**Lake Taylor**	**24.26**	**197**	P	**P**	**19 01 43.8**	**+0.7**
LTZ				IAmb	IAmb	19 01 49.8	
	comp=Z,25nm,1.5s						
CRLZ	**Canterbury Las**	**24.91**	**196**	P	**P**	**19 01 50.3**	**+1.5**
STKA	**Stephens Creek**	**37.88**	**243**	P	**P**	**19 03 40.5**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=69,slow=8.6,SNR=1.2						
STKA	**Stephens Creek**	**37.88**	**243**	P	**P**	**19 03 40.9**	**+1.3**
MANU	**Manus Island**	**37.95**	**293**		pP	19 05 15.2	+0.7
BBOO	**Buckleboo**	**42.64**	**243**	P	**P**	**19 04 18.9**	**+1.3**
BBOO				IAmb	IAmb	19 04 23.2	
	comp=Z,24nm,1.4s						
ASAR	**Alice Springs**	**44.45**	**256**	P	**P**	**19 04 32.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=85,slow=8.5,SNR=8.6						
ASAR				PcP	**PcP**	**19 06 00.0**	**-3.4**
	comp=Z,0.3nm,0.4s,baz=107,slow=3.7,SNR=2.3						
ASAR	**Alice Springs**	**44.45**	**256**	P	**P**	**19 04 31.9**	**+0.1**
WB2	**Warramunga Arr**	**44.45**	**261**	P	**P**	**19 04 32.0**	**+0.2**
WB2				IAmb	IAmb	19 04 32.2	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**44.46**	**261**	P	**P**	**19 04 31.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=98,slow=7.7,SNR=4.4						
WRA				PcP	**PcP**	**19 05 59.3**	**-4.2**
	comp=Z,0.2nm,0.4s,baz=92,slow=3.3,SNR=2.1						
WRA	**Warramunga Arr**	**44.46**	**261**	P	**P**	**19 04 31.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.88**	**262**	P	**P**	**19 05 34.7**	**+0.4**
FITZ				IAmb	IAmb	19 05 36.0	
	comp=Z,9.3nm,1.4s						
LCMT	**Little Creek M**	**83.31**	**47**	P	**P**	**19 08 42.5**	**+3.8**
PV09	**Paradox Valley**	**86.88**	**47**	P	**P**	**19 08 57.4**	**+1.4**
BRTR	**Keskin Array B**	**146.19**	**313**	PKPbc	**PKPdf**	**19 15 41.6**	**-4.7**
	comp=Z,0.4nm,0.5s,baz=76,slow=6.1,SNR=1.8						
GERES	**GERESS Array B**	**149.47**	**344**	PKPbc	**PKPdf**	**19 15 48.2**	**-3.1**
	comp=Z,0.6nm,0.6s,baz=9.7,slow=0.6,SNR=3.3						

*IDC **19** 18:57:28.1±0.4, 45°.83N×130°.66E, h0km, mb4.4/32, mb1 4.5/37, mb1mx4.4/59, mbtmp4.4/37, ML3.8/5, MS3.6/16, Ms1 3.6/16, ms1mx3.3/53, Error ellipse: s-maj=11.9km s-min=8.9km az=62.0*
*ISCJB **19** 18:57:29.0±0.1, 45°.87N±0°.02×130°.70E±0°.03, h14km, mb4.6/82, MS4.0/14, Error ellipse: s-maj=2.7km s-min=2.4km az=35.0*
*SKHL **19** 18:57:28.9±0.8, 46°.00N×130°.65E, h16km±1km, mb5.8/2, Ms4.8/2, msh5.9/2, (5.2)/9*
*MOS **19** 18:57:28.8±1.3, 45°.90N×130°.67E, h13km, mb5.0/18, MS3.9/7, Error ellipse: s-maj=6.7km s-min=4.1km az=107.2*
*BJI **19** 18:57:30.0±0.0, 46°.06N×130°.54E, h8km, mb4.5/40, mB4.8/30, ML5.1/15, Ms4.6/40, Ms7 4.4/31*
*NEIC **19** 18:57:30.5±2.6, 45°.93N±0°.04×130°.64E±0°.08, h15km±3km, mb4.8/112*
ISC 19 18:57:30.0±1.1, 45°.91N±0°.03×130°.65E±0°.03, h10km±6km, n407, σ1°71/441, mb4.7/124, MS4.0/15, 24C-25D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**1.49**	**210**	Pg	**Pn**	**18 57 57.3**	**+0.4**
MDJ				Sg	**Sb**	**18 58 16.9**	**+0.1**
MDJ				smax	smax		
	comp=N,25μm,0.5s						
MDJ				smax	smax		
	comp=E,26μm,0.6s						
MDJ	**Mudanjiang**	**1.49**	**210**		**Pn**	**18 57 57.4**	**+0.6**
MDJ					**Sg**	**18 58 18.8**	**+0.9**
I45RU	**USSURIYSK INFR**	**1.95**	**151**	Pg	**Pb**	**18 58 05.8**	**+0.2**
	baz=341,slow=34,SNR=2.9						
USA0B	**Ussuriysk Arra**	**1.95**	**150**	P	**Pn**	**18 58 03.6**	**+0.4**
USA0B						18 58 31.3	
USA0B	**Ussuriysk Arra**	**1.95**	**150**		**Pn**	**18 58 03.6**	**+0.4**
USA0B				Sn	**Sb**	**18 58 31.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**1.95**	**150**	Pg	**Pn**	**18 58 03.5**	**+0.3**
	baz=339,slow=14,SNR=1548						
USRK				Lg	Lg	18 58 29.8	
	baz=330,slow=25,SNR=6.0						
USRK	**Ussuriysk Ar.**	**1.95**	**150**		**Pn**	**18 58 02.9**	**-0.3**
USRK				Sn	**Sb**	**18 58 31.7**	**+1.6**
GRTR	**Gornotajezhnoj**	**2.45**	**153**	*e*Pn	**Pn**	**18 58 10.6**	**+0.6**
GRTR				*e*Pg	**Pb**	**18 58 14.4**	**+0.3**
GRTR				AMB	AMB	18 58 15.3	
	881nm,0.5s						
GRTR				*e*Sg	**Sg**	**18 58 47.6**	**-1.0**
GRTR				A	A	18 58 51.1	
	4μm,0.6s						
GRTR				A	A	18 58 51.1	
	6μm,0.6s						
VLA	**Vladivostok**	**2.92**	**162**	*i* P	**Pn**	**18 58 17.7**	**+1.2**
VLA	**Vladivostok**	**2.92**	**162**	*e*Pn	**Pn**	**18 58 17.7**	**+1.2**
MSHR	**Mys Shultsa**	**3.35**	**174**	*i* P	**Pn**	**18 58 23.1**	**+0.7**
KLR	**Kul'dur**	**3.41**	**12**	⇑*e*P	**Pn**	**18 58 21.1**	**-2.1**
KLR	**Kul'dur**	**3.41**	**12**	Pn	**Pn**	**18 58 22.1**	**-1.1**
	12nm,0.3s,baz=184,slow=14,SNR=46						
KLR				Pg	**Pb**	**18 58 30.5**	**0.0**
	102nm,0.3s,baz=188,slow=17,SNR=70						
KLR				Lg	Lg	18 59 11.2	
	199nm,0.3s,baz=272,slow=15,SNR=15						
KLR				LR	LR	18 59 51.5	
	comp=Z,1μm,19.1s,baz=189,slow=41						
KLR	**Kul'dur**	**3.41**	**12**	*e*Pn	**Pn**	**18 58 21.2**	**-2.0**
KHBR	**Khabarovsk**	**3.95**	**48**	*e*Pn	**Pn**	**18 58 29.2**	**-1.5**
KHBR				*e*Pg	**Pb**	**18 58 39.5**	**-0.2**
KHBR				AMB	AMB	18 58 47.3	
	726nm,0.5s						
KHBR				*e*Sg	**Sb**	**18 59 30.4**	**+2.8**
KHBR				A	A	18 59 40.2	
	3μm,0.9s						
CN2	**Changchun**	**4.25**	**242**	*e*Pg	**Pb**	**18 58 46.0**	**+1.1**
CN2				*e*Sg	**Sg**	**18 59 45.8**	**-0.8**
CN2				smax	smax		
	comp=N,2μm,1.0s						
CN2				smax	smax		
	comp=E,2μm,1.0s						
TEY	**Ternei**	**4.28**	**100**	⇓*e*P	**Pn**	**18 58 34.7**	**-0.5**
TEY				*e*S	**Sn**	**18 59 25.7**	**+0.6**
TEY				pmax	pmax		
	comp=E,50nm,0.3s						
TEY				pmax	pmax		
	comp=Z,60nm,0.4s						
TEY				pmax	pmax		
	comp=Z,1μm,3.0s						
TEY				smax	smax		
	comp=N,6μm,2.0s						
TEY				smax	smax		
	comp=E,2μm,2.0s						
TEY				smax	smax

comp=N,1μm,9.0s
ZEA AMS AMS 18 02 38.0
comp=N,3μm,9.0s
ZEA *e*Pn **Pn** **18 59 27.8 -0.4**
ZEA AMB AMB 18 59 29.2
comp=N,140nm,0.8s
UGL Uglegorsk 8.36 64 P Pn 18 59 25.9 -5.2
UGL *e*S **Sn** **19 00 57.7 -7.8**
UGL pmax pmax
comp=Z,84nm,1.7s
UGL smax smax
comp=E,122nm,1.0s
UGL Uglegorsk 8.36 64 *e*Pn **Pn** **18 59 30.0 -1.1**
UGL *e*Pg **Pb** **18 59 58.1 +3.4**
UGL AMB AMB 19 00 04.7
comp=E,910nm,3.5s
UGL *e*Sn **Sn** **19 01 01.7 -3.8**
UGL *e*Sg Sg 19 01 47.2 -11
UGL A A 19 01 54.5
comp=E,3μm,2.0s
UGL A A 19 01 54.5
comp=E,2μm,2.0s
UGL A A 19 01 57.4
comp=E,640nm,0.9s
UGL A A 19 01 57.4
comp=E,350nm,0.9s
YSS Yuzh-Sakhalins 8.43 79 *e*P Pn 18 59 23.6 -8.6
YSS pmax pmax
comp=Z,1μm,3.6s
YSS MLR MLR
comp=E,300nm,14.0s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=N,700nm,13.0s
YSS Yuzh-Sakhalins 8.43 79 *e*Pn **Pn** **18 59 31.5 -0.7**
YSS *e*Pg **Pb** **19 00 00.1 +4.1**
YSS *e*Sn **Sn** **19 01 04.4 -2.9**
YSS *e*Sg Sg 19 01 51.8 -8.6
YSS Yuzh-Sakhalins 8.43 79 Pn **Pn** **18 59 31.7 -0.5**
KS19 Wonju Array Si 8.65 195 Pn **Pn** **18 59 34.6 -0.6**
ASAJ Asahikawa 8.65 98 Pn **Pn** **18 59 36.6 +1.4**
comp=N,1.3nm,0.3s,baz=282,slow=12,SNR=10
ASAJ Sn **Sn** **19 01 10.3 -2.5**
comp=N,0.4nm,0.3s,baz=194,slow=15,SNR=1.2
ASAJ Lg Lg 19 01 56.6
comp=N,0.3nm,0.3s,baz=26,slow=19,SNR=3.7
ASAJ LR LR 19 02 48.4
comp=N,306nm,19.2s,baz=129,slow=37
JKA Kamikawa-asahi 8.66 98 **Pn** **18 59 36.6 +1.3**
JKA **Sn** **19 01 10.3 -2.6**
KSRS Korea Array 8.69 195 Pn **Pn** **18 59 37.2 +1.5**
comp=N,0.4nm,0.3s,baz=14,slow=13,SNR=5.9
KSRS Lg Lg 19 02 05.7
comp=N,4.2nm,0.3s,baz=5.3,slow=31,SNR=13
KSRS LR LR 19 02 36.2
comp=N,150nm,18.8s,baz=15,slow=36
KSAR Wonju Array Be 8.71 195 P **Pn** **18 59 34.7 -1.3**
KSAR Wonju Array Be 8.71 195 Pn **Pn** **18 59 34.7 -1.3**
KROS Kirovskiy 8.86 346 *e*Pn **Pn** **18 59 36.8 -1.2**
KROS AMB AMB 18 59 40.2
comp=N,66nm,0.3s
KROS *e*Sg Sg 19 02 01.6 -12
KROS A A 19 02 18.1
comp=N,150nm,0.5s
BMKR Bomnak 8.89 353 *e*Pn **Pn** **18 59 37.0 -1.4**
BMKR AMB AMB 18 59 41.1
comp=N,52nm,0.5s
BMKR *e*Sg Sg 19 02 03.9 -11
BMKR A A 19 02 28.0
comp=N,266nm,0.4s
TYV Tymovskoe 9.40 54 *e*P **Pn** **18 59 46.7 +1.3**
TYV *e*S **Sn** **19 01 35.5 +4.4**
TYV *e*Sg 19 02 29.7
TYV A A 19 02 41.0
comp=N,120nm,0.8s
TYV A A 19 02 41.0
comp=N,90nm,0.8s
DL2 Dalian 9.66 227 *e*P **Pn** **18 59 48.3 -0.7**
DL2 S **Sn** **19 01 37.6 0.0**
DL2 pmax pmax
comp=N,31nm,0.9s
DL2 pmax pmax
comp=N,130nm,3.9s
DL2 LR LR
comp=N,5μm,6.6s
DL2 LR LR
comp=N,5μm,5.8s
DL2 LR LR
comp=N,1μm,5.5s
ERM Erimo 9.82 109↑ *e*P **Pn** **18 59 53.4 +2.2**
ERM Erimo 9.82 109 Pn **Pn** **18 59 50.7 -0.5**
MJB9 Matsu-Tunnel 10.94 146 **Pn** **19 00 10.6 +4.0**
MAJO Matsushiro 10.94 146↓ *e*P **Pn** **19 00 07.6 +0.9**
MAJO Matsushiro 10.94 146 **Pn** **19 00 10.7 +4.1**
MAT Matsushiro 10.94 146 P **Pn** **19 00 11.0 +4.3**
MAT *e*S **Sn** **19 02 10.8 +1.6**
MJAR Matsushiro Arr 10.95 146 P **Pn** **19 00 10.2 +3.5**
MJAR Matsushiro Arr 10.95 146 Pn **Pn** **19 00 10.9 +4.2**
comp=N,0.1nm,0.3s,baz=331,slow=15,SNR=13
MJAR LR LR 19 04 05.5
comp=N,369nm,19.3s,baz=335,slow=36
MJAR Matsushiro Arr 10.95 146 **Pn** **19 00 10.2 +3.5**
OKH Okha 11.02 42 *de*P Pn 18 59 53.8 -14
OKH MLR MLR
comp=Z,800nm,11.0s
INU Inuyama 11.60 153 **Pn** **19 00 19.8 +4.2**
BJI Beijing 12.11 246 P **Pn** **19 00 24.5 +2.0**
BJI pmax pmax
comp=Z,16nm,0.9s
BJI LR LR
comp=Z,2μm,9.2s
BJT Baijiatuau 12.12 246 P **Pn** **19 00 22.9 +0.2**
BJT Baijiatuau 12.12 246 **Pn** **19 00 22.9 +0.2**
JNU Nakatsue 12.77 179 Pn **Pn** **19 00 34.1 +2.5**
comp=Z,0.2nm,0.3s,baz=297,slow=14,SNR=2.7
JNU LR LR 19 05 09.5
comp=Z,210nm,18.8s,baz=353,slow=36
JNU Nakatsue 12.77 179 Pn **Pn** **19 00 32.3 +0.6**
TIA Tai'an 14.05 231 P **Pn** **19 00 45.5 -3.6**
TIA S Sn 19 02 50.5 -35
TIA LR LR
comp=N,710nm,13.7s
TIA LR LR
comp=E,310nm,8.8s
TIA LR LR
comp=Z,360nm,13.5s
JHJ Hachijo jima 2 14.57 148 LR LR 19 06 29.9
comp=Z,391nm,18.0s,baz=38,slow=37
HHC Hu-ho-hao-te 14.76 257 *e*P **Pn** **19 00 59.6 +0.7**
HHC pmax pmax
comp=Z,6.0nm,0.6s
BOD Bodaibo 15.69 325 *e*P **P** **19 01 13.3 -1.7**
BOD pmax pmax
comp=Z,30nm,0.9s
TIY Taiyuan 15.83 245 *e*P **P** **19 01 16.1 -0.7**
TIY S **Sn** **19 04 08.8 +0.3**
TIY pmax pmax
comp=Z,16nm,0.6s
TIY LR LR
comp=Z,260nm,5.9s
TIY LR LR
comp=Z,510nm,5.9s
TIY LR LR
comp=Z,440nm,9.7s
YAK Yakutsk 16.17 358 *e*P **Pn** **19 01 16.8 -0.2**
YAK *e*S **Sn** **19 04 17.1 +0.9**
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=N,139nm,3.3s
YAK smax smax
comp=E,110nm,3.1s
YAK MLR MLR
comp=Z,547nm,16.0s
YAK MLR MLR
comp=N,408nm,17.0s
YAK Yakutsk 16.17 358 Pn **Pn** **19 01 14.1 -2.9**
comp=N,0.1nm,0.3s,baz=159,slow=17,SNR=4.2
YAK Lg Lg 19 05 49.0
comp=N,0.0nm,0.3s,baz=19,slow=13,SNR=1.3
YAK Yakutsk 16.17 358 **Pn** **19 01 16.2 -0.8**

ULN Ulaanbaatar 16.24 285 *ce*P **Pn** **19 01 17.9 -0.3**
ULN pmax pmax
comp=Z,24nm,1.3s
ULN Ulaanbaatar 16.24 285 Pn **Pn** **19 01 18.0 -0.3**
NJ2 Nanjing 16.57 217 *e*P **Pn** **19 01 23.5 +1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,590nm,10.9s
NJ2 LR LR
comp=Z,1μm,14.7s
NJ2 LR LR
comp=Z,620nm,8.5s
SONM Songino Array 16.68 285 P **Pn** **19 01 23.3 -0.6**
SONM pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 16.68 285 Pn **Pn** **19 01 23.7 -0.2**
comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=26
SONM Lg Lg 19 06 16.0
comp=Z,0.4nm,0.3s,baz=91,slow=30,SNR=8.9
SONM Songino Array 16.68 285 **Pn** **19 01 23.3 -0.6**
MA2 Magadan 18.21 34 LR LR 19 08 44.5
comp=Z,177nm,18.4s,baz=228,slow=37
TLY Talaya 18.64 298 *e*P **Pn** **19 01 49.5 +1.4**
TLY pmax pmax
comp=Z,37nm,1.3s
TLY MLR MLR
comp=Z,2μm,15.0s
TLY Talaya 18.64 298 P **Pn** **19 01 48.8 +0.7**
comp=Z,0.0nm,0.3s,baz=128,slow=7.3,SNR=4.2
TLY Lg Lg 19 07 13.3
comp=Z,0.0nm,0.3s,baz=351,slow=7.8,SNR=4.9
TLY LR LR 19 09 57.0
comp=Z,124nm,21.6s,baz=96,slow=40
TLY Talaya 18.64 298 *e*P **Pn** **19 01 48.2 +0.1**
TLY Talaya 18.64 298 P **Pn** **19 01 48.1 +0.1**
ZAK Zakamensk 18.75 294 *e*P **Pn** **19 01 49.1 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
PEA0B Petropavlovsk- 18.91 58 P **Pn** **19 01 52.1 +0.9**
PEA0B pmax pmax
comp=Z,33nm,1.1s
PEA0B Petropavlovsk- 18.91 58 P **Pn** **19 01 52.1 +0.9**
PEA0B IAmb IAmb 19 02 18.7
comp=Z,33nm,1.1s
PETK Petropavlovsk- 18.91 58 P **Pn** **19 01 51.4 +0.2**
comp=Z,0.8nm,0.3s,baz=254,slow=7.4,SNR=14
PETK LR LR 19 08 18.3
comp=Z,67nm,19.7s,baz=243,slow=34
PETK Petropavlovsk- 18.91 58 P **Pn** **19 01 52.2 +1.0**
PET Petropavlovsk 19.46 58 P **Pn** **19 01 57.9 +0.1**
PET pmax pmax
comp=Z,49nm,1.1s
PET Petropavlovsk 19.46 58 *e*P **Pn** **19 01 57.7 -0.1**
PET Petropavlovsk 19.46 58 P **Pn** **19 01 57.9 +0.1**
PET IAmb IAmb 19 02 03.1
comp=Z,49nm,1.1s
WHN Wuhan 19.92 225 P **Pn** **19 02 06.8 +3.3**
WHN LR LR
comp=Z,4μm,13.3s
WHN LR LR
comp=Z,2μm,10.3s
WHN LR LR
comp=Z,990nm,10.5s
MOY Mondy 20.28 297 *e*P **P** **19 02 06.1 +0.3**
MOY pmax pmax
comp=Z,55nm,1.6s
XAN Xi'an 20.37 242 P **P** **19 02 07.4 +0.7**
XAN pP pP 19 02 10.9 +1.4
XAN S Sn 19 06 02.0 +3.8
XAN pmax pmax
comp=Z,21nm,1.2s
XAN pmax pmax
comp=Z,170nm,6.9s
XAN LR LR
comp=Z,320nm,18.4s
XAN LR LR
comp=Z,430nm,17.3s
XAN Xi'an 20.37 242 P **P** **19 02 06.2 -0.5**
XAN pmax pmax
comp=Z,84nm,1.8s
XAN Xi'an 20.37 242 P **P** **19 02 06.2 -0.5**
XAN IAmb IAmb 19 02 13.0
comp=Z,84nm,1.8s
JCJ Chichijima 20.90 150 LR LR 19 09 55.6
comp=Z,156nm,18.8s,baz=17,slow=36
SEY Seymchan 21.05 28↑ *e*P **P** **19 02 13.6 -0.2**
SEY Seymchan 21.05 28 P **P** **19 02 13.2 -0.6**
comp=Z,4.3nm,0.8s,baz=231,slow=7.9,SNR=11
SEY Seymchan 21.05 28 *e*P **P** **19 02 13.6 -0.2**
LZH Lanzhou 22.39 254 *e*P **P** **19 02 28.9 +0.2**
LZH sP sP 19 02 38.3 +5.6
LZH PP **PnPn** **19 02 55.0 +3.6**
LZH S **S** **19 06 37.1 +2.4**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,80nm,4.3s
LZH LR LR
comp=Z,470nm,8.8s
LZH LR LR
comp=Z,470nm,9.2s
LZH LR LR
comp=Z,340nm,9.8s
ENH Enshi 22.72 234 P **P** **19 02 31.2 -0.8**
SSLB Suanglung 23.42 203 P **P** **19 02 38.1 -1.2**
SSLB IAmb IAmb 19 03 05.2
comp=Z,23nm,1.3s
GTA Gaotai 23.49 265 *e*P **P** **19 02 39.8 -0.2**
GTA pP pP 19 02 44.8 +1.9
GTA sP sP 19 02 48.4 +4.2
GTA S **S** **19 06 54.3 +0.6**
GTA sS sS 19 07 00.9 +2.2
GTA pmax pmax
comp=Z,47nm,5.7s
GTA LR LR
comp=Z,450nm,14.9s
GTA LR LR
comp=Z,480nm,13.7s
GTA LR LR
comp=Z,990nm,11.7s
TPUB Ta-pu 23.97 203 P **P** **19 02 43.0 -1.7**
TPUB IAmb IAmb 19 03 03.7
comp=Z,124nm,1.7s
TIXI Tiksi 25.83 359↓ *e*P **P** **19 02 59.8 -1.3**
TIXI pmax pmax
comp=Z,28nm,1.0s
TIXI Tiksi 25.83 359 P **P** **19 03 00.6 -0.5**
comp=Z,19nm,0.7s,baz=360,slow=24,SNR=18
TIXI Tiksi 25.83 359 *e*P **P** **19 02 59.8 -1.3**
TIXI Tiksi 25.83 359 P **P** **19 02 59.2 -1.9**
TIXI IAmb IAmb 19 03 05.2
comp=Z,19nm,0.7s
BILL Bilibino 28.74 27 *e*P **P** **19 03 26.0 -1.3**
BILL *i* 19 04 19.5
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,175nm,15.0s
ZAA0 Zalesovo Array 30.12 302 P **P** **19 03 36.6 -3.0**
ZALV Zalesovo Beam 30.12 302 P **P** **19 03 38.9 -0.7**
comp=Z,4.4nm,0.7s,baz=107,slow=6.2,SNR=14
ZALV PcP **PcP** **19 06 39.5 -1.3**
comp=Z,1.9nm,0.7s,baz=91,slow=2.8,SNR=3.6
ZALV ScP **ScP** **19 10 24.6 +1.7**
comp=Z,0.3nm,0.4s,baz=101,slow=1.5,SNR=2.6
ZALV Zalesovo Beam 30.12 302 P **P** **19 03 37.5 -2.0**
ZALV **PcP** **19 06 38.8 -2.0**
WMQ Urumqi 30.25 282 *e*P **P** **19 03 43.8 +2.8**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.7s
WMQ LR LR
comp=Z,840nm,18.9s
WMQ LR LR
comp=Z,600nm,12.5s
WMQ LR LR
comp=Z,660nm,11.7s
KMI Kunming 30.50 237 P **P** **19 03 44.4 +0.9**
KMI pP sP 19 03 49.3 +1.5
KMI sP pP 19 03 51.0 +4.5
KMI PP **PnPn** **19 04 45.1 +2.9**
KMI S **S** **19 08 44.4 -0.7**
KMI sS sS 19 08 51.9 +1.9

KMI pmax pmax
comp=Z,14nm,0.6s
KMI pmax pmax
comp=Z,78nm,4.0s
KMI LR LR
comp=Z,470nm,18.2s
KMI LR LR
comp=Z,410nm,17.1s
NRIK Noril'sk 31.76 333 P **P** **19 03 53.5 -0.4**
comp=Z,4.5nm,0.8s,baz=121,slow=11,SNR=3.3
MK31 Makanchi Array 32.97 289 P **P** **19 04 04.0 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 32.97 289 P **P** **19 04 04.0 -0.8**
MKAR Makanchi Array 32.97 289 P **P** **19 04 04.1 -0.8**
comp=Z,0.9nm,0.8s,baz=82,slow=9.1,SNR=8.9
MKAR PcP **PcP** **19 06 46.9 -1.8**
comp=Z,0.7nm,0.8s,baz=77,slow=5.1,SNR=2.8
MKAR Makanchi Array 32.97 289 *e*P **P** **19 04 06.0 +1.1**
MKAR Makanchi Array 32.97 289 P **P** **19 04 03.5 -1.4**
MKAR **PcP** **19 06 47.0 -1.6**
MAKZ Makanchi 33.18 290 P **P** **19 04 06.7 +0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 33.18 290 P **P** **19 04 06.7 +0.1**
KURK Kurchatov 34.34 297 *de*P **P** **19 04 14.9 -1.7**
KURK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 34.34 297 P **P** **19 04 15.0 -1.7**
KURK IAmb IAmb 19 04 19.3
comp=Z,9.8nm,0.8s
GUMO Guam 34.38 155 P **P** **19 04 16.6 -0.7**
GUMO Guam 34.38 155 P **P** **19 04 16.6 -0.7**
KURBB Kurchatov Arra 34.42 297 P **P** **19 04 16.0 -1.3**
comp=Z,8.1nm,0.7s,baz=80,slow=9.7,SNR=28
KURBB PcP **PcP** **19 06 51.1 -1.5**
comp=Z,2.0nm,1.0s,baz=75,slow=3.3,SNR=5.7
ADK Adak 34.49 60 P **P** **19 04 17.3 -0.6**
ADK pmax pmax
comp=Z,172nm,1.7s
ADK Adak 34.49 60 P **P** **19 04 17.3 -0.6**
LSA Lhasa 34.75 256 P **P** **19 04 21.4 +0.5**
LSA pmax pmax
comp=Z,21nm,0.7s
LSA Lhasa 34.75 256 P **P** **19 04 20.7 -0.2**
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 34.75 256 *e*P **P** **19 04 20.7 -0.2**
LSA Lhasa 34.75 256 P **P** **19 04 20.7 -0.2**
LSA IAmb IAmb 19 04 26.4
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 37.90 234 P **P** **19 04 46.2 -1.2**
comp=Z,0.9nm,0.9s,baz=33,slow=8.6,SNR=1.4
CMAR LR LR 19 20 38.1
comp=Z,52nm,18.5s,baz=55,slow=37
KDJ Kajisay 38.04 284 P **P** **19 04 47.9 -0.7**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 38.04 284 P **P** **19 04 47.9 -0.7**
TAPN Taplejung 38.57 256 *e*P **P** **19 04 52.8 -0.6**
comp=Z,1.1nm,0.5s
BVAR Borovoye Array 38.76 303 P **P** **19 04 53.1 -1.2**
comp=Z,7.6nm,0.8s,baz=81,slow=9.2,SNR=20
BVAR PcP **PcP** **19 07 04.3 -1.3**
comp=Z,2.1nm,0.7s,baz=90,slow=3.0,SNR=6.5
BRVK Borovoye 38.82 303↓ *e*P **P** **19 04 54.4 -0.4**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 38.82 303 *e*P **P** **19 04 54.4 -0.4**
BRVK Borovoye 38.82 303 P **P** **19 04 55.0 +0.3**
BRVK IAmb IAmb 19 04 58.5
comp=Z,13nm,1.1s
ODAN Odare 39.11 256 *e*P **P** **19 04 57.3 -0.5**
comp=Z,16nm,0.9s
NRN Naryn 39.13 284 P **P** **19 04 57.1 -0.9**
NRN pmax pmax
comp=Z,3.0nm,1.2s
NRN Naryn 39.13 284 P **P** **19 04 57.1 -0.9**
JIRN Jiri 39.41 258 *e*P **P** **19 04 59.8 -0.7**
comp=Z,19nm,0.6s
GUN Gumba 39.46 259 *e*P **P** **19 05 00.1 -0.8**
RAMN Ramite 39.58 257 *e*P **P** **19 05 00.8 -1.0**
comp=Z,36nm,0.8s
AAK Ala-Archa 39.64 286↑ *e*P **P** **19 05 02.0 0.0**
AAK pmax pmax
comp=Z,10.0nm,2.5s
AAK Ala-Archa 39.64 286 P **P** **19 05 02.3 +0.3**
comp=Z,1.8nm,0.6s,baz=43,slow=5.3,SNR=7.5
AAK Ala-Archa 39.64 286 *e*P **P** **19 05 02.0 0.0**
AAK Ala-Archa 39.64 286 P **P** **19 05 02.0 0.0**
RDOG Red Dog Mine 39.80 33 P **P** **19 05 02.4 -0.4**
RDOG IAmb IAmb 19 05 08.9
comp=Z,43nm,1.8s
KKN Kakani 39.95 259 *e*P **P** **19 05 04.0 -0.8**
comp=Z,15nm,0.6s
PKI Pulchoki 40.00 259 *e*P **P** **19 05 04.7 -0.6**
KSH Kashi 40.01 281 *e*P P 19 05 09.8 +4.8
KSH LR LR
comp=Z,350nm,11.2s
KSH LR LR
comp=Z,360nm,11.7s
PKIN Phulchoki 40.01 259 *e*P **P** **19 05 04.6 -0.7**
GKN Gorkha 40.26 260 *e*P **P** **19 05 06.1 -1.2**
DANN Dangsing 40.65 261 *e*P **P** **19 05 10.2 -0.4**
comp=Z,27nm,0.5s
KOLN Koldanda 41.12 260 *e*P **P** **19 05 13.6 -0.8**
comp=Z,22nm,0.7s
ARSB Arslanbob 41.22 285 P **P** **19 05 15.9 +0.8**
ARSB IAmb IAmb 19 05 23.3
comp=Z,13nm,1.2s
KK31 Karatay Array 42.09 289 P **P** **19 05 21.3 -0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 42.09 289 P **P** **19 05 21.3 -0.8**
KKAR Karatay Array 42.09 289 P **P** **19 05 20.9 -1.2**
KKAR Karatay Array 42.09 289 P **P** **19 05 20.9 -1.2**
BTK Batken 43.26 284 P **P** **19 05 31.0 -0.7**
BTK pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 43.26 284 P **P** **19 05 31.0 -0.7**
BTK IAmb IAmb 19 05 36.2
comp=Z,8.4nm,0.9s
IMAR Indian Mountai 43.60 35 P **P** **19 05 34.0 +0.1**
ARU Arti 44.39 311 *d i* P **P** **19 05 42.2 +1.8**
ARU 19 07 23.3
ARU S **S** **19 12 19.0 +4.3**
ARU SS **SS** **19 15 26.6 -6.5**
ARU pmax pmax
comp=Z,14nm,1.4s
ARU Arti 44.39 311 *e*P **P** **19 05 41.7 +1.3**
ARU Arti 44.39 311 P **P** **19 05 41.7 +1.3**
ARU IAmb IAmb 19 05 43.4
comp=Z,19nm,1.3s
TOLK Toolik Lake Re 44.64 31 P **P** **19 05 43.5 +1.2**
TOLK IAmb IAmb 19 06 10.8
comp=Z,19nm,1.9s
COLD Coldfoot 44.72 33 P **P** **19 05 44.5 +1.6**
PPLA Purkeypile 44.98 39 P **P** **19 05 46.1 +0.9**
PPLA IAmb IAmb 19 05 54.8
comp=Z,35nm,1.6s
MLY Manley 45.03 36 P **P** **19 05 48.5 +3.0**
SBUM Sibu 46.19 206 P **P** **19 05 55.8 +0.8**
SBUM IAmb IAmb 19 05 56.9
comp=Z,25nm,1.4s
ABKAR Akbulak array 46.21 301 P **P** **19 05 54.3 -0.6**
ABKAR Akbulak array 46.21 301 P **P** **19 05 53.9 -1.0**
ABKAR IAmb IAmb 19 05 58.2
comp=Z,18nm,0.7s
COLA College 46.26 36↑ *e*P **P** **19 05 53.1 -2.0**
COLA pmax pmax
comp=Z,9.0nm,2.0s
WRH Wood River Hil 46.28 36 P **P** **19 05 56.4 +1.2**
WRH IAmb IAmb 19 06 00.0
comp=Z,6.8nm,1.1s
CCB Clear Creek Bu 46.35 36 P **P** **19 05 57.8 +2.0**
KDAK Kodiak Island 46.36 46 P **P** **19 05 57.0 +1.0**
KDAK pmax pmax
comp=Z,147nm,1.9s
KDAK Kodiak Island 46.36 46 P **P** **19 05 57.0 +1.0**
BRLK Bradley Lake 46.52 43 P **P** **19 05 58.1 +0.8**
IL31 46.68 36 P **P** **19 05 58.1 -0.3**
ILAR Eielson Array 46.68 36 P **P** **19 05 58.6 +0.1**
comp=Z,1.2nm,0.6s,baz=288,slow=7.2,SNR=15
ILAR Eielson Array 46.68 36 P **P** **19 05 59.6 +1.2**
GHO Glory Hole Cre 46.77 40 P **P** **19 06 00.2 +1.0**

BMAR Burnt Mountain 46.77 32 P **P 19 05 59.5 +0.4**
HDA Harding Lake 46.77 36 P **P 19 05 59.3 +0.2**
HDA IAmb IAmb 19 06 14.4
comp=Z,38nm,1.8s
FYU Fort Yukon 46.79 33 P **P 19 05 58.1 -1.1**
PRP Porcupine Dome 47.00 35 P **P 19 06 01.8 +0.7**
PRP IAmb IAmb 19 06 27.7
comp=Z,6.0nm,0.9s
DHY Denali Highway 47.02 38 P **P 19 05 59.7 -1.6**
DHY IAmb IAmb 19 06 06.8
comp=Z,8.8nm,1.1s
KBL Kabul 47.30 279 P **P 19 06 02.4 -1.5**
KBL pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 47.30 279 P **P 19 06 02.4 -1.5**
SCM Sheep Creek Mo 47.46 40 P **P 19 06 02.4 -2.2**
SCM pmax pmax
comp=Z,96nm,1.9s
SCM Sheep Creek Mo 47.46 40 P **P 19 06 02.4 -2.2**
RIDG Independent Ri 47.87 37 P **P 19 06 05.5 -2.3**
RIDG IAmb IAmb 19 06 29.9
comp=Z,31nm,1.6s
DOT Dot Lake 48.23 37 P **P 19 06 09.7 -0.8**
DOT IAmb IAmb 19 06 37.6
comp=Z,31nm,2.0s
FID Port Fidalgo 48.23 41 P **P 19 06 07.9 -2.6**
PRGR Permogore 48.86 321 *e*P **P 19 06 15.3 0.0**
PRGR pmax pmax
comp=Z,17nm,0.6s
GLB Gilahina Butte 49.16 39 P **P 19 06 18.2 +0.4**
BARN Barnard Glacie 50.27 39 P **P 19 06 26.2 -0.1**
INK Inuvik 50.34 29 P **P 19 06 25.9 -0.6**
comp=Z,2.6nm,0.8s,baz=299,slow=7.4,SNR=5.7
INK Inuvik 50.34 29 P **P 19 06 26.4 -0.2**
INK IAmb IAmb 19 06 36.2
comp=Z,13nm,1.6s
CTGM Chitina Glacie 50.45 39 P **P 19 06 27.3 -0.4**
CTGM IAmb IAmb 19 06 53.1
comp=Z,42nm,1.6s
TMCR Tamitsa 50.98 326 *e*P **P 19 06 32.3 +0.9**
TMCR pmax pmax
comp=Z,34nm,0.9s
PSI Prapat 51.10 222 LR LR 19 30 44.5
comp=Z,96nm,18.1s,baz=263,slow=39
KLMR Klimovskoe 51.87 322 *e*P **P 19 06 38.9 +0.9**
KLMR pmax pmax
comp=Z,19nm,1.0s
KLMR Klimovskoe 51.87 322 *e*P **P 19 06 39.0 +0.9**
KLMR AMP 19 06 40.6
comp=Z,19nm,1.0s
HRA Herat 52.05 283 P **P 19 06 40.2 +0.1**
HRA IAmb IAmb 19 06 45.2
comp=Z,10nm,1.5s
KEV Kevo 52.14 335 P **P 19 06 41.1 +1.1**
KEV pmax pmax
comp=Z,105nm,1.6s
KEV Kevo 52.14 335 P **P 19 06 41.1 +1.1**
HYT Haines Junctio 52.19 38 P **P 19 06 41.3 +0.6**
HYT IAmb IAmb 19 06 57.3
comp=Z,27nm,1.6s
ARCES ARCESS Array B 52.70 335 P **P 19 06 44.5 +0.4**
comp=Z,4.9nm,0.9s,baz=67,slow=10,SNR=6.6
GEYT Alibeck 52.85 289 P **P 19 06 45.6 -0.2**
comp=Z,2.3nm,0.6s,baz=40,slow=8.0,SNR=7.5
GEYT LR LR 19 31 18.3
comp=Z,162nm,19.6s,baz=55,slow=38
GEYT Alibeck 52.85 289 P **P 19 06 46.3 +0.5**
GSI Gunungsitoli 53.05 223 P **P 19 06 46.6 -0.7**
GSI IAmb IAmb 19 06 48.4
comp=Z,17nm,0.8s
KTK1 Kautokeino 53.66 335 *e*P **P 19 06 50.8 -0.5**
TRO Tromso 54.54 336 *e*P **P 19 06 57.6 0.0**
VRH Novokhopyorsk 55.62 310 *e*P **P 19 07 07.0 +1.3**
VRH pmax pmax
comp=Z,20nm,0.8s
SOEI Soe 55.70 188 P **P 19 07 05.8 -1.0**
SOEI IAmb IAmb 19 07 33.2
comp=Z,35nm,1.5s
RES Resolute Bay 55.93 13 P **P 19 07 06.6 -1.0**
RES pmax pmax
comp=Z,16nm,1.5s
RES Resolute Bay 55.93 13 P **P 19 07 06.6 -1.0**
RES IAmb IAmb 19 07 10.5
comp=Z,16nm,1.4s
DAG Danmarks Havn 56.06 352 *i* P **P 19 07 09.7 +1.2**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 56.06 352 *i* P **P 19 07 09.7 +1.2**
comp=Z,3.7nm,0.7s
OBN Obninsk 56.12 316⇑*e*P **P 19 07 11.1 +1.9**
OBN *e* 19 09 14.9
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN MLR MLR
comp=Z,94nm,15.0s
OBN Obninsk 56.12 316 *e*P **P 19 07 11.2 +2.0**
LPSR Galich'ya Gora 56.32 313 *e*P **P 19 07 12.0 +1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
STEI Steigen 56.66 336 *e*P **P 19 07 13.7 +0.8**
VSR Storozhevoye 56.96 311 *e*P **P 19 07 16.4 +1.1**
VSR pmax pmax
comp=Z,20nm,0.7s
FIA1 FINESS Array S 57.08 326 P **P 19 07 14.6 -1.4**
FINES FINESS Array B 57.08 326 P **P 19 07 16.9 +0.9**
comp=Z,20nm,0.5s,baz=58,slow=8.4,SNR=78
FINES LR LR 19 32 02.7
comp=Z,76nm,18.6s,baz=70,slow=36
FINES FINESS Array B 57.08 326 P **P 19 07 14.8 -1.2**
TULEG Thule 57.20 5 P **P 19 07 17.1 +0.6**
TULEG IAmb IAmb 19 07 18.6
comp=Z,16nm,0.9s
AKT Akhty 57.52 298⇑*e*P **P 19 07 20.1 +0.6**
AKT pmax pmax
comp=Z,45nm,1.8s
MOR8 Moi Rana 58.07 335 *e*P **P 19 07 21.9 -1.0**
KIV Kislovodsk 59.13 303 *e*P **P 19 07 33.3 +2.6**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV MLR MLR
comp=Z,172nm,17.0s
KIV Kislovodsk 59.13 303 ⇑P **P 19 07 33.5 +2.7**
KIV mb 19 07 34.5
KIV Kislovodsk 59.13 303 P **P 19 07 32.9 +2.2**
KIV IAmb IAmb 19 07 35.0
comp=Z,17nm,0.8s
KBZ Khabaz 59.14 302 P **P 19 07 31.4 +0.8**
comp=Z,1.0nm,0.6s,baz=73,slow=18,SNR=3.1
SHA1 Shidzhatmaz 59.27 303 *d i* P **P 19 07 33.8 +1.9**
YKA Yellowknife Ar 60.11 29 P **P 19 07 37.3 +0.2**
comp=Z,1.1nm,0.7s,baz=314,slow=6.7,SNR=7.2
DOMR Dombai 60.14 303⇓*e*P **P 19 07 40.8 +3.0**
DOMR pmax pmax
comp=Z,7.0nm,0.9s
COEN Coen 60.65 166 P **P 19 07 43.2 +2.0**
COEN IAmb IAmb 19 07 43.5
comp=Z,20nm,2.0s
KNRA Kununurra 61.31 182 P **P 19 07 44.8 -0.9**
SUMG Summit 61.57 356 P **P 19 07 46.3 -1.0**
SUMG pmax pmax
comp=Z,25nm,1.2s
SUMG Summit 61.57 356 *i* P **P 19 07 49.0 +1.6**
comp=Z,24nm,0.8s
SUMG Summit 61.57 356 P **P 19 07 46.3 -1.0**
SCO Scoresbysund 62.23 350 P **P 19 07 52.6 +1.3**
SCO Scoresbysund 62.23 350 P **P 19 07 52.6 +1.3**
SCO IAmb IAmb 19 08 02.6
comp=Z,18nm,1.4s
AKASG Malin Array Be 62.32 315 P **P 19 07 53.0 +0.8**
AKASG Malin Array Be 62.32 315 P **P 19 07 53.0 +0.8**
comp=Z,8.4nm,0.7s,baz=46,slow=7.3,SNR=34
AKASG Malin Array Be 62.32 315 P **P 19 07 53.5 +1.3**
AKBB Malin Array Si 62.32 315 P **P 19 07 52.4 +0.2**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 62.32 315 P **P 19 07 52.4 +0.2**
AKBB IAmb IAmb 19 07 54.5
comp=Z,10nm,0.8s
NC405 NORSAR Array S 62.50 331 P **P 19 07 53.5 +0.2**
HFS Hagfors 62.53 330 P **P 19 07 54.3 +0.8**
comp=Z,6.9nm,0.5s,baz=73,slow=5.1,SNR=36
NC303 NORSAR Array S 62.53 332 P **P 19 07 52.2 -1.3**
DOMB Dombas 62.67 333 *e*P **P 19 07 54.7 +0.3**
NB201 NORSAR Array S 62.69 331 P **P 19 07 54.7 +0.2**
NC204 NORSAR Array S 62.70 332 P **P 19 07 56.2 +1.5**
NB2 NORSAR Subarra 62.72 332 P **P 19 07 55.9 +1.1**
comp=Z,16nm,0.8s,baz=44,slow=6.5
NB2 NORSAR Subarra 62.72 332 P **P 19 07 55.9 +1.1**
baz=44,slow=6.5
NOA NORSAR Array B 62.72 332 P **P 19 07 55.4 +0.6**
comp=Z,7.2nm,0.7s,baz=41,slow=6.4,SNR=26
NC602 NORSAR Array S 62.83 331 *e*P **P 19 07 55.7 +0.3**
NC602 NORSAR Array S 62.83 331 P **P 19 07 55.0 -0.4**
NBO00 NORSAR Array S 62.87 332 P **P 19 07 56.8 +1.0**
NAO01 NORSAR Array S 62.97 331 P **P 19 07 56.4 0.0**
OSL Oslo 63.70 331 *e*P **P 19 08 03.3 +2.1**
FITZ Fitzroy Crossi 63.86 185 P **P 19 08 01.8 -0.9**
SORM Soroca 64.41 313⇑P **P 19 08 08.3 +2.2**
WRAB Tennant Creek 65.61 176⇑*e*P **P 19 08 12.6 -1.5**
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WRAB Tennant Creek 65.61 176 P **P 19 08 12.4 -1.7**
WRAB IAmb IAmb 19 08 13.3
comp=Z,6.9nm,0.9s
WB2 Warramunga Arr 65.62 176 P **P 19 08 12.8 -1.4**
WRA Warramunga Arr 65.62 176 P **P 19 08 12.3 -1.8**
comp=Z,5.3nm,0.8s,baz=353,slow=7.1,SNR=40
WRA Warramunga Arr 65.62 176 P **P 19 08 12.1 -2.0**
TLCR 66.12 311⇑P **P 19 08 19.4 +2.2**
TLCR mb 19 08 19.7
KWP Kalwaria Pacla 66.17 317 P **P 19 08 17.2 -0.3**
KWP Kalwaria Pacla 66.17 317 P **P 19 08 17.2 -0.3**
BUR08 Bucovina Ar. S 66.32 315 P **P 19 08 19.0 +0.4**
BUR08 IAmb IAmb 19 08 21.6
comp=Z,4.6nm,0.8s
BURAR Bucovina Array 66.33 315⇓P **P 19 08 20.8 +2.2**
BURAR Bucovina Array 66.33 315 P **P 19 08 17.6 -1.1**
BIZ Bicaz 66.34 314⇑P **P 19 08 21.2 +2.5**
TESR Tescani 66.36 313⇑P **P 19 08 21.0 +2.3**
CFR Carcaliu 66.48 311⇓P **P 19 08 20.4 +0.9**
VRI Vrincioaia 66.75 312⇓P **P 19 08 23.9 +2.6**
PLOR Plostina 66.80 312⇓P **P 19 08 23.8 +2.2**
KOLS Kolonicke sedl 66.86 317 *e*P **P 19 08 24.2 +2.3**
KOLS Kolonicke sedl 66.86 317 *e*P **P 19 08 24.2 +2.3**
BR131 Keskin Array S 67.05 304 P **P 19 08 23.3 -0.2**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 67.05 304 P **P 19 08 23.2 -0.2**
BR131 IAmb IAmb 19 08 26.5
comp=Z,4.2nm,0.8s
BRTR Keskin Array B 67.05 304 P **P 19 08 23.8 +0.4**
comp=Z,3.8nm,0.8s,baz=60,slow=4.7,SNR=16
BRTR LR LR 19 42 41.8
comp=Z,36nm,18.5s,baz=346,slow=40
BRTR Keskin Array B 67.05 304 P **P 19 08 24.3 +0.8**
OJC Ojcow 67.11 319 P **P 19 08 24.6 +1.1**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 67.11 319 P **P 19 08 24.6 +1.1**
OJC IAmb IAmb 19 08 27.1
comp=Z,7.9nm,0.9s
ARCR ARCALIA 67.12 315⇓P **P 19 08 26.7 +3.1**
ISR Istrita 67.35 312⇓P **P 19 08 28.0 +2.8**
ICOR Ion Corvin 67.37 310⇓P **P 19 08 28.2 +3.0**
MLR Muntele Rosu 67.41 313⇓P **P 19 08 28.4 +2.8**
SECR 67.66 312⇓P **P 19 08 30.1 +3.0**
VOIR 67.90 313⇑P **P 19 08 30.8 +2.1**
LANS Liptovska Anna 68.02 319 *e*P **P 19 08 31.1 +1.8**
LANS pmax pmax
comp=Z,2.0nm,0.8s
LANS Liptovska Anna 68.02 319 *e*P **P 19 08 31.1 +1.8**
ARR Arges 68.16 313⇑P **P 19 08 33.6 +3.3**
SGRR Singureni 68.26 312⇓P **P 19 08 33.1 +2.3**
SGRR mb 19 08 36.5
MORC Moravsky Berou 68.44 320 P **P 19 08 33.5 +1.6**
MORC pmax pmax
comp=Z,8.0nm,0.7s
MORC Moravsky Berou 68.44 320⇑P **P 19 08 34.7 +2.8**
MORC mb 19 08 35.2
MORC Moravsky Berou 68.44 320 *e*P **P 19 08 34.5 +2.5**
MORC Moravsky Berou 68.44 320 P **P 19 08 33.5 +1.6**
MORC IAmb IAmb 19 08 35.2
comp=Z,7.6nm,0.7s
CHVC Chvalec 68.51 321 *e*P **P 19 08 34.7 +2.4**
DPC Dobruska-Polom 68.57 321 *e*P **P 19 08 35.3 +2.6**
DPC Dobruska-Polom 68.57 321 *e*P **P 19 08 35.3 +2.6**
PSZ Piszkesteto 68.70 318⇑P **P 19 08 36.6 +2.9**
PSZ mb 19 08 36.8
VYHS Vyhne 68.78 319 *e*P **P 19 08 36.9 +2.9**
VYHS Vyhne 68.78 319 *e*P **P 19 08 36.9 +2.9**
CTYL Yalikoy Yolu 68.90 308⇑P **P 19 08 36.7 +1.8**
CTYL mb 19 08 37.8
GZR Gura Zlata 69.08 314⇑P **P 19 08 38.6 +2.6**
PVCC Panska Ves 69.19 322 *e*P **P 19 08 39.1 +2.5**
PVCC Panska Ves 69.19 322 *e*P **P 19 08 39.1 +2.5**
BRG Berggiesshubel 69.20 323 *e*PKP **P 19 08 38.8 +2.2**
comp=Z,8.7nm,1.3s
BRG Berggiesshubel 69.20 323 *e*P **P 19 08 38.8 +2.2**
BRG pmax pmax
comp=Z,9.0nm,1.3s
VRAC Vranov 69.21 320 P **P 19 08 34.4 -2.3**
comp=Z,2.5nm,0.6s,baz=341,slow=21,SNR=4.3
VRAC Vranov 69.21 320⇓P **P 19 08 39.5 +2.8**
PHSR Pinarhisar 69.21 309⇑P P 19 08 31.8 -5.0
VLAD Vladila 69.23 312⇓P P 19 08 41.7 +4.8
CLL Collm 69.27 324⇓*i*P **P 19 08 38.5 +1.5**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 69.27 324⇓*i*P **P 19 08 38.5 +1.5**
comp=Z,11nm,1.0s
CLL Collm 69.27 324 P **P 19 08 38.5 +1.5**
CLL IAmb IAmb 19 08 39.5
comp=Z,8.4nm,0.7s
ASAR Alice Springs 69.30 177 P **P 19 08 36.8 -0.6**
ASAR Alice Springs 69.30 177 P **P 19 08 36.5 -0.9**
comp=Z,3.8nm,0.9s,baz=3.2,slow=6.7,SNR=22
ASAR Alice Springs 69.30 177 P **P 19 08 36.8 -0.6**
SMOL Smolenice 69.41 319 *e*P **P 19 08 38.7 +0.8**
SMOL Smolenice 69.41 319 *e*P **P 19 08 38.7 +0.8**
KRUC Moravsky 69.48 320 *e*P **P 19 08 41.1 +2.8**
BZS Buzias 69.50 315⇓P **P 19 08 40.9 +2.4**
PLVB Pleven 69.55 312⇓P **P 19 08 40.8 +2.0**
PRU Pruhonice 69.61 322 *e*P **P 19 08 41.0 +1.9**
PRU Pruhonice 69.61 322 *e*P **P 19 08 41.0 +1.9**
CONA Conrad Observa 70.55 320 *e*pP **P 19 08 47.9 +2.8**
comp=Z,9.9nm,1.2s
KHC Kasperske Hory 70.67 322 P **P 19 08 46.8 +1.1**
KHC pmax pmax
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 70.67 322 *e*P **P 19 08 48.1 +2.4**
KHC Kasperske Hory 70.67 322 P **P 19 08 46.8 +1.1**
KHC IAmb IAmb 19 08 49.5
comp=Z,5.6nm,1.3s
VTS Vitosha 70.81 312 P **P 19 08 48.7 +1.9**
VTS pmax pmax
comp=Z,6.0nm,0.7s
VTS Vitosha 70.81 312⇑P **P 19 08 49.2 +2.4**
VTS mb 19 08 49.8
VTS Vitosha 70.81 312 P **P 19 08 48.7 +1.9**
VTS IAmb IAmb 19 08 50.2
comp=Z,5.7nm,0.7s
GERES GERESS Array B 70.83 321 P **P 19 08 48.0 +1.2**
GERES GERESS Array B 70.83 321 P **P 19 08 48.0 +1.2**
comp=Z,1.9nm,0.7s,baz=46,slow=5.8,SNR=14
GERES GERESS Array B 70.83 321 P **P 19 08 48.2 +1.5**
ARSA Arzberg 71.21 319 *e*pP **P 19 08 51.1 +2.0**
comp=Z,2.1nm,0.6s
GRA1 Grafenberg Arr 71.24 323 P **P 19 08 50.9 +1.8**
GRF Grafenberg Arr 71.24 323 P **P 19 08 50.9 +1.8**
GRF pmax pmax
comp=Z,29nm,1.2s
EKA Eskdalemuir Ar 71.86 334 P **P 19 08 53.8 +1.0**
comp=Z,3.1nm,0.6s,baz=30,slow=4.8,SNR=16
SOKA Soboth 71.86 319 *e*pP **P 19 08 55.4 +2.4**
comp=Z,4.4nm,0.6s
KBA Koenbreinsper 72.32 320 *e*pP **P 19 08 57.7 +1.8**
comp=Z,12nm,0.8s
MYKA Terra Mystica 72.53 320 *e*pP **P 19 08 59.5 +2.5**
comp=Z,7.5nm,0.7s
WATA Walderalm 72.90 322 *e*pP **P 19 09 01.6 +2.3**
comp=Z,8.5nm,0.8s
WTTA Wattenberg 72.93 321 *e*pP **P 19 09 02.0 +2.5**
comp=Z,4.2nm,0.5s
MOTA Moosalm 73.10 322 *e*pP **P 19 09 02.9 +2.4**
comp=Z,16nm,1.0s
RETA Reutte 73.14 322 *e*pP **P 19 09 03.5 +2.9**
comp=Z,6.2nm,0.9s
SQTA Sankt Quirin 73.15 322 *e*pP **P 19 09 03.6 +2.9**
comp=Z,5.1nm,0.7s
MFID Camas Ranch 73.31 44 P **P 19 09 01.4 -0.3**
MFID IAmb IAmb 19 09 05.6
comp=Z,5.0nm,0.9s
BFO Black Forest 73.50 324 P **P 19 09 04.3 +1.6**
BFO pmax pmax
comp=Z,8.0nm,0.7s
BFO Black Forest 73.50 324 P **P 19 09 04.3 +1.6**
BFO IAmb IAmb 19 09 05.8
comp=Z,7.8nm,0.7s
DAVA Damuels 73.67 322 *e*pP **P 19 09 06.7 +2.8**
comp=Z,7.9nm,1.0s
DAVOX Davos/Dischmat 74.06 322 P **P 19 09 08.7 +2.5**
comp=Z,4.9nm,0.6s,baz=332,slow=2.3,SNR=9.8
KVN Kaiserville 75.40 49 P **P 19 09 13.3 -0.8**
KVN pmax pmax
comp=Z,3.0nm,0.7s
KVN Kaiserville 75.40 49 P **P 19 09 13.3 -0.8**
FXWY Fox Creek 75.42 41 P **P 19 09 13.3 -0.9**
MOOW Moose Ponds 75.46 41 P **P 19 09 14.3 -0.1**
MOOW IAmb IAmb 19 09 18.8
comp=Z,4.8nm,0.9s
ELK Elko 75.60 46 P **P 19 09 15.1 -0.1**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 75.60 46 P **P 19 09 15.3 0.0**
comp=Z,1.7nm,0.8s,baz=320,slow=8.0,SNR=6.4
ELK Elko 75.60 46 P **P 19 09 15.1 -0.1**
NVAR Mina Array Bea 75.75 49 P **P 19 09 16.1 -0.1**
comp=Z,2.7nm,0.8s,baz=296,slow=4.5,SNR=12
NVAR Mina Array Bea 75.75 49 P **P 19 09 15.2 -1.0**
ULM Lac du Bonnet 76.09 29 P **P 19 09 18.6 +1.1**
comp=Z,4.2nm,0.8s,baz=0.0,slow=3.0,SNR=3.0
PD31 Pinedale Array 76.77 41 P **P 19 09 20.3 -1.6**
PDAR Pinedale Array 76.77 41 P **P 19 09 20.9 -1.0**
comp=Z,1.9nm,0.7s,baz=16,slow=2.0,SNR=12
PDAR Pinedale Array 76.77 41 P **P 19 09 18.0 -3.9**
TPNV Topopah Spring 77.94 49 P **P 19 09 27.7 -0.7**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 77.94 49 P **P 19 09 27.7 -0.7**
PSUT Pine Spring 77.97 46 P **P 19 09 27.7 -0.9**
STKA Stephens Creek 78.05 170 P **P 19 09 27.5 -1.1**
comp=Z,4.4nm,0.6s,baz=343,slow=7.7,SNR=13
RSSD Black Hills 78.12 37 P **P 19 09 27.8 -1.6**
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 78.12 37 P **P 19 09 27.8 -1.6**
RSSD IAmb IAmb 19 09 32.4
comp=Z,6.1nm,1.0s
TMUT Trail Mountain 78.70 44 P **P 19 09 31.3 -1.5**
MSU Marysvale 78.83 45 P **P 19 09 31.8 -1.6**
MSU Marysvale 78.83 45 P **P 19 09 31.8 -1.6**
MTPU Mount Pierson 79.19 46 P **P 19 09 35.8 +0.2**
KNB Kanab 79.66 47 P **P 19 09 36.6 -1.3**
KNB pmax pmax
comp=Z,25nm,2.0s
KNB Kanab 79.66 47 P **P 19 09 36.6 -1.3**
PV21 Cone Mtn., Par 80.35 43 P **P 19 09 41.3 -0.4**
PV21 IAmb IAmb 19 09 48.9
comp=Z,4.6nm,0.7s
PV23 Carpenter Ridg 80.42 43 P **P 19 09 40.6 -1.6**
PV23 IAmb IAmb 19 09 46.5
comp=Z,9.8nm,0.9s
PV12 Saucer Basin, 80.63 43 P **P 19 09 41.8 -1.4**
PV12 IAmb IAmb 19 09 47.0
comp=Z,7.7nm,1.0s
PV02 Paradox Valley 80.75 43 P **P 19 09 42.5 -1.4**
PV02 IAmb IAmb 19 09 47.5
comp=Z,4.8nm,0.9s
SMCO Snowmass 80.81 42 P **P 19 09 43.5 -0.8**
PV01 Paradox Valley 80.88 43 P **P 19 09 43.3 -1.2**
MVCO Mesa Verde 81.65 44 P **P 19 09 47.0 -1.7**
MVCO IAmb IAmb 19 09 55.3
comp=Z,5.2nm,1.1s
KEST Kesra 83.05 316 P **P 19 09 55.9 +0.1**
comp=Z,5.0nm,0.8s,baz=42,slow=12,SNR=5.7
KEST Kesra 83.05 316 P **P 19 09 55.6 -0.2**
ANMO Albuquerque 84.45 44⇑*e*P **P 19 10 03.6 +0.5**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ESDC Sonseca Array 85.60 327 P **P 19 10 08.6 0.0**
comp=Z,1.3nm,0.6s,baz=18,slow=4.6,SNR=8.8
ESDC Sonseca Array 85.60 327 P **P 19 10 07.3 -1.4**
SADO Sadowa 85.94 21 LR LR 19 51 55.6
comp=Z,37nm,18.1s,baz=88,slow=38
U40A Yellville 89.22 34 P **P 19 10 24.2 -1.9**
U40A IAmb IAmb 19 10 29.1
comp=Z,6.7nm,0.8s
TXAR Lajitas Array 90.39 45 P **P 19 10 30.6 -1.2**
comp=Z,0.8nm,0.8s,baz=302,slow=2.8,SNR=5.1
TXAR Lajitas Array 90.39 45 P **P 19 10 30.9 -0.9**
TORD Torodi Ar. Bea 105.42 308 PP **PP 19 16 01.4 +0.6**
comp=Z,1.4nm,1.0s,baz=23,slow=8.7,SNR=4.2
QSPA South Pole Qui 135.64 180 PP PP 19 19 27.8 -0.1
comp=Z,2.2nm,1.0s,baz=338,slow=1.3,SNR=4.1
SNAA Sanae 146.21 204 PKPdf **PKPdf 19 17 07.3 -1.0**
SNAA Sanae 146.21 204 PKP2 **PKPdf 19 17 07.2 -1.0**
SNAA Sanae 146.21 204 **PKPdf 19 17 07.2 -1.0**
VNA2 Neumayer--Watz 147.86 204 PKPdf **PKPbc 19 17 12.3 -1.7**
baz=89,slow=2.9
VNA1 Neumayer--Stat 148.25 205 PKPdf **PKPdf 19 17 12.8 +1.3**

*ISCJB **19** 19:11:08.4±0.3, 43°.73N±0°.02×105°.25W±0°.03, h7km, mb4.2/6, Error ellipse: s-maj=3.5km s-min=3.2km az=29.1*
*NEIC **19** 19:11:09.7±1.7, 43°.74N±0°.05×105°.29W±0°.06, h0km±1km, ML3.8/70*
*IDC **19** 19:11:10.4±0.8, 43°.95N×105°.73W, h0km, mb4.2/6, mb1 4.1/12, mb1mx3.8/45, mbtmp3.9/12, ML3.3/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/53, Error ellipse: s-maj=21.9km s-min=7.0km az=145.0*
ISC 19 19:11:09.8±0.7, 43°.77N±0°.06×105°.35W±0°.06, h7km, n115, σ1§22/112, mb4.2/6, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**69**		**Pb**	**19 11 28.7**	**-1.2**
K22A	**Casper**	**1.41**	**218**		**Pn**	**19 11 34.7**	**-1.3**
K22A				IAML		19 11 58.0	
	comp=E,2μm,0.9s						
K22A				IAML		19 12 00.1	
	comp=N,2μm,0.4s						
PHWY	**Pilot Hill**	**2.46**	**182**		**Pn**	**19 11 51.3**	**+0.6**
PHWY				IAML		19 12 28.1	
	comp=N,334nm,0.4s						
RWWY	**Rawlins**	**2.49**	**214**		**Pn**	**19 11 52.4**	**+1.4**
N23A	**Red Feather La**	**2.90**	**189**		**Pn**	**19 11 57.6**	**+0.9**
N23A				IAML		19 12 44.5	
	comp=N,288nm,0.8s						
N23A				IAML		19 12 47.8	
	comp=E,361nm,0.9s						
LAO	**LASA Array**	**2.99**	**348**		**Pb**	**19 11 59.6**	**-3.7**
LAO				IAML		19 12 54.4	
	comp=E,417nm,0.6s						
LAO				IAML		19 13 01.8	
	comp=E,322nm,0.9s						
RLMT	**Red Lodge**	**3.12**	**297**		**Pn**	**19 12 01.3**	**+1.8**
RLMT				IAML		19 12 57.1	
	comp=E,160nm,0.4s						
RLMT				IAML		19 13 01.6	
	comp=E,194nm,0.4s						
PD31	**Pinedale Array**	**3.23**	**253**		**Pn**	**19 12 02.2**	**+1.1**
PDAR	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**19 12 02.6**	**+1.4**
	comp=E,10nm,0.3s,baz=70,slow=16,SNR=135						
PDAR				Lg	Lg	19 12 44.4	
	comp=E,20nm,0.3s,baz=72,slow=33,SNR=11						
BW06	**Boulder Array**	**3.23**	**253**		**Pn**	**19 12 02.4**	**+1.3**
BW06				IAML		19 12 51.3	
	comp=N,215nm,0.7s						
YMP	**Mirror Lake Pl**	**3.59**	**287**		**Pn**	**19 12 08.1**	**+2.0**
GCMT	**Greycliff**	**3.68**	**305**		**Pn**	**19 12 08.8**	**+1.5**
LKWY	**Lake**	**3.72**	**284**		**Pn**	**19 12 08.6**	**+0.7**
OGNE	**Ogallala**	**3.74**	**138**		**Pn**	**19 12 08.6**	**+0.5**
H17A	**Grant Village**	**3.82**	**281**		**Pn**	**19 12 11.8**	**+2.5**
H17A				IAML		19 13 16.7	
	comp=N,88nm,0.9s						
YUF	**Upper Falls**	**3.83**	**286**		**Pn**	**19 12 12.4**	**+3.0**
FLWY	**Flagg Ranch**	**3.88**	**277**		**Pn**	**19 12 12.1**	**+2.1**
FLWY				IAML		19 13 19.6	
	comp=N,123nm,2.1s						
FLWY				IAML		19 13 43.3	
	comp=N,123nm,2.0s						
MOOW	**Moose Ponds**	**3.91**	**272**		**Pn**	**19 12 12.7**	**+2.2**
SNOW	**Snow King Moun**	**3.94**	**267**		**Pn**	**19 12 12.9**	**+2.0**

SNOW IAML 19 13 27.2
comp=N,171nm,1.3s
SNOW IAML 19 13 39.1
comp=N,187nm,1.0s
YNR Norris Junctio 3.94 286 Pn 19 12 11.6 +0.6
YPP Pitchstone Pla 3.97 279 Pn 19 12 13.2 +1.9
ISCO Idaho Springs 3.97 183 Pn 19 12 12.1 +0.7
ISCO IAML 19 13 16.4
comp=N,91nm,0.9s
REDW Red Top Meadow 4.02 266 Pn 19 12 14.1 +2.1
REDW IAML 19 13 23.0
comp=N,186nm,1.6s
REDW IAML 19 13 35.7
comp=N,144nm,0.8s
TPAW Teton Pass 4.08 268 Pn 19 12 14.8 +2.0
TPAW IAML 19 13 39.2
comp=N,69nm,1.0s
TPAW IAML 19 13 41.9
comp=N,145nm,0.9s
YHH Holmes Hill 4.08 286 Pn 19 12 14.2 +1.3
FXWY Fox Creek 4.12 270 Pn 19 12 15.3 +1.9
YMR Madison River 4.14 285 Pn 19 12 15.9 +2.3
O20A White River Ci 4.22 212 Pn 19 12 15.7 +1.0
O20A IAML 19 14 03.9
comp=N,174nm,1.8s
YHB Horse Butte 4.31 285 Pn 19 12 15.7 -0.3
AHID Auburn Hatcher 4.32 259 Pn 19 12 17.8 +1.8
AHID IAML 19 13 30.8
comp=N,134nm,0.9s
YHL Hebgen Lake 4.32 287 Pn 19 12 16.6 +0.3
RDMU Red Mountain 4.47 226 Pn 19 12 20.2 +1.9
QLMT Earthquake Lak 4.49 286 Pn 19 12 20.1 +1.6
SUSD Miller 4.66 79 Pn 19 12 19.5 -1.0
SMCO Snowmass 4.74 195 Pn 19 12 22.1 -0.1
SMCO IAML 19 13 47.8
comp=N,88nm,1.0s
SMCO IAML 19 13 53.3
comp=N,112nm,1.2s
DGMT Dagmar 4.77 9 Pn 19 12 21.8 -0.3
Q24A Divide 4.80 178 Pn 19 12 21.4 -1.4
Q24A IAML 19 13 47.9
comp=E,102nm,1.2s
BOZ Bozeman (W) 4.84 294 Pn 19 12 23.5 +0.3
BOZ IAML 19 13 46.1
comp=E,43nm,1.2s
KSCO Kaye Shedlock' 5.17 156 Pn 19 12 25.9 -1.8
TCUT Toone Canyon 5.21 242 Pn 19 12 28.1 -0.2
EGMT Eagleton 5.25 326 Pn 19 12 29.2 +0.4
HRY Holter Researc 5.44 305 Pn 19 12 32.0 +0.6
LRM Limekiln Ridge 5.46 295 Pn 19 12 37.5 +5.7
MCMT McKenzie Canyo 5.49 284 Pn 19 12 33.1 +1.0
JLU Jordanelle 5.53 237 Pn 19 12 33.6 +0.9
CTU Camp Tracy 5.66 239 Pn 19 12 35.5 +1.0
MDND Maddock 5.73 43 Pn 19 12 35.5 +0.3
SPUT South Promonto 5.79 247 Pn 19 12 37.0 +0.8
BGNE Belgrade 5.81 111 Pn 19 12 36.8 +0.3
HVU Hansel Valley 5.81 253 Pn 19 12 36.7 +0.1
PV22 Blue Mesa, Par 5.83 208 Pn 19 12 37.6 +0.7
PV21 Cone Mtn., Par 5.88 209 Pn 19 12 38.5 +1.0
PV07 Paradox Valley 5.88 206 Pn 19 12 38.3 +0.8
P17A Butcher Ranch, 5.89 225 Pn 19 12 36.6 -1.0
PV23 Carpenter Ridg 5.99 209 Pn 19 12 38.4 -0.6
PV09 Paradox Valley 5.99 210 Pn 19 12 38.1 -1.0
MPU Maple Canyon 6.00 234 Pn 19 12 38.5 -0.7
PV04 Paradox Valley 6.00 208 Pn 19 12 39.9 +0.7
SDCO Great Sand Dun 6.02 181 Pn 19 12 39.5 0.0
PV12 Saucer Basin, 6.04 207 Pn 19 12 40.9 +1.2
PV14 Lion Creek, Pa 6.06 208 Pn 19 12 40.8 +0.8
SRU San Rafael Swe 6.06 222 Pn 19 12 40.2 +0.2
PV20 West Nyswonger 6.07 208 Pn 19 12 40.9 +0.8
PV11 David Mesa, Pa 6.08 207 Pn 19 12 40.8 +0.6
PV16 Nyswonger Mesa 6.08 208 Pn 19 12 40.4 +0.1
PV19 Morning Glory 6.10 208 Pn 19 12 41.7 +1.1
PV03 Paradox Valley 6.11 207 Pn 19 12 41.2 +0.5
PV02 Paradox Valley 6.12 206 Pn 19 12 41.3 +0.5
PV17 East Wray Mesa 6.12 208 Pn 19 12 40.8 0.0
PV18 Skein Mesa, Pa 6.14 207 Pn 19 12 42.1 +1.1
PV13 Radium Mtn., P 6.19 206 Pn 19 12 42.3 +0.6
TMUT Trail Mountain 6.26 227 Pn 19 12 43.6 +0.6
NLU North Lily Min 6.30 235 Pn 19 12 44.0 +0.7
ECSD EROS Data Cent 6.33 87 Pn 19 12 43.0 -0.5
BGU Big Grassy Mou 6.36 246 Pn 19 12 44.3 +0.2
CBKS Cedar Bluff 6.51 138 Pn 19 12 45.3 -0.7
Q16A Castle Valley 6.53 224 Pn 19 12 46.8 +0.4
DUG Dugway, Tooele 6.61 240 Pn 19 12 48.6 +1.1
T25A Trinidad 6.66 174 Pn 19 12 48.2 0.0
MSO Missoula 6.79 300 Pn 19 12 51.5 +1.6
MVCO Mesa Verde 6.97 201 Pn 19 12 54.3 +1.7
MSU Marysvale 7.35 227 Pn 19 12 58.6 +0.9
MFID Camas Ranch 7.62 271 Pn 19 13 03.3 +2.0
MTPU Mount Pierson 7.71 224 Pn 19 13 03.6 +0.8
ELK Elko 7.93 251 Pn **Pn 19 13 07.4 +1.7**
comp=E,0.6nm,0.3s,baz=58,slow=9.6,SNR=8.9
ELK Lg Lg 19 15 12.8
comp=E,0.1nm,0.3s,baz=26,slow=17,SNR=2.1
ELK Elko 7.93 251 Pn 19 13 06.4 +0.6
WALA Waterton Lakes 7.94 315 Pn 19 13 06.2 +0.6
AGMN Agassiz Nation 8.01 52 Pn 19 13 06.4 -0.1
PSUT Pine Spring 8.27 234 Pn 19 13 10.7 +0.3
CCUT Cedar City 8.69 227 Pn 19 13 16.0 -0.2
KNB Kanab 8.82 223 Pn 19 13 18.8 +0.8
I10CA LAC DU BONNET 9.05 41 *i* 20 03 40.0
baz=221,slow=318,SNR=2.2
SPMN Marine on St. 9.09 76 Pn 19 13 21.7 +0.4
ULM Lac du Bonnet 9.16 42 Pn **Pn 19 13 22.6 +0.3**
comp=E,3.6nm,0.3s,baz=224,slow=13,SNR=14
ULM Lg Lg 19 15 54.7
comp=E,1.1nm,0.3s,baz=131,slow=20,SNR=2.2
WUAZ Wupatki 9.46 211 Pn 19 13 25.2 -1.4
KVN Kaiserville 10.67 248 Pn 19 13 44.8 +1.6
NVAR Mina Array Bea 11.13 246 Pn **Pn 19 13 52.2 +2.7**
comp=E,0.2nm,0.3s,baz=48,slow=12,SNR=5.5
NVAR Mina Array Bea 11.13 246 Pn 19 13 49.6 +0.1
FFC Flin Flon 11.19 10 Pn 19 13 49.1 -0.9
YBH Yreka Blue Hor 12.92 267 LR LR 19 19 41.9
comp=E,85nm,18.7s,baz=81,slow=40
TXAR Lajitas Array 14.47 174 Pn **P 19 14 40.6 -1.3**
comp=E,0.1nm,0.3s,baz=356,slow=8.1,SNR=3.6
TXAR Lg Lg 19 18 44.7
comp=E,0.1nm,0.3s,baz=357,slow=29,SNR=5.0
YKA Yellowknife Ar 19.53 347 P **P 19 15 37.1 -0.4**
comp=E,0.1nm,0.3s,baz=169,slow=11,SNR=4.1
YKA Yellowknife Ar 19.53 347 P **Pn 19 15 38.0 -0.7**
ARCES ARCESS Array B 61.41 18 P **P 19 21 26.7 +0.6**
comp=E,3.9nm,0.7s,baz=331,slow=6.6,SNR=18
ARCES ARCESS Array B 61.41 18 P **P 19 21 26.3 +0.2**
FINES FINESS Array B 68.03 23 P **P 19 22 10.7 +1.4**
comp=E,6.3nm,1.1s,baz=327,slow=6.6,SNR=5.1
FINES FINESS Array B 68.03 23 P **P 19 22 10.4 +1.1**
AKASG Malin Array Be 77.96 28 P **P 19 23 09.5 +1.2**
comp=E,0.7nm,0.4s,baz=330,slow=5.4,SNR=4.8
AKASG Malin Array Be 77.96 28 P **P 19 23 08.8 +0.5**
ZALV Zalesovo Beam 82.27 354 P **P 19 23 32.1 +0.6**
comp=E,1.3nm,0.5s,baz=356,slow=3.8,SNR=6.1
ZALV Zalesovo Beam 82.27 354 P 19 23 32.8 +1.2
SONM Songino Array 84.59 339 P **P 19 23 44.8 +0.9**
comp=E,0.4nm,0.5s,baz=356,slow=3.3,SNR=5.8
SONM Songino Array 84.59 339 P **P 19 23 45.0 +1.2**
MKAR Makanchi Array 89.57 355 P **P 19 24 08.6 +0.7**
comp=E,0.6nm,0.7s,baz=12,slow=3.0,SNR=7.1
MKAR Makanchi Array 89.57 355 P **P 19 24 08.3 +0.4**

*ATH **19** 19:15:02.3, 40.67°N×20.49°E, h13km±5km, ML2.1/1, Error ellipse: s-maj=5.9km s-min=2.3km az=106.0*
*THE **19** 19:15:04.0, 40.65°N×20.56°E, h0km±5km, ML2.0/4, Error ellipse: s-maj=5.2km s-min=1.2km az=291.0*
*TIR **19** 19:15:04.7, 40.60°N×20.70°E, h8km, Md2.5/6*
*SKO **19** 19:15:05.3, 40.64°N×20.60°E, h10km, M1.2, ML2.1*
ISC 19 19:15:05.3±1.1, 40.62N±0.02×20.63E±0.03, h5km±10km, n26, σ1§92/45, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.38**	**122**	P	**Pg**	**19 15 12.1**	**-0.5**
NEST				S	**Sg**	**19 15 19.3**	**+1.8**
235nm,0.2s							
NEST	**Nestorio**	**0.38**	**122**	P	**Pg**	**19 15 12.1**	**-0.5**
NEST				S	**Sg**	**19 15 19.4**	**+1.9**
NEST				AML	AML	19 15 21.1	
comp=N,481μm,0.3s							
NEST				AML	AML	19 15 22.5	
comp=E,672μm,0.4s							

OHR	**Ohrid**	**0.51**	**14**	*i* Pg	**Pg**	**19 15 14.0**	**-1.1**
OHR				*i* Sg	**Sb**	**19 15 22.3**	**-2.3**
OHR				*e*Lg	Lg	19 15 24.4	
comp=E,76nm,0.4s							
OHR				*e*Lg	Lg	19 15 25.8	
comp=N,47nm,0.5s							
PENT	**Pentalofos**	**0.57**	**137**	P	**Pg**	**19 15 16.2**	**-0.1**
PENT				S	**Sb**	**19 15 25.6**	**-0.8**
comp=N,105nm,0.2s							
PENT	**Pentalofos**	**0.57**	**137**	P	**Pg**	**19 15 15.4**	**-0.9**
PENT				S	**Sg**	**19 15 25.0**	**+1.3**
TPE	**Tepelena**	**0.57**	**236**	P	**Pg**	**19 15 14.9**	**-1.4**
TPE	**Tepelena**	**0.57**	**236**	*i* PG	**Pb**	**19 15 16.5**	**-1.3**
TPE				*i* SG	**Sb**	**19 15 26.2**	**-0.1**
FNA	**Florina**	**0.59**	**73**	P	**Pg**	**19 15 15.8**	**-0.8**
FNA				S	**Sb**	**19 15 26.2**	**-0.7**
comp=N,992nm,0.3s							
FNA	**Florina**	**0.59**	**73**	*i* Pg	**Pg**	**19 15 15.8**	**-0.8**
FNA				*i* Sg	**Sb**	**19 15 26.4**	**-0.5**
FNA	**Florina**	**0.59**	**73**	*i* PG	**Pg**	**19 15 15.9**	**-0.8**
FNA				*i* SG	**Sg**	**19 15 24.3**	**0.0**
FNA	**Florina**	**0.59**	**73**	P	**Pg**	**19 15 15.8**	**-0.8**
FNA				S	**Sg**	**19 15 24.9**	**+0.6**
KPRO	**Kipourio**	**0.86**	**140**	P	**Pg**	**19 15 20.5**	**-1.4**
KPRO	**Kipourio**	**0.86**	**140**	P	**Pg**	**19 15 20.5**	**-1.4**
KPRO				S	**Sg**	**19 15 34.2**	**+1.1**
SRN	**Sarande**	**0.88**	**214**	*i* PG	**Pb**	**19 15 22.6**	**-0.5**
SRN				*i* SG	**Sn**	**19 15 35.6**	**-1.9**
KZN	**Kozani**	**0.92**	**109**	P	**Pg**	**19 15 22.1**	**-0.9**
KZN				S	**Sb**	**19 15 36.8**	**+0.3**
comp=N,100nm,0.4s							
PHP	**Peshkopia**	**1.08**	**352**	*i* PG	**Pn**	**19 15 25.7**	**-1.5**
PHP				*i* SG	**Sn**	**19 15 42.6**	**0.0**
IGT	**Igoumenitsa**	**1.11**	**192**	*i* Pg	**Pb**	**19 15 26.0**	**-0.9**
IGT	**Igoumenitsa**	**1.11**	**192**	*i* PG	**Pg**	**19 15 26.4**	**-0.1**
IGT				*i* SG	**Sn**	**19 15 50.7**	**+7.5**
GRG	**Griva**	**1.39**	**75**	P	**Pn**	**19 15 30.4**	**-1.0**
GRG	**Griva**	**1.39**	**75**	*i* Pg	**Pn**	**19 15 30.3**	**-1.0**
GRG				*i* Sg	**Sg**	**19 15 50.3**	**+0.5**
SKO	**Skopje**	**1.48**	**24**	*i* Pg	**Pg**	**19 15 32.5**	**-1.3**
SKO				*i* Sg	**Sg**	**19 15 53.0**	**0.0**
SKO				*e*Lg	Lg	19 15 54.5	
comp=E,3.5nm,0.6s							
SKO				*e*Lg	Lg	19 15 55.1	
comp=N,3.7nm,0.5s							
LIT	**Litokhoron**	**1.51**	**109**	*i* Pg	**Pb**	**19 15 33.6**	**-0.3**
LIT	**Litokhoron**	**1.51**	**109**	P	**Pb**	**19 15 33.3**	**-0.6**
PUK	**Puka**	**1.53**	**339**	*i* PN	**Pg**	**19 15 36.4**	**+1.8**
PUK				*i* SN	**Sg**	**19 15 57.3**	**+2.8**
STIP	**Stip**	**1.59**	**47**	*i* Pg	**Pg**	**19 15 36.6**	**+0.7**
STIP				*i* Sg	**Sg**	**19 16 02.9**	**+6.4**
STIP				*e*Lg	Lg	19 16 03.8	
comp=E,7.2nm,0.5s							
STIP				*e*Lg	Lg	19 16 06.4	
comp=N,5.2nm,0.3s							
KNT	**Kendrikon**	**1.80**	**72**	*i* Pg	**Pn**	**19 15 36.5**	**-0.6**

IDC 19 19:17:57.1±8.1, 7.23S×128.88E, h82km±90km, mb2.9/1, mb1 3.4/5, mb1mx3.1/35, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=72.8km s-min=27.5km az=20.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.95**	**240**	P	Pn	19 19 23.9	+1.3
6.9nm,0.3s,baz=115,slow=4.9,SNR=15							
BATI				S	Sn	19 20 29.3	-0.1
6.5nm,0.3s,baz=3.0,slow=22,SNR=10							
FITZ	**Fitzroy Crossi**	**11.26**	**196**	P	Pn	19 20 34.4	-0.7
0.3nm,0.3s,baz=20,slow=14,SNR=15							
FITZ				S	Sn	19 22 25.5	-14
0.3nm,0.3s,baz=119,slow=19,SNR=3.7							
WRA	**Warramunga Arr**	**13.71**	**158**	P	Pn	19 21 07.2	-0.8
0.1nm,0.3s,baz=344,slow=13,SNR=7.9							
WRA				S	Sn	19 23 31.0	-7.8
0.5nm,0.3s,baz=320,slow=25,SNR=12							
ASAR	**Alice Springs**	**17.05**	**164**	P	P	19 21 51.6	+0.7
0.1nm,0.3s,baz=337,slow=9.7,SNR=12							
ASAR				S	Sn	19 24 51.6	-8.0
0.1nm,0.3s,baz=342,slow=26,SNR=5.9							
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	19 28 46.3	-0.1
0.1nm,0.5s,baz=124,slow=8.0,SNR=3.8							

TRN 19 19:24:06.5, 14.00N×60.28W, h23km, MD3.6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLPA	**Patience**	**0.64**	**257**	*e*P	Pn	19 24 20.9	+0.7
SLPA	**Patience**	**0.64**	**257**	*e*	Pn	19 24 25.2	+5.0
SLPA				*e*S	Sn	19 24 31.0	+1.3
SLBI	**Saint Lucia, B**	**0.68**	**272**	*e*P	Pn	19 24 21.2	+0.5
SLBI	**Saint Lucia, B**	**0.68**	**272**	*e*	Pn	19 24 26.9	+6.2
SLBI				*e*S	Sn	19 24 32.2	+1.6
MCLT	**Moule a Chique**	**0.71**	**246**	*e*P	Pn	19 24 21.7	+0.6
MCLT	**Moule a Chique**	**0.71**	**246**	*e*	Pn	19 24 25.5	+4.4
MCLT				*e*S	Sn	19 24 32.4	+1.1
MPOM	**Morne Pois Mar**	**0.72**	**308**	*e*P	Pn	19 24 21.9	+0.6
SLB	**Belfond**	**0.76**	**257**	*e*P	Pn	19 24 24.1	+2.2
SLB				*e*S	Sn	19 24 36.1	+3.4
SLDE	**Delcer**	**0.78**	**256**	*e*P	Pn	19 24 22.7	+0.5
SLDE	**Delcer**	**0.78**	**256**	*e*	Pn	19 24 28.2	+6.0
SLDE				*e*S	Sn	19 24 34.7	+1.5
MVM	**Montagne Vaucl**	**0.82**	**313**	*e*P	Pn	19 24 23.3	+0.6
LPMF	**Morne Lapointe**	**0.88**	**311**	*e*P	Pn	19 24 24.2	+0.7
TRMF	**Trois Ilets**	**0.93**	**306**	*e*P	Pn	19 24 25.2	+1.1
ZAM	**Aeronautique**	**0.93**	**308**	*e*P	Pn	19 24 25.0	+0.8
BIM	**Bigot**	**0.93**	**304**	*e*P	Pn	19 24 25.3	+1.1
ILAM	**Ilet Lapin Mar**	**0.97**	**323**	*e*P	Pn	19 24 25.2	+0.5
BCHC	**Barbados, Cave**	**1.06**	**144**	*e*P	Pb	19 24 26.3	+0.1
SFAN	**Fancy Village**	**1.06**	**235**	*e*S	Sn	19 24 42.5	+2.4
BBGH	**Gun Hill**	**1.10**	**140**	*e*P	Pb	19 24 28.5	+1.7
SVCV	**St. Vincent, C**	**1.11**	**230**	*e*P	Pb	19 24 27.1	+0.1
SVCV				*e*S	Sn	19 24 43.5	+2.3
FDF	**Fort de France**	**1.12**	**311**	*e*P	Pb	19 24 27.8	+0.5
FDF				*e*S	Sn	19 24 43.3	+1.7
SVV	**Soufriere Volc**	**1.14**	**234**	*e*S	Sn	19 24 43.0	+1.2
BAMF	**Morne Balai**	**1.18**	**314**	*e*P	Pb	19 24 28.8	+0.6
GBMF	**Grand Be**	**1.18**	**313**	*e*P	Pb	19 24 28.9	+0.6
PML	**Morne Lenard**	**1.18**	**312**	*e*P	Pb	19 24 29.1	+0.9
CXM	**Morne La Croix**	**1.19**	**313**	*e*P	Pb	19 24 29.2	+0.7
SVB	**Belmont**	**1.19**	**233**	*e*P	Pb	19 24 29.0	+0.5
SVB				*e*S	Sb	19 24 45.2	+1.8
SVN	**Savane Anatole**	**1.21**	**314**	*e*P	Pb	19 24 29.2	+0.5
PCM	**Pelee Case Pet**	**1.22**	**312**	*e*P	Pb	19 24 28.7	-0.3
PCM	**Pelee Case Pet**	**1.22**	**312**	*e*P	Pb	19 24 29.5	+0.6
FCV	**Fort Charlotte**	**1.26**	**229**	*e*S	Sb	19 24 46.1	+0.8
DWS	**Wesley**	**1.86**	**327**	*e*P	Pn	19 24 38.1	+1.1
DWS				*e*S	Sb	19 25 02.1	-0.5
BBL	**Barber's Block**	**1.91**	**323**	*e*P	Pn	19 24 39.1	+1.4
BBL				*e*S	Sb	19 25 03.1	-1.1
MDPO	**Dominica; Chan**	**1.94**	**324**	*e*P	Pn	19 24 39.6	+1.5
MDPO				*e*S	Sb	19 25 04.3	-0.7
GRSS	**Sisters**	**2.13**	**218**	*e*P	Pn	19 24 42.5	+1.8
GRSS				*e*S	Sb	19 25 08.8	-1.7
MAGL	**Barre de l'ile**	**2.17**	**334**	*e*P	Pn	19 24 41.7	+0.4
GRHS	**Sauteurs**	**2.21**	**217**	*e*P	Pn	19 24 43.4	+1.6
GRHS				*e*S	Sb	19 25 10.9	-1.8
TDBA	**Terre de Bas,**	**2.27**	**325**	*e*P	Pn	19 24 43.9	+1.4
GRGR	**Grenville**	**2.29**	**216**	*e*P	Pn	19 24 44.2	+1.3
GRGR				*e*S	Sn	19 25 11.8	+1.5
CBE	**Ff, Capester**	**2.43**	**328**	*e*P	Pn	19 24 46.1	+1.2
TOSP	**Speyside**	**2.69**	**185**	*e*P	Pn	19 24 49.9	+1.5
TOSP				*e*S	Sn	19 25 21.3	+1.0
MLYT	**Lee's Yard**	**3.28**	**326**	*e*P	Pn	19 24 59.0	+2.4
MLYT				*e*S	Sn	19 25 35.9	+1.0
ANWB	**Willy Bob**	**3.93**	**338**	*e*P	Pn	19 25 06.6	+1.1
ANWB				*e*S	Sn	19 25 51.2	+0.4

*IDC **19** 19:27:44.2±5.3, 8.73S×118.05E, h122km±48km, mb3.1/4, mb1 3.4/8, mb1mx3.2/37, mbtmp3.7/8, Error ellipse: s-maj=66.8km s-min=13.2km az=71.0*
*ISCJB **19** 19:27:45.4±0.5, 8.73S±0.05×118.35E±0.04, h150km, mb3.3/4, Error ellipse: s-maj=7.5km s-min=5.4km az=34.5*
*DJA **19** 19:27:46.9±0.3, 9.3°S×11.8°E±.7°, h119km±3km, M4.0/13, mb4.2/5, mB4.4/1, MLv3.9/13, Mw(mB)3.6/1*
ISC 19 19:27:46.1±0.8, 8.77S±0.06×118.31E±0.05, h150km, n21, σ1§54/26, mb3.4/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.53**	**264**	P	**Pn**	**19 28 07.0**	**-0.6**
PLAI				S	**Sn**	**19 28 20.0**	**-3.9**
WBSI	**Waikabubak, Su**	**1.37**	**129**	P	**Pn**	**19 28 13.9**	**-0.4**
WBSI				S	**Sn**	**19 28 34.3**	**-1.7**
TWSI	**Taliwang, Sumb**	**1.42**	**271**	P	**Pn**	**19 28 14.8**	**+0.1**
WSI	**Waingapu**	**2.15**	**115**	P	**Pn**	**19 28 22.9**	**-0.1**
IGBI	**Denpasar**	**3.13**	**269**	P	**Pn**	**19 28 36.7**	**+1.6**
SRBI	**Singaraja**	**3.14**	**282**	P	**Pn**	**19 28 36.2**	**+1.0**
BKSI	**Bulukumba**	**3.87**	**28**	P	**Pn**	**19 28 43.7**	**-1.0**
MMRI	**Maumere**	**3.88**	**88**	P	**Pn**	**19 28 45.3**	**+0.5**
KAPI	**Kappang**	**4.00**	**21**	P	**Pn**	**19 28 45.6**	**-0.7**
4.2nm,0.3s,baz=207,slow=9.7,SNR=8.4							
KAPI				S	**Sn**	**19 29 31.6**	**-1.6**
4.2nm,0.3s,baz=180,slow=20,SNR=3.4							
JAGI	**Jajag, Banyuwa**	**4.12**	**274**	P	**Pn**	**19 28 47.8**	**-0.2**
BNSI	**Bone**	**4.70**	**22**	P	**Pn**	**19 28 56.3**	**+0.8**
BATI	**Baumata**	**5.47**	**106**	P	**Pn**	**19 29 06.5**	**+0.7**
16nm,0.3s,baz=298,slow=3.8,SNR=36							
BATI				S	**Sn**	**19 30 06.5**	**-1.4**
18nm,0.3s,baz=51,slow=21,SNR=8.7							
BATI	**Baumata**	**5.47**	**106**	P	**Pn**	**19 29 06.3**	**+0.6**
24nm,1.0s,475nm							
SOEI	**Soe**	**5.96**	**100**	P	**Pn**	**19 29 12.7**	**+0.3**
30nm,0.9s							
SMKI	**Samarinda**	**8.35**	**352**	P	Pn	19 29 52.3	+8.2
FITZ	**Fitzroy Crossi**	**11.69**	**143**	P	**Pn**	**19 30 29.5**	**+1.2**
0.5nm,0.3s,baz=346,slow=13,SNR=16							
FITZ				S	**Sn**	**19 32 34.1**	**-3.4**
0.9nm,0.3s,baz=180,slow=23,SNR=9.3							
WRA	**Warramunga Arr**	**19.07**	**127**	P	**Pn**	**19 31 59.4**	**-0.1**
0.3nm,0.3s,baz=302,slow=12,SNR=16							
WRA				S	**S**	**19 35 25.9**	**+0.3**
0.2nm,0.3s,baz=300,slow=25,SNR=5.1							
ASAR	**Alice Springs**	**21.02**	**137**	P	**P**	**19 32 21.4**	**+3.3**
1.1nm,0.5s,baz=308,slow=9.2,SNR=37							
SONM	**Songino Array**	**57.34**	**350**	P	**P**	**19 37 19.2**	**+0.7**
0.2nm,0.6s,baz=168,slow=8.8,SNR=2.2							
MKAR	**Makanchi Array**	**63.95**	**333**	P	**P**	**19 38 03.5**	**+0.3**
0.2nm,0.5s,baz=123,slow=5.3,SNR=3.1							
ZALV	**Zalesovo Beam**	**68.59**	**339**	P	**P**	**19 38 32.3**	**-0.2**
0.2nm,0.3s,baz=139,slow=6.8,SNR=2.6							

*ISCJB **19** 19:30:41.2±0.5, 6.85N±0.03×73.12W±0.03, h158km±5km, mb3.6/1, Error ellipse: s-maj=5.5km s-min=3.8km az=23.7*
*IDC **19** 19:30:41.9±0.9, 6.91N×73.09W, h162km±13km, mb3.3/1, mb1 3.6/3, mb1mx3.1/39, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/30, Error ellipse: s-maj=51.9km s-min=8.4km az=131.0*
*RSNC **19** 19:30:42.5±1.1, 6.80N×73.13W, h153km±4km, ML3.5, Mw3.5*
ISC 19 19:30:41.3±0.9, 6.86N±0.03×73.12W±0.04, h159km±6km, n33, σ1§35/61, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**194**	⇓*i*P	**Pn**	**19 31 03.2**	**0.0**
BARC				*e*S	**Sn**	**19 31 18.4**	**-1.6**
BARC				*i*		19 31 20.7	
comp=Z,1μm,0.4s							
PAMC	**Pamplona, Colo**	**0.63**	**41**	⇓*i*P	**Pn**	**19 31 05.9**	**+0.9**
PAMC				*e*S	**Sn**	**19 31 23.2**	**0.0**
PAMC				*i*		19 31 25.1	
comp=Z,775nm,0.5s							
BRRC	**Barranca, Sant**	**0.64**	**293**	⇓*i*P	**Pn**	**19 31 05.0**	**+0.5**
BRRC				*e*S	**Sn**	**19 31 22.5**	**+0.3**
BRRC				*i*		19 31 25.6	
comp=Z,574nm,0.1s							
RUSC	**La Rusia**	**0.96**	**178**	⇑*i*P	**Pn**	**19 31 07.1**	**-0.2**
RUSC				*e*S	**Sn**	**19 31 25.8**	**-1.4**
RUSC				*i*		19 31 28.7	
comp=Z,204nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**	**19 31 09.7**	**-0.6**
PTBC				*e*S	**Sn**	**19 31 31.0**	**-1.5**
PTBC				*i*		19 31 36.8	
comp=Z,671nm,0.6s							
TAMC	**Tame, Arauca**	**1.38**	**108**	⇑*i*P	**Pn**	**19 31 11.4**	**+0.9**
TAMC				*i*		19 31 32.1	
comp=Z,119nm,0.4s							
TAMC				*e*S	**Sn**	**19 31 33.0**	**+0.1**
TAMC				*i*		19 31 34.1	
comp=Z,107nm,0.2s							
OCAC	**Ocana**	**1.39**	**352**	*e*P	**Pn**	**19 31 11.2**	**+0.5**
OCAC				*e*S	**Sn**	**19 31 33.7**	**+0.4**
OCAC				*i*		19 31 38.5	
comp=Z,484nm,0.5s							
SPBC	**San Pablo de B**	**1.53**	**218**	⇑*i*P	**Pn**	**19 31 12.0**	**0.0**
SPBC				*e*S	**Sn**	**19 31 34.9**	**-0.7**
SPBC				*i*		19 31 41.7	
comp=Z,467nm,0.2s							
SPBC				*i*		19 31 41.7	
comp=Z,492nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**19 31 15.8**	**+0.5**
ZARC				*e*S	**Sn**	**19 31 41.4**	**0.0**
ZARC				*i*		19 31 46.5	
comp=Z,477nm,0.4s							
ZARC				*i*		19 31 47.1	
comp=Z,410nm,0.5s							
SMLC	**San Martn de**	**2.15**	**334**	*e*P	**Pn**	**19 31 19.4**	**+0.7**
SMLC				*e*S	**Sn**	**19 31 48.2**	**+0.5**
SMLC				*i*		19 31 52.1	
comp=Z,496nm,0.1s							
NORC	**Norcasia**	**2.17**	**234**	*e*P	**Pn**	**19 31 18.9**	**-0.1**
NORC				*e*S	**Sn**	**19 31 46.8**	**-1.3**
NORC				*i*		19 31 53.2	
comp=Z,297nm,0.2s							
CHIC	**Chingaza**	**2.30**	**195**	*e*P	**Pn**	**19 31 21.1**	**+0.2**
CHIC				*e*S	**Sn**	**19 31 49.9**	**-1.6**
CHIC				*i*		19 32 00.2	
comp=Z,172nm,0.4s							
ROSC	**El Rosal**	**2.34**	**211

ORTC	**Ortega, Tolima**	**3.62**	**216**	*eP*	**Pn**	**19 31 37.3**	**+0.3**
ORTC				*eS*	**Sn**	**19 32 19.5**	**-0.8**
ORTC				*i*		19 32 26.1	
	comp=Z,120nm,0.5s						
SJCC	**San Jacinto, C**	**3.64**	**326**	*eP*	**Pn**	**19 31 36.9**	**-0.4**
SJCC				*eS*	**Sn**	**19 32 17.2**	**-3.7**
SJCC				*i*		19 32 22.6	
	comp=Z,132nm,0.4s						
YOTC	**Yotoco, Valle**	**4.30**	**229**	*eP*	**Pn**	**19 31 45.9**	**0.0**
YOTC				*eS*	**Sn**	**19 32 35.1**	**-1.1**
YOTC				*i*		19 32 45.9	
	comp=Z,6.6nm,0.5s						
YOTC				*i*		19 32 51.5	
	comp=Z,12nm,0.7s						
SMRC	**Santa Marta, M**	**4.41**	**346**	*eP*	**Pn**	**19 31 47.8**	**+0.5**
SMRC				*eS*	**Sn**	**19 32 35.9**	**-2.8**
SMRC				*i*		19 32 39.7	
	comp=Z,63nm,0.2s						
NEW	**Newport**	**55.56**	**326**	LR	LR	20 04 35.0	
	comp=Z,26nm,21.7s,baz=32,slow=37						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**19 40 53.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=131,slow=6.4,SNR=4.9						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**19 50 11.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=122,slow=3.6,SNR=4.9						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**19 50 14.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=108,slow=2.8,SNR=12						

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*NNC **19** 19:39:02.8±7.2, 37°.43N×70°.70E, h0km, mb4.1, mpv3.8,*
Error ellipse: s-maj=56.4km s-min=39.6km az=173.0
ISC 19 19:38:53.9±1.4, 36°.71N±0°.08×70°.5E±0°.1, h35km, n18,
σ2§51/21, 2C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**5.37**	**137**	*eP*	**Sn**	**19 41 13.5**	**+1.3**
AML	**Almayashu**	**5.94**	**23**	P	**Pn**	**19 40 23.3**	**+3.6**
	SNR=23						
UCH	**Uchtor**	**6.31**	**28**	P	**Pn**	**19 40 27.3**	**+2.4**
	SNR=6.6						
KK31	**Karatay Array**	**6.38**	**360**	⇓P	Pn	19 40 30.5	+5.0
	2.5nm,0.2s,baz=176,slow=12,SNR=66						
KK31				⇑S	**Sn**	**19 41 36.6**	**-0.6**
	2.1nm,0.3s,baz=185,slow=22,SNR=4.3						
EKS2	**Erkin-Say**	**6.45**	**22**	P	**Pn**	**19 40 30.1**	**+3.6**
	SNR=25						
AAK	**Ala-Archa**	**6.66**	**26**	⇓P	**Pn**	**19 40 32.4**	**+3.0**
	3.6nm,0.4s						
AAK				⇓S	**Sn**	**19 41 40.8**	**-3.4**
	3.2nm,0.4s						
AAK	**Ala-Archa**	**6.66**	**26**	P	**Pn**	**19 40 32.7**	**+3.3**
	SNR=9.2						
CHMS	**Chumysh**	**7.07**	**26**	P	**Pn**	**19 40 37.8**	**+2.9**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.33**	**31**	⇓P	**Pn**	**19 40 40.7**	**+2.1**
	4.2nm,0.5s						
TKM2				⇑S	**Sn**	**19 41 59.4**	**-1.2**
	2.9nm,0.8s						
TKM2	**Tokmak 2**	**7.33**	**31**	P	**Pn**	**19 40 40.6**	**+2.1**
	SNR=7.4						
DANN	**Dangsing**	**13.92**	**123**	*eP*	**Pn**	**19 42 08.4**	**-0.6**
KOLN	**Koldanda**	**14.20**	**125**	*eP*	**Pn**	**19 42 13.4**	**+0.7**
AB31	**Akbulak array**	**14.72**	**332**	⇓P	**P**	**19 42 23.5**	**-1.6**
	0.6nm,0.4s,baz=136,slow=14,SNR=30						
AB31				⇓S	**Sn**	**19 45 01.0**	**-0.1**
	0.3nm,0.4s,baz=162,slow=22,SNR=3.5						
GKN	**Gorkha**	**14.74**	**122**	*eP*	**Pn**	**19 42 18.6**	**-1.4**
KKN	**Kakani**	**15.31**	**121**	*eP*	**Pn**	**19 42 25.7**	**-2.0**
PKIN	**Phulchoki**	**15.53**	**122**	*eP*	**Pn**	**19 42 28.5**	**-2.0**
JIRN	**Jiri**	**16.02**	**120**	*eP*	**Pn**	**19 42 34.6**	**-2.4**
TAPN	**Taplejung**	**17.28**	**118**	*eP*	**Pn**	**19 42 49.5**	**-3.3**

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*IDC **19** 19:44:52.4±0.6, 51°.71N×175°.44W, h0km, mb4.0/18,*
mb1 4.2/20, mb1mx4.0/58, mbtmp4.0/20, ML4.1/2, MS3.2/7,
Ms1 3.2/7, ms1mx2.8/54, Error ellipse: s-maj=22.7km
s-min=12.2km az=166.0
*ISCJB **19** 19:44:57.6±0.3, 51°.68N±0°.05×175°.30W±0°.03, h47km,*
mb4.0/21, MS3.3/6, Error ellipse: s-maj=7.2km
s-min=2.5km az=168.2
*AEIC **19** 19:44:57±1.8, 51°.48N±0°.09×175°.28W±0°.04, h25km±4km*
*NEIC **19** 19:44:59.3±1.6, 51°.69N±0°.09×175°.40W±0°.07, h48km±4km,*
mb4.5/100, ML4.0(AEIC)
ISC 19 19:44:59.2±0.5, 51°.62N±0°.08×175°.35W±0°.04, h47km,
n206, σ1§37/203, mb4.4/44, MS3.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.51**	**317**		**Pn**	**19 45 09.6**	**-0.9**
GSMY	**Great Sitkin M**	**0.61**	**315**		**Pn**	**19 45 11.1**	**-0.6**
GSTR	**Great Sitkin T**	**0.65**	**318**		**Pn**	**19 45 11.9**	**-0.3**
GSTD	**Great Sitkin T**	**0.66**	**312**		**Pn**	**19 45 11.8**	**-0.5**
ADAG	**Mount Adagdak**	**0.86**	**296**		**Pn**	**19 45 14.8**	**-0.1**
ADK	**Adak**	**0.87**	**289**		**Pn**	**19 45 14.0**	**-1.1**
KOKL	**Mount Kliuchef**	**1.01**	**45**		**Pn**	**19 45 15.8**	**-1.1**
KOFP	**Korovin Flat P**	**1.02**	**49**		**Pn**	**19 45 15.9**	**-1.2**
KOSE	**Korovin Southe**	**1.09**	**47**		**Pn**	**19 45 17.5**	**-0.6**
KIWB	**Kanaga Island**	**1.14**	**283**		**Pn**	**19 45 17.7**	**-1.1**
KIKV	**Kanaga Island**	**1.16**	**284**		**Pn**	**19 45 18.3**	**-0.7**
KIMD	**Kanaga Island**	**1.18**	**278**		**Pn**	**19 45 18.1**	**-1.1**
KICM	**Kanaga Island**	**1.18**	**286**		**Pn**	**19 45 18.8**	**-0.5**
TAPA	**Tanaga Point A**	**1.54**	**278**		**Pn**	**19 45 23.8**	**-0.4**
TAFP	**Tanaga Falls P**	**1.66**	**281**		**Pn**	**19 45 25.8**	**0.0**
TAFP					**Sn**	**19 45 46.5**	**+0.6**
TASE	**Tanaga Southea**	**1.68**	**279**		**Pn**	**19 45 26.1**	**-0.1**
NIKH	**Nikolski High**	**4.21**	**69**	Pn	**Pn**	**19 46 01.7**	**+0.8**
NIKH					**Sn**	**19 46 48.8**	**+0.1**
OKCE	**Okmok Cone E**	**4.75**	**65**		**Pn**	**19 46 08.8**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**4.81**	**66**		**Pn**	**19 46 08.9**	**0.0**
MSW	**Makushin Switc**	**5.69**	**63**		**Pn**	**19 46 20.4**	**-0.6**
MSW					**Sn**	**19 47 24.4**	**-0.7**
UNV	**Unalaska Valle**	**5.82**	**64**	Pn	**Pn**	**19 46 25.0**	**+2.2**
AKMO	**Akutan Morgan**	**6.18**	**63**		**Pn**	**19 46 27.1**	**-0.6**
ZRO	**Akutan Zero**	**6.20**	**63**		**Pn**	**19 46 28.2**	**+0.2**
SPIA	**Saint Paul Isl**	**6.32**	**26**		**Pn**	**19 46 30.8**	**+1.2**
SPIA					**Sn**	**19 47 39.3**	**-1.1**
AKUT	**Akutan**	**6.33**	**63**	Pn	**Pn**	**19 46 31.6**	**+1.9**
SMY	**Shemya**	**6.58**	**284**		**Pn**	**19 46 32.2**	**-1.1**
FALS	**False Pass**	**7.86**	**61**	Pn	**Pn**	**19 46 51.4**	**+0.6**
SDPT	**Sand Point**	**9.62**	**61**	Pn	**Pn**	**19 47 14.6**	**-0.3**
CNBA	**Chernabura Isl**	**9.98**	**65**	Pn	**Pn**	**19 47 18.0**	**-1.8**
CHGN	**Chignik**	**11.02**	**58**	Pn	**Pn**	**19 47 34.2**	**+0.2**
CHIR	**Chirikof Islan**	**12.41**	**62**	Pn	**Pn**	**19 47 51.6**	**-1.3**
OHAK	**Old Harbor**	**13.99**	**58**		**P**	**19 48 20.9**	**-0.3**
ANM	**Nome**	**13.99**	**18**	Pn	**P**	**19 48 17.0**	**-4.2**
SVW2	**Sparrevohn**	**14.44**	**41**	Pn	**Pn**	**19 48 20.9**	**+0.4**
KDAK	**Kodiak Island**	**14.50**	**56**	Pn	**Pn**	**19 48 17.6**	**-3.6**
	0.7nm,0.3s,baz=307,slow=20,SNR=25						
KDAK				Sn	**Sn**	**19 51 06.0**	**+5.6**
	0.2nm,0.3s,baz=228,slow=23,SNR=3.5						
KDAK	**Kodiak Island**	**14.50**	**56**		**Pn**	**19 48 22.9**	**+1.6**
TTA	**Tatalina**	**15.34**	**35**		**P**	**19 48 34.1**	**-2.3**
RSO	**Redoubt South**	**15.35**	**46**	Pn	**Pn**	**19 48 31.8**	**-0.8**
CNPM	**China Poot**	**15.70**	**50**	Pn	**Pn**	**19 48 36.2**	**-0.7**
CNPM				IAmb	IAmb	19 48 44.1	
	comp=Z,19nm,1.1s						
BRLK	**Bradley Lake**	**15.95**	**50**	Pn	**Pn**	**19 48 37.7**	**-2.4**
BRLK				IAmb	IAmb	19 48 52.3	
	comp=Z,49nm,1.4s						
PETK	**Petropavlovsk-**	**16.50**	**286**	Pn	**P**	**19 48 48.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=6.1						
PETK				LR	LR	19 55 41.8	
	comp=Z,25nm,18.4s,baz=64,slow=40						
PETK	**Petropavlovsk-**	**16.50**	**286**	P	**P**	**19 48 50.2**	**+1.2**
SKT	**Skwentna**	**16.56**	**42**		**P**	**19 48 50.2**	**+0.4**
SKT				IAmb	IAmb	19 48 56.5	
	comp=Z,26nm,1.6s						
SUA	**Susitna One**	**16.66**	**44**		**Pn**	**19 48 49.5**	**+0.3**
SEW	**Seward**	**16.74**	**49**		**Pn**	**19 48 47.5**	**-2.6**
PPLA	**Purkeypile**	**16.75**	**39**		**Pn**	**19 48 50.3**	**-0.1**
PPLA				IAmb	IAmb	19 49 05.6	
	comp=Z,39nm,1.7s						
RC01	**Rabbit Creek A**	**16.96**	**46**		**Pn**	**19 48 51.5**	**-1.3**
GHO	**Glory Hole Cre**	**17.59**	**44**		**Pn**	**19 48 59.7**	**-0.9**
KNK	**Knik Glacier**	**17.66**	**46**		**Pn**	**19 49 00.0**	**-1.4**
KNK				IAmb	IAmb	19 49 08.3	
	comp=Z,47nm,1.7s						
TRF	**Thorofare Moun**	**17.78**	**39**	P	**P**	**19 49 02.9**	**-0.5**
BPAW	**Bear Paw Mtn.**	**17.86**	**36**	P	**P**	**19 49 05.2**	**+1.1**
SML	**Sawmill**	**17.86**	**45**	P	**P**	**19 49 04.3**	**+0.1**
IMAR	**Indian Mountai**	**18.08**	**29**	P	**P**	**19 49 07.7**	**+1.1**
GLI	**Glacier Island**	**18.09**	**48**	P	**P**	**19 49 05.5**	**-1.2**
GLI				IAmb	IAmb	19 49 11.6	
	comp=Z,48nm,1.3s						
HIN	**Hinchinbrook I**	**18.23**	**50**	P	**P**	**19 49 05.7**	**-2.6**
HIN				IAmb	IAmb	19 49 09.0	
	comp=Z,124nm,1.6s						
SCM	**Sheep Creek Mo**	**18.31**	**45**	P	**P**	**19 49 08.1**	**-1.0**
RND	**Reindeer**	**18.32**	**40**	P	**P**	**19 49 08.0**	**-1.3**
RND				IAmb	IAmb	19 49 10.9	
	comp=Z,26nm,1.5s						
FID	**Port Fidalgo**	**18.34**	**49**	P	**P**	**19 49 06.2**	**-3.3**
FID				IAmb	IAmb	19 49 13.2	
	comp=Z,64nm,1.6s						
MCK	**McKinley**	**18.45**	**39**	P	**Pn**	**19 49 10.8**	**-0.2**
MLY	**Manley**	**18.47**	**34**	P	**P**	**19 49 10.4**	**-0.4**
BILL	**Bilibino**	**18.74**	**338**	P	**Pn**	**19 49 14.7**	**+0.2**
BILL				IAmb	IAmb	19 49 19.1	
	comp=Z,18nm,1.3s						
DHY	**Denali Highway**	**18.78**	**42**	P	**P**	**19 49 14.2**	**-0.1**
NEA	**Nenana**	**18.82**	**36**	P	**P**	**19 49 14.1**	**-0.5**
RAGM	**Ragged Mountai**	**19.11**	**51**	P	**P**	**19 49 17.0**	**-0.8**
RAGM				IAmb	IAmb	19 49 33.7	
	comp=Z,52nm,0.9s						
WRH	**Wood River Hil**	**19.13**	**37**	P	**P**	**19 49 16.6**	**-1.4**
WRH				IAmb	IAmb	19 49 32.6	
	comp=Z,21nm,1.6s						
HMT	**Hamilton**	**19.30**	**51**	P	**P**	**19 49 20.0**	**+0.1**
HMT				IAmb	IAmb	19 49 32.4	
	comp=Z,69nm,1.5s						
CCB	**Clear Creek Bu**	**19.32**	**37**	P	**P**	**19 49 18.8**	**-1.3**
MDM	**Murphy Dome**	**19.32**	**36**	P	**P**	**19 49 20.0**	**-0.1**
PAX	**Paxson**	**19.53**	**43**	P	**P**	**19 49 22.9**	**+0.4**
HDA	**Harding Lake**	**19.54**	**38**	P	**Pn**	**19 49 23.0**	**-1.1**
HDA				IAmb	IAmb	19 49 36.0	
	comp=Z,20nm,1.4s						
IL31		**19.73**	**37**	P	**P**	**19 49 24.4**	**0.0**
ILAR	**Eielson Array**	**19.73**	**37**	P	**P**	**19 49 22.4**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=228,slow=8.5,SNR=33						
ILAR	**Eielson Array**	**19.73**	**37**	P	**P**	**19 49 24.6**	**+0.1**
GLB	**Gilahina Butte**	**19.78**	**48**	P	**P**	**19 49 23.4**	**-1.8**
VRDI	**Verde Repeater**	**19.89**	**49**	P	**P**	**19 49 24.8**	**-1.7**
VRDI				IAmb	IAmb	19 49 31.3	
	comp=Z,27nm,1.4s						
CRQM	**Cirque**	**19.93**	**50**	P	**P**	**19 49 26.3**	**-0.7**
CRQM				IAmb	IAmb	19 49 39.6	
	comp=Z,24nm,1.3s						
COLD	**Coldfoot**	**19.97**	**29**	P	**P**	**19 49 20.2**	**-6.9**
TGL	**Tana Glacier**	**20.08**	**50**	P	**P**	**19 49 24.4**	**-4.1**
RIDG	**Independent Ri**	**20.09**	**41**	P	**P**	**19 49 27.7**	**-0.8**
RIDG				IAmb	IAmb	19 49 33.9	
	comp=Z,9.6nm,0.5s						
MCARA	**McCarthy VSAT**	**20.13**	**48**	P	Pn	19 49 30.4	-0.8
MCARA				IAmb	IAmb	19 49 37.0	
	comp=Z,25nm,1.4s						
BALM	**Baldy**	**20.37**	**50**	P	**P**	**19 49 29.3**	**-2.4**
BALM				IAmb	IAmb	19 49 32.7	
	comp=Z,40nm,1.5s						
DOT	**Dot Lake**	**20.38**	**42**	P	**P**	**19 49 30.8**	**-0.8**
DOT				IAmb	IAmb	19 49 35.4	
	comp=Z,12nm,0.6s						
YAH	**Yahtse**	**20.53**	**52**	P	**P**	**19 49 33.6**	**+0.1**
YAH				IAmb	IAmb	19 49 48.9	
	comp=Z,48nm,1.4s						
SCRK	**Sand Creek**	**20.53**	**41**	P	**P**	**19 49 32.2**	**-1.2**
SCRK				IAmb	IAmb	19 49 36.9	
	comp=Z,19nm,0.9s						
MA2	**Magadan**	**20.54**	**306**	LR	LR	19 57 46.0	
	comp=Z,33nm,18.3s,baz=90,slow=38						
SEY	**Seymchan**	**20.54**	**316**	P	**P**	**19 49 33.6**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=162,slow=20,SNR=2.4						
PRP	**Porcupine Dome**	**20.59**	**36**	P	**P**	**19 49 32.6**	**-1.4**
BARN	**Barnard Glacie**	**20.70**	**50**	P	Pn	19 49 36.7	-1.4
BARN				IAmb	IAmb	19 49 47.0	
	comp=Z,17nm,1.5s						
CTGM	**Chitina Glacie**	**20.84**	**50**	P	**P**	**19 49 37.0**	**+0.2**
CTGM				IAmb	IAmb	19 49 38.4	
	comp=Z,33nm,1.5s						
TOLK	**Toolik Lake Re**	**21.07**	**26**	P	**P**	**19 49 38.8**	**-0.3**
TOLK				IAmb	IAmb	19 49 56.7	
	comp=Z,24nm,1.6s						
BCAR	**Beaver Creek A**	**21.15**	**44**	P	**P**	**19 49 39.3**	**-0.6**
PCA	**Pinnacle**	**21.22**	**53**	P	**P**	**19 49 42.5**	**+1.8**
PCA				IAmb	IAmb	19 49 51.6	
	comp=Z,82nm,1.4s						
BMAR	**Burnt Mountain**	**21.87**	**32**	P	**P**	**19 49 47.3**	**-0.3**
EGAK	**Eagle**	**21.97**	**40**	P	**P**	**19 49 45.5**	**-3.1**
EGAK				IAmb	IAmb	19 49 54.0	
	comp=Z,11nm,1.1s						
DHAK	**Deception Hill**	**22.15**	**56**	P	**P**	**19 49 50.5**	**-0.2**
DAWY	**Dawson**	**22.47**	**43**	P	**P**	**19 49 53.6**	**-0.5**
DAWY				IAmb	IAmb	19 49 56.4	
	comp=Z,17nm,1.6s						
HYT	**Haines Junctio**	**22.66**	**51**	P	**P**	**19 49 55.9**	**-0.4**
EPYK	**Eagle Plains**	**24.24**	**38**	P	**P**	**19 50 11.3**	**0.0**
EPYK				IAmb	IAmb	19 50 27.6	
	comp=Z,22nm,1.6s						
CRAG	**Craig**	**25.10**	**64**	P	**P**	**19 50 20.9**	**+1.9**
DIB	**Dawson Inlet,**	**25.92**	**69**	P	**P**	**19 50 27.3**	**+0.7**
DIB				IAmb	IAmb	19 50 41.4	
	comp=Z,36nm,1.6s						
INK	**Inuvik**	**26.04**	**34**	P	**P**	**19 50 27.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=261,slow=8.7,SNR=5.5						
INK	**Inuvik**	**26.04**	**34**	P	**P**	**19 50 27.2**	**-0.3**
DLBC	**Dease Lake**	**26.43**	**57**	P	**P**	**19 50 33.4**	**+2.1**
ASAJ	**Asahikawa**	**28.86**	**272**	LR	LR	20 02 18.9	
	comp=Z,46nm,21.8s,baz=354,slow=36						
YKW3	**Yellowknife Ar**	**33.48**	**47**	P	**P**	**19 51 34.6**	**+1.2**
YKA	**Yellowknife Ar**	**33.50**	**47**	P	**P**	**19 51 33.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=280,slow=7.5,SNR=7.7						
YKA				PcP	**PcP**	**19 54 13.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=287,slow=3.3,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**34.74**	**210**	T	T	20 28 47.5	
	baz=20,slow=76,SNR=140						
H11N3	**WAKE ISLAND Hy**	**34.75**	**210**	T	T	20 29 02.8	
	baz=20,slow=76,SNR=157						
H11N1	**WAKE ISLAND Hy**	**34.76**	**210**	T	T	20 28 48.9	
	baz=20,slow=76,SNR=143						
USA0B	**Ussuriysk Arra**	**35.39**	**279**	P	**P**	**19 51 49.6**	**-0.6**
USA0B				IAmb	IAmb	19 52 06.1	
	comp=Z,5.9nm,1.1s						
USRK	**Ussuriysk Ar.**	**35.39**	**279**	P	**P**	**19 51 49.4**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=56,slow=9.7,SNR=28						
USRK	**Ussuriysk Ar.**	**35.39**	**279**	P	**P**	**19 51 49.7**	**-0.5**
B08A	**Colville Reser**	**35.42**	**73**	P	**P**	**19 51 51.0**	**+0.6**
B08A				IAmb	IAmb	19 52 09.2	
	comp=Z,2.9nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**35.95**	**210**	T	T	20 30 24.4	
	baz=19,slow=76,SNR=148						
MAJO	**Matsushiro**	**35.95**	**264**	P	**P**	**19 51 58.9**	**+3.9**
MAJO				IAmb	IAmb	19 52 12.9	
	comp=Z,26nm,1.5s						
MJB9	**Matsu-Tunnel**	**35.95**	**264**	P	**P**	**19 51 58.9**	**+3.8**
MJB9				IAmb	IAmb	19 52 12.9	
	comp=Z,28nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**35.96**	**210**	T	T	20 30 20.8	
	baz=19,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**35.96**	**210**	T	T	20 30 22.6	
	baz=19,slow=76,SNR=44						
PINE	**Pine Mountain**	**36.69**	**80**	P	**P**	**19 52 02.3**	**+0.8**
PINE				IAmb	IAmb	19 52 09.8	
	comp=Z,8.2nm,0.8s						
NEW	**Newport**	**36.77**	**72**	P	**P**	**19 52 01.9**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=282,slow=9.3,SNR=4.2						
NEW	**Newport**	**36.77**	**72**	P	**P**	**19 52 02.6**	**+0.6**
NEW				IAmb	IAmb	19 52 17.7	
	comp=Z,3.8nm,0.8s						
WALA	**Waterton Lakes**	**38.29**	**69**	P	**P**	**19 52 15.6**	**+0.7**
BMO	**Blue Mountains**	**38.35**	**77**		**PcP**	**19 54 27.6**	**-0.7**
RES	**Resolute Bay**	**38.63**	**25**	P	**P**	**19 52 17.4**	**+0.1**
JTMT	**Jette**	**38.70**	**71**	P	**P**	**19 52 17.3**	**-1.1**
JTMT				IAmb	IAmb	19 52 21.8	
	comp=Z,6.7nm,1.0s						
MCMT	**McKenzie Canyo**	**41.05**	**74**	P	**P**	**19 52 38.1**	**0.0**
NVAR	**Mina Array Bea**	**41.38**	**85**	P	**P**	**19 52 40.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=298,slow=12,SNR=1.9						
NVAR				LR	LR	20 05 40.1	
	comp=Z,34nm,21.3s,baz=292,slow=30						
KSRS	**Korea Array**	**41.78**	**273**	P	**P**	**19 52 44.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=52,slow=6.1,SNR=6.3						
ELK	**Elko**	**41.90**	**81**	P	**P**	**19 52 45.6**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=308,slow=12,SNR=2.8						
ELK				LR	LR	20 06 41.9	
	comp=Z,37nm,19.0s,baz=324,slow=31						
YHL	**Hebgen Lake**	**42.03**	**73**	P	**P**	**19 52 46.6**	**+0.4**
YHH	**Holmes Hill**	**42.27**	**73**	P	**P**	**19 52 48.3**	**+0.2**
BW06	**Boulder Array**	**44.18**	**75**	P	**P**	**19 53 03.8**	**+0.4**
BW06				IAmb	IAmb	19 53 04.3	
	comp=Z,4.3nm,0.7s						
PD31	**Pinedale Array**	**44.18**	**75**	P	**P**	**19 53 03.7**	**+0.2**
PD31				IAmb	IAmb	19 53 04.3	
	comp=Z,3.8nm,0.7s						
PDAR	**Pinedale Array**	**44.18**	**75**	P	**P**	**19 53 03.6**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=309,slow=3.8,SNR=23						
NRIK	**Noril'sk**	**45.28**	**330**	LR	LR	20 14 35.2	
	comp=Z,29nm,18.6s,baz=239,slow=40						
PV17	**East Wray Mesa**	**47.25**	**79**	P	**P**	**19 53 29.4**	**+1.7**
PV17				IAmb	IAmb	19 53 42.1	
	comp=Z,6.6nm,0.6s						
ULM	**Lac du Bonnet**	**47.74**	**59**	P	**P**	**19 53 30.5**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=314,slow=7.9,SNR=2.7						
ULM	**Lac du Bonnet**	**47.74**	**59**	IAmb	IAmb	19 53 35.1	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**48.45**	**298**	P	**P**	**19 53 35.7**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=54,slow=7.3,SNR=2.7						
SONM				PcP	**PcP**	**19 55 02.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=71,slow=3.1,SNR=7.1						
SONM	**Songino Array**	**48.45**	**298**	IAmb	IAmb	19 53 36.4	
	comp=Z,1.6nm,1.5s						
SPITS	**Spitsbergen Ar**	**50.27**	**357**	P	**P**	**19 53 49.3**	**-0.8**
	comp=Z,8.5nm,0.9s,baz=56,slow=13,SNR=3.4						
EYMN	**Ely**	**51.42**	**59**	P	**P**	**19 53 59.1**	**0.0**
D41A	**Chassel**	**53.53**	**58**	P	**P**	**19 54 14.4**	**-0.2**
WHN	**Wuhan**	**54.78**	**276**	P	**P**	19 54 29.5	+5.5
E43A	**Lone Tree Farm**	**54.80**	**58**	P	**P**	**19 54 24.1**	**+0.2**
H43A	**Windswept, Lux**	**55.62**	**60**	P	**P**	**19 54 29.2**	**-0.7**
H43A				IAmb	IAmb	19 54 29.9	
	comp=Z,10nm,0.8s						
XAN	**Xi'an**	**55.72**	**283**	P	**P**	**19 54 30.5**	**-0.3**
XAN				pP	pP	19 54 40.3	-3.2
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
E46A	**Sault Ste Mari**	**56.21**	**56**	P	**P**	**19 54 33.9**	**-0.2**
TXAR	**Lajitas Array**	**56.49**	**84**	P	**P**	**19 54 36.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=338,slow=7.0,SNR=4.7						
TXAR	**Lajitas Array**	**56.49**	**84**	P	**P**	**19 54 36.0**	**-0.4**
LZH	**Lanzhou**	**57.37**	**288**	*eP*	**P**	**19 54 45.1**	**+2.4**
LZH				pP	pP	19 54 50.6	-5.1
LZH				sP	sP	19 54 54.8	-6.3
LZH				PP	**PP**	**19 56 49.3**	**-0.7**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,63nm,4.8s						
ENH	**Enshi**	**57.97**	**279**	P	**P**	**19 54 46.2**	**-0.6**
ENH				IAmb	IAmb	19 54 46.9	
	comp=Z,5.9nm,0.8s						
ARCES	**ARCESS Array B**	**58.20**	**352**	P	**P**	**19 54 46.7**	**-1.1**
	comp=Z,5.3nm,0.9s,baz=27,slow=6.1,SNR=2.8						
ARCES				PcP	**PcP**	**19 55 38.1**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=350,slow=4.7,SNR=4.1						
D53A	**Lac Vacive, Po**	**59.07**	**52**	P	**P**	**19 54 53.7**	**-0.5**
SADO	**Sadowa**	**59.95**	**55**	P	**P**	**19 55 00.3**	**0.0**
KURK	**Kurchatov**	**60.39**	**315**	P	**P**	**19 55 03.1**	**-0.1**
KURK				IAmb	IAmb	19 55 03.8	
	comp=Z,3.1nm,0.4s						
WMQ	**Urumqi**	**61.00**	**305**	*eP*	**P**	**19 55 11.5**	**+4.0**
J54A	**Appleton**	**61.27**	**56**	P	**P**	**19 55 09.7**	**+0.5**
MK31	**Makanchi Array**	**61.55**	**310**	P	**P**	**19 55 10.3**	**-0.9**
MK31				IAmb	IAmb	19 55 24.2	
	comp=Z,5.2nm,1.6s						
MKAR	**Makanchi Array**	**61.55**	**310**	P	**P**	**19 55 09.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=38,slow=6.4,SNR=14						
**

SNAA Sanae 19.00 142 P **P 19 58 23.2 +1.7**
0.1nm,0.3s,baz=288,slow=12,SNR=7.7
SNAA LR LR 20 04 43.6
comp=Z,85nm,19.6s,baz=343,slow=34
SNAA Sanae 19.00 142 P **P 19 58 22.6 +1.2**
TRQA Tornquist 25.74 323 P **P 19 59 29.1 -1.3**
TRQA IAmb IAmb 19 59 32.9
comp=Z,15nm,1.6s
PLCA Paso Flores 26.34 307 P **P 19 59 36.9 +1.0**
comp=Z,2.3nm,0.7s,baz=176,slow=10,SNR=3.9
PLCA LR LR 20 08 03.9
comp=Z,67nm,20.4s,baz=216,slow=32
PLCA Paso Flores 26.34 307 P **P 19 59 35.3 -0.6**
PLCA IAmb IAmb 19 59 42.0
comp=Z,4.7nm,1.0s
QSPA South Pole Qui 29.53 180 P **P 20 00 05.8 +1.4**
comp=Z,1.8nm,1.1s,baz=187,slow=6.7,SNR=3.7
QSPA South Pole Qui 29.53 180 P **P 20 00 04.6 +0.2**
ROC1 El Roble 33.35 313 P **P 20 00 36.0 -2.2**
CPUP Villa Florida 35.80 337 P **P 20 00 59.4 +0.2**
comp=Z,2.2nm,0.8s,baz=161,slow=10,SNR=3.7
CPUP Villa Florida 35.80 337 P **P 20 00 58.8 -0.4**
CPUP IAmb IAmb 20 01 04.7
comp=Z,8.4nm,1.3s
MAW Mawson 41.07 146 LR LR 20 18 03.0
comp=Z,44nm,18.0s,baz=237,slow=35
BDFB Brasilia 45.17 353 LR LR 20 19 18.1
comp=Z,14nm,21.2s,baz=146,slow=34
MNMC Minye Minye 45.73 323 P P 20 02 16.1 -5.4
MNMC IAmb IAmb 20 02 22.5
comp=Z,5.1nm,0.8s
SAML Samuel 53.88 335 P **P 20 03 23.6 +0.4**
H10N3 ASCENSION HYDR 56.78 34 T T 21 05 39.7
baz=194
H10N1 ASCENSION HYDR 56.78 34 T T 21 05 39.1
baz=194
H10N2 ASCENSION HYDR 56.80 34 T T 21 05 58.0
baz=194
SNZO South Karori 73.86 208 P **P 20 05 34.3 -0.2**
OPO Ambohidratompo 73.91 99 LR LR 20 31 15.2
comp=Z,46nm,19.4s,baz=359,slow=30
TORD Torodi Ar. Bea 81.60 43 P **P 20 06 18.8 +1.0**
comp=Z,2.5nm,1.2s,baz=200,slow=4.4,SNR=5.4
INK Inuvik 144.21 321 PKP **PKPdf 20 13 35.4 +1.3**
comp=Z,3.2nm,1.1s,baz=109,slow=1.2,SNR=3.6
INK Inuvik 144.21 321 PKPdf 20 13 34.9 +0.7
MKAR Makanchi Array 145.69 88 PKPbc **PKPdf 20 13 37.5 0.0**
comp=Z,0.7nm,0.7s,baz=240,slow=4.7,SNR=5.5
MKAR Makanchi Array 145.69 88 PKPdf 20 13 36.7 -0.8
ILAR Eielson Array 146.99 310 PKPbc **PKPbc 20 13 40.9 -0.2**
comp=Z,1.3nm,0.8s,baz=147,slow=2.0,SNR=10
ILAR Eielson Array 146.99 310 PKPdf 20 13 40.3 +1.2

*NEIC **19** 19:57:08.3±2.4, 31°.7S±0°.2×178°.4W±0°.2, h7km±9km, mb4.3/6*
*IDC **19** 19:57:09.1±2.0, 31°.10S×178°.61W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/29, mbtmp3.9/3, Error ellipse: s-maj=58.8km s-min=34.9km az=44.0*
ISC 19 19:57:13.0±1.3, 31°.9S±0°.1×179°.0W±0°.2, h10km, n22, σ2§41/20, mb4.2/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.07**	**200**	Pn	**Pn**	**19 58 44.4**	**+1.7**
OUZ	**Omahuta**	**6.99**	**240**	Pn	Pn	19 59 03.2	+7.8
URZ	**Urewera**	**7.09**	**205**		**Pn**	**19 58 54.0**	**-2.9**
URZ					**Sn**	**20 00 14.3**	**-3.2**
BKZ	**Black Stump Fm**	**8.12**	**205**	Pn	**Pn**	**19 59 09.3**	**-1.6**
THZ	**Tophouse**	**11.77**	**211**	Pn	**Pn**	**20 00 02.3**	**+1.3**
KHZ	**Kahutara**	**12.05**	**207**	Pn	**Pn**	**20 00 08.6**	**+3.8**
STKA	**Stephens Creek**	**33.31**	**259**	P	**P**	**20 03 52.2**	**+1.2**
BBOO	**Buckleboo**	**37.73**	**256**	P	**P**	**20 04 30.8**	**+1.8**
ASAR	**Alice Springs**	**42.17**	**269**	P	**P**	**20 05 06.8**	**+0.8**
0.5nm,0.5s,baz=107,slow=7.5,SNR=12							
ASAR	**Alice Springs**	**42.17**	**269**	P	**P**	**20 05 05.9**	**-0.1**
WB2	**Warramunga Arr**	**43.29**	**274**	P	**P**	**20 05 14.7**	**-0.4**
WB2					IAmb	IAmb	20 05 28.0
comp=Z,4.7nm,1.1s							
WRA	**Warramunga Arr**	**43.30**	**274**	P	**P**	**20 05 15.1**	**-0.1**
comp=Z,0.8nm,0.4s,baz=114,slow=7.9,SNR=21							
WRA	**Warramunga Arr**	**43.30**	**274**	P	**P**	**20 05 14.6**	**-0.6**
WB0	**Warramunga Arr**	**43.33**	**275**	P	**P**	**20 05 15.3**	**-0.1**
WB0					IAmb	IAmb	20 05 23.2
comp=Z,7.6nm,1.2s							
QSPA	**South Pole Qui**	**58.22**	**180**	P	P	20 07 10.4	+3.2
comp=Z,1.9nm,0.6s,baz=11,slow=4.5,SNR=8.8							
QSPA	**South Pole Qui**	**58.22**	**180**	P	**P**	**20 07 08.2**	**+1.0**
QSPA					IAmb	IAmb	20 07 13.3
comp=Z,2.7nm,0.8s							
SNAA	**Sanae**	**76.69**	**179**	P	**P**	**20 09 01.9**	**-1.9**
VNA3	**Neumayer Olymp**	**76.88**	**176**	P	**P**	**20 09 07.1**	**+2.3**
VNA2	**Neumayer--Watz**	**77.30**	**177**	P	**P**	**20 09 10.1**	**+2.9**
baz=184,slow=3.5							
VNA1	**Neumayer--Stat**	**77.53**	**177**	P	P	20 09 11.5	+3.0
FINES	**FINESS Array B**	**146.22**	**338**	PKPbc	**PKPdf**	**20 16 47.9**	**-3.9**
comp=Z,3.4nm,0.9s,baz=67,slow=4.7,SNR=6.7							
FINES	**FINESS Array B**	**146.22**	**338**		**PKPdf**	**20 16 47.4**	**-4.4**

*IDC **19** 20:10:05.1±3.0, 4°.34S×153°.01E, h27km±17km, mb3.9/7, mb1 4.1/7, mb1mx3.8/30, mbtmp4.1/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/26, Error ellipse: s-maj=27.6km s-min=18.7km az=133.0*
*ISCJB **19** 20:10:06.2±0.4, 4°.26S±0°.06×152°.94E±0°.05, h55km, mb4.0/8, MS3.1/1, Error ellipse: s-maj=8.6km s-min=6.9km az=143.3*
*NEIC **19** 20:10:08.6±1.7, 4°.27S±0°.10×152°.92E±0°.10, h60km±6km, mb4.7/26*
ISC 19 20:10:08.0±0.5, 4°.25S±0°.07×152°.94E±0°.07, h55km, n52, σ1§07/59, mb4.5/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.91**	**266**	Pg	**Pn**	**20 10 23.2**	**-1.6**
270nm,0.3s,baz=145,slow=3.9,SNR=285							
KRVT				Lg	Lg	20 10 36.5	
1µm,0.3s,baz=129,slow=19,SNR=35							
KRVT				LR	LR	20 10 52.2	
comp=Z,1µm,18.2s,baz=88,slow=48							
PMG	**Port Moresby**	**7.69**	**228**	Pn	**Pn**	**20 11 58.5**	**+1.0**
1.6nm,0.3s,baz=50,slow=14,SNR=3.3							
PMG				Sn	**Sn**	**20 13 23.8**	**+0.5**
1.8nm,0.3s,baz=144,slow=20,SNR=6.9							
PMG	**Port Moresby**	**7.69**	**228**		**Pn**	**20 11 58.2**	**+0.7**
PMG					**Sn**	**20 13 24.9**	**+1.6**
COEN	**Coen**	**13.63**	**224**	Pn	**Pn**	**20 13 19.0**	**+0.3**
GUMO	**Guam**	**19.45**	**336**	P	**Pn**	**20 14 31.8**	**-0.1**
FAKI	**Fak Fak**	**20.69**	**273**	P	**P**	**20 14 43.7**	**-0.1**
FAKI					IAmb	IAmb	20 14 46.6
comp=Z,74nm,1.4s							
TARA	**Tarawa**	**20.73**	**75**	P	**P**	**20 14 43.2**	**-1.1**
TARA					IAmb	IAmb	20 14 49.7
comp=Z,126nm,1.3s							
EIDS	**Eidsvold**	**21.07**	**185**	P	**P**	**20 14 45.8**	**-2.1**
SARN	**Sarigan**	**21.99**	**341**	P	**P**	**20 14 56.8**	**-0.9**
SARN					IAmb	IAmb	20 15 22.1
comp=Z,119nm,1.5s							
DZM	**Mont Dzumac**	**22.03**	**145**	P	**P**	**20 14 58.7**	**+0.5**
comp=Z,5.0nm,0.4s,baz=252,slow=6.3,SNR=20							
DZM	**Mont Dzumac**	**22.03**	**145**	P	**P**	**20 14 58.7**	**+0.5**
MTN	**Manton Dam**	**23.18**	**247**	P	**P**	**20 15 09.6**	**-0.6**
WB0	**Warramunga Arr**	**23.77**	**228**	P	**P**	**20 15 15.0**	**-0.8**
WB0					IAmb	IAmb	20 15 16.5
comp=Z,20nm,1.1s							
WR0	**Warramunga Arr**	**23.77**	**227**	P	**P**	**20 15 15.0**	**-0.8**
WR0					IAmb	IAmb	20 15 16.6
comp=Z,15nm,0.9s							
WRAB	**Tennant Creek**	**23.90**	**228**	P	**P**	**20 15 16.3**	**-0.6**
WRAB					IAmb	IAmb	20 15 17.7
comp=Z,16nm,0.8s							
WB2	**Warramunga Arr**	**23.90**	**228**	P	**P**	**20 15 16.6**	**-0.4**
WB2					IAmb	IAmb	20 15 17.9
comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**23.91**	**228**	P	**P**	**20 15 16.8**	**-0.3**
comp=Z,12nm,0.6s,baz=53,slow=9.5,SNR=97							
WRA				PcP	**PcP**	**20 18 59.3**	**+0.6**
comp=Z,1.4nm,0.6s,baz=50,slow=2.3,SNR=6.0							
WRA				ScP	**ScP**	**20 22 34.9**	**+2.2**
comp=Z,1.7nm,1.0s,baz=48,slow=2.7,SNR=7.2							
WRA	**Warramunga Arr**	**23.91**	**228**	P	**P**	**20 15 15.2**	**-1.9**
WRA					**PcP**	**20 18 58.7**	**0.0**
WRA					**ScP**	**20 22 34.9**	**+2.2**
KNRA	**Kununurra**	**26.34**	**243**	P	**P**	**20 15 38.9**	**-0.2**
KNRA					IAmb	IAmb	20 15 41.2
comp=Z,23nm,1.0s							
FUNA	**Funafuti**	**26.43**	**101**	P	**P**	**20 15 38.6**	**-1.3**
AS31	**Alice Springs**	**26.65**	**222**	P	**P**	**20 15 41.6**	**-0.3**
ASAR	**Alice Springs**	**26.65**	**222**	P	**P**	**20 15 41.6**	**-0.3**
comp=Z,1.4nm,0.5s,baz=52,slow=9.0,SNR=45							
ASAR				ScP	**ScP**	**20 22 42.9**	**+2.4**
comp=Z,0.8nm,0.9s,baz=43,slow=3.2,SNR=6.1							
ASAR	**Alice Springs**	**26.65**	**222**	P	**P**	**20 15 41.0**	**-0.9**
ASAR					**ScP**	**20 22 41.9**	**+1.5**
LHI	**Lord Howe Isla**	**27.73**	**169**	P	**P**	**20 15 50.4**	**-1.0**
STKA	**Stephens Creek**	**29.47**	**200**	P	**P**	**20 16 06.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**30.05**	**241**	P	**P**	**20 16 11.0**	**-1.1**
FITZ					IAmb	IAmb	20 16 12.3
comp=Z,6.6nm,0.7s							
FORT	**Forrest**	**35.30**	**219**	P	**P**	**20 16 57.5**	**-0.5**
PSA00	**Pilbara Seismi**	**36.43**	**239**	P	**P**	**20 17 06.8**	**-1.0**
PSA00					IAmb	IAmb	20 17 07.8
comp=Z,23nm,1.2s							
BKZ	**Black Stump Fm**	**40.80**	**152**	P	**P**	**20 17 44.9**	**+0.7**
BKZ					IAmb	IAmb	20 17 59.0
comp=Z,12nm,1.1s							
GIRL	**Giralia**	**41.66**	**240**	P	**P**	**20 17 51.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**41.74**	**156**	P	**P**	**20 17 52.4**	**+0.5**
LTZ	**Lake Taylor**	**42.04**	**159**	P	**P**	**20 17 54.6**	**+0.3**
LTZ					IAmb	IAmb	20 18 03.3
comp=Z,28nm,1.3s							
PLWZ	**Palliser**	**42.19**	**155**	P	**P**	**20 17 57.5**	**+1.9**
MORW	**Morawa**	**42.80**	**231**	P	**P**	**20 18 00.2**	**-0.5**
MORW					IAmb	IAmb	20 18 00.9
comp=Z,18nm,1.1s							
MJAR	**Matsushiro Arr**	**42.85**	**342**	LR	LR	20 33 47.5
comp=Z,25nm,21.6s,baz=285,slow=33							
CISI	**Cisompet, Garu**	**44.99**	**264**	P	**P**	**20 18 17.2**	**-1.4**
PETK	**Petropavlovsk-**	**57.29**	**3**	P	**P**	**20 19 51.2**	**+1.3**
comp=Z,2.9nm,0.6s,baz=153,slow=6.2,SNR=8.9							
PETK	**Petropavlovsk-**	**57.29**	**3**	P	**P**	**20 19 50.7**	**+0.7**
PETK				PcP	**PcP**	**20 20 44.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.77**	**295**	P	**P**	**20 19 56.7**	**+2.6**
comp=Z,0.4nm,0.4s,baz=114,slow=6.0,SNR=4.1							
MKAR	**Makanchi Array**	**80.01**	**319**	P	**P**	**20 22 12.9**	**+1.1**
comp=Z,0.2nm,0.5s,baz=100,slow=6.9,SNR=3.2							
MKAR	**Makanchi Array**	**80.01**	**319**	P	**P**	**20 22 12.0**	**+0.3**
ILAR	**Eielson Array**	**81.60**	**22**	P	**P**	**20 22 19.6**	**-0.1**
comp=Z,1.5nm,0.8s,baz=252,slow=5.3,SNR=16							
ILAR	**Eielson Array**	**81.60**	**22**	P	**P**	**20 22 19.3**	**-0.4**
ARSB	**Arslanbob**	**85.27**	**312**		pP	20 22 55.9	+0.5
MAW	**Mawson**	**86.13**	**203**	P	**P**	**20 22 43.0**	**+0.2**
comp=Z,0.9nm,0.6s,baz=90,slow=7.5,SNR=6.4							
MAW	**Mawson**	**86.13**	**203**	P	**P**	**20 22 42.6**	**-0.2**
GERES	**GERESS Array B**	**123.66**	**329**	PKP	**PKiKP**	**20 29 00.5**	**+0.4**
comp=Z,0.6nm,0.5s,baz=98,slow=1.9,SNR=5.2							
GERES	**GERESS Array B**	**123.66**	**329**		**PKiKP**	**20 29 00.7**	**+0.6**
LPAZ	**La Paz**	**134.55**	**118**	PKP	**PKiKP**	**20 29 22.9**	**-0.5**
comp=Z,0.7nm,0.6s,baz=276,slow=2.3,SNR=4.4							
LPAZ	**La Paz**	**134.55**	**118**		**PKPdf**	**20 29 20.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**150.27**	**289**	PKPbc	**PKPbc**	**20 29 54.4**	**+0.2**
comp=Z,3.9nm,0.6s,baz=87,slow=2.4,SNR=35							
BDFB	**Brasilia**	**151.35**	**134**	PKPbc	**PKiKP**	**20 29 57.6**	**+0.3**
comp=Z,3.6nm,0.4s,baz=304,slow=2.7,SNR=6.1							

*BJI **19** 20:22:40.6±0.0, 0°.96N×97°.21E, h24km, mb5.0/59, mB5.0/41, Ms4.7/37, Ms7 4.5/32*
*MOS **19** 20:22:41.8±1.0, 1°.31N×97°.08E, h17km, mb5.2/25, MS4.4/4, Error ellipse: s-maj=7.7km s-min=4.8km az=106.1*
*IDC **19** 20:22:41.1±0.5, 1°.28N×97°.05E, h0km, mb4.6/31, mb1 4.7/33, mb1mx4.5/49, mbtmp4.6/33, ML4.3/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/36, Error ellipse: s-maj=17.4km s-min=11.3km az=51.0*
*NEIC **19** 20:22:43.8±1.7, 1°.29N±0°.07×97°.12E±0°.07, h16km±3km, mb5.1/110*
*KLM **19** 20:22:44.0, 1°.21N×96°.95E, h23km, mb4.9*
*ISCJB **19** 20:22:44.8±0.6, 1°.30N±0°.03×97°.14E±0°.03, h37km±4km, mb4.9/90, MS4.1/25, Error ellipse: s-maj=6.1km s-min=3.4km az=140.0*
*DJA **19** 20:22:44.2±0.3, 1°N±3°×9°7E±°, h28km±2km, M4.8/20, mB5.2/6, mb4.9/20, MLv4.8/11, Mw(mB)4.6/6*
ISC 19 20:22:46.5±0.3, 1°.29N±0°.04×97°.11E±0°.05, h42km±2km, n376, σ1§51/396, mb5.0/119, MS4.2/27, 13C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.47**	**88**	P	**Pn**	**20 22 56.0**	**-0.9**
GSI	**Gunungsitoli**	**0.47**	**88**		**Pn**	**20 22 55.1**	**-1.8**
SNSI	**Sinabang, Aceh**	**1.36**	**325**	P	**Pn**	**20 23 07.8**	**-1.3**
RPSI	**Rantau Prapat**	**2.29**	**52**		**Pn**	**20 23 21.8**	**-0.1**
RPSI	**Rantau Prapat**	**2.29**	**52**		**Pn**	**20 23 22.3**	**+0.4**
RPSI					**Sn**	**20 23 54.9**	**+6.1**
PSI	**Prapat**	**2.36**	**50**	P	**Pn**	**20 23 21.8**	**-1.1**
PSI						20 23 54.9	
PSI	**Prapat**	**2.36**	**50**	Pn	**Pn**	**20 23 22.3**	**-0.6**
22nm,0.3s,baz=220,slow=4.7,SNR=139							
PSI				Sn	**Sn**	**20 23 54.9**	**+4.3**
24nm,0.3s,baz=187,slow=9.3,SNR=6.2							
PSI				LR	LR	20 24 11.8	
comp=Z,1µm,22.0s,baz=303,slow=39							
MLSI	**Meulaboh, Aceh**	**3.04**	**347**	P	**Pn**	**20 23 30.6**	**-1.6**
SISI	**Saibi**	**3.26**	**143**	P	**Pn**	**20 23 34.7**	**-0.5**
LHMI	**Lhok Sumawe**	**3.92**	**358**	P	**Pn**	**20 23 44.1**	**-0.1**
LHMI	**Lhok Sumawe**	**3.92**	**358**		**Pn**	**20 23 43.9**	**-0.4**
PDSI	**Padang**	**4.00**	**123**	P	**Pn**	**20 23 44.6**	**-0.8**
BKNI	**Bangkinang**	**4.04**	**104**	P	**Pn**	**20 23 45.6**	**-0.3**
BKNI	**Bangkinang**	**4.04**	**104**		**Pn**	**20 23 45.7**	**-0.2**
SDSI	**Sungai Dareh**	**4.85**	**117**	P	**Pn**	**20 23 57.6**	**+0.6**
IPM	**Ipoh**	**5.04**	**51**	P	**Pn**	**20 24 00.0**	**+0.4**
IPM	**Ipoh**	**5.04**	**51**		**Pn**	**20 23 59.8**	**+0.2**
JRMM	**Jerantut**	**5.95**	**64**	P	**Pn**	**20 24 13.0**	**+0.8**
PKDT	**Phuket**	**6.68**	**11**	P	**Pn**	**20 24 21.8**	**-0.3**
51nm,0.5s,1µm0.3nm							
MYKOM	**Kota Tinggi**	**6.76**	**86**		**Pn**	**20 24 23.6**	**+0.3**
SKLT	**Songkhla**	**6.81**	**31**	P	**Pn**	**20 24 24.4**	**+0.4**
94nm,0.9s,848nm0.3nm							
TRTT	**Trang**	**7.00**	**21**	P	**Pn**	**20 24 25.4**	**-1.1**
93nm,0.5s,1µm0.3nm							
SURT	**Suratani**	**7.80**	**12**	P	**Pn**	**20 24 36.0**	**-1.6**
40nm,0.6s,0.2nm							
MNAI	**Manna**	**8.10**	**134**	Pn	**Pn**	**20 24 41.2**	**-0.4**
LHSI	**Lahat**	**8.18**	**128**	P	**Pn**	**20 24 42.9**	**+0.2**
KLSI		**9.65**	**128**	P	Pn	20 25 13.8	+11
PHET	**Kaeng Krachan**	**11.82**	**12**	P	Pn	20 25 48.0	+15
SRDT	**SRDT**	**13.13**	**9**	P	**P**	**20 26 02.5**	**+2.7**
KSM	**Kuching**	**13.20**	**89**	Pn	**Pn**	**20 25 48.2**	**-3.2**
LEM	**Lembang**	**13.23**	**128**	Pn	**Pn**	**20 25 54.2**	**+2.2**
1.5nm,0.3s,baz=162,slow=20,SNR=2.5							
CISI	**Cisompet, Garu**	**13.83**	**130**	Pn	**Pn**	**20 25 55.8**	**-4.3**
UTHA	**Uthaitani**	**14.37**	**9**	P	**P**	**20 26 13.5**	**-0.1**
STKI	**Sintang**	**14.42**	**95**	P	**Pn**	**20 26 09.4**	**+1.3**
UMPA	**Umpang Tak**	**14.93**	**7**	P	**P**	**20 26 19.0**	**-0.8**
SBUM	**Sibu**	**15.15**	**85**		**Pn**	**20 26 19.0**	**+1.2**
CHAI	**Chaiyaphum**	**15.30**	**18**	P	**P**	**20 26 23.4**	**-0.5**
61µm,0.8s,450µm							
DLV	**T Lat**	**15.48**	**46**	Pn	**Pn**	**20 26 22.9**	**+0.7**
DLV					IAmb	IAmb	20 26 39.5
comp=Z,55nm,1.0s							
PBKT	**Sadao Pong**	**15.66**	**14**	P	**Pn**	**20 26 23.9**	**-0.4**
comp=Z,21nm,0.8s							
PBKT	**Sadao Pong**	**15.66**	**14**		**Pn**	**20 26 23.6**	**-0.8**
UBPT	**Khong Chiam**	**16.17**	**30**	P	**P**	**20 26 34.3**	**+0.7**
comp=Z,29nm,1.1s							
UBPT	**Khong Chiam**	**16.17**	**30**	P	**P**	**20 26 32.5**	**-1.1**
UGM	**Wanagama**	**16.20**	**125**	P	**Pn**	**20 26 27.4**	**-3.9**
UGM					IAmb	IAmb	20 27 23.0
comp=Z,230nm,1.4s							
MHMT	**Maesarieng**	**16.81**	**3**	P	**P**	**20 26 40.4**	**-0.2**
comp=Z,25nm,1.1s							
CM31	**Chiang Mai Arr**	**17.16**	**6**	P	**Pn**	**20 26 41.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**17.16**	**6**	*i* P	**Pn**	**20 26 42.0**	**-1.3**
CMAR					pmax	pmax	
comp=Z,10.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**17.16**	**6**	P	**Pn**	**20 26 42.7**	**-0.6**
comp=Z,1.0nm,0.3s,baz=194,slow=13,SNR=46							
CMAR				PcP	**PcP**	**20 31 27.9**	**+1.7**
comp=Z,0.1nm,0.3s,baz=212,slow=2.1,SNR=7.0							
CMAR				LR	LR	20 34 20.2	
comp=Z,523nm,18.4s,baz=194,slow=41							
CMAR	**Chiang Mai Arr**	**17.16**	**6**		**Pn**	**20 26 41.4**	**-1.9**
CMAR					**PcP**	**20 31 27.7**	**+1.5**
PALK	**Pallekele**	**17.40**	**290**	P	**Pn**	**20 26 46.4**	**0.0**
PALK					pmax	pmax	
comp=Z,65nm,1.5s							
PALK	**Pallekele**	**17.40**	**290**	P	**P**	**20 26 47.1**	**-0.2**
comp=Z,0.7nm,0.3s,baz=117,slow=12,SNR=6.4							
PALK				S	Sn	20 29 46.2	-13
comp=Z,1.7nm,0.3s,baz=116,slow=6.1,SNR=8.6							
PALK				LR	LR	20 33 08.6	
comp=Z,460nm,18.5s,baz=115,slow=36							
PALK	**Pallekele**	**17.40**	**290**	P	**Pn**	**20 26 46.4**	**0.0**
CMMT	**Chiang Mai**	**17.51**	**6**	P	**Pn**	**20 26 46.3**	**-1.4**
comp=Z,9.6nm,1.0s							
CHTO	**Chiang Mai**	**17.51**	**6**	P	**Pn**	**20 26 45.6**	**-2.1**
CHTO				pmax	pmax		
comp=Z,16nm,1.0s							
CHTO	**Chiang Mai**	**17.51**	**6**	P	**Pn**	**20 26 45.6**	**-2.1**
NONG	**Nongkai**	**17.70**	**19**	P	**P**	**20 26 50.7**	**+0.2**
comp=Z,0.8nm,0.8s							
PAYA	**Payao**	**18.17**	**8**	P	**P**	**20 26 55.9**	**+0.2**
comp=Z,77µm,0.7s,comp=Z,697µm							
SIMRM	**Sittwe**	**19.18**	**348**	P	**P**	**20 27 06.5**	**-0.3**
KKM	**Kota Kinabalu**	**19.64**	**76**	P	**P**	**20 27 12.7**	**+0.8**
BKB	**Balikpapan**	**19.95**	**97**	P	**Pn**	**20 27 17.2**	**+0.1**
SLVN	**Son La**	**21.00**	**18**	P	**P**	**20 27 26.5**	**-0.1**
SLVN					IAmb	IAmb	20 27 28.3
comp=Z,93nm,0.8s							
QIZ	**Qiongzhong**	**21.61**	**34**	P	**P**	**20 27 34.3**	**+1.2**
QIZ				S	**S**	**20 31 34.4**	**+4.1**
QIZ				LR	LR		
comp=Z,530nm,17.6s							
QIZ				LR	LR		
comp=Z,610nm,13.7s							
QIZ				LR	LR		
comp=Z,480nm,12.8s							
QIZ	**Qiongzhong**	**21.61**	**34**	P	**P**	**20 27 33.3**	**+0.2**
QIZ					IAmb	IAmb	20 28 04.8
comp=Z,158nm,1.6s							
MPSI	**Mapaga**	**22.81**	**92**	P	**P**	**20 27 45.6**	**-0.4**
TTSI	**Tana Toraja**	**23.11**	**101**	P	**P**	**20 27 48.9**	**-0.1**
SPSI	**Sidrap Palu**	**23.24**	**103**	P	**P**	**20 27 50.1**	**-0.3**
KAPI	**Kappang**	**23.47**	**106**	P	**P**	**20 27 52.9**	**+0.3**
KAPI					pmax	pmax	
comp=Z,18nm,1.1s							
KAPI	**Kappang**	**23.47**	**106**	P	**P**	**20 27 53.2**	**+0.6**
comp=Z,11nm,0.8s,baz=283,slow=16,SNR=4.2							
KAPI				LR	LR	20 37 57.8	
comp=Z,230nm,18.7s,baz=299,slow=39							
KAPI	**Kappang**	**23.47**	**106**	P	**P**	**20 27 52.9**	**+0.3**
BNSI	**Bone**	**23.66**	**104**	P	**P**	**20 27 55.6**	**+1.2**
BKSI	**Bulukumba**	**23.91**	**106**	P	**P**	**20 27 57.6**	**+0.9**
KAAM	**Kaadhehdhoo**	**24.12**	**268**	P	**P**	**20 28 01.7**	**+3.0**
KAAM					IAmb	IAmb	20 28 24.0
comp=Z,61nm,1.2s							
HYB	**Hyderabad**	**24.29**	**312**	*i* P	**P**	**20 28 01.0**	**+0.8**
KMI	**Kunming**	**24.32**	**12**	P	**P**	**20 28 02.1**	**+1.5**
KMI				pP	pP	20 28 09.3	-2.4
KMI				sP	sP	20 28 14.4	-2.2
KMI				PP	**PnPn**	**20 28 38.8**	**+6.7**
KMI				S	**S**	**20 32 14.6**	**-2.6**
KMI				pmax	pmax		
comp=Z,70nm,1.1s							
KMI				pmax	pmax		
comp=Z,190nm,4.2s							
KMI				LR	LR		
comp=Z,1µm,16.1s							
KMI				LR	LR		
comp=Z,690nm,14.5s							
KMI				LR	LR		
comp=Z,1µm,14.9s							
KMI	**Kunming**	**24.32**	**12**	P	**P**	**20 28 02.0**	**+1.5**
KMI					pmax	pmax	
comp=Z,61nm,0.9s							
KMI	**Kunming**	**24.32**	**12**	P	**P**	**20 28 02.0**	**+1.4**
KMI					IAmb	IAmb	20 28 03.8
comp=Z,61nm,0.9s							
APSI	**Ampana**	**24.64**	**95**	P	**P**	**20 28 03.2**	**-0.2**
WBSI	**Waikabubak, Su**	**24.70**	**117**	P	**P**	**20 28 02.1**	**-1.9**
comp=Z,40nm,1.0s							
MRSI	**Marisa**	**24.84**	**92**	P	**P**	**20 28 03.9**	**-1.4**
LUWI	**Luwuk**	**25.77**	**95**	P	**P**	**20 28 12.9**	**-0.8**
LUWI	**Luwuk**	**25.77**	**95**	P	**P**	**20 28 12.3**	**-1.3**
LUWI					IAmb	IAmb	20 28 37.4
comp=Z,68nm,0.9s							
H08S2	**Diego Garcia H**	**26.11**	**250**	T	T	20 55 19.7
baz=70,slow=75,SNR=6244							
H08S3	**Diego Garcia H**	**26.11**	**250**	T	T	20 55 25.5
baz=70,slow=75,SNR=6238							
H08S1	**Diego Carcia H**	**26.12**	**250**	T	T	20 55 26.6
baz=70,slow=75							
GYA	**Guiyang**	**26.66**	**19**	*i* P	**P**	**20 28 22.3**	**+0.5**
GYA				PP	**PnPn**	**20 29 13.0**	**+8.9**
GYA				S	**S**	**20 32 53.3**	**-1.0**
GYA				SS	**SnSn**	**20 34 05.3**	**+5.1**
GYA				pmax	pmax		
comp=Z,20nm

YOJ	**Yonaguni jima**	**34.03**	**45**	P	**P**	**20 29 29.3**	**+2.5**
FITZ	**Fitzroy Crossi**	**34.05**	**126**	P	**P**	**20 29 26.6**	**-0.4**
	baz=34,SNR=5.6						
FITZ	**Fitzroy Crossi**	**34.05**	**126**	P	**P**	**20 29 26.7**	**-0.3**
FITZ				IAmb	IAmb	20 30 15.5	
	comp=Z,31nm,1.9s						
XAN	**Xi'an**	**34.41**	**18**	P	**P**	**20 29 29.3**	**-0.7**
XAN				pmax	pmax		
	comp=Z,38nm,1.1s						
XAN				LR	LR		
	comp=Z,560nm,14.5s						
XAN				LR	LR		
	comp=Z,360nm,17.3s						
XAN				LR	LR		
	comp=Z,640nm,15.2s						
XAN	**Xi'an**	**34.41**	**18**	P	**P**	**20 29 29.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,66nm,1.3s						
XAN	**Xi'an**	**34.41**	**18**	P	**P**	**20 29 29.6**	**-0.4**
LZH	**Lanzhou**	**35.19**	**9**	*e*P	**P**	**20 29 38.3**	**+1.5**
LZH				pP	pP	20 29 46.3	-1.7
LZH				sP	sP	20 29 49.6	-3.3
LZH				PP	**PP**	**20 30 53.5**	**-3.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,95nm,4.9s						
LZH				LR	LR		
	comp=Z,510nm,15.2s						
LZH				LR	LR		
	comp=Z,480nm,16.8s						
LZH				LR	LR		
	comp=Z,600nm,16.3s						
FAKI	**Fak Fak**	**35.38**	**97**	P	**P**	**20 29 38.8**	**+0.2**
KNRA	**Kununurra**	**35.53**	**120**	P	**P**	**20 29 38.7**	**-1.2**
KNRA				IAmb	IAmb	20 30 55.8	
	comp=Z,80nm,1.6s						
MTN	**Manton Dam**	**36.56**	**114**	P	**P**	**20 29 46.4**	**-2.3**
MTN				IAmb	IAmb	20 30 47.5	
	comp=Z,30nm,1.4s						
NJ2	**Nanjing**	**36.84**	**32**	*e*P	**P**	**20 29 52.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,16nm,0.8s						
NJ2				LR	LR		
	comp=Z,490nm,15.2s						
NJ2				LR	LR		
	comp=Z,300nm,9.9s						
NJ2				LR	LR		
	comp=Z,480nm,14.2s						
GTA	**Gaotai**	**38.03**	**3**	⇑P	**P**	**20 30 01.5**	**+0.6**
GTA				pP	pP	20 30 08.9	-3.3
GTA				PcP	**PcP**	**20 32 17.3**	**+1.5**
GTA				S	**S**	**20 35 54.3**	**+3.7**
GTA				SS	**SnSn**	**20 38 33.1**	**-2.7**
GTA				pmax	pmax		
	comp=Z,24nm,1.3s						
GTA				pmax	pmax		
	comp=Z,91nm,7.1s						
GTA				LR	LR		
	comp=Z,260nm,14.0s						
GTA				LR	LR		
	comp=Z,230nm,13.6s						
GTA				LR	LR		
	comp=Z,370nm,14.0s						
NIL	**Nilore**	**39.20**	**328**	P	**P**	**20 30 11.1**	**+0.3**
NIL				pmax	pmax		
	comp=Z,13nm,0.6s						
NIL	**Nilore**	**39.20**	**328**	P	**P**	**20 30 11.1**	**+0.3**
NIL				IAmb	IAmb	20 30 12.0	
	comp=Z,12nm,0.6s						
JOW	**Kunigami**	**39.25**	**47**	P	**P**	**20 30 11.9**	**+0.7**
JOW				IAmb	IAmb	20 30 12.9	
	comp=Z,28nm,0.6s						
WRKA	**Warakurna**	**39.96**	**133**	P	**P**	**20 30 18.4**	**+1.2**
	baz=40,SNR=9.0						
HHC	**Hu-ho-hao-te**	**41.50**	**17**	*e*P	**P**	**20 30 32.6**	**+2.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**20 30 35.4**	**0.0**
	comp=Z,6.7nm,0.6s,baz=302,slow=9.1,SNR=86						
WRA				PcP	**PcP**	**20 32 30.3**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=316,slow=2.4,SNR=4.1						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**20 30 34.7**	**-0.7**
WRA				PcP	**PcP**	**20 32 29.8**	**+0.5**
WRAB	**Tennant Creek**	**42.16**	**122**	*ce*P	**P**	**20 30 35.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,12nm,1.7s						
WRAB	**Tennant Creek**	**42.16**	**122**	P	**P**	**20 30 33.9**	**-1.5**
WB2	**Warramunga Arr**	**42.17**	**122**	P	**P**	**20 30 35.1**	**-0.4**
WB2				IAmb	IAmb	20 31 09.3	
	comp=Z,60nm,2.0s						
KBL	**Kabul**	**42.20**	**325**	P	**P**	**20 30 35.5**	**-0.2**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KBL	**Kabul**	**42.20**	**325**	P	**P**	**20 30 35.5**	**-0.2**
BJT	**Baijiatuau**	**42.27**	**22**	P	**P**	**20 30 37.4**	**+1.4**
BJT				pmax	pmax		
	comp=Z,22nm,0.7s						
BJT	**Baijiatuau**	**42.27**	**22**	P	**P**	**20 30 37.4**	**+1.4**
BJT				IAmb	IAmb	20 30 38.3	
	comp=Z,22nm,0.7s						
BJI	**Beijing**	**42.30**	**22**	P	**P**	**20 30 37.3**	**+1.2**
BJI				pmax	pmax		
	comp=Z,23nm,0.8s						
KSH	**Kashi**	**42.66**	**336**	P	**P**	**20 30 39.1**	**-0.2**
KSH				PP	**PP**	**20 32 23.4**	**+4.6**
KSH				PcP	**PcP**	**20 32 32.8**	**+2.1**
KSH				S	**S**	**20 36 58.8**	**-0.9**
KSH				SS	**SS**	**20 40 02.5**	**-8.8**
KSH				pmax	pmax		
	comp=Z,180nm,4.4s						
KSH				LR	LR		
	comp=Z,210nm,9.2s						
KSH				LR	LR		
	comp=Z,210nm,12.2s						
KSH				LR	LR		
	comp=Z,160nm,9.7s						
WMQ	**Urumqi**	**43.17**	**350**	P	**P**	**20 30 45.3**	**+2.0**
WMQ				pP	pP	20 30 51.4	-3.4
WMQ				pmax	pmax		
	comp=Z,29nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.5s						
WMQ				LR	LR		
	comp=Z,170nm,18.5s						
WMQ	**Urumqi**	**43.17**	**350**	P	**P**	**20 30 44.7**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,53nm,1.2s						
WMQ	**Urumqi**	**43.17**	**350**	P	**P**	**20 30 44.7**	**+1.4**
WMQ				IAmb	IAmb	20 30 46.2	
	comp=Z,53nm,1.2s						
WSAR	**Wadi Sarin**	**43.23**	**303**	LR	LR	20 47 31.9	
	comp=Z,40nm,18.2s,baz=92,slow=34						
FORT	**Forrest**	**43.40**	**140**	P	**P**	**20 30 46.6**	**+1.3**
FORT				IAmb	IAmb	20 31 06.9	
	comp=Z,28nm,0.8s						
AS31	**Alice Springs**	**43.52**	**127**	P	**P**	**20 30 46.6**	**+0.2**
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**20 30 46.3**	**-0.1**
ASAR						20 32 34.4	
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**20 30 46.7**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=298,slow=8.1,SNR=33						
ASAR				PcP	**PcP**	**20 32 34.6**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=300,slow=2.8,SNR=6.5						
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**20 30 46.3**	**-0.1**
ASAR					**PcP**	**20 32 34.4**	**+0.5**
TARG	**Taragay, Kyrgy**	**43.86**	**339**	P	**P**	**20 30 51.1**	**+1.8**
TARG				IAmb	IAmb	20 30 52.2	
	comp=Z,14nm,0.8s						
SOCY	**Socotra**	**44.10**	**286**	P	**P**	**20 30 54.4**	**+3.2**
NRN	**Naryn**	**44.28**	**337**	P	**P**	**20 30 53.7**	**+1.2**
NRN				pmax	pmax		
	comp=Z,15nm,0.8s						
NRN	**Naryn**	**44.28**	**337**	P	**P**	**20 30 53.7**	**+1.2**
NRN				IAmb	IAmb	20 30 54.9	
	comp=Z,15nm,0.8s						
PRZ	**Przheval'sk**	**44.32**	**340**	P	**P**	**20 30 53.1**	**+0.4**
PRZ				pmax	pmax		
	comp=Z,19nm,1.0s						
PRZ	**Przheval'sk**	**44.32**	**340**	P	**P**	**20 30 53.1**	**+0.4**
PRZ				IAmb	IAmb	20 30 55.7	
	comp=Z,19nm,1.0s						
KDJ	**Kajisay**	**44.44**	**339**	P	**P**	**20 30 55.0**	**+1.4**
KDJ				pmax	pmax		
	comp=Z,27nm,1.0s						
KDJ	**Kajisay**	**44.44**	**339**	P	**P**	**20 30 55.0**	**+1.4**
KDJ				IAmb	IAmb	20 30 56.6	
	comp=Z,27nm,0.9s						
JNU	**Nakatsue**	**44.80**	**41**	P	**P**	**20 30 56.8**	**+0.3**
JNU				IAmb	IAmb	20 31 04.5	
	comp=Z,24nm,0.9s						
ULHL	**Ulahol**	**44.88**	**338**	P	**P**	**20 30 58.6**	**+1.4**
	SNR=8.0						
BTK	**Batken**	**45.39**	**331**	P	**P**	**20 31 02.7**	**+1.5**
BTK				pmax	pmax		
	comp=Z,39nm,0.4s						
BTK	**Batken**	**45.39**	**331**	P	**P**	**20 31 02.7**	**+1.5**
ARSB	**Arslanbob**	**45.42**	**334**	IAmb	IAmb	20 31 04.2	
	comp=Z,31nm,0.8s						
UCH	**Uchtor**	**45.54**	**336**	P	**P**	**20 31 04.5**	**+1.8**
	SNR=23						
TKM2	**Tokmak 2**	**45.70**	**338**	*i* P	**P**	**20 31 04.1**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,14nm,1.1s						
TKM2	**Tokmak 2**	**45.70**	**338**	P	**P**	**20 31 05.3**	**+1.6**
	SNR=11						
KBK	**Karagaybulak**	**45.73**	**337**	P	**P**	**20 31 06.4**	**+2.5**
	SNR=8.0						
AML	**Almayashu**	**45.79**	**336**	P	**P**	**20 31 06.2**	**+1.6**
	SNR=7.3						
KSAR	**Wonju Array Be**	**45.80**	**35**	P	**P**	**20 31 04.6**	**+0.3**
KSAR	**Wonju Array Be**	**45.80**	**35**	P	**P**	**20 31 04.6**	**+0.3**
KSRS	**Korea Array**	**45.83**	**35**	P	**P**	**20 31 05.0**	**+0.5**
	comp=Z,21nm,0.9s,baz=220,slow=9.2,SNR=34						
KSRS				LR	LR	20 50 38.6	
	comp=Z,108nm,19.6s,baz=232,slow=37						
KS19	**Wonju Array Si**	**45.83**	**35**	P	**P**	**20 31 05.0**	**+0.4**
AAK	**Ala-Archa**	**45.89**	**337**	P	**P**	**20 31 06.6**	**+1.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	**Ala-Archa**	**45.89**	**337**	P	**P**	**20 31 06.3**	**+1.2**
	comp=Z,5.3nm,0.9s,baz=156,slow=9.0,SNR=9.6						
AAK				PcP	**PcP**	**20 32 40.8**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=156,slow=5.3,SNR=7.8						
AAK	**Ala-Archa**	**45.89**	**337**	P	**P**	**20 31 06.6**	**+1.5**
CHMS	**Chumysh**	**46.09**	**337**	P	**P**	**20 31 08.1**	**+1.5**
	SNR=5.3						
EKS2	**Erkin-Say**	**46.20**	**336**	P	**P**	**20 31 09.7**	**+2.2**
	SNR=8.4						
USP	**Ospenovka**	**46.42**	**337**	P	**P**	**20 31 10.7**	**+1.5**
	SNR=5.8						
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**20 31 14.4**	**+0.2**
SONM						20 32 46.3	
SONM				pmax	pmax		
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**20 31 15.2**	**+1.0**
	comp=Z,15nm,0.7s,baz=188,slow=9.2,SNR=125						
SONM				PcP	**PcP**	**20 32 46.7**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=189,slow=3.3,SNR=6.3						
SONM				LR	LR	20 53 29.9	
	comp=Z,313nm,18.1s,baz=190,slow=39						
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**20 31 14.4**	**+0.2**
SONM				PcP	**PcP**	**20 32 46.3**	**+0.6**
TAS	**Tashkent**	**47.11**	**331**	P	**P**	**20 31 15.1**	**+0.5**
TAS				pmax	pmax		
	comp=Z,36nm,0.9s						
TAS	**Tashkent**	**47.11**	**331**	P	**P**	**20 31 15.1**	**+0.5**
MK31	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 31 15.3**	**+0.6**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MK31	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 31 15.3**	**+0.6**
MK31				IAmb	IAmb	20 31 16.3	
	comp=Z,9.1nm,0.7s						
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 31 15.4**	**+0.7**
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 31 15.8**	**+1.1**
	comp=Z,13nm,0.6s,baz=160,slow=8.0,SNR=120						
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 31 15.4**	**+0.7**
ULN	**Ulaanbaatar**	**47.19**	**9**	P	**P**	**20 31 15.3**	**+0.1**
ULN				*PP	**P**	**20 31 15.7**	**+0.5**
ULN						20 32 47.2	
ULN	**Ulaanbaatar**	**47.19**	**9**	P	**P**	**20 31 15.3**	**+0.1**
ULN					**P**	**20 31 15.7**	**+0.5**
ULN				PcP	**PcP**	**20 32 47.2**	**+1.0**
MAKZ	**Makanchi**	**47.23**	**346**	P	**P**	**20 31 16.0**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAKZ	**Makanchi**	**47.23**	**346**	P	**P**	**20 31 16.0**	**+0.6**
MAKZ				IAmb	IAmb	20 31 16.9	
	comp=Z,8.9nm,0.7s						
KK31	**Karatay Array**	**47.94**	**334**	P	**P**	**20 31 21.3**	**+0.4**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KK31	**Karatay Array**	**47.94**	**334**	P	**P**	**20 31 21.3**	**+0.4**
KK31				IAmb	IAmb	20 31 23.2	
	comp=Z,9.4nm,1.1s						
KKAR	**Karatay Array**	**47.94**	**334**	P	**P**	**20 31 21.3**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KKAR	**Karatay Array**	**47.94**	**334**	P	**P**	**20 31 21.6**	**+0.6**
KKAR	**Karatay Array**	**47.94**	**334**	P	**P**	**20 31 21.3**	**+0.4**
KKAR				IAmb	IAmb	20 31 23.2	
	comp=Z,9.4nm,1.1s						
COEN	**Coen**	**48.08**	**110**	P	**P**	**20 31 22.4**	**0.0**
	baz=48,SNR=4.7						
COEN	**Coen**	**48.08**	**110**	P	**P**	**20 31 22.1**	**-0.3**
ZAK	**Zakamensk**	**49.20**	**5**	*e*P	**P**	**20 31 31.2**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CN2	**Changchun**	**49.27**	**27**	*e*P	**P**	**20 31 31.3**	**+0.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
BBOO	**Buckleboo**	**50.00**	**136**	P	**P**	**20 31 38.3**	**+1.3**
MTSU	**Mount Surprise**	**50.28**	**115**	P	**P**	**20 31 39.8**	**+0.4**
	baz=50,SNR=5.5						
MOY	**Moody**	**50.31**	**3**	*e*P	**P**	**20 31 40.1**	**+1.0**
TLY	**Talaya**	**50.52**	**5**	*e*P	**P**	**20 31 42.0**	**+1.5**
TLY				*e*S	**S**	**20 38 48.4**	**-3.2**
TLY				pmax	pmax		
	comp=Z,21nm,0.8s						
TLY				MLR	MLR		
	comp=Z,564nm,15.0s						
TLY	**Talaya**	**50.52**	**5**	P	**P**	**20 31 42.0**	**+1.5**
	comp=Z,8.2nm,0.7s,baz=247,slow=3.9,SNR=12						
TLY	**Talaya**	**50.52**	**5**	P	**P**	**20 31 41.5**	**+1.0**
TLY				IAmb	IAmb	20 31 43.0	
	comp=Z,9.0nm,0.7s						
PMG	**Port Moresby**	**50.96**	**103**	P	**P**	**20 31 44.5**	**0.0**
PMG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PMG	**Port Moresby**	**50.96**	**103**	P	**P**	**20 31 44.5**	**0.0**
GEYT	**Alibeck**	**51.09**	**320**	P	**P**	**20 31 45.5**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=153,slow=10.0,SNR=9.9						
GEYT				LR	LR	20 56 53.1	
	comp=Z,52nm,18.3s,baz=60,slow=40						
GEYT	**Alibeck**	**51.09**	**320**	P	**P**	**20 31 45.8**	**+0.7**
HIA	**Hailar**	**51.59**	**19**	P	**P**	**20 31 49.2**	**+0.6**
HIA				pmax	pmax		
	comp=Z,15nm,0.9s						
HIA	**Hailar**	**51.59**	**19**	P	**P**	**20 31 49.2**	**+0.6**
HIA				IAmb	IAmb	20 31 50.2	
	comp=Z,15nm,0.9s						
KURBB	**Kurchatov Arra**	**51.62**	**345**	P	**P**	**20 31 49.8**	**+1.0**
	comp=Z,9.8nm,0.6s,baz=166,slow=7.0,SNR=57						
KURK	**Kurchatov**	**51.69**	**345**	*ce*P	**P**	**20 31 50.3**	**+1.1**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s						
KURK	**Kurchatov**	**51.69**	**345**	P	**P**	**20 31 50.0**	**+0.7**
KURK				IAmb	IAmb	20 31 51.4	
	comp=Z,17nm,1.1s						
MJB9	**Matsu-Tunnel**	**51.69**	**42**	P	**P**	**20 31 50.5**	**+0.9**
MAJO	**Matsushiro**	**51.69**	**42**	P	**P**	**20 31 50.5**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,80nm,1.8s						
MAJO	**Matsushiro**	**51.69**	**42**	P	**P**	**20 31 50.5**	**+0.9**
MJAR	**Matsushiro Arr**	**51.69**	**42**	P	**P**	**20 31 50.3**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MJAR	**Matsushiro Arr**	**51.69**	**42**	P	**P**	**20 31 50.2**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=239,slow=7.3,SNR=6.0						
MJAR				LR	LR	20 54 17.0	
	comp=Z,75nm,20.6s,baz=60,slow=37						
MJAR	**Matsushiro Arr**	**51.69**	**42**	P	**P**	**20 31 50.3**	**+0.7**
MDJ	**Mudanjiang**	**51.84**	**29**	P	**P**	**20 31 52.0**	**+1.5**
MDJ				pP	pP	20 31 59.8	-2.6
MDJ				pmax	pmax		
	comp=Z,19nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,440nm,4.7s						
MDJ	**Mudanjiang**	**51.84**	**29**	P	**P**	**20 31 51.3**	**+0.8**
MDJ				IAmb	IAmb	20 31 52.8	
	comp=Z,63nm,1.8s						
VLA	**Vladivostok**	**51.94**	**32**⇑	*e*P	**P**	**20 31 53.2**	**+1.9**
VLA				pmax	pmax		
	comp=Z,40nm,0.9s						
USA0B	**Ussuriysk Arra**	**52.74**	**31**	P	**P**	**20 31 58.3**	**+1.1**
USA0B				pmax	pmax		
	comp=Z,50nm,1.1s						
USA0B	**Ussuriysk Arra**	**52.74**	**31**	P	**P**	**20 31 58.3**	**+1.1**
USRK	**Ussuriysk Ar.**	**52.74**	**31**	P	**P**	**20 31 57.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**52.74**	**31**	P	**P**	**20 31 58.2**	**+1.0**
	comp=Z,26nm,0.9s,baz=234,slow=5.1,SNR=40						
USRK	**Ussuriysk Ar.**	**52.74**	**31**	P	**P**	**20 31 57.8**	**+0.5**
ABPO	**Ambohimpanom**	**52.97**	**245**	P	**P**	**20 32 00.9**	**+1.4**
ABPO				pmax	pmax		
	comp=Z,25nm,1.7s						
ABPO	**Ambohimpanom**	**52.97**	**245**	P	**P**	**20 32 00.9**	**+1.4**
ABPO				IAmb	IAmb	20 33 20.2	
	comp=Z,25nm,1.6s						
ZAA0	**Zalesovo Array**	**53.46**	**351**	P	**P**	**20 32 03.0**	**+0.7**
ZAA0				IAmb	IAmb	20 32 04.1	
	comp=Z,31nm,0.9s						
ZALV	**Zalesovo Beam**	**53.46**	**351**	P	**P**	**20 32 03.0**	**+0.7**
ZALV	**Zalesovo Beam**	**53.46**	**351**	P	**P**	**20 32 03.3**	**+1.0**
	comp=Z,41nm,0.7s,baz=181,slow=6.7,SNR=163						
ZALV	**Zalesovo Beam**	**53.46**	**351**	P	**P**	**20 32 03.0**	**+0.7**
STKA	**Stephens Creek**	**53.48**	**132**	P	**P**	**20 32 04.3**	**+1.4**
	baz=54,SNR=6.1						
STKA	**Stephens Creek**	**53.48**	**132**	P	**P**	**20 32 03.8**	**+0.9**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
STKA	**Stephens Creek**	**53.48**	**132**	P	**P**	**20 32 04.0**	**+1.1**
	comp=Z,7.5nm,0.9s,baz=308,slow=6.6,SNR=9.5						
STKA				LR	LR	20 56 59.1	
	comp=Z,170nm,21.4s,baz=333,slow=38						
STKA	**Stephens Creek**	**53.48**	**132**	P	**P**	**20 32 03.8**	**+0.9**
RAYN	**Ar Rayn**	**54.64**	**298**	P	**P**	**20 32 12.6**	**+1.0**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RAYN	**Ar Rayn**	**54.64**	**298**	P	**P**	**20 32 12.6**	**+1.0**
BVAR	**Borovoye Array**	**56.14**	**341**	P	**P**	**20 32 22.2**	**+0.5**
	comp=Z,13nm,0.7s,baz=141,slow=8.8,SNR=98						
BRVK	**Borovoye**	**56.20**	**341**	*c i* P	**P**	**20 32 22.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**56.20**	**341**	P	**P**	**20 32 22.0**	**-0.2**
BRVK				IAmb	IAmb	20 32 23.4	
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**56.22**	**27**	*c i* P	**P**	**20 32 23.2**	**+0.8**
KLR				pmax	pmax		
	comp=Z,27nm,0.9s						
CMSA	**Cobar Meteorol**	**56.42**	**130**	P	**P**	**20 32 25.8**	**+1.7**
	baz=57,SNR=14						
RMQ	**Roma**	**56.90**	**123**	P	**P**	**20 32 30.3**	**+2.6**
	baz=57,SNR=6.2						
AB31	**Akbulak array**	**57.40**	**332**⇑	*e*P	**P**	**20 32 30.7**	**0.0**
AB31				pmax	pmax		
	comp=Z,19nm,0.7s						
ABKAR	**Akbulak array**	**57.40**	**332**	P	**P**	**20 32 30.8**	**0.0**
ABKAR				IAmb	IAmb	20 32 32.1	
	comp=Z,25nm,0.8s						
ERM	**Erimo**	**57.86**	**39**	P	**P**	**20 32 35.3**	**+1.2**
ERM	**Erimo**	**57.86**	**39**	P	**P**	**20 32 35.3**	**+1.2**
ZEA	**Zeya**	**57.89**	**21**	*e*P	**P**	**20 32 34.4**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
BOD	**Bodaibo**	**57.94**	**11**	*e*P	**P**	**20 32 35.0**	**+0.6**
BOD				pmax	pmax		
	comp=Z,21nm,1.0s						
EIDS	**Eidsvold**	**58.50**	**121**	P	**P**	**20 32 40.4**	**+1.4**
	baz=59,SNR=5.0						
EIDS	**Eidsvold**	**58.50**	**121**	P	**P**	**20 32 40.1**	**+1.2**
EIDS				IAmb	IAmb	20 32 41.1	
	comp=Z,16nm,0.8s						
AKTO	**Aktyubinsk**	**59.11**	**332**	*i* P	**P**	**20 32 42.8**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKTO	**Aktyubinsk**	**59.11**	**332**	P	**P**	**20 32 42.8**	**+0.1**
	comp=Z,5.9nm,0.5s,baz=135,slow=5.6,SNR=22						
CAN	**Canberra**	**60.55**	**132**	P	**P**	**20 32 53.6**	**+0.7**
CAN				pmax	pmax		
	comp=Z,62nm,1.8s						
CAN	**Canberra**	**60.55**	**132**	P	**P**	**20 32 53.6**	**+0.7**
ARMA	**Armidale**	**60.66**	**126**	P	**P**	**20 32 54.3**	**+0.5**
ARMA				IAmb	IAmb	20 34 21.3	
	comp=Z,18nm,1.2s						
PATS	**Pohnpei**	**61.26**	**83**	P	**P**	**20 32 58.3**	**+0.3**
TBLG	**Delisi**	**61.86**	**318**	P	**P**	**20 33 02.6**	**+0.9**
TBLG				pmax	pmax		
	comp=Z,12nm,0.7s						
TBLG	**Delisi**	**61.86**	**318**	P	**P**	**20 33 02.6**	**+0.9**
TBLG				IAmb	IAmb	20 33 03.9	
	comp=Z,12nm,0.7s						
AKH	**Akhalkalaki**	**62.56**	**317**	P	**P**	**20 33 07.8**	**+1.2**
AKH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKH	**Akhalkalaki**	**62.56**	**317**	P	**P**	**20 33 07.8**	**+1.2**
SVE	**Sverdlovsk**	**62.58**	**338**	*e*P	**P**	**20 33 06.7**	**+0.6**
SVE				pmax	pmax		
	comp=Z,29nm,0.8s						
ZEI	**Tsey**	**62.88**	**319**	*e*P	**P**	**20 33 08.7**	**0.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**63.07**	**337**	*c i* P	**P**	**20 33 09.4**	**0.0**
ARU						20 33 44.7	
ARU						20 35 23.8	
ARU				PPP	PPP	20 36 59.2	
ARU				S	**S**	**20 41 41.5**	**+4.4**
ARU				SS	**SS**	**20 45 41.4**	**-2.1**
ARU				pmax	pmax		
	comp=Z,16nm,1.1s						
ARU	**Arti**	**63.07**	**337**	P	**P**	**20 33 09.5**	**0.0**
	comp=Z,2.3nm,0.5s,baz=144,slow=5.0,SNR=15						
ARU	**Arti**	**63.07**	**337**	P	**P**	**20 33 09.1**	**-0.3**
ARU				IAmb	IAmb	20 33 10.5	
	comp=Z,17nm,1.1s						
HNR	**Honiara**	**63.47**	**101**	P	**P**	**20 33 12.9**	**0.0**
HNR				pmax	pmax		
	comp=Z,40nm,0.6s						
HNR	**Honiara**	**63.47**	**101**	P	**P**	**20 33 12.9**	**0.0**
KBZ	**Khabaz**	**63.95**	**319**	P	**P**	**20 33 16.2**	**+0.8**
	comp=Z,5.9nm,0.8s,baz=131,slow=6.9,SNR=11						
KIV	**Kislovodsk**	**64.18**	**319**	*e*P	**P**	**20 33 18.0**	**+0.8**
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
KIV				MLR	MLR		
	comp=Z,86nm,17.0s						
KIV	**Kislovodsk**	**64.18**	**319**	P	**P**	**20 33 17.

NRIK LR LR 21 07 56.3
comp=Z,120nm,18.1s,baz=178,slow=40
BR131 Keskin Array S 68.99 312 P **P** **20 33 47.3 -0.7**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 68.99 312 P **P** **20 33 47.3 -0.7**
BRTR Keskin Array B 68.99 312 *i* P **P** **20 33 47.7 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 68.99 312 P **P** **20 33 48.0 0.0**
comp=Z,1.7nm,0.8s,baz=133,slow=8.1,SNR=13
BRTR Keskin Array B 68.99 312 P **P** **20 33 47.1 -0.9**
VSR Storozhevoye 69.45 325 *eP* **P** **20 33 48.6 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 70.17 327 *eP* **P** **20 33 53.5 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 71.30 26 P **P** **20 34 02.0 +0.5**
MA2 pmax pmax
comp=Z,81nm,1.6s
MA2 Magadan 71.30 26 P **P** **20 34 02.0 +0.5**
PRGR Permogore 71.53 337 *eP* **P** **20 34 01.7 -1.1**
PRGR pmax pmax
comp=Z,24nm,0.8s
PEA0B Petropavlovsk- 71.72 34 P **P** **20 34 04.7 +0.5**
PEA0B pmax pmax
comp=Z,76nm,1.4s
PEA0B Petropavlovsk- 71.72 34 P **P** **20 34 04.7 +0.5**
PETK Petropavlovsk- 71.72 34 P **P** **20 34 04.8 +0.6**
comp=Z,5.7nm,0.8s,baz=193,slow=6.1,SNR=3.5
PETK Petropavlovsk- 71.72 34 P **P** **20 34 04.9 +0.7**
OBN Obninsk 72.50 328 *eP* **P** **20 34 09.4 +0.6**
OBN pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 72.77 193 P **P** **20 34 12.4 +2.2**
MAW pmax pmax
comp=Z,3.0nm,1.7s
MAW Mawson 72.77 193 P **P** **20 34 12.1 +2.0**
comp=Z,0.8nm,0.7s,baz=7.1,slow=8.1,SNR=4.0
MAW Mawson 72.77 193 P **P** **20 34 12.4 +2.2**
KARP Karpathos 73.00 307 P **P** **20 34 12.0 -0.3**
KARP IAmb IAmb 20 36 17.2
comp=Z,30nm,1.1s
TIXI Tiksi 73.12 10⇑ *eP* **P** **20 34 11.9 -0.3**
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 73.12 10 P **P** **20 34 12.1 -0.1**
comp=Z,9.1nm,0.8s,baz=255,slow=4.2,SNR=22
TIXI Tiksi 73.12 10 P **P** **20 34 11.4 -0.7**
TIXI IAmb IAmb 20 34 13.0
comp=Z,10nm,0.8s
KLMR Klimovskoe 73.64 334 *eP* **P** **20 34 14.7 -0.7**
KLMR pmax pmax
comp=Z,23nm,1.7s
KLMR Klimovskoe 73.64 334 *eP* **P** **20 34 14.7 -0.7**
KLMR AMP 20 34 21.4
comp=Z,23nm,1.7s
SEY Seymchan 73.72 23⇓ *eP* **P** **20 34 16.8 +0.9**
ALN Alexandroupoli 74.90 312 P **P** **20 34 23.7 +0.5**
ALN pmax pmax
comp=Z,6.0nm,1.3s
ALN Alexandroupoli 74.90 312 P **P** **20 34 23.7 +0.5**
SORM Soroca 74.98 320 ⇓P **P** **20 34 23.8 +0.3**
SORM Soroca 74.98 320 ⇓P **P** **20 34 23.8 +0.3**
AKASG Malin Array Be 75.14 322 P **P** **20 34 24.1 -0.3**
comp=Z,3.5nm,0.6s,baz=88,slow=4.8,SNR=9.1
AKASG LR LR 21 10 50.8
comp=Z,22nm,21.9s,baz=40,slow=38
AKASG Malin Array Be 75.14 322 P **P** **20 34 24.1 -0.3**
AKBB Malin Array Si 75.14 322 P **P** **20 34 23.8 -0.5**
AKBB pmax pmax
comp=Z,29nm,1.8s
AKBB Malin Array Si 75.14 322 P **P** **20 34 23.8 -0.5**
AKBB IAmb IAmb 20 34 32.5
comp=Z,29nm,1.8s
BISRR Bisoca 75.43 317 ⇑P P 20 34 35.1 +8.8
VRI Vrincioaia 75.49 317 ⇑P **P** **20 34 28.2 +1.6**
VRI Vrincioaia 75.49 317 ⇑P **P** **20 34 28.2 +1.6**
TESR Tescani 75.70 318 ⇓P **P** **20 34 29.0 +1.3**
MLR Muntele Rosu 75.94 317 P **P** **20 34 29.8 +0.5**
MLR pmax pmax
comp=Z,9.0nm,1.0s
MLR Muntele Rosu 75.94 317 P **P** **20 34 29.8 +0.5**
VOIR 76.55 316 ⇓P **P** **20 34 32.4 -0.3**
VOIR 76.55 316 ⇓P **P** **20 34 32.4 -0.3**
ARR Arges 76.82 316 ⇑P **P** **20 34 34.0 -0.2**
BURAR Bucovina Array 76.90 319 ⇓P **P** **20 34 36.2 +1.6**
BURAR Bucovina Array 76.90 319 ⇓P **P** **20 34 36.2 +1.6**
BURAR Bucovina Array 76.90 319 P **P** **20 34 35.8 +1.1**
BUR08 Bucovina Ar. S 76.92 319 P **P** **20 34 36.0 +1.3**
BUR08 IAmb IAmb 20 34 45.0
comp=Z,32nm,1.9s
KOLS Kolonicke sedl 79.09 320 *eP* **P** **20 34 48.4 +1.7**
KOLS Kolonicke sedl 79.09 320 *eP* **P** **20 34 48.4 +1.7**
FIA1 FINESS Array S 79.88 333 P **P** **20 34 51.0 +0.4**
FINES FINESS Array B 79.88 333 P **P** **20 34 51.2 +0.5**
FINES FINESS Array B 79.88 333 P **P** **20 34 51.0 +0.3**
comp=Z,6.0nm,0.8s,baz=112,slow=4.3,SNR=12
FINES FINESS Array B 79.88 333 P **P** **20 34 51.2 +0.5**
OXZ Oxford 79.95 134 P **P** **20 34 52.0 +0.6**
BILL Bilibino 81.12 21 *i* P **P** **20 34 56.9 -0.3**
BILL *i* 20 35 03.5
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,199nm,17.0s
VYHS Vyhne 81.27 319 *eP* **P** **20 34 59.7 +1.3**
VYHS Vyhne 81.27 319 *eP* **P** **20 34 59.7 +1.3**
MORC Moravsky Berou 82.28 320 ⇓P **P** **20 35 04.9 +1.1**
MORC Moravsky Berou 82.28 320 ⇓P **P** **20 35 04.9 +1.1**
MORC Moravsky Berou 82.28 320 P **P** **20 35 04.2 +0.5**
MORC IAmb IAmb 20 35 36.8
comp=Z,16nm,1.7s
ARCES ARCESS Array B 82.42 340 P **P** **20 35 05.1 +1.0**
ARCES ARCESS Array B 82.42 340 P **P** **20 35 04.9 +0.8**
comp=Z,2.5nm,0.5s,baz=96,slow=4.6,SNR=21
ARCES LR LR 21 15 48.9
comp=Z,55nm,19.0s,baz=350,slow=39
ARCES ARCESS Array B 82.42 340 P **P** **20 35 05.1 +1.0**
ARE0 ARCESS Array S 82.42 340 P **P** **20 35 05.2 +1.1**
BKZ Black Stump Fm 82.58 130 P **P** **20 35 06.4 +0.9**
BKZ IAmb IAmb 20 35 07.0
comp=Z,13nm,1.0s
GEC2 GERESS Array S 84.69 319 P **P** **20 35 17.1 +0.9**
GEC2 IAmb IAmb 20 35 24.9
comp=Z,9.4nm,1.2s
GERES GERESS Array B 84.69 319 P **P** **20 35 16.6 +0.4**
GERES GERESS Array B 84.69 319 P **P** **20 35 16.8 +0.5**
comp=Z,2.5nm,0.9s,baz=96,slow=5.4,SNR=15
GERES GERESS Array B 84.69 319 P **P** **20 35 16.6 +0.4**
KHC Kasperske Hory 84.79 319 P **P** **20 35 18.2 +1.6**
KHC pmax pmax
comp=Z,2.0nm,1.0s
KHC Kasperske Hory 84.79 319 P **P** **20 35 18.2 +1.6**
NC303 NORSAR Array S 86.82 331 P **P** **20 35 27.3 +0.9**
NB2 NORSAR Subarra 86.89 331 P **P** **20 35 27.0 +0.2**
comp=Z,1.6nm,0.8s,baz=97,slow=4.6
NOA NORSAR Array B 86.89 331 P **P** **20 35 27.4 +0.6**
comp=Z,1.9nm,0.8s,baz=94,slow=4.8,SNR=7.3
NOA LR LR 21 19 33.5
comp=Z,27nm,18.1s,baz=115,slow=39
NBO00 NORSAR Array S 87.10 331 P **P** **20 35 28.2 +0.5**
NC204 NORSAR Array S 87.12 331 P **P** **20 35 29.4 +1.5**
QSPA South Pole Qui 91.23 180 P **P** **20 35 48.4 +1.2**
QSPA IAmb IAmb 20 36 55.6
comp=Z,24nm,2.0s
IMAR Indian Mountai 96.54 23 P **P** **20 36 12.2 +0.8**
NVAR Mina Array Bea 128.77 36 PKP **PKiKP** **20 41 51.7 +0.9**
comp=Z,1.0nm,0.8s,baz=246,slow=2.8,SNR=7.7
NVAR Mina Array Bea 128.77 36 **PKiKP** **20 41 51.5 +0.6**
PDAR Pinedale Array 130.00 26 PKP **PKiKP** **20 41 53.2 0.0**
comp=Z,0.4nm,0.6s,baz=282,slow=1.4,SNR=4.7
PDAR PP **PP** **20 44 05.6 +1.8**
comp=Z,0.8nm,1.0s,baz=7.8,slow=3.3,SNR=4.7
PDAR Pinedale Array 130.00 26 **PKPdf** **20 41 52.8 +0.3**
PDAR **PP** **20 44 04.5 +0.7**
R11A Troy Canyon, C 130.37 34 **PKiKP** **20 41 54.5 +0.5**
TXAR Lajitas Array 143.64 31 PKIKP PKPbc 20 42 15.7 +0.5
TXAR Lajitas Array 143.64 31 PKP PKPbc 20 42 16.2 +1.0
comp=Z,1.4nm,0.7s,baz=32,slow=1.3,SNR=13
TXAR Lajitas Array 143.64 31 PKPbc 20 42 15.7 +0.5
HPIG 144.38 36 **PKPdf** **20 42 18.8 -0.5**
JCT Junction City 144.54 26 PKIKP PKPbc 20 42 18.1 +0.2
JCT Junction City 144.54 26 PKPbc 20 42 18.1 +0.2
CPUP Villa Florida 145.01 222 PKIKP **PKPdf** **20 42 20.1 0.0**
CPUP Villa Florida 145.01 222 PKP **PKPdf** **20 42 20.6 +0.6**
comp=Z,2.6nm,0.8s,baz=147,slow=3.3,SNR=5.8
CPUP Villa Florida 145.01 222 **PKPdf** **20 42 20.1 0.0**
Z50A Ashland 145.53 4 **PKPdf** **20 42 20.9 +0.1**
LRAL Lakeview Retre 145.65 6 **PKPdf** **20 42 21.0 0.0**

ISCJB ***19*** *20:53:25.2±0.5,24°.77N±0°.03×141°.18E±0°.04, h191km±4km,mb4.0/18, Error ellipse: s-maj=5.7km s-min=4.8km az=29.3*
IDC ***19*** *20:53:26.2±0.9,24°.74N×141°.22E,h189km±8km,mb3.7/18, mb1 3.8/22,mb1mx3.8/35,mbtmp4.2/22,MS3.3/4, Ms1 3.3/4,ms1mx2.7/40, Error ellipse: s-maj=13.2km s-min=8.8km az=88.0*
NEIC ***19*** *20:53:27.6±2.0,24°.82N±0°.08×141°.1E±0°.1,h200km±5km, mb4.5/108*
JMA ***19*** *20:53:30.2±0.1,25°.15N×140°.57E,h154km,M4.7*
ISC 19 20:53:27.1±0.7,**24°.84N**±0°.05×**141°.19E**±0°.06,**h198**km±6km, **n178**,σ1°**25**/192,**mb4.4**/63,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.00**	**26**	P	**Pn**	**20 54 06.5**	**+1.1**
JHH2				S	**Sn**	**20 54 34.0**	**-1.4**
CBIJ	**Chichi jima**	**2.42**	**22**	P	**Pn**	**20 54 11.0**	**+1.0**
CBIJ				S	**Sn**	**20 54 42.7**	**-0.8**
JCJ	**Chichijima**	**2.42**	**22**	P	**Pn**	**20 54 11.1**	**+1.1**
	120nm,0.3s,baz=156,slow=18,SNR=48						
JCJ				S	**Sn**	**20 54 42.5**	**-1.0**
	306nm,0.3s,baz=288,slow=19,SNR=82						
JCJ				LR	LR	20 54 59.4	
	comp=Z,199nm,19.7s,baz=360,slow=37						
JHJ	**Hachijo jima 2**	**8.34**	**352**	P	**Pn**	**20 55 24.4**	**-0.4**
	12nm,0.3s,baz=180,slow=20,SNR=9.3						
JHJ				S	**Sn**	**20 56 56.2**	**-2.4**
	12nm,0.3s,baz=83,slow=18,SNR=3.5						
BSO3	**Boso 3**	**9.95**	**357**	P	**Pn**	**20 55 43.5**	**-1.9**
BSO4	**Boso 4**	**10.15**	**356**	P	**Pn**	**20 55 46.6**	**-1.5**
JNY	**Yasuok**	**10.87**	**345**	P	**Pn**	**20 55 57.1**	**-0.6**
JHU	**Hanno**	**11.10**	**352**	P	**Pn**	**20 55 58.5**	**-2.0**
JAG	**Ashikaga**	**11.65**	**353**	P	**Pn**	**20 56 04.2**	**-3.3**
MJAR	**Matsushiro Arr**	**11.94**	**348**	P	**Pn**	**20 56 11.0**	**-0.3**
	0.1nm,0.3s,baz=164,slow=7.7,SNR=9.6						
MJAR	**Matsushiro Arr**	**11.94**	**348**		**Pn**	**20 56 08.7**	**-2.6**
MAJO	**Matsushiro**	**11.95**	**348**	Pn	**Pn**	**20 56 08.9**	**-2.4**
MJB9	**Matsu-Tunnel**	**11.95**	**348**	Pn	**Pn**	**20 56 10.3**	**-1.0**
JNU	**Nakatsue**	**12.22**	**315**	P	**P**	**20 56 17.9**	**-1.5**
	0.3nm,0.3s,baz=117,slow=8.8,SNR=2.7						
JNU	**Nakatsue**	**12.22**	**315**		**Pn**	**20 56 16.9**	**+2.0**
KSRS	**Korea Array**	**16.92**	**321**	P	**Pn**	**20 57 12.6**	**+0.1**
	1.3nm,0.3s,baz=138,slow=11,SNR=14						
KSAR	**Wonju Array Be**	**16.93**	**321**	P	**P**	**20 57 09.8**	**-1.6**
KS19	**Wonju Array Si**	**16.98**	**321**	P	**P**	**20 57 09.8**	**-2.1**
NACB	**Ninganchiao**	**17.84**	**272**	P	**P**	**20 57 21.2**	**-0.3**
NACB				IAmb	IAmb	20 57 38.6	
	comp=Z,23nm,0.9s						
YHNB	**Yeheng**	**18.00**	**274**	P	**Pn**	**20 57 25.1**	**-0.3**
YHNB				IAmb	IAmb	20 57 50.1	
	comp=Z,32nm,1.2s						
YULB	**Yu-li**	**18.21**	**270**	P	**P**	**20 57 26.0**	**+0.4**
YULB				IAmb	IAmb	20 57 50.1	
	comp=Z,21nm,1.4s						
SSLB	**Suanglung**	**18.47**	**271**	P	**Pn**	**20 57 30.5**	**-0.5**
SSLB				IAmb	IAmb	20 57 40.7	
	comp=Z,15nm,0.8s						
SSE	**Sheshan**	**18.72**	**294**	P	**Pn**	**20 57 35.3**	**+1.5**
TPUB	**Ta-pu**	**18.84**	**270**	P	**Pn**	**20 57 36.0**	**+0.8**
ASAJ	**Asahikawa**	**19.27**	**3**	P	**P**	**20 57 38.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=206,slow=7.8,SNR=3.9						
JKA	**Kamikawa-asahi**	**19.27**	**3**	P	**P**	**20 57 38.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**20.72**	**341**	P	**P**	**20 57 52.1**	**-0.1**
	comp=Z,9.1nm,0.8s,baz=157,slow=12,SNR=13						
USRK	**Ussuriysk Ar.**	**20.72**	**341**	P	**P**	**20 57 48.9**	**-3.3**
USA0B	**Ussuriysk Arra**	**20.72**	**341**	P	**P**	**20 57 48.9**	**-3.3**
USA0B				IAmb	IAmb	20 58 09.9	
	comp=Z,45nm,1.6s						
KLR	**Kul'dur**	**25.45**	**346**	P	**P**	**20 58 37.0**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=172,slow=3.6,SNR=12						
KMI	**Kunming**	**34.77**	**279**	P	**P**	**20 59 58.5**	**-0.8**
KMI				IAmb	IAmb	21 00 01.0	
	comp=Z,21nm,1.2s						
SONM	**Songino Array**	**35.77**	**319**	P	**P**	**21 00 08.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=127,slow=6.9,SNR=3.6						
SONM	**Songino Array**	**35.77**	**319**	P	**P**	**21 00 06.4**	**-0.9**
PBKT	**Sadao Pong**	**38.40**	**266**	P	**P**	**21 00 31.2**	**+1.5**
COEN	**Coen**	**38.61**	**177**	P	**P**	**21 00 31.7**	**+0.4**
TLY	**Talaya**	**39.16**	**323**	P	**P**	**21 00 34.8**	**-0.8**
TLY				IAmb	IAmb	21 00 38.8	
	comp=Z,5.7nm,0.7s						
CHTO	**Chiang Mai**	**39.55**	**270**	P	**P**	**21 00 40.1**	**+0.8**
CM31	**Chiang Mai Arr**	**39.66**	**269**	P	**P**	**21 00 41.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**39.66**	**269**	P	**P**	**21 00 41.0**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=62,slow=7.7,SNR=21						
CMAR	**Chiang Mai Arr**	**39.66**	**269**	P	**P**	**21 00 39.3**	**-0.8**
KNRA	**Kununurra**	**42.05**	**198**	P	**P**	**21 00 58.9**	**-0.6**
GSTR	**Great Sitkin T**	**42.24**	**39**	P	**P**	**21 00 59.5**	**-1.3**
JAGI	**Jajag, Banyuwa**	**42.31**	**222**	P	**P**	**21 01 00.6**	**-1.2**
JAGI				IAmb	IAmb	21 01 01.2	
	comp=Z,17nm,0.5s						
LSA	**Lhasa**	**44.47**	**288**	P	**P**	**21 01 20.3**	**+0.9**
WB0	**Warramunga Arr**	**44.83**	**189**	P	**P**	**21 01 21.2**	**-0.5**
WR0	**Warramunga Arr**	**44.99**	**189**	P	**P**	**21 01 22.6**	**-0.5**
WR0				IAmb	IAmb	21 01 23.2	
	comp=Z,20nm,0.6s						
WRAB	**Tennant Creek**	**45.00**	**189**	P	**P**	**21 01 22.7**	**-0.3**
WB2	**Warramunga Arr**	**45.01**	**189**	P	**P**	**21 01 22.1**	**-1.0**
WRA	**Warramunga Arr**	**45.01**	**189**	P	**P**	**21 01 22.7**	**-0.4**
	comp=Z,31nm,0.4s,baz=9.1,slow=8.7,SNR=464						
WRA				PcP	**PcP**	**21 03 00.8**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=360,slow=3.5,SNR=7.3						
WRA				S	**S**	**21 07 42.7**	**-4.0**
	comp=Z,1.1nm,0.8s,baz=7.0,slow=15,SNR=7.0						
WRA	**Warramunga Arr**	**45.01**	**189**	P	**P**	**21 01 21.4**	**-1.7**
WRA					**PcP**	**21 03 00.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**45.28**	**201**	P	**P**	**21 01 25.0**	**-0.3**
FITZ				IAmb	IAmb	21 01 49.1	
	comp=Z,24nm,1.6s						
RPSI	**Rantau Prapat**	**46.28**	**248**	P	**P**	**21 01 33.1**	**-0.1**
RPSI				IAmb	IAmb	21 01 34.6	
	comp=Z,11nm,0.7s						
TAPN	**Taplejung**	**47.79**	**285**	*eP*	**P**	**21 01 46.5**	**+1.3**
	comp=Z,13nm,0.7s						
ODAN	**Odare**	**48.16**	**285**	*eP*	**P**	**21 01 49.3**	**+1.4**
	comp=Z,16nm,0.6s						
GSI	**Gunungsitoli**	**48.16**	**248**	P	**P**	**21 01 48.0**	**+0.2**
GSI				IAmb	IAmb	21 02 12.5	
	comp=Z,30nm,1.3s						
AS31	**Alice Springs**	**48.73**	**189**	P	**P**	**21 01 50.9**	**-1.0**
ASAR	**Alice Springs**	**48.73**	**189**	P	**P**	**21 01 50.8**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=13,slow=14,SNR=29						
ASAR				PcP	**PcP**	**21 03 14.0**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=10,slow=3.5,SNR=12						
ASAR				S	**S**	**21 08 37.1**	**-2.3**
	comp=Z,1.2nm,0.9s,baz=17,slow=20,SNR=4.0						
ASAR	**Alice Springs**	**48.73**	**189**	P	**P**	**21 01 50.5**	**-1.4**
ASAR					**PcP**	**21 03 12.8**	**-1.0**
RAMN	**Ramite**	**48.83**	**285**	*eP*	**P**	**21 01 54.2**	**+1.1**
	comp=Z,11nm,0.6s						
JIRN	**Jiri**	**49.07**	**286**	*eP*	**P**	**21 01 56.8**	**+1.8**
	comp=Z,66nm,0.7s						
GUN	**Gumba**	**49.30**	**286**	*eP*	**P**	**21 01 58.5**	**+1.8**
	comp=Z,40nm,0.8s						
PKI	**Pulchoki**	**49.77**	**286**	*eP*	**P**	**21 02 01.2**	**+1.0**
	comp=Z,9.0nm,0.7s						
PKIN	**Phulchoki**	**49.77**	**286**	*eP*	**P**	**21 02 01.3**	**+1.1**
	comp=Z,6.5nm,0.5s						
KKN	**Kakani**	**49.84**	**286**	*eP*	**P**	**21 02 02.0**	**+1.3**
DMN	**Daman**	**50.02**	**286**	*eP*	**P**	**21 02 03.2**	**+1.1**
	comp=Z,14nm,0.6s						
GKN	**Gorkha**	**50.36**	**287**	*eP*	**P**	**21 02 05.8**	**+1.3**
	comp=Z,35nm,0.8s						
PSAB2	**Pilbara Seismi**	**50.56**	**206**	P	**P**	**21 02 05.5**	**-0.2**
PSAB2				IAmb	IAmb	21 02 13.5	
	comp=Z,20nm,1.1s						
PSAC1	**Pilbara Seismi**	**50.56**	**206**	P	**P**	**21 02 05.5**	**-0.2**
PSAC1				IAmb	IAmb	21 02 26.7	
	comp=Z,12nm,1.0s						
PSAA2	**Pilbara Seismi**	**50.57**	**206**	P	**P**	**21 02 05.6**	**-0.2**
PSAA2				IAmb	IAmb	21 02 24.6	
	comp=Z,20nm,1.2s						
ZALV	**Zalesovo Beam**	**50.63**	**320**	P	**P**	**21 02 06.4**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=96,slow=6.0,SNR=3.6						
ZALV				PcP	**PcP**	**21 03 20.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=107,slow=5.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**50.63**	**320**	P	**P**	**21 02 05.6**	**-0.2**
ZALV					**PcP**	**21 03 19.4**	**-1.0**
DANN	**Dangsing**	**51.06**	**287**	*eP*	**P**	**21 02 11.7**	**+1.8**
	comp=Z,172nm,0.6s						
MK31	**Makanchi Array**	**51.24**	**311**	P	**P**	**21 02 10.7**	**0.0**
MKAR	**Makanchi Array**	**51.24**	**311**	P	**P**	**21 02 11.7**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=89,slow=9.0,SNR=26						
MKAR				PcP	**PcP**	**21 03 22.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=93,slow=4.9,SNR=3.8						
MKAR				ScP	**ScP**	**21 07 00.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=82,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**51.24**	**311**	P	**P**	**21 02 10.9**	**+0.3**
MKAR					**PcP**	**21 03 21.8**	**-1.2**
KOLN	**Koldanda**	**51.31**	**287**	*eP*	**P**	**21 02 13.0**	**+1.4**
	comp=Z,30nm,0.7s						
MAKZ	**Makanchi**	**51.46**	**311**	P	**P**	**21 02 12.4**	**+0.1**
SDPT	**Sand Point**	**52.03**	**38**	P	**P**	**21 02 16.6**	**+0.4**
CNBA	**Chernabura Isl**	**52.43**	**39**	P	**P**	**21 02 21.8**	**+2.6**
DZM	**Mont Dzumac**	**52.69**	**150**	P	**P**	**21 02 23.1**	**+1.5**
DZM				IAmb	IAmb	21 02 51.8	
	comp=Z,30nm,1.6s						
CHGN	**Chignik**	**53.35**	**37**	P	**P**	**21 02 26.9**	**+1.0**
KURK	**Kurchatov**	**53.95**	**316**	P	**P**	**21 02 30.7**	**+0.4**
TARG	**Taragay, Kyrgy**	**54.43**	**305**	P	**P**	**21 02 35.5**	**+1.0**
KDJ	**Kajisay**	**54.87**	**305**	P	**P**	**21 02 37.8**	**+0.4**
OHAK	**Old Harbor**	**56.27**	**37**	P	**P**	**21 02 47.8**	**+1.0**
STKA	**Stephens Creek**	**56.40**	**180**	P	**P**	**21 02 47.7**	**-0.3**
	comp=Z,6.7nm,0.6s,baz=352,slow=7.4,SNR=19						
STKA	**Stephens Creek**	**56.40**	**180**	P	**P**	**21 02 47.0**	**-1.0**
KDAK	**Kodiak Island**	**56.71**	**36**	P	**P**	**21 02 50.4**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=260,slow=12,SNR=8.4						
KDAK				LR	LR	21 24 02.8	
	comp=Z,35nm,20.2s,baz=306,slow=32						
KDAK	**Kodiak Island**	**56.71**	**36**	P	**P**	**21 02 49.8**	**-0.1**
FORT	**Forrest**	**56.71**	**194**	P	**P**	**21 02 49.9**	**-0.3**
AAK	**Ala-Archa**	**56.83**	**306**	P	**P**	**21 02 52.5**	**+1.3**
IMAR	**Indian Mountai**	**57.46**	**26**	P	**P**	**21 02 56.8**	**+1.8**
BBOO	**Buckleboo**	**57.53**	**185**	P	**P**	**21 02 55.5**	**-0.4**
PPLA	**Purkeypile**	**57.56**	**30**	P	**P**	**21 02 58.2**	**+2.2**
PPLA				IAmb	IAmb	21 03 08.5	
	comp=Z,19nm,1.5s						
BRLK	**Bradley Lake**	**57.79**	**34**	P	**P**	**21 02 57.7**	**+0.2**
BPAW	**Bear Paw Mtn.**	**58.27**	**29**	P	**P**	**21 03 03.2**	**+2.5**
TRF	**Thorofare Moun**	**58.49**	**29**	P	**P**	**21 03 04.1**	**+1.6**
TRF				IAmb	IAmb	21 03 04.8	
	comp=Z,4.6nm,0.8s						
MLY	**Manley**	**58.52**	**27**	P	**P**	**21 03 04.7**	**+2.2**
NIL	**Nilore**	**59.00**	**296**	P	**P**	**21 03 06.6**	**+0.3**
NIL				IAmb	IAmb	21 03 09.4	
	comp=Z,8.5nm,0.7s						
MCK	**McKinley**	**59.12**	**29**	P	**P**	**21 03 07.5**	**+0.8**
MCK				IAmb	IAmb	21 03 08.9	
	comp=Z,8.9nm,0.9s						
RND	**Reindeer**	**59.13**	**30**	P	**P**	**21 03 07.2**	**+0.5**
RND				IAmb	IAmb	21 03 09.0	
	comp=Z,5.4nm,0.8s						
BRVK	**Borovoye**	**59.17**	**318**	P	**P**	**21 03 07.2**	**+0.1**
SML	**Sawmill**	**59.22**	**31**	P	**P**	**21 03 08.7**	**+1.3**
SML				IAmb	IAmb	21 03 11.5	
	comp=Z,13nm,0.8s						
KK31	**Karatay Array**	**59.69**	**307**	P	**P**	**21 03 11.5**	**+0.6**
KK31				IAmb	IAmb	21 03 13.1	
	comp=Z,4.1nm,0.7s						
KK31					**pwP**	**21 03 59.7**	**+0.8**
KKAR	**Karatay Array**	**59.69**	**307**	P	**P**	**21 03 11.6**	**+0.7**
KKAR					**pwP**	**21 03 59.3**	**+0.4**
KKAR	**Karatay Array**	**59.69**	**307**	P	**P**	**21 03 11.9**	**+1.0**
KKAR				IAmb	IAmb	21 03 13.1	
	comp=Z,4.1nm,0.7s						
KKAR				PcP	**PcP**	**21 03 57.1**	**+1.3**
DHY	**Denali Highway**	**59.76**	**30**	P	**P**	**21 03 12.3**	**+1.2**
IL31		**60.12**	**28**	P	**P**	**21 03 13.9**	**+0.6**
IL31				IAmb	IAmb	21 03 14.5	
	comp=Z,8.5nm,1.1s						
ILAR	**Eielson Array**	**60.12**	**28**	P	**P**	**21 03 13.8**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=254,slow=5.7,SNR=26						
ILAR	**Eielson Array**	**60.12**	**28**	P	**P**	**21 03 13.2**	**-0.2**
ILAR					**pwP**	**21 04 02.1**	**+0.3**
PAX	**Paxson**	**60.62**	**30**	P	**P**	**21 03 18.0**	**+1.1**
PAX				IAmb	IAmb	21 03 19.1	
	comp=Z,13nm,1.7s						
PRP	**Porcupine Dome**	**60.75**	**27**	P	**P**	**21 03 18.2**	**+0.3**
BMAR	**Burnt Mountain**	**61.27**	**25**	P	**P**	**21 03 23.6**	**+2.4**
DOT	**Dot Lake**	**61.28**	**29**	P	**P**	**21 03 22.2**	**+0.9**
DOT				IAmb	IAmb	21 03 23.2	
	comp=Z,6.7nm,0.8s						
SCRK	**Sand Creek**	**61.33**	**29**	P	**P**	**21 03 22.8**	**+1.1**
SCRK				IAmb	IAmb	21 03 23.6	
	comp=Z,6.7nm,0.8s						
GLB	**Gilahina Butte**	**61.36**	**32**	P	**P**	**21 03 23.0**	**+1.1**
GLB				IAmb	IAmb	21 03 36.3	
	comp=Z,26nm,1.7s						
MENT	**Mentasta**	**61.42**	**30**	IAmb	IAmb	21 03 25.6	
	comp=Z,5.2nm,0.8s						
VRDI	**Verde Repeater**	**61.53**	**32**	P	**P**	**21 03 24.1**	**+1.0**
VRDI				IAmb	IAmb	21 03 27.9	
	comp=Z,21nm,1.4s						
BALM	**Baldy**	**62.07**	**32**	P	**P**	**21 03 28.1**	**+1.4**
TOO	**Toolangi**	**62.21**	**176**	P	**P**	**21 03 28.6**	**+0.9**
KBL	**Kabul**	**62.24**	**297**	P	**P**	**21 03 29.2**	**+0.7**
KBL				IAmb	IAmb	21 03 30.5	
	comp=Z,14nm,0.9s						
BCAR	**Beaver Creek A**	**62.30**	**30**	P	**P**	**21 03 28.9**	**+0.8**
BCAR					**PcP**	**21 04 07.9**	**+1.9**
BARN	**Barnard Glacie**	**62.40**	**32**	P

comp=Z,5.5nm,0.8s
BEKR Beckworth 80.57 51 P P 21 05 18.6 +0.7
BEKR IAmb IAmb 21 05 19.7
comp=Z,5.2nm,0.8s
WALA Waterton Lakes 80.74 40 P P 21 05 20.5 +1.9
JTMT Jette 81.12 41 P P 21 05 21.2 +0.6
JTMT IAmb IAmb 21 05 23.5
comp=Z,13nm,1.3s
WAKR Walker 81.79 51 P P 21 05 25.7 +1.3
SOCY Socotra 82.47 280 P P 21 05 27.2 -0.9
SOCY IAmb IAmb 21 05 40.0
comp=Z,21nm,1.5s
NVAR Mina Array Bea 82.62 51 P P 21 05 29.9 +1.2
comp=Z,1.5nm,0.6s,baz=298,slow=5.5,SNR=11
NVAR Mina Array Bea 82.62 51 P P 21 05 29.7 +0.9
ELK Elko 83.71 48 P P 21 05 35.0 +0.7
TPNV Topopah Spring 84.74 52 P P 21 05 40.3 +0.9
TPNV IAmb IAmb 21 05 41.4
comp=Z,4.9nm,0.8s
FLWY Flagg Ranch 85.06 43 IAmb IAmb 21 05 44.2
comp=Z,7.8nm,0.8s
GSC Goldstone, Bar 85.08 53 IAmb IAmb 21 05 43.0
comp=Z,5.3nm,0.8s
RAYN Ar Rayn 85.23 294 P P 21 05 43.3 +1.3
RAYN IAmb IAmb 21 05 44.1
comp=Z,5.0nm,0.8s
RLMT Red Lodge 85.42 42 IAmb IAmb 21 05 45.4
comp=Z,5.6nm,0.8s
PDAR Pinedale Array 86.45 44 P P 21 05 48.8 +0.9
comp=Z,1.1nm,0.8s,baz=270,slow=1.5,SNR=7.3
PDAR Pinedale Array 86.45 44 P P 21 05 47.9 0.0
BRTR Keskin Array B 86.87 313 P P 21 05 49.1 -0.7
comp=Z,0.9nm,0.7s,baz=116,slow=2.9,SNR=4.8
BRTR Keskin Array B 86.87 313 P P 21 05 49.3 -0.5
ULM Lac du Bonnet 89.82 33 LR LR 21 43 22.8
comp=Z,58nm,21.9s,baz=352,slow=33
TORD Torodi Ar. Bea 125.35 309 PKP PKPdf 21 12 04.4 -0.8
comp=Z,0.3nm,0.6s,baz=45,slow=1.7,SNR=3.7
TORD Torodi Ar. Bea 125.35 309 PKPdf 21 12 04.1 -1.1
PLCA Paso Flores 149.17 129 PKPbc PKPbc 21 12 52.1 -0.3
comp=Z,3.9nm,0.7s,baz=254,slow=3.5,SNR=19
PLCA Paso Flores 149.17 129 PKPbc 21 12 52.3 -0.1
LPAZ La Paz 151.31 78 PKPbc PKPbc 21 12 58.8 0.0
comp=Z,1.8nm,0.5s,baz=292,slow=4.1,SNR=9.6

ANF 19 21:07:18.0±0.3, 38°.19N×80°.34W, ML2.4/22, ML2.2/16, Error ellipse: s-maj=2.6km s-min=1.3km az=51.0, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S55A	**Lewisburg** baz=17	**0.43**	**197**	P	Pg	21 07 26.8	+0.6
S55A	baz=17			S	Sg	21 07 32.3	+0.5
R54A	**Victor** baz=90	**0.51**	**270**	P	Pg	21 07 27.9	+0.1
R54A	baz=90			S	Sg	21 07 34.8	+0.4
S56A	**Natural Bridge** baz=310	**0.80**	**130**	Pn	Pn	21 07 36.3	-0.2
S56A	baz=310			S	Sg	21 07 43.9	+0.4
Q55A	**Buckhannon** baz=194	**0.83**	**14**	Pn	Pn	21 07 37.3	+0.3
S54A	**Dingess, Beckl** baz=63	**0.86**	**244**	P	Pg	21 07 33.9	-0.6
Q54A	**Coxs Mills** baz=154	**0.89**	**334**	Sn	Sn	21 07 52.6	+1.3
BLA	**Blacksburg** baz=3.8	**0.98**	**184**	P	Pg	21 07 37.1	+0.4
T55A	**Pulaski** baz=18	**1.12**	**198**	P	Pg	21 07 39.4	-0.1
T55A	baz=18			S	Sb	21 07 55.6	+0.1
Q53A	**Leroy** baz=126	**1.15**	**306**	P	Pb	21 07 40.8	+0.2
Q53A	baz=126			Sn	Sn	21 07 59.7	+1.9
T56A	**Rocky Mt** baz=348	**1.18**	**168**	S	Sb	21 07 57.2	+0.1
R53A	**Hurricane** baz=96	**1.28**	**277**	P	Pg	21 07 42.2	-0.2
T57A	**Hurt** baz=324	**1.47**	**144**	S	Sn	21 08 06.4	+0.9
T54A	**Tazewell** baz=41	**1.49**	**222**	P	Pn	21 07 45.7	-0.4
T54A	baz=41			S	Sn	21 08 07.1	+0.7
P53A	**Whipple** baz=148	**1.54**	**328**	S	Sg	21 08 08.4	+1.0
Q52A	**Bidwell** baz=117	**1.70**	**298**	P	Pn	21 07 49.2	+0.3
Q52A	baz=117			S	Sg	21 08 12.4	-0.1
U55A	**TA2, Sparta** baz=18	**1.77**	**199**	P	Pn	21 07 50.2	+0.2
U55A	baz=18			S	Sb	21 08 14.2	0.0
U56A	**King** baz=1.1	**1.84**	**181**	Sb	Sg	21 08 17.9	+1.0
T58A	**Grand View Acr** baz=312	**1.90**	**130**	Sg	Sg	21 08 20.8	+2.0
U57A	**Blanch** baz=336	**1.93**	**155**	Sb	Sg	21 08 20.0	+0.2
P52A	**Corning** baz=136	**2.01**	**316**	Pb	Pb	21 07 55.0	-0.4

ANF 19 21:07:60.0±0.4, 38°.05N×81°.70W, h0km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=113.0, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R53A	**Hurricane** baz=144	**0.34**	**324**	P	Pg	21 08 06.9	+0.3
R53A	baz=144			S	Sg	21 08 11.6	+0.6
S54A	**Dingess, Beckl** baz=310	**0.39**	**130**	S	Sg	21 08 13.4	+0.7
S53A	**Williamson** baz=42	**0.50**	**223**	P	Pg	21 08 08.5	-1.1
R52A	**Catlettsburg** baz=111	**0.80**	**291**	P	Pg	21 08 15.4	+0.1
R52A	baz=111			S	Sg	21 08 26.2	+0.5
Q53A	**Leroy** baz=189	**0.82**	**9**	S	Sg	21 08 27.3	+1.1
Q52A	**Bidwell** baz=154	**1.01**	**334**	S	Sb	21 08 34.0	-0.3
Q54A	**Coxs Mills** baz=216	**1.15**	**36**	P	Pb	21 08 22.7	0.0
Q54A	baz=216			S	Sb	21 08 38.2	-0.1
S52A	**Salyersville** baz=71	**1.16**	**252**	P	Pg	21 08 22.0	-0.2
S52A	baz=71			S	Sb	21 08 38.4	0.0
T55A	**Pulaski** baz=323	**1.18**	**142**	P	Pg	21 08 22.5	-0.1
T53A	**Wise** baz=32	**1.26**	**212**	P	Pg	21 08 23.9	-0.2
T52A	**Hallie** baz=47	**1.39**	**228**	P	Pg	21 08 26.6	0.0
P53A	**Whipple** baz=190	**1.45**	**9**	P	Pg	21 08 27.8	0.0
P53A	baz=190			S	Sg	21 08 46.7	0.0
S51A	**Beattyville** baz=74,SNR=5.9	**1.56**	**255**	P	Pn	21 08 28.8	-0.1
S51A	baz=74			S	Sg	21 08 51.0	+1.0
Q55A	**Buckhannon** baz=234	**1.58**	**53**	S	Sg	21 08 51.3	+0.6
P52A	**Corning** baz=168	**1.62**	**348**	P	Pn	21 08 29.7	0.0
P52A	baz=168			S	Sn	21 08 51.5	+0.2
Q51A	**Peebles** baz=126	**1.62**	**307**	S	Sn	21 08 50.9	-0.4
U55A	**TA2, Sparta** baz=342	**1.63**	**161**	S	Sn	21 08 51.7	-0.1
T56A	**Rocky Mt** baz=308	**1.67**	**127**	S	Sb	21 08 53.3	0.0
S56A	**Natural Bridge** baz=283	**1.73**	**102**	S	Sg	21 08 55.3	-0.2

P51A	**Williamsport** baz=143	**1.78**	**324**	S	Sb	21 08 56.1	-0.3
R56A	**Bull Pasture M** baz=260	**1.84**	**78**	P	Pn	21 08 33.3	+0.4
R56A	baz=260			S	Sb	21 08 58.1	0.0
Q50A	**Georgetown** baz=113	**1.96**	**294**	S	Sb	21 09 01.2	-0.4
U56A	**King** baz=329	**2.00**	**148**	S	Sb	21 09 02.3	-0.4
P55A	**Reedsville** baz=226	**2.06**	**45**	S	Sb	21 09 03.4	-1.1
O52A	**Adamsville** baz=177	**2.06**	**357**	S	Sb	21 09 03.8	-0.7
R50A	**Paris** baz=96	**2.09**	**277**	S	Sb	21 09 04.5	-0.7
TZTN	**Tazewell** baz=44	**2.11**	**225**	S	Sb	21 09 05.1	-0.7
S50A	**Richmond** baz=79	**2.17**	**261**	P	Pn	21 08 37.8	+0.4

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*ISCJB **19** 21:09:39.6±0.5, 29°.39N±0°.05×141°.10E±0°.10, h67km, mb3.9/16, Error ellipse: s-maj=12.5km s-min=6.5km az=168.8*
*NEIC **19** 21:09:40.2±1.9, 29°.40N±0°.07×141°.2E±0°.3, h58km±8km, mb4.2/6*
*IDC **19** 21:09:41.8±2.2, 29°.33N×141°.06E, h69km±21km, mb3.7/16, mb1 3.9/18, mb1mx3.7/43, mbtmp4.0/18, MS2.4/3, Ms1 2.4/3, ms1mx2.3/35, Error ellipse: s-maj=20.9km s-min=14.3km az=84.0*
ISC 19 21:09:41.3±0.6, 29°.35N±0°.06×141°.1E±0°.1, h67km, n43, σ1§34/41, mb3.9/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 22nm,0.3s,baz=292,slow=17,SNR=17	**2.45**	**156**	P	**Pn**	**21 10 19.1**	**+0.1**
JCJ	comp=Z,40nm,20.8s,baz=344,slow=24			LR	LR	21 10 39.9	
JCJ	88nm,0.3s,baz=256,slow=17,SNR=7.2			S	**Sn**	**21 10 44.7**	**-3.1**
JHJ2	**Mitsune**	**3.90**	**344**	Pn	**Pn**	**21 10 36.4**	**-2.3**
JHJ2				Sn	**Sn**	**21 11 18.1**	**-5.2**
JHJ	**Hachijo jima 2** 17nm,0.3s,baz=90,slow=20,SNR=3.4	**3.92**	**344**	S	**Sn**	**21 11 22.7**	**-0.9**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=159,slow=12,SNR=7.1	**7.57**	**342**	P	**Pn**	**21 11 30.9**	**+2.0**
MJAR	**Matsushiro Arr**	**7.57**	**342**		**Pn**	**21 11 30.4**	**+1.6**
MAJO	**Matsushiro**	**7.57**	**342**	Pn	**Pn**	**21 11 27.5**	**-1.4**
MJB9	**Matsu-Tunnel**	**7.57**	**342**	Pn	**Pn**	**21 11 27.5**	**-1.4**
JNU	**Nakatsue** comp=Z,44nm,20.8s,baz=168,slow=36	**9.51**	**296**	LR	LR	21 15 25.1	
KSRS	**Korea Array** comp=Z,20nm,21.2s,baz=110,slow=37	**13.63**	**310**	LR	LR	21 18 12.0	
YULB	**Yu-li**	**18.68**	**256**	P	**Pn**	**21 13 55.9**	**+0.7**
YULB	comp=Z,22nm,1.4s			IAmb	IAmb	21 14 00.6	
SSLB	**Suanglung**	**18.83**	**258**	P	**Pn**	**21 13 56.7**	**-0.2**
SSLB	comp=Z,15nm,1.0s			IAmb	IAmb	21 14 14.4	
KLR	**Kul'dur** comp=Z,2.1nm,0.7s,baz=154,slow=10,SNR=5.6	**21.09**	**343**	P	**P**	**21 14 20.1**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=296,slow=75,SNR=7.5	**25.31**	**106**	T	T	21 41 04.9	
H11N1	**WAKE ISLAND Hy** baz=296,slow=75,SNR=7.4	**25.32**	**106**	T	T	21 40 46.7	
H11N3	**WAKE ISLAND Hy** baz=296,slow=75,SNR=6.9	**25.33**	**106**	T	T	21 40 49.1	
CHTO	**Chiang Mai** comp=Z,5.3nm,0.9s	**39.69**	**264**	P	**P**	**21 17 06.9**	**-0.2**
CHTO				IAmb	IAmb	21 17 10.9	
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.8s,baz=51,slow=7.1,SNR=7.1	**39.83**	**264**	P	**P**	**21 17 09.0**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.7s,baz=108,slow=3.9,SNR=7.7	**47.16**	**318**	PcP	**PcP**	**21 19 37.7**	**+0.3**
ZALV	**Zalesovo Beam**	**47.16**	**318**	P	**P**	**21 18 08.0**	**+1.2**
ZALV					**PcP**	**21 19 37.5**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.8s,baz=82,slow=8.8,SNR=8.3	**48.31**	**308**	P	**P**	**21 18 15.4**	**-0.4**
MKAR				PcP	**PcP**	**21 19 42.2**	**+0.5**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.8s,baz=83,slow=3.9,SNR=7.6	**48.31**	**308**		**PcP**	**21 19 40.4**	**-1.3**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.4s,baz=6.3,slow=7.8,SNR=27	**49.44**	**188**	P	**P**	**21 18 24.7**	**+0.1**
WRA	**Warramunga Arr**	**49.44**	**188**	P	**P**	**21 18 24.9**	**+0.3**
NRIK	**Noril'sk** comp=Z,2.3nm,0.6s,baz=117,slow=9.0,SNR=3.2	**50.20**	**338**	P	**P**	**21 18 29.8**	**-0.1**
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,baz=359,slow=6.3,SNR=6.0	**53.16**	**188**	P	**P**	**21 18 52.3**	**-0.2**
KDAK	**Kodiak Island** comp=Z,4.1nm,0.8s,baz=270,slow=4.0,SNR=7.6	**53.17**	**38**	P	**P**	**21 18 52.1**	**0.0**
ILAR	**Eielson Array** comp=Z,0.4nm,0.9s,baz=282,slow=5.4,SNR=3.0	**56.22**	**29**	P	**P**	**21 19 15.2**	**+1.1**
EGAK	**Eagle**	**58.67**	**29**		**PcP**	**21 20 22.9**	**+2.2**
ARU	**Arti**	**62.05**	**321**	P	**P**	**21 19 54.0**	**-0.6**
ABKAR	**Akbulak array**	**62.84**	**313**	P	**P**	**21 19 59.1**	**-0.8**
ABKAR	**Akbulak array** comp=Z,2.4nm,1.2s	**62.84**	**313**	IAmb	IAmb	21 20 03.3	
ARCES	**ARCESS Array B** comp=Z,2.9nm,0.8s,baz=61,slow=7.5,SNR=3.0	**71.10**	**340**	P	**P**	**21 20 53.0**	**+1.0**
FINES	**FINESS Array B** comp=Z,6.6nm,1.0s,baz=65,slow=5.0,SNR=7.0	**75.50**	**333**	P	**P**	**21 21 18.1**	**+0.1**
FINES	**FINESS Array B**	**75.50**	**333**	P	**P**	**21 21 17.6**	**-0.4**
KBZ	**Khabaz** comp=Z,2.4nm,0.8s,baz=60,slow=6.5,SNR=4.6	**75.77**	**312**	P	**P**	**21 21 20.4**	**+0.6**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.4s,baz=291,slow=5.4,SNR=3.8	**79.89**	**52**	P	**P**	**21 21 43.7**	**+0.5**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.5s,baz=49,slow=6.1,SNR=5.3	**80.23**	**323**	P	**P**	**21 21 44.4**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.9s,baz=20,slow=5.3,SNR=2.9	**81.16**	**338**	P	**P**	**21 21 49.6**	**+0.3**
BRTR	**Keskin Array B** comp=Z,2.0nm,0.9s,baz=94,slow=3.8,SNR=9.1	**83.76**	**312**	P	**P**	**21 22 04.0**	**+0.6**
BRTR	**Keskin Array B**	**83.76**	**312**	P	**P**	**21 22 03.7**	**+0.3**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=32,slow=5.3,SNR=3.7	**89.08**	**328**	P	**P**	**21 22 29.4**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.9s,baz=55,slow=0.9,SNR=3.5	**122.37**	**311**	PKP	**PKiKP**	**21 28 29.5**	**-0.2**
LPAZ	**La Paz** comp=Z,0.5nm,0.6s,baz=315,slow=4.3,SNR=4.2	**150.20**	**71**	PKPbc	**PKiKP**	**21 29 26.4**	**-0.4**

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*IDC **19** 21:24:28.5±0.9, 30°.08N×99°.81E, h0km, mb4.0/10, mb1 4.0/11, mb1mx3.7/61, mbtmp3.9/11, MS2.6/2, Ms1 2.7/2, ms1mx2.4/43, Error ellipse: s-maj=33.5km s-min=16.5km az=48.0*
*ISCJB **19** 21:24:30.7±0.7, 29°.97N±0°.09×99°.58E±0°.07, h33km, mb4.0/10, MS3.2/1, Error ellipse: s-maj=14.1km s-min=7.9km az=156.2*
ISC 19 21:24:33.4±1.0, 30°.1N±0°.1×99°.6E±0°.1, h35km, n25, σ1§45/23, mb3.9/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**10.82**	**259**	*eP*	**Pn**	**21 27 06.7**	**+0.7**
ODAN	**Odare** 18nm,0.8s	**11.24**	**257**	*eP*	**Pn**	**21 27 11.2**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,11nm,21.2s,baz=0.0,slow=40	**11.56**	**183**	LR	LR	21 32 16.4	
RAMN	**Ramite**	**11.88**	**258**	*eP*	**Pn**	**21 27 20.3**	**-0.2**
JIRN	**Jiri** 14nm,0.3s	**12.03**	**262**	*eP*	**Pn**	**21 27 22.6**	**-0.1**
GUN	**Gumba** 9.2nm,0.4s	**12.24**	**263**	*eP*	**Pn**	**21 27 25.1**	**-0.4**
PKI	**Pulchoki** 6.5nm,0.4s	**12.72**	**262**	*eP*	**Pn**	**21 27 30.8**	**-1.4**
PKIN	**Phulchoki** 6.3nm,0.3s	**12.73**	**262**	*eP*	**Pn**	**21 27 31.3**	**-0.9**
KKN	**Kakani** 26nm,1.0s	**12.78**	**263**	*eP*	**Pn**	**21 27 31.8**	**-1.0**
DMN	**Daman**	**12.98**	**263**	*eP*	**Pn**	**21 27 34.8**	**-0.7**
GKN	**Gorkha** 4.3nm,0.3s	**13.29**	**265**	*eP*	**Pn**	**21 27 37.2**	**-2.5**
DANN	**Dangsing** 8.9nm,0.5s	**13.98**	**267**	*eP*	**Pn**	**21 27 46.2**	**-3.0**
KOLN	**Koldanda** 4.2nm,0.4s	**14.24**	**265**	*eP*	**Pn**	**21 27 49.1**	**-3.6**
SONM	**Songino Array** baz=203,slow=9.2,SNR=3.8	**18.51**	**14**	P	**P**	**21 28 46.3**	**-0.4**
MKAR	**Makanchi Array** 3.0nm,0.6s,baz=135,slow=10,SNR=26	**21.47**	**326**	P	**P**	**21 29 19.1**	**+0.3**
AAK	**Ala-Archa** 1.7nm,0.8s,baz=108,slow=6.5,SNR=8.9	**23.74**	**309**	P	**P**	**21 29 44.3**	**+1.8**
KSRS	**Korea Array**	**24.59**	**65**	P	**P**	**21 29 49.1**	**-1.0**
	2.4nm,0.8s,baz=257,slow=10,SNR=5.9						
KURBB	**Kurchatov Arra** 3.4nm,0.7s,baz=138,slow=10.0,SNR=22	**25.94**	**328**	P	**P**	**21 30 02.8**	**+0.5**
ZALV	**Zalesovo Beam** 1.6nm,0.6s,baz=150,slow=11,SNR=8.8	**26.19**	**340**	P	**P**	**21 30 04.5**	**0.0**
GEYT	**Alibeck** 2.2nm,0.8s,baz=101,slow=7.7,SNR=4.2	**35.09**	**294**	P	**P**	**21 31 25.1**	**+1.8**
AKASG	**Malin Array Be** comp=Z,20nm,21.6s,baz=80,slow=39	**55.30**	**313**	LR	LR	22 00 33.6	
FINES	**FINESS Array B** 1.7nm,0.8s,baz=116,slow=7.4,SNR=4.7	**56.30**	**326**	P	**P**	**21 34 10.5**	**+0.2**
ARCES	**ARCESS Array B** 7.5nm,1.1s,baz=96,slow=4.9,SNR=3.1	**56.65**	**336**	P	**P**	**21 34 12.6**	**-0.1**
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=328,slow=7.5,SNR=16	**59.88**	**142**	P	**P**	**21 34 35.7**	**-0.2**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=330,slow=6.8,SNR=3.1	**62.73**	**144**	P	**P**	**21 34 55.3**	**+0.2**

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*ISCJB **19** 21:34:37.2±1.0, 56°.4S±0°.2×28°.4W±0°.5, h200km, mb3.6/3, Error ellipse: s-maj=45.6km s-min=15.1km az=155.5*
*IDC **19** 21:34:40.8±7.8, 56°.40S×28°.43W, h220km±74km, mb3.5/3, mb1 3.6/3, mb1mx3.3/18, mbtmp4.1/3, Error ellipse: s-maj=36.5km s-min=19.9km az=46.0*
ISC 19 21:34:38.5±0.9, 56°.4S±0°.2×28°.5W±0°.3, h200km, n10, σ0§40/10, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.78**	**157**	P	**P**	**21 38 20.9**	**+0.4**
VNA3	**Neumayer Olymp**	**16.94**	**159**	P	**P**	**21 38 22.4**	**0.0**
VNA2	**Neumayer--Watz** baz=318,slow=13	**17.17**	**156**	P	**P**	**21 38 25.1**	**+0.2**
SNAA	**Sanae**	**18.75**	**155**	P	**P**	**21 38 42.1**	**0.0**
MAW	**Mawson** 2.4nm,0.5s,baz=229,slow=8.9,SNR=14	**40.31**	**144**	P	**P**	**21 41 55.7**	**0.0**
LPAZ	**La Paz** 0.7nm,0.5s,baz=127,slow=5.1,SNR=3.4	**49.99**	**307**	P	**P**	**21 43 13.4**	**+0.3**
TORD	**Torodi Ar. Bea** 0.9nm,0.4s,baz=200,slow=6.3,SNR=15	**73.68**	**31**	P	**P**	**21 45 50.5**	**+0.3**
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=131,slow=2.2,SNR=5.5	**135.94**	**318**	PKP	**PKPdf**	**21 53 33.5**	**-0.4**
ILAR	**Eielson Array** 1.5nm,0.6s,baz=124,slow=1.7,SNR=19	**149.80**	**311**	PKPbc	**PKPbc**	**21 54 02.9**	**-0.2**
SONM	**Songino Array** 0.6nm,0.5s,baz=226,slow=3.9,SNR=6.1	**151.44**	**88**	PKPbc	**PKPbc**	**21 54 07.0**	**-0.7**

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*ISCJB **19** 22:09:58.6±1.1, 63°.0S±0°.2×165°.3W±0°.4, h10km, mb4.0/6, MS4.1/2, Error ellipse: s-maj=28.6km s-min=15.2km az=138.1*
*IDC **19** 22:09:59.7±1.0, 63°.05S×165°.17W, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/35, mbtmp4.1/6, Error ellipse: s-maj=34.1km s-min=23.6km az=52.0*
*NEIC **19** 22:10:01.9±1.6, 63°.0S±0°.2×165°.2W±0°.2, h15km±5km, mb4.4/7*
ISC 19 22:10:01.0±1.0, 63°.0S±0°.2×165°.3W±0°.2, h10km, n26, σ1§16/19, mb4.1/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.23**	**200**	P	**P**	**22 14 03.9**	**+1.1**
SBA	comp=Z,21nm,0.9s			IAmb	IAmb	22 14 14.0	
MCQ	**Macquarie Isla**	**20.16**	**278**	P	**P**	**22 14 33.5**	**-1.5**
QSPA	**South Pole Qui** comp=Z,2.0nm,0.8s,baz=30,slow=7.3,SNR=6.4	**27.08**	**180**	P	**P**	**22 15 44.6**	**+1.1**
QSPA	**South Pole Qui** comp=Z,11nm,1.1s	**27.08**	**180**	IAmb	IAmb	22 15 55.5	
TBI	**Tubuai** comp=Z,444nm,27.5s	**41.07**	**22**	*e*LQ	LQ	22 26 55.2	
TBI	comp=Z,243nm,26.2s			*e*LR	LR	22 28 36.9	
TBI	**Tubuai** comp=Z,11nm,0.3s	**41.07**	**22**	*e*T	T	23 01 09.2	
VNA3	**Neumayer Olymp**	**44.94**	**169**	P	**P**	**22 18 13.0**	**-2.4**
SNAA	**Sanae**	**45.03**	**172**	P	**P**	**22 18 15.2**	**-0.9**
SNAA	**Sanae** comp=Z,6.9nm,1.0s,baz=198,slow=9.2,SNR=14	**45.03**	**172**	P	**P**	**22 18 15.0**	**-1.2**
SNAA	**Sanae**	**45.03**	**172**	P	**P**	**22 18 15.3**	**-0.9**
MAW	**Mawson** comp=Z,2.4nm,1.0s,baz=170,slow=13,SNR=4.4	**45.13**	**204**	P	**P**	**22 18 17.2**	**+0.4**
MAW	**Mawson** comp=Z,0.8nm,1.1s	**45.13**	**204**	IAmb	IAmb	22 18 22.2	
VNA2	**Neumayer--Watz** baz=192,slow=8.0	**45.44**	**170**	P	**P**	**22 18 18.4**	**-0.9**
VNA1	**Neumayer--Stat**	**45.64**	**170**	P	**P**	**22 18 18.9**	**-2.0**
MEH	**Mehetia** comp=Z,22nm,0.3s	**46.66**	**23**	*e*T	T	23 08 08.6	
PPT2	**Papeete2** comp=Z,322nm,25.5s	**46.69**	**21**	*e*LR	LR	22 31 25.9	
VAH	**Vaihoa** comp=Z,44nm,0.3s	**49.32**	**23**	*e*T	T	23 11 27.4	
ASAR	**Alice Springs** comp=Z,1.0nm,0.6s,baz=149,slow=8.1,SNR=8.7	**56.01**	**285**	P	**P**	**22 19 40.7**	**+1.1**
ASAR	**Alice Springs**	**56.01**	**285**	P	**P**	**22 19 39.9**	**+0.4**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.8s,baz=156,slow=5.9,SNR=7.4	**59.09**	**288**	P	**P**	**22 20 01.5**	**+0.2**
LPAZ	**La Paz** comp=Z,2.4nm,1.0s,baz=158,slow=1.3,SNR=6.3	**78.84**	**104**	P	**P**	**22 22 05.3**	**+0.5**
LPAZ	**La Paz**	**78.84**	**104**	P	**P**	**22 22 04.8**	**0.0**
LPAZ	comp=Z,4.6nm,1.1s			IAmb	IAmb	22 22 12.1	
ILAR	**Eielson Array** comp=Z,0.2nm,0.8s,baz=184,slow=2.4,SNR=4.5	**128.22**	**10**	PKP	**PKPdf**	**22 29 05.1**	**-0.6**
KURBB	**Kurchatov Arra** comp=Z,2.6nm,0.8s,baz=136,slow=3.0,SNR=17	**144.52**	**280**	PKP	**PKPab**	**22 29 34.5**	**-0.1**
KURK	**Kurchatov**	**144.54**	**280**		**PKPab**	**22 29 35.0**	**+0.2**
RES	**Resolute Bay** comp=Z,5.6nm,0.9s,baz=127,slow=22,SNR=18	**144.82**	**26**	PKP	**PKPdf**	**22 29 37.1**	**+1.1**

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*ISCJB **19** 22:12:59.9±0.3, 63°.10S±0°.06×164°.6W±0°.2, h10km, mb4.4/10, MS4.8/23, Error ellipse: s-maj=11.1km s-min=7.2km az=144.3*
*IDC **19** 22:13:00.2±0.6, 63°.05S×164°.58W, h0km, mb4.5/10, mb1 4.6/10, mb1mx4.4/31, mbtmp4.5/10, MS4.7/17, Ms1 4.7/17, ms1mx4.5/22, Error ellipse: s-maj=26.3km s-min=16.0km az=43.0*
*NEIC **19** 22:13:01.5±1.7, 63°.1S±0°.1×164°.6W±0°.2, h10km±1km, mb4.9/24*
*GCMT **19** 22:13:05.5±0.1, 63°.21S±0°.01×164°.68W±0°.02, h12km, MW5.3/113, Moment Tensor Solution. s84,c126; s113,c172; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.21±.02; $M_{\theta\theta}$0.89±.02; $M_{\phi\phi}$-0.68±.02; $M_{r\theta}$-0.33±.04; $M_{r\phi}$0.80±.02; $M_{\theta\phi}$-0.20±.04; Best double couple: $M_0$1.17200×10^{17} NP1:ϕ_s202.00000°, δ83.00000°, λ167.00000°. NP2:ϕ_s293.00000°, δ77.00000°, λ7.00000°. Principal axes: T 1.3220, Plg14.0000°, Azm157.0000°; N -0.3020, Plg75.0000°, Azm356.0000°; P -1.0210, Plg5.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 22:13:01.9±0.5, 63°.13S±0°.09×164°.5W±0°.1, h10km, n83, σ1§25/62, mb4.8/20, MS4.7/23, 1C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.26**	**200**	P	**P**	**22 17 04.1**	**0.0**
WKZ	**Wanaka**	**23.75**	**308**	P	**P**	**22 18 16.4**	**+2.3**
WKZ	comp=Z,41nm,1.2s			IAmb	IAmb	22 18 24.5	
RPZ	**Rata Peaks** comp=Z,3μm,21.0s,baz=156,slow=31	**24.02**	**313**	LR	LR	22 25 12.5	
RPZ	**Rata Peaks**	**24.02**	**313**	P	**P**	**22 18 15.2**	**-1.4**
FOZ	**Fox Glacier**	**24.60**	**311**	P	**P**	**22 18 21.4**	**-0.5**
FOZ	comp=Z,54nm,1.4s			IAmb	IAmb	22 18 33.0	
BSWZ	**Blackbirch Sta**	**24.93**	**319**	P	**P**	**22 18 24.1**	**-0.9**
THZ	**Tophouse**	**25.18**	**318**	P	**P**	**22 18 27.9**	**+0.7**
THZ	comp=Z,23nm,1.0s			IAmb	IAmb	22 18 31.8	
QSPA	**South Pole Qui** comp=Z,6.9nm,0.7s,baz=75,slow=2.2,SNR=18	**26.98**	**180**	P	**P**	**22 18 44.4**	**+0.8**
QSPA	comp=Z,3μm,18.1s,baz=48,slow=33			LR	LR	22 28 00.2	
QSPA	**South Pole Qui**	**26.98**	**180**	P	**P**	**22 18 43.6**	**0.0**
URZ	**Urewera** comp=Z,3.0nm,

MXZ	**Matakaoa Point**	**27.65**	**330**	P	**P**	**22 18 48.0**	**-1.5**
MXZ				IAmb	IAmb	22 18 58.1	
comp=Z,28nm,0.9s							
PMSA	**Palmer Station**	**39.69**	**139**	P	**P**	**22 20 33.6**	**0.0**
TBI	**Tubuai**	**41.03**	**21**	*e*S	**S**	**22 26 59.3**	**+2.1**
comp=Z,444nm,27.5s							
TBI				*e*LQ	LQ	22 30 06.5	
comp=Z,2μm,32.0s							
TBI				*e*LR	LR	22 31 51.0	
comp=Z,2μm,27.2s,baz=190							
TBI	**Tubuai**	**41.03**	**21**	*e*T	T	23 04 12.1	
comp=Z,86nm,0.3s							
VNA3	**Neumayer Olymp**	**44.78**	**169**	P	**P**	**22 21 14.9**	**-0.2**
SNAA	**Sanae**	**44.88**	**172**	P	**P**	**22 21 15.5**	**-0.5**
SNAA	**Sanae**	**44.88**	**172**	P	**P**	**22 21 15.9**	**-0.1**
comp=Z,28nm,1.2s,baz=212,slow=6.3,SNR=26							
SNAA	**Sanae**	**44.88**	**172**	P	**P**	**22 21 15.4**	**-0.5**
MAW	**Mawson**	**45.18**	**203**	P	**P**	**22 21 18.9**	**+0.7**
comp=Z,5.2nm,1.1s,baz=146,slow=8.4,SNR=7.1							
MAW				LR	LR	22 39 01.3	
comp=Z,2μm,19.0s,baz=148,slow=34							
MAW	**Mawson**	**45.18**	**203**	P	**P**	**22 21 18.1**	**-0.1**
VNA2	**Neumayer--Watz**	**45.28**	**170**	P	**P**	**22 21 18.7**	**-0.4**
baz=201,slow=7.7							
DZM	**Mont Dzumac**	**45.47**	**321**	*e*LR	LR	22 34 09.3	
comp=Z,3μm,23.1s							
VNA1	**Neumayer--Stat**	**45.48**	**169**	P	**P**	**22 21 20.9**	**+0.4**
STKA	**Stephens Creek**	**45.90**	**287**	LR	LR	22 37 46.5	
comp=Z,645nm,19.2s,baz=143,slow=32							
TVO	**Taravao**	**46.52**	**20**	*e*T	T	23 11 04.5	
comp=Z,4.0nm,0.2s							
PAE	**Paea**	**46.58**	**20**	*e*T	T	23 11 09.3	
comp=Z,4.1nm,0.3s							
MEH	**Mehetia**	**46.62**	**22**	*e*T	T	23 11 12.0	
comp=Z,100nm,0.2s							
PPT2	**Papeete2**	**46.66**	**20**	*e*S	**S**	**22 28 18.6**	**-1.0**
comp=Z,273nm,26.5s							
PPT2				*e*LQ	LQ	22 32 26.6	
comp=Z,3μm,28.0s							
PPT2				*e*LR	LR	22 34 37.7	
comp=Z,3μm,24.8s,baz=192							
PPT2	**Papeete2**	**46.66**	**20**	*e*T	T	23 11 15.0	
comp=Z,17nm,0.3s							
PPT	**Papeete**	**46.68**	**20**	LR	LR	22 36 21.8	
comp=Z,912nm,19.4s,baz=190,slow=30							
TIAR	**Tiarei**	**46.72**	**20**	*e*T	T	23 11 20.0	
comp=Z,5.7nm,0.3s							
SYO	**Syowa Base**	**47.04**	**192**	‖ *i*P	**P**	**22 21 31.4**	**-1.4**
SYO	**Syowa Base**	**47.04**	**192**	‖ *i*pP	**P**	**22 21 33.2**	**+0.4**
VAH	**Vaihoa**	**49.28**	**22**	*e*T	T	23 14 30.8	
comp=Z,175nm,0.2s							
CTA	**Charters Tower**	**54.34**	**299**	P	**P**	**22 22 27.2**	**-1.2**
comp=Z,4.0nm,0.9s,baz=216,slow=18,SNR=3.8							
PLCA	**Paso Flores**	**56.28**	**114**	P	**P**	**22 22 42.3**	**-0.1**
comp=Z,5.4nm,1.0s,baz=261,slow=5.6,SNR=4.4							
PLCA				LR	LR	22 42 17.3	
comp=Z,550nm,18.5s,baz=234,slow=31							
PLCA	**Paso Flores**	**56.28**	**114**	P	**P**	**22 22 40.6**	**-1.7**
PLCA				IAmb	IAmb	22 22 53.9	
comp=Z,17nm,1.4s							
AS31	**Alice Springs**	**56.37**	**284**	P	**P**	**22 22 41.8**	**-1.3**
ASAR	**Alice Springs**	**56.37**	**284**	P	**P**	**22 22 43.4**	**+0.2**
comp=Z,3.7nm,0.9s,baz=152,slow=7.4,SNR=14							
ASAR	**Alice Springs**	**56.37**	**284**	P	**P**	**22 22 42.6**	**-0.5**
TAOE	**Nuku Hiva Isla**	**56.95**	**29**	*e*LR	LR	22 39 17.6	
comp=Z,1μm,26.9s							
WB2	**Warramunga Arr**	**59.44**	**287**	P	**P**	**22 23 03.6**	**-1.1**
WB2				IAmb	IAmb	22 23 05.3	
comp=Z,10nm,1.2s							
WRA	**Warramunga Arr**	**59.45**	**287**	P	**P**	**22 23 03.6**	**-1.1**
comp=Z,4.6nm,1.2s,baz=160,slow=6.7,SNR=8.6							
WRA				LR	LR	22 45 36.9	
comp=Z,556nm,20.2s,baz=160,slow=33							
WRA	**Warramunga Arr**	**59.45**	**287**	P	**P**	**22 23 01.9**	**-2.8**
PMG	**Port Moresby**	**63.72**	**305**	P	**P**	**22 23 33.8**	**+0.3**
KRVT	**Keravat (AS076**	**66.71**	**312**	LR	LR	22 51 01.4	
comp=Z,597nm,18.7s,baz=142,slow=34							
GO03	**Copiap**	**67.64**	**107**	P	**P**	**22 23 59.1**	**+0.2**
GO03				IAmb	IAmb	22 24 03.7	
comp=Z,13nm,0.9s							
GO02	**Mina Guanaco**	**70.04**	**106**	P	**P**	**22 24 14.2**	**+0.1**
LVC	**Limon Verde**	**72.57**	**105**	P	**P**	**22 24 29.5**	**-0.1**
LVC				IAmb	IAmb	22 24 34.4	
comp=Z,22nm,1.2s							
PB01	**IPOC Station P**	**73.69**	**104**	P	**P**	**22 24 33.7**	**-2.1**
PB01				IAmb	IAmb	22 24 46.8	
comp=Z,16nm,1.2s							
CPUP	**Villa Florida**	**74.19**	**117**	P	**P**	**22 24 38.5**	**0.0**
comp=Z,6.7nm,1.0s,baz=222,slow=6.0,SNR=8.5							
CPUP				LR	LR	22 53 27.2	
comp=Z,360nm,19.3s,baz=206,slow=33							
CPUP	**Villa Florida**	**74.19**	**117**	P	**P**	**22 24 37.9**	**-0.6**
CPUP				IAmb	IAmb	22 24 42.6	
comp=Z,11nm,1.1s							
PB11	**IPOC Station P**	**74.74**	**103**	P	**P**	**22 24 39.8**	**-2.2**
GO01	**Chusmiza**	**75.03**	**104**	P	**P**	**22 24 44.3**	**+0.2**
GO01				IAmb	IAmb	22 25 03.6	
comp=Z,15nm,1.3s							
MNMC	**Minye Minye**	**75.32**	**103**	P	**P**	**22 24 46.5**	**+0.9**
MNMC				IAmb	IAmb	22 24 56.8	
comp=Z,18nm,1.0s							
LPAZ	**La Paz**	**78.48**	**103**	P	**P**	**22 25 04.8**	**+1.1**
comp=Z,7.1nm,1.0s,baz=195,slow=5.6,SNR=10							
LPAZ	**La Paz**	**78.48**	**103**	IAmb	IAmb	22 25 14.4	
comp=Z,13nm,1.1s							
GUMO	**Guam**	**85.85**	**311**	LR	LR	23 02 07.8	
comp=Z,126nm,18.4s,baz=115,slow=34							
DAV	**Davao City (W)**	**87.36**	**291**	LR	LR	23 04 33.4	
comp=Z,197nm,18.4s,baz=148,slow=35							
BDFB	**Brasilia**	**87.52**	**120**	LR	LR	23 02 40.5	
comp=Z,901nm,18.8s,baz=178,slow=34							
BOSA	**Boshof**	**88.25**	**189**	LR	LR	23 00 48.9	
comp=Z,1μm,21.7s,baz=180,slow=32							
ROSC	**El Rosal**	**94.37**	**88**	LR	LR	23 02 13.3	
comp=Z,178nm,19.6s,baz=210,slow=31							
PSI	**Prapat**	**95.46**	**265**	LR	LR	23 04 15.0	
comp=Z,140nm,18.5s,baz=152,slow=32							
JCJ	**Chichijima**	**99.29**	**314**	LR	LR	23 07 17.9	
comp=Z,231nm,20.7s,baz=168,slow=33							
CD2	**Chengdu**	**117.85**	**284**	PKP	**PKiKP**	**22 31 49.3**	**+1.4**
LZH	**Lanzhou**	**122.20**	**287**	*e*PKP	**PKPdf**	**22 31 55.5**	**-0.8**
LZH				pPKP	sPKPdf	22 32 04.8	+5.0
LZH				sPKP		22 32 11.1	
LZH				LR	LR		
comp=N,78nm,17.8s							
LZH				LR	LR		
comp=E,83nm,18.0s							
LZH				LR	LR		
comp=Z,100nm,20.1s							
HHC	**Hu-ho-hao-te**	**122.95**	**296**	*e*P	**PKiKP**	**22 32 01.5**	**+3.8**
GTA	**Gaotai**	**126.73**	**286**	*e*PKP	**PKiKP**	**22 32 06.0**	**+0.7**
ILAR	**Eielson Array**	**128.26**	**10**	PKP	**PKiKP**	**22 32 06.7**	**-0.6**
comp=Z,0.5nm,0.8s,baz=307,slow=1.2,SNR=5.4							
WMQ	**Urumqi**	**135.66**	**280**	*e*P	**PKiKP**	**22 32 23.5**	**+0.5**
WMQ				pmax	pmax		
comp=Z,65nm,4.5s							
WMQ				LR	LR		
comp=E,160nm,23.9s							
WMQ				LR	LR		
comp=Z,160nm,25.7s							
KSH	**Kashi**	**137.54**	**266**	PKP	**PKiKP**	**22 32 29.5**	**+2.4**
KSH				PP	PP	22 35 19.9	+8.0
KSH				PKS		22 36 03.6	
KSH				SKS	**SKSdf**	**22 39 38.6**	**+3.0**
MKAR	**Makanchi Array**	**140.37**	**278**	PKP	**PKPdf**	**22 32 28.8**	**-1.2**
comp=Z,0.2nm,0.6s,baz=112,slow=5.3,SNR=2.5							
ZALV	**Zalesovo Beam**	**144.42**	**288**	PKP	**PKPab**	**22 32 34.6**	**-0.6**
comp=Z,0.5nm,0.4s,baz=117,slow=0.7,SNR=4.1							
RES	**Resolute Bay**	**144.75**	**26**	PKP	PKPbc	22 32 35.5	-0.4
comp=Z,20nm,1.2s,baz=224,slow=6.7,SNR=5.2							
KURBB	**Kurchatov Arra**	**144.88**	**279**	PKP	**PKPab**	**22 32 36.1**	**-0.8**
comp=Z,1.8nm,0.7s,baz=130,slow=2.7,SNR=5.0							
KURK	**Kurchatov**	**144.90**	**279**		PKPbc	22 32 36.7	-0.4
BRVK	**Borovoye**	**150.27**	**276**		**PKPbc**	**22 32 51.1**	**-0.7**
NRIK	**Noril'sk**	**151.94**	**314**	PKPbc	**PKiKP**	**22 32 55.8**	**+0.2**
comp=Z,0.9nm,0.4s,baz=57,slow=5.1,SNR=2.4							
ELL	**Elmali**	**152.15**	**205**	PKPbc	**PKPbc**	**22 32 56.0**	**-0.9**
ELL					**PKPab**	**22 33 06.8**	**+0.3**
ESDC	**Sonseca Array**	**153.78**	**144**	PKPbc	**PKPbc**	**22 32 59.4**	**-1.0**
comp=Z,0.7nm,0.8s,baz=166,slow=0.7,SNR=3.4							
ESDC	**Sonseca Array**	**153.78**	**144**		**PKPdf**	**22 32 54.2**	**+1.8**
BRTR	**Keskin Array B**	**154.17**	**213**	PKPbc	**PKPbc**	**22 33 00.4**	**-0.8**
comp=Z,0.8nm,1.0s,baz=180,slow=2.5,SNR=3.8							
CLL	**Collm**	**168.07**	**172**	*e*SKKSac	SKKSac	22 44 49.0	-1.6
CLL				*e*PSKS		22 48 38.0	
CLL				*e*PPS	PPS	22 51 48.0	
CLL				*e*SS	**SS**	**22 58 54.0**	**+0.7**
CLL				*e*		23 04 42.0	
CLL				*e*SSSS		23 10 06.0	
CLL				Lm	MLR	23 54 00.0	
comp=Z,400nm,22.0s							

*THE **19** 22:32:51.1, 40.17N×20.67E, h15km±2km, ML2.2/3, Error ellipse: s-maj=2.2km s-min=0.7km az=178.0*
*ATH **19** 22:32:51.5, 40.17N×20.74E, h14km±3km, ML2.2/5, Error ellipse: s-maj=3.2km s-min=1.1km az=56.0*
*TIR **19** 22:32:51.3, 40.16N×20.71E, h11km, Md2.5/6*

ISC 19 22:32:51.3±1.0, 40.17N±0.02×20.72E±0.02, h15km±9km, n27, σ0.9 64/39, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.35**	**46**	P	**Pg**	**22 32 58.4**	**-0.2**
NEST				S	**Sb**	**22 33 04.8**	**0.0**
655nm,0.6s							
NEST	**Nestorio**	**0.35**	**46**	P	**Pg**	**22 32 58.1**	**-0.5**
NEST				S	**Sg**	**22 33 04.0**	**+0.4**
NEST				AML	AML	22 33 05.5	
comp=E,1044μm,0.4s							
NEST				AML	AML	22 33 05.9	
comp=N,1596μm,0.5s							
JAN	**Janina**	**0.52**	**169**	P	**Pg**	**22 33 01.6**	**-0.1**
JAN				S	**Sb**	**22 33 09.7**	**0.0**
comp=N,240nm,0.4s							
JAN	**Janina**	**0.52**	**169**	P	**Pg**	**22 33 01.6**	**-0.1**
JAN				S	**Sg**	**22 33 09.0**	**+0.3**
JAN				AML	AML	22 33 10.1	
comp=E,497μm,0.4s							
JAN				AML	AML	22 33 11.4	
comp=N,454μm,0.4s							
KPRO	**Kipourio**	**0.54**	**113**	P	**Pg**	**22 33 01.1**	**-1.0**
KPRO				AML	AML	22 33 22.7	
comp=E,649μm,0.6s							
KPRO				AML	AML	22 33 25.7	
comp=N,389μm,0.6s							
MEV	**Metsovon**	**0.55**	**134**	P	**Pg**	**22 33 01.9**	**-0.4**
MEV	**Metsovon**	**0.55**	**134**	P	**Pg**	**22 33 01.6**	**-0.6**
TPE	**Tepelena**	**0.56**	**283**	P	**Pg**	**22 33 01.3**	**-1.0**
TPE	**Tepelena**	**0.56**	**283**	*i* PG	**Pb**	**22 33 02.5**	**-0.3**
TPE				*i* SG	**Sb**	**22 33 10.9**	**+0.4**
SRN	**Sarande**	**0.62**	**242**	P	**Pg**	**22 33 02.4**	**-1.1**
SRN	**Sarande**	**0.62**	**242**	*i* PG	**Pb**	**22 33 03.6**	**-0.3**
SRN				*i* SG	**Sb**	**22 33 13.4**	**+0.9**
IGT	**Igoumenitsa**	**0.70**	**205**	*i* PG	**Pb**	**22 33 05.5**	**+0.2**
IGT				*i* SG	**Sb**	**22 33 15.6**	**+0.8**
IGT	**Igoumenitsa**	**0.70**	**205**	P	**Pg**	**22 33 04.5**	**-0.5**
FNA	**Florina**	**0.79**	**39**	P	**Pg**	**22 33 06.0**	**-0.8**
FNA				S	**Sn**	**22 33 19.1**	**-0.6**
comp=N,252nm,0.5s							
FNA	**Florina**	**0.79**	**39**	*i* PG	**Pb**	**22 33 07.1**	**+0.2**
FNA				*i* SG	**Sn**	**22 33 19.4**	**-0.3**
FNA	**Florina**	**0.79**	**39**	P	**Pg**	**22 33 05.8**	**-0.9**
FNA				S	**Sb**	**22 33 18.1**	**+0.6**
FNA				AML	AML	22 33 19.2	
comp=E,525μm,0.3s							
FNA				AML	AML	22 33 21.5	
comp=N,495μm,0.3s							
KZN	**Kozani**	**0.82**	**80**	P	**Pg**	**22 33 06.9**	**-0.3**
KZN				AML	AML	22 33 23.4	
comp=E,398μm,0.4s							
KZN				AML	AML	22 33 23.9	
comp=N,295μm,0.5s							
KEK	**Kerkira**	**0.84**	**237**	P	**Pb**	**22 33 07.9**	**+0.3**
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pn**	**22 33 12.7**	**-0.4**
LIT	**Litokhoron**	**1.36**	**92**	P	**Pg**	**22 33 17.2**	**-0.3**
LKD2	**Lefkada island**	**1.38**	**182**	P	**Pg**	**22 33 18.1**	**+0.2**
EVR	**Evrytania**	**1.51**	**146**	P	**Pg**	**22 33 19.9**	**-0.5**
PHP	**Peshkopia**	**1.53**	**352**	*i* PN	**Pg**	**22 33 20.5**	**-0.2**
PHP				*i* SN	**Sg**	**22 33 42.5**	**+1.9**
MAKR	**Makrakomi, Fth**	**1.59**	**136**	P	**Pg**	**22 33 21.7**	**-0.3**
PDO	**Prodromos**	**1.61**	**167**	P	**Pg**	**22 33 21.8**	**-0.5**
AGG	**Agios Georgios**	**1.69**	**132**	P	**Pb**	**22 33 22.2**	**0.0**
PUK	**Puka**	**1.97**	**342**	*i* PN	**Pg**	**22 33 28.9**	**-0.3**
PUK				*i* SN	**Sg**	**22 33 55.6**	**+0.9**

*ISCJB **19** 22:37:19.8±0.5, 35.03N±0.02×33.20E±0.04, h68km±4km, Error ellipse: s-maj=6.1km s-min=3.7km az=161.9*
*GII **19** 22:37:20.2±0.7, 35.10N×33.29E, h80km, MD2.5/1*
*NIC **19** 22:37:21.3±0.0, 35.16N×33.18E, h52km±3km, Ml2.6/5*
*ISK **19** 22:37:22.6, 35.29N×33.19E, h20km, ML2.3/12*

ISC 19 22:37:20.9±1.3, 35.05N±0.03×33.20E±0.04, h59km±6km, n42, σ0.9 79/65, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Mathiatis**	**0.14**	**129**	Pg	**Pn**	**22 37 29.5**	**-0.6**
CSS				Sg	**Sn**	**22 37 36.4**	**-0.3**
CSS	**Mathiatis**	**0.14**	**129**	PG	**Pn**	**22 37 29.9**	**-0.2**
CSS				SG	**Sn**	**22 37 36.3**	**-0.4**
CSS	**Mathiatis**	**0.14**	**129**	P	**Pn**	**22 37 29.9**	**-0.2**
CSS				S	**Sn**	**22 37 37.2**	**+0.5**
ATHAL	**Athalassa**	**0.19**	**62**	P	**Pn**	**22 37 30.3**	**+0.1**
AKIN	**Akıncılar- Kıb**	**0.23**	**100**	PG	**Pn**	**22 37 30.2**	**-0.2**
LEF	**Lefka**	**0.26**	**285**	PG	**Pn**	**22 37 30.2**	**-0.5**
LEF				SG	**Sn**	**22 37 36.1**	**-1.6**
ASGA	**Asgata**	**0.27**	**171**	P	**Pn**	**22 37 30.8**	**+0.1**
ASGA				S	**Sn**	**22 37 38.7**	**+0.8**
ASGA				AML	AML	22 37 40.2	
0.6nm,0.2s							
ASGA				AML	AML	22 37 40.2	
0.6nm,0.2s							
ASGA				AML	AML	22 37 42.2	
0.5nm,0.3s							
ASGA				AML	AML	22 37 42.2	
0.5nm,0.3s							
MVOU	**Mavrovouni**	**0.36**	**96**	P	**Pn**	**22 37 31.6**	**+0.1**
MVOU				S	**Sn**	**22 37 39.2**	**+0.1**
MVOU				AML	AML	22 37 39.2	
1.7nm,0.4s							
MVOU				AML	AML	22 37 39.2	
1.7nm,0.4s							
MVOU				AML	AML	22 37 39.7	
0.6nm,0.2s							
MVOU				AML	AML	22 37 39.7	
0.6nm,0.2s							
SZAC	**Souni**	**0.39**	**221**	P	**Pn**	**22 37 32.2**	**+0.4**
SZAC				AML	AML	22 37 40.9	
1.9nm,0.3s							
SZAC				AML	AML	22 37 40.9	
3.6nm,0.3s							
SZAC				AML	AML	22 37 40.9	
1.9nm,0.3s							
SZAC				AML	AML	22 37 40.9	
3.6nm,0.3s							
SZAC				S	**Sn**	**22 37 41.0**	**+1.3**
ALFC	**Alefka**	**0.50**	**282**	P	**Pn**	**22 37 32.2**	**-0.6**
ALFC				S	**Sn**	**22 37 40.3**	**-1.2**
ALFC				AML	AML	22 37 41.6	
2.0nm,0.2s							
ALFC				AML	AML	22 37 41.6	
2.0nm,0.2s							
ALFC				AML	AML	22 37 41.8	
1.3nm,0.1s							
ALFC				AML	AML	22 37 41.8	
1.3nm,0.1s							
NATA	**Nata**	**0.58**	**242**	P	**Pn**	**22 37 34.6**	**+0.8**
NATA				S	**Sn**	**22 37 46.0**	**+2.8**
NATA				AML	AML	22 37 46.3	
1.6nm,0.7s							
NATA				AML	AML	22 37 46.3	
1.6nm,0.7s							
NATA				AML	AML	22 37 47.6	
2.0nm,0.7s							
NATA				AML	AML	22 37 47.6	
2.0nm,0.7s							
PARAL	**Paralimni**	**0.69**	**95**	P	**Pn**	**22 37 36.9**	**+1.9**
AKMS	**Akamas**	**0.71**	**267**	P	**Pn**	**22 37 35.8**	**+0.5**
AKMS				S	**Sn**	**22 37 46.3**	**+0.6**
EREN	**Erenkoy**	**0.93**	**59**	PG	**Pn**	**22 37 39.9**	**+1.9**
TEKE	**Tekeli-Mersin**	**1.09**	**357**	PG	**Pn**	**22 37 39.8**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.14**	**15**	PG	**Pn**	**22 37 40.8**	**0.0**
IKL	**Isikli**	**1.25**	**18**	PG	**Pn**	**22 37 42.3**	**+0.1**
IKL				SG	**Sn**	**22 37 56.9**	**-1.2**
BERE	**Bereket-Mersin**	**1.29**	**1**	PG	**Pn**	**22 37 43.0**	**+0.1**
GAZI	**Gazipasa**	**1.38**	**329**	PN	**Pn**	**22 37 43.9**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.39**	**8**	PN	**Pn**	**22 37 44.6**	**+0.4**
KEBE	**Keben-Mersin**	**1.45**	**17**	PN	**Pn**	**22 37 45.7**	**+0.7**
KIZK	**Mersin**	**1.62**	**28**	PN	**Pn**	**22 37 48.1**	**+0.9**
MERS	**Mersin**	**2.11**	**30**	PN	**Pn**	**22 37 54.2**	**+0.3**
HNTI	**Hanita**	**2.56**	**140**	Pn	**Pn**	**22 37 58.7**	**-1.3**
HNTI				Sn	**Sn**	**22 38 30.1**	**+0.1**
MMA0B	**Mount Meron ar**	**2.74**	**137**	Pn	**Pn**	**22 38 02.6**	**+0.1**
MMA0B				Sn	**Sn**	**22 38 34.4**	**0.0**
GEM	**Giv'at Ha'Em**	**2.75**	**131**	Pn	**Pn**	**22 38 01.7**	**-0.9**
GEM				Sn	**Sn**	**22 38 34.0**	**-0.7**
KSDI	**Kefar Szold**	**2.76**	**132**	Pn	**Pn**	**22 38 02.7**	**0.0**
KSDI				Sn	**Sn**	**22 38 34.5**	**-0.4**
NATI	**Neve Ativ**	**2.76**	**130**	Pn	**Pn**	**22 38 03.1**	**+0.4**
NATI				Sn	**Sn**	**22 38 34.0**	**-0.9**
OFRI	**`Ofer**	**2.85**	**148**	Pn	**Pn**	**22 38 03.8**	**-0.2**
OFRI				Sn	**Sn**	**22 38 37.3**	**+0.2**
KSHT	**Keshet**	**3.00**	**133**	Pn	**Pn**	**22 38 05.3**	**-0.7**
SLTI	**Sal'it**	**3.20**	**151**	Pn	**Pn**	**22 38 08.0**	**-0.8**
SLTI				Sn	**Sn**	**22 38 45.9**	**+0.2**
MMLI	**Mount Malkishu**	**3.20**	**144**	Pn	**Pn**	**22 38 08.1**	**-0.7**
MMLI				Sn	**Sn**	**22 38 45.6**	**-0.1**
HMDT	**Nahal Hemdat**	**3.40**	**145**	Pn	**Pn**	**22 38 10.9**	**-0.6**
HMDT				Sn	**Sn**	**22 38 51.4**	**+0.8**
AMAZ	**Amatzia**	**3.79**	**157**	Sn	**Sn**	**22 39 01.1**	**+0.8**
DSI	**Dead Sea**	**3.93**	**152**	Pn	**Pn**	**22 38 18.5**	**-0.2**
YTIR	**Yattir**	**4.02**	**156**	Pn	**Pn**	**22 38 19.8**	**-0.2**
YTIR				Sn	**Sn**	**22 39 06.9**	**+1.0**
MZDA	**Masada**	**4.15**	**153**	Pn	**Pn**	**22 38 21.6**	**-0.1**
KZIT	**Kziot**	**4.26**	**166**	Sn	**Sn**	**22 39 12.1**	**+0.5**
ZFRI	**Zfri**	**4.79**	**159**	Sn	**Sn**	**22 39 24.5**	**-0.1**
PRNI	**Paran**	**4.93**	**161**	Pn	**Pn**	**22 38 32.1**	**-0.4**
PRNI				Sn	**Sn**	**22 39 27.7**	**-0.5**
HRFI	**Mount Harif**	**5.24**	**162**	Pn	**Pn**	**22 38 36.0**	**-0.7**
HRFI				Sn	**Sn**	**22 39 35.5**	**-0.3**
MBRI	**Mt Berech**	**5.44**	**164**	Pn	**Pn**	**22 38 39.0**	**-0.5**

*ISCJB **19** 22:41:16.9±0.5, 19.32S±0.10×177.5W±0.1, h570km, mb3.7/9, Error ellipse: s-maj=15.5km s-min=9.6km az=137.4*
*IDC **19** 22:41:16.9±1.9, 19.37S×177.48W, h552km±21km, mb3.2/9, mb1 3.4/11, mb1mx3.3/31, mbtmp4.2/11, Error ellipse: s-maj=19.6km s-min=15.7km az=126.0*
*NEIC **19** 22:41:17.8±2.6, 19.3S±0.1×177.6W±0.2, h569km±8km, mb4.3/9*

ISC 19 22:41:17.8±0.5, 19.3S±0.1×177.40W±0.09, h570km, n33, σ1.9 56/38, mb3.9/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**289**	P	**P**	**22 42 48.0**	**+2.4**
NIUE	**Niue**	**7.06**	**90**	P	**P**	**22 43 06.1**	**-1.1**
AFI	**Afiamalu**	**7.59**	**46**	P	**P**	**22 43 12.3**	**+0.1**
5.0nm,0.3s,baz=127,slow=5.3,SNR=4.9							
AFI				S	**S**	**22 44 41.5**	**-4.5**
3.4nm,0.3s,baz=59,slow=19,SNR=2.9							
URZ	**Urewera**	**19.50**	**193**	P	**P**	**22 45 05.3**	**-2.9**
2.2nm,0.3s,baz=265,slow=2.8,SNR=9.9							
URZ	**Urewera**	**19.50**	**193**	P	**P**	**22 45 06.7**	**-1.5**
URZ				IAmb	IAmb	22 45 10.1	
comp=Z,24nm,1.5s							
BKZ	**Black Stump Fm**	**20.51**	**194**	P	**P**	**22 45 16.7**	**-0.6**
BKZ				IAmb	IAmb	22 45 20.4	
comp=Z,9.8nm,1.1s							
QRZ	**Quartz Range**	**23.14**	**200**	P	**P**	**22 45 41.1**	**+0.3**
THZ	**Tophouse**	**23.88**	**198**	P	**P**	**22 45 46.9**	**-0.5**
STKA	**Stephens Creek**	**38.84**	**243**	P	**P**	**22 47 55.1**	**+0.3**
comp=Z,3.4nm,0.8s,baz=303,slow=19,SNR=4.6							
STKA	**Stephens Creek**	**38.84**	**243**	P	**P**	**22 47 54.0**	**-0.8**
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**22 48 45.5**	**-0.5**
comp=Z,1.0nm,0.5s,baz=98,slow=7.7,SNR=18							
WRA				PcP	**PcP**	**22 50 13.6**	**+0.2**
comp=Z,0.9nm,0.8s,baz=98,slow=3.4,SNR=4.6							
WRA				S	**S**	**22 54 42.4**	**-3.7**
comp=Z,0.5nm,0.8s,baz=96,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**45.34**	**261**	IAmb	IAmb	22 48 46.3	
comp=Z,0.2nm,1.1s							
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**22 48 46.1**	**0.0**
comp=Z,2.0nm,0.5s,baz=86,slow=8.5,SNR=26							
ASAR				PcP	**PcP**	**22 50 13.9**	**+0.5**
comp=Z,1.1nm,0.7s,baz=104,slow=3.9,SNR=5.6							
ASAR				S	**S**	**22 54 43.2**	**-3.0**
comp=Z,0.9nm,0.7s,baz=90,slow=16,SNR=7.4							
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**22 48 45.1**	**-1.0**
ASAR				PcP	**PcP**	**22 50 14.1**	**+0.7**
QSPA	**South Pole Qui**	**70.78**	**180**	P	**P**	**22 51 38.7**	**+1.6**
comp=Z,3.2nm,0.7s,baz=327,slow=0.6,SNR=16							
QSPA	**South Pole Qui**	**70.78**	**180**	P	**P**	**22 51 38.9**	**+1.8**
QSPA				IAmb	IAmb	22 51 39.7	
comp=Z,5.3nm,0.9s							
MAW	**

ISC 19 22:55:05.6±0.6, 4°73S±0°07×153°13E±0°08, h55km, n48, σ1°29/44, mb4.2/21, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.18**	**291**	Pn	**Pn**	**22 55 25.6**	**-0.3**
	781nm,0.3s,baz=167,slow=0.3,SNR=254						
KRVT				Sn	**Sn**	**22 55 41.4**	**+0.5**
	1μm,0.3s,baz=357,slow=19,SNR=14						
MANU	**Manus Island**	**6.34**	**295**	Pn	**Pn**	**22 56 38.0**	**+1.5**
PMG	**Port Moresby**	**7.53**	**232**	Pn	**Pn**	**22 56 53.1**	**+0.2**
	2.1nm,0.3s,baz=277,slow=17,SNR=3.4						
PMG				Sn	**Sn**	**22 58 15.1**	**-1.9**
	3.4nm,0.3s,baz=25,slow=9.4,SNR=3.5						
PMG	**Port Moresby**	**7.53**	**232**		**Sn**	**22 58 13.7**	**-3.2**
PATS	**Pohnpei**	**12.60**	**24**	Pn	**Pn**	**22 58 01.6**	**-0.5**
COEN	**Coen**	**13.44**	**226**	Pn	**Pn**	**22 58 15.0**	**+1.3**
COEN				Sn	**Sn**	**23 00 39.1**	**-2.3**
FAKI	**Fak Fak**	**20.91**	**274**	P	**P**	**22 59 43.0**	**-0.8**
FAKI				IAmb	IAmb	23 00 02.3	
	comp=Z,47nm,1.4s						
DZM	**Mont Dzumac**	**21.53**	**144**	P	**P**	**22 59 51.3**	**+0.8**
DZM				IAmb	IAmb	22 59 51.7	
	comp=Z,35nm,1.5s						
SAUI	**Saumlaki**	**21.94**	**260**	P	**P**	**22 59 55.2**	**+0.5**
WB0	**Warramunga Arr**	**23.60**	**229**	P	**P**	**23 00 12.2**	**+0.5**
WB2	**Warramunga Arr**	**23.73**	**229**	P	**P**	**23 00 13.2**	**+0.2**
WB2				IAmb	IAmb	23 00 17.9	
	comp=Z,8.7nm,0.5s						
WRA	**Warramunga Arr**	**23.74**	**229**	P	**P**	**23 00 12.6**	**-0.5**
	comp=Z,6.1nm,0.3s,baz=51,slow=9.9,SNR=34						
KNRA	**Kununurra**	**26.30**	**244**	P	**P**	**23 00 38.1**	**+1.8**
AS31	**Alice Springs**	**26.43**	**223**	P	**P**	**23 00 41.6**	**+4.2**
ASAR	**Alice Springs**	**26.43**	**223**	P	**P**	**23 00 38.4**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=52,slow=9.1,SNR=18						
H11S3	**WAKE ISLAND Hy**	**26.66**	**30**	T	T	23 28 26.2	
	baz=206,slow=73,SNR=10						
H11S2	**WAKE ISLAND Hy**	**26.67**	**30**	T	T	23 28 26.8	
	baz=206,slow=73,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.68**	**30**	T	T	23 28 36.3	
	baz=206,slow=73,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.80**	**29**	T	T	23 30 26.9	
	baz=212,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**27.81**	**29**	T	T	23 30 21.3	
	baz=212,slow=75,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**27.82**	**29**	T	T	23 30 27.5	
	baz=212,slow=75,SNR=7.4						
FITZ	**Fitzroy Crossi**	**29.98**	**241**	P	**P**	**23 01 08.2**	**-1.0**
	comp=Z,4.6nm,0.5s,baz=47,slow=7.0,SNR=21						
FITZ	**Fitzroy Crossi**	**29.98**	**241**	P	**P**	**23 01 08.5**	**-0.7**
FITZ				IAmb	IAmb	23 01 10.9	
	comp=Z,9.8nm,1.2s						
FORT	**Forrest**	**35.06**	**219**	P	**P**	**23 01 55.1**	**+1.7**
PSAD2	**Pilbara Seismi**	**36.27**	**239**	P	**P**	**23 02 03.4**	**-0.6**
PSAD2				IAmb	IAmb	23 02 18.3	
	comp=Z,12nm,1.0s						
PSAD1	**Pilbara Seismi**	**36.32**	**240**	P	**P**	**23 02 04.2**	**-0.2**
PSA00	**Pilbara Seismi**	**36.35**	**240**	P	**P**	**23 02 05.5**	**+0.9**
KKM	**Kota Kinabalu**	**38.38**	**286**	P	**P**	**23 02 20.4**	**-1.7**
JNU	**Nakatsue**	**43.15**	**332**	P	**P**	**23 03 00.1**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=299,slow=19,SNR=3.4						
KSRS	**Korea Array**	**48.08**	**333**	P	**P**	**23 03 39.7**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=153,slow=8.1,SNR=3.4						
JKA	**Kamikawa-asahi**	**49.53**	**350**	P	**P**	**23 03 49.6**	**-1.3**
ASAJ	**Asahikawa**	**49.53**	**350**	P	**P**	**23 03 49.6**	**-1.3**
	comp=Z,6.6nm,0.9s,baz=280,slow=17,SNR=2.2						
USRK	**Ussuriysk Ar.**	**52.28**	**341**	P	**P**	**23 04 11.8**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=165,slow=4.7,SNR=4.7						
KLR	**Kul'dur**	**56.87**	**343**	P	**P**	**23 04 44.5**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=175,slow=4.8,SNR=5.1						
PETK	**Petropavlovsk-**	**57.75**	**3**	P	**P**	**23 04 50.8**	**+0.1**
	comp=Z,7.4nm,1.1s,baz=147,slow=8.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	**58.15**	**295**	P	**P**	**23 04 55.4**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=117,slow=5.4,SNR=3.3						
SONM	**Songino Array**	**66.44**	**328**	P	**P**	**23 05 49.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=150,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**66.44**	**328**	IAmb	IAmb	23 05 58.3	
	comp=Z,1.4nm,1.3s						
MKAR	**Makanchi Array**	**80.49**	**319**	P	**P**	**23 07 11.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=8.3,SNR=9.2						
ZALV	**Zalesovo Beam**	**81.28**	**326**	P	**P**	**23 07 14.7**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=115,slow=5.3,SNR=5.2						
ILAR	**Eielson Array**	**81.97**	**22**	P	**P**	**23 07 17.8**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=243,slow=5.0,SNR=2.9						
AAK	**Ala-Archa**	**84.86**	**313**	P	**P**	**23 07 35.5**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=124,slow=6.8,SNR=11						
AAK	**Ala-Archa**	**84.86**	**313**	P	**P**	**23 07 35.7**	**+0.9**
AAK				IAmb	IAmb	23 07 35.9	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**85.23**	**180**	P	**P**	**23 07 37.2**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=0.0,slow=4.0,SNR=5.0						
NRIK	**Noril'sk**	**86.00**	**341**	P	**P**	**23 07 40.3**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=192,slow=23,SNR=28						
NVAR	**Mina Array Bea**	**91.78**	**52**	P	**P**	**23 08 07.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=224,slow=6.3,SNR=3.6						
GERES	**GERESS Array B**	**124.16**	**329**	PKP	**PKiKP**	**23 13 59.2**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=107,slow=1.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**150.60**	**288**	PKPbc	**PKPbc**	**23 14 52.2**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=71,slow=2.6,SNR=15						

*IDC **19** 22:55:54.1±1.1, 14°84N×120°29E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/51, mbtmp3.7/4, MS4.2/1, Ms1 4.2/1, ms1mx3.0/49, Error ellipse: s-maj=80.3km s-min=10.1km az=53.0*

*ISCJB **19** 22:55:55.6±0.6, 13°64N±0°05×120°51E±0°06, h105km±5km, mb3.7/4, Error ellipse: s-maj=10.0km s-min=7.6km az=17.8*

*MAN **19** 22:55:56.8, 13°63N×120°53E, h82km, mb4.2, ML3.0, MS2.7*

ISC 19 22:55:56.5±1.0, 13°64N±0°05×120°53E±0°06, h99km±7km, n13, σ0°71/17, mb3.8/4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**289**	*e*P	**Pn**	**22 56 11.2**	**+0.3**
LUBP				*e*S	**Sn**	**22 56 21.1**	**-0.5**
TGY	**Tagaytay City**	**0.61**	**40**	Pg	**Pn**	**22 56 12.8**	**-0.3**
	203nm,0.3s,baz=166,slow=12,SNR=12						
TGY				Lg	Lg	22 56 26.0	
	850nm,0.3s,baz=52,slow=19,SNR=28						
TGY	**Tagaytay City**	**0.61**	**40**	*e*P	**Pn**	**22 56 13.1**	**0.0**
TGY				*i* S	**Sn**	**22 56 26.2**	**+0.8**
BOAC	**Boac**	**1.29**	**98**	*e*P	**Pn**	**22 56 19.8**	**-0.3**
BOAC				*e*S	**Sn**	**22 56 38.5**	**+0.5**
GQP	**Guinayangan**	**1.88**	**82**	*e*P	**Pn**	**22 56 28.4**	**+1.0**
OTRP	**Odiongan**	**1.93**	**131**	*e*P	**Pn**	**22 56 28.3**	**+0.2**
OTRP				*e*S	**Sn**	**22 56 51.6**	**-0.6**
BALP	**Baler**	**2.32**	**26**	*e*P	**Pn**	**22 56 33.9**	**+0.7**
BALP				*e*S	**Sn**	**22 57 02.0**	**+0.7**
ENPP	**El Nido**	**2.65**	**204**	*e*P	**Pn**	**22 56 38.4**	**+0.8**
ENPP				*e*S	**Sn**	**22 57 09.6**	**+0.5**
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**23 02 48.0**	**-0.7**
	0.6nm,0.4s,baz=157,slow=8.0,SNR=6.5						
ASAR	**Alice Springs**	**39.31**	**160**	P	P	23 03 35.2	+19
	0.3nm,0.6s,baz=345,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**45.98**	**324**	P	**P**	**23 04 10.6**	**+0.7**
	0.8nm,0.6s,baz=124,slow=9.3,SNR=8.5						
ZALV	**Zalesovo Beam**	**49.04**	**333**	P	**P**	**23 04 32.3**	**-1.0**
	0.5nm,0.3s,baz=134,slow=6.2,SNR=3.7						
NRIK	**Noril'sk**	**59.44**	**347**	LR	LR	23 33 58.3	
	comp=Z,238nm,22.0s,baz=98,slow=39						

*ISCJB **19** 23:02:03.6±0.5, 63°15S±0°09×165°2W±0°2, h10km, mb4.3/9, MS4.5/9, Error ellipse: s-maj=14.6km s-min=10.2km az=135.8*

*IDC **19** 23:02:03.2±0.7, 62°96S×164°93W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.3/26, mbtmp4.4/9, MS4.6/6, Ms1 4.6/6, ms1mx4.2/28, Error ellipse: s-maj=27.9km s-min=18.9km az=40.0*

*NEIC **19** 23:02:05.1±1.6, 63°1S±0°1×165°1W±0°3, h10km±2km, mb4.6/16*

*GCMT **19** 23:02:10.1±0.3, 63°24S±0°02×164°97W±0°05, h19km±2km, MW5.2/72, Moment Tensor Solution. s43,c53; s72,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.74±.30; Mθθ=5.23±.35; Mφφ=-3.48±.22; Mrθ=0.17±.60; Mrφ=4.86±.24; Mθφ=-1.30±.51; Best double couple: M0=6.70100×10^16 NP1:φs=22.00000°, δ83.00000°, λ-66.00000°. NP2: φs=290.00000°, δ76.00000°, λ-8.00000°. Principal axes: T 7.4520, Plg4.0000°, Azm156.0000°; N -1.4910, Plg74.0000°, Azm50.0000°; P -5.9510, Plg15.0000°,*

Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 23:02:05.1±0.6, 63°1S±0°1×165°1W±0°1, h10km, n58, σ0°90/41, mb4.4/12, MS4.5/9, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.20**	**200**	Pn	**Pn**	**23 06 04.9**	**-0.1**
SBA				IAmb	IAmb	23 06 21.7	
	comp=Z,73nm,1.1s						
LBZ	**Lake Benmore**	**23.52**	**311**	P	**P**	**23 07 14.1**	**-0.8**
RPZ	**Rata Peaks**	**23.82**	**313**	LR	LR	23 14 13.8	
	comp=Z,1μm,20.8s,baz=146,slow=31						
THZ	**Tophouse**	**24.99**	**318**	P	**P**	**23 07 29.6**	**+0.9**
QSPA	**South Pole Qui**	**27.01**	**180**	P	**P**	**23 07 47.4**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=14,slow=0.5,SNR=15						
QSPA				LR	LR	23 17 00.6	
	comp=Z,1μm,18.3s,baz=79,slow=33						
QSPA	**South Pole Qui**	**27.01**	**180**	P	**P**	**23 07 46.9**	**0.0**
URZ	**Urewera**	**27.12**	**328**	LR	LR	23 16 14.5	
	comp=Z,1μm,21.8s,baz=162,slow=32						
PMSA	**Palmer Station**	**39.88**	**139**	P	**P**	**23 09 38.0**	**-0.2**
	comp=Z,12nm,1.1s,baz=206,slow=5.8,SNR=3.9						
PMSA				LR	LR	23 23 11.0	
	comp=Z,1μm,20.8s,baz=252,slow=32						
PMSA	**Palmer Station**	**39.88**	**139**	IAmb	IAmb	23 09 40.1	
	comp=Z,13nm,1.1s						
TBI	**Tubuai**	**41.09**	**22**	*e*LQ	LQ	23 19 12.5	
	comp=Z,932nm,31.0s						
TBI				*e*LR	LR	23 20 56.9	
	comp=Z,767nm,27.5s						
TBI	**Tubuai**	**41.09**	**22**	*e*T	T	23 53 04.9	
	comp=Z,22nm,0.3s						
VNA3	**Neumayer Olymp**	**44.86**	**169**	P	**P**	**23 10 18.3**	**-0.4**
SNAA	**Sanae**	**44.95**	**172**	P	**P**	**23 10 19.0**	**-0.6**
SNAA	**Sanae**	**44.95**	**172**	P	**P**	**23 10 19.4**	**-0.1**
	comp=Z,27nm,1.1s,baz=192,slow=5.9,SNR=38						
SNAA				LR	LR	23 29 42.0	
	comp=Z,1μm,18.1s,baz=154,slow=37						
SNAA	**Sanae**	**44.95**	**172**	P	**P**	**23 10 19.0**	**-0.6**
MAW	**Mawson**	**45.11**	**204**	P	**P**	**23 10 22.1**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=146,slow=7.7,SNR=8.9						
MAW	**Mawson**	**45.11**	**204**	P	**P**	**23 10 21.3**	**+0.6**
DZM	**Mont Dzumac**	**45.29**	**321**	*e*LR	LR	23 22 52.1	
	comp=Z,1μm,23.4s						
VNA2	**Neumayer--Watz**	**45.36**	**170**	P	**P**	**23 10 21.9**	**-0.8**
	baz=198,slow=7.9						
VNA1	**Neumayer--Stat**	**45.55**	**169**	P	**P**	**23 10 24.5**	**+0.2**
PAE	**Paea**	**46.64**	**20**	*e*T	T	00 00 02.7	
	comp=Z,3.6nm,0.3s						
MEH	**Mehetia**	**46.69**	**22**	*e*T	T	00 00 03.7	
	comp=Z,27nm,0.3s						
PPT2	**Papeete2**	**46.71**	**20**	*e*LQ	LQ	23 21 22.4	
	comp=Z,1μm,26.0s						
PPT2				*e*LR	LR	23 23 31.6	
	comp=Z,777nm,24.5s						
SYO	**Syowa Base**	**47.02**	**192**	↑*i*P	**P**	**23 10 34.6**	**-1.2**
SYO	**Syowa Base**	**47.02**	**192**	↑*i*sP	sP	23 10 38.6	-0.5
VAH	**Vaihoa**	**49.34**	**22**	*e*T	T	00 03 22.6	
	comp=Z,43nm,0.2s						
H01W1	**Cape Leeuwin H**	**55.46**	**260**	T	T	00 12 05.2	
	baz=147,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**55.47**	**260**	T	T	00 12 10.8	
	baz=147,slow=76,SNR=10.0						
H01W3	**Cape Leeuwin H**	**55.48**	**260**	T	T	00 12 07.5	
	baz=147,slow=76,SNR=12						
NWAO	**Narrogin (SRO)**	**55.72**	**264**	LR	LR	23 31 44.7	
	comp=Z,246nm,18.4s,baz=92,slow=32						
ASAR	**Alice Springs**	**56.12**	**285**	P	**P**	**23 11 44.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=158,slow=7.3,SNR=7.8						
ASAR	**Alice Springs**	**56.12**	**285**	P	**P**	**23 11 44.4**	**-0.1**
AS31	**Alice Springs**	**56.12**	**285**	P	**P**	**23 11 45.3**	**+0.9**
PLCA	**Paso Flores**	**56.52**	**115**	P	**P**	**23 11 47.0**	**-0.2**
	comp=Z,3.6nm,1.1s,baz=247,slow=9.6,SNR=3.6						
PLCA	**Paso Flores**	**56.52**	**115**	IAmb	IAmb	23 11 48.8	
	comp=Z,5.7nm,1.1s						
GO06	**Curarrehue**	**57.10**	**113**	P	**P**	**23 11 51.9**	**+0.6**
GO06				IAmb	IAmb	23 12 03.8	
	comp=Z,6.4nm,1.0s						
WRA	**Warramunga Arr**	**59.20**	**287**	P	**P**	**23 12 05.1**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=160,slow=6.3,SNR=7.1						
WRA	**Warramunga Arr**	**59.20**	**287**	IAmb	IAmb	23 12 14.2	
	comp=Z,0.3nm,1.1s						
LVC	**Limon Verde**	**72.82**	**106**	P	**P**	**23 13 34.0**	**-0.1**
LVC				IAmb	IAmb	23 13 43.6	
	comp=Z,9.9nm,1.1s						
CPUP	**Villa Florida**	**74.42**	**117**	P	**P**	**23 13 41.5**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=12,slow=2.2,SNR=4.5						
CPUP	**Villa Florida**	**74.42**	**117**	P	**P**	**23 13 43.1**	**+0.1**
CPUP				IAmb	IAmb	23 13 48.0	
	comp=Z,5.8nm,1.1s						
GO01	**Chusmiza**	**75.28**	**104**	P	**P**	**23 13 48.8**	**+0.2**
GO01				IAmb	IAmb	23 14 04.2	
	comp=Z,3.2nm,1.1s						
MNMC	**Minye Minye**	**75.57**	**104**	P	**P**	**23 13 52.4**	**+2.3**
LPAZ	**La Paz**	**78.72**	**104**	P	**P**	**23 14 08.7**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=184,slow=7.6,SNR=6.7						
LPAZ	**La Paz**	**78.72**	**104**	P	**P**	**23 14 08.2**	**0.0**
LPAZ				IAmb	IAmb	23 14 23.7	
	comp=Z,5.6nm,1.1s						
WAX	**Waxell Ridge**	**124.38**	**13**		**PKiKP**	**23 21 04.7**	**+1.7**
ILAR	**Eielson Array**	**128.27**	**10**	PKP	**PKPdf**	**23 21 09.7**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=208,slow=2.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**129.24**	**163**	PKP	**PKiKP**	**23 21 14.2**	**+0.2**
	comp=Z,1.9nm,1.2s,baz=197,slow=3.4,SNR=3.0						
SONM	**Songino Array**	**130.57**	**298**	PKP	**PKPdf**	**23 21 12.8**	**-2.1**
	comp=Z,0.2nm,0.7s,baz=39,slow=5.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**144.18**	**289**	PKP	**PKPab**	**23 21 37.7**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=132,slow=2.2,SNR=4.4						
KURBB	**Kurchatov Arra**	**144.63**	**280**	PKP	**PKPab**	**23 21 38.9**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=139,slow=3.1,SNR=18						
KURK	**Kurchatov**	**144.65**	**280**		**PKPab**	**23 21 38.9**	**-0.3**
RES	**Resolute Bay**	**144.83**	**26**	PKP	**PKPab**	**23 21 38.5**	**-0.7**
	comp=Z,12nm,1.0s,baz=272,slow=6.3,SNR=6.2						
RES	**Resolute Bay**	**144.83**	**26**		**PKPdf**	**23 21 39.8**	**-0.4**
BRVK	**Borovoye**	**150.02**	**277**		**PKPbc**	**23 21 54.4**	**+0.1**
NRIK	**Noril'sk**	**151.74**	**314**	PKPbc	**PKPbc**	**23 21 57.2**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=18,slow=6.7,SNR=3.5						
ESDC	**Sonseca Array**	**153.95**	**145**	PKPbc	**PKiKP**	**23 22 04.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=204,slow=2.8,SNR=3.6						
BRTR	**Keskin Array B**	**154.05**	**214**	PKPbc	**PKiKP**	**23 22 06.3**	**+2.1**
	comp=Z,1.2nm,0.9s,baz=95,slow=1.5,SNR=6.0						

*ISCJB **19** 23:04:21.8±0.7, 62°9S±0°1×164°5W±0°3, h10km, mb4.3/8, MS4.6/3, Error ellipse: s-maj=20.4km s-min=13.7km az=156.3*

*IDC **19** 23:04:22.2±0.7, 63°03S×164°61W, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.3/21, mbtmp4.4/8, Error ellipse: s-maj=30.0km s-min=19.6km az=31.0*

*NEIC **19** 23:04:24.0±2.4, 63°05±0°1×164°5W±0°3, h10km±2km, mb4.5/9*

ISC 19 23:04:23.9±0.6, 63°0S±0°1×164°6W±0°1, h10km, n44, σ0°89/30, mb4.4/8, MS4.6/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.38**	**200**	P	**P**	**23 08 28.4**	**+1.1**
SBA				IAmb	IAmb	23 08 29.8	
	comp=Z,30nm,1.1s						
QSPA	**South Pole Qui**	**27.12**	**180**	P	**P**	**23 10 06.7**	**0.0**
	comp=Z,4.3nm,0.9s,baz=16,slow=4.9,SNR=4.4						
QSPA	**South Pole Qui**	**27.12**	**180**	P	**P**	**23 10 07.1**	**+0.4**
QSPA				IAmb	IAmb	23 10 22.5	
	comp=Z,7.1nm,0.9s						
RAO	**Raoul Island**	**34.85**	**339**	P	**P**	**23 11 15.4**	**+0.6**
TBI	**Tubuai**	**40.91**	**21**	*e*LR	LR	23 23 10.5	
	comp=Z,910nm,28.0s						
TBI	**Tubuai**	**40.91**	**21**	*e*T	T	23 55 29.0	
	comp=Z,56nm,0.3s						
VNA3	**Neumayer Olymp**	**44.91**	**169**	P	**P**	**23 12 36.7**	**-1.3**
SNAA	**Sanae**	**45.02**	**172**	P	**P**	**23 12 38.2**	**-0.7**
SNAA	**Sanae**	**45.02**	**172**	P	**P**	**23 12 38.5**	**-0.5**
	comp=Z,22nm,1.2s,baz=209,slow=7.7,SNR=7.3						
SNAA	**Sanae**	**45.02**	**172**	P	**P**	**23 12 38.5**	**-0.5**
MAW	**Mawson**	**45.30**	**203**	P	**P**	**23 12 40.5**	**-0.5**
	comp=Z,6.3nm,1.2s,baz=163,slow=7.4,SNR=4.6						
MAW	**Mawson**	**45.30**	**203**	P	**P**	**23 12 42.7**	**+1.7**
VNA2	**Neumayer--Watz**	**45.42**	**170**	P	**P**	**23 12 41.1**	**-0.9**
	baz=203,slow=8.7						
VNA1	**Neumayer--Stat**	**45.61**	**169**	P	**P**	**23 12 43.4**	**-0.1**
TVO	**Taravao**	**46.40**	**20**	*e*T	T	00 02 22.0	
	comp=Z,3.0nm,0.3s						
PAE	**Paea**	**46.47**	**20**	*e*T	T	00 02 25.0	
	comp=Z,4.6nm,0.3s						
MEH	**Mehetia**	**46.50**	**22**	*e*T	T	00 02 27.9	
	comp=Z,51nm,0.3s						
PPT2	**Papeete2**	**46.54**	**20**	*e*LR	LR	23 25 42.2	
	comp=Z,1μm,27.8s						
PPT2	**Papeete2**	**46.54**	**20**	*e*T	T	00 02 30.5	
	comp=Z,12nm,0.3s						
VAH	**Vaihoa**	**49.16**	**22**	*e*T	T	00 05 38.0	
	comp=Z,162nm,0.3s						
H01W1	**Cape Leeuwin H**	**55.70**	**260**	T	T	00 14 53.0	
	baz=147,slow=76,SNR=7.5						
H01W2	**Cape Leeuwin H**	**55.71**	**260**	T	T	00 14 49.7	
	baz=147,slow=76,SNR=7.2						
H01W3	**Cape Leeuwin H**	**55.72**	**260**	T	T	00 14 35.0	
	baz=147,slow=76,SNR=8.9						
ASAR	**Alice Springs**	**56.32**	**284**	P	**P**	**23 14 04.8**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=152,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**56.32**	**284**	P	**P**	**23 14 03.7**	**-1.0**
PLCA	**Paso Flores**	**56.35**	**114**	P	**P**	**23 14 03.6**	**-1.2**
	comp=Z,2.5nm,1.0s,baz=225,slow=1.4,SNR=2.7						
PLCA	**Paso Flores**	**56.35**	**114**	IAmb	IAmb	23 14 17.1	
	comp=Z,4.5nm,1.1s						
TAOE	**Nuku Hiva Isla**	**56.85**	**29**	*e*LR	LR	23 30 23.6	
	comp=Z,643nm,26.2s						
WRA	**Warramunga Arr**	**59.39**	**287**	P	**P**	**23 14 25.9**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=159,slow=6.3,SNR=10						
WRA	**Warramunga Arr**	**59.39**	**287**	IAmb	IAmb	23 14 33.5	
	comp=Z,0.2nm,0.8s						
CPUP	**Villa Florida**	**74.27**	**117**	P	**P**	**23 16 00.6**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=222,slow=5.6,SNR=4.1						
CPUP	**Villa Florida**	**74.27**	**117**	P	**P**	**23 16 01.8**	**+0.8**
CPUP				IAmb	IAmb	23 16 16.1	
	comp=Z,7.2nm,1.1s						
LPAZ	**La Paz**	**78.53**	**103**	P	**P**	**23 16 27.9**	**+2.0**
	comp=Z,2.5nm,0.8s,baz=101,slow=2.8,SNR=6.1						
LPAZ	**La Paz**	**78.53**	**103**	P	**P**	**23 16 26.6**	**+0.6**
LPAZ				IAmb	IAmb	23 16 35.5	
	comp=Z,6.3nm,1.0s						
ILAR	**Eielson Array**	**128.13**	**10**	PKP	**PKPdf**	**23 23 27.5**	**-0.9**
	comp=Z,2.0nm,1.2s,baz=191,slow=2.4,SNR=4.1						
ILAR	**Eielson Array**	**128.13**	**10**		**PKiKP**	**23 23 30.2**	**+1.2**
MKAR	**Makanchi Array**	**140.34**	**278**	PKP	**PKPdf**	**23 23 51.9**	**0.0**
	comp=Z,0.6nm,0.9s,baz=91,slow=9.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**144.36**	**288**	PKP	**PKPab**	**23 23 55.8**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=130,slow=5.8,SNR=2.9						
RES	**Resolute Bay**	**144.64**	**26**	PKP	**PKPab**	**23 23 57.3**	**0.0**
	comp=Z,6.8nm,1.0s,baz=238,slow=7.8,SNR=5.5						
KURBB	**Kurchatov Arra**	**144.84**	**280**	PKP	**PKPab**	**23 23 58.5**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=137,slow=3.0,SNR=14						
KURK	**Kurchatov**	**144.86**	**280**		**PKPab**	**23 23 58.7**	**-0.1**
BRVK	**Borovoye**	**150.23**	**276**		**PKiKP**	**23 24 14.2**	**-0.3**
NRIK	**Noril'sk**	**151.83**	**314**	PKPbc	**PKiKP**	**23 24 17.6**	**+0.3**
	comp=Z,3.1nm,1.1s,baz=180,slow=18,SNR=3.1						
BRTR	**Keskin Array B**	**154.27**	**214**	PKPbc	**PKPbc**	**23 24 22.1**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=159,slow=4.5,SNR=3.5						

*CNRM **19** 23:13:28.0, 34°43N×3°60W, h10km, ml2.7*

*SFS **19** 23:13:28.0, 34°37N×3°69W, ML3.5, MSOUN (MARRUECOS)*

*ISCJB **19** 23:13:29.2±0.5, 34°43N±0°02×3°66W±0°03, h21km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=176.1*

*MDD **19** 23:13:29.2±2.2, 34°40N×3°71W, h0km, mb3.8/4, Error ellipse: s-maj=20.1km s-min=10.1km az=169.0, PRXIMO EMLI: problema de GPS*

*INMG **19** 23:13:29.5±1.1, 34°34N×3°65W, h10km, ML2.0, Error ellipse: s-maj=4.6km s-min=3.4km az=116.0*

**ISC 19 23:

*ISCJB **19** 23:17:59.3±0.2, 63°.31S±0°.05×165°.0W±0°.1, h10km, mb4.9/26, MS5.3/32, Error ellipse: s-maj=8.6km s-min=4.8km az=42.5*

*NEIC **19** 23:18:00.5±1.8, 63°.3S±0°.1×164°.9W±0°.3, h10km±2km, mb5.3/49, Ms_20 5.6/491, Mwb5.7, Mwc5.8(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35; $M_{\theta\theta}$3.79; $M_{\phi\phi}$-3.44; $M_{r\theta}$1.02; $M_{\theta\phi}$2.53; $M_{\phi r}$-0.57; Fault plane solution: $M_0$4.57000×10^{17} NP1:ϕ_s27.68000°, δ75.02000°, λ-177.91000°. NP2:ϕ_s297.14000°, δ87.98000°, λ-14.99000°. Principal axes: T 4.7158, Plg9.0000°, Azm343.0000°; N -0.2965, Plg75.0000°, Azm110.0000°; P -4.4193, Plg12.0000°, Azm251.0000°;*

*GCMT **19** 23:18:03.5±0.1, 63°.20S±0°.01×165°.16W±0°.01, h15km, MW5.8/136, Moment Tensor Solution. s124,c231; s136,c261; Duration: 1s9 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.54±.06; $M_{\theta\theta}$4.42±.07; $M_{\phi\phi}$-3.88±.05; $M_{r\theta}$-0.93±.18; $M_{\theta\phi}$3.88±.05; $M_{\phi r}$-0.98±.17; Best double couple: $M_0$5.82800×10^{17} NP1:ϕ_s203.00000°, δ87.00000°, λ168.00000°. NP2:ϕ_s294.00000°, δ78.00000°, λ3.00000°. Principal axes: T 6.1760, Plg10.0000°, Azm158.0000°; N -0.6980, Plg78.0000°, Azm12.0000°; P -5.4790, Plg7.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **19** 23:18:04, 63°.23S×165°.16W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33; $M_{\theta\theta}$4.36; $M_{\phi\phi}$-4.02; $M_{r\theta}$-0.17; $M_{\theta\phi}$3.97; $M_{\phi r}$-0.45; Fault plane solution: $M_0$5.80000×10^{17} NP1:ϕ_s23.00000°, δ89.00000°, λ-175.00000°. NP2:ϕ_s293.00000°, δ85.00000°, λ-1.00000°. Principal axes: T 5.9561, Plg3.0000°, Azm158.0000°; N -0.3270, Plg85.0000°, Azm31.0000°; P -5.6291, Plg4.0000°, Azm248.0000°;*

ISC 19 23:18:00.5±0.3, **63°.27S**±0°.07×**164°.87W**±0°.07, **h10km**, **n507**, σ1$**64/260**, **mb5.1**/39, **MS5.6**/271, **19C-16D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.07**	**200**	P	**P**	**23 22 00.2**	**-0.4**
SBA	comp=Z,559nm,1.6s			pmax	pmax		
SBA	**Scott Base**	**17.07**	**200**		**P**	**23 22 00.2**	**-0.4**
ODZ	**Otahua Downs**	**22.96**	**311**	P	**P**	**23 23 05.6**	**+0.9**
MQZ	**McQueen's Vall**	**23.49**	**316**	P	**P**	**23 23 10.3**	**+0.3**
MQZ	comp=Z,15μm,19.0s			IAMs_20	IAMs_20	23 30 56.4	
MLZ	**Mavora Lakes**	**23.56**	**307**	P	**P**	**23 23 11.9**	**+1.1**
MLZ	comp=Z,14μm,18.0s			IAMs_20	IAMs_20	23 30 58.3	
WKZ	**Wanaka**	**23.71**	**309**	P	**P**	**23 23 13.0**	**+0.7**
RPZ	**Rata Peaks**	**23.99**	**313**	P	**P**	**23 23 15.0**	**0.0**
RPZ	comp=Z,22nm,1.0s,baz=182,slow=2.8,SNR=5.6 comp=Z,12μm,21.1s,baz=152,slow=30			LR	LR	23 30 07.3	
RPZ	**Rata Peaks**	**23.99**	**313**	P	**P**	**23 23 15.6**	**+0.6**
RPZ	comp=Z,84nm,1.3s			IAmb	IAmb	23 23 17.5	
KHZ	**Kahutara**	**24.39**	**319**	IAMs_20	IAMs_20	23 31 16.3	
LTZ	**Lake Taylor**	**24.44**	**316**	P	**P**	**23 23 20.1**	**+1.0**
LTZ	comp=Z,65nm,1.2s			IAmb	IAmb	23 23 25.0	
LTZ	comp=Z,14μm,20.0s			IAMs_20	IAMs_20	23 30 31.7	
MSWZ	**Moikau Station**	**24.82**	**322**	P	**P**	**23 23 22.7**	**+0.2**
BHW	**Baring Head**	**24.93**	**322**	P	**P**	**23 23 24.4**	**+0.9**
SNZO	**South Karori**	**25.07**	**322**	IAMs_20	IAMs_20	23 30 40.4	
THZ	**Tophouse**	**25.17**	**318**	P	**P**	**23 23 26.8**	**+1.0**
THZ	comp=Z,44nm,0.9s			IAmb	IAmb	23 23 32.0	
THZ	comp=Z,17μm,19.0s			IAMs_20	IAMs_20	23 31 25.1	
BFZ	**Birch Farm**	**25.23**	**325**	P	**P**	**23 23 27.4**	**+1.1**
BFZ	comp=Z,21μm,20.0s			IAMs_20	IAMs_20	23 30 44.0	
QRZ	**Quartz Range**	**26.14**	**319**	P	**P**	**23 23 35.2**	**+0.7**
QRZ	comp=Z,15μm,18.0s			IAMs_20	IAMs_20	23 32 23.9	
BKZ	**Black Stump Fm**	**26.60**	**326**	P	**P**	**23 23 39.8**	**+1.0**
BKZ	comp=Z,121nm,1.7s			IAmb	IAmb	23 24 35.1	
BKZ	comp=Z,16μm,22.0s			IAMs_20	IAMs_20	23 31 15.1	
QSPA	**South Pole Qui**	**26.84**	**180**	P	**P**	**23 23 41.4**	**+0.6**
QSPA	comp=Z,50nm,1.2s,baz=60,slow=2.8,SNR=41 comp=Z,12μm,18.4s,baz=52,slow=33			LR	LR	23 32 55.6	
QSPA	**South Pole Qui**	**26.84**	**180**	P	**P**	**23 23 41.9**	**+1.0**
QSPA	**South Pole Qui**	**26.84**	**180**	IAMs_20	IAMs_20	23 32 45.2	
URZ	**Urewera**	**27.31**	**328**	P	**P**	**23 23 44.4**	**-0.7**
URZ	comp=Z,6.7nm,1.0s,baz=194,slow=12,SNR=4.7 comp=Z,12μm,21.6s,baz=159,slow=31			LR	LR	23 32 08.4	
URZ	**Urewera**	**27.31**	**328**	IAMs_20	IAMs_20	23 31 46.2	
HIZ	**Hauiti**	**27.64**	**324**	IAMs_20	IAMs_20	23 32 22.5	
OUZ	**Omahuta**	**31.07**	**324**	IAMs_20	IAMs_20	23 34 51.5	
CASY	**Casey**	**33.61**	**227**	IAMs_20	IAMs_20	23 38 03.9	
RAO	**Raoul Island**	**35.05**	**340**	LR	LR	23 38 03.2	
PMSA	**Palmer Station**	**39.70**	**139**	P	**P**	**23 25 33.0**	**+0.8**
PMSA	**Palmer Station**	**39.70**	**139**	*eP*	**P**	**23 25 34.8**	**+2.6**
PMSA	**Palmer Station**	**39.70**	**139**	P	**P**	**23 25 33.5**	**+1.3**
TBI	**Tubuai**	**41.22**	**22**	*eS*	**S**	**23 31 59.2**	**+0.6**
TBI	comp=Z,2μm,27.2s			*eLQ*	LQ	23 35 08.8	
TBI	comp=Z,11μm,31.8s			*eLR*	LR	23 36 53.2	
TBI	**Tubuai**	**41.22**	**22**	*eT*	T	00 08 54.4	
RAR	**Rarotonga**	**42.17**	**7**	LR	LR	23 39 54.1	
NIUE	**Niue**	**44.29**	**353**	IAMs_20	IAMs_20	23 39 40.3	
VNA3	**Neumayer Olymp**	**44.67**	**169**	P	**P**	**23 26 12.5**	**-0.3**
SNAA	**Sanae**	**44.77**	**172**	P	**P**	**23 26 13.5**	**-0.1**
SNAA	**Sanae**	**44.77**	**172**	*c iP*	**P**	**23 26 12.7**	**-0.9**
SNAA	**Sanae**	**44.77**	**172**	P	**P**	**23 26 13.5**	**-0.1**
SNAA	**Sanae**	**44.77**	**172**	P	**P**	**23 26 13.7**	**+0.1**
SNAA	comp=Z,8μm,20.0s			IAMs_20	IAMs_20	23 43 27.8	
MAW	**Mawson**	**44.99**	**204**	P	**P**	**23 26 16.0**	**+0.8**
MAW	comp=Z,10.0nm,1.3s			pmax	pmax		
MAW	comp=Z,2μm,20.0s			MLR	MLR		
MAW	**Mawson**	**44.99**	**204**	P	**P**	**23 26 16.4**	**+1.2**
MAW	comp=Z,13nm,0.8s,baz=147,slow=11,SNR=35 comp=Z,8μm,18.3s,baz=148,slow=35			LR	LR	23 44 03.7	
MAW	**Mawson**	**44.99**	**204**	P	**P**	**23 26 16.1**	**+0.8**
VNA2	**Neumayer--Watz**	**45.17**	**170**	P	**P**	**23 26 16.5**	**-0.2**
VNA1	**Neumayer--Stat**	**45.37**	**169**	P	**P**	**23 26 17.1**	**-1.1**
DZM	**Mont Dzumac**	**45.48**	**321**	*eS*	**S**	**23 33 05.0**	**+3.8**
DZM	comp=Z,1μm,31.1s			*eLQ*	LQ	23 37 09.8	
DZM	comp=Z,4μm,28.4s			*eLR*	LR	23 39 04.2	
DZM	**Mont Dzumac**	**45.48**	**321**	LR	LR	23 42 43.4	
USHA	**Ushuaia**	**45.72**	**127**	P	**P**	**23 26 17.6**	**-3.6**
STKA	**Stephens Creek**	**45.78**	**287**	P	**P**	**23 26 22.2**	**+0.2**
STKA	comp=Z,2.9nm,0.9s,baz=350,slow=11,SNR=2.8 comp=Z,2μm,18.8s,baz=140,slow=31			LR	LR	23 41 22.5	
TVO	**Taravao**	**46.70**	**21**	*eT*	T	00 15 54.0	
PAE	**Paea**	**46.77**	**20**	*eT*	T	00 15 58.7	
MEH	**Mehetia**	**46.81**	**22**	*eT*	T	00 15 58.7	
PPT2	**Papeete2**	**46.84**	**20**	*eS*	**S**	**23 33 21.5**	**+0.7**
PPT2	comp=Z,1μm,25.5s			*eLQ*	LQ	23 37 29.1	
PPT2	comp=Z,18μm,27.5s			*eLR*	LR	23 39 36.8	
PPT2	**Papeete2**	**46.84**	**20**	*eT*	T	00 16 03.9	
PPT	**Papeete**	**46.86**	**20**	LR	LR	23 41 21.9	
SYO	**Syowa Base**	**46.87**	**192**	*eP*	**P**	**23 26 28.2**	**-1.9**
SYO	**Syowa Base**	**46.87**	**192**	*pP*	**P**	**23 26 31.0**	**+0.9**
SYO	**Syowa Base**	**46.87**	**192**	*sP*	sP	23 26 33.2	-0.1
TIAR	**Tiarei**	**46.91**	**20**	*eT*	T	00 16 09.5	
MSVF	**Nonsavu**	**47.00**	**337**	*eP*	**P**	**23 26 29.0**	**-2.7**
MSVF	comp=Z,8.0nm,1.2s			pmax	pmax		
MSVF	**Nonsavu**	**47.00**	**337**	IAMs_20	IAMs_20	23 41 29.5	
EIDS	**Eidsvold**	**47.62**	**302**	P	**P**	**23 26 36.4**	**0.0**
EIDS	comp=Z,4μm,18.0s			IAMs_20	IAMs_20	23 42 37.9	
VAH	**Vaihoa**	**49.47**	**22**	*eT*	T	00 19 17.5	
AFI	**Afiamalu**	**49.53**	**351**	IAMs_20	IAMs_20	23 45 22.2	
EFI	**East Falkland**	**51.94**	**131**	*eP*	**P**	**23 27 09.5**	**+0.5**
EFI	comp=Z,84nm,1.1s			pmax	pmax		
EFI	**East Falkland**	**51.94**	**131**	P	**P**	**23 27 09.8**	**+0.8**
EFI	**East Falkland**	**51.94**	**131**	IAMs_20	IAMs_20	23 44 43.5	
CTA	**Charters Tower**	**54.26**	**299**	P	**P**	**23 27 26.5**	**0.0**
H01W1	**Cape Leeuwin H**	**55.52**	**260**	T	T	00 27 58.3	
H01W2	**Cape Leeuwin H**	**55.52**	**260**	T	T	00 27 58.6	
H01W3	**Cape Leeuwin H**	**55.53**	**260**	T	T	00 27 59.5	
NWAO	**Narrogin (SRO)**	**55.79**	**264**	IAMs_20	IAMs_20	23 45 15.5	
ASAR	**Alice Springs**	**56.25**	**285**	P	**P**	**23 27 39.6**	**-1.2**
ASAR	comp=Z,7.9nm,1.0s,baz=147,slow=7.3,SNR=35 comp=Z,3μm,21.6s,baz=155,slow=32			LR	LR	23 47 49.3	
ASAR	**Alice Springs**	**56.25**	**285**	P	**P**	**23 27 39.4**	**-1.4**
AS31	**Alice Springs**	**56.25**	**285**	P	**P**	**23 27 40.1**	**-0.7**
PLCA	**Paso Flores**	**56.37**	**114**	P	**P**	**23 27 42.0**	**+0.5**
PLCA	comp=Z,23nm,1.2s			pmax	pmax		
PLCA	**Paso Flores**	**56.37**	**114**	P	**P**	**23 27 41.6**	**+0.1**
PLCA	comp=Z,7.4nm,1.0s,baz=231,slow=10,SNR=9.3 comp=Z,2μm,18.9s,baz=236,slow=31			LR	LR	23 47 08.1	
PLCA	**Paso Flores**	**56.37**	**114**	*eP*	**P**	**23 27 42.6**	**+1.1**
PLCA	**Paso Flores**	**56.37**	**114**	*eP*	**P**	**23 27 42.6**	**+1.1**
PLCA	**Paso Flores**	**56.37**	**114**	P	**P**	**23 27 42.0**	**+0.5**
GO06	**Curarrehue**	**56.95**	**113**	P	**P**	**23 27 46.6**	**+0.8**
GO06	comp=Z,24nm,1.1s			IAmb	IAmb	23 27 47.3	
TAOE	**Nuku Hiva Isla**	**57.15**	**29**	*eS*	**S**	**23 35 42.9**	**+0.4**
TAOE	comp=Z,409nm,29.7s			*eLQ*	LQ	23 42 08.5	
TAOE	comp=Z,4μm,23.7s			*eLR*	LR	23 44 31.5	
WR8	**Warramunga Arr**	**59.26**	**287**	IAMs_20	IAMs_20	23 50 07.8	
WR5	**Warramunga Arr**	**59.29**	**287**	IAMs_20	IAMs_20	23 51 42.7	
WC3	**Warramunga Arr**	**59.31**	**287**	IAMs_20	IAMs_20	23 51 43.2	
WR3	**Warramunga Arr**	**59.31**	**287**	IAMs_20	IAMs_20	23 51 43.3	
WB1	**Warramunga Ar.**	**59.32**	**287**	IAMs_20	IAMs_20	23 51 43.5	
WB2	**Warramunga Arr**	**59.33**	**287**	P	**P**	**23 28 01.4**	**-1.1**
WB2	comp=Z,23nm,1.2s			IAmb	IAmb	23 28 08.8	
WB2	comp=Z,3μm,19.0s			IAMs_20	IAMs_20	23 51 44.9	
WRA	**Warramunga Arr**	**59.34**	**287**	P	**P**	**23 28 00.7**	**-1.8**
WRA	comp=Z,2.0nm,1.4s			pmax	pmax		
WRA	**Warramunga Arr**	**59.34**	**287**	P	**P**	**23 28 00.1**	**-2.4**
WRA	comp=Z,4.9nm,1.0s,baz=163,slow=6.4,SNR=15 comp=Z,3μm,20.4s,baz=180,slow=33			LR	LR	23 50 19.7	
WRA	**Warramunga Arr**	**59.34**	**287**	P	**P**	**23 28 00.7**	**-1.8**
WRAB	**Tennant Creek**	**59.34**	**287**	*eP*	**P**	**23 28 01.0**	**-1.5**
WRAB	comp=Z,6.0nm,1.0s			pmax	pmax		
WRAB	**Tennant Creek**	**59.34**	**287**	P	**P**	**23 28 02.1**	**-0.5**
WRAB	comp=Z,27nm,1.3s			IAmb	IAmb	23 28 07.8	
WRAB	**Tennant Creek**	**59.34**	**287**	IAMs_20	IAMs_20	23 51 45.0	
HNR	**Honiara**	**59.34**	**319**	P	**P**	**23 28 02.5**	**-0.1**
HNR	comp=Z,143nm,0.6s			pmax	pmax		
HNR	comp=Z,3μm,20.0s			MLR	MLR		
HNR	**Honiara**	**59.34**	**319**	LR	LR	23 50 16.5	
HNR	**Honiara**	**59.34**	**319**	P	**P**	**23 28 02.5**	**-0.1**
WB3	**Warramunga Arr**	**59.35**	**287**	IAMs_20	IAMs_20	23 51 44.3	
WC1	**Warramunga Arr**	**59.35**	**287**	IAMs_20	IAMs_20	23 51 56.4	
MORW	**Morawa**	**59.60**	**265**	IAMs_20	IAMs_20	23 47 50.6	
KNTN	**Kanton**	**60.57**	**352**	IAMs_20	IAMs_20	23 46 36.7	
GO05	**Huala**	**60.64**	**110**	P	**P**	**23 28 11.1**	**-0.3**
GO05	comp=Z,33nm,1.3s			IAmb	IAmb	23 28 47.1	
COEN	**Coen**	**61.03**	**299**	P	**P**	**23 28 13.7**	**-0.4**
TRQA	**Tornquist**	**62.10**	**119**	P	**P**	**23 28 21.4**	**+0.2**
TRQA	comp=Z,30nm,1.3s			pmax	pmax		
TRQA	comp=Z,4μm,20.0s			MLR	MLR		
TRQA	**Tornquist**	**62.10**	**119**	*eP*	**P**	**23 28 22.2**	**+1.1**
TRQA	**Tornquist**	**62.10**	**119**	*eP*	**P**	**23 28 22.2**	**+1.1**
TRQA	**Tornquist**	**62.10**	**119**	P	**P**	**23 28 21.4**	**+0.2**
TRQA	comp=Z,30nm,1.2s			IAmb	IAmb	23 28 22.1	
TRQA	comp=Z,4μm,20.0s			IAMs_20	IAMs_20	23 50 38.9	
PEL	**Peldehue**	**62.76**	**110**	P	**P**	**23 28 25.4**	**-0.3**
PEL	comp=Z,33nm,1.2s			pmax	pmax		
PEL	**Peldehue**	**62.76**	**110**	P	**P**	**23 28 25.4**	**-0.3**
PEL	comp=Z,34nm,1.2s			IAmb	IAmb	23 28 25.8	
PMG	**Port Moresby**	**63.67**	**305**	*eP*	**P**	**23 28 32.0**	**+0.2**
PMG	comp=Z,51nm,1.2s			pmax	pmax		
PMG	**Port Moresby**	**63.67**	**305**	P	**P**	**23 28 32.4**	**+0.7**
PMG	comp=Z,29nm,1.2s			IAmb	IAmb	23 28 39.7	
PMG	**Port Moresby**	**63.67**	**305**	IAMs_20	IAMs_20	23 53 17.4	
PSAC3	**Pilbara Seismi**	**64.31**	**273**	IAMs_20	IAMs_20	23 51 14.7	
PSAD3	**Pilbara Seismi**	**64.31**	**273**	IAMs_20	IAMs_20	23 51 31.7	
PSAA3	**Pilbara Seismi**	**64.34**	**273**	IAMs_20	IAMs_20	23 51 43.3	
PSA00	**Pilbara Seismi**	**64.35**	**273**	P	**P**	**23 28 35.5**	**-0.8**
PSA00	**Pilbara Seismi**	**64.35**	**273**	IAMs_20	IAMs_20	23 51 43.6	
PSAA1	**Pilbara Seismi**	**64.35**	**273**	IAMs_20	IAMs_20	23 51 23.6	
PSAA2	**Pilbara Seismi**	**64.35**	**273**	IAMs_20	IAMs_20	23 51 43.8	
PSAB2	**Pilbara Seismi**	**64.35**	**273**	IAMs_20	IAMs_20	23 51 34.8	
PSAB1	**Pilbara Seismi**	**64.36**	**273**	IAMs_20	IAMs_20	23 51 44.9	
PSAC1	**Pilbara Seismi**	**64.40**	**273**	IAMs_20	IAMs_20	23 51 44.7	
PSAD1	**Pilbara Seismi**	**64.46**	**273**	IAMs_20	IAMs_20	23 51 47.5	
MBWA	**Marble Bar**	**64.76**	**273**	IAMs_20	IAMs_20	23 52 06.5	
FITZ	**Fitzroy Crossi**	**64.78**	**280**	P	**P**	**23 28 37.8**	**-1.3**
FITZ	comp=Z,9.5nm,1.1s,baz=188,slow=8.5,SNR=4.8 comp=Z,16nm,1.1s			IAmb	IAmb	23 28 48.2	
FITZ	**Fitzroy Crossi**	**64.78**	**280**	P	**P**	**23 28 38.3**	**-0.7**
CFA	**Coronel Fontan**	**65.13**	**111**	LR	LR	23 50 24.3	
GO04	**Tololo Observa**	**65.28**	**108**	P	**P**	**23 28 42.2**	**-0.3**
XMAS	**Kiritimati**	**65.38**	**8**	IAMs_20	IAMs_20	23 49 32.4	
TARA	**Tarawa**	**66.57**	**336**	IAMs_20	IAMs_20	23 50 05.5	
MTN	**Manton Dam**	**67.02**	**288**	IAMs_20	IAMs_20	23 55 48.7	
GO03	**Copiap**	**67.76**	**107**	P	**P**	**23 28 58.4**	**+0.2**
GO03	comp=Z,33nm,1.2s			IAmb	IAmb	23 28 59.0	
GO02	**Mina Guanaco**	**70.16**	**106**	P	**P**	**23 29 13.1**	**-0.3**
PLTB	**Pedras Altas**	**70.88**	**123**	*eP*	**P**	**23 29 17.6**	**+0.2**
PLTB	**Pedras Altas**	**70.88**	**123**	*eP*	**P**	**23 29 17.6**	**+0.2**
SAUI	**Saumlaki**	**71.30**	**290**	IAMs_20	IAMs_20	23 56 56.2	
CPSB	**Cacapava Do Su**	**72.16**	**122**	*eP*	**P**	**23 29 26.1**	**+1.0**
CPSB	**Cacapava Do Su**	**72.16**	**122**	*eP*	**P**	**23 29 26.1**	**+1.0**
LVC	**Limon Verde**	**72.69**	**106**	P	**P**	**23 29 29.7**	**+0.9**
LVC	comp=Z,45nm,1.3s			pmax	pmax		
LVC	**Limon Verde**	**72.69**	**106**	LR	LR	23 55 17.0	
LVC	**Limon Verde**	**72.69**	**106**	*eP*	**P**	**23 29 30.0**	**+1.3**
LVC	**Limon Verde**	**72.69**	**106**	*eP*	**P**	**23 29 30.0**	**+1.3**
LVC	**Limon Verde**	**72.69**	**106**	P	**P**	**23 29 29.7**	**+0.9**
LVC	comp=Z,45nm,1.3s			IAmb	IAmb	23 29 32.6	
SOEI	**Soe**	**72.77**	**283**	P	**P**	**23 29 29.1**	**0.0**
SOEI	comp=Z,36nm,1.1s			IAmb	IAmb	23 29 54.2	
SOEI	comp=Z,3μm,20.0s			IAMs_20	IAMs_20	23 58 07.8	
PB01	**IPOC Station P**	**73.81**	**104**	P	**P**	**23 29 35.5**	**+0.4**
CPUP	**Villa Florida**	**74.27**	**117**	P	**P**	**23 29 37.6**	**+0.1**
CPUP	comp=Z,8.5nm,1.0s,baz=218,slow=5.9,SNR=12 comp=Z,1μm,18.6s,baz=208,slow=33			LR	LR	23 58 45.6	
CPUP	**Villa Florida**	**74.27**	**117**	*eP*	**P**	**23 29 38.4**	**+0.9**
CPUP	**Villa Florida**	**74.27**	**117**	*eP*	**P**	**23 29 38.4**	**+0.9**
CPUP	**Villa Florida**	**74.27**	**117**	P	**P**	**23 29 37.1**	**-0.5**
CPUP	comp=Z,42nm,1.4s			IAmb	IAmb	23 29 38.4	
PB11	**IPOC Station P**	**74.87**	**104**	IAmb	IAmb	23 29 42.5	
GO01	**Chusmiza**	**75.15**	**104**	P	**P**	**23 29 44.5**	**+1.1**
GO01	comp=Z,22nm,0.9s			IAmb	IAmb	23 30 04.9	
MNMC	**Minye Minye**	**75.45**	**103**	IAmb	IAmb	23 29 51.9	
ITAB	**Concordia**	**75.50**	**122**	*eP*	**P**	**23 29 45.8**	**+1.1**
ITAB	**Concordia**	**75.50**	**122**	*eP*	**P**	**23 29 45.8**	**+1.1**
PTGB	**Pitanga**	**77.79**	**121**	*eP*	**P**	**23 29 58.8**	**+1.0**
PTGB	**Pitanga**	**77.79**	**121**	*eP*	**P**	**23 29 58.8**	**+1.0**
NNA	**Nana**	**78.50**	**94**	*i P*	**P**	**23 30 03.6**	**+1.8**
LPAZ	**La Paz**	**78.60**	**103**	P	**P**	**23 30 02.9**	**-0.1**
LPAZ	comp=Z,32nm,1.3s			pmax	pmax		
LPAZ	**La Paz**	**78.60**	**103**	P	**P**	**23 30 03.3**	**+0.3**
LPAZ	comp=Z,9.0nm,1.0s,baz=196,slow=3.5,SNR=21 comp=Z,504nm,20.9s,baz=206,slow=30			LR	LR	23 57 00.2	
LPAZ	**La Paz**	**78.60**	**103**	*eP*	**P**	**23 30 03.8**	**+0.8**
LPAZ	**La Paz**	**78.60**	**103**	*eP*	**P**	**23 30 03.8**	**+0.8**
LPAZ	**La Paz**	**78.60**	**103**	P	**P**	**23 30 02.9**	**-0.1**
LPAZ	comp=Z,32nm,1.3s			IAmb	IAmb	23 30 28.2	
TRCB	**Terra Rica**	**79.30**	**120**	*eP*	**P**	**23 30 05.9**	**-0.2**
TRCB	**Terra Rica**	**79.30**	**120**	*eP*	**P**	**23 30 05.9**	**-0.2**
FRTB	**Fartura**	**80.00**	**122**	*eP*	**P**	**23 30 10.8**	**+0.9**
FRTB	**Fartura**	**80.00**	**122**	*eP*	**P**	**23 30 10.8**	**+0.9**
UGM	**Wanagama**	**80.56**	**271**	IAMs_20	IAMs_20	00 00 43.9	
VAO	**Valinhos**	**81.28**	**125**	*eP*	**P**	**23 30 17.9**	**+1.0**
VAO	**Valinhos**	**81.28**	**125**	*eP*	**P**	**23 30 17.9**	**+1.0**
SMRI	**Semarang**	**81.36**	**272**	IAMs_20	IAMs_20	00 01 54.3	
RCLB	**Rio Claro- Sao**	**81.60**	**124**	*eP*	**P**	**23 30 19.8**	**+1.3**
RCLB	**Rio Claro- Sao**	**81.60**	**124**	*eP*	**P**	**23 30 19.8**	**+1.3**
SIV	**San Ignacio**	**81.92**	**109**	LR	LR	00 00 48.4	
ATAH	**Atahualpa**	**82.09**	**90**	LR	LR	23 59 25.3	
ESAR	**Angra dos Reis**	**82.20**	**127**	*eP*	**P**	**23 30 24.6**	**+3.1**
ESAR	**Angra dos Reis**	**82.20**	**127**	*eP*	**P**	**23 30 24.6**	**+3.1**
BB19B	**Bebedouro**	**82.46**	**122**	*eP*	**P**	**23 30 23.8**	**+0.8**
BB19B	**Bebedouro**	**82.46**	**122**	*eP*	**P**	**23 30 23.8**	**+0.8**
PAYG	**Puerto Ayora**	**82.49**	**76**	IAMs_20	IAMs_20	23 58 08.9	
KHLU	**Kahalu`u**	**82.88**	**9**	IAMs_20	IAMs_20	00 01 08.3	
ITRB	**Iturama**	**82.98**	**120**	*eP*	**P**	**23 30 26.1**	**+0.4**
ITRB	**Iturama**	**82.98**	**120**	*eP*	**P**	**23 30 26.1**	**+0.4**
PP1B	**Ponte de Pedra**	**83.07**	**115**	*eP*	**P**	**23 30 25.9**	**-0.3**
PP1B	**Ponte de Pedra**	**83.07**	**115**	*eP*	**P**	**23 30 25.9**	**-0.3**
HPAH	**Hawaii Prepara**	**83.33**	**9**	IAMs_20	IAMs_20	00 00 43.1	
KIP	**Kipapa**	**84.58**	**6**	*eP*	**P**	**23 30 31.9**	**-1.6**
KIP	comp=Z,19nm,1.0s			pmax	pmax		
PMNB	**Patos De Minas**	**85.55**	**123**	*eP*	**P**	**23 30 40.1**	**+1.3**
PMNB	**Patos De Minas**	**85.55**	**123**	*eP*	**P**	**23 30 40.1**	**+1.3**
ARAG	**Araguaiana, MT**	**86.02**	**117**	*eP*	**P**	**23 30 41.8**	**+0.7**
ARAG	**Araguaiana, MT**	**86.02**	**117**	*eP*	**P**	**23 30 41.8**	**+0.7**
SAML	**Samuel**	**87.29**	**104**	P	**P**	**23 30 46.6**	**-0.7**
SAML	comp=Z,13nm,1.5s			pmax	pmax		
SAML	**Samuel**	**87.29**	**104**	*eP*	**P**	**23 30 47.5**	**+0.2**
SAML	**Samuel**	**87.29**	**104**	*eP*	**P**	**23 30 47.5**	**+0.2**
SAML	**Samuel**	**87.29**	**104**	P	**P**	**23 30 46.6**	**-0.7**
SJMB	**Sao Joao De Ma**	**87.33**	**128**	*eP*	**P**	**23 30 51.5**	**+4.0**
SJMB	**Sao Joao De Ma**	**87.33**	**128**	*eP*	**P**	**23 30 51.5**	**+4.0**
BSFB	**Barra de Sao F**	**87.33**	**128**	*eP*	**P**	**23 30 49.8**	**+2.3**
BSFB	**Barra de Sao F**	**87.33**	**128**	*eP*	**P**	**23 30 49.8**	**+2.3**
BDFB	**Brasilia**	**87.58**	**121**	P	**P**	**23 30 48.3**	**-0.5**
BDFB	comp=Z,16nm,1.3s			pmax	pmax		
BDFB	**Brasilia**	**87.58**	**121**	P	**P**	**23 30 48.4**	**-0.5**
BDFB	comp=Z,3.1nm,0.7s,baz=166,slow=7.9,SNR=4.5 comp=Z,4μm,18.6s,baz=193,slow=34			LR	LR	00 07 49.8	
BDFB	**Brasilia**	**87.58**	**121**	P	**P**	**23 30 48.3**	**-0.5**
BDFB	comp=Z,16nm,1.3s			IAmb	IAmb	23 30 49.3	
BOSA	**Boshof**	**88.08**	**189**	P	**P**	**23 30 49.3**	**-1.9**
BOSA	comp=Z,5.6nm,0.9s,baz=225,slow=5.0,SNR=4.4 comp=Z,4μm,20.3s,baz=176,slow=33			LR	LR	00 06 25.3	
BOSA	**Boshof**	**88.08**	**189**	P	**P**	**23 30 52.1**	**+1.0**
CLDB	**Colider**	**88.74**	**112**	*eP*	**P**	**23 30 53.1**	**-1.1**
CLDB	**Colider**	**88.74**	**112**	*eP*	**P**	**23 30 53.1**	**-1.1**
KSM	**Kuching**	**88.97**	**275**	P	**P**	**23 30 55.3**	**0.0**
RER	**Riviere de l'E**	**90.02**	**217**	P	**P**	**23 31 00.5**	**+0.2**
PEXB	**Peixe**	**90.69**	**119**	*eP*	**P**	**23 31 03.8**	**+0.5**
PEXB	**Peixe**	**90.69**	**119**	*eP*	**P**	**23 31 03.8**	**+0.5**
LBTB	**Lobatse**	**91.63**	**189**	P	**P**	**23 31 06.8**	**-0.9**
LBTB	comp=Z,53nm,1.6s			pmax	pmax		
LBTB	**Lobatse**	**91.63**	**189**	P	**P**	**23 31 06.8**	**-0.9**
SMTB	**Santa Maria do**	**93.92**	**118**	*eP*	**P**	**23 31 19.6**	**+1.3**
SMTB	**Santa Maria do**

comp=Z,2μm,21.8s,baz=268,slow=30
ZAIG Zacatecas 98.58 56 IAMs_20 IAMs_20 00 08 01.8
comp=Z,2μm,18.0s
SRIG Santa Rosalia 99.38 46 IAMs_20 IAMs_20 00 06 38.1
comp=Z,2μm,20.0s
SDV Santo Domingo 99.78 90 IAMs_20 IAMs_20 00 10 15.5
comp=Z,1μm,20.0s
RCBR Riachuelo 101.13 128 IAMs_20 IAMs_20 00 16 15.2
comp=Z,1μm,19.0s
HPIG 101.25 51 IAMs_20 IAMs_20 00 08 49.7
comp=Z,2μm,18.0s
HSIG 101.37 46 IAMs_20 IAMs_20 00 07 40.9
comp=Z,1μm,20.0s
TEIG Tepich 102.01 69 IAMs_20 IAMs_20 00 10 41.2
comp=Z,1μm,18.0s
SNCC San Nicolas Is 102.73 38 IAMs_20 IAMs_20 00 17 53.9
comp=Z,2μm,19.0s
BAR Barrett 103.00 40 IAMs_20 IAMs_20 00 07 38.2
comp=Z,1μm,20.0s
109C Camp Elliot, M 103.07 40 IAMs_20 IAMs_20 00 17 54.1
comp=Z,2μm,18.0s
214A Organ Pipe Nat 103.49 44 IAMs_20 IAMs_20 00 18 06.2
comp=Z,1μm,18.0s
PASC Pasadena Art C 103.97 38 IAMs_20 IAMs_20 00 18 46.8
comp=Z,2μm,20.0s
319A Douglas 104.09 47 IAMs_20 IAMs_20 00 19 23.9
comp=Z,2μm,18.0s
KAAM Kaadhehdhoo 104.37 241 IAMs_20 IAMs_20 00 12 27.7
comp=Z,2μm,19.0s
TUC Tucson 104.46 45 IAMs_20 IAMs_20 00 18 55.8
comp=Z,1μm,18.0s
QIZ Qiongzhong 104.71 283 P **Pdif 23 32 07.8 +1.3**
QIZ S **Sdif 23 44 00.3 +1.1**
QIZ SS **SS 23 51 21.8 +3.4**
QIZ LR LR
comp=Z,570nm,33.3s
QIZ LR LR
comp=Z,560nm,40.2s
QIZ LR LR
comp=Z,730nm,52.9s
PAGB Antelope Grade 104.87 36 IAMs_20 IAMs_20 00 16 09.6
comp=Z,1μm,19.0s
MTDJ Mount Denham 104.91 79 IAMs_20 IAMs_20 00 12 01.9
comp=Z,2μm,18.0s
Y14A Wickenburg 105.27 43 IAMs_20 IAMs_20 00 12 11.3
comp=Z,2μm,18.0s
EPT El Paso 105.38 49 IAMs_20 IAMs_20 00 10 54.1
comp=Z,2μm,19.0s
GSC Goldstone, Bar 105.42 39 IAMs_20 IAMs_20 00 19 19.1
comp=Z,2μm,20.0s
121A Cookes Peak, D 105.65 47 IAMs_20 IAMs_20 00 20 38.2
comp=Z,2μm,18.0s
MNTX Cornudas Mount 105.70 50 IAMs_20 IAMs_20 00 12 21.6
comp=Z,1μm,18.0s
W13A Hualapai Mount 106.08 42 IAMs_20 IAMs_20 00 20 00.8
comp=Z,2μm,19.0s
X16A Lo Mia Camp, P 106.20 44 IAMs_20 IAMs_20 00 12 36.9
comp=Z,1μm,18.0s
MCCM Marconi Confer 106.47 33 IAMs_20 IAMs_20 00 10 28.0
comp=Z,1μm,18.0s
MDPB Devils Postpil 106.97 37 IAMs_20 IAMs_20 00 16 49.3
comp=Z,2μm,19.0s
OMMB Old Mammoth Mi 106.97 37 IAMs_20 IAMs_20 00 17 53.3
comp=Z,2μm,19.0s
CMB Columbia Colle 107.00 35 IAMs_20 IAMs_20 00 17 16.1
comp=Z,1μm,18.0s
SHPR Sheep Range 107.01 40 IAMs_20 IAMs_20 00 20 55.4
comp=Z,2μm,20.0s
TPNV Topopah Spring 107.11 39 IAMs_20 IAMs_20 00 20 55.1
comp=Z,2μm,19.0s
GDXM Geysers 107.12 33 IAMs_20 IAMs_20 00 15 06.2
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 107.35 47 IAMs_20 IAMs_20 00 21 56.2
comp=Z,2μm,18.0s
GTBY Guantanamo Bay 107.48 81 IAMs_20 IAMs_20 00 11 17.0
comp=Z,2μm,22.0s
HKT Hockley 107.61 58 IAMs_20 IAMs_20 00 14 54.3
comp=Z,2μm,19.0s
435B Jarrell 107.69 56 IAMs_20 IAMs_20 00 13 04.2
comp=Z,1μm,21.0s
U15A North Rim 107.80 42 IAMs_20 IAMs_20 00 20 59.1
comp=Z,1μm,19.0s
NV11 Mina Array Sit 107.97 37 IAMs_20 IAMs_20 00 18 48.8
comp=Z,2μm,20.0s
RUBR Rubicon Trail 108.02 35 IAMs_20 IAMs_20 00 18 03.0
comp=Z,1μm,19.0s
RYN Ryan 108.06 37 IAMs_20 IAMs_20 00 18 37.0
comp=Z,2μm,19.0s
YERR Yerington 108.20 36 IAMs_20 IAMs_20 00 19 01.8
comp=Z,1μm,18.0s
PNTR Pine Nut 108.20 36 IAMs_20 IAMs_20 00 19 06.8
comp=Z,1μm,19.0s
ANMO Albuquerque 108.30 47 IAMs_20 IAMs_20 00 13 19.3
comp=Z,1μm,19.0s
VCNR Virginia City 108.38 35 IAMs_20 IAMs_20 00 19 20.6
comp=Z,1μm,19.0s
KVN Kaiserville 108.56 37 IAMs_20 IAMs_20 00 19 13.4
comp=Z,2μm,19.0s
R11A Troy Canyon, C 108.61 39 IAMs_20 IAMs_20 00 23 41.6
comp=Z,2μm,18.0s
MSTX Muleshoe 108.67 51 IAMs_20 IAMs_20 00 12 00.2
comp=Z,1μm,20.0s
PAHR Pah Rah Range 108.84 36 IAMs_20 IAMs_20 00 19 44.8
comp=Z,1μm,18.0s
WDC Whiskeytown Da 108.86 33 IAMs_20 IAMs_20 00 19 13.2
comp=Z,2μm,18.0s
KRMB Red Mountain 109.42 31 IAMs_20 IAMs_20 00 20 30.2
comp=Z,2μm,18.0s
AMTX Amarillo 109.88 51 IAMs_20 IAMs_20 00 12 52.2
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 109.91 32 IAMs_20 IAMs_20 00 16 38.0
comp=Z,1μm,20.0s
HMDM Hanimaadhoo 110.01 244 IAMs_20 IAMs_20 00 15 28.3
comp=Z,2μm,19.0s
BMN Battle Mountai 110.09 37 IAMs_20 IAMs_20 00 20 27.9
comp=Z,1μm,18.0s
PV05 Paradox Valley 110.30 44 IAMs_20 IAMs_20 00 22 10.2
comp=Z,2μm,20.0s
PV13 Radium Mtn., P 110.46 44 IAMs_20 IAMs_20 00 23 03.7
comp=Z,2μm,20.0s
PV18 Skein Mesa, Pa 110.52 44 IAMs_20 IAMs_20 00 23 06.1
comp=Z,1μm,19.0s
PV03 Paradox Valley 110.54 44 IAMs_20 IAMs_20 00 23 06.8
comp=Z,2μm,19.0s
PV19 Morning Glory 110.55 44 IAMs_20 IAMs_20 00 23 24.0
comp=Z,2μm,20.0s
PV16 Nyswonger Mesa 110.57 44 IAMs_20 IAMs_20 00 23 08.6
comp=Z,1μm,19.0s
PV11 David Mesa, P 110.58 44 IAMs_20 IAMs_20 00 26 18.7
comp=Z,2μm,18.0s
MOD Modoc Plateau 110.66 34 IAMs_20 IAMs_20 00 21 16.0
comp=Z,1μm,18.0s
WMOK Wichita Mounta 110.79 54 IAMs_20 IAMs_20 00 15 24.2
comp=Z,1μm,20.0s
PV22 Blue Mesa, Par 110.82 44 IAMs_20 IAMs_20 00 23 33.1
comp=Z,1μm,19.0s
T25A Trinidad 110.97 48 IAMs_20 IAMs_20 00 17 51.2
comp=Z,1μm,18.0s
DUG Dugway, Tooele 111.12 40 IAMs_20 IAMs_20 00 12 57.1
comp=Z,1μm,20.0s
SDCO Great Sand Dun 111.16 47 IAMs_20 IAMs_20 00 14 25.1
comp=Z,1μm,19.0s
060A Indiantown 111.38 72 IAMs_20 IAMs_20 00 13 49.7
comp=Z,2μm,22.0s
U32A Winter Ranch, 112.18 53 IAMs_20 IAMs_20 00 16 01.0
comp=Z,2μm,19.0s
PINE Pine Mountain 112.28 33 IAMs_20 IAMs_20 00 22 12.8
comp=Z,2μm,19.0s
Q24A Divide 112.38 47 IAMs_20 IAMs_20 00 24 37.4
comp=Z,2μm,18.0s
ERM Erimo 112.78 320 IAMs_20 IAMs_20 00 15 49.8
comp=Z,2μm,20.0s
WHN Wuhan 112.86 292 PKP **PKiKP 23 36 43.0 +6.2**
TUL1 Leonard 112.93 55 IAMs_20 IAMs_20 00 26 50.0
comp=Z,1μm,19.0s
ISCO Idaho Springs 112.98 46 IAMs_20 IAMs_20 00 23 34.5
comp=Z,2μm,18.0s
658A Bunnell 113.08 70 IAMs_20 IAMs_20 00 16 44.6
comp=Z,2μm,18.0s
KMBO Kilima Mbogo 113.67 204 IAMs_20 IAMs_20 00 22 01.7
comp=Z,2μm,19.0s
N23A Red Feather La 113.87 45 IAMs_20 IAMs_20 00 25 26.9
comp=Z,1μm,18.0s
AHID Auburn Hatcher 113.99 41 IAMs_20 IAMs_20 00 23 20.0
comp=Z,1μm,21.0s
CBKS Cedar Bluff 114.09 51 IAMs_20 IAMs_20 00 15 32.6
comp=Z,2μm,20.0s
BMO Blue Mountains 114.19 35 IAMs_20 IAMs_20 00 23 53.4
comp=Z,1μm,19.0s
U40A Yellville 114.44 57 IAMs_20 IAMs_20 00 17 05.8
comp=Z,1μm,18.0s
BW06 Boulder Array 114.45 42 IAMs_20 IAMs_20 00 15 30.1
comp=Z,1μm,20.0s
FXWY Fox Creek 114.81 40 IAMs_20 IAMs_20 00 23 48.7
comp=Z,1μm,19.0s
MOOW Moose Ponds 114.99 40 IAMs_20 IAMs_20 00 23 56.5
comp=Z,996nm,18.0s
HAWA Hanford 115.07 33 IAMs_20 IAMs_20 00 27 30.5
comp=Z,2μm,18.0s
E07A Sunnyside 115.14 33 IAMs_20 IAMs_20 00 22 42.5
comp=Z,2μm,20.0s
ADK Adak 115.18 352 IAMs_20 IAMs_20 00 14 22.2
comp=Z,2μm,22.0s
OGNE Ogallala 115.20 48 IAMs_20 IAMs_20 00 25 17.1
comp=Z,2μm,18.0s
MGMO Mountain Grove 115.36 58 IAMs_20 IAMs_20 00 31 51.2
comp=Z,1μm,19.0s
KSU1 Kansas State U 115.46 53 IAMs_20 IAMs_20 00 17 27.9
comp=Z,2μm,19.0s
LNXT Lenox 115.51 60 IAMs_20 IAMs_20 00 34 53.3
comp=Z,2μm,22.0s
Z56A Williston 116.41 68 IAMs_20 IAMs_20 00 20 27.9
comp=Z,1μm,18.0s
CCM Cathedral Cave 116.54 58 IAMs_20 IAMs_20 00 29 08.5
comp=Z,1μm,19.0s
B06A Maplemount 116.59 31 IAMs_20 IAMs_20 00 30 15.9
comp=Z,1μm,18.0s
C09A Chrisman Ranch 116.69 33 IAMs_20 IAMs_20 00 28 28.5
comp=Z,2μm,19.0s
MSO Missoula 116.92 37 IAMs_20 IAMs_20 00 25 26.6
comp=Z,1μm,20.0s
BGNE Belgrade 116.95 51 IAMs_20 IAMs_20 00 20 12.3
comp=Z,2μm,18.0s
SIUC Southern Illin 117.03 60 IAMs_20 IAMs_20 00 29 36.9
comp=Z,1μm,19.0s
AKUT Akutan 117.06 359 IAMs_20 IAMs_20 00 14 45.1
comp=Z,1μm,20.0s
NEW Newport 117.41 34 IAMs_20 IAMs_20 00 22 35.5
comp=Z,1μm,20.0s
Y57A Sumter 117.42 69 IAMs_20 IAMs_20 00 20 22.6
comp=Z,1μm,18.0s
JTMT Jette 117.67 36 IAMs_20 IAMs_20 00 29 18.3
comp=Z,1μm,18.0s
SKR Severo-Kuril's 117.68 333 *i* PKIKP **PKPdf 23 36 39.6 -5.8**
CD2 Chengdu 117.72 284 PKP **PKiKP 23 36 47.5 +1.2**
BIRD Birdtown, Kers 117.93 68 IAMs_20 IAMs_20 00 21 06.1
comp=Z,2μm,18.0s
SDPT Sand Point 118.33 3 IAMs_20 IAMs_20 00 28 50.5
comp=Z,1μm,18.0s
Y60A Bolivia 118.33 70 IAMs_20 IAMs_20 00 21 05.7
comp=Z,1μm,19.0s
OLIL Olney 118.35 60 IAMs_20 IAMs_20 00 30 46.3
comp=Z,1μm,22.0s
W57A Gilead 118.56 68 IAMs_20 IAMs_20 00 20 41.8
comp=Z,1μm,20.0s
BBB Bella Bella 118.67 25 IAMs_20 IAMs_20 00 27 16.6
comp=Z,1μm,18.0s
DIB Dawson Inlet, 118.86 22 IAMs_20 IAMs_20 00 20 24.8
comp=Z,1μm,19.0s
N41A Harden Midland 119.00 57 IAMs_20 IAMs_20 00 30 06.5
comp=Z,2μm,19.0s
EGMT Eagleton 119.17 39 IAMs_20 IAMs_20 00 26 12.1
comp=Z,1μm,19.0s
PET Petropavlovsk 119.41 336 IAMs_20 IAMs_20 00 19 06.0
comp=Z,2μm,22.0s
U56A King 119.42 67 IAMs_20 IAMs_20 00 22 39.6
comp=Z,996nm,18.0s
O44A Mansfield 119.43 59 IAMs_20 IAMs_20 00 33 40.9
comp=Z,1μm,18.0s
ECSD EROS Data Cent 119.53 51 IAMs_20 IAMs_20 00 29 50.7
comp=Z,2μm,19.0s
PEA0B Petropavlovsk- 119.67 335 IAMs_20 IAMs_20 00 17 07.8
comp=Z,1μm,20.0s
P48A Milroy 120.03 62 IAMs_20 IAMs_20 00 33 05.7
comp=Z,1μm,20.0s
V60A Jim Taylor Roa 120.24 70 IAMs_20 IAMs_20 00 20 12.2
comp=Z,1μm,20.0s
V61A Roper 120.55 71 IAMs_20 IAMs_20 00 21 40.5
comp=Z,1μm,19.0s
CRAG Craig 120.94 20 IAMs_20 IAMs_20 00 17 54.8
comp=Z,2μm,22.0s
U61A Possum Corner 121.07 70 IAMs_20 IAMs_20 00 21 58.1
comp=Z,1μm,19.0s
O49A Covington 121.08 62 IAMs_20 IAMs_20 00 32 45.4
comp=Z,1μm,20.0s
T59A Double "B" Far 121.14 69 IAMs_20 IAMs_20 00 19 07.1
comp=Z,1μm,22.0s
S58A Poland Farm, P 121.47 68 IAMs_20 IAMs_20 00 23 28.9
comp=Z,1μm,19.0s
T60A Surry 121.63 70 IAMs_20 IAMs_20 00 22 02.0
comp=Z,2μm,19.0s
K43A Burlington 121.67 57 IAMs_20 IAMs_20 00 31 15.3
comp=Z,1μm,20.0s
LZH Lanzhou 122.09 287 *e*PKP **PKPdf 23 36 51.1 -3.5**
LZH LR LR
comp=Z,110nm,18.0s
LZH LR LR
comp=Z,130nm,17.7s
LZH LR LR
comp=Z,170nm,20.2s
SPMN Marine on St. 122.18 53 IAMs_20 IAMs_20 00 21 07.8
comp=Z,2μm,20.0s
Q56A Snyder Ridge, 122.20 67 IAMs_20 IAMs_20 00 23 51.3
comp=Z,1μm,19.0s
KLR Kul'dur 122.73 316 ⇑*i*PKIKP **PKPdf 23 36 54.2 -1.0**
HHC Hu-ho-hao-te 122.87 296 *e*PKP **PKiKP 23 36 59.5 +3.4**
J45A Montague 123.04 58 IAMs_20 IAMs_20 00 24 03.5
comp=Z,1μm,19.0s
FURI Furi 123.14 208 IAMs_20 IAMs_20 00 24 29.8
comp=Z,1μm,22.0s
O56A Blue Knob Stat 123.50 66 IAMs_20 IAMs_20 00 24 59.5
comp=Z,1μm,18.0s
Q60A Greensboro 123.57 69 IAMs_20 IAMs_20 00 23 58.7
comp=Z,1μm,20.0s
I45A Fountain 123.61 58 IAMs_20 IAMs_20 00 24 10.7
comp=Z,2μm,18.0s
K50A Casco 123.95 62 IAMs_20 IAMs_20 00 22 31.7
comp=Z,1μm,19.0s
PSUB Penn St. - Bra 124.51 69 IAMs_20 IAMs_20 00 39 53.4
comp=Z,1μm,20.0s
WAX Waxell Ridge 124.52 13 **PKiKP 23 36 59.5 +0.8**
RC01 Rabbit Creek A 124.56 9 IAMs_20 IAMs_20 00 18 21.5
comp=Z,2μm,22.0s
P61A Hammonton 124.58 70 IAMs_20 IAMs_20 00 23 14.2
comp=Z,2μm,19.0s
G45A Suttons Bay 124.68 58 IAMs_20 IAMs_20 00 24 39.8
comp=Z,2μm,20.0s
ATD Arta Tunnel 124.72 214 IAMs_20 IAMs_20 00 37 24.8
comp=Z,1μm,20.0s
PMR Palmer 125.11 9 IAMs_20 IAMs_20 00 19 42.8
comp=Z,2μm,22.0s
E43A Lone Tree Farm 125.29 56 IAMs_20 IAMs_20 00 33 56.1
comp=Z,2μm,20.0s
GLB Gilahina Butte 125.40 12 IAMs_20 IAMs_20 00 23 50.7
comp=Z,2μm,20.0s
HYT Haines Junctio 125.50 16 IAMs_20 IAMs_20 00 23 48.2
comp=Z,2μm,20.0s
BRNJ Basking Ridge 125.52 69 IAMs_20 IAMs_20 00 23 17.0
comp=Z,2μm,21.0s
WHY Whitehorse 125.68 18 IAMs_20 IAMs_20 00 19 43.1
comp=Z,1μm,19.0s
ODNJ Ogdensburg 125.83 69 IAMs_20 IAMs_20 00 23 38.3
comp=Z,1μm,20.0s
PAL Palisades 126.06 69 IAMs_20 IAMs_20 00 25 04.0
comp=Z,2μm,20.0s
E46A Sault Ste Mari 126.30 58 IAMs_20 IAMs_20 00 34 50.9
comp=Z,1μm,18.0s
GTA Gaotai 126.61 286 ⇑PKP **PKPdf 23 37 02.8 -0.4**
GTA PP **PP 23 39 02.9 +2.6**
GTA SKS **SKSdf 23 44 12.8 -1.8**
GTA SKKS **SKKSac 23 45 56.0 -1.2**
GTA SS **SS 23 56 08.8 +3.2**
GTA AMB AMB
comp=Z,110nm,8.7s
GTA LR LR
comp=Z,430nm,23.5s
GTA LR LR
comp=Z,390nm,21.6s
GTA LR LR
comp=Z,930nm,24.4s
DHY Denali Highway 126.71 10 IAMs_20 IAMs_20 00 20 33.1
comp=Z,2μm,21.0s
YLE Yale 126.73 70 IAMs_20 IAMs_20 00 24 58.1
comp=Z,2μm,21.0s
RND Reindeer 126.93 9 IAMs_20 IAMs_20 00 26 33.9
comp=Z,2μm,21.0s
MA2 Magadan 127.10 334 IAMs_20 IAMs_20 00 22 39.2
comp=Z,1μm,22.0s
DAMY Dhamar 127.23 216 IAMs_20 IAMs_20 00 35 41.5
comp=Z,1μm,19.0s
DELO Deloro Mine 127.42 64 IAMs_20 IAMs_20 00 40 53.4
comp=Z,1μm,19.0s
BWN Browne 127.64 8 IAMs_20 IAMs_20 00 30 20.2
comp=Z,2μm,19.0s
WRH Wood River Hil 128.04 9 IAMs_20 IAMs_20 00 27 26.2
comp=Z,2μm,19.0s
HDA Harding Lake 128.06 10 IAMs_20 IAMs_20 00 21 15.9
comp=Z,1μm,21.0s
NEA Nenana 128.07 9 IAMs_20 IAMs_20 00 30 33.6
comp=Z,2μm,20.0s
CCB Clear Creek Bu 128.23 9 IAMs_20 IAMs_20 00 29 26.3
comp=Z,1μm,20.0s
WES Weston 128.30 70 IAMs_20 IAMs_20 00 22 39.1
comp=Z,1μm,20.0s
IL31 128.42 10 **PKiKP 23 37 06.6 +0.5**
ILAR Eielson Array 128.42 10 PKP **PKPdf 23 37 03.7 -1.9**
comp=Z,3.3nm,1.0s,baz=245,slow=2.3,SNR=14
ILAR Eielson Array 128.42 10 **PKPdf 23 37 03.8 -1.8**
COLA College 128.45 9 ⇑*i*PKIKP **PKiKP 23 37 06.2 0.0**
COLA College 128.45 9 IAMs_20 IAMs_20 00 27 29.1
comp=Z,1μm,19.0s
TOA0 Torodi Ar. Sit 129.06 163 **PKPdf 23 37 07.8 -0.6**
TORD Torodi Ar. Bea 129.06 163 PKP **PKPdf 23 37 07.3 -1.1**
comp=Z,2.7nm,1.0s,baz=13,slow=4.2,SNR=7.3
FYU Fort Yukon 130.32 10 IAMs_20 IAMs_20 00 27 05.5
comp=Z,1μm,19.0s
ULN Ulaanbaatar 130.48 298 ⇓*i*PKIKP **PKPdf 23 37 10.2 -0.1**
SONM Songino Array 130.72 297 PKP **PKPdf 23 37 10.5 -0.2**
comp=Z,0.6nm,0.8s,baz=124,slow=0.5,SNR=5.1
UOSS Minazif 133.13 235 IAMs_20 IAMs_20 00 25 06.6
comp=Z,1μm,22.0s
YAK Yakutsk 134.26 323 ⇑*e*PKIKP **PKPdf 23 37 17.2 +0.5**
RAYN Ar Rayn 135.41 221 IAMs_20 IAMs_20 00 32 19.3
comp=Z,1μm,20.0s
WMQ Urumqi 135.52 280 *e*PKP **PKiKP 23 37 21.5 +0.2**
WMQ LR LR
comp=Z,300nm,19.7s
WMQ LR LR
comp=Z,390nm,19.7s
WMQ LR LR
comp=Z,650nm,23.9s
KBL Kabul 136.33 255 IAMs_20 IAMs_20 00 30 16.1
comp=Z,956nm,20.0s
KSH Kashi 137.37 266 PKP **PKiKP 23 37 26.4 +1.1**
KSH PP **PP 23 40 14.1 +4.7**
KSH PKS **PKSdf 23 41 01.8 +2.2**
KSH SS SS 23 58 19.6 +3.1
KSH AMB AMB
comp=Z,300nm,5.0s
KSH LR LR
comp=Z,590nm,15.9s
KSH LR LR
comp=Z,590nm,15.3s
KSH LR LR
comp=Z,620nm,15.8s
TARG Taragay, Kyrgy 138.32 269 **PKPdf 23 37 25.1 -0.4**
NRN Naryn 138.90 268 PKIKP **PKPdf 23 37 25.9 -0.6**
NRN Naryn 138.90 268 **PKPdf 23 37 25.9 -0.6**
NRN IAMs_20 IAMs_20 00 34 04.5
comp=Z,943nm,21.0s
HRA Herat 139.11 248 IAMs_20 IAMs_20 00 33 20.5
comp=Z,963nm,20.0s
MKAR Makanchi Array 140.24 278 PKhKP PKPpre 23 37 23.4
comp=Z,0.5nm,0.8s,baz=69,slow=2.0,SNR=3.7
AAK Ala-Archa 140.53 267 ⇑*i*PKIKP **PKiKP 23 37 30.5 -1.2**
AAK Ala-Archa 140.53 267 **PKiKP 23 37 30.9 -0.9**
TIXI Tiksi 142.03 332 ⇓*e*PKIKP **PKPdf 23 37 30.5 -0.2**
TIXI Tiksi 142.03 332 IAMs_20 IAMs_20 00 33 06.5
comp=Z,928nm,22.0s
ASHT Ashkhabad 143.76 246 IAMs_20 IAMs_20 00 34 49.5
comp=Z,1μm,20.0s
GEYT Alibeck 143.86 246 PKP PKPab 23 37 31.7 -0.5
comp=Z,0.9nm,0.4s,baz=201,slow=7.4,SNR=6.0
ZALV Zalesovo Beam 144.31 288 PKP **PKPab 23 37 31.7 -1.6**
comp=Z,2.4nm,0.8s,baz=182,slow=2.3,SNR=13
ZALV Zalesovo Beam 144.31 288 **PKPab 23 37 31.0 -2.3**
KURK Kurchatov 144.77 280 *de*PKIKP **PKPab 23 37 34.1 -1.0**
KURK Kurchatov 144.77 280 **PKPab 23 37 33.8 -1.3**
RES Resolute Bay 144.95 26 PKP **PKPab 23 37 34.1 -1.0**
comp=Z,19nm,1.1s,baz=208,slow=7.6,SNR=8.9
RES Resolute Bay 144.95 26 PKPbc 23 37 35.1 -0.1
BRVK Borovoye 150.12 276 ⇓*e*PKIKP **PKPdf 23 37 44.8 -0.2**
BRVK Borovoye 150.12 276 **PKPbc 23 37 49.4 -0.6**
BRVK Borovoye 150.12 276 IAMs_20 IAMs_20 00 51 07.7
comp=Z,980nm,18.0s
SFS San Fernando 150.15 144 IAMs_20 IAMs_20 00 52 47.3
comp=Z,1μm,20.0s
PVAQ Vaqueiros 150.62 141 IAMs_20 IAMs_20 00 37 50.6
comp=Z,1μm,21.0s
GNI Garni 150.95 231 PKIKP **PKPbc 23 37 52.3 -0.4**
GNI Garni 150.95 231 **PKPbc 23 37 52.3 -0.4**
GNI Garni 150.95 231 IAMs_20 IAMs_20 00 53 51.3
comp=Z,1μm,18.0s
AKT Akhty 151.02 237 *e*PKIKP **PKPbc 23 37 52.6 -0.1**
AKT *e* 23 41 34.4
AKT pmax pmax
comp=Z,62nm,1.6s
KARP Karpathos 151.28 201 **PKPbc 23 37 52.7 -0.7**
NRIK Noril'sk 151.92 314 PKPbc **PKPbc 23 37 52.2 -1.5**
comp=Z,4.2nm,0.8s,baz=102,slow=3.1,SNR=11
ELL Elmali 151.95 206 PKIKP **PKPbc 23 37 55.0 0.0**
ELL Elmali 151.95 206 **PKPbc 23 37 55.0 0.0**
PESTR Estremoz 152.01 140 IAMs_20 IAMs_20 00 57 17.7
comp=Z,770nm,20.0s
ABKAR Akbulak array 152.13 261 **PKPbc 23 37 52.9 -2.0**
KEST Kesra 152.21 170 PKPbc **PKPbc 23 37 55.5 -0.1**
comp=Z,11nm,1.1s,baz=259,slow=10,SNR=2.7
SANT Santorini 152.34 198 IAMs_20 IAMs_20 00 45 51.1
comp=Z,796nm,21.0s
TBLG Delisi 152.35 233 PKIKP **PKPbc 23 37 55.3 -0.3**
TBLG Delisi 152.35 233 **PKPbc 23 37 55.3 -0.3**
AKH Akhalkalaki 152.51 231 ⇑P **PKPbc 23 37 56.1 -0.1**
AKH Akhalkalaki 152.51 231 IAMs_20 IAMs_20 00 51 42.4
comp=Z,970nm,20.0s
ISP Isparta 152.87 207 IAMs_20 IAMs_20 00 51 04.8
comp=Z,952nm,20.0s
BCA Borcka 153.18 228 ⇓P **PKPab 23 38 06.6 -2.7**
BATM Batumi 153.30 228 ⇓P **PKPab 23 38 05.3 -4.4**
ESDC Sonseca Array 153.76 145 PKP **PKPdf 23 37 50.7 -0.3**
comp=Z,2.0nm,1.0s,baz=240,slow=1.3,SNR=6.8
ESDC PKPbc **PKPbc 23 37 56.8 -2.1**
comp=Z,1.9nm,0.8s,baz=306,slow=1.4,SNR=5.6
ESDC Sonseca Array 153.76 145 **PKPdf 23 37 51.0 +0.1**
ESDC Sonseca Array 153.76 145 **PKiKP 23 38 02.8 +3.8**
ESDC PKPab **PKPab 23 38 11.7 -0.1**
BRTR Keskin Array B 153.96 214 PKIKP **PKPdf 23 37 49.9 -1.5**
BRTR Keskin Array B 153.96 214 PKPbc **PKPbc 23 37 58.1 -1.3**
comp=Z,3.5nm,0.9s,baz=188,slow=4.4,SNR=13
BRTR Keskin Array B 153.96 214 **PKPdf 23 37 49.9 -1.5**
BRTR PKPbc **PKPbc 23 37 58.6 -0.8**
NCK Nalchik 154.30 233 ⇑*e*PKIKP **PKPdf 23 37 51.0 -0.6**
ANTO Ankara 154.31 213 IAMs_20 IAMs_20 00 50 57.5
comp=Z,850nm,19.0s
KBZ Khabaz 154.75 232 PKPbc **PKPbc 23 38 00.3 -0.4**
comp=Z,3.8nm,1.1s,baz=342,slow=6.4,SNR=2.5
KIV Kislovodsk 155.02 232 IAMs_20 IAMs_20 00 59 38.1
comp=Z,736nm,20.0s
ILGA Ilgaz 155.19 215 IAMs_20 IAMs_20 00 51 20.1
comp=Z,1μm,19.0s
SOC Sochi 155.72 227 *e*PKIKP **PKPdf 23 37 48.9 -4.6**
SOC *e*PPP PPP 23 45 01.6
SOC *e*SS SS 00 01 40.8 -3.0
ARU Arti 157.53 272 PKP2 **PKPab 23 38 28.4 +1.0**
ARU Arti 157.53 272 PKPdf **PKPdf 23 37 58.3 +2.9**
ARU **PKPab 23 38 28.2 +0.8**
SUMG Summit 158.64 42 *e*PKP2 **PKPab 23 38 31.3 -1.1**
SUMG Summit 158.64 42 *i* P **PKPab 23 38 31.3 -1.1**
AQU L'Aquila 159.03 176 IAMs_20 IAMs_20 00 46 02.1
comp=Z,1μm,20.0s
MURB Monte Urbino 159.90 174 IAMs_20 IAMs_20 00 38 11.3
comp=Z,929nm,21.0s
HARR Harsova 160.00 208 ⇑PKP2 **PKPab 23 38 32.3 -6.1**
HARR Harsova 160.00 208 ⇑P **PKPab 23 38 32.3 -6.1**
MLR Muntele Rosu 161.16 204 ⇓PKP2 **PKPab 23 38 41.6 -2.1**
MLR Muntele Rosu 161.16 204 ⇓P **PKPab 23 38 41.6 -2.1**
MLR Muntele Rosu 161.16 204 **PKPab 23 38 42.4 -1.2**
VOIR 161.27 202 ⇓PKP2 **PKPab 23 38 42.2 -1.8**
VOIR 161.27 202 ⇓P **PKPab 23 38 42.2 -1.8**
ARR Arges 161.27 201 ⇑P **PKPab 23 38 42.0 -2.0**
PLOR Plostina 161.37 206 ⇑PKP2 **PKPab 23 38 43.5 -1.0**
PLOR Plostina 161.37 206 ⇑P **PKPab 23 38 43.5 -1.0**

VRI	**Vrincioaia**	**161.37 206**	⇑PKP2	**PKPab**	**23 38 43.0**	**-1.4**
VRI	**Vrincioaia**	**161.37 206**	⇑P	**PKPab**	**23 38 43.0**	**-1.4**
VRH	**Novokhopyorsk**	**161.39 242**	*e*PKP2	**PKPab**	**23 38 45.8**	**+1.5**
VRH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VSR	**Storozhevoye**	**162.40 238**	*e*PKP2	**PKPab**	**23 38 47.3**	**-1.5**
VSR			pmax	pmax		
	comp=Z,10.0nm,1.6s					
BURAR	**Bucovina Array**	**163.34 204**	⇓PKP2	**PKPab**	**23 38 52.8**	**-0.3**
BURAR	**Bucovina Array**	**163.34 204**	⇓P	**PKPab**	**23 38 52.8**	**-0.3**
BURAR	**Bucovina Array**	**163.34 204**		**PKPab**	**23 38 52.3**	**-0.8**
BUR08	**Bucovina Ar. S**	**163.37 204**		**PKPab**	**23 38 53.1**	**-0.2**
SOKA	**Soboth**	**163.38 180**	pPKPab	pPKPab	23 38 59.0	+3.3
	comp=Z,8.9nm,1.2s					
FETA	**Feichten**	**163.53 169**	*e*PKPab	**PKPab**	**23 38 52.8**	**-1.3**
	comp=Z,15nm,1.3s					
LPSR	**Galich'ya Gora**	**163.57 240**	*e*PKP2	**PKPab**	**23 38 50.0**	**-3.9**
LPSR			pmax	pmax		
	comp=Z,6.0nm,0.2s					
KBA	**Koelnbreinsper**	**163.75 176**	*e*PKPab	**PKPab**	**23 38 56.3**	**+1.3**
	comp=Z,15nm,1.4s					
SQTA	**Sankt Quirin**	**163.77 170**	PKPab	**PKPab**	**23 38 54.6**	**-0.4**
	comp=Z,15nm,1.5s					
WTTA	**Wattenberg**	**163.84 171**	pPKPab	pPKPab	23 38 58.4	+0.5
	comp=Z,10nm,1.2s					
ARSA	**Arzberg**	**163.95 181**	PKPab	**PKPab**	**23 38 55.8**	**+0.1**
	comp=Z,9.1nm,1.1s					
RETA	**Reutte**	**164.00 169**	PKPab	**PKPab**	**23 38 53.9**	**-2.1**
	comp=Z,10nm,1.2s					
MOA	**Molln**	**164.54 178**	PKPab	**PKPab**	**23 38 57.3**	**-1.0**
	comp=Z,6.6nm,1.1s					
CONA	**Conrad Observa**	**164.62 182**	PKPab	**PKPab**	**23 38 58.8**	**+0.1**
	comp=Z,6.6nm,1.5s					
MODS	**Modra-Piesok**	**165.03 186**	*e*PKP2	**PKPab**	**23 39 02.7**	**+2.3**
MODS	**Modra-Piesok**	**165.03 186**	*e*PKP	**PKPab**	**23 39 02.7**	**+2.3**
VYHS	**Vyhne**	**165.05 190**	*e*PKP	**PKPab**	**23 39 05.0**	**+4.5**
AKASG	**Malin Array Be**	**165.30 218**	PKPab	**PKPab**	**23 38 59.3**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=162,slow=4.0,SNR=6.0					
GERES	**GERESS Array B**	**165.52 176**	PKPab	**PKPab**	**23 39 01.6**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=216,slow=3.2,SNR=4.9					
KHC	**Kasperske Hory**	**165.81 176**	*e*PKP2	**PKPab**	**23 39 03.0**	**-0.8**
KHC	**Kasperske Hory**	**165.81 176**	*e*PKPAB	**PKPab**	**23 39 03.0**	**-0.8**
KHC	**Kasperske Hory**	**165.81 176**		**PKPab**	**23 39 03.1**	**-0.8**
MORC	**Moravsky Berou**	**166.41 187**	PKP2	**PKPab**	**23 39 05.9**	**-0.6**
MORC	**Moravsky Berou**	**166.41 187**		**PKPab**	**23 39 05.9**	**-0.6**
PRU	**Pruhonice**	**166.69 178**	*e*PKPAB	**PKPab**	**23 39 12.4**	**+4.8**
DPC	**Dobruska-Polom**	**167.03 183**	*e*PKP2	**PKPab**	**23 39 08.4**	**-0.8**
DPC	**Dobruska-Polom**	**167.03 183**	*e*PKPAB	**PKPab**	**23 39 08.4**	**-0.8**
CHVC	**Chvalec**	**167.28 183**	*e*PKPAB	PKPab	23 38 59.1	-11
CLL	**Collm**	**167.96 174**	*i* PKP2	**PKPab**	**23 39 12.9**	**-0.3**
CLL			MLR	MLR		
	comp=Z,1μm,20.9s					
CLL	**Collm**	**167.96 174**	*i* PKPab	**PKPab**	**23 39 12.9**	**-0.3**
CLL			*e*SS	SS	00 03 54.0	+3.3
CLL			*e*		00 10 12.0	
CLL			*e*SSSS		00 14 48.0	
CLL			*e*		00 16 06.0	
CLL			*e*		00 20 54.0	
CLL			LmV		01 01 00.0	
	comp=Z,1μm,20.9s					

IDC 19 23:25:47.2±5.1, 30°72S×177°87W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/20, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=104.6km s-min=21.1km az=108.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.46**	**358**	Pn	Pb	23 26 15.5	+0.2
	62nm,0.3s,baz=24,slow=20,SNR=3.1						
RAO				Sn	Sg	23 26 33.7	-0.5
	257nm,0.3s,baz=105,slow=20,SNR=5.7						
URZ	**Urewera**	**8.59**	**207**	Pn	Pn	23 27 51.2	-1.5
	0.2nm,0.3s,baz=271,slow=8.1,SNR=3.4						
URZ				Sn	Sn	23 29 28.4	-1.8
	1.6nm,0.3s,baz=202,slow=22,SNR=7.1						
STKA	**Stephens Creek**	**34.52**	**257**	P	P	23 32 38.3	+1.0
	2.6nm,0.7s,baz=102,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**43.21**	**267**	P	P	23 33 49.9	-0.4
	0.3nm,0.3s,baz=106,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**44.22**	**272**	P	P	23 33 58.2	-0.3
	0.7nm,0.4s,baz=112,slow=7.9,SNR=18						

*ISCJB **19** 23:40:19.7±0.5, 1°55S±0°04×77°60W±0°07, h181km, mb4.1/5, Error ellipse: s-maj=10.3km s-min=5.9km az=5.5*
*IDC **19** 23:40:19.3±2.2, 1°50S×77°73W, h177km±26km, mb3.4/5, mb1 3.4/7, mb1mx3.2/40, mbtmp3.8/7, MS3.8/2, Ms1 3.8/2, ms1mx3.2/35, Error ellipse: s-maj=22.7km s-min=14.9km az=54.0*
ISC 19 23:40:19.9±0.8, 1°52S±0°06×77°61W±0°06, h181km, n19, σ1§95/26, mb4.3/5, 2D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.94**	**334**	*e*P	**Pn**	**23 40 58.1**	**+1.2**
OTAV				*e*S	**Sn**	**23 41 25.7**	**+0.1**
OTAV	**Otavalo**	**1.94**	**334**	*e*P	**Pn**	**23 40 58.1**	**+1.2**
OTAV				*e*S	**Sn**	**23 41 25.7**	**+0.1**
PTLC	**Puerto Leguiza**	**3.28**	**59**	⇓*i*P	**Pn**	**23 41 12.5**	**+0.4**
PTLC				*e*S	**Sn**	**23 41 49.8**	**-2.9**
PTLC	**Puerto Leguiza**	**3.28**	**59**	⇓*i*P	**Pn**	**23 41 12.5**	**+0.4**
PTLC				*e*S	**Sn**	**23 41 49.8**	**-2.9**
FLOC	**Florencia**	**3.65**	**32**	*e*P	**Pn**	**23 41 19.0**	**+2.3**
FLOC				*e*S	**Sn**	**23 42 01.4**	**+0.3**
FLOC	**Florencia**	**3.65**	**32**	*e*P	**Pn**	**23 41 19.0**	**+2.3**
FLOC				*e*S	**Sn**	**23 42 01.4**	**+0.3**
GRGC	**Isla de Gorgon**	**4.53**	**353**	*e*P	**Pn**	**23 41 29.7**	**+1.9**
GRGC				*e*S	**Sn**	**23 42 17.0**	**-4.2**
GRGC	**Isla de Gorgon**	**4.53**	**353**	*e*P	**Pn**	**23 41 29.7**	**+1.9**
GRGC				*e*S	**Sn**	**23 42 17.0**	**-4.2**
ATAH	**Atahualpa**	**5.63**	**188**	P	**Pn**	**23 41 43.0**	**+0.5**
	1.7nm,0.3s,baz=20,slow=7.8,SNR=3.4						
ATAH				S	**Sn**	**23 42 45.4**	**-2.1**
	1.9nm,0.3s,baz=17,slow=20,SNR=4.2						
SDV	**Santo Domingo**	**12.46**	**34**	P	**Pn**	**23 43 12.1**	**+0.6**
	baz=203,slow=7.7						
JTS	**Las Juntas de**	**13.82**	**328**	LR	LR	23 48 29.0	
	comp=Z,369nm,20.7s,baz=342,slow=36						
LPAZ	**La Paz**	**17.39**	**148**	P	**P**	**23 44 13.0**	**+1.8**
	0.2nm,0.3s,baz=342,slow=12,SNR=3.7						
SIV	**San Ignacio**	**21.74**	**132**	P	**P**	**23 44 58.3**	**+1.1**
	1.5nm,3.5s,baz=295,slow=12,SNR=8.0						
LVC	**Limon Verde**	**22.60**	**159**	P	**P**	**23 45 06.8**	**+1.0**
	2.1nm,0.7s,baz=185,slow=11,SNR=3.1						
TEIG	**Tepich**	**24.01**	**335**	LR	LR	23 53 29.4	
	comp=Z,281nm,21.8s,baz=48,slow=33						
CMIG	**Matias Romero**	**25.14**	**318**	P	**P**	**23 45 28.1**	**-0.5**
	4.1nm,0.5s,baz=321,slow=23,SNR=5.2						
MDP	**Montagnes des**	**25.80**	**75**	P	**P**	**23 45 35.1**	**+0.6**
	7.1nm,0.8s,baz=291,slow=8.6,SNR=4.6						
TXAR	**Lajitas Array**	**39.53**	**323**	P	**P**	**23 47 32.0**	**-1.4**
	0.1nm,0.6s,baz=141,slow=5.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**79.94**	**76**	P	**P**	**23 52 09.5**	**0.0**
	191nm,1.1s,baz=284,slow=6.1,SNR=15						

*ISCJB **19** 23:41:05.0±0.3, 61°45N±0°02×7°34E±0°03, h10km, Error ellipse: s-maj=2.8km s-min=2.0km az=175.1*
*IDC **19** 23:41:05.7±1.8, 61°39N×7°12E, h0km, mb1 3.5/5, mb1mx3.2/53, mbtmp3.4/5, ML2.7/5, Error ellipse: s-maj=17.1km s-min=12.8km az=51.0*
*NAO **19** 23:41:06.2±1.4, 61°45N×7°17E, h6km±8km, ML2.7*
*UPP **19** 23:41:07.9±2.2, 61°31N×7°40E, h0km, ML2.0, Suspected explosion*
*BER **19** 23:41:08.3±2.4, 61°52N×7°10E, h14km, ML2.9, MW2.9, ML2.7(NAO), Confirmed Earthquake*
*HEL **19** 23:41:10.5±0.2, 61°44N×7°79E, h10km, ML2.6, ML2.0(UPP), Confirmed Earthquake*
ISC 19 23:41:04.8±0.7, 61°47N±0°02×7°22E±0°02, h10km, n79, σ2§08/153, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYA	**Hoyanger**	**0.59**	**239**	*e*P	**Pb**	**23 41 18.2**	**+1.1**
HYA				*e*S	**Sg**	**23 41 25.8**	**+2.1**
HYA				IAML		23 41 26.3	
	comp=Z,1μm,0.3s						
AKN	**Aaknes**	**0.72**	**352**	Pg	**Pb**	**23 41 20.7**	**+1.3**
AKN				Lg	Lg	23 41 30.1	
AKN	**Aaknes**	**0.72**	**352**	*e*P	**Pb**	**23 41 20.6**	**+1.3**
AKN				*e*S	**Sb**	**23 41 29.9**	**+0.6**
AKN				IAML		23 41 30.5	
	comp=Z,1μm,0.2s						
SKAR	**Skarslia**	**0.95**	**146**	*e*P	**Pn**	**23 41 25.8**	**+1.5**
SKAR				*e*S	**Sn**	**23 41 39.1**	**+1.3**
SKAR				IAML		23 41 40.6	
	comp=Z,871nm,0.2s						
DOMB	**Dombas**	**1.05**	**56**	*e*P	**Pn**	**23 41 27.9**	**+2.3**
DOMB				*e*S	**Sn**	**23 41 41.8**	**+1.5**
DOMB				IAML		23 41 44.2	
	comp=Z,371nm,0.2s						
FOO	**Floro**	**1.05**	**278**	*e*P	**Pg**	**23 41 25.2**	**+0.2**
FOO				*e*S	**Sg**	**23 41 39.2**	**+0.6**
FOO				IAML		23 41 41.2	
	comp=Z,1μm,0.3s						
MOL	**Molde**	**1.11**	**8**	*e*P	**Pn**	**23 41 27.5**	**+1.1**
MOL				*e*S	**Sb**	**23 41 41.7**	**+1.0**
MOL				IAML		23 41 42.5	
	comp=Z,481nm,0.1s						
SUE	**Sulen**	**1.26**	**252**	*e*P	**Pn**	**23 41 28.9**	**+0.6**
SUE				*e*S	**Sb**	**23 41 44.8**	**0.0**
SUE				IAML		23 41 46.6	
	comp=Z,385nm,0.2s						
ASK	**Askoy**	**1.40**	**226**	*e*P	**Pn**	**23 41 31.2**	**+0.9**
ASK				*e*Sg	**Sn**	**23 41 50.1**	**+1.3**
ASK				IAML		23 41 51.5	
	comp=Z,327nm,0.2s						
BER	**Bergen**	**1.43**	**221**	*e*P	**Pn**	**23 41 32.1**	**+1.4**
BER				*e*S	**Sn**	**23 41 50.8**	**+1.3**
BER				IAML		23 41 52.7	
	comp=Z,280nm,0.3s						
ODD1	**Odda**	**1.59**	**191**	*e*P	**Pn**	**23 41 34.6**	**+1.6**
ODD1				*e*Sg	**Sg**	**23 41 56.9**	**+1.0**
ODD1				IAML		23 41 57.8	
	comp=Z,157nm,0.3s						
NC2	**NORSAR Subarra**	**1.75**	**95**	Pn	**Pb**	**23 41 37.9**	**+0.9**
NC2				Pg	**Pg**	**23 41 39.4**	**+1.1**
NC2				Lg	Lg	23 42 02.4	
NC2	**NORSAR Subarra**	**1.75**	**95**	Pn	**Pb**	**23 41 37.9**	**+0.9**
NC2				Pg	**Pg**	**23 41 39.4**	**+1.1**
NC2				Sg	**Sg**	**23 42 02.4**	**+1.4**
NBO	**NORSAR Subarra**	**1.77**	**103**	Pn	**Pb**	**23 41 38.2**	**+0.9**
NBO				Pg	**Pg**	**23 41 39.7**	**+1.0**
NBO				Lg	Lg	23 42 03.0	
NBO	**NORSAR Subarra**	**1.77**	**103**	Pn	**Pb**	**23 41 38.2**	**+0.9**
NBO				Pg	**Pg**	**23 41 39.7**	**+1.0**
NBO				Sg	**Sg**	**23 42 03.0**	**+1.3**
NAO	**NORSAR Subarra**	**1.87**	**109**	Pn	**Pb**	**23 41 39.5**	**+0.5**
NAO				Pg	**Pg**	**23 41 41.1**	**+0.6**
NAO				Lg	Lg	23 42 06.2	
NAO	**NORSAR Subarra**	**1.87**	**109**	Pn	**Pb**	**23 41 39.5**	**+0.5**
NAO				Pg	**Pg**	**23 41 41.1**	**+0.6**
NAO				Sg	**Sg**	**23 42 06.2**	**+1.5**
NB2	**NORSAR Subarra**	**1.98**	**101**	Pn	**Pb**	**23 41 40.6**	**-0.2**
	baz=285,slow=12						
NB2				Pg	**Pg**	**23 41 43.1**	**+0.5**
NB2				Lg	Lg	23 42 09.3	
	baz=286,slow=37						
NB2	**NORSAR Subarra**	**1.98**	**101**	Pn	**Pb**	**23 41 40.6**	**-0.2**
	baz=285,slow=12						
NB2				Pg	**Pg**	**23 41 43.1**	**+0.5**
NB2				Sg	**Sg**	**23 42 09.3**	**+1.1**
	baz=286,slow=37						
NOA	**NORSAR Array B**	**1.98**	**101**	Pn	**Pn**	**23 41 40.1**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=286,slow=15,SNR=209						
NOA				Sn	**Sb**	**23 42 06.0**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=305,slow=23,SNR=12						
NC3	**NORSAR Subarra**	**2.03**	**94**	Pn	**Pb**	**23 41 41.5**	**-0.2**
NC3				Pg	**Pg**	**23 41 43.9**	**+0.2**
NC3				Lg	Lg	23 42 09.9	
NC3	**NORSAR Subarra**	**2.03**	**94**	Pn	**Pb**	**23 41 41.5**	**-0.2**
NC3				Pg	**Pg**	**23 41 43.9**	**+0.2**
NC3				Sg	**Sg**	**23 42 09.9**	**0.0**
BLS5	**Blasjo**	**2.09**	**191**	*e*P	**Pn**	**23 41 41.5**	**+1.7**
BLS5				*e*S	**Sn**	**23 42 07.9**	**+2.0**
BLS5				IAML		23 42 12.3	
	comp=Z,115nm,0.4s						
KON	**Kongsberg**	**2.17**	**146**	Pn	**Pn**	**23 41 42.8**	**+1.9**
KON				Sn	**Sb**	**23 42 10.4**	**-0.6**
KON				Lg	Lg	23 42 14.5	
KONO	**Kongsberg**	**2.17**	**146**	*e*P	**Pn**	**23 41 43.0**	**+2.0**
KONO				*e*Pg	**Pb**	**23 41 45.2**	**+1.1**
KONO				*e*S	**Sb**	**23 42 10.9**	**-0.1**
KONO				*e*Sg	**Sg**	**23 42 14.3**	**-0.1**
KONO				IAML		23 42 15.4	
	comp=Z,90nm,0.2s						
NC6	**NORSAR Subarra**	**2.18**	**108**	Pn	**Pn**	**23 41 43.2**	**+2.1**
NC6				Pg	**Pg**	**23 41 46.4**	**-0.1**
NC6				Lg	Lg	23 42 15.3	
NC6	**NORSAR Subarra**	**2.18**	**108**	Pn	**Pn**	**23 41 43.2**	**+2.1**
NC6				Pg	**Pg**	**23 41 46.4**	**-0.1**
NC6				Sg	**Sg**	**23 42 15.3**	**+0.6**
NC4	**NORSAR Subarra**	**2.21**	**98**	Pn	**Pn**	**23 41 43.5**	**+2.0**
NC4				Pg	**Pg**	**23 41 47.0**	**-0.1**
NC4				Lg	Lg	23 42 15.9	
NC4	**NORSAR Subarra**	**2.21**	**98**	Pn	**Pn**	**23 41 43.5**	**+2.0**
NC4				Pg	**Pg**	**23 41 47.0**	**-0.1**
NC4				Sg	**Sg**	**23 42 15.9**	**+0.3**
NRA0	**NORESS Array S**	**2.22**	**107**	Pn	**Pn**	**23 41 43.7**	**+2.1**
	baz=299,slow=14						
NRA0				Pg	**Pg**	**23 41 47.1**	**-0.2**
	baz=294,slow=16						
NRA0				Lg	Lg	23 42 16.3	
	baz=296,slow=28						
NRA0	**NORESS Array S**	**2.22**	**107**	Pn	**Pn**	**23 41 43.7**	**+2.1**
	baz=299,slow=14						
NRA0				Pg	**Pg**	**23 41 47.1**	**-0.2**
	baz=294,slow=16						
NRA0				Sg	**Sg**	**23 42 16.3**	**+0.2**
	baz=296,slow=28						
OSL	**Oslo**	**2.31**	**130**	*e*Pg	**Pb**	**23 41 48.5**	**+2.0**
OSL				IAML		23 42 20.5	
	comp=Z,131nm,0.3s						
KMY	**Karmoy**	**2.47**	**204**	*e*P	**Pn**	**23 41 46.0**	**+1.0**
KMY				*e*Sg	**Sb**	**23 42 22.3**	**+2.7**
SNART	**Snartemo**	**3.14**	**180**	*e*P	**Pn**	**23 41 55.9**	**+1.7**
SNART				*e*S	**Sn**	**23 42 32.4**	**+0.6**
SNART				*e*Sg	**Sb**	**23 42 42.4**	**+3.5**
HOMB	**Homborsund**	**3.27**	**168**	*e*P	**Pn**	**23 41 57.7**	**+1.6**
HOMB				*e*Sg	**Sg**	**23 42 48.2**	**-1.6**
UDD	**Uddeholm**	**3.42**	**111**	P	**Pn**	**23 42 00.5**	**+2.4**
UDD				S	**Sn**	**23 42 40.0**	**+1.3**
UDD	**Uddeholm**	**3.42**	**111**	*e*P	**Pn**	**23 42 00.5**	**+2.4**
HFS	**Hagfors**	**3.44**	**110**	Pn	**Pn**	**23 42 00.8**	**+2.4**
	baz=289,slow=14						
HFS				Pg	**Pb**	**23 42 07.7**	**+1.9**
	baz=292,slow=18						
HFS				Sn	**Sn**	**23 42 39.9**	**+0.7**
	baz=283,slow=22						
HFS				Lg	Lg	23 42 53.4	
	baz=299,slow=28						
HFS	**Hagfors**	**3.44**	**110**	Pn	**Pn**	**23 42 00.8**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=290,slow=12,SNR=43						
HFS				Sn	**Sn**	**23 42 40.1**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=289,slow=18,SNR=7.3						
HFS				Lg	Lg	23 42 53.6	
	comp=Z,9.7nm,0.3s,baz=291,slow=29,SNR=13						
HFS	**Hagfors**	**3.44**	**110**	Pn	**Pn**	**23 42 00.8**	**+2.4**
	baz=289,slow=14						
HFS				Pg	**Pb**	**23 42 07.7**	**+1.9**
	baz=292,slow=18						
HFS				Sn	**Sn**	**23 42 39.9**	**+0.7**
	baz=283,slow=22						
HFS				Sg	**Sg**	**23 42 53.4**	**-1.8**
	baz=299,slow=28						
NASU	**Vaermlandsnaes**	**3.92**	**128**	P	**Pn**	**23 42 06.5**	**+1.6**
NASU				S	**Sn**	**23 42 49.9**	**-1.0**
NASU	**Vaermlandsnaes**	**3.92**	**128**	*e*P	**Pn**	**23 42 06.5**	**+1.6**
NASU				*e*S	**Sn**	**23 42 49.9**	**-1.0**
TJOU	**Tjoern**	**4.11**	**145**	P	**Pn**	**23 42 08.7**	**+1.3**
TJOU	**Tjoern**	**4.11**	**145**	*e*P	**Pn**	**23 42 08.7**	**+1.3**
TJOU	**Tjoern**	**4.11**	**145**	*e*P	**Pn**	**23 42 08.7**	**+1.3**
FALU	**Falun**	**4.31**	**99**	P	**Pn**	**23 42 12.5**	**+2.2**
FALU				S	**Sn**	**23 43 02.8**	**+2.4**
FALU	**Falun**	**4.31**	**99**	*e*P	**Pn**	**23 42 12.5**	**+2.2**
NRAU	**Nora**	**4.31**	**113**	P	**Pn**	**23 42 12.8**	**+2.5**
NRAU				S	**Sn**	**23 43 00.9**	**+0.4**
NRAU	**Nora**	**4.31**	**113**	*e*P	**Pn**	**23 42 12.8**	**+2.5**
NRAU				*e*S	**Sn**	**23 43 00.9**	**+0.4**
LRW	**Lerwick**	**4.33**	**256**	*e*S	**Sn**	**23 42 55.7**	**-5.3**
ASKU	**Askersund**	**4.59**	**121**	P	**Pn**	**23 42 16.4**	**+2.2**
ASKU	**Askersund**	**4.59**	**121**	*e*P	**Pn**	**23 42 16.4**	**+2.2**
FKPU	**Falk**	**4.67**	**132**	P	**Pn**	**23 42 16.8**	**+1.6**
FKPU	**Falk**	**4.67**	**132**	*e*P	**Pn**	**23 42 16.8**	**+1.6**
ONAU	**Onsala**	**4.74**	**148**	P	**Pn**	**23 42 17.5**	**+1.4**
ONAU	**Onsala**	**4.74**	**148**	*i* P	**Pn**	**23 42 17.6**	**+1.4**
ONAU				*e*S	**Sn**	**23 43 10.9**	**-0.1**
BORU	**Boraas**	**4.77**	**141**	*e*P	**Pn**	**23 42 18.4**	**+1.8**
IGGU	**Iggoen**	**4.92**	**93**	P	**Pn**	**23 42 20.8**	**+2.1**
IGGU				S	**Sn**	**23 43 15.2**	**-0.4**
IGGU	**Iggoen**	**4.92**	**93**	*e*P	**Pn**	**23 42 20.8**	**+2.1**
IGGU				*e*S	**Sn**	**23 43 15.2**	**-0.4**
MUD	**Monsted U'grnd**	**5.13**	**168**	*e*Sg	**Sg**	**23 43 49.0**	**-0.3**
MUD				IAML		23 43 53.2	
	comp=Z,8.4nm,0.3s						
RAF	**Rauma**	**7.03**	**87**	*e*P	**Pn**	**23 42 49.1**	**+1.6**
RAF				*e*S	**Sn**	**23 44 03.5**	**-3.9**
RAF				MSG		23 44 51.9	
	comp=Z,3.6nm,0.2s						
VAF	**Ylistaro**	**7.38**	**71**	*e*P	**Pn**	**23 42 54.2**	**+1.8**
VAF				*e*S	**Sn**	**23 44 12.0**	**-4.0**
VAF				MSG		23 45 01.0	
	comp=Z,5.6nm,0.3s						
BSD	**Bornholm Skovb**	**7.55**	**144**	*i* P	**Pn**	**23 42 56.2**	**+1.5**
BSD				*i* S	**Sn**	**23 44 16.9**	**-3.3**
BSD	**Bornholm Skovb**	**7.55**	**144**	*i* P	**Pn**	**23 42 56.2**	**+1.5**
BSD				*i* S	**Sn**	**23 44 16.9**	**-3.3**
BSD				IAML		23 45 06.3	
	comp=Z,6.5nm,0.4s						
EKA	**Eskdalemuir Ar**	**8.21**	**226**	Pn	**Pn**	**23 43 02.9**	**-0.9**
EKA				Sn	**Sn**	**23 44 29.7**	**-6.9**
EKA	**Eskdalemuir Ar**	**8.21**	**226**	Pn	**Pn**	**23 43 03.1**	**-0.7**
	baz=26,slow=12,SNR=4.2						
EKA				Sn	**Sn**	**23 44 29.5**	**-7.1**
	baz=43,slow=23,SNR=2.4						
EKA	**Eskdalemuir Ar**	**8.21**	**226**	Pn	**Pn**	**23 43 02.9**	**-0.9**
EKA				Sn	**Sn**	**23 44 29.7**	**-6.9**
OBF0	**Syolatti, Pyha**	**8.31**	**61**	*e*P	**Pn**	**23 43 06.0**	**+0.9**
OBF0				*e*S	**Sn**	**23 44 34.6**	**-4.3**
KEF	**Keuruu**	**8.38**	**77**	*e*P	**Pn**	**23 43 07.1**	**+1.0**
KEF				*e*S	**Sn**	**23 44 35.6**	**-5.1**
OUF	**Merijarvi**	**8.49**	**62**	*e*P	**Pn**	**23 43 08.2**	**+0.6**
NUR	**Nurmijrvi**	**8.52**	**89**	*e*P	**Pn**	**23 43 09.0**	**+0.9**
SUF	**Sumiainen**	**8.96**	**74**	*e*P	**Pn**	**23 43 15.0**	**+1.0**
SUF				*e*S	**Sn**	**23 44 49.3**	**-5.5**
FIA0	**FINESS Array S**	**9.02**	**82**	Pn	**Pn**	**23 43 14.8**	**-0.1**
	baz=284,slow=12						
FIA0				Sn	**Sn**	**23 44 52.2**	**-4.2**
	baz=280,slow=18						
FIA0				Lg	Lg	23 45 42.6	
	baz=274,slow=22						
FIA0	**FINESS Array S**	**9.02**	**82**	Pn	**Pn**	**23 43 14.8**	**-0.1**
	baz=284,slow=12						
FIA0				Sn	**Sn**	**23 44 52.2**	**-4.2**
	baz=280,slow=18						
FIA0				Sg		23 45 42.6	
	baz=274,slow=22						
FINES	**FINESS Array B**	**9.02**	**82**	Pn	**Pn**	**23 43 16.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=282,slow=14,SNR=7.3						
FINES				Sn	**Sn**	**23 44 53.4**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=282,slow=21,SNR=4.1						
FINES				Lg	Lg	23 45 47.2	
	comp=Z,1.4nm,0.3s,baz=284,slow=23,SNR=4.1						
FIA1	**FINESS Array S**	**9.03**	**82**	*e*P	**Pn**	**23 43 15.5**	**+0.6**
FIA1				*e*S	**Sn**	**23 44 50.3**	**-6.1**
ARA0	**ARCESS Array S**	**11.04**	**35**	Pn	**Pn**	**23 43 43.3**	**+0.8**
	baz=228,slow=14						
ARA0	**ARCESS Array S**	**11.04**	**35**	Pn	**Pn**	**23 43 43.3**	**+0.8**
	baz=228,slow=14						
ARCES	**ARCESS Array B**	**11.04**	**35**	Pn	**Pn**	**23 43 43.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=14,SNR=2.8						
ARCES				Sn	**Sn**	**23 45 46.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=223,slow=22,SNR=3.0						

*IDC **19** 23:48:15.7±1.4, 13°78N×92°77W, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.8/38, mbtmp3.7/8, ML3.5/3, MS3.4/2, Ms1 3.4/2, ms1mx3.1/37, Error ellipse: s-maj=35.2km s-min=20.0km az=37.0*
*ISCJB **19** 23:48:21.0±1.8, 14°29N±0°06×92°92W±0°05, h21km±13km, mb3.8/5, MS3.9/1, Error ellipse: s-maj=11.0km s-min=8.0km az=17.5*
*NEIC **19** 23:48:23.4±4.1, 14°23N±0°04×92°85W±0°04, h37km±10km*
*MEX **19** 23:48:23.0±0.7, 14°19N×92°92W, h16km±39km, MD4.0*
ISC 19 23:48:23.8±3.2, 14°29N±0°10×92°87W±0°05, h32km±22km, n26, σ1§61/36, mb3.8/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.85**	**43**	*i* P	**Pn**	**23 48

2.1nm,0.6s
AAK ⇑S **Sn** **00 12 19.7 +0.1**
7.1nm,0.9s
AAK Ala-Archa 7.95 7 Pn **Pn** **00 10 53.7 +3.5**
0.9nm,0.3s,baz=137,slow=6.6,SNR=7.6
AAK Sn **Sn** **00 12 20.2 +0.6**
0.4nm,0.3s,baz=253,slow=7.9,SNR=2.8
MRKS Merke 8.01 360 Pg **Pn** **00 10 53.3 +2.5**
7.8nm,0.3s
MRKS Lg Lg 00 12 20.6
7.6nm,0.3s
TKM2 Tokmak 2 8.38 12 ⇑P Pn 00 11 02.1 +6.0
2.9nm,0.6s
TKM2 ⇑S **Sn** **00 12 28.9 -1.2**
3.8nm,0.7s
KST Kastek 8.56 13 Pg **Pn** **00 11 01.5 +3.0**
4.7nm,0.5s
KST Lg Lg 00 12 34.8
8.5nm,0.6s
KK31 Karatay Array 8.63 346 P **Pn** **00 11 00.8 +1.4**
4.5nm,0.3s,baz=156,slow=12,SNR=90
KK31 ⇑S **Sn** **00 12 35.1 -1.0**
3.6nm,0.4s,baz=166,slow=21,SNR=6.6
BRLS Borolday 8.71 343 Pg **Pn** **00 10 59.3 -1.2**
5.4nm,0.3s
BRLS Lg Lg 00 12 31.2
4.2nm,0.2s
DANN Dangsing 10.97 123 *eP* **Pn** **00 11 30.4 -1.3**
28nm,0.4s
KOLN Koldanda 11.23 125 *eP* **Pn** **00 11 34.6 -0.6**
9.2nm,0.3s
GKN Gorkha 11.79 122 *eP* **Pn** **00 11 41.7 -1.2**
22nm,0.2s
DMN Daman 12.36 122 *eP* **Pn** **00 11 49.3 -1.4**
21nm,0.6s
KKN Kakani 12.37 121 *eP* **Pn** **00 11 48.9 -2.0**
13nm,0.4s
PKIN Phulchoki 12.59 121 *eP* **Pn** **00 11 52.1 -1.7**
12nm,0.3s
PKI Pulchoki 12.60 121 *eP* **Pn** **00 11 52.4 -1.6**
14nm,0.4s
GEYT Alibeck 12.64 289 Pn **Pn** **00 11 52.2 -2.0**
0.6nm,0.3s,baz=113,slow=11,SNR=5.5
GUN Gumba 12.73 119 *eP* **Pn** **00 11 54.5 -1.4**
22nm,0.4s
JIRN Jiri 13.10 119 *eP* **Pn** **00 11 59.0 -1.9**
36nm,0.3s
RAMN Ramite 13.81 121 *eP* **Pn** **00 12 08.0 -2.6**
20nm,0.4s
TAPN Taplejung 14.38 117 *eP* **Pn** **00 12 15.3 -3.1**
15nm,0.3s
ODAN Odare 14.43 119 *eP* **Pn** **00 12 16.3 -2.7**
16nm,0.5s
KURBB Kurchatov Arra 16.34 12 Pn **Pn** **00 12 43.2 -0.5**
0.1nm,0.3s,baz=202,slow=11,SNR=5.4
AB31 Akbulak array 17.54 330 P **Pn** **00 12 57.7 -1.0**
1.5nm,0.7s,baz=140,slow=12,SNR=24
BVAR Borovoye Array 18.41 354 P **Pn** **00 13 10.4 +1.0**
0.6nm,0.3s,baz=166,slow=9.0,SNR=12
BRVK Borovoye 18.45 354 ⇑P **Pn** **00 13 10.5 +0.6**
2.5nm,0.8s
AKTO Aktyubinsk 19.24 329 ⇑P **P** **00 13 18.7 +0.2**
4.1nm,0.7s
AKTO Aktyubinsk 19.24 329 P **P** **00 13 18.9 +0.4**
0.7nm,0.3s,baz=132,slow=11,SNR=14
ZAA0 Zalesovo Array 20.86 19 ⇓P **P** **00 13 35.6 -0.5**
0.5nm,0.6s
ZALV Zalesovo Beam 20.86 19 P **P** **00 13 35.9 -0.2**
4.4nm,0.5s,baz=213,slow=11,SNR=21
ARU Arti 23.92 340 P **P** **00 14 07.4 -0.5**
0.5nm,0.4s,baz=261,slow=6.0,SNR=4.2
SONM Songino Array 27.89 52 P **P** **00 14 43.0 -1.1**
0.2nm,0.4s,baz=247,slow=10,SNR=4.0
CMAR Chiang Mai Arr 27.98 119 P **P** **00 14 45.3 +0.3**
1.9nm,0.8s,baz=300,slow=9.9,SNR=10
FINES FINESS Array B 39.98 327 P **P** **00 16 28.9 +0.5**
3.1nm,0.8s,baz=117,slow=11,SNR=4.9
ARCES ARCESS Array B 43.48 338 P **P** **00 16 57.1 +0.1**
4.8nm,0.9s,baz=117,slow=7.5,SNR=5.7
NOA NORSAR Array B 46.91 324 P **P** **00 17 24.4 +0.1**
1.0nm,0.8s,baz=90,slow=3.8,SNR=3.4
TORD Torodi Ar. Bea 67.56 271 P **P** **00 19 50.2 -0.7**
175nm,0.9s,baz=40,slow=5.3,SNR=13
WRA Warramunga Arr 79.48 123 P **P** **00 21 01.2 +0.4**
0.6nm,0.5s,baz=323,slow=4.8,SNR=20
ASAR Alice Springs 81.72 126 P **P** **00 21 12.8 0.0**
0.6nm,0.5s,baz=307,slow=5.2,SNR=9.3
YKA Yellowknife Ar 82.91 4 P **P** **00 21 19.8 +1.4**
0.8nm,0.7s,baz=350,slow=5.4,SNR=4.9

NNC 20 00:09:20.4±3.2, 44°.01N×85°.96E, h14km±11km, mb3.6, mpv3.2, 5C-2D, Error ellipse: s-maj=22.9km s-min=20.4km az=125.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.80**	**318**	Pn	Pn	00 10 17.9	-0.5
	0.3nm,0.3s,baz=140,slow=14,SNR=14						
MK31				⇑Pg	Pb	00 10 29.3	+2.2
	0.8nm,0.3s,baz=144,slow=16,SNR=21						
MK31				⇓Sn	Sn	00 11 04.0	+1.1
	0.4nm,0.2s,baz=128,slow=15,SNR=13						
MK31				Lg	Lg	00 11 22.3	
	16nm,0.8s,baz=130,slow=29,SNR=13						
MAKZ	**Makanchi**	**3.96**	**316**	⇑Pn	Pn	00 10 20.2	-0.4
	1.8nm,0.6s						
MAKZ				⇓Pg	Pg	00 10 33.2	-3.0
	3.2nm,1.1s						
MAKZ				⇑Sn	Sn	00 11 07.9	+1.0
	3.0nm,0.7s						
MAKZ				⇑Lg	Lg	00 11 26.6	
	9.6nm,0.9s						
DJR	**Jarkent**	**4.45**	**276**	Pg	Pg	00 10 43.9	-1.7
	2.7nm,0.6s						
DJR				Lg	Lg	00 11 42.4	
	3.8nm,0.5s						
PDGK	**Podgornoye**	**4.74**	**264**	Pg	Pg	00 10 48.4	-2.8
	0.7nm,0.4s						
PDGK				Lg	Lg	00 11 50.5	
	2.0nm,0.4s						
PDGK	**Podgornoye**	**4.74**	**264**	⇑Lg	Lg	00 11 52.1	
	6.8nm,0.8s						
TDK	**Taldyqorghan**	**5.49**	**283**	Pg	Pb	00 10 57.4	+1.5
	16nm,0.3s						
TDK				Lg	Lg	00 12 06.4	
	12nm,0.4s						

*ISCJB **20** 00:40:33.8±0.2, 33°.01N±0°.02×97°.56W±0°.02, h10km, mb3.7/1, Error ellipse: s-maj=3.3km s-min=2.6km az=160.3*
*NEIC **20** 00:40:35.0±1.4, 32°.91N±0°.04×97°.55W±0°.05, h5km±2km, mb_Lg3.6/69*
*IDC **20** 00:40:34.5±1.1, 33°.09N×97°.68W, h0km, mb3.7/1, mb1 3.9/8, mb1mx3.6/42, mbtmp3.7/8, ML3.7/7, Error ellipse: s-maj=17.3km s-min=10.2km az=155.0*
*ANF **20** 00:40:35.4±0.5, 32°.95N×97°.54W, h5km±3km, ML4.3/14, Error ellipse: s-maj=2.3km s-min=2.0km az=124.0*
ISC 20 00:40:35.2±0.6, 32°.97N±0°.03×97°.54W±0°.04, h10km, n106, σ1§11/105, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**0.98**	**176**	P	**Pg**	**00 40 53.7**	**-0.3**
	baz=355						
WHTX				S	**Sb**	**00 41 06.9**	**-0.3**
	baz=355						
WHTX	**Lake Whitney,**	**0.98**	**176**		**Pg**	**00 40 53.6**	**-0.3**
X34A	**Smith Ranch, M**	**1.65**	**352**		**Pb**	**00 41 05.7**	**+0.1**
X34A				IAmb_Lg		00 41 29.5	
	comp=Z,308nm,0.9s						
ABTX	**Abilene, Hawle**	**1.80**	**260**	Pb	**Pb**	**00 41 08.3**	**0.0**
	baz=80						
ABTX				S	**Sb**	**00 41 31.5**	**+0.5**
	baz=80						
ABTX	**Abilene, Hawle**	**1.80**	**260**		**Pn**	**00 41 06.5**	**+0.2**
WMOK	**Wichita Mounta**	**2.04**	**330**	P	**Pn**	**00 41 11.3**	**+1.6**
	baz=150						
WMOK				S	**Sb**	**00 41 37.5**	**-0.4**
	baz=150						
WMOK	**Wichita Mounta**	**2.04**	**330**		**Pn**	**00 41 10.9**	**+1.2**
435B	**Jarrell**	**2.18**	**181**	P	**Pn**	**00 41 12.5**	**+1.0**
	baz=0.6						
435B				Sb	**Sg**	**00 41 44.2**	**-1.1**
	baz=0.6						
435B	**Jarrell**	**2.18**	**181**		**Pn**	**00 41 12.0**	**+0.5**

W35A	**Tecumseh**	**2.25**	**14**		**Pb**	**00 41 14.9**	**-1.0**
FNO	**Franklin**	**2.29**	**3**		**Pn**	**00 41 15.2**	**+2.2**
OKCSW	**OKLAHOMA CITY**	**2.43**	**2**		**Pn**	**00 41 17.4**	**+2.4**
ADOK	**Arcadia Dam**	**2.68**	**3**	Pn	**Pn**	**00 41 20.0**	**+1.6**
NATX	**Nacogdoches**	**2.72**	**116**	S	**Sn**	**00 41 54.5**	**+2.5**
	baz=296						
NATX	**Nacogdoches**	**2.72**	**116**		**Pn**	**00 41 20.0**	**+1.0**
NATX				IAmb_Lg		00 42 07.5	
	comp=Z,250nm,0.8s						
JCT	**Junction City**	**3.14**	**218**	P	**Pn**	**00 41 25.8**	**+1.0**
	baz=38						
JCT				S	**Sn**	**00 42 02.9**	**+0.6**
	baz=38						
JCT	**Junction City**	**3.14**	**218**		**Pn**	**00 41 25.4**	**+0.6**
JCT				IAmb_Lg		00 42 19.4	
	comp=Z,235nm,0.9s						
TUL1	**Leonard**	**3.27**	**26**	P	**Pn**	**00 41 28.1**	**+1.6**
	baz=206						
TUL1				S	**Sn**	**00 42 06.8**	**+1.3**
	baz=206						
TUL1	**Leonard**	**3.27**	**26**		**Pn**	**00 41 28.1**	**+1.6**
TUL1				IAmb_Lg		00 42 23.9	
	comp=Z,192nm,1.2s						
HKT	**Hockley**	**3.34**	**154**	Pn	**Pn**	**00 41 27.8**	**+0.3**
U32A	**Winter Ranch,**	**3.61**	**341**		**Pn**	**00 41 33.0**	**+1.8**
U32A				IAmb_Lg		00 42 28.2	
	comp=Z,153nm,0.8s						
MIAR	**Mount Ida**	**3.66**	**63**	P	**Pn**	**00 41 32.2**	**+0.4**
	baz=245						
MIAR	**Mount Ida**	**3.66**	**63**		**Pn**	**00 41 32.9**	**+1.1**
MIAR				IAmb_Lg		00 42 39.4	
	comp=Z,163nm,1.1s						
WLAR	**White Oak Lake**	**3.78**	**78**		**Pn**	**00 41 34.5**	**+1.1**
WLAR				IAmb_Lg		00 42 43.5	
	comp=Z,156nm,0.8s						
W39A	**Magazine**	**3.83**	**54**		**Pn**	**00 41 36.8**	**+2.6**
W39A				IAmb_Lg		00 42 45.3	
	comp=Z,184nm,0.9s						
AMTX	**Amarillo**	**3.93**	**300**	P	**Pn**	**00 41 37.3**	**+1.6**
	baz=119						
AMTX	**Amarillo**	**3.93**	**300**		**Pn**	**00 41 37.3**	**+1.6**
Z41A	**Richland Creek**	**3.99**	**85**	P	**Pn**	**00 41 37.4**	**+1.0**
	baz=266						
Z41A	**Richland Creek**	**3.99**	**85**		**Pn**	**00 41 37.4**	**+1.0**
Z41A				IAmb_Lg		00 42 42.9	
	comp=Z,96nm,0.8s						
X40A	**Basin Creek Fa**	**4.21**	**68**	P	**Pn**	**00 41 40.0**	**+0.7**
	baz=250						
X40A	**Basin Creek Fa**	**4.21**	**68**		**Pn**	**00 41 39.7**	**+0.3**
HHAR	**Hobbs**	**4.44**	**41**		**Pn**	**00 41 43.6**	**+0.9**
HHAR				IAmb_Lg		00 43 03.4	
	comp=Z,89nm,0.9s						
MSTX	**Muleshoe**	**4.48**	**284**	P	**Pn**	**00 41 44.2**	**+0.9**
	baz=102						
MSTX	**Muleshoe**	**4.48**	**284**		**Pn**	**00 41 44.2**	**+0.9**
UALR	**University of**	**4.69**	**66**		**Pn**	**00 41 46.8**	**+0.8**
UALR				IAmb_Lg		00 43 15.0	
	comp=Z,105nm,1.2s						
833A	**Chaparral WMA,**	**4.90**	**199**	P	**Pn**	**00 41 50.3**	**+1.5**
	baz=18						
833A	**Chaparral WMA,**	**4.90**	**199**		**Pn**	**00 41 49.7**	**+0.9**
833A				IAmb_Lg		00 43 14.0	
	comp=Z,83nm,0.8s						
W41B	**Gary Mavity, V**	**4.91**	**62**	P	**Pn**	**00 41 50.1**	**+1.0**
	baz=244						
W41B	**Gary Mavity, V**	**4.91**	**62**		**Pn**	**00 41 50.0**	**+1.0**
CCAR	**Cane Creek**	**4.92**	**77**		**Pn**	**00 41 49.9**	**+0.8**
CCAR				IAmb_Lg		00 43 15.0	
	comp=Z,103nm,0.9s						
WHAR	**Wooly Hollow**	**4.94**	**61**		**Pn**	**00 41 50.3**	**+0.9**
U40A	**Yellville**	**5.13**	**48**		**Pn**	**00 41 53.2**	**+1.1**
CPRX	**Cap Rock**	**5.31**	**272**		**Pn**	**00 41 55.0**	**+0.3**
FCAR	**Ozark Folk Cen**	**5.34**	**55**		**Pn**	**00 41 56.1**	**+1.1**
CLNB	**Carlsbad**	**5.39**	**264**		**Pn**	**00 41 56.4**	**+0.6**
X43A	**Marvell**	**5.76**	**73**	Pn	**Pn**	**00 42 01.3**	**+0.6**
GDL2	**Guadalupe Moun**	**5.81**	**264**		**Pn**	**00 42 01.7**	**+0.2**
VBMS	**Vicksburg**	**5.98**	**95**	Pn	**Pn**	**00 42 04.8**	**+1.1**
VBMS				IAmb_Lg		00 43 57.6	
	comp=Z,65nm,1.1s						
MGMO	**Mountain Grove**	**6.01**	**45**		**Pn**	**00 42 05.1**	**+0.9**
MGMO				IAmb_Lg		00 43 43.9	
	comp=Z,76nm,0.8s						
CBKS	**Cedar Bluff**	**6.10**	**344**	P	**Pn**	**00 42 06.7**	**+1.3**
	baz=163						
CBKS	**Cedar Bluff**	**6.10**	**344**		**Pn**	**00 42 06.4**	**+1.0**
CBKS				IAmb_Lg		00 43 53.6	
	comp=Z,94nm,0.8s						
LCAR	**Lake Charles**	**6.11**	**58**		**Pn**	**00 42 06.1**	**+0.6**
HBAR	**Harrisburg**	**6.26**	**64**	IAmb_Lg		00 44 10.7	
	comp=Z,97nm,0.9s						
TX31	**Lajitas Ar. Si**	**6.38**	**237**		**Pn**	**00 42 09.2**	**-0.1**
TX32	**Lajitas Array**	**6.38**	**237**		**Pn**	**00 42 09.0**	**-0.3**
TXAR	**Lajitas Array**	**6.38**	**237**	Pn	**Pn**	**00 42 08.9**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=66,slow=13,SNR=64						
TXAR				Sn	**Sn**	**00 43 21.2**	**-1.1**
	comp=Z,4.7nm,0.3s,baz=59,slow=22,SNR=5.0						
TXAR				Lg	Lg	00 43 51.3	
	comp=Z,6.2nm,0.3s,baz=64,slow=27,SNR=3.9						
TXAR	**Lajitas Array**	**6.38**	**237**		**Pn**	**00 42 08.8**	**-0.5**
MNTX	**Cornudas Mount**	**6.75**	**261**	P	**Pn**	**00 42 14.9**	**+0.5**
	baz=78						
MNTX	**Cornudas Mount**	**6.75**	**261**		**Pn**	**00 42 14.7**	**+0.3**
GNAR	**Gosnell**	**6.90**	**62**	Pn	**Pn**	**00 42 17.7**	**+1.4**
OXF	**Oxford**	**6.95**	**75**	Pn	**Pn**	**00 42 16.2**	**-0.8**
OXF				IAmb_Lg		00 44 29.2	
	comp=Z,76nm,1.1s						
PBMO	**Poplar Bluff**	**6.97**	**55**	Pn	**Pn**	**00 42 18.1**	**+0.8**
PBMO				IAmb_Lg		00 44 29.9	
	comp=Z,55nm,0.8s						
T25A	**Trinidad**	**7.00**	**308**	P	**Pn**	**00 42 18.9**	**+0.9**
	baz=125						
T25A	**Trinidad**	**7.00**	**308**		**Pn**	**00 42 18.9**	**+0.9**
CCM	**Cathedral Cave**	**7.22**	**44**	Pn	**Pn**	**00 42 21.7**	**+1.0**
CCM					LR	00 44 22.4	
CCM				IAmb_Lg		00 44 29.5	
	comp=Z,92nm,1.1s						
KSCO	**Kaye Shedlock'**	**7.30**	**327**	Pn	**Pn**	**00 42 22.6**	**+0.6**
KSCO				IAmb_Lg		00 44 38.8	
	comp=Z,90nm,0.8s						
ANMO	**Albuquerque**	**7.66**	**287**	Pn	**Pn**	**00 42 25.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=100,slow=14,SNR=3.2						
ANMO				Lg	Lg	00 44 32.6	
	comp=Z,6.2nm,0.3s,baz=22,slow=16,SNR=8.1						
ANMO	**Albuquerque**	**7.66**	**287**	Pn	**Pn**	**00 42 27.9**	**+0.8**
ANMO				Pg	Pg	00 42 57.4	-4.6
ANMO				IAmb_Lg		00 44 48.7	
	comp=Z,74nm,1.1s						
BNM	**Barren Site**	**7.67**	**281**		**Pn**	**00 42 27.4**	**+0.2**
BNM				Pg	Pg	00 42 56.7	-5.4
LPM	**Los Pinos Moun**	**7.70**	**283**		**Pg**	00 42 56.1	-6.5
Y22D	**IRIS PASSCAL I**	**7.91**	**281**	Pg	Pg	00 43 00.1	-6.5
Y22D					LR	00 44 49.6	
LENM	**Lemitar**	**7.96**	**281**	Pg	Pg	00 43 00.8	-6.8
SDCO	**Great Sand Dun**	**8.06**	**308**		**Pn**	**00 42 33.4**	**+0.8**
SDCO				Pg	Pb	00 43 02.3	+7.2
SDCO				IAmb_Lg		00 44 55.4	
	comp=Z,63nm,1.1s						
PLAL	**Pickwick Lake**	**8.12**	**73**		**Pn**	**00 42 32.3**	**-0.8**
SIUC	**Southern Illin**	**8.29**	**53**	Pn	**Pn**	**00 42 35.7**	**+0.3**
SIUC				IAmb_Lg		00 45 18.7	
	comp=Z,38nm,0.8s						
BGNE	**Belgrade**	**8.44**	**357**	Pn	**Pn**	**00 42 37.0**	**-0.5**
Q24A	**Divide**	**8.59**	**316**	Pn	**Pn**	**00 42 40.7**	**+0.9**
Q24A				IAmb_Lg		00 45 20.7	
	comp=Z,71nm,0.9s						
WVT	**Waverly**	**8.61**	**66**		**Pn**	**00 42 39.6**	**-0.2**
121A	**Cookes Peak, D**	**8.64**	**270**	Pn	**Pn**	**00 42 40.3**	**-0.1**
121A				IAmb_Lg		00 45 27.2	
	comp=Z,66nm,0.8s						
OGNE	**Ogallala**	**8.73**	**337**	Pn	**Pn**	**00 42 42.2**	**+0.6**
LRAL	**Lakeview Retre**	**8.86**	**87**	Pn	**Pn**	**00 42 43.1**	**-0.1**
X48A	**Hartselle**	**8.87**	**78**	Pn	**Pn**	**00 42 43.5**	**+0.1**
P43A	**Skaggs, Pawnee**	**9.28**	**42**	IAmb_Lg		00 45 48.1	
	comp=Z,48nm,0.9s						
Y49A	**Blount Mountai**	**9.35**	**82**	Pn	**Pn**	**00 42 49.8**	**-0.2**
ISCO	**Idaho Springs**	**9.42**	**319**		**Pn**	**00 42 52.0**	**+0.8**
ISCO				IAmb_Lg		00 45 39.6	
	comp=Z,40nm,1.0s						
T47A	**Sharon Grove**	**9.46**	**62**	Pn	**Pn**	**00 42 53.5**	**+2.1**
USIN	**University of**	**9.47**	**55**	IAmb_Lg		00 45 49.2	
	comp=Z,63nm,1.3s						
SCIA	**State Center**	**9.56**	**20**	IAmb_Lg		00 45 51.4	
	comp=Z,38nm,0.8s						
OLIL	**Olney**	**9.58**	**50**	IAmb_Lg		00 45 55.8	
	comp=Z,58nm,1.1s						

Z50A	**Ashland**	**9.75**	**85**	Pn	**Pn**	**00 42 54.9**	**-0.6**
SMCO	**Snowmass**	**9.83**	**312**	Pn	**Pn**	**00 42 57.3**	**+0.4**
SWET	**Sewanee**	**9.89**	**74**	Pn	**Pn**	**00 42 57.2**	**-0.2**
MVCO	**Mesa Verde**	**9.92**	**298**	IAmb_Lg		00 46 00.8	
	comp=Z,28nm,0.9s						
FPAL	**Fort Paine**	**10.06**	**78**	Pn	**Pn**	**00 43 00.1**	**+0.4**
O44A	**Mansfield**	**10.23**	**43**	Pn	**Pn**	**00 43 02.2**	**+0.2**
L40A	**Anamosa**	**10.37**	**27**	Pn	**Pn**	**00 43 04.8**	**+0.9**
N23A	**Red Feather La**	**10.38**	**322**		**Pn**	**00 43 03.6**	**-0.6**
W50A	**Signal Mountai**	**10.38**	**74**	Pn	**Pn**	**00 43 03.1**	**-1.1**
PHWY	**Pilot Hill**	**10.44**	**325**	Pn	**Pn**	**00 43 05.2**	**+0.1**
X18A	**Snowflake**	**10.45**	**282**	Pn	**Pn**	**00 43 05.8**	**+0.6**
TKL	**Tuckaleechee C**	**11.70**	**73**	Pn	**Pn**	**00 43 20.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=270,slow=18,SNR=2.5						
TKL				Sn	**Sn**	**00 45 29.1**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=261,slow=13,SNR=2.6						
PDAR	**Pinedale Array**	**13.61**	**319**	Pn	**Pn**	**00 43 47.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=3.9						
PDAR				Lg	Lg	00 47 35.3	
	comp=Z,0.1nm,0.3s,baz=132,slow=28,SNR=2.8						
TEIG	**Tepich**	**15.15**	**145**	Pn	**Pn**	**00 44 11.8**	**+2.6**
	comp=Z,1.6nm,0.3s,baz=334,slow=0.4,SNR=12						
TEIG				Sn	Sn	00 46 44.4	-13
	comp=Z,0.3nm,0.3s,baz=53,slow=20,SNR=3.5						
CMIG	**Matias Romero**	**15.99**	**171**	Pn	**Pn**	**00 44 21.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=353,slow=16,SNR=3.2						
NVAR	**Mina Array Bea**	**17.71**	**294**	P	**Pn**	**00 44 41.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=2.4						
NEW	**Newport**	**21.22**	**322**	P	**P**	**00 45 21.3**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=124,slow=14,SNR=6.2						

*MAN **20** 00:46:54.1, 5°.64N×125°.85E, h93km, mb4.7, ML3.5, MS3.4*
*ISCJB **20** 00:46:55.3±0.4, 5°.88N±0°.04×125°.92E±0°.07, h115km±5km, mb3.9/8, Error ellipse: s-maj=11.6km s-min=5.7km az=10.5*
*IDC **20** 00:46:55.1±0.8, 5°.86N×125°.60E, h110km±7km, mb3.7/8, mb1 3.9/9, mb1mx3.5/37, mbtmp4.1/9, Error ellipse: s-maj=36.1km s-min=11.5km az=86.0*
*DJA **20** 00:46:56.3±0.5, 6°N±4°×12°6E±°, h99km±8km, M4.4/8, mB4.8/5, mb4.4/8, MLv4.6/8, Mw(mB)4.0/5*
ISC 20 00:46:55.9±0.7, 5°.83N±0°.04×125°.90E±0°.07, h111km±6km, n28, σ2§01/41, mb3.9/8, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.33**	**326**	*eP*	**Pn**	**00 47 11.0**	**-1.0**
DDMP				*eS*	**Sn**	**00 47 23.0**	**-1.0**
GSPH	**General Santos**	**0.98**	**285**	*eP*	**Pn**	**00 47 16.2**	**-0.9**
GSPH				*eS*	**Sn**	**00 47 32.0**	**-1.1**
MATI	**Mati**	**1.17**	**18**	*eP*	**Pn**	**00 47 18.3**	**-0.7**
MATI				*eS*	**Sn**	**00 47 34.8**	**-1.7**
DAV	**Davao City (W)**	**1.27**	**346**	P	**Pn**	**00 47 19.9**	**-0.3**
	111nm,0.3s,baz=267,slow=3.2,SNR=9.8						
DAV				S	**Sn**	**00 47 36.0**	**-2.6**
	414nm,0.3s,baz=258,slow=9.3,SNR=14						
DAV				LR	LR	00 47 43.8	
	comp=Z,180nm,19.6s,baz=196,slow=40						
DMPH	**Davao City--Mi**	**1.31**	**343**	⇑*eP*	**Pn**	**00 47 23.1**	**+2.5**
DMPH				*eS*	**Sn**	**00 47 40.4**	**+1.1**
KCP	**Kidapawan**	**1.42**	**326**	⇓*iP*	**Pn**	**00 47 21.6**	**-0.4**
KCP				*i S*	**Sn**	**00 47 41.7**	**0.0**
SKMP	**Bagumbayan, Su**	**1.51**	**297**	*eP*	**Pn**	**00 47 21.9**	**-1.1**
SKMP				*eS*	**Sn**	**00 47 44.5**	**+1.0**
CTBH	**Cotabato--PC H**	**2.15**	**310**	⇑*iP*	**Pn**	**00 47 30.1**	**-0.8**
SGSI	**Sangihe**	**2.16**	**190**	P	**Pn**	**00 47 31.4**	**+0.4**
SGSI				S	**Sn**	**00 48 00.7**	**+2.8**
BUKP	**Musuan**	**2.20**	**338**	*eP*	**Pn**	**00 47 31.3**	**-0.3**
BUKP				*eS*	**Sn**	**00 48 05.3**	**+6.4**
BIPH	**Bislig**	**2.39**	**11**	⇓*iP*	**Pn**	**00 47 35.6**	**+1.7**
BIPH				*i S*	**Sn**	**00 48 05.7**	**+2.6**
CGP	**Cagayan de Oro**	**2.87**	**335**	⇑*eP*	Pn	00 47 57.6	+17
CGP				*eS*	**Sn**	**00 48 18.2**	**+3.8**
MRSI	**Marisa**	**6.62**	**217**	P	**Pn**	**00 48 33.2**	**+2.4**
	17nm,0.4s,824nm0.4nm						
SANI	**Sanana**	**7.82**	**179**	P	**Pn**	**00 48 44.6**	**-2.5**
TTSI	**Tana Toraja**	**10.70**	**215**	P	**Pn**	**00 49 29.4**	**+3.3**
SPSI	**Sidrap Palu**	**11.49**	**212**	P	**Pn**	**00 49 38.0**	**+1.3**
BNSI	**Bone**	**11.69**	**210**	P	**Pn**	**00 49 42.1**	**+2.8**
	43nm,1.2s						
KAPI	**Kappang**	**12.39**	**210**	P	**Pn**	**00 49 47.5**	**-1.2**
	0.9nm,0.3s,baz=66,slow=12,SNR=2.0						
BATI	**Baumata**	**16.08**	**188**	P	**P**	**00 50 38.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**23.77**	**181**	P	**P**	**00 51 58.6**	**+0.2**
	3.9nm,0.6s,baz=12,slow=8.1,SNR=17						
WRA	**Warramunga Arr**	**26.92**	**162**	P	**P**	**00 52 26.4**	**-0.5**
	1.2nm,0.6s,baz=343,slow=10.0,SNR=9.8						
WRA				PcP	**PcP**	**00 55 45.8**	**-0.7**
	0.8nm,0.9s,baz=328,slow=3.0,SNR=3.5						
WRA				ScP	**ScP**	**00 59 15.1**	**-1.7**
	0.3nm,1.0s,baz=339,slow=3.0,SNR=3.3						
ASAR	**Alice Springs**	**30.34**	**165**	P	**P**	**00 52 57.4**	**+0.1**
	1.0nm,0.5s,baz=345,slow=7.1,SNR=17						
ASAR				PcP	**PcP**	**00 55 54.1**	**-0.9**
	0.8nm,0.7s,baz=359,slow=2.7,SNR=5.9						
USRK	**Ussuriysk Ar.**	**38.59**	**7**	P	**P**	**00 54 08.6**	**+0.5**
	3.7nm,0.7s,baz=208,slow=7.2,SNR=8.8						
STKA	**Stephens Creek**	**40.37**	**159**	P	**P**	**00 54 23.4**	**+0.4**
	6.1nm,0.8s,baz=336,slow=9.5,SNR=9.2						
PETK	**Petropavlovsk-**	**53.83**	**23**	P	**P**	**00 56 07.2**	**0.0**
	1.6nm,0.7s,baz=187,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**55.37**	**325**	P	**P**	**00 56 16.4**	**-2.2**
	0.3nm,0.4s,baz=115,slow=7.6,SNR=9.2						
ILAR	**Eielson Array**	**83.58**	**26**	P	**P

*THE **20** 01:08:05.5, 41.°11N×20.°43E, h0km±2km, ML2.1/4, Error ellipse: s-maj=2.8km s-min=0.6km az=238.0*
*SKO **20** 01:08:05.0, 41.°14N×20.°42E, h15km, M1.3, ML1.9*
ISC 20 01:08:05.6±0.9, 41.°10N±0.°02×20.°39E±0.°02, h15km±8km, n30, σ1°46/52, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.31**	**87**	*i* Pg	**Pg**	**01 08 11.3**	**-0.9**
OHR				*i* Sg	**Sg**	**01 08 16.5**	**0.0**
OHR				*e*Lg	Lg	01 08 16.9	
	comp=N,90nm,0.4s						
OHR				*e*Lg	Lg	01 08 17.4	
	comp=E,144nm,0.5s						
TIR	**Tirane**	**0.47**	**303**	P	**Pg**	**01 08 14.4**	**-0.5**
TIR				S	**Sg**	**01 08 21.8**	**+0.5**
	comp=E,202nm,0.2s						
TIR	**Tirane**	**0.47**	**303**	*i* Pg	**Pg**	**01 08 14.5**	**-0.5**
TIR	**Tirane**	**0.47**	**303**	*i* PG	**Pg**	**01 08 14.5**	**-0.5**
TIR				*i* SG	**Sb**	**01 08 22.3**	**-0.1**
TIR	**Tirane**	**0.47**	**303**	P	**Pg**	**01 08 14.5**	**-0.5**
TIR				S	**Sg**	**01 08 22.0**	**+0.6**
TIR				AML	AML	01 08 24.3	
	comp=N,1084μm,0.3s						
TIR				AML	AML	01 08 24.3	
	comp=E,953μm,0.1s						
PHP	**Peshkopia**	**0.59**	**4**	P	**Pg**	**01 08 15.8**	**-1.5**
PHP				S	**Sg**	**01 08 25.2**	**+0.1**
PHP	**Peshkopia**	**0.59**	**4**	*i* PG	**Pg**	**01 08 16.3**	**-0.9**
PHP				*i* SG	**Sg**	**01 08 24.5**	**-0.6**
FNA	**Florina**	**0.81**	**112**	P	**Pg**	**01 08 20.2**	**-1.2**
FNA				S	**Sg**	**01 08 31.9**	**-0.1**
	comp=E,310nm,0.4s						
FNA	**Florina**	**0.81**	**112**	*i* Pg	**Pg**	**01 08 20.2**	**-1.2**
FNA				*i* Sg	**Sg**	**01 08 32.1**	**0.0**
FNA	**Florina**	**0.81**	**112**	*i* PG	**Pn**	**01 08 22.6**	**0.0**
FNA				*i* SG	**Sb**	**01 08 33.1**	**+1.0**
FNA	**Florina**	**0.81**	**112**	P	**Pg**	**01 08 20.2**	**-1.2**
FNA				S	**Sg**	**01 08 31.3**	**-0.7**
FNA				AML	AML	01 08 33.1	
	comp=N,661μm,0.3s						
FNA				AML	AML	01 08 35.3	
	comp=E,567μm,0.4s						
NEST	**Nestorio**	**0.84**	**144**	P	**Pg**	**01 08 21.2**	**-0.8**
NEST				S	**Sb**	**01 08 33.7**	**+0.5**
	comp=E,88nm,0.4s						
NEST	**Nestorio**	**0.84**	**144**	P	**Pg**	**01 08 21.3**	**-0.7**
NEST				S	**Sb**	**01 08 33.9**	**+0.7**
PUK	**Puka**	**1.02**	**339**	*i* PG	**Pb**	**01 08 24.3**	**-0.7**
PUK				*i* SG	**Sb**	**01 08 39.2**	**+1.0**
ULC	**Ulcinj**	**1.22**	**316**	*i* Pg	**Pn**	**01 08 27.4**	**-0.9**
SRN	**Sarande**	**1.25**	**194**	*i* PN	**Pg**	**01 08 30.2**	**+0.5**
SRN				*i* SN	**Sg**	**01 08 49.4**	**+3.3**
BCI	**Bajram Curri**	**1.29**	**349**	*i* PN	**Pn**	**01 08 29.7**	**+0.5**
BCI				*i* SN	**Sg**	**01 08 48.4**	**+1.0**
KZN	**Kozani**	**1.31**	**126**	P	**Pb**	**01 08 30.5**	**+0.5**
KZN				S	**Sg**	**01 08 49.2**	**+1.2**
	comp=E,80nm,0.5s						
KZN	**Kozani**	**1.31**	**126**	P	**Pn**	**01 08 29.8**	**+0.3**
KZN				S	**Sn**	**01 08 47.6**	**+0.8**
KPRO	**Kipourio**	**1.36**	**147**	P	**Pb**	**01 08 31.0**	**+0.1**
KEK	**Kerkira**	**1.45**	**198**	P	**Pb**	**01 08 32.4**	**0.0**
STIP	**Stip**	**1.48**	**66**	*i* Pg	**Pg**	**01 08 35.3**	**+1.3**
STIP				*i* Sg	**Sg**	**01 08 58.1**	**+4.8**
STIP				*e*Lg	Lg	01 09 01.2	
	comp=E,5.0nm,0.4s						
STIP				*e*Lg	Lg	01 09 02.4	
	comp=N,5.5nm,0.3s						
JAN	**Janina**	**1.48**	**166**	P	**Pb**	**01 08 33.2**	**+0.3**
GRG	**Griva**	**1.53**	**95**	*i* Pg	**Pn**	**01 08 33.1**	**+0.7**
GRG				*i* Sg	**Sg**	**01 08 54.4**	**-0.4**
GRG	**Griva**	**1.53**	**95**	P	**Pn**	**01 08 32.4**	**0.0**
IGT	**Igoumenitsa**	**1.56**	**182**	*i* PN	**Pg**	**01 08 35.6**	**-0.1**
IGT				*i* SN	**Sn**	**01 08 47.3**	**-5.5**
IGT	**Igoumenitsa**	**1.56**	**182**	P	**Pg**	**01 08 35.2**	**-0.5**
PDG	**Podgorica**	**1.58**	**328**	*i* Pg	**Pn**	**01 08 33.9**	**+0.8**
PDG				*i* Sg	**Sg**	**01 09 00.2**	**+3.7**
VAY	**Valandovo**	**1.66**	**82**	*i* Pg	**Pn**	**01 08 34.8**	**+0.6**
VAY				*i* Sg	**Sg**	**01 08 59.8**	**+0.7**
VAY				*e*Lg	Lg	01 09 00.0	
	comp=E,7.0nm,0.4s						
KNT	**Kendrikon**	**1.90**	**87**	*i* Pg	**Pb**	**01 08 39.5**	**-0.4**

IDC 20 01:10:02.9±2.5, 5.°75S×130.°66E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/29, mbtmp3.6/4, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/22, Error ellipse: s-maj=114.4km s-min=28.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.89**	**273**	LR	LR	01 18 09.8	
	comp=Z,63nm,18.1s,baz=7.0,slow=45						
FITZ	**Fitzroy Crossi**	**13.22**	**201**	Pn	Pn	01 13 11.4	-0.6
	0.3nm,0.3s,baz=26,slow=12,SNR=21						
FITZ				Sn	Sn	01 15 22.8	-17
	0.1nm,0.3s,baz=49,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**14.56**	**166**	Pn	Pn	01 13 28.8	-1.6
	0.3nm,0.3s,baz=349,slow=14,SNR=19						
WRA				Sn	Sn	01 15 57.2	-15
	0.1nm,0.3s,baz=345,slow=24,SNR=3.3						
ASAR	**Alice Springs**	**18.09**	**170**	P	P	01 14 17.3	+0.9
	0.3nm,0.3s,baz=344,slow=9.6,SNR=4.4						
ASAR				S	Sn	01 17 23.6	-15
	0.1nm,0.3s,baz=359,slow=27,SNR=2.7						
MKAR	**Makanchi Array**	**67.55**	**326**	P	P	01 21 01.2	0.0
	0.2nm,0.4s,baz=138,slow=7.3,SNR=3.5						

IDC 20 01:10:40.6±6.5, 5.°70S×147.°74E, h173km±72km, mb3.5/1, mb1 3.5/3, mb1mx3.1/28, mbtmp3.8/3, MS3.2/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=148.2km s-min=49.4km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**189**	P	Pn	01 11 39.0	+0.9
	2.0nm,0.3s,baz=283,slow=14,SNR=3.8						
PMG				S	Sn	01 12 22.9	0.0
	8.9nm,0.3s,baz=315,slow=19,SNR=10						
WRA	**Warramunga Arr**	**19.24**	**221**	P	P	01 14 51.8	-0.1
	0.9nm,0.3s,baz=49,slow=12,SNR=23						
ASAR	**Alice Springs**	**22.29**	**215**	P	P	01 15 24.5	+0.5
	2.1nm,0.4s,baz=47,slow=8.3,SNR=24						
STKA	**Stephens Creek**	**26.67**	**192**	LR	LR	01 26 15.4	
	comp=Z,45nm,19.2s,baz=7.2,slow=35						
TORD	**Torodi Ar. Bea**	**145.73**	**285**	PKPbc	PKPdf	01 29 59.0	-0.6
	0.5nm,0.7s,baz=76,slow=3.6,SNR=5.7						

*ISCJB **20** 01:16:52.5±0.6, 34.°98N±0.°03×134.°60E±0.°03, h14km±4km, mb3.4/3, Error ellipse: s-maj=5.4km s-min=4.3km az=164.9*
*JMA **20** 01:16:52.9, 34.°97N×134.°62E, h13km, M3.7 Broadband fault plane solution: P waves. NP1:φ=347.00000°, δ=66.00000°, λ=49.00000°. NP2:φ=231.00000°, δ=47.00000°, λ=145.00000°. Principal axes: T Plg51.0000°, Azm209.0000°; N Plg37.0000°, Azm7.0000°; P Plg11.0000°, Azm105.0000°;*
JMA Felt II J1.
*IDC **20** 01:16:52.0±1.5, 34.°60N×134.°20E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/43, mbtmp3.4/5, ML2.6/2 Error ellipse: s-maj=27.9km s-min=24.4km az=9.0*
ISC 20 01:16:52.4±1.0, 34.°95N±0.°04×134.°61E±0.°04, h14km±8km, n13, σ1°02/22, mb3.3/3, 3C-5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKS	**Kasai**	**0.20**	**79**	⇓P	**Pg**	**01 16 57.2**	**+0.4**
JKS				S	**Sg**	**01 17 00.1**	**+0.2**
JAD	**Aida**	**0.36**	**269**	⇓P	**Pb**	**01 17 00.3**	**-0.3**
JAD				S	**Sb**	**01 17 05.3**	**-0.9**
JAJ2	**Tsuna**	**0.57**	**157**	⇓P	**Pb**	**01 17 04.2**	**0.0**
JAJ2				S	**Sb**	**01 17 12.2**	**+0.1**
JKSM	**Kasumi**	**0.64**	**4**	⇑P	**Pb**	**01 17 04.8**	**-0.6**
JKSM				S	**Sg**	**01 17 13.0**	**-0.5**
JWT	**Wachi**	**0.73**	**62**	⇓P	**Pb**	**01 17 06.3**	**-0.6**
JWT				S	**Sg**	**01 17 15.9**	**-0.3**
JKY	**Yasaka**	**0.79**	**30**	⇑P	**Pb**	**01 17 07.4**	**-0.6**
JKY				S	**Sg**	**01 17 17.7**	**-0.5**
JJS	**Sakaide**	**0.80**	**225**	⇑P	**Pn**	**01 17 08.1**	**-1.1**
JJS				S	**Sb**	**01 17 19.3**	**+0.6**
JHE	**Heguri**	**0.93**	**108**	⇓P	**Pb**	**01 17 10.3**	**0.0**
JHE				S	**Sb**	**01 17 22.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.33**	**60**	Pn	**Pb**	**01 17 52.9**	**+1.6**
	0.5nm,0.3s,baz=243,slow=16,SNR=15						
MJAR				Sn	**Sg**	**01 18 37.0**	**-2.4**
	0.7nm,0.3s,baz=240,slow=31,SNR=11						
KSRS	**Korea Array**	**5.96**	**297**	Pn	**Pn**	**01 18 21.2**	**+1.0**
	0.2nm,0.3s,baz=119,slow=14,SNR=2.5						
KSRS				Sn	**Sn**	**01 19 30.2**	**+2.0**
	0.7nm,0.3s,baz=117,slow=24,SNR=5.8						
SONM	**Songino Array**	**24.62**	**310**	P	**P**	**01 22 12.7**	**+0.3**
	0.4nm,0.6s,baz=119,slow=8.4,SNR=3.3						
ILAR	**Eielson Array**	**54.17**	**31**	P	P	01 26 22.5	+5.6
	0.3nm,0.9s,baz=274,slow=7.1,SNR=2.5						
WRA	**Warramunga Arr**	**54.58**	**180**	P	**P**	**01 26 19.7**	**-0.7**
	0.7nm,0.8s,baz=357,slow=7.8,SNR=4.0						

*NIED **20** 01:57:00, 35.°00N×134.°60E, h11km, Mw3.9 Best double couple: M0=7.09000×10^14 NP1:φ=238.00000°, δ=47.00000°, λ=156.00000°. NP2:φ=344.00000°, δ=73.00000°, λ=45.00000°.*
*IDC **20** 01:57:53.2±0.7, 34.°88N×134.°62E, h0km, mb3.9/13, mb1 4.0/17, mb1mx3.9/44, mbtmp3.8/17, ML3.2/3, Error ellipse: s-maj=18.1km s-min=12.2km az=149.0*
*ISCJB **20** 01:57:54.4±0.4, 34.°95N±0.°03×134.°63E±0.°03, h25km±3km, mb3.8/13, Error ellipse: s-maj=5.0km s-min=3.4km az=155.5*
*JMA **20** 01:57:55.0, 34.°98N×134.°62E, h14km, M4.0 Broadband fault plane solution: P waves. NP1:φ=344.00000°, δ=64.00000°, λ=43.00000°. NP2:φ=231.00000°, δ=52.00000°, λ=146.00000°. Principal axes: T Plg48.0000°, Azm203.0000°; N Plg41.0000°, Azm9.0000°; P Plg7.0000°, Azm105.0000°;*
JMA Felt III J1.
*NEIC **20** 01:57:56.6±1.7, 34.°90N±0.°09×134.°73E±0.°08, h37km±10km, mb4.2/8*
ISC 20 01:57:54.8±0.9, 34.°95N±0.°04×134.°64E±0.°03, h14km±6km, n43, σ1°41/59, mb4.0/17, 3C-5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKS	**Kasai**	**0.17**	**80**	⇓P	**Pg**	**01 57 59.3**	**+0.4**
JKS				S	**Sg**	**01 58 02.2**	**+0.5**
JAD	**Aida**	**0.39**	**268**	⇓P	**Pb**	**01 58 02.3**	**-1.2**
JAD				S	**Sb**	**01 58 07.5**	**-1.9**
JAJ2	**Tsuna**	**0.57**	**159**	⇓P	**Pb**	**01 58 06.3**	**-0.3**
JAJ2				S	**Sb**	**01 58 14.4**	**-0.2**
JKSM	**Kasumi**	**0.63**	**2**	⇑P	**Pb**	**01 58 06.9**	**-0.8**
JKSM				S	**Sg**	**01 58 15.0**	**-0.6**
JWT	**Wachi**	**0.70**	**62**	⇓P	**Pg**	**01 58 08.4**	**-0.2**
JWT				S	**Sg**	**01 58 17.7**	**-0.2**
JKY	**Yasaka**	**0.77**	**29**	⇑P	**Pg**	**01 58 09.5**	**-0.4**
JKY				S	**Sg**	**01 58 19.8**	**-0.2**
JJS	**Sakaide**	**0.82**	**226**	⇑P	**Pb**	**01 58 10.2**	**-0.7**
JJS				S	**Sb**	**01 58 21.1**	**-0.8**
JHE	**Heguri**	**0.91**	**109**	⇓P	**Pb**	**01 58 12.3**	**-0.1**
INU	**Inuyama**	**1.99**	**78**		**Pn**	**01 58 27.2**	**-0.8**
INU				Sn	**Sn**	**01 58 50.4**	**-2.4**
MJB9	**Matsu-Tunnel**	**3.31**	**60**	Pn	**Pn**	**01 58 45.7**	**-0.5**
MJB9				Sn	**Sn**	**01 59 25.6**	**+0.3**
MAJO	**Matsushiro**	**3.31**	**60**	Pn	**Pn**	**01 58 45.7**	**-0.5**
MAJO				Sn	**Sn**	**01 59 24.3**	**-1.0**
MAT	**Matsushiro**	**3.31**	**60**	P	**Pn**	**01 58 47.5**	**+1.3**
MAT				*e*S	**Sn**	**01 59 29.1**	**+3.7**
MJAR	**Matsushiro Arr**	**3.31**	**60**	Pn	**Pn**	**01 58 47.6**	**+1.4**
	0.4nm,0.3s,baz=245,slow=13,SNR=8.6						
MJAR				Pg	**Pg**	**01 58 56.4**	**-1.8**
	0.8nm,0.3s,baz=237,slow=15,SNR=15						
MJAR				Lg	Lg	01 59 39.5	
	1.6nm,0.3s,baz=216,slow=18,SNR=4.1						
MJAR	**Matsushiro Arr**	**3.31**	**60**		**Pn**	**01 58 45.2**	**-1.0**
MJAR				Sn	**Sn**	**01 59 24.7**	**-0.6**
JNU	**Nakatsue**	**3.62**	**241**	Pn	**Pn**	**01 58 51.5**	**+1.0**
	3.7nm,0.3s,baz=63,slow=2.7,SNR=8.8						
JNU				Lg	Lg	01 59 45.4	
	19nm,0.3s,baz=43,slow=21,SNR=8.1						
JNU	**Nakatsue**	**3.62**	**241**		**Pn**	**01 58 51.4**	**+0.9**
JNU				Sn	**Sn**	**01 59 32.2**	**-0.9**
KSRS	**Korea Array**	**5.98**	**297**	Pn	**Pn**	**01 59 23.8**	**+0.9**
	1.3nm,0.3s,baz=117,slow=14,SNR=6.2						
KSRS				Sn	**Sn**	**02 00 30.8**	**-0.4**
	3.5nm,0.3s,baz=116,slow=24,SNR=18						
KS19	**Wonju Array Si**	**6.04**	**297**	Pn	**Pn**	**01 59 24.4**	**+0.7**
KS19					**Sn**	**02 00 32.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.46**	**348**	Pn	**Pn**	**02 00 13.5**	**+2.9**
	baz=171,slow=13,SNR=2.2						
ULN	**Ulaanbaatar**	**24.23**	**311**	P	**P**	**02 03 10.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**24.40**	**35**	P	**P**	**02 03 10.7**	**-1.9**
PEA0B				IAmb	IAmb	02 03 29.3	
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**24.64**	**310**	P	**P**	**02 03 14.6**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=131,slow=9.8,SNR=6.6						
SONM	**Songino Array**	**24.64**	**310**	P	**P**	**02 03 13.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**35.64**	**252**	P	**P**	**02 04 53.6**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=46,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**40.61**	**303**	P	**P**	**02 05 33.6**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=95,slow=7.2,SNR=2.5						
ILAR	**Eielson Array**	**54.15**	**31**	P	**P**	**02 07 19.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=284,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**54.15**	**31**	P	**P**	**02 07 18.7**	**-0.6**
WB0	**Warramunga Arr**	**54.42**	**180**	P	**P**	**02 07 19.5**	**-2.1**
WB0				IAmb	IAmb	02 07 22.8	
	comp=Z,2.5nm,1.1s						
WRAB	**Tennant Creek**	**54.58**	**180**	P	**P**	**02 07 20.9**	**-1.9**
WRAB				IAmb	IAmb	02 07 31.0	
	comp=Z,2.7nm,1.1s						
WB2	**Warramunga Arr**	**54.59**	**180**	P	**P**	**02 07 19.1**	**-3.8**
WB2				IAmb	IAmb	02 07 23.9	
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**54.59**	**180**	P	**P**	**02 07 22.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=355,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**54.59**	**180**	P	**P**	**02 07 20.6**	**-2.3**
WR0	**Warramunga Arr**	**54.61**	**180**	P	**P**	**02 07 20.7**	**-2.3**
ASAR	**Alice Springs**	**58.30**	**181**	P	**P**	**02 07 49.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=14,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**58.30**	**181**	P	**P**	**02 07 48.0**	**-1.3**
KBZ	**Khabaz**	**67.99**	**309**	P	**P**	**02 08 53.8**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=38,slow=4.7,SNR=4.6						
FINES	**FINESS Array B**	**68.01**	**331**	P	**P**	**02 08 53.0**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=66,slow=5.2,SNR=6.3						
AKASG	**Malin Array Be**	**72.46**	**320**	P	**P**	**02 09 23.4**	**+2.6**
	comp=Z,0.9nm,0.5s,baz=53,slow=6.4,SNR=6.0						
NOA	**NORSAR Array B**	**73.86**	**335**	P	**P**	**02 09 31.5**	**+2.6**
	comp=Z,0.8nm,0.8s,baz=42,slow=6.0,SNR=3.5						
BRTR	**Keskin Array B**	**75.99**	**309**	P	**P**	**02 09 42.5**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=51,slow=6.9,SNR=4.5						
BRTR	**Keskin Array B**	**75.99**	**309**	P	**P**	**02 09 41.6**	**-0.2**
NVAR	**Mina Array Bea**	**80.57**	**50**	P	**P**	**02 10 08.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=316,slow=2.5,SNR=3.2						
TXAR	**Lajitas Array**	**95.67**	**48**	P	**P**	**02 11 20.9**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=343,slow=2.8,SNR=3.4						

*ISCJB **20** 02:07:18.9±0.4, 23.°91N±0.°02×122.°53E±0.°02, h24km±3km, Error ellipse: s-maj=3.8km s-min=2.6km az=167.9*
*JMA **20** 02:07:18.9±0.2, 23.°95N×122.°51E, h21km±4km, M2.3*
*TAP **20** 02:07:19.1, 23.°98N×122.°54E, h30km, ML3.0, D*
ISC 20 02:07:18.8±1.2, 23.°94N±0.°03×122.°52E±0.°02, h23km±14km, n52, σ0°50/93, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.64**	**37**	P	**Pb**	**02 07 31.1**	**-0.2**
JYNG				S	**Sb**	**02 07 38.8**	**-1.1**
YOJ	**Yonaguni jima**	**0.69**	**40**	P	**Pb**	**02 07 31.9**	**-0.2**
	baz=47						
YOJ				S	**Sn**	**02 07 42.9**	**-0.2**
	baz=47						
YOJ	**Yonaguni jima**	**0.69**	**40**	P	**Pb**	**02 07 32.0**	**-0.2**
YOJ				S	**Sb**	**02 07 40.8**	**-0.4**
EOS1	**EOS1**	**0.71**	**330**	P	**Pb**	**02 07 32.5**	**+0.1**
	baz=326						
EOS1				*e*S	**Sn**	**02 07 43.3**	**-0.3**
	baz=326						
ENLB	**Shoufeng**	**0.84**	**268**	*e*S	**Sn**	**02 07 46.7**	**-0.2**
	baz=254						
NANB	**Nanao**	**0.86**	**305**	*i* P	**Pb**	**02 07 35.0**	**0.0**
	baz=302						
NANB				S	**Sn**	**02 07 47.4**	**+0.1**
	baz=302						
TWD	**Chiawan**	**0.86**	**280**	P	**Pb**	**02 07 34.5**	**-0.5**
	baz=277						
TWD				*i* S	**Sb**	**02 07 46.0**	**0.0**
	baz=277						
ENA	**Nanau**	**0.86**	**305**	*i* P	**Pb**	**02 07 34.9**	**-0.2**
	baz=302						
ENA				*i* S	**Sn**	**02 07 47.6**	**+0.1**
	baz=302						
NACB	**Ninganchiao**	**0.88**	**286**	P	**Pb**	**02 07 34.9**	**-0.5**
	baz=269						
NACB				S	**Sb**	**02 07 46.7**	**0.0**
	baz=269						
TWC	**Suao**	**0.91**	**318**	⇓*i*P	**Pb**	**02 07 35.2**	**-0.6**
	baz=304						
TWC				*i* S	**Sn**	**02 07 47.7**	**-0.8**
	baz=304						
ETLH	**Xiulin Townshi**	**0.99**	**286**	P	**Pn**	**02 07 37.1**	**-0.2**
	baz=271						
ETLH				S	**Sn**	**02 07 51.1**	**+0.5**
	baz=271						
ESL	**Shilin**	**1.00**	**263**	S	**Sn**	**02 07 51.1**	**+0.2**
	baz=251						
EGS		**1.05**	**329**	P	**Pb**	**02 07 38.6**	**+0.3**
	baz=314						
EGS				S	**Sn**	**02 07 52.3**	**+0.2**
	baz=314						
ILA	**Ilan**	**1.08**	**320**	*e*S	**Sb**	**02 07 54.1**	**+1.5**
	baz=307						
NTC	**Toucheng**	**1.11**	**326**	*e*P	**Pb**	**02 07 39.4**	**+0.1**
	baz=323						
NTC				*e*S	**Sb**	**02 07 54.3**	**+1.0**
	baz=323						
ENTT	**Nioudou**	**1.12**	**309**	P	**Pb**	**02 07 39.4**	**-0.1**
	baz=293						
ENTT				S	**Sb**	**02 07 54.2**	**+0.7**
	baz=293						
NDT	**Datong Townshi**	**1.13**	**306**	P	**Pn**	**02 07 39.4**	**+0.1**
	baz=291						
NDT				S	**Sb**	**02 07 54.4**	**+0.4**
	baz=291						
NNSB	**Datong**	**1.15**	**295**	P	**Pn**	**02 07 39.5**	**-0.1**
	baz=282						
NNSB				*e*S	**Sb**	**02 07 54.9**	**+0.3**
	baz=282						
NNS	**Nan Shan**	**1.16**	**296**	*i* P	**Pn**	**02 07 39.7**	**-0.1**
	baz=282						
NNS				*i* S	**Sb**	**02 07 55.2**	**+0.2**
	baz=282						
WHF	**Hehuan Shan**	**1.17**	**280**	⇓*i*P	**Pn**	**02 07 39.8**	**-0.3**
	baz=266						
WHF				*i* S	**Sn**	**02 07 54.9**	**-0.6**
	baz=266						
TWB1	**Santiao Chiao**	**1.17**	**336**	*e*P	**Pb**	**02 07 40.2**	**-0.1**
	baz=350						
TWB1				*e*S	**Sb**	**02 07 55.9**	**+0.8**
	baz=350						
IRIF	**Iriomote-Funau**	**1.17**	**70**	P	**Pb**	**02 07 40.3**	**-0.1**
IRIF				*e*S	**Sb**	**02 07 55.9**	**+0.8**
EHY	**Hungye**	**1.18**	**249**	P	**Pn**	**02 07 39.7**	**-0.2**
	baz=247						
EHY				*i* S	**Sn**	**02 07 55.2**	**-0.1**
	baz=247						
HATJ	**Hateruma jima**	**1.18**	**84**	P	**Pb**	**02 07 40.4**	**-0.1**
HATJ				*e*S	**Sb**	**02 07 56.4**	**+1.1**
TIPB	**Shuangxi**	**1.21**	**329**	P	**Pb**	**02 07 40.6**	**-0.4**
	baz=327						
TIPB				S	**Sb**	**02 07 56.4**	**+0.1**
	baz=327						
OWD	**Renai**	**1.23**	**271**	P	**Pn**	**02 07 40.7**	**0.0**
	baz=269						
OWD				*e*S	**Sn**	**02 07 57.0**	**+0.3**
	baz=269						
CHGB	**Renai**	**1.24**	**276**	P	**Pn**	**02 07 40.7**	**-0.2**
	baz=263						
CHGB				S	**Sb**	**02 07 57.7**	**+0.5**
	baz=263						
YULB	**Yu-li**	**1.25**	**244**	P	**Pn**	**02 07 40.6**	**-0.2**
	baz=232						
YULB				S	**Sn**	**02 07 56.9**	**0.0**
	baz=232						
NWLT	**Wulai**	**1.25**	**312**	*e*P	**Pb**	**02 07 41.5**	**-0.2**
	baz=297						
NWLT				*e*S	**Sb**	**02 07 57.6**	**+0.2**
	baz=297						
TWF1	**Yuli**	**1.26**	**243**	*i* P	**Pn**	**02 07 41.0**	**-0.1**
	baz=241						
TWF1				*i* S	**Sn**	**02 07 57.4**	**0.0**
	baz=241						
YHNB	**Yeheng**	**1.27**	**305**	P	**Pb**	**02 07 41.7**	**-0.4**
	baz=303						
YHNB				S	**Sb**	**02 07 59.0**	**+0.9**
	baz=303						
VWDT	**VWDT**	**1.28**	**262**	P	**Pn**	**02 07 41.4**	**+0.2**
	baz=260						
VWDT				S	**Sn**	**02 07 57.7**	**+0.1**
	baz=260						
TDCB	**Techi**	**1.28**	**284**	P	**Pn**	**02 07 41.6**	**+0.1**
	baz=272						
TDCB				*e*S	**Sn**	**02 07 57.7**	**-0.4**
	baz=272						
NSK	**Sanguang**	**1.29**	**305**	*i* P	**Pn**	**02 07 41.9**	**+0.4**
	baz=303						
NSK				S	**Sb**	**02 07 59.2**	**+0.6**
	baz=303						
NWF	**Wu-fen Shan**	**1.31**	**329**	P	**Pb**	**02 07 42.8**	**-0.1**
	baz=328						
NWF				S	**Sb**	**02 07 59.8**	**+0.5**
	baz=328						
WFSB	**Wu-fen Shan**	**1.31**	**329**	*e*P	**Pb**	**02 07 42.5**	**-0.3**
	baz=328						
WFSB				*e*S	**Sb**	**02 07 59.9**	**+0.7**
	baz=328						
FULB	**Fuli**	**1.34**	**237**	P	**Pn**	**02 07 42.2**	**0.0**
	baz=225						
FULB				*e*S	**Sn**	**02 07 59.8**	**+0.4**
	baz=225						
CHKT	**Chengkung**	**1.35**	**232**	*e*P	**Pn**	**02 07 41.6**

mb3.4/3, MS3.2/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.47**	**99**	Pn	**Pn**	**02 19 56.1**	**+0.6**
	3.0nm,0.3s,baz=288,slow=8.6,SNR=11						
PSI				Sn	**Sn**	**02 21 06.8**	**-1.5**
	1.8nm,0.3s,baz=206,slow=8.1,SNR=5.0						
PALK	**Pallekele**	**12.26**	**287**	Pn	**Pn**	**02 21 13.7**	**-1.1**
	1.7nm,0.3s,baz=115,slow=14,SNR=8.5						
PALK				Sn	Sn	02 23 19.5	-11
	3.0nm,0.3s,baz=116,slow=7.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**15.88**	**23**	Pn	**Pn**	**02 22 01.4**	**-2.1**
	0.3nm,0.3s,baz=212,slow=15,SNR=5.0						
CMAR				LR	LR	02 29 28.1	
	comp=Z,87nm,18.1s,baz=200,slow=42						
H08S2	**Diego Garcia H**	**22.98**	**240**	T	T	02 49 17.2	
	baz=60,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**22.98**	**240**	T	T	02 49 23.7	
	baz=60,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**23.00**	**240**	T	T	02 49 24.9	
	baz=60,slow=76,SNR=21						
DAV	**Davao City (W)**	**33.07**	**83**	LR	LR	02 40 01.6	
	comp=Z,46nm,18.8s,baz=332,slow=39						
MKAR	**Makanchi Array**	**43.75**	**350**	P	**P**	**02 26 24.1**	**-0.5**
	0.3nm,0.6s,baz=146,slow=8.8,SNR=3.9						
SONM	**Songino Array**	**45.48**	**13**	P	**P**	**02 26 40.2**	**+1.7**
	0.3nm,0.5s,baz=190,slow=7.4,SNR=3.5						
KSRS	**Korea Array**	**46.61**	**39**	LR	LR	02 46 57.2	
	comp=Z,31nm,19.3s,baz=125,slow=37						
ZALV	**Zalesovo Beam**	**50.40**	**354**	P	**P**	**02 27 18.3**	**+2.0**
	1.4nm,0.5s,baz=178,slow=9.3,SNR=5.6						
ZALV				LR	LR	02 50 17.0	
	comp=Z,31nm,21.6s,baz=168,slow=38						
NOA	**NORSAR Array B**	**82.49**	**331**	LR	LR	03 10 55.0	
	comp=Z,10.0nm,18.5s,baz=195,slow=38						

NEIC ***20*** *02:20:04.4±2.2, 6°.26N±0°.08×71°.9W±0°.1, h23km±8km, mb4.3/6, ML3.9(RSNC)*
ISCJB ***20*** *02:20:07.1±0.5, 6°.28N±0°.02×71°.75W±0°.03, h43km±6km, mb4.1/12, MS2.9/2, Error ellipse: s-maj=4.9km s-min=3.5km az=12.1*
RSNC ***20*** *02:20:08.2±0.9, 6°.22N×71°.94W, h2km±5km, ML3.9, Mw3.7*
IDC ***20*** *02:20:08.7±2.2, 6°.28N×71°.87W, h34km±17km, mb3.8/11, mb1 4.1/15, mb1mx3.8/34, mbtmp4.1/15, ML3.7/4, MS3.0/8, Ms1 3.1/8, ms1mx2.8/38, Error ellipse: s-maj=16.3km s-min=12.2km az=126.0*

ISC 20 02:20:07.0±1.0, 6°.28N±0°.03×71°.84W±0°.04, h26km±7km, n68, σ2°.914/97, mb4.3/15, 7C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**1.29**	**253**	⇑*iP*	**Pb**	**02 20 30.4**	**-0.5**
RUSC				*eS*	**Sn**	**02 20 45.8**	**-0.7**
RUSC				*i*		02 20 47.6	
	comp=Z,2μm,0.5s						
PAMC	**Pamplona, Colo**	**1.35**	**321**	⇑*iP*	**Pb**	**02 20 32.8**	**+0.7**
PAMC				*eS*	**Sb**	**02 20 50.3**	**+1.1**
PAMC				*i*		02 20 52.1	
	comp=Z,2μm,0.5s						
PAMC				*i*		02 20 53.5	
	comp=Z,3μm,0.2s						
BARC	**Barichara**	**1.37**	**283**	⇓*iP*	**Pb**	**02 20 32.5**	**+0.4**
BARC				*eS*	**Sb**	**02 20 49.3**	**+0.1**
BARC				*i*		02 20 51.8	
	comp=Z,3μm,0.3s						
BARC				*i*		02 20 52.5	
	comp=Z,4μm,0.4s						
BRRC	**Barranca, Sant**	**2.03**	**294**	⇑*iP*	**Pn**	**02 20 41.2**	**+1.6**
BRRC				*eS*	**Sb**	**02 21 06.9**	**-1.2**
BRRC				*i*		02 21 11.4	
	comp=Z,482nm,0.6s						
PTGC	**Puerto Gaitan,**	**2.08**	**188**	*eP*	**Pn**	**02 20 41.5**	**+1.1**
PTGC				*eS*	**Sb**	**02 21 08.6**	**-1.2**
PTGC				*i*		02 21 14.7	
	comp=Z,2μm,0.3s						
SPBC	**San Pablo de B**	**2.30**	**254**	*eP*	**Pn**	**02 20 44.6**	**+1.2**
SPBC				*eS*	**Sb**	**02 21 12.8**	**-3.3**
SPBC				*i*		02 21 20.5	
	comp=Z,770nm,0.5s						
OCAC	**Ocana**	**2.44**	**323**	*eP*	**Pn**	**02 20 48.0**	**+2.7**
OCAC				*eS*	**Sb**	**02 21 18.7**	**-1.3**
OCAC				*i*		02 21 27.1	
	comp=Z,2μm,0.4s						
CHIC	**Chingaza**	**2.49**	**229**	*eP*	**Pn**	**02 20 47.2**	**+0.9**
CHIC				*eS*	**Sn**	**02 21 17.9**	**+1.8**
CHIC				*i*		02 21 28.3	
	comp=Z,672nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.61**	**276**	*eP*	**Pn**	**02 20 48.3**	**+0.7**
PTBC				*eS*	**Sb**	**02 21 21.6**	**-3.2**
PTBC				*i*		02 21 28.7	
	comp=Z,611nm,0.5s						
VILC	**Villavicencio,**	**2.83**	**221**	*eP*	**Pn**	**02 20 52.4**	**+1.7**
VILC				*eS*	**Sn**	**02 21 26.9**	**+2.8**
VILC				*i*		02 21 41.3	
	comp=Z,1μm,0.5s						
VILC				*i*		02 21 41.5	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.85**	**240**	*eP*	**Pn**	**02 20 52.5**	**+1.3**
ROSC				*eS*	**Sn**	**02 21 26.9**	**+2.1**
ROSC				*i*		02 21 49.4	
	comp=Z,346nm,0.4s						
ROSC	**El Rosal**	**2.85**	**240**	Pn	**Pn**	**02 20 53.8**	**+2.6**
	comp=Z,30nm,0.3s,baz=320,slow=4.8,SNR=37						
ROSC				Lg	Lg	02 21 38.9	
	comp=Z,114nm,0.3s,baz=288,slow=23,SNR=5.8						
ROSC				LR	LR	02 22 15.3	
	comp=Z,336nm,18.8s,baz=45,slow=45						
ROSC	**El Rosal**	**2.85**	**240**		**Pn**	**02 20 48.6**	**-2.6**
ROSC				Sn	**Sn**	**02 21 19.6**	**-5.3**
SDV	**Santo Domingo**	**2.86**	**25**	Pn	**Pn**	**02 20 53.6**	**+2.4**
	comp=Z,58nm,0.3s,baz=181,slow=13,SNR=206						
SDV				Sn	**Sn**	**02 21 29.0**	**+4.2**
	comp=Z,62nm,0.3s,baz=348,slow=17,SNR=3.5						
SDV				Lg	Lg	02 21 39.1	
	comp=Z,145nm,0.3s,baz=36,slow=15,SNR=9.7						
SDV				LR	LR	02 22 29.8	
	comp=Z,243nm,19.7s,baz=218,slow=49						
SDV	**Santo Domingo**	**2.86**	**25**		**Pn**	**02 20 49.0**	**-2.2**
SDV				Sn	**Sn**	**02 21 25.5**	**+0.6**
NORC	**Norcasia**	**3.09**	**257**	*eP*	**Pn**	**02 20 55.0**	**+0.7**
NORC				*eS*	**Sn**	**02 21 33.2**	**+2.7**
NORC				*i*		02 21 46.8	
	comp=Z,178nm,0.6s						
ZARC	**Zaragoza, Cauc**	**3.23**	**292**	*eP*	**Pn**	**02 20 56.8**	**+0.7**
ZARC				*eS*	**Sn**	**02 21 36.3**	**+2.6**
ZARC				*i*		02 21 49.7	
	comp=Z,225nm,0.4s						
SMLC	**San Martn de**	**3.34**	**319**	*eP*	**Pn**	**02 20 60.0**	**+2.3**
SMLC				*eS*	**Sn**	**02 21 40.2**	**+3.7**
SMLC				*i*		02 21 55.2	
	comp=Z,262nm,0.5s						
GUY2C	**Guyana, Caldas**	**3.66**	**254**	⇑*iP*	**Pn**	**02 21 03.9**	**+1.5**
GUY2C				*eS*	**Sn**	**02 21 48.9**	**+3.9**
GUY2C				*i*		02 22 04.9	
	comp=Z,149nm,0.5s						
HELC	**Santa Helena**	**3.66**	**269**	⇑*iP*	**Pn**	**02 21 02.9**	**+0.5**
HELC				*eS*	**Sn**	**02 21 47.1**	**+2.1**
HELC				*i*		02 22 03.8	
	comp=Z,197nm,1.1s						
GUVC	**San Jose del G**	**3.79**	**192**	*eP*	**Pn**	**02 21 05.3**	**+1.5**
GUVC				*eS*	**Sn**	**02 21 47.3**	**-0.3**
GUVC				*i*		02 22 08.5	
	comp=Z,958nm,0.4s						
GUVC				*i*		02 22 09.4	
	comp=Z,826nm,0.4s						
TOLC	**Tolima**	**3.85**	**244**	*eP*	**Pn**	**02 21 05.8**	**+0.9**
TOLC				*eS*	**Sn**	**02 21 48.2**	**-1.3**
TOLC				*i*		02 22 15.8	
	comp=Z,58nm,0.5s						
CODC	**Agustn Codazz**	**3.96**	**337**	⇑*iP*	**Pn**	**02 21 07.4**	**+1.1**
CODC				*eS*	**Sn**	**02 21 53.4**	**+1.5**
CODC				*i*		02 22 23.2	
	comp=Z,72nm,0.7s						
ORTC	**Ortega, Tolima**	**4.12**	**235**	*eP*	**Pn**	**02 21 09.2**	**+0.7**
ORTC				*eS*	**Sn**	**02 21 56.4**	**+0.5**
ORTC				*i*		02 22 22.8	
	comp=Z,178nm,0.4s						
CBOC	**Ciudad Bolivar**	**4.17**	**265**	⇑*iP*	**Pn**	**02 21 11.2**	**+2.0**
CBOC				*eS*	**Sn**	**02 22 00.3**	**+3.2**
CBOC				*i*		02 22 04.2	
	comp=Z,58nm,0.8s						
DBBC	**Dabeiba**	**4.40**	**280**	*eP*	**Pn**	**02 21 14.7**	**+2.4**
DBBC				*i*		02 22 29.0	
	comp=Z,101nm,0.5s						
DBBC				*i*		02 22 34.3	
	comp=Z,111nm,0.9s						
MACC	**Macarena, Meta**	**4.56**	**206**	*eP*	**Pn**	**02 21 14.9**	**+0.4**
MACC				*eS*	**Sn**	**02 22 10.2**	**+3.4**
MACC				*i*		02 22 40.1	
	comp=Z,486nm,0.5s						
PLMC	**San Jos del P**	**4.62**	**253**	*eP*	**Pn**	**02 21 17.6**	**+2.3**
PLMC				*eS*	**Sn**	**02 22 13.6**	**+5.3**
PLMC				*i*		02 22 21.2	
	comp=Z,48nm,0.1s						
SJCC	**San Jacinto, C**	**4.88**	**318**	*eP*	**Pn**	**02 21 20.7**	**+1.8**
SJCC				*eS*	**Sn**	**02 22 15.2**	**+0.6**
SJCC				*i*		02 22 18.7	
	comp=Z,67nm,0.4s						
YOTC	**Yotoco, Valle**	**5.03**	**243**	*eP*	**Pn**	**02 21 21.4**	**+0.4**
YOTC				*eS*	**Sn**	**02 22 20.7**	**+2.3**
YOTC				*i*		02 22 40.3	
	comp=Z,18nm,0.6s						
URIC	**Uribia, Colomb**	**5.39**	**358**	*eP*	**Pn**	**02 21 26.3**	**+0.4**
URIC				*eS*	**Sn**	**02 22 25.7**	**-1.5**
URIC				*i*		02 22 56.2	
	comp=Z,43nm,0.8s						
PCON	**Cinco Dias**	**6.00**	**229**	*eP*	**Pn**	**02 21 35.7**	**+1.0**
PCON				*eS*	Sb	02 23 11.3	+8.3
PCON				*i*		02 23 34.4	
	comp=Z,110nm,0.5s						
FLOC	**Florencia**	**6.01**	**219**	*eP*	**Pn**	**02 21 34.9**	**+0.5**
FLOC				*eS*	**Sb**	**02 23 08.8**	**+5.9**
FLOC				*i*		02 23 28.1	
	comp=Z,156nm,1.3s						
PTLC	**Puerto Leguiza**	**6.74**	**206**	*eP*	**Pn**	**02 21 48.5**	**+4.0**
PTLC				*eS*	Sb	02 23 41.6	+18
PTLC				*i*		02 23 53.6	
	comp=Z,207nm,0.5s						
PCRV	**Puerto La Cruz**	**8.12**	**61**	Pn	**Pn**	**02 22 05.5**	**+2.1**
	comp=Z,3.8nm,0.3s,baz=225,slow=6.4,SNR=12						
SJG	**San Juan**	**13.01**	**25**	Pn	**Pn**	**02 23 10.4**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=202,slow=14,SNR=9.1						
SJG				LR	LR	02 28 59.5	
	comp=Z,40nm,18.8s,baz=275,slow=41						
SJG	**San Juan**	**13.01**	**25**		**Pn**	**02 23 08.7**	**-1.6**
HUMP	**Col San Antoni**	**13.16**	**26**	Pn	**Pn**	**02 23 10.4**	**-2.0**
GCPR	**Guaynabo City**	**13.21**	**25**	Pn	**Pn**	**02 23 11.5**	**-1.6**
MTP	**Monte Pirata**	**13.26**	**27**	Pn	**Pn**	**02 23 12.2**	**-1.5**
JTS	**Las Juntas de**	**13.57**	**288**	LR	LR	02 28 44.2	
	comp=Z,80nm,18.9s,baz=166,slow=38						
ATAH	**Atahualpa**	**14.84**	**206**	LR	LR	02 30 05.6	
	comp=Z,81nm,21.1s,baz=26,slow=40						
SAML	**Samuel**	**17.42**	**150**	P	**Pn**	**02 24 07.5**	**-0.8**
NNA	**Nana**	**18.81**	**195**	LR	LR	02 32 06.7	
	comp=Z,51nm,19.5s,baz=348,slow=38						
APG	**El Apazote**	**20.23**	**297**	LR	LR	02 32 55.6	
	comp=Z,43nm,21.1s,baz=76,slow=38						
LPAZ	**La Paz**	**22.72**	**171**	P	**P**	**02 25 08.3**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=335,slow=16,SNR=5.4						
LPAZ				LR	LR	02 34 49.4	
	comp=Z,54nm,18.7s,baz=60,slow=39						
LPAZ	**La Paz**	**22.72**	**171**	P	**P**	**02 25 04.2**	**-3.6**
LPAZ				IAmb	IAmb	02 25 20.9	
	comp=Z,9.3nm,0.9s						
SIV	**San Ignacio**	**24.56**	**154**	P	**P**	**02 25 25.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=338,slow=8.4,SNR=5.5						
MNMC	**Minye Minye**	**25.34**	**175**	P	**P**	**02 25 31.3**	**-1.1**
MNMC				IAmb	IAmb	02 25 39.0	
	comp=Z,4.1nm,0.9s						
GO01	**Chusmiza**	**25.91**	**174**	P	**P**	**02 25 36.3**	**-1.5**
PB11	**IPOC Station P**	**25.96**	**175**	P	**P**	**02 25 35.0**	**-2.9**
PB11				IAmb	IAmb	02 25 45.1	
	comp=Z,8.8nm,0.9s						
WVT	**Waverly**	**33.13**	**336**	P	**P**	**02 26 38.8**	**-2.4**
WVT				IAmb	IAmb	02 26 43.1	
	comp=Z,4.8nm,1.1s						
TXAR	**Lajitas Array**	**37.77**	**311**	P	**P**	**02 27 21.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=119,slow=9.4,SNR=7.9						
TXAR	**Lajitas Array**	**37.77**	**311**	P	**P**	**02 27 18.2**	**-3.1**
ULM	**Lac du Bonnet**	**48.23**	**339**	P	**P**	**02 28 45.7**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=148,slow=9.5,SNR=3.0						
PDAR	**Pinedale Array**	**49.26**	**324**	P	**P**	**02 28 54.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=119,slow=9.6,SNR=6.2						
PDAR				PcP	**PcP**	**02 30 16.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=126,slow=4.7,SNR=3.2						
PDAR	**Pinedale Array**	**49.26**	**324**	P	**P**	**02 28 51.5**	**-2.4**
PDAR					**PcP**	**02 30 13.3**	**-3.4**
YKA	**Yellowknife Ar**	**64.21**	**340**	P	**P**	**02 30 39.6**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=130,slow=6.6,SNR=12						
YKA				pP	**pP**	**02 30 48.2**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=127,slow=6.9,SNR=5.0						
YKA	**Yellowknife Ar**	**64.21**	**340**	P	**P**	**02 30 38.0**	**-1.4**
DBIC	**Dimbokro**	**66.51**	**85**	P	**P**	**02 30 56.2**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=249,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**72.61**	**78**	P	**P**	**02 31 33.4**	**+0.5**
	comp=Z,90nm,0.7s,baz=281,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**77.99**	**335**	P	**P**	**02 32 03.1**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=116,slow=4.5,SNR=7.0						
ILAR	**Eielson Array**	**77.99**	**335**	P	**P**	**02 32 02.0**	**-0.9**
NOA	**NORSAR Array B**	**81.18**	**29**	P	**P**	**02 32 21.9**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=266,slow=5.4,SNR=2.9						
ARCES	**ARCESS Array B**	**86.73**	**20**	P	**P**	**02 32 48.8**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=263,slow=4.5,SNR=3.8						
FINES	**FINESS Array B**	**88.31**	**28**	P	**P**	**02 32 56.8**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=108,slow=3.0,SNR=4.8						
FINES	**FINESS Array B**	**88.31**	**28**	P	**P**	**02 32 55.8**	**-0.4**
WRA	**Warramunga Arr**	**151.17**	**239**	PKPbc	**PKPdf**	**02 39 57.4**	**+4.3**
	comp=Z,0.3nm,0.7s,baz=106,slow=2.8,SNR=5.1						

ISCJB ***20*** *02:39:39.1±0.6, 62°.9S±0°.1×164°.4W±0°.2, h10km, mb4.3/7, MS4.0/14, Error ellipse: s-maj=18.1km s-min=12.1km az=141.8*
IDC ***20*** *02:39:40.5±0.9, 63°.08S×164°.67W, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.1/29, mbtmp4.3/7, MS4.0/12, Ms1 4.0/12, ms1mx3.9/16, Error ellipse: s-maj=36.8km s-min=18.9km az=35.0*
NEIC ***20*** *02:39:41.0±0.8, 63°.0S±0°.2×164°.4W±0°.3, h15km±5km, mb4.6/7*

ISC 20 02:39:41.1±0.8, 63°.05S±0°.1×164°.5W±0°.1, h10km, n41, σ1°.904/21, mb4.5/8, MS4.0/14, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.38**	**200**	P	**P**	**02 43 44.3**	**-0.3**
SBA				IAmb	IAmb	02 43 52.7	
	comp=Z,73nm,1.7s						
RPZ	**Rata Peaks**	**23.96**	**312**	LR	LR	02 51 51.2	
	comp=Z,448nm,20.1s,baz=184,slow=30						
TUWZ	**Tuamarina**	**25.10**	**319**	P	**P**	**02 45 04.3**	**-1.3**
QSPA	**South Pole Qui**	**27.10**	**180**	P	**P**	**02 45 25.1**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=65,slow=5.3,SNR=3.5						
QSPA				LR	LR	02 54 33.7	
	comp=Z,423nm,19.3s,baz=49,slow=33						
QSPA	**South Pole Qui**	**27.10**	**180**	P	**P**	**02 45 22.4**	**-1.4**
URZ	**Urewera**	**27.19**	**327**	LR	LR	02 53 40.4	
	comp=Z,490nm,21.6s,baz=162,slow=31						
TBI	**Tubuai**	**40.91**	**21**	*e*LR	LR	02 58 27.0	
	comp=Z,378nm,27.0s						
TBI	**Tubuai**	**40.91**	**21**	*e*T	T	03 30 42.0	
	comp=Z,41nm,0.3s						
VNA3	**Neumayer Olymp**	**44.89**	**169**	P	**P**	**02 47 54.5**	**-0.6**
SNAA	**Sanae**	**45.00**	**172**	P	**P**	**02 47 57.0**	**+1.1**
SNAA				x	x	02 47 57.8	
SNAA	**Sanae**	**45.00**	**172**	P	**P**	**02 47 56.3**	**+0.3**
	comp=Z,6.6nm,1.2s,baz=165,slow=5.9,SNR=9.4						
SNAA	**Sanae**	**45.00**	**172**	P	**P**	**02 47 55.0**	**-1.0**
SNAA				IAmb	IAmb	02 48 02.4	
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**45.30**	**203**	LR	LR	03 05 45.3	
	comp=Z,291nm,19.1s,baz=158,slow=35						
VNA2	**Neumayer--Watz**	**45.39**	**170**	P	**P**	**02 47 58.8**	**-0.3**
	baz=195,slow=7.4						
VNA1	**Neumayer--Stat**	**45.59**	**169**	P	**P**	**02 48 01.3**	**+0.7**
USHA	**Ushuaia**	**45.72**	**127**	LR	LR	03 03 14.9	
	comp=Z,132nm,21.0s,baz=272,slow=31						
STKA	**Stephens Creek**	**45.89**	**287**	LR	LR	03 05 07.1	
	comp=Z,94nm,19.0s,baz=168,slow=33						
TVO	**Taravao**	**46.40**	**20**	*e*T	T	03 37 34.3	
	comp=Z,1.6nm,0.3s						
PAE	**Paea**	**46.46**	**20**	*e*T	T	03 37 38.8	
	comp=Z,2.1nm,0.3s						
MEH	**Mehetia**	**46.50**	**22**	*e*T	T	03 37 40.3	
	comp=Z,26nm,0.2s						
PPT2	**Papeete2**	**46.54**	**20**	*e*LR	LR	03 01 12.1	
	comp=Z,380nm,25.0s						
PPT2	**Papeete2**	**46.54**	**20**	*e*T	T	03 37 38.8	
	comp=Z,5.7nm,0.3s						
VAH	**Vaihoa**	**49.16**	**22**	*e*T	T	03 40 59.8	
	comp=Z,102nm,0.3s						
CTA	**Charters Towe**	**54.30**	**299**	P	**P**	**02 49 08.4**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=148,slow=4.0,SNR=3.6						
CTA				LR	LR	03 10 44.8	
	comp=Z,77nm,18.8s,baz=150,slow=34						
H01W1	**Cape Leeuwin H**	**55.75**	**260**	T	T	03 49 53.2	
	baz=146,slow=76,SNR=8.0						
H01W2	**Cape Leeuwin H**	**55.75**	**259**	T	T	03 49 53.5	
	baz=146,slow=76,SNR=8.6						
H01W3	**Cape Leeuwin H**	**55.77**	**260**	T	T	03 49 54.5	
	baz=146,slow=76,SNR=8.5						
PLCA	**Paso Flores**	**56.30**	**114**	P	**P**	**02 49 22.2**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=231,slow=6.5,SNR=4.7						
PLCA				LR	LR	03 08 43.9	
	comp=Z,77nm,19.0s,baz=228,slow=31						
PLCA	**Paso Flores**	**56.30**	**114**	P	**P**	**02 49 20.2**	**-1.4**
PLCA				IAmb	IAmb	02 49 27.7	
	comp=Z,6.3nm,1.1s						
ASAR	**Alice Springs**	**56.37**	**284**	P	**P**	**02 49 22.6**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=152,slow=7.4,SNR=16						
ASAR				LR	LR	03 11 29.4	
	comp=Z,74nm,18.4s,baz=156,slow=34						
ASAR	**Alice Springs**	**56.37**	**284**	P	**P**	**02 49 21.6**	**-0.7**
HNR	**Honiara**	**59.28**	**318**	LR	LR	03 12 20.9	
	comp=Z,113nm,18.1s,baz=172,slow=33						
WRA	**Warramunga Arr**	**59.44**	**287**	P	**P**	**02 49 43.6**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=162,slow=6.5,SNR=9.6						
WRA	**Warramunga Arr**	**59.44**	**287**	P	**P**	**02 49 43.3**	**-0.5**
CFA	**Coronel Fontan**	**65.04**	**111**	P	**P**	**02 50 22.7**	**+1.4**
	comp=Z,5.7nm,0.8s,baz=216,slow=6.3,SNR=10.0						
LVC	**Limon Verde**	**72.58**	**105**	P	**P**	**02 51 07.8**	**-0.9**
CPUP	**Villa Florida**	**74.22**	**117**	LR	LR	03 20 23.4	
	comp=Z,74nm,18.9s,baz=206,slow=33						
LPAZ	**La Paz**	**78.47**	**103**	P	**P**	**02 51 41.7**	**-1.2**
LPAZ				IAmb	IAmb	02 51 54.9	
	comp=Z,8.7nm,1.2s						
BOSA	**Boshof**	**88.37**	**189**	LR	LR	03 28 03.0	
	comp=Z,217nm,20.7s,baz=178,slow=33						
ILAR	**Eielson Array**	**128.14**	**9**	PKP	**PKiKP**	**02 58 47.8**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=204,slow=2.0,SNR=7.0						
KURBB	**Kurchatov Arra**	**144.89**	**279**	PKP	PKPbc	02 59 16.3	+0.2
	comp=Z,2.5nm,0.2s,baz=146,slow=2.8,SNR=9.5						

IDC 20 02:52:57.5±85.0, 11°.97S×172°.51E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, Error ellipse: s-maj=1472.0km s-min=145.7km az=65.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.66**	**230**	P	P	02 59 49.2	+0.2
	0.9nm,0.4s,baz=61,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**37.48**	**253**	P	P	03 00 13.4	+0.2
	0.4nm,0.8s,baz=86,slow=8.3,SNR=3.8						
ASAR	**Alice Springs**	**38.43**	**247**	P	P	03 00 20.7	-0.6
	1.0nm,0.7s,baz=79,slow=9.5,SNR=10						

WEL 20 03:10:34.6±0.5, 33°S±11°×18°0W±2°.5, h33km, M4.5/28, mB5.1/13, ML4.8/20, MLv4.6/28, Mw(mB)4.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.99**	**21**	P	Pn	03 11 32.9	-0.5
GLKZ				S	Sn	03 12 15.6	-3.5
MXZ	**Matakaoa Point**	**4.87**	**200**	P	Pn	03 11 47.3	+1.8
MXZ				S	Sn	03 12 40.1	-0.6
WMGZ	**Waiomatatini S**	**5.08**	**198**	P	Pn	03 11 51.2	+2.8
WMGZ				S	Sn	03 12 47.2	+1.3
HAZ	**Te Kaha**	**5.21**	**204**	P	Pn	03 11 51.1	+0.9
HAZ				S	Sn	03 12 50.3	+1.1
PKGZ	**Pakihiroa**	**5.24**	**201**	P	Pn	03 11 50.7	0.0
PKGZ				S	Sn	03 12 49.6	-0.3
PUZ	**Puketiti**	**5.36**	**199**	P	Pn	03 11 51.9	-0.4
RUGZ	**Raukumara Rang**	**5.43**	**204**	P	Pn	03 11 54.3	+0.9
RUGZ				S	Sn	03 12 53.9	-0.9
TWGZ	**Tauwhareparae**	**5.53**	**201**	P	Pn	03 11 56.5	+1.8
TWGZ				S	Sn	03 12 56.9	-0.3
CNGZ	**Carnagh Statio**	**5.76**	**198**	P	Pn	03 11 58.6	+0.8
MWZ	**Matawai**	**5.82**	**203**	P	Pn	03 11 59.6	+0.9
MWZ				S	Sn	03 13 02.8	-1.4
MARZ	**Manawahe**	**5.84**	**211**	P	Pn	03 12 02.9	+4.0
URZ	**Urewera**	**5.90**	**206**	P	Pn	03 12 00.2	+0.6
URZ				S	Sn	03 13 04.1	-2.0
RAGZ	**Rawiri**	**6.00**	**203**	P	Pn	03 12 02.2	+1.1
RIGZ	**Rimuhau**	**6.09**	**200**	P	Pn	03 12 02.7	+0.4
RIGZ				S	Sn	03 13 08.6	-2.2
MUGZ

MRKS	**Merke**	**3.12**	**350**	*eP*		**Pg**	**03 31 59.3**	**-0.7**
	3.4nm,0.4s							
MRKS				*eS*		**Sg**	**03 32 40.4**	**-0.1**
	3.8nm,0.6s							
KST	**Kastek**	**3.70**	**24**	Pg		**Pg**	**03 32 10.7**	**-0.4**
	1.4nm,0.5s							
KST				Lg		Lg	03 32 59.5	
	3.9nm,0.5s							
KST	**Kastek**	**3.70**	**24**	*eP*		**Pg**	**03 32 10.7**	**-0.4**
	0.2nm,0.1s							
KST				*eS*		**Sg**	**03 33 00.1**	**+1.1**
	4.6nm,0.8s							
DGS	**Degeres**	**3.83**	**20**	Pg		**Pg**	**03 32 12.7**	**-0.8**
	1.6nm,0.4s							
DGS				Lg		Lg	03 33 03.1	
	4.6nm,0.4s							
DGS	**Degeres**	**3.83**	**20**	*eP*		**Pg**	**03 32 12.5**	**-1.0**
	1.6nm,0.4s							
DGS				*eS*		**Sg**	**03 33 03.1**	**0.0**
	4.6nm,0.4s							
IUG	**Iuzhnay**	**3.87**	**311**	Pg		**Pb**	**03 32 07.4**	**-1.2**
	0.3nm,0.2s							
IUG				Lg		Lg	03 32 54.3	
	5.7nm,0.4s							
TNSS	**Tian-Shan**	**4.05**	**33**	*eP*		**Pg**	**03 32 17.6**	**-0.2**
	1.7nm,0.6s							
TNSS				*eS*		**Sg**	**03 33 11.6**	**+1.2**
	3.2nm,0.6s							
KK31	**Karatay Array**	**4.30**	**324**	⇑Pg		**Pg**	**03 32 21.3**	**-1.2**
	0.3nm,0.3s,baz=135,slow=16,SNR=3.6							
KK31				⇓Lg		Lg	03 33 14.5	
	0.3nm,0.3s,baz=131,slow=28,SNR=4.2							

IDC 20 03:44:55.8±1.8, 16°42S×178°38W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/30, mbtmp4.0/5, Error ellipse: s-maj=104.0km s-min=25.3km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.39**	**240**	P	P	03 52 27.3	-0.2
	2.5nm,0.5s,baz=95,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**44.95**	**258**	P	P	03 53 13.0	0.0
	1.0nm,0.3s,baz=91,slow=7.8,SNR=59						
ASAR	**Alice Springs**	**45.24**	**253**	P	P	03 53 15.1	-0.3
	7.9nm,0.4s,baz=88,slow=8.5,SNR=92						
ILAR	**Eielson Array**	**84.44**	**13**	P	P	03 57 30.0	+0.1
	0.3nm,0.9s,baz=221,slow=4.8,SNR=4.3						
TXAR	**Lajitas Array**	**85.17**	**58**	P	P	03 57 34.4	-0.2
	0.2nm,0.8s,baz=224,slow=3.5,SNR=4.3						

*ISCJB **20** 03:45:29.4±0.5, 63°17S±0°07×164°5W±0°2, h10km, mb4.2/7, MS4.7/25, Error ellipse: s-maj=13.4km s-min=9.7km az=160.4*

*IDC **20** 03:45:29.5±0.9, 63°09S×164°50W, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.2/24, mbtmp4.3/7, MS4.7/22, Ms1 4.6/22, ms1mx4.6/27, Error ellipse: s-maj=35.9km s-min=20.9km az=32.0*

*NEIC **20** 03:45:32.6±1.3, 63°27S±0°09×164°7W±0°3, h16km±4km, mb4.8/11*

*GCMT **20** 03:45:34.6±0.1, 63°10S±0°01×164°38W±0°02, h15km, MW5.3/117, Moment Tensor Solution. s84,c131; s117,c192; Duration: 1±1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.19±.02; $M_{\theta\theta}$1.04±.02; $M_{\phi\phi}$-0.85±.02; $M_{r\theta}$-0.35±.06; $M_{\theta\phi}$0.59±.02; $M_{\phi r}$0.18±.05; Best double couple: $M_0$1.18300×10^{17} NP1:ϕ_s118.00000°, δ86.00000°, λ-20.00000°; NP2:ϕ_s209.00000°, δ70.00000°, λ-176.00000°. Principal axes: T 1.2650, Plg11.0000°, Azm165.0000°; N -0.1630, Plg69.0000°, Azm287.0000°; P -1.1020, Plg17.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 03:45:31.1±0.6, 63°15S±0°10×164°5W±0°1, h10km, n63, σ0°88/35, mb4.5/13, MS4.7/25, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.25**	**200**	Pn	**Pn**	**03 49 30.4**	**-1.1**
RPZ	**Rata Peaks**	**24.04**	**313**	LR	LR	03 57 42.4	
	comp=Z,2μm,20.6s,baz=149,slow=30						
OXZ	**Oxford**	**24.06**	**314**	P	**P**	**03 50 46.6**	**+0.4**
OXZ				IAmb	IAmb	03 50 56.6	
	comp=Z,64nm,1.6s						
LTZ	**Lake Taylor**	**24.48**	**315**	P	**P**	**03 50 51.5**	**+1.4**
LTZ				IAmb	IAmb	03 50 57.3	
	comp=Z,26nm,1.2s						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**03 51 13.4**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=57,slow=4.3,SNR=8.8						
QSPA				LR	LR	04 00 30.9	
	comp=Z,2μm,18.2s,baz=50,slow=33						
QSPA	**South Pole Qui**	**26.96**	**180**	P	**P**	**03 51 10.9**	**-1.6**
QSPA				IAmb	IAmb	03 51 21.0	
	comp=Z,37nm,1.7s						
URZ	**Urewera**	**27.30**	**327**	LR	LR	03 59 41.5	
	comp=Z,3μm,21.3s,baz=160,slow=31						
PMSA	**Palmer Station**	**39.67**	**139**	LR	LR	04 06 22.9	
	comp=Z,2μm,20.7s,baz=198,slow=32						
TBI	**Tubuai**	**41.04**	**21**	*eS*	**S**	**03 59 25.3**	**-1.2**
	comp=Z,468nm,28.0s						
TBI				*e*LQ	LQ	04 02 32.5	
	comp=Z,2μm,31.8s						
TBI				*e*LR	LR	04 04 16.3	
	comp=Z,2μm,27.2s,baz=187						
TBI	**Tubuai**	**41.04**	**21**	*eT*	T	04 36 27.7	
	comp=Z,86nm,0.3s						
VNA3	**Neumayer Olymp**	**44.76**	**169**	P	**P**	**03 53 43.6**	**-0.4**
SNAA	**Sanae**	**44.86**	**172**	P	**P**	**03 53 45.0**	**+0.1**
SNAA	**Sanae**	**44.86**	**172**	P	**P**	**03 53 45.0**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=218,slow=12,SNR=7.3						
SNAA	**Sanae**	**44.86**	**172**	P	**P**	**03 53 44.7**	**-0.2**
SNAA				IAmb	IAmb	03 53 52.1	
	comp=Z,32nm,1.5s						
MAW	**Mawson**	**45.17**	**203**	LR	LR	04 11 13.8	
	comp=Z,2μm,20.7s,baz=147,slow=34						
MAW	**Mawson**	**45.17**	**203**	P	**P**	**03 53 47.0**	**-0.2**
MAW				IAmb	IAmb	03 53 59.3	
	comp=Z,2.8nm,1.6s						
VNA2	**Neumayer--Watz**	**45.26**	**170**	P	**P**	**03 53 47.9**	**-0.1**
	baz=202,slow=5.0						
VNA1	**Neumayer--Stat**	**45.45**	**169**	P	**P**	**03 53 48.5**	**-1.0**
DZM	**Mont Dzumac**	**45.49**	**321**	LR	LR	04 10 08.2	
	comp=Z,1μm,19.8s,baz=172,slow=32						
STKA	**Stephens Creek**	**45.92**	**287**	LR	LR	04 10 18.2	
	comp=Z,612nm,18.9s,baz=140,slow=32						
TVO	**Taravao**	**46.53**	**20**	*eT*	T	04 43 22.8	
	comp=Z,3.4nm,0.3s						
PAE	**Paea**	**46.60**	**20**	*eT*	T	04 43 26.4	
	comp=Z,3.2nm,0.3s						
MEH	**Mehetia**	**46.63**	**22**	*eT*	T	04 43 29.4	
	comp=Z,64nm,0.2s						
PPT2	**Papeete2**	**46.67**	**20**	*eS*	**S**	**04 00 47.0**	**-1.9**
	comp=Z,364nm,27.0s						
PPT2				*e*LQ	LQ	04 04 52.5	
	comp=Z,3μm,28.0s						
PPT2				*e*LR	LR	04 07 02.3	
	comp=Z,2μm,24.8s,baz=194						
PPT2	**Papeete2**	**46.67**	**20**	*eT*	T	04 43 33.0	
	comp=Z,8.5nm,0.3s						
PPT	**Papeete**	**46.69**	**20**	LR	LR	04 08 45.3	
	comp=Z,856nm,19.1s,baz=190,slow=30						
SYO	**Syowa Base**	**47.03**	**192**	⇑*i*pP	pP	03 54 04.7	+0.5
VAH	**Vaihoa**	**49.29**	**22**	*eT*	T	04 46 48.7	
	comp=Z,166nm,0.3s						
AFI	**Afiamalu**	**49.44**	**351**	LR	LR	04 12 27.3	
	comp=Z,713nm,18.3s,baz=180,slow=33						
H01W1	**Cape Leeuwin H**	**55.71**	**260**	T	T	04 56 00.7	
	baz=147,slow=76,SNR=34						
H01W2	**Cape Leeuwin H**	**55.72**	**260**	T	T	04 56 04.4	
	baz=147,slow=76,SNR=34						
H01W3	**Cape Leeuwin H**	**55.73**	**260**	T	T	04 56 01.9	
	baz=147,slow=76,SNR=28						
PLCA	**Paso Flores**	**56.26**	**114**	P	**P**	**03 55 13.2**	**+1.9**
	comp=Z,1.8nm,0.9s,baz=261,slow=8.1,SNR=3.0						
PLCA	**Paso Flores**	**56.26**	**114**	P	**P**	**03 55 12.1**	**+0.9**
PLCA				IAmb	IAmb	03 55 20.4	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**56.39**	**284**	P	**P**	**03 55 12.4**	**0.0**
AS31				IAmb	IAmb	03 55 19.1	
	comp=Z,3.2nm,1.2s						
ASAR	**Alice Springs**	**56.39**	**284**	P	**P**	**03 55 12.3**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=149,slow=7.1,SNR=15						
ASAR				LR	LR	04 15 54.8	
	comp=Z,458nm,21.9s,baz=154,slow=32						
ASAR	**Alice Springs**	**56.39**	**284**	P	**P**	**03 55 12.0**	**-0.3**
TAOE	**Nuku Hiva Isla**	**56.96**	**29**	*e*LR	LR	04 11 42.4	
	comp=Z,796nm,25.4s						
HNR	**Honiara**	**59.37**	**318**	LR	LR	04 19 35.9	
	comp=Z,448nm,18.1s,baz=172,slow=34						
WB2	**Warramunga Arr**	**59.47**	**287**	P	**P**	**03 55 34.1**	**+0.1**
WB2				IAmb	IAmb	03 55 48.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**59.47**	**287**	P	**P**	**03 55 33.5**	**-0.5**
	comp=Z,4.4nm,0.9s,baz=156,slow=6.2,SNR=6.8						
WRA				LR	LR	04 18 54.8	
	comp=Z,466nm,18.6s,baz=155,slow=34						
WRA	**Warramunga Arr**	**59.47**	**287**	P	**P**	**03 55 33.4**	**-0.6**
WRA				IAmb	IAmb	03 55 38.4	
	comp=Z,0.4nm,1.0s						
KRVT	**Keravat (AS076**	**66.74**	**312**	LR	LR	04 23 03.4	
	comp=Z,369nm,19.4s,baz=146,slow=34						
LVC	**Limon Verde**	**72.55**	**105**	LR	LR	04 22 07.2	
	comp=Z,136nm,21.0s,baz=212,slow=30						
CPUP	**Villa Florida**	**74.16**	**117**	P	**P**	**03 57 07.2**	**-0.3**
	comp=Z,6.5nm,1.0s,baz=192,slow=9.3,SNR=3.3						
CPUP				LR	LR	04 26 00.2	
	comp=Z,162nm,19.6s,baz=206,slow=33						
CPUP	**Villa Florida**	**74.16**	**117**	P	**P**	**03 57 07.0**	**-0.5**
CPUP				IAmb	IAmb	03 57 16.0	
	comp=Z,13nm,1.1s						
MNMC	**Minye Minye**	**75.30**	**103**	P	**P**	**03 57 15.4**	**+0.9**
MNMC				IAmb	IAmb	03 57 27.2	
	comp=Z,18nm,1.1s						
NNA	**Nana**	**78.33**	**93**	LR	LR	04 23 14.4	
	comp=Z,243nm,20.5s,baz=208,slow=29						
LPAZ	**La Paz**	**78.45**	**103**	P	**P**	**03 57 32.0**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=180,slow=4.0,SNR=3.9						
LPAZ				LR	LR	04 23 40.6	
	comp=Z,77nm,21.1s,baz=207,slow=29						
ATAH	**Atahualpa**	**81.91**	**90**	LR	LR	04 26 44.3	
	comp=Z,257nm,18.3s,baz=213,slow=30						
BDFB	**Brasilia**	**87.49**	**120**	LR	LR	04 35 12.8	
	comp=Z,434nm,18.3s,baz=190,slow=34						
BOSA	**Boshof**	**88.23**	**189**	LR	LR	04 34 01.6	
	comp=Z,1μm,20.5s,baz=171,slow=33						
ROSC	**El Rosal**	**94.35**	**88**	LR	LR	04 34 36.7	
	comp=Z,343nm,18.8s,baz=206,slow=31						
JTS	**Las Juntas de**	**94.41**	**76**	LR	LR	04 32 12.3	
	comp=Z,586nm,20.6s,baz=267,slow=30						
ILAR	**Eielson Array**	**128.27**	**9**	PKP	**PKiKP**	**04 04 36.1**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=206,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**128.27**	**9**		**PKiKP**	**04 04 36.7**	**+0.2**
KKAR	**Karatay Array**	**142.89**	**264**		**PKPdf**	**04 05 04.5**	**+0.8**
ZALV	**Zalesovo Beam**	**144.44**	**288**	PKP	**PKPdf**	**04 05 06.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=90,slow=3.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**144.44**	**288**		**PKPdf**	**04 05 07.0**	**+1.0**
KURK	**Kurchatov**	**144.92**	**279**		**PKPdf**	**04 05 07.0**	**+0.1**
ELL	**Elmali**	**152.14**	**205**	PKPdf	**PKPdf**	**04 05 18.2**	**-1.2**
ABKAR	**Abkulak array**	**152.32**	**261**		**PKPdf**	**04 05 19.5**	**+0.5**
BRTR	**Keskin Array B**	**154.16**	**213**	PKPdf	**PKPdf**	**04 05 23.4**	**+1.2**

*ISCJB **20** 03:46:50.2±0.4, 23°92N±0°02×122°51E±0°02, h25km±3km, Error ellipse: s-maj=4.2km s-min=2.4km az=169.8*

*TAP **20** 03:46:50.8, 23°99N×122°49E, h25km, ML2.8, D*

*JMA **20** 03:46:50.9±0.2, 24°03N×122°49E, h27km±4km, M2.0*

ISC 20 03:46:50.2±1.2, 23°95N±0°04×122°50E±0°02, h22km±13km, n45, σ0°56/82, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.65**	**39**	P	**Pb**	**03 47 02.4**	**-0.5**
JYNG				S	**Sb**	**03 47 10.2**	**-1.3**
EOS1	**EOS1**	**0.69**	**331**	P	**Pb**	**03 47 03.5**	**-0.1**
	baz=323						
EOS1				S	**Sn**	**03 47 13.3**	**-1.2**
	baz=323						
YOJ	**Yonaguni jima**	**0.69**	**42**	P	**Pb**	**03 47 03.9**	**+0.2**
	baz=53						
YOJ				S	**Sn**	**03 47 14.8**	**+0.1**
	baz=53						
YOJ	**Yonaguni jima**	**0.69**	**42**	P	**Pb**	**03 47 03.4**	**-0.3**
YOJ				*e*S	**Sb**	**03 47 11.7**	**-1.1**
HWA	**Hwalien**	**0.82**	**272**	*e*P	**Pb**	**03 47 05.4**	**-0.3**
	baz=255						
HWA				S	**Sb**	**03 47 16.6**	**+0.3**
	baz=255						
ENLB	**Shoufeng**	**0.82**	**267**	*e*S	**Sb**	**03 47 16.7**	**+0.2**
	baz=252						
NANB	**Nanao**	**0.83**	**305**	*i* P	**Pb**	**03 47 05.9**	**-0.1**
	baz=303						
NANB				S	**Sn**	**03 47 17.9**	**-0.3**
	baz=303						
TWD	**Chiawan**	**0.83**	**279**	P	**Pb**	**03 47 05.6**	**-0.4**
	baz=276						
TWD				*i* S	**Sb**	**03 47 17.5**	**+0.6**
	baz=276						
ENA	**Nanau**	**0.84**	**305**	*i* P	**Pb**	**03 47 06.0**	**-0.1**
	baz=303						
ENA				*i* S	**Sn**	**03 47 18.1**	**-0.3**
	baz=303						
NACB	**Ninganchiao**	**0.86**	**285**	P	**Pb**	**03 47 06.4**	**-0.1**
	baz=268						
NACB				S	**Sn**	**03 47 18.0**	**-0.8**
	baz=268						
TWC	**Suao**	**0.89**	**318**	*i* P	**Pb**	**03 47 06.5**	**-0.5**
	baz=317						
TWC				*i* S	**Sn**	**03 47 18.4**	**-1.1**
	baz=317						
ETLH	**Xiulin Townshi**	**0.96**	**286**	P	**Pn**	**03 47 08.0**	**-0.5**
	baz=271						
ETLH				*e*S	**Sn**	**03 47 21.2**	**-0.3**
	baz=271						
ESL	**Shilin**	**0.98**	**262**	*e*P	**Pn**	**03 47 08.0**	**-0.7**
	baz=259						
ESL				*e*S	**Sb**	**03 47 21.2**	**+0.1**
	baz=259						
EGS		**1.03**	**330**	*i* P	**Pb**	**03 47 09.4**	**0.0**
	baz=317						
EGS				*i* S	**Sn**	**03 47 23.6**	**+0.5**
	baz=317						
ILA	**Ilan**	**1.06**	**320**	*e*S	**Sn**	**03 47 24.8**	**+0.9**
	baz=310						
TWE	**Neicheng**	**1.08**	**316**	*i* P	**Pb**	**03 47 10.3**	**+0.1**
	baz=315						
TWE				*i* S	**Sn**	**03 47 25.1**	**+0.8**
	baz=315						
HGSD	**Ruisui**	**1.08**	**245**	*e*P	**Pn**	**03 47 10.3**	**+0.3**
	baz=243						
HGSD				S	**Sn**	**03 47 24.9**	**+0.5**
	baz=243						
NTC	**Toucheng**	**1.09**	**326**	*e*P	**Pb**	**03 47 10.8**	**+0.5**
	baz=325						
NTC				*e*S	**Sn**	**03 47 25.6**	**+1.1**
	baz=325						
ENTT	**Nioudou**	**1.09**	**309**	*i* P	**Pb**	**03 47 10.7**	**+0.2**
	baz=292						
ENTT				*i* S	**Sb**	**03 47 25.3**	**+0.9**
	baz=292						
NDT	**Datong Townshi**	**1.11**	**306**	P	**Pb**	**03 47 10.9**	**+0.1**
	baz=304						
NDT				*i* S	**Sb**	**03 47 26.0**	**+1.2**
	baz=304						
SLBB	**Yuanshan**	**1.12**	**316**	P	**Pn**	**03 47 10.5**	**-0.2**
	baz=314						
SLBB				S	**Sb**	**03 47 25.8**	**+0.6**
	baz=314						
NNSB	**Datong**	**1.12**	**295**	P	**Pb**	**03 47 11.0**	**-0.1**
	baz=293						
NNSB				S	**Sb**	**03 47 26.0**	**+0.6**
	baz=293						
NNS	**Nan Shan**	**1.14**	**296**	*i* P	**Pb**	**03 47 11.1**	**-0.2**
	baz=293						
NNS				S	**Sb**	**03 47 26.4**	**+0.6**
	baz=293						
WHF	**Hehuan Shan**	**1.14**	**280**	⇓*i*P	**Pn**	**03 47 11.0**	**-0.3**
	baz=264						
WHF				*i* S	**Sn**	**03 47 25.9**	**-0.6**
	baz=264						
TWB1	**Santiao Chiao**	**1.15**	**336**	*e*P	**Pb**	**03 47 11.2**	**-0.3**
	baz=354						
TWB1				*e*S	**Sb**	**03 47 27.2**	**+1.2**
	baz=354						
EHY	**Hungye**	**1.16**	**248**	P	**Pn**	**03 47 11.4**	**+0.2**
	baz=245						
EHY				S	**Sn**	**03 47 26.2**	**-0.2**
	baz=245						
TIPB	**Tubuai**	**1.19**	**329**	P	**Pb**	**03 47 12.0**	**-0.1**
	baz=328						
TIPB				*i* S	**Sb**	**03 47 27.7**	**+0.6**
	baz=328						
IRIF	**Iriomote-Funau**	**1.19**	**71**	P	**Pn**	**03 47 12.0**	**+0.5**
IRIF				*e*S	**Sn**	**03 47 27.1**	**+0.1**
HATJ	**Hateruma jima**	**1.20**	**85**	P	**Pn**	**03 47 12.0**	**+0.3**
HATJ				*e*S	**Sb**	**03 47 28.0**	**+0.6**
CHGB	**Renai**	**1.22**	**276**	P	**Pn**	**03 47 12.2**	**+0.1**
	baz=261						
CHGB				S	**Sn**	**03 47 27.9**	**0.0**
	baz=261						
NWLT	**Wulai**	**1.23**	**312**	*e*P	**Pb**	**03 47 12.6**	**-0.2**
	baz=311						
NWLT				*e*S	**Sb**	**03 47 29.2**	**+1.0**
	baz=311						
YULB	**Yu-li**	**1.23**	**244**	P	**Pn**	**03 47 12.0**	**-0.1**
	baz=241						
YULB				S	**Sn**	**03 47 27.8**	**-0.3**
	baz=241						
TWF1	**Yuli**	**1.25**	**242**	P	**Pn**	**03 47 12.6**	**+0.2**
	baz=239						
TWF1				S	**Sn**	**03 47 28.6**	**+0.1**
	baz=239						
YHNB	**Yeheng**	**1.25**	**305**	P	**Pb**	**03 47 12.8**	**-0.4**
	baz=290						
YHNB				*e*S	**Sb**	**03 47 28.8**	**-0.1**
	baz=290						
VWDT	**VWDT**	**1.26**	**261**	*e*P	**Pn**	**03 47 12.9**	**+0.4**
	baz=259						
VWDT				*e*S	**Sn**	**03 47 28.8**	**+0.2**
	baz=259						
NSK	**Sanguang**	**1.27**	**305**	P	**Pn**	**03 47 12.6**	**-0.1**
	baz=289						
NSK				S	**Sb**	**03 47 29.0**	**-0.4**
	baz=289						
NWF	**Wu-fen Shan**	**1.29**	**330**	*e*P	**Pb**	**03 47 13.1**	**-0.8**
	baz=329						
WFSB	**Wu-fen Shan**	**1.29**	**330**	*e*P	**Pb**	**03 47 13.3**	**-0.6**
	baz=329						
TWA	**Mucha**	**1.32**	**321**	*e*S	**Sb**	**03 47 31.3**	**+0.3**
	baz=320						
FULB	**Fuli**	**1.33**	**236**	*e*S	**Sn**	**03 47 29.7**	**-0.9**
	baz=222						
JKRS	**Kuro-shima**	**1.41**	**78**	P	**Pn**	**03 47 15.3**	**+0.7**
JKRS				*e*S	**Sb**	**03 47 33.9**	**+0.5**
YM10	**YM10**	**1.47**	**325**	*e*P	**Pb**	**03 47 16.5**	**-0.5**
	baz=324						
JIJ	**Ishigaki jima**	**1.56**	**74**	P	**Pn**	**03 47 16.8**	**+0.2**
JIJ				*e*S	**Sn**	**03 47 36.3**	**+0.2**
JISG	**Ishigakijimahi**	**1.77**	**69**	P	**Pn**	**03 47 18.9**	**-0.6**
JISG				*e*S	**Sn**	**03 47 41.2**	**-0.2**
JTJ	**Tarama**	**2.13**	**71**	*e*S	**Sn**	**03 47 50.4**	**+0.3**

*BJI **20** 03:57:02.0±0.0, 56°90S×150°70W, h5km, mB5.3/3, Ms5.3/7, Ms7 5.2/3*

*ISCJB **20** 03:57:02.6±0.2, 56°85S±0°08×150°82W±0°08, h11km, mb4.8/18, MS4.4/12, Error ellipse: s-maj=11.2km s-min=6.2km az=5.8*

*MOS **20** 03:57:03.7±1.2, 56°95S×150°63W, h13km, mb5.2/13, Error ellipse: s-maj=20.8km s-min=19.0km az=111.2*

*IDC **20** 03:57:03.0±0.5, 56°77S×150°82W, h0km, mb4.8/10, mb1 4.9/10, mb1mx4.6/23, mbtmp4.8/10, MS4.1/7, Ms1 4.1/7, ms1mx3.8/28, Error ellipse: s-maj=25.6km s-min=15.6km az=8.0*

*NEIC **20** 03:57:04±1.2, 56°87S±0°09×150°7W±0°2, h10km±1km, mb5.1/44*

*GCMT **20** 03:57:11.0±0.4, 56°81S±0°04×150°98W±0°07, h22km±1km, MW5.0/74, Moment Tensor Solution. s19,c22; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.29±.39; $M_{\theta\theta}$3.13±.24; $M_{\phi\phi}$2.16±.21; $M_{r\theta}$0.49±.40; $M_{\theta\phi}$-1.36±.11; $M_{\phi r}$-0.07±.35; Best double couple: $M_0$4.71400×10^{16} NP1:ϕ_s303.00000°, δ48.00000°, λ-93.00000°. NP2: ϕ_s127.00000°, δ42.00000°, λ-87.00000°. Principal axes: T 4.1100, Plg3.0000°, Azm35.0000°; N 1.2090, Plg2.0000°, Azm305.0000°; P -5.3190, Plg87.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 03:57:02.5±3.5, 56°8S±0°1×150°74W±0°07, h0km±20km, n252, σ1$30/236, mb5.1/30, MS4.3/13, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.58**	**199**	P	**P**	**04 02 33.1**	**+0.5**
SBA				pmax	pmax		
	comp=Z,23nm,1.3s						
SBA	**Scott Base**	**25.58**	**199**	P	**P**	**04 02 33.1**	**+0.5**
RPZ	**Rata Peaks**	**27.31**	**282**	LR	LR	04 11 52.7	
	comp=Z,170nm,18.5s,baz=128,slow=33						
QSPA	**South Pole Qui**	**33.35**	**180**	P	**P**	**04 03 43.4**	**+1.4**
	comp=Z,18nm,1.0s,baz=65,slow=3.7,SNR=32						
QSPA				PcP	**PcP**	**04 06 24.3**	**+1.0**
	comp=Z,3.6nm,0.8s,baz=105,slow=1.5,SNR=5.3						
QSPA				LR	LR	04 15 18.2	
	comp=Z,185nm,18.6s,baz=69,slow=33						
QSPA	**South Pole Qui**	**33.35**	**180**	P	**P**	**04 03 42.5**	**+0.6**
QSPA				IAmb	IAmb	04 03 51.7	
	comp=Z,32nm,1.1s						
QSPA					**PcP**	**04 06 23.8**	**+0.4**
TBI	**Tubuai**	**33.42**	**2**	*e*LR	LR	04 12 22.3	
	comp=Z,617nm,29.0s						
TBI	**Tubuai**	**33.42**	**2**	*e*T	T	04 38 57.3	
	comp=Z,49nm,0.3s						
MEH	**Mehetia**	**38.91**	**4**	*e*T	T	04 04 38.7	
	comp=Z,13nm,0.2s						
TVO	**Taravao**	**38.96**	**2**	*e*T	T	04 04 30.6	
	comp=Z,0.5nm,0.3s						
TVO	**Taravao**	**38.96**	**2**	*e*T	T	04 45 52.4	
	comp=Z,1.1nm,0.3s						
PAE	**Paea**	**39.08**	**2**	*e*T	T	04 04 34.9	
	comp=Z,1.1nm,0.4s						
PAE	**Paea**	**39.08**	**2**	*e*T	T	04 46 00.9	
	comp=Z,1.6nm,0.3s						
PPT2	**Papeete2**	**39.15**	**2**	*e*LR	LR	04 14 58.6	
	comp=Z,690nm,27.2s						
PPT2	**Papeete2**	**39.15**	**2**	*e*T	T	04 46 06.1	
	comp=Z,3.6nm,0.3s						
VAH	**Vaihoa**	**41.55**	**5**	*e*T	T	04 49 05.7	
	comp=Z,85nm,0.3s						
USHA	**Ushuaia**	**43.64**	**124**	LR	LR	04 17 53.0	
	comp=Z,173nm,21.8s,baz=230,slow=29						
TOO	**Toolangi**	**45.56**	**267**	P	**P**	**04 05 23.5**	**-0.2**
TOO				pmax	pmax		
	comp=Z,47nm,1.4s						
TOO	**Toolangi**	**45.56**	**267**	P	**P**	**04 05 23.5**	**-0.2**
TOO				IAmb	IAmb	04 05 29.8	
	comp=Z,47nm,1.4s						
DZM	**Mont Dzumac**	**46.66**	**300**	*e*LR	LR	04 06 32.0	
	comp=Z,2μm,23.3s						
ARMA	**Armidale**	**47.54**

MAW LR LR 04 26 42.4
comp=Z,163nm,19.5s,baz=100,slow=33
MAW Mawson 53.44 195 P **P 04 06 23.3 -0.1**
BBOO Buckleboo 54.25 263 P **P 04 06 30.0 +0.1**
SYO Syowa Base 54.28 185 *eP* **P 04 06 27.0 -2.5**
SYO Syowa Base 54.28 185 *i pP* 04 06 29.6
PEL Peldehue 57.71 102 P **P 04 06 53.2 -1.5**
PEL pmax pmax
comp=Z,26nm,0.8s
PEL Peldehue 57.71 102 P **P 04 06 53.2 -1.5**
PEL IAmb IAmb 04 06 56.3
comp=Z,26nm,0.8s
TRQA Tornquist 58.53 112 P **P 04 06 59.8 -0.6**
TRQA pmax pmax
comp=Z,45nm,1.7s
TRQA Tornquist 58.53 112 *eP* **P 04 07 01.4 +1.1**
TRQA Tornquist 58.53 112 *eP* **P 04 07 01.4 +1.1**
TRQA Tornquist 58.53 112 P **P 04 06 59.8 -0.6**
TRQA IAmb IAmb 04 07 02.3
comp=Z,45nm,1.7s
CTAO Charters Tower 58.68 281 P **P 04 07 03.8 +2.2**
XMAS Kiritimati 58.90 352 P **P 04 07 04.2 +1.2**
GO04 Tololo Observa 59.95 100 P **P 04 07 10.0 -0.5**
GO04 IAmb IAmb 04 07 11.6
comp=Z,17nm,0.8s
FORT Forrest 60.16 259 P **P 04 07 10.8 -0.9**
GO03 Copiap 62.27 99 P **P 04 07 25.0 -1.1**
GO03 IAmb IAmb 04 07 27.9
comp=Z,16nm,0.9s
AS31 Alice Springs 62.56 268 P **P 04 07 28.0 -0.1**
ASAR Alice Springs 62.56 268 P **P 04 07 27.9 -0.2**
comp=Z,15nm,0.8s,baz=142,slow=6.5,SNR=84
ASAR Alice Springs 62.56 268 P **P 04 07 27.6 -0.5**
H01W1 Cape Leeuwin H 64.20 245 T T 05 17 41.6
baz=142,slow=76,SNR=60
H01W2 Cape Leeuwin H 64.21 245 T T 05 17 35.0
baz=142,slow=76,SNR=54
H01W3 Cape Leeuwin H 64.22 245 T T 05 17 42.6
baz=142,slow=76,SNR=51
GO02 Mina Guanaco 64.54 97 P **P 04 07 41.0 -0.5**
OGAUY Aigu 65.10 115 *eP* **P 04 07 45.4 +0.8**
OGAUY Aigu 65.10 115 *eP* **P 04 07 45.4 +0.8**
WB2 Warramunga Arr 65.30 271 P **P 04 07 46.3 +0.2**
WRA Warramunga Arr 65.31 271 P **P 04 07 46.5 +0.4**
WRA 04 08 17.7
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 65.31 271 P **P 04 07 46.0 -0.1**
comp=Z,9.5nm,0.9s,baz=145,slow=5.7,SNR=26
WRA PcP **PcP 04 08 18.0 -0.4**
comp=Z,2.4nm,0.7s,baz=141,slow=3.6,SNR=7.7
WRA Warramunga Arr 65.31 271 P **P 04 07 46.5 +0.4**
WRA **PcP 04 08 17.7 -0.8**
WRAB Tennant Creek 65.31 271 P **P 04 07 46.4 +0.2**
WRAB pmax pmax
comp=Z,15nm,1.0s
WRAB Tennant Creek 65.31 271 P **P 04 07 46.4 +0.2**
WRAB IAmb IAmb 04 07 49.4
comp=Z,15nm,1.0s
COEN Coen 65.38 282 P **P 04 07 46.9 +0.3**
COEN IAmb IAmb 04 07 51.1
comp=Z,13nm,1.1s
COEN PcP **PcP 04 08 19.9 +1.2**
LVC Limon Verde 66.95 96 P **P 04 07 56.9 -0.2**
LVC pmax pmax
comp=Z,27nm,0.8s
LVC Limon Verde 66.95 96 *eP* **P 04 07 58.8 +1.7**
LVC Limon Verde 66.95 96 *eP* **P 04 07 58.8 +1.7**
LVC Limon Verde 66.95 96 P **P 04 07 56.9 -0.2**
PLTB Pedras Altas 67.71 114 *eP* **P 04 08 01.8 +0.3**
PLTB Pedras Altas 67.71 114 *eP* **P 04 08 01.8 +0.3**
PB01 IPOC Station P 67.90 95 P **P 04 08 02.0 -0.8**
PB01 IAmb IAmb 04 08 04.9
comp=Z,13nm,0.7s
PB11 IPOC Station P 68.84 94 P **P 04 08 08.5 -0.3**
CPSB Cacapava Do Su 68.89 113 *eP* **P 04 08 09.2 +0.4**
CPSB Cacapava Do Su 68.89 113 *eP* **P 04 08 09.2 +0.4**
GO01 Chusmiza 69.17 94 P **P 04 08 09.3 -1.9**
GO01 IAmb IAmb 04 08 17.0
comp=Z,20nm,1.4s
MNMC Minye Minye 69.38 94 P **P 04 08 11.7 -0.6**
CPUP Villa Florida 70.18 108 P **P 04 08 17.1 +0.3**
comp=Z,18nm,0.9s,baz=230,slow=5.8,SNR=39
CPUP Villa Florida 70.18 108 *eP* **P 04 08 17.1 +0.3**
CPUP Villa Florida 70.18 108 *eP* **P 04 08 17.1 +0.3**
CPUP Villa Florida 70.18 108 P **P 04 08 16.9 +0.1**
CPUP IAmb IAmb 04 08 18.2
comp=Z,23nm,0.9s
NNA Nana 71.24 83 P **P 04 08 24.2 +0.8**
NNA pmax pmax
comp=Z,28nm,1.0s
NNA Nana 71.24 83 P **P 04 08 24.2 +0.8**
FITZ Fitzroy Crossi 71.58 265 P **P 04 08 24.5 -0.9**
FITZ IAmb IAmb 04 08 29.3
comp=Z,12nm,1.0s
PSA00 Pilbara Seismi 71.91 258 P **P 04 08 27.4 0.0**
PSA00 Pilbara Seismi 71.91 258 P **P 04 08 26.9 -0.5**
PSA00 IAmb IAmb 04 08 31.4
comp=Z,35nm,0.8s
ITAB Concordia 72.13 112 *eP* **P 04 08 29.0 +0.4**
ITAB Concordia 72.13 112 *eP* **P 04 08 29.0 +0.4**
LPAZ La Paz 72.50 93 P **P 04 08 33.1 +1.5**
comp=Z,15nm,0.9s,baz=189,slow=2.9,SNR=45
LPAZ La Paz 72.50 93 *eP* **P 04 08 33.3 +1.6**
LPAZ La Paz 72.50 93 *eP* **P 04 08 33.3 +1.6**
LPAZ La Paz 72.50 93 P **P 04 08 30.0 -1.7**
LPAZ IAmb IAmb 04 08 34.3
comp=Z,22nm,0.9s
PTGB Pitanga 74.23 111 *eP* **P 04 08 41.1 -0.1**
PTGB Pitanga 74.23 111 *eP* **P 04 08 41.1 -0.1**
AQDB Aquidauana 75.81 106 *eP* **P 04 08 50.4 +0.1**
AQDB Aquidauana 75.81 106 *eP* **P 04 08 50.4 +0.1**
SPB Sao Paulo 77.52 114 *eP* **P 04 09 00.6 +0.7**
SPB Sao Paulo 77.52 114 *eP* **P 04 09 00.6 +0.7**
VAO Valinhos 78.24 114 *eP* **P 04 09 04.1 +0.1**
VAO Valinhos 78.24 114 *eP* **P 04 09 04.1 +0.1**
PP1B Ponte de Pedra 78.61 105 *eP* **P 04 09 06.1 +0.1**
PP1B Ponte de Pedra 78.61 105 *eP* **P 04 09 06.1 +0.1**
BB19B Bebedouro 79.06 112 *eP* **P 04 09 08.9 +0.4**
BB19B Bebedouro 79.06 112 *eP* **P 04 09 08.9 +0.4**
SOEI Soe 79.17 269 P **P 04 09 08.0 -1.2**
SOEI IAmb IAmb 04 09 27.4
comp=Z,31nm,0.9s
ITRB Iturama 79.25 109 *eP* **P 04 09 10.2 +0.7**
ITRB Iturama 79.25 109 *eP* **P 04 09 10.2 +0.7**
SALV Santo Antonio 79.58 103 *eP* **P 04 09 11.9 +0.6**
SALV Santo Antonio 79.58 103 *eP* **P 04 09 11.9 +0.6**
OTAV Otavalo 80.56 75 P **P 04 09 16.3 -0.8**
OTAV pmax pmax
comp=Z,37nm,1.7s
OTAV Otavalo 80.56 75 *eP* **P 04 09 19.5 +2.3**
OTAV Otavalo 80.56 75 *eP* **P 04 09 19.5 +2.3**
OTAV Otavalo 80.56 75 P **P 04 09 16.3 -0.8**
OTAV IAmb IAmb 04 09 21.3
comp=Z,37nm,1.7s
BSCB Bom Sucesso 81.02 115 *eP* **P 04 09 19.3 +0.2**
BSCB Bom Sucesso 81.02 115 *eP* **P 04 09 19.3 +0.2**
SAML Samuel 81.24 93 P **P 04 09 19.1 -1.2**
SAML pmax pmax
comp=Z,10.0nm,0.9s
SAML Samuel 81.24 93 *eP* **P 04 09 20.6 +0.3**
SAML Samuel 81.24 93 *eP* **P 04 09 20.6 +0.3**
SAML Samuel 81.24 93 P **P 04 09 19.1 -1.2**
DUB01 Friburgo-RJ 81.30 117 *eP* **P 04 09 20.4 -0.1**
DUB01 Friburgo-RJ 81.30 117 *eP* **P 04 09 20.4 -0.1**
ARAG Araguaiana, MT 81.81 106 *eP* **P 04 09 23.9 +0.7**
ARAG Araguaiana, MT 81.81 106 *eP* **P 04 09 23.9 +0.7**
PMNB Patos De Minas 82.25 112 *eP* **P 04 09 26.0 +0.3**
PMNB Patos De Minas 82.25 112 *eP* **P 04 09 26.0 +0.3**
H06E1 SOCORRO T-PHAS 82.34 38 T T 05 40 10.9
SNR=13
ALF01 Guarapari-ES 83.34 118 *eP* **P 04 09 30.2 -0.9**
ALF01 Guarapari-ES 83.34 118 *eP* **P 04 09 30.2 -0.9**
CLDB Colider 83.69 100 *eP* **P 04 09 32.5 -0.6**
CLDB Colider 83.69 100 *eP* **P 04 09 32.5 -0.6**
BDFB Brasilia 83.86 109 P **P 04 09 34.0 0.0**
comp=Z,6.8nm,0.9s,baz=194,slow=6.0,SNR=7.8
BDFB Brasilia 83.86 109 P **P 04 09 33.4 -0.6**
BDFB IAmb IAmb 04 09 34.5
comp=Z,8.0nm,0.9s
RIB01 Linhares ES 84.61 117 *eP* **P 04 09 37.5 -0.2**
RIB01 Linhares ES 84.61 117 *eP* **P 04 09 37.5 -0.2**
SJMB Sao Joao De Ma 84.74 116 *eP* **P 04 09 38.8 +0.4**
SJMB Sao Joao De Ma 84.74 116 *eP* **P 04 09 38.8 +0.4**
ROSC El Rosal 86.63 76 P **P 04 09 47.4 -0.8**
PEXB Peixe 86.67 107 *eP* **P 04 09 48.1 0.0**
PEXB Peixe 86.67 107 *eP* **P 04 09 48.1 0.0**
NBIT Itapeh - BA 88.82 116 *eP* **P 04 09 57.9 -0.4**
NBIT Itapeh - BA 88.82 116 *eP* **P 04 09 57.9 -0.4**
ZAIG Zacatecas 89.00 43 P **P 04 09 59.5 +0.4**
ZAIG IAmb IAmb 04 10 04.1
comp=Z,16nm,1.3s
NBPN Ponto Novo - B 91.92 113 *eP* **P 04 10 12.7 -0.1**
NBPN Ponto Novo - B 91.92 113 *eP* **P 04 10 12.7 -0.1**
SDV Santo Domingo 91.99 77 *eP* **P 04 10 13.1 -0.1**
SDV Santo Domingo 91.99 77 *eP* **P 04 10 13.1 -0.1**
SDV Santo Domingo 91.99 77 P **P 04 10 13.0 -0.1**
SDV IAmb IAmb 04 10 15.4
comp=Z,14nm,1.6s
NBLA Lagarto - SE 93.01 115 *eP* **P 04 10 17.4 -0.4**
NBLA Lagarto - SE 93.01 115 *eP* **P 04 10 17.4 -0.4**
214A Organ Pipe Nat 94.06 32 P **P 04 10 22.5 +0.4**
214A IAmb IAmb 04 10 25.9
comp=Z,6.5nm,1.1s
TXAR Lajitas Array 94.57 40 P **P 04 10 25.1 +0.5**
TXAR Lajitas Array 94.57 40 P **P 04 10 26.4 +1.8**
comp=Z,0.2nm,0.5s,baz=194,slow=6.9,SNR=4.8
TXAR PKKPbc **PKKPdf 04 27 23.1 +1.4**
comp=Z,0.1nm,0.7s,baz=42,slow=2.0,SNR=3.5
TXAR Lajitas Array 94.57 40 P **P 04 10 25.1 +0.5**
NBAN Anadia - AL 94.89 116 *eP* **P 04 10 25.4 -1.1**
NBAN Anadia - AL 94.89 116 *eP* **P 04 10 25.4 -1.1**
TUC Tucson 94.99 33 P **P 04 10 22.5 -3.9**
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 94.99 33 P **P 04 10 22.5 -3.9**
MNTX Cornudas Mount 96.14 38 P **P 04 10 31.8 +0.2**
MDP Montagnes des 98.68 94 LR LR 04 48 25.9
comp=Z,246nm,19.1s,baz=188,slow=31
NVAR Mina Array Bea 98.75 25 LR LR 04 46 10.0
comp=Z,248nm,20.9s,baz=226,slow=30
H10S3 ASCENSION HYDR 105.21 135 T T 06 09 30.6
baz=204,slow=74,SNR=34
H10S2 ASCENSION HYDR 105.22 135 T T 06 09 30.7
baz=16,slow=74,SNR=38
H10N3 ASCENSION HYDR 106.29 134 T T 06 10 58.4
baz=204,slow=75,SNR=41
H10N1 ASCENSION HYDR 106.30 134 T T 06 10 59.8
baz=204,slow=75,SNR=50
H10N2 ASCENSION HYDR 106.31 134 T T 06 11 00.7
baz=204,slow=75,SNR=43
H08S2 Diego Garcia H 106.68 225 T T 06 11 41.4
baz=160,slow=76,SNR=19
H08S1 Diego Carcia H 106.69 225 T T 06 11 42.3
baz=160,slow=76,SNR=14
H08S3 Diego Garcia H 106.70 225 T T 06 11 41.5
baz=160,slow=76,SNR=24
CMAR Chiang Mai Arr 116.37 263 PKIKP **PKiKP 04 15 47.8 0.0**
CMAR Chiang Mai Arr 116.37 263 PKP **PKiKP 04 15 48.0 +0.2**
comp=Z,0.8nm,0.3s,baz=205,slow=2.5,SNR=6.8
CMAR Chiang Mai Arr 116.37 263 **PKiKP 04 15 47.8 0.0**
NJ2 Nanjing 116.38 289 *e*PKP **PKiKP 04 15 48.1 +0.8**
PETK Petropavlovsk- 117.39 328 PKP **PKiKP 04 15 48.9 +0.2**
comp=Z,6.6nm,0.8s,baz=108,slow=4.8,SNR=4.0
PETK Petropavlovsk- 117.39 328 **PKiKP 04 15 49.3 +0.6**
BCAR Beaver Creek A 119.73 5 **PKiKP 04 15 52.9 0.0**
RND Reindeer 119.88 1 PKIKP **PKiKP 04 15 53.9 +0.6**
RND Reindeer 119.88 1 **PKiKP 04 15 53.9 +0.6**
TRF Thorofare Moun 119.91 0 **PKiKP 04 15 54.5 +1.1**
MCK McKinley 120.20 1 PKIKP **PKiKP 04 15 54.0 +0.2**
MCK McKinley 120.20 1 **PKiKP 04 15 54.0 +0.2**
BPAW Bear Paw Mtn. 120.57 360 **PKiKP 04 15 54.8 +0.3**
BWN Browne 120.64 1 **PKiKP 04 15 54.7 +0.1**
ILAR Eielson Array 121.28 2 PKP **PKiKP 04 15 56.0 +0.1**
comp=Z,14nm,0.9s,baz=247,slow=1.8,SNR=91
MLY Manley 121.50 360 **PKiKP 04 15 56.2 -0.2**
PRP Porcupine Dome 122.05 3 **PKiKP 04 15 58.6 +1.0**
CN2 Changchun 122.21 302 *e*PKP **PKiKP 04 15 57.9 -0.5**
YKA Yellowknife Ar 122.22 19 PKP **PKiKP 04 15 57.4 -0.3**
comp=Z,2.7nm,0.9s,baz=196,slow=2.4,SNR=6.5
XAN Xi'an 123.18 283 PKP **PKiKP 04 16 00.4 -0.3**
CD2 Chengdu 123.59 276 PKP **PKiKP 04 16 01.8 +0.2**
HHC Hu-ho-hao-te 126.87 290 *e*PKP **PKiKP 04 16 10.3 +2.4**
LZH Lanzhou 127.46 280 *e*PKP **PKiKP 04 16 08.6 -0.7**
LZH LR LR
comp=Z,110nm,18.0s
LZH LR LR
comp=Z,130nm,17.7s
LZH LR LR
comp=Z,170nm,20.2s
BILL Bilibino 128.49 341 *e*PKIKP **PKiKP 04 16 13.2 +3.1**
BILL *e* 04 18 22.5
BILL pmax pmax
comp=Z,2.0nm,1.2s
TORD Torodi Ar. Bea 131.59 143 PKP **PKiKP 04 16 16.4 -1.6**
comp=Z,3.0nm,1.1s,baz=197,slow=1.3,SNR=5.5
SONM Songino Array 134.40 293 PKP **PKiKP 04 16 20.9 -1.9**
comp=Z,0.9nm,0.7s,baz=169,slow=3.1,SNR=4.7
BOD Bodaibo 137.09 308 *e*PKIKP **PKPdf 04 16 24.5 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.4s
ZAK Zakamensk 137.60 294 *e*PKIKP **PKPdf 04 16 25.9 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 139.53 294 *e*PKIKP **PKiKP 04 16 31.7 -1.4**
WMQ Urumqi 141.69 276 *e*PKP **PKiKP 04 16 35.9 -1.9**
WMQ LR LR
comp=Z,470nm,29.2s
WMQ LR LR
comp=Z,1μm,29.2s
RAYN Ar Rayn 144.71 206 PKIKP **PKPdf 04 16 39.9 -1.0**
RAYN Ar Rayn 144.71 206 **PKPdf 04 16 39.9 -1.0**
KBL Kabul 145.12 247 PKP2 **PKPbc 04 16 39.2 -1.8**
KBL Kabul 145.12 247 **PKPbc 04 16 39.2 -1.8**
KSH Kashi 145.19 261 PKPbc **PKiKP 04 16 42.4 -2.8**
KSH PP **PP 04 20 04.9 +4.1**
KSH PKS **PKSdf 04 20 18.4 +1.6**
KSH SKS **SKSdf 04 23 49.8 -1.6**
KSH SS **SS 04 38 55.5 +3.0**
KSH LR LR
comp=Z,220nm,10.7s
KSH LR LR
comp=Z,200nm,6.7s
KSH LR LR
comp=Z,170nm,9.7s
TARG Taragay, Kyrgy 145.73 265 **PKPab 04 16 42.5 -0.8**
PRZ Przheval'sk 145.91 267 PKIKP **PKPbc 04 16 41.9 -1.3**
PRZ Przheval'sk 145.91 267 **PKPbc 04 16 41.9 -1.3**
NRN Naryn 146.51 263 PKP2 **PKPab 04 16 45.1 -1.1**
NRN Naryn 146.51 263 **PKPab 04 16 45.1 -1.1**
MKAR Makanchi Array 146.52 276 PKPbc **PKPab 04 16 44.5 -1.1**
comp=Z,18nm,0.7s,baz=118,slow=4.7,SNR=94
MAKZ Makanchi 146.70 275 PKIKP **PKPbc 04 16 43.7 -1.5**
MAKZ Makanchi 146.70 275 **PKPbc 04 16 43.7 -1.5**
ULHL Ulahol 146.94 264 P **PKPab 04 16 46.5 -1.2**
SNR=6.5
KZA Kyzart 147.37 263 P **PKiKP 04 16 48.8 -1.1**
SNR=14
TKM2 Tokmak 2 147.74 265 P **PKiKP 04 16 48.3 -2.1**
SNR=6.8
UCH Uchtor 147.87 263 P **PKiKP 04 16 49.8 -1.2**
SNR=17
AAK Ala-Archa 148.16 263 PKIKP **PKPbc 04 16 47.3 -2.2**
AAK Ala-Archa 148.16 263 **PKPbc 04 16 47.3 -2.2**
AML Almayashu 148.25 262 P **PKiKP 04 16 50.6 -1.1**
SNR=14
EKS2 Erkin-Say 148.56 263 P **PKiKP 04 16 51.4 -0.6**
SNR=5.9
ZAA0 Zalesovo Array 149.03 289 **PKPdf 04 16 47.6 +0.6**
ZALV Zalesovo Beam 149.03 289 PKPbc **PKiKP 04 16 50.7 -1.7**
comp=Z,9.5nm,0.7s,baz=119,slow=3.8,SNR=34
SUMG Summit 149.21 33 *i* PKP2 **PKiKP 04 16 52.3 -0.5**
SUMG pmax pmax
comp=Z,110nm,0.9s
SUMG Summit 149.21 33 *i* P **PKiKP 04 16 52.3 -0.5**
comp=Z,109nm,0.9s
SUMG Summit 149.21 33 **PKPbc 04 16 48.4 -3.2**
PCAS Casmilo, Conde 150.35 108 *e*PKPbc **PKiKP 04 16 56.5 +0.9**
COI Coimbra 150.51 108 *e*PKPbc **PKiKP 04 16 56.4 +0.5**
KK31 Karatay Array 150.64 260 PKIKP **PKPdf 04 16 50.0 0.0**
KK31 Karatay Array 150.64 260 **PKPdf 04 16 50.0 0.0**
KKAR Karatay Array 150.64 260 PKIKP **PKPdf 04 16 49.8 -0.2**
KKAR Karatay Array 150.64 260 **PKPdf 04 16 49.8 -0.2**
PCBR Castelo Branco 150.73 110 *e*PKPbc **PKPbc 04 16 54.6 -1.1**
KURK Kurchatov 150.74 279 PKIKP **PKPdf 04 16 48.6 -1.2**
KURK Kurchatov 150.74 279 **PKPdf 04 16 48.6 -1.2**
MTE Manteigas 151.10 109 *e*PKPbc **PKiKP 04 16 57.6 +0.3**
MVO Moncorvo 151.93 108 *e*PKPbc **PKiKP 04 16 59.4 +0.5**
NRIK Noril'sk 152.04 320 PKPbc **PKiKP 04 16 58.5 +0.4**
comp=Z,17nm,0.7s,baz=85,slow=3.0,SNR=10
ESDC Sonseca Array 152.40 114 PKPbc **PKiKP 04 17 00.4 +0.4**
comp=Z,5.2nm,0.8s,baz=248,slow=1.5,SNR=20
ESDC Sonseca Array 152.40 114 **PKiKP 04 16 59.2 -0.7**
PBRG Braganca 152.54 108 *e*PKPbc **PKiKP 04 17 00.7 +0.6**
GEYT Alibeck 153.15 238 PKPbc **PKiKP 04 17 01.9 +0.4**
comp=Z,2.4nm,0.5s,baz=260,slow=4.4,SNR=4.7
DAG Danmarks Havn 153.83 23 *i* PKIKP **PKiKP 04 17 01.4 -0.3**
DAG pmax pmax
comp=Z,8.0nm,1.1s
DAG Danmarks Havn 153.83 23 *i* P **PKiKP 04 17 01.4 -0.3**
comp=Z,6.6nm,1.1s
BRTR Keskin Array B 162.68 191 PKP **PKPdf 04 17 07.5 +1.8**
comp=Z,0.8nm,0.9s,baz=221,slow=6.6,SNR=4.3
BRTR PKPab **PKPab 04 17 52.5 -1.7**
comp=Z,1.0nm,0.8s,baz=168,slow=5.8,SNR=5.8
MLR Muntele Rosu 168.49 168 PKP2 **PKPab 04 18 19.0 -0.7**
MLR Muntele Rosu 168.49 168 **PKPab 04 18 19.0 -0.7**
MODS Modra-Piesok 168.87 134 *e*PKIKP **PKPdf 04 17 16.2 +5.9**
MODS Modra-Piesok 168.87 134 *e*PKP **PKPdf 04 17 16.2 +5.9**
CLL Collm 168.99 113 *e*PKIKP **PKPdf 04 17 14.0 +3.8**
CLL *e* 04 18 21.0
CLL MLR MLR
comp=Z,300nm,21.4s
CLL Collm 168.99 113 *e*(PKPdf) **PKPdf 04 17 14.0 +3.8**
CLL *e*PKPab **PKPab 04 18 21.0 -0.6**
CLL *e*PSKS 04 32 35.0
CLL *e* 04 35 06.0
CLL *e*(PPS) 04 36 30.0
CLL *e*SS SS 04 43 06.0 -0.9
CLL Lm MLR 05 26 00.0
comp=Z,300nm,21.4s
VYHS Vyhne 169.56 138 *e*PKP PKPdf 04 17 21.4 +11
OBN Obninsk 175.56 251 *e*PKIKP **PKPdf 04 17 15.7 +2.7**
OBN *e* 04 22 45.5
OBN pmax pmax
comp=Z,4.0nm,0.9s

ISCJB ***20*** *04:10:06.6±0.4, 32°.76S±0°.03×178°.95W±0°.07, h50km, mb4.5/6, Error ellipse: s-maj=9.2km s-min=2.8km az=17.6*
NEIC ***20*** *04:10:06.8±1.4, 32°.87S±0°.05×178°.79W±0°.08, h46km±7km, mb4.7/15*
WEL ***20*** *04:10:07.1±0.7, 33°S±7°×17°9W±1°9, h33km, M4.8/18, mB5.3/8, ML5.1/14, MLv4.9/18, Mw(mB)4.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6*
IDC ***20*** *04:10:09.5±1.6, 32°.63S×179°.14W, h47km±14km, mb4.3/5, mb1 4.6/7, mb1mx4. 1/34, mbtmp4.6/7, ML4.6/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/26, Error ellipse: s-maj=27.4km s-min=10.6km az=113.0*

ISC 20 04:10:08.4±0.5, 32°.76S±0°.05×178°.81W±0°.09, h50km, n102, σ1°.74/120, mb4.7/13, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.57**	**13**	P	**Pn**	**04 11 00.8**	**-0.5**
GLKZ				S	**Sn**	**04 11 41.7**	**-0.6**
RAO	**Raoul Island**	**3.58**	**13**	P	**Pn**	**04 11 02.9**	**+1.4**
111nm,0.3s,baz=21,slow=18,SNR=5.8							
RAO				S	**Sn**	**04 11 42.6**	**+0.1**
153nm,0.3s,baz=285,slow=23,SNR=3.8							
RIZ	**Raoul Island**	**3.59**	**12**	P	**Pn**	**04 11 01.5**	**0.0**
RIZ				S	**Sn**	**04 11 40.2**	**-2.4**
MXZ	**Matakaoa Point**	**5.34**	**205**	P	**Pn**	**04 11 26.1**	**+0.6**
MXZ				S	**Sn**	**04 12 24.8**	**-0.9**
MXZ	**Matakaoa Point**	**5.34**	**205**	Pn	**Pn**	**04 11 23.0**	**-2.6**
MXZ				Sn	**Sn**	**04 12 21.7**	**-4.0**
WMGZ	**Waiomatatini S**	**5.53**	**203**	P	**Pn**	**04 11 28.6**	**+0.4**
WMGZ				S	**Sn**	**04 12 29.2**	**-1.3**
HAZ	**Te Kaha**	**5.71**	**208**	P	**Pn**	**04 11 31.0**	**+0.4**
HAZ				S	**Sn**	**04 12 36.4**	**+1.7**
PKGZ	**Pakihiroa**	**5.71**	**206**	P	**Pn**	**04 11 30.4**	**-0.4**
PKGZ				S	**Sn**	**04 12 34.0**	**-1.0**
PUZ	**Puketiti**	**5.81**	**204**	P	**Pn**	**04 11 32.5**	**+0.4**
PUZ				S	**Sn**	**04 12 36.9**	**-0.6**
GRZ	**Great Barrier**	**5.87**	**232**	P	**Pn**	**04 11 35.7**	**+2.8**
RUGZ	**Raukumara Rang**	**5.93**	**208**	P	**Pn**	**04 11 33.2**	**-0.6**
RUGZ				S	**Sn**	**04 12 40.7**	**+0.2**
TWGZ	**Tauwhareparae**	**6.00**	**205**	P	**Pn**	**04 11 35.0**	**+0.3**
TWGZ				S	**Sn**	**04 12 43.9**	**+1.8**
KUZ	**Kuaotunu**	**6.00**	**227**	P	**Pn**	**04 11 37.8**	**+3.1**
WHRZ	**Whale Island**	**6.14**	**213**	P	**Pn**	**04 11 38.2**	**+1.7**
TKGZ	**Te Karaka**	**6.28**	**205**	P	**Pn**	**04 11 40.7**	**+2.2**
TKGZ				S	**Sn**	**04 12 48.5**	**-0.5**
MWZ	**Matawai**	**6.31**	**207**	P	**Pn**	**04 11 38.4**	**-0.5**
MWZ				S	**Sn**	**04 12 49.5**	**-0.1**
OPRZ	**Ohinepanea**	**6.33**	**215**	P	**Pn**	**04 11 41.3**	**+2.2**
OPRZ				S	**Sn**	**04 12 52.7**	**+2.6**
URZ	**Urewera**	**6.41**	**210**	P	**Pn**	**04 11 39.3**	**-1.0**
7.9nm,0.3s,baz=278,slow=5.2,SNR=44							
URZ				S	**Sn**	**04 12 52.1**	**0.0**
9.9nm,0.3s,baz=284,slow=22,SNR=9.5							
URZ	**Urewera**	**6.41**	**210**	P	**Pn**	**04 11 39.1**	**-1.2**
URZ				S	**Sn**	**04 12 51.9**	**-0.3**
URZ	**Urewera**	**6.41**	**210**		**Pn**	**04 11 38.0**	**-2.3**
URZ					**Sn**	**04 12 48.9**	**-3.2**
WCZ	**Waipu Caves**	**6.49**	**239**	P	Pn	04 11 45.0	+3.7
RAGZ	**Rawiri**	**6.49**	**207**	P	**Pn**	**04 11 40.1**	**-1.3**
RAGZ				S	**Sn**	**04 12 53.3**	**-0.9**
RIGZ	**Rimuhau**	**6.55**	**204**	P	**Pn**	**04 11 41.9**	**-0.3**
PRGZ	**Paritu Road**	**6.71**	**203**	P	**Pn**	**04 11 43.9**	**-0.4**
PRGZ				S	**Sn**	**04 12 56.2**	**-3.2**
MUGZ	**Murupara**	**6.74**	**211**	P	**Pn**	**04 11 43.7**	**-1.1**
OUZ	**Omahuta**	**6.77**	**247**		**Pn**	**04 11 43.6**	**-1.5**
OUZ				Sn	**Sn**	**04 12 59.0**	**-1.9**
RTZ	**Ruatahuna**	**6.77**	**209**	P	**Pn**	**04 11 46.0**	**+0.8**
SNGZ	**Shannon Statio**	**6.77**	**206**	P	**Pn**	**04 11 47.2**	**+1.9**
SNGZ				S	**Sn**	**04 13 00.7**	**-0.2**
TOZ	**Tahuroa Road**	**6.80**	**222**	P	**Pn**	**04 11 49.3**	**+3.8**
KNZ	**Kokohu**	**6.87**	**204**	P	**Pn**	**04 11 45.3**	**-1.2**
MHGZ	**Mahia Peninsul**	**6.91**	**202**	P	**Pn**	**04 11 47.9**	**+0.8**
RAHZ	**Arahi**	**6.99**	**207**	P	**Pn**	**04 11 48.5**	**+0.4**
RAHZ				S	**Sn**	**04 13 05.1**	**-1.1**
ALRZ	**Allen Road**	**7.00**	**213**	P	**Pn**	**04 11 49.5**	**+1.1**
MTHZ	**Maungataniwha**	**7.03**	**209**	P	**Pn**	**04 11 49.3**	**+0.5**
WHHZ	**Waihua**	**7.07**	**206**	P	**Pn**	**04 11 49.2**	**-0.1**
NMHZ	**Naumai**	**7.25**	**208**	P	**Pn**	**04 11 51.3**	**-0.6**
ARHZ	**Aropaoanui**	**7.32**	**206**	P	**Pn**	**04 11 52.5**	**-0.2**
BKZ	**Black Stump Fm**	**7.44**	**209**	P	**Pn**	**04 11 53.3**	**-1.1**
BKZ	**Black Stump Fm**	**7.44**	**209**		**Pn**	**04 11 52.5**	**-1.9**
BKZ				Sn	**Sn**	**04 13 13.9**	**-3.5**
RATZ	**Rangitukua**	**7.51**	**214**	P	**Pn**	**04 11 56.9**	**+1.5**
MCHZ	**McNeill Hill**	**7.59**	**207**	P	**Pn**	**04 11 56.6**	**+0.2**
CKHZ	**Cape Kidnapper**	**7.64**	**205**	P	**Pn**	**04 11 56.6**	**-0.5**
KWHZ	**Kaweka Forest**	**7.69**	**209**	P	**Pn**	**04 11 56.7**	**-1.1**
HIZ	**Hauiti**	**7.71**	**220**	P	**Pn**	**04 12 01.4**	**+3.3**
KRVZ	**Karewarewa**	**7.76**	**214**	P	**Pn**	**04 11 59.6**	**+0.8**
WTVZ	**West Tongariro**	**7.80**	**214**	P	**Pn**	**04 12 00.1**	**+0.7**
KAHZ	**Kahuranaki**	**7.83**	**205**	P	**Pn**	**04 11 57.5**	**-2.3**
TWVZ	**Taurewa**	**7.83**	**215**	P	**Pn**	**04 12 00.5**	**+0.6**
NGZ	**Ngauruhoe**	**7.84**	**214**	P	**Pn**	**04 12 00.8**	**+0.9**
TUVZ	**Tukino**	**7.89**	**213**	P	**Pn**	**04 12 00.5**	**-0.1**
BHHZ	**Black Hill Sta**	**7.89**	**210**	P	**Pn**	**04 11 59.9**	**-0.7**
KRHZ	**Kereru**	**7.89**	**208**	P	**Pn**	**04 11 58.6**	**-2.0**
WHVZ	**Whangaehu Hut**	**7.93**	**213**	P	**Pn**	**04 12 01.1**	**-0.1**
PXZ	**Pawanui**	**8.05**	**204**	P	**Pn**	**04 12 01.5**	**-1.2**
PNHZ	**Pukenui**	**8.19**	**208**	P	**Pn**	**04 12 01.6**	**-3.1**
BFZ	**Birch Farm**	**8.84**	**205**	Pn	**Pn**	**04 12 10.7**	**-2.8**
MSWZ	**Moikau Station**	**9.85**	**207**	Pn	Pn	04 12 23.5	-3.9
THZ	**Tophouse**	**11.14**	**214**	Pn	**Pn**	**04 12 40.9**	**-4.2**
KHZ	**Kahutara**	**11.38**	**210**

WRAB	**Tennant Creek**	**43.55 275**	P	**P**	**04 18 07.1**	**-0.5**
WRAB			IAmb	IAmb	04 18 08.0	
	comp=Z,15nm,0.7s					
WRA	**Warramunga Arr**	**43.56 275**	P	**P**	**04 18 07.0**	**-0.6**
	comp=Z,11nm,0.4s,baz=114,slow=7.8,SNR=205					
WRA	**Warramunga Arr**	**43.56 275**	P	**P**	**04 18 06.3**	**-1.3**
WB0	**Warramunga Arr**	**43.59 275**	P	**P**	**04 18 06.9**	**-1.0**
MTN	**Manton Dam**	**49.72 281**	P	**P**	**04 18 54.8**	**-1.1**
MTN			IAmb	IAmb	04 19 11.7	
	comp=Z,12nm,1.1s					
KNRA	**Kununurra**	**50.24 277**	P	**P**	**04 18 59.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.71 272**	P	**P**	**04 19 09.9**	**-1.0**
FITZ			IAmb	IAmb	04 19 26.3	
	comp=Z,6.0nm,1.1s					
PSA00	**Pilbara Seismi**	**55.04 265**	P	**P**	**04 19 33.4**	**-1.9**
PSA00			IAmb	IAmb	04 19 34.5	
	comp=Z,9.3nm,0.8s					
QSPA	**South Pole Qui**	**57.35 180**	P	**P**	**04 19 54.9**	**+3.6**
	comp=Z,9.3nm,0.8s,baz=358,slow=3.6,SNR=14					
QSPA	**South Pole Qui**	**57.35 180**	P	**P**	**04 19 49.2**	**-2.1**
QSPA			IAmb	IAmb	04 19 59.7	
	comp=Z,9.1nm,0.8s					
MAW	**Mawson**	**69.86 201**	P	**P**	**04 21 12.4**	**-1.1**
SYO	**Syowa Base**	**74.66 193** ⇑	*i*P	**P**	**04 21 41.4**	**-0.7**
SYO	**Syowa Base**	**74.66 193** ⇑	*e*X	P	04 21 50.2	+8.1
SNAA	**Sanae**	**75.82 179**	P	**P**	**04 21 50.6**	**+1.7**
SNAA	**Sanae**	**75.82 179**	P	**P**	**04 21 46.3**	**-2.5**
SNAA			IAmb	IAmb	04 21 55.5	
	comp=Z,4.4nm,0.9s					
VNA3	**Neumayer Olymp**	**76.00 176**	P	**P**	**04 21 51.5**	**+1.7**
VNA2	**Neumayer--Watz**	**76.42 177**	P	**P**	**04 21 54.2**	**+2.0**
	baz=178,slow=6.5					
VNA1	**Neumayer--Stat**	**76.66 177**	P	**P**	**04 21 54.4**	**+0.9**
PETK	**Petropavlovsk-**	**87.93 346**	P	**P**	**04 22 53.2**	**+0.9**
	comp=Z,4.4nm,0.9s,baz=127,slow=3.8,SNR=4.2					
PETK	**Petropavlovsk-**	**87.93 346**	P	**P**	**04 22 51.5**	**-0.8**
NVAR	**Mina Array Bea**	**90.43 43**	P	**P**	**04 23 06.9**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=212,slow=8.5,SNR=6.0					
NVAR	**Mina Array Bea**	**90.43 43**	P	**P**	**04 23 03.3**	**-1.5**
ARCES	**ARCESS Array B**	**140.74 347**	PKP	**PKPdf**	**04 29 30.1**	**-1.5**
	comp=Z,4.1nm,0.9s,baz=64,slow=5.5,SNR=4.5					
KBZ	**Khabaz**	**145.79 301**	PKPbc	**PKPab**	**04 29 42.3**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=326,slow=13,SNR=3.6					
FINES	**FINESS Array B**	**147.10 338**	PKPbc	**PKPdf**	**04 29 44.3**	**+1.4**
	comp=Z,8.1nm,0.5s,baz=47,slow=4.0,SNR=45					
NB2	**NORSAR Subarra**	**150.96 350**	PKP	**PKPbc**	**04 29 54.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**150.96 350**	PKPbc	**PKPbc**	**04 29 54.9**	**0.0**
	comp=Z,2.4nm,0.7s,baz=16,slow=4.2,SNR=12					
HFS	**Hagfors**	**151.40 347**	PKPbc	**PKPbc**	**04 29 55.5**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=132,slow=2.2,SNR=12					
LIC	**Lamto**	**152.97 166**	*e*PKIKP	**PKiKP**	**04 30 05.5**	**+4.4**
	comp=Z,29nm,0.6s					
BRTR	**Keskin Array B**	**153.03 294**	PKPbc	**PKPbc**	**04 30 00.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=147,slow=3.5,SNR=13					
KIC	**Kosan Boka**	**153.16 167**	*e*PKIKP	**PKiKP**	**04 30 05.9**	**+4.4**
	comp=Z,72nm,1.5s					
TIC	**Toumodi**	**153.38 166**	*e*PKIKP	**PKiKP**	**04 30 05.8**	**+3.9**
CLL	**Collm**	**159.54 338**	*e*PKPab	**PKPab**	**04 30 39.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**160.47 181**	PKPab	**PKPab**	**04 30 46.2**	**+2.0**
	comp=Z,1.7nm,0.5s,baz=174,slow=5.1,SNR=11					

PDG ***20*** *04:31:30.4±0.8, 42°.87N×20°.94E, h9km±1km, ML2.8/9, Error ellipse: s-maj=1.3km s-min=1.4km az=0.0*
SIK ***20*** *04:31:31.3, 42°.87N×21°.03E, h3km, M2.5*
BEO ***20*** *04:31:31.1±0.2, 42°.87N×21°.03E, h2km±2km, ML2.6/17*
TIR ***20*** *04:31:31.5, 42°.68N×21°.01E, h2km, Md2.7/4*
SOF ***20*** *04:31:38.1, 42°.76N×21°.62E, h20km*

ISC 20 04:31:29.4±1.1, 42°.88N±0°.02×21°.02E±0°.01, h5km±9km, n78, σ1§22/126, 24C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.35**	**12**	*e*Pg	**Pb**	**04 31 37.1**	**-1.1**
SELS				*e*Sg	**Sb**	**04 31 42.6**	**-1.4**
BARS	**Barje**	**0.59**	**96**	*e*Pg	**Pb**	**04 31 41.7**	**-0.6**
BARS				*e*Sg	**Sb**	**04 31 50.4**	**-0.5**
IVA	**Berane**	**0.83**	**270**	⇑*i*Pg	**Pg**	**04 31 44.0**	**-1.3**
IVA				*i* Sg	**Sg**	**04 31 56.0**	**0.0**
PVY	**Plav**	**0.83**	**250**	⇓*i*Pg	**Pg**	**04 31 44.4**	**-1.0**
PVY				*e*Sg	**Sg**	**04 31 56.8**	**+0.7**
SJES	**Sjenica**	**0.85**	**297**	*e*Pg	**Pg**	**04 31 46.1**	**+0.2**
SJES				*e*Sg	**Sb**	**04 31 59.3**	**+0.7**
BCI	**Bajram Curri**	**0.87**	**234**	*i* PG	**Pb**	**04 31 46.7**	**-0.3**
BCI				*i* SG	**Sb**	**04 31 58.6**	**-0.3**
BOVS	**Bovan**	**0.91**	**33**	*e*Pg	**Pb**	**04 31 48.2**	**+0.5**
BOVS				*e*Sg	**Sb**	**04 32 00.7**	**+0.6**
IVAS	**Ivanjica**	**0.94**	**318**	*e*Pg	**Pg**	**04 31 47.6**	**+0.1**
IVAS				*e*Sg	**Sn**	**04 32 02.2**	**-1.0**
GRUS	**Gruza**	**1.03**	**348**	*e*Pg	**Pb**	**04 31 50.1**	**+0.3**
GRUS				*e*Sg	**Sn**	**04 32 04.6**	**-0.8**
KOME	**Kolasin**	**1.10**	**269**	⇑*i*Pg	**Pg**	**04 31 49.6**	**-1.0**
KOME				*e*Sg	**Sb**	**04 32 05.6**	**-0.2**
BOSS	**Bosilegrad**	**1.15**	**109**	*e*Pg	**Pg**	**04 31 51.4**	**0.0**
BOSS				*e*Sg	**Sb**	**04 32 06.7**	**-0.2**
PUK	**Puka**	**1.18**	**225**	*i* PN	**Pn**	**04 31 52.5**	**-0.1**
PUK				*i* SN	**Sb**	**04 32 08.1**	**+0.2**
ZAPS	**Zavoj**	**1.25**	**71**	*e*Pg	**Pn**	**04 31 54.3**	**+0.7**
ZAPS				*e*Sg	**Sn**	**04 32 11.0**	**+0.2**
PHP	**Peshkopia**	**1.27**	**200**	*i* PN	**Pg**	**04 31 53.2**	**-0.6**
PHP				*i* SN	**Sg**	**04 32 09.2**	**-0.9**
PLE	**Pljevlja**	**1.27**	**291**	⇑*i*Pg	**Pg**	**04 31 53.1**	**-0.8**
PLE				*e*Sg	**Sn**	**04 32 11.6**	**+0.1**
ZAGS	**Zajecar**	**1.29**	**43**	*e*Pg	**Pb**	**04 31 54.2**	**+0.1**
ZAGS				*e*Sg	**Sn**	**04 32 11.8**	**+0.1**
PDG	**Podgorica**	**1.37**	**252**	*e*Pg	**Pg**	**04 31 56.3**	**+0.5**
PDG				*e*Sg	**Sn**	**04 32 14.9**	**+1.1**
PDG	**Podgorica**	**1.37**	**252**	*e*Pn	**Pn**	**04 31 55.0**	**-0.2**
PDG	**Podgorica**	**1.37**	**252**	⇑P	**Pg**	**04 31 56.5**	**+0.8**
PDG				⇑S	**Sn**	**04 32 15.5**	**+1.7**
PDG				AML	AML	04 32 20.4	
TTG	**Podgorica**	**1.37**	**252**	⇑*i*Pg	**Pn**	**04 31 54.7**	**-0.5**
TTG				*e*Sg	**Sn**	**04 32 15.5**	**+1.7**
SVIS	**Svilajnac**	**1.39**	**6**	*e*Pg	**Pg**	**04 31 56.3**	**+0.1**
SVIS				*e*Sg	**Sn**	**04 32 15.9**	**+1.6**
RUDO	**Rudo**	**1.41**	**302**	*e*Pn	**Pn**	**04 31 54.2**	**-1.6**
TRUS	**Trudelj**	**1.42**	**342**	*e*Pg	**Pn**	**04 31 56.0**	**+0.2**
TRUS				*e*Sg	**Sn**	**04 32 17.4**	**+2.5**
DRME	**Dracevica, Mon**	**1.52**	**244**	*e*Pn	**Pg**	**04 31 58.5**	**-0.1**
DRME	**Dracevica, Mon**	**1.52**	**244**	⇑*i*Pg	**Pb**	**04 31 57.7**	**-0.4**
DRME				*e*Sg	**Sg**	**04 32 20.0**	**+1.7**
NKME	**Niksic**	**1.52**	**267**	⇓*i*Pg	**Pn**	**04 31 57.1**	**-0.2**
NKME				*e*Sg	**Sg**	**04 32 19.1**	**+0.8**
BBLS	**Lazići**	**1.54**	**311**	*e*Pg	**Pb**	**04 31 58.3**	**-0.1**
BBLS				*e*Sg	**Sg**	**04 32 20.4**	**+1.6**
BBLS	**Lazići**	**1.54**	**311**	*e*Pn	**Pn**	**04 31 57.3**	**-0.2**
CEME	**Cevo**	**1.58**	**259**	⇑*i*Pg	**Pb**	**04 31 58.7**	**-0.5**
CEME				*e*Sg	**Sg**	**04 32 20.7**	**+0.4**
ULC	**Ulcinj**	**1.60**	**236**	⇑*i*Pg	**Pb**	**04 31 58.9**	**-0.6**
ULC				*e*Sg	**Sg**	**04 32 21.9**	**+1.1**
KUBS	**Kucevo**	**1.61**	**17**	*e*Pg	**Pg**	**04 32 00.3**	**+0.1**
KUBS				*e*Sg	**Sg**	**04 32 22.2**	**+1.1**
VTS	**Vitosha**	**1.66**	**98**	*e*Pg	**Pb**	**04 31 59.9**	**-0.6**
VTS				*e*Sg	**Sg**	**04 32 23.2**	**+0.6**
VTS	**Vitosha**	**1.66**	**98**	P	**Pb**	**04 31 59.9**	**-0.6**
VTS				Pg	**Pg**	**04 32 02.3**	**+1.7**
VTS	**Vitosha**	**1.66**	**98**	⇑P	**Pb**	**04 31 59.9**	**-0.6**
VTS				⇓S	**Sn**	**04 32 19.7**	**-1.3**
BUM	**Brajici-Budva**	**1.67**	**250**	⇑*i*Pn	**Pn**	**04 31 59.6**	**+0.2**
BUM				*e*Sn	**Sg**	**04 32 23.3**	**+0.2**
BRY	**Bratogost**	**1.82**	**272**	*e*Pn	**Pb**	**04 32 02.6**	**-0.7**
BRY	**Bratogost**	**1.82**	**272**	⇑*i*Pn	**Pn**	**04 32 01.6**	**+0.1**
BRY				*e*Sn	**Sb**	**04 32 26.8**	**+0.3**
KKB	**Krupnik**	**1.83**	**123**	*e*P	**Pg**	**04 32 05.1**	**+0.5**
HCY	**Herceg Novi**	**1.91**	**258**	⇑*i*Pn	**Pn**	**04 32 03.1**	**+0.5**
HCY				*e*Sn	**Sb**	**04 32 28.8**	**-0.1**
HAPS	**Han Pijesak,BI**	**1.93**	**309**	*e*Pg	**Pg**	**04 32 06.1**	**-0.3**
HAPS				*e*Sg	**Sg**	**04 32 33.3**	**+1.9**
HAPS	**Han Pijesak,BI**	**1.93**	**309**	*e*Pn	**Pn**	**04 32 02.4**	**-0.6**
VAY	**Valandovo**	**1.94**	**143**	*e*Pg	**Pb**	**04 32 05.7**	**+0.5**
MDVR	**Moldovita**	**1.97**	**15**	⇑P	**Pb**	**04 32 05.0**	**-0.8**
MDVR				⇑S	**Sg**	**04 32 32.6**	**-0.1**
MDVR				AML	AML	04 32 35.4	
TREB	**Trebinje**	**1.97**	**266**	*e*Pg	**Pb**	**04 32 06.1**	**+0.3**
TREB				*e*Sg	**Sg**	**04 32 33.3**	**+0.6**
TREB	**Trebinje**	**1.97**	**266**	*e*Pn	**Pb**	**04 32 06.0**	**+0.3**
TEKS	**Tekeris**	**1.99**	**328**	*e*Pg	**Pg**	**04 32 07.3**	**-0.2**
TEKS				*e*Sg	**Sg**	**04 32 33.7**	**+0.4**
TEKS	**Tekeris**	**1.99**	**328**	*e*Pn	**Pg**	**04 32 06.9**	**-0.6**
FNA	**Florina**	**2.11**	**173**	*i* PN	**Pb**	**04 32 08.2**	**+0.1**
FNA				*i* SN	**Sg**	**04 32 36.0**	**-1.2**
DBRK	**Dubrovnik**	**2.12**	**265**	*e*Pn	**Pb**	**04 32 07.6**	**-0.8**
DBRK				Sn	**Sb**	**04 32 35.9**	**+0.9**
HERR	**Herculane**	**2.24**	**26**	⇑P	**Pn**	**04 32 08.0**	**+0.8**
HERR				⇓S	**Sb**	**04 32 37.9**	**-0.5**
HERR				AML	AML	04 32 44.3	
PGB	**Panagyurishte**	**2.34**	**97**	P	**Pb**	**04 32 10.9**	**-1.3**
MMB	**Musomiste**	**2.39**	**122**	P	**Pg**	**04 32 15.4**	**+0.2**
STON	**Ston**	**2.44**	**271**	*e*Pn	**Pb**	**04 32 12.8**	**-0.9**
STON				*e*Sn	**Sb**	**04 32 42.3**	**-1.7**
STON	**Ston**	**2.44**	**271**	*i* Pn	**Pb**	**04 32 12.2**	**-1.6**
STON				Sn	**Sb**	**04 32 42.6**	**-1.4**
STON	**Ston**	**2.44**	**271**	*e*Pn	**Pn**	**04 32 11.7**	**+1.9**
FRGS	**Fruska Gora**	**2.44**	**340**	*e*Pn	**Pb**	**04 32 12.0**	**-1.8**
FRGS	**Fruska Gora**	**2.44**	**340**	*e*Pn	**Pn**	**04 32 10.2**	**+0.3**
PLVB	**Pleven**	**2.69**	**78**	⇑P	**Pg**	**04 32 19.8**	**-1.1**
PLVB				⇑S	**Sg**	**04 32 56.1**	**+0.3**
BZS	**Buzias**	**2.77**	**9**	*e*Pn	**Pb**	**04 32 16.9**	**-2.5**
BZS				*e*Sn	**Sn**	**04 32 50.7**	**+2.4**
BZS	**Buzias**	**2.77**	**9**	⇑P	**Pn**	**04 32 15.1**	**+0.7**
BZS				⇑S	**Sn**	**04 32 48.0**	**-0.3**
BZS				AML	AML	04 33 02.7	
GZR	**Gura Zlata**	**2.82**	**26**	⇑P	**Pn**	**04 32 15.5**	**+0.3**
GZR				AML	AML	04 33 05.6	
BLY	**Banja Luka**	**3.34**	**305**	*e*Pn	**Pn**	**04 32 22.2**	**-0.1**
BLY	**Banja Luka**	**3.34**	**305**	⇓P	**Pn**	**04 32 22.6**	**+0.2**
BLY				⇑S	**Sn**	**04 33 01.6**	**-0.8**
ELND	**Elena**	**3.57**	**88**	⇓P	**Pb**	**04 32 29.4**	**-3.7**
ELND				AML	AML	04 33 32.2	
VOIR		**3.87**	**47**	⇑P	**Pn**	**04 32 31.0**	**+1.4**
MORI	**Morici**	**3.99**	**286**	*e*Pn	**Pn**	**04 32 32.8**	**+1.5**
DRGR		**4.09**	**17**	⇑P	**Pn**	**04 32 34.7**	**+2.0**
KALN	**Kalnik**	**4.61**	**316**	*e*Pn	**Pn**	**04 32 40.0**	**+0.4**
CRES	**Cresnjev**	**4.96**	**308**	*e*Pn	**Pn**	**04 32 45.2**	**+0.7**
CEY	**Cerknica**	**5.53**	**303**	*e*Pn	**Pn**	**04 32 48.2**	**-4.1**
SOKA	**Soboth**	**5.71**	**314**	*e*Pn	**Pn**	**04 32 54.9**	**0.0**
	0.3nm,0.2s						
SOKA				Sn	**Sn**	**04 33 58.0**	**-2.8**
	0.8nm,0.3s						
VYHS	**Vyhne**	**5.82**	**346**	*e*PN	Pn	04 32 51.0	-5.4
VYHS				*e*SN	**Sn**	**04 34 03.2**	**-0.2**
ARSA	**Arzberg**	**5.85**	**320**	*e*Pn	**Pn**	**04 32 57.5**	**+0.7**
	2.4nm,0.4s						
ARSA				Sn	**Sn**	**04 34 02.1**	**-2.1**
	2.1nm,0.5s						
OBKA	**Obir**	**5.87**	**310**	*e*Pn	**Pn**	**04 32 59.2**	**+2.1**
	0.6nm,0.2s						
MYKA	**Terra Mystica**	**6.45**	**308**	Pn	**Pn**	**04 33 06.8**	**+1.8**
	0.9nm,0.3s						
KBA	**Koelnbreinsper**	**6.87**	**310**	*e*Pn	**Pn**	**04 33 12.9**	**+2.0**
	0.4nm,0.3s						
WTTA	**Wattenberg**	**7.96**	**307**	*e*Pn	**Pn**	**04 33 29.5**	**+3.7**
	1.5nm,0.3s						
MOTA	**Moosalm**	**8.31**	**306**	*e*Pn	**Pn**	**04 33 34.3**	**+3.6**
	0.5nm,0.2s						

IDC 20 04:42:36.9±2.8, 20°.90N×45°.81W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/37, mbtmp4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/40, Error ellipse: s-maj=81.7km s-min=33.0km az=30.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.38**	**265**	LR	LR	04 52 49.8	
	comp=Z,104nm,19.7s,baz=102,slow=32						
ESDC	**Sonseca Array**	**40.26**	**53**	P	P	04 50 15.8	+0.1
	0.8nm,0.5s,baz=262,slow=8.9,SNR=9.6						
H10N3	**ASCENSION HYDR**	**41.98**	**130**	T	T	05 34 58.6	
	baz=313,slow=75,SNR=124						
H10N2	**ASCENSION HYDR**	**41.98**	**130**	T	T	05 34 58.8	
	baz=313,slow=75,SNR=121						
H10N1	**ASCENSION HYDR**	**42.00**	**130**	T	T	05 34 60.0	
	baz=313,slow=75,SNR=124						
DBIC	**Dimbokro**	**42.07**	**104**	P	P	04 50 31.3	+0.5
	5.1nm,0.8s,baz=284,slow=10.0,SNR=5.3						
H10S3	**ASCENSION HYDR**	**42.63**	**131**	T	T	05 35 55.1	
	baz=312,slow=74,SNR=71						
H10S2	**ASCENSION HYDR**	**42.65**	**131**	T	T	05 35 55.7	
	baz=268,slow=74,SNR=57						
TORD	**Torodi Ar. Bea**	**45.94**	**92**	P	P	04 51 00.8	-1.1
	0.5nm,1.0s,baz=274,slow=7.1,SNR=3.6						
ILAR	**Eielson Array**	**75.91**	**334**	P	P	04 54 25.2	+0.1
	1.0nm,0.9s,baz=76,slow=5.2,SNR=6.6						

ISCJB ***20*** *05:01:44.1±0.2, 51°.48N±0°.01×16°.12E±0°.02, h0km, mb4.0/4, Error ellipse: s-maj=1.9km s-min=1.6km az=18.7*
MOS ***20*** *05:01:44.6±0.9, 51°.61N×16°.14E, h10km, mb4.3/3, Error ellipse: s-maj=8.7km s-min=4.5km az=91.7*
LDG ***20*** *05:01:46.1±0.3, 51°.45N×16°.12E, h1km, Ml3.5/3, Error ellipse: s-maj=8.9km s-min=4.2km az=17.0, Suspected Mining induced.*
IDC ***20*** *05:01:46.8±0.6, 51°.47N×16°.00E, h0km, mb3.8/1, mb1 3.6/8, mb1mx3.4/43, mbtmp3.5/8, ML3.1/7, Error ellipse: s-maj=12.3km s-min=6.4km az=106.0*
BGR ***20*** *05:01:47.3±0.3, 51°.46N×16°.13E, h1km, ML3.2/16, Error ellipse: s-maj=3.3km s-min=2.2km az=26.0*
PRU ***20*** *05:01:48.6±0.0, 51°.40N×16°.13E, h0km*
UPP ***20*** *05:01:49.5±2.7, 51°.71N×15°.75E, h0km, ML2.1, Suspected explosion*

ISC 20 05:01:45.2±0.5, 51°.47N±0°.02×16°.08E±0°.02, h0km, n137, σ1§84/242, mb4.1/4, 7C-20D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**168**	⇓*i*P	**Pb**	**05 01 59.1**	**-0.1**
KSP				*e*		05 02 07.5	
KSP	**Ksiaz**	**0.64**	**168**	*e*Pg	**Pb**	**05 01 59.2**	**-0.1**
	SNR=61						
KSP				*e*Sg	**Sg**	**05 02 07.8**	**+2.1**
	SNR=4.1						
KSP	**Ksiaz**	**0.64**	**168**	*i* Pg	**Pb**	**05 01 59.1**	**-0.1**
KSP				*i* Pg	**Pb**	**05 01 59.1**	**-0.1**
KSP				*e*Sg	**Sg**	**05 02 07.5**	**+1.8**
KSP				*e*Sg	**Sg**	**05 02 07.5**	**+1.8**
CHVC	**Chvalec**	**0.88**	**181**	⇓*i*PG	**Pb**	**05 02 03.9**	**+0.5**
CHVC				*e*SG	**Sg**	**05 02 14.8**	**+1.3**
	comp=Z,157nm,0.5s						
UPC	**Upice**	**0.96**	**183**	⇓*i*P	**Pb**	**05 02 05.1**	**+0.3**
UPC				*e*		05 02 18.0	
UPC	**Upice**	**0.96**	**183**	⇓*i*PG	**Pb**	**05 02 05.1**	**+0.3**
UPC				*e*SG	**Sb**	**05 02 18.0**	**0.0**
DPC	**Dobruska-Polom**	**1.13**	**172**	⇓*i*P	**Pb**	**05 02 07.9**	**+0.3**
DPC				*e*		05 02 22.5	
DPC				smax	smax		
	comp=N,122nm,0.5s						
DPC	**Dobruska-Polom**	**1.13**	**172**	*e*Pg	**Pb**	**05 02 08.0**	**+0.3**
	SNR=119						
DPC				*e*Sg	**Sg**	**05 02 22.5**	**+1.0**
	SNR=3.2						
DPC	**Dobruska-Polom**	**1.13**	**172**	⇓*i*PG	**Pb**	**05 02 07.9**	**+0.3**
DPC				*e*SG	**Sg**	**05 02 22.5**	**+1.0**
	comp=N,122nm,0.5s						
PVCC	**Panska Ves**	**1.34**	**226**	*e*P	**Pb**	**05 02 12.1**	**+0.9**
PVCC				*e*		05 02 31.1	
PVCC				smax	smax		
	comp=N,320nm,0.6s						
PVCC	**Panska Ves**	**1.34**	**226**	*e*Pn	**Pb**	**05 02 12.2**	**+0.9**
	SNR=38						
PVCC				*e*Pg	**Pn**	**05 02 12.8**	**+1.6**
	SNR=38						
PVCC				*e*Sg	**Sn**	**05 02 31.3**	**+1.6**
	SNR=2.5						
PVCC	**Panska Ves**	**1.34**	**226**	⇓*e*PG	**Pb**	**05 02 12.1**	**+0.9**
PVCC				*e*SG	**Sn**	**05 02 31.1**	**+1.4**
	comp=N,320nm,0.6s						
KRLC	**Kraliky**	**1.46**	**162**	*e*P	**Pg**	**05 02 13.5**	**+0.3**
KRLC				*e*		05 02 31.9	
KRLC				smax	smax		
	comp=N,197nm,0.6s						
KRLC	**Kraliky**	**1.46**	**162**	⇓*e*PG	**Pg**	**05 02 13.5**	**+0.3**
KRLC				*e*SG	**Sg**	**05 02 31.9**	**-0.3**
	comp=N,197nm,0.6s						
BRG	**Berggiesshubel**	**1.47**	**247**	PN	**Pn**	**05 02 13.3**	**+0.3**
BRG				PG	**Pb**	**05 02 15.2**	**+1.8**
BRG				SG	**Sn**	**05 02 34.6**	**+1.6**
	comp=N,167nm,0.6s						
BRG	**Berggiesshubel**	**1.47**	**247**	P	**Pn**	**05 02 13.3**	**+0.3**
BRG						05 02 34.6	
BRG				smax	smax		
	comp=N,167nm,0.6s						
BRG	**Berggiesshubel**	**1.47**	**247**	*e*Pn	**Pn**	**05 02 13.3**	**+0.3**
	SNR=33						
BRG				*e*Pg	**Pb**	**05 02 14.9**	**+1.5**
	SNR=36						
BRG				*e*Sg	**Sn**	**05 02 34.7**	**+1.7**
	SNR=6.0						
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	**Pn**	**05 02 17.0**	**+0.2**
	SNR=5.4						
RUE				*e*Sg	**Sg**	**05 02 44.6**	**+3.2**
	SNR=3.2						
GOPC	**GO Pecny, Ondr**	**1.76**	**208**	*e*P	**Pn**	**05 02 17.5**	**+0.5**
GOPC	**GO Pecny, Ondr**	**1.76**	**208**	⇓*e*PN	**Pn**	**05 02 17.5**	**+0.5**
GOPC				*e*PG	**Pb**	**05 02 18.8**	**+0.4**
PRU	**Pruhonice**	**1.77**	**214**	*e*P	**Pn**	**05 02 16.9**	**-0.3**
PRU				*e*		05 02 43.2	
PRU				smax	smax		
	comp=N,96nm,0.9s						
PRU	**Pruhonice**	**1.77**	**214**	*e*Pn	**Pn**	**05 02 17.8**	**+0.7**
	SNR=32						
PRU				*e*Pg	**Pg**	**05 02 19.7**	**+0.5**
	SNR=32						
PRU	**Pruhonice**	**1.77**	**214**	⇓*e*PN	**Pn**	**05 02 16.9**	**-0.3**
PRU				*e*PG	**Pb**	**05 02 19.2**	**+0.6**
PRU				*e*SG	**Sg**	**05 02 43.2**	**+1.0**
	comp=N,96nm,0.9s						
FBE	**Freiberg**	**1.80**	**253**	*e*Pn	**Pb**	**05 02 18.9**	**-0.1**
	SNR=15						
FBE				*e*Pg	**Pg**	**05 02 20.8**	**+1.1**
	SNR=15						
FBE				*e*Sg	**Sg**	**05 02 44.8**	**+1.8**
	SNR=2.2						
RAC	**Raciborz**	**1.93**	**135**	*e*P	**Pg**	**05 02 22.5**	**+0.4**
RAC				*e*		05 02 47.5	
RAC	**Raciborz**	**1.93**	**135**	*e*Pg	**Pg**	**05 02 22.5**	**+0.4**
RAC				*e*Pg	**Pg**	**05 02 22.5**	**+0.4**
RAC				*e*Sg	**Sg**	**05 02 47.5**	**+0.3**
RAC				*e*Sg	**Sg**	**05 02 47.5**	**+0.3**
MORC	**Moravsky Berou**	**1.93**	**151**	⇓P	**Pn**	**05 02 19.8**	**+0.4**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**05 02 19.7**	**+0.4**
	SNR=45						
MORC	**Moravsky Berou**	**1.93**	**151**	⇓P	**Pn**	**05 02 19.8**	**+0.4**
MORC				⇑S	**Sg**	**05 02 47.8**	**+0.6**
MORC				AML	AML	05 02 50.4	
MORC	**Moravsky Berou**	**1.93**	**151**	*e*PN	**Pn**	**05 02 19.7**	**+0.4**
MORC				*e*SG	**Sb**	**05 02 46.8**	**+0.8**
CLL	**Collm**	**1.94**	**266**	*e*P	**Pn**	**05 02 20.0**	**+0.6**
CLL				*i*		05 02 48.4	
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**05 02 20.0**	**+0.6**
CLL				*e*Pg	**Pb**	**05 02 22.0**	**+0.6**
CLL				*i*		05 02 26.8	
CLL				*i* Sg	**Sg**	**05 02 48.4**	**+1.0**
	comp=Z,62nm,0.8s						
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**05 02 19.7**	**+0.3**
	SNR=33						
CLL				*e*Sg	**Sg**	**05 02 49.1**	**+1.7**
	SNR=3.2						
GKP	**Gorka Klasztor**	**1.94**	**21**	*e*P	Pg	05 02 28.7	+6.3
GKP	**Gorka Klasztor**	**1.94**	**21**	*e*Pg	Pg	05 02 28.7	+6.3
GKP				*e*Pg	Pg	05 02 28.7	+6.3
GKP				*e*Sg	**Sg**	**05 02 52.4**	**+4.9**
GKP				*e*Sg	**Sg**	**05 02 52.4**	**+4.9**
OKC	**Ostrava-Krasne**	**2.10**	**140**	*e*Pn	**Pn**	**05 02 21.8**	**+0.3**
	SNR=15						
OKC				*e*Pg	**Pg**	**05 02 25.5**	**+0.2**
	SNR=7

SNR=8.6
ROTZ eSg **Sg** **05 03 22.4 +1.0**
SNR=3.4
GEC2 GERESS Array S 3.04 211 ePn **Pn** **05 02 36.4 +1.8**
SNR=22
GEC2 eSg **Sg** **05 03 23.1 +0.3**
SNR=1.8
GERES GERESS Array B 3.04 211 Pn **Pn** **05 02 35.8 +1.2**
comp=N,2.4nm,0.3s,baz=28,slow=12,SNR=52
GERES Pg **Pg** **05 02 42.5 -0.9**
comp=N,7.4nm,0.3s,baz=29,slow=20,SNR=54
GERES Sn **Sn** **05 03 11.5 -0.3**
comp=N,4.5nm,0.3s,baz=33,slow=19,SNR=5.8
GERES Lg Lg 05 03 23.5
comp=N,4.9nm,0.3s,baz=31,slow=26,SNR=5.5
SMOL Smolenice 3.08 163 eP **Pg** **05 02 45.3 +1.0**
SMOL e 05 03 08.0
SMOL smax smax
comp=N,37nm,0.4s
SMOL Smolenice 3.08 163 ePG **Pg** **05 02 45.3 +1.0**
SMOL eSN **Sn** **05 03 08.0 -4.7**
SMOL eSG **Sg** **05 03 26.5 +2.3**
SMOL eLG Lg 05 03 31.9
WET Wettzell 3.10 223 ePn **Pn** **05 02 36.6 +1.2**
SNR=8.3
LANS Liptovska Anna 3.18 136 eP **Pg** **05 02 45.7 -0.4**
LANS Liptovska Anna 3.18 136 ePG **Pg** **05 02 45.7 -0.4**
LANS eSG **Sg** **05 03 30.7 +3.5**
LANS eLG Lg 05 03 33.7
MODS Modra-Piesok 3.19 166 eP **Pn** **05 02 39.1 +2.4**
MODS Modra-Piesok 3.19 166 ePN **Pn** **05 02 39.1 +2.4**
MODS ePG **Pg** **05 02 48.1 +1.7**
MODS eSG **Sg** **05 03 30.3 +2.6**
MODS eLG Lg 05 03 33.3
VYHS Vyhne 3.47 148 eP **Pn** **05 02 40.8 +0.4**
VYHS Vyhne 3.47 148 ePN **Pn** **05 02 40.8 +0.4**
VYHS ePG **Pg** **05 02 52.0 +0.4**
VYHS eSG **Sg** **05 03 38.6 +2.1**
CONA Conrad Observa 3.55 182 ePn **Pn** **05 02 43.4 +1.9**
comp=N,5.9nm,0.5s,SNR=8.1
CONA Pg **Pg** **05 02 53.5 +0.4**
comp=N,13nm,0.3s
CONA Sg **Sg** **05 03 42.4 +3.3**
comp=N,38nm,0.5s
GRF Grafenberg Arr 3.57 242 ePn **Pn** **05 02 43.5 +1.6**
SNR=4.8
BSD Bornholm Skovb 3.72 350 *i* P **Pn** **05 02 43.5 -0.4**
BSD Bornholm Skovb 3.72 350 *i* P **Pn** **05 02 43.5 -0.4**
MOA Molln 3.81 199 ePn **Pn** **05 02 46.7 +1.5**
comp=N,3.9nm,0.3s,SNR=7.9
MOA Pg **Pg** **05 02 59.6 +1.4**
comp=N,6.7nm,0.3s
MOA Sg **Sg** **05 03 50.8 +3.3**
comp=N,72nm,0.8s
SRO Srobarova 3.94 158 eSG **Sg** **05 03 54.8 +3.2**
KECS Kecovo 4.12 135 ePG **Pg** **05 03 07.9 +3.7**
KECS eSG **Sg** **05 03 58.8 +1.2**
ARSA Arzberg 4.24 185 ePn **Pn** **05 02 53.7 +2.7**
comp=N,2.5nm,0.4s
ARSA Sg **Sg** **05 04 04.3 +3.1**
comp=N,18nm,0.6s
RJOB Jochberg 4.30 211 ePn **Pn** **05 02 54.1 +2.2**
SNR=6.2
PSZ Piszkesteto 4.33 144 ||P **Pn** **05 02 53.8 +1.4**
PSZ Piszkesteto 4.33 144 ||P **Pn** **05 02 53.8 +1.4**
PSZ AML AML 05 04 16.9
LUNU Lund 4.46 340 P **Pn** **05 02 53.6 -0.4**
LUNU S **Sn** **05 03 44.7 -1.8**
KWP Kalwaria Pacla 4.61 111 eP **Pn** **05 02 56.4 +0.3**
KWP Kalwaria Pacla 4.61 111 ePn **Pn** **05 02 56.4 +0.3**
KWP ePn **Pn** **05 02 56.4 +0.3**
KWP ePg **Pb** **05 03 09.6 +2.7**
KWP ePg **Pb** **05 03 09.6 +2.7**
KWP eSg **Sg** **05 04 17.8 +4.7**
KWP eSg **Sg** **05 04 17.8 +4.7**
KOLS Kolonicke sedl 4.72 120 eP **Pn** **05 02 57.8 +0.2**
KOLS Kolonicke sedl 4.72 120 ePN **Pn** **05 02 57.8 +0.2**
KOLS ePG **Pg** **05 03 17.3 +1.7**
KOLS eSG **Sg** **05 04 21.2 +4.5**
KBA Koelnbreinsper 4.74 203 ePn **Pn** **05 02 59.9 +1.7**
comp=N,3.4nm,0.4s
KBA Sg **Sg** **05 04 17.7 +0.2**
comp=N,14nm,0.6s
SOKA Soboth 4.84 189 Pn **Pn** **05 03 02.2 +2.7**
comp=N,1.5nm,0.4s
SOKA Pg **Pg** **05 03 19.6 +1.6**
comp=N,4.3nm,0.4s
SOKA Sg **Sg** **05 04 25.2 +4.5**
comp=N,9.5nm,0.7s
BLEU Blekinge 4.85 358 P **Pn** **05 02 59.4 0.0**
BLEU S **Sn** **05 03 51.8 -4.3**
UZH Uzhgorod 4.91 123 eP **Pn** **05 03 00.6 +0.4**
UZH eS **Sn** **05 03 56.7 -0.9**
UZH smax smax
comp=N,5.0nm,0.9s
UZH MLR MLR
comp=N,5.0nm,1.0s
UZH MLR MLR
comp=E,5.0nm,1.0s
UZH MLR MLR
comp=Z,4.0nm,1.0s
BJUU Bjuv 4.96 340 P **Pn** **05 02 59.9 -1.0**
BJUU S **Sn** **05 03 54.2 -4.7**
OBKA Obir 5.06 192 Pg **Pg** **05 03 24.2 +2.0**
comp=Z,4.0nm,0.4s
OBKA Sg **Sg** **05 04 30.1 +2.3**
comp=Z,15nm,0.5s
MYKA Terra Mystica 5.10 199 Pg **Pg** **05 03 25.1 +2.2**
comp=Z,1.8nm,0.3s
WTTA Wattenberg 5.11 216 Pn **Pn** **05 03 05.8 +2.6**
comp=Z,1.9nm,0.3s
DEL Delary 5.18 346 P **Pn** **05 03 03.2 -0.7**
MOTA Moosalm 5.25 220 Pg **Pn** **05 03 06.4 +1.4**
comp=Z,4.3nm,0.5s,SNR=4.5
MOTA eSn **Sn** **05 04 05.5 -0.9**
MOTA Sg **Sg** **05 04 33.4 -0.5**
comp=Z,9.7nm,0.8s
ABTA Abfaltersbach 5.27 208 Pn **Pn** **05 03 08.3 +2.9**
comp=Z,3.3nm,0.6s,SNR=4.5
ABTA Sg **Sg** **05 04 34.4 -0.2**
comp=Z,31nm,1.0s
RETA Reutte 5.28 223 ePn **Pn** **05 03 06.3 +0.9**
comp=Z,1.8nm,0.3s,SNR=4.3
RETA Sg **Sg** **05 04 36.4 +1.6**
comp=Z,6.6nm,0.5s
SQTA Sankt Quirin 5.31 219 ePn **Pn** **05 03 08.3 +2.5**
comp=Z,2.6nm,0.2s
LVV L'vov 5.32 105 eP **Pn** **05 03 05.8 -0.1**
LVV e 05 04 05.5
TRPA Tarpa 5.35 126 ⇑P **Pn** **05 03 06.1 -0.1**
VXJU Vaexsjoe 5.51 353 P **Pn** **05 03 08.3 -0.1**
VXJU S **Sn** **05 04 05.2 -7.1**
FETA Feichten 5.66 220 Pn **Pn** **05 03 12.2 +1.4**
comp=Z,1.0nm,0.5s
DAVA Damuels 5.82 226 Pn **Pn** **05 03 13.7 +0.7**
comp=Z,0.9nm,0.2s
FABU Falkenberg 5.88 342 P **Pn** **05 03 12.7 -0.8**
GNOU Gnosjoe 5.99 348 P **Pn** **05 03 14.7 -0.4**
DRGR 6.39 135 ⇑P **Pn** **05 03 21.0 +0.4**
DRGR 6.39 135 ⇑P **Pn** **05 03 21.0 +0.4**
CDF Champ du Feu 6.45 245 ePn **Pn** **05 03 22.8 +1.3**
CDF eSg **Sg** **05 05 09.0 -3.4**
comp=Z,36nm,0.9s
HINF Hinteralfeld 7.02 242 ePn **Pn** **05 03 29.6 +0.4**
HINF eSg **Sg** **05 05 25.5 -5.0**
comp=Z,7.3nm,0.6s
BURAR Bucovina Array 7.08 119 ⇑P **Pn** **05 03 29.9 -0.3**
BURAR Bucovina Array 7.08 119 ⇑P **Pn** **05 03 29.9 -0.3**
HAU Haudompre 7.20 245 ePn **Pn** **05 03 30.1 -1.5**
HAU eSg **Sg** **05 05 31.3 -4.9**
comp=Z,6.5nm,0.5s
GIVF Givet 7.27 264 eSg **Sg** **05 05 36.0 -2.5**
PAGF Fort de Pagny 7.28 250 ePn **Pn** **05 03 34.0 +1.2**
AKASG Malin Array Be 8.31 90 eP **Pn** **05 03 48.0 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 8.31 90 Pn **Pn** **05 03 45.8 -1.1**
comp=Z,0.8nm,0.3s,baz=278,slow=12,SNR=5.6
LPL La Plagne 8.60 230 ePn **Pn** **05 03 52.8 +1.7**
LPG La Plagne 8.60 230 ePn **Pn** **05 03 53.1 +1.9**
HFS Hagfors 8.79 352 Pn **Pn** **05 03 52.1 -1.3**
comp=Z,0.3nm,0.3s,baz=169,slow=17,SNR=7.3
VSU Vasula 9.30 37 *i* P **Pn** **05 03 59.1 -1.3**
NOA NORSAR Array B 9.97 346 Pn **Pn** **05 04 07.4 -2.2**
comp=Z,0.0nm,0.3s,baz=168,slow=12,SNR=5.4

FRF La Foret Royal 10.16 223 ePn **Pn** **05 04 12.0 -0.2**
LMR La Mourre 10.40 222 ePn **Pn** **05 04 16.3 +0.8**
FINES FINESS Array B 11.41 25 Pn **Pn** **05 04 27.8 -1.5**
comp=Z,0.4nm,0.3s,baz=207,slow=12,SNR=11
FINES Sn **Sn** **05 06 30.1 -7.2**
comp=Z,0.4nm,0.3s,baz=210,slow=19,SNR=5.6
OBN Obninsk 12.78 65 eP **Pn** **05 04 48.0 +0.1**
OBN pmax pmax
comp=Z,3.0nm,0.9s
KLMR Klimovskoe 16.00 45 eP **P** **05 05 33.5 -1.5**
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR Klimovskoe 16.00 45 ePn **P** **05 05 33.5 -1.5**
KLMR AMP 05 05 34.6
comp=Z,22nm,1.5s
SOC Sochi 17.75 107 eP **P** **05 05 55.7 +1.2**
SOC e 05 09 14.7
SOC pmax pmax
comp=Z,44nm,1.0s
SOC MLR MLR
comp=Z,77nm,13.0s
ARCES ARCESS Array B 18.67 10 Pn **P** **05 06 01.2 -3.2**
comp=Z,0.5nm,0.3s,baz=195,slow=14,SNR=13
ARU Arti 25.17 62 *d i* P **P** **05 07 11.2 -0.7**
ARU 05 07 42.4
ARU S **S** **05 11 35.0 -2.7**
ARU pmax pmax
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 26.18 76 P **P** **05 07 21.6 +0.4**
comp=Z,1.0nm,0.6s,baz=290,slow=7.9,SNR=3.8
BRVK Borovoye 32.55 65 *i* P **P** **05 08 18.2 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 58.75 13 eP **P** **05 11 46.2 +1.9**
BILL e 05 13 50.0
BILL pmax pmax
comp=Z,4.0nm,1.5s

*IDC **20** 05:19:11.1±1.9, 22°.40S×147°.95E, h0km, mb3.7/1, mb1 3.6/5, mb1mx3.5/25, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=36.3km s-min=21.2km az=66.0*
*ISCJB **20** 05:19:12.6±2.1, 22°.4S±0°.1×147°.7E±0°.2, h10km, mb3.6/1, Error ellipse: s-maj=32.6km s-min=16.6km az=5.3*
ISC 20 05:19:13.2±2.0, 22°.3S±0°.1×147°.9E±0°.2, h10km, n6, σ1§13/6, **Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.69**	**326**	Pn	**Pn**	**05 19 57.1**	**+0.5**
	3.4nm,0.3s,baz=140,slow=17,SNR=34						
CTA				Lg	Lg	05 20 39.5	
	12nm,0.3s,baz=242,slow=20,SNR=10.0						
STKA	**Stephens Creek**	**11.02**	**209**	Pn	**Pn**	**05 21 51.4**	**+0.5**
	0.3nm,0.3s,baz=40,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**12.83**	**278**	Pn	**Pn**	**05 22 15.2**	**-0.7**
	0.1nm,0.3s,baz=101,slow=12,SNR=11						
WRA				Lg	Lg	05 26 03.2	
	0.2nm,0.3s,baz=107,slow=29,SNR=5.8						
ASAR	**Alice Springs**	**12.92**	**261**	Pn	**Pn**	**05 22 17.2**	**+0.1**
	0.1nm,0.3s,baz=90,slow=14,SNR=5.9						
SONM	**Songino Array**	**79.14**	**333**	P	**P**	**05 31 18.6**	**+0.4**
	0.7nm,0.8s,baz=158,slow=5.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**146.57**	**260**	PKPbc	**PKPbc**	**05 38 54.2**	**-1.6**
	1.7nm,0.9s,baz=108,slow=2.2,SNR=5.9						

*IDC **20** 05:32:31.6±0.7, 60°.53S×43°.26W, h0km, mb4.5/6, mb1 4.6/8, mb1mx4.3/20, mbtmp4.4/8, ML3.6/2, MS3.5/2, Ms1 3.5/2, ms1mx3.1/22, Error ellipse: s-maj=25.4km s-min=17.1km az=53.0*
*ISCJB **20** 05:32:32.6±0.3, 60°.51S±0°.05×43°.3W±0°.1, h16km, mb4.4/8, Error ellipse: s-maj=9.6km s-min=6.0km az=153.3*
*NEIC **20** 05:32:33.3±1.1, 60°.46S±0°.08×43°.3W±0°.2, h10km±2km, mb4.8/28*
ISC 20 05:32:34.4±0.4, 60°.49S±0°.07×43°.25W±0°.08, h16km, n120, σ1§01/113, **mb4.7/16, 1D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.22**	**33**	Pn	**Pn**	**05 34 18.6**	**-0.4**
PMSA	**Palmer Station**	**10.46**	**237**	Pn	**Pn**	**05 35 02.9**	**-0.6**
	0.4nm,0.3s,baz=82,slow=13,SNR=6.2						
PMSA				LR	LR	05 39 01.5	
	comp=Z,409nm,18.8s,baz=86,slow=37						
PMSA	**Palmer Station**	**10.46**	**237**	eP	**Pn**	**05 35 04.9**	**+1.5**
PMSA	**Palmer Station**	**10.46**	**237**	eP	**Pn**	**05 35 04.9**	**+1.5**
PMSA	**Palmer Station**	**10.46**	**237**		**Pn**	**05 35 03.2**	**-0.2**
USHA	**Ushuaia**	**14.56**	**282**	LR	LR	05 40 48.4	
	comp=Z,98nm,19.1s,baz=78,slow=34						
VNA3	**Neumayer Olymp**	**17.14**	**143**	P	**Pn**	**05 36 31.6**	**-1.3**
VNA1	**Neumayer--Stat**	**17.38**	**140**	P	**P**	**05 36 36.4**	**-0.6**
VNA2	**Neumayer--Watz**	**17.73**	**141**	P	**Pn**	**05 36 39.4**	**-0.8**
	baz=286,slow=14						
GO09	**Cerro Castillo**	**18.60**	**287**	P	**P**	**05 36 49.3**	**-1.3**
SNAA	**Sanae**	**19.35**	**142**	P	**Pn**	**05 37 01.1**	**+1.1**
SNAA	**Sanae**	**19.35**	**142**	P	**Pn**	**05 36 58.6**	**-1.3**
	0.2nm,0.3s,baz=300,slow=9.9,SNR=16						
SNAA	**Sanae**	**19.35**	**142**	P	**Pn**	**05 36 58.6**	**-1.3**
TRQA	**Tornquist**	**25.38**	**324**	eP	**P**	**05 38 02.8**	**+2.2**
TRQA	**Tornquist**	**25.38**	**324**	eP	**P**	**05 38 02.8**	**+2.2**
TRQA	**Tornquist**	**25.38**	**324**	P	**P**	**05 38 01.1**	**+0.5**
TRQA				IAmb	IAmb	05 38 03.2	
	comp=Z,16nm,0.9s						
PLCA	**Paso Flores**	**25.96**	**307**	P	**P**	**05 38 04.9**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=177,slow=8.4,SNR=13						
PLCA	**Paso Flores**	**25.96**	**307**	eP	**P**	**05 38 05.7**	**-0.3**
PLCA	**Paso Flores**	**25.96**	**307**	eP	**P**	**05 38 05.7**	**-0.3**
PLCA	**Paso Flores**	**25.96**	**307**	P	**P**	**05 38 05.3**	**-0.7**
GO06	**Curarrehue**	**27.31**	**307**	P	**P**	**05 38 17.4**	**-0.8**
GO06				IAmb	IAmb	05 38 19.1	
	comp=Z,14nm,1.2s						
PLTB	**Pedras Altas**	**29.54**	**342**	eP	**P**	**05 38 37.8**	**-0.1**
PLTB	**Pedras Altas**	**29.54**	**342**	eP	**P**	**05 38 37.8**	**-0.1**
QSPA	**South Pole Qui**	**29.74**	**180**	P	**P**	**05 38 40.1**	**+0.4**
	comp=Z,5.0nm,1.0s,baz=186,slow=4.5,SNR=7.5						
QSPA	**South Pole Qui**	**29.74**	**180**	P	**P**	**05 38 40.1**	**+0.4**
CPSB	**Cacapava Do Su**	**30.85**	**343**	eP	**P**	**05 38 50.0**	**+0.5**
CPSB	**Cacapava Do Su**	**30.85**	**343**	eP	**P**	**05 38 50.0**	**+0.5**
GO05	**Huala**	**31.49**	**311**	P	**P**	**05 38 54.6**	**-0.5**
CNLB	**Canela**	**31.59**	**347**	eP	**P**	**05 38 57.3**	**+1.1**
CNLB	**Canela**	**31.59**	**347**	eP	**P**	**05 38 57.3**	**+1.1**
PEL	**Peldehue**	**32.71**	**314**	P	**P**	**05 39 04.9**	**-1.0**
ROC1	**El Roble**	**32.98**	**314**	P	**P**	**05 39 07.5**	**-1.0**
SYO	**Syowa Base**	**33.62**	**140**	‖ *iX*	P	05 39 05.6	-7.8
GO04	**Tololo Observa**	**35.45**	**316**	P	**P**	**05 39 29.3**	**-0.7**
CPUP	**Villa Florida**	**35.49**	**338**	P	**P**	**05 39 30.5**	**+0.5**
	comp=Z,5.5nm,0.9s,baz=153,slow=7.6,SNR=11						
CPUP	**Villa Florida**	**35.49**	**338**	eP	**P**	**05 39 30.5**	**+0.5**
CPUP	**Villa Florida**	**35.49**	**338**	eP	**P**	**05 39 30.5**	**+0.5**
CPUP	**Villa Florida**	**35.49**	**338**	P	**P**	**05 39 30.0**	**0.0**
CPUP				IAmb	IAmb	05 39 31.5	
	comp=Z,9.8nm,1.1s						
PTGB	**Pitanga**	**36.27**	**346**	eP	**P**	**05 39 38.0**	**+1.1**
PTGB	**Pitanga**	**36.27**	**346**	eP	**P**	**05 39 38.0**	**+1.1**
SPB	**Sao Paulo**	**36.99**	**354**	eP	**P**	**05 39 43.6**	**+0.8**
SPB	**Sao Paulo**	**36.99**	**354**	eP	**P**	**05 39 43.6**	**+0.8**
SPB	**Sao Paulo**	**36.99**	**354**	P	**P**	**05 39 43.1**	**+0.3**
GO03	**Copiap**	**37.64**	**319**	P	**P**	**05 39 47.6**	**-0.8**
GO03				IAmb	IAmb	05 39 48.6	
	comp=Z,13nm,0.7s						
BB19B	**Bebedouro**	**39.57**	**352**	eP	**P**	**05 40 05.5**	**+0.9**
BB19B	**Bebedouro**	**39.57**	**352**	eP	**P**	**05 40 05.5**	**+0.9**
GO02	**Mina Guanaco**	**39.70**	**321**	P	**P**	**05 40 06.0**	**+0.1**
GO02				IAmb	IAmb	05 40 06.6	
	comp=Z,19nm,0.7s						
SBA	**Scott Base**	**40.68**	**189**	P	**P**	**05 40 14.1**	**+0.9**
AQDB	**Aquidauana**	**40.94**	**342**	eP	**P**	**05 40 16.0**	**+0.1**
AQDB	**Aquidauana**	**40.94**	**342**	eP	**P**	**05 40 16.0**	**+0.1**
ITRB	**Iturama**	**41.06**	**350**	eP	**P**	**05 40 17.4**	**+0.5**
ITRB	**Iturama**	**41.06**	**350**	eP	**P**	**05 40 17.4**	**+0.5**
PB10	**IPOC Station P**	**41.54**	**321**	P	**P**	**05 40 20.2**	**-0.6**
BSFB	**Barra de Sao F**	**41.65**	**3**	eP	**P**	**05 40 22.7**	**+1.0**
BSFB	**Barra de Sao F**	**41.65**	**3**	eP	**P**	**05 40 22.7**	**+1.0**
LVC	**Limon Verde**	**41.89**	**323**	eP	**P**	**05 40 24.5**	**+0.4**
LVC	**Limon Verde**	**41.89**	**323**	eP	**P**	**05 40 24.5**	**+0.4**
LVC	**Limon Verde**	**41.89**	**323**	P	**P**	**05 40 23.7**	**-0.4**
PMNB	**Patos De Minas**	**41.97**	**355**	eP	**P**	**05 40 25.3**	**+0.8**
PMNB	**Patos De Minas**	**41.97**	**355**	eP	**P**	**05 40 25.3**	**+0.8**
PB04	**IPOC Station P**	**42.52**	**322**	P	**P**	**05 40 28.1**	**-1.0**
PB04				IAmb	IAmb	05 40 30.1	
	comp=Z,26nm,1.0s						
BDFB	**Brasilia**	**44.92**	**353**	P	**P**	**05 40 48.9**	**+0.6**
	comp=Z,9.4nm,0.8s,baz=171,slow=7.3,SNR=14						
BDFB	**Brasilia**	**44.92**	**353**	P	**P**	**05 40 49.0**	**+0.6**
BDFB				IAmb	IAmb	05 40 49.9	
	comp=Z,12nm,0.8s						
ARAG	**Araguaiana, MT**	**45.15**	**348**	eP	**P**	**05 40 50.2**	**+0.2**
ARAG	**Araguaiana, MT**	**45.15**	**348**	eP	**P**	**05 40 50.2**	**+0.2**
SALV	**Santo Antonio**	**45.43**	**343**	eP	**P**	**05 40 52.8**	**+0.5**
SALV	**Santo Antonio**	**45.43**	**343**	eP	**P**	**05 40 52.8**	**+0.5**
LPAZ	**La Paz**	**47.66**	**327**	P	**P**	**05 41 10.5**	**0.0**
	comp=Z,3.9nm,0.7s,baz=170,slow=6.2,SNR=19						
LPAZ	**La Paz**	**47.66**	**327**	eP	**P**	**05 41 10.8**	**+0.4**
LPAZ	**La Paz**	**47.66**	**327**	eP	**P**	**05 41 10.8**	**+0.4**
LPAZ	**La Paz**	**47.66**	**327**	P	**P**	**05 41 09.7**	**-0.7**
LPAZ				IAmb	IAmb	05 41 11.7	
	comp=Z,12nm,1.4s						
PEXB	**Peixe**	**48.45**	**353**	eP	**P**	**05 41 16.1**	**+0.3**
PEXB	**Peixe**	**48.45**	**353**	eP	**P**	**05 41 16.1**	**+0.3**
NBPN	**Ponto Novo - B**	**49.60**	**4**	eP	**P**	**05 41 25.3**	**+0.6**
NBPN	**Ponto Novo - B**	**49.60**	**4**	eP	**P**	**05 41 25.3**	**+0.6**
CLDB	**Colider**	**50.39**	**344**	eP	**P**	**05 41 29.9**	**-0.8**
CLDB	**Colider**	**50.39**	**344**	eP	**P**	**05 41 29.9**	**-0.8**
NBTA	**Tacaratu-PE**	**51.41**	**7**	eP	**P**	**05 41 39.2**	**+0.8**
NBTA	**Tacaratu-PE**	**51.41**	**7**	eP	**P**	**05 41 39.2**	**+0.8**
NBRF	**Rio Formoso -**	**52.06**	**10**	eP	**P**	**05 41 43.5**	**+0.3**
NBRF	**Rio Formoso -**	**52.06**	**10**	eP	**P**	**05 41 43.5**	**+0.3**
SAML	**Samuel**	**53.55**	**335**	eP	**P**	**05 41 54.4**	**+0.2**
SAML	**Samuel**	**53.55**	**335**	eP	**P**	**05 41 54.4**	**+0.2**
SAML	**Samuel**	**53.55**	**335**	P	**P**	**05 41 54.4**	**+0.2**
SAML				IAmb	IAmb	05 41 54.8	
H10N3	**ASCENSION HYDR**	**56.79**	**35**	T	T	06 44 48.6	
	baz=197						
H10N1	**ASCENSION HYDR**	**56.79**	**35**	T	T	06 44 48.8	
	baz=197,slow=74						
H10N2	**ASCENSION HYDR**	**56.80**	**35**	T	T	06 44 48.4	
	baz=197,slow=74						
LBTB	**Lobatse**	**58.17**	**85**	P	**P**	**05 42 27.2**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=224,slow=8.9,SNR=7.0						
LBTB	**Lobatse**	**58.17**	**85**	P	**P**	**05 42 26.8**	**-0.6**
LBTB				IAmb	IAmb	05 42 27.6	
	comp=Z,10nm,0.9s						
OTAV	**Otavalo**	**66.36**	**321**	eP	**P**	**05 43 23.7**	**+0.9**
OTAV	**Otavalo**	**66.36**	**321**	eP	**P**	**05 43 23.7**	**+0.9**
OTAV	**Otavalo**	**66.36**	**321**	P	**P**	**05 43 22.9**	**+0.2**
WKZ	**Wanaka**	**71.78**	**204**	P	**P**	**05 43 55.6**	**0.0**
SDV	**Santo Domingo**	**72.48**	**332**	eP	**P**	**05 43 59.8**	**-0.4**
SDV	**Santo Domingo**	**72.48**	**332**	eP	**P**	**05 43 59.8**	**-0.4**
SDV	**Santo Domingo**	**72.48**	**332**	P	**P**	**05 43 59.7**	**-0.4**
SDV				IAmb	IAmb	05 44 00.9	
	comp=Z,7.2nm,0.9s						
TBI	**Tubuai**	**77.56**	**245**	eT	T	05 44 40.1	
	comp=Z,22nm,0.3s						
TOA0	**Torodi Ar. Sit**	**81.67**	**44**	P	**P**	**05 44 51.5**	**0.0**
TOA0				IAmb	IAmb	05 44 53.6	
	comp=Z,7.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**81.67**	**44**	P	**P**	**05 44 52.5**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=208,slow=5.3,SNR=17						
H08S1	**Diego Garcia H**	**95.63**	**116**	T	T	07 32 41.2	
	baz=204,slow=76,SNR=10						
H08S2	**Diego Garcia H**	**95.64**	**116**	T	T	07 32 43.1	
	baz=204,slow=76,SNR=6.2						
H08S3	**Diego Garcia H**	**95.65**	**116**	T	T	07 32 23.9	
	baz=204,slow=76,SNR=8.0						
ASAR	**Alice Springs**	**96.11**	**177**	P	**P**	**05 46 03.4**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=178,slow=3.7,SNR=4.9						
AKASG	**Malin Array Be**	**125.15**	**48**	PKP	**PKPdf**	**05 51 30.8**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=250,slow=1.9,SNR=6.8						
FINES	**FINESS Array B**	**132.69**	**38**	PKP	**PKPdf**	**05 51 45.4**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=164,slow=1.4,SNR=4.8						
FINES	**FINESS Array B**	**132.69**	**38**		**PKPdf**	**05 51 42.2**	**-4.5**
YKA	**Yellowknife Ar**	**134.11**	**322**	PKP	**PKPdf**	**05 51 48.2**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=135,slow=1.9,SNR=6.1						
KSH	**Kashi**	**137.53**	**91**	PKP	**PKiKP**	**05 51 59.3**	**+0.7**
KSH				PP	**PP**	**05 54 47.0**	**+3.6**
KSH				PKS	**PKSdf**	**05 55 34.3**	**+1.5**
DOT	**Dot Lake**	**144.98**	**310**		**PKPdf**	**05 52 08.2**	**-0.9**
KDAK	**Kodiak Island**	**145.23**	**298**	PKPbc	**PKPdf**	**05 52 08.8**	**-0.8**
	comp=Z,5.2nm,0.8s,baz=167,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**146.00**	**89**	PKPbc	**PKPbc**	**05 52 11.1**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=245,slow=3.4,SNR=18						
MKAR	**Makanchi Array**	**146.00**	**89**		**PKPbc**	**05 52 11.4**	**-0.9**
MK31	**Makanchi Array**	**146.00**	**89**		**PKPbc**	**05 52 11.3**	**-0.9**
ILAR	**Eielson Array**	**146.62**	**311**	PKPbc	**PKPbc**	**05 52 12.8**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=152,slow=2.4,SNR=47						
ILAR	**Eielson Array**	**146.62**	**311**		**PKPbc**	**05 52 12.5**	**-0.9**
BMAR	**Burnt Mountain**	**147.04**	**316**		**PKPbc**	**05 52 14.5**	**-0.2**
LZH	**Lanzhou**	**147.80**	**124**	ePKPbc	**PKPdf**	**05 52 14.5**	**-0.4**
LZH				pPKP	pPKPbc	05 52 21.8	-0.9
LZH				sPKP		05 52 27.5	
IMAR	**Indian Mountai**	**149.74**	**310**		**PKPbc**	**05 52 20.8**	**-0.8**
ZALV	**Zalesovo Beam**	**151.80**	**80**	PKPbc	**PKPbc**	**05 52 25.1**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=223,slow=5.9,SNR=3.6						
SONM	**Songino Array**	**158.42**	**112**	PKPab	**PKPab**	**05 53 03.9**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=208,slow=4.4,SNR=5.8						

IDC 20 05:42:00.4±2.2, 54°.58N×83°.48E, h0km, mb1 2.8/2, mb1mx2.8/40, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=19.6km s-min=11.1km az=167.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**128**	*i*		05 49 00.0	
	baz=312,slow=313,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.01**	**128**	Pg	Pg	05 42 19.7	-0.1
	2.7nm,0.3s,baz=309,slow=16,SNR=25						
ZALV				Lg	Lg	05 42 34.2	
	5.8nm,0.3s,baz=308,slow=29,SNR=36						
KURBB	**Kurchatov Arra**	**4.98**	**219**	Pn	Pn	05 43 16.9	+0.5
	0.0nm,0.3s,baz=39,slow=13,SNR=4.8						
KURBB				Lg	Lg	05 44 37.6	
	0.1nm,0.3s,baz=34,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**7.84**	**186**	Pn	Pn	05 43 55.5	-0.1
	0.2nm,0.3s,baz=12,slow=13,SNR=7.6						

*ISCJB **20** 05:44:50.0±0.3, 60°.32S±0°.05×47°.1W±0°.1, h10km, mb4.5/15, MS4.5/16, Error ellipse: s-maj=10.0km s-min=6.0km az=143.0*
*IDC **20** 05:44:49.4±0.6, 60°.35S×47°.33W,

baz=293,slow=14
SNAA Sanae 20.68 141 P Pn 05 49 35.2 +2.2
SNAA Sanae 20.68 141 P Pn 05 49 32.3 -0.7
comp=Z,13nm,0.8s,baz=286,slow=9.8,SNR=51
SNAA LR LR 05 57 11.2
comp=Z,2μm,18.2s,baz=307,slow=36
SNAA Sanae 20.68 141 P Pn 05 49 32.3 -0.7
TRQA Tornquist 24.20 330 *eP* **P 05 50 08.3 +0.8**
TRQA Tornquist 24.20 330 *eP* **P 05 50 08.3 +0.8**
TRQA Tornquist 24.20 330 P **P 05 50 08.9 +1.4**
PLCA Paso Flores 24.39 313 P **P 05 50 08.4 -0.9**
comp=Z,5.8nm,1.1s,baz=187,slow=9.0,SNR=9.7
PLCA LR LR 05 59 22.8
comp=Z,1μm,20.4s,baz=181,slow=36
PLCA Paso Flores 24.39 313 *eP* **P 05 50 09.2 -0.1**
PLCA Paso Flores 24.39 313 *eP* **P 05 50 09.2 -0.1**
PLCA Paso Flores 24.39 313 P **P 05 50 09.5 +0.2**
PLCA IAmb IAmb 05 50 17.2
comp=Z,56nm,1.5s
GO06 Curarrehue 25.74 313 P **P 05 50 21.1 -0.4**
PLTB Pedras Altas 28.90 349 *eP* P 05 50 56.1 +6.3
PLTB Pedras Altas 28.90 349 *eP* P 05 50 56.1 +6.3
QSPA South Pole Qui 29.90 180 P **P 05 50 59.6 +0.9**
comp=Z,11nm,1.1s,baz=173,slow=4.0,SNR=25
QSPA South Pole Qui 29.90 180 P **P 05 50 59.5 +0.9**
QSPA IAmb IAmb 05 51 15.4
comp=Z,38nm,1.4s
CPSB Cacapava Do Su 30.23 349 *eP* P 05 51 06.9 +5.4
CPSB Cacapava Do Su 30.23 349 *eP* P 05 51 06.9 +5.4
CNLB Canela 31.12 354 *eP* P 05 51 15.1 +5.6
CNLB Canela 31.12 354 *eP* P 05 51 15.1 +5.6
PEL Peldehue 31.28 320 P **P 05 51 13.4 +2.4**
PEL IAmb IAmb 05 51 30.9
comp=Z,18nm,0.8s
ITAB Concordia 33.27 352 *eP* P 05 51 34.0 +5.8
ITAB Concordia 33.27 352 *eP* P 05 51 34.0 +5.8
GO04 Tololo Observa 34.07 322 P **P 05 51 35.2 -0.3**
GO04 IAmb IAmb 05 51 44.3
comp=Z,12nm,0.8s
CPUP Villa Florida 34.71 344 P **P 05 51 41.9 +1.1**
comp=Z,1.3nm,0.7s,baz=179,slow=3.1,SNR=5.1
CPUP LR LR 06 04 43.2
comp=Z,360nm,21.5s,baz=172,slow=34
CPUP Villa Florida 34.71 344 *eP* P 05 51 46.5 +5.7
CPUP Villa Florida 34.71 344 *eP* P 05 51 46.5 +5.7
CPUP Villa Florida 34.71 344 P **P 05 51 41.1 +0.3**
SYO Syowa Base 34.97 141 *epZP* **P 05 51 42.2 -0.4**
GO03 Copiap 36.31 324 P **P 05 51 55.0 +0.3**
GO03 IAmb IAmb 05 52 07.6
comp=Z,11nm,0.6s
SPB Sao Paulo 36.72 360 *eP* P 05 52 02.9 +4.9
SPB Sao Paulo 36.72 360 *eP* P 05 52 02.9 +4.9
SPB Sao Paulo 36.72 360 P **P 05 51 59.4 +1.3**
SPB IAmb IAmb 05 52 06.5
comp=Z,28nm,1.0s
RCLB Rio Claro- Sao 37.88 359 *eP* P 05 52 14.9 +6.9
RCLB Rio Claro- Sao 37.88 359 *eP* P 05 52 14.9 +6.9
GO02 Mina Guanaco 38.43 326 P **P 05 52 14.2 +1.3**
BB19B Bebedouro 39.24 358 *eP* P 05 52 25.2 +5.8
BB19B Bebedouro 39.24 358 *eP* P 05 52 25.2 +5.8
PB10 IPOC Station P 40.26 326 P **P 05 52 28.2 +0.4**
PB10 IAmb IAmb 05 52 34.2
comp=Z,52nm,1.3s
AQDB Aquidauana 40.28 348 *eP* P 05 52 33.1 +5.1
AQDB Aquidauana 40.28 348 *eP* P 05 52 33.1 +5.1
SBA Scott Base 40.51 190 P **P 05 52 28.0 -1.4**
ITRB Iturama 40.65 355 *eP* P 05 52 36.6 +5.5
ITRB Iturama 40.65 355 *eP* P 05 52 36.6 +5.5
LVC Limon Verde 40.67 328 *eP* **P 05 52 35.5 +3.8**
LVC Limon Verde 40.67 328 *eP* **P 05 52 35.5 +3.8**
LVC Limon Verde 40.67 328 P **P 05 52 32.7 +1.0**
C2SB Chapadao do Su 41.72 352 *eP* P 05 52 45.1 +5.3
C2SB Chapadao do Su 41.72 352 *eP* P 05 52 45.1 +5.3
PB01 IPOC Station P 42.32 328 P **P 05 52 45.4 +0.5**
PB01 IAmb IAmb 05 52 52.4
comp=Z,16nm,0.9s
MAW Mawson 42.60 148 P **P 05 52 47.9 +1.4**
comp=Z,5.8nm,0.9s,baz=232,slow=8.4,SNR=11
MAW LR LR 06 10 11.2
comp=Z,2μm,18.1s,baz=233,slow=36
PP1B Ponte de Pedra 43.04 349 *eP* P 05 52 56.0 +5.3
PP1B Ponte de Pedra 43.04 349 *eP* P 05 52 56.0 +5.3
MNMC Minye Minye 44.18 329 P **P 05 52 59.9 -0.2**
MNMC IAmb IAmb 05 53 07.3
comp=Z,15nm,0.7s
BDFB Brasilia 44.63 359 P **P 05 53 04.5 +0.9**
comp=Z,5.6nm,0.8s,baz=173,slow=4.2,SNR=8.9
BDFB LR LR 06 09 10.0
comp=Z,182nm,21.0s,baz=165,slow=33
BDFB Brasilia 44.63 359 IAmb IAmb 05 53 11.0
comp=Z,23nm,1.1s
ARAG Araguaiana, MT 44.69 354 *eP* P 05 53 09.8 +5.8
ARAG Araguaiana, MT 44.69 354 *eP* P 05 53 09.8 +5.8
SALV Santo Antonio 44.80 348 *eP* P 05 53 10.3 +5.5
SALV Santo Antonio 44.80 348 *eP* P 05 53 10.3 +5.5
SIV San Ignacio 45.42 341 P **P 05 53 10.0 +0.2**
comp=Z,2.3nm,0.7s,baz=173,slow=8.9,SNR=16
LPAZ La Paz 46.55 332 P **P 05 53 19.3 0.0**
comp=Z,2.4nm,0.9s,baz=160,slow=7.6,SNR=6.2
LPAZ LR LR 06 13 25.5
comp=Z,137nm,21.7s,baz=170,slow=37
LPAZ La Paz 46.55 332 *eP* **P 05 53 22.9 +3.6**
LPAZ La Paz 46.55 332 *eP* **P 05 53 22.9 +3.6**
LPAZ La Paz 46.55 332 IAmb IAmb 05 53 39.4
comp=Z,16nm,1.5s
PEXB Peixe 48.15 358 *eP* P 05 53 37.1 +6.1
PEXB Peixe 48.15 358 *eP* P 05 53 37.1 +6.1
CLDB Colider 49.79 349 *eP* P 05 53 48.4 +4.8
CLDB Colider 49.79 349 *eP* P 05 53 48.4 +4.8
SUR Sutherland 51.65 89 P **P 05 53 59.6 +1.8**
comp=Z,4.9nm,0.7s,baz=240,slow=8.1,SNR=4.1
SUR Sutherland 51.65 89 P **P 05 53 57.3 -0.6**
SAML Samuel 52.67 340 P **P 05 54 05.7 +0.4**
SAML IAmb IAmb 05 54 12.2
comp=Z,12nm,0.8s
NBPB Pedra_Branca-C 54.96 9 *eP* P 05 54 29.1 +7.0
NBPB Pedra_Branca-C 54.96 9 *eP* P 05 54 29.1 +7.0
H10S2 ASCENSION HYDR 56.71 39 T T 06 56 21.2
baz=200,slow=74,SNR=30
H10S3 ASCENSION HYDR 56.71 39 T T 06 56 23.5
baz=20,slow=74,SNR=40
BOSA Boshof 56.93 90 P **P 05 54 36.7 +0.5**
comp=Z,6.1nm,0.8s,baz=229,slow=9.2,SNR=3.8
BOSA LR LR 06 14 15.0
comp=Z,536nm,19.8s,baz=214,slow=31
BOSA Boshof 56.93 90 P **P 05 54 35.0 -1.2**
BOSA IAmb IAmb 05 54 41.8
comp=Z,22nm,1.4s
H10N3 ASCENSION HYDR 57.81 39 T T 06 57 45.7
baz=199,slow=75,SNR=21
H10N1 ASCENSION HYDR 57.81 39 T T 06 57 46.2
baz=199,slow=75,SNR=17
H10N2 ASCENSION HYDR 57.83 39 T T 06 57 47.0
baz=199,slow=75,SNR=16
LBTB Lobatse 60.07 88 P **P 05 54 58.4 +0.2**
comp=Z,4.3nm,0.8s,baz=198,slow=7.5,SNR=6.1
LBTB Lobatse 60.07 88 P **P 05 54 57.4 -0.8**
LBTB IAmb IAmb 05 55 11.7
comp=Z,9.9nm,0.8s
OTAV Otavalo 65.08 325 P **P 05 55 32.5 +0.5**
ROSC El Rosal 68.40 331 LR LR 06 29 49.5
comp=Z,314nm,18.4s,baz=211,slow=40
LSZ Lusaka 69.58 85 P **P 05 55 59.7 -0.5**
SDV Santo Domingo 71.48 335 *eP* **P 05 56 16.2 +4.4**
SDV Santo Domingo 71.48 335 *eP* **P 05 56 16.2 +4.4**
THZ Tophouse 73.11 210 P **P 05 56 22.2 +1.1**
LIC Lamto 74.12 44 *eP* **P 05 56 28.0 +0.7**
comp=Z,90nm,0.9s
KIC Kosan Boka 74.35 44 *eP* **P 05 56 29.2 +0.6**
comp=Z,28nm,0.9s
TIC Toumodi 74.52 44 *eP* **P 05 56 30.2 +0.6**
DBIC Dimbokro 74.60 44 P **P 05 56 30.6 +0.6**
comp=Z,9.1nm,1.0s,baz=185,slow=6.6,SNR=3.8
DBIC LR LR 06 23 09.2
comp=Z,375nm,19.4s,baz=187,slow=31
DBIC Dimbokro 74.60 44 P **P 05 56 29.9 -0.1**
PPT Papeete 80.92 251 LR LR 06 24 16.9
comp=Z,180nm,21.6s,baz=166,slow=29
TOA0 Torodi Ar. Sit 82.93 48 P **P 05 57 15.8 0.0**
TORD Torodi Ar. Bea 82.93 48 P **P 05 57 16.1 +0.3**
comp=Z,4.6nm,0.9s,baz=216,slow=5.1,SNR=17
TORD LR LR 06 28 28.4
comp=Z,390nm,18.1s,baz=290,slow=32
KMBO Kilima Mbogo 86.23 86 LR LR 06 32 14.2
comp=Z,309nm,20.4s,baz=134,slow=33
STKA Stephens Creek 87.85 187 LR LR 06 37 08.7
comp=Z,210nm,18.8s,baz=194,slow=36
ASAR Alice Springs 96.30 181 P **P 05 58 17.9 -1.8**
comp=Z,0.5nm,0.7s,baz=158,slow=3.6,SNR=4.5
ASAR LR LR 06 43 19.5
comp=Z,201nm,18.2s,baz=176,slow=36
ASAR Alice Springs 96.30 181 P **P 05 58 18.5 -1.2**
WRA Warrumunga Arr 100.00 181 P **Pdif 05 58 35.5 -0.8**
comp=Z,0.5nm,0.9s,baz=180,slow=4.1,SNR=2.9
MANU Manus Island 116.78 196 PKPdf 06 03 34.1 -1.4
BRTR Keskin Array B 119.38 61 PKP **PKPdf 06 03 38.9 -0.9**
comp=Z,0.5nm,0.6s,baz=149,slow=3.2,SNR=3.3
AKASG Malin Array Be 126.50 50 PKP **PKPdf 06 03 51.2 -1.7**
comp=Z,1.3nm,0.6s,baz=237,slow=1.7,SNR=4.6
CMAR Chiang Mai Arr 131.66 135 PKP **PKiKP 06 04 04.2 -0.6**
comp=Z,0.8nm,0.3s,baz=203,slow=3.6,SNR=3.9
CMAR Chiang Mai Arr 131.66 135 PKPdf 06 04 00.9 -2.9
ABKAR Akbulak array 138.68 72 PKPdf **PKPdf 06 04 15.4 -0.5**
ABKAR Akbulak array 138.68 72 PKPdf 06 04 13.9 -1.9
KKAR Karatay Array 139.43 86 PKPdf 06 04 15.5 -2.0
KSH Kashi 139.45 95 PKP **PKiKP 06 04 19.3 -0.8**
KSH PP **PP 06 07 14.9 +2.0**
KSH PKS **PKSdf 06 07 53.4 -0.5**
BCAR Beaver Creek A 142.25 312 PKPdf 06 04 21.9 -0.1
CD2 Chengdu 144.78 134 PKP PKPbc 06 04 26.4 -0.1
ILAR Eielson Array 145.08 312 PKPbc **PKPbc 06 04 24.8 -1.6**
comp=Z,3.6nm,0.7s,baz=158,slow=1.8,SNR=37
ILAR Eielson Array 145.08 312 PKPbc 06 04 24.9 -1.5
COLA College 145.49 312 PKPdf 06 04 26.9 -0.6
BMAR Burnt Mountain 145.61 317 PKPdf 06 04 26.8 -0.9
MDM Murphy Dome 145.67 312 PKPdf 06 04 27.4 -0.5
BRVK Borovoye 146.08 74 PKPbc 06 04 29.3 -0.6
COLD Coldfoot 147.45 315 PKPbc **PKiKP 06 04 34.9 -0.6**
WHN Wuhan 147.74 149 ⇓P **PKPab 06 04 41.5 +3.9**
MAKZ Makanchi 147.77 92 PKPbc 06 04 34.6 -0.3
MKAR Makanchi Array 147.92 92 PKPbc **PKPbc 06 04 33.9 -1.4**
comp=Z,4.1nm,0.7s,baz=232,slow=2.1,SNR=26
MKAR Makanchi Array 147.92 92 PKPbc 06 04 33.8 -1.5
IMAR Indian Mountai 148.19 312 PKPbc 06 04 34.5 -0.9
WMQ Urumqi 148.47 101 *eP* **PKPdf 06 04 34.3 +1.0**
WMQ pmax pmax
comp=Z,60nm,4.3s
WMQ LR LR
comp=N,580nm,29.1s
WMQ LR LR
comp=E,2μm,29.1s
WMQ LR LR
comp=Z,140nm,29.2s
KURBB Kurchatov Arra 148.58 83 PKPbc **PKPbc 06 04 35.9 -1.0**
comp=Z,3.0nm,0.7s,baz=237,slow=3.0,SNR=16
KURK Kurchatov 148.69 83 PKPbc 06 04 36.4 -0.7
XAN Xi'an 149.41 138 PKPbc **PKPbc 06 04 38.3 -1.3**
XAN pPKP PKPab 06 04 44.1 -0.3
LZH Lanzhou 149.43 129 *e*PKPbc **PKPdf 06 04 31.6 -3.6**
LZH pPKP pPKPbc 06 04 42.5 -0.4
LZH sPKP 06 04 47.8
LZH LR LR
comp=N,59nm,18.3s
LZH LR LR
comp=E,65nm,18.5s
LZH LR LR
comp=Z,76nm,20.1s
NJ2 Nanjing 150.22 156 *eP* **PKPdf 06 04 36.3 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
GTA Gaotai 150.63 120 PKPbc **PKPbc 06 04 41.6 -0.9**
ZAA0 Zalesovo Array 153.67 82 PKPdf 06 04 41.6 +0.8
ZALV Zalesovo Beam 153.67 82 PKPdf 06 04 40.0 -0.8
HHC Hu-ho-hao-te 156.46 136 *eP* **PKPdf 06 04 46.4 +1.2**
SONM Songino Array 160.22 117 PKPab **PKPab 06 05 29.5 -0.6**
comp=Z,0.6nm,1.0s,baz=208,slow=5.9,SNR=3.7

WEL 20 05:45:39.1±0.4, 44°S±3°×17°3E±°, h5km, M3.7/18, ML4.0/6, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=42.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.06**	**55**	P	Pg	05 45 41.2	+0.6
CRLZ				S	Sg	05 45 42.8	+1.1
MQZ	**McQueen's Vall**	**0.12**	**142**	P	Pg	05 45 42.4	+0.8
MQZ				S	Sg	05 45 44.4	+1.1
AKCZ	**Akaroa Harbour**	**0.37**	**135**	P	Pg	05 45 46.8	+0.5
AKCZ				S	Sg	05 45 52.2	+1.1
OKCZ	**Okains Bay**	**0.39**	**107**	P	Pg	05 45 47.2	+0.6
OKCZ				S	Sg	05 45 52.8	+1.1
AMCZ	**Amberley**	**0.44**	**10**	P	Pg	05 45 48.0	+0.4
OXZ	**Oxford**	**0.47**	**307**	P	Pg	05 45 48.0	-0.1
GVZ	**Greta Valley S**	**0.73**	**29**	P	Pg	05 45 52.9	-0.3
LTZ	**Lake Taylor**	**0.85**	**346**	P	Pg	05 45 55.1	-0.4
RPZ	**Rata Peaks**	**1.09**	**264**	P	Pg	05 45 59.0	-1.0
INZ	**Inchbonnie**	**1.20**	**317**	P	Pg	05 46 01.4	-0.7
KHZ	**Kahutara**	**1.40**	**32**	P	Pn	05 46 02.5	-2.7
WVZ	**Waitaha Valley**	**1.43**	**291**	P	Pn	05 46 04.0	-1.6
THZ	**Tophouse**	**1.87**	**8**	P	Pn	05 46 09.4	-2.4
LBZ	**Lake Benmore**	**1.88**	**245**	P	Pn	05 46 10.7	-1.2
DSZ	**Denniston Nort**	**1.94**	**343**	P	Pn	05 46 10.8	-2.0
ODZ	**Otahua Downs**	**1.98**	**223**	P	Pn	05 46 11.3	-2.0
FOZ	**Fox Glacier**	**1.99**	**271**	P	Pn	05 46 13.2	-0.2
BSWZ	**Blackbirch Sta**	**2.13**	**28**	P	Pn	05 46 13.0	-2.3
NNZ	**Nelson**	**2.47**	**15**	P	Pn	05 46 17.9	-2.1
HHSZ	**Highcliff Hill**	**2.67**	**211**	P	Pn	05 46 23.5	+0.8
TCW	**Tory Channel**	**2.72**	**29**	P	Pn	05 46 20.9	-2.5
JCZ	**Jackson Bay**	**2.76**	**259**	P	Pn	05 46 22.8	-1.4
WKZ	**Wanaka**	**2.82**	**243**	P	Pn	05 46 23.5	-1.3
EAZ	**Earnscleugh**	**2.83**	**234**	P	Pn	05 46 23.3	-1.7
PLWZ	**Palliser**	**2.85**	**45**	P	Pn	05 46 22.0	-3.3
MSWZ	**Moikau Station**	**2.97**	**43**	P	Pn	05 46 23.4	-3.4
DUWZ	**D'Urville Isla**	**2.99**	**20**	P	Pn	05 46 27.3	+0.1
CAW	**Cannon Point**	**3.12**	**38**	P	Pn	05 46 25.7	-3.3
TUZ	**Tuapeka**	**3.13**	**221**	P	Pn	05 46 29.4	+0.3
TRWZ	**Traveller**	**3.21**	**47**	P	Pn	05 46 26.7	-3.4
KIW	**Kapiti Island**	**3.26**	**33**	P	Pn	05 46 28.2	-2.7
OGWZ	**Otaki Gorge**	**3.40**	**36**	P	Pn	05 46 30.5	-2.4
MSZ	**Milford Sound**	**3.49**	**251**	P	Pn	05 46 33.9	-0.2
MLZ	**Mavora Lakes**	**3.62**	**240**	P	Pn	05 46 33.9	-2.0
WHZ	**Wether Hill Ro**	**3.99**	**234**	P	Pn	05 46 38.9	-2.0
BFZ	**Birch Farm**	**4.01**	**44**	P	Pn	05 46 37.4	-3.8
KHEZ	**Kahui Hut**	**4.45**	**15**	P	Pn	05 46 47.4	0.0
PKE	**Pukeiti**	**4.54**	**14**	P	Pn	05 46 47.9	-0.7
APZ	**The Paps**	**4.55**	**223**	P	Pn	05 46 47.3	-1.4
TRVZ	**Turoa**	**4.86**	**29**	P	Pn	05 46 52.1	-1.0
HIZ	**Hauiti**	**5.38**	**20**	P	Pn	05 47 00.3	+0.3

NIED ***20*** *06:00:00, 24°.80N×123°.40E, h80km, Mw3.8 Best double couple: M0=4.93000×10^14 NP1:φ=86.00000°, δ=13.00000°, λ=-89.00000°. NP2:φ=264.00000°, δ=77.00000°, λ=-90.00000°.*
ISCJB ***20*** *06:00:08.1±0.5, 24°.78N±0°.08×123°.40E±0°.05, h117km±4km, mb3.9/7, Error ellipse: s-maj=13.3km s-min=6.7km az=167.1*
IDC ***20*** *06:00:08.5±3.6, 24°.92N×123°.51E, h109km±35km, mb3.6/7, mb1 3.9/7, mb1mx3.4/45, mbtmp4.0/7, Error ellipse: s-maj=27.6km s-min=16.2km az=73.0*
JMA ***20*** *06:00:10.2±0.1, 24°.80N×123°.43E, h102km±2km, M3.7*
ISC 20 06:00:08.3±0.8, 24°.92N±0°.10×123°.38E±0°.05, h109km±8km, n21, σ0=95/33, mb3.9/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**217**	P	**Pn**	**06 00 26.4**	**+0.9**
YOJ				S	**Sn**	**06 00 38.4**	**0.0**
JYNG	**Yonagunijimaku**	**0.61**	**221**	P	**Pn**	**06 00 26.8**	**+0.9**
JYNG				S	**Sn**	**06 00 39.1**	**+0.1**
IRIF	**Iriomote-Funau**	**0.66**	**151**	P	**Pn**	**06 00 26.5**	**+0.2**
IRIF				S	**Sn**	**06 00 38.9**	**-0.8**
JIJ	**Ishigaki jima**	**0.89**	**129**	P	**Pn**	**06 00 28.5**	**+0.2**
JIJ				S	**Sn**	**06 00 41.9**	**-1.4**
JKRS	**Kuro-shima**	**0.89**	**140**	P	**Pn**	**06 00 28.8**	**+0.5**
JKRS				S	**Sn**	**06 00 42.8**	**-0.5**
JISG	**Ishigakijimahi**	**0.91**	**111**	P	**Pn**	**06 00 29.2**	**+0.7**
JISG				*i* S	**Sn**	**06 00 43.3**	**-0.3**
HATJ	**Hateruma jima**	**0.94**	**156**	P	**Pn**	**06 00 29.0**	**+0.2**
HATJ				S	**Sn**	**06 00 43.0**	**-1.3**
JTJ	**Tarama**	**1.23**	**103**	P	**Pn**	**06 00 33.0**	**+1.1**
JTJ				S	**Sn**	**06 00 49.8**	**0.0**
JIRB	**Irabujima**	**1.63**	**93**	P	**Pn**	**06 00 37.9**	**+1.3**
JIRB				S	**Sn**	**06 00 58.0**	**-0.1**
JIKM	**Ikemajima**	**1.69**	**89**	P	**Pn**	**06 00 38.9**	**+1.5**
JIKM				S	**Sn**	**06 01 00.3**	**+0.8**
JMJ2	**Miyako jima3**	**1.78**	**95**	P	**Pn**	**06 00 39.9**	**+1.5**
JMJ2				S	**Sn**	**06 01 02.0**	**+0.6**
JOGS	**Gusukube**	**1.85**	**95**	S	**Sn**	**06 01 03.6**	**+0.7**
JOW	**Kunigami**	**4.80**	**66**	P	**Pn**	**06 01 18.6**	**+0.2**
	0.6nm,0.3s,baz=148,slow=13,SNR=10.0						
JOW				S	**Sn**	**06 02 10.7**	**-2.3**
	1.1nm,0.3s,baz=91,slow=18,SNR=6.1						
KSRS	**Korea Array**	**13.08**	**16**	P	**P**	**06 03 14.2**	**-1.9**
	0.3nm,0.3s,baz=199,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**39.23**	**314**	P	**P**	**06 07 26.7**	**+0.7**
	1.5nm,0.4s,baz=99,slow=9.8,SNR=18						
ZALV	**Zalesovo Beam**	**40.74**	**326**	P	**P**	**06 07 38.3**	**0.0**
	1.8nm,0.4s,baz=121,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**45.85**	**166**	P	**P**	**06 08 19.2**	**-0.5**
	1.6nm,0.7s,baz=346,slow=8.7,SNR=17						
ASAR	**Alice Springs**	**49.36**	**167**	P	**P**	**06 08 47.0**	**+0.2**
	1.2nm,0.5s,baz=352,slow=10.0,SNR=19						
ILAR	**Eielson Array**	**67.64**	**28**	P	**P**	**06 10 53.0**	**-0.2**
	0.1nm,0.4s,baz=271,slow=4.9,SNR=5.1						
YKA	**Yellowknife Ar**	**81.51**	**23**	P	**P**	**06 12 13.7**	**+0.4**
	0.7nm,0.4s,baz=305,slow=5.2,SNR=5.2						
GERES	**GERESS Array B**	**83.54**	**321**	P	**P**	**06 12 25.3**	**+0.9**
	0.7nm,0.6s,baz=54,slow=5.1,SNR=2.9						

TAP 20 06:04:08.8, 23°.24N×121°.57E, h37km, ML2.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.23**	**233**	*eP*	Pn	06 04 15.8	-1.6
	baz=224						
CHKT				*eS*	Sn	06 04 20.6	-5.1
	baz=224						
FULB	**Fuli**	**0.26**	**260**	*eP*	Pn	06 04 16.3	-0.9
	baz=258						
FULB				*eS*	Sn	06 04 22.3	-2.6
	baz=258						
TWF1	**Yuli**	**0.27**	**294**	P	Pn	06 04 16.8	-0.3
	baz=294						
TWF1				*eS*	Sn	06 04 22.4	-2.1
	baz=294						
HGSD	**Ruisui**	**0.28**	**332**	*eP*	Pn	06 04 16.4	-0.6
	baz=334						
HGSD				*eS*	Sn	06 04 23.0	-1.4
	baz=334						
YULB	**Yu-li**	**0.29**	**301**	*eP*	Pn	06 04 16.8	-0.2
	baz=302						
YULB				*eS*	Sn	06 04 22.7	-1.6
	baz=302						
YULB	**Yu-li**	**0.29**	**301**		Pn	06 04 16.3	-0.7
EHY	**Hungye**	**0.35**	**319**	P	Pn	06 04 17.3	+0.1
	baz=309						
EHY				*eS*	Sn	06 04 23.6	-0.4
	baz=309						
EGFH	**Guangfu**	**0.44**	**343**	*eP*	Pn	06 04 18.7	+0.2
	baz=333						
EGFH				*eS*	Sn	06 04 25.9	+0.4
	baz=333						
ELDTW	**Lidau**	**0.51**	**264**	P	Pn	06 04 19.2	-0.4
	baz=263						
ELDTW				*eS*	Sn	06 04 26.4	-0.9
	baz=263						
ESL	**Shilin**	**0.58**	**348**	*eP*	Pn	06 04 20.0	-0.7
	baz=338						
ESL				*eS*	Sn	06 04 28.1	-1.0
	baz=338						
TWGBT	**Beinan**	**0.62**	**227**	*eP*	Pn	06 04 20.3	-0.9
	baz=236						
TWGBT				*eS*	Sn	06 04 29.1	-0.7
	baz=236						
YUS	**Yu-Shan**	**0.62**	**294**	P	Pn	06 04 21.7	+0.1
	baz=294						
YUS				*eS*	Sn	06 04 30.5	+0.1
	baz=294						
TWG	**Pinlang**	**0.62**	**227**	*eP*	Pn	06 04 20.3	-0.9
	baz=235						
TWG				*eS*	Sn	06 04 28.8	-1.1
	baz=235						
VWDT	**VWDT**	**0.64**	**323**	*eP*	Pn	06 04 21.6	+0.1
	baz=323						
VWDT				*eS*	Sn	06 04 30.4	0.0
	baz=323						
ALS	**Alishan**	**0.75**	**291**	P	Pn	06 04 23.7	+0.6
	baz=291						
ALS				*eS*	Sn	06 04 34.6	+1.2
	baz=291						
STYT	**Tauyuan**	**0.75**	**264**	*eP*	Pn	06 04 23.5	+0.6
	baz=263						
STYT				*eS*	Sn	06 04 33.5	+0.4
	baz=263						
SSLB	**Suanglung**	**0.78**	**314**	*eP*	Pn	06 04 23.5	+0.2
	baz=315						
SSLB				*eS*	Sn	06 04 33.7	-0.1
	baz=315						
SSLB	**Suanglung**	**0.78**	**314**		Pn	06 04 23.6	+0.2
TWD	**Chiawan**	**0.83**	**2**	*eP*	Pn	06 04 23.7	-0.3
	baz=350						
TWD				*eS*	Sn	06 04 35.0	-0.2
	baz=350						
ECL	**Taimali**	**0.85**	**221**	*eS*	Sn	06 04 34.0	-1.6
	baz=218						
TPUB	**Ta-pu**	**0.86**	**274**	*eP*	Pn	06 04 25.6	+1.1
	baz=273						
TPUB				*eS*	Sn	06 04 37.8	+1.9
	baz=273						
WTP	**Ta-pu**	**0.88**	**270**	P	Pn	06 04 25.9	+1.2
	baz=269						
WTP				*eS*	Sn	06 04 38.7	+2.4
	baz=269						
SLGT	**Liugui**	**0.88**	**254**	*eP*	Pn	06 04 26.5	+1.8
	baz=250						
SMLT	**Sun Moon Lake**	**0.88**	**316**	P	Pn	06 04 25.5	+0.7
	baz=321						
SMLT				*eS*	Sn	06 04 37.8	+1.2
	baz=321						
CHN5	**Tsauling**	**0.89**	**294**	*eP*	Pn	06 04 26.2	+1.4
	baz=294						
CHN5				*eS*	Sn	06 04 38.8	+2.2
	baz=294						
CHGB	**Renai**	**0.89**	**336**	*eP*	Pn	06 04 25.3	+0.3
	baz=344						
CHGB				*eS*	Sn	06 04 36.2	-0.7
	baz=344						
CHN4	**Tsaushan**	**0.90**	**277**	P	Pn	06 04 26.4	+1.5
	baz=276						
CHN4				*eS*	Sn	06 04 38.4	+1.6
	baz=276						
SGST	**Jiashian**	**0.92**	**260**	*eP*	Pn	06 04 25.7	+0.5
	baz=260						
TYC	**Yuchr**	**0.93**	**315**	P	Pn	06 04 26.2	+0.9
	baz=325						
TYC				*eS*	Sn	06 04 38.6	+1.2
	baz=325						
NACB	**Ninganchiao**	**0.93**	**2**	*eP*	Pn	06 04 24.9	-0.4
	baz=352						
NACB				*eS*	Sn	06 04 36.4	-1.0
	baz=352						
WHF	**Hehuan Shan**	**0.94**	**343**	P	Pn	06 04 26.2	+0.3
	baz=345						
WHF				*eS*	Sn	06 04 37.5	-0.8
	baz=345						
CHN1	**Nanshi**	**0.96**	**267**	P	Pn	06 04 27.3	+1.6
	baz=265						
CHN1				*eS*	Sn	06 04 41.1	+2.9
	baz=265						
WJS	**Zhushan**	**0.96**	**307**	*eP*	Pn	06 04 27.5	+1.7
	baz=308						
ETLH	**Xiulin Townshi**	**0.96**	**355**	*eP*	Pn	06 04 25.5	-0.4
	baz=357						
ETLH				*eS*	Sn	06 04 38.2	-0.2
	baz=357						
DPDB	**Guoxing**	**0.98**	**323**	*eS*	Sn	06 04 40.4	+1.6
	baz=332						
SNST	**Tainan City**	**0.98**	**269**	*eP*	Pn	06 04 27.4	+1.4
	baz=267						
SNST				*eS*	Sn	06 04

baz=227
TDCB Techi 1.07 340 *e*P Pn 06 04 28.2 +0.8
baz=348
TDCB *e*S Sn 06 04 40.7 -0.4
baz=348
EAST Anshuo 1.08 218 *e*P Pn 06 04 26.9 -0.5
baz=216
WHP Taichung City 1.18 331 *e*P Pn 06 04 30.9 +2.1
baz=338
WHP *e*S Sn 06 04 46.2 +2.5
baz=338
ENA Nanau 1.19 8 *e*P Pn 06 04 28.8 -0.1
baz=18
ENA *e*S Sn 06 04 43.7 -0.2
baz=18
NANB Nanao 1.19 8 *e*P Pn 06 04 28.6 -0.3
baz=18
NANB *e*S Sn 06 04 43.7 -0.2
baz=18
NNSB Datong 1.19 352 *e*P Pn 06 04 29.7 +0.6
baz=5.0
LAY Lan-yu 1.20 181 *e*P Pn 06 04 29.8 +0.8
baz=171
NNS Nan Shan 1.21 352 *e*P Pn 06 04 30.2 +1.0
baz=5.0
TWQ1 Liyutan 1.32 327 P Pn 06 04 32.8 +2.1
baz=329
TWQ1 *e*S Sn 06 04 50.4 +3.4
baz=329
NSY Sanyi 1.38 328 *e*P Pn 06 04 33.9 +2.3
baz=330
NSY *e*S Sn 06 04 52.3 +3.7
baz=330
ENTT Nioudou 1.39 360 *e*P Pn 06 04 32.5 +0.8
baz=2.0
ENTT *e*S Sn 06 04 49.2 +0.3
baz=2.0
EOS1 EOS1 1.40 21 *e*S Sn 06 04 50.1 +1.2
baz=33
YHNB Yeheng 1.43 353 *e*P Pn 06 04 32.9 +0.6
baz=355
YHNB *e*S Sn 06 04 50.3 +0.4
baz=355
NSK Sanguang 1.44 352 *e*P Pn 06 04 32.5 +0.1
baz=7.0
LIOB Emei 1.49 340 *e*P Pn 06 04 34.4 +1.5
baz=342
LIOB *e*S Sn 06 04 52.5 +1.3
baz=342

IDC 20 06:10:07.2±2.0, 6°.20S×150°.22E, h77km±25km, mb3.7/3, mb1 3.9/5, mb1mx3.5/32, mbtmp4.1/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/29, Error ellipse: s-maj=78.5km s-min=16.3km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.60**	**44**	P	Pn	06 10 47.1	0.0
	38nm,0.3s,baz=244,slow=3.9,SNR=9.9						
PMG	**Port Moresby**	**4.40**	**223**	P	Pn	06 11 11.5	0.0
	6.2nm,0.3s,baz=49,slow=12,SNR=5.5						
PMG				S	Sn	06 12 02.4	+0.8
	11nm,0.3s,baz=97,slow=21,SNR=8.2						
PMG				LR	LR	06 12 49.5	
	comp=Z,318nm,20.0s,baz=319,slow=37						
WRA	**Warramunga Arr**	**20.61**	**227**	P	P	06 14 40.7	+0.3
	3.3nm,0.5s,baz=52,slow=11,SNR=50						
ASAR	**Alice Springs**	**23.41**	**220**	P	P	06 15 10.1	+0.5
	1.4nm,0.3s,baz=53,slow=9.0,SNR=28						
STKA	**Stephens Creek**	**26.79**	**196**	P	P	06 15 39.3	-0.8
	1.6nm,0.5s,baz=25,slow=14,SNR=4.6						

KRSC 20 06:29:31.5±1.1, 50°.86N×157°.97E, h41km±20km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.95**	**310**	*e*P	Pn	06 29 50.2	+1.9
PAU				*e*S	Sn	06 30 02.7	+2.1
SKR	**Severo-Kuril's**	**1.19**	**262**	*e*P	Pn	06 29 52.8	+1.2
SKR				*e*S	Sn	06 30 07.0	+0.5
ASAK	**Asacha**	**1.52**	**358**	*e*P	Pn	06 29 58.4	+2.1
ASAK				*e*S	Sn	06 30 17.0	+2.1
ALID	**Alaid**	**1.53**	**271**	*e*P	Pn	06 29 58.4	+2.0
ALID				*e*S	Sn	06 30 17.6	+2.4
RUS	**Russkaya**	**1.61**	**12**	*e*P	Pn	06 29 59.1	+1.8
RUS				*e*S	Sn	06 30 18.1	+1.2
MTVR	**Mutnovka**	**1.63**	**5**	*e*P	Pn	06 30 00.0	+2.2
MTVR				*e*S	Sn	06 30 19.8	+2.2
GRL	**Gorelyy**	**1.69**	**2**	*e*P	Pn	06 30 00.8	+2.2
GRL				*e*S	Sn	06 30 21.8	+2.7
KRMR	**Karymshinskiy**	**1.97**	**3**	*e*P	Pn	06 30 05.3	+3.0
KRMR				*e*S	Sn	06 30 29.3	+3.5
APC	**Apacha**	**2.13**	**347**	*e*P	Pn	06 30 07.0	+2.6
APC				*e*S	Sn	06 30 32.1	+2.5
DALK	**Dalny**	**2.23**	**12**	*e*P	Pn	06 30 08.3	+2.5
DALK				*e*S	Sn	06 30 34.6	+2.6
UGLR	**Uglovaya**	**2.41**	**12**	P	Pn	06 30 11.1	+2.7
AVH	**Avacha**	**2.45**	**11**	*e*P	Pn	06 30 11.8	+2.8
AVH				*e*S	Sn	06 30 40.5	+2.7
SMAR	**Somma**	**2.46**	**12**	*e*P	Pn	06 30 12.9	+3.7
NLC	**Nalytchevo**	**2.46**	**20**	*e*S	Sn	06 30 38.9	+1.0
KOK	**Koryaka**	**2.47**	**9**	*e*P	Pn	06 30 13.1	+3.9
KRER	**Koryakskii**	**2.49**	**11**	*e*P	Pn	06 30 13.1	+3.4
KRX	**Arik**	**2.54**	**9**	*e*P	Pn	06 30 13.5	+3.3
SPN	**Mys Shipunski**	**2.58**	**29**	*e*P	Pn	06 30 12.9	+2.3
SPN				*e*S	Sn	06 30 43.2	+2.6
GNL	**Ganaly**	**2.84**	**360**	*e*P	Pn	06 30 17.6	+3.3
KZV	**Kizimen**	**4.48**	**17**	*e*P	Pn	06 30 41.9	+4.9
TUMR	**Tumrok**	**4.62**	**16**	*e*P	Pn	06 30 42.8	+4.0

*ISCJB **20** 06:56:29.1±0.6, 19°.79N±0°.05×75°.73W±0°.04, h37km±12km, Error ellipse: s-maj=9.5km s-min=6.1km az=157.1*
*SSNC **20** 06:56:29.6±1.3, 19°.69N×75°.65W, h4km±12km, MD2.7, ML2.6, MW3.0*
*JSN **20** 06:56:33.5±0.7, 19°.46N×75°.66W, h30km±999km, MD3.6*
ISC 20 06:56:26.2±1.2, 19°.60N±0°.05×75°.68W±0°.05, h30km±12km, n8, σ1°.07/14, 2C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.39**	**357**	*e*P	**Pn**	**06 56 36.3**	**+0.5**
RCC				*e*S	**Sb**	**06 56 40.4**	**-0.5**
RCC				IAML		06 56 40.7	
	comp=N,1μm,0.1s						
RCC				IAML		06 56 40.8	
	comp=E,2μm,0.1s						
MOAC	**Moa**	**1.25**	**32**	*e*P	**Pb**	**06 56 49.5**	**+0.3**
MOAC				*e*S	**Sn**	**06 57 02.9**	**-0.6**
MOAC				IAML		06 57 07.9	
	comp=N,94nm,0.4s						
MOAC				IAML		06 57 09.3	
	comp=E,86nm,0.3s						
LMGC	**Las Mercedes**	**1.33**	**291**	*e*P	**Pb**	**06 56 51.2**	**+0.7**
LMGC				*e*S	**Sn**	**06 57 05.9**	**+0.4**
LMGC				IAML		06 57 06.5	
	comp=E,132nm,0.1s						
LMGC				IAML		06 57 06.7	
	comp=N,209nm,0.1s						
MASC	**Masc**	**1.48**	**67**	*e*P	**Pb**	**06 56 53.2**	**+0.2**
MASC				*e*S	**Sb**	**06 57 11.0**	**-0.4**
MASC				IAML		06 57 16.3	
	comp=E,34nm,0.2s						
MASC				IAML		06 57 18.4	
	comp=N,30nm,0.3s						
STH	**Stony Hill**	**1.86**	**215**	⇓*i*P	**Pb**	**06 57 00.7**	**+1.3**
PCJ	**Portland Cotta**	**2.32**	**217**	⇑*i*P	**Pb**	**06 57 08.1**	**+0.7**
CCCC	**Cccc**	**2.52**	**309**	*e*P	**Pn**	**06 57 05.8**	**+0.6**
CCCC				*e*S	**Sn**	**06 57 33.8**	**-1.1**
CCCC				IAML		06 57 37.5	
	comp=N,7.5nm,0.3s						
CCCC				IAML		06 57 38.4	
	comp=E,10nm,0.3s						
MCJ	**Malvern**	**2.53**	**229**	⇑*i*P	**Pb**	**06 57 11.1**	**+0.1**
MCJ				*i*S	**Sb**	**06 57 39.3**	**-2.4**

IDC 20 06:58:24.9±11.0, 2°.55S×128°.31E, h640km±218km, mb2.6/3, mb1 2.8/5, mb1mx2.5/56, mbtmp3.7/5, Error ellipse: s-maj=112.4km s-min=45.2km az=55.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.67**	**189**	P	P	07 01 38.3	+0.7
	0.2nm,0.3s,baz=12,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**18.26**	**162**	P	P	07 02 01.2	0.0
	0.7nm,0.3s,baz=339,slow=10,SNR=31						
ASAR	**Alice Springs**	**21.68**	**166**	P	P	07 02 32.8	+0.9
	0.3nm,0.5s,baz=350,slow=7.3,SNR=9.3						
STKA	**Stephens Creek**	**31.74**	**158**	P	P	07 03 58.7	-0.6
	2.5nm,0.5s,baz=338,slow=9.5,SNR=5.5						
SONM	**Songino Array**	**53.72**	**342**	P	P	07 06 49.3	+0.1
	0.3nm,0.6s,baz=146,slow=12,SNR=3.5						

*SOME **20** 07:01:05.2, 43°.00N×74°.85E*
*ISCJB **20** 07:01:06.4±0.6, 43°.03N±0°.03×74°.90E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=3.9km az=147.4*
*KNET **20** 07:01:06.2±0.4, 43°.02N×74°.89E, h8km±3km, ml1.2, Error ellipse: s-maj=3.5km s-min=1.9km az=61.0*
*NNC **20** 07:01:07.0±1.9, 43°.03N×74°.88E, h0km, mpv2.7, Error ellipse: s-maj=18.3km s-min=10.0km az=170.0, Suspected Mining explosion.*
ISC 20 07:01:07.3±1.0, 43°.03N±0°.03×74°.88E±0°.03, h0km, n11, σ0°.79/18, 5C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.10**	**249**	⇑P	**Pg**	**07 01 08.6**	**-0.6**
	21nm,0.1s,SNR=56						
CHMS				⇓S	**Sg**	**07 01 10.6**	**+0.2**
	57nm,0.1s						
USP	**Ospenovka**	**0.36**	**310**	⇓P	**Pg**	**07 01 13.5**	**-0.8**
	14nm,0.1s,SNR=11						
USP				⇓S	**Sg**	**07 01 19.0**	**+0.1**
	11nm,0.1s						
KBK	**Karagaybulak**	**0.38**	**172**	⇑P	**Pg**	**07 01 14.0**	**-0.6**
	14nm,0.1s,SNR=5.7						
SGDS	**Sogindy**	**0.46**	**337**	P	**Pg**	**07 01 15.0**	**-1.1**
	3.0nm,0.2s						
SGDS				S	**Sg**	**07 01 22.1**	**+0.1**
	6.2nm,0.1s						
AAK	**Ala-Archa**	**0.48**	**215**	⇑P	**Pg**	**07 01 16.0**	**-0.6**
	2.1nm,0.1s,SNR=6.3						
AAK				⇑S	**Sg**	**07 01 23.3**	**+0.4**
	5.5nm,0.2s						
DGS	**Degeres**	**0.69**	**72**	P	**Pg**	**07 01 19.1**	**-1.4**
	2.1nm,0.2s						
DGS				S	**Sg**	**07 01 29.2**	**-0.3**
	7.4nm,0.7s						
UCH	**Uchtor**	**0.85**	**198**	P	**Pg**	**07 01 22.6**	**-1.0**
	0.8nm,0.1s,SNR=8.4						
EKS2	**Erkin-Say**	**0.89**	**246**	⇓P	**Pg**	**07 01 23.7**	**-0.7**
	2.1nm,0.1s,SNR=14						
MRKS	**Merke**	**1.25**	**257**	P	**Pg**	**07 01 30.3**	**-0.9**
	1.9nm,0.1s						
MRKS				S	**Sb**	**07 01 48.6**	**+0.1**
	5.1nm,0.2s						
KUU	**Kurty**	**1.37**	**51**	P	**Pg**	**07 01 33.4**	**-0.1**
	1.5nm,0.1s						
KUU				S	**Sn**	**07 01 53.9**	**+1.3**
	4.4nm,0.3s						
MK31	**Makanchi Array**	**6.47**	**52**	Pg	**Pn**	**07 02 44.2**	**+0.5**
	1.6nm,0.8s,baz=276,slow=37,SNR=4.0						
MK31				⇑Lg	Lg	07 03 46.0	
	3.9nm,0.7s,baz=2.4,slow=28,SNR=3.6						

*ISCJB **20** 07:01:47.3±0.3, 18°.56N±0°.06×145°.33E±0°.05, h500km, mb3.9/27, Error ellipse: s-maj=8.2km s-min=6.1km az=168.1*
*IDC **20** 07:01:50.5±1.8, 18°.52N×145°.28E, h529km±19km, mb3.4/23, mb1 3.5/27, mb1mx3.4/61, mbtmp4.3/27, Error ellipse: s-maj=13.0km s-min=9.5km az=107.0*
*NEIC **20** 07:01:50.2±1.4, 18°.4N±0°.1×145°.3E±0°.1, h531km±7km, mb4.3/96*
ISC 20 07:01:48.5±0.5, 18°.49N±0°.08×145°.29E±0°.09, h500km, n146, σ1°.44/141, mb4.2/68, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.84**	**165**	P	**P**	**07 02 55.3**	**+2.3**
ANA2	**Anatahan**	**2.17**	**169**	P	**P**	**07 02 57.2**	**+2.6**
GUMO	**Guam**	**4.88**	**185**	P	**P**	**07 03 16.0**	**+1.5**
JCJ	**Chichijima**	**9.03**	**342**	P	**P**	**07 03 58.3**	**+2.8**
	26nm,0.3s,baz=267,slow=21,SNR=5.8						
JHJ2	**Mitsune**	**15.37**	**342**	P	**P**	**07 05 06.1**	**+3.7**
JOW	**Kunigami**	**17.75**	**301**	P	**P**	**07 05 27.1**	**+0.5**
	0.7nm,0.3s,baz=100,slow=16,SNR=8.2						
JOW	**Kunigami**	**17.75**	**301**	P	**P**	**07 05 27.1**	**+0.5**
MJAR	**Matsushiro Arr**	**19.04**	**342**	P	**P**	**07 05 38.2**	**-0.1**
	0.2nm,0.3s,baz=151,slow=8.2,SNR=6.3						
MAT	**Matsushiro**	**19.04**	**342**	P	**P**	**07 05 38.6**	**+0.4**
JNU	**Nakatsue**	**19.48**	**321**	P	**P**	**07 05 42.7**	**+0.3**
	0.5nm,0.3s,baz=88,slow=15,SNR=4.3						
JNU	**Nakatsue**	**19.48**	**321**	P	**P**	**07 05 42.6**	**+0.3**
YULB	**Yu-li**	**22.92**	**286**	P	**P**	**07 06 14.0**	**+0.5**
YULB				IAmb	IAmb	07 06 21.0	
	comp=Z,9.1nm,0.8s						
YHNB	**Yeheng**	**23.06**	**290**	P	**P**	**07 06 14.9**	**+0.1**
SSLB	**Suanglung**	**23.29**	**287**	P	**P**	**07 06 17.3**	**+0.5**
KSRS	**Korea Array**	**24.26**	**325**	P	**P**	**07 06 24.8**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=151,slow=9.8,SNR=7.8						
NJ2	**Nanjing**	**27.37**	**305**	*e*P	**P**	**07 06 53.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
PETK	**Petropavlovsk-**	**35.88**	**13**	P	**P**	**07 08 06.1**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=188,slow=8.7,SNR=5.4						
PETK	**Petropavlovsk-**	**35.88**	**13**	P	**P**	**07 08 05.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**36.47**	**315**	*e*P	**P**	**07 08 11.4**	**+0.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,10.0nm,6.0s						
WRA	**Warramunga Arr**	**39.67**	**196**	P	**P**	**07 08 36.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=19,slow=8.3,SNR=6.7						
WRA				PcP	**PcP**	**07 10 30.3**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=16,slow=3.2,SNR=5.4						
WRA				ScP	**ScP**	**07 13 28.7**	**-3.8**
	comp=Z,0.2nm,0.6s,baz=17,slow=4.2,SNR=4.5						
LZH	**Lanzhou**	**40.44**	**304**	*e*P	**P**	**07 08 41.6**	**-1.5**
LZH				pP	pP	07 10 13.5	+1.3
LZH				PP	**PP**	**07 10 27.1**	**-3.7**
LZH				sP	sP	07 11 19.1	+11
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,5.4s						
FITZ	**Fitzroy Crossi**	**41.17**	**209**	P	**P**	**07 08 48.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=30,slow=9.8,SNR=7.9						
FITZ				PcP	**PcP**	**07 10 35.7**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=27,slow=2.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**41.17**	**209**	IAmb	IAmb	07 08 49.9	
	comp=Z,5.9nm,1.2s						
SONM	**Songino Array**	**43.07**	**322**	P	**P**	**07 09 04.0**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.3,SNR=4.2						
SONM				PcP	**pwP**	**07 10 41.5**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=145,slow=5.4,SNR=3.9						
SONM	**Songino Array**	**43.07**	**322**	P	**P**	**07 09 03.6**	**0.0**
AS31	**Alice Springs**	**43.34**	**199**	P	P	07 09 03.1	-2.9
ASAR	**Alice Springs**	**43.34**	**195**	P	**P**	**07 09 05.3**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=18,slow=7.5,SNR=7.2						
ASAR				PcP	**pwP**	**07 10 43.0**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=24,slow=3.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**43.86**	**278**	P	**P**	**07 09 10.9**	**+0.8**
	comp=Z,2.8nm,0.5s,baz=70,slow=6.6,SNR=14						
SEY	**Seymchan**	**44.68**	**5**	P	**P**	**07 09 16.1**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=172,slow=6.6,SNR=7.4						
BBOO	**Buckleboo**	**51.76**	**190**	P	P	07 10 02.6	-6.5
TIXI	**Tiksi**	**54.04**	**354**	P	**P**	**07 10 24.0**	**-0.8**
WMQ	**Urumqi**	**54.16**	**311**	*e*P	**P**	**07 10 27.3**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,71nm,4.3s						
WMQ				LR	LR		
	comp=N,1μm,28.8s						
WMQ				LR	LR		
	comp=E,690nm,28.9s						
WMQ				LR	LR		
	comp=Z,130nm,29.0s						
CHGN	**Chignik**	**56.28**	**34**	P	**P**	**07 10 40.6**	**0.0**
CHGN				IAmb	IAmb	07 10 41.3	
	comp=Z,17nm,1.3s						
CHIR	**Chirikof Islan**	**57.63**	**35**	P	**P**	**07 10 50.8**	**+0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**58.33**	**314**	P	**P**	**07 10 55.0**	**-0.1**
MKAR	**Makanchi Array**	**58.33**	**314**	P	**P**	**07 10 54.9**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=91,slow=7.9,SNR=17						
MKAR				PcP	**PcP**	**07 11 37.9**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=88,slow=4.1,SNR=4.2						
MKAR	**Makanchi Array**	**58.33**	**314**	P	**P**	**07 10 54.5**	**-0.5**
SII	**Sitkinak Islan**	**58.60**	**34**	P	**P**	**07 10 57.0**	**+0.4**
SVW2	**Sparrevohn**	**59.20**	**29**	P	**P**	**07 11 01.0**	**+0.4**
OHAK	**Old Harbor**	**59.24**	**34**	P	**P**	**07 11 01.2**	**+0.3**
OHAK				IAmb	IAmb	07 11 13.8	
	comp=Z,18nm,1.3s						
KDAK	**Kodiak Island**	**59.75**	**33**	P	**P**	**07 11 03.9**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=228,slow=1.7,SNR=26						
KDAK	**Kodiak Island**	**59.75**	**33**	P	**P**	**07 11 04.3**	**0.0**
KDAK				IAmb	IAmb	07 11 12.1	
	comp=Z,17nm,1.1s						
CNPM	**China Poot**	**60.85**	**31**	P	**P**	**07 11 10.9**	**-0.7**
BRLK	**Bradley Lake**	**61.07**	**31**	P	**P**	**07 11 11.8**	**-1.3**
KURK	**Kurchatov**	**61.17**	**318**	P	**P**	**07 11 13.6**	**-0.3**
KURBB	**Kurchatov Arra**	**61.22**	**318**	P	**P**	**07 11 13.7**	**-0.5**
	comp=Z,7.4nm,0.5s,baz=97,slow=7.1,SNR=45						
SKT	**Skwentna**	**61.31**	**29**	P	**P**	**07 11 14.0**	**-0.6**
SUA	**Susitna One**	**61.55**	**29**	P	**P**	**07 11 16.2**	**-0.1**
IMAR	**Indian Mountai**	**61.57**	**24**	P	**P**	**07 11 15.8**	**-0.4**
NRIK	**Noril'sk**	**61.68**	**340**	P	**P**	**07 11 16.5**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=106,slow=8.1,SNR=5.1						
SEW	**Seward**	**61.85**	**31**	P	**P**	**07 11 18.4**	**+0.2**
RC01	**Rabbit Creek A**	**61.93**	**30**	P	**P**	**07 11 18.1**	**-0.6**
RC01				IAmb	IAmb	07 11 18.2	
	comp=Z,6.5nm,0.8s						
TRF	**Thorofare Moun**	**62.25**	**27**	P	**P**	**07 11 20.1**	**-0.8**
TRF				IAmb	IAmb	07 11 21.1	
	comp=Z,15nm,1.3s						
PMR	**Palmer**	**62.33**	**29**	P	**P**	**07 11 20.3**	**-0.9**
PMR				IAmb	IAmb	07 11 20.6	
	comp=Z,6.7nm,0.8s						
GHO	**Glory Hole Cre**	**62.46**	**29**	P	**P**	**07 11 21.7**	**-0.5**
GHO				IAmb	IAmb	07 11 22.4	
	comp=Z,6.5nm,0.7s						
MLY	**Manley**	**62.48**	**25**	P	**P**	**07 11 22.0**	**-0.2**
MLY				IAmb	IAmb	07 11 23.0	
	comp=Z,7.0nm,0.9s						
KNK	**Knik Glacier**	**62.60**	**30**	P	**P**	**07 11 22.5**	**-0.5**
KNK				IAmb	IAmb	07 11 23.3	
	comp=Z,13nm,0.8s						
KSH	**Kashi**	**62.67**	**305**	P	**P**	**07 11 26.6**	**+2.5**
KSH				PP	**PP**	**07 13 55.1**	**+5.2**
KSH				S	**S**	**07 19 10.0**	**-3.5**
KSH				ScS	SKSac	07 20 17.9	-9.0
KSH	**Kashi**	**62.67**	**305**	sS	sS	07 22 22.4	+8.7
KSH	**Kashi**	**62.67**	**305**	SS	SS	07 23 31.3	+1.9
KSH				pmax	pmax		
	comp=Z,270nm,5.5s						
KSH				LR	LR		
	comp=N,170nm,8.9s						
KSH				LR	LR		
	comp=E,210nm,6.7s						
KSH				LR	LR		
	comp=Z,110nm,10.3s						
SML	**Sawmill**	**62.75**	**29**	P	**P**	**07 11 21.5**	**-2.5**
SML				IAmb	IAmb	07 11 24.2	
	comp=Z,12nm,0.9s						
RND	**Reindeer**	**62.86**	**27**	P	**P**	**07 11 23.8**	**-1.0**
SCM	**Sheep Creek Mo**	**63.22**	**29**	P	**P**	**07 11 27.0**	**-0.1**
FID	**Port Fidalgo**	**63.42**	**31**	P	**P**	**07 11 27.6**	**-0.8**
WRH	**Wood River Hil**	**63.44**	**26**	P	**P**	**07 11 26.9**	**-1.4**
WRH				IAmb	IAmb	07 11 27.9	
	comp=Z,4.9nm,0.7s						
DHY	**Denali Highway**	**63.44**	**28**	P	**P**	**07 11 28.1**	**-0.5**
MDM	**Murphy Dome**	**63.49**	**26**	P	**P**	**07 11 28.7**	**0.0**
MDM				IAmb	IAmb	07 11 29.5	
	comp=Z,7.7nm,0.8s						
CCB	**Clear Creek Bu**	**63.59**	**26**	P	**P**	**07 11 28.2**	**-1.1**
HDA	**Harding Lake**	**63.91**	**27**	P	**P**	**07 11 29.7**	**-1.7**
HDA				IAmb	IAmb	07 11 30.5	
	comp=Z,5.0nm,0.9s						
TOLK	**Toolik Lake Re**	**63.93**	**22**	P	**P**	**07 11 31.9**	**+0.4**
TOLK				IAmb	IAmb	07 11 32.7	
	comp=Z,12nm,1.1s						
IL31		**64.01**	**26**	P	**P**	**07 11 30.0**	**-1.9**
ILAR	**Eielson Array**	**64.01**	**26**	P	**P**	**07 11 30.1**	**-1.8**
	comp=Z,2.9nm,0.5s,baz=244,slow=6.1,SNR=67						
ILAR	**Eielson Array**	**64.01**	**26**	P	**P**	**07 11 29.9**	**-2.1**
PAX	**Paxson**	**64.28**	**28**	P	**P**	**07 11 33.7**	**-0.2**
HMT	**Hamilton**	**64.45**	**31**	P	**P**	**07 11 35.0**	**+0.1**
RIDG	**Independent Ri**	**64.69**	**28**	P	**P**	**07 11 36.0**	**-0.4**
RIDG				IAmb	IAmb	07 11 36.6	
	comp=Z,6.1nm,0.6s						
PRP	**Porcupine Dome**	**64.72**	**26**	P	**P**	**07 11 34.7**	**-2.0**
DOT	**Dot Lake**	**65.02**	**28**	P	**P**	**07 11 37.9**	**-0.6**
DOT				IAmb	IAmb	07 11 38.5	
	comp=Z,8.4nm,0.6s						
FYU	**Fort Yukon**	**65.05**	**24**	IAmb	IAmb	07 11 38.8	
	comp=Z,11nm,0.8s						
CRQM	**Cirque**	**65.05**	**31**	P	**P**	**07 11 39.2**	**+0.3**
SCRK	**Sand Creek**	**65.10**	**27**	P	**P**	**07 11 38.6**	**-0.5**
SCRK				IAmb	IAmb	07 11 39.0	
	comp=Z,8.7nm,1.2s						
MCARA	**McCarthy VSAT**	**65.18**	**30**	P	**P**	**07 11 39.6**	**+0.1**
MCARA				IAmb	IAmb	07 11 56.2	
	comp=Z,13nm,1.2s						
BALM	**Baldy**	**65.47**	**31**	P	**P**	**07 11 41.2**	**-0.2**
BALM				IAmb	IAmb	07 11 56.7	
	comp=Z,9.0nm,1.2s						
BMAR	**Burnt Mountain**	**65.47**	**24**	P	**P**	**07 11 41.7**	**+0.5**
MESA	**MESA**	**65.57**	**32**	P	**P**	**07 11 42.7**	**+0.5**
CTGM	**Chitina Glacie**	**65.95**	**31**	P	**P**	**07 11 44.1**	**-0.4**
CTGM				IAmb	IAmb	07 11 45.1	
	comp=Z,8.8nm,1.0s						
BCAR	**Beaver Creek A**	**65.95**	**28**	P	**P**	**07 11 44.3**	**-0.1**
BVAR	**Borovoye Array**	**66.39**	**320**	P	**P**	**07 11 46.4**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=93,slow=7.4,SNR=14						
EGAK	**Eagle**	**66.43**	**27**	P	**P**	**07 11 46.6**	**-0.6**
EGAK				IAmb	IAmb	07 11 54.1	
	comp=Z,9.2nm,1.4s						
KKAR	**Karatay Array**	**66.60**	**310**	P	**P**	**07 11 48.6**	**-0.2**
BCPM	**Bancas Point**	**66.71**	**32**	P	**P**	**07 11 50.4**	**+1.3**
HYT	**Haines Junctio**	**67.81**	**31**	P	**P**	**07 11 56.7**	**+0.7**
HYT				IAmb	IAmb	07 11 57.8	
	comp=Z,7.8nm,0.8s						
EPYK	**Eagle Plains**	**68.41**	**25**	P	**P**	**07 11 59.3**	**-0.1**
WHY	**Whitehorse**	**69.10**	**31**	P	**P**	**07 12 04.1**	**+0.3**
WHY				IAmb	IAmb	07 12 04.7	
	comp=Z,8.9nm,1.1s						
INK	**Inuvik**	**69.72**	**23**	P	**P**	**07 12 06.3**	**-0.8**
	comp=Z,4.9nm,0.8s

PNTR	**Pine Nut**	**82.41**	**51**	P	**P**	**07 13 18.4**	**+0.1**
PNTR				IAmb	IAmb	07 13 19.1	
	comp=Z,7.6nm,0.9s						
ARCES	**ARCESS Array B**	**82.58**	**342**	P	**P**	**07 13 16.8**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=69,slow=6.6,SNR=4.7						
YERR	**Yerington**	**82.71**	**51**	IAmb	IAmb	07 13 20.4	
	comp=Z,4.6nm,0.7s						
MDPB	**Devils Postpil**	**83.24**	**53**	P	**P**	**07 13 22.2**	**-0.4**
OMMB	**Old Mammoth Mi**	**83.31**	**53**	P	**P**	**07 13 21.0**	**-2.0**
RYN	**Ryan**	**83.35**	**52**	P	**P**	**07 13 21.9**	**-1.0**
KVN	**Kaiserville**	**83.53**	**51**	P	**P**	**07 13 23.4**	**-0.5**
KVN				IAmb	IAmb	07 13 24.0	
	comp=Z,3.6nm,0.6s						
NVAR	**Mina Array Bea**	**83.58**	**52**	P	**P**	**07 13 24.0**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=266,slow=5.9,SNR=51						
NVAR	**Mina Array Bea**	**83.58**	**52**	P	**P**	**07 13 23.8**	**-0.4**
MFID	**Camas Ranch**	**83.74**	**46**	IAmb	IAmb	07 13 25.3	
	comp=Z,9.3nm,0.8s						
ISA	**Isabella, Lake**	**84.32**	**54**	IAmb	IAmb	07 13 29.6	
	comp=Z,8.0nm,1.5s						
ELK	**Elko**	**85.05**	**49**	P	**P**	**07 13 30.5**	**-1.0**
ELK				IAmb	IAmb	07 13 32.0	
	comp=Z,6.1nm,1.0s						
TPNV	**Topopah Spring**	**85.60**	**53**	IAmb	IAmb	07 13 34.5	
	comp=Z,5.2nm,0.7s						
HVU	**Hansel Valley**	**86.42**	**47**	P	**P**	**07 13 37.1**	**-0.8**
PSUT	**Pine Spring**	**86.83**	**50**	P	**P**	**07 13 39.1**	**-0.8**
FINES	**FINESS Array B**	**86.91**	**335**	P	**P**	**07 13 37.4**	**-2.1**
	comp=Z,4.7nm,1.1s,baz=74,slow=4.1,SNR=4.9						
DUG	**Dugway, Tooele**	**86.98**	**49**	IAmb	IAmb	07 13 41.0	
	comp=Z,3.1nm,0.7s						
CCUT	**Cedar City**	**87.55**	**51**	P	**P**	**07 13 42.4**	**-0.9**
W13A	**Hualapai Mount**	**88.04**	**54**	P	**P**	**07 13 44.3**	**-1.4**
W13A				IAmb	IAmb	07 13 45.9	
	comp=Z,2.5nm,0.7s						
MSU	**Marysvale**	**88.06**	**50**	P	**P**	**07 13 45.0**	**-0.7**
PDAR	**Pinedale Array**	**88.25**	**45**	P	**P**	**07 13 45.2**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=242,slow=2.9,SNR=4.0						
U15A	**North Rim**	**88.76**	**52**	IAmb	IAmb	07 13 50.1	
	comp=Z,3.2nm,1.1s						
SRU	**San Rafael Swe**	**89.02**	**49**	P	**P**	**07 13 49.3**	**-0.8**
Y14A	**Wickenburg**	**89.14**	**55**	P	**P**	**07 13 49.5**	**-1.1**
Y14A				IAmb	IAmb	07 13 51.3	
	comp=Z,4.7nm,0.9s						
SMCO	**Snowmass**	**91.52**	**48**	IAmb	IAmb	07 14 02.3	
	comp=Z,3.1nm,0.8s						
PB11	**IPOC Station P**	**146.99**	**98**		**PKPdf**	**07 20 35.0**	**+2.2**
MNMC	**Minye Minye**	**147.00**	**97**		**PKPdf**	**07 20 35.6**	**+2.7**
GO01	**Chusmiza**	**147.42**	**98**	PKPdf	**PKPdf**	**07 20 30.9**	**-3.0**
GO01					**PKPbc**	**07 20 34.0**	**-3.2**
GO01				PKPab	**PKiKP**	**07 20 37.2**	**-1.6**
LVC	**Limon Verde**	**147.76**	**103**	PKPbc	**PKPdf**	**07 20 37.6**	**+3.5**
	comp=Z,3.5nm,0.5s,baz=268,slow=8.3,SNR=7.4						
LPAZ	**La Paz**	**148.06**	**91**	PKPbc	**PKPdf**	**07 20 38.7**	**+3.5**
	comp=Z,3.1nm,0.5s,baz=296,slow=2.4,SNR=16						
SAML	**Samuel**	**150.80**	**75**		**PKPdf**	**07 20 43.8**	**+5.0**

*ISCJB **20** 07:10:12.9±0.6, 56°.5S±0°.2×150°.8W±0°.2, h10km, mb4.3/8, MS3.5/2, Error ellipse: s-maj=23.9km s-min=12.9km az=2.8*

*IDC **20** 07:10:13.3±0.6, 56°.61S×150°.80W, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.1/32, mbtmp4.3/8, MS3.4/1, Ms1 3.4/1, ms1mx2.8/23, Error ellipse: s-maj=37.9km s-min=18.0km az=7.0*

*NEIC **20** 07:10:14.8±1.4, 56°.6S±0°.2×150°.8W±0°.2, h10km±1km, mb4.5/11*

ISC 20 07:10:14.7±0.7, 56°.6S±0°.2×150°.7W±0°.1, h10km, n46, σ0.88/30, mb4.5/10, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.78**	**199**	P	**P**	**07 15 47.3**	**+2.1**
URZ	**Urewera**	**28.08**	**297**	LR	LR	07 24 51.9	
	comp=Z,72nm,18.3s,baz=122,slow=31						
QSPA	**South Pole Qui**	**33.56**	**180**	P	**P**	**07 16 54.6**	**+0.1**
	5.5nm,1.0s,baz=56,slow=4.6,SNR=10						
QSPA	**South Pole Qui**	**33.56**	**180**	P	**P**	**07 16 54.8**	**+0.3**
QSPA				IAmb	IAmb	07 16 58.5	
	comp=Z,7.3nm,1.1s						
PAE	**Paea**	**38.87**	**2**	*e*T	T	07 59 10.0	
	comp=Z,1.0nm,0.3s						
PPT2	**Papeete2**	**38.94**	**2**	*e*LR	LR	07 28 03.5	
	comp=Z,143nm,29.0s						
VAH	**Vaihoa**	**41.34**	**4**	*e*T	T	08 02 12.8	
	comp=Z,34nm,0.2s						
SNAA	**Sanae**	**50.06**	**167**	P	**P**	**07 19 07.0**	**-2.0**
SNAA				IAmb	IAmb	07 19 11.0	
	comp=Z,6.4nm,1.5s						
STKA	**Stephens Creek**	**51.95**	**268**	P	**P**	**07 19 24.9**	**+1.3**
	comp=Z,5.2nm,0.8s,baz=153,slow=9.0,SNR=5.8						
STKA	**Stephens Creek**	**51.95**	**268**	IAmb	IAmb	07 19 28.4	
	comp=Z,1.5nm,1.0s						
GO04	**Tololo Observa**	**59.96**	**100**	P	**P**	**07 20 21.7**	**+0.4**
ASAR	**Alice Springs**	**62.59**	**268**	P	**P**	**07 20 38.1**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=231,slow=6.6,SNR=32						
ASAR	**Alice Springs**	**62.59**	**268**	P	**P**	**07 20 37.5**	**-1.4**
H01W1	**Cape Leeuwin H**	**64.30**	**245**	T	T	08 30 55.1	
	baz=142,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**64.31**	**245**	T	T	08 30 56.6	
	baz=142,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**64.32**	**245**	T	T	08 30 57.3	
	baz=142,slow=76,SNR=8.5						
WB2	**Warramunga Arr**	**65.31**	**271**	P	**P**	**07 20 56.2**	**-0.7**
WRA	**Warramunga Arr**	**65.32**	**271**	P	**P**	**07 20 56.3**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=144,slow=6.1,SNR=7.2						
WB0	**Warramunga Arr**	**65.43**	**271**	P	**P**	**07 20 57.2**	**-0.4**
WB0				IAmb	IAmb	07 21 10.8	
	comp=Z,6.9nm,1.3s						
LVC	**Limon Verde**	**66.96**	**96**	P	**P**	**07 21 08.8**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=248,slow=9.4,SNR=4.5						
LVC	**Limon Verde**	**66.96**	**96**	IAmb	IAmb	07 21 09.4	
	comp=Z,6.1nm,0.8s						
MNMC	**Minye Minye**	**69.38**	**94**	P	**P**	**07 21 23.7**	**+0.8**
CPUP	**Villa Florida**	**70.23**	**108**	P	**P**	**07 21 27.4**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=231,slow=7.6,SNR=5.6						
CPUP	**Villa Florida**	**70.23**	**108**	IAmb	IAmb	07 21 30.7	
	comp=Z,3.1nm,0.8s						
LPAZ	**La Paz**	**72.49**	**93**	P	**P**	**07 21 43.7**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=244,slow=6.0,SNR=4.8						
LPAZ	**La Paz**	**72.49**	**93**	IAmb	IAmb	07 21 46.6	
	comp=Z,3.1nm,0.8s						
SIV	**San Ignacio**	**76.61**	**99**	P	**P**	**07 22 05.5**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=218,slow=9.1,SNR=5.0						
H10S3	**ASCENSION HYDR**	**105.35**	**135**	T	T	09 22 35.7	
	baz=204,slow=74,SNR=30						
H10S2	**ASCENSION HYDR**	**105.35**	**135**	T	T	09 22 43.7	
	baz=16,slow=74,SNR=22						
H10N3	**ASCENSION HYDR**	**106.42**	**134**	T	T	09 23 58.8	
	baz=204,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**	**106.43**	**134**	T	T	09 24 02.6	
	baz=204,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**106.44**	**134**	T	T	09 24 00.1	
	baz=204,slow=75,SNR=24						
IL31	**Yarrabulla**	**121.07**	**2**		**PKiKP**	**07 29 06.4**	**+0.4**
ILAR	**Eielson Array**	**121.07**	**2**	PKP	**PKiKP**	**07 29 06.0**	**0.0**
	comp=Z,2.5nm,0.9s,baz=247,slow=1.7,SNR=21						
ILAR	**Eielson Array**	**121.07**	**2**		**PKiKP**	**07 29 06.0**	**0.0**
MK31	**Makanchi Array**	**146.52**	**276**	PKPdf	**PKPdf**	**07 29 54.0**	**+0.3**
MKAR	**Makanchi Array**	**146.52**	**276**	PKPbc	**PKPbc**	**07 29 54.9**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=114,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**146.52**	**276**	PKPdf	**PKPdf**	**07 29 53.9**	**+0.2**
NRN	**Naryn**	**146.56**	**263**		**PKPbc**	**07 29 55.1**	**-0.9**
ZAA0	**Zalesovo Array**	**148.99**	**289**		**PKPbc**	**07 30 01.1**	**-0.5**
ZALV	**Zalesovo Beam**	**148.99**	**289**	PKPbc	**PKPbc**	**07 30 00.9**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=99,slow=2.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**148.99**	**289**		**PKPbc**	**07 30 00.7**	**-0.9**
KKAR	**Karatay Array**	**150.69**	**260**		**PKPbc**	**07 30 05.9**	**-0.3**
KURK	**Kurchatov**	**150.72**	**280**		**PKPbc**	**07 30 05.7**	**-0.2**
KURBB	**Kurchatov Arra**	**150.72**	**279**	PKPbc	**PKPbc**	**07 30 05.4**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=118,slow=2.1,SNR=8.8						
NRIK	**Noril'sk**	**151.89**	**320**	PKPbc	**PKiKP**	**07 30 08.7**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=45,slow=3.3,SNR=6.9						

*IDC **20** 07:20:14.3±1.1, 11°.63S×165°.03E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/33, mbtmp3.9/6, ML4.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/38, Error ellipse: s-maj=43.9km s-min=25.5km az=137.0*

*ISCJB **20** 07:20:17.9±0.9, 11°.8S±0°.1×165°.1E±0°.2, h34km, mb3.8/5, Error ellipse: s-maj=22.3km s-min=17.3km az=26.4*

ISC 20 07:20:19.5±1.0, 11°.7S±0°.1×165°.1E±0°.2, h34km, n13, σ0.35/8, mb3.8/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.40**	**173**	Pn	**Pn**	**07 22 46.5**	**+0.1**
	4.2nm,0.3s,baz=305,slow=11,SNR=79						
DZM				LR	LR	07 25 53.0	
	comp=Z,104nm,19.4s,baz=210,slow=32						
CTA	**Charters Tower**	**19.89**	**243**	P	**Pn**	**07 24 50.3**	**+0.3**
	0.3nm,0.3s,baz=68,slow=13,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**30.04**	**3**	T	T	07 57 58.7	
	baz=184,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**30.04**	**3**	T	T	07 57 54.3	
	baz=184,slow=76,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**30.06**	**3**	T	T	07 57 56.1	
	baz=184,slow=76,SNR=6.2						
WRA	**Warramunga Arr**	**30.62**	**251**	P	**P**	**07 26 30.7**	**-0.1**
	3.3nm,0.8s,baz=81,slow=9.1,SNR=13						
H11N1	**WAKE ISLAND Hy**	**31.27**	**3**	T	T	07 59 26.6	
	baz=182,slow=76,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**31.27**	**3**	T	T	07 59 32.9	
	baz=182,slow=76,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**31.28**	**3**	T	T	07 59 26.8	
	baz=182,slow=76,SNR=4.4						
ASAR	**Alice Springs**	**31.89**	**244**	P	**P**	**07 26 41.3**	**-0.6**
	1.4nm,0.9s,baz=78,slow=9.0,SNR=10						
ASAR				PcP	**PcP**	**07 29 32.2**	**0.0**
	0.4nm,0.8s,baz=117,slow=1.4,SNR=4.4						
ILAR	**Eielson Array**	**84.34**	**19**	P	**P**	**07 32 47.6**	**-0.2**
	0.2nm,0.6s,baz=232,slow=4.4,SNR=4.4						
NVAR	**Mina Array Bea**	**86.96**	**50**	P	**P**	**07 33 01.6**	**0.0**
	0.2nm,0.6s,baz=226,slow=4.5,SNR=2.4						
MKAR	**Makanchi Array**	**93.53**	**317**	P	**P**	**07 33 32.3**	**+0.4**
	0.3nm,0.6s,baz=105,slow=5.7,SNR=2.1						

NNC 20 07:23:49.8±1.2, 41°.78N×78°.34E, h0km, mb3.7, mpv3.5, 2C, Error ellipse: s-maj=8.3km s-min=5.0km az=176.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**1.28**	**2**	P	Pg	07 24 12.4	-1.9
	4.1nm,0.3s						
SATY				S	Sg	07 24 30.1	-0.8
	14nm,0.1s						
TNSS	**Tian-Shan**	**1.62**	**321**	P	Pn	07 24 19.8	-0.3
	13nm,0.2s						
TNSS				S	Sb	07 24 42.8	+0.7
	6.0nm,0.2s						
MDOK	**Medeo**	**1.68**	**326**	⇑P	Pn	07 24 20.5	-0.2
	6.2nm,0.7s						
MDOK				⇑S	Sb	07 24 43.2	-0.2
	9.2nm,1.0s						
MDOK	**Medeo**	**1.68**	**326**	Pg	Pn	07 24 20.2	-0.4
	5.6nm,0.2s						
MDOK				Lg	Lg	07 24 43.6	
	5.4nm,0.4s						
PDGK	**Podgornoye**	**1.76**	**28**	P	Pn	07 24 22.1	+0.4
	2.9nm,0.2s						
PDGK				S	Sg	07 24 46.9	+0.4
	2.7nm,0.5s						
IZV	**Izvestkoviy**	**1.79**	**315**	P	Pn	07 24 22.5	+0.3
	9.6nm,0.2s						
IZV				S	Sg	07 24 47.1	-0.2
	6.4nm,0.3s						
MTBS	**Maitube**	**1.95**	**314**	Pg	Pb	07 24 25.4	-1.0
	12nm,0.3s						
MTBS				Lg	Lg	07 24 52.5	
	10nm,0.2s						
KST	**Kastek**	**2.17**	**306**	Pg	Pn	07 24 28.3	+1.1
	13nm,0.5s						
KST				Lg	Lg	07 24 57.5	
	7.8nm,0.4s						
CHKK	**Chushkaly**	**2.30**	**335**	Pg	Pb	07 24 32.4	+0.2
	35nm,0.2s						
CHKK				Lg	Lg	07 25 04.6	
	16nm,0.3s						
DGS	**Degeres**	**2.39**	**308**	Pg	Pb	07 24 32.8	-1.1
	9.5nm,0.4s						
DGS				Lg	Lg	07 25 05.4	
	11nm,0.6s						
ARXS	**Arharly**	**2.46**	**351**	Pg	Pb	07 24 34.2	-0.8
	16nm,0.2s						
ARXS				Lg	Lg	07 25 07.7	
	8.7nm,0.4s						
KUU	**Kurty**	**2.57**	**326**	Pg	Pb	07 24 35.6	-1.2
	8.7nm,0.3s						
KUU				Lg	Lg	07 25 10.4	
	7.0nm,0.4s						
DJR	**Jarkent**	**2.76**	**22**	Pg	Pb	07 24 39.9	-0.2
	7.3nm,0.3s						
DJR				Lg	Lg	07 25 17.5	
	5.7nm,0.4s						
ZSN	**Zaisan**	**7.33**	**37**	Pg	Pb	07 25 59.8	+1.9
	5.4nm,0.3s						

NNC 20 07:24:59.0±0.4, 50°.01N×78°.67E, h0km, mb3.9, mpv3.5, 15C-5D, Error ellipse: s-maj=11.6km s-min=2.0km az=79.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.58**	**351**	⇓P	Pg	07 25 10.5	+0.2
KUR07				⇑S	Sg	07 25 19.2	+1.4
KUR06	**Kurchatov Arra**	**0.60**	**351**	⇑P	Pg	07 25 10.8	+0.2
KUR06				⇑S	Sg	07 25 19.7	+1.3
KUR14	**Kurchatov Arra**	**0.61**	**356**	⇑P	Pg	07 25 10.8	+0.1
KUR14				⇑S	Sg	07 25 19.4	+0.8
KUR15	**Kurchatov Arra**	**0.62**	**354**	⇑P	Pg	07 25 10.9	0.0
KUR15				⇑S	Sg	07 25 19.5	+0.7
KURBB	**Kurchatov Arra**	**0.62**	**352**	⇑P	Pg	07 25 11.2	+0.3
	25nm,0.3s						
KURBB				⇓S	Sg	07 25 20.2	+1.2
	208nm,0.6s						
KUR16	**Kurchatov Arra**	**0.63**	**350**	⇑P	Pg	07 25 11.3	+0.2
KUR16				⇑S	Sg	07 25 20.2	+1.0
KUR17	**Kurchatov Arra**	**0.64**	**349**	⇑P	Pg	07 25 11.6	+0.3
KUR17				⇓S	Sg	07 25 20.1	+0.6
KUR05	**Kurchatov Arra**	**0.64**	**353**	⇓P	Pg	07 25 11.3	0.0
KUR05				⇑S	Sg	07 25 20.1	+0.5
KUR04	**Kurchatov Arra**	**0.66**	**353**	⇑P	Pg	07 25 11.8	+0.1
KUR04				⇓S	Sg	07 25 20.9	+0.6
MK31	**Makanchi Array**	**4.02**	**142**	⇑Pn	Pn	07 26 03.3	+1.4
	0.5nm,0.3s,baz=323,slow=10,SNR=22						
MK31				⇑Pg	Pb	07 26 11.8	+1.1
	1.1nm,0.4s,baz=324,slow=12,SNR=8.5						
MK31				Lg	Lg	07 27 05.0	
	5.8nm,0.4s,baz=329,slow=27,SNR=13						

SOME 20 07:26:55.4, 46°.40N×76°.83E, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**2.30**	**162**	Pg	Pg	07 27 38.9	-0.5
	2.0nm,0.7s						
ARXS				Lg	Lg	07 28 10.0	
	15nm,0.6s						
KUU	**Kurty**	**2.53**	**188**	Pg	Pg	07 27 43.2	-0.7
	1.9nm,0.5s						
KUU				Lg	Lg	07 28 17.8	
	14nm,0.6s						
CHKK	**Chushkaly**	**2.55**	**177**	Pg	Pg	07 27 43.5	-0.7
	2.3nm,0.1s						
CHKK				Lg	Lg	07 28 18.3	
	8.6nm,0.4s						
DJR	**Jarkent**	**2.94**	**134**	Pg	Pg	07 27 50.9	-0.8
	5.0nm,1.0s						
DJR				Lg	Lg	07 28 30.8	
	1.7nm,0.5s						
KOTS	**Kotyrbulak**	**3.17**	**176**	Pg	Pg	07 27 55.5	-0.7
	4.9nm,0.5s						
KOTS				Lg	Lg	07 28 38.8	
	6.7nm,0.8s						
DGS	**Degeres**	**3.25**	**194**	Pg	Pg	07 27 55.8	-1.8
DGS				Lg	Lg	07 28 39.6	
	18nm,0.5s						
TNSS	**Tian-Shan**	**3.36**	**179**	Pg	Pg	07 27 58.4	-1.5
	2.8nm,0.3s						
TNSS				Lg	Lg	07 28 43.7	
	5.9nm,0.6s						
KST	**Kastek**	**3.41**	**191**	Pg	Pg	07 27 59.8	-1.0
	2.4nm,0.4s						
KST				Lg	Lg	07 28 46.4	
	5.1nm,0.3s						
MRKS	**Merke**	**4.47**	**216**	Pg	Pg	07 28 19.1	-1.9
	3.0nm,0.3s						
MRKS				Lg	Lg	07 29 19.0	
	2.8nm,0.3s						

ATH 20 07:44:41.3, 38°.82N×20°.88E, h15km±4km, ML1.7/3, Error ellipse: s-maj=4.5km s-min=1.1km az=252.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.18**	**271**	P	Pg	07 44 45.6	0.0
TSLK				S	Sg	07 44 48.9	+0.4
LKD2	**Lefkada island**	**0.18**	**259**	P	Pg	07 44 45.5	-0.2
LKD2				S	Sg	07 44 49.1	+0.5
LKD2				AML	AML	07 44 50.2	
	comp=N,456μm,0.2s						
LKD2				AML	AML	07 44 51.6	
	comp=E,375μm,0.2s						
MGNA	**Meganis**	**0.18**	**203**	P	Pg	07 44 45.2	-0.5
MGNA				S	Sg	07 44 48.5	0.0
MGNA				AML	AML	07 44 49.6	
	comp=N,1445μm,0.1s						
MGNA				AML	AML	07 44 50.1	
	comp=E,916μm,0.1s						
EVGI	**Lefkada island**	**0.27**	**221**	P	Pg	07 44 46.9	-0.2
PDO	**Prodromos**	**0.33**	**134**	P	Pg	07 44 48.0	-0.1
PDO				S	Sg	07 44 53.2	+0.6
PDO				AML	AML	07 44 54.5	
	comp=N,336μm,0.4s						
PDO				AML	AML	07 44 55.4	
	comp=E,323μm,0.3s						
FSK	**Fiskardo**	**0.44**	**215**	P	Pg	07 44 50.2	+0.1
FSK				S	Sb	07 44 57.0	-0.3
PVO	**Paravola**	**0.54**	**112**	P	Pg	07 44 52.1	+0.1
EVR	**Evrytania**	**0.73**	**82**	P	Pg	07 44 55.6	0.0
AGG	**Agios Georgios**	**1.15**	**80**	P	Pb	07 45 02.9	0.0

BJI 20 08:03:19.0±0.0, 31°.06N×119°.55E, h7km, mb3.5/1, ML3.8/13, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**1.15**	**329**	⇓Pg	Pg	08 03 40.1	-1.1
NJ2				Sg	Sg	08 03 55.8	-0.3
NJ2				smax	smax		
	comp=N,1μm,0.5s						
NJ2				smax	smax		
	comp=E,1μm,0.4s						
WHN	**Wuhan**	**4.50**	**265**	Pg	Pb	08 04 38.5	+0.1
WHN				Sg	Sg	08 05 39.6	-4.1
WHN				smax	smax		
	comp=N,280nm,0.9s						
WHN				smax	smax		
	comp=E,190nm,0.7s						
TIA	**Tai'an**	**5.52**	**339**	Pg	Pg	08 05 01.8	-3.0
TIA				Sg	Sg	08 06 09.9	-6.4
TIA				LR	LR		
	comp=N,32nm,0.9s						
TIA				LR	LR		
	comp=E,71nm,0.8s						
XAN	**Xi'an**	**9.45**	**291**	Pn	Pn	08 05 33.1	-2.5
XAN				Sg	Sn	08 08 11.8	+50
XAN				smax	smax		
	comp=N,18nm,1.0s						
XAN				smax	smax		
	comp=E,13nm,1.4s						
WMQ	**Urumqi**	**28.14**	**306**	*e*P	P	08 09 12.5	+0.7

IDC 20 08:06:19.7±3.6, 20°.07N×121°.54E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/49, mbtmp3.7/3, 1D, Error ellipse: s-maj=290.0km s-min=25.3km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.55**	**47**	⇓*e*P	Pn	08 06 38.3	+3.6
BBP				*i*S	Sn	08 06 48.7	+4.1
MKAR	**Makanchi Array**	**41.59**	**319**	P	P	08 14 09.1	-0.2
	0.5nm,0.8s,baz=115,slow=9.7,SNR=3.1						
WRA	**Warramunga Arr**	**41.69**	**162**	P	P	08 14 09.7	-0.6
	1.1nm,0.6s,baz=342,slow=9.1,SNR=15						
H11S3	**WAKE ISLAND Hy**	**42.55**	**84**	T	T	08 59 33.1	
	baz=281,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**42.56**	**84**	T	T	08 59 36.0	
	baz=281,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**42.56**	**84**	T	T	08 59 42.8	
	baz=281,slow=74,SNR=4.3						
ASAR	**Alice Springs**	**45.11**	**164**	P	P	08 14 38.3	+0.4
	0.7nm,0.4s,baz=344,slow=6.9,SNR=20						
MORH	**Mrgy, Hungar**	**84.28**	**317**	*e*P	P	08 18 53.0	-0.4

*IDC **20** 08:11:34.5±0.9, 11°.92N×141°.16E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/50, mbtmp3.9/10, MS3.2/16, Ms1 3.2/16, ms1mx3.1/44, Error ellipse: s-maj=35.0km s-min=17.4km az=78.0*

*ISCJB **20** 08:11:37.7±0.5, 11°.82N±0°.07×141°.0E±0°.1, h34km, mb3.9/10, MS3.2/12, Error ellipse: s-maj=17.9km s-min=9.4km az=174.4*

*NEIC **20** 08:11:39.6±1.5, 11°.9N±0°.1×140°.99E±0°.09, h31km±6km, mb4.6/12*

ISC 20 08:11:39.9±0.7, 11°.9N±0°.1×141°.1E±0°.2, h34km, n36, σ0.76/23, mb4.4/17, MS3.2/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**14.30**	**181**	LR	LR	08 19 14.5	
	comp=Z,121nm,19.9s,baz=275,slow=32						
JCJ	**Chichijima**	**15.18**	**4**	LR	LR	08 19 22.0	
	comp=Z,71nm,21.7s,baz=108,slow=31						
SIJI	**Sorong**	**15.96**	**218**	LR	LR	08 20 01.9	
	comp=Z,65nm,19.1s,baz=118,slow=32						
KRVT	**Keravat (AS076**	**19.43**	**145**	LR	LR	08 22 16.2	
	comp=Z,68nm,21.6s,baz=296,slow=33						
PMG	**Port Moresby**	**21.99**	**164**	LR	LR	08 25 11.2	
	comp=Z,229nm,19.7s,baz=334,slow=37						
JNU	**Nakatsue**	**23.11**	**338**	LR	LR	08 23 43.7	
	comp=Z,66nm,21.2s,baz=170,slow=32						
**MJAR

KURK	**Kurchatov**	**63.53**	**321**	P	**P**	**08 22 06.8**	**0.0**
KURK				IAmb	IAmb	08 22 12.7	
	comp=Z,9.0nm,0.8s						
KURBB	**Kurchatov Arra**	**63.56**	**321**	P	**P**	**08 22 06.9**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=103,slow=7.1,SNR=12						
NRIK	**Noril'sk**	**66.56**	**342**	LR	LR	08 51 46.5	
	comp=Z,35nm,19.0s,baz=66,slow=36						
BVAR	**Borovoye Array**	**68.98**	**322**	P	**P**	**08 22 42.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=95,slow=8.9,SNR=7.0						
ILAR	**Eielson Array**	**71.70**	**25**	P	**P**	**08 22 56.5**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=247,slow=6.1,SNR=4.5						
FYU	**Fort Yukon**	**72.71**	**24**	P	**P**	**08 23 03.7**	**-0.4**
FYU				IAmb	IAmb	08 23 12.8	
	comp=Z,12nm,1.4s						
BMAR	**Burnt Mountain**	**73.12**	**23**	P	**P**	**08 23 07.5**	**+0.9**
PPT	**Papeete**	**74.47**	**112**	LR	LR	08 47 06.8	
	comp=Z,27nm,21.7s,baz=318,slow=29						
ABKAR	**Akbulak array**	**75.31**	**318**	P	**P**	**08 23 19.9**	**+0.2**
ABKAR	**Akbulak array**	**75.31**	**318**	P	**P**	**08 23 19.1**	**-0.6**
HYT	**Haines Junctio**	**75.55**	**30**	P	**P**	**08 23 20.7**	**-0.3**
HYT				IAmb	IAmb	08 23 26.8	
	comp=Z,17nm,1.5s						
FINES	**FINESS Array B**	**91.11**	**334**	P	**P**	**08 24 40.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=85,slow=5.9,SNR=3.8						
LPAZ	**La Paz**	**151.37**	**102**	PKPbc	**PKiKP**	**08 31 32.6**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=319,slow=3.9,SNR=9.0						

THR ***20*** *08:20:19.3,27°.49N×56°.09E,h15km,ML4.3*
NEIC ***20*** *08:20:21.0±1.4,27°.51N±0°.08×56°.07E±0°.07,h11km±4km*
ISCJB ***20*** *08:20:20.7±0.2,27°.50N±0°.02×56°.12E±0°.03,h15km, mb4.1/20,MS3.2/2,Error ellipse: s-maj=4.2km s-min=2.6km az=165.2*
IDC ***20*** *08:20:21.1±0.8,27°.49N×56°.08E,h15km±5km,mb4.0/16, mb1 4.1/18,mb1mx3.9/44,mbtmp4.1/18,ML4.0/2,MS2.9/2, Ms1 2.9/2,ms1mx2.5/34,Error ellipse: s-maj=17.9km s-min=14.2km az=0.0*
TEH ***20*** *08:20:21.6,27°.50N×56°.15E,h11km,ML4.1*
DSN ***20*** *08:20:22.0±0.7,27°.51N×56°.30E,h10km,ML4.2/8,Error ellipse: s-maj=20.8km s-min=6.2km az=94.0*
OMAN ***20*** *08:20:25.2±5.6,27°.43N×56°.08E,h24km,ml3.9/15,Error ellipse: s-maj=58.4km s-min=41.9km az=172.0*

ISC 20 08:20:21.5±0.4,27°.48N±0°.03×56°.14E±0°.04,h15km,n129, σ1§72/141,**mb4.1/22,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.09**	**164**	*e*AML	AML	08 20 25.2	
	comp=N,8μm,0.3s						
GENO	**Geno**	**0.09**	**163**	*e*Pg	**Pg**	**08 20 24.4**	**-0.4**
GENO				IAMB	IAmb	08 20 26.0	
	comp=Z,0.0nm,0.4s						
GENO				*e*Sg	**Sg**	**08 20 27.2**	**+0.2**
NIAN	**Nian**	**0.62**	**83**	*e*Pg	**Pg**	**08 20 32.9**	**-0.7**
NIAN				*e*Sg	**Sb**	**08 20 43.7**	**+1.2**
NIAN				IAMB	IAmb	08 20 46.1	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	**1.43**	**180**	*e*P	**Pn**	**08 20 48.0**	**+1.1**
	SNR=78						
SHME				S	**Sg**	**08 21 08.9**	**+1.4**
SHME	**Shamm**	**1.43**	**180**	*e*Pn	**Pn**	**08 20 47.9**	**+1.0**
KHNJ	**Kahnooj**	**1.46**	**71**	*e*Pn	**Pn**	**08 20 48.0**	**+0.7**
BANOM	**Banah**	**1.56**	**175**	*e*P	**Pn**	**08 20 50.6**	**+1.9**
	SNR=188						
BANOM	**Banah**	**1.56**	**175**	P	**Pn**	**08 20 50.5**	**+1.8**
	SNR=128						
BANOM				S	**Sg**	**08 21 13.5**	**+1.8**
UMQ	**Umm Al-Quwin**	**2.00**	**193**	P	**Pb**	**08 20 58.3**	**+0.9**
UMQ	**Umm Al-Quwin**	**2.00**	**193**	*e*Pn	**Pb**	**08 20 57.9**	**+0.4**
MSFE	**Esma-Masafi**	**2.11**	**180**	*e*P	**Pn**	**08 20 58.3**	**+2.0**
	SNR=100						
MSFE	**Esma-Masafi**	**2.11**	**180**	*e*Pn	**Pn**	**08 20 58.4**	**+2.0**
MDH	**Madha**	**2.18**	**176**	*e*P	**Pn**	**08 20 58.8**	**+1.7**
	SNR=47						
MDH	**Madha**	**2.18**	**176**	P	**Pn**	**08 20 58.9**	**+1.7**
	SNR=47						
MDH	**Madha**	**2.18**	**176**	*e*Pn	**Pn**	**08 20 58.9**	**+1.7**
NGRK	**Negar Kerman**	**2.21**	**13**	*e*Pn	**Pn**	**08 20 58.6**	**+0.5**
NGRK				IAMB	IAmb	08 21 40.4	
	comp=Z,0.0nm,0.9s						
JHRM	**Jahrom**	**2.49**	**295**	*e*Pn	**Pn**	**08 21 04.4**	**+2.9**
JHRM				IAMB	IAmb	08 21 59.5	
	comp=Z,0.0nm,0.5s						
UOSS	**Minazif**	**2.53**	**179**	*e*P	**Pn**	**08 21 03.7**	**+1.8**
	SNR=27						
UOSS	**Minazif**	**2.53**	**179**	P	**Pn**	**08 21 03.5**	**+1.6**
	SNR=22						
UOSS	**Minazif**	**2.53**	**179**	*e*Pn	**Pn**	**08 21 03.6**	**+1.6**
UOSS	**Minazif**	**2.53**	**179**		**Pn**	**08 21 03.5**	**+1.6**
KRBR	**Kerman**	**2.55**	**12**	*e*AML	AML	08 21 40.2	
	comp=E,959nm,0.4s						
KRBR				*e*Pn	**Pn**	**08 21 01.9**	**-0.7**
TVBK	**TV Kerman**	**2.55**	**12**	*e*Pn	**Pn**	**08 21 04.8**	**+2.1**
TVBK				IAMB	IAmb	08 21 46.0	
	comp=Z,0.0nm,0.5s						
HATD	**Hatta, Dubai**	**2.65**	**180**	*e*P	**Pn**	**08 21 05.2**	**+1.6**
	SNR=20						
HATD	**Hatta, Dubai**	**2.65**	**180**	P	**Pn**	**08 21 05.6**	**+1.9**
	SNR=20						
HATD	**Hatta, Dubai**	**2.65**	**180**	*e*Pn	**Pn**	**08 21 05.3**	**+1.6**
LMD1	**Lamerd**	**2.65**	**268**	*e*Pn	**Pn**	**08 21 05.6**	**+1.9**
CHMN	**Cheshme madani**	**2.67**	**27**	*e*Pn	**Pn**	**08 21 06.2**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.77**	**190**	P	**Pn**	**08 21 07.4**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.77**	**190**	P	**Pn**	**08 21 07.7**	**+2.4**
FAQ	**Al Faqa, Dubai**	**2.77**	**190**	*e*Pn	**Pn**	**08 21 07.9**	**+2.6**
ASHO	**Ashiyiah**	**2.79**	**182**	*e*P	**Pn**	**08 21 08.0**	**+2.4**
	SNR=45						
ASHO	**Ashiyiah**	**2.79**	**182**	P	**Pn**	**08 21 08.0**	**+2.4**
	SNR=45						
ASHO				P	**Pn**	**08 21 08.0**	**+2.4**
	SNR=62						
ASHO	**Ashiyiah**	**2.79**	**182**	*e*Pn	**Pn**	**08 21 07.8**	**+2.2**
KHGB	**Koh Gabri**	**2.90**	**6**	*e*Pn	**Pn**	**08 21 09.9**	**+2.6**
KHGB				IAMB	IAmb	08 22 01.7	
	comp=Z,0.0nm,0.6s						
ASUD	**Al Ashush, Dub**	**2.94**	**195**	*i* P	**Pn**	**08 21 10.2**	**+2.6**
	SNR=23						
ASUD	**Al Ashush, Dub**	**2.94**	**195**	P	**Pn**	**08 21 10.5**	**+2.9**
	SNR=23						
ASUD	**Al Ashush, Dub**	**2.94**	**195**	*e*Pn	**Pn**	**08 21 10.7**	**+3.1**
AJN	**Ajban**	**3.09**	**200**	*e*Pn	**Pn**	**08 21 12.6**	**+2.9**
ALNE	**Al Ain**	**3.43**	**186**	P	**Pn**	**08 21 16.3**	**+1.9**
ALNE	**Al Ain**	**3.43**	**186**	*e*Pn	**Pn**	**08 21 16.5**	**+2.1**
HOQ	**Hoqain**	**4.02**	**165**	P	**Pn**	**08 21 23.0**	**+0.4**
	SNR=22						
IMEH	**Mehriz**	**4.12**	**341**	*e*Pn	**Pn**	**08 21 26.1**	**+2.0**
IMEH				IAMB	IAmb	08 21 35.7	
	comp=Z,2μm,0.2s						
IBAF	**Bafgh**	**4.12**	**353**	*e*Pn	**Pn**	**08 21 25.6**	**+1.5**
ARQ	**Araqi**	**4.14**	**175**	P	**Pn**	**08 21 26.0**	**+1.8**
	SNR=25						
CHBR	**Chabahar**	**4.32**	**115**	*e*Pn	**Pn**	**08 21 27.2**	**+0.6**
CHBR	**Chabahar**	**4.32**	**115**	*e*Pn	**Pn**	**08 21 27.2**	**+0.6**
BIDO	**Bidbid**	**4.33**	**155**	*e*Pn	**Pn**	**08 21 27.2**	**+0.4**
SMDO	**Samad**	**4.73**	**158**	P	**Pn**	**08 21 33.3**	**+0.9**
	SNR=14						
SMDO				S	**Sn**	**08 22 28.6**	**+1.5**
WSAR	**Wadi Sarin**	**4.79**	**151**	P	**Pn**	**08 21 34.1**	**+1.0**
	SNR=40						
WSAR	**Wadi Sarin**	**4.79**	**151**	Pn	**Pn**	**08 21 33.9**	**+0.8**
	comp=Z,8.3nm,0.3s,baz=338,slow=7.1,SNR=48						
WSAR				Sn	**Sn**	**08 22 26.2**	**-2.1**
	comp=Z,8.5nm,0.3s,baz=190,slow=22,SNR=8.9						
BSY	**Bisya**	**4.81**	**168**	P	**Pn**	**08 21 37.0**	**+3.5**
	SNR=8.9						
ISAD	**Sadrabad**	**4.91**	**335**	*e*Pn	**Pn**	**08 21 37.2**	**+2.2**
ICHK	**Chekchek**	**4.98**	**343**	*e*Pn	**Pn**	**08 21 38.0**	**+2.1**
MZR	**Muzera**	**5.07**	**209**	*e*Pn	**Pn**	**08 21 38.0**	**+1.0**
YZKH	**Yazd**	**5.07**	**345**	*e*Pn	**Pn**	**08 21 38.1**	**+1.0**
YZKH	**Yazd**	**5.07**	**345**	*e*Pn	**Pn**	**08 21 38.1**	**+1.0**
JMDO	**Jabal Madar**	**5.39**	**160**	P	**Pn**	**08 21 43.2**	**+1.8**
	SNR=6.3						
IRAM	**Ramesheh**	**5.41**	**324**	*e*Pn	**Pn**	**08 21 43.4**	**+1.5**
WBK	**Wadi Bani Khal**	**5.49**	**152**	P	**Pn**	**08 21 43.4**	**+0.7**
	SNR=17						
WBK				S	**Sn**	**08 22 43.9**	**-1.7**
IKOO	**Kooshah**	**5.51**	**26**	*e*Pn	**Pn**	**08 21 45.0**	**+1.7**
TPRV	**Parvadeh(Tabas**	**5.55**	**5**	*e*Pn	**Pn**	**08 21 45.1**	**+1.5**
ANAR	**Anarak**	**6.06**	**340**	*e*Pn	**Pn**	**08 21 52.2**	**+1.5**
IGAR	**Gharneh**	**6.06**	**325**	*e*Pn	**Pn**	**08 21 52.5**	**+1.7**
JLN	**Jalan Bani Buh**	**6.08**	**150**	P	**Pn**	**08 21 51.2**	**+0.3**
	SNR=16						
JLN				S	**Sn**	**08 22 57.2**	**-3.0**

IZEF	**Zefreh**	**6.33**	**329**	*e*Pn	**Pn**	**08 21 55.0**	**+0.6**
IMON	**Monand**	**6.45**	**27**	*e*Pn	**Pn**	**08 21 58.4**	**+2.2**
TNSJ	**Nastanj**	**6.47**	**3**	*e*Pn	**Pn**	**08 21 57.8**	**+1.5**
JHBN	**Jahan bin**	**6.71**	**316**	*e*Pn	**Pn**	**08 22 01.2**	**+1.4**
IPIR	**Pirpir**	**6.90**	**320**	*e*Pn	**Pn**	**08 22 04.4**	**+2.1**
IKLH	**Kolahrood**	**7.03**	**327**	*e*Pn	**Pn**	**08 22 05.7**	**+1.6**
KRSH	**Karshahi**	**7.33**	**333**	*e*Pn	**Pn**	**08 22 09.9**	**+1.8**
QAM	**Ghamsar**	**7.46**	**328**	*e*Pn	**Pn**	**08 22 10.9**	**+1.0**
ISHM	**Shahmirzad**	**8.65**	**344**	*e*Pn	**Pn**	**08 22 28.2**	**+1.9**
BMDN	**Meydan**	**8.82**	**316**	*e*Pn	**Pn**	**08 22 28.8**	**+0.2**
BDRS	**Dareh Seyedi**	**8.98**	**318**	*e*Pn	**Pn**	**08 22 30.8**	**-0.1**
SHAO	**Shalim**	**9.43**	**183**	P	**Pn**	**08 22 37.3**	**+0.5**
	SNR=32						
SHAO				S	**Sn**	**08 24 21.7**	**-0.9**
WHFO	**Wadi Hawf**	**9.77**	**193**	P	**Pn**	**08 22 41.2**	**-0.3**
	SNR=36						
WHFO				S	**Sn**	**08 24 25.5**	**-5.5**
DMTO	**DMTO**	**9.78**	**187**	P	**Pn**	**08 22 42.1**	**+0.4**
	SNR=10						
RAYN	**Ar Rayn**	**10.39**	**250**		**Pn**	**08 22 49.2**	**-0.8**
RAYN				Sn	Sn	08 24 38.7	-7.5
ABTO	**Aybut**	**10.42**	**195**	P	**Pn**	**08 22 50.1**	**-0.4**
	SNR=14						
GEYT	**Alibeck**	**10.55**	**9**	LR	LR	08 26 54.4	
	comp=Z,46nm,20.0s,baz=195,slow=37						
SOCY	**Socotra**	**15.35**	**188**	Pn	**Pn**	**08 23 54.1**	**-3.6**
GNI	**Garni**	**15.77**	**326**	P	**Pn**	**08 24 04.3**	**+1.1**
GNI				IAmb	IAmb	08 24 23.3	
	comp=Z,39nm,1.2s						
EIL	**Elat**	**18.74**	**282**	P	**P**	**08 24 40.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=30,slow=6.2,SNR=4.3						
KKAR	**Karatay Array**	**19.46**	**33**	P	**P**	**08 24 47.8**	**+0.2**
KSH	**Kashi**	**20.38**	**49**	P	**P**	**08 24 54.3**	**-3.5**
KSH				PP	**PnPn**	**08 25 13.1**	**-1.8**
KSH				S	S	08 28 30.3	-15
KSH				sS	Sn	08 28 35.9	-13
KSH				SS		08 28 57.9	
KSH				pmax	pmax		
	comp=Z,30nm,0.6s						
KSH				pmax	pmax		
	comp=Z,300nm,5.1s						
KSH				LR	LR		
	comp=N,250nm,9.1s						
KSH				LR	LR		
	comp=E,220nm,6.8s						
KSH				LR	LR		
	comp=Z,390nm,6.5s						
AAK	**Ala-Archa**	**21.25**	**40**	P	**P**	**08 25 07.8**	**+0.7**
	comp=Z,5.2nm,0.7s,baz=355,slow=21,SNR=9.0						
AAK	**Ala-Archa**	**21.25**	**40**	P	**P**	**08 25 07.5**	**+0.3**
ABKAR	**Akbulak array**	**21.94**	**7**	P	**P**	**08 25 13.7**	**-0.7**
ABKAR	**Akbulak array**	**21.94**	**7**	P	**P**	**08 25 14.6**	**+0.3**
ABKAR				IAmb	IAmb	08 25 21.5	
	comp=Z,7.8nm,0.7s						
BRTR	**Keskin Array B**	**22.30**	**309**	P	**P**	**08 25 18.9**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=134,slow=14,SNR=24						
BRTR				LR	LR	08 35 35.4	
	comp=Z,44nm,21.2s,baz=94,slow=41						
BRTR	**Keskin Array B**	**22.30**	**309**	P	**P**	**08 25 19.7**	**+1.2**
BR131	**Keskin Array S**	**22.30**	**309**	P	**P**	**08 25 18.7**	**+0.2**
BR131				IAmb	IAmb	08 25 28.5	
	comp=Z,16nm,1.1s						
AKTO	**Aktyubinsk**	**22.97**	**3**	P	**P**	**08 25 25.2**	**0.0**
	comp=Z,1.9nm,0.8s,baz=210,slow=11,SNR=6.2						
ELL	**Elmali**	**24.00**	**299**	P	**P**	**08 25 35.9**	**+0.1**
BVAR	**Borovoye Array**	**27.63**	**19**	P	**P**	**08 26 08.0**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=212,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**28.18**	**40**	P	**P**	**08 26 13.6**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=222,slow=8.8,SNR=7.4						
MKAR				pP	**pP**	**08 26 18.0**	**0.0**
	comp=Z,1.2nm,0.5s,baz=230,slow=9.8,SNR=5.2						
KURBB	**Kurchatov Arra**	**28.70**	**30**	P	**P**	**08 26 18.3**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=231,slow=8.4,SNR=5.2						
WMQ	**Urumqi**	**30.15**	**49**	*e*P	**P**	**08 26 33.8**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,33nm,4.7s						
WMQ				LR	LR		
	comp=N,290nm,26.5s						
WMQ				LR	LR		
	comp=E,770nm,28.9s						
WMQ				LR	LR		
	comp=Z,48nm,29.9s						
AKASG	**Malin Array Be**	**30.91**	**326**	P	**P**	**08 26 35.2**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=125,slow=8.3,SNR=6.7						
ZALV	**Zalesovo Beam**	**33.80**	**31**	P	**P**	**08 27 01.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=246,slow=11,SNR=1.9						
LANS	**Liptovska Anna**	**35.51**	**318**	*e*P	**P**	**08 27 19.1**	**+1.5**
VYHS	**Vyhne**	**35.63**	**316**	*e*P	P	08 27 23.8	+5.2
DPC	**Dobruska-Polom**	**37.85**	**318**	*e*P	**P**	**08 27 37.9**	**+0.3**
GERES	**GERESS Array B**	**38.95**	**315**	P	**P**	**08 27 45.9**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=104,slow=8.8,SNR=6.9						
KHC	**Kasperske Hory**	**39.11**	**315**	*e*P	**P**	**08 27 47.4**	**-0.8**
KHC				*e*pP	**pP**	**08 27 52.5**	**-0.5**
KHC	**Kasperske Hory**	**39.11**	**315**	P	**P**	**08 27 47.7**	**-0.5**
FIA1	**FINESS Array S**	**39.47**	**338**	P	**P**	**08 27 50.2**	**-0.7**
FINES	**FINESS Array B**	**39.47**	**338**	P	**P**	**08 27 50.3**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=141,slow=9.7,SNR=10.0						
CLL	**Collm**	**40.16**	**318**	*e*pP	pP	08 28 03.0	+1.4
LZH	**Lanzhou**	**41.10**	**66**	*e*P	**P**	**08 28 03.4**	**-1.7**
LZH				pP	pP	08 28 10.3	+0.4
LZH				sP	sP	08 28 13.8	+2.0
LZH				PP	**PnPn**	**08 29 50.1**	**+5.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,96nm,4.9s						
BNI	**Bardonecchia**	**42.86**	**308**	P	**P**	**08 28 18.4**	**-0.8**
BNI				IAmb	IAmb	08 28 33.9	
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**43.78**	**48**	P	**P**	**08 28 27.2**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=254,slow=8.9,SNR=15						
SONM	**Songino Array**	**43.78**	**48**	P	**P**	**08 28 27.3**	**+0.7**
NC405	**NORSAR Array S**	**44.82**	**331**	P	**P**	**08 28 33.7**	**-0.9**
NB2	**NORSAR Subarra**	**45.00**	**331**	P	**P**	**08 28 34.8**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=115,slow=7.9						
NOA	**NORSAR Array B**	**45.00**	**331**	P	**P**	**08 28 34.9**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=118,slow=8.0,SNR=7.4						
ARCES	**ARCESS Array B**	**45.69**	**345**	P	**P**	**08 28 41.2**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=144,slow=10,SNR=6.5						
HHC	**Hu-ho-hao-te**	**47.03**	**59**	*e*P	**P**	**08 28 53.6**	**+1.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,9.0nm,6.6s						
TOA0	**Torodi Ar. Sit**	**52.63**	**266**	P	**P**	**08 29 34.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**52.63**	**266**	P	**P**	**08 29 34.4**	**-0.9**
	comp=Z,6.5nm,0.6s,baz=65,slow=7.5,SNR=32						
TORD				pP	**pP**	**08 29 39.0**	**-1.5**
	comp=Z,6.4nm,0.6s,baz=62,slow=7.1,SNR=17						
BORG	**Borgarnes**	**60.18**	**331**	P	**P**	**08 30 29.7**	**+1.4**
IMAR	**Indian Mountai**	**84.06**	**12**	P	**P**	**08 32 49.3**	**-1.9**
BMAR	**Burnt Mountain**	**84.11**	**8**	P	**P**	**08 32 51.9**	**+0.4**
ILAR	**Eielson Array**	**86.31**	**10**	P	**P**	**08 33 01.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=338,slow=3.5,SNR=6.1						
WRA	**Warramunga Arr**	**89.12**	**113**	P	**P**	**08 33 16.6**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=311,slow=4.0,SNR=11						
WRA				pP	**PcP**	**08 33 21.2**	**+3.0**
	comp=Z,1.4nm,0.9s,baz=302,slow=4.8,SNR=6.8						
WRA	**Warramunga Arr**	**89.12**	**113**	IAmb	IAmb	08 33 22.1	
	comp=Z,0.2nm,0.9s						
ASAR	**Alice Springs**	**90.60**	**116**	P	**P**	**08 33 23.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=305,slow=4.7,SNR=13						

KRNET ***20*** *08:40:40.4±0.1,40°.34N×77°.19E,mb2.8*
SOME ***20*** *08:40:42.9,40°.40N×77°.10E,h10km*
NNC ***20*** *08:40:44.4±1.5,40°.41N×77°.09E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=10.0km s-min=7.9km az=163.0*

ISC 20 08:40:44.9±2.0,40°.46N±0°.09×77°.00E±0°.05,h10km,n38, σ1§49/58,**13C-13D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.23**	**323**	⇑*i*P	**Pn**	**08 41 07.3**	**-1.2**
	baz=20						
NRN				⇑*i*S	**Sn**	**08 41 27.3**	**+1.9**
	baz=20						
KDJ	**Kajisay**	**1.67**	**5**	⇑*e*P	**Pn**	**08 41 14.0**	**-0.5**
	baz=0.0						
KDJ				⇑*i*S	**Sg**	**08 41 38.6**	**-0.2**
	baz=0.0						
KZA	**Kyzart**	**2.08**	**321**	⇑*i*P	**Pb**	**08 41 21.8**	**-1.3**
	baz=21						
KZA				⇑*i*S	**Sg**	**08 41 51.7**	**-0.3**
	baz=21						
BOOM	**Boomskoye usch**	**2.18**	**339**	⇓*i*P	**Pb**	**08 41 22.6**	**-2.0**
	baz=37						
BOOM				⇓*i*S	**Sb**	**08 41 53.2**	**+1.5**
	baz=37						
ARLS	**Aral**	**2.46**	**306**	⇓*i*P	**Pn**	**08 41 26.5**	**+1.3**
	baz=6.0						
ARLS				⇓*i*S	**Sb**	**08 42 00.5**	**+0.8**
	baz=6.0						
UCH	**Uchtor**	**2.57**	**314**	⇓*i*P	**Pn**	**08 41 28.3**	**+1.2**
	baz=14						
UCH				⇓*i*S	**Sb**	**08 42 03.7**	**+0.4**
	baz=14						
TNSS	**Tian-Shan**	**2.58**	**359**	Pg	**Pg**	**08 41 32.6**	**-1.7**
	14nm,0.6s						
TNSS				Lg	Lg	08 42 08.1	
	14nm,0.8s						
TNSS	**Tian-Shan**	**2.58**	**359**	⇑*i*P	**Pg**	**08 41 32.6**	**-1.7**
	9.6nm,0.6s						
TNSS				⇓*i*S	**Sg**	**08 42 08.1**	**+0.4**
	13nm,0.4s						
IZV	**Izvestkoviy**	**2.59**	**354**	Pg	**Pg**	**08 41 33.3**	**-1.3**
	9.7nm,0.6s						
IZV				Lg	Lg	08 42 09.2	
IZV	**Izvestkoviy**	**2.59**	**354**	*e*P	**Pg**	**08 41 33.3**	**-1.3**
	9.7nm,0.6s						
IZV				*e*S	**Sg**	**08 42 09.2**	**+1.0**
	23nm,0.4s						
TKM2	**Tokmak 2**	**2.67**	**337**	⇑Pg	**Pb**	**08 41 32.1**	**-0.9**
	3.0nm,0.7s						
TKM2				⇑Lg	Lg	08 42 13.3	
	5.6nm,0.6s						
KST	**Kastek**	**2.69**	**344**	Pg	**Pg**	**08 41 35.3**	**-1.3**
	2.8nm,0.2s						
KST				Lg	Lg	08 42 12.5	
	15nm,0.4s						
KST	**Kastek**	**2.69**	**344**	*e*P	**Pg**	**08 41 35.3**	**-1.3**
	2.1nm,0.3s						
KST				*e*S	**Sg**	**08 42 12.5**	**+1.0**
	15nm,0.4s						
MDOK	**Medeo**	**2.70**	**1**	Pg	**Pg**	**08 41 36.6**	**-0.1**
	8.2nm,0.8s						
MDOK				Lg	Lg	08 42 11.0	
	15nm,0.7s						
MDOK	**Medeo**	**2.70**	**1**	Pg	**Pg**	**08 41 34.8**	**-1.9**
	11nm,0.8s						
MDOK				Lg	Lg	08 42 11.8	
	10nm,1.4s						
MDOK	**Medeo**	**2.70**	**1**	*e*P	**Pg**	**08 41 34.8**	**-1.9**
	11nm,0.8s						
MDOK				*e*S	**Sg**	**08 42 11.8**	**+0.1**
	14nm,0.5s						
MTBS	**Maitube**	**2.70**	**351**	Pg	**Pg**	**08 41 35.2**	**-1.5**
	6.5nm,0.7s						
MTBS				Lg	Lg	08 42 12.4	
	13nm,0.4s						
MTBS	**Maitube**	**2.70**	**351**	*e*P	**Pg**	**08 41 35.2**	**-1.5**
	6.5nm,0.7s						
MTBS				⇓*i*S	**Sg**	**08 42 12.4**	**+0.7**
	13nm,0.4s						
KOTS	**Kotyrbulak**	**2.77**	**2**	Pg	**Pg**	**08 41 36.4**	**-1.7**
	17nm,0.5s						
KOTS				Lg	Lg	08 42 14.6	
	107nm,0.4s						
KOTS	**Kotyrbulak**	**2.77**	**2**	*e*P	**Pg**	**08 41 36.4**	**-1.7**
	17nm,0.5s						
KOTS				*e*S	**Sg**	**08 42 14.6**	**+0.5**
	107nm,0.6s						
SATY	**Saty**	**2.80**	**22**	Pg	**Pb**	**08 41 35.9**	**+0.8**
	36nm,1.0s						
SATY				Lg	Lg	08 42 13.7	
	18nm,0.6s						
SATY	**Saty**	**2.80**	**22**	*e*P	**Pb**	**08 41 35.9**	**+0.8**
	36nm,1.0s						
SATY				*e*S	**Sg**	**08 42 13.7**	**-1.3**
	38nm,0.8s						
AAK	**Ala-Archa**	**2.87**	**320**	⇓Pg	**Pg**	**08 41 38.6**	**-1.4**
	5.9nm,0.6s						
AAK				⇓Lg	Lg	08 42 18.8	
	13nm,1.1s						
AAK	**Ala-Archa**	**2.87**	**320**	⇓*i*P	**Pn**	**08 41 32.6**	**+1.6**
	baz=19						
AAK				⇓*i*S	**Sb**	**08

baz=43
BRLS Borolday 4.02 358 Pg Pn 08 45 13.7 -3.1
0.7nm,0.3s
BRLS Lg Lg 08 45 52.7
1.3nm,0.4s
BRLS Borolday 4.02 358 *e*P Pn 08 45 13.4 -3.4
0.7nm,0.3s
BRLS *e*S Sn 08 45 52.1 -13
4.0nm,0.1s
KK31 Karatay Array 4.10 5 ⇑Pg Pn 08 45 19.9 +2.0
0.2nm,0.3s,baz=194,slow=16,SNR=3.7
KK31 Lg Lg 08 46 03.4
7.0nm,0.6s,baz=194,slow=28,SNR=15
MRKS Merke 4.43 32 *e*P Pb 08 45 32.0 -0.6
1.4nm,0.1s
MRKS *e*S Sb 08 46 23.8 -3.0
3.8nm,0.4s

SOME 20 08:45:05.6, 43°.62N×81°.15E, h5km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHLS	**Shalkode**	**1.31**	**250**	*e*P		Pn	08 45 25.6	-5.2
	5.4nm,0.1s							
SHLS				*e*S		Sg	08 45 40.0	-7.8
	17nm,0.3s							
UZB	**Uzynbulak**	**1.62**	**254**	*e*P		Pg	08 45 36.5	-0.1
	4.5nm,0.1s							
UZB				*e*S		Sg	08 45 59.0	+1.4
	2.5nm,0.2s							
SATY	**Saty**	**2.08**	**255**	Pg		Pb	08 45 43.9	0.0
	5.0nm,0.1s							
SATY				Lg		Lg	08 46 11.5	
	10nm,0.2s							
SATY	**Saty**	**2.08**	**255**	*e*P		Pb	08 45 43.9	+0.1
	8.9nm,0.1s							
SATY				*e*S		Sg	08 46 11.4	-0.9
	7.6nm,0.1s							
ARXS	**Arharly**	**2.47**	**285**	Pg		Pg	08 45 51.8	-1.2
	2.5nm,0.8s							
ARXS				Lg		Lg	08 46 24.9	
	5.1nm,0.3s							
ARXS	**Arharly**	**2.47**	**285**	*e*P		Pg	08 45 51.8	-1.2
	1.7nm,0.3s							
ARXS				*e*S		Sg	08 46 25.0	-0.1
	5.9nm,0.4s							

*ISCJB **20** 08:46:08.6±0.4, 0°.30N±0°.04×122°.42E±0°.03, h138km±3km, mb4.7/8, Error ellipse: s-maj=7.2km s-min=4.6km az=37.4*
*NEIC **20** 08:46:09.4±1.5, 0°.30N±0°.08×122°.4E±0°.1, h136km±3km, mb4.4/19*
*IDC **20** 08:46:09.5±6.1, 0°.34N×122°.57E, h131km±59km, mb4.0/7, mb1 4.1/9, mb1mx3.6/43, mbtmp4.3/9, Error ellipse: s-maj=72.1km s-min=12.7km az=60.0*
*DJA **20** 08:46:10.3±0.2, 0°N±2°×12°2E±°, h112km±3km, M4.5/12, mb4.7/6, mB5.8/2, MLv4.4/12, Mw(mB)5.4/2*
ISC 20 08:46:09.8±0.6, 0°.28N±0°.05×122°.43E±0°.04, h127km±5km, n56, σ1963/69, mb4.4/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MRSI	**Marisa**	**0.53**	**292**	P		**Pn**	**08 46 27.6**	**-1.1**
MRSI				S		**Sn**	**08 46 41.0**	**-2.0**
LUWI	**Luwuk**	**1.35**	**165**	P		**Pn**	**08 46 37.1**	**+0.9**
LUWI				S		**Sn**	**08 46 57.7**	**+1.5**
LUWI	**Luwuk**	**1.35**	**165**			**Pn**	**08 46 36.7**	**+0.6**
LUWI				Sn		**Sn**	**08 46 57.5**	**+1.3**
APSI	**Ampana**	**1.42**	**213**	P		**Pn**	**08 46 37.3**	**+0.5**
APSI				S		**Sn**	**08 46 57.5**	**+0.2**
KMSI	**Cibinong**	**1.58**	**79**	P		**Pn**	**08 46 41.1**	**+2.5**
KMSI				S		**Sn**	**08 47 03.2**	**+2.6**
MPSI	**Mapaga**	**2.53**	**271**	P		**Pn**	**08 46 49.8**	**-0.5**
MPSI				S		**Sn**	**08 47 19.3**	**-2.1**
TTSI	**Tana Toraja**	**4.21**	**218**	P		**Pn**	**08 47 14.0**	**+1.7**
TTSI				S		**Sn**	**08 48 02.4**	**+1.6**
SANI	**Sanana**	**4.24**	**123**	P		**Pn**	**08 47 11.2**	**-1.6**
SANI				S		**Sn**	**08 47 59.3**	**-2.4**
BNSI	**Bone**	**5.20**	**207**	P		**Pn**	**08 47 27.3**	**+1.8**
NLAI	**Namlea**	**5.83**	**127**	P		**Pn**	**08 47 35.5**	**+1.4**
NLAI				S		**Sn**	**08 48 40.3**	**+0.5**
KAPI	**Kappang**	**5.90**	**207**	P		**Pn**	**08 47 35.4**	**+0.4**
	1.8nm,0.3s,baz=26,slow=6.5,SNR=5.9							
KKM	**Kota Kinabalu**	**8.44**	**313**	Pn		**Pn**	**08 48 07.7**	**-1.7**
KKM						**Sn**	**08 49 42.5**	**-0.7**
BNDI	**Bandanaira**	**8.86**	**123**	P		Pn	08 48 22.0	+7.1
FAKI	**Fak Fak**	**10.32**	**108**	Pn		**Pn**	**08 48 33.6**	**-0.9**
MTN	**Manton Dam**	**15.64**	**147**			**Pn**	**08 49 43.4**	**+0.1**
MTN				IAmb		IAmb	08 49 58.0	
	comp=Z,31nm,1.1s							
PPBI	**Pangkal Pinang**	**16.47**	**261**	P		**P**	**08 49 55.1**	**+1.1**
	comp=Z,39nm,0.5s,comp=Z,16μm							
KNRA	**Kununurra**	**17.04**	**159**			**Pn**	**08 50 01.0**	**+0.4**
KNRA				IAmb		IAmb	08 50 02.7	
	comp=Z,16nm,0.7s							
KLSI		**18.36**	**254**	P		**P**	**08 50 14.8**	**0.0**
	comp=Z,28nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.53**	**170**	P		**P**	**08 50 16.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=19,slow=9.1,SNR=14							
FITZ	**Fitzroy Crossi**	**18.53**	**170**	P		**P**	**08 50 16.9**	**+0.3**
PSA00	**Pilbara Seismi**	**21.86**	**186**	P		**P**	**08 50 50.9**	**-1.6**
PSA00				IAmb		IAmb	08 50 51.5	
	comp=Z,11nm,0.9s							
PSA00	**Pilbara Seismi**	**21.86**	**186**	P		**P**	**08 50 50.7**	**-1.8**
PSA00				IAmb		IAmb	08 50 57.2	
	comp=Z,2.9nm,0.7s							
WB0	**Warramunga Arr**	**23.12**	**150**	P		**P**	**08 51 03.7**	**-1.1**
WB0				IAmb		IAmb	08 51 04.9	
	comp=Z,19nm,0.8s							
WRAB	**Tennant Creek**	**23.24**	**150**	P		**P**	**08 51 04.5**	**-1.5**
WRAB				IAmb		IAmb	08 51 06.2	
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**23.24**	**151**	P		**P**	**08 51 04.8**	**-1.2**
	comp=Z,12nm,0.8s,baz=328,slow=10,SNR=91							
WRA	**Warramunga Arr**	**23.24**	**151**	P		**P**	**08 51 04.2**	**-1.8**
WR0	**Warramunga Arr**	**23.35**	**150**	P		**P**	**08 51 05.9**	**-1.2**
CHAI	**Chaiyaphum**	**25.45**	**309**	P		**P**	**08 51 27.7**	**+1.5**
	comp=Z,24μm,0.8s							
AS31	**Alice Springs**	**26.28**	**156**	P		**P**	**08 51 33.0**	**-0.6**
ASAR	**Alice Springs**	**26.28**	**156**	P		**P**	**08 51 32.8**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=345,slow=14,SNR=49							
ASAR				PcP		**PcP**	**08 54 54.8**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=335,slow=2.2,SNR=5.6							
ASAR	**Alice Springs**	**26.28**	**156**	P		**P**	**08 51 32.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**29.30**	**309**	P		**P**	**08 52 01.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=126,slow=7.8,SNR=7.3							
MORW	**Morawa**	**29.81**	**191**	P		**P**	**08 52 03.6**	**-1.3**
MORW				IAmb		IAmb	08 52 04.2	
	comp=Z,12nm,0.9s							
FORT	**Forrest**	**31.35**	**171**	P		**P**	**08 52 16.9**	**-1.5**
BBOO	**Buckleboo**	**35.33**	**160**	P		**P**	**08 52 52.0**	**-1.0**
STKA	**Stephens Creek**	**36.77**	**152**	P		**P**	**08 53 05.0**	**-0.1**
	comp=Z,10nm,0.8s,baz=323,slow=9.6,SNR=17							
STKA	**Stephens Creek**	**36.77**	**152**	P		**P**	**08 53 05.1**	**-0.1**
ARMA	**Armidale**	**41.27**	**140**	P		**P**	**08 53 42.3**	**-0.5**
ODAN	**Odare**	**42.81**	**311**	*e*P		**P**	**08 53 55.5**	**-0.1**
TAPN	**Taplejung**	**42.84**	**312**	*e*P		**P**	**08 53 55.4**	**-0.5**
CAN	**Canberra**	**43.23**	**148**	P		**P**	**08 53 59.1**	**+0.5**
RAMN	**Ramite**	**43.46**	**311**	*e*P		**P**	**08 54 00.7**	**-0.1**
	comp=Z,15nm,0.7s							
JIRN	**Jiri**	**44.14**	**311**	*e*P		**P**	**08 54 05.8**	**-0.6**
	comp=Z,16nm,0.6s							
GUN	**Gumba**	**44.51**	**311**	*e*P		**P**	**08 54 08.2**	**-1.1**
	comp=Z,29nm,0.8s							
KOLN	**Koldanda**	**46.17**	**310**	*e*P		**P**	**08 54 21.6**	**-0.6**
	comp=Z,26nm,0.7s							
DANN	**Dangsing**	**46.34**	**310**	*e*P		**P**	**08 54 22.9**	**-0.7**
	comp=Z,39nm,0.6s							
SONM	**Songino Array**	**49.38**	**346**	P		**P**	**08 54 45.7**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=162,slow=9.3,SNR=18							
SONM	**Songino Array**	**49.38**	**346**	P		**P**	**08 54 45.8**	**-0.8**
KSH	**Kashi**	**57.59**	**318**	P		**P**	**08 55 50.4**	**+3.7**
KSH				PcP		**PcP**	**08 56 42.0**	**+3.4**
KSH				PP		**PP**	**08 58 02.6**	**+6.8**
KSH				S		**S**	**09 03 35.4**	**+0.4**
KSH				sS		sS	09 04 27.8	+2.4
KSH	**Kashi**	**57.59**	**318**	SS		SS	09 07 29.5	+2.3
KSH				pmax		pmax		
	comp=Z,250nm,5.0s							
KSH				LR		LR		
	comp=N,150nm,7.4s							
KSH				LR		LR		
	comp=E,220nm,8.3s							
KSH				LR		LR		

comp=Z,130nm,8.6s
MK31 Makanchi Array 58.08 329 P **P** **08 55 48.4 -1.4**
MK31 IAmb IAmb 08 55 54.1
comp=Z,3.3nm,1.0s
MKAR Makanchi Array 58.08 329 P **P** **08 55 48.8 -1.0**
comp=Z,3.4nm,0.6s,baz=125,slow=9.0,SNR=23
MKAR Makanchi Array 58.08 329 P **P** **08 55 48.7 -1.1**
ZALV Zalesovo Beam 61.83 336 P **P** **08 56 13.8 -1.4**
comp=Z,0.6nm,0.3s,baz=128,slow=4.1,SNR=3.7
ZALV pP **pP** **08 56 45.6 -0.5**
comp=Z,0.5nm,0.4s,baz=134,slow=56,SNR=2.0
ZALV Zalesovo Beam 61.83 336 P **P** **08 56 13.3 -1.9**
KURK Kurchatov 62.45 330 P **P** **08 56 17.8 -1.7**
KURK IAmb IAmb 08 56 18.7
comp=Z,2.8nm,0.6s

MDD 20 09:12:12.3±2.2, 32°.53N×13°.65W, h0km, mb3.7/4, Error ellipse: s-maj=48.6km s-min=9.0km az=115.0, PRXIMO SIN SOLUCIN, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EFAM	**Famara**	**3.39**	**178**	S		Sn	09 13 45.1	-2.3
	2.4nm,0.2s,SNR=7.9							
CFUE	**Fuerteventura**	**3.88**	**184**	P		Pn	09 13 12.4	-0.8
	5.3nm,0.1s,SNR=4.0							
CFUE				S		Sn	09 13 54.3	-5.1
	6.8nm,0.1s,SNR=7.9							
CFTV	**Fuerteventura**	**4.12**	**185**	P		Pn	09 13 16.9	+0.3
	0.4nm,0.2s,SNR=7.9							
CFTV				S		Sn	09 13 59.8	-5.6
	4.1nm,0.7s,SNR=7.9							
EGOM	**La Gomera**	**5.33**	**216**	S		Sn	09 14 28.3	-7.0
	4.5nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**6.07**	**39**	P		Pn	09 13 42.9	-0.4
	0.9nm,0.1s,SNR=4.0							
PFVI				S		Sn	09 14 46.1	-7.3
	3.1nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**7.11**	**44**	S		Sn	09 15 11.1	-7.9
	2.4nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.74**	**46**	P		Pn	09 14 05.7	-0.6
	0.3nm,0.1s,SNR=7.9							
EMIN				S		Sn	09 15 26.8	-7.9
	0.8nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**8.71**	**48**	P		Pn	09 14 18.6	-1.0
	0.2nm,0.1s,SNR=6.7							
EADA	**Adamuz**	**9.30**	**50**	S		Sn	09 16 03.7	-9.4
	0.5nm,0.2s,SNR=7.9							

*PDG **20** 09:24:25.9±0.5, 42°.95N×20°.90E, h13km±1km, MD2.7/1, ML2.6/9, Error ellipse: s-maj=1.2km s-min=1.3km az=0.0*
*SIK **20** 09:24:25.9, 42°.85N×21°.04E, h0km, M2.4*
*BEO **20** 09:24:25.8±0.2, 42°.84N×21°.04E, h0km, ML2.4/18*
ISC 20 09:24:24.4±1.1, 42°.86N±0°.02×21°.03E±0°.02, h9km±10km, n51, σ0988/85, 15C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SELS	**Selova**	**0.37**	**10**	*e*Pg		**Pb**	**09 24 31.8**	**-1.3**
SELS				*e*Sg		**Sg**	**09 24 37.0**	**+0.5**
BARS	**Barje**	**0.58**	**94**	*e*Pg		**Pb**	**09 24 36.4**	**-0.3**
BARS				*e*Sg		**Sb**	**09 24 44.5**	**-0.5**
PVY	**Plav**	**0.83**	**252**	⇓*i*Pg		**Pg**	**09 24 40.2**	**-0.2**
PVY				*e*Sg		**Sg**	**09 24 51.5**	**+0.2**
IVA	**Berane**	**0.84**	**271**	⇑*i*Pg		**Pg**	**09 24 39.8**	**-0.7**
IVA				*e*Sg		**Sg**	**09 24 50.5**	**-0.9**
SJES	**Sjenica**	**0.88**	**298**	*e*Pg		**Pg**	**09 24 40.6**	**-0.6**
SJES				*e*Sg		**Sb**	**09 24 53.9**	**+0.2**
BOVS	**Bovan**	**0.92**	**32**	*e*Pg		**Pb**	**09 24 42.4**	**-0.1**
BOVS				*e*Sg		**Sn**	**09 24 55.5**	**-1.4**
IVAS	**Ivanjica**	**0.96**	**318**	*e*Pg		**Pg**	**09 24 42.2**	**-0.7**
IVAS				*e*Sg		**Sb**	**09 24 57.0**	**+0.8**
GRUS	**Gruza**	**1.06**	**347**	*e*Pg		**Pn**	**09 24 45.4**	**0.0**
GRUS				*e*Sg		**Sn**	**09 25 00.0**	**-0.3**
KOME	**Kolasin**	**1.12**	**270**	⇓*i*Pg		**Pg**	**09 24 44.9**	**-0.9**
KOME				*e*Sg		**Sg**	**09 24 59.9**	**-0.4**
BOSS	**Bosilegrad**	**1.13**	**108**	*e*Pg		**Pb**	**09 24 45.8**	**-0.3**
BOSS				*e*Sg		**Sn**	**09 25 01.3**	**-0.7**
ZAPS	**Zavoj**	**1.25**	**70**	*e*Pg		**Pn**	**09 24 49.0**	**+1.0**
ZAPS				*e*Sg		**Sn**	**09 25 05.9**	**+0.9**
PLE	**Pljevlja**	**1.29**	**292**	⇓*i*Pg		**Pn**	**09 24 47.9**	**-0.9**
PLE				*e*Sg		**Sg**	**09 25 05.6**	**-0.4**
ZAGS	**Zajecar**	**1.29**	**42**	*e*Pg		**Pg**	**09 24 48.8**	**-0.4**
ZAGS				*e*Sg		**Sn**	**09 25 07.4**	**+1.2**
PDG	**Podgorica**	**1.38**	**253**	*e*Pg		**Pg**	**09 24 50.9**	**+0.1**
PDG				*e*Sg		**Sg**	**09 25 08.8**	**+0.1**
PDG	**Podgorica**	**1.38**	**253**	*e*Pn		**Pb**	**09 24 50.3**	**0.0**
PDG	**Podgorica**	**1.38**	**253**	⇑P		**Pb**	**09 24 50.4**	**0.0**
PDG				⇓S		**Sg**	**09 25 10.8**	**+2.1**
PDG				AML		AML	09 25 12.0	
TTG	**Podgorica**	**1.38**	**253**	⇑*i*Pg		**Pb**	**09 24 50.4**	**+0.1**
TTG				*e*Sg		**Sg**	**09 25 09.9**	**+1.2**
BLKB	**Belogradchik**	**1.42**	**57**	⇑S		**Sg**	**09 25 10.6**	**+0.5**
BLKB				AML		AML	09 25 18.2	
RUDO	**Rudo**	**1.43**	**303**	*e*Pn		**Pn**	**09 24 47.9**	**-2.7**
TRUS	**Trudelj**	**1.44**	**342**	*e*Pg		**Pg**	**09 24 52.3**	**+0.3**
TRUS				*e*Sg		**Sg**	**09 25 11.4**	**+0.8**
STIP	**Stip**	**1.44**	**143**	*i* Pn		**Pg**	**09 24 52.0**	**-0.1**
DIVS	**Divibare**	**1.45**	**329**	*e*Pg		**Pg**	**09 24 52.1**	**-0.1**
DIVS				*e*Sg		**Sg**	**09 25 12.8**	**+1.7**
DIVS	**Divibare**	**1.45**	**329**	*e*Pn		**Pn**	**09 24 50.5**	**-0.4**
DRME	**Dracevica, Mon**	**1.52**	**244**	*e*Pn		**Pb**	**09 24 52.9**	**+0.1**
DRME	**Dracevica, Mon**	**1.52**	**244**	⇓*i*Pg		**Pb**	**09 24 52.9**	**+0.1**
DRME				*e*Sg		**Sg**	**09 25 15.0**	**+1.7**
NKME	**Niksic**	**1.53**	**267**	⇓*i*Pg		**Pn**	**09 24 52.3**	**+0.3**
NKME				*e*Sg		**Sg**	**09 25 14.2**	**+0.6**
BBLS	**Laziói**	**1.56**	**311**	*e*Pg		**Pg**	**09 24 54.6**	**+0.4**
BBLS				*e*Sg		**Sg**	**09 25 16.3**	**+1.9**
BBLS	**Laziói**	**1.56**	**311**	*e*Pn		**Pg**	**09 24 54.1**	**-0.1**
CEME	**Cevo**	**1.59**	**259**	⇑*i*Pg		**Pb**	**09 24 53.5**	**-0.5**
CEME				*e*Sg		**Sg**	**09 25 15.9**	**+0.5**
ULC	**Ulcinj**	**1.60**	**237**	⇑*i*Pn		**Pg**	**09 24 54.7**	**-0.3**
ULC				*e*Sn		**Sg**	**09 25 17.2**	**+1.5**
KUBS	**Kucevo**	**1.62**	**16**	*e*Pg		**Pg**	**09 24 54.7**	**-0.8**
KUBS				*e*Sg		**Sg**	**09 25 17.4**	**+0.9**
VTS	**Vitosha**	**1.64**	**98**	*e*Pg		**Pg**	**09 24 55.7**	**-0.1**
VTS				*e*Sg		**Sg**	**09 25 16.3**	**-0.8**
VTS	**Vitosha**	**1.64**	**98**	⇑P		**Pb**	**09 24 54.2**	**-0.7**
VTS				⇓S		**Sg**	**09 25 16.2**	**-0.9**
VTS				AML		AML	09 25 22.0	
BUM	**Brajici-Budva**	**1.68**	**251**	⇓*i*Pn		**Pb**	**09 24 55.6**	**+0.2**
BUM				*e*Sn		**Sg**	**09 25 18.2**	**0.0**
TIR	**Tirane**	**1.74**	**210**	⇑P		**Pn**	**09 24 54.6**	**-0.2**
BRY	**Bratogost**	**1.83**	**272**	*e*Pn		**Pn**	**09 24 57.1**	**+0.9**
BRY	**Bratogost**	**1.83**	**272**	⇑*i*Pn		**Pb**	**09 24 57.7**	**-0.5**
BRY				*e*Sn		**Sb**	**09 25 21.3**	**0.0**
HCY	**Herceg Novi**	**1.92**	**259**	⇑*i*Pn		**Pb**	**09 24 59.0**	**-0.5**
HCY				*e*Sn		**Sb**	**09 25 23.6**	**0.0**
HAPS	**Han Pijesak,Bl**	**1.95**	**310**	*e*Pg		**Pg**	**09 25 00.8**	**-0.9**
HAPS				*e*Sg		**Sg**	**09 25 28.8**	**+1.8**
HAPS	**Han Pijesak,Bl**	**1.95**	**310**	*e*Pn		**Pn**	**09 24 57.4**	**-0.4**
TREB	**Trebinje**	**1.98**	**267**	*e*Pg		**Pb**	**09 25 01.1**	**+0.5**
TREB				*e*Sg		**Sg**	**09 25 28.4**	**+0.5**
TREB	**Trebinje**	**1.98**	**267**	*e*Pn		**Pb**	**09 25 00.3**	**-0.3**
MDVR	**Moldovita**	**1.98**	**14**	⇑P		**Pb**	**09 25 00.4**	**-0.4**
MDVR				⇓S		**Sg**	**09 25 28.0**	**-0.2**
MDVR				AML		AML	09 25 30.6	
TEKS	**Tekeris**	**2.01**	**328**	*e*Pg		**Pg**	**09 25 02.9**	**0.0**
TEKS				*e*Sg		**Sg**	**09 25 31.1**	**+2.1**
TEKS	**Tekeris**	**2.01**	**328**	*e*Pn		**Pg**	**09 25 02.3**	**-0.6**
HERR	**Herculane**	**2.26**	**26**	⇑P		**Pn**	**09 25 02.7**	**+0.8**
HERR				⇓S		**Sb**	**09 25 33.3**	**-0.1**
HERR				AML		AML	09 25 39.6	
STON	**Ston**	**2.45**	**271**	*e*Pn		**Pb**	**09 25 06.5**	**-2.1**
FRGS	**Fruska Gora**	**2.46**	**339**	*e*Pn		**Pn**	**09 25 04.5**	**-0.3**
PLVB	**Pleven**	**2.68**	**77**	⇑S		**Sg**	**09 25 51.4**	**+1.0**
GZR	**Gura Zlata**	**2.83**	**26**	⇑P		**Pn**	**09 25 10.6**	**+0.8**
GZR				AML		AML	09 25 57.3	
DRGR		**4.11**	**16**	⇑P		**Pn**	**09 25 28.5**	**+1.0**

IDC 20 09:37:57.1±2.6, 17°.85S×177°.89W, h0km, mb4.0/4, mb1 4.4/4, mb1mx3.8/42, mbtmp4.0/4, Error ellipse: s-maj=229.0km s-min=25.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.12**	**259**	P		P	09 46 15.0	-0.7
	1.0nm,0.4s,baz=96,slow=7.0,SNR=36							
ASAR	**Alice Springs**	**45.28**	**254**	P		P	09 46 17.4	+0.4
	11nm,0.5s,baz=89,slow=8.0,SNR=181							
NVAR	**Mina Array Bea**	**79.04**	**44**	P		P	09 50 03.6	0.0
	0.2nm,0.4s,baz=212,slow=8.5,SNR=3.5							
TXAR	**Lajitas Array**	**85.55**	**57**	P		P	09 50 37.8	+0.1
	0.3nm,0.7s,baz=232,slow=6.2,SNR=5.4							

DJA 20 09:46:27.7±0.6, 9°S±3°×12°4E±°, h112km±6km, M3.8/7, mb4.1/2, MLv3.6/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SOEI	**Soe**	**0.87**	**140**	P		Pn	09 46 49.1	+1.1
SOEI				S		Sn	09 47 03.3	+0.1
BATI	**Baumata**	**1.12**	**182**	P		Pn	09 46 51.3	+0.9
BATI				S		Sn	09 47 09.1	+1.6
MMRI	**Maumere**	**1.51**	**287**	P		Pn	09 46 55.5	+0.7
MMRI				S		Sn	09 47 15.8	+0.5
WBSI	**Waikabubak, Su**	**4.29**	**262**	P		Pn	09 47 28.9	-2.1
PLAI	**Plampang**	**5.86**	**272**	P		Pn	09 47 53.4	+1.2

*SJA **20** 10:03:52.7±0.8, 22°.02S×67°.29W, h201km±7km, ML3.4, MW3.6*
*ISCJB **20** 10:03:53.9±0.5, 22°.02S±0°.04×67°.38W±0°.04, h192km±5km, Error ellipse: s-maj=6.9km s-min=5.4km az=28.7*
*IDC **20** 10:03:53.8±1.0, 22°.01S×67°.15W, h174km±10km, mb2.8/2, mb1 3.4/5, mb1mx3.2/24, mbtmp3.6/5, Error ellipse: s-maj=18.8km s-min=13.4km az=118.0*
*GUC **20** 10:03:54.4±0.7, 21°.98S×67°.65W, h208km±7km, ML3.9*
ISC 20 10:03:54.3±0.8, 21°.94S±0°.05×67°.28W±0°.04, h181km±8km, n32, σ1959/52, 14C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YJA	**Yavi**	**1.65**	**99**	*e*P		**Pn**	**10 04 29.4**	**+1.1**
YJA				*e*S		**Sn**	**10 04 56.7**	**+2.2**
YJA				IAML			10 04 57.7	
	comp=Z,242nm,0.6s							
LVC	**Limon Verde**	**1.65**	**246**	⇓*i*P		**Pn**	**10 04 28.6**	**+0.4**
LVC				*i* S		**Sn**	**10 04 54.6**	**+0.1**
LVC	**Limon Verde**	**1.65**	**246**	P		**Pn**	**10 04 28.6**	**+0.4**
	comp=Z,58nm,0.3s,baz=55,slow=8.3,SNR=521							
LVC				LR		LR	10 04 48.2	
	comp=Z,31nm,21.7s,baz=134,slow=31							
LVC				S		**Sn**	**10 04 54.2**	**-0.2**
	comp=Z,26nm,0.3s,baz=240,slow=20,SNR=36							
LVC	**Limon Verde**	**1.65**	**246**	*e*P		**Pn**	**10 04 28.7**	**+0.4**
LVC				IAML			10 04 29.4	
	comp=Z,148nm,0.6s							
LVC				*e*S		**Sn**	**10 04 54.2**	**-0.2**
PB09	**IPOC Station P**	**1.83**	**274**	⇑*i*P		**Pn**	**10 04 30.4**	**+0.6**
PB09	**IPOC Station P**	**1.83**	**274**	*e*P		**Pn**	**10 04 30.6**	**+0.8**
HJA	**Humahuaca**	**2.14**	**127**	*e*P		**Pn**	**10 04 34.2**	**+0.8**
HJA				*e*S		**Sn**	**10 05 04.1**	**+0.4**
HJA				IAML			10 05 06.5	
	comp=Z,148nm,0.5s							
PB01	**IPOC Station P**	**2.24**	**293**	⇑*i*P		**Pn**	**10 04 34.5**	**+0.3**
PB01				*i* S		**Sn**	**10 05 04.7**	**-0.5**
PB01				IAML			10 05 06.0	
	comp=N,539nm,0.3s							
PB06	**IPOC Station P**	**2.26**	**250**	⇑*i*P		**Pn**	**10 04 34.1**	**-0.3**
PB06				*i* S		**Sn**	**10 05 04.4**	**-1.3**
PB06				IAML			10 05 06.6	
	comp=E,664nm,0.1s							
PB06	**IPOC Station P**	**2.26**	**250**	*e*P		**Pn**	**10 04 34.0**	**-0.5**
PB06				*e*S		**Sn**	**10 05 05.3**	**-0.3**
PB03	**IPOC Station P**	**2.30**	**267**	⇑*i*P		**Pn**	**10 04 34.6**	**-0.3**
PB03				*i* S		**Sn**	**10 05 05.0**	**-1.4**
PB03				IAML			10 05 05.9	
	comp=E,446nm,0.2s							
PB15	**IPOC Station P**	**2.39**	**238**	⇑*i*P		**Pn**	**10 04 35.9**	**-0.1**
PB15				*i* S		**Sn**	**10 05 07.5**	**-0.9**
PB15	**IPOC Station P**	**2.39**	**238**	*e*P		**Pn**	**10 04 35.8**	**-0.2**
PB15				*e*S		**Sn**	**10 05 07.7**	**-0.7**
PB07	**IPOC Station P**	**2.43**	**274**	⇑*i*P		**Pn**	**10 04 36.2**	**-0.3**
PB07				*i* S		**Sn**	**10 05 07.4**	**-1.7**
PB07				IAML			10 05 09.3	
	comp=N,366nm,0.3s							
PB08	**IPOC Station P**	**2.50**	**315**	⇑*i*P		**Pn**	**10 04 39.0**	**+1.5**
PB08				*i* S		**Sn**	**10 05 12.7**	**+1.7**
PB08				IAML			10 05 16.0	
	comp=E,316nm,0.2s							
PB02	**IPOC Station P**	**2.51**	**284**	⇑*i*P		**Pn**	**10 04 37.1**	**-0.2**
PB02				*i* S		**Sn**	**10 05 09.1**	**-1.6**
PB02	**IPOC Station P**	**2.

*NEIC **20** 10:09:22, 12.°26N×95.°20E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.84; $M_{\theta\theta}$1.44; $M_{\phi\phi}$0.40; $M_{r\theta}$0.94; $M_{\theta\phi}$2.74; $M_{r\phi}$0.79; Fault plane solution: $M_0$3.44000×10^{17} NP1:ϕ_s229.00000°, δ57.00000°, λ-92.00000°. NP2:ϕ_s53.00000°, δ33.00000°, λ-86.00000°. Principal axes: T 3.9664, Plg12.0000°, Azm320.0000°; N -1.8692, Plg2.0000°, Azm230.0000°; P -2.0972, Plg78.0000°, Azm131.0000°;*
*KLM **20** 10:09:23.0, 12.°39N×95.°01E, h56km, mb5.5*
ISC 20 10:09:19.2±0.5, 12.°35N±0.°03×95.°12E±0.°03, h15km±2km, h14km:pP-P, n862, σ1s71/839, mb5.3/183, MS5.3/230, 38C-21D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHET	**Kaeng Krachan**	**4.44**	**82**	P	**Pn**	**10 10 24.1**	**-2.0**
SURT	**Suratani**	**4.94**	**133**	P	**Pn**	**10 10 32.0**	**-0.9**
UTHA	**Uthaitani**	**5.28**	**52**	P	**Pn**	**10 10 36.7**	**-0.9**
	326μm,0.5s,2μm						
UMPA	**Umpang Tak**	**5.28**	**43**	P	**Pn**	**10 10 35.3**	**-2.4**
	486μm,0.7s,3μm						
PKDT	**Phuket**	**5.44**	**144**	P	**Pn**	**10 10 42.7**	**+2.8**
PATY	**Pattaya**	**5.64**	**84**	P	**Pn**	**10 10 40.4**	**-2.2**
	887μm,0.4s,5μm						
TRTT	**Trang**	**6.35**	**134**	P	**Pn**	**10 10 51.9**	**-0.5**
	135nm,0.6s,3μm7.0nm						
MHMT	**Maesarieng**	**6.40**	**25**	P	**Pn**	**10 10 56.8**	**+3.7**
	108nm,1.1s,3μm2.0nm						
PBKT	**Sadao Pong**	**7.05**	**53**	P	**Pn**	**10 11 01.3**	**-0.7**
	60nm,0.9s,1μm0.9nm						
PBKT	**Sadao Pong**	**7.05**	**53**		**Pn**	**10 11 01.2**	**-0.8**
CM31	**Chiang Mai Arr**	**7.11**	**31**	P	**Pn**	**10 11 03.5**	**+0.7**
	SNR=17						
CM31	**Chiang Mai Arr**	**7.11**	**31**		**Pn**	**10 11 02.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.11**	**31**	*i* P	**Pn**	**10 11 03.2**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,28nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.11**	**31**	Pn	**Pn**	**10 11 02.1**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=218,slow=15,SNR=88						
CMAR				LR	LR	10 14 08.1	
	comp=Z,10μm,19.5s,baz=222,slow=41						
CMAR	**Chiang Mai Arr**	**7.11**	**31**		**Pn**	**10 11 01.9**	**-0.9**
LHMI	**Lhok Sumawe**	**7.30**	**166**	P	**Pn**	**10 11 06.7**	**+1.3**
	comp=Z,259nm,1.1s,comp=Z,6μmcomp=Z,34μmcomp=Z,3.7nm						
LHMI	**Lhok Sumawe**	**7.30**	**166**		**Pn**	**10 11 07.6**	**+2.2**
CHTO	**Chiang Mai**	**7.41**	**29**	P	**Pn**	**10 11 07.4**	**+0.4**
	SNR=10						
CHTO	**Chiang Mai**	**7.41**	**29**	P	**Pn**	**10 11 06.5**	**-0.5**
CHTO	**Chiang Mai**	**7.41**	**29**		**Pn**	**10 11 06.5**	**-0.5**
CMMT	**Chiang Mai**	**7.41**	**29**	P	**Pn**	**10 11 07.8**	**+0.8**
	comp=Z,21nm,1.6s,comp=Z,924nmcomp=Z,0.3nm						
SKLT	**Songkhla**	**7.47**	**133**	P	Pb	10 11 18.8	-10
LAMP	**Lampang**	**7.53**	**35**	P	**Pn**	**10 11 10.9**	**+2.4**
	comp=Z,117μm,0.9s,comp=Z,413nm						
CHAI	**Chaiyaphum**	**7.54**	**61**	P	**Pn**	**10 11 08.7**	**0.0**
	comp=Z,150μm,0.5s,comp=Z,755nm						
MLSI	**Meulaboh, Aceh**	**8.13**	**171**	P	**Pn**	**10 11 18.9**	**+2.1**
	comp=Z,1μm,1.3s,comp=Z,11μmcomp=Z,3.3nm						
PAYA	**Payao**	**8.34**	**33**	P	**Pn**	**10 11 20.7**	**+1.0**
	comp=Z,131μm,0.7s,comp=Z,425nm						
KULM	**Kulim**	**8.89**	**142**	P	**Pn**	**10 11 30.0**	**+2.8**
KULM	**Kulim**	**8.89**	**142**		**Pn**	**10 11 26.6**	**-0.6**
KCSI	**Kotacane, Aceh**	**9.15**	**163**	P	**Pn**	**10 11 31.9**	**+1.0**
	comp=Z,122nm,1.6s,comp=Z,3μmcomp=Z,24μm						
TPTI		**9.25**	**167**	P	**Pn**	**10 11 35.3**	**+3.0**
	comp=Z,96nm,1.4s,comp=Z,3μm						
NONG	**Nongkai**	**9.61**	**53**	P	**Pn**	**10 11 39.1**	**+2.0**
	comp=Z,4.3nm,1.9s,comp=Z,162nm						
IPM	**Ipoh**	**9.76**	**143**	P	**Pn**	**10 11 41.0**	**+1.8**
IPM	**Ipoh**	**9.76**	**143**		**Pn**	**10 11 39.7**	**+0.5**
SNSI	**Sinabang, Aceh**	**9.94**	**173**	P	**Pn**	**10 11 40.2**	**-1.5**
	comp=Z,227nm,1.6s,comp=Z,10μm						
PSI	**Prapat**	**10.20**	**158**	P	**Pn**	**10 11 47.6**	**+2.2**
PSI	**Prapat**	**10.20**	**158**	Pn	**Pn**	**10 11 47.9**	**+2.6**
	comp=Z,1.4nm,0.3s,baz=310,slow=11,SNR=11						
PSI				LR	LR	10 15 41.7	
	comp=Z,16μm,21.6s,baz=312,slow=37						
SAIH	**SAIHA**	**10.29**	**349**	*eP*	**Pn**	**10 11 44.4**	**-2.2**
RPSI	**Rantau Prapat**	**10.30**	**158**		**Pn**	**10 11 47.6**	**+1.0**
RPSI	**Rantau Prapat**	**10.30**	**158**		**Pn**	**10 11 47.9**	**+1.3**
UBPT	**Khong Chiam**	**10.47**	**73**	P	**Pn**	**10 11 52.3**	**+3.4**
UBPT	**Khong Chiam**	**10.47**	**73**		**Pn**	**10 11 48.9**	**0.0**
GSI	**Gunungsitoli**	**11.24**	**167**	P	**Pn**	**10 12 00.5**	**+1.1**
	comp=Z,94nm,1.6s,comp=Z,5μm						
GSI	**Gunungsitoli**	**11.24**	**167**		**Pn**	**10 11 58.9**	**-0.6**
BELO	**BELONIA**	**11.39**	**343**	*eP*	**Pn**	**10 11 59.4**	**-2.1**
AZL	**Aizawl**	**11.56**	**349**	*eP*	**Pn**	**10 12 01.9**	**-2.1**
BWNR	**Bhubaneshwar**	**11.93**	**313**	*eP*	**Pn**	**10 12 05.4**	**-3.5**
BWNR				*eP*	**Pn**	**10 12 06.9**	**-1.9**
BWNR				*eS*	Sn	10 14 09.1	-13
AGT	**Agartala**	**12.05**	**343**	*eP*	**Pn**	**10 12 09.4**	**-1.1**
SLVN	**Son La**	**12.27**	**42**		**Pn**	**10 12 14.3**	**+0.7**
IMP	**Imphal**	**12.47**	**355**	*eP*	**Pn**	**10 12 14.2**	**-2.1**
SILR	**SILCHAR**	**12.56**	**350**	*eP*	**Pn**	**10 12 16.5**	**-1.1**
VIS	**Vishakhapatnam**	**12.58**	**297**	*i* P	Pn	10 12 03.5	-14
VIS				*i* S	Sn	10 14 14.9	-23
VIS				*ex*	x	10 14 18.5	
	comp=N,1μm,0.9s						
BKNI	**Bangkinang**	**13.31**	**153**	P	**Pn**	**10 12 27.1**	**-0.7**
	comp=N,450nm,1.5s,comp=N,9μm						
KOHI	**KOHIMA**	**13.34**	**356**	*eP*	**Pn**	**10 12 25.3**	**-3.0**
SHL	**Shillong**	**13.50**	**347**	*eP*	**Pn**	**10 12 29.1**	**-1.5**
SHL				IAmb	IAmb	10 12 39.7	
	comp=Z,28nm,0.6s						
MYKOM	**Kota Tinggi**	**13.60**	**140**	P	**Pn**	**10 12 33.0**	**+1.3**
MYKOM	**Kota Tinggi**	**13.60**	**140**		**Pn**	**10 12 31.4**	**-0.3**
SISI	**Saibi**	**14.14**	**164**	P	**Pn**	**10 12 42.6**	**+3.4**
GUWA	**GUWAHATI**	**14.15**	**347**	*eP*	**Pn**	**10 12 36.5**	**-2.7**
PDSI	**Padang**	**14.20**	**158**	P	**Pn**	**10 12 39.7**	**-0.3**
BOK	**Bokaro**	**14.37**	**324**	*ex*	Pn	10 12 54.8	+13
SDSI	**Sungai Dareh**	**14.60**	**154**	P	**Pn**	**10 12 45.4**	**-0.1**
	comp=Z,61nm,1.4s,comp=Z,3μm						
KMI	**Kunming**	**14.61**	**28**	P	**Pn**	**10 12 47.3**	**+1.5**
KMI				pP	P	10 12 50.1	-2.0
KMI				sP		10 12 51.3	
KMI				PP	**PnPn**	**10 12 59.0**	**+5.1**
KMI				S	**Sn**	**10 15 29.8**	**+2.2**
KMI				sS	S	10 15 36.8	-10
KMI				SS	**SnSn**	**10 15 44.8**	**+4.2**
KMI				LR	LR		
	comp=Z,27μm,12.0s						
KMI				LR	LR		
	comp=Z,21μm,10.6s						
KMI				LR	LR		
	comp=Z,21μm,11.2s						
KMI	**Kunming**	**14.61**	**28**	P	**P**	**10 12 49.3**	**-2.8**
KMI	**Kunming**	**14.61**	**28**		**P**	**10 12 49.3**	**-2.8**
TPRI	**Tanjung Pinang**	**14.69**	**140**	P	**Pn**	**10 12 44.0**	**-2.7**
PALK	**Pallekele**	**15.07**	**252**	*i* P	**P**	**10 12 58.4**	**+1.3**
	SNR=11						
PALK	**Pallekele**	**15.07**	**252**	P	**P**	**10 13 00.5**	**+3.4**
PALK	**Pallekele**	**15.07**	**252**	P	**Pn**	**10 12 52.0**	**+0.1**
PALK				pmax	pmax		
	comp=Z,119nm,1.0s						
PALK	**Pallekele**	**15.07**	**252**	LR	LR	10 18 59.7	
	comp=Z,6μm,18.2s,baz=105,slow=38						
PALK	**Pallekele**	**15.07**	**252**		**Pn**	**10 12 52.0**	**+0.1**
PALK				IAmb	IAmb	10 13 08.9	
	comp=Z,119nm,1.0s						
QIZ	**Qiongzhong**	**15.65**	**63**	P	**Pn**	**10 12 58.4**	**-1.0**
QIZ				S	**Sn**	**10 15 52.4**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,2μm,8.8s						
QIZ				LR	LR		
	comp=Z,19μm,19.6s						
QIZ				LR	LR		
	comp=Z,15μm,12.3s						
QIZ				LR	LR		
	comp=Z,18μm,12.3s						
KRJI	**Kerinci**	**15.66**	**156**	P	**P**	**10 13 02.6**	**-1.2**
	comp=Z,235nm,0.9s,comp=Z,7μm						
PPSI	**Pulau Pagai**	**15.78**	**162**	P	**Pn**	**10 13 01.1**	**+0.1**
	comp=Z,160nm,1.5s						
DSRI	**Dabo**	**15.83**	**143**	P	**Pn**	**10 13 00.1**	**-1.6**
	comp=Z,9.1nm,0.7s,comp=Z,2μm						
GTK	**Tadong**	**16.10**	**339**	*eP*	**Pn**	**10 13 01.7**	**-3.6**
ODAN	**Odare**	**16.16**	**334**	*eP*	**Pn**	**10 13 07.4**	**+1.2**
TAPN	**Taplejung**	**16.47**	**336**	*eP*	**P**	**10 13 12.8**	**0.0**
	comp=Z,702nm,1.2s						
RAMN	**Ramite**	**16.59**	**332**	*eP*	**P**	**10 13 13.0**	**-1.1**
HYB	**Hyderabad**	**16.78**	**289**	*i* P	**Pn**	**10 13 12.0**	**-2.0**
	comp=Z,500nm,1.4s						
HYB				*e*		10 13 17.5	
HYB				*eS*	**Sn**	**10 16 20.0**	**-0.4**
HYB				*e*LR	LR		
	comp=Z,8.2nm,26.0s						
HYB	**Hyderabad**	**16.78**	**289**	*ex*	**S**	**10 16 36.0**	**+4.9**
HYD	**Hyderabad**	**16.88**	**289**	*eP*	**Pn**	**10 13 15.0**	**-0.2**
HYD				*eS*	**Sn**	**10 16 22.0**	**-0.8**
MASI	**Maura Aman, Be**	**16.93**	**155**	P	**P**	**10 13 17.4**	**-0.4**
JIRN	**Jiri**	**17.38**	**333**	*eP*	**P**	**10 13 23.3**	**+0.3**
	comp=Z,3μm,1.8s						
LSA	**Lhasa**	**17.66**	**349**	P	**P**	**10 13 25.8**	**-0.4**
LSA				S	**S**	**10 16 47.5**	**-2.0**
LSA				LR	LR		
	comp=Z,30μm,24.9s						
LSA				LR	LR		
	comp=Z,28μm,26.3s						
LSA				LR	LR		
	comp=Z,41μm,22.8s						
LSA	**Lhasa**	**17.66**	**349**	*i* P	**Pn**	**10 13 25.5**	**+0.2**
	SNR=26						
LSA	**Lhasa**	**17.66**	**349**	P	**P**	**10 13 27.5**	**+1.3**
LSA	**Lhasa**	**17.66**	**349**	P	**Pn**	**10 13 25.0**	**-0.3**
LSA				pmax	pmax		
	comp=Z,76nm,0.8s						
LSA	**Lhasa**	**17.66**	**349**	P	**Pn**	**10 13 25.0**	**-0.3**
PKI	**Pulchoki**	**17.67**	**330**	*eP*	**P**	**10 13 26.4**	**+0.2**
	comp=Z,4μm,2.0s						
PKIN	**Phulchoki**	**17.68**	**330**	*eP*	**P**	**10 13 26.5**	**+0.3**
	comp=Z,3μm,2.0s						
NGP	**Nagpur**	**17.69**	**302**	*eP*	**Pn**	**10 13 24.7**	**-0.6**
NGP				*eS*	**Sn**	**10 16 40.7**	**-1.6**
NGP				IAMs_20	IAMs_20	10 19 37.8	
	comp=Z,12μm,19.3s						
GUN	**Gumba**	**17.74**	**332**	*eP*	**P**	**10 13 27.1**	**+0.2**
	comp=Z,3μm,2.0s						
GYA	**Guiyang**	**17.75**	**36**	⇓*i* P	**P**	**10 13 26.9**	**+0.1**
GYA				PP	**PnPn**	**10 13 45.9**	**+9.0**
GYA				pmax	pmax		
	comp=Z,110nm,1.2s						
GYA				pmax	pmax		
	comp=Z,3μm,8.3s						
GYA				LR	LR		
	comp=Z,19μm,10.3s						
GYA				LR	LR		
	comp=Z,17μm,10.0s						
GYA				LR	LR		
	comp=Z,24μm,11.2s						
DMN	**Daman**	**17.85**	**330**	*eP*	**P**	**10 13 28.5**	**+0.4**
	comp=Z,680nm,1.1s						
KKN	**Kakani**	**17.91**	**331**	*eP*	**P**	**10 13 29.7**	**+0.9**
	comp=Z,321nm,1.1s						
PMBI	**Palembang**	**17.95**	**147**	P	**Pn**	**10 13 26.7**	**-1.8**
	comp=Z,534nm,0.9s,comp=Z,17μm						
JBP	**Jabalpur**	**17.97**	**309**	*eP*	**P**	**10 13 29.3**	**+0.1**
LHSI	**Lahat**	**18.11**	**152**	P	**Pn**	**10 13 28.4**	**-2.0**
	comp=Z,71nm,1.5s,comp=Z,4μm						
GKN	**Gorkha**	**18.41**	**329**	*eP*	**Pn**	**10 13 34.7**	**+0.5**
KSM	**Kuching**	**18.53**	**124**	P	**Pn**	**10 13 37.0**	**+1.4**
KSM	**Kuching**	**18.53**	**124**	P	**P**	**10 13 35.3**	**-0.1**
KOLN	**Koldanda**	**18.76**	**327**	*eP*	**P**	**10 13 38.2**	**+0.2**
DANN	**Dangsing**	**19.14**	**328**	*eP*	**Pn**	**10 13 43.7**	**+0.5**
	comp=Z,1μm,1.0s						
LWLI	**Liwa**	**19.40**	**152**	P	**Pn**	**10 13 48.1**	**+1.8**
KLSI		**19.43**	**150**	P	**P**	**10 13 45.4**	**+0.1**
	comp=Z,100nm,1.2s,comp=Z,3μm						
TPI	**Tanjungpandan**	**19.50**	**140**	P	**P**	**10 13 44.7**	**-1.3**
	comp=Z,48nm,2.9s,comp=Z,2μm						
SBUM	**Sibu**	**19.58**	**119**	P	**Pn**	**10 13 48.1**	**-0.2**
SBUM				IAmb	IAmb	10 13 58.8	
	comp=Z,168nm,1.4s						
BHPL	**Bhopal**	**20.01**	**305**	*eP*	**P**	**10 13 51.7**	**+0.1**
BHPL				IAmb	IAmb	10 14 04.2	
	comp=Z,322nm,1.1s						
KASI	**Kota Agung**	**20.05**	**152**	P	Pn	10 14 05.6	+12
CD2	**Chengdu**	**20.13**	**22**	⇓*i* P	**P**	**10 13 53.3**	**+0.5**
CD2				PP	pwP	10 14 18.5	+19
CD2				S	**S**	**10 17 37.3**	**-1.3**
CD2				pmax	pmax		
	comp=Z,320nm,1.7s						
CD2				pmax	pmax		
	comp=Z,3μm,4.3s						
CD2				LR	LR		
	comp=Z,11μm,12.8s						
CD2				LR	LR		
	comp=Z,13μm,11.4s						
CD2				LR	LR		
	comp=Z,17μm,11.4s						
BLSI	**Bandar Lampung**	**20.27**	**150**	P	**P**	**10 13 52.8**	**-1.7**
STKI	**Sintang**	**20.30**	**126**	P	Pn	10 13 57.0	+0.1
	comp=Z,123nm,1.4s,comp=Z,17μm						
HKPS	**Hong Kong Po S**	**20.65**	**59**	P	**P**	**10 13 58.6**	**+0.1**
POO	**Poona**	**21.39**	**289**	*eS*	**S**	**10 18 07.0**	**+3.0**
TNG	**Tangerang**	**21.67**	**147**	P	**P**	**10 14 13.7**	**+4.1**
KKM	**Kota Kinabalu**	**21.73**	**105**	P	**P**	**10 14 10.7**	**+0.3**
KKM				IAmb	IAmb	10 14 27.4	
	comp=Z,235nm,1.3s						
KKM				IAMs_20	IAMs_20	10 22 13.3	
	comp=Z,10μm,22.0s						
ENH	**Enshi**	**22.26**	**35**	IAMs_20	IAMs_20	10 23 52.0	
	comp=Z,11μm,21.0s						
HMDM	**Hanimaadhoo**	**22.32**	**258**	P	**P**	**10 14 18.8**	**+2.2**
HMDM				IAMs_20	IAMs_20	10 23 37.8	
	comp=Z,8μm,18.0s						
BOM	**Bombay**	**22.44**	**290**	*eP*	**P**	**10 14 19.1**	**+1.3**
BOM				AMb	AMB	10 14 22.6	
	comp=Z,139nm,0.9s						
BOM				AMb	AMB	10 14 27.6	
	comp=Z,139nm,0.9s						
BOM				IAMs_20	IAMs_20	10 22 13.0	
	comp=Z,7μm,21.0s						
LEM	**Lembang**	**22.74**	**146**	P	**P**	**10 14 22.5**	**+1.3**
	comp=Z,35nm,0.7s,baz=64,slow=11,SNR=6.7						
LEM				LR	LR	10 23 47.2	
	comp=Z,11μm,20.8s,baz=306,slow=38						
LEM	**Lembang**	**22.74**	**146**	P	**P**	**10 14 22.2**	**+1.0**
NDI	**New Delhi**	**23.30**	**317**	*eP*	**P**	**10 14 27.5**	**+0.8**
CISI	**Cisompet, Garu**	**23.45**	**147**	P	**P**	**10 14 34.5**	**+6.1**
KPJI	**Karang Pucung**	**23.89**	**144**	P	**P**	**10 14 33.4**	**+0.9**
SMRI	**Semarang**	**24.56**	**141**	P	**P**	**10 14 37.8**	**-1.0**
	comp=Z,572nm,1.2s,comp=Z,16μm						
SMRI	**Semarang**	**24.56**	**141**	P	**P**	**10 14 38.8**	**0.0**
KAAM	**Kaadhehdhoo**	**24.91**	**243**	P	**P**	**10 14 47.6**	**+5.7**
	SNR=5.7						
KAAM	**Kaadhehdhoo**	**24.91**	**243**	P	**P**	**10 14 42.6**	**+0.7**
LZH	**Lanzhou**	**24.91**	**17**	⇑P	**P**	**10 14 42.3**	**+0.3**
LZH				sP	pwP	10 14 49.8	+0.6
LZH				S	**S**	**10 18 59.6**	**-5.4**
LZH				sS	sS	10 19 15.0	+3.9
LZH				pmax	pmax		
	comp=Z,60nm,1.6s						
LZH				pmax	pmax		
	comp=Z,2μm,5.4s						
LZH				LR	LR		
	comp=Z,13μm,15.2s						
LZH				LR	LR		
	comp=Z,15μm,17.4s						
LZH				LR	LR		
	comp=Z,15μm,15.2s						
XMIS	**Christmas Isla**	**24.97**	**155**	P	**P**	**10 14 42.9**	**+0.4**
XAN	**Xi'an**	**24.99**	**28**	P	**P**	**10 14 41.3**	**-1.3**
XAN				S	**S**	**10 19 04.5**	**-1.6**
XAN				pmax	pmax		
	comp=Z,2μm,10.8s						
XAN				LR	LR		
	comp=Z,9μm,12.8s						
XAN				LR	LR		
	comp=Z,11μm,14.7s						
XAN				LR	LR		
	comp=Z,11μm,14.5s						
XAN	**Xi'an**	**24.99**	**28**	P	**P**	**10 14 41.7**	**-0.9**
XAN				pmax	pmax		
	comp=Z,42nm,1.0s						
XAN				MLR	MLR		
	comp=Z,8μm,20.0s						
XAN	**Xi'an**	**24.99**	**28**	P	**P**	**10 14 41.7**	**-0.9**
XAN	**Xi'an**	**24.99**	**28**	IAMs_20	IAMs_20	10 25 13.4	
	comp=Z,8μm,20.0s						
KNMB	**Chin-men Tao**	**25.11**	**58**	P	**P**	**10 14 43.7**	**+0.1**
KNMB				IAmb	IAmb	10 14 45.0	
	comp=Z,58nm,0.9s						
KNMB				IAMs_20	IAMs_20	10 25 39.4	
	comp=Z,7μm,18.0s						
TGY	**Tagaytay City**	**25.19**	**83**	LR	LR	10 24 03.1	
	comp=Z,4μm,18.3s,baz=272,slow=35						
SMKI	**Samarinda**	**25.34**	**119**	P	**P**	**10 14 47.8**	**+1.9**
WHN	**Wuhan**	**25.39**	**42**	⇓P	**P**	**10 14 46.3**	**+0.2**
WHN				pmax	pmax		
	comp=Z,88nm,1.0s						
NGJI	**Ngawi**	**25.45**	**139**	P	**P**	**10 14 50.0**	**+3.2**
WOJI	**Wonogiri, Jawa**	**25.47**	**141**	P	**P**	**10 14 48.6**	**+1.6**
QZH	**Quanzhou**	**25.48**	**57**	⇓*i* P	**P**	**10 14 47.4**	**+0.4**
QZH				S	**S**	**10 19 20.3**	**+6.5**
QZH				pmax	pmax		
	comp=Z,72nm,1.4s						
QZH				pmax	pmax		
	comp=Z,2μm,10.6s						
QZH				LR	LR		
	comp=Z,5μm,11.0s						
QZH				LR	LR		
	comp=Z,6μm,15.5s						
QZH				LR	LR		
	comp=Z,9μm,12.0s						
TPUB	**Ta-pu**	**26.57**	**62**	P	**P**	**10 14 55.5**	**-1.4**
TWG	**Pinlang**	**26.80**	**64**	P	**P**	**10 14 59.2**	**+0.1**
TWG				IAmb	IAmb	10 15 09.4	
	comp=Z,31nm,0.7s						
SSLB	**Suanglung**	**27.02**	**61**	P	**P**	**10 15 01.2**	**+0.1**
YULB	**Yu-li**	**27.18**	**63**	P	**P**	**10 15 03.3**	**+0.9**
YULB				IAMs_20	IAMs_20	10 25 53.4	
	comp=Z,7μm,20.0s						
GTA	**Gaotai**	**27.28**	**8**	⇓P	**P**	**10 15 04.3**	**+1.0**
GTA				pP	pwP	10 15 09.4	-1.1
GTA				sP	sP	10 15 13.0	+4.6
GTA				PcP	**PcP**	**10 18 16.5**	**-6.4**
GTA				S	**S**	**10 19 45.4**	**+3.1**
GTA				sS	sS	10 19 57.0	+8.5
GTA				pmax	pmax		
	comp=Z,710nm,6.7s						
GTA				LR	LR		
	comp=Z,3μm,11.0s						
GTA				LR	LR		
	comp=Z,5μm,11.7s						
GTA				LR	LR		
	comp=Z,5μm,12.4s						
MPSI	**Mapaga**	**27.32**	**114**	P	**P**	**10 15 07.6**	**+3.8**
YHNB	**Yeheng**	**27.69**	**60**	P	**P**	**10 15 06.5**	**-0.6**
YHNB				IAmb	IAmb	10 15 09.2	
	comp=Z,136nm,1.5s						
TTSI	**Tana Toraja**	**28.92**	**120**	P	**P**	**10 15 22.4**	**+4.4**
MRSI	**Marisa**	**29.10**	**112**	P	**P**	**10 15 19.4**	**-0.3**
NIL	**Nilore**	**29.12**	**320**	P	P	10 15 27.1	+7.4
NIL				P	P	10 15 27.1	+7.4
NIL	**Nilore**	**29.12**	**320**	P	**P**	**10 15 19.5**	**-0.2**
NIL				pmax	pmax		
	comp=Z,32nm,0.7s						
NIL	**Nilore**	**29.12**	**320**	P	**P**	**10 15 19.5**	**-0.2**
NIL				IAmb	IAmb	10 15 31.7	
	comp=Z,32nm,0.7s						
NJ2	**Nanjing**	**29.33**	**44**	⇓*i* P	**P**	**10 15 21.9**	**+0.4**
NJ2				sP	**pwP**	**10 15 28.9**	**+0.3**
NJ2				S	**S**	**10 20 16.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,57nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,950nm,3.5s						
NJ2				LR	LR		
	comp=Z,6μm,10.9s						
NJ2				LR	LR		
	comp=Z,13μm,11.4s						
SPSI	**Sidrap Palu**	**29.37**	**122**	P	**P**	**10 15 23.9**	**+1.8**
APSI	**Ampana**	**29.45**	**115**	P	**P**	**10 15 22.4**	**-0.3**
TIY	**Taiyuan**	**29.63**	**29**	*eP*	**P**	**10 15 23.8**	**-0.4**
TIY				PP	**PnPn**	**10 16 19.3**	**+0.1**
TIY				S	**S**	**10 20 19.8**	**+0.5**
TIY				ScS	**ScS**	**10 26 05.8**	**+0.6**
TIY				pmax	pmax		
	comp=Z,16nm,0.5s						
TIY				pmax	pmax		
	comp=Z,400nm,4.6s						
TIY				LR	LR		
	comp=Z,11μm,10.8s						
DGAR	**Diego Garcia**	**29.88**	**230**	IAMs_20	IAMs_20	10 26 27.8	
	comp=Z,5μm,19.0s						
BNSI	**Bone**	**29.89**	**122**	P	**P**	**10 15 29.1**	**+2.4**
H08S3	**Diego Garcia H**	**30.00**	**230**	T	T	10 46 20.9	
	baz=50,slow=74,SNR=4.6						
H08S2	**Diego Garcia H**	**30.00**	**230**	T	T	10 46 20.5	
	baz=50,slow=74,SNR=4.8						
H08S1	**Diego Carcia H**	**30.02**	**230**	T	T	10 46 23.2	
	baz=50						
SSE	**Sheshan**	**30.44**	**48**	P	**P**	**10 15 32.1**	**+0.7**
SSE				S	**S**	**10 20 29.3**	**-2.7**
SSE				pmax	pmax		
	comp=Z,460nm,4.9s						
SSE				LR	LR		
	comp=Z,4μm,13.7s						
SSE				LR	LR		
	comp=Z,4μm,11.7s						
DAV	**Davao City (W)**	**30.46**	**97**	LR	LR	10 29 58.2	
	comp=Z,3μm,18.9s,baz=219,slow=41						
DAV	**Davao City (W)**	**30.46**	**97**	⇓*i* P	**P**	**10 15 32.9**	**+1.1**
TIA	**Tai'an**	**30.95**	**36**	P	**P**	**10 15 35.5**	**-0.3**
TIA				S	**S**	**10 20 42.8**	**+3.0**
TIA				pmax	pmax		
	comp=Z,610nm,10.0s						
TIA				LR	LR		
	comp=Z,4μm,10.1s						
TIA				LR	LR		
	comp=Z,11μm,11.1s						
TIA				LR	LR		
	comp=Z,7μm,11.4s						
BTO	**Baotou**	**31.05**	**22**	*eP*	**P**	**10 15 36.1**	**-0.7**
BTO				S	**S**	**10 20 41.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**31.86**	**24**	*eP*	**P**	**10 15 45.3**	**+1.4**
KSH	**Kashi**	**31.93**	**331**	P	**P**	**10 15 45.1**	**+0.5**
KSH				sP	pwP	10 15 52.5	+0.5
KSH				PP	**PnPn**	**10 16 51.4**	**+1.9**
KSH			

NRN Naryn 33.46 333 P P 10 15 57.5 -0.7
NRN IAMs_20 IAMs_20 10 31 15.6
comp=Z,7μm,22.0s
KDJ Kajisay 33.54 335 IAMs_20 IAMs_20 10 31 19.8
comp=Z,5μm,22.0s
PDGK Podgornoye 33.70 339 P P 10 16 01.6 +1.6
PDGK pmax pmax
comp=Z,70nm,1.2s
GAR Garm 34.48 325 P P 10 16 06.9 +0.1
GAR IAmb IAmb 10 16 17.1
comp=Z,69nm,1.1s
ARSB Arslanbob 34.77 330 P P 10 16 10.6 +1.2
ARSB IAmb IAmb 10 16 20.4
comp=Z,85nm,1.4s
TKM2 Tokmak 2 34.85 335 *i* P **P 10 16 11.1 +1.0**
TKM2 pmax pmax
comp=Z,20nm,1.1s
CHGR Chuyangaron 34.91 323 P P 10 16 10.3 -0.3
CHGR IAMs_20 IAMs_20 10 31 24.2
comp=Z,10μm,21.0s
BTK Batken 34.94 327 P P 10 16 12.4 +1.6
BTK pmax pmax
comp=Z,57nm,1.0s
BTK MLR MLR
comp=Z,6μm,21.0s
BTK Batken 34.94 327 P P 10 16 12.4 +1.6
BTK IAmb IAmb 10 16 22.4
comp=Z,57nm,1.0s
BTK IAMs_20 IAMs_20 10 31 48.3
comp=Z,6μm,21.0s
AAK Ala-Archa 35.09 333 *i* P **P 10 16 13.9 +1.8**
SNR=9.7
AAK Ala-Archa 35.09 333 P P 10 16 14.4 +2.3
SNR=11
AAK P **P 10 16 14.4 +2.3**
SNR=11
AAK Ala-Archa 35.09 333 *i* P **P 10 16 12.8 +0.7**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 35.09 333 P P 10 16 13.9 +1.8
comp=Z,11nm,1.0s,baz=162,slow=3.4,SNR=14
AAK Ala-Archa 35.09 333 P P 10 16 11.6 -0.6
AAK IAmb IAmb 10 16 28.3
comp=Z,39nm,1.1s
AAK Ala-Archa 35.09 333 IAMs_20 IAMs_20 10 32 07.5
comp=Z,9μm,21.0s
FRU1 Bishkek 35.17 333 IAMs_20 IAMs_20 10 32 02.1
comp=Z,9μm,22.0s
JLN Jalan Bani Buh 35.39 291 P P 10 16 18.0 +3.3
SNR=27
JLN P **P 10 16 18.0 +3.3**
SNR=27
DL2 Dalian 35.40 37 P P 10 16 15.4 +0.8
DL2 PP **PP 10 17 39.3 +4.3**
DL2 S **S 10 21 51.8 +2.9**
DL2 SS **SnSn 10 24 12.5 +4.4**
DL2 pmax pmax
comp=Z,68nm,1.0s
DL2 pmax pmax
comp=Z,980nm,3.6s
DL2 LR LR
comp=Z,6μm,11.9s
DL2 LR LR
comp=Z,3μm,12.7s
DL2 LR LR
comp=Z,7μm,11.3s
WBK Wadi Bani Khal 35.87 292 P P 10 16 22.7 +3.7
SNR=20
WBK P **P 10 16 22.7 +3.7**
SNR=20
MK31 Makanchi Array 36.00 345 P P 10 16 20.1 +0.4
MK31 pmax pmax
comp=Z,32nm,1.1s
MK31 Makanchi Array 36.00 345 P P 10 16 20.1 +0.4
MK31 IAmb IAmb 10 16 38.2
comp=Z,32nm,1.1s
MKAR Makanchi Array 36.00 345 *i* P **P 10 16 20.7 +1.0**
MKAR pmax pmax
comp=Z,23nm,0.9s
MKAR Makanchi Array 36.00 345 P P 10 16 20.3 +0.5
comp=Z,24nm,0.9s,baz=161,slow=6.4,SNR=48
MKAR LR LR 10 35 27.7
comp=Z,3μm,20.3s,baz=162,slow=44
MKAR Makanchi Array 36.00 345 P P 10 16 19.4 -0.3
MAKZ Makanchi 36.10 345 P P 10 16 20.4 -0.1
MAKZ pmax pmax
comp=Z,32nm,1.0s
MAKZ MLR MLR
comp=Z,2μm,22.0s
MAKZ Makanchi 36.10 345 P P 10 16 20.4 -0.1
MAKZ IAmb IAmb 10 16 38.2
comp=Z,32nm,1.0s
BATI Baumata 36.14 127 LR LR 10 33 03.7
comp=Z,3μm,18.1s,baz=336,slow=40
BATI Baumata 36.14 127 P P 10 16 20.7 -0.5
WSAR Wadi Sarin 36.30 292 P P 10 16 25.9 +3.3
SNR=16
WSAR Wadi Sarin 36.30 292 P P 10 16 24.9 +2.4
comp=Z,10nm,0.9s,baz=132,slow=9.3,SNR=7.7
SOEI Soe 36.34 126 P P 10 16 23.1 0.0
SONM Songino Array 36.62 13 P P 10 16 24.1 -1.0
SONM pmax pmax
comp=Z,16nm,1.0s
SONM Songino Array 36.62 13 P P 10 16 25.4 +0.3
comp=Z,3.7nm,1.0s,baz=195,slow=10.0,SNR=26
SONM LR LR 10 34 33.2
comp=Z,3μm,19.0s,baz=194,slow=41
SONM Songino Array 36.62 13 P P 10 16 24.1 -1.0
JMDO Jabal Madar 36.62 291 P P 10 16 28.1 +2.8
SNR=16
JMDO P **P 10 16 28.1 +2.8**
SNR=16
TAS Tashkent 36.67 327 P P 10 16 26.2 +0.7
TAS pmax pmax
comp=Z,109nm,1.0s
TAS MLR MLR
comp=Z,6μm,22.0s
TAS Tashkent 36.67 327 P P 10 16 26.2 +0.7
TAS IAMs_20 IAMs_20 10 32 29.3
comp=Z,6μm,22.0s
SMDO Samad 36.79 292 P P 10 16 29.9 +3.1
SNR=25
SMDO P **P 10 16 29.9 +3.1**
SNR=25
ULN Ulaanbaatar 36.79 13 P P 10 16 28.1 +1.5
SNR=18
ULN Ulaanbaatar 36.79 13 *d i* P **P 10 16 26.3 -0.3**
ULN pmax pmax
comp=Z,40nm,1.7s
ULN Ulaanbaatar 36.79 13 P P 10 16 26.4 -0.3
ULN Ulaanbaatar 36.79 13 IAMs_20 IAMs_20 10 33 58.5
comp=Z,4μm,18.0s
MSAI Masohi 37.04 113 P P 10 16 31.9 +3.0
HRA Herat 37.05 312 P P 10 16 29.4 +0.4
KK31 Karatay Array 37.31 330 P P 10 16 31.4 +0.4
KK31 pmax pmax
comp=Z,45nm,1.4s
KK31 Karatay Array 37.31 330 P P 10 16 31.4 +0.4
KKAR Karatay Array 37.31 330 P P 10 16 31.4 +0.4
KKAR pmax pmax
comp=Z,45nm,1.4s
KKAR Karatay Array 37.31 330 P P 10 16 31.4 +0.4
KKAR Karatay Array 37.31 330 P P 10 16 30.9 -0.1
BSY Bisya 37.51 291 P P 10 16 36.0 +3.1
SNR=34
BSY P **P 10 16 36.0 +3.1**
SNR=34
HOQ Hoqain 37.55 293 P P 10 16 36.2 +3.0
SNR=24
HOQ P **P 10 16 36.2 +3.0**
SNR=24
TJN Taejon 37.59 45 *ce* P **P 10 16 32.9 -0.4**
ARQ Araqi 38.22 292 P P 10 16 46.9 +8.0
SNR=7.5
ARQ P P 10 16 46.9 +8.0
SNR=7.5
BNDI Bandanaira 38.42 114 P P 10 16 40.5 -0.1
KSAR Wonju Array Be 38.50 44 P P 10 16 39.9 -1.1
KSAR Wonju Array Be 38.50 44 P P 10 16 39.9 -1.1
ZAK Zakamensk 38.52 8 *eP* **P 10 16 40.8 -0.3**
ZAK *e* 10 18 53.5
ZAK pmax pmax
comp=Z,22nm,1.6s
ZAK pmax pmax
comp=Z,7.0nm,1.1s
KS19 Wonju Array Si 38.52 44 P P 10 16 40.4 -0.8
KS19 IAmb IAmb 10 16 59.4
comp=Z,61nm,1.4s
KSRS Korea Array 38.53 44 P P 10 16 40.6 -0.7
comp=Z,8.8nm,0.8s,baz=237,slow=8.9,SNR=19
KSRS LR LR 10 33 47.2
comp=Z,2μm,18.4s,baz=237,slow=38
JNU Nakatsue 38.65 52 P P 10 16 42.8 +0.4
comp=Z,46nm,1.0s,baz=180,slow=1.2,SNR=8.3
JNU Nakatsue 38.65 52 P P 10 16 42.2 -0.2
JNU IAmb IAmb 10 16 44.7
comp=Z,96nm,1.1s
MDH Madha 38.79 295 P P 10 16 45.1 +1.4
UOSS Minazif 38.80 294 *i* P **P 10 16 47.3 +3.6**
SNR=6.9
UOSS Minazif 38.80 294 P P 10 16 52.8 +9.0
SNR=8.5
UOSS P P 10 16 52.8 +9.0
SNR=8.5
HATD Hatta, Dubai 38.84 294 *i* P **P 10 16 46.9 +2.8**
SNR=9.9
HATD Hatta, Dubai 38.84 294 P P 10 16 52.8 +8.6
SNR=9.8
HATD P P 10 16 52.8 +8.6
SNR=9.8
ASHO Ashiyiah 38.88 294 *i* P **P 10 16 47.4 +3.0**
SNR=10
ASHO Ashiyiah 38.88 294 P **P 10 16 47.5 +3.0**
SNR=13
ASHO P **P 10 16 47.5 +3.0**
SNR=13
BANOM Banah 38.92 296 P P 10 16 47.4 +2.6
ALNE Al Ain 39.04 293 *i* P **P 10 16 47.6 +1.8**
SNR=7.2
GIRL Giralia 39.50 152 IAMs_20 IAMs_20 10 32 01.9
comp=Z,5μm,22.0s
MOY Mondy 39.50 6 *eP* **P 10 16 50.3 +0.9**
MOY pmax pmax
comp=Z,58nm,3.0s
ASUD Al Ashush, Dub 39.52 294 P P 10 16 52.0 +2.2
RBK Rabkut 39.81 283 P P 10 17 03.0 +11
SNR=6.7
RBK P P 10 17 03.0 +11
SNR=6.7
TLY Talaya 39.83 8 P P 10 16 54.0 +2.0
SNR=10.0
TLY Talaya 39.83 8 *d i* P **P 10 16 53.5 +1.5**
TLY pmax pmax
comp=Z,48nm,1.3s
TLY Talaya 39.83 8 P P 10 16 53.4 +1.4
comp=Z,11nm,0.8s,baz=204,slow=8.9,SNR=7.4
TLY Talaya 39.83 8 P P 10 16 53.3 +1.3
FAKI Fak Fak 39.88 110 P P 10 16 52.1 -0.8
FAKI IAmb IAmb 10 16 54.0
comp=Z,46nm,1.0s
SOCY Socotra 40.16 274 P P 10 16 55.4 0.0
SOCY IAmb IAmb 10 17 09.1
comp=Z,88nm,1.5s
SOCY IAMs_20 IAMs_20 10 31 13.5
comp=Z,4μm,20.0s
WHFO Wadi Hawf 40.24 283 P P 10 16 58.2 +2.4
SNR=11
WHFO P **P 10 16 58.2 +2.4**
SNR=11
IRK Irkutsk 40.47 9 *eP* **P 10 16 58.5 +1.2**
IRK *e* 10 18 36.8
IRK pmax pmax
comp=Z,226nm,2.6s
KURBB Kurchatov Arra 40.51 344 P P 10 16 58.1 +0.5
comp=Z,23nm,0.9s,baz=160,slow=7.8,SNR=72
KURK Kurchatov 40.57 344 P P 10 16 59.0 +1.0
SNR=16
KURK P **P 10 16 59.0 +1.0**
SNR=16
KURK Kurchatov 40.57 344 P P 10 16 58.3 +0.2
KURK pmax pmax
comp=Z,46nm,1.1s
KURK MLR MLR
comp=Z,2μm,21.0s
KURK Kurchatov 40.57 344 P P 10 16 58.3 +0.2
KURK IAmb IAmb 10 17 15.9
comp=Z,46nm,1.1s
ABTO Aybut 40.67 282 P P 10 17 07.2 +7.7
SNR=7.7
ABTO P P 10 17 07.2 +7.7
SNR=7.7
CN2 Changchun 40.78 34 *eP* **P 10 16 59.9 0.0**
CN2 *e*PP **PnPn 10 18 37.1 -1.0**
CN2 *e*S **S 10 23 09.4 -0.8**
CN2 SS **SS 10 26 04.4 -6.9**
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,5μm,12.0s
CN2 LR LR
comp=Z,5μm,12.0s
CN2 LR LR
comp=Z,5μm,13.0s
SAUI Saumlaki 41.24 118 IAMs_20 IAMs_20 10 32 59.4
comp=Z,4μm,22.0s
PSAD1 Pilbara Seismi 41.44 144 P P 10 17 05.7 +0.1
PSAD1 IAMs_20 IAMs_20 10 36 51.5
comp=Z,4μm,19.0s
ASHT Ashkhabad 41.48 314 IAMs_20 IAMs_20 10 36 18.4
comp=Z,4μm,20.0s
PSAC1 Pilbara Seismi 41.49 144 P P 10 17 05.1 -0.8
PSAC1 IAMs_20 IAMs_20 10 36 24.8
comp=Z,4μm,19.0s
PSAB1 Pilbara Seismi 41.52 144 P P 10 17 06.1 -0.2
PSAB1 IAMs_20 IAMs_20 10 36 26.8
comp=Z,4μm,19.0s
PSAA2 Pilbara Seismi 41.53 144 P P 10 17 07.3 +0.9
PSAA2 IAmb IAmb 10 17 17.9
comp=Z,52nm,1.2s
PSAA2 IAMs_20 IAMs_20 10 36 27.0
comp=Z,4μm,19.0s
PSAB2 Pilbara Seismi 41.53 144 IAMs_20 IAMs_20 10 36 27.1
comp=Z,4μm,19.0s
PSAA1 Pilbara Seismi 41.54 144 IAMs_20 IAMs_20 10 36 36.2
comp=Z,4μm,20.0s
PSA00 Pilbara Seismi 41.54 144 IAMs_20 IAMs_20 10 36 46.2
comp=Z,4μm,20.0s
PSAA3 Pilbara Seismi 41.55 144 IAMs_20 IAMs_20 10 36 35.5
comp=Z,4μm,20.0s
PSAD3 Pilbara Seismi 41.56 144 P P 10 17 06.7 +0.1
PSAD3 IAMs_20 IAMs_20 10 36 35.7
comp=Z,5μm,20.0s
PSAB3 Pilbara Seismi 41.56 144 IAMs_20 IAMs_20 10 36 27.8
comp=Z,4μm,20.0s
PSAC2 Pilbara Seismi 41.56 144 IAMs_20 IAMs_20 10 36 28.8
comp=Z,4μm,21.0s
PSAC3 Pilbara Seismi 41.57 144 IAMs_20 IAMs_20 10 36 36.0
comp=Z,5μm,21.0s
GEYT Alibeck 41.66 314 P P 10 17 08.4 +1.1
comp=Z,39nm,0.7s,baz=139,slow=9.2,SNR=48
GEYT LR LR 10 36 33.6
comp=Z,2μm,20.2s,baz=130,slow=39
GEYT Alibeck 41.66 314 P P 10 17 08.1 +0.8
GYA0B ALIBECK ARRAY 41.66 314 P P 10 17 08.4 +1.1
HIA Hailar 42.06 24 P P 10 17 10.6 +0.2
HIA pmax pmax
comp=Z,40nm,1.4s
HIA MLR MLR
comp=Z,5μm,22.0s
HIA Hailar 42.06 24 P P 10 17 10.6 +0.2
HIA Hailar 42.06 24 IAMs_20 IAMs_20 10 36 45.2
comp=Z,5μm,22.0s
ZAA0 Zalesovo Array 42.30 351 P P 10 17 12.4 +0.2
ZALV Zalesovo Beam 42.30 351 P P 10 17 12.3 +0.1
ZALV Zalesovo Beam 42.30 351 P P 10 17 12.4 +0.2
comp=Z,17nm,0.9s,baz=178,slow=7.7,SNR=33
ZALV LR LR 10 39 06.0
comp=Z,1μm,20.8s,baz=172,slow=42
ZALV Zalesovo Beam 42.30 351 P P 10 17 12.3 +0.1
FITZ Fitzroy Crossi 42.69 135 P P 10 17 15.0 -0.8
comp=Z,2.3nm,0.7s,baz=322,slow=8.4,SNR=7.2
FITZ LR LR 10 36 30.6
comp=Z,3μm,19.6s,baz=304,slow=38
MSEY Mahe Island 42.88 249 P P 10 17 21.1 +3.5
MDJ Mudanjiang 43.61 36 P P 10 17 23.4 +0.4
MDJ pP sP 10 17 29.3 +1.0
MDJ sP pwP 10 17 33.8 +3.6
MDJ PcS **PcS 10 23 02.3 -0.7**
MDJ S **S 10 23 53.4 +1.4**
MDJ sS sS 10 24 03.8 +5.6
MDJ ScS **ScS 10 27 20.4 -1.9**
MDJ pmax pmax
comp=Z,530nm,5.6s
MDJ LR LR
comp=Z,5μm,11.5s
MDJ LR LR
comp=Z,3μm,11.7s
MDJ LR LR
comp=Z,5μm,13.7s
USRK Ussuriysk Ar. 44.78 38 P P 10 17 30.4 -1.9
USRK Ussuriysk Ar. 44.78 38 P P 10 17 32.4 0.0
comp=Z,7.7nm,1.0s,baz=245,slow=8.2,SNR=8.6
USRK LR LR 10 36 54.2
comp=Z,2μm,19.9s,baz=219,slow=37
USRK Ussuriysk Ar. 44.78 38 P P 10 17 30.4 -1.9
BRVK Borovoye 45.20 339 P P 10 17 36.3 +0.7
SNR=14
BRVK Borovoye 45.20 339 P P 10 17 36.0 +0.4
BRVK pmax pmax
comp=Z,31nm,1.3s
BRVK MLR MLR
comp=Z,3μm,22.0s
BRVK Borovoye 45.20 339 P P 10 17 36.0 +0.4
MJB9 Matsu-Tunnel 45.52 50 P P 10 17 36.6 -1.8
MJB9 IAmb IAmb 10 17 43.1
comp=Z,62nm,1.5s
MAJO Matsushiro 45.52 50 *i* P **P 10 17 38.1 -0.3**
MAJO pmax pmax
comp=Z,85nm,1.6s
MAJO Matsushiro 45.52 50 P P 10 17 36.4 -2.1
MAJO IAmb IAmb 10 17 43.1
comp=Z,60nm,1.5s
MAT Matsushiro 45.52 50 P P 10 17 38.1 -0.3
MAT S **S 10 24 26.8 +6.7**
MJAR Matsushiro Arr 45.52 50 P P 10 17 38.4 0.0
MJAR pmax pmax
comp=Z,23nm,1.4s
MJAR Matsushiro Arr 45.52 50 P P 10 17 38.6 +0.1
comp=Z,25nm,1.2s,baz=256,slow=10,SNR=18
MJAR PcP **PcP 10 19 18.0 +0.9**
comp=Z,9.0nm,0.9s,baz=240,slow=3.6,SNR=10
MJAR LR LR 10 40 28.0
comp=Z,1μm,18.4s,baz=235,slow=41
MJAR Matsushiro Arr 45.52 50 P P 10 17 38.4 0.0
JHJ Hachijo jima 2 45.67 56 LR LR 10 37 33.2
comp=Z,2μm,18.4s,baz=315,slow=37
MORW Morawa 45.86 154 P P 10 17 42.0 +0.8
baz=46,SNR=7.2
MORW Morawa 45.86 154 P P 10 17 41.5 +0.3
AB31 Akbulak array 46.86 329 *i* P **P 10 17 48.3 -0.4**
AB31 pmax pmax
comp=Z,45nm,1.0s
ABKAR Akbulak array 46.86 329 P P 10 17 48.7 0.0
ABKAR IAmb IAmb 10 17 59.6
comp=Z,46nm,1.0s
KLR Kul'dur 47.59 32 *i* P **P 10 17 53.0 -1.4**
KLR pmax pmax
comp=Z,2.0nm,1.3s
KLR Kul'dur 47.59 32 LR LR 10 41 54.7
comp=Z,3μm,18.9s,baz=232,slow=41
BOD Bodaibo 47.60 14 *eP* **P 10 17 54.6 +0.2**
BOD pmax pmax
comp=Z,64nm,1.8s
RAYN Ar Rayn 48.28 291 P P 10 18 00.5 +0.2
RAYN Ar Rayn 48.28 291 P P 10 18 00.0 -0.3
RAYN pmax pmax
comp=Z,46nm,1.4s
RAYN MLR MLR
comp=Z,2μm,20.0s
RAYN Ar Rayn 48.28 291 P P 10 17 60.0 -0.3
RAYN IAmb IAmb 10 18 09.3
comp=Z,46nm,1.4s
RAYN IAMs_20 IAMs_20 10 39 48.2
comp=Z,2μm,20.0s
GUMO Guam 48.43 83 LR LR 10 36 07.7
comp=Z,820nm,20.8s,baz=270,slow=33
MUN Mundaring 48.48 156 P P 10 18 02.4 +0.9
baz=48,SNR=8.2
ZEA Zeya 48.51 25 *eP* **P 10 18 00.5 -1.0**
ZEA *e*S **S 10 25 10.0 +7.8**
ZEA pmax pmax
comp=Z,100nm,2.0s
ZEA pmax pmax
comp=Z,800nm,10.0s
ZEA MLR MLR
comp=Z,11μm,13.0s
ZEA MLR MLR
comp=E,4μm,12.0s
ZEA MLR MLR
comp=N,9μm,13.0s
AKTO Aktyubinsk 48.57 329 P P 10 18 01.2 -0.8
AKTO pmax pmax
comp=Z,11nm,1.0s
KLBR Kellerberrin 48.78 154 P P 10 18 04.3 +0.4
baz=49,SNR=4.6
WRKA Warakurna 49.27 139 P P 10 18 07.7 0.0
baz=49,SNR=4.9
DAMY Dhamar 49.31 279 P P 10 18 18.8 +10
SNR=9.3
DAMY Dhamar 49.31 279 P P 10 18 11.2 +2.7
DAMY IAMs_20 IAMs_20 10 35 51.2
comp=Z,3μm,21.0s
NWAO Narrogin (SRO) 49.73 155 P P 10 18 11.8 +0.8
baz=50,SNR=7.2
NWAO Narrogin (SRO) 49.73 155 P P 10 18 12.3 +1.3
SNR=6.4
NWAO P **P 10 18 12.3 +1.3**
SNR=6.4
NWAO Narrogin (SRO) 49.73 155 P P 10 18 11.6 +0.6
NWAO pmax pmax
comp=Z,239nm,1.5s
NWAO Narrogin (SRO) 49.73 155 P P 10 18 11.6 +0.6
NWAO Narrogin (SRO) 49.73 155 IAMs_20 IAMs_20 10 38 14.6
comp=Z,3μm,21.0s
WRA Warramunga Arr 50.20 129 *i* P **P 10 18 14.1 -0.7**
WRA pmax pmax
comp=Z,18nm,0.9s
WRA Warramunga Arr 50.20 129 P P 10 18 14.2 -0.6
comp=Z,16nm,0.9s,baz=307,slow=8.4,SNR=102
WRA LR LR 10 40 53.4
comp=Z,1μm,20.4s,baz=310,slow=38
WRA Warramunga Arr 50.20 129 P P 10 18 13.8 -1.0
WRAB Tennant Creek 50.20 129 *ceP* **P 10 18 15.0 +0.1**
WRAB pmax pmax
comp=Z,35nm,1.7s
WRAB Tennant Creek 50.20 129 P P 10 18 14.7 -0.2
WRAB IAmb IAmb 10 18 23.7
comp=Z,32nm,1.1s
WB2 Warramunga Arr 50.20 129 P P 10 18 14.6 -0.4
WB2 IAmb IAmb 10 18 23.7
comp=Z,39nm,1.2s
WC3 Warramunga Arr 50.23 129 P P 10 18 14.9 -0.2
AKT Akhty 50.41 314 *eP* **P 10 18 17.5 +1.1**
AKT *e* 10 19 38.1
AKT *e* 10 20 13.2
AKT pmax pmax
comp=Z,54nm,0.8s
ERM Erimo 51.06 45 IAMs_20 IAMs_20 10 41 19.1
comp=Z,3μm,20.0s
MAK Makhachkala 51.11 316 *eP* **P 10 18 17.4 -4.0**
MAK *e* 10 20 15.7
MAK *e*S **S 10 25 34.0 -4.8**
MAK *e*SS **SS 10 29 13.5 -0.6**
MAK pmax pmax
comp=Z,643nm,1.2s
MAK MLR MLR
comp=Z,1μm,16.0s
SVE Sverdlovsk 51.66 337 ||*eP* **P 10 18 26.3 +0.9**
SVE *e*S **S 10 25 47.7 +1.6**
SVE pmax pmax
comp=Z,95nm,1.5s
SVE MLR MLR
comp=Z,3μm,20.0s
GNI Garni 52.12 312 *i* P **P 10 18 29.8 +0.6**
SNR=9.2
GNI Garni 52.12 312 *d i* P **P 10 18 30.0 +0.8**
GNI pmax pmax
comp=Z,169nm,1.7s
GNI Garni 52.12 312 P P 10 18 29.0 -0.3
AS31 Alice Springs 52.15 133 P P 10 18 29.2 -0.3
ASAR Alice Springs 52.15 133 P P 10 18 29.5 0.0
ASAR Alice Springs 52.15 133 P P 10 18 28.9 -0.6
comp=Z,5.9nm,0.6s,baz=313,slow=6.8,SNR=88
ASAR LR LR 10 41 18.1
comp=Z,2μm,21.2s,baz=308,slow=37
ASAR Alice Springs 52.15 133 P P 10 18 29.5 0.0
ARU Arti 52.22 335 *d i* P **P 10 18 29.4 -0.1**
ARU 10 19 35.3

ARU						10 20 27.0
ARU				S	S	10 25 57.0 +3.3
ARU				pmax	pmax	
	comp=Z,22nm,1.1s					
ARU				MLR	MLR	
	comp=Z,4μm,23.0s					
ARU	**Arti**	**52.22 335**		P	P	**10 18 29.9 +0.5**
ARU				IAmb	IAmb	10 18 47.4
	comp=Z,100nm,1.5s					
ARU				IAMs_20	IAMs_20	10 42 30.8
	comp=Z,3μm,22.0s					
GROC	**Groznyy**	**52.37 316**		*e*P	P	**10 18 31.1 +0.3**
GROC				*e*		10 19 42.3
GROC				*e*		10 20 30.1
GROC				pmax	pmax	
	comp=Z,107nm,1.3s					
YSS	**Yuzh-Sakhalins**	**52.71**	**40**	*e*P	P	**10 18 30.5 -2.8**
YSS				*e*		10 20 37.5
FORT	**Forrest**	**53.30 144**		IAMs_20	IAMs_20	10 43 11.5
	comp=Z,3μm,20.0s					
AKH	**Akhalkalaki**	**53.40 313**		P	P	**10 18 39.0 +0.3**
AKH				pmax	pmax	
	comp=Z,45nm,1.0s					
AKH				MLR	MLR	
	comp=Z,900nm,22.0s					
AKH	**Akhalkalaki**	**53.40 313**		P	P	**10 18 39.0 +0.3**
AKH				IAmb	IAmb	10 18 50.6
	comp=Z,45nm,1.0s					
ZEI	**Tsey**	**53.53 314**		*e*P	P	**10 18 39.8 +0.1**
ZEI				pmax	pmax	
	comp=Z,26nm,0.9s					
YUK	**Yuzh-Kuril'sk**	**53.62**	**44***c*	*i*P	P	**10 18 39.3 -0.7**
YUK				*e*		10 19 46.0
YUK				*e*		10 20 36.1
YUK				*e*PPP	PPP	10 21 47.8
YUK				*e*S	S	**10 26 14.3 +1.1**
YUK				MLR	MLR	
	comp=Z,2μm,17.0s					
COEN	**Coen**	**54.32 117**		P	P	**10 18 44.0 -1.6**
QIS	**Mount Isa**	**54.61 126**		P	P	**10 18 47.6 0.0**
	baz=54,SNR=7.0					
KIV	**Kislovodsk**	**54.75 315**		*i* P	P	**10 18 48.4 -0.1**
	SNR=11					
KIV	**Kislovodsk**	**54.75 315**		*e*P	P	**10 18 48.1 -0.3**
KIV				*e*S	S	**10 26 29.5 +0.8**
KIV				*e*SS	SS	**10 30 14.0 +2.2**
KIV				pmax	pmax	
	comp=Z,172nm,1.1s					
KIV				pmax	pmax	
	comp=Z,281nm,4.9s					
KIV				MLR	MLR	
	comp=Z,4μm,17.0s					
KIV	**Kislovodsk**	**54.75 315**		P	P	**10 18 47.9 -0.6**
KIV				IAmb	IAmb	10 18 59.1
	comp=Z,44nm,0.8s					
KIV				IAMs_20	IAMs_20	10 46 16.8
	comp=Z,2μm,20.0s					
YAK	**Yakutsk**	**55.48**	**19**	*e*P	P	**10 18 50.7 -2.5**
YAK				*e**PP	pwP	**10 19 01.9 +1.3**
YAK				*e*S	S	**10 26 37.1 -0.5**
YAK				*e*		10 32 31.1
YAK				pmax	pmax	
	comp=Z,16nm,1.4s					
YAK				pmax	pmax	
	comp=N,11nm,1.5s					
YAK				pmax	pmax	
	comp=E,4.0nm,1.5s					
YAK				pmax	pmax	
	comp=Z,202nm,3.8s					
YAK				pmax	pmax	
	comp=N,305nm,4.1s					
YAK				pmax	pmax	
	comp=E,87nm,3.4s					
YAK				smax	smax	
	comp=N,106nm,3.4s					
YAK				smax	smax	
	comp=E,256nm,4.1s					
YAK				MLR	MLR	
	comp=Z,2μm,20.0s					
YAK				MLR	MLR	
	comp=N,1μm,18.0s					
YAK				MLR	MLR	
	comp=E,2μm,19.0s					
YAK	**Yakutsk**	**55.48**	**19**	LR	LR	10 45 41.2
	comp=E,1μm,21.1s,baz=235,slow=39					
YAK	**Yakutsk**	**55.48**	**19**	P	P	**10 18 52.8 -0.4**
YAK				IAMs_20	IAMs_20	10 44 59.0
	comp=Z,4μm,21.0s					
FURI	**Furi**	**55.50 272**		IAMs_20	IAMs_20	10 41 14.1
	comp=Z,4μm,20.0s					
ABPO	**Ambohimpanom**	**56.56 237**		P	P	**10 19 01.5 -0.3**
ABPO				pmax	pmax	
	comp=Z,26nm,1.3s					
ABPO	**Ambohimpanom**	**56.56 237**		P	P	**10 19 01.5 -0.3**
ABPO				IAmb	IAmb	10 19 14.8
	comp=Z,26nm,1.3s					
SOC	**Sochi**	**56.69 314**		*e*P	P	**10 19 02.2 -0.1**
SOC				*e*PPP	PPP	10 22 22.2
SOC				*e*S	S	**10 26 54.4 0.0**
SOC				*e*SS	SS	**10 30 36.6 -5.6**
SOC				*e*SSS	SSS	10 32 48.0
SOC				pmax	pmax	
	comp=Z,14nm,0.5s					
SOC				MLR	MLR	
	comp=Z,1μm,21.0s					
NRIK	**Noril'sk**	**57.15 357**		P	P	**10 19 05.5 +0.4**
	comp=Z,2.2nm,0.4s,baz=164,slow=5.8,SNR=6.9					
NRIK				LR	LR	10 47 44.5
	comp=Z,988nm,18.9s,baz=174,slow=40					
VRH	**Novokhopyorsk**	**57.88 323**		*e*P	P	**10 19 11.1 +0.6**
VRH				pmax	pmax	
	comp=Z,60nm,1.0s					
VRH				MLR	MLR	
	comp=Z,2μm,24.0s					
EIL	**Elat**	**58.15 297**		P	P	10 19 18.8 +6.0
	comp=Z,29nm,1.3s					
ANN	**Anapa**	**58.60 315**		*e*P	P	**10 19 11.5 -4.1**
ANN				*e*S	S	**10 27 16.6 -2.7**
ANN				pmax	pmax	
	comp=Z,14nm,0.6s					
KMBO	**Kilima Mbogo**	**58.97 261**		*i* P	P	10 19 27.5 +8.4
KMBO				pmax	pmax	
	comp=Z,3.0nm,0.6s					
KMBO	**Kilima Mbogo**	**58.97 261**		LR	LR	10 41 06.0
	comp=Z,1μm,21.2s,baz=79,slow=32					
VSR	**Storozhevoye**	**59.39 323**		*e*P	P	**10 19 19.8 -1.2**
VSR				pmax	pmax	
	comp=Z,40nm,1.2s					
VSR				MLR	MLR	
	comp=Z,3μm,25.0s					
DIKM	**Dikmen**	**59.45 311**		⇑P	P	**10 19 25.6 +4.0**
LODK	**Lodwar**	**59.74 267**		P	P	10 19 37.1 +13
	SNR=5.1					
CSS	**Mathiatis**	**59.96 303**		P	P	10 19 31.2 +5.9
	comp=Z,11nm,1.4s					
CSS	**Mathiatis**	**59.96 303**		P	P	**10 19 24.8 -0.5**
CSS				IAmb	IAmb	10 19 34.6
	comp=Z,39nm,1.0s					
CSS				IAMs_20	IAMs_20	10 49 26.3
	comp=Z,2μm,20.0s					
LPSR	**Galich'ya Gora**	**60.00 324**		*e*P	P	**10 19 25.1 -0.1**
LPSR				pmax	pmax	
	comp=Z,30nm,0.8s					
LPSR				MLR	MLR	
	comp=Z,2μm,23.0s					
BRTR	**Keskin Array B**	**60.33 309**		P	P	**10 19 27.5 -0.4**
BRTR	**Keskin Array B**	**60.33 309**		P	P	**10 19 27.2 -0.7**
	comp=Z,8.4nm,0.8s,baz=122,slow=6.7,SNR=42					
BRTR				LR	LR	10 49 12.2
	comp=Z,2μm,20.7s,baz=86,slow=40					
BRTR	**Keskin Array B**	**60.33 309**		P	P	**10 19 27.5 -0.4**
BR131	**Keskin Array S**	**60.33 309**		P	P	**10 19 27.3 -0.7**
	SNR=20					
BR131	**Keskin Array S**	**60.33 309**		P	P	**10 19 27.2 -0.7**
BR131				pmax	pmax	
	comp=Z,26nm,0.7s					
BR131	**Keskin Array S**	**60.33 309**		P	P	**10 19 27.2 -0.7**
BR131				IAmb	IAmb	10 19 37.2
	comp=Z,26nm,0.7s					
BZK	**Bozkurt**	**60.43 311**		⇑P	P	**10 19 29.3 +1.0**
ILGA	**Ilgaz**	**60.48 310**		P	P	**10 19 28.8 -0.2**
ILGA				IAmb	IAmb	10 19 39.4
	comp=Z,31nm,0.9s					
ILGA				IAMs_20	IAMs_20	10 48 05.6
	comp=Z,2μm,22.0s					
PRGR	**Permogore**	**60.68 335**		*e*P	P	**10 19 28.7 -0.9**
PRGR				pmax	pmax	
	comp=Z,43nm,1.1s					
SIM	**Simferopol'**	**60.93 315**		*e*P	P	10 19 38.9 +7.2
SIM				*e*S	S	**10 27 48.0 -1.4**
SIM				pmax	pmax	
	comp=Z,41nm,0.8s					
SIM				pmax	pmax	
	comp=Z,230nm,9.4s					
ANTO	**Ankara**	**60.99 309**		IAMs_20	IAMs_20	10 49 32.3
	comp=Z,2μm,21.0s					
QLP	**Quilpie**	**61.43 130**		P	P	**10 19 36.0 +0.7**
	baz=61,SNR=4.6					
HTT	**Hallett**	**61.75 139**		P	P	**10 19 38.0 +0.5**
	baz=62,SNR=4.5					
MOS	**Moscow**	**61.83 327**		*e*P	P	**10 19 35.9 -1.6**
MOS				*e*		10 19 48.9
MOS				*e*		10 20 14.3
MOS				pmax	pmax	
	comp=Z,132nm,1.5s					
MOS				MLR	MLR	
	comp=Z,2μm,18.0s					
OBN	**Obninsk**	**62.17 326**		*e*P	P	**10 19 38.6 -1.3**
OBN				*e*		10 20 17.7
OBN				*e*		10 21 53.4
OBN				*e*S	S	**10 28 06.4 +1.6**
OBN				*e*SS	SS	**10 32 10.8 +3.1**
OBN				pmax	pmax	
	comp=Z,78nm,1.7s					
OBN				MLR	MLR	
	comp=Z,2μm,20.0s					
OBN	**Obninsk**	**62.17 326**		IAMs_20	IAMs_20	10 51 01.4
	comp=Z,3μm,19.0s					
SKR	**Severo-Kuril's**	**62.27**	**39**	*e*P	P	**10 19 37.1 -3.5**
SKR				*e*S	S	**10 28 05.0 -1.2**
SKR				*e*SS	SS	**10 32 07.6 -1.8**
SKR				pmax	pmax	
	comp=Z,300nm,12.4s					
SKR				MLR	MLR	
	comp=Z,1μm,17.0s					
SKR				MLR	MLR	
	comp=Z,2μm,19.0s					
MA2	**Magadan**	**62.39**	**28**	IAMs_20	IAMs_20	10 50 54.8
	comp=Z,3μm,22.0s					
ISP	**Isparta**	**62.51 306**		P	P	**10 19 41.1 -1.5**
ISP				pmax	pmax	
	comp=Z,17nm,0.8s					
ISP				MLR	MLR	
	comp=Z,2μm,20.0s					
ISP	**Isparta**	**62.51 306**		P	P	**10 19 41.1 -1.5**
ISP				IAmb	IAmb	10 19 52.4
	comp=Z,17nm,0.8s					
ISP				IAMs_20	IAMs_20	10 50 03.2
	comp=Z,2μm,20.0s					
STKA	**Stephens Creek**	**62.56 136**		P	P	**10 19 43.5 +0.6**
	baz=62,SNR=13					
STKA	**Stephens Creek**	**62.56 136**		P	P	**10 19 42.8 0.0**
STKA				pmax	pmax	
	comp=Z,10.0nm,1.5s					
STKA				MLR	MLR	
	comp=Z,500nm,19.0s					
STKA	**Stephens Creek**	**62.56 136**		P	P	**10 19 43.4 +0.6**
	comp=Z,9.4nm,0.7s,baz=318,slow=7.5,SNR=19					
STKA				LR	LR	10 49 19.5
	comp=Z,2μm,19.3s,baz=298,slow=38					
STKA	**Stephens Creek**	**62.56 136**		P	P	**10 19 42.8 0.0**
TIXI	**Tiksi**	**62.69**	**11**	⇓*i*P	P	**10 19 41.8 -1.2**
TIXI				pmax	pmax	
	comp=Z,62nm,1.7s					
TIXI	**Tiksi**	**62.69**	**11**	P	P	**10 19 41.9 -1.1**
TIXI				IAmb	IAmb	10 19 45.2
	comp=Z,42nm,1.2s					
ELL	**Elmali**	**62.90 305**		P	P	**10 19 44.0 -1.2**
ELL				pmax	pmax	
	comp=Z,192nm,0.8s					
ELL				MLR	MLR	
	comp=Z,9μm,21.0s					
ELL	**Elmali**	**62.90 305**		P	P	**10 19 44.0 -1.2**
KLMR	**Klimovskoe**	**62.90 333**		*e*P	P	**10 19 43.7 -1.0**
KLMR				*e*		10 21 59.7
KLMR				*e*S	S	**10 28 13.3 -0.5**
KLMR				*e*SS	SS	**10 32 18.0 -0.9**
KLMR				pmax	pmax	
	comp=Z,72nm,1.6s					
KLMR	**Klimovskoe**	**62.90 333**		*e*P	P	**10 19 43.7 -1.0**
KLMR				AMP		10 20 01.7
	comp=Z,72nm,1.6s					
KLMR				*e*PP	PP	**10 21 59.7 -3.3**
KLMR				*e*S	S	**10 28 13.3 -0.5**
KLMR				*e*S	S	**10 28 13.3 -0.5**
KLMR				*e*SS	SS	**10 32 18.1 -0.9**
KLMR				*e*SS	SS	**10 32 18.1 -0.9**
KLMR				LQ	LQ	10 42 31.4
KLMR				LQ	LQ	10 42 31.4
KLMR				LR	LR	10 47 55.7
PEA0B	**Petropavlovsk-**	**63.85**	**37**	IAMs_20	IAMs_20	10 50 00.7
	comp=Z,3μm,19.0s					
PETK	**Petropavlovsk-**	**63.85**	**37**	LR	LR	10 50 11.2
	comp=Z,2μm,18.6s,baz=249,slow=38					
PET	**Petropavlovsk**	**64.38**	**37**	*e*P	P	**10 19 56.3 +1.7**
PET				*e*		10 22 21.2
PET				*e*S	S	**10 28 29.8 -2.7**
PET				*e*SS	SS	**10 32 41.8 -0.5**
PET				pmax	pmax	
	comp=Z,400nm,11.3s					
PET	**Petropavlovsk**	**64.38**	**37**	P	P	**10 19 53.8 -0.7**
SEY	**Seymchan**	**64.49**	**25**	LR	LR	10 49 32.5
	comp=Z,2μm,19.7s,baz=244,slow=38					
RMQ	**Roma**	**64.85 127**		P	P	**10 19 59.4 +1.3**
	baz=65,SNR=6.5					
TIRR	**Tirgusor**	**64.85 313**		⇑P	P	**10 19 58.4 +0.6**
TIRR	**Tirgusor**	**64.85 313**		⇑P	P	**10 19 58.4 +0.6**
KIS	**Kishinev**	**64.93 316**		⇓*i*P	P	10 20 04.0 +5.7
	comp=Z,170nm,2.0s					
KIS	**Kishinev**	**64.93 316**		*e*PcP	PcP	**10 20 32.0 +0.6**
KIS	**Kishinev**	**64.93 316**		*e*PP	PP	10 22 46.0 +25
KIS				*e*ScP		10 24 20.0
KIS				*e*S	S	**10 28 40.0 +0.5**
KIS	**Kishinev**	**64.93 316**	*k*	*i*P	P	10 20 04.0 +5.7
KIS				*e*		10 20 32.0
KIS				*e*S	S	**10 28 40.0 +0.5**
KIS				*e*PS	PnS	10 29 40.0 +42
KIS				*e*SSS	SSS	10 35 38.0
KIS				pmax	pmax	
	comp=Z,170nm,2.0s					
KIS				pmax	pmax	
	comp=Z,800nm,4.0s					
KIS				MLR	MLR	
	comp=Z,2μm,20.0s					
KIS				MLR	MLR	
	comp=N,2μm,21.0s					
KARP	**Karpathos**	**65.04 304**		P	P	**10 19 58.7 -0.6**
KARP				IAMs_20	IAMs_20	10 49 50.0
	comp=Z,2μm,22.0s					
CFR	**Carcaliu**	**65.14 314**		⇑P	P	**10 20 00.5 +0.8**
CFR	**Carcaliu**	**65.14 314**		⇑P	P	**10 20 00.5 +0.8**
MBAR	**Mbarara**	**65.15 264**		P	P	**10 19 59.5 -1.0**
MBAR				pmax	pmax	
	comp=Z,22nm,1.3s					
MBAR				MLR	MLR	
	comp=Z,1μm,19.0s					
MBAR	**Mbarara**	**65.15 264**		P	P	**10 19 59.5 -1.0**
MBAR				IAmb	IAmb	10 20 10.4
	comp=Z,22nm,1.3s					
CMSA	**Cobar Meteorol**	**65.21 133**		P	P	**10 20 00.6 +0.3**
	baz=65,SNR=7.9					
HARR	**Harsova**	**65.22 314**		⇑P	P	10 20 08.4 +8.2
HARR	**Harsova**	**65.22 314**		⇑P	P	10 20 08.4 +8.2
AKASG	**Malin Array Be**	**65.31 320**		*i* P	P	**10 20 00.0 -0.7**
AKASG				pmax	pmax	
	comp=Z,7.0nm,0.9s					
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.4s					
AKASG	**Malin Array Be**	**65.31 320**		P	P	**10 20 00.0 -0.7**
	comp=Z,6.8nm,0.9s,baz=85,slow=5.1,SNR=15					
AKASG				LR	LR	10 52 20.0
	comp=Z,2μm,20.8s,baz=95,slow=40					
AKASG	**Malin Array Be**	**65.31 320**		P	P	**10 19 59.8 -0.9**
AKBB	**Malin Array Si**	**65.31 320**		P	P	**10 19 59.8 -0.9**
AKBB				pmax	pmax	
	comp=Z,10.0nm,1.0s					
AKBB				MLR	MLR	
	comp=Z,2μm,21.0s					
AKBB	**Malin Array Si**	**65.31 320**		P	P	**10 19 59.8 -0.9**
AKBB				IAMs_20	IAMs_20	10 52 18.9
	comp=Z,2μm,21.0s					
SORM	**Soroca**	**65.42 317**		⇑P	P	**10 20 01.3 -0.2**
SORM	**Soroca**	**65.42 317**		⇑P	P	**10 20 01.3 -0.2**
EIDS	**Eidsvold**	**66.15 125**		P	P	**10 20 06.9 +0.4**
EIDS				IAmb	IAmb	10 20 08.6
	comp=Z,20nm,1.3s					
EIDS				IAMs_20	IAMs_20	10 49 20.7
	comp=Z,2μm,22.0s					
VRI	**Vrincioaia**	**66.21 315**		⇑P	P	**10 20 06.6 0.0**
VRI	**Vrincioaia**	**66.21 315**		⇑P	P	**10 20 06.6 0.0**
PLOR	**Plostina**	**66.26 315**		⇑P	P	**10 20 07.6 +0.6**
PLOR	**Plostina**	**66.26 315**		⇑P	P	**10 20 07.6 +0.6**
MLR	**Muntele Rosu**	**66.71 314**		⇑P	P	**10 20 10.6 +0.6**
MLR	**Muntele Rosu**	**66.71 314**		⇑P	P	**10 20 10.6 +0.6**
MLR	**Muntele Rosu**	**66.71 314**		P	P	**10 20 09.8 -0.2**
MLR				IAMs_20	IAMs_20	10 52 57.5
	comp=Z,3μm,22.0s					
BIZ	**Bicaz**	**66.77 316**		⇑P	P	**10 20 10.7 +0.6**
MICGM	**Minsk**	**66.85 324**		*e*P	P	**10 20 10.0 -0.5**
MICGM				*e*LR	LR	10 52 02.0
MNK	**Minsk**	**66.85 324**		*e*P	P	**10 20 10.0 -0.5**
DOPR	**Dopca**	**67.15 315**		⇑P	P	**10 20 13.3 +0.7**
BURAR	**Bucovina Array**	**67.44 317**		⇑P	P	**10 20 15.1 +0.5**
BURAR	**Bucovina Array**	**67.44 317**		⇑P	P	**10 20 15.1 +0.5**
BURAR	**Bucovina Array**	**67.44 317**		P	P	**10 20 14.8 +0.2**
BUR08	**Bucovina Ar. S**	**67.46 317**		P	P	**10 20 14.9 +0.3**
PLVB	**Pleven**	**67.47 312**		⇑P	P	**10 20 15.6 +0.9**
ARR	**Arges**	**67.62 314**		⇑P	P	**10 20 16.1 +0.4**
IIGN	**Ignalina**	**67.96 325**		*e*P	P	**10 20 18.9 +1.3**
IIGN				IAmb	IAmb	10 20 20.5
	comp=Z,15nm,0.9s					
IZAR	**Zarasai**	**68.02 325**		*e*P	P	**10 20 19.5 +1.7**
APA	**Apatity**	**68.05 339**		⇓*i*P	P	10 20 25.2 +7.4
APA				pmax	pmax	
	comp=Z,12nm,0.9s					
APA				MLR	MLR	
	comp=Z,4μm,17.0s					
ISAL	**Salakas**	**68.05 325**		*e*P	P	**10 20 19.2 +1.1**
LOT	**Lotru**	**68.23 314**		⇓P	P	**10 20 19.6 0.0**
VSU	**Vasula**	**68.29 328**	*c*	*e*P	P	**10 20 21.7 +2.2**
VSU				pmax	pmax	
	comp=Z,100nm,1.7s					
VSU	**Vasula**	**68.29 328**		*e*P	P	**10 20 20.6 +1.1**
LVV	**L'vov**	**68.47 319**		*e*P	P	10 20 28.3 +7.4
LVV				*e*		10 22 52.6
LVV				*e*PPP	PPP	10 24 35.6
LVV				*e*PS	PnS	10 30 05.6 +19
LVV				*e*SS	SS	10 33 48.9 +2.9
LVV				MLR	MLR	
	comp=E,300nm,17.0s					
LVV				MLR	MLR	
	comp=Z,700nm,17.0s					
TOO	**Toolangi**	**68.52 139**		P	P	**10 20 22.2 +0.9**
	baz=68,SNR=4.8					
TOO	**Toolangi**	**68.52 139**		P	P	**10 20 22.3 +0.9**
TOO				pmax	pmax	
	comp=Z,68nm,1.4s					
TOO				MLR	MLR	
	comp=Z,3μm,20.0s					
TOO	**Toolangi**	**68.52 139**		P	P	**10 20 22.3 +0.9**
GZR	**Gura Zlata**	**68.93 314**		⇑P	P	**10 20 23.8 -0.1**
GZR	**Gura Zlata**	**68.93 314**		⇑P	P	**10 20 23.8 -0.1**
ARMA	**Armidale**	**68.98 129**		P	P	**10 20 26.0 +1.5**
	baz=69,SNR=5.9					
ARMA	**Armidale**	**68.98 129**		P	P	**10 20 23.4 -1.0**
ARMA				IAmb	IAmb	10 20 37.5
	comp=Z,48nm,1.3s					
ARMA				IAMs_20	IAMs_20	10 51 46.5
	comp=Z,2μm,22.0s					
DRGR		**69.07 315**		⇑P	P	**10 20 24.7 -0.1**
DRGR		**69.07 315**		⇑P	P	**10 20 24.7 -0.1**
HERR	**Herculane**	**69.15 313**		⇑P	P	**10 20 24.4 -0.8**
PABE	**Paberze**	**69.25 325**		*e*P	P	**10 20 26.4 +0.8**
PABE				IAmb	IAmb	10 20 27.9
	comp=Z,47nm,0.7s					
FINES	**FINESS Array B**	**69.25 331**		*i* P	P	**10 20 30.0 +4.5**
FINES				pmax	pmax	
	comp=Z,4.0nm,0.8s					
FINES	**FINESS Array B**	**69.25 331**		P	P	**10 20 26.1 +0.6**
	comp=Z,1.7nm,0.8s,baz=84,slow=5.9,SNR=3.9					
FINES				LR	LR	10 54 13.1
	comp=Z,3μm,20.9s,baz=102,slow=39					
FINES	**FINESS Array B**	**69.25 331**		P	P	**10 20 25.9 +0.5**
TRPA	**Tarpa**	**69.29 317**		⇑P	P	**10 20 24.7 -1.3**
ITM	**Ithomi**	**69.30 305**		IAMs_20	IAMs_20	10 54 12.4
	comp=Z,2μm,22.0s					
KWP	**Kalwaria Pacla**	**69.31 319**		*e*P	P	**10 20 26.9 +0.8**
KWP	**Kalwaria Pacla**	**69.31 319**		*e*P	P	**10 20 26.9 +0.8**
KWP				*e*P	P	**10 20 26.9 +0.8**
KWP	**Kalwaria Pacla**	**69.31 319**		P	P	**10 20 26.3 +0.3**
UZH	**Uzhgorod**	**69.49 317**		⇓*e*P	P	**10 20 31.7 +4.5**
UZH				*e*		10 20 42.6
UZH				*e*		10 20 52.0
UZH				*i* S	S	**10 29 38.0 +3.6**
UZH				*e*		10 30 07.8
UZH				*i*		10 30 15.8
UZH				MLR	MLR	
	comp=N,200nm,17.0s					
UZH				MLR	MLR	
	comp=E,150nm,17.0s					
UZH				MLR	MLR	
	comp=Z,50nm,17.0s					
SUW	**Suwalki**	**69.50 323**		*e*P	P	**10 20 27.4 +0.3**
SUW	**Suwalki**	**69.50 323**		*e*P	P	**10 20 27.4 +0.3**
SUW				*e*P	P	**10 20 27.4 +0.3**
SUW	**Suwalki**	**69.50 323**		P	P	**10 20 27.2 +0.1**
SUW				IAMs_20	IAMs_20	10 55 21.5
	comp=Z,2μm,21.0s					
CAN	**Canberra**	**69.59 135**		P	P	**10 20 27.5 -0.5**
CAN				pmax	pmax	
	comp=Z,15nm,0.9s					
CAN				MLR	MLR	
	comp=Z,4μm,22.0s					
CAN	**Canberra**	**69.59 135**		P	P	**10 20 27.5 -0.5**
CAN				IAmb	IAmb	10 20 30.9
	comp=Z,15nm,0.9s					
FNA	**Florina**	**69.76 309**		P	P	**10 20 28.6 -0.5**
FNA				pmax	pmax	
	comp=Z,22nm,1.3s					
FNA				MLR	MLR	
	comp=Z,1μm,20.0s					
FNA	**Florina**	**69.76 309**		P	P	**10 20 28.6 -0.5**
FNA				IAmb	IAmb	10 20 46.8
	comp=Z,22nm,1.3s					
PBUR	**Paburg**	**70.46 325**		*e*P	P	**10 20 33.8 +0.7**
KECS	**Kecovo**	**70.68 317**		*e*P	P	**10 20 35.3 +0.8**
KECS				pmax	pmax	
	comp=Z,17nm,1.5s					
KECS	**Kecovo**	**70.68 317**		*e*P	P	**10 20 35.3 +0.8**
PSZ	**Piszkesteto**	**71.05 317**		P	P	**10 20 36.5 -0.4**
PSZ				pmax	pmax	
	comp=Z,44nm,1.2s					
PSZ	**Piszkesteto**	**71.05 317**		P	P	**10 20 36.5 -0.4**
PSZ				IAmb	IAmb	10 20 46.9
	comp=Z,44nm,1.2s					
OJC	**Ojcow**	**71.22 319**		P	P	**10 20 37.8 0.0**
OJC				pmax	pmax	
	comp=Z,25nm,0.8s					
OJC	**Ojcow**	**71.22 319**		*e*P	P	**10 20 37.7 -0.1**
OJC				*e*P	P	**10 20 37.7 -0.1**
OJC	**Ojcow**	**71.22 319**		P	P	**10 20 37.8 0.0**
OJC				IAmb	IAmb	10 20 48.4
	comp=Z,25nm,0.8s					
LANS	**Liptovska Anna**	**71.38 318**		*e*P	P	**10 20 40.4 +1.5**
LANS				pmax	pmax	
	comp=Z,18nm,1.8s					
LANS	**Liptovska Anna**	**71.38 318**		*e*P	P	**10 20 40.4 +1.5**
ARCES	**ARCESS Array B**	**71.42 340**		LR	LR	10 56 01.4
	comp=Z,3μm,19.0s,baz=112,slow=39					
BILL	**Bilibino**	**71.61**	**22**	⇓*e*P	P	**10 20 38.7 -1.1**
BILL				pmax	pmax	
	comp=Z,67nm,2.5s					
BILL	**Bilibino**	**71.61**	**22**	P	P	**10 20 38.9 -0.9**
BILL				IAmb	IAmb	10 20 41.8
	comp=Z,23nm,1.0s					
LSZ	**Lusaka**	**71.70 249**		P	P	**10 20 41.2 -0.2**
LSZ				pmax	pmax	
	comp=Z,51nm,1.4s					
LSZ	**Lusaka**	**71.70 249**		P	P	**10 20 41.2 -0.2**
LSZ				IAmb	IAmb	10 20 51.1
	comp=Z,51nm,1.4s					
LSZ	**Lusaka**	**71.70 249**		IAMs_20	IAMs_20	10 50 03.4
	comp=Z,1μm,18.0s					
VYHS	**Vyhne**	**71.78 317**		*e*P	P	**10 20 42.0 +0.8**
VYHS				pmax	pmax	

comp=Z,75nm,1.9s
VYHS Vyhne 71.78 317 *e*P **P 10 20 42.0 +0.8**
OKC Ostrava-Krasne 72.27 319 *e*P **P 10 20 45.4 +1.3**
OKC MLR MLR
comp=Z,1μm,21.9s
OKC Ostrava-Krasne 72.27 319 *e*P **P 10 20 45.4 +1.3**
OKC AMS AMS 10 56 30.0
comp=Z,1μm,21.9s
JAVC Velka Javorina 72.56 317 *e*P **P 10 20 46.9 +1.0**
MORC Moravsky Berou 72.66 318 ⇑P **P 10 20 43.8 -2.7**
MORC Moravsky Berou 72.66 318 ⇑P **P 10 20 43.8 -2.7**
MORC Moravsky Berou 72.66 318 *e*P **P 10 20 46.9 +0.4**
MORC Moravsky Berou 72.66 318 P **P 10 20 46.4 -0.1**
TAU Tasmania Unive 72.79 143 IAMs_20 IAMs_20 10 54 47.3
comp=Z,2μm,20.0s
MODS Modra-Piesok 72.81 317 *e*P **P 10 20 47.5 +0.1**
MODS pmax pmax
comp=Z,66nm,1.7s
MODS Modra-Piesok 72.81 317 *e*P **P 10 20 47.5 +0.1**
KRLC Kraliky 73.16 319 *e*P **P 10 20 50.0 +0.5**
KRLC *e* 10 20 58.4
KRLC MLR MLR
comp=Z,1μm,18.5s
KRLC Kraliky 73.16 319 *e*P **P 10 20 50.0 +0.5**
KRLC *ex* x 10 20 58.4
KRLC AMS AMS 10 56 50.0
comp=Z,1μm,18.5s
VRAC Vranov 73.27 318 *e*P **P 10 20 50.3 +0.2**
KRUC Moravsky 73.40 318 *e*P **P 10 20 50.7 -0.1**
DPC Dobruska-Polom 73.46 319 *e*P **P 10 20 52.1 +0.9**
DPC *e* 10 21 00.6
DPC *e*S **S 10 30 15.1 -5.2**
DPC MLR MLR
comp=Z,1μm,19.2s
DPC Dobruska-Polom 73.46 319 *e*P **P 10 20 52.1 +0.9**
DPC *ex* x 10 21 00.6
DPC *e*S **S 10 30 15.1 -5.2**
DPC AMS AMS 10 57 10.0
comp=Z,1μm,19.2s
KSP Ksiaz 73.48 320 *e*P **P 10 20 52.1 +0.8**
KSP Ksiaz 73.48 320 *e*P **P 10 20 52.1 +0.8**
KSP *e*P **P 10 20 52.1 +0.8**
CHVC Chvalec 73.63 319 *e*P **P 10 20 53.2 +1.0**
CHVC *ex* x 10 21 02.2
CHVC AMS AMS 10 57 30.0
comp=Z,2μm,19.1s
UPC Upice 73.66 319 AMS AMS 10 57 20.0
comp=Z,2μm,18.3s
CONA Conrad Observa 73.76 317 *e*P **P 10 20 53.5 +0.4**
comp=Z,14nm,1.6s
ARSA Arzberg 74.00 316 pP **P 10 20 55.8 +1.4**
comp=Z,8.5nm,1.0s
TREC Trest 74.00 318 AMS AMS 11 00 40.0
comp=Z,1μm,17.9s
SOKA Soboth 74.34 315 *e*pP **P 10 20 57.2 +0.7**
comp=Z,18nm,1.4s
GOPC GO Pecny, Ondr 74.45 319 *e*P **P 10 20 58.0 +1.0**
GOPC *e*S **S 10 30 32.4 +1.0**
GOPC MLR MLR
comp=Z,1μm,21.0s
GOPC GO Pecny, Ondr 74.45 319 *e*P **P 10 20 58.0 +1.0**
GOPC *e*S **S 10 30 32.4 +1.0**
GOPC AMS AMS 10 58 00.0
comp=Z,1μm,21.0s
PVCC Panska Ves 74.58 319 AMS AMS 10 58 00.0
comp=Z,1μm,17.0s
PRU Pruhonice 74.60 319 *e*P **P 10 20 58.7 +0.9**
PRU *e* 10 21 06.5
PRU *e*S **S 10 30 30.7 -2.4**
PRU MLR MLR
comp=Z,2μm,24.8s
PRU Pruhonice 74.60 319 *e*P **P 10 20 58.7 +0.9**
PRU *ex* x 10 21 06.5
PRU *e*S **S 10 30 30.7 -2.4**
PRU AMS AMS 10 57 50.0
comp=Z,2μm,24.8s
PRA Prague 74.67 319 AMS AMS 10 58 00.0
comp=Z,2μm,24.4s
OBKA Obir 74.68 315 *e*pP **P 10 20 59.3 +0.8**
comp=Z,54nm,1.7s
MOA Molln 74.83 316 *e*P **P 10 20 59.7 +0.5**
comp=Z,11nm,1.1s
BRG Berggiesshubel 74.97 320 *e*P **P 10 21 00.5 +0.6**
comp=Z,15nm,0.9s
BRG *i* 10 21 08.5
comp=Z,116nm,1.8s
BRG S **S 10 30 38.0 +0.8**
BRG SS **SS 10 35 23.0 -2.5**
comp=N,294nm,18.6s
comp=E,218nm,21.9s
comp=Z,315nm,17.0s
BRG Berggiesshubel 74.97 320 *e*P **P 10 21 00.5 +0.6**
comp=Z,15nm,0.9s
BRG *i* 10 21 08.5
comp=Z,116nm,1.8s
BRG S **S 10 30 38.0 +0.8**
BRG SS **SS 10 35 23.0 -2.5**
comp=N,895nm,14.7s
comp=E,1μm,22.2s
comp=Z,2μm,20.6s
BRG Berggiesshubel 74.97 320 *e*P **P 10 21 00.5 +0.6**
BRG *i* 10 21 08.5
BRG S **S 10 30 38.0 +0.8**
BRG SS **SS 10 35 23.0 -2.5**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,15nm,1.8s
BRG MLR MLR
comp=N,116μm,14.7s
BRG MLR MLR
comp=E,895nm,22.2s
BRG MLR MLR
comp=Z,1μm,20.6s
GEC2 GERESS Array S 75.18 317 P **P 10 21 01.7 +0.4**
GEC2 IAmb IAmb 10 21 10.7
comp=Z,30nm,1.0s
GERES GERESS Array B 75.18 317 P **P 10 21 00.9 -0.4**
GERES GERESS Array B 75.18 317 P **P 10 21 01.7 +0.4**
comp=Z,16nm,0.8s,baz=86,slow=5.6,SNR=53
GERES LR LR 11 00 10.1
comp=Z,717nm,19.5s,baz=105,slow=41
GERES GERESS Array B 75.18 317 P **P 10 21 00.9 -0.4**
KHC Kasperske Hory 75.25 318 *e*P **P 10 21 02.0 +0.3**
KHC *e* 10 21 09.1
KHC *e*S **S 10 30 34.3 -6.2**
KHC MLR MLR
comp=Z,1μm,19.5s
KHC Kasperske Hory 75.25 318 *e*P **P 10 21 02.0 +0.3**
KHC *ex* x 10 21 09.1
KHC *e*S **S 10 30 34.3 -6.2**
KHC AMS AMS 10 59 10.0
comp=Z,1μm,19.5s
KHC Kasperske Hory 75.25 318 P **P 10 21 01.5 -0.2**
MYKA Terra Mystica 75.30 315 *e*pP **P 10 21 02.7 +0.7**
comp=Z,16nm,1.8s
KBA Koelnbreinsper 75.49 316 *e*P **P 10 21 03.3 0.0**
comp=Z,4.0nm,0.7s
CLL Collm 75.55 320 *e*P **P 10 21 03.0 -0.3**
CLL *i* 10 21 11.3
CLL *e*S **S 10 30 43.0 -0.6**
CLL MLR MLR
comp=Z,2μm,20.9s
CLL Collm 75.55 320 *e*P **P 10 21 03.0 -0.3**
CLL ⇓*i* 10 21 11.3
comp=Z,80nm,1.6s
CLL *e*S **S 10 30 43.0 -0.6**
CLL *e*SS **SS 10 35 36.0 +1.7**
CLL *e* 10 36 54.0
CLL *e*SSS SSS 10 38 54.0
CLL *e* 10 43 54.0
CLL Lm MLR 10 59 00.0
comp=N,1μm,20.5s
CLL Lm MLR 10 59 00.0
comp=E,2μm,21.0s
CLL Lm MLR 10 59 00.0
comp=Z,2μm,20.9s
CLL Collm 75.55 320 P **P 10 21 03.3 0.0**
CLL IAmb IAmb 10 21 13.3
comp=Z,19nm,1.0s
CLL IAMs_20 IAMs_20 10 59 14.9
comp=Z,2μm,21.0s
NKC Novy Kostel 75.94 319 AMS AMS 10 58 50.0
comp=Z,2μm,17.6s
STAL STALIGIAL 75.96 315 P **P 10 21 05.6 -0.3**

ABTA Abfaltersbach 76.07 315 *e*P **P 10 21 06.2 -0.3**
comp=Z,8.9nm,1.2s
NB2 NORSAR Subarra 76.35 330 P **P 10 21 07.6 -0.1**
comp=Z,84nm,2.0s,baz=88,slow=6.2
NB2 NORSAR Subarra 76.35 330 P **P 10 21 07.6 -0.1**
baz=88,slow=6.2
NOA NORSAR Array B 76.35 330 P **P 10 21 08.0 +0.3**
comp=Z,1.7nm,0.8s,baz=88,slow=5.9,SNR=5.3
NOA LR LR 10 59 34.3
comp=Z,944nm,21.0s,baz=85,slow=40
WTTA Wattenberg 76.64 316 P **P 10 21 09.6 -0.3**
comp=Z,12nm,1.0s
WATA Walderalm 76.68 316 *e*P **P 10 21 08.5 -1.4**
comp=Z,9.1nm,0.9s
CTI Castel Tesino 76.71 315 P **P 10 21 09.8 -0.4**
CTI pmax pmax
comp=Z,75nm,1.4s
CTI Castel Tesino 76.71 315 P **P 10 21 09.8 -0.4**
LATE Laterza 76.86 311 P **P 10 21 11.2 +0.2**
SQTA Sankt Quirin 76.93 316 *e*P **P 10 21 11.0 -0.4**
comp=Z,7.5nm,0.9s
MOTA Moosalm 77.00 316 *e*P **P 10 21 11.2 -0.6**
comp=Z,12nm,0.8s
RETA Reutte 77.22 316 *e*P **P 10 21 12.3 -0.6**
comp=Z,11nm,0.9s
LBTB Lobatse 77.24 241 P **P 10 21 13.5 0.0**
LBTB pmax pmax
comp=Z,29nm,1.0s
LBTB Lobatse 77.24 241 P **P 10 21 13.5 0.0**
LBTB IAmb IAmb 10 21 22.5
comp=Z,29nm,0.9s
FETA Feichten 77.28 316 *e*P **P 10 21 12.8 -0.5**
comp=Z,8.5nm,1.0s
ZCCA Zocca 77.32 313 P **P 10 21 12.7 -0.8**
ZCCA IAmb IAmb 10 21 25.3
comp=Z,49nm,1.0s
MUD Monsted U'grnd 77.58 325 *e*P P 10 21 23.2 +8.6
MUD Monsted U'grnd 77.58 325 *i* P P 10 21 23.2 +8.6
DZM Mont Dzumac 77.83 116 *e*S **S 10 31 07.6 -2.0**
comp=Z,419nm,27.9s
DZM Mont Dzumac 77.83 116 *e*LR LR 10 45 27.8
comp=Z,3μm,28.4s
DZM Mont Dzumac 77.83 116 LR LR 11 00 02.7
comp=Z,804nm,19.0s,baz=262,slow=39
DAVA Damuels 77.83 316 *e*P **P 10 21 15.9 -0.6**
comp=Z,10nm,0.8s
TUE Stuetta 78.27 315 P **P 10 21 18.1 -0.9**
TUE IAmb IAmb 10 21 28.8
comp=Z,33nm,1.1s
BFO Black Forest 78.77 317 *i* P P 10 21 30.4 +8.9
BOSA Boshof 78.78 237 P **P 10 21 23.0 +1.0**
BOSA pmax pmax
comp=Z,25nm,0.8s
BOSA Boshof 78.78 237 P **P 10 21 22.6 +0.6**
comp=Z,21nm,0.8s,baz=86,slow=4.8,SNR=26
BOSA LR LR 10 52 31.7
comp=Z,2μm,19.3s,baz=56,slow=33
BOSA Boshof 78.78 237 P **P 10 21 23.0 +1.0**
BOSA IAmb IAmb 10 21 32.3
comp=Z,25nm,0.8s
CASY Casey 79.23 174 P **P 10 21 23.4 0.0**
CASY IAmb IAmb 10 21 33.2
comp=Z,50nm,1.4s
KEST Kesra 79.51 304 P **P 10 21 26.6 +0.7**
comp=Z,11nm,0.9s,baz=310,slow=4.7,SNR=6.5
KEST LR LR 11 02 26.2
comp=Z,706nm,19.9s,baz=8.0,slow=40
KEST Kesra 79.51 304 P **P 10 21 24.7 -1.2**
KEST IAmb IAmb 10 21 34.9
comp=Z,34nm,1.1s
SENIN Lac Senin/Sane 79.69 315 P **P 10 21 26.4 -0.4**
MEM Membach 80.02 320 x **PcP 10 21 36.6 +1.0**
WLF Walferdange 80.04 319 x **PcP 10 21 37.1 +1.4**
WLF Walferdange 80.04 319 IAMs_20 IAMs_20 11 02 04.0
comp=Z,2μm,20.0s
GAMB Gambell 80.43 27 IAMs_20 IAMs_20 10 58 52.5
comp=Z,1μm,21.0s
BCLA Clavier 80.49 320 x **PcP 10 21 39.3 +1.6**
BMRD Maredsous 80.84 319 x **PcP 10 21 40.8 +1.6**
DOU Dourbes 80.98 319 x **PcP 10 21 41.6 +1.8**
SNF Seneffe 81.12 320 x **PcP 10 21 42.3 +1.9**
SSB Saint Sauveur 81.75 314 P **P 10 21 36.2 -1.5**
SSB pmax pmax
comp=Z,18nm,1.0s
SSB Saint Sauveur 81.75 314 P **P 10 21 36.2 -1.5**
SSB IAmb IAmb 10 21 47.6
comp=Z,18nm,1.0s
ANM Nome 83.00 25 IAMs_20 IAMs_20 11 02 20.4
comp=Z,2μm,19.0s
RDOG Red Dog Mine 83.07 22 P **P 10 21 43.9 -0.2**
MAW Mawson 83.08 192 P **P 10 21 45.6 +1.7**
baz=83,SNR=5.1
MAW Mawson 83.08 192 P **P 10 21 44.5 +0.6**
MAW pmax pmax
comp=Z,6.0nm,1.3s
MAW Mawson 83.08 192 P **P 10 21 45.5 +1.7**
comp=Z,3.8nm,0.8s,baz=324,slow=9.7,SNR=7.8
MAW LR LR 10 53 41.6
comp=Z,558nm,19.4s,baz=31,slow=32
MAW Mawson 83.08 192 P **P 10 21 44.5 +0.6**
DAG Danmarks Havn 83.34 348 *e*P **P 10 21 45.9 +0.7**
DAG pmax pmax
comp=Z,160nm,1.8s
DAG Danmarks Havn 83.34 348 *i* P **P 10 21 45.9 +0.7**
comp=Z,36nm,1.8s
SUR Sutherland 83.66 235 LR LR 10 53 59.2
comp=Z,1μm,21.1s,baz=78,slow=32
SUR Sutherland 83.66 235 P **P 10 21 50.6 +2.7**
SUR IAmb IAmb 10 22 03.2
comp=Z,31nm,0.9s
TAM Tamanrasset 84.94 292 P **P 10 21 52.9 -1.8**
TAM pmax pmax
comp=Z,21nm,1.1s
TAM MLR MLR
comp=Z,2μm,20.0s
TAM Tamanrasset 84.94 292 P **P 10 21 52.9 -1.8**
TAM IAmb IAmb 10 22 05.6
comp=Z,21nm,1.1s
TAM IAMs_20 IAMs_20 11 01 10.7
comp=Z,2μm,20.0s
IMAR Indian Mountai 87.16 22 P **P 10 22 04.6 +0.1**
TOLK Toolik Lake Re 87.44 19 P **P 10 22 06.7 +0.8**
baz=298
TOLK Toolik Lake Re 87.44 19 P **P 10 22 06.0 +0.1**
TOLK IAmb IAmb 10 22 09.0
comp=Z,30nm,0.9s
TTA Tatalina 87.46 26 P **P 10 22 05.5 -0.6**
TTA pmax pmax
comp=Z,10.0nm,1.2s
TTA Tatalina 87.46 26 P **P 10 22 05.5 -0.6**
COLD Coldfoot 87.89 21 P **P 10 22 06.9 -1.1**
SVW2 Sparrevohn 88.35 27 P **P 10 22 09.8 -0.6**
SVW2 IAmb IAmb 10 22 11.8
comp=Z,25nm,1.4s
SVW2 IAMs_20 IAMs_20 11 06 52.5
comp=Z,963nm,22.0s
RPZ Rata Peaks 88.52 135 LR LR 11 04 00.5
comp=Z,942nm,18.9s,baz=276,slow=37
CNBA Chernabura Isl 88.62 34 IAMs_20 IAMs_20 11 05 01.1
comp=Z,1μm,22.0s
MLY Manley 88.70 23 P **P 10 22 11.7 -0.3**
MLY IAMs_20 IAMs_20 11 05 10.5
comp=Z,1μm,20.0s
BPAW Bear Paw Mtn. 89.03 24 P **P 10 22 13.8 +0.3**
BPAW IAMs_20 IAMs_20 11 09 31.2
comp=Z,1μm,20.0s
PPLA Purkeypile 89.07 25 P **P 10 22 13.9 0.0**
PPLA IAmb IAmb 10 22 15.0
comp=Z,35nm,1.3s
PPLA IAMs_20 IAMs_20 11 06 00.6
comp=Z,2μm,19.0s
ESDC Sonseca Array 89.08 310 P **P 10 22 14.6 +0.3**
comp=Z,1.6nm,0.7s,baz=48,slow=4.1,SNR=5.7
ESDC LR LR 11 08 10.3
comp=Z,381nm,19.2s,baz=15,slow=40
ESDC Sonseca Array 89.08 310 P **P 10 22 14.2 -0.1**
THZ Tophouse 89.21 133 P **P 10 22 14.1 -0.7**
THZ IAmb IAmb 10 22 15.2
comp=Z,30nm,1.4s
NEA Nenana 89.54 23 IAMs_20 IAMs_20 11 00 45.7
comp=Z,990nm,19.0s
BWN Browne 89.58 23 IAMs_20 IAMs_20 11 02 30.7
comp=Z,1μm,19.0s
TRF Thorofare Moun 89.60 24 P **P 10 22 17.3 +0.9**
TRF IAmb IAmb 10 22 19.4
comp=Z,32nm,1.0s
TRF IAMs_20 IAMs_20 11 05 13.4
comp=Z,1μm,19.0s
MDM Murphy Dome 89.67 22 P **P 10 22 16.7 +0.2**
BMAR Burnt Mountain 89.68 19 P **P 10 22 17.1 +0.6**
HIZ Hauiti 89.72 129 IAMs_20 IAMs_20 11 06 54.9
comp=Z,2μm,19.0s
SKT Skwentna 89.75 26 P **P 10 22 16.5 -0.4**
SKT IAMs_20 IAMs_20 11 05 19.5
comp=Z,2μm,22.0s
TCOL CIGO, UAF Yank 89.85 22 P **P 10 22 18.3 +1.0**
baz=300
COLA College 89.86 22 P **P 10 22 17.5 +0.2**
COLA pmax pmax
comp=Z,24nm,1.4s
COLA MLR MLR
comp=Z,1μm,20.0s
COLA College 89.86 22 P **P 10 22 17.5 +0.2**
COLA IAmb IAmb 10 22 32.2
comp=Z,24nm,1.4s
COLA College 89.86 22 IAMs_20 IAMs_20 11 05 35.0
comp=Z,1μm,20.0s
POKR Poker Plat Res 89.89 22 P **P 10 22 17.5 0.0**
baz=300
FYU Fort Yukon 89.92 20 P **P 10 22 18.0 +0.4**
FYU IAmb IAmb 10 22 21.2
comp=Z,28nm,1.2s
SYO Syowa Base 89.94 197 ⇑*i*P **P 10 22 18.0 +0.6**
SYO Syowa Base 89.94 197 ⇑*e*pP pP 10 22 23.8 +2.4
SYO Syowa Base 89.94 197 ⇑*e*sP sP 10 22 25.6 +2.8
WRH Wood River Hil 89.97 23 P **P 10 22 18.2 +0.3**
WRH IAmb IAmb 10 22 20.6
comp=Z,13nm,0.9s
WRH IAMs_20 IAMs_20 11 07 15.0
comp=Z,1μm,19.0s
CCB Clear Creek Bu 89.99 23 P **P 10 22 17.6 -0.3**
CCB IAMs_20 IAMs_20 11 08 05.6
comp=Z,1μm,18.0s
MCK McKinley 90.00 24 P **P 10 22 18.4 +0.3**
MCK pmax pmax
comp=Z,71nm,1.2s
MCK MLR MLR
comp=Z,2μm,22.0s
MCK McKinley 90.00 24 P **P 10 22 18.4 +0.3**
MCK IAMs_20 IAMs_20 11 05 52.0
comp=Z,2μm,22.0s
SUMG Summit 90.02 347 *i* P **P 10 22 19.4 +0.9**
SUMG Summit 90.02 347 *i* P **P 10 22 19.4 +0.9**
RND Reindeer 90.19 24 P **P 10 22 18.7 -0.3**
RND pmax pmax
comp=Z,70nm,1.4s
RND MLR MLR
comp=Z,1μm,22.0s
RND Reindeer 90.19 24 P **P 10 22 18.7 -0.3**
RND IAMs_20 IAMs_20 11 05 31.9
comp=Z,1μm,22.0s
IL31 90.27 22 P **P 10 22 17.9 -1.2**
ILAR Eielson Array 90.27 22 P **P 10 22 18.2 -1.1**
ILAR Eielson Array 90.27 22 P **P 10 22 17.9 -1.3**
comp=Z,6.4nm,0.8s,baz=297,slow=3.7,SNR=64
ILAR LR LR 11 04 40.9
comp=Z,801nm,21.8s,baz=318,slow=37
ILAR Eielson Array 90.27 22 P **P 10 22 18.2 -1.1**
SUA Susitna One 90.32 26 P **P 10 22 19.7 0.0**
SUA IAmb IAmb 10 22 22.2
comp=Z,26nm,0.9s
SUA IAMs_20 IAMs_20 11 05 01.5
comp=Z,1μm,22.0s
CHIR Chirikof Islan 90.37 32 IAMs_20 IAMs_20 11 04 01.4
comp=Z,1μm,20.0s
PRP Porcupine Dome 90.37 21 P **P 10 22 20.4 +0.4**
PRP IAmb IAmb 10 22 23.0
comp=Z,24nm,1.0s
PRP IAMs_20 IAMs_20 11 08 14.7
comp=Z,2μm,21.0s
HDA Harding Lake 90.43 23 P **P 10 22 19.7 -0.4**
baz=300
HDA Harding Lake 90.43 23 P **P 10 22 19.0 -1.0**
HDA IAmb IAmb 10 22 21.4
comp=Z,11nm,0.9s
HDA IAMs_20 IAMs_20 11 05 54.2
comp=Z,1μm,21.0s
TOC1 Torodi Ar. Sit 90.50 284 IAMs_20 IAMs_20 11 08 39.6
comp=Z,881nm,18.0s
TOA0 Torodi Ar. Sit 90.51 283 P P 10 22 29.9 +8.5
SNR=5.5
TOA0 Torodi Ar. Sit 90.51 283 P **P 10 22 20.8 -0.6**
TORD Torodi Ar. Bea 90.51 283 P **P 10 22 21.4 0.0**
comp=Z,78nm,0.6s,baz=75,slow=4.6,SNR=9.3
TORD PP PP 10 26 05.0 +8.8
comp=Z,8.1nm,1.1s,baz=73,slow=6.7,SNR=11
TORD LR LR 11 02 06.5
comp=Z,631nm,21.7s,baz=20,slow=35
TORD Torodi Ar. Bea 90.51 283 IAmb IAmb 10 22 27.5
comp=Z,98nm,0.8s
TOB5 Torodi Ar. Sit 90.52 283 IAMs_20 IAMs_20 11 06 11.2
comp=Z,828nm,19.0s
PBRG Braganca 90.52 313 *e*P **P 10 22 22.5 +1.5**
comp=Z,54nm,1.6s
TOC5 Torodi Ar. Sit 90.53 283 IAMs_20 IAMs_20 11 06 10.5
comp=Z,896nm,19.0s
MVO Moncorvo 90.92 312 *e*P **P 10 22 24.8 +1.9**
comp=Z,52nm,1.7s
MVO Moncorvo 90.92 312 *e*LR LR 10 55 27.4
comp=Z,547nm,18.0s
RC01 Rabbit Creek A 90.92 26 P **P 10 22 22.4 0.0**
RC01 IAMs_20 IAMs_20 11 07 17.5
comp=Z,1μm,19.0s
DHY Denali Highway 90.93 24 P **P 10 22 22.8 +0.2**
DHY IAmb IAmb 10 22 31.7
comp=Z,10nm,0.9s
GHO Glory Hole Cre 90.94 25 P **P 10 22 22.6 0.0**
GHO IAmb IAmb 10 22 38.5
comp=Z,20nm,0.9s
PMR Palmer 90.94 26 P **P 10 22 22.3 -0.1**
PMR pmax pmax
comp=Z,24nm,1.0s
PMR MLR MLR
comp=Z,1μm,19.0s
PMR Palmer 90.94 26 P **P 10 22 22.3 -0.1**
PMR IAmb IAmb 10 22 23.9
comp=Z,24nm,1.0s
PMR IAMs_20 IAMs_20 11 06 08.0
comp=Z,1μm,19.0s
CNPM China Poot 90.97 28 IAMs_20 IAMs_20 11 08 37.4
comp=Z,1μm,18.0s
OHAK Old Harbor 91.00 30 IAMs_20 IAMs_20 11 11 09.7
comp=Z,1μm,20.0s
BRLK Bradley Lake 91.03 28 P **P 10 22 22.7 -0.2**
BRLK IAMs_20 IAMs_20 11 08 46.2
comp=Z,1μm,20.0s
KDAK Kodiak Island 91.10 30 P **P 10 22 23.1 -0.2**
KDAK pmax pmax
comp=Z,77nm,1.5s
KDAK MLR MLR
comp=Z,1μm,22.0s
KDAK Kodiak Island 91.10 30 LR LR 11 08 23.6
comp=Z,599nm,18.4s,baz=318,slow=39
KDAK Kodiak Island 91.10 30 P **P 10 22 23.1 -0.2**
KDAK Kodiak Island 91.10 30 IAMs_20 IAMs_20 11 03 20.5
comp=Z,1μm,22.0s
BKZ Black Stump Fm 91.13 130 IAMs_20 IAMs_20 11 03 59.1
comp=Z,2μm,19.0s
SML Sawmill 91.17 25 P **P 10 22 23.5 -0.1**
SML IAMs_20 IAMs_20 11 06 04.1
comp=Z,1μm,20.0s
KNK Knik Glacier 91.31 26 P **P 10 22 23.9 -0.3**
URZ Urewera 91.36 129 LR LR 11 08 04.2
comp=Z,2μm,18.1s,baz=284,slow=39
POLO Lamas de Olo 91.40 313 *e*SKSac **SKSac 10 33 01.3 +3.7**
SEW Seward 91.51 27 P **P 10 22 24.1 -0.9**
SEW IAmb IAmb 10 22 27.6
comp=Z,22nm,1.0s
MTE Manteigas 91.52 312 *e*P **P 10 22 27.4 +1.7**
comp=Z,62nm,1.8s
MTE Manteigas 91.52 312 *e*SKSac **SKSac 10 33 04.0 +5.8**
MTE Manteigas 91.52 312 *e*LR LR 10 55 33.8
comp=Z,660nm,20.0s
RIDG Independent Ri 91.56 23 P **P 10 22 25.7 +0.3**
RIDG IAmb IAmb 10 22 35.9
comp=Z,22nm,1.2s
SCM Sheep Creek Mo 91.58 25 P **P 10 22 25.7 +0.2**
SCM pmax pmax
comp=Z,57nm,1.3s
SCM Sheep Creek Mo 91.58 25 P **P 10 22 25.7 +0.2**
SCM IAMs_20 IAMs_20 11 11 04.7
comp=Z,1μm,19.0s

PCBR	Castelo Branco	91.64	311	eP	P	10 22 27.8	+1.7
	comp=Z,65nm,1.4s						
PMRV	Marv??o	91.69	311	eP	P	10 22 27.0	+0.5
	comp=Z,32nm,1.7s						
PMRV	Marv??o	91.69	311	eLR	LR	10 57 51.5	
	comp=Z,436nm,20.0s						
PAX	Paxson	91.73	23	P	P	10 22 26.1	-0.1
PAX				pmax	pmax		
	comp=Z,18nm,1.2s						
PAX	Paxson	91.73	23	P	P	10 22 26.1	-0.1
PAX				IAmb	IAmb	10 22 29.3	
	comp=Z,18nm,1.2s						
PAX				IAms_20	IAms_20	11 08 29.8	
	comp=Z,1μm,19.0s						
SCRK	Sand Creek	91.76	22	P	P	10 22 26.3	0.0
SCRK				IAmb	IAmb	10 22 29.1	
	comp=Z,16nm,0.9s						
DOT	Dot Lake	91.91	23	P	P	10 22 26.8	-0.2
DOT				IAmb	IAmb	10 22 36.0	
	comp=Z,12nm,1.2s						
DOT				IAms_20	IAms_20	11 04 16.3	
	comp=Z,1μm,19.0s						
PESTR	Estremoz	92.01	310	eSKSac	SKSac	10 33 05.9	+5.0
MXZ	Matakaoa Point	92.11	128	IAms_20	IAms_20	11 04 34.2	
	comp=Z,1μm,22.0s						
GLI	Glacier Island	92.15	26	IAms_20	IAms_20	11 06 47.0	
	comp=Z,2μm,21.0s						
PMTG	Montargil	92.42	311	eP	P	10 22 30.9	+1.1
	comp=Z,36nm,1.3s						
PMTG	Montargil	92.42	311	eSKSac	SKSac	10 33 08.8	+5.7
MENT	Mentasta	92.43	23	P	P	10 22 30.0	+0.7
INK	Inuvik	92.45	16	P	P	10 22 28.7	-0.6
INK				pmax	pmax		
	comp=Z,30nm,1.3s						
INK	Inuvik	92.45	16	P	P	10 22 28.7	-0.6
INK				IAmb	IAmb	10 22 30.7	
	comp=Z,30nm,1.3s						
PVAQ	Vaqueiros	92.55	309	eP	P	10 22 33.0	+2.6
	comp=Z,84nm,1.5s						
PVAQ	Vaqueiros	92.55	309	eSKSac	SKSac	10 33 09.4	+5.5
PVAQ	Vaqueiros	92.55	309	eLR	LR	10 55 01.5	
	comp=Z,641nm,20.0s						
HIN	Hinchinbrook I	92.65	26	IAms_20	IAms_20	11 07 12.1	
	comp=Z,2μm,18.0s						
PCVE	Castro Verde	92.72	309	eSKSac	SKSac	10 33 10.2	+5.3
PBDV	Barranco-do-Ve	92.76	309	eSKSac	SKSac	10 33 08.8	+3.6
EPYK	Eagle Plains	92.81	19	P	P	10 22 31.4	+0.3
	baz=310						
EPYK	Eagle Plains	92.81	19	P	P	10 22 29.8	-1.3
PNCL	Nicolau / Gran	92.94	310	eSKSac	SKSac	10 33 08.8	+2.7
BCAR	Beaver Creek A	93.09	22	P	P	10 22 32.3	-0.2
GLB	Gilahina Butte	93.21	24	IAms_20	IAms_20	11 05 21.9	
	comp=Z,1μm,19.0s						
PMAFR	Mafra	93.24	311	eSKSac	SKSac	10 33 11.5	+3.8
MORF	Marmelete	93.28	309	eSKSac	SKSac	10 33 09.4	+1.3
RAO	Raoul Island	93.33	119	LR	LR	11 06 01.4	
	comp=Z,693nm,21.0s,baz=328,slow=36						
DAWY	Dawson	93.36	21	P	P	10 22 33.0	-0.7
DAWY				IAmb	IAmb	10 22 35.2	
	comp=Z,21nm,1.1s						
DAWY				IAms_20	IAms_20	11 11 27.2	
	comp=Z,2μm,18.0s						
PFVI	Vila Bisbo	93.47	309	eSKSac	SKSac	10 33 07.3	-1.7
MCARA	McCarthy VSAT	93.56	24	P	P	10 22 36.6	+2.0
CRQM	Cirque	93.86	25	IAms_20	IAms_20	11 03 48.7	
	comp=Z,1μm,22.0s						
TGL	Tana Glacier	93.99	25	P	P	10 22 38.9	+2.2
TGL				IAmb	IAmb	10 22 39.9	
	comp=Z,22nm,0.9s						
TGL				IAms_20	IAms_20	11 09 46.9	
	comp=Z,1μm,19.0s						
C36M	Paulatuk	94.02	13	P	P	10 22 35.6	-0.9
	baz=322						
BALM	Baldy	94.03	24	IAms_20	IAms_20	11 05 46.1	
	comp=Z,1μm,21.0s						
AFI	Afiamalu	95.86	103	LR	LR	11 00 25.1	
	comp=Z,339nm,21.1s,baz=288,slow=32						
DBIC	Dimbokro	98.26	279	LR	LR	11 06 17.7	
	comp=Z,333nm,20.2s,baz=50,slow=35						
YKA	Yellowknife Ar	101.88	14	P	Pdif	10 23 11.4	-0.6
	comp=Z,1.1nm,0.8s,baz=324,slow=4.6,SNR=3.6						
YKA				PP	PP	10 27 16.9	-5.3
	comp=Z,0.8nm,0.9s,baz=343,slow=8.4,SNR=3.8						
QSPA	South Pole Qui	102.22	180	IAms_20	IAms_20	11 05 35.4	
	comp=Z,848nm,20.0s						
SNAA	Sanae	104.14	199	PKiKP	PKiKP	10 27 31.3	-7.5
PLID	Pearl Lake	116.28	24		PKiKP	10 28 02.1	-0.6
PLID				IAms_20	IAms_20	11 03 23.1	
	comp=Z,1μm,18.0s						
PPT2	Papeete2	117.53	103	ePS	PS	10 39 03.6	+0.6
PPT2							
	comp=Z,190nm,27.0s						
PPT2				eSS	SS	10 45 30.9	+1.3
	comp=Z,417nm,27.0s						
PPT2	Papeete2	117.53	103	eLQ	LQ	10 58 43.7	
	comp=Z,447nm,28.2s						
PPT2				eLR	LR	11 03 36.2	
	comp=Z,864nm,23.0s						
TBI	Tubuai	117.98	110	ePS	PS	10 39 08.0	+1.3
	comp=Z,192nm,34.2s						
TBI				eSS	SS	10 45 33.4	-1.7
	comp=Z,310nm,28.2s						
TBI	Tubuai	117.98	110	eLQ	LQ	10 59 01.5	
	comp=Z,426nm,37.0s						
TBI				eLR	LR	11 04 00.2	
	comp=Z,1μm,29.2s						
TPAW	Teton Pass	119.55	22		PKiKP	10 28 09.5	+0.3
SNOW	Snow King Moun	119.64	21		PKdf	10 28 08.7	-0.6
REDW	Red Top Meadow	119.69	22		PKiKP	10 28 10.3	+0.8
ELK	Elko	120.17	26	PKIKP	PKdf	10 28 09.0	-1.4
ELK	Elko	120.17	26		PKdf	10 28 09.0	-1.4
KVN	Kaiserville	120.22	30	PKIKP	PKdf	10 28 09.1	-1.3
KVN				MLR	MLR		
	comp=Z,600nm,21.0s						
KVN	Kaiserville	120.22	30		PKdf	10 28 09.1	-1.3
KVN				IAms_20	IAms_20	11 20 37.3	
	comp=Z,603nm,21.0s						
RYN	Ryan	120.34	30		PKdf	10 28 09.9	-0.8
RYN				IAms_20	IAms_20	11 24 18.6	
	comp=Z,722nm,20.0s						
NVAR	Mina Array Bea	120.60	30	PKP	PKiKP	10 28 11.6	+0.2
	comp=Z,1.9nm,0.7s,baz=285,slow=2.1,SNR=17						
NVAR				PKKPbc	PKKPbc	10 38 17.3	-0.2
	comp=Z,0.3nm,0.8s,baz=100,slow=6.2,SNR=3.6						
NVAR	Mina Array Bea	120.60	30		PKPdf	10 28 11.4	+0.1
NV11	Mina Array Sit	120.67	30		PKiKP	10 28 12.2	+0.8
NV11				IAms_20	IAms_20	11 24 38.4	
	comp=Z,933nm,21.0s						
PD31	Pinedale Array	120.67	21		PKPdf	10 28 10.7	-0.6
PDAR	Pinedale Array	120.67	21	PKP	PKPdf	10 28 10.8	-0.6
	comp=Z,1.1nm,0.9s,baz=191,slow=0.8,SNR=8.6						
PDAR	Pinedale Array	120.67	21		PKPdf	10 28 08.8	-2.5
MDPB	Devils Postpil	120.83	31	IAms_20	IAms_20	11 21 52.7	
	comp=Z,617nm,22.0s						
OMMB	Old Mammoth Mi	120.89	31	IAms_20	IAms_20	11 19 52.1	
	comp=Z,749nm,22.0s						
G62A	West of Eustis	121.25	348	IAms_20	IAms_20	11 28 05.6	
	comp=Z,1μm,20.0s						
DUG	Dugway, Tooele	121.65	25	P	PKiKP	10 28 13.7	+0.4
	baz=328						
DUG	Dugway, Tooele	121.65	25	PKIKP	PKPdf	10 28 12.3	-0.8
DUG				MLR	MLR		
	comp=Z,600nm,18.0s						
DUG	Dugway, Tooele	121.65	25		PKPdf	10 28 12.3	-0.8
DUG				IAms_20	IAms_20	11 20 01.8	
	comp=Z,556nm,18.0s						
R11A	Troy Canyon, C	121.96	28	P	PKiKP	10 28 14.7	+0.8
	baz=324						
R11A	Troy Canyon, C	121.96	28		PKPdf	10 28 13.6	-0.3
R11A				IAms_20	IAms_20	11 21 49.3	
	comp=Z,608nm,22.0s						
CWC	Cottonwood Cre	122.26	31	P	PKiKP	10 28 15.0	+0.4
	baz=321						
PSUT	Pine Spring	122.59	27		PKiKP	10 28 15.5	+0.2
TPNV	Topopah Spring	122.77	30	P	PKiKP	10 28 15.8	+0.2
	baz=323						
MPMC	Manual Prospec	122.85	31	P	PKiKP	10 28 16.0	+0.2
	baz=321						
TMUT	Trail Mountain	123.07	24		PKiKP	10 28 16.8	+0.5
ECSD	EROS Data Cent	123.17	10	P	PKiKP	10 28 16.7	+0.7
	baz=346						
MSU	Marysvale	123.33	26	PKIKP	PKiKP	10 28 17.9	+1.1
MSU	Marysvale	123.33	26		PKiKP	10 28 17.9	+1.1
Q16A	Castle Valley	123.40	24		PKPdf	10 28 15.9	-0.7
SRU	San Rafael Swe	123.50	24	PKIKP	PKiKP	10 28 17.2	+0.2
SRU	San Rafael Swe	123.50	24		PKiKP	10 28 17.2	+0.2
SHOC	Shoshone, Teco	123.59	31	P	PKiKP	10 28 17.6	+0.5
	baz=322						
CCUT	Cedar City	123.62	27		PKiKP	10 28 18.6	+1.2
SZCU	Shurtz Canyon	123.71	27		PKPdf	10 28 15.8	-1.4
MTPU	Mount Pierson	123.73	26		PKiKP	10 28 18.6	+0.9
GSC	Goldstone, Bar	123.79	31	P	PKiKP	10 28 18.6	+1.1
	baz=322						
GSC	Goldstone, Bar	123.79	31	PKIKP	PKPdf	10 28 16.5	-0.8
GSC	Goldstone, Bar	123.79	31		PKPdf	10 28 16.6	-0.8
LCMT	Little Creek M	124.12	27		PKiKP	10 28 18.3	0.0
PKCU	Pink Cliffs	124.17	26		PKPdf	10 28 17.8	-0.5
KNB	Kanab	124.31	27	PKIKP	PKPdf	10 28 17.5	-0.9
KNB	Kanab	124.31	27		PKPdf	10 28 17.5	-0.9
PV22	Blue Mesa, Par	124.67	23		PKPdf	10 28 18.2	-0.8
PV20	West Nyswonger	124.77	23	IAms_20	IAms_20	11 23 23.1	
	comp=Z,752nm,20.0s						
GMRC	Granite Mounta	124.78	31	P	PKiKP	10 28 20.8	+1.2
	baz=323						
PV07	Paradox Valley	124.81	23	IAms_20	IAms_20	11 26 09.0	
	comp=Z,803nm,22.0s						
PV05	Paradox Valley	124.95	23	IAms_20	IAms_20	11 22 33.6	
	comp=Z,882nm,18.0s						
U15A	North Rim	125.03	27		PKPdf	10 28 18.8	-1.1
BELC	Belle Mtn. Jos	125.22	32	P	PKiKP	10 28 21.5	+1.0
	baz=322						
W13A	Hualapai Mount	125.39	29		PKiKP	10 28 21.5	+0.6
IRM	Iron Mountain	125.53	31	P	PKiKP	10 28 22.2	+1.2
	baz=323						
TAOE	Nuku Hiva Isla	125.64	92	eLR	LR	11 07 26.7	
	comp=Z,646nm,25.5s						
BC3	Big Chuckawall	125.77	32	P	PKiKP	10 28 22.6	+1.0
	baz=322						
L46A	Eue Claire	125.90	1	IAms_20	IAms_20	11 06 34.1	
	comp=Z,1μm,22.0s						
Y12C	Blythe	126.17	31		PKiKP	10 28 22.7	+0.5
WUAZ	Wupatki	126.20	27	P	PKiKP	10 28 23.5	+1.0
	baz=327						
Y14A	Wickenburg	126.76	29		PKPdf	10 28 21.4	-1.6
X16A	Lo Mia Camp, P	127.09	28		PKPdf	10 28 23.7	-0.1
X16A				IAms_20	IAms_20	11 34 15.6	
	comp=Z,665nm,18.0s						
W18A	Petrified Fore	127.24	26	P	PKiKP	10 28 25.4	+0.8
	baz=329						
W18A	Petrified Fore	127.24	26		PKiKP	10 28 24.8	+0.2
W18A				IAms_20	IAms_20	11 23 33.9	
	comp=Z,715nm,22.0s						
SDMD	Soldier's Deli	127.97	352	IAms_20	IAms_20	11 27 09.2	
	comp=Z,699nm,21.0s						
214A	Organ Pipe Nat	128.46	31		PKiKP	10 28 27.9	+1.0
ANMO	Albuquerque	128.71	23	P	PKiKP	10 28 27.5	0.0
	baz=333						
ANMO	Albuquerque	128.71	23	PKIKP	PKPdf	10 28 25.7	-1.2
ANMO	Albuquerque	128.71	23		PKPdf	10 28 25.7	-1.2
TUC	Tucson	129.15	28	P	PKiKP	10 28 28.6	+0.3
	baz=327						
TUC	Tucson	129.15	28	PKIKP	PKPdf	10 28 27.7	+0.1
TUC	Tucson	129.15	28		PKPdf	10 28 27.7	+0.1
LENM	Lemitar	129.20	24		PKPdf	10 28 26.5	-1.3
Y22D	IRIS PASSCAL I	129.30	24	IAms_20	IAms_20	11 36 46.9	
	comp=Z,1μm,21.0s						
BNM	Barren Site	129.35	23		PKPdf	10 28 27.7	-0.4
T60A	Surry	130.19	351	IAms_20	IAms_20	11 32 30.8	
	comp=Z,972nm,20.0s						
MSTX	Muleshoe	130.90	20	P	PKiKP	10 28 31.5	-0.3
	baz=337						
MSTX	Muleshoe	130.90	20		PKiKP	10 28 31.9	0.0
RCBR	Riachuelo	131.26	273	IAms_20	IAms_20	11 32 13.6	
	comp=Z,696nm,20.0s						
V58A	Windy Hill, Pi	131.81	354	IAms_20	IAms_20	11 34 23.8	
	comp=Z,897nm,20.0s						
MNTX	Cornudas Mount	132.00	24		PKPdf	10 28 31.8	-1.2
Y58A	Scranton	133.74	354	IAms_20	IAms_20	11 35 04.8	
	comp=Z,893nm,18.0s						
TX31	Lajitas Ar. Si	134.77	23		PKPdf	10 28 36.6	-1.8
TX32	Lajitas Array	134.77	23		PKPdf	10 28 37.0	-1.4
TXAR	Lajitas Array	134.77	23	PKIKP	PKPdf	10 28 36.6	-1.8
TXAR	Lajitas Array	134.77	23	PKP	PKPdf	10 28 37.2	-1.2
	comp=Z,1.5nm,0.8s,baz=214,slow=1.8,SNR=6.6						
TXAR	Lajitas Array	134.77	23		PKPdf	10 28 36.6	-1.8
JCT	Junction City	135.07	18	PKIKP	PKPdf	10 28 36.5	-2.3
JCT	Junction City	135.07	18		PKPdf	10 28 36.5	-2.3
HPIG		136.04	27		PKPdf	10 28 38.1	-2.8
SPB	Sao Paulo	142.77	247	IAms_20	IAms_20	11 25 30.9	
	comp=Z,624nm,19.0s						
BDFB	Brasilia	144.11	260	PKIKP	PKPbc	10 28 53.7	+0.1
BDFB				MLR	MLR		
	comp=Z,1μm,18.0s						
BDFB	Brasilia	144.11	260	PKP	PKPdf	10 28 55.3	-0.3
	comp=Z,4.5nm,0.7s,baz=153,slow=0.5,SNR=5.3						
BDFB	Brasilia	144.11	260		PKPbc	10 28 53.7	+0.1
HUMP	Col San Antoni	144.36	328		PKPab	10 28 53.9	+0.1
PDPR	Patillas Dam,	144.55	328		PKPab	10 28 54.4	-0.2
OBIP	Obispado Ponce	144.83	329		PKPab	10 28 55.3	-0.3
MPR	Mayaguez	144.95	330		PKPdf	10 28 56.9	0.0
MLPR	Magueyes Islan	145.11	329		PKPbc	10 28 54.6	-1.9
CRPR	Cabo Rojo, PR	145.11	329		PKPbc	10 28 55.1	-1.5
SDDR	Presa de Saban	146.11	336		PKPdf	10 28 57.1	-1.8
TRQA	Tornquist	147.25	215	PKIKP	PKPdf	10 28 59.2	-1.1
TRQA						10 29 03.3	
TRQA	Tornquist	147.25	215		PKPdf	10 28 59.2	-1.1
TRQA				PKPbc	PKPbc	10 29 03.3	+0.8
TRQA				IAms_20	IAms_20	11 28 42.7	
	comp=Z,689nm,19.0s						
TLIG	Tlapa	147.35	25		PKPdf	10 28 59.7	-1.4
TLIG				PKPbc	pPKPdf	10 29 04.7	-0.6
TEIG	Tepich	147.46	6		PKPdf	10 28 58.3	-2.8
TEIG	Tepich	147.46	6	IAms_20	IAms_20	11 45 03.2	
	comp=Z,692nm,20.0s						
PLCA	Paso Flores	149.04	201	PKIKP	PKPdf	10 29 01.3	-1.9
PLCA						10 29 08.4	
PLCA	Paso Flores	149.04	201	PKPbc	PKiKP	10 29 08.1	-0.5
	comp=Z,7.0nm,0.9s,baz=179,slow=2.5,SNR=6.1						
PLCA	Paso Flores	149.04	201		PKPdf	10 29 01.3	-1.9
PLCA				PKPbc	PKiKP	10 29 08.4	-0.2
GO06	Curarrehue	150.39	201		PKPdf	10 29 01.1	-4.3
GO06				PKPbc	PKiKP	10 29 11.4	-0.1
GO06					pPKPab	10 29 19.6	-1.4
CPUP	Villa Florida	150.60	238	PKIKP	PKPdf	10 29 03.4	-2.6
CPUP						10 29 11.3	
CPUP						10 29 16.9	
CPUP	Villa Florida	150.60	238	PKPbc	PKPbc	10 29 10.8	-0.6
	comp=Z,8.7nm,1.0s,baz=91,slow=2.0,SNR=10						
CPUP	Villa Florida	150.60	238		PKPdf	10 29 03.4	-2.6
CPUP				PKPbc	PKPbc	10 29 11.3	-0.1
CPUP				PKPab	sPKPbc	10 29 16.9	0.0
CCIG	Comitan	150.66	14	IAms_20	IAms_20	11 43 45.4	
	comp=Z,904nm,22.0s						
TGUH	Tegucigalpa,Un	153.66	5	IAms_20	IAms_20	11 46 28.4	
	comp=Z,597nm,22.0s						
SNET	Serv Nac Est T	153.78	10	IAms_20	IAms_20	11 49 16.3	
	comp=Z,702nm,20.0s						
SDV	Santo Domingo	154.60	325	PKPdf	PKPdf	10 29 11.2	-1.3
SDV					PKPbc	10 29 20.2	-0.7
SDV	Santo Domingo	154.60	325	IAms_20	IAms_20	11 38 21.0	
	comp=Z,515nm,22.0s						
SIV	San Ignacio	156.64	258	PKPab	PKPab	10 29 44.7	+0.7
	comp=Z,2.6nm,0.9s,baz=144,slow=6.8,SNR=5.8						
JTS	Las Juntas de	157.51	0	IAms_20	IAms_20	11 48 12.4	
	comp=Z,659nm,20.0s						
BCIP	Isla Barro Col	158.05	347	IAms_20	IAms_20	11 51 07.2	
	comp=Z,487nm,21.0s						
SAML	Samuel	158.41	277	PKP2	PKPab	10 29 52.6	+0.9
SAML	Samuel	158.41	277		PKPab	10 29 52.6	+0.9
LPAZ	La Paz	163.31	254	PKIKP	PKPdf	10 29 21.8	-1.4
LPAZ						10 30 13.5	
LPAZ	La Paz	163.31	254	PKP	PKPdf	10 29 22.7	-0.5
	comp=Z,1.6nm,1.1s,baz=287,slow=2.3,SNR=3.6						
LPAZ				PKPab	PKPab	10 30 13.6	-0.3
	comp=Z,12nm,1.3s,baz=59,slow=3.0,SNR=7.7						
LPAZ	La Paz	163.31	254		PKPdf	10 29 21.8	-1.4
LPAZ					PKPab	10 30 13.5	-0.3

*IDC **20** 10:26:05.6±5.1, 4°.75S×153°.49E, h57km±39km, mb3.7/9, mb1 3.9/9, mb1mx3.6/44, mbtmp4.0/9, Error ellipse: s-maj=38.7km s-min=18.6km az=99.0*
*ISCJB **20** 10:26:07.4±0.4, 4°.56S±0°.05×153°.29E±0°.05, h85km, mb3.8/9, Error ellipse: s-maj=7.9km s-min=6.5km az=138.9*
*NEIC **20** 10:26:08.4±1.6, 4°.50S±0°.09×153°.27E±0°.06, h82km±7km, mb4.4/20*
ISC 20 10:26:09.0±0.6, **4°.53S**±0°.07×**153°.26E**±0°.08, **h85**km, **n41,** σ**1**§**03**/40, **mb4.1**/18, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.25	280	P	Pn	10 26 31.0	-0.4
	227nm,0.3s,baz=125,slow=2.1,SNR=253						
KRVT				S	Sn	10 26 49.3	+1.1
	665nm,0.3s,baz=337,slow=22,SNR=34						
MANU	Manus Island	6.38	293		Pn	10 27 39.1	-1.4
PMG	Port Moresby	7.75	231	Pn	Pn	10 28 00.3	+1.1
PMG					Sn	10 29 26.1	+0.6
HNR	Honiara	8.23	127	Pn	Pn	10 28 06.1	+0.5
PATS	Pohnpei	12.37	24	Pn	Pn	10 29 01.5	-0.5
WB0	Warramunga Arr	23.82	229	P	P	10 31 13.2	-1.2
WR0	Warramunga Arr	23.83	228	P	P	10 31 14.3	-0.1
WRAB	Tennant Creek	23.95	229	P	P	10 31 15.4	-0.1
WRAB				IAmb	IAmb	10 31 29.8	
	comp=Z,13nm,1.4s						
WB2	Warramunga Arr	23.96	229	P	P	10 31 15.4	-0.2
WB2				IAmb	IAmb	10 31 18.8	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	23.97	229	P	P	10 31 15.4	-0.3
	comp=Z,3.4nm,0.4s,baz=53,slow=9.8,SNR=72						
WRA	Warramunga Arr	23.97	229	P	P	10 31 14.8	-0.9
ARMA	Armidale	25.80	183	P	P	10 31 33.5	+1.2
ARMA				IAmb	IAmb	10 31 48.9	
	comp=Z,8.2nm,1.1s						
H11S3	WAKE ISLAND Hy	26.43	30	T	T	10 59 31.7	
	baz=206,slow=74,SNR=4.7						
H11S2	WAKE ISLAND Hy	26.44	30	T	T	10 59 32.7	
	baz=206,slow=74,SNR=3.7						
H11S1	WAKE ISLAND Hy	26.45	30	T	T	10 59 34.5	
	baz=206,slow=74,SNR=3.3						
KNRA	Kununurra	26.50	244	P	P	10 31 38.0	-0.7
KNRA				IAmb	IAmb	10 31 41.1	
	comp=Z,21nm,1.1s						
ASAR	Alice Springs	26.66	223	P	P	10 31 39.2	-0.9
	comp=Z,0.6nm,0.6s,baz=55,slow=9.1,SNR=9.7						
ASAR	Alice Springs	26.66	223	P	P	10 31 37.6	-2.4
STKA	Stephens Creek	29.32	201	P	P	10 32 02.2	-1.5
FITZ	Fitzroy Crossi	30.19	241	P	P	10 32 11.3	-0.3
	comp=Z,1.6nm,0.4s,baz=55,slow=6.7,SNR=11						
FITZ	Fitzroy Crossi	30.19	241	P	P	10 32 11.2	-0.3
FITZ				IAmb	IAmb	10 32 27.6	
	comp=Z,7.1nm,1.1s						
FORT	Forrest	35.29	219	P	P	10 32 55.2	-0.6
BKZ	Black Stump Fm	40.40	152	P	P	10 33 38.0	-0.8
LTZ	Lake Taylor	41.67	159	P	P	10 33 49.0	-0.2
USRK	Ussuriysk Ar.	52.14	341	P	P	10 35 12.7	+2.0
	comp=Z,0.9nm,0.6s,baz=148,slow=5.2,SNR=4.6						
SONM	Songino Array	66.34	328	P	P	10 36 50.8	+2.0
	comp=Z,0.6nm,0.5s,baz=126,slow=3.7,SNR=3.2						
SONM	Songino Array	66.34	328	P	P	10 36 48.2	-0.6
TLY	Talaya	70.08	330	P	P	10 37 12.5	+0.6
TLY				IAmb	IAmb	10 37 28.4	
	comp=Z,2.7nm,0.6s						
MK31	Makanchi Array	80.42	319	P	P	10 38 11.4	0.0
MK31				IAmb	IAmb	10 38 14.2	
	comp=Z,5.0nm,1.1s						
MKAR	Makanchi Array	80.42	319	P	P	10 38 13.2	+1.8
	comp=Z,1.5nm,0.6s,baz=92,slow=7.9,SNR=8.7						
MKAR	Makanchi Array	80.42	319	P	P	10 38 12.4	+1.0
MLY	Manley	80.47	21	P	P	10 38 10.9	-0.4
MLY				IAmb	IAmb	10 38 14.1	
	comp=Z,4.0nm,0.7s						
BWN	Browne	80.47	22	P	P	10 38 10.9	-0.3
ZALV	Zalesovo Beam	81.18	326	P	P	10 38 16.1	+0.9
	comp=Z,0.8nm,0.3s,baz=120,slow=5.3,SNR=5.0						
IL31		81.74	22	P	P	10 38 16.2	-1.7
ILAR	Eielson Array	81.74	22	P	P	10 38 17.5	-0.5
	comp=Z,0.3nm,0.6s,baz=262,slow=4.8,SNR=5.1						
SKAG	Skagway	84.56	29	P	P	10 38 33.8	+1.3
QSPA	South Pole Qui	85.43	180	P	P	10 38 37.4	+0.4
QSPA				IAmb	IAmb	10 38 37.9	
	comp=Z,3.9nm,0.6s						
MAW	Mawson	85.99	203	P	P	10 38 38.7	-0.9
	comp=Z,1.8nm,0.9s,baz=83,slow=8.1,SNR=4.6						
BRVK	Borovoye	89.37	323	P	P	10 38 55.6	-0.5
BRVK				IAmb	IAmb	10 38 57.8	
	comp=Z,3.8nm,0.8s						
TORD	Torodi Ar. Bea	150.66	289	PKPbc	PKiKP	10 45 53.1	+0.1
	comp=Z,3.5nm,0.8s,baz=49,slow=2.1,SNR=15						

*ISCJB **20** 10:36:05.4±1.2, 38°.68N±0°.04×142°.34E±0°.08, h29km±6km, mb3.6/4, Error ellipse: s-maj=10.9km s-min=6.4km az=25.4*
*JMA **20** 10:36:06.7±0.1, 38°.69N×142°.27E, h38km±1km, M3.6*
JMA Felt I J1.
*IDC **20** 10:36:08.9±3.1, 38°.61N×142°.35E, h58km±29km, mb3.3/4, mb1 3.5/7, mb1mx3.2/57, mbtmp3.5/7, ML2.9/3, Error ellipse: s-maj=32.5km s-min=21.7km az=107.0*
ISC 20 10:36:06.0±1.9, **38°.67N**±0°.05×**142°.32E**±0°.09, **h26**km±12km

comp=Z,203nm,18.5s,baz=59,slow=41
PMSA Palmer Station 10.39 236 Pn 10 45 26.4 -0.5
SNAA Sanae 19.55 142 P **P 10 47 25.6 +0.3**
0.3nm,0.3s,baz=266,slow=9.9,SNR=3.2
SNAA Sanae 19.55 142 P **P 10 47 25.7 +0.4**
TRQA Tornquist 25.19 324 P **P 10 48 23.1 -0.2**
TRQA IAmb IAmb 10 48 40.4
comp=Z,26nm,1.4s
PLCA Paso Flores 25.76 308 LR LR 10 58 29.9
comp=Z,153nm,18.7s,baz=182,slow=36
PLCA Paso Flores 25.76 308 P **P 10 48 28.9 +0.4**
PLCA IAmb IAmb 10 48 43.6
comp=Z,8.1nm,0.9s
GO06 Curarrehue 27.11 308 P **P 10 48 40.8 +0.1**
QSPA South Pole Qui 29.86 180 P **P 10 49 05.5 +0.5**
comp=Z,2.2nm,0.8s,baz=173,slow=3.6,SNR=13
QSPA South Pole Qui 29.86 180 P **P 10 49 05.6 +0.5**
QSPA IAmb IAmb 10 49 14.1
comp=Z,5.2nm,1.1s
PEL Peldehue 32.51 315 P **P 10 49 28.0 -0.6**
ROC1 El Roble 32.78 314 P **P 10 49 31.3 +0.2**
SYO Syowa Base 33.81 140⇑*e*P P 10 49 20.0 -19
GO02 Mina Guanaco 39.50 321 P **P 10 50 28.4 -0.3**
GO02 IAmb IAmb 10 50 29.2
comp=Z,4.4nm,0.6s
SBA Scott Base 40.77 189 P **P 10 50 38.9 +0.6**
PB10 IPOC Station P 41.35 321 P **P 10 50 43.7 +0.1**
LVC Limon Verde 41.70 324 P **P 10 50 48.2 +1.3**
comp=Z,2.4nm,0.6s,baz=165,slow=8.2,SNR=4.1
LVC Limon Verde 41.70 324 P **P 10 50 46.8 -0.1**
PB01 IPOC Station P 43.34 324 P **P 10 51 00.3 +0.3**
PB01 IAmb IAmb 10 51 02.6
comp=Z,6.1nm,0.7s
GO01 Chusmiza 44.56 325 P **P 10 51 10.8 +0.5**
GO01 IAmb IAmb 10 51 13.0
comp=Z,4.6nm,0.8s
PB11 IPOC Station P 44.60 324 P **P 10 51 10.4 +0.2**
PB11 IAmb IAmb 10 51 25.5
comp=Z,13nm,1.2s
MNMC Minye Minye 45.18 324 P **P 10 51 14.6 -0.4**
SIV San Ignacio 46.10 336 P **P 10 51 21.9 -0.1**
comp=Z,1.9nm,0.5s,baz=188,slow=7.5,SNR=15
LPAZ La Paz 47.48 327 P **P 10 51 33.8 +0.4**
comp=Z,0.5nm,0.4s,baz=192,slow=9.3,SNR=3.3
LPAZ La Paz 47.48 327 P **P 10 51 32.7 -0.7**
SHEL Horse Pasture 52.08 48 P **P 10 52 07.5 -0.2**
CASY Casey 52.20 167 P **P 10 52 08.4 +0.4**
CASY IAmb IAmb 10 52 09.6
comp=Z,8.5nm,1.1s
SAML Samuel 53.38 336 P **P 10 52 16.0 -1.3**
SAML IAmb IAmb 10 52 18.3
comp=Z,4.1nm,1.0s
CRZF Crozet Islands 53.55 121 P **P 10 52 15.9 -2.3**
SDV Santo Domingo 72.30 332 P **P 10 54 23.5 0.0**
SDV IAmb IAmb 10 54 24.5
comp=Z,3.0nm,0.7s
TORD Torodi Ar. Bea 81.70 44 P **P 10 55 18.1 +2.0**
comp=Z,63nm,0.5s,baz=208,slow=5.5,SNR=8.2
MKAR Makanchi Array 146.16 89 PKPbc **PKPbc 11 02 37.0 0.0**
comp=Z,1.4nm,0.6s,baz=233,slow=3.8,SNR=9.5
MKAR Makanchi Array 146.16 89 **PKPdf 11 02 36.1 +0.1**
ILAR Eielson Array 146.42 311 PKPbc **PKPbc 11 02 37.0 -0.2**
comp=Z,0.7nm,0.7s,baz=141,slow=2.0,SNR=9.8
ILAR Eielson Array 146.42 311 **PKPbc 11 02 36.7 -0.6**

WEL 20 10:46:17.4±0.7,34°S±14°×18°0E±2°2,h284km±15km, M3.7/15,mB4.3/5,MLv3.8/15,Mw(mB)3.4/5,Error ellipse: s-maj=0.0km s-min=0.0km az=119.6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.24**	**198**	P	Pn	10 47 15.3	+0.8
MXZ				S	S	10 47 59.8	-0.2
WMGZ	**Waiomatatini S**	**3.46**	**195**	P	Pn	10 47 17.7	+0.9
WMGZ				S	S	10 48 05.4	+1.2
HAZ	**Te Kaha**	**3.57**	**203**	P	Pn	10 47 18.3	+0.3
HAZ				S	S	10 48 06.5	+0.2
PKGZ	**Pakihiroa**	**3.61**	**199**	P	Pn	10 47 19.0	+0.6
PKGZ				S	S	10 48 08.0	+0.8
PUZ	**Puketiti**	**3.74**	**196**	P	Pn	10 47 20.9	+1.0
PUZ				S	S	10 48 09.5	-0.2
RUGZ	**Raukumara Rang**	**3.80**	**203**	P	Pn	10 47 20.8	+0.2
OPRZ	**Ohinepanea**	**4.14**	**215**	P	Pn	10 47 25.6	+1.3
MWZ	**Matawai**	**4.18**	**202**	P	Pn	10 47 25.2	+0.4
MWZ				S	S	10 48 18.7	0.0
URZ	**Urewera**	**4.26**	**207**	P	Pn	10 47 25.3	-0.3
URZ				S	S	10 48 19.9	-0.3
MUGZ	**Murupara**	**4.58**	**208**	P	Pn	10 47 29.3	-0.1
MUGZ				S	S	10 48 26.3	-0.6
RTZ	**Ruatahuna**	**4.62**	**206**	P	Pn	10 47 29.1	-0.8
KNZ	**Kokohu**	**4.78**	**198**	P	Pn	10 47 32.2	+0.6
RAHZ	**Arahi**	**4.85**	**203**	P	Pn	10 47 33.1	+0.5
RAHZ				S	S	10 48 32.9	+0.1
MTHZ	**Maungataniwha**	**4.88**	**206**	P	Pn	10 47 33.1	+0.2
MTHZ				S	S	10 48 34.1	+0.7
TLZ	**Tolley Road**	**5.02**	**219**	P	Pn	10 47 36.2	+1.6
NMHZ	**Naumai**	**5.11**	**205**	P	Pn	10 47 35.7	+0.1
NMHZ				S	S	10 48 38.4	0.0
ARHZ	**Aropaoanui**	**5.20**	**202**	P	Pn	10 47 36.4	-0.2
BKZ	**Black Stump Fm**	**5.28**	**207**	P	Pn	10 47 37.0	-0.7
BKZ				S	S	10 48 41.9	-0.2
MCHZ	**McNeill Hill**	**5.46**	**204**	P	Pn	10 47 39.8	+0.1
HIZ	**Hauiti**	**5.52**	**222**	P	Pn	10 47 41.5	+1.0
KWHZ	**Kaweka Forest**	**5.54**	**206**	P	Pn	10 47 39.7	-1.0
GLKZ	**Green Lake**	**5.63**	**23**	P	Pn	10 47 40.5	-1.3
KAHZ	**Kahuranaki**	**5.72**	**201**	P	Pn	10 47 42.5	-0.4
BHHZ	**Black Hill Sta**	**5.73**	**208**	P	Pn	10 47 42.3	-0.7
FWVZ	**Far West T-bar**	**5.75**	**213**	P	Pn	10 47 43.0	-0.4
KRHZ	**Kereru**	**5.75**	**205**	P	Pn	10 47 41.6	-1.6
MTVZ	**Mangateitei**	**5.89**	**212**	P	Pn	10 47 44.7	-0.2
PXZ	**Pawanui**	**5.94**	**200**	P	Pn	10 47 44.8	-0.7
PNHZ	**Pukenui**	**6.05**	**205**	P	Pn	10 47 45.8	-1.1
PRHZ	**Porangahau**	**6.23**	**201**	P	Pn	10 47 48.2	-0.8
TSZ	**Takapari Road**	**6.26**	**206**	P	Pn	10 47 47.9	-1.5
DVHZ	**Dannevirke**	**6.41**	**204**	P	Pn	10 47 50.2	-1.0
WAZ	**Wanganui**	**6.41**	**213**	P	Pn	10 47 50.3	-0.8
NEZ	**North Egmont**	**6.48**	**221**	P	Pn	10 47 53.3	+1.1
PKE	**Pukeiti**	**6.48**	**222**	P	Pn	10 47 53.2	+1.0
POWZ	**Post Office Ro**	**6.63**	**206**	P	Pn	10 47 52.7	-1.2
PRWZ	**Pori Road**	**6.70**	**204**	P	Pn	10 47 54.4	-0.3
BFZ	**Birch Farm**	**6.73**	**202**	P	Pn	10 47 54.5	-0.6
TIWZ	**Tintock**	**6.93**	**204**	P	Pn	10 47 56.8	-0.8
MRZ	**Mangatainoka R**	**6.93**	**206**	P	Pn	10 47 55.3	-2.2
HOWZ	**Holdsworth Sta**	**7.16**	**205**	P	Pn	10 47 58.6	-1.8
OGWZ	**Otaki Gorge**	**7.22**	**207**	P	Pn	10 47 58.8	-2.3
TMWZ	**Te Maipa**	**7.22**	**203**	P	Pn	10 48 00.1	-1.2
KIW	**Kapiti Island**	**7.36**	**209**	P	Pn	10 48 00.8	-2.1
MTW	**Mount Morrison**	**7.40**	**204**	P	Pn	10 48 01.5	-1.8
CAW	**Cannon Point**	**7.51**	**207**	P	Pn	10 48 02.0	-2.7
TRWZ	**Traveller**	**7.55**	**203**	P	Pn	10 48 04.0	-1.2
PLWZ	**Palliser**	**7.85**	**204**	P	Pn	10 48 07.1	-1.8

*ISCJB **20** 10:50:59.7±0.4, 11°.02S±0°.06×165°.91E±0°.06, h61km, mb4.1/6, Error ellipse: s-maj=9.1km s-min=8.2km az=171.5*
*NEIC **20** 10:51:00.9±1.1, 10°.98S±0°.09×165°.95E±0°.06, h57km±8km, mb4.4/20*
*IDC **20** 10:51:01.0±3.6, 10°.89S×165°.89E, h60km±32km, mb3.8/6, mb1 4.1/8, mb1mx3.7/35, mbtmp4.2/8, ML4.3/2, Error ellipse: s-maj=27.7km s-min=24.7km az=106.0*
ISC 20 10:51:01.4±0.6,10°.98S±0°.07×165°.96E±0°.09,h61km,n41, σ0°89/36,mb4.4/13,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.11**	**284**	P	**Pn**	**10 52 28.4**	**-0.7**
18nm,0.3s,baz=18,slow=3.3,SNR=14
HNR Honiara 6.11 284 **Pn 10 52 28.6 -0.6**
DZM Mont Dzumac 11.04 178 P **Pn 10 53 36.8 +0.1**
1.0nm,0.3s,baz=343,slow=12,SNR=21
DZM Mont Dzumac 11.04 178 **Pn 10 53 37.0 +0.3**
DZM Sn **Sn 10 55 36.2 -2.5**
MSVF Nonsavu 13.50 121 Pn **Pn 10 54 09.7 -0.5**
TARA Tarawa 14.07 30 Pn **Pn 10 54 17.6 -0.2**
EIDS Eidsvold 20.09 223 P Pn 10 55 33.0 +0.7
EIDS IAmb IAmb 10 55 37.5
comp=Z,19nm,1.4s
ARMA Armidale 23.49 212 P **P 10 56 07.6 +1.6**
H11S2 WAKE ISLAND Hy 29.29 1 T T 11 27 29.2
baz=181,slow=76,SNR=49
H11S3 WAKE ISLAND Hy 29.29 1 T T 11 27 29.0
baz=181,slow=76,SNR=32
H11S1 WAKE ISLAND Hy 29.31 1 T T 11 27 26.7
baz=181,slow=76,SNR=34
BKZ Black Stump Fm 29.60 163 P **P 10 57 00.3 -0.5**
QRZ Quartz Range 30.29 170 P **P 10 57 08.8 +2.0**
H11N1 WAKE ISLAND Hy 30.51 2 T T 11 28 57.6
baz=182,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 30.51 2 T T 11 28 56.5
baz=182,slow=76,SNR=7.8
H11N2 WAKE ISLAND Hy 30.53 2 T T 11 28 59.5
baz=182,slow=76,SNR=8.5
BFZ Birch Farm 30.95 165 P **P 10 57 11.8 -0.8**
WR0 Warramunga Arr 31.52 250 P **P 10 57 17.4 -0.5**
WB0 Warramunga Arr 31.62 250 P **P 10 57 18.4 -0.4**
WB0 IAmb IAmb 10 57 31.6
comp=Z,7.2nm,1.1s
WRAB Tennant Creek 31.69 250 P **P 10 57 18.8 -0.6**
WRAB IAmb IAmb 10 57 23.8
comp=Z,9.5nm,1.4s
WB2 Warramunga Arr 31.69 250 P **P 10 57 18.9 -0.5**
WB2 IAmb IAmb 10 57 23.8
comp=Z,10nm,1.4s
WRA Warramunga Arr 31.70 250 P **P 10 57 18.8 -0.7**
comp=Z,1.8nm,0.7s,baz=81,slow=9.2,SNR=17
WRA Warramunga Arr 31.70 250 P **P 10 57 18.7 -0.8**
LTZ Lake Taylor 32.16 171 P **P 10 57 23.5 +0.2**
RPZ Rata Peaks 32.92 173 P **P 10 57 30.3 +0.5**
comp=Z,11nm,0.9s,baz=285,slow=3.6,SNR=5.4
RPZ Rata Peaks 32.92 173 P **P 10 57 29.8 -0.1**
ASAR Alice Springs 33.01 243 P **P 10 57 29.9 -1.1**
comp=Z,0.7nm,0.5s,baz=64,slow=10,SNR=12
ASAR PcP **PcP 11 00 13.5 -0.3**
comp=Z,0.4nm,0.7s,baz=57,slow=2.2,SNR=5.2
MQZ McQueen's Vall 33.12 171 P **P 10 57 32.1 +0.5**
KNRA Kununurra 36.46 258 P **P 10 58 00.6 -0.2**
FITZ Fitzroy Crossi 39.60 255 P **P 10 58 27.2 0.0**
FITZ IAmb IAmb 10 58 35.0
comp=Z,10nm,1.5s
CASY Casey 66.52 201 P **P 11 01 44.8 +0.4**
CASY IAmb IAmb 11 01 59.1
comp=Z,4.2nm,1.0s
SBA Scott Base 66.87 180 P **P 11 01 48.4 +1.9**
QSPA South Pole Qui 79.03 180 P **P 11 02 58.5 -0.2**
QSPA IAmb IAmb 11 03 04.7
comp=Z,6.1nm,1.4s
BALM Baldy 82.47 23 P **P 11 03 17.2 +0.1**
HDA Harding Lake 83.11 19 P **P 11 03 20.8 +0.6**
HDA IAmb IAmb 11 03 29.7
comp=Z,8.7nm,1.5s
ILAR Eielson Array 83.38 18 P **P 11 03 20.8 -0.8**
comp=Z,0.9nm,0.6s,baz=238,slow=5.0,SNR=14
ILAR Eielson Array 83.38 18 P **P 11 03 21.5 -0.1**
SCRK Sand Creek 83.78 20 P **P 11 03 23.6 -0.2**
MAW Mawson 84.86 202 P **P 11 03 30.0 +0.9**
comp=Z,0.7nm,0.6s,baz=88,slow=5.5,SNR=4.0
NVAR Mina Array Bea 85.82 50 P **P 11 03 34.9 +0.1**
comp=Z,0.6nm,0.8s,baz=232,slow=9.2,SNR=3.6
ARCES ARCESS Array B 116.32 346 PKP **PKPdf 11 09 36.3 -1.2**
comp=Z,3.2nm,0.9s,baz=75,slow=1.4,SNR=4.9

*KRNET **20** 10:54:19.5±0.1, 43°.32N×74°.70E, h9km, mb2.4*
*SOME **20** 10:54:19.8, 43°.28N×74°.65E*
*ISCJB **20** 10:54:20.3±0.4, 43°.28N±0°.02×74°.65E±0°.03, h0km, Error ellipse: s-maj=3.5km s-min=2.9km az=153.6*
*NNC **20** 10:54:20.3±0.7, 43°.27N×74°.68E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=4.8km s-min=3.4km az=143.0, Suspected Mining explosion.*
ISC 20 10:54:20.1±0.9,43°.29N±0°.03×74°.67E±0°.02,h0km,n18, σ0°63/36,19C-1D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.13**	**258**	⇑*i*P	**Pg**	**10 54 22.6**	**+0.1**
baz=50
USP ⇑*i*S **Sg 10 54 24.6 +0.4**
baz=50
SGDS Sogindy 0.16 349 P **Pg 10 54 23.3 +0.1**
19nm,0.1s
SGDS S **Sg 10 54 25.8 +0.5**
789nm,0.4s
CHMS Chumysh 0.30 169⇑*i*P **Pg 10 54 26.2 +0.4**
baz=73
CHMS ⇑*i*S **Sg 10 54 30.6 +0.9**
baz=73
AAK Ala-Archa 0.67 191 ⇑P **Pg 10 54 33.3 +0.4**
6.6nm,0.5s
AAK ⇓S **Sg 10 54 42.5 +1.0**
13nm,0.6s
AAK Ala-Archa 0.67 191⇑*i*P **Pg 10 54 33.1 +0.2**
baz=92
AAK ⇑*i*S **Sg 10 54 42.5 +1.0**
baz=92
KBK Karagaybulak 0.67 162⇑*i*P **Pg 10 54 33.2 +0.3**
baz=64
KBK ⇑*i*S **Sg 10 54 42.8 +1.3**
baz=64
TKM2 Tokmak 2 0.77 119 ⇑P **Pg 10 54 33.8 -1.0**
3.6nm,0.9s
TKM2 ⇑S **Sg 10 54 45.0 +0.1**
8.9nm,0.5s
TKM2 Tokmak 2 0.77 119⇑*i*P **Pg 10 54 34.3 -0.6**
baz=21
TKM2 ⇑*i*S **Sg 10 54 44.9 +0.1**
baz=21
KST Kastek 0.98 104 P **Pg 10 54 38.9 +0.1**
14nm,0.4s
KST S **Sb 10 54 52.6 -0.9**
22nm,0.9s
UCH Uchtor 1.07 186⇑*i*P **Pg 10 54 40.6 0.0**
baz=87
UCH ⇑*i*S **Sb 10 54 55.7 -0.8**
baz=87
MRKS Merke 1.19 243 P **Pg 10 54 42.4 -0.5**
3.3nm,0.2s
MRKS S **Sg 10 54 58.5 +0.1**
4.1nm,0.2s
BOOM Boomskoye usch 1.23 130⇑*i*P **Pg 10 54 43.1 -0.5**
baz=32
BOOM ⇑*i*S **Sg 10 54 59.8 +0.2**
baz=32
MTBS Maitube 1.29 97 P **Pb 10 54 45.1 -0.2**
3.8nm,0.1s
MTBS S **Sn 10 55 03.4 -0.2**
17nm,0.4s
KUU Kurty 1.35 63 P **Pg 10 54 46.1 +0.1**
3.2nm,0.3s
KUU S **Sn 10 55 04.8 0.0**
14nm,0.7s
IZV Izvestkoviy 1.44 100 P **Pn 10 54 47.7 +0.1**
5.3nm,0.3s
IZV S **Sn 10 55 07.7 +0.3**
7.3nm,0.3s
ARLS Aral 1.46 190⇑*i*P **Pn 10 54 47.5 -0.3**
baz=91
ARLS ⇑*i*S **Sn 10 55 07.8 +0.2**
baz=91
TNSS Tian-Shan 1.68 98 P **Pb 10 54 52.0 -0.2**
7.9nm,0.5s
TNSS S **Sg 10 55 15.1 +1.0**
10.0nm,0.4s
CHKK Chushkaly 1.77 71 P **Pg 10 54 54.3 +0.3**
2.3nm,0.2s
CHKK S **Sg 10 55 18.8 +1.7**
13nm,0.4s

*ISCJB **20** 11:11:09.4±0.5, 13°.23N±0°.07×57°.29E±0°.06, h17km, mb4.1/12, MS3.8/3, Error ellipse: s-maj=11.3km s-min=6.8km az=151.5*
*IDC **20** 11:11:09.3±1.0, 13°.19N×57°.46E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.8/39, mbtmp3.9/11, ML3.3/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/35, Error ellipse: s-maj=27.5km s-min=19.7km az=26.0*
*NEIC **20** 11:11:10.5±1.5, 13°.3N±0°.1×57°.32E±0°.03, h10km±1km, mb4.3/20*
ISC 20 11:11:11.0±0.6,13°.16N±0°.09×57°.35E±0°.07,h17km,n50, σ1°60/43,mb4.2/16,MS3.9/3,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.42**	**254**		**Pn**	**11 12 03.2**	**-0.6**
SOCY Sn **Sn 11 12 43.0 -1.0**

WSAR Wadi Sarin 10.10 7 Pn **Pn 11 13 34.8 -0.6**
0.3nm,0.3s,baz=214,slow=6.3,SNR=4.9
WSAR LR LR 11 17 08.7
comp=Z,389nm,18.4s,baz=186,slow=36
UOSS Minazif 11.78 355 **Pn 11 13 58.5 +0.2**
DAMY Dhamar 12.66 278 Pn **Pn 11 14 08.1 -2.7**
ATD Arta Tunnel 14.26 265 LR LR 11 18 20.9
comp=Z,73nm,18.7s,baz=48,slow=30
RAYN Ar Rayn 15.25 314 **Pn 11 14 44.9 -0.7**
RAYN IAmb IAmb 11 14 54.3
comp=Z,12nm,1.1s
HMDM Hanimaadhoo 16.83 111 Pn **Pn 11 15 01.8 -4.2**
H08N2 Diego Garcia H 23.63 144 T T 11 40 34.7
baz=326,slow=76,SNR=240
H08N3 Diego Garcia H 23.64 144 T T 11 40 44.1
baz=326,slow=76,SNR=186
H08N1 Diego Carcia H 23.65 144 T T 11 40 43.6
baz=326,slow=76,SNR=240
KMBO Kilima Mbogo 24.47 236 P **P 11 16 35.8 +6.0**
comp=Z,1.5nm,0.3s,baz=38,slow=9.8,SNR=11
KMBO LR LR 11 26 45.7
comp=Z,192nm,19.0s,baz=88,slow=38
KMBO Kilima Mbogo 24.47 236 P **P 11 16 32.6 +2.8**
KMBO IAmb IAmb 11 16 44.5
comp=Z,19nm,1.4s
GEYT Alibeck 24.68 1 P **P 11 16 30.6 -0.6**
GYA0B ALIBECK ARRAY 24.68 1 P **P 11 16 31.1 -0.1**
GYA0B IAmb IAmb 11 16 40.0
comp=Z,7.2nm,1.0s
NIL Nilore 25.01 33 P **P 11 16 35.2 +1.0**
MBAR Mbarara 29.72 245 P **P 11 17 16.2 -0.6**
MBAR IAmb IAmb 11 17 31.6
comp=Z,3.0nm,0.6s
KKAR Karatay Array 31.93 18 P **P 11 17 36.0 +0.2**
KKAR IAmb IAmb 11 17 46.2
comp=Z,6.1nm,1.2s
KBZ Khabaz 32.90 341 P **P 11 17 45.6 +1.3**
comp=Z,3.6nm,0.9s,baz=215,slow=8.4,SNR=3.7
BR131 Keskin Array S 33.72 326 P **P 11 17 50.7 -1.0**
BR131 IAmb IAmb 11 17 54.8
comp=Z,3.4nm,1.2s
BRTR Keskin Array B 33.72 326 P **P 11 17 53.1 +1.4**
comp=Z,1.0nm,0.8s,baz=128,slow=8.0,SNR=6.0
BRTR PcP **PcP 11 20 32.6 +1.4**
comp=Z,0.7nm,0.8s,baz=154,slow=3.7,SNR=3.7
BRTR Keskin Array B 33.72 326 P **P 11 17 49.8 -1.8**
ABKAR Akbulak array 36.05 3 P **P 11 18 09.4 -2.1**
ABKAR Akbulak array 36.05 3 P **P 11 18 11.5 0.0**
ABKAR IAmb IAmb 11 18 22.2
comp=Z,3.6nm,1.4s
SANT Santorini 36.77 315 P **P 11 18 17.0 -0.9**
MKAR Makanchi Array 39.54 27 P **P 11 18 41.4 +0.4**
comp=Z,0.6nm,0.6s,baz=207,slow=6.9,SNR=3.6
MKAR Makanchi Array 39.54 27 P **P 11 18 40.3 -0.7**
CMAR Chiang Mai Arr 40.30 77 P **P 11 18 48.5 +0.8**
comp=Z,1.1nm,0.5s,baz=275,slow=8.9,SNR=11
CMAR Chiang Mai Arr 40.30 77 P **P 11 18 48.3 +0.5**
BRVK Borovoye 41.12 12 P **P 11 18 53.4 -0.6**
KURK Kurchatov 41.26 20 P **P 11 18 54.6 -0.7**
ZAA0 Zalesovo Array 46.11 22 P **P 11 19 33.6 -0.5**
ZAA0 IAmb IAmb 11 19 35.4
comp=Z,5.1nm,1.2s
ZALV Zalesovo Beam 46.11 22 P **P 11 19 34.0 -0.2**
comp=Z,0.8nm,0.5s,baz=232,slow=7.3,SNR=4.8
ZALV LR LR 11 39 56.4
comp=Z,123nm,18.5s,baz=256,slow=38
ZALV Zalesovo Beam 46.11 22 P **P 11 19 33.6 -0.5**
BOSA Boshof 51.85 216 LR LR 11 41 09.4
comp=Z,139nm,19.9s,baz=14,slow=35
SONM Songino Array 53.32 39 P **P 11 20 30.2 +0.8**
comp=Z,0.2nm,0.4s,baz=28,slow=6.9,SNR=3.7
SONM Songino Array 53.32 39 P **P 11 20 30.1 +0.7**
TORD Torodi Ar. Bea 54.10 277 P **P 11 20 38.0 +2.6**
comp=Z,209nm,1.0s,baz=88,slow=8.2,SNR=5.7
TORD Torodi Ar. Bea 54.10 277 IAmb IAmb 11 20 39.1
comp=Z,104nm,0.9s
ESBB Sonseca Array 59.69 308 P **P 11 21 13.3 -1.5**
ESDC Sonseca Array 59.69 308 P **P 11 21 15.6 +0.7**
comp=Z,1.3nm,0.7s,baz=85,slow=7.1,SNR=5.2
ESDC Sonseca Array 59.69 308 P **P 11 21 15.2 +0.3**
ARCES ARCESS Array B 59.82 348 P **P 11 21 15.2 +0.1**
comp=Z,4.2nm,0.9s,baz=127,slow=6.0,SNR=4.5
PSAB1 Pilbara Seismi 70.34 119 P **P 11 22 24.8 +0.5**
H01W3 Cape Leeuwin H 71.95 134 T T 12 41 07.3
baz=302,slow=75,SNR=36
H01W2 Cape Leeuwin H 71.95 134 T T 12 40 57.2
baz=302,slow=75,SNR=37
H01W1 Cape Leeuwin H 71.96 134 T T 12 40 57.9
baz=302,slow=75,SNR=39
WRA Warramunga Arr 82.55 112 P **P 11 23 33.7 0.0**
comp=Z,0.9nm,0.8s,baz=299,slow=4.2,SNR=4.8
WRA Warramunga Arr 82.55 112 P **P 11 23 33.0 -0.7**
ASAR Alice Springs 83.26 116 P **P 11 23 37.5 +0.3**
comp=Z,0.7nm,0.8s,baz=290,slow=5.0,SNR=15
ASAR Alice Springs 83.26 116 P **P 11 23 37.1 -0.2**

KRNET 20 11:43:34.3±0.1,42°.30N×72°.96E,h0km,mb1.6,4C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.90**	**237**	⇓*i*P	Pg	11 43 51.5	0.0
baz=35
ARK ⇓*i*S Sb 11 44 04.6 -0.8
baz=35
ARSB Arslanbob 0.97 179⇑*i*P Pg 11 43 52.7 -0.2
baz=79
ARSB ⇑*i*S Sb 11 44 06.9 -0.7
baz=79
ARLS Aral 1.10 113⇑*i*P Pg 11 43 55.8 +0.4
baz=12
ARLS ⇑*i*S Sb 11 44 10.9 -0.4
baz=12

NNC 20 11:43:45.8±0.2,42°.90N×71°.01E,h0km,mpv1.3,17C-3D, Error ellipse: s-maj=2.0km s-min=0.8km az=28.0, Suspected Mining explosion.,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.40**	**299**	⇑P	Pg	11 43 53.7	+0.2
KK06 ⇓S Sg 11 43 59.4 +0.7
KK05 Karatay Array 0.41 301 ⇑P Pg 11 43 54.0 +0.2
KK05 ⇑S Sg 11 43 59.8 +0.6
KK02 Karatay Array 0.41 299 ⇑P Pg 11 43 54.1 +0.3
KK02 ⇑S Sg 11 43 59.9 +0.8
KK31 Karatay Array 0.41 299 ⇑P Pg 11 43 54.1 +0.3
0.6nm,0.5s,baz=118,slow=32,SNR=6.6
KK31 ⇓S Sg 11 43 59.9 +0.8
1.0nm,0.3s,baz=120,slow=31,SNR=8.7
KK07 Karatay Array 0.41 297 ⇑P Pg 11 43 53.9 +0.2
KK07 ⇑S Sg 11 43 59.8 +0.7
KK01 Karatay Array 0.42 299 ⇑P Pg 11 43 54.1 +0.2
KK01 ⇑S Sg 11 43 60.0 +0.7
KK03 Karatay Array 0.42 298 ⇑P Pg 11 43 54.0 +0.1
KK03 ⇑S Sg 11 43 60.0 +0.6
KK04 Karatay Array 0.42 299 ⇑P Pg 11 43 54.1 +0.2
KK04 ⇑S Sg 11 44 00.0 +0.7
KK08 Karatay Array 0.43 298 ⇑P Pg 11 43 54.1 +0.1
KK08 ⇑S Sg 11 44 00.3 +0.6
KK09 Karatay Array 0.43 301 ⇑P Pg 11 43 54.2 +0.1
KK09 ⇓S Sg 11 44 00.3 +0.6

*IDC **20** 12:23:21.2±1.0, 1°.40S×126°.96E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/30, mbtmp3.8/6, ML3.6/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/41, Error ellipse: s-maj=93.5km s-min=18.1km az=72.0*
*DJA **20** 12:23:23.6±0.2, 1°S±1°×12°7E±°, h10km, M4.2/17, mb4.5/6, mB5.0/1, MLv4.1/17, Mw(mB)4.3/1*
*NEIC **20** 12:23:25.6±1.4, 1°.4S±0°.1×127°.1E±0°.1, h37km±8km, mb4.0/16*
ISC 20 12:23:22.0±1.3,1°24S±0°.04×127°58E±0°.05,h11km±9km, n49,σ1°77/49,mb4.1/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.60**	**352**	P	**Pg**	**12 23 34.2**	**+0.5**
LBMI S **Sg 12 23 42.0 +0.4**
SANI Sanana 1.78 243 P **Pn 12 23 50.4 -2.3**
SANI S **Sn 12 24 15.5 +0.1**
TNTI Ternate 2.00 354 P **Pn 12 23 53.7 -2.1**

TNTI			S	**Sn**	**12 24 20.9**	**+0.1**
NLAI	**Namlea**	**2.05 194**	P	**Pn**	**12 23 57.5**	**+1.1**
NLAI			S	**Sb**	**12 24 25.9**	**+1.2**
MSAI	**Masohi**	**2.49 147**	P	**Pb**	**12 24 06.4**	**-0.4**
MSAI			S	**Sb**	**12 24 40.0**	**+2.5**
AAI	**Ambon**	**2.51 166**	P	**Pb**	**12 24 06.6**	**-0.5**
SWI	**Sorong**	**3.70 84**	P	**Pn**	**12 24 22.1**	**+3.0**
BNDI	**Bandanaira**	**4.01 145**	P	**Pb**	**12 24 28.8**	**-3.8**
KMSI	**Cibinong**	**4.02 297**	P	**Pn**	**12 24 24.3**	**+0.8**
KMSI			S	**Sn**	**12 25 09.9**	**-0.8**
FAKI	**Fak Fak**	**4.96 110**	P	**Pn**	**12 24 40.6**	**+4.2**
FAKI	**Fak Fak**	**4.96 110**		Pn	12 24 42.0	+5.6
FAKI			Sn	**Sb**	**12 25 44.3**	**-4.2**
MRSI	**Marisa**	**5.89 287**	P	**Pn**	**12 24 50.9**	**+1.7**
	12nm,0.9s,0.1nm					
APSI	**Ampana**	**5.94 273**	P	**Pn**	**12 24 49.4**	**-0.5**
	81nm,0.5s,1μm0.4nm					
PCI	**Palu**	**7.75 272**	P	Pn	12 25 24.1	+9.3
TTSI	**Tana Toraja**	**7.96 257**	P	**Pn**	**12 25 17.4**	**-0.3**
	33nm,0.7s,0.1nm					
SPSI	**Sidrap Palu**	**8.26 251**	P	**Pn**	**12 25 23.1**	**+1.3**
BKSI	**Bulukumba**	**8.48 241**	P	Pn	12 25 35.9	+11
DAV	**Davao City (W)**	**8.49 346**	LR	LR	12 28 59.9	
	comp=Z,73nm,18.2s,baz=59,slow=40					
KAPI	**Kappang**	**8.67 244**	LR	LR	12 28 38.5	
	comp=Z,71nm,19.9s,baz=67,slow=40					
MTN	**Manton Dam**	**12.06 163**	Pn	**Pn**	**12 26 15.3**	**+1.4**
JAY	**Jayapura**	**13.18 96**	LR	LR	12 33 32.0	
	comp=Z,99nm,21.4s,baz=71,slow=44					
KNRA	**Kununurra**	**14.40 175**	Pn	**Pn**	**12 26 45.9**	**+0.1**
WB0	**Warramunga Arr**	**19.59 161**	P	**P**	**12 27 51.2**	**+0.9**
WB0			IAmb	IAmb	12 28 01.1	
	comp=Z,4.9nm,0.9s					
WRAB	**Tennant Creek**	**19.73 161**	P	**P**	**12 27 51.3**	**-0.5**
WRAB			IAmb	IAmb	12 28 05.8	
	comp=Z,12nm,1.2s					
WRA	**Warramunga Arr**	**19.73 161**	P	**P**	**12 27 52.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=11					
WRA	**Warramunga Arr**	**19.73 161**	P	**P**	**12 27 51.8**	**-0.1**
WB2	**Warramunga Arr**	**19.74 161**	P	**P**	**12 27 51.2**	**-0.7**
WB2			IAmb	IAmb	12 28 04.5	
	comp=Z,5.8nm,0.9s					
WR0	**Warramunga Arr**	**19.82 160**	P	**P**	**12 27 51.3**	**-1.5**
COEN	**Coen**	**19.94 130**	P	**Pn**	**12 27 56.8**	**+0.9**
COEN			IAmb	IAmb	12 27 60.0	
	comp=Z,6.5nm,0.8s					
PSAC2	**Pilbara Seismi**	**21.55 200**	P	**P**	**12 28 07.2**	**-4.3**
AS31	**Alice Springs**	**23.13 165**	P	**P**	**12 28 28.6**	**+0.3**
ASAR	**Alice Springs**	**23.13 165**	P	**P**	**12 28 29.1**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=344,slow=11,SNR=23					
ASAR	**Alice Springs**	**23.13 165**	P	**P**	**12 28 27.3**	**-1.0**
BBOO	**Buckleboo**	**32.41 167**	P	**P**	**12 29 51.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**32.99 196**	P	**P**	**12 29 54.6**	**-2.5**
STKA	**Stephens Creek**	**33.23 158**	P	**P**	**12 30 01.5**	**+2.3**
	comp=Z,3.4nm,0.9s,baz=341,slow=12,SNR=3.5					
STKA	**Stephens Creek**	**33.23 158**	P	**P**	**12 29 59.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**45.41 4**	P	**P**	**12 31 43.0**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=177,slow=4.7,SNR=4.8					
USRK	**Ussuriysk Ar.**	**45.41 4**	P	**P**	**12 31 42.9**	**+2.3**
SONM	**Songino Array**	**52.25 342**	P	**P**	**12 32 34.3**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=147,slow=8.1,SNR=3.5					
SONM	**Songino Array**	**52.25 342**	P	**P**	**12 32 34.6**	**+1.3**
URZ	**Urewera**	**58.40 135**	P	**P**	**12 33 18.6**	**+0.9**
MKAR	**Makanchi Array**	**62.11 326**	P	**P**	**12 33 42.6**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=115,slow=8.7,SNR=11					
MKAR	**Makanchi Array**	**62.11 326**	P	**P**	**12 33 42.5**	**-0.6**
ZALV	**Zalesovo Beam**	**65.38 334**	P	**P**	**12 34 04.4**	**0.0**
KURK	**Kurchatov**	**66.37 328**	P	**P**	**12 34 10.1**	**-0.7**
TIXI	**Tiksi**	**72.77 0**	P	**P**	**12 34 50.3**	**+0.4**
TIXI			IAmb	IAmb	12 35 06.0	
	comp=Z,4.8nm,1.5s					
ABKAR	**Akbulak array**	**76.52 321**	P	**P**	**12 35 11.2**	**-1.0**
ABKAR			IAmb	IAmb	12 35 12.4	
	comp=Z,1.9nm,1.1s					
OPO	**Ambohidratompo**	**80.50 251**	LR	LR	13 09 47.1	
	comp=Z,49nm,18.0s,baz=154,slow=35					

PGC 20 12:30:25.9±0.7,50°.68N×130°.47W,h10km,MLSn3.1/27, Mw3.7/27,214km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.49**	**91**	Pn	Pn	12 30 50.6	-2.0
HOLB				Sn	Sn	12 31 08.5	-3.7
BPBC	**Brooks Peninsu**	**1.80**	**106**	Pn	Pn	12 30 54.7	-2.4
BPBC				Sn	Sn	12 31 15.5	-4.5
PACB	**Port Alice, BC**	**1.91**	**96**	Pn	Pn	12 30 56.5	-1.9
PACB				Sn	Sn	12 31 18.5	-4.1
PHC	**Port Hardy**	**1.93**	**88**	Pn	Pn	12 30 56.9	-1.7
PHC				Sn	Sn	12 31 19.4	-3.5
HG3B	**Hotspring**	**1.99**	**343**	Pn	Pn	12 30 58.0	-1.5
HG3B				Sn	Sn	12 31 19.5	-5.0
BNB	**Barry Inlet**	**2.06**	**338**	Pn	Pn	12 30 55.7	-4.8
BBB	**Bella Bella**	**2.10**	**43**	Pn	Pn	12 30 59.3	-1.8
BBB				Sn	Sn	12 31 23.4	-3.9
MAYB	**Maynard**	**2.12**	**96**	Pn	Pn	12 30 59.8	-1.7
EDB	**Eliza Dome**	**2.29**	**109**	Pn	Pn	12 31 01.4	-2.3
WOSB	**Woss**	**2.55**	**100**	Pn	Pn	12 31 06.0	-1.2
NTKA	**Nootka**	**2.71**	**112**	Pn	Pn	12 31 07.4	-1.9
NTKA				Sn	Sn	12 31 38.0	-4.1
NCRB	**Newcastle Ridg**	**2.83**	**94**	Pn	Pn	12 31 09.6	-1.6
NCRB				Sn	Sn	12 31 43.7	-1.7
ETB	**Estevan Point**	**2.85**	**116**	Pn	Pn	12 31 09.8	-1.5
BCBC	**Bella Coola**	**2.87**	**52**	Pn	Pn	12 31 09.9	-1.7
BCBC				Sn	Sn	12 31 43.7	-2.4
GDR	**Gold River**	**2.99**	**106**	Pn	Pn	12 31 11.8	-1.4
SPLB	**Strathcona Par**	**3.19**	**103**	Pn	Pn	12 31 15.3	-0.7
TOFB	**Tofino**	**3.32**	**116**	Pn	Pn	12 31 16.4	-1.4
TOFB				Sn	Sn	12 31 53.4	-3.8
CBB	**Campbell River**	**3.33**	**99**	Pn	Pn	12 31 17.5	-0.5
CBB				Sn	Sn	12 31 54.7	-2.9
BTB	**Buttle Lake**	**3.41**	**109**	Pn	Pn	12 31 17.8	-1.4
MWAB	**Mount Washingt**	**3.45**	**104**	Pn	Pn	12 31 18.9	-0.8
MWAB				Sn	Sn	12 31 57.6	-3.0
OZB	**Mount Ozzard**	**3.65**	**116**	Pn	Pn	12 31 21.1	-1.3
OZB				Sn	Sn	12 32 02.3	-3.3
TXB	**Texada**	**4.00**	**102**	Pn	Pn	12 31 26.5	-0.7
MGB	**Mount Grey**	**4.10**	**112**	Pn	Pn	12 31 27.3	-1.4
MGB				Sn	Sn	12 32 12.9	-3.7
SHB	**Sechelt**	**4.38**	**102**	Pn	Pn	12 31 32.0	-0.5
NLLB	**Nanaimo Lost L**	**4.43**	**107**	Pn	Pn	12 31 32.0	-1.0
PFB	**Port Renfrew**	**4.45**	**116**	Pn	Pn	12 31 32.6	-0.8
UBRB	**Upper Baezaeko**	**4.54**	**58**	Pn	Pn	12 31 35.1	+0.5
UBRB				Sg	Sn	12 32 26.4	-1.1
WPB	**Watts Point**	**4.78**	**100**	Pn	Pn	12 31 37.9	+0.1
BIB	**Bowen Island**	**4.79**	**103**	Pn	Pn	12 31 37.3	-0.6
LZB	**Mount Lazard**	**4.79**	**113**	Pn	Pn	12 31 38.5	+0.4
WSLR	**Whistler**	**4.86**	**94**	Pn	Pn	12 31 39.3	+0.3
B011	**North Saanich**	**4.99**	**111**	Pn	Pn	12 31 41.4	+0.7
FSB	**Fort Saint Jam**	**5.33**	**42**	Pn	Pn	12 31 45.6	+0.1
FSB				Sg	Sn	12 32 44.0	-2.9
VDB	**Vedder Mountai**	**5.66**	**104**	Pn	Pn	12 31 50.7	+0.8
MBW	**Mount Baker**	**5.87**	**106**	Pn	Pn	12 31 53.9	+0.8
CMW	**Cultus Mountai**	**5.88**	**109**	Pn	Pn	12 31 54.1	+1.0
JCW	**Jim Creek**	**6.10**	**111**	Pn	Pn	12 31 57.3	+1.3
FMW	**Mount Fremont**	**6.91**	**119**	Pn	Pn	12 32 08.9	+1.5
LON	**Longmire**	**6.95**	**121**	Pn	Pn	12 32 09.8	+2.1
LTY	**Liberty**	**7.30**	**114**	Pn	Pn	12 32 14.6	+2.1

*ISCJB **20** 12:46:28.5±0.7,9°.45N±0°.04×84°.28W±0°.04,h16km±6km, Error ellipse: s-maj=8.0km s-min=3.3km az=42.4*
*UCR **20** 12:46:28.4±1.0,9°.45N×84°.25W,h9km±3km,MW3.8*
*UPA **20** 12:46:29.5±1.5,9°.57N×84°.25W,h17km±8km,MW4.4*
ISC 20 12:46:27.6±1.2,9°.47N±0°.05×84°.29W±0°.05,h10km±10km, n43,σ1§23/56,3C-4D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.39**	**46**	*eP*	**Pb**	**12 46 36.6**	**-0.1**
LCR2				*eS*	**Sb**	**12 46 42.8**	**-0.2**
EDDO	**Dominical**	**0.47**	**118**	*eP*	**Pg**	**12 46 36.9**	**0.0**
EDDO				*eS*	**Sg**	**12 46 43.5**	**+0.4**
SJS	**Escuela Geolog**	**0.52**	**26**	*eP*	**Pb**	**12 46 39.0**	**+0.1**
HDC	**Heredia**	**0.55**	**18**	*eP*	**Pb**	**12 46 39.7**	**+0.2**
HDC				*eS*	**Sb**	**12 46 47.9**	**+0.3**
HDC	**Heredia**	**0.55**	**18**	*iP*	**Pb**	**12 46 39.1**	**-0.4**
HDC				*iS*	**Sb**	**12 46 46.5**	**-1.1**
EDLM	**Las Mercedes**	**0.71**	**106**	*eP*	**Pg**	**12 46 41.8**	**+0.3**
EDLM				*eS*	**Sg**	**12 46 51.3**	**+0.4**
CVTR	**Volcan Turrial**	**0.75**	**44**	*eP*	**Pb**	**12 46 42.9**	**-0.2**
CVTR				*eS*	**Sb**	**12 46 53.7**	**0.0**
EDPN	**Palmar Norte**	**0.96**	**122**	*eP*	**Pg**	**12 46 45.6**	**-0.6**
EDBA	**Buenos Aires**	**1.04**	**107**	*eS*	**Sg**	**12 46 59.7**	**-1.6**
JTS	**Las Juntas de**	**1.04**	**321**	*iP*	**Pg**	**12 46 47.4**	**-0.3**
JTS	**Las Juntas de**	**1.04**	**321**	⇓*iP*	**Pg**	**12 46 47.5**	**-0.3**
JTS				*i S*	**Sg**	**12 47 00.9**	**-0.5**
DRK0	**Durika**	**1.05**	**101**	⇑*iP*	**Pg**	**12 46 47.0**	**-0.8**
ARE1	**Arenal 1**	**1.07**	**337**	*eP*	**Pg**	**12 46 49.0**	**+0.8**
CEDE	**Laguna Cedeo**	**1.09**	**338**	*eP*	**Pg**	**12 46 48.9**	**+0.3**
PTJ1	**Puerto Jimnez**	**1.35**	**134**	*i P*	**Pn**	**12 46 53.0**	**+0.4**
PTJ1				*i S*	**Sb**	**12 47 10.5**	**+0.2**
PLVR	**Palo Verde**	**1.36**	**310**	*eP*	**Pn**	**12 46 52.5**	**-0.5**
CUI	**Cuipilapa**	**1.46**	**324**	*eP*	**Pn**	**12 46 54.6**	**+0.4**
BRU2	**Volcan**	**1.71**	**113**	⇓*iP*	**Pn**	**12 46 58.3**	**+0.5**
	baz=277,slow=3.8						
BRU2				*i S*	**Sn**	**12 47 19.2**	**-0.6**
BUEV	**Buena Vista**	**1.72**	**320**	*eP*	**Pn**	**12 46 58.3**	**+0.5**
GB1A	**Borinquen Arri**	**1.73**	**321**	*eP*	**Pn**	**12 46 58.7**	**+0.7**
PTAR3	**Potrerillos Ar**	**1.93**	**114**	*i P*	**Pn**	**12 47 00.8**	**+0.1**
PTAR3				*i S*	**Sn**	**12 47 22.1**	**-3.1**
DVD	**David**	**2.09**	**119**	*eP*	**Pn**	**12 47 03.2**	**+0.5**
LOCO3	**Loma Colorada,**	**2.13**	**120**	⇓*iP*	**Pn**	**12 47 03.7**	**+0.4**
PEDE3	**Pedregal, Chir**	**2.14**	**120**	⇓*iP*	**Pn**	**12 47 04.9**	**+1.5**
LOMA3	**Las Lomas, Chi**	**2.14**	**119**	*i P*	**Pn**	**12 47 04.6**	**+1.1**
CHGR2	**Aguacate**	**2.18**	**104**	⇑*iP*	**Pn**	**12 47 04.5**	**+0.5**
CHGR2				*i S*	**Sn**	**12 47 31.9**	**+0.7**
CHIR3	**Chiriqui UPA,**	**2.21**	**119**	*eP*	**Pn**	**12 47 05.3**	**+0.9**
CHIR3				*i S*	**Sn**	**12 47 31.5**	**-0.4**
ACON	**Acoyapa**	**2.63**	**341**	*eP*	**Pn**	**12 47 11.7**	**+1.4**
ESPN	**Las Esperanzas**	**2.71**	**360**	*eP*	**Pn**	**12 47 12.7**	**+1.4**
REME3	**Remedios, Chir**	**2.72**	**117**	*i P*	**Pn**	**12 47 14.6**	**+3.1**
NANC3	**Nancito, Chiri**	**2.81**	**116**	*eP*	**Pn**	**12 47 13.9**	**+1.2**
CNAZ3	**Canazas, Verag**	**3.24**	**110**	*eP*	**Pn**	**12 47 19.1**	**+0.5**
RSUS3	**Rio de Jesus,**	**3.43**	**115**	*eP*	**Pn**	**12 47 22.8**	**+1.6**
GMAL	**Guarumal, Vera**	**3.46**	**119**	*i P*	**Pn**	**12 47 22.2**	**+0.4**
GMAL				*i S*	**Sn**	**12 48 02.6**	**-0.3**
SFRA3	**San Francisco,**	**3.49**	**110**	*eP*	**Pn**	**12 47 23.5**	**+1.4**
OCU3	**Ocu, Herrera**	**3.79**	**113**	*eP*	**Pn**	**12 47 23.4**	**-2.8**
CACAO	**El Cacao, Vera**	**3.99**	**122**	⇑*iP*	**Pn**	**12 47 33.1**	**+4.1**
PNME	**Penonome**	**4.03**	**104**	*eP*	**Pn**	**12 47 30.4**	**+0.8**
AZU	**Azuero**	**4.30**	**113**	*eP*	**Pn**	**12 47 35.6**	**+2.4**
ZANG	**Zanguenga, Cho**	**4.39**	**96**	*eP*	**Pn**	**12 47 36.2**	**+1.7**
BCIP	**Isla Barro Col**	**4.40**	**94**	*i P*	**Pn**	**12 47 35.2**	**+0.6**
FRIJ	**El Hiral**	**4.51**	**93**	*eP*	**Pn**	**12 47 36.5**	**+0.5**
CHPO	**Chepo, Panama**	**5.11**	**93**	*eP*	**Pn**	**12 47 44.9**	**+0.5**

*IDC **20** 12:46:32.0±3.6,4°.32S×152°.92E,h33km±22km,mb3.9/5, mb1 4.1/5,mb1mx3.6/41,mbtmp4.1/5,MS3.0/1,Ms1 3.0/1, ms1mx2.6/30,Error ellipse: s-maj=41.2km s-min=18.7km az=130.0*
*NEIC **20** 12:46:44.6±2.1,4°.03S±0°.07×152°.04E±0°.06,h143km±9km, mb4.3/18*
ISC 20 12:46:32.8±0.7,4°.14S±0°.09×152°.8E±0°.1,h35km,n45, σ2§03/38,mb4.3/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.75**	**258**	Pg	**Pn**	**12 46 49.3**	**+2.3**
	95nm,0.3s,baz=196,slow=1.0,SNR=180						
KRVT				Lg	Lg	12 47 01.3	
	658nm,0.3s,baz=298,slow=23,SNR=46						
KRVT				LR	LR	12 47 17.6	
	comp=Z,222nm,18.5s,baz=89,slow=51						
MANU	**Manus Island**	**5.78**	**291**		**Pn**	**12 47 58.3**	**+2.2**
MANU				Sn	Sn	12 48 56.6	-4.7
PMG	**Port Moresby**	**7.63**	**226**	Pn	**Pn**	**12 48 25.5**	**+3.9**
	2.2nm,0.3s,baz=55,slow=8.2,SNR=8.0						
PMG				Sn	**Sn**	**12 49 50.4**	**+3.5**
	1.9nm,0.3s,baz=134,slow=20,SNR=10						
PMG	**Port Moresby**	**7.63**	**226**		Pn	12 48 27.2	+5.5
PMG					**Sn**	**12 49 47.9**	**+0.9**
HNR	**Honiara**	**8.86**	**127**	LR	LR	12 51 30.7	
	comp=Z,96nm,19.2s,baz=303,slow=35						
HNR	**Honiara**	**8.86**	**127**	Pn	Pn	12 48 56.4	+18
PATS	**Pohnpei**	**12.23**	**27**	Pn	**P**	**12 49 37.1**	**+0.4**
COEN	**Coen**	**13.58**	**224**	Pn	**P**	**12 49 47.0**	**-4.7**
TARA	**Tarawa**	**20.88**	**75**	P	Pn	12 51 23.2	+8.4
EIDS	**Eidsvold**	**21.16**	**184**	P	**P**	**12 51 18.4**	**+3.2**
EIDS				IAmb	IAmb	12 51 18.5	
	comp=Z,16nm,1.4s						
MTN	**Manton Dam**	**23.05**	**247**	P	**P**	**12 51 31.9**	**-3.5**
MTN				IAmb	IAmb	12 51 41.0	
	comp=Z,30nm,1.4s						
WB0	**Warramunga Arr**	**23.70**	**228**	P	**P**	**12 51 39.5**	**-2.2**
WB0				IAmb	IAmb	12 51 42.4	
	comp=Z,5.4nm,0.6s						
WR0	**Warramunga Arr**	**23.71**	**227**	P	**P**	**12 51 37.7**	**-4.2**
WR0				IAmb	IAmb	12 51 42.5	
	comp=Z,5.0nm,0.6s						
WRAB	**Tennant Creek**	**23.84**	**227**	P	**P**	**12 51 39.9**	**-3.1**
WRAB				IAmb	IAmb	12 51 44.2	
	comp=Z,7.2nm,0.6s						
WB2	**Warramunga Arr**	**23.84**	**227**	P	**P**	**12 51 41.5**	**-1.5**
WB2				IAmb	IAmb	12 51 43.7	
	comp=Z,7.8nm,0.7s						
WRA	**Warramunga Arr**	**23.85**	**227**	P	**P**	**12 51 42.6**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=51,slow=9.5,SNR=65						
WRA				PcP	**PcP**	**12 55 25.7**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=47,slow=2.2,SNR=5.6						
WRA				ScP	**ScP**	**12 59 00.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=55,slow=2.7,SNR=3.4						
WRA	**Warramunga Arr**	**23.85**	**227**	P	**P**	**12 51 42.0**	**-1.2**
ARMA	**Armidale**	**26.16**	**182**	P	**P**	**12 52 05.4**	**+1.3**
ARMA				IAmb	IAmb	12 52 20.8	
	comp=Z,12nm,1.3s						
KNRA	**Kununurra**	**26.23**	**242**	P	**P**	**12 52 04.3**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**26.35**	**31**	T	T	13 19 43.0	
	baz=205,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**26.36**	**31**	T	T	13 20 01.4	
	baz=205,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**26.37**	**31**	T	T	13 19 56.4	
	baz=205,slow=75,SNR=13						
AS31	**Alice Springs**	**26.61**	**221**	P	**P**	**12 52 06.5**	**-1.7**
ASAR	**Alice Springs**	**26.61**	**221**	P	**P**	**12 52 07.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=54,slow=9.0,SNR=35						
ASAR				ScP	**ScP**	**12 59 08.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=55,slow=3.0,SNR=4.6						
ASAR	**Alice Springs**	**26.61**	**221**	P	**P**	**12 52 06.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**29.94**	**240**		S	12 57 17.3	-16
FORT	**Forrest**	**35.27**	**219**	P	**P**	**12 53 23.4**	**-1.0**
PSA00	**Pilbara Seismi**	**36.33**	**239**	P	**P**	**12 53 32.9**	**-0.7**
OXZ	**Oxford**	**42.60**	**159**		pP	12 55 02.0	+26
PEA0B	**Petropavlovsk-**	**57.19**	**4**	P	**P**	**12 56 18.3**	**+2.1**
PETK	**Petropavlovsk-**	**57.19**	**4**	P	**P**	**12 56 18.1**	**+1.9**
	comp=Z,1.7nm,0.5s,baz=157,slow=6.4,SNR=13						
PETK	**Petropavlovsk-**	**57.19**	**4**	P	**P**	**12 56 17.1**	**+0.8**
GLI	**Glacier Island**	**79.61**	**26**	P	**P**	**12 58 37.6**	**+1.2**
IMAR	**Indian Mountai**	**79.78**	**20**	P	**P**	**12 58 38.1**	**+0.9**
MK31	**Makanchi Array**	**79.81**	**319**	P	P	12 58 25.6	-12
MKAR	**Makanchi Array**	**79.81**	**319**	P	P	12 58 25.2	-13
ILAR	**Eielson Array**	**81.57**	**22**	P	**P**	**12 58 45.3**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=243,slow=5.2,SNR=12						
ILAR	**Eielson Array**	**81.57**	**22**	P	**P**	**12 58 45.9**	**-0.8**
BALM	**Baldy**	**81.76**	**26**	P	**P**	**12 58 48.7**	**+0.7**
BALM				IAmb	IAmb	12 58 58.1	
	comp=Z,12nm,1.3s						
TOLK	**Toolik Lake Re**	**82.61**	**18**	P	**P**	**12 58 52.6**	**+0.5**
NRN	**Naryn**	**82.85**	**312**	P	P	12 58 48.6	-5.7
INK	**Inuvik**	**87.86**	**21**	P	**P**	**12 59 17.9**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=291,slow=5.5,SNR=5.1						
INK	**Inuvik**	**87.86**	**21**	P	**P**	**12 59 18.0**	**-0.3**
LPAZ	**La Paz**	**134.76**	**118**	PKP	**PKiKP**	**13 05 50.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=237,slow=3.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.06**	**289**	PKPbc	**PKPbc**	**13 06 20.3**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=91,slow=2.4,SNR=22						

*ISCJB **20** 12:52:44.7±0.3,27°.98N±0°.02×111°.95W±0°.04,h10km, mb3.3/1,MS3.3/9,Error ellipse: s-maj=4.6km s-min=3.4km az=18.8*
*IDC **20** 12:52:45.4±2.4,27°.89N×111°.93W,h0km,mb3.6/2, mb1 3.9/7,mb1mx3.7/45,mbtmp3.5/7,ML3.5/5,MS3.4/14, Ms1 3.4/14,ms1mx3.2/33,Error ellipse: s-maj=32.1km s-min=14.5km az=23.0*
*ECX **20** 12:52:45.0±0.7,28°.01N×112°.05W,h18km,MD4.3,ML4.0*
*NEIC **20** 12:52:46.5±2.5,27°.94N±0°.05×111°.95W±0°.09,h10km±2km, mb4.2/4,Md4.3(MEX)*
*MEX **20** 12:52:46.2±0.4,27°.96N×112°.03W,h5km,MD4.3*
ISC 20 12:52:46.2±0.7,27°.92N±0°.05×111°.94W±0°.05,h10km,n64,
σ1§70/62,MS3.2/9,2C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.65**	**204**	*eP*	**Pg**	**12 52 57.9**	**-0.9**
SRIG				*i S*	**Sg**	**12 53 07.8**	**+0.5**
SRIG	**Santa Rosalia**	**0.65**	**204**		**Pg**	**12 52 57.8**	**-0.9**
SRIG					**Pb**	**12 52 58.0**	**-1.6**
SRIG				Sg	**Sg**	**12 53 07.5**	**+0.2**
SRIG	**Santa Rosalia**	**0.65**	**204**		**Sg**	**12 53 07.8**	**+0.5**
SRIG	**Santa Rosalia**	**0.65**	**204**	⇓*eP*	**Pg**	**12 52 57.9**	**-0.9**
SRIG				*eS*	**Sg**	**12 53 07.7**	**+0.4**
GUYB	**Guaymas**	**0.95**	**91**	⇑*eP*	**Pg**	**12 53 03.4**	**-1.0**
GUYB				*eS*	**Sg**	**12 53 16.9**	**+0.2**
HSIG		**1.40**	**38**	*eP*	**Pn**	**12 53 09.2**	**-2.6**
HSIG		**1.40**	**38**		**Pn**	**12 53 09.4**	**-2.4**
HSIG				Sn	**Sn**	**12 53 27.5**	**-2.9**
HSIG		**1.40**	**38**	*eP*	**Pn**	**12 53 08.9**	**-2.9**
HSIG				*eS*	**Sn**	**12 53 27.2**	**-3.2**
214A	**Organ Pipe Nat**	**4.09**	**350**	*eP*	**Pn**	**12 53 46.4**	**-2.5**
214A	**Organ Pipe Nat**	**4.09**	**350**		**Pn**	**12 53 46.7**	**-2.2**
319A	**Douglas**	**4.15**	**33**	Pn	**Pn**	**12 53 48.2**	**-1.5**
CGIG		**4.24**	**54**	*eP*	**Pn**	**12 53 50.5**	**-0.5**
CGIG				*i S*	**Sn**	**12 54 38.6**	**-2.0**
CGIG		**4.24**	**54**		**Pn**	**12 53 51.9**	**+0.9**
SPX	**San Pedro Mart**	**4.37**	**316**	IAML		12 55 10.8	
	comp=E,104nm,0.9s						
SPX				⇑*e*		12 55 10.8	
TUC	**Tucson**	**4.49**	**13**		**Pn**	**12 53 52.5**	**-1.9**
TUC				Sn	**Sn**	**12 54 45.3**	**-1.4**
GLA	**Glamis**	**5.69**	**335**	Pn	**Pn**	**12 54 08.6**	**-2.2**
121A	**Cookes Peak, D**	**5.84**	**37**	*eP*	**Pn**	**12 54 11.9**	**-1.0**
121A	**Cookes Peak, D**	**5.84**	**37**		**Pn**	**12 54 12.3**	**-0.6**
Y14A	**Wickenburg**	**6.07**	**352**		**Pn**	**12 54 14.9**	**-1.2**
Y12C	**Blythe**	**6.22**	**340**		**Pn**	**12 54 16.6**	**-1.5**
BAR	**Barrett**	**6.26**	**320**	Pn	**Pn**	**12 54 19.4**	**+0.8**
X16A	**Lo Mia Camp, P**	**6.49**	**4**		**Pn**	**12 54 21.7**	**-0.3**
X16A				Sn	**Sn**	**12 55 35.0**	**-1.3**
X18A	**Snowflake**	**6.81**	**14**		**Pn**	**12 54 27.2**	**+1.0**
MNTX	**Cornudas Mount**	**6.83**	**55**	Pn	**Pn**	**12 54 26.8**	**+0.3**
PFO	**Pinyon Flats O**	**6.88**	**327**	LR	LR	12 56 55.8	
	comp=E,366nm,19.6s,baz=132,slow=36						
PFO	**Pinyon Flats O**	**6.88**	**327**		**Pn**	**12 54 29.4**	**+2.3**
PFO					Lg	12 56 29.1	
W13A	**Hualapai Mount**	**7.35**	**347**		**Pn**	**12 54 32.5**	**-1.2**
TX31	**Lajitas Ar. Si**	**7.41**	**77**		**Pn**	**12 54 34.9**	**+0.4**
TX32	**Lajitas Array**	**7.41**	**77**		**Pn**	**12 54 35.3**	**+0.8**
TXAR	**Lajitas Array**

JISG	**Ishigakijimahi**	**0.67**	**89**	P	Pg	12 54 36.6	+0.3
JISG				*e*S	Sb	12 54 46.4	-0.4
JTJ	**Tarama**	**1.03**	**86**	P	Pg	12 54 43.2	+0.1
JTJ				*e*S	Sb	12 54 57.5	+0.4

*ISCJB **20** 12:59:42.4±0.5, 62°.84S±0°.09×164°.2W±0°.2, h10km, mb4.1/7, MS4.3/19, Error ellipse: s-maj=14.1km s-min=11.0km az=44.8*
*IDC **20** 12:59:42.4±0.8, 62°.89S×164°.42W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/22, mbtmp4.1/7, MS4.1/15, Ms1 4.1/15, ms1mx4.0/25, Error ellipse: s-maj=36.3km s-min=21.0km az=31.0*
*NEIC **20** 12:59:44.5±1.5, 62.9S±0°.1×164°.1W±0°.3, h10km±1km, mb4.6/14*
*GCMT **20** 12:59:47.5±0.2, 63°.08S±0°.01×164°.40W±0°.03, h12km, MW5.0/91, Moment Tensor Solution. s33,c40; s91,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.76±.11; Mθθ3.41±.09; Mφφ-2.65±.09; Mrθ-1.09±.27; Mrφ1.44±.09; Mθφ1.44±.30; Best double couple: M0 3.86700×10^16^ NP1:φs119.00000°, δ78.00000°, λ-28.00000°. NP2: φs216.00000°, δ63.00000°, λ-166.00000°. Principal axes: T 3.8660, Plg10.0000°, Azm170.0000°; N -0.0030, Plg60.0000°, Azm277.0000°; P -3.8670, Plg28.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 12:59:44.0±0.6, 62°.9S±0°.1×164°.2W±0°.1, h10km, n52, σ0s82/30, mb4.3/9, MS4.2/19, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**17.55**	**200**	P	**P**	**13 03 49.8**	**+0.4**
SBA				IAmb	IAmb	13 04 00.6	
comp=Z,59nm,1.4s							
MCQ	**Macquarie Isla**	**20.64**	**277**	P	Pn	13 04 24.5	-1.1
RPZ	**Rata Peaks**	**23.95**	**312**	LR	LR	13 12 04.8	
comp=Z,546nm,19.9s,baz=150,slow=31							
SNZO	**South Karori**	**24.95**	**320**	P	**P**	**13 05 08.2**	**+1.0**
URZ	**Urewera**	**27.14**	**326**	LR	LR	13 13 54.1	
comp=Z,743nm,21.4s,baz=160,slow=31							
QSPA	**South Pole Qui**	**27.24**	**180**	P	**P**	**13 05 28.1**	**+0.2**
comp=Z,2.3nm,0.8s,baz=348,slow=0.5,SNR=10							
QSPA				LR	LR	13 14 45.0	
comp=Z,849nm,18.2s,baz=70,slow=33							
QSPA	**South Pole Qui**	**27.24**	**180**	P	**P**	**13 05 28.2**	**+0.2**
QSPA				IAmb	IAmb	13 05 42.7	
comp=Z,17nm,1.4s							
RAO	**Raoul Island**	**34.79**	**339**	LR	LR	13 17 37.3	
comp=Z,572nm,21.6s,baz=82,slow=31							
TBI	**Tubuai**	**40.73**	**21**	*e*LQ	LQ	13 16 44.0	
comp=Z,533nm,32.0s							
TBI				*e*LR	LR	13 18 29.6	
comp=Z,849nm,27.5s,baz=192							
TBI	**Tubuai**	**40.73**	**21**	*e*T	T	13 50 46.7	
comp=Z,46nm,0.3s							
RAR	**Rarotonga**	**41.74**	**6**	LR	LR	13 21 24.1	
comp=Z,230nm,19.0s,baz=262,slow=31							
SNAA	**Sanae**	**45.12**	**172**	P	**P**	**13 07 59.1**	**-0.7**
comp=Z,2.3nm,0.9s,baz=219,slow=6.5,SNR=5.1							
SNAA	**Sanae**	**45.12**	**172**	P	**P**	**13 07 58.4**	**-1.4**
SNAA				IAmb	IAmb	13 08 08.5	
comp=Z,8.2nm,1.1s							
DZM	**Mont Dzumac**	**45.36**	**320**	*e*LR	LR	13 20 45.4	
comp=Z,643nm,23.1s							
MAW	**Mawson**	**45.48**	**203**	LR	LR	13 25 48.1	
comp=Z,555nm,19.3s,baz=149,slow=34							
MAW	**Mawson**	**45.48**	**203**	P	**P**	**13 08 03.5**	**+0.9**
STKA	**Stephens Creek**	**45.97**	**286**	LR	LR	13 23 17.8	
comp=Z,200nm,20.5s,baz=172,slow=31							
TVO	**Taravao**	**46.22**	**20**	*e*T	T	13 57 38.2	
comp=Z,1.9nm,0.3s							
PAE	**Paea**	**46.29**	**19**	*e*T	T	13 57 36.1	
comp=Z,1.3nm,0.2s							
MEH	**Mehetia**	**46.32**	**21**	*e*T	T	13 57 46.6	
comp=Z,34nm,0.2s							
PPT2	**Papeete2**	**46.36**	**19**	*e*S	**S**	**13 14 56.6**	**-0.9**
comp=Z,117nm,27.2s							
PPT2				*e*LQ	LQ	13 18 50.4	
comp=Z,916nm,28.8s							
PPT2				*e*LR	LR	13 21 11.8	
comp=Z,886nm,24.8s,baz=191							
PPT2	**Papeete2**	**46.36**	**19**	*e*T	T	13 57 37.3	
comp=Z,4.7nm,0.3s							
SYO	**Syowa Base**	**47.33**	**191**	⇑*e*pP	pP	13 08 19.0	-0.4
VAH	**Vaihoa**	**48.98**	**21**	*e*T	T	14 01 02.4	
comp=Z,99nm,0.3s							
AFI	**Afiamalu**	**49.19**	**350**	LR	LR	13 26 30.8	
comp=Z,226nm,18.6s,baz=206,slow=33							
H01W1	**Cape Leeuwin H**	**55.90**	**259**	T	T	14 10 08.6	
baz=147,slow=76,SNR=15							
H01W2	**Cape Leeuwin H**	**55.90**	**259**	T	T	14 10 11.4	
baz=147,slow=76,SNR=14							
H01W3	**Cape Leeuwin H**	**55.91**	**259**	T	T	14 10 09.8	
baz=147,slow=76,SNR=15							
PLCA	**Paso Flores**	**56.25**	**114**	P	**P**	**13 09 24.7**	**+0.5**
comp=Z,1.6nm,0.8s,baz=231,slow=10,SNR=3.4							
PLCA				LR	LR	13 28 54.6	
comp=Z,100nm,19.0s,baz=238,slow=31							
PLCA	**Paso Flores**	**56.25**	**114**	P	**P**	**13 09 23.9**	**-0.3**
PLCA				IAmb	IAmb	13 09 31.2	
comp=Z,3.7nm,1.1s							
AS31	**Alice Springs**	**56.45**	**284**	P	**P**	**13 09 26.0**	**+0.2**
ASAR	**Alice Springs**	**56.45**	**284**	P	**P**	**13 09 24.8**	**-1.0**
comp=Z,1.6nm,0.8s,baz=154,slow=6.9,SNR=11							
ASAR				LR	LR	13 29 55.8	
comp=Z,172nm,22.0s,baz=158,slow=32							
ASAR	**Alice Springs**	**56.45**	**284**	P	**P**	**13 09 25.9**	**+0.1**
GO06	**Curarrehue**	**56.82**	**113**	P	**P**	**13 09 28.5**	**+0.2**
GO06				IAmb	IAmb	13 09 33.3	
comp=Z,6.9nm,1.1s							
WR0	**Warramunga Arr**	**59.41**	**287**	P	**P**	**13 09 46.0**	**-0.6**
WRA	**Warramunga Arr**	**59.52**	**286**	P	**P**	**13 09 46.0**	**-1.3**
comp=Z,3.2nm,0.9s,baz=156,slow=6.1,SNR=7.9							
WRA				LR	LR	13 33 16.0	
comp=Z,130nm,18.2s,baz=145,slow=34							
WRA	**Warramunga Arr**	**59.52**	**286**	P	**P**	**13 09 48.5**	**+1.2**
WRAB	**Tennant Creek**	**59.52**	**286**	P	**P**	**13 09 48.3**	**+1.0**
WRAB				IAmb	IAmb	13 09 55.0	
comp=Z,7.3nm,1.1s							
CPUP	**Villa Florida**	**74.17**	**117**	P	**P**	**13 11 20.2**	**-0.3**
comp=Z,1.3nm,0.6s,baz=203,slow=8.3,SNR=3.1							
CPUP	**Villa Florida**	**74.17**	**117**	P	**P**	**13 11 20.6**	**+0.1**
LPAZ	**La Paz**	**78.39**	**103**	P	**P**	**13 11 46.2**	**+0.8**
comp=Z,2.9nm,1.1s,baz=221,slow=6.6,SNR=6.2							
LPAZ				LR	LR	13 41 08.2	
comp=Z,19nm,18.1s,baz=206,slow=32							
LPAZ	**La Paz**	**78.39**	**103**	P	**P**	**13 11 46.2**	**+0.8**
LPAZ				IAmb	IAmb	13 11 52.3	
comp=Z,10nm,1.3s							
ATAH	**Atahualpa**	**81.77**	**90**	LR	LR	13 41 08.3	
comp=Z,78nm,21.1s,baz=241,slow=30							
ROSC	**El Rosal**	**94.21**	**88**	LR	LR	13 47 49.5	
comp=Z,115nm,18.4s,baz=146,slow=31							
CMIG	**Matias Romero**	**96.00**	**64**	LR	LR	13 48 26.7	
comp=Z,1μm,21.6s,baz=320,slow=30							
SDV	**Santo Domingo**	**99.46**	**89**	LR	LR	13 52 18.2	
comp=Z,81nm,19.0s,baz=242,slow=32							
MVL	**Millersville**	**123.76**	**67**		**PKiKP**	**13 18 42.4**	**+1.2**
ILAR	**Eielson Array**	**127.98**	**9**	PKP	**PKPdf**	**13 18 48.4**	**+0.1**
comp=Z,0.3nm,0.8s,baz=229,slow=1.9,SNR=3.1							
KURK	**Kurchatov**	**145.01**	**280**		**PKPbc**	**13 19 19.1**	**-0.3**
BVAR	**Borovoye Array**	**150.32**	**276**	PKPbc	**PKiKP**	**13 19 34.6**	**-0.3**
comp=Z,1.2nm,0.6s,baz=132,slow=2.2,SNR=5.0							
BRTR	**Keskin Array B**	**154.47**	**213**	PKPbc	**PKPbc**	**13 19 43.7**	**-0.3**
comp=Z,0.6nm,0.6s,baz=151,slow=5.4,SNR=3.7							
BRTR	**Keskin Array B**	**154.47**	**213**		**PKPdf**	**13 19 33.8**	**-1.8**
BRTR				PKPbc	**PKiKP**	**13 19 44.2**	**+0.2**
BRTR				PKPab	**PKPab**	**13 19 57.7**	**-0.7**

*SOME **20** 13:23:38.3, 40°.42N×77°.20E, h10km*
*KRNET **20** 13:23:40.0±0.1, 40°.53N×77°.18E, h18km, mb2.6*
*NNC **20** 13:23:41.3±1.2, 40°.55N×77°.25E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=8.2km s-min=5.6km az=175.0*

ISC 20 13:23:39.9±2.7, 40°.5N±0°.1×77°.07E±0°.04, h2km±14km, n25, σ0s95/38, 16C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.24**	**320**	⇑*i*P	**Pn**	**13 24 04.5**	**-0.1**
baz=15							
NRN				⇑*i*S	**Sn**	**13 24 22.3**	**+0.2**
baz=15							
KDJ	**Kajisay**	**1.64**	**3**	⇑*i*P	**Pb**	**13 24 09.9**	**-1.1**
baz=0.0							
KDJ				⇑*i*S	**Sg**	**13 24 32.3**	**-0.2**
baz=0.0							
ULHL	**Ulahol**	**1.86**	**341**	⇑*i*P	**Pb**	**13 24 14.8**	**+0.1**
baz=38							
ULHL				⇑*i*S	**Sg**	**13 24 39.9**	**+0.3**
baz=38							
KZA	**Kyzart**	**2.09**	**320**	⇑*i*P	**Pg**	**13 24 19.9**	**-0.1**
baz=17							
KZA				⇑*i*S	**Sg**	**13 24 48.3**	**+1.1**
baz=17							
BOOM	**Boomskoye usch**	**2.17**	**337**	⇑*e*P	**Pb**	**13 24 20.0**	**0.0**
baz=35							
BOOM				⇑*i*S	**Sg**	**13 24 49.1**	**-0.4**
baz=35							
TNSS	**Tian-Shan**	**2.54**	**358**	Pg	**Pb**	**13 24 26.5**	**0.0**
4.9nm,0.4s							
TNSS				Lg	Lg	13 25 01.2	
13nm,0.8s							
TNSS	**Tian-Shan**	**2.54**	**358**	*e*P	**Pb**	**13 24 26.9**	**+0.4**
7.9nm,0.5s							
TNSS				*e*S	**Sg**	**13 25 01.6**	**-0.1**
11nm,0.5s							
IZV	**Izvestkoviy**	**2.56**	**353**	Pg	**Pb**	**13 24 27.3**	**+0.5**
3.7nm,0.2s							
IZV				Lg	Lg	13 25 02.5	
13nm,0.3s							
IZV	**Izvestkoviy**	**2.56**	**353**	*e*P	**Pb**	**13 24 27.2**	**+0.5**
1.4nm,0.2s							
IZV				*e*S	**Sg**	**13 25 02.5**	**+0.3**
13nm,0.3s							
TKM2	**Tokmak 2**	**2.66**	**336**	⇓Pg	**Pg**	**13 24 31.4**	**+0.4**
TKM2				⇓Lg	Lg	13 25 06.5	
4.3nm,0.6s							
MDOK	**Medeo**	**2.67**	**360**	⇑Pg	**Pb**	**13 24 27.8**	**-0.7**
MDOK				⇓Lg	Lg	13 25 02.8	
45nm,0.9s							
MDOK	**Medeo**	**2.67**	**360**	Pg	**Pb**	**13 24 28.9**	**+0.4**
4.5nm,0.3s							
MDOK				Lg	Lg	13 25 05.3	
51nm,1.3s							
MDOK	**Medeo**	**2.67**	**360**	*e*P	**Pb**	**13 24 28.9**	**+0.4**
4.5nm,0.3s							
MDOK				*e*S	**Sg**	**13 25 05.3**	**-0.4**
15nm,0.5s							
KST	**Kastek**	**2.68**	**342**	Pg	**Pb**	**13 24 29.8**	**+1.1**
8.7nm,0.6s							
KST				Lg	Lg	13 25 06.8	
32nm,2.0s							
KST	**Kastek**	**2.68**	**342**	*e*P	**Pb**	**13 24 29.8**	**+1.1**
8.7nm,0.6s							
KST				*e*S	**Sg**	**13 25 06.8**	**+0.9**
32nm,2.0s							
KBK	**Karagaybulak**	**2.68**	**324**	⇑*i*P	**Pb**	**13 24 27.5**	**-1.3**
baz=23							
KBK				⇑*i*S	**Sb**	**13 25 01.4**	**-0.8**
baz=23							
AAK	**Ala-Archa**	**2.88**	**319**	⇑Pg	**Pg**	**13 24 35.3**	**+0.1**
7.2nm,0.8s							
AAK				⇑Lg	Lg	13 25 14.2	
20nm,1.2s							
SHLS	**Shalkode**	**3.21**	**33**	Pg	**Pg**	**13 24 40.6**	**-0.7**
1.0nm,0.1s							
SHLS				Lg	Lg	13 25 25.5	
7.4nm,0.2s							
SHLS	**Shalkode**	**3.21**	**33**	*e*P	**Pg**	**13 24 40.6**	**-0.7**
1.0nm,0.1s							
SHLS				*e*S	**Sg**	**13 25 25.5**	**+2.5**
7.4nm,0.2s							
CHKK	**Chushkaly**	**3.36**	**359**	Pg	**Pb**	**13 24 41.2**	**+1.0**
2.2nm,0.3s							
CHKK				Lg	Lg	13 25 26.6	
10.0nm,0.2s							
CHKK	**Chushkaly**	**3.36**	**359**	*e*P	**Pb**	**13 24 41.2**	**+1.0**
2.2nm,0.3s							
CHKK				*e*S	**Sg**	**13 25 26.6**	**-1.2**
10.0nm,0.2s							
PDGK	**Podgornoye**	**3.36**	**32**	⇓Pg	**Pb**	**13 24 40.8**	**+0.5**
PDGK				⇑Lg	Lg	13 25 23.2	
23nm,1.2s							
SGDS	**Sogindy**	**3.47**	**329**	Pg	**Pb**	**13 24 43.6**	**+1.5**
4.4nm,0.7s							
SGDS				Lg	Lg	13 25 30.6	
6.1nm,0.8s							
MRKS	**Merke**	**3.65**	**309**	Pg	**Pg**	**13 24 48.6**	**-1.4**
1.8nm,0.2s							
MRKS				Lg	Lg	13 25 39.1	
3.2nm,0.4s							
MRKS	**Merke**	**3.65**	**309**	*e*P	**Pg**	**13 24 48.6**	**-1.4**
1.8nm,0.2s							
MRKS				*e*S	**Sg**	**13 25 39.1**	**+1.9**
3.2nm,0.4s							

*ISCJB **20** 13:38:06.2±1.0, 13°.48N±0°.09×92°.94W±0°.07, h33km, Error ellipse: s-maj=14.4km s-min=8.2km az=27.3*
*NEIC **20** 13:38:07.1±1.6, 13°.59N±0°.10×92°.95W±0°.08, h22km±12km, mb4.4/4*
*IDC **20** 13:38:09.4±3.0, 13°.97N×92°.79W, h0km, mb3.6/3, mb1 3.9/7, mb1mx3.7/45, mbtmp3.6/7, ML3.3/4, MS2.3/1, Ms1 2.3/1, ms1mx2.2/37, Error ellipse: s-maj=59.6km s-min=24.8km az=0.0*

ISC 20 13:38:10.9±1.1, 13°.7N±0°.1×92°.81W±0°.09, h35km, n20, σ1s82/21, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.63**	**59**	Pn	**Pn**	**13 38 51.2**	**+0.1**
3.0nm,0.3s,baz=250,slow=5.8,SNR=42							
APG				Sn	**Sn**	**13 39 24.8**	**+2.8**
6.9nm,0.3s,baz=334,slow=18,SNR=3.8							
APG				LR	LR	13 40 01.8	
comp=Z,64nm,20.1s,baz=160,slow=46							
CCIG	**Comitan**	**2.69**	**14**		**Pn**	**13 38 51.4**	**-0.4**
SNET	**Serv Nac Est T**	**3.47**	**89**	Pn	**Pn**	**13 39 01.9**	**-0.6**
CMIG	**Matias Romero**	**3.96**	**330**	Pn	**Pn**	**13 39 06.4**	**-2.8**
1.4nm,0.3s,baz=136,slow=12,SNR=12							
TEIG	**Tepich**	**7.83**	**33**	Pn	**Pn**	**13 40 00.3**	**-2.1**
2.0nm,0.3s,baz=338,slow=0.1,SNR=11							
TEIG	**Tepich**	**7.83**	**33**		**Pn**	**13 39 59.9**	**-2.5**
JTS	**Las Juntas de**	**8.38**	**113**	Pn	**Pn**	**13 40 09.5**	**-0.5**
ESPN	**Las Esperanzas**	**8.42**	**99**	Pn	**Pn**	**13 40 10.1**	**-0.3**
HDC	**Heredia**	**9.25**	**112**	Pn	**Pn**	**13 40 20.6**	**-1.4**
CBCY	**The Bluff, Cay**	**13.88**	**62**	Pn	**Pn**	**13 41 23.8**	**-1.4**
TXAR	**Lajitas Array**	**18.56**	**329**	P	**Pn**	**13 42 25.9**	**+0.6**
0.0nm,0.3s,baz=156,slow=14,SNR=5.4							
255A	**Hazlehurst**	**20.50**	**26**	P	**P**	**13 42 44.3**	**-1.7**
JSC	**Jenkinsville**	**23.04**	**25**	P	**P**	**13 43 12.3**	**-0.8**
JSC				IAmb	IAmb	13 43 42.4	
comp=Z,18nm,1.4s							
Q51A	**Peebles**	**26.61**	**17**	P	**P**	**13 43 44.9**	**-1.2**
MPU	**Maple Canyon**	**31.03**	**331**	P	**P**	**13 44 23.1**	**-2.5**
NVAR	**Mina Array Bea**	**33.45**	**322**	P	**P**	**13 44 48.6**	**+1.7**
comp=Z,2.0nm,0.5s,baz=131,slow=7.6,SNR=4.4							
NVAR	**Mina Array Bea**	**33.45**	**322**	P	**P**	**13 44 48.2**	**+1.4**
YKA	**Yellowknife Ar**	**51.18**	**347**	P	**P**	**13 47 10.7**	**+0.3**
comp=Z,1.3nm,0.7s,baz=147,slow=6.9,SNR=5.2							
ILAR	**Eielson Array**	**62.84**	**337**	P	**P**	**13 48 36.4**	**+3.5**
comp=Z,0.4nm,0.8s,baz=113,slow=7.0,SNR=3.9							
CMAR	**Chiang Mai Arr**	**146.05**	**340**	PKPbc	**PKPab**	**13 57 49.3**	**+0.7**
comp=Z,0.8nm,0.8s,baz=356,slow=3.7,SNR=5.8							

*ISCJB **20** 13:45:23.6±0.4, 19°.07S±0°.06×169°.52E±0°.06, h246km, mb3.8/7, Error ellipse: s-maj=8.8km s-min=7.3km az=151.2*
*NEIC **20** 13:45:27.3±1.5, 19°.1S±0°.1×169°.6E±0°.1, h273km±9km, mb4.7/26*
*IDC **20** 13:45:28.3±2.4, 19°.16S×169°.57E, h281km±25km, mb3.5/8, mb1 3.7/10, mb1mx3.4/43, mbtmp4.3/10, Error ellipse: s-maj=21.0km s-min=16.8km az=14.0*

ISC 20 13:45:25.3±0.6, 19°.05S±0°.09×169°.59E±0°.08, h246km, n48, σ1s29/47, mb4.6/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.21**	**224**	P	**Pn**	**13 46 34.6**	**+3.1**
10nm,0.3s,baz=54,slow=4.9,SNR=100							
DZM	**Mont Dzumac**	**4.21**	**224**		**Pn**	**13 46 34.2**	**+2.7**
MSVF	**Nonsavu**	**8.14**	**82**	Pn	**Pn**	**13 47 23.3**	**+2.7**
HNR	**Honiara**	**13.36**	**314**	P	**P**	**13 48 29.0**	**+1.6**
5.4nm,0.3s,baz=204,slow=4.2,SNR=14							
HNR	**Honiara**	**13.36**	**314**	P	**P**	**13 48 28.5**	**+1.1**
FUNA	**Funafuti**	**14.01**	**43**	P	**Pn**	**13 48 34.3**	**+0.4**
OUZ	**Omahuta**	**16.49**	**168**	P	**Pn**	**13 49 01.5**	**-1.8**
OUZ				IAmb	IAmb	13 49 08.2	
comp=Z,54nm,1.3s							
HIZ	**Hauiti**	**19.93**	**168**	P	**P**	**13 49 39.6**	**+0.9**
HIZ				IAmb	IAmb	13 49 44.6	
comp=Z,75nm,1.7s							
MXZ	**Matakaoa Point**	**19.96**	**159**	P	**P**	**13 49 39.1**	**+0.1**
URZ	**Urewera**	**20.23**	**163**	P	**P**	**13 49 41.9**	**-0.2**
comp=Z,7.6nm,0.6s,baz=282,slow=4.8,SNR=11							
URZ	**Urewera**	**20.23**	**163**	P	**P**	**13 49 41.8**	**-0.2**
BKZ	**Black Stump Fm**	**20.92**	**165**	P	**P**	**13 49 48.8**	**-0.6**
BKZ				IAmb	IAmb	13 49 49.2	
comp=Z,44nm,1.7s							
QRZ	**Quartz Range**	**21.85**	**174**	P	**P**	**13 49 59.0**	**+0.9**
QRZ				IAmb	IAmb	13 50 46.6	
comp=Z,38nm,1.4s							
CTA	**Charters Tower**	**22.01**	**263**	P	**P**	**13 50 00.6**	**+0.7**
comp=Z,0.9nm,0.5s,baz=92,slow=8.8,SNR=7.8							
BFZ	**Birch Farm**	**22.30**	**167**	P	**P**	**13 50 01.6**	**-0.8**
NNZ	**Nelson**	**22.33**	**172**	P	**P**	**13 50 02.3**	**-0.3**
NNZ				IAmb	IAmb	13 50 08.6	
comp=Z,20nm,1.0s							
TUWZ	**Tuamarina**	**22.61**	**171**	P	**P**	**13 50 04.3**	**-0.8**
SNZO	**South Karori**	**22.62**	**170**	P	**P**	**13 50 04.0**	**-1.1**
BHW	**Baring Head**	**22.74**	**170**	P	**P**	**13 50 04.8**	**-1.4**
MSWZ	**Moikau Station**	**22.81**	**169**	P	**P**	**13 50 05.4**	**-1.5**
THZ	**Tophouse**	**22.82**	**174**	P	**P**	**13 50 06.4**	**-0.7**
PLWZ	**Palliser**	**22.96**	**169**	P	**P**	**13 50 06.5**	**-1.9**
KHZ	**Kahutara**	**23.53**	**173**	P	**P**	**13 50 10.6**	**-2.8**
KHZ				IAmb	IAmb	13 50 43.0	
comp=Z,37nm,1.3s							
LTZ	**Lake Taylor**	**23.77**	**175**	P	**P**	**13 50 14.3**	**-1.4**
LTZ				IAmb	IAmb	13 50 28.1	
comp=Z,41nm,1.5s							
FOZ	**Fox Glacier**	**24.41**	**180**	P	**P**	**13 50 21.4**	**0.0**
FOZ				IAmb	IAmb	13 50 25.9	
comp=Z,36nm,1.4s							
KNTN	**Kanton**	**24.42**	**51**	P	**P**	**13 50 20.5**	**-1.3**
RPZ	**Rata Peaks**	**24.62**	**177**	P	**P**	**13 50 23.2**	**-0.2**
RPZ				IAmb	IAmb	13 50 31.9	
comp=Z,38nm,1.6s							
LBZ	**Lake Benmore**	**25.27**	**179**	P	**P**	**13 50 28.2**	**-0.9**
WR0	**Warramunga Arr**	**33.01**	**262**	P	**P**	**13 51 36.8**	**-1.0**
WB0	**Warramunga Arr**	**33.16**	**263**	P	**P**	**13 51 38.2**	**-0.9**
WB2	**Warramunga Arr**	**33.19**	**263**	P	**P**	**13 51 38.4**	**-1.0**
WRA	**Warramunga Arr**	**33.20**	**263**	P	**P**	**13 51 38.5**	**-0.9**
comp=Z,0.5nm,0.3s,baz=81,slow=5.9,SNR=17							
WRA	**Warramunga Arr**	**33.20**	**263**	P	**P**	**13 51 38.5**	**-0.9**
AS31	**Alice Springs**	**33.49**	**256**	P	**P**	**13 51 41.4**	**-0.5**
ASAR	**Alice Springs**	**33.49**	**256**	P	**P**	**13 51 41.6**	**-0.3**
comp=Z,3.4nm,0.5s,baz=82,slow=9.2,SNR=54							
ASAR	**Alice Springs**	**33.49**	**256**	P	**P**	**13 51 41.5**	**-0.5**
MTN	**Manton Dam**	**37.43**	**274**	P	**P**	**13 52 15.4**	**0.0**
MTN				IAmb	IAmb	13 52 42.4	
comp=Z,27nm,1.4s							
KNRA	**Kununurra**	**39.05**	**268**	P	**P**	**13 52 28.5**	**-0.3**
KNRA				IAmb	IAmb	13 53 52.2	
comp=Z,50nm,1.7s							
PSA00	**Pilbara Seismi**	**46.56**	**258**	P	**P**	**13 53 28.5**	**-0.4**
GIRL	**Giralia**	**51.61**	**256**	P	**P**	**13 54 05.2**	**-2.0**
PETK	**Petropavlovsk-**	**72.59**	**353**	P	**P**	**13 56 26.0**	**+0.5**
comp=Z,4.8nm,0.8s,baz=128,slow=5.1,SNR=11							
PETK	**Petropavlovsk-**	**72.59**	**353**	P	**P**	**13 56 25.5**	**0.0**
YBH	**Yreka Blue Hor**	**86.94**	**44**	P	**P**	**13 57 42.8**	**+0.1**
comp=Z,1.9nm,1.1s,baz=216,slow=3.1,SNR=3.2							
YBH	**Yreka Blue Hor**	**86.94**	**44**	IAmb	IAmb	14 00 10.9	
comp=Z,24nm,1.8s							
NVAR	**Mina Array Bea**	**88.43**	**48**	P	**P**	**13 57 49.9**	**-0.1**
comp=Z,1.1nm,0.8s,baz=226,slow=7.5,SNR=7.5							
NVAR	**Mina Array Bea**	**88.43**	**48**	P	**P**	**13 57 49.5**	**-0.5**
ILAR	**Eielson Array**	**89.95**	**17**	P	**P**	**13 57 53.9**	**-2.3**
comp=Z,0.4nm,0.6s,baz=232,slow=4.9,SNR=5.6							
GERES	**GERESS Array B**	**144.48**	**332**	PKP	**PKPab**	**14 04 30.7**	**-0.8**
comp=Z,0.7nm,0.5s,baz=21,slow=4.2,SNR=4.5							

*ISCJB **20** 13:52:10.2±0.4, 2°.35S±0°.09×12°.3W±0°.1, h10km, mb4.5/6, MS4.1/20, Error ellipse: s-maj=23.3km s-min=5.6km az=30.2*
*NEIC **20** 13:52:13.5±1.4, 2°.0S±0°.1×12°.7W±0°.1, h10km±1km, mb4.6/10*
*IDC **20** 13:52:13.3±1.9, 2°.22S×12°.32W, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.0/50, mbtmp4.5/7, ML3.9/1, MS3.9/19, Ms1 3.9/19, ms1mx3.7/38, Error ellipse: s-maj=116.3km s-min=21.1km az=112.0*
*GCMT **20** 13:52:15.5±0.3, 1°.85S±0°.03×12°.51W±0°.03, h23km±1km, MW4.9/72, Moment Tensor Solution. s23,c25; s72,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.52±.25; Mθθ1.33±.19; Mφφ0.19±.17; Mrθ1.01±.24; Mrφ-2.02±.10; Mθφ-1.24±.25; Best double couple: M0 2.76500×10^16^ NP1:φs326.00000°, δ66.00000°, λ-66.00000°. NP2: φs99.00000°, δ33.00000°, λ-133.00000°. Principal axes: T 3.3590, Plg18.0000°, Azm39.0000°; N -1.1820, Plg22.0000°, Azm136.0000°; P -2.1710, Plg61.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 13:52:13.0±0.6, 2°.2S±0°.1×12°.6W±0°.1, h10km, n55, σ1s73/36, mb4.6/7, MS4.0/20, North of Ascension Island

| Code |

SAML	**Samuel**	**50.80**	**260**	P	**P**	**14 01 13.9**	**-0.2**
GERES	**GERESS Array B**	**55.66**	**21**	P	**P**	**14 01 50.4**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=191,slow=6.5,SNR=6.6						
GERES				LR	LR	14 26 31.2	
	comp=Z,142nm,18.5s,baz=263,slow=37						
GERES	**GERESS Array B**	**55.66**	**21**	P	**P**	**14 01 49.6**	**+0.1**
VRAC	**Vranov**	**57.10**	**22**	LR	LR	14 27 29.2	
	comp=Z,154nm,18.5s,baz=186,slow=37						
MLR	**Muntele Rosu**	**58.42**	**31**	LR	LR	14 28 34.1	
	comp=Z,222nm,18.9s,baz=235,slow=37						
BRTR	**Keskin Array B**	**59.35**	**40**	P	**P**	**14 02 18.2**	**+2.5**
	comp=Z,1.2nm,0.9s,baz=226,slow=5.0,SNR=7.3						
BRTR				LR	LR	14 30 17.7	
	comp=Z,49nm,19.9s,baz=226,slow=39						
BRTR	**Keskin Array B**	**59.35**	**40**	P	**P**	**14 02 14.8**	**-0.9**
BR131	**Keskin Array S**	**59.35**	**40**	P	**P**	**14 02 17.2**	**+1.5**
BR131				IAmb	IAmb	14 03 08.6	
	comp=Z,6.5nm,1.3s						
PB10	**IPOC Station P**	**59.94**	**244**	P	**P**	**14 02 20.4**	**+0.4**
GNI	**Garni**	**67.05**	**44**	LR	LR	14 35 33.1	
	comp=Z,71nm,18.6s,baz=236,slow=39						
KBZ	**Khabaz**	**67.34**	**40**	P	**P**	**14 03 10.2**	**+1.8**
	comp=Z,6.3nm,1.1s,baz=241,slow=8.6,SNR=3.8						
KBZ				LR	LR	14 34 39.5	
	comp=Z,66nm,19.3s,baz=207,slow=38						
VNA2	**Neumayer--Watz**	**68.76**	**178**	P	**P**	**14 03 18.4**	**+1.6**
	baz=345,slow=9.0						
VNA3	**Neumayer Olymp**	**69.02**	**179**	P	**P**	**14 03 19.6**	**+1.1**
SNAA	**Sanae**	**69.70**	**177**	P	**P**	**14 03 24.2**	**+1.5**
SNAA	**Sanae**	**69.70**	**177**	P	**P**	**14 03 24.0**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=322,slow=7.0,SNR=6.6						
SNAA	**Sanae**	**69.70**	**177**	IAmb	IAmb	14 04 29.6	
	comp=Z,6.5nm,1.4s						
FINES	**FINESS Array B**	**69.97**	**19**	LR	LR	14 36 25.0	
	comp=Z,159nm,19.8s,baz=285,slow=38						
GEYT	**Alibeck**	**76.18**	**50**	LR	LR	14 39 33.0	
	comp=Z,72nm,19.7s,baz=335,slow=37						
KIRV	**Kirov**	**77.62**	**28**	LR	LR	14 39 48.1	
	comp=Z,129nm,20.6s,baz=241,slow=37						
QSPA	**South Pole Qui**	**87.94**	**180**	P	**P**	**14 05 04.4**	**+1.4**
	comp=Z,8.3nm,1.0s,baz=220,slow=2.0,SNR=16						
QSPA	**South Pole Qui**	**87.94**	**180**	P	**P**	**14 05 04.5**	**+1.5**
KSH	**Kashi**	**90.21**	**51**	P	**P**	**14 05 13.4**	**-0.9**
KSH				PP	**PP**	**14 08 49.3**	**+1.3**
KSH	**Kashi**	**90.21**	**51**	S	**S**	**14 16 02.9**	**-5.8**
KSH	**Kashi**	**90.21**	**51**	sS	sS	14 16 11.0	-1.2
KSH	**Kashi**	**90.21**	**51**	SS	SS	14 22 02.8	-5.2
KSH				pmax	pmax		
	comp=Z,450nm,5.5s						
KSH				LR	LR		
	comp=N,940nm,12.2s						
KSH				LR	LR		
	comp=E,650nm,12.1s						
KSH				LR	LR		
	comp=Z,220nm,8.3s						
PD31	**Pinedale Array**	**96.60**	**313**	P	**P**	**14 05 43.9**	**+0.1**
PDAR	**Pinedale Array**	**96.60**	**313**	P	**P**	**14 05 43.7**	**-0.1**
WMQ	**Urumqi**	**98.88**	**46**	*e*P	Pdif	14 05 55.8	+2.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,84nm,4.7s						
WMQ				LR	LR		
	comp=N,640nm,29.1s						
WMQ				LR	LR		
	comp=E,1μm,28.9s						
WMQ				LR	LR		
	comp=Z,140nm,28.9s						
ASAR	**Alice Springs**	**138.49**	**130**	PKP	**PKPdf**	**14 11 41.0**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=224,slow=3.3,SNR=4.9						

ISCJB ***20*** *13:53:32.0±1.2, 14°.9N±0°.1×92°.81W±0°.08, h70km±7km, mb3.6/2, Error ellipse: s-maj=21.7km s-min=7.6km az=30.7*
MEX ***20*** *13:53:33.4±0.7, 14°.77N×92°.95W, h58km±11km, MD3.8*
IDC ***20*** *13:53:36.0±2.5, 15°.27N×92°.71W, h67km±26km, mb3.3/2, mb1 3.7/6, mb1mx3.4/45, mbtmp3.6/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/23, Error ellipse: s-maj=33.5km s-min=22.6km az=179.0*

ISC 20 13:53:33.5±1.3, 14°.93N±0°.09×92°.79W±0°.06, h67km±10km, n12, σ2§17/18, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.51**	**93**	*e*P	**Pn**	**13 53 46.0**	**-0.2**
THIG				*e*S	**Sn**	**13 53 54.9**	**-0.5**
PCIG		**0.87**	**332**	*e*P	**Pn**	**13 53 49.9**	**-0.5**
PCIG				*e*S	**Sn**	**13 54 01.9**	**-0.8**
CCIG	**Comitan**	**1.48**	**25**	*e*P	**Pn**	**13 53 59.5**	**+1.1**
CCIG				*i* S	**Sn**	**13 54 20.1**	**+3.0**
TGIG		**1.86**	**350**	*e*P	**Pn**	**13 54 02.8**	**-0.6**
TGIG				*i* S	**Sn**	**13 54 27.5**	**+1.4**
APG	**El Apazote**	**2.25**	**88**	P	**Pn**	**13 54 10.6**	**+1.9**
	6.7nm,0.3s,baz=337,slow=15,SNR=18						
APG				S	**Sn**	**13 54 32.1**	**-3.5**
	8.2nm,0.3s,baz=358,slow=19,SNR=5.7						
CMIG	**Matias Romero**	**2.94**	**317**	P	**Pn**	**13 54 17.4**	**-0.6**
	1.7nm,0.3s,baz=143,slow=13,SNR=28						
CMIG	**Matias Romero**	**2.94**	**317**	*i* P	**Pn**	**13 54 16.6**	**-1.4**
CMIG				*i* S	**Sn**	**13 54 50.6**	**-1.7**
TEIG	**Tepich**	**6.80**	**39**	P	**Pn**	**13 55 09.5**	**-1.2**
	8.6nm,0.3s,baz=316,slow=1.2,SNR=29						
TEIG				S	**Sn**	**13 56 21.6**	**-5.1**
	5.2nm,0.3s,baz=139,slow=23,SNR=7.2						
TXAR	**Lajitas Array**	**17.50**	**327**	P	**Pn**	**13 57 34.3**	**+1.1**
	0.0nm,0.3s,baz=157,slow=12,SNR=6.9						
ATAH	**Atahualpa**	**26.16**	**146**	LR	LR	14 07 50.6	
	comp=Z,36nm,20.4s,baz=256,slow=32						
NVAR	**Mina Array Bea**	**32.47**	**321**	P	**P**	**13 59 59.4**	**+1.6**
	0.5nm,0.6s,baz=130,slow=9.1,SNR=5.6						
ILAR	**Eielson Array**	**61.69**	**337**	P	**P**	**14 03 44.0**	**-0.3**
	0.6nm,0.7s,baz=146,slow=4.6,SNR=4.2						

NIED ***20*** *13:54:00, 41°.40N×138°.60E, h280km, Mw4.3 Best double couple: M0=3.54000×10^15 NP1:φ=169.00000°, δ=16.00000°, λ=154.00000°. NP2:φ=285.00000°, δ=83.00000°, λ=76.00000°.*
BJI ***20*** *13:54:17.4±0.0, 41°.42N×138°.77E, h239km, mb4.4/21, mB4.7/16*
ISCJB ***20*** *13:54:21.3±0.2, 41°.49N±0°.02×138°.43E±0°.03, h245km±2km, mb4.2/47, Error ellipse: s-maj=4.7km s-min=2.9km az=135.2*
MOS ***20*** *13:54:21.1±0.8, 41°.48N×138°.43E, h246km, mb4.3/16, Error ellipse: s-maj=7.2km s-min=5.7km az=87.9*
IDC ***20*** *13:54:22.8±1.1, 41°.47N×138°.37E, h246km±10km, mb3.6/20, mb1 3.8/26, mb1mx3.7/45, mbtmp4.2/26, Error ellipse: s-maj=11.5km s-min=9.2km az=108.0*
NEIC ***20*** *13:54:22.4±1.6, 41°.49N±0°.07×138°.41E±0°.03, h239km±7km, mb4.4/68*
JMA ***20*** *13:54:22.3±0.1, 41°.44N×138°.58E, h252km±2km, M4.2*

ISC 20 13:54:22.2±0.5, 41°.49N±0°.04×138°.51E±0°.05, h245km±4km, n213, σ1§25/244, mb4.2/66, 14C-10D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.93**	**50**	⇑P	**Pn**	**13 54 56.9**	**+0.6**
JOSM				S	**S**	**13 55 23.6**	**+0.5**
JOMM	**Oshimamatsumae**	**1.12**	**88**	⇑P	**Pn**	**13 54 58.1**	**+0.7**
JOMM				S	**S**	**13 55 25.6**	**+0.5**
JHST	**Hiyamasetana**	**1.38**	**47**	⇑P	**Pn**	**13 55 00.2**	**+1.1**
JSR	**Shiriuchi**	**1.43**	**88**	⇑P	**Pn**	**13 55 00.3**	**+0.8**
JSR				*e*S	**S**	**13 55 29.7**	**+0.9**
JIW	**Iwasaki**	**1.45**	**128**	⇓P	**Pn**	**13 55 00.1**	**+0.4**
JIW				S	**S**	**13 55 29.4**	**+0.3**
JOT	**Ohata**	**1.91**	**92**	⇑P	**Pn**	**13 55 03.7**	**+0.2**
JKB	**Kayabe**	**1.93**	**77**	P	**Pn**	**13 55 04.1**	**+0.5**
JKB				*e*S	**S**	**13 55 36.5**	**+0.3**
JSK	**Shakotan**	**2.36**	**37**	⇑P	**Pn**	**13 55 08.9**	**+1.3**
JANG	**Nango**	**2.54**	**115**	P	**Pn**	**13 55 09.0**	**-0.5**
JANG				*e*S	**S**	**13 55 45.3**	**-1.5**
JEW	**Eniwo**	**2.57**	**57**	P	**Pn**	**13 55 11.2**	**+1.4**
JOM	**Ohasama**	**2.93**	**133**	P	**Pn**	**13 55 13.0**	**-0.7**
JYK	**Kaneyama**	**2.94**	**151**	⇓P	**Pn**	**13 55 13.6**	**-0.2**
JYK				*e*S	**S**	**13 55 54.5**	**+0.1**
JAW	**Awa shima**	**3.08**	**169**	P	**Pn**	**13 55 15.5**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.26**	**75**	⇑P	**Pn**	**13 55 17.5**	**+0.2**
JNBK				*e*S	**S**	**13 56 00.0**	**-0.8**
JHR	**Hokuryu**	**3.27**	**45**	⇑P	**Pn**	**13 55 19.0**	**+1.7**
JMK	**Ichinoseki**	**3.28**	**140**	⇓P	**Pn**	**13 55 16.6**	**-0.9**
JMK				*e*S	**S**	**13 55 59.3**	**-1.9**
JSD	**Sado**	**3.46**	**183**	⇓P	**Pn**	**13 55 19.7**	**+0.1**
JFR	**Furan**	**3.46**	**60**	P	**Pn**	**13 55 19.6**	**+0.1**
JFR				*e*S	**S**	**13 56 04.9**	**+0.1**
ERM	**Erimo**	**3.52**	**80**	*c i* P	**Pn**	**13 55 20.4**	**+0.3**
ERM	**Erimo**	**3.52**	**80**		**Pn**	**13 55 20.3**	**+0.2**
JNS	**Sasagawa**	**3.72**	**170**	P	**Pn**	**13 55 22.6**	**0.0**
JCH	**Churui**	**3.78**	**71**	⇑P	**Pn**	**13 55 23.4**	**+0.2**
JCH				S	**S**	**13 56 09.1**	**-2.4**
TEY	**Ternei**	**3.81**	**339**	⇓*i* P	**Pn**	**13 55 24.0**	**+0.6**
TEY				pmax	pmax		
	comp=Z,800nm,0.6s						
TEY				pmax	pmax		
	comp=N,400nm,0.5s						
TEY				pmax	pmax		
	comp=Z,600nm,0.5s						
TEY				pmax	pmax		
	comp=E,170nm,0.8s						
TEY				pmax	pmax		
	comp=N,590nm,0.6s						
JKK2	**Kamakawa 2**	**3.93**	**51**	⇑P	**Pn**	**13 55 25.6**	**+0.7**
JKK2				S	**S**	**13 56 13.8**	**-0.8**
ASAJ	**Asahikawa**	**3.99**	**48**	P	**Pn**	**13 55 26.5**	**+0.9**
	comp=N,95nm,0.3s,baz=239,slow=12,SNR=742						
JKA	**Kamikawa-asahi**	**3.99**	**48**		**Pn**	**13 55 26.5**	**+0.9**
JSZ	**Suzu**	**4.13**	**193**	⇓P	**Pn**	**13 55 27.9**	**+0.5**
JFT	**Otama**	**4.21**	**160**	P	**Pn**	**13 55 27.3**	**-1.1**
JAR	**Ashorobuto**	**4.29**	**63**	⇑P	**Pn**	**13 55 28.4**	**-0.8**
JAR				S	**S**	**13 56 19.6**	**-2.8**
MJB9	**Matsu-Tunnel**	**4.95**	**183**		**Pn**	**13 55 37.0**	**-0.3**
MAJO	**Matsushiro**	**4.95**	**183**	*d i* P	**Pn**	**13 55 37.0**	**-0.3**
MAJO	**Matsushiro**	**4.95**	**183**		**Pn**	**13 55 36.9**	**-0.5**
MAT	**Matsushiro**	**4.95**	**183**	P	**Pn**	**13 55 36.9**	**-0.4**
MAT				S	**S**	**13 56 37.3**	**+0.3**
MJAR	**Matsushiro Arr**	**4.95**	**183**	P	**Pn**	**13 55 37.4**	**+0.1**
	comp=N,3.1nm,0.3s,baz=4.6,slow=12,SNR=169						
MJAR	**Matsushiro Arr**	**4.95**	**183**		**Pn**	**13 55 36.9**	**-0.4**
VLA	**Vladivostok**	**5.17**	**291**	*i* P	**Pn**	**13 55 38.1**	**-1.8**
USA0B	**Ussuriysk Arra**	**5.50**	**302**	P	**Pn**	**13 55 43.3**	**-0.7**
USA0B	**Ussuriysk Arra**	**5.50**	**302**		**Pn**	**13 55 43.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**5.50**	**302**	P	**Pn**	**13 55 43.8**	**-0.2**
	baz=106,slow=12,SNR=86						
USRK	**Ussuriysk Ar.**	**5.50**	**302**		**Pn**	**13 55 43.1**	**-0.9**
GLVR	**Golovnino**	**5.64**	**64**	*e*P	**Pn**	**13 55 45.9**	**+0.3**
GLVR				*e*S	**S**	**13 56 48.5**	**-3.7**
GLVR				smax	smax		
	comp=N,344nm,0.4s						
GLVR				smax	smax		
	comp=E,314nm,0.4s						
NMR	**Nemuro--Hokkai**	**5.66**	**68**	*c i* P	**Pn**	**13 55 44.0**	**-1.9**
NMR				*i* S	**S**	**13 56 46.1**	**-6.6**
GRPR	**Tuman**	**5.90**	**63**	*c i* P	**Pn**	**13 55 50.1**	**+1.2**
GRPR				*e*S	**S**	**13 56 56.2**	**-2.0**
GRPR				pmax	pmax		
	comp=Z,229nm,0.3s						
GRPR				pmax	pmax		
	comp=N,88nm,0.2s						
GRPR				pmax	pmax		
	comp=E,86nm,0.2s						
GRPR				smax	smax		
	comp=N,180nm,0.4s						
GRPR				smax	smax		
	comp=E,293nm,0.4s						
LAGR	**Lagunnoye**	**5.94**	**62**	*e*P	**Pn**	**13 55 48.1**	**-1.2**
LAGR				*i* S	**S**	**13 56 56.8**	**-2.1**
LAGR				pmax	pmax		
	comp=Z,209nm,0.4s						
LAGR				pmax	pmax		
	comp=E,51nm,0.2s						
LAGR				pmax	pmax		
	comp=N,141nm,0.4s						
LAGR				smax	smax		
	comp=N,349nm,0.6s						
LAGR				smax	smax		
	comp=E,108nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.98**	**62**	*e*P	**Pn**	**13 55 50.0**	**+0.1**
YUK				*e*S	**S**	**13 56 57.3**	**-2.6**
YUK				pmax	pmax		
	comp=N,118nm,0.2s						
YUK				pmax	pmax		
	comp=Z,298nm,0.2s						
YUK				pmax	pmax		
	comp=E,123nm,0.3s						
YUK				smax	smax		
	comp=N,222nm,0.3s						
YUK				smax	smax		
	comp=E,140nm,0.5s						
INU	**Inuyama**	**6.25**	**191**		**Pn**	**13 55 53.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**6.25**	**28**	⇓*i* P	**Pn**	**13 55 54.4**	**+1.1**
YSS				*i* S	**S**	**13 57 03.8**	**-2.3**
YSS				pmax	pmax		
	comp=Z,40nm,0.4s						
YSS				smax	smax		
	comp=N,80nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.25**	**28**		**Pn**	**13 55 53.5**	**+0.3**
KUR	**Kuril'sk**	**7.78**	**58**	*e*P	**Pn**	**13 56 12.2**	**-0.3**
KUR				*e*S	**S**	**13 57 40.6**	**-0.6**
KUR				pmax	pmax		
	comp=N,34nm,0.4s						
KUR				pmax	pmax		
	comp=E,24nm,0.4s						
KUR				pmax	pmax		
	comp=Z,83nm,0.4s						
KLR	**Kul'dur**	**9.08**	**331**	P	**Pn**	**13 56 28.2**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=149,slow=9.5,SNR=32						
KSRS	**Korea Array**	**9.12**	**247**	P	**Pn**	**13 56 30.1**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=60,slow=12,SNR=27						
KS19	**Wonju Array Si**	**9.14**	**248**	Pn	**Pn**	**13 56 30.0**	**+0.1**
KSAR	**Wonju Array Be**	**9.16**	**247**	P	**Pn**	**13 56 29.0**	**-1.1**
KSAR	**Wonju Array Be**	**9.16**	**247**	Pn	**Pn**	**13 56 29.0**	**-1.1**
JNU	**Nakatsue**	**10.33**	**218**	P	**Pn**	**13 56 46.4**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=30,slow=8.1,SNR=6.9						
JNU	**Nakatsue**	**10.33**	**218**	Pn	**Pn**	**13 56 45.9**	**+0.8**
ZEA	**Zeya**	**14.39**	**332**	*e*P	**Pn**	**13 57 33.8**	**-1.2**
ZEA				pmax	pmax		
	comp=N,20nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
HIA	**Hailar**	**15.28**	**307**	*i* P	**P**	**13 57 44.1**	**-1.2**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
JOW	**Kunigami**	**16.88**	**213**	P	**P**	**13 58 02.7**	**-0.3**
JOW				IAmb	IAmb	13 58 39.7	
	comp=Z,31nm,1.3s						
BJI	**Beijing**	**16.98**	**272**	P	**P**	**13 58 04.0**	**+0.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MA2	**Magadan**	**19.65**	**19**	P	**P**	**13 58 32.7**	**+0.2**
MA2				pmax	pmax		
	comp=Z,117nm,1.7s						
MA2	**Magadan**	**19.65**	**19**	P	**P**	**13 58 32.7**	**+0.2**
HHC	**Hu-ho-hao-te**	**20.27**	**277**	*e*P	**P**	**13 58 37.5**	**-2.0**
YAK	**Yakutsk**	**21.24**	**348**	*e*P	**P**	**13 58 46.7**	**-2.4**
YAK				*e*S	**S**	**14 02 27.5**	**-0.9**
YAK				*e**SS	sS	14 02 51.8	-46
YAK				pmax	pmax		
	comp=Z,28nm,1.0s						
YAK				pmax	pmax		
	comp=N,13nm,0.9s						
YAK				smax	smax		
	comp=N,267nm,3.7s						
YAK				smax	smax		
	comp=E,300nm,3.6s						
YAK	**Yakutsk**	**21.24**	**348**	P	**P**	**13 58 46.4**	**-2.7**
	comp=E,10nm,0.3s,baz=183,slow=1.2,SNR=21						
YAK	**Yakutsk**	**21.24**	**348**	P	**P**	**13 58 46.8**	**-2.4**
YHNB	**Yeheng**	**22.01**	**226**	P	**P**	**13 58 56.3**	**-0.6**
SEY	**Seymchan**	**22.99**	**16**	*i* P	**P**	**13 59 05.1**	**-0.2**
SEY	**Seymchan**	**22.99**	**16**	P	**P**	**13 59 06.6**	**+1.3**
	comp=E,2.1nm,0.4s,baz=206,slow=9.3,SNR=8.9						
YULB	**Yu-li**	**23.09**	**224**	P	**P**	**13 59 05.6**	**-1.0**
YULB				IAmb	IAmb	13 59 34.0	
	comp=Z,14nm,1.0s						
ULN	**Ulaanbaatar**	**23.15**	**297**	*i* P	**P**	**13 59 06.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TPUB	**Ta-pu**	**23.52**	**225**	P	**P**	**13 59 08.8**	**-1.7**
SONM	**Songino Array**	**23.59**	**296**	P	**P**	**13 59 11.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=85,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**23.59**	**296**	P	**P**	**13 59 10.9**	**-0.1**
TWG	**Pinlang**	**23.68**	**224**	P	**P**	**13 59 12.0**	**+0.1**
XAN	**Xi'an**	**24.46**	**262**	P	**P**	**13 59 18.3**	**-0.7**
XAN				pP	pP	14 00 01.8	-1.6
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**24.46**	**262**	P	**P**	**13 59 17.9**	**-1.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**24.46**	**262**	P	**P**	**13 59 17.9**	**-1.1**
XAN				IAmb	IAmb	13 59 18.9	
	comp=Z,9.5nm,1.0s						
TLY	**Talaya**	**25.81**	**305**	*i* P	**P**	**13 59 31.6**	**+0.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA	**Gaotai**	**29.36**	**279**	P	**P**	**14 00 02.9**	**+0.3**
GTA				pP	pP	14 00 49.6	-0.4
GTA				sP	sP	14 01 18.9	+0.9
BILL	**Bilibino**	**30.50**	**20**	*i* P	**P**	**14 00 13.4**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**30.50**	**20**	P	**P**	**14 00 12.7**	**+0.5**
BILL				IAmb	IAmb	14 01 16.8	
	comp=Z,21nm,1.9s						
TIXI	**Tiksi**	**30.61**	**354**	*d i* P	**P**	**14 00 13.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIXI	**Tiksi**	**30.61**	**354**	P	**P**	**14 00 13.2**	**+0.1**
	comp=Z,12nm,0.5s,baz=172,slow=9.5,SNR=48						
TIXI	**Tiksi**	**30.61**	**354**	P	**P**	**14 00 13.0**	**-0.1**
DGZ	**Jazzator, Alta**	**36.06**	**301**	*e*P	**P**	**14 01 01.0**	**+0.5**
WMQ	**Urumqi**	**36.97**	**291**	*e*P	**P**	**14 01 09.4**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,71nm,4.7s						
WMQ				LR	LR		
	comp=Z,530nm,29.3s						
WMQ				LR	LR		
	comp=Z,940nm,28.8s						
WMQ				LR	LR		
	comp=Z,110nm,28.9s						
ZAA0	**Zalesovo Array**	**37.31**	**308**	P	**P**	**14 01 10.2**	**-0.6**
ZAA0				IAmb	IAmb	14 01 10.9	
	comp=Z,5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**37.31**	**308**	P	**P**	**14 01 10.3**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=86,slow=7.8,SNR=24						
ZALV				PcP	**PcP**	**14 03 24.8**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=85,slow=2.8,SNR=4.3						
ZALV				ScP	**ScP**	**14 06 47.2**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=98,slow=2.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**37.31**	**308**	P	**P**	**14 01 10.1**	**-0.7**
NONG	**Nongkai**	**38.17**	**243**	P	**P**	**14 01 18.8**	**+0.5**
	comp=Z,0.8nm,0.9s						
NRIK	**Noril'sk**	**38.28**	**334**	P	**P**	**14 01 18.5**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=114,slow=5.8,SNR=4.1						
PAYA	**Payao**	**39.51**	**248**	P	**P**	**14 01 30.5**	**+1.0**
	comp=Z,24μm,0.6s						
MKAR	**Makanchi Array**	**39.95**	**297**	P	**P**	**14 01 32.5**	**-0.3**
MKAR	**Makanchi Array**	**39.95**	**297**	P	**P**	**14 01 32.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=84,slow=11,SNR=14						
MKAR				ScP	**ScP**	**14 06 57.0**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=64,slow=8.2,SNR=5.7						
MAKZ	**Makanchi**	**40.16**	**297**	P	**P**	**14 01 34.3**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,15nm,1.6s						
MAKZ	**Makanchi**	**40.16**	**297**	P	**P**	**14 01 34.3**	**-0.2**
MAKZ				IAmb	IAmb	14 02 20.3	
	comp=Z,15nm,1.6s						
CMMT	**Chiang Mai**	**40.52**	**248**	P	**P**	**14 01 37.8**	**+0.1**
	comp=Z,3.4nm,0.6s						
CHTO	**Chiang Mai**	**40.52**	**248**	P	**P**	**14 01 37.3**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**40.52**	**248**	P	**P**	**14 01 37.3**	**-0.5**
PBKT	**Sadao Pong**	**40.68**	**244**	P	**P**	**14 01 38.3**	**-0.7**
PBKT				IAmb	IAmb	14 02 19.7	
	comp=Z,25nm,1.9s						
CM31	**Chiang Mai Arr**	**40.76**	**248**	P	**P**	**14 01 39.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.76**	**248**	P	**P**	**14 01 39.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=38,slow=7.5,SNR=13						
CMAR	**Chiang Mai Arr**	**40.76**	**248**	P	**P**	**14 01 38.9**	**-0.9**
KURK	**Kurchatov**	**41.49**	**304**	P	**P**	**14 01 44.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**41.49**	**304**	P	**P**	**14 01 44.6**	**-0.6**
KURK				IAmb	IAmb	14 01 45.9	
	comp=Z,9.6nm,0.9s						
TAPN	**Taplejung**	**43.62**	**268**	*e*P	**P**	**14 02 02.3**	**-0.7**
	comp=Z,9.9nm,0.4s						
IMAR	**Indian Mountai**	**44.05**	**33**	P	**P**	**14 02 06.9**	**+1.4**
ODAN	**Odare**	**44.12**	**267**	*e*P	**P**	**14 02 06.5**	**-0.4**
PHET	**Kaeng Krachan**	**44.21**	**241**	P	**P**	**14 02 08.6**	**+1.2**
	comp=Z,28μm,0.9s,comp=Z,382μm						
JIRN	**Jiri**	**44.59**	**269**	*e*P	**P**	**14 02 10.6**	**-0.2**
	comp=Z,19nm,0.3s						
RAMN	**Ramite**	**44.67**	**268**	*e*P	**P**	**14 02 10.9**	**-0.3**
	comp=Z,21nm,0.4s						
GUN	**Gumba**	**44.70**	**270**	*e*P	**P**	**14 02 10.6**	**-0.9**
	comp=Z,57nm,0.3s						
PPLA	**Purkeypile**	**44.90**	**37**	P	**P**	**14 02 14.8**	**+2.4**
PPLA				IAmb	IAmb	14 02 53.1	
	comp=Z,40nm,1.8s						
KKN	**Kakani**	**45.21**	**270**	*e*P	**P**	**14 02 14.3**	**-1.1**
	comp=Z,18nm,0.6s						
PKI	**Pulchoki**	**45.23**	**270**	*e*P	**P**	**14 02 14.6**	**-1.1**
	comp=Z,8.9nm,0.4s						
PKIN	**Phulchoki**	**45.23**	**270**	*e*P	**P**	**14 02 15.0**	**-0.7**
	comp=Z,5.3nm,0.3s						
BPAW	**Bear Paw Mtn.**	**45.33**	**36**	P	**P**	**14 02 17.5**	**+1.

comp=Z,55nm,1.6s
COLA College 46.59 34 P **P** **14 02 27.5 +2.2**
COLA pmax pmax
comp=Z,12nm,0.5s
COLA College 46.59 34 P **P** **14 02 27.6 +2.2**
COLA IAmb IAmb 14 02 28.2
comp=Z,12nm,0.5s
CCB Clear Creek Bu 46.64 35 P **P** **14 02 27.2 +1.5**
KSH Kashi 46.66 289 P **P** **14 02 26.3 -0.2**
KSH PP **PP** **14 04 19.3 +0.5**
KSH S **S** **14 08 54.3 -2.5**
KSH sS sS 14 10 30.0 +2.8
KSH pmax pmax
comp=Z,380nm,3.8s
KSH LR LR
comp=Z,840nm,10.0s
KSH LR LR
comp=Z,490nm,8.3s
KSH LR LR
comp=Z,230nm,8.4s
IL31 47.02 34 P **P** **14 02 29.9 +1.3**
IL31 IAmb IAmb 14 02 30.6
comp=Z,32nm,1.9s
ILAR Eielson Array 47.02 34 P **P** **14 02 29.9 +1.2**
ILAR Eielson Array 47.02 34 P **P** **14 02 29.8 +1.1**
comp=Z,4.3nm,0.8s,baz=263,slow=5.2,SNR=40
HDA Harding Lake 47.04 35 P **P** **14 02 29.9 +1.1**
HDA IAmb IAmb 14 02 30.7
comp=Z,6.3nm,0.4s
DHY Denali Highway 47.06 37 P **P** **14 02 30.6 +1.4**
SCM Sheep Creek Mo 47.29 38 P **P** **14 02 33.0 +2.1**
SCM pmax pmax
comp=Z,46nm,1.7s
SCM Sheep Creek Mo 47.29 38 P **P** **14 02 33.0 +2.1**
SCM IAmb IAmb 14 02 43.5
comp=Z,46nm,1.7s
FYU Fort Yukon 47.44 32 P **P** **14 02 34.6 +2.7**
FYU IAmb IAmb 14 02 35.0
comp=Z,39nm,1.4s
PRP Porcupine Dome 47.48 33 P **P** **14 02 34.7 +2.3**
BMAR Burnt Mountain 47.58 31 P **P** **14 02 35.4 +2.3**
HIN Hinchinbrook I 47.97 40 P **P** **14 02 37.3 +1.2**
RIDG Independent Ri 48.06 36 P **P** **14 02 38.0 +1.2**
SCRK Sand Creek 48.39 35 P **P** **14 02 40.4 +1.1**
SCRK IAmb IAmb 14 02 41.2
comp=Z,12nm,0.5s
DOT Dot Lake 48.42 36 P **P** **14 02 40.5 +1.0**
MENT Mentasta 48.72 36 P **P** **14 02 43.6 +1.9**
MENT IAmb IAmb 14 04 28.8
comp=Z,36nm,2.0s
KK31 Karatay Array 49.04 296 P **P** **14 02 45.3 +0.8**
KK31 pmax pmax
comp=Z,23nm,1.9s
KK31 Karatay Array 49.04 296 P **P** **14 02 45.3 +0.8**
KK31 IAmb IAmb 14 04 00.3
comp=Z,23nm,1.9s
KKAR Karatay Array 49.04 296 P **P** **14 02 44.3 -0.2**
KKAR Karatay Array 49.04 296 P **P** **14 02 44.3 -0.2**
KULM Kulim 49.38 234 P **P** **14 02 47.7 +0.4**
EGAK Eagle 49.43 34 P **P** **14 02 48.2 +1.2**
BCAR Beaver Creek A 49.55 36 P **P** **14 02 50.0 +1.9**
BALM Baldy 49.80 39 P **P** **14 02 51.7 +1.7**
BARN Barnard Glacie 50.12 39 P **P** **14 02 54.4 +1.9**
YAH Yahtse 50.27 39 P **P** **14 02 53.7 0.0**
DAWY Dawson 50.34 34 P **P** **14 02 55.3 +1.3**
EPYK Eagle Plains 50.83 31 P **P** **14 02 59.4 +1.8**
EPYK IAmb IAmb 14 03 00.3
comp=Z,11nm,0.7s
NIL Nilore 51.22 284 P **P** **14 03 01.3 +0.4**
NIL pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 51.22 284 P **P** **14 03 01.3 +0.4**
INK Inuvik 51.49 28 P **P** **14 03 03.8 +1.5**
INK pmax pmax
comp=Z,18nm,1.8s
INK Inuvik 51.49 28 P **P** **14 03 03.8 +1.5**
INK IAmb IAmb 14 03 19.7
comp=Z,18nm,1.8s
ARU Arti 51.56 316 *d iP* **P** **14 03 03.1 +0.1**
ARU *PP **pP** **14 03 52.9 -2.1**
ARU 14 04 11.6
ARU 14 04 59.2
ARU S **S** **14 10 06.4 +2.3**
ARU SS **SS** **14 13 43.3 +0.3**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 51.56 316 P **P** **14 03 03.2 +0.1**
ARU IAmb IAmb 14 03 04.0
comp=Z,6.6nm,0.6s
CHGR Chuyangaron 51.83 291 P **P** **14 03 05.0 -0.4**
CHGR IAmb IAmb 14 03 05.8
comp=Z,7.7nm,0.8s
ABKAR Akbulak array 53.40 307 P **P** **14 03 16.4 -0.2**
ABKAR Akbulak array 53.40 307 P **P** **14 03 16.2 -0.4**
ABKAR IAmb IAmb 14 03 17.3
comp=Z,4.3nm,1.1s
MTN Manton Dam 54.49 189 P **P** **14 03 24.4 -0.4**
COEN Coen 55.34 174 P **P** **14 03 31.2 +0.4**
COEN IAmb IAmb 14 05 05.7
comp=Z,12nm,1.5s
KNRA Kununurra 57.59 191 P **P** **14 03 46.9 +0.3**
RES Resolute Bay 58.85 14 P **P** **14 03 55.3 +0.7**
comp=Z,2.4nm,0.5s,baz=284,slow=6.7,SNR=9.3
RES Resolute Bay 58.85 14 P **P** **14 03 55.2 +0.5**
RES IAmb IAmb 14 04 11.6
comp=Z,16nm,1.5s
ARCES ARCESS Array B 59.03 338 P **P** **14 03 56.2 +0.2**
comp=Z,7.7nm,1.0s,baz=32,slow=5.8,SNR=7.6
YKA Yellowknife Ar 61.10 30 P **P** **14 04 11.0 +1.0**
comp=Z,0.8nm,0.5s,baz=304,slow=6.7,SNR=4.1
WRAB Tennant Creek 61.23 184 *i P* **P** **14 04 10.1 -1.3**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 61.24 184 P **P** **14 04 11.2 -0.3**
comp=Z,2.2nm,0.6s,baz=360,slow=7.1,SNR=41
WRA Warramunga Arr 61.24 184 P **P** **14 04 10.8 -0.7**
OBN Obninsk 63.20 321 *e* **P** **14 04 23.0 -1.0**
OBN *e* 14 04 58.1
OBN *e*PP **pP** **14 05 17.6 -0.7**
OBN *e*SP **sP** **14 05 44.8 +0.3**
OBN *e* 14 06 45.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 63.83 330 P **P** **14 04 28.2 +0.1**
comp=Z,5.3nm,0.6s,baz=36,slow=9.4,SNR=16
VSR Storozhevoye 64.12 316 *eP* P 14 04 38.5 +8.3
VSR pmax pmax
comp=Z,10.0nm,1.3s
ASAR Alice Springs 64.97 185 P **P** **14 04 36.0 +0.1**
comp=Z,1.0nm,0.6s,baz=15,slow=13,SNR=14
ASAR Alice Springs 64.97 185 P **P** **14 04 35.4 -0.5**
KIV Kislovodsk 66.33 308 *eP* **P** **14 04 43.9 -0.7**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,186nm,17.0s
NB2 NORSAR Subarra 69.20 336 P **P** **14 05 02.1 0.0**
comp=Z,1.0nm,0.5s,baz=38,slow=6.5
NOA NORSAR Array B 69.20 336 P **P** **14 05 02.4 +0.3**
comp=Z,1.8nm,0.6s,baz=39,slow=6.2,SNR=6.0
AKASG Malin Array Be 69.42 320 P **P** **14 05 03.3 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,1.2s
AKASG Malin Array Be 69.42 320 P **P** **14 05 03.3 -0.2**
comp=Z,1.4nm,0.4s,baz=48,slow=6.1,SNR=7.5
NVAR Mina Array Bea 74.10 53 P **P** **14 05 33.7 +1.9**
comp=Z,0.5nm,0.7s,baz=280,slow=4.3,SNR=6.1
LANS Liptovska Anna 75.03 324 *eP* **P** **14 05 38.4 +1.7**
LANS Liptovska Anna 75.03 324 *eP* **P** **14 05 38.4 +1.7**
VYHS Vyhne 75.79 323 *eP* **P** **14 05 42.1 +1.1**
VYHS Vyhne 75.79 323 *eP* **P** **14 05 42.1 +1.1**
PDAR Pinedale Array 76.12 45 P **P** **14 05 44.5 +1.2**
comp=Z,1.0nm,0.5s,baz=340,slow=0.8,SNR=10.0
GERES GERESS Array B 77.75 326 P **P** **14 05 52.5 +0.4**
comp=Z,0.8nm,0.4s,baz=30,slow=6.2,SNR=6.5
TXAR Lajitas Array 89.11 51 P **P** **14 06 51.2 +1.2**
comp=Z,0.4nm,0.6s,baz=295,slow=3.1,SNR=5.7

*ISCJB **20** 14:01:30.3±0.4, 60°.39S±0°.05×47°.6W±0°.1, h10km, mb4.2/7, MS4.4/16, Error ellipse: s-maj=9.1km s-min=6.6km az=150.2*
*IDC **20** 14:01:30.0±0.7, 60°.29S×47°.15W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.1/26, mbtmp4.3/8, ML4.3/1, MS4.3/13, Ms1 4.3/13, ms1mx4.2/16, Error ellipse: s-maj=26.3km s-min=17.9km az=61.0*
*NEIC **20** 14:01:31.9±2.3, 60°.29S±0°.05×47°.4W±0°.2, h10km±1km, mb4.8/17*
*GCMT **20** 14:01:33.9±0.2, 60°.50S±0°.01×47°.36W±0°.03, h12km, MW5.0/99, Moment Tensor Solution. s40,c52; s99,c136; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr1.45±.10; M_θθ0.42±.11; M_φφ-1.87±.12; M_rθ0.56±.32; M_θφ3.60±.07; M_φr1.15±.27; Best double couple: M_0=4.10700×10^16 NP1:φ_s5.00000°, δ75.00000°, λ156.00000°. NP2: φ_s102.00000°, δ66.00000°, λ16.00000°. Principal axes: T 3.6520, Plg28.0000°, Azm322.0000°; N 0.9150, Plg62.0000°, Azm156.0000°; P -4.5620, Plg6.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 14:01:32.0±0.4, 60°.30S±0°.06×47°.39W±0°.07, h10km, n75, σ1§38/60, mb4.5/12, MS4.4/16, 1C-1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.43**	**49**	Pn	**Pn**	**14 03 30.7**	**-3.3**
PMSA	**Palmer Station**	**8.90**	**233**	Pn	**Pn**	**14 03 39.6**	**-0.8**
	2.9nm,0.3s,baz=58,slow=12,SNR=15						
PMSA				Sn	**Sn**	**14 05 19.0**	**-1.5**
	0.7nm,0.3s,baz=135,slow=18,SNR=2.6						
PMSA				LR	LR	14 07 09.4	
	comp=Z,2μm,18.4s,baz=40,slow=38						
PMSA	**Palmer Station**	**8.90**	**233**		**Pn**	**14 03 39.4**	**-0.9**
EFI	**East Falkland**	**10.49**	**321**	Pn	**Pn**	**14 04 02.4**	**+0.1**
GO09	**Cerro Castillo**	**16.59**	**292**	P	**P**	**14 05 26.0**	**-0.9**
GO09				IAmb	IAmb	14 06 11.7	
	comp=Z,174nm,1.8s						
VNA3	**Neumayer Olymp**	**18.56**	**142**	P	**P**	**14 05 48.5**	**-0.1**
VNA1	**Neumayer--Stat**	**18.85**	**139**	P	**Pn**	**14 05 52.0**	**-0.3**
VNA2	**Neumayer--Watz**	**19.20**	**140**	P	**Pn**	**14 05 56.6**	**+0.1**
	baz=281,slow=13						
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**14 06 14.0**	**+1.1**
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**14 06 11.0**	**-1.9**
	comp=Z,35nm,1.0s,baz=278,slow=9.1,SNR=41						
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**14 06 13.2**	**+0.3**
SNAA				IAmb	IAmb	14 06 18.9	
	comp=Z,68nm,1.2s						
TRQA	**Tornquist**	**24.11**	**331**	P	**P**	**14 06 47.9**	**+0.3**
PLCA	**Paso Flores**	**24.27**	**313**	P	**P**	**14 06 49.3**	**+0.2**
	comp=Z,6.3nm,0.8s,baz=179,slow=8.8,SNR=14						
PLCA				LR	LR	14 16 04.0	
	comp=Z,683nm,20.8s,baz=178,slow=36						
PLCA	**Paso Flores**	**24.27**	**313**	P	**P**	**14 06 49.0**	**-0.1**
GO06	**Curarrehue**	**25.61**	**313**	P	**P**	**14 07 01.7**	**+0.4**
GO06				IAmb	IAmb	14 07 08.1	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**14 07 39.9**	**-0.1**
	comp=Z,7.9nm,0.9s,baz=186,slow=4.2,SNR=14						
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**14 07 40.1**	**+0.1**
QSPA				IAmb	IAmb	14 07 50.2	
	comp=Z,24nm,1.0s						
GO04	**Tololo Observa**	**33.96**	**322**	P	**P**	**14 08 16.4**	**+0.9**
CPUP	**Villa Florida**	**34.63**	**344**	LR	LR	14 21 11.9	
	comp=Z,358nm,22.0s,baz=176,slow=34						
CPUP	**Villa Florida**	**34.63**	**344**	P	**P**	**14 08 21.8**	**+0.7**
CPUP				IAmb	IAmb	14 08 59.0	
	comp=Z,17nm,1.8s						
SYO	**Syowa Base**	**35.08**	**141**	*ep*P	**P**	**14 08 24.0**	**-0.6**
SYO	**Syowa Base**	**35.08**	**141**	*es*P	sP	14 08 27.0	-0.4
SBA	**Scott Base**	**40.52**	**191**	P	**P**	**14 09 11.2**	**+0.7**
MAW	**Mawson**	**42.70**	**148**	P	**P**	**14 09 28.0**	**-0.4**
	comp=Z,6.2nm,1.0s,baz=232,slow=7.0,SNR=9.3						
MAW				LR	LR	14 26 52.0	
	comp=Z,583nm,18.2s,baz=236,slow=36						
MAW	**Mawson**	**42.70**	**148**	P	**P**	**14 09 28.7**	**+0.4**
MNMC	**Minye Minye**	**44.07**	**329**	P	**P**	**14 09 41.0**	**+0.7**
MNMC				IAmb	IAmb	14 09 47.0	
	comp=Z,15nm,0.8s						
BDFB	**Brasília**	**44.59**	**359**	P	**P**	**14 09 44.8**	**+0.6**
SIV	**San Ignacio**	**45.35**	**341**	P	**P**	**14 09 50.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=188,slow=9.1,SNR=8.2						
LPAZ	**La Paz**	**46.45**	**332**	LR	LR	14 29 42.7	
	comp=Z,173nm,21.7s,baz=152,slow=36						
SAML	**Samuel**	**52.59**	**340**	P	**P**	**14 10 45.1**	**-0.6**
SAML				IAmb	IAmb	14 10 57.3	
	comp=Z,8.5nm,1.1s						
CASY	**Casey**	**52.68**	**169**	P	**P**	**14 10 45.5**	**-0.2**
CASY				IAmb	IAmb	14 10 54.9	
	comp=Z,16nm,1.1s						
H10S2	**ASCENSION HYDR**	**56.77**	**40**	T	T	15 13 05.1	
	baz=20,slow=74,SNR=35						
H10S3	**ASCENSION HYDR**	**56.77**	**40**	T	T	15 13 04.9	
	baz=200,slow=74,SNR=32						
BOSA	**Boshof**	**57.06**	**91**	LR	LR	14 31 04.7	
	comp=Z,330nm,19.3s,baz=212,slow=31						
H10N3	**ASCENSION HYDR**	**57.87**	**39**	T	T	15 14 25.8	
	baz=199,slow=75,SNR=29						
H10N1	**ASCENSION HYDR**	**57.87**	**39**	T	T	15 14 28.8	
	baz=199,slow=75,SNR=25						
H10N2	**ASCENSION HYDR**	**57.89**	**39**	T	T	15 14 26.3	
	baz=199,slow=75,SNR=26						
LBTB	**Lobatse**	**60.21**	**89**	P	**P**	**14 11 38.1**	**-2.0**
	comp=Z,2.8nm,0.7s,baz=230,slow=12,SNR=4.0						
LBTB	**Lobatse**	**60.21**	**89**	P	**P**	**14 11 38.1**	**-2.0**
ROSC	**El Rosal**	**68.30**	**331**	LR	LR	14 46 39.2	
	comp=Z,196nm,18.6s,baz=206,slow=40						
LSZ	**Lusaka**	**69.71**	**85**	P	**P**	**14 12 44.3**	**+2.2**
DBIC	**Dimbokro**	**74.67**	**44**	LR	LR	14 40 08.7	
	comp=Z,166nm,19.2s,baz=174,slow=31						
TBI	**Tubuai**	**75.76**	**248**	*e*LR	LR	14 36 42.5	
	comp=Z,821nm,27.5s,baz=151						
PPT2	**Papeete2**	**80.78**	**251**	*e*S	**S**	**14 23 54.9**	**+1.3**
	comp=Z,50nm,24.0s						
PPT2	**Papeete2**	**80.78**	**251**	*e*LR	LR	14 39 05.1	
	comp=Z,713nm,27.8s,baz=154						
PPT	**Papeete**	**80.80**	**251**	LR	LR	14 40 24.1	
	comp=Z,153nm,21.9s,baz=168,slow=29						
TORD	**Torodi Ar. Bea**	**83.01**	**48**	P	**P**	**14 13 55.8**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=194,slow=12,SNR=3.6						
TORD				LR	LR	14 46 08.9	
	comp=Z,262nm,18.1s,baz=280,slow=32						
KMBO	**Kilima Mbogo**	**86.36**	**86**	LR	LR	14 48 53.8	
	comp=Z,171nm,20.1s,baz=122,slow=33						
STKA	**Stephens Creek**	**87.87**	**188**	LR	LR	14 53 50.6	
	comp=Z,191nm,18.6s,baz=201,slow=36						
DZM	**Mont Dzumac**	**93.42**	**211**	*e*LR	LR	14 44 53.7	
	comp=Z,259nm,22.0s						
ASAR	**Alice Springs**	**96.34**	**181**	P	**P**	**14 14 59.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=181,slow=3.4,SNR=4.7						
ASAR				LR	LR	14 59 44.9	
	comp=Z,80nm,18.1s,baz=179,slow=36						
VYHS	**Vyhne**	**120.93**	**45**	*e*PKP	**PKiKP**	**14 20 25.9**	**+2.5**
CMAR	**Chiang Mai Arr**	**131.78**	**135**	PKP	**PKPdf**	**14 20 45.2**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=242,slow=3.9,SNR=4.1						
ARCES	**ARCESS Array B**	**139.49**	**31**	PKiKP	PKPpre	14 20 48.0	
	comp=Z,8.5nm,1.1s,baz=248,slow=2.4,SNR=2.8						
KSH	**Kashi**	**139.59**	**95**	PKP	**PKiKP**	**14 21 02.3**	**+0.9**
KSH				PP	**PP**	**14 23 59.6**	**+4.9**
PRP	**Porcupine Dome**	**144.85**	**314**		**PKPab**	**14 21 06.3**	**-0.4**
CD2	**Chengdu**	**144.90**	**134**	PKP	**PKPab**	**14 21 07.8**	**0.0**
IL31		**144.95**	**313**		**PKPab**	**14 21 05.8**	**-1.1**
ILAR	**Eielson Array**	**144.95**	**313**	PKPbc	**PKPab**	**14 21 05.7**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=135,slow=1.0,SNR=19						
ILAR	**Eielson Array**	**144.95**	**313**		**PKPab**	**14 21 05.4**	**-1.5**
RND	**Reindeer**	**144.98**	**310**		PKPbc	14 21 06.0	-1.2
CCB	**Clear Creek Bu**	**145.23**	**312**		**PKPbc**	**14 21 06.4**	**-1.4**
WRH	**Wood River Hil**	**145.24**	**312**		**PKPbc**	**14 21 06.7**	**-1.2**
TOLK	**Toolik Lake Re**	**147.71**	**318**		**PKPbc**	**14 21 14.7**	**-0.4**
MK31	**Makanchi Array**	**148.06**	**92**	PKPdf	**PKPdf**	**14 21 13.4**	**-0.1**
MK31				PKPbc	**PKiKP**	**14 21 17.7**	**-0.7**
MKAR	**Makanchi Array**	**148.06**	**92**	PKPbc	**PKPdf**	**14 21 14.2**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=227,slow=2.7,SNR=10						
MKAR	**Makanchi Array**	**148.06**	**92**		**PKPdf**	**14 21 13.0**	**-0.5**
MKAR				PKPbc	**sPKPdf**	**14 21 17.4**	**+0.8**
IMAR	**Indian Mountai**	**148.06**	**312**	PKPbc	**PKPbc**	**14 21 16.1**	**+0.1**
WMQ	**Urumqi**	**148.61**	**101**	*e*PKPbc	**PKPdf**	**14 21 15.6**	**+1.1**
WMQ				LR	LR		
	comp=Z,82nm,29.3s						
XAN	**Xi'an**	**149.53**	**139**	PKPbc	**PKPab**	**14 21 29.1**	**+3.3**
XAN				pPKP	pPKP	14 22 20.8	
LZH	**Lanzhou**	**149.56**	**130**	*e*PKPbc	**PKPdf**	**14 21 13.1**	**-3.3**
LZH				pPKP	PKiKP	14 21 21.8	-0.3
LZH				sPKP		14 21 25.5	
NJ2	**Nanjing**	**150.31**	**156**	*e*PKPbc	**PKPdf**	**14 21 17.3**	**-0.2**
ZALV	**Zalesovo Beam**	**153.80**	**83**	PKPbc	**PKiKP**	**14 21 30.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=235,slow=5.1,SNR=2.6						
HHC	**Hu-ho-hao-te**	**156.58**	**137**	*e*PKP	**PKPdf**	**14 21 27.8**	**+1.4**
SONM	**Songino Array**	**160.36**	**118**	PKPab	**PKPab**	**14 22 12.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=198,slow=4.2,SNR=3.0						

*SJA **20** 14:46:35.8±0.5, 22°.97S×68°.49W, h113km±6km, ML3.2, MW3.3*
*ISCJB **20** 14:46:36.2±1.0, 22°.98S±0°.06×68°.52W±0°.08, h124km±14km, Error ellipse: s-maj=13.2km s-min=8.9km az=150.1*
*GUC **20** 14:46:36.6±0.6, 22°.95S×68°.61W, h126km±6km, ML3.7*

ISC 20 14:46:37.4±1.8, 22°.98S±0°.07×68°.51W±0°.07, h113km±18km, n16, σ0§51/25, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.52**	**315**	*eP*	**Pn**	**14 46 54.2**	**-1.0**
PB15	**IPOC Station P**	**0.91**	**255**	*eP*	**Pn**	**14 46 58.3**	**0.0**
PB15				*i* S	**Sn**	**14 47 14.8**	**+0.9**
PB15	**IPOC Station P**	**0.91**	**255**	*eP*	**Pn**	**14 46 57.4**	**-0.8**
PB06	**IPOC Station P**	**1.01**	**285**	*eP*	**Pn**	**14 46 59.2**	**0.0**
PB06				*i* S	**Sn**	**14 47 16.2**	**+0.6**
PB06	**IPOC Station P**	**1.01**	**285**	*eP*	**Pn**	**14 46 58.7**	**-0.5**
PB06				*e*S	**Sn**	**14 47 15.6**	**0.0**
PB09	**IPOC Station P**	**1.35**	**330**	*eP*	**Pn**	**14 47 03.2**	**+0.3**
PB09				*i* S	**Sn**	**14 47 23.1**	**+0.9**
PB09				IAML		14 47 25.0	
	comp=N,662nm,0.2s						
PB03	**IPOC Station P**	**1.47**	**309**	*eP*	**Pn**	**14 47 04.0**	**-0.2**
PB03				*i* S	**Sn**	**14 47 24.9**	**+0.3**
PB03	**IPOC Station P**	**1.47**	**309**	*eP*	**Pn**	**14 47 03.8**	**-0.4**
PB04	**IPOC Station P**	**1.64**	**293**	*eP*	**Pn**	**14 47 06.0**	**-0.2**
PB04				*i* S	**Sn**	**14 47 28.5**	**+0.3**
PB07	**IPOC Station P**	**1.78**	**314**	*eP*	**Pn**	**14 47 08.0**	**0.0**
PB07				*i* S	**Sn**	**14 47 31.2**	**0.0**
PB10	**IPOC Station P**	**1.95**	**254**	*eP*	**Pn**	**14 47 09.6**	**-0.4**
PB02	**IPOC Station P**	**2.09**	**322**	*eP*	**Pn**	**14 47 11.4**	**-0.4**
PB02				*i* S	**Sn**	**14 47 37.6**	**-0.4**
PB02				IAML		14 47 46.2	
	comp=E,967nm,0.4s						
PB01	**IPOC Station P**	**2.12**	**335**	*eP*	**Pn**	**14 47 11.7**	**-0.5**
PB01				*i* S	**Sn**	**14 47 39.4**	**+0.5**
YJA	**Yavi**	**2.88**	**75**	*eP*	**Pn**	**14 47 22.1**	**-0.2**
YJA				IAML		14 47 23.0	
	comp=Z,37nm,0.4s						
SLA	**San Lorenzo**	**3.26**	**123**	*eP*	**Pn**	**14 47 26.9**	**-0.1**
AZAP	**Zapla**	**3.40**	**112**	*eP*	**Pn**	**14 47 28.7**	**-0.2**
AZAP				IAML		14 48 26.7	
	comp=Z,87nm,0.3s						

*SJA **20** 14:49:24.5±0.8, 33°.86S×72°.74W, h25km, ML3.3, MW3.5*
*GUC **20** 14:49:24.2±0.6, 33°.92S×72°.70W, h32km±12km, ML3.6*

ISC 20 14:49:26.1±2.9, 33°.89S±0°.05×72°.7W±0°.1, h13km±18km, n14, σ1§28/22, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.21**	**45**	*eP*	**Pn**	**14 49 46.9**	**-1.8**
GO05	**Huala**	**1.27**	**152**	⇑*iP*	**Pn**	**14 49 48.7**	**-0.9**
GO05				*i* S	**Sb**	**14 50 04.5**	**-1.7**
GO05				IAML		14 50 12.1	
	comp=E,1μm,0.7s						
GO05	**Huala**	**1.27**	**152**	*eP*	**Pn**	**14 49 49.1**	**-0.5**
GO05				*e*S	**Sg**	**14 50 08.1**	**+0.9**
ROC1	**El Roble**	**1.65**	**57**	*eP*	**Pn**	**14 49 54.4**	**-0.7**
ROC1				*e*S	**Sb**	**14 50 17.4**	**0.0**
ROCH	**El Roble**	**1.66**	**57**	*eP*	**Pn**	**14 49 54.1**	**-0.9**
ROCH				*i* S	**Sb**	**14 50 17.5**	**0.0**
ROCH				IAML		14 50 27.9	
	comp=N,813nm,0.4s						
PEL	**Peldehue**	**1.81**	**66**	⇑*iP*	**Pn**	**14 49 56.5**	**-0.6**
PEL				*i* S	**Sn**	**14 50 19.4**	**-0.6**
PEL				IAML		14 50 26.5	
	comp=N,815nm,0.5s						
CLCH	**Cerro Calan**	**1.84**	**75**	*eP*	**Pn**	**14 49 56.5**	**-0.9**
CLCH				*i* S	**Sn**	**14 50 21.3**	**+0.6**
LMEL	**Las Melosas**	**2.05**	**90**	*eP*	**Pn**	**14 49 59.8**	**-0.6**
LMEL				*i* S	**Sn**	**14 50 27.4**	**+1.5**
LMEL				IAML		14 50 30.9	
	comp=N,689nm,0.3s						
FCH	**Farellones**	**2.06**	**75**	*i* P	**Pn**	**14 50 00.1**	**-0.6**
FCH				*i* S	**Sn**	**14 50 27.9**	**+1.5**
CO02	**Combarbal**	**3.02**	**28**	*eP*	**Pn**	**14 50 13.6**	**-0.1**
EDS3	**Malargue**	**3.28**	**126**	*i* P	**Pb**	**14 50 25.6**	**+1.4**
AAGR	**Agrelo**	**3.30**	**77**	*i* P	**Pb**	**14 50 22.5**	**-2.1**
AAGR				IAML		14 51 33.5	
	comp=Z,45nm,0.8s						
AMOG	**MOGNA**	**4.59**	**51**	*i* P	**Pn**	**14 50 36.9**	**+1.5**
AMOG				IAML		14 52 04.7	
	comp=Z,23nm,0.5s						
ACDV	**Cuesta del Vie**	**4.78**	**40**	*i* P	**Pn**	**14 50 39.8**	**+1.9**
ACDV				IAML		14 52 22.5	
	comp=Z,27nm,1.7s						

*ISCJB **20** 14:51:19.5±0.6, 25°.1N±0°.1×125°.54E±0°.10, h54km±8km, mb3.7/7, Error ellipse: s-maj=26.3km s-min=5.8km az=147.2*
*IDC **20** 14:51:19.5±1.0, 25°.96N×125°.23E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/40, mbtmp3.8/7, ML1.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/43, Error ellipse: s-maj=38.0km s-min=19.8km az=58.0*
*JMA **20** 14:51:19.7±0.1, 25°.00N×125°.59E, h54km±1km, M3.4*
JMA Felt I J1.

ISC 20 14:51:20.2±1.0, 25°.1N±0°.1×125°.6E±0°.1, h48km±10km, n21, σ0§59/25, mb3.8/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.31**	**244**	P	**Pn**	**14 51 29.4**	**+0.2**
JIKM				S	**Sn**	**14 51 36.4**	**+0.8**
JOGS	**Gusukube**	**0.33**	**204**	P	**Pn**	**14 51 29.1**	**-0.3**
JOGS				S	**Sn**	**14 51 36.0**	**+0.1**
JMJ2	**Miyako jima3**	**0.38**	**213**	P	**Pn**	**14 51 29.7**	**-0.2**
JMJ2				S	**Sn**	**14 51 36.9**	**+0.1**
JIRB	**Irabujima**	**0.42**	**236**	P	**Pn**	**14 51 30.1**	**-0.2**
JIRB				S	**Sn**	**14 51 37.7**	**+0.2**
JTJ	**Tarama**	**0.88**	**242**	P	**Pn**	**14 51 36.4**	**+0.1**
JTJ				S	**Sn**	**14 51 48.3**	**+0.3**
JISG	**Ishigakijimahi**	**1.23**	**248**	P	**Pn**	**14 51 40.7**	**-0.2**
JISG				*e*S	**Sn**	**14 51 55.8**	**-0.6**
JIJ	**Ishigaki jima**	**1.46**	**242**	P	**Pn**	**14 51 44.1**	**0.0**
JIJ				*e*S	**Sn**	**14 52 02.0**	**-0.1**
JKRS	**Kuro-shima**	**1.63**	**240**	P	**Pn**	**14 51 47.0**	**+0.6**
JKE	**Kume jima 2**	**1.68**	**41**	P	**Pn**	**14 51 47.2**	**0.0**
IRIF	**Iriomote-Funau**	**1.81**	**247**	P	**Pn**	**14 51 49.4**	**+0.5**
HATJ	**Hateruma jima**	**1.88**	**238**	P	**Pn**	**14 51 51.1**	**+1.2**
JAGN	**Aguni-jima**	**2.15**	**45**	P	**Pn**	**14 51 54.1**	**+0.

mb4.8/15

ISC 20 15:41:25.7±1.0, 10°24N±0°03×124°16E±0°03, h8km±7km, n54, σ1°20/58, mb3.8/10, MS3.2/13, 5C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.20**	**293**	⇓*i*P	**Pg**	**15 41 29.3**	**-0.5**
LLP				*i* S	**Sg**	**15 41 32.4**	**-0.2**
MSLP	**Maasin**	**0.70**	**98**	*e*P	**Pg**	**15 41 39.4**	**+0.2**
MSLP				*e*S	**Sn**	**15 41 50.7**	**-2.2**
OCLP	**Ormoc**	**0.92**	**29**	*e*P	**Pb**	**15 41 42.5**	**-1.5**
OCLP				*e*S	**Sg**	**15 41 57.0**	**+1.6**
SNPH	**Sibulan**	**1.27**	**226**	⇑*i*P	**Pn**	**15 41 49.1**	**-0.7**
SNPH				*i* S	**Sg**	**15 42 09.2**	**+2.6**
GUIM	**Jordan**	**1.59**	**284**	*e*P	**Pn**	**15 41 52.8**	**-1.4**
GUIM				*e*S	**Sn**	**15 42 14.8**	**-0.2**
DCPH	**Dipolog City**	**1.83**	**206**	⇑*e*P	**Pn**	**15 41 58.1**	**+0.6**
DCPH				*e*S	**Sg**	**15 42 24.4**	**0.0**
BESP	**Borongan**	**1.85**	**43**	*e*P	**Pn**	**15 41 58.2**	**+0.5**
BESP				*e*S	**Sg**	**15 42 27.0**	**+1.8**
CGP	**Cagayan de Oro**	**1.85**	**163**	⇑*e*P	**Pn**	**15 41 57.8**	**0.0**
CGP				*i* S	**Sb**	**15 42 23.7**	**+0.5**
RCP	**Roxas**	**1.91**	**314**	⇑*e*P	**Pn**	**15 41 58.1**	**-0.5**
RCP				*e*S	**Sn**	**15 42 23.8**	**+0.9**
BUTP	**Butuan**	**1.92**	**131**	*e*P	**Pn**	**15 41 59.1**	**+0.4**
BUTP				*e*S	**Sg**	**15 42 28.6**	**+1.2**
JAP	**San Jose, Anti**	**2.23**	**283**	⇓*e*P	**Pn**	**15 42 04.7**	**+1.6**
CNP	**Cataman**	**2.31**	**12**	*e*P	**Pb**	**15 42 06.8**	**-0.9**
CNP				*e*S	**Sg**	**15 42 38.9**	**-1.1**
PAGZ	**Pagadian**	**2.50**	**198**	*e*P	**Pn**	**15 42 05.7**	**-1.0**
PAGZ				*e*S	**Sb**	**15 42 40.4**	**-1.3**
BUKP	**Musuan**	**2.51**	**159**	*e*P	**Pn**	**15 42 08.7**	**+1.8**
BUKP				*e*S	**Sg**	**15 42 46.2**	**-0.2**
CTBH	**Cotabato--PC H**	**3.00**	**178**	⇓*i*P	**Pn**	**15 42 14.7**	**+1.1**
KCP	**Kidapawan**	**3.34**	**164**	⇓*e*P	**Pn**	**15 42 20.0**	**+1.7**
KCP				*i* S	**Sg**	**15 43 12.1**	**-1.0**
LQP	**Lukban**	**4.62**	**327**	⇑*e*P	**Pb**	**15 42 46.1**	**-1.1**
KKM	**Kota Kinabalu**	**8.90**	**243**	Pn	**Pn**	**15 43 36.4**	**+1.6**
SBUM	**Sibu**	**14.16**	**238**	P	**P**	**15 44 54.5**	**+0.2**
DLV	**T Lat**	**15.47**	**278**	Pn	**Pn**	**15 45 05.4**	**+0.8**
DLV				IAmb	IAmb	15 45 41.2	
	comp=Z,107nm,1.6s						
KAPI	**Kappang**	**15.77**	**196**	LR	LR	15 51 08.6	
	comp=Z,62nm,21.1s,baz=101,slow=38						
QIZ	**Qiongzhong**	**16.37**	**304**	P	**P**	**15 45 18.9**	**0.0**
QIZ				IAmb	IAmb	15 46 07.9	
	comp=Z,149nm,1.6s						
UBPT	**Khong Chiam**	**18.90**	**287**		**Pn**	**15 45 48.9**	**+1.5**
UBPT				IAmb	IAmb	15 45 57.5	
	comp=Z,38nm,1.1s						
JAY	**Jayapura**	**20.78**	**127**	LR	LR	15 53 05.8	
	comp=Z,71nm,20.9s,baz=240,slow=34						
PBKT	**Sadao Pong**	**23.40**	**288**	P	**P**	**15 46 37.1**	**+1.7**
JNU	**Nakatsue**	**23.60**	**14**	P	**P**	**15 46 38.0**	**+0.8**
IPM	**Ipoh**	**23.63**	**258**	P	**P**	**15 46 38.1**	**+0.4**
IPM				IAmb	IAmb	15 47 34.9	
	comp=Z,42nm,1.5s						
LEM	**Lembang**	**23.64**	**225**	LR	LR	15 58 17.8	
	comp=Z,46nm,18.1s,baz=48,slow=43						
JCJ	**Chichijima**	**23.88**	**43**	LR	LR	15 54 22.5	
	comp=Z,90nm,20.5s,baz=356,slow=32						
CMAR	**Chiang Mai Arr**	**25.73**	**291**	P	**P**	**15 46 57.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=102,slow=8.4,SNR=4.5						
CMAR				LR	LR	15 56 37.6	
	comp=Z,34nm,19.4s,baz=1.0,slow=36						
CMAR	**Chiang Mai Arr**	**25.73**	**291**	P	**P**	**15 46 56.4**	**-0.6**
KSRS	**Korea Array**	**27.31**	**7**	P	**P**	**15 47 12.9**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=181,slow=10,SNR=4.0						
MJAR	**Matsushiro Arr**	**29.12**	**24**	LR	LR	15 57 46.9	
	comp=Z,42nm,21.4s,baz=260,slow=34						
WRA	**Warramunga Arr**	**31.62**	**162**	P	**P**	**15 47 47.9**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=343,slow=9.6,SNR=3.3						
WRA				LR	LR	16 01 04.5	
	comp=Z,39nm,21.9s,baz=330,slow=38						
WRA	**Warramunga Arr**	**31.62**	**162**	P	**P**	**15 47 47.4**	**-2.0**
ASAR	**Alice Springs**	**35.02**	**164**	P	**P**	**15 48 18.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=339,slow=6.8,SNR=7.0						
ASAR	**Alice Springs**	**35.02**	**164**	P	**P**	**15 48 17.1**	**-1.9**
KLR	**Kul'dur**	**39.38**	**8**	LR	LR	16 06 57.5	
	comp=Z,16nm,18.8s,baz=236,slow=39						
YSS	**Yuzh-Sakhalins**	**39.85**	**20**	P	**P**	**15 49 00.4**	**+0.7**
ULN	**Ulaanbaatar**	**40.18**	**342**	P	**P**	**15 49 04.1**	**+1.4**
SONM	**Songino Array**	**40.36**	**341**	P	**P**	**15 49 05.3**	**+1.2**
	comp=Z,1.5nm,1.0s,baz=157,slow=8.0,SNR=6.2						
SONM				LR	LR	16 06 45.5	
	comp=Z,60nm,19.0s,baz=154,slow=38						
SONM	**Songino Array**	**40.36**	**341**	P	**P**	**15 49 05.2**	**+1.1**
MKAR	**Makanchi Array**	**50.81**	**324**	P	**P**	**15 50 27.6**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=116,slow=10,SNR=4.2						
MKAR				LR	LR	16 12 56.3	
	comp=Z,27nm,18.2s,baz=60,slow=37						
YAK	**Yakutsk**	**51.86**	**3**	P	**P**	**15 50 33.3**	**-1.0**
YAK				IAmb	IAmb	15 50 35.8	
	comp=Z,16nm,1.0s						
NIL	**Nilore**	**52.04**	**305**	P	**P**	**15 50 36.2**	**0.0**
NIL				IAmb	IAmb	15 50 41.9	
	comp=Z,8.2nm,0.8s						
DZM	**Mont Dzumac**	**52.45**	**128**	LR	LR	16 13 30.5	
	comp=Z,39nm,20.4s,baz=218,slow=37						
ZALV	**Zalesovo Beam**	**53.67**	**332**	LR	LR	16 15 00.8	
	comp=Z,27nm,18.1s,baz=173,slow=38						
ZALV	**Zalesovo Beam**	**53.67**	**332**	P	**P**	**15 50 48.6**	**+0.8**
AAK	**Ala-Archa**	**53.89**	**316**	LR	LR	16 15 31.8	
	comp=Z,355nm,21.3s,baz=114,slow=38						
KURK	**Kurchatov**	**54.93**	**326**	P	**P**	**15 50 57.3**	**+0.3**
KURK				IAmb	IAmb	15 51 02.9	
	comp=Z,23nm,1.9s						
KBL	**Kabul**	**55.64**	**305**	P	**P**	**15 51 02.5**	**-0.3**
KKAR	**Karatay Array**	**56.80**	**315**	P	**P**	**15 51 10.3**	**-0.4**
MIDW	**Midway**	**57.50**	**63**	P	**P**	**15 51 14.0**	**-1.8**
NOA	**NORSAR Array B**	**91.86**	**333**	LR	LR	16 37 47.2	
	comp=Z,15nm,20.4s,baz=295,slow=37						

JMA 20 15:43:58.7±0.3, 24°66N×123°31E, h51km, M1.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.34**	**234**	P	Pn	15 44 08.2	-0.1
YOJ				*e*S	Sn	15 44 15.0	-0.1
IRIF	**Iriomote-Funau**	**0.50**	**130**	P	Pn	15 44 09.7	-0.3
IRIF				*e*S	Sn	15 44 18.4	+0.3
JKRS	**Kuro-shima**	**0.76**	**123**	P	Pn	15 44 13.4	+0.1
JIJ	**Ishigaki jima**	**0.81**	**111**	P	Pn	15 44 15.0	+1.0
JIJ				*e*S	Sn	15 44 25.6	+0.5
JISG	**Ishigakijimahi**	**0.91**	**94**	P	Pn	15 44 15.6	+0.3

TAP 20 15:44:32.8, 23°96N×121°95E, h29km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.32**	**273**	*e*P	Pn	15 44 41.8	+0.3
	baz=272						
ENLB	**Shoufeng**	**0.33**	**260**	*e*P	Pb	15 44 40.8	+0.3
	baz=259						
ENLB				*e*S	Sn	15 44 46.7	-0.7
	baz=259						
TWD	**Chiawan**	**0.35**	**290**	P	Pn	15 44 41.4	-0.4
	baz=290						
TWD				*e*S	Sn	15 44 47.8	0.0
	baz=290						
NACB	**Ninganchiao**	**0.39**	**303**	*i* P	Pb	15 44 41.8	+0.4
	baz=302						
NACB				*i* S	Sn	15 44 48.6	-0.3
	baz=302						
ETLH	**Xiulin Townshi**	**0.49**	**300**	*e*P	Pb	15 44 43.4	+0.2
	baz=299						
ETLH				S	Sn	15 44 51.3	-0.3
	baz=299						
ESL	**Shilin**	**0.50**	**253**	P	Pb	15 44 43.3	+0.2
	baz=252						
ESL				*e*S	Sn	15 44 51.5	0.0
	baz=252						
NANB	**Nanao**	**0.50**	**338**	P	Pn	15 44 43.7	-0.2
	baz=338						
NANB				*e*S	Sn	15 44 51.3	-0.3
	baz=338						
ENA	**Nanau**	**0.50**	**337**	*e*P	Pn	15 44 43.7	-0.3
	baz=338						
ENA				*e*S	Sn	15 44 51.5	-0.2
	baz=338						
EGFH	**Guangfu**	**0.56**	**239**	*e*P	Pb	15 44 44.5	+0.3
	baz=238						
EOS1	**EOS1**	**0.61**	**15**	*e*P	Pn	15 44 45.3	-0.1
	baz=15						
EOS1				*e*S	Sn	15 44 54.5	+0.3
	baz=15						
TWC	**Suao**	**0.65**	**352**	*e*P	Pn	15 44 45.9	-0.2
	baz=352						
TWC				*e*S	Sb	15 44 54.7	+0.2
	baz=352						
WHF	**Hehuan Shan**	**0.65**	**286**	P	Pb	15 44 46.0	0.0
	baz=286						
WHF				*e*S	Sb	15 44 55.5	+0.5
	baz=286						
HGSD	**Ruisui**	**0.67**	**226**	*e*P	Pb	15 44 46.0	0.0
	baz=225						
NNSB	**Datong**	**0.70**	**312**	*e*P	Pb	15 44 46.6	+0.1
	baz=311						
NNSB				*e*S	Sn	15 44 56.3	-0.4
	baz=311						
NNS	**Nan Shan**	**0.71**	**312**	*e*P	Pb	15 44 46.7	0.0
	baz=312						
NNS				*e*S	Sn	15 44 56.8	-0.3
	baz=312						
CHGB	**Renai**	**0.72**	**278**	P	Pb	15 44 47.0	+0.1
	baz=277						
CHGB				*e*S	Sn	15 44 57.6	+0.3
	baz=277						
NDT	**Datong Townshi**	**0.75**	**328**	*e*P	Pn	15 44 47.6	+0.1
	baz=327						
NDT				*e*S	Sb	15 44 57.4	+0.1
	baz=327						
ENTT	**Nioudou**	**0.76**	**332**	*e*P	Pb	15 44 47.5	-0.1
	baz=332						
ENTT				*e*S	Sb	15 44 57.6	+0.1
	baz=332						
VWDT	**VWDT**	**0.77**	**254**	*e*P	Pb	15 44 47.5	-0.1
	baz=254						
VWDT				*e*S	Sn	15 44 58.5	+0.2
	baz=254						
TDCB	**Techi**	**0.78**	**292**	*e*P	Pb	15 44 47.9	0.0
	baz=291						
TDCB				*e*S	Sn	15 44 59.1	+0.4
	baz=291						
YULB	**Yu-li**	**0.83**	**227**	*e*P	Pn	15 44 48.0	-0.5
	baz=226						
YHNB	**Yeheng**	**0.88**	**323**	P	Pn	15 44 49.3	0.0
	baz=323						
YHNB				*e*S	Sb	15 45 00.7	-0.2
	baz=323						
SSLB	**Suanglung**	**0.93**	**259**	P	Pb	15 44 50.2	-0.2
	baz=259						

ANF ***20*** *15:48:41.7±0.1, 35°41N×118°40W, h14km±1km, ML2.7/32, Error ellipse: s-maj=1.0km s-min=1.0km az=124.0*
NEIC ***20*** *15:48:42.0±2.4, 35°35N±0°04×118°39W±0°06, h5km±7km*
SCEDC ***20*** *15:48:43.1, 35°40N×118°40W, h9km*

ISC 20 15:48:42.3±0.9, 35°41N±0°02×118°39W±0°02, h12km±8km, n58, σ0°81/76, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella, Lake**	**0.27**	**346**	P	**Pg**	**15 48 48.1**	**+0.1**
	baz=167,SNR=334						
ISA				S	**Sg**	**15 48 51.9**	**+0.2**
	baz=167						
ISA	**Isabella, Lake**	**0.27**	**346**	Pg	**Pg**	**15 48 47.9**	**0.0**
ARVC	**Arvin**	**0.45**	**232**	P	**Pb**	**15 48 51.6**	**-0.6**
	baz=52,SNR=9.6						
ARVC				S	**Sg**	**15 48 57.7**	**+0.4**
	baz=52						
LRMC	**Laurel Mtn Rad**	**0.58**	**82**	P	**Pg**	**15 48 53.8**	**0.0**
	baz=263,SNR=149						
LRMC				S	**Sg**	**15 49 01.8**	**+0.2**
	baz=263						
EDW2	**Edwards Air Fo**	**0.62**	**148**	P	**Pg**	**15 48 54.4**	**0.0**
	baz=328,SNR=43						
EDW2				S	**Sg**	**15 49 02.6**	**+0.1**
	baz=328						
VES	**Vestal, Richgr**	**0.71**	**308**	P	**Pg**	**15 48 56.0**	**-0.2**
	baz=128,SNR=16						
VES				S	**Sg**	**15 49 05.1**	**-0.4**
	baz=128						
OSI	**Osito Audit: C**	**0.83**	**199**	P	**Pg**	**15 48 58.3**	**-0.2**
	baz=18						
OSI				S	**Sg**	**15 49 09.3**	**-0.1**
	baz=18						
OSI	**Osito Audit: C**	**0.83**	**199**		**Pg**	**15 48 58.3**	**-0.2**
MPMC	**Manual Prospec**	**0.98**	**48**	P	**Pg**	**15 49 01.1**	**-0.2**
	baz=229,SNR=76						
MPMC				S	**Sg**	**15 49 13.8**	**-0.4**
	baz=229						
CWC	**Cottonwood Cre**	**1.06**	**14**	P	**Pg**	**15 49 02.3**	**-0.6**
	baz=194						
CWC				Sb	**Sg**	**15 49 16.5**	**-0.3**
	baz=194						
DAC	**Darwin (Calif)**	**1.09**	**37**		**Pn**	**15 49 05.0**	**+1.4**
DECC	**Green Verdugo**	**1.15**	**178**	Pg	**Pn**	**15 49 04.6**	**+0.4**
	baz=357						
MWC	**Mount Wilson**	**1.21**	**167**		**Pb**	**15 49 04.9**	**-0.3**
VOG	**Valley Oaks Go**	**1.22**	**319**	S	**Sb**	**15 49 20.5**	**-0.5**
	baz=139						
PASC	**Pasadena Art C**	**1.24**	**172**		**Pn**	**15 49 05.5**	**0.0**
RRX	**Edison Barstow**	**1.26**	**114**	Sg	**Sn**	**15 49 23.8**	**+1.2**
	baz=295						
PKM	**Mcpherson Peak**	**1.27**	**247**	P	**Pn**	**15 49 05.4**	**-0.7**
	baz=66,SNR=15						
PKM				Sg	**Sn**	**15 49 23.9**	**+0.7**
	baz=66						
GSC	**Goldstone, Bar**	**1.30**	**94**	P	**Pn**	**15 49 06.0**	**-0.4**
	baz=275,SNR=44						
GSC				Sg	**Sn**	**15 49 24.7**	**+1.0**
	baz=275						
GSC	**Goldstone, Bar**	**1.30**	**94**	Pn	**Pn**	**15 49 05.9**	**-0.4**
BFSC	**Mount Baldy Ra**	**1.31**	**152**	Pg	**Pb**	**15 49 06.9**	**0.0**
	baz=333,SNR=19						
BFSC				S	**Sb**	**15 49 23.3**	**-0.4**
	baz=333						
SMMC	**Simmler**	**1.31**	**267**	P	**Pn**	**15 49 06.1**	**-0.4**
	baz=86						
SMMC				Sg	**Sg**	**15 49 25.0**	**+0.3**
	baz=86						
BLG	**Laguna Peak, P**	**1.41**	**203**	Pg	**Pb**	**15 49 08.5**	**0.0**
	baz=23						
BLG				Sg	**Sg**	**15 49 28.2**	**+0.6**
	baz=23						
SBC	**Santa Barbara**	**1.45**	**229**	Sg	**Sg**	**15 49 30.1**	**+1.1**
	baz=48						
PAGB	**Antelope Grade**	**1.55**	**283**		**Pn**	**15 49 09.7**	**0.0**
FURC	**Furnace Creek,**	**1.63**	**49**	Pg	**Pg**	**15 49 13.2**	**-0.5**
	baz=230						
FURC				Sg	**Sg**	**15 49 35.3**	**+0.4**
	baz=230						
TIN	**Tinemaha, Big**	**1.65**	**5**	Pg	**Pg**	**15 49 13.2**	**-0.8**
	baz=185						
TIN				Sg	**Sg**	**15 49 36.5**	**+1.0**
	baz=185						
BBRC	**Big Bear Solar**	**1.66**	**133**	Pg	**Pg**	**15 49 13.7**	**-0.6**
	baz=314						
HEC	**Hector,Ludlow**	**1.78**	**108**	Pg	**Pg**	**15 49 15.9**	**-0.6**
	baz=289						
HEC				Sg	**Sg**	**15 49 39.8**	**+0.1**
	baz=289						
GRAC	**Grapevine Rang**	**1.79**	**27**	Pg	**Pg**	**15 49 16.2**	**-0.6**
	baz=208						
GRAC				Sg	**Sg**	**15 49 40.8**	**+0.8**
	baz=208						
SHOC	**Shoshone, Teco**	**1.79**	**73**	P	**Pn**	**15 49 12.8**	**-0.3**
	baz=255,SNR=16						
SHOC				Sg	**Sg**	**15 49 40.6**	**+0.5**
	baz=255						
CIS	**Catalina Islan**	**2.00**	**181**	P	**Pn**	**15 49 16.0**	**+0.1**
	baz=0.3						
TUQ	**Turquoise Moun**	**2.02**	**88**	P	**Pn**	**15 49 15.8**	**-0.4**
	baz=270						
MURC	**Murrieta**	**2.05**	**151**	P	**Pn**	**15 49 17.0**	**+0.3**
	baz=332						
PMPB	**Monarch Peak**	**2.12**	**293**	Pn	**Pn**	**15 49 18.4**	**+0.9**
MLAC	**Mammoth, Mammo**	**2.25**	**351**	Pg	**Pb**	**15 49 23.9**	**+0.9**
	baz=171						
OMMB	**Old Mammoth Mi**	**2.26**	**348**		**Pn**	**15 49 20.6**	**+0.9**
MDPB	**Devils Postpil**	**2.29**	**346**		**Pb**	**15 49 23.1**	**-0.7**
TPNV	**Topopah Spring**	**2.32**	**48**	P	**Pn**	**15 49 20.3**	**-0.2**
	baz=229						
TPNV	**Topopah Spring**	**2.32**	**48**	Pn	**Pn**	**15 49 20.8**	**+0.3**
GMRC	**Granite Mounta**	**2.33**	**105**	P	**Pn**	**15 49 19.6**	**-0.9**
	baz=286,SNR=14						
PFO	**Pinyon Flats O**	**2.40**	**138**	Pn	**Pn**	**15 49 22.2**	**+0.7**
TPFO	**Pinon Flats**	**2.41**	**138**	Pg	**Pg**	**15 49 27.1**	**-1.3**
	baz=319						
BELC	**Belle Mtn. Jos**	**2.42**	**125**	P	**Pn**	**15 49 21.8**	**0.0**
	baz=306						
SAO	**San Andreas Ge**	**2.82**	**300**	Pn	**Pn**	**15 49 29.0**	**+1.8**
SHPR	**Sheep Range**	**2.84**	**66**	Pn	**Pn**	**15 49 28.6**	**+0.9**
IRM	**Iron Mountain**	**2.95**	**114**	P	**Pn**	**15 49 28.3**	**-0.6**
	baz=296						
NVAR	**Mina Array Bea**	**3.02**	**1**	Pn	**Pn**	**15 49 31.1**	**+0.9**
NV11	**Mina Array Sit**	**3.03**	**4**		**Pg**	**15 49 38.4**	**-2.0**
BAR	**Barrett**	**3.07**	**152**	Pn	**Pn**	**15 49 31.8**	**+1.1**
CMB	**Columbia Colle**	**3.08**	**329**	Pn	**Pn**	**15 49 31.9**	**+1.1**
RYN	**Ryan**	**3.22**	**358**	Pg	**Pg**	**15 49 41.6**	**-2.4**
KVN	**Kaiserville**	**3.65**	**4**		**Pg**	**15 49 50.5**	**-1.7**
R11A	**Troy Canyon, C**	**3.70**	**37**		**Pg**	**15 49 53.5**	**+0.3**
W13A	**Hualapai Mount**	**3.70**	**93**	Pn	**Pn**	**15 49 39.5**	**0.0**
GLA	**Glamis**	**3.77**	**127**	Pn	**Pn**	**15 49 39.9**	**-0.4**
PNTR	**Pine Nut**	**3.80**	**346**		**Pg**	**15 49 53.2**	**-2.0**
U15A	**North Rim**	**5.06**	**77**	Pn	**Pn**	**15 49 59.4**	**+1.2**
ELK	**Elko**	**5.88**	**24**	Pn	**Pn**	**15 50 08.5**	**-1.0**

IDC ***20*** *15:54:39.6±0.5, 55°34S×26°68W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.2/38, mbtmp4.4/14, ML4.0/1, MS3.8/9, Ms1 3.7/9, ms1mx3.6/17, Error ellipse: s-maj=19.4km s-min=14.3km az=33.0*
ISCJB ***20*** *15:54:41.3±0.4, 55°36S±0°06×26°7W±0°1, h25km, mb4.5/13, MS3.8/10, Error ellipse: s-maj=11.3km s-min=6.5km az=43.9*
BJI ***20*** *15:54:44.5±0.0, 55°40S×26°80W, h0km, Ms7 5.0/2*
NEIC ***20*** *15:54:46.3±1.2, 55°4S±0°1×26°8W±0°2, h46km±5km, mb4.8/23*

ISC 20 15:54:43.5±0.4, 55°38S±0°09×26°76W±0°08, h25km, n86, σ0°85/78, mb4.7/18, MS3.8/10, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.73**	**277**		**Pn**	**15 56 05.5**	**-1.3**
VNA1	**Neumayer--Stat**	**17.33**	**159**	P	**Pn**	**15 58 44.4**	**+1.2**
VNA3	**Neumayer Olymp**	**17.54**	**162**	P	**Pn**	**15 58 46.2**	**+0.3**
VNA2	**Neumayer--Watz**	**17.72**	**159**	P	**Pn**	**15 58 48.2**	**+0.1**
	baz=315,slow=17						
SNAA	**Sanae**	**19.26**	**157**	P	**P**	**15 59 05.4**	**-0.3**
SNAA	**Sanae**	**19.26**	**157**	P	**P**	**15 59 05.6**	**-0.2**
	0.4nm,0.3s,baz=316,slow=14,SNR=7.6						
SNAA	**Sanae**	**19.26**	**157**	P	**P**	**15 59 05.0**	**-0.7**
PMSA	**Palmer Station**	**20.52**	**228**	P	**P**	**15 59 20.3**	**+0.9**
	13nm,0.7s,baz=39,slow=5.9,SNR=8.1						
PMSA				LR	LR	16 06 24.0	
	comp=Z,274nm,19.6s,baz=58,slow=34						
PMSA	**Palmer Station**	**20.52**	**228**	P	**P**	**15 59 20.1**	**+0.7**
USHA	**Ushuaia**	**23.59**	**254**	LR	LR	16 07 41.2	
	comp=Z,236nm,19.2s,baz=62,slow=33						
GO09	**Cerro Castillo**	**27.15**	**260**	P	**P**	**16 00 22.2**	**-2.1**
TRQA	**Tornquist**	**29.29**	**291**	P	**P**	**16 00 43.9**	**+0.2**
TRQA				IAmb	IAmb	16 01 15.6	
	comp=Z,36nm,1.8s						
SYO	**Syowa Base**	**31.95**	**141**	⇑*e*P	**P**	**16 01 04.8**	**-1.9**
SYO	**Syowa Base**	**31.95**	**141**	⇓*e*pP	pP	16 01 15.0	+3.0
QSPA	**South Pole Qui**	**34.87**	**180**	P	**P**	**16 01 32.0**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=210,slow=2.2,SNR=28						
QSPA	**South Pole Qui**	**34.87**	**180**	P	**P**	**16 01 32.0**	**-0.4**
QSPA				IAmb	IAmb	16 01 33.0	
	comp=Z,8.4nm,0.9s						
CPUP	**Villa Florida**	**36.56**	**310**	P	**P**	**16 01 46.5**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=152,slow=8.5,SNR=6.1						
CFA	**Coronel Fontan**	**37.53**	**292**	P	**P**	**16 01 54.0**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=144,slow=9.6,SNR=3.8						
PEL	**Peldehue**	**37.66**	**288**	P	**P**	**16 01 55.8**	**-0.5**
ROC1	**El Roble**	**37.96**	**288**	P	**P**	**16 01 59.4**	**+0.2**
MAW	**Mawson**	**40.54**	**144**	P	**P**	**16 02 20.4**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=238,slow=9.7,SNR=8.3						
MAW				LR	LR	16 19 04.2	
	comp=Z,100nm,18.1s,baz=238,slow=36						
MAW	**Mawson**	**40.54**	**144**	P	**P**	**16 02 20.6**	**+0.6**
BDFB	**Brasilia**	**42.91**	**329**	LR	LR	16 21 57.8	
	comp=Z,205nm,18.1s,baz=128,slow=38						
GO02	**Mina Guanaco**	**43.41**	**296**	P	**P**	**16 02 44.4**	**+0.1**
GO02				IAmb	IAmb	16 04 13.5	
	comp=Z,75nm,2.0s						
LVC	**Limon Verde**	**45.18**	**299**	P	**P**	**16 02 59.5**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=129,slow=4.1,SNR=5.3						
LVC	**Limon Verde**	**45.18**	**299**	P	**P**	**16 02 58.9**	**+0.4**
LVC				pP	**sP**	**16 03 10.0**	**+3.9**
LVC				IAmb	IAmb	16 03 15.5	
	comp=Z,8.0nm,0.8s						
BOSA	**Boshof**	**45.57**	**76**	P	**P**	**16 03 00.6**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=204,slow=5.5,SNR=6.1						
BOSA				LR	LR	16 18 17.1	
	comp=Z,83nm,21.5s,baz=212,slow=31						
BOSA	**Boshof**	**45.57**	**76**	P	**P**	**16 03 00.5**	**-0.7**
BOSA				IAmb	IAmb	16 04 22.9	
	comp=Z,56nm,1.9s						
PB01	**IPOC Station P**	**46.79**	**300**	P	**P**	**16 03 11.1**	**+0.3**
PB01				IAmb	IAmb	16 03 27.6	
	comp=Z,22nm,1.2s						
SIV	**San Ignacio**	**47.30**	**312**	P	**P**	**16 03 14.0**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=147,slow=7.1,SNR=9.3						
GO01	**Chusmiza**	**47.80**	**301**	P	**P**	**16 03 19.4**	**+0.1**
MNMC	**Minye Minye**	**48.46**	**301**	P	**P**	**16 03 24.5**	**+0.5**
MNMC				IAmb	IAmb	16 03 52.3	
	comp=Z,7.1nm,0.8s						
LBTB	**Lobatse**	**48.58**	**73**	P	**P**	**16 03 24.1**	**-0.7**
	comp=Z,6.3nm,0.8s,baz=224

BCAR	Beaver Creek A	147.25 310			PKPbc	16 14 23.3	+0.1
NRIK	Noril'sk	148.33 38	PKPbc		PKPbc	16 14 26.3	+0.5
comp=Z,1.0nm,0.4s,baz=33,slow=1.4,SNR=6.1							
DOT	Dot Lake	148.40 311			PKPbc	16 14 26.5	+0.4
SCRK	Sand Creek	148.44 311			PKPbc	16 14 26.8	+0.4
RIDG	Independent Ri	148.76 311			PKPbc	16 14 27.7	+0.6
HHC	Hu-ho-hao-te	149.14 100		ePKPbc	PKPdf	16 14 25.9	+1.2
BMAR	Burnt Mountain	149.35 318			PKPbc	16 14 29.1	+0.6
PRP	Porcupine Dome	149.42 314			PKPbc	16 14 29.0	+0.1
HDA	Harding Lake	149.81 312			PKPbc	16 14 29.9	+0.3
IL31		149.85 312			PKPbc	16 14 29.5	-0.1
ILAR	Eielson Array	149.85 312	PKPbc		PKPbc	16 14 29.5	-0.2
comp=Z,6.4nm,0.8s,baz=123,slow=1.8,SNR=60							
CCB	Clear Creek Bu	150.21 312			PKPbc	16 14 30.1	-0.5
WRH	Wood River Hil	150.30 312			PKPbc	16 14 30.6	-0.2
RND	Reindeer	150.43 309			PKPbc	16 14 31.6	+0.4
SONM	Songino Array	150.44 85	PKPbc		PKPbc	16 14 31.7	-0.2
comp=Z,1.5nm,0.5s,baz=210,slow=3.1,SNR=12							
SONM	Songino Array	150.44 85			PKPbc	16 14 31.5	-0.4
MCK	McKinley	150.53 310			PKPbc	16 14 31.7	+0.2
KDAK	Kodiak Island	150.73 297	PKPbc		PKPbc	16 14 32.5	+0.5
comp=Z,4.8nm,0.6s,baz=148,slow=3.9,SNR=5.1							
TRF	Thorofare Moun	151.07 309			PKPbc	16 14 32.9	0.0
TOLK	Toolik Lake Re	151.33 320			PKPbc	16 14 33.5	+0.2
BPAW	Bear Paw Mtn.	151.49 310			PKPbc	16 14 33.5	-0.2
IMAR	Indian Mountai	152.85 314			PKPbc	16 14 36.7	+0.1

IDC ***20*** *15:55:46.6±3.0, 13°.91N×92°.79W, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.7/54, mbtmp3.9/7, ML3.3/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/35, Error ellipse: s-maj=61.6km s-min=25.2km az=177.0*
NEIC ***20*** *15:55:47.6±1.4, 14°.04N±0°.02×92°.85W±0°.04, h4km±6km, mb4.3/4, Md4.0(MEX)*
ISCJB ***20*** *15:55:48.6±1.9, 14°.01N±0°.06×92°.79W±0°.08, h24km±13km, mb4.0/4, MS2.9/1, Error ellipse: s-maj=14.4km s-min=9.0km az=156.3*
MEX ***20*** *15:55:50.9±0.7, 13°.95N×92°.80W, h16km±36km, MD4.0*
ISC 20 15:55:48.3±2.2, 14°.07N±0°.08×92.79W±0°.06, h8km±12km, n28, σ0°82/37, mb4.1/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.97	31	*i* P	Pg	15 56 07.2	+0.2
THIG				*i* S	Sb	15 56 20.8	+0.3
THIG		0.97	31		Pg	15 56 07.2	+0.2
THIG					Sb	15 56 20.8	+0.3
PCIG		1.68	346	*e*P	Pn	15 56 17.6	-0.5
PCIG				*i* S	Sn	15 56 38.3	-1.4
PCIG		1.68	346		Pn	15 56 17.6	-0.5
PCIG					Sn	15 56 38.3	-1.4
CCIG	Comitan	2.28	16	*e*P	Pn	15 56 26.1	-0.5
CCIG				*e*S	Sn	15 56 54.6	-0.5
CCIG	Comitan	2.28	16		Pb	15 56 29.0	-1.0
CCIG	Comitan	2.28	16		Pn	15 56 26.1	-0.5
CCIG					Sn	15 56 54.6	-0.5
APG	El Apazote	2.43	67	Pn	Pn	15 56 29.2	+0.6
3.1nm,0.3s,baz=239,slow=5.8,SNR=52							
APG				Sn	Sb	15 57 02.9	+0.1
8.2nm,0.3s,baz=148,slow=20,SNR=6.5							
TGIG		2.71	353	*i* P	Pn	15 56 33.4	+1.1
TGIG				*e*S	Sn	15 57 05.5	+0.1
TGIG		2.71	353		Pn	15 56 33.4	+1.1
TGIG					Sn	15 57 05.5	+0.1
CMIG	Matias Romero	3.62	326	Pn	Pn	15 56 44.6	-0.1
1.3nm,0.3s,baz=153,slow=14,SNR=10							
CMIG	Matias Romero	3.62	326	*e*P	Pn	15 56 44.6	-0.1
CMIG				*i* S	Sn	15 57 27.9	+0.1
CMIG	Matias Romero	3.62	326		Pn	15 56 44.6	-0.1
CMIG					Sn	15 57 27.9	+0.1
TEIG	Tepich	7.48	35	Pn	Pn	15 57 38.3	+0.4
2.2nm,0.3s,baz=325,slow=0.6,SNR=13							
TEIG				LR	LR	16 00 58.1	
comp=Z,141nm,19.9s,baz=230,slow=41							
TEIG	Tepich	7.48	35		Pn	15 57 38.1	+0.2
OTAV	Otavalo	19.76	133	P	P	16 00 18.2	-1.3
AMTX	Amarillo	22.22	340	P	P	16 00 45.9	+0.2
AMTX				IAmb	IAmb	16 00 48.0	
comp=Z,6.0nm,0.8s							
V48A	Smith Brothers	22.23	13	P	P	16 00 46.1	+0.5
V48A				IAmb	IAmb	16 01 12.7	
comp=Z,33nm,1.8s							
TKL	Tuckaleechee C	22.97	19	LR	LR	16 10 54.0	
comp=Z,48nm,20.4s,baz=118,slow=39							
NVAR	Mina Array Bea	33.14	322	P	P	16 02 27.2	+1.7
comp=Z,1.0nm,0.8s,baz=141,slow=8.5,SNR=9.2							
NVAR	Mina Array Bea	33.14	322	P	P	16 02 25.5	0.0
MCMT	McKenzie Canyo	35.08	335	P	P	16 02 43.6	+1.3
YKA	Yellowknife Ar	50.78	347	P	P	16 04 48.7	-0.2
comp=Z,2.0nm,0.8s,baz=153,slow=7.0,SNR=8.1							
INK	Inuvik	60.15	344	P	P	16 05 55.9	-0.3
comp=Z,2.3nm,0.9s,baz=143,slow=8.1,SNR=5.7							
INK	Inuvik	60.15	344	IAmb	IAmb	16 05 57.5	
comp=Z,5.8nm,1.2s							
ILAR	Eielson Array	62.47	337	P	P	16 06 13.8	+1.8
comp=Z,0.5nm,0.7s,baz=99,slow=6.2,SNR=6.8							
ILAR	Eielson Array	62.47	337	P	P	16 06 12.7	+0.6
CMAR	Chiang Mai Arr	145.67	340	PKPbc	PKPdf	16 15 27.1	-1.4
comp=Z,1.4nm,0.8s,baz=337,slow=3.9,SNR=7.5							

ISCJB ***20*** *16:08:35.4±0.5, 19°.14S±0°.09×177°.65W±0°.09, h570km, mb3.7/4, Error ellipse: s-maj=14.4km s-min=7.4km az=137.6*
IDC ***20*** *16:08:35.9±2.3, 19°.05S×177°.76W, h541km±25km, mb3.2/4, mb1 3.4/5, mb1mx3.0/29, mbtmp4.2/5, Error ellipse: s-maj=103.0km s-min=19.5km az=147.0*
NEIC ***20*** *16:08:36.6±0.8, 19°.1S±0°.1×177°.7W±0°.2, h563km±6km, mb4.6/25*
ISC 20 16:08:36.5±0.6, 19°.1S±0°.1×177°.5W±0°.1, h570km, n36, σ0°98/38, mb4.4/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.42	288	P	P	16 10 05.2	+2.1
AFI	Afiamalu	7.59	48	P	P	16 10 30.9	-0.1
3.4nm,0.3s,baz=85,slow=2.8,SNR=6.8							
AFI				S	S	16 12 03.7	-1.1
2.5nm,0.3s,baz=153,slow=9.2,SNR=3.2							
AFI	Afiamalu	7.59	48	P	P	16 10 30.8	-0.2
OUZ	Omahuta	17.83	204	P	P	16 12 12.3	+0.6
URZ	Urewera	19.61	193	P	P	16 12 29.1	+1.2
URZ				IAmb	IAmb	16 12 33.5	
comp=Z,82nm,2.0s							
QRZ	Quartz Range	23.23	199	P	P	16 12 58.2	-2.1
QRZ				IAmb	IAmb	16 13 44.1	
comp=Z,54nm,1.8s							
TUWZ	Tuamarina	23.37	196	P	P	16 13 02.5	+0.9
THZ	Tophouse	23.97	198	P	P	16 13 04.0	-3.0
THZ				IAmb	IAmb	16 13 06.9	
comp=Z,52nm,1.9s							
WHZ	Wether Hill Ro	29.25	201	P	P	16 13 52.4	-0.7
EIDS	Eidsvold	29.65	252	P	P	16 13 55.5	-1.4
EIDS				IAmb	IAmb	16 15 24.9	
comp=Z,34nm,1.8s							
ARMA	Armidale	30.07	242	P	P	16 14 00.3	-0.3
ARMA				IAmb	IAmb	16 15 34.4	
comp=Z,24nm,1.7s							
TOO	Toolangi	37.05	232	P	P	16 14 58.5	-0.6
STKA	Stephens Creek	38.78	243	P	P	16 15 13.2	+0.1
comp=Z,2.7nm,0.9s,baz=72,slow=9.0,SNR=6.0							
BBOO	Buckleboo	43.55	242	P	P	16 15 50.3	-0.5
BBOO				IAmb	IAmb	16 15 54.0	
comp=Z,32nm,1.3s							
HATHI	Halema'uma'u T	44.12	31	P	P	16 15 56.4	+1.0
HMH	Humu'ula Sheep	44.17	31	P	P	16 15 55.7	-0.3
WR0	Warramunga Arr	45.04	261	P	P	16 16 02.0	-0.5
WR0				IAmb	IAmb	16 17 04.0	
comp=Z,9.2nm,1.4s							
WB0	Warramunga Arr	45.21	261	P	P	16 16 03.2	-0.6
WB0				IAmb	IAmb	16 17 46.2	
comp=Z,11nm,1.4s							
WB2	Warramunga Arr	45.22	261	P	P	16 16 03.4	-0.4
WB2				IAmb	IAmb	16 16 29.7	
comp=Z,13nm,1.6s							
WRAB	Tennant Creek	45.23	261	P	P	16 16 03.3	-0.5
WRA	Warramunga Arr	45.23	261	P	P	16 16 03.3	-0.7
comp=Z,1.0nm,0.3s,baz=98,slow=7.7,SNR=28							
WRA	Warramunga Arr	45.23	261	IAmb	IAmb	16 16 04.8	
comp=Z,0.5nm,1.8s							
AS31	Alice Springs	45.27	255	P	P	16 16 03.9	-0.3
ASAR	Alice Springs	45.27	255	P	P	16 16 04.0	-0.2
comp=Z,1.9nm,0.6s,baz=87,slow=8.3,SNR=41							
ASAR				PcP	PcP	16 17 32.4	+0.5
comp=Z,0.6nm,0.6s,baz=106,slow=4.0,SNR=5.2							
ASAR	Alice Springs	45.27	255	P	P	16 16 03.7	-0.5
ASAR					PcP	16 17 32.1	+0.3
MTN	Manton Dam	49.60	269	P	P	16 16 36.4	-0.2
MTN				IAmb	IAmb	16 16 53.1	
comp=Z,24nm,1.3s							
FORT	Forrest	50.24	246	P	P	16 16 40.2	-0.9
FORT				IAmb	IAmb	16 17 08.9	
comp=Z,31nm,1.0s							
KNRA	Kununurra	51.20	265	P	P	16 16 47.8	-0.5
KNRA				IAmb	IAmb	16 17 55.5	
comp=Z,49nm,1.4s							
FITZ	Fitzroy Crossi	53.65	261	P	P	16 17 06.3	+0.6
comp=Z,2.4nm,0.9s,baz=108,slow=6.4							
PSA00	Pilbara Seismi	58.41	256	P	P	16 17 38.1	-0.4
PSA00				IAmb	IAmb	16 18 03.0	
comp=Z,23nm,1.3s							
PSA00	Pilbara Seismi	58.41	256	P	P	16 17 37.9	-0.6
PSA00				IAmb	IAmb	16 19 20.5	
comp=Z,6.4nm,0.7s							
SBA	Scott Base	59.25	184	P	P	16 17 44.2	+1.0
BRTR	Keskin Array B	146.23	314	PKPbc	PKPab	16 27 15.2	-1.3
comp=Z,0.6nm,0.6s,baz=128,slow=3.8,SNR=4.0							
BRTR	Keskin Array B	146.23	314		PKPbc	16 27 14.4	+0.3
GERES	GERESS Array B	149.01	346	PKPbc	PKiKP	16 27 22.4	+0.7
comp=Z,0.3nm,0.3s,baz=344,slow=3.3,SNR=4.1							
GERES	GERESS Array B	149.01	346		PKiKP	16 27 22.1	+0.3

ISCJB ***20*** *16:20:26.7±0.3, 9°.13S±0°.04×123°.43E±0°.04, h100km, mb4.3/7, Error ellipse: s-maj=5.9km s-min=4.2km az=43.0*
DJA ***20*** *16:20:29.3±0.3, 9°S±2°×12°3E±°, h112km±4km, M4.6/13, mb5.0/6, mB5.2/5, MLv4.4/13, Mw(mB)4.6/5*
NEIC ***20*** *16:20:30.2±1.3, 9°.2S±0°.1×123°.4E±0°.1, h118km±9km, mb4.6/20*
IDC ***20*** *16:20:30.6±0.7, 9°.27S×123°.31E, h125km±13km, mb4.0/6, mb1 4.1/9, mb1mx3.7/33, mbtmp4.4/9, MS2.8/3, Ms1 2.8/3, ms1mx2.5/29, Error ellipse: s-maj=40.4km s-min=21.2km az=59.0*
ISC 20 16:20:28.7±0.5, 9°.16S±0°.04×123°.27E±0°.05, h100km, n62, σ2°08/68, mb4.4/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.11	159	P	Pn	16 20 53.1	+2.7
1μm,0.3s,baz=345,slow=3.4,SNR=1835							
BATI				S	Sn	16 21 10.4	+3.7
759nm,0.3s,baz=4.3,slow=22,SNR=40							
BATI				LR	LR	16 21 17.1	
comp=Z,98nm,18.4s,baz=16,slow=47							
BATI	Baumata	1.11	159	P	Pn	16 20 52.7	+2.3
BATI				S	Sn	16 21 10.3	+3.6
MMRI	Maumere	1.15	297	P	Pn	16 20 52.5	+1.7
MMRI				S	Sn	16 21 09.9	+2.5
SOEI	Soe	1.15	121	P	Pn	16 20 53.4	+2.5
SOEI				S	Sn	16 21 10.6	+2.9
BASI	Baing, Sumba	2.85	248	P	Pn	16 21 14.4	+1.9
WSI	Waingapu	2.97	260	P	Pn	16 21 15.5	+1.4
WSI				S	Sn	16 21 50.7	+1.5
BBSI	Bau Bau	3.72	349	P	Pn	16 21 25.1	+0.9
BBSI				S	Sn	16 22 08.1	+1.1
WBSI	Waikabubak, Su	3.85	263	P	Pn	16 21 26.0	0.0
BKSI	Bulukumba	4.93	321	P	Pn	16 21 42.2	+1.7
KAPI	Kappang	5.40	320	P	Pn	16 21 51.0	+4.0
2.4nm,0.3s,baz=121,slow=13,SNR=5.6							
KAPI				LR	LR	16 23 55.1	
comp=Z,104nm,21.1s,baz=290,slow=37							
KAPI	Kappang	5.40	320		Pn	16 21 50.9	+3.9
PLAI	Plampang	5.43	273	P	Pn	16 21 49.5	+2.1
TWSI	Taliwang, Sumb	6.32	273	P	Pn	16 22 01.1	+1.6
IGBI	Denpasar	8.03	272	P	Pn	16 22 23.2	+0.5
KNRA	Kununurra	8.41	141		Pn	16 22 26.8	-1.0
MTN	Manton Dam	8.54	116		Pn	16 22 29.1	-0.6
FITZ	Fitzroy Crossi	9.18	166	P	Pn	16 22 37.1	-1.1
2.5nm,0.3s,baz=358,slow=8.7,SNR=146							
FITZ				S	Sn	16 24 12.4	-7.3
12nm,0.3s,baz=334,slow=15,SNR=27							
FITZ				LR	LR	16 26 16.7	
comp=Z,38nm,21.4s,baz=326,slow=38							
FITZ	Fitzroy Crossi	9.18	166		Pn	16 22 36.8	-1.5
FITZ					Sn	16 24 11.5	-8.2
PSA00	Pilbara Seismi	12.77	195	Pn	Pn	16 23 26.0	-0.7
PSA00	Pilbara Seismi	12.77	195	P	Pn	16 23 29.5	+2.9
WB0	Warramunga Arr	15.06	136	Pn	Pn	16 23 52.9	-3.4
WRA	Warramunga Arr	15.14	136	P	Pn	16 23 53.9	-3.5
1.3nm,0.3s,baz=307,slow=14,SNR=30							
WRA				S	Sn	16 26 32.4	-12
4.4nm,0.3s,baz=317,slow=24,SNR=11							
WRA	Warramunga Arr	15.14	136	Pn	Pn	16 23 53.8	-3.6
WRAB	Tennant Creek	15.14	136		Pn	16 23 54.3	-3.1
WRAB				IAmb	IAmb	16 24 02.8	
comp=Z,19nm,0.7s							
WB2	Warramunga Arr	15.15	136		Pn	16 23 54.1	-3.4
WB2				IAmb	IAmb	16 24 03.2	
comp=Z,18nm,0.6s							
WR0	Warramunga Arr	15.29	136	Pn	Pn	16 23 56.0	-3.3
WR0				IAmb	IAmb	16 24 04.4	
comp=Z,38nm,0.5s							
GIRL	Giralia	15.96	212	P	Pn	16 24 09.9	+2.3
XMIS	Christmas Isla	17.41	264	P	P	16 24 27.3	+2.0
XMIS				IAmb	IAmb	16 24 38.5	
comp=Z,44nm,1.0s							
AS31	Alice Springs	17.65	146	P	P	16 24 28.2	+0.3
ASAR	Alice Springs	17.65	146	P	P	16 24 27.7	-0.2
comp=Z,1.4nm,0.3s,baz=322,slow=12,SNR=73							
ASAR				S	Sn	16 27 32.2	-13
comp=Z,1.2nm,0.3s,baz=314,slow=22,SNR=17							
ASAR	Alice Springs	17.65	146	P	P	16 24 28.3	+0.4
COEN	Coen	20.07	106	P	Pn	16 24 55.9	-1.1
NWAO	Narrogin (SRO)	24.30	192	LR	LR	16 36 54.5	
comp=Z,39nm,18.6s,baz=170,slow=41							
NWAO	Narrogin (SRO)	24.30	192	P	P	16 25 38.0	+1.1
BBOO	Buckleboo	26.34	155	P	P	16 25 57.0	+1.6
BBOO				IAmb	IAmb	16 26 37.2	
comp=Z,63nm,1.8s							
STKA	Stephens Creek	28.29	146	P	P	16 26 14.9	+2.1
comp=Z,2.3nm,0.6s,baz=329,slow=11,SNR=7.8							
STKA	Stephens Creek	28.29	146	P	P	16 26 14.2	+1.3
MJAR	Matsushiro Arr	47.58	16	P	P	16 28 53.5	-0.9
comp=Z,3.2nm,0.5s,baz=194,slow=9.2,SNR=14							
MJAR	Matsushiro Arr	47.58	16	P	P	16 28 52.9	-1.5
MAJO	Matsushiro	47.58	16	P	P	16 28 53.6	-0.9
MAJO				IAmb	IAmb	16 28 56.7	
comp=Z,24nm,1.3s							
MJB9	Matsu-Tunnel	47.59	16	P	P	16 28 53.7	-0.8
MJB9				IAmb	IAmb	16 28 56.6	
comp=Z,26nm,1.3s							
TAPN	Taplejung	50.04	318	*e*P	P	16 29 13.4	-0.4
RAMN	Ramite	50.53	316	*e*P	P	16 29 17.1	-0.3
GUN	Gumba	51.64	317	*e*P	P	16 29 25.6	-0.2
PKI	Pulchoki	51.74	316	*e*P	P	16 29 25.7	-0.9
comp=Z,5.0nm,0.5s							
PKIN	Phulchoki	51.76	316	*e*P	P	16 29 25.8	-0.8
GKN	Gorkha	52.54	316	*e*P	P	16 29 31.8	-0.5
comp=Z,5.9nm,0.3s							
DANN	Dangsing	53.36	316	*e*P	P	16 29 37.9	-0.6
comp=Z,11nm,0.5s							
USA0B	Ussuriysk Arra	53.70	8	P	P	16 29 39.5	-0.7
USRK	Ussuriysk Ar.	53.70	8	P	P	16 29 39.6	-0.6
comp=Z,2.0nm,0.4s,baz=202,slow=7.4,SNR=17							
MDJ	Mudanjiang	53.83	6	P	P	16 29 41.2	0.0
SONM	Songino Array	58.69	347	P	P	16 30 15.9	0.0
comp=Z,1.9nm,0.6s,baz=162,slow=9.0,SNR=12							
SONM	Songino Array	58.69	347	P	P	16 30 15.5	-0.4
MK31	Makanchi Array	66.59	331	P	P	16 31 08.4	0.0
MK31				IAmb	IAmb	16 31 09.8	
comp=Z,3.3nm,0.9s							
MKAR	Makanchi Array	66.59	331	P	P	16 31 08.4	+0.1
comp=Z,2.8nm,0.8s,baz=140,slow=6.6,SNR=13							
MKAR	Makanchi Array	66.59	331	P	P	16 31 08.1	-0.2
PETK	Petropavlovsk-	68.61	21	P	P	16 31 21.6	+0.8
comp=Z,2.6nm,0.6s,baz=184,slow=4.8,SNR=7.8							
PETK	Petropavlovsk-	68.61	21	P	P	16 31 20.1	-0.7
ZAA0	Zalesovo Array	70.76	337	P	P	16 31 33.2	-0.8
ZAA0				IAmb	IAmb	16 31 33.8	
comp=Z,4.1nm,0.7s							
ZALV	Zalesovo Beam	70.76	337	P	P	16 31 33.5	-0.6
comp=Z,4.0nm,0.5s,baz=140,slow=4.1,SNR=20							
ZALV	Zalesovo Beam	70.76	337	P	P	16 31 32.7	-1.3
TIXI	Tiksi	80.72	2	P	P	16 32 30.1	-0.3

IDC ***20*** *16:33:15.6±0.9, 54°.77N×110°.96E, h0km, mb3.8/6, mb1 3.9/12, mb1mx3.7/41, mbtmp3.8/12, ML3.5/4, MS3.0/7, Ms1 3.0/7, ms1mx2.8/48, Error ellipse: s-maj=21.3km s-min=16.9km az=149.0*
MOS ***20*** *16:33:15.2±1.0, 54°.74N×111°.06E, h11km, mb4.2/5, Error ellipse: s-maj=11.0km s-min=7.1km az=75.9*
MOS Felt (II-III) at Ulyunkhan.
BYKL ***20*** *16:33:16.8±0.2, 54°.74N×111°.00E, h17km±3km, FELT I=II-III MSK at Ulyunkhan.*
NEIC ***20*** *16:33:17.1±1.4, 54°.79N±0°.10×111°.0E±0°.1, h10km±1km, mb4.8/16*
BJI ***20*** *16:33:19.7±0.0, 54°.45N×111°.45E, h19km, mb4.1/5, mB4.4/4, Ms4.0/1, Ms7 4.0/1*
ISC 20 16:33:15.8±1.1, 54°.76N±0°.02×111°.00E±0°.02, h2km±7km, n113, σ2°05/152, mb4.2/17, MS3.0/4, 3C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.15	39	*e*Pg	Pg	16 33 20.0	+1.3
YLYR				⇓*i*		16 33 20.2	
YLYR				*e*Sg	Sg	16 33 22.9	+2.2
YLYR	Ulyunkhan	0.15	39	*e*PG	Pg	16 33 19.8	+1.1
YLYR				*e*		16 33 22.5	
YLYR				pmax	pmax		
comp=Z,3μm,0.1s							
YLYR				smax	smax		
comp=N,22μm,0.2s							
KMO	Kumora	1.14	6	*e*Pg	Pb	16 33 37.2	-0.9
KMO				*e*Pb	Pn	16 33 38.6	-0.1
KMO				max		16 33 39.0	
comp=N,786nm,0.4s							
KMO				*e*		16 33 40.3	
KMO				*e*Sg	Sb	16 33 53.1	-0.2
KMO				*e*		16 33 57.7	
KMO				max		16 33 59.2	
comp=N,8μm,0.6s							
KMO	Kumora	1.14	6	*e*PG	Pb	16 33 37.1	-1.0
KMO				*e*		16 33 53.1	
KMO				pmax	pmax		
comp=Z,794nm,0.4s							
KMO				smax	smax		
comp=E,8μm,0.6s							
SYVR	Suvo	1.25	208	*e*Pg	Pb	16 33 40.1	+0.1
SYVR				*e*Pb	Pg	16 33 41.6	+1.9
SYVR				max		16 33 42.0	
comp=E,916nm,0.7s							
SYVR				*e*Sg	Sn	16 33 57.3	-0.3
SYVR				*e*Sb	Sg	16 34 00.9	+5.0
SYVR				max		16 34 01.4	
comp=E,5μm,0.8s							
SYVR	Suvo	1.25	208	*e*PG	Pn	16 33 39.9	-0.3
SYVR				*e*		16 33 56.7	
SYVR				pmax	pmax		
comp=Z,936nm,0.7s							
SYVR				smax	smax		
comp=N,5μm,0.7s							
NIZ	Nizh Angarsk	1.32	321	⇑*i*Pg	Pn	16 33 40.7	-0.4
NIZ				*e*Pb	Pb	16 33 41.6	+0.4
NIZ				max		16 33 42.1	
comp=N,1μm,0.4s							
NIZ				*e*Sg	Sb	16 33 58.4	-0.1
NIZ				Smax		16 34 02.0	
comp=N,3μm,1.0s							
NIZ	Nizh Angarsk	1.32	321	⇑*i*PG	Pn	16 33 40.7	-0.4
NIZ				*e*		16 33 59.7	
NIZ				pmax	pmax		
comp=Z,1μm,0.6s							
NIZ				smax	smax		
comp=E,3μm,1.0s							
YOA	Uoyan	1.44	16	*e*Pg	Pn	16 33 43.3	+0.5
YOA				Pmax		16 33 52.2	
comp=E,2μm,0.4s							
YOA				*e*Sg	Sg	16 34 03.3	+1.4
YOA				*e*		16 34 07.2	
YOA				max		16 34 12.3	
comp=E,17μm,1.3s							
UKT	Uakit	1.68	63	*e*Pg	Pn	16 33 46.6	+0.4
UKT				*e*		16 33 51.2	
UKT				max		16 33 54.7	
comp=E,810nm,0.9s							
UKT				*e*Sg	Sb	16 34 09.3	+0.4
UKT				Smax		16 34 12.6	
comp=E,6μm,0.6s							
UKT	Uakit	1.68	63	⇑*i*PN	Pn	16 33 46.6	+0.4
UKT				*e*		16 34 09.3	
UKT				pmax	pmax		
comp=Z,745nm,0.8s							
UKT				smax	smax		
comp=N,5μm,0.9s							
SVKR	Severomuysk	2.00	46	*e*Pn	Pn	16 33 49.9	-0.6
SVKR				*e*Pg	Pb	16 33 53.1	+0.3
SVKR				*e*		16 33 57.6	
SVKR				max		16 34 00.1	
comp=N,1μm,0.5s							
SVKR				*e*Sg	Sg	16 34 20.2	+0.4
SVKR				Smax		16 34 22.5	
comp=N,10μm,0.6s							
MXMB	Maximikha	2.00	222	*e*Pg	Pb	16 33 52.2	-0.7
MXMB				*e*Sg	Sb	16 34 18.2	-0.1
OGRR	Ongureny	2.29	242	*e*Pn	Pn	16 33 55.5	+1.0
OGRR				*e*Pg	Pb	16 33 58.5	+0.7
OGRR				*e*		16 34 04.5	
OGRR				max		16 34 09.2	
comp=N,305nm,0.5s							
OGRR				*e*Sn	Sn	16 34 23.0	-0.3
OGRR				*e*Sg	Sg	16 34 28.8	-0.5
OGRR				Smax		16 34 31.5	
comp=N,2μm,0.5s							
OGRR	Ongureny	2.29	242	*e*PN	Pb	16 33 56.2	-1.6
OGRR				*e*		16 33 59.2	
OGRR				*e*		16 34 28.7	
OGRR				pmax	pmax		
comp=Z,302nm,1.0s							
OGRR				smax	smax		
comp=N,2μm,0.6s							

comp=E,134nm,0.8s
BOD *e*Sn **Sn** **16 34 51.7 -1.2**
BOD *e*Sg **Sb** **16 35 05.2 +4.1**
BOD Smax 16 35 23.7
comp=E,614nm,1.1s
UUDB Ulan-Yde 3.52 216 *e*Pg **Pb** **16 34 19.0 +0.2**
UUDB *e* 16 34 26.0
UUDB max 16 34 28.8
comp=E,253nm,0.7s
UUDB *e*Sg **Sg** **16 35 06.2 -2.6**
UUDB Smax 16 35 14.5
comp=E,1μm,1.0s
KAB Kabansk 3.76 226 *e*Pg **Pb** **16 34 23.6 +0.8**
KAB Pmax 16 34 37.8
comp=E,446nm,1.1s
KAB *e*Sg **Sg** **16 35 13.8 -2.6**
KAB Smax 16 35 14.9
comp=E,3μm,1.0s
HRMR Khuramsha 3.97 219 *e*Pg **Pb** **16 34 28.0 +1.6**
HRMR Pmax 16 34 29.7
comp=E,44nm,0.1s
HRMR *e*Sn **Sn** **16 35 02.3 -2.4**
HRMR *e*Sg **Sg** **16 35 20.5 -2.7**
HRMR Smax 16 35 38.3
comp=E,2μm,0.9s
BGT Bolshoye Golou 4.31 233 *e*Sn **Sn** **16 35 10.1 -3.0**
BGT *e*Sg **Sb** **16 35 29.1 +4.5**
BGT Smax 16 35 36.1
comp=E,3μm,0.5s
CRS Chara 4.63 59 *e*Sn **Sn** **16 35 18.7 -2.2**
CRS *e*Sg **Sg** **16 35 40.6 -3.6**
CRS Smax 16 35 48.0
comp=E,1μm,1.2s
LSTR Listvyanka 4.70 234 *e*Sg **Sg** **16 35 41.4 -5.1**
LSTR Smax 16 36 00.8
comp=E,394nm,1.4s
IRK Irkutsk 4.74 241 *e*Pg **Pb** **16 34 41.1 +1.6**
IRK Pmax 16 34 46.1
comp=E,109nm,0.4s
IRK *e*Sn **Sn** **16 35 21.9 -1.8**
IRK *e*Sg **Sg** **16 35 42.8 -5.2**
IRK Smax 16 35 45.7
comp=E,2μm,1.0s
VTMR Vitim 4.77 10 *e*Sg **Sg** **16 35 45.9 -2.9**
KPC Khapcheranga 5.13 170 *e*Sg **Sg** **16 35 55.9 -4.7**
KPC Smax 16 36 02.4
comp=E,896nm,1.0s
TUP Tupik 5.22 90 *e*Pn **Pn** **16 34 34.4 -0.4**
TUP *e*Pg **Pb** **16 34 50.6 +2.9**
TUP Pmax 16 34 52.7
comp=E,107nm,1.2s
TUP *e*Sn **Sn** **16 35 31.6 -3.9**
TUP *e* 16 35 51.3
TUP *e*Sg **Sg** **16 35 59.0 -4.3**
TUP Smax 16 36 06.2
comp=E,749nm,0.7s
TLY Talaya 5.39 238 *e*Sg **Sg** **16 36 02.5 -6.2**
TLY *e* 16 36 13.8
TLY max 16 36 20.6
comp=E,282nm,1.2s
TLY Talaya 5.39 238 *i* PN **Pn** **16 34 37.5 +0.4**
TLY Talaya 5.39 238 Lg Lg 16 36 01.2
comp=E,0.2nm,0.3s,baz=185,slow=16,SNR=7.6
TLY LR LR 16 37 08.2
comp=E,61nm,20.1s,baz=55,slow=43
TLY Talaya 5.39 238 Pn **Pn** **16 34 38.5 +1.4**
KHNR Khani 5.50 63 *e*Sg **Sg** **16 36 08.9 -3.5**
ARS Arshan 5.87 245 *e*Pg **Pb** **16 35 01.9 +3.1**
ARS Pmax 16 35 11.6
comp=E,88nm,0.6s
ARS *e*Sn **Sn** **16 35 49.0 -2.6**
ARS *e*Sg **Sg** **16 36 17.7 -6.5**
ARS Smax 16 36 20.3
comp=E,1μm,0.6s
YKLR Yuktali 6.30 69 *e* Pb 16 35 11.8 +5.7
YKLR *e*Sg **Sg** **16 36 32.2 -5.8**
ZAK Zakamensk 6.43 230 *e*PN Pb 16 35 01.1 -7.2
ZAK *e* 16 36 36.5
ZAK pmax pmax
comp=Z,23nm,0.7s
ZAK smax smax
comp=E,249nm,1.0s
MOY Mondy 6.76 247 *e*Sn **Sn** **16 36 08.5 -5.0**
MOY *e*Sg Sg 16 36 44.5 -8.2
MOY Smax 16 36 50.3
comp=E,690nm,1.3s
ORL Orlik 7.01 256 *e*Pn **Pn** **16 35 01.1 +1.6**
ORL *e* 16 35 05.2
ORL max 16 35 11.1
comp=E,66nm,1.1s
ORL *e*Sg **Sg** **16 36 54.4 -6.4**
ORL Smax 16 37 05.9
comp=E,448nm,1.2s
ORL Orlik 7.01 256 *e*PN **Pn** **16 35 00.6 +1.1**
ORL *e* 16 35 23.9
ORL *e* 16 36 56.4
ORL pmax pmax
comp=Z,71nm,0.7s
ORL smax smax
comp=N,447nm,1.3s
ULN Ulaanbaatar 7.33 201 *i* PN **Pn** **16 35 04.5 +0.6**
ULN Ulaanbaatar 7.33 201 Pn **Pn** **16 35 04.9 +1.0**
SONM Songino Array 7.51 204 PN **Pn** **16 35 07.0 +0.7**
SONM Songino Array 7.51 204 Pn **Pn** **16 35 06.7 +0.4**
comp=N,1.3nm,0.3s,baz=7.5,slow=12,SNR=17
SONM Lg Lg 16 37 14.9
comp=N,4.9nm,0.3s,baz=26,slow=27,SNR=9.0
SONM LR LR 16 38 24.5
comp=N,152nm,19.6s,baz=3.0,slow=41
SONM Songino Array 7.51 204 **Pn** **16 35 07.0 +0.7**
HIA Hailar 7.70 132 PN **Pn** **16 35 08.2 -0.6**
HIA Hailar 7.70 132 Pn **Pn** **16 35 08.2 -0.6**
IENR Iengra 8.01 74 *e*Sg Sg 16 37 24.6 -8.1
IENR *e* 16 37 45.1
CLNS Chul'man 8.10 69 *e*Sg Sg 16 37 26.9 -8.8
TDJR Todzha 9.17 261 *e*Sg Sn 16 37 59.6 +47
ZEA Zeya 9.57 89 *e*P Pn 16 35 44.0 +10
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=Z,600nm,5.0s
YAK Yakutsk 12.17 46 *e*P Pn 16 35 59.2 -11
YAK pmax pmax
comp=Z,3.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK MLR MLR
comp=Z,105nm,16.0s
YAK MLR MLR
comp=N,32nm,18.0s
YAK MLR MLR
comp=E,54nm,17.0s
YAK Yakutsk 12.17 46 Lg Lg 16 39 31.8
comp=E,0.1nm,0.3s,baz=173,slow=24,SNR=4.3
KLR Kul'dur 13.91 105 *i* P **Pn** **16 36 34.6 +0.9**
KLR Kul'dur 13.91 105 Pn **Pn** **16 36 34.7 +1.1**
comp=E,0.2nm,0.3s,baz=304,slow=15,SNR=3.0
KLR Sn **Sn** **16 39 10.6 +2.0**
comp=E,0.2nm,0.3s,baz=334,slow=22,SNR=5.1
KLR Lg Lg 16 40 29.9
comp=E,0.3nm,0.3s,baz=69,slow=16,SNR=3.9
KLR LR LR 16 41 46.2
comp=E,72nm,18.6s,baz=298,slow=37
ZAA0 Zalesovo Array 15.26 278 Pn **Pn** **16 36 52.8 +0.9**
ZAA0 P **P** **16 36 56.8 -0.2**
ZAA0 IAmb IAmb 16 36 58.2
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 15.26 278 Pn **Pn** **16 36 51.8 -0.1**
baz=64,slow=10,SNR=4.5
ZALV Lg Lg 16 41 13.3
comp=Z,0.2nm,0.3s,baz=82,slow=21,SNR=4.8
ZALV Zalesovo Beam 15.26 278 **Pn** **16 36 51.3 -0.6**
ZALV P **P** **16 36 56.7 -0.3**
DGZ Jazzator, Alta 15.27 260 *i* P **Pn** **16 36 51.4 -0.9**
GTA Gaotai 17.10 211 *e*P **P** **16 37 21.3 +3.6**
GTA pP sP 16 37 25.9 +6.9
GTA sP pP 16 37 28.5 +10
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,95nm,4.8s
GTA LR LR
comp=Z,270nm,9.3s
GTA LR LR
comp=Z,91nm,11.3s
GTA LR LR
comp=Z,380nm,11.0s
NRIK Noril'sk 18.09 333 Lg Lg 16 42 46.1
comp=Z,0.3nm,0.3s,baz=204,slow=23,SNR=3.1
TIXI Tiksi 18.62 18 *i* P **P** **16 37 33.4 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 18.62 18 P **P** **16 37 32.9 -1.1**
comp=Z,0.6nm,0.3s,baz=242,slow=10.0,SNR=6.2
TIXI LR LR 16 45 02.3
comp=Z,66nm,21.1s,baz=184,slow=38
TIXI Tiksi 18.62 18 P **P** **16 37 33.3 -0.7**
MK31 Makanchi Array 19.72 258 P **P** **16 37 46.3 0.0**
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 19.72 258 P **P** **16 37 46.3 0.0**
MKAR Makanchi Array 19.72 258 *e*P **Pn** **16 37 50.3 +2.6**
MKAR Makanchi Array 19.72 258 P **P** **16 37 46.3 0.0**
comp=Z,0.2nm,0.3s,baz=40,slow=8.1,SNR=5.9
MKAR Makanchi Array 19.72 258 P **P** **16 37 46.7 +0.4**
KURK Kurchatov 19.91 272 P **Pn** **16 37 50.0 +0.1**
KURK Kurchatov 19.91 272 P **P** **16 37 48.3 0.0**
KURBB Kurchatov Arra 20.00 271 P **P** **16 37 50.0 +0.7**
comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=4.9
KSRS Korea Array 20.82 139 LR LR 16 47 15.9
comp=Z,25nm,18.3s,baz=336,slow=40
YSS Yuzh-Sakhalins 21.37 98 P **P** **16 38 02.8 -1.3**
YSS pmax pmax
comp=Z,77nm,1.3s
YSS Yuzh-Sakhalins 21.37 98 P **P** **16 38 02.8 -1.3**
YSS IAmb IAmb 16 38 44.7
comp=Z,77nm,1.3s
SEY Seymchan 22.55 52 *i* P **P** **16 38 16.3 -0.3**
ASAJ Asahikawa 22.95 105 LR LR 16 47 26.9
comp=Z,36nm,18.4s,baz=162,slow=37
BVAR Borovoye Array 23.76 283 P **P** **16 38 28.2 -1.0**
comp=Z,1.2nm,0.6s,baz=61,slow=12,SNR=4.7
BRVK Borovoye 23.81 283 *i* P **P** **16 38 28.7 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
TARG Taragay, Kyrgy 25.39 253 P **P** **16 38 47.0 +2.3**
MJAR Matsushiro Arr 26.08 123 P **P** **16 38 50.6 +0.1**
MJAR pmax pmax
comp=Z,4.0nm,1.2s
MJAR Matsushiro Arr 26.08 123 P **P** **16 38 50.6 +0.1**
AAK Ala-Archa 26.65 258 *i* P **P** **16 38 54.7 -1.1**
AAK pmax pmax
comp=Z,4.0nm,1.2s
BILL Biiibino 28.45 40 *e*P **P** **16 39 10.7 -0.8**
BILL *e* 16 39 59.0
BILL pmax pmax
comp=Z,2.0nm,1.3s
ABKAR Akbulak array 31.32 281 P **P** **16 39 37.2 +0.2**
OBN Obninsk 40.85 302 *e*P **P** **16 40 59.8 +1.3**
OBN *e* 16 42 32.9
OBN pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 42.33 315 *e*P **P** **16 41 11.7 +1.2**
FINES pmax pmax
comp=Z,5.0nm,1.1s
FINES FINESS Array B 42.33 315 P **P** **16 41 10.6 +0.1**
comp=Z,5.3nm,1.1s,baz=61,slow=9.0,SNR=5.6
FINES FINESS Array B 42.33 315 P **P** **16 41 09.9 -0.5**
TOLK Toolik Lake Re 43.66 32 P **P** **16 41 22.4 +1.1**
TOLK IAmb IAmb 16 41 38.4
comp=Z,17nm,1.9s
IMAR Indian Mountai 43.80 36 P **P** **16 41 22.3 0.0**
KIV Kislovodsk 44.08 285 *e*P **P** **16 41 24.1 -0.9**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,83nm,16.0s
KBZ Khabaz 44.11 285 LR LR 17 03 06.5
comp=Z,31nm,19.4s,baz=148,slow=41
BMAR Burnt Mountain 45.89 31 P **P** **16 41 39.7 +0.6**
WRH Wood River Hil 46.62 36 P **P** **16 41 46.8 +2.0**
WRH IAmb IAmb 16 41 51.3
comp=Z,4.9nm,1.1s
ILAR Eielson Array 46.83 35 P **P** **16 41 46.9 +0.5**
comp=Z,1.7nm,0.8s,baz=295,slow=5.5,SNR=15
SKT Skwentna 46.94 40 P **P** **16 41 46.1 -1.2**
SKT IAmb IAmb 16 42 54.2
comp=Z,9.9nm,0.9s
AKASG Malin Array Be 47.03 301 P **P** **16 41 46.4 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,1.2s
AKASG Malin Array Be 47.03 301 P **P** **16 41 46.4 -1.7**
KNK Knik Glacier 48.44 39 P **P** **16 41 58.5 -0.5**
DOT Dot Lake 48.50 35 P **P** **16 41 59.8 +0.3**
DOT IAmb IAmb 16 42 05.6
comp=Z,15nm,1.5s
OHAK Old Harbor 49.28 46 P **P** **16 42 05.2 -0.2**
OHAK IAmb IAmb 16 43 45.2
comp=Z,46nm,1.5s
SII Sitkinak Islan 49.33 47 P **P** **16 42 03.6 -2.2**
BCAR Beaver Creek A 49.66 35 P **P** **16 42 08.6 +0.2**
BRTR Keskin Array B 51.94 287 *e*P **P** **16 42 27.5 +1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 51.94 287 P **P** **16 42 26.1 +0.2**
comp=Z,0.9nm,0.8s,baz=57,slow=5.7,SNR=4.9
NVAR Mina Array Bea 78.02 37 P **P** **16 45 16.3 +0.6**
comp=Z,0.2nm,0.6s,baz=334,slow=6.0,SNR=2.8
NVAR Mina Array Bea 78.02 37 P **P** **16 45 16.6 +0.9**
ASAR Alice Springs 80.55 159 P **P** **16 45 29.0 -0.2**
comp=Z,0.4nm,0.8s,baz=2.8,slow=5.7,SNR=4.4

*ISN **20** 16:58:38.5±0.4, 36°.62N×43°.12E, h15km, ML3.0*
*DDA **20** 16:58:40.6, 36°.54N×43°.33E, h16km±1km, MW2.9*
*ISK **20** 16:58:42.1, 36°.70N×43°.28E, h5km, ML2.9/6*
ISC 20 16:58:33.5±2.9, 36°.2N±0°.1×43°.35E±0°.07, h2km±13km, n14, σ1§14/22, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.25**	**311**	*e*Pg		**Pn**	**16 58 43.5**	**-0.8**
	baz=2.0							
MSL					AML	AML	16 58 46.3	
	comp=Z,2μm,0.8s							
MSL					*e*Sg	**Sb**	**16 58 46.6**	**+0.9**
CUKT	**Cukurca**	**1.03**	**12**	*i* P		**Pb**	**16 58 54.9**	**+0.6**
CUKT				*i* S		**Sg**	**16 59 04.9**	**-1.9**
CUKT				IAML			16 59 09.0	
	comp=N,120nm,0.4s							
CUKT				IAML			16 59 11.0	
	comp=E,171nm,0.4s							
CUKT	**Cukurca**	**1.03**	**12**	PG		**Pb**	**16 58 54.8**	**+0.6**
CUKT				SG		**Sg**	**16 59 04.6**	**-2.1**
HAKT	**HAKKARI**	**1.35**	**12**	*i* P		**Pg**	**16 59 00.7**	**+1.2**
HAKT				*i* S		**Sg**	**16 59 15.9**	**-1.1**
HAKT				IAML			16 59 23.0	
	comp=E,68nm,0.2s							
HAKT				IAML			16 59 23.0	
	comp=N,66nm,0.4s							
SIRT	**Sirnak**	**1.46**	**330**	PG		**Pg**	**16 59 03.2**	**+1.7**
SIRN	**Sırnak**	**1.47**	**330**	*i* P		**Pg**	**16 59 03.3**	**+1.7**
SIRN				*i* S		**Sn**	**16 59 20.6**	**-0.4**
SIRN				IAML			16 59 22.0	
	comp=E,162nm,0.5s							
SIRN				IAML			16 59 25.0	
	comp=N,130nm,0.3s							
SRTM	**Siirt_Merkez**	**2.09**	**327**	*i* P		**Pg**	**16 59 13.4**	**-0.2**
SRTM				*i* S		**Sb**	**16 59 39.5**	**+0.7**
SRTM				IAML			16 59 44.0	
	comp=N,78nm,0.6s							
SRTM				IAML			16 59 47.0	
	comp=E,114nm,0.5s							
MARD	**Mardin**	**2.33**	**298**	*i* P		**Pg**	**16 59 18.9**	**+0.8**
MARD				*i* S		**Sg**	**16 59 47.9**	**-0.3**
MARD				IAML			16 59 51.0	
	comp=E,82nm,0.5s							
MARD				IAML			16 59 56.0	
	comp=N,104nm,0.5s							
BTMN	**Batman**	**2.34**	**316**	*i* P		**Pb**	**16 59 16.9**	**+0.3**
GURO	**Guroymak-BITLI**	**2.54**	**336**	PN		**Pb**	**16 59 19.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.57**	**319**	*i* P		**Pg**	**16 59 23.5**	**+0.7**
SVAN				*i* S		**Sb**	**16 59 53.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.57**	**319**	PN		**Pb**	**16 59 21.3**	**+0.9**
MAZI	**Mazidag**	**2.63**	**299**	PN		**Pg**	**16 59 24.0**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.87**	**305**	PN		**Pb**	**16 59 41.6**	**-1.0**

*ISCJB **20** 17:07:18.8±0.6, 6°.87S±0°.05×129°.21E±0°.07, h156km,*
mb3.7/1, Error ellipse: s-maj=10.6km s-min=6.6km az=13.9
*NEIC **20** 17:07:19.6±2.9, 6°.73S±0°.06×129°.0E±0°.2, h183km±21km, mb4.6/2*
*IDC **20** 17:07:20.0±1.7, 6°.87S×129°.29E, h151km±21km, mb3.6/1, mb1 3.9/6, mb1mx3.4/38, mbtmp4.3/6, Error ellipse: s-maj=34.6km s-min=14.5km az=103.0*
ISC 20 17:07:20.3±0.9, 6°.87S±0°.08×129°.2E±0°.1, h156km, n17, σ1§52/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.23**	**162**			**Pn**	**17 08 51.2**	**+1.0**
SIJI	**Sorong**	**6.31**	**19**	P		**Pn**	**17 08 52.0**	**+0.7**
	3.2nm,0.3s,baz=121,slow=23,SNR=42							
SIJI				S		**Sn**	**17 10 00.5**	**-2.1**
	2.2nm,0.3s,baz=237,slow=22,SNR=10							
BATI	**Baumata**	**6.40**	**238**	P		**Pn**	**17 08 54.3**	**+1.8**
	6.5nm,0.3s,baz=238,slow=1.5,SNR=12							
BATI				S		**Sn**	**17 10 03.0**	**-1.7**
	11nm,0.3s,baz=214,slow=23,SNR=12							
KNRA	**Kununurra**	**8.76**	**183**			**Pn**	**17 09 23.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.69**	**197**	P		**Pn**	**17 10 00.8**	**-1.6**
	1.0nm,0.3s,baz=13,slow=11,SNR=54							
FITZ	**Fitzroy Crossi**	**11.69**	**197**			**Pn**	**17 10 00.5**	**-1.9**
WB0	**Warramunga Arr**	**13.78**	**159**	Pn		**Pn**	**17 10 27.6**	**-1.7**
WRAB	**Tennant Creek**	**13.91**	**159**	P		**Pn**	**17 10 30.4**	**-0.6**
WRA	**Warramunga Arr**	**13.92**	**159**	P		**Pn**	**17 10 29.3**	**-1.8**
	1.4nm,0.3s,baz=328,slow=14,SNR=35							
WRA				S		Sn	17 12 56.0	-9.5
	1.3nm,0.3s,baz=326,slow=24,SNR=9.9							
WRA	**Warramunga Arr**	**13.92**	**159**	P		**Pn**	**17 10 28.8**	**-2.3**
WB2	**Warramunga Arr**	**13.92**	**159**	P		**Pn**	**17 10 29.9**	**-1.3**
WR0	**Warramunga Arr**	**14.01**	**159**	P		**Pn**	**17 10 30.9**	**-1.3**
AS31	**Alice Springs**	**17.30**	**165**	P		**Pn**	**17 11 13.3**	**+0.7**
AS31				IAmb		IAmb	17 11 14.8	
	comp=Z,4.4nm,0.5s							
ASAR	**Alice Springs**	**17.30**	**165**	P		**Pn**	**17 11 13.3**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=340,slow=9.8,SNR=292							
ASAR	**Alice Springs**	**17.30**	**165**	P		**Pn**	**17 11 12.9**	**+0.3**
KS19	**Wonju Array Si**	**44.16**	**358**	P		P	17 15 08.7	-4.8
KS19				IAmb		IAmb	17 15 09.8	
	comp=Z,93nm,1.6s							
MKAR	**Makanchi Array**	**67.69**	**327**	P		**P**	**17 18 01.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=118,slow=8.2,SNR=17							

*NEIC **20** 17:13:31.1±1.8, 6°.84S±0°.09×103°.96E±0°.07, h20km±7km, mb4.5/6*
*ISCJB **20** 17:13:33.4±0.8, 6°.5S±0°.1×104°.2E±0°.1, h48km, mb3.8/8, Error ellipse: s-maj=23.1km s-min=10.5km az=41.2*
*IDC **20** 17:13:36.4±6.0, 6°.45S×104°.34E, h49km±47km, mb3.5/8, mb1 3.7/10, mb1mx3.5/43, mbtmp3.9/10, ML4.3/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/32, Error ellipse: s-maj=74.4km s-min=17.0km az=56.0*
ISC 20 17:13:35.6±0.8, 6°.5S±0°.2×104°.3E±0°.1, h48km, n26, σ0§79/23, mb4.1/11, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**3.35**	**95**	P		**Pn**	**17 14 26.2**	**+0.6**
	8.3nm,0.3s,baz=179,slow=21,SNR=6.5							
LEM				LR		LR	17 16 03.4	
	comp=Z,99nm,20.5s,baz=54,slow=45							
XMIS	**Christmas Isla**	**4.15**	**161**	Pn		Pn	17 14 31.1	-5.3
BATI	**Baumata**	**19.54**	**102**	P		**P**	**17 18 00.1**	**+0.7**
	3.8nm,0.3s,baz=178,slow=2.0,SNR=5.8							
CMAR	**Chiang Mai Arr**	**25.39**	**348**	P		**P**	**17 18 58.9**	**+0.3**
	0.5nm,0.7s,baz=180,slow=9.4,SNR=6.2							
H01W3	**Cape Leeuwin H**	**29.64**	**163**	T		T	17 50 43.4	
	baz=349,slow=74,SNR=3.2							
H01W2	**Cape Leeuwin H**	**29.65**	**163**	T		T	17 50 45.3	
	baz=349							
H01W1	**Cape Leeuwin H**	**29.66**	**163**	T		T	17 50 47.0	
	baz=349,slow=74,SNR=4.6							
WRA	**Warramunga Arr**	**32.09**	**117**	P		**P**	**17 19 57.4**	**-1.0**
	0.4nm,0.7s,baz=284,slow=12,SNR=5.0							
WRA	**Warramunga Arr**	**32.09**	**117**	P		**P**	**17 19 57.1**	**-1.4**
ASAR	**Alice Springs**	**33.19**	**124**	P		**P**	**17 20 08.9**	**+0.9**
	0.2nm,0.6s,baz=298,slow=8.0,SNR=3.8							
STKA	**Stephens Creek**	**42.98**	**131**	P		**P**	**17 21 31.1**	**+0.7**
	1.2nm,0.5s,baz=288,slow=7.2,SNR=5.0							
STKA	**Stephens Creek**	**42.98**	**131**	P		**P**	**17 21 28.8**	**-1.6**
SONM	**Songino Array**	**54.17**	**2**	P		**P**	**17 22 56.4**	**+0.2**
	0.3nm,0.6s,baz=176,slow=6.0,SNR=2.4							
SONM				PcP		**PcP**	**17 24 01.0**	**+0.8**
	0.5nm,0.5s,baz=182,slow=4.8,SNR=2.7							
USRK	**Ussuriysk Ar.**	**56.36**	**24**	P		**P**	**17 23 11.2**	**-0.7**
	2.4nm,0.7s,baz=209,slow=5.6,SNR=7.2							
USRK	**Ussuriysk Ar.**	**56.36**	**24**	P		**P**	**17 23 10.6**	**-1.3**
MK31	**Makanchi Array**	**56.57**	**342**	P		**P**	**17 23 13.1**	**-0.3**
MK31				IAmb		IAmb	17 24 09.6	
	comp=Z,14nm,1.8s							
MKAR	**Makanchi Array**	**56.57**	**342**	P		**P**	**17 23 13.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=159,slow=8.7,SNR=9.1							
MKAR	**Makanchi Array**	**56.57**	**342**	P		**P**	**17 23 12.9**	**-0.5**
ZAA0	**Zalesovo Array**	**62.45**	**347**	P		**P**	**17 23 53.7**	**0.0**
ZAA0				IAmb		IAmb	17 25 32.5	
	comp=Z,5.8nm,1.6s							
ZALV	**Zalesovo Beam**	**62.45**	**347**	P		**P**	**17 23 53.4**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=153,slow=6.1,SNR=12							
ZALV	**Zalesovo Beam**	**62.45**	**347**	P		**P**	**17 23 52.8**	**-0.9**
ABKAR	**Akbulak array**	**67.65**	**330**	P		**P**	**17 24 27.8**	**+0.3**
ABKAR	**Akbulak array**	**67.65**	**330**	P		**P**	**17 24 28.1**	**+0.6**
ABKAR				IAmb		IAmb	17 24 28.8	
	comp=Z,2.0nm,0.7s							
LBTB	**Lobatse**	**77.00**	**246**	P		**P**	**17 25 23.9**	**-0.1**
TXAR	**Lajitas Array**	**145.26**	**46**	PKPbc		**PKPdf**	**17 33 09.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=318,slow=1.7,SNR=3.6							
TXAR	**Lajitas Array**	**145.26**	**46**			**PKPdf**	**17 33 08.9**	**+0.1**

WEL 20 17:41:28.4±1.2, 33°S±25°×18°0E±4°4, h336km±41km, M4.0/12, mB4.4/6, ML4.2/6, MLv4.2/12, Mw(mB)3.6/6, Error ellipse: s-maj=0.1km s-min=0.0km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.15**	**191**	P		Pn	17 42 49.0	+0.1
MXZ				S		S	17 43 54.4	+0.4
WMGZ	**Waiomatatini S**	**5.39**	**190**	P		Pn	17 42 52.0	+0.4
WMGZ				S		S	17 44 00.3	+1.4
HAZ	**Te Kaha**	**5.44**	**195**	P		Pn	17 42 52.7	+0.5
HAZ				S		S	17 44 00.6	+0.6
PKGZ	**Pakihiroa**	**5.51**	**192**	P		Pn	17 42 53.8	+0.8
PKGZ				S		S	17 44 00.4	-1.1
RUGZ	**Raukumara Rang**	**5.66**	**195**	P		Pn	17 42 54.6	-0.3
RUGZ				S		S	17 44 04.1	-0.7
MWZ	**Matawai**	**6.05**	**195**	P		Pn	17 42 58.9	-0.4
MWZ				S		S	17 44 13.0	+0.2
CNGZ	**Carnagh Statio**	**6.07**	**190**	P		Pn	17 43 00.2	+0.8
URZ	**Urewera**	**6.08**	**198**	P		Pn	17 42 58.5	-1.0
URZ				S		S	17 44 14.3	+0.9
RRRZ	**Republican Roa**	**6.33**	**202**	P		Pn	17 43 04.8	+2.4
RIGZ	**Rimuhau**	**6.36**	**193**	P		Pn	17 43 02.9	+0.1
RIGZ				S		S	17 44 20.5	+1.1
KNZ	**Kokohu**	**6.68**	**193**	P		Pn	17 43 06.2	-0.3
KNZ				S		S	17 44 26.9	+0.7
RAHZ	**Arahi**	**6.71**	**197**	P		Pn	17 43 06.0	-0.9
RAHZ				S		S	17 44 27.8	+1.0
MTHZ	**Maungataniwha**	**6.71**	**198**	P		Pn	17 43 06.5	-0.4
MTHZ				S		S	17 44 28.0	+1.1
NMHZ	**Naumai**	**6.95**	**198**	P		Pn	17 43 10.1	+0.3
ARHZ	**Aropaoanui**	**7.06**	**196**	P		Pn	17 43 10.8	-0.2
BKZ	**Black Stump Fm**	**7.10**	**200**	P		Pn	17 43 10.4	-1.1
HIZ	**Hauiti**	**7.12**	**211**	P		Pn	17 43 15.0	+3.3
MCHZ	**McNeill Hill**	**7.30**	**198**	P		Pn	17 43 13.0	-0.8
KWHZ	**Kaweka Forest**	**7.36**	**199**	P		Pn	17 43 13.5	-1.1
NGZ	**Ngauruhoe**	**7.39**	**205**	P		Pn	17 43 14.9	-0.2
TUVZ	**Tukino**	**7.46**	**204**	P		Pn	17 43 15.0	-0.8
FWVZ	**Far West T-bar**	**7.48**	**205**	P		Pn	17 43 15.5	-0.7
TRVZ	**Turoa**	**7.52**	**204**	P		Pn	17 43 15.8	-0.9
BHHZ	**Black Hill Sta**	**7.52**	**201**	P		Pn	17 43 14.6	-2.0
KRHZ	**Kereru**	**7.58**	**199**	P		Pn	17 43 15.3	-1.9
KAHZ	**Kahuranaki**	**7.59**	**196**	P		Pn	17 43 16.2	-1.1
PXZ	**Pawanui**	**7.82**	**195**	P		Pn	17 43 18.6	-1.4
PNHZ	**Pukenui**	**7.88**	**199**	P		Pn	17 43 18.3	-2.4
TSZ	**Takapari Road**	**8.08**	**200**	P		Pn	17 43 20.6	-2.6
PRHZ	**Porangahau**	**8.10**	**196**	P		Pn	17 43 21.4	-2.0
BFZ	**Birch Farm**	**8.59**	**197**	P		Pn	17 43 27.1	-2.1

*IDC **20** 17:48:26.7±43.0, 20°.23S×178°.92W, h524km±363km, mb3.2/6, mb1 3.4/6, mb1mx3.0/31, mbtmp4.2/6, Error ellipse: s-maj=319.7km s-min=110.5km az=79.0*
*NEIC **20** 17:48:31.7±0.8, 20°.3S±0°.3×179°.7W±0°.4, h519km±35km, mb4.2/14*
ISC 20 17:48:30.0±2.7, 20°.3S±0°.2×179°.7W±0°.4, h500km, n22, σ1°.13/22, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.38**	**320**	P	**P**	**17 49 46.0**	**+2.2**
QRZ	**Quartz Range**	**21.48**	**196**	P	**P**	**17 52 43.0**	**+1.2**
FOZ	**Fox Glacier**	**24.75**	**199**	P	**P**	**17 53 12.5**	**+1.5**
ARMA	**Armidale**	**27.75**	**243**	P	**P**	**17 53 38.1**	**+0.2**
ARMA				IAmb	IAmb	17 53 46.7	
	comp=Z,5.8nm,1.2s						
CTA	**Charters Tower**	**31.96**	**264**	P	**P**	**17 54 15.8**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=87,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**36.46**	**244**	P	**P**	**17 54 52.6**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=90,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**36.46**	**244**	P	**P**	**17 54 52.6**	**+0.5**
BBOO	**Buckleboo**	**41.23**	**243**	P	**P**	**17 55 29.8**	**-0.9**
BBOO				IAmb	IAmb	17 55 48.7	
	comp=Z,23nm,1.2s						
WR0	**Warramunga Arr**	**42.89**	**262**	P	**P**	**17 55 44.1**	**0.0**
AS31	**Alice Springs**	**43.04**	**257**	P	**P**	**17 55 45.0**	**-0.3**
ASAR	**Alice Springs**	**43.04**	**257**	P	**P**	**17 55 45.6**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=92,slow=8.3,SNR=77						
ASAR	**Alice Springs**	**43.04**	**257**	P	**P**	**17 55 44.9**	**-0.3**
WB0	**Warramunga Arr**	**43.06**	**262**	P	**P**	**17 55 45.8**	**+0.4**
WB0				IAmb	IAmb	17 55 46.2	
	comp=Z,3.7nm,0.6s						
WB2	**Warramunga Arr**	**43.07**	**262**	P	**P**	**17 55 45.8**	**+0.3**
WB2				IAmb	IAmb	17 56 10.6	
	comp=Z,9.1nm,1.3s						
WRAB	**Tennant Creek**	**43.07**	**262**	P	**P**	**17 55 45.6**	**+0.1**
WRAB				IAmb	IAmb	17 55 45.9	
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**43.08**	**262**	P	**P**	**17 55 45.8**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=97,slow=7.3,SNR=40						
WRA	**Warramunga Arr**	**43.08**	**262**	P	**P**	**17 55 45.7**	**+0.2**
KNRA	**Kununurra**	**49.12**	**267**	P	**P**	**17 56 31.9**	**+0.3**
KNRA				IAmb	IAmb	17 56 39.6	
	comp=Z,38nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.51**	**263**	P	**P**	**17 56 49.1**	**0.0**
	comp=Z,2.9nm,1.1s,baz=124,slow=7.3,SNR=5.3						
FITZ	**Fitzroy Crossi**	**51.51**	**263**	P	**P**	**17 56 49.0**	**-0.1**
FITZ				IAmb	IAmb	17 56 52.7	
	comp=Z,13nm,1.5s						
GIRL	**Giralia**	**61.09**	**255**	P	**P**	**17 57 53.2**	**-2.2**
CMAR	**Chiang Mai Arr**	**88.60**	**290**	P	**P**	**18 00 27.1**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=112,slow=3.1,SNR=5.0						

IDC 20 17:57:47.3±2.9, 46°.65S×103°.39E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.5/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/15, Error ellipse: s-maj=72.5km s-min=53.6km az=8.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.26**	**38**	T	T	18 17 04.5	
	baz=209,slow=74,SNR=134						
H01W1	**Cape Leeuwin H**	**14.28**	**38**	T	T	18 17 04.2	
	baz=209,slow=74,SNR=157						
H01W3	**Cape Leeuwin H**	**14.28**	**38**	T	T	18 17 04.3	
	baz=209,slow=74,SNR=138						
NWAO	**Narrogin (SRO)**	**17.31**	**43**	LR	LR	18 06 28.9	
	comp=Z,22nm,18.1s,baz=235,slow=30						
STKA	**Stephens Creek**	**32.70**	**77**	LR	LR	18 15 25.3	
	comp=Z,68nm,20.3s,baz=206,slow=32						
ASAR	**Alice Springs**	**33.54**	**57**	P	P	18 04 28.6	-0.2
	0.4nm,0.7s,baz=209,slow=9.3,SNR=6.9						
WRA	**Warramunga Arr**	**36.72**	**54**	P	P	18 04 56.2	+0.1
	0.6nm,0.9s,baz=218,slow=9.0,SNR=5.9						
WRA				LR	LR	18 18 48.0	
	comp=Z,64nm,19.6s,baz=310,slow=34						
H08S2	**Diego Garcia H**	**47.02**	**316**	T	T	18 57 08.3	
	baz=153,slow=76,SNR=48						
H08S1	**Diego Carcia H**	**47.03**	**316**	T	T	18 57 08.9	
	baz=153,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**47.04**	**316**	T	T	18 57 09.8	
	baz=153,slow=76,SNR=62						
CMAR	**Chiang Mai Arr**	**64.92**	**355**	P	P	18 08 28.2	-0.2
	0.6nm,0.9s,baz=199,slow=5.0,SNR=4.2						
CMAR				LR	LR	18 36 00.8	
	comp=Z,28nm,18.1s,baz=185,slow=35						
NVAR	**Mina Array Bea**	**148.51**	**90**	PKPbc	PKPbc	18 17 35.4	-0.5
	0.7nm,0.7s,baz=221,slow=4.2,SNR=5.5						

*ISCJB **20** 17:59:39.2±0.4, 39°.45N±0°.01×82°.20W±0°.01, h12km±3km, Error ellipse: s-maj=1.9km s-min=1.7km az=143.2*
*OGSO **20** 17:59:39.8±1.1, 39°.45N±0°.04×82°.21W±0°.05, h8km±6km, mb_Lg3.5/153(NEIC)*
*LDO **20** 17:59:41.0±1.6, 39°.41N±0°.03×82°.25W±0°.05, h8km±6km*
*ANF **20** 17:59:40.4±0.2, 39°.45N×82°.22W, h15km±1km, ML4.2/131, Error ellipse: s-maj=1.1km s-min=1.1km az=137.0*
*NEIC **20** 17:59:40.2±1.1, 39°.45N±0°.04×82°.20W±0°.05, h10km±6km*
ISC 20 17:59:40.3±0.9, 39°.44N±0°.02×82°.22W±0°.02, h18km±5km, n298, σ0°.98/283, Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P52A	**Corning**	**0.20**	**20**	P	**Pg**	**17 59 46.1**	**+0.8**
	baz=193,SNR=1000						
P52A				S	**Sg**	**17 59 49.8**	**+1.1**
	baz=193						
Q52A	**Bidwell**	**0.48**	**184**	P	**Pg**	**17 59 49.9**	**-0.1**
	baz=7.1,SNR=1000						
Q52A				S	**Sg**	**17 59 57.1**	**+0.5**
	baz=7.1						
P53A	**Whipple**	**0.65**	**86**	P	**Pg**	**17 59 52.7**	**-0.4**
	baz=266,SNR=514						
P53A				S	**Sg**	**18 00 01.5**	**-0.2**
	baz=266						
P53A	**Whipple**	**0.65**	**86**		**Pg**	**17 59 52.7**	**-0.4**
P51A	**Williamsport**	**0.65**	**274**	P	**Pg**	**17 59 52.6**	**-0.5**
	baz=93,SNR=444						
P51A				S	**Sg**	**18 00 02.0**	**+0.2**
	baz=93						
P51A	**Williamsport**	**0.65**	**274**		**Pg**	**17 59 52.7**	**-0.5**
O52A	**Adamsville**	**0.73**	**24**	P	**Pg**	**17 59 54.1**	**-0.7**
	baz=202,SNR=260						
O52A				S	**Sg**	**18 00 04.0**	**-0.5**
	baz=202						
O52A	**Adamsville**	**0.73**	**24**		**Pg**	**17 59 54.0**	**-0.8**
O51A	**Pataskala**	**0.76**	**337**	P	**Pg**	**17 59 54.5**	**-0.7**
	baz=156,SNR=264						
O51A				S	**Sg**	**18 00 05.1**	**-0.2**
	baz=156						
Q53A	**Leroy**	**0.80**	**137**	P	**Pg**	**17 59 55.3**	**-0.6**
	baz=319,SNR=881						
Q53A				S	**Sg**	**18 00 06.4**	**0.0**
	baz=319						
Q51A	**Peebles**	**0.97**	**245**	P	**Pg**	**17 59 57.6**	**-1.4**
	baz=65,SNR=708						
Q51A				S	**Sg**	**18 00 10.8**	**-1.0**
	baz=65						
Q51A	**Peebles**	**0.97**	**245**		**Pg**	**17 59 57.5**	**-1.6**
ACSO	**Alum Creek Sta**	**0.98**	**324**	P	**Pg**	**17 59 58.2**	**-1.2**
	baz=142,SNR=237						
ACSO				S	**Sg**	**18 00 11.7**	**-0.5**
	baz=142						
ACSO	**Alum Creek Sta**	**0.98**	**324**		**Pg**	**17 59 58.1**	**-1.2**
O53A	**New Philadelph**	**1.12**	**44**	P	**Pb**	**18 00 00.5**	**-0.7**
	baz=223,SNR=199						
O53A				S	**Sg**	**18 00 15.1**	**-1.5**
	baz=223						
R53A	**Hurricane**	**1.13**	**169**	P	**Pb**	**18 00 00.5**	**-0.9**
	baz=351,SNR=212						
R53A	**Hurricane**	**1.13**	**169**		**Pb**	**18 00 00.5**	**-0.9**
R52A	**Catlettsburg**	**1.15**	**197**	P	**Pb**	**18 00 00.9**	**-0.8**
	baz=18,SNR=158						
R52A				S	**Sb**	**18 00 16.6**	**+0.2**
	baz=18						
Q54A	**Coxs Mills**	**1.17**	**113**	P	**Pb**	**18 00 01.6**	**-0.4**
	baz=294,SNR=74						
Q54A				S	**Sb**	**18 00 17.4**	**+0.5**
	baz=294						
Q54A	**Coxs Mills**	**1.17**	**113**		**Pb**	**18 00 01.4**	**-0.7**
P50A	**Jamestown**	**1.23**	**278**	P	**Pn**	**18 00 02.2**	**-0.4**
	baz=97,SNR=205						
P50A				S	**Sb**	**18 00 18.8**	**+0.3**
	baz=97						
O50A	**Cable**	**1.28**	**304**	P	**Pn**	**18 00 03.1**	**-0.3**
	baz=122,SNR=100						
O50A				S	**Sb**	**18 00 20.5**	**+0.3**
	baz=122						
P54A	**Burton**	**1.36**	**83**	P	**Pn**	**18 00 04.7**	**+0.2**
	baz=264,SNR=852						
N52A	**McGinn's Farm,**	**1.43**	**17**	P	**Pn**	**18 00 05.4**	**+0.1**
	baz=196,SNR=26						
N52A				S	**Sn**	**18 00 23.9**	**+0.2**
	baz=196						
N51A	**Ashland**	**1.48**	**356**	P	**Pn**	**18 00 06.4**	**+0.3**
	baz=174,SNR=118						
N51A	**Ashland**	**1.48**	**356**		**Pn**	**18 00 06.2**	**+0.2**
Q50A	**Georgetown**	**1.49**	**247**	P	**Pn**	**18 00 06.3**	**+0.1**
	baz=66,SNR=503						
Q50A				S	**Sn**	**18 00 26.4**	**+1.2**
	baz=66						
N50A	**Nevada**	**1.50**	**332**	P	**Pn**	**18 00 06.7**	**+0.3**
	baz=151,SNR=300						
N50A				S	**Sn**	**18 00 26.9**	**+1.3**
	baz=151						
R51A	**Hillsboro**	**1.56**	**223**	P	**Pn**	**18 00 07.3**	**+0.2**
	baz=43,SNR=170						
R51A				S	**Sn**	**18 00 28.3**	**+1.3**
	baz=43						
R54A	**Victor**	**1.59**	**142**	P	**Pn**	**18 00 08.2**	**+0.6**
	baz=324,SNR=170						
R54A				S	**Sn**	**18 00 28.8**	**+1.2**
	baz=324						
O54A	**Avella**	**1.60**	**62**	P	**Pn**	**18 00 08.9**	**+1.2**
	baz=242,SNR=219						
O54A	**Avella**	**1.60**	**62**		**Pn**	**18 00 08.8**	**+1.1**
Q55A	**Buckhannon**	**1.72**	**104**	P	**Pn**	**18 00 10.3**	**+0.9**
	baz=286,SNR=95						
N53A	**Lisbon**	**1.73**	**38**	P	**Pn**	**18 00 10.7**	**+1.3**
	baz=218,SNR=160						
N53A	**Lisbon**	**1.73**	**38**		**Pn**	**18 00 10.4**	**+0.9**
N53A				IAmb_Lg		18 00 33.5	
	comp=Z,369nm,0.8s						
S53A	**Williamson**	**1.76**	**178**	P	**Pn**	**18 00 11.0**	**+1.0**
	baz=358,SNR=69						
O49A	**Covington**	**1.79**	**295**	P	**Pn**	**18 00 11.8**	**+1.5**
	baz=114,SNR=50						
Q49A	**Covington**	**1.79**	**295**		**Pn**	**18 00 11.7**	**+1.5**
S54A	**Dingess, Beckl**	**1.79**	**156**	P	**Pn**	**18 00 11.3**	**+0.9**
	baz=338,SNR=247						
S54A	**Dingess, Beckl**	**1.79**	**156**		**Pn**	**18 00 11.1**	**+0.7**
MCWV	**Mont Chateau**	**1.85**	**83**	P	**Pn**	**18 00 11.9**	**+0.7**
	baz=264,SNR=28						
MCWV				Sb	**Sb**	**18 00 38.0**	**+1.6**
	baz=264						
MCWV	**Mont Chateau**	**1.85**	**83**		**Pn**	**18 00 11.8**	**+0.7**
P55A	**Reedsville**	**1.86**	**87**	P	**Pn**	**18 00 12.0**	**+0.7**
	baz=269,SNR=133						
S52A	**Salyersville**	**1.89**	**201**	P	**Pn**	**18 00 13.0**	**+1.3**
	baz=21,SNR=14						
M51A	**Elyria**	**1.89**	**1**	P	**Pn**	**18 00 12.0**	**+0.3**
	baz=180,SNR=45						
P49A	**Miami Univ. Ec**	**1.93**	**273**	P	**Pn**	**18 00 13.9**	**+1.7**
	baz=92,SNR=201						
R55A	**Marlinton**	**2.01**	**125**	P	**Pn**	**18 00 14.4**	**+1.0**
	baz=306,SNR=146						
R55A	**Marlinton**	**2.01**	**125**		**Pn**	**18 00 14.3**	**+1.0**
R50A	**Paris**	**2.01**	**235**	P	**Pn**	**18 00 14.5**	**+1.1**
	baz=54,SNR=34						
R50A	**Paris**	**2.01**	**235**		**Pn**	**18 00 14.4**	**+1.1**
R50A				IAmb_Lg		18 00 43.9	
	comp=Z,245nm,0.7s						
M50A	**Fremont**	**2.06**	**343**	P	**Pn**	**18 00 15.1**	**+1.2**
	baz=161,SNR=24						
M50A	**Fremont**	**2.06**	**343**		**Pn**	**18 00 14.8**	**+0.9**
S51A	**Beattyville**	**2.10**	**211**	P	**Pn**	**18 00 15.9**	**+1.3**
	baz=31,SNR=185						
S51A	**Beattyville**	**2.10**	**211**		**Pn**	**18 00 15.4**	**+0.9**
N49A	**Columbus Grove**	**2.11**	**315**	P	**Pn**	**18 00 16.5**	**+1.8**
	baz=134,SNR=86						
N49A	**Columbus Grove**	**2.11**	**315**		**Pn**	**18 00 16.3**	**+1.6**
N49A				IAmb_Lg		18 00 47.3	
	comp=Z,275nm,0.9s						
Q49A	**Aurora**	**2.12**	**259**	P	**Pn**	**18 00 17.1**	**+2.2**
	baz=77,SNR=448						
S55A	**Lewisburg**	**2.15**	**141**	P	**Pn**	**18 00 16.3**	**+1.0**
	baz=322,SNR=101						
S55A				S	**Sn**	**18 00 42.7**	**+1.2**
	baz=322						
M52A	**Chesterland**	**2.20**	**17**	P	**Pn**	**18 00 16.4**	**+0.4**
	baz=197,SNR=49						
M52A	**Chesterland**	**2.20**	**17**		**Pn**	**18 00 16.3**	**+0.4**
N54A	**Moraine State**	**2.29**	**48**	P	**Pn**	**18 00 18.3**	**+1.2**
	baz=228,SNR=116						
N54A	**Moraine State**	**2.29**	**48**		**Pn**	**18 00 18.3**	**+1.2**
M53A	**WI Miller and**	**2.32**	**30**	P	**Pn**	**18 00 18.5**	**+0.9**
	baz=210,SNR=31						
M53A				S	**Sn**	**18 00 46.9**	**+1.3**
	baz=210						
O55A	**Ligonier**	**2.37**	**70**	P	**Pn**	**18 00 19.2**	**+0.8**
	baz=252,SNR=93						
Q56A	**Snyder Ridge,**	**2.39**	**99**	P	**Pn**	**18 00 19.4**	**+0.8**
	baz=281,SNR=66						
Q56A				S	**Sn**	**18 00 48.6**	**+1.1**
	baz=281						
Q56A	**Snyder Ridge,**	**2.39**	**99**		**Pn**	**18 00 19.3**	**+0.7**
T52A	**Hallie**	**2.41**	**195**	P	**Pn**	**18 00 19.8**	**+1.0**
	baz=15,SNR=69						
T52A	**Hallie**	**2.41**	**195**		**Pn**	**18 00 19.8**	**+1.0**
T52A				IAmb_Lg		18 01 02.0	
	comp=Z,205nm,0.8s						
M49A	**Liberty Center**	**2.43**	**327**	P	**Pn**	**18 00 20.7**	**+1.6**
	baz=146,SNR=11						
R56A	**Bull Pasture M**	**2.43**	**114**	P	**Pn**	**18 00 20.2**	**+1.0**
	baz=296,SNR=125						
T54A	**Tazewell**	**2.43**	**168**	P	**Pn**	**18 00 19.8**	**+0.6**
	baz=349,SNR=65						
S50A	**Richmond**	**2.45**	**225**	P	**Pn**	**18 00 21.9**	**+2.5**
	baz=44,SNR=84						
T53A	**Wise**	**2.47**	**186**	P	**Pn**	**18 00 20.6**	**+0.8**
	baz=6.2,SNR=67						
P48A	**Milroy**	**2.48**	**271**	P	**Pn**	**18 00 21.1**	**+1.3**
	baz=90,SNR=52						
P48A	**Milroy**	**2.48**	**271**		**Pn**	**18 00 21.2**	**+1.3**
N48A	**Decatur**	**2.57**	**304**	P	**Pn**	**18 00 22.0**	**+0.9**
	baz=122						
N48A				S	**Sn**	**18 00 53.8**	**+1.9**
	baz=122						
T55A	**Pulaski**	**2.58**	**154**	P	**Pn**	**18 00 21.9**	**+0.6**
	baz=335,SNR=23						
P56A	**Dayton Farm, R**	**2.62**	**88**	P	**Pn**	**18 00 22.1**	**+0.3**
	baz=270,SNR=18						
BLA	**Blacksburg**	**2.64**	**147**	P	**Pn**	**18 00 22.9**	**+0.8**
	baz=329						
BLA	**Blacksburg**	**2.64**	**147**		**Pn**	**18 00 22.8**	**+0.7**
BLA				IAmb_Lg		18 01 09.1	
	comp=Z,146nm,0.7s						
ALLY	**Alegheny Colle**	**2.71**	**35**		**Pn**	**18 00 23.4**	**+0.3**
S56A	**Natural Bridge**	**2.73**	**129**	P	**Pn**	**18 00 24.5**	**+1.2**
	baz=312,SNR=18						
Q48A	**North Vernon**	**2.77**	**260**	P	**Pn**	**18 00 25.9**	**+2.0**
	baz=78,SNR=38						
M48A	**Edgerton**	**2.79**	**318**	P	**Pn**	**18 00 25.7**	**+1.7**
	baz=136,SNR=21						
M48A	**Edgerton**	**2.79**	**318**		**Pn**	**18 00 25.5**	**+1.5**
N55A	**Marion Center**	**2.82**	**61**	P	**Pn**	**18 00 25.5**	**+1.0**
	baz=242,SNR=33						
T51A	**Gray**	**2.82**	**209**	P	**Pn**	**18 00 25.5**	**+1.0**
	baz=29,SNR=27						
M54A	**Oil Creek Stat**	**2.84**	**43**	P	**Pn**	**18 00 25.9**	**+1.2**
	baz=224,SNR=73						
M54A	**Oil Creek Stat**	**2.84**	**43**		**Pn**	**18 00 26.1**	**+1.3**
M54A				IAmb_Lg		18 01 13.9	
	comp=Z,207nm,0.8s						
L49A	**Milan**	**2.91**	**337**	P	**Pn**	**18 00 27.6**	**+1.9**
	baz=155,SNR=13						
S49A	**Springfield**	**2.92**	**236**	P	**Pn**	**18 00 27.7**	**+1.9**
	baz=55						
L53A	**Girard**	**2.92**	**30**	P	**Pn**	**18 00 26.8**	**+0.9**
	baz=211,SNR=34						
O56A	**Blue Knob Stat**	**2.93**	**73**	P	**Pn**	**18 00 26.6**	**+0.4**
	baz=255,SNR=80						
O56A	**Blue Knob Stat**	**2.93**	**73**		**Pn**	**18 00 26.5**	**+0.4**
U54A	**Nelsons Funny**	**2.94**	**174**	P	**Pn**	**18 00 26.9**	**+0.8**
	baz=354,SNR=113						
U54A	**Nelsons Funny**	**2.94**	**174**		**Pn**	**18 00 26.7**	**+0.6**
T56A	**Rocky Mt**	**2.96**	**144**	P	**Pn**	**18 00 27.6**	**+1.1**
	baz=326,SNR=23						
Q57A	**Strasburg**	**2.99**	**97**	P	**Pn**	**18 00 27.4**	**+0.6**
	baz=279,SNR=186						
Q57A				S	**Sn**	**18 01 02.2**	**0.0**
	baz=279						
L48A	**N Adams**	**3.01**	**327**	P	**Pn**	**18 00 27.8**	**+0.6**
	baz=145,SNR=97						
N47A	**Urbana**	**3.02**	**299**	P	**Pn**	**18 00 28.7**	**+1.4**
	baz=117						
N47A	**Urbana**	**3.02**	**299**		**Pn**	**18 00 28.9**	**+1.6**
N47A				IAmb_Lg		18 01 18.6	
	comp=Z,155nm,0.7s						
S57A	**Dark Hollow, R**	**3.06**	**122**	P	**Pn**	**18 00 28.9**	**+1.1**
	baz=305,SNR=28						
S57A	**Dark Hollow, R**	**3.06**	**122**		**Pn**	**18 00 29.0**	**+1.2**
TZTN	**Tazewell**	**3.08**	**200**	P	**Pn**	**18 00 29.2**	**+1.1**
	baz=20,SNR=22						
TZTN	**Tazewell**	**3.08**	**200**		**Pn**	**18 00 29.0**	**+0.9**
U55A	**TA2, Sparta**	**3.08**	**162**	P	**Pn**	**18 00 28.8**	**+0.7**
	baz=343,SNR=123						
U53A	**Fall Branch**	**3.09**	**185**	P	**Pn**	**18 00 29.0**	**+0.8**
	baz=5.5,SNR=37						
R57A	**Stanardsville**	**3.11**	**110**	P	**Pn**	**18 00 29.3**	**+0.9**
	baz=293						
ERPA	**Erie**	**3.16**	**32**	P	**Pn**	**18 00 30.0**	**+0.8**
	baz=213						
ERPA	**Erie**	**3.16**	**32**		**Pn**	**18 00 30.2**	**+1.0**
ERPA				IAmb_Lg		18 01 24.2	
	comp=Z,155nm,0.8s						
T50A	**Nancy**	**3.18**	**221**	P	**Pn**	**18 00 31.1**	**+1.7**
	baz=40,SNR=85						
U52A	**Thorn Hill**	**3.18**	**197**	P	**Pn**	**18 00 30.3**	**+0.9**
	baz=17,SNR=23						
M47A	**Cromwell**	**3.22**	**307**	P	**Pn**	**18 00 32.0**	**+1.9**
	baz=125						
P57A	**Homestead Farm**	**3.26**	**88**	P	**Pn**	**18 00 31.4**	**+0.8**
	baz=270						
P57A	**Homestead Farm**	**3.26**	**88**		**Pn**	**18 00 31.3**	**+0.8**
M55A	**Ridgway**	**3.32**	**51**	P	**Pn**	**18 00 32.2**	**+0.8**
	baz=233,SNR=24						
M55A				S	**Sn**	**18 01 10.8**	**+0.3**
	baz=233						
M55A	**Ridgway**	**3.32**	**51**		**Pn**	**18 00 32.3**	**+0.9**
M55A				IAmb_Lg		18 01 30.3	
	comp=Z,148nm,0.8s						
K50A	**Casco**	**3.34**	**355**		**Pn**	**18 00 32.6**	**+0.9**
BLO	**Bloomington**	**3.35**	**267**		**Pn**	**18 00 33.5**	**+1.8**
N56A	**West Decatur**	**3.35**	**63**	P	**Pn**	**18 00 32.2**	**+0.4**
	baz=245,SNR=7.2						
U51A	**La Follette**	**3.37**	**205**	P	**Pn**	**18 00 33.1**	**+1.0**
	baz=25,SNR=14						
T57A	**Hurt**	**3.38**	**135**	P	**Pn**	**18 00 33.5**	**+1.4**
	baz=318,SNR=7.3						
T57A	**Hurt**	**3.38**	**135**		**Pn**	**18 00 33.6**	**+1.4**
L47A	**Sherwood**	**3.40**	**319**	P	**Pn**	**18 00 33.6**	**+1.2**
	baz=137						
WCI	**Wyandotte Cave**	**3.40**	**250**		**Pn**	**18 00 34.6**	**+2.1**
WCI				IAmb_Lg		18 01 34.1	
	comp=Z,115nm,0.9s						
U56A	**King**	**3.42**	**154**	P	**Pn**	**18 00 33.7**	**+1.0**
	baz=336,SNR=24						
U56A	**King**	**3.42**	**154**		**Pn**	**18 00 33.7**	**+1.0**
R58A	**Rapidan**	**3.49**	**108**	P	**Pn**	**18 00 34.3**	**+0.7**
	baz=291,SNR=8.2						
T49A	**Edmonton**	**3.50**	**229**		**Pn**	**18 00 35.4**	**+1.6**
T49A				IAmb_Lg		18 01 33.4	
	comp=Z,118nm,0.9s						
SSPA	**Standing Stone**	**3.53**	**69**	P	**Pn**	**18 00 34.5**	**+0.2**
	baz=251						
SSPA	**Standing Stone**	**3.53**	**69**		**Pn**	**18 00 34.6**	**+0.3**
L54A	**Sinclairville**	**3.55**	**37**	P	**Pn**	**18 00 35.5**	**+0.9**
	baz=219						
Q58A	**Fox Den Farm,**	**3.56**	**97**	P	**Pn**	**18 00 35.2**	**+0.5**
	baz=280,SNR=12						
O57A	**Amberson**	**3.61**	**76**	P	**Pn**	**18 00 35.9**	**+0.5**
	baz=259,SNR=15						
K48A	**Perry**	**3.65**	**337**	P	**Pn**	**18 00 37.1**	**+1.2**
	baz=156						
V54A	**Nebo**	**3.67**	**177**	P	**Pn**	**18 00 37.1**	**+0.9**
	baz=357,SNR=34						
V55A	**Taylorsville**	**3.67**	**167**	P	**Pn**	**18 00 37.1**	**+0.8**
	baz=348,SNR=27						
V55A	**Taylorsville**	**3.67**	**167**		**Pn**	**18 00 37.1**	**+0.8**
M56A	**Emporium**	**3.69**	**55**	P	**Pn**	**18 00 37.1**	**+0.5**
	baz=238						
M56A	**Emporium**	**3.69**	**55**		**Pn**	**18 00 37.0**	**+0.5**
R58B	**Mineral**	**3.71**	**112**		**Pn**	**18 00 38.1**	**+1.5**
S58A	**Poland Farm, P**	**3.75**	**118**	P	**Pn**	**18 00 38.0**	**+0.8**
	baz=301						
S58A	**Poland Farm, P**	**3.75**	**118**		**Pn**	**18 00 38.3**	**+1.0**
V52A	**Sevierville**	**3.76**	**197**	P	**Pn**	**18 00 38.1**	**+0.7**
	baz=17,SNR=7.1						
V52A	**Sevierville**	**3.76**	**197**		**Pn**	**18 00 38.5**	**+1.1**
V52A				IAmb_Lg		18 01 41.8	
	comp=Z,127nm,0.8s						
U57A	**Blanch**	**3.77**	**142**	P	**Pn**	**18 00 38.5**	**+0.9**
	baz=324,SNR=18						
V53A	**Saluda**	**3.80**	**187**	P	**Pn**	**18 00 38.8**	**+0.8**
	baz=7.3,SNR=17						
V53A	**Saluda**	**3.80**	**187**		**Pn**	**18 00 38.8**	**+0.8**
P58A	**Pank, Wackersv**	**3.81**	**88**	P	**Pn**	**18 00 38.6**	**+0.5**
	baz=271						
N57A	**Milroy**	**3.81**	**68**	P	**Pn**	**18 00 38.6**	**+0.4**
	baz=251,SNR=21						
SFIN	**Lafayette**	**3.86**	**286**	P	**Pn**	**18 00 39.4**	**+0.6**
	baz=102,SNR=12						
SFIN	**Lafayette**	**3.86**	**286**		**Pn**	**18 00 39.8**	**+0.9**
V56A	**Mocksville**	**3.88**	**159**	P	**Pn**	**18 00 39.6**	**+0.6**
	baz=340,SNR=20						
L55A	**Hinsdale**	**3.97**	**45**	P	**Pn**	**18 00 41.2**	**+0.9**
	baz=227,SNR=7.5						
L55A				S	**Sn**	**18 01 26.1**	**-0.3**
	baz=227						
J49A	**Marlette**	**3.97**	**350**	P	**Pn**	**18 00 41.9**	**+1.5**
	baz=169						
**

W52A Murphy 4.55 198 Pn 18 00 48.9 +0.6
T47A Sharon Grove 4.56 239 Pn 18 00 50.3 +1.9
MVL Millersville 4.56 81 Pn 18 00 48.6 +0.2
PAULI Pauline 4.63 176 Pn 18 00 49.5 +0.2
OLIL Olney 4.63 263 Pn 18 00 51.2 +1.9
MMNY Mt. Morris Dam 4.63 43 Pn 18 00 49.6 +0.3
W57A Gilead 4.64 157 Pn 18 00 49.3 -0.2
CLTN Cedars of Leba 4.67 225 Pn 18 00 52.0 +2.1
U59A Littleton 4.67 130 Pn **Pn 18 00 49.9 0.0**
U59A IAmb_Lg 18 02 08.3
comp=Z,62nm,0.8s
J54A Appleton 4.68 34 Pn 18 00 51.6 +1.6
J54A IAmb_Lg 18 02 16.6
comp=Z,82nm,0.9s
V49A McMinnville 4.69 220 P **Pn 18 00 51.1 +0.8**
baz=38,SNR=13
O59A Robesonia 4.72 78 P **Pn 18 00 50.5 -0.2**
baz=261,SNR=12
W51A Cleveland 4.73 206 P **Pn 18 00 51.4 +0.6**
baz=25,SNR=18
M58A Price's Panora 4.80 65 P **Pn 18 00 52.0 +0.2**
baz=248,SNR=8.6
L57A Andrews Acres 4.82 56 P **Pn 18 00 52.3 +0.4**
baz=239,SNR=7.6
M44A Midewin, Midew 4.85 295 Sb 18 02 03.7 +1.0
M44A IAmb_Lg 18 02 18.0
comp=Z,75nm,0.8s
O44A Mansfield 4.86 280 Pn **Pn 18 00 54.1 +1.5**
O44A **Sn 18 01 49.5 +1.1**
I47A Gladwin 4.88 340 P **Pn 18 00 53.9 +1.1**
baz=158
I47A Gladwin 4.88 340 IAmb_Lg 18 02 19.3
comp=Z,114nm,1.1s
X54A Belton 4.89 181 P **Pn 18 00 53.5 +0.5**
baz=1.7,SNR=10.0
W50A Signal Mountai 4.90 211 P **Pn 18 00 54.1 +1.0**
baz=29
K56A Middlesex 4.93 47 P **Pn 18 00 54.1 +0.6**
baz=230
BIRD Birdtown, Kers 4.99 163 Pn 18 00 54.4 +0.1
X52A Dahlonega 5.01 196 P **Pn 18 00 55.2 +0.5**
baz=15,SNR=6.9
J55A Hilton 5.06 40 IAmb_Lg 18 02 17.0
comp=Z,103nm,0.8s
P60A Greenville 5.10 84 P **Pn 18 00 55.8 +0.1**
baz=268
P60A Greenville 5.10 84 Pn 18 00 56.3 +0.5
SWET Sewanee 5.15 216 Pn 18 00 57.1 +0.5
SWET IAmb_Lg 18 02 22.0
comp=Z,95nm,0.7s
N59A State Game Lan 5.16 71 P **Pn 18 00 56.3 -0.3**
baz=255,SNR=6.6
V48A Smith Brothers 5.20 226 Pn 18 00 58.1 +0.9
V48A IAmb_Lg 18 02 24.5
comp=Z,86nm,0.8s
HODGE Hodges 5.20 180 Pn 18 00 56.9 -0.3
PSUB Penn St. - Bra 5.25 83 Pn 18 00 57.7 -0.1
X51A Calhoun 5.30 204 Pn 18 00 59.9 +1.3
H48A Harrisville 5.32 351 IAmb_Lg 18 02 35.3
comp=Z,75nm,0.8s
KSPA Keystone Colle 5.35 65 Pn 18 00 58.8 -0.5
KSPA IAmb_Lg 18 02 36.0
comp=Z,77nm,1.0s
W49A Belvidere 5.39 218 P **Pn 18 00 60.0 +0.2**
baz=36,SNR=10
X58A Rowland 5.40 154 IAmb_Lg 18 02 32.9
comp=Z,65nm,0.7s
Y55A Saluda 5.50 177 P **Pn 18 01 00.8 -0.6**
baz=357
U61A Possum Corner 5.52 122 Pg 18 01 26.0 -0.1
WVT Waverly 5.54 235 P **Pn 18 01 03.3 +1.5**
baz=52
WVT Waverly 5.54 235 Pn 18 01 03.1 +1.2
WVT IAmb_Lg 18 02 38.9
comp=Z,66nm,0.8s
HDIL Hopedale 5.54 284 P **Pn 18 01 02.5 +0.6**
baz=99
J56A Wolcott 5.56 45 IAmb_Lg 18 02 41.9
comp=Z,91nm,0.9s
Y54A Tignall 5.58 184 P **Pn 18 01 02.2 -0.3**
baz=4.0
M59A Waymart 5.58 66 P **Pn 18 01 01.7 -0.8**
baz=250
FPAL Fort Paine 5.59 210 Pn 18 01 02.7 0.0
FPAL IAmb_Lg 18 02 50.1
comp=Z,61nm,0.7s
N60A Cedar Hill Far 5.64 73 P **Pn 18 01 02.6 -0.6**
baz=258
P43A Skaggs, Pawnee 5.64 274 IAmb_Lg 18 02 38.8
comp=Z,50nm,0.9s
K43A Burlington 5.65 307 P **Pn 18 01 03.6 +0.3**
baz=123
K43A Burlington 5.65 307 IAmb_Lg 18 02 53.6
comp=Z,61nm,0.7s
GLMI Grayling 5.66 342 IAmb_Lg 18 02 54.6
comp=Z,92nm,0.8s
SIUC Southern Illin 5.75 255 Pn 18 01 06.0 +1.3
SIUC IAmb_Lg 18 02 41.0
comp=Z,60nm,0.8s
Y52A Lilburn 5.76 195 IAmb_Lg 18 02 48.6
comp=Z,54nm,0.8s
S44A Carbondale 5.78 255 P **Pn 18 01 05.9 +0.8**
baz=70,SNR=10
SADO Sadowa 5.79 22 Pn 18 01 05.3 0.0
G47A Hillman 5.85 349 P **Pn 18 01 06.2 0.0**
baz=167,SNR=7.3
Y58A Scranton 5.90 159 IAmb_Lg 18 02 58.7
comp=Z,93nm,1.1s
PECO Prince Edward 5.95 39 IAmb_Lg 18 02 49.3
comp=Z,62nm,0.8s
K58A Earlville 5.97 54 P **Pn 18 01 07.3 -0.5**
baz=238,SNR=9.2
K58A Earlville 5.97 54 IAmb_Lg 18 02 47.5
comp=Z,72nm,0.8s
L59A Walton 6.10 61 P **Pn 18 01 09.1 -0.5**
baz=245,SNR=30
L59A Walton 6.10 61 IAmb_Lg 18 02 54.0
comp=Z,45nm,0.8s
M60A Port Jervis 6.10 70 P **Pn 18 01 08.8 -0.7**
baz=254,SNR=12
GOGA Godfrey 6.10 190 IAmb_Lg 18 02 55.7
comp=Z,68nm,1.1s
DELO Deloro Mine 6.12 33 IAmb_Lg 18 02 53.2
comp=Z,50nm,0.9s
J57A Williamstown 6.13 48 IAmb_Lg 18 03 00.7
comp=Z,71nm,0.8s
G45A Suttons Bay 6.14 337 IAmb_Lg 18 03 09.4
comp=Z,94nm,0.8s
Z56A Williston 6.14 173 P **Pn 18 01 09.1 -1.0**
baz=354,SNR=6.1
G53A Haliburton 6.27 24 P **Pn 18 01 11.4 -0.4**
baz=206
X48A Hartselle 6.30 219 IAmb_Lg 18 02 58.9
comp=Z,42nm,0.8s
F49A Sandfield 6.32 1 P **Pn 18 01 11.4 -1.1**
baz=181,SNR=24
F48A Evansville 6.39 358 P **Pn 18 01 12.7 -0.8**
baz=177,SNR=6.9
PLAL Pickwick Lake 6.45 228 IAmb_Lg 18 03 04.3
comp=Z,63nm,0.8s
Y49A Blount Mountai 6.51 212 P **Pn 18 01 15.3 0.0**
baz=30
Y49A Blount Mountai 6.51 212 IAmb_Lg 18 03 05.7
comp=Z,83nm,0.9s
J58A Remsen 6.52 51 IAmb_Lg 18 03 03.1
comp=Z,46nm,0.8s
F45A CMU Biological 6.69 340 P **Pn 18 01 16.8 -0.8**
baz=157
I42A Draeger Farm, 6.70 314 IAmb_Lg 18 03 14.1
comp=Z,40nm,0.9s
F51A Arnstein 6.70 14 P **Pn 18 01 16.9 -0.9**
baz=195,SNR=17
N41A Harden Midland 6.74 284 IAmb_Lg 18 03 21.6
comp=Z,75nm,0.8s
PLVO Plevna 6.77 33 IAmb_Lg 18 03 19.3
comp=Z,54nm,0.8s
Z50A Ashland 6.86 207 IAmb_Lg 18 03 17.0
comp=Z,51nm,0.7s
PBMO Poplar Bluff 7.00 250 Pn 18 01 23.5 +1.7
PBMO IAmb_Lg 18 03 32.0
comp=Z,41nm,0.9s
KSCT Kent School, K 7.03 68 Pn 18 01 21.5 -0.8
KSCT IAmb_Lg 18 03 24.6
comp=Z,44nm,1.0s
E48A Lockeyer 7.03 0 P **Pn 18 01 21.7 -0.7**
baz=180,SNR=9.0
E47A Iron Bridge 7.05 354 P **Pn 18 01 21.6 -0.9**
baz=173,SNR=9.8
J59A Piesco 7.05 53 IAmb_Lg 18 03 34.5
comp=Z,65nm,1.1s
152A Waverly Hall 7.06 197 IAmb_Lg 18 03 24.0
comp=Z,54nm,0.9s
E46A Sault Ste Mari 7.09 348 P **Pn 18 01 22.4 -0.6**
baz=167,SNR=12
CCM Cathedral Cave 7.19 262 P **Pn 18 01 24.7 +0.3**
baz=76
CCM Cathedral Cave 7.19 262 Pn 18 01 25.2 +0.7
CCM IAmb_Lg 18 03 35.9
comp=Z,40nm,0.8s
TRY Troy 7.25 60 IAmb_Lg 18 03 36.8
comp=Z,47nm,0.8s
L40A Anamosa 7.32 294 IAmb_Lg 18 03 32.7
comp=Z,62nm,0.9s
E52A Mattawa 7.32 20 P **Pn 18 01 24.8 -1.5**
baz=202,SNR=8.9
E51A G1948 Merrick 7.36 15 P **Pn 18 01 25.7 -1.1**
baz=196,SNR=14
NCB Newcomb 7.50 50 IAmb_Lg 18 03 40.1
comp=Z,43nm,0.8s
D47A Chapleau 7.64 355 P **Pn 18 01 29.6 -1.1**
baz=175,SNR=28
F42A Maple Grove Fa 7.67 327 IAmb_Lg 18 03 41.1
comp=Z,45nm,1.0s
LONY Lake Ozonia 7.69 45 IAmb_Lg 18 03 41.4
comp=Z,37nm,0.9s
D48A Paudash Townsh 7.73 2 P **Pn 18 01 31.1 -0.8**
baz=182
LCAR Lake Charles 7.83 247 Pn 18 01 34.3 +1.0
E54A Lac Daplat, Po 7.90 26 P **Pn 18 01 32.7 -1.6**
baz=209,SNR=7.9
D50A G1974 Best Tow 7.91 12 P **Pn 18 01 33.0 -1.4**
baz=193
D51A Lot 18 Range I 7.92 14 P **Pn 18 01 33.2 -1.4**
baz=196,SNR=5.5
250A Grady 8.14 205 IAmb_Lg 18 03 52.0
comp=Z,63nm,0.8s
352A Blakely 8.25 196 IAmb_Lg 18 04 02.1
comp=Z,51nm,0.9s
D53A Lac Vacive, Po 8.31 22 P **Pn 18 01 38.1 -1.8**
baz=205,SNR=7.0
D53A Lac Vacive, Po 8.31 22 IAmb_Lg 18 04 08.1
comp=Z,32nm,0.8s
FRNY Flat Rock 8.37 47 IAmb_Lg 18 04 16.0
comp=Z,40nm,0.9s
VT1 Waterbury 8.59 52 IAmb_Lg 18 04 06.9
comp=Z,47nm,0.8s
SCIA State Center 8.71 290 IAmb_Lg 18 04 22.5
comp=Z,35nm,0.7s
W41B Gary Mavity, V 9.05 245 P **Pn 18 01 49.6 -0.4**
baz=59,SNR=5.3
M65A Busby, Falmout 9.07 73 IAmb_Lg 18 04 45.9
comp=Z,51nm,0.8s
VLDQ Val d'Or 9.32 20 IAmb_Lg 18 04 33.2
comp=Z,39nm,0.9s
SPMN Marine on St. 9.73 310 IAmb_Lg 18 04 46.6
comp=Z,38nm,0.7s
E38A The Farm, Brul 9.89 319 IAmb_Lg 18 04 59.1
comp=Z,24nm,0.9s

KRSC 20 18:03:15.3±1.8, 50°.61N×157°.42E, h100km±23km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.83**	**275**	*eS*	Sn	18 03 48.4	+0.6
PAU	**Pauzhetka**	**0.94**	**336**	*eP*	Pn	18 03 36.5	+1.5
PAU				*eS*	Sn	18 03 51.2	+1.4
KDTR	**Khodutka, Kamc**	**1.27**	**19**	*eP*	Pn	18 03 41.6	+2.9
KDTR				*eS*	Sn	18 03 59.7	+3.3
ASAK	**Asacha**	**1.80**	**9**	*eP*	Pn	18 03 47.6	+2.3
ASAK				*eS*	Sn	18 04 10.5	+2.3
MTVR	**Mutnovka**	**1.94**	**14**	*eP*	Pn	18 03 49.7	+2.6
MTVR				*eS*	Sn	18 04 13.5	+2.2
RUS	**Russkaya**	**1.95**	**20**	*eP*	Pn	18 03 49.4	+2.3
RUS				*eS*	Sn	18 04 13.0	+1.6
KRMR	**Karymshinskiy**	**2.27**	**11**	*eS*	Sn	18 04 21.5	+2.7
APC	**Apacha**	**2.32**	**356**	*eP*	Pn	18 03 52.7	+0.7
DALK	**Dalny**	**2.56**	**18**	*eP*	Pn	18 03 57.2	+2.1
DALK				*eS*	Sn	18 04 26.4	+0.7
UGLR	**Uglovaya**	**2.74**	**18**	*eP*	Pn	18 04 00.5	+2.9
AVH	**Avacha**	**2.78**	**17**	*eP*	Pn	18 04 01.0	+2.9
KOK	**Koryaka**	**2.79**	**15**	*eP*	Pn	18 04 01.0	+2.8
SMAR	**Somma**	**2.79**	**17**	*eP*	Pn	18 04 00.5	+2.1
NLC	**Nalytchevo**	**2.83**	**24**	*eS*	Sn	18 04 32.5	+0.5
KRX	**Arik**	**2.86**	**15**	*eP*	Pn	18 04 01.5	+2.3
SPN	**Mys Shipunski**	**2.97**	**32**	*eP*	Pn	18 04 03.6	+3.1
SPN				*eS*	Sn	18 04 36.6	+1.2
GNL	**Ganaly**	**3.11**	**6**	*eP*	Pn	18 04 03.6	+1.1
KZV	**Kizimen**	**4.83**	**20**	*eP*	Pn	18 04 29.6	+3.8
KBTR	**Krutoberegovo**	**6.47**	**28**	*eP*	Pn	18 04 49.4	+1.6
BKI	**Bering**	**6.92**	**45**	*eP*	Pn	18 04 56.8	+2.9
BKI				*eS*	Sn	18 06 07.7	-3.3

NEIC 20 18:23:06.2±0.9, 40°.12N±0°.02×120°.97W±0°.02, h4km±7km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCMM	**Colby Mountain**	**0.42**	**273**		Pg	18 23 14.5	+0.2
LRDM	**Redding Peak**	**0.51**	**313**		Pg	18 23 15.8	-0.1
BMRR	**Black Mountain**	**0.52**	**91**		Pg	18 23 16.1	-0.2
BEKR	**Beckworth**	**0.54**	**118**		Pg	18 23 16.4	-0.1
LMEM	**Manzanita Entr**	**0.62**	**312**		Pg	18 23 18.4	+0.4
O03E	**Paynes Creek**	**0.66**	**285**		Pg	18 23 18.3	-0.5
LDBM	**Digger Butte**	**0.69**	**297**		Pg	18 23 19.0	-0.5
LOY	**Loyalton**	**0.73**	**129**		Pg	18 23 20.5	+0.3
LBCM	**Butte Creek Ri**	**0.77**	**338**		Pg	18 23 20.1	-0.8
HATC	**Hat Creek Radi**	**0.79**	**332**		Pg	18 23 20.7	-0.6
PAM	**Palermo**	**0.79**	**212**		Pg	18 23 21.4	0.0
KBF	**Kyburz Flat**	**0.85**	**136**		Pg	18 23 22.7	+0.2
IND	**Independence**	**0.86**	**142**		Pg	18 23 23.2	+0.4
OHCM	**Honcut**	**0.88**	**207**		Pg	18 23 23.1	0.0
LTCM	**Tuscan Springs**	**0.89**	**276**		Pg	18 23 23.4	+0.2
DONR	**Donner Summit**	**0.92**	**147**		Pg	18 23 23.8	0.0
PEAR	**Peavine Mounta**	**0.93**	**123**		Pg	18 23 24.5	+0.4
VPK	**Verdi Peak**	**0.97**	**132**		Pg	18 23 24.8	+0.1
LSHM	**Sage Hen Hill**	**1.05**	**310**		Pg	18 23 25.5	-0.9
MPK	**Martis Peak**	**1.10**	**138**		Pg	18 23 27.4	+0.1
LTIM	**Timbered Crate**	**1.12**	**340**		Pg	18 23 26.8	-1.0
AFDM	**Forest Hills D**	**1.17**	**180**		Pg	18 23 28.0	-0.7
RUBR	**Rubicon Trail**	**1.24**	**149**		Pg	18 23 29.8	-0.2
PAHR	**Pah Rah Range**	**1.29**	**108**		Pg	18 23 30.4	-0.5
EMB	**Emerald Bay**	**1.33**	**149**		Pg	18 23 31.3	-0.4
GNO	**Genoa**	**1.47**	**144**		Pb	18 23 34.1	-0.1
PNTR	**Pine Nut**	**1.48**	**134**		Pb	18 23 34.2	-0.2
YERR	**Yerington**	**1.76**	**130**		Pn	18 23 37.7	+0.1
MOD	**Modoc Plateau**	**1.85**	**16**		Pn	18 23 38.8	-0.1
CMB	**Columbia Colle**	**2.13**	**167**		Pn	18 23 42.5	-0.2
RYN	**Ryan**	**2.42**	**127**	Pg	Pb	18 23 51.2	+0.9
KVN	**Kaiserville**	**2.46**	**115**	Pn	Pn	18 23 48.1	+0.8
NVAR	**Mina Array Bea**	**2.67**	**128**		Pn	18 23 50.5	+0.3
MGNR	**McGee Canyon**	**2.91**	**142**		Pb	18 23 59.6	+0.8

UCR ***20*** *18:29:35.4±2.6, 13°.02N×88°.60W, h5km±42km, MW4.1*
GCG ***20*** *18:29:36.3±0.6, 12°.82N×88°.50W, h50km, MD4.4*
NEIC ***20*** *18:29:36.3±2.7, 12°.76N±0°.07×88°.70W±0°.07, h66km±6km*
ISCJB ***20*** *18:29:36.9±0.3, 12°.92N±0°.04×88°.63W±0°.03, h75km±2km, mb3.9/7, Error ellipse: s-maj=7.6km s-min=3.2km az=33.1*
SNET ***20*** *18:29:37.3±1.0, 12°.92N×88°.66W, h62km±7km, ML4.1*
IDC ***20*** *18:29:38.2±1.5, 12°.90N×88°.55W, h84km±14km, mb3.6/7, mb1 3.9/12, mb1mx3.7/37, mbtmp4.0/12, MS3.1/5, Ms1 3.0/5, ms1mx2.7/33, Error ellipse: s-maj=37.0km s-min=10.7km az=39.0*

ISC 20 18:29:36.9±0.9, 12°.90N±0°.06×88°.63W±0°.04, h69km±7km, n91, σ1°44/107, mb4.2/14, 5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.43**	**8**	*eP*	**Pn**	**18 29 48.7**	**-0.4**
ALJI				*eS*	**Sn**	**18 29 58.2**	**+0.3**
ALJI				IAML		18 30 00.1	
comp=Z,11μm,0.3s							
JUCU	**Jucuarɲ**	**0.51**	**46**	*i P*	**Pn**	**18 29 49.5**	**-0.4**
JUCU				*eS*	**Sn**	**18 29 59.6**	**+0.2**
JUCU				IAML		18 30 02.9	
comp=Z,17μm,0.4s							
COEB	**Comit de Eme**	**0.61**	**9**	*eP*	**Pn**	**18 29 50.7**	**-0.3**
COEB				*eS*	**Sn**	**18 30 01.2**	**+0.1**
COEB				IAML		18 30 06.8	
comp=Z,11μm,0.4s							
TECA	**Tecapa**	**0.61**	**12** ‖	*iP*	**Pn**	**18 29 50.8**	**-0.2**
LCY	**Lacayo**	**0.62**	**32** ‖	*iP*	**Pn**	**18 29 51.0**	**-0.1**
VSM	**San Miguel**	**0.63**	**33** ‖	*iP*	**Pn**	**18 29 51.4**	**+0.1**
COEG	**Centro de Oper**	**0.76**	**341**	*eP*	**Pn**	**18 29 52.4**	**-0.2**
COEG				*eS*	**Sn**	**18 30 03.8**	**-0.3**
COEG				IAML		18 30 06.3	
comp=Z,7μm,0.2s							
LCND	**La Caada**	**0.83**	**60**	*i P*	**Pn**	**18 29 53.5**	**+0.2**
LCND				*eS*	**Sn**	**18 30 06.2**	**+0.8**
LCND				IAML		18 30 08.0	
comp=Z,22μm,0.3s							
CNCH	**Conchagua**	**0.86**	**64**	*eP*	**Pn**	**18 29 53.7**	**-0.1**
CNCH				*eS*	**Sn**	**18 30 08.2**	**+1.9**
CNCH				IAML		18 30 10.8	
comp=Z,20μm,0.4s							
PAVA	**Las Pavas**	**0.87**	**340**	*eP*	**Pn**	**18 29 53.9**	**0.0**
PAVA				*eS*	**Sn**	**18 30 07.3**	**+0.9**
FAGO	**Alcalda de S**	**0.94**	**33**	*eP*	**Pn**	**18 29 54.8**	**+0.1**
FAGO				*eS*	**Sn**	**18 30 08.4**	**+0.5**
FAGO				IAML		18 30 10.5	
comp=Z,1μm,0.3s							
LFU	**La Fuente**	**0.97**	**331**	*eP*	**Pn**	**18 29 55.3**	**+0.2**
SNET	**Serv Nac Est T**	**0.98**	**323**	*eP*	**Pn**	**18 29 55.0**	**-0.2**
SNET				*eS*	**Sn**	**18 30 08.3**	**-0.5**
SNET				IAML		18 30 10.7	
comp=Z,5μm,0.3s							
SNET	**Serv Nac Est T**	**0.98**	**323**		**Pn**	**18 29 54.6**	**-0.6**
SNET				Sn	**Sn**	**18 30 08.0**	**-0.8**
OPAM	**Oficina de Pla**	**0.98**	**326**	*eP*	**Pn**	**18 29 55.9**	**+0.7**
OPAM				*eS*	**Sn**	**18 30 08.9**	**0.0**
OPAM				IAML		18 30 10.0	
comp=Z,4μm,0.4s							
CUSC	**Alcaldia de Cu**	**0.98**	**327**	*eP*	**Pn**	**18 29 55.7**	**+0.4**
CUSC				*eS*	**Sn**	**18 30 08.9**	**0.0**
CUSC				IAML		18 30 14.4	
comp=Z,7μm,0.4s							
UEES	**Universidad Ev**	**1.01**	**324**	*eP*	**Pn**	**18 29 55.6**	**0.0**
UEES				*eS*	**Sn**	**18 30 09.5**	**0.0**
VICT	**Victoria**	**1.06**	**359**	*eP*	**Pn**	**18 29 56.5**	**+0.2**
VICT				*eS*	**Sn**	**18 30 11.3**	**+0.7**
VICT				IAML		18 30 12.7	
comp=Z,1μm,0.4s							
SBLS	**San Blas**	**1.35**	**314**	*eP*	**Pn**	**18 30 00.4**	**+0.3**
SNJE	**San Jose**	**1.36**	**316**	*eP*	**Pn**	**18 30 01.1**	**+0.9**
RTR	**El Retiro**	**1.40**	**315**	*eP*	**Pn**	**18 30 01.2**	**+0.5**
CRIN	**San Cristobal**	**1.55**	**97**	*eS*	**Sn**	**18 30 25.1**	**+3.0**
MTO3	**Montecristo**	**1.66**	**335**	*eP*	**Pn**	**18 30 04.5**	**+0.3**
MTO3				IAML		18 30 29.5	
comp=Z,184nm,0.4s							
TGUH	**Tegucigalpa,Un**	**1.75**	**49**		**Pn**	**18 30 06.2**	**+0.8**
IXG	**Ixpaco**	**2.17**	**306**	*eP*	**Pn**	**18 30 12.3**	**+1.2**
IXG	**Ixpaco**	**2.17**	**306**	*eP*	**Pn**	**18 30 11.3**	**+0.2**
ESTN	**Estel**	**2.21**	**84** ‖	*eP*	**Pn**	**18 30 12.3**	**+0.8**
ESTN				*eS*	**Sn**	**18 30 40.5**	**+2.6**
ESTN	**Estel**	**2.21**	**84**		**Pn**	**18 30 12.0**	**+0.5**
NBG	**Las Nubes**	**2.37**	**315**	*eP*	**Pn**	**18 30 15.9**	**+2.1**
RCON	**San Juan de Ri**	**2.48**	**76**	*eP*	**Pn**	**18 30 16.2**	**+1.0**
MATN	**Matagalpa**	**2.64**	**89** ‖	*iP*	**Pn**	**18 30 17.8**	**+0.5**
FUG	**Fuego 3**	**2.65**	**306**	*eP*	**Pn**	**18 30 19.8**	**+2.3**
FUG				*eS*	**Sn**	**18 30 53.1**	**+4.4**
APG	**El Apazote**	**2.75**	**320**	P	**Pn**	**18 30 20.1**	**+1.1**
comp=Z,4.3nm,0.3s,baz=121,slow=10,SNR=22							
STG3	**Santiaguito 3,**	**3.38**	**303**	*eP*	**Pn**	**18 30 29.8**	**+2.3**
ACON	**Acoyapa**	**3.50**	**105**	*eP*	**Pn**	**18 30 28.4**	**-0.5**
ACON	**Acoyapa**	**3.50**	**105**		**Pn**	**18 30 28.1**	**-0.9**
GB1A	**Borinquen Arri**	**3.78**	**123**	*eP*	**Pn**	**18 30 34.4**	**+1.5**
BUEV	**Buena Vista**	**3.78**	**123**	*eP*	Pn	18 30 38.6	+5.7
CUI	**Cuipilapa**	**4.06**	**123**	*eP*	**Pn**	**18 30 38.1**	**+1.4**
PLVR	**Palo Verde**	**4.09**	**128**	*eP*	**Pn**	**18 30 39.1**	**+1.9**
ESPN	**Las Esperanzas**	**4.28**	**99**	*eP*	**Pn**	**18 30 40.4**	**+0.7**
ESPN	**Las Esperanzas**	**4.28**	**99**		**Pn**	**18 30 39.8**	**+0.1**
JTS	**Las Juntas de**	**4.44**	**125**	P	**Pn**	**18 30 43.6**	**+1.8**
comp=Z,6.7nm,0.3s,baz=16,slow=16,SNR=17							
JTS				S	**Sn**	**18 31 32.2**	**0.0**
comp=Z,4.2nm,0.3s,baz=82,slow=6.3,SNR=2.9							
JTS	**Las Juntas de**	**4.44**	**125**	*eP*	**Pn**	**18 30 43.3**	**+1.5**
JTS	**Las Juntas de**	**4.44**	**125**		**Pn**	**18 30 43.0**	**+1.2**
CEDE	**Laguna Cedeo**	**4.53**	**122**	*eP*	**Pn**	**18 30 45.8**	**+2.7**
ARE1	**Arenal 1**	**4.53**	**122**	*eP*	**Pn**	**18 30 45.6**	**+2.5**
CCIG	**Comitan**	**4.78**	**315**		**Pn**	**18 30 48.3**	**+1.7**
CVTR	**Volcan Turrial**	**5.56**	**120**	*eP*	**Pn**	**18 31 01.6**	**+4.0**
DRK0	**Durika**	**6.40**	**124**	*eP*	**Pn**	**18 31 11.0**	**+2.2**
TEIG	**Tepich**	**7.30**	**3**	P	**Pn**	**18 31 23.5**	**+2.6**
comp=Z,2.7nm,0.3s,baz=132,slow=1.4,SNR=14							
TEIG				LR	LR	18 34 27.4	
comp=Z,108nm,19.8s,baz=50,slow=40							
TEIG	**Tepich**	**7.30**	**3**		**Pn**	**18 31 23.3**	**+2.4**
CMIG	**Matias Romero**	**7.34**	**305**	P	**Pn**	**18 31 23.2**	**+1.6**
comp=Z,1.1nm,0.3s,baz=144,slow=13,SNR=10							
CMIG				S	**Sn**	**18 32 45.6**	**+2.1**
comp=Z,4.9nm,0.3s,baz=25,slow=13,SNR=7.0							
ICCO	**Coco Island**	**7.47**	**168**	*eP*	**Pn**	**18 31 26.7**	**+3.4**
SDV	**Santo Domingo**	**18.11**	**101**	P	**P**	**18 33 43.6**	**-0.1**
comp=Z,0.9nm,0.3s,baz=283,slow=6.3,SNR=9.5							
SDV	**Santo Domingo**	**18.11**	**101**	P	**P**	**18 33 43.2**	**-0.5**
352A	**Blakely**	**18.81**	**10**		**Pn**	**18 33 54.0**	**+1.9**
352A				IAmb	IAmb	18 33 56.2	
comp=Z,47nm,0.9s							
152A	**Waverly Hall**	**20.00**	**10**	P	**Pn**	**18 34 06.3**	**0.0**
152A				IAmb	IAmb	18 34 08.4	
comp=Z,18nm,0.9s							
LRAL	**Lakeview Retre**	**20.10**	**4**	Pn	Pn	18 34 07.5	+0.1
LRAL				IAmb	IAmb	18 34 09.9	
comp=Z,12nm,1.0s							
JCT	**Junction City**	**20.32**	**331**	P	**P**	**18 34 08.7**	**+1.1**
TXAR	**Lajitas Array**	**21.51**	**322**	P	**P**	**18 34 21.9**	**+1.5**
comp=Z,1.7nm,0.6s,baz=145,slow=9.8,SNR=16							
TXAR	**Lajitas Array**	**21.51**	**322**	P	**P**	**18 34 21.5**	**+1.1**
TX31	**Lajitas Ar. Si**	**21.51**	**322**	P	**P**	**18 34 21.9**	**+1.5**
TX32	**Lajitas Array**	**21.51**	**322**	P	**P**	**18 34 21.9**	**+1.5**
TX32				IAmb	IAmb	18 35 15.0	
comp=Z,21nm,1.9s							
SJG	**San Juan**	**22.26**	**74**	LR	LR	18 42 03.3	
comp=Z,61nm,20.0s,baz=288,slow=34							
TKL	**Tuckaleechee C**	**23.08**	**10**	P	**P**	**18 34 37.4**	**+0.6**
comp=Z,6.2nm,0.8s,baz=175,slow=15,SNR=5.0							
TKL				LR	LR	18 42 47.2	
comp=Z,80nm,19.6s,baz=178,slow=34							
U40A	**Yellville**	**23.67**	**351**	P	**P**	**18 34 43.0**	**+0.7**
U40A				IAmb	IAmb	18 34 46.0	
comp=Z,6.9nm,0.8s							
PBMO	**Poplar Bluff**	**23.84**	**356**	P	**P**	**18 34 45.0**	**+1.3**
PBMO				IAmb	IAmb	18 34 48.2	
comp=Z,7.9nm,0.7s							
V58A	**Windy Hill, Pi**	**24.36**	**19**	P	**P**	**18 34 48.4**	**-0.1**
MSTX	**Muleshoe**	**24.61**	**331**	P	**P**	**18 34 50.7**	**-0.3**
MSTX				IAmb	IAmb	18 34 52.3	
comp=Z,20nm,1.4s							
CCM	**Cathedral Cave**	**25.16**	**355**	P	**P**	**18 34 55.5**	**-0.3**
CCM				IAmb	IAmb	18 34 56.8	
comp=Z,10nm,1.1s							
BLO	**Bloomington**	**26.24**	**4**	P	**P**	**18 35 07.1**	**+1.6**
SAML	**Samuel**	**33.31**	**129**	P	**P**	**18 36 06.7**	**-1.7**
PDAR	**Pinedale Array**	**34.84**	**333**	P	**P**	**18 36 22.2**	**+0.5**
comp=Z,0.4nm,0.5s,baz=127,slow=10,SNR=3.1							
PDAR				LR	LR	18 50 50.2	
comp=Z,13nm,21.7s,baz=46,slow=36							
REDW	**Red Top Meadow**	**35.90**	**332**	P	**P**	**18 36 31.6**	**+0.9**
TPAW	**Teton Pass**	**36.04**	**332**	P	**P**	**18 36 32.8**	**+0.8**
NVAR	**Mina Array Bea**	**36.61**	**319**	P	**P**	**18 36 38.6**	**+1.7**
comp=Z,

comp=Z,5.4nm,0.8s
BMAR Burnt Mountain 65.46 339 P P 18 40 12.1 -0.4
RDOG Red Dog Mine 72.25 338 P P 18 40 50.9 -3.6
RDOG IAmb IAmb 18 40 52.9
comp=Z,6.1nm,0.6s
CMAR Chiang Mai Arr 147.96 346 PKPbc PKPdf 18 49 12.8 +0.5
comp=Z,0.6nm,0.4s,baz=335,slow=3.6,SNR=5.7
CMAR Chiang Mai Arr 147.96 346 PKPdf 18 49 10.4 -1.9

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*ANF **20** 18:31:22.1±0.8, 32°.20N×115°.22W, h8km, ML2.8/7, Error ellipse: s-maj=7.3km s-min=5.1km az=172.0*
*SCEDC **20** 18:31:23.2, 32°.11N×115°.11W, h27km*
*ISCJB **20** 18:31:24.2±0.5, 32°.20N±0°.03×115°.22W±0°.04, h25km±4km, Error ellipse: s-maj=5.3km s-min=5.1km az=179.9*
*ECX **20** 18:31:25.4±0.6, 32°.17N×115°.26W, h5km, MD3.0, ML3.2*
*NEIC **20** 18:31:28.1±2.9, 32°.66N±0°.03×115°.56W±0°.03, h1km±10km*
ISC 20 18:31:24.0±1.1, 32°.18N±0°.04×115°.26W±0°.03, h21km±2km, n31, σ0°98/39, 8C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.23**	**13**		Pb	18 31 35.6	+5.5
CPBX	**Cerro Prieto**	**0.24**	**351**	*e*P	**Pb**	**18 31 30.2**	**+0.1**
CPBX				*e*S	**Sb**	**18 31 34.0**	**-0.3**
CPBX				⇑*e*		18 31 37.1	
CPBX				IAML		18 31 37.1	
	comp=E,20μm,0.3s						
SGL	**Mount Signal**	**0.61**	**320**	⇑*i*P	**Pn**	**18 31 36.6**	**-0.8**
COA	**Coachella**	**0.69**	**10**	⇑*i*P	**Pb**	**18 31 37.3**	**-0.1**
WESC	**Westside Schoo**	**0.70**	**326**	*e*P	**Pn**	**18 31 38.2**	**-0.5**
COK2	**Cook Ranch 2**	**0.78**	**330**	⇑*e*P	**Pn**	**18 31 39.4**	**-0.3**
RMX	**La Rumorosa**	**0.81**	**302**	⇑*e*P	**Pb**	**18 31 38.9**	**-0.6**
RMX				*e*S	**Sb**	**18 31 49.3**	**-0.7**
RMX				⇑*e*		18 31 49.8	
RMX				IAML		18 31 49.8	
	comp=N,1μm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.86**	**303**	P	**Pn**	**18 31 40.7**	**-0.2**
	baz=122						
IKP				S	**Sn**	**18 31 52.5**	**-0.4**
	baz=122						
IKP	**In-Ko-Pah, Jac**	**0.86**	**303**	*e*P	**Pn**	**18 31 40.4**	**-0.5**
SWSC	**Sam W. Stewart**	**0.89**	**329**	*e*P	**Pn**	**18 31 40.9**	**-0.4**
CRR	**Carrizo Plain**	**0.92**	**320**	⇑*i*P	**Pn**	**18 31 41.9**	**+0.1**
GLA	**Glamis**	**0.94**	**23**	P	**Pb**	**18 31 40.6**	**-1.1**
	baz=194						
GLA				S	**Sb**	**18 31 53.6**	**-0.2**
	baz=194						
SPIG	**San Pedro Mart**	**1.15**	**189**		**Sn**	**18 32 00.2**	**-0.1**
SPX	**San Pedro Mart**	**1.15**	**189**	*e*P	**Pb**	**18 31 44.8**	**-0.5**
SPX				*e*S	**Sn**	**18 32 01.0**	**+0.7**
SPX				*e*		18 32 03.5	
SPX				IAML		18 32 03.5	
	comp=N,182nm,0.1s						
CBX	**Cerro Bola**	**1.20**	**277**	⇑*e*P	**Pb**	**18 31 46.0**	**-0.1**
CBX				*e*S	**Sn**	**18 32 02.2**	**+0.9**
MONP2	**Monument Peak**	**1.21**	**306**	P	**Pn**	**18 31 45.6**	**-0.3**
	baz=125						
MONP2				S	**Sn**	**18 32 03.2**	**+1.4**
	baz=125						
MONP2	**Monument Peak**	**1.21**	**306**	*e*P	**Pb**	**18 31 46.1**	**-0.3**
BAR	**Barrett**	**1.29**	**293**		**Pb**	**18 31 47.1**	**-0.6**
BAR	**Barrett**	**1.29**	**293**	*e*P	**Pb**	**18 31 47.2**	**-0.4**
OLP	**Otay Lakes Par**	**1.47**	**287**	*e*P	**Pb**	**18 31 50.1**	**-0.6**
BC3	**Big Chuckawall**	**1.48**	**354**	P	**Pn**	**18 31 48.8**	**-0.7**
	baz=169						
BC3				S	**Sn**	**18 32 06.9**	**-1.4**
	baz=169						
Y12C	**Blythe**	**1.68**	**21**		**Pb**	**18 31 53.7**	**-0.6**
109C	**Camp Elliot, M**	**1.71**	**295**	P	**Pb**	**18 31 53.5**	**-1.3**
	baz=114						
109C				Sb	**Sb**	**18 32 17.7**	**+1.9**
	baz=114						
109C	**Camp Elliot, M**	**1.71**	**295**		**Pn**	**18 31 53.2**	**+0.6**
TPFO	**Pinon Flats**	**1.74**	**325**	P	**Pn**	**18 31 52.6**	**-0.5**
	baz=143						
PFO	**Pinyon Flats O**	**1.75**	**325**		**Pn**	**18 31 52.3**	**-0.9**
214A	**Organ Pipe Nat**	**2.09**	**96**	P	**Pn**	**18 31 56.5**	**-1.4**
	baz=275						
Y14A	**Wickenburg**	**2.58**	**47**		**Pb**	**18 32 08.1**	**-1.6**
W13A	**Hualapai Mount**	**3.13**	**21**		**Pb**	**18 32 21.6**	**+2.5**
TUC	**Tucson**	**3.80**	**87**		**Pn**	**18 32 22.8**	**+1.4**
U15A	**North Rim**	**4.90**	**29**	Pn	**Pn**	**18 32 38.4**	**+1.7**

IDC 20 18:42:49.6±1.4, 62°.39S×110°.56E, h0km, mb3.2/1, mb1 3.4/1, mb1mx3.3/19, mbtmp3.4/1, MS3.1/1, Ms1 3.0/1, ms1mx2.7/7, Error ellipse: s-maj=143.6km s-min=40.5km az=147.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**20.37**	**235**	P	P	18 47 27.3	0.0
	1.1nm,0.8s,baz=110,slow=12,SNR=3.2						
MAW				LR	LR	18 54 46.4	
	comp=Z,50nm,18.7s,baz=62,slow=35						
H01W2	**Cape Leeuwin H**	**27.61**	**6**	T	T	19 18 12.7	
	baz=185						
H01W1	**Cape Leeuwin H**	**27.61**	**6**	T	T	19 18 17.1	
	baz=185						
H01W3	**Cape Leeuwin H**	**27.62**	**6**	T	T	19 18 18.2	
	baz=185						
ARCES	**ARCESS Array B**	**144.51**	**323**	PKP	PKPbc	19 02 25.2	+0.5
	4.3nm,0.8s,baz=139,slow=2.4,SNR=7.6						
ILAR	**Eielson Array**	**147.44**	**51**	PKPbc	PKPbc	19 02 33.0	-0.7
	1.4nm,0.6s,baz=260,slow=3.4,SNR=19						
PDAR	**Pinedale Array**	**149.43**	**111**	PKPbc	PKPbc	19 02 39.2	-0.6
	0.4nm,0.6s,baz=167,slow=4.3,SNR=2.4						

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*IDC **20** 18:44:14.4±0.7, 3°.95S×133°.79E, h0km, mb4.3/10, mb1 4.5/15, mb1mx4.3/29, mbtmp4.4/15, ML3.7/4, MS3.7/13, Ms1 3.7/13, ms1mx3.6/25, Error ellipse: s-maj=24.7km s-min=14.6km az=63.0*
*ISCJB **20** 18:44:16.7±0.2, 4°.09S±0°.02×133°.86E±0°.03, h33km, mb4.9/25, MS4.0/17, Error ellipse: s-maj=3.7km s-min=3.5km az=170.7*
*DJA **20** 18:44:16.8±0.2, 4°.S±2°.×13°.4E±°, h10km, M4.8/24, mB5.2/14, mb5.0/24, MLv5.1/13, Mw(mB)4.6/14*
*BJI **20** 18:44:16.5±0.0, 3°.93S×133°.21E, h5km, mb4.6/40, mB5.0/31, Ms4.9/10, Ms7 4.7/5*
*NEIC **20** 18:44:19.1±1.6, 3°.95S±0°.06×133°.65E±0°.08, h29km±4km, mb4.8/44*
ISC 20 18:44:19.4±0.4, 4°.08S±0°.04×133°.82E±0°.04, h35km, n150, σ2°.13/147, mb4.8/56, MS3.9/17, 2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.95**	**306**	P	**Pn**	**18 44 47.6**	**-2.4**
FAKI				S	**Sn**	**18 45 11.6**	**-1.6**
RKPI	**Ransiki, Papua**	**2.57**	**8**	P	**Pn**	**18 44 56.2**	**-2.4**
RKPI				S	**Sn**	**18 45 27.0**	**-1.6**
SRPI	**Serui, Papua**	**3.26**	**48**	P	**Pn**	**18 45 05.7**	**-2.3**
BNDI	**Bandanaira**	**3.93**	**263**	P	**Pn**	**18 45 17.8**	**+0.5**
BNDI				S	**Sn**	**18 46 05.7**	**+3.4**
SIJI	**Sorong**	**4.08**	**321**	Pn	**Pn**	**18 45 15.4**	**-4.0**
	14nm,0.3s,baz=39,slow=22,SNR=116						
SIJI				Sn	**Sn**	**18 46 01.5**	**-4.5**
	53nm,0.3s,baz=337,slow=23,SNR=6.3						
SIJI				LR	LR	18 47 22.3	
	comp=Z,998nm,18.3s,baz=96,slow=47						
SWI	**Sorong**	**4.09**	**321**	P	**Pn**	**18 45 15.8**	**-3.7**
SAUI	**Saumlaki**	**4.62**	**213**	P	**Pn**	**18 45 30.0**	**+3.2**
SAUI	**Saumlaki**	**4.62**	**213**		**Pn**	**18 45 24.0**	**-2.8**
MSAI	**Masohi**	**4.94**	**278**	P	**Pn**	**18 45 30.8**	**-0.3**
SMPI	**Sarmi**	**5.30**	**67**	P	**Pn**	**18 45 37.1**	**+1.0**
AAI	**Ambon**	**5.63**	**274**	P	**Pn**	**18 45 40.0**	**-0.6**
	338nm,0.4s,5μm1.6nm						
GENI	**Genyem**	**6.50**	**77**	P	**Pn**	**18 45 52.1**	**-0.5**
NLAI	**Namlea**	**6.76**	**277**	P	**Pn**	**18 45 56.9**	**+0.7**
	105nm,0.5s,2μm0.8nm						
JAY	**Jayapura**	**7.04**	**77**	Pn	**Pn**	**18 46 00.5**	**+0.4**
	1.3nm,0.3s,baz=240,slow=11,SNR=5.1						
JAY				Sn	**Sn**	**18 47 17.5**	**-1.6**
	1.1nm,0.3s,baz=135,slow=18,SNR=2.3						
JAY	**Jayapura**	**7.04**	**77**	P	**Pn**	**18 46 00.7**	**+0.6**
TNTI	**Ternate**	**8.05**	**307**	P	Pn	18 46 21.3	+7.4
SANI	**Sanana**	**8.08**	**284**	P	**Pn**	**18 46 11.8**	**-2.5**
KDU	**Kakadu**	**8.66**	**189**	P	**Pn**	**18 46 22.6**	**+0.3**
	baz=8.5,SNR=214						
MTN	**Manton Dam**	**9.11**	**197**	P	**Pn**	**18 46 27.7**	**-0.7**
	baz=8.9,SNR=39						
MTN	**Manton Dam**	**9.11**	**197**		**Pn**	**18 46 27.7**	**-0.7**
MTN				Sn	**Sn**	**18 48 05.6**	**-4.2**
KMSI	**Cibinong**	**10.87**	**295**	P	**Pn**	**18 46 56.0**	**+3.5**
SOEI	**Soe**	**11.04**	**239**	P	**Pn**	**18 46 57.0**	**+2.0**
	88nm,0.8s						
BATI	**Baumata**	**11.78**	**238**	Pn	**Pn**	**18 47 04.5**	**-0.4**
	17nm,0.3s,baz=116,slow=3.1,SNR=30						
BATI				Sn	**Sn**	**18 49 15.7**	**+0.4**
	4.6nm,0.3s,baz=162,slow=20,SNR=3.6						
BATI	**Baumata**	**11.78**	**238**	P	**Pn**	**18 47 04.6**	**-0.4**
KNRA	**Kununurra**	**12.56**	**203**	P	**Pn**	**18 47 12.9**	**-2.8**
	baz=12,SNR=120						
KNRA	**Kununurra**	**12.56**	**203**		**Pn**	**18 47 12.9**	**-2.8**
APSI	**Ampana**	**12.56**	**284**	P	**Pn**	**18 47 15.3**	**-0.4**
	63nm,0.7s,597nm						
MRSI	**Marisa**	**12.71**	**291**	P	**Pn**	**18 47 17.5**	**-0.2**
	23nm,0.7s,242nm						
COEN	**Coen**	**13.47**	**137**	P	**Pn**	**18 47 26.2**	**-2.0**
	baz=13,SNR=23						
COEN	**Coen**	**13.47**	**137**		**Pn**	**18 47 24.5**	**-3.7**
TTSI	**Tana Toraja**	**14.02**	**274**	P	**Pn**	**18 47 34.7**	**-0.9**
SPSI	**Sidrap Palu**	**14.02**	**270**	P	**Pn**	**18 47 36.0**	**+0.3**
KCP	**Kidapawan**	**14.04**	**322**	‖*i*P	**Pn**	**18 47 34.9**	**-1.1**
PMG	**Port Moresby**	**14.26**	**112**	Pn	**Pn**	**18 47 37.6**	**-1.3**
	1.4nm,0.3s,baz=334,slow=8.8,SNR=9.6						
PMG	**Port Moresby**	**14.26**	**112**		**Pn**	**18 47 37.5**	**-1.5**
MPSI	**Mapaga**	**14.59**	**287**	P	**Pn**	**18 47 42.6**	**-0.8**
WB0	**Warramunga Arr**	**15.61**	**178**	Pn	**Pn**	**18 47 52.6**	**-4.3**
WB0				IAmb	IAmb	18 48 14.5	
	comp=Z,48nm,1.1s						
WRAB	**Tennant Creek**	**15.77**	**178**	Pn	**Pn**	**18 47 55.1**	**-3.9**
WRAB				IAmb	IAmb	18 48 12.5	
	comp=Z,35nm,0.8s						
WB2	**Warramunga Arr**	**15.78**	**178**	Pn	**Pn**	**18 47 55.0**	**-4.1**
WB2				IAmb	IAmb	18 48 12.6	
	comp=Z,42nm,0.7s						
WRA	**Warramunga Arr**	**15.78**	**178**	Pn	**Pn**	**18 47 55.1**	**-4.0**
	comp=Z,1.4nm,0.3s,baz=358,slow=13,SNR=36						
WRA				Sn	Sn	18 50 41.0	-12
	comp=Z,1.1nm,0.3s,baz=0.3,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**15.78**	**178**		**Pn**	**18 47 53.4**	**-5.7**
WRA				IAmb	IAmb	18 48 12.8	
	comp=Z,2.9nm,0.8s						
WRA				Sn	Sn	18 50 41.7	-11
WR0	**Warramunga Arr**	**15.80**	**178**	Pn	**Pn**	**18 47 55.2**	**-4.2**
WR0				IAmb	IAmb	18 48 12.9	
	comp=Z,52nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.07**	**209**	P	**Pn**	**18 47 59.5**	**-3.4**
	baz=16,SNR=83						
FITZ	**Fitzroy Crossi**	**16.07**	**209**	Pn	**Pn**	**18 47 59.5**	**-3.4**
	comp=Z,2.6nm,0.3s,baz=36,slow=11,SNR=52						
FITZ				Sn	Sn	18 50 47.9	-12
	comp=Z,1.3nm,0.3s,baz=288,slow=16,SNR=8.3						
FITZ	**Fitzroy Crossi**	**16.07**	**209**		**Pn**	**18 47 59.3**	**-3.6**
FITZ				IAmb	IAmb	18 48 12.5	
	comp=Z,27nm,0.8s						
QIS	**Mount Isa**	**17.32**	**162**	P	**Pn**	**18 48 17.2**	**-1.4**
	baz=17,SNR=10						
MTSU	**Mount Surprise**	**17.34**	**144**	P	**Pn**	**18 48 17.1**	**-1.7**
	baz=17,SNR=23						
AS31	**Alice Springs**	**19.48**	**180**	P	**P**	**18 48 43.3**	**-0.2**
AS31				IAmb	IAmb	18 48 53.3	
	comp=Z,25nm,1.2s						
ASAR	**Alice Springs**	**19.48**	**180**	P	**P**	**18 48 42.8**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=0.9,slow=11,SNR=83						
ASAR				S	S	18 52 09.4	-12
	comp=Z,0.3nm,0.3s,baz=4.5,slow=28,SNR=6.5						
ASAR				LR	LR	18 57 32.4	
	comp=Z,210nm,21.4s,baz=1.5,slow=41						
ASAR	**Alice Springs**	**19.48**	**180**	P	**P**	**18 48 42.2**	**-1.3**
CTA	**Charters Tower**	**20.00**	**144**	P	**P**	**18 48 49.9**	**+0.7**
	comp=Z,36nm,0.9s,baz=320,slow=13,SNR=60						
WRKA	**Warakurna**	**21.51**	**194**	P	**P**	**18 49 06.0**	**+0.6**
	baz=21,SNR=6.9						
PSAD1	**Pilbara Seismi**	**21.98**	**217**	P	**P**	**18 49 10.8**	**+0.3**
PSAD1				IAmb	IAmb	18 49 12.3	
	comp=Z,56nm,0.9s						
PSAC2	**Pilbara Seismi**	**22.02**	**217**	P	**P**	**18 49 11.6**	**+0.7**
PSAC2				IAmb	IAmb	18 49 18.1	
	comp=Z,40nm,0.8s						
PSAD2	**Pilbara Seismi**	**22.03**	**216**	P	**P**	**18 49 11.5**	**+0.5**
PSAD2				IAmb	IAmb	18 49 12.7	
	comp=Z,41nm,1.1s						
PSAB2	**Pilbara Seismi**	**22.04**	**217**	P	**P**	**18 49 11.5**	**+0.3**
PSAB2				IAmb	IAmb	18 49 18.2	
	comp=Z,40nm,0.8s						
PSAA2	**Pilbara Seismi**	**22.05**	**217**	P	**P**	**18 49 11.6**	**+0.3**
PSAA2				IAmb	IAmb	18 49 18.4	
	comp=Z,50nm,0.9s						
PSAC1	**Pilbara Seismi**	**22.05**	**217**	P	**P**	**18 49 11.5**	**+0.2**
PSAC1				IAmb	IAmb	18 49 18.3	
	comp=Z,44nm,0.8s						
PSAA3	**Pilbara Seismi**	**22.06**	**217**	P	**P**	**18 49 11.6**	**+0.2**
PSAA3				IAmb	IAmb	18 49 18.5	
	comp=Z,42nm,0.8s						
PSA00	**Pilbara Seismi**	**22.06**	**217**	P	**P**	**18 49 09.1**	**-2.3**
PSA00				IAmb	IAmb	18 49 18.0	
	comp=Z,16nm,0.9s						
PSA00	**Pilbara Seismi**	**22.06**	**217**	P	**P**	**18 49 10.4**	**-1.0**
PSA00				IAmb	IAmb	18 49 18.5	
	comp=Z,45nm,0.8s						
PSAA1	**Pilbara Seismi**	**22.07**	**217**	P	**P**	**18 49 10.0**	**-1.5**
PSAA1				IAmb	IAmb	18 49 18.5	
	comp=Z,41nm,0.8s						
PSAB3	**Pilbara Seismi**	**22.07**	**217**	P	**P**	**18 49 11.4**	**-0.1**
PSAB3				IAmb	IAmb	18 49 18.6	
	comp=Z,39nm,0.8s						
PSAB1	**Pilbara Seismi**	**22.07**	**217**	P	**P**	**18 49 11.8**	**+0.3**
PSAB1				IAmb	IAmb	18 49 18.6	
	comp=Z,40nm,0.8s						
PSAC3	**Pilbara Seismi**	**22.11**	**217**	P	**P**	**18 49 12.3**	**+0.4**
PSAC3				IAmb	IAmb	18 49 19.0	
	comp=Z,40nm,0.8s						
PSAD3	**Pilbara Seismi**	**22.16**	**217**	P	**P**	**18 49 12.8**	**+0.4**
PSAD3				IAmb	IAmb	18 49 19.4	
	comp=Z,32nm,0.8s						
SBUM	**Sibu**	**22.54**	**286**	P	**P**	**18 49 17.3**	**+0.7**
SBUM				IAmb	IAmb	18 49 35.3	
	comp=Z,12nm,1.2s						
STKI	**Sintang**	**22.70**	**280**	P	**P**	**18 49 21.4**	**+3.1**
KSM	**Kuching**	**24.14**	**283**	P	**P**	**18 49 31.7**	**-0.7**
KSM				IAmb	IAmb	18 49 38.8	
	comp=Z,59nm,1.3s						
QLP	**Quilpie**	**24.50**	**157**	P	**P**	**18 49 34.7**	**-0.9**
	baz=24,SNR=3.8						
FORT	**Forrest**	**27.11**	**191**	P	**P**	**18 49 59.3**	**+0.2**
FORT				IAmb	IAmb	18 50 51.0	
	comp=Z,33nm,0.8s						
STKA	**Stephens Creek**	**28.60**	**166**	P	**P**	**18 50 12.8**	**+0.4**
	comp=Z,4.3nm,1.0s,baz=359,slow=9.6,SNR=4.7						
STKA				LR	LR	19 03 05.8	
	comp=Z,382nm,18.7s,baz=341,slow=39						
STKA	**Stephens Creek**	**28.60**	**166**	P	**P**	**18 50 13.2**	**+0.7**
STKA				IAmb	IAmb	18 50 16.3	
	comp=Z,3.6nm,1.3s						
YULB	**Yu-li**	**29.91**	**336**	P	**P**	**18 50 23.6**	**-0.6**
YULB				IAmb	IAmb	18 51 15.5	
	comp=Z,40nm,1.5s						
ARPS	**Mount Arapiles**	**33.36**	**168**	P	**P**	**18 50 54.1**	**-0.2**
	baz=33,SNR=5.5						
DZM	**Mont Dzumac**	**36.32**	**122**	*e*S	**S**	**18 57 06.0**	**+6.8**
	comp=Z,74nm,26.4s						
DZM				*e*LR	LR	19 01 10.4	
	comp=Z,258nm,23.1s						
CHAI	**Chaiyaphum**	**37.23**	**303**	P	**P**	**18 51 27.6**	**-0.3**
	comp=Z,27μm,0.6s						
MLSI	**Meulaboh, Aceh**	**38.29**	**282**	P	P	18 51 45.6	+8.7
NJ2	**Nanjing**	**38.65**	**339**	*e*P	**P**	**18 51 41.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
SRDT	**SRDT**	**38.98**	**299**	P	P	18 51 47.7	+5.1
	comp=Z,8.1nm,1.4s						
UTHA	**Uthaitani**	**39.23**	**301**	P	**P**	**18 51 44.6**	**-0.1**
	comp=Z,22μm,0.9s						
UMPA	**Umpang Tak**	**40.02**	**301**	P	**P**	**18 51 52.0**	**+0.7**
	comp=Z,17μm,0.8s						
MJAR	**Matsushiro Arr**	**40.61**	**5**	LR	LR	19 06 09.6	
	comp=Z,164nm,20.0s,baz=180,slow=32						
PAYA	**Payao**	**40.72**	**306**	P	**P**	**18 51 58.5**	**+1.4**
	comp=Z,13μm,0.8s						
CM31	**Chiang Mai Arr**	**41.02**	**304**	P	**P**	**18 51 58.8**	**-0.8**
CM31				IAmb	IAmb	18 52 04.4	
	comp=Z,19nm,1.4s						
CMAR	**Chiang Mai Arr**	**41.02**	**304**	P	**P**	**18 51 59.0**	**-0.6**
	comp=Z,4.8nm,1.0s,baz=131,slow=6.8,SNR=30						
CMAR				LR	LR	19 10 23.3	
	comp=Z,61nm,21.9s,baz=167,slow=38						
CMAR	**Chiang Mai Arr**	**41.02**	**304**	P	**P**	**18 51 58.4**	**-1.2**
CMMT	**Chiang Mai**	**41.19**	**305**	P	**P**	**18 52 01.0**	**0.0**
	comp=Z,3.9nm,1.3s						
CHTO	**Chiang Mai**	**41.19**	**305**	P	**P**	**18 52 00.1**	**-0.9**
CHTO				IAmb	IAmb	18 52 06.0	
	comp=Z,12nm,1.2s						
KSRS	**Korea Array**	**41.68**	**353**	P	**P**	**18 52 05.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=171,slow=8.4,SNR=4.8						
KSRS				LR	LR	19 10 29.8	
	comp=Z,85nm,18.9s,baz=172,slow=38						
MHMT	**Maesarieng**	**41.72**	**303**	P	P	18 52 10.2	+4.9
	comp=Z,6.5nm,0.7s,comp=Z,631nm						
KMI	**Kunming**	**41.88**	**315**	P	**P**	**18 52 08.4**	**+1.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,75nm,3.9s						
XAN	**Xi'an**	**44.60**	**330**	P	**P**	**18 52 26.5**	**-2.0**
XAN				pP	pP	18 52 31.3	-7.5
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**48.08**	**358**	LR	LR	19 11 27.7	
	comp=Z,77nm,20.3s,baz=150,slow=34						
MDJ	**Mudanjiang**	**48.62**	**356**	P	P	18 53 05.8	+6.1
MDJ				sP	sP	18 53 14.5	+0.4
MDJ				ScP	**ScP**	**18 58 26.1**	**+8.9**
MDJ				S	**S**	**19 00 06.6**	**+7.3**
MDJ				pmax	pmax		
	comp=Z,21nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,390nm,5.8s						
MDJ				LR	LR		
	comp=Z,870nm,4.7s						
MDJ				LR	LR		
	comp=Z,610nm,4.7s						
MDJ				LR	LR		
	comp=Z,470nm,5.1s						
LZH	**Lanzhou**	**48.82**	**327**	*e*P	**P**	**18 53 02.3**	**+0.7**
LZH				PP	**PP**	**18 54 53.4**	**-1.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,96nm,4.3s						
LZH				LR	LR		
	comp=Z,510nm,15.2s						
LZH				LR	LR		
	comp=Z,480nm,16.8s						
LZH				LR	LR		
	comp=Z,600nm,16.3s						
HHC	**Hu-ho-hao-te**	**49.13**	**338**	*e*P	**P**	**18 53 05.6**	**+1.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**52.89**	**312**	P	**P**	**18 53 32.7**	**0.0**
LSA				IAmb	IAmb	18 53 38.2	
	comp=Z,15nm,1.5s						
GTA	**Gaotai**	**53.42**	**327**	P	**P**	**18 53 35.9**	**-0.1**
GTA				pP	pP	18 53 46.1	-0.5
GTA				sP	sP	18 53 50.3	-0.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,61nm,4.8s						
GTA				LR	LR		
	comp=Z,120nm,14.1s						
GTA				LR	LR		
	comp=Z,92nm,15.5s						
TAPN	**Taplejung**	**54.35**	**308**	*e*P	**P**	**18 53 42.4**	**-0.9**
	comp=Z,11nm,0.6s						
ODAN	**Odare**	**54.38**	**307**	*e*P	**P**	**18 53 42.6**	**-0.8**
	comp=Z,34nm,1.0s						
RAMN	**Ramite**	**55.05**	**307**	*e*P	**P**	**18 53 47.7**	**-0.6**
	comp=Z,18nm,0.6s						
JIRN	**Jiri**	**55.69**	**307**	*e*P	**P**	**18 53 52.2**	**-0.9**
	comp=Z,26nm,1.0s						
GUN	**Gumba**	**56.05**	**308**	*e*P	**P**	**18 53 54.8**	**-0.8**
	comp=Z,26nm,0.8s						
PKI	**Pulchoki**	**56.27**	**307**	*e*P	**P**	**18 53 56.9**	**-0.3**
	comp=Z,19nm,1.1s						
KKN	**Kakani**	**56.47**	**307**	*e*P	**P**	**18 53 57.6**	**-0.9**
	comp=Z,22nm,1.0s						
DMN	**Daman**	**56.53**	**307**	*e*P	**P**	**18 53 58.1**	**-0.8**
	comp=Z,17nm,0.8s						
SONM	**Songino Array**	**57.02**	**338**	P	**P**	**18 54 00.9**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=158,slow=5.9,SNR=5.3						
SONM				LR	LR	19 21 31.5	
	comp=Z,43nm,18.1s,baz=160,slow=39						
SONM	**Songino Array**	**57.02**	**338**	IAmb	IAmb	18 54 19.3	
	comp=Z,2.2nm,1.3s						
GKN	**Gorkha**	**57.08**	**307**	*e*P	**P**	**18 54 01.8**	**-0.9**
	comp=Z,22nm,0.7s						
KOLN	**Koldanda**	**57.81**	**306**	*e*P	**P**	**18 54 07.3**	**-0.6**
	comp=Z,84nm,1.4s						
DANN	**Dangsing**	**57.92**	**307**	*e*P	**P**	**18 54 08.0**	**-0.8**
PETK	**Petropavlovsk-**	**60.42**	**16**	LR	LR	19 17 04.4	
	comp=Z,43nm,21.7s,baz=240,slow=33						
WMQ	**Urumqi**	**63.15**	**324**	*e*P	**P**	**18 54 44.3**	**+0.4**
WMQ				pP	pP	18 54 47.0	-7.5
WMQ				pmax	pmax		
	comp=Z,13nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.3s						
WMQ				LR	LR		
	comp=Z,540nm,29.0s						
WMQ				LR	LR		
	comp=Z,2μm,28.8s						
WMQ	**Urumqi**	**63.15**	**324**	P	**P**	**18 54 43.4**	**-0.5**
WMQ				IAmb	IAmb	18 54

ABKAR	**Abkulak array**	**82.64**	**321**	P	**P**	**18 56 38.0**	**-1.1**
ABKAR	**Abkulak array**	**82.64**	**321**	P	**P**	**18 56 38.7**	**-0.5**
ABKAR				IAmb	IAmb	18 56 40.7	
	comp=Z,4.9nm,1.2s						
MLY	**Manley**	**87.56**	**24**	P	**P**	**18 57 03.7**	**+0.1**
MLY				IAmb	IAmb	18 57 10.3	
	comp=Z,5.0nm,0.8s						
SYO	**Syowa Base**	**87.75**	**201**	*e*PcP	**PcP**	**18 57 09.8**	**+3.6**
RND	**Reindeer**	**87.97**	**26**	P	**P**	**18 57 04.8**	**-0.8**
RND				IAmb	IAmb	18 57 11.4	
	comp=Z,8.3nm,0.8s						
CCB	**Clear Creek Bu**	**88.69**	**25**	P	**P**	**18 57 08.9**	**+0.1**
CCB				IAmb	IAmb	18 57 14.7	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**89.10**	**25**	P	**P**	**18 57 09.1**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=277,slow=4.4,SNR=12						
EGAK	**Eagle**	**91.53**	**25**		pP	18 57 32.1	-0.9
NVAR	**Mina Array Bea**	**106.51**	**51**	PKKPbc	PKKPbc	19 14 01.9	-0.4
	comp=Z,0.3nm,0.6s,baz=102,slow=3.8,SNR=3.5						
ACSO	**Alum Creek Sta**	**131.06**	**37**		**PKiKP**	**19 03 30.8**	**+2.0**
CPUP	**Villa Florida**	**147.90**	**161**	PKPbc	**PKiKP**	**19 04 03.4**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=93,slow=0.7,SNR=7.1						
CPUP	**Villa Florida**	**147.90**	**161**		**PKiKP**	**19 04 03.0**	**-0.6**
LPAZ	**La Paz**	**150.32**	**134**	PKPbc	**PKiKP**	**19 04 10.5**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=174,slow=2.1,SNR=9.8						
LPAZ	**La Paz**	**150.32**	**134**		**PKiKP**	**19 04 11.4**	**+1.8**

*ISCJB **20** 18:45:54.3±0.2, 44°.60N±0°.01×6°.90E±0°.02, h12km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=149.3*
*ROM **20** 18:45:54.5±0.2, 44°.600N±0°.007×6°.93E±0°.02, h10km, ML2.0/5, Error ellipse: s-maj=1.3km s-min=0.2km az=240.0*
*GEN **20** 18:45:54.9, 44°.60N×6°.91E, h2km±1km, Ml1.9*
*STR **20** 18:45:54.5±0.4, 45°.N±2°.×°.±°., h0km, MLv2.0/7*
*LDG **20** 18:45:55.0±0.0, 44°.61N×6°.92E, h2km, Md2.4/2, Ml2.6/8, Error ellipse: s-maj=1.0km s-min=0.6km az=54.0*

ISC 20 18:45:54.7±0.8, 44°.59N±0°.02×6°.90E±0°.02, h12km±5km, n51, σ0°.51/89, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.13**	**208**	Pg	**Pg**	**18 45 58.0**	**0.0**
SURF				Sg	**Sg**	**18 46 00.2**	**-0.3**
MBDF	**Montbardon**	**0.16**	**326**	*e*Pg	**Pg**	**18 45 58.3**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 46 01.1**	**-0.1**
	424nm,0.2s,SNR=1.0						
PZZ	**Stroppo**	**0.18**	**119**	P	**Pg**	**18 45 58.7**	**-0.1**
PZZ				S	**Sg**	**18 46 01.3**	**-0.4**
PZZ	**Stroppo**	**0.18**	**119**	P	**Pg**	**18 45 58.6**	**-0.1**
PZZ				S	**Sg**	**18 46 01.3**	**-0.4**
PZZ				AML	AML		
	comp=E,2180μm,0.1s						
PZZ				AML	AML		
	comp=N,2825μm,0.6s						
DOI	**San Damiano**	**0.27**	**110**	P	**Pg**	**18 46 00.3**	**0.0**
DOI				S	**Sg**	**18 46 04.2**	**+0.3**
DOI				AML	AML		
	comp=E,2075μm,0.2s						
DOI				AML	AML		
	comp=N,2380μm,0.3s						
OGAG	**Argentiere**	**0.29**	**241**	Pg	**Pb**	**18 46 01.4**	**-0.5**
OGAG				Sg	**Sb**	**18 46 06.2**	**-0.5**
RRL	**Rocca Remolon**	**0.34**	**347**	P	**Pg**	**18 46 01.5**	**0.0**
RRL				S	**Sg**	**18 46 06.9**	**+0.8**
RRL	**Rocca Remolon**	**0.34**	**347**	P	**Pg**	**18 46 01.5**	**0.0**
RRL				S	**Sg**	**18 46 06.5**	**+0.3**
RRL				AML	AML		
	comp=E,260μm,0.5s						
RRL				AML	AML		
	comp=N,204μm,1.2s						
BHB	**Bricherasio**	**0.36**	**47**	P	**Pg**	**18 46 01.9**	**0.0**
BHB				S	**Sg**	**18 46 06.3**	**-0.4**
BHB	**Bricherasio**	**0.36**	**47**	P	**Pg**	**18 46 01.9**	**0.0**
BHB				S	**Sg**	**18 46 06.4**	**-0.4**
BHB				AML	AML		
	comp=N,241μm,0.1s						
BHB				AML	AML		
	comp=E,184μm,1.4s						
ISO	**Isola**	**0.43**	**165**	Pg	**Pg**	**18 46 03.3**	**+0.2**
ISO				Sg	**Sg**	**18 46 09.2**	**+0.4**
STV	**Sant Anna di V**	**0.47**	**138**	P	**Pg**	**18 46 03.8**	**-0.1**
STV				S	**Sg**	**18 46 10.2**	**+0.1**
STV	**Sant Anna di V**	**0.47**	**138**	P	**Pg**	**18 46 03.8**	**-0.1**
STV				S	**Sg**	**18 46 10.1**	**+0.1**
BNI	**Bardonecchia**	**0.48**	**341**	P	**Pg**	**18 46 04.3**	**+0.1**
BNI				S	**Sg**	**18 46 11.5**	**+0.9**
ENR	**Entracque**	**0.53**	**134**	P	**Pg**	**18 46 05.0**	**0.0**
ENR				S	**Sg**	**18 46 12.1**	**+0.2**
ENR	**Entracque**	**0.53**	**134**	P	**Pg**	**18 46 05.0**	**0.0**
ENR				S	**Sg**	**18 46 12.3**	**+0.3**
RSP	**Reno Superiore**	**0.61**	**25**	P	**Pg**	**18 46 06.6**	**0.0**
RSP				S	**Sg**	**18 46 14.6**	**-0.2**
RSP	**Reno Superiore**	**0.61**	**25**	P	**Pg**	**18 46 06.6**	**0.0**
RSP				S	**Sg**	**18 46 15.1**	**+0.3**
RSP				AML	AML		
	comp=N,138μm,0.2s						
RSP				AML	AML		
	comp=E,103μm,1.3s						
OGDI	**Digne**	**0.65**	**222**	Pg	**Pn**	**18 46 09.4**	**-0.4**
TURF	**col de Turini**	**0.71**	**150**	Pg	**Pg**	**18 46 07.9**	**-0.6**
TURF				Sg	**Sg**	**18 46 17.8**	**-0.1**
GBOS	**Grotte di Boss**	**0.76**	**117**	P	**Pg**	**18 46 09.2**	**-0.3**
GBOS				S	**Sg**	**18 46 18.9**	**-0.5**
GBOS	**Grotte di Boss**	**0.76**	**117**	P	**Pg**	**18 46 09.2**	**-0.3**
GBOS				S	**Sg**	**18 46 19.0**	**-0.5**
SAOF	**Saorge**	**0.77**	**142**	Pg	**Pg**	**18 46 09.8**	**+0.2**
SAOF				Sg	**Sg**	**18 46 20.1**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.79**	**294**	*e*Pg	**Pg**	**18 46 09.7**	**-0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 46 20.2**	**-0.2**
	comp=E,22nm,0.2s,SNR=1.0						
GDM	**Grand'Maison**	**0.82**	**318**	Pg	**Pg**	**18 46 10.7**	**0.0**
GDM				Sg	**Sg**	**18 46 21.4**	**0.0**
SBF	**Sospel**	**0.83**	**152**	*e*Pg	**Pb**	**18 46 11.2**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**18 46 21.6**	**+0.1**
	comp=E,14nm,0.2s,SNR=1.0						
CALF	**Calern**	**0.84**	**179**	Pg	**Pb**	**18 46 11.8**	**+0.5**
MGRO	**Montegrosso**	**0.86**	**130**	P	**Pg**	**18 46 11.0**	**-0.3**
MGRO				S	**Sg**	**18 46 22.1**	**-0.3**
LSD	**Lago del Serru**	**0.88**	**11**	P	**Pg**	**18 46 11.6**	**-0.2**
LSD				S	**Sg**	**18 46 22.9**	**-0.4**
LSD	**Lago del Serru**	**0.88**	**11**	P	**Pg**	**18 46 11.5**	**-0.2**
LSD				S	**Sg**	**18 46 23.4**	**0.0**
BLAF	**les Blancs**	**0.89**	**224**	Pg	**Pn**	**18 46 12.8**	**-0.3**
LPG	**La Plagne**	**0.91**	**354**	*e*Pg	**Pg**	**18 46 11.4**	**-0.9**
	SNR=1.0						
LPG	**La Plagne**	**0.91**	**354**	*e*Pn	**Pg**	**18 46 12.7**	**+0.4**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**18 46 23.7**	**-0.5**
	comp=E,13nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.93**	**353**	*e*Pg	**Pg**	**18 46 12.4**	**-0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**18 46 24.0**	**-0.8**
	comp=E,12nm,0.3s,SNR=1.0						
NEGI	**Seborga**	**0.95**	**142**	P	**Pg**	**18 46 13.0**	**0.0**
NEGI				S	**Sg**	**18 46 25.3**	**0.0**
RORO	**Rocca Rossa**	**0.97**	**119**	P	**Pg**	**18 46 12.6**	**-0.7**
RORO				S	**Sg**	**18 46 25.0**	**-0.9**
RORO	**Rocca Rossa**	**0.97**	**119**	P	**Pg**	**18 46 12.7**	**-0.6**
RORO				S	**Sg**	**18 46 25.4**	**-0.5**
IMI	**Imperia**	**0.99**	**133**	P	**Pg**	**18 46 13.4**	**-0.4**
IMI				S	**Sg**	**18 46 26.4**	**-0.3**
FRF	**La Foret Royal**	**1.05**	**190**	*e*Pg	**Pb**	**18 46 14.7**	**-0.1**
	SNR=1.0						
FRF				*e*Sg	**Sb**	**18 46 28.8**	**+0.3**
	comp=E,46nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.13**	**237**	*e*Pg	**Pn**	**18 46 17.3**	**+0.9**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**18 46 31.8**	**-0.1**
	comp=E,8.1nm,0.2s,SNR=1.0						
RUSF	**Rustrel**	**1.21**	**238**	Pg	**Pn**	**18 46 19.3**	**+1.9**
LMR	**La Mourre**	**1.29**	**193**	*e*Pn	**Pg**	**18 46 19.4**	**-0.1**
	SNR=1.0						
LMR				*e*Sn	**Sg**	**18 46 35.7**	**-0.5**
	comp=E,25nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.61**	**280**	*e*Pn	**Pn**	**18 46 23.5**	**+0.6**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.61**	**280**	*e*Pg	**Pg**	**18 46 26.0**	**+0.5**
VIVF				*e*Sn	**Sn**	**18 46 42.9**	**-0.7**
VIVF				*e*Sg	**Sg**	**18 46 46.2**	**-0.1**
	comp=E,3.1nm,0.5s						
PGF	**Pioggiola**	**2.55**	**142**	*e*Pn	**Pn**	**18 46 36.5**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**18 47 06.1**	**-1.0**
	comp=E,1.9nm,0.2s,SNR=1.0						
MNTV	**Mantova**	**2.82**	**77**	S	**Sn**	**18 47 15.0**	**+1.4**
NDIM	**Novi di Modena**	**2.87**	**83**	P	**Pn**	**18 46 40.8**	**+0.6**
NDIM				S	**Sn**	**18 47 14.0**	**-0.6**
SMF	**Signal de Mont**	**2.97**	**315**	*e*Sg	**Sg**	**18 47 28.2**	**-1.7**
	comp=E,4.8nm,0.5s,SNR=1.0						
SENI	**Senigallia**	**4.65**	**99**	S	Sn	18 47 43.0	-15
LPEL	**Lama dei Pelig**	**5.89**	**113**	P	Pb	18 47 30.7	-6.7
PAOL	**Paolisi**	**6.67**	**120**	P	Pn	18 47 21.3	-11

*IDC **20** 18:48:07.9±1.0, 58°.71S×25°.22W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.9/3, ML4.2/1, MS3.4/2, Ms1 3.3/2, ms1mx2.9/19, Error ellipse: s-maj=43.4km s-min=27.7km az=76.0*
*ISCJB **20** 18:48:08.7±0.9, 58°.8S±0°.1×25°.1W±0°.4, h18km, mb3.9/3, MS3.3/2, Error ellipse: s-maj=32.4km s-min=10.0km az=145.4*
*NEIC **20** 18:48:13.1±0.9, 58°.86S±0°.08×25°.0W±0°.4, h35km±7km, mb4.3/2*

ISC 20 18:48:10.5±0.7, 58°.8S±0°.1×25°.0W±0°.2, h18km, n30, σ0°.98/24, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.79**	**301**	Pn	**Pn**	**18 50 03.9**	**+1.0**
VNA1	**Neumayer--Stat**	**13.78**	**156**	P	**Pn**	**18 51 25.8**	**+1.3**
VNA3	**Neumayer Olymp**	**13.97**	**159**	P	**Pn**	**18 51 27.4**	**+0.1**
VNA2	**Neumayer--Watz**	**14.17**	**156**	P	**Pn**	**18 51 30.5**	**+0.5**
	baz=320,slow=4						
SNAA	**Sanae**	**15.72**	**154**	P	**Pn**	**18 51 51.2**	**+0.4**
SNAA	**Sanae**	**15.72**	**154**	Pn	**Pn**	**18 51 51.3**	**+0.4**
	0.8nm,0.3s,baz=325,slow=15,SNR=63						
SNAA	**Sanae**	**15.72**	**154**		**Pn**	**18 51 51.2**	**+0.4**
SNAA				IAmb	IAmb	18 52 08.7	
	comp=Z,30nm,1.9s						
QSPA	**South Pole Qui**	**31.41**	**180**	P	**P**	**18 54 32.0**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=187,slow=6.4,SNR=5.5						
QSPA	**South Pole Qui**	**31.41**	**180**	P	**P**	**18 54 27.2**	**-3.0**
QSPA				IAmb	IAmb	18 54 54.9	
	comp=Z,11nm,1.5s						
PLCA	**Paso Flores**	**33.68**	**282**	LR	LR	19 06 38.6	
	comp=Z,44nm,18.4s,baz=140,slow=33						
MAW	**Mawson**	**37.23**	**141**	LR	LR	19 08 35.7	
	comp=Z,62nm,19.9s,baz=237,slow=33						
H10S2	**ASCENSION HYDR**	**50.39**	**13**	T	T	19 51 25.6	
	baz=187,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**50.39**	**13**	T	T	19 51 25.8	
	baz=33,slow=74,SNR=14						
H10N1	**ASCENSION HYDR**	**51.51**	**13**	T	T	19 52 49.9	
	baz=200						
H10N3	**ASCENSION HYDR**	**51.51**	**13**	T	T	19 52 50.2	
	baz=200,slow=74						
H10N2	**ASCENSION HYDR**	**51.52**	**13**	T	T	19 52 51.1	
	baz=200,slow=74						
LPAZ	**La Paz**	**52.93**	**305**	P	**P**	**18 57 25.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=149,slow=5.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**74.96**	**27**	P	**P**	**18 59 50.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=197,slow=6.5,SNR=12						
YKA	**Yellowknife Ar**	**138.99**	**315**	PKP	**PKPdf**	**19 07 34.4**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=134,slow=1.9,SNR=4.7						
INK	**Inuvik**	**148.67**	**317**		**PKPbc**	**19 07 54.6**	**-0.2**
EPYK	**Eagle Plains**	**149.22**	**313**		**PKPbc**	**19 07 55.1**	**-1.2**
SONM	**Songino Array**	**149.66**	**90**	PKPbc	**PKPbc**	**19 07 58.0**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=206,slow=4.1,SNR=4.9						
SONM	**Songino Array**	**149.66**	**90**		**PKPbc**	**19 07 57.6**	**-0.4**
BCAR	**Beaver Creek A**	**150.11**	**305**		**PKPbc**	**19 07 57.9**	**-0.7**
DOT	**Dot Lake**	**151.28**	**306**	PKPdf	**PKPdf**	**19 07 56.3**	**+1.0**
DOT					**PKPbc**	**19 08 01.3**	**+0.1**
SCRK	**Sand Creek**	**151.35**	**306**		**PKiKP**	**19 08 01.9**	**-0.2**
RIDG	**Independent Ri**	**151.64**	**306**		**PKiKP**	**19 08 02.6**	**0.0**
BMAR	**Burnt Mountain**	**152.49**	**313**		**PKiKP**	**19 08 04.0**	**-0.2**
IL31		**152.79**	**307**		**PKiKP**	**19 08 04.9**	**+0.1**
ILAR	**Eielson Array**	**152.79**	**307**	PKPbc	**PKPbc**	**19 08 04.2**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=149,slow=2.3,SNR=26						

*ISCJB **20** 18:58:31.4±1.0, 44°.2N±0°.1×147°.1E±0°.1, h97km, 9km, Error ellipse: s-maj=22.7km s-min=6.4km az=135.6*
*JMA **20** 18:58:31.9±0.3, 44°.24N×147°.09E, h90km, M3.6*
*SKHL **20** 18:58:32.3±0.6, 44°.09N×147°.23E, h89km±1km, mb4.1/4, msh5.4/4*

ISC 20 18:58:31.8±2.0, 44°.2N±0°.1×147°.1E±0°.1, h96km±16km, n17, σ0°.73/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.91**	**261**	*i* P	**Pn**	**18 58 51.0**	**+0.1**
YUK				AMB	AMB	18 58 51.0	
	99nm,0.3s						
YUK				*i* S	**Sn**	**18 59 05.4**	**+0.2**
YUK				A	A	18 59 06.0	
	850nm,0.4s						
YUK				A	A	18 59 06.0	
	650nm,0.4s						
GRPR	**Tuman**	**0.98**	**259**	*i* P	**Pn**	**18 58 52.0**	**+0.3**
GRPR				AMB	AMB	18 58 52.4	
	49nm,0.3s						
GRPR				*i* S	**Sn**	**18 59 06.0**	**-0.6**
GRPR				A	A	18 59 08.0	
	745nm,0.4s						
GRPR				A	A	18 59 08.0	
	329nm,0.4s						
KUR	**Kuril'sk**	**1.18**	**27**	*i* P	**Pn**	**18 58 54.0**	**+0.1**
KUR				AMB	AMB	18 58 54.0	
	32nm,0.3s						
KUR				*e*S	**Sn**	**18 59 10.4**	**-0.2**
KUR				A	A	18 59 12.0	
	370nm,0.4s						
KUR				A	A	18 59 12.0	
	195nm,0.4s						
GLVR	**Golovnino**	**1.23**	**249**	*e*P	**Pn**	**18 58 55.0**	**+0.5**
GLVR				AMB	AMB	18 58 55.0	
	30nm,0.3s						
GLVR				*e*S	**Sn**	**18 59 12.0**	**+0.3**
GLVR				A	A	18 59 14.0	
	895nm,0.3s						
GLVR				A	A	18 59 14.0	
	568nm,0.3s						
NEM2	**Nemuro 2**	**1.28**	**231**	P	**Pn**	**18 58 55.6**	**+0.5**
NEM2				*e*S	**Sn**	**18 59 12.7**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.29**	**231**	*i* P	**Pn**	**18 58 55.0**	**-0.2**
NMR				*i* S	**Sn**	**18 59 11.7**	**-1.2**
JRA	**Rausu**	**1.45**	**261**	P	**Pn**	**18 58 57.1**	**-0.1**
JNSB	**Nemuroshibetsu**	**1.57**	**256**	P	**Pn**	**18 58 59.0**	**+0.3**
JKHN	**Kushirohamanak**	**1.79**	**233**	P	**Pn**	**18 59 02.0**	**+0.5**
JKHN				*e*S	**Sn**	**18 59 24.2**	**+0.1**
JNK	**Nakash**	**1.83**	**252**	P	**Pn**	**18 59 02.2**	**+0.3**
JNK				*e*S	**Sn**	**18 59 25.2**	**+0.3**
JAK	**Akkeshi**	**2.12**	**237**	P	**Pn**	**18 59 06.1**	**+0.4**
JAK				*e*S	**Sn**	**18 59 31.3**	**-0.3**
JTKR	**Abashiri--Toko**	**2.31**	**266**	P	**Pn**	**18 59 07.9**	**-0.3**
JAR	**Ashorobuto**	**2.58**	**251**	P	**Pn**	**18 59 12.8**	**+1.1**
JOB	**Onbets**	**2.70**	**243**	P	**Pn**	**18 59 14.4**	**+1.0**
JOB				*e*S	**Sn**	**18 59 45.9**	**+0.5**
JCH	**Churui**	**3.15**	**241**	P	**Pn**	**18 59 20.1**	**+0.7**
JCH				*e*S	**Sn**	**18 59 55.1**	**-1.0**
JKK2	**Kamakawa 2**	**3.16**	**266**	P	**Pn**	**18 59 20.1**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.71**	**241**	P	**Pn**	**18 59 26.9**	**0.0**
JNBK				*e*S	**Sn**	**19 00 07.3**	**-2.3**

IDC 20 19:09:48.4±2.9, 29°.41S×177°.86W, h146km±18km, mb3.5/2, mb1 3.8/2, mb1mx3.3/17, mbtmp3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/17, Error ellipse: s-maj=135.4km s-min=53.6km az=176.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.17**	**342**	P	Pn	19 10 08.5	+0.4
	100nm,0.3s,baz=96,slow=19,SNR=3.8						
RAO				S	Sn	19 10 24.1	+1.1
	567nm,0.3s,baz=81,slow=23,SNR=8.9						
DZM	**Mont Dzumac**	**15.91**	**294**	LR	LR	19 18 44.7	
	comp=Z,70nm,18.7s,baz=204,slow=34						
ASAR	**Alice Springs**	**43.29**	**266**	P	P	19 17 35.3	-0.5
	0.6nm,0.5s,baz=106,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.19**	**271**	P	P	19 17 43.3	+0.3
	1.1nm,0.3s,baz=111,slow=8.0,SNR=24						
FINES	**FINESS Array B**	**144.26**	**341**	PKP	PKPbc	19 29 05.4	+0.5
	1.6nm,0.6s,baz=54,slow=3.6,SNR=10						

*ISCJB **20** 19:13:02.9±0.9, 37°.44N±0°.07×53°.55E±0°.08, h10km, Error ellipse: s-maj=12.1km s-min=5.1km az=41.0*
*AZER **20** 19:13:05.0±5.9, 36°.95N×53°.21E, h10km, ml3.1/4, Error ellipse: s-maj=314.5km s-min=42.5km az=28.0*
*TEH **20** 19:13:05.3, 37°.20N×53°.58E, h5km, ML3.0*

ISC 20 19:13:04.1±1.1, 37°.31N±0°.06×53°.51E±0°.05, h10km, n14, σ0°.82/17, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.85**	**162**	*e*Pg	**Pb**	**19 13 19.9**	**-1.1**
IGLO				IAMB	IAmb	19 13 37.1	
	comp=Z,0.0nm,0.1s						
IKIA	**Kiasar**	**1.11**	**173**	*e*Pg	**Pb**	**19 13 25.0**	**-0.5**
IPRN	**Peran**	**1.43**	**222**	*e*Pn	**Pn**	**19 13 30.8**	**+0.6**
IPRN				IAMB	IAmb	19 13 56.2	
	comp=Z,0.0nm,0.2s						
IMND	**Minoodasht**	**1.51**	**91**	*e*Pg	**Pg**	**19 13 33.4**	**+0.3**
IMND				IAMB	IAmb	19 13 53.7	
	comp=Z,0.0nm,0.2s						
ISHM	**Shahmirzad**	**1.51**	**187**	*e*Pn	**Pb**	**19 13 31.9**	**-0.5**
ISHM				IAMB	IAmb	19 13 56.2	
	comp=Z,4μm,0.2s						
IFIR	**Firoozkooh**	**1.77**	**200**	*e*Pn	**Pg**	**19 13 37.4**	**-0.8**
IFIR				IAMB	IAmb	19 14 05.6	
	comp=Z,0.0nm,0.3s						
ILAS	**Lasjerd**	**1.98**	**193**	*e*Pn	**Pb**	**19 13 40.0**	**-0.3**
ILAS				IAMB	IAmb	19 14 10.0	
	comp=Z,1μm,0.2s						
IDMV	**Damavand**	**2.10**	**215**	*e*Pn	**Pb**	**19 13 42.6**	**+0.1**
IDMV				IAMB	IAmb	19 14 15.3	
	comp=Z,0.0nm,0.2s						
QALM	**Alamut, Qazvin**	**2.46**	**250**	*e*Pn	**Pb**	**19 13 49.0**	**+0.4**
KRSH	**Karshahi**	**3.52**	**199**	*e*Pn	**Pn**	**19 14 00.5**	**+1.5**
ASTR	**Astara**	**3.94**	**290**	P	**Pn**	**19 14 04.5**	**0.0**
ASTR				S	**Sn**	**19 14 50.2**	**-0.6**
LRK	**Lerik**	**4.30**	**290**	P	**Pn**	**19 14 09.5**	**-0.2**
LRK				S	**Sn**	**19 15 00.5**	**+0.4**
YRD	**Yardimli**	**4.46**	**293**	P	**Pn**	**19 14 11.0**	**-0.9**
YRD				S	**Sn**	**19 15 03.5**	**-0.4**
GLBA	**Ciilabad**	**4.47**	**297**	S	**Sn**	**19 15 05.4**	**+1.5**

*ISCJB **20** 19:27:45.8±0.8, 61°.0S±0°.1×42°.5W±0°.2, h10km, mb4.0/4, Error ellipse: s-maj=18.0km s-min=15.2km az=42.7*
*IDC **20** 19:27:45.8±1.7, 60°.94S×42°.09W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=70.0km s-min=33.9km az=16.0*
*NEIC **20** 19:27:48.2±1.6, 61°.0S±0°.2×42°.5W±0°.3, h10km±2km, mb4.3/3*

ISC 20 19:27:47.4±0.8, 60°.9S±0°.1×42°.3W±0°.1, h10km, n18, σ0°.57/17, mb4.3/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**10.63**	**239**	Pn	**Pn**	**19 30 19.0**	**-0.5**
SNAA	**Sanae**	**18.72**	**141**	P	**Pn**	**19 32 07.1**	**+1.0**
SNAA				IAmb	IAmb	19 32 26.9	
	comp=Z,4.1nm,1.0s						
PLCA	**Paso Flores**	**26.60**	**307**	P	**P**	**19 33 25.7**	**0.0**
	comp=Z,1.7nm,0.9s,baz=162,slow=9.6,SNR=2.1						
GO03	**Copiap**	**38.28**	**318**	P	**P**	**19 35 08.1**	**+0.3**
GO03				IAmb	IAmb	19 35 18.4	
	comp=Z,17nm,0.5s						
LPAZ	**La Paz**	**48.29**	**326**	P	**P**	**19 36 30.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=190,slow=6.1,SNR=2.2						
SAML	**Samuel**	**54.16**	**334**	P	**P**	**19 37 12.8**	**+0.2**
SAML				IAmb	IAmb	19 37 13.3	
	comp=Z,2.4nm,0.7s						
DBIC	**Dimbokro**	**73.48**	**39**	P	**P**	**19 39 19.1**	**-0.8**
	comp=Z,8.3nm,1.1s,baz=198,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**81.67**	**43**	P	**P**	**19 40 05.5**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=204,slow=6.8,SNR=8.5						
GCMT	**Greycliff**	**119.47**	**312**		**PKPdf**	**19 46 36.4**	**+0.1**
INK	**Inuvik**	**144.49**	**320**	PKP	**PKPab**	**19 47 20.6**	**0.0**
	comp=Z,3.1nm,0.7s,baz=78,slow=3.6,SNR=15						
INK	**Inuvik**	**144.49**	**320**		PKPbc	19 47 20.8	0.0
MKAR	**Makanchi Array**	**145.54**	**89**	PKPbc	**PKPdf**	**19 47 24.5**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=241,slow=1.5,SNR=3.8						
PAX	**Paxson**	**145.80**	**308**		**PKPab**	**19 47 25.9**	**+0.1**
RIDG	**Independent Ri**	**145.97**	**309**		**PKPab**	**19 47 26.1**	**-0.1**
IL31		**147.26**	**310**		**PKPbc**	**19 47 29.7**	**+0.4**
ILAR	**Eielson Array**	**147.26**	**310**	PKPbc	**PKPbc**	**19 47 29.6**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=142,slow=2.1,SNR=21						
ILAR	**Eielson Array**	**147.26**	**310**		**PKPbc**	**19 47 29.3**	**0.0**
ZALV	**Zalesovo Beam**	**151.41**	**80**	PKPbc	**PKPbc**	**19 47 39.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=259,slow=3.7,SN

comp=Z,30nm,21.4s,baz=104,slow=34
DAVOX Davos/Dischmat 40.89 54 P **P 20 15 47.3 +1.4**
comp=Z,3.5nm,0.7s,baz=272,slow=7.4,SNR=5.2
DBIC Dimbokro 41.42 120 LR LR 20 31 16.7
comp=Z,64nm,18.0s,baz=9.5,slow=34
WTTA Wattenberg 42.12 53 *i* pP **P 20 15 56.6 +0.7**
comp=Z,5.3nm,0.8s
TORD Torodi Ar. Bea 42.66 106 P **P 20 16 00.4 0.0**
comp=Z,183nm,0.8s,baz=301,slow=6.2,SNR=11
TORD Torodi Ar. Bea 42.66 106 P **P 20 16 00.5 0.0**
TORD IAmb IAmb 20 16 10.7
comp=Z,147nm,0.8s
ABTA Abfaltersbach 42.70 54 *i* P **P 20 15 59.6 -0.9**
comp=Z,6.7nm,1.0s
KBA Koelnbreinsper 43.27 53 *i* pP pP 20 16 07.2 -1.6
comp=Z,12nm,1.5s
CLL Collm 43.29 47 *e*P **P 20 16 05.0 -0.2**
GERES GERESS Array B 43.57 51 P **P 20 16 07.7 +0.1**
comp=Z,1.4nm,0.7s,baz=261,slow=6.6,SNR=13
GERES GERESS Array B 43.57 51 P **P 20 16 07.3 -0.3**
MOA Molln 43.91 52 *i* P **P 20 16 09.1 -1.1**
comp=Z,10nm,1.6s
OBKA Obir 44.10 54 *i* pP **P 20 16 12.5 +0.6**
comp=Z,7.9nm,0.7s
ARSA Arzberg 44.76 53 *i* P **P 20 16 16.9 -0.2**
comp=Z,4.1nm,0.8s
CONA Conrad Observa 44.99 52 *i* pP **P 20 16 19.0 +0.1**
comp=Z,4.6nm,1.2s
SAML Samuel 46.07 212 P **P 20 16 27.6 0.0**
SAML IAmb IAmb 20 16 32.5
comp=Z,4.1nm,0.9s
H10N2 ASCENSION HYDR 46.47 144 T T 21 06 02.4
baz=329,slow=75,SNR=79
H10N3 ASCENSION HYDR 46.47 144 T T 21 06 02.5
baz=329,slow=75,SNR=66
H10N1 ASCENSION HYDR 46.49 144 T T 21 06 03.6
baz=329,slow=75,SNR=99
H10S3 ASCENSION HYDR 47.34 145 T T 21 07 05.1
baz=328,slow=74,SNR=50
H10S2 ASCENSION HYDR 47.36 145 T T 21 07 09.7
baz=252,slow=74,SNR=57
FINES FINESS Array B 51.38 34 P **P 20 17 08.1 0.0**
comp=Z,3.1nm,0.9s,baz=243,slow=10,SNR=3.2
AKASG Malin Array Be 53.53 48 P **P 20 17 23.5 -0.5**
comp=Z,1.9nm,0.7s,baz=276,slow=6.4,SNR=10
TXAR Lajitas Array 53.95 285 LR LR 20 38 09.1
comp=Z,14nm,21.4s,baz=0.0,slow=34
MNTX Cornudas Mount 54.58 288 P **P 20 17 32.3 +0.2**
MNTX IAmb IAmb 20 17 33.2
comp=Z,3.8nm,0.9s
LPAZ La Paz 54.78 213 P **P 20 17 33.2 -1.0**
comp=Z,1.5nm,0.8s,baz=24,slow=8.1,SNR=5.4
BW06 Boulder Array 54.80 303 P **P 20 17 33.4 -0.4**
BW06 IAmb IAmb 20 17 34.6
comp=Z,5.0nm,0.9s
PD31 Pinedale Array 54.80 303 P **P 20 17 33.5 -0.3**
PD31 IAmb IAmb 20 17 34.6
comp=Z,4.7nm,0.9s
PDAR Pinedale Array 54.80 303 P **P 20 17 33.4 -0.4**
comp=Z,3.3nm,0.8s,baz=84,slow=8.0,SNR=20
PDAR LR LR 20 40 25.5
comp=Z,51nm,18.4s,baz=50,slow=36
PDAR Pinedale Array 54.80 303 P **P 20 17 33.1 -0.7**
YMR Madison River 55.38 305 P **P 20 17 38.1 +0.2**
YMR IAmb IAmb 20 17 45.5
comp=Z,11nm,1.2s
FXWY Fox Creek 55.65 304 P **P 20 17 40.2 +0.3**
FXWY IAmb IAmb 20 17 41.5
comp=Z,3.1nm,1.2s
BRTR Keskin Array B 58.94 60 P **P 20 18 03.2 +0.1**
comp=Z,0.7nm,0.9s,baz=274,slow=4.2,SNR=4.2
BRTR Keskin Array B 58.94 60 P **P 20 18 03.1 0.0**
MFID Camas Ranch 59.08 305 P **P 20 18 04.2 +0.2**
MFID IAmb IAmb 20 18 11.7
comp=Z,8.6nm,1.4s
BMO Blue Mountains 59.71 307 P **P 20 18 06.9 -1.4**
BMO IAmb IAmb 20 18 08.5
comp=Z,5.4nm,1.1s
HAWA Hanford 60.78 309 P **P 20 18 14.4 -1.0**
HAWA IAmb IAmb 20 18 17.0
comp=Z,18nm,1.0s
INK Inuvik 62.04 335 P **P 20 18 23.5 -0.1**
comp=Z,2.4nm,1.0s,baz=61,slow=5.8,SNR=4.3
INK Inuvik 62.04 335 P **P 20 18 24.0 +0.4**
INK IAmb IAmb 20 18 25.3
comp=Z,10nm,1.4s
KVN Kaiserville 62.05 300 P **P 20 18 24.0 -0.4**
KVN IAmb IAmb 20 18 25.4
comp=Z,5.5nm,1.0s
NVAR Mina Array Bea 62.41 300 P **P 20 18 26.7 -0.2**
comp=Z,0.8nm,0.7s,baz=81,slow=6.8,SNR=4.3
NVAR LR LR 20 43 57.8
comp=Z,58nm,20.9s,baz=88,slow=35
NVAR Mina Array Bea 62.41 300 P **P 20 18 26.5 -0.4**
KBZ Khabaz 64.23 53 P **P 20 18 39.4 +0.8**
comp=Z,2.8nm,0.8s,baz=278,slow=7.4,SNR=3.6
FYU Fort Yukon 66.88 335 P **P 20 18 54.6 -0.6**
FYU IAmb IAmb 20 21 04.7
comp=Z,56nm,0.8s
ILAR Eielson Array 68.32 334 P **P 20 19 05.3 +0.8**
comp=Z,0.9nm,1.0s,baz=46,slow=4.1,SNR=6.1
ILAR Eielson Array 68.32 334 P **P 20 19 05.2 +0.7**
PETK Petropavlovsk- 94.01 349 LR LR 21 04 10.9
comp=Z,11nm,20.3s,baz=51,slow=36
ASAR Alice Springs 170.39 34 PKP **PKPdf 20 28 12.3 +0.2**
comp=Z,0.5nm,0.8s,baz=82,slow=0.4,SNR=6.4
ASAR Alice Springs 170.39 34 **PKPdf 20 28 12.2 +0.1**

*DJA **20** 20:43:04.6±0.3, 2°N±3°×12°7E±°, h115km±6km, M4.2/14, mb4.4/7, mB4.7/4, MLv4.2/14, Mw(mB)3.9/4*
*ISCJB **20** 20:43:06.0±0.5, 1°41N±0°06×126°93E±0°04, h150km, mb3.8/4, Error ellipse: s-maj=8.4km s-min=5.5km az=8.0*
*IDC **20** 20:43:06.8±2.9, 1°43N×127°05E, h134km±30km, mb3.5/4, mb1 3.6/7, mb1mx3.2/35, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.3/26, Error ellipse: s-maj=33.3km s-min=18.8km az=64.0*
*NEIC **20** 20:43:08.0±1.0, 1°4N±0°1×127°1E±0°1, h150km±10km, mb4.5/17*
ISC 20 20:43:07.7±0.8, 1°36N±0°08×126°97E±0°07, h150km, n42, σ1°49/43, mb4.3/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.71**	**146**	P	**Pn**	**20 43 26.3**	**-3.9**
SGSI	**Sangihe**	**2.72**	**328**	S	Sn	20 44 15.5	-10
KMSI	**Cibinong**	**3.08**	**255**	P	**Pn**	**20 43 54.1**	**-2.0**
KMSI				S	**Sn**	**20 44 32.3**	**-1.3**
SANI	**Sanana**	**3.53**	**196**	P	**Pn**	**20 43 59.7**	**-2.1**
SANI				S	**Sn**	**20 44 39.2**	**-4.6**
NLAI	**Namlea**	**4.57**	**178**	P	**Pn**	**20 44 14.9**	**-0.6**
LUWI	**Luwuk**	**4.83**	**240**	P	**Pn**	**20 44 17.3**	**-1.5**
LUWI				S	**Sn**	**20 45 13.0**	**-1.2**
SWI	**Sorong**	**4.83**	**117**	P	**Pn**	**20 44 16.0**	**-2.8**
SIJI	**Sorong**	**4.84**	**117**	P	**Pn**	**20 44 17.9**	**-1.1**
1.5nm,0.3s,baz=334,slow=21,SNR=5.9							
MRSI	**Marisa**	**5.10**	**260**	P	**Pn**	**20 44 20.3**	**-2.1**
30nm,0.7s,496nm							
AAI	**Ambon**	**5.16**	**166**	P	**Pn**	**20 44 22.2**	**-1.1**
APSI	**Ampana**	**5.78**	**247**	P	**Pn**	**20 44 30.0**	**-1.4**
35nm,0.6s,697nm							
MPSI	**Mapaga**	**7.14**	**262**	P	**Pn**	**20 44 49.0**	**-0.6**
5.9nm,0.7s							
TTSI	**Tana Toraja**	**8.38**	**238**	P	**Pn**	**20 45 04.9**	**-1.3**
36nm,0.6s							
SPSI	**Sidrap Palu**	**8.93**	**234**	P	**Pn**	**20 45 12.9**	**-0.6**
40nm,0.6s,658nm							
BNSI	**Bone**	**8.93**	**230**	P	**Pn**	**20 45 13.3**	**-0.2**
KAPI	**Kappang**	**9.59**	**229**	P	**Pn**	**20 45 23.9**	**+1.5**
3.5nm,0.3s,baz=32,slow=9.5,SNR=5.6							
MTN	**Manton Dam**	**14.71**	**164**	Pn	**Pn**	**20 46 27.9**	**-0.6**
KNRA	**Kununurra**	**17.02**	**174**	P	**Pn**	**20 46 57.5**	**+0.6**
KNRA				IAmb	IAmb	20 46 58.4	
comp=Z,72nm,1.6s							
FITZ	**Fitzroy Crossi**	**19.38**	**184**	P	**P**	**20 47 23.5**	**+1.5**
comp=Z,0.3nm,0.3s,baz=21,slow=12,SNR=8.2							
FITZ	**Fitzroy Crossi**	**19.38**	**184**	P	**P**	**20 47 23.3**	**+1.2**
FITZ				IAmb	IAmb	20 47 44.3	
comp=Z,18nm,1.7s							
LEM	**Lembang**	**20.95**	**247**	LR	LR	20 58 03.6	
comp=Z,51nm,19.3s,baz=45,slow=43							
COEN	**Coen**	**22.13**	**134**	P	**P**	**20 47 51.7**	**+0.4**
WB0	**Warramunga Arr**	**22.23**	**161**	P	**P**	**20 47 52.5**	**+0.2**
WB0				IAmb	IAmb	20 47 59.3	
comp=Z,6.8nm,0.8s							
WRA	**Warramunga Arr**	**22.37**	**162**	P	**P**	**20 47 53.7**	**0.0**
comp=Z,2.9nm,0.4s,baz=340,slow=11,SNR=44							
WRA	**Warramunga Arr**	**22.37**	**162**	P	**P**	**20 47 53.2**	**-0.5**
WB2	**Warramunga Arr**	**22.38**	**161**	P	**P**	**20 47 53.9**	**+0.2**
WR0	**Warramunga Arr**	**22.45**	**161**	P	**P**	**20 47 54.8**	**+0.3**
ASAR	**Alice Springs**	**25.78**	**165**	P	**P**	**20 48 25.6**	**+0.8**
comp=Z,0.4nm,0.3s,baz=345,slow=11,SNR=12							
ASAR	**Alice Springs**	**25.78**	**165**	P	**P**	**20 48 25.3**	**+0.6**
MORW	**Morawa**	**32.02**	**198**	P	**P**	**20 49 21.9**	**+1.9**
BBOO	**Buckleboo**	**35.06**	**167**	P	**P**	**20 49 47.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**35.32**	**194**	P	**P**	**20 49 49.8**	**+1.2**
EIDS	**Eidsvold**	**35.37**	**140**	P	**P**	**20 49 49.2**	**+0.1**
EIDS				IAmb	IAmb	20 50 44.2	
comp=Z,38nm,2.0s							
STKA	**Stephens Creek**	**35.85**	**158**	P	**P**	**20 49 54.4**	**+1.4**
comp=Z,2.3nm,0.8s,baz=333,slow=14,SNR=3.2							
STKA	**Stephens Creek**	**35.85**	**158**	P	**P**	**20 49 53.7**	**+0.7**
ARMA	**Armidale**	**39.38**	**145**	P	**P**	**20 50 23.5**	**+0.6**
ARMA				IAmb	IAmb	20 50 25.9	
comp=Z,23nm,1.7s							
MK31	**Makanchi Array**	**59.63**	**326**	P	**P**	**20 52 56.5**	**+0.6**
MK31				IAmb	IAmb	20 54 45.2	
comp=Z,16nm,1.9s							
MKAR	**Makanchi Array**	**59.63**	**326**	P	**P**	**20 52 56.6**	**+0.6**
comp=Z,0.7nm,0.5s,baz=122,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**59.63**	**326**	P	**P**	**20 52 56.4**	**+0.5**
MAKZ	**Makanchi**	**59.81**	**326**	P	**P**	**20 52 57.6**	**+0.4**
MAKZ				IAmb	IAmb	20 53 18.4	
comp=Z,9.3nm,1.4s							
KURK	**Kurchatov**	**63.86**	**328**	P	**P**	**20 53 24.2**	**+0.1**
KURK				IAmb	IAmb	20 53 45.0	
comp=Z,14nm,1.9s							
OHAK	**Old Harbor**	**83.31**	**33**	P	**P**	**20 55 16.7**	**-0.8**

*ISCJB **20** 21:07:13.4±0.3, 27°72S±0°02×69°16W±0°04, h114km±5km, mb3.8/5, Error ellipse: s-maj=6.5km s-min=3.2km az=177.0*
*NEIC **20** 21:07:13.4±4.3, 27°74S±0°05×69°3W±0°1, h116km±9km*
*IDC **20** 21:07:14.5±1.5, 27°72S×69°08W, h90km±12km, mb3.6/5, mb1 3.7/10, mb1mx3.6/31, mbtmp4.0/10, Error ellipse: s-maj=30.2km s-min=9.4km az=90.0*
*GUC **20** 21:07:14.6±0.8, 27°76S×69°26W, h116km±10km, ML4.1*
*SJA **20** 21:07:16.3±0.7, 27°84S×68°96W, h120km±31km, ML3.8, MW3.4*
ISC 20 21:07:13.9±0.7, 27°73S±0°03×69°17W±0°05, h101km±8km, n56, σ1°79/77, mb3.9/6, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.95**	**278**	*e*P	**Pn**	**21 07 36.4**	**+2.4**
GO03				*i* S	**Sn**	**21 07 51.8**	**+2.7**
GO03				IAML		21 07 52.9	
comp=N,4μm,0.3s							
GO03	**Copiap**	**0.95**	**278**		**Pn**	**21 07 36.5**	**+2.5**
GO02	**Mina Guanaco**	**2.58**	**352**	⇓*i* P	**Pn**	**21 07 57.2**	**+2.8**
GO02				*i* S	**Sn**	**21 08 29.1**	**+3.7**
GO02				IAML		21 08 31.3	
comp=E,806nm,0.2s							
GO02	**Mina Guanaco**	**2.58**	**352**		**Pn**	**21 07 57.3**	**+2.8**
GO02				Sn	**Sn**	**21 08 22.8**	**-2.7**
GO04	**Tololo Observa**	**2.82**	**210**	*e*P	**Pn**	**21 07 59.2**	**+1.6**
GO04				*i* S	**Sn**	**21 08 32.5**	**+1.4**
GO04	**Tololo Observa**	**2.82**	**210**		**Pn**	**21 07 59.4**	**+1.8**
GO04				Sn	**Sn**	**21 08 29.5**	**-1.6**
LSCH	**La Serena**	**2.83**	**219**	*e*P	**Pn**	**21 07 58.7**	**+1.3**
LSCH				*i* S	**Sn**	**21 08 31.6**	**+0.7**
LSCH				IAML		21 08 32.5	
comp=N,317nm,0.3s							
CYA	**Choya**	**3.06**	**104**	*i* P	**Pn**	**21 08 01.4**	**+0.9**
CYA				IAML		21 08 02.8	
comp=Z,214nm,0.3s							
CYA				*e*S	**Sn**	**21 08 35.5**	**-1.0**
AMOG	**MOGNA**	**3.26**	**170**	*i* P	**Pn**	**21 08 05.5**	**+2.3**
AMOG				*i* Sg	**Sn**	**21 08 41.5**	**+0.3**
AMOG				*e*S	**Sn**	**21 08 41.7**	**+0.5**
PB14	**IPOC Station P**	**3.28**	**340**	*e*P	**Pn**	**21 08 06.0**	**+2.2**
PB14				*i* S	**Sn**	**21 08 43.1**	**+0.9**
PB14				IAML		21 08 51.2	
comp=E,410nm,0.5s							
AHML	**Horco Molle**	**3.54**	**76**	*e*P	**Pn**	**21 08 08.2**	**+1.2**
AHML				*i* P	**Pn**	**21 08 09.6**	**+2.6**
RTLL	**Cerro Villicun**	**3.64**	**171**	*i* P	**Pn**	**21 08 10.7**	**+2.4**
CO02	**Combarbal**	**3.81**	**204**	*e*P	**Pn**	**21 08 11.4**	**+0.7**
CO02				*e*S	**Sn**	**21 08 54.2**	**-0.5**
CFA	**Coronel Fontan**	**3.95**	**168**	P	**Pn**	**21 08 14.6**	**+2.1**
comp=E,39nm,0.3s,baz=17,slow=15,SNR=320							
CFA				S	**Sn**	**21 08 57.9**	**+0.1**
comp=E,36nm,0.3s,baz=325,slow=18,SNR=19							
CFA	**Coronel Fontan**	**3.95**	**168**	*i* P	**Pn**	**21 08 14.2**	**+1.7**
CFA				*e*S	**Sn**	**21 08 57.5**	**-0.3**
RTCV	**Cerro Valdivia**	**4.16**	**173**	*e*P	**Pn**	**21 08 17.1**	**+1.8**
RTCV				*i* P	**Pn**	**21 08 17.7**	**+2.4**
RTCV				*e*S	**Sn**	**21 09 02.7**	**-0.2**
PB10	**IPOC Station P**	**4.38**	**343**		**Pn**	**21 08 19.1**	**+0.9**
PB15	**IPOC Station P**	**4.51**	**357**	*e*P	**Pn**	**21 08 22.1**	**+1.9**
PB15				*e*S	**Sn**	**21 09 11.9**	**+0.3**
ACAN	**Cantantal**	**4.85**	**160**	*e*P	**Pn**	**21 08 26.2**	**+1.6**
ACAN				*i* P	**Pn**	**21 08 26.8**	**+2.1**
ASAL	**Salagasta**	**4.86**	**177**	*i* P	**Pn**	**21 08 27.1**	**+2.3**
ASAL				*i* Sg	**Sn**	**21 09 19.7**	**-0.2**
AZAP	**Zapla**	**5.08**	**48**	⇓*i* P	**Pn**	**21 08 30.8**	**+2.8**
LVC	**Limon Verde**	**5.10**	**3**	P	**Pn**	**21 08 29.8**	**+1.4**
comp=E,10nm,0.3s,baz=182,slow=8.8,SNR=72							
LVC				S	**Sn**	**21 09 26.1**	**-0.1**
comp=E,20nm,0.3s,baz=301,slow=20,SNR=9.9							
LVC	**Limon Verde**	**5.10**	**3**		**Pn**	**21 08 29.9**	**+1.6**
AAGR	**Agrelo**	**5.35**	**177**	*i* P	**Pn**	**21 08 33.6**	**+2.1**
TCA	**Tanti**	**5.37**	**133**	*i* P	**Pn**	**21 08 32.4**	**+0.6**
PB04	**IPOC Station P**	**5.44**	**350**		**Pn**	**21 08 32.8**	**-0.1**
PB04				Sn	**Sn**	**21 09 32.3**	**-1.9**
ROC1	**El Roble**	**5.47**	**196**		**Pn**	**21 08 32.8**	**-0.4**
ROC1				Sn	**Sn**	**21 09 29.1**	**-5.9**
MRA	**San Martin**	**5.55**	**148**	*i* P	**Pn**	**21 08 35.1**	**+0.9**
MRA				IAML		21 08 38.0	
comp=Z,58nm,0.2s							
PEL	**Peldehue**	**5.56**	**193**	Pn	**Pn**	**21 08 33.4**	**-0.8**
PB01	**IPOC Station P**	**6.66**	**357**	Sn	**Sn**	**21 10 02.9**	**-0.9**
GO05	**Huala**	**7.63**	**197**	Pn	Pn	21 08 57.6	-4.8
PB11	**IPOC Station P**	**7.94**	**357**	Pn	**Pn**	**21 09 04.9**	**-1.9**
GO01	**Chusmiza**	**8.02**	**360**	Pn	**Pn**	**21 09 08.3**	**+0.1**
MNMC	**Minye Minye**	**8.56**	**357**	Pn	**Pn**	**21 09 13.7**	**-1.7**
CPUP	**Villa Florida**	**10.65**	**85**	P	**Pn**	**21 09 43.2**	**-0.3**
comp=Z,0.4nm,0.3s,baz=264,slow=11,SNR=4.3							
CPUP	**Villa Florida**	**10.65**	**85**		**Pn**	**21 09 42.2**	**-1.3**
LPAZ	**La Paz**	**11.42**	**5**	P	**Pn**	**21 09 54.3**	**-0.2**
comp=Z,0.2nm,0.3s,baz=208,slow=8.1,SNR=2.2							
LPAZ	**La Paz**	**11.42**	**5**	Pn	**Pn**	**21 09 52.3**	**-2.2**
TRQA	**Tornquist**	**11.94**	**151**	Pn	**Pn**	**21 09 59.6**	**-1.2**
PLCA	**Paso Flores**	**13.03**	**185**	Pn	**Pn**	**21 10 15.9**	**+0.8**
SIV	**San Ignacio**	**13.88**	**34**	P	**Pn**	**21 10 25.9**	**-0.5**
comp=Z,0.3nm,0.3s,baz=248,slow=3.1,SNR=5.2							
BDFB	**Brasilia**	**23.00**	**63**	P	**P**	**21 12 10.2**	**-0.2**
comp=Z,3.5nm,0.6s,baz=241,slow=9.4,SNR=5.1							
BDFB	**Brasilia**	**23.00**	**63**	P	**P**	**21 12 09.8**	**-0.7**
RCBR	**Riachuelo**	**38.37**	**62**	P	**P**	**21 14 22.1**	**-3.4**
SNAA	**Sanae**	**56.52**	**160**	P	**P**	**21 16 46.6**	**+1.2**
comp=Z,0.5nm,0.6s,baz=274,slow=7.3,SNR=14							
SNAA	**Sanae**	**56.52**	**160**	IAmb	IAmb	21 17 01.7	
comp=Z,4.1nm,1.4s							
TXAR	**Lajitas Array**	**65.64**	**327**	P	**P**	**21 17 46.0**	**-1.5**
TX31	**Lajitas Ar. Si**	**65.65**	**327**	P	**P**	**21 17 45.8**	**-1.7**
TX31				IAmb	IAmb	21 17 47.0	
comp=Z,4.8nm,1.2s							
DBIC	**Dimbokro**	**70.84**	**71**	P	**P**	**21 18 21.9**	**+1.7**
comp=Z,0.9nm,0.3s,baz=212,slow=3.3,SNR=7.0							
MAW	**Mawson**	**78.47**	**163**	P	**P**	**21 19 05.2**	**+1.8**
comp=Z,0.6nm,0.5s,baz=217,slow=10,SNR=2.3							
TORD	**Torodi Ar. Bea**	**79.72**	**69**	P	**P**	**21 19 12.7**	**+1.6**
comp=Z,0.5nm,0.5s,baz=262,slow=4.8,SNR=8.9							
TORD				PcP	**PcP**	**21 19 19.2**	**+0.7**
comp=Z,0.8nm,0.5s,baz=247,slow=5.5,SNR=7.7							
ASAR	**Alice Springs**	**124.27**	**206**	PKP	**PKiKP**	**21 26 01.9**	**+0.1**
comp=Z,0.3nm,0.7s,baz=113,slow=2.1,SNR=2.3							
WRA	**Warramunga Arr**	**127.43**	**208**	PKP	**PKiKP**	**21 26 08.8**	**+0.7**
comp=Z,0.4nm,0.5s,baz=159,slow=1.9,SNR=9.1							
ZALV	**Zalesovo Beam**	**147.59**	**29**	PKPbc	**PKPab**	**21 26 49.5**	**+1.1**
comp=Z,0.6nm,0.5s,baz=328,slow=5.1,SNR=2.4							
MKAR	**Makanchi Array**	**150.61**	**42**	PKPbc	**PKiKP**	**21 26 55.9**	**+1.3**
comp=Z,0.3nm,0.4s,baz=265,slow=3.3,SNR=6.3							
LZH	**Lanzhou**	**169.77**	**34**	*e*PKP	**PKPdf**	**21 27 09.9**	**-0.1**
LZH				pPKP	pPKP	21 27 18.8	
LZH				sPKP	sPKP	21 27 22.6	

*NIED **20** 21:23:00, 39°30N×140°70E, h110km, Mw4.1 Best double couple: M0 1.66000×1015 NP1: φ0=356.00000°, δ54.00000°, λ-34.00000°. NP2: φ0=107.00000°, δ63.00000°, λ-139.00000°.*
*BJI **20** 21:23:14.4±0.0, 39°32N×140°88E, h124km, mb4.5/30, mB4.7/21*
*ISCJB **20** 21:23:17.6±0.2, 39°36N±0°03×140°67E±0°04, h133km±1km, mb4.2/52, Error ellipse: s-maj=6.1km s-min=3.3km az=30.6*
*MOS **20** 21:23:17.3±1.1, 39°39N×140°68E, h131km, mb4.6/11, Error ellipse: s-maj=8.8km s-min=5.3km az=97.4*
*IDC **20** 21:23:18.9±0.7, 39°33N×140°57E, h129km±7km, mb3.8/20, mb1 3.9/26, mb1mx3.8/51, mbtmp4.2/26, MS2.6/2, Ms1 2.6/2, ms1mx2.2/34, Error ellipse: s-maj=13.5km s-min=10.1km az=106.0*
*NEIC **20** 21:23:18.4±1.9, 39°30N±0°06×140°6E±0°1, h129km±6km, mb4.5/39*
*JMA **20** 21:23:19.2±0.1, 39°32N×140°62E, h126km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ0=104.00000°, δ66.00000°, λ-143.00000°. NP2: φ0=358.00000°, δ57.00000°, λ-29.00000°. Principal axes: T Plg6.0000°, Azm229.0000°; N Plg47.0000°, Azm132.0000°; P Plg42.0000°, Azm324.0000°;*
JMA Felt I J1.
ISC 20 21:23:18.3±0.5, 39°33N±0°04×140°72E±0°05, h129km±4km, n216, σ1°38/238, mb4.4/69, 27C-12D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.09**	**313**	⇓P	**Pn**	**21 23 36.5**	**+0.7**
JRG				S	**Sn**	**21 23 49.8**	**+0.7**
JOM	**Ohasama**	**0.46**	**72**	⇓P	**Pn**	**21 23 38.2**	**+1.2**
JOM				S	**Sn**	**21 23 52.5**	**+1.3**
JYK	**Kaneyama**	**0.50**	**214**	⇓P	**Pn**	**21 23 37.7**	**+0.4**
JYK				*e*S	**Sn**	**21 23 51.9**	**+0.3**
JMK	**Ichinoseki**	**0.54**	**134**	⇓P	**Pn**	**21 23 38.3**	**+0.8**
JMK				*e*S	**Sn**	**21 23 53.0**	**+1.1**
JAH	**Hinai**	**0.86**	**356**	⇑P	**Pn**	**21 23 41.0**	**+1.2**
JAH				S	**Sn**	**21 23 57.5**	**+1.4**
JOU	**Okura**	**0.97**	**183**	⇓P	**Pn**	**21 23 41.6**	**+0.7**
JOU				S	**Sn**	**21 23 58.9**	**+1.0**
JIO	**Ouri**	**1.00**	**151**	⇓P	**Pn**	**21 23 41.5**	**+0.4**
JYA	**Atsumi**	**1.08**	**227**	⇑P	**Pn**	**21 23 42.1**	**+0.2**
JYA				S	**Sn**	**21 23 59.2**	**-0.5**
JANG	**Nango**	**1.21**	**30**	⇑P	**Pn**	**21 23 44.4**	**+1.3**
JANG				S	**Sn**	**21 24 03.4**	**+1.4**
JYS	**Shirataka**	**1.22**	**205**	P	**Pn**	**21 23 44.0**	**+0.6**
JYS				S	**Sn**	**21 24 02.7**	**+0.4**
JAW	**Awa shima**	**1.45**	**233**	⇑P	**Pn**	**21 23 45.7**	**0.0**
JAW				*e*S	**Sn**	**21 24 05.8**	**-0.7**
JFT	**Otama**	**1.84**	**190**	⇓P	**Pn**	**21 23 51.0**	**+0.7**
JFT				S	**Sn**	**21 24 15.6**	**+0.9**
JNS	**Sasagawa**	**1.87**	**216**	⇑P	**Pn**	**21 23 50.8**	**+0.1**
ERM	**Erimo**	**3.26**	**34**	*i* P	**Pn**	**21 24 08.3**	**+0.1**
ERM	**Erimo**	**3.26**	**34**		**Pn**	**21 24 08.5**	**+0.3**
ERM				Sn	**Sn**	**21 24 45.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**3.42**	**216**		**Pn**	**21 24 11.2**	**+0.7**
MAJO	**Matsushiro**	**3.42**	**216**	*c i* P	**Pn**	**21 24 11.2**	**+0.7**
MAJO	**Matsushiro**	**3.42**	**216**		**Pn**	**21 24 11.1**	**+0.7**
MAT	**Matsushiro**	**3.42**	**216**	P	**Pn**	**21 24 11.0**	**+0.6**
MAT				S	**Sn**	**21 24 52.5**	**+1.8**
MJAR	**Matsushiro Arr**	**3.42**	**216**	P	**Pn**	**21 24 11.1**	**+0.7**
3.4nm,0.3s,baz=23,slow=16,SNR=204							
MJAR	**Matsushiro Arr**	**3.42**	**216**		Pn	21 24 18.3	+7.9
INU	**Inuyama**	**4.95**	**218**		**Pn**	**21 24 31.6**	**+0.8**
ASAJ	**Asahikawa**	**4.98**	**16**	P	**Pn**	**21 24 30.6**	**-0.4**
15nm,0.3s,baz=213,slow=14,SNR=54							
ASAJ				S	**Sn**	**21 25 25.4**	**-2.3**
13nm,0.3s,baz=52,slow=26,SNR=8.1							
JKA	**Kamikawa-asahi**	**4.98**	**16**		**Pn**	**21 24 30.6**	**-0.4**
JKA					**Sn**	**21 25 25.4**	**-2.3**
NMR	**Nemuro--Hokkai**	**5.52**	**41**	*c i* P	**Pn**	**21 24 36.5**	**-1.7**
NMR				*i* S	**Sn**	**21 25 35.4**	**-5.1**
GLVR	**Golovnino**	**5.69**	**38**	*c i* P	**Pn**	**21 24 40.4**	**-0.1**
GLVR				*e*S	**Sn**	**21 25 41.1**	**-3.5**
GLVR				pmax	pmax		
comp=Z,973nm,0.3s							
GLVR				pmax	pmax		
comp=N,175nm,0.2s							
GLVR				pmax	pmax		
comp=E,144nm,0.1s							
GLVR				smax	smax		
comp=N,481nm,0.3s							
GLVR				smax	smax		
comp=E,1μm,0.3s							
GRPR	**Tuman**	**6.00**	**37**	*c i* P	**Pn**	**21 24 43.9**	**-0.8**
GRPR				*i* S	**Sn**	**21 25 47.1**	**-5.0**
GRPR				pmax	pmax		
comp=N,127nm,0.3s							
GRPR				pmax	pmax		
comp=E,239nm,0.3s							
GRPR				pmax	pmax		
comp=Z,688nm,0.3s							
GRPR				smax	smax		
comp=N,646nm,0.4s							
GRPR				smax	smax		
comp=E,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**6.07**	**38**	*i* P	**Pn**	**21 24 45.1**	**-0.6**
JHJ	**Hachijo jima 2**	**6.25**	**187**	P	**Pn**	**21 24 46.9**	**-1.2**
comp=E,31nm,0.3s,baz=68,slow=23,SNR=5.1							
JHJ				S	**Sn**	**21 25

comp=Z,10.0nm,0.5s
NACB Ninganchiao 22.14 233 P P 21 28 00.2 -3.3
NACB IAmb IAmb 21 28 07.8
comp=Z,18nm,0.8s
HHC Hu-ho-hao-te 22.32 283 *eP* **P 21 28 04.8 -0.6**
HHC pmax pmax
comp=Z,7.0nm,0.5s
SSLB Suanglung 22.81 233 P P 21 28 06.6 -3.7
YULB Yu-li 22.89 232 P P 21 28 07.5 -3.5
TPUB Ta-pu 23.37 233 P P 21 28 12.8 -2.6
TPUB IAmb IAmb 21 28 17.4
comp=Z,63nm,1.5s
TWG Pinlang 23.46 231 P P 21 28 15.5 -0.7
YAK Yakutsk 23.71 347 *eP* **P 21 28 17.0 -1.1**
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK Yakutsk 23.71 347 P P 21 28 17.1 -0.9
SEY Seymchan 24.66 13 P P 21 28 28.4 +1.8
comp=N,1.8nm,0.4s,baz=205,slow=11,SNR=7.1
BOD Bodaibo 25.31 326 *eP* **P 21 28 30.9 -1.7**
BOD pmax pmax
comp=Z,8.0nm,1.2s
XAN Xi'an 25.96 268 P P 21 28 39.3 +0.4
XAN pP pP 21 29 07.3 +1.1
XAN pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 26.10 300 P P 21 28 39.0 -1.1
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 26.10 300 P P 21 28 39.3 -0.8
comp=Z,1.3nm,0.5s,baz=105,slow=9.7,SNR=10
SONM Songino Array 26.10 300 P P 21 28 39.0 -1.1
LZH Lanzhou 29.23 275 *eP* **P 21 29 07.4 -0.7**
LZH pP pP 21 29 35.9 +0.2
LZH sP sP 21 29 50.0 -0.5
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,68nm,4.3s
H11N2 WAKE ISLAND Hy 29.83 123 T T 22 00 07.0
baz=317,slow=75,SNR=55
H11N1 WAKE ISLAND Hy 29.84 123 T T 22 00 08.6
baz=317,slow=75,SNR=75
H11N3 WAKE ISLAND Hy 29.85 123 T T 22 00 13.1
baz=317,slow=75,SNR=62
H11S1 WAKE ISLAND Hy 30.60 125 T T 22 01 11.9
baz=319,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 30.60 125 T T 22 01 04.1
baz=319,slow=76,SNR=22
H11S2 WAKE ISLAND Hy 30.61 125 T T 22 01 05.1
baz=319,slow=76,SNR=16
GYA Guiyang 31.16 256 *eP* **P 21 29 24.3 -0.9**
GYA pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 31.99 18 *i* P **P 21 29 31.3 -0.5**
BILL pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 32.95 353 P P 21 29 40.1 0.0
TIXI pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 32.95 353 P P 21 29 40.1 0.0
TIXI IAmb IAmb 21 29 41.7
comp=Z,3.0nm,0.5s
DGZ Jazzator, Alta 38.64 304 *i* P **P 21 30 29.2 +0.1**
WMQ Urumqi 39.36 294 *eP* **P 21 30 36.1 +1.0**
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,48nm,5.7s
WMQ LR LR
comp=Z,1μm,29.0s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,130nm,29.0s
ZAA0 Zalesovo Array 39.99 310 P P 21 30 39.7 -0.4
ZAA0 IAmb IAmb 21 30 40.3
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 39.99 310 P P 21 30 39.8 -0.3
comp=Z,4.9nm,0.4s,baz=84,slow=8.0,SNR=23
ZALV PcP **PcP 21 32 42.6 +0.1**
comp=Z,1.5nm,0.4s,baz=104,slow=2.7,SNR=5.2
NRIK Noril'sk 40.96 334 P P 21 30 47.0 -0.8
comp=Z,1.7nm,0.3s,baz=121,slow=6.3,SNR=5.3
CMAR Chiang Mai Arr 41.62 252 P P 21 30 55.1 +1.3
comp=Z,0.3nm,0.4s,baz=60,slow=5.3,SNR=2.9
MK31 Makanchi Array 42.47 300 P P 21 30 59.2 -1.3
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 42.47 300 P P 21 30 59.2 -1.3
MKAR Makanchi Array 42.47 300 P P 21 30 60.0 -0.5
comp=Z,3.2nm,0.6s,baz=84,slow=9.8,SNR=56
MKAR Makanchi Array 42.47 300 P P 21 30 59.9 -0.6
MAKZ Makanchi 42.68 300 P P 21 31 01.7 -0.5
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
MAKZ Makanchi 42.68 300 P P 21 31 01.7 -0.5
MAKZ IAmb IAmb 21 31 03.9
comp=Z,7.5nm,1.1s
KURK Kurchatov 44.11 306 *ceP* **P 21 31 13.0 -0.5**
KURK pmax pmax
comp=Z,9.0nm,0.5s
KURK Kurchatov 44.11 306 P P 21 31 13.1 -0.5
IMAR Indian Mountai 44.97 32 P P 21 31 22.1 +1.9
PPLA Purkeypile 45.62 36 P P 21 31 27.8 +2.4
PPLA IAmb IAmb 21 31 41.0
comp=Z,17nm,1.5s
ODAN Odare 45.78 271 *eP* **P 21 31 27.4 +0.1**
JIRN Jiri 46.32 273 *eP* **P 21 31 31.9 +0.2**
RAMN Ramite 46.35 272 *eP* **P 21 31 31.8 0.0**
GUN Gumba 46.44 273 *eP* **P 21 31 32.5 -0.1**
KKN Kakani 46.96 273 *eP* **P 21 31 36.6 +0.1**
comp=Z,12nm,0.5s
PKI Pulchoki 46.97 273 *eP* **P 21 31 36.2 -0.5**
PKIN Phulchoki 46.97 273 *eP* **P 21 31 36.2 -0.5**
comp=Z,6.5nm,0.6s
DMN Daman 47.18 273 *eP* **P 21 31 38.4 +0.1**
GKN Gorkha 47.35 274 *eP* **P 21 31 39.1 -0.4**
comp=Z,8.9nm,0.3s
IL31 47.86 33 P P 21 31 44.1 +1.4
ILAR Eielson Array 47.86 33 P P 21 31 43.9 +1.2
ILAR 21 33 09.5
ILAR Eielson Array 47.86 33 P P 21 31 43.9 +1.2
comp=Z,1.1nm,0.6s,baz=266,slow=5.6,SNR=24
ILAR pP **pP 21 32 13.9 +1.4**
comp=Z,0.8nm,0.8s,baz=267,slow=6.2,SNR=3.7
ILAR Eielson Array 47.86 33 P P 21 31 43.9 +1.2
ILAR PcP **PcP 21 33 09.5 +0.2**
DANN Dangsing 47.87 275 *eP* **P 21 31 43.6 0.0**
comp=Z,71nm,0.5s
KOLN Koldanda 48.27 274 *eP* **P 21 31 46.0 -0.6**
comp=Z,5.7nm,0.3s
BMAR Burnt Mountain 48.60 30 P P 21 31 50.9 +2.5
BRVK Borovoye 48.70 311 *ceP* **P 21 31 49.1 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 48.70 311 P P 21 31 49.2 -0.1
BRVK IAmb IAmb 21 31 50.0
comp=Z,6.6nm,1.0s
AAK Ala-Archa 48.95 296 P P 21 31 51.1 -0.5
AAK pmax pmax
comp=Z,12nm,1.5s
AAK Ala-Archa 48.95 296 P P 21 31 51.1 -0.5
AAK IAmb IAmb 21 32 06.1
comp=Z,12nm,1.5s
KSH Kashi 49.01 292 P P 21 31 55.1 +3.1
KSH PP **PP 21 33 50.8 +4.3**
KSH ScP **ScP 21 36 59.8 +2.8**
KSH PcS **PcS 21 37 12.1 +1.5**
KSH S **S 21 38 48.4 +1.7**
KSH sS sS 21 39 41.4 +3.2
KSH SS **SS 21 42 19.1 +0.2**
KSH pmax pmax
comp=Z,350nm,5.1s
KSH LR LR
comp=Z,2μm,12.9s
KSH LR LR
comp=Z,510nm,10.7s
KSH LR LR
comp=Z,160nm,12.6s
SCRK Sand Creek 49.20 34 P P 21 31 54.6 +1.5
ARSB Arslanbob 50.47 295 P P 21 32 03.9 +0.8
ARSB IAmb IAmb 21 32 05.7
comp=Z,9.8nm,1.1s
KK31 Karatay Array 51.53 298 IAmb IAmb 21 32 11.9
comp=Z,6.0nm,1.1s
KKAR Karatay Array 51.53 298 P P 21 32 10.3 -0.5
KKAR Karatay Array 51.53 298 P P 21 32 10.3 -0.5
KKAR Karatay Array 51.53 298 IAmb IAmb 21 32 11.9
comp=Z,6.0nm,1.1s
INK Inuvik 52.60 28 P P 21 32 20.2 +1.9
comp=Z,1.3nm,0.5s,baz=285,slow=9.8,SNR=4.9
GAR Garm 53.25 294 IAmb IAmb 21 32 24.4
comp=Z,14nm,1.3s
NIL Nilore 53.41 286 P P 21 32 23.8 -1.1
NIL pmax pmax
comp=Z,12nm,0.9s
NIL Nilore 53.41 286 P P 21 32 23.8 -1.1
ARU Arti 54.29 317 *d iP* **P 21 32 30.6 -0.2**
ARU 21 33 33.1
ARU 21 34 30.8
ARU S **S 21 39 59.1 +0.8**
ARU SS **SS 21 43 41.1 -0.4**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 54.29 317 P P 21 32 30.7 -0.1
KBL Kabul 56.11 289 P P 21 32 43.1 -1.4
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 56.11 289 P P 21 32 43.1 -1.4
KBL IAmb IAmb 21 32 45.1
comp=Z,4.7nm,0.9s
WB2 Warramunga Arr 59.27 187 P P 21 33 06.6 +0.3
WRA Warramunga Arr 59.27 187 P P 21 33 06.3 0.0
comp=Z,1.2nm,0.6s,baz=3.4,slow=7.5,SNR=20
WRA pP **pP 21 33 36.9 -0.3**
comp=Z,1.6nm,0.6s,baz=3.8,slow=7.1,SNR=4.8
RES Resolute Bay 60.51 15 P P 21 33 14.7 +0.5
RES pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 60.51 15 P P 21 33 14.7 +0.5
comp=Z,2.3nm,0.4s,baz=289,slow=3.9,SNR=16
RES Resolute Bay 60.51 15 IAmb IAmb 21 33 16.1
comp=Z,4.4nm,1.1s
ARCES ARCESS Array B 61.66 339 P P 21 33 22.1 +0.2
comp=Z,2.3nm,0.5s,baz=58,slow=7.8,SNR=16
YKA Yellowknife Ar 62.10 31 P P 21 33 25.9 +0.9
comp=Z,0.6nm,0.6s,baz=304,slow=6.8,SNR=3.7
ASAR Alice Springs 62.99 187 P P 21 33 31.6 +0.2
comp=Z,0.5nm,0.4s,baz=4.7,slow=5.8,SNR=9.1
ASAR pP **pP 21 34 03.0 +0.4**
comp=Z,0.6nm,0.6s,baz=16,slow=4.9,SNR=3.5
VRH Novokhopyorsk 65.52 317 *eP* **P 21 33 46.3 -1.3**
VRH pmax pmax
comp=Z,6.0nm,0.4s
OBN Obninsk 65.94 322 *eP* **P 21 33 49.3 -0.9**
OBN *e* 21 34 18.1
OBN *e* 21 36 14.5
OBN pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 66.20 319 *eP* **P 21 33 51.2 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
FIA1 FINESS Array S 66.53 332 P P 21 33 53.5 -0.4
FIA1 IAmb IAmb 21 33 55.8
comp=Z,13nm,1.0s
FINES FINESS Array B 66.53 332 P P 21 33 53.6 -0.2
comp=Z,5.5nm,0.6s,baz=33,slow=8.4,SNR=23
FINES FINESS Array B 66.53 332 P P 21 33 54.0 +0.1
VSR Storozhevoye 66.85 318 *eP* **P 21 33 54.7 -1.4**
VSR pmax pmax
comp=Z,8.0nm,0.6s
KIV Kislovodsk 69.00 310 *eP* **P 21 34 10.9 +1.1**
KIV pmax pmax
comp=Z,61nm,1.1s
KIV Kislovodsk 69.00 310 ⇑P **P 21 34 10.4 +0.6**
KIV mb 21 34 11.8
KIV Kislovodsk 69.00 310 P P 21 34 09.5 -0.3
KBZ Khabaz 69.00 310 P P 21 34 10.8 +1.1
comp=Z,6.4nm,0.8s,baz=68,slow=4.8,SNR=8.8
NC405 NORSAR Array S 71.65 337 P P 21 34 25.5 -0.1
NC204 NORSAR Array S 71.81 337 P P 21 34 26.7 +0.1
NB201 NORSAR Array S 71.83 337 P P 21 34 26.5 -0.1
NB2 NORSAR Subarra 71.86 337 P P 21 34 26.6 -0.2
comp=Z,1.3nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 71.86 337 P P 21 34 26.8 0.0
comp=Z,0.5nm,0.4s,baz=51,slow=7.1,SNR=13
NC602 NORSAR Array S 72.00 336 P P 21 34 27.3 -0.3
NBO00 NORSAR Array S 72.00 337 P P 21 34 28.1 +0.5
AKASG Malin Array Be 72.15 322 *i* P **P 21 34 28.2 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 72.15 322 P P 21 34 28.3 -0.3
comp=Z,4.6nm,0.5s,baz=47,slow=6.0,SNR=21
AKASG Malin Array Be 72.15 322 P P 21 34 28.7 0.0
NVAR Mina Array Bea 74.05 53 P P 21 34 42.4 +2.1
comp=Z,0.3nm,0.6s,baz=288,slow=4.6,SNR=5.4
NVAR Mina Array Bea 74.05 53 P P 21 34 39.5 -0.9
FLWY Flagg Ranch 74.95 45 P P 21 34 45.6 +0.1
FLWY IAmb IAmb 21 34 55.2
comp=Z,9.3nm,0.9s
BURAR Bucovina Array 76.18 321 ⇑P **P 21 34 52.8 +0.6**
BURAR Bucovina Array 76.18 321 ⇑P **P 21 34 52.8 +0.6**
BURAR Bucovina Array 76.18 321 P P 21 34 52.8 +0.6
BIZ Bicaz 76.21 320 ⇓P **P 21 34 52.7 +0.4**
TESR Tescani 76.23 320 ⇑P **P 21 34 52.8 +0.3**
CFR Carcaliu 76.37 318 ⇑P **P 21 34 52.3 -0.9**
CFR Carcaliu 76.37 318 ⇑P **P 21 34 52.3 -0.9**
OJC Ojcow 76.83 326 *eP* **P 21 34 56.6 +0.9**
OJC Ojcow 76.83 326 *eP* **P 21 34 56.6 +0.8**
OJC *eP* **P 21 34 56.6 +0.8**
OJC Ojcow 76.83 326 IAmb IAmb 21 34 57.0
comp=Z,10nm,0.9s
BISRR Bisoca 76.86 319 ⇑P **P 21 34 53.8 -2.3**
BR131 Keskin Array S 76.93 311 P P 21 34 57.0 +0.3
BR131 pmax pmax
comp=Z,2.0nm,0.6s
BR131 Keskin Array S 76.93 311 P P 21 34 57.0 +0.3
BRTR Keskin Array B 76.93 311 P P 21 34 56.6 0.0
comp=Z,1.4nm,0.6s,baz=98,slow=3.4,SNR=15
OZUR 76.95 320 ⇑P **P 21 34 57.8 +1.3**
TRPA Tarpa 77.10 323 ⇑P **P 21 34 57.6 +0.3**
TRPA mb 21 34 58.5
MLR Muntele Rosu 77.29 319 P P 21 34 58.8 +0.2
MLR pmax pmax
comp=Z,6.0nm,1.2s
MLR Muntele Rosu 77.29 319 P P 21 34 58.8 +0.2
MLR IAmb IAmb 21 34 59.9
comp=Z,5.8nm,1.2s
LANS Liptovska Anna 77.76 325 *eP* **P 21 35 02.4 +1.4**
LANS Liptovska Anna 77.76 325 *eP* **P 21 35 02.4 +1.4**
VOIR 77.78 320 ⇓P **P 21 35 02.5 +1.3**
VOIR 77.78 320 ⇓P **P 21 35 02.5 +1.3**
KSP Ksiaz 77.87 328 *eP* **P 21 35 02.4 +0.9**
KSP Ksiaz 77.87 328 *eP* **P 21 35 02.4 +0.9**
KSP *eP* **P 21 35 02.4 +0.9**
ARR Arges 78.03 320 ⇑P **P 21 35 03.6 +1.0**
MORC Moravsky Berou 78.14 326 ⇑P **P 21 35 03.5 +0.4**
MORC Moravsky Berou 78.14 326 ⇑P **P 21 35 03.5 +0.4**
CHVC Chvalec 78.16 328 *eP* **P 21 35 03.5 +0.4**
DPC Dobruska-Polom 78.23 327 *eP* **P 21 35 04.7 +1.2**
KRLC Kraliky 78.24 327 *eP* **P 21 35 03.8 +0.2**
VYHS Vyhne 78.53 325 *eP* **P 21 35 06.2 +1.0**
VYHS Vyhne 78.53 325 *eP* **P 21 35 06.2 +1.0**
CLL Collm 78.84 330 *i P* **P 21 35 06.4 -0.4**
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 78.84 330 *i P* **P 21 35 06.4 -0.4**
comp=Z,7.0nm,0.7s
GZR Gura Zlata 78.94 321 ⇑P **P 21 35 07.3 -0.3**
GZR Gura Zlata 78.94 321 ⇑P **P 21 35 07.3 -0.3**
SMOL Smolenice 79.14 326 *eP* **P 21 35 09.9 +1.4**
SMOL pmax pmax
comp=Z,3.0nm,0.6s
SMOL Smolenice 79.14 326 *eP* **P 21 35 09.9 +1.4**
GOPC GO Pecny, Ondr 79.20 328 *eP* **P 21 35 09.4 +0.6**
PRU Pruhonice 79.24 328 *eP* **P 21 35 09.5 +0.5**
TREC Trest 79.38 327 *eP* **P 21 35 10.6 +0.8**
CONA Conrad Observa 80.27 326 *i P* **P 21 35 15.5 +0.8**
comp=Z,1.8nm,0.5s
KHC Kasperske Hory 80.31 328 *eP* **P 21 35 15.0 +0.2**
KHC Kasperske Hory 80.31 328 *eP* **P 21 35 15.4 +0.6**
GERES GERESS Array B 80.48 328 P P 21 35 15.9 +0.1
comp=Z,1.2nm,0.5s,baz=37,slow=6.4,SNR=13
VTS Vitosha 80.70 318 ⇑P **P 21 35 18.3 +1.1**
VTS Vitosha 80.70 318 ⇑P **P 21 35 18.3 +1.1**
VTS mb 21 35 18.7
VTS Vitosha 80.70 318 IAmb IAmb 21 35 18.8
comp=Z,4.9nm,0.6s
MOA Molln 81.01 327 *i P* **P 21 35 19.4 +0.7**
comp=Z,1.5nm,0.5s
SOKA Soboth 81.59 326 *i P* **P 21 35 22.1 +0.4**
comp=Z,2.3nm,0.6s,SNR=4.1
KBA Koelnbreinsper 82.01 327 *i PcP* **P 21 35 24.9 +0.8**
comp=Z,1.9nm,0.4s
MYKA Terra Mystica 82.23 326 *i P* **P 21 35 24.8 -0.3**
comp=Z,2.2nm,0.4s
WATA Walderalm 82.54 328 *i P* **P 21 35 26.9 +0.1**
comp=Z,1.8nm,0.4s
WTTA Wattenberg 82.58 328 *i PcP* **P 21 35 27.3 +0.3**
comp=Z,1.9nm,0.5s
MOTA Moosalm 82.73 328 *i P* **P 21 35 27.6 -0.2**
comp=Z,2.0nm,0.6s
RETA Reutte 82.76 328 *i PcP* **P 21 35 28.3 +0.4**
comp=Z,0.7nm,0.3s,SNR=4.8
SQTA Sankt Quirin 82.79 328 *eP* **P 21 35 27.5 -0.6**
comp=Z,3.2nm,0.5s
FETA Feichten 83.14 328 P P 21 35 29.7 -0.3
comp=Z,2.0nm,0.5s
DAVA Damuels 83.28 329 *i PcP* **P 21 35 30.9 +0.3**
comp=Z,3.3nm,0.5s
LPAZ La Paz 145.93 56 PKPbc **PKPab 21 42 44.5 0.0**
comp=Z,1.5nm,0.6s,baz=22,slow=7.2,SNR=5.5
LPAZ La Paz 145.93 56 PKPab 21 42 45.0 +0.4

ISCJB ***20*** *21:25:04.9±1.2,8°.14N±0°.06×83°.41W±0°.04,h18km±9km,*
Error ellipse: s-maj=10.9km s-min=5.2km az=25.2
UCR ***20*** *21:25:04.6±0.9,8°.16N×83°.40W,h8km±10km,MW3.6*
UPA ***20*** *21:25:06.7±1.5,8°.27N×83°.33W,h10km±6km,MW4.0*
ISC 20 21:25:04.0±1.9,8°.16N±0°.07×83°.40W±0°.05,h8km±11km,
n30,σ1§01/35,6C-8D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.39**	**15**	⇓*iP*	**Pb**	**21 25 13.2**	**0.0**
LESP3	**La Esperanza,**	**0.65**	**68**	*eP*	Pg	21 25 08.7	-7.9
ESV	**San Vito**	**0.78**	**33**	*eP*	**Pg**	**21 25 19.7**	**+0.6**
EDSV				*eS*	**Sb**	**21 25 31.1**	**+0.3**
MLIR3	**Monte Lirio, C**	**0.85**	**42**	*eP*	Pg	21 25 14.0	-6.3
BAGA3	**Bagala, Chiriq**	**0.92**	**71**	*i P*	**Pg**	**21 25 22.0**	**+0.4**
BRU2	**Volcan**	**0.94**	**48**	⇓*iP*	**Pg**	**21 25 22.7**	**+0.5**
BRU2				*eS*	**Sb**	**21 25 35.6**	**+0.1**
BRU2	**Volcan**	**0.94**	**48**	⇓*iP*	**Pg**	**21 25 22.7**	**+0.5**
	baz=265,slow=3.0						
BRU2				*i* S	**Sg**	**21 25 34.7**	**+0.2**
DVD	**David**	**0.98**	**74**	*eP*	**Pb**	**21 25 23.8**	**+0.6**
DVD				*i* S	**Sb**	**21 25 36.5**	**+0.1**
PEDE3	**Pedregal, Chir**	**0.99**	**77**	*eP*	Pg	21 25 18.0	-5.1
LOCO3	**Loma Colorada,**	**1.00**	**76**	*eP*	Pg	21 25 16.2	-7.1
BCO2	**Palmira**	**1.03**	**57**	⇓*iP*	**Pg**	**21 25 24.1**	**+0.4**
BCO2				*i* S	**Sb**	**21 25 37.6**	**-0.3**
LOMA3	**Las Lomas, Chi**	**1.03**	**75**	*eP*	**Pg**	**21 25 21.2**	**-2.7**
PTAR3	**Potrerillos Ar**	**1.04**	**59**	⇑*eP*	**Pg**	**21 25 24.6**	**+0.6**
PTAR3				*i* S	**Sg**	**21 25 37.1**	**-0.5**
CHIR3	**Chiriqui UPA,**	**1.08**	**78**	*eP*	**Pg**	**21 25 24.5**	**-0.4**
CHIR3				*i* S	**Sb**	**21 25 40.2**	**+0.8**
DRK0	**Durika**	**1.11**	**8**	⇓*iP*	**Pg**	**21 25 24.8**	**-0.5**
DRK0	**Durika**	**1.11**	**8**	⇓*iP*	**Pg**	**21 25 24.8**	**-0.5**
DRK0				*i* S	**Sg**	**21 25 39.4**	**-0.3**
EDDO	**Dominical**	**1.18**	**337**	*eP*	**Pb**	**21 25 25.7**	**-0.9**
EDDO				*eS*	**Sg**	**21 25 41.1**	**-0.9**
CHGR2	**Aguacate**	**1.46**	**58**	⇑*iP*	**Pn**	**21 25 30.6**	**-0.2**
CHGR2				*i* S	**Sn**	**21 25 49.0**	**-1.2**
LCR2	**La Lucha 2**	**1.68**	**339**	⇑*iP*	**Pn**	**21 25 34.3**	**+0.3**
CVTR	**Volcan Turrial**	**1.88**	**349**	*eP*	**Pn**	**21 25 37.1**	**+0.2**
HDC	**Heredia**	**1.96**	**339**	⇓*iP*	**Pn**	**21 25 39.3**	**+1.6**
GMAL	**Guarumal, Vera**	**2.18**	**100**	*eP*	**Pn**	**21 25 41.0**	**+0.4**
GMAL				*i* S	**Sn**	**21 26 06.6**	**-1.4**
JTS	**Las Juntas de**	**2.61**	**324**	⇑*iP*	**Pn**	**21 25 48.2**	**+1.6**
JTS	**Las Juntas de**	**2.61**	**324**	⇓*iP*	**Pn**	**21 25 48.4**	**+1.7**
CACAO	**El Cacao, Vera**	**2.64**	**108**	⇑*iP*	**Pn**	**21 25 48.1**	**+1.1**
CRIS3	**El Cristo, Coc**	**2.76**	**88**	*eP*	Pg	21 26 07.1	+10
CHIT3	**Chitre**	**2.96**	**94**	*eP*	Pg	21 26 07.3	+6.5
AZU	**Azuero**	**3.12**	**97**	⇑*eP*	**Pb**	**21 25 58.7**	**-1.1**
ZANG	**Zanguenga, Cho**	**3.58**	**77**	*eP*	**Pg**	**21 26 14.4**	**+1.6**
BCIP	**Isla Barro Col**	**3.66**	**74**	*eP*	**Pn**	**21 26 02.6**	**+1.6**

ROM 20 21:32:11.6±0.1,43°.389N±0°.004×12°.532E±0°.006,
h6km±1km,ML0.9/1,Error ellipse: s-maj=0.5km
s-min=0.1km az=84.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**128**	P	Pg	21 32 13.1	+0.1
ATFO				S	Sg	21 32 13.9	0.0
ATVO	**AVT- Monte Val**	**0.09**	**266**	P	Pg	21 32 13.9	+0.2
ATVO				S	Sg	21 32 15.6	+0.4
ATVO				AML	AML		
	comp=N,100μm,0.5s						
ATVO				AML	AML		
	comp=E,134μm,0.3s						
ATVO				AML	AML		
	comp=N,100μm,0.5s						
ATPI	**Pietralunga -**	**0.11**	**303**	P	Pg	21 32 14.5	+0.4
ATPI				S	Sg	21 32 16.7	+1.0
MURB	**Monte Urbino**	**0.13**	**182**	P	Pg	21 32 14.7	+0.4
MURB				S	Sg	21 32 17.1	+1.0
FRON	**Frontone**	**0.19**	**48**	P	Pg	21 32 16.0	+0.5
FRON				S	Sg	21 32 19.6	+1.5
ATCC	**AVT- Casa Cast**	**0.22**	**159**	P	Pg	21 32 16.1	+0.1
ATCC				S	Sg	21 32 20.8	+1.9
NARO	**Abbazia di Nar**	**0.23**	**9**	P	Pg	21 32 16.6	+0.5
NARO				S	Sg	21 32 20.5	+1.4

WEL 20 21:36:52.1±1.1,36°S±11°×17°8E±1°2,h193km±12km,
M3.6/30,MLv3.6/30,Error ellipse: s-maj=0.0km
s-min=0.0km az=46.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.76**	**180**	P	Pn	21 37 27.4	-0.1
MXZ				S	Sn	21 37 54.5	-0.9
HAZ	**Te Kaha**	**2.00**	**192**	P	Pn	21 37 30.1	+0.2
HAZ				S	Sn	21 37 59.2	-0.4
WMGZ	**Waiomatatini S**	**2.02**	**178**	P	Pn	21 37 30.6	+0.4
WMGZ				S	Sn	21 38 00.9	+0.8
PKGZ	**Pakihiroa**	**2.10**	**185**	P	Pn	21 37 31.2	+0.1
PKGZ				S	Sn	21 38 02.1	+0.5
RUGZ	**Raukumara Rang**	**2.22**	**193**	P	Pn	21 37 32.3	-0.2
RUGZ				S	Sn	21 38 04.3	+0.1
PUZ	**Puketiti**	**2.27**	**181**	P	Pn	21 37 33.2	+0.3
PUZ				S	Sn	21 38 04.7	-0.2
GRZ	**Great Barrier**	**2.35**	**258**	P	Pn	21 37 32.7	-1.1
OPRZ	**Ohinepanea**	**2.48**	**214**	P	Pn	21 37 36.6	+1.4
MARZ	**Manawahe**	**2.55**	**210**	P	Pn	21 37 36.6	+0.6
MWZ	**Matawai**	**2.61**	**194**	P	Pn	21 37 37.0	+0.3
MWZ				S	Sn	21 38 11.9	+0.2
URZ	**Urewera**	**2.64**	**201**	P	Pn	21 37 36.6	-0.4
URZ				S	Sn	21 38 12.5	+0.3
CNGZ	**Carnagh Statio**	**2.68**	**182**	P	Pn	21 37 38.2	+0.6
RAGZ	**Rawiri**	**2.79**	**195**	P	Pn	21 37 39.3	+0.5
RAGZ				S	Sn	21 38 16.0	+0.5
RIGZ	**Rimuhau**	**2.94**	**188**	P	Pn	21 37 40.5	0.0
RTZ	**Ruatahuna**	**3.01**	**200**	P	Pn	21 37 41.3	-0.1
SNGZ	**Shannon Statio**	**3.08**	**194**	P	Pn	21 37 42.7	+0.5
KNZ	**Kokohu**	**3.26**	**189**	P	Pn	21 37 44.0	-0.3
RAHZ	**Arahi**	**3.26**	**197**	P	Pn	21 37 44.6	+0.1
MTHZ	**Maungataniwha**	**3.27**	**201**	P	Pn	21 37 44.0	-0.5
MHGZ	**Mahia Peninsul**	**3.37**	**185**	P	Pn	21 37 45.7	0.0
WHHZ	**Waihua**	**3.38**	**194**	P	Pn	21 37 45.8	-0.1
ARHZ	**Aropaoanui**	**3.62**	**196**	P	Pn	21 37 48.4	-0.3
BKZ	**Black Stump Fm**	**3.66**	**203**	P	Pn	21 37 49.4	+0.1
HIZ	**Hauiti**	**3.87**	**224**	P	Pn	21 37 54.0	+2.2
KWHZ	**Kaweka Forest**	**3.92**	**202**	P	Pn	21 37 52.0	-0.5
NGZ	**Ngauruhoe**	**4.00**	**212**	P	Pn	21 37 54.1	+0.4
TUVZ	**Tukino**	**4.06**	**211**	P	Pn	21 37 54.2	-0.2
BHHZ	**Black Hill Sta**	**4.09**	**205**	P	Pn	21 37 53.9	-0.9
KRHZ	**Kereru**	**4.14**	**201**	P	Pn	21 37 54.0	-1.2
MOVZ	**Moawhango**	**4.14**	**209**	P	Pn	21 37 54.3	-1.0
KAHZ	**Kahuranaki**	**4.15**	**195**	P	Pn	21 37 54.9	-0.6
PNHZ	**Pukenui**	**4.44**	**201**	P	Pn	21 37 57.5	-1.6
PRHZ	**Porangahau**	**4.65**	**196**	P	Pn	21 38 00.1	-1.7
ANWZ	**Angora Road**	**4.88**	**197**	P	Sn	21 39 01.7	-0.1
PRWZ	**Pori Road**	**5.09**	**200**	P	Pn	21 38 05.8	-1.6
PRWZ	**Pori Road**	**5.09**	**200**	P	Sn	21 39 05.0	-1.9
BFZ	**Birch Farm**	**5.14**	**198**	P	Sn	21 39 04.2	-3.8

MRZ	Mangatainoka R	5.31 203	P	Sn	21 39 09.5	-2.3
CPWZ	Castlepoint	5.37 197	P	Sn	21 39 10.5	-2.6
HOWZ	Holdsworth Sta	5.55 202	P	Sn	21 39 13.6	-3.8
OGWZ	Otaki Gorge	5.59 205	P	Sn	21 39 17.2	-1.1
TMWZ	Te Maipa	5.63 199	P	Pn	21 38 11.6	-2.8
TMWZ	Te Maipa	5.63 199	P	Sn	21 39 13.4	-6.0
KIW	Kapiti Island	5.72 207	P	Pn	21 38 12.6	-2.9
KIW	Kapiti Island	5.72 207	P	Sn	21 39 19.2	-2.3
MTW	Mount Morrison	5.79 202	P	Pn	21 38 13.2	-3.2
MTW	Mount Morrison	5.79 202	P	Sn	21 39 18.0	-5.0
CAW	Cannon Point	5.88 205	P	Pn	21 38 14.6	-3.0
TRWZ	Traveller	5.96 199	P	Pn	21 38 15.8	-2.8
TRWZ	Traveller	5.96 199	P	Sn	21 39 23.1	-3.9
PAWZ	Paruwai Farm	6.02 201	P	Sn	21 39 24.5	-4.0
MSWZ	Moikau Station	6.10 202	P	Pn	21 38 17.4	-3.1
PLWZ	Palliser	6.24 202	P	Sn	21 39 26.7	-7.0
TCW	Tory Channel	6.26 209	P	Sn	21 39 30.9	-3.2
QRZ	Quartz Range	6.77 220	P	Sn	21 39 45.0	-1.1

*IDC **20** 21:37:53.3±0.8, 9.°93N×124.°34E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/43, mbtmp4.0/11, MS3.2/13, Ms1 3.2/13, ms1mx3.0/32, Error ellipse: s-maj=51.7km s-min=12.8km az=63.0*

*ISCJB **20** 21:37:54.9±0.8, 9.°91N±0.°02×124.°24E±0.°03, h4km±5km, mb4.0/11, MS3.2/11, Error ellipse: s-maj=4.6km s-min=3.2km az=165.3*

*NEIC **20** 21:37:54.7±2.9, 10.°00N±0.°08×124.°7E±0.°1, h10km±1km, mb4.5/19*

*MAN **20** 21:37:55.0, 9.°91N×124.°20E, h4km, mb5.1, ML4.1, MS4.2*

ISC 20 21:37:54.3±1.2, 9.°93N±0.°02×124.°32E±0.°03, h3km±8km, n75, σ1§59/80, mb4.3/19, MS3.1/11, 2C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.52	318	⇓iP	Pg	21 38 04.4	0.0
LLP				i S	Sg	21 38 11.5	+0.4
MSLP	Maasin	0.57	69	eP	Pn	21 38 08.8	-0.6
MSLP				eS	Sn	21 38 19.6	+0.4
OCLP	Ormoc	1.15	14	eP	Pn	21 38 18.1	+0.8
OCLP				eS	Sn	21 38 35.5	+1.9
SNPH	Sibulan	1.22	242	⇓iP	Pg	21 38 16.9	-0.9
SNPH				i S	Sg	21 38 33.3	-0.3
CGP	Cagayan de Oro	1.51	166	⇓eP	Pn	21 38 21.6	-0.7
CGP				i S	Sg	21 38 43.1	+0.2
BUTP	Butuan	1.60	127	eP	Pb	21 38 24.7	+0.2
BUTP				eS	Sg	21 38 48.8	+3.1
DCPH	Dipolog City	1.65	216	⇑eP	Pn	21 38 23.6	-0.6
DCPH				eS	Sn	21 38 45.3	-0.5
GUIM	Jordan	1.84	292	eP	Pn	21 38 25.2	-1.6
GUIM				eS	Sn	21 38 49.7	-1.0
BESP	Borongan	1.99	33	eP	Pb	21 38 30.9	-0.3
BESP				eS	Sg	21 38 58.1	-0.3
BUKP	Musuan	2.17	160	eP	Pn	21 38 32.3	+0.9
BUKP				eS	Sb	21 39 01.3	-0.3
RCP	Roxas	2.24	316	⇓eP	Pn	21 38 31.8	-0.6
RCP				i S	Sn	21 39 00.7	0.0
PAGZ	Pagadian	2.27	204	eP	Pn	21 38 32.5	-0.2
PAGZ				eS	Sn	21 39 03.0	+1.7
JAP	San Jose, Anti	2.48	289	⇓eP	Pn	21 38 36.7	+1.1
CNP	Catarman	2.59	7	eP	Pn	21 38 37.5	+0.4
CNP				eS	Sb	21 39 12.5	-1.1
CTBH	Cotabato--PC H	2.69	182	⇑iP	Pn	21 38 39.0	+0.4
CTBH				i S	Sn	21 39 13.2	+1.5
KCP	Kidapawan	3.00	165	⇓eP	Pn	21 38 45.9	+3.0
KCP				i S	Sb	21 39 24.9	-0.7
DAV	Davao City (W)	3.10	156	Pg	Pb	21 38 49.9	-0.3
	111nm,0.3s,baz=129,slow=4.5,SNR=4.4						
DAV				LR	LR	21 40 08.4	
	comp=Z,694nm,20.4s,baz=326,slow=44						
DAV	Davao City (W)	3.10	156		Pn	21 38 44.4	+0.2
DAV				Sn	Sn	21 39 17.3	-4.6
OTRP	Odiongan	3.31	317	eP	Pn	21 38 47.5	+0.4
OTRP				eS	Sn	21 39 27.6	+0.6
KKM	Kota Kinabalu	8.91	245	Pn	Pn	21 40 08.8	+4.7
KNMB	Chin-men Tao	15.52	339	Pn	Pn	21 41 30.1	-4.1
KNMB				IAmb	IAmb	21 41 35.3	
	comp=Z,49nm,0.9s						
KAPI	Kappang	15.53	197	LR	LR	21 47 43.7	
	comp=Z,60nm,20.4s,baz=112,slow=38						
KAPI	Kappang	15.53	197	Pn	Pn	21 41 33.5	-0.9
BATI	Baumata	20.02	182	P	P	21 42 29.5	+1.0
	comp=Z,72nm,0.9s,baz=233,slow=4.0,SNR=6.0						
JAY	Jayapura	20.47	126	LR	LR	21 51 08.3	
	comp=Z,58nm,18.4s,baz=134,slow=39						
LEM	Lembang	23.54	226	LR	LR	21 52 48.3	
	comp=Z,65nm,19.8s,baz=98,slow=38						
PBKT	Sadao Pong	23.66	289	P	P	21 43 07.6	+0.4
PBKT				IAmb	IAmb	21 43 12.3	
	comp=Z,16nm,1.2s						
IPM	Ipoh	23.73	258	P	P	21 43 09.0	+1.0
CM31	Chiang Mai Arr	26.00	292	P	P	21 43 31.5	+2.7
CM31				IAmb	IAmb	21 43 35.9	
	comp=Z,9.8nm,1.1s						
CMAR	Chiang Mai Arr	26.00	292	P	P	21 43 29.1	+0.4
	comp=Z,0.8nm,0.7s,baz=97,slow=7.6,SNR=6.7						
CMAR				LR	LR	21 54 15.9	
	comp=Z,75nm,18.1s,baz=190,slow=38						
CMAR	Chiang Mai Arr	26.00	292	P	P	21 43 30.7	+1.9
CMAR				PcP	PcP	21 46 56.8	-0.5
CHTO	Chiang Mai	26.09	293	P	P	21 43 30.7	+1.0
KSRS	Korea Array	27.60	6	LR	LR	21 54 41.4	
	comp=Z,32nm,20.2s,baz=198,slow=37						
MJAR	Matsushiro Arr	29.33	23	LR	LR	21 55 41.5	
	comp=Z,24nm,18.2s,baz=190,slow=36						
KRVT	Keravat (AS076	31.01	116	LR	LR	21 56 06.9	
	comp=Z,40nm,18.2s,baz=69,slow=35						
WRA	Warramunga Arr	31.28	162	P	P	21 44 14.2	-1.6
	comp=Z,0.5nm,0.5s,baz=342,slow=9.6,SNR=6.2						
AS31	Alice Springs	34.68	164	P	P	21 44 45.0	-0.5
ASAR	Alice Springs	34.68	164	P	P	21 44 44.3	-1.2
	comp=Z,2.0nm,0.6s,baz=337,slow=6.5,SNR=26						
ASAR	Alice Springs	34.68	164	P	P	21 44 43.9	-1.6
LSA	Lhasa	36.68	307	P	P	21 45 04.6	+1.3
LSA				IAmb	IAmb	21 45 07.7	
	comp=Z,5.4nm,0.6s						
CTA	Charters Tower	36.82	144	P	P	21 45 03.9	0.0
	comp=Z,1.1nm,0.3s,baz=328,slow=14,SNR=3.8						
TAPN	Taplejung	38.58	302	eP	P	21 45 21.6	+2.4
ODAN	Odare	38.69	301	eP	P	21 45 22.1	+2.1
	comp=Z,41nm,1.0s						
RAMN	Ramite	39.39	301	eP	P	21 45 28.1	+2.2
JIRN	Jiri	39.96	301	eP	P	21 45 33.0	+2.2
GUN	Gumba	40.30	302	eP	P	21 45 35.7	+2.1
	comp=Z,49nm,0.7s						
HNR	Honiara	40.34	117	LR	LR	22 02 41.8	
	comp=Z,15nm,19.2s,baz=308,slow=37						
PKI	Pulchoki	40.59	301	eP	P	21 45 37.4	+1.4
	comp=Z,15nm,0.8s						
PKIN	Phulchoki	40.60	301	eP	P	21 45 37.4	+1.4
	comp=Z,7.0nm,0.6s						
SONM	Songino Array	40.70	341	P	P	21 45 37.1	+0.8
	comp=Z,0.5nm,0.7s,baz=153,slow=9.7,SNR=3.6						
SONM				LR	LR	22 02 20.8	
	comp=Z,61nm,18.1s,baz=164,slow=36						
SONM	Songino Array	40.70	341	IAmb	IAmb	21 45 43.1	
	comp=Z,1.1nm,0.9s						
KKN	Kakani	40.77	301	eP	P	21 45 38.8	+1.5
	comp=Z,30nm,1.0s						
DMN	Daman	40.86	301	eP	P	21 45 39.9	+1.8
	comp=Z,18nm,0.9s						
KOLN	Koldanda	42.18	301	eP	P	21 45 50.8	+1.9
DANN	Dangsing	42.22	301	eP	P	21 45 50.9	+1.6
	comp=Z,47nm,0.9s						
STKA	Stephens Creek	44.74	159	P	P	21 46 08.5	-0.6
	comp=Z,3.7nm,0.8s,baz=319,slow=7.1,SNR=4.6						
STKA				LR	LR	22 06 25.9	
	comp=Z,24nm,18.0s,baz=24,slow=38						
STKA	Stephens Creek	44.74	159	IAmb	IAmb	21 46 15.8	
	comp=Z,1.8nm,1.4s						
MK31	Makanchi Array	51.15	324	P	P	21 47 00.0	+1.3
MK31				IAmb	IAmb	21 47 02.1	
	comp=Z,3.8nm,0.8s						
MKAR	Makanchi Array	51.15	324	P	P	21 46 57.9	-0.8
	comp=Z,3.8nm,0.8s,baz=125,slow=8.4,SNR=18						
NIL	Nilore	52.35	305	P	P	21 47 08.7	+0.8
NIL				IAmb	IAmb	21 47 11.5	
	comp=Z,8.1nm,0.8s						
ZALV	Zalesovo Beam	54.02	332	P	P	21 47 18.9	-0.9
	comp=Z,2.1nm,0.7s,baz=123,slow=5.5,SNR=7.6						
ZALV	Zalesovo Beam	54.02	332	P	P	21 47 19.2	-0.6
KURK	Kurchatov	55.27	326	P	P	21 47 28.7	-0.2
KBL	Kabul	55.95	305	P	P	21 47 36.8	+2.3
KBL				IAmb	IAmb	21 47 38.0	
	comp=Z,2.6nm,0.8s						
KK31	Karatay Array	57.13	315	P	P	21 47 45.0	+2.5
KK31				IAmb	IAmb	21 47 50.0	
	comp=Z,9.4nm,1.4s						
KKAR	Karatay Array	57.13	315	P	P	21 47 44.5	+2.0
KKAR	Karatay Array	57.13	315	IAmb	IAmb	21 47 50.0	
	comp=Z,9.4nm,1.4s						
NRIK	Noril'sk	63.88	346	LR	LR	22 17 57.4	
	comp=Z,27nm,19.2s,baz=136,slow=38						
BRTR	Keskin Array B	84.26	309	P	P	21 50 26.7	-1.3
	comp=Z,0.3nm,0.4s,baz=68,slow=5.1,SNR=2.8						
FINES	FINESS Array B	85.28	332	P	P	21 50 31.6	-0.8
	comp=Z,5.5nm,1.1s,baz=40,slow=6.2,SNR=4.9						
AKASG	Malin Array Be	85.61	321	P	P	21 50 33.6	-0.7
	comp=Z,0.3nm,0.4s,baz=65,slow=5.2,SNR=4.7						
AKASG	Malin Array Be	85.61	321	IAmb	IAmb	21 50 38.1	
	comp=Z,1.9nm,1.1s						
NOA	NORSAR Array B	92.21	333	LR	LR	22 35 57.2	
	comp=Z,20nm,19.8s,baz=290,slow=38						
TORD	Torodi Ar. Bea	118.60	291	PKP	PKPdf	21 56 42.9	-2.0
	comp=Z,0.8nm,0.7s,baz=43,slow=1.5,SNR=5.2						
PLCA	Paso Flores	146.61	159	PKPbc	PKPbc	21 57 37.4	-0.5
	comp=Z,2.5nm,0.9s,baz=219,slow=7.7,SNR=4.1						

PGC 20 21:43:26.3±1.1, 50.°73N×130.°49W, h10km, MLSn2.9/21, Mw3.5/21, 216km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.50	92	Pn	Pn	21 43 51.6	-1.7
HOLB				Sn	Sn	21 44 09.3	-3.7
BPBC	Brooks Peninsu	1.83	107	Pn	Pn	21 43 55.8	-2.1
BPBC				Sn	Sn	21 44 16.4	-4.7
PACB	Port Alice, BC	1.93	98	Pn	Pn	21 43 57.5	-1.7
PACB				Sn	Sn	21 44 18.7	-4.8
HG3B	Hotspring	1.94	343	Pn	Pn	21 43 57.6	-1.8
HG3B				Sn	Sn	21 44 20.4	-3.4
PHC	Port Hardy	1.94	89	Pn	Pn	21 43 58.0	-1.3
PHC				Sn	Sn	21 44 20.4	-3.4
BNB	Barry Inlet	2.01	337	Pn	Pn	21 43 58.2	-2.1
BNB				Sn	Sn	21 44 20.6	-5.0
BBB	Bella Bella	2.08	45	Pn	Pn	21 43 60.0	-1.3
BBB				Sn	Sn	21 44 23.3	-4.0
MAYB	Maynard	2.14	97	Pn	Pn	21 44 00.8	-1.4
MAYB				Sn	Sn	21 44 24.6	-4.3
EDB	Eliza Dome	2.33	110	Pn	Pn	21 44 02.4	-2.2
EDB				Sn	Sn	21 44 29.2	-4.0
MOBC	Moresby Island	2.59	340	Pn	Pn	21 44 07.0	-1.3
MOBC				Sn	Sn	21 44 37.1	-2.7
NTKA	Nootka	2.74	113	Pn	Pn	21 44 08.4	-1.8
NTKA				Sn	Sn	21 44 38.9	-4.5
DIB	Dawson Inlet,	2.77	334	Pn	Pn	21 44 09.8	-0.9
DIB				Sn	Sn	21 44 39.1	-4.9
ETB	Estevan Point	2.88	116	Pn	Pn	21 44 11.0	-1.3
GDR	Gold River	3.02	107	Pn	Pn	21 44 12.9	-1.2
SPLB	Strathcona Par	3.21	103	Pn	Pn	21 44 16.2	-0.6
CBB	Campbell River	3.35	100	Pn	Pn	21 44 18.5	-0.2
CBB				Sn	Sn	21 44 54.4	-4.2
BTB	Buttle Lake	3.44	110	Pn	Pn	21 44 19.2	-0.9
BTB				Sn	Sn	21 44 56.9	-4.1
B012	Ucluelet	3.68	117	Sn	Sn	21 45 02.9	-3.6
OZB	Mount Ozzard	3.69	117	Pn	Pn	21 44 21.9	-1.5
TXB	Texada	4.02	103	Pn	Pn	21 44 27.6	-0.4
MGB	Mount Grey	4.13	113	Pn	Pn	21 44 28.2	-1.3
MGB				Sn	Sn	21 45 14.2	-3.8
SHB	Sechelt	4.40	102	Pn	Pn	21 44 32.9	-0.3
PFB	Port Renfrew	4.49	116	Pn	Pn	21 44 34.8	+0.5
UBRB	Upper Baezaeko	4.53	59	Pn	Pn	21 44 35.4	+0.4
UBRB				Sn	Sn	21 45 24.2	-3.5
OCP	Olym-Cheeka Pk	4.53	120	Pn	Pn	21 44 35.6	+0.7
LZB	Mount Lazard	4.82	114	Pn	Pn	21 44 39.1	+0.2
LZB				Sn	Sn	21 45 31.7	-3.1
FSB	Fort Saint Jam	5.31	43	Pn	Pn	21 44 46.1	+0.5
MBW	Mount Baker	5.90	106	Pn	Pn	21 44 54.4	+0.6
CMW	Cultus Mountai	5.91	110	Pn	Pn	21 44 54.8	+0.8
JCW	Jim Creek	6.13	111	Pn	Pn	21 44 58.3	+1.3
B06A	Marblemount	6.26	107	Pn	Pn	21 44 60.0	+1.4
LTY	Liberty	7.33	114	Pn	Pn	21 45 15.3	+1.9

*ISCJB **20** 21:53:17.9±0.8, 13.°50N±0.°06×91.°15W±0.°04, h39km±10km, Error ellipse: s-maj=11.3km s-min=4.2km az=24.1*

*SNET **20** 21:53:18.4±1.2, 13.°66N×90.°98W, h9km±10km, ML3.6*

*NEIC **20** 21:53:19.9±3.2, 13.°6N±0.°1×91.°11W±0.°06, h35km±12km*

*GCG **20** 21:53:19.2±0.8, 13.°57N×90.°96W, h50km±37km, MD4.1*

*MEX **20** 21:53:21.0±0.6, 13.°53N×91.°17W, h28km±100km, MD4.0*

ISC 20 21:53:19.0±2.0, 13.°57N±0.°09×91.°10W±0.°04, h28km±15km, n36, σ1§14/51, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.87	47	eP	Pn	21 53 34.6	-1.0
FUG	Fuego 3	0.91	16	eP	Pn	21 53 35.9	-0.2
PCG	Pacaya	0.94	30	eP	Pn	21 53 36.2	-0.5
ERG	Entre ros, C	0.98	332	eP	Pb	21 53 38.0	+0.6
STG3	Santiaguito 3,	1.22	338	eP	Pn	21 53 41.0	+0.5
NBG	Las Nubes	1.25	36	eP	Pn	21 53 41.1	+0.3
NBG				eS	Sn	21 53 56.8	0.0
RTR	El Retiro	1.45	77	eP	Pn	21 53 42.6	-0.9
SBLS	San Blas	1.46	79	eP	Pn	21 53 42.4	-1.3
SNJE	San Jose	1.48	78	eP	Pn	21 53 42.9	-1.1
THIG		1.75	320	i P	Pn	21 53 46.5	-1.0
THIG				i S	Sn	21 54 08.3	-0.6
THIG		1.75	320		Pn	21 53 46.5	-1.0
THIG					Sn	21 54 08.3	-0.6
SNET	Serv Nac Est T	1.81	86		Pn	21 53 47.5	-1.0
SNET					Sb	21 54 09.1	-1.6
MTO3	Montecristo	1.87	64	eP	Pn	21 53 48.1	-1.3
MTO3				eS	Sn	21 54 12.6	+0.3
MTO3				IAML		21 54 14.1	
	comp=Z,349nm,0.3s						
LFU	La Fuente	1.93	85	eP	Pn	21 53 49.8	-0.3
MRL	Marmol	2.03	42	eP	Pn	21 53 50.8	-0.8
MRL				eS	Sb	21 54 19.6	-0.7
MRL	Marmol	2.03	42	eP	Pn	21 53 50.8	-0.8
CCIG	Comitan	2.88	340	i P	Pn	21 54 04.0	+0.8
CCIG				i S	Sn	21 54 37.5	+0.5
CCIG	Comitan	2.88	340		Pn	21 54 05.3	+2.1
CCIG	Comitan	2.88	340		Pn	21 54 04.0	+0.8
CCIG					Sn	21 54 37.5	+0.5
PCIG		2.95	316	i P	Pn	21 54 04.8	+0.7
PCIG				i S	Sn	21 54 37.1	-1.5
PCIG		2.95	316		Pn	21 54 04.8	+0.7
PCIG					Sn	21 54 37.1	-1.5
CNCH	Conchagua	3.19	95	eP	Pn	21 54 07.1	-0.3
CNCH				eS	Sn	21 54 45.4	+0.9
CNCH				IAML		21 54 49.0	
	comp=Z,1μm,0.3s						
TGIG		3.74	329	i P	Pn	21 54 15.7	+0.7
TGIG				i S	Sn	21 54 58.0	-0.1
TGIG		3.74	329		Pn	21 54 15.7	+0.7
TGIG					Sn	21 54 58.0	-0.1
TGUH	Tegucigalpa,Un	3.74	82		Pn	21 54 17.0	+1.9
ESTN	Estel	4.62	95	Pn	Pn	21 54 28.2	+1.0
CMIG	Matias Romero	5.06	314	eP	Pn	21 54 32.7	-0.4
CMIG				i S	Sn	21 55 30.2	-0.4
CMIG	Matias Romero	5.06	314		Pn	21 54 32.7	-0.4
CMIG					Sn	21 55 30.2	-0.4
ESPN	Las Esperanzas	6.76	101	Pn	Pn	21 54 60.0	+3.4
TEIG	Tepich	7.15	22		Pn	21 55 02.0	+0.3
TLIG	Tlapa	8.22	300	Pn	Pn	21 55 16.2	-0.4
833A	Chaparral WMA,	16.59	334	Pn	Pn	21 57 07.7	-2.0
833A				IAmb	IAmb	21 57 09.7	
	comp=Z,9.6nm,0.4s						
SWET	Sewanee	22.05	11	P	P	21 58 10.2	-1.4
SWET				IAmb	IAmb	21 58 14.5	
	comp=Z,22nm,1.2s						
MNTX	Cornudas Mount	22.30	326	P	P	21 58 14.5	+0.2
Q56A	Snyder Ridge,	27.47	20	P	P	21 59 04.0	+1.2
ACSO	Alum Creek Sta	27.50	14	P	P	21 59 05.7	+2.7

IDC 20 22:23:52.3±2.6, 6.°77S×129.°49E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/34, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=201.1km s-min=32.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.91	161	Pn	Pn	22 27 10.4	-0.5
	0.3nm,0.3s,baz=334,slow=15,SNR=18						
WRA				Sn	Sn	22 29 33.5	-13
	0.5nm,0.3s,baz=332,slow=22,SNR=8.3						
ASAR	Alice Springs	17.32	166	P	Pn	22 27 56.2	+0.4
	0.1nm,0.3s,baz=344,slow=9.7,SNR=6.3						
MKAR	Makanchi Array	67.76	327	P	P	22 34 51.9	0.0
	0.2nm,0.5s,baz=115,slow=8.0,SNR=5.1						

*ISCJB **20** 22:25:45.0±0.9, 56.°6S±0.°2×151.°0W±0.°2, h10km, mb4.0/6, MS3.3/4, Error ellipse: s-maj=24.5km s-min=15.9km az=31.6*

*IDC **20** 22:25:45.6±0.7, 56.°70S×150.°94W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/25, mbtmp4.0/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/19, Error ellipse: s-maj=33.6km s-min=22.7km az=12.0*

*NEIC **20** 22:25:46.6±0.7, 56.°59S±0.°08×150.°9W±0.°3, h10km±1km, mb4.3/6*

ISC 20 22:25:46.8±0.7, 56.°6S±0.°2×150.°9W±0.°1, h10km, n34, σ0§43/22, mb4.2/7, MS3.3/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	25.70	199	P	P	22 31 16.4	-0.1
SBA				IAmb	IAmb	22 31 17.6	
	comp=Z,2.2nm,1.1s						
CMWZ	Cape Campbell	26.85	289	P	P	22 31 27.2	-0.1
RPZ	Rata Peaks	27.18	282	LR	LR	22 39 45.9	
	comp=Z,46nm,20.6s,baz=194,slow=31						
THZ	Tophouse	27.53	287	P	P	22 31 33.0	-0.5
QSPA	South Pole Qui	33.51	180	P	P	22 32 26.3	+0.1
	comp=Z,2.1nm,0.8s,baz=52,slow=7.9,SNR=5.2						
QSPA	South Pole Qui	33.51	180	P	P	22 32 26.4	+0.3
QSPA				IAmb	IAmb	22 32 30.0	
	comp=Z,5.1nm,1.2s						
STKA	Stephens Creek	51.82	269	LR	LR	22 53 07.5	
	comp=Z,23nm,20.7s,baz=6.2,slow=32						
MAW	Mawson	53.56	195	P	P	22 35 07.1	0.0
	comp=Z,1.3nm,0.9s,baz=162,slow=11,SNR=3.6						
MAW				LR	LR	22 54 49.7	
	comp=Z,38nm,18.9s,baz=234,slow=33						
MAW	Mawson	53.56	195	IAmb	IAmb	22 35 08.3	
	comp=Z,0.4nm,0.9s						
ASAR	Alice Springs	62.46	268	P	P	22 36 10.3	+0.1
	comp=Z,1.3nm,0.8s,baz=141,slow=6.6,SNR=10						
ASAR	Alice Springs	62.46	268	P	P	22 36 10.1	0.0
H01W1	Cape Leeuwin H	64.17	245	T	T	23 46 30.3	
	baz=142,slow=76,SNR=15						
H01W2	Cape Leeuwin H	64.18	245	T	T	23 46 30.8	
	baz=142,slow=76,SNR=15						
H01W3	Cape Leeuwin H	64.19	245	T	T	23 46 31.0	
	baz=142,slow=76,SNR=15						
WRA	Warramunga Arr	65.20	271	P	P	22 36 28.6	+0.4
	comp=Z,0.8nm,0.9s,baz=143,slow=5.4,SNR=4.1						
WRA				PcP	PcP	22 37 00.5	-0.2
	comp=Z,0.2nm,0.7s,baz=140,slow=3.7,SNR=5.1						
CPUP	Villa Florida	70.33	108	P	P	22 36 59.9	-0.6
	comp=Z,1.4nm,0.6s,baz=222,slow=7.1,SNR=4.3						
CPUP	Villa Florida	70.33	108	IAmb	IAmb	22 37 16.7	
	comp=Z,4.0nm,1.2s						
LPAZ	La Paz	72.61	93	P	P	22 37 16.1	+1.0
	comp=Z,2.1nm,0.9s,baz=206,slow=2.9,SNR=5.7						
LPAZ	La Paz	72.61	93	P	P	22 37 14.5	-0.6
LPAZ				IAmb	IAmb	22 37 20.4	
	comp=Z,7.3nm,1.5s						
LPIG	La Paz	87.43	37	LR	LR	23 09 14.6	
	comp=Z,21nm,18.9s,baz=206,slow=30						
H10S3	ASCENSION HYDR	105.40	135	T	T	00 38 13.8	
	baz=204,slow=74,SNR=4.2						
H10S2	ASCENSION HYDR	105.40	135	T	T	00 38 14.0	
	baz=16,slow=74,SNR=4.6						
H10N3	ASCENSION HYDR	106.48	135	T	T	00 39 30.2	
	baz=203,slow=75,SNR=5.2						
H10N1	ASCENSION HYDR	106.48	135	T	T	00 39 33.5	
	baz=203,slow=75,SNR=6.6						
H10N2	ASCENSION HYDR	106.50	135	T	T	00 39 32.4	
	baz=203,slow=75,SNR=6.4						
ILAR	Eielson Array	121.12	2	PKP	PKiKP	22 44 38.6	+0.4
	comp=Z,1.8nm,0.9s,baz=249,slow=1.7,SNR=16						
ILAR	Eielson Array	121.12	2		PKiKP	22 44 38.4	+0.1
MKAR	Makanchi Array	146.40	276	PKPbc	PKPbc	22 45 26.9	-0.1
	comp=Z,3.4nm,0.7s,baz=123,slow=4.5,SNR=23						
ZALV	Zalesovo Beam	148.88	289	PKPbc	PKPbc	22 45 33.1	-0.3
	comp=Z,2.1nm,0.7s,baz=124,slow=4.0,SNR=9.2						
ZALV	Zalesovo Beam	148.88	289		PKPbc	22 45 32.9	-0.5
KURK	Kurchatov	150.61	280		PKiKP	22 45 38.1	-0.4
KURBB	Kurchatov Arra	150.61	279	PKPbc	PKPbc	22 45 37.9	+0.1
	comp=Z,3.5nm,0.8s,baz=115,slow=2.1,SNR=17						
NRIK	Noril'sk	151.85	320	PKPbc	PKiKP	22 45 41.3	+0.8
	comp=Z,1.9nm,0.5s,baz=99,slow=3.2,SNR=4.8						
ESDC	Sonseca Array	152.56	114	PKPbc	PKiKP	22 45 43.1	+0.1
	comp=

*ISCJB **21** 00:01:27.6±0.8, 31°.5N±0°.1×86°.8E±0°.2, h33km, mb3.6/7, Error ellipse: s-maj=26.4km s-min=12.1km az=153.3*
ISC 21 00:01:29.7±1.0, 31°.5N±0°.1×86°.9E±0°.2, h35km, n10, σ0°89/10, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.69**	**348**	Pn	**Pn**	**00 05 07.1**	**-0.9**
	0.0nm,0.3s,baz=173,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**16.95**	**137**	Pn	**Pn**	**00 05 23.8**	**-0.5**
	0.8nm,0.3s,baz=316,slow=9.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**20.10**	**344**	P	**P**	**00 05 58.7**	**-1.5**
	2.1nm,0.7s,baz=163,slow=10,SNR=9.4						
SONM	**Songino Array**	**22.09**	**37**	P	**P**	**00 06 22.3**	**+0.5**
	0.5nm,0.7s,baz=235,slow=12,SNR=4.4						
ZALV	**Zalesovo Beam**	**22.50**	**357**	P	**P**	**00 06 26.1**	**+0.2**
	0.7nm,0.6s,baz=173,slow=13,SNR=6.4						
NRIK	**Noril'sk**	**37.90**	**0**	P	**P**	**00 08 43.5**	**+0.4**
	0.6nm,0.4s,baz=149,slow=9.1,SNR=3.8						
GERES	**GERESS Array B**	**56.39**	**311**	P	**P**	**00 11 08.8**	**+1.3**
	0.5nm,0.7s,baz=57,slow=4.9,SNR=5.1						
WRA	**Warramunga Arr**	**68.46**	**132**	P	**P**	**00 12 28.3**	**-0.1**
	0.9nm,0.3s,baz=327,slow=7.0,SNR=6.2						
ASAR	**Alice Springs**	**70.95**	**135**	P	**P**	**00 12 44.0**	**+0.3**
	0.4nm,0.5s,baz=322,slow=6.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**79.20**	**279**	P	**P**	**00 13 31.1**	**-0.5**
	0.4nm,0.7s,baz=72,slow=5.1,SNR=4.0						

IDC 21 00:12:26.7±9.1, 8°.14S×121°.93E, h308km±111km, mb2.8/1, mb1 3.2/3, mb1mx2.8/37, mbtmp3.7/3, Error ellipse: s-maj=167.6km s-min=32.9km az=50.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.80**	**136**	P	P	00 16 02.6	-0.5
	0.5nm,0.3s,baz=310,slow=12,SNR=22						
WRA				S	S	00 19 03.1	+0.3
	baz=312,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**19.24**	**145**	P	P	00 16 29.4	+0.1
	0.6nm,0.3s,baz=328,slow=11,SNR=30						
MKAR	**Makanchi Array**	**65.06**	**331**	P	P	00 22 34.7	0.0
	0.2nm,0.4s,baz=145,slow=8.0,SNR=5.7						

*SJA **21** 00:13:20.4±0.6, 24°.22S×67°.38W, h182km±29km, ML3.7, MW3.8*
*ISCJB **21** 00:13:20.9±0.2, 24°.23S±0°.02×67°.29W±0°.03, h188km±3km, mb3.9/3, Error ellipse: s-maj=4.5km s-min=3.9km az=179.4*
*NEIC **21** 00:13:20.5±3.0, 24°.28S±0°.06×67°.1W±0°.1, h152km±3km, mb4.5/7, ML4.5(GUC)*
*IDC **21** 00:13:22.1±1.3, 24°.27S×67°.03W, h163km±13km, mb3.9/3, mb1 4.0/10, mb1mx3.7/28, mbtmp4.4/10, Error ellipse: s-maj=21.5km s-min=16.2km az=108.0*
*GUC **21** 00:13:23.4±0.5, 24°.20S×67°.70W, h202km±8km, ML4.5*
*VAO **21** 00:13:24.0±0.5, 24°.10S×67°.32W, h212km±5km, mb4.3*
ISC 21 00:13:21.6±0.6, 24°.25S±0°.04×67°.30W±0°.04, h175km±6km, n138, σ1°37/159, mb4.3/4, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.70**	**106**	*i* P	**Pn**	**00 13 56.6**	**+1.3**
SLA				*e*S	**Sn**	**00 14 22.8**	**+1.4**
SLA				IAML		00 14 23.2	
	comp=Z,471nm,0.9s						
LVC	**Limon Verde**	**2.20**	**317**	*e*P	**Pn**	**00 14 03.4**	**+2.3**
LVC				*i* S	**Sn**	**00 14 33.2**	**+1.7**
LVC	**Limon Verde**	**2.20**	**317**	P	**Pn**	**00 14 03.2**	**+2.2**
	comp=Z,36nm,0.3s,baz=123,slow=8.4,SNR=384						
LVC				S	**Sn**	**00 14 33.2**	**+1.7**
	comp=Z,227nm,0.3s,baz=313,slow=19,SNR=93						
LVC	**Limon Verde**	**2.20**	**317**	*e*P	**Pn**	**00 14 03.3**	**+2.3**
LVC	**Limon Verde**	**2.20**	**317**	*e*P	**Pn**	**00 14 03.3**	**+2.3**
LVC	**Limon Verde**	**2.20**	**317**		**Pn**	**00 14 03.3**	**+2.3**
LVC					**Sn**	**00 14 28.1**	**-3.4**
GO02	**Mina Guanaco**	**2.27**	**246**	⇑*i*P	**Pn**	**00 14 03.2**	**+1.5**
GO02				*i* S	**Sn**	**00 14 34.3**	**+1.5**
GO02				IAML		00 14 38.0	
	comp=N,2μm,0.1s						
GO02	**Mina Guanaco**	**2.27**	**246**		**Pn**	**00 14 03.4**	**+1.6**
YJA	**Yavi**	**2.64**	**39**	*e*P	**Pn**	**00 14 07.3**	**+1.2**
YJA				*e*S	**Sn**	**00 14 41.1**	**+0.4**
YJA				IAML		00 14 48.4	
	comp=Z,65nm,0.8s						
PB14	**IPOC Station P**	**2.85**	**262**	*e*P	**Pn**	**00 14 09.6**	**+1.1**
PB14				*i* S	**Sn**	**00 14 44.7**	**-0.3**
PB14				IAML		00 14 46.4	
	comp=E,841nm,0.4s						
PB10	**IPOC Station P**	**3.07**	**283**	⇑*i*P	**Pn**	**00 14 12.1**	**+1.3**
PB10				*i* S	**Sn**	**00 14 48.3**	**-0.9**
PB10				IAML		00 14 53.4	
	comp=N,688nm,0.4s						
PB10	**IPOC Station P**	**3.07**	**283**		**Pn**	**00 14 12.5**	**+1.6**
PB10				Sn	**Sn**	**00 14 49.0**	**-0.2**
AHML	**Horco Molle**	**3.09**	**145**	*i* P	**Pn**	**00 14 11.7**	**+0.6**
AHML				*e*S	**Sn**	**00 14 50.1**	**+0.4**
PB03	**IPOC Station P**	**3.15**	**314**	*e*P	**Pn**	**00 14 13.5**	**+1.5**
PB03				*e*S	**Sn**	**00 14 51.4**	**+0.2**
PB03				IAML		00 14 53.6	
	comp=N,1μm,0.4s						
PB04	**IPOC Station P**	**3.24**	**305**		**Pn**	**00 14 14.8**	**+1.6**
PB04				Sn	**Sn**	**00 14 52.9**	**-0.4**
PB01	**IPOC Station P**	**3.78**	**327**		**Pn**	**00 14 20.9**	**+1.1**
PB01				Sn	**Sn**	**00 15 04.0**	**-1.3**
GO03	**Copiap**	**4.25**	**218**	*e*P	**Pn**	**00 14 24.7**	**-1.1**
GO03				*i* S	**Sn**	**00 15 13.5**	**-2.6**
GO03	**Copiap**	**4.25**	**218**		**Pn**	**00 14 25.3**	**-0.5**
GO03				Sn	**Sn**	**00 15 14.8**	**-1.3**
CYA	**Choya**	**4.39**	**162**	*e*P	**Pn**	**00 14 27.9**	**+0.3**
CYA				IAML		00 15 23.1	
	comp=Z,20nm,1.1s						
GO01	**Chusmiza**	**4.89**	**339**		**Pn**	**00 14 35.4**	**+0.9**
GO01				Sn	**Sn**	**00 15 27.4**	**-4.1**
PB11	**IPOC Station P**	**4.97**	**333**		**Pn**	**00 14 34.8**	**-0.5**
ACLC	**CERRO LA CRUZ**	**5.17**	**177**	*i* P	**Pn**	**00 14 38.3**	**+0.6**
ACLC				IAML		00 15 39.5	
	comp=Z,27nm,0.4s						
MNMC	**Minye Minye**	**5.52**	**337**		**Pn**	**00 14 42.7**	**+0.1**
AROD	**Rodeo**	**6.21**	**198**	*i* P	**Pn**	**00 14 51.9**	**+0.4**
AROD				IAML		00 16 04.1	
	comp=Z,4.3nm,0.5s						
ACCO	**Cerro Coronel**	**6.51**	**194**	*i* P	**Pn**	**00 14 55.8**	**+0.3**
ACCO				IAML		00 16 11.9	
	comp=Z,52nm,0.4s						
GO04	**Tololo Observa**	**6.67**	**207**		**Pn**	**00 14 55.7**	**-1.9**
GO04				Sn	**Sn**	**00 16 09.0**	**-4.3**
AMOG	**MOGNA**	**6.75**	**189**	*i* P	**Pn**	**00 14 58.2**	**-0.2**
AMOG				IAML		00 16 16.2	
	comp=Z,53nm,0.4s						
RTLL	**Cerro Villicun**	**7.13**	**188**	*i* P	**Pn**	**00 15 03.6**	**+0.1**
RTLL				IAML		00 16 24.6	
	comp=Z,34nm,0.4s						
CFA	**Coronel Fontan**	**7.38**	**186**	P	**Pn**	**00 15 06.8**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=258,slow=16,SNR=14						
CFA				S	**Sn**	**00 16 25.1**	**-4.6**
	comp=Z,5.7nm,0.3s,baz=246,slow=19,SNR=11						
CFA	**Coronel Fontan**	**7.38**	**186**	*i* P	**Pn**	**00 15 06.0**	**-0.6**
LPAZ	**La Paz**	**7.96**	**354**	P	**Pn**	**00 15 16.8**	**+1.7**
	comp=Z,5.7nm,0.3s,baz=164,slow=7.7,SNR=99						
LPAZ				S	**Sn**	**00 16 42.4**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=347,slow=18,SNR=4.5						
LPAZ	**La Paz**	**7.96**	**354**	*e*P	**Pn**	**00 15 16.7**	**+1.7**
LPAZ	**La Paz**	**7.96**	**354**	*e*P	**Pn**	**00 15 16.7**	**+1.7**
ASAL	**Salagasta**	**8.42**	**189**	*e*P	**Pn**	**00 15 19.4**	**-1.1**
CPUP	**Villa Florida**	**9.26**	**105**	P	**Pn**	**00 15 30.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=267,slow=11,SNR=8.3						
ROC1	**El Roble**	**9.29**	**200**	Pn	**Pn**	**00 15 28.8**	**-3.2**
SIV	**San Ignacio**	**10.08**	**37**	P	**Pn**	**00 15 39.9**	**-2.5**
	comp=Z,3.3nm,0.3s,baz=225,slow=13,SNR=81						
SIV				S	Sn	00 17 22.5	-12
	baz=236,slow=15,SNR=4.9						
AQDB	**Aquidauana**	**11.37**	**73**	*e*P	**Pn**	**00 16 00.3**	**+1.2**
AQDB	**Aquidauana**	**11.37**	**73**	*e*P	**Pn**	**00 16 00.3**	**+1.2**
GO05	**Huala**	**11.45**	**199**	Pn	**Pn**	**00 15 59.3**	**-0.7**
TRCB	**Terra Rica**	**13.53**	**87**	*e*P	**P**	**00 16 28.4**	**-1.5**
TRCB	**Terra Rica**	**13.53**	**87**	*e*P	**P**	**00 16 28.4**	**-1.5**
SALV	**Santo Antonio**	**13.70**	**55**	*e*P	**Pn**	**00 16 27.6**	**-1.2**
SALV	**Santo Antonio**	**13.70**	**55**	*e*P	**Pn**	**00 16 27.6**	**-1.2**
CPSB	**Cacapava Do Su**	**13.76**	**120**	*e*P	**P**	**00 16 32.0**	**-0.3**
CPSB	**Cacapava Do Su**	**13.76**	**120**	*e*P	**P**	**00 16 32.0**	**-0.3**
PTGB	**Pitanga**	**13.88**	**95**	*e*P	**P**	**00 16 33.9**	**+0.1**
PTGB	**Pitanga**	**13.88**	**95**	*e*P	**P**	**00 16 33.9**	**+0.1**
ITAB	**Concordia**	**13.99**	**105**	*e*P	**P**	**00 16 35.0**	**+0.1**
ITAB	**Concordia**	**13.99**	**105**	*e*P	**P**	**00 16 35.0**	**+0.1**
TRQA	**Tornquist**	**14.49**	**163**		**Pn**	**00 16 37.3**	**-1.2**
CNLB	**Canela**	**15.53**	**113**	*e*P	**P**	**00 16 53.1**	**+1.2**
CNLB	**Canela**	**15.53**	**113**	*e*P	**P**	**00 16 53.1**	**+1.2**
GO06	**Curarrehue**	**15.69**	**192**	P	**P**	**00 16 54.6**	**+0.8**
GO06				IAmb	IAmb	00 16 56.7	
	comp=Z,22nm,0.8s						
SAML	**Samuel**	**15.71**	**15**	*e*P	**Pn**	**00 16 53.3**	**-0.5**
SAML	**Samuel**	**15.71**	**15**	*e*P	**Pn**	**00 16 53.3**	**-0.5**
SAML	**Samuel**	**15.71**	**15**	P	**P**	**00 16 53.5**	**-0.5**
FRTB	**Fartura**	**16.26**	**90**	*e*P	**Pn**	**00 17 00.1**	**-0.2**
FRTB	**Fartura**	**16.26**	**90**	*e*P	**Pn**	**00 17 00.1**	**-0.2**
ITRB	**Iturama**	**16.35**	**77**	*e*P	**P**	**00 17 00.5**	**-0.6**
ITRB	**Iturama**	**16.35**	**77**	*e*P	**P**	**00 17 00.5**	**-0.6**
PLCA	**Paso Flores**	**16.66**	**189**	P	**Pn**	**00 17 05.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=24,slow=10.0,SNR=15						
PLCA	**Paso Flores**	**16.66**	**189**	*e*P	**Pn**	**00 17 05.3**	**+0.3**
PLCA	**Paso Flores**	**16.66**	**189**	*e*P	**Pn**	**00 17 05.3**	**+0.3**
PLCA	**Paso Flores**	**16.66**	**189**	P	**Pn**	**00 17 05.5**	**+0.5**
PLCA				IAmb	IAmb	00 17 14.1	
	comp=Z,16nm,0.7s						
ARAG	**Araguaiana, MT**	**16.84**	**63**	*e*P	**Pn**	**00 17 06.6**	**-0.8**
ARAG	**Araguaiana, MT**	**16.84**	**63**	*e*P	**Pn**	**00 17 06.6**	**-0.8**
CLDB	**Colider**	**17.22**	**41**	*e*P	**P**	**00 17 09.2**	**-1.5**
CLDB	**Colider**	**17.22**	**41**	*e*P	**P**	**00 17 09.2**	**-1.5**
BB19B	**Bebedouro**	**17.61**	**83**	*e*P	**P**	**00 17 15.3**	**+0.3**
BB19B	**Bebedouro**	**17.61**	**83**	*e*P	**P**	**00 17 15.3**	**+0.3**
SPB	**Sao Paulo**	**18.18**	**92**	*e*P	**P**	**00 17 21.2**	**+0.1**
SPB	**Sao Paulo**	**18.18**	**92**	*e*P	**P**	**00 17 21.2**	**+0.1**
RCLB	**Rio Claro- Sao**	**18.25**	**88**	*e*P	**P**	**00 17 21.3**	**-0.6**
RCLB	**Rio Claro- Sao**	**18.25**	**88**	*e*P	**P**	**00 17 21.3**	**-0.6**
VAO	**Valinhos**	**18.67**	**90**	*e*P	**P**	**00 17 25.8**	**-0.7**
VAO	**Valinhos**	**18.67**	**90**	*e*P	**P**	**00 17 25.8**	**-0.7**
BDFB	**Brasilia**	**20.03**	**68**	P	**P**	**00 17 40.5**	**-0.8**
	comp=Z,5.7nm,0.3s,baz=244,slow=10,SNR=58						
BDFB	**Brasilia**	**20.03**	**68**	P	**P**	**00 17 40.9**	**-0.4**
PMNB	**Patos De Minas**	**20.23**	**78**	*e*P	**P**	**00 17 42.5**	**-0.8**
PMNB	**Patos De Minas**	**20.23**	**78**	*e*P	**P**	**00 17 42.5**	**-0.8**
ESAR	**Angra dos Reis**	**20.98**	**91**	*e*P	**P**	**00 17 50.0**	**-1.1**
ESAR	**Angra dos Reis**	**20.98**	**91**	*e*P	**P**	**00 17 50.0**	**-1.1**
BSCB	**Bom Sucesso**	**21.04**	**86**	*e*P	**P**	**00 17 50.9**	**-1.1**
BSCB	**Bom Sucesso**	**21.04**	**86**	*e*P	**P**	**00 17 50.9**	**-1.1**
MAN01	**Angra dos Reis**	**21.43**	**91**	*e*P	**P**	**00 17 56.4**	**+0.3**
MAN01	**Angra dos Reis**	**21.43**	**91**	*e*P	**P**	**00 17 56.4**	**+0.3**
PEXB	**Peixe**	**21.68**	**60**	*e*P	**P**	**00 17 56.8**	**-1.9**
PEXB	**Peixe**	**21.68**	**60**	*e*P	**P**	**00 17 56.8**	**-1.9**
VAS01	**Vassouras-RJ**	**22.00**	**90**	*e*P	**P**	**00 18 01.6**	**-0.3**
VAS01	**Vassouras-RJ**	**22.00**	**90**	*e*P	**P**	**00 18 01.6**	**-0.3**
DUB01	**Friburgo-RJ**	**23.01**	**90**	*e*P	**P**	**00 18 11.1**	**-0.2**
DUB01	**Friburgo-RJ**	**23.01**	**90**	*e*P	**P**	**00 18 11.1**	**-0.2**
CAM01	**Campos-RJ**	**23.71**	**89**	*e*P	**P**	**00 18 17.2**	**-0.4**
CAM01	**Campos-RJ**	**23.71**	**89**	*e*P	**P**	**00 18 17.2**	**-0.4**
ALF01	**Guarapari-ES**	**24.81**	**87**	*e*P	**P**	**00 18 27.1**	**-0.6**
ALF01	**Guarapari-ES**	**24.81**	**87**	*e*P	**P**	**00 18 27.1**	**-0.6**
SJMB	**Sao Joao De Ma**	**24.90**	**82**	*e*P	**P**	**00 18 27.7**	**-0.8**
SJMB	**Sao Joao De Ma**	**24.90**	**82**	*e*P	**P**	**00 18 27.7**	**-0.8**
BSFB	**Barra de Sao F**	**25.17**	**83**	*e*P	**P**	**00 18 30.0**	**-0.9**
BSFB	**Barra de Sao F**	**25.17**	**83**	*e*P	**P**	**00 18 30.0**	**-0.9**
RIB01	**Linhares ES**	**25.44**	**84**	*e*P	**P**	**00 18 32.1**	**-1.2**
RIB01	**Linhares ES**	**25.44**	**84**	*e*P	**P**	**00 18 32.1**	**-1.2**
GO09	**Cerro Castillo**	**27.26**	**187**	P	**P**	**00 18 50.4**	**+1.1**
NBIT	**Itapeh - BA**	**27.79**	**76**	*e*P	**P**	**00 18 53.9**	**-0.5**
NBIT	**Itapeh - BA**	**27.79**	**76**	*e*P	**P**	**00 18 53.9**	**-0.5**
NBPN	**Ponto Novo - B**	**29.00**	**67**	*e*P	**P**	**00 19 04.1**	**-1.1**
NBPN	**Ponto Novo - B**	**29.00**	**67**	*e*P	**P**	**00 19 04.1**	**-1.1**
NBLA	**Lagarto - SE**	**30.98**	**70**	*e*P	**P**	**00 19 20.7**	**-1.9**
NBLA	**Lagarto - SE**	**30.98**	**70**	*e*P	**P**	**00 19 20.7**	**-1.9**
NBTA	**Tacaratu-PE**	**31.69**	**67**	*e*P	**P**	**00 19 27.0**	**-1.8**
NBTA	**Tacaratu-PE**	**31.69**	**67**	*e*P	**P**	**00 19 27.0**	**-1.8**
NBPS	**Pedro II - PI**	**31.77**	**56**	*e*P	**P**	**00 19 28.1**	**-1.6**
NBPS	**Pedro II - PI**	**31.77**	**56**	*e*P	**P**	**00 19 28.1**	**-1.6**
NBMA	**Muriti-CE**	**32.07**	**63**	*e*P	**P**	**00 19 31.1**	**-1.1**
NBMA	**Muriti-CE**	**32.07**	**63**	*e*P	**P**	**00 19 31.1**	**-1.1**
NBPB	**Pedra_Branca-C**	**32.48**	**60**	*e*P	**P**	**00 19 34.9**	**-0.9**
NBPB	**Pedra_Branca-C**	**32.48**	**60**	*e*P	**P**	**00 19 34.9**	**-0.9**
NBAN	**Anadia - AL**	**32.92**	**69**	*e*P	**P**	**00 19 38.4**	**-1.3**
NBAN	**Anadia - AL**	**32.92**	**69**	*e*P	**P**	**00 19 38.4**	**-1.3**
VNA3	**Neumayer Olymp**	**57.01**	**161**	P	**P**	**00 22 50.0**	**+1.4**
VNA1	**Neumayer--Stat**	**57.21**	**160**	P	**P**	**00 22 51.7**	**+1.8**
VNA2	**Neumayer--Watz**	**57.58**	**160**	P	**P**	**00 22 53.9**	**+1.4**
	baz=270,slow=5.8						
SNAA	**Sanae**	**59.21**	**161**	P	**P**	**00 23 05.2**	**+1.3**
QSPA	**South Pole Qui**	**65.96**	**180**	P	**P**	**00 23 50.7**	**+2.0**
SYO	**Syowa Base**	**73.42**	**159**⇑	*e*P	**P**	**00 24 34.0**	**-0.1**
SYO	**Syowa Base**	**73.42**	**159**⇑	*e*PcP	**PcP**	**00 24 48.2**	**-1.1**
TOA0	**Torodi Ar. Sit**	**76.91**	**69**	P	**P**	**00 24 55.0**	**0.0**
TOA0				IAmb	IAmb	00 24 56.0	
	comp=Z,7.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.91**	**69**	P	**P**	**00 24 55.1**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=265,slow=6.0,SNR=35						
MAW	**Mawson**	**81.28**	**163**	P	**P**	**00 25 19.8**	**+2.0**
	comp=Z,1.8nm,0.5s,baz=198,slow=6.0,SNR=13						
ESDC	**Sonseca Array**	**86.76**	**44**	P	**P**	**00 25 47.6**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=256,slow=4.4,SNR=3.9						
ESDC	**Sonseca Array**	**86.76**	**44**	IAmb	IAmb	00 25 54.1	
	comp=Z,2.7nm,1.4s						
ASAR	**Alice Springs**	**128.12**	**205**	PKP	**PKiKP**	**00 32 08.9**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=164,slow=3.3,SNR=8.5						
WRA	**Warramunga Arr**	**131.28**	**207**	PKP	**PKiKP**	**00 32 15.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=166,slow=1.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**143.74**	**28**	PKP	**PKPdf**	**00 32 35.4**	**0.0**
	comp=Z,1.1nm,0.4s,baz=290,slow=5.5,SNR=8.5						
ZALV	**Zalesovo Beam**	**143.74**	**28**		**PKPdf**	**00 32 35.0**	**-0.3**
KSH	**Kashi**	**145.56**	**55**	PKPbc	**PKPab**	**00 32 40.4**	**+0.2**
KSH				PP	**PP**	**00 36 05.3**	**+3.6**
KSH				PKS	**PKSdf**	**00 36 13.6**	**-1.1**
KSH				SKS	**SKSdf**	**00 39 31.0**	**-0.9**
MKAR	**Makanchi Array**	**146.89**	**40**	PKPbc	**PKiKP**	**00 32 44.9**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=300,slow=3.0,SNR=35						

IDC 21 00:13:48.4±3.2, 31°.29N×87°.48E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.1/49, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=98.1km s-min=31.3km az=85.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.99**	**347**	Pn	Pn	00 17 32.3	-2.4
	0.1nm,0.3s,baz=161,slow=12,SNR=3.4						
SONM	**Songino Array**	**21.94**	**36**	P	P	00 18 43.6	+0.1
	0.3nm,0.4s,baz=230,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**67.94**	**132**	P	P	00 24 49.3	+0.1
	0.3nm,0.5s,baz=325,slow=6.6,SNR=8.1						
ASAR	**Alice Springs**	**70.44**	**135**	P	P	00 25 04.7	0.0
	0.4nm,0.5s,baz=314,slow=6.1,SNR=4.3						

*ANF **21** 00:48:55.4±0.8, 40°.44N×123°.59W, h30km, ML3.0/8, Error ellipse: s-maj=8.2km s-min=4.0km az=50.0*
NEIC 21 00:48:54.1±1.0, 40°.37N±0°.01×123°.73W±0°.05, h34km±8km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCRM	**Chalk Rock**	**0.09**	**311**		Pb	00 48 60.0	-0.1
KMRM	**Mail Ridge**	**0.15**	**173**		Pb	00 49 00.5	0.0
KMRM					Sb	00 49 05.3	+0.5
KCSM	**Cold Springs**	**0.24**	**45**		Pb	00 49 01.4	-0.1
KPPM	**Pickett Peak**	**0.28**	**94**		Pb	00 49 02.0	0.0
KMPM	**Mount Pierce**	**0.30**	**280**		Pb	00 49 02.1	0.0
KMPM					Sb	00 49 08.3	+0.8
KSMM	**Slide Mountain**	**0.39**	**242**		Pb	00 49 03.1	-0.1
KBSM	**Bell Springs**	**0.46**	**167**		Pn	00 49 04.5	+0.1
KCTM	**Capetown**	**0.47**	**283**		Pn	00 49 06.4	+0.1
KHBM	**Hayfork Bally**	**0.49**	**53**		Pb	00 49 04.3	-0.4
KHBM					Sb	00 49 11.9	-0.2
JCC	**Jacoby Creek,**	**0.50**	**333**		Pb	00 49 04.3	-0.5
JCC					Sb	00 49 12.1	-0.1
KHMM	**Horse Mountain**	**0.51**	**0**		Pb	00 49 04.8	-0.2
KHMM	**Horse Mountain**	**0.51**	**0**		Sn	00 49 12.9	+0.2
KIPM	**Iron Peak**	**0.59**	**161**		Pn	00 49 06.0	-0.1
KBNM	**Bluenose Ridge**	**0.63**	**139**		Pb	00 49 06.9	-0.1
LBPM	**Beegum Peak**	**0.65**	**94**		Pn	00 49 06.5	-0.5
KCPM	**Cahto Peak**	**0.69**	**170**		Pn	00 49 07.3	-0.2
KCPM					Sn	00 49 16.7	-0.4
O02D	**Mt. Diablo Mer**	**0.75**	**105**	P	Pn	00 49 07.9	-0.4
	baz=286,SNR=114						
O02D				S	Sn	00 49 18.3	-0.2
	baz=286						
O02D	**Mt. Diablo Mer**	**0.75**	**105**		Pn	00 49 07.9	-0.4
KFPM	**Farley Peak**	**0.77**	**162**		Pn	00 49 08.2	-0.3
KRPM	**Rodgers**	**0.82**	**344**		Pn	00 49 08.8	-0.5
KRPM					Sn	00 49 20.1	-0.2
LGPM	**Granite Peak**	**0.88**	**51**		Pn	00 49 09.8	-0.3
KRKM	**Rackout Spring**	**0.91**	**152**		Pn	00 49 10.3	-0.3
GROM	**Round Mountain**	**0.93**	**119**		Pn	00 49 10.8	0.0
WDC	**Whiskeytown Da**	**0.93**	**77**		Pn	00 49 10.3	-0.5
KOMM	**Orleans Mounta**	**0.93**	**13**		Pn	00 49 10.5	-0.4
GTC	**Three Chop Rid**	**0.98**	**172**		Pn	00 49 10.7	-0.7
N02D	**Trinity Center**	**0.99**	**52**	P	Pn	00 49 11.5	-0.1
	baz=232,SNR=813						
N02D				S	Sn	00 49 23.9	-0.5
	baz=232						
N02D	**Trinity Center**	**0.99**	**52**		Pn	00 49 11.5	-0.1
GVV	**Valley View**	**1.00**	**126**		Pn	00 49 12.0	+0.1
GASB	**Alder Springs**	**1.06**	**132**		Pn	00 49 12.7	+0.1
GHMM	**Hull Mountain**	**1.07**	**144**		Pn	00 49 12.5	-0.2
LBKM	**Bonanza King**	**1.08**	**48**		Pn	00 49 12.7	-0.2
KRMB	**Red Mountain**	**1.16**	**353**		Pn	00 49 13.7	-0.3
KRMB					Sn	00 49 27.4	-1.4
GNAM	**Navarro Ridge**	**1.17**	**176**		Pn	00 49 13.3	-0.8
M02C	**Callahan**	**1.22**	**33**	P	Pn	00 49 14.7	-0.1
	baz=213,SNR=1000						
M02C				S	Sn	00 49 29.8	-0.4
	baz=213						
M02C	**Callahan**	**1.22**	**33**		Pn	00 49 14.7	-0.2
LTCM	**Tuscan Springs**	**1.24**	**97**		Pn	00 49 14.9	-0.1
GCK	**Clark Valley**	**1.29**	**129**		Pn	00 49 16.6	+0.9
GHOM	**Hamilton Openi**	**1.33**	**174**		Pn	00 49 15.4	-0.9
LSHM	**Sage Hen Hill**	**1.36**	**71**		Pn	00 49 16.5	-0.1
GTSM	**Trough Springs**	**1.37**	**140**		Pn	00 49 16.9	+0.1
GHLM	**Highland Sprin**	**1.44**	**157**		Pn	00 49 17.2	-0.6
LCSM	**College of the**	**1.46**	**44**		Pn	00 49 19.1	+1.0
HOPS	**Hopland Field**	**1.46**	**159**		Pn	00 49 17.8	-0.2
KSXB	**Camp Six Broad**	**1.47**	**356**		Pn	00 49 17.8	-0.4
O03E	**Paynes Creek**	**1.48**	**92**	P	Pn	00 49 17.7	-0.6
	baz=274,SNR=198						
O03E				S	Sn	00 49 35.5	-1.0
	baz=274						
O03E	**Paynes Creek**	**1.48**	**92**		Pn	00 49 17.7	-0.6
GSNM	**Snow Mountain**	**1.49**	**164**		Pn	00 49 18.3	-0.1
LDBM	**Digger Butte**	**1.49**	**87**		Pn	00 49 17.8	-0.7
LAMM	**Antelope Mount**	**1.50**	**34**		Pn	00 49 19.1	+0.4
GGUM	**Gualala**	**1.52**	**173**		Pn	00 49 17.8	-1.1
LGBM

baz=142,slow=76,SNR=9.0
H01W2 Cape Leeuwin H 64.16 246 T T 04 21 56.5
baz=142,slow=76,SNR=9.7
H01W3 Cape Leeuwin H 64.17 246 T T 04 21 56.5
baz=142,slow=76,SNR=10
WRA Warramunga Arr 64.80 271 P P 03 11 58.3 -0.5
0.7nm,0.3s,baz=148,slow=7.5,SNR=3.3
MKAR Makanchi Array 145.93 278 PKPbc PKPdf 03 20 58.3 +0.1
1.3nm,0.7s,baz=117,slow=4.2,SNR=9.3
ZALV Zalesovo Beam 148.25 291 PKPbc PKPbc 03 21 04.2 -0.9
0.4nm,0.3s,baz=130,slow=3.4,SNR=2.8

NIED ***21*** *03:37:00,37.°60N×141.°80E,h41km,Mw4.6 Best double couple: M0:9.98000×10^15 NP1:φs:242.00000°,δ:21.00000°, λ:-154.00000°. NP2:φs:127.00000°,δ:81.00000°, λ:-71.00000°.*
BJI ***21*** *03:37:54.4±0.0,37.°45N×142.°13E,h37km,mb4.8/56, mB4.9/38,Ms4.2/28,Ms7 3.9/30*
MOS ***21*** *03:37:55.8±1.0,37.°56N×141.°99E,h34km,mb5.1/42,Error ellipse: s-maj=7.8km s-min=4.4km az=96.5*
ISCJB ***21*** *03:37:56.1±0.6,37.°55N±0.°02×141.°85E±0.°02,h28km±3km, mb5.0/90,MS3.8/21,Error ellipse: s-maj=3.9km s-min=2.8km az=140.8*
JMA ***21*** *03:37:57.5±0.1,37.°56N×141.°81E,h38km±2km,M4.9*
JMA Felt III J1.
NEIC ***21*** *03:37:57.5±1.2,37.°52N±0.°05×142.°02E±0.°09,h37km±3km, mb4.9/214*
IDC ***21*** *03:37:59.3±1.7,37.°56N×141.°79E,h43km±16km,mb4.5/31, mb1 4.6/37,mb1mx4.6/44,mbtmp4.7/37,ML4.0/6,MS3.7/21, Ms1 3.7/21,ms1mx3.5/36,Error ellipse: s-maj=13.0km s-min=10.4km az=113.0*
ISC 21 03:37:56.5±0.4,37.°53N±0.°03×141.°94E±0.°03,h27km±2km, h27km:pP-P,n545,σ1°60/484,mb4.9/176,MS3.8/22, 32C-20D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.85**	**283**	⇓P	**Pb**	**03 38 11.7**	**-1.0**
JMST				S	**Sb**	**03 38 21.6**	**-2.2**
JIKH	**Ishinomakikobu**	**0.86**	**334**	⇑P	**Pb**	**03 38 12.3**	**-0.5**
JIKH				S	**Sb**	**03 38 22.2**	**-1.8**
JFK	**Kawauchi**	**0.86**	**259**	⇓P	**Pb**	**03 38 12.0**	**-0.9**
JFK				S	**Sb**	**03 38 21.8**	**-2.2**
JMM	**Marumori**	**0.97**	**290**	⇓P	**Pn**	**03 38 13.5**	**-0.8**
JMM				S	**Sb**	**03 38 24.7**	**-2.3**
ONAJ	**Iwakimizuishiy**	**1.00**	**245**	⇓P	**Pn**	**03 38 14.1**	**-0.8**
ONAJ				S	**Sb**	**03 38 25.4**	**-2.7**
JIO	**Ouri**	**1.03**	**333**	⇑P	**Pn**	**03 38 14.8**	**-0.4**
JIO				S	**Sb**	**03 38 26.4**	**-2.4**
JFT	**Otama**	**1.27**	**270**	⇓P	**Pn**	**03 38 18.6**	**+0.1**
JFT				S	**Sn**	**03 38 33.3**	**-1.4**
JOU	**Okura**	**1.30**	**310**	⇓P	**Pn**	**03 38 18.9**	**-0.1**
JOU				S	**Sn**	**03 38 34.2**	**-1.3**
JMK	**Ichinoseki**	**1.52**	**338**	⇑P	**Pn**	**03 38 22.2**	**+0.2**
JMK				S	**Sn**	**03 38 40.0**	**-0.9**
JYS	**Shiratake**	**1.63**	**295**	P	**Pn**	**03 38 23.9**	**+0.4**
JYS				S	**Sn**	**03 38 43.7**	**+0.1**
JFY	**Yanaizu**	**1.78**	**267**	⇓P	**Pn**	**03 38 25.6**	**+0.1**
JFY				S	**Sn**	**03 38 46.0**	**-1.3**
JYK	**Kaneyama**	**1.86**	**319**	⇑P	**Pn**	**03 38 26.8**	**+0.2**
MJAR	**Matsushiro Arr**	**3.14**	**253**	P	**Pn**	**03 38 45.3**	**+1.0**
MJAR						03 39 22.3	
MJAR	**Matsushiro Arr**	**3.14**	**253**	P	**Pn**	**03 38 45.1**	**+0.9**
	8.4nm,0.3s,baz=70,slow=14,SNR=154						
MJAR				S	**Sn**	**03 39 23.9**	**+3.0**
	14nm,0.3s,baz=318,slow=34,SNR=4.5						
MJAR				LR	LR	03 40 14.5	
	comp=Z,3μm,19.7s,baz=80,slow=45						
MJAR	**Matsushiro Arr**	**3.14**	**253**		**Pn**	**03 38 45.3**	**+1.0**
MJAR				Sn	**Sn**	**03 39 22.2**	**+1.3**
MAJO	**Matsushiro**	**3.14**	**253**	P	**Pn**	**03 38 45.5**	**+1.2**
MAJO						03 39 23.5	
MAJO	**Matsushiro**	**3.14**	**253**		**Pn**	**03 38 45.5**	**+1.2**
MAJO				Sn	**Sn**	**03 39 23.5**	**+2.6**
MAT	**Matsushiro**	**3.14**	**253**	P	**Pn**	**03 38 45.5**	**+1.2**
MAT				S	**Sb**	**03 39 25.4**	**-4.2**
MJB9	**Matsu-Tunnel**	**3.15**	**253**		**Pn**	**03 38 45.4**	**+1.1**
MJB9				Sn	**Sn**	**03 39 22.2**	**+1.2**
INU	**Inuyama**	**4.53**	**243**		**Pn**	**03 39 03.9**	**+0.6**
ERM	**Erimo**	**4.57**	**11**	P	**Pn**	**03 39 04.5**	**+0.7**
ERM						03 39 53.8	
ERM	**Erimo**	**4.57**	**11**		**Pn**	**03 39 04.5**	**+0.7**
ERM				Sn	**Sn**	**03 39 53.8**	**-2.3**
JHJ2	**Mitsune**	**4.74**	**202**		**Pn**	**03 39 06.5**	**+0.3**
JHJ2				Sn	**Sn**	**03 39 59.9**	**-0.3**
JHJ	**Hachijo jima 2**	**4.74**	**202**	P	**Pn**	**03 39 07.0**	**+0.8**
	805nm,0.3s,baz=354,slow=3.6,SNR=84						
JHJ				S	**Sn**	**03 39 58.8**	**-1.6**
	299nm,0.3s,baz=53,slow=20,SNR=4.3						
NMR	**Nemuro--Hokkai**	**6.51**	**25**	*d iP*	**Pn**	**03 39 29.1**	**-1.3**
NMR				*i* S	**Sn**	**03 40 37.8**	**-5.9**
ASAJ	**Asahikawa**	**6.59**	**4**	P	**Pn**	**03 39 32.3**	**+0.6**
	18nm,0.3s,baz=211,slow=12,SNR=28						
ASAJ				S	**Sn**	**03 40 46.9**	**+1.0**
	9.6nm,0.3s,baz=120,slow=20,SNR=3.2						
JKA	**Kamikawa-asahi**	**6.59**	**4**		**Pn**	**03 39 32.3**	**+0.6**
JKA					**Sn**	**03 40 46.9**	**+1.0**
GLVR	**Golovnino**	**6.77**	**23**	*e*P	**Pn**	**03 39 33.8**	**-0.2**
GLVR				*e*S	**Sn**	**03 40 46.6**	**-3.6**
GLVR				pmax	pmax		
	comp=Z,364nm,0.6s						
GLVR				pmax	pmax		
	comp=N,127nm,0.3s						
GLVR				pmax	pmax		
	comp=E,80nm,0.4s						
GRPR	**Tuman**	**7.08**	**23**	*e*P	**Pn**	**03 39 37.2**	**-1.1**
GRPR				*i* S	**Sn**	**03 40 50.1**	**-7.7**
GRPR				pmax	pmax		
	comp=N,133nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,372nm,0.3s						
GRPR				pmax	pmax		
	comp=E,98nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.14**	**23**	P	**Pn**	**03 39 36.8**	**-2.3**
YUK				S	**Sn**	**03 40 51.0**	**-8.4**
YUK				pmax	pmax		
	comp=N,71nm,0.2s						
YUK				pmax	pmax		
	comp=E,113nm,0.2s						
YUK				pmax	pmax		
	comp=Z,377nm,0.2s						
YUK				MLR	MLR		
	comp=Z,1μm,18.0s						
TEY	**Ternei**	**8.50**	**334**	⇓*e*P	**Pn**	**03 40 02.3**	**+4.5**
TEY				pmax	pmax		
	comp=N,20nm,0.9s						
TEY				pmax	pmax		
	comp=E,30nm,0.9s						
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
KUR	**Kuril'sk**	**8.89**	**28**	P	**Pn**	**03 40 05.4**	**+2.3**
KUR				*e*S	**Sn**	**03 41 38.1**	**-4.1**
KUR				pmax	pmax		
	comp=E,65nm,0.6s						
KUR				pmax	pmax		
	comp=Z,117nm,0.6s						
KUR				pmax	pmax		
	comp=N,68nm,0.3s						
KUR				smax	smax		
	comp=E,219nm,0.5s						
KUR				smax	smax		
	comp=N,148nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.43**	**3**	⇓*e*P	**Pn**	**03 40 12.1**	**+1.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.43**	**3**		**Pn**	**03 40 11.4**	**+0.9**
JNU	**Nakatsue**	**10.05**	**247**	P	**Pn**	**03 40 20.6**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=60,slow=5.8,SNR=27						
JNU				LR	LR	03 44 36.2	
	comp=Z,736nm,19.3s,baz=61,slow=40						
JNU	**Nakatsue**	**10.05**	**247**		**Pn**	**03 40 19.8**	**+0.7**
USA0B	**Ussuriysk Arra**	**10.05**	**315**	P	**Pn**	**03 40 20.2**	**+1.2**
USA0B	**Ussuriysk Arra**	**10.05**	**315**		**Pn**	**03 40 20.1**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.05**	**315**	P	**Pn**	**03 40 20.2**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.05**	**315**	P	**Pn**	**03 40 19.5**	**+0.5**
	baz=125,slow=13,SNR=11						
USRK				LR	LR	03 43 54.1	
	comp=Z,224nm,19.6s,baz=129,slow=36						
USRK	**Ussuriysk Ar.**	**10.05**	**315**		**Pn**	**03 40 20.2**	**+1.2**
JCJ	**Chichijima**	**10.41**	**179**	P	**Pn**	**03 40 23.0**	**-1.1**
	comp=Z,59nm,0.3s,baz=268,slow=22,SNR=17						
JCJ				S	Sn	03 42 11.0	-8.8
	comp=Z,21nm,0.3s,baz=270,slow=20,SNR=4.5						
KSRS	**Korea Array**	**11.14**	**274**	P	**Pn**	**03 40 37.0**	**+3.1**
	comp=Z,0.9nm,0.3s,baz=90,slow=13,SNR=27						
KSRS				LR	LR	03 44 23.5	
	comp=Z,427nm,21.0s,baz=77,slow=35						
KS19	**Wonju Array Si**	**11.18**	**274**		**Pn**	**03 40 35.1**	**+0.6**
MDJ	**Mudanjiang**	**11.69**	**311**	P	Pn	03 40 47.5	+6.0
MDJ				pmax	pmax		
	comp=Z,32nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,370nm,4.2s						
MDJ	**Mudanjiang**	**11.69**	**311**		**Pn**	**03 40 41.1**	**-0.3**
GRNR	**Gornyy**	**13.80**	**345**	*e*P	**Pn**	**03 41 12.3**	**+2.0**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**13.82**	**331**	*i* P	**Pn**	**03 41 11.6**	**+1.0**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KLR	**Kul'dur**	**13.82**	**331**	P	**Pn**	**03 41 10.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=141,slow=13,SNR=4.8						
KLR				LR	LR	03 46 19.0	
	comp=Z,265nm,20.7s,baz=146,slow=36						
JOW	**Kunigami**	**15.72**	**231**	P	**P**	**03 41 39.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=105,slow=16,SNR=6.1						
JOW	**Kunigami**	**15.72**	**231**		**Pn**	**03 41 35.8**	**-0.3**
DL2	**Dalian**	**16.02**	**281**	P	**P**	**03 41 43.1**	**0.0**
DL2				*e*S	**Sn**	**03 44 40.3**	**+3.6**
DL2				pmax	pmax		
	comp=Z,41nm,0.9s						
DL2				LR	LR		
	comp=Z,230nm,13.8s						
DL2				LR	LR		
	comp=Z,290nm,18.5s						
DL2				LR	LR		
	comp=Z,280nm,19.1s						
PEA0B	**Petropavlovsk-**	**19.05**	**30**	P	**P**	**03 42 15.8**	**-0.6**
PEA0B				pmax	pmax		
	comp=Z,28nm,0.9s						
PEA0B	**Petropavlovsk-**	**19.05**	**30**		**P**	**03 42 15.8**	**-0.6**
PETK	**Petropavlovsk-**	**19.05**	**30**	P	**P**	**03 42 16.1**	**-0.3**
PETK	**Petropavlovsk-**	**19.05**	**30**	P	**Pn**	**03 42 18.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=194,slow=10,SNR=6.8						
PETK				LR	LR	03 50 27.5	
	comp=Z,98nm,18.4s,baz=236,slow=39						
PETK	**Petropavlovsk-**	**19.05**	**30**	P	**P**	**03 42 16.1**	**-0.3**
ZEA	**Zeya**	**19.12**	**333**	*e*P	**P**	**03 42 16.9**	**-0.3**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
PET	**Petropavlovsk**	**19.37**	**32**	*e*P	Pn	03 42 31.7	+11
PET				MLR	MLR		
	comp=Z,900nm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
NJ2	**Nanjing**	**19.71**	**261**	*e*P	**Pn**	**03 42 25.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TIA	**Tai'an**	**19.88**	**274**	P	**P**	**03 42 25.3**	**-0.4**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJI	**Beijing**	**20.22**	**285**	P	Pn	03 42 32.9	+1.6
BJI				pP	sP	03 42 39.3	-0.5
BJI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**22.78**	**12**	*ce*P	**P**	**03 42 57.9**	**+1.2**
MA2				pmax	pmax		
	comp=Z,61nm,2.5s						
MA2	**Magadan**	**22.78**	**12**	P	**P**	**03 42 57.3**	**+0.6**
	comp=Z,11nm,0.5s,baz=201,slow=9.6,SNR=5.5						
MA2				LR	LR	03 51 35.0	
	comp=Z,209nm,21.7s,baz=234,slow=36						
MA2	**Magadan**	**22.78**	**12**	P	**P**	**03 42 54.3**	**-2.4**
MA2				IAmb	IAmb	03 43 12.2	
	comp=Z,61nm,1.1s						
HHC	**Hu-ho-hao-te**	**23.71**	**287**	*e*P	**P**	**03 43 06.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WHN	**Wuhan**	**23.85**	**261**	⇑P	**P**	**03 43 07.9**	**+0.4**
WHN				pmax	pmax		
	comp=Z,58nm,0.8s						
YAK	**Yakutsk**	**25.68**	**347**	*e*P	**P**	**03 43 22.8**	**-1.1**
YAK				*e**PP	**sP**	**03 43 33.6**	**-1.2**
YAK				*e*		03 46 53.5	
YAK				*e*S	**S**	**03 47 48.1**	**-2.4**
YAK				*e**SS	**sS**	**03 48 05.3**	**+2.0**
YAK				*e*		03 54 21.8	
YAK				pmax	pmax		
	comp=Z,45nm,0.8s						
YAK				pmax	pmax		
	comp=N,16nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
YAK				smax	smax		
	comp=N,360nm,4.2s						
YAK				smax	smax		
	comp=E,241nm,4.8s						
YAK				MLR	MLR		
	comp=Z,269nm,16.0s						
YAK				MLR	MLR		
	comp=N,293nm,19.0s						
YAK				MLR	MLR		
	comp=E,57nm,13.0s						
YAK	**Yakutsk**	**25.68**	**347**	P	**P**	**03 43 23.1**	**-0.8**
	comp=E,37nm,0.6s,baz=156,slow=0.9,SNR=14						
YAK				LR	LR	03 53 43.7	
	comp=E,270nm,19.4s,baz=133,slow=37						
YAK	**Yakutsk**	**25.68**	**347**	P	**P**	**03 43 22.3**	**-1.6**
SEY	**Seymchan**	**26.22**	**11**	⇑*i*P	**P**	**03 43 30.8**	**+2.0**
SEY	**Seymchan**	**26.22**	**11**	P	**P**	**03 43 30.2**	**+1.4**
	comp=E,17nm,0.9s,baz=176,slow=8.4,SNR=19						
XAN	**Xi'an**	**26.93**	**273**	P	**P**	**03 43 34.8**	**-0.8**
XAN				pP	pP	03 43 43.6	+0.3
XAN				pmax	pmax		
	comp=E,8.0nm,0.5s						
XAN				pmax	pmax		
	comp=E,110nm,5.2s						
XAN				LR	LR		
	comp=E,91nm,11.9s						
XAN				LR	LR		
	comp=E,150nm,12.5s						
XAN	**Xi'an**	**26.93**	**273**	P	**P**	**03 43 33.3**	**-2.3**
XAN				pmax	pmax		
	comp=Z,19nm,0.6s						
XAN	**Xi'an**	**26.93**	**273**	P	**P**	**03 43 33.3**	**-2.3**
XAN				IAmb	IAmb	03 43 39.0	
	comp=Z,19nm,0.6s						
ULN	**Ulaanbaatar**	**27.42**	**303**	*ce*P	**P**	**03 43 40.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ENH	**Enshi**	**27.79**	**265**	P	**P**	**03 43 41.9**	**-1.4**
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**03 43 43.7**	**-0.2**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**03 43 44.1**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=101,slow=8.7,SNR=40						
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**03 43 43.7**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	04 13 18.3	
	baz=315,slow=75,SNR=148						
H11N1	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	04 13 25.8	
	baz=315,slow=75,SNR=1203						
H11N3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	04 13 19.6	
	baz=315,slow=75,SNR=118						
H11S1	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	04 15 00.9	
	baz=317,slow=76,SNR=1225						
H11S3	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	04 14 59.4	
	baz=317,slow=76,SNR=1996						
H11S2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	04 15 01.5	
	baz=317,slow=76,SNR=1036						
ZAK	**Zakamensk**	**30.29**	**308**	*e*P	**P**	**03 44 04.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LZH	**Lanzhou**	**30.40**	**279**	*e*P	**P**	**03 44 11.0**	**+4.4**
LZH				pP	sP	03 44 21.0	+3.4
LZH				sP	pP	03 44 26.1	+12
LZH				*e*PP	**PP**	**03 45 11.6**	**-3.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,59nm,4.3s						
LZH				LR	LR		
	comp=Z,220nm,13.6s						
LZH				LR	LR		
	comp=Z,250nm,14.1s						
LZH				LR	LR		
	comp=Z,330nm,15.2s						
GYA	**Guiyang**	**31.72**	**260**	⇑*i*P	**P**	**03 44 17.3**	**-0.9**
GYA				pP	sP	03 44 27.9	-1.3
GYA				PP	**PnPn**	**03 45 25.4**	**+2.8**
GYA				S	**S**	**03 49 20.8**	**-5.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=Z,120nm,16.8s						
GYA				LR	LR		
	comp=Z,100nm,17.0s						
GYA				LR	LR		
	comp=Z,130nm,16.6s						
GTA	**Gaotai**	**32.82**	**287**	*e*P	**P**	**03 44 28.3**	**+0.5**
GTA				pP	sP	03 44 38.0	-0.8
GTA				sP	pP	03 44 41.8	+6.2
GTA				S	**S**	**03 49 41.5**	**-1.9**
GTA				sS	sS	03 49 58.0	+1.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,91nm,4.4s						
GTA				LR	LR		
	comp=Z,190nm,19.2s						
GTA				LR	LR		
	comp=Z,91nm,17.2s						
GTA				LR	LR		
	comp=Z,120nm,18.9s						
BILL	**Bilibino**	**33.43**	**16**	⇓*e*P	**P**	**03 44 32.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,16nm,1.3s						
BILL				MLR	MLR		
	comp=Z,234nm,24.0s						
BILL	**Bilibino**	**33.43**	**16**	P	**P**	**03 44 32.7**	**+0.1**
BILL				IAmb	IAmb	03 44 47.9	
	comp=Z,14nm,1.1s						
TIXI	**Tiksi**	**34.84**	**353**	*ce*P	**P**	**03 44 44.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,14nm,2.5s						
TIXI	**Tiksi**	**34.84**	**353**	P	**P**	**03 44 44.3**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=180,slow=24,SNR=8.1						
TIXI	**Tiksi**	**34.84**	**353**	P	**P**	**03 44 44.9**	**+0.1**
KMI	**Kunming**	**35.45**	**261**	P	**P**	**03 44 52.8**	**+1.9**
KMI				pP	sP	03 45 00.9	-1.0
KMI				sP	pP	03 45 03.8	+5.1
KMI				pmax	pmax		
	comp=Z,25nm,1.0s						
KMI				pmax	pmax		
	comp=Z,85nm,3.1s						
KMI				LR	LR		
	comp=Z,220nm,16.2s						
KMI				LR	LR		
	comp=Z,190nm,22.6s						
KMI				LR	LR		
	comp=Z,260nm,25.0s						
TNTI	**Ternate**	**38.97**	**204**	P	**P**	**03 45 20.6**	**+0.1**
NONG	**Nongkai**	**39.06**	**251**	P	P	03 45 26.9	+5.6
UBPT	**Khong Chiam**	**39.12**	**245**	P	P	03 45 33.4	+12
	comp=Z,30nm,1.4s						
UBPT	**Khong Chiam**	**39.12**	**245**	P	**P**	**03 45 22.2**	**+0.5**
DGZ	**Jazzator, Alta**	**40.44**	**305**	*d iP*	**P**	**03 45 33.7**	**+1.1**
FAKI	**Fak Fak**	**41.24**	**195**	P	**P**	**03 45 39.9**	**+0.6**
CHAI	**Chaiyaphum**	**41.27**	**249**	P	P	03 45 50.1	+10
	comp=Z,61μm,0.8s,comp=Z,629μm						
PBKT	**Sadao Pong**	**41.62**	**251**	P	P	03 45 53.0	+11
	comp=Z,9.7nm,1.0s						
PBKT	**Sadao Pong**	**41.62**	**251**	P	**P**	**03 45 42.2**	**-0.3**
CMMT	**Chiang Mai**	**41.82**	**256**	P	P	03 45 50.5	+6.4
	comp=Z,6.8nm,0.8s						
CHTO	**Chiang Mai**	**41.82**	**256**	P	**P**	**03 45 44.7**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**41.82**	**256**	P	**P**	**03 45 44.7**	**+0.6**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**03 45 44.9**	**+0.7**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**03 45 44.4**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=89,slow=7.1,SNR=16						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**03 45 44.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**42.03**	**255**	*i P*	**P**	**03 45 49.7**	**+3.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.03**	**255**	P	**P**	**03 45 46.6**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=47,slow=7.7,SNR=5.8						
CMAR				LR	LR	04 03 51.3	
	comp=Z,81nm,19.2s,baz=34,slow=37						
CMAR	**Chiang Mai Arr**	**42.03**	**255**	P	**P**	**03 45 46.2**	**+0.4**
RDOG	**Red Dog Mine**	**42.87**	**27**	IAmb	IAmb	03 45 55.2	
	comp=Z,24nm,0.9s						
NRIK	**Noril'sk**	**42.99**	**335**	P	**P**	**03 45 52.2**	**-0.8**
	comp=Z,2.9nm,0.4s,baz=107,slow=6.0,SNR=5.6						
UTHA	**Uthaitani**	**43.39**	**251**	P	P	03 46 08.6	+12
	comp=Z,20μm,0.7s						
UMPA	**Umpang Tak**	**43.44**	**253**	P	P	03 46 10.0	+13
	comp=Z,17μm,0.4s						
MK31	**Makanchi Array**	**44.21**	**302**	*i* P	P	03 46 13.4	+10
MK31				pmax	pmax		
	comp=Z,22nm,1.0s						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**03 46 03.3**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=86,slow=10.0,SNR=31						
MKAR				LR	LR	04 05 27.6	
	comp=Z,28nm,20.9s,baz=77,slow=37						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**03 46 03.6**	**+0.4**
SRDT	**SRDT**	**44.39**	**250**	P	P	03 46 16.5	+12
	comp=Z,13nm,0.9s						
MAKZ	**Makanchi**	**44.42**	**302**	P	**P**	**03 46 04.8**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,15nm,1.0s						
MAKZ	**Makanchi**	**44.42**	**302**	P	**P**	**03 46 04.8**	**-0.1**
MAKZ				IAmb	IAmb	03 46 18.0	
	comp=Z,15nm,0.9s						
PHET	**Kaeng Krachan**	**44.93**	**248**	P	P	03 46 21.4	+12
	comp=Z,75μm,0.7s						
KURK	**Kurchatov**	**45.95**	**308**	*ce*P	**P**	**03 46 16.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,20nm,0.7s						
KURK	**Kurchatov**	**45.95**	**308**	P	**P**	**03 46 16.3**	**-0.6**
IMAR	**Indian Mountai**	**46.01**	**31**	P	**P**	**03 46 16.3**	**-0.9**
KURBB	**Kurchatov Arra**	**46.02**	**308**	P	**P**	**03 46 17.3**	**-0.2**
	comp=Z,16nm,0.5s,baz=82,slow=8.2,SNR=81						
TAPN	**Taplejung**	**46.32**	**274**	*e*P	**P**	**03 46 20.9**	**+0.4**
	comp=Z,20nm,0.6s						
KDAK	**Kodiak Island**	**46.45**	**42**	P	**P**	**03 46 20.7**	**0.0**
KDAK				pmax	pmax		
	comp=Z,51nm,0.8s						
KDAK	**Kodiak Island**	**46.45**	**42**	P	**P**	**03 46 21.9**	**+1.2**
	comp=Z,45nm,0.7s,baz=279,slow=3.9,SNR=23						
KDAK	**Kodiak Island**	**46.45**	**42**	P	**P**	**03 46 20.7**	**0.0**
ODAN	**Odare**	**46.80**	**273**	*e*P	**P**	**03 46 24.4**	**+0.2**
	comp=Z,35nm,0.9s						
PDGK	**Podgornoye**	**46.91**	**298**	P	**P**	**03 46 25.3**	**+0.6**
PDGK				pmax	pmax		
	comp=Z,31nm,1.1s						
KTH	**Kantishna Hill**	**47.10**	**34**	IAmb	IAmb	03 46 29.0	
	comp=Z,17nm,0.8s						
**KA

comp=Z,32nm,1.3s
DMN Daman 48.27 276 *e*P **P 03 46 35.7 +0.1**
comp=Z,24nm,0.7s
MDM Murphy Dome 48.27 32 IAmb IAmb 03 46 37.9
comp=Z,18nm,1.0s
WRH Wood River Hil 48.34 33 IAmb IAmb 03 46 37.7
comp=Z,8.2nm,0.8s
TCOL CIGO, UAF Yank 48.43 32 P **P 03 46 38.6 +2.6**
baz=271
COLA College 48.43 32 P **P 03 46 35.9 -0.1**
COLA pmax pmax
comp=Z,11nm,0.6s
COLA College 48.43 32 P **P 03 46 35.9 -0.1**
COLA IAmb IAmb 03 46 39.0
comp=Z,11nm,0.6s
CCB Clear Creek Bu 48.46 33 IAmb IAmb 03 46 39.8
comp=Z,5.3nm,0.6s
GKN Gorkha 48.46 276 *e*P **P 03 46 36.9 -0.1**
comp=Z,51nm,0.7s
POKR Poker Plat Res 48.61 32 P **P 03 46 39.7 +2.3**
baz=271
DHY Denali Highway 48.71 35 IAmb IAmb 03 46 41.2
comp=Z,7.3nm,0.6s
HDA Harding Lake 48.84 33 P **P 03 46 40.2 +1.0**
baz=272
ILAR Eielson Array 48.85 33 P **P 03 46 40.4 +1.1**
comp=Z,13nm,0.7s,baz=264,slow=6.3,SNR=176
ILAR Eielson Array 48.85 33 P **P 03 46 39.9 +0.6**
DANN Dangsing 49.00 277 *e*P **P 03 46 41.6 +0.3**
comp=Z,128nm,0.7s
PKDT Phuket 49.23 244 P P 03 46 55.7 +13
comp=Z,32nm,0.6s
KOLN Koldanda 49.39 277 *e*P **P 03 46 44.4 +0.2**
comp=Z,18nm,0.7s
PRP Porcupine Dome 49.39 32 IAmb IAmb 03 46 46.4
comp=Z,10nm,0.8s
FYU Fort Yukon 49.47 30 IAmb IAmb 03 46 47.2
comp=Z,13nm,0.8s
BMAR Burnt Mountain 49.69 29 P **P 03 46 45.4 -0.3**
DOT Dot Lake 50.16 34 IAmb IAmb 03 46 51.3
comp=Z,11nm,0.7s
SCRK Sand Creek 50.16 34 IAmb IAmb 03 46 51.6
comp=Z,15nm,0.8s
MENT Mentasta 50.39 35 IAmb IAmb 03 46 56.3
comp=Z,16nm,0.9s
BVAR Borovoye Array 50.55 312 P **P 03 46 52.3 -0.1**
comp=Z,2.0nm,0.6s,baz=74,slow=8.3,SNR=10
KSH Kashi 50.58 294 P **P 03 46 56.9 +3.9**
KSH pP sP 03 47 09.3 +5.1
KSH PcP **PcP 03 48 13.8 +3.3**
KSH PP **PP 03 48 53.8 +5.0**
KSH PcS **PcS 03 52 09.5 +1.6**
KSH S **S 03 54 08.1 +2.2**
KSH sS sS 03 54 29.1 +10
KSH SS **SS 03 57 39.8 -0.1**
KSH pmax pmax
comp=Z,18nm,0.5s
KSH pmax pmax
comp=Z,190nm,7.1s
KSH LR LR
comp=Z,490nm,9.7s
KSH LR LR
comp=Z,320nm,7.0s
KSH LR LR
comp=Z,210nm,7.2s
BRVK Borovoye 50.60 312 *ce*P **P 03 46 51.7 -1.1**
BRVK pmax pmax
comp=Z,16nm,2.5s
BRVK Borovoye 50.60 312 P **P 03 46 52.3 -0.4**
AAK Ala-Archa 50.62 298 P **P 03 46 53.4 +0.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 50.62 298 P **P 03 46 53.4 +0.1**
AAK IAmb IAmb 03 47 07.3
comp=Z,7.9nm,0.8s
VRDI Verde Repeater 50.73 37 IAmb IAmb 03 46 56.3
comp=Z,9.3nm,0.8s
MCARA McCarthy VSAT 50.91 37 IAmb IAmb 03 46 58.2
comp=Z,15nm,0.8s
COEN Coen 51.23 178 P **P 03 46 57.4 -0.4**
COEN IAmb IAmb 03 46 59.9
comp=Z,7.4nm,0.7s
BCAR Beaver Creek A 51.25 35 P **P 03 46 57.2 -0.3**
BALM Baldy 51.29 37 IAmb IAmb 03 47 00.7
comp=Z,9.9nm,0.7s
CTGM Chitina Glacie 51.79 37 IAmb IAmb 03 47 04.6
comp=Z,9.5nm,0.6s
ARSB Arslanbob 52.12 297 IAmb IAmb 03 47 17.9
comp=Z,18nm,1.0s
PSI Prapat 52.41 239 P **P 03 47 07.1 +0.2**
PSI pmax pmax
comp=Z,21nm,0.8s
RPSI Rantau Prapat 52.48 239 P **P 03 47 07.1 -0.2**
BKNI Bangkinang 52.82 235 P **P 03 47 09.0 -0.7**
EPYK Eagle Plains 52.88 30 P **P 03 47 12.0 +2.4**
baz=280,SNR=25
KK31 Karatay Array 53.24 300 *i* P **P 03 47 15.3 +2.7**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 53.24 300 P **P 03 47 12.7 +0.1**
KKAR Karatay Array 53.24 300 P **P 03 47 12.7 +0.1**
HYT Haines Junctio 53.65 37 IAmb IAmb 03 47 33.0
comp=Z,12nm,0.9s
INK Inuvik 53.75 27 P **P 03 47 17.7 +1.8**
comp=Z,8.3nm,0.6s,baz=295,slow=6.4,SNR=59
INK Inuvik 53.75 27 IAmb IAmb 03 47 18.1
comp=Z,8.9nm,0.6s
GSI Gunungsitoli 54.41 239 P **P 03 47 21.4 -0.1**
NIL Nilore 54.86 288 P **P 03 47 24.9 +0.4**
NIL pmax pmax
comp=Z,21nm,0.7s
NIL Nilore 54.86 288 P **P 03 47 24.9 +0.4**
GAR Garm 54.86 295 IAmb IAmb 03 47 36.2
comp=Z,13nm,0.8s
WHY Whitehorse 54.94 37 IAmb IAmb 03 47 28.2
comp=Z,8.3nm,0.7s
SVE Sverdlovsk 55.05 318 *e*P **P 03 47 26.0 +0.5**
SVE pmax pmax
comp=Z,22nm,0.9s
ARU Arti 56.26 318 *d i*P **P 03 47 34.2 0.0**
ARU 03 48 26.5
ARU S **S 03 55 23.6 +1.4**
ARU SS **SS 03 59 07.4 -1.1**
ARU pmax pmax
comp=Z,27nm,1.0s
ARU Arti 56.26 318 P **P 03 47 34.2 0.0**
HPAH Hawaii Prepara 56.41 90 P **P 03 47 34.5 -1.4**
C36M Paulatuk 56.80 25 P **P 03 47 39.4 +1.5**
baz=289
KHU Kahuku 56.89 90 P **P 03 47 38.2 -1.4**
KHU pmax pmax
comp=Z,84nm,1.1s
KHU Kahuku 56.89 90 P **P 03 47 38.2 -1.4**
MLH Mauna Loa 56.94 90 P **P 03 47 38.0 -1.9**
AIN Ainahou 56.95 90 P **P 03 47 38.2 -1.7**
FITZ Fitzroy Crossi 57.42 198 P **P 03 47 43.2 +0.4**
FITZ IAmb IAmb 03 48 02.5
comp=Z,12nm,1.1s
WRAB Tennant Creek 57.60 188 *ce*P **P 03 47 43.7 -0.4**
WRAB pmax pmax
comp=Z,31nm,1.7s
WB2 Warramunga Arr 57.61 188 P **P 03 47 44.2 0.0**
WRA Warramunga Arr 57.61 188 P **P 03 47 44.4 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 57.61 188 P **P 03 47 44.2 0.0**
comp=Z,13nm,0.7s,baz=3.1,slow=7.3,SNR=88
WRA LR LR 04 12 04.1
comp=Z,53nm,19.4s,baz=30,slow=36
WRA Warramunga Arr 57.61 188 P **P 03 47 44.4 +0.3**
AB31 Akbulak array 57.94 310 *i* P **P 03 47 45.1 -1.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 57.94 310 P **P 03 47 46.0 -0.2**
ABKAR Akbulak array 57.94 310 IAmb IAmb 03 47 59.9
comp=Z,7.9nm,0.6s
AKTO Aktyubinsk 58.65 312 P **P 03 47 50.8 -0.4**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
PRGR Permogore 60.57 327 *e*P **P 03 48 03.8 -0.4**
PRGR pmax pmax
comp=Z,15nm,0.9s
AS31 Alice Springs 61.34 188 IAmb IAmb 03 48 28.0
comp=Z,4.1nm,0.6s
ASAR Alice Springs 61.34 188 P **P 03 48 10.3 +0.5**
comp=Z,11nm,0.7s,baz=11,slow=6.8,SNR=125
ASAR LR LR 04 14 19.7
comp=Z,54nm,21.2s,baz=353,slow=36
ASAR Alice Springs 61.34 188 P **P 03 48 09.2 -0.6**
PSA00 Pilbara Seismi 62.36 203 P **P 03 48 16.1 -0.6**
YKW3 Yellowknife Ar 63.13 30 IAmb IAmb 03 48 23.3
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 63.17 30 P **P 03 48 22.6 +1.0**
comp=Z,6.3nm,0.6s,baz=303,slow=6.6,SNR=39
YKA Yellowknife Ar 63.17 30 P **P 03 48 21.6 -0.1**
KLMR Klimovskoe 63.56 328 *e*P **P 03 48 21.5 -2.7**
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR Klimovskoe 63.56 328 *e*P **P 03 48 21.5 -2.7**
KLMR AMP 03 48 26.4
comp=Z,22nm,1.5s
ARCES ARCESS Array B 63.68 339 P **P 03 48 25.9 +0.9**
ARCES ARCESS Array B 63.68 339 P **P 03 48 25.3 +0.4**
comp=Z,13nm,1.1s,baz=60,slow=7.3,SNR=5.0
ARCES LR LR 04 20 12.4
comp=Z,56nm,19.2s,baz=8.5,slow=40
ARCES ARCESS Array B 63.68 339 P **P 03 48 25.9 +0.9**
GEYT Alibeck 63.96 299 P **P 03 48 28.1 +0.7**
comp=Z,2.7nm,0.6s,baz=46,slow=6.4,SNR=3.8
DAG Danmarks Havn 65.31 355 ⇓*i*P **P 03 48 35.6 +0.1**
DAG *i* 03 48 48.1
DAG Danmarks Havn 65.31 355 ⇓*i*P **P 03 48 35.6 +0.1**
DAG *i* 03 48 48.1
D03D Eldon 66.46 47 P **P 03 48 46.0 +2.7**
baz=300
B05A Bryant 66.66 46 P **P 03 48 46.8 +2.2**
baz=301
E04D Cinebar 67.26 48 P **P 03 48 50.9 +2.5**
baz=301
VRH Novokhopyorsk 67.49 318 *e*P **P 03 48 48.9 -0.9**
VRH *e**SP **sP 03 48 59.8 -1.4**
VRH pmax pmax
comp=Z,10.0nm,1.0s
F04A Amboy 67.67 49 IAmb IAmb 03 48 54.2
comp=Z,16nm,0.9s
LPSR Galich'ya Gora 68.19 320 *e*P **P 03 48 53.9 -0.3**
LPSR *e**SP **sP 03 49 04.5 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
B08A Colville Reser 68.19 45 IAmb IAmb 03 48 57.1
comp=Z,11nm,1.1s
H04D Lebanon 68.21 50 P **P 03 48 57.0 +2.5**
baz=302
I03D Drain, OR 68.27 51 P **P 03 48 57.5 +2.6**
baz=302
FINES FINESS Array B 68.57 332 P **P 03 48 56.4 0.0**
comp=Z,11nm,0.7s,baz=35,slow=9.5,SNR=26
FINES LR LR 04 23 10.4
comp=Z,69nm,20.8s,baz=16,slow=40
K02D Willamette Mer 68.60 52 P **P 03 48 59.2 +2.1**
baz=302
G05D Wamic, OR 68.69 49 P **P 03 48 59.8 +2.3**
baz=302
VSR Storozhevoye 68.83 319 *e*P **P 03 48 57.2 -1.0**
VSR *e**SP **sP 03 49 08.6 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
L02E Cave Junction 68.92 53 P **P 03 49 01.5 +2.5**
baz=302
STKA Stephens Creek 69.05 180 P **P 03 48 59.8 +0.1**
STKA pmax pmax
comp=Z,1.0nm,0.7s
STKA Stephens Creek 69.05 180 P **P 03 49 00.7 +1.0**
comp=Z,4.8nm,0.7s,baz=332,slow=9.1,SNR=9.9
STKA Stephens Creek 69.05 180 P **P 03 48 59.8 +0.1**
C09A Chrisman Ranch 69.09 45 IAmb IAmb 03 49 02.1
comp=Z,8.1nm,0.8s
AKT Akhty 69.11 307 *e*P **P 03 49 03.6 +3.2**
AKT *e* 03 49 26.0
AKT pmax pmax
comp=Z,36nm,1.1s
I05D Terrebonne, OR 69.16 50 P **P 03 49 02.6 +2.1**
baz=302
F07A Phinny Hill Vi 69.17 48 IAmb IAmb 03 49 03.6
comp=Z,12nm,0.8s
FORT Forrest 69.19 193 P **P 03 49 00.7 +0.1**
J04D Umpqua Nationa 69.28 51 P **P 03 49 03.7 +2.3**
baz=302
NEW Newport 69.48 44 P **P 03 49 04.2 +1.8**
baz=304
L04D Klamath Falls 69.70 52 P **P 03 49 06.4 +2.4**
baz=303
YBH Yreka Blue Hor 69.71 53 IAmb IAmb 03 49 07.6
comp=Z,12nm,1.0s
J05D Fort Rock, OR 69.79 51 P **P 03 49 07.1 +2.5**
baz=303
M02C Callahan 69.80 53 P **P 03 49 07.1 +2.6**
baz=303
K04D Chiloquin, OR 69.83 51 P **P 03 49 07.1 +2.4**
baz=303
N02D Trinity Center 70.12 53 P **P 03 49 09.0 +2.5**
baz=303
SUMG Summit 70.19 0 P **P 03 49 07.0 +0.3**
SUMG pmax pmax
comp=Z,24nm,1.0s
SUMG Summit 70.19 0 *i* P **P 03 49 07.5 +0.7**
SUMG *i* 03 49 20.2
SUMG Summit 70.19 0 P **P 03 49 07.0 +0.3**
M04C Macdoel 70.23 52 P **P 03 49 09.6 +2.4**
baz=303
VSU Vasula 70.23 330 *ce*P **P 03 49 06.5 -0.2**
VSU pmax pmax
comp=Z,59nm,1.3s
O02D Mt. Diablo Mer 70.50 54 P **P 03 49 11.3 +2.4**
baz=303
WALA Waterton Lakes 70.79 42 IAmb IAmb 03 49 13.1
comp=Z,15nm,0.7s
ZEI Tsey 70.80 309 *e*P P 03 49 20.8 +10
ZEI pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 70.89 311 P **P 03 49 11.3 +0.2**
comp=Z,6.2nm,1.0s,baz=347,slow=3.3,SNR=5.6
KIV Kislovodsk 70.89 311 *e*P **P 03 49 13.1 +1.9**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV Kislovodsk 70.89 311 ⇑P **P 03 49 12.0 +0.8**
KIV mb 03 49 25.1
O03E Paynes Creek 71.06 53 P **P 03 49 13.8 +1.5**
baz=304
MOD Modoc Plateau 71.12 51 IAmb IAmb 03 49 15.7
comp=Z,9.9nm,0.8s
BMO Blue Mountains 71.28 48 IAmb IAmb 03 49 16.4
comp=Z,8.7nm,0.8s
JTMT Jette 71.34 44 IAmb IAmb 03 49 16.8
comp=Z,12nm,0.8s
SCO Scoresbysund 71.66 354 *i* P **P 03 49 16.1 +0.9**
SCO *i* 03 49 28.7
SCO pmax pmax
comp=Z,7.0nm,0.8s
SCO Scoresbysund 71.66 354 *i* P **P 03 49 16.1 +0.9**
comp=Z,7.4nm,0.8s
SCO *i* 03 49 28.7
AKH Akhalkalaki 71.82 308 P **P 03 49 17.4 +0.4**
AKH Akhalkalaki 71.82 308 ⇑P **P 03 49 17.4 +0.4**
MSO Missoula 72.07 44 P **P 03 49 19.5 +1.2**
baz=306
BEKR Beckworth 72.22 53 IAmb IAmb 03 49 22.1
comp=Z,14nm,0.8s
PAHR Pah Rah Range 72.93 53 IAmb IAmb 03 49 26.4
comp=Z,15nm,1.1s
MFID Camas Ranch 72.98 48 IAmb IAmb 03 49 26.6
comp=Z,11nm,0.8s
FFC Flin Flon 73.06 33 P **P 03 49 24.7 +0.9**
FFC pmax pmax
comp=Z,14nm,0.8s
FFC Flin Flon 73.06 33 P **P 03 49 24.7 +0.9**
FFC IAmb IAmb 03 49 26.0
comp=Z,14nm,0.8s
PNTR Pine Nut 73.15 54 IAmb IAmb 03 49 28.1
comp=Z,8.4nm,0.8s
CMB Columbia Colle 73.24 55 IAmb IAmb 03 49 28.1
comp=Z,12nm,0.9s
YERR Yerington 73.44 53 IAmb IAmb 03 49 29.7
comp=Z,16nm,1.0s
ANN Anapa 73.48 314 *e*P **P 03 49 22.8 -3.7**
ANN *e**PP **pP 03 49 33.8 -1.1**
ANN *e*S **S 03 58 47.2 -7.1**
ANN *e*SS **SS 04 03 32.9 -3.4**
ANN pmax pmax
comp=Z,74nm,1.0s
EGMT Eagleton 73.62 42 P **P 03 49 29.0 +1.6**
baz=308,SNR=6.9
DLMT Dillon 73.69 45 IAmb IAmb 03 49 30.8
comp=Z,18nm,0.8s
NC204 NORSAR Array S 73.84 338 IAmb IAmb 03 49 45.5
comp=Z,15nm,0.8s
BMN Battle Mountai 73.87 51 IAmb IAmb 03 49 32.3
comp=Z,11nm,0.8s
NB2 NORSAR Subarra 73.89 337 P **P 03 49 28.6 -0.1**
comp=Z,4.8nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 73.89 337 P **P 03 49 28.9 +0.2**
comp=Z,7.3nm,0.7s,baz=39,slow=5.9,SNR=28
NOA LR LR 04 25 35.2
comp=Z,104nm,20.6s,baz=25,slow=39
BOZ Bozeman (W) 74.09 44 P **P 03 49 32.1 +1.8**
baz=308,SNR=20
RYN Ryan 74.10 53 IAmb IAmb 03 49 33.5
comp=Z,11nm,1.0s
KVN Kaiserville 74.12 53 IAmb IAmb 03 49 33.7
comp=Z,22nm,1.1s
AKASG Malin Array Be 74.16 322 *i* P **P 03 49 30.2 -0.2**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 74.16 322 P **P 03 49 30.2 -0.2**
comp=Z,4.7nm,0.5s,baz=46,slow=6.1,SNR=29
AKASG LR LR 04 22 28.9
comp=Z,23nm,21.2s,baz=30,slow=36
NVAR Mina Array Bea 74.36 53 P **P 03 49 34.1 +2.1**
comp=Z,9.1nm,0.8s,baz=286,slow=5.8,SNR=83
NVAR LR LR 04 15 03.9
comp=Z,36nm,21.8s,baz=280,slow=30
MLAC Mammoth, Mammo 74.48 54 P **P 03 49 35.3 +2.5**
baz=306
TIN Tinemaha, Big 75.20 55 P **P 03 49 39.1 +2.2**
baz=306
VES Vestal, Richgr 75.35 56 P **P 03 49 38.8 +1.2**
baz=306,SNR=7.0
H17A Grant Village 75.42 45 P **P 03 49 41.7 +3.5**
baz=308
PKM Mcpherson Peak 75.42 57 P **P 03 49 40.6 +2.4**
baz=306,SNR=6.8
FXWY Fox Creek 75.64 46 IAmb IAmb 03 49 42.9
comp=Z,13nm,1.0s
CWC Cottonwood Cre 75.66 55 P **P 03 49 41.3 +1.7**
baz=306
RLMT Red Lodge 75.69 44 P **P 03 49 41.6 +1.9**
baz=309,SNR=9.2
RLMT Red Lodge 75.69 44 IAmb IAmb 03 49 43.4
comp=Z,6.8nm,0.7s
GRAC Grapevine Rang 75.80 54 P **P 03 49 42.3 +2.2**
baz=306,SNR=19
ISA Isabella, Lake 75.86 56 P **P 03 49 41.6 +1.0**
baz=306,SNR=5.4
SNOW Snow King Moun 75.90 46 IAmb IAmb 03 49 44.3
comp=Z,12nm,0.8s
REDW Red Top Meadow 75.91 46 IAmb IAmb 03 49 44.2
comp=Z,10.0nm,0.9s
ARVC Arvin 75.94 57 P **P 03 49 43.0 +2.1**
baz=306
R11A Troy Canyon, C 76.13 52 P **P 03 49 44.1 +1.9**
baz=307,SNR=22
R11A Troy Canyon, C 76.13 52 IAmb IAmb 03 49 45.1
comp=Z,15nm,1.1s
AHID Auburn Hatcher 76.14 47 IAmb IAmb 03 49 44.9
comp=Z,8.3nm,0.7s
DGMT Dagmar 76.19 39 P **P 03 49 43.4 +1.3**
baz=312
SORM Soroca 76.27 321 ⇑P **P 03 49 42.9 +0.4**
MPMC Manual Prospec 76.27 55 P **P 03 49 44.8 +1.7**
baz=307,SNR=16
OSI Osito Audit: C 76.31 57 P **P 03 49 45.1 +2.0**
baz=306
LAO LASA Array 76.32 41 P **P 03 49 44.9 +1.8**
baz=311,SNR=8.8
LAO LASA Array 76.32 41 P **P 03 49 43.0 0.0**
LAO IAmb IAmb 03 49 45.9
comp=Z,20nm,0.9s
LAO **sP 03 49 54.2 -0.3**
BLG Laguna Peak, P 76.38 57 P **P 03 49 45.0 +1.5**
baz=306
FURC Furnace Creek, 76.44 54 P **P 03 49 45.6 +1.9**
baz=307,SNR=19
TPNV Topopah Spring 76.54 54 P **P 03 49 46.3 +1.8**
baz=307,SNR=25
EDW2 Edwards Air Fo 76.64 56 P **P 03 49 47.0 +2.0**
baz=307,SNR=9.9
DUG Dugway, Tooele 76.71 49 P **P 03 49 47.5 +2.1**
baz=308,SNR=23
DUG Dugway, Tooele 76.71 49 IAmb IAmb 03 49 48.5
comp=Z,13nm,0.7s
BW06 Boulder Array 77.02 46 P **P 03 49 48.5 +1.3**
baz=309,SNR=10
BW06 Boulder Array 77.02 46 IAmb IAmb 03 49 49.4
comp=Z,9.0nm,0.7s
PD31 Pinedale Array 77.02 46 IAmb IAmb 03 49 49.5
comp=Z,7.8nm,0.7s
PDAR Pinedale Array 77.02 46 P **P 03 49 48.6 +1.4**
comp=Z,7.7nm,0.6s,baz=273,slow=1.8,SNR=93
PDAR LR LR 04 19 51.0
comp=Z,31nm,21.9s,baz=348,slow=33
FMP Fort Macarthur 77.13 57 P **P 03 49 49.4 +1.7**
baz=307
GSC Goldstone, Bar 77.17 55 P **P 03 49 49.7 +1.6**
baz=307,SNR=7.4
CIS Catalina Islan 77.23 58 P **P 03 49 50.0 +1.7**
baz=307
BFSC Mount Baldy Ra 77.24 57 P **P 03 49 50.3 +1.7**
baz=307
SHPR Sheep Range 77.51 54 IAmb IAmb 03 49 53.2
comp=Z,12nm,0.9s
TUQ Turquoise Moun 77.66 55 P **P 03 49 52.7 +1.8**
baz=307
HEC Hector,Ludlow 77.76 56 P **P 03 49 53.3 +1.9**
baz=307
MURC Murrieta 77.93 57 P **P 03 49 54.1 +1.8**
baz=307
BURAR Bucovina Array 78.18 322 ⇑P **P 03 49 54.2 +0.7**
BURAR mb 03 50 07.0
BIZ Bicaz 78.20 321 ⇓P **P 03 49 54.7 +1.3**
TESR Tescani 78.22 320 ⇑P **P 03 49 54.1 +0.6**
GMRC Granite Mounta 78.23 55 P **P 03 49 55.7 +1.7**
baz=308,SNR=11
PFO Pinyon Flats O 78.42 57 P **P 03 49 56.5 +1.5**
baz=308
PFO Pinyon Flats O 78.42 57 P **P 03 49 54.3 -0.7**
PFO pmax pmax
comp=Z,9.0nm,1.1s
PFO Pinyon Flats O 78.42 57 P **P 03 49 54.3 -0.7**
109C Camp Elliot, M 78.42 57 P **P 03 49 56.6 +1.7**
baz=307
BELC Belle Mtn. Jos 78.48 56 P **P 03 49 56.7 +1.2**
baz=308,SNR=5.3
VRI Vrincioaia 78.61 320 ⇑P **P 03 49 56.8 +1.0**
PLOR Plostina 78.67 320 ⇑P P 03 50 05.2 +9.1
HARR Harsova 78.78 318 ⇑P P 03 50 08.7 +12
K22A Casper 78.80 44 P **P 03 49 58.4 +1.3**
baz=311
BR131 Keskin Array S 78.83 312 P **P 03 49 56.2 -1.1**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BR131 Keskin Array S 78.83 312 P **P 03 49 56.2 -1.1**
BRTR Keskin Array B 78.83 312 P **P 03 49 57.6 +0.4**
comp=Z,1.1nm,0.9s,baz=97,slow=4.0,SNR=6.2
BISRR Bisoca 78.84 320 ⇑P **P 03 49 55.6 -1.5**
OJC Ojcow 78.86 326 IAmb IAmb 03 49 58.5
comp=Z,11nm,1.0s
ULM Lac du Bonnet 78.86 34 P **P 03 49 57.6 +0.6**
comp=Z,5.9nm,0.7s,baz=312,slow=6.6,SNR=5.8
ULM Lac du Bonnet 78.86 34 IAmb IAmb 03 49 59.6
comp=Z,9.7nm,0.9s
MDND Maddock 78.86 37 P **P 03 49 58.6 +1.5**
baz=315
UZH Uzhgorod 78.87 324 *e*P P 03 50 01.9 +4.8
UZH *e* 03 50 06.6
UZH *e* 03 50 14.0
MONP2 Monument Peak 78.88 57 P **P 03 49 59.2 +1.5**
baz=308,SNR=5.0
OZUR 78.94 320 ⇑P **P 03 49 59.1 +1.5**
IRM Iron Mountain 78.95 55 P **P 03 49 59.6 +1.7**
baz=308,SNR=9.3
RWWY Rawlins 79.05 45 IAmb IAmb 03 50 00.9
comp=Z,14nm,0.9s
BC3 Big Chuckawall 79.05 56 P **P 03 50 00.1 +1.6**
baz=308
TRPA Tarpa 79.11 324 ⇑P **P 03 49 59.6 +1.2**
TRPA mb 03 50 12.8
RSSD Black Hills 79.18 42 P **P 03 50 00.5 +1.4**
baz=312
RSSD Black Hills 79.18 42 P **P 03 49 58.6 -0.6**

RSSD				pmax	pmax		
	comp=Z,9.0nm,0.7s						
RSSD	**Black Hills**	**79.18**	**42**	P	**P**	**03 49 58.6**	**-0.6**
RSSD				IAmb	IAmb	03 50 02.2	
	comp=Z,9.0nm,0.7s						
ISR	**Istrita**	**79.22**	**319**	⇑P	**P**	**03 50 00.4**	**+1.2**
DOPR	**Dopca**	**79.23**	**321**	⇓P	**P**	**03 50 00.4**	**+1.3**
IKP	**In-Ko-Pah, Jac**	**79.23**	**57**	P	**P**	**03 50 01.0**	**+1.5**
	baz=308						
SWSC	**Sam W. Stewart**	**79.26**	**57**	P	**P**	**03 50 01.1**	**+1.6**
	baz=306						
U15A	**North Rim**	**79.37**	**52**	IAmb	IAmb	03 50 03.3	
	comp=Z,9.0nm,0.8s						
O20A	**White River Ci**	**79.47**	**47**	P	**P**	**03 50 02.2**	**+1.4**
	baz=311,SNR=5.2						
O20A	**White River Ci**	**79.47**	**47**	IAmb	IAmb	03 50 03.3	
	comp=Z,12nm,1.0s						
PDMCI	**Parker Dam,Lak**	**79.51**	**55**	P	**P**	**03 50 02.6**	**+1.7**
	baz=308,SNR=8.9						
Y12C	**Blythe**	**79.61**	**55**	P	**P**	**03 50 03.2**	**+1.8**
	baz=308,SNR=6.3						
Y12C	**Blythe**	**79.61**	**55**	IAmb	IAmb	03 50 04.2	
	comp=Z,9.6nm,0.8s						
VOIR		**79.77**	**320**	⇑P	**P**	**03 50 03.7**	**+1.6**
LANS	**Liptovska Anna**	**79.78**	**326**	*e*P	**P**	**03 50 03.4**	**+1.3**
LANS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LANS	**Liptovska Anna**	**79.78**	**326**	*e*P	**P**	**03 50 03.4**	**+1.3**
GLA	**Glamis**	**79.84**	**56**	P	**P**	**03 50 04.5**	**+1.8**
	baz=308						
PV23	**Carpenter Ridg**	**80.10**	**49**	IAmb	IAmb	03 50 06.8	
	comp=Z,15nm,0.7s						
MORC	**Moravsky Berou**	**80.17**	**327**	⇑P	**P**	**03 50 05.1**	**+0.9**
DPC	**Dobruska-Polom**	**80.26**	**328**	*e*P	**P**	**03 50 05.6**	**+0.9**
DPC				*e*		03 50 17.8	
DPC	**Dobruska-Polom**	**80.26**	**328**	*e*P	**P**	**03 50 05.6**	**+0.9**
DPC				*ep*P	**sP**	**03 50 17.8**	**+1.6**
KRLC	**Kraliky**	**80.27**	**328**	*e*P	**P**	**03 50 05.3**	**+0.6**
KRLC	**Kraliky**	**80.27**	**328**	*e*P	**P**	**03 50 05.3**	**+0.6**
AGMN	**Agassiz Nation**	**80.29**	**35**	P	**P**	**03 50 05.5**	**+0.7**
	baz=317						
N23A	**Red Feather La**	**80.29**	**45**	P	**P**	**03 50 07.4**	**+2.1**
	baz=312,SNR=5.6						
N23A	**Red Feather La**	**80.29**	**45**	IAmb	IAmb	03 50 08.3	
	comp=Z,8.9nm,0.8s						
PV03	**Paradox Valley**	**80.32**	**49**	IAmb	IAmb	03 50 08.4	
	comp=Z,10nm,0.8s						
Y14A	**Wickenburg**	**80.48**	**54**	IAmb	IAmb	03 50 08.9	
	comp=Z,12nm,0.9s						
PSZ	**Piszkesteto**	**80.49**	**325**	⇓P	**P**	**03 50 07.0**	**+1.0**
PSZ				mb		03 50 08.0	
WUAZ	**Wupatki**	**80.53**	**52**	P	**P**	**03 50 08.7**	**+2.2**
	baz=310,SNR=14						
WUAZ	**Wupatki**	**80.53**	**52**	IAmb	IAmb	03 50 09.7	
	comp=Z,12nm,0.9s						
VYHS	**Vyhne**	**80.55**	**326**	*e*P	**P**	**03 50 07.0**	**+0.8**
VYHS	**Vyhne**	**80.55**	**326**	*e*P	**P**	**03 50 07.0**	**+0.8**
BRG	**Berggiesshubel**	**80.83**	**330**	*e*P	**P**	**03 50 08.4**	**+0.7**
	comp=Z,9.8nm,1.2s						
BRG	**Berggiesshubel**	**80.83**	**330**	*e*P	**P**	**03 50 08.4**	**+0.7**
	comp=Z,9.8nm,1.2s						
BRG	**Berggiesshubel**	**80.83**	**330**	*e*P	**P**	**03 50 08.4**	**+0.7**
BRG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PVCC	**Panska Ves**	**80.85**	**329**	*e*P	**P**	**03 50 08.7**	**+0.9**
PVCC	**Panska Ves**	**80.85**	**329**	*e*P	**P**	**03 50 08.7**	**+0.9**
CLL	**Collm**	**80.87**	**330**	*i* P	**P**	**03 50 08.0**	**+0.1**
CLL				*e*		03 50 20.0	
CLL				pmax	pmax		
	comp=Z,11nm,1.0s						
CLL	**Collm**	**80.87**	**330**	*i* P	**P**	**03 50 08.0**	**+0.1**
	comp=Z,11nm,1.0s						
CLL				*ep*P	**sP**	**03 50 20.0**	**+0.6**
CLL	**Collm**	**80.87**	**330**	P	**P**	**03 50 07.5**	**-0.3**
CLL				IAmb	IAmb	03 50 08.9	
	comp=Z,11nm,1.0s						
VRAC	**Vranov**	**80.93**	**327**	⇑P	**P**	**03 50 09.4**	**+1.1**
GZR	**Gura Zlata**	**80.94**	**321**	⇑P	**P**	**03 50 09.0**	**+0.5**
ELND	**Elena**	**81.07**	**318**	⇓P	**P**	**03 50 08.6**	**-0.5**
X16A	**Lo Mia Camp, P**	**81.18**	**53**	IAmb	IAmb	03 50 13.3	
	comp=Z,9.6nm,0.9s						
ISCO	**Idaho Springs**	**81.20**	**46**	P	**P**	**03 50 12.2**	**+1.9**
	baz=312						
MVCO	**Mesa Verde**	**81.21**	**50**	P	**P**	**03 50 12.2**	**+1.9**
	baz=311,SNR=8.9						
MVCO	**Mesa Verde**	**81.21**	**50**	IAmb	IAmb	03 50 12.6	
	comp=Z,7.4nm,0.8s						
GOPC	**GO Pecny, Ondr**	**81.23**	**329**	*e*P	**P**	**03 50 10.2**	**+0.3**
GOPC				*e*		03 50 23.4	
GOPC	**GO Pecny, Ondr**	**81.23**	**329**	*e*P	**P**	**03 50 10.2**	**+0.3**
GOPC				*ep*P	**sP**	**03 50 23.4**	**+2.0**
PRU	**Pruhonice**	**81.27**	**329**	*e*P	**P**	**03 50 10.5**	**+0.5**
PRU				*e*		03 50 23.3	
PRU	**Pruhonice**	**81.27**	**329**	*e*P	**P**	**03 50 10.5**	**+0.5**
PRU				*ep*P	**sP**	**03 50 23.3**	**+1.7**
BZS	**Buzias**	**81.35**	**322**	⇓P	**P**	**03 50 10.7**	**+0.2**
214A	**Organ Pipe Nat**	**81.85**	**56**	P	**P**	**03 50 15.2**	**+1.7**
	baz=309						
CONA	**Conrad Observa**	**82.29**	**327**	*i* PcP	**P**	**03 50 16.6**	**+1.0**
	comp=Z,0.8nm,0.4s						
KHC	**Kasperske Hory**	**82.33**	**329**	*e*P	**P**	**03 50 16.2**	**+0.5**
KHC				*e*		03 50 27.0	
KHC	**Kasperske Hory**	**82.33**	**329**	*e*P	**P**	**03 50 16.2**	**+0.5**
KHC				*ep*P	**sP**	**03 50 27.0**	**-0.3**
EYMN	**Ely**	**82.49**	**33**	P	**P**	**03 50 17.6**	**+1.1**
	baz=320						
GERES	**GERESS Array B**	**82.51**	**328**	P	**P**	**03 50 16.8**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=34,slow=6.3,SNR=15						
GERES				LR	LR	04 30 21.8	
	comp=Z,62nm,18.8s,baz=356,slow=38						
SDCO	**Great Sand Dun**	**82.64**	**48**	P	**P**	**03 50 19.6**	**+1.7**
	baz=312						
VTS	**Vitosha**	**82.68**	**319**	P	**P**	**03 50 17.2**	**-0.6**
VTS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VTS	**Vitosha**	**82.68**	**319**	⇑P	**P**	**03 50 19.0**	**+1.2**
VTS				mb		03 50 32.0	
VTS	**Vitosha**	**82.68**	**319**	P	**P**	**03 50 17.2**	**-0.6**
VTS				IAmb	IAmb	03 50 32.0	
	comp=Z,7.6nm,0.9s						
TUC	**Tucson**	**82.95**	**55**	P	**P**	**03 50 20.9**	**+1.6**
	baz=310						
TUC	**Tucson**	**82.95**	**55**	P	**P**	**03 50 18.5**	**-0.8**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TUC	**Tucson**	**82.95**	**55**	P	**P**	**03 50 18.5**	**-0.8**
ECSD	**EROS Data Cent**	**83.27**	**39**	P	**P**	**03 50 21.6**	**+0.9**
	baz=317						
ECSD	**EROS Data Cent**	**83.27**	**39**	P	**P**	**03 50 19.6**	**-1.0**
ECSD				IAmb	IAmb	03 50 22.4	
	comp=Z,10nm,0.8s						
E38A	**The Farm, Brul**	**83.49**	**34**	P	**P**	**03 50 22.3**	**+0.6**
	baz=320						
SOKA	**Soboth**	**83.61**	**326**	*i* PcP	**P**	**03 50 22.8**	**+0.4**
	comp=Z,2.6nm,0.6s						
T25A	**Trinidad**	**83.69**	**47**	P	**P**	**03 50 25.0**	**+1.8**
	baz=313						
T25A	**Trinidad**	**83.69**	**47**	IAmb	IAmb	03 50 25.9	
	comp=Z,12nm,0.8s						
ANMO	**Albuquerque**	**83.95**	**50**	P	**P**	**03 50 26.4**	**+1.9**
	baz=312						
ANMO	**Albuquerque**	**83.95**	**50**	*ce*P	**P**	**03 50 26.3**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,12nm,1.3s						
ANMO	**Albuquerque**	**83.95**	**50**	P	**P**	**03 50 23.5**	**-1.0**
ANMO				IAmb	IAmb	03 50 27.7	
	comp=Z,10nm,1.1s						
PMOR	**Pomariorio Ree**	**84.00**	**114**	*e*T	T	05 22 57.0	
	comp=Z,18nm,0.2s						
BSWZ	**Blackbirch Sta**	**84.09**	**157**	P	**P**	**03 50 24.0**	**-0.5**
BGNE	**Belgrade**	**84.17**	**41**	P	**P**	**03 50 26.3**	**+1.0**
	baz=316						
PPT2	**Papeete2**	**84.50**	**117**	*e*LR	LR	04 17 06.4	
	comp=Z,54nm,27.0s						
PPT2	**Papeete2**	**84.50**	**117**	*e*T	T	05 23 35.8	
	comp=Z,3.5nm,0.3s						
319A	**Douglas**	**84.53**	**54**	IAmb	IAmb	03 50 30.2	
	comp=Z,12nm,1.0s						
PAE	**Paea**	**84.55**	**117**	*e*T	T	05 23 38.5	
	comp=Z,1.2nm,0.4s						
WTTA	**Wattenberg**	**84.61**	**329**	*i* PcP	**P**	**03 50 28.6**	**+0.9**
	comp=Z,1.9nm,0.4s						
121A	**Cookes Peak, D**	**84.72**	**53**	P	**P**	**03 50 30.3**	**+1.9**
	baz=312						
121A	**Cookes Peak, D**	**84.72**	**53**	IAmb	IAmb	03 50 31.0	
	comp=Z,8.5nm,0.8s						
SCHQ	**Schefferville**	**84.74**	**16**	P	**P**	**03 50 27.7**	**-0.2**
	comp=Z,8.3nm,0.6s,baz=5.1,slow=6.5,SNR=6.0						
SCHQ				LR	LR	04 30 03.1	
	comp=Z,80nm,21.2s,baz=19,slow=37						
SCHQ	**Schefferville**	**84.74**	**16**	IAmb	IAmb	03 50 37.2	
	comp=Z,6.2nm,0.9s						
RETA	**Reutte**	**84.79**	**329**	*i* PcP	**P**	**03 50 28.8**	**+0.4**
	comp=Z,1.8nm,0.5s						
BFO	**Black Forest**	**85.07**	**331**	P	**P**	**03 50 29.5**	**-0.3**
BFO				pmax	pmax		
	comp=Z,12nm,1.0s						
BFO	**Black Forest**	**85.07**	**331**	P	**P**	**03 50 29.4**	**-0.3**
BFO				IAmb	IAmb	03 50 30.8	
	comp=Z,12nm,1.0s						
G40A	**Rib Lake**	**85.12**	**34**	P	**P**	**03 50 30.9**	**+0.8**
	baz=321						
DAVA	**Damuels**	**85.31**	**330**	*i* PcP	**P**	**03 50 31.3**	**+0.2**
	comp=Z,2.8nm,0.6s						
E43A	**Lone Tree Farm**	**85.63**	**32**	P	**P**	**03 50 33.3**	**+0.8**
	baz=323						
MEH	**Mehetia**	**85.76**	**116**	*e*T	T	05 25 09.8	
	comp=Z,24nm,0.3s						
D46A	**Sault St. Mari**	**86.41**	**30**	P	**P**	**03 50 36.9**	**+0.5**
	baz=325						
D47A	**Chapleau**	**86.64**	**29**	P	**P**	**03 50 38.0**	**+0.5**
	baz=326						
KSU1	**Kansas State U**	**86.66**	**42**	P	**P**	**03 50 38.4**	**+0.6**
	baz=317						
I42A	**Draeger Farm,**	**86.78**	**34**	P	**P**	**03 50 39.1**	**+0.9**
	baz=322						
MNTX	**Cornudas Mount**	**86.79**	**52**	P	**P**	**03 50 39.8**	**+1.2**
	baz=313						
H43A	**Windswept, Lux**	**86.82**	**33**	P	**P**	**03 50 39.6**	**+1.2**
	baz=323						
AMTX	**Amarillo**	**86.85**	**48**	P	**P**	**03 50 40.3**	**+1.5**
	baz=315						
JFWS	**Jewell Farm**	**86.93**	**36**	P	**P**	**03 50 39.5**	**+0.5**
	baz=321						
E47A	**Iron Bridge**	**87.07**	**29**	P	**P**	**03 50 40.2**	**+0.7**
	baz=326						
L40A	**Anamosa**	**87.14**	**37**	P	**P**	**03 50 40.5**	**+0.5**
	baz=320						
CHGQ	**Chibougamau**	**87.21**	**23**	P	**P**	**03 50 40.6**	**+0.4**
	baz=332						
G46A	**Petoskey**	**87.37**	**31**	P	**P**	**03 50 41.8**	**+0.8**
	baz=325						
F48A	**Evansville**	**87.84**	**29**	P	**P**	**03 50 44.0**	**+0.7**
	baz=326						
H46A	**Fife Lake**	**87.86**	**32**	P	**P**	**03 50 44.6**	**+1.1**
	baz=324						
I46A	**Reed City**	**88.24**	**32**	P	**P**	**03 50 46.6**	**+1.4**
	baz=324						
TBI	**Tubuai**	**88.42**	**121**	*e*T	T	05 28 29.4	
	comp=Z,52nm,0.3s						
D52A	**ZEK Kipawa Sen**	**88.44**	**26**	P	**P**	**03 50 46.5**	**+0.3**
	baz=329						
D53A	**Lac Vacive, Po**	**88.60**	**26**	P	**P**	**03 50 47.7**	**+0.8**
	baz=330						
WMOK	**Wichita Mounta**	**88.63**	**46**	P	**P**	**03 50 49.0**	**+1.7**
	baz=316						
I48A	**Sherman Twp**	**88.77**	**31**	P	**P**	**03 50 49.3**	**+1.6**
	baz=325						
D54A	**Lac Fusel, La**	**88.89**	**25**	P	**P**	**03 50 48.8**	**+0.5**
	baz=330						
E52A	**Mattawa**	**88.94**	**27**	P	**P**	**03 50 48.9**	**+0.4**
	baz=329						
J47A	**Sunmer**	**89.08**	**32**	P	**P**	**03 50 50.8**	**+1.6**
	baz=325						
I49A	**Point Hope**	**89.33**	**31**	P	**P**	**03 50 51.7**	**+1.3**
	baz=326						
E54A	**Lac Daplat, Po**	**89.33**	**26**	P	**P**	**03 50 51.3**	**+0.9**
	baz=330						
ALGO	**Algonquin Park**	**89.44**	**27**	P	**P**	**03 50 51.7**	**+0.8**
	baz=329						
TUL1	**Leonard**	**89.45**	**43**	P	**P**	**03 50 52.2**	**+1.1**
	baz=318						
TUL1	**Leonard**	**89.45**	**43**	IAmb	IAmb	03 50 53.0	
	comp=Z,7.8nm,0.7s						
J48A	**Bridge Port**	**89.46**	**32**	P	**P**	**03 50 52.5**	**+1.5**
	baz=325						
TX32	**Lajitas Array**	**89.48**	**53**	IAmb	IAmb	03 50 53.7	
	comp=Z,5.7nm,0.7s						
TXAR	**Lajitas Array**	**89.49**	**53**	P	**P**	**03 50 52.9**	**+1.3**
	comp=Z,4.8nm,0.6s,baz=302,slow=3.1,SNR=90						
D56A	**ZEC Mazanza, M**	**89.61**	**24**	P	**P**	**03 50 52.7**	**+1.0**
	baz=332						
ABTX	**Abilene, Hawle**	**89.64**	**48**	P	**P**	**03 50 53.5**	**+1.4**
	baz=316						
G54A	**Lake Saint Pet**	**89.91**	**27**	P	**P**	**03 50 53.8**	**+0.7**
	baz=329						
D57A	**Chemin Vers le**	**89.92**	**24**	P	**P**	**03 50 54.0**	**+0.9**
	baz=332						
L47A	**Shrwood**	**89.94**	**33**	P	**P**	**03 50 53.8**	**+0.5**
	baz=324						
G53A	**Haliburton**	**89.95**	**27**	P	**P**	**03 50 53.9**	**+0.7**
	baz=329						
E56A	**St. Veronique**	**89.97**	**25**	P	**P**	**03 50 54.1**	**+0.8**
	baz=332						
HHAR	**Hobbs**	**90.17**	**42**	IAmb	IAmb	03 50 55.5	
	comp=Z,5.2nm,0.7s						
CCM	**Cathedral Cave**	**90.21**	**39**	P	**P**	**03 50 55.5**	**+0.9**
	baz=321						
L48A	**N Adams**	**90.30**	**33**	P	**P**	**03 50 56.3**	**+1.3**
	baz=325						
E57A	**Chemin Saint G**	**90.37**	**24**	P	**P**	**03 50 56.5**	**+1.2**
	baz=332						
MGMO	**Mountain Grove**	**90.38**	**40**	IAmb	IAmb	03 50 57.0	
	comp=Z,8.1nm,0.9s						
N47A	**Urbana**	**90.61**	**34**	P	**P**	**03 50 57.4**	**+1.0**
	baz=324						
U40A	**Yellville**	**90.68**	**41**	P	**P**	**03 50 57.7**	**+0.8**
	baz=320						
E58A	**La Victoria**	**90.69**	**24**	P	**P**	**03 50 57.6**	**+1.0**
	baz=333						
J52A	**Paris**	**90.85**	**30**	P	**P**	**03 50 58.4**	**+1.0**
	baz=328						
D60A	**Saint Jean D'O**	**90.92**	**22**	P	**P**	**03 50 58.5**	**+0.8**
	baz=334						
N48A	**Decatur**	**90.93**	**34**	P	**P**	**03 50 58.7**	**+0.8**
	baz=325						
W39A	**Magazine**	**91.07**	**43**	P	**P**	**03 50 59.4**	**+0.7**
	baz=319						
JCT	**Junction City**	**91.08**	**50**	P	**P**	**03 50 59.8**	**+0.9**
	baz=316						
JCT	**Junction City**	**91.08**	**50**	IAmb	IAmb	03 51 00.6	
	comp=Z,5.9nm,0.7s						
G57A	**Newington**	**91.25**	**25**	P	**P**	**03 50 59.9**	**+0.6**
	baz=332						
WHTX	**Lake Whitney,**	**91.38**	**47**	P	**P**	**03 51 01.5**	**+1.3**
	baz=317						
MIAR	**Mount Ida**	**91.67**	**43**	P	**P**	**03 51 02.7**	**+1.2**
	baz=319						
W41B	**Gary Mavity, V**	**91.90**	**42**	P	**P**	**03 51 03.1**	**+0.6**
	baz=320						
X40A	**Basin Creek Fa**	**92.11**	**42**	P	**P**	**03 51 04.8**	**+1.3**
	baz=320						
F62A	**Pittston Farm,**	**92.13**	**22**	P	**P**	**03 51 04.4**	**+1.0**
	baz=335						
P49A	**Miami Univ. Ec**	**92.14**	**34**	P	**P**	**03 51 04.6**	**+1.1**
	baz=325						
F64A	**Sherman**	**92.62**	**21**	P	**P**	**03 51 06.3**	**+0.7**
	baz=336						
ESDC	**Sonseca Array**	**97.02**	**334**	LR	LR	04 39 42.3	
	comp=Z,55nm,18.4s,baz=260,slow=38						
TORD	**Torodi Ar. Bea**	**117.27**	**316**	PKP	**PKPdf**	**03 56 39.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=34,slow=2.8,SNR=6.0						
SDV	**Santo Domingo**	**124.67**	**40**	PKP	**PKPdf**	**03 56 53.4**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=252,slow=3.0,SNR=12						
MDP	**Montagnes des**	**135.46**	**21**	PKP	**PKPdf**	**03 57 14.2**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=218,slow=1.2,SNR=4.4						
SNAA	**Sanae**	**141.35**	**197**	PKPdf	**PKPdf**	**03 57 17.6**	**-6.1**
SNAA	**Sanae**	**141.35**	**197**	PKP	**PKPdf**	**03 57 23.3**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=21,slow=4.1,SNR=4.2						
SNAA	**Sanae**	**141.35**	**197**	PKPpre	PKPpre	03 57 17.2	
SNAA					**PKPdf**	**03 57 24.4**	**+0.7**
VNA2	**Neumayer--Watz**	**142.91**	**196**	PKPdf	**PKPdf**	**03 57 23.9**	**-2.5**
VNA3	**Neumayer Olymp**	**143.16**	**195**	PKPdf	PKPbc	03 57 23.8	-0.1
VNA1	**Neumayer--Stat**	**143.31**	**196**	PKPdf	PKPbc	03 57 23.8	-0.4
LPAZ	**La Paz**	**146.08**	**60**	PKIKP	**PKPdf**	**03 57 32.6**	**-1.7**
LPAZ	**La Paz**	**146.08**	**60**	PKPbc	**PKPab**	**03 57 35.9**	**+0.1**
	comp=Z,16nm,0.6s,baz=336,slow=2.6,SNR=72						
LPAZ	**La Paz**	**146.08**	**60**	PKPdf	**PKPdf**	**03 57 32.6**	**-1.7**
MNMC	**Minye Minye**	**146.96**	**65**		**PKPdf**	**03 57 33.6**	**-1.7**
PB11	**IPOC Station P**	**147.31**	**66**	PKPdf	**PKPdf**	**03 57 33.7**	**-2.1**

ISCJB ***21*** *03:40:41.1±0.3,23°.90N±0°.02×122°.43E±0°.01,h15km±3km,*

Error ellipse: s-maj=2.9km s-min=1.9km az=155.6
TAP ***21*** *03:40:41.7,23°.97N×122°.44E,h30km,ML3.4,D*
JMA ***21*** *03:40:41.0±0.2,23°.96N×122°.40E,h14km±4km,M2.9*
ISC 21 03:40:41.0±1.1,23°.93N±0°.02×122°.42E±0°.02,h19km±3km,
n81,o0°57/152,Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.68**	**337**	*e*P	**Pb**	**03 40 53.9**	**-0.2**
	baz=327						
EOS1				*e*S	**Sn**	**03 41 04.5**	**-1.1**
	baz=327						
JYNG	**Yonagunijimaku**	**0.71**	**42**	P	**Pb**	**03 40 54.5**	**-0.2**
JYNG				*e*S	**Sb**	**03 41 03.0**	**-1.1**
ENLB	**Shoufeng**	**0.75**	**268**	*e*P	**Pb**	**03 40 55.2**	**-0.2**
	baz=254						
ENLB				*e*S	**Sg**	**03 41 06.3**	**+0.6**
	baz=254						
YOJ	**Yonaguni jima**	**0.76**	**45**	P	**Pb**	**03 40 55.6**	**0.0**
	baz=54						
YOJ				*e*S	**Sg**	**03 41 05.9**	**0.0**
	baz=54						
YOJ	**Yonaguni jima**	**0.76**	**45**	P	**Pb**	**03 40 55.5**	**0.0**
YOJ				S	**Sb**	**03 41 04.3**	**-1.2**
TWD	**Chiawan**	**0.77**	**282**	*e*P	**Pb**	**03 40 56.0**	**+0.2**
	baz=278						
TWD				S	**Sg**	**03 41 06.8**	**+0.5**
	baz=278						
NANB	**Nanao**	**0.79**	**309**	*e*P	**Pg**	**03 40 56.5**	**0.0**
	baz=313						
NANB				*e*S	**Sg**	**03 41 06.8**	**-0.2**
	baz=313						
NACB	**Ninganchiao**	**0.80**	**288**	*e*P	**Pb**	**03 40 56.1**	**-0.1**
	baz=271						
NACB				*e*S	**Sb**	**03 41 07.0**	**+0.3**
	baz=271						
TWC	**Suao**	**0.86**	**323**	P	**Pb**	**03 40 56.5**	**-0.8**
	baz=320						
TWC				*e*S	**Sb**	**03 41 08.6**	**+0.2**
	baz=320						
ETLH	**Xiulin Townshi**	**0.91**	**288**	*e*P	**Pb**	**03 40 57.9**	**-0.3**
	baz=274						
ETLH				*e*S	**Sb**	**03 41 09.9**	**+0.1**
	baz=274						
ESL	**Shilin**	**0.91**	**263**	*e*P	**Pb**	**03 40 57.7**	**-0.6**
	baz=251						
ESL				S	**Sb**	**03 41 10.2**	**+0.2**
	baz=251						
EGFH	**Guangfu**	**0.95**	**255**	*e*S	**Sb**	**03 41 11.3**	**+0.4**
	baz=252						
HGSD	**Ruisui**	**1.01**	**245**	*e*P	**Pb**	**03 40 59.2**	**-0.7**
	baz=243						
HGSD				*e*S	**Sb**	**03 41 12.8**	**-0.1**
	baz=243						
EGS		**1.02**	**334**	P	**Pb**	**03 41 00.0**	**0.0**
	baz=332						
TWE	**Neicheng**	**1.05**	**319**	P	**Pb**	**03 41 00.3**	**-0.2**
	baz=317						
TWE				*e*S	**Sn**	**03 41 14.6**	**-0.3**
	baz=317						
ENTT	**Nioudou**	**1.06**	**312**	P	**Pg**	**03 41 01.4**	**-0.1**
	baz=296						
ENTT				*e*S	**Sg**	**03 41 15.2**	**-0.2**
	baz=296						
NDT	**Datong Townshi**	**1.07**	**309**	P	**Pn**	**03 41 01.4**	**+0.4**
	baz=306						
NDT				S	**Sb**	**03 41 14.7**	**+0.2**
	baz=306						
NTC	**Toucheng**	**1.07**	**330**	*e*P	**Pg**	**03 41 01.5**	**-0.2**
	baz=327						
NTC				*e*S	**Sg**	**03 41 15.7**	**-0.1**
	baz=327						
NNSB	**Datong**	**1.07**	**298**	*e*P	**Pb**	**03 41 00.9**	**-0.1**
	baz=295						
NNSB				*e*S	**Sb**	**03 41 14.4**	**-0.3**
	baz=295						
WHF	**Hehuan Shan**	**1.08**	**282**	*i* P	**Pb**	**03 41 00.7**	**-0.6**
	baz=279						
WHF				*e*S	**Sb**	**03 41 15.5**	**+0.2**
	baz=279						
NNS	**Nan Shan**	**1.09**	**298**	P	**Pb**	**03 41 01.0**	**-0.2**
	baz=295						
NNS				*e*S	**Sg**	**03 41 16.2**	**-0.2**
	baz=295						
EHY	**Hungye**	**1.09**	**248**	P	**Pn**	**03 41 01.0**	**-0.3**
	baz=261						
EHY				*e*S	**Sn**	**03 41 16.0**	**+0.1**
	baz=261						
TWB1	**Santiao Chiao**	**1.15**	**340**	*e*P	**Pn**	**03 41 01.5**	**-0.5**
	baz=354						
TWB1				*e*S	**Sn**	**03 41 17.0**	**-0.3**
	baz=354						
CHGB	**Renai**	**1.15**	**277**	P	**Pn**	**03 41 02.1**	**-0.2**
	baz=274						
CHGB				*e*S	**Sn**	**03 41 17.6**	**0.0**
	baz=274						
YULB	**Yu-li**	**1.16**	**243**	*e*P	**Pn**	**03 41 02.3**	**+0.1**
	baz=230						
YULB				*e*S	**Sb**	**03 41 16.7**	**-0.4**
	baz=230						
TIPB	**Shuangxi**	**1.18**	**333**	*e*P	**Pn**	**03 41 01.9**	**-0.6**
	baz=330						
TIPB				S	**Sb**	**03 41 17.2**	**-0.5**
	baz=330						
TWF1	**Yuli**	**1.18**	**241**	P	**Pn**	**03 41 02.6**	**+0.1**
	baz=239						
TWF1				S	**Sb**	**03 41 17.8**	**+0.1**
	baz=239						
TWT	**Tachien**	**1.19**	**286**	*e*S	**Sn**	**03 41 18.8**	**+0.3**
	baz=272						
VWDT	**VWDT**	**1.19**	**262**	*e*P	**Pn**	**03 41 02.8**	**+0.3**
	baz=259						
VWDT				*e*S	**Sb**	**03 41 17.2**	**-0.7**
	baz=259						
NWLT	**Wulai**	**1.19**	**315**	*e*P	**Pb**	**03 41 03.2**	**+0.2**
	baz=313						
NWLT				*e*S	**Sn**	**03 41 18.

WHP				*e*S		**Sb**	**03 41 23.7**	**-0.2**
	baz=272							
YUS	**Yu-Shan**	**1.42**	**252**	*e*P		**Pn**	**03 41 06.6**	**+0.4**
	baz=250							
YUS				*e*S		**Sn**	**03 41 24.2**	**-0.4**
	baz=250							
YM10	**YM10**	**1.46**	**328**	*e*P		**Pn**	**03 41 06.7**	**+0.4**
	baz=326							
WHYT	**Xinyi Township**	**1.46**	**261**	*e*P		**Pn**	**03 41 06.6**	**+0.2**
	baz=247							
WHYT				*e*S		**Sb**	**03 41 25.7**	**0.0**
	baz=247							
NSTT	**Nanjuang**	**1.48**	**299**	P		**Pb**	**03 41 08.1**	**+0.3**
	baz=296							
NSTT				*e*S		**Sb**	**03 41 26.6**	**+0.3**
	baz=296							
JKRS	**Kuro-shima**	**1.48**	**78**	P		**Pb**	**03 41 07.8**	**-0.1**
JKRS				*e*S		**Sb**	**03 41 27.8**	**+1.4**
ELDTW	**Lidau**	**1.48**	**241**	P		**Pn**	**03 41 06.7**	**-0.1**
	baz=239							
ELDTW				S		**Sn**	**03 41 24.1**	**-1.6**
	baz=239							
TWY	**Chenhua**	**1.54**	**331**	*e*P		**Pn**	**03 41 07.9**	**+0.4**
	baz=329							
TWY				*e*S		**Sn**	**03 41 27.0**	**0.0**
	baz=329							
TWQ1	**Liyutan**	**1.56**	**286**	*e*P		**Pb**	**03 41 09.4**	**+0.1**
	baz=283							
TWQ1				*e*S		**Sb**	**03 41 28.4**	**-0.4**
	baz=283							
WNT	**Mingjian**	**1.59**	**269**	*e*P		**Pb**	**03 41 09.8**	**0.0**
	baz=266							
WNT				*e*S		**Sb**	**03 41 30.6**	**+1.0**
	baz=266							
JIJ	**Ishigaki jima**	**1.63**	**74**	P		**Pn**	**03 41 08.9**	**+0.2**
JIJ				*e*S		**Sb**	**03 41 30.2**	**-0.5**
CHN5	**Tsauling**	**1.63**	**259**	*e*P		**Pb**	**03 41 10.2**	**-0.4**
	baz=247							
CHN5				*e*S		**Sb**	**03 41 30.3**	**-0.5**
	baz=247							
TTN	**Taitung**	**1.65**	**225**	*e*S		**Sn**	**03 41 29.7**	**-0.1**
	baz=224							
TWGBT	**Beinan**	**1.66**	**228**	*e*P		**Pn**	**03 41 09.4**	**+0.4**
	baz=240							
TWGBT				*e*S		**Sn**	**03 41 29.4**	**-0.4**
	baz=240							
TWG	**Pinlang**	**1.66**	**229**	P		**Pn**	**03 41 09.4**	**+0.3**
	baz=240							
TWG				S		**Sn**	**03 41 29.4**	**-0.5**
	baz=240							
STYT	**Tauyuan**	**1.71**	**244**	*e*P		**Pn**	**03 41 10.7**	**+0.9**
	baz=234							
STYT				*e*S		**Sn**	**03 41 31.5**	**+0.3**
	baz=234							
WDLH	**Douliu**	**1.74**	**263**	*e*P		**Pb**	**03 41 11.9**	**-0.5**
	baz=260							
WDLH				*e*S		**Sb**	**03 41 34.1**	**+0.2**
	baz=260							
TPUB	**Ta-pu**	**1.76**	**250**	*e*P		**Pn**	**03 41 11.6**	**+1.1**
	baz=257							
TPUB				*e*S		**Sb**	**03 41 34.1**	**-0.3**
	baz=257							
CHN4	**Tsaushan**	**1.77**	**252**	*e*P		**Pb**	**03 41 12.5**	**-0.4**
	baz=249							
CHN4				*e*S		**Sb**	**03 41 35.2**	**+0.4**
	baz=249							
WTP	**Ta-pu**	**1.79**	**248**	*e*P		**Pb**	**03 41 12.5**	**-0.7**
	baz=237							
WTP				*e*S		**Sb**	**03 41 35.2**	**-0.2**
	baz=237							
JISG	**Ishigakijimahi**	**1.84**	**69**	P		**Pb**	**03 41 13.5**	**-0.6**
JISG				*e*S		**Sb**	**03 41 37.3**	**+0.5**
SLGT	**Liugui**	**1.88**	**241**	*e*P		**Pb**	**03 41 14.4**	**-0.2**
	baz=232							
SLGT				*e*S		**Sb**	**03 41 36.8**	**-1.0**
	baz=232							
CHY	**Chiayi**	**1.88**	**257**	*e*S		**Sb**	**03 41 38.1**	**+0.2**
	baz=255							
SGST	**Jiashian**	**1.89**	**244**	*e*S		**Sb**	**03 41 38.2**	**+0.1**
	baz=234							
CHN1	**Nanshi**	**1.89**	**247**	*e*P		**Pn**	**03 41 13.8**	**+1.5**
	baz=245							
CHN1				*e*S		**Sb**	**03 41 38.2**	**0.0**
	baz=245							
ECL	**Taimali**	**1.89**	**226**	*e*P		**Pn**	**03 41 12.0**	**-0.3**
	baz=225							
ECL				S		**Sn**	**03 41 34.7**	**-0.9**
	baz=225							
TWK	**Hsinying**	**1.89**	**250**	*e*P		**Pb**	**03 41 14.4**	**-0.5**
	baz=248							
TWK				S		**Sb**	**03 41 38.7**	**+0.4**
	baz=248							
SNST	**Tainan City**	**1.90**	**249**	*e*S		**Sb**	**03 41 38.3**	**-0.2**
	baz=247							
SSD	**Sandimen**	**2.02**	**235**	*e*P		**Pn**	**03 41 14.8**	**+0.7**
	baz=229							
SSD				*e*S		**Sn**	**03 41 39.6**	**+0.7**
	baz=229							
LAY	**Lan-yu**	**2.04**	**203**	*e*P		**Pn**	**03 41 14.3**	**-0.1**
	baz=203							
LAY				*e*S		**Sn**	**03 41 38.4**	**-1.0**
	baz=203							
MASBT	**Mashibuluo**	**2.10**	**232**	*e*P		**Pn**	**03 41 15.7**	**+0.5**
	baz=226							
MASBT				*e*S		**Sn**	**03 41 41.5**	**+0.7**
	baz=226							
EAST	**Anshuo**	**2.11**	**224**	P		**Pn**	**03 41 16.0**	**+0.6**
	baz=222							
JTJ	**Tarama**	**2.20**	**71**	P		**Pn**	**03 41 17.6**	**+1.1**
JTJ				*e*S		**Sn**	**03 41 45.0**	**+1.8**
SCZT	**Fangliau**	**2.27**	**227**	*e*P		**Pn**	**03 41 18.4**	**+1.0**
	baz=220							
SCZT				*e*S		**Sn**	**03 41 45.3**	**+0.3**
	baz=220							
TWKBT	**Hengchun**	**2.47**	**217**	*e*S		**Sn**	**03 41 51.2**	**+1.3**
	baz=217							
WDGT	**Dungji**	**2.62**	**256**	*e*P		**Pn**	**03 41 23.6**	**+1.3**
	baz=254							
WDGT				S		**Sn**	**03 41 54.3**	**+0.7**
	baz=254							
PHUB	**P'eng-hu**	**2.65**	**262**	*e*P		**Pn**	**03 41 22.7**	**+0.1**
	baz=259							
PHUB				*e*S		**Sn**	**03 41 54.7**	**+0.5**
	baz=259							
PNG	**Penghu**	**2.65**	**263**	*e*P		**Pn**	**03 41 24.6**	**+1.9**
	baz=260							
PNG				*e*S		**Sn**	**03 41 55.2**	**+0.8**
	baz=260							

ISCJB ***21*** *03:41:05.3±0.7, 0.°08S±0.°03×77.°48W±0.°03, h10km±4km, Error ellipse: s-maj=5.6km s-min=4.4km az=20.5*
IGQ ***21*** *03:41:05.0±0.2, 0.°S±2.°×7.°7W±.°, h7km, Mjma3.2, ML4.0, MLv3.5*
ISC 21 03:41:05.3±0.9, **0.°08S**±0.°03×**77.°48W**±0.°03, **h16**km±7km, **n42**, σ**1°02**/55, **Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REVS	**Reventador Sur**	**0.15**	**259**	P	**Pg**	**03 41 09.3**	**-0.2**
REVS				S	**Sg**	**03 41 12.6**	**+0.2**
LAV4	**Lava4-Reventad**	**0.15**	**264**	P	**Pg**	**03 41 09.3**	**-0.4**
CASC	**Dorado de Casc**	**0.25**	**33**	P	**Pg**	**03 41 10.5**	**-0.5**
CAYA	**Cayambe**	**0.54**	**286**	P	**Pg**	**03 41 15.5**	**-0.7**
CAYA				S	**Sg**	**03 41 23.2**	**-0.2**
YAHU	**Yahuarcocha**	**0.74**	**307**	P	**Pg**	**03 41 18.9**	**-1.0**
AIB2	**Ibarra (Univer**	**0.75**	**303**	P	**Pg**	**03 41 19.5**	**-0.6**
IMBA	**Imbabura, San**	**0.80**	**296**	P	**Pg**	**03 41 20.8**	**-0.3**
TULM	**Tulcn-Chalpat**	**0.85**	**338**	P	**Pg**	**03 41 20.4**	**-1.5**
ATUL	**Tulcn**	**0.88**	**344**	P	**Pg**	**03 41 21.8**	**-0.7**
ACOT	**Cotacachi (Cas**	**0.88**	**295**	P	**Pb**	**03 41 22.9**	**+0.5**
URCU	**Urcuqui**	**0.93**	**303**	P	**Pg**	**03 41 22.9**	**-0.6**
CUSW	**Cuicocha Oeste**	**0.95**	**292**	P	**Pg**	**03 41 23.3**	**-0.5**
CUIC	**Cuicocha-Domo**	**0.96**	**293**	P	**Pg**	**03 41 23.4**	**-0.7**
CUIC				S	**Sb**	**03 41 36.6**	**+0.2**
ARDO	**Archidona, Ten**	**0.97**	**200**	P	**Pg**	**03 41 22.8**	**-1.3**
ARDO				S	**Sg**	**03 41 36.5**	**-0.4**
ATEN	**Tena**	**0.98**	**200**	P	**Pg**	**03 41 21.9**	**-2.5**
CUSE	**Cuicocha Este**	**1.00**	**292**	P	**Pg**	**03 41 23.8**	**-0.9**
CUSE				S	**Sb**	**03 41 38.0**	**+0.5**
OTAV	**Otavalo**	**1.02**	**288**	P	**Pg**	**03 41 24.0**	**-1.2**
PULU	**Pululahua**	**1.03**	**275**	P	**Pg**	**03 41 24.5**	**-0.8**
VC1	**Cotopaxi 1**	**1.08**	**239**	P	**Pg**	**03 41 25.8**	**-0.6**
BTAM	**Cotopaxi Volca**	**1.10**	**237**	P	**Pg**	**03 41 26.0**	**-0.7**
YANA	**Yana**	**1.10**	**268**	P	**Pg**	**03 41 25.6**	**-1.0**
BVC2	**Cotopaxi Volca**	**1.10**	**238**	P	**Pg**	**03 41 26.1**	**-0.6**
BREF	**Cotopaxi Volca**	**1.13**	**239**	P	**Pg**	**03 41 26.7**	**-0.6**
TERV	**Terraza Guagua**	**1.13**	**265**	P	**Pg**	**03 41 26.5**	**-0.8**
BNAS	**Cotopaxi Volca**	**1.17**	**240**	P	**Pg**	**03 41 27.6**	**-0.3**
PIS1	**Pisayambo**	**1.33**	**223**	P	**Pn**	**03 41 29.8**	**+0.1**
PISA	**Pisayambo**	**1.33**	**223**	P	**Pn**	**03 41 29.8**	**+0.1**
PAC1	**Pacto, Paraso**	**1.36**	**284**	P	**Pn**	**03 41 28.8**	**-1.0**
SAGO	**Sagoatoa**	**1.60**	**228**	P	**Pb**	**03 41 35.3**	**+0.5**
BRUN	**Tungurahua Vol**	**1.63**	**215**	P	**Pn**	**03 41 34.5**	**+0.9**
BULB	**Ulba Tungurahu**	**1.64**	**215**	P	**Pn**	**03 41 34.4**	**+0.5**
BPAT	**Tungurahua Vol**	**1.71**	**214**	P	**Pn**	**03 41 35.7**	**+0.8**
CRUC	**La Cruz**	**1.71**	**18**	*e*P	**Pn**	**03 41 35.4**	**+0.6**
CRUC				*e*S	**Sb**	**03 41 59.0**	**+0.9**
CRUC				*i*		03 42 02.1	
	comp=Z,132nm,0.5s						
CRUC	**La Cruz**	**1.71**	**18**	*e*P	**Pn**	**03 41 35.4**	**+0.6**
CRUC				*e*S	**Sb**	**03 41 59.0**	**+0.9**
CRUC				*i*		03 42 02.1	
	comp=Z,132nm,0.5s						
BBAC	**Balboa, Cauca**	**2.10**	**6**	*e*P	**Pb**	**03 41 42.9**	**-0.1**
BBAC				*i*		03 42 14.3	
	comp=Z,47nm,0.3s						
BBAC	**Balboa, Cauca**	**2.10**	**6**	*e*P	**Pb**	**03 41 42.9**	**-0.1**
BBAC				*i*		03 42 14.3	
	comp=Z,47nm,0.3s						
FLOC	**Florencia**	**2.46**	**48**	*e*P	**Pn**	**03 41 43.3**	**-1.4**
FLOC				*e*S	**Sb**	**03 42 19.7**	**+0.5**
FLOC				*i*		03 42 21.6	
	comp=Z,125nm,0.3s						
FLOC	**Florencia**	**2.46**	**48**	*e*P	**Pn**	**03 41 43.3**	**-1.4**
FLOC				*e*S	**Sb**	**03 42 19.7**	**+0.5**
FLOC				*i*		03 42 21.6	
	comp=Z,125nm,0.3s						
PTLC	**Puerto Leguiza**	**2.69**	**85**	*e*P	**Pn**	**03 41 47.2**	**-0.7**
PTLC				*e*S	**Sb**	**03 42 27.2**	**+1.3**
PTLC	**Puerto Leguiza**	**2.69**	**85**	*e*P	**Pn**	**03 41 47.2**	**-0.7**
PTLC				*e*S	**Sb**	**03 42 27.2**	**+1.3**
MACC	**Macarena, Meta**	**4.25**	**59**	*e*P	**Pb**	**03 42 19.4**	**-0.2**
MACC				*e*S	**Sb**	**03 43 13.6**	**+3.0**
MACC				*i*		03 43 20.6	
	comp=Z,66nm,0.4s						
MACC	**Macarena, Meta**	**4.25**	**59**	*e*P	**Pb**	**03 42 19.4**	**-0.2**
MACC				*e*S	**Sb**	**03 43 13.6**	**+3.0**
MACC				*i*		03 43 20.6	
	comp=Z,66nm,0.4s						

NEIC ***21*** *04:28:40.5±1.7, 13.°06N±0.°07×89.°08W±0.°07, h62km±6km, mb4.3/45, Md4.7(SNET)*
ISCJB ***21*** *04:28:40.4±0.4, 13.°10N±0.°05×89.°09W±0.°03, h77km±3km, mb4.0/11, Error ellipse: s-maj=8.7km s-min=3.6km az=25.6*
SNET ***21*** *04:28:41.4±0.8, 13.°10N×89.°16W, h57km±5km, ML4.7, MW4.8*
GCG ***21*** *04:28:41.0±0.8, 13.°11N×89.°19W, h9km±999km, MD4.4*
IDC ***21*** *04:28:43.2±1.1, 13.°29N×88.°89W, h84km±10km, mb3.7/11, mb1 4.0/15, mb1mx3.7/39, mbtmp4.1/15, MS3.2/10, Ms1 3.2/10, ms1mx2.9/35, Error ellipse: s-maj=24.9km s-min=7.5km az=45.0*
MEX ***21*** *04:28:46.1±0.3, 12.°94N×89.°54W, h74km±16km, MD4.4*
ISC 21 04:28:40.9±0.8, **13.°11N**±0.°07×**89.°09W**±0.°04, **h64**km±6km, **n109**, σ**1°29**/113, **mb4.2**/29, **6C-18D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.33**	**6**	⇓*i*P	**Pn**	**04 28 51.7**	**+0.1**
AIES				⇓*e*S	**Sn**	**04 29 00.3**	**+0.9**
COEG	**Centro de Oper**	**0.54**	**22**	⇓*i*P	**Pn**	**04 28 54.1**	**+0.4**
COEG				IAML		04 29 05.6	
	comp=Z,41μm,0.3s						
ALJI	**Alcalda de J**	**0.55**	**67**	⇓*i*P	**Pn**	**04 28 54.7**	**+1.1**
ALJI				IAML		04 29 15.5	
	comp=Z,29μm,0.4s						
SNET	**Serv Nac Est T**	**0.59**	**346**	⇓*i*P	**Pn**	**04 28 54.3**	**+0.1**
SNET				*e*S	**Sn**	**04 29 04.1**	**+0.2**
SNET				IAML		04 29 05.6	
	comp=Z,30μm,0.2s						
SNET	**Serv Nac Est T**	**0.59**	**346**		**Pn**	**04 28 54.0**	**-0.2**
SNET				Sn	**Sn**	**04 29 04.1**	**+0.2**
UTEC	**Universidad Te**	**0.59**	**349**	*e*P	**Pn**	**04 28 54.5**	**+0.2**
UESV	**Universidad de**	**0.60**	**29**	*e*P	**Pn**	**04 28 54.9**	**+0.7**
UDBS	**Universidad Do**	**0.60**	**354**	⇓*e*P	**Pn**	**04 28 54.8**	**+0.4**
OPAM	**Oficina de Pla**	**0.60**	**350**	⇓*e*P	**Pn**	**04 28 54.7**	**+0.4**
OPAM				IAML		04 29 06.2	
	comp=Z,30μm,0.4s						
UESS	**Universidad de**	**0.61**	**350**	⇓*e*P	**Pn**	**04 28 54.9**	**+0.4**
PAVA	**Las Pavas**	**0.61**	**14**	⇓*i*P	**Pn**	**04 28 55.2**	**+0.7**
PAVA				*e*S	**Sn**	**04 29 05.8**	**+1.3**
PAVA				IAML		04 29 11.6	
	comp=Z,28μm,0.4s						
UEES	**Universidad Ev**	**0.62**	**346**	⇓*i*P	**Pn**	**04 28 54.8**	**+0.3**
LFU	**La Fuente**	**0.63**	**358**	⇓*i*P	**Pn**	**04 28 55.3**	**+0.6**
COEB	**Comit de Eme**	**0.66**	**55**	⇓*i*P	**Pn**	**04 28 56.1**	**+1.1**
COEB				*e*S	**Sn**	**04 29 07.3**	**+1.9**
COEB				IAML		04 29 08.7	
	comp=Z,36μm,0.5s						
TECA	**Tecapa**	**0.68**	**56**	⇓*i*P	**Pn**	**04 28 56.6**	**+1.2**
JUCU	**Jucuar¡n**	**0.83**	**80**	⇓*i*P	**Pn**	**04 28 57.8**	**+0.8**
JUCU				IAML		04 29 15.2	
	comp=Z,14μm,0.5s						
LCY	**Lacayo**	**0.83**	**68**	⇓*e*P	**Pn**	**04 28 58.8**	**+1.7**
SBLS	**San Blas**	**0.89**	**324**	⇓*i*P	**Pn**	**04 28 58.1**	**+0.2**
SNJE	**San Jose**	**0.90**	**326**	⇓*i*P	**Pn**	**04 28 58.3**	**+0.2**
VICT	**Victoria**	**0.95**	**27**	⇑*i*P	**Pn**	**04 28 59.8**	**+1.3**
VICT				*e*S	**Sn**	**04 29 13.8**	**+2.2**
RTR	**El Retiro**	**0.95**	**325**	⇓*i*P	**Pn**	**04 28 59.1**	**+0.5**
UNIC	**Universidad Ca**	**0.97**	**333**	*e*P	**Pn**	**04 28 59.3**	**+0.4**
LLGN	**La Laguna**	**1.05**	**8**	⇑*i*P	**Pn**	**04 29 00.8**	**+1.0**
FAGO	**Alcalda de S**	**1.12**	**59**	⇑*i*P	**Pn**	**04 29 01.8**	**+1.2**
LCND	**La Caada**	**1.18**	**80**	*e*P	**Pn**	**04 29 03.0**	**+1.5**
LCND				IAML		04 29 22.1	
	comp=Z,13μm,0.3s						
CNCH	**Conchagua**	**1.23**	**82**	*e*P	**Pn**	**04 29 03.7**	**+1.4**
CNCH				*e*S	**Sn**	**04 29 20.7**	**+2.6**
CNCH				IAML		04 29 28.6	
	comp=Z,20μm,0.3s						
MTO3	**Montecristo**	**1.31**	**348**	⇑*i*P	**Pn**	**04 29 04.1**	**+0.8**
IXG	**Ixpaco**	**1.69**	**309**	*e*P	**Pn**	**04 29 09.2**	**+0.8**
IXG	**Ixpaco**	**1.69**	**309**	⇑*i*P	**Pn**	**04 29 08.2**	**-0.1**
NBG	**Las Nubes**	**1.91**	**320**	*e*P	**Pn**	**04 29 13.6**	**+2.2**
PCG	**Pacaya**	**1.95**	**311**	*e*P	**Pn**	**04 29 14.3**	**+2.4**
TGUH	**Tegucigalpa,Un**	**2.00**	**62**	⇑*i*P	**Pn**	**04 29 14.2**	**+1.6**
TGUH	**Tegucigalpa,Un**	**2.00**	**62**		**Pn**	**04 29 13.3**	**+0.8**
TGUH				Sn	**Sn**	**04 29 35.7**	**-0.8**
MRL	**Marmol**	**2.04**	**344**	*e*P	**Pn**	**04 29 15.5**	**+2.3**
FUG	**Fuego 3**	**2.16**	**308**	*e*P	**Pn**	**04 29 16.0**	**+1.2**
APG	**El Apazote**	**2.31**	**325**	P	**Pn**	**04 29 17.8**	**+1.0**
	comp=Z,17nm,0.3s,baz=162,slow=8.3,SNR=130						
APG				S	**Sn**	**04 29 48.2**	**+4.0**
	comp=Z,43nm,0.3s,baz=216,slow=19,SNR=6.5						
APG				LR	LR	04 30 17.2	
	comp=Z,348nm,20.2s,baz=116,slow=41						
ESTN	**Estel**	**2.65**	**90**		**Pn**	**04 29 21.5**	**+0.2**
ESTN				Sn	**Sn**	**04 29 51.6**	**-0.8**
ERG	**Entre ros, C**	**2.75**	**299**	*e*P	**Pn**	**04 29 24.1**	**+1.5**
STG3	**Santiaguito 3,**	**2.89**	**304**	*e*P	**Pn**	**04 29 26.1**	**+1.5**
ACON	**Acoyapa**	**3.99**	**106**		**Pn**	**04 29 39.2**	**-0.3**
CCIG	**Comitan**	**4.32**	**317**	*e*P	**Pn**	**04 29 47.0**	**+2.8**
CCIG				*e*S	**Sn**	**04 30 33.8**	**+0.4**
PCIG		**4.76**	**303**	*e*P	**Pn**	**04 29 51.2**	**+1.1**
PCIG				*e*S	**Sn**	**04 30 41.8**	**-2.2**
PCIG		**4.76**	**303**		**Pn**	**04 29 51.2**	**+1.1**
ESPN	**Las Esperanzas**	**4.76**	**101**		**Pn**	**04 29 49.3**	**-0.8**
JTS	**Las Juntas de**	**4.93**	**124**	P	**Pn**	**04 29 54.7**	**+2.3**
	comp=Z,4.9nm,0.3s,baz=11,slow=20,SNR=31						
JTS				S	**Sn**	**04 30 49.6**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=345,slow=19,SNR=2.2						
JTS	**Las Juntas de**	**4.93**	**124**		**Pn**	**04 29 52.7**	**+0.2**
JTS					**Sn**	**04 30 45.8**	**-2.4**
TGIG		**5.34**	**314**	*e*P	**Pn**	**04 29 59.8**	**+1.7**
TGIG				*i* S	**Sn**	**04 30 58.0**	**-0.3**
TGIG		**5.34**	**314**		**Pn**	**04 29 59.8**	**+1.7**
CMIG	**Matias Romero**	**6.85**	**306**	P	**Pn**	**04 30 20.2**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=122,slow=8.0,SNR=45						
CMIG				S	**Sn**	**04 31 36.0**	**+0.5**
	comp=Z,5.2nm,0.3s,baz=265,slow=21,SNR=8.2						
CMIG				LR	LR	04 32 27.1	
	comp=Z,52nm,21.9s,baz=118,slow=32						
CMIG	**Matias Romero**	**6.85**	**306**	*e*P	**Pn**	**04 30 20.0**	**+1.2**
CMIG				*i* S	**Sn**	**04 31 34.1**	**-1.3**
CMIG	**Matias Romero**	**6.85**	**306**		**Pn**	**04 30 20.0**	**+1.2**
TEIG	**Tepich**	**7.12**	**6**	P	**Pn**	**04 30 25.0**	**+2.6**
	comp=Z,10nm,0.3s,baz=136,slow=0.8,SNR=63						
TEIG				LR	LR	04 33 32.1	
	comp=Z,282nm,19.4s,baz=48,slow=42						
TEIG	**Tepich**	**7.12**	**6**		**Pn**	**04 30 22.9**	**+0.5**
ROSC	**El Rosal**	**16.73**	**118**	LR	LR	04 38 55.2	
	comp=Z,89nm,20.4s,baz=130,slow=37						
SDV	**Santo Domingo**	**18.59**	**101**	P	**P**	**04 32 53.5**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=293,slow=6.3,SNR=24						
SDV				LR	LR	04 40 16.5	
	comp=Z,50nm,20.2s,baz=252,slow=38						
SDV	**Santo Domingo**	**18.59**	**101**	P	**P**	**04 32 53.0**	**-0.3**
SDV				IAmb	IAmb	04 32 54.4	
	comp=Z,10nm,0.8s						
435B	**Jarrell**	**19.25**	**337**	P	**P**	**04 33 00.5**	**+0.3**
JCT	**Junction City**	**19.92**	**332**	P	**P**	**04 33 07.8**	**+0.3**
WHTX	**Lake Whitney,**	**20.30**	**339**	P	**P**	**04 33 10.8**	**-0.7**
GOGA	**Godfrey**	**20.85**	**13**	P	**P**	**04 33 18.0**	**+0.6**
GOGA				IAmb	IAmb	04 33 21.5	
	comp=Z,14nm,0.7s						
TXAR	**Lajitas Array**	**21.06**	**322**	P	**P**	**04 33 21.6**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=144,slow=9.7,SNR=45						
TX31	**Lajitas Ar. Si**	**21.06**	**322**	P	**P**	**04 33 20.0**	**+0.1**
TX32	**Lajitas Array**	**21.06**	**322**	P	**P**	**04 33 20.2**	**+0.3**
Y52A	**Lilburn**	**21.16**	**12**	P	**P**	**04 33 22.0**	**+1.2**
Y52A				IAmb	IAmb	04 33 25.2	
	comp=Z,14nm,0.6s						
ABTX	**Abilene, Hawle**	**21.69**	**335**	IAmb	IAmb	04 33 41.7	
	comp=Z,6.9nm,0.8s						
MIAR	**Mount Ida**	**21.72**	**350**	P	**P**	**04 33 27.5**	**+0.7**
MIAR				IAmb	IAmb	04 33 31.4	
	comp=Z,9.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**22.84**	**354**	IAmb	IAmb	04 33 42.2	
	comp=Z,8.9nm,0.8s						
LPIG	**La Paz**	**22.86**	**302**	LR	LR	04 43 46.7	
	comp=Z,30nm,18.6s,baz=142,slow=39						
LCAR	**Lake Charles**	**22.93**	**356**	IAmb	IAmb	04 33 42.8	
	comp=Z,6.8nm,0.7s						
TKL	**Tuckaleechee C**	**22.95**	**11**	P	**P**	**04 33 39.2**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=180,slow=12,SNR=3.9						
TKL				LR	LR	04 42 21.3	
	comp=Z,98nm,20.4s,baz=192,slow=36						
FNO	**Franklin**	**23.29**	**343**	P	**P**	**04 33 42.6**	**-0.6**
U40A	**Yellville**	**23.39**	**352**	IAmb	IAmb	04 33 47.8	
	comp=Z,5.2nm,0.7s						
PBMO	**Poplar Bluff**	**23.60**	**357**	P	**P**	**04 33 46.4**	**+0.4**
PBMO				IAmb	IAmb	04 34 04.4	
	comp=Z,16nm,0.8s						
PCRV	**Puerto La Cruz**	**24.12**	**94**	P	**P**	**04 33 49.8**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=221,slow=11,SNR=3.9						
AMTX	**Amarillo**	**24.49**	**334**	IAmb	IAmb	04 33 56.5	
	comp=Z,6.8nm,0.7s						
CCM	**Cathedral Cave**	**24.91**	**356**	P	**P**	**04 33 58.2**	**+0.2**
CCM				IAmb	IAmb	04 34 15.8	
	comp=Z,9.3nm,0.9s						
PV11	**David Mesa, Pa**	**30.63**	**328**	IAmb	IAmb	04 34 53.5	
	comp=Z,5.5nm,0.7s						
PV17	**East Wray Mesa**	**30.66**	**328**	IAmb	IAmb	04 34 53.2	
	comp=Z,6.4nm,0.6s						
PV16	**Nyswonger Mesa**	**30.67**	**328**	IAmb	IAmb	04 34 53.0	
	comp=Z,2.7nm,0.6s						
PV04	**Paradox Valley**	**30.72**	**329**	IAmb	IAmb	04 34 53.5	
	comp=Z,6.9nm,0.6s						
PV22	**Blue Mesa, Par**	**30.77**	**329**	IAmb	IAmb	04 34 54.3	
	comp=Z,3.0nm,0.6s						
PV23	**Carpenter Ridg**	**30.82**	**329**	IAmb	IAmb	04 34 55.3	
	comp=Z,7.1nm,1.0s						
O20A	**White River Ci**	**31.75**	**331**	IAmb	IAmb	04 35 04.0	
	comp=Z,3.0nm,0.7s						
RSSD	**Black Hills**	**33.46**	**340**	P	**P**	**04 35 14.7**	**+0.6**
RSSD				IAmb	IAmb	04 35 17.6	
	comp=Z,3.0nm,0.7s						
SAML	**Samuel**	**33.80**	**129**	P	**P**	**04 35 16.8**	**-0.3**
PDAR	**Pinedale Array**	**34.45**	**333**	P	**P**	**04 35 22.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=125,slow=11,SNR=10						
PDAR				PcP	**PcP**	**04 37 55.1**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=144,slow=5.1,SNR=8.0						
PDAR	**Pinedale Array**	**34.45**	**333**	P	**P**	**04 35 22.1**	**-0.7**
PDAR					**PcP**	**04 37 55.9**	**-1.1**
TPAW	**Teton Pass**	**35.64**	**332**	IAmb	IAmb	04 35 37.0	
	comp=Z,3.0nm,0.7s						
LPAZ	**La Paz**	**35.81**	**144**	P	**P**	**04 35 36.1**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=339,slow=7.2,SNR=7.1		

Code	Station Name	Δ°	ΔZ°	Phase	Op	ID	Time h m s	Res
LPAZ	La Paz	7.82	119	Pn		Pn	04 38 22.2	+2.4
MNMC	Minye Minye	8.50	141	Pn		Pn	04 38 33.3	+4.4
PB11	IPOC Station P	8.95	144	Pn		Pn	04 38 37.8	+2.8
GO01	Chusmiza	9.15	141	Pn		Pn	04 38 39.5	+1.5
SAML	Samuel	12.37	74			Pn	04 39 19.3	-2.4
OTAV	Otavalo	13.10	346	Pn		Pn	04 39 23.0	-9.0
PEL	Peldehue	20.92	169	P		P	04 41 02.7	-4.9
PEL				IAmb		IAmb	04 41 17.6	
	comp=Z,7.9nm,1.1s							
TXAR	Lajitas Array	49.87	327	P		P	04 45 19.5	+1.4
	comp=Z,0.1nm,0.6s,baz=148,slow=8.6,SNR=2.8							
PMSA	Palmer Station	52.73	174	LR		LR	05 05 51.0	
	comp=Z,48nm,18.1s,baz=202,slow=34							
TORD	Torodi Ar. Bea	80.43	74	P		P	04 48 39.9	+3.2
	comp=Z,0.9nm,0.9s,baz=272,slow=4.9,SNR=3.0							

VAO ***21*** *04:53:51.4±0.7,9.°18S×74.°96W,h10km,mb4.9*
ISCJB ***21*** *04:54:02.2±0.4,8.°86S±0.°02×74.°81W±0.°03,h138km±4km,*
mb4.5/23,Error ellipse: s-maj=5.7km s-min=2.9km
az=146.2
NEIC ***21*** *04:54:02.3±1.3,8.°83S±0.°06×74.°73W±0.°08,h123km±4km,*
mb4.9/243
IDC ***21*** *04:54:03.6±0.6,8.°83S×74.°83W,h131km±5km,mb4.2/19,*
mb1 4.4/25,mb1mx4.3/37,mbtmp4.7/25,MS3.1/2,
Ms1 3.2/2,ms1mx2.6/22,Error ellipse: s-maj=13.9km
s-min=9.3km az=59.0

ISC 21 04:54:03.1±0.5,8.°87S±0.°04×74.°82W±0.°06,h125km±4km,
h125km:pP-P,n689,σ0s97/614,mb4.9/128,2C-1D,
Peru-Brazil border region

Code	Station Name	Δ°	ΔZ°	Phase	Op	ID	Time h m s	Res
NNA	Nana	3.69	212	P		Pn	04 54 59.3	+0.7
	34nm,0.3s,baz=34,slow=8.1,SNR=41							
NNA				S		Sn	04 55 40.0	-1.6
	613nm,0.3s,baz=255,slow=20,SNR=32							
NNA	Nana	3.69	212			Pn	04 54 58.6	0.0
NNA						Sn	04 55 40.6	-1.0
ATAH	Atahualpa	3.93	296	P		Pn	04 55 02.1	-0.1
	69nm,0.3s,baz=89,slow=2.4,SNR=329							
ATAH				S		Sn	04 55 47.4	-0.6
	160nm,0.3s,baz=9.0,slow=19,SNR=6.0							
PTLC	Puerto Leguiza	8.98	0	eP		Pn	04 56 03.3	-6.4
PTLC	Puerto Leguiza	8.98	0	eP		Pn	04 56 03.3	-6.4
OTAV	Otavalo	9.74	338			Pn	04 56 19.8	-0.7
OTAV						Sn	04 58 08.8	+0.5
LPAZ	La Paz	9.85	139	P		Pn	04 56 23.7	+1.6
	1.8nm,0.3s,baz=334,slow=9.9,SNR=34							
LPAZ						LR	05 00 31.6	
	comp=Z,99nm,20.2s,baz=320,slow=39							
LPAZ	La Paz	9.85	139			Pn	04 56 22.2	+0.1
LPAZ						Sn	04 58 10.9	-0.4
FLOC	Florencia	10.41	355	eP		Pn	04 56 27.4	-1.7
FLOC	Florencia	10.41	355	eP		Pn	04 56 27.4	-1.7
CRUC	La Cruz	10.58	348	eP		Pn	04 56 30.0	-1.6
CRUC	La Cruz	10.58	348	eP		Pn	04 56 30.0	-1.6
SOTA	Rioblanco	11.07	351	eP		Pn	04 56 37.9	-0.5
SOTA	Rioblanco	11.07	351	eP		Pn	04 56 37.9	-0.5
BBAC	Balboa, Cauca	11.08	347	eP		Pn	04 56 39.3	+1.1
BBAC	Balboa, Cauca	11.08	347	eP		Pn	04 56 39.3	+1.1
PCON	Cinco Dias	11.23	352	eP		Pn	04 56 40.4	-0.2
PCON	Cinco Dias	11.23	352	eP		Pn	04 56 40.4	-0.2
MNMC	Minye Minye	11.39	154			Pn	04 56 41.3	-1.2
SAML	Samuel	11.50	91			Pn	04 56 41.3	-2.3
GO01	Chusmiza	12.04	154			Pn	04 56 50.6	-0.6
ORTC	Ortega, Tolima	12.70	358	eP		Pn	04 56 59.3	-0.1
ORTC	Ortega, Tolima	12.70	358	eP		Pn	04 56 59.3	-0.1
YOTC	Yotoco, Valle	12.85	353	eP		Pn	04 57 02.2	+0.7
YOTC	Yotoco, Valle	12.85	353	eP		Pn	04 57 02.2	+0.7
VILC	Villavicencio,	12.94	5	eP		Pn	04 57 02.6	0.0
VILC	Villavicencio,	12.94	5	eP		Pn	04 57 02.6	0.0
CVER	Cruz Verde, Cu	13.32	3	eP		Pn	04 57 05.9	-1.9
CVER	Cruz Verde, Cu	13.32	3	eP		Pn	04 57 05.9	-1.9
CHIC	Chingaza	13.45	5	eP		Pn	04 57 08.6	-0.8
CHIC	Chingaza	13.45	5	eP		Pn	04 57 08.6	-0.8
ROSC	El Rosal	13.62	2	P		Pn	04 57 13.2	+1.6
	3.5nm,0.3s,baz=158,slow=7.5,SNR=8.6							
ROSC	El Rosal	13.62	2	Pn		Pn	04 57 10.3	-1.4
RREF	El Recreo	13.69	358	eP		Pn	04 57 15.3	+2.7
RREF	El Recreo	13.69	358	eP		Pn	04 57 15.3	+2.7
GUY2C	Guyana, Caldas	14.01	358	eP		P	04 57 23.9	+3.3
GUY2C	Guyana, Caldas	14.01	358	eP		P	04 57 23.9	+3.3
NORC	Norcasia	14.33	360	eP		Pn	04 57 21.9	+1.5
NORC	Norcasia	14.33	360	eP		Pn	04 57 21.9	+1.5
CBOC	Ciudad Bolivar	14.68	355	eP		P	04 57 27.2	-0.6
CBOC	Ciudad Bolivar	14.68	355	eP		P	04 57 27.2	-0.6
RUSC	La Rusia	14.76	7	eP		P	04 57 29.2	+0.2
RUSC	La Rusia	14.76	7	eP		P	04 57 29.2	+0.2
LVC	Limon Verde	14.80	158	P		P	04 57 31.1	+1.9
	1.8nm,0.3s,baz=346,slow=7.2,SNR=28							
LVC	Limon Verde	14.80	158	P		Pn	04 57 27.5	+1.0
HELC	Santa Helena	14.97	357	eP		Pn	04 57 27.8	-0.9
HELC	Santa Helena	14.97	357	eP		Pn	04 57 27.8	-0.9
SIV	San Ignacio	15.18	119	P		Pn	04 57 30.7	-0.3
	10nm,0.3s,baz=306,slow=11,SNR=145							
SIV				S		Sn	05 00 13.4	-5.8
	3.0nm,0.3s,baz=238,slow=19,SNR=3.4							
PTBC	PUERTO BERRIO,	15.31	1	eP		P	04 57 34.8	+0.2
PTBC	PUERTO BERRIO,	15.31	1	eP		P	04 57 34.8	+0.2
BARC	Barichara	15.44	6	eP		P	04 57 37.1	+0.9
BARC	Barichara	15.44	6	eP		P	04 57 37.1	+0.9
DBBC	Dabeiba	15.84	355	eP		P	04 57 42.5	+2.0
DBBC	Dabeiba	15.84	355	eP		P	04 57 42.5	+2.0
BRRC	Barranca, Sant	15.90	4	eP		Pn	04 57 39.1	-0.9
BRRC	Barranca, Sant	15.90	4	eP		Pn	04 57 39.1	-0.9
GO02	Mina Guanaco	16.96	164	P		P	04 57 52.7	-0.3
OCAC	Ocana	17.06	5	eP		P	04 57 53.1	-0.9
OCAC	Ocana	17.06	5	eP		P	04 57 53.1	-0.9
SDV	Santo Domingo	18.12	13	P		P	04 58 06.2	+0.5
	9.0nm,0.3s,baz=164,slow=6.6,SNR=96							
SDV				S		S	05 01 27.4	+0.1
	0.0nm,0.3s,baz=318,slow=17,SNR=2.5							
SDV	Santo Domingo	18.12	13	eP		P	04 58 06.3	+0.5
SDV	Santo Domingo	18.12	13	eP		P	04 58 06.3	+0.5
SDV	Santo Domingo	18.12	13	P		P	04 58 04.6	-1.1
SDV				IAmb		IAmb	04 58 08.1	
	comp=Z,36nm,0.5s							
SDV				S		S	05 01 24.9	-2.4
BCIP	Isla Barro Col	18.60	344	eP		P	04 58 11.0	+0.3
BCIP	Isla Barro Col	18.60	344	eP		P	04 58 11.0	+0.3
BCIP	Isla Barro Col	18.60	344	P		P	04 58 09.7	-1.1
BCIP				IAmb		IAmb	04 58 14.9	
	comp=Z,34nm,0.8s							
CODC	Agustn Codazz	18.73	4	eP		P	04 58 11.0	-1.1
CODC	Agustn Codazz	18.73	4	eP		P	04 58 11.0	-1.1
CLDB	Colider	18.85	98	eP		P	04 58 12.6	-1.0
CLDB	Colider	18.85	98	eP		P	04 58 12.6	-1.0
SALV	Santo Antonio	19.94	112	eP		P	04 58 24.1	-1.3
SALV	Santo Antonio	19.94	112	eP		P	04 58 24.1	-1.3
PP1B	Ponte de Pedra	21.25	116	eP		P	04 58 38.5	-1.0
PP1B	Ponte de Pedra	21.25	116	eP		P	04 58 38.5	-1.0
PCRV	Puerto La Cruz	21.46	28	P		P	04 58 42.1	+0.4
	comp=Z,16nm,0.6s,baz=265,slow=3.3,SNR=12							
JTS	Las Juntas de	21.54	332	P		P	04 58 42.4	-0.1
	comp=Z,6.8nm,0.7s,baz=156,slow=18,SNR=3.6							
JTS	Las Juntas de	21.54	332	P		P	04 58 42.1	-0.4
AQDB	Aquidauana	21.77	124	eP		P	04 58 44.3	-0.7
AQDB	Aquidauana	21.77	124	eP		P	04 58 44.3	-0.7
ESPN	Las Esperanzas	22.95	336	P		P	04 58 55.6	-1.1
CFA	Coronel Fontan	23.44	166	P		P	04 59 01.9	+0.6
	comp=Z,5.1nm,0.7s,baz=350,slow=10,SNR=14							
CFA				pP		pP	04 59 28.5	+2.2
	comp=Z,5.1nm,0.7s,baz=341,slow=11,SNR=4.7							
ARAG	Araguaiana, MT	23.47	109	eP		P	04 59 00.9	-0.7
ARAG	Araguaiana, MT	23.47	109	eP		P	04 59 00.9	-0.7
C2SB	Chapadao do Su	23.48	117	eP		P	04 59 01.8	+0.1
C2SB	Chapadao do Su	23.48	117	eP		P	04 59 01.8	+0.1
CPUP	Villa Florida	24.02	139	P		P	04 59 06.0	-0.5
	comp=Z,15nm,0.9s,baz=321,slow=9.9,SNR=32							
CPUP	Villa Florida	24.02	139	eP		P	04 59 05.6	-0.9
CPUP	Villa Florida	24.02	139	eP		P	04 59 05.6	-0.9
CPUP	Villa Florida	24.02	139	P		P	04 59 04.8	-1.7
ESTN	Estel	24.65	332	P		P	04 59 10.1	-2.3
TRCB	Terra Rica	25.39	126	eP		P	04 59 18.4	-0.7
TRCB	Terra Rica	25.39	126	eP		P	04 59 18.4	-0.7
SVB	Belmont	25.79	32	P		P	04 59 20.5	-2.1
ITRB	Iturama	26.00	117	eP		P	04 59 24.5	-0.1
ITRB	Iturama	26.00	117	eP		P	04 59 24.5	-0.1
MDP	Montagnes des	26.11	59	P		P	04 59 26.2	+0.7
	comp=Z,2.8nm,0.4s,baz=224,slow=8.7,SNR=12							
MDP				pP		pP	04 59 53.5	+1.1
	comp=Z,3.9nm,0.5s,baz=207,slow=14,SNR=2.7							
PEXB	Peixe	26.27	99	eP		P	04 59 29.3	+2.3
PEXB	Peixe	26.27	99	eP		P	04 59 29.3	+2.3
PTGB	Pitanga	26.82	129	eP		P	04 59 31.0	-1.0
PTGB	Pitanga	26.82	129	eP		P	04 59 31.0	-1.0
BDFB	Brasília	27.03	107	P		P	04 59 33.4	-0.5
	comp=Z,19nm,0.5s,baz=278,slow=12,SNR=29							
BDFB				LR		LR	05 10 55.8	
	comp=Z,54nm,20.4s,baz=299,slow=37							
BDFB	Brasília	27.03	107	P		P	04 59 33.1	-0.8
BDFB				IAmb		IAmb	04 59 37.3	
	comp=Z,19nm,0.6s							
PDPR	Patillas Dam,	28.09	18	P		P	04 59 42.3	-0.8
PDPR				IAmb		IAmb	04 59 43.5	
	comp=Z,30nm,1.1s							
BB19B	Bebedouro	28.09	119	eP		P	04 59 42.4	-0.9
BB19B	Bebedouro	28.09	119	eP		P	04 59 42.4	-0.9
SJG	San Juan	28.14	18	P		P	04 59 43.2	-0.3
	comp=Z,19nm,0.8s,baz=155,slow=7.2,SNR=10.0							
SJG	San Juan	28.14	18	P		P	04 59 42.6	-0.9
SJG				IAmb		IAmb	04 59 46.0	
	comp=Z,16nm,0.8s							
FRTB	Fartura	28.14	124	eP		P	04 59 42.7	-1.0
FRTB	Fartura	28.14	124	eP		P	04 59 42.7	-1.0
ITAB	Concordia	28.18	133	eP		P	04 59 43.5	-0.4
ITAB	Concordia	28.18	133	eP		P	04 59 43.5	-0.4
PMNB	Patos De Minas	29.16	112	eP		P	04 59 53.8	+1.0
PMNB	Patos De Minas	29.16	112	eP		P	04 59 53.8	+1.0
CPSB	Cacapava Do Su	29.30	140	eP		P	04 59 52.9	-0.9
CPSB	Cacapava Do Su	29.30	140	eP		P	04 59 52.9	-0.9
RCLB	Rio Claro- Sao	29.46	120	eP		P	04 59 54.8	-0.6
RCLB	Rio Claro- Sao	29.46	120	eP		P	04 59 54.8	-0.6
SPB	Sao Paulo	30.02	122	eP		P	04 59 59.2	-1.1
SPB	Sao Paulo	30.02	122	eP		P	04 59 59.2	-1.1
PLTB	Pedras Altas	30.13	142	eP		P	05 00 00.7	-0.4
PLTB	Pedras Altas	30.13	142	eP		P	05 00 00.7	-0.4
VAO	Valinhos	30.17	121	eP		P	05 00 01.8	+0.1
VAO	Valinhos	30.17	121	eP		P	05 00 01.8	+0.1
CNLB	Canela	30.32	135	eP		P	05 00 02.1	-0.9
CNLB	Canela	30.32	135	eP		P	05 00 02.1	-0.9
TRQA	Tornquist	31.29	160	P		P	05 00 10.6	-0.7
BSCB	Bom Sucesso	31.37	116	eP		P	05 00 11.5	-0.8
BSCB	Bom Sucesso	31.37	116	eP		P	05 00 11.5	-0.8
TEIG	Tepich	31.80	336	P		P	05 00 15.9	0.0
TEIG				IAmb		IAmb	05 00 17.3	
	comp=Z,32nm,1.0s							
NBPS	Pedro II - Pl	33.44	85	eP		P	05 00 32.7	+2.2
NBPS	Pedro II - Pl	33.44	85	eP		P	05 00 32.7	+2.2
SJMB	Sao Joao De Ma	34.04	110	eP		P	05 00 36.6	+1.1
SJMB	Sao Joao De Ma	34.04	110	eP		P	05 00 36.6	+1.1
NBPN	Ponto Novo - B	34.16	96	eP		P	05 00 38.3	+1.7
NBPN	Ponto Novo - B	34.16	96	eP		P	05 00 38.3	+1.7
BSFB	Barra de Sao F	34.38	110	eP		P	05 00 38.1	-0.3
BSFB	Barra de Sao F	34.38	110	eP		P	05 00 38.1	-0.3
RIB01	Linhares ES	34.90	111	eP		P	05 00 42.4	-0.5
RIB01	Linhares ES	34.90	111	eP		P	05 00 42.4	-0.5
DWPF	Disney Wildern	37.31	350	P		P	05 01 03.6	+0.4
	baz=169							
656A	Willston	38.73	349	P		P	05 01 15.2	+0.1
	baz=168							
553A	Crawfordville	39.91	347	P		P	05 01 25.9	+1.0
	baz=165							
453A	Whigham	40.53	347	P		P	05 01 30.3	+0.3
	baz=166							
355A	Pearson	40.71	349	P		P	05 01 31.7	+0.2
	baz=168							
TIGA	Tifton	40.95	349	P		P	05 01 34.0	+0.5
	baz=167							
353A	Camilla	40.98	348	P		P	05 01 33.6	-0.1
	baz=166							
256A	Glennville	41.17	351	P		P	05 01 35.5	+0.2
	baz=169							
255A	Hazlehurst	41.22	350	P		P	05 01 36.6	+1.0
	baz=168							
352A	Blakely	41.27	347	P		P	05 01 36.0	0.0
	baz=165							
254A	Abbeville	41.38	349	P		P	05 01 36.9	-0.1
	baz=167							
BRAL	Brewton	41.49	344	P		P	05 01 37.8	-0.1
	baz=162							
252A	Lumpkin	41.72	347	P		P	05 01 39.2	-0.6
	baz=165							
155A	Kite	41.89	350	P		P	05 01 41.3	+0.2
	baz=169							
154A	Montrose	42.00	350	P		P	05 01 41.8	-0.2
	baz=168							
NHSC	New Hope	42.05	353	P		P	05 01 42.9	+0.5
	baz=172							
Z58A	St. Stephen	42.23	354	P		P	05 01 44.0	+0.2
	baz=173							
152A	Waverly Hall	42.37	348	P		P	05 01 44.5	-0.5
	baz=165							
152A	Waverly Hall	42.37	348	IAmb		IAmb	05 01 45.2	
	comp=Z,17nm,0.8s							
Z54A	Sparta	42.56	350	P		P	05 01 46.0	-0.6
	baz=168							
Z53A	Monticello	42.73	349	P		P	05 01 47.4	-0.5
	baz=167							
Z52A	Williamson	42.81	348	P		P	05 01 47.8	-0.7
	baz=166							
GOGA	Godfrey	42.84	349	P		P	05 01 48.4	-0.4
	baz=167							
Y57A	Sumter	42.97	353	P		P	05 01 49.8	0.0
	baz=172							
Y55A	Saluda	43.09	351	P		P	05 01 50.7	-0.1
	baz=170							
Z51A	Franklin	43.09	347	P		P	05 01 50.6	-0.3
	baz=165							
Y54A	Tignall	43.14	350	P		P	05 01 50.8	-0.4
	baz=169							
Z50A	Ashland	43.20	346	P		P	05 01 50.9	-0.8
	baz=164							
Z50A	Ashland	43.20	346	IAmb		IAmb	05 01 51.5	
	comp=Z,15nm,1.0s							
LRAL	Lakeview Retre	43.25	345	P		P	05 01 51.1	-1.0
	baz=162							
Y53A	Monroe	43.29	349	P		P	05 01 51.8	-0.6
	baz=167							
X60A	Albert Glenn T	43.31	356	P		P	05 01 52.6	+0.1
	baz=175							
X59A	McDuffie Farm,	43.35	355	P		P	05 01 53.0	+0.1
	baz=175							
Y52A	Lilburn	43.39	349	P		P	05 01 52.7	-0.6
	baz=167							
X58A	Rowland	43.39	355	P		P	05 01 53.2	0.0
	baz=174							
X55A	Gracelyn & Ava	43.58	352	P		P	05 01 54.5	-0.2
	baz=170							
Y51A	Rockmart	43.63	348	P		P	05 01 54.5	-0.7
	baz=165							
X54A	Belton	43.76	351	P		P	05 01 56.1	-0.1
	baz=169							
W60A	Pink Hill	43.76	357	P		P	05 01 56.5	+0.3
	baz=176							
W58A	Raeford	43.85	355	P		P	05 01 57.1	+0.2
	baz=174,SNR=6.7							
X53A	Estanollee	43.87	350	P		P	05 01 56.5	-0.6
	baz=168							
Y49A	Blount Mountai	43.89	346	P		P	05 01 56.2	-1.1
	baz=163							
W59A	Clinton	43.93	356	P		P	05 01 57.6	+0.1
	baz=175							
833A	Chaparral WMA,	43.94	328	P		P	05 01 58.3	+0.6
	baz=144							
CNNC	Cliffs of the	43.96	356	P		P	05 01 58.0	+0.2
	baz=176							
W57A	Gilead	44.05	354	P		P	05 01 58.3	-0.1
	baz=173							
X52A	Dahlonega	44.08	349	P		P	05 01 57.9	-0.8
	baz=167							
W56A	Indian Trail	44.10	353	P		P	05 01 58.5	-0.4
	baz=172							
KMSC	Kings Mountain	44.20	352	P		P	05 01 59.4	-0.3
	baz=171							
KMSC	Kings Mountain	44.20	352	IAmb		IAmb	05 02 00.1	
	comp=Z,13nm,0.6s							
X51A	Calhoun	44.23	348	P		P	05 01 59.0	-0.9
	baz=166							
W54A	Cherokee Point	44.26	351	P		P	05 02 00.3	+0.1
	baz=170							
V61A	Roper	44.45	358	P		P	05 02 01.4	-0.2
	baz=178							
V60A	Jim Taylor Roa	44.45	357	P		P	05 02 01.9	+0.3
	baz=177							
W53A	Cullowhee	44.50	350	P		P	05 02 02.0	-0.2
	baz=168							
V59A	Middlesex	44.51	356	P		P	05 02 02.5	+0.4
	baz=175,SNR=6.4							
W52A	Murphy	44.56	349	P		P	05 02 02.0	-0.5
	baz=167							
V58A	Windy Hill, Pi	44.60	355	P		P	05 02 02.8	-0.1
	baz=174							
V58A	Windy Hill, Pi	44.60	355	IAmb		IAmb	05 02 03.3	
	comp=Z,23nm,0.7s							
X48A	Hartselle	44.61	346	P		P	05 02 02.4	-0.6
	baz=163							
NATX	Nacogdoches	44.63	336	P		P	05 02 04.0	+0.9
	baz=152,SNR=6.3							
NATX	Nacogdoches	44.63	336	P		P	05 02 01.7	-1.5
V56A	Mocksville	44.76	353	P		P	05 02 04.2	+0.1
	baz=172							
V57A	Coltrane Farms	44.76	354	P		P	05 02 04.0	0.0
	baz=173							
W51A	Cleveland	44.78	348	P		P	05 02 03.9	-0.4
	baz=166							
V54A	Nebo	44.91	352	P		P	05 02 05.2	-0.1
	baz=170							
V53A	Saluda	44.93	351	P		P	05 02 05.3	-0.2
	baz=169							
W50A	Signal Mountai	44.93	348	P		P	05 02 04.8	-0.8
	baz=165,SNR=6.7							
W50A	Signal Mountai	44.93	348	P		P	05 02 04.4	-1.2
W50A				IAmb		IAmb	05 02 05.6	
	comp=Z,19nm,0.8s							
W50A				PcP		PcP	05 03 44.1	-0.8
U61A	Possum Corner	44.98	358	P		P	05 02 06.3	+0.5
	baz=178							
U59A	Littleton	45.06	357	P		P	05 02 06.7	+0.3
	baz=176							
U59A	Littleton	45.06	357	IAmb		IAmb	05 02 07.6	
	comp=Z,23nm,0.8s							
W49A	Belvidere	45.06	347	P		P	05 02 06.4	-0.1
	baz=164							
435B	Jarrell	45.07	332	P		P	05 02 07.2	+0.5
	baz=147							
435B	Jarrell	45.07	332	IAmb		IAmb	05 02 10.2	
	comp=Z,13nm,0.8s							
U60A	Pendleton	45.15	357	P		P	05 02 07.3	+0.1
	baz=177							
U58A	Oxford	45.15	356	P		P	05 02 07.3	+0.1
	baz=175							
V52A	Sevierville	45.23	350	P		P	05 02 07.1	-0.7
	baz=168,SNR=5.9							
V52A	Sevierville	45.23	350	IAmb		IAmb	05 02 08.1	
	comp=Z,23nm,0.8s							
Z41A	Richland Creek	45.25	339	P		P	05 02 07.8	-0.2
	baz=155							
U57A	Blanch	45.25	355	P		P	05 02 07.9	-0.1
	baz=174							
U56A	King	45.27	354	P		P	05 02 08.6	+0.4
	baz=172							
U56A	King	45.27	354	IAmb		IAmb	05 02 09.6	
	comp=Z,41nm,1.1s							
OXF	Oxford	45.30	343	P		P	05 02 07.6	-0.8
	baz=160							
V51A	Loudon	45.33	349	P		P	05 02 07.8	-0.8
	baz=167							
V51A	Loudon	45.33	349	IAmb		IAmb	05 02 08.7	
	comp=Z,15nm,0.7s							
V50A	Pikeville	45.34	348	P		P	05 02 07.9	-0.9
	baz=166,SNR=5.2							
CCAR	Cane Creek	45.49	340	IAmb		IAmb	05 02 10.7	
	comp=Z,37nm,1.1s							
U55A	TA2, Sparta	45.50	353	P		P	05 02 09.9	-0.2
	baz=171							
U53A	Fall Branch	45.58	351	P		P	05 02 10.1	-0.6
	baz=169							
V49A	McMinnville	45.60	347	P		P	05 02 09.5	-1.3
	baz=165							
U54A	Nelsons Funny	45.62	352	P		P	05 02 10.5	-0.5
	baz=170							
U54A	Nelsons Funny	45.62	352	IAmb		IAmb	05 02 11.7	
	comp=Z,22nm,0.9s							
T59A	Double "B" Far	45.66	357	P		P	05 02 11.5	+0.3
	baz=176,SNR=6.1							
T58A	Grand View Acr	45.70	356	P		P	05 02 11.7	+0.2
	baz=175,SNR=8.5							
U52A	Thorn Hill	45.73	350	P		P	05 02 10.9	-0.9
	baz=168							
WLAR	White Oak Lake	45.75	339	IAmb		IAmb	05 02 14.0	
	comp=Z,42nm,1.2s							
V48A	Smith Brothers	45.79	346	P		P	05 02 11.1	-1.1
	baz=163,SNR=8.4							
V48A	Smith Brothers	45.79	346	IAmb		IAmb	05 02 12.0	
	comp=Z,23nm,0.8s							
T57A	Hurt	45.81	355	P		P	05 02 12.6	+0.2
	baz=174,SNR=12							
U51A	La Follette	45.83	350	P		P	05 02 11.5	-1.0
	baz=167							
JCT	Junction City	45.89	329	P		P	05 02 13.1	-0.1
	baz=145							
JCT	Junction City	45.89	329	P		P	05 02 12.0	-1.2
JCT						PcP	05 03 47.1	-1.3
TZTN	Tazewell	45.91	350	P		P	05 02 12.5	-0.6
	baz=168							
TZTN	Tazewell	45.91	350	IAmb		IAmb	05 02 13.2	
	comp=Z,22nm,0.7s							
T56A	Rocky Mt	45.91	354	P		P	05 02 13.7	+0.

R58A	Rapidan	47.01	357	P	P	05 02 22.3 +0.6
	baz=176					
R57A	Stanardsville	47.04	356	P	P	05 02 22.5 +0.5
	baz=175					
T47A	Sharon Grove	47.05	347	P	P	05 02 20.6 -1.4
	baz=163					
TXAR	Lajitas Array	47.06	325	P	P	05 02 22.6 +0.2
	comp=Z,4.1nm,0.6s,baz=149,slow=8.6,SNR=66					
TXAR				PcP	PcP	05 03 52.8 +0.2
	comp=Z,1.4nm,0.6s,baz=145,slow=5.4,SNR=8.3					
TX31	Lajitas Ar. Si	47.06	325	P	P	05 02 21.9 -0.6
R54A	Victor	47.15	353	P	P	05 02 22.7 -0.2
	baz=172					
S50A	Richmond	47.16	350	P	P	05 02 22.1 -0.8
	baz=167,SNR=6.5					
R55A	Marlinton	47.16	354	P	P	05 02 23.5 +0.5
	baz=173					
R56A	Bull Pasture M	47.22	355	P	P	05 02 23.8 +0.4
	baz=174					
LCAR	Lake Charles	47.27	342	IAmb	IAmb	05 02 23.4
	comp=Z,18nm,1.1s					
W39A	Magazine	47.34	339	P	P	05 02 24.3 0.0
	baz=154,SNR=7.0					
W39A	Magazine	47.34	339	IAmb	IAmb	05 02 25.4
	comp=Z,23nm,1.1s					
FCAR	Ozark Folk Cen	47.41	341	IAmb	IAmb	05 02 24.4
	comp=Z,20nm,0.7s					
R53A	Hurricane	47.42	352	P	P	05 02 24.3 -0.6
	baz=170					
S49A	Springfield	47.43	349	P	P	05 02 23.7 -1.3
	baz=166,SNR=6.3					
R52A	Catlettsburg	47.52	352	P	P	05 02 24.4 -1.3
	baz=170					
ABTX	Abilene, Hawle	47.57	331	P	P	05 02 26.6 +0.4
	baz=146					
R51A	Hillsboro	47.63	351	P	P	05 02 25.9 -0.6
	baz=168					
Q60A	Greensboro	47.63	359	P	P	05 02 27.1 +0.6
	baz=179					
Q58A	Fox Den Farm,	47.63	357	P	P	05 02 27.0 +0.4
	baz=176,SNR=6.5					
PBMO	Poplar Bluff	47.71	343	IAmb	IAmb	05 02 26.6
	comp=Z,17nm,0.6s					
R50A	Paris	47.73	350	P	P	05 02 26.4 -0.9
	baz=167,SNR=7.9					
R50A	Paris	47.73	350	IAmb	IAmb	05 02 27.2
	comp=Z,18nm,0.8s					
Q57A	Strasburg	47.77	356	P	P	05 02 27.7 +0.1
	baz=175					
Q56A	Snyder Ridge,	47.83	355	P	P	05 02 28.7 +0.6
	baz=174					
Q56A	Snyder Ridge,	47.83	355	IAmb	IAmb	05 02 29.7
	comp=Z,22nm,0.8s					
Q55A	Buckhannon	47.86	354	P	P	05 02 28.9 +0.5
	baz=173					
Q53A	Leroy	47.89	353	P	P	05 02 28.3 -0.2
	baz=171,SNR=9.8					
Q54A	Coxs Mills	47.93	354	P	P	05 02 28.6 -0.3
	baz=172,SNR=6.7					
WCI	Wyandotte Cave	48.06	348	P	P	05 02 28.4 -1.4
	baz=165					
WCI	Wyandotte Cave	48.06	348	IAmb	IAmb	05 02 28.8
	comp=Z,13nm,0.7s					
WCI				P	P	05 02 28.9 -0.9
U40A	Yellville	48.07	340	P	P	05 02 29.2 -0.9
	baz=156,SNR=16					
U40A	Yellville	48.07	340	IAmb	IAmb	05 02 30.0
	comp=Z,19nm,0.7s					
Q52A	Bidwell	48.08	352	P	P	05 02 29.4 -0.6
	baz=170					
P58A	Pank, Wackersv	48.16	357	P	P	05 02 31.1 +0.5
	baz=177					
Q50A	Georgetown	48.22	350	P	P	05 02 30.1 -1.0
	baz=168,SNR=9.0					
S44A	Carbondale	48.24	345	P	P	05 02 29.7 -1.6
	baz=161,SNR=5.9					
P59A	Jarrettsville	48.25	358	P	P	05 02 31.8 +0.6
	baz=178					
SIUC	Southern Illin	48.25	345	IAmb	IAmb	05 02 30.8
	comp=Z,22nm,0.7s					
P56A	Dayton Farm, R	48.27	356	P	P	05 02 31.9 +0.5
	baz=175					
Q51A	Peebles	48.30	351	P	P	05 02 30.5 -1.2
	baz=169					
P55A	Reedsville	48.35	355	P	P	05 02 32.2 +0.1
	baz=173					
HHAR	Hobbs	48.38	339	IAmb	IAmb	05 02 32.5
	comp=Z,21nm,0.7s					
P60A	Greenville	48.43	359	P	P	05 02 32.8 +0.1
	baz=179					
P53A	Whipple	48.49	353	P	P	05 02 32.8 -0.3
	baz=171,SNR=5.8					
MCWV	Mont Chateau	48.50	355	P	P	05 02 33.3 +0.1
	baz=173					
P54A	Burton	48.50	354	P	P	05 02 33.2 -0.1
	baz=172,SNR=5.9					
Q49A	Aurora	48.54	350	P	P	05 02 32.2 -1.3
	baz=167					
Q48A	North Vernon	48.62	349	P	P	05 02 32.8 -1.3
	baz=166,SNR=5.2					
P51A	Williamsport	48.70	352	P	P	05 02 33.6 -1.1
	baz=169					
P51A	Williamsport	48.70	352	IAmb	IAmb	05 02 34.6
	comp=Z,19nm,0.8s					
TUL1	Leonard	48.72	337	P	P	05 02 34.9 -0.1
	baz=152,SNR=9.5					
TUL1	Leonard	48.72	337	IAmb	IAmb	05 02 36.5
	comp=Z,22nm,0.8s					
P52A	Corning	48.73	352	P	P	05 02 34.1 -0.8
	baz=170					
O58A	Lewisberry	48.78	358	P	P	05 02 35.8 +0.5
	baz=177					
O57A	Amberson	48.90	357	P	P	05 02 36.9 +0.7
	baz=176					
O60A	Telford	48.94	359	P	P	05 02 37.1 +0.6
	baz=179					
P50A	Jamestown	48.94	351	P	P	05 02 35.4 -1.2
	baz=168,SNR=6.9					
O59A	Robesonia	48.94	359	P	P	05 02 37.2 +0.6
	baz=178					
O55A	Ligonier	49.00	355	P	P	05 02 37.4 +0.3
	baz=174					
O56A	Blue Knob Stat	49.01	356	P	P	05 02 37.6 +0.4
	baz=175					
P49A	Miami Univ. Ec	49.02	350	P	P	05 02 35.7 -1.5
	baz=167					
P48A	Milroy	49.08	349	P	P	05 02 35.8 -1.9
	baz=166,SNR=5.3					
P48A	Milroy	49.08	349	IAmb	IAmb	05 02 36.7
	comp=Z,27nm,1.1s					
CCM	Cathedral Cave	49.13	343	P	P	05 02 36.5 -1.6
	baz=158					
CCM	Cathedral Cave	49.13	343	P	P	05 02 37.1 -1.0
CCM				IAmb	IAmb	05 02 39.3
	comp=Z,13nm,0.6s					
CCM					PcP	05 03 58.5 -1.2
O52A	Adamsville	49.16	353	P	P	05 02 37.4 -0.9
	baz=171					
O53A	New Philadelph	49.22	354	P	P	05 02 38.2 -0.6
	baz=172					
O51A	Pataskala	49.29	352	P	P	05 02 38.2 -1.0
	baz=170					
SSPA	Standing Stone	49.33	357	P	P	05 02 39.4 -0.2
	baz=176					
ACSO	Alum Creek Sta	49.43	352	P	P	05 02 39.4 -0.9
	baz=169					
ACSO	Alum Creek Sta	49.43	352	IAmb	IAmb	05 02 40.2
	comp=Z,20nm,0.7s					
O50A	Cable	49.44	351	P	P	05 02 39.3 -1.1
	baz=169,SNR=5.7					
N58A	Sunbury	49.49	358	P	P	05 02 41.1 +0.4
	baz=178					
N59A	State Game Lan	49.54	359	P	P	05 02 41.8 +0.7
	baz=179,SNR=5.4					
N55A	Marion Center	49.55	356	P	P	05 02 41.4 +0.2
	baz=175,SNR=5.8					
P46A	Rosedale	49.59	347	P	P	05 02 39.9 -1.5
	baz=164,SNR=5.0					
O49A	Covington	49.59	350	P	P	05 02 40.1 -1.4
	baz=168,SNR=5.8					
PAL	Palisades	49.63	1	P	P	05 02 41.4 -0.3
	baz=181					
N56A	West Decatur	49.64	357	P	P	05 02 42.1 +0.2
	baz=176					
N53A	Lisbon	49.73	354	P	P	05 02 41.9 -0.7
	baz=172					
WSPT	Westport, CT	49.80	1		PcP	05 04 02.7 +0.7
N54A	Moraine State	49.81	355	P	P	05 02 43.1 -0.1
	baz=173					
MNTX	Cornudas Mount	49.81	325	P	P	05 02 43.1 -0.3
	baz=139,SNR=9.5					
N52A	McGinn's Farm,	49.83	353	P	P	05 02 42.1 -1.2
	baz=171					
N50A	Nevada	49.98	352	P	P	05 02 43.1 -1.3
	baz=169					
M57A	Sunshine Farm,	50.00	358	P	P	05 02 45.4 +0.8
	baz=177					
M58A	Price's Panora	50.01	358	P	P	05 02 45.2 +0.5
	baz=178					
N51A	Ashland	50.02	353	P	P	05 02 43.6 -1.1
	baz=170					
M59A	Waymart	50.16	359	P	P	05 02 46.4 +0.6
	baz=179					
MSTX	Muleshoe	50.18	330	P	P	05 02 45.9 -0.4
	baz=143,SNR=12					
MSTX	Muleshoe	50.18	330	IAmb	IAmb	05 02 46.9
	comp=Z,13nm,0.8s					
M56A	Emporium	50.19	357	P	P	05 02 45.9 -0.2
	baz=176					
M55A	Ridgway	50.22	356	P	P	05 02 46.0 -0.3
	baz=175					
N49A	Columbus Grove	50.28	351	P	P	05 02 45.6 -1.1
	baz=168,SNR=6.0					
SFIN	Lafayette	50.29	348	P	P	05 02 45.1 -1.7
	baz=164,SNR=14					
M54A	Oil Creek Stat	50.32	355	P	P	05 02 46.8 -0.2
	baz=174					
N48A	Decatur	50.36	350	P	P	05 02 45.8 -1.5
	baz=167,SNR=5.8					
AMTX	Amarillo	50.39	331	P	P	05 02 47.2 -0.5
	baz=145					
AMTX	Amarillo	50.39	331	IAmb	IAmb	05 02 47.8
	comp=Z,11nm,0.6s					
M51A	Elyria	50.41	353	P	P	05 02 46.3 -1.4
	baz=171					
N47A	Urbana	50.50	349	P	P	05 02 46.9 -1.5
	baz=166,SNR=16					
M52A	Chesterland	50.52	354	P	P	05 02 47.4 -1.1
	baz=172					
M50A	Fremont	50.59	352	P	P	05 02 48.5 -0.5
	baz=170					
L60A	Shokan	50.61	1	P	P	05 02 49.5 +0.3
	baz=181					
L57A	Andrews Acres	50.65	358	P	P	05 02 49.9 +0.4
	baz=177					
L58A	Harry Jones Me	50.67	359	P	P	05 02 50.3 +0.6
	baz=179,SNR=8.5					
M49A	Liberty Center	50.79	351	P	P	05 02 49.3 -1.3
	baz=168					
L59A	Walton	50.80	360	P	P	05 02 51.1 +0.4
	baz=180					
L59A	Walton	50.80	360	IAmb	IAmb	05 02 52.5
	comp=Z,24nm,0.9s					
L56A	Greenwood	50.81	357	P	P	05 02 50.5 -0.2
	baz=176					
BINY	Binghamton	50.83	359	P	P	05 02 51.5 +0.7
	baz=178,SNR=12					
L55A	Hinsdale	50.91	357	P	P	05 02 51.2 -0.2
	baz=175					
ERPA	Erie	50.95	355	P	P	05 02 51.3 -0.5
	baz=173					
M47A	Cromwell	50.95	350	P	P	05 02 50.3 -1.5
	baz=166,SNR=6.6					
HDIL	Hopedale	50.96	346	P	P	05 02 50.3 -1.5
	baz=162,SNR=9.4					
L54A	Sinclairville	51.02	356	P	P	05 02 52.0 -0.3
	baz=174					
L48A	N Adams	51.32	351	P	P	05 02 53.0 -1.5
	baz=168					
K54A	Basilico Farm,	51.35	356	P	P	05 02 54.5 -0.2
	baz=175					
K57A	Scipio Center	51.37	358	P	P	05 02 54.9 +0.1
	baz=178,SNR=5.1					
K58A	Earlville	51.38	359	P	P	05 02 55.3 +0.4
	baz=179,SNR=7.4					
L49A	Milan	51.38	351	P	P	05 02 54.7 -0.3
	baz=169					
K59A	Cooperstown	51.39	360	P	P	05 02 55.5 +0.4
	baz=180					
K63A	Dunstable	51.39	3	P	P	05 02 55.1 +0.1
	baz=184					
K55A	Perry	51.43	357	P	P	05 02 54.9 -0.4
	baz=176					
L47A	Sherwood	51.48	350	P	P	05 02 54.2 -1.5
	baz=167					
L46A	Eue Claire	51.71	349	P	P	05 02 55.0 -2.4
	baz=166					
121A	Cookes Peak, D	51.80	324	P	P	05 02 59.1 +0.6
	baz=137					
121A	Cookes Peak, D	51.80	324	IAmb	IAmb	05 03 00.3
	comp=Z,13nm,1.1s					
319A	Douglas	51.86	322	IAmb	IAmb	05 03 00.6
	comp=Z,20nm,1.1s					
K50A	Casco	51.88	353	P	P	05 02 57.1 -1.5
	baz=170					
J58A	Remsen	51.98	360	P	P	05 02 59.3 -0.1
	baz=179					
K49A	Clarkson	52.00	352	P	P	05 02 57.9 -1.6
	baz=169					
J54A	Appleton	52.00	356	P	P	05 02 59.0 -0.5
	baz=175					
J63A	Strafford	52.01	3	P	P	05 02 59.5 0.0
	baz=185					
J57A	Williamstown	52.03	359	P	P	05 02 59.8 0.0
	baz=178					
J59A	Piesco	52.08	0	P	P	05 03 00.6 +0.4
	baz=180,SNR=6.7					
J59A	Piesco	52.08	0	P	P	05 02 59.8 -0.3
J52A	Paris	52.11	355	P	P	05 02 59.6 -0.7
	baz=173					
K48A	Perry	52.12	351	P	P	05 02 59.0 -1.3
	baz=168					
K47A	Vermontville	52.12	350	P	P	05 02 58.6 -1.8
	baz=167					
L44A	Lake County Fo	52.19	348	P	P	05 02 58.6 -2.3
	baz=164					
K46A	Dorr	52.27	350	P	P	05 03 00.1 -1.4
	baz=166					
I58A	Old Forge	52.30	360	P	P	05 03 01.9 +0.1
	baz=180,SNR=5.7					
I59A	Olmsteadville	52.42	1	P	P	05 03 03.1 +0.5
	baz=181					
I60A	Shoreham	52.48	1	P	P	05 03 04.3 +1.3
	baz=182					
I61A	Oroboro, Fairl	52.60	2	P	P	05 03 04.5 +0.5
	baz=183					
J47A	Sunmer	52.65	351	P	P	05 03 02.8 -1.4
	baz=168,SNR=6.3					
CBKS	Cedar Bluff	52.80	336	P	P	05 03 05.8 +0.2
	baz=149,SNR=7.0					
ANMO	Albuquerque	52.85	327	P	P	05 03 06.2 0.0
	baz=140					
ANMO	Albuquerque	52.85	327	P	P	05 03 05.5 -0.7
L40A	Anamosa	52.86	345	P	P	05 03 05.1 -0.8
	baz=160,SNR=6.4					
I55A	Frankford	52.89	357	P	P	05 03 05.5 -0.5
	baz=176					
H58A	Gabriels	53.03	1	P	P	05 03 07.2 0.0
	baz=181,SNR=5.2					
H57A	Richville	53.08	359	P	P	05 03 07.4 0.0
	baz=179,SNR=5.8					
H55A	Tweed	53.21	358	P	P	05 03 08.1 -0.3
	baz=177					
H56A	Elgin	53.22	359	P	P	05 03 08.5 0.0
	baz=178,SNR=5.9					
LONY	Lake Ozonia	53.23	0	P	P	05 03 08.6 0.0
	baz=180					
LONY	Lake Ozonia	53.23	0	P	P	05 03 08.2 -0.4
LONY				IAmb	IAmb	05 03 09.2
	comp=Z,13nm,0.7s					
SCIA	State Center	53.27	343	P	P	05 03 07.5 -1.3
	baz=157					
H59A	Cadyville	53.27	1	P	P	05 03 08.6 -0.3
	baz=181					
H53A	Bobcaygeon	53.30	357	P	P	05 03 08.2 -0.8
	baz=175					
I47A	Gladwin	53.36	351	P	P	05 03 09.5 -0.1
	baz=168					
I48A	Sherman Twp	53.41	352	P	P	05 03 08.3 -1.5
	baz=169					
JFWS	Jewell Farm	53.42	346	P	P	05 03 08.5 -1.5
	baz=161,SNR=6.8					
TUC	Tucson	53.42	322	P	P	05 03 10.0 -0.4
	baz=134					
TUC	Tucson	53.42	322	P	P	05 03 09.8 -0.5
I46A	Reed City	53.43	350	P	P	05 03 08.9 -1.1
	baz=167					
H63A	New Sharon	53.45	4	P	P	05 03 10.9 +0.8
	baz=186					
T25A	Trinidad	53.51	331	P	P	05 03 11.5 +0.5
	baz=143,SNR=13					
H65A	Eastbrook	53.64	6	P	P	05 03 11.5 0.0
	baz=188					
G59A	Clarenceville	53.72	1	P	P	05 03 12.1 +0.1
	baz=182					
G57A	Newington	53.72	360	P	P	05 03 12.2 +0.1
	baz=180,SNR=5.1					
G60A	Masonville	53.76	2	P	P	05 03 12.9 +0.5
	baz=183					
G58A	Ormstown	53.77	1	P	P	05 03 12.7 +0.2
	baz=181					
G53A	Haliburton	53.84	357	P	P	05 03 12.3 -0.7
	baz=175					
G55A	Calabogie	53.89	358	P	P	05 03 13.1 -0.3
	baz=178					
G63A	Kingsbury	53.93	5	P	P	05 03 14.3 +0.6
	baz=186					
G62A	West of Eustis	53.97	4	P	P	05 03 14.7 +0.7
	baz=185					
G61A	St-Isidore-de-	53.98	3	P	P	05 03 14.5 +0.5
	baz=184					
I42A	Draeger Farm,	54.04	347	P	P	05 03 13.2 -1.3
	baz=183					
G54A	Lake Saint Pet	54.09	357	P	P	05 03 14.1 -0.7
	baz=176					
PKME	Peaks-Kenny Pk	54.11	5	P	P	05 03 14.9 0.0
	baz=187					
KSCO	Kaye Shedlock'	54.20	333	P	P	05 03 16.0 +0.1
	baz=145,SNR=9.6					
BGNE	Belgrade	54.43	339	P	P	05 03 16.8 -0.6
	baz=151,SNR=5.6					
214A	Organ Pipe Nat	54.45	320	P	P	05 03 18.4 +0.7
	baz=132,SNR=15					
214A	Organ Pipe Nat	54.45	320	P	P	05 03 17.7 -0.1
214A				IAmb	IAmb	05 03 19.4
	comp=Z,18nm,0.9s					
X18A	Snowflake	54.49	324	IAmb	IAmb	05 03 20.3
	comp=Z,13nm,1.1s					
SDCO	Great Sand Dun	54.52	330	P	P	05 03 18.8 +0.4
	baz=142,SNR=33					
F60A	Warwick	54.64	2	P	P	05 03 18.8 0.0
	baz=183					
ALGO	Algonquin Park	54.65	357	P	P	05 03 18.1 -0.7
	baz=176					
G46A	Petoskey	54.69	351	P	P	05 03 17.4 -1.7
	baz=168					
F61A	St Evariste	54.70	3	P	P	05 03 18.9 -0.2
	baz=185					
W18A	Petrified Fore	54.79	325	P	P	05 03 20.7 +0.4
	baz=136					
F64A	Sherman	54.79	6	P	P	05 03 20.0 +0.2
	baz=188					
E58A	La Victoria	55.00	1	P	P	05 03 21.2 -0.1
	baz=182					
E52A	Mattawa	55.01	357	P	P	05 03 20.8 -0.6
	baz=175					
E57A	Chemin Saint G	55.03	1	P	P	05 03 21.5 -0.1
	baz=181,SNR=5.2					
E53A	Dumoine, Ponti	55.05	358	P	P	05 03 21.7 0.0
	baz=177					
E60A	Ste Agathe de	55.07	3	P	P	05 03 21.7 -0.1
	baz=184					
E55A	Montcerf-Lytto	55.08	359	P	P	05 03 21.8 -0.1
	baz=178					
E54A	Lac Daplat, Po	55.09	358	P	P	05 03 21.6 -0.4
	baz=177					
E59A	St. Maurice	55.13	2	P	P	05 03 22.5 +0.2
	baz=183					
E56A	St. Veronique	55.16	360	P	P	05 03 22.6 +0.1
	baz=180,SNR=8.3					
E61A	Lac Etchemin	55.18	4	P	P	05 03 22.9 +0.2
	baz=185					
X16A	Lo Mia Camp, P	55.28	323	IAmb	IAmb	05 03 25.5
	comp=Z,10nm,0.8s					
E51A	G1948 Merrick	55.30	356	P	P	05 03 22.7 -0.8
	baz=174					
Q24A	Divide	55.31	331	P	P	05 03 24.2 0.0
	baz=143					
E62A	Clayton Lake	55.44	4	P	P	05 03 25.4 +0.9
	baz=186					
E48A	Lockeyer	55.48	354	P	P	05 03 23.7 -1.2
	baz=171					
OGNE	Ogallala	55.54	335	P	P	05 03 25.7 +0.2
	baz=147					
E47A	Iron Bridge	55.59	353	P	P	05 03 23.9 -1.6
	baz=170					
E46A	Sault Ste Mari	55.63	352	P	P	05 03 24.1 -1.8
	baz=169					
G40A	Rib Lake	55.63	347	P	P	05 03 24.5 -1.5
	baz=162					
D55A	Sainte-Anne-du	55.64	359	P	P	05 03 25.8 -0.1
	baz=179,SNR=5.7					
D60A	Saint Jean D'O	55.64	3	P	P	05 03 26.6 +0.7
	baz=185					
D57A	Chemin Vers le	55.64	1	P	P	05 03 25.6 -0.4
	baz=181					
MVCO	Mesa Verde	55.64	328	P	P	05 03 26.4 0.0
	baz=138					
D56A	ZEC Mazanza, M	55.66	0	P	P	05 03 26.0 -0.2
	baz=180					
D52A	ZEK Kipawa Sen	55.68	357	P	P	05 03 26.0 -0.3
	baz=176					
D59A	Saint-Raymond	55.69	2	P	P	05 03 25.9 -0.4
	baz=184					
D58A	Chemin du LacG	55.74	2	P	P	05 03 26.8 +0.2
	baz=182,SNR=9.1					
D53A	Lac Vacive, Po	55.75	358	P	P	05 03 25.7 -1.1
	baz=177					
D54A	Lac Fusel, La	55.79	358	P	P	05 03 26.2 -0.8
	baz=178					
D51A	Lot 18 Range I	55.85	356	P	P	05 03 26.6 -0.8
	baz=175					
D62A	Allapoint, All	55.93	5	P	P	05 03 28.2 +0.2
	baz=187					
ECSD	EROS Data Cent	55.97	341	P	P	05 03 27.2 -1.2
	baz=154,SNR=10					
ECSD	EROS Data Cent	55.97	341	IAmb	IAmb	05 03 28.1
	comp=Z,12nm,0.7s					
D61A	St Aubert, Com	55.97	4	P	P	05 03 28.8 +0.6
	baz=186					
D63A	Stockholm	55.97	6	P	P	05 03 28.6 +0.3
	baz=188					
WUAZ	Wupatki	56.01	324	P	P	05 03 29.7 +0.7
	baz=135,SNR=19					
LATQ	La Tuque	56.03	2	P	P	05 03 28.7 0.0
	baz=182					
E43A	Lone Tree Farm	56.06	350	P	P	05 03 27.4 -1.5
	baz=166					
D48A	Paudash Townsh	56.13	354	P	P	05 03 27.7 -1.8
	baz=172					
ISCO	Idaho Springs	56.19	332	P	P	05 03 30.6 +0.2
	baz=143,SNR=6.1					
SPMN	Marine on St.	56.22	345	P	P	05 03 28.8 -1.4
	baz=158,SNR=17					
SMCO	Snowmass	56.36	330	IAmb	IAmb	05 03 33.2
	comp=Z,7.6nm,0.8s					
PV02	Paradox Valley	56.51	328	IAmb	IAmb	05 03 33.5
	comp=Z,12nm,0.7s					
PV03	Paradox Valley	56.60	328	IAmb	IAmb	05 03 34.3
	comp=Z,8.6nm,0.9s					
PV12	Saucer Basin,	56.63	328	IAmb	IAmb	05 03 35.3
	comp=Z,7.8nm,0.9s					
PV11	David Mesa, Pa	56.65	328	IAmb	IAmb	05 03 34.9
	comp=Z,10.0nm,1.0s					
PV16	Nyswonger Mesa	56.68	328	IAmb	IAmb	05 03 35.1
	comp=Z,13nm,1.2s					
PV17	East Wray Mesa	56.68	328	IAmb	IAmb	05 03 35.4
	comp=Z,7.4nm,0.8s					
Y12C	Blythe	56.71	320	P	P	05 03 34.4 +0.5
	baz=131					
PV19	Morning Glory	56.72	328	IAmb	IAmb	05 03 35.7
	comp=Z,6.3nm,0.7s					
PV22	Blue Mesa, Par	56.78	328	IAmb	IAmb	05 03 35.6
	comp=Z,6.7nm,0.7s					
PDMCI	Parker Dam,Lak	56.84	321	P	P	05 03 35.2 +0.5
	baz=132					
U15A	North Rim	57.18	324	IAmb	IAmb	05 03 39.2
	comp=Z,13nm,1.0s					
E38A	The Farm, Brul	57.21	346	P	P	05 03 36.0 -1.1
	baz=160					
N23A	Red Feather La	57.22	332	P	P	05 03 37.6 0.0
	baz=143					
BC3	Big Chuckawall	57.24	320	P	P	05 03 38.3 +0.5
	baz=130,SNR=6.9					

PHWY	Pilot Hill	57.32	333	IAmb	IAmb	05 03 40.0
	comp=Z,7.5nm,0.8s					
IRM	Iron Mountain	57.37	320	P	P	05 03 39.1 +0.6
	baz=131,SNR=18					
SUSD	Miller	57.37	340	P	P	05 03 37.7 -0.6
	baz=151					
LSQQ	Lebel-sur-Quev	57.70	358	P	P	05 03 40.4 -0.1
	baz=178					
O20A	White River Ci	57.72	330	P	P	05 03 41.3 +0.2
	baz=140,SNR=7.1					
O20A	White River Ci	57.72	330	IAmb	IAmb	05 03 42.2
	comp=Z,12nm,1.0s					
BELC	Belle Mtn. Jos	57.81	320	P	P	05 03 42.2 +0.5
	baz=130,SNR=6.9					
109C	Camp Elliot, M	57.83	318	P	P	05 03 41.9 +0.2
	baz=128					
PFO	Pinyon Flats O	57.86	319	P	P	05 03 42.8 +0.8
	baz=129					
PFO	Pinyon Flats O	57.86	319	P	P	05 03 41.9 -0.2
PFO				IAmb	IAmb	05 03 43.7
	comp=Z,7.7nm,0.9s					
GMRC	Granite Mounta	58.10	321	P	P	05 03 44.4 +0.6
	baz=130,SNR=12					
MURC	Murrieta	58.33	319	P	P	05 03 45.8 +0.5
	baz=129					
MATQ	Matagami	58.43	358	P	P	05 03 44.7 -0.8
	baz=177					
RWWY	Rawlins	58.43	332	IAmb	IAmb	05 03 47.9
	comp=Z,14nm,0.8s					
CHGQ	Chibougamau	58.53	0	P	P	05 03 45.8 -0.5
	baz=180					
HEC	Hector,Ludlow	58.55	320	P	P	05 03 47.6 +0.8
	baz=130					
MSU	Marysvale	58.58	326	P	P	05 03 46.2 -0.9
MSU					PcP	05 04 36.6 +0.6
K22A	Casper	58.87	333	P	P	05 03 49.4 +0.4
	baz=143					
SHPR	Sheep Range	58.92	322	IAmb	IAmb	05 03 50.6
	comp=Z,5.7nm,0.7s					
RSSD	Black Hills	59.00	336	P	P	05 03 50.8 +0.9
	baz=146					
RSSD	Black Hills	59.00	336	P	P	05 03 49.3 -0.6
RSSD				IAmb	IAmb	05 03 51.8
	comp=Z,11nm,0.9s					
BFSC	Mount Baldy Ra	59.03	319	P	P	05 03 50.6 +0.4
	baz=128					
GSC	Goldstone, Bar	59.15	320	P	P	05 03 51.7 +0.8
	baz=130					
SHOC	Shoshone, Teco	59.20	321	P	P	05 03 51.8 +0.6
	baz=130,SNR=6.2					
EDW2	Edwards Air Fo	59.64	319	P	P	05 03 54.6 +0.3
	baz=128					
TPNV	Topopah Spring	59.87	322	P	P	05 03 56.9 +0.9
	baz=131,SNR=17					
TPNV	Topopah Spring	59.87	322	IAmb	IAmb	05 03 57.7
	comp=Z,15nm,1.0s					
AGMN	Agassiz Nation	59.87	344	P	P	05 03 54.7 -0.8
	baz=156,SNR=9.7					
FURC	Furnace Creek,	59.93	321	P	P	05 03 56.8 +0.7
	baz=130,SNR=14					
MPMC	Manual Prospec	60.06	321	P	P	05 03 57.4 +0.1
	baz=130,SNR=7.6					
DUG	Dugway, Tooele	60.12	327	P	P	05 03 58.2 +0.6
	baz=136,SNR=19					
ARVC	Arvin	60.34	319	P	P	05 03 59.7 +0.7
	baz=128					
BW06	Boulder Array	60.37	331	P	P	05 03 58.9 -0.4
	baz=140,SNR=6.7					
PDAR	Pinedale Array	60.37	331	P	P	05 03 58.5 -0.8
	comp=Z,3.1nm,0.6s,baz=125,slow=8.5,SNR=32					
R11A	Troy Canyon, C	60.40	324	P	P	05 04 00.4 +0.8
	baz=132,SNR=34					
R11A	Troy Canyon, C	60.40	324	IAmb	IAmb	05 04 01.3
	comp=Z,9.3nm,0.8s					
ISA	Isabella, Lake	60.44	320	P	P	05 04 00.2 +0.5
	baz=128					
ISA	Isabella, Lake	60.44	320	P	P	05 03 59.4 -0.3
MDND	Maddock	60.58	341	P	P	05 04 00.6 +0.2
	baz=152					
GRAC	Grapevine Rang	60.58	322	P	P	05 04 01.4 +0.8
	baz=130					
CWC	Cottonwood Cre	60.67	321	P	P	05 04 01.5 +0.1
	baz=129					
PKM	Mcpherson Peak	60.83	318	P	P	05 04 02.7 +0.1
	baz=127					
VES	Vestal, Richgr	60.94	320	P	P	05 04 03.5 +0.5
	baz=128					
AHID	Auburn Hatcher	61.11	330	IAmb	IAmb	05 04 04.8
	comp=Z,13nm,0.7s					
SMMC	Simmler	61.21	319	P	P	05 04 05.6 +0.7
	baz=127,SNR=5.1					
SNOW	Snow King Moun	61.47	331	IAmb	IAmb	05 04 08.8
	comp=Z,7.1nm,0.8s					
TPAW	Teton Pass	61.58	331	IAmb	IAmb	05 04 08.2
	comp=Z,6.2nm,0.6s					
PAGB	Antelope Grade	61.62	319	P	P	05 04 07.6 -0.1
PAGB				IAmb	IAmb	05 04 08.7
	comp=Z,8.7nm,0.9s					
ULM	Lac du Bonnet	61.66	345	P	P	05 04 06.3 -1.2
	comp=Z,18nm,0.7s,baz=152,slow=8.5,SNR=16					
MLAC	Mammoth, Mammo	61.89	321	P	P	05 04 10.3 +0.6
	baz=129					
FLWY	Flagg Ranch	61.91	331	IAmb	IAmb	05 04 11.0
	comp=Z,17nm,0.8s					
OMMB	Old Mammoth Mi	61.98	321	IAmb	IAmb	05 04 11.8
	comp=Z,8.4nm,0.8s					
LAO	LASA Array	61.99	336	P	P	05 04 09.9 -0.1
	baz=144					
MDPB	Devils Postpil	62.04	321	IAmb	IAmb	05 04 12.1
	comp=Z,6.7nm,0.7s					
RLMT	Red Lodge	62.04	333	P	P	05 04 10.5 0.0
	baz=141,SNR=5.4					
RLMT	Red Lodge	62.04	333	IAmb	IAmb	05 04 10.9
	comp=Z,7.3nm,0.8s					
NVAR	Mina Array Bea	62.07	322	P	P	05 04 11.3 +0.5
	comp=Z,4.2nm,0.8s,baz=140,slow=7.6,SNR=34					
DGMT	Dagmar	62.69	338	P	P	05 04 15.1 +0.6
	baz=147,SNR=6.5					
BMN	Battle Mountai	62.73	325	IAmb	IAmb	05 04 16.2
	comp=Z,8.7nm,0.8s					
YERR	Yerington	62.99	322	IAmb	IAmb	05 04 18.6
	comp=Z,14nm,1.1s					
PNTR	Pine Nut	63.27	322	IAmb	IAmb	05 04 20.7
	comp=Z,13nm,0.9s					
VCNR	Virginia City	63.43	322	IAmb	IAmb	05 04 21.6
	comp=Z,14nm,0.9s					
BOZ	Bozeman (W)	63.48	332	P	P	05 04 20.0 0.0
	baz=139,SNR=16					
BOZ	Bozeman (W)	63.48	332	IAmb	IAmb	05 04 20.6
	comp=Z,7.1nm,0.7s					
PAHR	Pah Rah Range	63.53	323	IAmb	IAmb	05 04 22.2
	comp=Z,13nm,0.9s					
SCHQ	Schefferville	63.81	5	P	P	05 04 20.1 -1.7
	comp=Z,7.7nm,0.7s,baz=62,slow=19,SNR=4.4					
SCHQ	Schefferville	63.81	5	P	P	05 04 21.5 -0.3
AFDM	Forest Hills D	64.02	321	P	P	05 04 23.4 -0.1
BEKR	Beckworth	64.22	322	IAmb	IAmb	05 04 26.5
	comp=Z,9.1nm,0.8s					
EGMT	Eagleton	64.51	335	P	P	05 04 26.5 -0.1
	baz=141,SNR=7.3					
EGMT	Eagleton	64.51	335	IAmb	IAmb	05 04 28.0
	comp=Z,11nm,0.8s					
O03E	Paynes Creek	65.35	322	P	P	05 04 31.5 -0.7
	baz=127					
MOD	Modoc Plateau	65.46	324	IAmb	IAmb	05 04 34.1
	comp=Z,13nm,0.9s					
MSO	Missoula	65.47	332	P	P	05 04 33.3 +0.4
	baz=137,SNR=14					
MSO	Missoula	65.47	332	IAmb	IAmb	05 04 34.3
	comp=Z,17nm,0.9s					
O02D	Mt. Diablo Mer	65.88	321	P	P	05 04 35.4 -0.2
	baz=126					
M04C	Macdoel	66.28	323	P	P	05 04 38.5 +0.3
	baz=128,SNR=5.6					
JTMT	Jette	66.30	332	IAmb	IAmb	05 04 39.6
	comp=Z,11nm,0.9s					
N02D	Trinity Center	66.31	322	P	P	05 04 37.2 -1.1
	baz=127					
F10A	Beach Ranch, E	66.47	329	IAmb	IAmb	05 04 40.8
	comp=Z,10nm,0.6s					
M02C	Callahan	66.65	322	P	P	05 04 39.9 -0.6
	baz=127					
L04D	Klamath Falls	66.82	323	P	P	05 04 41.6 0.0
	baz=128					
J05D	Fort Rock, OR	66.86	325	P	P	05 04 42.2 +0.3
	baz=129,SNR=6.8					
PINE	Pine Mountain	67.02	325	IAmb	IAmb	05 04 46.0
	comp=Z,13nm,0.8s					
WALA	Waterton Lakes	67.09	333	IAmb	IAmb	05 04 44.1
	comp=Z,10nm,0.8s					
J04D	Umpqua Nationa	67.33	324	P	P	05 04 44.9 0.0
	baz=128					
L02E	Cave Junction	67.56	323	P	P	05 04 46.7 +0.6
	baz=126					
I05D	Terrebonne, OR	67.58	326	P	P	05 04 46.9 +0.6
	baz=129					
K02D	Willamette Mer	67.91	323	P	P	05 04 48.9 +0.5
	baz=127					
HAWA	Hanford	67.94	328	P	P	05 04 47.8 -0.6
NEW	Newport	68.01	331	P	P	05 04 48.8 0.0
	baz=134					
G05D	Wamic, OR	68.14	326	P	P	05 04 50.9 +1.1
	baz=130					
I03D	Drain, OR	68.33	324	P	P	05 04 51.4 +0.6
	baz=127					
H04D	Lebanon	68.48	325	P	P	05 04 52.4 +0.6
	baz=128					
F05D	White Salmon	68.63	327	P	P	05 04 53.2 +0.5
	baz=130					
I02D	Swisshome	68.86	324	P	P	05 04 54.7 +0.6
	baz=127					
F04A	Amboy	69.18	327	IAmb	IAmb	05 04 56.7
	comp=Z,11nm,0.7s					
D05A	Enumclaw	69.74	328	IAmb	IAmb	05 05 00.7
	comp=Z,20nm,0.7s					
B06A	Marblemount	70.33	329	IAmb	IAmb	05 05 03.8
	comp=Z,20nm,0.7s					
B05A	Bryant	70.48	329	P	P	05 05 03.7 -0.3
	baz=130,SNR=6.1					
D03D	Eldon	70.54	328	P	P	05 05 04.7 +0.3
	baz=129					
NLWA	Neilton Lookou	70.87	327	IAmb	IAmb	05 05 08.3
	comp=Z,16nm,0.8s					
LIC	Lamto	71.17	80	eP	P	05 05 12.9 +4.0
	comp=Z,17nm,0.5s					
TIC	Toumodi	71.26	80	eP	P	05 05 14.4 +5.0
DBIC	Dimbokro	71.42	80	P	P	05 05 10.1 -0.3
	comp=Z,9.1nm,0.4s,baz=240,slow=6.1,SNR=5.8					
PGC	Sidney	71.42	328	IAmb	IAmb	05 05 11.4
	comp=Z,15nm,0.9s					
KIC	Kosan Boka	71.47	80	eP	P	05 05 14.6 +3.9
	comp=Z,32nm,0.6s					
VNA3	Neumayer Olymp	73.79	162	P	P	05 05 40.6 +17
VNA2	Neumayer--Watz	74.38	162	P	P	05 05 44.0 +17
	baz=296,slow=6.4					
SNAA	Sanae	76.00	162	P	P	05 05 52.5 +16
SNAA	Sanae	76.00	162	P	P	05 05 36.8 +0.6
	comp=Z,0.9nm,0.8s,baz=308,slow=9.8,SNR=7.6					
SNAA	Sanae	76.00	162	P	P	05 05 36.6 +0.4
SNAA					pP	05 06 06.4 -1.3
YKA	Yellowknife Ar	77.47	342	P	P	05 05 43.7 -0.6
	comp=Z,21nm,1.0s,baz=139,slow=5.9,SNR=49					
YKA				pP	pP	05 06 15.8 0.0
	comp=Z,0.9nm,0.5s,baz=142,slow=5.9,SNR=2.2					
YKA	Yellowknife Ar	77.47	342	P	P	05 05 43.4 -1.0
YKA					pP	05 06 15.3 -0.5
YKW3	Yellowknife Ar	77.52	342	IAmb	IAmb	05 05 44.9
	comp=Z,15nm,0.9s					
TOA0	Torodi Ar. Sit	79.06	75	P	P	05 05 53.4 -0.8
TOA0				IAmb	IAmb	05 06 00.3
	comp=Z,12nm,0.6s					
TORD	Torodi Ar. Bea	79.06	75	P	P	05 05 53.4 -0.7
	comp=Z,12nm,0.6s,baz=277,slow=5.5,SNR=55					
TORD	Torodi Ar. Bea	79.06	75	P	P	05 05 53.1 -1.0
ESDC	Sonseca Array	81.22	48	P	P	05 06 06.1 +0.8
	comp=Z,1.5nm,0.8s,baz=265,slow=5.5,SNR=6.8					
ESDC	Sonseca Array	81.22	48	P	P	05 06 04.5 -0.8
QSPA	South Pole Qui	81.25	180	P	P	05 06 05.3 +0.2
SUMG	Summit	84.62	10	∥ iP	P	05 06 22.8 +0.2
	comp=Z,57nm,0.7s					
SUMG	Summit	84.62	10	P	P	05 06 22.6 0.0
TULEG	Thule	85.33	1	P	P	05 06 25.6 +0.1
TULEG				IAmb	IAmb	05 06 26.8
	comp=Z,20nm,1.0s					
CTGM	Chitina Glacie	86.65	333	IAmb	IAmb	05 06 34.0
	comp=Z,11nm,1.0s					
SCO	Scoresbysund	86.77	16	i P	P	05 06 33.2 +0.5
	comp=Z,5.6nm,0.6s					
INK	Inuvik	87.21	341	IAmb	IAmb	05 06 35.5
	comp=Z,10nm,0.8s					
EPYK	Eagle Plains	87.28	339	P	P	05 06 35.7 +0.4
	baz=119					
VRDI	Verde Repeater	87.69	333	IAmb	IAmb	05 06 38.1
	comp=Z,10nm,0.6s					
EGAK	Eagle	88.19	337	IAmb	IAmb	05 06 40.3
	comp=Z,12nm,0.8s					
PAX	Paxson	89.23	334	IAmb	IAmb	05 06 45.0
	comp=Z,6.9nm,0.8s					
PRP	Porcupine Dome	90.18	337	IAmb	IAmb	05 06 50.0
	comp=Z,9.5nm,1.0s					
HDA	Harding Lake	90.35	336	P	P	05 06 50.0 +0.2
	baz=110					
HDA	Harding Lake	90.35	336	IAmb	IAmb	05 06 50.7
	comp=Z,6.8nm,0.9s					
ILAR	Eielson Array	90.45	336	P	P	05 06 49.5 -0.7
	comp=Z,1.6nm,0.4s,baz=118,slow=3.7,SNR=22					
ILAR				PP	PP	05 10 24.8 -1.7
	comp=Z,1.0nm,0.9s,baz=112,slow=6.8,SNR=7.3					
CCB	Clear Creek Bu	90.78	336	IAmb	IAmb	05 06 52.3
	comp=Z,5.3nm,0.8s					
POKR	Poker Plat Res	90.79	336	P	P	05 06 51.6 -0.2
	baz=109					
COLA	College	90.88	336	P	P	05 06 52.2 +0.1
TCOL	CIGO, UAF Yank	90.88	336	P	P	05 06 52.2 0.0
	baz=109					
TOLK	Toolik Lake Re	92.71	339	P	P	05 07 00.9 +0.3
	baz=107					
NOA	NORSAR Array B	95.77	29	P	P	05 07 14.6 -0.3
	comp=Z,1.0nm,0.8s,baz=239,slow=5.0,SNR=3.5					
STKA	Stephens Creek	126.59	219	PKP	PKPdf	05 12 51.3 -0.9
	comp=Z,2.3nm,0.5s,baz=130,slow=3.2,SNR=8.2					
STKA				pPKP	pPKPdf	05 13 27.0 +1.0
	comp=Z,1.5nm,0.6s,baz=6.0,slow=4.3,SNR=2.3					
STKA	Stephens Creek	126.59	219		PKPdf	05 12 52.0 -0.3
ZAA0	Zalesovo Array	132.15	16		PKPdf	05 13 01.7 -0.4
ZALV	Zalesovo Beam	132.15	16	PKP	PKPdf	05 13 02.3 +0.3
	comp=Z,4.5nm,0.6s,baz=255,slow=2.8,SNR=20					
ZALV				pPKP	pPKPdf	05 13 37.2 +1.4
	comp=Z,2.3nm,0.6s,baz=279,slow=2.2,SNR=3.4					
KURK	Kurchatov	132.85	23		PKPdf	05 13 03.5 +0.1
ASAR	Alice Springs	137.18	220	PKP	PKPdf	05 13 12.2 -0.3
	comp=Z,1.4nm,0.5s,baz=121,slow=2.0,SNR=13					
ASAR				pPKP	pPKPdf	05 13 46.2 0.0
	comp=Z,1.4nm,0.6s,baz=129,slow=2.7,SNR=5.7					
MK31	Makanchi Array	137.46	23		PKPdf	05 13 11.4 -0.8
MKAR	Makanchi Array	137.46	23	PKP	PKPdf	05 13 12.2 -0.1
	comp=Z,1.8nm,0.7s,baz=342,slow=1.9,SNR=11					
WRA	Warramunga Arr	139.46	225	PKhKP	PKPpre	05 13 08.5
	comp=Z,0.5nm,0.6s,baz=116,slow=1.9,SNR=3.6					
WRA				PKP	PKPdf	05 13 16.6 -0.1
	comp=Z,2.8nm,0.6s,baz=143,slow=1.4,SNR=8.4					
WRA				pPKP	pPKPdf	05 13 51.7 +1.2
	comp=Z,3.2nm,0.7s,baz=130,slow=1.7,SNR=8.0					
WRA	Warramunga Arr	139.46	225		PKPdf	05 13 15.6 -1.1
KSH	Kashi	139.84	36	PKP	PKiKP	05 13 19.4 0.0
KSH				sPKP		05 13 56.3
KSH				PP	PP	05 16 20.5 +6.9
KSH				PKS	PKSdf	05 16 53.1 0.0
KSH				SKS	SKSdf	05 20 17.8 +1.7
SONM	Songino Array	141.15	359	PKhKP	PKPpre	05 13 12.4
	comp=Z,0.9nm,0.6s,baz=332,slow=2.1,SNR=6.2					
KS19	Wonju Array Si	144.88	328		PKPab	05 13 23.9 -1.2
KSRS	Korea Array	144.88	328	PKP	PKPab	05 13 24.9 -0.2
	comp=Z,7.1nm,0.8s,baz=33,slow=2.5,SNR=18					
MTN	Manton Dam	146.38	230	PKPdf	PKPdf	05 13 27.9 -1.1
FITZ	Fitzroy Crossi	146.44	217		PKPdf	05 13 27.8 -1.2
GTA	Gaotai	149.21	8	PKPbc	PKPbc	05 13 37.5 0.0
GTA				pPKP	pPKPbc	05 14 10.3 -0.7
GTA				sPKP		05 14 23.9
GTA				LR	LR	
	comp=N,130nm,20.3s					
GTA				LR	LR	
	comp=E,110nm,19.9s					
GTA				LR	LR	
	comp=Z,53nm,19.6s					
LZH	Lanzhou	152.88	2	ePKPbc	PKPdf	05 13 35.8 -3.1
LZH				pPKP	pPKPdf	05 14 11.1 -1.7
LZH				sPKP		05 14 23.9
CD2	Chengdu	158.03	3	PKP	PKPdf	05 13 43.8 -2.0
CMAR	Chiang Mai Arr	168.71	32	PKPab	PKPab	05 15 07.2 +0.5
	comp=Z,2.2nm,0.7s,baz=316,slow=5.6,SNR=8.7					

IDC 21 05:27:35.0±3.4, 20°.99N×145°.70E, h0^{km}, mb3.6/7,

mb1 3.7/7, mb1mx3.6/41, mbtmp3.7/7, Error ellipse: s-maj=130.9km s-min=19.6km az=80.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	19.91	94	T	T	05 52 33.0	
	baz=280						
H11N1	WAKE ISLAND Hy	19.91	90	T	T	05 52 38.5	
	baz=276						
H11N2	WAKE ISLAND Hy	19.92	90	T	T	05 52 37.0	
	baz=276						
H11S1	WAKE ISLAND Hy	19.92	93	T	T	05 52 35.0	
	baz=280						
H11S2	WAKE ISLAND Hy	19.93	94	T	T	05 52 41.0	
	baz=280						
H11N3	WAKE ISLAND Hy	19.93	90	T	T	05 52 39.1	
	baz=276						
KSRS	Korea Array	22.52	321	P	P	05 32 36.8	+0.4
	2.2nm,0.8s,baz=143,slow=8.3,SNR=6.2						
KLR	Kul'dur	30.30	342	P	P	05 33 48.2	+0.2
	1.1nm,0.4s,baz=302,slow=8.1,SNR=4.7						
SONM	Songino Array	41.38	320	P	P	05 35 22.9	-0.2
	0.3nm,0.5s,baz=132,slow=6.9,SNR=3.0						
WRA	Warramunga Arr	42.17	196	P	P	05 35 29.3	-0.3
	0.9nm,0.5s,baz=12,slow=8.7,SNR=15						
ASAR	Alice Springs	45.84	195	P	P	05 35 59.2	+0.1
	0.1nm,0.4s,baz=2.5,slow=6.5,SNR=2.7						
ZALV	Zalesovo Beam	56.22	322	P	P	05 37 16.6	-0.3
	0.7nm,0.4s,baz=93,slow=8.1,SNR=2.8						
MKAR	Makanchi Array	56.90	313	P	P	05 37 21.9	0.0
	0.3nm,0.5s,baz=80,slow=7.1,SNR=2.9						

*ISCJB **21** 05:35:55.7±0.5, 24°.84N±0°.04×122°.40E±0°.02, h8^{km}±4^{km}, Error ellipse: s-maj=6.2km s-min=3.2km az=14.4*

*TAP **21** 05:35:56.9, 24°.84N×122°.36E, h6^{km}±1^{km}, ML3.1, D*

*JMA **21** 05:35:56.8±0.1, 24°.79N×122°.38E, h20^{km}±4^{km}, M2.4*

ISC 21 05:35:55.7±1.1, 24°.85N±0°.05×122°.39E±0°.02, h14^{km}±11^{km}, n21, σ0°.45/35, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.38	219	P	Pb	05 36 04.1	-0.2
	baz=216						
EOS1				eS	Sg	05 36 09.3	+0.7
	baz=216						
TWB1	Santiao Chiao	0.40	294	P	Pb	05 36 04.0	-0.6
	baz=297						
TWB1				eS	Sg	05 36 08.6	-0.5
	baz=297						
EGS		0.42	270	eP	Pg	05 36 04.3	+0.2
	baz=270						
NTC	Toucheng	0.51	271	eP	Pb	05 36 06.3	-0.2
	baz=272						
TWC	Suao	0.55	244	P	Pg	05 36 06.0	-0.5
	baz=243						
TWC				eS	Sg	05 36 13.7	-0.1
	baz=243						
NWF	Wu-fen Shan	0.59	292	eP	Pb	05 36 08.4	+0.4
	baz=294						
NWF				eS	Sb	05 36 16.2	-0.2
	baz=294						
JYNG	Yonagunijimaku	0.64	128	P	Pg	05 36 08.7	+0.4
JYNG				eS	Sg	05 36 17.0	+0.2
TWE	Neicheng	0.67	259	P	Pg	05 36 08.6	-0.2
	baz=259						
TWE				eS	Sb	05 36 18.4	0.0
	baz=259						
YOJ	Yonaguni jima	0.68	124	P	Pg	05 36 09.4	+0.3
YOJ				S	Sg	05 36 18.0	-0.1
ENA	Nanau	0.72	235	eP	Pg	05 36 09.6	-0.2
	baz=233						
ENA				eS	Sg	05 36 19.9	+0.5
	baz=233						
TWA	Mucha	0.74	280	eP	Pb	05 36 11.2	+0.7
	baz=281						
ENTT	Nioudou	0.78	255	eP	Pg	05 36 10.5	-0.3
	baz=254						
ENTT				eS	Sg	05 36 21.4	+0.3
	baz=254						
NWLT	Wulai	0.81	265	eP	Pb	05 36 11.7	0.0
	baz=265						
TWY	Chenhua	0.83	301	eP	Pb	05 36 12.6	+0.5
	baz=302						
TWY				eS	Sb	05 36 23.5	+0.3
	baz=302						
NDT	Datong Townshi	0.83	253	eP	Pg	05 36 12.0	+0.1
	baz=253						
NDT				eS	Sb	05 36 23.5	+0.3
	baz=253						
NSK	Sanguang	0.95	260	eP	Pg	05 36 13.7	-0.6
	baz=259						
NNS	Nan Shan	1.01	246	eP	Pg	05 36 15.0	-0.3
	baz=245						
ETLH	Xiulin Townshi	1.05	232	eP	Pg	05 36 15.8	-0.1
	baz=231						
ETLH				eS	Sg	05 36 29.3	-0.3
	baz=231						
WHF	Hehuan Shan	1.24	236	eP	Pg	05 36 19.3	-0.5
	baz=235						
WHF				eS	Sg	05 36 35.3	-0.7
	baz=235						
IRIF	Iriomote-Funau	1.32	112	P	Pg	05 36 20.5	-0.7
IRIF				eS	Sg	05 36 37.5	-0.9
JKRS	Kuro-shima	1.59	112	P	Pn	05 36 23.8	+0.2

*IDC **21** 05:53:38.9±0.8, 60°.31S×45°.29W, h0^{km}, mb4.1/7, mb1 4.2/7, mb1mx4.0/21, mbtmp4.1/7, MS3.0/4, Ms1 3.0/4, ms1mx2.8/19, Error ellipse: s-maj=41.9km s-min=19.1km az=67.0*

*ISCJB **21** 05:53:39.0±0.4, 60°.30S±0°.07×45°.3W±0°.2, h10^{km}, mb4.0/6, MS2.9/4, Error ellipse: s-maj=14.2km s-min=7.4km az=146.1*

*NEIC **21** 05:53:40.6±1.6, 60°.25S±0°.08×45°.1W±0°.2, h10^{km}±1^{km}, mb4.5/15*

ISC 21 05:53:40.5±0.5, 60°.26S±0°.08×45°.14W±0°.10, h10^{km}, n38, σ0°.88/36, mb4.5/12, MS2.9/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	7.60	42	Pn	Pn	05 55 30.0	-1.1
PMSA	Palmer Station	9.82	234	Pn	Pn	05 56 00.9	-0.7
VNA3	Neumayer Olymp	17.91	142	P	Pn	05 57 49.9	+0.7
VNA1	Neumayer--Stat	18.16	140	P	P	05 57 53.3	+0.7
VNA2	Neumayer--Watz	18.51	141	P	Pn	05 57 57.5	+0.9
	baz=290,slow=15						
SNAA	Sanae	20.12	142	P	Pn	05 58 15.7	-0.3
SNAA	Sanae	20.12	142	P	P	05 58 14.9	+0.8
	3.7nm,0.9s,baz=292,slow=10,SNR=18						
SNAA	Sanae	20.12	142	P	P	05 58 15.2	+1.1
TRQA	Tornquist	24.65	327	P	P	05 59 01.9	+0.8
TRQA				IAmb	IAmb	05 59 10.4	
	comp=Z,8.7nm,0.8s						
PLCA	Paso Flores	25.08	310	LR	LR	06 08 11.4	
	comp=Z,42nm,18.6s,baz=196,slow=35						
PLCA	Paso Flores	25.08	310	P	P	05 59 04.6	-0.4
QSPA	South Pole Qui	29.98	180	P	P	05 59 49.4	+0.6
	comp=Z,2.6nm,1.0s,baz=151,slow=6.0,SNR=5.9						
QSPA

comp=Z,4.7nm,0.8s
OTAV Otavalo 65.60 323 P **P 06 04 24.9 0.0**
OTAV IAmb IAmb 06 04 26.5
comp=Z,3.7nm,1.0s
PTCN Pitcairn Islan 66.11 261 P **P 06 04 27.6 0.0**
LSZ Lusaka 68.59 83 P **P 06 04 43.5 -0.1**
LSZ IAmb IAmb 06 04 45.0
comp=Z,6.1nm,1.1s
ROSC El Rosal 68.83 329 P **P 06 04 45.1 -0.1**
ROSC IAmb IAmb 06 04 49.3
comp=Z,1.8nm,0.5s
BCIP Isla Barro Col 74.48 324 P **P 06 05 19.0 +0.3**
TORD Torodi Ar. Bea 82.16 46 P **P 06 06 02.2 +1.0**
comp=Z,3.1nm,0.8s,baz=208,slow=5.6,SNR=12
ASAR Alice Springs 96.38 179 P **P 06 07 07.5 -2.1**
comp=Z,0.4nm,0.9s,baz=179,slow=5.5,SNR=5.0
ASAR Alice Springs 96.38 179 P **P 06 07 07.2 -2.3**
BVAR Borovoye Array 145.15 73 PKPbc **PKPab 06 13 16.1 -0.4**
comp=Z,5.7nm,0.7s,baz=242,slow=3.2,SNR=26
ILAR Eielson Array 145.76 312 PKPbc **PKPdf 06 13 17.2 -0.2**
comp=Z,4.8nm,0.9s,baz=158,slow=3.1,SNR=31
ILAR Eielson Array 145.76 312 **PKPdf 06 13 17.1 -0.4**
MKAR Makanchi Array 146.94 90 PKPbc **PKPbc 06 13 21.1 -0.9**
comp=Z,2.9nm,0.7s,baz=239,slow=2.5,SNR=16
MKAR Makanchi Array 146.94 90 **PKPbc 06 13 21.0 -1.1**
KURBB Kurchatov Arra 147.60 82 PKPbc **PKPbc 06 13 22.7 -1.0**
comp=Z,1.0nm,0.4s,baz=235,slow=3.5,SNR=6.8
KURK Kurchatov 147.70 82 **PKPdf 06 13 21.8 +0.6**

*IDC **21** 06:05:52.8±0.8, 2°.52S×119°.10E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.8/41, mbtmp3.9/10, ML3.7/1, MS2.5/2, Ms1 2.7/2, ms1mx2.3/32, Error ellipse: s-maj=81.1km s-min=14.7km az=61.0*
*ISCJB **21** 06:05:54.8±0.4, 2°.66S±0°.05×118°.91E±0°.07, h33km, mb3.9/9, MS2.9/1, Error ellipse: s-maj=11.4km s-min=5.3km az=147.3*
*DJA **21** 06:05:56.1±0.4, 3°S±3°×11°9E±°, h12km±3km, M4.1/9, MLv4.1/9*
*NEIC **21** 06:05:57.5±1.4, 2°.71S±0°.08×119°.01E±0°.10, h47km±8km, mb4.4/17*
ISC 21 06:05:57.0±0.5, 2°.77S±0°.05×118°.81E±0°.05, h35km, n44, σ1§69/48, mb4.2/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TTSI	**Tsa Toraja**	**1.04**	**105**	P		**Pn**	**06 06 17.0**	**+1.9**
TTSI				S		**Sn**	**06 06 31.0**	**+2.6**
SPSI	**Sidrap Palu**	**1.52**	**141**	P		**Pn**	**06 06 22.1**	**+0.4**
BNSI	**Bone**	**2.07**	**141**	P		**Pn**	**06 06 31.2**	**+1.9**
KAPI	**Kappang**	**2.42**	**157**	Pn		**Pn**	**06 06 34.4**	**+0.4**
	14nm,0.3s,baz=325,slow=12,SNR=19							
KAPI				Sn		**Sn**	**06 07 03.2**	**+0.8**
	29nm,0.3s,baz=342,slow=18,SNR=9.1							
KAPI				LR		LR	06 07 07.4	
	comp=Z,37nm,21.0s,baz=299,slow=29							
KAPI	**Kappang**	**2.42**	**157**			**Pn**	**06 06 34.7**	**+0.7**
KAPI						**Sn**	**06 07 04.3**	**+1.9**
BKB	**Balikpapan**	**2.43**	**308**	P		**Pn**	**06 06 37.4**	**+3.1**
BKB	**Balikpapan**	**2.43**	**308**			Pn	06 06 39.6	+5.3
KBKI	**Kotabaru**	**2.69**	**259**	P		**Pn**	**06 06 39.2**	**+1.4**
BKSI	**Bulukumba**	**2.85**	**153**	P		**Pn**	**06 06 41.0**	**+1.0**
APSI	**Ampana**	**3.39**	**57**	P		**Pn**	**06 06 49.4**	**+2.0**
MRSI	**Marisa**	**4.50**	**44**	P		**Pn**	**06 07 04.6**	**+2.0**
SOEI	**Soe**	**8.80**	**142**	Pn		**Pn**	**06 08 02.1**	**+0.2**
MNAI	**Manna**	**15.90**	**264**	Pn		**Pn**	**06 09 39.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**16.64**	**157**	Pn		**Pn**	**06 09 47.0**	**-0.6**
GIRL	**Giralia**	**20.25**	**192**	P		**P**	**06 10 30.3**	**+1.0**
WB0	**Warramunga Arr**	**22.74**	**139**	P		**P**	**06 10 55.1**	**-1.1**
WB0				IAmb		IAmb	06 10 58.0	
	comp=Z,9.4nm,0.8s							
WRA	**Warramunga Arr**	**22.83**	**140**	P		**P**	**06 10 57.8**	**+0.6**
	comp=Z,8.9nm,0.7s,baz=315,slow=11,SNR=65							
WRA	**Warramunga Arr**	**22.83**	**140**	P		**P**	**06 10 56.5**	**-0.7**
WRAB	**Tennant Creek**	**22.83**	**139**	P		**P**	**06 10 56.4**	**-0.7**
WRAB				IAmb		IAmb	06 10 59.0	
	comp=Z,12nm,0.7s							
WB2	**Warramunga Arr**	**22.84**	**140**	P		**P**	**06 10 55.4**	**-1.9**
WB2				IAmb		IAmb	06 10 59.0	
	comp=Z,12nm,0.7s							
WR0	**Warramunga Arr**	**22.97**	**139**	P		**P**	**06 10 58.7**	**0.0**
WR0				IAmb		IAmb	06 11 00.5	
	comp=Z,9.3nm,0.9s							
LHMI	**Lhok Sumawe**	**23.24**	**290**	P		**P**	**06 11 02.3**	**+0.8**
HKPS	**Hong Kong Po S**	**25.31**	**350**	P		**P**	**06 11 19.3**	**-1.2**
AS31	**Alice Springs**	**25.39**	**146**	P		**P**	**06 11 20.1**	**-1.2**
ASAR	**Alice Springs**	**25.39**	**146**	P		**P**	**06 11 22.9**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=344,slow=15,SNR=14							
ASAR	**Alice Springs**	**25.39**	**146**	P		**P**	**06 11 20.8**	**-0.5**
TPUB	**Ta-pu**	**25.98**	**4**	P		**P**	**06 11 23.4**	**-3.2**
CMAR	**Chiang Mai Arr**	**28.77**	**318**	LR		LR	06 24 57.5	
	comp=Z,26nm,18.4s,baz=145,slow=40							
STKA	**Stephens Creek**	**36.03**	**146**	P		**P**	**06 12 56.2**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=332,slow=10,SNR=5.4							
STKA	**Stephens Creek**	**36.03**	**146**	P		**P**	**06 12 53.3**	**-1.8**
SONM	**Songino Array**	**51.56**	**349**	P		**P**	**06 14 59.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=166,slow=9.4,SNR=3.1							
MK31	**Makanchi Array**	**58.90**	**331**	P		**P**	**06 15 52.1**	**-0.4**
MK31				IAmb		IAmb	06 15 58.1	
	comp=Z,2.3nm,1.1s							
MKAR	**Makanchi Array**	**58.90**	**331**	P		**P**	**06 15 52.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=142,slow=8.3,SNR=3.8							
KKAR	**Karatay Array**	**63.00**	**322**	P		**P**	**06 16 20.0**	**-0.5**
ZALV	**Zalesovo Beam**	**63.21**	**338**	P		**P**	**06 16 20.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=143,slow=8.1,SNR=2.4							
ZALV	**Zalesovo Beam**	**63.21**	**338**	P		**P**	**06 16 20.9**	**-0.7**
ZALV				pP		**pP**	**06 16 27.9**	**-4.3**
MSEY	**Mahe Island**	**63.21**	**266**	P		**P**	**06 16 21.9**	**-0.6**
PLWZ	**Palliser**	**63.51**	**136**	P		**P**	**06 16 22.2**	**-1.8**
CASY	**Casey**	**63.65**	**184**	P		**P**	**06 16 23.8**	**-0.5**
CASY				IAmb		IAmb	06 16 29.4	
	comp=Z,9.1nm,1.3s							
CASY				pP		**pP**	**06 16 36.4**	**+1.4**
ABKAR	**Akbulak array**	**72.42**	**324**	P		**P**	**06 17 19.2**	**-0.5**
ABKAR				pP		**pP**	**06 17 26.6**	**-3.5**
AKTO	**Aktyubinsk**	**74.05**	**325**	P		**P**	**06 17 29.4**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=90,slow=10,SNR=2.5							
KBZ	**Khabaz**	**81.77**	**315**	P		**P**	**06 18 15.7**	**+3.4**
	comp=Z,3.2nm,0.8s,baz=205,slow=6.0,SNR=3.9							
AKASG	**Malin Array Be**	**91.86**	**320**	P		**P**	**06 19 04.2**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=270,slow=5.0,SNR=4.9							
DOT	**Dot Lake**	**95.64**	**26**	P		**P**	**06 19 17.6**	**-1.2**

RSNC 21 06:10:45.9±1.0, 6°.80N×73°.12W, h147km±8km, ML1.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**196**	*e*P		Pn	06 11 06.3	+0.1
BARC				*e*S		Sn	06 11 20.6	-1.0
BARC				*i*			06 11 22.4	
	comp=Z,9.3nm,0.2s							
BRRC	**Barranca, Sant**	**0.66**	**298**	*e*S		Sn	06 11 24.5	-0.1
RUSC	**La Rusia**	**0.90**	**177**	*e*P		Pn	06 11 10.1	0.0
RUSC				*e*S		Sn	06 11 28.3	-0.3
RUSC				*i*			06 11 30.6	
	comp=Z,1.6nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P		Pn	06 11 13.1	-0.6
PTBC				*e*S		Sn	06 11 34.0	-1.0
PTBC				*i*			06 11 36.5	
	comp=Z,2.2nm,0.1s							
OCAC	**Ocana**	**1.45**	**352**	*e*S		Sn	06 11 36.6	-0.5
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P		Pn	06 11 20.9	+1.7
ZARC				*e*S		Sn	06 11 44.7	0.0
SMLC	**San Martn de**	**2.20**	**335**	*e*P		Pn	06 11 21.6	-1.7
SMLC				*e*S		Sn	06 11 51.8	-0.3
SMLC				*i*			06 12 00.5	
	comp=Z,3.7nm,0.1s							

*PRU **21** 06:38:50.6±0.0, 45°.80N×26°.63E, h0km, M4.4*
*ISCJB **21** 06:38:51.6±0.1, 45°.75N±0°.01×26°.70E±0°.02, h97km±1km, mb4.1/29, Error ellipse: s-maj=1.9km s-min=1.6km az=140.5*
*MOS **21** 06:38:51.3±1.0, 45°.76N×26°.70E, h89km, mb4.3/7, Error ellipse: s-maj=5.9km s-min=4.0km az=113.9*
*SOF **21** 06:38:51.9, 45°.75N×26°.66E, h100km*
*IDC **21** 06:38:53.0±0.3, 45°.78N×26°.49E, h85km±3km, mb3.8/22, mb1 3.9/31, mb1mx3.8/52, mbtmp4.1/31, MS2.8/7, Ms1 2.8/7, ms1mx2.5/40, Error ellipse: s-maj=12.1km s-min=6.9km az=152.0*
*BUC **21** 06:38:52.9±0.2, 45°.73N×26°.70E, h89km±2km, ml4.5/65, Error ellipse: s-maj=1.7km s-min=1.3km az=29.0*
*SIGU **21** 06:38:52.5±0.1, 45°.8N±0°.9×2°.7E±°, h90km, mb4.5/9*
*BEO **21** 06:38:52.4±1.0, 45°.84N×26°.76E, h64km±5km, ML4.2/16*
*NEIC **21** 06:38:52.6±2.2, 45°.78N±0°.04×26°.72E±0°.05, h91km±4km*
*MED_RC **21** 06:38:52.0±0.6, 45°.60N×26°.82E, h91km±7km, MW4.4/17, Moment Tensor Solution.Mantle waves: s17,c18; Duration: 1§0 Moment tensor: Scale 1015Nm; Mrr4.01±.30; Mθθ-3.06±.76; Mφφ-0.94±.76; Mrθ0.81±.40; Mrφ-3.72±.62; Mθφ1.69±.23; Best double couple: M0:5.35000×1015 NP1:φs37.00000°, δ57.00000°, λ69.00000°. NP2:φs252.00000°, δ39.00000°, λ118.00000°. Principal axes: T 4.5500, Plg70.0000°, Azm259.0000°; N 1.6000, Plg17.0000°, Azm49.0000°; P -6.1400, Plg9.0000°, Azm142.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*DDA **21** 06:38:55.0, 45°.16N×27°.06E, h7km±2km, MW4.3*
*THE **21** 06:38:57.0, 45°.37N×26°.64E, h31km±62km, ML3.9/5, Error ellipse: s-maj=62.6km s-min=3.0km az=12.0*
ISC 21 06:38:52.4±0.4, 45°.75N±0°.03×26°.70E±0°.02, h93km±3km, h93km:pP-P, n438, σ1§75/627, mb4.2/33, 125C-110D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.10**	**342**	⇑P		**Pn**	**06 39 05.4**	**-0.1**
PLOR				⇑S		**Sn**	**06 39 13.9**	**-1.4**
PLOR	**Plostina**	**0.10**	**342**	⇑P		**Pn**	**06 39 05.4**	**-0.1**
PLOR				⇑S		**Sn**	**06 39 13.9**	**-1.4**
PLOR				AML		AML	06 39 15.3	
VRI	**Vrincioaia**	**0.12**	**11**	P		**Pn**	**06 39 05.6**	**0.0**
VRI							06 39 14.5	
VRI	**Vrincioaia**	**0.12**	**11**	⇑P		**Pn**	**06 39 05.6**	**0.0**
VRI				⇓S		**Sn**	**06 39 14.5**	**-0.9**
VRI	**Vrincioaia**	**0.12**	**11**	⇑P		**Pn**	**06 39 05.6**	**0.0**
VRI				⇓S		**Sn**	**06 39 14.5**	**-0.9**
VRI				AML		AML	06 39 15.1	
VRI	**Vrincioaia**	**0.12**	**11**			**Pn**	**06 39 05.6**	**0.0**
VRI						**Sn**	**06 39 14.5**	**-0.9**
BISRR	**Bisoca**	**0.20**	**177**	⇑P		**Pn**	**06 39 06.1**	**+0.3**
BISRR				⇑S		**Sn**	**06 39 16.1**	**+0.2**
BISRR	**Bisoca**	**0.20**	**177**	⇑P		**Pn**	**06 39 06.1**	**+0.3**
BISRR				⇑S		**Sn**	**06 39 16.1**	**+0.2**
BISRR				AML		AML	06 39 25.3	
ODBI	**Odobesti**	**0.25**	**88**	⇑P		**Pn**	**06 39 06.8**	**+0.9**
ODBI				⇓S		**Sn**	**06 39 17.3**	**+1.3**
ODBI	**Odobesti**	**0.25**	**88**	⇑P		**Pn**	**06 39 06.8**	**+0.9**
ODBI				⇓S		**Sn**	**06 39 17.3**	**+1.3**
ODBI				AML		AML	06 39 18.0	
PETR	**Petresti**	**0.38**	**94**	⇑P		**Pn**	**06 39 07.1**	**+0.6**
PETR				⇑S		**Sn**	**06 39 17.7**	**+0.6**
PETR	**Petresti**	**0.38**	**94**	⇑P		**Pn**	**06 39 07.1**	**+0.6**
PETR				⇑S		**Sn**	**06 39 17.7**	**+0.6**
PETR				AML		AML	06 39 18.6	
GRER		**0.42**	**152**	⇑P		**Pn**	**06 39 08.1**	**+1.2**
GRER				⇓S		**Sn**	**06 39 19.2**	**+1.5**
GRER		**0.42**	**152**	⇑P		**Pn**	**06 39 08.1**	**+1.2**
GRER				⇓S		**Sn**	**06 39 19.2**	**+1.5**
GRER				AML		AML	06 39 20.7	
GRER		**0.42**	**152**			**Sn**	**06 39 19.2**	**+1.5**
MLR	**Muntele Rosu**	**0.59**	**244**	*e*Pg		**Pn**	**06 39 08.7**	**+0.4**
MLR				*e*Sg		**Sn**	**06 39 20.0**	**-0.2**
MLR	**Muntele Rosu**	**0.59**	**244**	⇓P		**Pn**	**06 39 08.8**	**+0.5**
MLR				⇑S		**Sn**	**06 39 19.7**	**-0.5**
MLR	**Muntele Rosu**	**0.59**	**244**	P		**Pn**	**06 39 08.8**	**+0.5**
	164nm,0.3s,baz=14,slow=5.7,SNR=1578							
MLR				S		**Sn**	**06 39 19.7**	**-0.5**
	1μm,0.3s,baz=199,slow=22,SNR=32							
MLR				LR		LR	06 39 26.2	
	comp=Z,188nm,19.8s,baz=318,slow=70							
MLR	**Muntele Rosu**	**0.59**	**244**	⇓P		**Pn**	**06 39 08.8**	**+0.5**
MLR				⇑S		**Sn**	**06 39 19.7**	**-0.5**
MLR				AML		AML	06 39 20.9	
MLR				AML		AML	06 39 21.2	
MLR	**Muntele Rosu**	**0.59**	**244**			**Pn**	**06 39 08.8**	**+0.5**
MLR						**Sn**	**06 39 20.3**	**+0.1**
ISR	**Istrita**	**0.64**	**190**	⇑P		**Pn**	**06 39 09.5**	**+0.8**
ISR	**Istrita**	**0.64**	**190**	⇑P		**Pn**	**06 39 09.5**	**+0.8**
TUDR		**0.70**	**103**	⇑P		**Pn**	**06 39 09.0**	**-0.1**
TUDR				⇓S		**Sn**	**06 39 21.2**	**-0.4**
TUDR		**0.70**	**103**	⇑P		**Pn**	**06 39 09.0**	**-0.1**
TUDR				⇓S		**Sn**	**06 39 21.2**	**-0.4**
TUDR				AML		AML	06 39 23.6	
TUDR		**0.70**	**103**			**Pn**	**06 39 09.0**	**-0.1**
TUDR						**Sn**	**06 39 21.2**	**-0.4**
OZUR		**0.72**	**299**	⇓P		**Pn**	**06 39 09.3**	**-0.1**
OZUR				⇑S		**Sn**	**06 39 21.2**	**-1.0**
OZUR		**0.72**	**299**	⇓P		**Pn**	**06 39 09.3**	**-0.1**
OZUR				⇑S		**Sn**	**06 39 21.2**	**-1.0**
TESR	**Tescani**	**0.76**	**358**	⇓P		**Pn**	**06 39 09.8**	**0.0**
TESR	**Tescani**	**0.76**	**358**	⇓P		**Pn**	**06 39 09.8**	**0.0**
TESR				AML		AML	06 39 22.3	
TESR	**Tescani**	**0.76**	**358**			**Pn**	**06 39 09.8**	**0.0**
TESR						**Sn**	**06 39 21.6**	**-1.1**
SLCR	**Slobozia Conac**	**0.77**	**102**	⇑P		**Pn**	**06 39 09.6**	**-0.2**
SLCR	**Slobozia Conac**	**0.77**	**102**	⇑P		**Pn**	**06 39 09.6**	**-0.2**
IZVR	**Izvoarele**	**0.78**	**105**	P		**Pn**	**06 39 09.5**	**-0.4**
IZVR	**Izvoarele**	**0.78**	**105**	P		**Pn**	**06 39 09.5**	**-0.4**
BIR	**Birlad**	**0.83**	**51**	P		**Pn**	**06 39 11.0**	**+0.6**
BIR				⇑S		**Sn**	**06 39 23.7**	**-0.2**
BIR	**Birlad**	**0.83**	**51**	⇓P		**Pn**	**06 39 11.0**	**+0.6**
BIR				⇑S		**Sn**	**06 39 23.7**	**-0.2**
BIR				AML		AML	06 39 25.0	
SECR		**0.84**	**212**	⇑P		**Pn**	**06 39 11.8**	**+1.1**
SECR		**0.84**	**212**	⇑P		**Pn**	**06 39 11.8**	**+1.1**
SECR		**0.84**	**212**			**Pn**	**06 39 11.8**	**+1.1**
SECR						**Sn**	**06 39 26.1**	**+1.9**
BRAG	**Branistea**	**0.86**	**111**	⇑P		**Pn**	**06 39 10.4**	**-0.3**
BRAG	**Branistea**	**0.86**	**111**	⇑P		**Pn**	**06 39 10.4**	**-0.3**
PGOR	**Pogoanele**	**0.87**	**166**	⇑P		**Pn**	**06 39 11.6**	**+0.7**
PGOR	**Pogoanele**	**0.87**	**166**	⇑P		**Pn**	**06 39 11.6**	**+0.7**
PGOR				AML		AML	06 39 27.0	
DOPR	**Dopca**	**0.94**	**284**	⇓P		**Pn**	**06 39 11.9**	**+0.3**
DOPR				⇓S		**Sn**	**06 39 25.8**	**-0.2**
DOPR	**Dopca**	**0.94**	**284**	⇓P		**Pn**	**06 39 11.9**	**+0.3**
DOPR				⇓S		**Sn**	**06 39 25.8**	**-0.2**
DOPR				AML		AML	06 39 26.5	
PLAR	**PLOIESTI**	**0.96**	**210**	⇑P		**Pn**	**06 39 13.1**	**+1.2**
PLAR	**PLOIESTI**	**0.96**	**210**	⇑P		**Pn**	**06 39 13.1**	**+1.2**
PLAR				AML		AML	06 39 29.4	
GISR	**Galati**	**1.00**	**108**	P		**Pn**	**06 39 12.7**	**+0.4**
GISR				⇑S		**Sn**	**06 39 27.0**	**-0.2**
GISR	**Galati**	**1.00**	**108**	⇓P		**Pn**	**06 39 12.7**	**+0.4**
GISR				⇑S		**Sn**	**06 39 27.0**	**-0.2**
GISR				AML		AML	06 39 28.5	
GIUM	**Giurgiulesti**	**1.09**	**104**	⇑P		**Pn**	**06 39 14.2**	**+0.9**
GIUM				⇑S		**Sn**	**06 39 29.4**	**+0.3**
GIUM	**Giurgiulesti**	**1.09**	**104**	⇑P		**Pn**	**06 39 14.2**	**+0.9**
GIUM				⇑S		**Sn**	**06 39 29.4**	**+0.3**
SULR		**1.12**	**196**	P		**Pn**	**06 39 14.5**	**+0.9**
SULR				⇑S		**Sn**	**06 39 31.0**	**+1.4**
SULR		**1.12**	**196**	⇓P		**Pn**	**06 39 14.5**	**+0.9**
SULR				⇑S		**Sn**	**06 39 31.0**	**+1.4**
SULR				AML		AML	06 39 32.4	
CFR	**Carcaliu**	**1.17**	**119**	P		**Pn**	**06 39 14.1**	**-0.1**
CFR							06 39 30.5	
CFR	**Carcaliu**	**1.17**	**119**	⇑P		**Pn**	**06 39 14.1**	**-0.1**
CFR				⇑S		**Sn**	**06 39 30.4**	**-0.1**
CFR	**Carcaliu**	**1.17**	**119**	⇑P		**Pn**	**06 39 14.1**	**-0.1**
CFR				⇑S		**Sn**	**06 39 30.4**	**-0.1**
CFR				AML		AML	06 39 31.9	
CFR	**Carcaliu**	**1.17**	**119**			**Pn**	**06 39 14.1**	**-0.1**
CFR						**Sn**	**06 39 30.4**	**-0.1**
VOIR		**1.20**	**255**	P		**Pn**	**06 39 14.8**	**+0.2**
VOIR							06 39 31.3	
VOIR		**1.20**	**255**	⇓P		**Pn**	**06 39 14.9**	**+0.2**
VOIR				⇓S		**Sn**	**06 39 31.3**	**-0.1**
VOIR		**1.20**	**255**	⇓P		**Pn**	**06 39 14.9**	**+0.2**
VOIR				⇓S		**Sn**	**06 39 31.3**	**-0.1**
VOIR				AML		AML	06 39 32.2	
VOIR		**1.20**	**255**			**Pn**	**06 39 14.8**	**+0.2**
VOIR						**Sn**	**06 39 31.3**	**-0.1**
GIRR	**Girov**	**1.21**	**354**	⇓P		**Pn**	**06 39 15.2**	**+0.4**
GIRR	**Girov**	**1.21**	**354**	⇓P		**Pn**	**06 39 15.2**	**+0.4**
AMRR	**Amara**	**1.23**	**158**	P		**Pn**	**06 39 15.5**	**+0.6**
AMRR				⇓S		**Sn**	**06 39 32.5**	**+0.5**
AMRR	**Amara**	**1.23**	**158**	P		**Pn**	**06 39 15.5**	**+0.6**
AMRR				⇓S		**Sn**	**06 39 32.5**	**+0.5**
AMRR				AML		AML	06 39 33.6	
BIZ	**Bicaz**	**1.25**	**341**	⇓P		**Pn**	**06 39 16.2**	**+0.9**
BIZ				⇑S		**Sn**	**06 39 32.9**	**+0.4**
BIZ	**Bicaz**	**1.25**	**341**	⇓P		**Pn**	**06 39 16.2**	**+0.9**
BIZ				⇑S		**Sn**	**06 39 32.9**	**+0.4**
JOSR	**Joseni**	**1.26**	**320**	P		**Pn**	**06 39 15.4**	**0.0**
JOSR	**Joseni**	**1.26**	**320**	⇑P		**Pn**	**06 39 15.4**	**0.0**
JOSR				AML		AML	06 39 46.8	
MTUR	**Matau**	**1.26**	**246**	⇓P		**Pn**	**06 39 17.1**	**+1.6**
MTUR	**Matau**	**1.26**	**246**	⇓P		**Pn**	**06 39 17.1**	**+1.6**
LEHL	**Lehliu**	**1.28**	**176**	P		**Pn**	**06 39 16.3**	**+0.7**
LEHL				⇓S		**Sn**	**06 39 33.9**	**+0.9**
LEHL	**Lehliu**	**1.28**	**176**	⇑P		**Pn**	**06 39 16.3**	**+0.7**
LEHL				⇓S		**Sn**	**06 39 33.9**	**+0.9**
LEHL				AML		AML	06 39 34.8	
INCR	**INCERC-Sediu C**	**1.36**	**196**	⇑S		**Sn**	**06 39 35.6**	**+0.7**
INCR	**INCERC-Sediu C**	**1.36**	**196**	⇑S		**Sn**	**06 39 35.6**	**+0.7**
INCR				AML		AML	06 39 35.8	
HARR	**Harsova**	**1.38**	**140**	P		**Pn**	**06 39 17.0**	**+0.3**
HARR	**Harsova**	**1.38**	**140**	⇑P		**Pn**	**06 39 17.0**	**+0.3**
TOPG	**Topolog**	**1.48**	**126**	⇓P		**Pn**	**06 39 18.0**	**0.0**
TOPG				⇑S		**Sn**	**06 39 37.0**	**-0.4**
TOPG	**Topolog**	**1.48**	**126**	⇓P		**Pn**	**06 39 18.0**	**0.0**
TOPG				⇑S		**Sn**	**06 39 37.0**	**-0.4**
TOPG				AML		AML	06 39 38.8	
BUC1	**Bucharest**	**1.48**	**199**	P		**Pn**	**06 39 18.7**	**+0.7**
BUC1				⇑S		**Sn**	**06 39 37.9**	**+0.4**
BUC1	**Bucharest**	**1.48**	**199**	⇓P		**Pn**	**06 39 18.7**	**+0.7**
BUC1				⇑S		**Sn**	**06 39 37.9**	**+0.4**
BUC1				AML		AML	06 39 38.9	
ARR	**Arges**	**1.50**	**256**	⇓P		**Pn**	**06 39 19.1**	**+0.7**
ARR				⇑S		**Sn**	**06 39 38.5**	**+0.5**
ARR	**Arges**	**1.50**	**256**	⇓P		**Pn**	**06 39 19.1**	**+0.7**
ARR				⇑S		**Sn**	**06 39 38.5**	**+0.5**
ARR				AML		AML	06 39 39.1	
TLB	**Topalu**	**1.51**	**140**	P		**Pn**	**06 39 18.6**	**+0.2**
TLB							06 39 37.0	
TLB	**Topalu**	**1.51**	**140**	⇓P		**Pn**	**06 39 18.6**	**+0.2**
TLB				⇓S		**Sn**	**06 39 37.0**	**-1.0**
TLB	**Topalu**	**1.51**	**140**	⇓P		**Pn**	**06 39 18.6**	**+0.2**
TLB				⇓S		**Sn**	**06 39 37.0**	**-1.0**
TLB				AML		AML	06 39 38.1	
TLB				AML		AML	06 39 39.0	
TLB	**Topalu**	**1.51**	**140**			**Pn**	**06 39 18.6**	**+0.2**
TLB						**Sn**	**06 39 37.0**	**-1.0**
GOLR		**1.53**	**234**	P		**Pn**	**06 39 19.7**	**+1.1**
GOLR				⇑S		**Sn**	**06 39 39.4**	**+0.9**
GOLR		**1.53**	**234**	⇓P		**Pn**	**06 39 19.7**	**+1.1**
GOLR				⇓S		**Sn**	**06 39 39.4**	**+0.9**
GOLR				AML		AML	06 39 45.5	
IAS	**Iasi**	**1.56**	**22**	⇓P		**Pn**	**06 39 19.4**	**+0.4**
IAS	**Iasi**	**1.56**	**22**	⇓P		**Pn**	**06 39 19.4**	**+0.4**
IAS				AML		AML	06 39 39.5	
RASA	**Rasa**	**1.57**	**168**	⇓P		**Pn**	**06 39 19.7**	**+0.5**
RASA				⇑S		**Sn**	**06 39 39.5**	**0.0**
RASA	**Rasa**	**1.57**	**168**	⇓P		**Pn**	**06 39 19.7**	**+0.5**
RASA				⇑S		**Sn**	**06 39 39.5**	**0.0**
TLCR		**1.60**	**110**	P		**Pn**	**06 39 19.9**	**+0.4**
TLCR				⇑S		**Sn**	**06 39 39.9**	**-0.1**
TLCR		**1.60**	**110**	⇓P		**Pn**	**06 39 19.9**	**+0.4**
TLCR				⇑S		**Sn**	**06 39 39.9**	**-0.1**
TLCR				AML		AML	06 39 44.8	
SGRR	**Singureni**	**1.61**	**199**	P		**Pn**	**06 39 20.0**	**+0.3**
SGRR				⇑S		**Sn**	**06 39 40.2**	**-0.2**
SGRR	**Singureni**	**1.61**	**199**	⇑P		**Pn**	**06 39 20.0**	**+0.3**
SGRR				⇑S		**Sn**	**06 39 40.2**	**-0.2**
SGRR				AML		AML	06 39 43.6	
PRAR	**RASCA**	**1.64**	**349**	⇓P		**Pn**	**06 39 20.7**	**+0.6**
PRAR	**RASCA**	**1.64**	**349**	⇓P		**Pn**	**06 39 20.7**

TSSL	Sulina	2.21 104	⇓S	Sn	06 39 54.3	0.0
TSSL	Sulina	2.21 104	⇓S	Sn	06 39 54.3	0.0
TSSL			AML	AML	06 39 56.7	
ZIMR		2.30 205	P	Pn	06 39 28.9	+0.2
ZIMR			⇑S	Sn	06 39 55.0	-1.4
ZIMR		2.30 205	⇓P	Pn	06 39 28.9	+0.2
ZIMR			⇑S	Sn	06 39 55.0	-1.4
ZIMR			AML	AML	06 39 56.7	
PSN	Preselentsi	2.33 152	P	Pn	06 39 29.9	+0.9
PSN	Preselentsi	2.33 152	*i* P	Pn	06 39 29.8	+0.8
CJR	Cluj-Napoca	2.35 295	⇓P	Pn	06 39 29.9	+0.5
CJR	Cluj-Napoca	2.35 295	⇓P	Pn	06 39 29.9	+0.5
CJR			AML	AML	06 40 18.5	
MANR	Mangalia	2.36 144	P	Pn	06 39 29.9	+0.5
MANR			⇓S	Sn	06 39 57.5	-0.2
MANR	Mangalia	2.36 144	⇓P	Pn	06 39 29.9	+0.5
MANR			⇓S	Sn	06 39 57.5	-0.2
MANR			AML	AML	06 39 58.3	
VLAD	Vladila	2.39 224	P	Pn	06 39 29.6	-0.3
VLAD			⇑S	Sn	06 39 56.8	-1.8
VLAD	Vladila	2.39 224	⇓P	Pn	06 39 29.6	-0.3
VLAD			⇑S	Sn	06 39 56.8	-1.8
VLAD			AML	AML	06 39 58.1	
SZH	Strazhica	2.54 193	P	Pn	06 39 31.9	0.0
SZH	Strazhica	2.54 193	*i* P	Pn	06 39 31.9	0.0
CHRU	Chernivtsi	2.60 349	⇑*i* P	Pn	06 39 33.2	+0.6
CHRU			Pm		06 39 33.6	
CHRU			*i* S	Sn	06 40 02.3	-1.2
CHRU			Sm		06 40 03.9	
PRD	Provadia	2.60 169	*i* P	Pn	06 39 33.8	+1.2
SORM	Soroca	2.64 25	⇓P	Pn	06 39 33.3	+0.2
SORM	Soroca	2.64 25	⇓P	Pn	06 39 33.3	+0.2
KALB	Balgarevo	2.65 152	⇓P	Pn	06 39 34.2	+0.9
KALB			⇑S	Sn	06 40 05.7	+1.0
KALB	Balgarevo	2.65 152	⇓P	Pn	06 39 34.2	+0.9
KALB			⇑S	Sn	06 40 05.7	+1.0
KALB			AML	AML	06 40 07.3	
DEV	Deva	2.66 274	⇓P	Pn	06 39 34.7	+1.4
DEV			⇑S	Sn	06 40 05.6	+0.8
DEV	Deva	2.66 274	⇓P	Pn	06 39 34.7	+1.4
DEV			⇑S	Sn	06 40 05.6	+0.8
DEV			AML	AML	06 40 07.2	
SRE	Strehaia	2.70 247	P	Pn	06 39 34.5	+0.5
SRE			⇓S	Sn	06 40 05.2	-0.7
SRE	Strehaia	2.70 247	⇑P	Pn	06 39 34.5	+0.5
SRE			⇓S	Sn	06 40 05.2	-0.7
SRE			AML	AML	06 40 07.7	
ROIA	ROIAK	2.70 169	*i* P	Pn	06 39 34.8	+0.8
PVL	Pavlikeni	2.72 202	P	Pn	06 39 36.0	+1.8
PVL	Pavlikeni	2.72 202	*i* P	Pn	06 39 36.0	+1.8
GZR	Gura Zlata	2.77 264	P	Pn	06 39 35.7	+0.6
GZR			⇑S	Sn	06 40 08.6	+0.8
GZR	Gura Zlata	2.77 264	⇑P	Pn	06 39 35.7	+0.6
GZR			⇑S	Sn	06 40 08.6	+0.8
GZR			AML	AML	06 40 12.6	
PLVB	Pleven	2.79 213	P	Pn	06 39 35.1	-0.1
PLVB	Pleven	2.79 213	P	Pn	06 39 35.1	-0.1
PLVB			AML	AML	06 40 09.3	
KSV	Kosov	2.79 337	*i* P	Pn	06 39 36.0	+0.8
KSV			Pm		06 39 37.9	
KSV			*e*S	Sn	06 40 08.7	+0.6
KSV			Sm		06 40 14.5	
KMPD	K-Podol'skiy	2.82 357	⇑*i* P	Pn	06 39 35.0	-0.5
KMPD			*i* S	Sn	06 40 05.8	-2.8
RAKU	Rahkiv	2.86 324	⇓*i* P	Pn	06 39 36.9	+0.8
NDNU	Novodnistrovsk	2.88 9	*i* P	Pn	06 39 36.1	-0.2
NDNU			Pm		06 39 36.8	
NDNU			*i* S	Sn	06 40 07.5	-2.6
NDNU			Sm		06 40 08.4	
ELND	Elena	2.88 192	P	Pn	06 39 36.9	+0.4
ELND			⇓S	Sn	06 40 09.0	-1.4
ELND	Elena	2.88 192	P	Pn	06 39 36.9	+0.4
ELND			⇓S	Sn	06 40 09.0	-1.4
ELND			AML	AML	06 40 11.3	
NSLU	Nyzhne Selyshc	2.89 329	⇑*i* P	Pn	06 39 42.8	+6.4
BMR	Baia Mare	2.92 312	⇓P	Pn	06 39 37.8	+0.9
BMR	Baia Mare	2.92 312	⇓P	Pn	06 39 37.8	+0.9
BMR			AML	AML	06 39 44.7	
DRGR		2.95 292	*e*Pn	Pn	06 39 37.3	-0.1
DRGR		2.95 292	P	Pn	06 39 37.4	0.0
DRGR		2.95 292	⇓P	Pn	06 39 37.6	+0.2
DRGR		2.95 292	⇓P	Pn	06 39 37.6	+0.2
DRGR			AML	AML	06 39 41.6	
PUNG	Punghina	3.05 242	P	Pn	06 39 38.0	-0.6
PUNG	Punghina	3.05 242	⇑P	Pn	06 39 38.0	-0.6
PUNG			AML	AML	06 40 12.9	
HERR	Herculane	3.14 255	P	Pn	06 39 40.0	+0.1
HERR	Herculane	3.14 255	⇑P	Pn	06 39 40.0	+0.1
HERR			⇑S	Sn	06 40 14.5	-2.0
HERR			AML	AML	06 40 18.7	
MPEP	Malo Peshtene	3.19 222	P	Pn	06 39 40.7	+0.1
JMB	Yambol	3.29 181	*i* P	Pn	06 39 41.6	-0.2
STNU	Starunia	3.31 334	*i* P	Pn	06 39 43.3	+1.1
STNU			*e*S	Sn	06 40 20.6	0.0
KORU	Korolevo	3.42 316	⇑*i* P	Pn	06 39 44.3	+0.7
HORU	Horodok	3.47 357	*i* P	Pn	06 39 44.2	0.0
HORU			*e*S	Sn	06 40 22.5	-1.8
TRSU	Trosnyk	3.47 314	⇑*i* P	Pn	06 39 44.9	+0.6
MEZ	Mezhgor'ye	3.51 323	⇓*i* P	Pn	06 39 46.3	+1.4
SIRR	Siria	3.55 280	⇓P	Pn	06 39 46.2	+0.9
SIRR	Siria	3.55 280	⇓P	Pn	06 39 46.2	+0.9
SIRR			AML	AML	06 40 27.6	
BZS	Buzias	3.56 270	⇓P	Pn	06 39 45.7	+0.2
BZS	Buzias	3.56 270	⇓P	Pn	06 39 45.7	+0.2
BZS			AML	AML	06 40 40.8	
MDVR	Moldovita	3.65 256	P	Pn	06 39 47.3	+0.5
MDVR	Moldovita	3.65 256	⇓P	Pn	06 39 47.3	+0.5
MDVR			AML	AML	06 40 30.2	
PGB	Panagyurishte	3.68 210	P	Pn	06 39 48.2	+1.0
PGB	Panagyurishte	3.68 210	*i* P	Pn	06 39 48.2	+1.0
BERU	Beregovo	3.72 313	⇓*i* P	Pn	06 39 47.8	+0.2
ZAGS	Zajecar	3.72 240	*e*Pn	Pn	06 39 46.4	-1.3
ZAGS			*e*Sn	Sn	06 40 25.8	-4.7
KUBS	Kucevo	3.80 251	*e*Pn	Pn	06 39 48.3	-0.5
KUBS			*e*Sn	Sn	06 40 28.8	-3.6
ZAPS	Zavoj	3.82 231	*e*Pn	Pn	06 39 49.1	+0.1
ZAPS			*e*Sn	Sn	06 40 29.6	-3.3
MUKU	Mukachevo	3.84 316	⇓*i* P	Pn	06 39 50.0	+0.7
MORS	Morshin	3.88 332	⇑*i* P	Pn	06 39 52.1	+2.3
MORS			*e*S	Sn	06 40 36.4	+2.2
EDRB	Edirne	3.91 179	P	Pn	06 39 50.7	+0.5
EDRB			S	Sn	06 40 30.4	-4.5
PLD	Plovdiv	3.92 202	*e*Pn	Pn	06 39 50.2	-0.2
KIRK	Kirklareli	3.98 176	*i* PA		06 39 51.7	
KIRK			*i* S	Sn	06 40 33.7	-3.1
KIRK			IAML		06 40 35.0	
	comp=N,367nm,0.2s					
VTS	Vitosha	4.00 220	*e*Pn	Pn	06 39 52.4	+0.8
VTS			*e*Sn	Sn	06 40 34.3	-3.2
VTS	Vitosha	4.00 220	P	Pn	06 39 52.1	+0.4
VTS			S	Sn	06 40 34.5	-3.0
VTS	Vitosha	4.00 220	P	Pn	06 39 52.2	+0.6
VTS	Vitosha	4.00 220	*i* P	Pn	06 39 52.0	+0.4
VTS	Vitosha	4.00 220	P	Pn	06 39 52.3	+0.6
VTS	Vitosha	4.00 220	AML	AML	06 40 36.7	
VTS	Vitosha	4.00 220		Pn	06 39 52.3	+0.6
BOVS	Bovan	4.14 241	*e*Pn	Pn	06 39 53.1	-0.2
BOVS			*e*Sn	Sn	06 40 37.0	-3.6
SHIU	Shidnytsya	4.14 328	*e*P	Pn	06 39 55.2	+1.8
UZH	Uzhgorod	4.16 315	*e*P	Pn	06 39 53.4	-0.1
UZH	Uzhgorod	4.16 315	⇑*e*P	Pn	06 39 53.5	-0.1
UZH			*e*S	Sn	06 40 41.0	0.0
UZH			smax	smax		
	comp=N,24nm,1.0s					
UZH			smax	smax		
	comp=E,25nm,1.0s					
SVIS	Svilajnac	4.16 251	*e*Sn	Sn	06 40 36.1	-5.0
PHSR	Pinarhisar	4.16 171	AML	AML	06 40 42.5	
RZN	Rozhen	4.31 200	*i* P	Pn	06 39 56.7	+0.9
KOLS	Kolonicke sedl	4.38 318	*e*P	Pn	06 39 58.0	+1.5
KOLS	Kolonicke sedl	4.38 318	*e*PN	Pn	06 39 58.0	+1.5
LVV	L'vov	4.45 337	*e*P	Pn	06 39 58.9	+1.5
LVV			Pm		06 40 00.2	
LVV			*e*S	Sn	06 40 48.2	+0.2
LVV			Sm		06 40 49.7	
LVV	L'vov	4.45 337	*d i* P	Pn	06 39 59.0	+1.5
LVV			*e*S	Sn	06 40 47.6	-0.4
LVV			MLR	MLR		
	comp=Z,200nm,1.4s					
BARS	Barje	4.57 232	*e*Pn	Pn	06 39 45.9	-13
BARS	Barje	4.57 232	*e*Pn	Pn	06 39 59.5	+0.3
BARS			*e*Sn	Sn	06 40 26.1	-25
BARS			*e*Sn	Sn	06 40 47.3	-3.8
GRUS	Gruza	4.64 248	*e*Pn	Pn	06 40 00.3	+0.1
RDO	Rodhopi	4.68 191	P	Pn	06 40 01.1	+0.4
KKB	Krupnik	4.68 215	P	Pn	06 40 02.0	+1.3
TRUS	Trudelj	4.72 253	*e*Pn	Pn	06 40 01.1	-0.1
TRUS			*e*Sn	Sn	06 40 51.3	-3.3
KWP	Kalwaria Pacla	4.72 327	P	Pn	06 40 01.7	+0.5
KWP	Kalwaria Pacla	4.72 327	*e*Pn	Pn	06 40 03.1	+1.9
KWP			*e*Pn	Pn	06 40 03.1	+1.9
KWP	Kalwaria Pacla	4.72 327		Pn	06 40 01.7	+0.5
SELS	Selova	4.72 240	*e*Pn	Pn	06 40 01.1	-0.2
SELS			*e*Sn	Sn	06 40 51.5	-3.4
ELBA	Catalca	4.77 164	*i* P	Pn	06 40 02.0	0.0
KLYT	Kilyos	4.81 158	⇑S	Sn	06 40 55.1	-1.8
NVR	Nevrokopi	4.86 206	P	Pn	06 40 04.2	+1.0
NVR			S	Sn	06 40 56.5	-1.7
	comp=Z,208nm,0.6s					
ALN	Alexandroupoli	4.88 186	P	Pn	06 40 03.8	+0.5
ALN			S	Sn	06 40 56.5	-2.0
	comp=Z,228nm,0.5s					
ALN	Alexandroupoli	4.88 186	P	Pn	06 40 03.8	+0.5
ALN	Alexandroupoli	4.88 186		Pn	06 40 03.8	+0.5
FRGS	Fruska Gora	4.88 265	*e*Pn	Pn	06 40 03.6	+0.2
ISK	Istanbul-Kandi	4.99 159	P	Pn	06 40 04.9	0.0
ISK			S	Sn	06 40 58.2	-3.1
	comp=Z,290nm,0.5s					
KAVA	Kavala	5.01 199	P	Pn	06 40 06.1	+0.9
KAVA			S	Sn	06 40 58.6	-3.2
	comp=Z,280nm,0.6s					
DIVS	Divibare	5.04 253	*e*Pn	Pn	06 40 05.6	0.0
DIVS			*e*Sn	Sn	06 40 57.4	-5.2
KECS	Kecovo	5.04 305	*e*P	Pn	06 40 07.4	+1.8
KECS			*e*		06 41 01.4	
KECS	Kecovo	5.04 305	*e*PN	Pn	06 40 07.4	+1.8
KECS			*e*PG		06 40 25.3	
KECS			*e*SN	Sn	06 41 01.4	-1.1
SEV	Sevastopol'	5.08 101	P	Pn	06 40 06.0	0.0
SEV			Pm		06 40 06.6	
SEV			S	Sn	06 41 01.3	-2.1
SEV			Sm		06 41 04.0	
SEV	Sevastopol'	5.08 101	⇓*i* P	Pn	06 40 06.0	0.0
SEV			*i* S	Sn	06 41 01.3	-2.1
PSZ	Piszkesteto	5.14 297	P	Pn	06 40 07.5	+0.5
PSZ	Piszkesteto	5.14 297	P	Pn	06 40 06.8	-0.2
PSZ	Piszkesteto	5.14 297		Pn	06 40 07.5	+0.5
IVAS	Ivanjica	5.15 247	*e*Pn	Pn	06 40 07.0	-0.1
IVAS			*e*Sn	Sn	06 40 59.5	-5.7
BUY	Buyukada	5.21 159	*i* P	Pn	06 40 07.8	0.0
STIP	Stip	5.21 220	*i* Pn	Pn	06 40 05.6	-2.2
TEKS	Tekeris	5.21 259	*e*Pn	Pn	06 40 06.6	-1.3
AKASG	Malin Array Be	5.23 18	P	Pn	06 40 06.4	-1.7
AKASG					06 41 02.0	
AKASG	Malin Array Be	5.23 18	P	Pn	06 40 07.4	-0.7
	comp=Z,13nm,0.3s,baz=208,slow=12,SNR=51					
AKASG			S	Sn	06 41 01.9	-5.1
	comp=Z,56nm,0.3s,baz=205,slow=22,SNR=14					
AKASG	Malin Array Be	5.23 18		Pn	06 40 06.4	-1.7
AKBB	Malin Array Si	5.23 18	P	Pn	06 40 07.5	-0.6
AKBB	Malin Array Si	5.23 18		Pn	06 40 07.5	-0.6
SIM	Simferopol'	5.29 96	P	Pn	06 40 08.8	-0.2
SIM			Pm		06 40 12.1	
SIM			S	Sn	06 41 05.9	-2.7
SIM			Sm		06 41 07.7	
SIM	Simferopol'	5.29 96	*ce*P	Pn	06 40 09.2	+0.2
SIM			*e*S	Sn	06 41 06.7	-1.9
SIM			pmax	pmax		
	comp=Z,78nm,0.5s					
SIM			smax	smax		
	comp=N,825nm,1.1s					
KAND	Kocaeli-Kandir	5.31 150	*i* PA	Pn	06 40 08.8	-0.4
KAND			*i* S	Sn	06 41 04.7	-4.3
KAND			IAML		06 41 07.0	
	comp=E,287nm,0.5s					
KAND			IAML		06 41 10.0	
	comp=N,273nm,0.5s					
SMTH	Samothraki Isl	5.35 190	P	Pn	06 40 09.5	-0.3
VAY	Valandovo	5.35 216	*e*Pn	Pn	06 40 10.1	+0.3
VAY			*e*Sn	Sn	06 41 06.5	-3.5
VAY	Valandovo	5.35 216	*i* Pn	Pn	06 40 11.4	+1.6
KNT	Kendrikon	5.36 212	P	Pn	06 40 10.9	+1.0
KNT			S	Sn	06 41 07.5	-2.7
	comp=N,92nm,0.6s					
SJES	Sjenica	5.41 245	*e*Pn	Pn	06 40 10.9	+0.2
SJES			*e*Sn	Sn	06 41 06.6	-5.2
YAL	Yalta	5.43 101	P	Pn	06 40 09.7	-1.1
YAL			S	Sn	06 41 07.6	-4.3
YAL	Yalta	5.43 101	*e*P	Pn	06 40 09.7	-1.1
YAL			*e*S	Sn	06 41 07.6	-4.3
BBLS	Lazići	5.52 253	*e*Pn	Pn	06 40 12.2	+0.1
BBLS			*e*Sn	Sn	06 41 09.4	-4.9
YLV	Yalova	5.54 158	P	Pn	06 40 13.1	+0.6
YLV	Yalova	5.54 158	⇓P	Pn	06 40 14.2	+1.8
ALU	Alushta	5.55 98	P	Pn	06 40 12.4	0.0
ALU			Pm		06 40 12.7	
ALU			S	Sn	06 41 12.2	-2.7
ALU			Sm		06 41 16.2	
ALU	Alushta	5.55 98	⇓*i* P	Pn	06 40 12.4	0.0
ALU			*i* S	Sn	06 41 12.2	-2.7
SAHE	Sakarya_HENDEK	5.76 147	*i* PA	Pn	06 40 14.8	-0.7
SAHE			*i* S	Sn	06 41 15.3	-4.8
SAHE			IAML		06 41 26.0	
	comp=N,173nm,0.7s					
SAHE			IAML		06 41 36.0	
	comp=E,120nm,0.6s					
IGD	Bursa	5.79 161	*i* PA	Pn	06 40 15.6	-0.1
GEYV	SAKARYA_Geyve	5.89 152	*i* P	Pn	06 40 17.3	+0.2
GEYV			*i* S	Sn	06 41 20.6	-2.6
GEYV			IAML		06 41 23.0	
	comp=N,203nm,0.5s					
GEYV			IAML		06 41 24.0	
	comp=E,195nm,0.7s					
YIGI	Dzce	5.91 142	*i* P	Pn	06 40 17.2	-0.2
YIGI			*i* S	Sn	06 41 18.7	-5.0
YIGI			IAML		06 41 22.0	
	comp=E,172nm,0.7s					
YIGI			IAML		06 41 23.0	
	comp=N,212nm,0.9s					
SUDU	Sudak	5.92 95	P	Pn	06 40 17.5	0.0
SUDU			Pm		06 40 19.2	
SUDU			S	Sn	06 41 21.4	-2.5
SUDU			Sm		06 41 22.9	
SUDU	Sudak	5.92 95	*e*P	Pn	06 40 17.5	0.0
SUDU			*i* S	Sn	06 41 21.4	-2.5
BOZC	Bozcaada	5.93 185	*i* P	Pn	06 40 18.7	+1.0
BOZC			*i* S	Sn	06 41 17.9	-6.2
BOZC			IAML		06 41 23.0	
	comp=N,94nm,0.5s					
BOZC			IAML		06 41 25.0	
	comp=E,80nm,0.2s					
EZN	Ezine	5.93 183	P	Pn	06 40 17.6	-0.1
EZN	Ezine	5.93 183	P	Pn	06 40 19.3	+1.6
LANS	Liptovska Anna	5.96 307	*e*P	Pn	06 40 19.8	+1.7
LANS			*e*		06 41 25.0	
LANS	Liptovska Anna	5.96 307	*e*PN	Pn	06 40 19.8	+1.7
LANS			*e*SN	Sn	06 41 25.0	0.0
BAYC	CANAKKALE_Bayr	6.01 181	*i* PA		06 40 19.4	
BAYC			*i* S	Sn	06 41 22.7	-3.4
BAYC			IAML		06 41 24.0	
	comp=E,54nm,0.5s					
BAYC			IAML		06 41 25.0	
	comp=N,114nm,0.6s					
VYHS	Vyhne	6.02 300	*e*P	Pn	06 40 20.2	+1.3
VYHS	Vyhne	6.02 300	*e*PN	Pn	06 40 20.2	+1.3
VYHS			*e*		06 40 28.3	
BALY	Balya	6.05 173	*i* P	Pn	06 40 19.9	+0.5
BALY			*i* S	Sn	06 41 18.1	-9.1
BALY			IAML		06 41 27.0	
	comp=N,84nm,0.9s					
BALY			IAML		06 41 31.0	
	comp=E,58nm,0.8s					
BTAS	Taskesti	6.06 147	*i* PA	Pn	06 40 19.8	+0.2
BTAS			*i* S	Sn	06 41 23.6	-3.9
BTAS			IAML		06 41 27.0	
	comp=E,423nm,0.7s					
BTAS			IAML		06 41 31.0	
	comp=N,394nm,0.4s					
SRO	Srobarova	6.11 293	*e*P	Pn	06 40 22.4	+2.3
SRO	Srobarova	6.11 293	*e*PN	Pn	06 40 22.4	+2.3
FEO	Feodosiya	6.17 94	S	Sn	06 41 28.4	-1.5
FEO			Sm		06 41 33.3	
DURS	Dursunbey	6.29 167	*i* P	Pn	06 40 22.9	+0.2
DURS			*i* S	Sn	06 41 28.1	-5.0
DURS			IAML		06 41 33.0	
	comp=N,31nm,0.3s					
DURS			IAML		06 41 34.0	
	comp=E,54nm,0.6s					
BCAM	Yenicaga	6.30 140	*i* PA	Pn	06 40 22.8	-0.1
BCAM			*i* S	Sn	06 41 27.7	-5.7
BCAM			IAML		06 41 32.0	
	comp=E,139nm,0.8s					
BCAM			IAML		06 41 33.0	
	comp=N,177nm,0.5s					
PDG	Podgorica	6.30 241		Sn	06 41 33.3	+0.1
OJC	Ojcow	6.43 316	*e*P	Pn	06 40 23.6	-0.9
OJC	Ojcow	6.43 316	*e*Pn	Pn	06 40 23.6	-0.9
OJC			*e*Pn	Pn	06 40 23.6	-0.9
OJC	Ojcow	6.43 316		Pn	06 40 24.7	+0.2
BORA	Eskisehir	6.49 153	*i* P	Pn	06 40 25.8	+0.5
KIBS	BOLU	6.53 143	*i* P	Pn	06 40 26.9	+1.0
KIBS			*i* S	Sn	06 41 35.2	-3.8
KIBS			IAML		06 41 40.0	
	comp=E,130nm,0.7s					
KIBS			IAML		06 41 46.0	
	comp=N,133nm,0.7s					
TIR	Tirane	6.63 231		Sn	06 41 46.5	+5.2
TREB	Trebinje	6.72 246	*e*Pn	Pn	06 40 28.2	-0.2
TREB			*e*Sn	Sn	06 41 38.3	-5.1
KERU	Kerch	6.87 90	S	Sn	06 41 47.6	+0.5
JAVC	Velka Javorina	6.88 300	*e*PN	Pn	06 40 32.1	+1.5
JAVC			*e*		06 40 40.1	
XOR	Xorichti	6.89 203	P	Pn	06 40 31.1	+0.4
ILGA	Ilgaz	6.94 130	*i* P	Pn	06 40 30.6	-1.1
ILGA			*i* S	Sn	06 41 45.7	-3.5
ILGA			IAML		06 41 51.0	
	comp=N,296nm,0.6s					
ILGA			IAML		06 41 53.0	
	comp=E,385nm,0.6s					
ILGA	Ilgaz	6.94 130		Pn	06 40 30.9	-0.7
MODS	Modra-Piesok	6.95 296	*e*P	Pn	06 40 30.0	-1.5
MODS	Modra-Piesok	6.95 296	*e*PN	Pn	06 40 30.0	-1.5
MODS			*e*PG		06 41 07.0	
MORC	Moravsky Berou	7.36 306	P	Pn	06 40 37.3	+0.1
MORC	Moravsky Berou	7.36 306	*e*PN	Pn	06 40 36.6	-0.6
MORC	Moravsky Berou	7.36 306		Pn	06 40 37.3	+0.1
MANT	Manisa	7.39 169	Pn	Pn	06 40 37.6	-0.1
ANN	Anapa	7.63 93	*e*P	Pn	06 40 32.5	-8.3
ANN			pmax	pmax		
	comp=Z,60nm,0.9s					
KHAL	Karahalli	7.66 163	*i* P	Pn	06 40 41.9	+0.5
VRAC	Vranov	7.71 301	P	Pn	06 40 42.1	+0.3
	comp=Z,0.8nm,0.3s,baz=81,slow=11,SNR=4.4					
VRAC			LR	LR	06 44 10.6	
	comp=Z,45nm,20.9s,baz=80,slow=42					
VRAC	Vranov	7.71 301	*e*PN	Pn	06 40 42.8	+1.0
VRAC			*e*		06 40 50.7	
CONA	Conrad Observa	7.74 290	*e*Pn	Pn	06 40 43.7	+1.4
	comp=Z,2.1nm,0.4s					
CONA			*i* Sn	Sn	06 42 05.4	-3.0
	comp=Z,6.5nm,0.6s					
BR131	Keskin Array S	7.90 137	P	Pn	06 40 43.8	-0.8
BR131					06 42 11.5	
BR131	Keskin Array S	7.90 137		Pn	06 40 43.9	-0.8
BR131			Sn	Sn	06 42 11.5	-0.8
BRTR	Keskin Array B	7.90 137	P	Pn	06 40 44.0	-0.7
	comp=Z,1.6nm,0.3s,baz=325,slow=11,SNR=52					
BRTR			S	Sn	06 42 11.6	-0.8
	comp=Z,1.3nm,0.3s,baz=312,slow=18,SNR=7.1					
BRTR	Keskin Array B	7.90 137		Pn	06 40 44.1	-0.5
KRLC	Kraliky	7.94 307	*e*P	Pn	06 40 46.7	+1.7
KRLC	Kraliky	7.94 307	*e*PN	Pn	06 40 46.7	+1.7
KRLC			*ex*	x	06 40 54.0	
HAVZ	Havza	8.06 122	*i* P	Pn	06 40 46.0	-0.7
HAVZ			*i* S	Sn	06 42 10.2	-6.0
DPC	Dobruska-Polom	8.33 307	*e*P	Pn	06 40 50.5	+0.2
DPC	Dobruska-Polom	8.33 307	*e*PN	Pn	06 40 50.5	+0.2
DPC			*ex*	x	06 40 56.2	
SUW	Suwalki	8.57 346	*e*P	Pn	06 40 52.5	-1.0
SUW			*e*		06 42 22.6	
SUW	Suwalki	8.57 346	*e*Pn	Pn	06 40 52.5	-1.0
SUW			*e*Pn	Pn	06 40 52.5	-1.0
SUW			*e*Sn	Sn	06 42 22.6	-5.8
SUW			*e*Sn	Sn	06 42 22.6	-5.8
SUW	Suwalki	8.57 346		Pn	06 40 52.2	-1.3
SUW			Sn	Sn	06 42 23.0	-5.4
KSP	Ksiaz	8.60 310	*e*P	Pn	06 40 54.6	+0.7
KSP	Ksiaz	8.60 310	*e*Pn	Pn	06 40 54.6	+0.7
KSP			*e*Pn	Pn	06 40 54.6	+0.7
KSP			*e*		06 41 03.5	
KSP			*e*		06 41 03.5	
APE	Apeiranthos	8.72 186	⇓*e*P	Pn	06 40 55.8	+0.1
MOA	Molln	8.78 288	*e*Pn	Pn	06 40 57.1	+0.6
	comp=Z,0.8nm,0.1s					
MICGM	Minsk	8.79 5	*e*P	Pn	06 41 02.0	+5.5
MICGM			*e*S	Sn	06 42 42.0	+8.3
MNK	Minsk	8.79 5	*e*P	Pn	06 41 02.0	+5.5
MNK			*e*S	Sn	06 42 42.0	+8.3
NACGM	Naroch	9.16 0	*e*P	Pn	06 41 02.0	+0.5
NACGM			*e*S	Sn	06 42 34.0	-8.7
KBA	Koelnbreinsper	9.32 283	*e*Pn	Pn	06 41 06.8	+2.9
	comp=Z,3.2nm,0.6s					
GERES	GERESS Array B	9.36 294	P	Pn	06 41 04.7	+0.3
GERES	GERESS Array B	9.36 294	P	Pn	06 41 03.9	-0.4
	comp=Z,0.1nm,0.3s,baz=107,slow=12,SNR=5.1					
GERES	GERESS Array B	9.36 294	Pn	Pn	06 41 04.7	+0.3
KHC	Kasperske Hory	9.51 296	*e*P	Pn	06 41 08.1	+1.7
KHC	Kasperske Hory	9.51 296	*e*PN	Pn	06 41 08.1	+1.7
KHC			*ex*	x	06 41 16.4	
KHC			*ex*	x	06 41 23.6	
SOC	Sochi	9.53 99	*e*P	Pn	06 41 05.4	-1.2
SOC			*e*		06 42 50.4	
SOC			pmax	pmax		
	comp=Z,53nm,1.1s			

FINES	FINESS Array B	15.72	359	P	Pn	06 42 24.7	-3.6
	comp=Z,0.6nm,0.3s,baz=174,slow=14,SNR=8.4						
FINES				S	Sn	06 45 05.1	-17
	comp=Z,0.5nm,0.3s,baz=203,slow=14,SNR=3.5						
FINES				LR	LR	06 49 22.2	
	comp=Z,27nm,18.1s,baz=200,slow=40						
HFS	Hagfors	16.35	336	P	Pn	06 42 34.5	-1.5
	comp=Z,0.7nm,0.3s,baz=138,slow=13,SNR=12						
KEST	Kesra	16.49	239	P	Pn	06 42 38.5	+0.4
	comp=Z,0.5nm,0.3s,baz=41,slow=20,SNR=3.8						
KEST	Kesra	16.49	239	IAmb	IAmb	06 42 43.4	
	comp=Z,14nm,1.2s						
KLMR	Klimovskoe	16.91	22	*e*P	Pn	06 42 41.8	-1.1
KLMR				*e*		06 45 51.5	
KLMR				pmax	pmax		
	comp=Z,37nm,1.3s						
KLMR	Klimovskoe	16.91	22	*e*Pn	Pn	06 42 41.9	-1.0
KLMR				AMP		06 42 51.9	
	comp=Z,37nm,1.3s						
KLMR				*e*Sn	Sn	06 45 51.6	+1.4
KLMR				*e*Sn	Sn	06 45 51.6	+1.4
EIL	Elat	17.32	155	P	P	06 42 49.8	+1.6
	comp=Z,0.1nm,0.3s,baz=314,slow=6.4,SNR=4.3						
NC602	NORSAR Array S	17.46	335	P	P	06 42 48.7	-0.8
NB2	NORSAR Subarra	17.80	335	P	P	06 42 52.6	-0.7
	comp=Z,2.0nm,0.6s,baz=142,slow=11						
NOA	NORSAR Array B	17.80	335	P	P	06 42 52.1	-1.2
	comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=11						
NOA				LR	LR	06 51 03.8	
	comp=Z,15nm,19.6s,baz=185,slow=41						
PRGR	Permogore	19.34	28	*e*P	P	06 43 04.4	-5.6
PRGR				*e*		06 46 35.7	
EKA	Eskdalemuir Ar	21.10	308	P	P	06 43 27.7	-1.5
	comp=Z,2.5nm,0.6s,baz=110,slow=10,SNR=4.8						
AKTO	Aktyubinsk	21.34	66	P	P	06 43 31.3	-0.5
	comp=Z,2.0nm,0.7s,baz=281,slow=5.2,SNR=2.9						
AKTO				LR	LR	06 51 56.3	
	comp=Z,32nm,21.9s,baz=306,slow=36						
ARU	Arti	22.48	50	*d*i P	P	06 43 44.8	+1.0
ARU				*PP	pP	06 44 02.1	-0.1
ARU						06 44 12.5	
ARU				S	S	06 47 46.3	+2.6
ARU				SS	SnSn	06 48 22.6	+1.1
ARU				pmax	pmax		
	comp=Z,13nm,1.0s						
ARU	Arti	22.48	50	P	P	06 43 44.2	+0.4
	comp=Z,1.9nm,0.3s,baz=257,slow=11,SNR=6.3						
ARU	Arti	22.48	50	P	P	06 43 43.4	-0.3
ARU				IAmb	IAmb	06 43 45.5	
	comp=Z,12nm,1.0s						
ABKAR	Akbulak array	22.63	69	P	P	06 43 47.5	+2.1
ABKAR	Akbulak array	22.63	69	P	P	06 43 46.9	+1.6
ABKAR				IAmb	IAmb	06 44 04.2	
	comp=Z,9.9nm,0.8s						
ESDC	Sonseca Array	23.24	266	P	P	06 43 50.8	-0.7
	comp=Z,1.4nm,0.5s,baz=64,slow=9.2,SNR=13						
ESDC				pP	pP	06 44 10.9	+0.2
	comp=Z,1.9nm,0.8s,baz=62,slow=11,SNR=2.7						
ESDC	Sonseca Array	23.24	266	P	P	06 43 49.7	-1.9
ARCES	ARCESS Array B	23.86	359	P	P	06 43 57.6	+0.9
	comp=Z,5.0nm,0.7s,baz=171,slow=9.2,SNR=28						
ARCES				LR	LR	06 52 23.9	
	comp=Z,59nm,18.2s,baz=191,slow=34						
GEYT	Alibeck	24.56	97	P	P	06 44 06.4	+2.9
	comp=Z,2.7nm,0.7s,baz=278,slow=10,SNR=4.0						
MDT	Midelt	27.27	253	P	P	06 44 28.2	+0.2
	comp=Z,1.3nm,0.5s,baz=80,slow=12,SNR=2.8						
BVAR	Borovoye Array	28.98	59	P	P	06 44 44.6	+1.7
	comp=Z,1.4nm,0.7s,baz=243,slow=15,SNR=5.4						
SPITS	Spitsbergen Ar	32.79	356	P	P	06 45 17.6	+1.4
	comp=Z,12nm,0.9s,baz=140,slow=12,SNR=6.0						
AAK	Ala-Archa	34.01	78	⇓*e*P	P	06 45 29.6	+2.2
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
AAK	Ala-Archa	34.01	78	P	P	06 45 30.3	+2.9
	comp=Z,1.5nm,0.5s,baz=270,slow=5.1,SNR=2.7						
AAK				pP	pP	06 45 50.2	+1.5
	comp=Z,1.7nm,0.6s,baz=97,slow=7.3,SNR=2.5						
AAK	Ala-Archa	34.01	78	IAmb	IAmb	06 45 33.4	
	comp=Z,8.2nm,1.4s						
KURBB	Kurchatov Arra	34.31	63	P	P	06 45 31.6	+1.9
	comp=Z,0.6nm,0.3s,baz=288,slow=9.7,SNR=4.5						
KURBB				pP	pP	06 45 51.4	+0.5
	comp=Z,0.5nm,0.5s,baz=286,slow=8.5,SNR=2.3						
KURK	Kurchatov	34.35	62	P	P	06 45 31.6	+1.6
KURK				*PP	pP	06 45 51.4	+0.2
KURK	Kurchatov	34.35	62	P	P	06 45 31.6	+1.6
KSH	Kashi	36.31	82	P	P	06 45 45.4	-1.7
KSH				pP	pP	06 46 08.5	0.0
KSH				PP	PP	06 47 10.1	-1.1
KSH				S	S	06 51 15.3	-5.8
KSH				sS	sS	06 51 56.0	-2.3
KSH				SS	SnSn	06 53 44.9	-13
KSH				pmax	pmax		
	comp=Z,210nm,5.6s						
KSH				LR	LR		
	comp=N,140nm,6.6s						
KSH				LR	LR		
	comp=E,200nm,8.0s						
KSH				LR	LR		
	comp=Z,200nm,7.9s						
ZAA0	Zalesovo Array	37.40	56	P	P	06 45 57.8	+1.9
ZAA0				IAmb	IAmb	06 45 58.9	
	comp=Z,4.3nm,0.7s						
ZAA0				pP	pP	06 46 17.4	-0.1
ZALV	Zalesovo Beam	37.40	56	*i* P	P	06 45 58.2	+2.3
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZALV	Zalesovo Beam	37.40	56	P	P	06 45 58.1	+2.2
	comp=Z,2.7nm,0.4s,baz=273,slow=9.2,SNR=11						
ZALV				pP	pP	06 46 17.1	-0.3
	comp=Z,6.1nm,0.8s,baz=282,slow=9.6,SNR=6.4						
ZALV	Zalesovo Beam	37.40	56	P	P	06 45 58.0	+2.0
ZALV					pP	06 46 17.4	-0.1
MK31	Makanchi Array	37.76	68	P	P	06 45 59.4	+0.2
MK31				*PP	pP	06 46 17.3	-3.4
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31	Makanchi Array	37.76	68	P	P	06 45 59.4	+0.2
MK31				pP	pP	06 46 17.3	-3.4
MKAR	Makanchi Array	37.76	68	P	P	06 45 59.5	+0.4
MKAR	Makanchi Array	37.76	68	P	P	06 46 01.6	+2.5
	comp=Z,1.5nm,0.4s,baz=271,slow=8.2,SNR=24						
MKAR				pP	pP	06 46 22.0	+1.3
	comp=Z,0.9nm,0.5s,baz=269,slow=8.9,SNR=4.0						
MKAR	Makanchi Array	37.76	68	P	P	06 45 59.5	+0.4
TOA0	Torodi Ar. Sit	38.78	221	P	P	06 46 08.9	+0.9
TORD	Torodi Ar. Bea	38.78	221	P	P	06 46 08.9	+0.9
	comp=Z,8.7nm,0.6s,baz=26,slow=9.0,SNR=69						
TORD				pP	pP	06 46 30.3	+0.6
	comp=Z,6.0nm,0.7s,baz=30,slow=8.0,SNR=3.2						
TORD				PcP	PcP	06 48 18.0	+0.4
	comp=Z,1.2nm,0.6s,baz=25,slow=1.5,SNR=6.7						
TORD	Torodi Ar. Bea	38.78	221	IAmb	IAmb	06 46 14.3	
	comp=Z,107nm,0.6s						
DGZ	Jazzator, Alta	40.07	62	⇓*i* P	P	06 46 20.7	+2.1
DBIC	Dimbokro	47.54	225	P	P	06 47 18.6	+0.1
	comp=Z,5.2nm,0.4s,baz=12,slow=8.3,SNR=20						
DBIC	Dimbokro	47.54	225	IAmb	IAmb	06 47 18.8	
	comp=Z,15nm,1.2s						
TIC	Toumodi	47.65	225	*e*P	P	06 47 19.6	+0.3
KIC	Kosan Boka	47.75	224	*e*P	P	06 47 20.1	0.0
	comp=Z,6.4nm,0.6s						
LIC	Lamto	48.01	225	*e*P	P	06 47 22.0	-0.1
	comp=Z,18nm,0.5s						
TIXI	Tiksi	50.91	24	⇑*i* P	P	06 47 46.0	+2.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	Songino Array	52.27	57	P	P	06 47 56.5	+2.3
	comp=Z,1.2nm,0.8s,baz=269,slow=7.4,SNR=5.8						
SONM				pP	pP	06 48 18.2	+1.5
	comp=Z,1.1nm,0.8s,baz=289,slow=9.1,SNR=5.3						
SONM	Songino Array	52.27	57	IAmb	IAmb	06 47 57.1	
	comp=Z,1.2nm,0.9s						
HHC	Hu-ho-hao-te	59.16	62	*e*P	P	06 48 43.0	-0.4
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,11nm,5.4s						
CMAR	Chiang Mai Arr	64.70	89	P	P	06 49 22.7	+2.0
	comp=Z,1.6nm,0.5s,baz=305,slow=7.0,SNR=9.4						
CMAR				pP	pP	06 49 44.4	+0.3
	comp=Z,0.8nm,0.4s,baz=300,slow=7.2,SNR=2.1						
INK	Inuvik	65.30	352	P	P	06 49 24.9	+1.1
	comp=Z,1.9nm,0.8s,baz=334,slow=2.5,SNR=5.7						
INK				PcP	sP	06 49 56.7	-1.0
	comp=Z,0.8nm,0.5s,baz=158,slow=8.3,SNR=3.1						
INK	Inuvik	65.30	352	IAmb	IAmb	06 49 26.0	
	comp=Z,3.5nm,1.0s						
YKA	Yellowknife Ar	67.75	342	P	P	06 49 40.6	+1.1
	comp=Z,2.6nm,0.6s,baz=30,slow=6.0,SNR=17						
YKA				pP	pP	06 50 02.7	-0.5
	comp=Z,0.5nm,0.7s,baz=26,slow=6.2,SNR=1.8						
ILAR	Eielson Array	69.70	357	P	P	06 49 53.8	+2.2
	comp=Z,0.4nm,0.6s,baz=356,slow=5.3,SNR=7.2						
DAWY	Dawson	69.98	354	P	P	06 49 53.5	+0.1
DAWY				IAmb	IAmb	06 49 57.7	
	comp=Z,10.0nm,1.4s						
BCAR	Beaver Creek A	71.14	354	P	P	06 49 59.7	-0.8
TUL1	Leonard	83.59	316	P	P	06 51 10.8	+0.5
PDAR	Pinedale Array	83.65	329	P	P	06 51 11.7	+0.8
	comp=Z,0.6nm,0.5s,baz=60,slow=5.7,SNR=9.2						
BMO	Blue Mountains	84.32	335	P	P	06 51 14.8	+0.8
BMO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BMO	Blue Mountains	84.32	335	P	P	06 51 14.8	+0.8
BMO				IAmb	IAmb	06 51 16.0	
	comp=Z,3.4nm,0.6s						
MFID	Camas Ranch	85.18	334	P	P	06 51 19.1	+0.8
MFID				IAmb	IAmb	06 51 21.2	
	comp=Z,2.6nm,0.9s						
BDFB	Brasilia	90.77	248	P	P	06 51 46.6	+1.3
	comp=Z,1.7nm,0.6s,baz=114,slow=2.1,SNR=3.4						
TXAR	Lajitas Array	92.75	318	P	P	06 51 54.5	+0.1
	comp=Z,0.2nm,0.5s,baz=57,slow=4.9,SNR=6.1						
VNA2	Neumayer–Watz	118.92	192	PKPdf	PKiKP	06 57 29.0	+0.4
VNA3	Neumayer Olymp	119.55	193	PKPdf	PKiKP	06 57 30.0	+0.1

GUC ***21*** *06:48:12.0±0.5, 16°.69S×72°.10W, h196km±16km, ML4.4*
ISCJB ***21*** *06:48:15.2±0.6, 16°.79S±0°.05×72°.20W±0°.09, h92km, mb4.0/3, Error ellipse: s-maj=12.7km s-min=5.6km az=156.5*
NEIC ***21*** *06:48:17.5±1.7, 16°.80S±0°.09×72°.0W±0°.1, h108km±11km, mb4.4/5, ML4.5(ARE), ML4.4(GUC)*
IDC ***21*** *06:48:18.1±2.1, 16°.70S×71°.95W, h90km±22km, mb3.9/3, mb1 3.9/6, mb1mx3.4/30, mbtmp4.2/6, MS2.6/4, Ms1 2.6/4, ms1mx2.4/22, Error ellipse: s-maj=35.5km s-min=18.2km az=53.0*

ISC 21 06:48:16.6±0.7, 16°.78S±0°.07×72°.17W±0°.09, h92km, n29, σ1ˢ95/39, mb4.3/4, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	2.35	132	⇑*i*P	Pn	06 48 53.2	-0.3
AP01				*e*S	Sn	06 49 25.4	+3.7
PB12	IPOC Station P	2.53	136	*e*P	Pn	06 48 55.9	0.0
PB12				*i* S	Sn	06 49 29.6	+3.5
PB12				IAML		06 49 41.5	
	comp=N,715nm,0.4s						
PB16	IPOC Station P	2.97	122	*e*P	Pn	06 49 01.9	-0.4
PB16				*i* S	Sn	06 49 40.5	+3.1
PB16				IAML		06 49 54.7	
	comp=E,658nm,0.5s						
MNMC	Minye Minye	3.38	134		Pn	06 49 07.5	0.0
PSGC	Pisagua	3.41	146	⇑*i*P	Pn	06 49 06.6	-1.2
PSGC				*e*S	Sn	06 49 48.0	+0.8
PB11	IPOC Station P	3.80	142		Pn	06 49 13.3	+0.1
PB11				Sn	Sn	06 49 57.5	+0.6
LPAZ	La Paz	3.90	83	P	Pn	06 49 14.7	-0.2
	comp=E,2.9nm,0.3s,baz=259,slow=9.3,SNR=100						
LPAZ	La Paz	3.90	83		Pn	06 49 15.2	+0.3
GO01	Chusmiza	4.03	136		Pn	06 49 17.8	+1.3
PB01	IPOC Station P	4.94	150		Pn	06 49 29.1	+0.6
PB01				Sn	Sn	06 50 23.3	-1.1
PB04	IPOC Station P	5.84	161		Pn	06 49 41.0	+0.1
PB04				Sn	Sn	06 50 45.5	-1.0
LVC	Limon Verde	6.56	153	P	Pn	06 49 52.0	+1.2
	comp=E,4.2nm,0.3s,baz=357,slow=9.5,SNR=54						
LVC				S	Sn	06 51 06.3	+2.0
	comp=E,8.7nm,0.3s,baz=201,slow=22,SNR=14						
LVC				LR	LR	06 52 22.1	
	comp=E,52nm,18.1s,baz=263,slow=37						
LVC	Limon Verde	6.56	153		Pn	06 49 50.7	-0.1
LVC					Sn	06 51 07.0	+2.7
NNA	Nana	6.58	316	P	Pn	06 49 52.1	+1.3
	comp=E,1.7nm,0.3s,baz=145,slow=8.4,SNR=12						
NNA				S	Sn	06 51 14.4	+10
	comp=E,1.4nm,0.3s,baz=185,slow=23,SNR=1.6						
NNA				LR	LR	06 51 53.7	
	comp=E,16nm,20.2s,baz=146,slow=32						
NNA	Nana	6.58	316	Pn	Pn	06 49 54.0	+3.2
PB10	IPOC Station P	6.86	168	Pn	Pn	06 49 55.2	+0.6
GO02	Mina Guanaco	8.68	164		Pn	06 50 19.4	-0.2
SIV	San Ignacio	10.68	87	P	Pn	06 50 42.3	-4.3
	comp=E,0.3nm,0.3s,baz=287,slow=8.5,SNR=11						
SIV				LR	LR	06 54 53.2	
	comp=E,19nm,20.4s,baz=258,slow=38						
GO03	Copiap	10.90	171	Pn	Pn	06 50 48.6	-1.1
BDFB	Brasilia	23.22	91	P	P	06 53 13.9	-2.1
	comp=E,1.8nm,0.5s,baz=242,slow=13,SNR=3.2						
BDFB	Brasilia	23.22	91	P	P	06 53 13.9	-2.1
SPB	Sao Paulo	24.16	110	P	P	06 53 22.7	-1.6
MDP	Montagnes des	29.08	43	LR	LR	07 06 18.4	
	comp=E,36nm,18.2s,baz=162,slow=37						
MCLT	Moule a Chique	32.26	21	P	P	06 54 36.2	-0.5
ULM	Lac du Bonnet	69.94	344	P	P	06 59 20.4	+2.7
	comp=E,3.5nm,0.9s,baz=201,slow=14,SNR=1.7						
ULM	Lac du Bonnet	69.94	344	IAmb	IAmb	06 59 21.8	
	comp=Z,6.8nm,1.1s						
SAO	San Andreas Ge	70.68	320	P	P	06 59 22.1	-0.5
SAO				IAmb	IAmb	06 59 39.1	
	comp=Z,8.5nm,1.2s						
TORD	Torodi Ar. Bea	78.78	73	P	P	07 00 10.3	+0.5
	comp=Z,3.1nm,0.8s,baz=251,slow=5.3,SNR=16						
KSH	Kashi	144.22	44	PKP	PKpdf	07 07 40.3	-1.9
KSH				PP	PP	07 10 59.8	+2.2
KSH				PKS	PKSdf	07 11 15.3	-2.6
KSH				SKS	SKSdf	07 14 39.9	-3.7

NEIC ***21*** *07:05:32.1±1.3, 24°.6S±0°.1×179°.8E±0°.1, h529km±11km, mb4.4/12*
ISCJB ***21*** *07:05:33.2±1.1, 24°.6S±0°.1×179°.7E±0°.1, h550km, mb3.6/4, Error ellipse: s-maj=21.1km s-min=13.2km az=136.9*
IDC ***21*** *07:05:36.4±7.1, 24°.09S×179°.51E, h568km±79km, mb3.0/4, mb1 3.3/5, mb1mx3.0/20, mbtmp4.0/5, Error ellipse: s-maj=113.2km s-min=36.0km az=155.0*

ISC 21 07:05:34.3±1.0, 24°.5S±0°.2×179°.7E±0°.1, h550km, n22, σ0ˢ55/19, mb4.2/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.39	279	P	P	07 08 17.5	+0.4
	0.6nm,0.3s,baz=81,slow=17,SNR=7.3						
DZM	Mont Dzumac	12.39	279	P	P	07 08 15.8	-1.2
BKZ	Black Stump Fm	14.85	190	P	P	07 08 39.7	-2.3
BFZ	Birch Farm	16.37	189	P	P	07 08 55.0	-2.1
BFZ				IAmb	IAmb	07 09 12.1	
	comp=Z,43nm,1.1s						
QRZ	Quartz Range	17.32	198	P	P	07 09 04.8	-0.9
LTZ	Lake Taylor	19.21	197	P	P	07 09 20.4	-2.6
STKA	Stephens Creek	34.22	249	P	P	07 11 35.2	+0.7
	comp=Z,0.9nm,0.4s,baz=95,slow=9.8,SNR=5.2						
STKA	Stephens Creek	34.22	249	P	P	07 11 35.1	+0.5
BBOO	Buckleboo	38.93	248	P	P	07 12 13.3	0.0
BBOO				IAmb	IAmb	07 13 22.7	
	comp=Z,55nm,1.9s						
ASAR	Alice Springs	41.64	261	P	P	07 12 35.5	+0.4
	comp=Z,0.7nm,0.5s,baz=96,slow=7.2,SNR=13						
ASAR	Alice Springs	41.64	261	P	P	07 12 35.3	+0.2
WR0	Warramunga Arr	41.88	267	P	P	07 12 37.3	+0.2
WR0				IAmb	IAmb	07 13 53.0	
	comp=Z,14nm,1.7s						
WB2	Warramunga Arr	42.06	267	P	P	07 12 38.5	+0.1
WB0	Warramunga Arr	42.06	267	P	P	07 12 38.3	-0.2
WB0				IAmb	IAmb	07 12 39.2	
	comp=Z,3.9nm,0.7s						
WRA	Warramunga Arr	42.07	267	P	P	07 12 38.4	-0.1
	comp=Z,3.2nm,0.6s,baz=104,slow=8.1,SNR=8.7						
WRA	Warramunga Arr	42.07	267	P	P	07 12 38.6	+0.1
KNRA	Kununurra	48.38	270	P	P	07 13 27.6	+0.8
KNRA				IAmb	IAmb	07 15 02.1	
	comp=Z,29nm,1.5s						
QSPA	South Pole Qui	65.57	180	P	P	07 15 24.1	+0.5
QSPA				IAmb	IAmb	07 15 50.3	
	comp=Z,15nm,1.8s						
SNAA	Sanae	84.06	179	P	P	07 17 04.8	-2.1
SNAA				IAmb	IAmb	07 18 12.4	
	comp=Z,17nm,2.0s						
TXAR	Lajitas Array	91.01	58	P	P	07 17 40.4	-0.1
	comp=Z,0.3nm,0.7s,baz=218,slow=7.9,SNR=4.4						
TXAR	Lajitas Array	91.01	58	P	P	07 17 40.5	+0.1
GRA1	Grafenberg Arr	153.30	343		PKPbc	07 24 29.6	-0.5
GRA1				PKPab	PKPab	07 24 45.0	+0.1

NNC 21 07:19:37.1±0.4, 49°.97N×78°.70E, h0km, mb3.5, mpv3.2, 11C-5D, Error ellipse: s-maj=3.5km s-min=2.1km az=61.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.62	350	⇑P	Pg	07 19 49.5	+0.4
KUR07				⇑S	Sb	07 19 59.0	-1.1
KUR06	Kurchatov Arra	0.64	350	⇓P	Pg	07 19 49.7	+0.4
KUR06				⇓S	Sg	07 19 59.1	+1.5
KUR14	Kurchatov Arra	0.65	354	⇑P	Pg	07 19 49.6	+0.1
KUR14				⇑S	Sg	07 19 58.8	+1.0
KUR15	Kurchatov Arra	0.65	353	⇑P	Pg	07 19 49.7	+0.1
KUR15				⇓S	Sg	07 19 59.5	+1.4
KURBB	Kurchatov Arra	0.66	351	⇑P	Pg	07 19 50.1	+0.3
	30nm,0.3s						
KURBB				S	Sg	07 19 59.0	+0.7
KUR16	Kurchatov Arra	0.67	349	P	Pg	07 19 50.0	+0.1
KUR16				⇓S	Sg	07 19 59.6	+1.1
	14nm,0.5s						
KUR17	Kurchatov Arra	0.68	348	P	Pg	07 19 49.7	-0.3
KUR17				S	Sg	07 20 00.1	+1.3
KUR05	Kurchatov Arra	0.68	351	⇑P	Pg	07 19 50.3	+0.2
KUR05				⇑S	Sg	07 19 59.4	+0.5
KUR04	Kurchatov Arra	0.70	352	⇑P	Pg	07 19 50.7	+0.3
KUR04				⇑S	Sg	07 20 00.0	+0.5
KURK	Kurchatov	0.75	356	⇑P	Pg	07 19 51.3	-0.1
	9.3nm,0.3s						
KURK				⇓S	Sg	07 20 01.6	+0.6
	22nm,0.5s						
SEM	Semipalatinsk	1.09	66	P	Pg	07 19 58.4	+0.4
	6.9nm,0.2s						
SEM				S	Sb	07 20 13.0	-0.8
	77nm,0.3s						
KAPS	Kapalarasan	4.71	174	Pg	Pb	07 21 03.7	+3.1
	1.5nm,0.4s						
KAPS				Lg	Lg	07 22 06.0	
	8.2nm,0.5s						
ZSN	Zaisan	4.80	119	Pg	Pg	07 21 07.0	-2.1
	4.6nm,0.8s						
ZSN				Lg	Lg	07 22 11.2	
	14nm,0.5s						
ARXS	Arharly	5.79	186	Pg	Pg	07 21 23.7	-4.3
	2.1nm,0.7s						
ARXS				Lg	Lg	07 22 40.1	
	11nm,0.4s						

ISCJB ***21*** *07:22:45.2±0.2, 8°.90N±0°.03×82°.88W±0°.02, h28km±2km, Error ellipse: s-maj=6.0km s-min=2.3km az=30.2*
UPA ***21*** *07:22:45.1±0.9, 8°.91N×82°.88W, h22km±3km, MW4.1*
UCR ***21*** *07:22:45.3±1.3, 8°.88N×82°.88W, h25km±3km, MW3.9*

ISC 21 07:22:45.5±0.9, 8°.88N±0°.03×82°.90W±0°.02, h29km±5km, n46, σ1ˢ18/75, 20C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDSV	San Vito	0.09	231	⇑*e*P	Pb	07 22 50.4	-0.4
EDSV				*e*S	Sb	07 22 55.2	+0.9
MLIR3	Monte Lirio, C	0.11	136	⇑*i*P	Pb	07 22 50.5	-0.3
MLIR3				*e*S	Sb	07 22 53.6	-0.9
BRU2	Volcan	0.22	111	⇑*e*P	Pb	07 22 51.2	-0.8
BRU2				*e*S	Sb	07 22 56.1	-0.3
BRU2	Volcan	0.22	111	⇑*i*P	Pb	07 22 51.3	-0.8
BRU2				*e*S	Sb	07 22 56.2	-0.2
BCO2	Palmira	0.40	113	⇑*i*P	Pb	07 22 53.8	-0.7
BCO2				*e*S	Sb	07 23 00.4	-0.2
PTAR3	Potrerillos Ar	0.44	114	⇑*i*P	Pb	07 22 54.4	-0.7
PTAR3				*e*S	Sb	07 23 00.9	-0.6
EDBA	Buenos Aires	0.47	308	⇑*e*P	Pb	07 22 55.0	-0.4
EDBA				*e*S	Sb	07 23 02.7	+0.6
LESP3	La Esperanza,	0.48	166	⇑*e*P	Pb	07 22 54.8	-0.7
LESP3				*e*S	Sb	07 23 02.8	+0.4
PTJ1	Puerto Jimnez	0.52	230	⇓*e*P	Pb	07 22 55.5	-0.7
PTJ1				*e*S	Sb	07 23 04.0	+0.5
PTJ1	Puerto Jimnez	0.52	230	⇓*i*P	Pb	07 22 55.4	-0.8
PTJ1				*e*S	Sb	07 23 03.9	+0.5
BAGA3	Bagala, Chiriq	0.55	137	⇑*i*P	Pb	07 22 56.4	-0.4
BAGA3				*e*S	Sb	07 23 04.1	-0.3
SBAR3	San Bartolo, C	0.55	178	⇑*i*P	Pb	07 22 56.2	-0.6
SBAR3				*e*S	Sb	07 23 05.3	+0.9
EDPN	Palmar Norte	0.55	279	⇓*e*P	Pb	07 22 55.6	-1.2
EDPN				*e*S	Sb	07 23 04.0	-0.4
DVD	David	0.62	134	⇓*i*P	Pb	07 22 57.2	-0.7
DVD				*e*S	Sb	07 23 06.1	-0.3
LOCO3	Loma Colorada,	0.67	134	⇑*i*P	Pb	07 22 58.0	-0.7
LOCO3				*e*S	Sb	07 23 07.3	-0.3
LOMA3	Las Lomas, Chi	0.67	131	⇑*i*P	Pb	07 22 57.9	-0.9
LOMA3				*e*S	Sb	07 23 07.3	-0.4
CHIR3

JAG	**Ashikaga**	**1.18 269**	P	Pn	07 23 16.9	+0.1
JFY	**Yanaizu**	**1.36 315**	P	Pn	07 23 20.3	+1.0
JKT	**Katashina**	**1.38 283**	P	Pn	07 23 20.5	+0.9
JKT			S	Sb	07 23 38.0	-1.2
MAT	**Matsushiro**	**2.19 273**	P	Pn	07 23 32.3	+1.6
MAT			S	Sb	07 24 00.5	-1.7

*ISCJB **21** 07:27:32.0±0.5, 60°.28S±0°.06×47°.3W±0°.2, h10km, mb4.0/8, MS3.3/6, Error ellipse: s-maj=13.6km s-min=7.0km az=149.8*
*NEIC **21** 07:27:32.8±2.2, 60°.32S±0°.08×47°.0W±0°.2, h10km±4km, mb4.4/10*
*IDC **21** 07:27:32.1±0.7, 60°.23S×46°.92W, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/21, mbtmp4.1/10, ML4.3/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/26, Error ellipse: s-maj=29.8km s-min=15.8km az=67.0*

ISC 21 07:27:33.5±0.5, 60°.26S±0°.06×47°.11W±0°.07, h10km, n35, σ1°47/37, mb4.2/11, MS3.2/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.30**	**48**	Pn	**Pn**	**07 29 32.8**	**-0.9**
HOPE				Sn	**Sn**	**07 31 02.8**	**-4.5**
PMSA	**Palmer Station**	**9.03**	**233**	Pn	**Pn**	**07 29 44.1**	**+0.4**
2.9nm,0.3s,baz=61,slow=9.3,SNR=18							
PMSA				Sn	**Sn**	**07 31 23.2**	**-2.1**
1.9nm,0.3s,baz=236,slow=15,SNR=16							
PMSA				LR	LR	07 33 01.8	
comp=Z,206nm,20.0s,baz=46,slow=36							
PMSA	**Palmer Station**	**9.03**	**233**	Pn	**Pn**	**07 29 43.4**	**-0.3**
PMSA				Sn	**Sn**	**07 31 22.6**	**-2.7**
EFI	**East Falkland**	**10.55**	**320**	Pn	**Pn**	**07 30 04.0**	**-0.5**
EFI				Sn	**Sn**	**07 32 01.8**	**-0.8**
VNA3	**Neumayer Olymp**	**18.51**	**142**	P	**Pn**	**07 31 50.4**	**+0.8**
VNA1	**Neumayer--Stat**	**18.79**	**140**	P	**Pn**	**07 31 53.8**	**+0.8**
VNA2	**Neumayer--Watz**	**19.14**	**140**	P	**Pn**	**07 31 58.4**	**+1.2**
baz=294,slow=16							
SNAA	**Sanae**	**20.73**	**141**	P	Pn	07 32 18.4	+2.3
SNAA	**Sanae**	**20.73**	**141**	P	**P**	**07 32 15.4**	**+1.7**
5.7nm,0.9s,baz=289,slow=10,SNR=28							
SNAA	**Sanae**	**20.73**	**141**	P	**P**	**07 32 14.1**	**+0.4**
TRQA	**Tornquist**	**24.14**	**330**	P	**P**	**07 32 51.6**	**+2.3**
TRQA				IAmb	IAmb	07 32 52.4	
comp=Z,12nm,0.8s							
PLCA	**Paso Flores**	**24.34**	**313**	P	**P**	**07 32 52.0**	**+0.7**
comp=Z,2.6nm,0.8s,baz=169,slow=6.2,SNR=7.7							
PLCA				LR	LR	07 42 01.6	
comp=Z,68nm,18.1s,baz=200,slow=36							
PLCA	**Paso Flores**	**24.34**	**313**	P	**P**	**07 32 51.4**	**+0.1**
PLCA				IAmb	IAmb	07 32 57.8	
comp=Z,8.1nm,1.2s							
QSPA	**South Pole Qui**	**29.98**	**180**	P	**P**	**07 33 42.6**	**+0.8**
comp=Z,6.0nm,0.8s,baz=180,slow=3.3,SNR=23							
QSPA	**South Pole Qui**	**29.98**	**180**	P	**P**	**07 33 39.6**	**-2.2**
QSPA				IAmb	IAmb	07 33 43.7	
comp=Z,5.9nm,0.8s							
CPUP	**Villa Florida**	**34.63**	**344**	P	**P**	**07 34 23.2**	**+0.6**
comp=Z,1.1nm,0.7s,baz=179,slow=8.7,SNR=3.9							
CPUP				LR	LR	07 50 41.1	
comp=Z,40nm,18.5s,baz=176,slow=40							
CPUP	**Villa Florida**	**34.63**	**344**	P	**P**	**07 34 23.8**	**+1.1**
GO02	**Mina Guanaco**	**38.37**	**326**	P	**P**	**07 34 55.7**	**+0.9**
SBA	**Scott Base**	**40.59**	**190**	P	**P**	**07 35 11.9**	**-0.6**
SBA				IAmb	IAmb	07 35 14.6	
comp=Z,3.7nm,0.8s							
MAW	**Mawson**	**42.66**	**148**	P	**P**	**07 35 30.1**	**+0.6**
comp=Z,1.4nm,0.8s,baz=237,slow=8.7,SNR=5.3							
MAW				LR	LR	07 52 26.6	
comp=Z,85nm,18.6s,baz=237,slow=35							
MAW	**Mawson**	**42.66**	**148**	P	**P**	**07 35 28.1**	**-1.4**
BDFB	**Brasilia**	**44.55**	**359**	P	**P**	**07 35 46.0**	**+0.6**
comp=Z,2.3nm,0.6s,baz=191,slow=13,SNR=3.4							
SIV	**San Ignacio**	**45.35**	**341**	P	**P**	**07 35 52.3**	**+0.6**
comp=Z,2.3nm,0.7s,baz=183,slow=7.3,SNR=15							
SIV				LR	LR	07 54 41.7	
comp=Z,22nm,19.4s,baz=128,slow=36							
LPAZ	**La Paz**	**46.48**	**332**	P	**P**	**07 36 02.4**	**+1.1**
comp=Z,1.3nm,0.9s,baz=154,slow=5.6,SNR=3.6							
LPAZ				LR	LR	07 57 20.4	
comp=Z,10nm,18.1s,baz=125,slow=38							
SAML	**Samuel**	**52.60**	**340**	P	**P**	**07 36 48.0**	**+0.8**
SAML				IAmb	IAmb	07 36 48.7	
comp=Z,3.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**82.88**	**48**	P	**P**	**07 39 58.3**	**+0.4**
comp=Z,1.3nm,0.7s,baz=216,slow=6.7,SNR=5.1							
TORD	**Torodi Ar. Bea**	**82.88**	**48**	P	**P**	**07 39 58.4**	**+0.4**
LPIG	**La Paz**	**98.43**	**304**	LR	LR	08 17 52.4	
comp=Z,26nm,20.9s,baz=5.0,slow=31							
IL31		**145.03**	**313**		**PKPbc**	**07 47 07.7**	**-0.9**
ILAR	**Eielson Array**	**145.03**	**313**	PKPbc	**PKPbc**	**07 47 07.8**	**-0.8**
comp=Z,3.2nm,0.6s,baz=148,slow=1.8,SNR=42							
BVAR	**Borovoye Array**	**146.09**	**74**	PKPbc	**PKPdf**	**07 47 11.1**	**-0.3**
comp=Z,6.1nm,0.9s,baz=242,slow=3.2,SNR=17							
MKAR	**Makanchi Array**	**147.92**	**92**	PKPbc	**PKPdf**	**07 47 15.3**	**+0.6**
comp=Z,1.9nm,0.6s,baz=239,slow=2.4,SNR=13							
MKAR	**Makanchi Array**	**147.92**	**92**		**PKPdf**	**07 47 16.4**	**+1.7**
KURBB	**Kurchatov Arra**	**148.57**	**83**	PKPbc	**PKPdf**	**07 47 17.6**	**+2.0**
comp=Z,1.1nm,0.7s,baz=241,slow=3.0,SNR=9.1							
KURK	**Kurchatov**	**148.67**	**83**		**PKPdf**	**07 47 18.2**	**+2.4**

*ISCJB **21** 07:36:01.7±0.2, 24°.94N±0°.02×121°.93E±0°.02, h94km±1km, mb3.5/9, Error ellipse: s-maj=2.9km s-min=2.2km az=141.0*
*JMA **21** 07:36:01.4±0.2, 24°.86N×121°.90E, h97km±2km, M3.4*
*TAP **21** 07:36:02.4, 24°.87N×121°.93E, h89km, ML4.5, B*
*IDC **21** 07:36:03.8±3.4, 24°.69N×122°.09E, h123km±37km, mb3.3/10, mb1 3.4/11, mb1mx3.2/57, mbtmp3.7/11, Error ellipse: s-maj=24.5km s-min=17.5km az=79.0*

ISC 21 07:36:01.7±0.7, 24°.93N±0°.03×121°.93E±0°.02, h94km±4km, n144, σ0°92/246, mb3.5/9, 40C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.08**	**177**	⇑P	**Pn**	**07 36 15.1**	**+0.2**
baz=157							
EGS				S	**Sn**	**07 36 23.9**	**-0.8**
baz=157							
TWB1	**Santiao Chiao**	**0.10**	**34**	⇓*i*P	**Pn**	**07 36 15.3**	**+0.4**
baz=25							
TWB1				*i* S	**Sn**	**07 36 24.4**	**-0.3**
baz=25							
TIPB	**Shuangxi**	**0.10**	**296**	⇑*i*P	**Pn**	**07 36 15.3**	**+0.3**
baz=304							
TIPB				S	**Sn**	**07 36 24.0**	**-0.8**
baz=304							
NTC	**Toucheng**	**0.11**	**231**	⇑*e*P	**Pn**	**07 36 15.0**	**0.0**
baz=257							
NTC				*e*S	**Sn**	**07 36 23.7**	**-1.1**
baz=257							
NWF	**Wu-fen Shan**	**0.20**	**318**	⇑*i*P	**Pn**	**07 36 15.6**	**+0.3**
baz=320							
NWF				S	**Sn**	**07 36 25.0**	**-0.4**
baz=320							
WFSB	**Wu-fen Shan**	**0.20**	**318**	⇑P	**Pn**	**07 36 15.7**	**+0.5**
baz=320							
WFSB				S	**Sn**	**07 36 24.8**	**-0.4**
baz=320							
ILA	**Ilan**	**0.23**	**225**	*e*P	**Pn**	**07 36 15.8**	**+0.5**
baz=231							
ILA				*e*S	**Sn**	**07 36 25.5**	**+0.2**
baz=231							
TWE	**Neicheng**	**0.31**	**229**	P	**Pn**	**07 36 16.1**	**+0.4**
baz=234							
TWE				*e*S	**Sn**	**07 36 26.6**	**+0.5**
baz=234							
SLBB	**Yuanshan**	**0.32**	**237**	*e*P	**Pn**	**07 36 15.3**	**-0.5**
baz=246							
TWA	**Mucha**	**0.32**	**280**	⇑*i*P	**Pn**	**07 36 16.1**	**+0.3**
baz=288							
TWA				*e*S	**Sn**	**07 36 25.4**	**-0.7**
baz=288							
TWC	**Suao**	**0.32**	**193**	P	**Pn**	**07 36 15.9**	**+0.1**
baz=192							
TWC				*e*S	**Sn**	**07 36 26.6**	**+0.4**
baz=192							
NHDH	**Xindian Distri**	**0.37**	**276**	P	**Pn**	**07 36 16.4**	**+0.5**
baz=286							
NHDH				S	**Sn**	**07 36 27.1**	**+0.5**
baz=286							
TAP1	**Taipei**	**0.38**	**287**	⇑P	**Pn**	**07 36 16.5**	**+0.4**
baz=296							
TAP1				S	**Sn**	**07 36 26.4**	**-0.3**
baz=296							
YM01	**YM01**	**0.39**	**304**	⇑*i*P	**Pn**	**07 36 16.6**	**+0.4**
baz=309							
YM01				*e*S	**Sn**	**07 36 26.3**	**-0.7**
baz=309							
TAP	**Taipei**	**0.40**	**287**	P	**Pn**	**07 36 16.8**	**+0.6**
baz=296							
TAP				S	**Sn**	**07 36 26.5**	**-0.4**
baz=296							
YM11	**YM11**	**0.40**	**307**	⇑P	**Pn**	**07 36 16.6**	**+0.3**
baz=312							
YM11				S	**Sn**	**07 36 27.3**	**+0.2**
baz=312							
TATO	**Taipei**	**0.40**	**277**	⇑P	**Pn**	**07 36 16.6**	**+0.4**
baz=286							
TATO				S	**Sn**	**07 36 26.2**	**-0.8**
baz=286							
YM08	**YM08**	**0.40**	**311**	P	**Pn**	**07 36 16.3**	**0.0**
baz=315							
YM08				*e*S	**Sn**	**07 36 26.2**	**-0.8**
baz=315							
YM10	**YM10**	**0.40**	**305**	⇑P	**Pn**	**07 36 16.7**	**+0.4**
baz=310							
YM10				*e*S	**Sn**	**07 36 27.1**	**0.0**
baz=310							
NWLT	**Wulai**	**0.41**	**249**	P	**Pn**	**07 36 16.7**	**+0.4**
baz=261							
NWLT				S	**Sn**	**07 36 26.8**	**-0.4**
baz=261							
EOS1	**EOS1**	**0.42**	**154**	⇓P	**Pn**	**07 36 16.6**	**+0.3**
baz=150							
EOS1				*e*S	**Sn**	**07 36 27.5**	**+0.4**
baz=150							
ENTT	**Nioudou**	**0.43**	**229**	⇑*i*P	**Pn**	**07 36 17.2**	**+0.8**
baz=231							
ENTT				S	**Sn**	**07 36 27.5**	**+0.1**
baz=231							
ANP	**Anpu**	**0.45**	**305**	*e*P	**Pn**	**07 36 17.0**	**+0.3**
baz=306							
ANP				*e*S	**Sn**	**07 36 27.8**	**0.0**
baz=306							
TWY	**Chenhua**	**0.46**	**320**	⇑*i*P	**Pn**	**07 36 17.2**	**+0.7**
baz=324							
TWY				S	**Sn**	**07 36 27.8**	**+0.2**
baz=324							
TWS1	**Kuangyinshan**	**0.49**	**291**	P	**Pn**	**07 36 17.6**	**+0.7**
baz=295							
TWS1				S	**Sn**	**07 36 28.8**	**+0.7**
baz=295							
NTST	**Danshui**	**0.49**	**299**	*e*P	**Pn**	**07 36 17.5**	**+0.7**
baz=303							
NTST				*e*S	**Sn**	**07 36 29.0**	**+1.0**
baz=303							
NDT	**Datong Townshi**	**0.49**	**230**	⇑*i*P	**Pn**	**07 36 17.6**	**+0.7**
baz=243							
NDT				S	**Sn**	**07 36 28.6**	**+0.4**
baz=243							
NANB	**Nanao**	**0.52**	**198**	⇑*i*P	**Pn**	**07 36 17.6**	**+0.5**
baz=200							
NANB				S	**Sn**	**07 36 28.7**	**+0.3**
baz=200							
ENA	**Nanau**	**0.52**	**199**	P	**Pn**	**07 36 17.7**	**+0.6**
baz=200							
ENA				*e*S	**Sn**	**07 36 29.5**	**+1.0**
baz=200							
YHNB	**Yeheng**	**0.56**	**243**	⇑P	**Pn**	**07 36 17.8**	**+0.4**
baz=247							
YHNB				S	**Sn**	**07 36 28.8**	**-0.4**
baz=247							
NSK	**Sanguang**	**0.57**	**244**	⇑*i*P	**Pn**	**07 36 18.0**	**+0.4**
baz=248							
NSK				S	**Sn**	**07 36 29.1**	**-0.2**
baz=248							
WLTB	**Daxi**	**0.62**	**263**	⇑*i*P	**Pn**	**07 36 18.9**	**+1.1**
baz=267							
WLTB				*i* S	**Sn**	**07 36 30.9**	**+1.0**
baz=267							
NCU	**National Centr**	**0.67**	**274**	⇑*i*P	**Pn**	**07 36 19.4**	**+1.1**
baz=277							
NCU				S	**Sn**	**07 36 31.9**	**+1.2**
baz=277							
NCUH	**Zhongli**	**0.68**	**274**	⇑*i*P	**Pn**	**07 36 19.4**	**+1.0**
baz=277							
NCUH				S	**Sn**	**07 36 31.8**	**+1.0**
baz=277							
NNS	**Nan Shan**	**0.70**	**226**	⇑*i*P	**Pn**	**07 36 19.3**	**+0.6**
baz=231							
NNS				*i* S	**Sn**	**07 36 31.9**	**+0.5**
baz=231							
NNSB	**Datong**	**0.70**	**225**	⇑P	**Pn**	**07 36 19.4**	**+0.6**
baz=231							
NNSB				S	**Sn**	**07 36 31.4**	**0.0**
baz=231							
PCYT	**Pengchaiyu**	**0.71**	**11**	⇓*i*P	**Pn**	**07 36 19.8**	**+1.1**
baz=4.0							
PCYT				*e*S	**Sn**	**07 36 31.8**	**+0.4**
baz=4.0							
NACB	**Ninganchiao**	**0.81**	**202**	⇑P	**Pn**	**07 36 19.2**	**-0.4**
baz=211							
NACB				S	**Sn**	**07 36 32.9**	**-0.2**
baz=211							
ETLH	**Xiulin Townshi**	**0.82**	**210**	⇑P	**Pn**	**07 36 20.0**	**+0.1**
baz=210							
ETLH				*e*S	**Sn**	**07 36 34.2**	**+0.7**
baz=210							
SBCB	**Hsinchu**	**0.86**	**261**	⇑P	**Pn**	**07 36 21.1**	**+0.9**
baz=263							
SBCB				*e*S	**Sn**	**07 36 34.2**	**+0.1**
baz=263							
LIOB	**Emei**	**0.87**	**252**	⇑*i*P	**Pn**	**07 36 21.0**	**+0.7**
baz=245							
LIOB				*e*S	**Sn**	**07 36 33.8**	**-0.5**
baz=245							
HSN	**Hsinchu**	**0.88**	**262**	⇑P	**Pn**	**07 36 20.8**	**+0.4**
baz=265							
HSN				S	**Sn**	**07 36 34.6**	**+0.2**
baz=265							
NSTT	**Nanjuang**	**0.89**	**251**	⇑*i*P	**Pn**	**07 36 21.0**	**+0.5**
baz=245							
NSTT				S	**Sn**	**07 36 34.4**	**-0.2**
baz=245							
TWD	**Chiawan**	**0.90**	**200**	*e*P	**Pn**	**07 36 20.1**	**-0.5**
baz=208							
TWD				S	**Sn**	**07 36 34.8**	**+0.1**
baz=208							
TWT	**Tachien**	**0.96**	**226**	⇑*i*P	**Pn**	**07 36 22.6**	**+1.2**
baz=220							
TWT				S	**Sn**	**07 36 37.2**	**+1.0**
baz=220							
TDCB	**Techi**	**0.97**	**226**	⇑P	**Pn**	**07 36 22.6**	**+1.1**
baz=220							
TDCB				*i* S	**Sn**	**07 36 36.6**	**+0.2**
baz=220							
WHF	**Hehuan Shan**	**0.98**	**218**	⇓*i*P	**Pn**	**07 36 22.7**	**+0.7**
baz=211							
WHF				S	**Sn**	**07 36 37.1**	**-0.1**
baz=211							
HWA	**Hwalien**	**0.99**	**197**	*e*P	**Pn**	**07 36 21.6**	**0.0**
baz=206							
HWA				*e*S	**Sn**	**07 36 37.7**	**+1.2**
baz=206							
JYNG	**Yonagunijimaku**	**1.04**	**117**	P	**Pn**	**07 36 22.2**	**+0.1**
JYNG				*e*S	**Sn**	**07 36 37.1**	**-0.4**
ENLB	**Shoufeng**	**1.06**	**196**	*e*P	**Pn**	**07 36 21.8**	**-0.6**
baz=185							
ENLB				S	**Sn**	**07 36 37.8**	**-0.1**
baz=185							
YOJ	**Yonaguni jima**	**1.09**	**115**	⇓P	**Pn**	**07 36 22.7**	**+0.1**
baz=116							
YOJ				S	**Sn**	**07 36 38.1**	**-0.4**
baz=116							
YOJ	**Yonaguni jima**	**1.09**	**115**	P	**Pn**	**07 36 22.8**	**+0.1**
YOJ				*e*S	**Sn**	**07 36 38.3**	**-0.2**
CHGB	**Renai**	**1.10**	**219**	⇑P	**Pn**	**07 36 23.8**	**+0.7**
baz=211							
CHGB				S	**Sn**	**07 36 39.3**	**+0.2**
baz=211							
WHP	**Taichung City**	**1.10**	**234**	⇑*i*P	**Pn**	**07 36 24.0**	**+1.0**
baz=234							
WHP				S	**Sn**	**07 36 39.1**	**+0.1**
baz=234							
NMLH	**Miaoli**	**1.10**	**250**	⇑*e*P	**Pn**	**07 36 23.6**	**+0.7**
baz=250							
NMLH				*e*S	**Sn**	**07 36 39.1**	**+0.3**
baz=250							
NSY	**Sanyi**	**1.18**	**245**	⇑*i*P	**Pn**	**07 36 24.6**	**+0.9**
baz=244							
NSY				*e*S	**Sn**	**07 36 40.9**	**+0.5**
baz=244							
OWD	**Renai**	**1.19**	**215**	*e*P	**Pn**	**07 36 25.3**	**+1.3**
baz=209							
ESL	**Shilin**	**1.20**	**202**	⇓*e*P	**Pn**	**07 36 22.9**	**-1.1**
baz=201							
ESL				*e*S	**Sn**	**07 36 41.1**	**+0.4**
baz=201							
TWQ1	**Liyutan**	**1.20**	**242**	⇑*i*P	**Pn**	**07 36 24.7**	**+0.7**
baz=249							
TWQ1				*i* S	**Sn**	**07 36 40.8**	**0.0**
baz=249							
PTSB	**Yuanli**	**1.21**	**247**	P	**Pn**	**07 36 24.8**	**+0.7**
baz=247							
PTSB				S	**Sn**	**07 36 41.0**	**0.0**
baz=247							
DPDB	**Guoxing**	**1.27**	**226**	*e*P	**Pn**	**07 36 25.6**	**+0.6**
baz=235							
DPDB				S	**Sn**	**07 36 43.0**	**+0.6**
baz=235							
WDJ	**Dajia District**	**1.30**	**244**	⇑P	**Pn**	**07 36 26.2**	**+0.9**
baz=250							
WDJ				S	**Sn**	**07 36 43.6**	**+0.6**
baz=250							
EGFH	**Guangfu**	**1.33**	**200**	*e*P	**Pn**	**07 36 26.2**	**+0.6**
baz=204							
EGFH				*e*S	**Sn**	**07 36 44.3**	**+0.7**
baz=204							
VWDT	**VWDT**	**1.37**	**212**	⇑P	**Pn**	**07 36 26.6**	**+0.5**
baz=206							
VWDT				*e*S	**Sn**	**07 36 45.8**	**+1.4**
baz=206							
TCU	**Taichung**	**1.38**	**236**	⇑P	**Pn**	**07 36 27.1**	**+0.9**
baz=235							
TCU				*e*S	**Sn**	**07 36 45.4**	**+0.8**
baz=235							
SMLT	**Sun Moon Lake**	**1.40**	**222**	P	**Pn**	**07 36 27.5**	**+0.9**
baz=228							
SMLT				S	**Sn**	**07 36 46.3**	**+1.1**
baz=228							
TYC	**Yuchr**	**1.41**	**224**	P	**Pn**	**07 36 27.4**	**+0.9**
baz=222							
TYC				S	**Sn**	**07 36 46.0**	**+0.7**
baz=222							
SSLB	**Suanglung**	**1.44**	**218**	⇑P	**Pn**	**07 36 27.7**	**+0.7**
baz=226							
SSLB				S	**Sn**	**07 36 46.9**	**+0.8**
baz=226							
HGSD	**Ruisui**	**1.50**	**198**	*e*P	**Pn**	**07 36 27.4**	**-0.3**
baz=204							
HGSD				*e*S	**Sn**	**07 36 46.1**	**-1.2**
baz=204							
WCHH	**Zhanghua**	**1.50**	**236**	P	**Pn**	**07 36 28.4**	**+0.7**
baz=234							
WCHH				*e*S	**Sn**	**07 36 48.4**	**+1.0**
baz=234							
EHY	**Hungye**	**1.52**	**201**	*e*P	**Pn**	**07 36 26.8**	**-1.1**
baz=200							
WNT	**Mingjian**	**1.54**	**228**	P	**Pn**	**07 36 29.2**	**+1.0**
baz=234							
WNT				*e*S	**Sn**	**07 36 48.6**	**+0.4**
baz=234							
WJS	**Zhushan**	**1.55**	**225**	⇑P	**Pn**	**07 36 29.2**	**+0.9**
baz=232							
WJS				S	**Sn**	**07 36 49.4**	**+0.9**
baz=232							
WHYT	**Xinyi Township**	**1.57**	**219**	*e*P	**Pn**	**07 36 29.8**	**+1.2**
baz=225							
WHYT				*e*S	**Sn**	**07 36 50.0**	**+1.1**
baz=225							
YULB	**Yu-li**	**1.63**	**201**	*e*P	**Pn**	**07 36 28.5**	**-0.9**
baz=200							
TWF1	**Yuli**	**1.67**	**200**	*e*P	**Pn**	**07 36 29.5**	**-0.4**
baz=199							
IRIF	**Iriomote-Funau**	**1.74**	**109**	P	**Pn**	**07 36 30.8**	**+0.1**
IRIF				*e*S	**Sn**	**07 36 52.4**	**-0.4**
CHN5	**Tsauling**	**1.75**	**221**	*e*P	**Pn**	**07 36 31.8**	**+0.9**
baz=219							
CHN5				S	**Sn**	**07 36 53.7**	**+0.6**
baz=219							
WGK	**Gukeng**	**1.75**	**226**	⇓P	**Pn**	**07 36 32.1**	**+1.2**
baz=232							
WGK				S	**Sn**	**07 36 54.2**	**+1.2**
baz=232							
RLNB	**Erlin**	**1.76**	**235**	*e*P	**Pn**	**07 36 31.8**	**+0.8**
baz=232							
RLNB				*e*S	**Sn**	**07 36 53.0**	**-0.2**
baz=232							
WDLH	**Douliu**	**1.77**	**226**	*e*P	**Pn**	**07 36 32.2**	**+1.1**
baz=232							
WDLH				*e*S	**Sn**	**07 36 54.5**	**+1.1**
baz=232							
FULB	**Fuli**	**1.81**	**199**	*e*P	**Pn**	**07 36 31.6**	**-0.1**
baz=203							
FULB				*e*S	**Sn**	**07 36 54.9**	**+0.4**
baz=203							
WTCT	**Ta-ch'eng**	**1.84**	**235**	*e*P	**Pn**	**07 36 32.7**	**+0.8**
baz=232							
WTCT				*e*S	**Sn**	**07 36 54.6**	**-0.3**
baz=232							
HATJ	**Hateruma jima**	**1.92**	**116**	P	**Pn**	**07 36 33.3**	**+0.3**
CHN2	**Minshiung**	**1.92**	**224**	*e*P	**Pn**	**07 36 34.2**	**+1.1**
baz=229							
CHN2				*e*S	**Sn**	**07 36 57.8**	**+1.0**
baz=229							
ELDTW	**Lidau**	**1.92**	**206**	*e*P	**Pn**	**07 36 33.4**	**+0.2**
baz=195							
ELDTW				*e*S	**Sn**	**07 36 57.0**	**0.0**
baz=195							
CHY	**Chiayi**	**1.98**	**224**	*e*P	**Pn**	**07 36 34.5**	**+0.8**
baz=229							
CHY				*e*S	**Sn**	**07 36 59.6**	**+1.4**
baz=229							
CHN4	**Tsaushan**	**1.99**	**218**	*e*P	**Pn**	**07 36 35.0**	**+1.1**
baz=215							
CHN4				*e*S	**Sn**	**07 36 59.7**	**+1.2**
baz=215							
TPUB	**Ta-pu**	**2.01**	**216**	*e*P	**Pn**	**07 36 35.0**	**+0.8**
baz=214							
TPUB				*e*S	**Sn**	**07 37 00.1**	**+1.2**
baz=214							
JKRS	**Kuro-shima**	**2.02**	**109**	P	**Pn**	**07 36 34.8**	**+0.5**
WSF	**Szhu**	**2.02**	**231**	*e*P	**Pn**	**07 36 35.4**	**+1.1**
baz=227							
WSF				*e*S	**Sn**	**07 36 59.6**	**+0.5**
baz=227							
PTTC	**Pingtan**	**2.04**	**287**	*e*P	**Pn**	**07 36 34.7**	**+0.1**
baz=286							
PTTC				*e*S	**Sn**	**07 36 59.4**	**-0.2**
baz=286							
STYT	**Tauyuan**	**2.06**	**212**	*e*P	**Pn**	**07 36 36.1**	**+1.3**
baz=218							
STYT				*e*S	**Sn**	**07 37 01.3**	**+1.1**
baz=218							
WTP	**Ta-pu**	**2.06**	**216**	*e*P	**Pn**	**07 36 35.7**	**+0.7**
baz=213							
WTP				*e*S	**Sn**	**07 37 01.0**	**+0.8**
baz=213							
WLGB	**Puzi**	**2.07**	**226**	*e*P	**Pn**	**07 36 35.9**	**+0.9**
baz=230							
WLGB				*e*S	**Sn**	**07 37 02.0**	**+1.6**
baz=230							
JIJ	**Ishigaki jima**	**2.09**	**105**	P	**Pn**	**07 36 35.6**	**+0.3**
JIJ				*e*S	**Sn**	**07 37 00.3**	**-0.6**
TWK	**Hsinying**	**2.11**	**219**	*e*P	**Pn**	**07 36 36.5**	**+0.8**
baz=215							
TWK				*e*S	**Sn**	**07 37 01.0**	**-0.4**
baz=215							
SNST	**Tainan City**	**2.14**	**218**	*e*P	**Pn**	**07 36 36.6**	**+0.6**
baz=215							
SNST				*e*S	**Sn**	**07 37 03.2**	**+1.1**
baz=215							
CHN1	**Nanshi**	**2

TWGBT	**Beinan**	2.24	200	*e*P	Pn	07 36 36.8	-0.5
	baz=190						
TWGBT				*e*S	Sn	07 37 04.3	-0.1
	baz=190						
VWUC	**VWUC**	2.25	272	*e*P	Pn	07 36 37.6	+0.3
	baz=270						
VWUC				*e*S	Sn	07 37 03.5	-1.1
	baz=270						
SLGT	**Liugui**	2.25	212	*e*P	Pn	07 36 38.5	+1.1
	baz=209						
CHN3	**Shinhua**	2.33	218	*e*P	Pn	07 36 39.8	+1.3
	baz=217						
SCLT	**Jiali**	2.35	223	*e*P	Pn	07 36 40.4	+1.7
	baz=221						
SSD	**Sandimen**	2.47	209	*e*P	Pn	07 36 41.4	+1.1
	baz=206						
ECL	**Taimali**	2.48	201	*e*P	Pn	07 36 41.7	+1.2
	baz=192						
TWM1	**Shoushan**	2.51	214	*e*P	Pn	07 36 42.4	+1.6
	baz=211						
XPSS	**Dashiqiu**	2.54	322	*e*P	Pn	07 36 41.5	+0.4
	baz=325						
LYJJ	**Jianjiangzhen**	2.54	310	*e*P	Pn	07 36 41.6	+0.5
	baz=312						
JTJ	**Tarama**	2.54	96	P	Pn	07 36 42.8	+1.6
JTJ				*e*S	Sn	07 37 12.9	+1.5
PTMZ	**Houxiangcun**	2.55	273	*e*P	Pn	07 36 41.6	+0.3
	baz=273						
PNG	**Penghu**	2.55	238	*e*P	Pn	07 36 41.0	-0.4
	baz=233						
PNG				*e*S	Sn	07 37 10.4	-1.3
	baz=233						
PHUB	**P'eng-hu**	2.57	237	*e*P	Pn	07 36 41.1	-0.5
	baz=232						
PHUB				*e*S	Sn	07 37 09.8	-2.3
	baz=232						
MASBT	**Mashibuluo**	2.59	207	*e*P	Pn	07 36 43.3	+1.4
	baz=205						
MASBT				*e*S	Sn	07 37 13.6	+0.9
	baz=205						
EAST	**Anshuo**	2.72	202	*e*P	Pn	07 36 43.8	+0.1
	baz=190						
SCZT	**Fangliau**	2.81	205	*e*P	Pn	07 36 46.2	+1.3
	baz=202						
VCHM	**Qimei**	2.85	234	*e*P	Pn	07 36 45.3	-0.1
	baz=228						
VCHM				*e*S	Sn	07 37 17.8	-1.2
	baz=228						
MHZQ	**Yeshan**	2.87	295⇓	*e*P	Pn	07 36 45.9	+0.4
	baz=294						
LAY	**Lan-yu**	2.90	187	*e*P	Pn	07 36 44.7	-1.3
	baz=184						
QZH	**Quanzhou**	3.03	271⇓	*i*Pn	Pn	07 36 48.0	+0.3
QZH				Sn	Sn	07 37 17.4	-5.7
QZH				smax	smax		
	comp=N,200nm,0.6s						
QZH				smax	smax		
	comp=E,84nm,0.7s						
JMJ2	**Miyako jima3**	3.10	93	S	Sn	07 37 26.5	+1.7
TWKBT	**Hengchun**	3.14	199	*e*P	Pn	07 36 50.8	+1.5
	baz=196						
KNM	**Kinmen**	3.22	262	*e*P	Pn	07 36 52.0	+1.7
	baz=261						
KNMB	**Chin-men Tao**	3.25	263	*e*P	Pn	07 36 50.7	0.0
	baz=261						
AXDP	**Jialang**	3.59	270	*e*P	Pn	07 36 55.9	+0.6
	baz=268						
ZPLA	**Ao Xicun**	3.93	256	*e*P	Pn	07 37 00.9	+1.0
	baz=254						
JOW	**Kunigami**	6.02	70	*e*P	Pn	07 37 28.6	+0.2
	baz=75						
JOW	**Kunigami**	6.02	70	P	Pn	07 37 29.3	+1.0
	comp=E,0.3nm,0.3s,baz=95,slow=19,SNR=6.8						
JOW				S	Sn	07 38 36.6	+0.7
	comp=E,0.4nm,0.3s,baz=111,slow=16,SNR=2.1						
KSRS	**Korea Array**	13.50	21	P	P	07 39 14.1	-1.1
	comp=E,0.5nm,0.3s,baz=199,slow=11,SNR=38						
USRK	**Ussuriysk Ar.**	20.91	21	P	Pn	07 40 40.0	+0.1
	comp=E,1.4nm,0.6s,baz=223,slow=14,SNR=2.6						
CMAR	**Chiang Mai Arr**	22.29	258	P	P	07 40 53.0	+1.6
	comp=E,1.0nm,0.4s,baz=67,slow=8.2,SNR=5.9						
KLR	**Kul'dur**	25.45	15	P	P	07 41 22.4	+1.7
	comp=E,3.6nm,0.6s,baz=188,slow=8.4,SNR=10						
SONM	**Songino Array**	25.96	336	P	P	07 41 26.5	+0.9
	comp=E,0.6nm,0.6s,baz=163,slow=9.4,SNR=4.2						
ZALV	**Zalesovo Beam**	40.00	326	P	P	07 43 27.5	+0.4
	comp=E,0.4nm,0.3s,baz=129,slow=9.7,SNR=2.2						
KURBB	**Kurchatov Arra**	41.98	319	P	P	07 43 43.2	-0.2
	comp=E,0.2nm,0.3s,baz=108,slow=9.8,SNR=1.8						
WRA	**Warramunga Arr**	46.20	164	P	P	07 44 14.6	-2.8
	comp=E,0.5nm,0.6s,baz=343,slow=8.5,SNR=3.0						
BVAR	**Borovoye Array**	47.53	320	P	P	07 44 29.1	+1.6
	comp=E,0.4nm,0.5s,baz=98,slow=8.9,SNR=2.2						
ASAR	**Alice Springs**	49.68	166	P	P	07 44 40.8	-3.5
	comp=E,0.2nm,0.6s,baz=342,slow=6.9,SNR=2.3						
FINES	**FINESS Array B**	71.15	330	P	P	07 47 10.3	+0.4
	comp=E,2.4nm,0.9s,baz=90,slow=2.8,SNR=3.9						

LDG ***21*** *07:46:06.0±0.3, 48°.03N×3°.46W, h6km, Md1.8/2, Ml2.1/4, Error ellipse: s-maj=4.7km s-min=2.4km az=40.0*
STR ***21*** *07:46:07.5±1.8, 48°.N±7°.×±1°.3, h3km±7km, MLv2.6/1*
ISC 21 07:46:05.9±2.5,**47°.99N**±0°.09×**3°.41W**±0°.08,**h4**km±13km,**n9**, σ0§**88**/16,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	0.36	15	*e*Pg	Pg	07 46 12.6	-0.3
ROSF				*e*Sg	Sg	07 46 17.4	-0.3
	12nm,0.2s						
SGMF	**Saint Gilles**	0.63	65	*e*Pg	Pg	07 46 18.4	+0.4
SGMF				*e*Sg	Sg	07 46 27.3	+1.0
	12nm,0.2s						
JSA	**Saint Aubin**	1.46	34	Pn	Pn	07 46 32.5	-0.5
GRR	**Gorron**	1.76	76	*e*Pg	Pb	07 46 39.2	+0.5
GRR				*e*Sg	Sb	07 47 01.0	-0.1
	2.9nm,0.2s						
FLN	**La Foliniere**	2.10	67	*e*Pg	Pb	07 46 45.5	+0.9
FLN				*e*Sg	Sg	07 47 12.6	-0.8
	1.9nm,0.2s						
LDF	**La Druitiere**	2.28	73	*e*Pn	Pn	07 46 42.7	-1.6
LDF	**La Druitiere**	2.28	73	*e*Pg	Pb	07 46 48.7	+1.1
LDF				*e*Sg	Sg	07 47 18.3	-0.8
	1.1nm,0.2s						
DYA	**Yadsworthy**	2.48	352	Pg	Pb	07 46 51.8	+0.8
DYA				Sn	Sn	07 47 18.5	+0.7
DYA				Sg	Sg	07 47 25.0	-0.4
MFF	**Saint Martin d**	2.62	121	*e*Sg	Sg	07 47 30.1	+0.1
	0.9nm,0.2s						

KRAR ***21*** *07:47:53.6±0.1, 53°.73N×90°.96E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC ***21*** *07:48:08.6±2.7, 53°.74N×88°.09E, h0km, mb1 3.6/3, mb1mx3.2/46, mbtmp3.6/3, ML3.3/3, Error ellipse: s-maj=24.0km s-min=14.5km az=51.0*
NNC ***21*** *07:48:11.8±1.5, 53°.64N×87°.74E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.4km s-min=10.2km az=171.0, Suspected Mining explosion.*
ISC 21 07:48:08.9±4.0,**53°.8N**±0°.1×**87°.9E**±0°.2,**h0**km,**n8**,σ1§**47**/13, **5C-4D**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	1.80	275	Pg	Pb	07 48 42.3	-0.5
	6.1nm,0.3s,baz=94,slow=12,SNR=117						
ZALV				Lg	Lg	07 49 10.2	
	21nm,0.3s,baz=104,slow=28,SNR=29						
KURK	**Kurchatov**	6.48	245	⇑Pn	Pn	07 49 46.7	+1.2
	2.7nm,0.5s						
KURK				⇑Sn	Sn	07 51 00.3	+0.3
	6.3nm,0.7s						
KURK				⇓Lg	Lg	07 51 33.4	
	16nm,0.9s						
KURBB	**Kurchatov Arra**	6.58	244	⇓Pn	Pn	07 49 47.5	+0.7
	4.8nm,0.3s						
KURBB				⇑Sn	Sn	07 51 02.4	0.0
	22nm,0.6s						
KURBB				⇓Lg	Lg	07 51 37.4	
	21nm,0.6s						
KURBB	**Kurchatov Arra**	6.58	244	Pn	Pn	07 49 47.5	+0.7
	0.4nm,0.3s,baz=62,slow=14,SNR=22						
KURBB				Sn	Sn	07 51 04.4	+2.0
	0.3nm,0.3s,baz=59,slow=29,SNR=6.5						
KURBB				Lg	Lg	07 51 39.4	
	0.3nm,0.3s,baz=61,slow=30,SNR=7.3						
MK31	**Makanchi Array**	7.90	209	⇓Pn	Pn	07 50 05.0	-0.1
	1.6nm,0.7s,baz=31,slow=13,SNR=10.0						
MK31				⇑Sn	Sn	07 51 34.7	-0.4
	1.1nm,0.5s,baz=30,slow=28,SNR=5.8						
MK31				⇑Lg	Lg	07 52 15.3	
	8.5nm,0.9s,baz=32,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	7.90	209	Pn	Pn	07 50 05.0	0.0
	0.4nm,0.3s,baz=30,slow=12,SNR=13						
MKAR				Sn	Sn	07 51 35.3	+0.1
	0.5nm,0.3s,baz=70,slow=33,SNR=6.4						
MKAR				Lg	Lg	07 52 16.1	
	0.4nm,0.3s,baz=27,slow=33,SNR=3.7						
BVAR	**Borovoye Array**	10.46	273	Pn	Pn	07 50 42.2	+2.2
	0.4nm,0.3s,baz=75,slow=14,SNR=5.5						
BVAR				Sn	Sn	07 52 34.7	-3.1
	1.2nm,0.3s,baz=72,slow=25,SNR=3.6						
I34MN	**SONGINO INFRAS**	13.18	110	*i*		09 08 20.0	
	baz=306,slow=326,SNR=0.4						

ISCJB ***21*** *07:50:11.8±0.2, 23°.93S±0°.02×66°.80W±0°.03, h214km±2km, mb3.6/5, Error ellipse: s-maj=4.8km s-min=3.6km az=155.0*
NEIC ***21*** *07:50:11.6±2.5, 23°.95S±0°.06×66°.69W±0°.08, h203km±6km, mb4.5/23*
SJA ***21*** *07:50:11.6±0.5, 23°.91S×66°.74W, h222km±3km, ML3.4, MW3.6*
IDC ***21*** *07:50:12.3±1.1, 23°.85S×66°.60W, h195km±9km, mb3.5/5, mb1 3.6/11, mb1mx3.5/24, mbtmp3.9/11, Error ellipse: s-maj=16.2km s-min=13.2km az=4.0*
ISC 21 07:50:12.0±0.6,**23°.94S**±0°.04×**66°.74W**±0°.04,**h204**km±6km, **n87**,σ1§**69**/108,**mb4.5**/14,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	1.37	125	*i*P	Pn	07 50 47.4	+2.3
SLA				IAML		07 50 47.9	
	comp=Z,155nm,0.7s						
SLA				*e*S	S	07 51 13.3	+2.7
HJA	**Humahuaca**	1.42	60	*i*P	Pn	07 50 47.8	+2.0
HJA				IAML		07 50 48.9	
	comp=Z,194nm,0.5s						
AZAP	**Zapla**	1.56	101	*i*P	Pn	07 50 48.6	+1.8
AZAP				IAML		07 50 48.8	
	comp=Z,333nm,0.5s						
AZAP				*e*S	S	07 51 15.9	+2.5
YJA	**Yavi**	2.08	33	*i*P	Pn	07 50 53.9	+1.8
YJA				IAML		07 50 55.4	
	comp=Z,52nm,0.7s						
YJA				*e*S	S	07 51 25.1	+2.3
LVC	**Limon Verde**	2.39	303	P	Pn	07 50 56.9	+1.5
	comp=Z,58nm,0.3s,baz=139,slow=6.4,SNR=461						
LVC				S	S	07 51 29.5	+1.0
	comp=Z,43nm,0.3s,baz=253,slow=20,SNR=23						
LVC	**Limon Verde**	2.39	303	⇑*i*P	Pn	07 50 56.9	+1.5
LVC				*e*S	S	07 51 29.6	+1.0
LVC				IAML		07 51 33.9	
	comp=Z,222nm,0.9s						
LVC	**Limon Verde**	2.39	303		Pn	07 50 56.9	+1.5
LVC					S	07 51 28.6	+0.1
PB15	**IPOC Station P**	2.61	286	*i*P	Pn	07 50 59.0	+1.4
PB15				*e*S	S	07 51 33.3	+0.9
GO02	**Mina Guanaco**	2.87	244		Pn	07 51 02.1	+1.5
GO02					S	07 51 38.9	+0.9
AHML	**Horco Molle**	3.11	156	*i*P	Pn	07 51 04.5	+1.4
AHML				IAML		07 51 45.2	
	comp=Z,19nm,0.6s						
PB09	**IPOC Station P**	3.14	312	*i*P	Pn	07 51 05.2	+1.6
PB14	**IPOC Station P**	3.41	258	*i*P	Pn	07 51 08.1	+1.0
PB04	**IPOC Station P**	3.52	296	*i*P	Pn	07 51 09.0	+0.7
PB04	**IPOC Station P**	3.52	296		Pn	07 51 08.9	+0.7
PB04					S	07 51 50.5	-1.2
PB10	**IPOC Station P**	3.52	276	⇑*i*P	Pn	07 51 09.0	+1.0
PB10	**IPOC Station P**	3.52	276		Pn	07 51 09.0	+1.0
PB10					S	07 51 50.4	-0.9
PB01	**IPOC Station P**	3.84	318		Pn	07 51 12.2	+0.1
PB01					S	07 51 57.8	-0.9
CYA	**Choya**	4.57	170	*i*P	Pn	07 51 22.2	+1.2
CYA				IAML		07 52 18.6	
	comp=Z,5.9nm,0.3s						
GO03	**Copiap**	4.82	220	*i*P	Pn	07 51 24.0	-0.1
GO03	**Copiap**	4.82	220		Pn	07 51 23.8	-0.4
GO03					S	07 52 19.0	-1.8
GO01	**Chusmiza**	4.82	331		Pn	07 51 25.1	+0.3
GO01					S	07 52 20.9	-0.6
PB11	**IPOC Station P**	4.96	326		Pn	07 51 25.4	-0.7
PB11					S	07 52 21.2	-3.0
MNMC	**Minye Minye**	5.47	330		Pn	07 51 32.5	-0.3
MNMC					S	07 52 34.0	-2.3
ACLC	**CERRO LA CRUZ**	5.47	182	*i*P	Pn	07 51 33.8	+1.1
ACDV	**Cuesta del Vie**	6.56	198	*i*P	Pn	07 51 48.3	+1.6
AROD	**Rodeo**	6.67	201	*i*P	Pn	07 51 49.5	+1.3
ACCO	**Cerro Coronel**	6.94	197	*i*P	Pn	07 51 53.0	+1.2
AMOG	**MOGNA**	7.15	192	*i*P	Pn	07 51 54.4	+0.3
GO04	**Tololo Observa**	7.19	209	*i*P	Pn	07 51 53.7	-1.1
GO04	**Tololo Observa**	7.19	209	Pn	Pn	07 51 53.8	-1.1
GO04					S	07 53 13.2	-3.4
RTLL	**Cerro Villicun**	7.53	191	*i*P	Pn	07 51 59.6	+0.5
RTLL				IAML		07 53 24.4	
	comp=Z,11nm,0.3s						
TCA	**Tanti**	7.61	166	*i*P	Pn	07 52 00.7	+0.4
LPAZ	**La Paz**	7.72	350	P	Pn	07 52 03.0	+0.8
	comp=Z,1.1nm,0.3s,baz=152,slow=4.8,SNR=41						
LPAZ				S	S	07 53 27.3	-2.6
	comp=Z,0.2nm,0.3s,baz=150,slow=25,SNR=4.1						
LPAZ	**La Paz**	7.72	350		Pn	07 52 02.6	+0.4
LPAZ					S	07 53 28.8	-1.1
CFA	**Coronel Fontan**	7.75	190	P	Pn	07 51 58.0	-4.1
	comp=Z,0.8nm,0.3s,baz=218,slow=20,SNR=22						
CFA				S	S	07 53 24.0	-5.7
	comp=Z,5.8nm,0.3s,baz=142,slow=18,SNR=18						
CFA	**Coronel Fontan**	7.75	190	*i*P	Pn	07 51 58.2	-3.8
MRA	**San Martin**	8.50	174	*i*P	Pn	07 52 11.5	-0.2
MRA				IAML		07 54 02.7	
	comp=Z,6.4nm,0.4s						
CPUP	**Villa Florida**	8.85	108	P	Pn	07 52 15.7	-0.6
	comp=Z,0.5nm,0.3s,baz=287,slow=11,SNR=23						
CPUP	**Villa Florida**	8.85	108		Pn	07 52 14.9	-1.4
CPUP					S	07 53 54.8	-1.0
SIV	**San Ignacio**	9.53	35	P	Pn	07 52 24.0	-1.2
	comp=Z,0.4nm,0.3s,baz=225,slow=13,SNR=17						
SIV				S	S	07 54 05.9	-6.3
	comp=Z,0.2nm,0.3s,baz=171,slow=6.2,SNR=3.5						
TRQA	**Tornquist**	14.65	165		Pn	07 53 29.1	-0.6
GO06	**Curarrehue**	16.11	193		P	07 53 46.0	-0.9
PLCA	**Paso Flores**	17.05	190	P	P	07 53 57.5	+0.4
	comp=Z,0.1nm,0.3s,baz=32,slow=9.7,SNR=4.5						
PLCA	**Paso Flores**	17.05	190	P	P	07 53 56.5	-0.7
PLCA				IAmb	IAmb	07 54 11.5	
	comp=Z,27nm,1.9s						
SPB	**Sao Paulo**	17.68	93	P	P	07 54 03.8	-0.3
SPB				IAmb	IAmb	07 54 22.0	
	comp=Z,27nm,1.3s						
BDFB	**Brasilia**	19.44	68	P	P	07 54 23.3	-0.1
	comp=Z,0.9nm,0.3s,baz=244,slow=12,SNR=10						
BDFB	**Brasilia**	19.44	68	P	P	07 54 24.2	+0.8
BDFB				IAmb	IAmb	07 54 25.2	
	comp=Z,9.1nm,0.8s						
OTAV	**Otavalo**	26.58	333	P	P	07 55 30.0	-2.0
TEIG	**Tepich**	48.65	333	P	P	07 58 35.9	+0.4
061Z	**Ochoppi**	51.37	344	P	P	07 58 57.6	+1.8
VNA3	**Neumayer Olymp**	57.14	161	P	P	07 59 39.0	+2.1
VNA1	**Neumayer--Stat**	57.33	160	P	P	07 59 40.9	+2.6
VNA2	**Neumayer--Watz**	57.70	160	P	P	07 59 43.0	+2.1
	baz=291,slow=8.5						
SNAA	**Sanae**	59.33	161	P	P	07 59 54.1	+2.0
SNAA	**Sanae**	59.33	161	P	P	07 59 51.0	-1.2
Z50A	**Ashland**	59.74	341	P	P	07 59 56.0	+0.6
Z50A				IAmb	IAmb	08 01 46.9	
	comp=Z,17nm,1.2s						
LRAL	**Lakeview Retre**	59.86	340	P	P	07 59 56.4	+0.3
WVT	**Waverly**	62.98	341	P	P	08 00 17.1	+0.2
WVT				IAmb	IAmb	08 01 08.0	
	comp=Z,13nm,1.4s						
MIAR	**Mount Ida**	63.50	335	P	P	08 00 21.6	+1.2
TX31	**Lajitas Ar. Si**	63.77	324	P	P	08 00 23.3	+0.9
TX31				IAmb	IAmb	08 01 58.1	
	comp=Z,18nm,1.9s						
TX32	**Lajitas Array**	63.77	324	P	P	08 00 23.2	+0.8
TX32				IAmb	IAmb	08 01 58.1	
	comp=Z,20nm,1.9s						
TXAR	**Lajitas Array**	63.77	324	P	P	08 00 23.9	+1.5
	comp=Z,0.3nm,0.6s,baz=148,slow=8.6,SNR=3.2						
TXAR	**Lajitas Array**	63.77	324	P	P	08 00 23.0	+0.6
LCAR	**Lake Charles**	63.99	338	P	P	08 00 24.3	+0.7
LCAR				IAmb	IAmb	08 02 40.0	
	comp=Z,13nm,1.6s						
FCAR	**Ozark Folk Cen**	64.16	337	P	P	08 00 24.9	+0.1
FCAR				IAmb	IAmb	08 01 46.6	
	comp=Z,24nm,1.9s						
CCM	**Cathedral Cave**	65.82	339	P	P	08 00 36.0	+0.7
CCM				IAmb	IAmb	08 02 16.6	
	comp=Z,18nm,1.6s						
QSPA	**South Pole Qui**	66.27	180	P	P	08 00 39.7	+1.6
QSPA				IAmb	IAmb	08 00 43.1	
	comp=Z,17nm,2.0s						
F64A	**Sherman**	69.48	359	P	P	08 00 59.5	+1.4
SMCO	**Snowmass**	73.19	328	P	P	08 01 20.0	-1.0
TOA0	**Torodi Ar. Sit**	76.32	69	P	P	08 01 37.2	-1.7
TOA0				IAmb	IAmb	08 01 57.8	
	comp=Z,23nm,2.0s						
TORD	**Torodi Ar. Bea**	76.32	69	P	P	08 01 39.0	+0.1
	comp=Z,0.7nm,0.5s,baz=256,slow=5.5,SNR=8.8						
TORD	**Torodi Ar. Bea**	76.32	69	P	P	08 01 36.2	-2.8
PDAR	**Pinedale Array**	77.21	329	P	P	08 01 44.8	+1.2
	comp=Z,0.5nm,0.3s,baz=106,slow=6.7,SNR=4.4						
MCMT	**McKenzie Canyo**	80.33	329	P	P	08 02 01.9	+1.3
MAW	**Mawson**	81.43	163	P	P	08 02 07.7	+2.0
	comp=Z,1.2nm,0.6s,baz=259,slow=11,SNR=4.7						
PLID	**Pearl Lake**	82.05	327	P	P	08 02 11.6	+2.0
YKA	**Yellowknife Ar**	94.15	340	P	P	08 03 08.1	+1.2
	comp=Z,0.5nm,0.6s,baz=138,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	128.61	204	PKP	PKiKP	08 08 56.2	+0.1
	comp=Z,0.8nm,0.7s,baz=144,slow=2.4,SNR=10.0						
ASAR	**Alice Springs**	128.61	204		PKiKP	08 08 56.0	-0.2
WRA	**Warramunga Arr**	131.79	207	PKP	PKiKP	08 09 02.7	+0.1
	comp=Z,0.5nm,0.5s,baz=161,slow=1.8,SNR=13						
ZALV	**Zalesovo Beam**	143.22	28	PKP	PKPdf	08 09 20.4	-1.0
	comp=Z,1.3nm,0.7s,baz=344,slow=4.9,SNR=5.1						
KSH	**Kashi**	144.97	55	PKP	PKPbc	08 09 20.4	-4.5
KSH				PP	PP	08 12 44.3	-1.2
KSH				PKS	PKSdf	08 12 47.8	-13
KSH				AMB	AMB		
	comp=Z,360nm,5.6s						
KSH				smax	smax		
	comp=N,170nm,0.2s						
KSH				smax	smax		
	comp=E,170nm,0.2s						
MKAR	**Makanchi Array**	146.32	40	PKPbc	PKPbc	08 09 29.0	+0.4
	comp=E,1.8nm,0.6s,baz=305,slow=3.1,SNR=16						
MKAR	**Makanchi Array**	146.32	40		PKPbc	08 09 28.3	-0.3
SONM	**Songino Array**	155.53	11	PKPab	PKPab	08 10 09.3	+1.3
	comp=E,0.2nm,0.4s,baz=306,slow=5.3,SNR=3.7						
SONM	**Songino Array**	155.53	11		PKPab	08 10 07.1	-0.9
CD2	**Chengdu**	169.07	48	PKP	PKPdf	08 09 52.5	-2.6

ISCJB ***21*** *08:04:48.9±1.4, 14°.5N±0°.1×93°.32W±0°.08, h36km, mb3.6/4, MS2.8/2, Error ellipse: s-maj=20.9km s-min=7.6km az=23.0*
IDC ***21*** *08:04:51.2±4.8, 14°.56N×93°.27W, h40km±34km, mb3.4/4, mb1 3.7/8, mb1mx3.5/46, mbtmp3.6/8, ML3.4/4, MS2.8/3, Ms1 2.8/3, ms1mx2.5/24, Error ellipse: s-maj=52.4km s-min=9.1km az=26.0*
ISC 21 08:04:50.1±1.5,**14°.4N**±0°.2×**93°.35W**±0°.09,**h36**km,**n11**, σ0§**96**/11,**mb3.7**/4,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	2.85	78	P	Pn	08 05 33.5	+0.2
	2.5nm,0.3s,baz=316,slow=11,SNR=23						
APG				S	Sn	08 06 05.4	-1.0
	6.6nm,0.3s,baz=270,slow=14,SNR=8.0						
APG				LR	LR	08 06 28.6	
	comp=Z,61nm,18.4s,baz=238,slow=36						
CMIG	**Matias Romero**	3.02	331	P	Pn	08 05 34.4	-1.0
	3.6nm,0.3s,baz=160,slow=12,SNR=65						
CMIG				S	Sn	08 06 10.2	-0.2
	3.9nm,0.3s,baz=176,slow=20,SNR=6.6						
TEIG	**Tepich**	7.52	39	P	Pn	08 06 37.5	+0.2
	2.1nm,0.3s,baz=308,slow=0.4,SNR=11						
TXAR	**Lajitas Array**	17.63	329	P	P	08 08 55.1	+1.4
	0.0nm,0.3s,baz=147,slow=12,SNR=7.4						
TKL	**Tuckaleechee C**	22.81	20	LR	LR	08 19 03.9	
	comp=Z,32nm,20.9s,baz=114,slow=38						
SDV	**Santo Domingo**	22.91	101	P	P	08 09 51.0	-0.3
	2.4nm,0.8s,baz=3.7,slow=11,SNR=4.5						
PFO	**Pinyon Flats O**	28.34	316	LR	LR	08 22 25.8	
	comp=Z,30nm,20.6s,baz=162,slow=37						
NVAR	**Mina Array Bea**	32.52	322	P	P	08 11 19.1	+1.3
	0.4nm,0.8s,baz=140,slow=8.7,SNR=3.9						
INK	**Inuvik**	59.65	344	P	P	08 14 49.6	-0.7
	0.6nm,0.6s,baz=112,slow=4.2						
ILAR	**Eielson Array**	61.92	337	P	P	08 15 05.8	-0.1
	0.6nm,1.1s,baz=142,slow=4.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	145.14	339	PKPbc	PKPdf	08 24 23.8	-1.0
	1.1nm,0.3s,baz=354,slow=3.6,SNR=4.8						

IDC ***21*** *08:08:55.1±3.5, 35°.94N×71°.20E, h62km±27km, mb3.6/10, mb1 3.7/16, mb1mx3.5/58, mbtmp3.9/16, ML3.7/6, MS2.3/1, Ms1 2.3/1, ms1mx2.0/35, Error ellipse: s-maj=27.7km s-min=18.8km az=171.0*
ISCJB ***21*** *08:08:59.2±0.5, 36°.36N±0°.04×71°.68E±0°.08, h100km, mb3.7/9, Error ellipse: s-maj=10.2km s-min=4.8km az=154.2*
NNC ***21*** *08:09:05.4±6.0, 36°.94N×70°.28E, h0km, mb4.5, mpv4.5, Error ellipse: s-maj=88.1km s

AKTO Aktyubinsk 17.11 329 P Pn 08 12 52.8 -0.2
1.0nm,0.3s,baz=132,slow=16,SNR=14
AKTO S Sn 08 15 49.0 -14
0.1nm,0.3s,baz=171,slow=21,SNR=1.2
ZALV Zalesovo Beam 19.86 24 P Pn 08 13 24.7 -0.9
3.0nm,0.3s,baz=207,slow=12,SNR=8.1
AKASG Malin Array Be 33.36 309 P P 08 15 28.7 +0.1
0.3nm,0.3s,baz=80,slow=7.1,SNR=4.1
FINES FINESS Array B 37.83 326 P P 08 16 07.8 +1.2
1.8nm,0.7s,baz=136,slow=9.3,SNR=7.0
ARCES ARCESS Array B 41.43 338 P P 08 16 37.8 +1.3
2.1nm,0.7s,baz=107,slow=6.6,SNR=6.4
NB2 NORSAR Subarra 44.74 323 P P 08 17 04.2 +0.9
comp=Z,0.7nm,0.4s,baz=97,slow=7.9
NOA NORSAR Array B 44.74 323 P P 08 17 03.8 +0.5
comp=Z,0.8nm,0.4s,baz=97,slow=7.7,SNR=6.7
TORD Torodi Ar. Bea 66.14 269 P P 08 19 34.4 -2.8
comp=Z,0.3nm,0.5s,baz=40,slow=6.5,SNR=2.7
INK Inuvik 73.97 9 P P 08 20 25.4 +1.2
comp=Z,0.4nm,0.4s,baz=330,slow=2.6,SNR=3.7
YKA Yellowknife Ar 81.36 3 P P 08 21 06.0 +0.7
comp=Z,0.8nm,0.8s,baz=282,slow=23,SNR=3.0
WRA Warramunga Arr 81.56 122 P P 08 21 06.5 -0.5
comp=Z,0.1nm,0.5s,baz=318,slow=5.6,SNR=2.9
SCHQ Schefferville 82.39 337 P P 08 21 12.2 +1.3
comp=Z,4.0nm,0.5s,baz=269,slow=18,SNR=2.5

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*SJA **21** 08:28:50.4±0.6, 31°.39S×72°.52W, h57km±7km, ML4.1, MW4.3*
*ISCJB **21** 08:28:51.4±1.4, 31°.46S±0°.02×72°.27W±0°.06, h15km±10km, mb4.1/4, MS3.2/1, Error ellipse: s-maj=8.9km s-min=3.9km az=174.4*
*IDC **21** 08:28:51.9±1.2, 31°.44S×71°.85W, h0km, mb4.1/3, mb1 3.9/8, mb1mx3.8/24, mbtmp3.7/8, ML3.5/5, MS2.9/4, Ms1 2.9/4, ms1mx2.7/26, Error ellipse: s-maj=29.3km s-min=19.2km az=14.0*
*NEIC **21** 08:28:54.3±2.4, 31°.42S±0°.03×71°.99W±0°.09, h21km±5km*
*GUC **21** 08:28:54.8±0.7, 31°.49S×71°.89W, h27km±3km, ML3.9*
ISC 21 08:28:51.4±2.1, 31°.44S±0°.03×72°.01W±0°.06, h1km±12km, n64, σ1°63/84, mb4.3/8, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.89**	**75**	⇓*i*P	**Pb**	**08 29 09.9**	**+0.1**
CO02				*i* S	**Sb**	08 29 20.9	-1.4
GO04	**Tololo Observa**	**1.64**	**40**	⇑*i*P	**Pn**	**08 29 22.0**	**+0.4**
GO04				*i* S	**Sg**	08 29 43.9	-0.2
GO04	**Tololo Observa**	**1.64**	**40**	*i* P	**Pb**	**08 29 22.7**	**+0.1**
GO04				*e*S	**Sg**	08 29 46.2	+2.2
GO04	**Tololo Observa**	**1.64**	**40**	Pn	**Pb**	**08 29 22.4**	**-0.2**
GO04				Sn	**Sn**	08 29 40.7	-2.8
LSCH	**La Serena**	**1.67**	**23**	*e*P	**Pn**	**08 29 22.8**	**+1.0**
LSCH				*i* S	**Sg**	08 29 45.1	+0.2
ROCH	**El Roble**	**1.74**	**151**	⇑*i*P	**Pn**	**08 29 23.6**	**+0.6**
ROCH				*i* S	**Sn**	08 29 45.2	-0.8
ROC1	**El Roble**	**1.74**	**151**	*i* P	**Pn**	**08 29 24.0**	**+0.9**
ROC1				*e*S	**Sg**	08 29 49.3	+1.9
ROC1	**El Roble**	**1.74**	**151**		**Pn**	**08 29 23.7**	**+0.6**
ROC1				Sn	**Sn**	08 29 43.8	-2.3
PEL	**Peldehue**	**2.03**	**147**	⇑*i*P	**Pn**	**08 29 27.9**	**+1.0**
PEL				*i* S	**Sn**	08 29 52.7	-0.2
PEL				IAML		08 30 00.0	
	comp=N,1μm,0.8s						
PEL	**Peldehue**	**2.03**	**147**	*i* P	**Pn**	**08 29 28.1**	**+1.2**
PEL				*e*S	**Sb**	08 29 56.8	+1.8
PEL	**Peldehue**	**2.03**	**147**		**Pn**	**08 29 28.1**	**+1.2**
PEL				Sn	**Sn**	08 29 51.8	-1.1
RCDM	**Rinconada Maip**	**2.28**	**154**	*e*P	**Pn**	**08 29 32.1**	**+1.8**
RCDM				*i* S	**Sn**	08 29 59.3	+0.3
CLCH	**Cerro Calan**	**2.31**	**148**	⇑*i*P	**Pn**	**08 29 31.9**	**+1.2**
CLCH				*i* S	**Sn**	08 29 60.0	+0.1
CLCH				IAML		08 30 06.7	
	comp=E,2μm,0.8s						
FCH	**Farellones**	**2.37**	**143**	⇑*i*P	**Pn**	**08 29 33.0**	**+1.2**
FCH				*i* S	**Sn**	08 30 02.9	+1.1
FCH				IAML		08 30 11.6	
	comp=N,450nm,0.6s						
AROD	**Rodeo**	**2.52**	**60**	*i* P	**Pb**	**08 29 37.2**	**-0.6**
AROD				*e*S	**Sg**	08 30 11.9	-0.7
ACCO	**Cerro Coronel**	**2.66**	**72**	*i* P	**Pb**	**08 29 39.7**	**-0.4**
ACDV	**Cuesta del Vie**	**2.79**	**64**	⇓*i*P	**Pb**	**08 29 41.6**	**-0.6**
LMEL	**Las Melosas**	**2.84**	**148**	*e*P	**Pn**	**08 29 39.3**	**+1.2**
LMEL				*i* S	**Sn**	08 30 13.3	+0.2
LMEL				IAML		08 30 25.7	
	comp=E,457nm,0.7s						
ZON	**Zonda**	**2.84**	**93**	⇑*i*P	**Pb**	**08 29 42.0**	**-1.1**
ZON				*e*S	**Sg**	08 30 19.9	-2.9
ZON				IAML		08 30 33.0	
	comp=Z,220nm,0.6s						
RTCV	**Cerro Valdivia**	**2.98**	**99**	*i* P	**Pb**	**08 29 44.1**	**-1.4**
AMOG	**MOGNA**	**3.05**	**81**	*i* P	**Pb**	**08 29 44.8**	**-1.8**
CFA	**Coronel Fontan**	**3.22**	**94**	Pn	**Pb**	**08 29 46.5**	**-2.9**
	comp=Z,8.9nm,0.3s,baz=281,slow=10,SNR=97						
CFA				Pg	Pg	08 29 49.3	-3.9
	comp=Z,18nm,0.3s,baz=271,slow=11,SNR=55						
CFA				Lg	Lg	08 30 29.9	
	comp=Z,32nm,0.3s,baz=23,slow=20,SNR=6.7						
CFA	**Coronel Fontan**	**3.22**	**94**	*i* P	**Pb**	**08 29 47.4**	**-2.1**
GO05	**Huala**	**3.56**	**179**	*i* P	**Pn**	**08 29 47.6**	**-0.3**
GO05	**Huala**	**3.56**	**179**	Pn	**Pn**	**08 29 47.4**	**-0.4**
GO05				Sn	**Sn**	08 30 26.8	-3.8
GO03	**Copiap**	**4.14**	**22**	*i* P	**Pn**	**08 29 55.5**	**-0.3**
GO03	**Copiap**	**4.14**	**22**	Pn	**Pn**	**08 29 56.3**	**+0.5**
GO03				Sn	**Sn**	08 30 43.2	-1.7
ACAN	**Cantantal**	**4.18**	**103**	*i* P	**Pn**	**08 30 00.1**	**+3.7**
ACLC	**CERRO LA CRUZ**	**4.80**	**67**	*i* P	**Pn**	**08 30 08.3**	**+3.2**
APLL	**PUNTA DE LOS L**	**4.82**	**79**	*i* P	**Pn**	**08 30 08.2**	**+3.0**
APLL				IAML		08 31 19.6	
	comp=Z,72nm,0.6s						
MRA	**San Martin**	**5.43**	**102**	*i* P	**Pn**	**08 30 16.0**	**+2.3**
MRA				IAML		08 31 49.0	
	comp=Z,106nm,0.6s						
CYA	**Choya**	**6.16**	**63**	*i* P	**Pn**	**08 30 25.9**	**+2.3**
CYA				IAML		08 30 30.5	
	comp=Z,97nm,0.6s						
TCA	**Tanti**	**6.34**	**91**	*i* P	**Pn**	**08 30 29.4**	**+3.3**
GO02	**Mina Guanaco**	**6.61**	**19**	Pn	**Pn**	**08 30 30.4**	**+0.3**
GO02				Sn	**Sn**	08 31 42.4	-3.9
AHML	**Horco Molle**	**7.46**	**53**	*i* P	**Pn**	**08 30 42.9**	**+1.4**
AHML				IAML		08 32 18.6	
	comp=Z,13nm,0.6s						
GO06	**Curarrehue**	**8.13**	**177**	Pn	**Pn**	**08 30 51.7**	**+0.9**
LVC	**Limon Verde**	**9.22**	**18**	Pn	**Pn**	**08 31 06.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=297,slow=21,SNR=1.8						
LVC				Sn	Sn	08 33 01.8	+11
	comp=Z,0.4nm,0.3s,baz=301,slow=9.6,SNR=3.6						
LVC				LR	LR	08 34 44.3	
	comp=Z,86nm,18.1s,baz=214,slow=38						
LVC	**Limon Verde**	**9.22**	**18**		**Pn**	**08 31 03.8**	**-2.2**
PB04	**IPOC Station P**	**9.22**	**11**	Pn	**Pn**	**08 31 06.8**	**+0.9**
PLCA	**Paso Flores**	**9.34**	**173**	Pn	**Pn**	**08 31 08.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=357,slow=11,SNR=5.9						
PLCA	**Paso Flores**	**9.34**	**173**	*i* P	**Pn**	**08 31 05.6**	**-1.8**
PLCA	**Paso Flores**	**9.34**	**173**		**Pn**	**08 31 07.2**	**-0.2**
TRQA	**Tornquist**	**10.56**	**131**	*i* P	**Pn**	**08 31 25.5**	**+1.6**
TRQA	**Tornquist**	**10.56**	**131**		**Pn**	**08 31 25.2**	**+1.3**
TRQA				Sn	**Sn**	08 33 22.1	-0.7
CPUP	**Villa Florida**	**13.83**	**72**	Pn	**Pn**	**08 32 08.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=241,slow=11,SNR=3.4						
CPUP				LR	LR	08 37 31.3	
	comp=Z,14nm,18.9s,baz=261,slow=38						
LPAZ	**La Paz**	**15.50**	**14**	Pn	**Pn**	**08 32 31.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=188,slow=9.7,SNR=5.4						
LPAZ	**La Paz**	**15.50**	**14**		**Pn**	**08 32 32.5**	**+0.6**
SIV	**San Ignacio**	**18.33**	**35**	P	**Pn**	**08 33 06.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=201,slow=8.2,SNR=9.6						
SIV				LR	LR	08 41 41.4	
	comp=Z,56nm,18.1s,baz=185,slow=42						
SAML	**Samuel**	**23.84**	**22**	P	**P**	**08 34 04.7**	**-1.6**
SAML				IAmb	IAmb	08 34 08.3	
	comp=Z,2.7nm,0.7s						
BDFB	**Brasilia**	**26.95**	**60**	P	**P**	**08 34 37.6**	**+2.8**
	comp=Z,2.5nm,0.5s,baz=278,slow=3.9,SNR=3.3						
MDP	**Montagnes des**	**40.77**	**30**	LR	LR	08 56 11.4	
	comp=Z,33nm,18.3s,baz=175,slow=40						
SNAA	**Sanae**	**53.94**	**159**	P	**P**	**08 38 17.1**	**+0.7**
SNAA				IAmb	IAmb	08 38 30.8	
	comp=Z,6.4nm,1.4s						
QSPA	**South Pole Qui**	**58.78**	**180**	P	**P**	**08 38 52.5**	**+1.3**
QSPA				IAmb	IAmb	08 38 54.6	
	comp=Z,1.8nm,1.1s						
JSC	**Jenkinsville**	**65.96**	**352**	P	**P**	**08 39 40.2**	**+1.1**
JSC				IAmb	IAmb	08 39 44.6	
	comp=Z,6.2nm,1.1s						
TX31	**Lajitas Ar. Si**	**67.53**	**330**	P	**P**	**08 39 49.3**	**-0.2**
TXAR	**Lajitas Array**	**67.53**	**330**	P	**P**	**08 39 50.7**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=149,slow=9.5,SNR=2.9						
TXAR	**Lajitas Array**	**67.53**	**330**	P	**P**	**08 39 50.3**	**+0.8**
DBIC	**Dimbokro**	**74.35**	**72**	P	**P**	**08 40 29.8**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=246,slow=6.3,SNR=3.2						
TOA0	**Torodi Ar. Sit**	**83.32**	**70**	P	**P**	**08 41 20.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P	**P**	**08 41 20.0**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=264,slow=4.5,SNR=19						
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P	**P**	**08 41 16.5**	**-4.0**
BVAR	**Borovoye Array**	**145.36**	**40**	PKPbc	**PKPbc**	**08 48 31.1**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=316,slow=3.6,SNR=8.7						
KURBB	**Kurchatov Arra**	**150.95**	**40**	PKPbc	**PKPbc**	**08 48 45.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=301,slow=2.9,SNR=11						
AAK	**Ala-Archa**	**151.20**	**58**	PKPbc	**PKPbc**	**08 48 46.8**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=252,slow=6.0,SNR=4.6						

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*GCG **21** 08:33:13.2±0.4, 13°.06N×91°.16W, h4km±6km, MD3.9*
*SNET **21** 08:33:19.9±1.1, 13°.54N×90°.97W, h15km±5km, ML3.5*
ISC 21 08:33:17.7±2.7, 13°.2N±0°.1×91°.2W±0°.1, h29km, n16, σ1°10/18, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.16**	**37**	*e*P	**Pn**	**08 33 37.5**	**-0.7**
FUG	**Fuego 3**	**1.25**	**14**	*e*P	**Pn**	**08 33 39.4**	**+0.1**
STG3	**Santiaguito 3,**	**1.52**	**345**	*e*P	**Pn**	**08 33 43.7**	**+0.5**
NBG	**Las Nubes**	**1.56**	**30**	*e*P	**Pb**	**08 33 44.5**	**-1.6**
NBG				*e*S	**Sb**	**08 34 08.7**	**+3.2**
SBLS	**San Blas**	**1.61**	**68**	*e*P	**Pn**	**08 33 43.6**	**-0.7**
RTR	**El Retiro**	**1.61**	**66**	*e*P	**Pn**	**08 33 43.9**	**-0.5**
SNJE	**San Jose**	**1.63**	**67**	*e*P	**Pn**	**08 33 44.1**	**-0.6**
SNET	**Serv Nac Est T**	**1.92**	**76**	*e*P	**Pn**	**08 33 48.6**	**0.0**
UEES	**Universidad Ev**	**1.92**	**75**	*e*P	**Pn**	**08 33 48.8**	**+0.1**
UEES				*e*S	**Sn**	**08 34 11.2**	**-0.7**
UEES				IAML		08 34 15.8	
	comp=Z,904nm,0.2s						
MTO3	**Montecristo**	**2.09**	**56**	⇓*i*P	**Pn**	**08 33 51.0**	**0.0**
PAVA	**Las Pavas**	**2.21**	**77**	*e*P	**Pn**	**08 33 53.5**	**+0.9**
PAVA				IAML		08 34 23.2	
	comp=Z,213nm,0.3s						
COEG	**Centro de Oper**	**2.25**	**80**	⇓*e*P	**Pn**	**08 33 54.0**	**+1.0**
COEG				IAML		08 34 25.1	
	comp=Z,593nm,0.4s						
ALJI	**Alcalda de J**	**2.52**	**88**	*e*P	**Pn**	**08 33 57.4**	**+0.7**
COEB	**Comit de Eme**	**2.57**	**84**	*e*P	**Pn**	**08 33 57.7**	**+0.2**
COEB				IAML		08 34 31.5	
	comp=Z,170nm,0.4s						
LCND	**La Caada**	**3.18**	**88**	*e*P	**Pn**	**08 34 06.3**	**+0.5**
CNCH	**Conchagua**	**3.23**	**89**	*e*P	**Pn**	**08 34 07.2**	**+0.5**

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*IDC **21** 08:33:13.4±1.5, 34°.58N×23°.16E, h0km, mb3.9/5, mb1 3.8/8, mb1mx3.6/49, mbtmp3.7/8, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/45, Error ellipse: s-maj=39.4km s-min=25.5km az=137.0*
*ATH **21** 08:33:20.7, 35°.22N×22°.98E, h22km±2km, ML3.3/5, Error ellipse: s-maj=5.6km s-min=1.8km az=52.0*
*ISCJB **21** 08:33:21.7±1.3, 35°.22N±0°.05×22°.94E±0°.08, h15km±9km, mb3.8/6, Error ellipse: s-maj=12.9km s-min=5.1km az=141.1*
*THE **21** 08:33:22.2, 35°.28N×22°.99E, h0km±2km, ML3.1/4, Error ellipse: s-maj=3.4km s-min=0.9km az=234.0*
ISC 21 08:33:21.9±1.7, 35°.27N±0°.06×23°.02E±0°.06, h26km±13km, n46, σ1°67/52, mb3.9/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.54**	**94**	P	**Pb**	**08 33 31.7**	**-1.1**
ANKY	**Antikythira Is**	**0.63**	**21**	P	**Pb**	**08 33 34.3**	**-0.1**
ANKY				S	**Sn**	**08 33 45.0**	**+0.6**
	3μm,0.5s						
ANKY	**Antikythira Is**	**0.63**	**21**	P	**Pb**	**08 33 34.2**	**-0.2**
ANKY				S	**Sn**	**08 33 44.8**	**+0.4**
ANKY				AML	AML	08 33 47.8	
	comp=N,4189μm,0.3s						
ANKY				AML	AML	08 33 53.8	
	comp=E,6170μm,0.5s						
RODP	**Rodopos**	**0.66**	**64**	P	**Pn**	**08 33 35.3**	**-0.3**
IMMV	**Iera Moni Meta**	**0.80**	**76**	P	**Pn**	**08 33 37.9**	**+0.4**
IMMV	**Iera Moni Meta**	**0.80**	**76**	P	**Pn**	**08 33 37.6**	**+0.1**
IMMV				AML	AML	08 33 59.6	
	comp=N,3326μm,0.5s						
IMMV				AML	AML	08 34 01.2	
	comp=E,2009μm,0.6s						
CHAN	**Chania**	**0.87**	**73**	P	**Pn**	**08 33 39.5**	**+1.1**
CHAN				S	**Sn**	**08 33 53.7**	**+3.5**
VAM	**Vamos**	**0.97**	**82**	P	**Pn**	**08 33 40.9**	**+1.1**
VAM	**Vamos**	**0.97**	**82**	P	**Pn**	**08 33 40.9**	**+1.1**
VAM				AML	AML	08 34 06.9	
	comp=E,2885μm,0.8s						
VAM				AML	AML	08 34 11.4	
	comp=N,3128μm,0.7s						
GVD	**Gavdhos**	**0.97**	**116**	P	**Pn**	**08 33 41.0**	**+1.1**
GVD				S	**Sn**	**08 33 55.5**	**+2.7**
GVD	**Gavdhos**	**0.97**	**116**	P	**Pn**	**08 33 39.2**	**-0.7**
GVDS	**Gavdos**	**0.97**	**116**	P	**Pn**	**08 33 40.6**	**+0.8**
GVDS				S	**Sn**	**08 33 56.9**	**+4.1**
	comp=N,752nm,0.7s						
KTHA	**Kythira Island**	**0.98**	**2**	P	**Pb**	**08 33 40.0**	**-0.3**
KTHA				S	**Sn**	**08 33 54.5**	**+1.5**
	comp=N,2μm,0.5s						
KTHA	**Kythira Island**	**0.98**	**2**	P	**Pb**	**08 33 39.8**	**-0.4**
KTHA				AML	AML	08 34 03.1	
	comp=N,2069μm,0.4s						
KTHA				AML	AML	08 34 05.0	
	comp=E,6399μm,0.5s						
KTHR	**Kythira**	**0.98**	**359**	P	**Pb**	**08 33 39.9**	**-0.4**
KTHR				S	**Sn**	**08 33 54.8**	**+1.7**
	comp=E,2μm,0.4s						
VLI	**Veliai**	**1.44**	**357**	P	**Pb**	**08 33 49.0**	**+0.9**
VLI	**Veliai**	**1.44**	**357**	P	**Pb**	**08 33 48.2**	**+0.1**
VLI				AML	AML	08 34 17.3	
	comp=N,1971μm,0.6s						
VLI				AML	AML	08 34 18.8	
	comp=E,1868μm,0.8s						
SIVA	**Sivas**	**1.49**	**99**	P	**Pb**	**08 33 49.7**	**+0.9**
DYR	**Agios Nikonas**	**1.59**	**340**	P	**Pb**	**08 33 50.6**	**0.0**
MHLA	**Plaka, Milos I**	**1.85**	**37**	P	**Pb**	**08 33 56.2**	**+1.1**
PYL	**PYLOS**	**1.92**	**328**	P	**Pb**	**08 33 55.2**	**-1.0**
ITM	**Ithomi**	**2.10**	**335**	P	**Pb**	**08 33 57.9**	**-1.4**
NPS	**Neapolis**	**2.12**	**90**	P	**Pb**	**08 33 58.2**	**-1.4**
VLX	**Vlachokerasia**	**2.16**	**346**	P	**Pb**	**08 33 59.7**	**-0.6**
THR6	**Thira Island,**	**2.21**	**60**	P	**Pb**	**08 33 59.3**	**-1.8**
DID	**Didima**	**2.23**	**4**	P	**Pb**	**08 34 01.1**	**-0.5**
DID	**Didima**	**2.23**	**4**	P	**Pb**	**08 34 00.7**	**-0.9**
SANT	**Santorini**	**2.26**	**60**	P	**Pn**	**08 33 59.7**	**+2.1**
ANAF	**Anafi Island**	**2.48**	**63**	P	**Pn**	**08 34 02.4**	**+1.8**
VLY	**Voula,Athens**	**2.65**	**13**	P	**Pb**	**08 34 06.2**	**-2.4**
VLY	**Voula,Athens**	**2.65**	**13**	P	**Pn**	**08 34 05.6**	**+2.7**
AMGA	**Amorgos Island**	**2.80**	**55**	P	**Pn**	**08 34 06.8**	**+1.8**
VIL2	**Platees**	**2.94**	**4**	P	**Pn**	**08 34 09.1**	**+2.2**
PROD	**Prodromos**	**2.98**	**358**	P	**Pn**	**08 34 09.5**	**+2.1**
LKR	**Lokris**	**3.37**	**360**	P	**Pn**	**08 34 15.5**	**+2.7**
MAKR	**Makrakomi, Fth**	**3.80**	**349**	P	**Pn**	**08 34 21.9**	**+3.2**
BRTR	**Keskin Array B**	**9.53**	**59**	Pn	**Pn**	**08 35 38.9**	**+1.4**
	comp=E,0.1nm,0.3s,baz=226,slow=14,SNR=3.6						
VYHS	**Vyhne**	**13.57**	**348**	*e*SN	**Sn**	**08 39 00.9**	**-1.5**
GERES	**GERESS Array B**	**15.21**	**336**	Pn	**P**	**08 36 59.7**	**+0.1**
	comp=E,0.2nm,0.3s,baz=149,slow=12,SNR=3.8						
GERES				LR	LR	08 44 18.7	
	comp=E,72nm,18.9s,baz=130,slow=42						
AKASG	**Malin Array Be**	**16.06**	**14**	Pn	**P**	**08 37 08.9**	**-0.1**
	comp=E,1.0nm,0.3s,baz=216,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**26.26**	**3**	P	**P**	**08 38 56.0**	**+1.3**
	comp=E,3.5nm,0.9s,baz=169,slow=17,SNR=2.0						
TORD	**Torodi Ar. Bea**	**29.26**	**226**	P	**P**	08 39 13.9	-8.0
	comp=E,0.3nm,0.7s,baz=36,slow=10,SNR=2.3						
ARCES	**ARCESS Array B**	**34.34**	**2**	P	**P**	**08 40 04.2**	**-1.8**
	comp=E,3.8nm,1.1s,baz=174,slow=9.1,SNR=1.5						
KURBB	**Kurchatov Arra**	**42.41**	**51**	P	**P**	**08 41 11.4**	**-2.6**
	comp=E,0.5nm,0.4s,baz=273,slow=8.7,SNR=1.6						
MKAR	**Makanchi Array**	**45.17**	**56**	P	**P**	**08 41 34.8**	**-1.6**
	comp=E,0.5nm,0.4s,baz=272,slow=8.2,SNR=7.0						
ZALV	**Zalesovo Beam**	**46.19**	**46**	P	**P**	**08 41 42.5**	**-1.8**
	comp=E,1.7nm,0.4s,baz=280,slow=8.8,SNR=5.0						

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*MDD **21** 08:37:39.9±1.0, 39°.05N×10°.73W, h57km±34km, mb3.8/7, Error ellipse: s-maj=10.8km s-min=4.9km az=87.0, PRXIMO*
*IGIL **21** 08:37:40.9, 39°.02N×10°.72W, h31km, ML3.2*
*INMG **21** 08:37:40.7±1.2, 39°.03N×10°.72W, h31km, ML2.8, Error ellipse: s-maj=4.4km s-min=2.0km az=83.0*
*CNRM **21** 08:37:44.8, 38°.57N×10°.33W, h112km, ml2.9*
ISC 21 08:37:34.7±1.8, 39°.04N±0°.03×10°.81W±0°.08, h10km, n82, σ2°31/138, 1C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.19**	**93**	*e*P	**Pb**	**08 37 59.3**	**+1.8**
PMAFR				*e*S	**Sg**	**08 38 12.9**	**-0.2**
PMAFR				A	A	08 38 14.7	
	539nm,0.2s						
PMAFR	**Mafra**	**1.19**	**93**	P	**Pb**	**08 37 59.2**	**+1.8**
	17nm,0.1s,SNR=7.9						
PMAFR				S	**Sg**	**08 38 12.9**	**-0.2**
	386nm,0.1s,SNR=7.9						
LIS	**Lisbon**	**1.33**	**103**	*e*P	**Pn**	**08 38 01.8**	**+2.4**
LIS				*e*S	**Sb**	**08 38 17.6**	**+0.6**
LIS				A	A	08 38 18.8	
	258nm,0.3s						
LIS	**Lisbon**	**1.33**	**103**	P	**Pn**	**08 38 01.8**	**+2.4**
LIS				S	**Sb**	**08 38 17.6**	**+0.6**
	258nm,0.3s						
PTOM	**Tomar**	**1.95**	**72**	*e*Pn	**Pn**	**08 38 09.8**	**+1.9**
PTOM				*e*Sn	**Sn**	**08 38 30.7**	**-1.7**
PTOM				A	A	08 38 34.9	
	22nm,0.1s						
PTOM	**Tomar**	**1.95**	**72**	P	**Pn**	**08 38 09.8**	**+1.9**
PTOM				S	**Sn**	**08 38 30.7**	**-1.7**
	11nm,0.1s						
PMTG	**Montargil**	**2.01**	**88**	*e*Pn	**Pn**	**08 38 10.2**	**+1.5**
PMTG				*e*Sn	**Sn**	**08 38 32.2**	**-1.7**
PMTG				A	A	08 38 34.5	
	26nm,0.2s						
PMTG	**Montargil**	**2.01**	**88**	P	**Pn**	**08 38 10.2**	**+1.5**
PMTG				S	**Sn**	**08 38 32.2**	**-1.7**
	26nm,0.2s						
PNCL	**Nicolau / Gran**	**2.01**	**117**	*e*Pn	**Pn**	**08 38 09.8**	**+1.1**
PNCL				*e*Sn	**Sn**	**08 38 32.3**	**-1.6**
PNCL				A	A	08 38 35.9	
	58nm,0.1s						
PNCL	**Nicolau / Gran**	**2.01**	**117**	P	**Pn**	**08 38 09.8**	**+1.1**
PNCL				S	**Sn**	**08 38 32.3**	**-1.6**
	58nm,0.1s						
PCAS	**Casmilo, Conde**	**2.05**	**60**	*e*Pn	**Pn**	**08 38 11.0**	**+1.7**
PCAS				*e*Sn	**Sn**	**08 38 33.4**	**-1.6**
PCAS				A	A	08 38 48.5	
	13nm,0.4s						
PCAS	**Casmilo, Conde**	**2.05**	**60**	P	**Pn**	**08 38 11.0**	**+1.7**
PCAS				S	**Sn**	**08 38 33.4**	**-1.6**
	13nm,0.4s						
PTEO	**Sao Teotonio**	**2.21**	**132**	*e*Pn	**Pn**	**08 38 12.7**	**+1.2**
PTEO				*e*Sn	**Sn**	**08 38 36.6**	**-2.3**
PTEO				A	A	08 38 39.0	
	82nm,0.5s						
PTEO	**Sao Teotonio**	**2.21**	**132**	P	**Pn**	**08 38 12.7**	**+1.2**
PTEO				S	**Sn**	**08 38 36.6**	**-2.3**
	41nm,0.5s						
MESJ	**Messejana**	**2.36**	**120**	*e*P	**Pn**	**08 38 14.7**	**+1.2**
MESJ				*e*S	**Sn**	**08 38 39.2**	**-3.3**
MESJ				AML	AML	08 38 43.2	
	comp=N,75nm,0.2s						
MESJ	**Messejana**	**2.36**	**120**	*e*Pn	**Pn**	**08 38 14.7**	**+1.2**
MESJ				*e*Sn	**Sn**	**08 38 40.4**	**-2.1**
MESJ				A	A	08 38 43.0	
	comp=N,32nm,0.3s						
MESJ	**Messejana**	**2.36**	**120**	P	**Pn**	**08 38 14.7**	**+1.2**
MESJ				S	**Sn**	**08 38 39.2**	**-3.3**
	comp=N,75nm,0.2s						
MORF	**Marmelete**	**2.42**	**135**	*e*P	**Pn**	**08 38 15.7**	**+1.2**
MORF				*e*S	**Sn**	**08 38 40.7**	**-3.5**
MORF				AML	AML	08 38 43.4	
	comp=N,217nm,0.1s						
MORF	**Marmelete**	**2.42**	**135**	⇓*e*Pn	**Pn**	**08 38 15.7**	**+1.2**
MORF				*e*Sn	**Sn**	**08 38 40.8**	**-3.4**
MORF				A	A	08 38 43.7	
	comp=N,115nm,0.1s						
MORF	**Marmelete**	**2.42**	**135**	P	**Pn**	**08 38 15.7**	**+1.2**
MORF				S	**Sn**	**08 38 40.7**	**-3

PBAR				*e*Sn	**Sn**	**08 38 57.5**	**-2.7**
PBAR				A	A	08 39 01.3	
comp=N,25nm,0.7s							
PBAR	**Barrancos**	**3.08**	**105**	P	**Pn**	**08 38 25.2**	**+1.8**
PBAR				S	**Sn**	**08 38 57.5**	**-2.7**
comp=N,25nm,0.7s							
PVRL	**Vila Real**	**3.26**	**46**	*e*Sn	**Sn**	**08 39 01.6**	**-3.2**
PVRL				A	A	08 39 03.5	
comp=N,20nm,0.1s							
PVRL	**Vila Real**	**3.26**	**46**	S	**Sn**	**08 39 01.6**	**-3.2**
comp=N,9.9nm,0.1s							
POLO	**Lamas de Olo**	**3.28**	**44**	*e*Pn	**Pn**	**08 38 27.8**	**+1.5**
POLO				*e*Sn	**Sn**	**08 39 01.7**	**-3.8**
POLO				A	A	08 39 03.1	
comp=N,5.1nm,0.1s							
POLO	**Lamas de Olo**	**3.28**	**44**	P	**Pn**	**08 38 27.8**	**+1.5**
POLO				S	**Sn**	**08 39 01.7**	**-3.8**
comp=N,5.1nm,0.1s							
PCAB	**Cabril**	**3.41**	**38**	*e*Pn	**Pn**	**08 38 29.7**	**+1.7**
PCAB				*e*Sn	**Sn**	**08 39 05.5**	**-3.1**
PCAB				A	A	08 39 07.7	
comp=N,18nm,0.3s							
PCAB	**Cabril**	**3.41**	**38**	P	**Pn**	**08 38 29.7**	**+1.7**
PCAB				S	**Sn**	**08 39 05.5**	**-3.1**
comp=N,8.9nm,0.3s							
EMIN	**Mina Concepcio**	**3.49**	**110**	P	**Pn**	**08 38 30.4**	**+1.4**
comp=N,0.0nm,0.2s,SNR=43							
EMIN				S	**Sn**	**08 39 06.5**	**-3.9**
comp=N,6.0nm,0.1s,SNR=10.0							
EZAM	**Zamans**	**3.50**	**27**	P	**Pn**	**08 38 30.6**	**+1.4**
comp=N,1.0nm,0.2s,SNR=7.9							
EZAM				S	Sn	08 39 06.2	-4.6
comp=N,11nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**3.52**	**36**	P	**Pn**	**08 38 30.8**	**+1.3**
comp=N,0.0nm,0.1s,SNR=9.2							
ELOB				S	**Sn**	**08 39 07.9**	**-3.4**
comp=N,13nm,0.2s,SNR=14							
MVO	**Moncorvo**	**3.59**	**53**	*e*Pn	**Pn**	**08 38 31.6**	**+1.0**
MVO				*e*Sn	**Sn**	**08 39 09.3**	**-3.8**
MVO				A	A	08 39 11.5	
comp=N,11nm,0.2s							
MVO	**Moncorvo**	**3.59**	**53**	P	**Pn**	**08 38 31.7**	**+1.1**
comp=N,1.4nm,0.2s,SNR=7.9							
MVO				S	Sn	08 39 08.4	-4.7
comp=N,8.3nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**3.80**	**73**	P	**Pn**	**08 38 34.4**	**+1.1**
comp=N,1.4nm,0.2s,SNR=4.0							
EPLA				S	**Sn**	**08 39 15.0**	**-3.0**
comp=N,0.6nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**4.15**	**19**	P	Pn	08 38 39.1	+1.0
comp=N,2.9nm,0.2s,SNR=4.0							
EMAZ				S	Sn	08 39 20.7	-5.9
comp=N,10nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**4.16**	**47**	*e*Pn	**Pn**	**08 38 40.0**	**+1.7**
PBRG				*e*Sn	**Sn**	**08 39 23.7**	**-3.2**
PBRG				A	A	08 39 24.9	
comp=N,7.8nm,0.1s							
PBRG	**Braganca**	**4.16**	**47**	P	**Pn**	**08 38 40.0**	**+1.7**
PBRG				S	**Sn**	**08 39 23.7**	**-3.2**
comp=N,3.9nm,0.1s							
ECAL	**Calabor**	**4.25**	**46**	P	**Pn**	**08 38 41.2**	**+1.6**
comp=N,0.7nm,0.1s,SNR=7.9							
ECAL				S	Sn	08 39 24.7	-4.5
comp=N,8.4nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**4.29**	**28**	P	**Pn**	**08 38 41.0**	**+0.9**
comp=N,0.5nm,0.2s,SNR=7.9							
EAGO				S	Sn	08 39 24.9	-5.3
comp=N,8.4nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.33**	**101**	P	**Pn**	**08 38 41.9**	**+1.2**
comp=N,0.9nm,0.2s,SNR=18							
ECAB				S	**Sn**	**08 39 27.2**	**-4.1**
comp=N,7.5nm,0.2s,SNR=14							
ESPR	**Espera**	**4.47**	**117**	P	**Pn**	**08 38 44.8**	**+2.2**
comp=N,0.8nm,0.1s,SNR=7.9							
ESPR				S	**Sn**	**08 39 33.4**	**-1.3**
comp=N,2.9nm,0.2s,SNR=7.9							
HORN	**Hornachuelos**	**4.52**	**104**	P	**Pn**	**08 38 44.2**	**+1.1**
HORN				S	**Sn**	**08 39 31.4**	**-4.4**
EADA	**Adamuz**	**4.96**	**98**	P	**Pn**	**08 38 50.3**	**+1.1**
comp=N,0.9nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**08 39 42.1**	**-4.6**
comp=N,5.6nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**5.04**	**82**	P	**Pn**	**08 38 51.9**	**+1.5**
comp=N,0.7nm,0.1s,SNR=7.9							
PAB				S	Sn	08 39 43.9	-4.8
comp=N,1.9nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**5.10**	**32**	P	**Pn**	**08 38 52.0**	**+0.9**
comp=N,0.4nm,0.2s,SNR=7.9							
EPON				S	Sn	08 39 44.1	-5.9
comp=N,1.8nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**5.34**	**81**	P	**Pn**	**08 38 56.2**	**+1.6**
comp=N,2.3nm,0.2s,baz=252,slow=12,SNR=8.0							
ESDC				S	**Sn**	**08 39 52.2**	**-4.0**
baz=266,slow=23,SNR=7.9							
GUD	**Guadarrama**	**5.37**	**71**	P	**Pn**	**08 38 56.3**	**+1.3**
comp=N,0.5nm,0.2s,SNR=7.9							
GUD				S	**Sn**	**08 39 52.6**	**-4.4**
comp=N,0.4nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**5.38**	**115**	S	**Sn**	**08 39 52.6**	**-4.4**
comp=N,0.2nm,0.2s,SNR=4.0							
EGOR	**Sierra Gorda,**	**5.62**	**108**	S	**Sn**	**08 40 00.9**	**-2.3**
comp=N,13nm,0.3s,SNR=7.9							
ELGU	**Los Guajares,**	**6.07**	**109**	S	**Sn**	**08 40 12.0**	**-2.3**
comp=N,1.1nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**6.09**	**105**	S	**Sn**	**08 40 10.8**	**-3.9**
comp=N,0.6nm,0.1s,SNR=7.9							
EQES	**Quesada**	**6.20**	**99**	S	**Sn**	**08 40 13.1**	**-4.3**
comp=N,0.8nm,0.3s,SNR=7.9							
ZHG	**ZHG**	**6.51**	**148**	P	**Pn**	**08 39 11.6**	**+0.9**
ZHG				S	Sn	08 40 18.7	-6.4
EBER	**Berja**	**6.61**	**106**	P	**Pn**	**08 39 14.7**	**+2.6**
comp=N,0.5nm,0.2s,SNR=7.9							
EBER				S	**Sn**	**08 40 25.2**	**-2.4**
comp=N,0.4nm,0.2s,SNR=7.9							
ETOR	**Torete**	**6.96**	**72**	S	Sn	08 40 29.9	-6.1
comp=N,6.3nm,0.3s,SNR=7.9							
MD31	**MD31**	**7.87**	**140**	P	**Pn**	**08 39 30.1**	**+0.8**
MD31				S	Sn	08 40 50.4	-8.1
MDT	**Midelt**	**7.99**	**139**	S	Sn	08 40 53.0	-8.5
OUK	**Oukaimeden**	**8.18**	**162**	P	Pn	08 39 33.7	0.0
OUK				S	Sn	08 40 57.0	-9.3

ISCJB ***21*** *08:40:50.8±0.5, 8°.26S±0°.05×74°.30W±0°.04, h147km, mb4.0/5, Error ellipse: s-maj=7.2km s-min=5.1km az=34.5*
NEIC ***21*** *08:40:51.7±2.3, 8°.25S±0°.07×74°.24W±0°.07, h149km±12km, mb4.2/3*
IDC ***21*** *08:40:56.8±2.5, 8°.64S×74°.56W, h211km±32km, mb3.7/5, mb1 3.6/8, mb1mx3.3/30, mbtmp4.1/8, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=32.3km s-min=17.0km az=40.0*

ISC 21 08:40:51.7±0.6, 8°.30S±0°.06×74°.28W±0°.06, h147km, n25, σ1§55/29, mb4.1/5, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.24**	**286**	P	**Pn**	**08 41 55.8**	**+0.3**
22nm,0.3s,baz=77,slow=5.8,SNR=130							
ATAH				S	**Sn**	**08 42 43.1**	**-1.8**
72nm,0.3s,baz=319,slow=18,SNR=26							
NNA	**Nana**	**4.45**	**214**	P	**Pn**	**08 41 59.0**	**+1.2**
2.2nm,0.3s,baz=17,slow=12,SNR=9.5							
NNA				S	**Sn**	**08 42 48.4**	**-0.9**
14nm,0.3s,baz=230,slow=8.2,SNR=12							
NNA				LR	LR	08 43 17.1	
comp=Z,45nm,18.5s,baz=80,slow=35							
NNA	**Nana**	**4.45**	**214**		**Pn**	**08 41 59.9**	**+2.1**
NNA				Sn	**Sn**	**08 42 49.7**	**+0.4**
OTAV	**Otavalo**	**9.45**	**334**	Pn	**Pn**	**08 43 03.4**	**-1.6**
LPAZ	**La Paz**	**9.95**	**143**	P	**Pn**	**08 43 15.4**	**+3.7**
0.1nm,0.3s,baz=354,slow=9.9,SNR=2.9							
LPAZ	**La Paz**	**9.95**	**143**		**Pn**	**08 43 13.0**	**+1.2**
SAML	**Samuel**	**10.99**	**94**		**Pn**	**08 43 24.6**	**-0.3**
SAML				Sn	**Sn**	**08 45 25.4**	**-1.1**
MNMC	**Minye Minye**	**11.68**	**158**	Pn	**Pn**	**08 43 34.3**	**0.0**
MNMC				Sn	**Sn**	**08 45 41.6**	**-2.0**
GO01	**Chusmiza**	**12.33**	**157**	Pn	**Pn**	**08 43 42.1**	**-0.7**
PB04	**IPOC Station P**	**14.51**	**165**	P	**P**	**08 44 12.2**	**-0.6**
SIV	**San Ignacio**	**15.00**	**122**	P	**P**	**08 44 19.9**	**+1.6**
0.2nm,0.3s,baz=312,slow=12,SNR=11							
SIV				S	**Sn**	**08 47 00.4**	**-2.7**
0.1nm,0.3s,baz=29,slow=13,SNR=2.1							
CPUP	**Villa Florida**	**24.10**	**140**	P	**P**	**08 45 53.5**	**-0.3**
2.2nm,0.8s,baz=324,slow=11,SNR=5.8							
CPUP	**Villa Florida**	**24.10**	**140**	P	**P**	**08 45 53.7**	**-0.1**
CPUP				IAmb	IAmb	08 45 59.1	
comp=Z,3.5nm,1.1s							
SJG	**San Juan**	**27.45**	**17**	P	**P**	**08 46 27.5**	**+3.5**
comp=Z,8.8nm,0.5s,baz=205,slow=1.8,SNR=4.3							
TXAR	**Lajitas Array**	**46.92**	**324**	P	**P**	**08 49 07.7**	**-0.1**
comp=Z,0.7nm,0.7s,baz=147,slow=8.5,SNR=11							
TXAR	**Lajitas Array**	**46.92**	**324**	P	**P**	**08 49 08.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**46.92**	**324**	P	**P**	**08 49 07.8**	**0.0**
TX32	**Lajitas Array**	**46.92**	**324**	P	**P**	**08 49 07.9**	**+0.1**
SDCO	**Great Sand Dun**	**54.31**	**330**	P	**P**	**08 50 04.5**	**+1.2**
DBIC	**Dimbokro**	**70.80**	**80**	P	**P**	**08 51 52.4**	**-0.5**
comp=Z,1.6nm,0.5s,baz=194,slow=7.4,SNR=1.6							
DBIC	**Dimbokro**	**70.80**	**80**	IAmb	IAmb	08 51 57.5	
comp=Z,12nm,1.2s							
TORD	**Torodi Ar. Bea**	**78.39**	**75**	P	**P**	**08 52 36.0**	**-0.7**
comp=Z,3.0nm,0.7s,baz=281,slow=5.9,SNR=14							
TORD	**Torodi Ar. Bea**	**78.39**	**75**	P	**P**	**08 52 36.1**	**-0.6**
AFI	**Afiamalu**	**95.23**	**255**	LR	LR	09 26 31.2	
comp=Z,41nm,20.2s,baz=222,slow=29							
ASAR	**Alice Springs**	**137.95**	**220**	PKP	**PKPdf**	**08 59 57.8**	**-2.0**
comp=Z,0.2nm,0.7s,baz=116,slow=2.2,SNR=2.0							

ASRS ***21*** *08:46:31.0, 53°.84N×91°.02E, M3.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 21 08:46:43.8±3.9, 53°.28N×90°.25E, h0km, mb1 3.0/3, mb1mx2.9/60, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=35.4km s-min=25.9km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.30**	**284**	Pn	Pn	08 47 37.4	+0.7
1.5nm,0.3s,baz=95,slow=15,SNR=6.8							
ZALV				Lg	Lg	08 48 27.6	
1.4nm,0.3s,baz=104,slow=17,SNR=3.5							
KURBB	**Kurchatov Arra**	**7.71**	**254**	Pn	Pn	08 48 38.2	+1.0
0.1nm,0.3s,baz=71,slow=14,SNR=2.0							
KURBB				Sn	Sn	08 50 02.3	-2.9
0.0nm,0.3s,baz=67,slow=26,SNR=1.3							
KURBB				Lg	Lg	08 50 51.5	
0.1nm,0.3s,baz=62,slow=30,SNR=4.6							
MKAR	**Makanchi Array**	**8.27**	**221**	Pn	Pn	08 48 44.9	0.0
0.1nm,0.3s,baz=31,slow=8.6,SNR=2.7							
MKAR				Lg	Lg	08 51 09.8	
baz=43,slow=28,SNR=2.6							
I34MN	**SONGINO INFRAS**	**11.65**	**112**	*i*		09 56 00.0	
baz=308,slow=326,SNR=0.7							

IDC ***21*** *08:54:30.6±3.2, 12°.65N×131°.62E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/65, mbtmp3.5/5, Error ellipse: s-maj=169.9km s-min=23.8km az=74.0*
ISCJB ***21*** *08:54:48.3±1.3, 10°.37N±0°.04×125°.24E±0°.06, h11km±7km, mb3.5/5, Error ellipse: s-maj=9.2km s-min=7.2km az=12.0*
MAN ***21*** *08:54:48.9, 10°.36N×125°.11E, h2km, mb4.6, ML3.5, MS3.4*

ISC 21 08:54:48.1±1.7, 10°.37N±0°.04×125°.18E±0°.06, h3km±13km, n13, σ1§70/17, mb3.6/5, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.39**	**234**	*e*P	**Pg**	**08 54 56.4**	**+0.7**
MSLP				*e*S	**Sb**	**08 55 04.1**	**0.0**
LLP	**Lapu-Lapu**	**1.20**	**268**	⇓*e*P	**Pb**	**08 55 10.0**	**-1.4**
LLP				*e*S	**Sn**	**08 55 28.3**	**-0.1**
BESP	**Borongan**	**1.25**	**12**	*e*P	**Pn**	**08 55 10.0**	**-2.4**
BESP				*e*S	**Sn**	**08 55 34.3**	**+4.5**
CGP	**Cagayan de Oro**	**1.96**	**194**	⇓*e*P	**Pb**	**08 55 23.4**	**-1.1**
CGP				*e*S	**Sn**	**08 55 46.0**	**-1.3**
CNP	**Catarman**	**2.19**	**347**	*e*P	**Pn**	**08 55 25.8**	**+0.5**
CNP				*e*S	**Sb**	**08 55 55.2**	**-0.6**
BUKP	**Musuan**	**2.48**	**183**	*e*P	**Pn**	**08 55 30.9**	**+1.6**
BUKP				*e*S	**Sg**	**08 56 08.0**	**+0.3**
GUIM	**Jordan**	**2.56**	**276**	*e*P	**Pn**	**08 55 31.2**	**+0.7**
GUIM				*e*S	**Sn**	**08 56 02.3**	**+0.1**
RCP	**Roxas**	**2.67**	**297**	⇑*e*P	**Pn**	**08 55 32.7**	**+0.7**
RCP				*e*S	**Sn**	**08 56 06.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**28.29**	**179**	P	P	09 00 51.4	+8.4
0.5nm,0.5s,baz=0.0,slow=8.1,SNR=1.0							
WRA	**Warramunga Arr**	**31.44**	**163**	P	P	09 01 03.8	-7.1
0.4nm,0.9s,baz=356,slow=9.6,SNR=2.0							
ASAR	**Alice Springs**	**34.89**	**166**	P	P	09 01 34.2	-6.8
0.2nm,0.9s,baz=347,slow=7.5,SNR=1.6							
MKAR	**Makanchi Array**	**51.30**	**323**	P	**P**	**09 03 53.0**	**-0.6**
0.7nm,0.8s,baz=131,slow=6.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**54.03**	**332**	P	P	09 04 04.9	-8.6
0.5nm,0.3s,baz=117,slow=8.4,SNR=1.2							

NIED ***21*** *08:59:00, 39°.60N×142°.10E, h47km, Mw4.2 Best double couple: M0=1.89000×10^15 NP1:φs=183.00000°, δ=24.00000°, λ=70.00000°. NP2:φs=24.00000°, δ=68.00000°, λ=98.00000°.*
ISCJB ***21*** *08:59:22.7±0.3, 39°.60N±0°.02×142°.18E±0°.04, h57km±2km, mb4.2/39, MS3.5/5, Error ellipse: s-maj=5.7km s-min=3.2km az=23.6*
BJI ***21*** *08:59:23.3±0.0, 39°.64N×142°.36E, h75km, mb4.6/25, mB4.9/17, Ms4.4/6, Ms7 4.2/2*
MOS ***21*** *08:59:23.4±1.0, 39°.63N×142°.17E, h61km, mb4.5/19, Error ellipse: s-maj=8.3km s-min=5.7km az=94.6*
JMA ***21*** *08:59:24.4, 39°.63N×142°.11E, h48km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs=23.00000°, δ=51.00000°, λ=91.00000°. NP2:φs=201.00000°, δ=39.00000°, λ=88.00000°. Principal axes: T Plg=84.0000°, Azm=303.0000°; N Plg=1.0000°, Azm=202.0000°; P Plg=6.0000°, Azm=112.0000°;*
JMA Felt III J1.
NEIC ***21*** *08:59:24.8±1.4, 39°.58N±0°.04×142°.2E±0°.1, h62km±7km, mb4.5/31*
IDC ***21*** *08:59:26.0±1.6, 39°.67N×142°.13E, h64km±14km, mb3.9/24, mb1 4.0/30, mb1mx3.9/66, mbtmp4.2/30, MS3.0/10, Ms1 3.0/10, ms1mx2.8/43, Error ellipse: s-maj=14.9km s-min=8.9km az=112.0*

ISC 21 08:59:23.2±0.7, 39°.60N±0°.04×142°.30E±0°.05, h43km±5km, n176, σ1§44/194, mb4.4/48, MS3.4/5, 8C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.37**	**267**	⇑P	**Pn**	**08 59 32.7**	**+0.2**
MIYJ				S	**Sn**	**08 59 38.5**	**-0.6**
JTH	**Tanohata**	**0.48**	**315**	⇓P	**Pn**	**08 59 33.9**	**+0.1**
JTH				S	**Sn**	**08 59 40.5**	**-0.8**
OFUJ	**Ofunato**	**0.71**	**223**	⇑P	**Pn**	**08 59 37.2**	**+0.3**
OFUJ				S	**Sn**	**08 59 46.3**	**-0.4**
JOM	**Ohasama**	**0.79**	**261**	⇓P	**Pn**	**08 59 37.6**	**-0.3**
JOM				S	**Sn**	**08 59 47.1**	**-1.5**
JKZ	**Kuzumaki**	**0.84**	**298**	⇓P	**Pn**	**08 59 38.2**	**-0.5**
JKZ				S	**Sn**	**08 59 47.8**	**-2.1**
JANG	**Nango**	**0.98**	**322**	⇓P	**Pn**	**08 59 40.1**	**-0.4**
JANG				S	**Sn**	**08 59 50.7**	**-2.6**
JMK	**Ichinoseki**	**1.06**	**233**	⇓P	**Pn**	**08 59 41.6**	**0.0**
JMK				S	**Sn**	**08 59 54.0**	**-1.1**
JRG	**Rokugo**	**1.30**	**262**	⇓P	**Pn**	**08 59 44.4**	**-0.6**
JIO	**Ouri**	**1.36**	**213**	⇓P	**Pn**	**08 59 46.2**	**+0.5**
JAH	**Hinai**	**1.41**	**295**	⇓P	**Pn**	**08 59 46.0**	**-0.4**
JTM	**Tenmabayashi**	**1.52**	**325**	⇓P	**Pn**	**08 59 47.6**	**-0.2**
ERM	**Erimo**	**2.50**	**15**	P	**Pn**	**09 00 03.6**	**+2.2**
ERM						09 00 32.4	
ERM	**Erimo**	**2.50**	**15**		**Pn**	**09 00 03.6**	**+2.2**
ERM				Sn	**Sn**	**09 00 32.4**	**+1.8**
MJAR	**Matsushiro Arr**	**4.44**	**228**	P	**Pn**	**09 00 29.4**	**+1.3**
MJAR						09 01 17.8	
MJAR	**Matsushiro Arr**	**4.44**	**228**	P	**Pn**	**09 00 29.9**	**+1.8**
1.4nm,0.3s,baz=35,slow=14,SNR=93							
MJAR				S	**Sn**	**09 01 22.6**	**+4.1**
0.1nm,0.3s,baz=90,slow=30,SNR=1.4							
MJAR				LR	LR	09 02 07.3	
comp=Z,84nm,19.7s,baz=60,slow=37							
MJAR	**Matsushiro Arr**	**4.44**	**228**		**Pn**	**09 00 29.4**	**+1.3**
MJAR				Sn	**Sn**	**09 01 17.8**	**-0.7**
MAJO	**Matsushiro**	**4.44**	**228**	P	**Pn**	**09 00 29.3**	**+1.2**
MAJO						09 01 17.5	
MAJO	**Matsushiro**	**4.44**	**228**		**Pn**	**09 00 29.3**	**+1.2**
MAJO				Sn	**Sn**	**09 01 17.5**	**-1.0**
MAT	**Matsushiro**	**4.44**	**228**	P	**Pn**	**09 00 30.0**	**+1.9**
MAT				*e*S	**Sn**	**09 01 19.5**	**+1.0**
MJB9	**Matsu-Tunnel**	**4.44**	**228**		**Pn**	**09 00 29.3**	**+1.2**
MJB9				Sn	**Sn**	**09 01 17.4**	**-1.1**
ASAJ	**Asahikawa**	**4.52**	**3**	P	**Pn**	**09 00 30.6**	**+1.5**
3.5nm,0.3s,baz=208,slow=9.0,SNR=23							
ASAJ				S	**Sn**	**09 01 21.3**	**+1.0**
1.6nm,0.3s,baz=225,slow=31,SNR=1.8							
ASAJ				LR	LR	09 02 47.0	
comp=Z,132nm,19.5s,baz=178,slow=45							
JKA	**Kamikawa-asahi**	**4.52**	**3**		**Pn**	**09 00 30.6**	**+1.5**
JKA					**Sn**	**09 01 21.3**	**+1.0**
NMR	**Nemuro--Hokkai**	**4.56**	**33**	*c i*P	**Pn**	**09 00 30.2**	**+0.5**
NMR				*i* S	**Sn**	**09 01 19.2**	**-2.2**
GLVR	**Golovnino**	**4.79**	**29**	*e*P	**Pn**	**09 00 34.4**	**+1.7**
GLVR				S	**Sn**	**09 01 24.7**	**-2.2**
GLVR				pmax	pmax		
comp=Z,138nm,0.1s							
GLVR				smax	smax		
comp=N,721nm,0.3s							
GLVR				smax	smax		
comp=E,688nm,0.3s							
GRPR	**Tuman**	**5.10**	**29**	*e*P	**Pn**	**09 00 38.4**	**+1.4**
GRPR				*e*S	**Sn**	**09 01 31.9**	**-2.7**
GRPR				pmax	pmax		
comp=E,103nm,0.3s							
GRPR				pmax	pmax		
comp=Z,134nm,0.3s							
GRPR				smax	smax		
comp=N,430nm,0.3s							
GRPR				smax	smax		
comp=E,709nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.17**	**30**	*e*P	**Pn**	**09 00 40.3**	**+2.3**
YUK				*e*S	**Sn**	**09 01 34.3**	**-2.0**
YUK				pmax	pmax		
comp=N,104nm,0.3s							
YUK				pmax	pmax		
comp=Z,135nm,0.3s							
YUK				pmax	pmax		
comp=E,58nm,0.1s							
YUK				smax	smax		
comp=E,805nm,0.6s							
YUK				smax	smax		
comp=N,529nm,0.5s							
INU	**Inuyama**	**5.97**	**226**		**Pn**	**09 00 52.5**	**+3.5**
JHJ	**Hachijo jima 2**	**6.78**	**198**	P	**Pn**	**09 01 01.4**	**+1.3**
comp=N,6.8nm,0.3s,baz=84,slow=23,SNR=6.1							
JHJ				S	**Sn**	**09 02 12.2**	**-3.8**
comp=N,13nm,0.3s,baz=255,slow=24,SNR=1.3							
JHJ2	**Mitsune**	**6.78**	**198**	Pn	**Pn**	**09 01 00.8**	**+0.7**
JHJ2				Sn	**Sn**	**09 02 15.4**	**-0.6**
TEY	**Ternei**	**6.88**	**324**	⇓*i*P	Pn	09 01 06.3	+4.9
TEY				pmax	pmax		
comp=E,40nm,1.0s							
TEY				pmax	pmax		
comp=N,40nm,0.8s							
TEY				pmax	pmax		
comp=Z,50nm,0.7s							
KUR	**Kuril'sk**	**6.97**	**34**	P	Pn	09 01 08.6	+5.9
KUR				S	**Sn**	**09 02 19.9**	**-0.8**
KUR				smax	smax		
comp=E,131nm,0.4s							
KUR				smax	smax		
comp=N,82nm,0.2s							
USA0B	**Ussuriysk Arra**	**8.96**	**304**	P	**Pn**	**09 01 32.2**	**+2.3**
USA0B						09 03 08.5	
USA0B	**Ussuriysk Arra**	**8.96**	**304**		**Pn**	**09 01 32.2**	**+2.3**
USA0B				Sn	**Sn**	**09 03 08.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**8.96**	**304**	P	**Pn**	**09 01 30.6**	**+0.7**
USRK						09 03 10.1	
USRK	**Ussuriysk Ar.**	**8.96**	**304**	P	**Pn**	**09 01 31.2**	**+1.3**
baz=112,slow=15,SNR=19							
USRK				LR	LR	09 04 39.0	
comp=N,141nm,21.1s,baz=75,slow=36							
USRK	**Ussuriysk Ar.**	**8.96**	**304**		**Pn**	**09 01 30.6**	**+0.7**
USRK				Sn	**Sn**	**09 03 10.1**	**+0.8**
MDJ	**Mudanjiang**	**10.69**	**302**		**Pn**	**09 01 54.5**	**+0.9**
JNU	**Nakatsue**	**11.24**	**238**	LR	LR	09 06 54.8	
comp=N,60nm,19.4s,baz=322,slow=40							
JNU	**Nakatsue**	**11.24**	**238**	Pn	**Pn**	**09 02 01.7**	**+0.3**
KSRS	**Korea Array**	**11.46**	**264**	P	**Pn**	**09 02 06.6**	**+2.4**
comp=N,1.4nm,0.3s,baz=69,slow=14,SNR=20							
KSRS				LR	LR	09 06 02.9	
comp=N,68nm,19.1s,baz=110,slow=35							
KS19	**Wonju Array Si**	**11.49**	**264**		**Pn**	**09 02 05.3**	**+0.6**
KSAR	**Wonju Array Be**	**11.50**	**264**	P	**Pn**	**09 02 04.2**	**-0.5**
KSAR	**Wonju Array Be**	**11.50**	**264**	Pn	**Pn**	**09 02 04.2**	**-0.5**
KLR	**Kul'dur**	**12.22**	**325**	P	**Pn**	**09 02 15.7**	**+1.2**
comp=N,0.2nm,0.3s,baz=182,slow=10,SNR=4.2							
CN2	**Changchun**	**13.27**	**294**	*e*P	P	09 02 47.3	+10
PETK	**Petropavlovsk-**	**17.14**	**33**	LR	LR	09 10 08.6	
comp=N,35nm,20.9s,baz=237,slow=38							
NJ2	**Nanjing**	**20.41**	**256**	*e*P	**P**	**09 03 55.8**	**-0.8**
NJ2				pmax	pmax		
comp=N,18nm,0.6s							
HHC	**Hu-ho-hao-te**	**23.45**	**283**	*e*P	**P**	**09 04 26.5**	**-2.2**
HHC				pmax	pmax		
comp=N,5.0nm,0.9s							
YAK	**Yakutsk**	**23.75**	**345**	*e*P	**P**	**09 04 28.9**	**-2.3**
YAK				pmax	pmax		
comp=Z,16nm,1.0s							
YAK				pmax	pmax		
comp=N,

CMAR Chiang Mai Arr 42.86 253 P **P** **09 07 16.8 -0.6**
comp=Z,1.0nm,0.6s,baz=45,slow=9.3,SNR=3.6
CMAR Chiang Mai Arr 42.86 253 P **P** **09 07 16.4 -1.0**
MK31 Makanchi Array 43.39 300 P **P** **09 07 20.7 -0.7**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 43.39 300 P **P** **09 07 20.7 -0.7**
MK31 IAmb IAmb 09 07 21.4
comp=Z,3.7nm,0.7s
MKAR Makanchi Array 43.39 300 P **P** **09 07 20.6 -0.8**
comp=Z,3.8nm,0.6s,baz=84,slow=9.4,SNR=30
MKAR LR LR 09 25 48.9
comp=Z,21nm,20.0s,baz=84,slow=37
MKAR Makanchi Array 43.39 300 P **P** **09 07 20.4 -1.0**
IMAR Indian Mountai 44.10 32 P **P** **09 07 26.9 +0.1**
KDAK Kodiak Island 44.75 44 P **P** **09 07 32.2 +0.2**
KDAK pmax pmax
comp=Z,20nm,1.2s
KDAK Kodiak Island 44.75 44 P **P** **09 07 32.2 +0.2**
KURK Kurchatov 44.94 306 P **P** **09 07 32.4 -1.3**
KURK pmax pmax
comp=Z,13nm,1.1s
KURK Kurchatov 44.94 306 P **P** **09 07 32.4 -1.3**
KURK IAmb IAmb 09 07 33.5
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 45.01 306 P **P** **09 07 33.4 -0.8**
comp=Z,9.8nm,0.7s,baz=80,slow=8.6,SNR=26
TOLK Toolik Lake Re 45.88 28 P **P** **09 07 39.3 -1.6**
GHO Glory Hole Cre 46.25 38 P **P** **09 07 44.7 +0.7**
IL31 46.97 34 P **P** **09 07 46.8 -2.6**
ILAR Eielson Array 46.97 34 P **P** **09 07 51.1 +1.7**
ILAR Eielson Array 46.97 34 P **P** **09 07 50.5 +1.0**
comp=Z,1.3nm,0.7s,baz=264,slow=6.0,SNR=16
ILAR Eielson Array 46.97 34 P **P** **09 07 51.1 +1.7**
BMAR Burnt Mountain 47.76 30 P **P** **09 07 56.1 +0.5**
TGL Tana Glacier 49.30 39 P **P** **09 08 05.2 -2.5**
BVAR Borovoye Array 49.39 311 P **P** **09 08 07.6 -0.7**
comp=Z,2.1nm,0.5s,baz=71,slow=7.6,SNR=13
BVAR PcP **PcP** **09 09 30.4 +0.3**
comp=Z,1.1nm,0.6s,baz=72,slow=1.9,SNR=3.9
BRVK Borovoye 49.45 311 ‖ *eP* **P** **09 08 07.8 -0.9**
AAK Ala-Archa 49.92 297 ‖ *eP* **P** **09 08 12.3 -0.4**
AAK pmax pmax
comp=Z,2.0nm,1.4s
AAK Ala-Archa 49.92 297 P **P** **09 08 11.7 -1.0**
KSH Kashi 50.03 292 P **P** **09 08 17.4 +3.8**
KSH PcP **PcP** **09 09 34.8 +1.9**
KSH PP **PP** **09 10 14.3 +5.7**
KSH S **S** **09 15 23.3 +1.7**
KSH SS **SS** **09 18 54.1 -0.5**
KSH LR LR
comp=Z,990nm,11.2s
KSH LR LR
comp=Z,670nm,12.1s
KSH LR LR
comp=Z,150nm,11.4s
ARSB Arslanbob 51.45 296 P **P** **09 08 24.9 +0.6**
ARSB IAmb IAmb 09 08 25.0
comp=Z,7.6nm,0.8s
INK Inuvik 51.79 28 P **P** **09 08 25.5 -0.6**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 51.79 28 P **P** **09 08 27.3 +1.2**
comp=Z,2.0nm,0.4s,baz=298,slow=5.9,SNR=14
INK Inuvik 51.79 28 P **P** **09 08 25.6 -0.6**
KK31 Karatay Array 52.47 299 P **P** **09 08 31.0 -0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 52.47 299 P **P** **09 08 31.0 -0.6**
KK31 IAmb IAmb 09 08 31.0
comp=Z,2.7nm,0.7s
KKAR Karatay Array 52.47 299 P **P** **09 08 31.1 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 52.47 299 P **P** **09 08 30.4 -1.3**
KKAR Karatay Array 52.47 299 P **P** **09 08 31.1 -0.5**
KKAR IAmb IAmb 09 08 36.2
comp=Z,2.0nm,0.8s
GAR Garm 54.26 294 P **P** **09 08 43.6 -1.3**
GAR IAmb IAmb 09 08 47.1
comp=Z,7.9nm,1.2s
ARU Arti 54.92 318 *c iP* **P** **09 08 48.9 -0.4**
ARU *PP **sP** **09 09 05.8 -0.7**
ARU S **S** **09 16 27.2 -0.4**
ARU SS **SS** **09 20 12.9 +2.1**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 54.92 318 P **P** **09 08 49.1 -0.2**
comp=Z,2.9nm,0.6s,baz=38,slow=2.6,SNR=13
ARU Arti 54.92 318 P **P** **09 08 48.4 -0.9**
CHGR Chuyangaron 55.22 294 P **P** **09 08 51.2 -0.7**
ABKAR Abkulak array 56.84 309 P **P** **09 09 02.5 -0.7**
ABKAR Abkulak array 56.84 309 P **P** **09 09 02.6 -0.6**
AKTO Aktyubinsk 57.50 311 P **P** **09 09 07.1 -0.7**
comp=Z,3.1nm,0.7s,baz=74,slow=12,SNR=9.8
WB0 Warramunga Arr 59.52 189 P **P** **09 09 21.7 -0.3**
WB0 IAmb IAmb 09 09 23.5
comp=Z,4.2nm,1.1s
WRAB Tennant Creek 59.69 189 P **P** **09 09 21.7 -1.5**
WRAB pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 59.69 189 P **P** **09 09 21.7 -1.5**
WR0 Warramunga Arr 59.69 188 P **P** **09 09 22.8 -0.4**
WR0 IAmb IAmb 09 09 23.7
comp=Z,2.9nm,0.9s
WB2 Warramunga Arr 59.70 189 P **P** **09 09 22.8 -0.5**
WB2 IAmb IAmb 09 09 23.8
comp=Z,2.5nm,0.8s
WRA Warramunga Arr 59.70 189 *i* P **P** **09 09 23.2 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 59.70 189 P **P** **09 09 22.9 -0.4**
comp=Z,1.7nm,0.7s,baz=6.4,slow=7.0,SNR=20
WRA Warramunga Arr 59.70 189 P **P** **09 09 22.6 -0.8**
WC3 Warramunga Arr 59.71 189 P **P** **09 09 23.2 -0.2**
WC3 IAmb IAmb 09 09 24.0
comp=Z,3.1nm,1.0s
RES Resolute Bay 59.95 15 P **P** **09 09 25.0 +0.6**
RES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 59.95 15 P **P** **09 09 23.7 -0.7**
comp=Z,1.6nm,0.5s,baz=308,slow=5.2,SNR=6.6
RES Resolute Bay 59.95 15 P **P** **09 09 25.0 +0.6**
RES IAmb IAmb 09 09 26.4
comp=Z,3.2nm,0.9s
YKA Yellowknife Ar 61.25 31 P **P** **09 09 34.6 +1.2**
comp=Z,0.5nm,0.7s,baz=294,slow=5.2,SNR=1.9
ARCES ARCESS Array B 61.85 339 P **P** **09 09 37.5 +0.1**
comp=Z,5.2nm,1.0s,baz=8.5,slow=9.8,SNR=4.7
KLMR Klimovskoe 61.97 327 *eP* P 09 09 32.9 -5.4
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 61.97 327 *eP* P 09 09 32.9 -5.4
KLMR AMP 09 09 42.4
comp=Z,18nm,1.4s
TULEG Thule 62.47 8 P **P** **09 09 42.0 +0.5**
ASAR Alice Springs 63.42 189 P **P** **09 09 48.8 +0.4**
ASAR Alice Springs 63.42 189 P **P** **09 09 48.6 +0.2**
comp=Z,1.0nm,0.7s,baz=356,slow=4.5,SNR=14
ASAR Alice Springs 63.42 189 P **P** **09 09 48.8 +0.4**
OBN Obninsk 66.47 323 ‖ *eP* **P** **09 10 08.2 +0.4**
OBN *e* 09 12 34.5
OBN *eS* **S** **09 18 54.5 -0.3**
OBN pmax pmax
comp=Z,7.0nm,0.8s
FIA1 FINESS Array S 66.87 332 P **P** **09 10 10.0 -0.3**
FIA1 IAmb IAmb 09 10 10.3
comp=Z,9.2nm,0.9s
FINES FINESS Array B 66.87 332 *i* P **P** **09 10 10.1 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 66.87 332 P **P** **09 10 09.8 -0.5**
comp=Z,3.5nm,0.6s,baz=29,slow=8.9,SNR=11
VSR Storozhevoye 67.47 318 ‖ *eP* **P** **09 10 12.6 -1.7**
KIV Kislovodsk 69.76 311 *eP* **P** **09 10 29.6 +0.7**
NC405 NORSAR Array S 71.88 337 P **P** **09 10 41.5 +0.1**
NC303 NORSAR Array S 71.90 337 P **P** **09 10 41.3 -0.2**
NC204 NORSAR Array S 72.04 338 P **P** **09 10 42.4 0.0**
NB201 NORSAR Array S 72.06 337 P **P** **09 10 42.3 -0.2**
NB2 NORSAR Subarra 72.09 337 P **P** **09 10 42.4 -0.2**
comp=Z,1.0nm,0.5s,baz=35,slow=6.2
NOA NORSAR Array B 72.09 337 P **P** **09 10 42.1 -0.5**
comp=Z,1.7nm,0.6s,baz=37,slow=6.0,SNR=6.5
NBO00 NORSAR Array S 72.23 337 P **P** **09 10 41.9 -1.5**

BOZ Bozeman (W) 72.43 45 P **P** **09 10 48.0 +2.9**
BOZ Bozeman (W) 72.43 45 P **P** **09 10 48.0 +2.9**
AKASG Malin Array Be 72.70 322 *i* P **P** **09 10 45.7 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 72.70 322 P **P** **09 10 45.7 -0.6**
comp=Z,1.4nm,0.5s,baz=44,slow=6.1,SNR=8.1
AKASG Malin Array Be 72.70 322 P **P** **09 10 46.1 -0.3**
NVAR Mina Array Bea 72.91 54 P **P** **09 10 50.4 +2.2**
comp=Z,0.4nm,0.7s,baz=268,slow=7.1,SNR=3.7
NVAR Mina Array Bea 72.91 54 P **P** **09 10 47.9 -0.3**
PDAR Pinedale Array 75.38 46 P **P** **09 11 04.2 +1.7**
comp=Z,0.6nm,0.6s,baz=279,slow=3.6,SNR=7.9
PDAR Pinedale Array 75.38 46 P **P** **09 11 03.5 +1.0**
BUR08 Bucovina Ar. S 76.72 322 P **P** **09 11 09.4 -0.5**
BURAR Bucovina Array 76.73 322 P **P** **09 11 10.2 +0.2**
VYHS Vyhne 79.01 326 *eP* **P** **09 11 22.2 -0.3**
VYHS Vyhne 79.01 326 *eP* **P** **09 11 22.2 -0.3**
CLL Collm 79.22 330 *eP* **P** **09 11 23.0 -0.5**
CLL Collm 79.22 330 *eP* **P** **09 11 23.0 -0.5**
GERES GERESS Array B 80.90 328 P **P** **09 11 32.0 -0.8**
GERES GERESS Array B 80.90 328 P **P** **09 11 32.0 -0.8**
comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=4.0
GERES LR LR 09 48 59.3
comp=Z,16nm,20.2s,baz=355,slow=37
GERES GERESS Array B 80.90 328 P **P** **09 11 31.1 -1.6**
BFO Black Forest 83.40 331 *i* P **P** **09 11 43.2 -2.6**
BKZ Black Stump Fm 84.41 154 **P** **09 11 48.0 -2.8**
BKZ IAmb IAmb 09 11 49.3
comp=Z,2.1nm,0.5s
H06E1 SOCORRO T-PHAS 90.47 65 T T 10 53 19.3
SNR=4.5
SNAA Sanae 143.40 198 PKPdf PKPbc 09 18 48.2 -0.8
VNA2 Neumayer--Watz 144.97 197 PKPdf **PKPdf** **09 18 53.8 -0.6**
baz=105,slow=1.9
VNA3 Neumayer Olymp 145.22 195 PKPdf **PKPbc** **09 18 54.0 -0.6**

*ATH **21** 09:08:54.1, 40.°54N×21.°84E, h5km±2km, ML0.5, Error ellipse: s-maj=48.5km s-min=1.9km az=102.0, Suspected Mining explosion.*

THE 21 09:08:56.5, 40.36N×21.84E, h9km±2km, ML1.5/5, Error ellipse: s-maj=2.6km s-min=0.8km az=195.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.08**	**224**	P	Pg	09 08 58.4	-0.4
KZN				S	Sg	09 09 00.6	+0.1
2μm,0.7s							
KZN	**Kozani**	**0.08**	**224**	P	Pg	09 08 58.4	-0.5
KTI	**Kastanea**	**0.21**	**82**	P	Pg	09 09 00.6	-0.3
FNA	**Florina**	**0.55**	**320**	P	Pg	09 09 06.7	-0.5
FNA				S	Sg	09 09 14.8	+0.4
52nm,0.3s							
KPRO	**Kipourio**	**0.55**	**222**	P	Pg	09 09 07.5	+0.3
KPRO				S	Sg	09 09 14.1	-0.3
55nm,0.4s							
KPRO	**Kipourio**	**0.55**	**222**	P	Pg	09 09 07.3	+0.2
LIT	**Litokhoron**	**0.56**	**118**	P	Pg	09 09 06.9	-0.5
LIT				S	Sb	09 09 15.8	-0.8
75nm,0.3s							
LIT	**Litokhoron**	**0.56**	**118**	P	Pg	09 09 06.9	-0.5
PENT	**Pentalofos**	**0.56**	**253**	P	Pg	09 09 07.5	0.0
PENT				S	Sb	09 09 16.1	-0.7
65nm,0.8s							
PENT	**Pentalofos**	**0.56**	**253**	P	Pg	09 09 07.4	-0.1
NEST	**Nestorio**	**0.61**	**275**	P	Pg	09 09 06.6	-1.7
GRG	**Griva**	**0.73**	**36**	P	Pg	09 09 04.8	-5.8
THL	**Klokotos Trika**	**0.81**	**171**	P	Pb	09 09 12.5	-0.2

*ISCJB **21** 09:14:55.9±0.2, 6.°54S±0.°03×155.°09E±0.°04, h56km, mb4.3/19, MS3.4/12, Error ellipse: s-maj=5.2km s-min=4.9km az=179.0*
*NEIC **21** 09:14:55.3±1.8, 6.°49S±0.°09×155.°10E±0.°05, h35km±5km, mb4.7/44*
*IDC **21** 09:15:00.0±1.3, 6.°48S×155.°06E, h77km±11km, mb4.0/17, mb1 4.2/22, mb1mx4.1/32, mbtmp4.4/22, MS3.2/14, Ms1 3.3/14, ms1mx3.1/31, Error ellipse: s-maj=11.1km s-min=8.9km az=38.0*

ISC 21 09:14:57.8±0.4, 6.°54S±0.°05×155.°11E±0.°05, h56km, n108, σ1 **s47**/106, **mb4.6**/32, **MS3.2**/12, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.79**	**306**	P	**Pn**	**09 15 53.3**	**-0.4**
9.3nm,0.3s,baz=73,slow=20,SNR=4.8							
KRVT				S	**Sn**	**09 16 41.6**	**+4.5**
42nm,0.3s,baz=273,slow=2.8,SNR=5.6							
KRVT				LR	LR	09 17 40.3	
comp=Z,425nm,19.9s,baz=119,slow=43							
HNR	**Honiara**	**5.59**	**121**	P	**Pn**	**09 16 21.3**	**+3.0**
13nm,0.3s,baz=259,slow=8.4,SNR=5.8							
HNR				S	**Sn**	**09 17 27.9**	**+6.7**
8.9nm,0.3s,baz=345,slow=22,SNR=2.5							
HNR				LR	LR	09 18 41.0	
comp=Z,414nm,18.1s,baz=310,slow=39							
HNR	**Honiara**	**5.59**	**121**		**Pn**	**09 16 16.6**	**-1.8**
HNR				Sn	**Sn**	**09 17 21.1**	**-0.1**
PMG	**Port Moresby**	**8.37**	**250**	P	**Pn**	**09 16 56.6**	**+0.1**
6.0nm,0.3s,baz=53,slow=10,SNR=16							
PMG				S	**Sn**	**09 18 29.5**	**-0.2**
1.2nm,0.3s,baz=61,slow=23,SNR=4.6							
PMG	**Port Moresby**	**8.37**	**250**		**Pn**	**09 16 54.6**	**-2.0**
PMG				Sn	**Sn**	**09 18 31.6**	**+1.9**
PATS	**Pohnpei**	**13.67**	**14**	Pn	**Pn**	**09 18 06.4**	**-2.6**
CTA	**Charters Tower**	**15.98**	**212**	P	**Pn**	**09 18 39.0**	**0.0**
0.2nm,0.3s,baz=34,slow=12,SNR=11							
DZM	**Mont Dzumac**	**18.93**	**146**	*e*Pn	**Pn**	**09 19 16.0**	**+0.6**
2.1nm,0.3s							
DZM	**Mont Dzumac**	**18.93**	**146**	P	**Pn**	**09 19 15.2**	**-0.2**
1.1nm,0.3s,baz=289,slow=10,SNR=13							
DZM				LR	LR	09 25 31.1	
comp=Z,121nm,18.1s,baz=42,slow=33							
DZM	**Mont Dzumac**	**18.93**	**146**	IAmb	IAmb	09 19 22.2	
comp=Z,10nm,0.6s							
EIDS	**Eidsvold**	**19.12**	**191**	P	**P**	**09 19 15.9**	**-0.4**
WR0	**Warramunga Arr**	**24.02**	**234**	P	**P**	**09 20 07.0**	**-0.6**
WR0				IAmb	IAmb	09 20 22.1	
comp=Z,12nm,0.8s							
WB0	**Warramunga Arr**	**24.04**	**235**	P	**P**	**09 20 07.1**	**-0.8**
WC3	**Warramunga Arr**	**24.15**	**234**	P	**P**	**09 20 08.1**	**-0.8**
WRAB	**Tennant Creek**	**24.16**	**235**	P	**P**	**09 20 08.5**	**-0.4**
WRAB				IAmb	IAmb	09 20 23.3	
comp=Z,8.6nm,0.6s							
WB2	**Warramunga Arr**	**24.16**	**235**	P	**P**	**09 20 08.6**	**-0.3**
WRA	**Warramunga Arr**	**24.17**	**235**	P	**P**	**09 20 08.5**	**-0.6**
comp=Z,2.6nm,0.5s,baz=56,slow=9.6,SNR=43							
WRA				PcP	**PcP**	**09 23 48.3**	**-0.6**
comp=Z,2.1nm,0.6s,baz=60,slow=2.2,SNR=13							
WRA				S	**S**	**09 24 26.1**	**+2.5**
comp=Z,1.6nm,1.1s,baz=65,slow=18,SNR=4.9							
WRA				LR	LR	09 28 46.5	
comp=Z,78nm,21.5s,baz=50,slow=34							
WRA	**Warramunga Arr**	**24.17**	**235**	P	**P**	**09 20 08.0**	**-1.0**
MTN	**Manton Dam**	**24.44**	**253**	P	**P**	**09 20 11.3**	**-0.2**
SIJI	**Sorong**	**24.44**	**282**	P	**P**	**09 20 10.3**	**-1.3**
comp=Z,6.8nm,0.3s,baz=263,slow=23,SNR=4.2							
SIJI				LR	LR	09 30 52.3	
comp=Z,67nm,18.1s,baz=316,slow=39							
AS31	**Alice Springs**	**26.56**	**228**	P	**P**	**09 20 29.9**	**-0.8**
ASAR	**Alice Springs**	**26.56**	**228**	P	**P**	**09 20 29.5**	**-1.2**
comp=Z,1.3nm,0.5s,baz=58,slow=9.2,SNR=38							
ASAR				PcP	**PcP**	**09 23 54.0**	**-0.2**
comp=Z,1.8nm,0.7s,baz=56,slow=2.4,SNR=13							
H11S3	**WAKE ISLAND Hy**	**27.37**	**24**	T	T	09 48 49.3	
baz=204,slow=75,SNR=40							
H11S2	**WAKE ISLAND Hy**	**27.38**	**25**	T	T	09 48 49.4	
baz=204,slow=75,SNR=49							
H11S1	**WAKE ISLAND Hy**	**27.39**	**24**	T	T	09 48 51.8	
baz=204,slow=75,SNR=40							
STKA	**Stephens Creek**	**28.19**	**205**	P	**P**	**09 20 43.7**	**-1.5**
comp=Z,1.3nm,0.7s,baz=15,slow=11,SNR=3.0							
STKA				PcP	**PcP**	**09 23 57.0**	**-0.9**
comp=Z,1.4nm,0.6s,baz=5.8,slow=4.8,SNR=4.4							
STKA				LR	LR	09 31 46.9	
comp=Z,96nm,19.2s,baz=25,slow=36							
STKA	**Stephens Creek**	**28.19**	**205**	IAmb	IAmb	09 20 49.5	
comp=Z,1.2nm,1.4s							
FITZ	**Fitzroy Crossi**	**30.94**	**246**	P	**P**	**09 21 08.5**	**-1.2**
comp=Z,3.8nm,0.7s,baz=81,slow=6.8,SNR=7.4							
FITZ	**Fitzroy Crossi**	**30.94**	**246**	P	**P**	**09 21 08.8**	**-1.0**
BATI	**Baumata**	**31.31**	**261**	LR	LR	09 35 44.2	
comp=Z,47nm,18.4s,baz=110,slow=40							
BBOO	**Buckleboo**	**31.58**	**212**	P	**P**	**09 21 13.9**	**-1.3**
BBOO				IAmb	IAmb	09 21 17.0	
comp=Z,8.0nm,1.0s							
DAV	**Davao City (W)**	**32.42**	**294**	LR	LR	09 32 45.0	
comp=Z,40nm,21.8s,baz=327,slow=33							
RAO	**Raoul Island**	**34.02**	**135**	P	**P**	**09 21 35.6**	**-0.9**
FORT	**Forrest**	**35.00**	**223**	P	**P**	**09 21 46.1**	**+1.1**
URZ	**Urewera**	**37.35**	**151**	P	**P**	**09 22 06.1**	**+1.1**
comp=Z,2.8nm,0.6s,baz=245,slow=3.4,SNR=5.9							
URZ	**Urewera**	**37.35**	**151**	P	**P**	**09 22 06.8**	**+1.9**
URZ	**Urewera**	**37.35**	**151**	P	**P**	**09 22 05.4**	**+0.4**
RTZ	**Ruatahuna**	**37.56**	**151**	P	**P**	**09 22 07.3**	**+0.5**
MWZ	**Matawai**	**37.61**	**151**	P	**P**	**09 22 08.4**	**+1.2**
WMGZ	**Waiomatatini S**	**37.65**	**149**	P	**P**	**09 22 07.9**	**+0.4**
MTHZ	**Maungataniwha**	**37.69**	**152**	P	**P**	**09 22 08.3**	**+0.4**
PUZ	**Puketiti**	**37.77**	**150**	P	**P**	**09 22 08.1**	**-0.4**
BKZ	**Black Stump Fm**	**37.78**	**152**	P	**P**	**09 22 08.4**	**-0.3**
BKZ	**Black Stump Fm**	**37.78**	**152**	P	**P**	**09 22 08.6**	**0.0**
BKZ				IAmb	IAmb	09 22 09.8	
comp=Z,5.8nm,0.7s							
CNGZ	**Carnagh Statio**	**38.06**	**150**	P	**P**	**09 22 11.3**	**+0.3**
KNZ	**Kokohu**	**38.22**	**151**	P	**P**	**09 22 11.2**	**-1.0**
THZ	**Tophouse**	**38.48**	**158**	P	**P**	**09 22 13.8**	**-0.7**
THZ	**Tophouse**	**38.48**	**158**	P	**P**	**09 22 14.5**	**-0.1**
THZ				IAmb	IAmb	09 22 20.6	
comp=Z,10nm,0.9s							
TUWZ	**Tuamarina**	**38.58**	**157**	P	**P**	**09 22 15.2**	**-0.1**
MRZ	**Mangatainoka R**	**38.59**	**155**	P	**P**	**09 22 14.5**	**-0.9**
BFZ	**Birch Farm**	**38.90**	**154**	P	**P**	**09 22 16.9**	**-1.1**
BFZ	**Birch Farm**	**38.90**	**154**	P	**P**	**09 22 18.3**	**+0.3**
MTW	**Mount Morrison**	**38.98**	**155**	P	**P**	**09 22 17.9**	**-0.7**
LTZ	**Lake Taylor**	**39.15**	**160**	P	**P**	**09 22 19.3**	**-0.8**
LTZ	**Lake Taylor**	**39.15**	**160**	P	**P**	**09 22 20.1**	**0.0**
OXZ	**Oxford**	**39.55**	**161**	P	**P**	**09 22 21.7**	**-1.7**
RPZ	**Rata Peaks**	**39.59**	**162**	P	**P**	**09 22 25.7**	**+2.0**
comp=Z,4.0nm,0.5s,baz=8.1,slow=14,SNR=4.3							
RPZ	**Rata Peaks**	**39.59**	**162**	P	**P**	**09 22 24.3**	**+0.6**
RPZ				IAmb	IAmb	09 22 26.4	
comp=Z,14nm,1.0s							
MQZ	**McQueen's Vall**	**40.10**	**160**	P	**P**	**09 22 27.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**43.88**	**228**	P	**P**	**09 23 00.1**	**+1.2**
comp=Z,5.3nm,0.7s,baz=42,slow=16,SNR=2.8							
NWAO	**Narrogin (SRO)**	**43.88**	**228**	P	**P**	**09 22 59.5**	**+0.5**
NWAO				IAmb	IAmb	09 23 13.0	
comp=Z,21nm,1.2s							
MJAR	**Matsushiro Arr**	**45.69**	**341**	LR	LR	09 41 50.7	
comp=Z,7.0nm,19.3s,baz=175,slow=35							
KSRS	**Korea Array**	**50.59**	**332**	P	**P**	**09 23 47.6**	**-3.4**
comp=Z,0.9nm,0.6s,baz=149,slow=7.3,SNR=4.1							
USA0B	**Ussuriysk Arra**	**54.65**	**340**	P	**P**	**09 24 21.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**54.65**	**340**	P	**P**	**09 24 20.3**	**-0.5**
comp=Z,1.7nm,0.7s,baz=156,slow=6.1,SNR=4.0							
PEA0B	**Petropavlovsk-**	**59.46**	**2**	P	**P**	**09 24 54.8**	**0.0**
PETK	**Petropavlovsk-**	**59.46**	**2**	P	**P**	**09 24 53.9**	**-0.9**
comp=Z,4.4nm,0.6s,baz=148,slow=3.8,SNR=12							
PETK				LR	LR	09 46 48.8	
comp=Z,15nm,21.6s,baz=242,slow=32							
KMI	**Kunming**	**59.86**	**304**	P	**P**	**09 24 59.3**	**+1.0**
KMI				pP	pP	09 25 10.5	-3.0
KMI				pmax	pmax		
comp=Z,19nm,1.2s							
PAYA	**Payao**	**60.16**	**297**	P	**P**	**09 25 00.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**60.69**	**295**	P	**P**	**09 25 04.0**	**+0.1**
comp=Z,7.5nm,0.7s,baz=124,slow=5.3,SNR=30							
CMAR				LR	LR	09 50 22.3	
comp=Z,8.2nm,22.0s,baz=100,slow=35							
CMMT	**Chiang Mai**	**60.80**	**296**	P	**P**	**09 25 04.9**	**+0.3**
HHC	**Hu-ho-hao-te**	**61.80**	**324**	*eP*	**P**	**09 25 12.3**	**+1.2**
SONM	**Songino Array**	**69.02**	**327**	P	**P**	**09 25 57.0**	**-0.6**
comp=Z,0.9nm,0.4s,baz=138,slow=6.3,SNR=7.5							
SONM	**Songino Array**	**69.02**	**327**	IAmb	IAmb	09 25 58.2	
comp=Z,1.2nm,0.7s							
SVW2	**Sparrevohn**	**77.54**	**22**	P	**P**	**09 26 48.4**	**+1.0**
SVW2				IAmb	IAmb	09 27 02.8	
comp=Z,9.2nm,1.2s							
CNPM	**China Poot**	**78.30**	**25**	P	**P**	**09 26 52.5**	**+0.8**
SUA	**Susitna One**	**79.62**	**23**	P	**P**	**09 26 59.0**	**+0.1**
RC01	**Rabbit Creek A**	**79.81**	**24**	P	**P**	**09 27 00.2**	**+0.3**
PPLA	**Purkeypile**	**79.91**	**22**	P	**P**	**09 27 00.4**	**-0.1**
PPLA				IAmb	IAmb	09 27 05.1	
comp=Z,15nm,1.5s							
PMR	**Palmer**	**80.33**	**24**	P	**P**	**09 27 01.6**	**-1.0**
KTH	**Kantishna Hill**	**80.76**	**22**	P	**P**	**09 27 03.4**	**-1.7**
KTH				IAmb	IAmb	09 27 15.2	
comp=Z,11nm,1.3s							
IMAR	**Indian Mountai**	**81.26**	**19**	P	**P**	**09 27 07.8**	**+0.2**
RND	**Reindeer**	**81.44**	**22**	P	**P**	**09 27 08.4**	**-0.3**
RND				IAmb	IAmb	09 27 22.2	
comp=Z,8.2nm,1.2s							
MCK	**McKinley**	**81.59**	**22**	P	**P**	**09 27 09.3**	**-0.1**
MCK				IAmb	IAmb	09 27 09.4	
comp=Z,12nm,1.0s							
DHY	**Denali Highway**	**81.83**	**23**	P	**P**	**09 27 11.9**	**+1.1**
GLB	**Gilahina Butte**	**82.44**	**25**	P	**P**	**09 27 14.2**	**+0.4**
GLB				IAmb	IAmb	09 27 14.9	
comp=Z,8.7nm,0.9s							
VRDI	**Verde Repeater**	**82.48**	**25**	P	**P**	**09 27 13.5**	**-0.9**
CCB	**Clear Creek Bu**	**82.51**	**21**	P	**P**	**09 27 13.2**	**-1.0**
BALM	**Baldy**	**82.87**	**26**	P	**P**	**09 27 15.6**	**-0.7**
IL31		**82.91**	**21**	P	**P**	**09 27 14.7**	**-1.5**
ILAR	**Eielson Array**	**82.91**	**21**	P	**P**	**09 27 15.2**	**-1.0**
comp=Z,0.7nm,0.4s,baz=243,slow=5.8,SNR=17							
ILAR				LR	LR	09 58 51.5	
comp=Z,35nm,21.6s,baz=258,slow=32							
MKAR	**Makanchi Array**	**83.14**	**319**	P	**P**	**09 27 16.3**	**-1.6**
comp=Z,1.5nm,0.8s,baz=104,slow=5.1,SNR=7.3							
MKAR	**Makanchi Array**	**83.14**	**319**	P	**P**	**09 27 16.7**	**-1.2**
BARN	**Barnard Glacie**	**83.18**	**26**	P	**P**	**09 27 17.8**	**-0.1**
BARN				IAmb	IAmb	09 27 19.2	
comp=Z,7.5nm,0.8s							
CTGM	**Chitina Glacie**	**83.28**	**26**	P	**P**	**09 27 18.8**	**+0.4**
QSPA	**South Pole Qui**	**83.43**	**180**	P	**P**	**09 27 18.7**	**-0.4**
QSPA				IAmb	IAmb	09 27 19.5	
comp=Z,5.9nm,0.8s							
BCPM	**Bancas Point**	**83.60**	**27**	P	**P**	**09 27 19.3**	**-0.6**
ZALV	**Zalesovo Beam**	**83.87**	**326**	P	**P**	**09 27 19.6**	**-1.8**
comp=Z,0.7nm,0.3s,baz=101,slow=2.9,SNR=3.1							
ZALV				LR	LR	10 03 11.2	
comp=Z,8.1nm,22.0s,baz=30,slow=34							
KSH	**Kashi**	**85.81**	**310**	P	**P**	**09 27 34.0**	**+2.4**
KSH				pP	pP	09 27 45.3	-2.3
KSH				sP	sP	09 27 49.6	-4.1
KSH				PP	**PP**	**09 30 58.0**	**+6.2**
KSH	**Kashi**	**85.81**	**310**

AFI	**Afiamalu**	**7.07**	**34**	Pn	**Pn**	09 53 48.6	-0.1
DZM	**Mont Dzumac**	**16.67**	**259**	P	**Pn**	09 55 51.0	+2.3
	2.9nm,0.3s,baz=103,slow=22,SNR=41						
DZM	**Mont Dzumac**	**16.67**	**259**		**Pn**	09 55 51.0	+2.3
URZ	**Urewera**	**19.36**	**197**	P	**P**	09 56 17.5	+1.3
	1.4nm,0.3s,baz=257,slow=5.4,SNR=11						
URZ				S	**S**	09 59 38.2	-4.9
	0.4nm,0.3s,baz=222,slow=19,SNR=4.1						
URZ	**Urewera**	**19.36**	**197**	IAmb	IAmb	09 56 29.4	
	comp=Z,19nm,1.3s						
BKZ	**Black Stump Fm**	**20.37**	**197**	P	**P**	09 56 27.1	-0.1
BKZ				IAmb	IAmb	09 56 32.5	
	comp=Z,9.7nm,1.3s						
BFZ	**Birch Farm**	**21.86**	**196**	P	**P**	09 56 44.5	+2.2
QRZ	**Quartz Range**	**23.16**	**203**	P	**P**	09 56 55.6	+1.4
NNZ	**Nelson**	**23.21**	**201**	P	**P**	09 56 55.9	+1.4
TUWZ	**Tuamarina**	**23.22**	**200**	P	**P**	09 56 55.7	+1.1
THZ	**Tophouse**	**23.86**	**201**	P	**P**	09 57 01.7	+1.1
THZ				IAmb	IAmb	09 57 20.1	
	comp=Z,36nm,1.3s						
KHZ	**Kahutara**	**24.24**	**199**	P	**P**	09 57 03.4	-0.4
LTZ	**Lake Taylor**	**24.98**	**201**	P	**P**	09 57 09.9	-0.8
OXZ	**Oxford**	**25.54**	**201**	P	**P**	09 57 15.4	-0.3
OXZ				IAmb	IAmb	09 57 26.0	
	comp=Z,10nm,0.9s						
RPZ	**Rata Peaks**	**26.22**	**202**	P	**P**	09 57 22.1	+0.3
RPZ				IAmb	IAmb	09 57 37.1	
	comp=Z,17nm,1.1s						
FOZ	**Fox Glacier**	**26.51**	**204**	P	**P**	09 57 25.1	+0.8
COEN	**Coen**	**39.55**	**272**	P	**P**	09 59 17.9	+0.7
STKA	**Stephens Creek**	**39.88**	**244**	P	**P**	09 59 21.8	+2.1
	comp=Z,1.0nm,0.4s,baz=102,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**39.88**	**244**	P	**P**	09 59 19.2	-0.5
AS31	**Alice Springs**	**46.62**	**256**	P	**P**	10 00 14.1	+0.3
ASAR	**Alice Springs**	**46.62**	**256**	P	**P**	10 00 13.3	-0.4
	comp=Z,5.6nm,0.5s,baz=93,slow=8.3,SNR=58						
ASAR	**Alice Springs**	**46.62**	**256**	P	**P**	10 00 11.7	-2.1
WB0	**Warramunga Arr**	**46.65**	**261**	P	**P**	10 00 13.6	-0.4
WRAB	**Tennant Creek**	**46.67**	**261**	P	**P**	10 00 13.2	-0.9
WRA	**Warramunga Arr**	**46.68**	**261**	P	**P**	10 00 13.3	-0.9
	comp=Z,1.2nm,0.2s,baz=96,slow=7.3,SNR=54						
WRA	**Warramunga Arr**	**46.68**	**261**	P	**P**	10 00 13.3	-0.9
LPIG	**La Paz**	**77.35**	**59**	P	**P**	10 03 37.1	-0.8
	comp=Z,29nm,0.4s,baz=227,slow=6.2,SNR=6.5						
TXAR	**Lajitas Array**	**85.01**	**57**	P	**P**	10 04 18.2	-0.1
	comp=Z,0.5nm,0.8s,baz=219,slow=8.0,SNR=5.3						
YHB	**Horse Butte**	**87.11**	**40**	P	**P**	10 04 25.4	-2.9
HHC	**Hu-ho-hao-te**	**90.32**	**314**	*eP*	**P**	10 04 42.4	-0.9
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,7.0nm,5.2s						
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P	**P**	10 04 51.6	+1.1
	comp=Z,1.3nm,0.3s,baz=12,slow=2.0,SNR=4.9						
GERES	**GERESS Array B**	**150.04**	**347**	PKPbc	**PKPbc**	10 11 31.4	-0.2
	comp=Z,0.5nm,0.5s,baz=136,slow=37,SNR=1.7						

*ISCJB **21** 09:53:02.4±0.3, 47°.58N±0°.01×2°.69W±0°.02, h3km±1km, MS4.0/2, Error ellipse: s-maj=2.0km s-min=1.7km az=179.5*
*IDC **21** 09:53:03.9±1.8, 47°.66N×3°.17W, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.6/42, mbtmp3.7/10, ML4.4/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/33, Error ellipse: s-maj=32.7km s-min=21.0km az=93.0*
*MOS **21** 09:53:04.3±1.1, 47°.58N×2°.76W, h11km, mb4.6/3, Error ellipse: s-maj=5.6km s-min=5.2km az=26.9*
*NEIC **21** 09:53:04.5±3.5, 47°.67N±0°.02×2°.87W±0°.08, h10km±1km*
*BGS **21** 09:53:05.7±0.5, 47°.72N×2°.92W, h5km±9km, ML4.0, ML4.0*
*STR **21** 09:53:06.7±0.5, 48°N±2°×°±°, h4km±4km, mb3.9/9, MLv4.6/26*
*LDG **21** 09:53:06.3±0.1, 47°.69N×2°.83W, h4km, Md3.9/7, Ml4.5/62, ms2.5/6, Error ellipse: s-maj=1.2km s-min=1.0km az=70.0*
*IGIL **21** 09:53:08.6, 47°.68N×2°.88W, h2km*
*INMG **21** 09:53:08.0±1.9, 47°.69N×2°.94W, h15km, ML3.6, Error ellipse: s-maj=7.5km s-min=3.6km az=102.0*

ISC 21 09:53:04.9±0.8, **47°.63N**±0°.02×**2°.77W**±0°.02, **h11**km±5km, **n360**, σ2§25/556, **1C-3D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**0.39**	**317**	*e*Pg	**Pg**	**09 53 12.1**	**-0.5**
QUIF				*e*Sg	**Sg**	**09 53 16.4**	**-1.4**
QUIF	**Quistinic**	**0.39**	**317**	P	**Pg**	**09 53 12.1**	**-0.5**
QUIF	**Quistinic**	**0.39**	**317**		**Pg**	**09 53 12.1**	**-0.5**
QUIF					**Sg**	**09 53 16.4**	**-1.4**
SGMF	**Saint Gilles**	**0.64**	**13**	*e*Pg	**Pb**	**09 53 17.8**	**-0.3**
SGMF	**Saint Gilles**	**0.64**	**13**	*e*Pn	**Pn**	**09 53 20.0**	**+0.1**
SGMF				*e*Sg	**Sg**	**09 53 25.2**	**-0.6**
	9μm,0.2s						
SGMF				*e*Sn	**Sn**	**09 53 29.1**	**-1.0**
	6μm,0.2s						
SGMF	**Saint Gilles**	**0.64**	**13**	P	**Pb**	**09 53 17.8**	**-0.3**
SGMF						09 53 25.2	
SGMF	**Saint Gilles**	**0.64**	**13**		**Pb**	**09 53 17.8**	**-0.3**
SGMF					**Pn**	**09 53 20.0**	**+0.1**
SGMF					**Sg**	**09 53 25.2**	**-0.6**
SGMF					**Sn**	**09 53 29.1**	**-1.0**
ROSF	**Rostrenen**	**0.78**	**335**	*e*Pg	**Pg**	**09 53 20.0**	**0.0**
ROSF	**Rostrenen**	**0.78**	**335**	*e*P	**Pn**	**09 53 21.4**	**-0.5**
ROSF				*e*Sg	**Sg**	**09 53 29.2**	**-1.1**
	7μm,0.3s						
ROSF	**Rostrenen**	**0.78**	**335**	P	**Pn**	**09 53 21.4**	**-0.5**
ROSF						09 53 29.2	
ROSF	**Rostrenen**	**0.78**	**335**		**Pn**	**09 53 21.4**	**-0.5**
ROSF					**Sg**	**09 53 29.2**	**-1.1**
RENF	**Rennes**	**0.91**	**57**	Pg	**Pn**	**09 53 23.2**	**-0.3**
RENF				Sg	**Sb**	**09 53 34.9**	**+0.2**
RENF				Sn	**Sn**	**09 53 37.9**	**+1.3**
GRR	**Gorron**	**1.49**	**59**	*e*Pn	**Pb**	**09 53 32.6**	**0.0**
GRR	**Gorron**	**1.49**	**59**	*e*Pg	**Pg**	**09 53 34.2**	**+0.7**
GRR				*e*Sn	**Sn**	**09 53 50.9**	**-0.2**
	638nm,0.2s						
GRR				*e*Sg	**Sg**	**09 53 53.4**	**+0.5**
	2μm,0.3s						
GRR	**Gorron**	**1.49**	**59**	P	**Pg**	**09 53 34.2**	**+0.7**
GRR						09 53 50.9	
GRR	**Gorron**	**1.49**	**59**		**Pg**	**09 53 34.2**	**+0.7**
GRR					**Sn**	**09 53 50.9**	**-0.2**
GRR					**Sg**	**09 53 53.4**	**+0.5**
JSA	**Saint Aubin**	**1.61**	**14**	*e*P	**Pn**	**09 53 33.1**	**-0.1**
JSA				*e*S	**Sn**	**09 53 52.6**	**-1.3**
JSA				IAML		09 53 56.0	
	comp=N,3μm,0.1s						
JSA				IAML		09 53 56.2	
	comp=Z,2μm,0.4s						
JSA	**Saint Aubin**	**1.61**	**14**	Pn	**Pn**	**09 53 33.2**	**0.0**
JSA				Pg	**Pg**	**09 53 35.2**	**-0.6**
JSA				Sg	**Sb**	**09 53 55.1**	**+0.2**
JRS	**Jersey**	**1.63**	**16**	*e*P	**Pn**	**09 53 33.3**	**-0.2**
JRS				*e*S	**Sn**	**09 53 53.4**	**-1.0**
JRS				IAML		09 53 56.2	
	comp=E,2μm,0.6s						
JRS				IAML		09 53 56.8	
	comp=N,2μm,0.6s						
JVM	**Valle D.L. Mar**	**1.63**	**13**	*e*P	**Pn**	**09 53 33.2**	**-0.3**
JQE	**Queens East**	**1.65**	**17**	*e*P	**Pn**	**09 53 33.7**	**0.0**
JLP	**Les Platons**	**1.68**	**15**	*e*P	**Pn**	**09 53 33.9**	**-0.2**
FLN	**La Foliniere**	**1.91**	**53**	*e*Pn	**Pn**	**09 53 38.1**	**+0.8**
	baz=234						
FLN				*e*R			
	comp=N,147nm,14.9s						
FLN	**La Foliniere**	**1.91**	**53**	*e*P	**Pg**	**09 53 40.4**	**-1.0**
	baz=233						
FLN	**La Foliniere**	**1.91**	**53**	*e*Pg	**Pg**	**09 53 41.4**	**0.0**
	baz=234						
FLN				*e*Sn	**Sn**	**09 54 00.5**	**-0.8**
	comp=N,578nm,0.2s,baz=242						
FLN				*e*Sg	**Sg**	**09 54 05.9**	**-0.2**
	comp=N,1μm,0.2s,baz=242						
FLN	**La Foliniere**	**1.91**	**53**	P	**Pn**	**09 53 38.1**	**+0.8**
FLN	**La Foliniere**	**1.91**	**53**		**Pn**	**09 53 38.1**	**+0.8**
FLN					**Pg**	**09 53 41.4**	**0.0**
FLN					**Sn**	**09 54 00.5**	**-0.8**
FLN					**Sg**	**09 54 05.9**	**-0.2**
LDF	**La Druitiere**	**2.02**	**60**	*e*Pn	**Pn**	**09 53 39.9**	**+1.0**
LDF	**La Druitiere**	**2.02**	**60**	*e*Pg	**Pg**	**09 53 43.6**	**0.0**
LDF				*e*Sn	**Sn**	**09 54 03.3**	**-0.8**
	comp=N,879nm,0.2s						
LDF				*e*Sg	**Sg**	**09 54 09.9**	**+0.1**
	comp=N,2μm,0.4s						
LDF	**La Druitiere**	**2.02**	**60**	P	**Pn**	**09 53 39.9**	**+1.0**
LDF	**La Druitiere**	**2.02**	**60**		**Pn**	**09 53 39.9**	**+1.0**
LDF					**Pg**	**09 53 43.6**	**0.0**
LDF					**Sn**	**09 54 03.3**	**-0.8**
LDF					**Sg**	**09 54 09.9**	**+0.1**
MFF	**Saint Martin d**	**2.07**	**119**	*e*Pn	**Pb**	**09 53 40.9**	**-1.5**
MFF	**Saint Martin d**	**2.07**	**119**	*e*P	**Pb**	**09 53 43.2**	**+0.8**
MFF	**Saint Martin d**	**2.07**	**119**	*e*Pg	**Pg**	**09 53 46.0**	**+1.5**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**09 54 05.8**	**+0.6**
	comp=N,914nm,0.3s						
MFF				*e*Sg	**Sg**	**09 54 13.6**	**+2.3**
	comp=N,1μm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**2.07**	**119**	Pn	**Pb**	**09 53 42.0**	**-0.4**
MFF				Pg	**Pg**	**09 53 45.1**	**+0.7**
MFF	**Saint Martin d**	**2.07**	**119**	P	**Pb**	**09 53 40.9**	**-1.5**
MFF				SN	**Sn**	**09 54 05.8**	**+0.6**
MFF	**Saint Martin d**	**2.07**	**119**		**Pb**	**09 53 40.9**	**-1.5**
MFF					**Pb**	**09 53 43.2**	**+0.8**
MFF					Pn	09 53 46.0	+6.5
MFF					**Sn**	**09 54 05.8**	**+0.6**
MFF					**Sg**	**09 54 13.6**	**+2.3**
CHIF	**Chize**	**2.21**	**132**	Pn	**Pb**	**09 53 43.1**	**-1.7**
CHIF				Pg	**Pg**	**09 53 47.6**	**+0.5**
DYA	**Yadsworthy**	**2.91**	**345**	Pn	**Pn**	**09 53 50.3**	**-0.8**
CCA1	**Carnmenellis**	**3.03**	**329**	*e*P	**Pn**	**09 53 52.0**	**-0.8**
CCA1				IAML		09 54 45.4	
	comp=E,481nm,0.3s						
CCA1				IAML		09 54 49.1	
	comp=N,405nm,0.4s						
CCA1	**Carnmenellis**	**3.03**	**329**	Pn	**Pn**	**09 53 51.9**	**-0.8**
LRVF	**chteau la Riv**	**3.18**	**147**	Pn	**Pn**	**09 53 57.3**	**+2.5**
CLF	**Chambon-Foret**	**3.41**	**81**		**Pn**	**09 53 59.7**	**+1.8**
CLF				Sn	**Sb**	**09 54 42.8**	**-4.0**
HTL	**Hartland**	**3.55**	**342**	*e*P	**Pn**	**09 53 59.1**	**-0.8**
HTL	**Hartland**	**3.55**	**342**	Pn	**Pn**	**09 53 59.4**	**-0.4**
LFF	**La Frestale**	**3.63**	**137**	*e*Pn	**Pn**	**09 54 02.8**	**+1.8**
	SNR=1.0						
LFF	**La Frestale**	**3.63**	**137**	*e*Pg	**Pg**	**09 54 14.6**	**+0.3**
LFF				*e*Sn	**Sn**	**09 54 43.3**	**-0.4**
	comp=N,167nm,0.3s						
LFF				*e*Sg	**Sg**	**09 55 01.9**	**+0.6**
	comp=N,1μm,0.4s,SNR=1.0						
LFF	**La Frestale**	**3.63**	**137**	P	**Pn**	**09 54 02.8**	**+1.8**
LFF						09 54 43.3	
LFF	**La Frestale**	**3.63**	**137**		**Pn**	**09 54 02.8**	**+1.8**
LFF					**Pg**	**09 54 14.6**	**+0.3**
LFF					**Sn**	**09 54 43.3**	**-0.4**
LFF					LR	09 55 01.9	
TCF	**Toulx Ste Croi**	**3.67**	**110**	*e*Pn	**Pn**	**09 54 02.5**	**+1.0**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**3.67**	**110**	*e*P	**Pn**	**09 54 05.2**	**+3.7**
TCF	**Toulx Ste Croi**	**3.67**	**110**	*e*Pg	**Pg**	**09 54 15.3**	**+0.2**
TCF				*e*Sn	**Sn**	**09 54 43.5**	**-1.2**
TCF				*e*Sg	**Sg**	**09 55 03.0**	**+0.5**
	comp=N,832nm,0.4s						
TCF	**Toulx Ste Croi**	**3.67**	**110**	P	**Pn**	**09 54 02.5**	**+1.0**
TCF				SN	**Sn**	**09 54 43.5**	**-1.2**
TCF	**Toulx Ste Croi**	**3.67**	**110**		**Pn**	**09 54 02.5**	**+1.0**
TCF					**Pn**	**09 54 05.2**	**+3.7**
TCF					**Pg**	**09 54 15.3**	**+0.2**
TCF					**Sn**	**09 54 43.5**	**-1.2**
TCF					LR	09 55 03.0	
HYF	**Humbligny**	**3.69**	**94**	*e*Pn	**Pn**	**09 54 02.8**	**+1.0**
HYF	**Humbligny**	**3.69**	**94**	*e*P	**Pb**	**09 54 06.3**	**-3.7**
HYF	**Humbligny**	**3.69**	**94**	*e*Pg	**Pg**	**09 54 16.0**	**+0.5**
HYF				*e*Sg	**Sg**	**09 55 02.7**	**-0.6**
HYF	**Humbligny**	**3.69**	**94**		**Pn**	**09 54 02.8**	**+1.0**
HYF					**Pb**	**09 54 06.3**	**-3.7**
HYF					**Pg**	**09 54 16.0**	**+0.5**
HYF					**Sg**	**09 55 02.7**	**-0.6**
RJF	**Les Rejaudoux**	**3.77**	**127**	*e*Pn	**Pn**	**09 54 04.1**	**+1.2**
	SNR=1.0						
RJF				*e*R			
	comp=N,109nm,17.0s						
RJF	**Les Rejaudoux**	**3.77**	**127**	*e*Pg	**Pg**	**09 54 16.6**	**-0.4**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**09 54 46.5**	**-0.7**
	comp=N,141nm,0.3s,SNR=1.0						
RJF				*e*Sg	**Sg**	**09 55 05.9**	**+0.1**
	comp=N,1μm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.77**	**127**	P	**Pn**	**09 54 04.1**	**+1.2**
RJF						09 54 46.5	
RJF	**Les Rejaudoux**	**3.77**	**127**		**Pn**	**09 54 04.1**	**+1.2**
RJF					**Pg**	**09 54 16.6**	**-0.4**
RJF					**Sn**	**09 54 46.5**	**-0.7**
RJF					LR	09 55 05.9	
HMNX	**Herstmonceux**	**3.83**	**31**	Pn	**Pn**	**09 54 03.6**	**0.0**
SWN1	**Swindon**	**3.94**	**9**	Pn	**Pn**	**09 54 05.0**	**-0.2**
BGF	**Bois d'Agland**	**3.98**	**104**	*e*Pn	**Pn**	**09 54 06.8**	**+0.9**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.98**	**104**	*e*P	**Pn**	**09 54 10.2**	**+4.3**
BGF	**Bois d'Agland**	**3.98**	**104**	*e*Pg	**Pg**	**09 54 21.0**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**09 54 51.7**	**-0.9**
BGF				*e*Sg	**Sg**	**09 55 12.6**	**-0.1**
	comp=N,1μm,0.4s						
BGF	**Bois d'Agland**	**3.98**	**104**	P	**Pn**	**09 54 06.8**	**+0.9**
BGF				SN	**Sn**	**09 54 51.7**	**-0.9**
BGF	**Bois d'Agland**	**3.98**	**104**		**Pn**	**09 54 06.8**	**+0.9**
BGF					**Pn**	**09 54 10.2**	**+4.3**
BGF					**Pg**	**09 54 21.0**	**-0.2**
BGF					**Sn**	**09 54 51.7**	**-0.9**
BGF					LR	09 55 12.6	
OLDB	**Oldbury-Upon-S**	**4.04**	**2**	*e*P	**Pn**	**09 54 06.2**	**-0.3**
STRD	**Stroud**	**4.17**	**5**	*e*P	**Pn**	**09 54 07.9**	**-0.5**
MONM	**Monmouth**	**4.21**	**360**	*e*P	**Pn**	**09 54 08.4**	**-0.6**
AVF	**Avril sur Loir**	**4.26**	**99**	*e*Pn	**Pn**	**09 54 10.4**	**+0.8**
	SNR=1.0						
AVF	**Avril sur Loir**	**4.26**	**99**	*e*P	**Pn**	**09 54 14.0**	**+4.4**
AVF	**Avril sur Loir**	**4.26**	**99**	*e*Pg	**Pg**	**09 54 25.5**	**-0.9**
AVF				*e*Sn	**Sn**	**09 54 57.6**	**-1.7**
AVF				*e*Sg	**Sg**	**09 55 20.6**	**-0.9**
	comp=N,248nm,0.3s						
AVF	**Avril sur Loir**	**4.26**	**99**	P	**Pn**	**09 54 10.4**	**+0.8**
AVF				SN	**Sn**	**09 54 57.6**	**-1.7**
AVF	**Avril sur Loir**	**4.26**	**99**		**Pn**	**09 54 10.4**	**+0.8**
AVF					Pb	09 54 14.0	-5.7
AVF					**Pg**	**09 54 25.5**	**-0.9**
AVF					**Sn**	**09 54 57.6**	**-1.7**
AVF					**Sg**	**09 55 20.6**	**-0.9**
MONQ	**Montcuq**	**4.28**	**138**	Pn	**Pn**	**09 54 11.7**	**+1.8**
SSF	**Saint Saulge**	**4.31**	**95**	*e*Pn	**Pn**	**09 54 11.2**	**+0.9**
	SNR=1.0						
SSF	**Saint Saulge**	**4.31**	**95**	*e*P	**Pn**	**09 54 14.7**	**+4.4**
SSF	**Saint Saulge**	**4.31**	**95**	*e*Pg	**Pg**	**09 54 26.6**	**-0.7**
SSF				*e*Sn	**Sn**	**09 54 58.5**	**-2.0**
SSF				*e*Sg	**Sg**	**09 55 22.4**	**-0.6**
	comp=N,434nm,0.5s						
SSF	**Saint Saulge**	**4.31**	**95**	P	**Pn**	**09 54 11.2**	**+0.9**
SSF				SN	**Sn**	**09 54 58.5**	**-2.0**
SSF	**Saint Saulge**	**4.31**	**95**		**Pn**	**09 54 11.2**	**+0.9**
SSF					Pb	09 54 14.7	-5.8
SSF					**Pg**	**09 54 26.6**	**-0.7**
SSF					**Sn**	**09 54 58.5**	**-2.0**
SSF					LR	09 55 22.4	
CAF	**Calviac**	**4.31**	**127**	*e*Pn	**Pn**	**09 54 11.6**	**+1.3**
	SNR=1.0						
CAF	**Calviac**	**4.31**	**127**	*e*P	Pn	09 54 15.3	+5.0
CAF				*e*Sn	**Sn**	**09 54 58.3**	**-2.3**
	comp=N,107nm,0.3s,SNR=1.0						
CAF				*e*Sg	**Sg**	**09 55 24.0**	**+0.9**
	comp=N,783nm,0.5s						
CAF	**Calviac**	**4.31**	**127**	P	**Pn**	**09 54 11.6**	**+1.3**
CAF	**Calviac**	**4.31**	**127**		**Pn**	**09 54 11.6**	**+1.3**
CAF					Pb	09 54 15.3	-5.3
CAF					**Sn**	**09 54 58.3**	**-2.3**
CAF					LR	09 55 24.0	
AGO	**Saint Agoulin**	**4.35**	**109**	Pn	**Pn**	**09 54 12.2**	**+1.4**
ELSH	**Elham, Standar**	**4.35**	**34**	*e*P	**Pn**	**09 54 10.8**	**0.0**
ELSH	**Elham, Standar**	**4.35**	**34**	Pn	**Pn**	**09 54 10.9**	**+0.1**
MCH1	**Michaelchurch**	**4.38**	**358**	*e*P	**Pn**	**09 54 10.0**	**-1.2**
PYM	**Petit Puy Mans**	**4.40**	**113**	Pn	**Pn**	**09 54 13.1**	**+1.4**
LOR	**Lormes**	**4.51**	**92**	*e*Pn	**Pn**	**09 54 13.9**	**+0.8**
	baz=272,SNR=1.0						
LOR				*e*R			
	comp=N,162nm,13.8s						
LOR	**Lormes**	**4.51**	**92**	*e*P	**Pn**	**09 54 17.6**	**+4.5**
	baz=281						
LOR	**Lormes**	**4.51**	**92**	*e*Pg	**Pg**	**09 54 30.1**	**-1.2**
	baz=280						
LOR				*e*Sn	**Sn**	**09 55 03.2**	**-2.4**
	baz=273						
LOR				*e*Sg	**Sg**	**09 55 27.2**	**-2.5**
	comp=N,414nm,0.4s						
LOR	**Lormes**	**4.51**	**92**	Pn	**Pn**	**09 54 14.1**	**+0.9**
LOR	**Lormes**	**4.51**	**92**	P	**Pn**	**09 54 13.9**	**+0.8**
LOR				SN	**Sn**	**09 55 03.2**	**-2.4**
LOR	**Lormes**	**4.51**	**92**		**Pn**	**09 54 13.9**	**+0.8**
LOR					Pb	09 54 17.6	-6.5
LOR					**Pg**	**09 54 30.1**	**-1.2**
LOR					**Sn**	**09 55 03.2**	**-2.4**
LOR					**Sg**	**09 55 27.2**	**-2.5**
RSBS	**Rosebush, Pemb**	**4.51**	**344**	*e*P	**Pn**	**09 54 11.7**	**-1.4**
SMF	**Signal de Mont**	**4.62**	**100**	*e*Pn	**Pn**	**09 54 15.4**	**+0.8**
SMF	**Signal de Mont**	**4.62**	**100**	*e*P	Pn	09 54 19.6	+5.0
SMF	**Signal de Mont**	**4.62**	**100**	*e*Pg	**Pg**	**09 54 32.5**	**-0.8**
SMF				*e*Sn	**Sn**	**09 55 06.6**	**-1.6**
SMF				*e*Sg	**Sg**	**09 55 31.0**	**-2.1**
	comp=N,488nm,0.7s,SNR=1.0						
SMF	**Signal de Mont**	**4.62**	**100**	P	**Pn**	**09 54 15.4**	**+0.8**
SMF				SN	**Sn**	**09 55 06.6**	**-1.6**
SMF	**Signal de Mont**	**4.62**	**100**		**Pn**	**09 54 15.4**	**+0.8**
SMF					Pb	09 54 19.6	-6.3
SMF					**Pg**	**09 54 32.5**	**-0.8**
SMF					**Sn**	**09 55 06.6**	**-1.6**
SMF					**Sg**	**09 55 31.0**	**-2.1**
SJPF	**Ste Jean**	**4.65**	**166**	*e*Pn	**Pn**	**09 54 16.0**	**+1.0**
	SNR=1.0						
SJPF	**Ste Jean**	**4.65**	**166**	*e*P	Pn	09 54 20.3	+5.3
SJPF	**Ste Jean**	**4.65**	**166**	*e*Pg	**Pg**	**09 54 33.2**	**-0.6**
SJPF				*e*Sn	**Sn**	**09 55 06.0**	**-2.9**
	comp=N,96nm,0.3s						
SJPF				*e*Sg	**Sg**	**09 55 33.8**	**-0.2**
	comp=N,175nm,0.5s						
SJPF	**Ste Jean**	**4.65**	**166**	P	**Pn**	**09 54 16.0**	**+1.0**
SJPF				SN	**Sn**	**09 55 06.0**	**-2.9**
SJPF	**Ste Jean**	**4.65**	**166**		**Pn**	**09 54 16.0**	**+1.0**
SJPF					Pb	09 54 20.3	-6.0
SJPF					**Pg**	**09 54 33.2**	**-0.6**
SJPF					**Sn**	**09 55 06.0**	**-2.9**
SJPF					LR	09 55 33.8	
LBL	**Lubilhac**	**4.80**	**118**	Pn	**Pn**	**09 54 18.5**	**+1.4**
HLM1	**Long Mynd**	**4.89**	**359**	*e*P	**Pn**	**09 54 17.5**	**-0.9**
ETSF	**Etsaut**	**4.98**	**161**	*e*Pn	**Pn**	**09 54 20.2**	**+0.6**
	SNR=1.0						
ETSF	**Etsaut**	**4.98**	**161**	*e*Pg	**Pg**	**09 54 39.8**	**-0.4**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**09 55 15.5**	**-1.7**
	comp=N,52nm,0.3s						
ETSF				*e*Sg	**Sg**	**09 55 44.5**	**-0.2**
	comp=N,114nm,0.4s						
ETSF	**Etsaut**	**4.98**	**161**	P	**Pn**	**09 54 20.2**	**+0.6**
ETSF						09 55 15.5	
ETSF	**Etsaut**	**4.98**	**161**		**Pn**	**09 54 20.2**	**+0.6**
ETSF					**Pg**	**09 54 39.8**	**-0.4**
ETSF					**Sn**	**09 55 15.5**	**-1.7**
ETSF					LR	09 55 44.5	
EPF	**Esparros**	**5.09**	**153**	*e*Pn	**Pn**	**09 54 22.1**	**+0.9**
	SNR=1.0						
EPF	**Esparros**	**5.09**	**153**	*e*Pg	**Pg**	**09 54 41.3**	**-1.1**
EPF				*e*Sn	**Sn**	**09 55 17.3**	**-2.7**
	comp=N,109nm,0.4s						
EPF				*e*Sg	**Sg**	**09 55 48.3**	**-0.1**
	comp=N,352nm,0.6s						
EPF	**Esparros**	**5.09**	**153**	P	**Pn**	**09 54 22.1**	**+0.9**
EPF						09 55 17.3	
EPF	**Esparros**	**5.09**	**153**		**Pn**	**09 54 22.1**	**+0.9**
EPF					**Pg**	**09 54 41.3**	**-1.1**
EPF					**Sn**	**09 55 17.3**	**-2.7**
EPF					LR	09 55 48.3	
BAIF	**Baives**	**5.21**	**60**	*e*Pn	**Pn**	**09 54 23.4**	**+0.7**
	SNR=1.0						
BAIF	**Baives**	**5.21**	**60**	*e*P	**Pn**	**09 54 25.8**	**+3.1**
BAIF	**Baives**	**5.21**	**60**	*e*Pg	**Pg**	**09 54 42.9**	**-1.7**
BAIF				*e*Sn	**Sn**	**09 55 20.1**	**-2.6**
BAIF				*e*Sg	**Sg**	**09 55 49.6**	**-2.4**
	comp=N,226nm,0.5s						
BAIF	**Baives**	**5.21**	**60**	P	**Pn**	**09 54 23.4**	**+0.7**
BAIF				SN	**Sn**	**09 55 20.1**	**-2.6**
BAIF	**Baives**	**5.21**	**60**		**Pn**	**09 54 23.4**	**+0.7**
BAIF					Pb	09 54 25.8	-10
BAIF					**Pg**	**09 54 42.9**	**-1.7**

PAGF	**Fort de Pagny**	**5.77**	**78**	*e*Pg	**Pg**	**09 54 54.0**	**-1.3**
	baz=255						
PAGF				*e*Sn	**Sn**	**09 55 33.5**	**-3.0**
	baz=249						
PAGF				*e*Sg	**Sg**	**09 56 08.0**	**-1.9**
	comp=N,605nm,0.8s,baz=258						
PAGF	**Fort de Pagny**	**5.77**	**78**		**Pn**	**09 54 30.7**	**+0.3**
PAGF					Pb	09 54 35.2	-10
PAGF					**Pg**	**09 54 54.0**	**-1.3**
PAGF					**Sn**	**09 55 33.5**	**-3.0**
PAGF					LR	09 56 08.0	
LBWR	**Ladybower, Pea**	**5.82**	**6**	*e*P	**Pn**	**09 54 30.4**	**-0.6**
LASF	**Ste Croix**	**5.83**	**125**	*e*Pn	**Pn**	**09 54 32.7**	**+1.4**
	SNR=1.0						
LASF	**Ste Croix**	**5.83**	**125**	*e*Pg	**Pg**	**09 54 55.6**	**-1.0**
LASF				*e*Sn	**Sn**	**09 55 35.9**	**-2.3**
	comp=N,38nm,0.3s						
LASF				*e*Sg	**Sg**	**09 56 10.9**	**-1.2**
	comp=N,577nm,0.6s,SNR=1.0						
LASF	**Ste Croix**	**5.83**	**125**		**Pn**	**09 54 32.7**	**+1.4**
LASF					**Pg**	**09 54 55.6**	**-1.0**
LASF					**Sn**	**09 55 35.9**	**-2.3**
LASF					LR	09 56 10.9	
FNEB	**Nbias**	**5.85**	**142**	Pn	**Pn**	**09 54 33.5**	**+2.0**
BGES	**Gesves**	**5.86**	**59**	Pn	**Pn**	**09 54 32.1**	**+0.5**
BGES	**Gesves**	**5.86**	**59**	P	**Pn**	**09 54 34.4**	**+2.8**
BGES				Pg	**Pg**	**09 54 59.2**	**+2.2**
BGES				S	**Sn**	**09 55 37.3**	**-1.4**
BGES				Sg	**Sg**	**09 56 08.8**	**-4.1**
	comp=N,171nm,0.0s						
VIVF	**Saint-Julien-l**	**5.86**	**116**	*e*Pn	**Pn**	**09 54 33.0**	**+1.3**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**5.86**	**116**	*e*Pg	**Pg**	**09 54 55.6**	**-1.4**
VIVF				*e*Sn	**Sn**	**09 55 37.2**	**-1.6**
	comp=N,19nm,0.3s						
VIVF				*e*Sg	**Sg**	**09 56 11.5**	**-1.4**
	comp=N,141nm,0.5s						
VIVF	**Saint-Julien-l**	**5.86**	**116**	P	**Pn**	**09 54 33.0**	**+1.3**
VIVF						09 55 37.2	
VIVF	**Saint-Julien-l**	**5.86**	**116**		**Pn**	**09 54 33.0**	**+1.3**
VIVF					**Pg**	**09 54 55.6**	**-1.4**
VIVF					**Sn**	**09 55 37.2**	**-1.6**
VIVF					LR	09 56 11.5	
TRBF	**Trabuc cave**	**5.87**	**124**	Pn	**Pn**	**09 54 33.2**	**+1.4**
CSOR	**Sort**	**5.94**	**151**		**Pn**	**09 54 35.8**	**+3.0**
BCLA	**Clavier**	**6.00**	**59**	Pn	**Pn**	**09 54 34.1**	**+0.6**
BCLA	**Clavier**	**6.00**	**59**	P	**Pn**	**09 54 36.7**	**+3.2**
BCLA				Pg	**Pg**	**09 54 59.3**	**-0.4**
BCLA				S	**Sn**	**09 55 41.6**	**-0.6**
DSB	**Dublin**	**6.08**	**339**	Pn	**Pn**	**09 54 34.0**	**-0.5**
DSB				Sn	**Sn**	**09 55 38.0**	**-6.0**
EAGO	**Agolada(Pontev**	**6.11**	**220**		**Pn**	**09 54 34.6**	**-0.6**
ESAC	**San Caprasio**	**6.13**	**164**		**Pn**	**09 54 40.0**	**+4.6**
CABF	**La Chapelle**	**6.13**	**96**	*e*Pn	**Pn**	**09 54 36.5**	**+1.1**
	SNR=1.0						
CABF	**La Chapelle**	**6.13**	**96**	*e*P	Pn	09 54 40.6	+5.2
CABF				*e*Sn	**Sn**	**09 55 42.7**	**-2.9**
CABF				*e*Sg	**Sg**	**09 56 19.8**	**-1.8**
	comp=N,459nm,0.7s						
CABF	**La Chapelle**	**6.13**	**96**	P	**Pn**	**09 54 36.5**	**+1.1**
CABF	**La Chapelle**	**6.13**	**96**		**Pn**	**09 54 36.5**	**+1.1**
CABF					Pb	09 54 40.6	-11
CABF					**Sn**	**09 55 42.7**	**-2.9**
CABF					LR	09 56 19.8	
CLLI	**Llivia**	**6.15**	**145**		**Pn**	**09 54 37.5**	**+1.8**
HAU	**Haudompre**	**6.15**	**83**	*e*Pn	**Pn**	**09 54 35.2**	**-0.5**
	SNR=1.0						
HAU				*e*R			
	comp=N,106nm,14.0s						
HAU	**Haudompre**	**6.15**	**83**	*e*P	Pn	09 54 40.6	+4.9
HAU	**Haudompre**	**6.15**	**83**	*e*Pg	**Pg**	**09 55 01.0**	**-1.7**
HAU				*e*Sn	**Sn**	**09 55 42.3**	**-3.7**
HAU				*e*Sg	**Sg**	**09 56 20.5**	**-1.8**
	comp=N,334nm,0.5s,SNR=1.0						
HAU	**Haudompre**	**6.15**	**83**	P	**Pn**	**09 54 35.2**	**-0.5**
HAU				SN	**Sn**	**09 55 42.3**	**-3.7**
HAU	**Haudompre**	**6.15**	**83**		**Pn**	**09 54 35.2**	**-0.5**
HAU					Pb	09 54 40.6	-11
HAU					**Pg**	**09 55 01.0**	**-1.7**
HAU					**Sn**	**09 55 42.3**	**-3.7**
HAU					LR	09 56 20.5	
OGSM	**Saint Maurice**	**6.17**	**106**	Pn	**Pn**	**09 54 38.0**	**+2.1**
WLF	**Walferdange**	**6.25**	**68**	P	**Pn**	**09 54 37.4**	**+0.4**
WLF	**Walferdange**	**6.25**	**68**	P	**Pn**	**09 54 40.0**	**+3.0**
WLF				Pg	**Pg**	**09 55 06.5**	**+2.0**
WLF				S	**Sn**	**09 55 43.0**	**-5.4**
WLF				Sg	**Sg**	**09 56 20.6**	**-4.9**
	comp=E,163nm,0.0s						
WLF	**Walferdange**	**6.25**	**68**		**Pn**	**09 54 37.4**	**+0.4**
BLCH	**La Chartreuse**	**6.26**	**58**	P	**Pn**	**09 54 39.7**	**+2.6**
ECAL	**Calabor**	**6.35**	**208**		**Pn**	**09 54 38.4**	**0.0**
HPK	**Haverah Park**	**6.38**	**6**	*e*P	**Pn**	**09 54 37.2**	**-1.4**
CHMF	**Charmoille**	**6.40**	**90**	Pn	**Pn**	**09 54 40.5**	**+1.4**
EMAZ	**Mazaricos**	**6.41**	**225**		**Pn**	**09 54 38.9**	**-0.3**
PBRG	**Braganca**	**6.47**	**207**	*e*Pn	**Pn**	**09 54 40.2**	**+0.1**
PBRG				*e*Sn	**Sn**	**09 55 48.8**	**-5.1**
PBRG				A	A	09 55 53.7	
	comp=E,31nm,0.3s						
MEM	**Membach**	**6.49**	**59**	Pn	Pn	09 54 34.7	-5.5
MEM	**Membach**	**6.49**	**59**	P	**Pn**	**09 54 40.4**	**+0.2**
HINF	**Hinteralfeld**	**6.50**	**85**	*e*Pn	**Pn**	**09 54 40.1**	**-0.3**
	SNR=1.0						
HINF	**Hinteralfeld**	**6.50**	**85**	*e*P	Pn	09 54 45.7	+5.3
HINF	**Hinteralfeld**	**6.50**	**85**	*e*Pg	**Pg**	**09 55 06.8**	**-2.4**
HINF				*e*Sn	**Sn**	**09 55 50.2**	**-4.3**
HINF				*e*Sg	**Sg**	**09 56 30.0**	**-3.3**
	comp=E,223nm,0.5s						
HINF	**Hinteralfeld**	**6.50**	**85**	P	**Pn**	**09 54 40.1**	**-0.3**
HINF				SN	**Sn**	**09 55 50.2**	**-4.3**
HINF	**Hinteralfeld**	**6.50**	**85**		**Pn**	**09 54 40.1**	**-0.3**
HINF					Pb	09 54 45.7	-12
HINF					**Pg**	**09 55 06.8**	**-2.4**
HINF					**Sn**	**09 55 50.2**	**-4.3**
HINF					**Sg**	**09 56 30.0**	**-3.3**
HGN	**Heimansgroeve**	**6.51**	**58**	*e*P	**Pn**	**09 54 40.7**	**+0.2**
HGN				*e*S	**Sn**	**09 55 50.4**	**-4.2**
SJAF	**Saint Jean de**	**6.52**	**140**	Pn	**Pn**	**09 54 42.1**	**+1.4**
SJAF	**Saint Jean de**	**6.52**	**140**		**Pn**	**09 54 42.3**	**+1.6**
EJON	**La Jonquera**	**6.55**	**140**		**Pn**	**09 54 42.9**	**+1.8**
ORIF	**Oris-en-Rattie**	**6.58**	**111**	*e*Pn	**Pn**	**09 54 43.4**	**+1.8**
	SNR=1.0						
ORIF				*e*R			
	comp=E,59nm,14.2s						
ORIF	**Oris-en-Rattie**	**6.58**	**111**	*e*Pg	**Pg**	**09 55 09.4**	**-1.4**
ORIF				*e*Sn	**Sn**	**09 55 53.4**	**-3.2**
	comp=E,32nm,0.5s						
ORIF				*e*Sg	**Sg**	**09 56 33.9**	**-2.1**
	comp=E,205nm,0.8s						
ORIF	**Oris-en-Rattie**	**6.58**	**111**	Pn	**Pn**	**09 54 43.3**	**+1.8**
ORIF	**Oris-en-Rattie**	**6.58**	**111**	P	**Pn**	**09 54 43.4**	**+1.8**
ORIF						09 55 53.4	
ORIF	**Oris-en-Rattie**	**6.58**	**111**		**Pn**	**09 54 43.4**	**+1.8**
ORIF					**Pg**	**09 55 09.4**	**-1.4**
ORIF					**Sn**	**09 55 53.4**	**-3.2**
ORIF					LR	09 56 33.9	
ECH	**Echery**	**6.70**	**81**	P	**Pn**	**09 54 42.9**	**-0.3**
ECH	**Echery**	**6.70**	**81**	Pn	**Pn**	**09 54 42.9**	**-0.3**
CDF	**Champ du Feu**	**6.79**	**80**	*e*Pn	**Pn**	**09 54 43.4**	**-1.0**
	SNR=1.0						
CDF	**Champ du Feu**	**6.79**	**80**	*e*P	Pn	09 54 49.5	+5.1
CDF	**Champ du Feu**	**6.79**	**80**	*e*Pg	**Pg**	**09 55 12.0**	**-2.7**
CDF				*e*Sn	**Sn**	**09 55 57.7**	**-4.0**
CDF				*e*Sg	**Sg**	**09 56 39.5**	**-3.0**
	comp=E,124nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**6.79**	**80**	P	**Pn**	**09 54 43.4**	**-1.0**
CDF						09 55 57.7	
CDF	**Champ du Feu**	**6.79**	**80**		**Pn**	**09 54 43.4**	**-1.0**
CDF					Pb	09 54 49.5	-13
CDF					**Pg**	**09 55 12.0**	**-2.7**
CDF					**Sn**	**09 55 57.7**	**-4.0**
CDF					LR	09 56 39.5	
ELOB	**Lobios**	**6.88**	**215**		**Pn**	**09 54 44.9**	**-0.8**
SMRF	**Simiane la Rot**	**6.88**	**119**	*e*Pn	**Pn**	**09 54 46.9**	**+1.2**
	SNR=1.0						
SMRF	**Simiane la Rot**	**6.88**	**119**	*e*Pg	**Pg**	**09 55 15.8**	**-0.8**
SMRF				*e*Sn	**Sn**	**09 56 01.6**	**-2.4**
	comp=E,23nm,0.5s						
SMRF				*e*Sg	**Sg**	**09 56 42.6**	**-3.1**
	comp=E,382nm,0.9s						
SMRF	**Simiane la Rot**	**6.88**	**119**		**Pn**	**09 54 46.9**	**+1.2**
SMRF					**Pg**	**09 55 15.8**	**-0.8**
SMRF					**Sn**	**09 56 01.6**	**-2.4**
SMRF					LR	09 56 42.6	
LPL	**La Plagne**	**6.88**	**104**	*e*Pn	**Pn**	**09 54 45.8**	**-0.1**
	SNR=1.0						
LPL	**La Plagne**	**6.88**	**104**	*e*Pg	**Pg**	**09 55 15.1**	**-1.5**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**09 56 00.9**	**-3.4**
	comp=E,24nm,0.4s						
LPL				*e*Sg	**Sg**	**09 56 41.5**	**-4.2**
	comp=E,119nm,0.7s,SNR=1.0						
LPL	**La Plagne**	**6.88**	**104**	P	**Pn**	**09 54 45.8**	**-0.1**
LPL						09 56 00.9	
LPL	**La Plagne**	**6.88**	**104**		**Pn**	**09 54 45.8**	**-0.1**
LPL					**Pg**	**09 55 15.1**	**-1.5**
LPL					**Sn**	**09 56 00.9**	**-3.4**
LPL					**Sg**	**09 56 41.5**	**-4.2**
LPG	**La Plagne**	**6.90**	**104**	*e*Pn	**Pn**	**09 54 48.3**	**+2.1**
	SNR=1.0						
LPG	**La Plagne**	**6.90**	**104**	*e*Pg	**Pg**	**09 55 15.9**	**-1.1**
LPG				*e*Sn	**Sn**	**09 56 01.1**	**-3.7**
	comp=E,34nm,0.5s,SNR=1.0						
LPG				*e*Sg	**Sg**	**09 56 41.8**	**-4.5**
	comp=E,103nm,0.6s						
LPG	**La Plagne**	**6.90**	**104**	P	**Pn**	**09 54 48.3**	**+2.1**
LPG						09 56 01.1	
LPG	**La Plagne**	**6.90**	**104**		**Pn**	**09 54 48.3**	**+2.1**
LPG					**Pg**	**09 55 15.9**	**-1.1**
LPG					**Sn**	**09 56 01.1**	**-3.7**
LPG					**Sg**	**09 56 41.8**	**-4.5**
EZAM	**Zamans**	**6.91**	**220**	P	**Pn**	**09 54 45.8**	**-0.2**
EZAM	**Zamans**	**6.91**	**220**		**Pn**	**09 54 45.8**	**-0.2**
CFON	**Fontmartina**	**6.94**	**146**		**Pn**	**09 54 48.4**	**+1.8**
MLYF	**Mely**	**6.99**	**118**	Pn	**Pn**	**09 54 48.9**	**+1.8**
SENIN	**Lac Senin/Sane**	**7.00**	**97**		**Pn**	**09 54 48.9**	**+1.3**
SENIN				Sn	**Sn**	**09 56 06.2**	**-1.0**
BNI	**Bardonecchia**	**7.03**	**108**	P	**Pn**	**09 54 49.2**	**+1.4**
BNI	**Bardonecchia**	**7.03**	**108**	Pn	**Pn**	**09 54 49.2**	**+1.4**
ERTA	**Horta de San J**	**7.03**	**160**		**Pn**	**09 54 49.9**	**+2.2**
MVO	**Moncorvo**	**7.14**	**207**	*e*Pn	**Pn**	**09 54 49.3**	**0.0**
MVO				*e*Sn	**Sn**	**09 56 05.1**	**-5.4**
MVO				A	A	09 56 20.9	
	comp=E,41nm,0.4s						
MVO	**Moncorvo**	**7.14**	**207**		**Pn**	**09 54 49.3**	**0.0**
ABH	**Alteburg**	**7.18**	**68**	Pn	**Pn**	**09 54 50.1**	**+0.3**
KIZ	**Kirchzarten**	**7.21**	**83**	Pn	**Pn**	**09 54 50.3**	**+0.1**
POLO	**Lamas de Olo**	**7.21**	**212**	*e*Pn	**Pn**	**09 54 49.9**	**-0.4**
POLO				*e*Sn	**Sn**	**09 56 06.9**	**-5.2**
POLO				A	A	09 56 13.7	
	comp=E,6.5nm,0.4s						
EDMD	**Edmundbyers**	**7.23**	**4**	*e*P	**Pn**	**09 54 48.8**	**-1.6**
MBDF	**Montbardon**	**7.23**	**110**	*e*Pn	**Pn**	**09 54 52.4**	**+1.8**
MBDF	**Montbardon**	**7.23**	**110**	*e*Pg	**Pg**	**09 55 21.2**	**-2.1**
MBDF				*e*Sg	**Sg**	**09 56 54.2**	**-2.7**
	comp=E,120nm,0.7s						
MBDF	**Montbardon**	**7.23**	**110**	P	**Pn**	**09 54 52.4**	**+1.8**
MBDF	**Montbardon**	**7.23**	**110**		**Pn**	**09 54 52.4**	**+1.8**
MBDF					**Pg**	**09 55 21.2**	**-2.1**
MBDF					LR	09 56 54.2	
PVRL	**Vila Real**	**7.27**	**211**	*e*Pn	**Pn**	**09 54 51.2**	**+0.2**
PVRL				*e*Sn	**Sn**	**09 56 08.0**	**-5.5**
OPP	**Oppenau**	**7.40**	**79**	Pn	**Pn**	**09 54 53.1**	**+0.4**
EMOS	**Mosqueruela**	**7.45**	**166**		**Pn**	**09 54 56.0**	**+2.4**
BFO	**Black Forest**	**7.49**	**81**	P	**Pn**	**09 54 54.8**	**+0.8**
BFO	**Black Forest**	**7.49**	**81**		**Pn**	**09 54 54.8**	**+0.8**
ESK	**Eskdalemuir**	**7.70**	**358**	P	**Pn**	**09 54 55.2**	**-1.7**
ESK	**Eskdalemuir**	**7.70**	**358**	Pn	**Pn**	**09 54 55.1**	**-1.7**
EKA	**Eskdalemuir Ar**	**7.72**	**358**	Pn	**Pn**	**09 54 55.1**	**-2.0**
	baz=176,slow=14,SNR=15						
EKA				Sn	**Sn**	**09 56 16.2**	**-8.3**
	baz=176,slow=25,SNR=5.2						
EKA				Lg	Lg	09 57 07.9	
	baz=175,slow=27,SNR=0.9						
FRF	**La Foret Royal**	**7.76**	**118**	*e*Pn	**Pn**	**09 54 58.6**	**+0.9**
FRF				*e*Sn			
	comp=E,17nm,0.6s						
FRF	**La Foret Royal**	**7.76**	**118**	*e*Pg	**Pg**	**09 55 29.8**	**-3.5**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**09 57 10.3**	**-3.4**
	comp=E,42nm,0.5s,SNR=1.0						
FRF	**La Foret Royal**	**7.76**	**118**	P	**Pn**	**09 54 58.6**	**+0.9**
FRF	**La Foret Royal**	**7.76**	**118**		**Pn**	**09 54 58.6**	**+0.9**
FRF					**Pg**	**09 55 29.8**	**-3.5**
FRF					LR	09 57 10.3	
LMR	**La Mourre**	**7.81**	**120**	*e*P	Pn	09 55 04.3	+6.0
LMR				*e*Sg	**Sg**	**09 57 11.7**	**-3.6**
	comp=E,53nm,0.7s						
LMR				*e*Sn			
	comp=E,4.0nm,0.3s						
LMR	**La Mourre**	**7.81**	**120**	P	Pn	09 55 04.3	+6.0
LMR	**La Mourre**	**7.81**	**120**		Pn	09 55 04.3	+6.0
LMR					LR	09 57 11.7	
PVIS	**Viseu**	**7.83**	**210**	*e*Pn	**Pn**	**09 54 58.4**	**-0.3**
PVIS				*e*Sn	**Sn**	**09 56 21.7**	**-5.6**
ESBB	**Sonseca Array**	**8.00**	**187**	Pn	**Pn**	**09 55 01.2**	**+0.2**
ESBB				Sn	**Sn**	**09 56 24.6**	**-6.9**
ESDC	**Sonseca Array**	**8.00**	**187**	Pn	**Pn**	**09 55 00.4**	**-0.6**
	comp=E,1.6nm,0.3s,baz=2.0,slow=12,SNR=11						
ESDC				Sn	**Sn**	**09 56 24.7**	**-6.8**
	comp=E,27nm,0.3s,baz=5.8,slow=24,SNR=42						
ESDC	**Sonseca Array**	**8.00**	**187**	Pn	**Pn**	**09 55 00.7**	**-0.3**
ESDC					**Sn**	**09 56 24.6**	**-6.9**
MTE	**Manteigas**	**8.00**	**207**	*e*Pn	**Pn**	**09 55 00.9**	**-0.2**
MTE				*e*Sn	**Sn**	**09 56 25.9**	**-5.7**
MTE	**Manteigas**	**8.00**	**207**	Pn	**Pn**	**09 55 00.7**	**-0.4**
SBF	**Sospel**	**8.07**	**114**	*e*P	Pn	09 55 08.0	+6.0
SBF				*e*Sg	**Sg**	**09 57 21.4**	**-2.3**
	comp=E,102nm,0.5s						
SBF				*e*Sn			
	comp=E,14nm,0.4s						
SBF	**Sospel**	**8.07**	**114**	P	Pn	09 55 08.0	+6.0
SBF	**Sospel**	**8.07**	**114**		Pn	09 55 08.0	+6.0
SBF					LR	09 57 21.4	
PAB	**San Pablo**	**8.16**	**189**	P	**Pn**	**09 55 03.6**	**+0.3**
PAB	**San Pablo**	**8.16**	**189**	Pn	**Pn**	**09 55 03.6**	**+0.3**
PAB					**Sn**	**09 56 28.3**	**-7.2**
TUE	**Stuetta**	**8.36**	**93**		**Pn**	**09 55 08.8**	**+2.7**
PCBR	**Castelo Branco**	**8.50**	**205**	*e*Pn	**Pn**	**09 55 08.0**	**+0.2**
PCBR				*e*Sn	**Sn**	**09 56 38.0**	**-5.6**
PCBR				A	A	09 56 38.2	
	comp=E,15nm,0.4s						
DAVA	**Damuels**	**8.58**	**88**	*e*Pn	**Pn**	**09 55 11.7**	**+2.6**
	comp=E,1.5nm,0.2s						
DAVA				Sn	**Sn**	**09 56 45.7**	**-0.2**
	comp=E,13nm,0.5s						
PMRV	**Marv??o**	**8.86**	**204**	*e*Pn	**Pn**	**09 55 13.2**	**+0.4**
PMRV				*e*Sn	**Sn**	**09 56 46.1**	**-6.4**
PTOM	**Tomar**	**8.99**	**209**	*e*Sn	**Sn**	**09 56 48.6**	**-7.1**
ETOB	**Tobarra**	**9.03**	**174**		**Pn**	**09 55 17.3**	**+2.2**
FETA	**Feichten**	**9.19**	**89**	Pn	Pn	09 55 23.3	+5.8
	comp=E,1.7nm,0.4s						
FETA				Sn	**Sn**	**09 57 02.5**	**+1.6**
	comp=E,6.9nm,0.7s						
EBAD	**Badajoz**	**9.39**	**201**		**Pn**	**09 55 20.0**	**-0.1**
PMTG	**Montargil**	**9.43**	**207**	*e*Pn	**Pn**	**09 55 20.5**	**-0.1**
PESTR	**Estremoz**	**9.44**	**204**	*e*Sn	**Sn**	**09 57 01.0**	**-5.7**
SQTA	**Sankt Quirin**	**9.49**	**87**	Pn	Pn	09 55 27.9	+6.4
	comp=E,3.3nm,0.2s						
EADA	**Adamuz**	**9.55**	**189**		**Pn**	**09 55 23.5**	**+1.3**
WATA	**Walderalm**	**9.72**	**86**	*i* Pn	Pn	09 55 33.5	+8.8
ECAB	**El Cabril**	**9.74**	**192**		**Pn**	**09 55 26.9**	**+1.9**
WTTA	**Wattenberg**	**9.77**	**87**	Pn	Pn	09 55 30.2	+4.8
	comp=E,3.3nm,0.4s						
EQES	**Quesada**	**9.82**	**181**		**Pn**	**09 55 29.5**	**+3.4**
EMUR	**La Murta**	**9.85**	**173**		**Pn**	**09 55 30.0**	**+3.6**
PMAFR	**Mafra**	**9.88**	**211**		**Pn**	**09 55 28.8**	**+2.0**
EMIN	**Mina Concepcio**	**10.26**	**198**		**Pn**	**09 55 32.6**	**+0.6**
PBEJ	**Beja**	**10.30**	**203**	*e*Pn	**Pn**	**09 55 35.7**	**+3.2**
PBEJ				*e*Sn	**Sn**	**09 57 21.1**	**-6.8**
PNCL	**Nicolau / Gran**	**10.40**	**206**	*e*Pn	**Pn**	**09 55 34.2**	**+0.3**
PNCL				*e*Sn	**Sn**	**09 57 24.9**	**-5.6**
EGOR	**Sierra Gorda,**	**10.56**	**186**		**Pn**	**09 55 39.1**	**+2.9**
MESJ	**Messejana**	**10.57**	**204**	*e*P	**Pn**	**09 55 35.9**	**-0.4**
MESJ	**Messejana**	**10.57**	**204**	*e*Pn	**Pn**	**09 55 35.8**	**-0.4**
MESJ				*e*Sn	**Sn**	**09 57 27.5**	**-7.0**
EGRO	**El Granado**	**10.67**	**201**		**Pn**	**09 55 38.5**	**+0.9**
PCVE	**Castro Verde**	**10.71**	**203**	*e*Pn	**Pn**	**09 55 37.8**	**-0.4**
PCVE				*e*Sn	**Sn**	**09 57 30.7**	**-7.4**
EBER	**Berja**	**10.72**	**181**		**Pn**	**09 55 40.6**	**+2.1**
PVAQ	**Vaqueiros**	**10.85**	**201**	*e*Pn	**Pn**	**09 55 39.8**	**-0.2**
PVAQ				*e*Sn	**Sn**	**09 57 33.3**	**-8.1**
PVAQ	**Vaqueiros**	**10.85**	**201**	Pn	**Pn**	**09 55 40.0**	**0.0**
CLL	**Collm**	**10.90**	**64**	*e*P	Pn	09 55 46.0	+5.3
CLL	**Collm**	**10.90**	**64**	*e*Pn	Pn	09 55 46.0	+5.3
CLL				*e*Sn	Sn	09 57 32.0	-11
CLL				*e*		09 58 20.0	
CLL				*e*Sg		09 58 59.0	
KBA	**Koelnbreinsper**	**10.95**	**87**	Pn	**Pn**	**09 55 44.9**	**+3.3**
	comp=E,3.6nm,0.4s						
KBA				*e*Sn	**Sn**	**09 57 46.2**	**+2.0**
	comp=E,3.1nm,0.3s						
KHC	**Kasperske Hory**	**10.98**	**76**	*e*P	**Pn**	**09 55 43.3**	**+1.5**
KHC	**Kasperske Hory**	**10.98**	**76**	*e*PN	**Pn**	**09 55 43.3**	**+1.5**
KHC				*ex*	x	09 56 17.7	
KHC				*e*SN	**Sn**	**09 57 36.5**	**-8.1**
KHC				*ex*	x	09 58 24.5	
KHC	**Kasperske Hory**	**10.98**	**76**		**Pn**	**09 55 43.8**	**+1.9**
GEC2	**GERESS Array S**	**11.06**	**78**		**Pn**	**09 55 45.8**	**+2.9**
GERES	**GERESS Array B**	**11.06**	**78**	*e*P	**Pn**	**09 55 45.3**	**+2.4**
GERES	**GERESS Array B**	**11.06**	**78**	Pn	**Pn**	**09 55 43.7**	**+0.7**
	comp=E,1.1nm,0.3s,baz=272,slow=14,SNR=17						
GERES				Lg	Lg	09 59 00.0	
	comp=E,0.6nm,0.3s,baz=274,slow=27,SNR=2.6						
GERES				LR	LR	09 59 57.8	
	comp=E,59nm,18.5s,baz=280,slow=37						
GERES	**GERESS Array B**	**11.06**	**78**		**Pn**	**09 55 45.4**	**+2.4**
MORF	**Marmelete**	**11.19**	**205**	*e*P	**Pn**	**09 55 44.3**	**-0.4**
MORF	**Marmelete**	**11.19**	**205**	*e*Pn	**Pn**	**09 55 44.8**	**+0.1**
PFVI	**Vila Bisbo**	**11.40**	**205**		**Pn**	**09 55 48.2**	**+0.7**
MOA	**Molln**	**11.48**	**83**	Pn	**Pn**	**09 55 47.2**	**-1.5**
	comp=E,2.1nm,0.3s						
VRAC	**Vranov**	**12.96**	**75**	Lg	Lg	10 00 01.8	
	comp=E,0.4nm,0.3s,baz=184,slow=21,SNR=3.0						
MODS	**Modra-Piesok**	**13.45**	**79**	*e*SG		10 00 16.8	
VYHS	**Vyhne**	**14.47**	**79**	*e*SN	**Sn**	**09 59 07.2**	**-2.7**
MDT	**Midelt**	**14.86**	**186**	Pn	**Pn**	**09 56 35.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=31,slow=5.9,SNR=2.3						
MDT				Sn	Sn	09 59 10.0	-10
	comp=E,0.2nm,0.3s,baz=325,slow=15,SNR=1.7						
NBO00	**NORSAR Array S**	**15.53**	**25**	Pn	**Pn**	**09 56 43.4**	**-0.2**
NOA	**NORSAR Array B**	**15.66**	**26**	LR	LR	10 03 00.4	
	comp=E,20nm,18.8s,baz=195,slow=38						
HFS	**Hagfors**	**15.78**	**31**	Pn	**P**	**09 56 53.0**	**+2.3**
	comp=E,0.6nm,0.3s,baz=223,slow=12,SNR=11						
HFS				Sn	Sn	09 59 30.5	-11
	comp=E,0.2nm,0.3s,baz=220,slow=23,SNR=1.3						
KLNR	**Kaliningrad**	**15.98**	**56**	⇓*e*P	**Pn**	**09 56 51.0**	**+1.6**
TIR	**Tirane**	**17.30**	**103**	P	**P**	**09 57 09.2**	**+1.6**
TIR				pmax	pmax		
	comp=Z,22nm,0.6s						
TIR	**Tirane**	**17.30**	**103**	P	**P**	**09 57 09.2**	**+1.6**
TIR				IAmb	IAmb	09 57 09.7	
	comp=Z,22nm,0.6s						
ROSA	**Rosais**	**20.52**	**254**	P	Pn	09 57 45.4	+0.2
AKASG	**Malin Array Be**	**21.06**	**70**	P	**P**	**09 57 51.7**	**+3.0**
	comp=Z,0.3nm,0.4s,baz=271,slow=10,SNR=2.1						
FINES	**FINESS Array B**	**21.47**	**39**	*e*P	**P**	**09 57 55.4**	**+2.4**
FINES	**FINESS Array B**	**21.47**	**39**	P	**P**	**09 57 55.2**	**+2.2**
	comp=Z,1.5nm,0.5s,baz=238,slow=9.1,SNR=6.7						
FINES	**FINESS Array B**	**21.47**	**39**	P	**P**	**09 57 55.0**	**+2.0**
APE	**Apeiranthos**	**23.30**	**107**	*de*P	**P**	**09 58 15.1**	**+2.4**
OBN	**Obninsk**	**25.39**	**58**	⇑*e*P	**P**	**09 58 33.6**	**+1.7**
OBN				*e*S	**S**	**10 02 54.5**	**-3.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR

H11N1	**WAKE ISLAND Hy**	**23.00**	**70**	T	T	10 50 55.9	
	baz=256,slow=76						
H11N2	**WAKE ISLAND Hy**	**23.01**	**70**	T	T	10 50 49.2	
	baz=256,slow=76						
H11N3	**WAKE ISLAND Hy**	**23.02**	**70**	T	T	10 50 52.5	
	baz=256						
JNU	**Nakatsue**	**23.16**	**331**	P	**P**	**10 26 47.2**	**-0.2**
	comp=Z,6.3nm,0.6s,baz=148,slow=9.5,SNR=7.7						
JNU	**Nakatsue**	**23.16**	**331**	IAmb	IAmb	10 26 50.4	
	comp=Z,24nm,1.3s						
COEN	**Coen**	**26.93**	**182**	P	**P**	**10 27 19.3**	**-2.3**
KSRS	**Korea Array**	**28.10**	**332**	P	**P**	**10 27 31.2**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=143,slow=9.3,SNR=6.5						
KAPI	**Kappang**	**30.00**	**235**	LR	LR	10 40 31.9	
	comp=Z,22nm,18.5s,baz=128,slow=38						
USRK	**Ussuriysk Ar.**	**32.59**	**344**	P	**P**	**10 28 11.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=162,slow=9.9,SNR=5.3						
WB0	**Warramunga Arr**	**34.01**	**196**	P	**P**	**10 28 24.0**	**+0.2**
WB0				IAmb	IAmb	10 28 24.5	
	comp=Z,4.5nm,0.6s						
WR0	**Warramunga Arr**	**34.16**	**196**	P	**P**	**10 28 24.7**	**-0.4**
WR0				IAmb	IAmb	10 28 25.2	
	comp=Z,4.4nm,1.3s						
WRAB	**Tennant Creek**	**34.18**	**196**	P	**P**	**10 28 25.6**	**+0.3**
WRAB				IAmb	IAmb	10 28 26.0	
	comp=Z,4.2nm,0.6s						
WB2	**Warramunga Arr**	**34.19**	**196**	P	**P**	**10 28 25.2**	**-0.1**
WB2				IAmb	IAmb	10 28 26.1	
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**34.19**	**196**	P	**P**	**10 28 25.2**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=17,slow=9.4,SNR=66						
WRA	**Warramunga Arr**	**34.19**	**196**	P	**P**	**10 28 24.2**	**-1.2**
KLR	**Kul'dur**	**37.35**	**347**	P	**P**	**10 28 52.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=180,slow=3.0,SNR=3.4						
ASAR	**Alice Springs**	**37.86**	**195**	P	**P**	**10 28 56.5**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=17,slow=12,SNR=22						
DZM	**Mont Dzumac**	**41.40**	**147**	P	**P**	**10 29 27.9**	**+2.0**
	comp=Z,5.2nm,0.7s,baz=302,slow=19,SNR=4.7						
SONM	**Songino Array**	**46.55**	**326**	P	**P**	**10 30 06.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=156,slow=7.7,SNR=2.2						
MKAR	**Makanchi Array**	**61.15**	**316**	P	**P**	**10 31 52.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=90,slow=8.2,SNR=3.6						
NVAR	**Mina Array Bea**	**87.94**	**51**	P	**P**	**10 34 28.5**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=268,slow=4.3,SNR=3.0						

IDC 21 10:28:54.5±1.6, 31°.67N×40°.63W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/48, mbtmp3.6/5, Error ellipse: s-maj=91.2km s-min=27.6km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**42.93**	**106**	P	P	10 36 55.2	-0.1
	0.9nm,0.6s,baz=312,slow=7.2,SNR=4.2						
H10N2	**ASCENSION HYDR**	**46.55**	**143**	T	T	11 26 57.8	
	baz=328,slow=75,SNR=33						
H10N3	**ASCENSION HYDR**	**46.55**	**143**	T	T	11 26 56.6	
	baz=328,slow=75,SNR=27						
H10N1	**ASCENSION HYDR**	**46.57**	**143**	T	T	11 26 59.2	
	baz=328,slow=75,SNR=27						
TXAR	**Lajitas Array**	**53.68**	**285**	P	P	10 38 18.7	+0.3
	0.4nm,0.9s,baz=96,slow=7.1,SNR=5.4						
PDAR	**Pinedale Array**	**54.60**	**303**	P	P	10 38 25.1	+0.1
	1.3nm,0.7s,baz=84,slow=8.6,SNR=12						
NVAR	**Mina Array Bea**	**62.20**	**300**	P	P	10 39 17.5	-0.7
	0.4nm,0.7s,baz=82,slow=6.5,SNR=2.9						
ILAR	**Eielson Array**	**68.30**	**334**	P	P	10 39 57.2	+0.2
	0.7nm,0.9s,baz=55,slow=4.6,SNR=4.8						

*STR **21** 10:34:10.3±0.7, 45°.N×3°.×±°., h0km, mb3.8/2, MLv3.4/6*
*PRU **21** 10:34:14.0±0.0, 45°.04N×8°.86E, h15km*
*ROM **21** 10:34:15.3±0.1, 44°.916N±0°.006×9°.05E±0°.01, h19km±1km, ML3.1/51, Error ellipse: s-maj=0.8km s-min=0.2km az=238.0*
*ISCJB **21** 10:34:15.9±0.3, 44°.90N±0°.01×8°.97E±0°.02, h22km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=38.5*
*GEN **21** 10:34:15.2, 44°.94N×9°.06E, h5km±2km, Ml3.0*
*LDG **21** 10:34:15.1±0.1, 44°.93N×9°.06E, h5km, Ml3.5/33, Error ellipse: s-maj=2.5km s-min=2.0km az=77.0*
ISC 21 10:34:14.8±0.9, 44°.95N±0°.02×9°.03E±0°.02, h17km±7km, n124, σ1°.12/179, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.35**	**121**	P	**Pg**	**10 34 22.1**	**-0.1**
BOB				S	**Sg**	**10 34 27.5**	**+0.3**
BOB				AML	AML		
	comp=E,3530μm,0.3s						
BOB				AML	AML		
	comp=E,2905μm,1.3s						
BOB				AML	AML		
	comp=N,3215μm,1.0s						
BOB				AML	AML		
	comp=E,3525μm,0.3s						
BOB				AML	AML		
	comp=N,2865μm,1.0s						
BOB				AML	AML		
	comp=N,2870μm,1.0s						
BOB				AML	AML		
	comp=E,2910μm,1.3s						
GORR	**Gorreto**	**0.39**	**151**	P	**Pg**	**10 34 22.3**	**-0.5**
GORR				S	**Sg**	**10 34 27.8**	**-0.5**
GORR	**Gorreto**	**0.39**	**151**	P	**Pg**	**10 34 22.3**	**-0.5**
GORR				S	**Sg**	**10 34 28.2**	**-0.1**
GORR				AML	AML		
	comp=E,5985μm,0.4s						
GORR				AML	AML		
	comp=N,7570μm,0.4s						
ROTM	**Rocchetta Tana**	**0.49**	**259**	P	**Pb**	**10 34 26.2**	**+1.4**
ROTM				S	**Sn**	**10 34 36.0**	**+1.0**
ROTM	**Rocchetta Tana**	**0.49**	**259**	P	**Pb**	**10 34 26.4**	**+1.5**
ROTM				AML	AML		
	comp=E,4915μm,0.6s						
ROTM				AML	AML		
	comp=N,6305μm,0.7s						
PCP	**Piancastagn**	**0.53**	**220**	P	**Pg**	**10 34 25.5**	**+0.1**
PCP				S	**Sb**	**10 34 33.3**	**+0.4**
PCP	**Piancastagn**	**0.53**	**220**	P	**Pg**	**10 34 25.1**	**-0.2**
PCP				S	**Sb**	**10 34 33.3**	**+0.4**
PCP				AML	AML		
	comp=E,2195μm,1.3s						
PCP				AML	AML		
	comp=N,1660μm,0.3s						
MILN	**Milano**	**0.55**	**15**	P	**Pb**	**10 34 27.3**	**+1.3**
CTL8	**Castelleone**	**0.62**	**57**	AML	AML		
	comp=E,1285μm,0.6s						
CTL8				AML	AML		
	comp=N,938μm,0.4s						
MSSA	**Maissana**	**0.72**	**151**	P	**Pg**	**10 34 28.0**	**-0.9**
MSSA				AML	AML		
	comp=N,642μm,0.6s						
MSSA				AML	AML		
	comp=E,744μm,1.5s						
MSSA				AML	AML		
	comp=N,641μm,0.6s						
MSSA				AML	AML		
	comp=E,744μm,1.5s						
MERA	**Merate**	**0.78**	**21**	P	**Pn**	**10 34 31.0**	**+0.1**
MONC	**Moncucco Torin**	**0.79**	**280**	P	**Pn**	**10 34 32.4**	**+1.3**
MONC				AML	AML		
	comp=E,5145μm,0.6s						
MONC				AML	AML		
	comp=N,4130μm,0.4s						
QLNO	**Quiliano**	**0.79**	**218**	P	**Pb**	**10 34 30.1**	**+0.1**
QLNO				AML	AML		
	comp=E,610μm,0.5s						
QLNO				AML	AML		
	comp=N,720μm,0.3s						
QLNO				AML	AML		
	comp=E,609μm,0.5s						
GRAM	**Graiana**	**0.87**	**121**	P	**Pb**	**10 34 31.5**	**+0.1**
GRAM				S	**Sb**	**10 34 42.8**	**0.0**
GRAM	**Graiana**	**0.87**	**121**	P	**Pb**	**10 34 31.2**	**-0.2**
FINB	**Finale Ligure**	**0.92**	**213**	P	**Pb**	**10 34 32.5**	**+0.4**
FINB				S	**Sg**	**10 34 45.0**	**+0.3**
FINB				AML	AML		
	comp=E,789μm,1.1s						
FINB				AML	AML		
	comp=N,677μm,0.3s						
FINB				AML	AML		
	comp=N,678μm,0.3s						
VARE	**Varese**	**0.94**	**349**	P	**Pb**	**10 34 33.3**	**+0.7**
VARE				S	**Sn**	**10 34 46.8**	**+0.5**
VARE				AML	AML		
	comp=E,815μm,1.2s						
VARE				AML	AML		
	comp=N,1125μm,0.9s						
VARE				AML	AML		
	comp=E,816μm,1.2s						
VARE				AML	AML		
	comp=N,1126μm,0.9s						
MDI	**Monti di Nese**	**0.96**	**30**	P	**Pb**	**10 34 33.0**	**0.0**
MDI				AML	AML		
	comp=E,784μm,1.1s						
MDI				AML	AML		
	comp=N,771μm,1.6s						
MDI				AML	AML		
	comp=E,842μm,1.1s						
MDI				AML	AML		
	comp=N,791μm,0.9s						
MDI				AML	AML		
	comp=N,770μm,1.6s						
MUGIO	**Muggio**	**0.97**	**1**	P	**Pb**	**10 34 33.6**	**+0.4**
MUGIO				S	**Sn**	**10 34 48.0**	**+0.9**
MUGIO				AML	AML		
	comp=E,907μm,0.4s						
MUGIO				AML	AML		
	comp=N,885μm,0.5s						
MUGIO				AML	AML		
	comp=E,907μm,0.3s						
MUGIO				AML	AML		
	comp=N,884μm,0.5s						
TRAV	**Traversella**	**1.07**	**303**	P	**Pb**	**10 34 35.3**	**+0.6**
TRAV				S	**Sn**	**10 34 50.4**	**+1.0**
TRAV				AML	AML		
	comp=E,2920μm,1.0s						
TRAV				AML	AML		
	comp=N,4050μm,0.3s						
PLMA	**Palmaria, Port**	**1.07**	**146**	P	**Pb**	**10 34 34.2**	**-0.6**
RORO	**Rocca Rossa**	**1.08**	**220**	P	**Pb**	**10 34 35.1**	**+0.2**
RORO				AML	AML		
	comp=E,1105μm,0.5s						
RORO				AML	AML		
	comp=E,1106μm,0.5s						
RORO				AML	AML		
	comp=N,622μm,0.5s						
GBOS	**Grotte di Boss**	**1.10**	**231**	P	**Pb**	**10 34 35.9**	**+0.5**
GBOS				AML	AML		
	comp=N,764μm,0.8s						
GBOS				AML	AML		
	comp=E,622μm,1.0s						
EQUI	**Equi**	**1.12**	**134**	P	**Pb**	**10 34 35.8**	**+0.1**
EQUI				S	**Sg**	**10 34 51.5**	**+0.3**
EQUI	**Equi**	**1.12**	**134**	P	**Pb**	**10 34 35.4**	**-0.3**
ERBM	**Eremo**	**1.12**	**118**	P	**Pg**	**10 34 37.2**	**+0.7**
ERBM				AML	AML		
	comp=N,645μm,1.0s						
ERBM				AML	AML		
	comp=N,644μm,1.0s						
ERBM				AML	AML		
	comp=E,476μm,1.0s						
ERBM				AML	AML		
	comp=E,474μm,1.0s						
CIRO	**Champorcher**	**1.22**	**303**	P	**Pb**	**10 34 38.1**	**+0.6**
CIRO				S	**Sg**	**10 34 55.0**	**+0.6**
CIRO				AML	AML		
	comp=E,3515μm,0.3s						
CIRO				AML	AML		
	comp=N,6070μm,0.6s						
SATI	**Passo dei Sala**	**1.23**	**319**	P	**Pn**	**10 34 37.9**	**+0.3**
SATI				S	**Sn**	**10 34 54.9**	**+0.9**
SATI				AML	AML		
	comp=N,974μm,0.7s						
SATI				AML	AML		
	comp=E,769μm,0.9s						
SARO	**Sassorosso**	**1.25**	**127**	P	**Pn**	**10 34 37.7**	**+0.3**
SARO				AML	AML		
	comp=N,976μm,0.5s						
SARO				AML	AML		
	comp=E,636μm,0.7s						
SARO				AML	AML		
	comp=N,977μm,0.5s						
SALO	**Salr**	**1.25**	**57**	P	**Pg**	**10 34 40.1**	**+1.2**
SALO				AML	AML		
	comp=N,1038μm,0.9s						
SALO				AML	AML		
	comp=E,978μm,0.9s						
SALO				AML	AML		
	comp=N,1038μm,0.9s						
MGRO	**Montegrosso**	**1.25**	**224**	P	**Pn**	**10 34 38.3**	**+0.7**
MGRO				S	**Sg**	**10 34 55.9**	**+0.5**
MGRO				AML	AML		
	comp=E,998μm,0.5s						
MGRO				AML	AML		
	comp=N,597μm,0.4s						
MGRO				AML	AML		
	comp=N,596μm,0.4s						
MGRO				AML	AML		
	comp=E,997μm,0.5s						
VOBA	**Vobarno**	**1.25**	**56**	AML	AML		
	comp=E,842μm,0.2s						
VOBA				AML	AML		
	comp=N,1675μm,0.3s						
RSP	**Reno Superiore**	**1.26**	**280**	P	**Pn**	**10 34 37.2**	**-0.4**
RSP				AML	AML		
	comp=E,1014μm,0.4s						
RSP				AML	AML		
	comp=N,866μm,1.4s						
IMI	**Imperia**	**1.32**	**218**	P	**Pn**	**10 34 38.9**	**+0.6**
IMI				S	**Sb**	**10 34 56.8**	**+1.2**
IMI				AML	AML		
	comp=N,812μm,1.5s						
IMI				AML	AML		
	comp=E,632μm,0.7s						
IMI				AML	AML		
	comp=E,631μm,0.7s						
MMK	**Mattmark**	**1.33**	**326**	P	**Pn**	**10 34 39.1**	**+0.4**
MMK				S	**Sb**	**10 34 57.4**	**+1.1**
MMK				AML	AML		
	comp=E,1242μm,0.4s						
MMK				AML	AML		
	comp=N,1225μm,0.3s						
MMK				AML	AML		
	comp=N,1225μm,0.4s						
DOI	**San Damiano**	**1.34**	**251**	P	**Pn**	**10 34 39.5**	**+0.8**
DOI				AML	AML		
	comp=E,1870μm,0.5s						
DOI				AML	AML		
	comp=N,1460μm,0.4s						
ENR	**Entracque**	**1.35**	**238**	P	**Pn**	**10 34 39.7**	**+0.8**
ENR				AML	AML		
	comp=N,821μm,0.5s						
ENR				AML	AML		
	comp=E,610μm,1.2s						
STV	**Sant Anna di V**	**1.40**	**241**	P	**Pn**	**10 34 40.3**	**+0.7**
STV				AML	AML		
	comp=E,390μm,1.4s						
STV				AML	AML		
	comp=N,495μm,0.4s						
STV				AML	AML		
	comp=E,390μm,1.4s						
SAOF	**Saorge**	**1.43**	**228**	P	**Pb**	**10 34 41.3**	**+0.5**
SAOF	**Saorge**	**1.43**	**228**	P	**Pb**	**10 34 40.9**	**+0.1**
SAOF				AML	AML		
	comp=E,756μm,0.5s						
SAOF				AML	AML		
	comp=N,732μm,0.7s						
PZZ	**Stroppo**	**1.43**	**253**	P	**Pn**	**10 34 39.8**	**-0.2**
PZZ				AML	AML		
	comp=E,678μm,1.4s						
PZZ				AML	AML		
	comp=N,760μm,0.6s						
BDI	**Bagni Di Lucca**	**1.43**	**128**	P	**Pn**	**10 34 40.9**	**+0.9**
BDI				AML	AML		
	comp=N,897μm,1.1s						
BDI				AML	AML		
	comp=N,930μm,0.7s						
BDI				AML	AML		
	comp=E,1064μm,0.5s						
BDI				AML	AML		
	comp=E,1198μm,1.0s						
LSD	**Lago del Serru**	**1.43**	**292**	P	**Pn**	**10 34 39.5**	**-0.6**
LSD				AML	AML		
	comp=N,628μm,0.3s						
LSD				AML	AML		
	comp=E,530μm,1.6s						
NEGI	**Seborga**	**1.45**	**221**	P	**Pn**	**10 34 40.9**	**+0.7**
NEGI				AML	AML		
	comp=E,364μm,1.0s						
NEGI				AML	AML		
	comp=N,613μm,0.8s						
NEGI				AML	AML		
	comp=E,364μm,1.0s						
MAIM	**Mastiano**	**1.47**	**134**	P	**Pb**	**10 34 41.7**	**0.0**
MAIM				AML	AML		
	comp=E,704μm,0.5s						
MAIM				AML	AML		
	comp=N,604μm,0.5s						
ZCCA	**Zocca**	**1.52**	**112**	AML	AML		
	comp=E,533μm,0.6s						
ZCCA				AML	AML		
	comp=E,512μm,0.6s						
ZCCA				AML	AML		
	comp=N,676μm,1.4s						
ZCCA				AML	AML		
	comp=N,737μm,0.5s						
EMBD	**Embd, Matterta**	**1.52**	**327**	P	**Pb**	**10 34 43.0**	**+0.5**
MABI	**Malga Bissina**	**1.52**	**43**	P	**Pb**	**10 34 42.7**	**0.0**
MABI				AML	AML		
	comp=E,252μm,0.5s						
MABI				AML	AML		
	comp=N,234μm,0.4s						
FUSIO	**Fusio**	**1.53**	**351**	P	**Pn**	**10 34 41.5**	**+0.1**
FUSIO				AML	AML		
	comp=E,362μm,0.3s						
FUSIO				AML	AML		
	comp=N,324μm,0.7s						
POPM	**Popiglio**	**1.53**	**125**	P	**Pb**	**10 34 43.5**	**+0.8**
POPM				AML	AML		
	comp=E,1390μm,0.4s						
POPM				AML	AML		
	comp=N,1250μm,0.5s						
TUE	**Stuetta**	**1.54**	**8**	P	**Pb**	**10 34 43.3**	**+0.3**
TUE				AML	AML		
	comp=E,398μm,0.8s						
TUE				AML	AML		
	comp=N,327μm,0.8s						
TUE				AML	AML		
	comp=N,282μm,0.8s						
TUE				AML	AML		
	comp=E,305μm,0.6s						
RRL	**Rocca Remolon**	**1.59**	**270**	P	**Pn**	**10 34 42.7**	**+0.5**
RRL				AML	AML		
	comp=N,245μm,0.6s						
RRL				AML	AML		
	comp=E,270μm,0.7s						
REMY	**Saint-Rhmy-en**	**1.59**	**305**	P	**Pn**	**10 34 42.9**	**+0.6**
REMY				AML	AML		
	comp=E,136μm,0.7s						
REMY				AML	AML		
	comp=N,1475μm,0.6s						
DIX	**Grande Dixence**	**1.60**	**315**	P	**Pn**	**10 34 43.6**	**+1.1**
DIX				AML	AML		
	comp=N,876μm,0.7s						
DIX				AML	AML		
	comp=E,610μm,0.3s						
ISO	**Isola**	**1.60**	**242**	P	**Pn**	**10 34 42.9**	**+0.5**
ROVR	**Rover Verones**	**1.61**	**63**	AML	AML		
	comp=N,1016μm,0.3s						
ROVR				AML	AML		
	comp=E,212μm,0.4s						
ROVR				AML	AML		
	comp=E,563μm,0.4s						
ROVR				AML	AML		
	comp=N,410μm,0.3s						
MRGE	**Morge**	**1.61**	**301**	P	**Pb**	**10 34 44.5**	**+0.4**
MRGE				AML	AML		
	comp=E,374μm,1.5s						
MRGE				AML	AML		
	comp=N,479μm,0.6s						
MBDF	**Montbardon**	**1.62**	**263**	*e*Pn	**Pn**	**10 34 42.4**	**-0.2**
MBDF				*e*Sn	**Sn**	**10 35 03.1**	**0.0**
	comp=N,146nm,0.3s						
BERNI	**Berninapass**	**1.62**	**25**	P	**Pb**	**10 34 44.2**	**-0.2**
BERNI				AML	AML		
	comp=N,214μm,0.9s						
BERNI				AML	AML		
	comp=E,234μm,0.5s						
BERNI				AML	AML		
	comp=N,214μm,1.0s						
SURF	**Saint Ours**	**1.64**	**254**	P	**Pn**	**10 34 43.9**	**+0.9**
MON	**Monaco**	**1.67**	**224**	P	**Pn**	**10 34 43.5**	**+0.3**
MON				S	**Sb**	**10 35 07.5**	**+1.8**
LPG	**La Plagne**	**1.70**	**290**	*e*Pn	**Pn**	**10 34 44.0**	**+0.2**
LPG				*e*Sn	**Sn**	**10 35 05.7**	**+0.4**
	comp=N,105nm,0.3s						
LPG				*e*Sg	**Sg**	**10 35 10.2**	**+0.6**
	comp=N,99nm,0.3s						
LPL	**La Plagne**	**1.72**	**290**	*e*Pn	**Pn**	**10 34 45.0**	**+1.0**
LPL				*e*Sn	**Sn**	**10 35 06.1**	**+0.4**
	comp=N,70nm,0.3s						
LPL				*e*Sg	**Sg**	**10 35 10.5**	**+0.3**
	comp=N,129nm,0.4s						
CRMI	**Carmignano**	**1.81**	**129**	AML	AML		
	comp=E,85μm,1.0s						
CRMI				AML	AML		
	comp=N,95μm,0.6s						
OGAG	**Argentiere**	**1.84**	**255**	P	**Pn**	**10 34 46.4**	**+0.8**
RSL	**Roselend**	**1.85**	**295**	P	**Pb**	**10 34 47.8**	**-0.4**
CALF	**Calern**	**1.92**	**232**	P	**Pn**	**10 34 48.0**	**+1.3**
CALF				S	**Sb**	**10 35 14.3**	**+1.2**
DAVOX	**Davos/Dischmat**	**1.93**	**18**	P	**Pb**	**10 34 49.1**	**-0.5**
DAVOX				AML	AML		
	comp=N,268μm,0.5s						
DAVOX				AML	AML		
	comp=E,168μm,0.4s						
BNALP	**Bannalp**	**1.97**	**348**	P	**Pb**	**10 34 50.4**	**+0.2**
BNALP				AML	AML		
	comp=N,230μm,0.3s						
BNALP				AML	AML		
	comp=E,272μm,0.4s						
MOSI	**Grossmontoni**	**1.98**	**32**	AML	AML		
	comp=E,354μm,0.5s						
MOSI				AML	AML		
	comp=N,528μm,0.5s						
GDM	**Grand'Maison**	**2.08**	**278**	P	**Pb**	**10 34 51.6**	**-0.4**
GDM				S	**Sg**	**10 35 20.4**	**-1.2**
FRF	**La Foret Royal**	**2.20**	**232**	*e*Pn	**Pn**	**10 34 51.5**	**+1.0**
FRF	**La Foret Royal**	**2.20**	**232**	*e*Pg	**Pg**	**10 34 56.1**	**-0.9**
FRF				*e*Sn	**Sn**	**10 35 15.8**	**-1.4**
	comp=N,61nm,0.3s						
FRF				*e*Sg	**Sg**	**10 35 24.7**	**-0.8**
	comp=N,188nm,0.6s						
ORIF	**Oris-en-Rattie**	**2.23**	**270**	*e*Pn	**Pb**	**10 34 53.6**	**-1.1**
ORIF				*e*Sn	**Sn**	**10 35 18.4**	**+0.2**
	comp=N,50nm,0.3s						
ORIF				*e*Sg	**Sg**	**10 35 26.7**	**+0.1**
	comp=N,82nm,0.3s						
KOSI	**Kohlern**	**2.24**	**47**	AML	AML		
	comp=E,167μm,0.9s						
KOSI				AML	AML		
	comp=N,165μm,0.6s						
FETA	**Feichten**	**2.39**	**29**	Pn	**Pb**	**10 34 56.8**	**-0.6**
	comp=N,2.8nm,0.3s						
FETA				Sn	**Sb**	**10 35 28.1**	**+1.5**
	comp=N,13nm,0.4s						
PGF	**Pioggiola**	**2.40**	**180**	*e*Pn	**Pn**	**10 34 52.8**	**-0.5**
PGF				*e*Sn	**Sn**	**10 35 20.6**	**-1.7**
	comp=N,20nm,0.4s						
DAVA	**Damuels**	**2.42**	**14**	Pn	**Pb**	**10 34 56.8**	**-1.0**
	comp=N,3.7nm,0.3s,SNR=9.9						
DAVA				Sn	**Sb**	**10 35 28.5**	**+1.2**
	comp=N,56nm,0.3s						
LMR	**La Mourre**	**2.42**	**229**	*e*Pn	**Pn**	**10 34 54.1**	**+0.6**
LMR	**La Mourre**	**2.42**	**229**	*e*Pg	**Pg**	**10 35 00.1**	**-1.2**
LMR				*e*Sn	**Sn**	**10 35 22.2**	**-0.6**
	comp=N,51nm,0.3s						
LMR				*e*Sg	**Sg**	**10 35 31.8**	**-0.9**
	comp=N,51nm,0.4s						
BALST	**Balsthal**	**2.56**	**339**	P	**Pn**	**10 34 56.9**	**+1.4**
BALST				S	**Sb**	**10 35 29.7**	**-1.7**
CABF	**La Chapelle**	**2.65**	**310**	*e*Pn	**Pn**	**10 34 57.6**	**+0.9**
CABF				*e*Sn	**Sn**	**10 35 28.4**	**0.0**
	comp=N,21nm,0.3s						
CABF				*e*Sg	**Sg**	**10 35 39.4**	**-0.4**
	comp=N,84nm,0.6s						
SMRF	**Simiane la Rot**	**2.65**	**250**	*e*Pn	**Pn**	**10 34 57.4**	**+0.7**
SMRF	**Simiane la Rot**	**2.65**	**250**	*e*P	**Pn**	**10 34 59.7**	**+3.0**
SMRF	**Simiane la Rot**	**2.65**	**250**	*e*Pg	**Pg**	**10 35 04.5**	**-1.1**
SMRF				*e*Sn	**Sn**	**10 35 28.3**	**-0.2**
	comp=N,31nm,0.3s						
SMRF				*e*Sg	**Sg**	**10 35 39.2**	**-0.8**
	comp=N,39nm,0.4s						
SULZ	**Cheisacher**	**2.66**	**347**	P	**Pn**	**10 34 58.0**	**+1.2**
BRANT	**Les Verrieres**	**2.67**	**319**	P	**Pn**	**10 34 59.4**	**+2.3**

SQTA	**Sankt Quirin**	**2.73**	**33**	Pn	**Pb**	**10 35 01.7**	**-1.5**
	comp=N,3.8nm,0.1s,SNR=5.1						
SQTA				Sn	**Sb**	**10 35 36.3**	**-0.2**
	comp=N,16nm,0.3s						
BOURR	**Bourrignon**	**2.75**	**334**	P	**Pn**	**10 34 59.4**	**+1.4**
MOTA	**Moosalm**	**2.80**	**30**	Pn	**Pb**	**10 35 02.2**	**-2.1**
	comp=N,4.5nm,0.4s						
MOTA				Sn	**Sb**	**10 35 37.9**	**-0.5**
	comp=N,33nm,0.5s						
RETA	**Reutte**	**2.81**	**25**	*i* Pn	**Pn**	**10 35 01.9**	**+2.9**
	comp=N,4.6nm,0.3s						
RETA				Sn	**Sb**	**10 35 37.2**	**-1.5**
	comp=N,20nm,0.4s						
CHMF	**Charmoille**	**2.83**	**325**	P	**Pn**	**10 35 00.9**	**+1.7**
SLE	**Schleitheim**	**2.84**	**353**	P	**Pn**	**10 34 59.9**	**+0.6**
LOMF	**Lomont**	**2.85**	**328**	P	**Pn**	**10 35 01.3**	**+1.9**
RISI	**Rein**	**2.92**	**46**	AML	AML		
	comp=E,203μm,0.2s						
RISI				AML	AML		
	comp=N,309μm,0.4s						
WTTA	**Wattenberg**	**2.94**	**37**	Pn	**Pb**	**10 35 04.5**	**-2.4**
	comp=N,7.5nm,0.2s,SNR=8.7						
WTTA				Sn	**Sb**	**10 35 43.7**	**+1.1**
	comp=N,16nm,0.3s						
WATA	**Walderalm**	**2.98**	**36**	Pn	**Pb**	**10 35 05.1**	**-2.2**
	comp=N,6.1nm,0.3s						
WATA				Sn	**Sb**	**10 35 43.4**	**0.0**
	comp=N,18nm,0.4s						
ABTA	**Abfaltersbach**	**3.03**	**52**	Pn	**Pn**	**10 35 05.0**	**+3.1**
	comp=N,3.9nm,0.2s						
ABTA				*e*Sn	**Sb**	**10 35 43.8**	**-1.1**
	comp=N,12nm,0.4s						
VIVF	**Saint-Julien-l**	**3.09**	**270**	*e*Pn	**Pn**	**10 35 03.9**	**+1.1**
VIVF				*e*Sn	**Sn**	**10 35 39.5**	**+0.2**
	comp=N,4.5nm,0.2s						
KIZ	**Kirchzarten**	**3.11**	**346**	P	**Pn**	**10 35 03.5**	**+0.5**
HINF	**Hinteralfeld**	**3.24**	**333**	*e*Pn	**Pn**	**10 35 05.9**	**+1.1**
HINF				*e*Sn	**Sn**	**10 35 43.4**	**+0.4**
	comp=N,42nm,0.3s						
ECH	**Echery**	**3.51**	**339**	P	**Pn**	**10 35 09.4**	**+0.8**
HAU	**Haudompre**	**3.58**	**330**	*e*Pn	**Pn**	**10 35 10.5**	**+1.1**
HAU				*e*Sn	**Sn**	**10 35 51.6**	**+0.4**
	comp=N,70nm,0.4s						
MYKA	**Terra Mystica**	**3.64**	**61**	Pn	**Pb**	**10 35 15.5**	**-3.1**
	comp=N,1.7nm,0.3s						
MYKA				Sg	**Sg**	**10 36 12.5**	**+0.8**
	comp=N,12nm,0.7s						
CDF	**Champ du Feu**	**3.67**	**341**	*e*Pn	**Pn**	**10 35 11.1**	**+0.4**
CDF				*e*Sn	**Sn**	**10 35 53.2**	**-0.4**
	comp=N,22nm,0.4s						
CDF				*e*Sg	**Sg**	**10 36 11.4**	**-1.2**
	comp=N,35nm,0.5s						
KBA	**Koelnbreinsper**	**3.69**	**53**	*e*Pn	**Pn**	**10 35 14.8**	**+3.7**
	comp=N,5.8nm,0.5s						
LASF	**Ste Croix**	**3.80**	**259**	*e*Pn	**Pn**	**10 35 13.2**	**+0.8**
LASF				*e*Sn	**Sn**	**10 35 56.2**	**-0.5**
SMF	**Signal de Mont**	**4.00**	**297**	*e*Pn	**Pb**	**10 35 24.8**	**0.0**
SMF				*e*Sn	**Sn**	**10 36 00.8**	**-0.9**
	comp=N,15nm,0.3s						
LBL	**Lubilhac**	**4.10**	**276**	P	**Pn**	**10 35 18.2**	**+1.5**
PAGF	**Fort de Pagny**	**4.26**	**329**	*e*Pn	**Pn**	**10 35 20.4**	**+1.6**
PAGF				*e*Sn	**Sn**	**10 36 07.4**	**-0.7**
	comp=N,16nm,0.2s						
SFTF	**Sexfontaines**	**4.26**	**321**	*e*Pn	**Pn**	**10 35 20.8**	**+2.0**
SFTF				*e*Sn	**Sn**	**10 36 06.9**	**-1.2**
	comp=N,20nm,0.4s						
SFTF				*e*Sg	**Sg**	**10 36 29.3**	**-2.3**
	comp=N,24nm,0.5s						
LOR	**Lormes**	**4.28**	**305**	*e*Pn	**Pn**	**10 35 20.1**	**+1.1**
LOR				*e*Sn	**Sn**	**10 36 07.2**	**-1.3**
	comp=N,32nm,0.3s						
AVF	**Avril sur Loir**	**4.37**	**297**	*e*Pn	**Pn**	**10 35 21.3**	**+1.0**
AVF				*e*Sg	**Sg**	**10 36 33.1**	**-1.9**
	comp=N,20nm,0.7s						
SSF	**Saint Saulge**	**4.39**	**301**	*e*Pn	**Pn**	**10 35 21.6**	**+1.1**
BGF	**Bois d'Agland**	**4.62**	**293**	*e*Pn	**Pn**	**10 35 24.9**	**+1.3**
BGF				*e*Sn	**Sn**	**10 36 15.1**	**-1.7**
	comp=N,26nm,0.4s						
CAF	**Calviac**	**4.94**	**272**	*e*Pn	**Pn**	**10 35 29.0**	**+0.8**
TCF	**Toulx Ste Croi**	**4.97**	**288**	*e*Pn	**Pn**	**10 35 29.6**	**+1.1**
TCF				*e*Sn	**Sn**	**10 36 23.5**	**-2.0**
	comp=N,8.3nm,0.3s						
SJAF	**Saint Jean de**	**5.09**	**243**	P	**Pn**	**10 35 30.7**	**+0.5**
MTLF	**Montolieu**	**5.16**	**254**	*e*Pn	**Pn**	**10 35 31.8**	**+0.7**
MTLF				*e*Sn	**Sn**	**10 36 28.1**	**-2.0**
	comp=N,6.2nm,0.4s						
KHC	**Kasperske Hory**	**5.21**	**35**	*e*PN	**Pn**	**10 35 32.8**	**+0.9**
KHC				*e*PG	**Pg**	**10 35 52.5**	**-2.1**
KHC				*e*SN	**Sn**	**10 36 30.8**	**-0.8**
KHC				*ex*	x	10 36 58.5	
RJF	**Les Rejaudoux**	**5.33**	**276**	*e*Pn	**Pn**	**10 35 33.2**	**-0.2**
FNEB	**Nbias**	**5.40**	**250**	P	**Pn**	**10 35 35.9**	**+1.5**
CLL	**Collm**	**6.90**	**21**	*e*Sg	**Sg**	**10 37 58.0**	**+2.1**
ETSF	**Etsaut**	**7.22**	**257**	*e*P	Pn	10 36 04.6	+5.2
ETSF				*e*Sn	**Sn**	**10 37 23.1**	**+2.1**

ISCJB ***21*** *10:36:47.9±0.3, 45°.01N±0°.01×9°.02E±0°.01, h2km±2km, mb3.7/7, MS2.9/2, Error ellipse: s-maj=1.8km s-min=1.5km az=152.6*

STR ***21*** *10:36:47.2±0.5, 45°N±2°×°±°, h0km, mb3.9/1, MLv4.2/6*

IDC ***21*** *10:36:49.0±0.9, 44°.99N×8°.87E, h0km, mb3.7/7, mb1 3.9/14, mb1mx3.8/54, mbtmp3.7/14, ML4.0/7, MS2.7/8, Ms1 2.7/8, ms1mx2.5/40, Error ellipse: s-maj=21.6km s-min=13.0km az=133.0*

MED_RC ***21*** *10:36:49.0±0.5, 44°.91N×9°.00E, h11km±2km, MW4.0/8, Moment Tensor Solution. Mantle waves: s8,c12; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.84±.14; $M_{\theta\theta}$-0.75±.09; $M_{\phi\phi}$-0.09±.10; $M_{r\theta}$-0.42±.18; $M_{\theta\phi}$0.05±.06; $M_{\phi r}$0.90±.28; Best double couple: $M_0$1.22000×10^{15} NP1:ϕ_s315.00000°, δ72.00000°, λ110.00000°. NP2: ϕ_s86.00000°, δ27.00000°, λ44.00000°. Principal axes: T 1.4400, Plg59.0000°, Azm253.0000°; N -0.4500, Plg19.0000°, Azm128.0000°; P -0.9900, Plg24.0000°, Azm30.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

PRU ***21*** *10:36:50.3±0.0, 45°.02N×8°.94E, h11km*

ROM ***21*** *10:36:50.1±0.1, 44°.909N±0°.006×9°.044E±0°.009, h23km±1km, ML3.9/89, Mw3.6, Error ellipse: s-maj=0.7km s-min=0.4km az=233.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}2.91; $M_{\theta\theta}$-2.90; $M_{\phi\phi}$-0.01; $M_{r\theta}$-1.49; $M_{\theta\phi}$-0.87; $M_{\phi r}$0.54; Fault plane solution: $M_0$3.42242×10^{14} NP1:ϕ_s59.00000°, δ36.00000°, λ64.00000°. NP2:ϕ_s270.00000°, δ59.00000°, λ107.00000°.*

GEN ***21*** *10:36:50.1, 44°.93N×9°.04E, h5km±3km, Ml3.7*

LDG ***21*** *10:36:50.2±0.1, 44°.92N×8°.97E, h5km, Md3.4/3, Ml4.0/58, Error ellipse: s-maj=1.5km s-min=1.4km az=154.0*

BGR ***21*** *10:36:52.9±0.5, 45°.07N×8°.71E, h10km, ML4.0/14, Error ellipse: s-maj=11.1km s-min=8.9km az=35.0*

ISC 21 10:36:49.2±1.0, **44°.95N**±0°.01×**8°.94E**±0°.01, **h6**km±7km, **n285**, σ1^{S}**90**/378, **mb3.8**/7, **1C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.41**	**117**	P	**Pg**	**10 36 57.0**	**0.0**
BOB				S	**Sg**	**10 37 02.4**	**0.0**
BOB				AML	AML		
	comp=N,24150μm,0.4s						
BOB				AML	AML		
	comp=E,24800μm,0.6s						
BOB				AML	AML		
	comp=E,29500μm,0.2s						
BOB				AML	AML		
	comp=N,24900μm,1.5s						
BOB				AML	AML		
	comp=E,24750μm,0.6s						
BOB				AML	AML		
	comp=N,24900μm,1.5s						
BOB				AML	AML		
	comp=E,24800μm,0.6s						
BOB				AML	AML		
	comp=N,24150μm,0.4s						
GORR	**Gorreto**	**0.43**	**144**	P	**Pg**	**10 36 57.2**	**-0.2**
GORR				S	**Sg**	**10 37 02.9**	**-0.1**
GORR	**Gorreto**	**0.43**	**144**	P	**Pg**	**10 36 57.2**	**-0.2**
GORR				S	**Sg**	**10 37 03.3**	**+0.3**
GORR				AML	AML		
	comp=E,21900μm,0.4s						
GORR				AML	AML		
	comp=N,35950μm,0.4s						
GORR				AML	AML		
	comp=N,35950μm,0.4s						
GORR				AML	AML		
	comp=E,21900μm,0.4s						
ROTM	**Rocchetta Tana**	**0.43**	**256**	P	**Pn**	**10 37 01.4**	**-0.5**
ROTM				S	**Sb**	**10 37 09.8**	**+3.9**
ROTM	**Rocchetta Tana**	**0.43**	**256**	P	**Pn**	**10 37 01.4**	**-0.5**
ROTM				AML	AML		
	comp=E,24550μm,0.6s						
ROTM				AML	AML		
	comp=N,38350μm,0.5s						
ROTM				AML	AML		
	comp=E,24550μm,0.6s						
ROTM				AML	AML		
	comp=N,38350μm,0.5s						
PCP	**Piancastagn**	**0.50**	**215**	P	**Pb**	**10 37 00.2**	**-0.2**
PCP				S	**Sb**	**10 37 07.5**	**-0.4**
PCP	**Piancastagn**	**0.50**	**215**	P	**Pb**	**10 36 59.9**	**-0.5**
PCP				S	**Sb**	**10 37 07.7**	**-0.2**
PCP				AML	AML		
	comp=E,9415μm,0.4s						
PCP				AML	AML		
	comp=N,7920μm,0.4s						
MILN	**Milano**	**0.57**	**21**	P	**Pb**	**10 37 02.2**	**+0.7**
MILN				AML	AML		
	comp=N,13050μm,0.9s						
MILN				AML	AML		
	comp=E,7585μm,0.2s						
MILN				AML	AML		
	comp=N,13000μm,0.9s						
CTL8	**Castelleone**	**0.67**	**61**	P	**Pn**	**10 37 04.5**	**-0.7**
CTL8				AML	AML		
	comp=N,4755μm,1.3s						
CTL8				AML	AML		
	comp=E,21950μm,0.5s						
CTL8				AML	AML		
	comp=N,12655μm,0.5s						
CTL8				AML	AML		
	comp=N,12610μm,0.5s						
CTL8				AML	AML		
	comp=E,21950μm,0.5s						
CTL8				AML	AML		
	comp=N,4760μm,1.3s						
CTL8				AML	AML		
	comp=E,6055μm,0.6s						
MONC	**Moncucco Torin**	**0.73**	**280**	P	**Pn**	**10 37 07.3**	**+1.3**
MONC				AML	AML		
	comp=N,15200μm,0.4s						
MONC				AML	AML		
	comp=E,20450μm,0.6s						
MSSA	**Maissana**	**0.76**	**147**	P	**Pg**	**10 37 02.9**	**-0.8**
MSSA				S	**Sg**	**10 37 13.5**	**0.0**
MSSA				AML	AML		
	comp=E,3095μm,0.6s						
MSSA				AML	AML		
	comp=N,3205μm,0.7s						
MSSA				AML	AML		
	comp=E,3090μm,0.6s						
MSSA				AML	AML		
	comp=N,3200μm,0.7s						
QLNO	**Quiliano**	**0.76**	**214**	P	**Pb**	**10 37 04.3**	**-0.4**
QLNO				S	**Sb**	**10 37 16.5**	**+1.2**
QLNO				AML	AML		
	comp=N,4355μm,0.4s						
QLNO				AML	AML		
	comp=E,3505μm,0.4s						
MERA	**Merate**	**0.80**	**25**	P	**Pb**	**10 37 05.9**	**+0.5**
ORZI	**Orzinuovi**	**0.83**	**57**	P	**Pn**	**10 37 08.1**	**+0.6**
ORZI				AML	AML		
	comp=N,7255μm,0.5s						
ORZI				AML	AML		
	comp=E,8055μm,0.3s						
FINB	**Finale Ligure**	**0.89**	**210**	P	**Pb**	**10 37 07.0**	**0.0**
FINB				S	**Sb**	**10 37 20.0**	**+0.9**
FINB				AML	AML		
	comp=E,3925μm,1.1s						
FINB				AML	AML		
	comp=N,3525μm,0.3s						
FINB				AML	AML		
	comp=N,3520μm,0.3s						
VARE	**Varese**	**0.92**	**353**	P	**Pb**	**10 37 08.3**	**+0.6**
VARE				S	**Sb**	**10 37 21.7**	**+1.5**
VARE				AML	AML		
	comp=E,6300μm,0.5s						
VARE				AML	AML		
	comp=N,8300μm,0.9s						
GRAM	**Graiana**	**0.93**	**120**	P	**Pg**	**10 37 06.2**	**-0.8**
GRAM				S	**Sb**	**10 37 19.5**	**-0.7**
GRAM	**Graiana**	**0.93**	**120**	P	**Pg**	**10 37 06.1**	**-0.8**
GRAM				AML	AML		
	comp=E,10105μm,0.4s						
GRAM				AML	AML		
	comp=N,11000μm,1.5s						
MUGIO	**Muggio**	**0.97**	**4**	P	**Pb**	**10 37 08.6**	**+0.1**
MUGIO				S	**Sb**	**10 37 22.9**	**+1.3**
MUGIO				AML	AML		
	comp=E,8040μm,0.3s						
MUGIO				AML	AML		
	comp=N,6145μm,0.5s						
MUGIO				AML	AML		
	comp=N,6150μm,0.5s						
LEOD	**Capriano del C**	**0.98**	**58**	P	**Pn**	**10 37 10.7**	**+1.2**
MDI	**Monti di Nese**	**0.99**	**33**	P	**Pb**	**10 37 08.1**	**-0.7**
MDI				AML	AML		
	comp=N,5855μm,0.4s						
MDI				AML	AML		
	comp=N,5620μm,0.4s						
MDI				AML	AML		
	comp=E,7085μm,0.8s						
MDI				AML	AML		
	comp=E,6775μm,0.8s						
MDI				AML	AML		
	comp=E,6780μm,0.8s						
PRMA	**PARMA**	**0.99**	**100**	P	**Pn**	**10 37 09.4**	**-0.3**
TRAV	**Traversella**	**1.01**	**304**	P	**Pn**	**10 37 10.5**	**+0.5**
TRAV				S	**Sn**	**10 37 25.5**	**+0.9**
TRAV				AML	AML		
	comp=E,15850μm,0.9s						
TRAV				AML	AML		
	comp=N,18250μm,0.2s						
RORO	**Rocca Rossa**	**1.05**	**217**	P	**Pb**	**10 37 09.6**	**-0.1**
RORO				AML	AML		
	comp=N,4505μm,0.5s						
RORO				AML	AML		
	comp=E,6380μm,0.4s						
GBOS	**Grotte di Boss**	**1.06**	**228**	P	**Pn**	**10 37 10.5**	**-0.1**
GBOS				AML	AML		
	comp=N,6105μm,0.4s						
GBOS				AML	AML		
	comp=E,3105μm,0.6s						
FIVI	**Fivizzano**	**1.11**	**130**	P	**Pg**	**10 37 08.9**	**-1.5**
CNCS	**Concesio**	**1.11**	**54**	AML	AML		
	comp=N,13350μm,0.5s						
CNCS				AML	AML		
	comp=E,12050μm,0.4s						
PLMA	**Palmaria, Port**	**1.11**	**144**	P	**Pg**	**10 37 09.0**	**-1.5**
PLMA				AML	AML		
	comp=E,4000μm,0.5s						
PLMA				AML	AML		
	comp=N,3650μm,1.4s						
CIRO	**Champorcher**	**1.17**	**304**	P	**Pb**	**10 37 12.2**	**+0.3**
CIRO				S	**Sn**	**10 37 29.9**	**+1.2**
CIRO				AML	AML		
	comp=E,17650μm,0.3s						
CIRO				AML	AML		
	comp=N,28800μm,0.6s						
CIRO				AML	AML		
	comp=E,17650μm,0.3s						
EQUI	**Equi**	**1.17**	**132**	P	**Pg**	**10 37 10.0**	**-1.6**
EQUI				AML	AML		
	comp=N,1965μm,0.8s						
EQUI				AML	AML		
	comp=E,1915μm,0.7s						
ERBM	**Eremo**	**1.18**	**116**	P	**Pn**	**10 37 11.7**	**-0.6**
ERBM				AML	AML		
	comp=N,3555μm,0.9s						
ERBM				AML	AML		
	comp=E,2750μm,1.1s						
ERBM				AML	AML		
	comp=E,2745μm,1.1s						
SATI	**Passo dei Sala**	**1.19**	**321**	P	**Pb**	**10 37 12.8**	**+0.4**
SATI				S	**Sn**	**10 37 29.7**	**+0.2**
SATI				AML	AML		
	comp=E,4700μm,0.8s						
SATI				AML	AML		
	comp=N,5830μm,0.7s						
RSP	**Reno Superiore**	**1.20**	**280**	P	**Pg**	**10 37 11.6**	**-0.7**
RSP				AML	AML		
	comp=E,3790μm,0.3s						
RSP				AML	AML		
	comp=N,3150μm,1.0s						
MGRO	**Montegrosso**	**1.22**	**222**	P	**Pn**	**10 37 13.2**	**+0.3**
MGRO				S	**Sn**	**10 37 30.2**	**+0.4**
MGRO				AML	AML		
	comp=E,5665μm,0.6s						
MGRO				AML	AML		
	comp=N,3455μm,1.1s						
IMI	**Imperia**	**1.28**	**216**	P	**Pb**	**10 37 13.7**	**-0.1**
IMI				AML	AML		
	comp=E,1375μm,0.2s						
IMI				AML	AML		
	comp=N,5480μm,0.3s						
DOI	**San Damiano**	**1.29**	**250**	P	**Pb**	**10 37 14.1**	**+0.2**
DOI				AML	AML		
	comp=N,6260μm,0.5s						
DOI				AML	AML		
	comp=E,9855μm,0.5s						
MMK	**Mattmark**	**1.29**	**328**	P	**Pg**	**10 37 14.0**	**0.0**
MMK				S	**Sn**	**10 37 32.5**	**+0.6**
MMK				AML	AML		
	comp=E,8440μm,0.4s						
MMK				AML	AML		
	comp=N,8530μm,0.4s						
MMK				AML	AML		
	comp=N,8530μm,0.4s						
SARO	**Sassorosso**	**1.30**	**126**	P	**Pg**	**10 37 12.5**	**-1.5**
SARO				AML	AML		
	comp=E,3215μm,0.8s						
SARO				AML	AML		
	comp=N,6080μm,0.5s						
SALO	**Salr**	**1.30**	**59**	AML	AML		
	comp=E,6460μm,0.8s						
SALO				AML	AML		
	comp=E,6455μm,0.8s						
SALO				AML	AML		
	comp=N,6225μm,0.9s						
VLC	**Villacollemand**	**1.30**	**127**	P	**Pg**	**10 37 12.6**	**-1.5**
VLC				AML	AML		
	comp=E,3055μm,0.7s						
VLC				AML	AML		
	comp=N,2835μm,0.8s						
VLC				AML	AML		
	comp=N,2795μm,0.8s						
VLC				AML	AML		
	comp=E,3005μm,0.7s						
ENR	**Entracque**	**1.31**	**237**	P	**Pb**	**10 37 14.6**	**+0.5**
STV	**Sant Anna di V**	**1.35**	**239**	P	**Pn**	**10 37 14.9**	**+0.2**
STV				AML	AML		
	comp=E,2210μm,0.6s						
STV				AML	AML		
	comp=N,3265μm,1.2s						
LSD	**Lago del Serru**	**1.37**	**292**	P	**Pn**	**10 37 14.2**	**-0.9**
LSD				AML	AML		
	comp=E,2240μm,1.6s						
LSD				AML	AML		
	comp=N,3030μm,0.4s						
PZZ	**Stroppo**	**1.38**	**252**	P	**Pn**	**10 37 14.4**	**-0.7**
PZZ				AML	AML		
	comp=E,3375μm,1.2s						
PZZ				AML	AML		
	comp=N,3190μm,0.7s						
SAOF	**Saorge**	**1.39**	**226**	P	**Pb**	**10 37 16.1**	**+0.7**
SAOF				S	**Sn**	**10 37 35.5**	**+1.8**
SAOF	**Saorge**	**1.39**	**226**	P	**Pb**	**10 37 15.9**	**+0.5**
SAOF				AML	AML		
	comp=N,3815μm,0.6s						
SAOF				AML	AML		
	comp=E,3175μm,0.6s						
NEGI	**Seborga**	**1.42**	**219**	P	**Pg**	**10 37 15.9**	**-0.4**
NEGI				AML	AML		
	comp=E,2145μm,0.3s						
NEGI				AML	AML		
	comp=N,3715μm,0.8s						
CARD	**Cardoso**	**1.44**	**129**	P	**Pn**	**10 37 15.1**	**-0.8**
CARD				AML	AML		
	comp=E,5955μm,0.7s						
CARD				AML	AML		
	comp=N,5360μm,0.9s						
TURF	**col de Turini**	**1.48**	**229**	P	**Pn**	**10 37 16.8**	**+0.3**
TURF				S	**Sn**	**10 37 37.5**	**+1.3**
BDI	**Bagni Di Lucca**	**1.48**	**126**	AML	AML		
	comp=N,6180μm,1.2s						
BDI				AML	AML		
	comp=E,7865μm,0.5s						
BDI				AML	AML		
	comp=N,6310μm,0.9s						
BDI				AML	AML		
	comp=E,7495μm,0.9s						
EMBD	**Embd, Matterta**	**1.48**	**329**	P	**Pn**	**10 37 17.1**	**+0.6**
BALD	**Monte Baldo**	**1.51**	**60**	*e*Pg	**Pb**	**10 37 17.1**	**-0.7**
BALD				*e*Sg	**Sn**	**10 37 38.1**	**+1.0**
FUSIO	**Fusio**	**1.52**	**353**	P	**Pn**	**10 37 16.2**	**-0.8**
FUSIO				AML	AML		
	comp=N,2550μm,0.7s						
FUSIO				AML	AML		
	comp=E,2260μm,0.7s						
MAIM	**Mastiano**	**1.52**	**133**	AML	AML		
	comp=N,2805μm,0.5s						
MAIM				AML	AML		
	comp=E,3920μm,0.8s						
RRL	**Rocca Remolon**	**1.53**	**270**	AML	AML		
	comp=E,962μm,0.4s						
RRL				AML	AML		
	comp=N,1067μm,0.5s						
REMY	**Saint-Rhmy-en**	**1.54**	**306**	P	**Pn**	**10 37 17.4**	**0.0**
REMY				AML	AML		
	comp=E,6070μm,0.4s						
REMY				AML	AML		
	comp=N,8295μm,1.3s						
TUE	**Stuetta**	**1.55**	**10**	P	**Pb**	**10 37 18.2**	**-0.1**
TUE				AML	AML		
	comp=E,2815μm,0.4s						
TUE				AML	AML		
	comp=N,2250μm,0.8s						
TUE				AML	AML		
	comp=E,3785μm,0.4s						
TUE				AML	AML		
	comp=N,2750μm,0.8s						
ISO	**Isola**	**1.56**	**241**	P	**Pn**	**10 37 17.8**	**+0.4**
MRGE	**Morge**	**1.56**	**302**	P	**Pn**	**10 37 17.9**	**+0.4**
MRGE				AML	AML		
	comp=E,2095μm,0.7s						
MRGE				AML	AML		
	comp=N,2355μm,0.5s						
DIX	**Grande Dixence**	**1.56**	**317**	P	**Pn**	**10 37 18.2**	**+0.5**
DIX				AML	AML		
	comp=E,3660μm,0.3s						
DIX				AML	AML		
	comp=N,5115μm,0.7s						
MBDF	**Montbardon**	**1.56**	**262**	*e*Pn	**Pn**	**10 37 17.6**	**0.0**
MBDF				*e*Sn	**Sn**	**10 37 36.7**	**-1.5**
	comp=N,244nm,0.3s						
MBDF				*e*Sg	**Sg**	**10 37 40.3**	**+1.0**
	comp=N,598nm,0.3s						
MABI	**Malga Bissina**	**1.56**	**45**	AML	AML		
	comp=N,1615μm,0.3s						
MABI				AML	AML		
	comp=E,1785μm,1.3s						
ZCCA	**Zocca**	**1.57**	**112**	AML	AML		
	comp=N,3565μm,0.5s						
ZCCA				AML	AML		
	comp=E,2755μm,0.7s						
ZCCA				AML	AML		
	comp=E,2710μm,0.7s						
ZCCA				AML	AML		
	comp=N,3650μm,0.5s						
POPM	**Popiglio**	**1.59**	**124**	AML	AML		
	comp=E,7725μm,0.8s						
POPM				AML	AML		
	comp=N,5420μm,0.5s						
SURF	**Saint Ours**	**1.59**	**253**	P	**Pn**	**10 37 18.8**	**+0.8**
BNI	**Bardonecchia**	**1.61**	**274**	AML	AML		
	comp=E,455μm,0.5s						
BNI				AML	AML		
	comp=E,322μm,0.5s						
BNI				AML	AML		
	comp=N,461μm,1.2s						
BNI				AML	AML		
	comp=N,502μm,0.5s						
MON	**Monaco**	**1.64**	**222**	P	**Pb**	**10 37 19.4**	**-0.3**
MON				S	**Sg**	**10 37 41.7**	**0.0**
LPG	**La Plagne**	**1.64**	**290**	*e*Pn	**Pn**	**10 37 18.7**	**-0.1**
LPG	**La Plagne**	**1.64**	**290**	*e*P	**Pg**	**10 37 20.5**	**-0.1**

LPG				*e*Sn	**Sn**	**10 37 38.9**	**-1.5**
	comp=N,296nm,0.3s						
LPG				*e*Sg	**Sg**	**10 37 43.3**	**+1.4**
	comp=N,378nm,0.3s						
BERNI	**Berninapass**	**1.65**	**27**	P	**Pn**	**10 37 19.1**	**+0.2**
BERNI				AML	AML		
	comp=N,2590µm,0.3s						
BERNI				AML	AML		
	comp=E,2335µm,0.4s						
LPL	**La Plagne**	**1.66**	**291**	*e*Pn	**Pn**	**10 37 19.0**	**0.0**
LPL	**La Plagne**	**1.66**	**291**	*e*P	**Pb**	**10 37 20.4**	**+0.1**
LPL				*e*Sn	**Sn**	**10 37 37.9**	**-2.9**
	comp=E,390nm,0.4s						
LPL				*e*Sg	**Sg**	**10 37 44.1**	**+1.6**
	comp=E,608nm,0.4s						
PII	**Pisa**	**1.68**	**137**	AML	AML		
	comp=N,2905µm,0.3s						
PII				AML	AML		
	comp=E,3140µm,0.4s						
MTCR	**Monte La Croce**	**1.74**	**121**	AML	AML		
	comp=E,2930µm,1.0s						
MTCR				AML	AML		
	comp=N,3385µm,0.6s						
MARN	**Marana (Italy)**	**1.74**	**66**	*e*Pg	**Pn**	**10 37 19.8**	**-0.2**
MARN				*e*Sg	**Sg**	**10 37 45.0**	**-0.1**
FNVD	**Fontana Vidola**	**1.75**	**116**	AML	AML		
	comp=N,3295µm,0.8s						
FNVD				AML	AML		
	comp=E,4995µm,0.7s						
OGAG	**Argentiere**	**1.78**	**255**	P	**Pn**	**10 37 20.9**	**+0.3**
RSL	**Roselend**	**1.79**	**295**	P	**Pb**	**10 37 22.4**	**0.0**
GAGG	**Gaggia**	**1.81**	**51⇑**	*e*Pg	**Pn**	**10 37 21.4**	**+0.3**
GAGG				*e*Sg	**Sb**	**10 37 45.8**	**-0.2**
BRMO	**Bormio**	**1.82**	**33**	P	**Pb**	**10 37 22.4**	**-0.6**
BRMO				AML	AML		
	comp=E,694µm,1.2s						
BRMO				AML	AML		
	comp=N,540µm,0.5s						
DOSS	**Dosso del Somm**	**1.83**	**59**	*e*Pg	**Pn**	**10 37 21.2**	**-0.2**
DOSS				*e*Sg	**Sb**	**10 37 46.1**	**-0.4**
CRMI	**Carmignano**	**1.86**	**128**	AML	AML		
	comp=E,364µm,1.1s						
CRMI				AML	AML		
	comp=N,566µm,0.7s						
CARE	**Lago del Cares**	**1.92**	**39**	*e*Pg	**Pn**	**10 37 23.2**	**+0.6**
CARE				*e*Sg	**Sb**	**10 37 48.1**	**-0.9**
DAVOX	**Davos/Dischmat**	**1.94**	**19**	Pn	**Pb**	**10 37 24.9**	**-0.2**
	comp=N,200nm,0.3s,baz=237,slow=9.9,SNR=82						
DAVOX				Sn	**Sn**	**10 37 48.1**	**+0.3**
	comp=N,107nm,0.3s,baz=160,slow=22,SNR=10						
DAVOX				LR	LR	10 38 00.9	
	comp=N,62nm,18.4s,baz=81,slow=37						
DAVOX	**Davos/Dischmat**	**1.94**	**19**	P	**Pn**	**10 37 23.8**	**+0.9**
DAVOX				AML	AML		
	comp=N,1850µm,1.1s						
DAVOX				AML	AML		
	comp=E,1125µm,1.0s						
SEI	**Scarperia**	**1.95**	**117**	AML	AML		
	comp=E,4165µm,0.5s						
SEI				AML	AML		
	comp=N,6400µm,0.6s						
BNALP	**Bannalp**	**1.95**	**350**	AML	AML		
	comp=E,1890µm,0.3s						
BNALP				AML	AML		
	comp=N,1620µm,0.3s						
TEOL	**Teolo**	**1.97**	**77**	AML	AML		
	comp=N,4715µm,0.4s						
TEOL				AML	AML		
	comp=E,5615µm,0.6s						
MOSI	**Grossmontoni**	**2.01**	**34**	AML	AML		
	comp=N,2725µm,0.5s						
MOSI				AML	AML		
	comp=E,2415µm,0.5s						
PANI	**Panarotta**	**2.01**	**56**	*e*Pg	**Pn**	**10 37 23.9**	**0.0**
PANI				*e*Sg	**Sn**	**10 37 50.0**	**+0.6**
OGDI	**Digne**	**2.07**	**247**	P	**Pb**	**10 37 27.5**	**+0.4**
PLONS	**Plons/SG**	**2.12**	**8**	*e*Pn	**Pb**	**10 37 27.5**	**-0.5**
	SNR=97						
PLONS				*e*Pg	**Pg**	**10 37 30.1**	**+0.3**
	SNR=97						
PLONS				*e*Sg	**Sb**	**10 37 54.7**	**0.0**
	SNR=4.8						
PLONS	**Plons/SG**	**2.12**	**8**	AML	AML		
	comp=E,1565µm,0.5s						
PLONS				AML	AML		
	comp=N,1145µm,1.6s						
FRF	**La Foret Royal**	**2.16**	**231**	*e*P	**Pn**	**10 37 26.5**	**+0.8**
FRF	**La Foret Royal**	**2.16**	**231**	*e*Pg	**Pg**	**10 37 29.8**	**-0.7**
FRF				*e*Sn	**Sn**	**10 37 49.6**	**-3.1**
	comp=N,237nm,0.2s						
FRF				*e*Sg	**Sg**	**10 37 57.7**	**-0.7**
	comp=N,681nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.17**	**270**	*e*P	**Pb**	**10 37 28.3**	**-0.7**
ORIF				*e*Sn	**Sn**	**10 37 51.0**	**-2.3**
	comp=N,165nm,0.4s						
ORIF				*e*Sg	**Sg**	**10 37 59.3**	**+0.3**
	comp=N,834nm,0.5s						
OSSC	**Osservatorio P**	**2.19**	**130**	AML	AML		
	comp=E,1460µm,0.6s						
OSSC				AML	AML		
	comp=N,1955µm,1.0s						
CTI	**Castel Tesino**	**2.20**	**59**	AML	AML		
	comp=E,2160µm,0.5s						
CTI				AML	AML		
	comp=N,2430µm,0.4s						
APPI	**Appiano**	**2.21**	**46**	AML	AML		
	comp=E,1605µm,0.3s						
APPI				AML	AML		
	comp=N,2060µm,1.2s						
CGRP	**Cima Grappa**	**2.22**	**64**	*e*Pg	**Pn**	**10 37 26.5**	**-0.2**
CGRP	**Cima Grappa**	**2.22**	**64**	AML	AML		
	comp=E,2225µm,0.6s						
CGRP				AML	AML		
	comp=N,1660µm,0.5s						
CSNT	**Castellina Chi**	**2.25**	**130**	AML	AML		
	comp=N,1720µm,0.6s						
CSNT				AML	AML		
	comp=E,798µm,0.7s						
OG02	**Monnetier-Morn**	**2.26**	**303**	P	**Pb**	**10 37 29.2**	**-1.1**
OG02				S	**Sb**	**10 37 58.8**	**+0.3**
KOSI	**Kohlern**	**2.28**	**48**	AML	AML		
	comp=N,994µm,0.3s						
KOSI				AML	AML		
	comp=E,911µm,0.9s						
TORNY	**Torny/Romont**	**2.29**	**323**	P	**Pb**	**10 37 29.8**	**-1.1**
TORNY				S	**Sb**	**10 37 58.7**	**-0.7**
BLAF	**les Blancs**	**2.30**	**245**	P	**Pn**	**10 37 29.4**	**+1.7**
SFI	**Santa Sofia**	**2.33**	**116**	AML	AML		
	comp=N,850µm,1.4s						
SFI				AML	AML		
	comp=E,900µm,0.9s						
SFI				AML	AML		
	comp=N,943µm,0.7s						
SFI				AML	AML		
	comp=E,890µm,0.7s						
FROS	**Frosini**	**2.36**	**137**	AML	AML		
	comp=E,1140µm,0.9s						
FROS				AML	AML		
	comp=N,1166µm,0.6s						
OGSM	**Saint Maurice**	**2.38**	**287**	P	**Pn**	**10 37 30.5**	**+1.7**
LMR	**La Mourre**	**2.38**	**228**	*e*P	**Pn**	**10 37 29.3**	**+0.5**
LMR	**La Mourre**	**2.38**	**228**	*e*Pg	**Pg**	**10 37 34.0**	**-0.8**
LMR				*e*Sn	**Sn**	**10 37 55.5**	**-2.8**
	comp=N,154nm,0.3s						
LMR				*e*Sg	**Sg**	**10 38 04.8**	**-0.9**
	comp=N,319nm,0.4s						
PGF	**Pioggiola**	**2.40**	**179**	*e*Pn	**Pn**	**10 37 27.7**	**-1.5**
PGF				*e*Sn	**Sn**	**10 37 54.6**	**-4.4**
	comp=N,92nm,0.5s						
PGF	**Pioggiola**	**2.40**	**179**	P	**Pn**	**10 37 28.0**	**-1.2**
FETA	**Feichten**	**2.42**	**30**	Pn	**Pn**	**10 37 30.9**	**+1.5**
	comp=N,12nm,0.3s,SNR=13						
FETA				Sn	**Sb**	**10 38 03.7**	**+0.5**
	comp=N,87nm,0.4s						
DAVA	**Damuels**	**2.42**	**15**	*e*Pn	**Pb**	**10 37 31.5**	**-1.8**
	SNR=49						
DAVA				*e*Sg	**Sb**	**10 38 03.4**	**0.0**
	SNR=2.3						
DAVA	**Damuels**	**2.42**	**15**	*e*Pn	**Pn**	**10 37 31.3**	**+1.8**
	comp=N,14nm,0.2s,SNR=21						
DAVA				*e*Pg	**Pg**	**10 37 36.0**	**+0.4**
	comp=N,130nm,0.4s						
DAVA				*i* Sn	**Sb**	**10 38 03.5**	**0.0**
	comp=N,352nm,0.3s						
DAVA				*i* Sg	Sg	10 38 19.2	+12
	comp=N,454nm,0.4s						
ABSI	**Aberstueckl**	**2.43**	**42**	AML	AML		
	comp=N,1094µm,0.5s						
ABSI				AML	AML		
	comp=E,1065µm,0.4s						
GIMEL	**St. Georges /**	**2.45**	**311**	P	**Pn**	**10 37 31.6**	**+1.8**
WILA	**Wila**	**2.46**	**359**	*e*Pn	**Pn**	**10 37 31.5**	**+1.5**
	SNR=56						
WILA				*e*Pg	**Pg**	**10 37 37.2**	**+0.9**
	SNR=56						
WILA				*e*Sg	**Sb**	**10 38 03.4**	**-1.1**
	SNR=2.7						
MLYF	**Mely**	**2.47**	**248**	P	**Pn**	**10 37 31.7**	**+1.7**
BALST	**Balsthal**	**2.54**	**340**	P	**Pn**	**10 37 31.9**	**+0.9**
BALST	**Balsthal**	**2.54**	**340**	*e*Pn	**Pn**	**10 37 31.8**	**+0.9**
	SNR=28						
BALST				*e*Pg	**Pg**	**10 37 36.8**	**-0.9**
	SNR=28						
BALST				*e*Sg	**Sb**	**10 38 05.0**	**-1.6**
	SNR=2.2						
CRE	**Caprese Michel**	**2.54**	**121**	AML	AML		
	comp=E,992µm,0.7s						
CRE				AML	AML		
	comp=N,1110µm,0.5s						
CASP	**Castiglione de**	**2.57**	**147**	AML	AML		
	comp=N,472µm,0.4s						
CASP				AML	AML		
	comp=E,282µm,0.6s						
CABF	**La Chapelle**	**2.59**	**311**	*e*P	**Pn**	**10 37 33.4**	**+1.6**
CABF				*e*Sn	**Sn**	**10 38 01.7**	**-2.0**
	comp=E,112nm,0.3s						
CABF				*e*Sg	**Sg**	**10 38 13.5**	**+1.0**
	comp=E,667nm,0.7s						
SMRF	**Simiane la Rot**	**2.60**	**249**	*e*P	**Pn**	**10 37 33.1**	**+1.3**
SMRF	**Simiane la Rot**	**2.60**	**249**	*e*Pg	**Pg**	**10 37 37.7**	**-1.3**
SMRF				*e*Sn	**Sn**	**10 38 01.2**	**-2.5**
	comp=E,71nm,0.3s						
SMRF				*e*Sg	**Sg**	**10 38 11.6**	**-1.0**
	comp=E,182nm,0.3s						
OG35	**Corcelles**	**2.61**	**296**	P	**Pn**	**10 37 33.3**	**+1.4**
BRES	**Bressanone**	**2.62**	**47**	AML	AML		
	comp=N,665µm,1.5s						
BRES				AML	AML		
	comp=E,748µm,0.9s						
ROSI	**Rosskopf**	**2.62**	**40**	AML	AML		
	comp=N,1127µm,0.8s						
ROSI				AML	AML		
	comp=E,752µm,1.6s						
BRANT	**Les Verrieres**	**2.63**	**320**	P	**Pn**	**10 37 33.9**	**+1.6**
SULZ	**Cheisacher**	**2.64**	**348**	P	**Pn**	**10 37 33.0**	**+0.7**
SULZ	**Cheisacher**	**2.64**	**348**	*e*Pn	**Pn**	**10 37 33.0**	**+0.7**
	SNR=16						
RUSF	**Rustrel**	**2.67**	**249**	P	**Pn**	**10 37 34.4**	**+1.6**
BOURR	**Bourrignon**	**2.71**	**335**	P	**Pn**	**10 37 34.5**	**+1.1**
CAFI	**Castiglion Fio**	**2.72**	**126**	AML	AML		
	comp=N,427µm,1.0s						
CAFI				AML	AML		
	comp=E,412µm,0.8s						
SQTA	**Sankt Quirin**	**2.76**	**34**	*e*Pn	**Pb**	**10 37 36.6**	**-2.4**
	comp=E,35nm,0.3s,SNR=18						
SQTA				Sn	**Sb**	**10 38 11.1**	**-2.1**
	comp=E,119nm,0.3s						
CHMF	**Charmoille**	**2.79**	**326**	P	**Pn**	**10 37 35.9**	**+1.4**
CHMF				S	**Sn**	**10 38 09.4**	**+0.8**
LOMF	**Lomont**	**2.81**	**329**	P	**Pn**	**10 37 36.3**	**+1.5**
MOTA	**Moosalm**	**2.83**	**31**	Pn	**Pn**	**10 37 36.9**	**+1.9**
	comp=E,21nm,0.4s						
MOTA				Sn	**Sb**	**10 38 12.8**	**-2.2**
	comp=E,149nm,0.4s						
SLE	**Schleitheim**	**2.83**	**354**	P	**Pn**	**10 37 34.8**	**-0.2**
SLE	**Schleitheim**	**2.83**	**354**	*e*Pn	**Pn**	**10 37 34.9**	**0.0**
	SNR=32						
SLE				*e*Sg	**Sg**	**10 38 20.4**	**+0.4**
	SNR=1.9						
RETA	**Reutte**	**2.83**	**26**	*e*Pn	**Pn**	**10 37 36.7**	**+1.6**
	comp=E,26nm,0.3s						
RETA				Sn	**Sn**	**10 38 11.3**	**+1.8**
	comp=E,120nm,0.3s						
PE3	**Peglio**	**2.84**	**115**	AML	AML		
	comp=N,1370µm,0.5s						
PE3				AML	AML		
	comp=E,1610µm,0.6s						
UBR	**Ueberruh**	**2.85**	**16**	*e*Pn	**Pn**	**10 37 36.2**	**+1.0**
	SNR=54						
SMPL	**Sampolo**	**2.87**	**175**	P	**Pn**	**10 37 35.1**	**-0.3**
ATVO	**AVT- Monte Val**	**2.95**	**121**	AML	AML		
	comp=N,504µm,0.7s						
ATVO				AML	AML		
	comp=E,628µm,0.7s						
STAL	**STALIGIAL**	**2.95**	**62**	AML	AML		
	comp=N,1028µm,0.3s						
STAL				AML	AML		
	comp=E,984µm,1.4s						
STAL				AML	AML		
	comp=N,1067µm,1.4s						
STAL				AML	AML		
	comp=E,1245µm,1.5s						
WTTA	**Wattenberg**	**2.98**	**38**	*e*Pn	**Pn**	**10 37 39.7**	**+2.6**
	SNR=20						
WTTA				*e*Sn	**Sb**	**10 38 17.4**	**-2.0**
	SNR=2.2						
WTTA	**Wattenberg**	**2.98**	**38**	AML	AML		
	comp=E,496µm,0.8s						
WTTA				AML	AML		
	comp=N,318µm,0.7s						
WTTA	**Wattenberg**	**2.98**	**38**	Pn	**Pn**	**10 37 39.4**	**+2.3**
	comp=N,33nm,0.2s,SNR=6.4						
WTTA				Sn	**Sb**	**10 38 17.8**	**-1.6**
	comp=N,102nm,0.5s						
WATA	**Walderalm**	**3.01**	**37**	Pn	**Pn**	**10 37 39.7**	**+2.2**
	comp=N,14nm,0.2s,SNR=11						
WATA				Sn	**Sn**	**10 38 16.1**	**+2.2**
	comp=N,112nm,0.4s						
VIVF	**Saint-Julien-l**	**3.03**	**270**	*e*Pn	**Pn**	**10 37 38.6**	**+0.8**
VIVF				*e*Sn	**Sn**	**10 38 11.8**	**-2.6**
	comp=N,14nm,0.3s						
VIVF				*e*Sg	**Sg**	**10 38 26.3**	**-0.3**
	comp=N,46nm,0.5s						
MGAB	**Montegabbione**	**3.07**	**131**	AML	AML		
	comp=E,375µm,0.5s						
MGAB				AML	AML		
	comp=N,352µm,1.1s						
ABTA	**Abfaltersbach**	**3.07**	**53**	*e*Pn	**Pn**	**10 37 40.0**	**+1.6**
	comp=N,20nm,0.3s,SNR=12						
ABTA				*e*Sn	**Sn**	**10 38 18.5**	**+3.0**
	comp=N,40nm,0.2s						
MOF	**Molkenrain**	**3.16**	**337**	P	**Pn**	**10 37 40.3**	**+0.8**
HINF	**Hinteralfeld**	**3.21**	**334**	*e*Pn	**Pn**	**10 37 40.8**	**+0.6**
HINF				*e*Sn	**Sn**	**10 38 16.0**	**-2.7**
	comp=N,219nm,0.3s						
HINF				*e*Sg	**Sg**	**10 38 32.1**	**-0.1**
	comp=N,158nm,0.4s						
ASSB	**Assisi San Ben**	**3.29**	**124**	AML	AML		
	comp=N,252µm,1.0s						
ASSB				AML	AML		
	comp=E,270µm,1.3s						
MOMA	**Monte Martano**	**3.39**	**128**	AML	AML		
	comp=E,216µm,0.6s						
MOMA				AML	AML		
	comp=N,256µm,0.5s						
BFO	**Black Forest**	**3.40**	**353**	*e*Pn	**Pn**	**10 37 42.6**	**-0.3**
	SNR=12						
BFO				*e*Sn	**Sn**	**10 38 22.7**	**-0.9**
	SNR=2.8						
SABO	**M.te Sabotino**	**3.44**	**71**	AML	AML		
	comp=E,863µm,0.5s						
SABO				AML	AML		
	comp=N,1410µm,0.7s						
TRI	**Trieste**	**3.48**	**76**	AML	AML		
	comp=E,307µm,0.8s						
TRI				AML	AML		
	comp=N,245µm,0.7s						
HAU	**Haudompre**	**3.54**	**331**	*e*Pn	**Pn**	**10 37 44.3**	**-0.4**
HAU	**Haudompre**	**3.54**	**331**	*e*P	**Pn**	**10 37 46.9**	**+2.2**
HAU				*e*Sn	**Sn**	**10 38 24.0**	**-2.9**
	comp=N,410nm,0.3s						
HAU				*e*Sg	**Sg**	**10 38 42.7**	**-0.1**
	comp=N,161nm,0.3s						
FDMO	**Fiordimonte**	**3.55**	**121**	AML	AML		
	comp=N,182µm,1.5s						
FDMO				AML	AML		
	comp=E,185µm,1.2s						
FUR	**Furstenfeldbru**	**3.59**	**26**	*e*Pn	**Pn**	**10 37 46.1**	**+0.7**
	SNR=3.6						
FUR				*e*Sn	**Sn**	**10 38 27.2**	**-1.1**
	SNR=4.5						
CDF	**Champ du Feu**	**3.65**	**342**	*e*Pn	**Pn**	**10 37 46.6**	**+0.4**
CDF				*e*Sn	**Sn**	**10 38 26.4**	**-3.2**
	comp=E,129nm,0.4s						
CDF				*e*Sg	**Sg**	**10 38 45.4**	**-0.8**
	comp=E,173nm,0.5s						
MYKA	**Terra Mystica**	**3.69**	**61**	Pn	**Pn**	**10 37 47.9**	**+1.1**
	comp=E,14nm,0.4s						
MYKA				*i* Sn	**Sb**	**10 38 41.3**	**+1.5**
	comp=E,26nm,0.5s						
KBA	**Koelnbreinsper**	**3.73**	**54**	*e*Pn	**Pn**	**10 37 49.8**	**+2.3**
	SNR=8.6						
KBA				*e*Sg	**Sg**	**10 38 51.9**	**+2.9**
	SNR=2.0						
KBA	**Koelnbreinsper**	**3.73**	**54**	*e*Pn	**Pn**	**10 37 48.9**	**+1.4**
	comp=E,10.0nm,0.2s						
KBA				Sg	**Sg**	**10 38 52.1**	**+3.1**
	comp=E,61nm,0.6s						
LASF	**Ste Croix**	**3.74**	**258**	*e*Pn	**Pn**	**10 37 47.7**	**+0.2**
LASF	**Ste Croix**	**3.74**	**258**	*e*P	**Pn**	**10 37 50.0**	**+2.5**
LASF				*e*Sn	**Sn**	**10 38 27.8**	**-4.0**
	comp=E,39nm,0.4s						
LNSS	**Leonessa**	**3.79**	**127**	AML	AML		
	comp=E,313µm,1.0s						
LNSS				AML	AML		
	comp=N,315µm,0.9s						
STU	**Stuttgart**	**3.83**	**3**	*e*Pg	**Pg**	**10 38 02.1**	**-0.3**
STU				*e*Sn	**Sn**	**10 38 32.6**	**-1.2**
	SNR=2.1						
RJOB	**Jochberg**	**3.86**	**42**	*e*Pn	**Pn**	**10 37 51.0**	**+1.9**
	SNR=4.0						
RJOB				*e*Sn	**Sn**	**10 38 36.1**	**+1.3**
	SNR=2.3						
SMA1	**SAN MARTINO**	**3.94**	**125**	AML	AML		
	comp=E,350µm,1.5s						
SMA1				AML	AML		
	comp=N,256µm,0.5s						
RIY	**Rijeka**	**3.94**	**83**	*e*Pn	**Pn**	**10 37 49.3**	**-0.9**
RIY	**Rijeka**	**3.94**	**83**	*e*Pn	**Pn**	**10 37 48.1**	**-2.1**
CEY	**Cerknica**	**3.95**	**77**	*e*Pn	**Pn**	**10 37 49.3**	**-1.0**
SMF	**Signal de Mont**	**3.95**	**297**	*e*Pn	**Pn**	**10 37 51.3**	**+1.0**
SMF				*e*Sn	**Sn**	**10 38 34.1**	**-2.8**
	comp=N,59nm,0.3s						
SMF				*e*Sg	**Sg**	**10 38 55.1**	**-0.8**
	comp=N,99nm,0.5s						
LJU	**Ljubljana**	**4.08**	**73**	*e*Pn	**Pn**	**10 37 51.9**	**-0.2**
LJU	**Ljubljana**	**4.08**	**73**	AML	AML		
	comp=E,734µm,0.6s						
LJU				AML	AML		
	comp=N,752µm,0.4s						
SFTF	**Sexfontaines**	**4.22**	**322**	*e*Pn	**Pn**	**10 37 53.0**	**-1.0**
SFTF	**Sexfontaines**	**4.22**	**322**	*e*P	**Pn**	**10 37 55.9**	**+1.9**
SFTF				*e*Sn	**Sn**	**10 38 40.5**	**-3.1**
	comp=N,111nm,0.4s						
SFTF				*e*Sg	**Sg**	**10 39 04.0**	**-0.7**
	comp=N,123nm,0.4s						
OBKA	**Obir**	**4.22**	**66**	*e*Sg	**Sg**	**10 39 07.9**	**+3.1**
	SNR=1.9						
OBKA	**Obir**	**4.22**	**66**	Pn	**Pn**	**10 37 55.5**	**+1.4**
	comp=N,25nm,0.8s						
OBKA				*i* Sn	**Sn**	**10 38 47.7**	**+3.8**
	comp=N,43nm,0.3s						
LOR	**Lormes**	**4.22**	**305**	*e*Pn	**Pn**	**10 37 54.9**	**+0.8**
	baz=129						
LOR				*e*Sn	**Sn**	**10 38 43.9**	**+0.1**
	comp=N,114nm,0.2s						
PAGF	**Fort de Pagny**	**4.23**	**330**	*e*P	**Pn**	**10 37 55.6**	**+1.5**
PAGF				*e*Sn	**Sn**	**10 38 40.7**	**-3.1**
	comp=N,818nm,0.5s						
PAGF				*e*Sg	**Sg**	**10 39 03.5**	**-1.3**
	comp=N,120nm,0.5s						
AGO	**Saint Agoulin**	**4.23**	**287**	P	**Pn**	**10 37 55.6**	**+1.4**
NVLJ	**Novalja**	**4.24**	**93**	*e*Pn	**Pn**	**10 37 53.5**	**-0.8**
NVLJ				Sn	**Sn**	**10 38 41.6**	**-2.5**
AVF	**Avril sur Loir**	**4.31**	**297**	*e*Pn	**Pn**	**10 37 55.8**	**+0.5**
AVF	**Avril sur Loir**	**4.31**	**297**	*e*P	**Pn**	**10 37 58.1**	**+2.8**
AVF				*e*Sn	**Sn**	**10 38 42.8**	**-3.1**
	comp=N,18nm,0.3s						
AVF				*e*Sg	**Sg**	**10 39 06.7**	**-0.9**
	comp=N,55nm,0.6s						
SSF	**Saint Saulge**	**4.33**	**301**	*e*Pn	**Pn**	**10 37 56.5**	**+0.9**
SSF				*e*Sn	**Sn**	**10 38 43.3**	**-3.1**
	comp=N,42nm,0.3s						
SSF				*e*Sg	**Sg**	**10 39 07.9**	**-0.4**
	comp=N,71nm,0.5s						
KTD	**Kalmit**	**4.41**	**353**	P	**Pn**	**10 37 56.2**	**-0.4**
MEZF	**Maizieres J'vi**	**4.44**	**324**	*e*P	**Pn**	**10 37 59.0**	**+1.9**
MEZF				*e*Sn	**Sn**	**10 38 45.7**	**-3.4**
	comp=N,65nm,0.3s						
MEZF				*e*Sg	**Sg**	**10 39 10.5**	**-1.3**
	comp=N,151nm,0.5s						
DUGI	**Dugi Otok**	**4.48**	**100**	*e*Pn	**Pn**	**10 37 56.8**	**-0.9**
DUGI				Sn	**Sn**	**10 38 45.0**	**-5.1**
BGF	**Bois d'Agland**	**4.56**	**293**	*e*Pn	**Pn**	**10 37 59.4**	**+0.7**
BGF				*e*Sn	**Sn**	**10 38 48.3**	**-3.6**
	comp=N,105nm,0.4s						
BGF				*e*Sg	**Sg**	**10 39 14.8**	**-0.6**
	comp=N,106nm,0.4s						
SOKA	**Soboth**	**4.59**	**66**	Pn	**Pn**	**10 37 59.9**	**+0.7**
	comp=N,7.5nm,0.5s						
SOKA				Sn	**Sn**	**10 38 52.4**	**-0.5**
	comp=N,25nm,0.5s						
CRES	**Cresnjev**	**4.67**	**77**	*e*Pn	**Pn**	**10 37 59.8**	**-0.5**
MOA	**Molln**	**4.69**	**50**	*e*Pn	**Pn**	**10 38 01.1**	**+0.6**
	SNR=8.2						
MOA	**Molln**	**4.69**	**50**	*e*Pn	**Pn**	**10 38 01.1**	**+0.6**
	comp=N,7.2nm,0.4s						
MOA				*e*Sn	**Sn**	**10 38 55.4**	**+0.3**
	comp=N,17nm,0.3s						
UDBI	**Udbina**	**4.88**	**93**	*e*Pn	**Pn**	**10 38 03.2**	**+0.1**
UDBI				Sn	**Sn**	**10 38 57.2**	**-2.8**
CAF	**Calviac**	**4.88**	**272**	*e*Pn	**Pn**	**10 38 04.3**	**+1.1**
CAF				*e*Sn	**Sn**	**10 38 56.1**	**-3.9**
	comp=N,12nm,0.3s						
CAF				*e*Sg	**Sg**	**10 39 23.8**	**-2.1**
	comp=N,22nm,0.5s						
TCF	**Toulx Ste Croi**	**4.91**	**288**	*e*Pn	**Pn**	**10 38 04.3**	**+0.8**
TCF				*e*Sn	**Sn**	**10 38 56.6**	**-4.0**
	comp=N,33nm,0.3s						
TCF				*e*Sg	**Sg**	**10 39 25.3**	**-1.4**
	comp=N,53nm,0.6s						
HYF	**Humbligny**	**4.96**	**300**	*e*P	**Pn**	**10 38 06.1**	**+2.0**
HYF				*e*Sn	**Sn**	**10 38 58.0**	**-3.8**
HYF				*e*Sg	**Sg**	**10 39 28.0**	**-0.2**
MORI	**Morici**	**4.97**	**100**	*e*Pn	**Pn**	**10 38 04.5**	**+0.2**
WET	**Wettzell**	**4.98**	**31**	*e*Pn	**Pn**	**10 38 04.3**	**-0.2**
	SNR=4.8						
WET				*e*Sn	**Sn**	**10 38 59.3**	**-3.1**
	SNR=2.0						
ZIRJ	**Zirje**	**4.98**	**103**	*i* Pn	**Pn**	**10 38 03.6**	**-0.9**
GRF	**Grafenberg Arr**	**4.99**	**17**	*e*Pg	**Pg**	**10 38 25.5**	**+0.9**
GRF				*e*Sn	**Sn**	**10 38 59.7**	**-2.9**
	SNR=2.0						
PTJ	**Puntijarka**	**5.04**	**77**	*i* Pn	**Pn**	**10 38 06.8**	**+1.5**
GEC2	**GERESS Array S**	**5.08**	**38**	*e*Pn	**Pn**	**10 38 05.8**	**-0.1**
	SNR=13						
GEC2				*e*Sn	**Sn**	**10 39 02.6**	**-2.3**
	SNR=5.2						
GERES	**GERESS Array B**	**5.08**	**38**	Pn	**Pn**	**10 38 05.8**	**-0.1**
	comp=N,13nm,0.3s,baz=211,slow=13,SNR=80						
GERES				Sn	**Sn**	**10 39 01.9**

MANZ	**Manzenberg**	**5.47**	**22**	*e*Pn	**Pn**	**10 38 09.9**	**-1.4**
	SNR=2.0						
MANZ				*e*Sn	**Sn**	**10 39 10.6**	**-3.9**
	SNR=3.6						
CONA	**Conrad Observa**	**5.63**	**56**	*e*Pn	**Pn**	**10 38 14.9**	**+1.4**
	comp=N,4.8nm,0.3s						
CONA				*i* Sn	**Sn**	**10 39 20.1**	**+1.5**
	comp=N,8.9nm,0.5s						
NKC	**Novy Kostel**	**5.79**	**23**	*e*PN	**Pn**	**10 38 14.6**	**-1.0**
NKC				*e*PG	**Pg**	**10 38 38.8**	**-1.2**
NKC				*e*SN	**Sn**	**10 39 17.8**	**-4.5**
WERN	**Wernitzgruen**	**5.82**	**22**	*e*Sn	**Sn**	**10 39 18.7**	**-4.4**
	SNR=2.3						
LFF	**La Frestale**	**5.82**	**273**	*e*P	**Pn**	**10 38 19.1**	**+3.1**
LFF				*e*Sg	**Sg**	**10 39 53.6**	**-2.4**
	comp=N,29nm,0.4s						
MGRS	**Mrkonjic Grad**	**5.83**	**92**	*e*Pn	**Pn**	**10 38 13.6**	**-2.6**
PBCC	**Pribram**	**5.85**	**34**	*e*PN	**Pn**	**10 38 14.4**	**-2.0**
PBCC				*e*SN	**Sn**	**10 39 19.2**	**-4.6**
BLY	**Banja Luka**	**5.87**	**89**	*e*Pn	**Pn**	**10 38 15.3**	**-1.3**
GUNZ	**Gunzen**	**5.88**	**22**	*e*Sn	**Sn**	**10 39 19.6**	**-4.9**
	SNR=2.4						
UBBA	**Unterbreizbach**	**5.91**	**7**	*e*Pg	**Pg**	**10 38 40.4**	**-1.9**
UBBA				*e*Sg	**Sg**	**10 39 57.5**	**-1.4**
	SNR=1.5						
DOU	**Dourbes**	**5.93**	**332**	Pn	**Pn**	**10 38 20.8**	**+3.4**
PLN	**Plauen**	**5.95**	**20**	*e*Sn	**Sn**	**10 39 22.8**	**-3.3**
	SNR=2.8						
MOX	**Moxa**	**5.97**	**17**	*e*Sn	**Sn**	**10 39 22.8**	**-4.0**
	SNR=4.7						
MEM	**Membach**	**5.99**	**342**	Pn	**Pn**	**10 38 19.3**	**+0.9**
MEM				Sn	**Sn**	**10 39 25.1**	**-2.1**
BAIF	**Baives**	**6.03**	**330**	*e*Pn	**Pn**	**10 38 18.2**	**-0.7**
BAIF	**Baives**	**6.03**	**330**	*e*P	**Pn**	**10 38 23.1**	**+4.2**
BAIF				*e*Sn	**Sn**	**10 39 23.7**	**-4.5**
	comp=N,17nm,0.4s						
BAIF				*e*Sg	**Sg**	**10 40 00.5**	**-2.2**
	comp=N,27nm,0.5s						
MAKA	**Makarska**	**6.05**	**103**	*e*Pn	**Pn**	**10 38 18.6**	**-0.5**
PRU	**Pruhonice**	**6.31**	**35**	*e*PN	**Pn**	**10 38 21.8**	**-0.9**
PRU				*e*SN	**Sn**	**10 39 31.4**	**-3.6**
GOPC	**GO Pecny, Ondr**	**6.35**	**37**	*e*PN	**Pn**	**10 38 22.2**	**-1.1**
GOPC				*e*x	x	10 38 41.5	
GOPC				*e*SN	**Sn**	**10 39 31.2**	**-4.9**
EPF	**Esparros**	**6.49**	**256**	*e*Pn	**Pn**	**10 38 24.0**	**-1.3**
EPF	**Esparros**	**6.49**	**256**	*e*P	**Pn**	**10 38 27.7**	**+2.4**
KRUC	**Moravsky**	**6.55**	**48**	*e*PN	**Pn**	**10 38 24.8**	**-1.2**
KRUC				*e*SN	**Sn**	**10 39 35.5**	**-5.4**
MFF	**Saint Martin d**	**6.56**	**288**	*e*PN	**Pn**	**10 38 26.3**	**+0.1**
MFF	**Saint Martin d**	**6.56**	**288**	*e*P	**Pn**	**10 38 29.9**	**+3.7**
MFF				*e*Sn	**Sn**	**10 39 36.5**	**-4.9**
	comp=N,9.4nm,0.3s						
STON	**Ston**	**6.66**	**105**	*e*Pn	**Pn**	**10 38 26.2**	**-1.3**
STON				Sn	**Sn**	**10 39 37.9**	**-5.8**
STON	**Ston**	**6.66**	**105**	*e*Pn	**Pn**	**10 38 26.5**	**-1.0**
MODS	**Modra-Piesok**	**6.68**	**56**	*e*PN	**Pn**	**10 38 27.1**	**-0.7**
MODS				*e*SG	**Sg**	**10 40 25.5**	**+2.0**
VRAC	**Vranov**	**6.80**	**47**	Pn	**Pn**	**10 38 28.0**	**-1.4**
	comp=N,1.4nm,0.3s,baz=233,slow=15,SNR=3.7						
VRAC				Sn	**Sn**	**10 39 42.5**	**-4.6**
	comp=N,2.4nm,0.3s,baz=264,slow=21,SNR=6.3						
VRAC				Lg	Lg	10 40 26.2	
	comp=N,0.6nm,0.3s,baz=315,slow=19,SNR=2.7						
VRAC				LR	LR	10 40 55.4	
	comp=N,19nm,21.1s,baz=225,slow=36						
VRAC	**Vranov**	**6.80**	**47**	*e*PN	**Pn**	**10 38 27.9**	**-1.5**
VRAC				*e*SN	**Sn**	**10 39 42.6**	**-4.5**
CLL	**Collm**	**6.91**	**22**	*e*Pn	Pn	10 38 26.0	-5.0
CLL				*e*Pg	**Pg**	**10 39 02.0**	**+0.5**
CLL				*e*Sn	Sn	10 39 31.0	-19
CLL				*e*		10 40 13.0	
CLL				*e*Sg	**Sg**	**10 40 32.0**	**+1.0**
	comp=Z,30nm,1.0s						
DBRK	**Dubrovnik**	**7.04**	**106**	*e*Pn	**Pn**	**10 38 31.8**	**-1.0**
ETSF	**Etsaut**	**7.16**	**257**	*e*P	**Pn**	**10 38 37.9**	**+3.4**
ETSF				*e*Sn	**Sn**	**10 39 50.6**	**-5.5**
	comp=Z,12nm,0.5s						
TREB	**Trebinje**	**7.16**	**105**	*e*Pn	**Pn**	**10 38 33.6**	**-0.8**
HAPS	**Han Pijesak,BI**	**7.21**	**93**	*e*Pn	**Pn**	**10 38 33.1**	**-2.1**
LDF	**La Druitiere**	**7.21**	**304**	*e*P	**Pn**	**10 38 38.9**	**+3.9**
CHVC	**Chvalec**	**7.40**	**38**	*e*PN	**Pn**	**10 38 36.9**	**-0.8**
FLN	**La Foliniere**	**7.50**	**304**	*e*P	**Pn**	**10 38 42.6**	**+3.6**
SJPF	**Ste Jean**	**7.55**	**259**	*e*P	**Pn**	**10 38 42.8**	**+3.0**
GRR	**Gorron**	**7.56**	**300**	*e*Pn	**Pn**	**10 38 38.8**	**-1.1**
GRR	**Gorron**	**7.56**	**300**	*e*P	**Pn**	**10 38 43.7**	**+3.8**
GRR				*e*Sn	**Sn**	**10 40 00.7**	**-5.2**
	comp=Z,12nm,0.3s						
BBLS	**Lazići**	**7.57**	**95**	*e*Pn	**Pn**	**10 38 38.4**	**-1.7**
MORC	**Moravsky Berou**	**7.57**	**47**	*e*PN	**Pn**	**10 38 38.9**	**-1.2**
MORC				*e*SN	**Sn**	**10 40 00.7**	**-5.6**
RUDO	**Rudo**	**7.60**	**96**	*e*Pn	**Pn**	**10 38 38.7**	**-1.8**
VYHS	**Vyhne**	**7.67**	**59**	*e*PN	**Pn**	**10 38 40.4**	**-0.9**
VYHS				*e*PG	**Pg**	**10 39 13.4**	**-2.5**
VYHS				*e*SN	**Sn**	**10 40 05.8**	**-2.7**
PDG	**Podgorica**	**7.89**	**105**	*e*Pn	**Pn**	**10 38 43.2**	**-1.2**
DRME	**Dracevica, Mon**	**7.94**	**107**	*e*Pn	**Pn**	**10 38 44.9**	**-0.1**
LANS	**Liptovska Anna**	**8.32**	**56**	*e*PN	**Pn**	**10 38 51.2**	**+0.8**
LANS				*e*		10 39 44.9	
KEST	**Kesra**	**9.22**	**178**	Pn	**Pn**	**10 39 05.3**	**+2.6**
	comp=Z,1.5nm,0.3s,baz=261,slow=4.6,SNR=9.1						
ESDC	**Sonseca Array**	**10.91**	**246**	Pn	**Pn**	**10 39 26.1**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=48,slow=13,SNR=3.6						
MLR	**Muntele Rosu**	**12.01**	**81**	LR	LR	10 45 31.0	
	comp=Z,32nm,18.9s,baz=311,slow=43						
EKA	**Eskdalemuir Ar**	**12.95**	**328**	Pn	**Pn**	**10 39 53.6**	**+0.1**
	baz=140,slow=15,SNR=2.9						
HFS	**Hagfors**	**15.47**	**9**	LR	LR	10 46 20.4	
	comp=Z,40nm,21.5s,baz=72,slow=37						
NOA	**NORSAR Array B**	**16.17**	**4**	LR	LR	10 46 43.5	
	comp=Z,21nm,16.5s,baz=190,slow=37						
BRTR	**Keskin Array B**	**18.96**	**97**	P	**Pn**	**10 41 14.1**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=289,slow=8.7,SNR=6.2						
BRTR				LR	LR	10 48 43.2	
	comp=Z,23nm,18.6s,baz=291,slow=38						
FINES	**FINESS Array B**	**19.34**	**25**	P	**Pn**	**10 41 17.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=193,slow=7.8,SNR=3.7						
MMAI	**Mount Meron Ar**	**23.66**	**111**	LR	LR	10 53 48.7	
	comp=Z,15nm,18.4s,baz=180,slow=43						
ARCES	**ARCESS Array B**	**26.04**	**13**	P	**P**	**10 42 22.8**	**0.0**
	comp=Z,2.8nm,0.9s,baz=200,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**32.30**	**193**	P	**P**	**10 43 18.1**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=7.3,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**49.35**	**60**	P	**P**	**10 45 39.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=278,slow=7.6,SNR=3.9						
SONM	**Songino Array**	**62.73**	**49**	P	**P**	**10 47 17.5**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=322,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**63.80**	**334**	P	**P**	**10 47 21.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=42,slow=6.4,SNR=6.3						
ULM	**Lac du Bonnet**	**64.95**	**317**	LR	LR	11 15 28.1	
	comp=Z,24nm,19.0s,baz=6.5,slow=36						
ILAR	**Eielson Array**	**68.99**	**349**	P	**P**	**10 47 56.0**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=10,slow=5.6,SNR=3.3						
TXAR	**Lajitas Array**	**83.98**	**306**	P	**P**	**10 49 20.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=44,slow=3.8,SNR=5.3						

ISC 21 10:50:56.0±1.2, 49°.05N±0°.04×19°.33E±0°.03, h0km, n6, σ0°76/12, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.14**	**40**	*e*Pg	**Pg**	**10 50 58.5**	**-0.1**
LANS				*e*SG	**Sg**	**10 51 00.3**	**-0.1**
LANS				*e*LG	Lg	10 51 03.7	
VYHS	**Vyhne**	**0.64**	**211**	*e*PG	**Pg**	**10 51 08.0**	**-0.3**
VYHS				*e*SG	**Sb**	**10 51 18.3**	**-1.3**
KOLL	**Kolacno**	**0.77**	**233**	*e*PG	**Pg**	**10 51 10.1**	**-0.7**
KOLL				*e*SG	**Sg**	**10 51 21.6**	**+0.8**
KECS	**Kecovo**	**0.95**	**126**	*e*PG	**Pg**	**10 51 14.2**	**+0.1**
KECS				*e*SG	**Sg**	**10 51 26.9**	**+0.5**
KECS				*e*LG	Lg	10 51 30.1	
JAVC	**Velka Javorina**	**1.11**	**261**	*e*PG	**Pg**	**10 51 17.5**	**+0.2**
JAVC				*e*SG	**Sb**	**10 51 34.1**	**+1.0**
MORC	**Moravsky Berou**	**1.38**	**303**	*e*PG	**Pg**	**10 51 21.6**	**-0.8**
MORC				*e*SG	**Sg**	**10 51 40.9**	**+0.6**

*ISCJB **21** 10:52:01.3±0.5, 6°.85N±0°.02×73°.14W±0°.03, h150km±5km, mb2.8/1, Error ellipse: s-maj=5.2km s-min=3.6km az=23.2*
*IDC **21** 10:52:01.4±0.9, 6°.86N×73°.11W, h149km±15km, mb2.7/1, mb1 3.4/3, mb1mx3.0/37, mbtmp3.6/3, Error ellipse: s-maj=45.5km s-min=7.9km az=132.0*
*RSNC **21** 10:52:03.6±0.9, 6°.81N×73°.15W, h140km±4km, ML3.1, Mw3.3*

ISC 21 10:52:02.2±1.0, 6°.84N±0°.03×73°.13W±0°.04, h148km±7km, n31, σ1°26/60, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**192**	⇓*i*P	**Pn**	**10 52 22.8**	**+0.1**
BARC				*e*S	**Sn**	**10 52 37.4**	**-0.8**
BARC				*i*		10 52 40.2	
	comp=Z,571nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇓*i*P	**Pn**	**10 52 25.9**	**+1.1**
PAMC				*e*S	**Sn**	**10 52 42.3**	**+0.4**
PAMC				*i*		10 52 44.4	
	comp=Z,320nm,0.6s						
RUSC	**La Rusia**	**0.94**	**177**	⇑*i*P	**Pn**	**10 52 26.7**	**-0.2**
RUSC				*e*S	**Sn**	**10 52 44.7**	**-1.0**
RUSC				*i*		10 52 46.1	
	comp=Z,177nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*P	**Pn**	**10 52 29.5**	**-0.6**
PTBC				*e*S	**Sn**	**10 52 50.3**	**-1.1**
PTBC				*i*		10 52 55.8	
	comp=Z,151nm,0.5s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑*i*P	**Pn**	**10 52 31.2**	**+0.7**
TAMC				*e*S	**Sn**	**10 52 51.1**	**-1.0**
TAMC				*i*		10 52 51.6	
	comp=Z,98nm,0.4s						
TAMC				*i*		10 52 51.8	
	comp=Z,93nm,0.3s						
OCAC	**Ocana**	**1.40**	**352**	⇓*i*P	**Pn**	**10 52 31.1**	**+0.3**
OCAC				*e*S	**Sn**	**10 52 52.7**	**+0.1**
OCAC				*i*		10 52 57.5	
	comp=Z,245nm,0.4s						
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P	**Pn**	**10 52 31.8**	**0.0**
SPBC				*e*S	**Sn**	**10 52 53.4**	**-1.1**
SPBC				*i*		10 52 56.2	
	comp=Z,221nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	**Pn**	**10 52 35.7**	**+0.4**
ZARC				*e*S	**Sn**	**10 53 00.6**	**-0.1**
ZARC				*i*		10 53 07.7	
	comp=Z,143nm,0.5s						
NORC	**Norcasia**	**2.15**	**234**	⇑*i*P	**Pn**	**10 52 39.3**	**+0.3**
NORC				*e*S	**Sn**	**10 53 06.9**	**-0.4**
NORC				*i*		10 53 11.8	
	comp=Z,125nm,0.3s						
SMLC	**San Martn de**	**2.16**	**334**	*e*P	**Pn**	**10 52 39.3**	**+0.2**
SMLC				*e*S	**Sn**	**10 53 07.7**	**+0.2**
SMLC				*i*		10 53 12.7	
	comp=Z,149nm,0.1s						
CHIC	**Chingaza**	**2.28**	**195**	*e*P	**Pn**	**10 52 40.9**	**0.0**
CHIC				*e*S	**Sn**	**10 53 09.7**	**-1.1**
CHIC				*i*		10 53 17.4	
	comp=Z,73nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	⇓*i*P	**Pn**	**10 52 42.9**	**+1.5**
ROSC				*e*S	**Sn**	**10 53 11.3**	**-0.1**
ROSC				*i*		10 53 16.4	
	comp=Z,157nm,0.5s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**10 52 42.5**	**+1.1**
	comp=Z,22nm,0.3s,baz=37,slow=20,SNR=51						
ROSC				S	**Sn**	**10 53 11.3**	**-0.1**
	comp=Z,10nm,0.3s,baz=142,slow=14,SNR=9.2						
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**10 52 43.1**	**-0.2**
HELC				*e*S	**Sn**	**10 53 13.7**	**-1.1**
HELC				*i*		10 53 21.2	
	comp=Z,92nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	**Pn**	**10 52 47.2**	**+0.4**
GUY2C				*e*S	**Sn**	**10 53 20.9**	**-0.1**
GUY2C				*i*		10 53 29.2	
	comp=Z,102nm,0.4s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**10 52 46.7**	**0.0**
VILC				*e*S	**Sn**	**10 53 20.6**	**-0.5**
VILC				*i*		10 53 26.3	
	comp=Z,113nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.81**	**159**	⇑*i*P	**Pn**	**10 52 45.9**	**-1.2**
PTGC				*e*S	**Sn**	**10 53 18.7**	**-3.1**
PTGC				*i*		10 53 20.8	
	comp=Z,69nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.03**	**251**	⇓*i*P	**Pn**	**10 52 50.8**	**+0.8**
CBOC				*e*S	**Sn**	**10 53 26.4**	**-0.6**
CBOC				*i*		10 53 32.1	
	comp=Z,35nm,0.4s						
CBOC				*i*		10 53 38.8	
	comp=Z,36nm,0.6s						
DBBC	**Dabeiba**	**3.06**	**273**	*e*P	**Pn**	**10 52 50.6**	**+0.2**
DBBC				*e*S	**Sn**	**10 53 26.7**	**-0.9**
DBBC				*i*		10 53 28.8	
	comp=Z,91nm,0.5s						
CODC	**Águstn Codazz**	**3.09**	**354**	*e*P	**Pn**	**10 52 49.8**	**-0.9**
CODC				*e*S	**Sn**	**10 53 27.3**	**-0.9**
CODC				*i*		10 53 39.0	
	comp=Z,23nm,0.7s						
TOLC	**Tolima**	**3.13**	**224**	*e*P	**Pn**	**10 52 52.1**	**+0.7**
TOLC				*e*S	**Sn**	**10 53 29.8**	**+0.3**
TOLC				*i*		10 53 36.2	
	comp=Z,54nm,0.3s						
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**10 52 52.2**	**-0.1**
	comp=Z,14nm,0.3s,baz=206,slow=2.9,SNR=82						
SDV				S	**Sn**	**10 53 29.5**	**-1.4**
	comp=Z,5.8nm,0.3s,baz=251,slow=21,SNR=13						
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	**Pn**	**10 52 57.0**	**-0.2**
ORTC				*e*S	**Sn**	**10 53 39.5**	**-0.4**
ORTC				*i*		10 53 46.8	
	comp=Z,52nm,0.2s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P	**Pn**	**10 52 57.0**	**-1.0**
SJCC				*e*S	**Sn**	**10 53 38.3**	**-2.9**
SJCC				*i*		10 53 42.5	
	comp=Z,54nm,0.7s						
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	**Pn**	**10 52 58.8**	**+0.4**
PLMC				*e*S	**Sn**	**10 53 39.6**	**-2.3**
PLMC				*i*		10 53 46.4	
	comp=Z,42nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**10 53 05.6**	**-0.6**
YOTC				*e*S	**Sn**	**10 53 55.7**	**-0.3**
YOTC				*i*		10 54 07.6	
	comp=Z,7.5nm,0.6s						
YOTC				*i*		10 54 07.8	
	comp=Z,5.8nm,0.6s						
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**10 53 07.5**	**-0.6**
SMRC				*e*S	**Sn**	**10 53 56.0**	**-3.4**
SMRC				*i*		10 54 02.4	
	comp=Z,19nm,0.5s						
FLOC	**Florencia**	**5.80**	**206**	*e*P	**Pn**	**10 53 25.6**	**-0.7**
FLOC				*e*S	**Sn**	**10 54 29.7**	**-2.3**
FLOC				*i*		10 54 59.8	
	comp=Z,9.9nm,1.1s						
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P	**Pn**	**10 53 34.2**	**+0.9**
BBAC				*e*S	**Sn**	**10 54 40.7**	**-3.7**
BBAC				*i*		10 54 48.2	
	comp=Z,5.2nm,0.4s						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**10 58 53.1**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=131,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPdf**	**11 11 34.9**	**+3.2**
	comp=Z,0.2nm,0.4s,baz=108,slow=2.9,SNR=6.4						

IDC 21 11:01:16.8±4.8, 6°.74N×125°.83E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/40, mbtmp3.4/3, Error ellipse: s-maj=282.4km s-min=33.1km az=89.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.81**	**163**	P	P	11 07 07.2	-0.7
	0.2nm,0.8s,baz=343,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**31.24**	**166**	P	P	11 07 39.0	+0.7
	0.3nm,0.4s,baz=338,slow=7.2,SNR=9.0						
ILAR	**Eielson Array**	**82.79**	**26**	P	P	11 13 42.6	0.0
	0.2nm,0.5s,baz=282,slow=5.2,SNR=4.1						

NNC 21 11:05:42.2±9.6, 36°.78N×70°.88E, h194km±205km, mb2.6, mpv3.7, 4C-3D, Error ellipse: s-maj=107.6km s-min=50.3km az=12.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.33**	**358**	⇓P	Pn	11 07 14.9	+1.4
	1.9nm,0.3s,baz=178,slow=12,SNR=12						
KK31				⇑S	Sn	11 08 26.9	+1.0
	2.6nm,0.5s,baz=180,slow=22,SNR=11						
AAK	**Ala-Archa**	**6.48**	**24**	⇓P	Pn	11 07 16.4	+0.7
	1.7nm,0.4s						
AAK				⇑S	Sn	11 08 29.6	-0.2
	8.4nm,0.9s						
TKM2	**Tokmak 2**	**7.13**	**29**	⇑P	Pn	11 07 22.7	-1.5
	6.5nm,0.8s						
TKM2				⇓S	Sn	11 08 35.5	-10
AB31	**Akbulak array**	**14.80**	**331**	⇑P	Pn	11 09 02.1	+0.1
	0.3nm,0.5s,baz=131,slow=12,SNR=5.5						

*ISCJB **21** 11:13:16.7±0.4, 60°.27S±0°.06×45°.9W±0°.1, h10km, mb4.5/8, MS3.3/10, Error ellipse: s-maj=10.7km s-min=6.8km az=136.3*
*IDC **21** 11:13:16.2±0.8, 60°.27S×45°.88W, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.1/31, mbtmp4.3/9, ML3.7/2, MS3.3/11, Ms1 3.3/11, ms1mx3.2/17, Error ellipse: s-maj=28.5km s-min=17.7km az=64.0*
*NEIC **21** 11:13:17.9±1.0, 60°.31S±0°.08×45°.8W±0°.1, h10km±1km, mb4.6/16*

ISC 21 11:13:18.1±0.5, 60°.30S±0°.07×45°.89W±0°.07, h10km, n54, σ0°82/47, mb4.6/14, MS3.4/10, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.89**	**44**		**Pn**	**11 15 11.4**	**-1.2**
HOPE				Sn	**Sn**	**11 16 40.3**	**-1.5**
PMSA	**Palmer Station**	**9.50**	**234**	Pn	**Pn**	**11 15 34.2**	**-0.5**
	1.4nm,0.3s,baz=58,slow=13,SNR=8.2						
PMSA				Sn	**Sn**	**11 17 20.0**	**-1.3**
	0.7nm,0.3s,baz=349,slow=16,SNR=2.8						
PMSA				LR	LR	11 19 44.4	
	comp=Z,165nm,19.6s,baz=31,slow=41						
PMSA	**Palmer Station**	**9.50**	**234**	Pn	**Pn**	**11 15 34.6**	**0.0**
EFI	**East Falkland**	**10.98**	**316**	Pn	**Pn**	**11 15 57.7**	**+2.6**
USHA	**Ushuaia**	**13.24**	**284**	Pn	**Pn**	**11 16 25.4**	**-0.5**
	0.2nm,0.3s,baz=127,slow=12,SNR=1.9						
GO09	**Cerro Castillo**	**17.29**	**290**	Pn	**Pn**	**11 17 19.1**	**-0.2**
VNA3	**Neumayer Olymp**	**18.10**	**142**	P	**P**	**11 17 30.3**	**+0.7**
VNA1	**Neumayer--Stat**	**18.37**	**140**	P	**P**	**11 17 33.5**	**+1.0**
VNA2	**Neumayer--Watz**	**18.72**	**140**	P	**Pn**	**11 17 38.4**	**+1.6**
	baz=292,slow=15						
SNAA	**Sanae**	**20.32**	**142**	P	Pn	11 17 55.8	-0.2
SNAA	**Sanae**	**20.32**	**142**	P	Pn	11 17 55.5	-0.5
	6.5nm,0.9s,baz=281,slow=8.6,SNR=11						
SNAA	**Sanae**	**20.32**	**142**	P	Pn	11 17 55.0	-0.9
TRQA	**Tornquist**	**24.48**	**328**	P	**P**	**11 18 38.8**	**+1.6**
PLCA	**Paso Flores**	**24.82**	**311**	P	**P**	**11 18 38.8**	**-1.5**
	4.9nm,0.8s,baz=170,slow=6.7,SNR=13						
PLCA				LR	LR	11 26 22.2	
	comp=Z,40nm,21.3s,baz=164,slow=32						
PLCA	**Paso Flores**	**24.82**	**311**	P	**P**	**11 18 40.6**	**+0.4**
GO06	**Curarrehue**	**26.17**	**311**	P	**P**	**11 18 53.2**	**+0.7**
GO06				IAmb	IAmb	11 19 01.7	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**11 19 26.4**	**+0.3**
	comp=Z,12nm,1.1s,baz=181,slow=2.4,SNR=22						
QSPA				LR	LR	11 31 12.8	
	comp=Z,33nm,18.8s,baz=176,slow=36						
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**11 19 26.8**	**+0.7**
QSPA				IAmb	IAmb	11 19 28.5	
	comp=Z,15nm,1.1s						
ROC1	**El Roble**	**31.92**	**318**	P	**P**	**11 19 44.0**	**+0.1**
CPUP	**Villa Florida**	**34.85**	**342**	P	**P**	**11 20 09.3**	**+0.2**
	comp=Z,4.0nm,1.0s,baz=183,slow=10,SNR=6.3						
CPUP				LR	LR	11 33 02.2	
	comp=Z,48nm,21.7s,baz=172,slow=34						
CPUP	**Villa Florida**	**34.85**	**342**	IAmb	IAmb	11 20 10.7	
	comp=Z,8.4nm,1.1s						
GO02	**Mina Guanaco**	**38.74**	**324**	P	**P**	**11 20 43.4**	**+0.7**
GO02				IAmb	IAmb	11 20 59.4	
	comp=Z,14nm,1.2s						
PB10	**IPOC Station P**	**40.58**	**324**	P	**P**	**11 20 57.4**	**-0.2**
MAW	**Mawson**	**42.30**	**147**	LR	LR	11 38 07.5	
	comp=Z,52nm,18.0s,baz=238,slow=35						
GO01	**Chusmiza**	**43.85**	**327**	P	**P**	**11 21 25.1**	**+0.3**
GO01				IAmb	IAmb	11 21 27.2	
	comp=Z,5.2nm,0.8s						
MNMC	**Minye Minye**	**44.47**	**327**	P	**P**	**11 21 29.4**	**-0.1**
BDFB	**Brasilia**	**44.62**	**357**	LR	LR	11 36 49.8	
	comp=Z,55nm,21.7s,baz=165,slow=32						
SIV	**San Ignacio**	**45.60**	**339**	P	**P**	**11 21 38.3**	**0.0**
	comp=Z,4.3nm,0.6s,baz=176,slow=8.6,SNR=32						
LPAZ	**La Paz**	**46.81**	**330**	P	**P**	**11 21 48.6**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=241,slow=2.8,SNR=6.3						
LPAZ				LR	LR	11 43 42.1	
	comp=Z,18nm,18.2s,baz=132,slow=39						
LPAZ	**La Paz**	**46.81**	**330**	P	**P**	**11 21 47.8**	**-0.7**
LPAZ	

AMOG	**MOGNA**	**3.72 151**	*i* P	**Pn**	**11 33 30.8**	**+1.2**
AMOG			*i* S	**Sn**	**11 34 12.6**	**+0.1**
RTLS	**Leoncito**	**4.25 165**	*i* P	**Pn**	**11 33 39.2**	**+2.3**
RTLS			*i* S	**Sn**	**11 34 28.0**	**+2.4**
RTLS			IAML		11 34 30.1	
comp=Z,14nm,0.3s						
RTLS	**Leoncito**	**4.25 165**	*i* P	**Pn**	**11 33 39.1**	**+2.1**
RTLS			*i* S	**Sn**	**11 34 29.7**	**+4.1**
RTLS			IAML		11 34 30.0	
comp=Z,14nm,0.3s						
CYA	**Choya**	**4.28 101**	*i* P	**Pn**	**11 33 39.1**	**+1.9**
CYA			*i* S	**Sn**	**11 34 24.6**	**-1.5**
CYA			IAML		11 34 29.2	
comp=Z,12nm,0.7s						
CYA	**Choya**	**4.28 101**	*i* P	**Pn**	**11 33 39.1**	**+1.9**
CYA			*i* S	**Sn**	**11 34 24.6**	**-1.5**
CYA			IAML		11 34 29.1	
comp=Z,11nm,0.7s						
CFA	**Coronel Fontan**	**4.40 153**	*i* P	**Pn**	**11 33 40.0**	**+1.2**
CFA			*i* S	**Sn**	**11 34 28.8**	**-0.2**
CFA	**Coronel Fontan**	**4.40 153**	*i* P	**Pn**	**11 33 40.0**	**+1.2**
CFA			*i* S	**Sn**	**11 34 27.8**	**-1.2**
APLL	**PUNTA DE LOS L**	**4.45 128**	*i* P	**Pn**	**11 33 40.4**	**+0.9**
APLL			IAML		11 33 41.7	
comp=Z,6.6nm,0.2s						
APLL			*i* S	**Sn**	**11 34 29.1**	**-1.2**
APLL	**PUNTA DE LOS L**	**4.45 128**	*i* P	**Pn**	**11 33 40.4**	**+0.9**
APLL			IAML		11 33 41.6	
comp=Z,6.6nm,0.2s						
APLL			*i* S	**Sn**	**11 34 29.0**	**-1.2**
RTCV	**Cerro Valdivia**	**4.52 158**	*i* P	**Pn**	**11 33 41.8**	**+1.4**
ROC1	**El Roble**	**5.29 184**	*i* P	**Pn**	**11 33 49.9**	**-1.1**
ROC1			*i* S	**Sn**	**11 34 53.0**	**+2.2**
ACAN	**Cantantal**	**5.43 148**	*i* P	**Pn**	**11 33 53.7**	**+0.9**
ACAN			*i* S	Sn	11 34 33.8	-20
MRA	**San Martin**	**6.32 139**	*i* P	**Pn**	**11 34 05.4**	**+0.5**
MRA			IAML		11 34 05.8	
comp=E,2.0nm,0.5s						
MRA			*i* S	**Sn**	**11 35 12.1**	**-3.6**
TCA	**Tanti**	**6.35 126**	*i* P	**Pn**	**11 34 05.2**	**-0.1**
TCA			*i* S	**Sn**	**11 35 11.6**	**-4.9**

ISCJB ***21*** *11:45:16.3±0.5, 60°.34S±0°.08×45°.4W±0°.2, h10km, mb4.0/5, MS3.5/2, Error ellipse: s-maj=16.2km s-min=8.8km az=147.9*

IDC ***21*** *11:45:16.2±0.9, 60°.27S×45°.32W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/23, mbtmp4.1/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/14, Error ellipse: s-maj=41.9km s-min=20.2km az=64.0*

NEIC ***21*** *11:45:18.3±2.2, 60°.17S±0°.10×45°.2W±0°.2, h10km±1km, mb4.3/12*

ISC 21 11:45:18.0±0.6, 60°.21S±0°.09×45°.3W±0°.1, h10km, n32, σ1§22/30, mb4.2/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.61**	**43**		**Pn**	**11 47 07.5**	**-1.3**
PMSA	**Palmer Station**	**9.80**	**234**	LR	LR	11 50 22.8	
comp=Z,54nm,21.4s,baz=309,slow=32							
PMSA	**Palmer Station**	**9.80**	**234**	Pn	**Pn**	**11 47 38.0**	**-0.8**
USHA	**Ushuaia**	**13.52**	**283**	LR	LR	11 52 16.2	
comp=Z,44nm,19.0s,baz=95,slow=31							
VNA3	**Neumayer Olymp**	**17.99**	**142**	P	**P**	**11 49 32.5**	**+4.2**
VNA1	**Neumayer--Stat**	**18.24**	**140**	P	**P**	**11 49 31.6**	**+0.6**
VNA2	**Neumayer--Watz**	**18.60**	**141**	P	**P**	**11 49 33.1**	**-1.9**
baz=267,slow=9.6							
SNAA	**Sanae**	**20.20**	**142**	P	**P**	**11 49 53.6**	**+1.0**
SNAA	**Sanae**	**20.20**	**142**	P	**P**	**11 49 51.5**	**-1.1**
3.1nm,1.1s,baz=280,slow=12,SNR=5.8							
SNAA	**Sanae**	**20.20**	**142**	P	**P**	**11 49 52.2**	**-0.4**
TRQA	**Tornquist**	**24.57**	**327**	P	**P**	**11 50 39.0**	**+1.1**
PLCA	**Paso Flores**	**25.00**	**310**	P	**P**	**11 50 41.6**	**-0.2**
4.3nm,1.2s,baz=161,slow=12,SNR=2.9							
PLCA	**Paso Flores**	**25.00**	**310**	P	**P**	**11 50 42.3**	**+0.5**
PLCA				IAmb	IAmb	11 50 57.7	
comp=Z,6.9nm,1.1s							
QSPA	**South Pole Qui**	**30.03**	**180**	P	**P**	**11 51 26.3**	**-0.6**
comp=Z,3.5nm,1.1s,baz=194,slow=3.9,SNR=13							
QSPA				LR	LR	12 03 39.0	
comp=Z,51nm,18.2s,baz=128,slow=37							
QSPA	**South Pole Qui**	**30.03**	**180**	P	**P**	**11 51 26.5**	**-0.3**
GO04	**Tololo Observa**	**34.56**	**319**	P	**P**	**11 52 08.3**	**+1.5**
GO01	**Chusmiza**	**43.94**	**327**	P	**P**	**11 53 25.1**	**-0.4**
MNMC	**Minye Minye**	**44.56**	**326**	P	**P**	**11 53 31.6**	**+1.4**
SIV	**San Ignacio**	**45.62**	**339**	P	**P**	**11 53 38.4**	**0.0**
comp=Z,2.5nm,0.8s,baz=169,slow=7.9,SNR=13							
LPAZ	**La Paz**	**46.89**	**329**	P	**P**	**11 53 48.6**	**-0.4**
comp=Z,1.7nm,0.8s,baz=144,slow=8.5,SNR=6.0							
LPAZ	**La Paz**	**46.89**	**329**	P	**P**	**11 53 49.2**	**+0.2**
LPAZ				IAmb	IAmb	11 53 51.5	
comp=Z,2.2nm,0.9s							
SAML	**Samuel**	**52.89**	**338**	P	**P**	**11 54 34.6**	**+0.7**
SAML				IAmb	IAmb	11 54 35.4	
comp=Z,3.3nm,0.8s							
ROSC	**El Rosal**	**68.75**	**329**	P	**P**	**11 56 20.4**	**-2.0**
TOA0	**Torodi Ar. Sit**	**82.17**	**46**	P	**P**	**11 57 39.8**	**+0.9**
TOA0				IAmb	IAmb	11 57 55.0	
comp=Z,2.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**82.17**	**46**	P	**P**	**11 57 39.5**	**+0.6**
comp=Z,2.3nm,0.8s,baz=217,slow=5.0,SNR=8.7							
TORD				LR	LR	12 27 53.5	
comp=Z,50nm,19.4s,baz=310,slow=31							
TORD	**Torodi Ar. Bea**	**82.17**	**46**	P	**P**	**11 57 39.5**	**+0.6**
KSH	**Kashi**	**138.54**	**93**	*e*PKP	**PKiKP**	**12 04 45.8**	**+0.5**
ILAR	**Eielson Array**	**145.67**	**312**	PKPbc	**PKPdf**	**12 04 54.8**	**-0.2**
comp=Z,1.5nm,0.8s,baz=136,slow=3.5,SNR=14							
ILAR	**Eielson Array**	**145.67**	**312**		**PKPdf**	**12 04 54.2**	**-0.7**
MK31	**Makanchi Array**	**147.00**	**90**		**PKPdf**	**12 04 58.1**	**+0.4**
MKAR	**Makanchi Array**	**147.00**	**90**	PKPbc	**PKPdf**	**12 04 58.4**	**+0.6**
comp=Z,1.4nm,0.6s,baz=234,slow=1.8,SNR=13							
MKAR	**Makanchi Array**	**147.00**	**90**		**PKPdf**	**12 04 58.6**	**+0.8**

NIED ***21*** *12:37:00.32°.90N×141°.10E, h56km, Mw4.3 Best double couple: M0:3.33000×10^15 NP1:φ0=337.00000°, δ54.00000°, λ16.00000°. NP2:φ0=238.00000°, δ77.00000°, λ143.00000°.*

BJI ***21*** *12:37:30.6±0.0, 32°.64N×141°.45E, h60km, mb4.5/45, mB4.8/29, Ms4.3/5, Ms7 4.0/4*

MOS ***21*** *12:37:32.4±1.0, 32°.79N×141°.09E, h37km, mb4.9/25, Error ellipse: s-maj=9.9km s-min=4.8km az=103.6*

NEIC ***21*** *12:37:34.8±1.5, 32°.74N±0°.06×141°.06E±0°.07, h42km±4km, mb4.8/47*

ISCJB ***21*** *12:37:34.6±0.5, 32°.80N±0°.03×141°.05E±0°.04, h57km±4km, mb4.6/56, MS3.5/10, Error ellipse: s-maj=5.7km s-min=4.2km az=5.4*

IDC ***21*** *12:37:35.3±1.6, 32°.75N×140°.93E, h44km±13km, mb4.2/26, mb1 4.3/29, mb1mx4.1/61, mbtmp4.4/29, ML2.8/2, MS3.2/12, Ms1 3.2/12, ms1mx2.9/48, Error ellipse: s-maj=15.1km s-min=10.0km az=72.0*

JMA ***21*** *12:37:35.1±0.2, 32°.87N×141°.13E, h51km, M4.3*

ISC 21 12:37:34.5±0.5, 32°.78N±0°.04×141°.09E±0°.06, h37km±1km, n202, σ1§23/216, mb4.7/66, MS3.4/10, 8C-9D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.12**	**288**	P	**Pn**	**12 37 55.0**	**+1.4**
JHJ2	**Mitsune**	**1.12**	**288**		**Pn**	**12 37 54.9**	**+1.4**
JHCJ	**Hachijojimakas**	**1.13**	**285**	P	**Pn**	**12 37 54.9**	**+1.2**
JHJ	**Hachijo jima 2**	**1.15**	**288**	P	**Pn**	**12 37 54.9**	**+0.8**
4μm,0.3s,baz=242,slow=19,SNR=1011							
JHJ				S	**Sn**	**12 38 06.0**	**-2.6**
1μm,0.3s,baz=53,slow=20,SNR=9.2							
JAOM	**Aogashimamukai**	**1.16**	**255**	P	**Pn**	**12 37 56.2**	**+2.0**
JAOM				*e*S	**Sn**	**12 38 11.3**	**+2.4**
JMKN	**Mikurajimanish**	**1.68**	**312**	P	**Pn**	**12 38 02.2**	**+0.9**
JMKN				*e*S	**Sn**	**12 38 21.6**	**+0.1**
BSO1	**Boso 1**	**1.87**	**357**	P	**Pn**	**12 38 04.2**	**+0.8**
BSO3	**Boso 3**	**2.08**	**347**	P	**Pn**	**12 38 07.0**	**+0.5**
JIM2	**Oshima 3**	**2.38**	**325**	P	**Pn**	**12 38 11.8**	**+0.9**
JIM2				*e*S	**Sn**	**12 38 38.0**	**-0.8**
JIZS	**Izushimoda**	**2.67**	**317**	P	**Pn**	**12 38 16.7**	**+1.8**
JIZS				*e*S	**Sn**	**12 38 47.1**	**+1.1**
JOD2	**Odawara 2**	**2.98**	**327**	P	**Pn**	**12 38 20.3**	**+1.0**
TK02	**Tokai 2**	**3.02**	**294**	P	**Pn**	**12 38 22.1**	**+2.5**
TK04	**Tokai 4**	**3.13**	**302**	P	**Pn**	**12 38 23.8**	**+2.7**
JFNN	**Fujinakano**	**3.13**	**321**	P	**Pn**	**12 38 23.5**	**+2.3**
JFNN				*e*S	**Sn**	**12 38 59.0**	**+1.6**
SHZ3	**Shizuoka 3**	**3.31**	**314**	P	**Pn**	**12 38 26.5**	**+2.8**
JYN	**Shimob**	**3.44**	**323**	P	**Pn**	**12 38 28.2**	**+2.7**
JRY	**Ryogami san**	**3.70**	**331**	*e*S	**Sn**	**12 39 11.3**	**-0.2**
JAG	**Ashikaga**	**3.88**	**340**	P	**Pn**	**12 38 32.2**	**+0.6**
JAG				*e*S	**Sn**	**12 39 15.4**	**-0.5**
JIE	**Ise**	**4.00**	**295**	P	**Pn**	**12 38 35.2**	**+2.0**
JIE				*e*S	**Sn**	**12 39 19.2**	**+0.5**
INU	**Inuyama**	**4.24**	**308**		**Pn**	**12 38 38.2**	**+1.7**
INU				Sn	**Sn**	**12 39 23.9**	**-0.9**
MJAR	**Matsushiro Arr**	**4.44**	**328**	P	**Pn**	**12 38 41.0**	**+1.7**
1.7nm,0.3s,baz=166,slow=12,SNR=59							
MJAR				S	**Sn**	**12 39 28.8**	**-0.9**
2.1nm,0.3s,baz=118,slow=23,SNR=4.9							
MJAR				LR	LR	12 40 28.9	
comp=Z,232nm,21.3s,baz=155,slow=40							
MJAR	**Matsushiro Arr**	**4.44**	**328**		**Pn**	**12 38 40.8**	**+1.5**
MJAR				Sn	**Sn**	**12 39 30.1**	**+0.4**
MAJO	**Matsushiro**	**4.44**	**328**	P	**Pn**	**12 38 40.5**	**+1.2**
MAJO						12 39 31.1	
MAJO	**Matsushiro**	**4.44**	**328**		**Pn**	**12 38 40.5**	**+1.2**
MAJO				Sn	**Sn**	**12 39 31.1**	**+1.3**
MAT	**Matsushiro**	**4.44**	**328**	P	**Pn**	**12 38 41.6**	**+2.3**
MAT				S	**Sn**	**12 39 31.0**	**+1.2**
MJB9	**Matsu-Tunnel**	**4.45**	**328**		**Pn**	**12 38 40.5**	**+1.1**
MJB9				Sn	**Sn**	**12 39 30.5**	**+0.6**
JCJ	**Chichijima**	**5.74**	**170**	P	**Pn**	**12 38 57.1**	**0.0**
45nm,0.3s,baz=341,slow=8.7,SNR=12							
JCJ				S	**Sn**	**12 39 58.6**	**-3.2**
25nm,0.3s,baz=294,slow=23,SNR=5.7							
JCJ				LR	LR	12 41 19.9	
comp=Z,213nm,21.2s,baz=23,slow=39							
JNU	**Nakatsue**	**8.59**	**275**	P	**Pn**	**12 39 39.4**	**+3.1**
2.2nm,0.3s,baz=94,slow=4.8,SNR=27							
JNU				LR	LR	12 42 58.9	
comp=Z,86nm,19.5s,baz=93,slow=38							
JNU	**Nakatsue**	**8.59**	**275**		**Pn**	**12 39 39.2**	**+2.9**
ERM	**Erimo**	**9.37**	**10**	P	**Pn**	**12 39 45.8**	**-1.0**
ERM	**Erimo**	**9.37**	**10**	Pn	**Pn**	**12 39 45.8**	**-1.0**
ERM				Sn	Sn	12 41 22.3	-8.4
NMR	**Nemuro--Hokkai**	**11.18**	**18**	P	**Pn**	**12 40 12.6**	**+0.9**
ASAJ	**Asahikawa**	**11.38**	**6**	P	**Pn**	**12 40 12.1**	**-2.3**
3.4nm,0.3s,baz=228,slow=10,SNR=27							
ASAJ				S	Sn	12 42 12.1	-8.1
1.5nm,0.3s,baz=156,slow=20,SNR=4.3							
ASAJ				LR	LR	12 45 35.5	
comp=Z,70nm,19.2s,baz=178,slow=42							
JKA	**Kamikawa-asahi**	**11.38**	**6**		**Pn**	**12 40 12.1**	**-2.3**
JKA					Sn	12 42 12.1	-8.1
GLVR	**Golovnino**	**11.48**	**16**	*i* P	**Pn**	**12 40 17.6**	**+1.9**
KSRS	**Korea Array**	**11.75**	**297**	P	Pn	12 40 25.4	+6.0
0.2nm,0.3s,baz=119,slow=14,SNR=5.5							
KSRS				LR	LR	12 44 58.6	
comp=Z,85nm,19.1s,baz=110,slow=38							
GRPR	**Tuman**	**11.78**	**17**	*e*P	**Pn**	**12 40 20.6**	**+0.8**
GRPR				pmax	pmax		
comp=Z,67nm,0.5s							
GRPR				pmax	pmax		
comp=E,30nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**11.84**	**17**	*e*P	**Pn**	**12 40 21.5**	**+0.8**
YUK				pmax	pmax		
comp=Z,71nm,0.4s							
YUK				pmax	pmax		
comp=E,22nm,0.3s							
USRK	**Ussuriysk Ar.**	**13.44**	**331**	P	**Pn**	**12 40 42.5**	**+0.1**
baz=138,slow=9.0,SNR=3.6							
USA0B	**Ussuriysk Arra**	**13.44**	**331**	P	**Pn**	**12 40 41.4**	**-1.0**
USA0B	**Ussuriysk Arra**	**13.44**	**331**	Pn	**Pn**	**12 40 41.4**	**-1.0**
KUR	**Kuril'sk**	**13.50**	**21**	P	**Pn**	**12 40 42.2**	**-1.1**
KUR				pmax	pmax		
comp=Z,92nm,0.4s							
YSS	**Yuzh-Sakhalins**	**14.21**	**5**	*e*P	**Pn**	**12 40 51.2**	**-1.8**
YSS				pmax	pmax		
comp=Z,20nm,1.1s							
KLR	**Kul'dur**	**17.86**	**340⇑**	*e*P	**Pn**	**12 41 38.6**	**-1.3**
KLR				pmax	pmax		
comp=Z,36nm,2.7s							
KLR	**Kul'dur**	**17.86**	**340**	P	**Pn**	**12 41 37.8**	**-2.1**
comp=Z,1.1nm,0.3s,baz=144,slow=11,SNR=18							
KLR				LR	LR	12 47 50.5	
comp=Z,43nm,19.0s,baz=147,slow=34							
YOJ	**Yonaguni jima**	**17.89**	**247**	P	**Pn**	**12 41 39.5**	**-0.9**
YOJ				pmax	pmax		
comp=Z,121nm,1.0s							
YOJ	**Yonaguni jima**	**17.89**	**247**	P	**Pn**	**12 41 39.5**	**-0.9**
GRNR	**Gornyy**	**18.30**	**351**	*e*P	**Pn**	**12 41 46.8**	**+1.5**
NJ2	**Nanjing**	**18.79**	**274**	*e*P	**P**	**12 41 49.3**	**-1.3**
NJ2				pmax	pmax		
comp=Z,13nm,0.5s							
YHNB	**Yeheng**	**19.07**	**250**	P	**Pn**	**12 41 54.1**	**-0.7**
YHNB				IAmb	IAmb	12 41 55.6	
comp=Z,63nm,1.4s							
YULB	**Yu-li**	**19.78**	**247**	P	**P**	**12 41 59.2**	**-2.4**
SSLB	**Suanglung**	**19.84**	**248**	P	**P**	**12 42 02.5**	**+0.3**
TWG	**Pinlang**	**20.27**	**246**	P	**P**	**12 42 05.8**	**-1.0**
TPUB	**Ta-pu**	**20.35**	**248**	P	**P**	**12 42 06.7**	**-1.1**
WHN	**Wuhan**	**22.85**	**272**	‖P	**P**	**12 42 34.4**	**-0.1**
ZEA	**Zeya**	**23.17**	**339**	*e*P	**P**	**12 42 38.0**	**+0.5**
ZEA				pmax	pmax		
comp=E,52nm,0.8s							
ZEA				pmax	pmax		
comp=N,110nm,0.7s							
ZEA				pmax	pmax		
comp=Z,240nm,0.7s							
HHC	**Hu-ho-hao-te**	**24.89**	**297**	*e*P	**P**	**12 42 54.4**	**+0.6**
HHC				pmax	pmax		
comp=Z,3.0nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**26.46**	**113**	T	T	13 11 50.6	
baz=305,slow=75							
H11N1	**WAKE ISLAND Hy**	**26.46**	**113**	T	T	13 12 18.0	
baz=305,slow=75							
H11N3	**WAKE ISLAND Hy**	**26.48**	**113**	T	T	13 12 07.9	
baz=305,slow=75							
XAN	**Xi'an**	**26.83**	**282**	P	**P**	**12 43 09.3**	**-2.1**
XAN				pmax	pmax		
comp=Z,5.0nm,0.6s							
XAN				pmax	pmax		
comp=Z,69nm,4.9s							
ENH	**Enshi**	**27.01**	**273**	P	**P**	**12 43 11.6**	**-1.4**
ENH				IAmb	IAmb	12 43 12.7	
comp=Z,15nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**27.02**	**115**	T	T	13 12 38.5	
baz=305,slow=75							
H11S1	**WAKE ISLAND Hy**	**27.02**	**115**	T	T	13 12 58.3	
baz=305,slow=75							
H11S2	**WAKE ISLAND Hy**	**27.03**	**115**	T	T	13 12 44.1	
baz=305,slow=75							
DAV	**Davao City (W)**	**29.36**	**213**	LR	LR	12 56 08.2	
comp=Z,25nm,18.5s,baz=301,slow=38							
ULN	**Ulaanbaatar**	**29.73**	**311**	*de*P	**P**	**12 43 38.1**	**+0.9**
ULN				pmax	pmax		
comp=Z,14nm,1.0s							
ULN	**Ulaanbaatar**	**29.73**	**311**	P	**P**	**12 43 37.6**	**+0.4**
ULN				IAmb	IAmb	12 43 39.5	
comp=Z,14nm,1.0s							
SONM	**Songino Array**	**30.14**	**310**	P	**P**	**12 43 41.2**	**+0.4**
SONM				pmax	pmax		
comp=Z,7.0nm,1.0s							
SONM	**Songino Array**	**30.14**	**310**	P	**P**	**12 43 41.4**	**+0.6**
comp=Z,4.6nm,0.6s,baz=113,slow=7.9,SNR=30							
SONM				LR	LR	12 56 07.4	
comp=Z,97nm,18.9s,baz=130,slow=37							
SONM	**Songino Array**	**30.14**	**310**	P	**P**	**12 43 41.2**	**+0.4**
YAK	**Yakutsk**	**30.18**	**349**	*e*P	**P**	**12 43 40.3**	**-0.5**
YAK				pmax	pmax		
comp=Z,7.0nm,0.5s							
LZH	**Lanzhou**	**30.78**	**287**	*e*P	**P**	**12 43 44.3**	**-2.3**
LZH				pP	pP	12 43 55.3	-1.3
LZH				pmax	pmax		
comp=Z,15nm,1.0s							
LZH				pmax	pmax		
comp=Z,87nm,4.3s							
BOD	**Bodaibo**	**31.07**	**332**	*e*P	**P**	**12 43 48.9**	**+0.2**
BOD				pmax	pmax		
comp=Z,12nm,1.1s							
CD2	**Chengdu**	**31.66**	**277**	P	**P**	**12 43 52.5**	**-1.9**
CD2				pmax	pmax		
comp=Z,10.0nm,0.6s							
ZAK	**Zakamensk**	**32.86**	**314**	*e*P	**P**	**12 44 04.6**	**-0.1**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.1s							
TLY	**Talaya**	**33.06**	**316**	*e*P	**P**	**12 44 06.6**	**+0.2**
TLY				pmax	pmax		
comp=Z,42nm,1.3s							
TLY				MLR	MLR		
comp=Z,93nm,9.0s							
TLY	**Talaya**	**33.06**	**316**	P	**P**	**12 44 06.6**	**+0.2**
TLY				IAmb	IAmb	12 44 08.4	
comp=Z,30nm,1.5s							
GTA	**Gaotai**	**33.78**	**293**	P	**P**	**12 44 12.1**	**-0.8**
GTA				pP	pwP	12 44 27.3	+1.7
GTA				sP	sP	12 44 35.0	+7.2
GTA				pmax	pmax		
comp=Z,4.0nm,1.3s							
KMI	**Kunming**	**34.27**	**267**	P	**P**	**12 44 14.4**	**-3.0**
KMI				pmax	pmax		
comp=Z,13nm,1.0s							
BILL	**Bilibino**	**38.19**	**15⇓**	*e*P	**P**	**12 44 50.6**	**+0.6**
BILL				*e*		12 46 17.7	
BILL				pmax	pmax		
comp=Z,6.0nm,1.5s							
BILL				MLR	MLR		
comp=Z,26nm,15.0s							
TIXI	**Tiksi**	**39.48**	**354⇑**	*e*P	**P**	**12 45 01.1**	**+0.3**
TIXI				pmax	pmax		
comp=Z,13nm,3.1s							
TIXI	**Tiksi**	**39.48**	**354**	P	**P**	**12 45 00.6**	**-0.2**
comp=Z,1.1nm,0.4s,baz=152,slow=5.9,SNR=6.6							
TIXI	**Tiksi**	**39.48**	**354**	P	**P**	**12 45 01.3**	**+0.5**
PBKT	**Sadao Pong**	**39.60**	**256**	P	**P**	**12 45 02.0**	**-0.5**
comp=Z,5.2nm,0.9s							
PBKT	**Sadao Pong**	**39.60**	**256**	P	**P**	**12 45 01.5**	**-0.9**
CMMT	**Chiang Mai**	**40.15**	**260**	P	**P**	**12 45 06.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.32**	**260**	P	**P**	**12 45 06.5**	**-2.0**
comp=Z,2.0nm,0.7s,baz=51,slow=7.2,SNR=16							
CMAR				LR	LR	13 03 00.0	
comp=Z,26nm,18.3s,baz=186,slow=38							
PMG	**Port Moresby**	**42.35**	**171**	P	**P**	**12 45 25.6**	**+0.6**
PMG				pmax	pmax		
comp=Z,10.0nm,1.1s							
PMG	**Port Moresby**	**42.35**	**171**	P	**P**	**12 45 24.0**	**-0.9**
comp=Z,5.6nm,0.6s,baz=342,slow=9.6,SNR=3.8							
PMG	**Port Moresby**	**42.35**	**171**	P	**P**	**12 45 25.6**	**+0.6**
DGZ	**Jazzator, Alta**	**42.78**	**310**	*d* P	**P**	**12 45 29.0**	**+0.5**
ZAA0	**Zalesovo Array**	**44.67**	**316**	P	**P**	**12 45 43.2**	**-0.2**
ZAA0				IAmb	IAmb	12 45 43.9	
comp=Z,7.2nm,0.8s							
ZALV	**Zalesovo Beam**	**44.67**	**316**	P	**P**	**12 45 42.4**	**-1.1**
comp=Z,7.2nm,0.6s,baz=110,slow=7.2,SNR=26							
ZALV				PcP	**PcP**	**12 47 25.0**	**-0.4**
comp=Z,2.4nm,0.5s,baz=114,slow=1.5,SNR=6.3							
ZALV				LR	LR	13 04 50.9	
comp=Z,22nm,19.4s,baz=50,slow=37							
ZALV	**Zalesovo Beam**	**44.67**	**316**	P	**P**	**12 45 42.8**	**-0.6**
SOEI	**Soe**	**45.24**	**204**	P	**P**	**12 45 47.5**	**-0.9**
SOEI				IAmb	IAmb	12 45 58.8	
comp=Z,31nm,1.5s							
TAPN	**Taplejung**	**46.12**	**278**	*e*P	**P**	**12 45 54.1**	**-1.5**
comp=Z,13nm,0.4s							
MK31	**Makanchi Array**	**46.26**	**306**	P	**P**	**12 45 56.6**	**+0.4**
MK31				pmax	pmax		
comp=Z,7.0nm,0.7s							
MK31	**Makanchi Array**	**46.26**	**306**	P	**P**	**12 45 56.6**	**+0.4**
MK31				IAmb	IAmb	12 45 57.8	
comp=Z,7.2nm,0.7s							
MKAR	**Makanchi Array**	**46.26**	**306**	P	**P**	**12 45 56.6**	**+0.4**
MKAR	**Makanchi Array**	**46.26**	**306**	P	**P**	**12 45 55.9**	**-0.3**
comp=Z,10nm,0.6s,baz=90,slow=9.5,SNR=55							
MKAR				LR	LR	13 05 59.4	
comp=Z,41nm,19.8s,baz=51,slow=37							
MKAR	**Makanchi Array**	**46.26**	**306**	P	**P**	**12 45 56.6**	**+0.4**
MTN	**Manton Dam**	**46.35**	**193**	P	**P**	**12 45 56.7**	**-0.3**
MTN				IAmb	IAmb	12 45 57.6	
comp=Z,24nm,1.4s							
COEN	**Coen**	**46.51**	**177**	P	**P**	**12 46 00.2**	**+1.9**
COEN				IAmb	IAmb	12 46 06.1	
comp=Z,9.2nm,1.2s							
ODAN	**Odare**	**46.55**	**277**	*e*P	**P**	**12 45 57.6**	**-1.4**
comp=Z,15nm,0.5s							
NRIK	**Noril'sk**	**47.04**	**337**	P	**P**	**12 46 01.7**	**-0.2**
comp=Z,1.6nm,0.3s,baz=108,slow=8.4,SNR=4.6							
RAMN	**Ramite**	**47.18**	**278**	*e*P	**P**	**12 46 02.3**	**-1.6**
comp=Z,20nm,0.7s							
JIRN	**Jiri**	**47.28**	**279**	*e*P	**P**	**12 46 04.0**	**-0.7**
comp=Z,55nm,0.8s							
GUN	**Gumba**	**47.45**	**279**	*e*P	**P**	**12 46 05.4**	**-0.7**
PKIN	**Phulchoki**	**47.97**	**279**	*e*P	**P**	**12 46 08.5**	**-1.5**
comp=Z,7.2nm,0.5s							
KKN	**Kakani**	**47.99**	**279**	*e*P	**P**	**12 46 08.9**	**-1.2**
comp=Z,22nm,0.8s							
DMN	**Daman**	**48.20**	**279**	*e*P	**P**	**12 46 10.7**	**-1.0**
comp=Z,4.5nm,0.4s							
KURK	**Kurchatov**	**48.44**	**311**	*d* P	**P**	**12 46 12.3**	**-0.6**
KURK				pmax	pmax		
comp=Z,11nm,0.7s							
KURK	**Kurchatov**	**48.44**	**311**	P	**P**	**12 46 12.8**	**-0.1**
KURBB	**Kurchatov Arra**	**48.50**	**311**	P	**P**	**12 46 12.8**	**-0.6**
comp=Z,6.7nm,0.4s,baz=86,slow=7.7,SNR=76							
PDGK	**Podgornoye**	**48.64**	**301**	P	**P**	**12 46 14.3**

comp=Z,1.7nm,0.6s,baz=92,slow=4.3,SNR=3.5
BRVK Borovoye 53.36 315 *de*P **P 12 46 50.0 0.0**
BRVK pmax pmax
comp=Z,18nm,2.5s
BRVK Borovoye 53.36 315 P **P 12 46 49.7 -0.2**
BRVK IAmb IAmb 12 46 50.9
comp=Z,7.1nm,0.9s
KK31 Karatay Array 55.11 303 P **P 12 47 02.6 -0.3**
KK31 pmax pmax
comp=Z,11nm,0.8s
KK31 Karatay Array 55.11 303 P **P 12 47 02.6 -0.3**
KK31 IAmb IAmb 12 47 04.4
comp=Z,11nm,0.8s
KKAR Karatay Array 55.11 303 P **P 12 47 02.4 -0.5**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 55.11 303 P **P 12 47 02.4 -0.5**
KKAR Karatay Array 55.11 303 P **P 12 47 02.6 -0.3**
KKAR IAmb IAmb 12 47 04.4
comp=Z,11nm,0.8s
NIL Nilore 55.79 291 P **P 12 47 07.5 -0.4**
NIL Nilore 55.79 291 P **P 12 47 07.5 -0.4**
YAH Yahtse 55.90 36 P **P 12 47 07.9 -0.7**
YAH IAmb IAmb 12 47 17.0
comp=Z,11nm,1.0s
GAR Garm 56.37 298 P **P 12 47 12.1 0.0**
AS31 Alice Springs 56.55 188 P **P 12 47 13.3 +0.1**
ASAR Alice Springs 56.55 188 P **P 12 47 13.0 -0.3**
ASAR Alice Springs 56.55 188 P **P 12 47 12.9 -0.3**
comp=Z,3.0nm,0.5s,baz=0.6,slow=6.3,SNR=122
ASAR Alice Springs 56.55 188 P **P 12 47 13.0 -0.3**
CHGR Chuyangaron 57.33 298 P **P 12 47 18.6 -0.3**
INK Inuvik 58.30 26 P **P 12 47 25.5 +0.4**
comp=Z,1.5nm,0.5s,baz=292,slow=4.7,SNR=9.8
INK Inuvik 58.30 26 IAmb IAmb 12 47 30.2
comp=Z,7.9nm,1.4s
ARU Arti 59.41 320 *d i*P **P 12 47 32.7 -0.3**
ARU S **S 12 55 40.0 +0.8**
ARU SS **SS 12 59 36.1 +2.2**
ARU pmax pmax
comp=Z,47nm,3.1s
ARU Arti 59.41 320 P **P 12 47 32.3 -0.7**
comp=Z,3.4nm,0.4s,baz=78,slow=6.4,SNR=17
ARU Arti 59.41 320 P **P 12 47 32.4 -0.7**
AB31 Akbulak array 60.53 312 *i* P **P 12 47 40.2 -0.6**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 60.53 312 P **P 12 47 40.6 -0.2**
ABKAR Akbulak array 60.53 312 P **P 12 47 40.5 -0.3**
AKTO Aktyubinsk 61.37 314 P **P 12 47 46.7 +0.2**
comp=Z,5.6nm,0.6s,baz=74,slow=14,SNR=16
KIRV Kirov 63.51 324 P **P 12 48 00.4 -0.1**
comp=Z,26nm,0.6s,baz=112,slow=0.7,SNR=11
STKA Stephens Creek 64.31 180 P **P 12 48 06.3 +0.3**
comp=Z,1.6nm,0.5s,baz=336,slow=7.9,SNR=5.0
FORT Forrest 64.41 192 P **P 12 48 07.0 +0.3**
GEYT Alibeck 65.71 301 P **P 12 48 15.3 -0.1**
comp=Z,2.3nm,0.6s,baz=64,slow=3.4,SNR=4.5
GEYT Alibeck 65.71 301 P **P 12 48 14.4 -1.1**
OBN Obninsk 71.36 324⇑ *e*P **P 12 48 51.3 +1.1**
OBN *e*S **S 12 58 05.7 +0.4**
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,31nm,15.0s
VSR Storozhevoye 71.97 320⇑ *e*P **P 12 48 53.6 -0.5**
VSR pmax pmax
comp=Z,7.0nm,0.5s
FINES FINESS Array B 72.46 333 P **P 12 48 56.4 -0.4**
comp=Z,1.9nm,0.4s,baz=66,slow=6.5,SNR=10
UOSS Minazif 72.89 289 P **P 12 48 59.4 -0.6**
UOSS IAmb IAmb 12 49 01.3
comp=Z,14nm,1.4s
KBZ Khabaz 73.49 312 P **P 12 49 03.5 +0.3**
comp=Z,6.3nm,0.8s,baz=60,slow=4.7,SNR=8.3
KVAR Kislovodsk Arr 73.51 312 LR LR 13 24 36.6
comp=Z,43nm,20.2s,baz=82,slow=38
KIV Kislovodsk 73.52 312 *e*P **P 12 49 03.8 +0.3**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,84nm,18.0s
GNI Garni 74.06 308⇓ *e*P **P 12 49 09.0 +2.2**
GNI pmax pmax
comp=Z,27nm,1.0s
AKASG Malin Array Be 77.51 323 *i* P **P 12 49 25.7 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 77.51 323 P **P 12 49 25.5 -0.6**
comp=Z,2.9nm,0.6s,baz=49,slow=6.3,SNR=11
NVAR Mina Array Bea 77.77 52 P **P 12 49 29.3 +1.2**
comp=Z,0.2nm,0.4s,baz=288,slow=7.5,SNR=2.4
HFS Hagfors 77.85 336 P **P 12 49 27.5 -0.3**
comp=Z,1.2nm,0.7s,baz=87,slow=5.9,SNR=3.2
NC204 NORSAR Array S 77.97 338 P **P 12 49 28.9 +0.3**
NB2 NORSAR Subarra 78.00 338 P **P 12 49 27.8 -0.9**
comp=Z,0.3nm,0.6s,baz=42,slow=5.6
NB2 NORSAR Subarra 78.00 338 P **P 12 49 28.0 -0.7**
comp=Z,1.8nm,0.7s,baz=42,slow=5.3
NOA NORSAR Array B 78.00 338 P **P 12 49 27.5 -1.2**
comp=Z,1.3nm,0.9s,baz=58,slow=6.2,SNR=2.8
BKZ Black Stump Fm 78.76 153 P **P 12 49 33.2 +0.2**
BKZ IAmb IAmb 12 49 34.9
comp=Z,16nm,1.4s
SOCY Socotra 81.10 279 P **P 12 49 45.2 -1.2**
BRTR Keskin Array B 81.48 312 *i* P **P 12 49 48.5 +0.3**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 81.48 312 P **P 12 49 48.5 +0.3**
comp=Z,7.0nm,0.8s,baz=108,slow=3.8,SNR=32
BURAR Bucovina Array 81.49 322⇑ P **P 12 49 48.6 +0.6**
BURAR Bucovina Array 81.49 322 P **P 12 49 47.9 -0.1**
ARR Arges 83.25 321⇑ P **P 12 49 58.2 +1.1**
VYHS Vyhne 84.07 326 *e*P **P 12 49 59.9 -1.4**
VYHS Vyhne 84.07 326 *e*P **P 12 49 59.9 -1.4**
APE Apeiranthos 88.13 314⇑ *e*P **P 12 50 22.2 +0.7**
TXAR Lajitas Array 92.93 52 P **P 12 50 44.2 +0.1**
comp=Z,0.2nm,0.5s,baz=320,slow=2.4,SNR=2.3
TORD Torodi Ar. Bea 120.08 313 PKP **PKiKP 12 56 23.8 +1.8**
comp=Z,0.4nm,0.5s,baz=354,slow=1.6,SNR=5.7

*ISCJB **21** 12:51:02.2±0.6, 44°.98N±0°.02×8°.99E±0°.05, h8km±4km,*
Error ellipse: s-maj=6.5km s-min=3.9km az=169.2
*GEN **21** 12:51:03.7, 44°.93N×9°.04E, h5km±3km, Ml2.2*
*LDG **21** 12:51:04.1±0.1, 44°.93N×9°.09E, h5km, Ml2.6/14, Error*
ellipse: s-maj=2.2km s-min=1.4km az=72.0
ISC 21 12:51:03.1±1.1, **44°.94N**±0°.03×**9°.06E**±0°.04, **h17**km±9km,
n25, σ**0°.83/46, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GORR	**Gorreto**	**0.38**	**154**	P		**Pg**	**12 51 10.8**	**0.0**
GORR				S		**Sg**	**12 51 16.3**	**+0.2**
ROTM	**Rocchetta Tana**	**0.51**	**260**	P		**Pb**	**12 51 14.8**	**+1.2**
ROTM				S		**Sn**	**12 51 24.3**	**+0.3**
PCP	**Piancastagn**	**0.54**	**223**	P		**Pg**	**12 51 13.6**	**-0.4**
PCP				S		**Sg**	**12 51 21.5**	**+0.3**
TRAV	**Traversella**	**1.09**	**302**	P		**Pn**	**12 51 24.1**	**+0.5**
RORO	**Rocca Rossa**	**1.09**	**221**	P		**Pb**	**12 51 23.7**	**+0.1**
RORO				S		**Sb**	**12 51 38.1**	**+0.5**
SBF	**Sospel**	**1.59**	**228**	*e*Pn		**Pb**	**12 51 32.2**	**+0.2**
SBF				*e*Sn		**Sn**	**12 51 51.5**	**+0.8**
24nm,0.2s								
MBDF	**Montbardon**	**1.64**	**263**	*e*Pn		**Pn**	**12 51 31.2**	**-0.1**
MBDF				*e*Sn		**Sn**	**12 51 52.8**	**+0.6**
6.0nm,0.2s								
LPG	**La Plagne**	**1.72**	**290**	*e*Pn		**Pn**	**12 51 33.3**	**+0.7**
LPG				*e*Sn		**Sn**	**12 51 54.9**	**+0.6**
5.3nm,0.2s								
LPL	**La Plagne**	**1.74**	**290**	*e*Pn		**Pn**	**12 51 33.5**	**+0.7**
LPL				*e*Sn		**Sn**	**12 51 54.6**	**-0.1**
7.1nm,0.2s								
FRF	**La Foret Royal**	**2.22**	**232**	*e*Pn		**Pb**	**12 51 41.6**	**-1.1**
FRF				*e*Sn		**Sn**	**12 52 05.9**	**-0.2**
3.6nm,0.2s								
ORIF	**Oris-en-Rattie**	**2.26**	**270**	*e*Pn		**Pb**	**12 51 42.7**	**-0.8**
ORIF				*e*Sn		**Sn**	**12 52 07.3**	**0.0**
3.2nm,0.2s								
PGF	**Pioggiola**	**2.40**	**181**	*e*Pn		**Pn**	**12 51 41.6**	**0.0**
PGF	**Pioggiola**	**2.40**	**181**	*e*Pg		**Pg**	**12 51 48.6**	**-0.4**
PGF				*e*Sn		**Sn**	**12 52 09.1**	**-1.5**
LMR	**La Mourre**	**2.44**	**230**	*e*Pn		**Pn**	**12 51 43.5**	**+1.3**
LMR				*e*Sn		**Sn**	**12 52 11.2**	**-0.4**
6.8nm,0.4s								
CABF	**La Chapelle**	**2.67**	**310**	*e*Pn		**Pn**	**12 51 46.4**	**+1.1**
CABF	**La Chapelle**	**2.67**	**310**	*e*Pg		**Pg**	**12 51 54.2**	**0.0**
CABF				*e*Sn		**Sn**	**12 52 17.7**	**+0.4**
CABF				*e*Sg		**Sg**	**12 52 28.5**	**-0.2**
1.0nm,0.2s								
VIVF	**Saint-Julien-l**	**3.12**	**270**	*e*Pn		**Pn**	**12 51 52.6**	**+1.1**
VIVF	**Saint-Julien-l**	**3.12**	**270**	*e*Pg		**Pg**	**12 52 02.3**	**-0.5**
VIVF				*e*Sn		**Sn**	**12 52 28.5**	**+0.1**
0.4nm,0.1s								
VIVF				*e*Sg		**Sg**	**12 52 42.6**	**-0.6**
HINF	**Hinteralfeld**	**3.25**	**333**	*e*Pn		**Pn**	**12 51 54.3**	**+0.9**
HINF	**Hinteralfeld**	**3.25**	**333**	*e*Pg		**Pg**	**12 52 04.7**	**-0.7**
HINF				*e*Sn		**Sn**	**12 52 31.6**	**-0.2**
2.7nm,0.2s								
HAU	**Haudompre**	**3.59**	**330**	*e*Pn		**Pn**	**12 51 59.3**	**+1.3**
HAU				*e*Sn		**Sn**	**12 52 39.6**	**-0.4**
6.2nm,0.2s								
LASF	**Ste Croix**	**3.82**	**259**	*e*Pn		**Pn**	**12 52 01.7**	**+0.5**
LASF	**Ste Croix**	**3.82**	**259**	*e*Pg		**Pg**	**12 52 15.4**	**-0.9**
LASF				*e*Sn		**Sn**	**12 52 44.6**	**-1.1**
SFTF	**Sexfontaines**	**4.28**	**321**	*e*Pn		**Pn**	**12 52 08.6**	**+1.1**
SFTF				*e*Sn		**Sn**	**12 52 54.8**	**-2.2**
3.8nm,0.2s								
LOR	**Lormes**	**4.30**	**305**	*e*Pn		**Pn**	**12 52 08.4**	**+0.7**
LOR				*e*Sn		**Sn**	**12 52 55.9**	**-1.6**
2.7nm,0.2s								

*ANF **21** 13:04:00.8±0.2, 33°.42N×118°.87W, h15km±1km, ML2.7/23,*
Error ellipse: s-maj=1.8km s-min=1.3km az=8.0
*NEIC **21** 13:04:00.8±1.2, 33°.44N±0°.03×118°.84W±0°.02, h13km±8km*
*SCEDC **21** 13:04:01.6, 33°.40N×118°.87W, h2km*
ISC 21 13:04:00.7±1.1, **33°.41N**±0°.03×**118°.88W**±0°.03, **h12**km±9km,
n40, σ**0°.84/57, Southern California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CIS	**Catalina Islan**	**0.39**	**91**	P		**Pg**	**13 04 08.7**	**+0.2**
baz=269,SNR=15								
CIS				S		**Sg**	**13 04 14.1**	**+0.5**
baz=269								
SCI2	**San Clemente I**	**0.51**	**147**	P		**Pb**	**13 04 11.6**	**0.0**
baz=327,SNR=15								
SCI2				Sb		**Sb**	**13 04 20.0**	**+1.0**
baz=327								
SNCC	**San Nicolas Is**	**0.56**	**253**	P		**Pg**	**13 04 12.2**	**+0.5**
baz=75								
SNCC				S		**Sb**	**13 04 20.4**	**-0.1**
baz=75								
SNCC	**San Nicolas Is**	**0.56**	**253**			**Pg**	**13 04 12.2**	**+0.5**
SNCC						**Sb**	**13 04 20.7**	**+0.2**
FMP	**Fort Macarthur**	**0.57**	**58**	P		**Pb**	**13 04 12.2**	**-0.4**
baz=237,SNR=9.7								
FMP				S		**Sg**	**13 04 19.8**	**+0.3**
baz=237								
BLG	**Laguna Peak, P**	**0.71**	**348**	P		**Pg**	**13 04 14.5**	**0.0**
baz=167								
BLG				S		**Sg**	**13 04 23.9**	**0.0**
baz=167								
SCZ2	**Santa Cruz Isl**	**0.86**	**313**	P		**Pg**	**13 04 16.7**	**-0.6**
baz=133								
SCZ2				S		**Sb**	**13 04 29.3**	**+0.3**
baz=133								
PASC	**Pasadena Art C**	**0.95**	**37**			**Pg**	**13 04 18.9**	**-0.2**
DECC	**Green Verdugo**	**0.96**	**28**	P		**Pb**	**13 04 19.2**	**0.0**
baz=208,SNR=19								
DECC				S		**Sb**	**13 04 32.1**	**+0.2**
baz=208								
MWC	**Mount Wilson**	**1.06**	**40**			**Pb**	**13 04 20.8**	**-0.3**
MWC				Sg		**Sg**	**13 04 35.4**	**+0.3**
OSI	**Osito Audit: C**	**1.21**	**6**	S		**Sn**	**13 04 39.8**	**0.0**
baz=186								
OSI	**Osito Audit: C**	**1.21**	**6**			**Pn**	**13 04 23.1**	**-0.3**
OSI				Sg		**Sb**	**13 04 38.4**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.31**	**51**	P		**Pn**	**13 04 24.1**	**-0.8**
baz=230,SNR=7.5								
MURC	**Murrieta**	**1.42**	**82**	P		**Pn**	**13 04 25.5**	**-0.9**
baz=262,SNR=18								
109C	**Camp Elliot, M**	**1.58**	**109**	P		**Pn**	**13 04 27.3**	**-1.1**
baz=289								
109C	**Camp Elliot, M**	**1.58**	**109**			**Pn**	**13 04 27.5**	**-1.0**
EDW2	**Edwards Air Fo**	**1.64**	**26**	P		**Pn**	**13 04 29.8**	**+0.4**
baz=206,SNR=13								
EDW2				S		**Sn**	**13 04 50.5**	**0.0**
baz=206								
PKM	**Mcpherson Peak**	**1.67**	**333**	P		**Pn**	**13 04 30.2**	**+0.3**
baz=152								
PKM				Sb		**Sb**	**13 04 53.2**	**+0.8**
baz=152								
ARVC	**Arvin**	**1.71**	**1**	P		**Pn**	**13 04 30.2**	**-0.1**
baz=181								
ARVC				Sb		**Sg**	**13 04 54.5**	**-1.3**
baz=181								
BBRC	**Big Bear Solar**	**1.84**	**62**	S		**Sn**	**13 04 55.6**	**0.0**
baz=242								
BAR	**Barrett**	**1.99**	**111**			**Pn**	**13 04 33.6**	**-0.6**
PFO	**Pinyon Flats O**	**2.03**	**84**	P		**Pn**	**13 04 34.8**	**-0.1**
baz=264								
PFO				S		**Sn**	**13 05 00.3**	**+0.1**
baz=264								
PFO	**Pinyon Flats O**	**2.03**	**84**			**Pn**	**13 04 34.8**	**-0.1**
TPFO	**Pinon Flats**	**2.04**	**84**	S		**Sn**	**13 05 00.6**	**+0.3**
baz=265								
MONP2	**Monument Peak**	**2.13**	**103**	P		**Pn**	**13 04 35.7**	**-0.5**
baz=284								
MONP2				S		**Sn**	**13 05 01.6**	**-1.1**
baz=284								
ISA	**Isabella, Lake**	**2.27**	**8**	Sb		**Sb**	**13 05 11.4**	**+1.6**
baz=188								
ISA	**Isabella, Lake**	**2.27**	**8**			**Pn**	**13 04 38.4**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**2.45**	**107**	P		**Pn**	**13 04 40.6**	**+0.1**
baz=289								
IKP				S		**Sn**	**13 05 10.1**	**-0.4**
baz=289								
BELC	**Belle Mtn. Jos**	**2.47**	**75**	P		**Pn**	**13 04 41.8**	**+0.9**
baz=257								
BELC				Sb		**Sb**	**13 05 17.3**	**+1.7**
baz=257								
HEC	**Hector,Ludlow**	**2.54**	**55**	S		**Sn**	**13 05 13.7**	**+1.0**
baz=236								
GSC	**Goldstone, Bar**	**2.55**	**42**	Sb		**Sg**	**13 05 20.0**	**-2.7**
baz=222								
GSC	**Goldstone, Bar**	**2.55**	**42**			**Pn**	**13 04 43.3**	**+1.3**
PAGB	**Antelope Grade**	**2.58**	**334**	Pn		**Pn**	**13 04 41.6**	**-0.7**
DAC	**Darwin (Calif)**	**3.05**	**20**	Pn		**Pn**	**13 04 47.5**	**-1.4**
PMPB	**Monarch Peak**	**3.21**	**331**	Pn		**Pn**	**13 04 51.2**	**+0.2**
GLA	**Glamis**	**3.42**	**95**	Pn		**Pn**	**13 04 53.0**	**-0.9**
SAO	**San Andreas Ge**	**3.95**	**329**	Pn		**Pn**	**13 05 01.7**	**+0.6**
TPNV	**Topopah Spring**	**4.13**	**31**			**Pn**	**13 05 05.6**	**+1.8**
TPNV						Lg	13 06 15.8	
SHPR	**Sheep Range**	**4.34**	**44**			**Pn**	**13 05 08.3**	**+1.6**
W13A	**Hualapai Mount**	**4.47**	**66**			**Pn**	**13 05 08.0**	**-0.4**

*IDC **21** 13:05:37.8±1.2, 35°.22N×76°.96E, h0km, mb3.5/5,*
mb1 3.6/8, mb1mx3.4/47, mbtmp3.5/8, ML3.3/3, MS2.8/4,
Ms1 2.9/4, ms1mx2.5/48, Error ellipse: s-maj=31.4km
s-min=21.2km az=55.0
*BJI **21** 13:05:41.0±0.0, 35°.53N×77°.18E, h8km, mb3.7/2, ML3.8/2*
ISC 21 13:05:39.6±0.8, **35°.32N**±0°.07×**77°.02E**±0°.09, **h10**km, **n21,**
σ**1°.27/21, mb3.5/4, MS2.6/3, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JMU	**Jammu**	**3.14**	**215**	*e*P		**Pg**	**13 06 40.0**	**+0.3**
JMU				*e*S		**Sg**	**13 07 20.0**	**-0.4**
AAK	**Ala-Archa**	**7.56**	**346**	Pn		Pn	13 07 35.2	+5.2
0.2nm,0.3s,baz=161,slow=14,SNR=3.3								
AAK				Lg		Lg	13 09 34.6	
0.3nm,0.3s,baz=302,slow=13,SNR=3.0								
AAK				LR		LR	13 10 47.2	
comp=Z,43nm,18.5s,baz=147,slow=40								
DANN	**Dangsing**	**9.01**	**139**	*e*P		**Pn**	**13 07 50.0**	**0.0**
17nm,0.2s								
KOLN	**Koldanda**	**9.39**	**142**	*e*P		**Pn**	**13 07 56.5**	**+1.4**
14nm,0.4s								
GKN	**Gorkha**	**9.76**	**136**	*e*P		**Pn**	**13 08 00.2**	**0.0**
17nm,0.3s								
KKN	**Kakani**	**10.29**	**135**	*e*P		**Pn**	**13 08 06.7**	**-0.8**
17nm,0.6s								
DMN	**Daman**	**10.33**	**136**	*e*P		**Pn**	**13 08 07.9**	**-0.2**
13nm,0.4s								
PKIN	**Phulchoki**	**10.52**	**135**	*e*P		**Pn**	**13 08 09.7**	**-1.0**
9.1nm,0.4s								
PKI	**Pulchoki**	**10.53**	**135**	*e*P		**Pn**	**13 08 10.5**	**-0.4**
12nm,0.4s								
GUN	**Gumba**	**10.56**	**132**	*e*P		**Pn**	**13 08 09.8**	**-1.5**
12nm,0.4s								
JIRN	**Jiri**	**10.93**	**132**	*e*P		**Pn**	**13 08 15.4**	**-1.0**
28nm,0.3s								
RAMN	**Ramite**	**11.70**	**133**	*e*P		**Pn**	**13 08 25.4**	**-1.4**
11nm,0.4s								
MKAR	**Makanchi Array**	**12.12**	**17**	Pn		**Pn**	**13 08 33.9**	**+1.6**
0.3nm,0.3s,baz=200,slow=12,SNR=9.7								
MKAR				Sn		**Sn**	**13 10 45.1**	**-2.4**
0.1nm,0.3s,baz=197,slow=20,SNR=7.4								
ODAN	**Odare**	**12.25**	**131**	*e*P		**Pn**	**13 08 32.8**	**-1.5**
9.8nm,0.6s								
BVAR	**Borovoye Array**	**18.31**	**347**	P		**Pn**	**13 09 53.5**	**0.0**
0.2nm,0.3s,baz=151,slow=3.3,SNR=5.0								
GTA	**Gaotai**	**18.56**	**71**	*e*P		**Pn**	**13 09 57.8**	**+1.0**
GTA				pP		sP	13 10 02.4	-0.5
GTA				sP		pP	13 10 04.8	+3.9
GTA				pmax		pmax		
comp=Z,2.0nm,1.1s								
AKTO	**Aktyubinsk**	**20.45**	**323**	P		Pn	13 10 18.8	-0.4
0.5nm,0.4s,baz=118,slow=16,SNR=3.2								
AKTO				LR		LR	13 19 01.4	
comp=Z,14nm,18.4s,baz=107,slow=39								
SONM	**Songino Array**	**25.11**	**51**	P		**P**	**13 11 05.5**	**+0.9**
0.9nm,0.8s,baz=251,slow=12,SNR=3.2								
SONM				LR		LR	13 22 24.9	
comp=Z,64nm,18.0s,baz=190,slow=40								
CMAR	**Chiang Mai Arr**	**25.68**	**125**	P		**P**	**13 11 08.2**	**-1.6**
0.9nm,0.7s,baz=308,slow=10,SNR=7.4								
CMAR				LR		LR	13 23 14.5	
comp=Z,18nm,19.0s,baz=295,slow=41								
TORD	**Torodi Ar. Bea**	**70.62**	**273**	P		**P**	**13 16 54.3**	**-1.2**
0.8nm,0.7s,baz=49,slow=5.7,SNR=5.0								
ASAR	**Alice Springs**	**79.64**	**129**	P		**P**	**13 17 49.1**	**+1.8**
0.3nm,0.8s,baz=327,slow=4.6,SNR=2.7								

*ISCJB **21** 13:08:42.1±0.8, 31°.86S±0°.03×70°.33W±0°.04, h118km±7km,*
Error ellipse: s-maj=6.4km s-min=4.1km az=41.9
*SJA **21** 13:08:42.2±0.8, 31°.84S×70°.35W, h106km±5km, ML2.7,*
MW2.9
*GUC **21** 13:08:43.2±0.5, 31°.86S×70°.54W, h104km±6km, ML3.2*
ISC 21 13:08:41.4±1.6, **31°.85S**±0°.04×**70°.38W**±0°.04,
h126km±12km, **n23,** σ**1°.16/44, 2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.84**	**320**⇓	*i*P		**Pn**	**13 09 02.5**	**-0.1**
CO02				*i* S		**Sn**	**13 09 17.1**	**-1.5**
RTLS	**Leoncito**	**0.92**	**87**	*i* P		**Pn**	**13 09 03.4**	**-0.1**
RTLS				*i* S		**Sn**	**13 09 18.9**	**-1.3**
RTLS				IAML			13 09 20.4	
comp=Z,88nm,0.2s								
ROCH	**El Roble**	**1.24**	**206**⇓	*i*P		**Pn**	**13 09 07.1**	**+0.5**
ROCH				*i* S		**Sn**	**13 09 25.5**	**-0.2**
ROCH				IAML			13 09 26.5	
comp=N,548nm,0.2s								
ROC1	**El Roble**	**1.24**	**206**	*i* P		**Pn**	**13 09 07.1**	**+0.4**
ROC1				*i* S		**Sn**	**13 09 25.4**	**-0.4**
PEL	**Peldehue**	**1.31**	**191**	*i* P		**Pn**	**13 09 08.2**	**+1.0**
PEL				*i* S		**Sn**	**13 09 26.7**	**-0.2**
PEL	**Peldehue**	**1.31**	**191**	*i* P		**Pn**	**13 09 08.0**	**+0.8**
PEL				*i* S		**Sn**	**13 09 27.0**	**+0.1**
FCH	**Farellones**	**1.47**	**177**	*i* P		**Pn**	**13 09 11.2**	**+1.9**
FCH				*i* S		**Sn**	**13 09 32.0**	**+1.6**
FCH				IAML			13 09 35.3	
comp=E,254nm,0.2s								
ZON	**Zonda**	**1.48**	**78**	*i* P		**Pn**	**13 09 09.7**	**+0.7**
ZON				*i* S		**Sn**	**13 09 29.3**	**-0.7**
ZON				IAML			13 09 34.4	
comp=Z,59nm,0.4s								
RTCV	**Cerro Valdivia**	**1.56**	**91**	*i* P		**Pn**	**13 09 10.6**	**+0.6**
RTCV				*i* S		**Sn**	**13 09 31.4**	**-0.4**
RTCV				IAML			13 09 32.2	
comp=Z,41nm,0.2s								
ACCO	**Cerro Coronel**	**1.69**	**42**	*i* P		**Pn**	**13 09 12.9**	**+1.1**
ACCO				*i* S		**Sn**	**13 09 35.8**	**+0.9**
ACCO				IAML			13 09 36.6	
comp=Z,89nm,0.8s								
RTLL	**Cerro Villicun**	**1.70**	**73**	*i* P		**Pn**	**13 09 12.1**	**+0.5**
RTLL				*i* S		**Sn**	**13 09 33.9**	**-0.8**
RTLL				IAML			13 09 35.9	
comp=Z,156nm,0.3s								
GO04	**Tololo Observa**	**1.71**	**348**	*i* P		**Pn**	**13 09 12.5**	**+0.5**
GO04				*i* S		**Sn**	**13 09 35.0**	**-0.3**
GO04				IAML			13 09 37.1	
comp=N,441nm,0.5s								
GO04	**Tololo Observa**	**1.71**	**348**	*i* P		**Pn**	**13 09 12.5**	**+0.5**
GO04				*i* S		**Sn**	**13 09 34.8**	**-0.5**
CFA	**Coronel Fontan**	**1.84**	**83**	*i* P		**Pn**	**13 09 13.8**	**+0.5**
CFA				*i* S		**Sn**	**13 09 37.1**	**-0.4**
AMOG	**MOGNA**	**1.85**	**61**	*i* P		**Pn**	**13 09 14.2**	**+0.8**
AMOG				*i* S		**Sn**	**13 09 36.7**	**-1.2**
AMOG				IAML			13 09 39.0	
comp=Z,80nm,0.3s								
ACDV	**Cuesta del Vie**	**1.99**	**33**	*i* P		**Pn**	**13 09 17.2**	**+2.0**
ACDV				*i* S		**Sn**	**13 09 39.0**	**-2.1**
ACDV				IAML			13 09 45.0	
comp=Z,15nm,0.3s								
ACAN	**Cantantal**	**2.74**	**100**	*i* P		**Pn**	**13 09 25.5**	**+1.0**
ACAN				*i* S		**Sn**	**13 09 55.8**	**-1.9**
ACAN				IAML			13 10 03.8	
comp=Z,18nm,1.5s								
GO05	**Huala**	**3.41**	**202**	*i* P		**Pn**	**13 09 31.6**	**-1.7**
GO05				*i* S		**Sn**	**13 10 13.1**	**-0.2**
APLL	**PUNTA DE LOS L**	**3.60**	**67**	*i* P		**Pn**	**13 09 36.8**	**+0.9**
APLL				*i* S		**Sn**	**13 10 18.1**	**0.0**
ACLC	**CERRO LA CRUZ**	**3.82**	**52**	*i* P		**Pn**	**13 09 40.8**	**+2.0**
ACLC				*i* S		**Sn**	**13 10 23.7**	**+0.5**
ACLC				IAML			13 10 26.6	
comp=Z,30nm,0.7s								
MRA	**San Martin**	**3.99**	**99**	*i* P		**Pn**	**13 09 42.0**	**+1.0**
MRA				*i* S		**Sn**	**13 10 26.0**	**-1.3**
MRA				IAML			13 10 30.8	
comp=Z,4.4nm,0.4s								
TCA	**Tanti**	**4.96**	**86**	*i* P		**Pn**	**13 09 54.2**	**+0.2**
TCA				*i* S		**Sn**	**13 10 47.2**	**-3.2**
TCA				IAML			13 11 08.2	
comp=Z,7.0nm,0.4s								

TAMC *i* 13 18 10.9
comp=Z,440nm,0.9s
OCAC Ocana 1.38 351 *eP* **Pn 13 17 44.3 +1.5**
OCAC *eS* **Sn 13 18 06.3 +1.1**
OCAC *i* 13 18 10.9
comp=Z,2μm,0.5s
PTBC PUERTO BERRIO, 1.39 257⇑ *iP* **Pn 13 17 42.7 0.0**
PTBC *eS* **Sn 13 18 04.0 -0.9**
PTBC *i* 13 18 11.4
comp=Z,3μm,0.6s
SPBC San Pablo de B 1.55 219⇑ *iP* **Pn 13 17 45.0 +0.6**
SPBC *eS* **Sn 13 18 07.4 -0.6**
SPBC *i* 13 18 12.8
comp=Z,3μm,0.3s
ZARC Zaragoza, Cauc 1.85 290⇓ *iP* **Pn 13 17 48.2 +0.6**
ZARC *eS* **Sn 13 18 13.7 0.0**
ZARC *i* 13 18 21.0
comp=Z,2μm,0.4s
SMLC San Martn de 2.15 333 *eP* **Pn 13 17 52.6 +1.6**
SMLC *eS* **Sn 13 18 20.5 +0.7**
SMLC *i* 13 18 27.7
comp=Z,1μm,0.1s
NORC Norcasia 2.19 234 *eP* **Pn 13 17 51.9 +0.4**
NORC *eS* **Sn 13 18 20.6 0.0**
NORC *i* 13 18 25.6
comp=Z,1μm,0.4s
CHIC Chingaza 2.31 196⇑ *iP* **Pn 13 17 53.8 +0.5**
CHIC *eS* **Sn 13 18 23.4 -0.5**
CHIC *i* 13 18 31.5
comp=Z,977nm,0.5s
ROSC El Rosal 2.35 211⇑ *iP* **Pn 13 17 55.8 +2.0**
ROSC *eS* **Sn 13 18 26.6 +1.9**
ROSC *i* 13 18 29.5
comp=Z,2μm,0.5s
ROSC El Rosal 2.35 211 P **Pn 13 17 55.9 +2.1**
comp=Z,371nm,0.3s,baz=221,slow=5.9,SNR=152
ROSC S **Sn 13 18 25.4 +0.7**
comp=Z,667nm,0.3s,baz=190,slow=24,SNR=20
ROSC El Rosal 2.35 211 Pn 13 17 56.0 +2.1
ROSC **Sn 13 18 27.1 +2.4**
HELC Santa Helena 2.51 255 *eP* **Pn 13 17 57.6 +2.0**
HELC *eS* **Sn 13 18 27.3 -0.6**
HELC *i* 13 18 33.9
comp=Z,1μm,1.3s
HELC Santa Helena 2.51 255 *eP* **Pn 13 17 57.3 +1.7**
HELC *eS* **Sn 13 18 27.4 -0.5**
CVER Cruz Verde, Cu 2.52 203 *eS* **Sn 13 18 24.9 -3.7**
CVER *i* 13 18 51.3
comp=Z,18μm,2.3s
VILC Villavicencio, 2.80 192 *eP* **Pn 13 17 59.0 0.0**
VILC *eS* **Sn 13 18 33.9 -0.2**
VILC *i* 13 18 39.0
comp=Z,1μm,0.6s
PTGC Puerto Gaitan, 2.82 160⇓ *iP* **Pn 13 17 59.1 0.0**
PTGC *eS* **Sn 13 18 31.9 -2.4**
PTGC *i* 13 18 51.8
comp=Z,592nm,0.3s
RREF El Recreo 2.97 229 *eP* **Pn 13 18 03.1 +1.5**
RREF *eS* **Sn 13 18 40.1 +1.5**
RREF *i* 13 18 47.2
comp=Z,1μm,0.3s
CBOC Ciudad Bolivar 3.06 251 *eP* **Pn 13 18 04.2 +1.9**
CBOC *eS* **Sn 13 18 39.7 -0.3**
CBOC *i* 13 18 46.8
comp=Z,559nm,0.9s
CODC Agustn Codazz 3.07 354⇑ *iP* **Pn 13 18 03.2 +1.0**
CODC *eS* **Sn 13 18 39.9 0.0**
CODC *i* 13 18 50.0
comp=Z,432nm,0.4s
DBBC Dabeiba 3.09 273⇓ *iP* **Pn 13 18 03.7 +1.1**
DBBC *eS* **Sn 13 18 39.4 -1.1**
DBBC *i* 13 18 42.2
comp=Z,1μm,0.3s
SDV Santo Domingo 3.16 50⇑ *iP* **Pn 13 18 05.5 +2.0**
SDV *eS* **Sn 13 18 41.7 -0.5**
SDV *i* 13 18 44.8
comp=Z,474nm,0.4s
SDV Santo Domingo 3.16 50 P **Pn 13 18 05.1 +1.6**
comp=Z,82nm,0.3s,baz=218,slow=4.6,SNR=305
SDV S **Sn 13 18 42.7 +0.5**
comp=Z,158nm,0.3s,baz=277,slow=4.4,SNR=38
SDV Santo Domingo 3.16 50 Pn 13 18 05.5 +2.0
ANIL Santa Ana 3.29 224 *eP* **Pn 13 18 06.8 +1.5**
ANIL *eS* **Sn 13 18 46.6 +1.2**
ANIL *i* 13 18 51.9
comp=Z,2μm,0.4s
ORTC Ortega, Tolima 3.63 216⇑ *iP* **Pn 13 18 09.6 +0.1**
ORTC *eS* **Sn 13 18 52.9 +0.1**
ORTC *i* 13 18 59.6
comp=Z,660nm,0.6s
SJCC San Jacinto, C 3.65 326⇓ *iP* **Pn 13 18 09.8 +0.2**
SJCC *eS* **Sn 13 18 50.3 -2.8**
SJCC *i* 13 18 55.4
comp=Z,314nm,0.8s
SJCC San Jacinto, C 3.65 326⇓ *iP* **Pn 13 18 09.9 +0.2**
SJCC *eS* **Sn 13 18 50.9 -2.2**
PLMC San Jos del P 3.72 239 *eP* **Pn 13 18 11.8 +1.2**
PLMC *eS* **Sn 13 18 55.9 +1.1**
PLMC *i* 13 18 59.3
comp=Z,399nm,0.2s
LCBC Los crdobas, 3.80 302 *eP* **Pn 13 18 12.0 +0.5**
LCBC *eS* **Sn 13 18 55.6 -0.9**
GUVC San Jose del G 4.32 174 *eP* **Pn 13 18 17.5 -0.8**
GUVC *eS* **Sn 13 19 06.3 -2.5**
GUVC *i* 13 19 13.0
comp=Z,534nm,0.2s
YOTC Yotoco, Valle 4.32 229 *eS* **Sn 13 19 08.7 -0.2**
SMRC Santa Marta, M 4.41 345 *eP* **Pn 13 18 18.3 -1.2**
SMRC *eS* **Sn 13 19 09.6 -1.3**
SMRC *i* 13 19 11.9
comp=Z,317nm,0.4s
PTAC Punta Ardita, 4.69 274 *eP* **Pn 13 18 23.4 +0.3**
PTAC *eS* **Sn 13 19 16.2 -1.0**
PTAC *i* 13 19 19.1
comp=Z,451nm,0.2s
MACC Macarena, Meta 4.75 189⇑ *iP* **Pn 13 18 22.6 -1.4**
MACC *eS* **Sn 13 19 13.7 -5.2**
MACC *i* 13 19 20.0
comp=Z,247nm,0.9s
URIC Uribia, Colomb 4.93 13 *eP* **Pn 13 18 26.2 -0.1**
URIC *eS* **Sn 13 19 20.6 -2.4**
URIC *i* 13 19 25.9
comp=Z,94nm,0.7s
MALC Bahia Malaga 5.08 236 *eP* **Pn 13 18 30.4 +2.0**
MALC *eS* **Sn 13 19 27.6 +0.9**
MALC *i* 13 19 41.0
comp=Z,125nm,0.8s
UPD2 Meteti 5.15 289 *eP* **Pn 13 18 30.3 +1.0**
UPD2 *eS* **Sn 13 19 25.6 -2.6**
PCON Cinco Dias 5.58 216 *eP* **Pn 13 18 36.5 +1.0**
PCON *eS* **Sn 13 19 40.2 +0.8**
PCON *i* 13 19 47.1
comp=Z,93nm,0.6s
POPC Popayan, Colom 5.58 220⇑ *iP* **Pn 13 18 35.4 +0.2**
POPC *eS* **Sn 13 19 35.9 -3.1**
POPC *i* 13 19 50.4
comp=Z,34nm,0.6s
FLOC Florencia 5.84 206⇑ *iP* **Pn 13 18 37.6 -0.7**
FLOC *eS* **Sn 13 19 44.5 -0.1**
FLOC *i* 13 20 09.5
comp=Z,70nm,0.9s
BBAC Balboa, Cauca 6.35 221 *eP* **Pn 13 18 46.5 +1.2**
BBAC *eS* **Sn 13 19 53.7 -3.4**
BBAC *i* 13 20 07.4
comp=Z,44nm,0.9s
GCUF Volcan Galeras 7.03 217 *eP* **Pn 13 18 55.4 +0.8**
GCUF *i* 13 20 23.1
comp=Z,27nm,0.7s
BCIP Isla Barro Col 7.05 289 *eP* **Pn 13 18 53.5 -1.0**
BCIP *eS* **Sn 13 20 10.3 -3.4**
BCIP *i* 13 20 28.4
comp=Z,28nm,0.9s
BCIP Isla Barro Col 7.05 289 *eP* **Pn 13 18 53.7 -0.8**
BCIP *eS* **Sn 13 20 13.9 +0.2**
AZU Azuero 7.18 278 *eP* **Pn 13 18 56.6 +0.5**
AZU *eS* **Sn 13 20 13.6 -3.0**
OTAV Otavalo 8.48 219 *eP* **Pn 13 19 12.9 -1.0**
OTAV *eS* **Sn 13 20 44.2 -4.4**
OTAV Otavalo 8.48 219 Pn 13 19 13.7 -0.2
PCRV Puerto La Cruz 8.99 68 P **Pn 13 19 22.2 +1.9**
comp=Z,1.9nm,0.3s,baz=342,slow=4.0,SNR=6.9
PCRV S **Sn 13 20 58.2 -2.1**
comp=Z,1.7nm,0.3s,baz=90,slow=20,SNR=4.0
PLCV Puerto La Cruz 9.03 68 Pn 13 19 22.2 +1.4
PLCV **Sn 13 20 58.2 -3.0**
MTDJ Mount Denham 12.09 339 Pn **P 13 20 05.4 -1.8**
MTDJ **Sn 13 22 14.3 -0.7**
SDDR Presa de Saban 12.17 8 Pn 13 20 03.6 +1.5
JTS Las Juntas de 12.21 287 P **P 13 20 06.3 -2.2**
comp=Z,2.2nm,0.3s,baz=285,slow=5.1,SNR=4.5
JTS Las Juntas de 12.21 287 P 13 20 06.8 -1.7
DR12 Loma Pena Alta 12.39 17 Pn **Pn 13 20 04.2 -0.7**
MPR Mayaguez 12.68 27 Pn **Pn 13 20 07.8 -0.8**
PDPR Patillas Dam, 13.05 31 Pn **Pn 13 20 13.0 -0.3**
SAML Samuel 18.56 148 P **P 13 21 16.9 -1.8**
APG El Apazote 18.86 297 P **Pn 13 21 23.8 -0.8**
comp=Z,1.3nm,0.3s,baz=76,slow=24,SNR=11
TEIG Tepich 19.83 314 P **Pn 13 21 34.9 -0.8**
comp=Z,10nm,0.5s,baz=317,slow=1.9,SNR=10.0
U40A Yellville 34.47 331 P **P 13 23 48.4 +1.8**
U40A IAmb IAmb 13 23 49.5
comp=Z,8.3nm,0.7s
TX32 Lajitas Array 36.45 312 P **P 13 24 05.9 +2.2**
TX32 IAmb IAmb 13 24 06.4
comp=Z,2.1nm,0.7s
TXAR Lajitas Array 36.45 312 P **P 13 24 05.5 +1.8**
comp=Z,1.7nm,0.6s,baz=128,slow=9.2,SNR=30
TXAR Lajitas Array 36.45 312 P **P 13 24 05.3 +1.6**
TX31 Lajitas Ar. Si 36.45 312 P **P 13 24 04.7 +1.0**
U32A Winter Ranch, 37.73 325 P **P 13 24 13.4 -0.9**
MNTX Cornudas Mount 38.96 314 P **P 13 24 26.3 +1.6**
MNTX IAmb IAmb 13 24 27.8
comp=Z,9.1nm,1.4s
Y14A Wickenburg 45.63 312 P **P 13 25 21.0 +2.3**
Y14A IAmb IAmb 13 25 21.8
comp=Z,3.8nm,0.8s
U15A North Rim 46.30 315 P **P 13 25 27.1 +2.9**
U15A IAmb IAmb 13 25 27.9
comp=Z,4.7nm,1.1s
PDAR Pinedale Array 48.05 324 P **P 13 25 39.0 +1.4**
comp=Z,0.7nm,0.6s,baz=124,slow=9.2,SNR=9.0
SCHQ Schefferville 48.09 5 P **P 13 25 39.2 +1.9**
comp=Z,11nm,0.5s,baz=194,slow=5.7,SNR=5.1
TCUT Toone Canyon 48.21 321 P **P 13 25 41.0 +2.2**
NVAR Mina Array Bea 51.47 315 P **P 13 26 05.2 +1.9**
comp=Z,0.7nm,0.7s,baz=119,slow=7.4,SNR=3.9
NVAR Mina Array Bea 51.47 315 P **P 13 26 04.8 +1.4**
YKA Yellowknife Ar 63.23 340 P **P 13 27 25.9 +0.9**
comp=Z,1.1nm,0.5s,baz=130,slow=6.4,SNR=7.2
TIC Toumoli 67.55 86 *eP* **P 13 27 55.0 +1.2**
LIC Lamto 67.58 86 *eP* **P 13 27 53.1 -0.8**
comp=Z,12nm,0.7s
LIC Lamto 67.58 86 P **P 13 27 53.1 -0.8**
DBIC Dimbokro 67.71 86 P **P 13 27 54.0 -0.7**
comp=Z,2.6nm,0.5s,baz=274,slow=8.7,SNR=3.9
DBIC Dimbokro 67.71 86 P **P 13 27 51.9 -2.8**
DBIC IAmb IAmb 13 28 09.7
comp=Z,12nm,1.5s
KIC Kosan Boka 67.85 86 *eP* **P 13 27 55.0 -0.6**
comp=Z,7.8nm,0.6s
KIC Kosan Boka 67.85 86 P **P 13 27 55.0 -0.6**
SUMG Summit 68.94 11 P **P 13 28 02.5 +0.7**
SUMG IAmb IAmb 13 28 03.8
comp=Z,9.0nm,0.7s
TORD Torodi Ar. Bea 73.70 78 P **P 13 28 29.5 -1.5**
comp=Z,0.3nm,0.4s,baz=281,slow=6.2,SNR=4.6
TORD Torodi Ar. Bea 73.70 78 P **P 13 28 28.8 -2.2**
WAX Waxell Ridge 74.13 331 P **P 13 28 33.6 +0.9**
NOA NORSAR Array B 81.28 29 P **P 13 29 12.5 +0.2**
comp=Z,0.5nm,0.6s,baz=267,slow=5.3,SNR=2.8
ARCES ARCESS Array B 86.62 20 P **P 13 29 39.1 0.0**
comp=Z,2.5nm,0.9s,baz=269,slow=4.5,SNR=3.7
SONM Songino Array 125.53 0 PKP **PKiKP 13 35 57.2 +0.2**
comp=Z,0.3nm,0.4s,baz=9.6,slow=1.7,SNR=3.1
ASAR Alice Springs 149.16 234 PKP **PKPdf 13 36 40.4 +0.3**
comp=Z,0.6nm,0.5s,baz=118,slow=3.5,SNR=8.3
ASAR PKPbc **PKPbc 13 36 44.0 -0.5**
comp=Z,0.7nm,0.5s,baz=119,slow=3.5,SNR=28
WRA Warramunga Arr 150.38 241 PKPbc **PKPbc 13 36 47.3 -0.2**
comp=Z,0.6nm,0.3s,baz=112,slow=2.0,SNR=14
WRA Warramunga Arr 150.38 241 PKPbc 13 36 47.7 +0.2
CMAR Chiang Mai Arr 153.64 17 PKPbc **PKiKP 13 36 55.6 +0.7**
comp=Z,0.9nm,0.5s,baz=320,slow=3.1,SNR=6.6
CMAR Chiang Mai Arr 153.64 17 PKiKP 13 36 56.1 +1.1

NIED ***21*** *13:19:00,27.°00N×128.°30E,h41km,Mw4.0 Best double couple: M0=1.00000×10^15 NP1:φs=182.00000°,δ=11.00000°, λ=67.00000°. NP2:φs=26.00000°,δ=80.00000°,λ=94.00000°.*
ISCJB ***21*** *13:19:48.6±0.5,27.°02N±0.°05×128.°30E±0.°07,h55km±3km, mb3.6/7,MS3.2/3,Error ellipse: s-maj=12.2km s-min=5.3km az=35.4*
IDC ***21*** *13:19:49.0±3.6,26.°88N×127.°95E,h39km±38km,mb3.5/7, mb1 3.7/8,mb1mx3.4/51,mbtmp3.8/8,ML4.0/1,MS3.1/4, Ms1 3.2/4,ms1mx2.6/44,Error ellipse: s-maj=40.4km s-min=16.1km az=58.0*
JMA ***21*** *13:19:49.5,26.°99N×128.°30E,h46km±1km,M3.9*
JMA Felt II J1.

ISC 21 13:19:49.3±0.8,27.°00N±0.°05×128.°30E±0.°06,h44km±6km, n20,σ1=9°04/27,mb3.7/7,MS2.8/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.14**	**79**	P	**Pn**	**13 19 56.9**	**+0.3**
JYRO				S	**Sn**	**13 20 02.4**	**+0.6**
JOW	**Kunigami**	**0.17**	**186**	P	**Pn**	**13 19 57.1**	**+0.3**
JOW				S	**Sn**	**13 20 02.7**	**+0.6**
JOW	**Kunigami**	**0.17**	**186**	Pn	**Pn**	**13 19 56.7**	**-0.1**
JOW	626nm,0.3s,baz=119,slow=14			Sn	**Sn**	**13 20 02.7**	**+0.6**
	2μm,0.3s,baz=68,slow=19,SNR=223						
JIH	**Iheya**	**0.29**	**277**	P	**Pn**	**13 19 58.3**	**+0.5**
JIH				S	**Sn**	**13 20 04.2**	**+0.3**
JOKE	**Okinoerabujima**	**0.44**	**34**	P	**Pn**	**13 19 59.7**	**+0.2**
JOKE				S	**Sn**	**13 20 06.9**	**+0.2**
JNTH	**Nagotoyohara**	**0.54**	**207**	P	**Pn**	**13 20 00.9**	**+0.2**
JNTH				S	**Sn**	**13 20 09.4**	**+0.6**
JJT3	**Tamagusuku3**	**0.97**	**208**	P	**Pn**	**13 20 07.5**	**+1.0**
JJT3				*eS*	**Sn**	**13 20 21.9**	**+2.9**
JTK	**Tokunoshima**	**0.98**	**36**	P	**Pn**	**13 20 07.0**	**+0.4**
JTK				S	**Sn**	**13 20 20.1**	**+0.8**
JAGN	**Aguni-jima**	**1.03**	**247**	P	**Pn**	**13 20 07.5**	**+0.3**
JAGN				*eS*	**Sn**	**13 20 21.5**	**+1.0**
JNU	**Nakatsue**	**6.50**	**20**	Pn	**Pn**	**13 21 24.3**	**+1.9**
JNU	2.8nm,0.3s,baz=192,slow=4.4,SNR=44			Sn	**Sn**	**13 22 36.8**	**+1.6**
	baz=342,slow=6.4,SNR=1.7						
KSRS	**Korea Array**	**10.43**	**358**	LR	LR	13 26 35.6	
	comp=Z,28nm,19.3s,baz=170,slow=39						
SONM	**Songino Array**	**26.95**	**326**	P	**P**	**13 25 27.8**	**+1.2**
SONM	1.0nm,0.8s,baz=137,slow=9.7,SNR=6.0			LR	LR	13 36 57.5	
	comp=Z,26nm,18.8s,baz=248,slow=38						
CMAR	**Chiang Mai Arr**	**28.32**	**259**	LR	LR	13 37 48.1	
	comp=Z,24nm,19.2s,baz=3.0,slow=39						
MKAR	**Makanchi Array**	**41.07**	**311**	P	**P**	**13 27 27.3**	**-1.2**
	1.0nm,0.7s,baz=99,slow=9.9,SNR=9.5						
KURBB	**Kurchatov Arra**	**44.34**	**316**	P	**P**	**13 27 54.0**	**-0.9**
	0.8nm,0.4s,baz=103,slow=9.1,SNR=6.6						
WRA	**Warramunga Arr**	**47.03**	**172**	P	**P**	**13 28 15.7**	**-0.7**
	0.3nm,0.8s,baz=351,slow=8.2,SNR=2.8						
ASAR	**Alice Springs**	**50.66**	**173**	P	**P**	**13 28 44.2**	**0.0**
	0.3nm,0.7s,baz=359,slow=9.4,SNR=7.1						
FINES	**FINESS Array B**	**72.22**	**330**	P	**P**	**13 31 08.5**	**-1.0**
	1.0nm,0.6s,baz=95,slow=7.0,SNR=4.4						
BRTR	**Keskin Array B**	**76.61**	**308**	P	**P**	**13 31 35.0**	**-0.6**
	1.2nm,0.9s,baz=93,slow=6.3,SNR=5.6						
MMAI	**Mount Meron Ar**	**78.05**	**301**	LR	LR	14 12 07.4	
	comp=Z,88nm,18.8s,baz=310,slow=40						

BJI ***21*** *13:22:25.7±0.0,23.°77N×45.°11W,h16km,mb5.0/1, Ms5.1/3,Ms7 4.9/3*
IDC ***21*** *13:22:26.1±0.4,23.°75N×45.°04W,h0km,mb4.3/33, mb1 4.5/34,mb1mx4.4/53,mbtmp4.3/34,ML3.7/1,MS4.5/31, Ms1 4.5/31,ms1mx4.4/38,Error ellipse: s-maj=13.2km s-min=8.5km az=126.0*
MOS ***21*** *13:22:26.5±1.1,23.°81N×45.°00W,h10km,mb5.0/39,Error ellipse: s-maj=7.8km s-min=7.5km az=167.8*
NEIC ***21*** *13:22:28.0±1.6,23.°7N±0.°1×44.°9W±0.°1,h10km±2km, mb4.9/104*
ISCJB ***21*** *13:22:27.0±0.2,23.°70N±0.°03×44.°94W±0.°03,h15km, mb4.6/63,MS4.5/34,Error ellipse: s-maj=4.8km s-min=3.8km az=177.8*
GCMT ***21*** *13:22:31.0±0.1,23.°73N±0.°01×44.°92W±0.°01,h12km, MW5.2/123,Moment Tensor Solution. s67,c91; s123,c217; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=1.07±.13; Mθθ=1.67±.14; Mφφ=2.74±.13; Mrθ=4.03±.35; Mφφ=6.59±.10; Mφr=0.77±.33; Best double couple: M=8.11100×10^16 NP1:φs=282.00000°,δ=80.00000°, λ=151.00000°. NP2:φs=186.00000°,δ=61.00000°, λ=12.00000°. Principal axes: T 7.8600, Plg12.0000°, Azm51.0000°; N 0.5020, Plg59.0000°, Azm300.0000°; P -8.3620, Plg28.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 13:22:28.9±0.3,23.°68N±0.°06×44.°98W±0.°06,h15km,n452, σ1=9°07/448,mb4.8/98,MS4.5/35,2C-7D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**16.82**	**252**		**Pn**	**13 26 24.9**	**+1.0**
ANWB				IAmb	IAmb	13 26 27.1	
	comp=Z,72nm,0.8s						
BBGH	**Gun Hill**	**17.34**	**235**	P	**P**	**13 26 32.0**	**+0.2**
FDF	**Fort de France**	**17.66**	**243**	P	**P**	**13 26 35.7**	**+0.2**
FDF				pmax	pmax		
	comp=Z,116nm,1.0s						
FDF	**Fort de France**	**17.66**	**243**	P	**P**	**13 26 35.6**	**+0.2**
FDF				IAmb	IAmb	13 26 38.2	
	comp=Z,116nm,1.0s						
SKI	**Saint Kitts**	**17.79**	**253**	P	**P**	**13 26 38.1**	**+1.3**
SKI	**Saint Kitts**	**17.79**	**253**	P	**P**	**13 26 38.1**	**+1.3**
SEUS	**St. Eustatius**	**17.94**	**253**	P	**Pn**	**13 26 36.5**	**-1.4**
SVB	**Belmont**	**18.57**	**239**	P	**P**	**13 26 44.7**	**-0.7**
STVI	**Saint Thomas**	**19.38**	**258**	P	**P**	**13 26 55.1**	**+0.8**
GRGR	**Grenville**	**19.56**	**237**	P	**P**	**13 26 56.6**	**+0.3**
MDP	**Montagnes des**	**19.89**	**203**	P	**Pn**	**13 27 00.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=20,slow=12,SNR=2.3						
MDP				S	**S**	**13 30 44.1**	**+0.6**
	comp=Z,43nm,0.3s,baz=66,slow=8.4,SNR=146						
MDP				LR	LR	13 32 53.1	
	comp=Z,1μm,20.3s,baz=266,slow=32						
MTP	**Monte Pirata**	**20.00**	**258**	P	Pn	13 27 02.5	-0.4
MTP				IAmb	IAmb	13 27 07.5	
	comp=Z,132nm,1.4s						
GCPR	**Guaynabo City**	**20.41**	**259**	P	**P**	**13 27 03.8**	**-1.7**
GCPR				IAmb	IAmb	13 27 12.7	
	comp=Z,59nm,1.3s						
PDPR	**Patillas Dam,**	**20.45**	**258**	P	**P**	**13 27 06.9**	**+1.0**
PDPR				IAmb	IAmb	13 27 14.8	
	comp=Z,72nm,1.2s						
SJG	**San Juan**	**20.53**	**258**	P	**P**	**13 27 06.8**	**0.0**
SJG				pmax	pmax		
	comp=Z,60nm,1.3s						
SJG	**San Juan**	**20.53**	**258**	P	**P**	**13 27 06.0**	**-0.8**
	comp=Z,9.4nm,0.3s,baz=97,slow=8.1,SNR=3.3						
SJG				LR	LR	13 33 03.5	
	comp=Z,1μm,21.9s,baz=70,slow=31						
SJG	**San Juan**	**20.53**	**258**	P	**P**	**13 27 06.8**	**0.0**
SJG				IAmb	IAmb	13 27 13.2	
	comp=Z,60nm,1.2s						
OBIP	**Obispado Ponce**	**20.96**	**259**	P	**P**	**13 27 12.5**	**+0.9**
OBIP				IAmb	IAmb	13 27 18.6	
	comp=Z,92nm,1.2s						
MPR	**Mayaguez**	**21.39**	**259**	P	**P**	**13 27 17.0**	**+0.9**
MPR				IAmb	IAmb	13 27 22.7	
	comp=Z,35nm,0.9s						
PLCV	**Puerto La Cruz**	**23.04**	**238**	P	**P**	**13 27 33.2**	**-0.5**
PCRV	**Puerto La Cruz**	**23.07**	**238**	P	**P**	**13 27 33.2**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=33,slow=13,SNR=2.1						
PCRV				LR	LR	13 35 06.6	
	comp=Z,1μm,19.4s,slow=33						
BANI	**BANI**	**24.25**	**262**	P	**P**	**13 27 44.0**	**-1.6**
L64A	**Middleborough**	**28.19**	**316**	P	**P**	**13 28 21.0**	**+0.2**
	baz=122						
SDV	**Santo Domingo**	**28.61**	**243**	P	**P**	**13 28 24.7**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=44,slow=6.1,SNR=6.1						
SDV				LR	LR	13 38 32.4	
	comp=Z,1μm,21.6s,baz=66,slow=34						
SDV	**Santo Domingo**	**28.61**	**243**	*eP*	**P**	**13 28 27.6**	**+2.6**
SDV	**Santo Domingo**	**28.61**	**243**	*eP*	**P**	**13 28 27.6**	**+2.6**
SDV	**Santo Domingo**	**28.61**	**243**	P	**P**	**13 28 26.2**	**+1.2**
SDV				IAmb	IAmb	13 28 35.0	
	comp=Z,24nm,1.4s						
L63A	**North Scituate**	**28.64**	**316**	P	**P**	**13 28 25.1**	**+0.3**
	baz=121						
F64A	**Sherman**	**29.10**	**325**	P	**P**	**13 28 29.4**	**+0.5**
	baz=132						
I63A	**Otisfield**	**29.21**	**320**	P	**P**	**13 28 29.4**	**-0.5**
	baz=126						
E64A	**Bridgewater**	**29.21**	**327**	P	**P**	**13 28 30.2**	**+0.4**
	baz=133						
K62A	**Royalston**	**29.45**	**317**	P	**P**	**13 28 32.3**	**+0.2**
	baz=121						
D63A	**Stockholm**	**29.77**	**327**	P	**P**	**13 28 35.1**	**+0.2**
	baz=134						
G62A	**West of Eustis**	**29.88**	**322**	P	**P**	**13 28 35.9**	**0.0**
	baz=127						
F62A	**Pittston Farm,**	**29.99**	**324**	P	**P**	**13 28 36.7**	**0.0**
	baz=129						
E62A	**Clayton Lake**	**30.22**	**325**	P	**P**	**13 28 39.0**	**+0.2**
	baz=131						
D62A	**Allapoint, All**	**30.28**	**326**	P	**P**	**13 28 39.0**	**-0.3**
	baz=132						
H61A	**Lyndonville**	**30.28**	**320**	P	**P**	**13 28 39.3**	**-0.1**
	baz=124						
M59A	**Waymart**	**31.01**	**312**	P	**P**	**13 28 46.1**	**+0.3**
	baz=116						
O59A	**Robesonia**	**31.02**	**310**	P	**P**	**13 28 45.6**	**-0.4**
	baz=113						
V59A	**Middlesex**	**31.15**	**300**	P	**P**	**13 28 47.4**	**+0.2**
	baz=104						
SDMD	**Soldier's Deli**	**31.16**	**308**	P	**P**	**13 28 46.9**	**-0.3**
J59A	**Piesco**	**31.29**	**316**	P	**P**	**13 28 48.1**	**-0.2**
H59A	**Cadyville**	**31.39**	**319**	P	**P**	**13 28 50.0**	**+0.8**
	baz=122						
R58B	**Mineral**	**31.46**	**305**	P	**P**	**13 28 50.6**	**+0.8**
	baz=107						
O58A	**Lewisberry**	**31.48**	**309**	P	**P**	**13 28 50.9**	**+0.9**
	baz=112						
Z59A	**Georgetown, SC**	**31.51**	**295**	P	**P**	**13 28 50.9**	**+0.6**
	baz=98						
P58A	**Pank, Wackersv**	**31.52**	**308**	P	**P**	**13 28 50.7**	**+0.4**
	baz=110						
U58A	**Oxford**	**31.54**	**301**	P	**P**	**13 28 51.2**	**+0.6**
	baz=104						
N58A	**Sunbury**	**31.60**	**310**	P	**P**	**13 28 51.5**	**+0.4**
	baz=113						
R58A	**Rapidan**	**31.65**	**305**	P	**P**	**13 28 52.1**	**+0.6**
	baz=108						
W58A	**Raeford**	**31.78**	**299**	P	**P**	**13 28 53.3**	**+0.6**
	baz=101						
V58A	**Windy Hill, Pi**	**31.85**	**300**	P	**P**	**13 28 53.5**	**+0.2**
	baz=103						
G58A	**Ormstown**	**31.88**	**319**	P	**P**	**13 28 53.8**	**+0.4**
	baz=122						
O57A	**Amberson**	**32.02**	**309**	P	**P**	**13 28 55.6**	**+0.9**
	baz=111						
M57A	**Sunshine Farm,**	**32.08**	**311**	P	**P**	**13 28 56.0**	**+0.7**
	baz=113						
N57A	**Milroy**	**32.16**	**310**	P	**P**	**13 28 57.0**	**+1.0**
	baz=112						
U57A	**Blanch**	**32.17**	**301**	P	**P**	**13 28 56.8**	**+0.6**
	baz=104						
Q57A	**Strasburg**	**32.18**	**306**	P	**P**	**13 28 57.1**	**+0.9**
	baz=108						
S57A	**Dark Hollow, R**	**32.21**	**304**	P	**P**	**13 28 57.6**	**+1.1**
	baz=106						
T57A	**Hurt**	**32.24**	**302**	P	**P**	**13 28 57.9**	**+1.1**
	baz=104						
K57A	**Scipio Center**	**32.25**	**314**	P	**P**	**13 28 57.8**	**+1.0**
	baz=116						
H57A	**Richville**	**32.34**	**317**	P	**P**	**13 28 57.8**	**+0.3**
	baz=120						
W57A	**Gilead**	**32.42**	**299**	P	**P**	**13 28 58.4**	**+0.1**
	baz=101						
P56A	**Dayton Farm, R**	**32.65**	**307**	P	**P**	**13 29 00.7**	**+0.4**
	baz=109						
L56A	**Greenwood**	**32.70**	**312**	P	**P**	**13 29 01.1**	**+0.3**
	baz=114						
BIRD	**Birdtown, Kers**	**32.70**	**298**	P	**P**	**13 29 01.8**	**+0.9**
BIRD				IAmb	IAmb	13 29 11.2	
	comp=Z,25nm,1.1s						
N56A	**West Decatur**	**32.74**	**310**	P	**P**	**13 29 01.9**	**+0.7**
	baz=111						
K56A	**Middlesex**	**32.77**	**313**	P	**P**	**13 29 02.0**	**+0.7**
	baz=115						
D57A	**Chemin Vers le**	**32.82**	**322**	P	**P**	**13 29 02.3**	**+0.5**

baz=125
T56A Rocky Mt 32.85 302 P P 13 29 02.7 +0.6
baz=104
M56A Emporium 32.87 311 P P 13 29 03.4 +1.1
baz=112
W56A Indian Trail 32.89 299 P P 13 29 02.8 +0.4
baz=100
V56A Mocksville 32.95 300 P P 13 29 03.7 +0.7
baz=102
X56A White Oak 33.14 297 P P 13 29 05.4 +0.7
baz=99
BLA Blacksburg 33.20 302 P P 13 29 04.8 -0.4
BLA pmax pmax
comp=Z,36nm,1.0s
BLA Blacksburg 33.20 302 P P 13 29 04.8 -0.4
E56A St. Veronique 33.21 321 P P 13 29 05.9 +0.8
baz=123
O55A Ligonier 33.21 308 P P 13 29 06.3 +1.1
baz=109
M55A Ridgway 33.27 310 P P 13 29 06.4 +0.6
baz=112
M55A Ridgway 33.27 310 P P 13 29 06.2 +0.4
JSC Jenkinsville 33.30 297 P P 13 29 06.4 +0.4
JSC pmax pmax
comp=Z,29nm,1.5s
JSC Jenkinsville 33.30 297 P P 13 29 06.4 +0.4
JSC IAmb IAmb 13 29 08.6
comp=Z,29nm,1.5s
L55A Hinsdale 33.32 312 P P 13 29 06.9 +0.7
baz=113
D56A ZEC Mazanza, M 33.33 322 P P 13 29 06.6 +0.4
baz=124
J55A Hilton 33.34 314 P P 13 29 06.3 0.0
Q55A Buckhannon 33.41 306 P P 13 29 07.7 +0.7
baz=107
T55A Pulaski 33.46 302 P P 13 29 07.9 +0.4
baz=103
KMSC Kings Mountain 33.49 298 P P 13 29 08.3 +0.5
baz=100
KMSC Kings Mountain 33.49 298 P P 13 29 08.2 +0.5
KMSC IAmb IAmb 13 29 09.8
comp=Z,17nm,1.0s
X55A Gracelyn & Ava 33.63 297 P P 13 29 08.9 0.0
baz=99
D55A Sainte-Anne-du 33.72 321 P P 13 29 09.5 -0.1
baz=123
ROSC El Rosal 33.92 241 LR LR 13 42 46.3
comp=Z,930nm,21.5s,baz=45,slow=36
O54A Avella 33.98 307 P P 13 29 12.9 +0.9
baz=108
T54A Tazewell 34.06 302 P P 13 29 13.7 +0.9
baz=102
U54A Nelsons Funny 34.14 301 P P 13 29 14.2 +0.7
baz=102
W54A Cherokee Point 34.17 298 P P 13 29 14.5 +0.8
baz=99,SNR=5.7
X54A Belton 34.25 297 P P 13 29 14.8 +0.6
baz=98
Y54A Tignall 34.41 296 P P 13 29 16.2 +0.4
baz=97
E54A Lac Daplat, Po 34.42 319 P P 13 29 16.1 +0.5
baz=120
455A Stateville 34.44 290 P P 13 29 16.7 +0.7
baz=92
G53A Haliburton 34.68 316 P P 13 29 18.4 +0.5
baz=117
ALGO Algonquin Park 34.71 318 P P 13 29 18.6 +0.5
baz=118
U53A Fall Branch 34.71 300 P P 13 29 18.3 -0.1
baz=101
V53A Saluda 34.77 299 P P 13 29 19.3 +0.4
baz=100
T53A Wise 34.80 301 P P 13 29 19.3 +0.2
baz=102
CHGQ Chibougamau 34.81 326 P P 13 29 19.3 +0.3
baz=128
W53A Cullowhee 34.98 298 P P 13 29 21.6 +0.8
baz=98
X53A Estanollee 35.00 297 P P 13 29 21.6 +0.8
baz=98
GOGA Godfrey 35.01 295 P P 13 29 21.6 +0.8
baz=96
O52A Adamsville 35.03 307 P P 13 29 21.8 +0.8
baz=107
Q52A Bidwell 35.04 305 P P 13 29 21.4 +0.3
baz=105
SCHQ Schefferville 35.11 338 LR LR 13 41 40.2
comp=Z,782nm,21.7s,baz=142,slow=33
Y53A Monroe 35.15 296 P P 13 29 22.6 +0.5
baz=96
T52A Hallie 35.17 301 P P 13 29 22.7 +0.4
baz=101
U52A Thorn Hill 35.34 300 P P 13 29 24.5 +0.7
baz=100
V52A Sevierville 35.43 299 P P 13 29 24.9 +0.4
baz=99
353A Camilla 35.49 291 P P 13 29 25.9 +0.9
baz=92
X52A Dahlonega 35.49 297 P P 13 29 25.5 +0.4
baz=97
TZTN Tazewell 35.51 300 P P 13 29 25.6 +0.4
baz=100
TKL Tuckaleechee C 35.55 299 P P 13 29 23.5 -2.0
comp=Z,6.6nm,0.8s,baz=108,slow=10,SNR=5.7
W52A Murphy 35.59 298 P P 13 29 26.2 +0.2
baz=98
LSQQ Lebel-sur-Quev 35.69 323 P P 13 29 26.6 0.0
baz=124
I51A Listowel 35.69 313 P P 13 29 27.0 +0.4
baz=112
Z52A Williamson 35.78 294 P P 13 29 27.8 +0.3
baz=95
F51A Arnstein 35.85 317 P P 13 29 28.6 +0.7
baz=116
Q51A Peebles 35.87 304 P P 13 29 28.6 +0.3
baz=104
Q51A Peebles 35.87 304 P P 13 29 28.9 +0.7
R51A Hillsboro 35.89 303 P P 13 29 29.6 +1.2
baz=102
T51A Gray 35.90 301 P P 13 29 29.1 +0.5
baz=100
ACSO Alum Creek Sta 35.91 307 P P 13 29 28.9 +0.3
baz=106
CLDB Colider 35.93 198 *e*P P **13 29 28.2 -0.7**
CLDB Colider 35.93 198 *e*P P **13 29 28.2 -0.7**
152A Waverly Hall 35.99 293 P P 13 29 29.5 +0.2
baz=94
V51A Loudon 36.03 299 P P 13 29 30.1 +0.4
baz=98
352A Blakely 36.10 291 P P 13 29 31.0 +0.8
baz=92
N50A Nevada 36.18 307 P P 13 29 32.0 +1.1
baz=106
W51A Cleveland 36.27 298 P P 13 29 32.6 +0.8
baz=97
X51A Calhoun 36.28 297 P P 13 29 32.4 +0.6
baz=96
X51A Calhoun 36.28 297 P P 13 29 32.7 +0.9
X51A IAmb IAmb 13 29 34.0
comp=Z,26nm,0.9s
P50A Jamestown 36.35 305 P P 13 29 33.0 +0.7
baz=104,SNR=5.5
S50A Richmond 36.39 302 P P 13 29 33.5 +0.7
baz=101
U50A Jamestown 36.52 300 P P 13 29 34.4 +0.6
baz=99
T50A Nancy 36.62 301 P P 13 29 35.4 +0.7
baz=100,SNR=6.8
V50A Pikeville 36.62 298 P P 13 29 35.4 +0.7
baz=98
W50A Signal Mountai 36.73 298 P P 13 29 36.2 +0.6
baz=97
W50A Signal Mountai 36.73 298 P P 13 29 34.2 -1.5
W50A IAmb IAmb 13 29 46.6
comp=Z,17nm,0.9s
FPAL Fort Paine 36.90 296 P P 13 29 37.7 +0.6
P49A Miami Univ. Ec 37.02 305 P P 13 29 38.7 +0.6
baz=103
Z50A Ashland 37.04 294 P P 13 29 38.9 +0.6
baz=94
Z50A Ashland 37.04 294 P P 13 29 38.0 -0.4
Z50A IAmb IAmb 13 29 49.0
comp=Z,39nm,1.5s
Q49A Aurora 37.04 304 P P 13 29 38.5 +0.3
baz=102
S49A Springfield 37.10 302 P P 13 29 39.3 +0.5
baz=100
T49A Edmonton 37.18 301 P P 13 29 40.1 +0.7
baz=99
T49A Edmonton 37.18 301 P P 13 29 39.4 0.0
T49A IAmb IAmb 13 29 50.5
comp=Z,24nm,1.1s
V49A McMinnville 37.28 298 P P 13 29 40.4 +0.1
baz=97
J48A Bridge Port 37.39 311 P P 13 29 40.8 -0.3
baz=109
L48A N Adams 37.44 309 P P 13 29 41.2 -0.4
baz=106
K48A Perry 37.47 310 P P 13 29 41.6 -0.3
baz=108
W49A Belvidere 37.49 297 P P 13 29 42.6 +0.5
baz=96
E48A Lockeyer 37.50 317 P P 13 29 42.6 +0.6
baz=114
D48A Paudash Townsh 37.57 318 P P 13 29 43.1 +0.5
baz=116
Q48A North Vernon 37.66 304 P P 13 29 43.7 +0.2
baz=102
LRAL Lakeview Retre 37.93 294 P P 13 29 46.5 +0.7
baz=93
WCI Wyandotte Cave 37.97 302 P P 13 29 46.8 +0.7
baz=100
L47A Sherwood 38.00 309 P P 13 29 46.8 +0.5
baz=106
V48A Smith Brothers 38.02 298 P P 13 29 46.9 +0.3
baz=97
ESDC Sonseca Array 38.02 55 P P 13 29 45.4 -1.2
comp=Z,1.0nm,0.7s,baz=278,slow=8.9,SNR=5.6
ESDC LR LR 13 42 19.0
comp=Z,672nm,19.1s,baz=255,slow=31
K47A Vermontville 38.05 310 P P 13 29 47.0 +0.3
baz=107
X48A Hartselle 38.07 296 P P 13 29 47.8 +0.8
baz=95
X48A Hartselle 38.07 296 P P 13 29 48.0 +1.0
X48A IAmb IAmb 13 29 58.3
comp=Z,25nm,1.1s
N47A Urbana 38.07 307 P P 13 29 47.3 +0.4
baz=104
G47A Hillman 38.08 314 P P 13 29 47.6 +0.7
baz=111
E46A Sault Ste Mari 38.81 316 P P 13 29 53.1 0.0
baz=112
WVT Waverly 38.87 299 P P 13 29 53.6 -0.1
baz=96
WVT Waverly 38.87 299 P P 13 29 53.1 -0.6
WVT pmax pmax
comp=Z,22nm,1.0s
WVT Waverly 38.87 299 P P 13 29 53.1 -0.6
WVT IAmb IAmb 13 30 04.5
comp=Z,22nm,1.0s
P46A Rosedale 38.92 304 P P 13 29 55.0 +0.9
baz=101
PLAL Pickwick Lake 38.96 297 P P 13 29 54.4 -0.1
PLAL IAmb IAmb 13 30 05.7
comp=Z,38nm,1.1s
BDFB Brasilia 39.19 185 P P 13 29 56.9 +0.3
comp=Z,2.1nm,0.5s,baz=2.5,slow=2.2,SNR=2.2
BDFB LR LR 13 45 41.7
comp=Z,692nm,18.4s,baz=343,slow=36
ARAG Araguaiana, MT 39.71 190 *e*P P 13 30 06.6 +5.8
ARAG Araguaiana, MT 39.71 190 *e*P P 13 30 06.6 +5.8
OXF Oxford 40.02 296 P P 13 30 03.4 +0.1
baz=93
S44A Carbondale 40.20 301 P P 13 30 05.2 +0.4
baz=97
H43A Windswept, Lux 40.49 311 P P 13 30 07.5 +0.4
baz=106
E43A Lone Tree Farm 40.56 315 P P 13 30 07.9 +0.3
baz=109
PBMO Poplar Bluff 41.02 299 P P 13 30 11.9 +0.3
CCM Cathedral Cave 41.80 301 P P 13 30 18.5 +0.5
baz=96
CCM Cathedral Cave 41.80 301 P P 13 30 17.5 -0.5
CCM pmax pmax
comp=Z,16nm,0.9s
CCM Cathedral Cave 41.80 301 P P 13 30 17.5 -0.5
CCM IAmb IAmb 13 30 28.7
comp=Z,16nm,0.8s
D41A Chassel 41.80 315 P P 13 30 18.4 +0.5
baz=108
JFWS Jewell Farm 41.85 309 P P 13 30 18.6 +0.4
baz=102
JFWS Jewell Farm 41.85 309 P P 13 30 18.7 +0.4
JFWS pmax pmax
comp=Z,14nm,0.7s
JFWS Jewell Farm 41.85 309 P P 13 30 18.7 +0.4
JFWS IAmb IAmb 13 30 19.4
comp=Z,14nm,0.7s
TIC Toumodi 41.93 107 *e*P P **13 30 19.0 -0.3**
DBIC Dimbokro 42.06 107 P P 13 30 20.6 +0.3
DBIC pmax pmax
comp=Z,12nm,1.1s
DBIC Dimbokro 42.06 107 P P 13 30 20.3 0.0
comp=Z,4.9nm,0.6s,baz=291,slow=8.0,SNR=9.2
DBIC Dimbokro 42.06 107 P P 13 30 20.6 +0.3
LIC Lamto 42.12 108 *e*P P **13 30 21.3 +0.5**
comp=Z,14nm,0.8s
KIC Kosan Boka 42.30 107 *e*P P **13 30 22.4 0.0**
comp=Z,9.9nm,0.7s
G40A Rib Lake 42.38 312 P P 13 30 22.7 +0.1
baz=105
L40A Anamosa 42.38 307 P P 13 30 22.8 +0.2
baz=101
W41B Gary Mavity, V 42.38 297 P P 13 30 22.5 -0.3
baz=92,SNR=5.8
W41B Gary Mavity, V 42.38 297 P P 13 30 22.4 -0.3
W41B IAmb IAmb 13 30 32.6
comp=Z,40nm,1.2s
WHAR Wooly Hollow 42.42 297 P P 13 30 22.6 -0.5
WHAR IAmb IAmb 13 30 32.2
comp=Z,26nm,1.0s
SIV San Ignacio 42.45 203 P P 13 30 23.4 0.0
comp=Z,2.8nm,0.7s,baz=19,slow=9.8,SNR=5.4
X40A Basin Creek Fa 42.84 296 P P 13 30 26.4 -0.1
baz=91
U40A Yellville 42.94 298 P P 13 30 26.8 -0.5
baz=93,SNR=9.7
U40A Yellville 42.94 298 P P 13 30 26.7 -0.5
U40A IAmb IAmb 13 30 28.4
comp=Z,13nm,0.7s
H10N2 ASCENSION HYDR 43.22 133 T T 14 16 38.2
baz=316,slow=75,SNR=1150
H10N3 ASCENSION HYDR 43.22 133 T T 14 16 38.2
baz=316,slow=75,SNR=1430
H10N1 ASCENSION HYDR 43.24 133 T T 14 16 39.6
baz=316,slow=75,SNR=954
MIAR Mount Ida 43.46 296 P P 13 30 31.9 +0.4
baz=91
E38A The Farm, Brul 43.64 313 P P 13 30 33.0 +0.2
baz=105
W39A Magazine 43.64 297 P P 13 30 33.2 +0.3
baz=92
EYMN Ely 43.97 315 P P 13 30 35.5 +0.1
baz=107
EKA Eskdalemuir Ar 44.10 33 P P 13 30 33.7 -2.6
comp=Z,1.3nm,0.6s,baz=224,slow=5.9,SNR=2.6
SPMN Marine on St. 44.15 311 P P 13 30 37.0 +0.1
baz=103
AQDB Aquidauana 45.11 194 *e*P P 13 30 50.5 +5.7
AQDB Aquidauana 45.11 194 *e*P P 13 30 50.5 +5.7
TOA0 Torodi Ar. Sit 45.33 95 P P 13 30 46.4 -0.3
TORD Torodi Ar. Bea 45.33 95 P P 13 30 46.0 -0.7
comp=Z,11nm,0.9s,baz=300,slow=8.7,SNR=41
TORD LR LR 13 47 00.6
comp=Z,567nm,21.6s,baz=315,slow=32
TORD Torodi Ar. Bea 45.33 95 P P 13 30 44.6 -2.0
LPAZ La Paz 45.71 212 P P 13 30 51.8 +1.5
LPAZ pmax pmax
comp=Z,6.0nm,0.8s
LPAZ La Paz 45.71 212 P P 13 30 50.6 +0.4
comp=Z,5.1nm,0.8s,baz=24,slow=5.2,SNR=10
LPAZ LR LR 13 48 53.5
comp=Z,1μm,21.3s,baz=27,slow=35
LPAZ La Paz 45.71 212 *e*P P **13 30 50.5 +0.2**
LPAZ La Paz 45.71 212 *e*P P **13 30 50.5 +0.2**
LPAZ La Paz 45.71 212 P P 13 30 51.8 +1.5
KSU1 Kansas State U 46.08 302 P P 13 30 51.8 -0.6
baz=94
ECSD EROS Data Cent 46.56 308 P P 13 30 56.0 -0.1
baz=98
WHTX Lake Whitney, 46.76 292 P P 13 30 57.6 -0.2
baz=86
AGMN Agassiz Nation 46.88 315 P P 13 30 58.5 0.0
baz=103
AGMN Agassiz Nation 46.88 315 P P 13 30 58.5 0.0
AGMN IAmb IAmb 13 31 08.3
comp=Z,12nm,0.9s
ULM Lac du Bonnet 47.36 317 P P 13 31 00.7 -1.5
ULM pmax pmax
comp=Z,18nm,1.0s
ULM Lac du Bonnet 47.36 317 P P 13 31 00.3 -1.8
comp=Z,13nm,0.9s,baz=107,slow=6.3,SNR=11
ULM LR LR 13 49 18.7
comp=Z,680nm,19.0s,baz=112,slow=34
ULM Lac du Bonnet 47.36 317 P P 13 31 00.7 -1.5
WMOK Wichita Mounta 47.75 296 P P 13 31 05.2 -0.3
baz=88,SNR=9.0
WMOK Wichita Mounta 47.75 296 P P 13 31 05.6 +0.1
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK Wichita Mounta 47.75 296 P P 13 31 05.6 +0.1
WMOK IAmb IAmb 13 31 15.9
comp=Z,13nm,1.1s
KEST Kesra 48.15 63 P P 13 31 08.7 0.0
comp=Z,15nm,0.8s,baz=248,slow=2.9,SNR=12
KEST LR LR 13 48 42.1
comp=Z,663nm,21.9s,baz=258,slow=33
KEST Kesra 48.15 63 P P 13 31 07.2 -1.4
ABTX Abilene, Hawle 48.57 293 P P 13 31 12.6 +0.7
baz=86
833A Chaparral WMA, 48.79 288 P P 13 31 13.7 +0.1
baz=82
SUMG Summit 49.06 3 *i* P P **13 31 16.1 +0.6**
SUMG Summit 49.06 3 *i* P P **13 31 16.1 +0.6**
GO01 Chusmiza 49.13 211 P P 13 31 16.2 -0.5
GO01 IAmb IAmb 13 31 26.3
comp=Z,10nm,1.1s
MDND Maddock 49.26 314 P P 13 31 17.2 +0.3
baz=99
PB11 IPOC Station P 49.43 211 P P 13 31 18.5 -0.1
FETA Feichten 49.86 48 *i* pP P **13 31 23.0 +1.3**
comp=Z,9.3nm,1.0s
AMTX Amarillo 50.12 296 P P 13 31 24.2 +0.4
baz=87
AMTX Amarillo 50.12 296 P P 13 31 22.8 -1.1
AMTX IAmb IAmb 13 31 34.9
comp=Z,17nm,0.8s
OGNE Ogallala 50.33 304 P P 13 31 25.7 +0.4
baz=92
ABTA Abfaltersbach 51.04 48 *i* pP P **13 31 31.1 +0.6**
comp=Z,10nm,1.1s
MSTX Muleshoe 51.09 295 P P 13 31 31.4 +0.3
baz=85
CPUP Villa Florida 51.13 194 P P 13 31 32.7 +1.5
comp=Z,1.1nm,0.6s,baz=20,slow=7.9,SNR=3.0
CPUP LR LR 13 51 46.2
comp=Z,319nm,21.2s,baz=14,slow=34
KBA Koelnbreinsper 51.64 48 *i* pP P **13 31 34.6 -0.6**
comp=Z,5.6nm,0.8s
MYKA Terra Mystica 51.80 48 *i* pP P **13 31 36.5 +0.3**
comp=Z,9.5nm,1.3s
RSSD Black Hills 51.94 308 P P 13 31 37.7 +0.2
baz=93
CLL Collm 51.98 42 *e*P P **13 31 39.0 +1.7**
CLL *e*S **S** **13 39 02.0 +2.0**
CLL MLR MLR
comp=Z,800nm,18.7s
CLL Collm 51.98 42 *e*P P **13 31 39.0 +1.7**
CLL *e*S **S** **13 39 02.0 +2.0**
CLL *e*SS **SS** **13 42 42.0 +5.2**
CLL *e*SSS SSS 13 44 18.0
CLL LmH 13 49 00.0
comp=N,300nm,21.0s
CLL LmH 13 49 00.0
comp=E,700nm,20.5s
CLL LmH 13 49 00.0
comp=Z,900nm,20.9s
CLL LmV 13 50 00.0
comp=Z,800nm,18.7s
CLL Lm MLR 16 06 00.0
comp=Z,200nm,18.6s
CLL Lm MLR 18 06 00.0
comp=Z,100nm,19.7s
CLL LmH 19 52 30.0
comp=N,200nm,21.0s
CLL LmH 19 52 30.0
comp=E,300nm,20.1s
KHC Kasperske Hory 52.03 45‖ *e*P P **13 31 38.3 +0.5**
KHC pmax pmax
comp=Z,32nm,2.2s
KHC Kasperske Hory 52.03 45 *e*P P **13 31 37.7 -0.1**
KHC *ex* x 13 31 50.2
FFC Flin Flon 52.05 322 P P 13 31 36.9 -0.9
FFC pmax pmax
comp=Z,40nm,1.5s
FFC Flin Flon 52.05 322 P P 13 31 36.9 -0.9
GERES GERESS Array B 52.08 46 P P 13 31 37.3 -1.0
comp=Z,2.0nm,0.9s,baz=276,slow=3.9,SNR=8.5
GERES LR LR 13 51 18.3
comp=Z,272nm,18.8s,baz=257,slow=33
T25A Trinidad 52.22 299 P P 13 31 40.0 +0.3
baz=87
TXAR Lajitas Array 52.36 290 P P 13 31 39.7 -1.0
comp=Z,1.0nm,0.6s,baz=99,slow=7.8,SNR=8.6
TXAR Lajitas Array 52.36 290 P P 13 31 38.7 -2.0
DGMT Dagmar 52.39 314 P P 13 31 40.2 -0.3
baz=96
BRG Berggiesshubel 52.50 43 *e* P 13 31 35.2 -6.0
comp=Z,3.0nm,0.7s
BRG S **S** **13 39 12.0 +4.8**
Q24A Divide 52.73 302 P P 13 31 43.6 +0.1
baz=88
Q24A Divide 52.73 302 P P 13 31 43.6 +0.1
SOKA Soboth 52.76 49 *i* P P **13 31 39.8 -3.6**
comp=Z,8.0nm,1.6s
ISCO Idaho Springs 53.06 303 P P 13 31 46.8 +0.7
baz=88
ISCO Idaho Springs 53.06 303 P P 13 31 46.7 +0.7
ISCO pmax pmax
comp=Z,5.0nm,1.1s
ISCO Idaho Springs 53.06 303 P P 13 31 46.7 +0.7
N23A Red Feather La 53.29 304 P P 13 31 48.3 +0.7
baz=89
NB2 NORSAR Subarra 53.34 30 P P 13 31 46.9 -0.4
comp=Z,5.6nm,0.8s,baz=250,slow=7.9
NOA NORSAR Array B 53.34 30 P P 13 31 46.8 -0.4
comp=Z,4.0nm,0.7s,baz=251,slow=7.7,SNR=9.7
NOA LR LR 13 50 16.8
comp=Z,690nm,21.8s,baz=255,slow=31
MNTX Cornudas Mount 53.50 293 P P 13 31 48.9 -0.1
baz=82
LAO LASA Array 53.61 311 P P 13 31 49.9 +0.3
baz=93
K22A Casper 53.71 306 P P 13 31 50.1 -0.4
baz=90
ANMO Albuquerque 54.03 297 P P 13 31 53.9 +0.8
baz=84
ANMO Albuquerque 54.03 297‖ *e*P P **13 31 53.9 +0.8**
ANMO pmax pmax
comp=Z,17nm,2.9s
ANMO Albuquerque 54.03 297 P P 13 31 53.3 +0.2
GO02 Mina Guanaco 54.09 208 P P 13 31 53.5 -0.1
GO02 IAmb IAmb 13 32 05.1
comp=Z,21nm,1.2s
SMCO Snowmass 54.14 302 P P 13 31 54.8 +0.8
RWWY Rawlins 54.23 305 P P 13 31 54.2 -0.3
RWWY IAmb IAmb 13 32 05.4
comp=Z,26nm,1.3s
BNM Barren Site 54.26 296 P P 13 31 54.9 +0.2
LENM Lemitar 54.54 296 P P 13 31 57.0 +0.2
DAG Danmarks Havn 54.70 7 *e*P P **13 31 55.1 -1.9**
DAG Danmarks Havn 54.70 7 *i* P P **13 31 55.1 -1.9**
O20A White River Ci 55.07 303 P P 13 32 01.4 +0.9
baz=87
O20A White River Ci 55.07 303 P P 13 32 01.0 +0.5
O20A IAmb IAmb 13 32 11.2
comp=Z,22nm,1.4s
121A Cookes Peak, D 55.41 294 P P 13 32 04.2 +1.1
baz=82
VYHS Vyhne 55.44 46 *e*P P **13 32 03.1 +0.3**
VYHS Vyhne 55.44 46 *e*P P **13 32 03.1 +0.3**
MVCO Mesa Verde 55.47 300 P P 13 32 04.2 +0.7
baz=85
RLMT Red Lodge 55.69 309 P P 13 32 05.4 +0.4
baz=90,SNR=7.4
RLMT Red Lodge 55.69 309 P P 13 32 05.8 +0.9
RLMT IAmb IAmb 13 32 14.9
comp=Z,15nm,1.0s
BW06 Boulder Array 55.95 307 P P 13 32 06.1 -0.8
baz=88,SNR=7.7

BW06	**Boulder Array**	**55.95 307**	P	**P**	**13 32 04.5**	**-2.3**
BW06			IAmb	IAmb	13 32 17.0	
	comp=Z,16nm,1.1s					
PD31	**Pinedale Array**	**55.95 307**	P	**P**	**13 32 06.3**	**-0.6**
PD31			IAmb	IAmb	13 32 17.0	
	comp=Z,14nm,1.1s					
PDAR	**Pinedale Array**	**55.95 307**	P	**P**	**13 32 06.2**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=108,slow=7.4,SNR=48					
PDAR			LR	LR	13 53 48.6	
	comp=Z,454nm,20.8s,baz=94,slow=34					
GCMT	**Greycliff**	**55.98 310**	P	**P**	**13 32 06.7**	**-0.2**
EGMT	**Eagleton**	**56.06 313**	P	**P**	**13 32 07.0**	**-0.4**
	baz=91,SNR=5.4					
EGMT	**Eagleton**	**56.06 313**	P	**P**	**13 32 05.8**	**-1.6**
EGMT			IAmb	IAmb	13 32 19.4	
	comp=Z,18nm,0.9s					
W18A	**Petrified Fore**	**56.69 297**	P	**P**	**13 32 12.5**	**+0.4**
	baz=83					
REDW	**Red Top Meadow**	**56.87 307**	P	**P**	**13 32 12.3**	**-1.1**
SRU	**San Rafael Swe**	**56.90 302**	P	**P**	**13 32 13.5**	**-0.1**
SRU			pmax	pmax		
	comp=Z,13nm,0.7s					
SRU	**San Rafael Swe**	**56.90 302**	P	**P**	**13 32 13.5**	**-0.1**
IMW	**Indian Meadow**	**56.91 308**	P	**P**	**13 32 14.2**	**+0.4**
TPAW	**Teton Pass**	**56.94 308**	P	**P**	**13 32 13.1**	**-0.8**
TPAW			IAmb	IAmb	13 32 24.8	
	comp=Z,27nm,1.5s					
FXWY	**Fox Creek**	**56.99 308**	P	**P**	**13 32 14.0**	**-0.2**
YHL	**Hebgen Lake**	**57.06 309**	P	**P**	**13 32 15.6**	**+0.8**
BOZ	**Bozeman (W)**	**57.35 310**	P	**P**	**13 32 16.3**	**-0.3**
	baz=88,SNR=6.7					
BOZ	**Bozeman (W)**	**57.35 310**	P	**P**	**13 32 16.4**	**-0.3**
BOZ			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BOZ	**Bozeman (W)**	**57.35 310**	P	**P**	**13 32 16.4**	**-0.3**
TMUT	**Trail Mountain**	**57.41 303**	P	**P**	**13 32 16.8**	**-0.5**
Q16A	**Castle Valley**	**57.42 302**	P	**P**	**13 32 18.0**	**+0.7**
JLU	**Jordanelle**	**57.48 304**	P	**P**	**13 32 19.2**	**+1.4**
LRM	**Limekiln Ridge**	**57.92 310**	P	**P**	**13 32 20.2**	**-0.6**
TUC	**Tucson**	**57.96 294**	P	**P**	**13 32 21.7**	**+0.6**
	baz=80					
TUC	**Tucson**	**57.96 294**	P	**P**	**13 32 22.7**	**+1.7**
TUC			pmax	pmax		
	comp=Z,12nm,1.1s					
TUC	**Tucson**	**57.96 294**	P	**P**	**13 32 22.7**	**+1.7**
TUC			IAmb	IAmb	13 32 32.4	
	comp=Z,12nm,1.1s					
WUAZ	**Wupatki**	**57.97 298**	P	**P**	**13 32 22.0**	**+0.9**
	baz=82,SNR=7.6					
WUAZ	**Wupatki**	**57.97 298**	P	**P**	**13 32 21.6**	**+0.4**
WUAZ			IAmb	IAmb	13 32 33.5	
	comp=Z,19nm,1.1s					
NLU	**North Lily Min**	**58.02 303**	P	**P**	**13 32 21.0**	**-0.5**
DLMT	**Dillon**	**58.04 310**	P	**P**	**13 32 21.1**	**-0.4**
DLMT			IAmb	IAmb	13 32 35.6	
	comp=Z,12nm,1.4s					
X16A	**Lo Mia Camp, P**	**58.17 297**	P	**P**	**13 32 22.5**	**-0.2**
MSU	**Marysvale**	**58.24 302**	P	**P**	**13 32 23.4**	**+0.3**
MSU	**Marysvale**	**58.24 302**	P	**P**	**13 32 23.4**	**+0.3**
MCMT	**McKenzie Canyo**	**58.24 309**	P	**P**	**13 32 24.3**	**+1.3**
MTPU	**Mount Pierson**	**58.30 301**	P	**P**	**13 32 23.8**	**+0.1**
DUG	**Dugway, Tooele**	**58.56 304**	P	**P**	**13 32 25.4**	**+0.1**
	baz=84,SNR=10					
DUG	**Dugway, Tooele**	**58.56 304**	P	**P**	**13 32 25.3**	**+0.1**
DUG			pmax	pmax		
	comp=Z,13nm,0.7s					
DUG	**Dugway, Tooele**	**58.56 304**	P	**P**	**13 32 25.4**	**+0.1**
U15A	**North Rim**	**58.58 299**	P	**P**	**13 32 26.2**	**+0.6**
BGU	**Big Grassy Mou**	**58.65 305**	P	**P**	**13 32 26.1**	**+0.2**
LVV	**L'vov**	**58.87 45**	*e*P	P	13 32 21.3	-5.7
KNB	**Kanab**	**58.93 300**	P	**P**	**13 32 27.6**	**-0.3**
KNB			pmax	pmax		
	comp=Z,10.0nm,1.1s					
KNB	**Kanab**	**58.93 300**	P	**P**	**13 32 27.6**	**-0.3**
SZCU	**Shurtz Canyon**	**59.06 301**	P	**P**	**13 32 29.1**	**+0.3**
LCMT	**Little Creek M**	**59.26 300**	P	**P**	**13 32 27.8**	**-2.4**
CCUT	**Cedar City**	**59.28 301**	P	**P**	**13 32 30.4**	**0.0**
Y14A	**Wickenburg**	**59.53 297**	P	**P**	**13 32 31.6**	**-0.3**
Y14A			IAmb	IAmb	13 32 43.5	
	comp=Z,13nm,1.0s					
214A	**Organ Pipe Nat**	**59.71 294**	P	**P**	**13 32 34.1**	**+0.9**
	baz=79,SNR=8.2					
214A	**Organ Pipe Nat**	**59.71 294**	P	**P**	**13 32 34.2**	**+1.0**
YKA	**Yellowknife Ar**	**59.88 330**	P	**P**	**13 32 32.5**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=93,slow=7.7,SNR=6.0					
YKA			LR	LR	13 57 42.5	
	comp=Z,47nm,19.2s,baz=82,slow=35					
YKA	**Yellowknife Ar**	**59.88 330**	P	**P**	**13 32 33.0**	**-0.7**
ELK	**Elko**	**60.34 305**	P	**P**	**13 32 37.4**	**-0.2**
ELK			pmax	pmax		
	comp=Z,8.0nm,1.0s					
ELK	**Elko**	**60.34 305**	P	**P**	**13 32 37.4**	**-0.2**
ELK			IAmb	IAmb	13 32 39.1	
	comp=Z,7.7nm,1.0s					
MLR	**Muntele Rosu**	**60.35 50**	P	**P**	**13 32 38.1**	**+0.6**
MLR			pmax	pmax		
	comp=Z,16nm,1.0s					
MLR	**Muntele Rosu**	**60.35 50**	P	**P**	**13 32 38.1**	**+0.6**
PDMCI	**Parker Dam,Lak**	**60.40 297**	P	**P**	**13 32 38.6**	**+0.8**
	baz=80					
FINES	**FINESS Array B**	**60.45 31**	P	**P**	**13 32 36.8**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=251,slow=5.8,SNR=6.9					
FINES			LR	LR	13 54 15.0	
	comp=Z,940nm,21.8s,baz=224,slow=32					
FINES	**FINESS Array B**	**60.45 31**	P	**P**	**13 32 37.8**	**+0.1**
PLID	**Pearl Lake**	**60.46 310**	P	**P**	**13 32 38.2**	**-0.2**
R11A	**Troy Canyon, C**	**60.92 302**	P	**P**	**13 32 41.6**	**+0.1**
	baz=82,SNR=6.0					
R11A	**Troy Canyon, C**	**60.92 302**	P	**P**	**13 32 41.6**	**+0.1**
NEW	**Newport**	**60.99 313**	P	**P**	**13 32 41.5**	**-0.2**
	baz=86,SNR=10.0					
NEW	**Newport**	**60.99 313**	P	**P**	**13 32 41.5**	**-0.2**
NEW			pmax	pmax		
	comp=Z,24nm,1.2s					
NEW	**Newport**	**60.99 313**	P	**P**	**13 32 41.5**	**-0.2**
ARCES	**ARCESS Array B**	**61.21 22**	P	**P**	**13 32 42.0**	**-0.8**
ARCES	**ARCESS Array B**	**61.21 22**	P	**P**	**13 32 42.0**	**-0.8**
	comp=Z,5.5nm,0.9s,baz=273,slow=6.0,SNR=5.5					
ARCES			LR	LR	13 53 49.8	
	comp=Z,341nm,21.6s,baz=292,slow=31					
F10A	**Beach Ranch, E**	**61.24 311**	P	**P**	**13 32 43.1**	**-0.4**
F10A			IAmb	IAmb	13 32 56.9	
	comp=Z,11nm,1.2s					
IRM	**Iron Mountain**	**61.24 297**	P	**P**	**13 32 44.2**	**+0.5**
	baz=80					
BMO	**Blue Mountains**	**61.40 309**	P	**P**	**13 32 43.3**	**-1.3**
BMO			pmax	pmax		
	comp=Z,12nm,1.5s					
BMO	**Blue Mountains**	**61.40 309**	P	**P**	**13 32 43.3**	**-1.3**
BMO			IAmb	IAmb	13 32 53.3	
	comp=Z,12nm,1.4s					
GMRC	**Granite Mounta**	**61.55 298**	P	**P**	**13 32 46.2**	**+0.4**
	baz=80,SNR=11					
BC3	**Big Chuckawall**	**61.59 297**	P	**P**	**13 32 46.5**	**+0.5**
	baz=79					
TUQ	**Turquoise Moun**	**61.65 299**	P	**P**	**13 32 47.1**	**+0.6**
	baz=80					
TPNV	**Topopah Spring**	**61.65 300**	P	**P**	**13 32 47.5**	**+0.9**
	baz=80,SNR=7.4					
TPNV	**Topopah Spring**	**61.65 300**	P	**P**	**13 32 47.9**	**+1.4**
TPNV			pmax	pmax		
	comp=Z,12nm,1.0s					
TPNV	**Topopah Spring**	**61.65 300**	P	**P**	**13 32 47.9**	**+1.4**
TPNV			IAmb	IAmb	13 32 58.3	
	comp=Z,12nm,1.0s					
BELC	**Belle Mtn. Jos**	**61.97 297**	P	**P**	**13 32 48.7**	**+0.1**
	baz=79					
HEC	**Hector,Ludlow**	**62.09 298**	P	**P**	**13 32 49.6**	**+0.3**
	baz=79					
AKASG	**Malin Array Be**	**62.17 44**	*i* P	**P**	**13 32 49.0**	**-0.5**
AKASG			pmax	pmax		
	comp=Z,5.0nm,0.7s					
AKASG	**Malin Array Be**	**62.17 44**	P	**P**	**13 32 48.5**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=273,slow=5.9,SNR=17					
AKASG			LR	LR	13 56 09.2	
	comp=Z,255nm,21.7s,baz=275,slow=32					
FURC	**Furnace Creek,**	**62.22 300**	P	**P**	**13 32 50.5**	**+0.4**
	baz=80					
IKP	**In-Ko-Pah, Jac**	**62.32 296**	P	**P**	**13 32 51.3**	**+0.4**
	baz=78					
GSC	**Goldstone, Bar**	**62.38 299**	P	**P**	**13 32 51.6**	**+0.2**
	baz=79					
G08A	**Pilot Rock**	**62.52 310**	P	**P**	**13 32 50.9**	**-1.2**
GRAC	**Grapevine Rang**	**62.53 301**	P	**P**	**13 32 52.9**	**+0.6**
	baz=80					
KVN	**Kaiserville**	**62.75 303**	P	**P**	**13 32 53.3**	**-0.6**
KVN			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KVN	**Kaiserville**	**62.75 303**	P	**P**	**13 32 53.2**	**-0.6**
MPMC	**Manual Prospec**	**62.79 300**	P	**P**	**13 32 53.8**	**-0.4**
	baz=79,SNR=7.7					
E07A	**Sunnyside**	**62.99 312**	P	**P**	**13 32 54.2**	**-1.0**
NVAR	**Mina Array Bea**	**63.01 302**	P	**P**	**13 32 54.0**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=82,slow=6.5,SNR=8.5					
NVAR			LR	LR	13 58 03.3	
	comp=Z,698nm,21.1s,baz=84,slow=34					
LRMC	**Laurel Mtn Rad**	**63.05 299**	P	**P**	**13 32 56.2**	**+0.3**
	baz=79					
F07A	**Phinny Hill Vi**	**63.12 311**	P	**P**	**13 32 55.3**	**-0.7**
F07A			IAmb	IAmb	13 33 06.7	
	comp=Z,6.6nm,0.7s					
CWC	**Cottonwood Cre**	**63.19 300**	P	**P**	**13 32 57.3**	**+0.5**
	baz=79					
BFSC	**Mount Baldy Ra**	**63.27 298**	P	**P**	**13 32 57.5**	**+0.2**
	baz=78					
EDW2	**Edwards Air Fo**	**63.42 298**	P	**P**	**13 32 58.7**	**+0.5**
	baz=78					
PAHR	**Pah Rah Range**	**63.63 304**	P	**P**	**13 32 58.9**	**-0.8**
ISA	**Isabella, Lake**	**63.65 299**	P	**P**	**13 33 00.9**	**+1.1**
	baz=79,SNR=11					
ISA	**Isabella, Lake**	**63.65 299**	P	**P**	**13 33 00.2**	**+0.5**
ISA			pmax	pmax		
	comp=Z,22nm,1.0s					
ISA	**Isabella, Lake**	**63.65 299**	P	**P**	**13 33 00.2**	**+0.5**
OMMB	**Old Mammoth Mi**	**63.70 302**	P	**P**	**13 33 00.5**	**+0.1**
OMMB			IAmb	IAmb	13 33 12.0	
	comp=Z,9.5nm,1.1s					
MDPB	**Devils Postpil**	**63.76 302**	P	**P**	**13 33 01.9**	**+1.2**
MDPB			IAmb	IAmb	13 33 13.9	
	comp=Z,12nm,1.1s					
MOD	**Modoc Plateau**	**63.95 307**	P	**P**	**13 33 01.4**	**-0.4**
VES	**Vestal, Richgr**	**64.10 300**	P	**P**	**13 33 03.3**	**+0.7**
	baz=78					
G05D	**Wamic, OR**	**64.18 310**	P	**P**	**13 33 03.5**	**+0.5**
	baz=82					
I05D	**Terrebonne, OR**	**64.33 309**	P	**P**	**13 33 04.9**	**+0.8**
	baz=81,SNR=5.8					
J05D	**Fort Rock, OR**	**64.41 308**	P	**P**	**13 33 05.2**	**+0.4**
	baz=81,SNR=7.6					
PKM	**Mcpherson Peak**	**64.88 299**	P	**P**	**13 33 07.6**	**-0.3**
	baz=78					
M04C	**Macdoel**	**65.11 307**	P	**P**	**13 33 09.4**	**+0.2**
	baz=80					
L04D	**Klamath Falls**	**65.37 307**	P	**P**	**13 33 11.1**	**+0.1**
	baz=80					
G03D	**McMinnville, O**	**65.54 311**	P	**P**	**13 33 11.5**	**-0.3**
	baz=80					
N02D	**Trinity Center**	**65.89 306**	P	**P**	**13 33 14.1**	**-0.2**
	baz=79					
OBN	**Obninsk**	**66.15 38**	‖ *e*P	**P**	**13 33 16.0**	**+0.5**
OBN			*e*		13 33 46.3	
OBN			*e*		13 35 41.4	
OBN			*e*S	**S**	**13 42 09.7**	**+6.1**
OBN			*e*SS	**SS**	**13 46 23.4**	**+4.5**
OBN			pmax	pmax		
	comp=Z,12nm,0.8s					
L02E	**Cave Junction**	**66.33 307**	P	**P**	**13 33 16.9**	**-0.1**
	baz=79					
BRTR	**Keskin Array B**	**66.81 55**	P	**P**	**13 33 20.4**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=261,slow=6.4,SNR=11					
BRTR			LR	LR	14 02 17.6	
	comp=Z,151nm,18.3s,baz=271,slow=36					
KLMR	**Klimovskoe**	**66.97 32**	*e*P	**P**	**13 33 19.2**	**-1.4**
KLMR			pmax	pmax		
	comp=Z,19nm,1.4s					
KLMR	**Klimovskoe**	**66.97 32**	*e*P	**P**	**13 33 19.3**	**-1.4**
KLMR			AMP		13 33 29.8	
	comp=Z,19nm,1.4s					
KLMR			LQ	LQ	13 54 53.7	
KLMR			LQ	LQ	13 54 53.7	
KLMR			LR	LR	13 56 41.8	
INK	**Inuvik**	**67.71 336**	LR	LR	14 01 00.2	
	comp=Z,431nm,21.1s,baz=108,slow=34					
LPSR	**Galich'ya Gora**	**67.92 41**	*e*P	**P**	**13 33 26.4**	**-0.5**
LPSR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VSR	**Storozhevoye**	**68.33 42**	*e*P	**P**	**13 33 28.5**	**-0.9**
VSR			pmax	pmax		
	comp=Z,10.0nm,1.2s					
PLCA	**Paso Flores**	**68.35 201**	P	**P**	**13 33 28.6**	**-1.1**
PLCA			pmax	pmax		
	comp=Z,6.0nm,1.2s					
PLCA	**Paso Flores**	**68.35 201**	P	**P**	**13 33 30.4**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=64,slow=8.7,SNR=4.9					
PLCA			LR	LR	14 04 38.0	
	comp=Z,256nm,20.0s,baz=48,slow=37					
PLCA	**Paso Flores**	**68.35 201**	P	**P**	**13 33 28.6**	**-1.1**
ANN	**Anapa**	**68.49 49**	*e*P	P	13 33 23.9	-6.7
ANN			*e*PP	pP	13 33 26.8	-7.2
ANN			*e*S	S	13 42 20.5	-12
ANN			pmax	pmax		
	comp=Z,50nm,1.4s					
ANN			MLR	MLR		
	comp=N,182nm,18.0s					
ANN			MLR	MLR		
	comp=E,131nm,18.0s					
ANN			MLR	MLR		
	comp=Z,290nm,18.0s					
EPYK	**Eagle Plains**	**69.25 334**	P	**P**	**13 33 34.4**	**-0.6**
	baz=78					
VRH	**Novokhopyorsk**	**69.90 42**	*e*P	**P**	**13 33 37.4**	**-1.8**
VRH			pmax	pmax		
	comp=Z,9.0nm,0.8s					
KIV	**Kislovodsk**	**72.35 49**	*e*P	**P**	**13 33 53.2**	**-1.1**
KIV			*e*S	**S**	**13 43 17.0**	**-0.4**
KIV			pmax	pmax		
	comp=Z,24nm,1.1s					
KIV			MLR	MLR		
	comp=Z,506nm,18.0s					
KBZ	**Khabaz**	**72.56 49**	P	**P**	**13 33 55.7**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=26,slow=4.9,SNR=5.6					
TOLK	**Toolik Lake Re**	**73.33 338**	P	**P**	**13 33 59.1**	**-0.6**
	baz=68					
IL31		**73.76 334**	P	**P**	**13 34 01.1**	**-1.0**
ILAR	**Eielson Array**	**73.76 334**	P	**P**	**13 34 02.0**	**-0.2**
ILAR	**Eielson Array**	**73.76 334**	P	**P**	**13 34 01.9**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=74,slow=4.9,SNR=21					
ILAR			LR	LR	14 06 45.0	
	comp=Z,904nm,18.2s,baz=76,slow=36					
COLA	**College**	**74.10 334**	‖ *e*P	**P**	**13 34 05.2**	**+1.1**
COLA			pmax	pmax		
	comp=Z,19nm,1.9s					
GNI	**Garni**	**74.94 53**	‖ *e*P	**P**	**13 34 11.6**	**+1.9**
GNI			pmax	pmax		
	comp=Z,27nm,0.8s					
ARU	**Arti**	**77.71 34**	P	**P**	**13 34 27.7**	**+2.8**
ARU			S	**S**	**13 44 20.0**	**+3.5**
ARU			SS	**SS**	**13 49 11.4**	**-4.3**
ARU	**Arti**	**77.71 34**	LR	LR	14 06 01.7	
	comp=Z,501nm,19.5s,baz=271,slow=34					
AKTO	**Aktyubinsk**	**79.91 39**	P	**P**	**13 34 37.1**	**0.0**
	comp=Z,3.5nm,0.9s,baz=276,slow=4.6,SNR=6.2					
KMBO	**Kilima Mbogo**	**83.33 94**	P	**P**	**13 34 57.3**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=280,slow=2.2,SNR=4.0					
KMBO			LR	LR	14 11 40.4	
	comp=Z,303nm,19.5s,baz=276,slow=35					
TIXI	**Tiksi**	**84.83 2**	‖ *e*P	**P**	**13 35 04.8**	**+2.4**
BOSA	**Boshof**	**85.28 124**	LR	LR	14 04 55.8	
	comp=Z,125nm,19.4s,baz=334,slow=30					
BRVK	**Borovoye**	**85.28 33**	‖ *e*P	**P**	**13 35 06.3**	**+1.2**
BRVK			pmax	pmax		
	comp=Z,9.0nm,3.0s					
BVAR	**Borovoye Array**	**85.35 33**	P	**P**	**13 35 05.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=298,slow=3.2,SNR=6.6					
GEYT	**Alibeck**	**85.40 51**	LR	LR	14 16 27.0	
	comp=Z,88nm,18.1s,baz=345,slow=38					
KURK	**Kurchatov**	**90.82 32**	‖ *e*P	**P**	**13 35 32.1**	**+0.5**
KURK			pmax	pmax		
	comp=Z,15nm,2.9s					
KURBB	**Kurchatov Arra**	**90.83 32**	P	**P**	**13 35 30.9**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=310,slow=4.9,SNR=14					
ZALV	**Zalesovo Beam**	**91.42 27**	P	**P**	**13 35 35.0**	**+0.7**
ZALV	**Zalesovo Beam**	**91.42 27**	P	**P**	**13 35 35.0**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=292,slow=3.9,SNR=3.0					
ZALV			LR	LR	14 14 45.9	
	comp=Z,235nm,20.5s,baz=317,slow=34					
MKAR	**Makanchi Array**	**95.24 33**	P	**P**	**13 35 50.5**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=290,slow=3.9,SNR=4.2					
MKAR			LR	LR	14 16 38.1	
	comp=Z,359nm,20.0s,baz=311,slow=34					
KSH	**Kashi**	**96.41 42**	P	**P**	**13 35 56.8**	**-1.0**
KSH			PP	**PP**	**13 39 51.3**	**+0.4**
KSH			S	**S**	**13 47 10.1**	**-7.8**
KSH			SS	**SS**	**13 53 45.8**	**-4.0**
KSH			LR	LR		
	comp=Z,170nm,11.2s					
KSH			LR	LR		
	comp=Z,160nm,9.4s					
TLY	**Talaya**	**100.07 19**	‖ *e*P	**Pdif**	**13 36 13.5**	**-0.3**
TLY			pmax	pmax		
	comp=Z,4.0nm,1.0s					
HHC	**Hu-ho-hao-te**	**112.20 19**	*e*PKP	**PKiKP**	**13 41 02.4**	**-1.9**
CD2	**Chengdu**	**118.00 30**	PKP	**PKPdf**	**13 41 14.1**	**-1.5**
KMI	**Kunming**	**122.28 35**	PKP	**PKiKP**	**13 41 26.3**	**+1.9**
KMI			pPKP	sPKPdf	13 41 34.5	+5.2
KMI			LR	LR		
	comp=N,220nm,23.0s					
KMI			LR	LR		
	comp=E,190nm,24.9s					
KMI			LR	LR		
	comp=Z,280nm,25.5s					
NJ2	**Nanjing**	**122.47 16**	*e*PKP	**PKPdf**	**13 41 24.1**	**0.0**

UPP 21 13:58:56.1±0.1, 55°.71N×13°.38E, h0km, ML2.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LUNU	**Lund**	**0.09**	**153**	P	Pg		13 58 58.0	+0.3
LUNU				S	Sg		13 58 59.6	+0.9
BJUU	**Bjuv**	**0.42**	**332**	P	Pg		13 59 04.2	+0.1
BJUU				S	Sg		13 59 09.9	+0.4
BSD	**Bornholm Skovb**	**1.06**	**124**	*i* P	Pg		13 59 16.2	-0.2
BSD				*i* S	Sb		13 59 32.1	+0.5
VXJU	**Vaexsjoe**	**1.50**	**35**	P	Pn		13 59 23.8	-0.4

*ISCJB **21** 13:59:25.9±0.3, 36°.82N±0°.02×27°.45E±0°.02, h9km±2km, Error ellipse: s-maj=3.1km s-min=2.7km az=135.2*
*ISK **21** 13:59:25.2, 36°.81N×27°.43E, h13km, ML3.0/18*
*ATH **21** 13:59:25.7, 36°.82N×27°.41E, h28km±1km, ML2.8/5, Error ellipse: s-maj=1.6km s-min=1.0km az=215.0*
*DDA **21** 13:59:25.7, 36°.81N×27°.44E, h7km±1km, ML3.0*
*THE **21** 13:59:25.6, 36°.82N×27°.45E, h0km, ML2.7/6, Error ellipse: s-maj=0.9km s-min=0.6km az=92.0*

ISC 21 13:59:25.6±0.8, 36°.82N±0°.02×27°.46E±0°.02, h14km±5km, n48, σ1°51/76, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAT	**Datca**	**0.13**	**133**	*i* P	**Pg**		**13 59 29.2**	**0.0**
DAT				*i* S	**Sg**		**13 59 31.6**	**-0.2**
DAT	**Datca**	**0.13**	**133**	PG	**Pg**		**13 59 29.1**	**-0.2**
DAT				SG	**Sg**		**13 59 31.3**	**-0.4**
BDRM	**Kayabasi**	**0.24**	**358**	*i* P	**Pg**		**13 59 30.9**	**0.0**
BDRM				*i* S	**Sg**		**13 59 35.1**	**+0.6**
BODT	**Bodrum**	**0.27**	**334**	P	**Pg**		**13 59 31.4**	**+0.1**
BODT				S	**Sg**		**13 59 35.9**	**+0.7**
BODT	**Bodrum**	**0.27**	**334**	PG	**Pg**		**13 59 31.4**	**+0.1**
BODT				SG	**Sg**		**13 59 35.8**	**+0.6**
YKAV	**Yalikavak-Bodr**	**0.33**	**335**	PG	**Pg**		**13 59 32.4**	**-0.1**
YKAV				SG	**Sb**		**13 59 37.9**	**-0.7**
NISR	**Nisiros**	**0.34**	**232**	P	**Pb**		**13 59 33.0**	**-0.4**
NISR				S	**Sb**		**13 59 38.5**	**-0.1**
	3μm,0.3s							
NISR	**Nisiros**	**0.34**	**232**	P	**Pb**		**13 59 33.0**	**-0.4**
NISR				S	**Sb**		**13 59 38.6**	**-0.1**
NISR				AML	AML		13 59 39.2	
	comp=E,9446μm,0.2s							
NISR				AML	AML		13 59 42.4	
	comp=N,3253μm,0.5s							
KOSK	**Kos Island**	**0.39**	**260**	P	**Pb**		**13 59 33.8**	**-0.5**
KOSK				S	**Sb**		**13 59 40.5**	**+0.4**
MLSB	**Milas**	**0.54**	**28**	PG	**Pg**		**13 59 36.1**	**-0.1**
DIDI	**Didim-Aydin**	**0.58**	**343**	PG	**Pg**		**13 59 37.1**	**+0.1**
MRSB	**Marmaris-Mugla**	**0.60**	**100**	PG	**Pg**		**13 59 37.6**	**+0.1**
MRSB				SG	**Sb**		**13 59 46.9**	**+0.5**
YER	**Yerkesik**	**0.73**	**64**	P	**Pg**		**13 59 40.0**	**+0.1**
YER				S	**Sn**		**13 59 52.2**	**-0.5**
YER	**Yerkesik**	**0.73**	**64**	PG	**Pg**		**13 59 40.2**	**+0.3**
ARG	**Arkhangelos**	**0.81**	**138**	P	**Pb**		**13 59 41.7**	**+0.2**
ARG				S	**Sn**		**13 59 54.9**	**+0.5**
	comp=N,720nm,0.3s							
ARG	**Arkhangelos**	**0.81**	**138**	P	**Pb**		**13 59 41.7**	**+0.2**
ARG				S	**Sn**		**13 59 53.8**	**-0.6**
ARG				AML	AML		13 59 56.7	
	comp=E,1666μm,0.4s							
ARG				AML	AML		13 59 58.4	
	comp=N,1228μm,0.3s							
ARG	**Arkhangelos**	**0.81**	**138**	PG	**Pg**		**13 59 41.4**	**+0.1**
ARG				SG	**Sb**		**13 59 53.1**	**+0.8**
GCAM	**G?zelcaml?**	**0.90**	**349**	*i* P	**Pb**		**13 59 43.2**	**+0.3**
GCAM				*i* S	**Sn**		**13 59 56.1**	**-0.5**
GCAM				IAML			14 00 01.0	
	comp=E,312nm,0.4s							
GCAM	**G?zelcaml?**	**0.90**	**349**	PG	**Pb**		**13 59 43.5**	**+0.6**
AYDN	**Tasoluk**	**0.90**	**22**	*i* P	**Pg**		**13 59 42.8**	**-0.4**
AYDN				*i* S	**Sg**		**13 59 55.2**	**+0.2**
AYDN				IAML			14 00 01.0	
	comp=N,570nm,0.5s							
TURN	**Turunc**	**0.92**	**86**	*i* P	Pg		13 59 37.6	-5.8
TURN				*i* S	**Sg**		**13 59 47.9**	**-7.7**
TURN	**Turunc**	**0.92**	**86**	PG	Pg		13 59 37.9	-5.5
TURN				SG	**Sg**		**13 59 48.1**	**-7.4**
SMG	**Samos**	**1.01**	**331**	P	**Pb**		**13 59 44.8**	**-0.2**
SMG				S	**Sn**		**14 00 00.8**	**+1.2**
	comp=N,758nm,0.3s							
SMG	**Samos**	**1.01**	**331**	P	**Pb**		**13 59 44.9**	**0.0**
SMG				S	**Sn**		**13 59 59.2**	**-0.3**
SMG				AML	AML		14 00 03.3	
	comp=E,2007μm,0.3s							
SMG				AML	AML		14 00 04.1	
	comp=N,1029μm,0.2s							
AYDB	**Zeytinkoy-Ayd

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.31**	**289**	P	Pn	14 07 10.1	+1.4
OFUJ				S	Sn	14 07 37.8	+2.0
JIKH	**Ishinomakikobu**	**2.36**	**270**	P	Pn	14 07 10.7	+1.2
JIKH				*e*S	Sn	14 07 38.7	+1.5
JKMT	**Kesennumamotoy**	**2.39**	**282**	P	Pn	14 07 11.4	+1.6
JKMT				S	Sn	14 07 39.2	+1.3
MIYJ	**Miyakonagasawa**	**2.40**	**301**	P	Pn	14 07 11.1	+1.2
MIYJ				S	Sn	14 07 39.1	+1.0
JMK	**Ichinoseki**	**2.61**	**284**	P	Pn	14 07 15.1	+2.2
JMK				*e*S	Sn	14 07 45.7	+2.4
JOM	**Ohasama**	**2.72**	**295**	P	Pn	14 07 16.1	+1.8
JOM				*e*S	Sn	14 07 48.1	+2.2
JANG	**Nango**	**3.05**	**312**	*e*S	Sn	14 07 56.9	+2.8
JYK	**Kaneyama**	**3.27**	**281**	*e*S	Sn	14 08 02.8	+3.3
JFT	**Otama**	**3.37**	**257**	P	Pn	14 07 25.8	+2.4
JFT				S	Sn	14 08 04.8	+2.6
JCH	**Churui**	**4.33**	**349**	P	Pn	14 07 36.5	0.0
JCH				*e*S	Sn	14 08 24.5	-1.2
JKB	**Kayabe**	**4.40**	**324**	P	Pn	14 07 39.9	+2.5
JRY	**Ryogami san**	**5.02**	**244**	P	Pn	14 07 47.4	+1.4
JRY				*e*S	Sn	14 08 42.3	-0.5
NEM2	**Nemuro 2**	**5.09**	**11**	P	Pn	14 07 43.8	-3.1
NEM2				*e*S	Sn	14 08 38.7	-5.7
JOD2	**Odawara 2**	**5.31**	**236**	P	Pn	14 07 51.7	+1.7
JOD2				*e*S	Sn	14 08 48.5	-1.4
JTKR	**Abashiri--Toko**	**5.62**	**356**	P	Pn	14 07 53.2	-1.0
JTKR				*e*S	Sn	14 08 52.9	-4.5

IDC 21 14:35:16.3±2.2, 6°.73S×129°.66E, h0^{km}, mb3.6/1, mb1 3.5/3, mb1mx3.3/35, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=144.6km s-min=31.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.90**	**161**	Pn	Pn	14 38 35.7	+1.0
	0.2nm,0.3s,baz=344,slow=12,SNR=6.6						
WRA				Sn	Sn	14 40 56.4	-14
	0.5nm,0.3s,baz=332,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**17.33**	**167**	P	Pn	14 39 19.2	-0.6
	0.1nm,0.3s,baz=348,slow=14,SNR=15						
ASAR				S	Sn	14 42 17.1	-16
	0.1nm,0.3s,baz=346,slow=25,SNR=3.4						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	14 46 16.3	0.0
	0.3nm,0.4s,baz=118,slow=8.1,SNR=8.4						

ISC 21 14:39:43.9±2.5, 49°.8N±0°.2×17°.33E±0°.07, h13^{km}±14^{km}, n6, σ0°67/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.14**	**94**	*e*PG	**Pg**	**14 39 47.0**	**-0.4**
VRAC	**Vranov**	**0.68**	**225**	*e*PG	**Pg**	**14 39 57.1**	**+0.1**
KRUC	**Moravsky**	**0.95**	**220**	*e*PG	**Pg**	**14 40 01.8**	**-0.3**
JAVC	**Velka Javorina**	**0.95**	**166**	*e*PG	**Pn**	**14 40 03.2**	**+0.1**
LANS	**Liptovska Anna**	**1.53**	**114**	*e*PG	**Pb**	**14 40 12.5**	**+0.3**
LANS				*e*SG	**Sg**	**14 40 34.1**	**+0.9**
LANS				*e*LG	Lg	14 40 36.7	
VYHS	**Vyhne**	**1.63**	**142**	*e*PG	**Pn**	**14 40 12.1**	**-0.2**
VYHS				*e*SG	**Sb**	**14 40 33.5**	**-0.8**

*SKHL **21** 15:08:42.7±0.4, 44°.96N×150°.84E, h49^{km}±8^{km}, mb4.2/3*
*IDC **21** 15:08:44.5±4.6, 46°.04N×149°.93E, h133^{km}±64^{km}, mb2.7/1, mb1 3.1/4, mb1mx2.8/33, mbtmp3.6/4, Error ellipse: s-maj=112.6km s-min=26.0km az=145.0*
*JMA **21** 15:08:47.0±0.5, 45°.21N×149°.91E, h187^{km}, M3.5*
ISC 21 15:08:48.4±2.2, 45°.4N±0°.2×149°.8E±0°.2, h150^{km}, n21, σ1°44/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.41**	**262**	*e*P	**Pn**	**15 09 15.0**	**-1.9**
KUR				AMB	AMB	15 09 15.8	
	22nm,0.4s						
KUR				*e*S	**Sn**	**15 09 39.5**	**+0.8**
KUR				A	A	15 09 45.0	
	170nm,0.4s						
KUR				A	A	15 09 45.0	
	260nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.16**	**245**	*e*P	**Pn**	**15 09 37.6**	**-0.1**
YUK				AMB	AMB	15 09 40.0	
	35nm,0.4s						
YUK				*e*S	**Sn**	**15 10 18.7**	**+2.8**
YUK				A	A	15 10 23.0	
	146nm,0.4s						
YUK				A	A	15 10 23.0	
	99nm,0.4s						
GRPR	**Tuman**	**3.24**	**245**	*e*P	**Pn**	**15 09 38.8**	**+0.1**
GRPR				AMB	AMB	15 09 40.0	
	40nm,0.3s						
GRPR				*e*S	**Sn**	**15 10 21.0**	**+3.3**
GRPR				A	A	15 10 24.0	
	111nm,0.3s						
GRPR				A	A	15 10 24.0	
	45nm,0.3s						
GLVR	**Golovnino**	**3.52**	**243**	*e*P	**Pn**	**15 09 42.0**	**-0.4**
GLVR				*e*S	**Sn**	**15 10 26.7**	**+2.5**
GLVR				A	A	15 10 32.0	
	337nm,0.7s						
GLVR				A	A	15 10 32.0	
	193nm,0.7s						
NEM2	**Nemuro 2**	**3.59**	**236**	P	**Pn**	**15 09 42.5**	**-0.8**
NEM2				*e*S	**Sn**	**15 10 25.5**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.60**	**236**	*e*P	**Pn**	**15 09 42.0**	**-1.4**
NMR				*e*S	**Sn**	**15 10 26.0**	**0.0**
JRA	**Rausu**	**3.68**	**248**	P	**Pn**	**15 09 44.8**	**+0.4**
JNK	**Nakash**	**4.11**	**245**	P	**Pn**	**15 09 50.1**	**+0.2**
JAK	**Akkeshi**	**4.43**	**238**	P	**Pn**	**15 09 53.2**	**-1.0**
JAK				*e*S	**Sn**	**15 10 44.9**	**-0.5**
JTKR	**Abashiri--Toko**	**4.48**	**253**	P	**Pn**	**15 09 54.2**	**-0.6**
JAR	**Ashorobuto**	**4.85**	**246**	P	**Pn**	**15 09 59.8**	**+0.1**
JOB	**Onbets**	**5.01**	**242**	P	**Pn**	**15 10 01.4**	**-0.4**
JOB				*e*S	**Sn**	**15 10 59.1**	**0.0**
JKK2	**Kamakawa 2**	**5.30**	**255**	P	**Pn**	**15 10 05.1**	**-0.6**
ASAJ	**Asahikawa**	**5.32**	**258**	P	**Pn**	**15 10 04.7**	**-1.3**
	0.8nm,0.3s,baz=73,slow=14,SNR=8.3						
JCH	**Churui**	**5.46**	**241**	P	**Pn**	**15 10 06.7**	**-1.1**
JCH				*e*S	**Sn**	**15 11 07.5**	**-2.3**
JBT2	**Biratori 2**	**6.00**	**246**	P	**Pn**	**15 10 14.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**6.02**	**241**	P	**Pn**	**15 10 13.2**	**-2.0**
JKB	**Kayabe**	**7.30**	**244**	P	**Pn**	**15 10 30.3**	**-2.1**
PETK	**Petropavlovsk-**	**9.23**	**31**	P	Pn	15 10 47.1	-11
	0.4nm,0.3s,baz=218,slow=14,SNR=11						
KSRS	**Korea Array**	**18.23**	**252**	P	**Pn**	**15 12 50.5**	**-1.1**
	0.1nm,0.3s,baz=54,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**70.29**	**196**	P	**P**	**15 19 46.9**	**+1.6**
	0.1nm,0.7s,baz=10,slow=7.9,SNR=3.2						

*ISCJB **21** 15:10:01.7±0.8, 31°.74S±0°.04×70°.05W±0°.04, h125^{km}±7^{km}, Error ellipse: s-maj=5.9km s-min=5.2km az=157.3*
*SJA **21** 15:10:01.8±0.9, 31°.70S×69°.99W, h125^{km}±6^{km}, ML2.6, MW2.7*
*GUC **21** 15:10:02.0±0.8, 31°.80S×70°.31W, h125^{km}±13^{km}, ML2.9*
ISC 21 15:10:01.1±1.8, 31°.74S±0°.04×70°.07W±0°.04, h134^{km}±13^{km}, n19, σ1°08/38, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.66**	**96**	*i* P	**Pn**	**15 10 21.6**	**-0.2**
RTLS				IAML		15 10 22.4	
	comp=Z,115nm,0.2s						
RTLS				*i* S	**Sn**	**15 10 36.8**	**-0.9**
CO02	**Combarbal**	**0.96**	**303**	⇑*i*P	**Pn**	**15 10 24.3**	**+0.2**
CO02				*e*S	**Sn**	**15 10 40.4**	**-1.1**
CO02				IAML		15 10 42.0	
	comp=N,866nm,0.1s						
ZON	**Zonda**	**1.20**	**81**	*i* P	**Pn**	**15 10 26.6**	**+0.3**
ZON				IAML		15 10 27.7	
	comp=Z,34nm,0.2s						
ZON				*i* S	**Sn**	**15 10 44.7**	**-0.7**
RTCV	**Cerro Valdivia**	**1.31**	**96**	*i* P	**Pn**	**15 10 27.8**	**+0.4**
RTCV				*i* S	**Sn**	**15 10 46.5**	**-0.9**
ASAL	**Salagasta**	**1.35**	**130**	*i* P	**Pn**	**15 10 28.7**	**+0.8**
ASAL				*i* S	**Sn**	**15 10 49.8**	**+1.5**
RTLL	**Cerro Villicun**	**1.42**	**74**	*i* P	**Pn**	**15 10 28.8**	**+0.3**
RTLL				*i* S	**Sn**	**15 10 48.5**	**-1.0**
RTLL				IAML		15 10 49.2	
	comp=Z,105nm,0.4s						
ACCO	**Cerro Coronel**	**1.43**	**37**	*i* P	**Pn**	**15 10 30.1**	**+1.1**
ACCO				*i* S	**Sn**	**15 10 50.8**	**+0.6**
ARCO	**CERRO ARCO**	**1.46**	**139**	*i* P	**Pn**	**15 10 30.7**	**+1.5**
ARCO				*i* S	**Sn**	**15 10 51.1**	**+0.5**
ARCO				IAML		15 10 53.3	
	comp=Z,101nm,0.4s						
ROCH	**El Roble**	**1.47**	**213**	⇑*i*P	**Pn**	**15 10 29.2**	**-0.1**
ROCH				*e*S	**Sn**	**15 10 49.3**	**-1.6**
ROCH				IAML		15 10 51.1	
	comp=N,93nm,0.5s						
ROC1	**El Roble**	**1.48**	**213**	*i* P	**Pn**	**15 10 29.2**	**-0.2**
ROC1				*i* S	**Sn**	**15 10 49.3**	**-1.7**
AMOG	**MOGNA**	**1.56**	**60**	*i* P	**Pn**	**15 10 31.0**	**+0.8**
AMOG				*i* S	**Sn**	**15 10 51.5**	**-0.9**
CFA	**Coronel Fontan**	**1.57**	**86**	⇓*i*P	**Pn**	**15 10 30.6**	**+0.5**
CFA				*i* S	**Sn**	**15 10 51.5**	**-0.9**
FCH	**Farellones**	**1.60**	**187**	⇑*i*P	**Pn**	**15 10 31.7**	**+0.8**
FCH				*e*S	**Sn**	**15 10 54.0**	**+0.3**
FCH				IAML		15 10 54.8	
	comp=E,76nm,0.3s						
GO04	**Tololo Observa**	**1.68**	**338**	⇑*i*P	**Pn**	**15 10 32.7**	**+0.9**
GO04				*e*S	**Sn**	**15 10 55.2**	**+0.2**
GO04				IAML		15 10 57.7	
	comp=E,288nm,0.6s						
GO04	**Tololo Observa**	**1.68**	**338**	*i* P	**Pn**	**15 10 32.6**	**+0.9**
GO04				*i* S	**Sn**	**15 10 55.2**	**+0.2**
AAGR	**Agrelo**	**1.71**	**142**	*i* P	**Pn**	**15 10 33.3**	**+1.4**
AAGR				*i* S	**Sn**	**15 10 56.0**	**+0.6**
ACAN	**Cantantal**	**2.50**	**103**	*i* P	**Pn**	**15 10 42.4**	**+0.9**
ACAN				*i* S	**Sn**	**15 11 11.6**	**-1.0**
MRA	**San Martin**	**3.75**	**102**	*i* P	**Pn**	**15 10 58.4**	**+0.6**
MRA				*i* S	**Sn**	**15 11 40.2**	**-1.5**
MRA				IAML		15 11 43.2	
	comp=Z,11nm,0.5s						
TCA	**Tanti**	**4.69**	**87**	*i* P	**Pn**	**15 11 10.7**	**+0.6**
TCA				*i* S	**Sn**	**15 12 00.7**	**-3.2**
TCA				IAML		15 12 03.9	
	comp=Z,3.4nm,0.2s						

NNC 21 15:15:39.2±4.1, 37°.00N×70°.65E, h0^{km}, mb3.7, mpv3.5, 3C-3D, Error ellipse: s-maj=39.7km s-min=23.3km az=154.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.10**	**359**	P	Pn	15 17 12.1	+1.4
	0.8nm,0.2s,baz=179,slow=12,SNR=35						
KK31				⇓S	Sn	15 18 22.9	+1.8
	0.6nm,0.3s,baz=180,slow=24,SNR=5.6						
AAK	**Ala-Archa**	**6.36**	**27**	⇑P	Pn	15 17 15.0	+0.7
	1.1nm,0.3s						
AAK				⇑S	Sn	15 18 29.0	+1.3
	4.0nm,0.7s						
TKM2	**Tokmak 2**	**7.03**	**31**	⇑P	Pn	15 17 22.4	-1.1
	3.5nm,0.7s						
TKM2				⇓S	Sn	15 18 44.6	+0.3
	1.1nm,0.7s						
AB31	**Akbulak array**	**14.51**	**331**	⇓P	Pn	15 19 03.9	-1.9
	0.2nm,0.3s,baz=157,slow=9.9,SNR=10						

IDC 21 15:35:09.5±6.7, 15°.37S×173°.38W, h0^{km}, mb3.8/2, mb1 4.0/3, mb1mx3.6/30, mbtmp3.7/3, ML3.4/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/30, Error ellipse: s-maj=380.3km s-min=26.5km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**47**	Pn	Pn	15 35 44.9	-1.5
	11nm,0.3s,baz=13,slow=1.6,SNR=14						
AFI				Sn	Sn	15 36 05.3	-8.3
	25nm,0.3s,baz=24,slow=23,SNR=14						
AFI				LR	LR	15 36 33.5	
	comp=Z,91nm,20.7s,baz=324,slow=40						
H11S2	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	16 23 12.0	
	baz=149,slow=75,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	16 23 11.5	
	baz=149,slow=75,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	16 23 13.7	
	baz=149,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	16 24 18.4	
	baz=149,slow=74						
H11N1	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	16 24 19.3	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	16 24 18.4	
	baz=149,slow=74						
WRA	**Warramunga Arr**	**49.87**	**257**	P	P	15 44 04.5	-0.6
	0.3nm,0.7s,baz=90,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**50.14**	**252**	P	P	15 44 06.5	-0.6
	2.6nm,0.8s,baz=86,slow=7.9,SNR=36						
BRTR	**Keskin Array B**	**146.15**	**321**	PKPbc	PKPab	15 54 53.2	+0.4
	1.0nm,0.9s,baz=112,slow=3.9,SNR=6.2						

*IDC **21** 15:40:21.5±0.5, 41°.65N×72°.00E, h0^{km}, mb4.1/26, mb1 4.3/34, mb1mx4.1/54, mbtmp4.2/34, ML3.9/8, MS3.5/27, Ms1 3.6/27, ms1mx3.4/41, Error ellipse: s-maj=10.3km s-min=7.3km az=160.0*
*SOME **21** 15:40:24.9, 41°.75N×72°.10E, h15^{km}, MS3.7*
*KRNET **21** 15:40:24.9±0.1, 41°.79N×72°.05E, h24^{km}, mb4.7*
*BJI **21** 15:40:25.4±0.0, 41°.87N×71°.94E, h40^{km}, mb4.5/32, mB4.6/27, ML4.4/5, Ms4.0/15, Ms7 3.7/15*
*MOS **21** 15:40:25.0±1.6, 41°.78N×71°.90E, h33^{km}, mb4.5/21, Error ellipse: s-maj=5.6km s-min=5.2km az=65.2*
*NNC **21** 15:40:25.3±0.9, 41°.84N×72°.04E, h0^{km}, mb5.1, mpv4.9, Error ellipse: s-maj=10.3km s-min=3.1km az=1.0*
*NEIC **21** 15:40:27.6±2.2, 41°.74N±0°.05×71°.98E±0°.07, h44^{km}±1^{km}, mb4.6/35*
ISC 21 15:40:24.1±0.8, 41°.82N±0°.02×72°.05E±0°.02, h11^{km}±5^{km}, n292, σ2°17/312, mb4.4/56, MS3.5/25, 42C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.85**	**125**		**Pg**	**15 40 40.2**	**-0.5**
DZA	**Taraz**	**1.20**	**334**	P	**Pg**	**15 40 48.0**	**+0.8**
	4μm,0.4s						
DZA				S	**Sb**	**15 41 05.0**	**+2.6**
	40μm,0.3s						
DZA	**Taraz**	**1.20**	**334**	*e*P	**Pg**	**15 40 48.0**	**+0.8**
	4μm,0.3s						
DZA				*e*S	**Sb**	**15 41 04.9**	**+2.6**
	45μm,0.4s						
AML	**Almayashu**	**1.26**	**75**	⇑*i*P	**Pg**	**15 40 48.5**	**+0.1**
	baz=74						
AML				⇑*i*S	**Sg**	**15 41 05.9**	**+1.0**
	baz=74						
AML	**Almayashu**	**1.26**	**75**	P	**Pg**	**15 40 48.5**	**+0.1**
	SNR=850						
MRKS	**Merke**	**1.27**	**43**	P	**Pg**	**15 40 49.5**	**+1.0**
	3μm,0.5s						
MRKS				S	**Sn**	**15 41 07.9**	**+2.8**
	5μm,0.6s						
MRKS	**Merke**	**1.27**	**43**	*e*P	**Pg**	**15 40 49.5**	**+1.0**
	3μm,0.5s						
MRKS				*e*S	**Sn**	**15 41 07.8**	**+2.8**
	5μm,0.6s						
EKS2	**Erkin-Say**	**1.53**	**56**	⇑*i*P	**Pn**	**15 40 53.7**	**+2.2**
	baz=55						
EKS2				⇑*i*S	**Sb**	**15 41 14.6**	**+2.5**
	baz=55						
EKS2	**Erkin-Say**	**1.53**	**56**	P	**Pn**	**15 40 54.0**	**+2.4**
	SNR=709						
IUG	**Iuzhnay**	**1.54**	**283**	P	**Pn**	**15 40 53.4**	**+1.7**
	268nm,0.4s						
IUG				S	**Sn**	**15 41 14.7**	**+2.9**
	17μm,0.3s						
IUG	**Iuzhnay**	**1.54**	**283**	*e*P	**Pn**	**15 40 53.4**	**+1.7**
	150nm,0.5s						
IUG				*e*S	**Sn**	**15 41 14.7**	**+2.9**
	17μm,0.3s						
KK31	**Karatay Array**	**1.72**	**319**	⇓Pn	**Pn**	**15 40 56.1**	**+2.1**
	1μm,0.4s,baz=149,slow=16,SNR=9820						
KK31				⇓Sn	**Sg**	**15 41 20.0**	**+0.7**
	1μm,0.3s,baz=127,slow=25,SNR=27						
KK31	**Karatay Array**	**1.72**	**319**	*e*PN	**Pn**	**15 40 56.1**	**+2.1**
KK31						15 41 20.0	
KK31				pmax	pmax		
	comp=Z,1μm,0.4s						
KK31				smax	smax		
	comp=Z,1μm,0.3s						
KK31	**Karatay Array**	**1.72**	**319**		**Pn**	**15 40 56.4**	**+2.4**
KKAR	**Karatay Array**	**1.72**	**319**	PN	**Pn**	**15 40 55.4**	**+1.4**
KKAR	**Karatay Array**	**1.72**	**319**		**Pn**	**15 40 55.4**	**+1.4**
KKAR	**Karatay Array**	**1.72**	**319**		**Pn**	**15 40 56.1**	**+2.1**
UCH	**Uchtor**	**1.88**	**77**	⇓*i*P	**Pn**	**15 40 59.3**	**+2.7**
	baz=76						
UCH				⇓*i*S	**Sb**	**15 41 24.8**	**+2.5**
	baz=76						
UCH	**Uchtor**	**1.88**	**77**	P	**Pn**	**15 40 59.5**	**+2.9**
	SNR=1535						
CHM	**Chimkent**	**1.89**	**286**	*e*P	**Pb**	**15 41 00.3**	**+1.6**
	comp=Z,2μm,0.3s						
CHM				*e*S	**Sg**	**15 41 26.1**	**+1.2**
	comp=Z,27μm,0.7s						
AAK	**Ala-Archa**	**1.99**	**65**	⇑Pn	**Pb**	**15 41 01.9**	**+1.4**
	comp=Z,633nm,0.5s						
AAK				⇑Lg	Lg	15 41 29.0	
	comp=Z,3μm,0.9s						
AAK	**Ala-Archa**	**1.99**	**65**	⇑*i*P	**Pb**	**15 41 01.6**	**+1.2**
	baz=64						
AAK				⇑*i*S	**Sb**	**15 41 28.3**	**+3.1**
	baz=64						
AAK	**Ala-Archa**	**1.99**	**65**	PN	**Pb**	**15 41 01.8**	**+1.4**
AAK						15 41 28.9	
AAK				pmax	pmax		
	comp=Z,633nm,0.5s						
AAK	**Ala-Archa**	**1.99**	**65**	Pn	**Pb**	**15 41 02.1**	**+1.7**
	comp=Z,144nm,0.3s,baz=217,slow=11,SNR=1759						
AAK				Lg	Lg	15 41 28.7	
	comp=Z,140nm,0.3s,baz=180,slow=20,SNR=19						
AAK				LR	LR	15 41 47.3	
	comp=Z,518nm,21.5s,baz=221,slow=41						
AAK	**Ala-Archa**	**1.99**	**65**	P	**Pb**	**15 41 01.9**	**+1.4**
	SNR=772						
AAK	**Ala-Archa**	**1.99**	**65**		**Pb**	**15 41 01.8**	**+1.4**
BTK	**Batken**	**1.99**	**208**	⇑*i*P	**Pn**	**15 41 00.2**	**+2.3**
	baz=9.0						
BTK				⇑*i*S	**Sn**	**15 41 26.9**	**+4.1**
	baz=9.0						
BTK	**Batken**	**1.99**	**208**	PN	**Pn**	**15 40 58.2**	**+0.3**
BTK	**Batken**	**1.99**	**208**		**Pn**	**15 40 58.2**	**+0.3**
BRLS	**Borolday**	**2.04**	**307**	Pg	**Pb**	**15 41 01.8**	**+0.6**
	comp=Z,1μm,0.4s						
BRLS				Lg	Lg	15 41 28.8	
	comp=Z,6μm,0.4s						
BRLS	**Borolday**	**2.04**	**307**	*e*P	**Pb**	**15 41 01.8**	**+0.6**
	comp=Z,10nm,0.5s						
BRLS				*e*S	**Sb**	**15 41 28.8**	**+2.3**
	comp=Z,6μm,0.5s						
TAS	**Tashkent**	**2.13**	**258**	⇑*i*P	**Pn**	**15 41 02.3**	**+2.6**
	baz=58						
TAS				⇑*i*S	**Sn**	**15 41 30.4**	**+4.2**
	baz=58						
TAS	**Tashkent**	**2.13**	**258**	PN	**Pn**	**15 41 00.4**	**+0.7**
TAS	**Tashkent**	**2.13**	**258**		**Pn**	**15 41 00.4**	**+0.7**
FRU1	**Bishkek**	**2.15**	**62**	⇑*i*P	**Pb**	**15 41 03.9**	**+0.8**
	baz=61						
FRU1				⇑*i*S	**Sb**	**15 41 31.9**	**+2.0**
	baz=61						
FRU1	**Bishkek**	**2.15**	**62**	PN	**Pn**	**15 41 03.8**	**+3.8**
FRU1	**Bishkek**	**2.15**	**62**		**Pn**	**15 41 03.8**	**+3.8**
KBK	**Karagaybulak**	**2.31**	**68**	⇑*i*P	**Pn**	**15 41 05.8**	**+3.6**
	baz=67						
KBK				⇑*i*S	**Sb**	**15 41 35.7**	**+1.3**
	baz=67						
KBK	**Karagaybulak**	**2.31**	**68**	P	**Pn**	**15 41 06.1**	**+3.9**
	SNR=982						
USP	**Ospenovka**	**2.31**	**51**	⇓*i*P	**Pn**	**15 41 05.8**	**+3.6**
	baz=50						
USP				⇓*i*S	**Sb**	**15 41 36.4**	**+1.9**
	baz=50						
USP	**Ospenovka**	**2.31**	**51**	P	**Pn**	**15 41 06.1**	**+3.9**
	SNR=333						
CHMS	**Chumysh**	**2.32**	**59**	⇑*i*P	**Pn**	**15 41 05.7**	**+3.4**
	baz=58						
CHMS				⇑*i*S	**Sb**	**15 41 36.1**	**+1.5**
	baz=58						
CHMS	**Chumysh**	**2.32**	**59**	P	**Pn**	**15 41 06.1**	**+3.8**
	SNR=96						
KZA	**Kyzart**	**2.40**	**83**	⇑*i*P	**Pn**	**15 41 06.5**	**+2.8**
	baz=82						
KZA				⇑*i*S	**Sn**	**15 41 37.6**	**+4.3**
	baz=82						
KZA	**Kyzart**	**2.40**	**83**	P	**Pn**	**15 41 07.2**	**+3.5**
	SNR=331						
SGDS	**Sogindy**	**2.50**	**49**	Pg	**Pn**	**15 41 09.0**	**+4.1**
	comp=Z,402nm,0.3s						
SGDS				Lg	Lg	15 41 41.4	
	comp=Z,1μm,0.4s						
TKM2	**Tokmak 2**	**2.85**	**66**	⇓Pn	**Pn**	**15 41 13.2**	**+3.5**
	comp=Z,70nm,0.5s						
TKM2				⇑Pg	**Pg**	**15 41 19.4**	**+0.7**
	comp=Z,155nm,0.5s						
TKM2				⇑Lg	Lg	15 41 52.8	
	comp=Z,807nm,0.7s						
TKM2	**Tokmak 2**	**2.85**	**66**	⇑*i*P	**Pn**	**15 41 13.2**	**+3.5**
	baz=66						
TKM2				⇑*i*S	**Sn**	**15 41 48.4**	**+4.3**
	baz=66						
TKM2	**Tokmak 2**	**2.85**	**66**	PN	**Pg**	**15 41 19.4**	**+0.7**
TKM2						15 41 52.8	
TKM2				pmax	pmax		
	comp=Z,155nm,0.5s						
TKM2	**Tokmak 2**	**2.85**	**66**	P	**Pn**	**15 41 13.4**	**+3.7**
	SNR=87						
NRN	**Naryn**	**2.98**	**96**	⇑*i*P	**Pn**	**15 41 13.6**	**+1.9**
	baz=96						
NRN				⇑*i*S	**Sn**	**15 41 49.9**	**+2.3**
	baz=96						
NRN	**Naryn**	**2.98**	**96**	PN	**Pn**	**15 41 13.5**	**+1.9**
NRN	**Naryn**	**2.98**	**96**		**Pn**	**15 41 13.5**	**+1.8**
DGS	**Degeres**	**3.09**	**61**	Pg	**Pb**	**15 41 19.8**	**+0.6**
	comp=Z,120nm,0.4s						
DGS				Lg	Lg	15 42 00.4	
	comp=Z,1μm,0.7s						
DGS	**Degeres**	**3.09**	**61**	*e*P	**Pb**	**15 41 19.8**	**+0.6**
	comp=Z,122nm,0.5s						
DGS				*e*S	**Sb**	**15 42 00.4**	**+3.4**
	comp=Z,1μm,0.6s						
GAR	**Garm**	**3.11**	**206**		**Pn**	**15 41 14.1**	**+0.8**
KST	**Kastek**	**3.14**	**66**	Pg	**Pb**	**15 41 20.8**	**+0.7**

comp=Z,528nm,0.6s
AAA Alma-Ata 3.85 67 *e*P **Pb 15 41 35.6 +3.5**
comp=Z,202nm,0.5s
AAA *e*S **Sg 15 42 27.1 -0.7**
comp=Z,835nm,0.7s
AAA Alma-Ata 3.85 67 *e*PN **Pb 15 41 35.3 +3.2**
AAA *e*S **Sg 15 42 27.0 -0.8**
AAA pmax pmax
comp=Z,208nm,0.5s
AAA smax smax
comp=N,839nm,0.8s
CHGR Chuyangaron 3.86 216 Pn 15 41 24.6 +1.1
KNDC Almaty 3.89 67 ⇓Pn **Pn 15 41 28.0 +4.1**
KNDC ⇑Pg **Pg 15 41 39.0 +0.4**
KNDC ⇑Lg Lg 15 42 27.7
KTBS Karatobe 3.90 59 Pg **Pb 15 41 35.3 +2.5**
comp=N,173nm,0.5s
KTBS Lg Lg 15 42 27.3
comp=N,1μm,0.5s
KTBS Karatobe 3.90 59 *e*P **Pb 15 41 35.4 +2.5**
comp=N,29nm,0.6s
KTBS *e*S **Sg 15 42 27.3 -1.9**
comp=N,844nm,0.6s
MDOK Medeo 3.93 68 ⇑Pn **Pn 15 41 28.0 +3.5**
comp=N,127nm,1.0s
MDOK ⇑Pg **Pg 15 41 39.2 -0.2**
comp=N,218nm,0.6s
MDOK Lg Lg 15 42 29.5
MDOK Medeo 3.93 68 *e*P **Pb 15 41 37.4 +3.9**
comp=N,243nm,0.6s
MDOK *e*S **Sg 15 42 29.7 -0.6**
comp=N,350nm,0.7s
MDOK Medeo 3.93 68 PN **Pn 15 41 28.0 +3.5**
KOTS Kotyrbulak 4.00 68 Pg **Pb 15 41 38.2 +3.6**
KOTS Lg Lg 15 42 32.5
comp=N,1μm,0.9s
KOTS Kotyrbulak 4.00 68 *e*P **Pb 15 41 38.2 +3.6**
comp=N,83nm,0.6s
KOTS *e*S **Sg 15 42 31.2 -1.2**
comp=N,2μm,1.0s
CHKK Chushkaly 4.16 59 *e*P **Pb 15 41 40.8 +3.5**
comp=N,164nm,0.7s
CHKK *e*S **Sg 15 42 35.5 -2.2**
comp=N,682nm,0.8s
TARG Taragay, Kyrgy 4.30 89 Pn 15 41 32.9 +3.0
PRZ Przheval'sk 4.76 80 PN **Pn 15 41 39.1 +3.1**
PRZ Przheval'sk 4.76 80 Pn 15 41 39.1 +3.1
KURS Kuram 4.81 68 *e*P **Pb 15 41 51.9 +3.5**
comp=N,50nm,0.8s
KURS *e*S **Sg 15 42 56.0 -2.5**
comp=N,302nm,0.7s
ARXS Arharly 4.86 59 Pg **Pb 15 41 52.7 +3.4**
ARXS Lg Lg 15 42 57.1
comp=N,531nm,0.5s
ARXS Arharly 4.86 59 *e*P **Pb 15 41 52.8 +3.4**
comp=N,42nm,0.7s
ARXS *e*S **Sg 15 42 57.1 -3.1**
comp=N,548nm,0.6s
SATY Saty 4.86 73 Pg **Pb 15 41 52.5 +3.1**
comp=N,155nm,0.6s
SATY Lg Lg 15 42 56.2
comp=N,465nm,0.7s
SATY Saty 4.86 73 *e*P **Pb 15 41 52.5 +3.1**
comp=N,155nm,0.6s
SATY *e*S **Sg 15 42 56.2 -4.0**
comp=N,465nm,0.7s
KPKS Kokpek 5.16 69 *e*P Pb 15 41 59.0 +4.6
comp=N,95nm,0.6s
KPKS *e*S **Sg 15 43 07.2 -2.5**
comp=N,640nm,0.6s
PDGK Podgornoye 5.69 72 ⇓Pn **Pn 15 41 51.7 +2.9**
comp=N,12nm,0.6s
PDGK ⇑Pg **Pb 15 42 03.4 -0.2**
comp=N,57nm,0.7s
PDGK ⇓Lg Lg 15 43 20.5
comp=N,423nm,0.9s
PDGK Podgornoye 5.69 72 PN **Pn 15 41 51.6 +2.9**
PDGK LG Lg 15 43 20.4
PDGK pmax pmax
comp=Z,12nm,0.6s
DJR Jarkent 6.20 64 Pg Pb 15 42 17.7 +5.7
comp=Z,48nm,0.5s
DJR Lg Lg 15 43 38.7
comp=Z,138nm,0.8s
KAPS Kapalarasan 6.34 54 Pg **Pg 15 42 22.3 -3.1**
comp=Z,28nm,0.5s
KAPS Lg Lg 15 43 46.3
comp=Z,189nm,0.7s
KBL Kabul 7.64 199 P **Pn 15 42 16.1 +0.5**
KBL 15 43 40.0
KBL Kabul 7.64 199 Pn 15 42 16.1 +0.5
KBL Sn **Sn 15 43 40.0 -2.3**
CEP Cherat 7.98 181 P **Pn 15 42 21.2 +1.0**
CHCP Chirah Chowk 8.20 173 P **Pn 15 42 24.0 +0.9**
NIL Nilore 8.21 173 P **Pn 15 42 24.0 +0.8**
NIL Nilore 8.21 173 Pn 15 42 24.1 +0.8
MK31 Makanchi Array 8.86 52 ⇑Pn **Pn 15 42 34.9 +2.8**
comp=Z,15nm,0.5s,baz=235,slow=14
MK31 ⇓Lg Lg 15 45 09.7
comp=Z,23nm,0.6s,baz=237,slow=32,SNR=2.8
MK31 Makanchi Array 8.86 52 P **Pn 15 42 34.9 +2.8**
MK31 pmax pmax
comp=Z,15nm,0.5s
MK31 Makanchi Array 8.86 52 Pn 15 42 34.7 +2.6
MKAR Makanchi Array 8.86 52 *i* P **Pn 15 42 35.2 +3.1**
MKAR pmax pmax
comp=Z,23nm,0.6s
MKAR Makanchi Array 8.86 52 Pn **Pn 15 42 35.2 +3.1**
comp=Z,3.6nm,0.3s,baz=237,slow=14,SNR=198
MKAR Sn **Sn 15 44 13.4 +1.5**
comp=Z,1.7nm,0.3s,baz=245,slow=20,SNR=2.6
MKAR Lg Lg 15 45 04.4
comp=Z,3.2nm,0.3s,baz=238,slow=27,SNR=3.2
MKAR LR LR 15 46 16.8
comp=Z,375nm,18.8s,baz=223,slow=40
MKAR Makanchi Array 8.86 52 Pn 15 42 34.3 +2.2
THW Thamme Wali 9.01 182 P **Pn 15 42 34.9 +0.7**
JMU Jammu 9.37 165 *e*S Sn 15 44 12.5 -12
KURBB Kurchatov Arra 9.88 25 ⇑Pn **Pn 15 42 46.0 0.0**
comp=Z,7.1nm,0.3s
KURBB ⇑Lg Lg 15 45 35.8
comp=Z,222nm,0.9s
KURBB Kurchatov Arra 9.88 25 Pn **Pn 15 42 45.9 0.0**
comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=58
KURBB Sn Sn 15 44 30.2 -6.5
comp=Z,0.4nm,0.3s,baz=217,slow=15,SNR=4.4
KURBB Lg Lg 15 45 31.6
comp=Z,1.4nm,0.3s,baz=210,slow=30,SNR=5.5
KURK Kurchatov 9.99 25 P **Pn 15 42 47.2 -0.2**
KURK Kurchatov 9.99 25 Pn 15 42 47.2 -0.2
DHRM DHARAMSHALA 10.13 159 *e*P **Pn 15 42 50.2 +0.4**
DHRM *e*S Sn 15 44 35.1 -8.5
DHRM IAML 15 44 42.0
comp=N,101nm,0.2s
DHRM IAML 15 44 42.2
comp=E,131nm,0.7s
HRA Herat 10.71 229 Pn 15 42 54.9 -2.7
BVAR Borovoye Array 11.27 355 Pn **Pn 15 43 05.4 +0.5**
comp=E,1.7nm,0.3s,baz=158,slow=11,SNR=16
BVAR Sn **Sn 15 45 07.7 -3.1**
comp=E,7.1nm,0.3s,baz=165,slow=23,SNR=10
BVA4 Borovoye Array 11.27 355 ⇑Pn Pn 15 43 10.9 +5.9
AB31 Akbulak array 11.28 315 ⇑Pn **Pn 15 43 05.6 +0.5**
comp=E,20nm,0.5s
AB31 Akbulak array 11.28 315 P **Pn 15 43 05.6 +0.5**
AB31 pmax pmax
comp=Z,20nm,0.5s
ABKAR Akbulak array 11.28 315 Pn 15 43 05.0 -0.1
ABKAR Akbulak array 11.28 315 Pn 15 43 05.2 +0.1
BRVK Borovoye 11.31 355 ⇓*e*P **Pn 15 43 06.1 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 11.31 355 Pn 15 43 05.9 +0.4
GEYT Alibeck 11.39 255 Pn Pn 15 43 04.3 -2.5
comp=Z,0.9nm,0.3s,baz=74,slow=10,SNR=8.5
GEYT Sn Sn 15 45 00.7 -13
comp=Z,1.9nm,0.3s,baz=64,slow=10,SNR=2.6
GEYT Alibeck 11.39 255 Pn 15 43 03.9 -2.9
GYA0B ALIBECK ARRAY 11.39 255 Pn 15 43 06.9 +0.1
SMLA Simla 11.43 157 *e*P **Pn 15 43 06.0 -1.3**
SMLA *e*S Sn 15 45 01.8 -13
SMLA IAML 15 45 02.9
SMLA IAML 15 45 10.6
comp=E,112nm,0.7s
SMLA IAML 15 45 11.3
comp=N,68nm,0.7s

WMQ Urumqi 11.66 75 P **Pn 15 43 10.4 -0.1**
WMQ Urumqi 11.66 75 Pn **Pn 15 43 10.4 -0.1**
JOSI Joshimath 12.76 149 *e*P **Pn 15 43 24.1 -1.7**
JOSI *e*S Sn 15 45 36.7 -11
AKTO Aktyubinsk 12.98 316 ⇑Pn **Pn 15 43 28.5 +0.1**
AKTO Aktyubinsk 12.98 316 Pn **Pn 15 43 28.6 +0.2**
comp=N,4.6nm,0.3s,baz=126,slow=14,SNR=48
AKTO Sn Sn 15 45 40.1 -13
comp=N,0.8nm,0.3s,baz=228,slow=18,SNR=1.8
AKTO Lg Lg 15 47 18.1
comp=N,1.1nm,0.3s,baz=348,slow=20,SNR=2.3
AKTO LR LR 15 48 51.7
comp=N,480nm,20.0s,baz=133,slow=39
DGZ Jazzator, Alta 13.30 48 ⇓*i*P **Pn 15 43 34.4 +1.5**
ZAA0 Zalesovo Array 14.82 31 Pn 15 43 54.1 +0.6
ZALV Zalesovo Beam 14.82 31 P **Pn 15 43 51.7 -1.8**
ZALV 15 46 35.9
ZALV Zalesovo Beam 14.82 31 Pn **Pn 15 43 52.4 -1.1**
comp=N,1.0nm,0.3s,baz=223,slow=15,SNR=13
ZALV Sn **Sn 15 46 32.5 -5.1**
comp=N,0.7nm,0.3s,baz=230,slow=16,SNR=3.8
ZALV Lg Lg 15 48 22.2
baz=219,slow=22,SNR=3.0
ZALV LR LR 15 49 53.9
comp=N,189nm,19.9s,baz=256,slow=38
ZALV Zalesovo Beam 14.82 31 Pn 15 43 51.7 -1.8
ZALV **Sn 15 46 35.9 -1.6**
DANN Dangsing 16.48 141 *e*P Pn 15 44 10.2 -5.4
comp=N,125nm,1.0s
SVE Sverdlovsk 16.73 338 *e*P **Pn 15 44 16.2 -2.0**
SVE *e*S Sn 15 47 13.1 -11
SVE pmax pmax
comp=Z,19nm,1.1s
KOLN Koldanda 16.90 142 *e*P Pn 15 44 16.2 -4.6
comp=Z,68nm,0.8s
ARU Arti 17.03 334 *c i*P **Pn 15 44 21.6 -0.4**
ARU S **Sn 15 47 25.0 -6.2**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU MLR MLR
comp=Z,393nm,17.0s
ARU Arti 17.03 334 P **Pn 15 44 21.3 -0.7**
comp=Z,0.0nm,0.3s,baz=157,slow=8.4,SNR=17
ARU S Sn 15 47 20.7 -10
comp=Z,0.0nm,0.3s,baz=90,slow=20,SNR=4.1
ARU Lg Lg 15 49 30.1
comp=Z,0.0nm,0.3s,baz=348,slow=20,SNR=4.5
ARU LR LR 15 51 10.0
comp=Z,349nm,18.3s,baz=144,slow=38
ARU Arti 17.03 334 P **Pn 15 44 20.5 -1.6**
GKN Gorkha 17.19 139 *e*P Pn 15 44 19.5 -4.9
comp=Z,44nm,0.5s
KKN Kakani 17.68 138 *e*P Pn 15 44 26.0 -4.6
comp=Z,26nm,0.6s
DMN Daman 17.75 139 *e*P Pn 15 44 26.5 -4.9
comp=Z,56nm,1.1s
GUN Gumba 17.89 136 *e*P Pn 15 44 28.6 -4.7
comp=Z,27nm,0.6s
PKI Pulchoki 17.93 138 *e*P Pn 15 44 29.1 -4.7
LKRN Lenkeran, Azer 18.02 268 P **Pn 15 44 32.2 -2.3**
JIRN Jiri 18.25 136 *e*P **Pn 15 44 33.8 -4.0**
comp=Z,36nm,0.4s
SEKA Sheki 18.61 276 P **P 15 44 38.1 -3.4**
MNGR Mingechevir, A 18.78 275 P **P 15 44 40.7 -2.5**
ZKTA Zakatala 18.97 278 P **P 15 44 42.5 -2.9**
RAMN Ramite 19.04 137 *e*P **P 15 44 42.7 -3.8**
comp=Z,18nm,0.5s
TAPN Taplejung 19.31 133 *e*P **P 15 44 47.2 -2.3**
comp=Z,20nm,0.7s
GANJ Ganja 19.37 275 P **P 15 44 47.1 -2.7**
ODAN Odare 19.53 135 *e*P **P 15 44 50.1 -1.7**
comp=Z,44nm,1.0s
LSA Lhasa 19.61 122 P **P 15 44 51.5 -1.4**
LSA pmax pmax
comp=Z,15nm,1.3s
LSA Lhasa 19.61 122 P **P 15 44 51.5 -1.4**
NAX Nakhchivan 20.34 271 P **P 15 44 57.9 -2.6**
GNI Garni 20.66 274 P **P 15 45 03.2 -0.7**
GNI pmax pmax
comp=Z,39nm,1.3s
GNI Garni 20.66 274 P **P 15 45 03.0 -0.9**
comp=Z,6.8nm,0.7s,baz=233,slow=20,SNR=1.8
GNI LR LR 15 54 26.3
comp=Z,111nm,20.6s,baz=75,slow=41
GNI Garni 20.66 274 P **P 15 45 03.2 -0.7**
GNI IAmb IAmb 15 45 16.5
comp=Z,38nm,1.3s
ZEI Tsey 20.81 282 *e*P Pn 15 45 10.5 +2.4
ZEI pmax pmax
comp=Z,5.0nm,0.6s
GTA Gaotai 21.18 87 ⇑P **P 15 45 10.8 +1.3**
GTA pP pP 15 45 22.8 +10
GTA sP sP 15 45 26.8 +12
GTA S **S 15 49 01.4 -3.6**
GTA sS Sn 15 49 14.1 +2.4
GTA pmax pmax
comp=Z,29nm,1.1s
GTA pmax pmax
comp=Z,75nm,4.3s
GTA LR LR
comp=Z,92nm,13.6s
GTA LR LR
comp=Z,150nm,16.5s
GTA LR LR
comp=Z,150nm,13.0s
AKH Akhalkalaki 21.32 278 P **P 15 45 10.0 -1.1**
AKH pmax pmax
comp=Z,6.0nm,0.7s
AKH Akhalkalaki 21.32 278 P **P 15 45 10.0 -1.1**
UOSS Minazif 21.35 223 P **P 15 45 09.8 -1.5**
KBZ Khabaz 21.44 285 P **P 15 45 12.4 +0.2**
comp=Z,1.6nm,0.7s,baz=104,slow=11,SNR=1.8
KBZ S **S 15 49 07.0 -2.8**
comp=Z,4.5nm,1.0s,baz=50,slow=18,SNR=2.3
KBZ LR LR 15 55 08.5
comp=Z,101nm,20.6s,baz=56,slow=41
KVAR Kislovodsk Arr 21.57 286 P **P 15 45 12.8 -0.8**
comp=Z,5.2nm,0.9s,baz=240,slow=20,SNR=3.2
KVAR S **S 15 49 09.9 -2.7**
comp=Z,3.2nm,0.4s,baz=184,slow=16,SNR=2.3
KVAR LR LR 15 55 27.8
comp=Z,102nm,20.8s,baz=263,slow=42
KIV Kislovodsk 21.57 286 *e*P **P 15 45 13.4 -0.3**
KIV *e*S **S 15 49 09.4 -3.3**
KIV pmax pmax
comp=Z,20nm,0.9s
KIV MLR MLR
comp=Z,357nm,14.0s
KIV Kislovodsk 21.57 286 P **P 15 45 13.2 -0.5**
KIV IAmb IAmb 15 45 28.9
comp=Z,12nm,0.8s
WSAR Wadi Sarin 21.66 215 P **P 15 45 13.4 -1.3**
comp=Z,12nm,0.6s,baz=57,slow=7.4,SNR=14
WSAR LR LR 15 55 46.6
comp=Z,112nm,18.3s,baz=70,slow=43
KIRV Kirov 21.99 327 LR LR 15 54 26.6
comp=Z,455nm,19.3s,baz=95,slow=38
VRH Novokhopyorsk 22.74 305 *e*P P 15 45 33.0 +7.0
VRH pmax pmax
comp=Z,70nm,0.9s
SHL Shillong 23.04 128 P **P 15 45 28.6 -1.0**
SHL pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 23.04 128 P **P 15 45 28.6 -1.0**
SHL IAmb IAmb 15 45 29.9
comp=Z,14nm,1.0s
ZAK Zakamensk 23.14 58 *e*P **P 15 45 31.4 +1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 23.61 55 ⇑*e*P **P 15 45 37.6 +2.6**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 23.61 55 LR LR 15 55 23.2
comp=Z,182nm,18.1s,baz=245,slow=38
TLY Talaya 23.61 55 P **P 15 45 35.2 +0.2**
TLY IAmb IAmb 15 45 39.3
comp=Z,25nm,1.6s
VSR Storozhevoye 24.32 304 *e*P P 15 45 35.8 -5.8
VSR pmax pmax
comp=Z,20nm,1.9s
LPSR Galich'ya Gora 24.74 307 *e*P **P 15 45 44.7 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 24.95 64 P **P 15 45 47.7 +0.3**
SONM pmax pmax
comp=Z,2.0nm,0.9s

SONM Songino Array 24.95 64 P **P 15 45 48.4 +1.0**
comp=Z,2.0nm,0.7s,baz=271,slow=9.9,SNR=12
SONM LR LR 15 56 29.6
comp=Z,154nm,18.1s,baz=231,slow=39
SONM Songino Array 24.95 64 P **P 15 45 47.7 +0.3**
HYB Hyderabad 24.95 165 *i* P **P 15 45 45.0 -2.6**
ANN Anapa 25.25 289 *e*P P 15 45 43.8 -6.3
ANN *e**PP 15 45 59.3
ANN *e* 15 46 23.0
ANN *e*S S 15 50 03.6 -12
ANN pmax pmax
comp=Z,42nm,1.0s
ANN MLR MLR
comp=N,178nm,13.0s
ANN MLR MLR
comp=Z,189nm,13.0s
ANN MLR MLR
comp=E,208nm,13.0s
LZH Lanzhou 25.29 93 *e*P **P 15 45 51.8 +1.1**
LZH pP pP 15 46 00.5 +6.0
LZH sP sP 15 46 05.6 +9.4
LZH pmax pmax
comp=E,16nm,1.0s
ULN Ulaanbaatar 25.39 64 *c i*P **P 15 45 52.3 +0.8**
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 25.39 64 P **P 15 45 51.5 +0.1**
PRGR Permogore 25.40 330 *e*P P 15 45 45.6 -5.6
PRGR *e*S **S 15 50 10.8 -6.7**
PRGR pmax pmax
comp=Z,12nm,1.5s
OBN Obninsk 26.70 312 LR LR 15 57 17.5
comp=Z,62nm,18.7s,baz=177,slow=38
KLMR Klimovskoe 27.41 325 *e*P P 15 46 04.2 -5.2
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 27.41 325 *e*P P 15 46 04.3 -5.1
KLMR AMP 15 46 07.3
comp=Z,15nm,1.4s
CD2 Chengdu 27.61 103 P **P 15 46 09.8 -1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ILGA Ilgaz 28.60 281 P **P 15 46 21.1 +0.6**
ILGA IAmb IAmb 15 46 38.4
comp=Z,19nm,1.4s
NRIK Noril'sk 28.75 11 P **P 15 46 21.8 +0.5**
comp=Z,1.1nm,0.4s,baz=247,slow=5.8,SNR=3.8
NRIK LR LR 15 58 37.5
comp=Z,82nm,19.4s,baz=204,slow=38
BR131 Keskin Array S 29.01 279 P **P 15 46 24.2 +0.2**
BR131 pmax pmax
comp=Z,7.0nm,1.4s
BR131 Keskin Array S 29.01 279 P **P 15 46 24.2 +0.2**
BRTR Keskin Array B 29.01 279 *i* P **P 15 46 24.3 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 29.01 279 P **P 15 46 23.1 -1.0**
comp=Z,1.8nm,0.7s,baz=94,slow=8.0,SNR=11
BRTR LR LR 15 59 43.8
comp=Z,47nm,18.1s,baz=72,slow=40
BRTR Keskin Array B 29.01 279 P **P 15 46 23.4 -0.7**
HHC Hu-ho-hao-te 29.51 78 *e*P **P 15 46 29.3 +0.9**
HHC pmax pmax
comp=Z,9.0nm,1.0s
XAN Xi'an 29.92 93 P P 15 46 37.3 +5.2
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,39nm,4.9s
MMAI Mount Meron Ar 30.22 265 LR LR 16 01 00.6
comp=Z,35nm,21.4s,baz=45,slow=41
KMI Kunming 30.32 114 P **P 15 46 37.3 +1.4**
KMI pP pP 15 46 45.6 +5.7
KMI pmax pmax
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 32.67 127 *i* P **P 15 46 54.7 -1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 32.67 127 P **P 15 46 55.0 -1.4**
comp=Z,1.1nm,0.8s,baz=316,slow=8.2,SNR=7.5
CMAR PcP **PcP 15 49 40.3 -1.8**
comp=Z,1.1nm,1.0s,baz=328,slow=3.2,SNR=4.6
CMAR LR LR 16 01 44.1
comp=Z,38nm,20.1s,baz=358,slow=39
CMAR Chiang Mai Arr 32.67 127 P **P 15 46 55.1 -1.2**
CMAR **PcP 15 49 39.7 -2.5**
BURAR Bucovina Array 33.37 296 P **P 15 47 02.1 -0.2**
FINES FINESS Array B 33.68 321 P **P 15 47 05.1 +0.4**
FINES FINESS Array B 33.68 321 P **P 15 47 04.8 +0.2**
comp=Z,2.3nm,0.6s,baz=107,slow=12,SNR=10.0
FINES LR LR 16 01 20.0
comp=Z,227nm,19.9s,baz=43,slow=37
FINES FINESS Array B 33.68 321 P **P 15 47 05.1 +0.4**
KOLS Kolonicke sedl 35.15 299 *e*P **P 15 47 16.7 -0.9**
KOLS Kolonicke sedl 35.15 299 *e*P **P 15 47 16.7 -0.9**
PBKT Sadao Pong 35.34 127 P **P 15 47 19.1 -0.4**
PBKT IAmb IAmb 15 47 19.9
comp=Z,6.1nm,0.8s
OJC Ojcow 36.58 302 P **P 15 47 29.2 -0.7**
OJC pmax pmax
comp=Z,19nm,1.4s
OJC Ojcow 36.58 302 P **P 15 47 29.2 -0.7**
OJC IAmb IAmb 15 47 38.4
comp=Z,20nm,1.4s
ARCES ARCESS Array B 36.62 335 P **P 15 47 30.8 +0.8**
ARCES ARCESS Array B 36.62 335 P **P 15 47 30.5 +0.5**
comp=Z,1.2nm,0.7s,baz=99,slow=6.3,SNR=4.8
ARCES LR LR 16 03 43.6
comp=Z,74nm,19.6s,baz=176,slow=38
ARCES ARCESS Array B 36.62 335 P **P 15 47 30.8 +0.8**
VYHS Vyhne 37.46 299 *e*P **P 15 47 39.6 +2.1**
VYHS Vyhne 37.46 299 *e*P **P 15 47 39.5 +2.1**
NJ2 Nanjing 38.25 89 *e*P **P 15 47 43.0 -1.2**
NJ2 pmax pmax
comp=Z,19nm,0.5s
YAK Yakutsk 39.24 39 P **P 15 47 51.9 -0.2**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK Yakutsk 39.24 39 P **P 15 47 52.0 -0.2**
comp=Z,2.5nm,0.4s,baz=194,slow=0.7,SNR=4.3
YAK Yakutsk 39.24 39 P **P 15 47 51.9 -0.2**
YAK IAmb IAmb 15 48 01.9
comp=Z,8.8nm,0.9s
BRG Berggiesshubel 40.17 303 *e*(P) P 15 48 08.4 +8.3
comp=Z,6.4nm,1.2s
BRG Berggiesshubel 40.17 303 *e*P P 15 48 08.4 +8.3
BRG pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 40.56 24 ⇑*i*P **P 15 48 03.1 +0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 40.56 24 P **P 15 48 03.2 +0.2**
comp=Z,6.2nm,0.6s,baz=64,slow=4.3,SNR=9.0
TIXI Tiksi 40.56 24 P **P 15 48 02.7 -0.4**
TIXI IAmb IAmb 15 48 03.9
comp=Z,7.0nm,0.6s
NC602 NORSAR Array S 40.59 319 P **P 15 48 02.8 -0.6**
NC303 NORSAR Array S 40.67 320 P **P 15 48 03.2 -0.9**
GEC2 GERESS Array S 40.73 300 P **P 15 48 05.0 +0.2**
GEC2 IAmb IAmb 15 48 13.3
comp=Z,10nm,1.1s
GERES GERESS Array B 40.73 300 P **P 15 48 04.9 +0.1**
comp=Z,1.0nm,0.5s,baz=70,slow=7.7,SNR=9.1
GERES LR LR 16 08 02.8
comp=Z,109nm,19.4s,baz=99,slow=41
GERES GERESS Array B 40.73 300 P **P 15 48 03.8 -1.1**
NB2 NORSAR Subarra 40.75 319 P **P 15 48 04.3 -0.5**
comp=Z,2.0nm,0.6s,baz=90,slow=8.6
NOA NORSAR Array B 40.75 319 P **P 15 48 04.0 -0.8**
NOA NORSAR Array B 40.75 319 P **P 15 48 04.0 -0.8**
comp=Z,2.8nm,0.7s,baz=91,slow=8.4,SNR=13
NOA LR LR 16 05 40.3
comp=Z,189nm,20.0s,baz=95,slow=37
NC204 NORSAR Array S 40.97 320 P **P 15 48 06.9 +0.3**
KLR Kul'dur 41.51 59 ⇓*e*P **P 15 48 11.2 +0.1**
KLR pmax pmax
comp=Z,4.0nm,0.8s
KLR Kul'dur 41.51 59 P **P 15 48 11.2 +0.1**
comp=Z,1.4nm,0.6s,baz=277,slow=6.6,SNR=7.8
KSAR Wonju Array Be 42.58 77 P **P 15 48 20.6 +0.6**
KSAR Wonju Array Be 42.58 77 P **P 15 48 20.6 +0.6**
KSRS Korea Array 42.61 77 P **P 15 48 19.4 -0.8**
comp=Z,1.4nm,0.8s,baz=302,slow=7.0,SNR=5.9
KSRS LR LR 16 07 52.7
comp=Z,48nm,21.4s,baz=281,slow=39

USRK	**Ussuriysk Ar.**	**43.04**	**66**	P	**P**	**15 48 24.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**43.04**	**66**	P	**P**	**15 48 22.7**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=297,slow=8.7,SNR=4.1						
USRK	**Ussuriysk Ar.**	**43.04**	**66**	P	**P**	**15 48 24.3**	**+0.7**
GSI	**Gunungsitoli**	**46.42**	**144**	P	**P**	**15 48 50.7**	**-0.2**
GSI				IAmb	IAmb	15 48 51.2	
	comp=Z,6.2nm,0.7s						
MJAR	**Matsushiro Arr**	**50.42**	**73**	P	**P**	**15 49 20.6**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MJAR	**Matsushiro Arr**	**50.42**	**73**	P	**P**	**15 49 20.9**	**-0.7**
	comp=Z,3.6nm,1.0s,baz=301,slow=10,SNR=5.0						
MJAR				LR	LR	16 12 27.7	
	comp=Z,23nm,21.5s,baz=290,slow=38						
MJAR	**Matsushiro Arr**	**50.42**	**73**	P	**P**	**15 49 20.6**	**-1.0**
KMBO	**Kilima Mbogo**	**53.08**	**226**	P	**P**	**15 49 40.8**	**-1.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	**Kilima Mbogo**	**53.08**	**226**	P	P	15 49 40.0	-1.9
	comp=Z,1.7nm,0.7s,baz=41,slow=11,SNR=5.2						
KMBO	**Kilima Mbogo**	**53.08**	**226**	P	**P**	**15 49 40.8**	**-1.1**
ESDC	**Sonseca Array**	**55.82**	**295**	LR	LR	16 15 15.5	
	comp=Z,34nm,18.7s,baz=155,slow=38						
COLD	**Coldfoot**	**66.64**	**17**	P	**P**	**15 51 13.6**	**-0.5**
COLD				IAmb	IAmb	15 51 39.5	
	comp=Z,4.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.74**	**267**	P	P	15 51 13.7	-1.9
	comp=Z,2.0nm,0.6s,baz=48,slow=5.4,SNR=12						
TORD	**Torodi Ar. Bea**	**66.74**	**267**	P	P	15 51 13.1	-2.5
IMAR	**Indian Mountai**	**66.87**	**19**	P	**P**	**15 51 14.8**	**-0.8**
INK	**Inuvik**	**68.53**	**10**	P	**P**	**15 51 24.5**	**-1.6**
INK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
INK	**Inuvik**	**68.53**	**10**	P	**P**	**15 51 24.8**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=356,slow=6.8,SNR=3.9						
INK	**Inuvik**	**68.53**	**10**	P	**P**	**15 51 24.5**	**-1.6**
INK				IAmb	IAmb	15 51 41.1	
	comp=Z,7.3nm,1.4s						
ILAR	**Eielson Array**	**69.45**	**17**	P	**P**	**15 51 30.6**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=325,slow=4.7,SNR=8.8						
ILAR				LR	LR	16 24 32.5	
	comp=Z,34nm,19.9s,baz=34,slow=38						
ILAR	**Eielson Array**	**69.45**	**17**	P	P	15 51 29.9	-2.0
KTH	**Kantishna Hill**	**69.57**	**19**	P	**P**	**15 51 31.4**	**-1.3**
KTH				IAmb	IAmb	15 51 33.3	
	comp=Z,19nm,1.5s						
PPLA	**Purkeypile**	**69.80**	**20**	P	**P**	**15 51 33.9**	**-0.4**
SOEI	**Soe**	**70.15**	**124**	P	**P**	**15 51 35.5**	**-1.5**
SOEI				IAmb	IAmb	15 51 44.1	
	comp=Z,12nm,0.8s						
FAKI	**Fak Fak**	**70.28**	**113**	P	**P**	**15 51 37.4**	**-0.3**
FAKI				IAmb	IAmb	15 51 58.3	
	comp=Z,9.1nm,0.9s						
GHO	**Glory Hole Cre**	**71.57**	**19**	P	**P**	**15 51 44.5**	**-0.5**
SCM	**Sheep Creek Mo**	**71.90**	**18**	P	**P**	**15 51 46.3**	**-0.7**
SCM				pmax	pmax		
	comp=Z,48nm,1.5s						
SCM	**Sheep Creek Mo**	**71.90**	**18**	P	**P**	**15 51 46.3**	**-0.7**
BCAR	**Beaver Creek A**	**72.02**	**15**	P	**P**	**15 51 47.6**	**0.0**
YKA	**Yellowknife Ar**	**75.90**	**3**	P	**P**	**15 52 09.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=354,slow=5.6,SNR=3.1						
YKA	**Yellowknife Ar**	**75.90**	**3**	P	**P**	**15 52 08.9**	**-1.3**
WRA	**Warramunga Arr**	**84.16**	**123**	P	P	15 52 53.4	-2.0
WRA	**Warramunga Arr**	**84.16**	**123**	P	**P**	**15 52 54.1**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=324,slow=4.5,SNR=15						
WRA	**Warramunga Arr**	**84.16**	**123**	P	P	15 52 53.4	-2.0
WRAB	**Tennant Creek**	**84.16**	**123**	⇓*eP*	**P**	**15 52 54.0**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**84.16**	**123**	P	P	15 52 53.6	-1.8
WB2	**Warramunga Arr**	**84.17**	**123**	P	**P**	**15 52 53.8**	**-1.7**
AS31	**Alice Springs**	**86.67**	**126**	P	**P**	**15 53 06.2**	**-1.7**
AS31				IAmb	IAmb	15 53 07.0	
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**86.67**	**126**	P	**P**	**15 53 06.5**	**-1.4**
	comp=Z,5.1nm,0.8s,baz=317,slow=4.5,SNR=60						
ASAR	**Alice Springs**	**86.67**	**126**	P	**P**	**15 53 06.2**	**-1.7**
ULM	**Lac du Bonnet**	**87.70**	**352**	LR	LR	16 36 35.8	
	comp=Z,50nm,19.0s,baz=8.5,slow=38						
PDAR	**Pinedale Array**	**95.78**	**1**	P	**P**	**15 53 50.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=28,slow=4.1,SNR=2.9						
PDAR				LR	LR	16 41 17.1	
	comp=Z,24nm,18.9s,baz=28,slow=38						
PDAR	**Pinedale Array**	**95.78**	**1**	P	**P**	**15 53 49.1**	**-1.5**
PLCA	**Paso Flores**	**152.01**	**260**	PKIKP	**PKPdf**	**16 00 17.8**	**+5.2**
PLCA	**Paso Flores**	**152.01**	**260**	PKPbc	**PKPdf**	**16 00 18.1**	**+5.5**
	comp=Z,1.6nm,0.8s,baz=132,slow=3.1,SNR=4.2						
PLCA	**Paso Flores**	**152.01**	**260**		**PKPdf**	**16 00 17.8**	**+5.2**

ISCJB ***21*** *16:17:50.7±0.2, 6°.80N±0°.02×73°.11W±0°.02, h154km±1km, mb4.2/20, Error ellipse: s-maj=3.1km s-min=2.3km az=29.9*
IDC ***21*** *16:17:51.6±1.2, 6°.74N×73°.00W, h159km±11km, mb3.9/16, mb1 4.1/23, mb1mx4.0/32, mbtmp4.5/23, MS3.4/1, Ms1 3.4/1, ms1mx2.4/24, Error ellipse: s-maj=12.4km s-min=9.6km az=52.0*
UPA ***21*** *16:17:51.0±1.8, 6°.90N×73°.07W, h147km, MW4.7*
NEIC ***21*** *16:17:52.2±1.2, 6°.77N±0°.07×73°.02W±0°.07, h161km±6km, mb4.6/150*
UCR ***21*** *16:17:52.9±0.9, 7°.16N×73°.59W, h0km±999km, MW4.2*
RSNC ***21*** *16:17:53.0±1.0, 6°.81N×73°.18W, h146km±4km, ML4.7, Mw4.4, Fault plane solution: NP1:φs160.00000°, δ82.00000°, λ18.00000°.*

ISC 21 16:17:51.2±0.5, 6°.82N±0°.03×73°.10W±0°.03, h154km±5km, n494, σ1$70/558, mb4.6/82, 16C-12D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**199**	⇑*iP*	**Pn**	**16 18 13.0**	**+0.5**
BARC				*eS*	**Sn**	**16 18 27.8**	**-0.8**
BARC				*i*		16 18 29.7	
	comp=Z,21μm,0.3s						
BARC				*i*		16 18 30.1	
	comp=Z,18μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**38**	⇓*iP*	**Pn**	**16 18 15.8**	**+1.3**
PAMC				*eS*	**Sn**	**16 18 32.6**	**+0.4**
PAMC				*i*		16 18 34.8	
	comp=Z,17μm,0.5s						
PAMC				*i*		16 18 35.2	
	comp=Z,18μm,0.4s						
BRRC	**Barranca, Sant**	**0.67**	**295**	⇓*iP*	**Pn**	**16 18 14.8**	**+0.8**
BRRC				*eS*	**Sn**	**16 18 30.8**	**-0.6**
BRRC				*i*		16 18 37.8	
	comp=Z,5μm,0.5s						
RUSC	**La Rusia**	**0.93**	**179**	⇑*iP*	**Pn**	**16 18 16.9**	**+0.4**
RUSC				*eS*	**Sn**	**16 18 35.3**	**-0.3**
RUSC				*i*		16 18 45.6	
	comp=Z,3μm,0.9s						
TAMC	**Tame, Arauca**	**1.36**	**106**	⇓*iP*	**Pn**	**16 18 21.4**	**+1.7**
TAMC				*eS*	**Sn**	**16 18 42.6**	**+1.0**
TAMC				*i*		16 18 52.6	
	comp=Z,1μm,0.9s						
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	⇑*iP*	**Pn**	**16 18 19.4**	**-0.5**
PTBC				*eS*	**Sn**	**16 18 40.3**	**-1.5**
PTBC				*i*		16 18 47.4	
	comp=Z,7μm,0.5s						
OCAC	**Ocana**	**1.42**	**351**	⇑*iP*	**Pn**	**16 18 21.0**	**+0.5**
OCAC				*eS*	**Sn**	**16 18 42.3**	**-0.7**
OCAC				*i*		16 18 47.5	
	comp=Z,5μm,0.4s						
SPBC	**San Pablo de B**	**1.51**	**220**	⇑*iP*	**Pn**	**16 18 21.7**	**+0.3**
SPBC				*eS*	**Sn**	**16 18 43.6**	**-0.9**
SPBC				*i*		16 18 46.4	
	comp=Z,9μm,0.3s						
CTAU	**Tausa, Cundina**	**1.86**	**210**	*i* P	**Pn**	**16 18 27.7**	**+2.1**
CTAU				*eS*	**Sn**	**16 18 54.2**	**+2.2**
CTAU				*i*		16 19 00.8	
	comp=Z,9μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	⇓*iP*	**Pn**	**16 18 25.0**	**-0.1**
ZARC				*eS*	**Sn**	**16 18 50.2**	**-1.0**
ZARC				*i*		16 18 56.5	
	comp=Z,4μm,0.4s						
NORC	**Norcasia**	**2.16**	**235**	⇑*iP*	**Pn**	**16 18 28.5**	**0.0**
NORC				*eS*	**Sn**	**16 18 56.4**	**-0.9**
NORC				*i*		16 19 00.1	
	comp=Z,4μm,0.3s						
SMLC	**San Martn de**	**2.19**	**334**	*eP*	**Pn**	**16 18 29.1**	**+0.2**
SMLC				*eS*	**Sn**	**16 18 57.4**	**-0.4**
SMLC				*i*		16 19 06.2	
	comp=Z,3μm,0.3s						
CHIC	**Chingaza**	**2.27**	**196**	⇑*iP*	**Pn**	**16 18 30.7**	**+0.5**
CHIC				*eS*	**Sn**	**16 18 59.6**	**-0.7**
CHIC				*i*		16 19 03.6	
	comp=Z,5μm,0.5s						
ROSC	**El Rosal**	**2.31**	**212**	⇑*iP*	**Pn**	**16 18 32.6**	**+1.9**
ROSC				*eS*	**Sn**	**16 19 01.4**	**+0.2**
ROSC				*i*		16 19 06.6	
	comp=Z,7μm,0.5s						
ROSC	**El Rosal**	**2.31**	**212**	P	**Pn**	**16 18 32.6**	**+1.9**
	comp=Z,2μm,0.3s,baz=194,slow=2.0,SNR=1354						
ROSC				S	**Sn**	**16 18 59.0**	**-2.1**
	comp=Z,706nm,0.3s,baz=143,slow=20,SNR=8.2						
ROSC	**El Rosal**	**2.31**	**212**		**Pn**	**16 18 32.7**	**+1.9**
ROSC				Sn	**Sn**	**16 18 59.6**	**-1.6**
CVER	**Cruz Verde, Cu**	**2.48**	**203**	*eP*	**Pn**	**16 18 34.2**	**+1.4**
CVER				*eS*	**Sn**	**16 19 00.5**	**-4.4**
CVER				*i*		16 19 15.3	
	comp=Z,36μm,0.7s						
HELC	**Santa Helena**	**2.49**	**256**	*eP*	**Pn**	**16 18 33.7**	**+0.8**
HELC				*eS*	**Sn**	**16 19 04.0**	**-0.9**
HELC				*i*		16 19 11.8	
	comp=Z,4μm,0.5s						
HELC	**Santa Helena**	**2.49**	**256**	*eP*	**Pn**	**16 18 33.5**	**+0.6**
HELC				*eS*	**Sn**	**16 19 04.2**	**-0.7**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*eP*	**Pn**	**16 18 36.7**	**+0.5**
GUY2C				*eS*	**Sn**	**16 19 14.0**	**+3.1**
GUY2C				*i*		16 19 17.7	
	comp=Z,3μm,0.9s						
VILC	**Villavicencio,**	**2.76**	**192**	*i* P	**Pn**	**16 18 36.2**	**+0.3**
VILC				*eS*	**Sn**	**16 19 09.6**	**-0.9**
VILC				*i*		16 19 13.3	
	comp=Z,6μm,0.5s						
VILC				*i*		16 19 13.7	
	comp=Z,6μm,0.5s						
PTGC	**Puerto Gaitan,**	**2.78**	**160**	*eP*	**Pn**	**16 18 36.1**	**+0.1**
PTGC				*eS*	**Sn**	**16 19 08.7**	**-2.1**
PTGC				*i*		16 19 14.3	
	comp=Z,5μm,0.3s						
RREF	**El Recreo**	**2.94**	**230**	*eP*	**Pn**	**16 18 39.1**	**+0.4**
RREF				*eS*	**Sn**	**16 19 16.2**	**+0.9**
RREF				*i*		16 19 24.9	
	comp=Z,4μm,0.5s						
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*eP*	**Pn**	**16 18 40.6**	**+1.0**
CBOC				*eS*	**Sn**	**16 19 15.4**	**-1.6**
CBOC				*i*		16 19 31.5	
	comp=Z,2μm,0.6s						
DBBC	**Dabeiba**	**3.09**	**274**	⇓*iP*	**Pn**	**16 18 40.4**	**+0.3**
DBBC				*eS*	**Sn**	**16 19 15.7**	**-2.2**
DBBC				*i*		16 19 18.8	
	comp=Z,3μm,0.7s						
CODC	**Agustn Codazz**	**3.11**	**354**	⇑*iP*	**Pn**	**16 18 40.2**	**0.0**
CODC				*eS*	**Sn**	**16 19 17.7**	**-0.5**
CODC				*i*		16 19 26.7	
	comp=Z,1μm,0.6s						
SDV	**Santo Domingo**	**3.19**	**50**	⇑*iP*	**Pn**	**16 18 42.4**	**+1.0**
SDV				*eS*	**Sn**	**16 19 17.9**	**-2.3**
SDV				*i*		16 19 23.3	
	comp=Z,2μm,0.6s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**16 18 42.1**	**+0.7**
	comp=Z,109nm,0.3s,baz=171,slow=2.4,SNR=408						
SDV				S	**Sn**	**16 19 18.1**	**-2.1**
	comp=Z,671nm,0.3s,baz=52,slow=21,SNR=52						
SDV	**Santo Domingo**	**3.19**	**50**		**Pn**	**16 18 42.5**	**+1.1**
SDV				Sn	**Sn**	**16 19 19.9**	**-0.3**
ANIL	**Santa Ana**	**3.26**	**225**	*eP*	**Pn**	**16 18 43.1**	**+0.8**
ANIL				*eS*	**Sn**	**16 19 22.2**	**+0.2**
ANIL				*i*		16 19 30.7	
	comp=Z,7μm,0.3s						
ORTC	**Ortega, Tolima**	**3.60**	**217**	⇑*iP*	**Pn**	**16 18 46.6**	**+0.1**
ORTC				*eS*	**Sn**	**16 19 29.4**	**0.0**
ORTC				*i*		16 19 36.5	
	comp=Z,2μm,0.5s						
SJCC	**San Jacinto, C**	**3.68**	**326**	⇓*iP*	**Pn**	**16 18 46.6**	**-1.0**
SJCC				*eS*	**Sn**	**16 19 27.5**	**-3.8**
SJCC				*i*		16 19 34.7	
	comp=Z,1μm,0.6s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*eP*	**Pn**	**16 18 46.6**	**-1.0**
SJCC				*eS*	**Sn**	**16 19 28.0**	**-3.4**
PLMC	**San Jos del P**	**3.69**	**239**	*eP*	**Pn**	**16 18 48.2**	**+0.4**
PLMC				*eS*	**Sn**	**16 19 32.4**	**+0.8**
PLMC				*i*		16 19 35.3	
	comp=Z,2μm,0.2s						
LCBC	**Los crdobas,**	**3.81**	**302**	*eP*	**Pn**	**16 18 47.2**	**-2.0**
LCBC				*eS*	**Sn**	**16 19 35.2**	**+0.9**
GUVC	**San Jose del G**	**4.28**	**174**	*eP*	**Pn**	**16 18 54.6**	**-0.7**
GUVC				*eS*	**Sn**	**16 19 43.3**	**-1.9**
GUVC				*i*		16 19 48.5	
	comp=Z,2μm,0.3s						
GUVC				*i*		16 19 49.2	
	comp=Z,2μm,0.3s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	⇑*iP*	**Pn**	**16 18 55.1**	**-0.4**
YOTC				*eS*	**Sn**	**16 19 47.2**	**+1.6**
YOTC				*i*		16 19 56.8	
	comp=Z,376nm,0.6s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**16 18 57.3**	**-0.2**
SMRC				*eS*	**Sn**	**16 19 45.9**	**-3.4**
SMRC				*i*		16 19 49.2	
	comp=Z,953nm,0.4s						
PTAC	**Punta Ardita,**	**4.68**	**274**	*eP*	**Pn**	**16 18 59.6**	**-1.0**
PTAC				*eS*	**Sn**	**16 19 51.8**	**-2.8**
PTAC				*i*		16 19 55.5	
	comp=Z,936nm,0.3s						
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*	**Pn**	**16 18 59.6**	**-1.4**
MACC				*eS*	**Sn**	**16 19 51.2**	**-4.1**
MACC				*i*		16 19 54.3	
	comp=Z,1μm,0.9s						
URIC	**Uribia, Colomb**	**4.97**	**13**	*eP*	**Pn**	**16 19 03.2**	**-1.2**
URIC				*eS*	**Sn**	**16 19 56.1**	**-5.3**
URIC				*i*		16 20 02.5	
	comp=Z,258nm,0.8s						
MALC	**Bahia Malaga**	**5.06**	**237**	*eP*	**Pn**	**16 19 06.9**	**+1.3**
MALC				*eS*	**Sn**	**16 20 04.8**	**+1.3**
MALC				*i*		16 20 18.8	
	comp=Z,361nm,0.6s						
MALC				*i*		16 20 20.2	
	comp=Z,442nm,0.6s						
UPD2	**Meteti**	**5.16**	**290**	*eP*	**Pn**	**16 19 05.5**	**-1.5**
UPD2				*eS*	**Sn**	**16 20 04.0**	**-2.0**
UPD2				*i*		16 20 07.6	
	comp=Z,607nm,0.3s						
UPD2	**Meteti**	**5.16**	**290**	*eP*	**Pn**	**16 19 05.1**	**-1.8**
UPD2				*eP*	**Pn**	**16 19 06.6**	**-0.3**
UPD2				*eS*	**Sn**	**16 20 02.5**	**-3.5**
BAUV	**El Baul**	**5.44**	**67**	⇑*iP*	**Pn**	**16 19 09.4**	**-1.2**
BAUV	**El Baul**	**5.44**	**67**	*eS*	**Sn**	**16 20 09.3**	**-3.2**
PCON	**Cinco Dias**	**5.54**	**216**	*eP*	**Pn**	**16 19 12.8**	**+0.3**
PCON				*eS*	**Sn**	**16 20 10.1**	**-5.9**
PCON				*i*		16 20 48.1	
	comp=Z,325nm,0.6s						
POPC	**Popayan, Colom**	**5.55**	**220**	⇑*iP*	**Pn**	**16 19 12.2**	**-0.1**
POPC				*eS*	**Sn**	**16 20 12.3**	**-3.3**
POPC				*i*		16 20 35.0	
	comp=Z,101nm,0.9s						
FLOC	**Florencia**	**5.79**	**206**	⇑*iP*	**Pn**	**16 19 14.9**	**-0.5**
FLOC				*eS*	**Sn**	**16 20 19.7**	**-1.5**
FLOC				*i*		16 20 57.8	
	comp=Z,332nm,0.8s						
BBAC	**Balboa, Cauca**	**6.31**	**221**	*eP*	**Pn**	**16 19 22.4**	**0.0**
BBAC				*eS*	**Sn**	**16 20 30.2**	**-3.5**
BBAC				*i*		16 20 41.4	
	comp=Z,142nm,0.4s						
GRGC	**Isla de Gorgon**	**6.32**	**233**	*eP*	**Pn**	**16 19 20.9**	**-1.3**
GRGC				*eS*	**Sn**	**16 20 29.5**	**-4.0**
GRGC				*i*		16 20 39.9	
	comp=Z,42nm,0.6s						
GRGC				*i*		16 20 43.1	
	comp=Z,78nm,1.0s						
UPA	**Univ. de Panam**	**6.72**	**289**	⇓*eP*	**Pn**	**16 19 25.6**	**-2.0**
UPA				*eS*	**Sn**	**16 20 38.1**	**-5.2**
PTLC	**Puerto Leguiza**	**6.82**	**194**	*eP*	**Pn**	**16 19 31.3**	**+2.3**
PTLC				*eS*	Sn	16 21 03.2	+17
PTLC				*i*		16 21 31.6	
	comp=Z,268nm,0.5s						
GCUF	**Volcan Galeras**	**6.99**	**217**	*eP*	**Pn**	**16 19 32.2**	**+0.6**
GCUF				*eS*	**Sn**	**16 20 48.0**	**-2.4**
GCUF				*i*		16 20 52.7	
	comp=Z,84nm,0.7s						
ZANG	**Zanguenga, Cho**	**7.03**	**288**	*eP*	**Pn**	**16 19 29.7**	**-2.0**
ZANG	**Zanguenga, Cho**	**7.03**	**288**	*eP*	**Pn**	**16 19 29.3**	**-2.4**
ZANG				*eS*	Sn	16 20 40.0	-11
BCIP	**Isla Barro Col**	**7.07**	**290**	*eP*	**Pn**	**16 19 30.4**	**-1.8**
BCIP	**Isla Barro Col**	**7.07**	**290**		**Pn**	**16 19 30.2**	**-2.0**
BCIP	**Isla Barro Col**	**7.07**	**290**	*eP*	**Pn**	**16 19 30.3**	**-1.9**
VTON	**El Valle, Cocl**	**7.17**	**285**	*eP*	**Pn**	**16 19 33.8**	**+0.1**
VTON				*eS*	**Sn**	**16 20 51.0**	**-3.2**
AZU	**Azuero**	**7.18**	**278**	*eP*	**Pn**	**16 19 33.1**	**-0.7**
AZU				*eP*	**Pn**	**16 19 33.2**	**-0.5**
AZU				*eS*	**Sn**	**16 20 49.9**	**-4.4**
AZU	**Azuero**	**7.18**	**278**	*eP*	**Pn**	**16 19 33.1**	**-0.7**
OTAV	**Otavalo**	**8.44**	**219**	*eP*	**Pn**	**16 19 49.8**	**-1.2**
OTAV				*eS*	**Sn**	**16 21 20.4**	**-4.9**
OTAV				*i*		16 21 32.2	
	comp=Z,34nm,0.9s						
OTAV	**Otavalo**	**8.44**	**219**		**Pn**	**16 19 50.4**	**-0.6**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**16 19 56.4**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=248,slow=5.4,SNR=5.4						
PCRV				S	**Sn**	**16 21 35.5**	**-2.8**
	comp=Z,3.0nm,0.3s,baz=131,slow=20,SNR=4.5						
PCRV				LR	LR	16 23 46.0	
	comp=Z,264nm,20.3s,slow=39						
PLCV	**Puerto La Cruz**	**9.05**	**68**		**Pn**	**16 19 56.4**	**-2.2**
PLCV					**Sn**	**16 21 35.5**	**-3.7**
PRVC	**Isla de Provid**	**10.42**	**309**	*eP*	**Pn**	**16 20 13.5**	**-3.3**
PRVC				*eS*	**Sn**	**16 22 04.6**	**-7.6**
PRVC				*i*		16 22 16.1	
	comp=Z,74nm,0.5s						
LCR2	**La Lucha 2**	**11.17**	**286**	*eP*	**Pn**	**16 20 28.2**	**+1.3**
HDC	**Heredia**	**11.34**	**287**	Pn	**Pn**	**16 20 30.9**	**+1.9**
GUIV	**Guiria**	**11.40**	**70**	*eP*	**P**	**16 20 37.9**	**+0.7**
GUIV	**Guiria**	**11.40**	**70**	*eP*	**P**	**16 20 38.2**	**+0.9**
PCJ	**Portland Cotta**	**11.55**	**340**	⇓*iP*	**Pn**	**16 20 34.6**	**+3.0**
LGNH	**Logne**	**11.63**	**2**	Pn	**Pn**	**16 20 33.1**	**+0.6**
CMJ	**Castle Mountai**	**11.69**	**344**	⇑*iP*	**Pn**	**16 20 36.8**	**+3.4**
STH	**Stony Hill**	**11.76**	**342**	⇓*iP*	**Pn**	**16 20 36.6**	**+2.3**
BANI	**BANI**	**11.80**	**13**	Pn	**Pn**	**16 20 33.9**	**-1.1**
MCJ	**Malvern**	**11.91**	**338**	⇓*iP*	**Pn**	**16 20 39.8**	**+3.5**
MCJ				*i* S	Sn	16 22 39.2	-8.9
BNJ	**Bonny Gate**	**12.03**	**342**	⇓*iP*	**Pn**	**16 20 40.5**	**+2.7**
MTDJ	**Mount Denham**	**12.13**	**340**		**Pn**	**16 20 41.4**	**+2.2**
BBJ	**Bamboo Saint A**	**12.19**	**341**	⇓*iP*	**Pn**	**16 20 43.1**	**+3.1**
SDDR	**Presa de Saban**	**12.21**	**8**		**Pn**	**16 20 41.5**	**+1.2**
JTS	**Las Juntas de**	**12.21**	**287**	P	**Pn**	**16 20 42.3**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=132,slow=9.0,SNR=9.0						
JTS	**Las Juntas de**	**12.21**	**287**	P	**Pn**	**16 20 42.9**	**+2.6**
ESPN	**Las Esperanzas**	**12.27**	**297**		**Pn**	**16 20 40.3**	**-0.6**
DR12	**Loma Pena Alta**	**12.43**	**17**	P	**Pn**	**16 20 40.3**	**-2.8**
GRGR	**Grenville**	**12.46**	**64**	Pn	**Pn**	**16 20 46.4**	**+2.9**
MLPR	**Magueyes Islan**	**12.55**	**28**	Pn	**Pn**	**16 20 41.3**	**-3.3**
CRPR	**Cabo Rojo, PR**	**12.56**	**27**	P	**Pn**	**16 20 42.5**	**-2.1**
MPR	**Mayaguez**	**12.72**	**27**	P	**Pn**	**16 20 44.3**	**-2.5**
OBIP	**Obispado Ponce**	**12.82**	**29**		**Pn**	**16 20 46.1**	**-1.9**
ACON	**Acoyapa**	**12.96**	**294**	P	**Pn**	**16 20 49.0**	**-0.9**
IGPR	**InterUniversit**	**13.01**	**31**	P	**Pn**	**16 20 49.0**	**-1.4**
AOPR	**Arecibo Observ**	**13.02**	**28**	P	**Pn**	**16 20 49.1**	**-1.4**
PDPR	**Patillas Dam,**	**13.09**	**31**	P	**Pn**	**16 20 50.1**	**-1.5**
SJG	**San Juan**	**13.11**	**30**	P	**Pn**	**16 20 49.0**	**-2.7**
	comp=Z,14nm,0.3s,baz=205,slow=12,SNR=15						
SJG	**San Juan**	**13.11**	**30**	P	**Pn**	**16 20 49.5**	**-2.3**
GTBY	**Guantanamo Bay**	**13.17**	**352**		**Pn**	**16 20 52.2**	**-0.3**
TOSP	**Speyside**	**13.18**	**69**		**P**	**16 20 55.8**	**-1.2**
HUMP	**Col San Antoni**	**13.29**	**31**	P	**Pn**	**16 20 52.6**	**-1.4**
GCPR	**Guaynabo City**	**13.31**	**30**	P	**Pn**	**16 20 52.4**	**-1.9**
CBYP	**Canovanas**	**13.39**	**31**	P	**Pn**	**16 20 54.5**	**-0.9**
MTP	**Monte Pirata**	**13.41**	**33**	P	**Pn**	**16 20 54.4**	**-1.1**
STVI	**Saint Thomas**	**13.94**	**34**	P	**Pn**	**16 21 01.5**	**-0.7**
FDF	**Fort de France**	**14.12**	**55**		**Pn**	**16 21 03.4**	**-1.3**
CBCY	**The Bluff, Cay**	**14.37**	**334**		**P**	**16 21 11.2**	**+0.9**
SABA	**Saba**	**14.41**	**41**		**P**	**16 21 10.1**	**-0.6**
ABVI	**Anegada Island**	**14.59**	**35**		**P**	**16 21 12.2**	**-0.5**
FSCY	**Frank Sound, G**	**14.69**	**328**	Pn	**P**	**16 21 13.4**	**-0.4**
GRTK	**Grand Turk**	**14.72**	**7**	Pn	**Pn**	**16 21 11.5**	**-0.6**
ATAH	**Atahualpa**	**14.84**	**201**	P	**Pn**	**16 21 12.7**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=281,slow=16,SNR=3.2						
TGUH	**Tegucigalpa,Un**	**15.67**	**298**		**Pn**	**16 21 21.1**	**-2.9**
SAML	**Samuel**	**18.53**

MIAR	Mount Ida	33.43	328	P	P	16 24 16.5 +1.1
	baz=141					
WCI	Wyandotte Cave	33.47	341	P	P	16 24 17.3 +1.6
	baz=156					
WCI	Wyandotte Cave	33.47	341	P	P	16 24 16.2 +0.5
LCAR	Lake Charles	33.48	333	P	P	16 24 17.1 +1.3
LCAR				IAmb	IAmb	16 24 17.9
	comp=Z,7.1nm,0.5s					
O57A	Amberson	33.49	354	P	P	16 24 18.8 +2.9
	baz=172					
P52A	Corning	33.66	347	P	P	16 24 19.9 +2.5
	baz=164					
LUPA	Lehigh Univers	33.69	357	P	P	16 24 19.3 +1.7
PBMO	Poplar Bluff	33.75	335	P	P	16 24 19.4 +1.3
PBMO				IAmb	IAmb	16 24 20.7
	comp=Z,13nm,0.8s					
FCAR	Ozark Folk Cen	33.78	332	P	P	16 24 19.2 +0.8
N61A	South Mountain	33.80	358	P	P	16 24 20.5 +2.0
	baz=178					
N60A	Cedar Hill Far	33.95	357	P	P	16 24 22.1 +2.3
	baz=176					
N59A	State Game Lan	34.03	356	P	P	16 24 22.7 +2.2
	baz=175					
P50A	Jamestown	34.03	345	P	P	16 24 22.3 +1.7
	baz=161					
PAL	Palisades	34.04	359	P	P	16 24 22.7 +2.1
	baz=178					
W39A	Magazine	34.05	329	P	P	16 24 21.9 +1.3
	baz=141,SNR=5.9					
W39A	Magazine	34.05	329	P	P	16 24 22.0 +1.3
W39A				IAmb	IAmb	16 24 22.7
	comp=Z,14nm,0.7s					
S44A	Carbondale	34.06	337	P	P	16 24 22.0 +1.2
	baz=150					
SIUC	Southern Illin	34.06	337	P	P	16 24 22.2 +1.4
O52A	Adamsville	34.06	348	P	P	16 24 23.1 +2.3
	baz=164					
O53A	New Philadelph	34.07	349	P	P	16 24 23.4 +2.6
	baz=166					
M60A	Port Jervis	34.38	358	P	P	16 24 25.8 +2.3
	baz=177					
M63A	Gales Ferry	34.45	1	P	P	16 24 26.4 +2.3
	baz=182					
O50A	Cable	34.49	346	P	P	16 24 26.5 +1.9
	baz=161					
U40A	Yellville	34.50	331	P	P	16 24 25.8 +1.2
	baz=144,SNR=23					
U40A	Yellville	34.50	331	P	P	16 24 25.4 +0.8
M58A	Price's Panora	34.53	356	P	P	16 24 27.4 +2.6
	baz=174					
M57A	Sunshine Farm,	34.55	355	P	P	16 24 27.3 +2.3
	baz=173					
M64A	Tiverton	34.62	2	P	P	16 24 27.9 +2.3
	baz=183					
M59A	Waymart	34.63	357	P	P	16 24 28.0 +2.3
	baz=176					
KSPA	Keystone Colle	34.67	356	P	P	16 24 28.2 +2.2
N52A	McGinn's Farm,	34.70	349	P	P	16 24 28.9 +2.6
	baz=165					
M56A	Emporium	34.81	353	P	P	16 24 29.6 +2.4
	baz=171					
MGMO	Mountain Grove	34.88	333	P	P	16 24 28.6 +0.8
MGMO				IAmb	IAmb	16 24 29.3
	comp=Z,6.4nm,0.8s					
HHAR	Hobbs	34.97	330	P	P	16 24 29.1 +0.3
HHAR				IAmb	IAmb	16 24 29.8
	comp=Z,8.3nm,0.7s					
P46A	Rosedale	35.03	341	P	P	16 24 30.5 +1.4
	baz=155					
L60A	Shokan	35.03	359	P	P	16 24 31.7 +2.6
	baz=178					
L58A	Harry Jones Me	35.16	356	P	P	16 24 32.8 +2.6
	baz=175					
CCM	Cathedral Cave	35.18	335	P	P	16 24 31.6 +1.2
	baz=148					
CCM	Cathedral Cave	35.18	335	P	P	16 24 31.5 +1.1
L57A	Andrews Acres	35.19	355	P	P	16 24 33.3 +2.9
	baz=174					
L61A	Hillsdale 1, H	35.23	359	P	P	16 24 33.4 +2.6
	baz=179					
L59A	Walton	35.26	358	P	P	16 24 33.4 +2.3
	baz=177					
BINY	Binghamton	35.32	356	P	P	16 24 34.2 +2.6
	baz=175					
L56A	Greenwood	35.39	354	P	P	16 24 34.4 +2.2
	baz=172					
N48A	Decatur	35.53	344	P	P	16 24 34.7 +1.3
	baz=159					
L55A	Hinsdale	35.53	353	P	P	16 24 34.5 +1.1
	baz=171					
HRV	Adam Dziewonsk	35.56	2	P	P	16 24 35.3 +1.7
	baz=183					
ABTX	Abilene, Hawle	35.61	320	P	P	16 24 35.2 +1.0
	baz=130					
TUL1	Leonard	35.64	327	P	P	16 24 35.4 +1.0
	baz=139					
SFIN	Lafayette	35.69	342	P	P	16 24 36.3 +1.6
	baz=156,SNR=7.5					
SFIN	Lafayette	35.69	342	P	P	16 24 35.7 +1.0
K62A	Royalston	35.70	1	P	P	16 24 37.2 +2.4
	baz=181					
N47A	Urbana	35.73	344	P	P	16 24 37.3 +2.2
	baz=158					
K63A	Dunstable	35.74	2	P	P	16 24 37.5 +2.3
	baz=183					
K58A	Earlville	35.86	357	P	P	16 24 38.5 +2.3
	baz=176					
K57A	Scipio Center	35.89	356	P	P	16 24 38.6 +2.2
	baz=174					
J60A	Lant Hill Farm	36.27	360	P	P	16 24 42.1 +2.4
	baz=179					
J61A	Chester	36.38	1	P	P	16 24 42.7 +2.1
	baz=181					
J58A	Remsen	36.44	357	P	P	16 24 43.1 +2.0
	baz=176					
TX31	Lajitas Ar. Si	36.48	312	P	P	16 24 42.4 +0.7
TX31				IAmb	IAmb	16 24 43.5
	comp=Z,7.2nm,0.7s					
TX31					PcP	16 27 03.9 +1.5
TX32	Lajitas Array	36.48	312	P	P	16 24 42.4 +0.7
TX32				IAmb	IAmb	16 24 43.5
	comp=Z,7.5nm,0.7s					
TX32					PcP	16 27 03.8 +1.4
TXAR	Lajitas Array	36.48	312	P	P	16 24 42.6 +0.9
	comp=Z,7.1nm,0.6s,baz=127,slow=9.2,SNR=82					
TXAR				PcP	PcP	16 27 04.0 +1.6
	comp=Z,1.4nm,0.6s,baz=134,slow=5.7,SNR=7.4					
TXAR	Lajitas Array	36.48	312	P	P	16 24 42.1 +0.4
WMOK	Wichita Mounta	36.49	323	P	P	16 24 41.8 +0.1
	baz=134,SNR=8.2					
WMOK	Wichita Mounta	36.49	323	P	P	16 24 41.2 -0.5
WMOK				IAmb	IAmb	16 24 42.4
	comp=Z,7.3nm,0.7s					
J59A	Piesco	36.52	358	P	P	16 24 43.7 +2.0
	baz=178					
J57A	Williamstown	36.53	356	P	P	16 24 44.1 +2.3
	baz=175					
I58A	Old Forge	36.76	358	P	P	16 24 45.7 +1.9
	baz=177,SNR=5.6					
HPIG		36.84	307	P	P	16 24 45.2 +0.2
HPIG				IAmb	IAmb	16 24 46.3
	comp=Z,8.9nm,0.5s					
I61A	Oroboro, Fairl	36.97	1	P	P	16 24 47.5 +1.9
	baz=181					
I64A	Boothbay	37.07	4	P	P	16 24 48.4 +2.0
	baz=186					
LBNH	Lisbon	37.28	1	P	P	16 24 50.5 +2.3
	baz=182					
H58A	Gabriels	37.46	359	P	P	16 24 52.2 +2.5
	baz=178					
I55A	Frankford	37.46	355	P	P	16 24 51.7 +2.0
	baz=172					
I51A	Listowel	37.48	351	P	P	16 24 52.5 +2.6
	baz=167					
H57A	Richville	37.55	357	P	P	16 24 52.7 +2.3
	baz=176					
H60A	Morristown	37.59	0	P	P	16 24 52.8 +2.0
	baz=181					
H56A	Elgin	37.72	356	P	P	16 24 54.2 +2.3
	baz=175					
H55A	Tweed	37.75	355	P	P	16 24 54.5 +2.4
	baz=173					
H64A	Troy	37.82	5	P	P	16 24 54.4 +1.7
	baz=186					
I49A	Point Hope	37.94	349	P	P	16 24 55.6 +1.9
	baz=164					
G60A	Masonville	38.13	1	P	P	16 24 57.6 +2.3
	baz=181					
H66A	Whiting	38.15	7	P	P	16 24 57.1 +1.7
	baz=189					
G57A	Newington	38.17	358	P	P	16 24 57.6 +2.0
	baz=177					
K43A	Burlington	38.18	342	P	P	16 24 56.4 +0.6
	baz=155					
G63A	Kingsbury	38.26	4	P	P	16 24 58.7 +2.3
	baz=186					
G62A	West of Eustis	38.31	3	P	P	16 24 58.9 +2.1
	baz=184					
G62A	West of Eustis	38.31	3	P	P	16 24 58.8 +2.0
AMTX	Amarillo	38.36	321	P	P	16 24 58.8 +1.2
	baz=130					
AMTX	Amarillo	38.36	321	P	P	16 24 58.0 +0.5
G55A	Calabogie	38.41	356	P	P	16 24 59.3 +1.7
	baz=174					
G53A	Haliburton	38.45	354	P	P	16 24 59.6 +1.6
	baz=171					
G64A	Maxfield	38.47	5	P	P	16 25 00.0 +1.9
	baz=187					
MSTX	Muleshoe	38.49	319	P	P	16 24 59.3 +0.6
	baz=128,SNR=6.2					
MSTX	Muleshoe	38.49	319	P	P	16 24 58.6 -0.1
MSTX				IAmb	IAmb	16 25 00.1
	comp=Z,19nm,1.1s					
G65A	Princeton	38.53	6	P	P	16 25 00.3 +1.7
	baz=189					
L40A	Anamosa	38.60	338	P	P	16 24 59.2 -0.1
	baz=150					
G54A	Lake Saint Pet	38.67	354	P	P	16 25 01.4 +1.6
	baz=172					
F55A	Otter Lake	38.97	356	P	P	16 25 05.0 +2.8
	baz=175					
MNTX	Cornudas Mount	38.98	314	P	P	16 25 03.7 +1.0
	baz=123,SNR=27					
MNTX	Cornudas Mount	38.98	314	P	P	16 25 03.0 +0.4
MNTX				IAmb	IAmb	16 25 05.3
	comp=Z,15nm,0.8s					
JFWS	Jewell Farm	39.00	340	P	P	16 25 03.2 +0.6
	baz=152,SNR=5.2					
JFWS	Jewell Farm	39.00	340	P	P	16 25 03.1 +0.6
F61A	St Evariste	39.05	2	P	P	16 25 04.3 +1.4
	baz=183					
F64A	Sherman	39.11	5	P	P	16 25 05.1 +1.7
	baz=187					
F52A	Sundridge	39.20	353	P	P	16 25 05.8 +1.6
	baz=170					
ALGO	Algonquin Park	39.22	355	P	P	16 25 06.0 +1.6
	baz=172					
E58A	La Victoria	39.40	360	P	P	16 25 07.5 +1.7
	baz=180					
F51A	Arnstein	39.40	353	P	P	16 25 07.7 +1.8
	baz=169					
I42A	Draeger Farm,	39.44	342	P	P	16 25 07.2 +1.0
	baz=155					
E57A	Chemin Saint G	39.45	359	P	P	16 25 08.1 +1.8
	baz=178,SNR=5.9					
E61A	Lac Etchemin	39.52	3	P	P	16 25 09.1 +2.2
	baz=184					
E55A	Montcerf-Lytto	39.56	357	P	P	16 25 08.9 +1.7
	baz=175					
E52A	Mattawa	39.61	354	P	P	16 25 09.3 +1.7
	baz=171					
E56A	St. Veronique	39.61	358	P	P	16 25 09.2 +1.7
	baz=177					
E54A	Lac Daplat, Po	39.62	356	P	P	16 25 09.1 +1.4
	baz=174					
E63A	Oxbow	39.66	5	P	P	16 25 09.7 +1.7
	baz=187					
E64A	Bridgewater	39.71	6	P	P	16 25 10.3 +1.9
	baz=188					
E62A	Clayton Lake	39.77	4	P	P	16 25 10.5 +1.6
	baz=186					
E62A	Clayton Lake	39.77	4	P	P	16 25 10.1 +1.2
E62A				IAmb	IAmb	16 25 12.1
	comp=Z,16nm,0.8s					
CBKS	Cedar Bluff	39.90	327	P	P	16 25 11.2 +0.9
	baz=136					
D57A	Chemin Vers le	40.05	359	P	P	16 25 12.6 +1.4
	baz=179					
D55A	Sainte-Anne-du	40.10	357	P	P	16 25 13.4 +1.8
	baz=176					
D56A	ZEC Mazanza, M	40.10	358	P	P	16 25 13.3 +1.6
	baz=177					
D58A	Chemin du LacG	40.12	0	P	P	16 25 13.6 +1.7
	baz=180					
D62A	Allapoint, All	40.26	4	P	P	16 25 14.9 +2.0
	baz=186,SNR=7.3					
D62A	Allapoint, All	40.26	4	P	P	16 25 13.7 +0.8
D52A	ZEK Kipawa Sen	40.27	354	P	P	16 25 15.3 +2.3
	baz=172					
E48A	Lockeyer	40.27	350	P	P	16 25 15.4 +2.3
	baz=166					
D63A	Stockholm	40.30	5	P	P	16 25 15.0 +1.8
	baz=188,SNR=5.8					
D54A	Lac Fusel, La	40.30	356	P	P	16 25 15.2 +2.0
	baz=174					
D53A	Lac Vacive, Po	40.30	355	P	P	16 25 15.3 +2.0
	baz=173					
D61A	St Aubert, Com	40.31	3	P	P	16 25 15.6 +2.3
	baz=184					
LATQ	La Tuque	40.41	0	P	P	16 25 16.2 +2.0
	baz=180					
E46A	Sault Ste Mari	40.56	348	P	P	16 25 17.3 +1.8
	baz=163					
D48A	Paudash Townsh	40.89	351	P	P	16 25 20.1 +1.9
	baz=167					
G40A	Rib Lake	41.08	342	P	P	16 25 20.3 +0.6
	baz=154					
121A	Cookes Peak, D	41.16	313	P	P	16 25 22.5 +1.8
	baz=121					
121A	Cookes Peak, D	41.16	313	P	P	16 25 22.3 +1.5
LENM	Lemitar	41.44	316	P	P	16 25 23.8 +0.7
T25A	Trinidad	41.50	321	P	P	16 25 25.3 +1.7
	baz=129					
T25A	Trinidad	41.50	321	P	P	16 25 25.3 +1.7
ANMO	Albuquerque	41.52	317	P	P	16 25 25.3 +1.6
	baz=125					
ANMO	Albuquerque	41.52	317	P	P	16 25 24.7 +0.9
319A	Douglas	41.69	311	P	P	16 25 25.5 +0.4
319A				IAmb	IAmb	16 25 27.8
	comp=Z,10nm,0.8s					
ECSD	EROS Data Cent	42.15	334	P	P	16 25 29.0 +0.5
	baz=144					
ECSD	EROS Data Cent	42.15	334	P	P	16 25 28.9 +0.4
ECSD				IAmb	IAmb	16 25 29.6
	comp=Z,6.0nm,0.4s					
LSQQ	Lebel-sur-Quev	42.22	356	P	P	16 25 30.7 +1.9
	baz=174					
SDCO	Great Sand Dun	42.56	321	P	P	16 25 33.9 +1.7
	baz=128,SNR=15					
SDCO	Great Sand Dun	42.56	321	P	P	16 25 33.9 +1.7
SDCO				IAmb	IAmb	16 25 34.8
	comp=Z,6.9nm,0.7s					
MATQ	Matagami	42.96	356	P	P	16 25 36.6 +1.7
	baz=173					
Q24A	Divide	43.11	323	P	P	16 25 37.5 +0.9
	baz=130					
TUC	Tucson	43.26	311	P	P	16 25 38.9 +1.2
	baz=118					
TUC	Tucson	43.26	311	P	P	16 25 38.4 +0.7
TUC				IAmb	IAmb	16 25 39.9
	comp=Z,8.0nm,0.8s					
X18A	Snowflake	43.73	314	P	P	16 25 43.0 +1.4
X18A				IAmb	IAmb	16 25 44.3
	comp=Z,10nm,0.9s					
EYMN	Ely	43.87	342	P	P	16 25 43.0 +0.7
	baz=153					
EYMN	Ely	43.87	342	P	P	16 25 42.3 0.0
ISCO	Idaho Springs	43.91	323	P	P	16 25 44.3 +1.2
	baz=130,SNR=7.6					
ISCO	Idaho Springs	43.91	323	P	P	16 25 44.2 +1.1
MVCO	Mesa Verde	44.17	318	P	P	16 25 46.3 +1.2
	baz=124					
MVCO	Mesa Verde	44.17	318	P	P	16 25 46.2 +1.2
SMCO	Snowmass	44.35	322	P	P	16 25 47.4 +0.7
214A	Organ Pipe Nat	44.64	309	P	P	16 25 50.4 +1.8
	baz=116					
PV01	Paradox Valley	44.74	319	P	P	16 25 51.4 +1.8
PV01				IAmb	IAmb	16 25 52.4
	comp=Z,8.4nm,0.8s					
X16A	Lo Mia Camp, P	44.74	313	P	P	16 25 51.1 +1.6
PHWY	Pilot Hill	44.80	325	P	P	16 25 51.2 +1.2
N23A	Red Feather La	44.81	324	P	P	16 25 52.1 +1.9
	baz=130					
N23A	Red Feather La	44.81	324	P	P	16 25 51.5 +1.3
N23A				IAmb	IAmb	16 25 52.7
	comp=Z,27nm,1.6s					
PV13	Radium Mtn., P	44.91	319	P	P	16 25 52.5 +1.6
PV13				IAmb	IAmb	16 25 53.4
	comp=Z,15nm,0.7s					
PV07	Paradox Valley	44.96	320	P	P	16 25 52.5 +1.2
PV07				IAmb	IAmb	16 25 53.8
	comp=Z,18nm,1.4s					
PV03	Paradox Valley	44.99	319	P	P	16 25 53.0 +1.5
PV03				IAmb	IAmb	16 25 53.8
	comp=Z,7.3nm,0.6s					
PV12	Saucer Basin,	44.99	320	P	P	16 25 53.0 +1.5
PV12				IAmb	IAmb	16 25 54.1
	comp=Z,10nm,0.7s					
PV18	Skein Mesa, Pa	45.02	319	P	P	16 25 53.2 +1.5
PV18				IAmb	IAmb	16 25 56.0
	comp=Z,9.6nm,0.8s					
PV11	David Mesa, Pa	45.03	319	P	P	16 25 53.2 +1.4
PV05	Paradox Valley	45.05	319	P	P	16 25 53.0 +1.0
PV05				IAmb	IAmb	16 25 53.8
	comp=Z,12nm,0.6s					
PV16	Nyswonger Mesa	45.06	319	P	P	16 25 53.4 +1.3
PV16				IAmb	IAmb	16 25 56.4
	comp=Z,19nm,1.6s					
PV17	East Wray Mesa	45.07	319	P	P	16 25 53.4 +1.2
PV17				IAmb	IAmb	16 25 55.9
	comp=Z,6.1nm,0.6s					
PV22	Blue Mesa, Par	45.11	320	P	P	16 25 53.8 +1.4
PV22				IAmb	IAmb	16 25 54.7
	comp=Z,8.2nm,0.7s					
WUAZ	Wupatki	45.23	315	P	P	16 25 55.1 +1.7
	baz=120,SNR=15					
WUAZ	Wupatki	45.23	315	P	P	16 25 54.9 +1.5
WUAZ				IAmb	IAmb	16 25 56.6
	comp=Z,20nm,0.8s					
PV21	Cone Mtn., Par	45.24	320	P	P	16 25 54.9 +1.3
AGMN	Agassiz Nation	45.63	339	P	P	16 25 56.4 +0.2
	baz=148					
Y14A	Wickenburg	45.66	312	P	P	16 25 57.7 +1.0
Y14A				IAmb	IAmb	16 25 58.9
	comp=Z,14nm,0.8s					
O20A	White River Ci	45.71	322	P	P	16 25 59.1 +1.9
	baz=127					
O20A	White River Ci	45.71	322	P	P	16 25 58.5 +1.4
O20A				IAmb	IAmb	16 26 11.7
	comp=Z,26nm,1.6s					
RSSD	Black Hills	45.95	329	P	P	16 26 00.4 +1.4
	baz=135					
U15A	North Rim	46.33	315	P	P	16 26 03.6 +1.5
U15A				IAmb	IAmb	16 26 05.0
	comp=Z,12nm,0.9s					
SRU	San Rafael Swe	46.55	319	P	P	16 26 05.0 +1.2
GLA	Glamis	46.65	310	P	P	16 26 05.9 +1.5
	baz=115					
GLA	Glamis	46.65	310	P	P	16 26 05.7 +1.3
GLA				IAmb	IAmb	16 26 06.7
	comp=Z,16nm,0.7s					
P17A	Butcher Ranch,	46.89	320	P	P	16 26 07.8 +1.4
KNB	Kanab	46.99	316	P	P	16 26 08.8 +1.6
MTPU	Mount Pierson	47.08	317	P	P	16 26 09.6 +1.6
TMUT	Trail Mountain	47.10	319	P	P	16 26 09.2 +1.1
LCMT	Little Creek M	47.28	315	P	P	16 26 10.8 +1.4
ULM	Lac du Bonnet	47.29	340	P	P	16 26 09.0 0.0
	comp=Z,9.1nm,0.4s,baz=151,slow=7.1,SNR=31					
ULM	Lac du Bonnet	47.29	340	P	P	16 26 09.0 0.0
ULM				IAmb	IAmb	16 26 09.8
	comp=Z,11nm,0.5s					
MSU	Marysvale	47.32	318	P	P	16 26 11.2 +1.4
SWSC	Sam W. Stewart	47.35	309	P	P	16 26 11.0 +1.2
	baz=114					
IRM	Iron Mountain	47.35	311	P	P	16 26 10.9 +1.1
	baz=115					
BC3	Big Chuckawall	47.37	310	P	P	16 26 10.3 +0.2
	baz=115					
SZCU	Shurtz Canyon	47.46	316	P	P	16 26 11.6 +0.8
CCUT	Cedar City	47.63	316	P	P	16 26 13.5 +1.3
MONP2	Monument Peak	47.81	309	P	P	16 26 13.3 -0.3
	baz=113					
BELC	Belle Mtn. Jos	47.93	310	P	P	16 26 15.5 +1.0
	baz=114					
GMRC	Granite Mounta	48.01	311	P	P	16 26 16.1 +1.1
	baz=116					
NLU	North Lily Min	48.02	319	P	P	16 26 16.3 +1.2
BW06	Boulder Array	48.09	324	P	P	16 26 16.4 +0.8
	baz=128,SNR=7.0					
BW06	Boulder Array	48.09	324	P	P	16 26 16.2 +0.6
PD31	Pinedale Array	48.09	324	P	P	16 26 16.0 +0.4
PDAR	Pinedale Array	48.09	324	P	P	16 26 16.1 +0.5
	comp=Z,2.6nm,0.5s,baz=127,slow=9.4,SNR=32					
PDAR				PcP	PcP	16 27 40.7 -0.2
	comp=Z,0.7nm,0.6s,baz=123,slow=6.5,SNR=2.8					
PDAR	Pinedale Array	48.09	324	P	P	16 26 15.9 +0.3
PDAR				PcP	PcP	16 27 40.6 -0.4
SCHQ	Schefferville	48.14	5	P	P	16 26 16.8 +1.3
	comp=Z,27nm,0.6s,baz=196,slow=7.0,SNR=10					
SCHQ	Schefferville	48.14	5	P	P	16 26 16.5 +1.0
TCUT	Toone Canyon	48.24	321	P	P	16 26 18.0 +1.2
SHPR	Sheep Range	48.40	314	P	P	16 26 19.2 +1.2
PSUT	Pine Spring	48.46	317	P	P	16 26 19.7 +1.2
TUQ	Turquoise Moun	48.48	312	P	P	16 26 19.7 +1.1
	baz=116					
HEC	Hector,Ludlow	48.53	311	P	P	16 26 20.0 +1.1
	baz=115					
DUG	Dugway, Tooele	48.62	319	P	P	16 26 20.9 +1.3
	baz=122					
DUG	Dugway, Tooele	48.62	319	P	P	16 26 21.1 +1.4
BBRC	Big Bear Solar	48.73	310	P	P	16 26 21.3 +0.6
	baz=114					
LAO	LASA Array	48.84	330	P	P	16 26 21.6 +0.5
	baz=134					
AHID	Auburn Hatcher	49.00	323	P	P	16 26 23.1 +0.6
AHID				IAmb	IAmb	16 26 28.6
	comp=Z,6.3nm,0.7s					
GSC	Goldstone, Bar	49.08	312	P	P	16 26 24.4 +1.3
	baz=115,SNR=6.7					
GSC	Goldstone, Bar	49.08	312	P	P	16 26 24.6 +1.5
GSC				IAmb	IAmb	16 26 25.3
	comp=Z,9.3nm,0.8s					
BGU	Big Grassy Mou	49.15	320	P	P	16 26 24.9 +1.3
DGMT	Dagmar	49.16	333	P	P	16 26 24.7 +1.3
	baz=137,SNR=9.1					
DGMT	Dagmar	49.16	333	P	P	16 26 24.2 +0.8
REDW	Red Top Meadow	49.20	324	P	P	16 26 25.0 +0.9
TPAW	Teton Pass	49.34	324	P	P	16 26 26.3 +1.1
TPAW				IAmb	IAmb	16 26 27.4
	comp=Z,6.5nm,0.6s					
MOOW	Moose Ponds	49.37	324	P	P	16 26 26.3 +0.9
TPNV	Topopah Spring	49.38	314	P	P	16 26 27.1 +1.6
	baz=117,SNR=9.2					
TPNV	Topopah Spring	49.38	314	P	P	16 26 27.1 +1.6
RLMT	Red Lodge	49.39	327	P	P	16 26 26.6 +1.1
	baz=130					
RLMT	Red Lodge	49.39	327	P	P	16 26 26.4 +1.0
FXWY	Fox Creek	49.47	324	P	P	16 26 26.7 +0.5
FLWY	Flagg Ranch	49.55	325	P	P	16 26 28.1 +1.5
FLWY				IAmb	IAmb	16 26 43.9
	comp=Z,35nm,2.0s					
R11A	Troy Canyon, C	49.55	316	P	P	16 26 28.1 +1.3
	baz=118,SNR=14					
R11A	Troy Canyon, C	49.55	316	P	P	16 26 28.1 +1.3
IMW	Indian Meadow	49.57	324	P	P	16 26 28.0 +1.0
IMW				IAmb	IAmb	16 26 28.6
	comp=Z,7.0nm,0.6s					
EDW2	Edwards Air Fo	49.79	311	P	P	16 26 29.4 +0.9
	baz=114					
LRMC	Laurel Mtn Rad	49.80	311	P	P	16 26 29.7 +1.1
	baz=114					
MPMC	Manual Prospec	49.90	312	P	P	16 26 30.1 +0.7
	baz=115					
GCMT	Greycliff	50.03	327	P	P	16 26 31.5 +1.2
YMR	Madison River	50.05	325	P	P	16 26 32.7 +2.2
YHH	Holmes Hill	50.06	325	P	P	16 26 32.5 +1.8
YHL	Hebgen Lake	50.29	325	P	P	16 26 34.3 +2.0
QLMT	Earthquake Lak	50.41	325	P	P	16 26 35.4 +2.1
ISA	Isabella, Lake	50.47	311	P	P	16 26 35.0 +1.4
	baz=114					
CWC	Cottonwood Cre	50.49	312	P	P	16 26 35.2 +1.3
	baz=115					
ELK	Elko	50.49	319	P	P	16 26 34.9 +1.0
BOZ	Bozeman (W)	50.99	326	P	P	16 26 38.6 +1.2
	baz=127,SNR=6.1					
BOZ	Bozeman (W)	50.99	326	P	P	16 26 38.6 +1.2
VES	Vestal, Richgr	50.99	311	P	P	16 26 38.9 +1.5
	baz=113					
MCMT	McKenzie Canyo	51.23	324	P	P	16 26 40.8 +1.5

NV11	**Mina Array Sit**	**51.39 315**	P	**P**	**16 26 41.7 +1.1**
DLMT	**Dillon**	**51.40 325**	P	**P**	**16 26 42.2 +1.7**
NVAR	**Mina Array Bea**	**51.49 315**	P	**P**	**16 26 42.6 +1.2**
	comp=Z,2.9nm,0.7s,baz=121,slow=7.2,SNR=20				
NVAR			PcP	**PcP**	**16 27 54.0 +0.5**
	comp=Z,0.9nm,0.4s,baz=136,slow=5.3,SNR=5.3				
NVAR	**Mina Array Bea**	**51.49 315**	P	**P**	**16 26 42.3 +0.9**
NVAR			PcP	**PcP**	**16 27 54.2 +0.7**
EGMT	**Eagleton**	**51.52 329**	P	**P**	**16 26 42.0 +0.7**
	baz=131				
EGMT	**Eagleton**	**51.52 329**	P	**P**	**16 26 42.4 +1.1**
KVN	**Kaiserville**	**51.62 315**	P	**P**	**16 26 43.1 +0.8**
MDPB	**Devils Postpil**	**51.71 313**	P	**P**	**16 26 44.3 +1.2**
RYN	**Ryan**	**51.74 315**	P	**P**	**16 26 44.4 +1.3**
RYN			IAmb	IAmb	16 26 49.1
	comp=Z,9.7nm,1.1s				
HRY	**Holter Researc**	**51.78 327**	P	**P**	**16 26 44.3 +1.0**
PAGB	**Antelope Grade**	**51.82 311**	P	**P**	**16 26 44.5 +0.9**
PAGB			IAmb	IAmb	16 26 49.7
	comp=Z,14nm,1.1s				
MFID	**Camas Ranch**	**52.24 321**	P	**P**	**16 26 47.9 +1.2**
MFID			IAmb	IAmb	16 26 49.7
	comp=Z,9.8nm,0.8s				
YERR	**Yerington**	**52.40 315**	P	**P**	**16 26 49.3 +1.3**
YERR			IAmb	IAmb	16 26 50.2
	comp=Z,7.5nm,0.8s				
PNTR	**Pine Nut**	**52.69 315**	P	**P**	**16 26 51.9 +1.6**
PNTR			IAmb	IAmb	16 26 55.6
	comp=Z,6.9nm,0.8s				
MSO	**Missoula**	**53.01 326**	P	**P**	**16 26 53.0 +0.7**
	baz=126				
RUBR	**Rubicon Trail**	**53.07 315**	P	**P**	**16 26 53.0 0.0**
PLID	**Pearl Lake**	**53.23 323**	P	**P**	**16 26 54.5 +0.4**
PLID			IAmb	IAmb	16 26 55.2
	comp=Z,4.8nm,0.8s				
WVOR	**Wild Horse Val**	**53.54 319**	P	**P**	**16 26 56.8 +0.5**
WVOR			IAmb	IAmb	16 26 58.9
	comp=Z,10nm,1.1s				
AFDM	**Forest Hills D**	**53.61 314**	P	**P**	**16 26 57.4 +0.7**
AFDM			IAmb	IAmb	16 27 10.7
	comp=Z,9.4nm,1.5s				
JTMT	**Jette**	**53.74 327**	P	**P**	**16 26 59.1 +1.5**
JTMT			IAmb	IAmb	16 26 59.6
	comp=Z,8.0nm,0.8s				
BMO	**Blue Mountains**	**53.89 322**	P	**P**	**16 27 00.3 +1.6**
BMO			IAmb	IAmb	16 27 14.0
	comp=Z,21nm,2.0s				
FCC	**Fort Churchill**	**54.27 347**	P	**P**	**16 27 01.6 +0.6**
MOD	**Modoc Plateau**	**54.40 318**	P	**P**	**16 27 03.1 +0.6**
F10A	**Beach Ranch, E**	**54.43 323**	P	**P**	**16 27 03.0 +0.3**
F10A			IAmb	IAmb	16 27 03.7
	comp=Z,7.3nm,0.5s				
M04C	**Macdoel**	**55.38 317**	P	**P**	**16 27 10.0 +0.4**
	baz=115				
NEW	**Newport**	**55.60 326**	P	**P**	**16 27 11.2 +0.3**
	baz=123				
NEW	**Newport**	**55.60 326**	P	**P**	**16 27 10.8 -0.1**
NEW			IAmb	IAmb	16 27 12.0
	comp=Z,22nm,1.9s				
J05D	**Fort Rock, OR**	**55.63 319**	P	**P**	**16 27 12.4 +1.1**
	baz=116,SNR=6.5				
PINE	**Pine Mountain**	**55.66 319**	P	**P**	**16 27 12.7 +1.1**
L04D	**Klamath Falls**	**55.88 317**	P	**P**	**16 27 13.6 +0.4**
	baz=115				
YBH	**Yreka Blue Hor**	**55.95 317**	P	**P**	**16 27 12.8 -0.8**
YBH			IAmb	IAmb	16 27 13.6
	comp=Z,4.5nm,0.6s				
C09A	**Chrisman Ranch**	**56.00 325**	P	**P**	**16 27 14.8 +1.1**
HUMO	**Hull Mountain**	**56.48 317**	P	**P**	**16 27 16.7 -0.6**
B08A	**Colville Reser**	**56.90 325**	P	**P**	**16 27 20.4 +0.3**
B08A			IAmb	IAmb	16 27 21.4
	comp=Z,5.0nm,0.7s				
K02D	**Willamette Mer**	**56.99 317**	P	**P**	**16 27 22.1 +1.2**
	baz=114				
LTY	**Liberty**	**57.13 323**	P	**P**	**16 27 22.4 +0.7**
LTY			IAmb	IAmb	16 27 23.1
	comp=Z,13nm,1.2s				
KBO	**Bosley Butte**	**57.18 317**	P	**P**	**16 27 23.0 +0.7**
I03D	**Drain, OR**	**57.19 318**	P	**P**	**16 27 22.9 +0.8**
	baz=115				
KEBM	**Edson Butte**	**57.51 317**	P	**P**	**16 27 25.9 +1.4**
I02D	**Swisshome**	**57.69 319**	P	**P**	**16 27 27.0 +1.4**
	baz=115				
E03A	**Lebam**	**58.55 321**	P	**P**	**16 27 32.7 +1.1**
D03D	**Eldon**	**58.71 323**	P	**P**	**16 27 33.3 +0.6**
	baz=117				
A05A	**Maple Falls**	**58.80 324**	P	**P**	**16 27 34.1 +0.8**
A04D	**Lummi Island**	**59.03 324**	P	**P**	**16 27 37.2 +2.4**
	baz=118				
YKA	**Yellowknife Ar**	**63.27 340**	P	**P**	**16 28 03.4 +0.3**
	comp=Z,6.3nm,0.5s,baz=132,slow=6.6,SNR=41				
YKW3	**Yellowknife Ar**	**63.32 340**	P	**P**	**16 28 02.5 -0.9**
TIC	**Toumodi**	**67.56 86**	*e*PKIKP	pP	16 29 12.9 +3.5
TIC	**Toumodi**	**67.56 86**	*e*P	**P**	**16 28 33.3 +1.6**
LIC	**Lamto**	**67.58 86**	*e*PKIKP	pP	16 29 12.9 +3.4
	comp=Z,7.6nm,0.6s				
LIC	**Lamto**	**67.58 86**	*e*P	**P**	**16 28 30.3 -1.5**
	comp=Z,13nm,0.6s				
DBIC	**Dimbokro**	**67.72 86**	P	**P**	**16 28 31.6 -1.0**
	comp=Z,2.5nm,0.5s,baz=282,slow=3.6,SNR=4.2				
DBIC	**Dimbokro**	**67.72 86**	P	**P**	**16 28 32.1 -0.6**
DBIC			IAmb	IAmb	16 28 33.4
	comp=Z,22nm,1.9s				
KIC	**Kosan Boka**	**67.85 86**	*e*PKIKP	pP	16 29 13.1 +1.8
	comp=Z,8.6nm,0.7s				
KIC	**Kosan Boka**	**67.85 86**	*e*P	**P**	**16 28 32.8 -0.7**
	comp=Z,7.9nm,0.7s				
RES	**Resolute Bay**	**68.97 354**	P	**P**	**16 28 40.1 +0.8**
RES			IAmb	IAmb	16 29 07.9
	comp=Z,18nm,1.6s				
SUMG	**Summit**	**68.98 11**	*i* P	**P**	**16 28 40.5 +0.6**
	comp=Z,45nm,0.6s				
SUMG	**Summit**	**68.98 11**	P	**P**	**16 28 40.3 +0.4**
EPYK	**Eagle Plains**	**73.39 338**	P	**P**	**16 29 07.2 +1.1**
	baz=112				
TORD	**Torodi Ar. Bea**	**73.72 78**	P	**P**	**16 29 07.3 -1.6**
	comp=Z,0.2nm,0.3s,baz=298,slow=3.1,SNR=3.4				
DAG	**Danmarks Havn**	**75.65 11**	*i* P	**P**	**16 29 18.1 -0.8**
	comp=Z,3.7nm,0.7s				
HDA	**Harding Lake**	**76.92 335**	P	**P**	**16 29 26.7 +0.4**
	baz=102				
ILAR	**Eielson Array**	**76.97 335**	P	**P**	**16 29 27.2 +0.7**
	comp=Z,1.0nm,0.7s,baz=110,slow=4.6,SNR=14				
RND	**Reindeer**	**77.56 333**	P	**P**	**16 29 31.0 +1.1**
RND			IAmb	IAmb	16 29 32.1
	comp=Z,8.8nm,0.7s				
NB2	**NORSAR Subarra**	**81.32 29**	P	**P**	**16 29 50.6 +0.3**
	comp=Z,6.5nm,0.9s,baz=267,slow=5.3				
NOA	**NORSAR Array B**	**81.32 29**	P	**P**	**16 29 50.5 +0.2**
	comp=Z,0.7nm,0.6s,baz=268,slow=5.4,SNR=4.4				
GERES	**GERESS Array B**	**82.81 42**	P	**P**	**16 29 58.0 -0.3**
	comp=Z,0.2nm,0.2s,baz=291,slow=3.0,SNR=3.5				
MODS	**Modra-Piesok**	**85.20 42**	*e*P	**P**	**16 30 14.2 +3.8**
VYHS	**Vyhne**	**86.23 42**	*e*P	P	16 30 22.6 +7.1
ARCES	**ARCESS Array B**	**86.66 20**	P	**P**	**16 30 16.9 -0.3**
	comp=Z,13nm,1.1s,baz=284,slow=3.6,SNR=5.4				
VNA3	**Neumayer Olymp**	**88.17 163**	P	**P**	**16 30 22.9 -1.3**
VNA1	**Neumayer--Stat**	**88.31 162**	P	**P**	**16 30 24.5 -0.3**
VNA2	**Neumayer--Watz**	**88.69 163**	P	**P**	**16 30 25.4 -1.3**
	baz=296,slow=6.0				
SNAA	**Sanae**	**90.34 163**	P	**P**	**16 30 33.1 -1.3**
ZALV	**Zalesovo Beam**	**116.66 14**	PKP	**PKPdf**	**16 36 16.5 -0.6**
	comp=Z,0.9nm,0.4s,baz=270,slow=1.3,SNR=4.5				
MKAR	**Makanchi Array**	**122.31 20**	PKP	**PKPdf**	**16 36 27.2 -1.0**
	comp=Z,0.6nm,0.4s,baz=301,slow=2.9,SNR=18				
SONM	**Songino Array**	**125.58 0**	PKP	**PKPdf**	**16 36 34.5 0.0**
	comp=Z,0.4nm,0.4s,baz=29,slow=3.3,SNR=5.5				
KSH	**Kashi**	**125.74 29**	*e*PKP	**PKPdf**	**16 36 34.3 -0.8**
CD2	**Chengdu**	**142.36 4**	PKP	**PKPdf**	**16 37 04.9 -1.4**
ASAR	**Alice Springs**	**149.13 234**	PKP	**PKPdf**	**16 37 17.7 -0.2**
	comp=Z,6.0nm,0.6s,baz=120,slow=3.0,SNR=60				
ASAR			PKPbc	**PKPbc**	**16 37 21.4 -0.8**
	comp=Z,6.3nm,0.6s,baz=114,slow=1.9,SNR=108				
WRA	**Warramunga Arr**	**150.35 241**	PKP	**PKPdf**	**16 37 19.9 0.0**
	comp=Z,5.8nm,0.5s,baz=114,slow=2.2,SNR=8.1				
WRA			PKPbc	**PKPbc**	**16 37 24.4 -0.9**
	comp=Z,5.8nm,0.4s,baz=108,slow=2.4,SNR=20				
CMAR	**Chiang Mai Arr**	**153.68 17**	PKP	**PKPdf**	**16 37 25.8 +0.9**
	comp=Z,0.5nm,0.8s,baz=336,slow=2.0,SNR=3.8				
CMAR			PKPbc	**PKiKP**	**16 37 33.1 +0.2**
	comp=Z,1.6nm,0.5s,baz=319,slow=3.4,SNR=10				

ISCJB ***21*** *16:39:18.0±0.4, 6°.08S±0°.04×146°.91E±0°.05, h100km, mb3.6/9, Error ellipse: s-maj=7.3km s-min=5.7km az=2.5*

NEIC ***21*** *16:39:20.5±1.9, 6°.12S±0°.06×146°.92E±0°.06, h118km±8km, mb4.2/16*

IDC ***21*** *16:39:20.9±1.2, 6°.13S×146°.89E, h113km±13km, mb3.5/9, mb1 3.7/16, mb1mx3.6/31, mbtmp4.0/16, MS2.6/2, Ms1 2.5/2, ms1mx2.2/20, Error ellipse: s-maj=15.3km s-min=10.3km az=96.0*

ISC 21 16:39:19.7±0.5, 6°.12S±0°.05×146°.86E±0°.06, h100km, n43, σ1§64/51, mb3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28 175**		P	**Pn**		**16 40 10.7**	**+1.5**
	22nm,0.3s,baz=352,slow=5.3,SNR=102							
PMG				S	**Sn**		**16 40 48.5**	**+1.0**
	62nm,0.3s,baz=189,slow=23,SNR=14							
PMG	**Port Moresby**	**3.28 175**			**Pn**		**16 40 10.7**	**+1.5**
PMG					**Sn**		**16 40 45.4**	**-2.0**
KRVT	**Keravat (AS076**	**5.45 71**		P	**Pn**		**16 40 39.5**	**+1.0**
	6.7nm,0.3s,baz=128,slow=0.8,SNR=13							
KRVT				LR	LR		16 43 06.1	
	comp=Z,73nm,19.6s,baz=197,slow=42							
JAY	**Jayapura**	**7.10 300**		P	**Pn**		**16 41 01.9**	**+0.9**
	0.8nm,0.3s,baz=185,slow=10,SNR=5.2							
JAY				S	**Sn**		**16 42 23.9**	**+3.6**
	0.6nm,0.3s,baz=120,slow=14,SNR=2.4							
COEN	**Coen**	**8.59 205**			**Pn**		**16 41 23.4**	**+2.1**
COEN					**Sn**		**16 42 54.6**	**-1.9**
HNR	**Honiara**	**13.38 105**		P	**Pn**		**16 42 27.3**	**+1.7**
	1.2nm,0.3s,baz=248,slow=11,SNR=3.3							
HNR	**Honiara**	**13.38 105**		P	**Pn**		**16 42 27.4**	**+1.8**
CTA	**Charters Tower**	**13.90 182**		P	**Pn**		**16 42 34.7**	**+2.2**
	1.5nm,0.3s,baz=356,slow=14,SNR=19							
FAKI	**Fak Fak**	**14.90 282**		Pn	**Pn**		**16 42 46.5**	**+1.1**
SAUI	**Saumlaki**	**15.55 262**			**Pn**		**16 42 56.0**	**+2.5**
SAUI				IAmb	IAmb		16 42 59.2	
	comp=Z,43nm,1.1s							
SIJI	**Sorong**	**16.41 288**		P	**Pn**		**16 43 05.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=109,slow=15,SNR=5.1							
MTN	**Manton Dam**	**16.88 246**			**Pn**		**16 43 10.9**	**+0.9**
MTN				IAmb	IAmb		16 43 59.2	
	comp=Z,20nm,1.3s							
WB0	**Warramunga Arr**	**18.19 221**		Pn	**P**		**16 43 26.0**	**+1.2**
WR0	**Warramunga Arr**	**18.24 220**		Pn	**P**		**16 43 26.6**	**+1.3**
WR0				IAmb	IAmb		16 44 25.5	
	comp=Z,17nm,1.6s							
WRAB	**Tennant Creek**	**18.34 220**			**P**		**16 43 26.8**	**+0.4**
WRAB				IAmb	IAmb		16 43 53.4	
	comp=Z,5.4nm,0.7s							
WB2	**Warramunga Arr**	**18.35 220**		P	**P**		**16 43 26.6**	**+0.1**
WB2				IAmb	IAmb		16 43 52.4	
	comp=Z,4.1nm,0.7s							
WRA	**Warramunga Arr**	**18.36 220**		P	**P**		**16 43 27.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=39,slow=11,SNR=8.3							
WRA				S	**S**		**16 46 45.5**	**-5.7**
	comp=Z,0.2nm,0.3s,baz=41,slow=23,SNR=4.4							
WRA	**Warramunga Arr**	**18.36 220**		P	**P**		**16 43 24.9**	**-1.7**
EIDS	**Eidsvold**	**19.57 169**		P	**P**		**16 43 38.0**	**-1.8**
EIDS				IAmb	IAmb		16 43 45.5	
	comp=Z,5.8nm,1.1s							
GUMO	**Guam**	**19.68 354**		P	**P**		**16 43 39.7**	**-1.3**
KNRA	**Kununurra**	**20.13 240**		P	**P**		**16 43 46.0**	**+0.1**
KNRA				IAmb	IAmb		16 44 17.7	
	comp=Z,45nm,1.4s							
AS31	**Alice Springs**	**21.44 214**		P	**P**		**16 44 01.0**	**+1.0**
ASAR	**Alice Springs**	**21.44 214**		P	**P**		**16 44 01.4**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=52,slow=8.6,SNR=38							
ASAR				S	**S**		**16 47 51.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=27,slow=25,SNR=2.5							
ASAR	**Alice Springs**	**21.44 214**		P	**P**		**16 44 01.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.89 238**		P	**P**		**16 44 24.9**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=54,slow=10,SNR=17							
FITZ	**Fitzroy Crossi**	**23.89 238**		P	**P**		**16 44 23.4**	**-0.9**
FITZ				IAmb	IAmb		16 45 21.9	
	comp=Z,14nm,1.5s							
KWAJ	**Kwajalein Atol**	**25.45 55**		P	**P**		**16 44 37.9**	**-0.6**
STKA	**Stephens Creek**	**26.10 190**		P	**P**		**16 44 44.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=348,slow=14,SNR=2.7							
STKA				LR	LR		16 56 49.5	
	comp=Z,10.0nm,20.2s,baz=25,slow=40							
STKA	**Stephens Creek**	**26.10 190**		P	**P**		**16 44 43.7**	**-0.5**
TPUB	**Ta-pu**	**38.88 320**		P	**P**		**16 46 33.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**53.18 298**		P	**P**		**16 48 27.3**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=130,slow=6.4,SNR=3.3							
CMAR				pP	**pP**		**16 48 54.0**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=124,slow=5.6,SNR=4.3							
PETK	**Petropavlovsk-**	**59.71 8**		P	**P**		**16 49 14.1**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=156,slow=6.0,SNR=7.2							
PETK	**Petropavlovsk-**	**59.71 8**		P	**P**		**16 49 13.4**	**-0.3**
SONM	**Songino Array**	**64.44 331**		P	**P**		**16 49 45.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=131,slow=4.0,SNR=4.6							
SONM	**Songino Array**	**64.44 331**		P	**P**		**16 49 45.2**	**-0.3**
MKAR	**Makanchi Array**	**77.50 321**		P	**P**		**16 51 03.5**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=124,slow=6.3,SNR=5.4							
MKAR	**Makanchi Array**	**77.50 321**		P	**P**		**16 51 03.3**	**-1.1**
ZALV	**Zalesovo Beam**	**79.03 328**		P	**P**		**16 51 11.4**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=120,slow=5.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**79.03 328**		P	**P**		**16 51 11.0**	**-1.6**
ILAR	**Eielson Array**	**85.64 23**		P	**P**		**16 51 45.8**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=252,slow=4.8,SNR=26							
ILAR	**Eielson Array**	**85.64 23**		P	**P**		**16 51 45.2**	**-1.6**
TORD	**Torodi Ar. Bea**	**144.98 284**		PKPbc	**PKPbc**		**16 58 45.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=74,slow=3.6,SNR=9.7							
TORD				pPKPbc	**pPKPdf**		**16 59 15.7**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=75,slow=4.0,SNR=5.2							
TORD	**Torodi Ar. Bea**	**144.98 284**			**PKPbc**		**16 58 42.9**	**-2.9**

IDC ***21*** *16:57:42.1±1.2, 2°.99S×129°.33E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/29, mbtmp3.7/6, ML3.4/3, MS2.0/1, Ms1 2.0/1, ms1mx1.9/28, Error ellipse: s-maj=37.2km s-min=22.3km az=77.0*

ISCJB ***21*** *16:57:45.8±0.6, 2°.80S±0°.07×129°.37E±0°.06, h28km, mb3.6/3, Error ellipse: s-maj=11.4km s-min=6.0km az=144.5*

DJA ***21*** *16:57:45.5±0.3, 3°S±4°×12°9E±°, h10km, M3.5/9, MLv3.5/9*

ISC 21 16:57:46.2±0.8, 2°.90S±0°.07×129°.41E±0°.05, h28km, n15, σ1§39/17, mb3.7/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.65 228**		P	**Pb**		**16 57 58.3**	**-0.8**
MSAI				S	**Sn**		**16 58 11.4**	**+2.4**
AAI	**Ambon**	**1.45 237**		P	**Pb**		**16 58 12.8**	**+0.3**
BNDI	**Bandanaira**	**1.68 163**		P	**Pb**		**16 58 16.4**	**-0.1**
NLAI	**Namlea**	**2.33 262**		P	**Pn**		**16 58 24.3**	**+1.6**
SIJI	**Sorong**	**2.74 43**		Pn	**Pn**		**16 58 28.6**	**+0.2**
	9.5nm,0.3s,baz=62,slow=3.9,SNR=95							
SIJI				Sn	**Sn**		**16 59 00.7**	**+0.1**
	8.5nm,0.3s,baz=61,slow=21,SNR=19							
SWI	**Sorong**	**2.74 42**		P	**Pn**		**16 58 28.6**	**+0.3**
FAKI	**Fak Fak**	**2.83 90**		P	**Pn**		**16 58 30.2**	**+0.6**
SANI	**Sanana**	**3.53 284**		P	**Pn**		**16 58 38.5**	**-0.6**
RKPI	**Ransiki, Papua**	**4.96 74**		P	**Pn**		**16 59 01.3**	**+2.5**
KAPI	**Kappang**	**9.86 257**		LR	LR		17 03 43.1	
	comp=Z,10nm,20.6s,baz=110,slow=37							
FITZ	**Fitzroy Crossi**	**15.55 194**		Pn	**Pn**		**17 01 22.0**	**-1.6**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.3							
WRA	**Warramunga Arr**	**17.61 165**		P	**Pn**		**17 01 46.8**	**-2.8**
	0.2nm,0.3s,baz=342,slow=12,SNR=9.6							
ASAR	**Alice Springs**	**21.09 168**		P	**P**		**17 02 27.9**	**-0.8**
	2.5nm,0.6s,baz=352,slow=9.2,SNR=50							
ASAR				PcP	**PcP**		**17 06 35.0**	**+0.4**
	0.2nm,0.5s,baz=16,slow=2.0,SNR=4.3							
CMAR	**Chiang Mai Arr**	**36.75 306**		P	**P**		**17 04 51.8**	**+0.3**
	0.4nm,0.7s,baz=128,slow=7.3,SNR=4.6							
MKAR	**Makanchi Array**	**64.51 326**		P	**P**		**17 08 20.8**	**+0.2**
	0.5nm,0.7s,baz=122,slow=5.4,SNR=4.7							

IDC ***21*** *17:15:19.2±1.2, 32°.96N×139°.76E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/33, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=38.3km s-min=11.6km az=110.0*

ISCJB ***21*** *17:15:22.7±0.6, 33°.28N±0°.04×139°.55E±0°.07, h25km±6km, mb3.4/3, Error ellipse: s-maj=10.5km s-min=5.7km az=148.3*

JMA ***21*** *17:15:22.7±0.1, 33°.30N×139°.52E, h22km±4km, M2.8*

ISC 21 17:15:22.5±0.9, 33°.29N±0°.05×139°.65E±0°.10, h32km±8km, n16, σ1§78/18, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.21 148**		Pn	**Pn**		**17 15 29.0**	**-0.5**
	328nm,0.3s,baz=37,slow=20,SNR=3.0							
JHJ				Sn	**Sb**		**17 15 35.2**	**+1.8**
	401nm,0.3s,baz=73,slow=19,SNR=5.6							
JHJ2	**Mitsune**	**0.23 143**		P	**Pn**		**17 15 29.6**	**-0.1**
JHCJ	**Hachijojimakas**	**0.25 151**		P	**Pn**		**17 15 29.6**	**-0.5**
JHCJ				S	**Sb**		**17 15 34.7**	**+0.4**
JMKN	**Mikurajimanish**	**0.60 355**		P	**Pb**		**17 15 34.1**	**-0.6**
JMKN				S	**Sb**		**17 15 42.8**	**-0.2**
JAOM	**Aogashimamukai**	**0.83 174**		P	**Pn**		**17 15 39.3**	**+1.2**
JTHY	**Toshimahigashi**	**1.26 346**		P	**Pn**		**17 15 44.4**	**+0.4**
JIM2	**Oshima 3**	**1.43 353**		P	**Pn**		**17 15 47.3**	**+0.9**
JIZS	**Izushimoda**	**1.56 336**		P	**Pn**		**17 15 48.6**	**+0.5**
BSO3	**Boso 3**	**1.66 25**		P	**Pb**		**17 15 51.3**	**-1.1**
KTJ3	**Kamata3**	**1.71 344**		P	**Pn**		**17 15 51.1**	**+1.0**
TK02	**Tokai 2**	**1.71 293**		S	**Sn**		**17 16 10.7**	**+0.1**
TK01	**Tokai 1**	**1.79 286**		*e*S	**Sn**		**17 16 11.3**	**-1.1**
MJAR	**Matsushiro Arr**	**3.45 340**		Pn	**Pb**		**17 16 19.0**	**-4.0**
	0.1nm,0.3s,baz=165,slow=15,SNR=5.9							
MKAR	**Makanchi Array**	**44.98 305**		P	**P**		**17 23 38.6**	**+3.8**
	0.3nm,0.8s,baz=79,slow=7.5,SNR=2.9							
WRA	**Warramunga Arr**	**53.18 186**		P	**P**		**17 24 35.7**	**-2.0**
	0.2nm,0.4s,baz=1.1,slow=7.5,SNR=3.0							
ILAR	**Eielson Array**	**53.43 31**		P	P		17 24 43.9	+4.8
	0.4nm,0.6s,baz=272,slow=6.0,SNR=5.7							

IDC ***21*** *17:19:51.8±1.0, 33°.06N×139°.69E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/34, mbtmp3.4/5, ML2.9/2, MS2.6/3, Ms1 2.6/3, ms1mx2.3/35, Error ellipse: s-maj=27.1km s-min=9.7km az=156.0*

ISCJB ***21*** *17:19:53.6±0.5, 33°.27N±0°.04×139°.51E±0°.05, h22km, mb3.4/3, MS2.3/1, Error ellipse: s-maj=7.6km s-min=4.0km az=138.8*

JMA ***21*** *17:19:54.0±0.1, 33°.29N×139°.50E, h23km, M3.0*

ISC 21 17:19:54.9±0.8, 33°.28N±0°.05×139°.54E±0°.06, h22km, n21, σ1§33/22, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.26 127**		Pn	**Pb**		**17 20 01.1**	**0.0**
	277nm,0.3s,baz=116,slow=23,SNR=32							
JHJ				Sn	**Sb**		**17 20 06.4**	**+1.0**
	805nm,0.3s,baz=73,slow=19,SNR=31							
JHJ2	**Mitsune**	**0.29 125**		P	**Pb**		**17 20 00.9**	**-0.6**
JHCJ	**Hachijojimakas**	**0.30 133**		P	**Pb**		**17 20 01.0**	**-0.6**
JHCJ				S	**Sb**		**17 20 06.1**	**-0.2**
JMKN	**Mikurajimanish**	**0.61 4**		S	**Sb**		**17 20 14.3**	**-1.0**
JAOM	**Aogashimamukai**	**0.83 167**		P	**Pb**		**17 20 10.4**	**-0.3**
JTHY	**Toshimahigashi**	**1.26 351**		P	**Pn**		**17 20 16.0**	**-1.2**
JIM2	**Oshima 3**	**1.44 357**		P	**Pn**		**17 20 18.6**	**-1.1**
JIZS	**Izushimoda**	**1.54 339**		P	**Pn**		**17 20 19.9**	**-1.1**
TK02	**Tokai 2**	**1.63 295**		P	**Pn**		**17 20 21.1**	**-0.9**
KTJ3	**Kamata3**	**1.70 347**		P	**Pn**		**17 20 22.6**	**-0.6**
TK01	**Tokai 1**	**1.70 287**		*e*S	**Sn**		**17 20 42.4**	**-1.4**
BSO3	**Boso 3**	**1.72 28**		P	**Pn**		**17 20 22.8**	**-0.5**
TK04	**Tokai 4**	**1.77 309**		*e*S	**Sn**		**17 20 45.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.44 342**		Pn	**Pn**		**17 20 50.6**	**+3.5**
	0.2nm,0.3s,baz=161,slow=15,SNR=9.5							
MJAR				LR	LR		17 22 06.2	
	comp=Z,88nm,21.1s,baz=145,slow=37							
MAT	**Matsushiro**	**3.44 342**		P	**Pn**		**17 20 49.1**	**+2.0**
MAT				*e*S	**Sn**		**17 21 26.1**	**-1.1**
JNU	**Nakatsue**	**7.26 271**		Pn	**Pn**		**17 21 40.1**	**+0.5**
	0.3nm,0.3s,baz=142,slow=12,SNR=12							
ASAJ	**Asahikawa**	**11.08 12**		LR	LR		17 27 45.5	
	comp=Z,50nm,20.9s,baz=174,slow=42							
PETK	**Petropavlovsk-**	**23.71 28**		LR	LR		17 33 31.3	
	comp=Z,10nm,20.0s,baz=243,slow=34							
MKAR	**Makanchi Array**	**44.91 305**		P	**P**		**17 28 09.6**	**+1.7**
	0.2nm,0.6s,ba

comp=Z,0.6nm,0.8s,baz=3.6,slow=3.0,SNR=4.1
ASAR Alice Springs 37.69 168 P **P 17 49 00.4 -2.9**
ULN Ulaanbaatar 37.73 339 P **P 17 49 05.3 +1.6**
SONM Songino Array 37.94 339 P **P 17 49 06.3 +0.9**
comp=Z,2.4nm,0.9s,baz=154,slow=8.7,SNR=8.3
SONM Songino Array 37.94 339 P **P 17 49 06.6 +1.2**
PETK Petropavlovsk- 47.04 26 LR LR 18 07 27.4
comp=Z,25nm,20.9s,baz=241,slow=33
STKA Stephens Creek 47.51 162 P **P 17 50 22.0 -0.9**
comp=Z,2.3nm,0.7s,baz=325,slow=11,SNR=5.3
STKA Stephens Creek 47.51 162 P **P 17 50 21.6 -1.4**
MK31 Makanchi Array 49.27 321 P **P 17 50 37.9 +1.4**
MK31 IAmb IAmb 17 50 39.0
comp=Z,3.9nm,0.9s
MKAR Makanchi Array 49.27 321 P **P 17 50 37.6 +1.1**
comp=Z,3.7nm,0.8s,baz=117,slow=8.3,SNR=30
MKAR Makanchi Array 49.27 321 P **P 17 50 37.4 +0.9**
KSH Kashi 50.81 310 P P 17 50 54.3 +5.9
KSH PcP **PcP 17 52 08.5 +3.4**
KSH PcS **PcS 17 56 04.9 +2.3**
KSH S **S 17 58 04.8 +1.9**
KSH sS sS 17 58 38.0 +25
KSH pmax pmax
comp=Z,190nm,4.9s
KSH LR LR
comp=N,120nm,7.7s
KSH LR LR
comp=E,72nm,8.9s
KSH LR LR
comp=Z,73nm,8.9s
NIL Nilore 51.61 302 P **P 17 50 55.3 +0.9**
NIL IAmb IAmb 17 50 56.2
comp=Z,5.2nm,0.8s
ZALV Zalesovo Beam 51.67 330 P **P 17 50 54.9 +0.4**
comp=Z,0.4nm,0.4s,baz=127,slow=7.1,SNR=4.4
ZALV Zalesovo Beam 51.67 330 P **P 17 50 54.5 +0.1**
KURK Kurchatov 53.24 324 P **P 17 51 07.1 +1.0**
GAR Garm 54.94 308 P **P 17 51 19.9 +1.0**
KBL Kabul 55.20 303 P **P 17 51 21.7 +0.8**
KBL IAmb IAmb 17 51 22.7
comp=Z,3.4nm,0.7s
KKAR Karatay Array 55.73 313 P **P 17 51 25.4 +0.9**
CHGR Chuyangaron 55.76 308 P **P 17 51 24.8 -0.1**
CHGR IAmb IAmb 17 51 27.8
comp=Z,8.0nm,0.9s
ABKAR Abkulak array 64.21 318 P **P 17 52 23.1 +0.6**
ABKAR Abkulak array 64.21 318 P **P 17 52 22.7 +0.2**
ABKAR IAmb IAmb 17 52 23.8
comp=Z,2.2nm,0.9s
ILAR Eielson Array 76.86 26 P **P 17 53 39.0 -0.4**
comp=Z,0.4nm,0.7s,baz=237,slow=5.6,SNR=6.3
BMAR Burnt Mountain 77.61 23 P **P 17 53 44.9 +1.3**
WAX Waxell Ridge 79.15 30 P **P 17 53 55.3 +3.0**
INK Inuvik 81.58 22 P **P 17 54 05.2 +0.1**
comp=Z,2.6nm,0.9s,baz=307,slow=3.5,SNR=5.2
FINES FINESS Array B 82.92 331 P **P 17 54 11.8 -0.5**
comp=Z,3.5nm,1.1s,baz=88,slow=5.9,SNR=5.4
BRTR Keskin Array B 83.18 309 P **P 17 54 14.4 +0.1**
comp=Z,0.4nm,0.7s,baz=90,slow=2.9,SNR=3.3
AKASG Malin Array Be 83.84 321 P **P 17 54 15.8 -1.4**
comp=Z,0.4nm,0.4s,baz=70,slow=4.1,SNR=6.2
AKASG Malin Array Be 83.84 321 P **P 17 54 16.2 -1.0**
NOA NORSAR Array B 89.75 334 LR LR 18 37 34.8
comp=Z,10nm,21.4s,baz=30,slow=37
TXAR Lajitas Array 116.13 48 PKP **PKPdf 18 00 31.0 -0.6**
comp=Z,0.2nm,0.6s,baz=207,slow=1.0,SNR=3.2

ISCJB ***21*** *17:52:03.7±0.4, 47.9°N±0.09×27.67°W±0.07, h10km, mb3.8/16, MS3.6/31, Error ellipse: s-maj=13.9km s-min=6.4km az=11.0*
IDC ***21*** *17:52:03.8±0.7, 47.89°N×27.66°W, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.9/55, mbtmp3.9/17, ML4.5/1, MS3.6/33, Ms1 3.6/33, ms1mx3.5/44, Error ellipse: s-maj=21.7km s-min=15.1km az=21.0*
NEIC ***21*** *17:52:05.4±1.5, 47.9°N±0.1×27.6°W±0.2, h10km±4km, mb4.6/27*
ISC 21 17:52:05.4±0.6, 47.9°N±0.1×27.67°W±0.09, h10km, n83, σ0.9°78/57, mb4.3/26, MS3.7/31, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**17.27**	**9**	LR	LR	18 00 48.2	
	comp=Z,122nm,19.4s,baz=194,slow=30						
ESDC	**Sonseca Array**	**18.92**	**107**	P	**Pn**	**17 56 26.9**	**+0.1**
	0.3nm,0.3s,baz=298,slow=13,SNR=6.1						
ESDC				LR	LR	18 02 28.5	
	comp=Z,187nm,18.8s,baz=300,slow=33						
SFJD	**Kangerlussuaq**	**22.55**	**336**	LR	LR	18 03 32.3	
	comp=Z,104nm,18.1s,baz=146,slow=31						
MDT	**Midelt**	**23.01**	**122**	P	**P**	**17 57 10.0**	**-0.4**
	2.1nm,1.1s,baz=319,slow=14,SNR=1.8						
JMIC	**Jan Mayen**	**24.91**	**15**	LR	LR	18 05 16.1	
	comp=Z,61nm,18.4s,baz=252,slow=32						
SCHQ	**Schefferville**	**25.17**	**301**	LR	LR	18 05 44.5	
	comp=Z,170nm,18.3s,baz=53,slow=33						
DAVOX	**Davos/Dischmat**	**25.31**	**78**	LR	LR	18 06 36.5	
	comp=Z,219nm,19.0s,baz=266,slow=34						
NOA	**NORSAR Array B**	**25.71**	**45**	LR	LR	18 06 09.6	
	comp=Z,65nm,21.5s,baz=260,slow=33						
HFS	**Hagfors**	**26.74**	**47**	LR	LR	18 06 15.6	
	comp=Z,99nm,20.6s,baz=252,slow=32						
GERES	**GERESS Array B**	**27.27**	**72**	P	**P**	**17 57 49.2**	**-0.5**
	0.6nm,0.7s,baz=276,slow=14,SNR=2.9						
GERES				LR	LR	18 08 27.8	
	comp=Z,277nm,18.0s,baz=278,slow=36						
GERES	**GERESS Array B**	**27.27**	**72**	P	**P**	**17 57 48.7**	**-1.0**
FRB	**Frobisher Bay**	**27.30**	**321**	LR	LR	18 05 54.6	
	comp=Z,109nm,18.6s,baz=170,slow=30						
LATE	**Laterza**	**28.06**	**86**	P	**P**	**17 57 57.5**	**+0.8**
VRAC	**Vranov**	**29.00**	**70**	LR	LR	18 09 25.3	
	comp=Z,200nm,18.8s,baz=272,slow=36						
KEST	**Kesra**	**29.85**	**100**	P	**P**	**17 58 13.6**	**+0.8**
	4.2nm,0.9s,baz=18,slow=11,SNR=2.1						
KEST				LR	LR	18 08 26.8	
	comp=Z,183nm,21.4s,baz=334,slow=33						
FINES	**FINESS Array B**	**32.88**	**46**	LR	LR	18 11 21.1	
	comp=Z,68nm,18.8s,baz=270,slow=35						
ARCES	**ARCESS Array B**	**33.48**	**31**	P	**P**	**17 58 43.9**	**-0.4**
	1.4nm,0.7s,baz=247,slow=8.7,SNR=1.3						
ARCES				LR	LR	18 12 01.9	
	comp=Z,66nm,18.1s,baz=160,slow=36						
BURAR	**Bucovina Array**	**34.98**	**70**	P	**P**	**17 58 59.6**	**+2.0**
AKASG	**Malin Array Be**	**36.44**	**64**	P	**P**	**17 59 09.2**	**-0.7**
	0.3nm,0.4s,baz=278,slow=8.3,SNR=3.8						
AKASG				LR	LR	18 13 54.3	
	comp=Z,166nm,20.4s,baz=290,slow=36						
TORD	**Torodi Ar. Bea**	**42.38**	**135**	P	**P**	**17 59 59.6**	**-0.2**
	1.6nm,0.8s,baz=326,slow=6.7,SNR=7.4						
TORD				LR	LR	18 16 26.0	
	comp=Z,208nm,18.7s,baz=330,slow=34						
TORD	**Torodi Ar. Bea**	**42.38**	**135**	P	**P**	**17 59 58.7**	**-1.1**
ULM	**Lac du Bonnet**	**43.34**	**300**	LR	LR	18 16 22.8	
	comp=Z,93nm,18.5s,baz=355,slow=34						
BRTR	**Keskin Array B**	**43.95**	**77**	P	**P**	**18 00 13.0**	**+0.5**
	0.6nm,0.8s,baz=351,slow=6.3,SNR=3.3						
BRTR				LR	LR	18 18 22.2	
	comp=Z,75nm,21.8s,baz=273,slow=36						
DBIC	**Dimbokro**	**45.43**	**147**	P	**P**	**18 00 24.0**	**-0.3**
	2.7nm,0.8s,baz=315,slow=10.0,SNR=2.4						
DBIC				LR	LR	18 17 32.5	
	comp=Z,82nm,20.4s,baz=324,slow=34						
KBZ	**Khabaz**	**47.80**	**67**	LR	LR	18 22 40.4	
	comp=Z,55nm,18.4s,baz=282,slow=38						
ARU	**Arti**	**50.25**	**46**	P	**P**	**18 01 01.5**	**+0.2**
ARU				IAmb	IAmb	18 01 02.9	
	comp=Z,5.8nm,0.9s						
INK	**Inuvik**	**51.83**	**333**	P	**P**	**18 01 12.4**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=7.5,slow=6.0,SNR=4.1						
INK	**Inuvik**	**51.83**	**333**	P	**P**	**18 01 12.9**	**-0.1**
INK				IAmb	IAmb	18 01 14.0	
	comp=Z,8.7nm,1.3s						
SDV	**Santo Domingo**	**53.11**	**237**	P	**P**	**18 01 24.0**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=342,slow=6.7,SNR=1.7						
K22A	**Casper**	**53.48**	**296**	P	**P**	**18 01 26.9**	**+1.1**
K22A				IAmb	IAmb	18 01 29.8	
	comp=Z,12nm,1.1s						
N23A	**Red Feather La**	**54.13**	**294**	P	**P**	**18 01 32.2**	**+1.5**
RWWY	**Rawlins**	**54.45**	**295**	P	**P**	**18 01 33.9**	**+0.9**
ISCO	**Idaho Springs**	**54.57**	**292**	P	**P**	**18 01 34.9**	**+0.9**
ISCO				IAmb	IAmb	18 01 38.3	
	comp=Z,5.2nm,1.2s						
ABKAR	**Abkulak array**	**54.76**	**53**	P	**P**	**18 01 35.2**	**+0.4**
BOZ	**Bozeman (W)**	**54.82**	**301**	P	**P**	**18 01 35.5**	**0.0**
BOZ				IAmb	IAmb	18 01 38.5	
	comp=Z,3.4nm,0.8s						
BW06	**Boulder Array**	**55.24**	**297**	P	**P**	**18 01 38.3**	**-0.4**
PD31	**Pinedale Array**	**55.24**	**297**	P	**P**	**18 01 38.3**	**-0.4**
PDAR	**Pinedale Array**	**55.24**	**297**	P	**P**	**18 01 38.3**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=75,slow=6.3,SNR=7.2						
PDAR				LR	LR	18 23 16.9	
	comp=Z,87nm,19.7s,baz=51,slow=34						
PDAR	**Pinedale Array**	**55.24**	**297**	P	**P**	**18 01 37.6**	**-1.1**
T25A	**Trinidad**	**55.40**	**289**	P	**P**	**18 01 40.4**	**+0.5**
T25A				IAmb	IAmb	18 03 14.3	
	comp=Z,26nm,1.9s						
FXWY	**Fox Creek**	**55.60**	**299**	P	**P**	**18 01 41.2**	**-0.1**
H10N2	**ASCENSION HYDR**	**56.67**	**164**	T	T	19 02 41.7	
	baz=349,slow=75,SNR=16						
H10N3	**ASCENSION HYDR**	**56.68**	**164**	T	T	19 02 40.9	
	baz=349,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**56.69**	**164**	T	T	19 02 42.2	
	baz=349,slow=75,SNR=15						
PLID	**Pearl Lake**	**57.61**	**303**	P	**P**	**18 01 55.8**	**+0.3**
PLID				IAmb	IAmb	18 02 13.1	
	comp=Z,4.9nm,1.2s						
H10S3	**ASCENSION HYDR**	**57.73**	**165**	T	T	19 04 00.9	
	baz=349,slow=74,SNR=68						
H10S2	**ASCENSION HYDR**	**57.74**	**165**	T	T	19 04 01.4	
	baz=231,slow=74,SNR=73						
ILAR	**Eielson Array**	**58.19**	**334**	P	**P**	**18 01 59.2**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=34,slow=4.3,SNR=8.4						
ILAR	**Eielson Array**	**58.19**	**334**	P	**P**	**18 01 58.8**	**-0.2**
ROSC	**El Rosal**	**58.50**	**238**	LR	LR	18 23 17.1	
	comp=Z,59nm,20.9s,baz=37,slow=32						
DUG	**Dugway, Tooele**	**58.74**	**297**	P	**P**	**18 02 03.1**	**-0.3**
DUG				IAmb	IAmb	18 02 09.1	
	comp=Z,8.2nm,1.2s						
IMAR	**Indian Mountai**	**59.18**	**337**	P	**P**	**18 02 06.0**	**+0.1**
MSU	**Marysvale**	**59.40**	**295**	P	**P**	**18 02 07.8**	**-0.3**
MTPU	**Mount Pierson**	**59.70**	**294**	P	**P**	**18 02 10.6**	**+0.2**
TXAR	**Lajitas Array**	**59.83**	**281**	P	**P**	**18 02 11.3**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=67,slow=7.3,SNR=8.1						
TXAR				LR	LR	18 27 51.8	
	comp=Z,67nm,18.2s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**59.83**	**281**	P	**P**	**18 02 10.0**	**-1.1**
PKCU	**Pink Cliffs**	**60.16**	**294**	P	**P**	**18 02 14.2**	**+0.7**
PSUT	**Pine Spring**	**60.41**	**296**	P	**P**	**18 02 15.7**	**+0.6**
SZCU	**Shurtz Canyon**	**60.54**	**295**	P	**P**	**18 02 16.1**	**+0.2**
GEYT	**Alibeck**	**60.54**	**65**	LR	LR	18 30 01.3	
	comp=Z,47nm,21.0s,baz=345,slow=38						
CCUT	**Cedar City**	**60.73**	**295**	P	**P**	**18 02 18.1**	**+0.8**
KNB	**Kanab**	**60.74**	**294**	P	**P**	**18 02 17.6**	**+0.3**
WVOR	**Wild Horse Val**	**60.75**	**302**	P	**P**	**18 02 17.9**	**+0.7**
WVOR				IAmb	IAmb	18 02 26.3	
	comp=Z,6.4nm,0.9s						
KVN	**Kaiserville**	**62.62**	**299**	P	**P**	**18 02 28.6**	**-1.3**
KVN				IAmb	IAmb	18 02 33.0	
	comp=Z,3.7nm,1.0s						
W13A	**Hualapai Mount**	**62.64**	**293**	P	**P**	**18 02 29.8**	**-0.3**
NVAR	**Mina Array Bea**	**63.14**	**298**	LR	LR	18 28 20.5	
	comp=Z,83nm,19.7s,baz=92,slow=34						
ZALV	**Zalesovo Beam**	**63.63**	**38**	P	**P**	**18 02 36.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=318,slow=6.2,SNR=1.3						
ZALV				LR	LR	18 31 09.7	
	comp=Z,50nm,18.5s,baz=53,slow=37						
ZALV	**Zalesovo Beam**	**63.63**	**38**	P	**P**	**18 02 35.7**	**-0.4**
GSC	**Goldstone, Bar**	**64.30**	**295**	P	**P**	**18 02 40.7**	**-0.3**
GSC				IAmb	IAmb	18 02 45.7	
	comp=Z,8.1nm,1.1s						
BDFB	**Brasília**	**65.79**	**202**	LR	LR	18 26 27.1	
	comp=Z,34nm,20.2s,baz=139,slow=31						
MKAR	**Makanchi Array**	**67.71**	**44**	P	**P**	**18 03 03.0**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=344,slow=4.0,SNR=4.5						
MKAR				LR	LR	18 31 35.1	
	comp=Z,49nm,20.8s,baz=308,slow=35						
MKAR	**Makanchi Array**	**67.71**	**44**	P	**P**	**18 03 02.0**	**-0.6**
LPAZ	**La Paz**	**73.39**	**221**	LR	LR	18 31 50.7	
	comp=Z,45nm,21.8s,baz=356,slow=32						
KMBO	**Kilima Mbogo**	**74.28**	**110**	LR	LR	18 37 18.8	
	comp=Z,52nm,19.1s,baz=96,slow=36						
SONM	**Songino Array**	**76.65**	**30**	P	**P**	**18 03 56.7**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=316,slow=6.2,SNR=4.3						
SONM	**Songino Array**	**76.65**	**30**	P	**P**	**18 03 56.5**	**+0.3**
BOSA	**Boshof**	**89.73**	**135**	LR	LR	18 44 35.9	
	comp=Z,44nm,18.4s,baz=12,slow=35						
KSRS	**Korea Array**	**92.30**	**19**	LR	LR	18 48 29.3	
	comp=Z,7.5nm,18.5s,baz=115,slow=37						
PLCA	**Paso Flores**	**96.07**	**211**	LR	LR	18 47 35.6	
	comp=Z,20nm,18.2s,baz=10.0,slow=35						
WRA	**Warramunga Arr**	**148.55**	**34**	PKPbc	**PKPbc**	**18 11 51.5**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=329,slow=2.8,SNR=3.2						
WRA	**Warramunga Arr**	**148.55**	**34**		**PKPdf**	**18 11 49.1**	**+0.2**
ASAR	**Alice Springs**	**151.74**	**38**	PKPbc	**PKPbc**	**18 11 59.6**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=338,slow=1.6,SNR=15						
ASAR	**Alice Springs**	**151.74**	**38**		**PKPbc**	**18 11 57.3**	**-2.8**

IDC 21 18:24:47.1±2.0, 7.49°S×126.79°E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/28, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=212.2km s-min=31.8km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.38**	**150**	Pn	Pn	18 28 11.0	-1.2
	0.3nm,0.3s,baz=321,slow=14,SNR=19						
WRA				Sn	Sn	18 30 36.3	-16
	0.3nm,0.3s,baz=333,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**17.47**	**158**	P	P	18 28 53.4	-0.4
	0.3nm,0.3s,baz=345,slow=13,SNR=40						
ASAR				S	Sn	18 31 52.8	-15
	0.1nm,0.3s,baz=343,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**66.93**	**328**	P	P	18 35 41.5	0.0
	0.2nm,0.4s,baz=122,slow=7.3,SNR=4.5						

SNET ***21*** *18:27:01.9±0.3, 11.96°N×86.29°W, h7km±4km, ML3.8*
UCR ***21*** *18:27:02.3±2.7, 11.14°N×87.01°W, h34km, MW4.1*
ISC 21 18:27:01.3±1.3, 11.8°N±0.2×86.4°W±0.2, h10km, n18, σ1.9°03/12, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.40**	**334**	*eP*	**Pg**	**18 27 09.6**	**+0.4**
COPN				*eS*	**Sb**	**18 27 15.6**	**-1.1**
MOMN	**Momotombo**	**0.60**	**348**	*eP*	**Pg**	**18 27 12.2**	**-0.7**
CNGN	**Cerro Negro**	**0.73**	**337**	*eP*	Pn	18 27 26.6	+8.8
CRIN	**San Cristobal**	**1.07**	**324**	*eP*	Pn	18 27 27.8	+5.3
MATN	**Matagalpa**	**1.20**	**23**	*eP*	Pn	18 27 34.5	+10
ACON	**Acoyapa**	**1.22**	**83**	*eP*	Pn	18 27 34.9	+10
ESTN	**Estel**	**1.27**	**2**	*eP*	Pn	18 27 33.8	+8.5
GB1A	**Boringuen Arri**	**1.41**	**135**	*eP*	**Pn**	**18 27 27.2**	**0.0**
BUEV	**Buena Vista**	**1.42**	**136**	*eP*	**Pn**	**18 27 27.1**	**-0.1**
RCON	**San Juan de Ri**	**1.67**	**9**	*eP*	Pg	18 27 41.1	+7.6
CUI	**Cuipilapa**	**1.68**	**133**	*eP*	**Pn**	**18 27 31.1**	**+0.2**
PLVR	**Palo Verde**	**1.80**	**145**	*eP*	**Pn**	**18 27 30.1**	**-2.5**
CNCH	**Conchagua**	**2.00**	**316**	*eP*	**Pn**	**18 27 36.0**	**+0.7**
CNCH				IAML		18 27 47.5	
	comp=Z,664nm,0.6s						
JTS	**Las Juntas de**	**2.09**	**137**	*eP*	**Pb**	**18 27 40.1**	**+0.8**
ESPN	**Las Esperanzas**	**2.10**	**80**	*eP*	Pg	18 27 45.6	+4.0
CEDE	**Laguna Cedeo**	**2.14**	**128**	*eP*	**Pg**	**18 27 42.7**	**+0.3**
ARE1	**Arenal 1**	**2.14**	**129**	*eP*	**Pg**	**18 27 42.3**	**-0.1**
LCR2	**La Lucha 2**	**3.14**	**131**	*eP*	**Pn**	**18 27 51.7**	**+0.5**

NIED ***21*** *18:31:00, 33.30°N×139.50°E, h5km, Mw4.0 Best double couple: M0:1.26000×10^15 NP1:φ=124.00000°, δ=40.00000°, λ=-64.00000°. NP2:φ=272.00000°, δ=55.00000°, λ=-110.00000°.*
IDC ***21*** *18:31:30.7±0.6, 33.16°N×139.67°E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/40, mbtmp3.9/14, ML3.9/1, MS3.1/12, Ms1 3.1/12, ms1mx2.8/47, Error ellipse: s-maj=20.3km s-min=6.0km az=27.0*
ISCJB ***21*** *18:31:33.0±0.5, 33.24°N±0.03×139.51°E±0.04, h23km±4km, mb3.9/12, MS3.1/6, Error ellipse: s-maj=7.1km s-min=4.3km az=139.5*
JMA ***21*** *18:31:33.4, 33.30°N×139.53°E, h24km±2km, M3.6*
NEIC ***21*** *18:31:33.2±0.9, 32.99°N±0.10×139.42°E±0.07, h14km±3km, mb4.4/4*
ISC 21 18:31:32.5±1.3, 33.29°N±0.03×139.47°E±0.04, h7km±9km, n65, σ1.9°24/61, mb3.9/15, MS3.1/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.31**	**123**	LR	LR	18 31 14.7	
	comp=Z,75nm,20.2s,baz=164,slow=124						
JHJ				Pn	**Pb**	**18 31 40.2**	**-0.1**
	998nm,0.3s,baz=329,slow=23,SNR=398						
JHJ				Sn	**Sb**	**18 31 44.9**	**-0.7**
	baz=60,slow=20						
JHJ2	**Mitsune**	**0.34**	**121**	P	**Pb**	**18 31 40.2**	**-0.6**
JHJ2	**Mitsune**	**0.34**	**121**		**Pb**	**18 31 40.3**	**-0.6**
JHCJ	**Hachijojimakas**	**0.35**	**128**	P	**Pb**	**18 31 40.3**	**-0.7**
JHCJ				S	**Sb**	**18 31 45.3**	**-1.3**
JMKN	**Mikurajimanish**	**0.61**	**9**	P	**Pg**	**18 31 45.1**	**+0.8**
JMKN				S	**Sg**	**18 31 53.1**	**+0.8**
JAOM	**Aogashimamukai**	**0.86**	**163**	P	**Pg**	**18 31 49.4**	**+0.4**
JKO	**Kozu shima**	**0.94**	**343**	P	**Pb**	**18 31 50.5**	**-0.6**
JTHY	**Toshimahigashi**	**1.24**	**353**	P	**Pn**	**18 31 55.3**	**-0.9**
JIM2	**Oshima 3**	**1.43**	**359**	P	**Pn**	**18 31 58.0**	**-0.8**
JIM2				S	**Sn**	**18 32 16.8**	**-1.0**
JIZS	**Izushimoda**	**1.51**	**341**	P	**Pn**	**18 31 59.2**	**-0.7**
TK03	**Tokai 3**	**1.53**	**305**	P	**Pn**	**18 32 00.2**	**+0.1**
TK03				S	**Sn**	**18 32 20.6**	**+0.4**
TK02	**Tokai 2**	**1.58**	**295**	P	**Pn**	**18 32 00.4**	**-0.2**
TK01	**Tokai 1**	**1.64**	**287**	S	**Sn**	**18 32 22.1**	**-0.6**
KTJ3	**Kamata3**	**1.68**	**349**	P	**Pn**	**18 32 01.9**	**-0.3**
TK04	**Tokai 4**	**1.72**	**310**	P	**Pn**	**18 32 02.8**	**+0.1**
TK04				*eS*	**Sn**	**18 32 25.1**	**+0.2**
BSO3	**Boso 3**	**1.74**	**29**	P	**Pn**	**18 32 02.1**	**-0.7**
TTO5	**TONANKAI O.B.S**	**1.75**	**304**	P	**Pn**	**18 32 02.8**	**-0.3**
TTO5				*eS*	**Sn**	**18 32 25.0**	**-0.6**
BSO1	**Boso 1**	**1.85**	**42**	P	**Pn**	**18 32 02.8**	**-1.3**
INU	**Inuyama**	**2.89**	**316**		**Pn**	**18 32 19.3**	**+0.3**
MJAR	**Matsushiro Arr**	**3.41**	**343**	Pn	**Pn**	**18 32 27.6**	**+1.6**
	0.3nm,0.3s,baz=171,slow=13,SNR=12						
MJAR				Sn	**Sb**	**18 33 14.6**	**-0.2**
	0.2nm,0.3s,baz=153,slow=15,SNR=2.7						
MJAR				LR	LR	18 33 44.9	
	comp=Z,236nm,18.7s,baz=150,slow=38						
MJAR	**Matsushiro Arr**	**3.41**	**343**		**Pn**	**18 32 28.3**	**+2.3**
MAJO	**Matsushiro**	**3.41**	**343**		**Pb**	**18 32 30.0**	**-3.2**
MAT	**Matsushiro**	**3.41**	**343**	P	**Pb**	**18 32 30.7**	**-2.5**
MAT				*eS*	**Sn**	**18 33 09.0**	**+2.3**
MJB9	**Matsu-Tunnel**	**3.41**	**343**		**Pb**	**18 32 29.9**	**-3.4**
JCJ	**Chichijima**	**6.60**	**158**	LR	LR	18 35 36.4	
	comp=Z,75nm,19.1s,baz=358,slow=38						
JNU	**Nakatsue**	**7.21**	**271**	Pn	**Pn**	**18 33 19.2**	**+0.9**
	1.7nm,0.3s,baz=177,slow=5.1,SNR=17						
JNU				LR	LR	18 35 34.9	
	comp=Z,46nm,20.6s,baz=74,slow=33						
JNU	**Nakatsue**	**7.21**	**271**		**Pn**	**18 33 17.6**	**-0.6**
KSRS	**Korea Array**	**10.30**	**297**	LR	LR	18 37 34.3	
	comp=Z,42nm,18.1s,baz=110,slow=34						
ASAJ	**Asahikawa**	**11.08**	**12**	LR	LR	18 39 33.8	
	comp=Z,117nm,20.3s,baz=142,slow=43						
USRK	**Ussuriysk Ar.**	**12.36**	**334**	LR	LR	18 39 16.4	
	comp=Z,98nm,18.9s,baz=154,slow=37						
GUMO	**Guam**	**20.22**	**165**	LR	LR	18 42 36.6	
	comp=Z,79nm,18.0s,baz=82,slow=33						
PETK	**Petropavlovsk-**	**23.73**	**28**	LR	LR	18 47 00.6	
	comp=Z,22nm,19.4s,baz=240,slow=39						
MA2	**Magadan**	**27.34**	**13**	LR	LR	18 50 23.3	
	comp=Z,44nm,18.3s,baz=243,slow=41						
H11N2	**WAKE ISLAND Hy**	**27.91**	**112**	T	T	19 06 28.6	
	baz=305,slow=75,SNR=47						
H11N1	**WAKE ISLAND Hy**	**27.91**	**112**	T	T	19 06 31.2	
	baz=305,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**27.93**	**112**	T	T	19 06 32.1	
	baz=305,slow=75,SNR=67						
H11S3	**WAKE ISLAND Hy**	**28.46**	**114**	T	T	19 07 11.7	
	baz=307,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.46**	**114**	T	T	19 07 11.8	
	baz=307,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy**	**28.48**	**114**	T	T	19 07 12.9	
	baz=307,slow=75,SNR=48						
SONM	**Songino Array**	**28.77**	**310**	P	**P**	**18 37 32.7**	**+1.8**
	1.9nm,0.9s,baz=101,slow=5.7,SNR=7.4						
SONM				LR	LR	18 50 15.2	
	comp=Z,26nm,18.1s,baz=26,slow=39						
ZALV	**Zalesovo Beam**	**43.36**	**315**	P	**P**	**18 39 34.4**	**-0.8**
	0.5nm,0.4s,baz=96,slow=9.0,SNR=3.3						
ZALV				PcP	**PcP**	**18 41 23.7**	**+0.1**
	0.8nm,0.4s,baz=113,slow=3.7,SNR=5.1						
MK31	**Makanchi Array**	**44.86**	**305**	P	**P**	**18 39 48.1**	**+0.7**
MK31				IAmb	IAmb	18 39 49.7	
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**44.86**	**305**	P	**P**	**18 39 48.8**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=91,slow=9.4,SNR=11						
MKAR				PcP	**PcP**	**18 41 29.0**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=104,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**44.86**	**305**	P	**P**	**18 39 48.6**	**+1.3**
NRIK	**Noril'sk**	**46.05**	**337**	LR	LR	19 00 16.4	
	comp=Z,64nm,18.8s,baz=142,slow=37			

CNGZ	Carnagh Statio	7.58	184	P	Pn	18 56 50.1 -0.2
RAGZ	Rawiri	7.67	189	P	Pn	18 56 52.6 +1.1
RAGZ				S	Sn	18 58 18.7 +1.4
RTZ	Ruatahuna	7.84	191	P	Pn	18 56 51.7 -2.3
RTZ				S	Sn	18 58 20.2 -1.5
BKZ	Black Stump Fm	8.47	193	P	Pn	18 57 01.4 -1.1
BKZ				S	Sn	18 58 37.6 +0.7
NGZ	Ngauruhoe	8.67	197	P	Pn	18 57 05.6 +0.2
NGZ				S	Sn	18 58 44.7 +2.6
PXZ	Pawanui	9.25	190	P	Pn	18 57 09.5 -3.7
PXZ				S	Sn	18 58 51.0 -5.1
WAZ	Wanganui	9.38	199	P	Pn	18 57 13.4 -1.6
TSZ	Takapari Road	9.43	194	P	Pn	18 57 10.2 -5.5
TSZ				S	Sn	18 58 56.4 -4.2
ANWZ	Angora Road	9.73	191	S	Sn	18 59 03.2 -4.6
PRWZ	Pori Road	9.91	193	P	Pn	18 57 17.1 -5.1
PRWZ				S	Sn	18 59 05.2 -7.1
BFZ	Birch Farm	9.98	192	P	Pn	18 57 17.7 -5.6
BFZ				S	Sn	18 59 06.5 -7.6
MRZ	Mangatainoka R	10.09	194	P	Pn	18 57 19.2 -5.5
MRZ				S	Sn	18 59 08.4 -8.4
CPWZ	Castlepoint	10.21	191	P	Pn	18 57 19.3 -7.1
HOWZ	Holdsworth Sta	10.33	194	P	Pn	18 57 20.2 -7.8
HOWZ				S	Sn	18 59 13.9 -8.7
KIW	Kapiti Island	10.44	197	P	Pn	18 57 21.8 -7.7
KIW				S	Sn	18 59 17.0 -8.2
TMWZ	Te Maipa	10.46	192	P	Pn	18 57 23.7 -6.0
MTW	Mount Morrison	10.58	194	P	Pn	18 57 24.1 -7.3
TRWZ	Traveller	10.78	193	P	Pn	18 57 27.2 -7.0
TRWZ				S	Sn	18 59 24.5 -9.1
PAWZ	Paruwai Farm	10.81	194	P	Pn	18 57 27.8 -6.8
PAWZ				S	Sn	18 59 23.2 -11
MSWZ	Moikau Station	10.88	195	P	Pn	18 57 28.8 -6.8
TCW	Tory Channel	10.93	199	P	Pn	18 57 29.8 -6.4
BHW	Baring Head	10.96	196	P	Pn	18 57 28.6 -8.0
QRZ	Quartz Range	11.15	206	P	Pn	18 57 34.6 -4.6
TUWZ	Tuamarina	11.22	199	P	Pn	18 57 33.5 -6.7

DJA ***21*** *19:17:03.7±1.4,9°S±6°×11°0E±°, h13km±12km, M3.5/7, MLv3.5/7*
IDC ***21*** *19:17:08.2±3.2,9°50S×110°33E, h81km±37km, mb3.4/4, mb1 3.5/6, mb1mx3.3/34, mbtmp3.7/6, Error ellipse: s-maj=104.8km s-min=17.4km az=47.0*
ISC 21 19:17:00.1±3.6,**9°56S**±0°07×**110°16E**±0°05,**h11**km±25km, **n18**,σ1§**19**/20,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.68	12	P	Pn	19 17 30.1	+0.6
UGM				S	Sb	19 17 51.0	-1.2
YOGI	Yogyakarta	1.74	4	P	Pn	19 17 31.2	+0.9
YOGI				S	Sb	19 17 52.4	-1.6
WOJI	Wonogiri, Jawa	1.87	24	P	Pn	19 17 33.7	+1.6
WOJI				S	Sn	19 17 56.3	+0.5
PWJI	Pagerwojo	2.23	47	P	Pn	19 17 38.9	+1.8
PWJI				S	Sn	19 18 04.5	-0.2
SMRI	Semarang	2.51	6	P	Pb	19 17 45.1	-0.2
KPJI	Karang Pucung	2.53	331	P	Pn	19 17 42.6	+1.5
KPJI				S	Sb	19 18 16.5	-0.1
NGJI	Ngawi	2.53	31	P	Pb	19 17 45.6	0.0
CISI	Cisompet, Garu	3.06	311	P	Pn	19 17 48.9	+0.4
LEM	Lembang	3.70	317	P	Pb	19 18 04.7	-1.0
	2.6nm,0.3s,baz=164,slow=19,SNR=2.5					
LEM				S	Sb	19 18 52.6	+2.0
	3.2nm,0.3s,baz=327,slow=24,SNR=3.6					
JAGI	Jajag, Banyuwa	4.09	75	P	Pn	19 18 03.4	+0.7
FITZ	Fitzroy Crossi	17.25	121	P	Pn	19 21 00.8	-0.5
	0.0nm,0.3s,baz=299,slow=9.7,SNR=3.6					
FITZ				S	Sn	19 23 57.8	-15
	0.0nm,0.3s,baz=3.5,slow=19,SNR=2.4					
WRA	Warramunga Arr	25.52	117	P	P	19 22 27.7	-1.3
	0.6nm,0.9s,baz=289,slow=12,SNR=5.7					
ASAR	Alice Springs	26.67	125	P	P	19 22 40.5	+1.1
	0.2nm,0.6s,baz=296,slow=8.7,SNR=5.9					
STKA	Stephens Creek	36.61	132	P	P	19 24 05.9	-0.7
	1.4nm,0.4s,baz=325,slow=7.5,SNR=6.8					
H08S2	Diego Garcia H	37.28	270	T	T	20 03 45.3	
	baz=96,slow=75,SNR=8.2					
H08S3	Diego Garcia H	37.29	270	T	T	20 03 47.5	
	baz=96,slow=75,SNR=6.3					
H08S1	Diego Carcia H	37.30	270	T	T	20 03 50.2	
	baz=96,slow=75,SNR=5.8					
MKAR	Makanchi Array	61.37	339	P	P	19 27 15.5	-0.6
	1.1nm,0.4s,baz=152,slow=7.6,SNR=29					

ISCJB ***21*** *19:24:07.2±0.7,27°.74N±0°.05×105°.70W±0°.08, h10km, Error ellipse: s-maj=10.9km s-min=6.4km az=168.3*
NEIC ***21*** *19:24:08.5±1.0,27°.70N±0°.03×105°.67W±0°.10, h16km±4km, Md4.0(MEX)*
MEX ***21*** *19:24:10.7±0.5,27°.76N×105°.56W, h10km, MD4.0*
ISC 21 19:24:08.5±1.1,**27°75N**±0°.06×**105°66W**±0°08,**h10**km,**n10**, σ0§**46**/14,**Northern Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPIG		0.81	180	eP	Pg	19 24 24.4	+0.1
	baz=6.3,slow=10						
HPIG				eS	Sb	19 24 35.7	-0.2
HPIG		0.81	180		Pg	19 24 24.4	+0.1
HPIG					Sb	19 24 35.7	-0.2
TX31	Lajitas Ar. Si	2.36	48		Pn	19 24 47.0	-0.3
TX32	Lajitas Array	2.36	48		Pn	19 24 47.2	-0.2
TXAR	Lajitas Array	2.36	48		Pn	19 24 47.9	+0.6
CGIG		3.30	323	eP	Pn	19 25 00.3	-0.1
CGIG				i S	Sn	19 25 40.4	+0.6
CGIG		3.30	323		Pn	19 25 00.3	-0.1
CGIG					Sn	19 25 40.4	+0.6
MNTX	Cornudas Mount	3.94	3		Pn	19 25 08.3	-0.8
319A	Douglas	4.79	320		Pn	19 25 20.7	-0.2
121A	Cookes Peak, D	5.11	339	Pn	Pn	19 25 24.7	-0.6

IDC ***21*** *19:26:43.0±2.1,2°.49N×97°.09E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/41, mbtmp3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/18, Error ellipse: s-maj=55.9km s-min=28.7km az=48.0*
ISCJB ***21*** *19:26:48.1±0.9,2°.81N±0°.06×97°.38E±0°.05, h10km, mb3.1/3, MS3.5/1, Error ellipse: s-maj=9.2km s-min=6.8km az=173.8*
DJA ***21*** *19:26:48.3±0.4,3°N±3°×97°7E±°, h10km, M3.4/7, MLv3.4/7*
ISC 21 19:26:46.9±0.9,**2°75N**±0°06×**97°37E**±0°06,**h10**km,**n7**, σ1§**75**/10,**mb3.1/3**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	1.10	252	P	Pb	19 27 07.7	-0.4
SNSI				S	Sn	19 27 25.3	+1.6
GSI	Gunungsitoli	1.45	172	P	Pn	19 27 13.7	+0.4
GSI				S	Sg	19 27 35.5	+1.8
PSI	Prapat	1.55	88	Pn	Pn	19 27 16.1	+1.4
	17nm,0.3s,baz=300,slow=10,SNR=45						
PSI				Sn	Sn	19 27 36.5	+1.6
	16nm,0.3s,baz=236,slow=7.3,SNR=3.8						
MLSI	Meulaboh, Aceh	1.79	327	P	Pn	19 27 19.5	+1.6
WRA	Warramunga Arr	42.72	124	P	P	19 34 43.1	-1.6
	0.4nm,1.1s,baz=302,slow=9.2,SNR=3.4						
ASAR	Alice Springs	44.20	128	P	P	19 34 54.5	-2.1
	0.2nm,0.8s,baz=299,slow=7.2,SNR=3.3						
MKAR	Makanchi Array	45.79	346	P	P	19 35 07.8	-1.1
	0.2nm,0.4s,baz=156,slow=8.8,SNR=4.5						
MKAR				LR	LR	19 57 32.3	
	comp=Z,51nm,20.2s,baz=140,slow=40						

ISCJB ***21*** *19:41:25.9±0.4,28°.05N±0°.05×101°.33E±0°.04, h10km, mb3.7/5, MS3.2/7, Error ellipse: s-maj=6.9km s-min=4.6km az=178.8*
IDC ***21*** *19:41:26.4±1.0,27°.98N×101°.60E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.4/70, mbtmp3.7/7, ML3.4/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/44, Error ellipse: s-maj=30.7km s-min=17.6km az=76.0*
BJI ***21*** *19:41:28.9±0.0,27°.85N×101°.40E, h10km, mb4.0/10, mB4.1/1, ML4.1/16, Ms3.8/13, Ms7 3.5/11*
ISC 21 19:41:27.9±0.7,**27°88N**±0°.05×**101°41E**±0°05,**h10**km,**n30**, σ2§**59**/30,**mb3.7**/5,**MS3.2**/7,**2C**,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.99	156	Pn	Pn	19 42 18.4	+2.8
KMI				Sn	Sb	19 42 56.6	-1.5
KMI				smax	smax		
	comp=N,860nm,0.8s						
KMI				smax	smax		
	comp=E,1μm,0.9s						
CD2	Chengdu	3.66	34⇑	i Pn	Pn	19 42 27.1	+2.5
CD2				Sn	Sn	19 43 13.1	+5.3
CD2				Sg	Sg	19 43 31.0	+5.7
CD2				smax	smax		
	comp=N,640nm,0.8s						
CD2				smax	smax		
	comp=E,370nm,0.9s						
GYA	Guiyang	4.89	106⇑	i Pn	Pn	19 42 43.4	+1.8
GYA				Sn	Sn	19 43 40.8	+2.4
GYA				Sg	Sg	19 44 01.8	-3.2
GYA				smax	smax		
	comp=N,150nm,1.3s						
GYA				smax	smax		
	comp=E,120nm,0.9s						
GYA				LR	LR		
	comp=N,250nm,4.5s						
GYA				LR	LR		
	comp=E,150nm,4.2s						
GYA				LR	LR		
	comp=Z,220nm,4.9s						
LZH	Lanzhou	8.45	14	eP	Pg	19 44 08.4	-1.2
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
PAYA	Payao	8.59	190	P	Pn	19 43 37.9	+5.5
	comp=Z,34μm,1.0s,comp=Z,130nm						
XAN	Xi'an	8.91	45	Pn	Pn	19 43 33.4	-3.3
XAN				Pg	Pg	19 44 09.6	-8.8
XAN				Sn	Sn	19 45 18.9	+1.7
XAN				Sg	Sg	19 46 07.4	-6.4
XAN				smax	smax		
	comp=N,99nm,1.3s						
XAN				smax	smax		
	comp=E,110nm,1.0s						
XAN				LR	LR		
	comp=N,220nm,5.4s						
XAN				LR	LR		
	comp=E,400nm,5.4s						
XAN				LR	LR		
	comp=Z,200nm,9.8s						
CMMT	Chiang Mai	9.30	195	P	Pn	19 43 50.6	+8.5
	comp=Z,3.0nm,2.0s,comp=Z,0.0nm						
CMAR	Chiang Mai Arr	9.64	194	Pn	Pn	19 43 50.1	+3.3
	comp=Z,0.1nm,0.3s,baz=7.0,slow=14,SNR=9.8						
CMAR				Pg		19 44 29.8	
	comp=Z,0.1nm,0.3s,baz=7.3,slow=17,SNR=12						
CMAR				Lg	Lg	19 46 37.1	
	comp=Z,0.1nm,0.3s,baz=1.5,slow=28,SNR=5.7						
CMAR				LR	LR	19 48 00.4	
	comp=Z,107nm,18.9s,baz=9.5,slow=40						
WHN	Wuhan	11.62	74	P	Pn	19 44 14.6	+0.8
WHN				S	Sn	19 46 23.9	+0.3
WHN				LR	LR		
	comp=Z,660nm,13.9s						
TAPN	Taplejung	12.16	271	eP	Pn	19 44 21.3	-0.2
	comp=Z,21nm,0.8s						
ODAN	Odare	12.50	269	eP	Pn	19 44 25.5	-0.6
	comp=Z,7.1nm,0.4s						
RAMN	Ramite	13.19	269	eP	Pn	19 44 34.3	-1.2
	comp=Z,11nm,0.6s						
JIRN	Jiri	13.48	273	eP	Pn	19 44 38.8	-0.8
	comp=Z,8.1nm,0.3s						
GUN	Gumba	13.73	274	eP	Pn	19 44 42.7	-0.4
PKI	Pulchoki	14.17	273	eP	Pn	19 44 47.2	-1.9
	comp=Z,10nm,0.7s						
PKIN	Phulchoki	14.19	273	eP	Pn	19 44 47.7	-1.5
	comp=Z,8.3nm,0.6s						
KKN	Kakani	14.27	273	eP	Pn	19 44 48.7	-1.6
NJ2	Nanjing	15.68	70	eP	Pn	19 45 10.0	+1.0
NJ2				LR	LR		
	comp=Z,460nm,10.0s						
NJ2				LR	LR		
	comp=Z,370nm,8.1s						
SONM	Songino Array	20.30	10	P	P	19 46 03.1	-0.9
	comp=Z,0.7nm,0.7s,baz=196,slow=10.0,SNR=4.0						
SONM				LR	LR	19 54 29.0	
	comp=Z,74nm,22.0s,baz=188,slow=39						
TLY	Talaya	23.84	3	LR	LR	19 56 54.6	
	comp=Z,85nm,20.6s,baz=174,slow=39						
MKAR	Makanchi Array	24.13	327	P	P	19 46 44.0	+0.1
	comp=Z,3.3nm,0.7s,baz=134,slow=10,SNR=30						
KSRS	Korea Array	24.21	60	P	P	19 46 42.8	-1.9
	comp=Z,1.4nm,0.8s,baz=244,slow=11,SNR=3.3						
AAK	Ala-Archa	26.31	311	LR	LR	19 59 06.3	
	comp=Z,88nm,19.1s,baz=144,slow=40						
PALK	Pallekele	28.36	228	LR	LR	20 00 25.3	
	comp=Z,23nm,21.4s,baz=118,slow=40						
KURBB	Kurchatov Arra	28.59	329	P	P	19 47 23.6	-0.4
	comp=Z,0.9nm,0.6s,baz=141,slow=8.8,SNR=6.5						
ZALV	Zalesovo Beam	28.76	339	LR	LR	19 57 42.9	
	comp=Z,36nm,18.8s,baz=29,slow=34						
GEYT	Alibeck	37.41	297	LR	LR	20 07 09.3	
	comp=Z,40nm,18.7s,baz=160,slow=41						
WRA	Warramunga Arr	57.23	143	P	P	19 51 15.1	-0.5
	comp=Z,2.1nm,0.7s,baz=330,slow=7.9,SNR=23						
ASAR	Alice Springs	60.07	145	P	P	19 51 35.5	+0.1
	comp=Z,0.2nm,0.4s,baz=325,slow=6.9,SNR=4.8						
TORD	Torodi Ar. Bea	92.31	286	LR	LR	20 39 14.6	
	comp=Z,36nm,20.0s,baz=300,slow=38						

ATH ***21*** *19:45:27.3,40°.90N×19°.51E, h16km±1km, ML3.7/8, Error ellipse: s-maj=3.6km s-min=1.7km az=128.0*
ISCJB ***21*** *19:45:29.9±0.3,40°.74N±0°.01×19°.55E±0°.02, h13km±2km, mb3.9/11, MS3.4/9, Error ellipse: s-maj=2.4km s-min=1.7km az=145.6*
TIR ***21*** *19:45:30.5,40°.69N×19°.72E, h9km, Md4.1/11*
NEIC ***21*** *19:45:30.8±2.1,40°.76N±0°.04×19°.60E±0°.06, h17km±6km*
PRU ***21*** *19:45:30.1±0.0,40°.58N×19°.08E, h0km, M4.3*
THE ***21*** *19:45:30.8,40°.74N×19°.69E, h0km±3km, ML3.6/8, Error ellipse: s-maj=3.3km s-min=1.0km az=294.0*
PDG ***21*** *19:45:30.7±0.4,40°.73N×19°.61E, h13km, MD3.7/5, ML3.6/13, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
SKO ***21*** *19:45:31.0,40°.72N×19°.50E, h7km, M3.1, ML3.8*
BEO ***21*** *19:45:31.7±0.9,40°.77N×19°.67E, h6km±4km, ML3.4/6*
IDC ***21*** *19:45:32.8±4.2,40°.67N×19°.61E, h30km±31km, mb3.7/12, mb1 3.8/18, mb1mx3.6/66, mbtmp3.8/18, ML3.4/6, MS3.3/13, Ms1 3.3/13, ms1mx2.9/59, Error ellipse: s-maj=20.7km s-min=14.2km az=19.0*
ISC 21 19:45:31.4±0.8,**40°73N**±0°.02×**19°63E**±0°.02,**h23**km±6km, **n268**,σ1§**83**/335,**mb4.1**/15,**MS3.3**/9,**24C-10D**,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.28	201	P	Pb	19 45 36.4	-1.7
VLO				S	Sb	19 45 42.2	-0.3
VLO	Vlora	0.28	201	i PG	Pb	19 45 36.4	-1.7
VLO				i SG	Sb	19 45 42.2	-0.3
TPE	Tepelena	0.52	146	P	Pb	19 45 39.0	-3.0
TPE				S	Sb	19 45 46.4	-2.8
TIR	Tirane	0.64	16	ePg	Pb	19 45 43.2	-0.8
TIR				eSg	Sb	19 45 50.1	-2.5
TIR	Tirane	0.64	16	P	Pb	19 45 43.0	-1.0
TIR				S	Sb	19 45 51.7	-0.9
TIR	Tirane	0.64	16	i Pg	Pb	19 45 43.0	-1.0
TIR	Tirane	0.64	16	i PG	Pb	19 45 43.5	-0.5
TIR				i SG	Sb	19 45 52.8	+0.2
TIR	Tirane	0.64	16	⇑P	Pb	19 45 43.0	-1.0
TIR				AML	AML	19 46 00.5	
TIR	Tirane	0.64	16		Pb	19 45 42.8	-1.2
SRN	Sarande	0.90	161	P	Pb	19 45 46.1	-2.2
SRN	Sarande	0.90	161	i PG	Pb	19 45 47.8	-0.5
SRN				i SG	Sn	19 46 01.5	+0.8
OHR	Ohrid	0.96	66	i Pg	Pb	19 45 49.4	-0.1
OHR				i Sg	Sn	19 46 05.6	+3.0
OHR				eLg	Lg	19 46 10.9	
	comp=E,2μm,0.9s						
OHR				eLg	Lg	19 46 13.1	
	comp=N,2μm,1.0s						
KASA	Kassiopi	1.01	167	P	Pn	19 45 50.5	+0.3
KASA				S	Sn	19 46 06.8	+3.2
KASA				AML	AML	19 46 07.7	
	comp=N,4350μm,0.4s						
KASA				AML	AML	19 46 08.5	
	comp=E,6890μm,0.5s						
KEK	Kerkira	1.02	173	P	Pn	19 45 50.7	+0.3
KEK				S	Sn	19 46 06.8	+2.8
	comp=E,3μm,0.5s						
KEK	Kerkira	1.02	173	P	Pn	19 45 50.9	+0.5
KEK				S	Sn	19 46 07.8	+3.8
KEK				AML	AML	19 46 10.3	
	comp=E,6393μm,0.5s						
KEK				AML	AML	19 46 11.8	
	comp=N,4139μm,0.7s						
SCTE	Santa Cesarea	1.10	234	i PG	Pb	19 45 52.1	+0.2
SCTE				i SG	Sn	19 46 07.1	+1.2
SCTE	Santa Cesarea	1.10	234		Pn	19 45 51.2	-0.2
NEST	Nestorio	1.13	106	P	Pn	19 45 50.5	-1.3
NEST	Nestorio	1.13	106	P	Pn	19 45 50.0	-1.9
NEST				AML	AML	19 46 20.5	
	comp=N,3152μm,0.4s						
NEST				AML	AML	19 46 24.6	
	comp=E,3359μm,0.7s						
PHP	Peshkopia	1.13	32	P	Pn	19 45 50.5	-1.4
PHP	Peshkopia	1.13	32	i PG	Pb	19 45 53.1	+0.7
PHP				i SG	Sn	19 46 08.9	+2.1
ULC	Ulcinj	1.27	347	i Pg	Pb	19 45 54.4	-0.2
ULC	Ulcinj	1.27	347	⇓i Pg	Pb	19 45 54.0	-0.6
ULC				eSg	Sn	19 46 14.2	+4.2
PENT	Pentalofos	1.27	114	P	Pn	19 45 53.2	-0.6
PENT				S	Sb	19 46 12.8	+2.2
	comp=E,2μm,0.6s						
PENT	Pentalofos	1.27	114	P	Pn	19 45 53.5	-0.3
PENT				S	Sb	19 46 13.8	+3.1
PENT				AML	AML	19 46 23.3	
	comp=N,4130μm,0.8s						
PENT				AML	AML	19 46 24.7	
	comp=E,3211μm,0.9s						
IGT	Igoumenitsa	1.31	156	P	Pb	19 45 55.8	+0.4
IGT				S	Sb	19 46 15.0	+3.2
	comp=E,2μm,0.9s						
IGT	Igoumenitsa	1.31	156	i Pg	Pb	19 45 55.0	-0.4
IGT				i Sg	Sb	19 46 15.4	+3.6
IGT	Igoumenitsa	1.31	156	i PN	Pb	19 45 55.1	-0.3
IGT				i SN	Sb	19 46 14.5	+2.7
IGT	Igoumenitsa	1.31	156	P	Pb	19 45 54.9	-0.4
IGT				S	Sb	19 46 16.8	+5.0
IGT				AML	AML	19 46 20.8	
	comp=N,3383μm,0.6s						
IGT				AML	AML	19 46 23.0	
	comp=E,2982μm,0.5s						
PUK	Puka	1.32	8	i PN	Pb	19 45 56.0	+0.3
PUK				i SN	Sb	19 46 14.4	+2.1
FNA	Florina	1.33	87	P	Pn	19 45 53.1	-1.5
FNA				S	Sb	19 46 15.0	+2.7
	comp=E,6μm,0.6s						
FNA	Florina	1.33	87	i PN	Pn	19 45 54.2	-0.3
FNA				i SN	Sb	19 46 15.5	+3.3
FNA	Florina	1.33	87	P	Pn	19 45 53.7	-1.0
FNA				S	Sb	19 46 13.5	+1.2
FNA				AML	AML	19 46 21.5	
	comp=E,9381μm,0.5s						
FNA				AML	AML	19 46 22.4	
	comp=N,10352μm,0.5s						
FNA	Florina	1.33	87		Pn	19 45 53.6	-1.0
JAN	Janina	1.42	139	P	Pb	19 45 57.0	-0.3
JAN				S	Sb	19 46 15.9	+0.9
	comp=N,3μm,0.5s						
JAN	Janina	1.42	139	P	Pb	19 45 56.7	-0.6
JAN				S	Sb	19 46 19.1	+4.1
JAN				AML	AML	19 46 26.1	
	comp=E,5256μm,0.6s						
JAN				AML	AML	19 46 29.9	
	comp=N,6392μm,1.0s						
DRME	Dracevica, Mon	1.49	347	ePn	Pn	19 45 57.4	+0.6
DRME	Dracevica, Mon	1.49	347	⇓i Pg	Pb	19 45 58.2	-0.3
DRME				eSg	Sb	19 46 20.4	+3.4
KPRO	Kipourio	1.54	120	P	Pn	19 45 58.0	+0.6
KPRO	Kipourio	1.54	120	P	Pn	19 45 57.9	+0.4
MEV	Metsovon	1.55	127	P	Pb	19 45 60.0	+0.5
BUM	Brajici-Budva	1.66	341	⇓i Pn	Pb	19 46 00.4	-1.0
BUM				eSn	Sb	19 46 24.6	+2.6
BCI	Bajram Curri	1.67	11	i PN	Pb	19 46 01.4	0.0
BCI				i SN	Sb	19 46 25.1	+3.0
KZN	Kozani	1.69	104	P	Pn	19 46 00.7	+1.2
KZN	Kozani	1.69	104	P	Pn	19 46 00.4	+0.9
KZN				S	Sb	19 46 24.3	+1.7
KZN				AML	AML	19 46 31.6	
	comp=E,4078μm,0.6s						
KZN				AML	AML	19 46 39.2	
	comp=N,3632μm,0.8s						
PDG	Podgorica	1.72	351	ePg	Pb	19 46 01.3	-1.0
PDG				eSg	Sb	19 46 25.5	+2.0
PDG	Podgorica	1.72	351	i Pg	Pb	19 46 01.3	-1.0
PDG				i Sg	Sb	19 46 27.6	+4.1
PDG	Podgorica	1.72	351	ePn	Pb	19 46 00.6	+0.7
PDG	Podgorica	1.72	351	⇑P	Pb	19 46 01.0	-1.4
PDG				⇓S	Sb	19 46 26.0	+2.4
PDG				AML	AML	19 46 43.7	
PDG	Podgorica	1.72	351		Pn	19 45 59.2	-0.7
TTG	Podgorica	1.72	351	⇓i Pn	Pb	19 46 01.5	-0.8
TTG				eSn	Sb	19 46 26.1	+2.6
FASA	Fasano	1.73	274	ePn	Pn	19 45 59.9	-0.2
TAR1	Taranto	1.80	264	ePn	Pb	19 46 04.5	+0.9
SKO	Skopje	1.84	47	ePg	Pb	19 46 04.4	0.0
SKO				eSg	Sb	19 46 28.9	+1.9
SKO	Skopje	1.84	47	i Pg	Pb	19 46 03.6	-0.8
SKO				i Sg	Sb	19 46 30.5	+3.5
SKO				eLg	Lg	19 46 33.9	
	comp=E,96nm,0.8s						
SKO				eLg	Lg	19 46 37.1	
	comp=N,85nm,0.6s						
PVY	Plav	1.88	7⇑	i PN	Pb	19 46 03.9	-1.2
PVY				eSn	Sb	19 46 29.0	+0.8
CEME	Cevo	1.89	344	⇑i PN	Pn	19 46 03.6	+1.3
CEME				eSn	Sb	19 46 30.0	+1.5
MASS	Massafra	1.89	268	ePn	Pb	19 46 03.9	-1.4
MASS				(Sn)	Sb	19 46 35.8	+7.3
HCY	Herceg Novi	1.92	334	ePn	Pn	19 46 02.6	0.0
HCY	Herceg Novi	1.92	334	⇑i Pn	Pb	19 46 04.8	-0.9
HCY				eSn	Sb	19 46 30.1	+1.0
KTI	Kastanea	1.92	99	P	Pb	19 46 04.8	-1.1
NOCI	Noci	1.95	273	i PN	Pb	19 46 06.6	+0.3
TSLK	Tsoukalades, L	2.06	157	P	Pn	19 46 05.2	+0.6
TSLK	Tsoukalades, L	2.06	157	P	Pn	19 46 05.8	+1.2
LKD2	Lefkada island	2.10	157	P	Pn	19 46 06.0	+0.9
LKD2	Lefkada island	2.10	157	i PN	Pb	19 46 08.0	-0.8
LKD2				i SN	Sb	19 46 36.7	+2.3
LKD2	Lefkada island	2.10	157	P	Pn	19 46 05.8	+0.7
NKME	Niksic	2.10	346	⇓i Pn	Pb	19 46 06.5	+1.4
NKME				eSn	Sb	19 46 34.6	+0.2
GRG	Griva	2.11	83	P	Pn	19 46 06.6	+1.2
GRG				S	Sb	19 46 34.0	-0.9
GRG	Griva	2.11	83	i Pn	Pn	19 46 06.6	+1.2
GRG				i Sn	Sb	19 46 34.6	-0.3
GRG	Griva

VAY	Valandovo	2.30	74	*i* Pn	Pn	19 46 09.4	+1.5
VAY				*i* Sn	Sb	19 46 40.9	+0.7
VAY				*e*Lg	Lg	19 46 50.1	
	comp=N,1μm,1.1s						
VAY				*e*Lg	Lg	19 46 50.2	
	comp=E,687nm,1.1s						
BRY	Bratogost	2.32	340	*e*Pn	Pn	19 46 08.4	+0.1
BRY	Bratogost	2.32	340	⇓*i*Pn	Pn	19 46 09.8	+1.5
BRY				*e*Sn	Sb	19 46 40.0	-0.8
FSK	Fiskardo	2.38	162	P	Pn	19 46 09.6	+0.6
PDO	Prodromos	2.44	150	P	Pn	19 46 10.7	+0.8
PDO	Prodromos	2.44	150	P	Pn	19 46 10.6	+0.8
EVR	Evrytania	2.47	137	P	Pb	19 46 12.9	-2.3
KNT	Kendrikon	2.51	79	P	Pn	19 46 12.0	+1.2
UPM	Unac-Piva	2.53	348	*e*Pn	Pb	19 46 15.0	-1.2
UPM	Unac-Piva	2.53	348	⇑*i*Pn	Pn	19 46 12.8	+1.6
UPM				*e*Sn	Sb	19 46 45.1	-1.9
SJES	Sjenica	2.54	6	*e*Pn	Pn	19 46 13.6	+2.3
PVO	Paravola	2.57	145	P	Pn	19 46 13.2	+1.6
PVO	Paravola	2.57	145	P	Pn	19 46 13.2	+1.6
MAKR	Makrakomi, Fth	2.58	131	P	Pn	19 46 14.3	+2.5
STON	Ston	2.58	327	*e*Pn	Pn	19 46 11.5	-0.2
STON				Sn	Sn	19 46 43.2	+0.9
STON	Ston	2.58	327	*e*Pn	Pn	19 46 12.1	+0.4
PLE	Pljevlja	2.60	356	⇑*i*Pn	Pn	19 46 14.1	+1.9
PLE				*e*Sn	Sb	19 46 46.9	-2.2
HORT	Hortiatis	2.64	92	P	Pn	19 46 13.7	+1.0
HORT				S	Sn	19 46 47.2	+3.2
	comp=E,298nm,0.8s						
BARS	Barje	2.65	37	*e*Pg	Pb	19 46 18.7	+0.5
BARS	Barje	2.65	37	*e*Pn	Pb	19 46 29.3	+11
BARS				*e*Sg	Sb	19 46 54.2	+4.0
AGG	Agios Georgios	2.69	129	P	Pn	19 46 15.5	+2.2
AGG				S	Sn	19 46 48.4	+3.3
	comp=E,660nm,1.1s						
AGG	Agios Georgios	2.69	129	P	Pn	19 46 15.7	+2.4
AGG	Agios Georgios	2.69	129		Pn	19 46 15.0	+1.8
TIP	Timpagrande	2.70	236	⇓P	Pn	19 46 13.2	-0.2
TIP				AML	AML	19 47 14.9	
TIP	Timpagrande	2.70	236		Pn	19 46 13.5	0.0
SELS	Selova	2.72	24	*e*Pn	Pn	19 46 16.3	+2.6
ACER	Acerenza	2.80	272		Pn	19 46 14.5	-0.3
IVAS	Ivanjica	2.87	8	*e*Pn	Pn	19 46 16.9	+1.1
RUDO	Rudo	2.89	356	*e*Pn	Pn	19 46 12.0	-4.0
PLG	Polygyros	2.93	96	P	Pn	19 46 17.9	+1.3
PLG	Polygyros	2.93	96	P	Pn	19 46 18.5	+2.0
SERG	Sergoula	2.98	140	P	Pn	19 46 19.4	+2.2
TRIZ	Trizonia	3.02	141	P	Pn	19 46 19.9	+2.0
RLS	Riolos of Patr	3.02	151	P	Pn	19 46 18.8	+0.9
SGRT	San Giovanni R	3.10	290		Pn	19 46 19.1	+0.1
BBLS	Lazići	3.14	357	*e*Pg	Pb	19 46 28.0	+1.5
BBLS	Lazići	3.14	357	*e*Pn	Pb	19 46 24.2	-2.3
MAKA	Makarska	3.21	324	*e*Pn	Pn	19 46 21.3	+0.9
MAKA				Sn	Sn	19 46 59.9	+2.0
GRUS	Gruza	3.26	14	*e*Pn	Pn	19 46 22.4	+1.4
NVR	Nevrokopi	3.26	78	P	Pn	19 46 22.1	+1.0
BOVS	Bovan	3.29	27	*e*Pn	Pn	19 46 22.7	+1.3
VTS	Vitosha	3.29	54	⇑P	Pn	19 46 23.6	+1.9
VTS				AML	AML	19 47 09.0	
VTS	Vitosha	3.29	54		Pn	19 46 23.5	+1.8
KLV	Kalavryta, Ach	3.32	143	P	Pn	19 46 23.5	+1.5
SKIA	Skiathos	3.34	117	P	Pn	19 46 23.9	+1.7
DIVS	Divibare	3.38	4	*e*Pn	Pn	19 46 23.7	+0.9
DIVS	Divibare	3.38	4	*e*Pn	Pn	19 46 23.1	+0.3
ZAPS	Zavoj	3.39	40	*e*Pn	Pn	19 46 24.5	+1.6
HAPS	Han Pijesak,BI	3.39	352	*e*Pn	Pn	19 46 23.8	+0.8
HAPS	Han Pijesak,BI	3.39	352	*e*Pn	Pn	19 46 23.6	+0.6
TRUS	Trudelj	3.54	9	*e*Pn	Pn	19 46 26.0	+1.1
ZAGS	Zajecar	3.63	31	*e*Pn	Pn	19 46 28.3	+2.1
MRKA	Markates	3.66	122	P	Pn	19 46 28.2	+1.5
VIL2	Platees	3.77	131	P	Pn	19 46 30.1	+1.9
TEKS	Tekeris	3.82	359	*e*Pn	Pn	19 46 30.5	+1.7
TEKS	Tekeris	3.82	359	*e*Pn	Pn	19 46 31.5	+2.7
PAOL	Paolisi	3.85	276		Pn	19 46 29.8	+0.5
ITM	Ithomi	3.97	152	P	Pn	19 46 32.0	+1.1
ITM	Ithomi	3.97	152		Pn	19 46 31.6	+0.7
KUBS	Kucevo	3.98	22	*e*Pn	Pn	19 46 32.3	+1.4
VLX	Vlachokerasia	3.98	147	P	Pn	19 46 32.5	+1.4
MORS	Mrkonjic Grad	4.13	334	*e*Pn	Pn	19 46 34.6	+1.5
ZIRJ	Zirje	4.16	316	*e*Pn	Pn	19 46 34.3	+0.9
ZIRJ				Sn	Sn	19 47 22.3	+1.0
MORI	Morici	4.28	318	*e*Pn	Pn	19 46 35.9	+0.8
MDVR	Moldovita	4.33	20	⇓P	Pn	19 46 37.0	+1.2
MDVR				AML	AML	19 48 12.9	
BLY	Banja Luka	4.40	337	*e*Pn	Pn	19 46 39.4	+2.6
BLY	Banja Luka	4.40	337	⇑P	Pn	19 46 39.6	+2.9
BLY	Banja Luka	4.40	337	Pn	Pn	19 46 36.7	0.0
FRGS	Fruska Gora	4.43	2	*e*Pn	Pn	19 46 37.6	+0.5
FRGS	Fruska Gora	4.43	2	*e*Pn	Pn	19 46 37.2	+0.1
INTR	Introdacqua	4.49	288		Pn	19 46 39.1	+1.0
PLVB	Pleven	4.56	53	⇑P	Pn	19 46 40.6	+1.6
PLVB				AML	AML	19 48 07.7	
HERR	Herculane	4.63	25	⇑P	Pn	19 46 41.6	+1.8
HERR				AML	AML	19 48 11.2	
DUGI	Dugi Otok	4.70	315	*i* Pn	Pn	19 46 42.4	+1.5
DUGI				Sn	Sn	19 47 36.5	+1.9
UDBI	Udbina	4.75	324	*e*Pn	Pn	19 46 43.6	+2.1
ALN	Alexandroupoli	4.87	86	P	Pn	19 46 44.8	+1.6
ALN	Alexandroupoli	4.87	86	Pn	Pn	19 46 43.8	+0.6
AQU	L'Aquila	4.95	291	*e*Pn	Pn	19 46 44.6	+0.2
AQU	L'Aquila	4.95	291		Pn	19 46 44.5	+0.2
BZS	Buzias	5.09	16	⇑P	Pn	19 46 47.1	+0.8
ELND	Elena	5.16	63	⇑P	Pn	19 46 49.8	+2.7
ELND				AML	AML	19 48 30.3	
NVLJ	Novalja	5.19	319	*i* Pn	Pn	19 46 47.8	+0.2
GZR	Gura Zlata	5.20	25	⇑P	Pn	19 46 50.6	+2.8
GZR				AML	AML	19 48 05.1	
VAE	Valguarnera	5.20	233	Pn	Pn	19 46 53.9	+6.2
	comp=E,1.3nm,0.3s,baz=339,slow=7.5,SNR=4.1						
NRCA	Norcia	5.30	295		Pn	19 46 49.8	+0.5
RAFF	Raffo Rosso	5.40	231	Pn	Pn	19 46 49.5	-0.9
MORH	Mrgy, Hungar	5.53	353	*e*Pn	Pn	19 46 52.6	+0.4
MURB	Monte Urbino	5.87	298		Pn	19 46 57.5	+0.5
CRES	Cresnjev	5.93	331	*e*Pn	Pn	19 46 57.7	-0.1
RIY	Rijeka	5.94	322	*e*Pn	Pn	19 46 57.4	-0.5
VOIR		6.15	38	⇑P	Pn	19 47 02.9	+2.1
CEY	Cerknica	6.28	325	*e*Pn	Pn	19 47 02.3	-0.3
LJU	Ljubljana	6.48	327	*e*Pn	Pn	19 47 05.9	+0.6
MLR	Muntele Rosu	6.63	42	Pn	Pn	19 47 11.2	+3.7
	comp=E,0.5nm,0.3s,baz=179,slow=8.0,SNR=11						
MLR				LR	LR	19 50 34.4	
	comp=E,97nm,20.0s,baz=312,slow=45						
MLR	Muntele Rosu	6.63	42	⇑P	Pn	19 47 10.0	+2.5
MLR	Muntele Rosu	6.63	42	Pn	Pn	19 47 09.7	+2.2
SOKA	Soboth	6.81	332	Pn	Pn	19 47 11.0	+1.0
	comp=E,2.3nm,0.3s						
SOKA				*i* Sn	Sn	19 48 24.0	-2.8
	comp=E,5.9nm,0.6s						
OBKA	Obir	6.85	329	*i* Pn	Pn	19 47 12.1	+1.6
	comp=E,2.9nm,0.2s						
OBKA				*i* Sn	Sn	19 48 30.2	+2.4
	comp=E,14nm,0.4s						
ARSA	Arzberg	7.16	337	*i* Pn	Pn	19 47 16.6	+1.9
	comp=E,2.0nm,0.3s						
PLOR	Plostina	7.24	43	⇑P	Pn	19 47 18.5	+2.8
VRI	Vrincioaia	7.29	43	⇓P	Pn	19 47 18.3	+1.9
TLB	Topalu	7.30	55	⇑P	Pn	19 47 18.9	+2.4
MYKA	Terra Mystica	7.32	326	*i* Pn	Pn	19 47 18.8	+1.9
	comp=E,1.6nm,0.3s						
MYKA				*i* Sn	Sn	19 48 39.5	+0.2
	comp=E,5.7nm,0.5s						
TEOL	Teolo	7.44	311		Pn	19 47 17.9	-0.6
STAL	STALIGIAL	7.47	320	Pn	Pn	19 47 18.0	-0.9
TRPA	Tarpa	7.68	15	⇑P	Pn	19 47 23.4	+1.6
CONA	Conrad Observa	7.69	341	*i* Pn	Pn	19 47 24.0	+2.1
	comp=E,1.1nm,0.4s						
VYHS	Vyhne	7.78	356	*e*PN	Pn	19 47 26.5	+3.3
KBA	Koelnbreinsper	7.80	327	*i* Pn	Pn	19 47 25.7	+2.1
	comp=E,2.7nm,0.3s						
MODS	Modra-Piesok	7.82	348	*e*PN	Pn	19 47 29.6	+5.8
CTI	Castel Tesino	7.87	315		Pn	19 47 23.6	-1.0
ABTA	Abfaltersbach	7.92	322	*i* Pn	Pn	19 47 25.4	+0.3
	comp=E,9.1nm,0.7s						
ABTA				*i* Sn	Sn	19 48 52.5	-1.5
	comp=E,16nm,0.8s						
BURAR	Bucovina Array	7.96	28	⇑P	Pn	19 47 27.9	+2.2
BURAR	Bucovina Array	7.96	28		Pn	19 47 27.1	+1.3
BUR08	Bucovina Ar. S	7.96	28	Pn	Pn	19 47 27.3	+1.3
MOA	Molln	8.09	333	Pn	Pn	19 47 29.0	+1.6
	comp=E,3.0nm,0.3s,SNR=6.6						
MOA				*i* Sn	Sn	19 48 55.7	-2.4
	comp=E,3.6nm,0.5s						
KOLS	Kolonicke sedl	8.41	12	*e*PN	Pn	19 47 34.9	+3.1
WTTA	Wattenberg	8.71	321	*i* Pn	Pn	19 47 37.5	+1.5
	comp=E,4.3nm,0.3s						
WTTA				*i* Sn	Sn	19 49 11.9	-1.6
	comp=E,6.4nm,0.6s						
WATA	Walderalm	8.79	321	*i* Pn	Pn	19 47 38.9	+1.8
	comp=E,13nm,0.6s						
VRAC	Vranov	8.84	347	LR	LR	19 52 10.3	
	comp=E,262nm,19.9s,baz=183,slow=45						
SQTA	Sankt Quirin	8.88	320	Pn	Pn	19 47 39.7	+1.3
	comp=E,1.8nm,0.2s,SNR=5.4						
ELL	Elmali	8.96	113	Pn	Pn	19 47 40.7	+1.2
FETA	Feichten	8.99	317	*i* Pn	Pn	19 47 42.4	+2.5
	comp=E,6.8nm,0.7s						
MOTA	Moosalm	9.02	320	Pn	Pn	19 47 41.0	+0.7
	comp=E,15nm,0.7s,SNR=11						
GERES	GERESS Array B	9.14	335	Pn	Pn	19 47 43.3	+1.5
	comp=E,0.3nm,0.3s,baz=157,slow=13,SNR=6.6						
GERES				Sn	Sn	19 49 20.2	-3.8
	comp=E,0.2nm,0.3s,baz=145,slow=23,SNR=2.7						
GERES				LR	LR	19 52 20.0	
	comp=E,210nm,19.3s,baz=154,slow=44						
GERES	GERESS Array B	9.14	335		Pn	19 47 41.2	-0.7
DAVOX	Davos/Dischmat	9.29	314	Pn	Pn	19 47 46.2	+2.2
	comp=E,0.5nm,0.3s,baz=122,slow=15,SNR=6.3						
DAVOX				Sn	Sn	19 49 26.5	-1.3
	comp=E,0.3nm,0.3s,baz=308,slow=19,SNR=2.5						
DAVOX				LR	LR	19 52 23.0	
	comp=E,72nm,21.8s,baz=84,slow=44						
TUE	Stuetta	9.41	311	Pn	Pn	19 47 46.1	+0.4
KHC	Kasperske Hory	9.43	335	*e*PN	Pn	19 47 45.3	-0.5
KHC				*e*SN	Sn	19 49 29.2	-1.8
DAVA	Damuels	9.60	316	*i* Pn	Pn	19 47 50.7	+2.4
	comp=E,5.1nm,0.5s						
DAVA				*i* Sn	Sn	19 49 38.2	+2.7
	comp=E,5.9nm,0.7s						
SENIN	Lac Senin/Sane	10.57	306	Pn	Pn	19 48 02.1	+0.5
BRTR	Keskin Array B	10.76	91	Pn	Pn	19 48 06.4	+2.2
	comp=E,0.1nm,0.3s,baz=276,slow=14,SNR=3.0						
MMAI	Mount Meron Ar	14.77	116	Pn	Pn	19 48 57.5	-1.4
	comp=E,0.3nm,0.3s,baz=302,slow=12,SNR=2.5						
HFS	Hagfors	19.77	351	P	Pn	19 50 01.1	-0.2
	comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=3.4						
HFS				LR	LR	19 58 58.0	
	comp=E,90nm,19.5s,baz=220,slow=41						
EKA	Eskdalemuir Ar	20.97	322	P	P	19 50 13.4	+0.7
	comp=Z,7.2nm,0.9s,baz=128,slow=11,SNR=8.2						
NB2	NORSAR Subarra	20.98	349	P	Pn	19 50 15.8	+0.4
	comp=Z,1.9nm,0.9s,baz=161,slow=11						
NOA	NORSAR Array B	20.98	349	P	Pn	19 50 15.2	-0.3
	comp=Z,0.8nm,0.8s,baz=154,slow=9.9,SNR=5.0						
NOA				LR	LR	20 00 10.4	
	comp=Z,106nm,18.3s,baz=170,slow=42						
FINES	FINESS Array B	21.11	9	P	P	19 50 16.0	+1.9
	comp=Z,2.8nm,0.8s,baz=183,slow=11,SNR=5.3						
FINES				LR	LR	19 59 16.5	
	comp=Z,120nm,20.4s,baz=208,slow=39						
KLMR	Klimovskoe	23.56	25	*e*	P	19 50 39.7	-0.2
KLMR				AMP		19 50 50.4	
	comp=Z,19nm,1.3s						
AKTO	Aktyubinsk	28.28	57	LR	LR	20 04 31.8	
	comp=Z,30nm,19.5s,baz=263,slow=40						
ARCES	ARCESS Array B	29.03	4	P	P	19 51 29.5	+0.2
	comp=Z,3.1nm,0.8s,baz=182,slow=9.9,SNR=2.8						
ARCES				LR	LR	20 04 22.2	
	comp=Z,152nm,18.8s,baz=252,slow=39						
ABKAR	Akbulak array	29.46	60	P	P	19 51 33.0	-0.2
GEYT	Alibeck	29.74	83	P	P	19 51 36.2	+0.3
	comp=Z,1.0nm,0.5s,baz=254,slow=11,SNR=6.0						
GEYT	Alibeck	29.74	83	P	P	19 51 35.8	-0.2
GYA0B	ALIBECK ARRAY	29.74	83	P	P	19 51 35.9	-0.1
GYA0B				IAmb	IAmb	19 51 37.2	
	comp=Z,7.4nm,1.4s						
TOA0	Torodi Ar. Sit	31.66	215	P	P	19 51 52.0	-0.9
TORD	Torodi Ar. Bea	31.66	215	P	P	19 51 53.6	+0.7
	comp=Z,1.3nm,0.9s,baz=21,slow=8.2,SNR=6.4						
TORD	Torodi Ar. Bea	31.66	215	P	P	19 51 53.0	+0.1
BRVK	Borovoye	36.00	53	P	P	19 52 30.4	+0.1
BRVK				IAmb	IAmb	19 52 36.7	
	comp=Z,3.7nm,0.6s						
BVAR	Borovoye Array	36.06	53	P	P	19 52 31.8	+0.9
	comp=Z,1.9nm,0.9s,baz=234,slow=9.0,SNR=5.6						
KKAR	Karatay Array	37.47	69	P	P	19 52 42.8	-0.2
DBIC	Dimbokro	40.36	219	LR	LR	20 11 54.8	
	comp=Z,33nm,18.6s,baz=32,slow=39						
KURBB	Kurchatov Arra	41.31	56	P	P	19 53 15.1	+0.2
	comp=Z,0.2nm,0.3s,baz=267,slow=9.5,SNR=3.8						
KURK	Kurchatov	41.35	56	P	P	19 53 14.4	-0.9
KURK				IAmb	IAmb	19 53 29.2	
	comp=Z,12nm,1.9s						
KSH	Kashi	42.46	73	P	P	19 53 23.0	-1.7
KSH				sP	pP	19 53 30.3	-1.5
KSH				PcP	PcP	19 55 18.1	+0.8
KSH				ScP	ScP	19 59 07.0	+0.6
KSH				PcS	PcS	19 59 07.3	-2.1
KSH				S	S	19 59 41.3	-3.9
KSH				sS	pS	19 59 50.5	-3.1
KSH				SS	SS	20 02 44.4	-10
KSH				pmax	pmax		
	comp=Z,230nm,4.6s						
KSH				LR	LR		
	comp=N,150nm,6.9s						
KSH				LR	LR		
	comp=E,120nm,10.1s						
KSH				LR	LR		
	comp=Z,88nm,10.3s						
ZAA0	Zalesovo Array	44.54	50	P	P	19 53 41.1	+0.1
ZAA0				IAmb	IAmb	19 53 43.9	
	comp=Z,4.1nm,0.9s						
ZALV	Zalesovo Beam	44.54	50	P	P	19 53 41.5	+0.5
	comp=Z,3.1nm,0.6s,baz=275,slow=9.4,SNR=10						
ZALV	Zalesovo Beam	44.54	50	P	P	19 53 39.8	-1.2
MK31	Makanchi Array	44.60	60	P	P	19 53 41.3	-0.4
MKAR	Makanchi Array	44.60	60	P	P	19 53 41.4	-0.3
	comp=Z,0.6nm,0.5s,baz=286,slow=7.4,SNR=20						
MKAR	Makanchi Array	44.60	60	P	P	19 53 41.6	0.0
NRIK	Noril'sk	44.84	28	LR	LR	20 15 25.8	
	comp=Z,34nm,18.6s,baz=184,slow=40						
DANN	Dangsing	53.18	82	*e*P	P	19 54 47.3	-0.7
	comp=Z,24nm,0.9s						
KOLN	Koldanda	53.36	83	*e*P	P	19 54 48.1	-1.2
	comp=Z,7.6nm,0.6s						
KKN	Kakani	54.62	82	*e*P	P	19 54 57.2	-1.3
	comp=Z,7.6nm,0.6s						
PKIN	Phulchoki	54.82	82	*e*P	P	19 54 58.7	-1.3
	comp=Z,3.7nm,0.6s						
PKI	Pulchoki	54.83	82	*e*P	P	19 54 58.7	-1.4
GUN	Gumba	55.00	81	*e*P	P	19 55 00.6	-0.8
	comp=Z,19nm,0.8s						
JIRN	Jiri	55.37	82	*e*P	P	19 55 03.5	-0.6
	comp=Z,17nm,0.5s						
RAMN	Ramite	56.05	82	*e*P	P	19 55 07.7	-1.2
	comp=Z,9.0nm,0.5s						
TAPN	Taplejung	56.67	81	*e*P	P	19 55 11.8	-1.6
	comp=Z,12nm,0.7s						
ODAN	Odare	56.70	82	*e*P	P	19 55 12.8	-0.6
	comp=Z,8.9nm,0.6s						
SONM	Songino Array	59.39	51	P	P	19 55 33.4	+1.5
	comp=Z,1.6nm,0.9s,baz=303,slow=8.3,SNR=5.8						
HHC	Hu-ho-hao-te	66.17	56	*e*P	P	19 56 18.1	+1.0
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,8.0nm,5.9s						
BOSA	Boshof	69.19	175	LR	LR	20 29 16.4	
	comp=Z,48nm,18.4s,baz=29,slow=38						
CMAR	Chiang Mai Arr	70.22	82	P	P	19 56 43.3	+0.5
	comp=Z,0.7nm,0.7s,baz=310,slow=7.0,SNR=4.6						
SJG	San Juan	75.28	281	LR	LR	20 26 30.2	
	comp=Z,7.6nm,20.1s,baz=284,slow=33						

*IDC **21** 19:46:59.3±0.6, 46°.46N×152°.74E, h0km, mb4.0/21, mb1 4.2/23, mb1mx3.9/65, mbtmp4.0/23, ML2.8/2, MS2.9/5, Ms1 2.9/5, ms1mx2.5/50, Error ellipse: s-maj=17.5km s-min=14.2km az=137.0*

*JMA **21** 19:47:00.6±0.6, 46°.61N×152°.98E, h30km, M4.4*

*NIED **21** 19:47:00, 46°.60N×153°.00E, h8km, Mw4.0 Best double couple: Mo1.30000×10^15 NP1:φ=346.00000°, δ42.00000°, λ-81.00000°. NP2:φ=154.00000°, δ49.00000°, λ-98.00000°.*

*NEIC **21** 19:47:01.6±1.9, 46°.4N±0°.1×152°.9E±0°.2, h15km±4km, mb4.5/11*

*ISCJB **21** 19:47:02.3±1.3, 46°.37N±0°.07×152°.76E±0°.08, h31km±9km, mb4.2/33, MS3.0/2, Error ellipse: s-maj=14.4km s-min=4.9km az=142.9*

*MOS **21** 19:47:03.8±1.1, 46°.45N×152°.73E, h41km, mb4.6/14, Error ellipse: s-maj=9.8km s-min=7.0km az=69.4*

*SKHL **21** 19:47:05.6±1.3, 46°.57N×152°.66E, h59km±2km, mb5.8/2, msh5.1/3*

ISC 21 19:47:01.6±1.0, 46°.35N±0°.08×152°.84E±0°.07, h16km±5km, n166, σ1$77/174, mb4.3/37, 13C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.66	254	*e*PN	Pn	19 48 00.1	+2.7
KUR				*e*S	Sn	19 48 38.9	-1.2
KUR				pmax	pmax		
	comp=E,31nm,0.4s						
KUR				pmax	pmax		
	comp=Z,156nm,0.4s						
KUR				smax	smax		
	comp=N,343nm,0.4s						
KUR				smax	smax		
	comp=E,114nm,0.4s						
KUR	Kuril'sk	3.66	254	*e*P	Pn	19 47 59.5	+2.1
KUR				AMB	AMB	19 48 01.2	
	comp=E,1μm,4.0s						
KUR				AMB	AMB	19 48 06.7	
	comp=E,130nm,0.5s						
KUR				*e*S	Sn	19 48 39.0	-1.2
KUR				A	A	19 48 49.4	
	comp=E,481nm,0.6s						
KUR				A	A	19 48 49.4	
	comp=E,368nm,0.6s						
KUR				A	A	19 48 50.5	
	comp=E,2μm,3.0s						
KUR				A	A	19 48 50.5	
	comp=E,2μm,3.0s						
SKR	Severo-Kuril's	4.85	25	⇓*e*PN	Pn	19 48 14.4	+0.6
SKR	Severo-Kuril's	4.85	25	*e*P	Pn	19 48 14.2	+0.4
SKR				*e*S	Sn	19 49 04.7	-4.9
SKR				A	A	19 49 10.0	
	comp=E,860nm,4.0s						
SKR				A	A	19 49 10.0	
	comp=E,790nm,4.0s						
YUK	Yuzh-Kuril'sk	5.45	247	*e*PN	Pn	19 48 25.3	+3.2
YUK				*e*S	Sn	19 49 27.4	+3.0
YUK				pmax	pmax		
	comp=Z,122nm,0.3s						
YUK				pmax	pmax		
	comp=E,38nm,0.2s						
YUK				smax	smax		
	comp=N,221nm,0.7s						
YUK				smax	smax		
	comp=E,185nm,0.4s						
YUK	Yuzh-Kuril'sk	5.45	247	*e*P	Pn	19 48 25.0	+2.9
YUK				AMB	AMB	19 48 26.4	
	comp=E,1μm,2.8s						
YUK				AMB	AMB	19 48 37.0	
	comp=E,122nm,0.5s						
YUK				*e*S	Sn	19 49 24.0	-0.4
YUK				A	A	19 49 27.5	
	comp=E,2μm,2.0s						
YUK				A	A	19 49 27.5	
	comp=E,1μm,2.0s						
YUK				A	A	19 49 34.0	
	comp=E,460nm,0.7s						
YUK				A	A	19 49 34.0	
	comp=E,390nm,0.7s						
GRPR	Tuman	5.53	247	*e*PN	Pn	19 48 26.8	+3.7
GRPR				*e*S	Sn	19 49 29.5	+3.2
GRPR				pmax	pmax		
	comp=Z,56nm,0.2s						
GRPR				smax	smax		
	comp=E,104nm,0.5s						
GRPR				smax	smax		
	comp=N,170nm,0.7s						
GRPR	Tuman	5.53	247	*e*P	Pn	19 48 26.0	+2.9
GRPR				AMB	AMB	19 48 28.0	
	comp=N,56nm,0.2s						
GRPR				*e*S	Sn	19 49 26.5	+0.2
GRPR				A	A	19 49 36.0	
	comp=N,170nm,0.7s						
GRPR				A	A	19 49 36.0	
	comp=N,104nm,0.7s						
GLVR	Golovnino	5.81	246	*e*PN	Pn	19 48 28.7	+1.7
GLVR				pmax	pmax		
	comp=Z,202nm,0.6s						
GLVR	Golovnino	5.81	246	*e*P	Pn	19 48 29.7	+2.7
GLVR				AMB	AMB	19 48 31.0	
	comp=Z,202nm,0.6s						
GLVR				*e*S	Sn	19 49 34.0	+0.8
GLVR				A	A	19 49 36.0	
	comp=Z,327nm,0.6s						
GLVR				A	A	19 49 36.0	
	comp=Z,201nm,0.6s						
NEM2	Nemuro 2	5.86	242	P	Pn	19 48 27.5	-0.2
NEM2				*e*S	Sn	19 49 31.7	-2.9
NMR	Nemuro--Hokkai	5.87	242	*e*PN	Pn	19 48 27.2	-0.6
NMR	Nemuro--Hokkai	5.87	242	*e*x	Pn	19 48 27.0	-0.8
JRA	Rausu	5.97	249	P	Pn	19 48 31.6	+2.4
JNK	Nakash	6.39	247	P	Pn	19 48 36.2	+1.2
JAK	Akkeshi	6.71	243	P	P

baz=340,slow=75,SNR=99
H11S1 WAKE ISLAND Hy 30.04 153 T T 20 25 43.5
baz=341,slow=76,SNR=114
H11S3 WAKE ISLAND Hy 30.04 153 T T 20 25 45.3
baz=341,slow=76,SNR=87
H11S2 WAKE ISLAND Hy 30.05 153 T T 20 25 44.1
baz=341,slow=76,SNR=65
XAN Xi'an 35.30 265 P **P** **19 53 56.3 +0.6**
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN pmax pmax
comp=Z,46nm,3.5s
ILAR Eielson Array 36.98 38 P **P** **19 54 09.5 -0.2**
comp=Z,0.3nm,0.7s,baz=263,slow=7.3,SNR=7.2
INK Inuvik 42.09 32 P **P** **19 54 53.2 +1.0**
comp=Z,2.0nm,0.5s,baz=303,slow=5.8,SNR=7.2
INK Inuvik 42.09 32 P **P** **19 54 53.2 +1.0**
MKAR Makanchi Array 46.96 298 *e*P **P** **19 55 29.3 -2.2**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.96 298 P **P** **19 55 30.1 -1.4**
comp=Z,0.8nm,0.7s,baz=70,slow=8.8,SNR=6.3
MKAR PcP **PcP** **19 57 03.8 +0.1**
comp=Z,1.1nm,0.7s,baz=55,slow=3.2,SNR=6.7
MKAR Makanchi Array 46.96 298 P **P** **19 55 29.1 -2.4**
KURK Kurchatov 47.43 304 P **P** **19 55 32.5 -2.5**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 47.43 304 *e*P **P** **19 55 32.8 -2.2**
KURK Kurchatov 47.43 304 P **P** **19 55 32.5 -2.5**
KURBB Kurchatov Arra 47.52 304 P **P** **19 55 33.2 -2.5**
comp=Z,0.7nm,0.6s,baz=67,slow=8.4,SNR=4.5
KURBB PcP **PcP** **19 57 05.6 0.0**
comp=Z,0.5nm,0.8s,baz=62,slow=4.4,SNR=2.7
LSA Lhasa 50.11 273 P **P** **19 55 57.7 +1.2**
LSA pmax pmax
comp=Z,10.0nm,1.5s
LSA Lhasa 50.11 273 P **P** **19 55 57.6 +1.2**
LSA IAmb IAmb 19 56 10.9
comp=Z,10.0nm,1.5s
BVAR Borovoye Array 50.97 310 P **P** **19 56 00.3 -1.8**
comp=Z,0.6nm,0.4s,baz=40,slow=9.4,SNR=4.6
BVAR PcP **PcP** **19 57 17.3 -0.8**
comp=Z,0.3nm,0.4s,baz=54,slow=2.3,SNR=3.9
BRVK Borovoye 51.01 310 P **P** **19 56 01.0 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 51.01 310 *e*P **P** **19 56 01.0 -1.3**
CHTO Chiang Mai 51.84 257 P **P** **19 56 10.3 +1.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 51.84 257 P **P** **19 56 10.2 +1.2**
CHTO IAmb IAmb 19 56 11.0
comp=Z,4.9nm,0.8s
CMAR Chiang Mai Arr 52.09 256 P **P** **19 56 12.1 +1.2**
comp=Z,1.6nm,0.8s,baz=38,slow=7.4,SNR=13
CMAR PcP **PcP** **19 57 24.1 +1.3**
comp=Z,0.9nm,0.8s,baz=29,slow=2.1,SNR=4.9
CMAR Chiang Mai Arr 52.09 256 P **P** **19 56 11.3 +0.4**
KSH Kashi 54.63 293 P **P** **19 56 32.8 +3.3**
KSH PcP **PcP** **19 57 37.5 +5.2**
KSH PP **PP** **19 58 37.5 +5.8**
KSH S **S** **20 04 10.0 +1.3**
KSH ScS **ScS** **20 06 19.1 +0.9**
KSH Kashi 54.63 293 SS **SS** **20 07 51.1 +0.1**
KSH pmax pmax
comp=Z,250nm,4.5s
KSH LR LR
comp=N,130nm,7.2s
KSH LR LR
comp=E,130nm,7.5s
KSH LR LR
comp=Z,100nm,7.5s
JIRN Jiri 54.79 275 *e*P **P** **19 56 32.0 +0.9**
comp=Z,18nm,0.5s
RAMN Ramite 54.95 274 *e*P **P** **19 56 32.4 +0.3**
comp=Z,11nm,0.4s
ARU Arti 55.18 318*d i*P **P** **19 56 31.3 -1.7**
ARU S **S** **20 04 12.8 -2.4**
ARU SS **SS** **20 07 53.8 -4.8**
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 55.18 318 *e*P **P** **19 56 31.3 -1.7**
KKN Kakani 55.34 275 *e*P **P** **19 56 35.7 +0.9**
comp=Z,9.2nm,0.6s
PKI Pulchoki 55.38 275 *e*P **P** **19 56 35.4 +0.1**
comp=Z,7.3nm,0.8s
PKIN Phulchoki 55.39 275 *e*P **P** **19 56 35.5 +0.2**
comp=Z,6.4nm,0.7s
DMN Daman 55.57 275 *e*P **P** **19 56 37.2 +0.6**
comp=Z,18nm,1.0s
GKN Gorkha 55.65 276 *e*P **P** **19 56 37.5 +0.5**
DANN Dangsing 56.03 277 *e*P **P** **19 56 40.9 +1.0**
comp=Z,22nm,0.6s
KOLN Koldanda 56.51 277 *e*P **P** **19 56 43.7 +0.5**
comp=Z,20nm,0.8s
NEW Newport 57.57 52 LR LR 20 21 27.0
comp=Z,14nm,20.4s,baz=354,slow=36
KBL Kabul 62.04 292 P **P** **19 57 20.7 -0.7**
KBL pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 62.04 292 P **P** **19 57 20.7 -0.7**
KBL IAmb IAmb 19 57 21.2
comp=Z,2.9nm,0.7s
NVAR Mina Array Bea 62.78 62 P **P** **19 57 26.9 +0.5**
comp=Z,0.7nm,0.7s,baz=281,slow=6.9,SNR=3.9
NVAR Mina Array Bea 62.78 62 P **P** **19 57 26.7 +0.3**
ELK Elko 63.17 58 LR LR 20 21 00.6
comp=Z,11nm,19.4s,baz=357,slow=32
FINES FINESS Array B 64.32 335 *i* P **P** **19 57 35.2 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 64.32 335 P **P** **19 57 34.5 -1.3**
comp=Z,3.1nm,0.5s,baz=28,slow=7.7,SNR=27
FINES FINESS Array B 64.32 335 P **P** **19 57 34.2 -1.6**
PDAR Pinedale Array 65.13 54 P **P** **19 57 42.0 +0.2**
comp=Z,0.7nm,0.8s,baz=302,slow=2.8,SNR=4.8
PDAR Pinedale Array 65.13 54 P **P** **19 57 41.5 -0.2**
GEYT Alibeck 66.65 301 P **P** **19 57 51.6 +0.3**
comp=Z,1.0nm,0.6s,baz=12,slow=7.4,SNR=3.7
GEYT Alibeck 66.65 301 P **P** **19 57 51.3 0.0**
WRA Warramunga Arr 68.08 199 *i* P **P** **19 58 00.0 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 68.08 199 P **P** **19 57 60.0 -0.4**
comp=Z,1.3nm,0.7s,baz=18,slow=6.8,SNR=9.5
WRA Warramunga Arr 68.08 199 P **P** **19 57 59.5 -0.9**
NB2 NORSAR Subarra 68.54 341 P **P** **19 58 01.8 -1.1**
comp=Z,1.6nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.54 341 P **P** **19 58 02.2 -0.7**
comp=Z,1.8nm,0.6s,baz=27,slow=6.3,SNR=11
HFS Hagfors 68.76 339 P **P** **19 58 03.3 -0.9**
comp=Z,4.0nm,0.6s,baz=48,slow=4.3,SNR=17
AKASG Malin Array Be 71.77 326 P **P** **19 58 21.8 -1.0**
comp=Z,2.1nm,0.3s,baz=36,slow=6.1,SNR=8.3
AKASG Malin Array Be 71.77 326 P **P** **19 58 21.2 -1.5**
ASAR Alice Springs 71.77 198 P **P** **19 58 23.9 +0.8**
comp=Z,1.0nm,0.7s,baz=14,slow=5.3,SNR=16
ASAR Alice Springs 71.77 198 P **P** **19 58 23.1 +0.1**
BUR08 Bucovina Ar. S 75.80 326 P **P** **19 58 46.2 -0.5**
KOLS Kolonicke sedl 75.81 329 *e*P **P** **19 58 46.9 +0.4**
KOLS Kolonicke sedl 75.81 329 *e*P **P** **19 58 46.8 +0.3**
BURAR Bucovina Array 75.82 326 ⇑P **P** **19 58 46.7 -0.1**
BURAR mb 19 58 47.2
BURAR Bucovina Array 75.82 326 P **P** **19 58 46.5 -0.2**
TESR Tescani 76.16 325 ⇑P **P** **19 58 48.4 -0.2**
KSP Ksiaz 76.17 333 P **P** **19 58 48.3 -0.3**
KSP pmax pmax
comp=Z,8.0nm,2.2s
TRPA Tarpa 76.39 328 ⇑P **P** **19 58 50.3 +0.5**
TRPA mb 19 58 50.8
LANS Liptovska Anna 76.60 331 *e*P **P** **19 58 52.3 +1.2**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 76.60 331 *e*P **P** **19 58 52.3 +1.2**
EKA Eskdalemuir Ar 76.68 346 P **P** **19 58 51.4 +0.1**
comp=Z,0.7nm,0.7s,baz=26,slow=5.6,SNR=3.9
MORC Moravsky Berou 76.70 332 P **P** **19 58 51.7 0.0**
MORC pmax pmax
comp=Z,8.0nm,2.7s
MORC Moravsky Berou 76.70 332 ⇑P **P** **19 58 50.6 -1.1**
CLL Collm 76.75 335⇑*i*P **P** **19 58 51.4 -0.4**
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 76.75 335⇑*i*P **P** **19 58 51.4 -0.4**
comp=Z,7.0nm,0.7s

OZUR 76.85 325 ⇑P **P** **19 58 53.2 +0.7**
MLR Muntele Rosu 77.28 325 P **P** **19 58 56.0 +0.9**
MLR pmax pmax
comp=Z,9.0nm,1.4s
MLR Muntele Rosu 77.28 325 ⇑P **P** **19 58 55.9 +0.8**
VYHS Vyhne 77.38 331 *e*P **P** **19 58 55.7 +0.3**
VYHS Vyhne 77.38 331 *e*P **P** **19 58 55.7 +0.3**
VRAC Vranov 77.42 332 P **P** **19 58 55.9 +0.3**
VRAC pmax pmax
comp=Z,8.0nm,1.9s
VRAC Vranov 77.42 332 ⇑P **P** **19 58 55.9 +0.3**
GOPC GO Pecny, Ondr 77.45 334 *e*P **P** **19 58 55.8 0.0**
GOPC GO Pecny, Ondr 77.45 334 *e*P **P** **19 58 55.8 0.0**
PRU Pruhonice 77.46 334 *e*P **P** **19 58 56.1 +0.3**
PRU Pruhonice 77.46 334 *e*P **P** **19 58 56.1 +0.3**
VOIR 77.68 325 ⇑P **P** **19 58 57.9 +0.7**
SMOL Smolenice 77.83 331 *e*P **P** **19 58 59.0 +1.0**
SMOL pmax pmax
comp=Z,5.0nm,0.5s
SMOL Smolenice 77.83 331 *e*P **P** **19 58 59.0 +1.0**
TXAR Lajitas Array 77.85 60 P **P** **19 58 58.9 +0.4**
comp=Z,0.6nm,0.7s,baz=310,slow=3.7,SNR=6.8
TXAR Lajitas Array 77.85 60 P **P** **19 58 58.6 +0.1**
KHC Kasperske Hory 78.51 334 *e*P **P** **19 59 02.0 +0.2**
KHC *e* 19 59 05.9
KHC Kasperske Hory 78.51 334 *e*P **P** **19 59 02.0 +0.2**
KHC *e*pP **sP** **19 59 05.9 -1.8**
BRTR Keskin Array B 78.55 317 *e*P **P** **19 59 02.8 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 78.55 317 P **P** **19 59 02.4 +0.1**
comp=Z,1.8nm,0.8s,baz=71,slow=2.6,SNR=10
BRTR Keskin Array B 78.55 317 P **P** **19 59 02.0 -0.3**
GZR Gura Zlata 78.60 327 ⇑P **P** **19 59 02.1 -0.2**
GERES GERESS Array B 78.73 334 P **P** **19 59 02.9 -0.1**
comp=Z,1.4nm,0.5s,baz=35,slow=5.5,SNR=16
GERES GERESS Array B 78.73 334 P **P** **19 59 02.5 -0.6**
CONA Conrad Observa 78.86 332 *i* pP **P** **19 59 04.6 +0.9**
comp=Z,4.5nm,0.7s
MOA Molln 79.44 333 *i* pP **P** **19 59 07.6 +0.7**
comp=Z,1.5nm,0.5s
WATA Walderalm 80.72 334 *i* pP **P** **19 59 14.5 +0.6**
comp=Z,1.5nm,0.3s
VTS Vitosha 80.75 325 P **P** **19 59 14.4 +0.2**
VTS pmax pmax
comp=Z,6.0nm,0.8s
VTS Vitosha 80.75 325 ⇑P **P** **19 59 14.8 +0.6**
VTS mb 19 59 15.7
VTS Vitosha 80.75 325 P **P** **19 59 14.4 +0.2**
WTTA Wattenberg 80.77 334 *i* pP **P** **19 59 14.7 +0.4**
comp=Z,2.8nm,0.3s
MOTA Moosalm 80.85 335 *i* P **P** **19 59 12.7 -1.9**
comp=Z,2.5nm,0.7s
PLCA Paso Flores 148.36 96 PKP2 **PKPbc** **20 06 47.0 +0.2**
PLCA Paso Flores 148.36 96 PKPbc **PKPbc** **20 06 47.0 +0.2**
comp=Z,2.2nm,0.7s,baz=305,slow=0.2,SNR=6.1
PLCA Paso Flores 148.36 96 **PKPbc** **20 06 45.6 -1.1**
CPUP Villa Florida 148.83 61 PKPbc **PKPbc** **20 06 48.3 0.0**
comp=Z,1.0nm,0.6s,baz=314,slow=3.7,SNR=5.1

NIED ***21*** *19:57:00, 37°.50N×141°.40E, h53km, Mw4.4 Best double couple: M0=4.02000×10^15 NP1:φs=208.00000°, δ=16.00000°, λ=95.00000°. NP2:φs=23.00000°, δ=74.00000°, λ=89.00000°.*
BJI ***21*** *19:57:50.0±0.0, 37°.36N×141°.44E, h58km, mb4.7/45, mB4.9/33, Ms4.1/4, Ms7 3.9/5*
ISCJB ***21*** *19:57:51.6±0.4, 37°.50N±0°.03×141°.42E±0°.04, h58km±2km, mb4.6/64, MS3.4/9, Error ellipse: s-maj=6.1km s-min=3.5km az=27.5*
MOS ***21*** *19:57:51.3±1.1, 37°.54N×141°.37E, h53km, mb5.0/24, Error ellipse: s-maj=7.5km s-min=4.7km az=110.0*
NEIC ***21*** *19:57:53.0±1.4, 37°.55N±0°.06×141°.3E±0°.1, h53km±7km, mb4.8/60*
JMA ***21*** *19:57:53.1±0.1, 37°.52N×141°.36E, h52km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs=18.00000°, δ=61.00000°, λ=82.00000°. NP2:φs=214.00000°, δ=30.00000°, λ=103.00000°. Principal axes: T Plg=73.0000°, Azm=270.0000°; N Plg=7.0000°, Azm=22.0000°; P Plg=16.0000°, Azm=114.0000°;*
JMA Felt III J1.
IDC ***21*** *19:57:54.8±1.8, 37°.53N×141°.25E, h65km±16km, mb4.1/22, mb1 4.3/28, mb1mx4.2/48, mbtmp4.4/28, MS3.3/11, Ms1 3.4/11, ms1mx3.0/45 Error ellipse: s-maj=15.1km s-min=11.4km az=106.0*
ISC 21 19:57:52.1±0.7, 37°.50N±0°.04×141°.49E±0°.05, h49km±4km, n279, σ1°70/299, mb4.7/76, MS3.5/9, 19C-30D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**255**	⇓P	**Pn**	**19 58 03.5**	**0.0**
JFK				S	**Sn**	**19 58 10.7**	**-0.9**
JMST	**Minamisoumatoc**	**0.53**	**295**	⇓P	**Pn**	**19 58 03.6**	**-0.1**
JMST				S	**Sn**	**19 58 11.0**	**-0.9**
JMM	**Marumori**	**0.66**	**304**	⇓P	**Pn**	**19 58 05.4**	**0.0**
JMM				S	**Sn**	**19 58 14.1**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.68**	**234**	⇓P	**Pn**	**19 58 05.8**	**+0.2**
ONAJ				S	**Sn**	**19 58 14.5**	**-0.9**
JFFD	**Fukushimafurud**	**0.85**	**241**	⇓P	**Pn**	**19 58 07.8**	**0.0**
JFFD				S	**Sn**	**19 58 18.0**	**-1.2**
JFT	**Otama**	**0.92**	**272**	⇓P	**Pn**	**19 58 09.1**	**+0.4**
JFT				S	**Sn**	**19 58 20.2**	**-0.7**
JIO	**Ouri**	**0.96**	**353**	⇓P	**Pn**	**19 58 09.8**	**+0.5**
JIO				S	**Sn**	**19 58 21.5**	**-0.4**
JOU	**Okura**	**1.08**	**323**	⇓P	**Pn**	**19 58 10.9**	**-0.1**
JYS	**Shiratake**	**1.34**	**303**	⇓P	**Pn**	**19 58 14.4**	**0.0**
JYS				*e*S	**Sn**	**19 58 30.2**	**-0.9**
JFY	**Yanaizu**	**1.42**	**267**	⇓P	**Pn**	**19 58 15.6**	**0.0**
JFY				S	**Sn**	**19 58 32.4**	**-0.8**
JMK	**Ichinoseki**	**1.47**	**352**	⇓P	**Pn**	**19 58 16.6**	**+0.4**
JYK	**Kaneyama**	**1.67**	**328**	⇓P	**Pn**	**19 58 19.5**	**+0.5**
MJAR	**Matsushiro Arr**	**2.79**	**251**	P	**Pn**	**19 58 35.2**	**+0.9**
	4.1nm,0.3s,baz=64,slow=11,SNR=152						
MJAR				S	**Sn**	**19 59 09.6**	**+2.7**
	7.4nm,0.3s,baz=82,slow=27,SNR=6.8						
MJAR	**Matsushiro Arr**	**2.79**	**251**		**Pn**	**19 58 34.8**	**+0.4**
MAJO	**Matsushiro**	**2.80**	**251**	P	**Pn**	**19 58 35.2**	**+0.8**
MAJO	**Matsushiro**	**2.80**	**251**		**Pn**	**19 58 34.9**	**+0.5**
MAT	**Matsushiro**	**2.80**	**251**	P	**Pn**	**19 58 35.5**	**+1.1**
MAT				S	**Sn**	**19 59 09.8**	**+2.9**
MJB9	**Matsu-Tunnel**	**2.80**	**251**		**Pn**	**19 58 35.0**	**0.6**
INU	**Inuyama**	**4.20**	**241**		**Pn**	**19 58 54.9**	**+1.3**
JHJ2	**Mitsune**	**4.59**	**198**	Pn	**Pn**	**19 59 00.4**	**+1.4**
JHJ	**Hachijo jima 2**	**4.59**	**198**	P	**Pn**	**19 58 59.9**	**+0.9**
	60nm,0.3s,baz=55,slow=16,SNR=11						
JHJ				S	**Sn**	**19 59 51.1**	**+0.1**
	78nm,0.3s,baz=53,slow=20,SNR=12						
ERM	**Erimo**	**4.69**	**15**	⇑*e*P	**Pn**	**19 59 02.3**	**+2.0**
ERM	**Erimo**	**4.69**	**15**	Pn	**Pn**	**19 59 01.6**	**+1.3**
ASAJ	**Asahikawa**	**6.66**	**7**	P	**Pn**	**19 59 28.4**	**+1.1**
	2.9nm,0.3s,baz=212,slow=14,SNR=21						
ASAJ				S	**Sn**	**20 00 41.1**	**-0.8**
	0.8nm,0.3s,baz=294,slow=19,SNR=2.3						
JKA	**Kamikawa-asahi**	**6.66**	**7**		**Pn**	**19 59 28.4**	**+1.1**
JKA					**Sn**	**20 00 41.1**	**-0.8**
NMR	**Nemuro--Hokkai**	**6.69**	**28**	*e*P	**Pn**	**19 59 27.4**	**-0.4**
NMR				*e*S	**Sn**	**20 00 37.8**	**-4.9**
GLVR	**Golovnino**	**6.94**	**25**	*e*P	**Pn**	**19 59 32.9**	**+1.7**
GLVR				*e*S	**Sn**	**20 00 45.4**	**-3.4**
GRPR	**Tuman**	**7.25**	**25**	*e*P	**Pn**	**19 59 36.5**	**+1.0**
GRPR				*e*S	**Sn**	**20 00 52.1**	**-4.3**
YUK	**Yuzh-Kuril'sk**	**7.32**	**26**	P	**Pn**	**19 59 37.4**	**+1.0**
YUK				*e*S	**Sn**	**20 00 54.0**	**-4.1**
YUK				pmax	pmax		
	comp=Z,67nm,0.2s						
YUK				pmax	pmax		
	comp=N,11nm,0.1s						
TEY	**Ternei**	**8.38**	**336**	⇓*i*P	Pn	19 59 56.4	+5.5
TEY				pmax	pmax		
	comp=E,40nm,1.1s						
TEY				pmax	pmax		
	comp=N,60nm,0.7s						
TEY				pmax	pmax		
	comp=Z,60nm,0.8s						
VLA	**Vladivostok**	**9.23**	**310**	⇓*e*P	**Pn**	**20 00 05.8**	**+3.2**
VLA				pmax	pmax		
	comp=Z,66nm,0.8s						
MSHR	**Mys Shultsa**	**9.41**	**306**	⇑*e*P	**Pn**	**20 00 06.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**9.49**	**5**	*e*P	**Pn**	**20 00 07.1**	**+1.0**
JNU	**Nakatsue**	**9.71**	**246**	P	**Pn**	**20 00 11.2**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=57,slow=11,SNR=7.8						
JNU				LR	LR	20 04 18.1	
	comp=Z,258nm,21.4s,baz=59,slow=40						
JNU	**Nakatsue**	**9.71**	**246**		**Pn**	**20 00 10.9**	**+1.7**
USA0B	**Ussuriysk Arra**	**9.82**	**316**	P	**Pn**	**20 00 11.8**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.82**	**316**		**Pn**	**20 00 11.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.82**	**316**	P	**Pn**	**20 00 11.5**	**+0.8**
	baz=128,slow=11,SNR=27						
USRK				LR	LR	20 03 43.9	
	comp=Z,222nm,19.1s,baz=137,slow=36						
KSRS	**Korea Array**	**10.79**	**274**	P	**Pn**	**20 00 27.4**	**+3.6**
	comp=Z,1.3nm,0.3s,baz=89,slow=14,SNR=29						
KSRS				LR	LR	20 04 14.7	
	comp=Z,170nm,20.2s,baz=66,slow=36						
KSAR	**Wonju Array Be**	**10.82**	**274**	P	**Pn**	**20 00 22.9**	**-1.4**
KSAR	**Wonju Array Be**	**10.82**	**274**		**Pn**	**20 00 22.9**	**-1.4**
KS19	**Wonju Array Si**	**10.83**	**274**		**Pn**	**20 00 24.8**	**+0.4**
MDJ	**Mudanjiang**	**11.45**	**312**	P	Pn	20 00 37.4	+4.5
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.3s						
MDJ	**Mudanjiang**	**11.45**	**312**		**Pn**	**20 00 36.0**	**+3.1**
KLR	**Kul'dur**	**13.68**	**332**⇑*e*P		**Pn**	**20 01 05.3**	**+1.9**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KLR	**Kul'dur**	**13.68**	**332**	P	**Pn**	**20 01 05.8**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=147,slow=14,SNR=4.7						
KLR				LR	LR	20 06 08.8	
	comp=Z,94nm,20.6s,baz=174,slow=36						
GRNR	**Gornyy**	**13.75**	**346**	*e*P	**P**	**20 01 12.4**	**+0.9**
SKR	**Severo-Kuril's**	**16.81**	**34**	*e*P	**Pn**	**20 01 38.0**	**-5.9**
SKR				pmax	pmax		
	comp=Z,100nm,5.5s						
SKR				MLR	MLR		
	comp=Z,200nm,16.0s						
ZEA	**Zeya**	**18.99**	**333**	*e*P	**P**	**20 02 07.7**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
TIA	**Tai'an**	**19.53**	**274**	P	**P**	**20 02 14.0**	**-1.5**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NACB	**Ninganchiao**	**21.58**	**238**	P	**P**	**20 02 35.3**	**-2.4**
SSLB	**Suanglung**	**22.27**	**238**	P	**P**	**20 02 42.0**	**-3.2**
SSLB				IAmb	IAmb	20 03 13.4	
	comp=Z,51nm,1.6s						
YULB	**Yu-li**	**22.31**	**237**	P	**P**	**20 02 43.0**	**-2.6**
YULB				IAmb	IAmb	20 03 32.3	
	comp=Z,53nm,1.7s						
TPUB	**Ta-pu**	**22.82**	**238**	P	**P**	**20 02 46.9**	**-4.1**
TWG	**Pinlang**	**22.86**	**236**	P	**P**	**20 02 49.6**	**-1.7**
WHN	**Wuhan**	**23.49**	**261**	P	**P**	**20 02 57.1**	**-0.4**
GUMO	**Guam**	**24.00**	**172**	LR	LR	20 13 15.2	
	comp=Z,28nm,19.9s,baz=94,slow=38						
YAK	**Yakutsk**	**25.63**	**347**	*e*P	**P**	**20 03 15.5**	**-1.2**
YAK				*e**PP	**sP**	**20 03 34.5**	**-0.6**
YAK				*e*		20 06 51.9	
YAK				*e*S	**S**	**20 07 40.3**	**-1.0**
YAK				*e**SS	**sS**	**20 08 02.2**	**-0.3**
YAK				*e*SS	**SnSn**	**20 08 50.9**	**+12**
YAK				*e*		20 14 02.9	
YAK				pmax	pmax		
	comp=Z,35nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK				smax	smax		
	comp=E,177nm,4.4s						
YAK				smax	smax		
	comp=N,172nm,4.1s						
YAK	**Yakutsk**	**25.63**	**347**	P	**P**	**20 03 16.1**	**-0.6**
	comp=N,13nm,0.6s,baz=182,slow=2.3,SNR=15						
YAK	**Yakutsk**	**25.63**	**347**	P	**P**	**20 03 15.4**	**-1.2**
YAK				IAmb	IAmb	20 03 18.8	
	comp=Z,38nm,1.0s						
SEY	**Seymchan**	**26.32**	**11**⇑*e*P		**P**	**20 03 24.0**	**+1.0**
SEY	**Seymchan**	**26.32**	**11**	P	**P**	**20 03 25.2**	**+2.2**
	comp=Z,15nm,1.0s,baz=192,slow=7.8,SNR=12						
XAN	**Xi'an**	**26.58**	**272**	P	**P**	**20 03 24.3**	**-1.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,85nm,3.8s						
XAN	**Xi'an**	**26.58**	**272**	P	**P**	**20 03 23.8**	**-1.9**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN	**Xi'an**	**26.58**	**272**	P	**P**	**20 03 23.8**	**-1.9**
XAN				IAmb	IAmb	20 03 29.4	
	comp=Z,13nm,0.6s						
ULN	**Ulaanbaatar**	**27.15**	**303**⇑*e*P		**P**	**20 03 29.9**	**-0.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.15**	**303**	P	**P**	**20 03 29.1**	**-1.7**
BOD	**Bodaibo**	**27.17**	**327**	*e*P	**P**	**20 03 29.9**	**-0.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ENH	**Enshi**	**27.44**	**264**	P	**P**	**20 03 32.1**	**-1.3**
ENH				IAmb	IAmb	20 03 33.6	
	comp=Z,32nm,0.8s						
SONM	**Songino Array**	**27.58**	**303**	P	**P**	**20 03 33.4**	**-1.3**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**27.58**	**303**	P	**P**	**20 03 33.9**	**-0.7**
	comp=Z,9.5nm,0.7s,baz=103,slow=8.6,SNR=38						
SONM				LR	LR	20 14 11.5	
	comp=Z,52nm,19.3s,baz=106,slow=36						
SONM	**Songino Array**	**27.58**	**303**	P	**P**	**20 03 33.4**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	20 33 54.8	
	baz=314,slow=75,SNR=289						
H11N1	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	20 33 54.8	
	baz=314,slow=75,SNR=296						
H11N3	**WAKE ISLAND Hy**	**28.35**	**122**	T	T	20 33 56.8	
	baz=314,slow=75,SNR=354						
H11S1	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	20 34 52.0	
	baz=316,slow=76,SNR=191						
H11S3	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	20 34 52.1	
	baz=316,slow=76,SNR=126						
H11S2	**WAKE ISLAND Hy**	**29.08**	**124**	T	T	20 34 54.3	
	baz=316,slow=76,SNR=194						
LZH	**Lanzhou**	**30.05**	**279**	*e*P	**P**	**20 04 00.6**	**+3.8**
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
TLY	**Talaya**	**30.07**	**310**⇓*e*P		**P**	**20 03 56.6**	**0.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TLY	**Talaya**	**30.07**	**310**	P	**P**	**20 03 54.9**	**-1.7**
GYA	**Guiyang**	**31.36**	**260**⇑*i*P		**P**	**20 04 06.9**	**-1.5**
GYA				pP	pP	20 04 21.5	+0.4
GYA				sP	sP	20 04 29.6	+2.7
GYA				PP	**PnPn**	**20 05 10.3**	**-1.9**
GYA				S	**S**	**20 09 05.8**	**-6.6**
GYA				sS	sS	20 09 31.3	-2.4
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
MOY	**Mondy**	**31.69**	**310**	*e*P	**P**	**20 04 07.4**	**-3.6**
GTA	**Gaotai**	**32.49**	**286**	P	**P**	**20 04 16.8**	**-1.3**
GTA				PcP	**PcP**	**20 07 05.3**	**+1.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**34.84**	**353**⇓*i*P		**P**	**20 04 37.8**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**34.84**	**353**	P	**P**	**20 04 37.5**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=166,slow=6.9,SNR=11						
TIXI	**Tiksi**	**34.84**	**353**	P	**P**	**20 04 37.2**	**-0.7**
TIXI				IAmb	IAmb	20 04 39.1	
	comp=Z,18nm,1.8s						
KMI	**Kunming**	**35.09**	**261**	P	**P**	**20 04 40.6**	**-0.4**
KMI				pmax	pmax		
	comp=Z,29nm,0.9s						
**KM

ZAA0 Zalesovo Array 41.65 312 P **P** **20 05 34.5 -0.9**
ZAA0 IAmb IAmb 20 05 36.5
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 41.65 312 *i* P **P** **20 05 35.2 -0.2**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 41.65 312 P **P** **20 05 35.3 -0.1**
comp=Z,12nm,0.8s,baz=88,slow=7.0,SNR=47
ZALV LR LR 20 23 25.3
comp=Z,51nm,19.2s,baz=78,slow=37
ZALV Zalesovo Beam 41.65 312 P **P** **20 05 34.1 -1.3**
CMAR Chiang Mai Arr 41.68 255 *i* P **P** **20 05 36.0 -0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 41.68 255 P **P** **20 05 35.6 -0.5**
comp=Z,0.8nm,0.5s,baz=44,slow=7.8,SNR=12
CMAR PcP **PcP** **20 07 32.9 +0.8**
comp=Z,0.6nm,0.6s,baz=30,slow=2.4,SNR=5.8
CMAR LR LR 20 23 56.4
comp=Z,35nm,18.7s,baz=7.0,slow=38
LSA Lhasa 42.23 275 P **P** **20 05 40.7 -0.4**
LSA pmax pmax
comp=Z,25nm,1.9s
LSA Lhasa 42.23 275 P **P** **20 05 40.7 -0.4**
LSA IAmb IAmb 20 05 42.9
comp=Z,25nm,1.9s
SHL Shillong 43.47 269 P **P** **20 05 49.5 -1.3**
SHL pmax pmax
comp=Z,13nm,0.5s
SHL Shillong 43.47 269 P **P** **20 05 49.5 -1.3**
SHL IAmb IAmb 20 05 57.0
comp=Z,13nm,0.5s
MK31 Makanchi Array 43.92 302 P **P** **20 05 53.3 -0.8**
MK31 pmax pmax
comp=Z,15nm,0.9s
MK31 Makanchi Array 43.92 302 P **P** **20 05 53.3 -0.8**
MK31 IAmb IAmb 20 05 55.2
comp=Z,15nm,0.9s
MKAR Makanchi Array 43.92 302 P **P** **20 05 53.7 -0.4**
comp=Z,16nm,0.9s,baz=88,slow=9.5,SNR=93
MKAR Makanchi Array 43.92 302 P **P** **20 05 53.0 -1.0**
KURK Kurchatov 45.70 308*c i*P **P** **20 06 07.3 -0.7**
KURK pmax pmax
comp=Z,44nm,1.3s
KURK Kurchatov 45.70 308 P **P** **20 06 07.1 -0.9**
TAPN Taplejung 45.97 274 *e*P **P** **20 06 10.8 -0.1**
comp=Z,12nm,0.4s
ODAN Odare 46.45 273 *e*P **P** **20 06 13.8 -0.7**
comp=Z,11nm,0.5s
RAMN Ramite 47.03 274 *e*P **P** **20 06 18.8 -0.3**
comp=Z,22nm,0.7s
JIRN Jiri 47.04 275 *e*P **P** **20 06 19.1 -0.2**
comp=Z,18nm,0.4s
GUN Gumba 47.17 275 *e*P **P** **20 06 20.4 +0.1**
comp=Z,31nm,0.4s
PKI Pulchoki 47.70 275 *e*P **P** **20 06 23.6 -0.8**
comp=Z,7.6nm,0.4s
KKN Kakani 47.70 275 *e*P **P** **20 06 23.8 -0.5**
comp=Z,30nm,0.6s
PKIN Phulchoki 47.70 275 *e*P **P** **20 06 23.7 -0.7**
comp=Z,15nm,0.8s
GKN Gorkha 48.11 276 *e*P **P** **20 06 27.1 -0.3**
comp=Z,34nm,0.5s
TARG Taragay, Kyrgy 48.25 296 P **P** **20 06 28.6 0.0**
TARG IAmb IAmb 20 06 31.6
comp=Z,10nm,0.9s
DANN Dangsing 48.65 277 *e*P **P** **20 06 31.8 +0.1**
comp=Z,107nm,0.7s
KOLN Koldanda 49.04 276 *e*P **P** **20 06 34.3 -0.3**
IL31 49.07 33 P **P** **20 06 35.2 +1.2**
IL31 IAmb IAmb 20 08 07.8
comp=Z,27nm,1.9s
ILAR Eielson Array 49.07 33 P **P** **20 06 35.6 +1.6**
comp=Z,2.4nm,0.8s,baz=270,slow=5.9,SNR=23
ILAR Eielson Array 49.07 33 P **P** **20 06 34.3 +0.3**
KSH Kashi 50.27 294 P P 20 06 48.3 +4.6
KSH PcP **PcP** **20 08 05.3 +3.2**
KSH PP **PP** **20 08 45.1 +5.9**
KSH PcS **PcS** **20 12 00.3 +1.0**
KSH S **S** **20 13 56.0 +3.2**
KSH sS sS 20 14 22.8 +7.7
KSH SS **SS** **20 17 28.3 +1.8**
KSH pmax pmax
comp=Z,250nm,5.4s
KSH LR LR
comp=Z,45nm,8.4s
AAK Ala-Archa 50.32 298*ce*P **P** **20 06 43.8 -0.3**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 50.32 298 P **P** **20 06 43.5 -0.6**
AAK IAmb IAmb 20 06 46.2
comp=Z,6.4nm,0.8s
BRVK Borovoye 50.36 312 P **P** **20 06 43.5 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 50.36 312 P **P** **20 06 43.5 -0.5**
BRVK IAmb IAmb 20 06 44.7
comp=Z,10.0nm,1.0s
DOT Dot Lake 50.38 34 P **P** **20 06 42.5 -1.6**
BCAR Beaver Creek A 51.48 35 P **P** **20 06 54.3 +2.0**
ARSB Arslanbob 51.81 297 P **P** **20 06 55.2 0.0**
ARSB IAmb IAmb 20 06 58.0
comp=Z,10.0nm,0.6s
KK31 Karatay Array 52.95 300 P **P** **20 07 02.4 -1.1**
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 52.95 300 P **P** **20 07 02.4 -1.1**
KK31 IAmb IAmb 20 07 05.5
comp=Z,10nm,1.1s
KKAR Karatay Array 52.95 300 P **P** **20 07 02.0 -1.5**
KKAR pmax pmax
comp=Z,10.0nm,1.1s
KKAR Karatay Array 52.95 300 P **P** **20 07 02.0 -1.5**
KKAR Karatay Array 52.95 300 P **P** **20 07 02.3 -1.2**
KKAR IAmb IAmb 20 07 05.5
comp=Z,10nm,1.1s
EPYK Eagle Plains 53.09 30 P **P** **20 07 06.7 +2.5**
BTK Batken 53.80 296 P **P** **20 07 08.5 -1.4**
BTK pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 53.80 296 P **P** **20 07 08.5 -1.4**
BTK IAmb IAmb 20 07 14.5
comp=Z,5.4nm,0.9s
INK Inuvik 53.94 27 P **P** **20 07 11.6 +1.2**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 53.94 27 P **P** **20 07 12.0 +1.7**
comp=Z,2.2nm,0.5s,baz=305,slow=7.7,SNR=12
INK Inuvik 53.94 27 P **P** **20 07 11.6 +1.2**
GSI Gunungsitoli 54.09 239 P **P** **20 07 11.6 -0.6**
TAS Tashkent 54.42 298 P **P** **20 07 14.4 +0.1**
NIL Nilore 54.53 288 P **P** **20 07 14.9 -0.3**
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 54.53 288 P **P** **20 07 14.9 -0.3**
NIL IAmb IAmb 20 07 22.5
comp=Z,7.7nm,0.9s
GAR Garm 54.55 295 P **P** **20 07 14.8 -0.6**
SVE Sverdlovsk 54.84 318 *e*P **P** **20 07 17.4 +0.3**
SVE pmax pmax
comp=Z,16nm,0.9s
CHGR Chuyangaron 55.52 295 P **P** **20 07 21.4 -1.0**
ARU Arti 56.05 318*c i*P **P** **20 07 25.4 -0.4**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 56.05 318 P **P** **20 07 24.9 -0.8**
KBL Kabul 57.31 291 P **P** **20 07 34.0 -1.3**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 57.31 291 P **P** **20 07 34.0 -1.3**
KBL IAmb IAmb 20 07 35.9
comp=Z,11nm,1.0s
WB0 Warramunga Arr 57.35 188 P **P** **20 07 34.8 -0.5**
WB0 IAmb IAmb 20 07 36.3
comp=Z,5.4nm,0.6s
WRAB Tennant Creek 57.52 188⇓*e*P **P** **20 07 37.2 +0.7**
WRAB pmax pmax
comp=Z,8.0nm,1.9s
WRAB Tennant Creek 57.52 188 P **P** **20 07 37.0 +0.5**
WRAB IAmb IAmb 20 07 52.9
comp=Z,12nm,1.4s
WR0 Warramunga Arr 57.52 188 P **P** **20 07 36.4 -0.1**
WR0 IAmb IAmb 20 08 07.7
comp=Z,10nm,1.3s
WB2 Warramunga Arr 57.53 188 P **P** **20 07 36.3 -0.3**

WRA Warramunga Arr 57.53 188 P **P** **20 07 37.1 +0.5**
comp=Z,3.0nm,0.4s,baz=4.3,slow=7.0,SNR=106
WRA Warramunga Arr 57.53 188 P **P** **20 07 36.3 -0.3**
ABKAR Abkulak array 57.69 310 P **P** **20 07 36.5 -1.0**
ABKAR Abkulak array 57.69 310 P **P** **20 07 36.7 -0.7**
ABKAR IAmb IAmb 20 07 37.7
comp=Z,12nm,0.6s
PRGR Permogore 60.41 327 *e*P **P** **20 07 55.4 -0.7**
PRGR pmax pmax
comp=Z,12nm,1.0s
ASAR Alice Springs 61.26 188 P **P** **20 08 02.7 +0.4**
comp=Z,1.3nm,0.7s,baz=15,slow=7.0,SNR=24
ASAR Alice Springs 61.26 188 P **P** **20 08 02.4 +0.1**
HRA Herat 62.39 294 P **P** **20 08 09.7 -0.5**
HRA IAmb IAmb 20 08 11.2
comp=Z,7.2nm,0.9s
YKA Yellowknife Ar 63.38 30 P **P** **20 08 16.2 +0.2**
comp=Z,0.5nm,0.6s,baz=303,slow=6.6,SNR=4.2
KLMR Klimovskoe 63.40 328 *e*P **P** **20 08 14.3 -1.8**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 63.40 328 *e*P **P** **20 08 14.3 -1.8**
KLMR AMP 20 08 17.6
comp=Z,11nm,1.1s
ARCES ARCESS Array B 63.58 339 P **P** **20 08 17.4 +0.2**
comp=Z,3.1nm,0.5s,baz=61,slow=8.2,SNR=20
ARCES ARCESS Array B 63.58 339 P **P** **20 08 17.2 -0.1**
VRH Novokhopyorsk 67.28 318 *e*P **P** **20 08 39.7 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 67.76 323⇓*e*P **P** **20 08 44.5 +0.1**
OBN *e* 20 11 13.7
OBN *e*S **S** **20 17 30.6 -7.7**
OBN *e*SS **SS** **20 22 07.3 +7.9**
OBN pmax pmax
comp=Z,11nm,1.0s
LPSR Galich'ya Gora 67.98 320 *e*P **P** **20 08 44.8 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.7s
FINES FINESS Array B 68.43 332 *i* P **P** **20 08 48.5 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.4s
FINES FINESS Array B 68.43 332 P **P** **20 08 48.4 -0.1**
comp=Z,5.5nm,0.4s,baz=32,slow=9.3,SNR=70
FINES FINESS Array B 68.43 332 P **P** **20 08 48.2 -0.3**
VSR Storozhevoye 68.62 319 *e*P **P** **20 08 48.4 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 69.02 180 P **P** **20 08 53.9 +1.5**
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA Stephens Creek 69.02 180 P **P** **20 08 53.9 +1.5**
FORT Forrest 69.08 192 P **P** **20 08 53.6 +0.9**
KBZ Khabaz 70.65 311 P **P** **20 09 02.5 0.0**
comp=Z,8.1nm,0.9s,baz=36,slow=4.1,SNR=11
KIV Kislovodsk 70.65 311 *e*P **P** **20 09 03.4 +0.8**
KIV pmax pmax
comp=Z,71nm,1.0s
KIV MLR MLR
comp=Z,53nm,18.0s
KIV Kislovodsk 70.65 311⇓P **P** **20 09 02.6 0.0**
KIV mb 20 09 04.7
KIV Kislovodsk 70.65 311 P **P** **20 09 02.6 0.0**
AKH Akhalkalaki 71.57 308 P **P** **20 09 07.0 -1.4**
AKH pmax pmax
comp=Z,7.0nm,1.1s
AKH Akhalkalaki 71.57 308⇑P **P** **20 09 09.1 +0.8**
AKH Akhalkalaki 71.57 308 P **P** **20 09 07.0 -1.4**
NACGM Naroch 72.37 327 *e* **P** **20 09 13.0 +0.4**
BCA Borcka 72.71 309⇓P **P** **20 09 15.2 +0.2**
BCA mb 20 09 16.6
NC204 NORSAR Array S 73.73 338 P **P** **20 09 20.6 -0.1**
NB2 NORSAR Subarra 73.78 337 P **P** **20 09 20.6 -0.4**
comp=Z,1.5nm,0.5s,baz=36,slow=6.2
NOA NORSAR Array B 73.78 337 P **P** **20 09 21.0 0.0**
comp=Z,4.2nm,0.7s,baz=38,slow=6.0,SNR=20
NOA LR LR 20 45 08.7
comp=Z,28nm,19.6s,baz=50,slow=38
AKASG Malin Array Be 73.97 322 *i* P **P** **20 09 21.7 -0.4**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 73.97 322 P **P** **20 09 21.8 -0.4**
comp=Z,7.9nm,0.6s,baz=46,slow=6.0,SNR=36
AKASG Malin Array Be 73.97 322 P **P** **20 09 20.4 -1.7**
AKBB Malin Array Si 73.97 322 P **P** **20 09 21.2 -0.9**
AKBB pmax pmax
comp=Z,11nm,0.9s
AKBB Malin Array Si 73.97 322 P **P** **20 09 21.2 -0.9**
AKBB IAmb IAmb 20 09 22.6
comp=Z,11nm,0.8s
NVAR Mina Array Bea 74.66 53 P **P** **20 09 29.6 +2.9**
comp=Z,0.8nm,0.6s,baz=285,slow=6.4,SNR=6.1
KLNR Kaliningrad 75.36 329⇑*e*P **P** **20 09 32.6 +2.5**
SORM Soroca 76.07 321⇑P **P** **20 09 34.3 0.0**
PDAR Pinedale Array 77.30 46 P **P** **20 09 43.4 +1.7**
comp=Z,0.7nm,0.5s,baz=295,slow=2.9,SNR=7.6
KWP Kalwaria Pacla 77.79 324 P **P** **20 09 44.2 +0.2**
KWP Kalwaria Pacla 77.79 324 P **P** **20 09 44.2 +0.2**
BUR08 Bucovina Ar. S 77.97 322 P **P** **20 09 44.8 -0.3**
BUR08 IAmb IAmb 20 09 46.5
comp=Z,6.6nm,0.9s
BURAR Bucovina Array 77.98 322 P **P** **20 09 45.1 -0.1**
BURAR Bucovina Array 77.98 322⇓P **P** **20 09 45.1 -0.1**
BURAR Bucovina Array 77.98 322 P **P** **20 09 44.9 -0.3**
BIZ Bicaz 78.00 321⇑P **P** **20 09 45.8 +0.6**
TESR Tescani 78.02 320⇑P **P** **20 09 45.4 +0.1**
VRI Vrincioaia 78.41 320⇓P **P** **20 09 48.4 +0.9**
KOLS Kolonicke sedl 78.48 324 *e*P **P** **20 09 48.4 +0.6**
KOLS Kolonicke sedl 78.48 324 *e*P **P** **20 09 48.4 +0.6**
TLB Topalu 78.58 318⇓P **P** **20 09 48.5 +0.1**
BR131 Keskin Array S 78.59 312 P **P** **20 09 47.7 -1.1**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 78.59 312 P **P** **20 09 47.6 -1.1**
BRTR Keskin Array B 78.59 312 P **P** **20 09 48.9 +0.1**
comp=Z,1.5nm,0.8s,baz=96,slow=5.0,SNR=9.2
BRTR Keskin Array B 78.59 312 P **P** **20 09 48.2 -0.6**
BISRR Bisoca 78.64 319⇑P **P** **20 09 49.7 +0.8**
OJC Ojcow 78.69 326 P **P** **20 09 48.2 -0.8**
OJC pmax pmax
comp=Z,15nm,1.1s
OJC Ojcow 78.69 326 *e*P **P** **20 09 49.8 +0.8**
OJC *e*P **P** **20 09 49.8 +0.8**
OJC Ojcow 78.69 326 P **P** **20 09 48.2 -0.8**
OJC IAmb IAmb 20 09 50.4
comp=Z,15nm,1.1s
OZUR 78.74 320⇓P **P** **20 09 50.4 +1.0**
TRPA Tarpa 78.92 323⇓P **P** **20 09 51.1 +0.9**
TRPA mb 20 09 52.0
ICOR Ion Corvin 79.03 318⇓P **P** **20 09 51.2 +0.3**
DOPR Dopca 79.03 320⇓P **P** **20 09 51.7 +0.8**
VOIR 79.56 320⇓P **P** **20 09 54.2 +0.3**
LANS Liptovska Anna 79.61 326 *e*P **P** **20 09 55.4 +1.3**
LANS pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 79.61 326 *e*P **P** **20 09 55.4 +1.3**
OKC Ostrava-Krasne 79.69 327 *e*P **P** **20 09 54.5 +0.1**
OKC Ostrava-Krasne 79.69 327 *e*P **P** **20 09 54.5 +0.1**
KSP Ksiaz 79.74 328 *e*P **P** **20 09 55.6 +1.0**
KSP Ksiaz 79.74 328 *e*P **P** **20 09 55.6 +1.0**
KSP *e*P **P** **20 09 55.6 +1.0**
MORC Moravsky Berou 80.00 327 P **P** **20 09 56.2 0.0**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 80.00 327⇓P **P** **20 09 56.5 +0.3**
MORC mb 20 10 12.2
MORC Moravsky Berou 80.00 327 P **P** **20 09 56.1 0.0**
DPC Dobruska-Polom 80.10 328 *e*P **P** **20 09 57.5 +0.8**
DPC Dobruska-Polom 80.10 328 *e*P **P** **20 09 57.5 +0.8**
PSZ Piszkesteto 80.31 324 P **P** **20 09 58.1 +0.2**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 80.31 324 P **P** **20 09 58.1 +0.2**
PSZ IAmb IAmb 20 09 59.7
comp=Z,7.7nm,1.0s
VYHS Vyhne 80.38 325 *e*P **P** **20 09 59.1 +0.9**
VYHS Vyhne 80.38 325 *e*P **P** **20 09 59.1 +0.9**
PV17 East Wray Mesa 80.53 49 P **P** **20 10 01.2 +1.7**
PV17 IAmb IAmb 20 10 16.3
comp=Z,27nm,1.9s
BRG Berggiesshubel 80.68 329 *e*P **P** **20 09 60.0 +0.2**
comp=Z,5.7nm,1.1s
BRG Berggiesshubel 80.68 329 *e*P **P** **20 09 60.0 +0.2**
comp=Z,5.7nm,1.1s

BRG Berggiesshubel 80.68 329 *e*P **P** **20 10 00.0 +0.2**
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 80.72 330 *i* P **P** **20 10 00.0 +0.1**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 80.72 330 *i* P **P** **20 10 00.0 +0.1**
comp=Z,8.0nm,1.1s
CLL Collm 80.72 330 P **P** **20 09 59.8 -0.1**
SMOL Smolenice 80.99 326 *e*P **P** **20 10 02.6 +1.1**
SMOL pmax pmax
comp=Z,4.0nm,0.8s
SMOL Smolenice 80.99 326 *e*P **P** **20 10 02.6 +1.1**
GOPC GO Pecny, Ondr 81.07 328 *e*P **P** **20 10 02.5 +0.6**
GOPC GO Pecny, Ondr 81.07 328 *e*P **P** **20 10 02.5 +0.6**
SRO Srobarova 81.12 325 *e*P **P** **20 10 03.2 +1.1**
SRO Srobarova 81.12 325 *e*P **P** **20 10 03.2 +1.1**
PRU Pruhonice 81.12 329 *e*P **P** **20 10 02.6 +0.5**
PRU Pruhonice 81.12 329 *e*P **P** **20 10 02.6 +0.5**
BZS Buzias 81.16 322⇑P **P** **20 10 02.1 -0.2**
KHC Kasperske Hory 82.18 328⇓*i*P **P** **20 10 07.6 -0.2**
KHC pmax pmax
comp=Z,12nm,1.1s
KHC Kasperske Hory 82.18 328 *e*P **P** **20 10 08.2 +0.4**
KHC Kasperske Hory 82.18 328 P **P** **20 10 07.9 +0.1**
GERES GERESS Array B 82.35 328 P **P** **20 10 08.7 0.0**
comp=Z,1.1nm,0.4s,baz=41,slow=6.7,SNR=12
GERES GERESS Array B 82.35 328 P **P** **20 10 08.5 -0.2**
VTS Vitosha 82.47 319 P **P** **20 10 09.7 +0.2**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 82.47 319⇑P **P** **20 10 09.0 -0.5**
VTS Vitosha 82.47 319 P **P** **20 10 09.7 +0.2**
EIL Elat 84.17 303 LR LR 20 50 48.9
comp=Z,20nm,19.1s,baz=313,slow=38
ANMO Albuquerque 84.24 50⇓*e*P **P** **20 10 21.3 +2.4**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
PPT Papeete 84.79 117 LR LR 20 44 04.3
comp=Z,31nm,19.7s,baz=355,slow=33
PPT2 Papeete2 84.80 117 *e*LR LR 20 37 03.4
comp=Z,43nm,25.2s
BFO Black Forest 84.93 331 *i* P **P** **20 10 23.0 +1.2**
MEH Mehetia 86.07 116 *e*T T 21 45 38.4
comp=Z,9.5nm,0.2s
TBI Tubuai 88.71 121 *e*T T 21 48 54.1
comp=Z,23nm,0.3s
TXAR Lajitas Array 89.79 52 P **P** **20 10 47.1 +1.4**
comp=Z,1.2nm,0.5s,baz=291,slow=3.1,SNR=13
TXAR Lajitas Array 89.79 52 P **P** **20 10 46.9 +1.1**
LPAZ La Paz 146.40 59 PKPbc **PKPbc** **20 17 29.8 +0.9**
comp=Z,2.1nm,0.5s,baz=340,slow=4.4,SNR=7.5

NIED ***21*** *20:08:00,33.°40N×139.°60E,h5km,Mw4.2 Best double couple: M0=2.57000×10^15 NP1:φs=311.00000°,δ19.00000°, λ-110.00000°. NP2:φs=152.00000°,δ72.00000°, λ-83.00000°.*
IDC ***21*** *20:08:26.0±0.6,33.°15N×139.°69E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.8/47,mbtmp3.9/11,ML3.4/2,MS3.1/9, Ms1 3.1/9,ms1mx2.8/45,Error ellipse: s-maj=22.0km s-min=5.9km az=23.0*
ISCJB ***21*** *20:08:27.8±0.7,33.°23N±0.°05×139.°55E±0.°07,h21km±5km, mb3.8/9,MS3.4/4,Error ellipse: s-maj=11.4km s-min=5.9km az=139.1*
JMA ***21*** *20:08:27.5,33.°37N×139.°63E,h17km±3km,M3.5*
NEIC ***21*** *20:08:29.3±1.5,33.°12N±0.°05×139.°6E±0.°1,h24km±5km, mb4.1/3*
ISC 21 20:08:29.8±0.8,33.°20N±0.°05×139.°71E±0.°08,h26km±6km, n53,σ1°82/44,mb3.8/10,MS3.4/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.10**	**143**	Pn	**Pb**	**20 08 35.0**	**+0.5**
	1μm,0.3s,baz=2.6,slow=4.2,SNR=97						
JHJ				Sn	**Sb**	**20 08 40.9**	**+3.1**
	2μm,0.3s,baz=107,slow=19,SNR=44						
JHJ2	**Mitsune**	**0.13**	**135**	P	**Pb**	**20 08 33.9**	**-0.9**
JHJ2	**Mitsune**	**0.13**	**135**		**Pb**	**20 08 33.2**	**-1.6**
JHCJ	**Hachijojimakas**	**0.15**	**150**	P	**Pb**	**20 08 34.0**	**-1.0**
JHCJ				S	**Sb**	**20 08 38.7**	**+0.2**
JAOM	**Aogashimamukai**	**0.74**	**176**	P	**Pb**	**20 08 44.7**	**+0.7**
JKO	**Kozu shima**	**1.09**	**334**	P	**Pn**	**20 08 44.9**	**-4.5**
JTHY	**Toshimahigashi**	**1.36**	**345**	P	**Pn**	**20 08 48.9**	**-4.3**
JIM2	**Oshima 3**	**1.53**	**351**	P	**Pn**	**20 08 51.9**	**-3.6**
JIZS	**Izushimoda**	**1.66**	**336**	P	**Pn**	**20 08 53.3**	**-3.9**
BSO3	**Boso 3**	**1.73**	**22**	P	**Pn**	**20 08 55.8**	**-2.1**
INU	**Inuyama**	**3.09**	**315**	Pn	**Pn**	**20 09 14.3**	**-2.6**
MJAR	**Matsushiro Arr**	**3.55**	**340**	Pn	**Pn**	**20 09 23.0**	**-0.3**
	0.4nm,0.3s,baz=163,slow=14,SNR=22						
MJAR				Sn	**Sb**	**20 10 17.5**	**+2.9**
	0.3nm,0.3s,baz=250,slow=21,SNR=3.9						
MJAR				LR	LR	20 10 39.7	
	comp=Z,185nm,18.7s,baz=145,slow=37						
MJAR	**Matsushiro Arr**	**3.55**	**340**	Pn	**Pn**	**20 09 23.4**	**+0.1**
MAJO	**Matsushiro**	**3.55**	**340**	Pn	**Pn**	**20 09 23.2**	**-0.1**
MAT	**Matsushiro**	**3.55**	**340**	P	**Pn**	**20 09 23.5**	**+0.2**
MAT				*e*S	**Sn**	**20 10 06.3**	**+1.8**
MJB9	**Matsu-Tunnel**	**3.56**	**340**	Pn	**Pn**	**20 09 23.4**	**0.0**
JCJ	**Chichijima**	**6.45**	**160**	LR	LR	20 12 32.7	
	comp=Z,57nm,21.5s,baz=36,slow=38						
JNU	**Nakatsue**	**7.41**	**272**	Pn	**Pn**	**20 10 14.8**	**-1.4**
	1.5nm,0.3s,baz=155,slow=4.5,SNR=13						
JNU	**Nakatsue**	**7.41**	**272**		**Pn**	**20 10 14.7**	**-1.5**
KSRS	**Korea Array**	**10.52**	**297**	LR	LR	20 14 39.2	
	comp=Z,66nm,21.3s,baz=100,slow=35						
ASAJ	**Asahikawa**	**11.13**	**11**	LR	LR	20 15 23.8	
	comp=Z,72nm,21.6s,baz=194,slow=37						
USRK	**Ussuriysk Ar.**	**12.52**	**334**	LR	LR	20 16 02.8	
	comp=Z,98nm,21.6s,baz=168,slow=36						
PETK	**Petropavlovsk-**	**23.71**	**28**	LR	LR	20 24 05.2	
	comp=Z,24nm,19.2s,baz=243,slow=40						
H11N2	**WAKE ISLAND Hy**	**27.69**	**112**	T	T	20 43 22.0	
	baz=305,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**27.70**	**112**	T	T	20 43 25.4	
	baz=305,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**27.71**	**112**	T	T	20 43 26.2	
	baz=305,slow=75,SNR=63						
H11S3	**WAKE ISLAND Hy**	**28.25**	**115**	T	T	20 44 07.8	
	baz=307,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy**	**28.25**	**115**	T	T	20 44 07.8	
	baz=307,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**28.26**	**115**	T	T	20 44 08.8	
	baz=307,slow=75,SNR=46						
ULN	**Ulaanbaatar**	**28.57**	**311**	P	**P**	**20 14 24.5**	**+0.8**
ULN				IAmb	IAmb	20 15 12.3	
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**28.98**	**310**	P	**P**	**20 14 28.3**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=107,slow=7.7,SNR=6.7						
SONM	**Songino Array**	**28.98**	**310**	P	**P**	**20 14 27.7**	**+0.5**
ZALV	**Zalesovo Beam**	**43.56**	**315**	P	**P**	**20 16 31.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=91,slow=9.4,SNR=3.1						
ZALV				PcP	**PcP**	**20 18 18.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=91,slow=4.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**43.56**	**315**	P	**P**	**20 16 30.4**	**-0.9**
MKAR	**Makanchi Array**	**45.07**	**305**	P	**P**	**20 16 44.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=93,slow=9.5,SNR=6.9						
MKAR	**Makanchi Array**	**45.07**	**305**	P	**P**	**20 16 42.3**	**-1.2**
NRIK	**Noril'sk**	**46.20**	**337**	LR	LR	20 37 20.0	
	comp=Z,38nm,18.4s,baz=129,slow=38						
WRA	**Warramunga Arr**	**53.09**	**186**	P	**P**	**20 17 44.1**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=4.4,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**53.09**	**186**	P	**P**	**20 17 43.8**	**-1.3**
ILAR	**Eielson Array**	**53.48**	**31**	P	**P**	**20 17 48.8**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=273,slow=6.3,SNR=10						
ILAR	**Eielson Array**	**53.48**	**31**	P	**P**	**20 17 48.0**	**+0.5**
KKAR	**Karatay Array**	**53.90**	**302**	P	**P**	**20 17 50.5**	**-0.4**
BMAR	**Burnt Mountain**	**54.36**	**27**	P	**P**	**20 17 56.6**	**+2.6**
BCAR	**Beaver Creek A**	**55.85**	**33**	P	**P**	**20 18 06.0**	**+1.3**
STKA	**Stephens Creek**	**64.75**	**178**	P	**P**	**20 19 07.0**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=21,slow=8.6,SNR=3.3						
WSAR	**Wadi Sarin**	**70.52**	**285**	LR	LR	20 52 04.9	
	comp=Z,25nm,21.9s,baz=130,slow=37						
FINES	**FINESS Array B**	**71.55**	**332**	P	**P**	**20 19 48.0**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=55,slow=7.2,SNR=5.6						
FINES	**FINESS Array B**	**71.55**	**332**	P	**P**	**20 19 48.2**	**0.0**
RAO	**Raoul Island**	**73.96**	**142**	LR	LR	20 47 46.7	
	comp=Z,76nm,20.3s,baz=6.0,slow=32						
NB2	**NORSAR Subarra**	**77.17**	**337**	P	**P**	**20 20 20.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**77.17**	**337**	P	**P**	**20 20 21.3**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=42,slow=5.8,SNR=5.9						
GERES	**GERESS Array B**	**85.21**	**328**	P	**P**	**20 21 02.9**	**-1.1**

comp=Z,0.4nm,0.6s,baz=45,slow=5.7,SNR=3.7
GERES **GERESS Array B** 85.21 328 P **P** 20 21 02.5 -1.5

JMA 21 20:24:34.2±0.2, 27°.18N×143°.76E, h13km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.41**	**267**	P	Pn	20 24 59.8	+0.3
CBIJ				eS	Sb	20 25 18.1	-0.1
JHH2	**Haha-jima-NKT2**	**1.52**	**249**	eS	Sn	20 25 20.8	+0.2
JMM	**Marumori**	**10.95**	**348**	P	Pn	20 27 10.7	+0.2

IDC 21 20:33:38.9±7.8, 18°.18N×146°.35E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/52, mbtmp3.7/5, Error ellipse: s-maj=176.6km s-min=38.5km az=56.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.68**	**198**	P	P	20 41 13.0	0.0
	0.9nm,0.7s,baz=17,slow=8.3,SNR=7.1						
FITZ	**Fitzroy Crossi**	**41.41**	**211**	P	P	20 41 27.1	-0.2
	2.4nm,0.7s,baz=22,slow=8.5,SNR=8.8						
ASAR	**Alice Springs**	**43.33**	**197**	P	P	20 41 43.0	0.0
	0.3nm,0.8s,baz=13,slow=6.2,SNR=5.5						
CMAR	**Chiang Mai Arr**	**44.90**	**278**	P	P	20 41 55.9	+0.1
	0.7nm,0.8s,baz=66,slow=7.9,SNR=5.3						
STKA	**Stephens Creek**	**49.98**	**185**	P	P	20 42 34.3	-0.7
	0.6nm,0.5s,baz=0.0,slow=9.1,SNR=3.3						

*IDC **21** 20:33:38.6±1.0, 35°.28N×22°.97E, h0km, mb3.9/10, mb1 3.8/15, mb1mx3.6/61, mbtmp3.8/15, ML3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.2/37, Error ellipse: s-maj=20.3km s-min=17.8km az=136.0*
*ATH **21** 20:33:44.8, 35°.20N×22°.99E, h38km±2km, ML3.6/6, Error ellipse: s-maj=4.1km s-min=1.4km az=58.0*
*THE **21** 20:33:44.3, 35°.15N×22°.86E, h15km±1km, ML3.5/9, Error ellipse: s-maj=1.9km s-min=0.9km az=187.0*
*ISK **21** 20:33:47.1, 35°.34N×23°.24E, h69km, ML3.7/18*
*GII **21** 20:33:52.1±0.0, 34°.77N×24°.00E, h10km, mb4.1/1, MD3.8/1*

ISC 21 20:33:43.3±1.0, 35°.18N±0°.05×22°.91E±0°.04, h40km±12km, n162, σ2°49/173, mb3.7/10, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.64**	**85**	P	**Pn**	20 33 56.0	+0.2
KNDR				S	**Sn**	20 34 06.8	+2.0
	6μm,0.8s						
ANKY	**Antikythira Is**	**0.76**	**25**	P	**Pn**	20 33 59.0	+1.5
ANKY				S	**Sn**	20 34 10.5	+2.7
	5μm,0.6s						
ANKY	**Antikythira Is**	**0.76**	**25**	P	**Pn**	20 33 59.2	+1.6
ANKY				S	**Sn**	20 34 09.5	+1.7
ANKY				AML	AML	20 34 11.7	
	comp=E,6174μm,0.7s						
ANKY				AML	AML	20 34 13.3	
	comp=N,14367μm,0.4s						
RODP	**Rodopos**	**0.79**	**61**	P	**Pn**	20 34 00.3	+2.3
RODP				S	**Sn**	20 34 12.1	+3.5
IMMV	**Iera Moni Meta**	**0.92**	**72**	P	**Pn**	20 34 01.6	+1.9
IMMV				S	**Sn**	20 34 16.0	+4.3
	comp=N,5μm,0.7s						
IMMV	**Iera Moni Meta**	**0.92**	**72**	P	**Pn**	20 34 01.7	+2.0
IMMV				S	**Sn**	20 34 14.2	+2.5
IMMV				AML	AML	20 34 20.1	
	comp=N,10847μm,0.6s						
IMMV				AML	AML	20 34 23.3	
	comp=E,8290μm,0.7s						
IMMV	**Iera Moni Meta**	**0.92**	**72**	PG	**Pn**	20 34 01.5	+1.9
CHAN	**Chania**	**0.98**	**69**	P	**Pn**	20 34 02.8	+2.2
CHAN				S	**Sn**	20 34 18.6	+5.3
	comp=E,1μm,0.6s						
GVD	**Gavdhos**	**1.02**	**109**	P	**Pn**	20 34 03.1	+2.0
GVD				S	**Sn**	20 34 20.0	+5.8
	comp=E,3μm,0.4s						
GVD	**Gavdhos**	**1.02**	**109**	P	**Pn**	20 34 03.1	+2.0
GVD				AML	AML	20 34 22.2	
	comp=E,5109μm,0.5s						
GVD				AML	AML	20 34 23.1	
	comp=N,6871μm,0.4s						
GVD	**Gavdhos**	**1.02**	**109**	PG	**Pn**	20 34 03.7	+2.6
GVD				SG	**Sn**	20 34 17.4	+3.2
GVDS	**Gavdos**	**1.02**	**109**	P	**Pn**	20 34 02.8	+1.7
GVDS				S	**Sn**	20 34 18.4	+4.2
	comp=N,2μm,0.5s						
VAM	**Vamos**	**1.08**	**77**	P	**Pn**	20 34 04.1	+2.2
VAM				S	**Sn**	20 34 18.9	+3.3
	comp=N,3μm,0.5s						
VAM	**Vamos**	**1.08**	**77**	P	**Pn**	20 34 04.1	+2.2
VAM				S	**Sn**	20 34 17.8	+2.1
VAM				AML	AML	20 34 23.9	
	comp=N,6082μm,0.4s						
VAM				AML	AML	20 34 25.4	
	comp=E,5596μm,0.5s						
KTHA	**Kythira Island**	**1.08**	**6**	P	**Pn**	20 34 05.3	+3.3
KTHA	**Kythira Island**	**1.08**	**6**	P	**Pn**	20 34 05.0	+3.1
KTHA				S	**Sn**	20 34 19.2	+3.4
KTHA				AML	AML	20 34 21.2	
	comp=E,8423μm,1.0s						
KTHA				AML	AML	20 34 24.6	
	comp=N,2213μm,0.5s						
KTHA	**Kythira Island**	**1.08**	**6**	PG	**Pn**	20 34 05.1	+3.1
KTHA				SG	**Sn**	20 34 18.1	+2.2
KTHR	**Kythira**	**1.08**	**4**	P	**Pn**	20 34 05.1	+3.1
KTHR				S	**Sn**	20 34 20.9	+5.1
	comp=N,3μm,0.4s						
PRNS	**Prines Rethymn**	**1.31**	**81**	P	**Pn**	20 34 06.9	+1.8
MNVA	**Monemvasia**	**1.51**	**4**	P	**Pn**	20 34 11.8	+4.0
VLI	**Veliai**	**1.54**	**1**	P	**Pn**	20 34 12.7	+4.5
VLI	**Veliai**	**1.54**	**1**	P	**Pn**	20 34 11.7	+3.5
SIVA	**Sivas**	**1.56**	**95**	P	**Pn**	20 34 10.9	+2.4
SIVA	**Sivas**	**1.56**	**95**	P	**Pn**	20 34 10.9	+2.4
SIVA				AML	AML	20 34 45.4	
	comp=N,2039μm,0.7s						
SIVA				AML	AML	20 34 52.8	
	comp=E,4100μm,0.6s						
MHLO	**Agia Marina, M**	**1.93**	**38**	P	**Pn**	20 34 16.5	+2.9
MHLO	**Agia Marina, M**	**1.93**	**38**	P	**Pn**	20 34 17.2	+3.6
PYL	**PYLOS**	**1.96**	**331**	P	**Pn**	20 34 16.3	+2.3
PYL				S	**Sn**	20 34 39.3	+1.9
PYL	**PYLOS**	**1.96**	**331**	P	**Pn**	20 34 16.4	+2.3
LAST	**Lasithi**	**2.10**	**90**	P	**Pn**	20 34 18.6	+2.6
LAST	**Lasithi**	**2.10**	**90**	P	**Pn**	20 34 18.6	+2.6
ITM	**Ithomi**	**2.15**	**339**	P	**Pn**	20 34 19.7	+3.0
ITM				S	**Sn**	20 34 44.5	+2.3
	comp=E,330nm,1.0s						
ITM	**Ithomi**	**2.15**	**339**	P	**Pn**	20 34 20.1	+3.5
ITM	**Ithomi**	**2.15**	**339**	PN	Pn	20 34 22.5	+5.8
NPS	**Neapolis**	**2.21**	**87**	P	**Pn**	20 34 20.4	+2.9
NPS	**Neapolis**	**2.21**	**87**	P	**Pn**	20 34 20.2	+2.8
THR5	**Thira Island,**	**2.33**	**57**	P	**Pn**	20 34 20.4	+1.3
THR6	**Thira Island,**	**2.34**	**59**	P	**Pn**	20 34 21.0	+1.8
DID	**Didima**	**2.34**	**6**	P	**Pn**	20 34 21.8	+2.5
DID	**Didima**	**2.34**	**6**	P	**Pn**	20 34 21.7	+2.5
SERI	**Serifos**	**2.35**	**32**	P	**Pn**	20 34 21.6	+2.2
THR3	**Thira Island,**	**2.37**	**58**	P	**Pn**	20 34 20.9	+1.3
SANT	**Santorini**	**2.39**	**59**	P	**Pn**	20 34 21.4	+1.4
SANT	**Santorini**	**2.39**	**59**	P	**Pn**	20 34 21.3	+1.4
SANT	**Santorini**	**2.39**	**59**	PN	**Pn**	20 34 20.9	+1.0
THR7	**Fira-Santorini**	**2.39**	**58**	P	**Pn**	20 34 21.8	+1.8
CMBO	**Columbo, Santo**	**2.40**	**57**	P	**Pn**	20 34 21.8	+1.7
CMBO	**Columbo, Santo**	**2.40**	**57**	P	**Pn**	20 34 21.8	+1.7
THR8	**Santorini-Mono**	**2.42**	**59**	P	**Pn**	20 34 21.8	+1.5
AMT	**Artemida-Makis**	**2.54**	**338**	P	Pn	20 34 26.7	+4.6
STIA	**Sitia Lasithi**	**2.60**	**89**	P	**Pn**	20 34 26.1	+3.3
ANAF	**Anafi Island**	**2.61**	**62**	P	**Pn**	20 34 24.1	+1.2
ANAF	**Anafi Island**	**2.61**	**62**	P	**Pn**	20 34 24.2	+1.2
ZKR	**Zakros**	**2.71**	**90**	P	**Pn**	20 34 27.1	+2.8
ZKR	**Zakros**	**2.71**	**90**	P	**Pn**	20 34 27.1	+2.8
ZKR	**Zakros**	**2.71**	**90**	PN	**Pn**	20 34 27.1	+2.8
VLY	**Voula,Athens**	**2.76**	**15**	P	**Pn**	20 34 27.9	+2.9
APE	**Apeiranthos**	**2.84**	**48**	P	**Pn**	20 34 27.3	+1.2
APE	**Apeiranthos**	**2.84**	**48**	PN	**Pn**	20 34 27.3	+1.2
LTK	**Loutraki**	**2.84**	**1**	P	**Pn**	20 34 28.9	+2.8
ATH	**Athens Observa**	**2.87**	**13**	P	**Pn**	20 34 29.1	+2.7
ATHU	**Athens Univers**	**2.87**	**14**	P	**Pn**	20 34 29.1	+2.6
KLV	**Kalavryta, Ach**	**2.93**	**348**	P	**Pn**	20 34 31.4	+4.1
DRO	**Drossia**	**2.94**	**341**	P	**Pn**	20 34 31.0	+3.6
PTL	**Penteli**	**2.97**	**15**	P	**Pn**	20 34 30.2	+2.3
VILL	**Villia**	**3.00**	**6**	P	**Pn**	20 34 30.3	+2.0
PROD	**Prodromos**	**3.08**	**360**	P	**Pn**	20 34 31.9	+2.5
RLS	**Riolos of Patr**	**3.10**	**338**	P	**Pn**	20 34 33.3	+3.6
KALE	**Kalithea**	**3.27**	**349**	P	**Pn**	20 34 34.7	+2.7
SERG	**Sergoula**	**3.30**	**348**	P	**Pn**	20 34 34.9	+2.4
LKR	**Lokris**	**3.47**	**1**	P	**Pn**	20 34 37.6	+2.9
KARP	**Karpathos**	**3.49**	**83**	P	**Pn**	20 34 35.9	+0.8
KARP	**Karpathos**	**3.49**	**83**	PN	**Pn**	20 34 36.4	+1.3
MRKA	**Markates**	**3.56**	**9**	P	**Pn**	20 34 39.0	+2.9
PVO	**Paravola**	**3.61**	**342**	P	**Pn**	20 34 40.9	+4.2
PDO	**Prodromos**	**3.69**	**338**	P	**Pn**	20 34 41.7	+4.0
EVR	**Evrytania**	**3.84**	**347**	P	Pn	20 34 44.5	+4.6
AGG	**Agios Georgios**	**3.87**	**353**	P	**Pn**	20 34 43.2	+3.0
MAKR	**Makrakomi, Fth**	**3.88**	**351**	P	**Pn**	20 34 44.2	+3.8
BODT	**Bodrum**	**4.03**	**61**	PN	**Pn**	20 34 44.1	+1.7
CHOS	**Chios island**	**4.08**	**37**	PN	**Pn**	20 34 45.1	+1.9
DAT	**Datca**	**4.09**	**66**	*i* P	**Pn**	20 34 45.0	+1.7
DAT	**Datca**	**4.09**	**66**	PN	**Pn**	20 34 44.9	+1.5
NEO	**Neokhori**	**4.13**	**3**	P	**Pn**	20 34 46.5	+2.7
XOR	**Xorichti**	**4.19**	**3**	P	**Pn**	20 34 47.1	+2.5
GCAM	**G?zelcaml?**	**4.30**	**53**	PN	**Pn**	20 34 48.4	+2.3
URLA	**Izmir**	**4.34**	**42**	PN	**Pn**	20 34 47.9	+1.2
ARG	**Arkhangelos**	**4.37**	**75**	PN	**Pn**	20 34 48.2	+1.1
AYDN	**Tasoluk**	**4.71**	**57**	*i* P	**Pn**	20 34 54.2	+2.4
YER	**Yerkesik**	**4.76**	**64**	PN	**Pn**	20 34 54.9	+2.3
AYDB	**Zeytinkoy-Aydi**	**4.87**	**54**	PN	**Pn**	20 34 55.9	+1.8
TURN	**Turunc**	**4.91**	**68**	*i* P	**Pn**	20 34 52.0	-2.5
TURN	**Turunc**	**4.91**	**68**	PN	**Pn**	20 34 52.1	-2.4
DALY	**Dalyan (Mula)**	**4.93**	**69**	*i* P	**Pn**	20 34 57.6	+2.8
DALY	**Dalyan (Mula)**	**4.93**	**69**	PN	**Pn**	20 34 57.6	+2.8
TAVA	**DENIZLI_Tavas**	**5.36**	**63**	*i* P	**Pn**	20 35 03.3	+2.6
AKAS	**Kas**	**5.55**	**77**	*i* P	**Pn**	20 35 01.9	-1.5
AKAS	**Kas**	**5.55**	**77**	PN	**Pn**	20 35 04.4	+1.0
GOLH	**Golhisar**	**5.75**	**67**	*i* P	**Pn**	20 35 08.7	+2.5
ELL	**Elmali**	**5.89**	**73**	PN	**Pn**	20 35 09.6	+1.5
USAK	**Uak-Merkez**	**6.03**	**52**	*i* P	**Pn**	20 35 11.9	+1.9
KHAL	**Karahalli**	**6.17**	**57**	*i* P	**Pn**	20 35 15.3	+3.4
BRDR	**BURDUR-Merkez**	**6.29**	**64**	*i* P	**Pn**	20 35 14.9	+1.4
KORT	**Korkueli**	**6.29**	**71**	PN	**Pn**	20 35 15.3	+1.7
STIP	**Stip**	**6.53**	**355**	*i* Pn	**Pn**	20 35 19.4	+2.6
VAE	**Valguarnera**	**7.24**	**291**	Sn	**Sn**	20 36 47.1	-0.3
	comp=E,0.9nm,0.3s,baz=330,slow=22,SNR=3.2						
KEPZ	**Antalya-Kepez**	**7.25**	**74**	*i* P	**Pn**	20 35 27.1	+0.4
SG1	**Sgolgore (BA)**	**7.49**	**321**	*e*P	**Pn**	20 35 30.1	+0.1
SG1				S	**Sn**	20 36 48.1	-5.6
DRME	**Dracevica, Mon**	**7.58**	**339**	*e*Pn	**Pn**	20 35 30.2	-1.0
PDG	**Podgorica**	**7.79**	**346**	*e*Pn	**Pn**	20 35 33.4	-0.5
TREB	**Trebinje**	**8.32**	**336**	*e*Pn	**Pn**	20 35 39.4	-1.8
DBRK	**Dubrovnik**	**8.35**	**335**	*e*Pn	**Pn**	20 35 40.4	-1.3
DBRK				Sn	Sn	20 37 06.4	-8.3
CSS	**Mathiatis**	**8.54**	**88**	Pn	**Pn**	20 35 42.8	-1.6
STON	**Ston**	**8.69**	**334**	*e*Pn	**Pn**	20 35 45.1	-1.1
STON				Sn	Sn	20 37 14.6	-8.3
STON	**Ston**	**8.69**	**334**	*e*Pn	**Pn**	20 35 44.6	-1.7
RUDO	**Rudo**	**8.86**	**343**	*e*Pn	**Pn**	20 35 48.2	-0.6
BBLS	**Lazići**	**9.09**	**344**	*e*Pn	**Pn**	20 35 50.8	-1.1
DIVS	**Divibare**	**9.19**	**347**	*e*Pn	**Pn**	20 35 51.0	-2.3
MAKA	**Makarska**	**9.30**	**332**	*e*Pn	**Pn**	20 35 53.7	-1.0
MAKA				Sg	Sn	20 37 29.6	-8.2
HAPS	**Han Pijesak,BI**	**9.41**	**342**	*e*Pn	**Pn**	20 35 54.1	-2.2
BRTR	**Keskin Array B**	**9.66**	**59**	Pn	**Pn**	20 36 01.6	+1.8
	comp=E,0.3nm,0.3s,baz=226,slow=15,SNR=7.1						
ZIRJ	**Zirje**	**10.16**	**329**	Sn	Sn	20 37 49.0	-10
FRGS	**Fruska Gora**	**10.25**	**348**	*e*Pn	Pn	20 36 00.7	-7.0
MORI	**Morici**	**10.30**	**330**	*e*Pn	**Pn**	20 36 07.1	-1.4
MORI				Sn	Sn	20 37 54.3	-8.2
SLTI	**Sal'it**	**10.52**	**103**	Pn	**Pn**	20 36 10.0	-1.4
SLTI				Sn	Sn	20 37 57.4	-11
KZIT	**Kziot**	**10.54**	**111**	Pn	**Pn**	20 36 09.9	-1.8
KZIT				Sn	Sn	20 37 57.2	-11
MLR	**Muntele Rosu**	**10.56**	**12**	Pn	**Pn**	20 36 13.6	+1.5
	comp=E,0.1nm,0.3s,baz=172,slow=16,SNR=3.0						
MMA0B	**Mount Meron ar**	**10.58**	**98**	Pn	**Pn**	20 36 10.8	-1.5
MMAI	**Mount Meron Ar**	**10.58**	**98**	Pn	**Pn**	20 36 11.2	-1.1
	comp=E,0.8nm,0.3s,baz=288,slow=12,SNR=4.6						
MMAI				Sn	Sn	20 38 00.0	-10
	comp=E,2.0nm,0.3s,baz=271,slow=22,SNR=5.9						
DUGI	**Dugi Otok**	**10.68**	**328**	Sn	Sn	20 38 02.2	-10
NATI	**Neve Ativ**	**10.79**	**97**	Pn	**Pn**	20 36 13.9	-1.2
NATI				Sn	**Sn**	20 38 06.1	-8.4
YTIR	**Yattir**	**10.90**	**107**	Pn	**Pn**	20 36 15.7	-1.0
YTIR				Sn	Sn	20 38 06.1	-11
HMDT	**Nahal Hemdat**	**10.90**	**102**	Pn	**Pn**	20 36 15.6	-1.1
DSI	**Dead Sea**	**11.03**	**106**	Pn	**Pn**	20 36 15.3	-3.1
DSI				Sn	Sn	20 38 09.8	-11
MZDA	**Masada**	**11.11**	**107**	Pn	**Pn**	20 36 18.3	-1.2
MZDA				Sn	Sn	20 38 12.7	-10
KRMI	**Paran Flat**	**11.16**	**114**	Pn	**Pn**	20 36 18.6	-1.6
NVLJ	**Novalja**	**11.22**	**329**	*e*Pn	**Pn**	20 36 21.3	+0.4
PRNI	**Paran**	**11.26**	**112**	Pn	**Pn**	20 36 19.8	-1.8
PRNI				Sn	Sn	20 38 15.5	-11
ZFRI	**Zfri**	**11.29**	**111**	Sn	Sn	20 38 15.9	-11
HRFI	**Mount Harif**	**11.43**	**113**	Pn	**Pn**	20 36 21.7	-2.3
HRFI				Sn	Sn	20 38 19.5	-11
MBRI	**Mt Berech**	**11.46**	**115**	Pn	**Pn**	20 36 23.3	-1.2
MORH	**Mrgy, Hungar**	**11.49**	**345**	*e*Pn	**Pn**	20 36 22.4	-2.3
EIL	**Elat**	**11.55**	**115**	Pn	**Pn**	20 36 24.2	-1.4
EIL	**Elat**	**11.55**	**115**	Pn	**Pn**	20 36 24.3	-1.4
	comp=E,0.6nm,0.3s,baz=309,slow=2.1,SNR=12						
EIL				Sn	Sn	20 38 20.3	-13
	comp=E,0.3nm,0.3s,baz=135,slow=19,SNR=3.2						
CRES	**Cresnjev**	**12.05**	**334**	*e*Pn	**Pn**	20 36 29.7	-2.6
CEY	**Cerknica**	**12.36**	**331**	*e*Pn	**Pn**	20 36 35.9	-0.7
VYHS	**Vyhne**	**13.65**	**348**	*e*PN	Pn	20 36 59.4	+5.3
VYHS	**Vyhne**	**13.65**	**348**	*e*SN	**Sn**	20 39 23.4	-0.9
KOLS	**Kolonicke sedl**	**13.76**	**358**	*e*PN	**P**	20 37 03.1	-0.2
MODS	**Modra-Piesok**	**13.84**	**344**	*e*SN	**Sn**	20 39 25.1	-3.8
GERES	**GERESS Array B**	**15.26**	**336**	Pn	**Pn**	20 37 16.1	+0.3
	comp=E,0.1nm,0.3s,baz=152,slow=11,SNR=3.2						
AKASG	**Malin Array Be**	**16.18**	**15**	Pn	**Pn**	20 37 25.7	-1.8
	comp=E,1.0nm,0.3s,baz=204,slow=11,SNR=3.8						
KBZ	**Khabaz**	**17.61**	**55**	P	**P**	20 37 48.0	+2.0
	comp=E,0.1nm,0.3s,baz=258,slow=7.1,SNR=3.9						
HFS	**Hagfors**	**25.68**	**349**	P	**P**	20 39 09.6	+0.5
	comp=E,1.4nm,0.4s,baz=153,slow=10.0,SNR=14						
FINES	**FINESS Array B**	**26.36**	**3**	P	**P**	20 39 14.9	-0.4
	comp=E,0.6nm,0.3s,baz=175,slow=9.5,SNR=12						
FINES				LR	LR	20 51 02.3	
	comp=E,63nm,18.1s,baz=102,slow=40						
NOA	**NORSAR Array B**	**26.95**	**347**	P	**P**	20 39 19.2	-1.4
	comp=E,0.7nm,0.8s,baz=145,slow=8.8,SNR=3.0						
GEYT	**Alibeck**	**28.31**	**74**	P	**P**	20 39 33.6	+0.5
	comp=E,0.6nm,0.4s,baz=278,slow=10.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**29.13**	**226**	P	**P**	20 39 42.9	+2.4
	comp=E,1.5nm,0.9s,baz=23,slow=8.7,SNR=7.2						
ARCES	**ARCESS Array B**	**34.44**	**2**	P	**P**	20 40 26.3	-0.3
	comp=E,0.7nm,0.6s,baz=154,slow=6.2,SNR=4.8						
DBIC	**Dimbokro**	**38.17**	**228**	P	**P**	20 41 00.3	+1.4
	comp=E,1.1nm,0.5s,baz=15,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**45.30**	**56**	P	**P**	20 41 57.0	0.0
	comp=E,0.6nm,0.3s,baz=273,slow=8.2,SNR=23						
ZALV	**Zalesovo Beam**	**46.32**	**46**	P	**P**	20 42 04.0	-0.9
	comp=E,2.2nm,0.3s,baz=269,slow=7.9,SNR=9.6						
SONM	**Songino Array**	**60.89**	**50**	P	**P**	20 43 52.8	+1.0
	comp=E,0.3nm,0.6s,baz=285,slow=5.7,SNR=2.2						

*JMA **21** 20:51:31.9±0.1, 23°.31N×121°.98E, h45km±4km, M2.6*
*TAP **21** 20:51:31.8, 23°.27N×122°.05E, h37km, ML3.5, C*

ISC 21 20:51:30.7±1.2, 23°.28N±0°.02×122°.03E±0°.03, h23km±13km, n96, σ0°93/167, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.59**	**291**	*e*P	**Pn**	20 51 43.3	-0.5
	baz=291						
HGSD				*e*S	**Sn**	20 51 51.6	-1.1
	baz=291						
CHKT	**Chengkung**	**0.63**	**254**	*e*P	**Pb**	20 51 43.3	+0.2
	baz=248						
CHKT				*e*S	**Sb**	20 51 51.6	+0.1
	baz=248						
EGFH	**Guangfu**	**0.68**	**305**	P	**Pn**	20 51 44.5	-0.3
	baz=314						
EGFH				S	**Sn**	20 51 54.3	-0.4
	baz=314						
TWF1	**Yuli**	**0.68**	**277**	*i* P	**Pn**	20 51 44.5	-0.4
	baz=270						
TWF1				*e*S	**Sn**	20 51 53.6	-1.2
	baz=270						
FULB	**Fuli**	**0.68**	**264**	*i* P	**Pn**	20 51 44.1	-0.8
	baz=264						
FULB				*e*S	**Sn**	20 51 53.4	-1.4
	baz=264						
YULB	**Yu-li**	**0.68**	**280**	*i* P	**Pn**	20 51 44.6	-0.3
	baz=276						
YULB				S	**Sn**	20 51 54.4	-0.4
	baz=276						
EHY	**Hungye**	**0.69**	**290**	*i* P	**Pn**	20 51 44.5	-0.5
	baz=289						
EHY				S	**Sn**	20 51 54.3	-0.7
	baz=289						
ENLB	**Shoufeng**	**0.74**	**328**	*e*P	**Pn**	20 51 45.2	-0.5
	baz=327						
ENLB				*e*S	**Sn**	20 51 55.6	-0.6
	baz=327						
ESL	**Shilin**	**0.76**	**315**	P	**Pn**	20 51 45.4	-0.7
	baz=314						
ESL				*e*S	**Sb**	20 51 55.1	-0.2
	baz=314						
HWA	**Hwalien**	**0.80**	**331**	*e*P	**Pn**	20 51 46.1	-0.4
	baz=330						
HWA				*e*S	**Sn**	20 51 56.4	-1.3
	baz=330						
TWD	**Chiawan**	**0.89**	**334**	P	**Pn**	20 51 47.5	-0.4
	baz=333						
TWD				S	**Sb**	20 51 58.6	-0.4
	baz=333						
ELDTW	**Lidau**	**0.93**	**265**	P	**Pn**	20 51 48.1	-0.4
	baz=265						
ELDTW				*e*S	**Sb**	20 51 59.0	-1.3
	baz=265						
VWDT	**VWDT**	**0.94**	**300**	*e*P	**Pn**	20 51 49.0	+0.5
	baz=292						
VWDT				*e*S	**Sn**	20 52 00.5	-0.7
	baz=292						
TTN	**Taitung**	**0.96**	**237**	*e*P	**Pb**	20 51 48.4	-0.3
	baz=238						
TTN				*e*S	**Sn**	20 52 01.4	-0.3
	baz=238						
NACB	**Ninganchiao**	**0.98**	**336**	P	**Pn**	20 51 48.6	-0.4
	baz=335						
NACB				S	**Sb**	20 52 00.7	-0.8
	baz=335						
TWGBT	**Beinan**	**0.98**	**243**	*e*P	**Pn**	20 51 48.8	-0.4
	baz=237						
TWGBT				*e*S	**Sb**	20 52 01.3	-0.4
	baz=237						
TWG	**Pinlang**	**0.99**	**243**	*e*P	**Pb**	20 51 49.0	-0.1
	baz=237						
TWG				*e*S	**Sb**	20 51 02.2	-0.6
	baz=237						
YUS	**Yu-Shan**	**1.01**	**282**	*i* P	**Pn**	20 51 50.1	+0.2
	baz=282						
YUS				S	**Sn**	20 52 02.6	-1.0
	baz=282						
OWD	**Renai**	**1.03**	**311**	*e*P	**Pb**	20 51 50.1	+0.1
	baz=310						
OWD				*e*S	**Sb**	20 52 02.3	-0.8
	baz=310						
CHGB	**Renai**	**1.10**	**315**	P	**Pb**	20 51 51.3	0.0
	baz=314						
CHGB				S	**Sn**	20 52 04.8	-0.9
	baz=314						
SSLB	**Suanglung**	**1.11**	**298**	*e*P	**Pb**	20 51 51.1	-0.1
	baz=290						
SSLB				*e*S	**Sn**	20 52 05.1	-0.4
	baz=290						
WHF	**Hehuan Shan**	**1.11**	**321**	P	**Pb**	20 51 51.1	-0.3
	baz=320						
WHF				*e*S	**Sb**	20 52 04.8	-0.9
	baz=320						
NANB	**Nanao**	**1.17**	**348**	P	**Pn**	20 51 51.8	+0.1
	baz=346						
NANB				*e*S	**Sn**	20 52 06.2	-0.8
	baz=346						
STYT	**Tauyuan**	**1.17**	**265**	*e*P	**Pb**	20 51 51.9	-0.4
	baz=259						
STYT				*e*S	**Sb**	20 52 06.5	-0.6
	baz=259						
ENA	**Nanau**	**1.18**	**347**	*e*P	**Pb**	20 51 52.0	-0.

WGK	**Gukeng**	**1.41 287**	*e*P		**Pb**	**20 51 56.7 +0.4**
	baz=287					
WGK			*e*S		**Sb**	**20 52 14.9 +1.2**
	baz=287					
TWK	**Hsinying**	**1.42 270**	P		**Pb**	**20 51 57.1 +0.7**
	baz=269					
TWK			S		**Sb**	**20 52 15.6 +1.5**
	baz=269					
ENTT	**Nioudou**	**1.42 343**	*e*P		**Pb**	**20 51 56.0 -0.5**
	baz=342					
ENTT			S		**Sb**	**20 52 13.4 -0.9**
	baz=342					
WDLH	**Douliu**	**1.43 287**	*e*P		**Pb**	**20 51 56.7 +0.1**
	baz=286					
WDLH			*e*S		**Sb**	**20 52 16.3 +2.0**
	baz=286					
JYNG	**Yonagunijimaku**	**1.44 36**	P		**Pn**	**20 51 56.4 +1.0**
JYNG			*e*S		**Sn**	**20 52 13.8 +0.2**
MASBT	**Mashibuluo**	**1.45 243**	*e*P		**Pn**	**20 51 55.6 +0.1**
	baz=238					
MASBT			*e*S		**Sb**	**20 52 13.9 -1.0**
	baz=238					
CHN2	**Minshiung**	**1.45 280**	*e*S		**Sb**	**20 52 17.6 +2.6**
	baz=291					
TWE	**Neicheng**	**1.48 347**	*e*P		**Pb**	**20 51 56.9 -0.6**
	baz=337					
TWE			S		**Sn**	**20 52 14.6 +0.2**
	baz=337					
CHY	**Chiayi**	**1.49 279**	*e*S		**Sb**	**20 52 17.7 +1.5**
	baz=289					
YHNB	**Yeheng**	**1.51 337**	P		**Pb**	**20 51 57.0 -1.0**
	baz=336					
YHNB			*e*S		**Sn**	**20 52 15.2 -0.2**
	baz=336					
TCU	**Taichung**	**1.51 305**	*e*P		**Pb**	**20 51 58.3 +0.3**
	baz=304					
TCU			*e*S		**Sb**	**20 52 18.2 +1.4**
	baz=304					
SLBB	**Yuanshan**	**1.51 346**	*e*P		**Pn**	**20 51 57.0 +0.5**
	baz=336					
SLBB			*e*S		**Sn**	**20 52 15.4 -0.1**
	baz=336					
SGLT	**Jiouru**	**1.52 249**	*e*S		**Sb**	**20 52 17.8 +0.8**
	baz=248					
NSK	**Sanguang**	**1.52 336**	*e*P		**Pb**	**20 51 57.3 -1.0**
	baz=335					
NSK			*e*S		**Sn**	**20 52 14.7 -1.0**
	baz=335					
CHN3	**Shinhua**	**1.54 263**	*e*S		**Sb**	**20 52 21.1 +3.4**
	baz=263					
TWM1	**Shoushan**	**1.54 253**	*e*S		**Sb**	**20 52 20.9 +3.1**
	baz=253					
WCHH	**Zhanghua**	**1.57 301**	*e*S		**Sb**	**20 52 19.9 +1.6**
	baz=300					
TWQ1	**Liyutan**	**1.57 313**	P		**Pb**	**20 51 59.4 +0.4**
	baz=320					
TWQ1			*e*S		**Sb**	**20 52 19.1 +0.7**
	baz=320					
NWLT	**Wulai**	**1.57 342**	*e*P		**Pb**	**20 51 58.2 -0.8**
	baz=330					
NWLT			*e*S		**Sn**	**20 52 16.7 -0.2**
	baz=330					
SCZT	**Fangliau**	**1.58 236**	*e*P		**Pb**	**20 51 58.2 -1.0**
	baz=235					
SCZT			*e*S		**Sn**	**20 52 16.8 -0.2**
	baz=235					
NTC	**Toucheng**	**1.58 353**	*e*S		**Sb**	**20 52 18.3 -0.5**
	baz=3.0					
WLGB	**Puzi**	**1.60 278**	*e*S		**Sb**	**20 52 21.1 +1.8**
	baz=277					
NSY	**Sanyi**	**1.62 315**	*e*P		**Pb**	**20 52 00.2 +0.3**
	baz=327					
NSY			*e*S		**Sb**	**20 52 20.3 +0.3**
	baz=327					
NSTT	**Nanjuang**	**1.64 325**	*e*P		**Pb**	**20 52 00.1 -0.2**
	baz=333					
NSTT			S		**Sb**	**20 52 20.2 -0.4**
	baz=333					
LIOB	**Emei**	**1.65 326**	*e*P		**Pb**	**20 52 00.6 +0.2**
	baz=334					
LIOB			*e*S		**Sb**	**20 52 19.9 -0.8**
	baz=334					
RLNB	**Erlin**	**1.65 292**	*e*S		**Sb**	**20 52 21.1 +0.4**
	baz=291					
CHN8	**Yiju**	**1.67 273**	*e*S		**Sb**	**20 52 22.0 +0.6**
	baz=272					
PTSB	**Yuanli**	**1.68 314**	*e*S		**Sb**	**20 52 22.3 +0.7**
	baz=326					
NMLH	**Miaoli**	**1.69 318**	*e*S		**Sb**	**20 52 22.3 +0.4**
	baz=317					
TIPB	**Shuangxi**	**1.70 354**	*e*P		**Pb**	**20 52 00.7 -0.6**
	baz=5.0					
TIPB			*e*S		**Sb**	**20 52 20.9 -1.3**
	baz=5.0					
WTCT	**Ta-ch'eng**	**1.71 290**	*e*S		**Sb**	**20 52 22.4 +0.1**
	baz=277					
TSEB	**Hengchuen, Pin**	**1.72 217**	*e*S		**Sb**	**20 52 22.5 -0.3**
	baz=229					
WLTB	**Daxi**	**1.72 336**	*e*S		**Sb**	**20 52 21.9 -0.9**
	baz=345					
TWB1	**Santiao Chiao**	**1.72 359**	*e*S		**Sb**	**20 52 21.3 +0.7**
	baz=358					
TWKBT	**Hengchun**	**1.74 220**	*e*S		**Sb**	**20 52 22.1 -1.3**
	baz=231					
TWK1	**Hengchun**	**1.74 221**	*e*S		**Sn**	**20 52 21.6 +0.5**
	baz=231					
TWA	**Mucha**	**1.74 347**	*e*P		**Pn**	**20 52 00.5 +0.9**
	baz=335					
TWA			*e*S		**Sb**	**20 52 22.4 -1.1**
	baz=335					
NWF	**Wu-fen Shan**	**1.80 353**	*e*P		**Pb**	**20 52 02.5 -0.5**
	baz=352					
NWF			*e*S		**Sb**	**20 52 24.2 -1.0**
	baz=352					
WFSB	**Wu-fen Shan**	**1.80 353**	*e*P		**Pb**	**20 52 01.8 -1.2**
	baz=3.0					
WFSB			S		**Sn**	**20 52 23.4 +0.9**
	baz=3.0					
HATJ	**Hateruma jima**	**1.81 64**	*e*S		**Sn**	**20 52 22.7 +0.1**
NCU	**National Centr**	**1.85 336**	*e*S		**Sb**	**20 52 26.4 -0.2**
	baz=335					
IRIF	**Iriomote-Funau**	**1.88 56**	*e*S		**Sn**	**20 52 25.8 +1.3**
TWS1	**Kuangyinshan**	**1.90 343**	*e*P		**Pn**	**20 52 02.7 +1.0**
	baz=342					
TWS1			*e*S		**Sb**	**20 52 26.4 -1.5**
	baz=342					
YM10	**YM10**	**1.92 347**	*e*P		**Pb**	**20 52 03.4 -1.6**
	baz=334					
YM10			*e*S		**Sn**	**20 52 25.8 +0.3**
	baz=334					
YM11	**YM11**	**1.93 348**	*e*S		**Sn**	**20 52 26.6 +0.9**
	baz=334					
YM08	**YM08**	**1.94 348**	*e*S		**Sn**	**20 52 26.0 0.0**
	baz=334					
JISG	**Ishigakijimahi**	**2.46 58**	P		**Pn**	**20 52 10.9 +1.5**
JTJ	**Tarama**	**2.80 60**	P		**Pn**	**20 52 15.6 +1.6**
JTJ			*e*S		**Sn**	**20 52 47.6 +0.5**
VWUC	**VWUC**	**2.91 306**	*e*P		**Pn**	**20 52 17.0 +1.5**
	baz=305					
VWUC			*e*S		**Sn**	**20 52 50.7 +0.9**
	baz=305					

*ISCJB **21** 20:54:50.2±0.7, 39°.61N±0°.07×49°.18E±0°.05, h10km, mb3.4/2, Error ellipse: s-maj=10.5km s-min=5.5km az=174.2*
*IDC **21** 20:54:51.3±1.7, 40°.03N×49°.28E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.2/42, mbtmp3.4/4, ML0.9/1, Error ellipse: s-maj=46.9km s-min=13.2km az=176.0*
*THR **21** 20:54:52.9, 39°.38N×49°.28E, h26km, ML3.3*
*TEH **21** 20:54:52.3, 39°.44N×49°.22E, h15km, ML3.2*
ISC 21 20:54:50.9±0.9, **39°.57N**±0°.09×**49°.25E**±0°.05, **h10**km, **n23,** σ2°**17**/25, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.30**	**235**	*e*Pg		**Pb**	**20 55 15.1**	**-0.4**
GRMI	**Germi**	**1.30**	**235**	*e*Pg		**Pb**	**20 55 15.1**	**-0.4**
GRMI	**Germi**	**1.30**	**235**	*e*Sg		**Sn**	**20 55 31.7**	**-1.1**
ITBZ	**Tabriz**	**2.77**	**242**	*e*Pn		**Pn**	**20 55 36.2**	**+0.8**
ITBZ					IAMB	IAmb	20 55 47.0	
	comp=Z,641nm,0.4s							
ZNJK	**Zanjan**	**2.93**	**189**	*e*Pn		**Pn**	**20 55 37.5**	**-0.3**
ZNJK	**Zanjan**	**2.93**	**189**	*e*Pn		**Pn**	**20 55 37.5**	**-0.3**
IGZV	**Ghazvin**	**3.27**	**166**	*e*Pn		**Pn**	**20 55 43.8**	**+1.4**
IGZV					IAMB	IAmb	20 56 22.6	
	comp=Z,289nm,0.1s							
QALM	**Alamut, Qazvin**	**3.32**	**160**	*e*Pn		**Pn**	**20 55 44.3**	**+1.1**
QALM					IAMB	IAmb	20 56 23.6	
	comp=Z,0.0nm,0.5s							
GNI	**Garni**	**3.52**	**281**	Pn		**Pb**	**20 55 51.1**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=77,slow=14,SNR=3.3							
GNI					Pg	**Pg**	**20 55 58.9**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=87,slow=6.6,SNR=8.0							
GNI					Sn	**Sn**	**20 56 31.9**	**+4.4**
	comp=Z,0.8nm,0.3s,baz=208,slow=18,SNR=2.8							
MAKU	**Maku**	**3.54**	**268**	*e*Pn		**Pn**	**20 55 48.8**	**+2.7**
MAKU	**Maku**	**3.54**	**268**	*e*Pn		**Pn**	**20 55 48.8**	**+2.7**
IPRN	**Peran**	**4.12**	**143**	*e*Pn		**Pn**	**20 55 56.0**	**+1.9**
IGLO	**Ghaloghah**	**4.74**	**129**	*e*Pn		**Pn**	**20 56 04.6**	**+2.0**
IKIA	**Kiasar**	**4.86**	**132**	*e*Pn		**Pn**	**20 56 06.5**	**+2.3**
ISHM	**Shahmirzad**	**4.94**	**138**	*e*Pn		**Pn**	**20 56 08.1**	**+2.7**
ILAS	**Lasjerd**	**5.12**	**144**	IAMB		IAmb	20 56 10.5	
	comp=N,296nm,0.2s							
ILAS				*e*Pn		**Pn**	**20 56 08.7**	**+0.9**
BJRD	**Bojnurd**	**6.65**	**104**	*e*Pn		**Pn**	**20 56 30.8**	**+2.0**
BJRD	**Bojnurd**	**6.65**	**104**	*e*AML		AML	20 57 47.3	
	comp=N,7.0nm,0.4s							
BJRD	**Bojnurd**	**6.65**	**104**	*e*Pn		**Pn**	**20 56 30.8**	**+2.0**
GEYT	**Alibeck**	**7.12**	**101**	Pn		**Pn**	**20 56 36.5**	**+1.4**
	comp=N,0.6nm,0.3s,baz=288,slow=16,SNR=8.8							
GEYT					Sn	**Sn**	**20 57 52.1**	**-4.0**
	comp=N,0.4nm,0.3s,baz=141,slow=49,SNR=3.3							
ISFR	**Sfrayin**	**7.32**	**107**	*e*Pn		**Pn**	**20 56 40.8**	**+2.7**
MKAR	**Makanchi Array**	**25.01**	**62**	P		**P**	**21 00 15.3**	**+0.5**
	comp=N,0.4nm,0.6s,baz=256,slow=9.0,SNR=5.5							
FINES	**FINESS Array B**	**26.12**	**335**	P		**P**	**21 00 22.2**	**-2.4**
	comp=N,0.5nm,0.3s,baz=128,slow=9.0,SNR=6.0							

*IDC **21** 21:00:18.8±8.5, 5°.12S×104°.57E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/47, mbtmp3.8/4, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/42, Error ellipse: s-maj=211.2km s-min=110.2km az=10.0*
*DJA **21** 21:00:31.4±0.4, 6°.5S±4°.×10°.5E±°., h10km, M3.6/8, MLv3.6/8*
*ISCJB **21** 21:00:32.7±0.7, 6°.05S±0°.08×105°.38E±0°.09, h33km, mb3.6/3, MS3.9/1, Error ellipse: s-maj=16.4km s-min=5.5km az=138.1*
ISC 21 21:00:34.1±1.1, **6°.02S**±0°.08×**105°.33E**±0°.08, **h35**km, **n15,** σ2°**83**/16, **mb3.5/3, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.65**	**353**	P		**Pn**	**21 00 45.3**	**-1.6**
BLSI				S		**Sn**	**21 00 55.3**	**-0.7**
SBJI	**Serang**	**0.80**	**97**	P		**Pn**	**21 00 45.3**	**-3.6**
KASI	**Kota Agung**	**0.96**	**301**	P		**Pn**	**21 00 49.8**	**-1.3**
TNG	**Tangerang**	**1.32**	**97**	P			21 00 54.6	
TNG				P		**Pn**	**21 00 54.4**	**-1.7**
KLSI		**1.45**	**336**	P		**Pn**	**21 00 59.2**	**+1.3**
SKJI	**Sukabumi**	**1.56**	**129**	P		**Pn**	**21 00 57.4**	**-2.0**
SKJI				S		**Sn**	**21 01 18.1**	**-0.4**
LWLI	**Liwa**	**1.61**	**308**	P		**Pn**	**21 01 01.2**	**+1.1**
LEM	**Lembang**	**2.41**	**109**	Pn		**Pn**	**21 01 14.8**	**+3.5**
	7.5nm,0.3s,baz=230,slow=12,SNR=25							
LEM				Sn		**Sn**	**21 01 47.4**	**+7.8**
	3.0nm,0.3s,baz=357,slow=21,SNR=3.7							
LEM	**Lembang**	**2.41**	**109**	P		**Pn**	**21 01 11.5**	**+0.3**
CISI	**Cisompet, Garu**	**2.90**	**122**	P		**Pn**	**21 01 16.5**	**-1.4**
BATI	**Baumata**	**18.62**	**104**	LR		LR	21 14 28.9	
	comp=Z,35nm,20.4s,baz=325,slow=43							
WRA	**Warramunga Arr**	**31.40**	**119**	P		**P**	**21 06 51.0**	**-1.2**
	0.4nm,0.6s,baz=294,slow=9.9,SNR=6.7							
ASAR	**Alice Springs**	**32.61**	**126**	P		**P**	**21 07 02.1**	**-0.6**
	0.6nm,0.9s,baz=299,slow=8.1,SNR=5.0							
STKA	**Stephens Creek**	**42.53**	**132**	P		**P**	**21 08 26.3**	**-0.2**
	1.7nm,0.7s,baz=310,slow=8.9,SNR=5.5							
AKASG	**Malin Array Be**	**85.90**	**322**	LR		LR	21 55 17.9	
	comp=Z,45nm,19.9s,baz=0.0,slow=39							

*IDC **21** 21:01:45.9±1.8, 35°.39N×76°.96E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.4/57, mbtmp3.5/9, ML3.1/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/45, Error ellipse: s-maj=33.1km s-min=23.8km az=118.0*
*ISCJB **21** 21:01:47.8±0.6, 35°.37N±0°.05×77°.3E±0°.1, h33km, mb3.6/4, MS2.8/2, Error ellipse: s-maj=14.4km s-min=5.4km az=154.9*
ISC 21 21:01:50.3±0.9, **35°.34N**±0°.09×**77°.2E**±0°.1, **h35**km, **n21,** σ0°**95**/20, **mb3.7/4, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.58**	**345**	Pn		**Pn**	**21 03 39.2**	**+0.8**
	0.1nm,0.3s,baz=150,slow=9.0,SNR=2.4							
AAK				Lg		Lg	21 05 42.1	
	0.4nm,0.3s,baz=21,slow=23,SNR=5.6							
DANN	**Dangsing**	**8.93**	**139**	*e*P		**Pn**	**21 03 58.7**	**+1.6**
	6.5nm,0.2s							
GKN	**Gorkha**	**9.68**	**137**	*e*P		**Pn**	**21 04 08.1**	**+0.8**
	6.2nm,0.2s							
KKN	**Kakani**	**10.21**	**135**	*e*P		**Pn**	**21 04 14.8**	**+0.2**
	8.3nm,0.6s							
DMN	**Daman**	**10.25**	**137**	*e*P		**Pn**	**21 04 15.4**	**+0.2**
	6.4nm,0.4s							
PKIN	**Phulchoki**	**10.44**	**136**	*e*P		**Pn**	**21 04 17.7**	**-0.1**
PKI	**Pulchoki**	**10.45**	**136**	*e*P		**Pn**	**21 04 17.8**	**-0.2**
	6.4nm,0.6s							
GUN	**Gumba**	**10.47**	**133**	*e*P		**Pn**	**21 04 18.6**	**+0.3**
	6.0nm,0.4s							
JIRN	**Jiri**	**10.84**	**132**	*e*P		**Pn**	**21 04 23.0**	**-0.4**
	12nm,0.4s							
RAMN	**Ramite**	**11.61**	**134**	*e*P		**Pn**	**21 04 32.5**	**-1.3**
	6.3nm,0.5s							
TAPN	**Taplejung**	**12.01**	**129**	*e*P		**Pn**	**21 04 37.6**	**-1.7**
	4.8nm,0.3s							
MKAR	**Makanchi Array**	**12.07**	**17**	Pn		**Pn**	**21 04 39.3**	**-0.4**
	0.1nm,0.3s,baz=202,slow=13,SNR=6.0							
MKAR					Sn	**Sn**	**21 06 53.0**	**0.0**
	0.1nm,0.3s,baz=189,slow=23,SNR=4.0							
KURBB	**Kurchatov Arra**	**15.30**	**3**	Pn		**Pn**	**21 05 22.7**	**-0.9**
	baz=191,slow=11,SNR=2.8							
BVAR	**Borovoye Array**	**18.32**	**347**	P		**P**	**21 06 01.3**	**-0.1**
	0.2nm,0.3s,baz=152,slow=9.4,SNR=7.6							
AKTO	**Aktyubinsk**	**20.52**	**323**	P		**P**	**21 06 24.8**	**-0.5**
	0.6nm,0.4s,baz=127,slow=14,SNR=3.6							
SONM	**Songino Array**	**25.00**	**51**	P		**P**	**21 07 12.6**	**+1.8**
	0.4nm,0.7s,baz=245,slow=9.3,SNR=4.0							
PALK	**Pallekele**	**28.12**	**173**	LR		LR	21 19 23.2	
	comp=Z,46nm,19.2s,baz=295,slow=38							
BRTR	**Keskin Array B**	**34.55**	**290**	LR		LR	21 26 26.1	
	comp=Z,8.0nm,20.7s,baz=207,slow=43							
FINES	**FINESS Array B**	**41.26**	**325**	P		**P**	**21 09 31.2**	**-0.6**
	5.1nm,1.0s,baz=126,slow=14,SNR=4.8							
NOA	**NORSAR Array B**	**48.31**	**323**	P		**P**	**21 10 29.0**	**+1.0**
	0.8nm,0.9s,baz=96,slow=8.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**70.75**	**273**	P		**P**	**21 13 02.2**	**-1.1**
	0.6nm,1.0s,baz=52,slow=5.1,SNR=3.4							

*IDC **21** 21:04:24.5±1.1, 35°.36N×77°.35E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/48, mbtmp3.5/7, ML3.5/2, MS2.6/1, Ms1 2.8/1, ms1mx2.0/41, Error ellipse: s-maj=28.3km s-min=21.9km az=56.0*
*ISCJB **21** 21:04:28.8±0.7, 35°.35N±0°.05×77°.5E±0°.1, h44km, mb3.4/5, MS2.4/1, Error ellipse: s-maj=16.0km s-min=4.9km az=158.3*
ISC 21 21:04:31.0±0.7, **35°.34N**±0°.06×**77°.47E**±0°.09, **h44**km, **n18,** σ1°**22**/20, **mb3.4/5, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**3.38**	**220**	*e*P		**Sn**	**21 06 00.0**	**0.0**
KSH	**Kashi**	**4.34**	**344**	Pn		**Pn**	**21 05 36.8**	**+2.3**
KSH				Sn		**Sn**	**21 06 26.3**	**+2.4**
KSH				smax		smax		
	comp=N,250nm,0.8s							
KSH				smax		smax		
	comp=E,170nm,0.7s							
AAK	**Ala-Archa**	**7.65**	**343**	Sn		**Sn**	**21 07 45.3**	**-0.1**
	comp=E,0.1nm,0.3s,baz=5.1,slow=14,SNR=1.9							
AAK				Lg		Lg	21 08 21.1	
	comp=E,0.4nm,0.3s,baz=10,slow=21,SNR=4.7							
DANN	**Dangsing**	**8.78**	**141**	*e*P		**Pn**	**21 06 35.9**	**+0.3**
	comp=E,8.2nm,0.3s							
KOLN	**Koldanda**	**9.17**	**144**	*e*P		**Pn**	**21 06 42.4**	**+1.4**
	comp=E,5.5nm,0.4s							
GKN	**Gorkha**	**9.52**	**138**	*e*P		**Pn**	**21 06 46.1**	**+0.4**
	comp=E,9.3nm,0.4s							
KKN	**Kakani**	**10.04**	**136**	*e*P		**Pn**	**21 06 52.5**	**-0.4**
	comp=E,7.1nm,0.5s							
PKIN	**Phulchoki**	**10.27**	**137**	*e*P		**Pn**	**21 06 56.4**	**+0.4**
	comp=E,4.3nm,0.5s							
PKI	**Pulchoki**	**10.28**	**137**	*e*P		**Pn**	**21 06 56.7**	**+0.4**
	comp=E,5.2nm,0.5s							
GUN	**Gumba**	**10.30**	**134**	*e*P		**Pn**	**21 06 57.0**	**+0.5**
	comp=E,9.7nm,0.5s							
JIRN	**Jiri**	**10.67**	**133**	*e*P		**Pn**	**21 07 01.2**	**-0.3**
	comp=E,12nm,0.4s							
MKAR	**Makanchi Array**	**12.01**	**16**	Pn		**Pn**	**21 07 19.4**	**0.0**
	comp=E,0.3nm,0.3s,baz=200,slow=15,SNR=7.8							
MKAR					Sn	**Sn**	**21 09 32.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=179,slow=24,SNR=4.0							
BVAR	**Borovoye Array**	**18.38**	**346**	P		**P**	**21 08 39.6**	**-2.4**
	comp=E,0.2nm,0.3s,baz=152,slow=13,SNR=5.5							
SONM	**Songino Array**	**24.82**	**51**	P		**P**	**21 09 49.3**	**+0.2**
	comp=E,0.8nm,1.0s,baz=261,slow=8.6,SNR=2.6							
CMAR	**Chiang Mai Arr**	**25.39**	**126**	P		**P**	**21 09 54.6**	**+0.3**
	comp=E,0.5nm,0.6s,baz=310,slow=11,SNR=4.8							
CMAR					LR	LR	21 21 38.8	
	comp=E,12nm,19.5s,baz=205,slow=41							
FINES	**FINESS Array B**	**41.40**	**325**	P		**P**	**21 12 10.4**	**-2.3**
	comp=E,1.4nm,0.8s,baz=101,slow=11,SNR=4.2							
TORD	**Torodi Ar. Bea**	**70.99**	**273**	P		**P**	**21 15 44.4**	**0.0**
	comp=E,0.4nm,0.9s,baz=44,slow=4.8,SNR=3.1							
WRA	**Warramunga Arr**	**76.98**	**126**	P		**P**	**21 16 19.6**	**+0.3**
	comp=E,0.9nm,1.2s,baz=312,slow=5.1,SNR=2.4							

*IDC **21** 21:13:19.1±2.1, 3°.17N×126°.24E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/25, mbtmp3.7/3, Error ellipse: s-maj=194.1km s-min=23.9km az=66.0*
*ISCJB **21** 21:13:27.4±1.3, 1°.3N±0°.1×124°.32E±0°.06, h35km, mb3.5/3, Error ellipse: s-maj=19.3km s-min=8.2km az=0.0*
*NEIC **21** 21:13:30.8±1.9, 1°.18N±0°.06×124°.27E±0°.08, h41km±24km, mb4.2/6*
*DJA **21** 21:13:37.5±1.0, 3°.N±4°.×12°.6E±°., h111km±17km, M3.7/7, MLv3.7/7*
ISC 21 21:13:30.2±1.4, **1°.3N**±0°.2×**124°.37E**±0°.05, **h35**km, **n19,** σ2°**47**/20, **mb4.1/6, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.56**	**252**	P		**Sn**	**21 14 39.9**	**+0.8**
TNTI	**Ternate**	**3.04**	**99**	P		**Pn**	**21 14 18.2**	**+2.4**
TNTI				S		**Sn**	**21 14 48.8**	**-2.2**
TNTI	**Ternate**	**3.04**	**99**	Pn		**Pn**	**21 14 18.2**	**+2.4**
TNTI				Sn		**Sn**	**21 14 49.4**	**-1.6**
SANI	**Sanana**	**3.68**	**154**	P		**Pn**	**21 14 26.5**	**+1.8**
KAPI	**Kappang**	**7.77**	**216**	Pn		**Pn**	**21 15 19.9**	**-1.0**
FAKI	**Fak Fak**	**8.91**	**118**	Pn		**Pn**	**21 15 38.0**	**+1.4**
MMRI	**Maumere**	**10.07**	**192**	Pn		**Pn**	**21 15 51.3**	**-1.3**
SOEI	**Soe**	**10.96**	**181**	Pn		**Pn**	**21 16 03.3**	**-1.5**
SBUM	**Sibu**	**12.20**	**276**	Pn		**Pn**	**21 16 20.8**	**-0.8**
UGM	**Wanagama**	**16.55**	**236**	Pn		**Pn**	**21 17 18.6**	**-1.3**
UGM				IAmb		IAmb	21 17 24.6	
	comp=Z,20nm,1.0s							
KNRA	**Kununurra**	**17.40**	**166**			**Pn**	**21 17 29.9**	**-0.4**
WB0	**Warramunga Arr**	**23.11**	**155**	P		**P**	**21 18 37.2**	**+3.9**
WB0				IAmb		IAmb	21 18 39.7	
	comp=Z,7.0nm,0.9s							
WRAB	**Tennant Creek**	**23.24**	**156**	P		**P**	**21 18 34.0**	**-0.6**
WRAB				IAmb		IAmb	21 18 41.1	
	comp=Z,9.7nm,1.1s							
WRA	**Warramunga Arr**	**23.25**	**156**	P		**P**	**21 18 39.1**	**+4.5**
	comp=Z,7.6nm,1.0s,baz=341,slow=9.9,SNR=29							
WB2	**Warramunga Arr**	**23.25**	**156**	P		**P**	**21 18 36.9**	**+2.2**
WB2				IAmb		IAmb	21 18 41.1	
	comp=Z,5.5nm,0.7s							
COEN	**Coen**	**24.01**	**130**	P		**P**	**21 18 38.7**	**-3.3**
ASAR	**Alice Springs**	**26.47**	**160**	P		**P**	**21 19 08.8**	**+4.5**
	comp=Z,0.2nm,0.4s,baz=340,slow=7.4,SNR=6.2							
ASAR	**Alice Springs**	**26.47**	**160**	P		**P**	**21 19 04.5**	**+0.1**
MKAR	**Makanchi Array**	**58.27**	**327**	P		P	21 23 11.7	-10
	comp=Z,0.2nm,0.3s,baz=119,slow=7.5,SNR=11							

*DDA **21** 21:33:32.4, 38°.84N×25°.98E, h7km±5km, ML1.9*
*ISCJB **21** 21:33:33.7±0.4, 38°.87N±0°.02×26°.03E±0°.04, h11km±3km, Error ellipse: s-maj=4.8km s-min=2.6km az=172.4*
*ISK **21** 21:33:33.3, 38°.89N×26°.02E, h10km, ML2.5/11*
*ATH **21** 21:33:33.9, 38°.88N×26°.03E, h20km±5km, ML2.1/3, Error ellipse: s-maj=5.6km s-min=1.3km az=289.0*
*THE **21** 21:33:34.0, 38°.87N×26°.05E, h8km±1km, ML2.0/3, Error ellipse: s-maj=2.6km s-min=0.9km az=265.0*
ISC 21 21:33:33.8±0.8, **38°.87N**±0°.02×**26°.04E**±0°.03, **h12**km±9km, **n31,** σ0°**56**/54, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.37**	**337**	P		**Pg**	**21 33 41.3**	**+0.2**
SIGR				S		**Sg**	**21 33 46.4**	**+0.3**
	350nm,0.3s							
SIGR	**SIGRI**	**0.37**	**337**	P		**Pg**	**21 33 41.1**	**0.0**
SIGR				S		**Sg**	**21 33 46.6**	**+0.6**
SIGR				AML		AML	21 33 47.3	
	comp=N,940μm,0.5s							
SIGR				AML		AML	21 33 49.4	
	comp=E,466μm,0.3s							
SIGR	**SIGRI**	**0.37**	**337**	PG		**Pg**	**21 33 40.9**	**-0.2**
SIGR				SG		**Sg**	**21 33 45.8**	**-0.3**
PRK	**Paraskevi**	**0.41**	**26**	P		**Pb**	**21 33 43.0**	**0.0**
PRK				S		**Sg**	**21 33 47.7**	**+0.2**
	comp=E,285nm,0.3s							
PRK

GCAM	G?zelcaml?	1.50	141	PN	Pn	21 34 01.2 +0.7
GELI	Tayfur-Gelibol	1.56	12	PN	Pn	21 34 01.6 +0.3
SMTH	Samothraki Isl	1.64	346	P	Pn	21 34 03.1 +0.6
SMTH				S	Sb	21 34 24.8 +0.1
SMTH	Samothraki Isl	1.64	346	P	Pn	21 34 02.9 +0.4
KRBG	Karabiga-Canak	1.80	32	PN	Pn	21 34 04.1 -0.5
APE	Apeiranthos	1.85	193	PN	Pn	21 34 04.3 -1.0

*ISCJB **21** 21:38:26.9±0.6, 77°.13N±0°.02×18°.1E±0°.1, h2km±4km, mb4.1/17, MS3.1/21, Error ellipse: s-maj=5.6km s-min=3.2km az=154.9*
*IDC **21** 21:38:29.0±0.8, 77°.13N×16°.74E, h0km, mb3.9/11, mb1 3.9/14, mb1mx3.6/58, mbtmp3.9/14, ML3.1/3, MS3.2/24, Ms1 3.2/24, ms1mx3.0/47, Error ellipse: s-maj=23.5km s-min=7.1km az=77.0*
*MOS **21** 21:38:28.0±2.0, 77°.05N×17°.51E, h10km, mb4.6/10, Error ellipse: s-maj=33.6km s-min=5.6km az=95.3*
*NEIC **21** 21:38:28.7±1.2, 77°.11N±0°.05×16°.8E±0°.3, h5km±5km, mb4.1/10*
*IEPN **21** 21:38:29.0, 77°.18N×17°.91E, h10km*
*NAO **21** 21:38:29.6±1.0, 77°.15N×17°.82E, h13km±9km, ML4.2*
*KOLA **21** 21:38:30.1, 77°.62N×23°.26E, h0km*
*BER **21** 21:38:31.7±3.7, 77°.21N×17°.81E, h14km, ML3.5, MW4.2, ML4.2(NAO), Confirmed Earthquake*

ISC 21 21:38:28.7±0.8, 77°.13N±0°.02×17°.54E±0°.03, h9km±5km, n140, σ2§43/164, mb4.2/17, MS3.1/21, 10C-9D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.47	255	Pg	Pb	21 38 40.4	+1.1
HSPB				Lg	Lg	21 38 47.5	
HSPB	Hornsund (broa	0.47	255	eP	Pb	21 38 40.3	+1.1
HSPB				e		21 38 49.7	
HSPB	Hornsund (broa	0.47	255	⇓iP	Pb	21 38 40.2	+1.0
HSPB				iS	Sb	21 38 47.5	+1.3
HSPB	Hornsund (broa	0.47	255	ePg	Pb	21 38 40.3	+1.1
HSPB				ePg	Pb	21 38 40.3	+1.1
HSPB				eSg	Sn	21 38 49.7	+5.7
HSPB				eSg	Sn	21 38 49.7	+5.7
HSPB	Hornsund (broa	0.47	255	⇓iP	Pb	21 38 40.2	+1.0
HSPB				eS	Sb	21 38 47.5	+1.3
SPA0	Spitsbergen Ar	1.08	347	Pn	Pg	21 38 48.8	-0.7
	baz=154,slow=22						
SPA0				Pg	Pn	21 38 50.5	+0.4
SPA0				Lg	Lg	21 39 05.3	
	baz=160,slow=28						
SPA0	Spitsbergen Ar	1.08	347	⇓iP	Pg	21 38 48.8	-0.7
SPA0				iS	Sg	21 39 02.3	-1.2
SPA0	Spitsbergen Ar	1.08	347	eP	Pg	21 38 48.8	-0.7
SPA0				eS	Sg	21 39 03.0	-0.4
SPA0	Spitsbergen Ar	1.08	347	Pg	Pg	21 38 48.6	-0.8
SPITS	Spitsbergen Ar	1.08	347	Pn	Pn	21 38 50.5	+0.4
	baz=148,slow=21,SNR=3983						
SPITS				Sn	Sn	21 39 05.5	+0.3
	baz=157,slow=38,SNR=25						
BRBB	Barentsburg B	1.20	325	Pg	Pb	21 38 52.0	+0.3
BRBB				Lg	Lg	21 39 08.8	
BRBB	Barentsburg B	1.20	325	Pg	Pb	21 38 52.0	+0.3
BRBB				Sg	Sb	21 39 08.8	+1.5
HOPEN	Hopen	1.82	106	Pn	Pn	21 39 00.5	+0.2
HOPEN				Sn	Sn	21 39 22.0	-1.4
HOPEN				Lg	Lg	21 39 26.0	
HOPEN	Hopen	1.82	106	⇑iP	Pn	21 39 00.5	+0.2
HOPEN				iS	Sn	21 39 22.6	-0.8
HOPEN	Hopen	1.82	106	⇑eP	Pn	21 39 00.4	+0.2
HOPEN				eS	Sn	21 39 21.7	-1.7
HOPEN				eSg	Sg	21 39 25.6	-1.6
HOPEN				IAML		21 39 32.1	
	comp=Z,2μm,0.5s						
KBS	Kingsbay	2.15	330	Pn	Pn	21 39 04.8	+0.2
KBS				Pg	Pb	21 39 08.7	+1.0
KBS				Lg	Lg	21 39 34.6	
KBS	Kingsbay	2.15	330	ceP	Pn	21 39 04.4	-0.2
KBS	Kingsbay	2.15	330	⇑iP	Pn	21 39 04.4	-0.2
KBS				eS	Sn	21 39 31.1	-0.2
KBS	Kingsbay	2.15	330	⇑eP	Pn	21 39 04.5	-0.2
KBS				ePg	Pb	21 39 08.4	+0.6
KBS				eSg	Sb	21 39 34.2	-0.2
KBS				IAML		21 39 40.4	
	comp=Z,2μm,0.3s						
KBS	Kingsbay	2.15	330		Pn	21 39 04.5	-0.1
BJO1	Bjornoya	2.67	172	Pn	Pn	21 39 13.1	+1.2
BJO1				Pg	Pg	21 39 19.3	-0.5
BJO1				Lg	Lg	21 39 55.2	
BJO1	Bjornoya	2.67	172	eP	Pn	21 39 13.2	+1.4
BJO1				eS	Sn	21 39 46.3	+2.0
BJO1	Bjornoya	2.67	172	eP	Pn	21 39 13.4	+1.6
BJO1				ePg	Pg	21 39 19.3	-0.5
BJO1				eSg	Sg	21 39 52.8	-1.6
BJO1				IAML		21 40 00.2	
	comp=Z,1μm,0.6s						
HAMF	Hammerfest	6.74	162	eP	Pn	21 40 07.7	0.0
HAMF				eS	Sn	21 41 17.0	-7.5
HAMF				IAML		21 41 32.9	
	comp=Z,41nm,0.6s						
ZFI2	Zemlya Franca-	6.76	43	⇑iP	Pn	21 40 07.0	-0.9
ZFI2				iS	Sn	21 41 17.9	-6.9
	comp=Z,79nm,0.4s						
TRO	Tromso	7.55	176	eP	Pn	21 40 20.0	+1.2
KEV	Kevo	7.88	155	Pn	Pn	21 40 23.0	-0.2
KEV				Sn	Sn	21 41 46.9	-5.5
KEV	Kevo	7.88	155	P	Pn	21 40 24.4	+1.2
KEV	Kevo	7.88	155	Pn	Pn	21 40 23.0	-0.2
KEV				Sn	Sn	21 41 46.9	-5.5
KEV	Kevo	7.88	155	Pn	Pn	21 40 24.4	+1.2
ARA0	ARCESS Array S	7.96	159	Pn	Pn	21 40 24.4	-0.1
	baz=351,slow=12						
ARA0				Sn	Sn	21 41 50.0	-4.5
	baz=358,slow=22						
ARA0	ARCESS Array S	7.96	159	Pn	Pn	21 40 24.4	-0.1
	baz=351,slow=12						
ARA0				Sn	Sn	21 41 50.0	-4.5
	baz=358,slow=22						
ARCES	ARCESS Array B	7.96	159	P	Pn	21 40 25.4	+0.9
ARCES						21 41 49.2	
ARCES	ARCESS Array B	7.96	159	Pn	Pn	21 40 24.2	-0.2
	comp=Z,1.8nm,0.3s,baz=350,slow=12,SNR=37						
ARCES				Sn	Sn	21 41 49.2	-5.4
	comp=Z,8.5nm,0.3s,baz=352,slow=22,SNR=8.4						
ARCES				Lg	Lg	21 42 41.9	
	comp=Z,5.5nm,0.3s,baz=345,slow=28,SNR=7.4						
ARCES				LR	LR	21 43 47.8	
	comp=Z,170nm,18.6s,baz=340,slow=40						
ARCES	ARCESS Array B	7.96	159		Pn	21 40 25.4	+0.9
ARE0	ARCESS Array S	7.96	159	Pn	Pn	21 40 25.4	+0.9
DAG	Danmarks Havn	8.10	285	eP	Pn	21 40 31.6	+5.3
DAG				iS	Sn	21 41 56.3	-1.5
DAG	Danmarks Havn	8.10	285	iP	Pn	21 40 31.6	+5.3
DAG				iS	Sn	21 41 56.3	-1.5
DAG	Danmarks Havn	8.10	285	iP	Pn	21 40 29.0	+2.7
DAG				iS	Sn	21 41 56.4	-1.5
DAG				IAML		21 41 58.0	
	comp=Z,12nm,0.4s						
KIF	Kilpisjarvi	8.23	172	Pn	Pn	21 40 28.3	+0.2
KIF				Sn	Sn	21 41 55.9	-5.0
KIF	Kilpisjarvi	8.23	172	Pn	Pn	21 40 28.3	+0.2
KIF				eS	Sn	21 41 56.0	-5.0
KTK1	Kautokeino	8.33	166	eP	Pn	21 40 30.4	+1.0
KTK1				eS	Sn	21 41 58.6	-4.8
KTK1				IAML		21 42 06.3	
	comp=Z,15nm,0.5s						
HEF	Hetta	8.95	165	eP	Pn	21 40 38.3	+0.3
LOF	Lofoten	9.13	189	eP	Pn	21 40 43.3	+2.9
STEI	Steigen	9.28	185	eP	Pn	21 40 45.4	+3.0
LVZ	Lovozero	10.54	142	⇓eP	Pn	21 41 01.0	+1.3
LVZ	Lovozero	10.54	142	Pn	Pn	21 41 01.0	+1.3
APA0	Apatity Array	10.60	146	Pn	Pn	21 40 58.4	-2.0
	slow=11						
APA0	Apatity Array	10.60	146	P	Pn	21 40 57.7	-2.8
APA0				S	Sn	21 42 49.1	-10
APA0	Apatity Array	10.60	146	Pn	Pn	21 40 58.4	-2.0
	slow=11						
APA	Apatity	10.68	146	⇑iP	Pn	21 40 59.3	-2.4
APA				pmax	pmax		
	comp=Z,19nm,0.7s						
MSF	Maaselka	11.81	156	P	Pn	21 41 15.2	-1.9
SCO	Scoresbysund	12.58	259	P	Pn	21 41 25.5	-2.0
SCO	Scoresbysund	12.58	259	Pn	Pn	21 41 25.5	-2.0
SLVR	Solovky	13.40	145	eP	Pn	21 41 35.2	-3.5
	comp=Z,44nm,0.7s						
SLVR				eS	Sn	21 43 54.7	-13
AMDE	Amderma	14.16	98	eP	Pn	21 41 46.1	-3.0
	comp=Z,13nm,0.8s						
AMDE				eS	Sn	21 44 12.8	-13
TMCR	Tamitsa	14.53	142	eP	Pn	21 41 54.9	+0.7
TMCR				e		21 44 36.1	
TMCR				pmax	pmax		
	comp=Z,27nm,1.2s						
TMCR	Tamitsa	14.53	142	eP	Pn	21 41 48.1	-6.1
	comp=Z,16nm,0.9s						
TMCR				eS	Sn	21 44 18.9	-16
SUMG	Summit	14.75	281	P	Pn	21 41 55.4	-2.1
SUMG	Summit	14.75	281	iP	P	21 42 02.3	-1.4
SUMG	Summit	14.75	281	eP	P	21 42 02.3	-1.4
SUMG	Summit	14.75	281		Pn	21 41 55.4	-2.1
LSH	Leshukonskoye	15.07	129	eP	Pn	21 41 56.3	-5.1
LSH				eS	Sn	21 44 35.1	-13
FIA1	FINESS Array S	16.02	165	Pn	Pn	21 42 13.8	0.0
FIA1				IAmb	IAmb	21 42 29.4	
	comp=Z,9.1nm,0.8s						
FIA0	FINESS Array S	16.02	165	P	Pn	21 42 11.9	-2.0
	slow=11						
FIA0	FINESS Array S	16.02	165	P	Pn	21 42 11.9	-2.0
	slow=11						
FINES	FINESS Array B	16.02	165	P	Pn	21 42 12.0	-1.9
FINES						21 45 01.0	
FINES	FINESS Array B	16.02	165	Pn	Pn	21 42 11.6	-2.3
	comp=Z,0.1nm,0.3s,baz=10,slow=12,SNR=6.4						
FINES				Sn	Sn	21 45 01.0	-10
	comp=Z,0.4nm,0.3s,baz=7.0,slow=24,SNR=3.9						
FINES				LR	LR	21 48 35.6	
	comp=Z,125nm,18.5s,baz=348,slow=38						
FINES	FINESS Array B	16.02	165		Pn	21 42 12.0	-1.9
NC204	NORSAR Array S	16.09	192	Pn	Pn	21 42 15.0	+0.1
NC303	NORSAR Array S	16.12	191	Pn	Pn	21 42 15.0	-0.2
NC303				IAmb	IAmb	21 42 33.4	
	comp=Z,38nm,1.4s						
NC405	NORSAR Array S	16.22	190	Pn	Pn	21 42 15.7	-0.7
NC405				IAmb	IAmb	21 42 29.9	
	comp=Z,14nm,1.2s						
NB201	NORSAR Array S	16.30	191	Pn	Pn	21 42 17.6	+0.1
NB2	NORSAR Subarra	16.31	191	P	Pn	21 42 18.9	+1.2
NB2	NORSAR Subarra	16.31	191	P	Pn	21 42 18.9	+1.2
NOA	NORSAR Array B	16.31	191	eP	P	21 42 22.3	+1.6
NOA	NORSAR Array B	16.31	191	Pn	P	21 42 21.9	+1.2
	comp=Z,0.0nm,0.3s,baz=13,slow=14,SNR=3.3						
NOA				LR	LR	21 49 43.4	
	comp=Z,73nm,18.7s,baz=5.0,slow=41						
NRA0	NORESS Array S	16.60	190	P	P	21 42 23.5	-0.4
	baz=5.9,slow=28						
NRA0	NORESS Array S	16.60	190	P	P	21 42 23.5	-0.4
	baz=5.9,slow=28						
HFS	Hagfors	17.13	187	P	P	21 42 30.3	+0.6
	slow=7.9						
HFS	Hagfors	17.13	187	P	P	21 42 29.7	0.0
	comp=Z,0.0nm,0.3s,baz=6.3,slow=14,SNR=3.0						
HFS				LR	LR	21 49 17.3	
	comp=Z,59nm,20.7s,baz=51,slow=38						
HFS	Hagfors	17.13	187	P	P	21 42 30.3	+0.6
	slow=7.9						
BORG	Borgarnes	17.22	245	LR	LR	21 47 16.4	
	comp=Z,54nm,19.9s,baz=337,slow=31						
KLMR	Klimovskoe	17.91	143	eP	P	21 42 37.9	-0.3
KLMR				e		21 45 58.9	
KLMR				pmax	pmax		
	comp=Z,21nm,1.4s						
KLMR	Klimovskoe	17.91	143	eP	P	21 42 38.0	-0.3
KLMR				eS	Sn	21 45 46.4	-11
KLMR	Klimovskoe	17.91	143	ePn	P	21 42 37.9	-0.3
KLMR				AMP		21 42 52.4	
	comp=Z,21nm,1.4s						
KLMR				eSn	Sn	21 45 58.9	+1.8
KLMR				eSn	Sn	21 45 58.9	+1.8
KLMR				⇓Lg	Lg	21 47 56.4	
KLMR				⇓Lg	Lg	21 47 56.4	
PRGR	Permogore	18.07	134	eP	Pn	21 42 36.5	-3.1
PRGR				pmax	pmax		
	comp=Z,17nm,0.7s						
PRGR	Permogore	18.07	134	eP	Pn	21 42 36.6	-3.1
	comp=Z,17nm,0.7s						
PRGR				eS	Sn	21 45 46.3	-15
VSU	Vasula	19.03	165	⇓eP	Pn	21 42 52.0	+0.7
VSU				pmax	pmax		
	comp=Z,117nm,2.1s						
NRIK	Noril'sk	20.23	75	P	Pn	21 43 06.1	+0.6
	comp=Z,6.3nm,0.6s,baz=346,slow=8.0,SNR=8.1						
NRIK				LR	LR	21 52 19.1	
	comp=Z,52nm,19.7s,baz=352,slow=41						
KIRV	Kirov	21.59	131	P	P	21 43 18.1	-0.2
	comp=Z,7.5nm,0.7s,baz=29,slow=0.3,SNR=4.2						
KIRV				LR	LR	21 52 46.6	
	comp=Z,53nm,18.9s,baz=139,slow=40						
NACGM	Naroch	22.58	166	e	P	21 43 30.0	+1.0
OBN	Obninsk	23.16	152	⇑eP	P	21 43 36.6	+1.5
OBN				e		21 43 58.1	
OBN				eS	S	21 47 45.1	-1.3
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
OBN				MLR	MLR		
	comp=Z,103nm,14.0s						
OBN	Obninsk	23.16	152	P	P	21 43 36.9	+1.8
	comp=Z,4.6nm,0.6s,baz=180,slow=4.0,SNR=6.7						
OBN	Obninsk	23.16	152	P	P	21 43 36.5	+1.5
RES	Resolute Bay	23.54	322	LR	LR	21 51 22.7	
	comp=Z,46nm,18.4s,baz=132,slow=33						
ARU	Arti	25.27	121	eiP	P	21 43 55.3	+0.5
ARU						21 44 26.6	
ARU				S	S	21 48 22.5	+2.2
ARU				SS	SnSn	21 49 11.5	+0.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ARU	Arti	25.27	121	P	P	21 43 59.4	+4.6
	comp=Z,1.4nm,0.5s,baz=90,slow=7.1,SNR=3.7						
LPSR	Galich'ya Gora	25.90	149	eP	P	21 44 02.0	+1.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIXI	Tiksi	26.03	42	⇓eP	P	21 44 03.6	+2.1
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TIXI	Tiksi	26.03	42	P	P	21 44 04.3	+2.8
	comp=Z,2.0nm,0.6s,baz=19,slow=7.5,SNR=7.6						
TIXI				LR	LR	21 54 42.1	
	comp=Z,19nm,18.1s,baz=297,slow=37						
AKASG	Malin Array Be	26.91	163	P	P	21 44 13.6	+3.9
	comp=Z,0.3nm,0.3s,baz=350,slow=9.3,SNR=4.0						
VSR	Storozhevoye	27.29	150	eP	P	21 44 16.0	+2.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.6s						
VRAC	Vranov	27.93	181	LR	LR	21 56 43.9	
	comp=Z,39nm,18.3s,baz=353,slow=39						
LANS	Liptovska Anna	28.10	177	eP	P	21 44 22.6	+2.2
LANS	Liptovska Anna	28.10	177	eP	P	21 44 22.6	+2.2
GERES	GERESS Array B	28.44	185	LR	LR	21 56 03.8	
	comp=Z,33nm,20.1s,baz=346,slow=37						
VYHS	Vyhne	28.75	178	eP	P	21 44 37.2	+11
VYHS	Vyhne	28.75	178	eP	P	21 44 37.2	+11
DAVOX	Davos/Dischmat	30.62	190	LR	LR	21 57 48.6	
	comp=Z,32nm,20.8s,baz=297,slow=38						
BVAR	Borovoye Array	30.86	110	P	P	21 44 48.5	+3.8
	comp=Z,0.8nm,0.5s,baz=331,slow=5.8,SNR=5.3						
MLR	Muntele Rosu	31.93	169	LR	LR	21 58 16.7	
	comp=Z,50nm,18.9s,baz=302,slow=37						
ZALV	Zalesovo Beam	33.15	94	LR	LR	22 03 34.8	
	comp=Z,22nm,18.7s,baz=50,slow=45						
ANN	Anapa	33.45	154	eP	P	21 45 03.6	-3.9
ANN				e*PP	pP	21 45 08.0	-2.1
ANN				eS	S	21 50 23.3	-5.3
ANN				pmax	pmax		
	comp=Z,22nm,1.0s						
INK	Inuvik	33.72	341	P	P	21 45 09.8	+0.1
	comp=Z,4.1nm,1.0s,baz=8.5,slow=9.0,SNR=5.4						
INK	Inuvik	33.72	341	IAmb	IAmb	21 45 15.8	
	comp=Z,5.3nm,1.2s						
KURK	Kurchatov	34.80	103	⇓eP	P	21 45 20.1	+0.9
KURK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KURK	Kurchatov	34.80	103	P	P	21 45 21.6	+2.4
KURK				IAmb	IAmb	21 45 23.3	
	comp=Z,2.4nm,0.8s						
KIV	Kislovodsk	34.85	148	eP	P	21 45 19.8	-0.1
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV				MLR	MLR		
	comp=Z,72nm,16.0s						
COLA	College	37.94	350	⇑eP	P	21 45 48.9	+3.1
COLA				pmax	pmax		
	comp=Z,48nm,3.5s						
ILAR	Eielson Array	38.00	349	P	P	21 45 47.6	+1.2
	comp=Z,1.2nm,0.9s,baz=359,slow=6.2,SNR=11						
BRTR	Keskin Array B	38.15	160	LR	LR	22 02 56.5	
	comp=Z,19nm,20.3s,baz=288,slow=38						
MK31	Makanchi Array	39.30	101	eP	P	21 45 58.7	+1.2
MKAR	Makanchi Array	39.30	101	P	P	21 45 59.4	+1.9
	comp=Z,1.6nm,0.7s,baz=332,slow=5.8,SNR=14						
MKAR				LR	LR	22 05 54.6	
	comp=Z,32nm,18.7s,baz=322,slow=42						
MKAR	Makanchi Array	39.30	101	P	P	21 45 59.0	+1.4
GEYT	Alibeck	43.02	131	LR	LR	22 07 06.9	
	comp=Z,24nm,18.2s,baz=10.0,slow=40						
SONM	Songino Array	43.68	77	P	P	21 46 34.8	+1.3
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	Songino Array	43.68	77	P	P	21 46 37.3	+3.8
	comp=Z,0.8nm,0.9s,baz=328,slow=5.1,SNR=5.3						
SONM	Songino Array	43.68	77	P	P	21 46 34.9	+1.3
KSH	Kashi	44.90	111	P	P	21 46 46.3	+3.0
KSH				PcP	PP	21 48 27.9	0.0
KSH				PcS	PcS	21 52 19.8	+1.4
KSH				S	S	21 53 23.5	+2.5
KSH				sS	sS	21 53 31.3	+5.9
KSH				SS	ScS	21 56 36.3	-4.2
KSH				pmax	pmax		
	comp=Z,250nm,5.3s						
KSH				LR	LR		
	comp=N,160nm,9.9s						
KSH				LR	LR		
	comp=E,97nm,8.2s						
KSH				LR	LR		
	comp=Z,86nm,8.0s						
ULM	Lac du Bonnet	46.37	306	LR	LR	22 05 02.6	
	comp=Z,28nm,19.1s,baz=6.5,slow=34						
BBB	Bella Bella	49.15	333	LR	LR	22 07 30.9	
	comp=Z,19nm,20.0s,baz=56,slow=36						
GTA	Gaotai	50.24	87	eP	P	21 47 28.3	+3.5
GTA				pP	sP	21 47 32.3	+3.7
GTA				sP	pP	21 47 35.3	+7.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NEW	Newport	51.70	323	LR	LR	22 07 58.8	
	comp=Z,60nm,18.0s,baz=15,slow=34						
PDAR	Pinedale Array	55.96	315	LR	LR	22 10 44.5	
	comp=Z,28nm,18.5s,baz=18,slow=35						
KSRS	Korea Array	58.13	61	LR	LR	22 15 46.8	
	comp=Z,19nm,20.0s,baz=1.0,slow=38						
YBH	Yreka Blue Hor	58.85	326	LR	LR	22 13 19.8	
	comp=Z,30nm,19.5s,baz=16,slow=36						
NVAR	Mina Array Bea	61.51	322	LR	LR	22 16 52.7	
	comp=Z,28nm,19.6s,baz=266,slow=38						
TORD	Torodi Ar. Bea	64.52	197	P	P	21 49 07.1	+1.5
	comp=Z,0.8nm,0.8s,baz=358,slow=8.0,SNR=5.7						
CMAR	Chiang Mai Arr	70.22	94	iP	P	21 49 41.4	-0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*NEIC **21** 21:50:13.9±1.7, 6°.58S±0°.09×154°.84E±0°.07, h45km±6km, mb4.7/43*
*ISCJB **21** 21:50:18.4±0.2, 6°.73S±0°.04×154°.89E±0°.04, h100km, mb4.5/19, Error ellipse: s-maj=5.8km s-min=5.7km az=177.8*
*IDC **21** 21:50:20.0±1.9, 6°.55S×154°.83E, h93km±15km, mb4.0/11, mb1 4.2/15, mb1mx3.9/40, mbtmp4.3/15, MS3.1/9, Ms1 3.2/9, ms1mx3.0/23, Error ellipse: s-maj=17.1km s-min=13.9km az=73.0*

ISC 21 21:50:19.8±0.4, 6°.64S±0°.06×154°.86E±0°.05, h100km, n96, σ1§37/93, mb4.6/37, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.65	309	P	Pn	21 51 14.1	-0.2
	14nm,0.3s,baz=192,slow=1.1,SNR=8.7						
KRVT				S	Sn	21 51 55.1	-1.4
	20nm,0.3s,baz=166,slow=19,SNR=5.0						
KRVT				LR	LR	21 52 49.9	
	comp=Z,299nm,19.4s,baz=89,slow=42						
HNR	Honiara	5.75	119	P	Pn	21 51 45.8	+3.0
	11nm,0.3s,baz=280,slow=6.1,SNR=2.5						
HNR				S	Sn	21 52 46.7	-0.8
	7.5nm,0.3s,baz=288,slow=20,SNR=3.0						
HNR				LR	LR	21 53 47.9	
	comp=Z,347nm,20.6s,baz=298,slow=36						
HNR	Honiara	5.75	119		Pn	21 51 37.6	-5.2
HNR					Sn	21 52 38.4	-9.2
PMG	Port Moresby	8.10	250	P	Pn	21 52 13.3	-1.4
	6.8nm,0.3s,baz=59,slow=9.8,SNR=18						
PMG				S	Sn	21 53 48.7	+3.9
	4.0nm,0.3s,baz=323,slow=20,SNR=7.8						
PMG	Port Moresby	8.10	250		Pn	21 52 08.2	-6.6
COEN	Coen	13.59	237	Pn	Pn	21 53 25.7	-3.0
PATS	Pohnpei	13.83	15	Pn	Pn	21 53 25.4	-6.2
CTA	Charters Tower	15.76	211	P	Pn	21 53 55.9	-0.4
	0.3nm,0.3s,baz=35,slow=16,SNR=3.2						
EIDS	Eidsvold	18.97	191	P	P	21 54 32.6	-0.8
DZM	Mont Dzumac	18.99	145	P	P	21 54 32.5	-1.3
	0.6nm,0.3s,baz=354,slow=23,SNR=8.3						
DZM				LR	LR	21 59 56.0	
	comp=Z,107nm,20.4s,baz=68,slow=30						
DZM	Mont Dzumac	18.99	145	P	P	21 54 32.6	-1.1
KWAJ	Kwajalein Atol	19.93	40	P	P	21 54 39.9	-4.0
FAKI	Fak Fak	22.83	278	P	P	21 55 12.8	-1.9
WR0	Warramunga Arr	23.75	234	P	P	21 55 23.5	+0.2
WB0	Warramunga Arr	23.77	235	P	P	21 55 24.8	+1.3
ARMA	Armidale	23.85	187	P	P	21 55 23.3	-0.8
ARMA				IAmb	IAmb	21 55 27.3	
	comp=Z,15nm,1.2s						
WRAB	Tennant Creek	23.89	234	P	P	21 55 23.8	-0.7
WRAB				IAmb	IAmb	21 55 39.1	
	comp=Z,16nm,1.2s						
WB2	Warramunga Arr	23.90	234	P	P	21 55 25.2	+0.6
WB2				IAmb	IAmb	21 55 39.3	
	comp=Z,17nm,1.2s						
WRA	Warramunga Arr	23.91	234	P	P	21 55 25.9	+1.3
	comp=Z,2.5nm,0.4s,baz=58,slow=9.6,SNR=54						
WRA				PcP	PcP	21 59 06.2	+1.2
	comp=Z,2.5nm,0.

comp=Z,8.5nm,1.0s
KHZ Kahutara 39.28 158 P **P 21 57 36.9 -1.9**
JOHN Johnston Islan 42.19 56 P **P 21 58 03.5 +0.4**
NACB Ninganchiao 44.61 315 P **P 21 58 21.6 -0.9**
NACB IAmb IAmb 21 58 24.5
comp=Z,24nm,1.0s
CISI Cisompet, Garu 46.67 266 P **P 21 58 38.9 -0.1**
KS19 Wonju Array Si 50.63 332 P **P 21 59 08.9 +0.1**
KS19 IAmb IAmb 21 59 13.1
comp=Z,15nm,0.9s
NJ2 Nanjing 51.56 320 *e*P **P 21 59 16.4 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PPT Papeete 55.23 107 LR LR 22 20 06.0
comp=Z,16nm,19.0s,baz=76,slow=32
PETK Petropavlovsk- 59.57 2 P **P 22 00 12.8 0.0**
comp=Z,2.8nm,0.7s,baz=149,slow=3.1,SNR=3.9
PETK LR LR 22 21 33.9
comp=Z,15nm,21.9s,baz=222,slow=32
KMI Kunming 59.71 304 P **P 22 00 16.5 +1.9**
KMI pmax pmax
comp=Z,8.0nm,1.1s
PAYA Payao 59.98 297 P **P 22 00 18.4 +2.0**
comp=Z,40μm,0.8s
CMAR Chiang Mai Arr 60.51 295 P **P 22 00 22.1 +2.1**
comp=Z,10nm,0.8s,baz=119,slow=5.1,SNR=52
CMAR LR LR 22 28 13.4
comp=Z,4.2nm,18.1s,baz=205,slow=38
CMMT Chiang Mai 60.62 296 P **P 22 00 22.5 +1.8**
comp=Z,4.3nm,1.0s
CHTO Chiang Mai 60.62 296 P **P 22 00 21.4 +0.7**
CHTO IAmb IAmb 22 00 22.8
comp=Z,5.6nm,0.7s
CD2 Chengdu 61.48 310 P **P 22 00 25.5 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
HHC Hu-ho-hao-te 61.73 324 *e*P **P 22 00 30.6 +2.7**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,9.0nm,5.0s
LZH Lanzhou 63.97 316 *e*P **P 22 00 43.3 +0.4**
LZH pP PcP 22 01 13.3 -4.3
LZH sP sP 22 01 27.8 +10
LZH pmax pmax
comp=Z,13nm,1.1s
GTA Gaotai 68.39 317 *e*P **P 22 01 12.8 +1.7**
GTA pP sP 22 01 42.3 -3.8
GTA sP PcP 22 01 56.9 +21
GTA pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 68.97 327 P **P 22 01 14.8 +0.3**
comp=Z,1.8nm,0.8s,baz=132,slow=6.3,SNR=11
SONM LR LR 22 31 11.6
comp=Z,9.5nm,21.8s,baz=181,slow=36
SONM Songino Array 68.97 327 P **P 22 01 14.3 -0.2**
SHL Shillong 69.00 300 P **P 22 01 15.3 +0.1**
SHL IAmb IAmb 22 01 26.5
comp=Z,9.7nm,0.8s
FALS False Pass 70.43 24 P **P 22 01 23.9 +0.7**
TAPN Taplejung 73.10 301 *e*P **P 22 01 41.4 +1.3**
comp=Z,8.7nm,0.8s
ODAN Odare 73.23 300 *e*P **P 22 01 42.1 +1.2**
comp=Z,20nm,0.6s
RAMN Ramite 73.94 300 *e*P **P 22 01 45.6 +0.6**
comp=Z,5.7nm,0.6s
JIRN Jiri 74.48 301 *e*P **P 22 01 49.3 +1.0**
comp=Z,4.5nm,0.4s
GUN Gumba 74.82 301 *e*P **P 22 01 51.2 +1.0**
comp=Z,18nm,0.8s
BILL Bilibino 74.94 4 P **P 22 01 50.1 +0.5**
BILL IAmb IAmb 22 01 50.7
comp=Z,4.3nm,0.9s
PKI Pulchoki 75.13 301 *e*P **P 22 01 53.0 +1.0**
comp=Z,22nm,1.2s
PKIN Phulchoki 75.14 301 *e*P **P 22 01 54.0 +2.0**
comp=Z,4.0nm,0.4s
DMN Daman 75.40 301 *e*P **P 22 01 54.3 +0.9**
comp=Z,24nm,0.9s
KOLN Koldanda 76.73 300 *e*P **P 22 02 01.7 +0.8**
comp=Z,19nm,0.9s
DANN Dangsing 76.74 301 *e*P **P 22 02 01.8 +0.7**
comp=Z,12nm,0.7s
CNPM China Poot 78.50 25 P **P 22 02 09.9 +0.1**
TTA Tatalina 78.74 21 P **P 22 02 11.6 +0.4**
BRLK Bradley Lake 78.78 25 P **P 22 02 11.4 0.0**
BPAW Bear Paw Mtn. 81.24 21 P **P 22 02 25.7 +1.2**
IMAR Indian Mountai 81.44 19 P **P 22 02 25.2 -0.3**
MK31 Makanchi Array 83.05 319 P **P 22 02 33.6 -0.7**
MKAR Makanchi Array 83.05 319 P **P 22 02 34.4 0.0**
comp=Z,2.2nm,1.0s,baz=98,slow=4.4,SNR=12
MKAR Makanchi Array 83.05 319 P **P 22 02 33.5 -0.9**
BALM Baldy 83.07 26 P **P 22 02 34.6 +0.3**
ILAR Eielson Array 83.10 22 P **P 22 02 32.9 -1.3**
comp=Z,0.9nm,0.8s,baz=246,slow=5.8,SNR=9.6
QSPA South Pole Qui 83.33 180 P **P 22 02 36.2 +0.6**
QSPA IAmb IAmb 22 02 36.6
comp=Z,4.8nm,0.7s
BARN Barnard Glacie 83.38 26 P **P 22 02 36.4 +0.5**
BARN IAmb IAmb 22 02 37.9
comp=Z,21nm,1.4s
CTGM Chitina Glacie 83.48 26 P **P 22 02 37.0 +0.6**
BMAR Burnt Mountain 85.27 20 P **P 22 02 45.9 +0.7**
KSH Kashi 85.68 310 *e*P **P 22 02 49.4 +1.4**
KSH LR LR
comp=E,89nm,5.6s
EPYK Eagle Plains 87.59 22 P **P 22 02 57.3 +0.8**
EPYK IAmb IAmb 22 03 08.1
comp=Z,7.8nm,1.4s
NVAR Mina Array Bea 91.61 52 P **P 22 03 16.6 +0.4**
comp=Z,1.0nm,0.8s,baz=261,slow=6.0,SNR=5.1
NVAR Mina Array Bea 91.61 52 P **P 22 03 16.5 +0.3**
KVN Kaiserville 91.85 51 P **P 22 03 18.1 +0.8**
KVN IAmb IAmb 22 03 18.3
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 96.09 28 P **P 22 03 36.1 +0.2**
comp=Z,1.8nm,0.8s,baz=268,slow=4.6,SNR=5.9
BW06 Boulder Array 98.57 48 P Pdif 22 03 49.0 +1.1
PDAR Pinedale Array 98.57 48 LR LR 22 46 32.0
comp=Z,16nm,18.2s,baz=16,slow=34
RLMT Red Lodge 98.81 45 P Pdif 22 03 49.9 +1.0
GERES GERESS Array B 126.68 329 PKP **PKiKP 22 09 13.1 +0.7**
comp=Z,0.3nm,0.5s,baz=122,slow=2.0,SNR=4.2
BDFB Brasilia 148.32 135 PKPbc **PKiKP 22 09 58.5 +1.1**
comp=Z,2.8nm,0.5s,baz=167,slow=3.9,SNR=4.6
TORD Torodi Ar. Bea 152.80 286 PKPbc **PKPbc 22 10 06.4 +0.1**
comp=Z,2.7nm,0.7s,baz=44,slow=2.4,SNR=15
TORD Torodi Ar. Bea 152.80 286 PKPab **PKPab 22 10 17.0 -0.5**

WEL 21 22:36:18.2, 40°S±2°×17°7E±°, h32km±2km, M3.4/24, ML3.9/12, MLv3.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=61.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.13**	**103**	P	Pb	22 36 24.1	0.0
CKHZ				S	Sb	22 36 29.1	+1.0
KAHZ	**Kahuranaki**	**0.17**	**191**	P	Pn	22 36 24.7	+0.1
KAHZ				S	Sb	22 36 30.3	+1.5
MCHZ	**McNeill Hill**	**0.25**	**317**	P	Pb	22 36 25.3	0.0
MCHZ				S	Sn	22 36 31.1	+0.5
ARHZ	**Aropaoanui**	**0.37**	**9**	P	Pn	22 36 27.2	-0.2
ARHZ				S	Sn	22 36 34.4	+1.0
PXZ	**Pawanui**	**0.40**	**186**	P	Pn	22 36 27.8	0.0
PXZ				S	Sn	22 36 35.6	+1.3
KRHZ	**Kereru**	**0.42**	**268**	P	Pb	22 36 27.8	+0.1
KRHZ				S	Sn	22 36 35.3	+0.4
KWHZ	**Kaweka Forest**	**0.43**	**298**	P	Pb	22 36 27.9	0.0
KWHZ				S	Sn	22 36 35.0	-0.1
NMHZ	**Naumai**	**0.54**	**351**	P	Pn	22 36 29.8	+0.1
WPHZ	**Waipukurau**	**0.57**	**220**	P	Pn	22 36 30.5	+0.4
WHHZ	**Waihua**	**0.60**	**24**	P	Pn	22 36 30.9	+0.4
PNHZ	**Pukenui**	**0.62**	**243**	P	Pb	22 36 30.8	0.0
PRHZ	**Porangahau**	**0.67**	**199**	P	Pb	22 36 31.6	0.0
BHHZ	**Black Hill Sta**	**0.68**	**282**	P	Pn	22 36 31.5	-0.1
RAHZ	**Arahi**	**0.72**	**10**	P	Pb	22 36 32.5	+0.1
KNZ	**Kokohu**	**0.84**	**44**	P	Pn	22 36 33.6	-0.2
TSZ	**Takapari Road**	**0.85**	**240**	P	Pn	22 36 33.8	-0.2
DVHZ	**Dannevirke**	**0.88**	**221**	P	Pn	22 36 34.3	-0.2
MRHZ	**Matea Rd**	**0.89**	**334**	P	Pb	22 36 35.0	-0.2
ANWZ	**Angora Road**	**0.90**	**202**	P	Pn	22 36 34.8	+0.2
MHGZ	**Mahia Peninsul**	**0.90**	**58**	P	Pn	22 36 34.5	-0.1
SNGZ	**Shannon Statio**	**0.91**	**21**	P	Pn	22 36 35.1	+0.4
MOVZ	**Moawhango**	**0.93**	**283**	P	Pb	22 36 35.7	-0.2
HATZ	**Hinemaiaia**	**0.98**	**319**	P	Pb	22 36 36.8	+0.1
RTZ	**Ruatahuna**	**1.01**	**3**	P	Pn	22 36 36.6	+0.3
PRGZ	**Paritu Road**	**1.03**	**47**	P	Pn	22 36 36.2	-0.2
TUVZ	**Tukino**	**1.04**	**290**	P	Pb	22 36 38.2	+0.3
RITZ	**Rihia Road**	**1.05**	**308**	P	Pb	22 36 37.9	0.0
WHVZ	**Whangaehu Hut**	**1.09**	**288**	P	Pb	22 36 38.9	+0.2
DRZ	**Dome Shelter**	**1.11**	**288**	P	Pb	22 36 39.5	+0.5
TRVZ	**Turoa**	**1.11**	**287**	P	Pb	22 36 39.0	0.0
NGZ	**Ngauruhoe**	**1.12**	**294**	P	Pb	22 36 39.0	-0.2
FWVZ	**Far West T-bar**	**1.12**	**289**	P	Pb	22 36 38.9	-0.3
KRVZ	**Karewarewa**	**1.13**	**298**	P	Pb	22 36 38.9	-0.4
RIGZ	**Rimuhau**	**1.13**	**36**	P	Pb	22 36 39.3	0.0
MTVZ	**Mangateitei**	**1.15**	**282**	P	Pb	22 36 39.8	+0.2
WTVZ	**West Tongariro**	**1.15**	**296**	P	Pb	22 36 39.4	-0.3
KATZ	**Kakaramea**	**1.15**	**304**	P	Pb	22 36 39.8	+0.1
ALRZ	**Allen Road**	**1.16**	**337**	P	Pb	22 36 39.4	-0.3
MUGZ	**Murupara**	**1.16**	**354**	P	Pn	22 36 38.8	+0.6
RATZ	**Rangitukua**	**1.17**	**310**	P	Pb	22 36 40.3	+0.3
PRWZ	**Pori Road**	**1.18**	**218**	P	Pn	22 36 38.5	+0.1
RAGZ	**Rawiri**	**1.20**	**19**	P	Pn	22 36 38.9	+0.1
PRRZ	**Plateau Road**	**1.20**	**340**	P	Pn	22 36 39.4	+0.6
WHTZ	**Whakaora**	**1.22**	**322**	P	Pb	22 36 41.6	+0.8
WPRZ	**Whakapapatarin**	**1.25**	**332**	P	Pb	22 36 41.1	-0.3
PKVZ	**Pokaka**	**1.26**	**285**	P	Pb	22 36 41.4	-0.1
TWVZ	**Taurewa**	**1.28**	**295**	P	Pn	22 36 40.6	+0.7
RRRZ	**Republican Roa**	**1.33**	**346**	P	Pb	22 36 42.0	-0.6
HRRZ	**Handcock Road**	**1.33**	**338**	P	Pn	22 36 39.4	-1.2
URZ	**Urewera**	**1.38**	**6**	P	Pn	22 36 41.1	-0.1
MWZ	**Matawai**	**1.38**	**20**	P	Pn	22 36 41.0	-0.2
CPWZ	**Castlepoint**	**1.39**	**203**	P	Pn	22 36 40.9	-0.5
TIWZ	**Tintock**	**1.39**	**214**	P	Pn	22 36 41.3	-0.1
MRZ	**Mangatainoka R**	**1.46**	**225**	P	Pn	22 36 41.6	-0.6
WAZ	**Wanganui**	**1.50**	**265**	P	Pn	22 36 44.6	-0.8
HOWZ	**Holdsworth Sta**	**1.66**	**220**	P	Pn	22 36 44.2	-0.9
TMWZ	**Te Maipa**	**1.67**	**208**	P	Pn	22 36 44.2	-1.1
WHRZ	**Whale Island**	**1.77**	**1**	P	Pn	22 36 46.9	+0.2
OGWZ	**Otaki Gorge**	**1.79**	**228**	P	Pn	22 36 45.9	-0.9
MTW	**Mount Morrison**	**1.87**	**215**	P	Pn	22 36 46.6	-1.4
KIW	**Kapiti Island**	**1.97**	**231**	P	Pn	22 36 48.6	-0.8
TRWZ	**Traveller**	**2.00**	**208**	P	Pn	22 36 48.2	-1.6
CAW	**Cannon Point**	**2.04**	**223**	P	Pn	22 36 49.6	-0.8
PAWZ	**Paruwai Farm**	**2.09**	**213**	P	Pn	22 36 49.7	-1.3
MSWZ	**Moikau Station**	**2.19**	**215**	P	Pn	22 36 50.5	-1.9
PLWZ	**Palliser**	**2.31**	**213**	P	Pn	22 36 52.0	-2.2
BHW	**Baring Head**	**2.37**	**221**	P	Pn	22 36 53.0	-1.8
TCW	**Tory Channel**	**2.56**	**231**	P	Pn	22 36 55.9	-1.5
DUWZ	**D'Urville Isla**	**2.58**	**242**	P	Pn	22 36 57.2	-0.5
TUWZ	**Tuamarina**	**2.89**	**231**	P	Pn	22 37 00.1	-1.9
QRZ	**Quartz Range**	**3.57**	**249**	P	Pn	22 37 10.0	-1.3
THZ	**Tophouse**	**3.72**	**234**	P	Pn	22 37 11.1	-2.4
KHZ	**Kahutara**	**3.78**	**221**	P	Pn	22 37 13.0	-1.2
LTZ	**Lake Taylor**	**4.71**	**227**	P	Pn	22 37 24.5	-2.5
OKCZ	**Okains Bay**	**5.01**	**214**	P	Pn	22 37 28.4	-2.7
MQZ	**McQueen's Vall**	**5.18**	**217**	P	Pn	22 37 30.2	-3.2
AKCZ	**Akaroa Harbour**	**5.19**	**214**	P	Pn	22 37 31.0	-2.7

IDC 21 22:56:52.1±3.0, 30°47N×83°58E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.1/65, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=93.6km s-min=29.3km az=73.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.33**	**357**	Pn	Pn	23 00 42.7	-0.1
	0.1nm,0.3s,baz=174,slow=13,SNR=3.7						
KURBB	**Kurchatov Arra**	**20.48**	**351**	P	P	23 01 30.6	-0.8
	0.8nm,0.2s,baz=172,slow=9.9,SNR=7.0						
SONM	**Songino Array**	**24.63**	**39**	P	P	23 02 14.3	0.0
	0.4nm,0.7s,baz=236,slow=9.7,SNR=5.1						
WRA	**Warramunga Arr**	**69.95**	**129**	P	P	23 08 05.6	+0.1
	0.2nm,0.4s,baz=322,slow=6.5,SNR=3.9						

IDC 21 23:17:38.6±5.2, 20°38S×179°07W, h637km±59km, mb3.0/6, mb1 3.4/6, mb1mx3.0/31, mbtmp3.9/6, Error ellipse: s-maj=98.2km s-min=23.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.56**	**257**	P	P	23 24 49.0	+0.2
	0.4nm,0.4s,baz=97,slow=7.5,SNR=7.0						
ASAR				PcP	PcP	23 26 22.0	+0.4
	0.3nm,0.6s,baz=112,slow=4.1,SNR=3.9						
WRA	**Warramunga Arr**	**43.62**	**262**	P	P	23 24 49.0	-0.2
	2.3nm,0.5s,baz=97,slow=7.6,SNR=7.5						
NVAR	**Mina Array Bea**	**81.63**	**44**	P	P	23 28 52.6	+0.4
	0.8nm,0.6s,baz=223,slow=8.7,SNR=6.4						
TXAR	**Lajitas Array**	**87.84**	**58**	P	P	23 29 22.5	+0.2
	0.6nm,0.8s,baz=214,slow=6.0,SNR=7.5						
ILAR	**Eielson Array**	**88.42**	**13**	P	P	23 29 24.4	+0.3
	0.5nm,0.6s,baz=224,slow=5.8,SNR=7.1						
PDAR	**Pinedale Array**	**89.57**	**44**	P	P	23 29 29.4	-0.8
	0.5nm,0.5s,baz=209,slow=4.0,SNR=4.3						
ARCES	**ARCESS Array B**	**128.62**	**349**	PKP	PKPdf	23 35 33.8	-0.3
	6.5nm,1.2s,baz=44,slow=4.3,SNR=3.9						
FINES	**FINESS Array B**	**135.37**	**343**	PKP	PKPdf	23 35 47.6	+0.6
	1.4nm,0.8s,baz=69,slow=3.3,SNR=3.5						
AKASG	**Malin Array Be**	**142.42**	**330**	PKP	PKPdf	23 35 57.8	-2.3
	1.4nm,0.3s,baz=42,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**146.01**	**312**	PKPbc	PKPbc	23 36 08.4	-0.7
	0.6nm,0.6s,baz=125,slow=6.9,SNR=4.7						
GERES	**GERESS Array B**	**149.81**	**343**	PKPbc	PKPbc	23 36 18.5	+0.2
	0.6nm,0.6s,baz=20,slow=3.2,SNR=4.7						

IDC 21 23:27:16.3±2.0, 7°73S×122°36E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=294.9km s-min=28.6km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.80**	**137**	Pn	Pn	23 31 12.6	-0.6
	baz=313,slow=13,SNR=1.7						
WRA				Sn	Sn	23 34 05.8	-15
	0.1nm,0.3s,baz=315,slow=26,SNR=3.5						
ASAR	**Alice Springs**	**19.34**	**146**	P	P	23 31 43.8	+0.4
	0.2nm,0.3s,baz=323,slow=13,SNR=7.1						
MKAR	**Makanchi Array**	**64.91**	**331**	P	P	23 37 57.6	0.0
	0.3nm,0.8s,baz=129,slow=6.8,SNR=2.7						

*IDC **21** 23:27:27.4±0.6, 46°.12N×154°.31E, h0km, mb4.1/23, mb1 4.3/27, mb1mx4.1/41, mbtmp4.1/27, ML3.6/4, MS3.0/13, Ms1 3.0/13, ms1mx2.8/48, Error ellipse: s-maj=17.6km s-min=12.7km az=153.0*

*ISCJB **21** 23:27:28.5±0.3, 46°.07N±0°.05×154°.25E±0°.05, h20km, mb4.1/29, MS3.1/9, Error ellipse: s-maj=8.4km s-min=4.2km az=151.7*

*SKHL **21** 23:27:28.4±0.5, 45°.82N×154°.33E, h39km±4km, mb5.9/2, msh5.5/2*

*NEIC **21** 23:27:32.4±1.2, 46°.15N±0°.10×154°.3E±0°.1, h34km±5km, mb4.4/28*

*MOS **21** 23:27:32.2±1.4, 46°.14N×154°.08E, h51km, mb4.5/8, Error ellipse: s-maj=9.4km s-min=7.9km az=57.3*

ISC 21 23:27:30.4±0.5, 46°06N±0°.07×154°.21E±0°.06, h20km, n122, σ1§32/121, mb4.2/34, MS3.1/9, 5C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.52**	**262**	*d* iPN	**Pn**	**23 28 38.8**	**+1.2**
KUR				*i* S	**Sn**	**23 29 29.9**	**+0.3**
KUR				pmax	pmax		
	comp=Z,175nm,0.4s						
KUR				pmax	pmax		
	comp=E,25nm,0.5s						
KUR				pmax	pmax		
	comp=N,49nm,0.2s						
KUR				smax	smax		
	comp=E,670nm,0.4s						
KUR				smax	smax		
	comp=N,271nm,0.5s						
KUR	**Kuril'sk**	**4.52**	**262**	*i* P	**Pn**	**23 28 36.8**	**-0.8**
KUR				AMB	AMB	23 28 39.0	
	comp=N,175nm,0.4s						
KUR				AMB	AMB	23 28 43.0	
	comp=N,1μm,3.0s						
KUR				*i* S	**Sn**	**23 29 27.7**	**-1.9**
KUR				A	A	23 29 30.0	
	comp=N,271nm,0.5s						
KUR				A	A	23 29 30.0	
	comp=N,670nm,0.5s						
KUR				A	A	23 29 31.4	
	comp=N,3μm,4.0s						
KUR				A	A	23 29 31.4	
	comp=N,2μm,4.0s						
SKR	**Severo-Kuril's**	**4.79**	**15**	*e*PN	**Pn**	**23 28 42.1**	**+0.7**
SKR	**Severo-Kuril's**	**4.79**	**15**	*e*P	**Pn**	**23 28 42.0**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**6.25**	**254**	PN	**Pn**	**23 29 00.1**	**-1.3**
YUK				pmax	pmax		
	comp=N,17nm,0.1s						
YUK				pmax	pmax		
	comp=E,17nm,0.1s						
YUK				pmax	pmax		
	comp=Z,47nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**6.25**	**254**	*e*P	**Pn**	**23 29 00.0**	**-1.3**
YUK				AMB	AMB	23 29 00.0	
	comp=Z,47nm,0.3s						
YUK				AMB	AMB	23 29 07.0	
	comp=Z,710nm,2.0s						
YUK				*e*S	**Sn**	**23 30 08.6**	**-3.5**
YUK				A	A	23 30 12.0	
	comp=Z,1μm,2.0s						
YUK				A	A	23 30 12.0	
	comp=Z,2μm,2.0s						
YUK				A	A	23 30 13.0	
	comp=Z,430nm,0.6s						
YUK				A	A	23 30 13.0	
	comp=Z,320nm,0.6s						
GRPR	**Tuman**	**6.33**	**254**	*e*PN	**Pn**	**23 29 01.9**	**-0.5**
GRPR				pmax	pmax		
	comp=Z,60nm,0.4s						
GRPR	**Tuman**	**6.33**	**254**	*e*P	**Pn**	**23 29 01.0**	**-1.4**
GRPR				AMB	AMB	23 29 04.0	
	comp=Z,60nm,0.4s						
GRPR				*e*S	**Sn**	**23 30 11.0**	**-3.0**
GRPR				A	A	23 30 16.0	
	comp=Z,84nm,0.5s						
GRPR				A	A	23 30 16.0	
	comp=Z,184nm,0.5s						
GLVR	**Golovnino**	**6.59**	**252**	*e*S	**Sn**	**23 30 17.0**	**-3.6**
NMR	**Nemuro--Hokkai**	**6.61**	**249**	*e*PN	**Pn**	**23 29 04.8**	**-1.6**
NMR	**Nemuro--Hokkai**	**6.61**	**249**	*e*P	**Pn**	**23 29 04.0**	**-2.4**
NMR				*e*S	**Sn**	**23 30 16.0**	**-5.1**
PETK	**Petropavlovsk-**	**7.41**	**17**	Pn	**Pn**	**23 29 15.7**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=186,slow=11,SNR=15						
PETK				Sn	**Sn**	**23 30 41.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=206,slow=25,SNR=2.5						
PETK				LR	LR	23 33 16.6	
	comp=Z,56nm,18.2s,baz=217,slow=48						
JKA	**Kamikawa-asahi**	**8.44**	**261**		**Pn**	**23 29 33.0**	**+1.5**
ASAJ	**Asahikawa**	**8.44**	**261**	PN	**Pn**	**23 29 33.0**	**+1.5**
ASAJ	**Asahikawa**	**8.44**	**261**	Pn	**Pn**	**23 29 33.0**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=87,slow=19,SNR=5.8						
ASAJ				LR	LR	23 32 46.2	
	comp=Z,49nm,20.6s,baz=128,slow=37						
MA2	**Magadan**	**13.69**	**353**	LR	LR	23 35 37.5	
	comp=Z,39nm,19.5s,baz=79,slow=36						
MJAR	**Matsushiro Arr**	**15.30**	**237**	P	**Pn**	**23 31 06.0**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**15.30**	**237**	Pn	**Pn**	**23 31 03.0**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=30,slow=11,SNR=3.8						
MJAR	**Matsushiro Arr**	**15.30**	**237**		**Pn**	**23 31 06.0**	**+0.8**
KLR	**Kul'dur**	**15.45**	**290**	Pn	**Pn**	**23 31 08.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=106,slow=13,SNR=4.4						
KLR				LR	LR	23 36 43.3	
	comp=Z,66nm,20.8s,baz=96,slow=36						
USA0B	**Ussuriysk Arra**	**15.78**	**271**	P	**Pn**	**23 31 12.5**	**+1.2**
USA0B				pmax	pmax		
	comp=Z,11nm,0.8s						
USA0B	**Ussuriysk Arra**	**15.78**	**271**	Pn	**Pn**	**23 31 12.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**15.78**	**271**	Pn	**Pn**	**23 31 10.5**	**-0.8**
	baz=68,slow=13,SNR=20						
KSRS	**Korea Array**	**21.34**	**256**	P	**P**	**23 32 18.8**	**+2.8**
	comp=Z,0.9nm,0.5s,baz=63,slow=9.2,SNR=3.1						
KSRS				LR	LR	23 41 29.6	
	comp=Z,15nm,18.6s,baz=53,slow=39						
KSAR	**Wonju Array Be**	**21.37**	**256**	P	**P**	**23 32 17.5**	**+1.1**
KSAR	**Wonju Array Be**	**21.37**	**256**	P	**P**	**23 32 17.5**	**+1.1**
BILL	**Bilibino**	**22.90**	**12**	P	**P**	**23 32 32.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,23nm,1.5s						
BILL	**Bilibino**	**22.90**	**12**	P	**P**	**23 32 32.4**	**-0.1**
BILL				IAmb	IAmb	23 32 35.5	
	comp=Z,23nm,1.5s						
BOD	**Bodaibo**	**27.01**	**310**	*e*P	**P**	**23 33 07.0**	**-3.7**
BOD				pmax	pmax		
	comp=Z,9.0nm,2.0s						
TIXI	**Tiksi**	**28.34**	**343**	P	**P**	**23 33 22.7**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=142,slow=1.4,SNR=8.7						
TIXI				LR	LR	23 45 48.5	
	comp=Z,30nm,18.5s,baz=178,slow=39						
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**23 33 57.7**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**23 33 58.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=85,slow=8.7,SNR=2.5						
SONM				LR	LR	23 47 28.8	
	comp=Z,43nm,20.8s,baz=21,slow=37						
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**23 33 57.7**	**0.0**
IMAR	**Indian Mountai**	**33.88**	**35**	P	**P**	**23 34 11.1**	**-0.2**
KDAK	**Kodiak Island**	**33.95**	**50**	P	**P**	**23 34 11.0**	**-1.0**
KDAK	**Kodiak Island**	**33.95**	**50**	P	**P**	**23 34 11.0**	**-1.0**
	comp=Z,13nm,0.9s,baz=282,slow=14,SNR=3.4						
ILAR	**Eielson Array**	**36.62**	**38**	P	**P**	**23 34 34.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=256,slow=8.4,SNR=8.1						
BMAR	**Burnt Mountain**	**37.67**	**34**	P	**P**	**23 34 43.8**	**0.0**
RAGM	**Ragged Mountai**	**37.81**	**45**	P	**P**	**23 34 45.2**	**+0.1**
RAGM					**S**	**23 40 30.8**	**-3.9**
BCAR	**Beaver Creek A**	**38.92**	**41**	P	**P**	**23 34 54.6**	**+0.2**
NRIK	**Noril'sk**	**39.74**	**329**	LR	LR	23 52 25.4	
	comp=Z,23nm,18.3s,baz=66,slow=38						
INK	**Inuvik**	**41.83**	**32**	P	**P**	**23 35 18.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=264,slow=4.2,SNR=4.2						
INK	**Inuvik**	**41.83**	**32**	IAmb	IAmb	23 35 31.0	
	comp=Z,5.5nm,1.1s						
ZALV	**Zalesovo Beam**	**43.63**	**307**	P	**P**	**23 35 32.0**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=36,slow=5.5,SNR=5.0						
ZALV				PcP	**PcP**	**23 37 20.3**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=64,slow=3.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**43.63**	**307**	P	**P**	**23 35 31.6**	**-1.5**

GKN	Gorkha	56.62	277	*e*P		P	23 37 13.4 +1.3
	comp=Z,11nm,0.5s						
KKAR	Karatay Array	56.99	300	P		P	23 37 14.7 +0.3
KKAR	Karatay Array	56.99	300	P		P	23 37 14.7 +0.3
DANN	Dangsing	57.01	278	*e*P		P	23 37 16.5 +1.4
	comp=Z,28nm,0.7s						
KOLN	Koldanda	57.48	278	*e*P		P	23 37 19.5 +1.2
	comp=Z,16nm,0.8s						
ARCES	ARCESS Array B	58.75	341	P		P	23 37 26.5 +0.2
	comp=Z,3.9nm,0.9s,baz=37,slow=9.1,SNR=3.0						
KIRV	Kirov	58.78	324	LR		LR	00 05 43.3
	comp=Z,22nm,18.8s,baz=195,slow=39						
KAPI	Kappang	59.36	221	P		P	23 37 31.3 +0.1
KAPI	Kappang	59.36	221	LR		LR	00 02 07.8
	comp=Z,6.5nm,19.4s,baz=96,slow=35						
KAPI	Kappang	59.36	221	P		P	23 37 31.3 +0.1
PLID	Pearl Lake	59.44	55	P		P	23 37 31.5 -0.3
PLID				IAmb		IAmb	23 37 32.1
	comp=Z,3.0nm,0.7s						
ABKAR	Akbulak array	59.45	311	P		P	23 37 31.6 +0.2
ABKAR	Akbulak array	59.45	311	IAmb		IAmb	23 37 32.8
	comp=Z,4.2nm,1.1s						
AKTO	Aktyubinsk	59.75	313	LR		LR	00 05 41.9
	comp=Z,23nm,18.6s,baz=69,slow=38						
NVAR	Mina Array Bea	62.08	63	P		P	23 37 49.7 -0.1
	comp=Z,0.7nm,0.6s,baz=301,slow=6.4,SNR=3.8						
NVAR	Mina Array Bea	62.08	63	P		P	23 37 49.2 -0.6
R11A	Troy Canyon, C	63.80	61	P		P	23 38 00.6 -0.6
TPNV	Topopah Spring	64.28	63	P		P	23 38 03.5 -0.8
TPNV				pmax		pmax	
	comp=Z,5.0nm,1.4s						
TPNV	Topopah Spring	64.28	63	P		P	23 38 03.5 -0.8
TPNV				IAmb		IAmb	23 38 19.7
	comp=Z,5.3nm,1.4s						
BW06	Boulder Array	64.54	54	P		P	23 38 05.3 -0.8
BW06				IAmb		IAmb	23 38 06.8
	comp=Z,4.4nm,1.1s						
PDAR	Pinedale Array	64.54	54	P		P	23 38 05.7 -0.4
	comp=Z,0.8nm,0.7s,baz=325,slow=1.8,SNR=6.1						
FINES	FINESS Array B	64.98	335	P		P	23 38 07.5 -0.8
	comp=Z,1.2nm,0.4s,baz=32,slow=7.5,SNR=15						
LCMT	Little Creek M	66.08	61	P		P	23 38 15.8 -0.2
PV09	Paradox Valley	67.57	57	P		P	23 38 25.4 -0.2
GEYT	Alibeck	67.61	302	P		P	23 38 26.9 +1.3
	comp=Z,1.4nm,0.7s,baz=48,slow=2.1,SNR=3.3						
GEYT	Alibeck	67.61	302	P		P	23 38 26.1 +0.5
PV17	East Wray Mesa	67.81	58	P		P	23 38 26.3 -0.8
WB0	Warramunga Arr	67.94	200	P		P	23 38 27.6 0.0
WRA	Warramunga Arr	68.12	200	P		P	23 38 28.7 0.0
	comp=Z,1.7nm,0.8s,baz=18,slow=6.4,SNR=5.6						
NB2	NORSAR Subarra	69.12	342	P		P	23 38 38.6 +4.0
	comp=Z,0.9nm,0.5s,baz=29,slow=6.5						
NOA	NORSAR Array B	69.12	342	P		P	23 38 34.0 -0.6
	comp=Z,0.7nm,0.6s,baz=30,slow=6.7,SNR=3.3						
ASAR	Alice Springs	71.81	200	P		P	23 38 52.4 +1.0
	comp=Z,1.3nm,0.6s,baz=15,slow=6.1,SNR=15						
ASAR	Alice Springs	71.81	200	P		P	23 38 51.7 +0.3
KBZ	Khabaz	71.88	315	P		P	23 38 52.9 +1.2
	comp=Z,2.8nm,0.9s,baz=51,slow=6.5,SNR=2.8						
AKASG	Malin Array Be	72.53	327	P		P	23 38 54.8 -0.7
	comp=Z,1.3nm,0.5s,baz=34,slow=6.1,SNR=6.2						
AKASG	Malin Array Be	72.53	327	P		P	23 38 54.7 -0.7
BURAR	Bucovina Array	76.58	327	⇑P		P	23 39 19.1 -0.1
BURAR	Bucovina Array	76.58	327	P		P	23 39 18.8 -0.4
TRPA	Tarpa	77.12	329	⇑P		P	23 39 22.8 +0.7
TX31	Lajitas Ar. Si	77.17	61	P		P	23 39 21.9 -0.9
TX32	Lajitas Array	77.17	61	P		P	23 39 21.8 -1.0
TX32				IAmb		IAmb	23 39 23.3
	comp=Z,2.0nm,0.8s						
TXAR	Lajitas Array	77.17	61	P		P	23 39 22.5 -0.3
	comp=Z,1.3nm,0.6s,baz=303,slow=4.7,SNR=4.2						
TXAR	Lajitas Array	77.17	61	P		P	23 39 22.2 -0.6
CLL	Collm	77.40	336	*e*P		P	23 39 23.0 -0.6
VYHS	Vyhne	78.09	331	*e*P		P	23 39 27.7 +0.2
VYHS	Vyhne	78.09	331	*e*P		P	23 39 27.7 +0.2
VOIR		78.45	326	⇑P		P	23 39 29.6 -0.1
ARR	Arges	78.67	326	⇑P		P	23 39 32.2 +1.3
GERES	GERESS Array B	79.40	335	P		P	23 39 34.5 -0.4
	comp=Z,0.4nm,0.6s,baz=25,slow=4.4,SNR=3.7						
BRTR	Keskin Array B	79.41	318	P		P	23 39 36.0 +0.9
BRTR	Keskin Array B	79.41	318	P		P	23 39 36.0 +0.9
	comp=Z,0.8nm,0.8s,baz=104,slow=5.2,SNR=4.5						
PPT	Papeete	81.14	127	LR		LR	00 09 06.3
	comp=Z,32nm,19.4s,baz=288,slow=31						
VTS	Vitosha	81.53	326	⇑P		P	23 39 46.5 +0.1
OXZ	Oxford	90.40	167	P		P	23 40 32.3 +2.6
TORD	Torodi Ar. Bea	116.07	330	PKP		PKiKP	23 46 10.9 -1.4
	comp=Z,0.3nm,0.7s,baz=3.2,slow=3.7,SNR=3.8						
PLCA	Paso Flores	147.38	97	PKPbc		PKPbc	23 47 12.2 0.0
	comp=Z,1.8nm,0.8s,baz=268,slow=3.9,SNR=3.7						
CPUP	Villa Florida	148.13	63	PKPbc		PKPbc	23 47 13.3 -1.3
	comp=Z,1.3nm,0.5s,baz=330,slow=6.4,SNR=3.8						

*NEIC **21** 23:46:33.2±1.1,58°.95N±0°.03×153°.11W±0°.08,h68km±7km*
AEIC 21 23:46:33±1.1,58°.96N±0°.03×153°.22W±0°.08,h71km±5km,
ML3.0,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSS	Fourpeaked Sta	0.30	237		Pn	23 46 44.2	-0.1
AUI	Augustine Isla	0.39	344		Pn	23 46 45.0	+0.1
AUI					Sn	23 46 54.2	+0.6
AUQ	Augustine Moun	0.42	350		Pn	23 46 45.4	+0.3
AUQ					Sn	23 46 54.7	+0.7
AU22	Augustine Moun	0.42	350		Pn	23 46 45.3	+0.2
AU22					Sn	23 46 54.5	+0.6
AU2	Augustine Isla	0.42	349		Pn	23 46 45.4	+0.2
KAHG	Katmai Hook Gl	0.84	237		Pn	23 46 50.0	+0.3
KAHG					Sn	23 47 03.0	+1.1
KARR	Katmai Rainbow	0.90	240		Pn	23 46 50.8	+0.5
KAHC	Katmai Hardscr	0.98	252		Pn	23 46 51.7	+0.2
ILS	Iliamna Low So	1.00	4		Pn	23 46 52.4	+0.7
IVE	Iliamna Volcan	1.06	5		Sn	23 47 06.8	-0.1
HOM	Homer	1.07	48	Pn	Pn	23 46 52.5	+0.1
HOM				Sn	Sn	23 47 07.1	+0.3
ILW	Iliamna West	1.10	2		Pn	23 46 53.0	0.0
ILW					Sn	23 47 07.7	-0.1
CNPM	China Poot	1.17	60		Pn	23 46 53.5	-0.1
CNPM	China Poot	1.17	60		Sn	23 47 09.4	+0.4
CNPM	China Poot	1.17	60		Pn	23 46 53.6	0.0
CNPM				Sn	Sn	23 47 09.2	+0.2
KAKN	Katmai Knife C	1.17	236		Pn	23 46 53.8	0.0
KCG	Knife Ck. Glac	1.19	237		Pn	23 46 54.1	+0.2
KCG					Sn	23 47 10.4	+0.9
KDAK	Kodiak Island	1.23	164		Sn	23 47 11.7	+1.3
KDAK	Kodiak Island	1.23	164	Pn	Pn	23 46 54.5	+0.1
KDAK				Sn	Sn	23 47 09.9	-0.5
KDAK	Kodiak Island	1.23	164		Pn	23 46 54.7	+0.4
KDAK					Sn	23 47 09.8	-0.6
KABU	Katmai Buttres	1.28	238		Pn	23 46 55.7	+0.5
KABU					Sn	23 47 13.4	+1.6
CAHL	Cahill	1.42	231		Pn	23 46 57.4	+0.4
BRLK	Bradley Lake	1.44	55		Pn	23 46 56.5	-0.7
BRLK	Bradley Lake	1.44	55		Sn	23 47 16.5	+1.1
BRLK	Bradley Lake	1.44	55		Pn	23 46 57.4	+0.2
BRLK				Sn	Sn	23 47 15.9	+0.5
RED	Redoubt Volcan	1.48	9		Pn	23 46 58.0	+0.2
BRSE	Bradley Lake S	1.49	57		Pn	23 46 57.2	-0.6
RSO	Redoubt South	1.52	9		Pn	23 46 59.1	+0.6
RDWB	Redoubt West	1.54	7		Pn	23 46 58.9	+0.2
NCT	North Crescent	1.61	5		Pn	23 47 00.0	+0.5
RDJH	Redoubt Jeurge	1.65	7		Pn	23 47 00.6	+0.5
DFR	Drift River	1.66	9		Pn	23 47 00.6	+0.5
OHAK	Old Harbor	1.74	181		Sn	23 47 25.1	+2.6
OHAK	Old Harbor	1.74	181		Pn	23 47 00.3	-0.8
PLK3	Peulik 3	2.05	233		Pn	23 47 06.3	+1.0
PLK1	Peulik 1	2.13	238		Pn	23 47 07.4	+1.1
PLK5	Peulik 5	2.15	245		Pn	23 47 06.3	-0.3
SLKM	Skilak Lake	2.17	43		Pn	23 47 06.6	-0.3
SEW	Seward	2.23	57		Sn	23 47 33.2	-1.0
SEW	Seward	2.23	57		Pn	23 47 07.6	-0.1
SPCR	Spurr Chakacha	2.30	12		Pn	23 47 09.4	+0.6
SPBG	Spurr Blockage	2.34	10		Pn	23 47 10.3	+0.9
SPCP	Crater Peak Br	2.37	12		Pn	23 47 10.7	+0.9
SPCG	Spurr Capps Gl	2.41	14		Pn	23 47 11.1	+0.8
SPNN	North Nagishla	2.43	6		Pn	23 47 11.4	+0.8
CGLM	Capps Glacier	2.43	14		Pn	23 47 11.4	+0.9
SVW2	Sparrevohn	2.45	332		Pn	23 47 11.2	+0.5
RC01	Rabbit Creek A	2.76	38		Pn	23 47 15.0	+0.2
SUA	Susitna One	2.80	25		Pn	23 47 16.4	+1.0
PWL	Port Wells	3.11	50		Pn	23 47 18.5	-1.1
SKT	Skwentna	3.14	15		Pn	23 47 20.6	+0.5
PMR	Palmer	3.33	36		Pn	23 47 22.6	0.0
CHIR	Chirikof Islan	3.41	204	Pn	Pn	23 47 23.0	-0.7
KNK	Knik Glacier	3.42	42		Pn	23 47 23.2	-0.7
GHO	Glory Hole Cre	3.54	35		Pn	23 47 25.2	-0.3
GLI	Glacier Island	3.63	55	Pn	Pn	23 47 25.2	-1.5
SML	Sawmill	3.75	38		Pn	23 47 28.3	0.0
FID	Port Fidalgo	3.84	59		Pn	23 47 27.1	-2.5
CHGN	Chignik	3.86	229	Pn	Pn	23 47 30.4	+0.6
JPK	Jack Peak	3.93	55		Pn	23 47 30.8	-0.1
PPLA	Purkeypile	3.98	7		Pn	23 47 33.2	+1.6
VMT	TAPS Tl Valdez	4.04	55		Pn	23 47 32.2	0.0
EYAK	Cordova Ski Ar	4.10	64		Pn	23 47 31.8	-1.2
TT01	Tatalina	4.19	342		Pn	23 47 35.0	+0.7
WAT1	Susitna Watana	4.50	28		Pn	23 47 38.8	+0.2
WAT6	Susitna Watana	4.52	34		Pn	23 47 38.6	-0.3
GOAT	Goat Mountain	4.59	66		Pn	23 47 38.6	-1.3
WAT2	Susitna Watana	4.61	27		Pn	23 47 40.2	+0.1
TRF	Thorofare Moun	4.72	16		Pn	23 47 42.2	+0.4
KTH	Kantishna Hill	4.74	13		Sn	23 48 41.3	+5.8
KTH	Kantishna Hill	4.74	13		Pn	23 47 40.6	-1.2
PS12	TAPS Pump St12	4.75	54		Pn	23 47 41.0	-1.0
RND	Reindeer	4.93	23		Pn	23 47 44.5	-0.1
DHY	Denali Highway	5.01	32		Pn	23 47 45.6	0.0
MCK	McKinley	5.21	21	Pn	Pn	23 47 48.3	0.0
GLB	Gilahina Butte	5.31	58		Pn	23 47 48.4	-1.3
CRQM	Cirque	5.39	66		Pn	23 47 49.6	-1.3
VRDI	Verde Repeater	5.39	61	Pn	Pn	23 47 49.6	-1.3
VRDI				Sn	Sn	23 48 47.0	-4.6
WAX	Waxell Ridge	5.46	70		Pn	23 47 50.4	-1.3
PAX	Paxson	5.51	40		Pn	23 47 52.4	-0.1
MCARA	McCarthy VSAT	5.64	60	Pn	Pn	23 47 53.3	-0.8
KIAG	Kiagna River	5.80	66		Pn	23 47 55.1	-1.4
BALM	Baldy	5.84	64		Pn	23 47 55.4	-1.6
MESA	MESA	5.86	73		Pn	23 47 56.2	-1.0
YAH	Yahtse	5.98	72		Pn	23 47 57.9	-1.1
GRNC	Granite Creek	6.04	68		Pn	23 47 58.7	-1.2
BARN	Barnard Glacie	6.17	65	Pn	Pn	23 48 01.3	-0.2
HDA	Harding Lake	6.22	26	Pn	Pn	23 48 02.1	0.0
CCB	Clear Creek Bu	6.25	22	Pn	Pn	23 48 02.4	-0.1
CTGM	Chitina Glacie	6.30	66		Pn	23 48 02.2	-1.0
SAMH	Samovar Hills	6.43	74		Pn	23 48 04.3	-0.7
IL31		6.55	24		Pn	23 48 06.3	-0.2
ILAR	Eielson Array	6.55	24	Pn	Pn	23 48 06.8	+0.2
PCA	Pinnacle	6.69	75	Pn	Pn	23 48 07.6	-0.9
BC03		6.91	49		Pn	23 48 10.3	-1.1
IM03		7.05	358		Pn	23 48 13.2	-0.2

*ISCJB **21** 23:49:42.6±0.2,28°.01N±0°.02×101°.60E±0°.03,h10km,*
mb4.2/36,MS3.5/17,Error ellipse: s-maj=3.9km
s-min=3.6km az=5.8
*IDC **21** 23:49:42.9±0.6,28°.08N×101°.69E,h0km,mb4.1/23,*
mb1 4.2/24,mb1mx4.1/52,mbtmp4.1/24,ML4.5/1,MS3.6/16,
Ms1 3.6/16,ms1mx3.3/38,Error ellipse: s-maj=19.2km
s-min=11.6km az=61.0
*BJI **21** 23:49:43.9±0.0,27°.93N×101°.41E,h10km,mb4.3/26,*
mB4.5/16,ML4.3/19,Ms4.2/34,Ms7 4.0/24
*MOS **21** 23:49:44.2±1.2,28°.08N×101°.63E,h21km,mb4.7/4,Error*
ellipse: s-maj=8.4km s-min=6.0km az=105.4
*NEIC **21** 23:49:45.2±1.5,28°.10N±0°.06×101°.67E±0°.04,h14km±4km,*
mb4.4/30
ISC 21 23:49:45.0±0.3,28°.08N±0°.04×101°.62E±0°.04,h10km,n143,
σ1971/135,mb4.3/43,MS3.4/17,3C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.11	161	Pn	Pn	23 50 34.8	+0.5
KMI				Sn	Sn	23 51 09.1	-2.5
KMI				smax	smax		
	comp=N,1μm,1.1s						
KMI				smax	smax		
	comp=E,920nm,0.8s						
KMI				LR	LR		
	comp=N,3μm,6.3s						
KMI				LR	LR		
	comp=Z,2μm,5.8s						
KMI	Kunming	3.11	161	P	Pn	23 50 34.9	+0.6
KMI	Kunming	3.11	161		Pn	23 50 34.9	+0.6
CD2	Chengdu	3.38	33⇑	*i*Pn	Pb	23 50 43.1	-2.0
CD2				Pg	Pg	23 50 51.4	+1.5
CD2				Sn	Sg	23 51 29.3	-4.4
CD2				Sg	Sb	23 51 37.3	+11
CD2				smax	smax		
	comp=N,5μm,0.8s						
CD2				smax	smax		
	comp=E,7μm,0.9s						
GYA	Guiyang	4.77	109⇑	*i*Pn	Pn	23 50 59.8	+2.7
GYA				Pg	Pg	23 51 15.6	-0.8
GYA				Sn	Sn	23 51 57.5	+5.0
GYA				Sg	Sg	23 52 15.6	-2.6
GYA				smax	smax		
	comp=N,420nm,1.2s						
GYA				smax	smax		
	comp=E,270nm,1.0s						
GYA				LR	LR		
	comp=N,940nm,4.6s						
GYA				LR	LR		
	comp=E,210nm,3.6s						
GYA				LR	LR		
	comp=Z,390nm,4.1s						
ZIRO	ZIRO	6.90	267	*ex*	Pn	23 51 26.0	-0.5
SLVN	Son La	7.03	162	Pn	Pn	23 51 26.4	-1.6
KOHI	KOHIMA	7.11	252	*e*P	Pn	23 51 25.4	-3.8
KOHI				*e*S	Sg	23 53 34.3	+1.2
ENH	Enshi	7.22	70	Pn	Pn	23 51 30.6	0.0
LZH	Lanzhou	8.21	13	*e*P	Pn	23 51 48.5	+4.2
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,89nm,4.1s						
LZH				LR	LR		
	comp=N,2μm,11.1s						
LZH				LR	LR		
	comp=Z,2μm,12.4s						
XAN	Xi'an	8.63	45	P	Pn	23 51 51.4	+1.4
XAN				S	Sn	23 53 31.6	+4.1
XAN				LR	LR		
	comp=E,1μm,10.0s						
XAN				LR	LR		
	comp=Z,400nm,10.3s						
XAN	Xi'an	8.63	45	P	Pn	23 51 49.8	-0.2
XAN	Xi'an	8.63	45		Pn	23 51 49.8	-0.2
PAYA	Payao	8.82	191	P	Pn	23 51 54.8	+2.1
	62μm,0.9s,177nm						
SHL	Shillong	9.05	256	P	Pn	23 51 56.8	+0.9
SHL	Shillong	9.05	256	*ex*	Pn	23 52 04.1	+8.2
SHL	Shillong	9.05	256		Pn	23 51 56.8	+0.9
LSA	Lhasa	9.32	282	P	Pn	23 52 00.2	+0.3
LSA	Lhasa	9.32	282		Pn	23 52 00.2	+0.3
CHTO	Chiang Mai	9.54	195	P	Pn	23 52 02.8	+0.3
CHTO	Chiang Mai	9.54	195		Pn	23 52 02.8	+0.3
CMMT	Chiang Mai	9.54	195	P	Pn	23 52 09.4	+6.9
	4.3nm,1.2s						
CM31	Chiang Mai Arr	9.88	195	Pn	Pn	23 52 07.7	+0.5
CMAR	Chiang Mai Arr	9.88	195	P	Pn	23 52 08.9	+1.7
CMAR	Chiang Mai Arr	9.88	195	Pn	Pn	23 52 08.2	+1.0
	1.1nm,0.3s,baz=10,slow=13,SNR=9.6						
CMAR				Lg	Lg	23 54 53.0	
	0.5nm,0.3s,baz=0.7,slow=29,SNR=6.7						
CMAR	Chiang Mai Arr	9.88	195		Pn	23 52 08.9	+1.7
WHN	Wuhan	11.38	74	⇑P	Pn	23 52 29.9	+2.3
WHN				LR	LR		
	comp=E,2μm,5.6s						
WHN				LR	LR		
	comp=Z,2μm,8.4s						
GTA	Gaotai	11.40	353	P	Pn	23 52 31.4	+3.3
GTA				pP		23 52 35.1	
GTA				sP		23 52 37.6	
GTA				S	Sn	23 54 46.5	+11
GTA				sS		23 54 53.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,56nm,5.1s						
GTA				LR	LR		
	comp=N,750nm,9.2s						
GTA				LR	LR		
	comp=Z,1μm,9.2s						
PBKT	Sadao Pong	11.47	183	P	Pn	23 52 35.8	+6.9
	3.1nm,1.3s						
QIZ	Qiongzhong	11.74	138	P	Pn	23 52 31.4	-1.2
QIZ				S	Sn	23 54 43.8	0.0
QIZ				LR	LR		
	comp=N,1μm,13.2s						
QIZ				LR	LR		
	comp=E,1μm,12.8s						
QIZ				LR	LR		
	comp=Z,540nm,9.8s						
TAPN	Taplejung	12.35	270	*e*P	Pn	23 52 36.2	-5.0
	25nm,0.7s						
UTHA	Uthaitani	12.62	190	P	Pn	23 52 54.9	+10
	18μm,1.0s						
ODAN	Odare	12.70	268	*e*P	Pn	23 52 41.1	-4.8
	45nm,0.8s						
RAMN	Ramite	13.38	269	*e*P	Pn	23 52 50.3	-4.9
	34nm,0.6s						
JIRN	Jiri	13.66	272	*e*P	Pn	23 52 53.7	-5.5
	28nm,0.6s						
SRDT	SRDT	13.86	190	P	P	23 53 14.6	+4.7
GUN	Gumba	13.91	273	*e*P	Pn	23 52 57.7	-4.9
	24nm,0.4s						
BTO	Baotou	14.29	27	*e*P	P	23 53 13.0	-1.7
PKI	Pulchoki	14.36	272	*e*P	Pn	23 53 03.2	-5.5
	23nm,0.6s						
PKIN	Phulchoki	14.37	272	*e*P	Pn	23 53 03.3	-5.5
	23nm,0.6s						
KKN	Kakani	14.45	273	*e*P	Pn	23 53 05.2	-4.7
	15nm,0.5s						
DMN	Daman	14.62	272	*e*P	Pn	23 53 08.3	-3.9
	22nm,0.7s						
GKN	Gorkha	15.00	274	*e*P	Pn	23 53 12.8	-4.5
	8.9nm,0.5s						
HHC	Hu-ho-hao-te	15.14	30	*e*P	Pn	23 53 17.8	-1.2
HHC				sP	pP	23 53 26.8	-1.0
HHC				PP	sP	23 53 31.8	+2.4
TIA	Tai'an	15.42	54	P	Pn	23 53 23.9	+1.2
TIA				pmax	pmax		
	comp=Z,11nm,1.0s						
TIA				LR	LR		
	comp=N,280nm,9.9s						
TIA				LR	LR		
	comp=E,370nm,12.0s						
TIA				LR	LR		
	comp=Z,480nm,9.8s						
DANN	Dangsing	15.75	275	*e*P	Pn	23 53 25.1	-2.2
	38nm,0.8s						
BJT	Baijiatuau	16.92	42	P	Pn	23 53 40.0	-1.9
BJT				pmax	pmax		
	comp=Z,21nm,1.0s						
BJT	Baijiatuau	16.92	42		Pn	23 53 40.0	-1.9
BJT				IAmb	IAmb	23 53 52.0	
	comp=Z,21nm,1.0s						
BJI	Beijing	16.94	41	P	P	23 53 44.0	0.0
BJI				PP	PnPn	23 53 57.1	+5.4
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
BJI				LR	LR		
	comp=Z,640nm,14.9s						
DL2	Dalian	19.84	52	*e*P	P	23 54 15.1	-0.8
DL2				*e*S	S	23 57 58.0	-1.3
DL2				pmax	pmax		
	comp=Z,42nm,0.9s						
DL2				LR	LR		
	comp=N,410nm,12.0s						
DL2				LR	LR		
	comp=E,310nm,11.1s						
DL2				LR	LR		
	comp=Z,330nm,13.0s						
SONM	Songino Array	20.07	9	P	P	23 54 17.1	-1.5
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	20.07	9	P	P	23 54 19.2	+0.5
	comp=Z,1.9nm,0.9s,baz=197,slow=11,SNR=11						
SONM				LR	LR	00 02 42.0	
	comp=Z,260nm,18.2s,baz=188,slow=39						
SONM	Songino Array	20.07	9	P	P	23 54 17.1	-1.5
ULN	Ulaanbaatar	20.21	11	P	P	23 54 19.2	-0.9
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	Ulaanbaatar	20.21	11	P	P	23 54 19.2	-0.9
ZAK	Zakamensk	22.31	3	*e*P	P	23 54 43.2	+0.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY	Talaya	23.63	3	LR	LR	00 05 16.9	
	comp=Z,101nm,20.6s,baz=172,slow=40						
TARG	Taragay, Kyrgy	23.72	311	P	P	23 54 57.7	+0.1
TARG				IAmb	IAmb	23 55 12.9	
	comp=Z,14nm,1.3s						
KSAR	Wonju Array Be	23.92	60	P	P	23 54 58.4	-0.7
KSAR	Wonju Array Be	23.92	60	P	P	23 54 58.4	-0.7
KSRS	Korea Array	23.95	60	P	P	23 54 59.4	0.0
	comp=Z,7.5nm,0.9s,baz=250,slow=9.9,SNR=14						
KSRS				LR	LR	00 05 18.4	
	comp=Z,101nm,18.6s,baz=247,slow=39						
MK31	Makanchi Array	24.07	326	P	P	23 55 00.2	-0.3
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	Makanchi Array	24.07	326	P	P	23 55 00.2	-0.3
MK31				IAmb	IAmb	23 55 07.3	
	comp=Z,10nm,0.8s						
MKAR	Makanchi Array	24.07	326	P	P	23 55 00.1	-0.4
	comp=Z,8.5nm,0.6s,baz=134,slow=10,SNR=70						
MKAR				LR	LR	00 05 36.8	
	comp=Z,172nm,18.3s,baz=136,slow=40						
MKAR	Makanchi Array	24.07	326	P	P	23 54 59.6	-0.9
KSH	Kashi	24.09	305	P	P	23 55 03.8	+2.9
KSH				pP	sP	23 55 08.9	+2.4
KSH				PcP	PcP	23 58 44.6	+2.5
KSH				S	S	23 59 19.9	+1.4
KSH				sS	sS	23 59 26.9	+2.0
KSH				pmax	pmax		
	comp=Z,20nm,0.9s						
KSH				pmax	pmax		
	comp=Z,180nm,4.5s						
KSH				LR	LR		
	comp=Z,330nm,13.4s						
KSH				LR	LR	

KBL	**Kabul**	**28.49 291**	P	**P**	**23 55 39.7**	**-1.0**
KBL			IAmb	IAmb	23 55 52.8	
	comp=Z,5.4nm,0.9s					
KURBB	**Kurchatov Arra**	**28.52 328**	P	**P**	**23 55 40.0**	**-0.6**
	comp=Z,3.6nm,0.2s,baz=141,slow=9.4,SNR=12					
KURK	**Kurchatov**	**28.54 329**	P	**P**	**23 55 40.0**	**-0.7**
PALK	**Pallekele**	**28.63 228**	LR	LR	00 08 52.9	
	comp=Z,90nm,18.9s,baz=91,slow=40					
ZALV	**Zalesovo Beam**	**28.64 339**	P	**P**	**23 55 41.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=146,slow=10,SNR=3.6					
ZALV			LR	LR	00 08 35.5	
	comp=Z,60nm,18.8s,baz=68,slow=40					
ZALV	**Zalesovo Beam**	**28.64 339**	P	**P**	**23 55 40.4**	**-1.1**
CHGR	**Chuyangaron**	**28.96 300**	P	**P**	**23 55 44.3**	**-0.4**
CHGR			IAmb	IAmb	23 55 49.4	
	comp=Z,19nm,1.4s					
USRK	**Ussuriysk Ar.**	**29.12 48**	P	**P**	**23 55 47.7**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=241,slow=11,SNR=2.6					
USRK			LR	LR	00 07 49.3	
	comp=Z,92nm,21.4s,baz=245,slow=37					
KKAR	**Karatay Array**	**29.21 309**	P	**P**	**23 55 43.7**	**-3.1**
KKAR	**Karatay Array**	**29.21 309**	P	**P**	**23 55 43.7**	**-3.1**
KLR	**Kul'dur**	**31.29 39**	LR	LR	00 10 15.1	
	comp=Z,86nm,19.4s,baz=236,slow=39					
MJAR	**Matsushiro Arr**	**31.90 65**	LR	LR	00 09 02.9	
	comp=Z,69nm,18.2s,baz=260,slow=36					
BVAR	**Borovoye Array**	**33.95 326**	P	**P**	**23 56 28.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=124,slow=9.6,SNR=3.3					
BRVK	**Borovoye**	**34.02 326**	P	**P**	**23 56 28.4**	**-0.6**
BRVK			pmax	pmax		
	comp=Z,5.0nm,0.8s					
BRVK	**Borovoye**	**34.02 326**	P	**P**	**23 56 28.4**	**-0.6**
BRVK			IAmb	IAmb	23 56 35.2	
	comp=Z,5.4nm,0.8s					
GEYT	**Alibeck**	**37.49 297**	P	**P**	**23 56 58.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=96,slow=7.7,SNR=3.1					
GEYT	**Alibeck**	**37.49 297**	P	**P**	**23 56 58.9**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**37.49 297**	P	**P**	**23 56 59.0**	**0.0**
GYA0B			IAmb	IAmb	23 57 09.4	
	comp=Z,7.6nm,1.1s					
ABKAR	**Akbulak array**	**38.18 315**	P	**P**	**23 57 03.8**	**-0.8**
ABKAR	**Akbulak array**	**38.18 315**	IAmb	IAmb	23 57 17.2	
	comp=Z,10nm,1.4s					
AKTO	**Aktyubinsk**	**39.73 316**	P	**P**	**23 57 16.8**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=98,slow=11,SNR=5.4					
ARU	**Arti**	**41.59 325**	P	**P**	**23 57 31.6**	**-1.2**
ARU			pmax	pmax		
	comp=Z,5.0nm,0.9s					
ARU	**Arti**	**41.59 325**	P	**P**	**23 57 32.4**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=146,slow=3.6,SNR=4.8					
ARU	**Arti**	**41.59 325**	P	**P**	**23 57 31.6**	**-1.2**
ARU			IAmb	IAmb	23 57 39.4	
	comp=Z,5.4nm,0.9s					
NRIK	**Noril'sk**	**42.11 353**	P	**P**	**23 57 35.9**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=159,slow=7.3,SNR=5.8					
NRIK			LR	LR	00 16 19.1	
	comp=Z,61nm,18.3s,baz=167,slow=38					
TIXI	**Tiksi**	**46.14 12**	P	**P**	**23 58 07.6**	**-1.6**
TIXI			pmax	pmax		
	comp=Z,5.0nm,1.2s					
KIV	**Kislovodsk**	**49.22 305**	P	**P**	**23 58 33.1**	**-0.6**
KIV			pmax	pmax		
	comp=Z,8.0nm,1.0s					
KIV	**Kislovodsk**	**49.22 305**	P	**P**	**23 58 33.1**	**-0.6**
BRTR	**Keskin Array B**	**56.39 301**	P	**P**	**23 59 29.1**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=108,slow=9.4,SNR=3.7					
WRAB	**Tennant Creek**	**57.27 143**	P	**P**	**23 59 32.1**	**-0.9**
WRAB			pmax	pmax		
	comp=Z,12nm,0.7s					
WRAB	**Tennant Creek**	**57.27 143**	P	**P**	**23 59 32.1**	**-0.9**
WRA	**Warramunga Arr**	**57.27 143**	P	**P**	**23 59 31.3**	**-1.7**
WRA	**Warramunga Arr**	**57.27 143**	P	**P**	**23 59 31.2**	**-1.8**
	comp=Z,9.7nm,0.7s,baz=328,slow=8.0,SNR=19					
WRA	**Warramunga Arr**	**57.27 143**	P	**P**	**23 59 31.3**	**-1.7**
WB2	**Warramunga Arr**	**57.28 143**	P	**P**	**23 59 31.6**	**-1.4**
WB2			IAmb	IAmb	23 59 35.9	
	comp=Z,1.9nm,0.8s					
WC3	**Warramunga Arr**	**57.30 143**	P	**P**	**23 59 32.2**	**-1.1**
PMG	**Port Moresby**	**57.68 124**	P	**P**	**23 59 35.4**	**-0.6**
PMG			pmax	pmax		
	comp=Z,10.0nm,1.0s					
AKASG	**Malin Array Be**	**57.91 314**	P	**P**	**23 59 37.4**	**+0.2**
	comp=Z,0.3nm,0.2s,baz=76,slow=5.7,SNR=4.6					
AKASG	**Malin Array Be**	**57.91 314**	IAmb	IAmb	23 59 42.8	
	comp=Z,1.4nm,0.8s					
KRVT	**Keravat (AS076**	**58.22 115**	LR	LR	00 22 07.2	
	comp=Z,39nm,19.3s,baz=295,slow=33					
FINES	**FINESS Array B**	**58.90 327**	P	**P**	**23 59 43.1**	**-0.8**
	comp=Z,4.0nm,1.1s,baz=99,slow=7.2,SNR=2.8					
ASAR	**Alice Springs**	**60.13 146**	P	**P**	**23 59 51.5**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=328,slow=7.0,SNR=16					
ASAR	**Alice Springs**	**60.13 146**	P	**P**	**23 59 51.2**	**-1.6**
CTAO	**Charters Tower**	**64.46 133**	P	**P**	**00 00 22.1**	**+0.2**
CTAO			pmax	pmax		
	comp=Z,11nm,1.5s					
NB2	**NORSAR Subarra**	**66.05 328**	P	**P**	**00 00 32.8**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=76,slow=6.5					
NOA	**NORSAR Array B**	**66.05 328**	P	**P**	**00 00 30.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=76,slow=6.3,SNR=4.7					
HNR	**Honiara**	**67.57 115**	LR	LR	00 26 22.9	
	comp=Z,24nm,20.2s,baz=320,slow=33					
CLL	**Collm**	**67.80 317**	P	**P**	**00 00 41.6**	**-1.4**
KMBO	**Kilima Mbogo**	**68.10 256**	P	**P**	**00 00 45.5**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=50,slow=7.3,SNR=6.3					
KMBO	**Kilima Mbogo**	**68.10 256**	IAmb	IAmb	00 00 55.6	
	comp=Z,2.7nm,0.9s					
GERES	**GERESS Array B**	**68.12 315**	P	**P**	**00 00 44.3**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=65,slow=5.5,SNR=3.0					
STKA	**Stephens Creek**	**70.73 145**	P	**P**	**00 01 00.6**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=324,slow=7.9,SNR=3.5					
BMAR	**Burnt Mountain**	**72.89 22**	P	**P**	**00 01 14.4**	**+0.5**
ILAR	**Eielson Array**	**73.49 25**	P	**P**	**00 01 15.7**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=294,slow=5.1,SNR=4.4					
ILAR			LR	LR	00 36 01.3	
	comp=Z,76nm,18.4s,baz=289,slow=38					
INK	**Inuvik**	**75.71 18**	P	**P**	**00 01 29.9**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=304,slow=6.5,SNR=4.9					
BCAR	**Beaver Creek A**	**76.31 25**	P	**P**	**00 01 32.9**	**-1.0**
YKA	**Yellowknife Ar**	**85.20 16**	P	**P**	**00 02 22.5**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=329,slow=5.0,SNR=4.2					

*IDC **21** 23:51:34.6±1.2, 28°.02N×101°.76E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.5/52, mbtmp3.9/6, Error ellipse: s-maj=56.9km s-min=19.7km az=64.0*
*BJI **21** 23:51:37.9±0.0, 27°.92N×101°.42E, h7km, ML3.9/7*

ISC 21 23:51:35.7±1.1, 27°.86N±0°.06×101°.3E±0°.1, h10km, n8, σ1°63/10, mb3.9/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.03**	**154**	Pg	**Pb**	**23 52 31.1**	**+1.3**
KMI				Sg	**Sg**	**23 53 12.4**	**-0.5**
KMI				smax	smax		
	comp=N,320nm,1.0s						
KMI				smax	smax		
	comp=E,360nm,0.7s						
CD2	**Chengdu**	**3.73**	**35**	Pg	**Pg**	**23 52 46.3**	**-0.9**
CD2				Sg	**Sb**	**23 53 29.4**	**+2.3**
CD2				smax	smax		
	comp=N,860nm,0.7s						
SONM	**Songino Array**	**20.34**	**10**	P	**P**	**23 56 11.7**	**-0.4**
	1.4nm,0.8s,baz=188,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**24.08**	**327**	P	**P**	**23 56 52.7**	**+1.5**
	2.4nm,0.7s,baz=128,slow=11,SNR=5.3						
KURBB	**Kurchatov Arra**	**28.54**	**329**	P	**P**	**23 57 32.7**	**+1.3**
	0.5nm,0.2s,baz=143,slow=8.9,SNR=2.4						
WRA	**Warramunga Arr**	**57.29**	**142**	P	**P**	**00 01 23.2**	**-0.6**
	1.8nm,0.3s,baz=330,slow=7.9,SNR=7.8						
ASAR	**Alice Springs**	**60.12**	**145**	P	**P**	**00 01 43.7**	**+0.1**
	0.4nm,0.5s,baz=326,slow=6.8,SNR=3.1						
ILAR	**Eielson Array**	**73.81**	**24**	P	**P**	**00 03 07.6**	**-2.4**
	0.1nm,0.5s,baz=291,slow=4.8,SNR=2.9						

IDC 22 00:08:01.3±2.0, 59°.00S×26°.47W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.4/25, mbtmp3.7/1, Error ellipse: s-maj=114.2km s-min=75.7km az=131.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**75.46**	**28**	P	**P**	00 19 46.9	0.0
	0.3nm,0.4s,baz=197,slow=5.5,SNR=7.8						
SONM	**Songino Array**	**150.40**	**91**	PKPbc	PKPbc	00 27 53.3	-0.4
	0.4nm,0.6s,baz=215,slow=1.8,SNR=3.8						
ILAR	**Eielson Array**	**152.29**	**307**	PKPbc	PKPbc	00 27 57.2	-0.1
	0.2nm,0.4s,baz=153,slow=2.7,SNR=5.3						

*ISCJB **22** 00:31:12.8±0.4, 1°.52N±0°.05×99°.55E±0°.05, h174km±5km, mb3.8/8, Error ellipse: s-maj=10.3km s-min=5.2km az=139.6*
*IDC **22** 00:31:13.9±1.3, 1°.45N×99°.41E, h172km±6km, mb3.6/8, mb1 3.7/8, mb1mx3.4/37, mbtmp4.1/8, Error ellipse: s-maj=47.9km s-min=13.6km az=53.0*
*DJA **22** 00:31:14.2±0.4, 1°N±2°×10°0E±°, h168km±5km, M4.2/12, mb4.6/2, MLv4.0/12*

ISC 22 00:31:13.8±0.8, 1°.51N±0°.05×99°.55E±0°.06, h172km±7km, n25, σ1°13/33, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.43**	**334**	P	**Pn**	**00 31 44.3**	**-0.3**
	13nm,0.3s,baz=188,slow=7.0,SNR=30						
PSI				S	**Sn**	**00 32 06.8**	**-1.7**
	8.7nm,0.3s,baz=6.1,slow=22,SNR=23						
BKNI	**Bangkinang**	**1.90**	**128**	P	**Pn**	**00 31 49.5**	**+0.3**
BKNI				S	**Sn**	**00 32 16.2**	**-0.4**
GSI	**Gunungsitoli**	**1.98**	**264**	P	**Pn**	**00 31 51.5**	**+1.3**
GSI				S	**Sn**	**00 32 19.3**	**+1.0**
PBSI	**Pulau Batu**	**2.00**	**219**	P	**Pn**	**00 31 50.9**	**+0.5**
PBSI				S	**Sn**	**00 32 18.9**	**+0.1**
PDSI	**Padang**	**2.57**	**159**	P	**Pn**	**00 31 57.1**	**+0.1**
PDSI				S	**Sn**	**00 32 30.4**	**-0.1**
SISI	**Saibi**	**2.85**	**189**	P	**Pn**	**00 31 59.0**	**-1.3**
SISI				S	**Sn**	**00 32 36.2**	**-0.3**
SDSI	**Sungai Dareh**	**3.07**	**142**	P	**Pn**	**00 32 03.9**	**+1.0**
SNSI	**Sinabang, Aceh**	**3.34**	**286**	P	**Pn**	**00 32 07.6**	**+1.2**
SNSI				S	**Sn**	**00 32 46.2**	**-1.1**
MLSI	**Meulaboh, Aceh**	**4.17**	**311**	P	**Pn**	**00 32 17.1**	**+0.2**
MLSI				S	**Sn**	**00 33 03.7**	**-2.5**
PPSI	**Pulau Pagai**	**4.27**	**174**	P	**Pn**	**00 32 15.9**	**-2.2**
PPSI				S	**Sn**	**00 33 05.2**	**-3.3**
LHSI	**Lahat**	**6.62**	**143**	P	**Pn**	**00 32 49.1**	**+0.1**
LWLI	**Liwa**	**7.89**	**145**	P	Pn	00 33 14.7	+8.8
KLSI		**8.04**	**140**	P	**Pn**	**00 33 07.4**	**-0.4**
H08S2	**Diego Garcia H**	**28.48**	**251**	T	T	01 04 41.0	
	baz=72,slow=75,SNR=7.8						
H08S3	**Diego Garcia H**	**28.48**	**251**	T	T	01 04 41.3	
	baz=72,slow=75,SNR=7.7						
H08S1	**Diego Carcia H**	**28.50**	**251**	T	T	01 04 43.5	
	baz=72,slow=75,SNR=8.9						
WRA	**Warramunga Arr**	**40.23**	**124**	P	**P**	**00 38 34.2**	**+0.2**
	4.7nm,0.4s,baz=301,slow=9.2,SNR=1.0						
WRA				PcP	**PcP**	**00 40 34.7**	**+0.1**
	0.6nm,0.6s,baz=310,slow=2.5,SNR=5.2						
ASAR	**Alice Springs**	**41.73**	**129**	P	**P**	**00 38 47.4**	**+1.1**
	0.7nm,0.5s,baz=302,slow=7.7,SNR=9.1						
ASAR				PcP	**PcP**	**00 40 39.4**	**-0.1**
	0.3nm,0.4s,baz=319,slow=2.4,SNR=5.8						
SONM	**Songino Array**	**46.53**	**6**	P	**P**	**00 39 24.8**	**+0.7**
	0.8nm,0.5s,baz=194,slow=9.1,SNR=7.0						
SONM				PcP	**PcP**	**00 40 55.0**	**-0.6**
	0.6nm,0.4s,baz=185,slow=4.8,SNR=5.6						
MKAR	**Makanchi Array**	**47.55**	**344**	P	**P**	**00 39 32.4**	**+0.4**
	0.5nm,0.3s,baz=161,slow=8.8,SNR=11						
MKAR				PcP	**PcP**	**00 40 59.5**	**+0.4**
	0.3nm,0.6s,baz=126,slow=4.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**53.66**	**349**	P	**P**	**00 40 17.8**	**+0.3**
	1.7nm,0.4s,baz=180,slow=5.6,SNR=6.6						
BRTR	**Keskin Array B**	**70.65**	**312**	P	**P**	**00 42 10.7**	**-0.4**
	0.4nm,0.6s,baz=108,slow=4.7,SNR=2.9						
FINES	**FINESS Array B**	**80.82**	**332**	P	**P**	**00 43 08.1**	**0.0**
	1.6nm,0.9s,baz=130,slow=6.0,SNR=6.1						
ARCES	**ARCESS Array B**	**83.04**	**340**	P	**P**	**00 43 19.8**	**+0.1**
	4.0nm,1.1s,baz=111,slow=5.1,SNR=5.3						
TXAR	**Lajitas Array**	**142.14**	**34**	PKhKP	PKPpre	00 50 21.6	
	0.2nm,0.6s,baz=211,slow=1.4,SNR=3.5						

RSNC 22 00:32:04.7±1.5, 6°.05N×78°.08W, h5km±12km, ML2.4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**1.12**	**14**	*eP*	Pg	00 32 24.4	-1.8
PTAC				*eS*	Sg	00 32 38.7	-2.1
DBBC	**Dabeiba**	**2.09**	**63**	*eP*	Pn	00 32 40.6	0.0
DBBC				*eS*	Sn	00 33 06.1	-1.0
DBBC				*i*		00 33 08.3	
	comp=Z,62nm,0.3s						
DBBC	**Dabeiba**	**2.09**	**63**	*eP*	Pn	00 32 40.6	0.0
PLMC	**San Jos del P**	**2.12**	**122**	*eP*	Pn	00 32 39.5	-1.4
PLMC				*i*		00 33 05.0	
	comp=Z,42nm,0.1s						
PLMC	**San Jos del P**	**2.12**	**122**	*eP*	Pn	00 32 38.2	-2.7
MALC	**Bahia Malaga**	**2.16**	**160**	*eP*	Pn	00 32 39.3	-2.1
MALC				*i*		00 33 16.7	
	comp=Z,20nm,0.5s						
MALC	**Bahia Malaga**	**2.16**	**160**	*eP*	Pn	00 32 39.2	-2.2
MALC				*eS*	Sn	00 33 04.1	-4.4
MALC				*i*		00 33 13.0	
	comp=Z,16nm,0.5s						
HELC	**Santa Helena**	**2.54**	**87**	*eP*	Pn	00 32 46.2	-0.8
HELC				*eS*	Sn	00 33 16.5	-2.1
YOTC	**Yotoco, Valle**	**2.69**	**140**	*eP*	Pn	00 32 46.1	-2.6
YOTC				*eS*	Sn	00 33 15.3	-6.5
YOTC				*i*		00 33 19.1	
	comp=Z,10.0nm,0.4s						
YOTC	**Yotoco, Valle**	**2.69**	**140**	*eP*	Pn	00 32 45.6	-3.2
YOTC				*eS*	Sn	00 33 16.8	-5.0
YOTC				*i*		00 33 19.0	
	comp=Z,9.9nm,0.3s						
AZU	**Azuero**	**2.78**	**309**	*eP*	Pn	00 32 47.8	-2.2
AZU				*eS*	Sn	00 33 18.6	-5.3
GUY2C	**Guyana, Caldas**	**2.83**	**107**	*eP*	Pn	00 32 50.6	-0.4
GUY2C				*i*		00 33 02.5	
	comp=Z,7.4nm,0.4s						
GUY2C				*eS*	Sn	00 33 23.9	-1.8
ORTC	**Ortega, Tolima**	**3.54**	**127**	*eP*	Pn	00 33 00.8	+0.4
ORTC				*eS*	Sn	00 33 42.5	-0.2
BCIP	**Isla Barro Col**	**3.55**	**331**	*eP*	Pn	00 32 58.5	-2.1
BCIP				*eS*	Sn	00 33 42.0	-1.0
PTBC	**PUERTO BERRIO,**	**3.64**	**82**	*eP*	Pn	00 33 03.0	+1.2
PTBC				*eS*	Sn	00 33 45.7	+0.6
PTBC				*i*		00 33 53.0	
	comp=Z,4.7nm,0.4s						

MAN 22 00:46:22.8, 9°.69N×123°.62E, h1km, mb4.1, ML2.9, MS2.5, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.71**	**28**	⇓*iP*	Pg	00 46 37.0	+0.5
LLP				*i* S	Sb	00 46 47.2	-1.2
DCPH	**Dipolog City**	**1.13**	**194**	⇑*eP*	Pg	00 46 44.6	+0.2
DCPH				*eS*	Sg	00 46 59.3	+0.2
MSLP	**Maasin**	**1.30**	**70**	*eP*	Pg	00 46 47.1	-0.6
MSLP				*eS*	Sn	00 47 06.1	0.0
GUIM	**Jordan**	**1.38**	**313**	*eP*	Pn	00 46 48.5	-0.7
GUIM				*eS*	Sb	00 47 07.9	+0.2
CGP	**Cagayan de Oro**	**1.62**	**139**	*eP*	Pg	00 47 04.2	+10
CGP						00 47 17.8	
PAGZ	**Pagadian**	**1.84**	**187**	*eP*	Pn	00 46 55.6	0.0
PAGZ				*eS*	Sb	00 47 20.7	-0.2

IDC 22 00:53:53.7±3.9, 3°.50N×89°.17E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/46, mbtmp3.6/4, Error ellipse: s-maj=143.6km s-min=29.6km az=61.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**19.98**	**236**	T	T	01 19 12.1	
	baz=63						
H08S2	**Diego Garcia H**	**19.99**	**236**	T	T	01 19 16.3	
	baz=63						
H08S1	**Diego Carcia H**	**20.00**	**236**	T	T	01 19 21.8	
	baz=63						
MKAR	**Makanchi Array**	**43.54**	**353**	P	P	01 02 00.2	+0.9
	0.3nm,0.6s,baz=180,slow=8.8,SNR=4.2						
H01W3	**Cape Leeuwin H**	**44.81**	**151**	T	T	01 49 09.7	
	baz=325,slow=75,SNR=3.6						
H01W2	**Cape Leeuwin H**	**44.82**	**151**	T	T	01 49 03.0	
	baz=325,slow=75,SNR=3.8						
H01W1	**Cape Leeuwin H**	**44.83**	**150**	T	T	01 49 04.4	
	baz=325,slow=75,SNR=4.0						
SONM	**Songino Array**	**46.60**	**16**	P	P	01 02 23.6	-0.1
	0.8nm,0.5s,baz=199,slow=9.1,SNR=6.4						
WRA	**Warramunga Arr**	**50.09**	**120**	P	P	01 02 51.0	+0.1
	0.2nm,0.7s,baz=296,slow=9.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**50.42**	**357**	P	P	01 02 52.1	-0.8
	0.6nm,0.4s,baz=176,slow=3.9,SNR=2.4						
TXAR	**Lajitas Array**	**145.11**	**20**	PKPbc	PKPbc	01 13 32.1	-1.3
	0.1nm,0.5s,baz=352,slow=2.0,SNR=2.7						

TAP 22 00:54:32.9, 23°.43N×121°.31E, h8km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YULB	**Yu-li**	**0.04**	**197**	*eP*	Pg	00 54 35.0	+0.5
	baz=197						
YULB				*eS*	Sg	00 54 36.4	+0.8
	baz=197						
EHY	**Hungye**	**0.07**	**8**	*eP*	Pg	00 54 35.5	+0.6
	baz=14						
EHY				*eS*	Sg	00 54 37.1	+0.9
	baz=14						
TWF1	**Yuli**	**0.08**	**189**	P	Pg	00 54 35.6	+0.6
	baz=183						
TWF1				*eS*	Sg	00 54 37.3	+0.9
	baz=183						
HGSD	**Ruisui**	**0.12**	**60**	*eP*	Pg	00 54 36.4	+0.8
	baz=60						
HGSD				*eS*	Sg	00 54 38.7	+1.3
	baz=60						
FULB	**Fuli**	**0.23**	**184**	*eP*	Pg	00 54 38.6	+1.1
	baz=183						
FULB				*eS*	Sg	00 54 42.7	+1.9
	baz=183						
EGFH	**Guangfu**	**0.26**	**24**	*eP*	Pb	00 54 39.2	-0.7
	baz=24						
EGFH				*eS*	Sb	00 54 43.8	-0.8
	baz=24						
YUS	**Yu-Shan**	**0.33**	**280**	*eS*	Sb	00 54 46.7	-0.5
	baz=278						
CHKT	**Chengkung**	**0.34**	**171**	*eP*	Pb	00 54 40.5	-0.7
	baz=170						
CHKT				*eS*	Sb	00 54 46.4	-0.4
	baz=170						
VWDT	**VWDT**	**0.35**	**334**	*eP*	Pb	00 54 41.1	-0.5
	baz=334						
VWDT				*eS*	Sb	00 54 47.1	-0.2
	baz=334						
ESL	**Shilin**	**0.40**	**16**	*eS*	Sb	00 54 48.5	0.0
	baz=17						
SSLB	**Suanglung**	**0.48**	**317**	*eS*	Sb	00 54 51.5	+0.4
	baz=317						
WHYT	**Xinyi Township**	**0.49**	**302**	*eP*	Pb	00 54 43.9	-0.1
	baz=301						
WHYT				*eS*	Sb	00 54 52.0	+0.6
	baz=301						
CHN5	**Tsauling**	**0.60**	**286**	*eP*	Pb	00 54 46.0	+0.1
	baz=285						
CHN5				*eS*	Sb	00 54 55.3	+0.7
	baz=285						
CHGB	**Renai**	**0.64**	**349**	*eP*	Pb	00 54 46.5	0.0
	baz=348						
CHGB				*eS*	Sb	00 54 56.0	+0.3
	baz=348						

*NIED **22** 00:55:00, 24°.00N×123°.60E, h38km, Mw3.9 Best double couple: M0 7.57000×10^14 NP1:φs271.00000°, δ19.00000°, λ131.00000°. NP2:φs49.00000°, δ76.00000°, λ77.00000°.*
*IDC **22** 00:55:27.5±1.2, 23°.96N×123°.36E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.5/44, mbtmp3.8/6, ML1.9/1, MS2.8/5, Ms1 2.9/5, ms1mx2.6/51, Error ellipse: s-maj=41.8km s-min=25.4km az=60.0*
*ISCJB **22** 00:55:31.5±0.9, 23°.95N±0°.09×123°.59E±0°.04, h41km±7km, mb3.6/6, MS2.8/4, Error ellipse: s-maj=14.6km s-min=6.5km az=4.1*
*JMA **22** 00:55:32.3±0.1, 23°.96N×123°.59E, h32km±1km, M3.7*
JMA Felt I J1.

ISC 22 00:55:32.1±1.2, 23°.98N±0°.09×123°.58E±0°.04, h33km±6km, n20, σ0°77/24, mb3.6/6, MS2.8/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.22**	**69**	P	**Pb**	**00 55 38.6**	**-0.2**
HATJ				S	**Sb**	**00 55 43.4**	**0.0**
IRIF	**Iriomote-Funau**	**0.38**	**21**	P	**Pb**	**00 55 40.9**	**0.0**
IRIF				S	**Sb**	**00 55 47.1**	**+0.2**
JKRS	**Kuro-shima**	**0.47**	**56**	P	**Pn**	**00 55 42.4**	**-0.1**
JKRS				S	**Sb**	**00 55 49.4**	**+0.3**
JIJ	**Ishigaki jima**	**0.64**	**53**	P	**Pn**	**00 55 44.5**	**-0.4**
JIJ				S	**Sb**	**00 55 53.0**	**-0.7**
YOJ	**Yonaguni jima**	**0.71**	**313**	P	**Pb**	**00 55 46.1**	**+0.1**
YOJ				*eS*	**Sn**	**00 55 55.9**	**+0.3**
JYNG	**Yonagunijimaku**	**0.75**	**309**	P	**Pb**	**00 55 46.7**	**0.0**
JYNG				*eS*	**Sb**	**00 55 56.9**	**+0.3**
JISG	**Ishigakijimahi**	**0.90**	**48**	P	**Pn**	**00 55 48.5**	**0.0**
JISG				S	**Sn**	**00 56 00.3**	**-0.1**
JTJ	**Tarama**	**1.22**	**57**	P	**Pn**	**00 55 53.4**	**+0.6**
JTJ				*eS*	**Sn**	**00 56 08.8**	**+0.6**
JOW	**Kunigami**	**5.11**	**55**	Pn	**Pn**	**00 56 48.5**	**+2.2**
	0.1nm,0.3s,baz=258,slow=20,SNR=3.4						
KSRS	**Korea Array**	**13.94**	**14**	LR	LR	01 04 24.2	
	comp=Z,26nm,21.3s,baz=220,slow=38						
CMAR	**Chiang Mai Arr**	**23.60**	**261**	LR	LR	01 11 14.4	
	comp=Z,16nm,18.0s,baz=200,slow=40						
KLR	**Kul'dur**	**26.01**	**12**	LR	LR	01 11 42.1	
	comp=Z,21nm,20.3s,baz=179,slow=37						
SONM	**Songino Array**	**27.45**	**334**	LR	LR	01 13 28.3	
	comp=Z,30nm,21.1s,baz=174,slow=40						
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=59						
ARLS			⇑	*i*S	Sb	01 20 45.7	+1.9
	baz=59						
EKS2	**Erkin-Say**	**1.74**	**29**	⇓*i*P	Pb	01 20 30.7	+0.1
	baz=29						
EKS2				⇓*i*S	Sb	01 20 53.5	+1.4
	baz=29						
BTK	**Batken**	**1.77**	**233**	⇓*e*P	Pb	01 20 31.2	+0.1
	baz=33						
BTK				⇓*i*S	Sb	01 20 54.6	+1.7
	baz=33						
UCH	**Uchtor**	**1.77**	**51**	⇑*i*P	Pb	01 20 31.5	+0.1
	baz=51						
UCH				⇑*i*S	Sb	01 20 55.2	+1.9
	baz=51						
KZA	**Kyzart**	**2.16**	**63**	⇑*i*P	Pb	01 20 37.2	-0.9
	baz=63						
KZA				⇑*i*S	Sb	01 21 04.9	+0.4
	baz=63						
KBK	**Karagaybulak**	**2.29**	**48**	⇓*i*P	Pb	01 20 38.4	-1.7
	baz=48						
KBK				⇓*i*S	Sb	01 21 07.3	-0.6
	baz=48						

IDC 22 01:39:45.7±3.6, 17°.43S×179°.21W, h551^{km}±57^{km}, mb3.2/3, mb1 3.4/4, mb1mx3.0/31, mbtmp4.2/4, Error ellipse: s-maj=113.4km s-min=78.0km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.27**	**249**	P	P	01 42 47.6	-0.2
	0.4nm,0.3s,baz=89,slow=19,SNR=7.9						
STKA	**Stephens Creek**	**38.19**	**240**	P	P	01 46 18.8	+0.1
	0.5nm,0.3s,baz=65,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**43.97**	**259**	P	P	01 47 04.2	-0.5
	1.4nm,0.7s,baz=97,slow=7.1,SNR=24						
ASAR	**Alice Springs**	**44.19**	**254**	P	P	01 47 06.4	0.0
	9.4nm,0.5s,baz=88,slow=8.1,SNR=147						
ASAR				S	S	01 53 00.3	+0.3
	0.7nm,0.8s,baz=88,slow=17,SNR=6.1						

*SJA **22** 01:58:17.1±0.4, 25°.71S×70°.14W, h13^{km}±5^{km}, ML3.5, MW3.3*
*GUC **22** 01:58:18.2±0.8, 25°.66S×70°.02W, h62^{km}±8^{km}, ML2.9*
ISC 22 01:58:18.8±1.7, 25°.64S±0°.03×70°.16W±0°.08, h17^{km}±13^{km}, n16, σ2^{s}08/28, 4C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.69**	**47**	⇑*i*P	**Pb**	**01 58 33.8**	**+1.1**
GO02				*i*S	**Sn**	**01 58 44.7**	**0.0**
PB14	**IPOC Station P**	**1.03**	**347**	⇑*i*P	**Pg**	**01 58 39.5**	**+0.6**
PB14				*i*S	**Sn**	**01 58 54.3**	**+1.3**
PB14				IAML		01 58 57.4	
	comp=N,431nm,0.3s						
PB14	**IPOC Station P**	**1.03**	**347**	*i*P	**Pb**	**01 58 39.0**	**+0.6**
PB14				*e*S	**Sn**	**01 58 54.0**	**+1.0**
GO03	**Copiap**	**1.95**	**182**	⇑*i*P	**Pn**	**01 58 50.8**	**-0.5**
GO03				*i*S	**Sn**	**01 59 14.7**	**-0.8**
GO03				IAML		01 59 17.8	
	comp=N,166nm,0.2s						
GO03	**Copiap**	**1.95**	**182**	*i*P	**Pn**	**01 58 51.1**	**-0.2**
GO03				*e*S	**Sn**	**01 59 15.9**	**+0.5**
PB10	**IPOC Station P**	**2.14**	**350**	*e*P	**Pn**	**01 58 53.3**	**-0.6**
PB10				IAML		01 59 29.0	
	comp=E,72nm,0.4s						
PB15	**IPOC Station P**	**2.50**	**15**	⇑*i*P	**Pn**	**01 58 58.5**	**-0.3**
PB15	**IPOC Station P**	**2.50**	**15**	*i*P	**Pn**	**01 58 58.6**	**-0.3**
PB15				*e*S	**Sb**	**01 59 33.5**	**-0.4**
PB15				IAML		01 59 37.0	
	comp=Z,604nm,0.2s						
PB05	**IPOC Station P**	**2.77**	**359**	*i*P	**Pn**	**01 59 00.8**	**-1.8**
PB05				*i*S	**Sb**	**01 59 40.4**	**-1.3**
PB06	**IPOC Station P**	**2.96**	**10**	*i*P	**Pn**	**01 59 03.7**	**-1.6**
PB06				*i*S	**Sb**	**01 59 45.6**	**-1.7**
PB04	**IPOC Station P**	**3.29**	**0**	*i*P	**Pn**	**01 59 07.6**	**-2.1**
PB09	**IPOC Station P**	**3.91**	**13**	*i*P	**Pn**	**01 59 17.3**	**-1.1**
PB09				*i*S	**Sb**	**02 00 14.0**	**-0.7**
GO04	**Tololo Observa**	**4.56**	**187**	*i*P	**Pn**	**01 59 25.7**	**-1.6**
GO04				*i*S	**Sn**	**02 00 25.6**	**+5.6**
ACCO	**Cerro Coronel**	**5.03**	**169**	*i*P	**Pn**	**01 59 34.3**	**+0.5**
ACCO				*i*S	**Sb**	**02 00 41.2**	**-5.7**
RTLL	**Cerro Villicun**	**5.86**	**166**	*i*P	**Pn**	**01 59 44.9**	**-0.1**
RTLL				IAML		01 59 47.9	
	comp=Z,6.8nm,0.5s						
RTLL				*i*S	Sn	02 01 00.7	+8.8
CFA	**Coronel Fontan**	**6.18**	**165**	*i*P	**Pn**	**01 59 48.5**	**-0.9**
CFA				*i*S	**Sn**	**02 01 03.4**	**+3.6**

*ISCJB **22** 02:25:27.9±0.8, 36°.85S±0°.05×70°.58W±0°.08, h149^{km}, Error ellipse: s-maj=10.3km s-min=5.6km az=30.0*
*SJA **22** 02:25:28.1±0.3, 36°.46S×71°.05W, h18^{km}±19^{km}, ML3.3, MW2.8*
*GUC **22** 02:25:29.0±0.6, 36°.81S×71°.17W, h189^{km}±8^{km}, ML3.7*
ISC 22 02:25:28.0±1.4, 36°.92S±0°.06×70°.58W±0°.08, h149^{km}, n9, σ1^{s}85/18, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.25**	**284**	⇑*i*P	**Pn**	**02 25 55.9**	**+1.0**
CCHI				*i*S	**Sn**	**02 26 16.3**	**+0.9**
CCHI				IAML		02 26 18.3	
	comp=E,1μm,0.4s						
COCH	**Cobquecura**	**1.95**	**293**	*i*P	**Pn**	**02 26 02.5**	**0.0**
COCH				*i*S	**Sn**	**02 26 27.3**	**-1.5**
GO05	**Huala**	**2.20**	**330**	*i*P	**Pn**	**02 26 05.9**	**+0.3**
GO05				*i*S	**Sn**	**02 26 33.3**	**-1.0**
GO05				IAML		02 26 37.6	
	comp=N,350nm,0.5s						
GO06	**Curarrehue**	**2.75**	**195**	⇑*i*P	**Pn**	**02 26 13.7**	**+1.4**
GO06				*i*S	**Sn**	**02 26 45.5**	**-1.1**
LMEL	**Las Melosas**	**3.08**	**6**	*i*P	**Pn**	**02 26 19.3**	**+2.7**
LMEL				*i*S	**Sn**	**02 26 57.5**	**+3.4**
LMEL				IAML		02 27 02.4	
	comp=N,111nm,0.6s						
RTLS	**Leoncito**	**5.22**	**12**	*e*P	**Pn**	**02 26 45.2**	**+0.5**
RTLS				*e*S	**Sn**	**02 27 41.9**	**-2.4**
RTLS				IAML		02 27 48.2	
	comp=Z,23nm,0.4s						
RTCV	**Cerro Valdivia**	**5.32**	**19**	*e*P	**Pn**	**02 26 46.6**	**+0.9**
RTCV				*e*S	**Sn**	**02 27 44.9**	**-1.5**
AMOG	**MOGNA**	**6.21**	**17**	*e*P	**Pn**	**02 26 58.2**	**+0.6**
AMOG				*e*S	**Sn**	**02 28 05.3**	**-2.5**
ACCO	**Cerro Coronel**	**6.44**	**12**	*e*P	**Pn**	**02 27 01.7**	**+0.8**
ACCO				*e*S	**Sn**	**02 28 10.9**	**-2.8**

KRSC 22 02:44:22.6±1.6, 49°.18N×156°.63E, h7^{km}±28^{km}, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**348**	*e*P	Pn	02 44 49.9	-0.5
SKR				*e*S	Sn	02 45 09.6	-1.1
PAU	**Pauzhetka**	**2.29**	**3**	*e*P	Pn	02 45 02.5	+1.7
PAU				*e*S	Sb	02 45 31.7	-1.1
KDTR	**Khodutka, Kamc**	**2.79**	**19**	*e*P	Pn	02 45 10.1	+2.5
KDTR				*e*S	Sb	02 45 46.4	-0.7
ASAK	**Asacha**	**3.31**	**14**	*e*P	Pn	02 45 18.0	+3.2
MTVR	**Mutnovka**	**3.45**	**16**	*e*P	Pn	02 45 19.9	+3.1
MTVR				*e*S	Sb	02 46 02.7	-3.5
RUS	**Russkaya**	**3.47**	**19**	*e*P	Pb	02 45 20.7	-3.6
RUS				*e*S	Sb	02 46 03.3	-3.3
KRMR	**Karymshinskiy**	**3.78**	**14**	*e*S	Sn	02 46 09.7	+3.9
UGLR	**Uglovaya**	**4.26**	**18**	P	Pb	02 45 33.0	-4.9
AVH	**Avacha**	**4.30**	**17**	*e*P	Pn	02 45 32.8	+4.4
AVH				*e*S	Sn	02 46 24.2	+5.3
KOK	**Koryaka**	**4.31**	**16**	*e*P	Pn	02 45 32.6	+4.1
SMAR	**Somma**	**4.31**	**18**	*e*P	Pn	02 45 33.1	+4.4
SDLR	**Sedlovina**	**4.34**	**18**	*e*P	Pn	02 45 32.6	+3.5
NLC	**Nalytchevo**	**4.35**	**22**	*e*S	Sn	02 46 25.0	+5.2
KRX	**Arik**	**4.37**	**16**	*e*P	Pn	02 45 32.7	+3.2
SPN	**Mys Shipunski**	**4.47**	**27**	*e*P	Pn	02 45 33.9	+3.2
SPN				*e*S	Sn	02 46 27.4	+4.6
GNL	**Ganaly**	**4.60**	**10**	*e*P	Pn	02 45 36.2	+3.7
TUMD	**Tumrok D**	**6.46**	**20**	*e*P	Pn	02 46 03.6	+5.5
TUMR	**Tumrok**	**6.48**	**18**	*e*P	Pn	02 46 03.8	+5.4

IDC 22 02:46:56.4±3.1, 32°.21S×178°.10W, h0^{km}, mb3.5/2, mb1 3.8/3, mb1mx3.7/21, mbtmp3.6/3, ML2.8/1, MS4.3/1, Ms1 4.3/1, ms1mx2.6/26, Error ellipse: s-maj=74.0km s-min=37.2km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.20**	**212**	Pn	Pn	02 48 42.3	-0.6
	0.2nm,0.3s,baz=345,slow=5.2,SNR=3.0						
URZ				Sn	Sn	02 50 05.5	+0.2
	1.1nm,0.3s,baz=187,slow=19,SNR=7.4						
PMG	**Port Moresby**	**39.33**	**297**	LR	LR	03 09 23.3	
	comp=Z,354nm,18.8s,baz=83,slow=34						
ASAR	**Alice Springs**	**42.96**	**269**	P	P	02 54 58.1	+0.7
	0.1nm,0.3s,baz=106,slow=7.8,SNR=4.4						
WRA	**Warramunga Arr**	**44.11**	**274**	P	P	02 55 06.2	-0.5
	0.4nm,0.3s,baz=114,slow=8.0,SNR=9.3						
FINES	**FINESS Array B**	**146.80**	**339**	PKPbc	PKPdf	03 06 38.7	+0.8
	1.1nm,0.8s,baz=64,slow=3.2,SNR=5.3						

*NIED **22** 03:17:00, 46°.30N×153°.60E, h17^{km}, Mw5.2 Best double couple: $M_0$7.08000×10^{16} NP1:ϕ_s236.00000°, δ63.00000°, λ178.00000°. NP2:ϕ_s327.00000°, δ88.00000°, λ27.00000°.*
*ISCJB **22** 03:17:03.8±0.7, 46°.35N±0°.02×153°.14E±0°.02, h13^{km}±4^{km}, mb5.4/227, MS5.2/110, Error ellipse: s-maj=3.6km s-min=1.7km az=157.2*
*IDC **22** 03:17:03.6±0.3, 46°.43N×153°.06E, h0^{km}, mb5.0/54, mb1 5.1/59, mb1mx5.1/72, mbtmp5.0/59, ML3.9/4, MS4.9/39, Ms1 4.9/39, ms1mx4.8/45, Error ellipse: s-maj=10.6km s-min=8.3km az=133.0*
*JMA **22** 03:17:03.1±0.9, 46°.35N×153°.61E, h30^{km}, M5.7*
*NEIC **22** 03:17:05.7±1.3, 46°.45N±0°.06×153°.07E±0°.10, h11^{km}±1^{km}, mb5.4/414, Ms_20 5.0/256, Mwb5.3, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}6.84; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-6.40; $M_{r\theta}$3.79; $M_{\theta\phi}$-3.97; $M_{\phi r}$5.01; Fault plane solution: $M_0$9.96000×10^{16} NP1:ϕ_s34.31000°, δ64.98000°, λ97.78000°. NP2:ϕ_s196.42000°, δ26.13000°, λ73.83000°. Principal axes: T 9.1811, Plg69.0000°, Azm320.0000°; N 1.4042, Plg7.0000°, Azm211.0000°; P -10.5853, Plg20.0000°, Azm118.0000°;*
*BJI **22** 03:17:06.7±0.0, 46°.44N×152°.94E, h27^{km}, mb5.3/80, mB5.5/71, Ms5.3/87, Ms7 5.1/80*
*SKHL **22** 03:17:07.2±0.5, 46°.19N×153°.37E, h55^{km}±5^{km}, mb6.1/6, Ms5.4/9, msh5.9/5*
*MOS **22** 03:17:07.6±1.1, 46°.40N×153°.09E, h40^{km}, mb5.6/110, MS5.3/64, Error ellipse: s-maj=5.0km s-min=3.7km az=105.3*
*GCMT **22** 03:17:09.7±0.1, 46°.46N±0°.01×153°.25E±0°.01, h18^{km}, MW5.4/129, Moment Tensor Solution. s109,c195; s129,c242; Duration: 1^{s}2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.19±.02; $M_{\theta\theta}$-0.42±.02; $M_{\phi\phi}$-0.77±.02; $M_{r\theta}$0.23±.03; $M_{\theta\phi}$-0.71±.01; $M_{\phi r}$0.69±.04; Best double couple: $M_0$1.45300×10^{17} NP1:ϕ_s28.00000°, δ60.00000°, λ79.00000°. NP2:ϕ_s229.00000°, δ32.00000°, λ108.00000°. Principal axes: T 1.4050, Plg73.0000°, Azm271.0000°; N 0.0910, Plg9.0000°, Azm33.0000°; P -1.5010, Plg14.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 03:17:10, 46°.38N×153°.28E, h18^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.16; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-0.77; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.71; $M_{\phi r}$1.07; Fault plane solution: $M_0$1.73000×10^{17} NP1:ϕ_s29.00000°, δ67.00000°, λ83.00000°. NP2:ϕ_s228.00000°, δ24.00000°, λ107.00000°. Principal axes: T 1.6591, Plg67.0000°, Azm286.0000°; N 0.1298, Plg7.0000°, Azm32.0000°; P -1.7890, Plg22.0000°, Azm125.0000°;*
ISC 22 03:17:07.9±0.4, 46°.32N±0°.03×153°.18E±0°.03, h29^{km}±2^{km}, h30^{km}:pP-P, n1517, σ1^{s}32/1448, mb5.4/399, MS5.1/224, 69C-53D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**256**	*d*iPN	**Pn**	**03 18 06.7**	**+1.3**
KUR				*i*S	**Sn**	**03 18 52.9**	**+3.0**
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				pmax	pmax		
	comp=E,460nm,0.3s						
KUR				pmax	pmax		
	comp=N,459nm,0.4s						
KUR				smax	smax		
	comp=E,3μm,0.6s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR				smax	smax		
	comp=N,22μm,3.2s						
KUR				smax	smax		
	comp=E,11μm,1.5s						
KUR				MLR	MLR		
	comp=Z,23μm,11.0s						
KUR				MLR	MLR		
	comp=N,23μm,10.0s						
KUR				MLR	MLR		
	comp=E,22μm,12.0s						
KUR	**Kuril'sk**	**3.88**	**256**	*e*P	**Pn**	**03 18 06.0**	**+0.6**
KUR				AMB	AMB	03 18 09.0	
	comp=E,3μm,0.6s						
KUR				*e*S	**Sn**	**03 18 50.5**	**+0.6**
KUR				A	A	03 18 58.0	
	comp=E,24μm,3.0s						
KUR				A	A	03 18 58.0	
	comp=E,17μm,3.0s						
KUR				A	A	03 19 07.0	
	comp=E,3μm,0.7s						
KUR				A	A	03 19 07.0	
	comp=E,2μm,0.7s						
KUR				AMS	AMS	03 19 31.0	
	comp=E,34μm,15.0s						
KUR				AMS	AMS	03 19 31.0	
	comp=E,41μm,15.0s						
KUR				AMS	AMS	03 19 31.0	
	comp=E,28μm,15.0s						
SKR	**Severo-Kuril's**	**4.79**	**23**	*e*PN	**Pn**	**03 18 19.3**	**+1.4**
SKR				pmax	pmax		
	comp=Z,1μm,0.9s						
SKR	**Severo-Kuril's**	**4.79**	**23**	*e*P	**Pn**	**03 18 18.0**	**+0.1**
SKR				AMB	AMB	03 18 20.0	
	comp=Z,2μm,3.9s						
SKR				AMB	AMB	03 18 22.0	
	comp=Z,1μm,0.7s						
SKR				*e*S	**Sn**	**03 19 10.7**	**-1.6**
SKR				A	A	03 19 36.0	
	comp=Z,2μm,0.9s						
SKR				A	A	03 19 36.0	
	comp=Z,2μm,0.9s						
SKR				AMS	AMS	03 20 06.0	
	comp=Z,10μm,13.0s						
SKR				AMS	AMS	03 20 06.0	
	comp=Z,10μm,13.0s						
SKR				AMS	AMS	03 20 06.0	
	comp=Z,7μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**5.66**	**249**	*e*PN	**Pn**	**03 18 29.8**	**-0.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				pmax	pmax		
	comp=E,458nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.66**	**249**	*e*P	**Pn**	**03 18 30.6**	**+0.7**
YUK				AMB	AMB	03 18 47.0	
	comp=E,1μm,0.4s						
YUK				*e*S	**Sn**	**03 19 34.0**	**+0.2**
YUK				A	A	03 19 37.0	
	comp=E,10μm,3.0s						
YUK				A	A	03 19 37.0	
	comp=E,5μm,3.0s						
YUK				A	A	03 19 58.0	
	comp=E,3μm,0.6s						
YUK				A	A	03 19 58.0	
	comp=E,2μm,0.6s						
YUK				AMS	AMS	03 19 58.8	
	comp=E,3μm,0.6s						
YUK				AMS	AMS	03 19 58.8	
	comp=E,2μm,0.6s						
GRPR	**Tuman**	**5.73**	**249**	*e*PN	**Pn**	**03 18 31.0**	**0.0**
GRPR				pmax	pmax		
	comp=Z,1μm,0.4s						
GRPR				pmax	pmax		
	comp=N,231nm,0.2s						
GRPR				pmax	pmax		
	comp=E,291nm,0.3s						
GRPR	**Tuman**	**5.73**	**249**	*e*P	**Pn**	**03 18 31.5**	**+0.5**
GRPR				AMB	AMB	03 18 51.0	
	comp=E,1μm,0.4s						
GRPR				*e*S	**Sn**	**03 19 36.0**	**+0.3**
GRPR				A	A	03 20 03.0	
	comp=E,530nm,0.6s						
GRPR				A	A	03 20 03.0	
	comp=E,2μm,0.6s						
GLVR	**Golovnino**	**6.01**	**247**	*e*PN	**Pn**	**03 18 34.3**	**-0.5**
GLVR				pmax	pmax		
	comp=E,1μm,0.5s						
GLVR				pmax	pmax		
	comp=Z,1μm,0.5s						
GLVR				pmax	pmax		
	comp=N,213nm,0.2s						
GLVR	**Golovnino**	**6.01**	**247**	*e*P	**Pn**	**03 18 35.3**	**+0.5**
GLVR				AMB	AMB	03 18 51.0	
	comp=N,1μm,0.5s						
GLVR				*e*S	**Sn**	**03 19 43.0**	**+0.4**
GLVR				A	A	03 20 31.0	
	comp=N,3μm,0.7s						
GLVR				A	A	03 20 31.0	
	comp=N,1μm,0.7s						
NEM2	**Nemuro 2**	**6.06**	**244**	P	**Pn**	**03 18 33.7**	**-1.7**
NEM2				*e*S	**Sn**	**03 19 40.6**	**-3.1**
NMR	**Nemuro--Hokkai**	**6.06**	**244**	*e*PN	**Pn**	**03 18 33.5**	**-2.0**
NMR	**Nemuro--Hokkai**	**6.06**	**244**	*e*P	**Pn**	**03 18 33.0**	**-2.5**
NMR				*e*S	**Sn**	**03 19 42.0**	**-1.9**
JRA	**Rausu**	**6.18**	**250**	P	**Pn**	**03 18 37.7**	**+0.6**
JNK	**Nakash**	**6.60**	**249**	P	**Pn**	**03 18 42.3**	**-0.5**
JNK				*e*S	**Sn**	**03 19 55.8**	**-1.2**
JAK	**Akkeshi**	**6.90**	**244**	P	**Pn**	**03 18 44.7**	**-2.3**
JAK				*e*S	**Sn**	**03 20 01.9**	**-2.6**
JTKR	**Abashiri--Toko**	**6.97**	**254**	P	**Pn**	**03 18 48.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.21**	**279**	⇓*e*PN	**Pn**	**03 18 53.5**	**+2.3**
YSS				*e*S	**Sn**	**03 20 18.2**	**+6.2**
YSS				pmax	pmax		
	comp=E,180nm,0.7s						
YSS				pmax	pmax		
	comp=Z,270nm,0.7s						
YSS				pmax	pmax		
	comp=N,120nm,0.8s						
YSS				smax	smax		
	comp=N,120nm,0.9s						
YSS				smax	smax		
	comp=E,120nm,1.3s						
YSS				MLR	MLR		
	comp=Z,18μm,15.0s						
YSS				MLR	MLR		
	comp=N,7μm,12.0s						
YSS				MLR	MLR		
	comp=E,11μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.21**	**279**	*e*P	**Pn**	**03 18 53.5**	**+2.3**
YSS				AMB	AMB	03 18 58.3	
	comp=E,270nm,0.5s						
YSS				*e*S	**Sn**	**03 20 12.6**	**+0.6**
YSS				A	A	03 20 20.4	
	comp=E,120nm,0.9s						
YSS				A	A	03 20 20.4	
	comp=E,102nm,0.9s						
YSS				AMS	AMS	03 21 31.0	
	comp=E,7μm,15.0s						
YSS				AMS	AMS	03 21 31.0	
	comp=E,11μm,15.0s						
YSS				AMS	AMS	03 21 31.0	
	comp=E,18μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.21**	**279**		**Pn**	**03 18 52.4**	**+1.2**
JMP	**Maruseppu**	**7.32**	**255**	P	**Pn**	**03 18 54.1**	**+1.3**
JAR	**Ashorobuto**	**7.34**	**249**	P	**Pn**	**03 18 52.6**	**-0.5**
JAR				*e*S	**Sn**	**03 20 14.4**	**-1.0**
PEA0B	**Petropavlovsk-**	**7.40**	**22**	*c*ePN	**Pn**	**03 18 53.4**	**-0.4**
PEA0B	**Petropavlovsk-**	**7.40**	**22**		**Pn**	**03 18 53.6**	**-0.2**
PETK	**Petropavlovsk-**	**7.40**	**22**	Pn	**Pn**	**03 18 53.0**	**-0.8**
	comp=E,8.7nm,0.3s,baz=182,slow=9.5,SNR=118						
PETK				LR	LR	03 21 49.9	
	comp=E,3μm,21.2s,baz=207,slow=39						
PETK	**Petropavlovsk-**	**7.40**	**22**		**Pn**	**03 18 53.5**	**-0.4**
JOB	**Onbets**	**7.49**	**246**	P	**Pn**	**03 18 54.2**	**-0.9**
JSE	**Soyaes**	**7.55**	**263**	P	**Pn**	**03 18 59.4**	**+3.5**
PET	**Petropavlovsk**	**7.59**	**26**	*e*PN	**Pn**	**03 18 54.7**	**-1.7**
PET				*e*S	**Sn**	**03 20 25.4**	**+4.0**
PET				pmax	pmax		
	comp=Z,344nm,1.7s						
PET	**Petropavlovsk**	**7.59**	**26**	*e*P	**Pn**	**03 18 55.9**	**-0.5**
PET				AMB	AMB	03 19 00.3	
	comp=Z,1μm,3.0s						
PET				*e*S	**Sn**	**03 20 17.6**	**-3.8**
PET				A	A	03 20 18.5	
	comp=Z,1μm,3.0s						
PET				A	A	03 20 18.5	
	comp=Z,2μm,3.0s						
PET				AMS	AMS	03 21 57.9	
	comp=Z,5μm,14.0s						
PET				AMS	AMS	03 21 57.9	
	comp=Z,9μm,14.0s						
PET				AMS	AMS	03 21 57.9	
	comp=Z,4μm,14.0s						
PET	**Petropavlovsk**	**7.59**	**26**		**Pn**	**03 18 54.5**	**-2.0**
JKK2	**Kamakawa 2**	**7.78**	**255**	P	**Pn**	**03 19 00.2**	**+1.1**
JKA	**Kamikawa-asahi**	**7.79**	**257**		**Pn**	**03 19 01.6**	**+2.4**
ASAJ	**Asahikawa**	**7.79**	**257**	P	**Pn**	**03 19 01.3**	**+2.1**
ASAJ	**Asahikawa**	**7.79**	**257**	Pn	**Pn**	**03 19 01.6**	**+2.4**
	comp=Z,15nm,0.3s,baz=84,slow=19,SNR=53						
ASAJ				LR	LR	03 21 53.2	
	comp=Z,11μm,19.1s,baz=58,slow=37						
JCH	**Churui**	**7.94**	**246**	P	**Pn**	**03 18 59.5**	**-1.7**
JCH				*e*S	**Sn**	**03 20 26.2**	**-3.8**
JWK2	**Keihoku**	**7.95**	**267**	P	**Pn**	**03 19 04.4**	**+3.0**
UGL	**Uglegorsk**	**7.99**	**294**	*e*PN	**Pn**	**03 19 05.5**	**+3.6**
UGL				*e*S	**Sn**	**03 20 36.6**	**+5.3**
UGL				pmax	pmax		
	comp=Z,475nm,0.8s						
UGL				pmax	pmax		
	comp=Z,4μm,6.2s						
UGL				smax	smax		
	comp=E,363nm,0.7s						
UGL				smax	smax		
	comp=E,2μm,4.3s						
UGL				MLR	MLR		
	comp=N,5μm,14.0s						
UGL				MLR	MLR		
	comp=E,13μm,14.0s						
UGL				MLR	MLR		
	comp=Z,10μm,11.0s						
UGL	**Uglegorsk**	**7.99**	**294**	*e*P	**Pn**	**03 19 05.0**	**+3.1**
UGL				AMB	AMB	03 19 10.0	
	comp=Z,475nm,0.8s						
UGL				AMB	AMB	03 19 12.0	
	comp=Z,4μm,6.2s						
UGL				*e*S	**Sn**	**03 20 33.1**	**+1.8**
UGL				A	A	03 20 39.0	
	comp=Z,363nm,0.7s						
UGL				A	A	03 20 42.0	
	comp=Z,2μm,4.3s						
UGL				AMS	AMS	03 23 37.0	
	comp=Z,5μm,14.0s						
UGL				AMS	AMS	03 23 37.0	
	comp=Z,13μm,14.0s						
UGL				AMS	AMS	03 23 37.0	
	comp=Z,10μm,14.0s						
JFR	**Furan**	**8.17**	**251**	P	**Pn**	**03 19 04.7**	**+0.3**
JAB	**Ashibetsu**	**8.27**	**254**	P	**Pn**	**03 19 07.8**	**+2.0**
TYV	**Tymovskoe**	**8.33**	**307**	*e*PN	**Pn**	**03 19 09.8**	**+3.3**
TYV				*e*S	**Sn**	**03 20 44.2**	**+4.7**
TYV				pmax	pmax		
	comp=Z,1μm,4.6s						
TYV		

comp=Z,20μm,16.0s
TYV AMS AMS 03 22 33.7
comp=Z,23μm,16.0s
ERM Erimo 8.39 243 *d i* PN **Pn 03 19 07.6 +0.2**
ERM Erimo 8.39 243 Pn 03 19 06.7 -0.8
JEM Erimo 8.39 243 P **Pn 03 19 07.1 -0.3**
JBT2 Biratori 2 8.50 249 P **Pn 03 19 08.3 -0.6**
JNBK Urakawa-nobuka 8.50 245 P **Pn 03 19 07.2 -1.7**
JNBK *e*S **Sn 03 20 39.9 -3.9**
JRBN Rebuntou 8.51 268 P **Pn 03 19 12.5 +3.5**
JEW Eniwo 9.07 252 P **Pn 03 19 18.3 +1.6**
JNB Noboribetsu 9.51 250 P **Pn 03 19 22.3 -0.4**
JNB *e*S **Sn 03 21 05.0 -3.5**
JKB Kayabe 9.79 247 P **Pn 03 19 24.1 -2.6**
JKB *e*S **Sn 03 21 08.2 -7.4**
OKH Okha 9.79 321 *c i* PN **Pn 03 19 29.2 +2.6**
OKH pmax pmax
comp=Z,2μm,6.6s
OKH MLR MLR
comp=Z,13μm,15.0s
OKH Okha 9.79 321 *i* P **Pn 03 19 30.0 +3.4**
OKH AMB AMB 03 19 31.0
comp=Z,3μm,2.0s
OKH *e*S **Sn 03 21 17.9 +2.4**
OKH A A 03 21 20.0
comp=Z,2μm,2.0s
OKH A A 03 21 20.0
comp=Z,3μm,2.0s
OKH AMS AMS 03 24 04.5
comp=Z,16μm,14.0s
OKH AMS AMS 03 24 04.5
comp=Z,20μm,14.0s
OKH AMS AMS 03 24 04.5
comp=Z,14μm,14.0s
JSH Shimam 10.08 253 P **Pn 03 19 31.4 +0.8**
JYM2 Yakumo 2 10.11 250 P **Pn 03 19 29.7 -1.3**
JANG Nango 10.36 239 P **Pn 03 19 30.6 -3.9**
JANG *e*S Sn 03 21 19.5 -10
JSR Shiriuchi 10.38 247 P **Pn 03 19 32.4 -2.2**
JTM Tenmabayashi 10.38 242 P **Pn 03 19 32.0 -2.7**
JTM *e*S **Sn 03 21 22.3 -7.7**
JTH Tanohata 10.44 236 P **Pn 03 19 31.6 -3.9**
JTH *e*S Sn 03 21 20.6 -11
NKL Nikolayevsk 10.59 315 *e*PN **Pn 03 19 39.7 +2.3**
NKL pmax pmax
comp=Z,159nm,1.1s
NKL pmax pmax
comp=N,7.0nm,0.9s
NKL pmax pmax
comp=E,101nm,1.2s
NKL Nikolayevsk 10.59 315 *e*P **Pn 03 19 39.7 +2.3**
NKL AMB AMB 03 19 43.2
comp=E,159nm,1.1s
JOSM Okushiri--Mats 10.71 252 P **Pn 03 19 38.3 -0.9**
JKZ Kuzumaki 10.72 238 P **Pn 03 19 35.7 -3.7**
JAH Hinai 11.01 241 P **Pn 03 19 40.2 -3.0**
OFUJ Ofunato 11.13 234 P **Pn 03 19 41.3 -3.7**
OFUJ *e*S Sn 03 21 38.0 -10
JRG Rokugo 11.51 238 P **Pn 03 19 47.6 -2.6**
JRG *e*S **Sn 03 21 50.6 -7.0**
TEY Ternei 11.67 270⇓ *e*PN **Pn 03 19 55.9 +3.6**
TEY *e*S **Sn 03 22 09.6 +8.0**
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=E,30nm,1.1s
TEY pmax pmax
comp=Z,3μm,7.8s
TEY MLR MLR
comp=N,4μm,15.0s
TEY MLR MLR
comp=E,6μm,15.0s
TEY Ternei 11.67 270 *e*P **Pn 03 19 53.6 +1.3**
TEY AMB AMB 03 19 56.6
comp=E,25nm,0.7s
TEY AMB AMB 03 20 00.6
comp=E,3μm,6.0s
TEY *e*S **Sn 03 21 59.4 -2.2**
TEY AMS AMS 03 24 18.8
comp=E,4μm,17.0s
TEY AMS AMS 03 24 18.8
comp=E,7μm,17.0s
TEY AMS AMS 03 24 18.8
comp=E,6μm,17.0s
JIO Ouri 11.75 232 P **Pn 03 19 49.6 -3.8**
JIO *e*S Sn 03 21 53.6 -10
GRNR Gornyy 11.96 298 *e*PN Pn 03 19 43.8 -13
GRNR MLR MLR
comp=E,9μm,16.0s
GRNR MLR MLR
comp=Z,11μm,16.0s
JYA Atsumi 12.58 237 P **Pn 03 20 01.8 -3.0**
MA2 Magadan 13.36 355⇓ *e*PN **Pn 03 20 16.3 +1.0**
MA2 pmax pmax
comp=Z,41nm,0.8s
MA2 Magadan 13.36 355 Pn **Pn 03 20 15.0 -0.4**
comp=Z,3.5nm,0.3s,baz=162,slow=10,SNR=9.9
MA2 LR LR 03 25 49.4
comp=Z,5μm,18.2s,baz=174,slow=40
MA2 Magadan 13.36 355 Pn 03 20 12.8 -2.5
KLR Kul'dur 14.70 289 *c i* P **Pn 03 20 34.6 +1.0**
KLR pmax pmax
comp=Z,91nm,1.5s
KLR Kul'dur 14.70 289 Pn **Pn 03 20 36.0 +2.5**
comp=Z,0.3nm,0.3s,baz=97,slow=14,SNR=26
KLR LR LR 03 26 23.6
comp=Z,9μm,19.1s,baz=98,slow=38
KLR Kul'dur 14.70 289 *e*P **Pn 03 20 34.6 +1.0**
MJAR Matsushiro Arr 14.86 234 P **Pn 03 20 36.2 +0.3**
MJAR Matsushiro Arr 14.86 234 Pn **Pn 03 20 32.7 -3.2**
comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=25
MJAR LR LR 03 27 04.2
comp=Z,2μm,18.4s,baz=55,slow=40
MJAR Matsushiro Arr 14.86 234 Pn 03 20 36.2 +0.3
MJB9 Matsu-Tunnel 14.86 234 Pn 03 20 34.7 -1.2
MAJO Matsushiro 14.86 234 P **Pn 03 20 35.1 -0.8**
MAJO Matsushiro 14.86 234 Pn 03 20 35.1 -0.8
MAT Matsushiro 14.86 234 P **Pn 03 20 33.3 -2.6**
MAT S **Sn 03 23 23.8 +4.3**
USA0B Ussuriysk Arra 15.07 270 P **Pn 03 20 38.1 -0.5**
USA0B Ussuriysk Arra 15.07 270 Pn 03 20 38.1 -0.5
USRK Ussuriysk Ar. 15.07 270 Pn **Pn 03 20 38.2 -0.4**
baz=77,slow=12,SNR=29
USRK LR LR 03 26 27.6
comp=Z,5μm,18.3s,baz=67,slow=38
USRK Ussuriysk Ar. 15.07 270 Pn 03 20 37.8 -0.9
VLA Vladivostok 15.47 266⇓ *e*P **Pn 03 20 45.0 +1.2**
VLA pmax pmax
comp=Z,133nm,1.5s
MSHR Mys Shultsa 16.16 265⇑ *e*P **Pn 03 20 52.3 -0.4**
INU Inuyama 16.39 234 Pn 03 20 53.5 -2.2
MDJ Mudanjiang 16.63 273 P **Pn 03 20 58.9 +0.2**
MDJ pP pP 03 21 05.6 -2.3
MDJ sP pwP 03 21 10.6 -1.0
MDJ S **Sn 03 24 00.0 -2.3**
MDJ sS S 03 24 07.4 -5.6
MDJ PcP **PcP 03 25 49.3 +1.9**
MDJ ScP **ScP 03 29 21.6 +1.8**
MDJ PcS **PcS 03 29 27.1 +3.9**
MDJ ScS **ScS 03 33 01.0 +2.0**
MDJ pmax pmax
comp=Z,120nm,1.0s
MDJ pmax pmax
comp=Z,1μm,10.5s
MDJ LR LR
comp=Z,4μm,16.4s
MDJ LR LR
comp=Z,4μm,19.2s
MDJ LR LR
comp=Z,9μm,15.0s
MDJ Mudanjiang 16.63 273 Pn **Pn 03 20 57.7 -1.0**
SEY Seymchan 16.66 359⇑ *e*P **P 03 21 00.1 -1.0**
SEY Seymchan 16.66 359 Pn **Pn 03 20 58.3 -0.6**
comp=Z,1.0nm,0.3s,baz=180,slow=9.7,SNR=15
SEY LR LR 03 27 45.8
comp=Z,4μm,18.4s,baz=176,slow=39
JHJ2 Mitsune 16.69 222 P 03 21 01.9 +0.2
JHJ2 IAmb IAmb 03 21 04.4
comp=Z,417nm,1.1s
JHJ Hachijo jima 2 16.70 223 Pn **P 03 21 03.0 +1.2**
comp=Z,9.5nm,0.3s,baz=179,slow=16,SNR=3.7
JHJ LR LR 03 30 08.3
comp=Z,767nm,18.8s,baz=81,slow=47
ZEA Zeya 18.17 304 *c e*P **Pn 03 21 17.0 -0.7**
ZEA pmax pmax
comp=E,140nm,1.8s
ZEA pmax pmax
comp=Z,140nm,1.8s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=E,7μm,14.0s
ZEA MLR MLR
comp=Z,10μm,14.0s
CN2 Changchun 19.72 273 *e*P **P 03 21 32.6 -2.3**
CN2 *e*S S 03 25 03.3 -12
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,5μm,17.0s
CN2 LR LR
comp=Z,6μm,17.0s
ADK Adak 20.41 63 P **P 03 21 43.0 +0.7**
ADK pmax pmax
comp=Z,96nm,1.2s
ADK Adak 20.41 63 P **P 03 21 43.0 +0.7**
YAK Yakutsk 20.71 328 *e*P **P 03 21 44.2 -1.3**
YAK *e* 03 21 58.5
YAK *e*S **S 03 25 32.1 -2.9**
YAK *e*SS **SnSn 03 25 55.5 +0.2**
YAK *e*SSS SSS 03 26 09.9
YAK *e* 03 33 07.8
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=N,34nm,1.0s
YAK pmax pmax
comp=E,45nm,1.2s
YAK smax smax
comp=N,241nm,2.8s
YAK smax smax
comp=E,169nm,2.9s
YAK MLR MLR
comp=Z,4μm,12.0s
YAK MLR MLR
comp=N,4μm,12.0s
YAK MLR MLR
comp=E,2μm,14.0s
YAK Yakutsk 20.71 328 P **P 03 21 43.8 -1.6**
comp=E,22nm,0.3s,baz=342,slow=0.4,SNR=12
YAK LR LR 03 29 59.5
comp=E,3μm,18.4s,baz=129,slow=38
YAK Yakutsk 20.71 328 *e*P **P 03 21 44.5 -1.0**
YAK Yakutsk 20.71 328 P **P 03 21 43.9 -1.6**
YAK IAmb IAmb 03 21 54.0
comp=Z,81nm,0.7s
KSRS Korea Array 20.72 254 P Pn 03 21 46.9 -1.4
comp=Z,21nm,0.6s,baz=60,slow=10,SNR=49
KSRS PcP **PcP 03 25 55.6 +1.0**
comp=Z,2.4nm,0.8s,baz=96,slow=0.5,SNR=6.0
KSRS LR LR 03 30 05.7
comp=Z,3μm,18.0s,baz=65,slow=38
KS19 Wonju Array Si 20.73 254 P **P 03 21 46.0 +0.1**
KSAR Wonju Array Be 20.75 254 P **P 03 21 45.8 -0.3**
KSAR 03 25 55.3
KSAR Wonju Array Be 20.75 254 P **P 03 21 45.8 -0.3**
KSAR **PcP 03 25 55.3 +0.7**
JCJ Chichijima 21.07 208 LR LR 03 32 32.2
comp=Z,944nm,18.7s,baz=5.0,slow=44
JNU Nakatsue 21.54 240 P **P 03 21 56.0 +1.3**
comp=Z,41nm,1.0s,baz=37,slow=9.6,SNR=8.7
JNU LR LR 03 30 26.3
comp=Z,3μm,21.4s,baz=39,slow=37
JNU Nakatsue 21.54 240 P **P 03 21 55.5 +0.8**
INCN Inchon 21.56 255 P **P 03 21 56.3 +1.4**
INCN Inchon 21.56 255 P **P 03 21 57.0 +2.1**
INCN pmax pmax
comp=Z,96nm,0.8s
INCN MLR MLR
comp=Z,2μm,20.0s
INCN Inchon 21.56 255 P **P 03 21 57.0 +2.1**
INCN IAmb IAmb 03 21 59.8
comp=Z,96nm,0.8s
TJN Taejon 21.69 252 *c i* P **P 03 21 56.4 +0.1**
HIA Hailar 22.55 290 P **P 03 22 03.8 -1.7**
HIA pmax pmax
comp=Z,21nm,0.7s
HIA MLR MLR
comp=Z,5μm,19.0s
HIA Hailar 22.55 290 P **P 03 22 03.8 -1.7**
HIA Hailar 22.55 290 IAMs_20 IAMs_20 03 31 09.2
comp=Z,5μm,19.0s
BILL Bilibino 22.80 13⇓ *i*P **P 03 22 06.8 -1.1**
BILL *i* 03 22 14.0
BILL *e* 03 22 33.9
BILL *e* 03 25 58.3
BILL *e*S **S 03 26 17.2 +2.4**
BILL *e*SS **SnSn 03 26 50.3 +3.8**
BILL pmax pmax
comp=Z,62nm,1.0s
BILL MLR MLR
comp=Z,2μm,15.0s
BILL Bilibino 22.80 13 *e*P **P 03 22 07.2 -0.7**
BILL Bilibino 22.80 13 P **P 03 22 06.5 -1.4**
BILL IAMs_20 IAMs_20 03 30 54.0
comp=Z,5μm,21.0s
DL2 Dalian 24.26 264⇑ *i*P **P 03 22 22.4 +0.1**
DL2 S **S 03 26 37.9 -1.1**
DL2 pmax pmax
comp=Z,99nm,1.2s
DL2 pmax pmax
comp=Z,2μm,4.2s
DL2 LR LR
comp=Z,2μm,16.2s
DL2 LR LR
comp=Z,1μm,17.3s
DL2 LR LR
comp=Z,2μm,15.4s
BOD Bodaibo 26.30 310 *e*P **P 03 22 37.2 -3.4**
BOD pmax pmax
comp=Z,55nm,2.0s
BJI Beijing 27.52 270 P **P 03 22 51.8 0.0**
BJI sP **sP 03 23 02.1 -0.4**
BJI PP **PnPn 03 23 40.0 +2.9**
BJI S **S 03 27 30.5 -0.3**
BJI PcS **PcS 03 29 51.8 +0.9**
BJI pmax pmax
comp=Z,41nm,0.8s
BJI LR LR
comp=Z,2μm,16.6s
BJI LR LR
comp=Z,4μm,16.9s
BJI LR LR
comp=Z,3μm,18.8s
BJT Baijiatuau 27.54 270 P **P 03 22 51.5 -0.4**
BJT pmax pmax
comp=Z,33nm,0.8s
BJT MLR MLR
comp=Z,5μm,18.0s
BJT Baijiatuau 27.54 270 P **P 03 22 51.5 -0.4**
BJT Baijiatuau 27.54 270 IAMs_20 IAMs_20 03 34 06.3
comp=Z,5μm,18.0s
JOW Kunigami 27.71 234 P **P 03 22 54.0 +0.5**
comp=Z,2.0nm,1.1s,baz=97,slow=16,SNR=3.6
TIXI Tiksi 27.90 344 *i* P **P 03 22 53.2 -1.6**
TIXI pmax pmax
comp=Z,12nm,0.9s
TIXI MLR MLR
comp=Z,4μm,15.0s
TIXI Tiksi 27.90 344 P **P 03 22 51.9 -2.9**
comp=Z,5.7nm,0.7s,baz=152,slow=9.8,SNR=14
TIXI PcP **PcP 03 26 08.8 -0.7**
comp=Z,9.6nm,0.7s,baz=96,slow=4.3,SNR=8.0
TIXI LR LR 03 35 03.4
comp=Z,3μm,18.6s,baz=144,slow=39
TIXI Tiksi 27.90 344 *e*P **P 03 22 53.2 -1.6**
TIXI Tiksi 27.90 344 P **P 03 22 52.0 -2.8**
TIXI **PcP 03 26 08.8 -0.7**
TIXI IAMs_20 IAMs_20 03 34 51.9
comp=Z,4μm,19.0s
TIA Tai'an 28.70 262 P **P 03 23 02.9 +0.6**
TIA S **S 03 27 54.6 +5.1**
TIA pmax pmax
comp=Z,21nm,1.3s
TIA pmax pmax
comp=Z,910nm,10.0s
TIA LR LR
comp=Z,1μm,17.3s
TIA LR LR
comp=Z,3μm,18.4s
TIA LR LR
comp=Z,2μm,18.2s
H11N2 WAKE ISLAND Hy 28.81 152 T T 03 54 38.2
baz=340,slow=76,SNR=1671
H11N1 WAKE ISLAND Hy 28.83 152 T T 03 54 50.8
baz=340,slow=76,SNR=1571
H11N3 WAKE ISLAND Hy 28.83 152 T T 03 54 54.0
baz=340,slow=76,SNR=1388
SSE Sheshan 28.99 250 P **P 03 23 03.5 -1.4**
SSE S **S 03 27 56.3 +2.3**
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,180nm,4.9s
SSE LR LR
comp=Z,1μm,20.7s
SSE LR LR
comp=Z,1μm,17.8s
SSE Sheshan 28.99 250 IAMs_20 IAMs_20 03 36 48.2
comp=Z,2μm,18.0s
H11S1 WAKE ISLAND Hy 29.90 154 T T 03 56 02.4
baz=341,slow=76,SNR=1111
H11S3 WAKE ISLAND Hy 29.91 154 T T 03 56 08.6
baz=341,slow=76,SNR=873
H11S2 WAKE ISLAND Hy 29.91 154 T T 03 56 24.8
baz=341,slow=76,SNR=898
NJ2 Nanjing 29.92 254 *e*P **P 03 23 13.4 +0.3**
NJ2 pP **sP 03 23 22.6 -1.0**
NJ2 S **S 03 28 09.1 +0.5**
NJ2 sS **sS 03 28 23.6 +2.1**
NJ2 pmax pmax
comp=Z,22nm,0.9s
NJ2 pmax pmax
comp=Z,670nm,7.1s
NJ2 LR LR
comp=Z,4μm,18.5s
NJ2 LR LR
comp=Z,3μm,16.6s
NJ2 LR LR
comp=Z,5μm,14.2s
HHC Hu-ho-hao-te 30.38 275 *e*P **P 03 23 19.0 +1.8**
HHC pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 31.09 290⇑ *e*P **P 03 23 22.1 -1.4**
ULN pmax pmax
comp=Z,17nm,1.3s
ULN MLR MLR
comp=Z,4μm,16.0s
ULN Ulaanbaatar 31.09 290 *e*P **P 03 23 22.1 -1.4**
ULN Ulaanbaatar 31.09 290 IAMs_20 IAMs_20 03 36 33.9
comp=Z,4μm,20.0s
TIY Taiyuan 31.18 269 *e*P **P 03 23 25.8 +1.4**
TIY S **S 03 28 28.6 +0.1**
TIY sS **sS 03 28 46.0 +4.5**
TIY ScS **ScS 03 33 57.0 +0.3**
TIY pmax pmax
comp=Z,78nm,1.0s
TIY pmax pmax
comp=Z,380nm,4.0s
TIY LR LR
comp=Z,400nm,8.3s
TIY LR LR
comp=Z,2μm,16.1s
TIY LR LR
comp=Z,3μm,16.9s
SONM Songino Array 31.52 290 P **P 03 23 26.1 -1.3**
comp=Z,4.3nm,0.7s,baz=71,slow=8.6,SNR=6.8
SONM PcP **PcP 03 26 19.1 -0.4**
comp=Z,4.0nm,0.8s,baz=131,slow=2.4,SNR=4.9
SONM ScP **ScP 03 30 02.0 +1.6**
comp=Z,1.0nm,0.9s,baz=173,slow=2.5,SNR=5.4
SONM LR LR 03 37 08.7
comp=Z,5μm,18.6s,baz=79,slow=38
SONM Songino Array 31.52 290 ScP 03 30 01.5 +1.1
BTO Baotou 31.54 275 *e*P **P 03 23 28.8 +1.3**
TLY Talaya 32.42 298 P **P 03 23 34.2 -0.8**
SNR=8.8
TLY Talaya 32.42 298 *e*P **P 03 23 34.0 -1.1**
TLY *e* 03 24 47.5
TLY *e*PPP PPP 03 24 57.0
TLY pmax pmax
comp=Z,65nm,0.9s
TLY MLR MLR
comp=Z,19μm,14.0s
TLY Talaya 32.42 298 P **P 03 23 33.2 -1.8**
comp=Z,12nm,0.7s,baz=83,slow=5.0,SNR=15
TLY Talaya 32.42 298 P **P 03 23 33.1 -2.0**
YOJ Yonaguni jima 32.56 238 IAMs_20 IAMs_20 03 37 05.5
comp=Z,2μm,20.0s
TTA Tatalina 32.72 41 P **P 03 23 38.1 +0.6**
TTA pmax pmax
comp=Z,26nm,1.0s
TTA Tatalina 32.72 41 P **P 03 23 38.1 +0.6**
SVW2 Sparrevohn 32.77 44 P **P 03 23 39.5 +1.5**
SVW2 IAmb IAmb 03 23 44.7
comp=Z,31nm,0.9s
ZAK Zakamensk 32.91 296 *e*P **P 03 23 37.7 -1.7**
ZAK pmax pmax
comp=Z,24nm,1.2s
TATO Taipei 33.08 241 IAMs_20 IAMs_20 03 39 18.2
comp=Z,3μm,18.0s
GUMO Guam 33.37 195 LR LR 03 34 41.4
comp=Z,756nm,20.1s,baz=14,slow=32
YHNB Yeheng 33.38 241 IAMs_20 IAMs_20 03 37 04.2
comp=Z,3μm,20.0s
NACB Ninganchiao 33.62 240 IAMs_20 IAMs_20 03 37 28.6
comp=Z,2μm,22.0s
WHN Wuhan 33.87 256⇓ *i*P **P 03 23 48.1 +0.3**
WHN pP **pwP 03 23 59.6 0.0**
WHN S **S 03 29 13.3 +3.0**
WHN pmax pmax
comp=Z,39nm,0.4s
WHN pmax pmax
comp=Z,1μm,10.6s
WHN LR LR
comp=Z,2μm,11.0s
WHN LR LR
comp=Z,6μm,16.6s
WHN LR LR
comp=Z,6μm,18.5s
IMAR Indian Mountai 34.09 36 P **P 03 23 49.5 +0.1**
SSLB Suanglung 34.29 240 P **P 03 23 51.6 +0.1**
KDAK Kodiak Island 34.34 50 *i* P **P 03 23 51.8 +0.2**
KDAK Kodiak Island 34.34 50 P **P 03 23 50.5 -1.1**
comp=Z,24nm,0.7s,baz=248,slow=4.9,SNR=9.7
KDAK Kodiak Island 34.34 50 IAmb IAmb 03 23 53.1
comp=Z,39nm,0.8s
SKT Skwentna 34.73 43 IAMs_20 IAMs_20 03 38 42.0
comp=Z,2μm,19.0s
TPUB Ta-pu 34.85 240 P **P 03 23 56.3 -0.1**
TPUB IAmb IAmb 03 24 12.4
comp=Z,40nm,0.9s
TPUB IAMs_20 IAMs_20 03 37 32.3
comp=Z,2μm,22.0s
QZH Quanzhou 34.89 244⇑ *i*P **P 03 23 56.8 +0.1**
QZH S **S 03 29 28.4 +2.4**
QZH pmax pmax
comp=Z,600nm,2.8s
QZH LR LR
comp=Z,630nm,13.3s
QZH LR LR
comp=Z,1μm,14.5s
QZH LR LR
comp=Z,1μm,16.1s
TWG Pinlang 34.95 239 P **P 03 23 58.0 +0.7**
BPAW Bear Paw Mtn. 35.06 39 IAMs_20 IAMs_20 03 40 06.2
comp=Z,2μm,19.0s
KTH Kantishna Hill 35.06 40 IAMs_20 IAMs_20 03 40 09.3
comp=Z,2μm,19.0s
TRF Thorofare Moun 35.34 40 IAMs_20 IAMs_20 03 40 35.8
comp=Z,2μm,19.0s
XAN Xi'an 35.53 266 P **P 03 24 02.4 +0.2**
XAN pP pwP 03 24 14.6 +0.6
XAN sP sP 03 24 19.8 +7.1
XAN PP **PP 03 25 24.1 +1.1**
XAN S **S 03 29 34.3 -1.6**
XAN sS sS 03 29 50.9 +2.0
XAN SS **SnSn 03 31 55.8 -1.3**
XAN ScS **ScS 03 34 15.8 -3.5**
XAN pmax pmax

comp=Z,43nm,0.9s
XAN pmax pmax
comp=Z,660nm,7.2s
XAN LR LR
comp=Z,2μm,16.0s
XAN LR LR
comp=Z,2μm,16.0s
XAN LR LR
comp=Z,3μm,17.9s
XAN Xi'an 35.53 266 P **P 03 24 01.9 -0.3**
XAN pmax pmax
comp=Z,48nm,1.1s
XAN MLR MLR
comp=Z,3μm,18.0s
XAN Xi'an 35.53 266 P **P 03 24 01.9 -0.3**
XAN IAmb IAmb 03 24 03.7
comp=Z,48nm,1.1s
XAN Xi'an 35.53 266 IAMs_20 IAMs_20 03 39 48.1
comp=Z,3μm,18.0s
PMR Palmer 35.88 44 IAMs_20 IAMs_20 03 41 02.3
comp=Z,2μm,19.0s
MCK McKinley 35.95 40 IAmb IAmb 03 24 23.1
comp=Z,56nm,1.1s
MCK IAMs_20 IAMs_20 03 40 35.9
comp=Z,2μm,20.0s
RND Reindeer 35.98 40 IAmb IAmb 03 24 06.8
comp=Z,58nm,1.1s
TOLK Toolik Lake Re 36.09 32 P **P 03 24 06.7 +0.1**
baz=262,SNR=19
KNK Knik Glacier 36.21 44 IAMs_20 IAMs_20 03 41 40.0
comp=Z,2μm,20.0s
SML Sawmill 36.25 43 IAMs_20 IAMs_20 03 38 14.1
comp=Z,2μm,21.0s
TCOL CIGO, UAF Yank 36.44 38 P **P 03 24 09.5 -0.1**
baz=269
COLA College 36.45 38*ce*P **P 03 24 10.2 +0.6**
COLA pmax pmax
comp=Z,46nm,0.9s
COLA College 36.45 38 P **P 03 24 09.9 +0.3**
COLA IAmb IAmb 03 24 15.7
comp=Z,46nm,0.8s
POKR Poker Plat Res 36.63 38 P **P 03 24 10.6 -0.6**
baz=269,SNR=18
SCM Sheep Creek Mo 36.73 43 IAmb IAmb 03 24 17.8
comp=Z,69nm,1.0s
HDA Harding Lake 36.83 39 P **P 03 24 12.0 -0.9**
baz=270,SNR=10
ILAR Eielson Array 36.86 38 P **P 03 24 13.1 -0.1**
comp=Z,9.7nm,0.9s,baz=259,slow=7.0,SNR=72
ILAR PcP **PcP 03 26 33.1 -1.2**
comp=Z,2.3nm,0.8s,baz=270,slow=4.5,SNR=4.1
ILAR LR LR 03 42 46.5
comp=Z,1μm,18.3s,baz=290,slow=42
ILAR Eielson Array 36.86 38 P **P 03 24 12.8 -0.3**
ENH Enshi 37.34 260 P **P 03 24 17.6 0.0**
FYU Fort Yukon 37.57 35 IAmb IAmb 03 24 25.2
comp=Z,66nm,1.0s
RIDG Independent Ri 37.77 40 IAMs_20 IAMs_20 03 42 48.0
comp=Z,2μm,19.0s
BMAR Burnt Mountain 37.85 34 P **P 03 24 21.7 +0.1**
LZH Lanzhou 37.95 272 *e*P **P 03 24 23.4 +0.4**
LZH pP pwP 03 24 34.8 0.0
LZH S **S 03 30 13.8 +0.8**
LZH sS sS 03 30 25.8 -0.3
LZH pmax pmax
comp=Z,130nm,1.1s
LZH pmax pmax
comp=Z,960nm,4.3s
LZH LR LR
comp=Z,3μm,16.8s
LZH LR LR
comp=Z,3μm,16.3s
LZH LR LR
comp=Z,4μm,17.3s
MENT Mentasta 38.33 41 IAMs_20 IAMs_20 03 42 03.8
comp=Z,2μm,20.0s
GLB Gilahina Butte 38.43 44 IAMs_20 IAMs_20 03 41 32.8
comp=Z,2μm,20.0s
VRDI Verde Repeater 38.63 44 IAmb IAmb 03 24 34.4
comp=Z,51nm,1.0s
VRDI IAMs_20 IAMs_20 03 42 17.0
comp=Z,2μm,20.0s
CRQM Cirque 38.84 45 IAMs_20 IAMs_20 03 41 29.3
comp=Z,3μm,20.0s
TGL Tana Glacier 38.99 45 IAmb IAmb 03 24 38.2
comp=Z,81nm,1.2s
TGL IAMs_20 IAMs_20 03 41 42.7
comp=Z,3μm,20.0s
WAX Waxell Ridge 39.03 45 IAmb IAmb 03 24 37.6
comp=Z,83nm,1.0s
GTA Gaotai 39.09 280 P **P 03 24 32.8 +0.4**
GTA pP pP 03 24 40.6 +0.4
GTA sP pwP 03 24 44.6 +0.4
GTA PP **PP 03 26 06.9 +4.8**
GTA S **S 03 30 29.0 -1.1**
GTA ScP **ScP 03 30 30.1 +2.2**
GTA PcS **PcS 03 30 33.4 +1.8**
GTA sS sS 03 30 45.8 +2.8
GTA SS **SS 03 33 13.8 -9.0**
GTA pmax pmax
comp=Z,64nm,1.1s
GTA pmax pmax
comp=Z,550nm,5.8s
GTA LR LR
comp=Z,2μm,12.7s
GTA LR LR
comp=Z,2μm,13.0s
GTA LR LR
comp=Z,3μm,14.0s
NRIK Noril'sk 39.16 329 P **P 03 24 30.9 -1.6**
comp=Z,8.0nm,0.5s,baz=94,slow=8.2,SNR=17
NRIK ScP **S 03 30 29.6 -0.5**
comp=Z,2.7nm,0.4s,baz=158,slow=2.9,SNR=3.9
NRIK LR LR 03 42 38.2
comp=Z,2μm,19.7s,baz=86,slow=39
BCAR Beaver Creek A 39.20 41 P **P 03 24 33.2 +0.2**
BARN Barnard Glacie 39.51 44 IAmb IAmb 03 24 42.8
comp=Z,53nm,0.8s
HKPS Hong Kong Po S 39.62 246 IAMs_20 IAMs_20 03 43 02.0
comp=Z,2μm,18.0s
CTGM Chitina Glacie 39.69 44 IAMs_20 IAMs_20 03 42 05.9
comp=Z,2μm,21.0s
DAWY Dawson 40.15 39 P **P 03 24 41.1 +0.3**
CD2 Chengdu 40.89 266⇓ *i*P **P 03 24 48.1 +0.7**
CD2 pP pwP 03 24 58.6 -0.7
CD2 PP **PnPn 03 26 27.3 +1.1**
CD2 PcS **PcS 03 30 42.8 +4.1**
CD2 S **S 03 30 55.8 -1.3**
CD2 sS sS 03 31 09.5 -0.6
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,1μm,7.7s
CD2 LR LR
comp=Z,3μm,14.9s
CD2 LR LR
comp=Z,2μm,15.9s
CD2 LR LR
comp=Z,3μm,16.3s
EPYK Eagle Plains 40.99 35 P **P 03 24 47.8 +0.1**
baz=277,SNR=16
GYA Guiyang 41.67 258⇓ *i*P **P 03 24 54.6 +0.7**
GYA pP sP 03 25 04.3 -0.2
GYA PP **PnPn 03 26 32.9 -2.5**
GYA S **S 03 31 06.4 -2.4**
GYA sS sS 03 31 26.6 +4.7
GYA SS **SS 03 34 09.5 -5.1**
GYA pmax pmax
comp=Z,110nm,1.0s
GYA pmax pmax
comp=Z,500nm,7.2s
GYA LR LR
comp=Z,1μm,18.0s
GYA LR LR
comp=Z,730nm,18.7s
GYA LR LR
comp=Z,1μm,18.7s
INK Inuvik 41.99 32 P **P 03 24 55.9 +0.1**
comp=Z,25nm,0.7s,baz=283,slow=7.0,SNR=47
WHY Whitehorse 42.84 44 IAMs_20 IAMs_20 03 42 05.4
comp=Z,2μm,22.0s
DGZ Jazzator, Alta 42.86 299*d* *i*P **P 03 25 03.3 -0.1**
ZAA0 Zalesovo Array 42.91 306 P **P 03 25 01.6 -1.9**
ZAA0 **PcP 03 26 53.8 +0.1**
ZALV Zalesovo Beam 42.91 306 P **P 03 25 00.8 -2.7**
comp=Z,11nm,0.6s,baz=66,slow=6.8,SNR=34
ZALV PcP **PcP 03 26 53.3 -0.4**
comp=Z,13nm,0.9s,baz=52,slow=2.4,SNR=9.8
ZALV LR LR 03 44 00.5
comp=Z,7μm,19.0s,baz=87,slow=38
ZALV Zalesovo Beam 42.91 306 P **P 03 25 01.0 -2.5**
ZALV **PcP 03 26 53.8 0.0**
JIS Juneau Island 43.74 47 P **P 03 25 12.0 +1.9**
JIS IAmb IAmb 03 25 17.3
comp=Z,65nm,1.0s
QIZ Qiongzhong 44.72 247 P **P 03 25 18.9 +0.4**
QIZ pP **sP 03 25 27.0 -2.2**
QIZ S **S 03 31 53.8 +0.4**
QIZ sS **sS 03 32 06.5 +0.1**
QIZ pmax pmax
comp=Z,680nm,8.2s
QIZ LR LR
comp=Z,1μm,19.1s
QIZ LR LR
comp=Z,1μm,17.6s
QIZ LR LR
comp=Z,1μm,14.7s
WMQ Urumqi 45.13 292 P **P 03 25 21.0 -0.5**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ MLR MLR
comp=Z,4μm,18.0s
WMQ Urumqi 45.13 292 P **P 03 25 21.1 -0.5**
WMQ IAmb IAmb 03 25 29.4
comp=Z,23nm,0.7s
C36M Paulatuk 45.17 30 P **P 03 25 21.1 -0.3**
baz=284,SNR=29
KMI Kunming 45.21 260 P **P 03 25 22.8 +0.2**
KMI pP pwP 03 25 33.8 -1.4
KMI sP sP 03 25 37.3 +4.0
KMI PP **PP 03 27 10.8 +2.3**
KMI S **S 03 32 00.0 -0.8**
KMI sS sS 03 32 18.8 +4.7
KMI SS **ScS 03 35 15.8 -1.8**
KMI pmax pmax
comp=Z,55nm,1.1s
KMI pmax pmax
comp=Z,540nm,7.2s
KMI LR LR
comp=Z,1μm,16.6s
KMI LR LR
comp=Z,680nm,17.3s
KMI LR LR
comp=Z,1μm,15.2s
KMI Kunming 45.21 260 P **P 03 25 22.4 -0.2**
KMI pmax pmax
comp=Z,49nm,1.0s
KMI MLR MLR
comp=Z,1μm,21.0s
KMI Kunming 45.21 260 P **P 03 25 22.4 -0.2**
KMI IAmb IAmb 03 25 25.2
comp=Z,50nm,1.0s
KMI Kunming 45.21 260 IAMs_20 IAMs_20 03 43 59.1
comp=Z,1μm,21.0s
DLBC Dease Lake 45.86 46 P **P 03 25 28.4 +1.2**
comp=Z,26nm,0.9s,baz=275,slow=8.7,SNR=5.1
DLBC Dease Lake 45.86 46 IAmb IAmb 03 25 34.7
comp=Z,41nm,1.1s
KIP Kipapa 46.60 105⇑ *e*P **P 03 25 33.5 +0.2**
SLVN Son La 46.98 255 P **P 03 25 36.5 +0.1**
SLVN IAmb IAmb 03 25 39.4
comp=Z,34nm,1.1s
SLVN IAMs_20 IAMs_20 03 47 03.4
comp=Z,1μm,18.0s
MK31 Makanchi Array 47.19 298 *i* P **P 03 25 35.4 -2.2**
MK31 pmax pmax
comp=Z,62nm,1.0s
MK31 Makanchi Array 47.19 298 P **P 03 25 35.9 -1.7**
MK31 IAmb IAmb 03 25 38.7
comp=Z,49nm,1.0s
MKAR Makanchi Array 47.19 298 P **P 03 25 35.5 -2.1**
comp=Z,30nm,0.8s,baz=71,slow=7.7,SNR=115
MKAR PcP **PcP 03 27 08.2 -0.6**
comp=Z,2.7nm,0.6s,baz=76,slow=7.6,SNR=3.9
MKAR LR LR 03 46 25.2
comp=Z,6μm,19.8s,baz=64,slow=37
MKAR Makanchi Array 47.19 298 P **P 03 25 35.9 -1.7**
KURK Kurchatov 47.65 304 P **P 03 25 38.9 -2.2**
SNR=30
KURK Kurchatov 47.65 304*de*P **P 03 25 38.9 -2.2**
KURK pmax pmax
comp=Z,75nm,1.0s
KURK MLR MLR
comp=Z,3μm,14.0s
KURK Kurchatov 47.65 304 *e*P **P 03 25 38.9 -2.2**
KURK Kurchatov 47.65 304 P **P 03 25 38.9 -2.2**
KURBB Kurchatov Arra 47.74 304 P **P 03 25 39.4 -2.5**
comp=Z,45nm,0.9s,baz=68,slow=8.2,SNR=87
TARA Tarawa 48.00 153 IAMs_20 IAMs_20 03 41 49.2
comp=Z,2μm,20.0s
KHLH Kahului Airpor 48.03 104 P **P 03 25 45.4 +1.0**
MANU Manus Island 48.43 188 P **P 03 25 48.6 +1.1**
MANU IAmb IAmb 03 26 04.5
comp=Z,28nm,1.1s
LKP Lekhapani 48.55 268 *i* P **P 03 25 51.0 +2.6**
POHA Pohakuloa 49.42 105 P **P 03 25 56.5 +1.1**
BAKI Biak 49.65 203 P **P 03 25 57.0 +0.2**
NONG Nongkai 49.78 253 P **P 03 25 59.8 +1.9**
comp=Z,1.5nm,1.1s
ITAN ITANAGAR 50.14 269⇑ *i*P **P 03 25 56.4 -4.1**
LSA Lhasa 50.35 274 P **P 03 26 03.8 +1.1**
LSA Lhasa 50.35 274 P **P 03 26 03.8 +1.1**
LSA Lhasa 50.35 274 P **P 03 26 03.0 +0.4**
LSA pmax pmax
comp=Z,42nm,0.6s
LSA MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 50.35 274 P **P 03 26 03.0 +0.4**
LSA IAMs_20 IAMs_20 03 48 30.2
comp=Z,2μm,19.0s
PDGK Podgornoye 50.59 295 P **P 03 26 02.2 -1.7**
PDGK pmax pmax
comp=Z,26nm,1.0s
KOHI KOHIMA 50.77 267⇑ *i*P **P 03 26 04.1 -1.4**
SWI Sorong 50.79 209 P **P 03 26 05.6 +0.1**
comp=Z,21nm,0.8s
SIJI Sorong 50.80 209 P **P 03 26 06.8 +1.2**
comp=Z,8.7nm,0.6s,baz=354,slow=8.9,SNR=6.7
PAYA Payao 51.06 257 P **P 03 26 09.5 +1.9**
comp=Z,105μm,1.0s,comp=Z,967μm
BVAR Borovoye Array 51.17 310 P **P 03 26 06.2 -1.8**
comp=Z,12nm,0.7s,baz=56,slow=8.0,SNR=54
BVAR PcP **PcP 03 27 23.2 +0.1**
comp=Z,7.6nm,0.8s,baz=40,slow=2.5,SNR=4.8
BRVK Borovoye 51.21 310 P **P 03 26 06.6 -1.6**
SNR=21
BRVK P **P 03 26 06.6 -1.6**
SNR=21
BRVK Borovoye 51.21 310 P **P 03 26 06.5 -1.8**
BRVK pmax pmax
comp=Z,93nm,1.5s
BRVK MLR MLR
comp=Z,4μm,19.0s
BRVK Borovoye 51.21 310 *e*P **P 03 26 06.8 -1.5**
BRVK Borovoye 51.21 310 P **P 03 26 06.5 -1.8**
BRVK IAmb IAmb 03 26 08.8
comp=Z,93nm,1.4s
RES Resolute Bay 51.23 18 P **P 03 26 08.0 -0.1**
RES pmax pmax
comp=Z,32nm,1.0s
RES Resolute Bay 51.23 18 P **P 03 26 08.1 0.0**
comp=Z,22nm,0.8s,baz=310,slow=8.0,SNR=29
RES Resolute Bay 51.23 18 P **P 03 26 08.1 0.0**
RES IAmb IAmb 03 26 10.2
comp=Z,32nm,1.0s
KKM Kota Kinabalu 51.23 230 P **P 03 26 09.8 +0.8**
YKA Yellowknife Ar 51.24 37 P **P 03 26 08.3 0.0**
YKA Yellowknife Ar 51.24 37 P **P 03 26 08.7 +0.4**
comp=Z,20nm,0.9s,baz=298,slow=7.5,SNR=35
YKA Yellowknife Ar 51.24 37 P **P 03 26 08.3 0.0**
IMP Imphal 51.45 267⇑ *i*P **P 03 26 08.6 -1.9**
IMP IAmb IAmb 03 26 16.4
comp=Z,17nm,0.5s
PRZ Przheval'sk 51.71 295 IAMs_20 IAMs_20 03 49 07.4
comp=Z,2μm,19.0s
LAMP Lampang 51.81 256 P **P 03 26 15.9 +2.8**
comp=Z,90μm,1.1s
CMMT Chiang Mai 52.06 257 P **P 03 26 16.2 +1.1**
comp=Z,46nm,1.3s,comp=Z,488nm
CHTO Chiang Mai 52.07 257 P **P 03 26 16.5 +1.4**
SNR=16
CHTO P **P 03 26 16.5 +1.4**
SNR=16
CHTO Chiang Mai 52.07 257 P **P 03 26 16.0 +0.9**
CHTO pmax pmax
comp=Z,71nm,1.0s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 52.07 257 P **P 03 26 16.0 +0.9**
CHTO Chiang Mai 52.07 257 IAMs_20 IAMs_20 03 49 02.9
comp=Z,1μm,20.0s
CHAI Chaiyaphum 52.11 252 P **P 03 26 17.0 +1.6**
comp=Z,30μm,0.8s
GUWA GUWAHATI 52.14 270⇑ *i*P **P 03 26 15.6 0.0**
GUWA IAmb IAmb 03 26 24.2
PBKT Sadao Pong 52.30 253 P **P 03 26 18.5 +1.7**
comp=Z,19nm,1.4s,comp=Z,527nm
PBKT Sadao Pong 52.30 253 IAmb IAmb 03 26 19.3
comp=Z,38nm,1.1s
CM31 Chiang Mai Arr 52.32 257 P **P 03 26 17.7 +0.8**
SNR=11
CM31 Chiang Mai Arr 52.32 257 P **P 03 26 17.7 +0.8**
CM31 IAmb IAmb 03 26 19.8
comp=Z,43nm,0.9s
CMAR Chiang Mai Arr 52.32 257 P **P 03 26 18.2 +1.2**
comp=Z,18nm,0.8s,baz=34,slow=7.5,SNR=67
CMAR PcP **PcP 03 27 28.7 +0.8**
comp=Z,1.4nm,0.5s,baz=20,slow=3.2,SNR=4.7
CMAR LR LR 03 51 44.2
comp=Z,954nm,19.0s,baz=52,slow=40
CMAR Chiang Mai Arr 52.32 257 P **P 03 26 17.1 +0.1**
FAKI Fak Fak 52.41 207 P **P 03 26 17.1 -0.5**
comp=Z,15nm,1.5s
FAKI Fak Fak 52.41 207 P **P 03 26 18.0 +0.5**
SHL Shillong 52.41 269 P **P 03 26 17.6 -0.1**
SNR=20
SHL Shillong 52.41 269 P **P 03 26 17.7 -0.1**
SHL pmax pmax
comp=Z,62nm,0.7s
SHL MLR MLR
comp=Z,800nm,18.0s
SHL Shillong 52.41 269⇑ *i*P **P 03 26 14.6 -3.2**
SHL IAmb IAmb 03 26 18.9
comp=Z,51nm,0.5s
SHL IAMs_20 IAMs_20 03 51 13.2
comp=Z,724nm,17.9s
SHL Shillong 52.41 269 P **P 03 26 17.7 -0.1**
KDJ Kajisay 52.67 295 P **P 03 26 19.1 -0.4**
KDJ pmax pmax
comp=Z,44nm,0.9s
KDJ MLR MLR
comp=Z,4μm,18.0s
KDJ Kajisay 52.67 295 P **P 03 26 19.1 -0.4**
KDJ IAmb IAmb 03 26 21.6
comp=Z,44nm,0.8s
KBS Kingsbay 52.93 351*de*P **P 03 26 21.4 +0.7**
KBS pmax pmax
comp=Z,245nm,0.9s
AZL Aizawl 53.03 267 *e*P **P 03 26 22.6 +0.2**
ULHL Ulahol 53.19 295 P **P 03 26 24.9 +1.5**
SNR=6.8
MHMT Maesarieng 53.20 257 P **P 03 26 25.7 +2.3**
comp=Z,75nm,1.3s,comp=Z,1μm
TKM2 Tokmak 2 53.23 296 *i* P **P 03 26 22.6 -1.1**
TKM2 pmax pmax
comp=Z,29nm,1.0s
TKM2 Tokmak 2 53.23 296 P **P 03 26 23.4 -0.3**
SNR=16
MRSI Marisa 53.24 220 P **P 03 26 23.0 -0.7**
comp=Z,50nm,1.5s
BOOM Boomskoye usch 53.25 296 P **P 03 26 23.8 0.0**
BOOM pmax pmax
comp=Z,32nm,0.8s
BOOM MLR MLR
comp=Z,4μm,18.0s
BOOM Boomskoye usch 53.25 296 P **P 03 26 23.8 0.0**
BOOM IAmb IAmb 03 26 26.1
comp=Z,32nm,0.8s
GTK Tadong 53.58 273⇑ *i*P **P 03 26 25.8 -0.5**
GTK IAmb IAmb 03 26 37.5
comp=Z,41nm,0.7s
SAIH SAIHA 53.65 265⇑ *i*P **P 03 26 24.1 -2.8**
SAIH IAmb IAmb 03 26 29.5
comp=Z,44nm,0.7s
CHMS Chumysh 53.72 297 P **P 03 26 26.9 -0.1**
SNR=15
USP Ospenovka 53.73 297 P **P 03 26 26.0 -1.2**
SNR=43
KBK Karagaybulak 53.78 296 P **P 03 26 28.4 +0.7**
SNR=19
SANI Sanana 53.81 214 P **P 03 26 26.7 -1.2**
comp=Z,50nm,1.1s,comp=Z,572nm
FRU1 Bishkek 53.89 297 P **P 03 26 27.5 -0.9**
FRU1 pmax pmax
comp=Z,38nm,0.8s
FRU1 MLR MLR
comp=Z,4μm,18.0s
FRU1 Bishkek 53.89 297 P **P 03 26 27.5 -0.9**
FRU1 IAmb IAmb 03 26 30.4
comp=Z,38nm,0.8s
KZA Kyzart 53.90 296 P **P 03 26 29.7 +0.8**
SNR=5.6
MSAI Masohi 53.91 210 P **P 03 26 29.0 +0.4**
comp=Z,11nm,1.1s,comp=Z,765nm
UMPA Umpang Tak 53.96 255 P **P 03 26 33.0 +3.9**
comp=Z,77μm,1.2s
UTHA Uthaitani 54.04 254 P **P 03 26 32.4 +2.8**
comp=Z,41μm,1.0s,comp=Z,405μm
A04D Lummi Island 54.04 54 P **P 03 26 29.5 +0.3**
baz=302
AAK Ala-Archa 54.07 297 *i* P **P 03 26 29.0 -0.8**
SNR=5.4
AAK Ala-Archa 54.07 297 P **P 03 26 29.0 -0.8**
SNR=11
AAK P **P 03 26 29.0 -0.8**
SNR=11
AAK Ala-Archa 54.07 297*c* *i*P **P 03 26 29.1 -0.8**
AAK pmax pmax
comp=Z,39nm,0.8s
AAK MLR MLR
comp=Z,4μm,17.0s
AAK Ala-Archa 54.07 297 P **P 03 26 28.8 -1.0**
comp=Z,32nm,0.9s,baz=120,slow=6.4,SNR=54
AAK Ala-Archa 54.07 297 P **P 03 26 31.0 +1.2**
SNR=20
AAK Ala-Archa 54.07 297 *e*P **P 03 26 29.1 -0.8**
AAK Ala-Archa 54.07 297 P **P 03 26 29.0 -0.8**
AAK IAmb IAmb 03 26 31.6
comp=Z,36nm,0.8s
NLWA Neilton Lookou 54.08 56 IAmb IAmb 03 26 44.5
comp=Z,35nm,1.1s
TAPN Taplejung 54.17 274 *e*P **P 03 26 31.2 +0.3**
comp=Z,56nm,0.5s
SVE Sverdlovsk 54.18 317 *e*P **P 03 26 28.8 -1.4**
SVE pmax pmax
comp=Z,46nm,1.4s
SVE MLR MLR
comp=Z,3μm,16.0s
LUWI Luwuk 54.22 219 P **P 03 26 31.2 +0.3**
comp=Z,52nm,0.5s,comp=Z,5μm
LUWI Luwuk 54.22 219 P **P 03 26 30.7 -0.2**
LUWI IAmb IAmb 03 26 32.0
comp=Z,52nm,1.0s
UCH Uchtor 54.28 296 P **P 03 26 31.9 +0.3**
SNR=6.8
D03D Eldon 54.45 56 P **P 03 26 31.7 -0.5**
baz=302,SNR=9.9
NLAI Namlea 54.47 213 P **P 03 26 33.1 +0.4**
comp=Z,14nm,0.6s,comp=Z,3μm
EKS2 Erkin-Say 54.50 297 P **P 03 26 32.4 -0.5**
SNR=16
TULEG Thule 54.54 11 P **P 03 26 31.8 -0.7**
TULEG IAmb IAmb 03 26 46.7
comp=Z,38nm,0.9s
TULEG IAMs_20 IAMs_20 03 52 20.1
comp=Z,2μm,20.0s
APSI Ampana 54.60 220 P **P 03 26 33.7 0.0**
comp=Z,63nm,1.2s,comp=Z,1μm
B05A Bryant 54.63 55 P **P 03 26 33.1 -0.4**
baz=302,SNR=8.9
E03A Lebam 54.70 57 IAmb IAmb 03 26 40.3
comp=Z,33nm,1.0s
ODAN Odare 54.70 273 *e*P **P 03 26 34.8 +0.1**
comp=Z,46nm,0.5s
B06A Marblemount 54.84 54 IAmb IAmb 03 26 43.8
comp=Z,44nm,1.4s
AML Almayashu 54.84 297 P **P 03 26 36.7 +1.0**
SNR=14
KSH Kashi 54.86 293 P **P 03 26 39.5 +3.9**

KSH pP pwP 03 26 50.8 +2.9
KSH sP sP 03 26 53.3 +6.7
KSH PcP **PcP** **03 27 41.6 +4.1**
KSH PP **PP** **03 28 44.4 +6.1**
KSH PcS **PcS** **03 31 38.8 +1.4**
KSH S **S** **03 34 16.9 +2.0**
KSH sS sS 03 34 33.6 +5.5
KSH SS **SS** **03 38 00.0 +2.1**
KSH pmax pmax
comp=Z,230nm,1.6s
KSH pmax pmax
comp=Z,1μm,5.1s
KSH LR LR
comp=Z,4μm,12.7s
KSH LR LR
comp=Z,3μm,12.8s
KSH LR LR
comp=Z,2μm,13.7s
JIRN Jiri 55.03 275 *e*P **P** **03 26 37.5 +0.3**
comp=Z,236nm,0.8s
GUN Gumba 55.09 275 *e*P **P** **03 26 38.1 +0.5**
comp=Z,81nm,0.5s
RAMN Ramite 55.19 274 *e*P **P** **03 26 38.3 +0.1**
comp=Z,90nm,0.4s
D05A Enumclaw 55.27 56 IAmb IAmb 03 26 44.5
comp=Z,24nm,0.9s
E04D Cinebar 55.28 57 P **P** **03 26 38.2 0.0**
baz=303,SNR=6.0
SIMRM Sittwe 55.30 263 P **P** **03 26 38.4 -0.3**
SIMRM IAmb IAmb 03 26 41.2
comp=Z,43nm,1.1s
ARU Arti 55.37 318*d i*P **P** **03 26 36.6 -2.1**
ARU 03 27 37.5
ARU S **S** **03 34 18.7 -2.2**
ARU SS **SS** **03 38 01.2 -3.6**
ARU pmax pmax
comp=Z,51nm,1.1s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 55.37 318 P **P** **03 26 36.3 -2.4**
comp=Z,4.2nm,0.3s,baz=40,slow=4.9,SNR=26
ARU Arti 55.37 318 P **P** **03 26 36.7 -2.1**
ARU IAmb IAmb 03 26 38.8
comp=Z,45nm,1.0s
C06D Leavenworth 55.49 55 P **P** **03 26 40.0 +0.2**
baz=303
KKN Kakani 55.58 276 *e*P **P** **03 26 41.2 +0.2**
comp=Z,174nm,0.7s
LON Longmire 55.61 56 P **P** **03 26 42.3 +1.6**
LON pmax pmax
comp=Z,16nm,1.2s
LON Longmire 55.61 56 P **P** **03 26 42.3 +1.6**
PKI Pulchoki 55.62 275 *e*P **P** **03 26 41.3 -0.1**
comp=Z,98nm,0.8s
PKIN Phulchoki 55.63 275 *e*P **P** **03 26 41.3 -0.1**
comp=Z,88nm,0.9s
PMG Port Moresby 55.73 187⇑*e*P **P** **03 26 41.7 0.0**
PMG pmax pmax
comp=Z,38nm,1.4s
PMG MLR MLR
comp=Z,1μm,17.0s
PMG Port Moresby 55.73 187 P **P** **03 26 43.6 +1.9**
ARSB Arslanbob 55.73 296 P **P** **03 26 41.2 -0.7**
ARSB IAmb IAmb 03 26 44.2
comp=Z,33nm,0.9s
DMN Daman 55.81 276 *e*P **P** **03 26 43.1 +0.4**
comp=Z,262nm,1.1s
HNR Honiara 55.82 172 IAMs_20 IAMs_20 03 45 05.5
comp=Z,998nm,18.0s
PHET Kaeng Krachan 55.84 251 P **P** **03 26 45.3 +2.6**
comp=Z,76μm,0.8s
I02D Swisshome 55.87 60 P **P** **03 26 43.1 +0.5**
baz=304
GKN Gorkha 55.89 276 *e*P **P** **03 26 43.4 +0.3**
comp=Z,138nm,0.6s
B08A Colville Reser 56.12 53 IAmb IAmb 03 26 50.1
comp=Z,30nm,1.0s
KK31 Karatay Array 56.25 299 *i*P **P** **03 26 44.1 -1.2**
KK31 pmax pmax
comp=Z,19nm,0.8s
KK31 Karatay Array 56.25 299 P **P** **03 26 44.2 -1.2**
KK31 IAmb IAmb 03 26 46.8
comp=Z,23nm,0.8s
KKAR Karatay Array 56.25 299 P **P** **03 26 43.7 -1.7**
KKAR Karatay Array 56.25 299 P **P** **03 26 43.7 -1.7**
DANN Dangsing 56.27 277 *e*P **P** **03 26 46.6 +0.6**
comp=Z,279nm,0.7s
F05D White Salmon 56.29 57 P **P** **03 26 45.1 -0.4**
baz=304
H04D Lebanon 56.30 59 P **P** **03 26 45.9 +0.2**
baz=304,SNR=5.9
SBUM Sibu 56.39 232 P **P** **03 26 47.6 +1.0**
I03D Drain, OR 56.40 60 P **P** **03 26 46.7 +0.4**
baz=305,SNR=8.8
G05D Wamic, OR 56.73 57 P **P** **03 26 49.0 +0.3**
baz=305,SNR=13
KOLN Koldanda 56.75 277 *e*P **P** **03 26 49.7 +0.4**
comp=Z,295nm,1.0s
K02D Willamette Mer 56.77 61 P **P** **03 26 49.6 +0.4**
baz=305,SNR=6.7
C09A Chrisman Ranch 57.02 53 IAmb IAmb 03 26 56.3
comp=Z,29nm,0.9s
DAG Danmarks Havn 57.08 358 *i*P **P** **03 26 50.0 -0.7**
DAG pmax pmax
comp=Z,250nm,1.4s
DAG Danmarks Havn 57.08 358 *i*P **P** **03 26 50.0 -0.7**
comp=Z,106nm,1.4s
HAWA Hanford 57.11 55 P **P** **03 26 51.6 +0.2**
HAWA IAmb IAmb 03 26 57.4
comp=Z,38nm,1.2s
F07A Phinny Hill Vi 57.17 56 IAmb IAmb 03 26 58.1
comp=Z,34nm,1.0s
LVZ Lovozero 57.18 337⇓*e*P **P** **03 26 49.3 -2.3**
LVZ pmax pmax
comp=Z,106nm,1.9s
LVZ MLR MLR
comp=Z,2μm,16.0s
I05D Terrebonne, OR 57.23 58 P **P** **03 26 52.1 -0.2**
baz=305,SNR=11
NEW Newport 57.40 52 P **P** **03 26 53.8 +0.4**
baz=305,SNR=11
NEW Newport 57.40 52 P **P** **03 26 54.3 +0.9**
comp=Z,21nm,1.1s,baz=334,slow=6.2,SNR=11
NEW Newport 57.40 52 IAmb IAmb 03 26 59.1
comp=Z,38nm,1.2s
KULLO Kullorsuaq 57.68 9 *i*P **P** **03 26 53.8 -1.1**
KULLO pmax pmax
comp=Z,44nm,0.8s
KULLO Kullorsuaq 57.68 9 *i*P **P** **03 26 53.8 -1.1**
comp=Z,44nm,0.8s
BOK Bokaro 57.71 272 *e*P **P** **03 26 53.9 -2.0**
APA Apatity 57.76 337⇑*i*P **P** **03 26 53.2 -2.4**
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
PRGR Permogore 57.76 327 *e*P **P** **03 26 53.0 -2.6**
PRGR pmax pmax
comp=Z,58nm,0.8s
KEV Kevo 57.77 341 IAMs_20 IAMs_20 03 54 44.9
comp=Z,1μm,20.0s
PINE Pine Mountain 57.78 59 IAmb IAmb 03 27 03.2
comp=Z,67nm,1.2s
BTK Batken 57.81 296 P **P** **03 26 56.4 -0.1**
BTK pmax pmax
comp=Z,31nm,0.8s
BTK MLR MLR
comp=Z,4μm,20.0s
BTK Batken 57.81 296 P **P** **03 26 56.4 -0.1**
BTK IAmb IAmb 03 26 58.8
comp=Z,31nm,0.8s
L04D Klamath Falls 57.87 61 P **P** **03 26 57.2 +0.2**
baz=306,SNR=11
KNTN Kanton 57.88 137 IAMs_20 IAMs_20 03 45 29.7
comp=Z,2μm,20.0s
J05D Fort Rock, OR 57.90 59 P **P** **03 26 58.3 +1.2**
baz=306,SNR=23
YBH Yreka Blue Hor 57.91 62 IAmb IAmb 03 27 04.0
comp=Z,30nm,1.2s
M02C Callahan 58.02 62 P **P** **03 26 58.6 +0.7**
baz=306
SPSI Sidrap Palu 58.15 220 P **P** **03 26 57.4 -1.6**
comp=Z,15nm,1.8s,comp=Z,410nm
KSM Kuching 58.25 233 P **P** **03 27 00.6 +0.8**
KSM IAmb IAmb 03 27 02.3
comp=Z,34nm,1.3s

ARCES ARCESS Array B 58.28 341 P **P** **03 26 58.8 -0.5**
comp=Z,7.5nm,0.7s,baz=23,slow=6.8,SNR=40
ARCES LR LR 03 55 11.6
comp=Z,2μm,21.0s,baz=32,slow=39
ARCES ARCESS Array B 58.28 341 P **P** **03 26 59.0 -0.3**
ARE0 ARCESS Array S 58.28 341 *e*P **P** **03 26 58.7 -0.5**
N02D Trinity Center 58.35 62 P **P** **03 27 01.0 +0.7**
baz=306
BNSI Bone 58.39 220 P **P** **03 27 01.0 +0.4**
comp=Z,20nm,1.3s
M04C Macdoel 58.41 61 P **P** **03 27 01.5 +0.8**
baz=306,SNR=9.3
KCPM Cahto Peak 58.57 64 IAMs_20 IAMs_20 03 48 34.4
comp=Z,864nm,21.0s
SURA Surathani 58.62 248 P P 03 27 17.4 +15
F10A Beach Ranch, E 58.66 55 IAmb IAmb 03 27 10.1
comp=Z,27nm,1.1s
WALA Waterton Lakes 58.68 50 IAmb IAmb 03 27 08.4
comp=Z,32nm,1.1s
WDC Whiskeytown Da 58.68 63 P **P** **03 27 03.9 +1.4**
WDC pmax pmax
comp=Z,29nm,1.1s
WDC Whiskeytown Da 58.68 63 P **P** **03 27 03.9 +1.4**
WDC IAmb IAmb 03 27 11.2
comp=Z,29nm,1.1s
TMCR Tamitsa 58.74 332 *e*P **P** **03 27 00.9 -1.6**
TMCR pmax pmax
comp=Z,55nm,1.1s
AB31 Akbulak array 58.74 310 *i*P **P** **03 27 00.7 -2.0**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
GAR Garm 58.74 295 P **P** **03 27 02.5 -0.6**
O02D Mt. Diablo Mer 58.77 63 P **P** **03 27 03.8 +0.6**
baz=307
STKI Sintang 58.78 231 P **P** **03 27 03.6 +0.2**
DHRM DHARAMSHALA 58.93 286⇑*i*P **P** **03 27 04.5 -0.1**
DHRM IAMs_20 IAMs_20 03 56 06.6
comp=Z,4μm,14.2s
DDI Dehra Dun 58.94 283⇑*i*P **P** **03 27 04.2 -0.2**
DDI IAMs_20 IAMs_20 03 54 18.5
comp=Z,2μm,15.4s
SMLA Simla 59.04 284⇑*i*P **P** **03 27 05.4 +0.3**
SMLA IAMs_20 IAMs_20 03 56 51.8
comp=Z,1μm,14.1s
AKTO Aktyubinsk 59.05 312 P **P** **03 27 03.1 -1.8**
AKTO pmax pmax
comp=Z,12nm,0.8s
KAPI Kappang 59.09 220 P **P** **03 27 05.7 +0.2**
KAPI pmax pmax
comp=Z,23nm,1.4s
KAPI Kappang 59.09 220 P **P** **03 27 05.8 +0.2**
comp=Z,3.4nm,0.4s,baz=21,slow=10,SNR=5.4
KAPI Kappang 59.09 220 P **P** **03 27 05.7 +0.2**
KTK1 Kautokeino 59.20 341 *e*P **P** **03 27 05.1 -0.5**
JTMT Jette 59.25 52 IAmb IAmb 03 27 14.0
comp=Z,27nm,1.0s
JTMT IAMs_20 IAMs_20 03 47 29.2
comp=Z,932nm,22.0s
MOD Modoc Plateau 59.26 60 IAmb IAmb 03 27 12.9
comp=Z,32nm,1.2s
BMO Blue Mountains 59.28 56 IAmb IAmb 03 27 12.9
comp=Z,30nm,1.2s
BMO IAMs_20 IAMs_20 03 47 44.3
comp=Z,726nm,18.0s
O03E Paynes Creek 59.31 62 P **P** **03 27 07.5 +0.6**
baz=307
GDXM Geysers 59.58 64 IAmb IAmb 03 27 17.8
comp=Z,43nm,1.3s
TRO Tromso 59.61 343 *e*P **P** **03 27 07.9 -0.5**
CHGR Chuyangaron 59.67 296 P **P** **03 27 08.6 -0.9**
ORV Oroville 59.94 63 IAmb IAmb 03 27 16.6
comp=Z,26nm,1.1s
WVOR Wild Horse Val 59.94 59 IAmb IAmb 03 27 17.5
comp=Z,30nm,1.0s
MSO Missoula 59.99 52 P **P** **03 27 11.4 -0.1**
baz=307,SNR=41
NIL Nilore 60.09 289 P **P** **03 27 12.5 +0.2**
NIL P **P** **03 27 12.5 +0.2**
NIL Nilore 60.09 289 P **P** **03 27 12.5 +0.2**
NIL pmax pmax
comp=Z,239nm,1.1s
NIL MLR MLR
comp=Z,2μm,21.0s
NIL Nilore 60.09 289 P **P** **03 27 12.5 +0.2**
NIL Nilore 60.09 289 IAMs_20 IAMs_20 03 55 51.2
comp=Z,2μm,21.0s
DGPR DIGLIPUR 60.12 257⇑*i*P **P** **03 27 12.7 0.0**
KLMR Klimovskoe 60.50 329 *e*P **P** **03 27 12.4 -2.3**
KLMR *e*S **S** **03 35 25.6 -2.3**
KLMR *e*SS **SS** **03 39 25.8 +0.6**
KLMR pmax pmax
comp=Z,43nm,1.3s
KLMR MLR MLR
comp=Z,2μm,18.0s
KLMR Klimovskoe 60.50 329 *e*P **P** **03 27 12.4 -2.3**
KLMR AMP 03 27 21.3
comp=Z,43nm,1.3s
KLMR *e*S **S** **03 35 25.7 -2.2**
KLMR *e*S **S** **03 35 25.7 -2.2**
KLMR *e*SS **SS** **03 39 25.8 +0.6**
KLMR *e*SS **SS** **03 39 25.8 +0.6**
KLMR LQ LQ 03 48 53.1
KLMR LQ LQ 03 48 53.1
KLMR LR LR 03 53 15.3
KLMR AMP 03 55 51.6
comp=Z,2μm,18.3s
NDI New Delhi 60.54 282 *e*P **P** **03 27 16.0 +0.6**
AFDM Forest Hills D 60.63 63 IAmb IAmb 03 27 24.1
comp=Z,35nm,1.3s
COEN Coen 60.67 191 P **P** **03 27 17.6 +1.3**
KULM Kulim 60.93 245 P **P** **03 27 18.8 +0.6**
FFC Flin Flon 61.04 40 P **P** **03 27 18.9 +0.5**
FFC pmax pmax
comp=Z,37nm,0.9s
FFC Flin Flon 61.04 40 P **P** **03 27 18.9 +0.5**
FFC IAmb IAmb 03 27 24.5
comp=Z,37nm,0.8s
SUMG Summit 61.13 4 P **P** **03 27 19.1 -0.1**
SUMG pmax pmax
comp=Z,170nm,1.0s
SUMG Summit 61.13 4 *i*P **P** **03 27 19.8 +0.5**
comp=Z,506nm,1.1s
SUMG Summit 61.13 4 P **P** **03 27 19.1 -0.1**
PAHR Pah Rah Range 61.14 62 IAmb IAmb 03 27 25.5
comp=Z,37nm,1.2s
HRY Holter Researc 61.21 51 P **P** **03 27 21.0 +1.1**
VCNR Virginia City 61.23 62 IAmb IAmb 03 27 28.9
comp=Z,30nm,1.1s
IPM Ipoh 61.32 244 IAMs_20 IAMs_20 03 58 10.5
comp=Z,654nm,18.0s
PBA Port Blair 61.34 256 P P 03 27 21.8 +0.9
PBA IAMs_20 IAMs_20 03 56 40.6
comp=Z,956nm,18.0s
PNTR Pine Nut 61.39 62 IAmb IAmb 03 27 27.5
comp=Z,43nm,1.1s
EGMT Eagleton 61.51 49 P **P** **03 27 21.8 0.0**
baz=309,SNR=20
SOEI Soe 61.53 213 P **P** **03 27 21.9 -0.4**
comp=Z,43nm,1.1s,comp=Z,769nm
SOEI Soe 61.53 213 P **P** **03 27 22.0 -0.3**
SOEI IAmb IAmb 03 27 41.1
comp=Z,33nm,1.0s
CMB Columbia Colle 61.55 64 IAmb IAmb 03 27 28.2
comp=Z,33nm,1.1s
DLMT Dillon 61.62 53 IAmb IAmb 03 27 37.2
comp=Z,29nm,1.3s
MYKOM Kota Tinggi 61.72 239 P **P** **03 27 24.5 +1.0**
MYKOM IAmb IAmb 03 27 26.5
comp=Z,46nm,1.3s
LOF Lofoten 61.94 344 *e*P **P** **03 27 23.5 -0.8**
BOZ Bozeman (W) 62.01 52 P **P** **03 27 25.6 +0.3**
baz=309,SNR=19
KBL Kabul 62.27 292 P **P** **03 27 26.4 -0.9**
KBL P **P** **03 27 26.4 -0.9**
KBL Kabul 62.27 292 P **P** **03 27 26.0 -1.4**
KBL pmax pmax
comp=Z,117nm,1.2s
KBL MLR MLR
comp=Z,3μm,19.0s
KBL Kabul 62.27 292 P **P** **03 27 26.0 -1.4**
RYN Ryan 62.33 62 IAmb IAmb 03 27 31.3
comp=Z,22nm,0.9s
NVAR Mina Array Bea 62.59 62 P **P** **03 27 30.3 +0.9**
comp=Z,17nm,0.7s,baz=296,slow=6.6,SNR=78
NVAR LR LR 03 51 34.2
comp=Z,209nm,20.8s,baz=280,slow=33

NVAR Mina Array Bea 62.59 62 P **P** **03 27 30.0 +0.5**
NV11 Mina Array Sit 62.68 62 IAmb IAmb 03 27 36.0
comp=Z,30nm,1.1s
YMR Madison River 62.96 53 P **P** **03 27 32.8 +1.0**
DSRI Dabo 63.11 237 P **P** **03 27 33.0 +0.2**
LHMI Lhok Sumawe 63.33 248 IAMs_20 IAMs_20 03 55 27.2
comp=Z,865nm,20.0s
LKWY Lake 63.34 53 IAmb IAmb 03 27 43.4
comp=Z,33nm,1.1s
H17A Grant Village 63.35 53 P **P** **03 27 36.1 +1.6**
baz=310,SNR=22
KONS Konsvik 63.43 343 *e*P **P** **03 27 33.6 -0.7**
MOR8 Moi Rana 63.45 343 *e*P **P** **03 27 31.9 -2.5**
SCO Scoresbysund 63.46 358 *i*P **P** **03 27 35.0 +0.6**
SCO pmax pmax
comp=Z,39nm,1.0s
SCO Scoresbysund 63.46 358 *i*P **P** **03 27 35.0 +0.6**
comp=Z,39nm,1.0s
SCO Scoresbysund 63.46 358 P **P** **03 27 34.5 +0.2**
FLWY Flagg Ranch 63.48 53 IAmb IAmb 03 27 42.3
comp=Z,30nm,1.0s
SMMC Simmler 63.50 66 P **P** **03 27 35.4 +0.1**
baz=310
FXWY Fox Creek 63.58 54 IAmb IAmb 03 27 42.7
comp=Z,25nm,1.1s
RLMT Red Lodge 63.60 52 P **P** **03 27 37.1 +1.1**
baz=310,SNR=17
RLMT Red Lodge 63.60 52 IAmb IAmb 03 27 43.2
comp=Z,27nm,0.9s
MOOW Moose Ponds 63.67 54 P **P** **03 27 37.5 +1.0**
MOOW IAmb IAmb 03 27 43.3
comp=Z,44nm,1.2s
VES Vestal, Richgr 63.74 65 P **P** **03 27 37.2 +0.4**
baz=310,SNR=12
SRBI Singaraja 63.88 223 P **P** **03 27 36.6 -1.2**
comp=Z,26nm,1.1s
PKM Mcpherson Peak 63.88 66 P **P** **03 27 38.1 +0.1**
baz=310
BHPL Bhopal 63.92 277 *e*P **P** **03 27 37.0 -1.2**
PSI Prapat 63.94 244 P **P** **03 27 39.5 +1.1**
PSI pmax pmax
comp=Z,13nm,1.1s
PSI Prapat 63.94 244 P **P** **03 27 37.6 -0.8**
comp=Z,8.4nm,0.9s,baz=86,slow=3.7,SNR=4.3
CWC Cottonwood Cre 63.98 64 P **P** **03 27 38.7 +0.1**
baz=310
RPSI Rantau Prapat 64.02 244 P **P** **03 27 39.5 +0.7**
DGMT Dagmar 64.07 46 P **P** **03 27 38.8 0.0**
baz=312,SNR=8.0
GRAC Grapevine Rang 64.07 63 P **P** **03 27 39.5 +0.5**
baz=310,SNR=8.5
AHID Auburn Hatcher 64.10 55 IAmb IAmb 03 27 45.5
comp=Z,47nm,1.2s
BSI Banda Aceh 64.19 249 P **P** **03 27 40.0 0.0**
comp=Z,6μm,1.0s
LAO LASA Array 64.21 49 P **P** **03 27 39.9 +0.1**
baz=311,SNR=20
SBC Santa Barbara 64.23 66 P **P** **03 27 39.6 -0.4**
baz=310
ISA Isabella, Lake 64.23 65 P **P** **03 27 40.4 +0.3**
baz=310,SNR=10.0
ISA Isabella, Lake 64.23 65 IAmb IAmb 03 27 45.1
comp=Z,23nm,1.2s
R11A Troy Canyon, C 64.30 61 P **P** **03 27 40.9 +0.2**
baz=310,SNR=46
R11A Troy Canyon, C 64.30 61 IAmb IAmb 03 27 46.5
comp=Z,37nm,1.2s
ARVC Arvin 64.35 65 P **P** **03 27 41.1 +0.3**
baz=310
MLSI Meulaboh, Aceh 64.41 248 P **P** **03 27 41.3 -0.1**
comp=Z,21nm,0.7s
FIA1 FINESS Array S 64.45 335 P **P** **03 27 39.6 -1.4**
FINES FINESS Array B 64.45 335 P **P** **03 27 39.5 -1.6**
comp=Z,22nm,0.6s,baz=34,slow=6.7,SNR=86
FINES LR LR 03 58 32.2
comp=Z,2μm,18.9s,baz=32,slow=39
FINES FINESS Array B 64.45 335 P **P** **03 27 39.2 -1.8**
BKNI Bangkinang 64.57 241 P **P** **03 27 43.1 +0.6**
MPMC Manual Prospec 64.59 64 P **P** **03 27 42.9 +0.2**
baz=310,SNR=26
FURC Furnace Creek, 64.72 63 P **P** **03 27 43.7 +0.5**
baz=310,SNR=28
DUG Dugway, Tooele 64.77 58 P **P** **03 27 44.5 +0.8**
baz=310,SNR=37
TPNV Topopah Spring 64.79 62 P **P** **03 27 44.1 +0.2**
baz=310,SNR=38
MOS Moscow 64.83 326 *e*P **P** **03 27 39.8 -3.7**
MOS *e* 03 28 15.5
MOS *e*S **S** **03 36 15.3 -6.9**
MOS pmax pmax
comp=Z,38nm,1.1s
MOS MLR MLR
comp=Z,2μm,18.0s
LRMC Laurel Mtn Rad 64.84 64 P **P** **03 27 44.5 +0.3**
baz=310
BW06 Boulder Array 64.96 54 P **P** **03 27 44.8 -0.2**
baz=311,SNR=34
PD31 Pinedale Array 64.96 54 IAmb IAmb 03 27 50.8
comp=Z,40nm,1.1s
PDAR Pinedale Array 64.96 54 P **P** **03 27 45.2 +0.2**
comp=Z,12nm,0.8s,baz=273,slow=1.8,SNR=89
PDAR LR LR 03 53 42.2
comp=Z,258nm,21.5s,baz=340,slow=34
PDAR Pinedale Array 64.96 54 P **P** **03 27 44.8 -0.2**
EDW2 Edwards Air Fo 65.03 65 P **P** **03 27 45.8 +0.4**
baz=310,SNR=25
DECC Green Verdugo 65.22 66 P **P** **03 27 46.9 +0.3**
baz=311
JLU Jordanelle 65.30 57 P **P** **03 27 48.4 +1.1**
SDSI Sungai Dareh 65.33 240 P **P** **03 27 47.6 +0.2**
comp=Z,28nm,1.5s
PASC Pasadena Art C 65.37 66 IAmb IAmb 03 27 52.9
comp=Z,49nm,1.4s
NSS Namsos 65.39 343 *e*P **P** **03 27 46.1 -0.9**
MWC Mount Wilson 65.42 66 IAMs_20 IAMs_20 03 48 51.9
comp=Z,777nm,22.0s
SHOC Shoshone, Teco 65.45 63 P **P** **03 27 48.3 +0.3**
baz=311
PWJI Pagerwojo 65.47 226 P **P** **03 27 47.8 -0.4**
comp=Z,57nm,1.3s
GSC Goldstone, Bar 65.51 64 P **P** **03 27 48.4 -0.1**
baz=311,SNR=14
GSC Goldstone, Bar 65.51 64 IAmb IAmb 03 27 54.1
comp=Z,23nm,1.1s
BFSC Mount Baldy Ra 65.66 65 P **P** **03 27 49.4 -0.1**
baz=311,SNR=11
OBN Obninsk 65.69 326*c i*P **P** **03 27 47.4 -1.8**
OBN *e* 03 30 11.3
OBN *e*S **S** **03 36 37.9 +5.0**
OBN *e*SS **SS** **03 40 53.1 +6.7**
OBN pmax pmax
comp=Z,21nm,0.5s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 65.69 326 P **P** **03 27 47.6 -1.6**
comp=Z,6.0nm,0.4s,baz=99,slow=8.4
OBN Obninsk 65.69 326 *e*P **P** **03 27 47.4 -1.8**
OBN Obninsk 65.69 326 P **P** **03 27 48.4 -0.7**
CIS Catalina Islan 65.72 67 P **P** **03 27 49.8 0.0**
baz=311
SHPR Sheep Range 65.74 62 IAmb IAmb 03 27 56.3
comp=Z,42nm,1.2s
GSI Gunungsitoli 65.94 245 P **P** **03 27 51.4 +0.1**
comp=Z,16nm,1.2s,comp=Z,963nm
GSI Gunungsitoli 65.94 245 P **P** **03 27 52.0 +0.7**
GSI IAmb IAmb 03 27 53.7
comp=Z,45nm,1.5s
TUQ Turquoise Moun 65.97 63 P **P** **03 27 51.6 +0.2**
baz=311,SNR=10
HEC Hector,Ludlow 66.11 64 P **P** **03 27 52.0 -0.3**
baz=311,SNR=19
BBRC Big Bear Solar 66.11 65 P **P** **03 27 52.4 -0.1**
baz=311
MURC Murrieta 66.37 66 P **P** **03 27 54.3 +0.4**
baz=311,SNR=9.0
VRH Novokhopyorsk 66.37 320 *e*P **P** **03 27 51.7 -1.9**
VRH pmax pmax
comp=Z,40nm,0.9s
VRH MLR MLR
comp=Z,2μm,22.0s
KLSI 66.45 234 P **P** **03 27 54.3 -0.2**
comp=Z,28nm,1.6s
GMRC Granite Mounta 66.56 64 P **P** **03 27 55.7 +0.4**
baz=311,SNR=16
LPSR Galich'ya Gora 66.57 323 *e*P **P** **03 27 53.1 -1.8**
LPSR pmax pmax
comp=Z,40nm,0.8s

LPSR MLR MLR
comp=Z,2μm,16.0s
MASI Maura Aman, Be 66.62 238 P **P 03 27 55.9 +0.2**
comp=Z,94nm,1.0s,comp=Z,4μm
VSU Vasula 66.62 333 *ce*P **P 03 27 53.7 -1.4**
VSU pmax pmax
comp=Z,141nm,1.0s
VSU MLR MLR
comp=Z,3μm,18.0s
VSU Vasula 66.62 333 *e*P **P 03 27 53.6 -1.4**
LEM Lembang 66.63 231 P **P 03 27 56.5 +0.6**
comp=Z,23nm,0.6s,baz=126,slow=6.9,SNR=4.2
LEM Lembang 66.63 231 P **P 03 27 55.9 0.0**
comp=Z,273nm,0.7s
HRA Herat 66.68 296 P **P 03 27 56.4 +0.3**
K22A Casper 66.72 52 P **P 03 27 56.4 +0.1**
baz=312,SNR=12
MDND Maddock 66.76 44 P **P 03 27 55.9 -0.3**
baz=314
ULM Lac du Bonnet 66.82 41 P **P 03 27 55.8 -0.7**
comp=Z,7.3nm,0.7s,baz=295,slow=7.8,SNR=9.0
ULM LR LR 03 58 33.1
comp=Z,442nm,20.1s,baz=316,slow=37
PFO Pinyon Flats O 66.82 65 P **P 03 27 57.1 +0.1**
baz=311
PFO Pinyon Flats O 66.82 65⇓ *e*P **P 03 27 57.3 +0.3**
PFO pmax pmax
comp=Z,33nm,1.1s
PFO Pinyon Flats O 66.82 65 P **P 03 27 58.2 +1.2**
PFO IAmb IAmb 03 28 05.0
comp=Z,31nm,1.4s
BELC Belle Mtn. Jos 66.86 65 P **P 03 27 56.2 -1.0**
baz=312,SNR=9.9
GEYT Alibeck 66.87 301 P **P 03 27 57.1 0.0**
comp=Z,13nm,0.6s,baz=38,slow=2.6,SNR=25
GEYT LR LR 03 59 14.2
comp=Z,3μm,18.7s,baz=155,slow=38
GEYT Alibeck 66.87 301 P **P 03 27 57.0 -0.1**
GYA0B ALIBECK ARRAY 66.87 301 P **P 03 27 56.7 -0.4**
GYA0B IAmb IAmb 03 28 03.3
comp=Z,29nm,0.9s
TBLU Trondheim 66.88 343 *e*P **P 03 27 54.5 -2.2**
109C Camp Elliot, M 66.89 66 P **P 03 27 57.5 +0.3**
baz=312
109C Camp Elliot, M 66.89 66 IAmb IAmb 03 28 05.2
comp=Z,38nm,1.2s
RWWY Rawlins 66.98 53 IAmb IAmb 03 28 07.9
comp=Z,36nm,1.1s
HYB Hyderabad 67.06 271 *i* P **P 03 27 57.0 -1.5**
HYB Hyderabad 67.06 271 *e*P **P 03 27 57.2 -1.3**
SISI Saibi 67.06 242 P **P 03 27 59.1 +0.6**
comp=Z,15nm,1.1s
RSSD Black Hills 67.07 50 P **P 03 27 57.9 -0.6**
baz=313
RSSD Black Hills 67.07 50 P **P 03 27 58.5 0.0**
RSSD pmax pmax
comp=Z,42nm,1.0s
RSSD Black Hills 67.07 50 P **P 03 27 58.5 0.0**
RSSD Black Hills 67.07 50 IAMs_20 IAMs_20 03 55 07.7
comp=Z,667nm,20.0s
IRM Iron Mountain 67.29 64 P **P 03 28 00.2 +0.4**
baz=312,SNR=32
BAR Barrett 67.30 66 IAmb IAmb 03 28 07.9
comp=Z,35nm,1.4s
MONP2 Monument Peak 67.32 66 P **P 03 28 00.2 0.0**
baz=312
BC3 Big Chuckawall 67.43 65 P **P 03 28 00.6 -0.2**
baz=312,SNR=14
O20A White River Ci 67.44 55 P **P 03 28 00.4 -0.5**
baz=312,SNR=18
O20A White River Ci 67.44 55 IAmb IAmb 03 28 06.5
comp=Z,39nm,1.1s
W13A Hualapai Mount 67.45 62 IAmb IAmb 03 28 08.6
comp=Z,29nm,1.3s
VSR Storozhevoye 67.48 322 *e*P **P 03 27 58.6 -2.1**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=Z,3μm,19.0s
MSVF Nonsavu 67.60 154 P **P 03 28 03.5 +1.7**
MSVF pmax pmax
comp=Z,24nm,1.2s
MSVF MLR MLR
comp=Z,1μm,19.0s
MSVF Nonsavu 67.60 154 P **P 03 28 03.5 +1.7**
MSVF IAmb IAmb 03 28 09.8
comp=Z,24nm,1.2s
MSVF Nonsavu 67.60 154 IAMs_20 IAMs_20 03 59 26.9
comp=Z,1μm,19.0s
PPSI Pulau Pagai 67.64 240 P **P 03 28 01.3 -0.8**
comp=Z,51nm,1.1s
IKP In-Ko-Pah, Jac 67.68 66 P **P 03 28 02.8 +0.5**
baz=312
SWSC Sam W. Stewart 67.68 65 P **P 03 28 02.7 +0.5**
baz=312
PDMCI Parker Dam,Lak 67.81 63 P **P 03 28 03.0 -0.1**
baz=312,SNR=16
Y12C Blythe 67.94 64 P **P 03 28 04.4 +0.5**
baz=312,SNR=20
Y12C Blythe 67.94 64 IAmb IAmb 03 28 09.7
comp=Z,31nm,0.9s
MOL Molde 68.04 344 *e*P **P 03 28 03.9 -0.1**
ANGG Ammassalik, Gr 68.09 5 P **P 03 28 03.5 -0.8**
WC1 Warramunga Arr 68.10 199 IAMs_20 IAMs_20 04 03 35.5
comp=Z,610nm,20.0s
WRAB Tennant Creek 68.11 199 *ce*P **P 03 28 04.9 0.0**
WRAB pmax pmax
comp=Z,12nm,1.0s
WB2 Warramunga Arr 68.12 199 P **P 03 28 04.5 -0.4**
WB2 IAmb IAmb 03 28 17.0
comp=Z,25nm,1.3s
WRA Warramunga Arr 68.12 199 P **P 03 28 04.4 -0.6**
comp=Z,5.8nm,0.8s,baz=16,slow=6.6,SNR=39
WRA LR LR 04 01 52.4
comp=Z,190nm,18.0s,baz=40,slow=39
WRA Warramunga Arr 68.12 199 P **P 03 28 04.3 -0.6**
WC3 Warramunga Arr 68.13 199 P **P 03 28 05.2 +0.2**
WC3 IAmb IAmb 03 28 24.4
comp=Z,21nm,1.1s
PV22 Blue Mesa, Par 68.20 57 IAMs_20 IAMs_20 03 47 57.6
comp=Z,617nm,18.0s
DOMB Dombas 68.22 343 *e*P **P 03 28 04.8 -0.4**
AGMN Agassiz Nation 68.22 42 P **P 03 28 05.1 -0.3**
baz=316,SNR=8.3
GLA Glamis 68.22 65 P **P 03 28 06.0 +0.3**
baz=312,SNR=16
GLA Glamis 68.22 65 IAmb IAmb 03 28 11.5
comp=Z,43nm,1.1s
N23A Red Feather La 68.22 53 P **P 03 28 05.3 -0.6**
baz=313,SNR=21
PV05 Paradox Valley 68.33 57 IAMs_20 IAMs_20 03 56 12.8
comp=Z,675nm,19.0s
PV07 Paradox Valley 68.35 57 IAMs_20 IAMs_20 03 57 35.5
comp=Z,663nm,20.0s
AKN Aaknes 68.51 344 *e*P **P 03 28 07.1 +0.1**
PV01 Paradox Valley 68.60 57 IAMs_20 IAMs_20 03 53 00.1
comp=Z,753nm,21.0s
NB2 NORSAR Subarra 68.65 341 P **P 03 28 06.8 -1.1**
comp=Z,198nm,1.7s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.65 341 P **P 03 28 06.8 -1.1**
baz=28,slow=6.5
NOA NORSAR Array B 68.65 341 P **P 03 28 06.7 -1.3**
comp=Z,24nm,0.6s,baz=29,slow=6.6,SNR=126
NOA LR LR 04 02 37.9
comp=Z,1μm,18.6s,baz=25,slow=40
SLIT Slitere, Latvi 68.68 334 *e*P **P 03 28 06.7 -1.4**
SLIT IAmb IAmb 03 28 09.3
comp=Z,654nm,1.1s
WUAZ Wupatki 68.70 61 P **P 03 28 09.1 +0.3**
baz=313,SNR=20
WUAZ Wupatki 68.70 61 IAmb IAmb 03 28 15.1
comp=Z,47nm,1.3s
NBO00 NORSAR Array S 68.76 341 P **P 03 28 08.5 -0.1**
Y14A Wickenburg 68.76 63 IAmb IAmb 03 28 15.0
comp=Z,26nm,0.9s
FITZ Fitzroy Crossi 68.78 208 P **P 03 28 09.0 -0.1**
comp=Z,7.5nm,0.8s,baz=346,slow=3.7,SNR=12
FITZ Fitzroy Crossi 68.78 208 P **P 03 28 09.4 +0.3**
SMCO Snowmass 68.81 55 IAmb IAmb 03 28 19.7
comp=Z,47nm,1.2s
NAO01 NORSAR Array S 68.90 341 *e*P **P 03 28 08.5 -1.0**
NAO01 NORSAR Array S 68.90 341 P **P 03 28 08.5 -1.0**
IZAR Zarasai 68.96 331 *e*P **P 03 28 09.6 -0.3**
IZAR IAmb IAmb 03 28 10.6
comp=Z,16nm,0.7s
DZM Mont Dzumac 69.12 167 *e*P **P 03 28 13.8 +2.6**
comp=Z,52nm,1.1s
DZM *e*S **S 03 37 14.4 -0.3**
comp=Z,209nm,25.1s
DZM Mont Dzumac 69.12 167 *e*LR LR 03 49 13.6
comp=Z,1μm,21.2s
DZM Mont Dzumac 69.12 167 P **P 03 28 13.6 +2.4**
DZM IAmb IAmb 03 28 31.9
comp=Z,24nm,1.0s
IDID Didziasalis 69.14 331 *e*P **P 03 28 10.0 -1.0**
ISAL Salakas 69.14 331 *e*P **P 03 28 10.7 -0.3**
ISAL IAmb IAmb 03 28 12.6
comp=Z,32nm,1.1s
ISCO Idaho Springs 69.16 54 P **P 03 28 11.6 -0.2**
baz=314,SNR=36
ISCO Idaho Springs 69.16 54 P **P 03 28 12.4 +0.6**
ISCO pmax pmax
comp=Z,29nm,0.9s
ISCO Idaho Springs 69.16 54 P **P 03 28 12.4 +0.6**
ISCO IAmb IAmb 03 28 18.0
comp=Z,29nm,0.9s
BHUJ Bhuj 69.22 282 *e*P **P 03 28 12.3 +0.4**
BHUJ IAMs_20 IAMs_20 04 00 49.7
comp=Z,2μm,16.6s
MVCO Mesa Verde 69.27 58 P **P 03 28 12.7 +0.3**
baz=313,SNR=30
IIGN Ignalina 69.29 331 *e*P **P 03 28 11.1 -0.8**
MAK Makhachkala 69.39 311 *e*P **P 03 28 11.4 -1.3**
MAK *e*S **S 03 37 16.4 -1.2**
MAK pmax pmax
comp=Z,428nm,1.6s
MAK MLR MLR
comp=Z,4μm,15.0s
MICGM Minsk 69.39 329⇓ *e*P **P 03 28 12.0 -0.6**
MICGM PM 03 28 13.0
comp=Z,0.3nm,1.0s
MICGM *e*LR LR 03 59 40.0
MNK Minsk 69.39 329 *e*P **P 03 28 12.0 -0.6**
X16A Lo Mia Camp, P 69.40 62 IAmb IAmb 03 28 19.6
comp=Z,28nm,0.9s
FOO Floro 69.41 344 *e*P **P 03 28 12.5 0.0**
NACGM Naroch 69.46 330 *e*P **P 03 28 11.0 -1.9**
NACGM PM 03 28 14.0
comp=Z,0.2nm,1.0s
NACGM *e*S S 03 37 04.0 -14
NACGM *e*SS SS 03 42 20.0 +35
NACGM *e*SSS SSS 03 46 10.0
NACGM *e*LQ LQ 03 53 35.0
NACGM *e*LR LR 03 59 37.0
SUSD Miller 69.47 47 IAMs_20 IAMs_20 04 01 48.9
comp=Z,1μm,19.0s
HYA Hoyanger 69.59 344 *e*P **P 03 28 13.2 -0.4**
SKAR Skarslía 69.61 342 *e*P **P 03 28 14.1 +0.2**
OSL Oslo 69.75 341 *e*P **P 03 28 15.3 +0.6**
S22A 4UR Ranch, Cre 69.87 56 P **P 03 28 16.6 +0.4**
baz=314,SNR=41
S22A 4UR Ranch, Cre 69.87 56 IAmb IAmb 03 28 22.6
comp=Z,34nm,1.0s
PABE Paberze 69.91 332 *e*P **P 03 28 14.7 -1.0**
PABE IAmb IAmb 03 28 17.1
comp=Z,160nm,1.2s
W18A Petrified Fore 69.95 60 P **P 03 28 16.7 +0.1**
baz=313
SUE Sulen 69.97 344 *e*P **P 03 28 15.4 -0.5**
Q24A Divide 69.99 54 P **P 03 28 17.0 +0.1**
baz=314
GROC Groznyy 70.11 312 *e*P **P 03 28 18.0 +0.8**
GROC *e* 03 28 38.1
GROC pmax pmax
comp=Z,25nm,0.6s
PBUR Paburg 70.13 333 *e*P **P 03 28 16.1 -0.9**
GOF Gofitskoye 70.16 315⇑ *e*P **P 03 28 16.7 -0.8**
GOF pmax pmax
comp=Z,125nm,1.0s
214A Organ Pipe Nat 70.21 64 P **P 03 28 18.3 +0.2**
baz=313
214A Organ Pipe Nat 70.21 64 IAmb IAmb 03 28 25.6
comp=Z,33nm,1.4s
214A IAMs_20 IAMs_20 03 51 05.7
comp=Z,628nm,22.0s
X18A Snowflake 70.23 61 IAmb IAmb 03 28 24.5
comp=Z,24nm,1.0s
KONO Kongsberg 70.26 341 P **P 03 28 17.3 -0.5**
KONO pmax pmax
comp=Z,45nm,1.0s
KONO MLR MLR
comp=Z,2μm,19.0s
KONO Kongsberg 70.26 341 *e*P **P 03 28 17.3 -0.5**
KONO Kongsberg 70.26 341 P **P 03 28 17.3 -0.5**
KONO IAmb IAmb 03 28 19.7
comp=Z,44nm,1.0s
KONO Kongsberg 70.26 341 IAMs_20 IAMs_20 04 03 24.7
comp=Z,1μm,19.0s
AKT Akhty 70.31 310 *e*P **P 03 28 18.3 -0.3**
AKT *e* 03 28 39.2
AKT pmax pmax
comp=Z,59nm,0.7s
OGNE Ogallala 70.33 51 P **P 03 28 18.5 -0.2**
baz=315,SNR=20
ASK Askoy 70.41 344 *e*P **P 03 28 19.0 +0.3**
EYMN Ely 70.47 40 P **P 03 28 18.8 -0.5**
baz=319
EYMN Ely 70.47 40 IAmb IAmb 03 28 24.5
comp=Z,24nm,1.1s
BER Bergen 70.48 344 *e*P **P 03 28 19.4 +0.3**
SDCO Great Sand Dun 70.63 55 P **P 03 28 21.1 +0.2**
baz=314,SNR=25
ODD1 Odda 70.66 343 *e*P **P 03 28 20.1 -0.2**
XMIS Christmas Isla 70.73 230 P **P 03 28 21.2 0.0**
SEKA Sheki 70.79 310 P **P 03 28 21.0 -0.5**
ZKTA Zakatala 70.79 310 P **P 03 28 21.1 -0.3**
NCK Nalchik 71.02 314⇑ *e*P **P 03 28 22.8 0.0**
NCK pmax pmax
comp=Z,78nm,1.1s
NCK MLR MLR
comp=Z,4μm,17.0s
KVAR Kislovodsk Arr 71.13 314 P **P 03 28 24.7 +1.2**
comp=Z,17nm,0.8s,baz=270,slow=20,SNR=13
KIV Kislovodsk 71.14 314 *i* P **P 03 28 22.9 -0.6**
SNR=12
KIV Kislovodsk 71.14 314 P **P 03 28 23.8 +0.2**
SNR=13
KIV Kislovodsk 71.14 314 *e*P **P 03 28 23.7 +0.1**
KIV pmax pmax
comp=Z,143nm,1.0s
KIV Kislovodsk 71.14 314 ⇑P **P 03 28 23.6 0.0**
KIV mb 03 28 27.1
KIV Kislovodsk 71.14 314 *e*P **P 03 28 23.7 +0.1**
KIV Kislovodsk 71.14 314 P **P 03 28 23.4 -0.2**
BLS5 Blasjo 71.14 343 *e*P **P 03 28 23.1 -0.1**
ECSD EROS Data Cent 71.15 46 P **P 03 28 22.8 -0.8**
baz=317,SNR=27
ECSD EROS Data Cent 71.15 46 IAmb IAmb 03 28 28.6
comp=Z,45nm,1.1s
MNGR Mingechevir, A 71.16 310 P **P 03 28 23.6 0.0**
KBZ Khabaz 71.20 314 P **P 03 28 24.0 +0.3**
comp=Z,44nm,0.9s,baz=91,slow=3.8,SNR=69
KBZ LR LR 04 04 19.6
comp=Z,2μm,18.3s,baz=30,slow=40
TUC Tucson 71.23 63 P **P 03 28 24.5 +0.2**
baz=314
TUC Tucson 71.23 63 P **P 03 28 24.8 +0.5**
TUC pmax pmax
comp=Z,21nm,1.1s
TUC Tucson 71.23 63 P **P 03 28 24.8 +0.5**
KSCO Kaye Shedlock' 71.36 53 P **P 03 28 24.6 -0.4**
baz=315
KSCO Kaye Shedlock' 71.36 53 IAmb IAmb 03 28 30.6
comp=Z,37nm,1.1s
EIDS Eidsvold 71.37 182 P **P 03 28 26.6 +1.8**
ZEI Tsey 71.37 313 *e*P **P 03 28 24.3 -0.9**
ZEI pmax pmax
comp=Z,21nm,0.7s
SUW Suwalki 71.40 332 P **P 03 28 23.1 -1.7**
SUW pmax pmax
comp=Z,103nm,1.0s
SUW MLR MLR
comp=Z,1μm,20.0s
SUW Suwalki 71.40 332 *e*P **P 03 28 22.7 -2.2**
SUW *e*P **P 03 28 22.7 -2.2**
SUW Suwalki 71.40 332 P **P 03 28 23.1 -1.7**
SUW IAMs_20 IAMs_20 04 03 12.0
comp=Z,1μm,20.0s
E38A The Farm, Brul 71.45 41 P **P 03 28 24.7 -0.6**
baz=319
IVI Ivigtut 71.45 11 P **P 03 28 24.7 -0.3**
KMY Karmoy 71.58 343 *e*P **P 03 28 26.6 +0.8**
GANJ Ganja 71.65 310 P **P 03 28 26.5 -0.2**
GOA Goa 71.66 273⇑ *i*P **P 03 28 25.5 -1.5**
GOA IAmb IAmb 03 28 35.8
comp=Z,71nm,1.3s
T25A Trinidad 71.68 55 P **P 03 28 26.2 -0.9**
baz=315,SNR=17
T25A Trinidad 71.68 55 IAmb IAmb 03 28 32.9
comp=Z,32nm,1.0s
LKRN Lenkeran, Azer 71.70 307 P **P 03 28 27.2 +0.3**
TBLG Delisi 71.71 312 P **P 03 28 27.7 +0.8**
TBLG pmax pmax
comp=Z,167nm,1.3s
TBLG Delisi 71.71 312 P **P 03 28 27.7 +0.8**
AS31 Alice Springs 71.81 199 P **P 03 28 28.6 +1.0**
ASAR Alice Springs 71.81 199 P **P 03 28 28.0 +0.4**
comp=Z,4.4nm,0.7s,baz=13,slow=5.6,SNR=38
ASAR PKPPKP P'P'df 03 56 24.2 +13
comp=Z,0.2nm,0.3s,baz=217,slow=0.5,SNR=4.8
ASAR LR LR 03 58 53.4
comp=Z,213nm,20.4s,baz=19,slow=35
ASAR Alice Springs 71.81 199 P **P 03 28 27.5 -0.1**
KLNR Kaliningrad 71.86 333 *d i*P **P 03 28 27.1 -0.4**
KLNR pmax pmax
comp=Z,211nm,1.1s
KLNR MLR MLR
comp=Z,3μm,18.0s
SPMN Marine on St. 71.90 43 P **P 03 28 27.4 -0.6**
baz=319
SPMN Marine on St. 71.90 43 IAmb IAmb 03 28 33.1
comp=Z,20nm,0.8s
SPMN IAMs_20 IAMs_20 04 05 44.8
comp=Z,658nm,19.0s
AKASG Malin Array Be 71.93 326 P **P 03 28 26.5 -1.6**
comp=Z,44nm,0.5s,baz=33,slow=6.3,SNR=119
AKASG LR LR 04 01 51.5
comp=Z,2μm,20.6s,baz=25,slow=37
AKASG Malin Array Be 71.93 326 P **P 03 28 26.7 -1.4**
AKBB Malin Array Si 71.93 326 P **P 03 28 26.5 -1.6**
AKBB pmax pmax
comp=Z,67nm,0.7s
AKBB MLR MLR
comp=Z,2μm,20.0s
AKBB Malin Array Si 71.93 326 P **P 03 28 26.5 -1.6**
SNART Snartemo 71.97 342 *e*P **P 03 28 27.9 -0.3**
ANMO Albuquerque 72.02 58 P **P 03 28 29.3 +0.1**
baz=315
ANMO Albuquerque 72.02 58 *de*P **P 03 28 30.5 +1.3**
ANMO pmax pmax
comp=Z,21nm,1.0s
ANMO Albuquerque 72.02 58 P **P 03 28 29.3 +0.1**
Y22D IRIS PASSCAL I 72.35 59 P **P 03 28 31.2 +0.1**
baz=315
AKH Akhalkalaki 72.58 312 P **P 03 28 33.6 +1.2**
AKH pmax pmax
comp=Z,90nm,1.4s
AKH MLR MLR
comp=Z,2μm,20.0s
AKH Akhalkalaki 72.58 312 P **P 03 28 33.6 +1.2**
PALK Pallekele 72.69 262 *i* P **P 03 28 33.3 +0.2**
SNR=9.7
PALK Pallekele 72.69 262 P **P 03 28 33.4 +0.2**
PALK Pallekele 72.69 262 P **P 03 28 33.1 0.0**
comp=Z,27nm,0.9s,baz=119,slow=0.5,SNR=14
PALK Pallekele 72.69 262 P **P 03 28 33.4 +0.2**
GNI Garni 72.85 310 *i* P **P 03 28 34.9 +0.8**
SNR=10
GNI Garni 72.85 310 *c i*P **P 03 28 34.7 +0.7**
GNI pmax pmax
comp=Z,275nm,1.4s
GNI MLR MLR
comp=Z,7μm,16.0s
GNI Garni 72.85 310 P **P 03 28 34.8 +0.8**
comp=Z,25nm,0.9s,baz=192,slow=2.7,SNR=19
SOC Sochi 72.86 316 *c i*P **P 03 28 32.8 -1.0**
SOC *e**PP **pP 03 28 40.4 -1.4**
SOC *e*S **S 03 37 58.0 +0.1**
SOC *e*SS **SS 03 42 38.0 +0.7**
SOC *e*SSS SSS 03 45 51.1
SOC pmax pmax
comp=Z,48nm,1.0s
121A Cookes Peak, D 72.91 61 P **P 03 28 34.1 -0.4**
baz=315,SNR=21
121A Cookes Peak, D 72.91 61 IAmb IAmb 03 28 40.9
comp=Z,48nm,1.1s
BSD Bornholm Skovb 72.97 336 *i* P **P 03 28 33.0 -1.2**
BSD *i* 03 28 45.4
BSD pmax pmax
comp=Z,64nm,1.0s
BSD Bornholm Skovb 72.97 336 *i* P **P 03 28 33.0 -1.2**
comp=Z,64nm,1.0s
BSD *i* 03 28 45.4
ANN Anapa 73.03 318 *e*P **P 03 28 33.9 -0.8**
ANN *e* 03 28 49.9
ANN *e*S **S 03 37 58.7 -1.0**
ANN pmax pmax
comp=Z,91nm,1.6s
G40A Rib Lake 73.08 41 P **P 03 28 33.9 -1.1**
baz=320
CBKS Cedar Bluff 73.08 51 P **P 03 28 34.5 -0.7**
baz=316
CBKS Cedar Bluff 73.08 51 IAmb IAmb 03 28 39.9
comp=Z,43nm,1.1s
COP Copenhagen 73.13 338 *e*P **P 03 28 34.7 -0.4**
COP pmax pmax
comp=Z,27nm,0.7s
COP Copenhagen 73.13 338 *i* P **P 03 28 34.7 -0.4**
comp=Z,27nm,0.7s
NAX Nakhchivan 73.15 309 P **P 03 28 35.6 -0.1**
MUD Monsted U'grnd 73.25 340 *i* P **P 03 28 35.8 0.0**
MUD pmax pmax
comp=Z,36nm,1.0s
MUD Monsted U'grnd 73.25 340 *i* P **P 03 28 35.8 0.0**
comp=Z,36nm,1.0s
HSIG 73.39 65 P **P 03 28 38.0 +0.9**
SCHQ Schefferville 73.69 23 LR LR 04 06 13.1
comp=Z,534nm,18.3s,baz=341,slow=40
BIGH Upper Bighouse 73.85 348 *e*P **P 03 28 38.9 -0.4**
RGN Rugen 73.91 337 IAMs_20 IAMs_20 04 03 12.2
comp=Z,2μm,21.0s
GKP Gorka Klasztor 73.91 334 *e*P **P 03 28 37.9 -1.9**
GKP Gorka Klasztor 73.91 334 *e*P **P 03 28 37.9 -1.9**
GKP *e*P **P 03 28 37.9 -1.9**
E44A Grand Marais A 73.92 38 P **P 03 28 38.7 -1.3**
baz=322
BEL Belsk 74.02 332 *e*P **P 03 28 40.5 +0.1**
BEL Belsk 74.02 332 *e*P **P 03 28 40.5 +0.1**
BEL *e*P **P 03 28 40.5 +0.1**
SCIA State Center 74.19 45 P **P 03 28 41.1 -0.5**
baz=319,SNR=7.1
SIM Simferopol' 74.43 320 *ce*P **P 03 28 40.7 -2.3**
SIM *e* 03 31 32.0
SIM *e*PPP PPP 03 33 17.0
SIM *e*S **SKiKP 03 38 08.0 +1.0**
SIM pmax pmax
comp=Z,48nm,0.9s
D46A Sault St. Mari 74.50 37 P **P 03 28 42.3 -1.0**
baz=323
KSU1 Kansas State U 74.54 49 P **P 03 28 42.9 -0.8**
baz=318
LVV L'vov 74.59 329 *e*P **P 03 28 43.1 -0.7**
LVV *e*S **S 03 38 14.3 -2.8**
I42A Draeger Farm, 74.72 41 P **P 03 28 44.3 -0.4**
baz=321
D47A Chapleau 74.75 36 P **P 03 28 43.9 -0.9**
baz=324
H43A Windswept, Lux 74.79 40 P **P 03 28 44.4 -0.7**
baz=321
H43A Windswept, Lux 74.79 40 IAmb IAmb 03 28 50.1
comp=Z,33nm,0.9s
E46A Sault Ste Mari 74.81 37 P **P 03 28 44.1 -1.0**
baz=323
AMTX Amarillo 74.83 55 P **P 03 28 45.7 +0.1**
baz=316
JFWS Jewell Farm 74.85 43 P **P 03 28 44.9 -0.6**
baz=320
JFWS Jewell Farm 74.85 43 IAMs_20 IAMs_20 04 00 06.9
comp=Z,1μm,21.0s
MSTX Muleshoe 74.86 57 P **P 03 28 45.8 0.0**
baz=316
MSTX Muleshoe 74.86 57 IAmb IAmb 03 28 51.2
comp=Z,63nm,1.4s
MNTX Cornudas Mount 74.94 60 P **P 03 28 46.6 +0.5**
baz=316,SNR=31
KAC Achnashellach 75.01 348 *e*P **P 03 28 45.3 -0.8**
L40A Anamosa 75.04 44 P **P 03 28 45.2 -1.3**
baz=320,SNR=9.1

KIS	**Kishinev**	75.06	324	⇓*i*P		**P**	**03 28 47.0 +0.4**
	comp=Z,360nm,1.4s						
KIS	**Kishinev**	75.06	324	*e*PcP		**PcP**	**03 29 06.0 +5.8**
KIS				*e*S		SKiKP	03 37 52.0 -16
KIS	**Kishinev**	75.06	324	⇓*i*P		**P**	**03 28 47.0 +0.4**
KIS				*e*			03 29 06.0
KIS				*e*			03 31 40.0
KIS				*e*			03 33 20.0
KIS				*e*PS		**S**	**03 38 18.0 -4.5**
KIS				*e*			03 39 00.0
KIS				*e*			03 43 10.0
KIS				pmax		pmax	
	comp=Z,360nm,1.4s						
KIS				pmax		pmax	
	comp=Z,1μm,5.0s						
KIS	**Kishinev**	75.06	324	⇑P		**P**	**03 28 46.1 -0.4**
E47A	**Iron Bridge**	75.16	37	P		**P**	**03 28 46.2 -1.0**
	baz=324						
KPL	**Plockton**	75.22	348	*e*P		**P**	**03 28 46.5 -0.7**
KPL				IAmb		IAmb	03 28 50.5
	comp=Z,57nm,1.2s						
KWP	**Kalwaria Pacla**	75.22	329	*e*P		**P**	**03 28 47.8 +0.3**
KWP	**Kalwaria Pacla**	75.22	329	*e*P		**P**	**03 28 47.8 +0.3**
KWP				*e*P		**P**	**03 28 47.8 +0.3**
U32A	**Winter Ranch,**	75.25	53	IAmb		IAmb	03 28 53.1
	comp=Z,47nm,0.9s						
G45A	**Suttons Bay**	75.28	39	P		**P**	**03 28 47.4 -0.5**
	baz=322						
D49A	**Beulah Townshi**	75.28	35	P		**P**	**03 28 47.1 -0.7**
	baz=325						
G46A	**Petoskey**	75.40	38	P		**P**	**03 28 47.5 -1.0**
	baz=323						
IAS	**Iasi**	75.41	325	⇓P		**P**	**03 28 48.9 +0.3**
H45A	**Beulah**	75.44	39	P		**P**	**03 28 48.7 -0.1**
	baz=322						
LSQQ	**Lebel-sur-Quev**	75.47	31	P		**P**	**03 28 48.6 -0.3**
	baz=327						
E48A	**Lockeyer**	75.60	36	P		**P**	**03 28 48.9 -0.8**
	baz=324						
CHGQ	**Chibougamau**	75.67	30	P		**P**	**03 28 49.4 -0.6**
	baz=328						
OJC	**Ojcow**	75.72	331	P		**P**	**03 28 49.6 -0.7**
OJC				pmax		pmax	
	comp=Z,103nm,1.3s						
OJC	**Ojcow**	75.72	331	*e*P		**P**	**03 28 49.9 -0.5**
OJC				*e*P		**P**	**03 28 49.9 -0.5**
OJC	**Ojcow**	75.72	331	P		**P**	**03 28 49.6 -0.7**
VASR	**Vaslui**	75.77	325	⇑P		**P**	**03 28 50.5 -0.1**
VASR				mb			03 28 52.9
PRAR	**RASCA**	75.80	326	⇑P		**P**	**03 28 50.8 -0.1**
PRAR				mb			03 28 52.6
I45A	**Fountain**	75.82	40	P		**P**	**03 28 50.8 -0.2**
	baz=322						
L42A	**Oliver, Polo**	75.83	43	IAMs_20		IAMs_20	04 01 29.7
	comp=Z,1μm,19.0s						
INVG	**Invergeldie, C**	75.86	347	*e*P		**P**	**03 28 50.7 -0.3**
H46A	**Fife Lake**	75.87	39	P		**P**	**03 28 50.6 -0.7**
	baz=323,SNR=6.5						
GLMI	**Grayling**	75.90	38	P		**P**	**03 28 51.1 -0.4**
	baz=323						
GLMI	**Grayling**	75.90	38	P		**P**	**03 28 51.7 +0.2**
GLMI				IAmb		IAmb	03 28 58.3
	comp=Z,42nm,0.9s						
F48A	**Evansville**	75.94	37	P		**P**	**03 28 51.1 -0.5**
	baz=324						
BUR08	**Bucovina Ar. S**	75.96	327	P		**P**	**03 28 51.0 -0.8**
KOLS	**Kolonicke sedl**	75.96	329	*e*P		**P**	**03 28 51.5 -0.2**
KOLS				pmax		pmax	
	comp=Z,50nm,1.2s						
KOLS	**Kolonicke sedl**	75.96	329	*e*P		**P**	**03 28 51.5 -0.2**
D50A	**G1974 Best Tow**	75.96	34	P		**P**	**03 28 50.5 -1.3**
	baz=326						
BURAR	**Bucovina Array**	75.98	327	⇓P		**P**	**03 28 51.5 -0.4**
BURAR				mb			03 28 53.9
BURAR	**Bucovina Array**	75.98	327	P		**P**	**03 28 51.1 -0.9**
VLDQ	**Val d'Or**	76.09	32	P		**P**	**03 28 51.2 -1.2**
VLDQ				IAmb		IAmb	03 29 06.2
	comp=Z,36nm,1.1s						
BIR	**Birlad**	76.14	324	⇑P		**P**	**03 28 53.1 +0.3**
BIR				mb			03 28 54.9
BIZ	**Bicaz**	76.19	326	⇓P		**P**	**03 28 53.0 -0.1**
BANOM	**Banah**	76.20	293	*i* P		**P**	**03 28 53.1 -0.3**
	SNR=9.3						
BANOM	**Banah**	76.20	293	P		**P**	**03 28 53.2 -0.3**
BANOM				P		**P**	**03 28 53.2 -0.3**
D51A	**Lot 18 Range I**	76.21	34	P		**P**	**03 28 52.0 -1.2**
	baz=326						
UZH	**Uzhgorod**	76.21	329	⇓*i*P		**P**	**03 28 52.2 -0.9**
E50A	**Wahnapitae**	76.22	35	P		**P**	**03 28 52.4 -0.8**
	baz=325						
I46A	**Reed City**	76.24	39	P		**P**	**03 28 53.3 -0.1**
	baz=323						
KSP	**Ksiaz**	76.31	334	*e*P		**P**	**03 28 53.3 -0.3**
KSP	**Ksiaz**	76.31	334	*e*P		**P**	**03 28 53.3 -0.3**
KSP				*e*P		**P**	**03 28 53.3 -0.3**
TESR	**Tescani**	76.33	325	⇓P		**P**	**03 28 53.4 -0.4**
ARMA	**Armidale**	76.39	181	P		**P**	**03 28 56.4 +2.1**
ARMA				IAMs_20		IAMs_20	04 09 28.8
	comp=Z,710nm,18.0s						
DIKM	**Dikmen**	76.47	317	⇓P		**P**	**03 28 55.8 +1.1**
DIKM				mb			03 28 57.2
PGBU	**Glenifferbraes**	76.52	347	*e*P		**P**	**03 28 55.0 +0.3**
PGBU				IAmb		IAmb	03 28 56.0
	comp=Z,105nm,1.2s						
TLCR		76.53	323	P		**P**	**03 28 54.8 -0.1**
TLCR		76.53	323	⇑P		**P**	**03 28 54.9 -0.1**
TLCR				mb			03 28 56.5
TRPA	**Tarpa**	76.54	328	⇓P		**P**	**03 28 54.9 0.0**
TRPA				mb			03 28 57.5
H48A	**Harrisville**	76.55	38	P		**P**	**03 28 54.8 -0.4**
	baz=324						
WSAR	**Wadi Sarin**	76.57	289	P		**P**	**03 28 57.3 +1.7**
WSAR	**Wadi Sarin**	76.57	289	P		**P**	**03 28 57.0 +1.3**
	comp=Z,34nm,1.1s,baz=57,slow=3.3,SNR=4.8						
OKC	**Ostrava-Krasne**	76.60	332	*e*P		**P**	**03 28 55.0 -0.3**
OKC				MLR		MLR	
	comp=Z,2μm,16.8s						
OKC	**Ostrava-Krasne**	76.60	332	*e*P		**P**	**03 28 55.0 -0.3**
OKC				AMS		AMS	04 07 10.0
	comp=Z,2μm,16.8s						
CHVC	**Chvalec**	76.61	334	*e*P		**P**	**03 28 55.1 -0.3**
CHVC				*e*x		x	03 29 06.7
CHVC				AMS		AMS	04 07 20.0
	comp=Z,2μm,16.9s						
E51A	**G1948 Merrick**	76.62	34	P		**P**	**03 28 54.7 -0.8**
	baz=326						
D52A	**ZEK Kipawa Sen**	76.67	33	P		**P**	**03 28 55.2 -0.6**
	baz=326						
UPC	**Upice**	76.69	334	AMS		AMS	04 07 20.0
	comp=Z,2μm,17.2s						
DPC	**Dobruska-Polom**	76.73	333	*e*P		**P**	**03 28 55.7 -0.4**
DPC				*e*			03 29 07.4
DPC				MLR		MLR	
	comp=Z,2μm,19.8s						
DPC	**Dobruska-Polom**	76.73	333	*e*P		**P**	**03 28 55.7 -0.4**
DPC				*e*PCP		**PcP**	**03 29 07.4 0.0**
DPC				AMS		AMS	04 07 00.0
	comp=Z,2μm,19.8s						
PETR	**Petresti**	76.74	324	⇑P		**P**	**03 28 57.3 +1.2**
ARCR	**ARCALIA**	76.74	327	⇓P		**P**	**03 28 56.3 +0.1**
LANS	**Liptovska Anna**	76.75	331	*e*P		**P**	**03 28 57.0 +0.8**
LANS				pmax		pmax	
	comp=Z,54nm,1.3s						
LANS	**Liptovska Anna**	76.75	331	*e*P		**P**	**03 28 57.0 +0.8**
ODBI	**Odobesti**	76.78	324	⇓P		**P**	**03 28 57.5 +1.1**
ODBI				mb			03 29 00.0
WBK	**Wadi Bani Khal**	76.79	289	P		**P**	**03 28 58.4 +1.5**
WBK				P		**P**	**03 28 58.4 +1.5**
I48A	**Sherman Twp**	76.80	38	P		**P**	**03 28 55.9 -0.7**
	baz=324						
BZK	**Bozkurt**	76.81	318	⇑P		**P**	**03 28 57.2 +0.6**
BZK				mb			03 28 58.5
CFR	**Carcaliu**	76.82	324	⇓P		**P**	**03 28 56.3 -0.3**
JLN	**Jalan Bani Buh**	76.82	288	P		**P**	**03 28 58.5 +1.5**
JLN				P		**P**	**03 28 58.5 +1.5**
VRI	**Vrincioaia**	76.83	325	⇓P		**P**	**03 28 57.7 +1.0**
KRLC	**Kraliky**	76.83	333	*e*P		**P**	**03 28 56.4 -0.3**
KRLC				*e*			03 29 07.8
KRLC	**Kraliky**	76.83	333	*e*P		**P**	**03 28 56.4 -0.3**
KRLC				*e*PCP		**PcP**	**03 29 07.8 0.0**
JURR	**Jurilovca**	76.84	323	⇓P		**P**	**03 28 57.2 +0.5**
JURR				mb			03 28 59.0
MORC	**Moravsky Berou**	76.84	332	P		**P**	**03 28 56.5 -0.3**
MORC				pmax		pmax	
	comp=Z,66nm,1.2s						
MORC				MLR		MLR	
	comp=Z,2μm,20.0s						
MORC	**Moravsky Berou**	76.84	332	⇓P		**P**	**03 28 56.7 0.0**
MORC				mb			03 28 59.2
MORC	**Moravsky Berou**	76.84	332	*e*P		**P**	**03 28 56.1 -0.7**
MORC	**Moravsky Berou**	76.84	332	P		**P**	**03 28 56.5 -0.3**
D53A	**Lac Vacive, Po**	76.86	33	P		**P**	**03 28 56.2 -0.6**
	baz=327						
PLOR	**Plostina**	76.87	325	⇑P		**P**	**03 28 56.4 -0.5**
CLL	**Collm**	76.88	336	⇑*i*P		**P**	**03 28 56.2 -0.6**
CLL				pmax		pmax	
	comp=Z,104nm,1.3s						
CLL				MLR		MLR	
	comp=Z,1μm,19.7s						
CLL	**Collm**	76.88	336	⇑*i*P		**P**	**03 28 56.2 -0.6**
	comp=Z,104nm,1.3s						
CLL				*i* sP		**pP**	**03 29 02.3 -2.6**
CLL				*i* PcP		**PcP**	**03 29 07.7 -0.2**
	comp=Z,76nm,1.1s						
CLL				*e*S		**S**	**03 38 44.0 +1.6**
CLL				*e*(PS)			03 39 15.0
CLL				*e*SS		**SS**	**03 43 36.0 -1.7**
CLL				LmV			04 07 00.0
	comp=Z,1μm,19.7s						
CLL	**Collm**	76.88	336	P		**P**	**03 28 55.8 -1.1**
CLL				IAMs_20		IAMs_20	04 07 28.8
	comp=Z,1μm,20.0s						
UOSS	**Minazif**	76.94	292	*i* P		**P**	**03 28 57.1 -0.5**
	SNR=6.8						
UOSS	**Minazif**	76.94	292	P		**P**	**03 28 58.4 +0.7**
UOSS				P		**P**	**03 28 58.4 +0.7**
UOSS	**Minazif**	76.94	292	P		**P**	**03 28 57.8 +0.2**
UOSS	**Minazif**	76.94	292	IAMs_20		IAMs_20	04 06 42.6
	comp=Z,1μm,19.0s						
TOPG	**Topolog**	76.96	323	⇓P		**P**	**03 28 57.4 0.0**
KECS	**Kecovo**	76.97	330	*e*P		**P**	**03 28 57.4 0.0**
KECS				pmax		pmax	
	comp=Z,27nm,1.5s						
KECS	**Kecovo**	76.97	330	*e*P		**P**	**03 28 57.4 0.0**
BRG	**Berggiesshubel**	76.99	335	*e*P		**P**	**03 28 56.9 -0.6**
	comp=Z,46nm,1.5s						
BRG				*i* PCP		**PcP**	**03 29 08.3 -0.1**
	comp=Z,27nm,1.1s						
BRG				PP		PP	03 31 26.0 -24
BRG				S		**S**	**03 38 43.0 -0.6**
BRG				SS		**SS**	**03 43 38.0 -1.4**
	comp=N,1μm,14.6s						
	comp=E,1μm,13.8s						
	comp=Z,12μm,15.0s						
BRG	**Berggiesshubel**	76.99	335	*e*P		**P**	**03 28 56.9 -0.6**
BRG				*i*			03 29 08.4
BRG				S		**S**	**03 38 43.0 -0.6**
BRG				SS		**SS**	**03 43 38.0 -1.4**
BRG				pmax		pmax	
	comp=Z,46nm,1.5s						
BRG				MLR		MLR	
	comp=N,1μm,14.6s						
BRG				MLR		MLR	
	comp=E,1μm,13.8s						
BRG				MLR		MLR	
	comp=Z,12μm,15.0s						
OZUR		77.01	325	⇓P		**P**	**03 28 58.9 +1.2**
HATD	**Hatta, Dubai**	77.08	292	*i* P		**P**	**03 28 58.8 +0.4**
	SNR=10						
HATD	**Hatta, Dubai**	77.08	292	P		**P**	**03 28 59.8 +1.4**
HATD				P		**P**	**03 28 59.8 +1.4**
J47A	**Sunmer**	77.08	39	P		**P**	**03 28 57.9 -0.2**
	baz=323						
J47A	**Sunmer**	77.08	39	IAmb		IAmb	03 29 03.6
	comp=Z,58nm,1.2s						
SMDO	**Samad**	77.08	290	P		**P**	**03 28 60.0 +1.4**
SMDO				P		**P**	**03 28 60.0 +1.4**
BISRR	**Bisoca**	77.09	325	⇓P		**P**	**03 28 59.3 +1.1**
PVCC	**Panska Ves**	77.11	334	*e*P		**P**	**03 28 57.9 -0.3**
PVCC				MLR		MLR	
	comp=Z,2μm,17.4s						
PVCC	**Panska Ves**	77.11	334	*e*P		**P**	**03 28 57.9 -0.3**
PVCC				AMS		AMS	04 05 50.0
	comp=Z,2μm,17.4s						
HDIL	**Hopedale**	77.12	44	P		**P**	**03 28 57.2 -1.2**
	baz=321,SNR=12						
GRER		77.13	324	⇓P		**P**	**03 28 59.8 +1.4**
GRER				mb			03 29 02.2
E52A	**Mattawa**	77.15	34	P		**P**	**03 28 57.4 -1.0**
	baz=326						
HOQ	**Hoqain**	77.19	291	P		**P**	**03 29 00.5 +1.4**
	SNR=5.9						
HOQ				P		**P**	**03 29 00.5 +1.4**
	SNR=5.9						
ASHO	**Ashiyiah**	77.22	292	*i* P		**P**	**03 28 59.4 +0.1**
	SNR=7.8						
ASHO	**Ashiyiah**	77.22	292	P		**P**	**03 29 01.0 +1.7**
ASHO				P		**P**	**03 29 01.0 +1.7**
DOPR	**Dopca**	77.27	326	⇑P		**P**	**03 28 59.0 -0.2**
TIRR	**Tirgusor**	77.29	323	P		**P**	**03 28 59.0 -0.2**
TIRR				pmax		pmax	
	comp=Z,199nm,1.3s						
TIRR				MLR		MLR	
	comp=Z,5μm,18.0s						
TIRR	**Tirgusor**	77.29	323	⇓P		**P**	**03 29 00.0 +0.8**
TIRR	**Tirgusor**	77.29	323	P		**P**	**03 28 59.0 -0.2**
F52A	**Sundridge**	77.30	35	P		**P**	**03 28 58.6 -0.7**
	baz=326						
HARR	**Harsova**	77.30	323	⇑P		**P**	**03 28 58.7 -0.6**
TLB	**Topalu**	77.34	323	⇓P		**P**	**03 28 59.4 -0.1**
CJR	**Cluj-Napoca**	77.34	327	⇓P		**P**	**03 29 00.4 +0.8**
TUL1	**Leonard**	77.35	51	P		**P**	**03 28 59.8 +0.1**
	baz=319						
TUL1	**Leonard**	77.35	51	IAmb		IAmb	03 29 04.9
	comp=Z,20nm,0.9s						
I49A	**Point Hope**	77.38	38	P		**P**	**03 28 59.4 -0.4**
	baz=324						
MLR	**Muntele Rosu**	77.45	325	P		**P**	**03 29 00.5 +0.2**
MLR				pmax		pmax	
	comp=Z,148nm,1.4s						
MLR				MLR		MLR	
	comp=Z,2μm,21.0s						
MLR	**Muntele Rosu**	77.45	325	P		**P**	**03 29 00.9 +0.6**
	comp=Z,24nm,0.5s,baz=274,slow=1.3,SNR=92						
MLR	**Muntele Rosu**	77.45	325	⇓P		**P**	**03 29 00.7 +0.4**
MLR	**Muntele Rosu**	77.45	325	P		**P**	**03 29 00.5 +0.2**
E53A	**Dumoine, Ponti**	77.46	33	P		**P**	**03 28 59.2 -1.0**
	baz=327						
FAQ	**Al Faqa, Dubai**	77.48	293	P		**P**	**03 29 00.9 +0.2**
KESW	**Keswick, Cumbr**	77.48	346	*e*P		**P**	**03 29 00.9 +0.7**
KESW				IAmb		IAmb	03 29 03.9
	comp=Z,94nm,1.0s						
J48A	**Bridge Port**	77.48	39	P		**P**	**03 29 00.0 -0.3**
	baz=324						
ISR	**Istrita**	77.51	324	⇑P		**P**	**03 29 01.1 +0.4**
JMDO	**Jabal Madar**	77.53	289	P		**P**	**03 29 01.7 +0.7**
	SNR=5.2						
JMDO				P		**P**	**03 29 01.7 +0.7**
	SNR=5.2						
VYHS	**Vyhne**	77.53	331	*e*P		**P**	**03 29 00.3 -0.3**
VYHS				pmax		pmax	
	comp=Z,43nm,1.0s						
VYHS	**Vyhne**	77.53	331	*e*P		**P**	**03 29 00.2 -0.3**
VRAC	**Vranov**	77.56	333	P		**P**	**03 29 00.5 -0.3**
	comp=Z,29nm,0.9s,baz=23,slow=7.1,SNR=8.9						
VRAC	**Vranov**	77.56	333	⇑P		**P**	**03 29 00.9 +0.1**
VRAC				mb			03 29 03.5
VRAC	**Vranov**	77.56	333	*e*P		**P**	**03 29 00.3 -0.4**
PRA	**Prague**	77.56	334	AMS		AMS	04 06 50.0
	comp=Z,2μm,16.5s						
GOPC	**GO Pecny, Ondr**	77.59	334	*e*P		**P**	**03 29 00.4 -0.5**
GOPC				*e*			03 29 12.0
GOPC				*e*S		S	03 38 40.6 -10
GOPC				MLR		MLR	
	comp=Z,2μm,16.3s						
GOPC	**GO Pecny, Ondr**	77.59	334	*e*P		**P**	**03 29 00.4 -0.5**
GOPC				*e*PCP		**sP**	**03 29 12.0 0.0**
GOPC				*e*x		x	03 38 40.6
GOPC				AMS		AMS	04 06 50.0
	comp=Z,2μm,16.3s						
E54A	**Lac Daplat, Po**	77.59	33	P		**P**	**03 29 00.3 -0.6**
	baz=327						
PRU	**Pruhonice**	77.60	334	*e*P		**P**	**03 29 00.6 -0.3**
PRU				*e*			03 29 11.8
PRU				MLR		MLR	
	comp=Z,2μm,15.6s						
PRU	**Pruhonice**	77.60	334	*e*P		**P**	**03 29 00.6 -0.3**
PRU				*e*PCP		**sP**	**03 29 11.8 -0.2**
PRU				AMS		AMS	04 06 50.0
	comp=Z,2μm,15.6s						
JAVC	**Velka Javorina**	77.60	332	*e*P		**P**	**03 29 01.3 +0.3**
KOLL	**Kolacno**	77.60	331	*e*P		**P**	**03 29 00.8 -0.1**
DRGR		77.61	328	P		**P**	**03 29 00.7 -0.4**
DRGR				pmax		pmax	
	comp=Z,30nm,1.4s						
DRGR		77.61	328	⇑P		**P**	**03 29 00.8 -0.3**
AMRR	**Amara**	77.61	324	⇓P		**P**	**03 29 02.2 +1.1**
ABTX	**Abilene, Hawle**	77.64	56	P		**P**	**03 29 01.7 +0.2**
	baz=318						
ABTX	**Abilene, Hawle**	77.64	56	P		**P**	**03 29 01.9 +0.5**
ABTX				IAmb		IAmb	03 29 07.0
	comp=Z,23nm,0.9s						
PSZ	**Piszkesteto**	77.66	330	P		**P**	**03 29 01.4 0.0**
PSZ				pmax		pmax	
	comp=Z,115nm,1.5s						
PSZ				MLR		MLR	
	comp=Z,2μm,18.0s						
PSZ	**Piszkesteto**	77.66	330	⇑P		**P**	**03 29 01.7 +0.3**
PSZ				mb			03 29 04.2
PSZ	**Piszkesteto**	77.66	330	P		**P**	**03 29 01.4 0.0**
ALGO	**Algonquin Park**	77.66	34	P		**P**	**03 29 00.4 -0.9**
	baz=327						
TXAR	**Lajitas Array**	77.66	61	P		**P**	**03 29 01.9 +0.1**
	comp=Z,18nm,0.7s,baz=301,slow=3.8,SNR=145						
TXAR				LR		LR	03 58 40.8
	comp=Z,106nm,21.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	77.66	61	P		**P**	**03 29 01.6 -0.2**
ASUD	**Al Ashush, Dub**	77.73	293	P		**P**	**03 29 02.3 +0.3**
K48A	**Perry**	77.73	39	P		**P**	**03 29 01.4 -0.4**
	baz=324						
D55A	**Sainte-Anne-du**	77.73	32	P		**P**	**03 29 01.2 -0.5**
	baz=328						
SECR		77.77	325	⇓P		**P**	**03 29 02.5 +0.5**
SECR				mb			03 29 04.5
ICOR	**Ion Corvin**	77.82	323	⇓P		**P**	**03 29 03.3 +1.0**
HPK	**Haverah Park**	77.83	345	*e*P		**P**	**03 29 02.0 -0.1**
HPK				IAmb		IAmb	03 29 04.8
	comp=Z,135nm,1.2s						
KRUC	**Moravsky**	77.84	333	*e*P		**P**	**03 29 01.5 -0.8**
VOIR		77.85	325	⇓P		**P**	**03 29 02.7 +0.2**
BSY	**Bisya**	77.85	290	P		**P**	**03 29 04.2 +1.3**
	SNR=5.7						
BSY				P		**P**	**03 29 04.2 +1.3**
	SNR=5.7						
ALNE	**Al Ain**	77.86	292	*i* P		**P**	**03 29 02.9 +0.1**
	SNR=8.7						
ARQ	**Araqi**	77.88	291	P		**P**	**03 29 03.5 +0.5**
	SNR=9.2						
ARQ				P		**P**	**03 29 03.5 +0.5**
	SNR=9.2						
L47A	**Sherwood**	77.91	40	P		**P**	**03 29 02.4 -0.4**
	baz=323						
TREC	**Trest**	77.92	333	*e*P		**P**	**03 29 02.6 -0.2**
TREC				MLR		MLR	
	comp=Z,3μm,17.4s						
TREC	**Trest**	77.92	333	*e*P		**P**	**03 29 02.6 -0.2**
TREC				AMS		AMS	04 08 10.0
	comp=Z,3μm,17.4s						
WTSB	**Winterswijk**	77.92	339	*e*P		**P**	**03 29 02.3 -0.3**
D56A	**ZEC Mazanza, M**	77.97	31	P		**P**	**03 29 02.5 -0.6**
	baz=329						
SMOL	**Smolenice**	77.98	332	*e*P		**P**	**03 29 03.5 +0.4**
SMOL				pmax		pmax	
	comp=Z,35nm,1.2s						
SMOL	**Smolenice**	77.98	332	*e*P		**P**	**03 29 03.5 +0.4**
SULR		77.99	324	⇑P		**P**	**03 29 02.7 -0.4**
NKC	**Novy Kostel**	78.00	335	*e*P		**P**	**03 29 02.7 -0.5**
NKC				MLR		MLR	
	comp=Z,2μm,19.7s						
NKC	**Novy Kostel**	78.00	335	*e*P		**P**	**03 29 02.7 -0.5**
NKC				AMS		AMS	04 07 50.0
	comp=Z,2μm,19.7s						
PSN	**Preselentsi**	78.01	323	*i* P		**P**	**03 29 06.7 +3.4**
H52A	**Wyevale**	78.02	36	P		**P**	**03 29 03.1 -0.3**
	baz=326						
PBCC	**Pribram**	78.03	334	*e*P		**P**	**03 29 03.0 -0.3**
K49A	**Clarkson**	78.04	39	P		**P**	**03 29 03.6 +0.1**
	baz=324						
HHAR	**Hobbs**	78.05	50	IAmb		IAmb	03 29 08.4
	comp=Z,26nm,1.0s						
ARR	**Arges**	78.07	326	⇑P		**P**	**03 29 04.4 +0.7**
CCM	**Cathedral Cave**	78.09	47	P		**P**	**03 29 03.9 0.0**
	baz=321						
CCM	**Cathedral Cave**	78.09	47	P		**P**	**03 29 03.6 -0.3**
CCM				pmax		pmax	
	comp=Z,29nm,1.1s						
CCM	**Cathedral Cave**	78.09	47	P		**P**	**03 29 03.6 -0.3**
CCM				IAmb		IAmb	03 29 08.8
	comp=Z,29nm,1.1s						
G53A	**Haliburton**	78.13	35	P		**P**	**03 29 03.3 -0.7**
	baz=326						
MODS	**Modra-Piesok**	78.15	332	*e*P		**P**	**03 29 03.7 -0.4**
MODS				pmax		pmax	
	comp=Z,59nm,1.2s						
MODS	**Modra-Piesok**	78.15	332	*e*P		**P**	**03 29 03.7 -0.4**
HPIG		78.16	63	P		**P**	**03 29 04.9 +0.2**
HPIG				IAmb		IAmb	03 29 10.2
	comp=Z,21nm,0.9s						
M47A	**Cromwell**	78.21	41	P		**P**	**03 29 04.2 -0.3**
	baz=323						
HMDM	**Hanimaadhoo**	78.23	267	P		**P**	**03 29 05.9 +0.9**
HMDM	**Hanimaadhoo**	78.23	267	P		**P**	**03 29 05.2 +0.3**
I51A	**Listowel**	78.25	37	P		**P**	**03 29 04.6 -0.1**
	baz=325						
MGMO	**Mountain Grove**	78.26	48	IAmb		IAmb	03 29 09.3
	comp=Z,26nm,1.1s						
L48A	**N Adams**	78.28	40	P		**P**	**03 29 05.0 +0.1**
	baz=324						
E56A	**St. Veronique**	78.30	32	P		**P**	**03 29 04.6 -0.3**
	baz=328						
DEV	**Deva**	78.30	327	⇑P		**P**	**03 29 05.7 +0.8**
D57A	**Chemin Vers le**	78.31	31	P		**P**	**03 29 04.1 -0.8**
	baz=329,SNR=7.2						
SFIN	**Lafayette**	78.31	43	P		**P**	**03 29 04.8 -0.2**
	baz=322						
SFIN	**Lafayette**	78.31	43	IAmb		IAmb	03 29 10.0
	comp=Z,29nm,1.0s						
LOT	**Lotru**	78.33	326	⇓P		**P**	**03 29 05.1 -0.1**
LBWR	**Ladybower, Pea**	78.38	345	*e*P		**P**	**03 29 04.6 -0.6**
LBWR				IAmb		IAmb	03 29 08.3
	comp=Z,115nm,1.2s						
SIRR	**Siria**	78.44	328	⇓P		**P**	**03 29 06.3 +0.6**
L49A	**Milan**	78.45	40	P		**P**

BRTR	Keskin Array B	78.74	317	P	P	03 29 08.3	+0.7
	comp=Z,28nm,1.0s,baz=64,slow=2.9,SNR=99						
BRTR				LR	LR	04 09 56.4	
	comp=Z,1µm,18.2s,baz=33,slow=40						
BRTR	Keskin Array B	78.74	317	P	P	03 29 07.1	-0.5
G55A	Calabogie	78.76	33	P	P	03 29 06.4	-1.0
	baz=328						
GZR	Gura Zlata	78.76	327	⇑P	P	03 29 07.1	-0.4
RAZG	Razgrad	78.81	324	⇓P	P	03 29 07.4	-0.4
COPA	Copaceanca	78.86	325	⇑P	P	03 29 07.4	-0.6
M49A	Liberty Center	78.86	40	P	P	03 29 07.7	-0.4
	baz=324						
GEC2	GERESS Array S	78.87	334	P	P	03 29 07.8	-0.3
GEC2				IAmb	IAmb	03 29 10.3	
	comp=Z,30nm,1.2s						
GERES	GERESS Array B	78.87	334	P	P	03 29 07.0	-1.1
GERES	GERESS Array B	78.87	334	P	P	03 29 07.2	-0.9
	comp=Z,9.0nm,0.7s,baz=36,slow=5.6,SNR=29						
GERES				LR	LR	04 07 42.6	
	comp=Z,2µm,18.3s,baz=32,slow=39						
GERES	GERESS Array B	78.87	334	P	P	03 29 07.0	-1.1
N48A	Decatur	78.88	41	P	P	03 29 07.0	-1.2
	baz=323,SNR=8.8						
CWF	Charnwood Fore	78.93	345	eP	P	03 29 08.7	+0.5
W39A	Magazine	78.96	50	P	P	03 29 08.6	-0.1
	baz=320						
CONA	Conrad Observa	79.00	332	i pP	P	03 29 09.3	+0.5
	comp=Z,81nm,1.6s,SNR=15						
BZS	Buzias	79.01	328	⇓P	P	03 29 08.6	-0.1
ANTO	Ankara	79.02	317	P	P	03 29 10.2	+1.1
ANTO	SNR=19						
				P	P	03 29 10.2	+1.1
	SNR=19						
ANTO	Ankara	79.02	317	P	P	03 29 09.4	+0.3
ANTO				pmax	pmax		
	comp=Z,140nm,1.4s						
ANTO	Ankara	79.02	317	⇑P	P	03 29 09.1	0.0
ANTO				mb		03 29 12.0	
ANTO	Ankara	79.02	317	P	P	03 29 09.4	+0.3
BR231	Keskin MP Arra	79.05	317	P	P	03 29 09.4	+0.1
E58A	La Victoria	79.08	31	P	P	03 29 08.0	-1.1
	baz=330						
JCT	Junction City	79.12	57	P	P	03 29 09.3	-0.4
	baz=318,SNR=12						
JCT	Junction City	79.12	57	IAmb	IAmb	03 29 15.0	
	comp=Z,56nm,1.2s						
OLIL	Olney	79.12	44	IAmb	IAmb	03 29 16.0	
	comp=Z,50nm,1.4s						
FOEL	Foel Wylfa	79.13	346	eP	P	03 29 09.0	-0.3
FOEL				IAmb	IAmb	03 29 10.2	
	comp=Z,58nm,1.1s						
H55A	Tweed	79.17	34	P	P	03 29 09.1	-0.6
	baz=327						
SRE	Strehaia	79.21	326	⇑P	P	03 29 10.1	+0.2
N49A	Columbus Grove	79.22	41	P	P	03 29 09.8	-0.2
	baz=324						
HGN	Heimansgroeve	79.24	340	eP	P	03 29 09.8	-0.2
HGN				eS	S	03 38 57.4	-10
HGN				eSS	SS	03 44 58.6	+45
BEBN	Eben Emael	79.28	340	P	P	03 29 10.0	-0.1
SZH	Strazhica	79.29	324	i P	P	03 29 08.4	-2.0
VLAD	Vladila	79.30	325	⇑P	P	03 29 10.2	-0.2
FCAR	Ozark Folk Cen	79.30	49	IAmb	IAmb	03 29 15.2	
	comp=Z,29nm,1.0s						
HERR	Herculane	79.33	327	⇑P	P	03 29 09.9	-0.6
WHTX	Lake Whitney,	79.35	55	P	P	03 29 11.3	+0.4
	baz=319						
WHTX	Lake Whitney,	79.35	55	IAmb	IAmb	03 29 16.3	
	comp=Z,37nm,1.1s						
WHTX				IAMs_20	IAMs_20	04 09 08.4	
	comp=Z,650nm,20.0s						
S44A	Carbondale	79.37	46	P	P	03 29 11.0	+0.1
	baz=322						
MEM	Membach	79.37	339	P	P	03 29 10.5	-0.1
	comp=Z,62nm,1.1s						
SIUC	Southern Illin	79.37	46	P	P	03 29 10.8	-0.1
SIUC				IAmb	IAmb	03 29 16.1	
	comp=Z,52nm,1.1s						
PBMO	Poplar Bluff	79.49	47	IAmb	IAmb	03 29 17.6	
	comp=Z,35nm,1.0s						
PBMO				IAMs_20	IAMs_20	04 03 58.2	
	comp=Z,787nm,19.0s						
BSTI	Sart Tilman	79.50	340	P	P	03 29 11.8	+0.4
BSTI				PcP	PcP	03 29 19.5	+0.2
MIAR	Mount Ida	79.56	50	P	P	03 29 11.6	-0.4
	baz=320,SNR=13						
MIAR	Mount Ida	79.56	50	IAmb	IAmb	03 29 17.3	
	comp=Z,30nm,1.0s						
MORH	Mrgy, Hungar	79.56	330	eP	P	03 29 09.6	-2.2
MOA	Molln	79.58	333	i pP	P	03 29 11.9	0.0
	comp=Z,19nm,0.8s						
UCC	Uccle	79.58	340	IAmb	IAmb	03 29 14.2	
	comp=Z,40nm,1.2s						
ELND	Elena	79.59	324	⇓P	P	03 29 11.5	-0.5
BHOU	Houvegnez	79.61	339	P	P	03 29 11.9	-0.1
BHOU				PcP	pP	03 29 18.6	-1.5
BHOU				sP	pwP	03 29 25.5	+0.6
PUNG	Punghina	79.64	326	⇑P	P	03 29 11.5	-0.7
J54A	Appleton	79.66	36	P	P	03 29 11.8	-0.6
	baz=327						
LCAR	Lake Charles	79.67	48	IAMs_20	IAMs_20	04 06 04.0	
	comp=Z,747nm,21.0s						
WHAR	Wooly Hollow	79.68	49	IAmb	IAmb	03 29 17.6	
	comp=Z,69nm,1.2s						
MDVR	Moldovita	79.68	327	⇑P	P	03 29 11.7	-0.8
ARSA	Arzberg	79.71	332	i pP	P	03 29 13.0	+0.4
	comp=Z,21nm,0.8s						
BCLA	Clavier	79.72	340	P	P	03 29 12.2	-0.3
	comp=Z,55nm,1.2s						
BCLA				PcP	pP	03 29 19.5	-1.1
PLVB	Pleven	79.72	325	⇑P	P	03 29 12.3	-0.4
O49A	Covington	79.73	41	P	P	03 29 12.4	-0.5
	baz=324						
O49A	Covington	79.73	41	P	P	03 29 12.5	-0.3
W41B	Gary Mavity, V	79.79	49	P	P	03 29 12.8	-0.4
	baz=320,SNR=14						
W41B	Gary Mavity, V	79.79	49	IAmb	IAmb	03 29 18.2	
	comp=Z,44nm,1.1s						
N50A	Nevada	79.80	40	P	P	03 29 13.0	-0.2
	baz=324						
P48A	Milroy	79.82	42	P	P	03 29 13.1	-0.2
	baz=323						
P48A	Milroy	79.82	42	IAmb	IAmb	03 29 18.2	
	comp=Z,36nm,1.1s						
G58A	Ormstown	79.84	32	P	P	03 29 12.9	-0.4
	baz=329						
D62A	Allapoint, All	79.89	28	P	P	03 29 12.8	-0.7
	baz=332						
H57A	Richville	79.93	33	P	P	03 29 12.8	-1.0
	baz=328						
MCH1	Michaelchurch	79.95	345	eP	P	03 29 14.0	+0.2
MCH1				IAmb	IAmb	03 29 15.7	
	comp=Z,234nm,1.9s						
BMRD	Maredsous	79.95	340	P	P	03 29 13.9	+0.1
	comp=Z,53nm,1.1s						
M52A	Chesterland	79.96	38	P	P	03 29 13.7	-0.4
	baz=325						
X40A	Basin Creek Fa	80.00	50	P	P	03 29 14.7	+0.3
	baz=320						
X40A	Basin Creek Fa	80.00	50	IAMs_20	IAMs_20	04 08 21.1	
	comp=Z,1µm,18.0s						
STRD	Stroud	80.01	345	eP	P	03 29 14.3	+0.2
STRD				IAmb	IAmb	03 29 15.6	
	comp=Z,128nm,1.1s						
N51A	Ashland	80.02	39	P	P	03 29 13.9	-0.6
	baz=325						
N51A	Ashland	80.02	39	IAmb	IAmb	03 29 20.1	
	comp=Z,42nm,1.2s						
FRGS	Fruska Gora	80.06	329	⇑i P	P	03 29 13.4	-1.2
MONM	Monmouth	80.07	345	eP	P	03 29 14.4	0.0
MONM				IAmb	IAmb	03 29 17.5	
	comp=Z,39nm,0.9s						
L53A	Girard	80.08	37	P	P	03 29 14.8	+0.1
	baz=326						
P49A	Miami Univ. Ec	80.09	42	P	P	03 29 14.9	+0.1
	baz=324						
O50A	Cable	80.09	41	P	P	03 29 14.6	-0.2
	baz=324						
Q48A	North Vernon	80.10	43	P	P	03 29 14.7	-0.1
	baz=323						
MPEP	Malo Peshtene	80.10	325	i P	P	03 29 14.3	-0.5
LONY	Lake Ozonia	80.10	32	P	P	03 29 13.8	-1.0
	baz=329						
EDRB	Edirne	80.12	322	P	P	03 29 13.8	-1.1
DOU	Dourbes	80.18	340	P	P	03 29 15.5	+0.4
	comp=Z,16nm,1.4s						
DOU				PcP	PcP	03 29 21.5	-0.8
K54A	Basiliko Farm,	80.19	36	P	P	03 29 15.1	-0.2
	baz=327						
WLF	Walferdange	80.21	339	P	P	03 29 15.1	-0.1
WLF				pmax	pmax		
	comp=Z,24nm,1.0s						
WLF				MLR	MLR		
	comp=Z,2µm,19.0s						
WLF	Walferdange	80.21	339	P	P	03 29 16.3	+1.1
WLF	Walferdange	80.21	339	P	P	03 29 15.1	-0.1
STU	Stuttgart	80.23	337	P	P	03 29 14.9	-0.5
STU				pmax	pmax		
	comp=Z,39nm,0.9s						
STU				MLR	MLR		
	comp=Z,900nm,21.0s						
STU	Stuttgart	80.23	337	P	P	03 29 14.9	-0.5
STU				IAmb	IAmb	03 29 18.0	
	comp=Z,39nm,0.9s						
STU				IAMs_20	IAMs_20	04 07 22.5	
	comp=Z,894nm,21.0s						
WOL	Wolverton	80.28	344	eP	P	03 29 15.1	-0.4
WOL				IAmb	IAmb	03 29 16.3	
	comp=Z,385nm,1.9s						
ACSO	Alum Creek Sta	80.31	40	P	P	03 29 16.0	+0.1
	baz=325						
M53A	WI Miller and	80.33	38	P	P	03 29 16.3	+0.2
	baz=326						
K55A	Perry	80.35	36	P	P	03 29 15.6	-0.6
	baz=327						
SOKA	Soboth	80.37	332	i pP	P	03 29 17.2	+0.9
	comp=Z,78nm,1.7s,SNR=9.4						
WCI	Wyandotte Cave	80.39	43	P	P	03 29 16.6	+0.2
	baz=323						
WCI	Wyandotte Cave	80.39	43	P	P	03 29 17.2	+0.8
WCI				pmax	pmax		
	comp=Z,43nm,1.1s						
WCI	Wyandotte Cave	80.39	43	P	P	03 29 17.2	+0.8
WCI				IAmb	IAmb	03 29 21.8	
	comp=Z,43nm,1.1s						
H59A	Cadyville	80.41	32	P	P	03 29 15.6	-0.9
	baz=329						
H58A	Gabriels	80.42	32	P	P	03 29 15.9	-0.7
	baz=329						
Q49A	Aurora	80.43	42	P	P	03 29 16.5	-0.1
	baz=324						
P50A	Jamestown	80.45	41	P	P	03 29 16.3	-0.4
	baz=324,SNR=6.4						
WLAR	White Oak Lake	80.47	51	IAmb	IAmb	03 29 22.4	
	comp=Z,39nm,0.9s						
LNXT	Lenox	80.49	47	IAMs_20	IAMs_20	04 03 59.6	
	comp=Z,764nm,19.0s						
O51A	Pataskala	80.55	40	P	P	03 29 16.7	-0.5
	baz=325						
KBA	Koelnbreinsper	80.55	333	i pP	P	03 29 17.7	+0.3
	comp=Z,138nm,1.3s,SNR=23						
F62A	Pittston Farm,	80.63	29	P	P	03 29 17.3	-0.3
	baz=332						
G61A	St-Isidore-de-	80.63	30	P	P	03 29 17.3	-0.3
	baz=331						
L55A	Hinsdale	80.65	36	P	P	03 29 17.7	-0.1
	baz=327						
K56A	Middlesex	80.67	35	P	P	03 29 17.5	-0.4
	baz=328						
OBKA	Obir	80.68	332	i pP	P	03 29 18.7	+0.8
	comp=Z,21nm,0.8s						
TEKS	Tekeris	80.69	328	eP	P	03 29 17.1	-0.8
M54A	Oil Creek Stat	80.70	37	P	P	03 29 17.9	-0.2
	baz=326						
M54A	Oil Creek Stat	80.70	37	IAmb	IAmb	03 29 23.9	
	comp=Z,36nm,1.2s						
HALT	Halls	80.72	47	IAMs_20	IAMs_20	04 04 23.6	
	comp=Z,725nm,21.0s						
I58A	Old Forge	80.75	33	P	P	03 29 18.0	-0.3
	baz=329						
PLD	Plovdiv	80.76	324	i P	P	03 29 18.2	-0.1
PMOR	Pomariorio Ree	80.78	123	eT	T	04 58 28.6	
	comp=Z,12nm,0.2s						
N53A	Lisbon	80.78	38	P	P	03 29 17.7	-0.8
	baz=326,SNR=8.1						
N53A	Lisbon	80.78	38	IAmb	IAmb	03 29 23.7	
	comp=Z,44nm,1.1s						
ZAG	Zagreb	80.81	331	eP	P	03 29 18.0	-0.5
KDZ	Kurdzhali	80.84	323	i P	P	03 29 18.6	-0.2
WATA	Walderalm	80.86	335	i pP	P	03 29 18.9	-0.1
	comp=Z,64nm,0.7s,SNR=25						
MYKA	Terra Mystica	80.86	333	i pP	P	03 29 19.4	+0.5
	comp=Z,36nm,1.1s,SNR=6.7						
BFO	Black Forest	80.87	337	P	P	03 29 18.2	-0.7
BFO				pmax	pmax		
	comp=Z,45nm,1.0s						
BFO	Black Forest	80.87	337	P	P	03 29 18.2	-0.7
BFO				IAmb	IAmb	03 29 21.5	
	comp=Z,45nm,1.0s						
P51A	Williamsport	80.88	41	P	P	03 29 18.8	-0.3
	baz=325						
P51A	Williamsport	80.88	41	IAmb	IAmb	03 29 24.3	
	comp=Z,24nm,0.9s						
WTTA	Wattenberg	80.90	335	i pP	P	03 29 19.4	+0.1
	comp=Z,66nm,0.6s,SNR=28						
DIVS	Divibare	80.90	328	eP	P	03 29 17.2	-2.0
J58A	Remsen	80.91	34	P	P	03 29 18.4	-0.7
	baz=329						
O52A	Adamsville	80.91	40	P	P	03 29 19.0	-0.2
	baz=325						
O52A	Adamsville	80.91	40	IAmb	IAmb	03 29 24.2	
	comp=Z,34nm,0.9s						
VTS	Vitosha	80.92	325	P	P	03 29 18.2	-1.2
VTS	Vitosha	80.92	325	i P	P	03 29 18.5	-0.9
VTS	Vitosha	80.92	325	P	P	03 29 19.1	-0.3
VTS				pmax	pmax		
	comp=Z,85nm,1.0s						
VTS				MLR	MLR		
	comp=Z,2µm,19.0s						
VTS	Vitosha	80.92	325	⇑P	P	03 29 19.5	+0.1
VTS				mb		03 29 22.7	
VTS	Vitosha	80.92	325	P	P	03 29 19.1	-0.3
RETA	Reutte	80.96	335	i pP	P	03 29 20.0	+0.6
	comp=Z,72nm,1.4s,SNR=12						
K57A	Scipio Center	80.96	35	P	P	03 29 19.4	0.0
	baz=328						
T47A	Sharon Grove	80.98	45	P	P	03 29 20.0	+0.4
	baz=323						
T47A	Sharon Grove	80.98	45	IAmb	IAmb	03 29 25.1	
	comp=Z,43nm,1.1s						
Q50A	Georgetown	80.98	42	P	P	03 29 19.2	-0.4
	baz=324,SNR=6.3						
CRES	Cresnjev	80.98	332	eP	P	03 29 18.6	-0.9
MOTA	Moosalm	80.99	335	i pP	P	03 29 19.7	0.0
	comp=Z,118nm,1.3s,SNR=22						
CCAR	Cane Creek	81.00	50	IAmb	IAmb	03 29 25.7	
	comp=Z,51nm,1.1s						
N54A	Moraine State	81.02	38	P	P	03 29 19.8	+0.1
	baz=326						
N54A	Moraine State	81.02	38	IAmb	IAmb	03 29 25.7	
	comp=Z,54nm,1.2s						
G62A	West of Eustis	81.03	30	P	P	03 29 19.5	-0.3
	baz=331						
L56A	Greenwood	81.05	36	P	P	03 29 19.6	-0.4
	baz=327						
SQTA	Sankt Quirin	81.07	335	i pP	P	03 29 20.9	+0.8
	comp=Z,68nm,0.9s,SNR=15						
I59A	Olmsteadville	81.07	32	P	P	03 29 19.3	-0.6
	baz=329						
O53A	New Philadelph	81.08	39	P	P	03 29 20.2	+0.1
	baz=326						
NATX	Nacogdoches	81.09	53	P	P	03 29 20.6	+0.4
	baz=320						
LJU	Ljubljana	81.09	332	eP	P	03 29 20.2	+0.1
ABTA	Abfaltersbach	81.10	334	i pP	P	03 29 20.5	+0.3
	comp=Z,40nm,1.2s						
RZN	Rozhen	81.10	324	i P	P	03 29 19.2	-1.2
M55A	Ridgway	81.11	37	P	P	03 29 19.3	-1.0
	baz=327,SNR=5.0						
M55A	Ridgway	81.11	37	IAmb	IAmb	03 29 21.7	
	comp=Z,25nm,0.9s						
J59A	Piesco	81.12	33	P	P	03 29 20.1	-0.2
	baz=329						
Q51A	Peebles	81.12	41	P	P	03 29 20.3	0.0
	baz=324						
Q51A	Peebles	81.12	41	IAmb	IAmb	03 29 25.7	
	comp=Z,33nm,0.9s						
P52A	Corning	81.18	40	P	P	03 29 20.2	-0.4
	baz=325						
ALN	Alexandroupoli	81.20	322	P	P	03 29 20.9	+0.2
ALN				pmax	pmax		
	comp=Z,23nm,1.0s						
ALN				MLR	MLR		
	comp=Z,800nm,18.0s						
ALN	Alexandroupoli	81.20	322	P	P	03 29 20.9	+0.2
ALN				IAMs_20	IAMs_20	04 08 39.8	
	comp=Z,759nm,18.0s						
RDO	Rodhopi	81.21	323	P	P	03 29 19.3	-1.4
S49A	Springfield	81.22	43	P	P	03 29 20.3	-0.5
	baz=324,SNR=9.4						
I60A	Shoreham	81.25	32	P	P	03 29 20.6	-0.3
	baz=330						
R50A	Paris	81.27	42	P	P	03 29 21.0	-0.1
	baz=324						
K58A	Earlville	81.28	34	P	P	03 29 20.5	-0.6
	baz=328						
ECH	Echery	81.29	338	P	P	03 29 20.8	-0.3
ECH				pmax	pmax		
	comp=Z,44nm,1.1s						
ECH	Echery	81.29	338	P	P	03 29 20.8	-0.3
ECH				IAmb	IAmb	03 29 23.6	
	comp=Z,44nm,1.1s						
HAPS	Han Pijesak,Bl	81.29	329	eP	P	03 29 20.0	-1.3
WVT	Waverly	81.30	46	P	P	03 29 21.7	+0.4
WVT				pmax	pmax		
	comp=Z,21nm,1.0s						
WVT	Waverly	81.30	46	P	P	03 29 21.7	+0.4
BBLS	Lazići	81.32	328	eP	P	03 29 19.7	-1.7
M56A	Emporium	81.34	36	P	P	03 29 21.3	-0.2
	baz=327						
BLY	Banja Luka	81.34	330	eP	P	03 29 19.9	-1.5
H62A	Milan	81.38	30	P	P	03 29 21.3	-0.3
	baz=331						
FETA	Feichten	81.39	335	i pP	P	03 29 22.5	+0.7
	comp=Z,28nm,0.9s						
DAVA	Damuels	81.39	336	i pP	P	03 29 22.6	+0.8
	comp=Z,36nm,0.9s						
CEY	Cerknica	81.40	332	eP	P	03 29 19.2	-2.5
G63A	Kingsbury	81.43	29	P	P	03 29 21.2	-0.7
	baz=332						
L57A	Andrews Acres	81.45	35	P	P	03 29 21.4	-0.7
	baz=328						
STAL	STALIGIAL	81.48	333	P	P	03 29 22.1	-0.1
STAL				IAmb	IAmb	03 29 23.9	
	comp=Z,47nm,1.0s						
O54A	Avella	81.50	39	P	P	03 29 22.0	-0.3
	baz=326						
O54A	Avella	81.50	39	IAmb	IAmb	03 29 27.6	
	comp=Z,24nm,1.1s						
RUDO	Rudo	81.55	328	eP	P	03 29 21.4	-1.1
I61A	Oroboro, Fairl	81.56	31	P	P	03 29 22.0	-0.5
	baz=330						
K59A	Cooperstown	81.57	34	P	P	03 29 22.3	-0.4
	baz=329						
MMB	Musomiste	81.59	324	i P	P	03 29 22.5	-0.3
N55A	Marion Center	81.59	37	P	P	03 29 22.4	-0.4
	baz=327						
G64A	Maxfield	81.60	29	P	P	03 29 22.3	-0.5
	baz=332						
R51A	Hillsboro	81.60	42	P	P	03 29 22.8	-0.1
	baz=324						
KKB	Krupnik	81.61	325	i P	P	03 29 22.1	-0.8
P53A	Whipple	81.63	40	P	P	03 29 22.2	-0.8
	baz=326						
T49A	Edmonton	81.65	44	P	P	03 29 22.9	-0.3
	baz=324						
T49A	Edmonton	81.65	44	IAmb	IAmb	03 29 27.9	
	comp=Z,38nm,1.5s						
MGRS	Mrkonjic Grad	81.67	330	eP	P	03 29 23.5	+0.3
ISP	Isparta	81.72	318	P	P	03 29 22.5	-1.2
ISP	Isparta	81.72	318	P	P	03 29 23.0	-0.7
ISP				pmax	pmax		
	comp=Z,30nm,1.2s						
ISP	Isparta	81.72	318	P	P	03 29 23.0	-0.7
ISP				IAmb	IAmb	03 29 26.9	
	comp=Z,30nm,1.2s						
ISP				IAMs_20	IAMs_20	04 11 49.6	
	comp=Z,1µm,19.0s						
S50A	Richmond	81.72	43	P	P	03 29 23.3	-0.2
	baz=324						
NVR	Nevrokopi	81.73	324	P	P	03 29 22.7	-0.9
N56A	West Decatur	81.77	37	P	P	03 29 23.6	-0.2
	baz=327						
OXF	Oxford	81.77	48	P	P	03 29 23.6	-0.2
	baz=322						
L58A	Harry Jones Me	81.81	35	P	P	03 29 23.3	-0.6
	baz=328						
DAVOX	Davos/Dischmat	81.85	335	P	P	03 29 23.9	-0.4
	baz=245,slow=3.8,SNR=2.6						
PPT	Papeete	81.86	126	LR	LR	03 58 29.4	
	comp=Z,744nm,19.7s,baz=295,slow=30						
PPT2	Papeete2	81.88	126	eS	S	03 39 34.0	-2.2
	comp=Z,1µm,34.0s						
PPT2	Papeete2	81.88	126	eLR	LR	03 55 05.0	
	comp=Z,2µm,24.0s,baz=327						
M57A	Sunshine Farm,	81.89	36	P	P	03 29 24.0	-0.4
	baz=328						
M57A	Sunshine Farm,	81.89	36	IAmb	IAmb	03 29 25.1	
	comp=Z,24nm,1.0s						
I62A	Tamworth	81.92	31	P	P	03 29 23.7	-0.8
	baz=331						
P54A	Burton	81.93	39	P	P	03 29 24.5	-0.1
	baz=326						
O55A	Ligonier	81.94	38	P	P	03 29 24.3	-0.4
	baz=327						
CTI	Castel Tesino	81.99	334	P	P	03 29 24.9	-0.1
CTI				pmax	pmax		
	comp=Z,46nm,1.1s						
CTI				MLR	MLR		
	comp=Z,2µm,18.0s						
CTI	Castel Tesino	81.99	334	P	P	03 29 24.9	-0.1
CTI				IAmb	IAmb	03 29 26.5	
	comp=Z,46nm,1.1s						
L59A	Walton	82.00	34	P	P	03 29 24.3	-0.6
	baz=329						
U49A	Red Boiling Sp	82.00	44	P	P	03 29 24.0	-1.1
	baz=324,SNR=9.5						
R52A	Catlettsburg	82.00	41	P	P	03 29 24.9	-0.1
	baz=325						
KULA	Kula-Manisa	82.02	319	P	P	03 29 24.4	-0.8
I63A	Otisfield	82.04	30	P	P	03 29 24.9	-0.2
	baz=331						
T50A	Nancy	82.05	43	P	P	03 29 24.8	-0.4
	baz=324						
CLTN	Cedars of Leba	82.07	45	IAMs_20	IAMs_20	04 03 39.2	
	comp=Z,506nm,20.0s						
Q53A	Leroy	82.08	40	P	P	03 29 24.9	-0.5
	baz=326						
MANT	Manisa	82.08	319	P	P	03 29 25.1	-0.6
PLAL	Pickwick Lake	82.08	47	IAMs_20	IAMs_20	04 05 05.7	
	comp=Z,818nm,20.0s						
V48A	Smith Brothers	82.11	45	P	P	03 29 25.6	0.0
	baz=323						
S51A	Beattyville	82.13	42	P	P	03 29 25.7	0.0
	baz=324						
M58A	Price's Panora	82.14	35	P	P	03 29 25.0	-0.7
	baz=328						
MCWV	Mont Chateau	82.16	39	P	P	03 29 25.5	-0.3
	baz=326						
SSPA	Standing Stone	82.17	37	P	P	03 29 25.6	-0.3
	baz=327						
SSPA	Standing Stone	82.17	37	P	P	03 29 26.3	+0.4
SSPA				IAmb	IAmb	03 29 31.1	
	comp=Z,25nm,1.2s						
SKO	Skopje	82.17	326	i P	P	03 29 26.5	+0.6
O56A	Blue Knob Stat	82.20	37	P	P	03 29 25.8	-0.2
	baz=327						
N57A	Milroy	82.21	36	P	P	03 29 25.3	-0.7
	baz=328,SNR=5.5						
MORW	Morawa	82.23	212	P	P	03 29 26.9	+0.9
MORW				IAmb	IAmb	03 29 27.5	
	comp=Z,26nm,1.2s						
H65A	Eastbrook	82.26	28	P	P	03 29 25.6	-0.6
	baz=333						
K61A	Williamstown	82.27	33	P	P	03 29 26.1	-0.2
	baz=330						
VAY	Valandovo	82.28	325	i P	P	03 29 26.7	+

baz=329
BRY Bratogost 82.47 328 *e*P **P 03 29 25.5 -2.0**
PRK Paraskevi 82.47 321 P **P 03 29 26.4 -1.0**
N58A Sunbury 82.48 36 P **P 03 29 27.0 -0.4**
baz=328
N58A Sunbury 82.48 36 IAmb IAmb 03 29 32.5
comp=Z,29nm,1.3s
L60A Shokan 82.49 34 P **P 03 29 27.1 -0.4**
baz=329
T51A Gray 82.51 43 P **P 03 29 27.4 -0.3**
baz=324
U50A Jamestown 82.53 44 P **P 03 29 27.4 -0.4**
baz=324,SNR=8.3
V49A McMinnville 82.54 45 P **P 03 29 27.7 -0.1**
baz=324
L61A Hillsdale 1, H 82.57 33 P **P 03 29 27.3 -0.6**
baz=330
Q55A Buckhannon 82.61 39 P **P 03 29 27.4 -0.8**
baz=326
TEOL Teolo 82.61 334 P **P 03 29 27.9 -0.1**
PDG Podgorica 82.61 327⇑ *i*P **P 03 29 26.9 -1.2**
PDG Podgorica 82.61 327⇑P **P 03 29 27.9 -0.1**
PDG mb 03 29 29.6
O57A Amberson 82.63 37 P **P 03 29 27.4 -0.8**
baz=328
LDF La Druitiere 82.65 342 *e*P **P 03 29 27.5 -0.7**
LDF pmax pmax
comp=Z,104nm,2.0s
K62A Royalston 82.65 32 P **P 03 29 28.1 -0.2**
baz=330
CSS Mathiatis 82.66 314 P **P 03 29 28.6 +0.1**
CSS IAMs_20 IAMs_20 04 10 17.8
comp=Z,644nm,19.0s
GRG Griva 82.66 325 P **P 03 29 27.0 -1.4**
HORT Hortiatis 82.68 324 P **P 03 29 26.9 -1.7**
TREB Trebinje 82.70 328 *e*P **P 03 29 27.2 -1.4**
P56A Dayton Farm, R 82.72 38 P **P 03 29 27.8 -0.9**
baz=327
PLG Polygyros 82.73 324 P **P 03 29 26.4 -2.4**
N59A State Game Lan 82.80 35 P **P 03 29 28.1 -1.0**
baz=328
N59A State Game Lan 82.80 35 IAmb IAmb 03 29 34.9
comp=Z,49nm,1.5s
PHP Peshkopia 82.81 326 P **P 03 29 28.5 -0.7**
T52A Hallie 82.85 42 P **P 03 29 29.2 -0.2**
baz=325
T52A Hallie 82.85 42 IAmb IAmb 03 29 30.6
comp=Z,36nm,1.2s
DRME Dracevica, Mon 82.85 327⇑ *i*P **P 03 29 29.7 +0.4**
KSDI Kefar Szold 82.87 311 P **P 03 29 30.8 +1.2**
comp=Z,86nm,1.9s,comp=Z,2µm
R54A Victor 82.88 40 P **P 03 29 29.5 -0.1**
baz=326
W49A Belvidere 82.88 45 P **P 03 29 29.7 +0.1**
baz=323
ELL Elmali 82.88 317 P **P 03 29 29.8 +0.1**
ELL pmax pmax
comp=Z,146nm,1.1s
ELL MLR MLR
comp=Z,4µm,20.0s
ELL Elmali 82.88 317 P **P 03 29 29.9 +0.1**
HCY Hercog Novi 82.88 328 *e*P **P 03 29 29.0 -0.5**
M60A Port Jervis 82.90 34 P **P 03 29 28.8 -0.8**
baz=329
SENIN Lac Senin/Sane 82.95 337 P **P 03 29 30.4 +0.3**
SENIN IAmb IAmb 03 29 38.1
comp=Z,34nm,1.1s
SWET Sewanee 82.96 45 IAmb IAmb 03 29 35.0
comp=Z,32nm,1.0s
VBMS Vicksburg 82.98 50 P **P 03 29 30.1 0.0**
baz=322
O58A Lewisberry 83.00 36 P **P 03 29 29.4 -0.7**
baz=328
V50A Pikevile 83.00 44 P **P 03 29 29.9 -0.4**
baz=324
ASF Jabal al Asfar 83.01 310 P **P 03 29 30.8 +0.3**
comp=Z,10nm,0.9s,baz=265,slow=1.0,SNR=17
ASF Jabal al Asfar 83.01 310 P **P 03 29 31.5 +1.0**
comp=Z,24nm,1.3s,comp=Z,1µm
X48A Hartselle 83.02 46 P **P 03 29 29.9 -0.4**
baz=323
HRV Adam Dziewonsk 83.04 32 P **P 03 29 30.0 -0.3**
baz=331
S54A Dingess, Beckl 83.05 41 P **P 03 29 29.9 -0.6**
baz=326
P57A Homestead Farm 83.09 37 P **P 03 29 30.0 -0.6**
baz=327
ZAIG Zacatecas 83.11 64 P **P 03 29 32.2 +0.8**
ZAIG IAmb IAmb 03 29 37.4
comp=Z,19nm,1.1s
ZAIG IAMs_20 IAMs_20 03 59 50.4
comp=Z,630nm,21.0s
MMAI Mount Meron Ar 83.14 312 P **P 03 29 31.0 -0.1**
comp=Z,17nm,0.6s,baz=39,slow=6.7,SNR=41
T53A Wise 83.16 42 P **P 03 29 31.4 +0.3**
baz=325
OHR Ohrid 83.16 326 *i*P **P 03 29 30.6 -0.5**
R55A Marlinton 83.18 39 P **P 03 29 30.9 -0.3**
baz=326
FNA Florina 83.21 325 P **P 03 29 29.7 -1.6**
FNA Florina 83.21 325 P **P 03 29 30.9 -0.4**
FNA pmax pmax
comp=Z,27nm,0.9s
FNA MLR MLR
comp=Z,2µm,18.0s
FNA Florina 83.21 325 P **P 03 29 30.9 -0.4**
FNA IAmb IAmb 03 29 33.2
comp=Z,27nm,0.9s
U52A Thorn Hill 83.25 43 P **P 03 29 31.7 +0.1**
baz=325
V51A Loudon 83.26 44 P **P 03 29 31.6 +0.1**
baz=324
V51A Loudon 83.26 44 IAmb IAmb 03 29 36.7
comp=Z,21nm,1.0s
SSF Saint Saulge 83.28 340 *e*P **P 03 29 31.1 -0.4**
SSF pmax pmax
comp=Z,32nm,1.2s
W50A Signal Mountai 83.28 45 P **P 03 29 31.4 -0.3**
baz=324
Q57A Strasburg 83.29 38 P **P 03 29 31.4 -0.3**
baz=327
TIR Tirane 83.32 327 P **P 03 29 31.7 -0.1**
TIR pmax pmax
comp=Z,57nm,0.8s
TIR Tirane 83.32 327 P **P 03 29 31.7 -0.1**
LIT Litokhoron 83.35 324 P **P 03 29 29.9 -2.1**
LIT Litokhoron 83.35 324 P **P 03 29 31.1 -0.9**
LIT pmax pmax
comp=Z,24nm,1.1s
LIT MLR MLR
comp=Z,900nm,18.0s
LIT Litokhoron 83.35 324 P **P 03 29 31.1 -0.9**
LIT IAmb IAmb 03 29 33.6
comp=Z,24nm,1.1s
LIT IAMs_20 IAMs_20 04 10 07.4
comp=Z,856nm,18.0s
P58A Pank, Wackersv 83.38 37 P **P 03 29 31.8 -0.3**
baz=328
S55A Lewisburg 83.43 40 P **P 03 29 31.9 -0.6**
baz=326
O60A Telford 83.45 35 P **P 03 29 32.2 -0.3**
baz=329
PAL Palisades 83.45 34 P **P 03 29 32.1 -0.3**
baz=330
CPCT Cooper Cave 83.46 44 IAmb IAmb 03 29 37.8
comp=Z,20nm,1.0s
N61A South Mountain 83.52 34 P **P 03 29 32.6 -0.2**
baz=329
T54A Tazewell 83.53 41 P **P 03 29 32.9 -0.1**
baz=326
WHFO Wadi Hawf 83.54 289 P **P 03 29 32.6 -0.7**
WHFO P **P 03 29 32.6 -0.7**
RBK Rabkut 83.56 288 P **P 03 29 33.3 -0.1**
RBK P **P 03 29 33.3 -0.1**
YLE Yale 83.56 33 IAMs_20 IAMs_20 03 54 19.1
comp=Z,746nm,21.0s
L63A North Scituate 83.58 32 P **P 03 29 32.7 -0.4**
baz=331
MMLI Mount Malkishu 83.58 311 P **P 03 29 34.3 +1.0**
comp=Z,72nm,0.9s,comp=Z,2µm
V52A Sevierville 83.59 43 P **P 03 29 33.1 -0.2**
baz=325
V52A Sevierville 83.59 43 IAmb IAmb 03 29 38.7
comp=Z,41nm,1.2s
P59A Jarrettsville 83.64 36 P **P 03 29 33.2 -0.3**
baz=328
U53A Fall Branch 83.64 42 P **P 03 29 33.3 -0.3**
baz=325
Q58A Fox Den Farm, 83.68 37 P **P 03 29 33.3 -0.3**
baz=328
XOR Xorichti 83.68 323 P **P 03 29 32.1 -1.6**
N62A Caumsett State 83.69 34 P **P 03 29 33.2 -0.4**
baz=330
L64A Middleborough 83.80 31 P **P 03 29 33.7 -0.5**
baz=331
T55A Pulaski 83.84 41 P **P 03 29 34.5 -0.1**
baz=326
R57A Stanardsville 83.86 38 P **P 03 29 34.1 -0.5**
baz=327
U54A Nelsons Funny 83.86 42 P **P 03 29 34.3 -0.4**
baz=326
LPG La Plagne 83.90 337 *e*P **P 03 29 35.3 +0.2**
LPG pmax pmax
comp=Z,102nm,1.5s
S56A Natural Bridge 83.92 39 P **P 03 29 34.5 -0.4**
baz=327
X51A Calhoun 84.01 45 P **P 03 29 35.1 -0.3**
baz=324
W52A Murphy 84.03 44 P **P 03 29 35.6 0.0**
baz=324
WALJ Wala 84.06 310 P **P 03 29 37.3 +1.6**
comp=Z,113nm,0.8s,comp=Z,785nm
MRKA Markates 84.07 323 P **P 03 29 34.4 -1.3**
MURB Monte Urbino 84.22 332 P **P 03 29 35.3 -1.2**
U55A TA2, Sparta 84.23 41 P **P 03 29 36.3 -0.3**
baz=326
T56A Rocky Mt 84.25 40 P **P 03 29 36.6 -0.1**
baz=326
ABTO Aybut 84.26 289 P **P 03 29 36.7 -0.4**
SNR=7.9
ABTO P **P 03 29 36.7 -0.4**
SNR=7.9
AGG Agios Georgios 84.33 324 IAmb IAmb 03 29 36.3
comp=Z,43nm,1.4s
AGG IAMs_20 IAMs_20 04 10 55.3
comp=Z,965nm,18.0s
BNI Bardonecchia 84.33 337 P **P 03 29 37.3 +0.2**
BNI pmax pmax
comp=Z,25nm,1.1s
BNI MLR MLR
comp=Z,2µm,19.0s
BNI Bardonecchia 84.33 337 P **P 03 29 37.3 +0.2**
BNI IAmb IAmb 03 29 41.3
comp=Z,25nm,1.1s
W53A Cullowhee 84.34 43 P **P 03 29 37.0 -0.2**
baz=325
LKR Lokris 84.36 323 P **P 03 29 35.1 -2.1**
JAN Janina 84.38 325 P **P 03 29 36.1 -1.2**
V54A Nebo 84.41 42 P **P 03 29 37.2 -0.4**
baz=326
R58B Mineral 84.42 38 IAMs_20 IAMs_20 04 07 41.5
comp=Z,980nm,20.0s
CBN Corbin Frederi 84.43 38 P **P 03 29 37.3 -0.2**
baz=328
Y51A Rockmart 84.44 45 P **P 03 29 37.6 -0.1**
baz=324
X52A Dahlonega 84.45 44 P **P 03 29 37.8 0.0**
baz=325
LISJ El Lisan 84.49 310 P **P 03 29 38.8 +1.0**
comp=Z,48nm,1.1s,comp=Z,1µm
PTL Penteli 84.51 322 P **P 03 29 36.3 -1.7**
Z50A Ashland 84.54 46 P **P 03 29 37.6 -0.6**
baz=324,SNR=15
Z50A Ashland 84.54 46 IAMs_20 IAMs_20 04 06 33.7
comp=Z,714nm,20.0s
MFF Saint Martin d 84.55 342 *e*P **P 03 29 37.7 -0.2**
MFF pmax pmax
comp=Z,58nm,1.6s
AMAZ Amatzia 84.56 311 P **P 03 29 39.3 +1.0**
comp=Z,176nm,1.3s,comp=Z,2µm
BG3 Lake Jocassee 84.59 43 IAmb IAmb 03 29 44.0
comp=Z,31nm,1.2s
BG3 IAMs_20 IAMs_20 04 06 09.7
comp=Z,718nm,21.0s
T57A Hurt 84.63 40 P **P 03 29 37.9 -0.6**
baz=327
S58A Poland Farm, P 84.64 38 IAMs_20 IAMs_20 04 12 33.3
comp=Z,838nm,20.0s
U56A King 84.66 41 P **P 03 29 38.4 -0.4**
baz=326
Q61A Milford 84.71 36 P **P 03 29 38.6 -0.2**
baz=329
PROD Prodromos 84.74 323 P **P 03 29 37.5 -1.6**
AQU L'Aquila 84.75 331 P **P 03 29 39.2 +0.1**
AQU pmax pmax
comp=Z,83nm,1.1s
AQU L'Aquila 84.75 331 *e*P **P 03 29 39.2 +0.1**
AQU L'Aquila 84.75 331 P **P 03 29 39.2 +0.1**
X53A Estanollee 84.81 44 P **P 03 29 39.2 -0.3**
baz=325
S59A Mechanicsville 84.84 38 P **P 03 29 39.2 -0.3**
baz=328
Z51A Franklin 84.86 46 P **P 03 29 39.8 0.0**
baz=324
W54A Cherokee Point 84.87 43 P **P 03 29 39.6 -0.2**
baz=325
INTR Introdacqua 84.88 331 P **P 03 29 39.4 -0.4**
LTK Loutraki 84.91 323 P **P 03 29 38.8 -1.2**
KALE Kalithea 84.94 323 P **P 03 29 37.0 -3.2**
SERG Sergoula 84.96 324 P **P 03 29 39.4 -0.8**
Y52A Lilburn 84.96 45 P **P 03 29 40.3 0.0**
baz=324
V56A Mocksville 85.05 41 P **P 03 29 40.6 -0.1**
baz=326
MATE Matera 85.10 328⇓P **P 03 29 39.9 -0.9**
KARP Karpathos 85.14 319 P **P 03 29 41.3 +0.1**
KARP IAMs_20 IAMs_20 04 13 11.1
comp=Z,887nm,19.0s
LAKA Lakka 85.14 324 P **P 03 29 39.9 -1.2**
HSNJ Maan 85.15 310 P **P 03 29 43.3 +1.9**
comp=Z,337nm,1.0s,comp=Z,4µm
PDO Prodromos 85.16 324 P **P 03 29 40.8 -0.4**
Y53A Monroe 85.20 44 P **P 03 29 41.4 -0.1**
baz=325
X54A Belton 85.22 43 P **P 03 29 41.2 -0.4**
baz=325
KMSC Kings Mountain 85.22 42 P **P 03 29 41.5 -0.1**
baz=326
KMSC Kings Mountain 85.22 42 IAmb IAmb 03 29 46.2
comp=Z,20nm,1.1s
KLV Kalavryta, Ach 85.23 323 P **P 03 29 40.4 -1.2**
ACER Acerenza 85.26 329 P **P 03 29 41.9 +0.2**
ACER IAMs_20 IAMs_20 04 00 31.7
comp=Z,424nm,20.0s
NWAO Narrogin (SRO) 85.30 210 P **P 03 29 42.3 +0.7**
NWAO pmax pmax
comp=Z,42nm,1.1s
NWAO Narrogin (SRO) 85.30 210 P **P 03 29 42.5 +0.9**
NWAO IAmb IAmb 03 29 43.4
comp=Z,34nm,1.1s
NWAO Narrogin (SRO) 85.30 210 P **P 03 29 42.4 +0.7**
NWAO IAmb IAmb 03 29 43.4
comp=Z,42nm,1.1s
V57A Coltrane Farms 85.32 41 P **P 03 29 41.6 -0.4**
baz=327
KZIT Kziot 85.32 311 P **P 03 29 42.6 +0.5**
comp=Z,207nm,1.1s,comp=Z,2µm
Z52A Williamson 85.33 45 P **P 03 29 42.2 0.0**
baz=324
250A Grady 85.38 47 P **P 03 29 42.6 +0.2**
baz=324
T59A Double "B" Far 85.39 38 P **P 03 29 42.1 -0.3**
baz=328
T59A Double "B" Far 85.39 38 IAMs_20 IAMs_20 04 13 05.3
comp=Z,1µm,18.0s
U58A Oxford 85.44 39 P **P 03 29 42.6 0.0**
baz=327
DRO Drossia 85.49 324 P **P 03 29 42.5 -0.4**
RLS Riolos of Patr 85.50 324 P **P 03 29 43.3 +0.4**
HODGE Hodges 85.53 43 IAmb IAmb 03 29 44.3
comp=Z,33nm,1.3s
W56A Indian Trail 85.57 42 P **P 03 29 43.2 -0.1**
baz=326
T60A Surry 85.60 38 IAMs_20 IAMs_20 04 08 35.7
comp=Z,763nm,21.0s
152A Waverly Hall 85.61 46 P **P 03 29 43.1 -0.4**
baz=324
GOGA Godfrey 85.62 44 P **P 03 29 42.8 -0.8**
baz=325
GOGA Godfrey 85.62 44 IAMs_20 IAMs_20 04 05 51.1
comp=Z,764nm,18.0s
Y54A Tignall 85.63 44 P **P 03 29 43.7 +0.1**
baz=325,SNR=16
X55A Gracelyn & Ava 85.63 43 P **P 03 29 43.5 -0.1**
baz=326
HRFI Mount Harif 85.67 310 P **P 03 29 44.4 +0.5**
comp=Z,147nm,1.2s,comp=Z,2µm
Z53A Monticello 85.68 45 P **P 03 29 43.3 -0.6**
baz=325
U59A Littleton 85.81 39 P **P 03 29 43.7 -0.7**
baz=328
U59A Littleton 85.81 39 IAMs_20 IAMs_20 04 13 30.4
comp=Z,943nm,21.0s
X56A White Oak 85.89 42 P **P 03 29 44.7 -0.2**
baz=326
AQBJ Aqaba 85.91 310 P **P 03 29 47.1 +2.1**
comp=Z,131nm,1.0s,comp=Z,1µm
LFF La Frestale 85.93 341 *e*P **P 03 29 45.1 +0.2**
LFF pmax pmax
comp=Z,26nm,1.1s
Y55A Saluda 85.96 43 P **P 03 29 45.2 0.0**
baz=326
U60A Pendleton 85.98 38 P **P 03 29 44.8 -0.5**
baz=328
EIL Elat 86.01 310 P **P 03 29 46.3 +0.7**
comp=Z,47nm,0.9s,baz=29,slow=3.6,SNR=42
EIL PP **PP 03 33 06.3 +1.2**
comp=Z,20nm,1.1s,baz=348,slow=7.5,SNR=5.3
EIL Elat 86.01 310 P **P 03 29 46.3 +0.7**
BIRD Birdtown, Kers 86.03 42 IAmb IAmb 03 29 50.9
comp=Z,20nm,1.1s
BIRD IAMs_20 IAMs_20 04 12 46.7
comp=Z,560nm,21.0s
ITM Ithomi 86.06 323 P **P 03 29 44.8 -0.9**
ITM IAMs_20 IAMs_20 04 15 47.3
comp=Z,822nm,20.0s
NPS Neapolis 86.08 319 P P 03 29 40.8 -5.0
V59A Middlesex 86.10 40 P **P 03 29 45.4 -0.5**
baz=327
252A Lumpkin 86.14 46 P **P 03 29 46.1 -0.1**
baz=324
TIP Timpagrande 86.37 328⇓P **P 03 29 47.1 -0.2**
TIP Timpagrande 86.37 328 P **P 03 29 46.8 -0.5**
TIP IAmb IAmb 03 29 49.5
comp=Z,39nm,1.0s
253A Americus 86.39 46 P **P 03 29 47.4 0.0**
baz=325
U61A Possum Corner 86.41 38 P **P 03 29 47.2 -0.2**
baz=328
Z55A Blythe 86.42 44 P **P 03 29 47.9 +0.4**
baz=326
154A Montrose 86.44 45 P **P 03 29 48.1 +0.5**
baz=325
352A Blakely 86.46 47 P **P 03 29 48.3 +0.5**
baz=324
V60A Jim Taylor Roa 86.53 39 IAMs_20 IAMs_20 04 14 01.6
comp=Z,714nm,20.0s
TBI Tubuai 86.59 129 *e*S **S 03 40 20.6 -2.3**
comp=Z,549nm,31.2s
TBI Tubuai 86.59 129 *e*LR LR 03 57 01.6
comp=Z,1µm,32.2s,baz=320
TBI Tubuai 86.59 129 *e*T T 05 05 45.0
comp=Z,7.4nm,0.3s
HIZ Hauiti 86.66 163 IAMs_20 IAMs_20 04 16 21.3
comp=Z,625nm,20.0s
Z56A Williston 86.70 43 IAMs_20 IAMs_20 04 06 29.5
comp=Z,1µm,21.0s
CNNC Cliffs of the 86.70 40 IAMs_20 IAMs_20 04 13 42.1
comp=Z,1µm,19.0s
254A Abbeville 86.90 45 P **P 03 29 49.7 -0.2**
baz=325
TIGA Tifton 87.16 46 P **P 03 29 51.2 +0.1**
baz=325
SOCY Socotra 87.54 285 IAMs_20 IAMs_20 04 12 19.7
comp=Z,739nm,19.0s
355A Pearson 87.60 45 P **P 03 29 53.8 +0.5**
baz=325
DGAR Diego Garcia 88.95 258 P **P 03 30 00.5 +0.7**
DGAR pmax pmax
comp=Z,108nm,1.1s
DGAR Diego Garcia 88.95 258 P **P 03 30 00.5 +0.7**
658A Bunnell 89.96 45 IAMs_20 IAMs_20 04 07 23.2
comp=Z,882nm,19.0s
WDD Wied Dalam 90.15 328 IAMs_20 IAMs_20 04 14 14.4
comp=Z,683nm,19.0s
POLO Lamas de Olo 91.06 346 *e*P **P 03 30 09.0 -0.5**
comp=Z,21nm,2.0s
MVO Moncorvo 91.13 345 *e*P **P 03 30 09.6 -0.2**
comp=Z,33nm,1.5s
MVO Moncorvo 91.13 345 *e*LR LR 04 09 08.9
comp=Z,542nm,20.0s
PVRL Vila Real 91.14 346 *e*P **P 03 30 09.2 -0.6**
comp=Z,44nm,1.3s
PVIS Viseu 91.72 346 *e*P **P 03 30 12.3 -0.2**
comp=Z,37nm,1.7s
MTE Manteigas 91.97 345 *e*LR LR 04 12 23.2
comp=Z,622nm,16.0s
ESDC Sonseca Array 91.98 343 P **P 03 30 13.3 -0.4**
comp=Z,7.1nm,1.1s,baz=15,slow=4.4,SNR=12
ESDC LR LR 04 15 09.3
comp=Z,549nm,21.3s,baz=20,slow=38
ESDC Sonseca Array 91.98 343 P **P 03 30 12.6 -1.1**
DAMY Dhamar 92.06 293 P **P 03 30 15.9 +1.1**
DAMY IAmb IAmb 03 30 17.4
comp=Z,22nm,1.3s
KEST Kesra 92.07 331 P **P 03 30 15.3 +1.1**
comp=Z,14nm,0.9s,baz=322,slow=7.3,SNR=8.2
KEST LR LR 04 18 20.0
comp=Z,735nm,18.6s,baz=337,slow=40
PCAS Casmilo, Conde 92.47 346 *e*P **P 03 30 16.0 +0.1**
comp=Z,44nm,1.5s
PMRV Marv??o 92.88 345 *e*LR LR 04 12 27.5
comp=Z,815nm,18.0s
PESTR Estremoz 93.46 345 IAMs_20 IAMs_20 04 17 35.4
comp=Z,804nm,19.0s
PBEJ Beja 94.33 345 *e*P **P 03 30 24.0 -0.5**
comp=Z,31nm,1.5s
PVAQ Vaqueiros 94.91 345 *e*LR LR 04 13 33.9
comp=Z,551nm,18.0s
ATD Arta Tunnel 95.33 293 P **P 03 30 31.1 +1.5**
comp=Z,4.5nm,0.3s,baz=64,slow=3.9,SNR=6.0
SFS San Fernando 95.53 343 IAMs_20 IAMs_20 04 20 08.2
comp=Z,691nm,19.0s
MSEY Mahe Island 98.68 272 IAMs_20 IAMs_20 04 18 04.8
comp=Z,492nm,20.0s
FURI Furi 99.98 294 IAMs_20 IAMs_20 04 21 07.0
comp=Z,478nm,19.0s
MTDJ Mount Denham 101.13 49 IAMs_20 IAMs_20 04 22 46.4
comp=Z,508nm,19.0s
TAM Tamanrasset 105.23 329 IAMs_20 IAMs_20 04 21 46.7
comp=Z,554nm,22.0s
KMBO Kilima Mbogo 108.49 289 IAMs_20 IAMs_20 04 26 22.9
comp=Z,727nm,19.0s
SKI Saint Kitts 108.82 36 IAMs_20 IAMs_20 04 23 19.6
comp=Z,359nm,20.0s
MBAR Mbarara 112.29 294 IAMs_20 IAMs_20 04 21 32.1
comp=Z,771nm,22.0s
SDV Santo Domingo 112.56 48 IAMs_20 IAMs_20 04 32 06.2
comp=Z,268nm,20.0s
SVB Belmont 113.09 37 IAMs_20 IAMs_20 04 22 57.7
comp=Z,648nm,22.0s
TOC1 Torodi Ar. Sit 115.47 329 IAMs_20 IAMs_20 04 30 17.8
comp=Z,659nm,20.0s
TOC2 Torodi Ar. Sit 115.47 329 IAMs_20 IAMs_20 04 30 20.0
comp=Z,585nm,19.0s
TOB2 Torodi Ar. Sit 115.48 329 IAMs_20 IAMs_20 04 30 29.2
comp=Z,595nm,19.0s
TOC7 Torodi Ar. Sit 115.48 329 IAMs_20 IAMs_20 04 30 16.2
comp=Z,544nm,20.0s
TOA1 Torodi Ar. Sit 115.49 329 IAMs_20 IAMs_20 04 30 19.4
comp=Z,544nm,20.0s
TOA2 Torodi Ar. Sit 115.49 329 IAMs_20 IAMs_20 04 30 38.4
comp=Z,552nm,20.0s
TOA0 Torodi Ar. Sit 115.49 329 IAMs_20 IAMs_20 04 30 19.5
comp=Z,524nm,20.0s
TOB5 Torodi Ar. Sit 115.49 329 IAMs_20 IAMs_20 04 30 19.4
comp=Z,560nm,20.0s
TORD Torodi Ar. Bea 115.49 329 PKP **PKiKP 03 35 46.0 -1.2**
comp=Z,2.3nm,0.7s,baz=23,slow=1.5,SNR=17
TORD PP **PP 03 36 43.6 -4.4**
comp=Z,3.4nm,1.0s,baz=12,slow=6.3,SNR=5.5
TORD Torodi Ar. Bea 115.49 329 **PKiKP 03 35 46.3 -0.9**
TOC3 Torodi Ar. Sit 115.49 329 IAMs_20 IAMs_20 04 30 19.5
comp=Z,584nm,21.0s
TOA3 Torodi Ar. Sit 115.50 329 IAMs_20 IAMs_20 04 30 29.6
comp=Z,528nm,19.0s
TOB3 Torodi Ar. Sit 115.50 329 IAMs_20 IAMs_20 04 30 48.6
comp=Z,518nm,20.0s
DBIC Dimbokro 123.73 333 PKP **PKPdf 03 36 02.5 -0.6**
comp=Z,11nm,0.7s,baz=30,slow=2.7,SNR=15
DBIC Dimbokro 123.73 333 **PKPdf 03 36 02.9 -0.2**
TIC Toumodi 123.81 334 *e*PKP1 **PKPdf 03 36 02.4 -0.9**

Code	Station Name	Δᵉ	ΔZᵉ	Phase Op	ID ISC	Time h m s	Res ISC
KIC	Kosan Boka	123.99	333	*e*PKP1	PKPdf	03 36 02.8	-0.8
	comp=Z,22nm,0.8s						
LIC	Lamto	124.21	333	*e*PKP1	PKPdf	03 36 03.3	-0.7
	comp=Z,35nm,0.8s						
LSZ	Lusaka	124.92	285	PKIKP	PKiKP	03 36 05.7	0.0
LSZ	Lusaka	124.92	285		PKiKP	03 36 05.7	0.0
SAML	Samuel	131.51	51	IAMs_20	IAMs_20	04 42 43.2	
	comp=Z,271nm,20.0s						
MAW	Mawson	131.86	211	PKP	PKiKP	03 36 18.3	+0.5
	comp=Z,1.7nm,0.7s,baz=74,slow=3.8,SNR=4.1						
LBTB	Lobatse	133.37	278	PKIKP	PKPdf	03 36 21.7	+0.5
LBTB	Lobatse	133.37	278		PKPdf	03 36 21.7	+0.5
LPAZ	La Paz	134.50	63	PKP	PKiKP	03 36 25.1	-0.4
	comp=Z,1.2nm,0.7s,baz=234,slow=1.1,SNR=4.5						
BOSA	Boshof	135.89	275	PKP	PKiKP	03 36 26.9	-0.5
	comp=Z,1.9nm,0.7s,baz=304,slow=1.8,SNR=4.0						
QSPA	South Pole Qui	136.05	180		PKiKP	03 36 26.3	-0.1
BDFB	Brasilia	144.66	37	PKP	PKPab	03 36 40.5	-0.2
	comp=Z,16nm,1.0s,baz=317,slow=4.0,SNR=17						
BDFB	Brasilia	144.66	37		PKPbc	03 36 41.1	+0.3
GO06	Curarrehue	146.98	95	PKPbc	PKPbc	03 36 48.1	+0.7
PLCA	Paso Flores	148.12	96	PKP2	PKPbc	03 36 50.1	-0.2
PLCA	Paso Flores	148.12	96	PKPbc	PKPbc	03 36 50.7	+0.4
	comp=Z,16nm,0.7s,baz=306,slow=3.3,SNR=30						
PLCA	Paso Flores	148.12	96		PKPbc	03 36 50.1	-0.2
CPUP	Villa Florida	148.64	61	PKPbc	PKPbc	03 36 51.7	-0.3
	comp=Z,12nm,0.8s,baz=312,slow=2.7,SNR=22						
CPUP	Villa Florida	148.64	61	PKPbc	PKPbc	03 36 51.6	-0.4
SNAA	Sanae	152.15	196	PKPdf	PKPbc	03 36 58.1	-1.1
SNAA	Sanae	152.15	196	PKIKP	PKPdf	03 36 52.6	+0.2
SNAA	Sanae	152.15	196		PKPdf	03 36 52.6	+0.2
SNAA				IAMs_20	IAMs_20	04 50 54.3	
	comp=Z,321nm,20.0s						
VNA2	Neumayer--Watz	153.59	194	PKPdf	PKiKP	03 37 02.9	+0.6
	baz=131,slow=3.7						
VNA3	Neumayer Olymp	153.68	192	PKPdf	PKiKP	03 37 02.7	+0.2
VNA1	Neumayer--Stat	153.98	194	PKPdf	PKPbc	03 36 59.0	-4.0

BJI ***22*** *03:29:12.7±0.0, 38°.57N×42°.68E, h8km, mb4.8/34, mB5.0/16, Ms5.1/10, Ms7 4.8/10*
NSSP ***22*** *03:29:17.3, 38°.67N×43°.23E, h10km, Ms4.5*
ISK ***22*** *03:29:17.9, 38°.68N×43°.22E, h5km, ML4.5/22*
MOS ***22*** *03:29:17.4±1.5, 38°.58N×43°.34E, h10km, mb4.7/28, Error ellipse: s-maj=5.4km s-min=3.7km az=92.4*
TEH ***22*** *03:29:18.9, 38°.69N×43°.19E, h15km, ML4.4*
NEIC ***22*** *03:29:18.8±2.2, 38°.59N±0°.04×43°.34E±0°.07, h10km±2km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr4.63; Mθθ-5.90; Mφφ1.27; Mrθ-1.29; Mθφ-0.48; Mφr-0.50; Fault plane solution: M0 5.57000×10 15 NP1: φs259.96000°, δ52.37000°, λ81.76000°. NP2: φs93.30000°, δ38.39000°, λ100.52000°. Principal axes: T 4.8390, Plg80.0000°, Azm133.0000°; N 1.2530, Plg7.0000°, Azm265.0000°; P -6.0920, Plg7.0000°, Azm356.0000°;*
ISCJB ***22*** *03:29:19.7±0.4, 38°.55N±0°.02×43°.18E±0°.01, h26km±3km, mb4.6/67, MS3.4/1 Error ellipse: s-maj=3.0km s-min=1.9km az=172.4*
AZER ***22*** *03:29:19.9±0.5, 38°.48N×43°.07E, h30km±16km, ml4.5/32, ms3.3/1, Error ellipse: s-maj=13.0km s-min=2.9km az=68.0*
IDC ***22*** *03:29:21.5±2.4, 38°.65N×43°.18E, h32km±17km, mb4.1/27, mb1 4.1/31, mb1mx4.0/54, mbtmp4.2/31, ML3.2/5, MS3.7/5, Ms1 3.7/5, ms1mx3.2/43, Error ellipse: s-maj=15.7km s-min=8.5km az=168.0*
ISC 22 03:29:19.8±0.8, 38°.67N±0°.02×43°.24E±0°.02, h18km±4km, n352, σt 89/400, mb4.6/76, 32C-19D, Turkey

Code	Station Name	Δᵉ	ΔZᵉ	Phase Op	ID ISC	Time h m s	Res ISC
VANB	Van	0.14	122	*e*Pg	Pg	03 29 23.7	-0.4
VANB	Van	0.14	122	PG	Pg	03 29 23.7	-0.4
VANB				SG	Sg	03 29 27.5	+0.6
VANB	Van	0.14	122		Pg	03 29 23.7	-0.4
CLDR	Caldiran	0.71	48	*e*Pg	Pb	03 29 32.9	-0.9
CLDR	Caldiran	0.71	48	PG	Pb	03 29 31.9	-1.9
CLDR				SG	Sb	03 29 43.3	-0.1
CLDR	Caldiran	0.71	48		Pb	03 29 31.9	-1.9
MLAZ	Malazgirt-MUS	0.71	311	*e*Pg	Pb	03 29 32.5	-1.3
MLAZ	Malazgirt-MUS	0.71	311	PG	Pb	03 29 31.9	-1.9
MLAZ				SG	Sb	03 29 43.3	-0.1
MLAZ	Malazgirt-MUS	0.71	311		Pb	03 29 31.7	-2.1
GURO	Guroymak-BITLI	0.95	263	*e*Pg	Pb	03 29 35.6	-2.3
GURO	Guroymak-BITLI	0.95	263	PG	Pb	03 29 36.0	-1.9
GURO	Guroymak-BITLI	0.95	263		Pb	03 29 35.6	-2.3
SIRT	Sirnak	1.33	209	*e*Pg	Pn	03 29 43.8	+0.2
SIRT	Sirnak	1.33	209	PN	Pb	03 29 44.2	0.0
SIRT				SN	Sg	03 30 03.7	+0.9
CUKT	Cukurca	1.45	168	*e*Pg	Pb	03 29 46.2	-0.2
CUKT	Cukurca	1.45	168	PN	Pb	03 29 46.4	0.0
CUKT				SN	Sg	03 30 07.2	+0.5
CUKT	Cukurca	1.45	168		Pn	03 29 45.5	+0.2
VRTB	Varto-Mus	1.47	290	*e*Pn	Pb	03 29 46.7	-0.1
VRTB	Varto-Mus	1.47	290	PN	Pn	03 29 46.5	+0.9
VRTB				SN	Sb	03 30 06.9	+1.7
VNNZ	Vanand	1.50	17	⇓*i*P	Pn	03 29 46.2	+0.2
VNNZ				⇓*i*S	Sb	03 30 06.7	+0.7
TASB	TASBURUN-IGDIR	1.52	30	*e*Pn	Pb	03 29 47.3	-0.3
TASB	TASBURUN-IGDIR	1.52	30	PN	Pb	03 29 47.3	-0.3
TASB				SN	Sg	03 30 08.9	-0.2
TASB	TASBURUN-IGDIR	1.52	30		Pn	03 29 46.5	+0.2
METS	Metsamor	1.62	24	⇓*i*P	Pb	03 29 49.7	+0.5
METS				⇓*i*S	Sg	03 30 12.9	+1.0
HYR	Heyderabad	1.64	50	*e*Pn	Pb	03 29 49.7	+0.2
HYR	Heyderabad	1.64	50	P	Pb	03 29 49.7	+0.2
	SNR=246						
HYR				S	Sg	03 30 12.3	-0.3
SVAN	Silvan-Diyarba	1.68	253	*e*Pn	Pn	03 29 48.8	+0.4
SVAN	Silvan-Diyarba	1.68	253	PN	Pn	03 29 49.4	+1.0
SVAN				SN	Sb	03 30 12.5	+1.3
SVAN	Silvan-Diyarba	1.68	253		Pn	03 29 48.8	+0.4
KOPR	Koprukoy-ERZUR	1.70	321	*e*Pn	Pn	03 29 49.2	+0.4
KOPR	Koprukoy-ERZUR	1.70	321	PN	Pn	03 29 49.6	+0.8
KOPR				SN	Sb	03 30 12.9	+1.1
NRKZ	NAREK	1.73	39	⇓*i*P	Pn	03 29 50.0	+0.9
NRKZ				⇓*i*S	Sg	03 30 14.5	-1.1
ARUZ	Aruch	1.74	22	⇓*i*P	Pn	03 29 50.0	+0.7
ARUZ				⇓*i*S	Sb	03 30 13.9	+1.0
KARO	Karliova-Bingo	1.82	291	PN	Pn	03 29 51.3	+0.8
NAX	Nakhchivan	1.83	73	P	Pn	03 29 51.6	+1.1
NAX	Nakhchivan	1.83	73	*e*Pn	Pn	03 29 51.6	+1.1
NAX	Nakhchivan	1.83	73	P	Pn	03 29 51.7	+1.1
	SNR=32						
NAX				S	Sb	03 30 16.6	+1.1
GNI	Garni	1.88	38	*de*P	Pn	03 29 52.0	+0.7
GNI				pmax	pmax		
	comp=Z,4μm,0.8s						
GNI	Garni	1.88	38	*e*Pn	Pn	03 29 51.8	+0.5
GNI	Garni	1.88	38	⇑*i*P	Pn	03 29 52.3	+1.0
GNI				⇑*i*S	Sb	03 30 16.6	-0.4
GNI	Garni	1.88	38	Pn	Pn	03 29 52.2	+1.0
	comp=Z,88nm,0.3s,baz=255,slow=3.2,SNR=143						
GNI				Lg	Lg	03 30 24.2	
	comp=Z,241nm,0.3s,baz=151,slow=20,SNR=11						
GNI				LR	LR	03 31 02.4	
	comp=Z,1μm,20.6s,baz=222,slow=52						
GNI	Garni	1.88	38	PN	Pb	03 29 52.6	-1.2
SBZ	Shahbuz	1.94	67	*e*Pn	Pb	03 29 53.4	-1.4
SBZ	Shahbuz	1.94	67	P	Pb	03 29 53.4	-1.4
	SNR=42						
SBZ				S	Sb	03 30 20.3	+1.5
KARS	Kars	1.96	356	*e*Pn	Pn	03 29 53.5	+1.2
KARS	Kars	1.96	356	PN	Pn	03 29 53.3	+1.0
KAPZ	Kaputan	2.00	34	⇓*i*P	Pn	03 29 53.7	+0.8
KAPZ				⇑*i*S	Sb	03 30 21.2	+0.8
SENK	Senkaya-Erzuru	2.01	340	*e*Pn	Pn	03 29 53.6	+0.5
SENK	Senkaya-Erzuru	2.01	340	PN	Pn	03 29 54.3	+1.2
BNGB	Bingl	2.02	280	PN	Pn	03 29 54.2	+1.0
BINT	Bingol	2.16	276	P	Pn	03 29 54.6	-0.4
BINT	Bingol	2.16	276	*e*Pn	Pn	03 29 54.6	-0.4
ORD	Ordubad	2.17	82	*e*Pn	Pn	03 29 56.1	+1.0
ORD	Ordubad	2.17	82	P	Pn	03 29 56.1	+1.0
	SNR=13						
ORD				S	Sb	03 30 24.2	-1.1
ITBZ	Tabriz	2.33	100	*e*Pn	Pn	03 29 58.5	+1.1
MAZI	Mazidag	2.51	242	*e*Pn	Pn	03 30 01.2	+1.3
MAZI	Mazidag	2.51	242	PN	Pn	03 30 01.2	+1.3
DYBB	Diyarbakir	2.54	255	PN	Pn	03 30 01.7	+1.5
MAHB	Mahabad	2.73	133	IAMB	IAmb	03 30 19.7	
	comp=Z,0.0nm,0.6s						
MAHB				*e*Pn	Pn	03 30 05.2	+2.3
AKH	Akhalkalaki	2.74	4	P	Pb	03 30 07.8	-0.7
AKH	Akhalkalaki	2.74	4	⇑P	Pb	03 30 08.8	+0.4
AKH	Akhalkalaki	2.74	4	PN	Pn	03 30 04.8	+1.7
AKH	Akhalkalaki	2.74	4		Pb	03 30 07.8	-0.7
GDB	GEDABAY	2.82	43	*e*Pn	Pn	03 30 06.3	+2.1
GDB	GEDABAY	2.82	43	P	Pn	03 30 06.3	+2.1
	SNR=23						
GDB				S	Sb	03 30 42.5	-1.6
EPOS	Posof	2.86	352	*e*Pn	Pn	03 30 06.7	+2.0
QZX	Qazax, Azerbai	2.90	34	*e*Pn	Pn	03 30 07.3	+2.2
QZX	Qazax, Azerbai	2.90	34	P	Pn	03 30 07.4	+2.2
	SNR=72						
QZX				S	Sb	03 30 45.1	-1.0
BAYT	Aydınlepe-Bayb	2.95	307	PN	Pn	03 30 07.5	+1.6
BCA	Borcka	3.04	336	*e*Pn	Pn	03 30 09.4	+2.4
BCA	Borcka	3.04	336	⇓P	Pb	03 30 13.2	-0.2
BCA	Borcka	3.04	336	PN	Pn	03 30 08.9	+1.9
CHOM	Cayeli-Rize	3.08	323	*e*Pn	Pn	03 30 10.1	+2.5
CHOM	Cayeli-Rize	3.08	323	PN	Pn	03 30 09.4	+1.8
GANJ	Ganja	3.09	49	P	Pn	03 30 09.8	+2.0
GANJ	Ganja	3.09	49	*e*Pn	Pn	03 30 09.8	+2.0
GANJ	Ganja	3.09	49	P	Pn	03 30 09.8	+2.0
	SNR=22						
GANJ				S	Sb	03 30 48.9	-2.8
SVRC	Sivrice-ELAZID	3.10	266	PN	Pn	03 30 09.6	+1.6
BATM	Batumi	3.16	339	P	Pn	03 30 11.6	+2.9
BATM	Batumi	3.16	339	⇑P	Pb	03 30 15.4	-0.1
BATM	Batumi	3.16	339	PN	Pn	03 30 10.7	+2.0
TBLG	Delisi	3.27	20	P	Pb	03 30 15.9	-1.4
TBLG	Delisi	3.27	20	PN	Pn	03 30 12.3	+2.1
TBLG	Delisi	3.27	20		Pb	03 30 15.9	-1.4
QRD	Qoradiz	3.28	75	P	Pn	03 30 11.5	+1.2
	SNR=7.1						
QRD				S	Sn	03 30 52.6	+3.8
AGDM	Agdam	3.33	63	P	Pn	03 30 12.5	+1.5
AGDM				S	Sb	03 30 54.1	-4.3
BRDA	Brd	3.44	61	P	Pn	03 30 14.2	+1.7
BRDA				S	Sn	03 30 56.9	+4.1
BLQ	Beylaqan	3.52	71	P	Pn	03 30 14.9	+1.3
BLQ				S	Sn	03 30 58.5	+3.7
MNGR	Mingechevir, A	3.63	54	P	Pn	03 30 17.0	+1.8
MNGR	Mingechevir, A	3.63	54	P	Pn	03 30 17.1	+1.8
MNGR				S	Sn	03 31 02.0	+4.3
ZRD	Zardab	3.80	64	P	Pn	03 30 18.8	+1.4
ZRD				S	Sn	03 31 05.6	+3.9
YRD	Yardimli	3.92	85	P	Pn	03 30 20.0	+0.7
YRD				S	Sn	03 31 07.5	+2.6
ZKTA	Zakatala	3.94	40	P	Pn	03 30 21.5	+2.1
ZKTA	Zakatala	3.94	40	P	Pn	03 30 21.6	+2.1
ZKTA				S	Sn	03 31 10.3	+5.1
SEKA	Sheki	3.96	49	P	Pn	03 30 22.5	+2.7
SEKA	Sheki	3.96	49	P	Pn	03 30 22.5	+2.7
SEKA				S	Sb	03 31 11.6	-5.2
LRK	Lerik	4.00	89	P	Pn	03 30 20.9	+0.5
LRK				S	Sn	03 31 09.1	+2.3
GLBA	Clilabad	4.06	80	P	Pn	03 30 22.1	+1.1
GLBA				S	Sn	03 31 11.2	+3.1
ZEI	Tsey	4.14	7	*e*P	Pn	03 30 23.9	+1.5
ZEI				pmax	pmax		
	comp=Z,159nm,0.8s						
KDMR	Kurdemir	4.19	64	P	Pn	03 30 24.3	+1.5
KDMR				S	Sn	03 31 15.2	+4.0
SAAT	Saatly	4.20	72	P	Pn	03 30 23.9	+1.0
SAAT				S	Sn	03 31 14.3	+2.8
QBL	Gabala	4.21	56	P	Pn	03 30 24.9	+1.7
QBL				S	Sn	03 31 16.1	+4.2
LKRN	Lenkeran, Azer	4.34	88	P	Pn	03 30 25.6	+0.8
LKRN	Lenkeran, Azer	4.34	88	P	Pn	03 30 25.6	+0.8
LKRN				S	Sn	03 31 17.8	+2.8
ASTR	Astara	4.35	90	P	Pn	03 30 25.7	+0.7
ASTR				S	Sn	03 31 18.1	+2.8
IML	Ismayilli	4.36	59	P	Pn	03 30 26.9	+1.6
IML				S	Sn	03 31 19.7	+4.0
AKT	Akhty	4.45	49	*e*P	Pn	03 30 29.9	+3.4
AKT				*e*S	Sn	03 31 22.4	+4.6
AKT				pmax	pmax		
	comp=Z,71nm,0.7s						
AKT				smax	smax		
	comp=E,124nm,0.8s						
AKT				smax	smax		
	comp=E,87nm,0.7s						
AKT				smax	smax		
	comp=N,83nm,0.6s						
AKT				MLR	MLR		
	comp=Z,18nm,3.0s						
XNQ	Khinaliq	4.52	55	P	Pn	03 30 29.3	+1.7
XNQ				S	Sn	03 31 23.7	+3.9
PQL	Pirkuli	4.64	61	P	Pn	03 30 30.6	+1.4
PQL				S	Sn	03 31 26.6	+3.9
ALIB	Äli-Bayra	4.66	72	P	Pn	03 30 30.5	+1.3
ALIB				S	Sn	03 31 26.4	+3.6
IDHR	Dehrash	4.70	146	*e*Pn	Pn	03 30 32.2	+2.1
GBS	Qobustan	4.78	65	P	Pn	03 30 32.5	+1.4
GBS				S	Sn	03 31 29.8	+3.7
QSAR	Qusar	4.79	52	P	Pn	03 30 32.9	+1.8
QSAR				S	Sn	03 31 30.6	+4.4
ILIN	Lien	4.79	140	*e*Pn	Pn	03 30 33.9	+2.5
NCK	Nalchik	4.83	3	⇓*e*P	Pn	03 30 34.7	+3.1
QUBA	Quba, Azerbaij	4.84	55	P	Pn	03 30 33.7	+1.8
QUBA				S	Sn	03 31 31.7	+4.2
ATGJ	Altiaghaj	4.91	62	P	Pn	03 30 34.3	+1.5
ATGJ				P	Pn	03 30 34.3	+1.5
ATGJ				S	Sn	03 31 33.0	+3.8
ATGJ				S	Sn	03 31 33.0	+3.8
GROC	Groznyy	4.92	22	*e*P	Pn	03 30 31.4	-1.5
GROC				*e*		03 31 29.3	
GROC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GROC				smax	smax		
	comp=E,116nm,1.0s						
GROC				smax	smax		
	comp=E,66nm,1.0s						
GROC				smax	smax		
	comp=E,50nm,1.2s						
SIZA	Siyzn	4.97	59	P	Pn	03 30 35.3	+1.6
SIZA				S	Sn	03 31 34.8	+3.9
KBZ	Khabaz	5.06	357	P	Pn	03 30 37.0	+2.2
KBZ	Khabaz	5.06	357	Pn	Pn	03 30 37.0	+2.2
	comp=E,0.1nm,0.3s,baz=140,slow=12,SNR=2.9						
KBZ				Pg	Pg	03 30 54.1	-2.6
	comp=E,0.8nm,0.3s,baz=172,slow=11,SNR=16						
KBZ				LR	LR	03 33 02.9	
	comp=E,719nm,21.8s,baz=156,slow=44						
IGHG	Ghaleghazi	5.10	147	*e*Pn	Pn	03 30 37.8	+2.3
IGHG				IAMB	IAmb	03 32 36.1	
	comp=Z,9μm,1.3s						
KIV	Kislovodsk	5.30	356	*e*P	Pn	03 30 41.8	+3.7
KIV				pmax	pmax		
	comp=Z,85nm,1.1s						
KIV				MLR	MLR		
	comp=Z,593nm,8.0s						
KIV	Kislovodsk	5.30	356		Pn	03 30 40.7	+2.6
GOBA	Gobu	5.31	69	P	Pn	03 30 39.6	+1.4
GOBA				S	Sn	03 31 42.5	+3.5
MAK	Makhachkala	5.37	36	*e*P	Pn	03 30 37.0	-2.0
MAK				*e*S	Sn	03 31 39.4	-1.0
MAK				pmax	pmax		
	comp=Z,329nm,1.1s						
MAK				MLR	MLR		
	comp=Z,891nm,13.0s						
NDR	Nardaran	5.55	68	P	Pn	03 30 42.9	+1.4
NDR				S	Sn	03 31 48.6	+3.8
SOC	Sochi	5.58	333	*e*P	Pn	03 30 43.8	+1.9
SOC				*e*		03 31 50.2	
SOC				pmax	pmax		
	comp=Z,30nm,0.8s						
SOC				MLR	MLR		
	comp=Z,641nm,10.0s						
GALA	Gala	5.62	70	P	Pn	03 30 43.8	+1.3
GALA				S	Sn	03 31 50.3	+3.7
QABG	Abgarm-Qazvin	5.87	118	*e*Pn	Pn	03 30 48.6	+2.5
HAGD	Aghdareh	6.10	127	*e*Pn	Pn	03 30 51.8	+2.5
IKFM	Kafar-mosalman	6.35	143	*e*Pn	Pn	03 30 54.7	+2.2
BDRS	Dareh Seyedi	6.55	134	*e*Pn	Pn	03 30 58.3	+2.7
IKMR	Kamar-syah	6.62	139	*e*Pn	Pn	03 30 58.5	+2.3
IMHD	Mahdasht	6.64	114	*e*Pn	Pn	03 30 58.5	+1.9
ANN	Anapa	7.50	327	*e*P	Pn	03 31 15.6	+7.3
ANN				MLR	MLR		
	comp=E,509nm,13.0s						
ANN				MLR	MLR		
	comp=Z,667nm,13.0s						
ANN				MLR	MLR		
	comp=N,346nm,13.0s						
BRTR	Keskin Array B	7.53	281	Pn	Pn	03 31 10.6	+1.8
	comp=N,0.1nm,0.3s,baz=108,slow=12,SNR=2.6						
BRTR				Lg	Lg	03 33 27.9	
	comp=N,0.0nm,0.3s,baz=67,slow=22,SNR=2.2						
IALA	Alasht	8.05	106	*e*Pn	Pn	03 31 20.1	+4.0
ASF	Jabal al Asfar	8.29	220	Pn	Pn	03 31 22.6	+3.3
	comp=N,0.4nm,0.3s,baz=345,slow=16,SNR=3.6						
ASF				Lg	Lg	03 33 45.6	
	comp=N,0.7nm,0.3s,baz=223,slow=19,SNR=3.0						
MMAI	Mount Meron Ar	8.50	231	Pn	Pn	03 31 23.3	+1.2
	comp=N,0.3nm,0.3s,baz=58,slow=22,SNR=2.6						
MMAI				Lg	Lg	03 33 53.3	
	comp=N,1.0nm,0.3s,baz=23,slow=7.8,SNR=3.8						
MMAI				LR	LR	03 34 57.7	
	comp=N,524nm,18.6s,baz=40,slow=40						
IGLO	Ghaloghah	8.68	101	*e*Pn	Pn	03 31 26.7	+1.9
SILT	Sile	10.73	288	⇑P	Pn	03 32 04.5	+12
EIL	Elat	11.29	220	Lg	Lg	03 35 20.8	
	comp=N,0.1nm,0.3s,baz=314,slow=6.5,SNR=3.0						
EIL				LR	LR	03 37 04.4	
	comp=N,554nm,18.4s,baz=43,slow=41						
GEYT	Alibeck	11.72	89	Pn	Pn	03 32 11.1	+4.9
	comp=N,0.4nm,0.3s,baz=270,slow=13,SNR=2.9						
GEYT	Alibeck	11.72	89	Pn	Pn	03 32 04.0	-2.1
VRH	Novokhopyorsk	12.58	356	*e*P	Pn	03 32 18.2	+0.5
VRH				pmax	pmax		
	comp=Z,20nm,1.4s						
VRH				MLR	MLR		
	comp=Z,660nm,13.0s						
TLB	Topalu	12.80	302	⇑P	P	03 32 27.1	-4.7
TLB	Topalu	12.80	302	⇑P	P	03 32 27.1	-4.7
VSR	Storozhevoye	12.87	348	*e*P	Pn	03 32 17.3	-4.4
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR				MLR	MLR		
	comp=Z,640nm,14.0s						
ELND	Elena	13.82	293	⇓P	P	03 32 45.2	+2.1
LPSR	Galich'ya Gora	14.25	349	*e*P	Pn	03 32 40.0	-0.6
LPSR				pmax	pmax		
	comp=Z,20nm,1.2s						
LPSR				MLR	MLR		
	comp=Z,500nm,12.0s						
MLR	Muntele Rosu	14.52	304	P	Pn	03 32 47.2	+2.7
MLR	Muntele Rosu	14.52	304	Pn	P	03 32 50.5	-0.5
	comp=Z,0.1nm,0.3s,baz=84,slow=4.0,SNR=3.7						
MLR	Muntele Rosu	14.52	304	⇓P	P	03 32 54.9	+3.8
MLR	Muntele Rosu	14.52	304	Pn	Pn	03 32 47.1	+2.7
BIZ	Bicaz	15.03	309	⇑P	P	03 32 58.4	+1.9
DOPR	Dopca	15.06	305	⇑P	P	03 32 59.6	+2.6
VOIR		15.09	302	⇑P	P	03 33 00.4	+3.1
VOIR		15.09	302	⇑P	P	03 33 00.4	+3.1
ARR	Arges	15.34	302	⇑P	P	03 33 02.8	+2.7
AKASG	Malin Array Be	15.59	325	P	Pn	03 33 00.2	+1.7
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	Malin Array Be	15.59	325	Pn	Pn	03 32 58.1	-0.4
	comp=Z,0.5nm,0.3s,baz=132,slow=11,SNR=10						
AKASG	Malin Array Be	15.59	325	Pn	Pn	03 33 00.2	+1.7
AKBB	Malin Array Si	15.59	325	P	Pn	03 33 00.7	+2.2
AKBB				pmax	pmax		
	comp=Z,35nm,1.3s						
AKBB	Malin Array Si	15.59	325		Pn	03 33 00.7	+2.2
AKBB				IAmb	IAmb	03 33 12.8	
	comp=Z,35nm,1.2s						
VTS	Vitosha	15.68	291	P	P	03 33 04.6	+0.7
VTS				pmax	pmax		
	comp=Z,26nm,1.3s						
VTS	Vitosha	15.68	291	⇑P	P	03 33 06.4	+2.5
VTS	Vitosha	15.68	291		P	03 33 04.6	+0.7
AKTO	Aktyubinsk	15.75	37	Pn	Pn	03 32 59.1	-1.6
	comp=Z,0.5nm,0.3s,baz=213,slow=9.9,SNR=8.7						
HRA	Herat	15.86	100	P	P	03 33 06.6	+0.5
BURAR	Bucovina Array	15.87	310	⇑P	P	03 33 08.6	+2.6
BURAR	Bucovina Array	15.87	310	⇑P	P	03 33 08.6	+2.6
BURAR	Bucovina Array	15.87	310	Pn	Pn	03 33 03.2	+0.8
BUR08	Bucovina Ar. S	15.90	310		P	03 33 06.8	+0.6
ABKAR	Akbulak array	15.98	43		Pn	03 33 02.0	-1.7
GZR	Gura Zlata	16.60	300	⇑P	P	03 33 14.6	+0.6
HERR	Herculane	16.70	298	⇑P	P	03 33 16.0	+0.9
OBN	Obninsk	17.05	347	⇓*e*P	P	03 33 19.6	+0.7
OBN				*e*S	S	03 36 36.7	+0.9
OBN				pmax	pmax		
	comp=Z,12nm,0.7s						
OBN				MLR	MLR		
	comp=Z,261nm,15.0s						
OBN	Obninsk	17.05	347		P	03 33 18.8	-0.1
OBN				IAmb	IAmb	03 33 24.8	
	comp=Z,22nm,0.6s						
DRGR		17.09	305	⇓P	P	03

CONA	Conrad Observa	21.87	304	*i* P		P	03 34 12.8	+1.2
	comp=Z,20nm,1.2s							
KRLC	Kraliky	21.96	310	*e*P		P	03 34 14.7	+2.2
KRLC	Kraliky	21.96	310	*e*P		P	03 34 14.7	+2.2
KLMR	Klimovskoe	22.33	355	*e*P		P	03 34 16.4	+0.2
KLMR				pmax	pmax			
	comp=Z,59nm,1.2s							
KLMR	Klimovskoe	22.33	355	*e*P		P	03 34 16.5	+0.2
KLMR				AMP			03 34 27.6	
	comp=Z,59nm,1.2s							
DPC	Dobruska-Polom	22.33	310	*e*P		P	03 34 19.5	+3.0
DPC	Dobruska-Polom	22.33	310	*e*P		P	03 34 19.5	+3.0
VSU	Vasula	22.50	337⇓	*e*P		P	03 34 19.3	+1.2
VSU				pmax	pmax			
	comp=Z,66nm,0.8s							
ARSB	Arslanbob	22.89	74	IAmb	IAmb		03 34 25.6	
	comp=Z,32nm,1.1s							
MOA	Molln	22.89	303	*i* pP		P	03 34 23.0	+0.5
	comp=Z,14nm,1.2s							
PRGR	Permogore	23.04	3	*e*P		P	03 34 22.0	-1.8
PRGR				pmax	pmax			
	comp=Z,17nm,0.8s							
NRCA	Norcia	23.13	290	P		P	03 34 26.6	+1.6
NRCA				IAmb	IAmb		03 34 35.1	
	comp=Z,23nm,1.1s							
GERES	GERESS Array B	23.50	305	P		P	03 34 28.6	-0.1
GERES	GERESS Array B	23.50	305	P		P	03 34 28.4	-0.3
	comp=Z,1.6nm,0.7s,baz=98,slow=9.6,SNR=5.6							
GERES	GERESS Array B	23.50	305	P		P	03 34 28.6	-0.1
BRVK	Borovoye	23.52	43⇓	*e*P		P	03 34 29.4	+0.8
BRVK				pmax	pmax			
	comp=Z,15nm,1.0s							
BRVK	Borovoye	23.52	43	P		P	03 34 29.5	+0.8
BRVK				IAmb	IAmb		03 34 31.6	
	comp=Z,18nm,1.1s							
BVAR	Borovoye Array	23.56	44	P		P	03 34 29.7	+0.6
	comp=Z,8.3nm,0.9s,baz=237,slow=6.9,SNR=22							
KHC	Kasperske Hory	23.65	306⇑	*e*P		P	03 34 31.3	+1.2
KHC				pmax	pmax			
	comp=Z,18nm,1.3s							
KHC	Kasperske Hory	23.65	306	*e*P		P	03 34 31.2	+1.2
KHC				*ex*		x	03 34 35.5	
KHC	Kasperske Hory	23.65	306	P		P	03 34 31.4	+1.2
BRG	Berggiesshubel	23.94	310	*e*P		P	03 34 33.4	+0.7
	comp=Z,9.1nm,1.2s							
BRG	Berggiesshubel	23.94	310	*e*P		P	03 34 33.4	+0.7
BRG				pmax	pmax			
	comp=Z,9.0nm,1.3s							
AAK	Ala-Archa	23.97	70	*ce*P		P	03 34 34.8	+1.5
AAK				pmax	pmax			
	comp=Z,14nm,1.3s							
AAK	Ala-Archa	23.97	70	P		P	03 34 35.1	+1.8
	comp=Z,2.8nm,0.7s,baz=262,slow=11,SNR=7.2							
AAK	Ala-Archa	23.97	70	P		P	03 34 33.8	+0.5
DAMY	Dhamar	24.02	177	P		P	03 34 31.7	-2.5
DAMY				IAmb	IAmb		03 34 58.2	
	comp=Z,13nm,1.0s							
TEOL	Teolo	24.28	296	P		P	03 34 37.0	+0.9
WTTA	Wattenberg	24.53	301	*i* P		P	03 34 38.9	+0.4
	comp=Z,22nm,1.1s							
WATA	Walderalm	24.58	301	*i* P		P	03 34 38.7	-0.2
	comp=Z,22nm,1.0s							
CLL	Collm	24.64	311	P		P	03 34 40.2	+1.0
CLL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CLL	Collm	24.64	311	*i* P		P	03 34 38.9	-0.3
	comp=Z,6.0nm,1.0s							
CLL	Collm	24.64	311	P		P	03 34 40.2	+1.0
NIL	Nilore	24.69	92	P		P	03 34 40.6	+0.8
NIL				pmax	pmax			
	comp=Z,22nm,0.9s							
NIL	Nilore	24.69	92	P		P	03 34 40.6	+0.8
SQTA	Sankt Quirin	24.81	301	*i* P		P	03 34 39.8	-1.2
	comp=Z,16nm,0.9s							
MOTA	Moosalm	24.90	301	*i* P		P	03 34 41.5	-0.2
	comp=Z,27nm,0.9s							
FETA	Feichten	25.11	300	*i* P		P	03 34 42.5	-1.2
	comp=Z,12nm,1.1s							
NRN	Naryn	25.15	73	IAmb	IAmb		03 34 49.8	
	comp=Z,8.8nm,0.9s							
FIA1	FINESS Array S	25.16	341	P		P	03 34 46.0	+2.3
FINES	FINESS Array B	25.16	341	P		P	03 34 43.8	+0.1
	comp=Z,12nm,1.0s,baz=157,slow=10,SNR=6.7							
FINES	FINESS Array B	25.16	341	P		P	03 34 46.6	+2.9
GRA1	Grafenberg Arr	25.28	306	P		P	03 34 47.3	+2.3
GRF	Grafenberg Arr	25.28	306	P		P	03 34 47.3	+2.3
GRF				pmax	pmax			
	comp=Z,60nm,1.3s							
JOF	Joensuu	25.34	347	P		P	03 34 46.7	+1.4
JOF				pmax	pmax			
	comp=Z,14nm,0.8s							
KSH	Kashi	25.35	78	P		P	03 34 43.4	-2.5
KSH				pP	pP		03 34 47.8	-4.0
KSH				PP		PnPn	03 35 19.8	-0.9
KSH				S		S	03 39 05.3	-6.2
KSH				pmax	pmax			
	comp=Z,340nm,6.5s							
KSH				LR	LR			
	comp=Z,4μm,12.7s							
KSH				LR	LR			
	comp=Z,3μm,12.8s							
KSH				LR	LR			
	comp=Z,2μm,13.7s							
DAVOX	Davos/Dischmat	25.66	299	P		P	03 34 48.4	-0.3
	comp=Z,3.4nm,0.7s,baz=93,slow=5.6,SNR=5.5							
TMCR	Tamitsa	25.72	355	*e*P		P	03 34 47.3	-1.5
TMCR				pmax	pmax			
	comp=Z,41nm,1.4s							
KURBB	Kurchatov Arra	27.54	53	P		P	03 35 06.6	+1.2
	comp=Z,7.7nm,0.8s,baz=263,slow=9.1,SNR=27							
KURBB				PcP		PcP	03 38 23.1	+0.1
	comp=Z,1.4nm,0.8s,baz=251,slow=3.3,SNR=6.7							
KURK	Kurchatov	27.62	53	*c* *i* P		P	03 35 06.8	+0.8
KURK				pmax	pmax			
	comp=Z,20nm,1.3s							
KURK	Kurchatov	27.62	53	P		P	03 35 06.6	+0.5
KURK				IAmb	IAmb		03 35 08.2	
	comp=Z,13nm,0.9s							
KURK	Kurchatov	27.62	53			PcP	03 38 23.1	0.0
HFS	Hagfors	28.41	329	P		P	03 35 12.5	-0.5
	comp=Z,7.5nm,0.8s,baz=134,slow=11,SNR=10							
MKAR	Makanchi Array	29.57	61	P		P	03 35 24.6	+1.1
	comp=Z,3.3nm,0.8s,baz=267,slow=6.1,SNR=21							
MKAR				PcP		PcP	03 38 26.9	-1.2
	comp=Z,0.8nm,0.7s,baz=247,slow=3.0,SNR=4.3							
NB2	NORSAR Subarra	29.93	329	P		P	03 35 25.4	-1.2
	comp=Z,0.9nm,0.6s,baz=124,slow=9.3							
NOA	NORSAR Array B	29.93	329	P		P	03 35 25.3	-1.3
	comp=Z,1.1nm,0.7s,baz=125,slow=8.8,SNR=6.2							
NOA				LR		LR	03 49 13.4	
	comp=Z,91nm,18.7s,baz=20,slow=40							
ZAA0	Zalesovo Array	32.00	48	P		P	03 35 45.7	+0.9
ZALV	Zalesovo Beam	32.00	48	*i* P		P	03 35 46.4	+1.6
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV	Zalesovo Beam	32.00	48	P		P	03 35 45.2	+0.4
	comp=Z,1.1nm,0.3s,baz=262,slow=9.4,SNR=4.4							
ZALV	Zalesovo Beam	32.00	48	P		P	03 35 44.6	-0.2
ARCES	ARCESS Array B	32.35	348	P		P	03 35 46.6	-1.2
	comp=Z,3.1nm,0.7s,baz=145,slow=7.1,SNR=11							
DGZ	Jazzator, Alta	33.10	56⇑	*i* P		P	03 35 56.0	+1.2
DANN	Dangsing	35.07	95	*e*P		P	03 36 13.3	+1.1
	comp=Z,102nm,0.9s							
KOLN	Koldanda	35.22	96	*e*P		P	03 36 14.1	+0.7
	comp=Z,58nm,1.1s							
ESDC	Sonseca Array	36.27	287	P		P	03 36 20.9	-1.2
	comp=Z,2.1nm,0.7s,baz=67,slow=8.5,SNR=9.9							
ESDC	Sonseca Array	36.27	287	P		P	03 36 21.6	-0.6
DMN	Daman	36.47	95	*e*P		P	03 36 25.0	+0.8
	comp=Z,79nm,1.1s							
PKIN	Phulchoki	36.71	95	*e*P		P	03 36 26.4	+0.1
	comp=Z,24nm,0.8s							
PKI	Pulchoki	36.73	95	*e*P		P	03 36 26.9	+0.4
	comp=Z,63nm,1.2s							
GUN	Gumba	36.93	94	*e*P		P	03 36 28.9	+0.7
	comp=Z,95nm,1.1s							
JIRN	Jiri	37.29	94	*e*P		P	03 36 32.2	+0.9
	comp=Z,66nm,0.9s							
RAMN	Ramite	37.95	95	*e*P		P	03 36 37.2	+0.4
	comp=Z,37nm,0.7s							
ODAN	Odare	38.61	94	*e*P		P	03 36 43.2	+0.9
TAPN	Taplejung	38.63	93	*e*P		P	03 36 43.3	+0.8
	comp=Z,24nm,0.8s							
NRIK	Noril'sk	38.69	23	P		P	03 36 43.5	+1.4
	comp=Z,4.2nm,0.7s,baz=254,slow=7.7,SNR=3.6							
SHL	Shillong	42.76	93	P		P	03 37 15.4	-1.1
SHL				pmax	pmax			
	comp=Z,13nm,1.0s							
SHL	Shillong	42.76	93	P		P	03 37 15.4	-1.1
SHL				IAmb	IAmb		03 37 17.5	
	comp=Z,13nm,1.0s							
GTA	Gaotai	43.32	70	P		P	03 37 22.1	+1.2
GTA				pP	sP		03 37 31.4	+2.1
GTA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
TORD	Torodi Ar. Bea	44.65	247	P		P	03 37 29.9	-1.6
	comp=Z,2.6nm,1.0s,baz=68,slow=5.1,SNR=4.5							
SONM	Songino Array	45.73	57	P		P	03 37 41.0	+1.0
	comp=Z,0.4nm,0.5s,baz=308,slow=5.3,SNR=3.7							
SONM				PcP		PcP	03 39 16.5	-1.2
	comp=Z,0.7nm,0.6s,baz=277,slow=4.2,SNR=4.7							
ULN	Ulaanbaatar	46.16	57⇓	*e*P		P	03 37 44.8	+1.4
ULN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
LZH	Lanzhou	47.46	73	*e*P		P	03 37 54.8	+1.1
LZH				pP	pP		03 37 58.5	-1.4
LZH				sP	sP		03 38 00.8	-1.5
LZH				pmax	pmax			
	comp=Z,18nm,1.2s							
CD2	Chengdu	49.52	80	P		P	03 38 07.6	-2.0
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
HHC	Hu-ho-hao-te	51.34	65	*e*P		P	03 38 23.9	+0.7
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MHMT	Maesarieng	51.46	97	P		P	03 38 25.3	+1.0
	comp=Z,35nm,1.1s							
KMI	Kunming	51.48	87	P		P	03 38 24.8	+0.2
KMI				pP	pP		03 38 28.0	-2.8
KMI				sP	sP		03 38 29.4	-3.7
KMI				pmax	pmax			
	comp=Z,19nm,0.7s							
KMI				pmax	pmax			
	comp=Z,120nm,3.1s							
KMI				LR	LR			
	comp=Z,230nm,18.8s							
KMI				LR	LR			
	comp=Z,670nm,15.3s							
KMI				LR	LR			
	comp=Z,710nm,16.5s							
CHTO	Chiang Mai	51.88	96	P		P	03 38 26.7	-0.8
CHTO				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CHTO	Chiang Mai	51.88	96	P		P	03 38 26.7	-0.8
CHTO				IAmb	IAmb		03 38 28.1	
	comp=Z,9.3nm,0.8s							
CMMT	Chiang Mai	51.89	96	P		P	03 38 27.4	-0.1
	comp=Z,7.8nm,0.9s							
CM31	Chiang Mai Arr	52.09	96	P		P	03 38 27.9	-1.1
CM31				IAmb	IAmb		03 38 29.7	
	comp=Z,9.8nm,0.9s							
CMAR	Chiang Mai Arr	52.09	96	P		P	03 38 28.8	-0.2
	comp=Z,7.9nm,0.9s,baz=299,slow=8.3,SNR=29							
CMAR	Chiang Mai Arr	52.09	96	P		P	03 38 28.5	-0.4
XAN	Xi'an	52.09	74	P		P	03 38 29.3	+0.4
XAN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
XAN				pmax	pmax			
	comp=Z,170nm,5.7s							
TIXI	Tiksi	52.47	23⇑	*e*P		P	03 38 32.1	+1.0
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.3s							
UMPA	Umpang Tak	53.33	99	P		P	03 38 40.0	+1.8
KIC	Kosan Boka	53.89	246	*e*P		P	03 38 40.8	-1.5
	comp=Z,18nm,1.0s							
TIC	Toumodi	53.90	247	*e*P		P	03 38 40.7	-1.6
UTHA	Uthaitani	54.16	99	P		P	03 38 44.9	+0.7
	comp=Z,33μm,0.9s,comp=Z,337μm							
LIC	Lamto	54.19	246	*e*P		P	03 38 42.6	-1.9
	comp=Z,30nm,1.1s							
PBKT	Sadao Pong	54.75	97	P		P	03 38 49.0	+0.5
	comp=Z,11nm,1.1s,comp=Z,574nm							
PBKT	Sadao Pong	54.75	97	P		P	03 38 48.4	-0.1
YAK	Yakutsk	55.13	35	*e*P		P	03 38 51.7	+1.1
YAK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ABPO	Ambohimpanom	57.50	176	P		P	03 39 08.2	0.0
ABPO				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ABPO	Ambohimpanom	57.50	176	P		P	03 39 08.2	0.0
WHN	Wuhan	57.77	75⇓	*i* P		P	03 39 10.9	+1.0
WHN				pmax	pmax			
	comp=Z,30nm,0.9s							
NJ2	Nanjing	60.41	71	*e*P		P	03 39 29.1	+0.9
NJ2				pmax	pmax			
	comp=Z,11nm,0.8s							
KLR	Kul'dur	61.10	48⇑	*e*P		P	03 39 32.8	+0.1
KLR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KLR	Kul'dur	61.10	48	P		P	03 39 32.8	+0.1
	comp=Z,3.8nm,0.9s,baz=301,slow=9.2,SNR=10							
PSI	Prapat	61.90	111	P		P	03 39 37.5	-1.2
	comp=Z,7.0nm,0.9s,baz=352,slow=16,SNR=3.9							
GSI	Gunungsitoli	61.95	113	P		P	03 39 38.7	-0.1
RPSI	Rantau Prapat	61.98	111	P		P	03 39 37.5	-1.5
USRK	Ussuriysk Ar.	63.60	53	P		P	03 39 49.3	-0.2
USRK	Ussuriysk Ar.	63.60	53	P		P	03 39 48.7	-0.8
	comp=Z,3.8nm,0.9s,baz=308,slow=9.9,SNR=5.3							
USRK	Ussuriysk Ar.	63.60	53	P		P	03 39 49.4	-0.2
SEY	Seymchan	64.16	29⇑	*e*P		P	03 39 53.8	+1.0
KSAR	Wonju Array Be	64.22	62	P		P	03 39 53.4	-0.3
KSAR	Wonju Array Be	64.22	62	P		P	03 39 53.4	-0.3
KSRS	Korea Array	64.25	62	P		P	03 39 53.7	-0.1
	comp=Z,8.8nm,0.9s,baz=287,slow=6.2,SNR=26							
BKNI	Bangkinang	65.13	111	P		P	03 39 58.3	-1.5
BILL	Bilibino	65.41	20⇑	*e*P		P	03 40 01.3	+0.4
BILL				*e*			03 40 04.2	
BILL				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BILL	Bilibino	65.41	20	P		P	03 40 01.9	+0.9
BILL				IAmb	IAmb		03 40 10.9	
	comp=Z,4.3nm,0.8s							
JNU	Nakatsue	68.56	64	P		P	03 40 21.6	-0.1
	comp=Z,6.2nm,0.7s,baz=220,slow=2.4,SNR=3.8							
BOSA	Boshof	69.01	197	P		P	03 40 24.1	-0.1
	comp=Z,3.5nm,0.7s,baz=5.3,slow=7.5,SNR=5.7							
KASI	Kota Agung	71.63	113	P		P	03 40 39.7	-0.8
	comp=Z,29nm,0.8s							
MJAR	Matsushiro Arr	71.68	58	P		P	03 40 40.0	-0.6
	comp=Z,0.9nm,0.5s,baz=286,slow=6.2,SNR=4.8							
SBUM	Sibu	72.13	101	P		P	03 40 43.3	-0.3
SBUM				IAmb	IAmb		03 40 44.9	
	comp=Z,6.2nm,1.0s							
TOLK	Toolik Lake Re	72.58	5	P		P	03 40 46.5	+1.0
BMAR	Bount Mountain	74.06	3	P		P	03 40 55.0	+0.7
IMAR	Indian Mountai	74.85	7	P		P	03 40 59.4	+0.6
CISI	Cisompet, Garu	75.41	112	P		P	03 41 00.6	-2.2
ILAR	Eielson Array	76.59	4	P		P	03 41 08.2	-0.5
	comp=Z,0.9nm,1.0s,baz=329,slow=8.3,SNR=5.9							
SMKI	Samarinda	77.80	100	P		P	03 41 12.5	-3.9
BCAR	Beaver Creek A	78.53	2	P		P	03 41 20.2	+0.5
LUWI	Luwuk	82.48	97	P		P	03 41 38.7	-2.9
KDAK	Kodiak Island	82.99	8	*i* P		P	03 41 44.5	+0.9
YNE	Yellowstone No	93.28	341	P		P	03 42 35.1	+1.4

*IDC **22** 03:33:09.7±3.3,25°.77S×67°.39W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.9/3, ML4.0/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/17, Error ellipse: s-maj=77.5km s-min=53.7km az=52.0*

*NEIC **22** 03:33:35.6±1.3,23°.94S±0°.05×66°.6W±0°.1, h156km±9km, mb4.2/3*

*SJA **22** 03:33:36.5±0.7,23°.89S×66°.97W, h217km±5km, ML3.2, MW3.3*

*ISCJB **22** 03:33:37.3±0.4,23°.90S±0°.03×67°.09W±0°.03, h203km±5km, mb3.2/1, Error ellipse: s-maj=5.4km s-min=4.1km az=29.6*

*GUC **22** 03:33:40.0±0.5,23°.86S×67°.42W, h208km±9km, ML3.6*

ISC 22 03:33:37.4±0.8,23°.89S±0°.05×67°.06W±0°.04, h207km±8km, n46,σ1s01/65, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.64	121	*i* P	Pn	03 34 13.1	0.0
SLA				*e*S	S	03 34 40.2	-0.4
HJA	Humahuaca	1.66	66	*i* P	Pn	03 34 13.3	-0.2
HJA				*e*S	S	03 34 41.7	+0.5
AZAP	Zapla	1.85	101	*i* P	Pn	03 34 15.0	-0.2
AZAP				*e*S	S	03 34 43.5	-0.7
LVC	Limon Verde	2.12	306⇑	*i* P	Pn	03 34 19.1	+1.0
LVC				*e*S	S	03 34 49.1	-0.2
LVC	Limon Verde	2.12	306⇓	*i* P	Pn	03 34 19.2	+1.1
LVC				*e*S	S	03 34 50.6	+1.4
LVC	Limon Verde	2.12	306		Pn	03 34 18.7	+0.6
LVC				Sn	S	03 34 49.1	-0.2
YJA	Yavi	2.22	40	*i* P	Pn	03 34 19.1	-0.1
YJA				*e*S	S	03 34 51.9	+0.7
PB15	IPOC Station P	2.31	287⇑	*i* P	Pn	03 34 20.9	+1.0
PB15				*e*S	S	03 34 51.7	-0.8
PB15	IPOC Station P	2.31	287	*i* P	Pn	03 34 21.0	+1.1
FSA	Cafayete	2.42	156	*i* P	Pn	03 34 21.4	+0.4
PB06	IPOC Station P	2.59	296	*i* P	Pn	03 34 24.0	+1.2
PB06				*i* S	S	03 34 57.1	-0.8
PB06				IAML		03 34 59.2	
	comp=E,185nm,0.3s						
PB06	IPOC Station P	2.59	296	*i* P	Pn	03 34 24.1	+1.2
PB06				IAML		03 35 03.0	
	comp=Z,71nm,0.3s						
GO02	Mina Guanaco	2.63	241	*i* P	Pn	03 34 24.6	+1.2
GO02				*i* S	S	03 34 59.3	+0.4
GO02	Mina Guanaco	2.63	241		Pn	03 34 24.4	+0.9
GO02				Sn	S	03 34 59.1	+0.2
PB09	IPOC Station P	2.90	316	*i* P	Pn	03 34 27.6	+1.2
PB09				IAML		03 35 06.9	
	comp=Z,26nm,1.3s						
PB05	IPOC Station P	3.07	289⇑	*i* P	Pn	03 34 29.3	+1.0
PB05				*i* S	S	03 35 06.0	-1.6
PB05				IAML		03 35 08.4	
	comp=N,68nm,0.3s						
PB05	IPOC Station P	3.07	289	*i* P	Pn	03 34 29.2	+1.0
PB05				IAML		03 35 12.7	
	comp=Z,31nm,0.4s						
PB03	IPOC Station P	3.08	306⇓	*i* P	Pn	03 34 29.4	+0.8
PB03				*i* S	S	03 35 06.1	-2.0
PB03				IAML		03 35 07.7	
	comp=E,102nm,0.2s						
PB14	IPOC Station P	3.14	256⇑	*i* P	Pn	03 34 30.2	+0.9
PB14				*i* S	S	03 35 08.4	-1.0
PB14				IAML		03 35 12.6	
	comp=E,122nm,0.4s						
PB14	IPOC Station P	3.14	256	*i* P	Pn	03 34 30.2	+0.9
PB14				IAML		03 35 13.3	
	comp=Z,50nm,0.3s						
PB10	IPOC Station P	3.23	276	Pn	Pn	03 34 31.1	+1.1
PB10					S	03 35 10.1	-0.6
PB04	IPOC Station P	3.24	298	*i* P	Pn	03 34 31.4	+1.0
PB04	IPOC Station P	3.24	298	Pn	Pn	03 34 30.8	+0.4
PB04					S	03 35 10.1	-1.2
AHML	Horco Molle	3.28	152	*i* P	Pn	03 34 30.9	+0.2
PB07	IPOC Station P	3.38	309⇑	*i* P	Pn	03 34 32.7	+0.6
PB07				*i* S	S	03 35 12.2	-2.2
PB07				IAML		03 35 14.8	
	comp=E,108nm,0.3s						
PB01	IPOC Station P	3.61	321	Pn	Pn	03 34 34.9	+0.1
PB01				Sn	S	03 35 17.2	-2.2
GO01	Chusmiza	4.64	334		Pn	03 34 47.8	-0.1
GO01					S	03 35 42.2	-0.9
GO03	Copiap	4.67	217	*i* P	Pn	03 34 47.9	+0.1
GO03				*i* S	S	03 35 40.5	-2.5
GO03	Copiap	4.67	217	*i* P	Pn	03 34 47.9	+0.1
GO03	Copiap	4.67	217	Pn	Pn	03 34 47.3	-0.5
CYA	Choya	4.67	166	*i* P	Pn	03 34 47.8	0.0
PB11	IPOC Station P	4.76	329		Pn	03 34 48.9	-0.2
MNMC	Minye Minye	5.29	333		Pn	03 34 56.7	+0.7
ACCO	Cerro Coronel	6.91	195	*i* P	Pn	03 35 17.9	+1.1
GO04	Tololo Observa	7.09	207	*i* P	Pn	03 35 19.4	+0.3
GO04	Tololo Observa	7.09	207	Pn	Pn	03 35 19.2	+0.1
LPAZ	La Paz	7.63	352	Pn	Pn	03 35 27.5	+1.1
	comp=E,0.6nm,0.3s,baz=176,slow=6.6,SNR=13						
LPAZ				LR	LR	03 40 18.2	
	comp=E,116nm,19.1s,baz=78,slow=45						
LPAZ	La Paz	7.63	352	*i* P	Pn	03 35 26.7	+0.3
LPAZ	La Paz	7.63	352		Pn	03 35 26.8	+0.3
TCA	Tanti	7.74	164	*i* P	Pn	03 35 27.1	-0.1
MRA	San Martin	8.58	172	*i* P	Pn	03 35 37.6	-0.5
BDFB	Brasilia	19.70	69	P	Pn	03 37 52.8	-2.5
	comp=E,6.3nm,0.8s,baz=249,slow=8.1,SNR=3.6						
BDFB	Brasilia	19.70	69	P	P	03 37 51.6	+0.3
BDFB				IAmb	IAmb	03 37 54.2	
	comp=Z,12nm,1.1s						
Y14A	Wickenburg	72.22	321	P	P	03 44 47.3	+7.3
Y14A				IAmb	IAmb	03 44 55.7	
	comp=Z,3.9nm,0.6s						
TORD	Torodi Ar. Bea	76.58	69	P	P	03 45 07.1	+1.7
	comp=Z,0.3nm,0.4s,baz=258,slow=5.9,SNR=7.1						
MKAR	Makanchi Array	146.47	39	PKPbc	PKiKP	03 52 57.5	+0.7
	comp=Z,0.4nm,0.5s,baz=320,slow=2.3,SNR=4.8						

ISC 22 03:34:32.9±2.9, 42°.02N±0°.08×15°.1E±0°.2, h12km, n6, σ0s83/9, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAI	Bari	1.64	123	*e*Pn	Pn	03 35 01.2	-0.4
BAI				Sn	Sn	03 35 22.9	+0.3
SG1	Sgolgore (BA)	1.69	133	*e*Pn	Pn	03 35 02.0	-0.4
SG1				Sn	Sn	03 35 25.2	+1.2
MORI	Morici	1.91	14	*e*Pn	Pn	03 35 05.8	+0.5
MORI				Sn	Sn	03 35 29.5	+0.2
MAKA	Makarska	1.93	48	*e*Pn	Pn	03 35 04.5	-1.0
STON	Ston	2.14	66	*e*Pn	Pb	03 35 11.1	-0.5
DBRK	Dubrovnik	2.38	73	*e*Pn	Pn	03 35 12.8	+1.0

*IDC **22** 03:34:55.4±2.3, 10°.19N×91°.11E, h0km, mb3.5/4,

TKM2 ⇑Sn **Sn** **03 59 51.3 -0.7**
1.0nm,0.6s
TKM2 **Tokmak 2** **5.76 25** P **Pn** **03 58 46.1 +0.1**
SNR=6.7

DJA 22 04:24:55.2±0.4, 8°S±5′×10°8E±°, h128km±5km, M4.4/11, mb5.0/4, mB5.8/2, MLv4.1/11, Mw(mB)5.4/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.63**	**304**	P	Pn	04 25 16.5	+1.6
CISI				S	Sn	04 25 31.2	+1.4
KPJI	**Karang Pucung**	**0.82**	**46**	P	Pn	04 25 17.0	+0.7
KPJI				S	Sn	04 25 33.4	+1.1
LEM	**Lembang**	**1.29**	**326**	P	Pn	04 25 22.2	+1.1
LEM				S	Sn	04 25 41.8	+1.1
SKJI	**Sukabumi**	**1.98**	**297**	P	Pn	04 25 30.1	+1.2
UGM	**Wanagama**	**2.16**	**90**	P	Pn	04 25 31.8	+0.7
UGM				S	Sn	04 25 59.3	+0.7
WOJI	**Wonogiri, Jawa**	**2.56**	**89**	P	Pn	04 25 36.8	+0.7
WOJI				S	Sn	04 26 07.3	-0.2
PWJI	**Pagerwojo**	**3.43**	**92**	P	Pn	04 25 48.4	+1.0
KLSI		**4.81**	**312**	P	Pn	04 26 05.2	-0.5
PBKI	**Pangkalan Bun**	**6.14**	**33**	P	Pn	04 26 24.1	+0.4
MNAI	**Manna**	**6.41**	**303**	P	Pn	04 26 26.7	-0.6
70nm,0.9s
IGBI	**Denpasar**	**6.79**	**98**	P	Pn	04 26 31.3	-1.1

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*SJA **22** 04:27:29.9±1.2, 20.′02S×69.′38W, h159km±18km, ML3.2, MW3.2*
*ISCJB **22** 04:27:31.8±0.5, 19.′97S±0.′02×69.′30W±0.′06, h106km±4km, mb3.4/2, Error ellipse: s-maj=9.8km s-min=3.9km az=179.4*
*GUC **22** 04:27:31.5±0.7, 19.′95S×69.′20W, h95km±3km, ML3.6*
*IDC **22** 04:27:33.5±1.1, 20.′01S×68.′89W, h121km±12km, mb3.1/3, mb1 3.4/6, mb1mx3.2/22, mbtmp3.6/6, Error ellipse: s-maj=33.3km s-min=8.7km az=97.0*
ISC 22 04:27:32.7±1.0, 19.°98S±0.′03×69.°31W±0.′06, h92km±7km, n28, σ1§24/45, 8C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.22**	**137**	⇓*i* P	**Pn**	**04 27 45.9**	**-0.6**
PB08				*i* S	**Sn**	**04 27 57.1**	**+0.4**
PB08				IAML		04 27 58.8	
comp=N,4μm,0.2s
GO01	**Chusmiza**	**0.33**	**20**	⇑*i* P	**Pn**	**04 27 46.3**	**-0.8**
GO01				*i* S	**Sn**	**04 27 57.9**	**+0.1**
PB11	**IPOC Station P**	**0.39**	**304**	⇓*i* P	**Pn**	**04 27 47.2**	**+0.1**
PB11				*i* S	**Sn**	**04 27 58.2**	**+0.5**
PB11				IAML		04 27 60.0	
comp=E,2μm,0.3s
PSGC	**Pisagua**	**0.85**	**296**	⇑*i* P	**Pn**	**04 27 51.5**	**+0.4**
PSGC				*e*S	**Sn**	**04 28 06.4**	**+1.6**
PSGC				IAML		04 28 10.9	
comp=E,1μm,0.5s
MNMC	**Minye Minye**	**0.89**	**342**	⇓*i* P	**Pn**	**04 27 51.9**	**+0.2**
MNMC				*i* S	**Sn**	**04 28 07.3**	**+1.6**
PB01	**IPOC Station P**	**1.07**	**189**	⇑*i* P	**Pn**	**04 27 53.3**	**-0.2**
PB01				*i* S	**Sn**	**04 28 09.7**	**+0.6**
PB01				IAML		04 28 11.8	
comp=N,2μm,0.2s
PB02	**IPOC Station P**	**1.44**	**202**	⇑*i* P	**Pn**	**04 27 58.2**	**+0.2**
PB02				*i* S	**Sn**	**04 28 19.0**	**+2.0**
PB02				IAML		04 28 24.4	
comp=N,2μm,0.1s
PB16	**IPOC Station P**	**1.65**	**354**	⇓*i* P	**Pn**	**04 28 01.2**	**+0.2**
PB16				*i* S	**Sn**	**04 28 23.4**	**+1.0**
PB12	**IPOC Station P**	**1.66**	**325**	*i* P	**Pn**	**04 28 00.4**	**-0.3**
PB12				*i* S	**Sn**	**04 28 23.3**	**+1.3**
PB12				IAML		04 28 31.9	
comp=N,955nm,0.5s
PB09	**IPOC Station P**	**1.81**	**178**	⇑*i* P	**Pn**	**04 28 02.8**	**+0.1**
PB09				*e*S	**Sn**	**04 28 27.1**	**+1.6**
PB09				IAML		04 28 30.4	
comp=E,412nm,0.5s
PB09	**IPOC Station P**	**1.81**	**178**	*i* P	**Pn**	**04 28 03.1**	**+0.4**
PB09				*e*S	**Sn**	**04 28 28.6**	**+3.2**
PB09				IAML		04 28 29.0	
comp=Z,236nm,0.4s
PB07	**IPOC Station P**	**1.82**	**197**	⇑*i* P	**Pn**	**04 28 02.8**	**-0.1**
PB07				*i* S	**Sn**	**04 28 25.9**	**+0.2**
PB07				IAML		04 28 33.4	
comp=E,969nm,0.3s
PB03	**IPOC Station P**	**2.10**	**191**	⇑*i* P	**Pn**	**04 28 06.0**	**-0.5**
PB03				*i* S	**Sn**	**04 28 34.1**	**+1.9**
PB04	**IPOC Station P**	**2.47**	**198**	*i* P	**Pn**	**04 28 11.4**	**0.0**
PB04				*e*S	**Sn**	**04 28 42.4**	**+1.4**
LVC	**Limon Verde**	**2.64**	**172**	P	**Pn**	**04 28 13.8**	**-0.1**
comp=E,6.6nm,0.3s,baz=7.9,slow=9.6,SNR=54
LVC				S	**Sn**	**04 28 47.0**	**+1.6**
comp=E,16nm,0.3s,baz=335,slow=24,SNR=15
LVC	**Limon Verde**	**2.64**	**172**	*i* P	**Pn**	**04 28 13.7**	**-0.1**
LVC				*e*S	**Sn**	**04 28 47.3**	**+1.9**
LVC				IAML		04 28 54.6	
comp=Z,65nm,0.3s
PB06	**IPOC Station P**	**2.72**	**185**	⇑*i* P	**Pn**	**04 28 13.8**	**-1.0**
PB06				*i* S	**Sn**	**04 28 48.4**	**+1.4**
PB06				IAML		04 28 54.9	
comp=E,297nm,0.2s
PB06	**IPOC Station P**	**2.72**	**185**	⇓*i* P	**Pn**	**04 28 14.2**	**-0.6**
PB06				*e*S	**Sn**	**04 28 48.6**	**+1.6**
PB05	**IPOC Station P**	**2.98**	**196**	*i* P	**Pn**	**04 28 17.2**	**-0.9**
LPAZ	**La Paz**	**3.84**	**17**	P	**Pn**	**04 28 31.1**	**+0.9**
comp=E,1.4nm,0.3s,baz=197,slow=7.2,SNR=39
LPAZ				S	**Sn**	**04 29 15.8**	**+1.2**
comp=E,0.3nm,0.3s,baz=329,slow=14,SNR=4.7
LPAZ	**La Paz**	**3.84**	**17**	*i* P	**Pn**	**04 28 31.2**	**+1.0**
YJA	**Yavi**	**4.17**	**122**	*i* P	**Pn**	**04 28 35.0**	**+0.5**
HJA	**Humahuaca**	**4.85**	**132**	*i* P	**Pn**	**04 28 43.5**	**-0.2**
HJA				IAML		04 28 44.9	
comp=Z,7.9nm,0.3s
SIV	**San Ignacio**	**8.79**	**64**	P	Pn	04 29 31.6	-5.5
comp=Z,1.8nm,0.3s,baz=269,slow=9.7,SNR=68
ACCO	**Cerro Coronel**	**10.56**	**179**	*i* P	**Pn**	**04 29 58.0**	**-3.5**
PLCA	**Paso Flores**	**20.71**	**183**	P	**P**	**04 32 05.6**	**-0.1**
comp=Z,1.5nm,0.8s,baz=17,slow=17,SNR=3.7
TXAR	**Lajitas Array**	**59.17**	**325**	P	**P**	**04 37 22.8**	**-1.5**
comp=Z,0.4nm,0.9s,baz=165,slow=3.7,SNR=3.6
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P	P	04 39 12.8	-4.4
comp=Z,0.2nm,0.3s,baz=263,slow=5.2,SNR=6.8

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*JSO **22** 04:39:03.9±0.5, 34°N±5′×3°5E±°, h0km, M3.2/10, Mjma3.2/10, ML2.6/6, MLv3.4/10*
*ISCJB **22** 04:39:03.3±0.5, 33.°59N±0.′01×34.°74E±0.′02, h11km±3km, Error ellipse: s-maj=3.3km s-min=2.2km az=153.6*
*GRAL **22** 04:39:05.6±0.5, 33.°61N×34.°78E, h11km±6km, MD3.4*
*GII **22** 04:39:05.8±0.0, 33.°55N×34.°86E, h16km±1km, MD3.0/6*
*NIC **22** 04:39:05.7±0.0, 33.°67N×34.°91E, h32km±30km, Ml3.2/6*
*ISK **22** 04:39:07.1, 33.°77N×34.°73E, h87km, ML3.2/10*
*DDA **22** 04:39:07.8, 33.°99N×34.°58E, h16km±2km, ML2.5*
*HLW **22** 04:39:08.1, 33.°26N×34.°74E, h10km±15km, Md3.7, Ml3.4*
ISC 22 04:39:03.4±1.1, 33.°63N±0.′02×34.°78E±0.′03, h14km±9km, n75, σ1§15/113, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.64**	**148**	Pg	**Pb**	**04 39 16.9**	**+0.6**
HNTI				Sg	**Sg**	**04 39 24.6**	**+0.3**
BEYL	**Beirut**	**0.65**	**67**	*e*P	**Pn**	**04 39 17.3**	**-0.7**
BEYL				*e*S	**Sb**	**04 39 26.2**	**+0.9**
DQRL	**Deir Qamar**	**0.67**	**83**	*e*P	**Pn**	**04 39 17.9**	**-0.6**
DQRL				*e*S	**Sb**	**04 39 27.0**	**+1.0**
QRWL	**Qaraoun**	**0.76**	**96**	*e*P	**Pn**	**04 39 19.5**	**-0.3**
QRWL				*e*S	**Sb**	**04 39 29.3**	**+0.6**
BHL	**Bhannes**	**0.78**	**69**	*e*P	**Pn**	**04 39 19.7**	**-0.4**
BHL				*e*S	**Sn**	**04 39 30.2**	**-1.4**
MMA0B	**Mount Meron ar**	**0.80**	**139**	Pg	**Pb**	**04 39 19.7**	**+0.5**
MMA0B				Sg	**Sg**	**04 39 29.9**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.85**	**119**	Pg	**Pn**	**04 39 20.4**	**-0.5**
GEM				Sg	**Sg**	**04 39 30.6**	**-0.4**
KSDI	**Kefar Szold**	**0.85**	**120**	Pg	**Pn**	**04 39 20.6**	**-0.4**
KSDI				Sg	**Sg**	**04 39 31.0**	**-0.2**
KSDI	**Kefar Szold**	**0.85**	**120**	P	**Pn**	**04 39 20.7**	**-0.3**
KSDI	**Kefar Szold**	**0.85**	**120**	P	**Pb**	**04 39 20.4**	**+0.4**
KSDI				S	**Sb**	**04 39 31.2**	**0.0**
NATI	**Neve Ativ**	**0.88**	**114**	Pg	**Pn**	**04 39 20.9**	**-0.4**
NATI				Sg	**Sg**	**04 39 31.7**	**-0.3**
RCY	**Rachaya**	**0.89**	**98**	*e*P	**Pn**	**04 39 21.4**	**-0.2**
RCY				*e*S	**Sb**	**04 39 33.1**	**+0.6**
BLGI	**Bet Lehem HaGe**	**0.95**	**159**	Pg	**Pn**	**04 39 22.5**	**+0.1**
BLGI				Sg	**Sb**	**04 39 34.3**	**+0.1**
OFRI	**`Ofer**	**1.02**	**170**	Pg	**Pb**	**04 39 22.9**	**+0.1**
OFRI				Sg	**Sb**	**04 39 35.9**	**-0.1**
KSHT	**Keshet**	**1.08**	**126**	Pg	**Pg**	**04 39 24.6**	**+0.4**
HWQ	**Hawqa**	**1.17**	**56**	*e*P	**Pg**	**04 39 25.8**	**-0.2**
SHMJ	**Saham**	**1.22**	**137**	P	**Pb**	**04 39 26.4**	**+0.2**
MMLI	**Mount Malkishu**	**1.30**	**155**	Pg	**Pb**	**04 39 27.6**	**-0.1**
MMLI				Sg	**Sb**	**04 39 43.7**	**-0.5**
MMLI	**Mount Malkishu**	**1.30**	**155**	P	**Pb**	**04 39 27.6**	**-0.1**
MMLI	**Mount Malkishu**	**1.30**	**155**	P	**Pb**	**04 39 27.5**	**-0.1**
MMLI				S	**Sb**	**04 39 44.1**	**-0.1**
SLTI	**Sal'it**	**1.40**	**171**	Pn	**Pn**	**04 39 28.2**	**-0.3**
SLTI				Sn	**Sn**	**04 39 46.3**	**-0.4**
PARAL	**Paralimni**	**1.50**	**336**	P	**Pb**	**04 39 30.8**	**-0.1**
PARAL				S	**Sn**	**04 39 49.0**	**-0.1**
PARAL				AML	AML	04 39 50.4	
0.3nm,0.4s
PARAL				AML	AML	04 39 50.4	
0.3nm,0.4s
PARAL				AML	AML	04 39 51.4	
0.4nm,0.4s
PARAL				AML	AML	04 39 51.4	
0.4nm,0.4s
HMDT	**Nahal Hemdat**	**1.51**	**155**	Pn	**Pb**	**04 39 30.9**	**-0.2**
HMDT				Sn	**Sn**	**04 39 49.5**	**+0.2**
MVOU	**Mavrovouni**	**1.68**	**326**	P	**Pb**	**04 39 33.2**	**-0.9**
MVOU				AML	AML	04 39 53.2	
0.6nm,0.3s
MVOU				AML	AML	04 39 56.0	
0.4nm,0.4s
ASGA	**Asgata**	**1.72**	**313**	P	**Pb**	**04 39 34.0**	**-0.7**
ASGA				S	**Sb**	**04 39 55.8**	**-0.3**
ASGA				AML	AML	04 39 59.4	
0.2nm,0.3s
ASGA				AML	AML	04 39 59.4	
0.2nm,0.3s
ASGA				AML	AML	04 40 03.9	
0.4nm,0.4s
ASGA				AML	AML	04 40 03.9	
0.4nm,0.4s
AKIN	**Akıncılar- Kıb**	**1.76**	**322**	PN	**Pb**	**04 39 35.4**	**-0.1**
AKIN				SN	**Sn**	**04 39 56.2**	**+0.6**
CSS	**Mathiatis**	**1.79**	**318**	Pn	**Pb**	**04 39 35.4**	**-0.6**
CSS	**Mathiatis**	**1.79**	**318**	PN	**Pb**	**04 39 35.9**	**-0.1**
CSS				SN	**Sn**	**04 39 56.4**	**-0.1**
CSS	**Mathiatis**	**1.79**	**318**	P	**Pb**	**04 39 35.8**	**-0.2**
CSS	**Mathiatis**	**1.79**	**318**	P	**Pb**	**04 39 35.7**	**-0.2**
SZAC	**Souni**	**1.93**	**306**	P	**Pb**	**04 39 37.5**	**-1.0**
SZAC				S	**Sb**	**04 40 01.4**	**-1.0**
SZAC				AML	AML	04 40 04.7	
1.1nm,0.3s
SZAC				AML	AML	04 40 04.7	
1.1nm,0.3s
SZAC				AML	AML	04 40 05.7	
0.9nm,0.2s
SZAC				AML	AML	04 40 05.7	
0.9nm,0.2s
EREN	**Erenkoy**	**1.96**	**345**	*i* P	**Pb**	**04 39 38.0**	**-0.9**
EREN				*i* S	**Sb**	**04 40 01.9**	**-1.4**
EREN				IAML		04 40 09.0	
comp=N,40nm,0.4s
EREN	**Erenkoy**	**1.96**	**345**	PN	**Pb**	**04 39 37.9**	**-1.0**
AMAZ	**Amatzia**	**2.09**	**177**	Pn	**Pn**	**04 39 39.1**	**+1.1**
AMAZ				Sn	**Sn**	**04 40 03.6**	**-0.2**
AMAZ	**Amatzia**	**2.09**	**177**	P	**Pn**	**04 39 39.1**	**+1.1**
AMAZ	**Amatzia**	**2.09**	**177**	P	**Pn**	**04 39 39.1**	**+1.1**
AMAZ				S	**Sn**	**04 40 05.3**	**+1.5**
DSI	**Dead Sea**	**2.11**	**166**	Pn	**Pn**	**04 39 39.4**	**+1.1**
LEF	**Lefka**	**2.16**	**314**	*i* P	**Pb**	**04 39 41.0**	**-1.3**
LEF				*i* S	**Sn**	**04 40 06.5**	**+1.1**
LEF				IAML		04 40 16.0	
comp=N,80nm,0.5s
LEF	**Lefka**	**2.16**	**314**	PN	**Pb**	**04 39 41.3**	**-0.9**
LEF				SN	**Sn**	**04 40 06.3**	**+0.9**
NATA	**Nata**	**2.16**	**303**	P	**Pb**	**04 39 41.4**	**-0.9**
NATA				S	**Sb**	**04 40 07.4**	**-1.6**
WALJ	**Wala**	**2.23**	**157**	P	**Pn**	**04 39 41.1**	**+1.2**
YTIR	**Yattir**	**2.27**	**173**	Pn	**Pn**	**04 39 41.6**	**+1.0**
YTIR				Sn	**Sn**	**04 40 08.5**	**+0.1**
ASF	**Jabal al Asfar**	**2.30**	**129**	P	**Pb**	**04 39 43.0**	**-1.7**
ALFC	**Alefka**	**2.36**	**311**	P	**Pn**	**04 39 43.5**	**+1.8**
ALFC				S	**Sn**	**04 40 12.4**	**+1.9**
ALFC				AML	AML	04 40 14.8	
comp=N,1.3nm,0.3s
ALFC				AML	AML	04 40 14.8	
comp=N,1.3nm,0.3s
ALFC				AML	AML	04 40 15.0	
comp=N,1.7nm,0.5s
ALFC				AML	AML	04 40 15.0	
comp=N,1.7nm,0.5s
MZDA	**Masada**	**2.36**	**168**	Pn	**Pn**	**04 39 43.0**	**+1.3**
MZDA				Sn	**Sn**	**04 40 10.5**	**+0.1**
AKMS	**Akamas**	**2.45**	**305**	P	**Pb**	**04 39 45.0**	**-2.3**
AKMS				S	**Sn**	**04 40 14.8**	**+2.1**
AKMS				AML	AML	04 40 18.7	
comp=N,0.4nm,0.2s
AKMS				AML	AML	04 40 18.7	
comp=N,0.4nm,0.2s
AKMS				AML	AML	04 40 21.4	
comp=N,0.4nm,0.5s
AKMS				AML	AML	04 40 21.4	
comp=N,0.4nm,0.5s
LISJ	**El Lisan**	**2.45**	**166**	P	**Pn**	**04 39 45.1**	**+2.2**
YAYL	**Yayladag**	**2.64**	**24**	*i* P	**Pn**	**04 39 46.5**	**+0.8**
TISA	**Tisan-Mersin**	**2.69**	**341**	PN	**Pn**	**04 39 47.6**	**+1.4**
KZIT	**Kziot**	**2.73**	**187**	Pn	**Pn**	**04 39 47.8**	**+1.0**
KZIT				Sn	**Sn**	**04 40 19.7**	**+0.1**
KZIT	**Kziot**	**2.73**	**187**	P	**Pn**	**04 39 47.6**	**+0.8**
KZIT	**Kziot**	**2.73**	**187**	P	**Pn**	**04 39 47.9**	**+1.1**
GULN	**MERSIN_Gulnar**	**2.75**	**339**	*i* P	**Pn**	**04 39 48.1**	**+1.1**
GULN				*i* S	**Sn**	**04 40 19.4**	**-0.6**
GULN				IAML		04 40 24.0	
comp=E,23nm,0.4s
IKL	**Isikli**	**2.76**	**341**	PN	**Pn**	**04 39 48.4**	**+1.3**
TEKE	**Tekeli-Mersin**	**2.86**	**332**	PN	**Pn**	**04 39 50.2**	**+1.6**
KIZK	**Mersin**	**2.90**	**350**	*i* P	**Pn**	**04 39 50.7**	**+1.6**
KIZK				*i* S	**Sn**	**04 40 23.2**	**-0.4**
KIZK				IAML		04 40 52.0	
comp=N,22nm,1.6s
KEBE	**Keben-Mersin**	**2.95**	**343**	PN	**Pn**	**04 39 51.4**	**+1.6**
TEVE	**Tevekalti-Mers**	**3.01**	**339**	PN	**Pn**	**04 39 52.3**	**+1.6**
ZFRI	**Zfri**	**3.08**	**174**	Pn	**Pn**	**04 39 52.7**	**+1.1**
MERS	**Mersin**	**3.24**	**356**	PN	**Pn**	**04 39 55.4**	**+1.5**
PRNI	**Paran**	**3.27**	**177**	Pn	**Pn**	**04 39 55.5**	**+1.3**
GAZI	**Gazipasa**	**3.30**	**323**	*i* P	**Pn**	**04 39 56.8**	**+2.2**
GAZI				*i* S	**Sn**	**04 40 33.0**	**-0.5**
GAZI				IAML		04 40 38.0	
comp=N,41nm,0.3s
ERMK	**Ermenek**	**3.38**	**334**	*i* P	**Pn**	**04 39 58.3**	**+2.5**
KRMI	**Paran Flat**	**3.50**	**181**	Pn	**Pn**	**04 39 58.4**	**+1.0**
KRMI				Sn	**Sn**	**04 40 38.6**	**0.0**
HRFI	**Mount Harif**	**3.58**	**176**	Pn	**Pn**	**04 40 00.0**	**+1.4**
KARA	**Karaisali**	**3.63**	**3**	PN	**Pn**	**04 40 00.6**	**+1.4**
GULE	**Gulek**	**3.65**	**360**	*i* P	**Pn**	**04 40 01.1**	**+1.5**
MBRI	**Mt Berech**	**3.82**	**178**	Pn	**Pn**	**04 40 02.9**	**+1.0**
EIL	**Elat**	**3.95**	**178**	Pn	**Pn**	**04 40 04.5**	**+1.0**
SUZ	**Suez**	**4.12**	**204**	P	**Pn**	**04 40 06.2**	**+0.3**
baz=207
HHAG	**Hagoal**	**4.31**	**213**	P	**Pn**	**04 40 08.8**	**+0.2**
baz=216
HHAG				AMP		04 41 00.0	
baz=216
KOT	**Kottamia**	**4.46**	**215**	P	**Pn**	**04 40 11.2**	**+0.6**
baz=218
ZAF	**Zafarana**	**4.73**	**204**	P	**Pn**	**04 40 14.5**	**+0.2**
baz=206
GRB	**Gharib**	**5.61**	**198**	P	**Pn**	**04 40 26.1**	**-0.2**
baz=200
NBNS	**Bani Suef**	**5.81**	**212**	P	**Pn**	**04 40 29.5**	**+0.4**
baz=214
NBNS				S	**Sn**	**04 41 29.3**	**-6.3**
baz=214

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*ISCJB **22** 04:41:05.8±0.6, 33.°59N±0.′02×34.°79E±0.′03, h10km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=135.5*
*NIC **22** 04:41:08.0±0.0, 33.°65N×34.°93E, h34km±33km, Ml2.7/3*
*GRAL **22** 04:41:07.9±0.3, 33.°62N×34.°82E, h11km±4km, MD2.9*
*GII **22** 04:41:07.5±0.0, 33.°57N×34.°85E, h16km, MD2.2/1*

ISC 22 04:41:07.5±1.2, 33.°63N±0.′03×34.°91E±0.′03, h25km±13km, n22, σ0§43/41, 1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.55**	**82**	*e*P	**Pn**	**04 41 19.5**	**-0.4**
DQRL				*e*S	**Sn**	**04 41 27.9**	**-0.4**
HNTI	**Hanita**	**0.59**	**158**	Pg	**Pb**	**04 41 19.1**	**-0.1**
HNTI				Sg	**Sb**	**04 41 27.5**	**+0.4**
BHL	**Bhannes**	**0.68**	**66**	*e*P	**Pn**	**04 41 21.2**	**-0.3**
BHL				*e*S	**Sn**	**04 41 31.2**	**-0.1**
MMA0B	**Mount Meron ar**	**0.74**	**146**	Pg	**Pb**	**04 41 21.6**	**-0.1**
MMA0B				Sg	**Sb**	**04 41 31.8**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.75**	**123**	Pg	**Pn**	**04 41 22.3**	**-0.2**
GEM				Sg	**Sn**	**04 41 32.8**	**-0.3**
KSDI	**Kefar Szold**	**0.76**	**125**	Pg	**Pn**	**04 41 22.6**	**0.0**
KSDI				Sg	**Sn**	**04 41 33.1**	**-0.2**
KSDI	**Kefar Szold**	**0.76**	**125**	⇓P	**Pn**	**04 41 22.6**	**0.0**
KSDI				S	**Sn**	**04 41 33.0**	**-0.3**
NATI	**Neve Ativ**	**0.78**	**118**	Pg	**Pn**	**04 41 22.6**	**-0.2**
NATI				Sg	**Sn**	**04 41 34.1**	**+0.4**
RCY	**Rachaya**	**0.78**	**99**	*e*P	**Pn**	**04 41 23.1**	**+0.1**
RCY				*e*S	**Sn**	**04 41 34.3**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.92**	**165**	Pg	**Pn**	**04 41 24.5**	**-0.3**
BLGI				Sg	**Sb**	**04 41 36.3**	**-0.4**
KSHT	**Keshet**	**0.99**	**130**	Pg	**Pb**	**04 41 26.7**	**+0.7**
OFRI	**`Ofer**	**1.01**	**177**	Pg	**Pn**	**04 41 25.1**	**-0.9**
OFRI				Sg	**Sb**	**04 41 38.3**	**-0.8**
HWQ	**Hawqa**	**1.07**	**53**	*e*P	**Pb**	**04 41 27.7**	**+0.1**
MMLI	**Mount Malkishu**	**1.26**	**160**	Pg	**Pn**	**04 41 29.4**	**-0.1**
MMLI				Sg	**Sn**	**04 41 45.6**	**-0.1**
MMLI	**Mount Malkishu**	**1.26**	**160**	P	**Pn**	**04 41 29.6**	**+0.1**
MMLI				S	**Sn**	**04 41 45.9**	**+0.1**
SLTI	**Sal'it**	**1.39**	**176**	Pn	**Pn**	**04 41 31.0**	**-0.3**
SLTI				Sn	**Sn**	**04 41 48.8**	**0.0**
HMDT	**Nahal Hemdat**	**1.47**	**159**	Pn	**Pn**	**04 41 32.3**	**0.0**
HMDT				Sn	**Sn**	**04 41 51.3**	**+0.6**
ASGA	**Asgata**	**1.80**	**310**	P	**Pn**	**04 41 37.3**	**+0.4**
SZAC	**Souni**	**2.02**	**304**	P	**Pn**	**04 41 39.2**	**-0.9**
SZAC				S	**Sn**	**04 42 04.1**	**-0.4**
SZAC				AML	AML	04 42 06.4	
0.1nm,0.2s
SZAC				AML	AML	04 42 06.4	
0.1nm,0.2s
SZAC				AML	AML	04 42 09.2	
0.2nm,0.2s
SZAC				AML	AML	04 42 09.2	
0.2nm,0.2s
AMAZ	**Amatzia**	**2.09**	**180**	P	**Pn**	**04 41 41.2**	**+0.3**
AMAZ				S	**Sn**	**04 42 07.0**	**+0.8**
ALFC	**Alefka**	**2.45**	**309**	P	**Pn**	**04 41 45.9**	**+0.1**
ALFC				AML	AML	04 42 15.1	
0.2nm,0.4s
ALFC				AML	AML	04 42 15.1	
0.2nm,0.4s
ALFC				S	**Sn**	**04 42 15.2**	**+0.2**
ALFC				AML	AML	04 42 16.5	
0.1nm,0.3s
ALFC				AML	AML	04 42 16.5	
0.1nm,0.3s
AKMS	**Akamas**	**2.54**	**304**	P	**Pn**	**04 41 46.8**	**-0.4**
AKMS				S	**Sn**	**04 42 18.2**	**+0.9**
AKMS				AML	AML	04 42 20.2	
0.1nm,0.2s
AKMS				AML	AML	04 42 20.2	
0.1nm,0.2s
AKMS				AML	AML	04 42 21.2	
0.1nm,0.2s
AKMS				AML	AML	04 42 21.2	
0.1nm,0.2s

SJA 22 04:47:26.0±0.4, 29.°74S×67.°20W, h23km, ML3.1, MW3.7, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**1.64**	**223**	*i* P	Pb	04 47 55.6	0.0
AMOG				*e*S	Sb	04 48 17.7	+1.8
ACDV	**Cuesta del Vie**	**1.72**	**255**	*i* P	Pb	04 47 57.2	+0.1
ACDV				*e*S	Sb	04 48 20.4	+2.0
CYA	**Choya**	**1.78**	**44**	*i* P	Pb	04 47 57.6	-0.3
CYA				*e*S	Sb	04 48 21.1	+1.3
CYA				IAML		04 48 26.3	
comp=Z,146nm,0.9s
ACCO	**Cerro Coronel**	**1.83**	**242**	*i* P	Pb	04 47 58.9	0.0
ACCO				*e*S	Sb	04 48 23.8	+2.2
ACCO				IAML		04 48 25.4	
comp=Z,113nm,0.2s
RTLL	**Cerro Villicun**	**1.93**	**215**	*i* P	Pb	04 47 59.9	-0.7
RTLL				*e*S	Sb	04 48 24.9	+0.6
RTLL				IAML		04 48 28.3	
comp=Z,202nm,0.3s
AROD	**Rodeo**	**2.02**	**257**	*i* P	Pb	04 48 01.9	-0.3
AROD				*e*S	Sb	04 48 28.6	+1.4
CFA	**Coronel Fontan**	**2.06**	**206**	*i* P	Pb	04 48 01.7	-1.1
ZON	**Zonda**	**2.21**	**215**	*i* P	Pb	04 48 03.8	-1.4
ZON				*e*S	Sb	04 48 31.9	-0.3
ZON				IAML		04 48 34.6	
comp=Z,64nm,0.4s
RTCV	**Cerro Valdivia**	**2.41**	**208**	*i* P	Pb	04 48 06.6	-2.1
RTCV				IAML		04 48 45.2	
comp=Z,47nm,0.2s
ACAN	**Cantantal**	**2.52**	**180**	*i* P	Pb	04 48 08.9	-1.8
ACAN				IAML		04 48 51.3	
comp=Z,46nm,0.3s
RTLS	**Leoncito**	**2.73**	**221**	*i* P	Pb	04 48 11.7	-2.7
TCA	**Tanti**	**2.75**	**126**	*i* P	Pn	04 48 09.5	+0.7
TCA				IAML		04 48 56.2	
comp=Z,108nm,0.6s
MRA	**San Martin**	**2.96**	**155**	*i* P	Pn	04 48 14.5	+2.8
MRA				IAML		04 49 01.4	
comp=Z,61nm,0.6s
GO04	**Tololo Observa**	**3.16**	**261**	*i* P	Pb	04 48 18.7	-2.9
ASAL	**Salagasta**	**3.17**	**206**	*i* P	Pn	04 48 17.4	+2.8
ASAL				IAML		04 49 11.6	
comp=Z,41nm,0.4s
AHML	**Horco Molle**	**3.37**	**30**	*i* P	Pn	04 48 19.4	+2.1
AHML				IAML		04 49 21.9	
comp=Z,28nm,1.0s
ARCO	**CERRO ARCO**	**3.43**

PB09	**IPOC Station P**	**2.74 292**	⇑*i*P		**Pn**	**04 51 32.8 +1.3**
PB09			*e*S		**S**	**04 52 11.7 +0.3**
PB09			IAML			04 52 14.8
	comp=N,109nm,0.2s					
PB09	**IPOC Station P**	**2.74 292**	*e*P		**Pn**	**04 51 32.8 +1.3**
PB09			*e*S		**S**	**04 52 12.5 +1.1**
PB15	**IPOC Station P**	**2.75 262**	⇑*i*P		**Pn**	**04 51 32.5 +0.9**
PB15			*i* S		**S**	**04 52 10.7 -0.8**
PB15	**IPOC Station P**	**2.75 262**	*e*P		**Pn**	**04 51 32.9 +1.3**
PB15			*e*S		**S**	**04 52 11.2 -0.3**
PB06	**IPOC Station P**	**2.83 273**	⇑*i*P		**Pn**	**04 51 33.2 +0.8**
PB06			*i* S		**S**	**04 52 12.0 -0.9**
PB06	**IPOC Station P**	**2.83 273**	*i* P		**Pn**	**04 51 33.5 +1.1**
PB06			*e*S		**S**	**04 52 12.7 -0.2**
PB03	**IPOC Station P**	**3.10 285**	⇑*i*P		**Pn**	**04 51 36.0 +0.7**
PB03			*i* S		**S**	**04 52 17.0 -1.3**
PB03	**IPOC Station P**	**3.10 285**	*e*P		**Pn**	**04 51 36.0 +0.7**
PB03			*e*S		**S**	**04 52 17.0 -1.3**
PB01	**IPOC Station P**	**3.30 303**	⇑*i*P		**Pn**	**04 51 38.0 +0.5**
PB01			*i* S		**S**	**04 52 21.2 -0.9**
PB07	**IPOC Station P**	**3.32 289**	⇑*i*P		**Pn**	**04 51 38.5 +0.8**
PB07	**IPOC Station P**	**3.32 289**	*e*P		**Pn**	**04 51 38.5 +0.8**
PB07			*e*S		**S**	**04 52 21.1 -1.6**
PB04	**IPOC Station P**	**3.40 278**	⇑*i*P		**Pn**	**04 51 39.4 +0.8**
PB04			*i* S		**S**	**04 52 22.8 -1.3**
PB04	**IPOC Station P**	**3.40 278**	*e*P		**Pn**	**04 51 39.4 +0.8**
PB04			*e*S		**S**	**04 52 23.5 -0.7**
PB05	**IPOC Station P**	**3.40 269**	⇑*i*P		**Pn**	**04 51 39.3 +0.7**
PB05			*e*S		**S**	**04 52 22.4 -1.7**
PB05	**IPOC Station P**	**3.40 269**	*e*P		**Pn**	**04 51 39.4 +0.7**
PB05			*e*S		**S**	**04 52 23.4 -0.7**
PB02	**IPOC Station P**	**3.49 295**	*e*P		**Pn**	**04 51 39.9 +0.3**
PB02			*e*S		**S**	**04 52 23.9 -2.0**
GO02	**Mina Guanaco**	**3.62 230**	⇑*i*P		**Pn**	**04 51 42.2 +1.0**
GO02			*i* S		**S**	**04 52 28.8 -0.2**
PB08	**IPOC Station P**	**3.66 317**	⇑*i*P		**Pn**	**04 51 43.0 +1.2**
PB08			*i* S		**S**	**04 52 29.6 -0.2**
PB10	**IPOC Station P**	**3.77 259**	⇓*i*P		**Pn**	**04 51 43.5 +0.9**
PB10			*i* S		**S**	**04 52 29.6 -1.9**
PB10	**IPOC Station P**	**3.77 259**	*e*P		**Pn**	**04 51 43.5 +0.9**
PB14	**IPOC Station P**	**3.97 243**	*e*P		**Pn**	**04 51 46.1 +0.9**
PB14			*i* S		**S**	**04 52 34.8 -1.3**
PB14	**IPOC Station P**	**3.97 243**	*i* P		**Pn**	**04 51 46.2 +0.9**
PB14			*e*S		**S**	**04 52 34.5 -1.6**
GO01	**Chusmiza**	**4.04 321**	⇑*i*P		**Pn**	**04 51 47.0 +0.7**
GO01			*i* S		**S**	**04 52 38.1 0.0**
GO03	**Copiap**	**5.79 215**	*i* P		**Pn**	**04 52 06.5 -0.4**
LPAZ	**La Paz**	**6.72 347**	P		**Pn**	**04 52 20.8 +1.7**
	comp=N,0.2nm,0.3s,baz=168,slow=8.8,SNR=5.9					
LPAZ			S		**S**	**04 53 35.3 -2.2**
	comp=N,0.0nm,0.3s,baz=50,slow=17,SNR=4.0					
SIV	**San Ignacio**	**8.55 38**	P		**Pn**	**04 52 39.7 -1.9**
	comp=N,0.2nm,0.3s,baz=228,slow=10,SNR=7.4					
BDFB	**Brasilia**	**18.88 71**	P		**P**	**04 54 42.9 -0.2**
	comp=N,0.2nm,0.3s,baz=222,slow=10,SNR=4.0					
TORD	**Torodi Ar. Bea**	**75.75 69**	P		**P**	**05 02 00.2 +1.0**
	comp=N,0.4nm,0.5s,baz=246,slow=6.3,SNR=8.3					

IDC 22 04:51:11.3±14.0, 17°.81S×166°.87E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/43, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=238.0km s-min=38.0km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.26**	**185**	Pn	Pn	04 52 17.2	-0.3
	2.1nm,0.3s,baz=319,slow=19,SNR=3.1						
DZM				Sn	Sn	04 53 08.4	+0.4
	4.6nm,0.3s,baz=129,slow=18,SNR=5.7						
STKA	**Stephens Creek**	**26.79**	**234**	P	P	04 56 53.7	+0.5
	0.9nm,0.4s,baz=49,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**30.83**	**261**	P	P	04 57 28.8	-0.5
	0.4nm,0.7s,baz=91,slow=9.6,SNR=5.6						
ASAR	**Alice Springs**	**31.33**	**254**	P	P	04 57 33.9	+0.1
	0.9nm,0.6s,baz=78,slow=8.5,SNR=6.9						

*BJI **22** 04:53:38.9±0.0, 24°.46S×179°.72E, h511km, mb4.7/20, mbB5.0/15*
*ISCJB **22** 04:53:45.0±0.2, 24°.32S±0°.02×179°.03E±0°.04, h549km, mb4.4/30, Error ellipse: s-maj=5.2km s-min=3.0km az=179.8*
*NEIC **22** 04:53:44.5±1.2, 24°.20S±0°.10×179°.1E±0°.1, h532km±5km, mb4.6/103*
*IDC **22** 04:53:45.1±1.3, 24°.15S×178°.98E, h535km±13km, mb4.0/25, mb1 4.1/27, mb1mx4.0/43, mbtmp4.9/27, Error ellipse: s-maj=11.3km s-min=9.3km az=149.0*
ISC 22 04:53:45.5±0.3, 24°.36S±0°.05×179°.14E±0°.06, h549km, n327, σ1§40/327, mb4.5/70, 34C-13D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.53**	**152**	P	**P**	**04 55 22.0**	**+2.4**
GLKZ	**Green Lake**	**5.54**	**152**	P	**P**	**04 55 21.6**	**+1.8**
GLKZ				S	**S**	**04 56 38.0**	**+1.0**
MSVF	**Nonsavu**	**6.67**	**351**	P	**P**	**04 55 26.9**	**-3.6**
NIUE	**Niue**	**11.44**	**65**	P	**P**	**04 56 16.5**	**-1.7**
	baz=11,SNR=10						
NIUE	**Niue**	**11.44**	**65**	P	**P**	**04 56 15.8**	**-2.4**
DZM	**Mont Dzumac**	**11.90**	**278**	P	**P**	**04 56 22.8**	**-0.3**
	9.9nm,0.3s,baz=88,slow=17,SNR=94						
DZM	**Mont Dzumac**	**11.90**	**278**	P	**P**	**04 56 22.6**	**-0.5**
WCZ	**Waipu Caves**	**12.26**	**199**	P	**P**	**04 56 29.5**	**+3.0**
HAZ	**Te Kaha**	**13.40**	**185**	P	**P**	**04 56 38.6**	**+0.3**
HAZ				S	**S**	**04 58 55.7**	**-4.9**
AFI	**Afiamalu**	**13.47**	**41**	P	P	04 56 33.9	-5.5
	10nm,0.3s,baz=226,slow=2.0,SNR=9.0						
RUGZ	**Raukumara Rang**	**13.62**	**185**	P	**P**	**04 56 40.8**	**+0.2**
RUGZ				S	**S**	**04 59 02.0**	**-3.0**
TOZ	**Tahuroa Road**	**13.69**	**192**	P	**P**	**04 56 42.4**	**+1.1**
PUZ	**Puketiti**	**13.69**	**183**	P	**P**	**04 56 40.6**	**-0.7**
URZ	**Urewera**	**13.96**	**187**	P	**P**	**04 56 42.6**	**-1.5**
	2.1nm,0.3s,baz=60,slow=2.3,SNR=22						
URZ				S	**S**	**04 59 05.4**	**-5.7**
	3.3nm,0.3s,baz=342,slow=23,SNR=11						
URZ	**Urewera**	**13.96**	**187**	P	**P**	**04 56 42.5**	**-1.5**
URZ				S	**S**	**04 59 06.5**	**-4.7**
URZ	**Urewera**	**13.96**	**187**	P	**P**	**04 56 43.8**	**-0.2**
MWZ	**Matawai**	**14.00**	**185**	P	**P**	**04 56 43.7**	**-0.8**
MWZ				S	**S**	**04 59 06.5**	**-5.4**
RAGZ	**Rawiri**	**14.17**	**186**	P	**P**	**04 56 45.7**	**-0.6**
RAGZ				S	**S**	**04 59 11.5**	**-3.8**
TLZ	**Tolley Road**	**14.26**	**192**	P	**P**	**04 56 48.6**	**+1.4**
RTZ	**Ruatahuna**	**14.33**	**187**	P	**P**	**04 56 47.4**	**-0.6**
RIGZ	**Rimuhau**	**14.35**	**184**	P	**P**	**04 56 48.2**	**+0.1**
RIGZ				S	**S**	**04 59 13.6**	**-5.0**
KNZ	**Kokohu**	**14.67**	**185**	P	**P**	**04 56 50.2**	**-1.1**
BKZ	**Black Stump Fm**	**14.93**	**188**	P	**P**	**04 56 52.8**	**-1.3**
BKZ				S	**S**	**04 59 23.8**	**-5.7**
NGZ	**Ngauruhoe**	**15.07**	**191**	P	**P**	**04 56 55.9**	**+0.2**
TUVZ	**Tukino**	**15.15**	**190**	P	**P**	**04 56 56.7**	**+0.2**
KWHZ	**Kaweka Forest**	**15.20**	**188**	P	**P**	**04 56 56.1**	**-0.7**
KWHZ				S	**S**	**04 59 30.2**	**-4.0**
BHHZ	**Black Hill Sta**	**15.31**	**189**	P	**P**	**04 56 57.3**	**-0.7**
BHHZ				S	**S**	**04 59 31.5**	**-4.6**
KRHZ	**Kereru**	**15.42**	**188**	P	**P**	**04 56 57.6**	**-1.4**
KRHZ				S	**S**	**04 59 33.0**	**-4.9**
KAHZ	**Kahuranaki**	**15.51**	**187**	P	**P**	**04 56 59.9**	**-0.1**
KAHZ				S	**S**	**04 59 35.8**	**-3.7**
PNHZ	**Pukenui**	**15.71**	**188**	P	**P**	**04 57 01.2**	**-0.8**
PNHZ				S	**S**	**04 59 39.7**	**-3.1**
QRZ	**Quartz Range**	**17.33**	**197**	P	**P**	**04 57 18.4**	**+1.4**
THZ	**Tophouse**	**18.12**	**195**	P	**P**	**04 57 25.1**	**+0.8**
KHZ	**Kahutara**	**18.60**	**193**	P	**P**	**04 57 29.7**	**+1.1**
LHI	**Lord Howe Isla**	**19.11**	**244**	P	**P**	**04 57 35.9**	**+2.5**
	baz=19,SNR=6.5						
LHI	**Lord Howe Isla**	**19.11**	**244**	P	**P**	**04 57 34.8**	**+1.4**
LTZ	**Lake Taylor**	**19.23**	**196**	P	**P**	**04 57 35.2**	**+0.8**
RAR	**Rarotonga**	**19.69**	**85**	P	**P**	**04 57 39.1**	**+0.3**
	1.5nm,0.3s,baz=270,slow=3.5,SNR=3.5						
RAR	**Rarotonga**	**19.69**	**85**	IAmb	IAmb	04 57 39.8	
	comp=Z,40nm,1.2s						
OXZ	**Oxford**	**19.80**	**195**	P	**P**	**04 57 39.5**	**0.0**
RPZ	**Rata Peaks**	**20.42**	**197**	P	**P**	**04 57 46.2**	**+1.0**
	comp=Z,10nm,0.6s,baz=42,slow=3.6,SNR=6.9						
WHZ	**Wether Hill Ro**	**23.31**	**200**	P	**P**	**04 58 12.8**	**+1.8**
ARMA	**Armidale**	**25.13**	**250**	P	**P**	**04 58 29.1**	**+1.6**
	baz=25,SNR=12						
ARMA	**Armidale**	**25.13**	**250**	P	**P**	**04 58 27.9**	**+0.4**
MGCD	**Mangrove Creek**	**26.04**	**244**	P	**P**	**04 58 37.4**	**+1.9**
	baz=26,SNR=8.2						
TARA	**Tarawa**	**26.27**	**346**	P	**P**	**04 58 35.6**	**-1.9**
RMQ	**Roma**	**27.50**	**259**	P	**P**	**04 58 49.8**	**+1.5**
	baz=28,SNR=5.8						
CNB	**Canberra Magne**	**27.94**	**240**	P	**P**	**04 58 54.2**	**+2.0**
	baz=28,SNR=7.3						
CAN	**Canberra**	**28.23**	**240**	P	**P**	**04 58 55.6**	**+0.9**
YNG	**Young**	**28.48**	**243**	P	**P**	**04 58 58.1**	**+1.3**
	baz=29,SNR=7.8						
TBI	**Tubuai**	**28.70**	**94**	*e*LR	LR	04 59 22.4	
	comp=Z,110nm,26.2s						
CMSA	**Cobar Meteorol**	**30.32**	**249**	P	**P**	**04 59 13.3**	**+0.6**
	baz=31,SNR=51						
QLP	**Quilpie**	**31.54**	**258**	P	**P**	**04 59 23.4**	**+0.2**
	baz=32,SNR=7.2						
TOO	**Toolangi**	**31.54**	**237**	P	**P**	**04 59 24.6**	**+1.4**
	baz=32,SNR=14						
TOO	**Toolangi**	**31.54**	**237**	P	**P**	**04 59 24.1**	**+0.9**
MTSU	**Mount Surprise**	**32.98**	**274**	P	**P**	**04 59 35.9**	**+0.3**
	baz=33,SNR=51						
STKA	**Stephens Creek**	**33.83**	**249**	P	**P**	**04 59 43.4**	**+0.8**
	baz=34,SNR=56						
STKA	**Stephens Creek**	**33.83**	**249**	P	**P**	**04 59 43.3**	**+0.8**
	comp=Z,26nm,0.5s,baz=95,slow=11,SNR=118						
STKA				ScP	**ScP**	**05 05 01.9**	**+3.4**
	comp=Z,1.2nm,0.6s,baz=92,slow=4.2,SNR=4.5						
STKA	**Stephens Creek**	**33.83**	**249**	P	**P**	**04 59 42.6**	**+0.1**
ARPS	**Mount Arapiles**	**34.21**	**240**	P	**P**	**04 59 46.6**	**+0.9**
	baz=34,SNR=9.5						
COEN	**Coen**	**35.42**	**280**	P	**P**	**04 59 56.1**	**+0.1**
	baz=36,SNR=7.6						
COEN	**Coen**	**35.42**	**280**	P	**P**	**04 59 55.4**	**-0.7**
COEN				IAmb	IAmb	04 59 57.4	
	comp=Z,7.0nm,0.6s						
HTT	**Hallett**	**36.17**	**246**	P	**P**	**05 00 02.6**	**+0.5**
	baz=36,SNR=22						
QIS	**Mount Isa**	**36.65**	**268**	P	**P**	**05 00 05.7**	**-0.5**
	baz=37,SNR=6.5						
MANU	**Manus Island**	**37.88**	**301**	P	**P**	**05 00 14.6**	**-1.6**
BBOO	**Buckleboo**	**38.54**	**247**	P	**P**	**05 00 21.4**	**-0.1**
	baz=39,SNR=60						
BBOO	**Buckleboo**	**38.54**	**247**	P	**P**	**05 00 21.3**	**-0.1**
AS31	**Alice Springs**	**41.19**	**261**	IAmb	IAmb	05 00 43.6	
	comp=Z,7.7nm,0.6s						
ASAR	**Alice Springs**	**41.19**	**261**	P	**P**	**05 00 42.8**	**0.0**
	comp=Z,26nm,0.6s,baz=92,slow=7.5,SNR=204						
ASAR				ScP	**ScP**	**05 05 29.5**	**+2.8**
	comp=Z,3.6nm,0.8s,baz=109,slow=3.6,SNR=11						
ASAR				S	**S**	**05 06 16.1**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=99,slow=14,SNR=18						
ASAR	**Alice Springs**	**41.19**	**261**	P	**P**	**05 00 42.3**	**-0.5**
ASAR					**ScP**	**05 05 30.4**	**+3.8**
WB2	**Warramunga Arr**	**41.59**	**267**	P	**P**	**05 00 45.4**	**-0.5**
WRAB	**Tennant Creek**	**41.59**	**267**	P	**P**	**05 00 45.3**	**-0.7**
WRA	**Warramunga Arr**	**41.60**	**267**	P	**P**	**05 00 45.4**	**-0.7**
	comp=Z,46nm,0.6s,baz=95,slow=8.4,SNR=66						
WRA				S	**S**	**05 06 21.3**	**-1.8**
	comp=Z,8.1nm,1.0s,baz=107,slow=14,SNR=12						
WRA	**Warramunga Arr**	**41.60**	**267**	IAmb	IAmb	05 00 46.1	
	comp=Z,3.1nm,0.7s						
KDU	**Kakadu**	**45.55**	**276**	P	**P**	**05 01 15.7**	**-1.0**
	baz=46,SNR=4.0						
WRKA	**Warakurna**	**45.97**	**258**	P	**P**	**05 01 19.6**	**-0.3**
	baz=46,SNR=29						
MTN	**Manton Dam**	**46.71**	**275**	P	**P**	**05 01 24.2**	**-1.4**
	baz=47,SNR=5.3						
KNRA	**Kununurra**	**47.91**	**271**	P	**P**	**05 01 34.2**	**-0.3**
	baz=48,SNR=16						
KNRA	**Kununurra**	**47.91**	**271**	P	**P**	**05 01 34.4**	**-0.1**
KNRA				IAmb	IAmb	05 01 35.1	
	comp=Z,32nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.01**	**266**	P	**P**	**05 01 50.1**	**+0.1**
	baz=50,SNR=30						
FITZ	**Fitzroy Crossi**	**50.01**	**266**	P	**P**	**05 01 50.2**	**+0.1**
HMH	**Humu'ula Sheep**	**50.20**	**32**	P	**P**	**05 01 51.6**	**-0.1**
ANA2	**Anatahan**	**51.97**	**318**	P	**P**	**05 02 03.0**	**-1.2**
KLBR	**Kellerberrin**	**54.09**	**248**	P	**P**	**05 02 19.0**	**-0.2**
	baz=54,SNR=6.3						
MEEK	**Meekatharra**	**54.23**	**254**	P	**P**	**05 02 19.6**	**-0.7**
	baz=54,SNR=4.4						
MORW	**Morawa**	**55.98**	**250**	P	**P**	**05 02 32.1**	**-0.3**
	baz=56,SNR=4.1						
QSPA	**South Pole Qui**	**65.72**	**180**	P	**P**	**05 03 37.9**	**+2.0**
	comp=Z,6.9nm,0.6s,baz=30,slow=0.8,SNR=38						
QSPA	**South Pole Qui**	**65.72**	**180**	P	**P**	**05 03 37.5**	**+1.6**
LEM	**Lembang**	**70.40**	**271**	P	**P**	**05 04 04.7**	**-0.6**
	comp=Z,11nm,0.3s,baz=131,slow=19,SNR=4.5						
MJAR	**Matsushiro Arr**	**71.84**	**326**	P	**P**	**05 04 10.3**	**-2.7**
	comp=Z,16nm,0.7s,baz=145,slow=5.5,SNR=31						
MJAR	**Matsushiro Arr**	**71.84**	**326**	P	**P**	**05 04 12.6**	**-0.4**
MAJO	**Matsushiro**	**71.84**	**326**	P	**P**	**05 04 12.3**	**-0.7**
MAT	**Matsushiro**	**71.84**	**326**	P	**P**	**05 04 12.1**	**-0.9**
JNU	**Nakatsue**	**73.36**	**319**	P	**P**	**05 04 20.5**	**-1.3**
	comp=Z,9.8nm,0.8s,baz=210,slow=2.5,SNR=5.4						
JNU	**Nakatsue**	**73.36**	**319**	IAmb	IAmb	05 04 25.6	
	comp=Z,14nm,0.9s						
ASAJ	**Asahikawa**	**75.92**	**334**	P	**P**	**05 04 37.1**	**+1.2**
	comp=Z,15nm,0.9s,baz=233,slow=9.8,SNR=4.1						
SMY	**Shemya**	**76.89**	**357**	P	**P**	**05 04 41.1**	**+0.1**
MAW	**Mawson**	**77.05**	**201**	P	**P**	**05 04 40.9**	**-0.9**
	baz=77,SNR=13						
MAW	**Mawson**	**77.05**	**201**	P	**P**	**05 04 43.4**	**+1.6**
	comp=Z,2.7nm,0.6s,baz=124,slow=4.3,SNR=16						
MAW	**Mawson**	**77.05**	**201**	P	**P**	**05 04 43.1**	**+1.3**
KSRS	**Korea Array**	**78.10**	**321**	P	**P**	**05 04 48.1**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=135,slow=5.7,SNR=20						
KSAR	**Wonju Array Be**	**78.11**	**321**	P	**P**	**05 04 47.9**	**-0.1**
KS19	**Wonju Array Si**	**78.17**	**321**	P	**P**	**05 04 48.3**	**+0.1**
PETK	**Petropavlovsk-**	**79.37**	**347**	P	**P**	**05 04 54.0**	**-0.3**
	comp=Z,17nm,0.8s,baz=119,slow=6.4,SNR=26						
PETK	**Petropavlovsk-**	**79.37**	**347**	P	**P**	**05 04 53.9**	**-0.4**
NJ2	**Nanjing**	**80.37**	**312**	*e*P	**P**	**05 05 01.6**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
USRK	**Ussuriysk Ar.**	**80.73**	**328**	P	**P**	**05 05 01.9**	**+0.3**
	comp=Z,8.5nm,0.7s,baz=127,slow=4.5,SNR=13						
USA0B	**Ussuriysk Arra**	**80.73**	**328**	IAmb	IAmb	05 05 03.0	
	comp=Z,18nm,1.1s						
RPSI	**Rantau Prapat**	**82.21**	**277**	P	**P**	**05 05 08.3**	**-1.6**
RPSI	**Rantau Prapat**	**82.21**	**277**	P	**P**	**05 05 09.1**	**-0.8**
RPSI				IAmb	IAmb	05 05 09.5	
	comp=Z,6.4nm,0.8s						
MDJ	**Mudanjiang**	**82.21**	**327**	P	**P**	**05 05 09.0**	**-0.2**
MDJ				IAmb	IAmb	05 05 10.6	
	comp=Z,12nm,0.8s						
PSI	**Prapat**	**82.25**	**277**	P	**P**	**05 05 08.3**	**-1.9**
	comp=Z,4.3nm,0.5s,baz=162,slow=20,SNR=3.8						
SYO	**Syowa Base**	**82.38**	**194⇑**	*e*P	**P**	**05 05 08.2**	**-1.5**
SYO	**Syowa Base**	**82.38**	**194⇑**	*e*PcP	**PcP**	**05 05 13.7**	**+0.4**
WHN	**Wuhan**	**82.66**	**308**	P	**P**	**05 05 15.0**	**+3.2**
GSI	**Gunungsitoli**	**82.85**	**275**	P	**P**	**05 05 13.7**	**+0.6**
GSI				IAmb	IAmb	05 05 14.2	
	comp=Z,17nm,0.7s						
CN2	**Changchun**	**83.80**	**324**	*e*P	**P**	**05 05 17.3**	**+0.2**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
ISA	**Isabella, Lake**	**83.90**	**47**	P	**P**	**05 05 18.6**	**+0.6**
ISA				IAmb	IAmb	05 05 20.3	
	comp=Z,14nm,0.8s						
TIA	**Tai'an**	**83.98**	**314**	P	**P**	**05 05 18.6**	**+0.3**
TIA				pmax	pmax		
	comp=Z,24nm,0.9s						
CMB	**Columbia Colle**	**84.07**	**44**	IAmb	IAmb	05 05 20.6	
	comp=Z,11nm,0.9s						
SNAA	**Sanae**	**84.22**	**179**	P	**P**	**05 05 19.3**	**+0.3**
AFDM	**Forest Hills D**	**84.26**	**43**	P	**P**	**05 05 20.3**	**+0.7**
AFDM				IAmb	IAmb	05 05 22.0	
	comp=Z,12nm,1.2s						
WDC	**Whiskeytown Da**	**84.31**	**41**	IAmb	IAmb	05 05 22.1	
	comp=Z,12nm,1.0s						
VNA3	**Neumayer Olymp**	**84.46**	**177**	P	**P**	**05 05 20.6**	**+0.5**
KLR	**Kul'dur**	**84.55**	**331**	P	**P**	**05 05 20.6**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=155,slow=6.0,SNR=8.6						
VNA2	**Neumayer--Watz**	**84.87**	**178**	P	**P**	**05 05 22.6**	**+0.5**
	baz=197,slow=2.9						
GLA	**Glamis**	**84.92**	**50**	IAmb	IAmb	05 05 25.9	
	comp=Z,19nm,0.9s						
YBH	**Yreka Blue Hor**	**84.94**	**40**	P	**P**	**05 05 24.6**	**+1.7**
	comp=Z,5.5nm,0.9s,baz=202,slow=5.2,SNR=8.5						
VNA1	**Neumayer--Stat**	**85.11**	**178**	P	**P**	**05 05 23.8**	**+0.5**
PNTR	**Pine Nut**	**85.20**	**43**	IAmb	IAmb	05 05 26.4	
	comp=Z,13nm,0.9s						
YERR	**Yerington**	**85.36**	**43**	P	**P**	**05 05 25.8**	**+0.6**
Y12C	**Blythe**	**85.52**	**50**	IAmb	IAmb	05 05 28.3	
	comp=Z,13nm,1.2s						
HSIG		**85.62**	**56**	P	**P**	**05 05 27.0**	**+0.6**
HSIG				IAmb	IAmb	05 05 28.9	
	comp=Z,9.2nm,0.7s						
NVAR	**Mina Array Bea**	**85.63**	**44**	P	**P**	**05 05 27.4**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=223,slow=8.2,SNR=20						
NVAR	**Mina Array Bea**	**85.63**	**44**	P	**P**	**05 05 27.1**	**+0.6**
TPNV	**Topopah Spring**	**86.11**	**47**	P	**P**	**05 05 29.6**	**+0.8**
TPNV				IAmb	IAmb	05 05 30.8	
	comp=Z,6.8nm,0.7s						
KVN	**Kaiserville**	**86.12**	**44**	IAmb	IAmb	05 05 30.4	
	comp=Z,6.7nm,0.7s						
MOD	**Modoc Plateau**	**86.46**	**41**	IAmb	IAmb	05 05 32.3	
	comp=Z,6.9nm,0.8s						
MA2	**Magadan**	**86.83**	**346**	P	**P**	**05 05 30.7**	**-0.6**
	comp=Z,4.6nm,0.3s,baz=113,slow=19,SNR=4.5						
TUC	**Tucson**	**87.42**	**53**	P	**P**	**05 05 36.4**	**+1.5**
TUC				IAmb	IAmb	05 05 38.1	
	comp=Z,9.6nm,1.0s						
NLWA	**Neilton Lookou**	**87.90**	**35**	IAmb	IAmb	05 05 39.2	
	comp=Z,15nm,1.1s						
X16A	**Lo Mia Camp, P**	**88.03**	**51**	P	**P**	**05 05 39.4**	**+1.4**
X16A				IAmb	IAmb	05 05 40.7	
	comp=Z,6.0nm,0.9s						
XAN	**Xi'an**	**88.41**	**309**	P	**P**	**05 05 39.3**	**-0.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,42nm,3.8s						
XAN	**Xi'an**	**88.41**	**309**	P	**P**	**05 05 39.4**	**0.0**
XAN				IAmb	IAmb	05 05 41.0	
	comp=Z,11nm,0.9s						
U15A	**North Rim**	**88.49**	**49**	IAmb	IAmb	05 05 42.8	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**88.50**	**135**	P	**P**	**05 05 42.6**	**+2.6**
	comp=Z,1.4nm,0.7s,baz=250,slow=8.3,SNR=4.6						
PLCA	**Paso Flores**	**88.50**	**135**	IAmb	IAmb	05 05 42.8	
	comp=Z,2.7nm,0.9s						
LON	**Longmire**	**88.58**	**36**	IAmb	IAmb	05 05 41.4	
	comp=Z,5.9nm,0.8s						
WUAZ	**Wupatki**	**88.65**	**50**	IAmb	IAmb	05 05 43.2	
	comp=Z,10nm,1.4s						
HPIG		**88.67**	**60**	P	**P**	**05 05 42.0**	**+1.0**
HPIG				IAmb	IAmb	05 05 43.2	
	comp=Z,7.6nm,0.7s						
ELK	**Elko**	**88.89**	**44**	IAmb	IAmb	05 05 43.6	
	comp=Z,7.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**88.95**	**291**	P	**P**	**05 05 43.9**	**+1.6**
	comp=Z,1.7nm,0.4s,baz=132,slow=3.3,SNR=8.7						
CMAR	**Chiang Mai Arr**	**88.95**	**291**	P	**P**	**05 05 43.1**	**+0.8**
CHTO	**Chiang Mai**	**89.11**	**291**	P	**P**	**05 05 43.3**	**+0.3**
CHTO				IAmb	IAmb	05 05 44.8	
	comp=Z,10nm,1.3s						
G08A	**Pilot Rock**	**89.27**	**39**	IAmb	IAmb	05 05 44.8	
	comp=Z,5.7nm,0.9s						
LTY	**Liberty**	**89.51**	**36**	IAmb	IAmb	05 05 45.9	
	comp=Z,7.2nm,1.0s						
SEY	**Seymchan**	**89.55**	**348**	P	**P**	**05 05 43.9**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=152,slow=5.1,SNR=13						
HAWA	**Hanford**	**89.61**	**37**	P	**P**	**05 05 45.6**	**+1.0**
HAWA				IAmb	IAmb	05 05 46.7	
	comp=Z,11nm,1.0s						
121A	**Cookes Peak, D**	**89.73**	**54**	IAmb	IAmb	05 05 48.7	
	comp=Z,11nm,1.2s						
E08A	**Dider Farm, El**	**89.93**	**38**	IAmb	IAmb	05 05 48.7	
	comp=Z,6.1nm,0.8s						
MFID	**Camas Ranch**	**90.02**	**41**	P	**P**	**05 05 47.3**	**+0.5**
MFID				IAmb	IAmb	05 05 48.7	
	comp=Z,9.3nm,1.1s						

ODD1	Odda	144.09	354	ePKPab	PKPbc	05 12 17.7	-0.2
BLS5	Blasjo	144.58	354	ePKPdf	PKPdf	05 12 19.3	+0.1
KMY	Karmoy	144.91	355	ePKPbc	PKPbc	05 12 20.1	-0.2
AKASG	Malin Array Be	144.92	326	PKP	PKPdf	05 12 19.9	-0.1
comp=Z,15nm,0.6s,baz=42,slow=4.3,SNR=73							
AKASG	Malin Array Be	144.92	326		PKPdf	05 12 19.8	-0.2
AKBB	Malin Array Si	144.92	326		PKPdf	05 12 19.9	-0.1
DIKM	Dikmen	145.46	309	⇑P	PKPab	05 12 23.4	-0.5
HOMB	Homborsund	145.46	351	ePKPbc	PKPbc	05 12 21.6	-0.3
SNART	Snartemo	145.56	352	ePKPbc	PKPbc	05 12 22.2	0.0
BZK	Bozkurt	146.24	310	⇑P	PKPbc	05 12 25.0	+0.3
KAC	Achnashellach	146.74	4	eP	PKPbc	05 12 25.4	-0.1
MCD	Coleburn Disti	146.76	2	eP	PKPbc	05 12 25.3	-0.4
MDD	Dochfour	146.85	3	eP	PKPbc	05 12 25.9	0.0
KPL	Plockton	146.87	5	eP	PKPbc	05 12 25.8	-0.1
SORM	Soroca	146.91	323	⇓P	PKPbc	05 12 25.9	-0.4
BR131	Keskin Array S	147.22	306		PKPbc	05 12 27.4	-0.3
BRTR	Keskin Array B	147.22	306	PKPbc	PKPbc	05 12 27.4	-0.3
comp=Z,8.7nm,0.7s,baz=134,slow=4.3,SNR=38							
BRTR	Keskin Array B	147.22	306	PKPbc	PKPbc	05 12 27.2	-0.5
DRUM	Mains of Drumt	147.46	2	eP	PKPbc	05 12 26.2	-1.3
ANTO	Ankara	147.80	307	⇑P	PKPbc	05 12 29.8	+0.7
ANTO	Ankara	147.80	307		PKPbc	05 12 29.5	+0.4
BR231	Keskin MP Arra	147.82	307		PKPbc	05 12 29.8	+0.6
INVG	Invergeldie, C	147.88	3	eP	PKPbc	05 12 28.2	-0.4
LAWE	Loch Awe, Argy	147.96	5	eP	PKPbc	05 12 28.8	0.0
EAB	Aberfoyle	148.10	4	eP	PKPbc	05 12 29.2	0.0
TLCR		148.25	318	⇑P	PKPbc	05 12 30.0	+0.1
PGBU	Glenifferbraes	148.47	4	eP	PKPbc	05 12 29.9	-0.2
EAU	Auchinoon	148.49	3	eP	PKPbc	05 12 30.4	+0.2
EBL	Broad Law	148.58	2	eP	PKPbc	05 12 30.4	0.0
CSS	Mathiatis	148.61	298		PKPbc	05 12 31.4	+0.2
CFR	Carcaliu	148.67	319	⇓P	PKPbc	05 12 31.3	+0.4
TOPG	Topolog	148.68	318	⇑P	PKiKP	05 12 31.7	-0.3
KWP	Kalwaria Pacla	148.78	330	ePKP	PKPbc	05 12 31.4	+0.4
KWP				ePKP	PKPbc	05 12 31.4	+0.4
KWP	Kalwaria Pacla	148.78	330		PKPbc	05 12 30.6	-0.5
TESR	Tescani	148.79	322	⇓P	PKPbc	05 12 31.2	0.0
BIZ	Bicaz	148.84	323	⇑P	PKiKP	05 12 32.4	+0.1
TIRR	Tirgusor	148.87	317	⇑P	PKPbc	05 12 31.8	+0.3
BUR08	Bucovina Ar. S	148.89	325		PKiKP	05 12 32.3	-0.2
BURAR	Bucovina Array	148.90	325	⇑P	PKiKP	05 12 32.2	-0.3
BURAR	Bucovina Array	148.90	325		PKPbc	05 12 31.9	+0.3
BURAR				PKPab	PKPab	05 12 38.0	+0.1
ESK	Eskdalemuir	149.03	3	eP	PKPbc	05 12 31.1	-0.3
TLB	Topalu	149.03	318	⇑P	PKiKP	05 12 32.5	-0.3
HARR	Harsova	149.05	318	⇓P	PKiKP	05 12 32.5	-0.3
VRI	Vrincioaia	149.12	321	⇑P	PKPbc	05 12 32.1	0.0
BISRR	Bisoca	149.31	320	⇑P	PKPbc	05 12 32.6	0.0
GAL1	Galloway	149.40	4	eP	PKPbc	05 12 32.2	-0.1
ICOR	Ion Corvin	149.42	317	⇓P	PKiKP	05 12 33.7	+0.1
KOLS	Kolonicke sedl	149.48	329	ePKP	PKiKP	05 12 33.8	+0.2
EDMD	Edmundbyers	149.55	1	eP	PKPbc	05 12 32.6	-0.2
OJC	Ojcow	149.60	333	ePKP	PKPbc	05 12 33.2	+0.2
OJC				ePKP	PKPbc	05 12 33.2	+0.2
OJC	Ojcow	149.60	333		PKPbc	05 12 32.6	-0.5
ARCR	ARCALIA	149.69	325	⇑P	PKiKP	05 12 34.2	+0.1
KESW	Keswick, Cumbr	149.76	3	eP	PKPbc	05 12 33.3	0.0
MLR	Muntele Rosu	149.78	321	⇑P	PKPbc	05 12 33.8	0.0
MLR	Muntele Rosu	149.78	321		PKPbc	05 12 33.4	-0.4
DOPR	Dopca	149.82	322	⇓P	PKiKP	05 12 34.4	0.0
TRPA	Tarpa	149.91	328	⇑P	PKPbc	05 12 34.1	+0.3
SECR		149.97	320	⇓P	PKiKP	05 12 34.7	0.0
IOMK	Kirk Michael	150.01	4	eP	PKPbc	05 12 33.0	-0.8
WIM	Isle of Man	150.11	5	eP	PKPbc	05 12 33.7	-0.4
CJR	Cluj-Napoca	150.33	325	⇓P	PKiKP	05 12 35.2	-0.2
VOIR		150.33	322	⇑P	PKPbc	05 12 35.0	0.0
KSP	Ksiaz	150.42	338	ePKP	PKiKP	05 12 35.6	+0.1
KSP				ePKP	PKiKP	05 12 35.6	+0.1
HPK	Haverah Park	150.44	1	eP	PKPbc	05 12 34.9	0.0
LANS	Liptovska Anna	150.56	332	ePKP	PKiKP	05 12 36.8	+1.0
OKC	Ostrava-Krasne	150.56	335⇑	ePKP	PKiKP	05 12 35.8	+0.1
ARR	Arges	150.60	322	⇑P	PKiKP	05 12 36.5	+0.5
CHVC	Chvalec	150.72	338⇑	ePKP	PKiKP	05 12 36.3	+0.2
CHVC				ePKPab	PKPab	05 12 45.6	+0.4
DRGR		150.74	326	⇓P	PKPbc	05 12 36.1	+0.2
UPC	Upice	150.80	338⇑	ePKP	PKiKP	05 12 36.3	+0.1
DPC	Dobruska-Polom	150.83	337⇑	ePKP	PKiKP	05 12 36.4	+0.1
MORC	Moravsky Berou	150.85	335	⇑P	PKiKP	05 12 36.8	+0.4
MORC	Moravsky Berou	150.85	335	ePKP	PKiKP	05 12 36.3	-0.1
MORC	Moravsky Berou	150.85	335		PKiKP	05 12 36.4	0.0
WME	Myndd Eilian	150.89	4	eP	PKPbc	05 12 35.6	-0.3
KRLC	Kraliky	150.89	336⇑	ePKP	PKiKP	05 12 36.6	+0.1
KRLC				ePKPAB	PKPab	05 12 46.1	+0.2
HUMR	Humele	150.90	320	⇑P	PKPbc	05 12 35.5	-0.7
WLF1	Llynfaes	150.99	4	eP	PKPbc	05 12 35.8	-0.3
CLL	Collm	151.06	342⇓	iPKPbc	PKPbc	05 12 36.3	0.0
comp=Z,34nm,0.7s							
CLL				i PKPab	PKPab	05 12 46.4	-0.1
comp=Z,17nm,0.7s							
CLL				i pPKPab	pPKPab	05 14 46.7	-1.1
comp=Z,11nm,1.2s							
BRG	Berggiesshubel	151.16	340	i PKP	PKPbc	05 12 36.8	+0.2
comp=Z,20nm,0.5s							
BRG	Berggiesshubel	151.16	340	i PKP	PKPab	05 12 47.1	+0.1
comp=Z,14nm,0.8s							
BRG				epPKP	pPKPdf	05 14 36.0	-1.8
comp=Z,7.2nm,1.4s							
BRG				eSKP		05 15 10.7	
comp=Z,2.6nm,0.6s							
BRG				ePKKP		05 21 16.5	
comp=Z,14nm,1.8s							
ELND	Elena	151.24	317	⇓P	PKiKP	05 12 37.6	+0.3
PVCC	Panska Ves	151.27	339⇑	ePKP	PKiKP	05 12 37.7	+0.5
VYHS	Vyhne	151.34	332	ePKP	PKPbc	05 12 37.2	+0.1
VYHS				e		05 12 48.2	
FOEL	Foel Wylfa	151.46	3	eP	PKPbc	05 12 37.2	0.0
JAVC	Velka Javorina	151.53	334	ePKP	PKiKP	05 12 38.8	+0.9
GZR	Gura Zlata	151.62	324	⇓P	PKPbc	05 12 37.9	0.0
GOPC	GO Pecny, Ondr	151.72	338⇑	ePKP	PKPbc	05 12 37.8	-0.1
PRU	Pruhonice	151.74	339⇑	ePKP	PKPbc	05 12 38.0	+0.1
PLVB	Pleven	151.76	318	⇑P	PKiKP	05 12 38.5	+0.1
KRUC	Moravsky	151.87	336	ePKP	PKPbc	05 12 38.2	0.0
MODS	Modra-Piesok	152.08	334	ePKP	PKPbc	05 12 38.5	-0.3
BZS	Buzias	152.09	325	⇑P	PKPbc	05 12 38.2	-0.7
HERR	Herculane	152.14	323	⇑P	PKPbc	05 12 39.0	0.0
NKC	Novy Kostel	152.18	342⇑	ePKP	PKPbc	05 12 38.9	0.0
NKC				ePKPAB	PKPab	05 12 51.3	0.0
MONM	Monmouth	152.52	3	eP	PKPbc	05 12 39.5	-0.1
MDVR	Moldovita	152.59	324	⇓P	PKPbc	05 12 39.5	-0.6
KHC	Kasperske Hory	152.80	339⇑	ePKP	PKiKP	05 12 40.7	+0.3
KHC				ePKPAB	PKPab	05 12 54.2	+0.2
CONA	Conrad Observa	153.00	335	ePKiKP	PKiKP	05 12 41.2	+0.2
comp=Z,0.7nm,0.2s							
GERES	GERESS Array B	153.01	339	PKPbc	PKPbc	05 12 40.8	-0.1
comp=Z,1.9nm,0.6s,baz=70,slow=1.6,SNR=10							
GERES				PKPab	PKPab	05 12 55.2	+0.2
comp=Z,2.3nm,0.6s,baz=44,slow=4.1,SNR=9.2							
VTS	Vitosha	153.03	318	⇑P	PKPbc	05 12 41.1	-0.1
VTS	Vitosha	153.03	318		PKPab	05 12 56.1	+0.7
SOKA	Soboth	154.34	334	i PKPab	PKPab	05 13 01.3	+0.5
comp=Z,1.4nm,0.6s							
KBA	Koelnbreinsper	154.65	337	i PKPab	PKPab	05 13 02.1	-0.1
comp=Z,3.4nm,0.6s							
MYKA	Terra Mystica	154.92	336	i PKPab	PKPab	05 13 02.4	-0.8
comp=Z,1.9nm,0.3s							
WATA	Walderalm	155.02	340	i PKPab	PKPab	05 13 04.0	+0.2
comp=Z,3.6nm,0.5s							
WTTA	Wattenberg	155.06	340	i PKPab	PKPab	05 13 04.0	+0.1
comp=Z,5.0nm,0.5s							
MOTA	Moosalm	155.16	340	i PKPab	PKPab	05 13 04.4	+0.1
comp=Z,2.5nm,0.5s							
ABTA	Abfaltersbach	155.22	338	i PKPab	PKPab	05 13 03.7	-0.9
comp=Z,3.5nm,0.6s							
SQTA	Sankt Quirin	155.24	340	i PKPab	PKPab	05 13 04.8	+0.2
comp=Z,3.6nm,0.5s							
FETA	Feichten	155.56	341	i PKPab	PKPab	05 13 05.5	-0.6
comp=Z,5.3nm,1.0s							
DAVA	Damuels	155.57	342	i PKPab	PKPab	05 13 06.1	0.0
comp=Z,3.8nm,0.4s							
ESDC	Sonseca Array	164.51	9	PKPab	PKPab	05 13 44.8	-0.4
comp=Z,2.9nm,0.8s,baz=348,slow=4.5,SNR=8.6							
ESDC	Sonseca Array	164.51	9	PKPdf	PKPdf	05 12 47.7	+1.1
ESDC					PKPab	05 13 44.8	-0.4
TOA0	Torodi Ar. Sit	168.59	193		PKPab	05 14 04.4	+0.7
TORD	Torodi Ar. Bea	168.59	193	PKP	PKPdf	05 12 49.8	-0.5
comp=Z,1.4nm,0.9s,baz=257,slow=0.3,SNR=5.5							
TORD				PKPab	PKPab	05 14 05.0	+1.3
comp=Z,4.5nm,0.8s,baz=164,slow=4.6,SNR=20							
TORD	Torodi Ar. Bea	168.59	193		PKPdf	05 12 50.2	-0.1
TORD					PKPab	05 14 03.5	-0.2

ISCJB ***22*** *05:14:07.9±0.3, 18°.52S±0°.08×177°.87W±0°.07, h557km, mb3.8/8, Error ellipse: s-maj=12.3km s-min=6.1km az=139.3*

NEIC ***22*** *05:14:08.7±1.3, 18°.5S±0°.2×177°.9W±0°.1, h551km±9km, mb4.5/29*

IDC ***22*** *05:14:08.1±1.5, 18°.31S×178°.02W, h539km±17km, mb3.3/8, mb1 3.6/10, mb1mx3.3/25, mbtmp4.3/10, Error ellipse: s-maj=38.1km s-min=11.7km az=147.0*

ISC 22 05:14:08.9±0.6, 18°.5S±0°.1×177°.85W±0°.09, h557km, n54, σ1.9°08/58, mb4.3/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.96	280	P	P	05 15 32.7	+1.6
AFI	Afiamalu	7.38	53	P	P	05 15 59.7	-1.3
5.0nm,0.3s,baz=103,slow=4.8,SNR=6.6							
AFI				S	S	05 17 28.8	-3.9
1.9nm,0.3s,baz=163,slow=19,SNR=2.7							
NIUE	Niue	7.53	96	P	P	05 16 02.0	-0.3
DZM	Mont Dzumac	15.17	254	P	P	05 17 18.3	-1.8
1.1nm,0.3s,baz=145,slow=8.8,SNR=16							
DZM	Mont Dzumac	15.17	254	P	P	05 17 19.0	-1.1
DZM				IAmb	IAmb	05 17 28.6	
comp=Z,18nm,1.5s							
QRZ	Quartz Range	23.78	198	P	P	05 18 40.8	+2.5
LTZ	Lake Taylor	25.66	197	P	P	05 18 54.7	-0.2
LTZ				IAmb	IAmb	05 19 12.4	
comp=Z,9.2nm,1.1s							
CRLZ	Canterbury Las	26.30	196	P	P	05 18 59.6	-0.9
CRLZ				IAmb	IAmb	05 19 13.8	
comp=Z,14nm,0.8s							
WKZ	Wanaka	28.50	200	P	P	05 19 18.1	-1.7
MLZ	Mavora Lakes	29.27	200	P	P	05 19 26.4	-0.1
ARMA	Armidale	30.13	241	P	P	05 19 34.8	+0.5
ARMA				IAmb	IAmb	05 19 52.2	
comp=Z,11nm,1.2s							
CAN	Canberra	33.80	233	P	P	05 20 05.9	+0.6
CAN				IAmb	IAmb	05 20 06.3	
comp=Z,13nm,1.4s							
STKA	Stephens Creek	38.84	242	P	P	05 20 47.0	+0.2
comp=Z,1.5nm,0.3s,baz=71,slow=7.4,SNR=8.0							
STKA	Stephens Creek	38.84	242	P	P	05 20 47.1	+0.3
BBOO	Buckleboo	43.61	242	P	P	05 21 24.3	-0.2
BBOO				IAmb	IAmb	05 21 29.8	
comp=Z,16nm,1.2s							
WB0	Warramunga Arr	45.03	260	P	P	05 21 34.7	-1.0
WB2	Warramunga Arr	45.05	260	P	P	05 21 34.9	-0.9
WRAB	Tennant Creek	45.05	260	P	P	05 21 35.0	-0.8
WRA	Warramunga Arr	45.06	260	P	P	05 21 35.2	-0.8
comp=Z,0.5nm,0.6s,baz=98,slow=6.8,SNR=15							
WRA				PcP	PcP	05 23 04.5	-0.4
comp=Z,0.3nm,0.4s,baz=97,slow=3.5,SNR=4.1							
WRA				S	S	05 27 35.1	+0.3
comp=Z,0.3nm,0.7s,baz=92,slow=11,SNR=4.1							
WRA	Warramunga Arr	45.06	260	P	P	05 21 35.1	-0.8
ASAR	Alice Springs	45.16	255	P	P	05 21 36.2	-0.4
comp=Z,1.7nm,0.6s,baz=89,slow=8.5,SNR=31							
ASAR				PcP	PcP	05 23 04.9	-0.3
comp=Z,0.7nm,0.5s,baz=96,slow=4.0,SNR=5.6							
ASAR				S	S	05 27 33.6	-2.5
comp=Z,1.4nm,1.0s,baz=88,slow=16,SNR=12							
ASAR	Alice Springs	45.16	255	P	P	05 21 36.1	-0.5
FITZ	Fitzroy Crossi	53.46	261	P	P	05 22 37.7	-0.2
MJAR	Matsushiro Arr	68.66	323	P	P	05 24 16.3	-0.7
comp=Z,2.6nm,0.6s,baz=137,slow=7.5,SNR=5.6							
ADK	Adak	70.04	1	P	P	05 24 25.0	+0.1
UGM	Wanagama	70.16	268	P	P	05 24 26.3	-0.2
PEA0B	Petropavlovsk-	74.34	345	P	P	05 24 50.4	+0.7
PETK	Petropavlovsk-	74.34	345	P	P	05 24 49.8	+0.1
comp=Z,3.5nm,0.6s,baz=100,slow=7.2,SNR=6.0							
PETK	Petropavlovsk-	74.34	345	P	P	05 24 50.4	+0.7
OHAK	Old Harbor	78.14	13	P	P	05 25 11.0	+0.6
G08A	Pilot Rock	82.92	38	P	P	05 25 37.6	+1.9
GHO	Glory Hole Cre	83.21	13	P	P	05 25 37.1	+0.3
GHO				IAmb	IAmb	05 25 50.2	
comp=Z,17nm,1.2s							
SCM	Sheep Creek Mo	83.62	14	P	P	05 25 39.3	+0.5
SCM				IAmb	IAmb	05 25 42.0	
comp=Z,29nm,1.4s							
TGL	Tana Glacier	83.82	16	P	P	05 25 40.4	+0.5
VRDI	Verde Repeater	84.05	16	P	P	05 25 41.5	+0.4
VRDI				IAmb	IAmb	05 25 58.3	
comp=Z,18nm,1.4s							
GLB	Gilahina Butte	84.14	16	P	P	05 25 41.8	+0.5
GLB				IAmb	IAmb	05 25 42.4	
comp=Z,22nm,1.5s							
BALM	Baldy	84.19	17	P	P	05 25 42.3	+0.6
BALM				IAmb	IAmb	05 25 44.2	
comp=Z,31nm,1.5s							
BARN	Barnard Glacie	84.39	17	P	P	05 25 43.5	+0.8
KTH	Kantishna Hill	84.40	12	P	P	05 25 41.9	-0.7
KTH				IAmb	IAmb	05 25 43.5	
comp=Z,8.1nm,1.0s							
TRF	Thorofare Moun	84.43	12	P	P	05 25 42.6	-0.3
TRF				IAmb	IAmb	05 25 47.0	
comp=Z,12nm,1.2s							
RND	Reindeer	84.68	13	P	P	05 25 44.6	+0.6
RND				IAmb	IAmb	05 25 52.4	
comp=Z,7.7nm,1.1s							
TXAR	Lajitas Array	85.84	57	P	P	05 25 52.9	+2.5
comp=Z,0.5nm,0.8s,baz=243,slow=2.9,SNR=3.6							
ILAR	Eielson Array	86.30	13	P	P	05 25 51.3	-0.3
comp=Z,1.1nm,0.4s,baz=217,slow=4.8,SNR=33							
ILAR	Eielson Array	86.30	13	P	P	05 25 51.4	-0.2
CMAR	Chiang Mai Arr	89.56	290	P	P	05 26 09.3	+1.4
comp=Z,0.8nm,0.3s,baz=120,slow=3.2,SNR=5.0							
MKAR	Makanchi Array	109.89	314	PKiKP	PKiKP	05 31 36.1	-1.1
comp=Z,0.2nm,0.5s,baz=35,slow=1.5,SNR=3.8							
ARCES	ARCESS Array B	126.94	350	PKP	PKPdf	05 32 08.8	-0.4
comp=Z,2.3nm,0.7s,baz=293,slow=1.1,SNR=11							
ARCES	ARCESS Array B	126.94	350		PKPdf	05 32 09.0	-0.2
AKASG	Malin Array Be	141.28	332	PKhKP	PKPpre	05 32 30.4	
comp=Z,0.6nm,0.3s,baz=42,slow=3.8,SNR=4.2							
BRTR	Keskin Array B	145.54	315	PKPbc	PKPbc	05 32 45.8	-0.1
comp=Z,1.0nm,0.6s,baz=118,slow=4.2,SNR=6.0							
BRTR	Keskin Array B	145.54	315		PKPbc	05 32 45.6	-0.3
CLL	Collm	146.11	348	i PKPbc	PKPbc	05 32 47.0	+0.1
comp=Z,7.0nm,0.9s							
GERES	GERESS Array B	148.27	345	PKPbc	PKPbc	05 32 53.1	+0.3
comp=Z,0.8nm,0.5s,baz=19,slow=5.7,SNR=4.1							
GERES	GERESS Array B	148.27	345		PKPbc	05 32 53.4	+0.7

ISC 22 05:28:59.0±1.1, 51°.45N±0°.05×16°.18E±0°.03, h0km, n23, σ0.9°93/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	173	i Pg	Pg	05 29 10.8	+0.1
KSP				i Pg	Pg	05 29 10.8	+0.1
KSP				eSg	Sg	05 29 18.6	0.0
KSP				eSg	Sg	05 29 18.6	0.0
CHVC	Chvalec	0.87	185	ePG	Pg	05 29 15.8	+0.2
CHVC				eSG	Sg	05 29 26.8	0.0
comp=Z,38nm,0.6s							
UPC	Upice	0.95	187	ePG	Pg	05 29 17.1	-0.1
UPC				eSG	Sg	05 29 28.8	-0.6
comp=Z,50nm,0.3s							
DPC	Dobruska-Polom	1.10	175	ePG	Pg	05 29 19.8	-0.3
DPC				eSG	Sg	05 29 34.3	-0.1
comp=Z,22nm,0.5s							
PVCC	Panska Ves	1.37	228	ePG	Pg	05 29 25.2	-0.1
PVCC				eSG	Sg	05 29 43.0	-0.1
comp=Z,93nm,0.4s							
KRLC	Kraliky	1.43	164	ePG	Pn	05 29 25.9	-0.3
KRLC				eSG	Sg	05 29 44.2	-0.6
comp=Z,29nm,0.7s							
BRG	Berggiesshubel	1.52	249	PN	Pn	05 29 27.4	0.0
BRG				PG	Pn	05 29 27.4	0.0
BRG				SG	Sg	05 29 47.9	0.0
37nm,0.5s							
GOPC	GO Pecny, Ondr	1.77	211	ePG	Pb	05 29 31.8	-0.6
PRU	Pruhonice	1.80	216	ePG	Pb	05 29 32.0	-0.7
PRU				eSG	Sb	05 29 55.4	-0.4
comp=Z,23nm,0.5s							
MORC	Moravsky Berou	1.89	152	ePN	Pn	05 29 31.5	-1.0
MORC				eSG	Sb	05 29 58.1	-0.3
CLL	Collm	2.00	267	i Pn	Pb	05 29 36.0	-0.2
CLL				i Pg	Pg	05 29 37.2	0.0
CLL				i Sg	Sg	05 30 03.9	+0.8
comp=Z,13nm,0.6s							
OKC	Ostrava-Krasne	2.04	141	eSG	Sb	05 30 03.4	+0.5
VRAC	Vranov	2.16	173	eSG	Sb	05 30 06.7	+0.4
PBCC	Pribram	2.25	219	ePG	Pb	05 29 40.4	-0.1
PBCC				eSG	Sb	05 30 09.1	+0.3
KRUC	Moravsky	2.39	177	eSG	Sg	05 30 15.2	-0.7
OJC	Ojcow	2.60	117	ePg	Pg	05 29 48.5	-0.4
OJC				ePg	Pg	05 29 48.5	-0.4
OJC				eSg	Sg	05 30 23.7	+1.1
OJC				eSg	Sg	05 30 23.7	+1.1
NKC	Novy Kostel	2.66	244	ePN	Pn	05 29 42.3	-0.8
NKC				ePG	Pb	05 29 48.4	+0.9
NKC				eSG	Sg	05 30 22.7	-1.7
comp=Z,24nm,0.3s							
JAVC	Velka Javorina	2.77	159	ePN	Pn	05 29 45.5	+0.9
KHC	Kasperske Hory	2.86	217	ePN	Pn	05 29 45.5	-0.4
KHC				ePG	Pb	05 29 51.5	+0.6
KHC				eSN	Sn	05 30 20.1	-0.9
KHC				eSG	Sb	05 30 28.4	+2.0
comp=Z,8.5nm,0.4s							
LANS	Liptovska Anna	3.12	136	ePG	Pg	05 29 58.2	-0.6
LANS				eSG	Sg	05 30 38.1	-1.1
MODS	Modra-Piesok	3.16	167	eSG	Sg	05 30 41.9	+1.5
CONA	Conrad Observa	3.53	183	Pn	Pg	05 30 05.1	-1.5
comp=Z,2.6nm,0.4s							
CONA				Sg	Sg	05 30 54.2	+1.8
comp=Z,11nm,0.4s							
MOA	Molln	3.81	200	ePn	Pn	05 29 58.9	-0.1
comp=Z,0.7nm,0.2s							
MOA				i Sg	Sb	05 30 57.4	+3.5
comp=Z,3.5nm,0.3s							

MOS ***22*** *05:37:17.3±1.3, 0°.12S×122°.87E, h98km, mb5.1/35, Error ellipse: s-maj=8.0km s-min=5.3km az=106.9*

IDC ***22*** *05:37:18.0±0.5, 0°.20S×122°.93E, h90km±3km, mb4.6/26, mb1 4.7/30, mb1mx4.7/32, mbtmp5.0/30, MS4.1/23, Ms1 4.1/23, ms1mx3.9/37, Error ellipse: s-maj=9.1km s-min=6.5km az=55.0*

ISCJB ***22*** *05:37:17.3±0.2, 0°.18S±0°.02×122°.98E±0°.02, h98km±2km, mb5.1/97, Error ellipse: s-maj=2.6km s-min=2.6km az=22.3*

GCMT ***22*** *05:37:18.1±0.1, 0°.07S±0°.01×122°.93E±0°.01, h87km, MW5.3/116, Moment Tensor Solution. s107,c166; s116,c207; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.88±.01; Mθθ-0.38±.01; Mφφ-0.50±.02; Mrθ0.12±.01; Mθφ-0.63±.01; Mφr-0.27±.01; Best double couple: M0 1.03300×10^17 NP1:φ±204.00000°, δ51.00000°, λ65.00000°. NP2:φ±61.00000°, δ45.00000°, λ118.00000°. Principal axes: T 0.9830, Plg71.0000°, Azm51.0000°; N 0.1000, Plg19.0000°, Azm220.0000°; P -1.0830, Plg3.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***22*** *05:37:18.5±0.1, 0°.S±1°×12°.3E±°, h82km±2km, M5.1/66, mB5.6/49, mb5.4/66, MLv5.8/25, Mw(mB)5.0/49, Mwp5.3/1*

NEIC ***22*** *05:37:18.1±2.1, 0°.19S±0°.06×122°.95E±0°.04, h93km±3km, mb5.2/132*

ISC 22 05:37:18.0±0.3, 0°.18S±0°.03×122°.97E±0°.03, h89km±2km, h90km: pP-P, n541, σ1.9°66/578, mb5.1/140, 23C-9D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.88	193	P	Pn	05 37 35.5	-0.9
LUWI				S	Sn	05 37 50.7	+0.6
LUWI	Luwuk	0.88	193		Pn	05 37 35.5	-0.9
LUWI				Sn	Sn	05 37 50.4	+0.3
MRSI	Marisa	1.22	302	P	Pn	05 37 39.3	-0.9
KMSI	Cibinong	1.25	54	P	Pn	05 37 41.0	+0.3
KMSI				S	Sn	05 37 59.0	+1.3
APSI	Ampana	1.51	241	P	Pn	05 37 43.8	-0.1
APSI				S	Sn	05 38 04.3	+0.8
MNI	Manado	2.46	49	P	Pn	05 37 58.4	+2.0
MPSI	Mapaga	3.12

SRPI	**Serui, Papua**	**13.37 97**	P	**P**	**05 40 34.8 +4.3**
NGJI	**Ngawi**	**13.52 238**	P	P	05 40 37.2 +5.0
PWJI	**Pagerwojo**	**13.59 235**	P	**Pn**	**05 40 29.8 +2.7**
PALU	**Palau**	**13.69 57**	P	**Pn**	**05 40 28.5 +0.1**
	baz=14,SNR=6.3				
WOJI	**Wonogiri, Jawa**	**14.22 237**	P	**P**	**05 40 43.7 +3.7**
SMRI	**Semarang**	**14.24 241**	P	**P**	**05 40 42.5 +2.2**
SMRI	**Semarang**	**14.24 241**	P	**P**	**05 40 40.0 -0.3**
TGY	**Tagaytay City**	**14.33 352**	P	**P**	**05 40 43.8 +2.5**
	96nm,0.3s,baz=199,slow=2.2,SNR=12				
MTN	**Manton Dam**	**14.96 148**	P	**Pn**	**05 40 44.7 -0.1**
	baz=15,SNR=8.2				
MTN	**Manton Dam**	**14.96 148**		**Pn**	**05 40 43.4 -1.4**
TPI	**Tanjungpandan**	**15.53 260**	P	**P**	**05 40 54.0 -0.5**
	75nm,1.6s,1μm				
KDU	**Kakadu**	**15.60 143**	P	**Pn**	**05 40 52.3 -0.6**
	baz=16,SNR=4.5				
KPJI	**Karang Pucung**	**15.71 243**	P	**P**	**05 40 58.0 +1.5**
SMPI	**Sarmi**	**15.84 97**	P	**P**	**05 40 57.4 -0.5**
KNRA	**Kununurra**	**16.43 160**	P	**Pn**	**05 41 02.7 -0.6**
	baz=16,SNR=14				
KNRA	**Kununurra**	**16.43 160**		**Pn**	**05 41 02.5 -0.8**
KNRA			IAmb	IAmb	05 41 11.4
	comp=Z,108nm,0.8s				
LEM	**Lembang**	**16.68 246**	P	**P**	**05 41 09.4 +2.0**
	comp=Z,10nm,0.3s,baz=48,slow=8.0,SNR=13				
LEM			LR	LR	05 47 39.8
	comp=Z,2μm,20.1s,baz=66,slow=37				
LEM	**Lembang**	**16.68 246**	P	**P**	**05 41 09.5 +2.0**
CISI	**Cisompet, Garu**	**16.80 244**	P	**Pn**	**05 41 08.2 +0.3**
CISI	**Cisompet, Garu**	**16.80 244**	P	**Pn**	**05 41 07.8 -0.1**
CISI			IAmb	IAmb	05 41 21.3
	comp=Z,159nm,0.7s				
PPBI	**Pangkal Pinang**	**16.95 263**	P	**Pn**	**05 41 09.5 -0.2**
SKJI	**Sukabumi**	**17.73 247**	P	Pn	05 41 31.7 +13
JAY	**Jayapura**	**17.88 98**	P	**Pn**	**05 41 21.9 +0.8**
	comp=Z,2.5nm,0.3s,baz=236,slow=8.0,SNR=8.2				
JAY			S	**Sn**	**05 44 34.8 -5.6**
	comp=Z,0.4nm,0.3s,baz=246,slow=12,SNR=1.9				
JAY	**Jayapura**	**17.88 98**	P	**Pn**	**05 41 22.3 +1.2**
FITZ	**Fitzroy Crossi**	**18.00 172**	P	**P**	**05 41 22.1 +0.3**
	baz=18,SNR=51				
FITZ	**Fitzroy Crossi**	**18.00 172**	P	**P**	**05 41 22.1 +0.3**
	comp=Z,5.6nm,0.3s,baz=4.2,slow=6.1,SNR=88				
FITZ			ScP	**ScP**	**05 49 21.4 +0.8**
	comp=Z,0.3nm,0.3s,baz=66,slow=3.1,SNR=4.0				
FITZ	**Fitzroy Crossi**	**18.00 172**	P	**P**	**05 41 21.9 +0.1**
PMBI	**Palembang**	**18.40 261**	P	**Pn**	**05 41 28.3 +1.0**
DLV	**T Lat**	**18.76 310**	P	**Pn**	**05 41 32.5 +0.7**
DLV			IAmb	IAmb	05 41 33.9
	comp=Z,101nm,0.9s				
KLSI		**18.77 256**	P	**Pn**	**05 41 31.6 -0.1**
KASI	**Kota Agung**	**19.20 254**	P	**Pn**	**05 41 37.1 +0.3**
LWLI	**Liwa**	**19.49 255**	P	**Pn**	**05 41 47.2 +6.8**
LHSI	**Lahat**	**19.77 259**	P	**Pn**	**05 41 43.4 -0.1**
XMIS	**Christmas Isla**	**20.04 239**	P	**P**	**05 41 42.0 -2.1**
XMIS			IAmb	IAmb	05 41 45.7
	comp=Z,68nm,0.8s				
MNAI	**Manna**	**20.43 258**	P	Pn	05 41 52.3 +1.1
MNAI	**Manna**	**20.43 258**	P	**P**	**05 41 49.6 +1.3**
MNAI			IAmb	IAmb	05 41 58.1
	comp=Z,136nm,0.8s				
MASI	**Maura Aman, Be**	**20.93 262**	P	Pn	05 41 58.8 +1.6
PSA00	**Pilbara Seismi**	**21.48 188**	P	**P**	**05 41 59.5 0.0**
PSA00			IAmb	IAmb	05 42 01.6
	comp=Z,71nm,0.8s				
PSA00	**Pilbara Seismi**	**21.48 188**	P	**P**	**05 41 59.0 -0.5**
PSA00			IAmb	IAmb	05 42 02.4
	comp=Z,41nm,0.9s				
SDSI	**Sungai Dareh**	**21.56 268**	P	**P**	**05 42 02.1 +1.7**
	comp=Z,50nm,0.8s,comp=Z,16μm				
BKNI	**Bangkinang**	**21.94 271**	P	**P**	**05 42 06.2 +1.7**
	comp=Z,92nm,1.0s,comp=Z,2μm				
IPM	**Ipoh**	**22.41 282**	IAmb	IAmb	05 42 12.0
	comp=Z,49nm,0.7s				
PDSI	**Padang**	**22.52 268**	P	**P**	**05 42 10.5 -0.2**
	comp=Z,47nm,1.0s				
WRAB	**Tennant Creek**	**22.58 151** *c iP*		**P**	**05 42 10.8 -0.4**
WRAB			pmax	pmax	
	comp=Z,55nm,1.0s				
WRAB	**Tennant Creek**	**22.58 151**	P	**P**	**05 42 10.1 -1.1**
WRA	**Warramunga Arr**	**22.58 151**	P	**P**	**05 42 10.2 -1.0**
	comp=Z,47nm,0.8s,baz=333,slow=10,SNR=71				
WRA			S	**S**	**05 46 08.9 -3.6**
	comp=Z,8.3nm,0.9s,baz=338,slow=16,SNR=3.4				
WRA			ScP	**ScP**	**05 49 31.2 -0.3**
	comp=Z,9.6nm,0.8s,baz=338,slow=2.8,SNR=9.6				
WRA			LR	LR	05 51 36.4
	comp=Z,407nm,19.0s,baz=325,slow=38				
WRA			ScS	**ScS**	**05 53 18.1 +1.0**
	comp=Z,1.1nm,0.8s,baz=336,slow=4.9,SNR=4.8				
WRA			PKiKP	**PKiKP**	**05 53 46.3 -0.7**
	comp=Z,0.8nm,0.7s,baz=321,slow=1.2,SNR=5.4				
WRA	**Warramunga Arr**	**22.58 151**	P	**P**	**05 42 09.6 -1.7**
WB2	**Warramunga Arr**	**22.59 151**	P	**P**	**05 42 10.2 -1.1**
WR0	**Warramunga Arr**	**22.69 151**	P	**P**	**05 42 11.3 -1.1**
WR0			IAmb	IAmb	05 42 20.5
	comp=Z,46nm,0.7s				
QIZ	**Qiongzhong**	**23.03 327**	P	**P**	**05 42 16.4 +0.6**
QIZ			S	**S**	**05 46 22.3 +2.6**
QIZ			pmax	pmax	
	comp=Z,520nm,2.8s				
QIZ			LR	LR	
	comp=Z,1μm,11.8s				
QIZ			LR	LR	
	comp=Z,1μm,10.8s				
PPSI	**Pulau Pagai**	**23.10 263**	P	**P**	**05 42 17.3 +0.8**
	comp=Z,148nm,0.6s,comp=Z,2μm				
UBPT	**Khong Chiam**	**23.13 312**	P	**P**	**05 42 18.0 +1.2**
	comp=Z,31nm,1.8s,comp=Z,704nm				
UBPT	**Khong Chiam**	**23.13 312**	P	**P**	**05 42 16.2 -0.6**
TPUB	**Ta-pu**	**23.45 355**	P	**P**	**05 42 20.2 +0.6**
TPUB			IAmb	IAmb	05 42 23.4
	comp=Z,154nm,0.8s				
YULB	**Yu-li**	**23.48 356**	IAmb	IAmb	05 42 31.7
	comp=Z,54nm,0.9s				
GIRL	**Giralia**	**23.90 200**	P	**P**	**05 42 23.6 -0.1**
	baz=24,SNR=10				
GIRL	**Giralia**	**23.90 200**	P	**P**	**05 42 24.9 +1.3**
SSLB	**Suanglung**	**23.90 355**	P	**P**	**05 42 24.1 +0.4**
SSLB			IAmb	IAmb	05 42 26.8
	comp=Z,139nm,0.8s				
SISI	**Saibi**	**23.91 267**	P	**P**	**05 42 23.6 -0.3**
	comp=Z,130nm,0.7s,comp=Z,1μm				
RPSI	**Rantau Prapat**	**24.21 277**	P	**P**	**05 42 25.9 -0.7**
RPSI			IAmb	IAmb	05 42 27.7
	comp=Z,42nm,0.7s				
PSI	**Prapat**	**24.22 277**	P	**P**	**05 42 26.1 -0.8**
	comp=Z,44nm,0.8s,baz=103,slow=6.4,SNR=35				
PSI			S	**S**	**05 46 37.5 -1.8**
	comp=Z,1.8nm,0.4s,baz=325,slow=22,SNR=7.2				
COEN	**Coen**	**24.24 125**	P	**P**	**05 42 26.9 +0.1**
	baz=24,SNR=33				
MANU	**Manus Island**	**24.46 95**	P	**P**	**05 42 30.5 +1.6**
YHNB	**Yeheng**	**24.75 357**	IAmb	IAmb	05 42 33.2
	comp=Z,68nm,0.7s				
TATO	**Taipei**	**25.04 357**	P	**P**	**05 42 34.5 +0.5**
TATO			IAmb	IAmb	05 42 40.2
	comp=Z,119nm,1.1s				
WRKA	**Warakurna**	**25.25 169**	P	**P**	**05 42 36.1 +0.1**
	baz=25,SNR=117				
QZH	**Quanzhou**	**25.33 351** ⇑ *iP*		**P**	**05 42 39.6 +3.0**
QZH			sP	**sP**	**05 43 03.9 -3.1**
QZH			S	**S**	**05 46 56.9 +0.5**
QZH			LR	LR	
	comp=Z,760nm,14.7s				
GSI	**Gunungsitoli**	**25.44 273**	P	**P**	**05 42 37.6 -0.2**
	comp=Z,121nm,0.7s,comp=Z,1μm				
GSI	**Gunungsitoli**	**25.44 273**	P	**P**	**05 42 37.3 -0.5**
GSI			IAmb	IAmb	05 42 38.3
	comp=Z,55nm,0.8s				
KCSI	**Kotacane, Aceh**	**25.45 279**	P	**P**	**05 42 37.0 -0.9**
ASAR	**Alice Springs**	**25.65 156**	P	**P**	**05 42 39.9 +0.3**
	comp=Z,19nm,0.7s,baz=330,slow=7.7,SNR=180				
ASAR			PcP	**PcP**	**05 46 08.1 -0.2**
	comp=Z,21nm,0.5s,baz=343,slow=2.1,SNR=22				
ASAR			ScP	**ScP**	**05 49 40.0 +0.1**
	comp=Z,4.8nm,0.5s,baz=338,slow=2.7,SNR=12				
ASAR			LR	LR	05 53 13.8
	comp=Z,677nm,21.3s,baz=334,slow=37				
ASAR			ScS	**ScS**	**05 53 29.9 +0.5**
	comp=Z,0.4nm,0.7s,baz=302,slow=10,SNR=4.2				
ASAR	**Alice Springs**	**25.65 156**	P	**P**	**05 42 39.6 0.0**
PMG	**Port Moresby**	**25.76 112**	P	**P**	**05 42 41.0 +0.3**
PMG			pmax	pmax	
	comp=Z,66nm,0.9s				
PMG	**Port Moresby**	**25.76 112**	P	**P**	**05 42 41.3 +0.6**
	comp=Z,64nm,0.8s,baz=300,slow=6.6,SNR=19				
PMG	**Port Moresby**	**25.76 112**	P	**P**	**05 42 41.0 +0.3**
PMG			IAmb	IAmb	05 42 44.9
	comp=Z,66nm,0.8s				
QIS	**Mount Isa**	**25.98 142**	P	**P**	**05 42 43.0 +0.4**
	baz=26,SNR=74				
TPTI		**26.00 278**	P	**P**	**05 42 44.7 +1.8**
	comp=Z,19nm,0.7s,comp=Z,439nm				
CHAI	**Chaiyaphum**	**26.16 309**	P	**P**	**05 42 45.1 +0.8**
	comp=Z,199μm,0.8s				
PHET	**Kaeng Krachan**	**26.55 300**	P	P	05 43 02.3 +15
NONG	**Nongkai**	**26.62 314**	P	**P**	**05 42 49.9 +1.5**
	comp=Z,1.5nm,1.0s,comp=Z,77nm				
MEEK	**Meekatharra**	**26.64 189**	P	**P**	**05 42 48.0 -0.5**
	baz=27,SNR=31				
MLSI	**Meulaboh, Aceh**	**26.91 280**	P	**P**	**05 42 50.4 -0.7**
JOW	**Kunigami**	**27.33 10**	P	**P**	**05 42 54.1 -0.5**
	comp=Z,1.5nm,0.5s,baz=169,slow=12,SNR=2.3				
JOW	**Kunigami**	**27.33 10**	IAmb	IAmb	05 43 03.9
	comp=Z,20nm,0.8s				
PBKT	**Sadao Pong**	**27.34 309**	P	**P**	**05 42 56.8 +2.0**
	comp=Z,21nm,0.7s,comp=Z,2μm				
PBKT	**Sadao Pong**	**27.34 309**	IAmb	IAmb	05 43 00.6
	comp=Z,29nm,0.8s				
MTSU	**Mount Surprise**	**27.54 132**	P	**P**	**05 42 57.8 +1.1**
	baz=28,SNR=19				
UTHA	**Uthaitani**	**28.01 305**	P	**P**	**05 43 02.2 +1.4**
	comp=Z,77μm,0.7s,comp=Z,697μm				
KRVT	**Keravat (AS076**	**29.31 98**	P	**P**	**05 43 12.4 -0.1**
	comp=Z,201nm,0.8s,baz=246,slow=5.2,SNR=6.3				
MORW	**Morawa**	**29.48 192**	P	**P**	**05 43 13.5 -0.3**
	baz=30,SNR=14				
MORW	**Morawa**	**29.48 192**	IAmb	IAmb	05 43 15.1
	comp=Z,23nm,0.8s				
LAMP	**Lampang**	**29.52 310**	P	**P**	**05 43 16.5 +2.3**
	comp=Z,88μm,0.8s				
PAYA	**Payao**	**29.84 312**	P	**P**	**05 43 19.5 +2.4**
	comp=Z,53μm,0.8s,comp=Z,517μm				
CM31	**Chiang Mai Arr**	**30.01 309**	P	**P**	**05 43 20.6 +2.0**
	SNR=10				
CM31	**Chiang Mai Arr**	**30.01 309**	IAmb	IAmb	05 43 21.5
	comp=Z,30nm,0.8s				
CMAR	**Chiang Mai Arr**	**30.01 309**	P	**P**	**05 43 19.7 +1.1**
	comp=Z,24nm,0.8s,baz=134,slow=6.9,SNR=101				
CMAR			PcP	**PcP**	**05 46 18.8 -0.2**
	comp=Z,2.5nm,0.7s,baz=183,slow=1.8,SNR=5.9				
CMAR			S	**S**	**05 48 14.1 +3.8**
	comp=Z,0.8nm,0.3s,baz=131,slow=14,SNR=5.3				
CMAR			ScP	**ScP**	**05 49 54.2 +0.9**
	comp=Z,1.7nm,0.4s,baz=164,slow=2.5,SNR=8.4				
CMAR			LR	LR	05 56 09.5
	comp=Z,590nm,20.9s,baz=136,slow=38				
CMAR	**Chiang Mai Arr**	**30.01 309**	P	**P**	**05 43 19.1 +0.6**
CMMT	**Chiang Mai**	**30.21 310**	P	**P**	**05 43 21.7 +1.4**
	comp=Z,40nm,1.0s,comp=Z,395nm				
CHTO	**Chiang Mai**	**30.21 310**	P	**P**	**05 43 21.9 +1.5**
	SNR=13				
CHTO	**Chiang Mai**	**30.21 310**	P	**P**	**05 43 21.4 +1.0**
CHTO			pmax	pmax	
	comp=Z,72nm,1.1s				
CHTO	**Chiang Mai**	**30.21 310**	P	**P**	**05 43 21.4 +1.0**
CHTO			IAmb	IAmb	05 43 23.7
	comp=Z,72nm,1.1s				
MHMT	**Maesarieng**	**30.64 308**	P	**P**	**05 43 26.0 +1.9**
	comp=Z,98nm,0.7s,comp=Z,1μm				
GYA	**Guiyang**	**30.79 331** ⇓ *iP*		**P**	**05 43 28.3 +2.8**
GYA			pP	pP	05 43 45.8 +0.1
GYA			sP	sP	05 43 58.8 +2.9
GYA			PP	**PnPn**	**05 44 33.0 +3.6**
GYA			S	**S**	**05 48 24.5 +1.8**
GYA			pmax	pmax	
	comp=Z,30nm,0.7s				
GYA			pmax	pmax	
	comp=Z,130nm,4.2s				
KMBL	**Kambalda**	**31.04 182**	P	**P**	**05 43 27.6 +0.1**
	baz=31,SNR=22				
WHN	**Wuhan**	**31.63 346** ⇓	P	**P**	**05 43 35.8 +3.1**
WHN			S	**S**	**05 48 38.3 +2.9**
WHN			pmax	pmax	
	comp=Z,39nm,0.7s				
WHN			pmax	pmax	
	comp=Z,730nm,3.1s				
WHN			LR	LR	
	comp=Z,640nm,9.5s				
WHN			LR	LR	
	comp=Z,1μm,10.3s				
WHN			LR	LR	
	comp=Z,2μm,19.9s				
KLBR	**Kellerberrin**	**31.63 189**	P	**P**	**05 43 32.4 -0.3**
	baz=32,SNR=16				
KMI	**Kunming**	**31.87 324**	P	**P**	**05 43 37.1 +2.0**
KMI			pP	pP	05 43 56.0 +0.9
KMI			sP	sP	05 44 02.3 -3.0
KMI			S	**S**	**05 48 43.0 +3.3**
KMI			pmax	pmax	
	comp=Z,23nm,0.7s				
KMI			pmax	pmax	
	comp=Z,96nm,3.1s				
KMI			LR	LR	
	comp=Z,630nm,13.6s				
KMI			LR	LR	
	comp=Z,250nm,17.1s				
MUN	**Mundaring**	**32.27 191**	P	**P**	**05 43 39.7 +1.5**
	baz=32,SNR=4.9				
NJ2	**Nanjing**	**32.29 353** *eP*		**P**	**05 43 40.8 +2.4**
NJ2			pmax	pmax	
	comp=Z,14nm,0.5s				
NJ2			LR	LR	
	comp=Z,450nm,14.2s				
NJ2			LR	LR	
	comp=Z,380nm,10.8s				
NJ2			LR	LR	
	comp=Z,480nm,14.7s				
NWAO	**Narrogin (SRO)**	**33.02 189**	P	**P**	**05 43 44.7 -0.1**
	baz=33,SNR=4.5				
JNU	**Nakatsue**	**33.95 12**	IAmb	IAmb	05 44 01.7
	comp=Z,16nm,0.8s				
RKGY	**Roxy Gully**	**34.71 189**	P	**P**	**05 44 00.7 +1.3**
	baz=35,SNR=11				
BBOO	**Buckleboo**	**34.73 160**	P	**P**	**05 43 59.6 0.0**
	baz=35,SNR=34				
BBOO	**Buckleboo**	**34.73 160**	P	**P**	**05 43 59.2 -0.4**
BBOO			IAmb	IAmb	05 44 01.2
	comp=Z,45nm,0.8s				
CD2	**Chengdu**	**35.90 331** ⇓ *iP*		**P**	**05 44 10.8 +1.0**
CD2			pP	pwP	05 44 31.4 -0.7
CD2			sP	sP	05 44 42.4 +2.3
CD2			pmax	pmax	
	comp=Z,60nm,0.8s				
CD2			pmax	pmax	
	comp=Z,130nm,4.5s				
CD2			LR	LR	
	comp=Z,460nm,9.2s				
CD2			LR	LR	
	comp=Z,730nm,13.1s				
CD2			LR	LR	
	comp=Z,850nm,14.0s				
STKA	**Stephens Creek**	**36.12 153**	P	**P**	**05 44 12.0 +0.4**
	baz=36,SNR=68				
STKA	**Stephens Creek**	**36.12 153**	P	**P**	**05 44 11.4 -0.2**
STKA			pmax	pmax	
	comp=Z,8.0nm,0.6s				
STKA	**Stephens Creek**	**36.12 153**	P	**P**	**05 44 11.9 +0.4**
	comp=Z,34nm,0.7s,baz=325,slow=8.8,SNR=59				
STKA			PcP	**PcP**	**05 46 35.5 -0.3**
	comp=Z,17nm,0.6s,baz=343,slow=5.6,SNR=7.1				
STKA			ScP	**ScP**	**05 50 13.7 -0.6**
	comp=Z,3.9nm,0.5s,baz=330,slow=4.8,SNR=4.9				
STKA			LR	LR	06 00 03.4
	comp=Z,411nm,19.0s,baz=329,slow=38				
STKA	**Stephens Creek**	**36.12 153**	P	**P**	**05 44 11.4 -0.2**
HTT	**Hallett**	**36.32 157**	P	**P**	**05 44 14.1 +0.7**
	baz=36,SNR=54				
XAN	**Xi'an**	**36.50 340**	P	**P**	**05 44 16.0 +1.2**
XAN			PP	**PnPn**	**05 45 41.4 +1.0**
XAN			ScS	ScS	05 54 18.8 -3.6
XAN			pmax	pmax	
	comp=Z,18nm,0.9s				
XAN			pmax	pmax	
	comp=Z,220nm,5.0s				
XAN			LR	LR	
	comp=Z,490nm,17.6s				
XAN			LR	LR	
	comp=Z,330nm,16.3s				
XAN			LR	LR	
	comp=Z,720nm,17.9s				
XAN	**Xi'an**	**36.50 340**	IAmb	IAmb	05 44 21.6
	comp=Z,34nm,0.9s				
TIA	**Tai'an**	**36.61 352**	P	**P**	**05 44 17.0 +1.3**
TIA			S	**S**	**05 49 50.3 -1.8**
TIA			pmax	pmax	
	comp=Z,12nm,0.8s				
TIA			LR	LR	
	comp=Z,230nm,16.1s				
TIA			LR	LR	
	comp=Z,190nm,10.2s				
EIDS	**Eidsvold**	**36.94 135**	P	**P**	**05 44 18.5 -0.2**
	baz=37,SNR=3.6				
KSAR	**Wonju Array Be**	**37.71 6**	P	**P**	**05 44 24.8 -0.1**
KSAR	**Wonju Array Be**	**37.71 6**	P	**P**	**05 44 24.8 -0.1**
KSRS	**Korea Array**	**37.72 6**	P	**P**	**05 44 24.8 -0.2**
	comp=Z,8.2nm,0.6s,baz=188,slow=9.3,SNR=22				
KSRS			ScP	**ScP**	**05 50 19.1 -1.0**
	comp=Z,2.1nm,0.7s,baz=171,slow=3.3,SNR=4.8				
KSRS			LR	LR	05 59 00.3
	comp=Z,184nm,21.9s,baz=186,slow=34				
KS19	**Wonju Array Si**	**37.76 6**	P	**P**	**05 44 25.5 +0.1**
KS19			IAmb	IAmb	05 44 27.1
	comp=Z,15nm,0.8s				
CMSA	**Cobar Meteorol**	**37.89 148**	P	**P**	**05 44 27.6 +1.1**
	baz=38,SNR=112				
HNR	**Honiara**	**37.93 105**	P	**P**	**05 44 26.4 -0.8**
HNR			pmax	pmax	
	comp=Z,231nm,0.7s				
HNR	**Honiara**	**37.93 105**	P	**P**	**05 44 27.0 -0.2**
	comp=Z,213nm,0.7s,baz=187,slow=1.8,SNR=5.5				
HNR	**Honiara**	**37.93 105**	P	**P**	**05 44 26.4 -0.8**
DL2	**Dalian**	**38.91 358**	P	**P**	**05 44 35.0 0.0**
DL2			sP	**sP**	**05 45 04.4 -1.2**
DL2			S	**S**	**05 50 26.6 -0.2**
DL2			pmax	pmax	
	comp=Z,30nm,0.7s				
DL2			pmax	pmax	
	comp=Z,120nm,4.5s				
DL2			LR	LR	
	comp=Z,470nm,16.7s				
DL2			LR	LR	
	comp=Z,470nm,18.8s				
DL2			LR	LR	
	comp=Z,440nm,13.2s				
TIY	**Taiyuan**	**38.94 347** *eP*		**P**	**05 44 37.5 +2.1**
TIY			S	**S**	**05 50 28.0 +0.6**
TIY			pmax	pmax	
	comp=Z,26nm,0.6s				
TIY			pmax	pmax	
	comp=Z,160nm,4.8s				
TIY			LR	LR	
	comp=Z,280nm,13.6s				
TIY			LR	LR	
	comp=Z,120nm,10.2s				
MAJO	**Matsushiro**	**39.17 20**	P	**P**	**05 44 35.8 -1.5**
MAJO			pmax	pmax	
	comp=Z,74nm,0.8s				
MAJO	**Matsushiro**	**39.17 20**	P	**P**	**05 44 35.8 -1.5**
MAT	**Matsushiro**	**39.17 20**	P	**P**	**05 44 35.9 -1.4**
MJAR	**Matsushiro Arr**	**39.17 20**	P	**P**	**05 44 35.3 -2.0**
MJAR			pmax	pmax	
	comp=Z,12nm,0.7s				
MJAR	**Matsushiro Arr**	**39.17 20**	P	**P**	**05 44 35.7 -1.6**
	comp=Z,55nm,0.7s,baz=196,slow=9.0,SNR=69				
MJAR			ScP	**ScP**	**05 50 25.2 -0.5**
	comp=Z,6.2nm,0.8s,baz=212,slow=4.8,SNR=7.3				
MJAR			LR	LR	06 02 30.2
	comp=Z,161nm,18.5s,baz=210,slow=39				
MJAR	**Matsushiro Arr**	**39.17 20**	P	**P**	**05 44 35.3 -2.0**
SHL	**Shillong**	**39.45 313**	P	**P**	**05 44 40.5 +0.6**
	SNR=17				
LZH	**Lanzhou**	**40.23 336** *eP*		**P**	**05 44 48.1 +1.9**
LZH			pP	pwP	05 45 12.0 +3.0
LZH			sP	sP	05 45 21.5 +4.8
LZH			pmax	pmax	
	comp=Z,22nm,1.4s				
LZH			pmax	pmax	
	comp=Z,340nm,4.3s				
LZH			LR	LR	
	comp=Z,490nm,13.2s				
LZH			LR	LR	
	comp=Z,470nm,13.0s				
LZH			LR	LR	
	comp=Z,540nm,14.6s				
ARPS	**Mount Arapiles**	**40.39 156**	P	**P**	**05 44 48.4 +1.1**
	baz=41,SNR=12				
BJT	**Baijiatuau**	**40.48 352**	IAmb	IAmb	05 44 50.8
	comp=Z,14nm,0.5s				
BJI	**Beijing**	**40.50 352**	P	**P**	**05 44 48.5 +0.3**
BJI			pP	**pP**	**05 45 08.6 -0.3**
BJI			S	**S**	**05 50 52.1 +1.5**
BJI			pmax	pmax	
	comp=Z,17nm,0.6s				
ARMA	**Armidale**	**40.58 140**	P	**P**	**05 44 51.0 +1.9**
	baz=41,SNR=35				
ARMA	**Armidale**	**40.58 140**	P	**P**	**05 44 50.8 +1.7**
ARMA			IAmb	IAmb	05 44 52.5
	comp=Z,40nm,0.7s				
YNG	**Young**	**41.46 148**	P	**P**	**05 44 57.7 +1.4**
	baz=42,SNR=34				
HHC	**Hu-ho-hao-te**	**42.13 347** *eP*		**P**	**05 45 05.4 +3.7**
HHC			pmax	pmax	
	comp=Z,8.0nm,0.8s				
LSA	**Lhasa**	**42.46 317**	P	**P**	**05 45 05.6 +0.6**
LSA			pmax	pmax	
	comp=Z,29nm,0.6s				
LSA	**Lhasa**	**42.46 317**	P	**P**	**05 45 05.6 +0.6**
LSA			IAmb	IAmb	05 45 11.7
	comp=Z,29nm,0.6s				
CAN	**Canberra**	**42.56 148**	P	**P**	**05 45 07.0 +1.8**
CAN			pmax	pmax	
	comp=Z,136nm,0.8s				
CAN	**Canberra**	**42.56 148**	P	**P**	**05 45 07.0 +1.8**
TOO	**Toolangi**	**42.62 153**	P	**P**	**05 45 08.0 +2.4**
	baz=43,SNR=13				
TOO	**Toolangi**	**42.62 153**	P	**P**	**05 45 07.3 +1.6**
TOO			pmax	pmax	
	comp=Z,146nm,1.4s				
TOO	**Toolangi**	**42.62 153**	P	**P**	**05 45 07.3 +1.6**
CNB	**Canberra Magne**	**42.75 148**	P	**P**	**05 45 08.2 +1.5**
	baz=43,SNR=22				
PALK	**Pallekele**	**42.80 281**	ScP	**ScP**	**05 50 39.1 -1.5**
	comp=Z,3.3nm,0.5s,baz=138,slow=1.2,SNR=4.9				
PALK			LR	LR	06 04 45.2
	comp=Z,219nm,18.8s,baz=116,slow=38				
MSHR	**Mys Shultsa**	**43.20 9** ⇓ *iP*		**P**	**05 45 12.1 +2.0**
ODAN	**Odare**	**43.52 311** *eP*		**P**	**05 45 13.9 +0.6**
	comp=Z,85nm,0.7s				
TAPN	**Taplejung**	**43.54 312** *eP*		**P**	**05 45 13.8 +0.3**
	comp=Z,80nm,0.6s				
RAMN	**Ramite**	**44.16 311** *eP*		**P**	**05 45 19.2 +0.7**
	comp=Z,98nm,0.5s				
GTA	**Gaotai**	**44.74 334** ⇑ *iP*		**P**	**05 45 24.5 +1.8**
GTA			pP	pP	05 45 40.3 -3.2
GTA			sP	pwP	05 45 49.4 +3.7
GTA			PcP	**PcP**	**05 47 03.3 -0.3**
GTA			ScP	**ScP**	**05 50 47.0 -1.0**
GTA			S	**S**	**05 51 53.1 0.0**
GTA			pmax	pmax	
	comp=Z,18nm,0.9s				
GTA			pmax	pmax	
	comp=Z,170nm,4.6s				
GTA			LR	LR	
	comp=Z,260nm,16.5s				
GTA			LR	LR	
	comp=Z,230nm,15.6s				
GTA			LR	LR	
	comp=Z,350nm,15.6s				
JIRN	**Jiri**	**44.85 311** *eP*		**P**	**05 45 24.2 +0.2**
	comp=Z,172nm,0.7s				
USA0B	**Ussuriysk Arra**	**44.91 9**	IAmb	IAmb	05 45 25.2
	comp=Z,35nm,0.6s				
USRK	**Ussuriysk Ar.**	**44.91 9**	P	**P**	**05 45 23.3 -0.5**
	comp=Z,32nm,0.6s,baz=198,slow=6.

MDJ pmax pmax
comp=Z,250nm,3.9s
MDJ LR LR
comp=Z,530nm,15.7s
MDJ LR LR
comp=Z,380nm,18.5s
MDJ LR LR
comp=Z,440nm,14.9s
GUN Gumba 45.21 311 *e*P **P 05 45 27.1 +0.2**
comp=Z,168nm,0.6s
PKI Pulchoki 45.39 311 *e*P **P 05 45 28.2 -0.1**
comp=Z,34nm,0.4s
PKIN Phulchoki 45.41 311 *e*P **P 05 45 28.1 -0.2**
comp=Z,25nm,0.4s
KKN Kakani 45.60 311 *e*P **P 05 45 30.1 +0.3**
comp=Z,74nm,0.8s
DMN Daman 45.64 310 *e*P **P 05 45 30.3 +0.1**
comp=Z,49nm,0.6s
ERM Erimo 45.78 21⇑ *e*P **P 05 45 31.9 +1.2**
ERM pmax pmax
comp=Z,44nm,0.8s
ERM Erimo 45.78 21 P **P 05 45 30.4 -0.3**
ERM IAmb IAmb 05 45 34.1
comp=Z,46nm,0.8s
GKN Gorkha 46.20 311 *e*P **P 05 45 34.8 +0.3**
comp=Z,54nm,0.3s
TEY Ternei 46.61 13⇓ *e*P **P 05 45 37.0 -0.2**
TEY pmax pmax
comp=Z,50nm,0.6s
TEY pmax pmax
comp=E,20nm,0.8s
TEY pmax pmax
comp=N,30nm,0.6s
KOLN Koldanda 46.88 310 *e*P **P 05 45 39.9 +0.1**
comp=N,134nm,0.7s
DANN Dangsing 47.04 310 *e*P **P 05 45 41.1 -0.1**
comp=N,181nm,0.7s
HYB Hyderabad 47.08 294 *i*P **P 05 45 40.0 -1.3**
HYB *e*pP **pwP 05 46 04.5 0.0**
HYB *e*sP **sP 05 46 16.0 +3.8**
HYB *e*S **S 05 52 24.0 -3.1**
ASAJ Asahikawa 47.44 19 LR LR 06 04 38.5
comp=N,141nm,22.0s,baz=198,slow=35
DZM Mont Dzumac 47.60 120 P **P 05 45 46.2 +0.8**
comp=N,21nm,0.8s,baz=268,slow=6.1,SNR=30
HIA Hailar 49.33 357 IAmb IAmb 05 46 00.6
comp=Z,17nm,0.6s
KLR Kul'dur 49.79 8*c*e**P P 05 46 00.0 -1.6**
KLR Kul'dur 49.79 8 LR LR 06 07 03.2
comp=Z,174nm,21.1s,baz=179,slow=36
ULN Ulaanbaatar 49.81 346 P **P 05 46 02.6 +0.6**
SNR=12
ULN Ulaanbaatar 49.81 346 P **P 05 46 02.0 0.0**
ULN pmax pmax
comp=Z,19nm,0.9s
ULN Ulaanbaatar 49.81 346 P **P 05 46 02.0 0.0**
ULN IAmb IAmb 05 46 07.4
comp=Z,19nm,0.9s
SONM Songino Array 49.95 345 P **P 05 46 02.6 -0.4**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 49.95 345 P **P 05 46 03.0 0.0**
comp=Z,12nm,0.7s,baz=162,slow=8.1,SNR=60
SONM ScP **ScP 05 51 07.5 -2.2**
comp=Z,3.9nm,1.0s,baz=166,slow=4.0,SNR=7.9
SONM Songino Array 49.95 345 P **P 05 46 02.6 -0.4**
TARA Tarawa 49.97 88 P **P 05 46 03.8 +0.2**
YSS Yuzh-Sakhalins 50.03 18⇑ *e*P **P 05 46 03.1 -0.3**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS Yuzh-Sakhalins 50.03 18 P **P 05 46 02.8 -0.6**
H08N1 Diego Garcia H 52.20 262 P P 05 46 12.3 -7.6
baz=111,slow=4.4,SNR=5.8
H08N2 Diego Garcia H 52.22 262 P P 05 46 12.9 -7.1
baz=111,slow=4.4,SNR=4.2
H08N3 Diego Garcia H 52.23 262 P P 05 46 13.0 -7.1
baz=111,slow=4.4,SNR=4.3
ZAK Zakamensk 53.10 344 *e*P **P 05 46 25.1 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
ZEA Zeya 53.85 3 *e*P **P 05 46 32.1 +0.5**
ZEA pmax pmax
comp=Z,29nm,1.0s
TLY Talaya 54.19 345 *e*P **P 05 46 36.7 +2.5**
TLY *e*S **S 05 54 01.3 -3.2**
TLY *e*SS **SS 05 57 47.0 -0.6**
TLY pmax pmax
comp=Z,18nm,0.8s
TLY MLR MLR
comp=Z,395nm,18.0s
TLY Talaya 54.19 345 P **P 05 46 35.4 +1.2**
IRK Irkutsk 54.55 346 *e*P **P 05 46 35.6 -1.2**
IRK pmax pmax
comp=Z,53nm,2.5s
MOY Mondy 54.89 343 *e*P **P 05 46 40.6 +1.2**
MOY pmax pmax
comp=Z,47nm,2.0s
MSVF Nonsavu 56.87 111 P **P 05 46 55.4 +1.3**
MSVF pmax pmax
comp=Z,39nm,1.0s
MSVF Nonsavu 56.87 111 P **P 05 46 55.4 +1.3**
MSVF IAmb IAmb 05 46 57.3
comp=Z,39nm,0.9s
NIL Nilore 57.48 311 P **P 05 46 57.9 -0.2**
NIL pmax pmax
comp=Z,19nm,0.7s
NIL Nilore 57.48 311 P **P 05 46 57.9 -0.2**
NIL IAmb IAmb 05 47 07.8
comp=Z,19nm,0.7s
SKR Severo-Kuril's 57.97 24⇑ *e*P **P 05 47 00.8 -0.3**
BOD Bodaibo 58.26 354 *e*P **P 05 47 01.6 -1.4**
BOD pmax pmax
comp=Z,30nm,1.8s
DGZ Jazzator, Alta 58.26 334*c i*P **P 05 47 03.2 -0.2**
KSH Kashi 58.29 318 P **P 05 47 07.6 +3.8**
KSH PP **PP 05 49 19.0 +5.2**
KSH PcS **PcS 05 51 55.5 -0.3**
KSH S **S 05 55 02.1 +2.6**
KSH pmax pmax
comp=Z,24nm,0.6s
KSH pmax pmax
comp=Z,230nm,6.0s
KSH LR LR
comp=Z,220nm,11.3s
KSH LR LR
comp=Z,130nm,12.1s
KSH LR LR
comp=Z,200nm,13.6s
MK31 Makanchi Array 58.75 328 IAmb IAmb 05 47 08.3
comp=Z,11nm,0.8s
MKAR Makanchi Array 58.75 328 P **P 05 47 06.5 -0.2**
comp=Z,13nm,0.5s,baz=126,slow=8.8,SNR=140
MKAR pP **pP 05 47 29.3 +0.9**
comp=Z,26nm,0.6s,baz=123,slow=8.1,SNR=5.9
MKAR ScP **ScP 05 51 45.4 -2.8**
comp=Z,1.4nm,0.5s,baz=144,slow=5.5,SNR=5.8
MKAR LR LR 06 13 51.2
comp=Z,166nm,20.0s,baz=118,slow=37
MKAR PKPPKP **P'P'df 06 16 46.0 +3.9**
comp=Z,0.9nm,0.8s,baz=307,slow=2.6,SNR=6.3
MKAR Makanchi Array 58.75 328 P **P 05 47 06.2 -0.6**
MLZ Mavora Lakes 60.04 145 IAmb IAmb 05 47 17.6
comp=Z,20nm,0.8s
WHZ Wether Hill Ro 60.25 145 IAmb IAmb 05 47 18.8
comp=Z,32nm,0.9s
PETK Petropavlovsk- 60.46 23 P **P 05 47 18.6 +0.3**
comp=Z,33nm,0.6s,baz=201,slow=3.5,SNR=54
PETK LR LR 06 14 22.3
comp=Z,60nm,19.7s,baz=239,slow=37
PETK Petropavlovsk- 60.46 23 P **P 05 47 17.9 -0.3**
LBZ Lake Benmore 60.71 143 IAmb IAmb 05 47 22.7
comp=Z,28nm,0.8s
PET Petropavlovsk 60.77 24 *e*P **P 05 47 20.6 +0.2**
PET *e*S **S 05 55 34.8 +4.2**
PET pmax pmax
comp=Z,100nm,12.6s
PET Petropavlovsk 60.77 24 P **P 05 47 19.9 -0.4**
AAK Ala-Archa 60.85 321 P **P 05 47 21.7 +0.3**
AAK Ala-Archa 60.85 321*c i*P **P 05 47 21.6 +0.2**
AAK pmax pmax
comp=Z,29nm,2.5s
AAK Ala-Archa 60.85 321 P **P 05 47 20.9 -0.5**
AAK IAmb IAmb 05 47 33.4
comp=Z,8.4nm,0.8s
RPZ Rata Peaks 60.89 142 P **P 05 47 21.3 -0.1**
KBL Kabul 61.03 310 P **P 05 47 22.4 -0.5**

KBL Kabul 61.03 310 P **P 05 47 22.1 -0.7**
KBL pmax pmax
comp=Z,26nm,0.7s
KBL Kabul 61.03 310 P **P 05 47 22.1 -0.7**
KBL IAmb IAmb 05 47 27.2
comp=Z,26nm,0.7s
THZ Tophouse 61.08 139 IAmb IAmb 05 47 27.5
comp=Z,26nm,0.6s
ARSB Arslanbob 61.17 319 IAmb IAmb 05 47 25.9
comp=Z,12nm,0.8s
LTZ Lake Taylor 61.17 140 IAmb IAmb 05 47 32.8
comp=Z,28nm,1.2s
OXZ Oxford 61.30 141 IAmb IAmb 05 47 28.0
comp=Z,26nm,0.7s
KHZ Kahutara 61.81 140 P **P 05 47 27.5 -0.1**
GAR Garm 61.92 315 IAmb IAmb 05 47 31.4
comp=Z,32nm,0.9s
BTK Batken 62.03 317 IAmb IAmb 05 47 39.1
comp=Z,16nm,1.1s
SNZO South Karori 62.06 138 P **P 05 47 28.9 -0.4**
YAK Yakutsk 62.26 4 *e*P **P 05 47 29.5 -0.7**
YAK *e* 05 48 09.8
YAK *e* 05 49 51.8
YAK *e*S **S 05 55 51.7 +2.7**
YAK *i* *SS **sS 05 56 23.0 -3.3**
YAK *e* 05 57 10.0
YAK *e*SS **SS 05 59 58.4 +4.5**
YAK pmax pmax
comp=Z,111nm,3.7s
YAK pmax pmax
comp=Z,94nm,3.5s
YAK pmax pmax
comp=N,86nm,3.3s
YAK pmax pmax
comp=E,112nm,3.3s
YAK smax smax
comp=N,35nm,1.6s
YAK smax smax
comp=E,24nm,1.8s
YAK Yakutsk 62.26 4 P **P 05 47 29.3 -0.9**
YAK IAmb IAmb 05 47 35.5
comp=Z,36nm,0.8s
BKZ Black Stump Fm 62.35 135 P **P 05 47 31.1 -0.3**
URZ Urewera 62.41 134 P **P 05 47 30.9 -0.8**
comp=Z,19nm,0.4s,baz=259,slow=8.2,SNR=31
ZALV Zalesovo Beam 62.46 336 P **P 05 47 30.4 -1.3**
comp=Z,4.1nm,0.4s,baz=124,slow=5.7,SNR=10
ZALV pP **pP 05 47 53.4 -0.3**
comp=Z,12nm,0.8s,baz=131,slow=6.1,SNR=3.0
ZALV LR LR 06 15 01.7
comp=Z,164nm,20.7s,baz=72,slow=36
ZALV Zalesovo Beam 62.46 336 P **P 05 47 29.7 -2.0**
PLWZ Palliser 62.54 138 P **P 05 47 32.3 -0.4**
CHGR Chuyangaron 62.59 315 P **P 05 47 32.5 -0.5**
CHGR IAmb IAmb 05 47 34.7
comp=Z,24nm,0.8s
KURK Kurchatov 63.11 330 P **P 05 47 35.3 -0.9**
SNR=9.0
KURK Kurchatov 63.11 330*c i*P **P 05 47 35.2 -0.9**
KURK pmax pmax
comp=Z,24nm,1.0s
KURK Kurchatov 63.11 330 P **P 05 47 34.2 -1.9**
KURK IAmb IAmb 05 47 41.4
comp=Z,20nm,0.8s
MA2 Magadan 63.41 15*d i*P **P 05 47 38.8 +0.9**
MA2 pmax pmax
comp=Z,56nm,0.9s
MA2 Magadan 63.41 15 P **P 05 47 37.9 -0.1**
KKAR Karatay Array 63.63 320 P **P 05 47 38.6 -1.2**
KKAR Karatay Array 63.63 320 P **P 05 47 38.6 -1.2**
KKAR Karatay Array 63.63 320 IAmb IAmb 05 47 44.1
comp=Z,8.4nm,1.1s
KNTN Kanton 65.33 93 P **P 05 47 52.8 +1.5**
HRA Herat 66.26 308 P **P 05 47 56.9 -0.4**
CASY Casey 66.56 185 P **P 05 47 57.7 -0.5**
CASY IAmb IAmb 05 47 60.0
comp=Z,34nm,0.8s
SEY Seymchan 66.68 14⇓ *i*P **P 05 47 59.6 +0.5**
BRVK Borovoye 68.69 329*c e*P **P 05 48 10.4 -1.5**
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 68.69 329 P **P 05 48 10.8 -1.1**
GEYT Alibeck 70.48 311 P **P 05 48 22.6 -0.7**
comp=Z,1.4nm,0.4s,baz=80,slow=16,SNR=2.6
GEYT LR LR 06 24 41.9
comp=Z,64nm,19.4s,baz=25,slow=40
GEYT Alibeck 70.48 311 P **P 05 48 22.3 -1.0**
TIXI Tiksi 71.81 2*c i*P **P 05 48 28.5 -2.0**
TIXI pmax pmax
comp=Z,64nm,1.7s
TIXI Tiksi 71.81 2 P **P 05 48 28.6 -1.9**
TIXI IAmb IAmb 05 48 31.1
comp=Z,53nm,1.2s
ADK Adak 72.28 34 P **P 05 48 33.7 -0.1**
ADK pmax pmax
comp=Z,34nm,0.9s
ADK Adak 72.28 34 P **P 05 48 33.7 -0.1**
ADK IAmb IAmb 05 48 41.7
comp=Z,34nm,0.8s
ABKAR Akbulak array 72.85 322 P **P 05 48 35.6 -1.6**
ABKAR Akbulak array 72.85 322 IAmb IAmb 05 48 40.3
comp=Z,8.2nm,1.1s
NRIK Noril'sk 73.36 348 P **P 05 48 38.9 -0.9**
comp=Z,14nm,0.6s,baz=132,slow=6.3,SNR=24
NRIK pP **pwP 05 49 03.8 -1.1**
comp=Z,9.2nm,0.7s,baz=107,slow=4.4,SNR=2.3
NRIK LR LR 06 22 42.4
comp=Z,144nm,20.9s,baz=138,slow=37
BILL Bilibino 74.28 16*c e*P **P 05 48 45.0 -0.2**
BILL *i* 05 49 01.8
BILL pmax pmax
comp=Z,17nm,1.0s
BILL MLR MLR
comp=Z,91nm,18.0s
BILL Bilibino 74.28 16 P **P 05 48 43.1 -2.1**
SVE Sverdlovsk 75.36 330 *e*P **P 05 48 50.3 -1.4**
ARU Arti 76.27 329*c i*P **P 05 48 54.8 -2.0**
ARU *PP **pP 05 49 17.9 -1.5**
ARU 05 51 48.6
ARU S **S 05 58 32.5 -1.6**
ARU pmax pmax
comp=Z,19nm,1.3s
ARU Arti 76.27 329 P **P 05 48 54.4 -2.4**
ABPO Ambohimpanom 76.47 251 P **P 05 48 57.0 -2.0**
ABPO pmax pmax
comp=Z,7.0nm,0.6s
ABPO Ambohimpanom 76.47 251 P **P 05 48 57.0 -2.0**
MAW Mawson 78.82 200 P **P 05 49 10.7 -0.1**
baz=79,SNR=19
MAW Mawson 78.82 200 P **P 05 49 11.1 +0.3**
comp=Z,14nm,0.9s,baz=48,slow=7.3,SNR=25
MAW pP **pP 05 49 33.1 -1.1**
comp=Z,6.4nm,0.8s,baz=47,slow=7.6,SNR=3.9
MAW Mawson 78.82 200 P **P 05 49 10.9 0.0**
ZEI Tsey 82.10 313 *e*P P 05 49 20.7 -8.5
ZEI pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 82.94 314 P **P 05 49 32.6 -0.7**
comp=Z,1.9nm,0.8s,baz=191,slow=7.8,SNR=3.3
KBZ pP **pwP 05 49 57.6 -1.1**
comp=Z,4.4nm,0.8s,baz=94,slow=9.4,SNR=3.9
KIV Kislovodsk 83.12 314 *e*P **P 05 49 31.3 -3.0**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV MLR MLR
comp=Z,209nm,19.0s
PRGR Permogore 84.15 332 *e*P **P 05 49 36.0 -3.0**
PRGR *e*SP **pwP 05 50 06.4 +1.9**
PRGR pmax pmax
comp=Z,25nm,0.8s
RDOG Red Dog Mine 84.26 21 IAmb IAmb 05 49 42.3
comp=Z,28nm,0.8s
VRH Novokhopyorsk 84.65 321 *e*P **P 05 49 40.1 -1.7**
VRH pmax pmax
comp=Z,20nm,0.2s
KMBO Kilima Mbogo 85.72 269 P **P 05 49 46.0 -2.2**
KMBO pmax pmax
comp=Z,2.0nm,1.1s
KMBO Kilima Mbogo 85.72 269 P **P 05 49 47.5 -0.8**
comp=Z,0.8nm,0.4s,baz=69,slow=7.1,SNR=4.6
KMBO LR LR 06 23 30.9
comp=Z,92nm,20.9s,baz=94,slow=32
KMBO Kilima Mbogo 85.72 269 P **P 05 49 46.0 -2.2**
VSR Storozhevoye 86.25 321 *e*P **P 05 49 47.2 -2.5**
VSR pmax pmax

comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 86.51 323 *e*P **P 05 49 49.5 -1.5**
LPSR pmax pmax
comp=Z,3.0nm,0.5s
KLMR Klimovskoe 86.95 331 *e*P **P 05 49 50.5 -2.4**
KLMR pmax pmax
comp=Z,10.0nm,0.5s
KLMR Klimovskoe 86.95 331 *e*P **P 05 49 50.6 -2.4**
KLMR AMP 05 49 54.1
comp=Z,10.0nm,0.5s
KDAK Kodiak Island 87.17 32 *i*P **P 05 49 54.2 +0.1**
IMAR Indian Mountai 87.41 24 P **P 05 49 54.6 -0.5**
SYO Syowa Base 87.46 201⇓ *i*P **P 05 49 53.8 -1.4**
SYO Syowa Base 87.46 201⇑ *i*PcP **PcP 05 49 56.4 -0.7**
SYO Syowa Base 87.46 201⇓ *i*pP pP 05 50 19.2 +0.2
MOS Moscow 87.52 326 *e*P **P 05 49 54.9 -0.9**
MOS *e* 05 50 32.4
PPT Papeete 87.52 107 LR LR 06 24 15.0
comp=Z,32nm,22.0s,baz=286,slow=32
PPT2 Papeete2 87.52 107 *e*S **S 06 00 36.0 +4.7**
comp=Z,178nm,27.2s
PPT2 Papeete2 87.52 107 *e*LR LR 06 17 45.4
comp=Z,668nm,38.5s
TBI Tubuai 87.69 113 *e*S **S 06 00 36.0 +3.3**
comp=Z,103nm,32.0s
TBI Tubuai 87.69 113 *e*LR LR 06 18 02.0
comp=Z,148nm,41.8s
TOLK Toolik Lake Re 89.23 21 P **P 05 50 04.2 +0.5**
baz=268
MCK McKinley 89.31 26 IAmb IAmb 05 50 04.9
comp=Z,26nm,0.9s
RND Reindeer 89.33 27 IAmb IAmb 05 50 04.7
comp=Z,18nm,0.8s
BRTR Keskin Array B 89.60 310 *i*P **P 05 50 05.0 -1.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 89.60 310 P **P 05 50 04.2 -2.0**
comp=Z,1.7nm,0.9s,baz=138,slow=3.6,SNR=7.7
BRTR pP **pP 05 50 31.6 +2.1**
comp=Z,1.7nm,0.7s,baz=130,slow=5.3,SNR=4.9
QSPA South Pole Qui 89.76 180 P **P 05 50 06.4 +0.1**
QSPA IAmb IAmb 05 50 08.8
comp=Z,15nm,0.9s
CCB Clear Creek Bu 89.82 26 IAmb IAmb 05 50 06.9
comp=Z,9.9nm,0.9s
DHY Denali Highway 90.00 27 IAmb IAmb 05 50 08.7
comp=Z,14nm,0.8s
HDA Harding Lake 90.19 26 P **P 05 50 06.7 -1.5**
baz=270
HDA Harding Lake 90.19 26 IAmb IAmb 05 50 13.5
comp=Z,8.7nm,1.0s
ILAR Eielson Array 90.22 25 P **P 05 50 07.3 -1.0**
comp=Z,2.5nm,0.6s,baz=232,slow=5.0,SNR=36
ILAR PKKP **PKKPdf 06 07 37.2 +1.3**
comp=Z,1.3nm,0.7s,baz=105,slow=2.3,SNR=14
ILAR Eielson Array 90.22 25 P **P 05 50 04.7 -3.6**
BMAR Burnt Mountain 91.11 23 P **P 05 50 12.4 -0.1**
BALM Baldy 92.43 29 IAmb IAmb 05 50 20.6
comp=Z,14nm,0.8s
AKASG Malin Array Be 92.52 321 P **P 05 50 17.2 -2.1**
AKASG pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 92.52 321 P **P 05 50 17.6 -1.6**
comp=Z,2.0nm,0.7s,baz=73,slow=4.5,SNR=4.9
AKASG Malin Array Be 92.52 321 P **P 05 50 17.2 -2.1**
BCAR Beaver Creek A 92.54 27 P **P 05 50 18.7 -0.5**
BARN Barnard Glacie 92.76 29 IAmb IAmb 05 50 23.7
comp=Z,16nm,0.8s
ARCES ARCESS Array B 92.78 340 P **P 05 50 18.8 -1.3**
comp=Z,2.2nm,0.6s,baz=85,slow=4.3,SNR=13
ARCES PKKP **PKKPdf 06 07 30.0 -1.4**
comp=Z,2.4nm,0.7s,baz=248,slow=1.3,SNR=9.8
ARCES LR LR 06 34 49.4
comp=Z,89nm,21.5s,baz=60,slow=37
FINES FINESS Array B 93.46 331 *i*P **P 05 50 23.1 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 93.46 331 P **P 05 50 21.7 -1.7**
comp=Z,2.3nm,0.7s,baz=72,slow=6.2,SNR=4.9
FINES PKiKP **PKiKP 05 55 12.5 +3.5**
comp=Z,3.4nm,0.9s,baz=159,slow=5.9,SNR=3.6
FINES FINESS Array B 93.46 331 P **P 05 50 22.0 -1.4**
DAWY Dawson 93.51 26 IAmb IAmb 05 50 25.4
comp=Z,10nm,0.8s
EPYK Eagle Plains 94.30 23 P **P 05 50 26.7 -0.5**
baz=279
EPYK Eagle Plains 94.30 23 IAmb IAmb 05 50 28.5
comp=Z,17nm,1.1s
LSZ Lusaka 94.57 255 P **P 05 50 27.2 -2.5**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 94.57 255 P **P 05 50 27.1 -2.5**
LSZ IAmb IAmb 05 50 32.2
comp=Z,5.5nm,0.8s
HYT Haines Junctio 94.80 29 P **P 05 50 30.4 +0.6**
INK Inuvik 95.14 21 IAmb IAmb 05 50 32.4
comp=Z,8.5nm,1.1s
BURAR Bucovina Array 95.37 318 P **P 05 50 30.8 -1.8**
BOSA Boshof 96.70 241 P **P 05 50 38.6 -0.5**
comp=Z,2.2nm,0.7s,baz=104,slow=1.8,SNR=3.2
BOSA PKKP **PKKPbc 06 07 22.4 0.0**
comp=Z,1.8nm,0.6s,baz=192,slow=5.6,SNR=4.0
BOSA LR LR 06 27 31.6
comp=Z,136nm,21.9s,baz=42,slow=31
C36M Paulatuk 98.12 19 P **P 05 50 43.8 -0.6**
baz=292
SNAA Sanae 100.50 195 Pdiff **Pdif 05 50 55.2 +0.1**
SNAA Sanae 100.50 195 PKKPbc PKKPbc 06 07 09.7 -3.5
comp=Z,1.0nm,0.9s,baz=352,slow=3.1,SNR=4.1
VNA2 Neumayer--Watz 102.13 195 Pdiff **Pdif 05 51 02.9 +0.7**
baz=62,slow=5.3
YKA Yellowknife Ar 104.57 24 Pdiff **Pdif 05 51 14.3 +1.0**
comp=Z,0.9nm,0.7s,baz=290,slow=5.2,SNR=4.2
YKA PKKPbc **PKKPbc 06 06 56.6 -4.3**
comp=Z,2.1nm,0.7s,baz=120,slow=2.9,SNR=7.7
L04D Klamath Falls 108.22 45 P **PKiKP 05 55 36.1 -0.2**
baz=287
J05D Fort Rock, OR 108.65 44 P **PKiKP 05 55 37.7 +0.6**
baz=288
NVAR Mina Array Bea 112.29 48 PKiKP **PKiKP 05 55 45.7 +1.5**
comp=Z,2.4nm,0.7s,baz=253,slow=1.8,SNR=11
NVAR PKKPbc **PKKPbc 06 06 34.3 -1.6**
comp=Z,0.8nm,0.6s,baz=134,slow=6.4,SNR=4.4
R11A Troy Canyon, C 114.33 47 P **PKiKP 05 55 48.9 +0.8**
baz=291
BELC Belle Mtn. Jos 115.46 52 P **PKPdf 05 55 51.2 +0.8**
baz=288
GMRC Granite Mounta 115.48 51 P **PKPdf 05 55 51.5 +1.2**
baz=289
DUG Dugway, Tooele 115.64 45 P **PKPdf 05 55 51.6 +1.1**
baz=294
SNOW Snow King Moun 115.65 41 **PKPdf 05 55 51.0 +0.5**
LCMT Little Creek M 116.55 48 **PKiKP 05 55 53.3 +1.0**
BW06 Boulder Array 116.75 41 P **PKPdf 05 55 52.4 -0.2**
baz=297
PDAR Pinedale Array 116.75 41 PKP **PKPdf 05 55 52.4 -0.3**
comp=Z,1.2nm,0.5s,baz=34,slow=1.3,SNR=11
PDAR PKKPbc **PKKPbc 06 06 18.4 -2.5**
comp=Z,1.8nm,0.6s,baz=128,slow=6.5,SNR=11
PDAR Pinedale Array 116.75 41 **PKPdf 05 55 51.5 -1.1**
TMUT Trail Mountain 117.13 45 **PKiKP 05 55 54.6 +1.0**
WUAZ Wupatki 118.51 49 P **PKiKP 05 55 57.7 +1.5**
baz=292
WUAZ Wupatki 118.51 49 **PKiKP 05 55 56.4 +0.2**
O20A White River Ci 118.83 43 P **PKiKP 05 55 57.4 +0.6**
baz=297
PV23 Carpenter Ridg 119.04 45 **PKiKP 05 55 58.1 +0.8**
PV19 Morning Glory 119.12 45 **PKiKP 05 55 58.3 +0.9**
PV05 Paradox Valley 119.14 45 **PKPdf 05 55 57.2 -0.2**
PV07 Paradox Valley 119.31 45 **PKiKP 05 55 58.2 +0.5**
RSSD Black Hills 119.55 37 P **PKPdf 05 55 57.8 -0.2**
baz=303
RSSD Black Hills 119.55 37 PKIKP **PKPdf 05 55 57.9 -0.1**
RSSD Black Hills 119.55 37 **PKPdf 05 55 57.9 -0.1**
MVCO Mesa Verde 119.94 46 P **PKiKP 05 55 59.8 +0.7**
baz=296
TUC Tucson 120.15 52 P **PKiKP 05 56 00.2 +0.8**
baz=291
TUC Tucson 120.15 52 PKIKP **PKPdf 05 55 59.2 -0.1**
TUC Tucson 120.15 52 **PKPdf 05 55 59.2 -0.1**
ULM Lac du Bonnet 120.15 28 PKP **PKPdf 05 55 56.8 -1.9**
comp=Z,3.3nm,0.6s,baz=216,slow=1.3,SNR=9.1
TOA0 Torodi Ar. Sit 120.43 285 **PKPdf 05 55 58.6 -1.5**
TORD Torodi Ar. Bea 120.43 285 PKP **PKPdf 05 55 58.0 -2.1**
comp=Z,4.2nm,0.6s,baz=37,slow=2.4,SNR=23
TORD PKKPbc **PKKPab 06 06 07.8 -0.4**

comp=Z,3.8nm,0.7s,baz=273,slow=3.6,SNR=17
TORD Torodi Ar. Bea 120.43 285 PKPdf 05 55 57.5 -2.7
S22A 4UR Ranch, Cre 120.90 45 P **PKiKP 05 56 01.6 +0.6**
baz=297
SDCO Great Sand Dun 121.83 44 P **PKiKP 05 56 03.7 +0.9**
baz=298
121A Cookes Peak, D 122.41 51 P **PKiKP 05 56 04.6 +0.6**
baz=294
ANMO Albuquerque 122.41 48 P **PKiKP 05 56 04.6 +0.7**
baz=296
ANMO Albuquerque 122.41 48 PKIKP **PKiKP 05 56 04.9 +1.0**
ANMO Albuquerque 122.41 48 PKiKP 05 56 04.9 +1.0
T25A Trinidad 122.88 44 P **PKiKP 05 56 05.0 +0.2**
baz=299
ECSD EROS Data Cent 124.11 34 P **PKPdf 05 56 06.3 -0.2**
baz=310
ECSD EROS Data Cent 124.11 34 PKPdf 05 56 05.3 -1.2
MNTX Cornudas Mount 124.61 51 P **PKiKP 05 56 08.6 +0.4**
baz=295
SCHQ Schefferville 124.93 7 PKP **PKPdf 05 56 07.2 -0.5**
comp=Z,8.5nm,0.8s,baz=232,slow=3.0,SNR=3.8
TXAR Lajitas Array 126.94 53 PKIKP **PKPdf 05 56 11.6 -0.8**
TXAR Lajitas Array 126.94 53 PKP **PKPdf 05 56 11.3 -1.1**
comp=Z,2.5nm,0.6s,baz=260,slow=2.0,SNR=20
TXAR Lajitas Array 126.94 53 PKPdf 05 56 11.6 -0.8
KIC Kosan Boka 127.47 278 *e*PKIKP **PKiKP 05 56 14.7 +0.4**
comp=Z,9.0nm,0.8s
DBIC Dimbokro 127.56 278 PKP **PKPdf 05 56 12.9 -1.0**
comp=Z,2.1nm,0.6s,baz=58,slow=3.5,SNR=4.3
TIC Toumodi 127.72 278 *e*PKIKP **PKiKP 05 56 15.0 +0.2**
LIC Lamto 127.77 278 *e*PKIKP **PKiKP 05 56 15.2 +0.3**
comp=Z,23nm,0.9s
D51A Lot 18 Range I 129.36 20 P **PKiKP 05 56 16.8 -0.3**
baz=331
JCT Junction City 129.44 49 P **PKPdf 05 56 17.3 +0.2**
baz=299
D52A ZEK Kipawa Sen 129.78 19 P **PKPdf 05 56 16.3 -0.9**
baz=332
J47A Sunmer 130.43 27 P **PKPdf 05 56 18.8 +0.2**
baz=322
833A Chaparral WMA, 130.75 52 P **PKiKP 05 56 21.2 +0.7**
baz=297
D56A ZEC Mazanza, M 130.81 16 P **PKPdf 05 56 18.6 -0.5**
baz=336
LATQ La Tuque 131.01 14 PKPdf 05 56 19.8 +0.3
U40A Yellville 131.02 39 P **PKPdf 05 56 19.0 -0.9**
baz=309
E56A St. Veronique 131.19 16 P **PKPdf 05 56 19.5 -0.4**
baz=336
L48A N Adams 131.63 27 P **PKPdf 05 56 21.1 +0.2**
baz=322
MIAR Mount Ida 131.67 41 PKIKP **PKiKP 05 56 22.1 0.0**
MIAR Mount Ida 131.67 41 PKiKP 05 56 22.1 0.0
WVT Waverly 134.20 35 PKIKP **PKPdf 05 56 26.1 +0.2**
WVT Waverly 134.20 35 PKPdf 05 56 26.1 +0.2
U50A Jamestown 135.66 33 P **PKPdf 05 56 29.3 +0.6**
baz=318
PLCA Paso Flores 137.47 165 PKIKP **PKPdf 05 56 32.5 +0.5**
PLCA Paso Flores 137.47 165 PKPdf 05 56 32.5 +0.5
X53A Estanollee 137.92 33 P PKPdf 05 56 21.9 -11
baz=319
T57A Hurt 137.98 27 P PKPdf 05 56 22.7 -10
baz=326
S58A Poland Farm, P 138.00 25 P PKPdf 05 56 22.3 -11
baz=328
Y53A Monroe 138.25 34 P PKPdf 05 56 23.0 -10
baz=318
X54A Belton 138.39 32 P PKPdf 05 56 24.1 -10
baz=320
KMSC Kings Mountain 138.47 31 P PKPdf 05 56 23.9 -10
baz=322
Y54A Tignall 138.74 33 P PKPdf 05 56 24.9 -9.4
baz=319
X55A Gracelyn & Ava 138.84 32 P PKPdf 05 56 25.4 -9.2
baz=321
W58A Raeford 139.61 29 P **PKPdf 05 56 28.7 -7.2**
baz=324
X58A Rowland 139.93 29 P **PKPdf 05 56 29.3 -7.2**
baz=324
TRQA Tornquist 141.68 174 PKHKP PKPpre 05 56 32.7
TRQA Tornquist 141.68 174 PKPpre 05 56 32.7
TEIG Tepich 143.50 55 PKPbc 05 56 40.5 -0.3
APG El Apazote 143.82 64 PKP PKPbc 05 56 42.0 -0.1
comp=Z,60nm,0.7s,baz=322,slow=8.3,SNR=52
ROC1 El Roble 144.49 160 PKPbc 05 56 43.6 -0.1
CFA Coronel Fontan 146.66 162 PKPbc **PKPbc 05 56 50.1 0.0**
comp=Z,44nm,0.6s,baz=222,slow=3.3,SNR=51
TGUH Tegucigalpa,Un 147.04 64 PKPbc 05 56 51.1 -0.7
CRIN San Cristobal 147.73 66 *e*P **PKPbc 05 56 53.6 0.0**
CNGN Cerro Negro 148.12 66 *e*P **PKPbc 05 56 53.5 -1.1**
ESTN Estel 148.21 65 *e*P **PKPbc 05 56 54.8 -0.1**
RCON San Juan de Ri 148.26 64 *e*P **PKPbc 05 56 54.8 -0.3**
MATN Matagalpa 148.68 65 *e*P **PKPbc 05 56 56.2 +0.1**
FSCY Frank Sound, G 149.62 50 PKPbc 05 56 58.6 +0.4
ACON Acoyapa 149.71 66 *e*P **PKPbc 05 56 59.0 +0.4**
BUEV Buena Vista 149.88 69 *e*P **PKPbc 05 56 58.8 -0.4**
GB1A Borinquen Arri 149.88 69 *e*P **PKPbc 05 56 59.5 +0.4**
PLVR Palo Verde 150.07 69 *e*P **PKiKP 05 57 00.5 -0.1**
CUI Cuipilapa 150.15 69 *e*P **PKPbc 05 56 59.2 -0.5**
ESPN Las Esperanzas 150.42 65 *e*P **PKPbc 05 57 00.5 +0.2**
ESPN Las Esperanzas 150.42 65 PKPbc 05 57 00.1 -0.2
JTS Las Juntas de 150.47 69 PKIKP **PKPbc 05 57 00.4 -0.1**
JTS Las Juntas de 150.47 69 PKPbc **PKPbc 05 57 00.0 -0.4**
comp=Z,24nm,0.4s,baz=64,slow=4.2,SNR=32
JTS Las Juntas de 150.47 69 *e*P **PKPbc 05 57 00.3 -0.2**
JTS Las Juntas de 150.47 69 PKPbc 05 57 00.4 -0.1
LCR2 La Lucha 2 151.52 70 *e*P **PKiKP 05 57 04.2 +0.6**
EDMM Las Mercedes 152.05 70 *e*P **PKiKP 05 57 05.2 +0.6**
EDPN Palmar Norte 152.27 71 *e*P **PKiKP 05 57 06.8 +1.9**
DRK0 Durika 152.38 70 *e*P **PKiKP 05 57 05.7 +0.3**
PRVC Isla de Provid 152.55 60 *e*P **PKiKP 05 57 05.9 +0.5**
PRVC Isla de Provid 152.55 60 *e*P **PKiKP 05 57 05.9 +0.5**
CPUP Villa Florida 153.65 179 PKP **PKPdf 05 57 00.1 +0.6**
comp=Z,5.5nm,0.9s,baz=249,slow=1.5,SNR=11
CPUP PKPbc **PKiKP 05 57 07.4 0.0**
comp=Z,12nm,0.6s,baz=180,slow=1.1,SNR=44
CPUP PKPab **PKPab 05 57 20.6 +0.7**
comp=Z,12nm,0.7s,baz=205,slow=2.0,SNR=8.3
CPUP Villa Florida 153.65 179 PKPdf 05 56 59.2 -0.3
CPUP PKPbc **PKPbc 05 57 06.9 -0.4**
BCIP Isla Barro Col 155.59 68⇑ *e*P **PKPdf 05 57 09.9 +7.4**
BCIP Isla Barro Col 155.59 68⇑ *e*P **PKPdf 05 57 09.9 +7.4**
SDDR Presa de Saban 156.65 36 PKPab 05 57 31.8 -1.4
NNA Nana 156.91 122 PKIKP **PKPdf 05 57 05.7 +1.4**
NNA 05 57 34.8
NNA Nana 156.91 122 PKP **PKPdf 05 57 05.4 +1.1**
comp=Z,2.3nm,0.3s,baz=320,slow=7.3,SNR=4.2
NNA PKPab **PKPab 05 57 35.4 +0.9**
comp=Z,9.5nm,0.7s,baz=286,slow=3.1,SNR=4.5
NNA Nana 156.91 122 PKPdf 05 57 05.7 +1.4
NNA **PKPab 05 57 34.8 +0.3**
ATAH Atahualpa 157.48 109 PKP **PKPdf 05 57 07.3 +1.8**
comp=Z,5.0nm,0.9s,baz=260,slow=4.8,SNR=5.4
ATAH PKPab **sPKPdf 05 57 39.3 +0.1**
comp=Z,7.5nm,0.7s,baz=243,slow=19,SNR=4.1
OTAV Otavalo 158.58 90 PKIKP **PKPdf 05 57 06.8 -0.1**
OTAV Otavalo 158.58 90 PKPdf 05 57 06.8 -0.1
CBOC Ciudad Bolivar 160.22 73 *e*P **PKPdf 05 57 07.9 -0.5**
CBOC Ciudad Bolivar 160.22 73 *e*P **PKPdf 05 57 07.9 -0.5**
LPAZ La Paz 160.31 147 PKP **PKPdf 05 57 10.1 +1.1**
comp=Z,9.3nm,1.1s,baz=40,slow=3.2,SNR=8.6
LPAZ PKPab **PKPab 05 57 51.2 +1.5**
comp=Z,6.1nm,0.7s,baz=218,slow=8.8,SNR=5.7
LPAZ La Paz 160.31 147 PKPdf 05 57 09.1 +0.2
YOTC Yotoco, Valle 160.33 79 *e*P **PKPdf 05 57 08.6 +0.1**
YOTC Yotoco, Valle 160.33 79 *e*P **PKPdf 05 57 08.6 +0.1**
ZARC Zaragoza, Cauc 160.79 67 *e*P **PKPdf 05 57 07.9 -0.9**
ZARC Zaragoza, Cauc 160.79 67 *e*P **PKPdf 05 57 07.9 -0.9**
GUY2C Guyana, Caldas 161.01 74 *e*P **PKPdf 05 57 07.9 -1.8**
GUY2C Guyana, Caldas 161.01 74 *e*P **PKPdf 05 57 07.9 -1.8**
RREF El Recreo 161.11 75 *e*P **PKPdf 05 57 13.9 +3.9**
RREF El Recreo 161.11 75 *e*P **PKPdf 05 57 13.9 +3.9**
OCAC Ocana 161.90 63 *e*P **PKPdf 05 57 11.9 +1.7**
OCAC Ocana 161.90 63 *e*P **PKPdf 05 57 11.9 +1.7**
BDFB Brasilia 161.94 209 PKP **PKPdf 05 57 11.5 +1.4**
comp=Z,2.4nm,0.8s,baz=223,slow=2.3,SNR=4.0
BDFB PKPab **PKPab 05 57 56.5 +0.3**
comp=Z,3.6nm,0.8s,baz=131,slow=7.3,SNR=4.7
BDFB Brasilia 161.94 209 PKPdf 05 57 09.9 -0.2
ROSC El Rosal 162.12 75 PKP **PKPdf 05 57 11.7 +1.0**
comp=Z,8.2nm,0.9s,baz=56,slow=7.1,SNR=7.5
ROSC PKPab **PKPab 05 57 59.3 +1.6**
comp=Z,18nm,0.7s,baz=147,slow=5.9,SNR=9.6
SPBC San Pablo de B 162.13 72 *e*P **PKPdf 05 57 09.9 -0.5**
SPBC San Pablo de B 162.13 72 *e*P **PKPdf 05 57 09.9 -0.5**

CHIC Chingaza 162.74 75 *e*P **PKPdf 05 57 11.4 0.0**
CHIC Chingaza 162.74 75 *e*P **PKPdf 05 57 11.4 0.0**
SIV San Ignacio 163.45 166 PKP PKPdf 05 57 11.1 -0.3
comp=Z,3.2nm,0.7s,baz=289,slow=4.7,SNR=12
SIV PKPab **PKPab 05 58 03.0 +0.3**
comp=Z,8.2nm,0.8s,baz=198,slow=4.0,SNR=12
SDV Santo Domingo 163.92 57 PKP **PKPdf 05 57 11.7 -0.5**
comp=Z,6.9nm,0.7s,baz=293,slow=4.4,SNR=13
SDV PKPab **PKPab 05 58 06.4 +1.2**
comp=Z,32nm,0.6s,baz=356,slow=2.8,SNR=31
SDV Santo Domingo 163.92 57 PKPdf 05 57 11.7 -0.5
SDV **PKPab 05 58 06.1 +0.8**
SAML Samuel 169.06 146 PKIKP **PKPdf 05 57 15.2 -0.7**
SAML 05 58 27.6
SAML Samuel 169.06 146 PKPdf 05 57 15.2 -0.7
SAML **PKPab 05 58 27.6 +0.1**

IDC 22 05:49:47.2±1.5, 21°92N×143°61E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/43, mbtmp3.3/3, Error ellipse: s-maj=54.2km s-min=31.6km az=98.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.58**	**193**	P	P	05 57 45.0	-0.1
0.2nm,0.4s,baz=17,slow=8.7,SNR=5.3							
MKAR	**Makanchi Array**	**54.84**	**312**	P	P	05 59 19.0	-0.3
0.2nm,0.6s,baz=97,slow=4.9,SNR=2.4							
ILAR	**Eielson Array**	**61.66**	**27**	P	P	06 00 06.8	+0.1
0.2nm,0.5s,baz=258,slow=5.6,SNR=5.4							

ISCJB 22 05:54:27.2±0.7, 24°06S±0°03×69°72W±0°08, h89km±8km, mb3.5/1, Error ellipse: s-maj=11.8km s-min=5.7km az=2.5
GUC 22 05:54:27.4±1.0, 24°06S×69°70W, h76km±9km, ML3.7
IDC 22 05:54:28.1±2.9, 24°22S×69°40W, h67km±20km, mb3.4/1, mb1 3.6/4, mb1mx3.3/30, mbtmp3.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/13, Error ellipse: s-maj=78.2km s-min=18.7km az=97.0
ISC 22 05:54:27.8±1.0, 24°07S±0°04×69°72W±0°07, h80km±11km, n17, σ0°83/26, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.84**	**228**↑	*i*P	**Pn**	**05 54 45.3**	**0.0**
PB14				*e*S	**Sn**	**05 54 58.5**	**+0.3**
PB14				IAML		05 55 02.5	
comp=N,2μm,0.2s							
PB15	**IPOC Station P**	**0.88**	**15**↑	*i*P	**Pn**	**05 54 45.5**	**-0.2**
PB15				*e*S	**Sn**	**05 54 58.8**	**-0.1**
PB10	**IPOC Station P**	**0.94**	**305**↓	*i*P	**Pn**	**05 54 46.3**	**+0.2**
PB10				*i* S	**Sn**	**05 55 00.0**	**+0.2**
PB10				IAML		05 55 02.1	
comp=E,1μm,0.3s							
GO02	**Mina Guanaco**	**1.10**	**174**↓	*i*P	**Pn**	**05 54 48.7**	**+0.4**
GO02				*i* S	**Sn**	**05 55 04.5**	**+0.9**
GO02				IAML		05 55 04.9	
comp=N,3μm,0.5s							
PB05	**IPOC Station P**	**1.29**	**340**↓	*i*P	**Pn**	**05 54 50.4**	**-0.1**
PB05				*i* S	**Sn**	**05 55 08.1**	**+0.6**
PB05				IAML		05 55 10.9	
comp=E,3μm,0.2s							
PB06	**IPOC Station P**	**1.36**	**6**↓	*i*P	**Pn**	**05 54 51.5**	**+0.1**
PB06				IAML		05 55 10.9	
comp=N,2μm,0.1s							
LVC	**Limon Verde**	**1.63**	**27**	*i* P	**Pn**	**05 54 55.4**	**+0.3**
LVC				*e*S	**Sn**	**05 55 16.0**	**+0.4**
LVC	**Limon Verde**	**1.63**	**27**	P	**Pn**	**05 54 55.6**	**+0.5**
comp=N,32nm,0.3s,baz=161,slow=6.5,SNR=876							
LVC				S	**Sn**	**05 55 16.1**	**+0.4**
comp=N,166nm,0.3s,baz=345,slow=20,SNR=82							
PB04	**IPOC Station P**	**1.77**	**347**↓	*i*P	**Pn**	**05 54 56.4**	**-0.4**
PB04				*e*S	**Sn**	**05 55 19.4**	**+0.6**
PB04				IAML		05 55 23.6	
comp=E,2μm,0.2s							
PB03	**IPOC Station P**	**2.01**	**359**↑	*i*P	**Pn**	**05 54 59.5**	**-0.4**
PB03				*e*S	**Sn**	**05 55 23.4**	**-1.0**
PB03				IAML		05 55 31.2	
comp=E,860nm,0.1s							
PB07	**IPOC Station P**	**2.33**	**356**↑	*i*P	**Pn**	**05 55 04.0**	**-0.3**
PB07				*i* S	**Sn**	**05 55 33.6**	**+1.4**
CFA	**Coronel Fontan**	**7.62**	**170**	P	**Pn**	**05 56 13.6**	**-2.6**
comp=E,0.8nm,0.3s,baz=0.0,slow=11,SNR=7.8							
LPAZ	**La Paz**	**7.88**	**11**	P	**Pn**	**05 56 21.4**	**+1.2**
comp=E,0.4nm,0.3s,baz=178,slow=4.4,SNR=12							
SIV	**San Ignacio**	**11.42**	**47**	P	**Pn**	**05 57 07.1**	**-0.9**
comp=E,1.1nm,0.3s,baz=248,slow=11,SNR=32							
NNA	**Nana**	**13.79**	**329**	LR	LR	06 02 01.1	
comp=E,32nm,20.4s,baz=320,slow=32							
TORD	**Torodi Ar. Bea**	**78.92**	**70**	P	**P**	**06 06 23.5**	**+0.5**
comp=E,0.4nm,0.5s,baz=226,slow=6.0,SNR=5.2							
MKAR	**Makanchi Array**	**148.12**	**38**	PKPbc	**PKiKP**	**06 14 05.5**	**-0.6**
comp=E,0.4nm,0.7s,baz=313,slow=2.6,SNR=3.8							

NIED 22 06:13:00, 37°40N×144°60E, h11km, Mw4.4 Best double couple: M0 5.03000×10^15 NP1:φ0=17.00000°, δ30.00000°, λ-86.00000°. NP2:φ0=193.00000°, δ60.00000°, λ-92.00000°.
IDC 22 06:13:08.9±0.5, 37°14N×144°91E, h0km, mb4.3/26, mb1 4.5/33, mb1mx4.4/57, mbtmp4.4/33, ML3.7/7, MS3.4/10, Ms1 3.5/10, ms1mx3.1/61, Error ellipse: s-maj=13.8km s-min=11.7km az=117.0
JMA 22 06:13:13.4±0.2, 37°35N×144°57E, h42km, M4.9
NEIC 22 06:13:13.9±2.0, 37°13N±0°06×144°9E±0°1, h35km±4km, mb4.7/118
ISCJB 22 06:13:13.5±0.2, 37°43N±0°03×144°63E±0°02, h33km, mb4.4/57, MS3.9/6, Error ellipse: s-maj=3.9km s-min=2.7km az=6.9
MOS 22 06:13:14.5±1.3, 37°62N×144°70E, h35km, mb4.7/25, Error ellipse: s-maj=8.9km s-min=5.5km az=105.0
BJI 22 06:13:16.9±0.0, 37°70N×144°37E, h32km, mb4.6/45, mB4.9/27, Ms4.2/22, Ms7 4.0/20
ISC 22 06:13:14.2±0.4, 37°40N±0°03×144°83E±0°04, h35km, n256, σ2°18/235, mb4.6/97, MS3.5/6, 10C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.81**	**290**	P	**Pn**	**06 13 55.1**	**-1.6**
JIKH				S	**Sn**	**06 14 25.6**	**-3.8**
JIO	**Ouri**	**2.95**	**292**	P	**Pn**	**06 13 57.0**	**-1.5**
JIO				S	**Sn**	**06 14 29.3**	**-3.4**
JKMT	**Kesennumamotoy**	**3.00**	**299**	P	**Pn**	**06 13 57.8**	**-1.4**
JKMT				S	**Sn**	**06 14 30.9**	**-3.1**
OFUJ	**Ofunato**	**3.00**	**305**	P	**Pn**	**06 13 57.9**	**-1.4**
OFUJ				S	**Sn**	**06 14 31.2**	**-2.8**
JMK	**Ichinoseki**	**3.24**	**300**	P	**Pn**	**06 14 01.4**	**-1.2**
JMK				S	**Sn**	**06 14 37.1**	**-2.8**
JOU	**Okura**	**3.43**	**288**	P	**Pn**	**06 14 04.3**	**-1.0**
JOU				*e*S	**Sn**	**06 14 42.8**	**-1.9**
JOM	**Ohasama**	**3.46**	**308**	P	**Pn**	**06 14 04.8**	**-0.9**
JOM				*e*S	**Sn**	**06 14 43.1**	**-2.4**
JFT	**Otama**	**3.58**	**273**	P	**Pn**	**06 14 06.1**	**-1.1**
JFT				S	**Sn**	**06 14 44.8**	**-3.5**
JYK	**Kaneyama**	**3.84**	**295**	P	**Pn**	**06 14 10.0**	**-0.8**
JYK				*e*S	**Sn**	**06 14 52.0**	**-2.6**
JRG	**Rokugo**	**3.85**	**302**	P	**Pn**	**06 14 10.4**	**-0.6**
JRG				*e*S	**Sn**	**06 14 52.8**	**-2.2**
BSO1	**Boso 1**	**4.15**	**230**	P	**Pn**	**06 14 10.8**	**-3.8**
BSO1				*e*S	**Sn**	**06 14 57.6**	**-4.1**
JAH	**Hinai**	**4.30**	**312**	P	**Pn**	**06 14 17.0**	**-0.1**
JAH				*e*S	**Sn**	**06 15 05.0**	**-1.1**
JTM	**Tenmabayashi**	**4.47**	**320**	P	**Pn**	**06 14 19.0**	**-0.5**
JTM				S	**Sn**	**06 15 06.3**	**-4.0**
ERM	**Erimo**	**4.79**	**345**	P	**Pn**	**06 14 23.7**	**-0.1**
ERM						06 15 15.7	
ERM	**Erimo**	**4.79**	**345**		**Pn**	**06 14 23.6**	**-0.1**
ERM					**Sn**	**06 15 15.7**	**-2.3**
JOT	**Ohata**	**4.94**	**325**	P	**Pn**	**06 14 25.9**	**0.0**
JOT				*e*S	**Sn**	**06 15 21.2**	**-0.6**
JRY	**Ryogami san**	**4.96**	**256**	P	**Pn**	**06 14 23.3**	**-2.9**
JRY				*e*S	**Sn**	**06 15 15.2**	**-7.2**
JOD2	**Odawara 2**	**5.10**	**247**	P	**Pn**	**06 14 25.2**	**-3.0**
JOD2				*e*S	**Sn**	**06 15 18.9**	**-7.0**
JCH	**Churui**	**5.33**	**348**	P	**Pn**	**06 14 30.3**	**-1.0**
JCH				S	**Sn**	**06 15 27.9**	**-3.5**
JKB	**Kayabe**	**5.36**	**328**	P	**Pn**	**06 14 31.8**	**+0.2**
JKB				*e*S	**Sn**	**06 15 28.4**	**-3.6**

MJAR Matsushiro Arr 5.37 263 P **Pn 06 14 30.2 -1.7**
MJAR 06 15 30.3
MJAR Matsushiro Arr 5.37 263 Pn **Pn 06 14 30.6 -1.3**
4.2nm,0.3s,baz=77,slow=13,SNR=135
MJAR Sn **Sn 06 15 29.6 -2.9**
1.2nm,0.3s,baz=83,slow=31,SNR=5.2
MJAR LR LR 06 17 14.9
comp=Z,437nm,18.7s,baz=85,slow=46
MJAR Matsushiro Arr 5.37 263 Pn 06 14 30.1 -1.7
MJAR **Sn 06 15 30.3 -2.2**
MAJO Matsushiro 5.37 263 P **Pn 06 14 31.0 -0.9**
MAJO Matsushiro 5.37 263 Pn 06 14 31.0 -0.9
MAT Matsushiro 5.37 263 P **Pn 06 14 31.0 -0.9**
MAT S **Sn 06 15 26.7 -5.8**
MJB9 Matsu-Tunnel 5.37 263 Pn 06 14 31.1 -0.9
JHJ2 Mitsune 5.92 225 P **Pn 06 14 34.8 -4.7**
JHJ2 *e*S **Sn 06 15 38.4 -7.7**
JHJ2 Mitsune 5.92 225 Pn Pn 06 14 34.5 -5.0
JHJ2 Sn 06 15 36.9 -9.3
JHJ Hachijo jima 2 5.94 226 Pn Pn 06 14 34.9 -4.8
44nm,0.3s,baz=340,slow=20,SNR=28
JHJ Sn Sn 06 15 36.9 -10
222nm,0.3s,baz=50,slow=22,SNR=16
NEM2 Nemuro 2 6.00 6 P **Pn 06 14 37.9 -2.6**
NEM2 S **Sn 06 15 42.4 -5.5**
NMR Nemuro--Hokkai 6.00 6 *e*P **Pn 06 14 38.0 -2.5**
NMR *e*S **Sn 06 15 42.8 -5.2**
JOSM Okushiri--Mats 6.24 320 P **Pn 06 14 43.7 0.0**
JTKR Abashiri--Toko 6.60 354 P **Pn 06 14 47.8 -0.9**
JTKR *e*S **Sn 06 15 58.0 -4.7**
GRPR Tuman 6.63 6 *e*P **Pn 06 14 46.1 -3.0**
GRPR *e*S **Sn 06 15 57.3 -6.0**
GRPR pmax pmax
comp=Z,111nm,0.2s
INU Inuyama 6.63 254 Pn 06 14 47.7 -1.4
YUK Yuzh-Kuril'sk 6.67 6 *e*P **Pn 06 14 46.6 -3.1**
YUK *e*S **Sn 06 15 58.7 -5.8**
YUK pmax pmax
comp=N,156nm,0.2s
YUK pmax pmax
comp=E,102nm,0.2s
YUK pmax pmax
comp=Z,255nm,0.2s
JHR Hokuryu 6.76 341 P **Pn 06 14 52.0 +1.0**
JHR *e*S **Sn 06 16 07.6 +0.9**
JKA Kamikawa-asahi 6.92 347 Pn 06 14 52.7 -0.4
JKA **Sn 06 16 11.2 +0.7**
ASAJ Asahikawa 6.92 347 Pn **Pn 06 14 52.7 -0.4**
comp=Z,5.6nm,0.3s,baz=232,slow=13,SNR=11
ASAJ Sn **Sn 06 16 11.2 +0.6**
comp=Z,1.4nm,0.3s,baz=317,slow=30,SNR=4.4
ASAJ LR LR 06 18 28.5
comp=Z,212nm,19.1s,baz=200,slow=44
JIE Ise 7.24 248 P **Pn 06 14 55.4 -2.2**
KUR Kuril'sk 8.15 15 P Pn 06 15 05.6 -4.4
KUR *e*S **Sn 06 16 35.1 -5.7**
KUR smax smax
comp=E,104nm,0.6s
KUR smax smax
comp=N,78nm,0.4s
JTNC Tanabenakahech 8.31 247 P **Pn 06 15 09.9 -2.4**
YSS Yuzh-Sakhalins 9.67 352 *e*P Pn 06 15 26.6 -4.2
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,400nm,16.0s
TEY Ternei 9.82 324⇑ *e*P **Pn 06 15 32.7 -0.2**
TEY pmax pmax
comp=N,40nm,0.9s
TEY pmax pmax
comp=E,40nm,0.9s
TEY pmax pmax
comp=Z,40nm,0.8s
JCJ Chichijima 10.51 193 Pn Pn 06 15 35.2 -7.3
comp=Z,2.8nm,0.3s,baz=283,slow=7.8,SNR=3.1
JCJ Sn Sn 06 17 24.1 -15
comp=Z,17nm,0.3s,baz=305,slow=22,SNR=6.9
USA0B Ussuriysk Arra 11.86 309 P **Pn 06 16 01.6 +0.8**
USA0B Ussuriysk Arra 11.86 309 Pn 06 16 01.6 +0.8
USRK Ussuriysk Ar. 11.86 309 Pn **Pn 06 16 01.8 +1.0**
baz=117,slow=13,SNR=14
USRK Ussuriysk Ar. 11.86 309 Pn 06 16 01.2 +0.4
JNU Nakatsue 12.17 254 Pn **Pn 06 16 03.1 -2.1**
comp=Z,0.4nm,0.3s,baz=56,slow=7.9,SNR=5.8
JNU LR LR 06 21 29.9
comp=Z,262nm,18.1s,baz=86,slow=41
JNU Nakatsue 12.17 254 Pn 06 16 03.6 -1.6
KSRS Korea Array 13.44 275 Pn P 06 16 23.3 -7.9
comp=Z,0.4nm,0.3s,baz=87,slow=14,SNR=32
KSRS LR LR 06 20 57.4
comp=Z,242nm,21.8s,baz=98,slow=35
KSAR Wonju Array Be 13.47 275 P **Pn 06 16 23.2 +0.3**
KSAR Wonju Array Be 13.47 275 Pn 06 16 23.2 +0.3
KS19 Wonju Array Si 13.48 276 P 06 16 24.4 -7.3
MDJ Mudanjiang 13.57 307 P **Pn 06 16 23.3 -0.8**
MDJ pP P 06 16 30.5 -2.1
MDJ sP 06 16 35.9
MDJ S **Sn 06 18 55.8 +2.3**
MDJ pmax pmax
comp=Z,29nm,1.0s
MDJ LR LR
comp=Z,310nm,10.7s
MDJ LR LR
comp=Z,380nm,13.5s
MDJ Mudanjiang 13.57 307 Pn 06 16 23.8 -0.3
KLR Kul'dur 15.15 325 *i* P **Pn 06 16 44.1 -1.4**
KLR Kul'dur 15.15 325 Pn **P 06 16 48.2 -2.1**
comp=Z,0.5nm,0.3s,baz=132,slow=12,SNR=12
KLR LR LR 06 22 14.4
comp=Z,98nm,21.7s,baz=152,slow=35
PETK Petropavlovsk- 18.09 26 P **Pn 06 17 23.8 +1.2**
comp=Z,0.3nm,0.3s,baz=194,slow=5.3,SNR=4.9
PETK LR LR 06 26 28.7
comp=Z,125nm,18.1s,baz=240,slow=44
PETK Petropavlovsk- 18.09 26 P **Pn 06 17 22.9 +0.3**
ZEA Zeya 20.36 329 *e*P Pn 06 17 48.8 -1.0
ZEA pmax pmax
comp=N,18nm,1.0s
ZEA pmax pmax
comp=Z,35nm,1.0s
NJ2 Nanjing 21.97 264 *e*P **P 06 18 04.6 -0.5**
NJ2 pmax pmax
comp=Z,15nm,0.8s
TIA Tai'an 22.19 275 P **P 06 18 07.3 -0.1**
TIA pmax pmax
comp=Z,8.0nm,1.0s
BJI Beijing 22.47 286 P **P 06 18 11.9 +1.5**
BJI S **S 06 22 15.9 +1.2**
BJI pmax pmax
comp=Z,9.0nm,0.7s
HHC Hu-ho-hao-te 25.95 288 *e*P **P 06 18 43.8 +0.4**
HHC pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 25.98 8 *i* P **P 06 18 45.2 +1.9**
SEY Seymchan 25.98 8 P **P 06 18 45.4 +2.1**
comp=Z,7.4nm,0.9s,baz=184,slow=9.1,SNR=7.6
H11N2 WAKE ISLAND Hy 26.08 126 T T 06 45 40.2
baz=317,slow=74,SNR=419
H11N1 WAKE ISLAND Hy 26.09 126 T T 06 45 39.6
baz=317,slow=74,SNR=194
H11N3 WAKE ISLAND Hy 26.09 126 T T 06 45 38.1
baz=317,slow=74,SNR=280
WHN Wuhan 26.11 264⇑P **P 06 18 48.3 +3.5**
WHN pmax pmax
comp=Z,30nm,0.8s
YAK Yakutsk 26.39 344 *e*P **P 06 18 48.0 +1.0**
YAK *e**PP **sP 06 18 58.5 -0.4**
YAK *e*PPP PPP 06 19 39.2
YAK *e* 06 22 11.0
YAK *e*S **S 06 23 20.6 +2.8**
YAK *e**SS **sS 06 23 35.2 +3.7**
YAK *e*SS **SnSn 06 24 20.4 +0.4**
YAK *e*SSS SSS 06 24 44.2
YAK *e* 06 29 35.6
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK smax smax
comp=N,196nm,4.0s
YAK smax smax
comp=E,187nm,4.0s
YAK Yakutsk 26.39 344 P **P 06 18 48.8 +1.8**

comp=E,6.3nm,0.3s,baz=350,slow=0.9,SNR=5.7
YAK Yakutsk 26.39 344 P **P 06 18 47.8 +0.8**
H11S1 WAKE ISLAND Hy 26.86 129 T T 06 46 38.3
baz=319,slow=76,SNR=97
H11S3 WAKE ISLAND Hy 26.86 129 T T 06 46 36.5
baz=319,slow=76,SNR=75
H11S2 WAKE ISLAND Hy 26.87 129 T T 06 46 35.7
baz=319,slow=76,SNR=96
BOD Bodaibo 28.73 325 *e*P P 06 19 14.9 +6.9
BOD pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 29.24 274 P P 06 19 17.0 +4.1
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN pmax pmax
comp=Z,85nm,3.8s
ULN Ulaanbaatar 29.43 303 P P 06 19 19.0 +4.5
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 29.43 303 P P 06 19 19.0 +4.5
SONM Songino Array 29.86 303 P P 06 19 22.7 +4.3
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 29.86 303 P P 06 19 20.6 +2.2
comp=Z,2.0nm,0.9s,baz=99,slow=9.2,SNR=9.8
SONM LR LR 06 32 09.7
comp=Z,90nm,19.0s,baz=43,slow=38
SONM Songino Array 29.86 303 P P 06 19 22.7 +4.3
LZH Lanzhou 32.69 280 *e*P **P 06 19 44.4 +1.0**
LZH pP sP 06 19 54.0 -1.2
LZH sP pwP 06 19 58.3 -1.1
LZH pmax pmax
comp=Z,15nm,1.0s
BILL Bilibino 32.95 15*ce*P **P 06 19 45.6 +0.5**
BILL pmax pmax
comp=Z,10.0nm,1.7s
CD2 Chengdu 34.40 272 P **P 06 19 57.1 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 35.06 287 *e*P P 06 20 06.8 +2.9
GTA pP pwP 06 20 18.8 -1.1
GTA sP sP 06 20 23.8 +8.0
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,61nm,5.3s
GTA LR LR
comp=Z,130nm,16.2s
GTA LR LR
comp=Z,140nm,14.6s
GTA LR LR
comp=Z,190nm,14.9s
TIXI Tiksi 35.30 351*ce*P **P 06 20 06.0 +0.6**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
KMI Kunming 37.71 263 P P 06 20 28.8 +2.0
KMI pmax pmax
comp=Z,12nm,1.0s
DGZ Jazzator, Alta 42.39 306 *i* P P 06 21 07.5 +2.2
ZALV Zalesovo Beam 43.69 312 *i* P P 06 21 18.2 +2.7
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 43.69 312 P P 06 21 18.0 +2.5
comp=Z,0.6nm,0.3s,baz=76,slow=6.3,SNR=4.7
ZALV LR LR 06 40 32.2
comp=Z,57nm,18.0s,baz=20,slow=37
ZALV Zalesovo Beam 43.69 312 P **P 06 21 17.0 +1.5**
PBKT Sadao Pong 43.77 254 P P 06 21 18.9 +2.4
NRIK Noril'sk 44.09 335 P **P 06 21 20.6 +2.0**
comp=Z,1.2nm,0.3s,baz=102,slow=13,SNR=4.0
NRIK LR LR 06 40 35.7
comp=Z,71nm,20.8s,baz=94,slow=37
CMAR Chiang Mai Arr 44.23 258 P **P 06 21 20.5 +0.2**
comp=Z,1.4nm,0.4s,baz=42,slow=9.6,SNR=3.3
CMAR LR LR 06 41 48.2
comp=Z,28nm,18.7s,baz=352,slow=39
IMAR Indian Mountai 44.95 31 P **P 06 21 26.9 +1.5**
KDAK Kodiak Island 45.00 42*ce*P **P 06 21 27.0 +1.1**
KDAK Kodiak Island 45.00 42 P **P 06 21 26.7 +0.8**
comp=Z,25nm,1.0s,baz=258,slow=9.3,SNR=3.4
JOHN Johnston Islan 45.04 105 P **P 06 21 28.7 +1.9**
KTH Kantishna Hill 45.92 34 P **P 06 21 35.6 +2.4**
KTH IAmb IAmb 06 21 48.1
comp=Z,13nm,1.2s
MK31 Makanchi Array 46.23 302 P **P 06 21 36.8 +0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 46.23 302 P **P 06 21 36.8 +0.9**
MKAR Makanchi Array 46.23 302 P **P 06 21 37.3 +1.4**
MKAR Makanchi Array 46.23 302 P **P 06 21 37.0 +1.2**
comp=Z,6.8nm,1.1s,baz=84,slow=8.8,SNR=19
MKAR Makanchi Array 46.23 302 P **P 06 21 37.3 +1.4**
GHO Glory Hole Cre 46.80 37 P **P 06 21 41.4 +1.3**
TOLK Toolik Lake Re 46.90 27 P **P 06 21 42.9 +2.1**
TOLK IAmb IAmb 06 21 43.8
comp=Z,9.3nm,0.9s
KNK Knik Glacier 47.02 37 P **P 06 21 43.1 +1.2**
IL31 47.72 33 P **P 06 21 48.4 +1.2**
IL31 IAmb IAmb 06 21 48.6
comp=Z,8.6nm,1.1s
ILAR Eielson Array 47.72 33 P **P 06 21 48.2 +1.0**
comp=Z,2.7nm,0.8s,baz=260,slow=6.2,SNR=29
ILAR PcP **PcP 06 23 15.8 -0.1**
comp=Z,1.1nm,1.0s,baz=274,slow=4.4,SNR=3.4
ILAR Eielson Array 47.72 33 P **P 06 21 47.7 +0.5**
KURK Kurchatov 47.85 308*ce*P **P 06 21 49.8 +1.4**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 47.85 308 P **P 06 21 49.1 +0.8**
KURK IAmb IAmb 06 22 07.2
comp=Z,5.5nm,0.8s
BMAR Burnt Mountain 48.69 29 P **P 06 21 57.2 +2.5**
BALM Baldy 50.00 37 P **P 06 22 06.4 +1.5**
BCAR Beaver Creek A 50.05 35 P **P 06 22 06.4 +1.3**
CTGM Chitina Glacie 50.50 37 P **P 06 22 10.8 +2.1**
CTGM IAmb IAmb 06 22 22.1
comp=Z,16nm,1.3s
HYT Haines Junctio 52.37 37 P **P 06 22 25.0 +2.4**
BRVK Borovoye 52.39 313*ce*P **P 06 22 25.1 +2.3**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 52.39 313 P **P 06 22 24.3 +1.5**
AAK Ala-Archa 52.70 299 *i* P P 06 22 28.0 +2.5
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 52.70 299 P **P 06 22 26.6 +1.1**
KSH Kashi 52.74 295 P P 06 22 31.6 +5.9
KSH PcP **PcP 06 23 39.1 +4.1**
KSH PcS **PcS 06 27 38.8 +5.1**
KSH S S 06 29 58.3 +6.9
KSH sS sS 06 30 15.9 +10
INK Inuvik 52.81 28 P **P 06 22 27.0 +1.4**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 52.81 28 P **P 06 22 26.9 +1.4**
comp=Z,6.3nm,0.8s,baz=246,slow=5.0,SNR=13
INK Inuvik 52.81 28 P **P 06 22 27.0 +1.4**
INK IAmb IAmb 06 22 28.3
comp=Z,8.0nm,0.9s
KK31 Karatay Array 55.29 301 P **P 06 22 44.8 +0.7**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 55.29 301 P **P 06 22 44.8 +0.7**
KKAR Karatay Array 55.29 301 P **P 06 22 44.7 +0.6**
KKAR pmax pmax
comp=Z,8.0nm,1.3s
KKAR Karatay Array 55.29 301 P **P 06 22 44.7 +0.6**
KKAR Karatay Array 55.29 301 P **P 06 22 44.8 +0.7**
KKAR IAmb IAmb 06 22 48.9
comp=Z,8.0nm,1.3s
WRAB Tennant Creek 57.87 192*ce*P P 06 23 10.6 +8.0
WRAB pmax pmax
comp=Z,21nm,2.5s
WRAB Tennant Creek 57.87 192 P **P 06 23 00.3 -2.3**
WRAB IAmb IAmb 06 23 11.1
comp=Z,7.4nm,0.8s
ARU Arti 57.88 319*d i*P **P 06 23 03.6 +1.3**
ARU 06 25 08.1
ARU S **S 06 31 01.5 +2.1**
ARU SS **SS 06 34 53.8 +3.9**
ARU pmax pmax
comp=Z,8.0nm,1.0s
WB2 Warramunga Arr 57.88 192 P **P 06 23 00.2 -2.5**
WB2 IAmb IAmb 06 23 11.2
comp=Z,8.1nm,0.8s
WRA Warramunga Arr 57.88 192 P **P 06 23 00.2 -2.5**
comp=Z,4.1nm,0.7s,baz=11,slow=7.2,SNR=17
WRA Warramunga Arr 57.88 192 P **P 06 23 00.2 -2.5**
FITZ Fitzroy Crossi 58.09 202 P **P 06 23 02.9 -1.2**
comp=Z,3.9nm,1.0s,baz=323,slow=4.9,SNR=3.6
FITZ Fitzroy Crossi 58.09 202 P **P 06 23 02.6 -1.4**
FITZ IAmb IAmb 06 23 05.9
comp=Z,13nm,1.4s
ABKAR Akbulak array 59.77 311 P **P 06 23 16.5 +1.0**
ABKAR Akbulak array 59.77 311 IAmb IAmb 06 23 27.5
comp=Z,4.7nm,0.9s
RES Resolute Bay 61.55 15 P **P 06 23 28.2 +1.0**
RES pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 61.55 15 P **P 06 23 28.2 +1.0**
RES IAmb IAmb 06 23 29.0
comp=Z,7.8nm,0.9s
ASAR Alice Springs 61.60 191 P **P 06 23 26.1 -2.1**
comp=Z,1.4nm,0.5s,baz=8.4,slow=7.8,SNR=15
ASAR Alice Springs 61.60 191 P **P 06 23 25.9 -2.4**
YKA Yellowknife Ar 62.10 31 P **P 06 23 32.0 +0.8**
YKA Yellowknife Ar 62.10 31 P **P 06 23 32.0 +0.8**
comp=Z,1.9nm,0.8s,baz=301,slow=7.2,SNR=5.9
DZM Mont Dzumac 62.56 157 P **P 06 23 34.3 -0.4**
comp=Z,8.5nm,1.1s,baz=358,slow=10,SNR=4.3
KLMR Klimovskoe 64.89 329 P **P 06 23 49.0 -0.5**
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 64.89 329 P **P 06 23 49.0 -0.5**
KLMR AMP 06 24 01.7
comp=Z,17nm,1.5s
DAG Danmarks Havn 65.63 356 *i* P **P 06 23 54.3 +0.2**
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 65.63 356 *i* P **P 06 23 54.3 +0.2**
comp=Z,4.7nm,1.0s
GEYT Alibeck 66.03 300 P **P 06 23 58.7 +1.3**
comp=Z,1.0nm,0.3s,baz=358,slow=40,SNR=2.5
GEYT Alibeck 66.03 300 P **P 06 23 58.1 +0.7**
C09A Chrisman Ranch 67.53 46 IAmb IAmb 06 24 10.2
comp=Z,5.5nm,1.1s
STKA Stephens Creek 68.98 183 P **P 06 24 14.5 -1.3**
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA Stephens Creek 68.98 183 P **P 06 24 14.9 -1.0**
comp=Z,2.1nm,0.8s,baz=51,slow=6.5,SNR=3.3
STKA Stephens Creek 68.98 183 P **P 06 24 14.6 -1.3**
OBN Obninsk 69.41 324 *e*P **P 06 24 20.1 +1.8**
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 69.74 333 *i* P **P 06 24 22.6 +2.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 69.74 333 P **P 06 24 21.9 +1.6**
comp=Z,1.5nm,0.8s,baz=44,slow=8.5,SNR=4.4
FINES FINESS Array B 69.74 333 P **P 06 24 21.2 +1.0**
JTMT Jette 69.83 45 P **P 06 24 22.7 +1.4**
JTMT IAmb IAmb 06 24 24.1
comp=Z,8.9nm,1.1s
SUMG Summit 70.30 1 *i* P **P 06 24 25.5 +1.5**
SUMG pmax pmax
comp=Z,24nm,0.9s
SUMG Summit 70.30 1 *i* P **P 06 24 25.5 +1.5**
comp=Z,24nm,0.9s
SUMG Summit 70.30 1 P **P 06 24 24.0 0.0**
SUMG IAmb IAmb 06 24 26.7
comp=Z,11nm,1.0s
PLID Pearl Lake 70.31 48 IAmb IAmb 06 24 26.7
comp=Z,11nm,1.4s
CMB Columbia Colle 71.42 56 IAmb IAmb 06 24 33.8
comp=Z,9.7nm,1.3s
FFC Flin Flon 71.90 34*ce*P **P 06 24 35.8 +2.3**
DLMT Dillon 72.14 46 IAmb IAmb 06 24 37.9
comp=Z,10nm,1.1s
KVN Kaiserville 72.35 54 IAmb IAmb 06 24 39.6
comp=Z,10nm,1.4s
BOZ Bozeman (W) 72.56 46 IAmb IAmb 06 24 40.3
comp=Z,9.1nm,1.0s
NVAR Mina Array Bea 72.57 55 P **P 06 24 40.0 +1.9**
comp=Z,2.2nm,0.9s,baz=286,slow=5.8,SNR=7.5
NVAR Mina Array Bea 72.57 55 P **P 06 24 39.0 +0.9**
KIV Kislovodsk 72.70 312 *e*P P 06 24 41.7 +3.1
KIV pmax pmax
comp=Z,47nm,1.1s
KBZ Khabaz 72.71 312 P **P 06 24 40.2 +1.7**
comp=Z,5.0nm,0.8s,baz=88,slow=3.4,SNR=6.0
ELK Elko 73.21 51 P **P 06 24 43.5 +1.6**
ELK Elko 73.21 51 P **P 06 24 43.5 +1.6**
YMR Madison River 73.48 46 P **P 06 24 45.2 +1.8**
YPP Pitchstone Pla 73.81 46 P **P 06 24 48.5 +3.0**
FLWY Flagg Ranch 73.99 47 IAmb IAmb 06 24 49.5
comp=Z,9.0nm,1.1s
FXWY Fox Creek 74.06 47 P **P 06 24 49.0 +2.1**
FXWY IAmb IAmb 06 24 50.1
comp=Z,9.3nm,1.1s
TPAW Teton Pass 74.19 47 IAmb IAmb 06 24 52.4
comp=Z,8.2nm,1.1s
SNOW Snow King Moun 74.33 47 IAmb IAmb 06 24 51.6
comp=Z,6.8nm,0.9s
REDW Red Top Meadow 74.33 47 P **P 06 24 49.3 +0.9**
R11A Troy Canyon, C 74.37 54 IAmb IAmb 06 24 51.4
comp=Z,13nm,1.4s
NB2 NORSAR Subarra 74.87 339 P **P 06 24 51.5 +0.5**
comp=Z,1.8nm,0.8s,baz=38,slow=5.9
NOA NORSAR Array B 74.87 339 P **P 06 24 52.0 +1.0**
NOA NORSAR Array B 74.87 339 P **P 06 24 52.0 +1.0**
comp=Z,3.7nm,0.9s,baz=38,slow=5.8,SNR=9.1
LAO LASA Array 74.89 42 P **P 06 24 53.2 +1.8**
LAO IAmb IAmb 06 24 54.1
comp=Z,17nm,1.2s
DUG Dugway, Tooele 75.03 51 IAmb IAmb 06 24 55.4
comp=Z,9.8nm,1.1s
GSC Goldstone, Bar 75.33 57 P **P 06 24 55.5 +1.3**
GSC pmax pmax
comp=Z,13nm,1.5s
GSC Goldstone, Bar 75.33 57 P **P 06 24 55.5 +1.3**
GSC IAmb IAmb 06 24 56.7
comp=Z,13nm,1.4s
PDAR Pinedale Array 75.44 47 P **P 06 24 55.9 +1.0**
comp=Z,1.7nm,0.7s,baz=266,slow=2.3,SNR=13
PDAR Pinedale Array 75.44 47 P **P 06 24 55.0 +0.2**
AKASG Malin Array Be 75.65 324 *i* P **P 06 24 55.0 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 75.65 324 P **P 06 24 56.2 +0.7**
comp=Z,2.8nm,0.8s,baz=45,slow=6.1,SNR=6.7
AKASG Malin Array Be 75.65 324 P **P 06 24 56.1 +0.6**
SHPR Sheep Range 75.72 55 P **P 06 24 58.2 +1.7**
PFO Pinyon Flats O 76.55 58 *i* P **P 06 25 03.7 +2.5**
P17A Butcher Ranch, 76.74 50 P **P 06 25 04.2 +1.9**
K22A Casper 77.27 46 P **P 06 25 06.3 +1.2**
BORG Borgarnes 77.61 354 *i* P **P 06 25 05.3 -1.0**
U15A North Rim 77.62 54 IAmb IAmb 06 25 10.3
comp=Z,5.7nm,0.9s
RSSD Black Hills 77.72 43 P **P 06 25 07.5 -0.2**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 77.72 43 P **P 06 25 07.5 -0.2**
RSSD IAmb IAmb 06 25 09.4
comp=Z,6.6nm,1.1s
Y12C Blythe 77.77 57 IAmb IAmb 06 25 10.4
comp=Z,9.2nm,1.1s
O20A White River Ci 77.85 49 IAmb IAmb 06 25 10.6
comp=Z,11nm,1.1s
GLA Glamis 77.98 58 IAmb IAmb 06 25 11.7
comp=Z,10nm,1.1s
PV21 Cone Mtn., Par 78.39 50 IAmb IAmb 06 25 14.2
comp=Z,12nm,0.9s
PV22 Blue Mesa, Par 78.52 50 IAmb IAmb 06 25 14.8
comp=Z,13nm,1.0s
PV19 Morning Glory 78.54 50 P **P 06 25 14.0 +1.7**
PV12 Saucer Basin, 78.64 50 P **P 06 25 14.3 +1.4**
PV12 IAmb IAmb 06 25 23.9
comp=Z,13nm,1.0s
PV07 Paradox Valley 78.66 50 IAmb IAmb 06 25 15.5
comp=Z,8.9nm,1.1s
Y14A Wickenburg 78.66 56 IAmb IAmb 06 25 15.3
comp=Z,7.8nm,1.1s
N23A Red Feather La 78.72 47 IAmb IAmb 06 25 16.2
comp=Z,11nm,1.1s
PV13 Radium Mtn., P 78.73 50 P **P 06 25 15.1 +1.7**
PV02 Paradox Valley 78.75 50 IAmb IAmb 06 25 16.2
comp=Z,12nm,1.0s
WUAZ Wupatki 78.76 54 IAmb IAmb 06 25 16.3
comp=Z,13nm,1.1s
PV01 Paradox Valley 78.90 50 P **P 06 25 16.0 +1.7**
PV01 IAmb IAmb 06 25 16.9
comp=Z,11nm,1.0s
KWP Kalwaria Pacla 79.39 326 P **P 06 25 18.3 +1.8**
KWP Kalwaria Pacla 79.39 326 P **P 06 25 18.3 +1.8**
X16A Lo Mia Camp, P 79.40 55 IAmb IAmb 06 25 19.9
comp=Z,7.8nm,1.0s
BUR08 Bucovina Ar. S 79.67 323 P **P 06 25 19.1 +0.9**
BURAR Bucovina Array 79.68 323 P **P 06 25 19.0 +0.8**
W18A Petrified Fore 80.06 53 IAmb IAmb 06 25 23.3
comp=Z,7.3nm,1.1s
Q24A Divide 80.43 48 IAmb IAmb 06 25 43.9
comp=Z,8.1nm,0.9s
BRTR Keskin Array B 80.62 313 *i* P **P 06 25 24.7 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 80.62 313 P **P 06 25 25.5 +2.0**
comp=Z,1.1nm,0.8s,baz=106,slow=4.4,SNR=6.0
BRTR Keskin Array B 80.62 313 P **P 06 25 24.9 +1.4**
T25A Trinidad 82.07 49 IAmb IAmb 06 25 34.0
comp=Z,12nm,1.1s
CLL Collm 82.10 332 *i* P **P 06 25 31.7 +0.8**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 82.10 332 *i* P **P 06 25 31.7 +0.8**
comp=Z,5.0nm,0.9s
ANMO Albuquerque 82.24 52 P **P 06 25 33.9 +1.6**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 82.24 52 P **P 06 25 33.9 +1.6**
ANMO IAmb IAmb 06 25 35.0
comp=Z,7.3nm,1.1s
GERES GERESS Array B 83.80 330 P **P 06 25 41.2 +1.3**
comp=Z,0.2nm,0.3s,baz=15,slow=1.1,SNR=3.0
GERES GERESS Array B 83.80 330 P **P 06 25 40.5 +0.6**
MNTX Cornudas Mount 85.04 54 IAmb IAmb 06 25 48.4
comp=Z,8.0nm,1.1s
BFO Black Forest 86.28 333*ce*P **P 06 25 54.1 +1.8**
TX32 Lajitas Array 87.71 54 IAmb IAmb 06 26 01.5
comp=Z,4.0nm,0.9s
TXAR Lajitas Array 87.72 54 P **P 06 26 00.6 +0.9**
TXAR Lajitas Array 87.72 54 P **P 06 26 00.5 +0.8**
comp=Z,2.4nm,0.7s,baz=310,slow=3.6,SNR=26
TXAR Lajitas Array 87.72 54 P **P 06 26 00.6 +0.9**
KEST Kesra 96.34 325 LR LR 07 13 05.5
comp=Z,2μm,21.2s,baz=24,slow=37
QSPA South Pole Qui 127.14 180 PKP **PKiKP 06 32 12.9 -1.4**
comp=Z,1.7nm,1.0s,baz=334,slow=2.3,SNR=4.2
QSPA South Pole Qui 127.14 180 **PKiKP 06 32 13.3 -1.0**
SNAA Sanae 141.87 196 PKPdf **PKPdf 06 32 34.5 -6.7**
VNA2 Neumayer--Watz 143.40 195 PKPdf PKPbc 06 32 40.2 -0.8
baz=139,slow=4.0
VNA3 Neumayer Olymp 143.59 194 PKPdf PKPbc 06 32 40.0 -1.7
VNA1 Neumayer--Stat 143.79 195 PKPdf PKPab 06 32 35.1 -6.4
LPAZ La Paz 144.12 63 PKP **PKPdf 06 32 46.2 -1.2**
comp=Z,0.8nm,0.7s,baz=323,slow=5.1,SNR=3.8
LPAZ La Paz 144.12 63 **PKPdf 06 32 45.9 -1.6**

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*SNET **22** 06:16:27.4±1.6, 13°.06N×90°.36W, h18km±10km, ML2.6*
*GCG **22** 06:16:30.4±0.3, 13°.21N×90°.75W, h50km±999km, MD3.5*
ISC 22 06:16:26.0±3.5,**13°.1N**±0°.2×**90°.48W**±0°.09,**h16**km±14km,**n8,**
σ0**°70**/13,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.03**	**2**	*e*P	**Pn**	**06 16 45.8**	**-0.1**
SBLS	**San Blas**	**1.08**	**50**	*e*P	**Pn**	**06 16 46.6**	**-0.1**
SNJE	**San Jose**	**1.11**	**49**	*e*P	**Pb**	**06 16 46.8**	**-0.2**
UEES	**Universidad Ev**	**1.33**	**64**	*e*P	**Pn**	**06 16 50.5**	**+0.4**
UEES				*e*S	**Sn**	**06 17 08.1**	**+0.6**
UEES				IAML		06 17 12.6	
comp=Z,182nm,0.2s							
FUG	**Fuego 3**	**1.35**	**345**	*e*P	**Pg**	**06 16 51.9**	**-0.1**
FUG				*e*S	**Sn**	**06 17 08.8**	**+0.7**
PAVA	**Las Pavas**	**1.60**	**69**	*e*P	**Pn**	**06 16 53.8**	**0.0**
PAVA				*e*S	**Sb**	**06 17 15.7**	**+0.4**
COEG	**Centro de Oper**	**1.62**	**73**	*e*P	**Pn**	**06 16 54.3**	**+0.3**
COEG				*e*S	**Sn**	**06 17 13.6**	**-1.1**
COEG				IAML		06 17 16.2	
comp=Z,72nm,0.3s							
STG3	**Santiaguito 3,**	**1.89**	**326**	*e*P	**Pn**	**06 16 58.4**	**+0.6**
STG3				*e*S	**Sn**	**06 17 20.2**	**-1.2**

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*IDC **22** 06:18:24.5±0.8, 35°.68N×143°.01E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/50, mbtmp3.7/8, ML2.4/1, Error ellipse: s-maj=25.2km s-min=21.1km az=58.0*
*ISCJB **22** 06:18:28.4±0.6, 35°.86N±0°.06×143°.03E±0°.07, h33km, mb3.8/7, Error ellipse: s-maj=9.3km s-min=6.9km az=139.0*
*NEIC **22** 06:18:29.4±2.9, 35°.86N±0°.04×143°.1E±0°.1, h26km±5km, mb4.5/6*
*JMA **22** 06:18:32.3±0.6, 36°.19N×142°.47E, h26km, M3.0*
ISC 22 06:18:29.8±0.7,**35°.96N**±0°.06×**143°.10E**±0°.09,**h35**km,**n31,**
σ2**°77**/33,**mb4.0**/10,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.84**	**263**	P	**Pn**	**06 18 56.6**	**-2.2**
JHO	**Hitachi**	**2.14**	**288**	P	**Pn**	**06 18 59.6**	**-3.4**
BSO1	**Boso 1**	**2.17**	**234**	*e*S	**Sn**	**06 19 28.9**	**+0.6**
JMK	**Ichinoseki**	**3.34**	**334**	S	**Sn**	**06 19 51.4**	**-6.4**
JOM	**Ohasama**	**3.78**	**338**	*e*S	**Sn**	**06 20 02.8**	**-6.1**
JHJ2	**Mitsune**	**3.93**	**225**	Pn	**Pn**	**06 19 27.0**	**-0.6**
JHJ	**Hachijo jima 2**	**3.94**	**225**	**Pn**	**Pn**	**06 19 25.7**	**-2.1**
29nm,0.3s,baz=302,slow=18,SNR=4.7							
JHJ				Sn	**Sn**	**06 20 09.2**	**-3.5**
78nm,0.3s,baz=122,slow=23,SNR=7.6							
MJAR	**Matsushiro Arr**	**3.99**	**280**	Pn	**Pn**	**06 19 26.6**	**-1.8**
0.2nm,0.3s,baz=106,slow=9.0,SNR=4.7							
MJAR				Sn	**Sn**	**06 20 15.4**	**+1.3**
0.2nm,0.3s,baz=54,slow=13,SNR=4.9							
MJAR	**Matsushiro Arr**	**3.99**	**280**		**Pn**	**06 19 27.7**	**-0.8**
MAJO	**Matsushiro**	**3.99**	**280**		**Pn**	**06 19 29.6**	**+1.1**
MJB9	**Matsu-Tunnel**	**4.00**	**280**		**Pn**	**06 19 29.6**	**+1.1**
ERM	**Erimo**	**6.04**	**0**	Pn	**Pn**	**06 19 57.9**	**+1.3**
JCJ	**Chichijima**	**8.88**	**185**	Sn	**Sn**	**06 22 06.9**	**-7.4**
3.8nm,0.3s,baz=201,slow=19,SNR=2.4							
SONM	**Songino Array**	**29.51**	**305**	P	**P**	**06 24 33.2**	**+2.4**
0.4nm,0.4s,baz=86,slow=6.2,SNR=3.5							
SONM	**Songino Array**	**29.51**	**305**	P	**P**	**06 24 33.4**	**+2.6**
TTA	**Tatalina**	**45.54**	**34**	P	**P**	**06 26 49.0**	**+3.2**
TTA				IAmb	IAmb	06 27 03.7	
comp=Z,8.2nm,0.6s							
MKAR	**Makanchi Array**	**45.84**	**303**	P	**P**	**06 26 47.7**	**-0.6**
comp=Z,0.4nm,0.7s,baz=80,slow=8.2,SNR=3.8							
MKAR	**Makanchi Array**	**45.84**	**303**	P	**P**	**06 26 49.6**	**+1.3**
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**06 27 18.9**	**+1.1**
comp=Z,0.3nm,0.7s,baz=260,slow=5.4,SNR=4.1							
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**06 27 19.3**	**+1.6**
WR0	**Warramunga Arr**	**56.20**	**190**	P	**P**	**06 28 08.6**	**+2.2**
WR0				IAmb	IAmb	06 28 22.7	
comp=Z,2.5nm,1.1s							
WB2	**Warramunga Arr**	**56.21**	**190**	P	**P**	**06 28 08.4**	**+2.0**
WB2				IAmb	IAmb	06 28 22.3	
comp=Z,7.1nm,1.4s							
WRA	**Warramunga Arr**	**56.22**	**190**	P	**P**	**06 28 04.2**	**-2.2**
comp=Z,1.3nm,0.2s,baz=10,slow=7.7,SNR=12							
WRA	**Warramunga Arr**	**56.22**	**190**	P	**P**	**06 28 06.9**	**+0.5**
ABKAR	**Akbulak array**	**59.66**	**311**	P	**P**	**06 28 30.1**	**-0.3**
ASAR	**Alice Springs**	**59.94**	**190**	P	**P**	**06 28 30.1**	**-2.4**
comp=Z,0.9nm,0.8s,baz=8.5,slow=6.9,SNR=9.4							
AKASG	**Malin Array Be**	**75.97**	**323**	P	**P**	**06 30 13.4**	**+0.5**
comp=Z,0.2nm,0.3s,baz=48,slow=1.0,SNR=3.2							
AKASG	**Malin Array Be**	**75.97**	**323**	P	**P**	**06 30 13.9**	**+1.0**
TXAR	**Lajitas Array**	**89.69**	**53**	P	**P**	**06 31 26.3**	**+1.7**
comp=Z,0.5nm,0.6s,baz=291,slow=3.5,SNR=6.2							
TXAR	**Lajitas Array**	**89.69**	**53**	P	**P**	**06 31 25.9**	**+1.3**
LPAZ	**La Paz**	**146.02**	**63**	PKPbc	**PKPab**	**06 38 08.5**	**+0.8**
comp=Z,1.1nm,0.9s,baz=321,slow=4.2,SNR=3.9							

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*IDC **22** 06:23:20.7±3.1, 15°.92N×145°.40E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/45, mbtmp3.7/9, ML3.5/1, Error ellipse: s-maj=121.5km s-min=18.3km az=85.0*
*ISCJB **22** 06:23:24.7±2.3, 15°.9N±0°.1×145°.1E±0°.7, h33km, mb3.7/8, Error ellipse: s-maj=91.4km s-min=12.2km az=173.6*
ISC 22 06:23:26.2±2.7,**15°.9N**±0°.1×**145°.2E**±0°.7,**h35**km,**n12,**
σ1**°24**/9,**mb3.7**/8,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.28**	**189**	Pn	**Pn**	**06 24 00.5**	**-0.8**

10nm,0.3s,baz=351,slow=13,SNR=3.5
H11N1 WAKE ISLAND Hy 20.98 76 T T 06 50 20.9
baz=264,slow=74,SNR=15
H11N2 WAKE ISLAND Hy 20.99 76 T T 06 50 22.9
baz=264,slow=74,SNR=11
H11N3 WAKE ISLAND Hy 21.00 76 T T 06 50 21.6
baz=264,slow=74,SNR=9.5
KSRS Korea Array 26.41 328 P **P** **06 28 59.5 0.0**
1.3nm,0.6s,baz=148,slow=10,SNR=7.2
WRA Warramunga Arr 37.15 197 P **P** **06 30 34.4 +0.6**
1.2nm,0.9s,baz=17,slow=9.6,SNR=4.0
FITZ Fitzroy Crossi 38.86 211 P **P** **06 30 48.1 -0.2**
1.0nm,0.7s,baz=22,slow=11,SNR=3.0
ASAR Alice Springs 40.81 196 P **P** **06 31 06.2 +1.7**
0.2nm,0.4s,baz=215,slow=38,SNR=3.1
SONM Songino Array 45.11 323 P **P** **06 31 39.0 -0.3**
0.3nm,0.3s,baz=139,slow=9.0,SNR=3.3
ZALV Zalesovo Beam 60.01 324 P **P** **06 33 31.1 +1.9**
0.5nm,0.3s,baz=101,slow=6.6,SNR=3.3
MKAR Makanchi Array 60.12 315 P **P** **06 33 29.6 -0.6**
0.4nm,0.8s,baz=101,slow=7.5,SNR=2.6
ARCES ARCESS Array B 85.05 342 P **P** **06 35 56.8 -1.1**
2.3nm,0.8s,baz=26,slow=5.0,SNR=3.5

*IDC **22** 06:25:53.9±1.3, 32°.27S×177°.87W, h0km, mb4.0/5, mb1 4.3/7, mb1mx4.0/29, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=38.2km s-min=22.6km az=140.0*
*NEIC **22** 06:25:54.4±2.4, 32°.24S±0°.08×177°.70W±0°.06, h10km±7km, mb4.3/9*
*ISCJB **22** 06:25:55.1±0.7, 32°.29S±0°.07×177°.9W±0°.1, h20km, mb3.8/5, Error ellipse: s-maj=15.7km s-min=8.5km az=30.0*
ISC 22 06:25:56.5±0.8, 32°.23S±0°.08×177°.8W±0°.1, h20km, n24, σ1§55/24, mb4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.97**	**358**	Pn	**Pn**	**06 26 43.1**	**+0.6**
	98nm,0.3s,baz=266,slow=20,SNR=2.6						
RAO				Sn	**Sn**	**06 27 13.7**	**-3.9**
	70nm,0.3s,baz=89,slow=21,SNR=2.4						
URZ	**Urewera**	**7.32**	**213**	Pn	**Pn**	**06 27 42.1**	**-0.2**
	0.3nm,0.3s,baz=54,slow=8.7,SNR=3.3						
URZ				Sn	**Sn**	**06 29 04.3**	**-0.4**
	1.3nm,0.3s,baz=171,slow=23,SNR=8.4						
URZ	**Urewera**	**7.32**	**213**		**Pn**	**06 27 41.6**	**-0.7**
OUZ	**Omahuta**	**7.77**	**245**	Pn	Pn	06 27 53.6	+5.1
WKZ	**Wanaka**	**16.24**	**216**	P	**P**	**06 29 44.1**	**-2.3**
DZM	**Mont Dzumac**	**17.28**	**302**	P	**P**	**06 30 02.0**	**+3.9**
CTA	**Charters Tower**	**34.31**	**282**	P	**P**	**06 32 42.5**	**+0.7**
	1.5nm,0.5s,baz=116,slow=9.8,SNR=5.2						
BBOO	**Buckleboo**	**38.68**	**256**	P	**P**	**06 33 19.1**	**+0.1**
PTCN	**Pitcairn Islan**	**42.18**	**93**	P	**P**	**06 33 48.0**	**-0.1**
ASAR	**Alice Springs**	**43.22**	**269**	P	**P**	**06 33 56.3**	**-0.2**
	1.1nm,0.7s,baz=106,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**43.22**	**269**	P	**P**	**06 33 57.1**	**+0.5**
WR0	**Warramunga Arr**	**44.20**	**274**	P	**P**	**06 34 04.0**	**-0.4**
WR0				IAmb	IAmb	06 34 06.6	
	comp=Z,4.6nm,1.1s						
WB2	**Warramunga Arr**	**44.37**	**274**	P	**P**	**06 34 05.2**	**-0.5**
WRAB	**Tennant Creek**	**44.37**	**274**	P	**P**	**06 34 05.0**	**-0.8**
WRAB				IAmb	IAmb	06 34 06.5	
	comp=Z,8.0nm,1.5s						
WRA	**Warramunga Arr**	**44.38**	**274**	P	**P**	**06 34 05.0**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=116,slow=6.7,SNR=26						
WRA	**Warramunga Arr**	**44.38**	**274**	P	**P**	**06 34 05.1**	**-0.8**
WB0	**Warramunga Arr**	**44.41**	**274**	P	**P**	**06 34 05.3**	**-0.8**
WB0				IAmb	IAmb	06 34 22.9	
	comp=Z,7.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.56**	**271**	P	**P**	**06 35 08.9**	**0.0**
FITZ				IAmb	IAmb	06 35 08.9	
	comp=Z,3.8nm,1.0s						
TXAR	**Lajitas Array**	**93.22**	**57**	P	**P**	**06 39 12.0**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=191,slow=9.2,SNR=3.9						
PDAR	**Pinedale Array**	**97.33**	**44**	P	Pdif	06 39 28.0	-0.4
	comp=Z,0.1nm,0.4s,baz=218,slow=5.7,SNR=2.3						
CHIQ	**Chicoutimi-Nor**	**123.99**	**50**		**Pdif**	**06 41 24.5**	**-2.0**
FINES	**FINESS Array B**	**146.92**	**339**	PKPbc	**PKPab**	**06 45 37.3**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=58,slow=3.4,SNR=7.3						
BRTR	**Keskin Array B**	**153.59**	**295**	PKPbc	**PKiKP**	**06 45 53.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=192,slow=2.8,SNR=3.4						
BRTR	**Keskin Array B**	**153.59**	**295**		**PKiKP**	**06 45 53.7**	**-0.3**

*NEIC **22** 06:31:18.0±2.6, 32°.2S±0°.1×177°.5W±0°.1, h10km±4km, mb4.2/7*
*ISCJB **22** 06:31:19.7±1.0, 32°.32S±0°.06×177°.8W±0°.2, h24km, mb4.1/4, MS4.1/3, Error ellipse: s-maj=22.0km s-min=6.2km az=15.2*
*IDC **22** 06:31:19.7±1.9, 32°.20S×178°.15W, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/22, mbtmp4.0/5, ML3.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.1/42, Error ellipse: s-maj=51.2km s-min=31.8km az=132.0*
ISC 22 06:31:20.5±1.1, 32°.20S±0°.08×177°.8W±0°.2, h24km, n50, σ2§63/52, mb4.2/6, MS4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.93**	**358**	P	**Pn**	**06 32 03.4**	**-2.1**
GLKZ				S	**Sn**	**06 32 34.8**	**-5.2**
RAO	**Raoul Island**	**2.94**	**358**	LR	LR	06 33 10.1	
	comp=Z,198nm,19.5s,baz=112,slow=37						
MXZ	**Matakaoa Point**	**6.22**	**210**	S	**Sn**	**06 33 60.0**	**-1.2**
WMGZ	**Waiomatatini S**	**6.40**	**208**	P	**Pn**	**06 32 55.1**	**+1.9**
WMGZ				S	**Sn**	**06 34 07.8**	**+2.3**
HAZ	**Te Kaha**	**6.61**	**212**	P	**Pn**	**06 32 58.6**	**+2.5**
HAZ				S	**Sn**	**06 34 13.1**	**+2.4**
PUZ	**Puketiti**	**6.68**	**208**	P	**Pn**	**06 32 58.7**	**+1.6**
PUZ				S	**Sn**	**06 34 13.1**	**+0.7**
MWZ	**Matawai**	**7.20**	**211**	P	**Pn**	**06 33 04.2**	**-0.1**
MWZ				S	**Sn**	**06 34 25.5**	**+0.2**
URZ	**Urewera**	**7.33**	**213**	Pn	**Pn**	**06 33 05.1**	**-0.8**
	1.1nm,0.3s,baz=39,slow=13,SNR=2.3						
URZ				Sn	**Sn**	**06 34 27.0**	**-1.4**
	3.7nm,0.3s,baz=202,slow=2.0,SNR=11						
URZ	**Urewera**	**7.33**	**213**	P	**Pn**	**06 33 03.2**	**-2.8**
URZ				S	**Sn**	**06 34 26.7**	**-1.6**
URZ	**Urewera**	**7.33**	**213**		**Pn**	**06 33 06.1**	**+0.1**
URZ				Sn	**Sn**	**06 34 23.0**	**-5.4**
WCZ	**Waipu Caves**	**7.49**	**238**	P	Pn	06 33 13.6	+5.4
RTZ	**Ruatahuna**	**7.68**	**212**	P	**Pn**	**06 33 11.7**	**+0.9**
RTZ				S	**Sn**	**06 34 35.0**	**-2.1**
KNZ	**Kokohu**	**7.73**	**207**	P	**Pn**	**06 33 10.0**	**-1.5**
KNZ				S	**Sn**	**06 34 34.2**	**-4.1**
OUZ	**Omahuta**	**7.76**	**245**	P	Pn	06 33 17.3	+5.5
OUZ	**Omahuta**	**7.76**	**245**	Pn	Pn	06 33 17.3	+5.5
TOZ	**Tahuroa Road**	**7.78**	**223**	P	Pn	06 33 20.1	+8.0
BKZ	**Black Stump Fm**	**8.35**	**212**	P	**Pn**	**06 33 21.8**	**+1.8**
BKZ				S	**Sn**	**06 34 50.7**	**-2.8**
BKZ	**Black Stump Fm**	**8.35**	**212**	Pn	**Pn**	**06 33 22.0**	**+2.0**
PXZ	**Pawanui**	**8.92**	**207**	S	**Sn**	**06 35 03.5**	**-3.9**
BFZ	**Birch Farm**	**9.72**	**208**	S	**Sn**	**06 35 21.6**	**-5.5**
BFZ	**Birch Farm**	**9.72**	**208**	Pn	**Pn**	**06 33 39.6**	**+0.9**
CPWZ	**Castlepoint**	**9.93**	**207**	S	**Sn**	**06 35 27.5**	**-4.8**
MRZ	**Mangatainoka R**	**9.97**	**210**	P	**Pn**	**06 33 40.0**	**-2.3**
MRZ				S	**Sn**	**06 35 27.5**	**-5.9**
TUWZ	**Tuamarina**	**11.32**	**213**	Pn	**Pn**	**06 34 00.8**	**+0.1**
THZ	**Tophouse**	**12.08**	**215**	Pn	**Pn**	**06 34 14.7**	**+3.6**
THZ					**Sn**	**06 36 18.5**	**-6.5**
KHZ	**Kahutara**	**12.29**	**211**	Pn	**Pn**	**06 34 13.3**	**-0.6**
OXZ	**Oxford**	**13.69**	**213**	Pn	**P**	**06 34 40.5**	**-1.0**
WKZ	**Wanaka**	**16.25**	**215**	P	**P**	**06 35 10.9**	**+0.8**
WKZ				IAmb	IAmb	06 35 12.1	
	comp=Z,5.4nm,0.9s						
DZM	**Mont Dzumac**	**17.24**	**302**	LR	LR	06 40 38.2	
	comp=Z,133nm,18.5s,baz=176,slow=33						
WHZ	**Wether Hill Ro**	**17.54**	**215**	P	**Pn**	**06 35 23.3**	**0.0**
STKA	**Stephens Creek**	**34.26**	**259**	P	**P**	**06 38 06.6**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=80,slow=6.1,SNR=1.5						
STKA	**Stephens Creek**	**34.26**	**259**	P	**P**	**06 38 06.6**	**+2.0**
CTA	**Charters Tower**	**34.27**	**282**	P	**P**	**06 38 06.5**	**+1.6**
	comp=Z,3.1nm,0.8s,baz=94,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**43.19**	**269**	P	**P**	**06 39 19.9**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=107,slow=7.5,SNR=16						
ASAR				PcP	**PcP**	**06 41 10.4**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=108,slow=5.0,SNR=3.5						
ASAR	**Alice Springs**	**43.19**	**269**	P	**P**	**06 39 20.1**	**+0.4**
WB2	**Warramunga Arr**	**44.33**	**274**	P	**P**	**06 39 29.8**	**+0.9**
WB2				IAmb	IAmb	06 39 46.2	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**44.34**	**274**	P	**P**	**06 39 28.5**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=112,slow=7.8,SNR=26						
WRA	**Warramunga Arr**	**44.34**	**274**	P	**P**	**06 39 29.8**	**+0.9**
WB0	**Warramunga Arr**	**44.37**	**274**	P	**P**	**06 39 30.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.53**	**271**	P	**P**	**06 40 34.4**	**+2.4**
FITZ				IAmb	IAmb	06 40 36.6	
	comp=Z,5.0nm,1.1s						
USHA	**Ushuaia**	**74.36**	**145**	LR	LR	07 14 08.3	
	comp=Z,101nm,18.0s,baz=190,slow=34						
SNAA	**Sanae**	**76.36**	**178**	P	P	06 43 19.8	+13
VNA3	**Neumayer Olymp**	**76.50**	**176**	P	P	06 43 21.0	+13
VNA2	**Neumayer--Watz**	**76.94**	**177**	P	P	06 43 23.6	+13
	baz=179,slow=8.1						
CFA	**Coronel Fontan**	**88.05**	**126**	LR	LR	07 14 37.5	
	comp=Z,52nm,19.1s,baz=73,slow=29						
KDAK	**Kodiak Island**	**92.12**	**13**	LR	LR	07 20 41.8	
	comp=Z,65nm,18.4s,baz=295,slow=32						
Q16A	**Castle Valley**	**94.00**	**46**	P	**P**	**06 44 36.5**	**-0.1**
FINES	**FINESS Array B**	**146.88**	**339**	PKPbc	**PKPab**	**06 51 01.3**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=49,slow=3.9,SNR=12						
AKASG	**Malin Array Be**	**152.80**	**321**	PKPbc	**PKiKP**	**06 51 18.8**	**+3.7**
	comp=Z,1.5nm,0.5s,baz=50,slow=2.9,SNR=9.5						
AKASG	**Malin Array Be**	**152.80**	**321**		**PKiKP**	**06 51 16.4**	**+1.3**

IDC 22 06:31:28.3±12.0, 22°.91S×177°.35W, h450km±104km, mb3.4/3, mb1 3.4/4, mb1mx3.1/24, mbtmp4.2/4, Error ellipse: s-maj=239.9km s-min=61.0km az=26.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.00**	**270**	P	P	06 34 39.4	-0.2
	0.2nm,0.3s,baz=114,slow=19,SNR=4.8						
CTA	**Charters Tower**	**33.92**	**268**	P	P	06 37 33.1	+0.5
	4.8nm,0.4s,baz=104,slow=11,SNR=18						
ASAR	**Alice Springs**	**44.60**	**259**	P	P	06 38 58.4	-0.9
	0.5nm,0.3s,baz=89,slow=8.6,SNR=9.6						
WRA	**Warramunga Arr**	**44.91**	**264**	P	P	06 39 01.6	-0.1
	0.9nm,0.3s,baz=101,slow=8.5,SNR=51						
TORD	**Torodi Ar. Bea**	**170.25**	**175**	PKPab	PKPab	06 52 02.8	-0.4
	0.9nm,1.1s,baz=180,slow=1.4,SNR=3.3						

*BJI **22** 06:51:23.0±0.0, 34°.30N×45°.50E, h10km, mb5.3/74, mB5.6/59, Ms5.6/85, Ms7 5.5/79*
*IDC **22** 06:51:23.9±0.3, 34°.48N×45°.56E, h0km, mb4.9/54, mb1 4.9/61, mb1mx4.9/72, mbtmp4.9/61, ML4.9/5, MS5.2/40, Ms1 5.2/40, ms1mx5.1/47, Error ellipse: s-maj=8.3km s-min=7.5km az=132.0*
*TEH **22** 06:51:24.4, 34°.35N×45°.44E, h10km, ML5.6*
*ISN **22** 06:51:25.2±0.7, 34°.54N×45°.43E, h0km±3km, ML5.3*
*GII **22** 06:51:25.1±0.0, 34°.43N×45°.58E, h10km*
*NEIC **22** 06:51:25.1±2.8, 34°.46N±0°.04×45°.48E±0°.05, h6km±1km, mb5.4/111, Ms_20 5.3/276, Mwb5.6, mb_Lg5.4(TEH), ML5.4(THR), Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.27; Mθθ-0.29; Mφφ-0.98; Mrθ1.70; Mθφ0.53; Mφr-2.87; Fault plane solution: M0 3.57000×1017 NP1:φs333.60000°, δ10.40000°, λ94.05000°. NP2:φs149.48000°, δ79.63000°, λ89.26000°. Principal axes: T 3.5702, Plg55.0000°, Azm59.0000°; N -0.0059, Plg1.0000°, Azm150.0000°; P -3.5643, Plg35.0000°, Azm240.0000°;*
*THR **22** 06:51:25.7, 34°.44N×45°.43E, h14km, ML5.4*
*ISCJB **22** 06:51:26.5±0.3, 34°.34N±0°.01×45°.47E±0°.01, h33km±2km, mb5.3/154, MS5.2/90, Error ellipse: s-maj=2.1km s-min=1.3km az=14.9*
*DSN **22** 06:51:26.8±0.4, 34°.21N×45°.66E, h10km, mb5.5/6, Error ellipse: s-maj=7.9km s-min=4.4km az=50.0*
*ISK **22** 06:51:27.4, 34°.61N×45°.14E, h5km, ML5.7/6*
*MOS **22** 06:51:27.5±1.4, 34°.47N×45°.57E, h33km, mb5.5/41, MS5.1/40, Error ellipse: s-maj=4.6km s-min=2.8km az=102.9*
*GCMT **22** 06:51:29.1±0.1, 34°.28N±0°.01×45°.31E±0°.01, h18km, MW5.7/130, Moment Tensor Solution. s108,c194; s130,c284; Duration: 1§7 Moment tensor: Scale 1017 Nm; Mrr2.77±.05; Mθθ-0.69±.03; Mφφ-2.07±.03; Mrθ1.99±.10; Mθφ1.29±.02; Mφr-1.96±.09; Best double couple: M0 3.96100×1017 NP1:φs139.00000°, δ68.00000°, λ82.00000°. NP2:φs339.00000°, δ24.00000°, λ109.00000°. Principal axes: T 3.9690, Plg66.0000°, Azm35.0000°; N -0.0110, Plg7.0000°, Azm142.0000°; P -3.9520, Plg22.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 06:51:31, 34°.36N×45°.34E, h13km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr2.31; Mθθ-0.54; Mφφ-1.77; Mrθ2.05; Mθφ1.24; Mφr-2.54; Fault plane solution: M0 4.07000×1017 NP1:φs142.00000°, δ72.00000°, λ86.00000°. NP2:φs335.00000°, δ19.00000°, λ102.00000°. Principal axes: T 3.9665, Plg63.0000°, Azm46.0000°; N 0.2014, Plg4.0000°, Azm144.0000°; P -4.1679, Plg27.0000°, Azm236.0000°;*
*AZER **22** 06:51:34.3±0.3, 34°.85N×45°.68E, h10km, ml5.8/12, ms4.8/10 Error ellipse: s-maj=2.9km s-min=2.4km az=35.0*
*DDA **22** 06:51:35.4, 34°.72N×43°.16E, h0km±19km, MW5.3*
ISC 22 06:51:27.3±0.3, 34°.42N±0°.02×45°.57E±0°.02, h22km±2km, n1312, σ2§19/1321, mb5.3/224, MS5.3/225, 50C-24D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.73**	**67**	*e*Pg	**Pb**	**06 51 40.5**	**-1.0**
IDHR				*e*Sg	**Sn**	**06 51 53.3**	**+0.1**
IDHR	**Dehrash**	**0.73**	**67**	Pg	**Pb**	**06 51 40.3**	**-1.2**
IGHG	**Ghaleghazi**	**0.83**	**96**	*e*Pg	**Pb**	**06 51 43.6**	**+0.4**
IGHG				*e*Sg	**Sn**	**06 51 56.1**	**+0.4**
IGHG	**Ghaleghazi**	**0.83**	**96**	Pg	**Pb**	**06 51 43.3**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.23**	**96**	*e*Pg	**Pb**	**06 51 50.0**	**+0.1**
KCHF				*e*Sg	**Sn**	**06 52 10.2**	**+4.9**
ILIN	**Lien**	**1.25**	**66**	*e*Pg	**Pb**	**06 51 50.6**	**+0.2**
ILIN	**Lien**	**1.25**	**66**		**Pn**	**06 51 49.7**	**-0.1**
KER	**Kermanshah**	**1.29**	**91**	*e*Pg	**Pb**	**06 51 51.2**	**+0.2**
KER				*e*Sg	**Sb**	**06 52 10.8**	**+3.6**
IBDR	**Badra**	**1.34**	**167**	*e*Pn	**Pb**	**06 51 53.9**	**+2.1**
IBDR				*e*Sn	**Sb**	**06 52 14.0**	**+5.6**
IKRK	**Kirkuk**	**1.41**	**314**	*e*Pg	**Pn**	**06 51 52.0**	**+0.3**
IKRK				*e*Sg	**Sb**	**06 52 12.1**	**+1.7**
IKRK				AML	AML	06 52 14.4	
	comp=Z,85μm,0.6s						
BHD	**Baghdad**	**1.52**	**221**	*e*Pn	**Pb**	**06 51 54.5**	**-0.3**
BHD				*e*Sn	**Sb**	**06 52 15.0**	**+1.5**
IKOM	**Komasi**	**1.62**	**98**	*e*Pn	**Pb**	**06 51 57.4**	**+0.7**
IKOM	**Komasi**	**1.62**	**98**	Pg	**Pb**	**06 51 57.5**	**+0.7**
IBZA	**Bozab**	**1.89**	**88**	*e*Pn	**Pb**	**06 52 00.9**	**-0.5**
IBZA	**Bozab**	**1.89**	**88**	Pn	**Pb**	**06 52 00.5**	**-0.9**
IKFM	**Kafar-mosalman**	**2.09**	**115**	*e*Pn	**Pb**	**06 52 03.1**	**-1.5**
IKFM	**Kafar-mosalman**	**2.09**	**115**	Pn	**Pb**	**06 52 03.2**	**-1.4**
IDOB	**Doab**	**2.25**	**106**	*e*Pn	**Pb**	**06 52 05.5**	**-2.0**
MAHB	**Mahabad**	**2.34**	**3**	*e*Pn	**Pn**	**06 52 05.9**	**+1.2**
IKMR	**Kamar-syah**	**2.50**	**110**	*e*Pn	**Pn**	**06 52 09.0**	**+2.3**
IKMR	**Kamar-syah**	**2.50**	**110**	Pn	**Pn**	**06 52 08.7**	**+2.0**
HSAM	**Samen**	**2.52**	**94**	*e*Pn	**Pn**	**06 52 09.1**	**+1.9**
HSAM	**Samen**	**2.52**	**94**	Pn	**Pn**	**06 52 09.1**	**+1.9**
BDRS	**Dareh Seyedi**	**2.78**	**99**	*e*Pn	**Pn**	**06 52 12.6**	**+1.7**
BMDN	**Meydan**	**2.80**	**105**	*e*Pn	**Pn**	**06 52 13.1**	**+2.0**
MSL	**Mosul**	**2.82**	**315**	*e*Pn	**Pn**	**06 52 10.8**	**-0.3**
MSL				*e*Sn	**Sn**	**06 52 42.3**	**-2.2**
HAGD	**Aghdareh**	**2.97**	**81**	*e*Pn	**Pb**	**06 52 16.9**	**-2.8**
HAGD	**Aghdareh**	**2.97**	**81**	Pn	**Pn**	**06 52 15.5**	**+2.1**
CUKT	**Cukurca**	**3.24**	**331**	*i* P	**Pn**	**06 52 16.9**	**-0.2**
CUKT				*i* S	**Sb**	**06 53 07.1**	**+3.7**
CUKT				IAML		06 53 13.0	
	comp=N,34μm,0.7s						
CUKT	**Cukurca**	**3.24**	**331**	*e*Pn	**Pn**	**06 52 17.5**	**+0.5**
CUKT	**Cukurca**	**3.24**	**331**	PN	**Pn**	**06 52 16.7**	**-0.3**
YOVA	**Hakkari_Yksek**	**3.33**	**342**	*i* P	**Pn**	**06 52 18.5**	**+0.2**
YOVA				*i* S	**Sb**	**06 53 12.5**	**+6.6**
ZNJK	**Zanjan**	**3.39**	**48**	*e*Pn	**Pn**	**06 52 21.5**	**+2.3**
ZNJK	**Zanjan**	**3.39**	**48**	*e*P	**Pn**	**06 52 21.5**	**+2.3**
ZNJK	**Zanjan**	**3.39**	**48**		**Pn**	**06 52 21.0**	**+1.8**
HAKT	**HAKKARI**	**3.48**	**335**	*i* P	**Pn**	**06 52 19.9**	**-0.5**
QABG	**Abgarm-Qazvin**	**3.53**	**68**	*e*Pn	**Pn**	**06 52 23.9**	**+2.8**
SHGR	**Shooshtar-Gavs**	**3.56**	**130**	*e*Pn	**Pn**	**06 52 23.8**	**+2.6**
SHGR	**Shooshtar-Gavs**	**3.56**	**130**	*e*P	**Pn**	**06 52 23.9**	**+2.7**
SHGR	**Shooshtar-Gavs**	**3.56**	**130**	*e*AML	AML	06 53 45.1	
	comp=N,846nm,0.6s						
SHGR				*e*AML	AML	06 53 32.4	
	comp=E,9μm,0.5s						
SHGR	**Shooshtar-Gavs**	**3.56**	**130**		**Pn**	**06 52 23.0**	**+1.8**
ASAO	**Ashtian**	**3.68**	**87**	*e*Pn	**Pn**	**06 52 26.4**	**+3.2**
ASAO	**Ashtian**	**3.68**	**87**	*e*P	**Pn**	**06 52 26.2**	**+3.0**
ASAO	**Ashtian**	**3.68**	**87**		**Pn**	**06 52 26.0**	**+2.8**
KHMZ	**Khomeyn**	**3.71**	**99**	*e*Pn	**Pn**	**06 52 25.8**	**+2.3**
KHMZ	**Khomeyn**	**3.71**	**99**	*e*AML	AML	06 53 39.8	
	comp=E,2μm,0.6s						
KHMZ	**Khomeyn**	**3.71**	**99**	*e*Pn	**Pn**	**06 52 26.4**	**+3.0**
KHMZ				*e*S	**Sn**	**06 53 10.9**	**+4.3**
KHMZ	**Khomeyn**	**3.71**	**99**	Pn	**Pn**	**06 52 26.0**	**+2.5**
KHMZ					**Sn**	**06 53 10.0**	**+3.4**
IRAZ	**Razeghan**	**3.71**	**73**	*e*Pn	**Pn**	**06 52 26.1**	**+2.5**
ITBZ	**Tabriz**	**3.83**	**7**	*e*Pn	**Pn**	**06 52 26.1**	**+0.9**
BASK	**Baskale_VAN**	**3.84**	**341**	*i* P	**Pb**	**06 52 37.9**	**+3.4**
BASK				*i* S	Sb	06 53 38.9	+18
BASK				IAML		06 53 59.0	
	comp=N,3μm,1.7s						
SIRT	**Sirnak**	**3.99**	**321**	*e*Pn	**Pn**	**06 52 26.7**	**-0.5**
SIRT	**Sirnak**	**3.99**	**321**	PN	**Pn**	**06 52 26.8**	**-0.5**
SIRT				SN	**Sn**	**06 53 09.8**	**-3.6**
IMHD	**Mahdasht**	**4.37**	**72**	*e*Pn	**Pn**	**06 52 34.1**	**+1.6**
GEVA	**Gevas**	**4.38**	**333**	*i* P	**Pn**	**06 52 33.2**	**+0.4**
GEVA				*i* S	Sb	06 53 50.2	+14
GEVA				IAML		06 54 10.0	
	comp=N,2μm,1.1s						
TVAN	**Van**	**4.46**	**338**	*i* P	**Pn**	**06 52 34.7**	**+0.9**
ORD	**Ordubad**	**4.51**	**4**	*e*Pn	**Pn**	**06 52 36.6**	**+2.1**
ORD	**Ordubad**	**4.51**	**4**	P	**Pn**	**06 52 36.6**	**+2.1**
	SNR=167						
ORD				S	**Sn**	**06 53 25.9**	**-0.4**
VANB	**Van**	**4.52**	**338**	*e*Pn	**Pn**	**06 52 34.7**	**+0.1**
VANB	**Van**	**4.52**	**338**	PN	**Pn**	**06 52 34.6**	**0.0**
VANB				SN	**Sn**	**06 53 23.1**	**-3.5**
IQOM	**Qom**	**4.55**	**83**	*e*Pn	**Pn**	**06 52 36.7**	**+1.5**
RTB	**Rutbah**	**4.60**	**254**	*e*Pn	**Pn**	**06 52 36.9**	**+1.2**
RTB				*e*Sn	**Sn**	**06 53 26.8**	**-1.6**
QALM	**Alamut, Qazvin**	**4.61**	**63**	*e*Pn	**Pn**	**06 52 37.5**	**+1.6**
SRTM	**Siirt_Merkez**	**4.63**	**321**	*i* P	**Pn**	**06 52 35.3**	**-0.8**
SRTM				IAML		06 54 08.0	
	comp=N,15μm,1.0s						
GHVR	**GHOM**	**4.73**	**88**	*e*P	**Pn**	**06 52 39.9**	**+2.4**
GHVR	**GHOM**	**4.73**	**88**		**Pn**	**06 52 39.0**	**+1.5**
NAX	**Nakhchivan**	**4.75**	**359**	P	**Pn**	**06 52 40.0**	**+2.3**
NAX	**Nakhchivan**	**4.75**	**359**	*e*Pn	**Pn**	**06 52 40.0**	**+2.3**
NAX	**Nakhchivan**	**4.75**	**359**	P	**Pn**	**06 52 40.0**	**+2.3**
	SNR=42						
NAX				S	**Sn**	**06 53 31.6**	**-0.4**
IPIR	**Pirpir**	**4.77**	**110**	*e*Pn	**Pn**	**06 52 39.4**	**+1.2**
LRK	**Lerik**	**4.77**	**27**	*e*Pn	**Pn**	**06 52 40.1**	**+2.1**
LRK	**Lerik**	**4.77**	**27**	P	**Pn**	**06 52 40.1**	**+2.1**
	SNR=32						
LRK				S	**Sn**	**06 53 31.9**	**-0.8**
CHTH	**Charan**	**4.79**	**70**	*e*P	**Pn**	**06 52 41.0**	**+2.6**
CHTH	**Charan**	**4.79**	**70**		**Pn**	**06 52 41.0**	**+2.6**
JHBN	**Jahan bin**	**4.79**	**116**	*e*Pn	**Pn**	**06 52 39.3**	**+0.8**
JHBN	**Jahan bin**	**4.79**	**116**	Pn	**Pn**	**06 52 38.9**	**+0.4**
IHSB	**Hasanabad**	**4.80**	**76**	*e*Pn	**Pn**	**06 52 39.6**	**+1.2**
MARD	**Mardin**	**4.85**	**308**	*i* P	**Pn**	**06 52 38.8**	**-0.3**
BLIS	**Bitlis-Merkez**	**4.86**	**326**	*i* P	**Pn**	**06 52 39.9**	**+0.5**
BLIS				IAML		06 54 21.0	
	comp=N,4μm,0.8s						
ASTR	**Astara**	**4.88**	**31**	*e*Pn	**Pn**	**06 52 41.9**	**+2.5**
ASTR	**Astara**	**4.88**	**31**	P	**Pn**	**06 52 42.0**	**+2.5**
	SNR=44						
ASTR				S	**Sn**	**06 53 35.2**	**0.0**
CLDR	**Caldiran**	**4.90**	**345**	*i* P	**Pn**	**06 52 40.7**	**+0.8**
CLDR				IAML		06 55 08.0	
	comp=N,1μm,1.6s						
**CLDR

IFIR	Firoozkooh	6.02	76	*e*Pn	Pn	06 52 57.8	+2.5
BNGB	Bingl	6.02	321	PN	Pn	06 52 54.8	-0.4
BINT	Bingol	6.04	319	P	Pn	06 52 55.0	-0.5
BINT	Bingol	6.04	319	*e*Pn	Pn	06 52 55.0	-0.5
KARO	Karliova-Bingo	6.08	325	PN	Pn	06 52 56.9	+0.8
ZRD	Zardab	6.09	15	*e*Pn	Pn	06 52 58.5	+2.5
ZRD	Zardab	6.09	15	P	Pn	06 52 58.5	+2.5
	SNR=11						
ZRD				S	Sn	06 54 04.5	-0.5
ILAS	Lasjerd	6.15	79	*e*Pn	Pn	06 52 59.0	+1.9
ALIB	Äli-Bayra	6.17	25	*e*Pn	Pn	06 52 59.7	+2.6
ALIB	Äli-Bayra	6.17	25	P	Pn	06 52 59.7	+2.6
	SNR=21						
GANJ	Ganja	6.25	5	P	Pn	06 53 00.9	+2.7
GANJ	Ganja	6.25	5	*e*Pn	Pn	06 53 00.9	+2.7
GANJ	Ganja	6.25	5	P	Pn	06 53 00.9	+2.7
	SNR=10						
GANJ				S	Sn	06 54 08.7	-0.2
URFA	Urfa	6.25	301	PN	Pn	06 52 57.7	-0.6
IRAM	Ramesheh	6.28	113	*e*Pn	Pn	06 52 59.0	+0.1
GDB	GEDABAY	6.29	1	*e*Pn	Pn	06 53 01.4	+2.4
GDB	GEDABAY	6.29	1	P	Pn	06 53 01.4	+2.4
	SNR=23						
GDB				S	Sn	06 54 09.8	-0.5
KDMR	Kurdemir	6.30	19	*e*Pn	Pn	06 53 01.4	+2.5
KDMR	Kurdemir	6.30	19	P	Pn	06 53 01.5	+2.5
	SNR=5.3						
KDMR				S	Sn	06 54 09.8	-0.4
KOPR	Koprukoy-ERZUR	6.30	333	PN	Pn	06 53 00.5	+1.4
SVRC	Sivrice-ELAZID	6.41	310	PN	Pn	06 53 00.2	-0.5
MNGR	Mingechevir, A	6.46	10	P	Pn	06 53 03.5	+2.5
MNGR	Mingechevir, A	6.46	10	*e*Pn	Pn	06 53 03.5	+2.5
MNGR	Mingechevir, A	6.46	10	P	Pn	06 53 03.5	+2.5
MNGR				S	Sn	06 54 13.6	-0.4
ISHM	Shahmirzad	6.48	75	*e*Pn	Pn	06 53 04.8	+3.1
KARS	Kars	6.51	343	PN	Pn	06 53 03.9	+2.0
QZX	Qazax, Azerbai	6.63	359	*e*Pn	Pn	06 53 06.1	+2.6
QZX	Qazax, Azerbai	6.63	359	P	Pn	06 53 06.1	+2.6
	SNR=14						
QZX				S	Sn	06 54 18.1	-0.3
SENK	Senkaya-Erzuru	6.64	338	PN	Pn	06 53 05.7	+1.9
GBS	Qobustan	6.67	23	P	Pn	06 53 06.5	+2.5
	SNR=12						
GBS				S	Sn	06 54 19.1	-0.3
IML	Ismayilli	6.69	17	*e*Pn	Pn	06 53 06.8	+2.5
IML	Ismayilli	6.69	17	P	Pn	06 53 06.8	+2.5
	SNR=6.3						
IML				S	Sn	06 54 19.4	-0.6
QBL	Gabala	6.76	15	*e*Pn	Pn	06 53 07.7	+2.5
QBL	Gabala	6.76	15	P	Pn	06 53 07.8	+2.5
	SNR=14						
QBL				S	Sn	06 54 20.8	-0.8
PQL	Pirkuli	6.80	20	*e*Pn	Pn	06 53 08.4	+2.5
PQL	Pirkuli	6.80	20	P	Pn	06 53 08.4	+2.5
	SNR=15						
PQL				S	Sn	06 54 22.0	-0.6
GOBA	Gobu	6.83	28	*e*Pn	Pn	06 53 08.8	+2.6
GOBA	Gobu	6.83	28	P	Pn	06 53 08.8	+2.6
	SNR=6.3						
GOBA				S	Sn	06 54 23.6	+0.4
SEKA	Sheki	6.90	10	P	Pn	06 53 09.9	+2.7
SEKA	Sheki	6.90	10	*e*Pn	Pn	06 53 09.9	+2.7
SEKA	Sheki	6.90	10	P	Pn	06 53 10.0	+2.7
	SNR=9.0						
SEKA				S	Sn	06 54 24.8	-0.2
ANAR	Anarak	6.90	98	*e*Pn	Pn	06 53 09.2	+1.9
IANJ	Anjilo	6.93	79	*e*Pn	Pn	06 53 10.2	+2.4
MALT	Malatya	6.95	306	PN	Pn	06 53 07.9	-0.1
ATGJ	Altiaghaj	6.96	22	*e*Pn	Pn	06 53 10.6	+2.5
ATGJ	Altiaghaj	6.96	22	P	Pn	06 53 10.7	+2.5
	SNR=11						
ATGJ				S	Sn	06 54 26.0	-0.7
GALA	Gala	7.00	30	*e*Pn	Pn	06 53 11.2	+2.7
GALA	Gala	7.00	30	P	Pn	06 53 11.3	+2.7
GALA				S	Sn	06 54 27.8	+0.2
XNQ	Khinaliq	7.04	16	P	Pn	06 53 11.8	+2.5
	SNR=6.0						
XNQ				S	Sn	06 54 28.6	-0.2
IKAZ	Kazeroun	7.05	129	*e*Pn	Pn	06 53 09.4	-0.1
IKAZ	Kazeroun	7.05	129	Pn	Pn	06 53 08.6	-0.9
IGLO	Ghaloghah	7.05	71	*e*Pn	Pn	06 53 13.0	+3.5
NDR	Nardaran	7.08	28	S	Sn	06 54 30.4	+1.0
SIZA	Siyzn	7.15	21	P	Pn	06 53 13.2	+2.5
	SNR=9.5						
SIZA				S	Sn	06 54 31.2	0.0
AKH	Akhalkalaki	7.17	347	P	Pn	06 53 13.2	+2.2
AKH	Akhalkalaki	7.17	347	⇑P	Pn	06 53 14.1	+3.1
AKH	Akhalkalaki	7.17	347		Pn	06 53 13.2	+2.2
ISAD	Sadrabad	7.25	108	*e*Pn	Pn	06 53 12.2	0.0
AKT	Akhty	7.25	13	*e*P	Pn	06 53 15.4	+3.3
AKT				*e*S	Sn	06 54 38.3	+4.5
AKT				pmax	pmax		
	comp=Z,84nm,1.3s						
AKT				smax	smax		
	comp=E,103nm,0.7s						
AKT				smax	smax		
	comp=N,73nm,0.7s						
AKT				MLR	MLR		
	comp=Z,9μm,11.0s						
ZKTA	Zakatala	7.25	6	P	Pn	06 53 14.7	+2.7
ZKTA	Zakatala	7.25	6	P	Pn	06 53 14.7	+2.7
	SNR=5.0						
ZKTA				S	Sn	06 54 33.2	-0.6
QUBA	Quba, Azerbaij	7.30	18	P	Pn	06 53 15.5	+2.8
	SNR=4.1						
QUBA				S	Sn	06 54 34.2	-0.7
TBLG	Delisi	7.33	355	P	Pn	06 53 17.3	+4.2
TBLG	Delisi	7.33	355		Pn	06 53 17.2	+4.2
QSAR	Qusar	7.40	16	P	Pn	06 53 16.5	+2.5
	SNR=3.3						
SHI	Shiraz	7.58	127	P	Pn	06 53 16.6	-0.1
SHI	Shiraz	7.58	127	*e*Pn	Pn	06 53 17.1	+0.4
SHI	Shiraz	7.58	127	Pn	Pn	06 53 16.6	-0.1
ASF	Jabal al Asfar	7.60	255	Pn	Pn	06 53 16.5	-0.4
	comp=Z,27nm,0.3s,baz=30,slow=11,SNR=67						
ASF				Pg	Pb	06 53 46.2	+7.7
	comp=Z,17nm,0.3s,baz=43,slow=18,SNR=6.7						
ASF				Sn	Sn	06 54 39.2	-3.2
	baz=352,slow=3.8,SNR=3.8						
ASF				Lg	Lg	06 55 30.0	
	comp=Z,32nm,0.3s,baz=21,slow=21,SNR=7.0						
ASF				LR	LR	06 57 04.7	
	comp=Z,36μm,18.6s,baz=17,slow=45						
BCA	Borcka	7.67	337	⇑P	Pn	06 53 22.5	+4.7
BCA	Borcka	7.67	337	PN	Pn	06 53 19.4	+1.6
KMRS	Kahramanmaras	7.67	296	PN	Pn	06 53 18.3	+0.4
CHOM	Cayeli-Rize	7.68	332	PN	Pn	06 53 19.1	+1.3
ICHK	Chekchek	7.71	104	*e*Pn	Pn	06 53 18.5	0.0
DARE	Darende-Malaty	7.72	305	PN	Pn	06 53 18.7	+0.2
HWQ	Hawqa	7.96	272	*e*P	Pn	06 53 21.0	-0.9
GNBR	Gunib	8.03	7	*i* P	Pn	06 53 25.8	+3.0
IMEH	Mehriz	8.18	109	*e*Pn	Pn	06 53 24.9	-0.1
HSUJ	Al Zarqa	8.19	256	P	Pn	06 53 25.7	+0.8
	comp=Z,294nm,0.7s,comp=Z,6.5nm						
BHL	Bhannes	8.24	269	*e*P	Pn	06 53 24.6	-1.0
SHBL	Chebaa	8.24	265	*e*P	Pn	06 53 23.7	-2.1
NATI	Neve Ativ	8.26	265	Pn	Pn	06 53 24.1	-1.8
ONI	Oni	8.32	349	PN	Pn	06 53 29.3	+2.5
GEM	Giv'at Ha'Em	8.33	264	Pn	Pn	06 53 26.3	-0.6
KSDI	Kefar Szold	8.34	264	Pn	Pn	06 53 25.9	-1.0
KSDI	Kefar Szold	8.34	264	P	Pn	06 53 25.3	-1.6
	comp=Z,219nm,1.0s,comp=Z,3.7nm						
SHMJ	Saham	8.36	261	P	Pn	06 53 26.9	-0.3
	comp=Z,265nm,0.7s,comp=Z,5.8nm						
CEYT	Ceyhan	8.40	291	PN	Pn	06 53 28.1	+0.4
ZEI	Tsey	8.46	352	*e*P	Pn	06 53 30.5	+1.8
ZEI				pmax	pmax		
	comp=Z,116nm,1.0s						
MMA0B	Mount Meron ar	8.59	263	Pn	Pn	06 53 29.5	-0.9
MMAI	Mount Meron Ar	8.59	263	Pn	Pn	06 53 29.8	-0.6
	comp=Z,20nm,0.3s,baz=83,slow=20,SNR=15						
MMAI				Lg	Lg	06 55 49.0	
	comp=Z,30nm,0.3s,baz=203,slow=35,SNR=2.2						
MMAI				LR	LR	06 57 35.4	
	comp=Z,29μm,18.5s,baz=70,slow=43						
KRTS	Karatas	8.59	287	PN	Pn	06 53 30.9	+0.6
MAK	Makhachkala	8.66	9	*e*P	Pn	06 53 29.2	-2.1
MAK				*e*S	Sn	06 55 06.5	-1.8
MAK				pmax	pmax		
	comp=Z,326nm,1.1s						
MAK				MLR	MLR		
	comp=Z,11μm,11.0s						
HMDT	Nahal Hemdat	8.68	258	Pn	Pn	06 53 31.2	-0.4
WALJ	Wala	8.68	254	P	Pn	06 53 30.4	-1.2
	comp=Z,262nm,0.7s,comp=Z,3.5nm						
MMLI	Mount Malkishu	8.71	260	Pn	Pn	06 53 31.9	-0.2
MMLI	Mount Malkishu	8.71	260	PN	Pn	06 53 33.8	+1.7
MMLI	Mount Malkishu	8.71	260	P	Pn	06 53 31.3	-0.8
	comp=Z,82nm,0.8s,comp=Z,3.4nm						
HNTI	Hanita	8.76	264	Pn	Pn	06 53 32.6	-0.1
SVSK	Karacayir	8.77	311	PN	Pn	06 53 32.8	0.0
GROC	Groznyy	8.77	1	*i* P	Pn	06 53 34.2	+1.4
IBAF	Bafgh	8.86	106	*e*Pn	Pn	06 53 33.8	-0.4
RSDY	Resadiye-TOKAT	8.86	315	PN	Pn	06 53 35.3	+1.2
BNN	Bunyan	8.98	302	PN	Pn	06 53 35.1	-0.7
KARA	Karaisali	9.00	291	PN	Pn	06 53 36.0	0.0
DSI	Dead Sea	9.02	254	Pn	Pn	06 53 36.5	+0.2
LISJ	El Lisan	9.06	252	P	Pn	06 53 36.1	-0.7
	comp=Z,78nm,0.7s						
SLTI	Sal'it	9.07	259	Pn	Pn	06 53 37.4	+0.4
MZDA	Masada	9.13	253	Pn	Pn	06 53 37.3	-0.4
TNSJ	Nastanj	9.16	90	*e*Pn	Pn	06 53 37.9	-0.4
TOKT	Tokat	9.29	312	PN	Pn	06 53 39.6	-0.4
MERS	Mersin	9.32	288	PN	Pn	06 53 41.1	+0.7
HSNJ	Maan	9.33	246	P	Pn	06 53 40.6	-0.1
	comp=Z,576nm,0.8s						
TPRV	Parvadeh(Tabas	9.36	95	*e*Pn	Pn	06 53 41.8	+0.7
AMAZ	Amatzia	9.40	255	Pn	Pn	06 53 41.8	+0.3
AMAZ	Amatzia	9.40	255	P	Pn	06 53 41.8	+0.3
	comp=Z,283nm,1.4s						
EREN	Erenkoy	9.42	280	PN	Pn	06 53 42.7	+0.9
KBZ	Khabaz	9.53	348	Pn	Pn	06 53 47.4	+4.2
	comp=Z,0.6nm,0.3s,baz=175,slow=8.0,SNR=54						
SHA1	Shidzhatmaz	9.58	347	*c i* P	Pn	06 53 47.8	+3.7
ZFRI	Zfri	9.59	249	Pn	Pn	06 53 44.1	+0.1
YOZ	Yozgat	9.71	305	PN	Pn	06 53 45.6	-0.2
KVAR	Kislovodsk Arr	9.78	348	Pn	Pn	06 53 51.5	+4.7
	baz=272,slow=22,SNR=45						
KVAR				LR	LR	06 57 33.2	
	comp=Z,15μm,21.8s,baz=14,slow=38						
KIV	Kislovodsk	9.78	348	*i* P	Pn	06 53 51.3	+4.5
	SNR=41						
KIV	Kislovodsk	9.78	348	P	Pn	06 53 51.2	+4.4
KIV				P	Pn	06 53 51.2	+4.4
KIV	Kislovodsk	9.78	348	*e*P	Pn	06 53 50.6	+3.8
KIV				*e*S	Sn	06 55 42.2	+6.3
KIV				pmax	pmax		
	comp=Z,689nm,1.1s						
KIV				MLR	MLR		
	comp=Z,10μm,10.0s						
KIV	Kislovodsk	9.78	348	⇓P	Pn	06 53 50.6	+3.8
KIV	Kislovodsk	9.78	348		Pn	06 53 50.4	+3.6
PRNI	Paran	9.81	248	Pn	Pn	06 53 45.8	-1.3
IKL	Isikli	9.88	284	PN	Pn	06 53 46.1	-1.9
KEBE	Keben-Mersin	9.88	285	PN	Pn	06 53 47.3	-0.9
HRFI	Mount Harif	9.93	247	*e*Pn	Pn	06 53 48.4	-0.4
HRFI	Mount Harif	9.93	247	Pn	Pn	06 53 48.2	-0.6
HRFI	Mount Harif	9.93	247	PN	Pn	06 53 50.1	+1.3
HRFI	Mount Harif	9.93	247	P	Pn	06 53 48.6	-0.2
	comp=Z,497nm,1.2s						
SBZV	Sabzevar	10.02	75	*e*Pn	Pn	06 53 52.3	+2.1
KZIT	Kziot	10.05	253	P	Pn	06 53 50.4	0.0
	comp=Z,120nm,0.8s						
KVT	Kavak	10.05	314	PN	Pn	06 53 49.9	-0.5
KHGB	Koh Gabri	10.06	111	*e*Pn	Pn	06 53 50.7	-0.1
AQBJ	Aqaba	10.07	245	P	Pn	06 53 50.5	-0.2
	comp=Z,535nm,0.7s						
CSS	Mathiatis	10.09	277	P	Pn	06 53 52.1	+1.1
	comp=Z,23nm,1.0s						
CSS	Mathiatis	10.09	277		Pn	06 53 54.1	+3.1
KRMI	Paran Flat	10.13	248	Pn	Pn	06 53 50.2	-1.4
MBRI	Mt Berech	10.14	246	Pn	Pn	06 53 50.6	-1.2
EIL	Elat	10.18	245	*e*Pn	Pn	06 53 51.0	-1.2
EIL	Elat	10.18	245	Pn	Pn	06 53 50.9	-1.2
EIL	Elat	10.18	245	Pn	Pn	06 53 51.3	-0.9
	comp=Z,12nm,0.3s,baz=64,slow=5.9,SNR=48						
EIL				Lg	Lg	06 56 49.8	
	comp=Z,15nm,0.3s,baz=323,slow=21,SNR=3.1						
EIL				LR	LR	06 58 47.0	
	comp=Z,34μm,18.9s,baz=63,slow=44						
EIL	Elat	10.18	245	P	Pn	06 53 48.8	-3.4
	comp=Z,153nm,0.7s						
SOC	Sochi	10.22	335	*c i* P	Pn	06 53 54.8	+2.2
SOC				*e*		06 55 46.3	
SOC				pmax	pmax		
	comp=Z,108nm,0.8s						
SOC				MLR	MLR		
	comp=Z,18μm,14.0s						
TEKE	Tekeli-Mersin	10.33	283	PN	Pn	06 53 54.1	-0.1
ISFR	Sfrayin	10.44	72	*e*Pn	Pn	06 53 59.6	+3.6
LEF	Lefka	10.46	277	PN	Pn	06 53 57.2	+1.3
TVBK	TV Kerman	10.46	112	*e*Pn	Pn	06 53 56.8	+0.5
GEYT	Alibeck	10.73	67	Pn	Pn	06 54 02.0	+2.3
	comp=Z,2.3nm,0.3s,baz=264,slow=12,SNR=34						
GEYT	Alibeck	10.73	67		Pn	06 54 02.8	+3.0
GYA0B	ALIBECK ARRAY	10.73	67		Pn	06 54 02.8	+3.1
IKRD	Kardeh	10.80	74	*e*Pn	Pn	06 54 14.4	+14
GOF	Gofitskoye	10.80	350	⇑*i*P	Pn	06 54 04.3	+3.7
GOF				pmax	pmax		
	comp=Z,384nm,1.0s						
DIKM	Dikmen	10.87	315	PN	Pn	06 54 01.2	-0.4
BR131	Keskin Array S	10.90	303	P	Pn	06 54 04.9	+2.8
BR131	Keskin Array S	10.90	303		Pn	06 54 04.9	+2.8
BRTR	Keskin Array B	10.90	303	*i* P	Pn	06 54 05.6	+3.4
BRTR				pmax	pmax		
	comp=Z,16nm,1.0s						
BRTR	Keskin Array B	10.90	303	Pn	Pn	06 54 03.0	+0.9
	comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=30						
BRTR				LR	LR	06 58 44.4	
	comp=Z,9μm,19.5s,baz=100,slow=41						
BRTR	Keskin Array B	10.90	303	PN	Pn	06 54 01.8	-0.4
IAKL	Akhelmad	10.97	75	*e*Pn	Pn	06 54 05.3	+2.1
CHBY	Cihanbeyli	11.02	296	PN	Pn	06 54 03.2	-0.5
ITEG	Tejag	11.09	94	*e*Pn	Pn	06 54 05.5	+0.7
KULU	Kulu	11.09	298	PN	Pn	06 54 04.9	+0.2
CHMN	Cheshme madani	11.12	111	*e*Pn	Pn	06 54 06.3	+1.0
AFSR	Afar-Bala (An	11.19	300	PN	Pn	06 54 04.7	-1.4
AFRZ	Afriz	11.21	91	*e*Pn	Pn	06 54 08.5	+2.0
KONT	Konya--Tatoy	11.24	292	PN	Pn	06 54 05.2	-1.5
LADK	Ladik-KONYA	11.30	293	PN	Pn	06 54 06.9	-0.7
CANT	Cankiri	11.32	307	PN	Pn	06 54 07.5	-0.3
IMOG	Moghan	11.38	78	*e*Pn	Pn	06 54 12.0	+3.1
ANTO	Ankara	11.55	302	P	Pn	06 54 15.2	+4.2
ANTO	Ankara	11.55	302	⇑P	Pn	06 54 15.8	+4.8
ANTO	Ankara	11.55	302	PN	Pn	06 54 10.6	-0.4
ANTO	Ankara	11.55	302		Pn	06 54 15.2	+4.2
LOD	Lodumlu	11.58	302	PN	Pn	06 54 10.4	-1.0
BZK	Bozkurt	11.80	313	⇑P	Pn	06 54 19.5	+5.2
BZK	Bozkurt	11.80	313	PN	Pn	06 54 13.3	-1.0
NIAN	Nian	11.83	122	*e*Pn	Pn	06 54 12.2	-2.6
KIZT	Kizilcal	11.86	296	PN	Pn	06 54 14.8	-0.5
IMYA	Miami	12.02	77	*e*Pn	Pn	06 54 20.0	+2.5
ANN	Anapa	12.11	331	*e*P	Pn	06 54 21.5	+3.0
ANN				*e*S	Sn	06 56 41.9	+9.1
ANN				pmax	pmax		
	comp=N,54nm,1.4s						
ANN				pmax	pmax		
	comp=E,31nm,1.4s						
ANN				pmax	pmax		
	comp=Z,89nm,1.4s						
ANN				MLR	MLR		
	comp=E,10μm,13.0s						
ANN				MLR	MLR		
	comp=N,3μm,13.0s						
ANN				MLR	MLR		
	comp=Z,12μm,13.0s						
SHME	Shamm	12.37	130	*i* P	Pn	06 54 20.3	-1.9
	SNR=56						
UMQ	Umm Al-Quwin	12.45	133	*i* P	Pn	06 54 21.2	-2.0
	SNR=7.3						
UMQ	Umm Al-Quwin	12.45	133	P	Pn	06 54 23.7	+0.6
	SNR=7.0						
UMQ				S	Sn	06 56 39.6	-1.6
BANOM	Banah	12.56	130	*i* P	Pn	06 54 22.3	-2.5
	SNR=215						
BANOM	Banah	12.56	130	P	Pn	06 54 22.8	-2.0
	SNR=213						
BANOM				S	Sn	06 56 40.2	-3.8
	SNR=7.0						
ISP	Isparta	12.63	290	P	Pn	06 54 29.0	+3.2
ISP	Isparta	12.63	290	PN	Pn	06 54 24.2	-1.6
ISP	Isparta	12.63	290		Pn	06 54 29.0	+3.2
SHUT	Suhut-Afyon	12.77	293	PN	Pn	06 54 26.6	-1.1
AJN	Ajban	12.79	138	*i* P	Pn	06 54 26.8	-1.0
	SNR=28						
AJN	Ajban	12.79	138	P	Pn	06 54 27.4	-0.5
	SNR=25						
AJN				S	Sn	06 56 44.5	-5.1
MSFE	Esma-Masafi	12.87	132	*i* P	Pn	06 54 26.9	-2.2
	SNR=57						
ASUD	Al Ashush, Dub	12.93	136	*i* P	Pn	06 54 28.7	-1.2
	SNR=130						
ASUD	Al Ashush, Dub	12.93	136	P	Pn	06 54 29.4	-0.4
	SNR=130						
ASUD				S	Sn	06 56 49.7	-3.3
	SNR=5.7						
ELL	Elmali	12.96	285	P	Pn	06 54 35.0	+4.7
ELL	Elmali	12.96	285	PN	Pn	06 54 28.8	-1.5
ELL	Elmali	12.96	285		Pn	06 54 35.0	+4.7
FAQ	Al Faqa, Dubai	12.99	135	*i* P	Pn	06 54 29.5	-1.1
	SNR=12						
FAQ	Al Faqa, Dubai	12.99	135	P	Pn	06 54 29.7	-1.0
	SNR=12						
FAQ				S	Sn	06 56 51.8	-2.7
	SNR=7.1						
MDH	Madha	13.00	132	*i* P	Pn	06 54 29.0	-1.8
	SNR=82						
MDH	Madha	13.00	132	P	Pn	06 54 29.5	-1.3
	SNR=85						
MDH				S	Sn	06 56 49.1	-5.8
	SNR=9.2						
UOSS	Minazif	13.20	133	*i* P	Pn	06 54 31.4	-2.2
	SNR=39						
UOSS	Minazif	13.20	133	P	Pn	06 54 31.3	-2.2
	SNR=85						
UOSS	Minazif	13.20	133		Pn	06 54 31.4	-2.2
HATD	Hatta, Dubai	13.25	133	*i* P	Pn	06 54 32.3	-1.9
	SNR=35						
HATD	Hatta, Dubai	13.25	133	P	Pn	06 54 33.1	-1.1
	SNR=34						
HATD				S	Sn	06 56 54.1	-6.8
ASHO	Ashiyiah	13.31	134	P	Pn	06 54 33.5	-1.5
ASHO	Ashiyiah	13.31	134	P	Pn	06 54 33.3	-1.8
ASHO				S	Sn	06 56 56.8	-5.7
MZR	Muzera	13.32	147	*i* P	Pn	06 54 33.6	-1.5
	SNR=39						
MZR	Muzera	13.32	147	P	Pn	06 54 34.5	-0.7
	SNR=39						
MZR				S	Sn	06 56 57.5	-5.1
ALNE	Al Ain	13.61	137	*i* P	Pn	06 54 37.2	-2.0
	SNR=30						
SPNC	Sapanca-Adapaz	13.62	302	PN	Pn	06 54 38.1	-1.1
SIM	Simferopol'	13.71	323	*ce*P	Pn	06 54 41.8	+1.4
SIM				*e*S	Sn	06 57 14.0	+2.1
SIM				pmax	pmax		
	comp=Z,80nm,0.3s						
SIM				pmax	pmax		
	comp=Z,360nm,10.5s						
SIM				MLR	MLR		
	comp=Z,4μm,15.7s						
HRA	Herat	13.77	85		P	06 54 45.9	-3.9
CAVI	Cavuskoy	13.78	299	PN	Pn	06 54 39.8	-1.6
SIMA	Simav-Kutahya	14.09	294	PN	Pn	06 54 43.9	-1.8
HRT	Hereke	14.12	302	PN	Pn	06 54 45.2	-0.9
KULA	Kula-Manisa	14.21	292	P	P	06 54 52.1	-2.4
KULA	Kula-Manisa	14.21	292	PN	Pn	06 54 46.0	-1.3
SILT	Sile	14.27	303	PN	Pn	06 54 45.9	-2.1
MANT	Manisa	14.28	291	P	P	06 54 53.5	-2.0
ARQ	Araqi	14.61	136	P	Pn	06 54 50.3	-2.5
	SNR=76						
ARQ				S	Sn	06 57 27.3	-6.9
KLYT	Kilyos	14.72	302	PN	Pn	06 54 52.9	-1.3
KCTX	Karacabey (Bur	14.88	298	PN	Pn	06 54 55.3	-1.0
HOQ	Hoqain	14.89	133	P	Pn	06 54 54.0	-2.6
	SNR=38						
HOQ				S	Sn	06 57 35.1	-5.8
BALB	Balikesir	15.05	295	PN	Pn	06 54 57.1	-1.6
KARP	Karpathos	15.14	280	P	P	06 55 07.3	+2.5
KARP	Karpathos	15.14	280	PN	Pn	06 54 58.8	-1.0
KARP	Karpathos	15.14	280	P	P	06 55 04.5	-0.4
BSY	Bisya	15.46	136	P	Pn	06 55 01.7	-2.6
	SNR=43						
BSY				S	Sn	06 57 45.9	-9.1
KRBG	Karabiga-Canak	15.69	298	PN	Pn	06 55 05.7	-1.3
SMDO	Samad	15.73	133	P	Pn	06 55 05.7	-2.0
	SNR=53						
SMDO				S	Sn	06 57 56.7	-4.7
RKY	Sarkoy-Tekirda	15.86	299	PN	Pn	06 55 08.3	-1.0
WSAR	Wadi Sarin	15.95	131	P	Pn	06 55 07.8	-2.7
	SNR=21						
WSAR				S	Sn	06 57 57.3	-10
WSAR	Wadi Sarin	15.95	131	Pn	Pn	06 55 08.1	-2.4
	comp=Z,24nm,0.3s,baz=331,slow=11,SNR=60						
WSAR				Sn	Sn	06 57 57.3	-10
	comp=Z,20nm,0.3s,baz=331,slow=23,SNR=10.0						
WSAR				LR	LR	07 03 39.7	
	comp=Z,9μm,18.1s,baz=334,slow=46						
PRK	Paraskevi	16.18	293	P	P	06 55 16.2	-0.1
CHOS	Chios island	16.20	290	P	P	06 55 20.8	+4

KIS *i* S **Sn** **06 58 48.0 -3.7**
KIS pmax pmax
comp=Z,140nm,1.4s
KIS pmax pmax
comp=Z,900nm,12.0s
KIS MLR MLR
comp=Z,4μm,18.0s
VORR Voronezh 17.85 347 *e*P **Pn** **06 55 34.0 -0.1**
VORR pmax pmax
comp=Z,450nm,2.2s
PTL Penteli 17.88 288 P **P** **06 55 35.8 +0.6**
KAVA Kavala 17.89 298 P **Pn** **06 55 34.8 +0.1**
RODP Rodopos 17.91 280 P **P** **06 55 36.5 +1.0**
DQM DQM 17.91 141 P **Pn** **06 55 31.9 -3.3**
SNR=32
DQM S Sn 06 58 40.4 -14
VLY Voula,Athens 17.91 287 P **Pn** **06 55 35.2 +0.1**
ATHU Athens Univers 17.93 288 P **P** **06 55 36.1 +0.3**
RZN Rozhen 17.93 300 *i* P **P** **06 55 36.5 +0.6**
ATH Athens Observa 17.99 288 P **P** **06 55 37.0 +0.7**
WHFO Wadi Hawf 17.99 154 P **Pn** **06 55 32.0 -4.1**
SNR=84
WHFO S Sn 06 58 40.6 -16
AOS Alonnisos 18.00 292 P **P** **06 55 36.4 -0.1**
PVL Pavlikeni 18.02 305 *i* P **P** **06 55 37.1 +0.5**
PLD Plovdiv 18.07 301 *i* P **P** **06 55 39.2 +2.0**
ISR Istrita 18.07 312 ⇓P **P** **06 55 37.8 +0.5**
MRKA Markates 18.16 290 P **P** **06 55 38.8 +0.5**
AB31 Akbulak array 18.24 31 *e*P **Pn** **06 55 38.6 -0.4**
AB31 pmax pmax
comp=Z,39nm,0.6s
ABKAR Akbulak array 18.24 31 P **Pn** **06 55 38.2 -0.7**
ANKY Antikythira Is 18.27 281 P **Pn** **06 55 39.3 -0.1**
PAIG Paliouri 18.27 294 P **P** **06 55 40.7 +1.2**
SKIA Skiathos 18.31 291 P **Pn** **06 55 40.5 +0.5**
VILL Villia 18.32 288 P **Pn** **06 55 40.2 +0.1**
DID Didima 18.33 286 P **P** **06 55 40.0 -0.2**
VRI Vrincioaia 18.34 314 ⇑P **Pn** **06 55 41.2 +0.9**
ABTO Aybut 18.35 156 P **P** **06 55 37.0 -3.5**
SNR=31
ABTO S Sn 06 58 49.9 -15
PLOR Plostina 18.38 314 P **Pn** **06 55 42.2 +1.5**
PLOR Plostina 18.38 314 ⇑P **Pn** **06 55 42.3 +1.5**
AKTO Aktyubinsk 18.41 26 P **P** **06 55 40.3 -0.7**
AKTO pmax pmax
comp=Z,152nm,1.1s
AKTO Aktyubinsk 18.41 26 P **P** **06 55 38.4 -2.6**
comp=Z,1.4nm,0.3s,baz=214,slow=12,SNR=43
AKTO LR LR 07 04 58.5
comp=Z,3μm,20.3s,baz=208,slow=44
KTHA Kythira Island 18.45 282 P **P** **06 55 39.0 -2.5**
KTHA Kythira Island 18.45 282 PN **Pn** **06 55 43.2 +1.5**
NVR Nevrokopi 18.45 298 P **Pn** **06 55 41.8 +0.1**
COPA Copaceanca 18.46 308 ⇑P **Pn** **06 55 42.7 +1.0**
KTHR Kythira 18.50 282 P **P** **06 55 41.5 -0.5**
NEO Neokhori 18.52 292 P **Pn** **06 55 43.7 +1.2**
RBK Rabkut 18.53 153 P **P** **06 55 39.0 -3.5**
SNR=64
RBK S Sn 06 58 56.1 -13
PLG Polygyros 18.54 295 P **P** **06 55 42.5 0.0**
VLI Velíai 18.55 284 P **P** **06 55 41.0 -1.6**
XOR Xorichti 18.55 292 P **Pn** **06 55 43.2 +0.3**
PLVB Pleven 18.56 305 ⇑P **Pn** **06 55 43.6 +0.7**
LOUT Loutraki 18.57 288 P **Pn** **06 55 44.3 +1.2**
LTK Loutraki 18.58 288 P **P** **06 55 42.3 -0.6**
PGB Panagyurishte 18.59 302 *i* P **Pn** **06 55 43.9 +0.6**
LKR Lokris 18.61 290 P **P** **06 55 43.4 +0.2**
MMB Musomiste 18.61 299 *i* P **Pn** **06 55 44.8 +1.1**
MLR Muntele Rosu 18.62 312 P **Pn** **06 55 46.0 +2.2**
MLR pmax pmax
comp=Z,66nm,0.8s
MLR Muntele Rosu 18.62 312 P **Pn** **06 55 43.7 -0.1**
comp=Z,0.9nm,0.3s,baz=61,slow=7.8,SNR=8.3
MLR Muntele Rosu 18.62 312 ⇓P **Pn** **06 55 45.9 +2.2**
MLR Muntele Rosu 18.62 312 P **Pn** **06 55 46.0 +2.2**
DMTO DMTO 18.63 151 P **P** **06 55 41.5 -2.0**
SNR=94
DMTO S Sn 06 58 57.1 -15
SHAO Shalim 18.63 149 *i* P **P** **06 55 41.5 -2.1**
SNR=80
SHAO Shalim 18.63 149 P **P** **06 55 41.0 -2.6**
SNR=82
SHAO S Sn 06 58 57.9 -14
PROD Prodromos 18.65 288 P **Pn** **06 55 44.8 +0.7**
SOH Sokhos 18.70 296 P **P** **06 55 44.3 0.0**
TESR Tescani 18.74 316 ⇑P **Pn** **06 55 45.0 -0.1**
LPSR Galich'ya Gora 18.79 347 *e*P **P** **06 55 43.0 -2.0**
LPSR *e*S **Sn** **06 59 08.9 -6.1**
LPSR pmax pmax
comp=Z,480nm,1.0s
LPSR smax smax
comp=E,5μm,12.4s
LPSR MLR MLR
comp=Z,5μm,17.0s
SORM Soroca 18.79 322 ⇓P **P** **06 55 44.7 -0.4**
HORT Hortiatis 18.84 296 P **P** **06 55 45.5 -0.3**
THE Thessaloniki 18.95 296 P **Pn** **06 55 47.4 -0.2**
VLX Vlachokerasia 19.01 286 P **P** **06 55 45.6 -2.1**
KNT Kendrikon 19.11 297 P **P** **06 55 48.5 -0.2**
VOIR 19.15 311 ⇑P **Pn** **06 55 50.6 +0.4**
MPEP Malo Peshtene 19.15 304 *i* P **Pn** **06 55 49.9 -0.2**
AGG Agios Georgios 19.17 291 P **P** **06 55 49.3 -0.1**
AGG Agios Georgios 19.17 291 P **Pn** **06 55 50.3 -0.1**
AGG pmax pmax
comp=Z,172nm,1.2s
AGG Agios Georgios 19.17 291 P **Pn** **06 55 50.3 -0.1**
DOPR Dopca 19.20 313 ⇓P **P** **06 55 49.6 0.0**
LIT Litokhoron 19.20 294 P **P** **06 55 49.9 +0.1**
LIT Litokhoron 19.20 294 P **P** **06 55 50.2 +0.4**
LIT pmax pmax
comp=Z,71nm,1.0s
LIT Litokhoron 19.20 294 P **P** **06 55 50.1 +0.4**
KLV Kalavryta, Ach 19.23 288 P **P** **06 55 46.1 -3.9**
KALE Kalithea 19.26 289 P **P** **06 55 50.1 -0.3**
VTS Vitosha 19.26 302 P **P** **06 55 50.9 +0.4**
VTS Vitosha 19.26 302 *i* P **Pn** **06 55 52.4 +0.8**
VTS Vitosha 19.26 302 ⇑P **Pn** **06 55 51.1 -0.4**
BIZ Bicaz 19.29 316 ⇓P **P** **06 55 49.9 -0.6**
MAKR Makrakomi, Fth 19.32 291 P **P** **06 55 51.5 +0.4**
SERG Sergoula 19.32 289 P **P** **06 55 49.1 -2.0**
KBL Kabul 19.35 83 P **Pn** **06 55 53.3 +0.6**
KBL pmax pmax
comp=Z,128nm,1.1s
KBL Kabul 19.35 83 **Pn** **06 55 53.3 +0.6**
ITM Ithomi 19.37 285 P **P** **06 55 49.7 -1.9**
LAKA Lakka 19.37 288 P **P** **06 55 50.8 -0.8**
ARR Arges 19.38 311 ⇓P **Pn** **06 55 52.8 0.0**
VAY Valandovo 19.39 298 *i* Pn **Pn** **06 55 52.7 -0.2**
CHGR Chuyangaron 19.40 71 P **Pn** **06 55 53.5 +0.3**
CHGR IAmb IAmb 06 56 16.0
comp=Z,221nm,0.9s
GRG Griva 19.43 296 P **P** **06 55 52.5 +0.2**
EFP Efpalio 19.45 289 P **P** **06 55 52.4 0.0**
PRAR RASCA 19.45 317 ⇑P **P** **06 55 52.6 +0.2**
THL Klokotos Trika 19.48 292 P **P** **06 55 52.6 -0.2**
EVR Evrytania 19.57 290 P **P** **06 55 53.0 -0.8**
DRO Drossia 19.57 287 P **P** **06 55 53.2 -0.5**
PVO Paravola 19.76 289 P **P** **06 55 55.3 -0.5**
STIP Stip 19.76 298 *i* Pn **P** **06 55 53.9 -1.9**
RLS Riolos of Patr 19.76 288 P **P** **06 55 54.5 -1.4**
DAMY Dhamar 19.79 183 **Pn** **06 55 59.5 +1.4**
DAMY IAmb IAmb 06 56 16.9
comp=Z,226nm,1.0s
TAS Tashkent 19.92 63 P **Pn** **06 55 59.8 +0.5**
TAS Tashkent 19.92 63 P **Pn** **06 55 59.8 +0.5**
LOT Lotru 19.96 310 ⇓P **Pn** **06 55 59.1 -0.7**
PDO Prodromos 20.02 289 P **P** **06 55 57.0 -1.7**
KPRO Kipourio 20.04 293 P **P** **06 55 58.2 -0.7**
BURAR Bucovina Array 20.16 317 ⇑P **P** **06 56 00.3 +0.1**
BURAR mb 06 56 18.6
BURAR Bucovina Array 20.16 317 P **P** **06 55 59.3 -0.9**
FNA Florina 20.16 295 P **P** **06 55 58.8 -1.5**
AKASG Malin Array Be 20.17 329 P **P** **06 55 58.6 -1.5**
comp=Z,7.9nm,0.5s,baz=132,slow=11,SNR=84
AKASG LR LR 07 04 35.6
comp=Z,2μm,20.2s,baz=155,slow=39
AKASG Malin Array Be 20.17 329 P **P** **06 55 57.4 -2.7**
AKBB Malin Array Si 20.17 329 P **P** **06 55 58.6 -1.5**
AKBB pmax pmax
comp=Z,123nm,1.0s
AKBB Malin Array Si 20.17 329 P **P** **06 55 58.6 -1.5**
AKBB IAmb IAmb 06 56 25.3
comp=Z,123nm,0.9s
BUR08 Bucovina Ar. S 20.19 317 P **P** **06 56 00.0 -0.5**
PENT Pentalofos 20.24 294 P **P** **06 56 01.7 +0.5**
KFL Anninata 20.30 288 P **P** **06 56 00.2 -1.5**
GAR Garm 20.34 70 IAmb IAmb 06 56 23.4
comp=Z,199nm,0.8s
SKO Skopje 20.37 299 *i* Pn Pn 06 56 06.5 +2.0
ARCR ARCALIA 20.38 315 ⇓P Pn 06 56 03.9 -0.7
EVGI Lefkada island 20.44 289 P **P** **06 56 00.0 -3.2**
LKD2 Lefkada island 20.45 290 P **P** **06 56 01.2 -2.1**
VLS Valsamata 20.46 288 P **P** **06 56 01.4 -2.1**
FSK Fiskardo 20.50 289 P **P** **06 56 01.4 -2.4**
GZR Gura Zlata 20.57 309 ⇑P **P** **06 56 03.8 -0.9**
HERR Herculane 20.60 307 ⇓P **P** **06 56 04.8 -0.1**
CJR Cluj-Napoca 20.64 313 ⇑P **P** **06 56 06.0 +0.6**
OHR Ohrid 20.65 296 *i* Pn Pn 06 56 07.2 -0.8
DEV Deva 20.69 310 ⇑P **P** **06 56 06.5 +0.6**
IGT Igoumenitsa 20.77 292 P **P** **06 56 03.1 -3.7**
MDVR Moldovita 21.02 307 ⇑P **P** **06 56 09.2 -0.4**
SRN Sarande 21.07 292 P **P** **06 56 08.0 -1.9**
BMR Baia Mare 21.18 315 ⇓P **P** **06 56 11.9 +0.8**
DRGR 21.22 312 ⇑P **P** **06 56 12.1 +0.5**
KK31 Karatay Array 21.23 59 *i* P **P** **06 56 12.0 +0.2**
KK31 pmax pmax
comp=Z,42nm,0.8s
KK31 Karatay Array 21.23 59 IAmb IAmb 06 56 44.9
comp=Z,422nm,1.9s
KKAR Karatay Array 21.23 59 P **P** **06 56 12.2 +0.4**
KKAR Karatay Array 21.23 59 P **P** **06 56 12.2 +0.4**
KKAR Karatay Array 21.23 59 IAmb IAmb 06 56 44.9
comp=Z,422nm,1.9s
BZS Buzias 21.40 309 ⇑P **P** **06 56 13.1 -0.5**
OBN Obninsk 21.62 346 *ce*P **P** **06 56 13.7 -2.0**
OBN *i* 06 56 24.0
OBN *i* S **S** **07 00 06.4 -7.7**
OBN pmax pmax
comp=Z,172nm,1.2s
OBN MLR MLR
comp=Z,7μm,18.0s
OBN Obninsk 21.62 346 P **P** **06 56 13.5 -2.3**
comp=Z,20nm,0.3s,baz=103,slow=2.5,SNR=22
OBN LR LR 07 05 36.3
comp=Z,2μm,19.9s,baz=155,slow=40
OBN Obninsk 21.62 346 P **P** **06 56 12.7 -3.1**
SIRR Siria 21.64 310 ⇑P **P** **06 56 17.2 +1.1**
DIVS Divibare 21.96 304 *e*P **P** **06 56 18.9 -0.8**
MOS Moscow 22.02 348 *e*P **P** **06 56 16.1 -3.9**
MOS *e* 06 56 44.6
MOS *e*S **S** **07 00 15.1 -6.6**
MOS *i* 07 00 24.0
MOS pmax pmax
comp=Z,800nm,2.2s
MOS pmax pmax
comp=Z,394nm,1.4s
MOS smax smax
comp=E,900nm,2.8s
MOS smax smax
comp=N,900nm,2.9s
MOS MLR MLR
comp=Z,5μm,20.0s
MOS MLR MLR
comp=N,4μm,19.0s
DRME Dracevica, Mon 22.05 298 *e*P **P** **06 56 21.0 +0.5**
PDG Podgorica 22.05 299 *e*P **P** **06 56 23.8 +3.3**
LVV L'vov 22.07 321 *e*P **P** **06 56 18.8 -1.8**
LVV *e*S **S** **07 00 15.3 -7.5**
LVV pmax pmax
comp=Z,300nm,1.8s
LVV smax smax
comp=E,330nm,2.5s
LVV smax smax
comp=N,530nm,2.5s
LVV MLR MLR
comp=N,3μm,12.0s
LVV MLR MLR
comp=E,2μm,12.0s
LVV MLR MLR
comp=Z,2μm,12.0s
BBLS Lazići 22.30 303 *e*P **P** **06 56 24.1 +0.8**
UZH Uzhgorod 22.36 316 ⇑*i*P **P** **06 56 21.5 -2.3**
UZH *e* 06 56 46.7
UZH *i* S **S** **07 00 20.5 -7.9**
UZH MLR MLR
comp=N,650nm,16.0s
UZH MLR MLR
comp=E,400nm,16.0s
TEKS Tekeris 22.42 305 *e*P **P** **06 56 22.0 -2.5**
FRGS Fruska Gora 22.42 306 *e*P **P** **06 56 23.5 -1.0**
KOLS Kolonicke sedl 22.53 317 *e*P **P** **06 56 26.6 +1.0**
KOLS Kolonicke sedl 22.53 317 *e*P **P** **06 56 26.6 +1.0**
HCY Herceg Novi 22.61 299 *e*P **P** **06 56 25.7 -0.8**
KWP Kalwaria Pacla 22.66 319 *e*P **P** **06 56 27.0 -0.1**
KWP *e*S **S** **07 00 31.9 -2.0**
KWP Kalwaria Pacla 22.66 319 *e*P **P** **06 56 26.9 -0.1**
KWP *e*P **P** **06 56 26.9 -0.1**
KWP *e*S **S** **07 00 31.9 -2.0**
KWP *e*S **S** **07 00 31.9 -2.0**
BRY Bratogost 22.67 300 *e*P **P** **06 56 26.0 -1.3**
HAPS Han Pijesak,BI 22.68 303 *e*P **P** **06 56 25.2 -2.2**
TREB Trebinje 22.77 299 *e*P **P** **06 56 26.6 -1.6**
DBRK Dubrovnik 22.90 299 *i* P **P** **06 56 31.5 +1.9**
ATD Arta Tunnel 22.92 187 P **P** **06 56 31.5 +1.5**
comp=E,27nm,0.8s,baz=2.2,slow=6.2,SNR=14
ATD LR LR 07 06 01.6
comp=E,7μm,20.6s,baz=8.0,slow=38
NIL Nilore 22.93 84 P **P** **06 56 31.4 +1.4**
NIL Nilore 22.93 84 P **P** **06 56 30.1 +0.1**
NIL MLR MLR
comp=Z,14μm,18.0s
NIL Nilore 22.93 84 P **P** **06 56 30.1 +0.1**
FASA Fasano 23.19 294 *e*P **P** **06 56 32.6 +0.1**
TAR1 Taranto 23.20 294 *e*(P) **P** **06 56 31.5 -1.2**
STON Ston 23.27 300 *i* P **P** **06 56 30.9 -2.4**
STON Ston 23.27 300 *e*P **P** **06 56 32.9 -0.4**
AML Almayashu 23.31 62 P **P** **06 56 35.5 +1.3**
SNR=63
MASS Massafra 23.32 294 *e*P **P** **06 56 36.1 +2.2**
KECS Kecovo 23.34 315 *e*P **P** **06 56 34.7 +0.8**
KECS Kecovo 23.34 315 *e*P **P** **06 56 34.7 +0.8**
SOCY Socotra 23.42 159 P **P** **06 56 30.8 -4.3**
SOCY IAmb IAmb 06 56 54.7
comp=Z,122nm,0.8s
PSZ Piszkesteto 23.43 313 ⇑P **P** **06 56 33.9 -1.1**
PSZ mb 06 56 43.1
PSZ Piszkesteto 23.43 313 IAmb IAmb 06 56 57.4
comp=Z,112nm,1.4s
EKS2 Erkin-Say 23.47 61 P **P** **06 56 36.9 +1.4**
SNR=24
MORH Mrgy, Hungar 23.55 308 *e*P **P** **06 56 33.4 -2.7**
BAI Bari 23.58 295 *e*P **P** **06 56 40.2 +3.8**
MICGM Minsk 23.59 334 ⇓*i*P **P** **06 56 34.0 -2.4**
MICGM ⇓*i*P **P** **06 56 34.0 -2.4**
MICGM PM 06 56 35.0
comp=Z,1.8nm,2.0s
MICGM PM 06 56 37.0
comp=Z,1.0nm,1.5s
MICGM PM 06 56 38.0
comp=N,0.9nm,1.5s
MICGM PM 06 56 38.0
comp=E,0.7nm,1.5s
MICGM *e*PP sP 06 57 01.0 +15
MICGM *e*PPP PPP 06 57 07.0
MICGM *e*S **S** **07 00 45.0 -4.3**
MICGM *e*SS Sn 07 00 56.0 -14
MICGM *e*SSS SSS 07 01 14.0
MICGM *e*LQ LQ 07 04 10.0
MICGM LQM 07 05 16.0
comp=E,6.6nm,18.0s
MICGM *e*LR LR 07 05 36.0
MICGM LRM MLR 07 06 34.0
comp=E,3.2nm,14.0s
MICGM LRM MLR 07 07 04.0
comp=Z,12nm,17.0s
MICGM LRM MLR 07 07 06.0
comp=N,3.8nm,17.0s
MNK Minsk 23.59 334 ⇓*i*P **P** **06 56 34.0 -2.4**
MNK *e* 06 57 07.0
MNK *e*S **S** **07 00 45.0 -4.3**
MNK *e* 07 00 56.0
MNK pmax pmax
comp=Z,2μm,2.0s
MNK pmax pmax
comp=Z,1μm,1.5s
MNK pmax pmax
comp=N,850nm,1.5s
MNK pmax pmax
comp=E,660nm,1.5s
MNK MLR MLR
comp=E,3μm,14.0s
MNK MLR MLR
comp=Z,12μm,17.0s
MNK MLR MLR
comp=N,4μm,17.0s
SG1 Sgolgore (BA) 23.70 294 *e*P **P** **06 56 35.7 -1.9**
ARU Arti 23.74 18 *c i*P **P** **06 56 37.3 -0.5**
ARU 06 57 05.6
ARU PPP PPP 06 57 15.6
ARU S **S** **07 00 54.6 +2.9**
ARU SS **SnSn** **07 01 38.2 +7.8**
ARU pmax pmax
comp=Z,129nm,1.8s
ARU MLR MLR
comp=Z,5μm,15.0s
ARU Arti 23.74 18 P **P** **06 56 37.9 +0.1**
comp=Z,2.0nm,0.2s,baz=201,slow=8.5,SNR=18
ARU Arti 23.74 18 P **P** **06 56 37.6 -0.2**
UCH Uchtor 23.93 62 P **P** **06 56 41.4 +1.1**
SNR=20
AAK Ala-Archa 23.98 61 *i* P **P** **06 56 41.8 +1.3**
SNR=28
AAK Ala-Archa 23.98 61 P **P** **06 56 41.7 +1.3**
AAK P **P** **06 56 41.7 +1.3**
AAK Ala-Archa 23.98 61 P **P** **06 56 42.2 +1.8**
AAK pmax pmax
comp=Z,58nm,1.0s
AAK Ala-Archa 23.98 61 P **P** **06 56 41.9 +1.3**
comp=Z,14nm,0.5s,baz=210,slow=2.0,SNR=32
AAK PcP **PcP** **07 00 23.0 +0.8**
comp=Z,8.3nm,0.5s,baz=58,slow=2.3,SNR=6.5
AAK Ala-Archa 23.98 61 P **P** **06 56 42.0 +1.6**
SNR=15
AAK Ala-Archa 23.98 61 P **P** **06 56 41.8 +1.3**
MGRS Mrkonjic Grad 24.06 303 *e*P **P** **06 56 39.3 -1.7**
BLY Banja Luka 24.08 304 *e*P **P** **06 56 39.9 -1.2**
BLY Banja Luka 24.08 304 ⇑P **P** **06 56 39.8 -1.2**
BLY mb 06 56 49.3
USP Ospenovka 24.11 60 P **P** **06 56 43.6 +2.2**
SNR=22
CHMS Chumysh 24.23 61 P **P** **06 56 44.0 +1.3**
SNR=27
LANS Liptovska Anna 24.24 315 *e*P **P** **06 56 43.5 +0.9**
LANS Liptovska Anna 24.24 315 *e*P **P** **06 56 43.5 +0.9**
NACGM Naroch 24.31 333 *e*P **P** **06 56 40.0 -3.1**
NACGM PM 06 56 45.0
comp=Z,0.8nm,1.0s
NACGM *e*S **S** **07 00 54.0 -6.8**
NACGM *e*SS **SnSn** **07 01 32.0 -12**
NACGM *e*LQ LQ 07 04 40.0
NACGM *e*LR LR 07 05 46.0
NACGM LRM MLR 07 07 32.0
comp=Z,11nm,18.0s
KIRV Kirov 24.31 5 P **P** **06 56 42.1 -1.0**
comp=Z,100nm,0.6s,baz=194,slow=7.9,SNR=48
KIRV LR LR 07 08 21.6
comp=Z,7μm,18.7s,baz=187,slow=42
KBK Karagaybulak 24.32 62 P **P** **06 56 45.5 +1.9**
SNR=32
VYHS Vyhne 24.32 313 *e*P **P** **06 56 43.3 0.0**
VYHS Vyhne 24.32 313 *e*P **P** **06 56 43.3 0.0**
KZA Kyzart 24.44 63 P **P** **06 56 47.3 +2.3**
SNR=17
OJC Ojcow 24.57 318 *e*P **P** **06 56 44.8 -0.8**
OJC *e*S **S** **07 01 08.7 +3.5**
OJC Ojcow 24.57 318 *e*P **P** **06 56 44.8 -0.8**
OJC *e*P **P** **06 56 44.8 -0.8**
OJC *e*S **S** **07 01 08.7 +3.5**
OJC *e*S **S** **07 01 08.7 +3.5**
OJC Ojcow 24.57 318 IAmb IAmb 06 56 54.7
comp=Z,69nm,1.0s
IDID Didziasalis 24.64 334 *e*P **P** **06 56 44.3 -1.8**
SVE Sverdlovsk 24.65 20 *de*P **P** **06 56 46.3 +0.1**
SVE pmax pmax
comp=Z,190nm,1.3s
SVE MLR MLR
comp=Z,3μm,14.0s
KSH Kashi 24.75 69 P **P** **06 56 46.5 -1.0**
KSH pP pP 06 56 51.0 -3.2
KSH PP **PnPn** **06 57 21.4 +1.7**
KSH S **S** **07 01 04.8 -3.8**
KSH sS pS 07 01 11.4 -4.4
KSH SS **SnSn** **07 01 57.5 +2.0**
KSH pmax pmax
comp=Z,75nm,0.6s
KSH LR LR
comp=Z,12μm,10.1s
KSH LR LR
comp=Z,15μm,13.2s
KSH LR LR
comp=Z,12μm,13.2s
TKM2 Tokmak 2 24.83 61 *i* P **P** **06 56 47.8 -0.5**
TKM2 pmax pmax
comp=Z,117nm,1.1s
TKM2 Tokmak 2 24.83 61 P **P** **06 56 50.4 +2.1**
SNR=56
IIGN Ignalina 24.86 333 *e*P **P** **06 56 47.4 -0.7**
IIGN IAmb IAmb 06 56 51.4
comp=Z,74nm,1.0s
MORI Morici 24.89 301 *i* P **P** **06 56 46.9 -1.6**
BEL Belsk 24.91 322 *e*P **P** **06 56 48.3 -0.3**
BEL Belsk 24.91 322 *e*P **P** **06 56 48.3 -0.3**
BEL *e*P **P** **06 56 48.3 -0.3**
BEL *e*S **S** **07 01 18.9 +8.3**
BEL *e*S **S** **07 01 18.9 +8.3**
NRN Naryn 24.92 65 IAmb IAmb 06 57 06.8
comp=Z,62nm,0.8s
KALN Kalnik 24.96 307 *i* P **P** **06 56 47.8 -1.4**
BOOM Boomskoye usch 25.01 62 IAmb IAmb 06 57 20.0
comp=Z,87nm,0.9s
ISAL Salakas 25.06 333 *e*P **P** **06 56 49.2 -0.7**
ISAL IAmb IAmb 06 56 53.2
comp=Z,63nm,0.8s
SUW Suwalki 25.13 328 *e*P **P** **06 56 50.1 -0.4**
SUW Suwalki 25.13 328 *e*P **P** **06 56 50.1 -0.4**
SUW *e*P **P** **06 56 50.1 -0.4**
SUW *e*S **S** **07 01 23.7 +10**
SUW *e*S **S** **07 01 23.7 +10**
IZAR Zarasai 25.16 334 *e*P **P** **06 56 49.5 -1.3**
IZAR IAmb IAmb 06 56 53.7
comp=Z,87nm,0.8s
JAVC Velka Javorina 25.18 313 *e*P **P** **06 56 51.5 +0.4**
SMOL Smolenice 25.18 313 *e*P **P** **06 56 52.2 +1.1**
SMOL Smolenice 25.18 313 *e*P **P** **06 56 52.2 +1.1**
ULHL Ulahol 25.20 63 P **P** **06 56 54.6 +3.0**
SNR=16
MODS Modra-Piesok 25.22 312 *e*P **P** **06 56 50.8 -0.7**
MODS Modra-Piesok 25.22 312 *e*P **P** **06 56 50.8 -0.7**
PTJ Puntijarka 25.22 306 *i* P **P** **06 56 51.5 -0.1**
ZST Bratislava 25.26 312 *e*P **P** **06 56 52.3 +0.5**
ZST Bratislava 25.26 312 *e*P **P** **06 56 52.3 +0.5**
OKC Ostrava-Krasne 25.32 316 *e*P **P** **06 56 54.3 +1.9**
OKC *e*S **S** **07 01 16.1 -1.1**
OKC MLR MLR
comp=Z,3μm,18.2s
OKC Ostrava-Krasne 25.32 316 *e*P **P** **06 56 54.3 +1.9**
OKC *e*S **S** **07 01 16.1 -1.1**
OKC AMS AMS 07 09 00.0
comp=Z,3μm,18.2s
VAE Valguarnera 25.35 286 P **P** **06 56 54.5 +1.7**
comp=Z,63nm,0.8s,baz=355,slow=0.5,SNR=5.0
DUGI Dugi Otok 25.38 301 *i* P **P** **06 56 53.1 +0.2**
CRES Cresnjev 25.54 306 *e*P **P** **06 56 54.8 +0.4**
BRVK Borovoye 25.59 36 P **P** **06 56 59.7 +4.9**
BRVK P **P** **06 56 59.7 +4.9**
BRVK P **P** **06 56 59.7 +4.9**
BRVK Borovoye 25.59 36 *ce*P **P** **06 56 55.2 +0.4**
BRVK pmax pmax
comp=Z,72nm,1.7s
BRVK Borovoye 25.59 36 P **P** **06 56 55.5 +0.7**
BOJS Bojanci 25.59 305 *e*P **P** **06 56 53.6 -1.3**
BOJS *e*S **S** **07 01 20.1 -1.5**
BVAR Borovoye Array 25.62 36 P **P** **06 56 55.4 +0.3**
comp=Z,22nm,0.5s,baz=248,slow=8.0,SNR=32
BVAR ScP **ScP** **07 04 04.9 +1.4**
comp=Z,6.7nm,0.8s,baz=212,slow=1.4,SNR=7.3
NVLJ Novalja 25.63 302 *i* P **P** **06 56 52.6 -2.6**
MORC Moravsky Berou 25.65 315 *e*P **P** **06 56 54.4 -1.0**
MORC Moravsky Berou 25.65 315 IAmb IAmb 06 57 04.4
comp=Z,178nm,1.5s

AAA	**Alma-Ata**	**25.83**	**61**	*e*P	**P**	**06 56 58.9**	**+1.7**
AAA				pmax	pmax		
	comp=Z,1μm,9.3s						
AAA				MLR	MLR		
	comp=Z,7μm,11.0s						
PABE	**Paberze**	**25.84**	**331**	*e*P	**P**	**06 56 56.2**	**-0.7**
PABE				IAmb	IAmb	06 56 59.4	
	comp=Z,478nm,1.4s						
PABE				*e*S	**S**	**07 01 30.5**	**+5.3**
KDJ	**Kajisay**	**25.87**	**63**	P	**P**	**06 56 59.8**	**+2.1**
KDJ	**Kajisay**	**25.87**	**63**	P	**P**	**06 56 59.8**	**+2.1**
ARSA	**Arzberg**	**25.92**	**309**	*i* pP	**P**	**06 56 58.1**	**+0.2**
	comp=Z,41nm,1.3s,SNR=7.8						
CONA	**Conrad Observa**	**25.93**	**310**	*i* pP	**P**	**06 56 57.8**	**-0.2**
	comp=Z,61nm,1.2s,SNR=18						
VRAC	**Vranov**	**26.01**	**314**	P	**P**	**06 56 59.0**	**+0.4**
VRAC	**Vranov**	**26.01**	**314**	P	**P**	**06 56 59.0**	**+0.4**
	comp=Z,21nm,0.8s,baz=112,slow=9.2,SNR=19						
VRAC				LR	LR	07 09 01.3	
	comp=Z,4μm,19.7s,baz=114,slow=41						
VRAC	**Vranov**	**26.01**	**314**	*e*P	**P**	**06 56 57.8**	**-0.8**
KRUC	**Moravsky**	**26.03**	**313**	*e*P	**P**	**06 56 58.1**	**-0.7**
SOKA	**Soboth**	**26.07**	**307**	*i* pP	**P**	**06 56 59.4**	**+0.1**
	comp=Z,69nm,1.7s,SNR=8.8						
CEY	**Cerknica**	**26.21**	**305**	*e*P	**P**	**06 56 58.7**	**-1.8**
KRLC	**Kraliky**	**26.22**	**315**	*e*P	**P**	**06 56 59.3**	**-1.3**
KRLC				*e*S	**S**	**07 01 32.5**	**+1.0**
KRLC	**Kraliky**	**26.22**	**315**	*e*P	**P**	**06 56 59.3**	**-1.3**
KRLC				*e*S	**S**	**07 01 32.5**	**+1.0**
LJU	**Ljubljana**	**26.23**	**306**	*e*P	**P**	**06 56 58.3**	**-2.3**
AQU	**L'Aquila**	**26.31**	**297**	*e*P	**P**	**06 57 01.4**	**-0.1**
OBKA	**Obir**	**26.34**	**307**	*i* pP	**P**	**06 57 02.7**	**+1.0**
	comp=Z,95nm,1.2s						
NRCA	**Norcia**	**26.58**	**298**	IAmb	IAmb	06 57 40.1	
	comp=Z,72nm,1.0s						
DPC	**Dobruska-Polom**	**26.60**	**316**	*e*P	**P**	**06 57 02.8**	**-1.2**
DPC				*e*S	**S**	**07 01 41.9**	**+4.3**
DPC				MLR	MLR		
	comp=Z,3μm,16.2s						
DPC	**Dobruska-Polom**	**26.60**	**316**	*e*P	**P**	**06 57 02.8**	**-1.2**
DPC				*e*S	**S**	**07 01 41.9**	**+4.3**
DPC				AMS	AMS	07 09 20.0	
	comp=Z,3μm,16.2s						
TREC	**Trest**	**26.67**	**313**	AMS	AMS	07 10 10.0	
	comp=Z,4μm,14.6s						
KLMR	**Klimovskoe**	**26.74**	**353**	*e*P	**P**	**06 57 03.6**	**-1.4**
KLMR				*e*		06 57 43.3	
KLMR				*e*S	**S**	**07 01 36.7**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,147nm,1.0s						
KLMR				MLR	MLR		
	comp=Z,4μm,15.0s						
KLMR	**Klimovskoe**	**26.74**	**353**	*e*P	**P**	**06 57 03.6**	**-1.4**
KLMR				AMP		06 57 17.8	
	comp=Z,147nm,1.0s						
KLMR				*e*PP	sP	06 57 43.3	+29
KLMR				*e*S	**S**	**07 01 36.7**	**-2.6**
KLMR				*e*S	**S**	**07 01 36.7**	**-2.6**
KLMR				LQ	LQ	07 05 27.9	
KLMR				LQ	LQ	07 05 27.9	
KLMR				LR	LR	07 07 23.2	
KLMR				AMP		07 08 58.1	
	comp=Z,4μm,14.9s						
PRZ	**Przheval'sk**	**26.81**	**63**	IAmb	IAmb	06 57 55.4	
	comp=Z,134nm,1.4s						
KSP	**Ksiaz**	**26.84**	**317**	*e*P	**P**	**06 57 05.4**	**-0.7**
KSP	**Ksiaz**	**26.84**	**317**	*e*P	**P**	**06 57 05.3**	**-0.7**
KSP				*e*P	**P**	**06 57 05.3**	**-0.7**
KSP				*e*S	S	07 02 06.5	+25
KSP				*e*S	S	07 02 06.5	+25
KLNR	**Kaliningrad**	**26.84**	**327**	*i* P	**P**	**06 57 05.3**	**-0.7**
KLNR				pmax	pmax		
	comp=Z,69nm,0.9s						
UPC	**Upice**	**26.85**	**316**	*e*P	**P**	**06 57 05.3**	**-0.9**
UPC				*e*S	**S**	**07 01 45.2**	**+3.8**
UPC				MLR	MLR		
	comp=Z,4μm,16.1s						
UPC	**Upice**	**26.85**	**316**	*e*P	**P**	**06 57 05.3**	**-0.9**
UPC				*e*S	**S**	**07 01 45.2**	**+3.8**
UPC				AMS	AMS	07 09 30.0	
	comp=Z,4μm,16.1s						
CHVC	**Chvalec**	**26.86**	**316**	*e*P	**P**	**06 57 05.1**	**-1.2**
CHVC				*e*S	**S**	**07 01 41.0**	**-0.6**
CHVC				AMS	AMS	07 09 40.0	
	comp=Z,3μm,17.5s						
MOA	**Molln**	**26.92**	**309**	*i* pP	**P**	**06 57 06.9**	**0.0**
	comp=Z,61nm,1.1s,SNR=15						
MYKA	**Terra Mystica**	**26.97**	**307**	*i* pP	**P**	**06 57 08.1**	**+0.7**
	comp=Z,24nm,0.8s						
PBUR	**Paburg**	**27.03**	**330**	*e*P	**P**	**06 57 06.6**	**-1.1**
PBUR				IAmb	IAmb	06 57 11.1	
	comp=Z,164nm,0.6s						
MURB	**Monte Urbino**	**27.07**	**299**	IAmb	IAmb	06 57 33.3	
	comp=Z,89nm,1.0s						
VSU	**Vasula**	**27.14**	**338**	*ce*P	**P**	**06 57 08.1**	**-0.5**
VSU				pmax	pmax		
	comp=Z,173nm,0.7s						
VSU	**Vasula**	**27.14**	**338**	*e*P	**P**	**06 57 08.6**	**0.0**
VSU				IAmb	IAmb	06 57 11.7	
	comp=Z,194nm,0.9s						
PRGR	**Permogore**	**27.23**	**0**	*e*P	**P**	**06 57 08.2**	**-1.3**
PRGR				*e*S	**S**	**07 01 43.7**	**-3.4**
PRGR				pmax	pmax		
	comp=Z,99nm,0.8s						
KBA	**Koelnbreinsper**	**27.29**	**307**	*i* P	**P**	**06 57 07.1**	**-3.3**
	comp=Z,38nm,0.8s						
GOPC	**GO Pecny, Ondr**	**27.33**	**314**	*e*P	**P**	**06 57 10.3**	**-0.2**
GOPC				*e*		06 57 14.8	
GOPC				*e*S	**S**	**07 01 48.2**	**-0.7**
GOPC				MLR	MLR		
	comp=Z,3μm,14.7s						
GOPC	**GO Pecny, Ondr**	**27.33**	**314**	*e*P	**P**	**06 57 10.3**	**-0.2**
GOPC				*e*pP	**pP**	**06 57 14.8**	**-2.3**
GOPC				*e*S	S	**07 01 48.2**	**-0.7**
GOPC				AMS	AMS	07 11 10.0	
	comp=Z,3μm,14.7s						
NDI	**New Delhi**	**27.50**	**93**	*e*P	**P**	**06 57 15.0**	**+2.8**
PRU	**Pruhonice**	**27.50**	**314**	*e*P	**P**	**06 57 12.9**	**+0.9**
PRU				*e*S	**S**	**07 01 54.2**	**+2.6**
PRU				MLR	MLR		
	comp=Z,3μm,16.1s						
PRU	**Pruhonice**	**27.50**	**314**	*e*P	**P**	**06 57 12.9**	**+0.9**
PRU				*e*S	**S**	**07 01 54.2**	**+2.6**
PRU				AMS	AMS	07 11 10.0	
	comp=Z,3μm,16.1s						
STAL	**STALIGIAL**	**27.50**	**305**	P	**P**	**06 57 11.8**	**-0.4**
GKP	**Gorka Klasztor**	**27.51**	**322**	*e*P	**P**	**06 57 16.0**	**+4.0**
GKP				*e*S	**S**	**07 01 50.5**	**-1.2**
GKP	**Gorka Klasztor**	**27.51**	**322**	*e*P	**P**	**06 57 16.0**	**+4.0**
GKP				*e*P	**P**	**06 57 16.0**	**+4.0**
GKP				*e*S	**S**	**07 01 50.5**	**-1.2**
GKP				*e*S	**S**	**07 01 50.5**	**-1.2**
LATE	**Laterza**	**27.52**	**297**	IAmb	IAmb	06 57 48.1	
	comp=Z,109nm,1.1s						
PRA	**Prague**	**27.60**	**314**	*e*S	**S**	**07 01 57.9**	**+4.8**
PRA				AMS	AMS	07 11 20.0	
	comp=Z,2μm,14.5s						
GERES	**GERESS Array B**	**27.60**	**311**	P	**P**	**06 57 13.4**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=112,slow=10,SNR=12						
GERES				LR	LR	07 10 02.8	
	comp=Z,2μm,21.0s,baz=115,slow=41						
GERES	**GERESS Array B**	**27.60**	**311**	P	**P**	**06 57 10.6**	**-2.5**
PVCC	**Panska Ves**	**27.70**	**315**	AMS	AMS	07 09 50.0	
	comp=Z,4μm,17.8s						
PDGK	**Podgornoye**	**27.71**	**61**	P	**P**	**06 57 11.8**	**-2.4**
PDGK				pmax	pmax		
	comp=Z,45nm,1.3s						
ABTA	**Abfaltersbach**	**27.75**	**306**	*i* pP	**P**	**06 57 14.9**	**+0.5**
	comp=Z,37nm,1.7s						
KHC	**Kasperske Hory**	**27.77**	**312**	*e*P	**P**	**06 57 14.1**	**-0.4**
KHC				*e*		06 57 30.0	
KHC				*e*S	**S**	**07 01 52.9**	**-3.1**
KHC				MLR	MLR		
	comp=Z,4μm,15.6s						
KHC	**Kasperske Hory**	**27.77**	**312**	*e*P	**P**	**06 57 14.1**	**-0.4**
KHC				*e*pP	**pP**	**06 57 17.7**	**-3.5**
KHC				*e*x	x	06 57 30.0	
KHC				*e*S	**S**	**07 01 52.9**	**-3.1**
KHC				AMS	AMS	07 11 40.0	
	comp=Z,4μm,15.6s						
SLIT	**Slitere, Latvi**	**28.02**	**333**	*e*P	**P**	**06 57 14.1**	**-2.3**
SLIT				*e*S	**S**	**07 02 01.0**	**+1.6**
SLIT				*e*ScS	**ScS**	**07 07 54.8**	**-7.8**
TEOL	**Teolo**	**28.02**	**303**	IAmb	IAmb	06 58 10.7	
	comp=Z,56nm,0.9s						
CTI	**Castel Tesino**	**28.17**	**305**	IAmb	IAmb	06 57 42.3	
	comp=Z,104nm,1.4s						
BRG	**Berggiesshubel**	**28.20**	**315**	*e*P	**P**	**06 57 17.0**	**-1.3**
	comp=Z,26nm,1.4s						
BRG				S	**S**	**07 02 01.0**	**-1.6**
BRG				SCP	**ScP**	**07 04 14.0**	**+2.8**
	comp=N,2μm,14.6s						
	comp=E,3μm,16.7s						
	comp=Z,4μm,14.4s						
BRG	**Berggiesshubel**	**28.20**	**315**	*e*P	**P**	**06 57 17.0**	**-1.3**
BRG				S	**S**	**07 02 01.0**	**-1.6**
BRG				pmax	pmax		
	comp=Z,26nm,1.4s						
BRG				MLR	MLR		
	comp=N,2μm,14.6s						
BRG				MLR	MLR		
	comp=E,3μm,16.7s						
BRG				MLR	MLR		
	comp=Z,4μm,14.4s						
WTTA	**Wattenberg**	**28.46**	**307**	P	**P**	**06 57 20.2**	**-0.7**
	comp=Z,20nm,0.5s						
WATA	**Walderalm**	**28.52**	**307**	pP	**P**	**06 57 22.1**	**+0.8**
	comp=Z,17nm,0.5s,SNR=5.3						
BOM	**Bombay**	**28.72**	**116**	*i* P	P	06 57 33.6	+10
VLC	**Villacollemand**	**28.73**	**300**	IAms_20	IAms_20	07 10 52.1	
	comp=Z,6μm,22.0s						
SQTA	**Sankt Quirin**	**28.73**	**307**	*e*P	**P**	**06 57 22.0**	**-1.3**
	comp=Z,28nm,0.6s						
MOTA	**Moosalm**	**28.83**	**307**	*e*P	**P**	**06 57 22.1**	**-2.0**
	comp=Z,8.4nm,0.4s,SNR=9.7						
NKC	**Novy Kostel**	**28.84**	**313**	AMS	AMS	07 12 20.0	
	comp=Z,4μm,13.8s						
KURBB	**Kurchatov Arra**	**28.89**	**46**	P	**P**	**06 57 25.6**	**+1.2**
	comp=Z,30nm,0.8s,baz=253,slow=9.5,SNR=94						
KURBB				PcP	**PcP**	**07 00 33.9**	**+0.7**
	comp=Z,8.1nm,1.0s,baz=250,slow=4.5,SNR=4.2						
KURBB				ScP	**ScP**	**07 04 14.2**	**+0.8**
	comp=Z,9.4nm,0.9s,baz=255,slow=4.1,SNR=7.0						
CLL	**Collm**	**28.92**	**316**	*i* P	**P**	**06 57 24.7**	**+0.1**
CLL				*e*S	**S**	**07 02 18.0**	**+4.1**
CLL				pmax	pmax		
	comp=Z,59nm,1.7s						
CLL				MLR	MLR		
	comp=Z,3μm,18.4s						
CLL	**Collm**	**28.92**	**316**	*i* P	**P**	**06 57 24.7**	**+0.1**
	comp=Z,59nm,1.7s						
CLL				*e*		06 57 30.0	
CLL				*e*S	**S**	**07 02 18.0**	**+4.1**
CLL				L	L	07 10 00.0	
	comp=Z,3μm,18.4s						
RUE	**Ruedersdorf**	**28.96**	**318**	*e*P	**P**	**06 57 23.5**	**-1.5**
RUE				*e*ScS	ScS	07 08 01.5	-5.5
KURK	**Kurchatov**	**28.97**	**46**	P	**P**	**06 57 26.8**	**+1.7**
KURK				P	**P**	**06 57 26.8**	**+1.7**
KURK				P	**P**	**06 57 26.8**	**+1.7**
KURK	**Kurchatov**	**28.97**	**46**	*ce*P	**P**	**06 57 25.5**	**+0.4**
KURK				pmax	pmax		
	comp=Z,113nm,1.7s						
KURK	**Kurchatov**	**28.97**	**46**	P	**P**	**06 57 26.5**	**+1.4**
KURK	**Kurchatov**	**28.97**	**46**	IAms_20	IAms_20	07 11 08.0	
	comp=Z,7μm,19.0s						
FETA	**Feichten**	**29.01**	**306**	*i* P	**P**	**06 57 24.2**	**-1.4**
	comp=Z,17nm,0.6s						
RETA	**Reutte**	**29.09**	**307**	*i* P	**P**	**06 57 24.9**	**-1.4**
	comp=Z,12nm,0.5s						
MSSA	**Maissana**	**29.37**	**301**	IAms_20	IAms_20	07 11 11.1	
	comp=Z,6μm,20.0s						
DAVOX	**Davos/Dischmat**	**29.52**	**306**	P	**P**	**06 57 30.3**	**-0.1**
	comp=Z,9.0nm,0.6s,baz=127,slow=20,SNR=5.8						
DAVOX				LR	LR	07 11 00.5	
	comp=Z,3μm,20.3s,baz=94,slow=40						
KEST	**Kesra**	**29.57**	**283**	P	**P**	**06 57 32.0**	**+1.3**
	comp=Z,33nm,0.9s,baz=173,slow=2.1,SNR=8.5						
DAVA	**Damuels**	**29.63**	**307**	*i* P	**P**	**06 57 29.2**	**-2.0**
	comp=Z,29nm,0.6s,SNR=13						
BSD	**Bornholm Skovb**	**29.64**	**324**	*e*P	**P**	**06 57 29.2**	**-1.8**
BSD				pmax	pmax		
	comp=Z,41nm,1.1s						
BSD	**Bornholm Skovb**	**29.64**	**324**	*i* P	**P**	**06 57 29.2**	**-1.8**
	comp=Z,41nm,1.1s						
POO	**Poona**	**29.72**	**115**	*ex*	P	06 57 38.5	+6.4
POO	**Poona**	**29.72**	**115**	*e*P	P	06 57 38.5	+6.4
FIA1	**FINESS Array S**	**29.78**	**341**	IAmb	IAmb	06 58 15.8	
	comp=Z,118nm,1.6s						
FINES	**FINESS Array B**	**29.78**	**341**	P	**P**	**06 57 30.4**	**-1.8**
	comp=Z,12nm,0.3s,baz=145,slow=10,SNR=96						
FINES				LR	LR	07 10 32.8	
	comp=Z,5μm,19.8s,baz=142,slow=39						
FINES	**FINESS Array B**	**29.78**	**341**	P	**P**	**06 57 29.8**	**-2.4**
TMCR	**Tamitsa**	**30.13**	**353**	*e*P	**P**	**06 57 33.9**	**-1.3**
MK31	**Makanchi Array**	**30.22**	**55**	*e*P	**P**	**06 57 36.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,25nm,0.8s						
MKAR	**Makanchi Array**	**30.22**	**55**	*ce*P	**P**	**06 57 37.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
MKAR	**Makanchi Array**	**30.22**	**55**	P	**P**	**06 57 37.1**	**+0.8**
	comp=Z,17nm,0.7s,baz=252,slow=11,SNR=200						
MKAR				PcP	**PcP**	**07 00 36.8**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=256,slow=4.1,SNR=5.6						
MKAR				ScP	**ScP**	**07 04 20.1**	**+2.4**
	comp=Z,4.0nm,0.9s,baz=263,slow=4.9,SNR=4.6						
MKAR				LR	LR	07 12 24.8	
	comp=Z,3μm,19.3s,baz=246,slow=42						
MKAR				P3KPbc		07 29 36.7	
	comp=Z,0.6nm,0.8s,baz=66,slow=4.1,SNR=4.8						
MKAR	**Makanchi Array**	**30.22**	**55**	P	**P**	**06 57 36.8**	**+0.5**
BFO	**Black Forest**	**30.88**	**308**	P	**P**	**06 57 41.6**	**-0.5**
BFO				MLR	MLR		
	comp=Z,2μm,20.0s						
BFO	**Black Forest**	**30.88**	**308**	P	**P**	**06 57 41.6**	**-0.5**
SENIN	**Lac Senin/Sane**	**31.20**	**304**	IAmb	IAmb	06 57 52.8	
	comp=Z,21nm,0.6s						
LPG	**La Plagne**	**31.46**	**302**	*e*P	**P**	**06 57 47.1**	**-0.5**
LPG				pmax	pmax		
	comp=Z,37nm,0.7s						
ECH	**Echery**	**31.62**	**308**	IAmb	IAmb	06 57 57.0	
	comp=Z,80nm,1.6s						
WLF	**Walferdange**	**32.58**	**310**	IAmb	IAmb	06 58 02.6	
	comp=Z,34nm,0.8s						
MEM	**Membach**	**32.89**	**312**	P	**P**	**06 57 57.9**	**-1.7**
DANN	**Dangsing**	**33.02**	**90**	*e*P	**P**	**06 58 01.9**	**+0.5**
	comp=Z,262nm,0.8s						
HFS	**Hagfors**	**33.02**	**331**	P	**P**	**06 57 59.2**	**-1.5**
	comp=Z,74nm,0.8s,baz=134,slow=8.5,SNR=95						
KOLN	**Koldanda**	**33.09**	**91**	*e*P	**P**	**06 58 02.0**	**+0.1**
	comp=Z,39nm,0.4s						
MUD	**Monsted U'grnd**	**33.13**	**323**	*i* P	**P**	**06 58 01.0**	**-0.7**
MUD				pmax	pmax		
	comp=Z,54nm,0.8s						
MUD	**Monsted U'grnd**	**33.13**	**323**	*i* P	**P**	**06 58 01.0**	**-0.7**
	comp=Z,54nm,0.8s						
MAHO	**Mahon**	**33.15**	**292**	*e*P	P	06 58 11.7	+10
MAHO				*e*S	**S**	**07 03 22.8**	**+2.5**
BMRD	**Maredsous**	**33.59**	**311**	P	**P**	**06 58 05.3**	**-0.5**
DOU	**Dourbes**	**33.65**	**310**	P	**P**	**06 58 05.7**	**-0.7**
ZAA0	**Zalesovo Array**	**33.67**	**42**	IAmb	IAmb	06 58 16.6	
	comp=Z,84nm,1.4s						
ZALV	**Zalesovo Beam**	**33.67**	**42**	P	**P**	**06 58 06.6**	**+0.2**
	comp=Z,15nm,0.5s,baz=246,slow=9.1,SNR=29						
ZALV				LR	LR	07 14 37.1	
	comp=Z,7μm,18.5s,baz=246,slow=41						
ZALV	**Zalesovo Beam**	**33.67**	**42**	P	**P**	**06 58 06.2**	**-0.2**
WMQ	**Urumqi**	**33.69**	**61**	IAmb	IAmb	06 58 25.1	
	comp=Z,59nm,1.1s						
GKN	**Gorkha**	**33.87**	**90**	*e*P	**P**	**06 58 08.8**	**+0.2**
	comp=Z,165nm,0.4s						
SSF	**Saint Saulge**	**33.88**	**305**	*e*P	**P**	**06 58 07.8**	**-0.6**
SSF				pmax	pmax		
	comp=Z,34nm,1.0s						
APA	**Apatity**	**33.93**	**352**	⇓*i* P	**P**	**06 58 07.6**	**-0.9**
APA				pmax	pmax		
	comp=Z,38nm,0.8s						
APA				MLR	MLR		
	comp=Z,3μm,15.0s						
HYB	**Hyderabad**	**33.96**	**111**	*i* P	**P**	**06 58 08.0**	**-1.4**
LVZ	**Lovozero**	**34.11**	**353**	P	**P**	**06 58 10.5**	**+0.4**
LVZ				MLR	MLR		
	comp=Z,3μm,20.0s						
LVZ	**Lovozero**	**34.11**	**353**	P	**P**	**06 58 10.4**	**+0.4**
OSL	**Oslo**	**34.13**	**329**	*e*P	**P**	**06 58 08.0**	**-2.4**
DGZ	**Jazzator, Alta**	**34.14**	**51**	*c i* P	**P**	**06 58 12.1**	**+1.3**
NC602	**NORSAR Array S**	**34.24**	**331**	*e*P	**P**	**06 58 09.5**	**-1.8**
NC602	**NORSAR Array S**	**34.24**	**331**	IAmb	IAmb	06 58 26.8	
	comp=Z,39nm,0.8s						
NC405	**NORSAR Array S**	**34.39**	**331**	IAmb	IAmb	06 58 28.7	
	comp=Z,54nm,0.8s						
DMN	**Daman**	**34.40**	**90**	*e*P	**P**	**06 58 13.7**	**+0.4**
	comp=Z,110nm,0.6s						
KONO	**Kongsberg**	**34.47**	**328**	P	**P**	**06 58 11.0**	**-2.3**
KONO				MLR	MLR		
	comp=Z,2μm,22.0s						
KONO	**Kongsberg**	**34.47**	**328**	*e*P	**P**	**06 58 11.0**	**-2.3**
KONO	**Kongsberg**	**34.47**	**328**	P	**P**	**06 58 11.0**	**-2.3**
KKN	**Kakani**	**34.47**	**90**	*e*P	**P**	**06 58 14.1**	**+0.1**
	comp=Z,94nm,0.5s						
NB2	**NORSAR Subarra**	**34.55**	**331**	P	**P**	**06 58 11.4**	**-2.6**
	comp=Z,81nm,1.7s,baz=125,slow=8.6						
NB2	**NORSAR Subarra**	**34.55**	**331**	P	**P**	**06 58 11.4**	**-2.6**
	baz=125,slow=8.6						
NOA	**NORSAR Array B**	**34.55**	**331**	P	**P**	**06 58 11.8**	**-2.2**
	comp=Z,9.7nm,0.7s,baz=125,slow=8.6,SNR=26						
NOA				LR	LR	07 14 03.9	
	comp=Z,4μm,19.9s,baz=135,slow=39						
NAO01	**NORSAR Array S**	**34.57**	**331**	IAmb	IAmb	06 58 19.4	
	comp=Z,49nm,0.8s						
PKIN	**Phulchoki**	**34.65**	**90**	*e*P	**P**	**06 58 16.1**	**+0.6**
	comp=Z,109nm,0.4s						
PKI	**Pulchoki**	**34.66**	**90**	*e*P	**P**	**06 58 15.8**	**+0.1**
	comp=Z,145nm,0.4s						
NBO00	**NORSAR Array S**	**34.72**	**331**	IAmb	IAmb	06 58 54.8	
	comp=Z,83nm,1.4s						
GUN	**Gumba**	**34.93**	**89**	*e*P	**P**	**06 58 18.4**	**+0.4**
	comp=Z,132nm,0.4s						
JIRN	**Jiri**	**35.27**	**90**	*e*P	**P**	**06 58 21.5**	**+0.4**
	comp=Z,343nm,0.4s						
SKAR	**Skarslia**	**35.55**	**329**	*e*P	**P**	**06 58 21.7**	**-1.0**
LFF	**La Frestale**	**35.66**	**301**	*e*P	**P**	**06 58 23.3**	**-0.4**
LFF				pmax	pmax		
	comp=Z,13nm,0.5s						
BLS5	**Blasjo**	**35.76**	**327**	*e*P	**P**	**06 58 23.8**	**-0.6**
RAMN	**Ramite**	**35.87**	**91**	*e*P	**P**	**06 58 26.0**	**-0.1**
	comp=Z,322nm,0.6s						
ODD1	**Odda**	**35.91**	**327**	*e*P	**P**	**06 58 26.2**	**+0.5**
DOMB	**Dombas**	**35.96**	**331**	*e*P	**P**	**06 58 25.9**	**-0.3**
KMBO	**Kilima Mbogo**	**36.21**	**194**	*i* P	**P**	**06 58 31.9**	**+2.9**
	SNR=14						
KMBO	**Kilima Mbogo**	**36.21**	**194**	P	**P**	**06 58 33.4**	**+4.4**
KMBO				P	**P**	**06 58 33.4**	**+4.4**
KMBO	**Kilima Mbogo**	**36.21**	**194**	*ce*P	**P**	**06 58 32.0**	**+3.0**
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KMBO	**Kilima Mbogo**	**36.21**	**194**	P	**P**	**06 58 31.1**	**+2.2**
	comp=Z,11nm,1.1s,baz=17,slow=11,SNR=12						
KMBO				LR	LR	07 13 37.2	
	comp=Z,7μm,19.8s,baz=6.5,slow=37						
KMBO	**Kilima Mbogo**	**36.21**	**194**	*i* P	P	06 58 34.8	+5.8
KMBO	**Kilima Mbogo**	**36.21**	**194**	P	**P**	**06 58 31.3**	**+2.4**
MNCI	**Minicoy**	**36.26**	**129**	P	**P**	**06 58 29.9**	**+0.8**
NSS	**Namsos**	**36.38**	**336**	*e*P	**P**	**06 58 27.7**	**-2.0**
ODAN	**Odare**	**36.56**	**90**	*e*P	**P**	**06 58 32.3**	**+0.4**
	comp=Z,140nm,0.6s						
TAPN	**Taplejung**	**36.64**	**89**	*e*P	**P**	**06 58 33.5**	**+0.8**
	comp=Z,347nm,0.7s						
BER	**Bergen**	**36.70**	**328**	*e*P	**P**	**06 58 31.4**	**-1.0**
MOR8	**Moi Rana**	**36.71**	**339**	*e*P	**P**	**06 58 30.7**	**-1.8**
TAM	**Tamanrasset**	**36.80**	**262**	P	**P**	**06 58 35.0**	**+1.1**
TAM				MLR	MLR		
	comp=Z,6μm,19.0s						
TAM	**Tamanrasset**	**36.80**	**262**	P	**P**	**06 58 35.0**	**+1.1**
TAM				IAms_20	IAms_20	07 16 24.6	
	comp=Z,6μm,19.0s						
ASK	**Askoy**	**36.80**	**328**	*e*P	**P**	**06 58 32.2**	**-1.1**
KTK1	**Kautokeino**	**36.83**	**347**	*e*P	**P**	**06 58 31.9**	**-1.5**
KEV	**Kevo**	**36.84**	**349**	P	**P**	**06 58 32.3**	**-1.2**
KEV				MLR	MLR		
	comp=Z,4μm,20.0s						
KEV	**Kevo**	**36.84**	**349**	P	**P**	**06 58 32.3**	**-1.2**
KEV				IAms_20	IAms_20	07 14 37.3	
	comp=Z,4μm,20.0s						
ARCES	**ARCESS Array B**	**36.89**	**348**	P	**P**	**06 58 32.5**	**-1.5**
	comp=Z,14nm,0.6s,baz=163,slow=7.3,SNR=92						
ARCES				LR	LR	07 15 10.1	
	comp=Z,4μm,18.8s,baz=150,slow=39						
ARE0	**ARCESS Array S**	**36.89**	**348**	*e*P	**P**	**06 58 32.7**	**-1.3**
KIBK	**Kibwezi**	**37.24**	**192**	P	**P**	**06 58 39.9**	**+2.3**
KIBK	**Kibwezi**	**37.24**	**192**	*i* P	**P**	**06 58 34.8**	**-2.8**
KONS	**Konsvik**	**37.33**	**339**	*e*P	**P**	**06 58 36.2**	**-1.4**
FOO	**Floro**	**37.38**	**329**	*e*P	**P**	**06 58 36.6**	**-1.5**
HMDM	**Hanimaadhoo**	**37.49**	**131**	P	**P**	**06 58 41.0**	**+1.3**
MBAR	**Mbarara**	**37.51**	**205**	IAms_20	IAms_20	07 14 17.7	
	comp=Z,6μm,22.0s						
CART	**Cartagena**	**37.51**	**289**	*e*P	**P**	**06 58 42.4**	**+2.8**
CART				*e*S	**S**	**07 04 28.1**	**+0.7**
STEI	**Steigen**	**37.76**	**342**	*e*P	**P**	**06 58 40.9**	**-0.4**
CWF	**Charnwood Fore**	**37.79**	**314**	*e*P	**P**	**06 58 40.9**	**-0.8**
LBWR	**Ladybower, Pea**	**38.15**	**315**	*e*P	**P**	**06

KPL	**Plockton**	**41.10 320**	*e*P	**P**	**06 59 08.7 -0.6**
PBRG	**Braganca**	**41.28 296**	*e*P	**P**	**06 59 15.1 +4.0**
	comp=Z,50nm,1.7s				
PBRG			*e*S	**S**	**07 05 27.3 +3.3**
CEU	**Ceuta**	**41.29 287**	*e*P	**P**	**06 59 11.6 +0.4**
CEU			*e*S	**S**	**07 05 17.8 -6.3**
MVO	**Moncorvo**	**41.58 295**	*e*P	**P**	**06 59 14.6 +1.0**
	comp=Z,42nm,1.8s				
MVO	**Moncorvo**	**41.58 295**	*e*PP	PP	07 00 59.6 +10
MVO			*e*S	**S**	**07 05 29.8 +1.3**
MVO	**Moncorvo**	**41.58 295**	*e*LR	LR	07 16 22.3
	comp=Z,1μm,18.0s				
IFR	**Ifrane**	**41.70 284**	*e*P	**P**	**06 59 18.5 +3.7**
IFR			*e*S	**S**	**07 05 32.8 +2.2**
NRIK	**Noril'sk**	**41.92 21**	P	**P**	**06 59 14.9 -1.0**
	comp=Z,33nm,0.8s,baz=231,slow=6.1,SNR=40				
NRIK			LR	LR	07 21 00.4
	comp=Z,3μm,18.3s,baz=233,slow=42				
PVRL	**Vila Real**	**42.08 296**	*e*P	**P**	**06 59 18.4 +0.8**
	comp=Z,68nm,2.4s				
MTE	**Manteigas**	**42.08 294**	*e*P	**P**	**06 59 17.9 +0.2**
	comp=Z,77nm,1.0s				
MTE	**Manteigas**	**42.08 294**	*e*PP	PP	07 01 07.1 +12
MTE			*e*S	**S**	**07 05 37.6 +1.7**
MTE			*e*LR	LR	07 11 14.6
	comp=Z,2μm,20.0s				
MTE	**Manteigas**	**42.08 294**	P	**P**	**06 59 17.1 -0.6**
POLO	**Lamas de Olo**	**42.12 296**	*e*P	**P**	**06 59 19.6 +1.6**
	comp=Z,36nm,1.3s				
POLO			*e*S	**S**	**07 05 40.4 +3.9**
PCBR	**Castelo Branco**	**42.13 293**	*e*P	**P**	**06 59 16.9 -1.1**
	comp=Z,93nm,1.2s				
PMRV	**Marv??o**	**42.13 293**	*e*P	**P**	**06 59 17.7 -0.4**
PMRV			*e*S	**S**	**07 05 40.8 +4.2**
PMRV	**Marv??o**	**42.13 293**	*e*LR	LR	07 16 59.2
	comp=Z,1μm,20.0s				
PALK	**Pallekele**	**42.14 122**	*i* P	**P**	**06 59 18.7 +0.3**
	SNR=7.2				
PALK	**Pallekele**	**42.14 122**	P	**P**	**06 59 18.9 +0.6**
	comp=Z,13nm,0.6s,baz=295,slow=9.4,SNR=16				
PALK			LR	LR	07 18 03.6
	comp=Z,3μm,18.6s,baz=301,slow=38				
PALK	**Pallekele**	**42.14 122**	P	**P**	**06 59 18.7 +0.3**
PVIS	**Viseu**	**42.30 295**	*e*P	**P**	**06 59 19.3 -0.1**
	comp=Z,60nm,1.8s				
PESTR	**Estremoz**	**42.39 292**	*e*S	**S**	**07 05 44.5 +4.1**
PESTR	**Estremoz**	**42.39 292**	P	**P**	**06 59 18.8 -1.4**
KAAM	**Kaadhehdhoo**	**42.39 137**	IAMs_20	IAMs_20	07 16 58.8
	comp=Z,3μm,18.0s				
COI	**Coimbra**	**42.77 294**	*e*P	**P**	**06 59 25.6 +2.4**
	comp=Z,82nm,2.3s				
COI			*e*S	**S**	**07 05 50.2 +4.3**
COI	**Coimbra**	**42.77 294**	P	**P**	**06 59 23.2 0.0**
COI	**Coimbra**	**42.77 294**	P	**P**	**06 59 23.2 0.0**
PBEJ	**Beja**	**42.77 291**	*e*P	**P**	**06 59 27.8 +4.6**
	comp=Z,60nm,1.5s				
PVAQ	**Vaqueiros**	**42.79 290**	*e*P	**P**	**06 59 27.1 +3.7**
	comp=Z,59nm,1.5s				
PVAQ	**Vaqueiros**	**42.79 290**	*e*PP	PP	07 01 03.9 +1.2
PVAQ			*e*S	**S**	**07 05 44.6 -1.7**
PVAQ	**Vaqueiros**	**42.79 290**	*e*LR	LR	07 16 36.0
	comp=Z,691nm,20.0s				
PMTG	**Montargil**	**42.84 293**	*e*P	**P**	**06 59 25.0 +1.2**
	comp=Z,39nm,1.6s				
PMTG			*e*S	**S**	**07 05 48.4 +1.5**
PCAS	**Casmilo, Conde**	**42.86 294**	*e*P	**P**	**06 59 26.0 +2.0**
	comp=Z,62nm,1.6s				
PCAS			*e*S	**S**	**07 05 51.5 +4.2**
PTOM	**Tomar**	**42.87 293**	*e*P	**P**	**06 59 22.6 -1.5**
	comp=Z,85nm,2.6s				
MOY	**Mondy**	**42.91 49**	*e*P	**P**	**06 59 25.6 +1.3**
MOY			pmax	pmax	
	comp=Z,106nm,2.1s				
PCVE	**Castro Verde**	**42.99 290**	*e*P	**P**	**06 59 26.3 +1.3**
	comp=Z,49nm,1.5s				
PCVE			*e*S	S	07 05 39.2 -10
PBDV	**Barranco-do-Ve**	**42.99 290**	*e*S	**S**	**07 05 51.6 +2.3**
MESJ	**Messejana**	**43.08 291**	*e*P	**P**	**06 59 25.9 +0.1**
MESJ			AMb	AMB	06 59 29.6
	comp=Z,33nm,0.9s				
MESJ			*e*S	**S**	**07 05 52.6 +2.0**
MESJ	**Messejana**	**43.08 291**	*e*P	**P**	**06 59 25.8 +0.1**
	comp=Z,45nm,1.4s				
MESJ	**Messejana**	**43.08 291**	*e*P	**P**	**06 59 25.8 +0.1**
MESJ			*e*S	**S**	**07 05 52.6 +2.0**
GTA	**Gaotai**	**43.11 67**	P	**P**	**06 59 27.3 +1.1**
GTA			pP	pP	06 59 31.8 -1.3
GTA			sP	sP	06 59 35.3 -0.4
GTA			PP	**PcP**	**07 01 12.3 -3.4**
GTA			ScP	**ScP**	**07 05 06.1 +0.5**
GTA			S	**S**	**07 05 51.8 +0.5**
GTA			pmax	pmax	
	comp=Z,60nm,1.6s				
GTA			pmax	pmax	
	comp=Z,520nm,5.8s				
GTA			LR	LR	
	comp=Z,3μm,14.0s				
GTA			LR	LR	
	comp=Z,3μm,16.8s				
GTA			LR	LR	
	comp=Z,6μm,14.3s				
PNCL	**Nicolau / Gran**	**43.26 291**	*e*P	**P**	**06 59 27.0 -0.2**
	comp=Z,37nm,1.5s				
PNCL			*e*S	**S**	**07 05 57.6 +4.4**
MORF	**Marmelete**	**43.53 290**	*e*P	**P**	**06 59 29.3 -0.2**
MORF			AMb	AMB	06 59 41.2
	comp=Z,60nm,1.5s				
MORF			*e*S	**S**	**07 05 59.3 +2.0**
MORF	**Marmelete**	**43.53 290**	*e*S	**S**	**07 06 00.8 +3.5**
MORF	**Marmelete**	**43.53 290**	*e*P	**P**	**06 59 29.3 -0.2**
MORF			*e*S	**S**	**07 05 59.3 +2.0**
LIS	**Lisbon**	**43.61 292**	*e*P	**P**	**06 59 30.2 +0.2**
LIS			AMb	AMB	06 59 34.2
	comp=Z,166nm,0.9s				
LIS			*e*S	**S**	**07 06 00.4 +2.1**
LIS	**Lisbon**	**43.61 292**	*e*P	**P**	**06 59 30.2 +0.2**
LIS			*e*S	**S**	**07 06 00.4 +2.1**
PMAFR	**Mafra**	**43.67 293**	*e*S	**S**	**07 06 02.5 +3.4**
PFVI	**Vila Bisbo**	**43.71 290**	*e*S	**S**	**07 06 02.7 +2.9**
ZAK	**Zakamensk**	**44.36 51**	*e*P	**P**	**06 59 36.4 +0.4**
ZAK			*e*		07 01 15.9
ZAK			pmax	pmax	
	comp=Z,25nm,1.6s				
TLY	**Talaya**	**44.56 49***c i*P		**P**	**06 59 38.1 +0.6**
TLY			*e*		07 01 26.5
TLY			*e*PPP	PPP	07 02 03.3
TLY			*e*S	**S**	**07 06 16.3 +4.4**
TLY			pmax	pmax	
	comp=Z,79nm,1.5s				
TLY			MLR	MLR	
	comp=Z,6μm,12.0s				
TLY	**Talaya**	**44.56 49**	P	**P**	**06 59 36.5 -1.0**
	comp=Z,1.7nm,0.3s,baz=290,slow=13,SNR=1.7				
TLY			LR	LR	07 20 35.2
	comp=Z,4μm,20.5s,baz=270,slow=39				
TLY	**Talaya**	**44.56 49**	P	**P**	**06 59 39.3 +1.8**
TOC2	**Torodi Ar. Sit**	**44.93 253**	IAMs_20	IAMs_20	07 21 14.4
	comp=Z,4μm,18.0s				
TOC3	**Torodi Ar. Sit**	**44.94 253**	IAMs_20	IAMs_20	07 21 05.7
	comp=Z,3μm,19.0s				
TOB2	**Torodi Ar. Sit**	**44.94 253**	IAMs_20	IAMs_20	07 21 05.7
	comp=Z,3μm,19.0s				
IRK	**Irkutsk**	**44.94 48**	*e*P	**P**	**06 59 41.6 +1.1**
IRK			*e*		07 01 22.3
IRK			pmax	pmax	
	comp=Z,169nm,2.5s				
TOA2	**Torodi Ar. Sit**	**44.95 253**	IAMs_20	IAMs_20	07 21 15.0
	comp=Z,4μm,18.0s				
TOB3	**Torodi Ar. Sit**	**44.95 253**	IAMs_20	IAMs_20	07 21 15.0
	comp=Z,4μm,18.0s				
TOA1	**Torodi Ar. Sit**	**44.95 253**	IAMs_20	IAMs_20	07 21 15.1
	comp=Z,4μm,18.0s				
TOA0	**Torodi Ar. Sit**	**44.95 253**	P	**P**	**06 59 40.3 -0.7**
TOA0			IAMs_20	IAMs_20	07 21 16.1
	comp=Z,4μm,18.0s				
TORD	**Torodi Ar. Bea**	**44.95 253**	P	**P**	**06 59 40.2 -0.8**
	comp=Z,23nm,0.7s,baz=66,slow=4.4,SNR=107				
TORD			PcP	**PcP**	**07 01 22.1 -0.1**
	comp=Z,3.4nm,0.7s,baz=73,slow=4.8,SNR=1.9				
TORD			LR	LR	07 21 16.7
	comp=Z,3μm,18.2s,baz=5.0,slow=40				
TORD	**Torodi Ar. Bea**	**44.95 253**	P	**P**	**06 59 38.4 -2.6**
TOC7	**Torodi Ar. Sit**	**44.96 253**	IAMs_20	IAMs_20	07 21 13.2
	comp=Z,4μm,18.0s				
TOA3	**Torodi Ar. Sit**	**44.96 253**	IAMs_20	IAMs_20	07 21 14.2
	comp=Z,4μm,18.0s				
TOC4	**Torodi Ar. Sit**	**44.97 253**	IAMs_20	IAMs_20	07 21 06.4
	comp=Z,3μm,19.0s				
TOB4	**Torodi Ar. Sit**	**44.97 253**	IAMs_20	IAMs_20	07 21 15.4
	comp=Z,4μm,18.0s				
TOC5	**Torodi Ar. Sit**	**44.98 253**	IAMs_20	IAMs_20	07 21 06.8
	comp=Z,4μm,19.0s				
SPA0	**Spitsbergen Ar**	**45.62 352**	*e*P	**P**	**06 59 44.8 -0.8**
SPA0	**Spitsbergen Ar**	**45.62 352**	P	**P**	**06 59 45.0 -0.5**
SONM	**Songino Array**	**46.58 54**	P	**P**	**06 59 53.8 +0.1**
	comp=Z,2.7nm,0.5s,baz=272,slow=7.9,SNR=20				
SONM			PcP	**PcP**	**07 01 27.4 -0.1**
	comp=Z,5.3nm,0.7s,baz=274,slow=3.9,SNR=8.6				
SONM			ScP	**ScP**	**07 05 23.8 +4.0**
	comp=Z,2.2nm,0.8s,baz=251,slow=4.4,SNR=2.8				
SONM			LR	LR	07 23 30.6
	comp=Z,3μm,18.2s,baz=280,slow=41				
SONM	**Songino Array**	**46.58 54**	P	**P**	**06 59 54.2 +0.5**
LZH	**Lanzhou**	**46.99 70**	*e*P	**P**	**06 59 58.5 +1.4**
LZH			sP	sP	07 00 05.8 -0.9
LZH			S	**S**	**07 06 50.9 +3.3**
LZH			sS	sS	07 07 02.3 +2.8
LZH			pmax	pmax	
	comp=Z,86nm,1.1s				
LZH			pmax	pmax	
	comp=Z,220nm,4.3s				
LZH			LR	LR	
	comp=Z,3μm,14.6s				
LZH			LR	LR	
	comp=Z,4μm,15.2s				
LZH			LR	LR	
	comp=Z,3μm,17.3s				
ULN	**Ulaanbaatar**	**47.02 54**	P	**P**	**06 59 57.8 +0.7**
ULN	**Ulaanbaatar**	**47.02 54**	P	**P**	**06 59 57.8 +0.7**
H08N2	**Diego Garcia H**	**47.12 144**	P	**P**	**06 59 53.4 -4.2**
H08N3	**Diego Garcia H**	**47.13 144**	P	**P**	**06 59 53.9 -3.8**
H08N1	**Diego Garcia H**	**47.14 144**	P	**P**	**06 59 53.9 -3.8**
CD2	**Chengdu**	**48.53 77**⇓	*i*P	**P**	**07 00 10.0 +1.0**
CD2			sP	pP	07 00 16.5 +0.5
CD2			PP	**PP**	**07 02 07.0 +5.2**
CD2			S	**S**	**07 07 09.8 +0.4**
CD2			sS	pS	07 07 16.8 -0.9
CD2			SS	**SS**	**07 10 40.4 +1.2**
CD2			pmax	pmax	
	comp=Z,70nm,0.5s				
CD2			pmax	pmax	
	comp=Z,1μm,12.2s				
CD2			LR	LR	
	comp=Z,5μm,13.7s				
CD2			LR	LR	
	comp=Z,8μm,16.1s				
CD2			LR	LR	
	comp=Z,9μm,16.1s				
DGAR	**Diego Garcia**	**48.76 143**	IAMs_20	IAMs_20	07 20 25.4
	comp=Z,3μm,19.0s				
H08S3	**Diego Garcia H**	**48.97 143**	P	**P**	**07 00 15.3 +3.4**
	baz=339,slow=10,SNR=5.9				
H08S1	**Diego Garcia H**	**48.98 144**	P	**P**	**07 00 14.4 +2.3**
	baz=339,slow=10,SNR=2.8				
H08S2	**Diego Garcia H**	**48.98 144**	P	**P**	**07 00 15.8 +3.7**
	baz=339,slow=10,SNR=2.5				
MHMT	**Maesarieng**	**49.12 95**	P	**P**	**07 00 13.6 0.0**
	comp=Z,131nm,0.6s,comp=Z,2μm				
CHTO	**Chiang Mai**	**49.64 94**	P	**P**	**07 00 16.8 -0.8**
CHTO	**Chiang Mai**	**49.64 94**	P	**P**	**07 00 16.8 -0.8**
CMMT	**Chiang Mai**	**49.65 94**	P	**P**	**07 00 16.9 -0.7**
	comp=Z,42nm,0.6s,comp=Z,703nm				
CMAR	**Chiang Mai Arr**	**49.82 94**	*i* P	**P**	**07 00 18.1 -0.8**
CMAR			pmax	pmax	
	comp=Z,38nm,0.5s				
CMAR	**Chiang Mai Arr**	**49.82 94**	P	**P**	**07 00 18.5 -0.4**
	comp=Z,38nm,0.5s,baz=293,slow=8.4,SNR=118				
CMAR			ScP	**ScP**	**07 05 36.0 +2.2**
	comp=Z,1.7nm,0.8s,baz=290,slow=5.6,SNR=3.3				
CMAR			LR	LR	07 25 19.8
	comp=Z,2μm,20.4s,baz=290,slow=41				
CMAR	**Chiang Mai Arr**	**49.82 94**	P	**P**	**07 00 17.9 -0.9**
KMI	**Kunming**	**49.92 85**	P	**P**	**07 00 19.3 -0.6**
KMI			pP	pP	07 00 25.0 -1.8
KMI			sP	sP	07 00 27.8 -1.7
KMI			PP	**PP**	**07 02 15.6 +0.9**
KMI			S	**S**	**07 07 29.8 +0.5**
KMI			sS	pS	07 07 39.3 +1.7
KMI			pmax	pmax	
	comp=Z,35nm,1.6s				
KMI			pmax	pmax	
	comp=Z,610nm,7.4s				
KMI			LR	LR	
	comp=Z,2μm,16.4s				
KMI			LR	LR	
	comp=Z,730nm,16.4s				
KMI			LR	LR	
	comp=Z,3μm,16.4s				
PAYA	**Payao**	**50.14 93**	P	**P**	**07 00 21.3 0.0**
	comp=Z,115μm,0.7s,comp=Z,967μm				
LAMP	**Lampang**	**50.35 94**	P	**P**	**07 00 23.4 +0.5**
	comp=Z,115μm,0.6s				
BOD	**Bodaibo**	**50.36 40**	*e*P	**P**	**07 00 21.8 -0.7**
BOD			pmax	pmax	
	comp=Z,71nm,1.8s				
BTO	**Baotou**	**50.49 63**	*e*P	**P**	**07 00 23.8 0.0**
CIT	**Chita**	**50.66 48**	*e*P	**P**	**07 00 26.1 +1.2**
CIT			*e*		07 00 37.9
CIT			pmax	pmax	
	comp=Z,133nm,1.8s				
UMPA	**Umpang Tak**	**50.89 97**	P	**P**	**07 00 27.6 +0.6**
	comp=Z,116μm,0.9s				
DAG	**Danmarks Havn**	**50.93 345**	*i* P	**P**	**07 00 25.0 -1.4**
DAG	**Danmarks Havn**	**50.93 345**	*i* P	**P**	**07 00 25.0 -1.4**
NANT	**Nan**	**51.10 93**	P	**P**	**07 00 28.2 -0.4**
	comp=Z,788μm,0.8s				
PMAR	**Madeira**	**51.34 287**	*e*P	**P**	**07 00 30.4 -0.1**
	comp=Z,205nm,1.3s				
PMOZ	**Porto Moniz, M**	**51.53 287**	*e*S	**S**	**07 07 57.8 +6.6**
PMOZ	**Porto Moniz, M**	**51.53 287**	*e*LR	LR	07 27 22.9
	comp=Z,453nm,16.0s				
HHC	**Hu-ho-hao-te**	**51.56 62**	*e*P	**P**	**07 00 33.6 +1.7**
HHC			pmax	pmax	
	comp=Z,12nm,1.1s				
XAN	**Xi'an**	**51.58 71**	P	**P**	**07 00 31.6 -0.5**
XAN			S	**S**	**07 07 51.8 0.0**
XAN			ScS	**ScS**	**07 10 14.3 -7.0**
XAN			SS	**SS**	**07 11 31.0 +3.2**
XAN			pmax	pmax	
	comp=Z,72nm,0.8s				
XAN			pmax	pmax	
	comp=Z,420nm,3.9s				
XAN			LR	LR	
	comp=Z,3μm,16.5s				
XAN			LR	LR	
	comp=Z,3μm,18.2s				
XAN			LR	LR	
	comp=Z,3μm,17.3s				
XAN	**Xi'an**	**51.58 71**	P	**P**	**07 00 32.0 -0.1**
XAN	**Xi'an**	**51.58 71**	P	**P**	**07 00 31.9 -0.1**
UTHA	**Uthaitani**	**51.70 97**	P	**P**	**07 00 32.9 -0.2**
	comp=Z,67μm,0.7s,comp=Z,674μm				
SRDT	**SRDT**	**52.08 99**	P	P	07 00 42.9 +7.0
LSZ	**Lusaka**	**52.11 201**	P	**P**	**07 00 38.4 +2.2**
LSZ			MLR	MLR	
	comp=Z,5μm,18.0s				
LSZ	**Lusaka**	**52.11 201**	P	**P**	**07 00 36.1 -0.1**
	comp=Z,14nm,0.8s,baz=26,slow=7.2,SNR=11				
LSZ	**Lusaka**	**52.11 201**	P	**P**	**07 00 38.4 +2.2**
PBKT	**Sadao Pong**	**52.44 95**	P	**P**	**07 00 38.2 -0.3**
	comp=Z,41nm,0.6s,comp=Z,942nm				
SLVN	**Son La**	**52.55 88**	IAmb	IAmb	07 00 42.1
	comp=Z,39nm,0.7s				
SLVN			IAMs_20	IAMs_20	07 27 03.8
	comp=Z,3μm,18.0s				
GYA	**Guiyang**	**52.59 81**⇑	*i*P	**P**	**07 00 39.4 -0.3**
GYA			pP	pP	07 00 45.8 -0.9
GYA			S	**S**	**07 08 04.1 -1.8**
GYA			SS	**SS**	**07 11 41.8 -2.3**
GYA			pmax	pmax	
	comp=Z,30nm,1.0s				
GYA			pmax	pmax	
	comp=Z,450nm,9.8s				
GYA			LR	LR	
	comp=Z,2μm,19.0s				
GYA			LR	LR	
	comp=Z,2μm,14.9s				
GYA			LR	LR	
	comp=Z,2μm,14.9s				
OPO	**Ambohidratompo**	**52.72 178**	P	**P**	**07 00 41.6 +1.0**
	comp=Z,4.9nm,0.8s,baz=36,slow=6.5,SNR=5.3				
TIY	**Taiyuan**	**53.10 66**	*e*P	**P**	**07 00 44.5 +1.1**
TIY			PP	**PP**	**07 02 46.3 +3.1**
TIY			S	**S**	**07 08 14.1 +1.5**
TIY			SS	**SS**	**07 11 51.8 0.0**
TIY			pmax	pmax	
	comp=Z,31nm,0.6s				
TIY			LR	LR	
	comp=Z,2μm,15.3s				
TIY			LR	LR	
	comp=Z,2μm,13.8s				
TIY			LR	LR	
	comp=Z,2μm,14.7s				
ABPO	**Ambohimpanom**	**53.16 178**	P	**P**	**07 00 46.7 +2.8**
ABPO			MLR	MLR	
	comp=Z,3μm,20.0s				
ABPO	**Ambohimpanom**	**53.16 178**	P	**P**	**07 00 46.7 +2.8**
ABPO	**Ambohimpanom**	**53.16 178**	IAMs_20	IAMs_20	07 23 04.1
	comp=Z,3μm,20.0s				
PHET	**Kaeng Krachan**	**53.27 100**	P	**P**	**07 00 44.7 0.0**
	comp=Z,82μm,0.7s				
ENH	**Enshi**	**53.37 76**	IAmb	IAmb	07 00 53.4
	comp=Z,61nm,1.0s				
ENH			IAMs_20	IAMs_20	07 26 44.8
	comp=Z,3μm,19.0s				
NONG	**Nongkai**	**53.48 92**	P	**P**	**07 00 46.0 -0.2**
	comp=Z,0.8nm,0.7s				
CHAI	**Chaiyaphum**	**53.61 95**	P	**P**	**07 00 46.9 -0.3**
	comp=Z,57μm,0.5s,comp=Z,899μm				
DBIC	**Dimbokro**	**53.98 251**	P	**P**	**07 00 49.1 -0.8**
	comp=Z,32nm,0.6s,baz=27,slow=8.3,SNR=31				
DBIC			LR	LR	07 26 48.8
	comp=Z,3μm,21.9s,baz=29,slow=39				
KIC	**Kosan Boka**	**54.08 251**	*e*P	**P**	**07 00 50.2 -0.5**
	comp=Z,77nm,0.8s				
TIC	**Toumodi**	**54.12 251**	*e*P	**P**	**07 00 50.3 -0.7**
LIC	**Lamto**	**54.39 251**	*e*P	**P**	**07 00 52.4 -0.5**
	comp=Z,111nm,0.8s				
HIA	**Hailar**	**55.05 50**	IAmb	IAmb	07 01 05.1
	comp=Z,32nm,0.7s				
BJI	**Beijing**	**55.16 62**	P	**P**	**07 00 58.4 +0.2**
BJI			pP	**pP**	**07 01 01.8 -3.4**
BJI			PP	**PP**	**07 03 06.8 +5.4**
BJI			S	**S**	**07 08 42.3 +2.3**
BJI			ScS	**ScS**	**07 10 48.0 +1.9**
BJI			SS	**SS**	**07 12 26.8 +3.0**
BJI			pmax	pmax	
	comp=Z,18nm,1.5s				
BJI			LR	LR	
	comp=Z,2μm,15.3s				
BJI			LR	LR	
	comp=Z,2μm,15.7s				
BJI			LR	LR	
	comp=Z,1μm,17.7s				
BJT	**Baijiatuau**	**55.16 62**	IAMs_20	IAMs_20	07 28 53.2
	comp=Z,2μm,18.0s				
LHMI	**Lhok Sumawe**	**55.61 109**	IAMs_20	IAMs_20	07 25 60.0
	comp=Z,3μm,22.0s				
TIXI	**Tiksi**	**55.65 22***ce*P		**P**	**07 01 01.0 -0.2**
TIXI			pmax	pmax	
	comp=Z,45nm,1.3s				
TIXI			MLR	MLR	
	comp=Z,3μm,16.0s				
TIXI	**Tiksi**	**55.65 22**	P	**P**	**07 01 01.2 0.0**
SUMG	**Summit**	**55.77 339**	*i* P	**P**	**07 01 02.0 -0.6**
SUMG			pmax	pmax	
	comp=Z,31nm,0.9s				
SUMG	**Summit**	**55.77 339**	*i* P	**P**	**07 01 02.0 -0.6**
	comp=Z,31nm,0.9s				
SUMG	**Summit**	**55.77 339**	P	**P**	**07 01 01.8 -0.9**
SUMG			IAmb	IAmb	07 01 19.5
	comp=Z,55nm,1.3s				
MLSI	**Meulaboh, Aceh**	**55.79 111**	P	**P**	**07 01 02.5 -0.5**
RER	**Riviere de l'E**	**56.11 169**	P	**P**	**07 01 05.8 +0.6**
TRTT	**Trang**	**56.20 105**	P	P	07 01 13.9 +7.9
TPTI		**57.02 111**	P	**P**	**07 01 12.4 +0.6**
WHN	**Wuhan**	**57.13 73**⇑	P	**P**	**07 01 13.8 +1.4**
WHN			PP	**PP**	**07 03 26.6 +7.3**
WHN			S	**S**	**07 09 08.5 +1.9**
WHN			pmax	pmax	
	comp=Z,78nm,1.2s				
WHN			LR	LR	
	comp=Z,8μm,15.9s				
WHN			LR	LR	
	comp=Z,3μm,14.6s				
WHN			LR	LR	
	comp=Z,10μm,17.7s				
TIA	**Tai'an**	**57.15 66**	P	**P**	**07 01 13.3 +0.8**
TIA			PP	**PP**	**07 03 23.3 +4.0**
TIA			S	**S**	**07 09 10.3 +3.7**
TIA			pmax	pmax	
	comp=Z,28nm,1.5s				
TIA			pmax	pmax	
	comp=Z,680nm,11.2s				
TIA			LR	LR	
	comp=Z,2μm,13.3s				
TIA			LR	LR	
	comp=Z,2μm,15.3s				
TIA			LR	LR	
	comp=Z,3μm,15.5s				
KCSI	**Kotacane, Aceh**	**57.31 110**	P	**P**	**07 01 18.1 +4.2**
	comp=Z,33nm,0.8s,comp=Z,562nm				
YAK	**Yakutsk**	**57.58 34**	*e*P	**P**	**07 01 14.8 -0.2**
YAK			*e**PP	**sP**	**07 01 29.0 +4.3**
YAK			*e*		07 02 07.1
YAK			*e*		07 03 21.0
YAK			*e*PPP	PPP	07 04 46.6
YAK			*e*S	**S**	**07 09 10.7 -0.7**
YAK			*e*		07 10 59.5
YAK			*e*SS	**SS**	**07 13 05.1 +4.2**
YAK			pmax	pmax	
	comp=Z,32nm,1.5s				
YAK			pmax	pmax	
	comp=N,13nm,1.7s				
YAK			pmax	pmax	
	comp=E,36nm,1.6s				
YAK			pmax	pmax	
	comp=Z,102nm,2.7s				
YAK			pmax	pmax	
	comp=E,68nm,2.2s				
YAK			pmax	pmax	
	comp=N,89nm,2.8s				
YAK			smax	smax	
	comp=N,94nm,1.9s				
YAK			smax	smax	
	comp=E,34nm,1.7s				
YAK			MLR	MLR	
	comp=Z,5μm,18.0s				
YAK			MLR	MLR	
	comp=N,217nm,19.0s				
YAK			MLR	MLR	
	comp=E,4μm,19.0s				
YAK	**Yakutsk**	**57.58 34**	LR	LR	07 29 56.0
	comp=E,5μm,19.3s,baz=269,slow=40				
ZEA	**Zeya**	**58.42 44**	*e*P	**P**	**07 01 21.8 +0.7**
ZEA			*e*PPP	PPP	07 04 56.0
ZEA			*e*S	**S**	**07 09 27.0 +4.2**
ZEA			pmax	pmax	
	comp=N,37nm,1.4s				
ZEA			pmax	pmax	
	comp=Z,38nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,800nm,8.0s				
ZEA			smax	smax	
	comp=E,700nm,12.0s				
ZEA			smax	smax	
	comp=Z,500nm,12.0s				
ZEA			MLR	MLR	
	comp=Z,6μm,16.0s				
ZEA			MLR	MLR	
	comp=E,4μm,17.0s				
ZEA			MLR	MLR	
	comp=N,1μm,10.0s				
KULM	**Kulim**	**58.48 107**	IAmb	IAmb	07 01 31.1
	comp=Z,40nm,0.9s				
KULM			IAMs_20	IAMs_20	07 28 34.0
	comp=Z,2μm,20.0s				
QIZ	**Qiongzhong**	**58.54 88**	P	**P**	**07 01 21.1 -1.4**
QIZ			S	**S**	**07 09 24.3 -1.0**
QIZ			LR	LR	
	comp=Z,2μm,18.1s				
QIZ			LR	LR	
	comp=Z,1μm,19.6s				
QIZ			LR	LR	
	comp=Z,3μm,19.1s				
GSI	**Gunungsitoli**	**58.57 113**	P	**P**	**07 01 22.4 -0.3**
PSI	**Prapat**	**58.66 110**	P	**P**	**07 01 22.3 -1.2**

comp=Z,6.6nm,0.5s,baz=283,slow=8.2,SNR=6.5
RPSI Rantau Prapat 58.72 110 IAmb IAmb 07 01 41.2
comp=Z,22nm,0.9s
IPM Ipoh 59.27 107 IAmb IAmb 07 01 26.8
comp=Z,29nm,0.8s
DL2 Dalian 59.51 61⇑ *i*P **P 07 01 28.0 -0.9**
DL2 PP PP 07 03 48.0 +7.8
DL2 S **S 07 09 35.8 -1.5**
DL2 pmax pmax
comp=Z,81nm,1.4s
DL2 pmax pmax
comp=Z,570nm,11.3s
DL2 LR LR
comp=Z,1μm,14.6s
DL2 LR LR
comp=Z,2μm,16.5s
DL2 LR LR
comp=Z,3μm,16.6s
TSUM Tsumeb 59.61 211 P **P 07 01 28.4 -1.4**
comp=Z,12nm,0.8s,baz=52,slow=23,SNR=6.0
NJ2 Nanjing 60.06 70 *e*P **P 07 01 32.8 0.0**
NJ2 PP **PP 07 03 43.8 -1.4**
NJ2 S **S 07 09 43.3 -1.3**
NJ2 SS **SS 07 13 41.8 +0.6**
NJ2 pmax pmax
comp=Z,19nm,0.5s
NJ2 pmax pmax
comp=Z,570nm,4.3s
NJ2 LR LR
comp=Z,2μm,15.2s
NJ2 LR LR
comp=Z,3μm,16.1s
NJ2 LR LR
comp=Z,4μm,18.0s
CN2 Changchun 60.44 55 *e*P **P 07 01 35.0 -0.3**
CN2 *e*S **S 07 09 44.1 -5.1**
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 pmax pmax
comp=Z,500nm,9.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,16.0s
BKNI Bangkinang 61.85 111 P **P 07 01 44.4 -0.8**
comp=Z,187nm,0.9s,comp=Z,3μm
BKNI Bangkinang 61.85 111 P **P 07 01 43.7 -1.5**
BKNI IAMs_20 IAMs_20 07 30 33.4
comp=Z,2μm,20.0s
LBTB Lobatse 62.08 201 P **P 07 01 48.1 +1.6**
LBTB Lobatse 62.08 201 P **P 07 01 46.0 -0.5**
comp=Z,13nm,0.9s,baz=19,slow=5.3,SNR=12
LBTB Lobatse 62.08 201 P **P 07 01 48.1 +1.6**
TULEG Thule 62.16 346 IAmb IAmb 07 01 47.7
comp=Z,57nm,1.6s
TULEG IAMs_20 IAMs_20 07 29 06.3
comp=Z,2μm,20.0s
KLR Kul'dur 62.55 47*c i*P **P 07 01 48.9 -0.5**
KLR pmax pmax
comp=Z,63nm,1.5s
KLR Kul'dur 62.55 47 P **P 07 01 49.2 -0.1**
comp=Z,9.0nm,0.5s,baz=298,slow=7.2,SNR=36
MDJ Mudanjiang 62.91 53 P **P 07 01 51.8 -0.1**
MDJ pP sP 07 02 02.3 +0.5
MDJ sP pP 07 02 07.6 +8.6
MDJ PcP **PcP 07 02 29.1 -0.8**
MDJ PP **PP 07 04 09.9 -0.2**
MDJ S **S 07 10 25.1 +4.6**
MDJ ScS **ScS 07 11 43.4 +0.1**
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,470nm,9.5s
MDJ LR LR
comp=Z,2μm,16.4s
MDJ LR LR
comp=Z,3μm,14.2s
MDJ LR LR
comp=Z,4μm,14.2s
MDJ Mudanjiang 62.91 53 IAMs_20 IAMs_20 07 32 24.4
comp=Z,2μm,19.0s
QZH Quanzhou 62.93 77 P **P 07 01 51.8 -0.5**
QZH *e*S **S 07 10 16.3 -4.9**
QZH LR LR
comp=Z,2μm,15.6s
QZH LR LR
comp=Z,990nm,16.1s
QZH LR LR
comp=Z,3μm,18.0s
SDSI Sungai Dareh 62.95 112 P **P 07 01 50.7 -1.8**
comp=Z,71nm,0.6s
KNMB Chin-men Tao 62.98 78 IAMs_20 IAMs_20 07 32 23.0
comp=Z,2μm,20.0s
MYKOM Kota Tinggi 63.13 108 IAmb IAmb 07 02 02.9
comp=Z,31nm,0.8s
KRJI Kerinci 63.71 113 P P 07 02 06.0 +8.3
KSAR Wonju Array Be 64.62 61 P **P 07 02 02.8 -0.4**
KSAR Wonju Array Be 64.62 61 P **P 07 02 02.8 -0.4**
KSRS Korea Array 64.64 61 P **P 07 02 02.9 -0.5**
comp=Z,13nm,0.6s,baz=284,slow=6.2,SNR=35
KSRS LR LR 07 35 14.3
comp=Z,2μm,18.4s,baz=290,slow=41
USA0B Ussuriysk Arra 64.66 53 IAmb IAmb 07 02 09.5
comp=Z,26nm,0.8s
USRK Ussuriysk Ar. 64.66 53 P **P 07 02 02.0 -1.4**
USRK Ussuriysk Ar. 64.66 53 P **P 07 02 02.0 -1.4**
comp=Z,16nm,0.7s,baz=287,slow=6.1,SNR=33
USRK LR LR 07 33 57.2
comp=Z,2μm,18.7s,baz=287,slow=40
USRK Ussuriysk Ar. 64.66 53 P **P 07 02 01.7 -1.7**
MASI Maura Aman, Be 64.98 113 P **P 07 02 10.3 +4.4**
comp=Z,207nm,0.9s,comp=Z,4μm
SSLB Suanglung 65.37 77 IAMs_20 IAMs_20 07 34 00.1
comp=Z,1μm,19.0s
BOSA Boshof 65.57 200 P **P 07 02 09.8 +0.3**
BOSA Boshof 65.57 200 P **P 07 02 09.5 0.0**
comp=Z,12nm,0.6s,baz=12,slow=5.8,SNR=31
BOSA LR LR 07 31 38.1
comp=Z,4μm,18.3s,baz=22,slow=37
BOSA Boshof 65.57 200 P **P 07 02 09.8 +0.3**
YULB Yu-li 65.83 77 IAMs_20 IAMs_20 07 34 07.5
comp=Z,2μm,18.0s
PMBI Palembang 66.78 111 IAMs_20 IAMs_20 07 33 33.8
comp=Z,2μm,20.0s
SEY Seymchan 66.99 28 *i*P **P 07 02 18.8 +0.7**
TEY Ternei 67.28 50⇓ *e*P **P 07 02 19.4 -0.8**
TEY pmax pmax
comp=Z,10.0nm,0.7s
LWLI Liwa 67.57 113 P **P 07 02 21.4 -1.2**
comp=Z,83nm,0.6s,comp=Z,8μm
KLSI 67.87 113 P **P 07 02 28.7 +4.3**
comp=Z,19nm,0.8s
MA2 Magadan 68.03 32 *i*P **P 07 02 25.5 +0.7**
MA2 pmax pmax
comp=Z,33nm,1.2s
RES Resolute Bay 68.10 349 P **P 07 02 24.5 -0.4**
comp=Z,1.6nm,0.6s
KASI Kota Agung 68.23 113 P P 07 02 32.2 +5.6
TYV Tymovskoe 68.25 43 *e*P **P 07 02 27.7 +1.5**
TYV pmax pmax
comp=Z,400nm,3.5s
TYV pmax pmax
comp=Z,37nm,1.4s
KSM Kuching 68.47 104 P **P 07 02 27.9 -0.3**
KSM IAmb IAmb 07 02 38.2
comp=Z,28nm,0.9s
JNU Nakatsue 68.73 64 P **P 07 02 30.2 +0.6**
comp=Z,6.4nm,0.5s,baz=224,slow=2.0,SNR=4.9
BILL Bilibino 68.74 20*ce*P **P 07 02 29.2 +0.2**
BILL *i* 07 02 36.2
BILL *i* 07 05 03.5
BILL pmax pmax
comp=Z,51nm,1.3s
BILL Bilibino 68.74 20 P **P 07 02 29.4 +0.4**
TPI Tanjungpandan 68.92 109 P P 07 02 37.5 +6.6
YSS Yuzh-Sakhalins 70.18 46⇓ *e*P **P 07 02 36.5 -1.8**
YSS *e* 07 02 45.1
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS Yuzh-Sakhalins 70.18 46 P **P 07 02 38.1 -0.2**
STKI Sintang 70.24 104 P P 07 02 46.8 +7.7
TNG Tangerang 70.28 112 P P 07 02 50.7 +11
TNG P P 07 02 50.7 +11
SUR Sutherland 70.41 202 P **P 07 02 40.5 +0.6**
comp=Z,13nm,0.9s,baz=21,slow=8.3,SNR=4.9
SUR Sutherland 70.41 202 P **P 07 02 41.5 +1.6**
KKM Kota Kinabalu 70.65 96 IAmb IAmb 07 02 51.2
comp=Z,34nm,1.0s
ASAJ Asahikawa 71.49 49 P **P 07 02 45.7 -0.6**
JKA Kamikawa-asahi 71.49 49 P **P 07 02 45.7 -0.6**
CISI Cisompet, Garu 72.05 113 P **P 07 02 49.5 -0.6**
comp=Z,164nm,0.7s,comp=Z,4μm
CISI Cisompet, Garu 72.05 113 IAMs_20 IAMs_20 07 35 34.3
comp=Z,1μm,20.0s
INU Inuyama 72.12 59 IAMs_20 IAMs_20 07 39 19.0
comp=Z,1μm,19.0s
MJB9 Matsu-Tunnel 72.36 58 IAMs_20 IAMs_20 07 38 49.0
comp=Z,2μm,18.0s
MAJO Matsushiro 72.36 58 IAMs_20 IAMs_20 07 38 49.1
comp=Z,2μm,18.0s
MAT Matsushiro 72.36 58 P **P 07 02 51.3 -0.4**
MAT S **S 07 12 16.0 +1.9**
MJAR Matsushiro Arr 72.37 58 P **P 07 02 52.1 +0.3**
MJAR Matsushiro Arr 72.37 58 P **P 07 02 51.8 +0.1**
comp=Z,11nm,0.9s,baz=302,slow=8.0,SNR=15
MJAR LR LR 07 38 44.6
comp=Z,1μm,19.8s,baz=310,slow=39
MJAR Matsushiro Arr 72.37 58 P **P 07 02 52.1 +0.3**
KPJI Karang Pucung 72.76 112 P P 07 02 59.2 +4.9
comp=Z,23nm,0.5s
YUK Yuzh-Kuril'sk 73.55 48 *e*P P 07 02 51.8 -6.7
YUK *e* 07 03 15.5
YUK *e*S S 07 12 16.1 -11
YUK *e* 07 13 05.2
YUK pmax pmax
comp=N,177nm,0.9s
YUK pmax pmax
comp=Z,347nm,0.9s
YUK pmax pmax
comp=E,193nm,0.6s
YUK pmax pmax
comp=Z,482nm,1.6s
SCHQ Schefferville 73.94 326 P **P 07 02 59.8 -0.9**
comp=Z,12nm,0.9s,baz=352,slow=4.2,SNR=4.0
SCHQ LR LR 07 36 44.1
comp=Z,538nm,19.7s,baz=65,slow=37
PETK Petropavlovsk- 74.86 35 P **P 07 03 06.1 0.0**
PETK Petropavlovsk- 74.86 35 P **P 07 03 05.6 -0.5**
comp=Z,6.1nm,0.9s,baz=345,slow=3.9,SNR=5.6
PETK LR LR 07 39 48.1
comp=Z,2μm,19.4s,baz=300,slow=39
PETK Petropavlovsk- 74.86 35 P **P 07 03 06.1 0.0**
PET Petropavlovsk 75.37 35 *e*P **P 07 03 09.4 +0.5**
PET *e* 07 06 02.4
PET *e*PPP PPP 07 07 39.4
PET *e*S **S 07 12 44.6 -2.7**
PET *e*PS 07 13 21.9
PET *e*SS **SS 07 17 42.2 +5.6**
PET pmax pmax
comp=Z,300nm,13.1s
PET pmax pmax
comp=Z,300nm,13.7s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,16.0s
BKB Balikpapan 75.38 102 IAMs_20 IAMs_20 07 39 55.1
comp=Z,2μm,20.0s
PWJI Pagerwojo 75.41 111 P P 07 03 18.2 +8.5
SKR Severo-Kuril's 75.55 38 *e*P **P 07 03 07.9 -2.1**
SKR *e*S **S 07 12 41.9 -7.5**
SKR pmax pmax
comp=Z,200nm,5.7s
SKR pmax pmax
comp=Z,600nm,6.1s
SKR MLR MLR
comp=Z,500nm,15.0s
RDOG Red Dog Mine 75.63 11 IAmb IAmb 07 03 23.9
comp=Z,91nm,1.7s
RDOG IAMs_20 IAMs_20 07 42 40.5
comp=Z,1μm,19.0s
C36M Paulatuk 76.26 356 P **P 07 03 12.0 -1.7**
baz=8.9
TOLK Toolik Lake Re 76.63 6 P **P 07 03 16.7 +0.7**
baz=347
MPSI Mapaga 76.90 99 P **P 07 03 19.0 +0.7**
comp=Z,25nm,1.2s,comp=Z,436nm
INK Inuvik 77.58 360 P **P 07 03 20.6 -0.6**
INK MLR MLR
comp=Z,1μm,21.0s
INK Inuvik 77.58 360 P **P 07 03 20.6 -0.6**
INK IAMs_20 IAMs_20 07 40 32.0
comp=Z,1μm,21.0s
GAMB Gambell 77.77 16 IAMs_20 IAMs_20 07 44 11.4
comp=Z,1μm,18.0s
DAV Davao City (W) 77.81 90 IAMs_20 IAMs_20 07 44 11.3
comp=Z,2μm,19.0s
COLD Coldfoot 77.96 6 IAmb IAmb 07 03 38.1
comp=Z,27nm,1.1s
BMAR Burnt Mountain 78.17 4 P **P 07 03 24.6 0.0**
ANM Nome 78.39 13 IAMs_20 IAMs_20 07 44 43.6
comp=Z,1μm,20.0s
IMAR Indian Mountai 78.81 8 P **P 07 03 27.4 -0.7**
FYU Fort Yukon 78.99 4 IAmb IAmb 07 03 32.2
comp=Z,65nm,1.2s
EPYK Eagle Plains 79.52 1 P **P 07 03 31.5 -0.5**
baz=356
BNSI Bone 79.81 102 P P 07 03 44.7 +10
KAPI Kappang 79.88 103 P **P 07 03 33.3 -1.5**
KAPI pmax pmax
comp=Z,148nm,2.0s
KAPI Kappang 79.88 103 P **P 07 03 34.9 +0.2**
comp=Z,2.4nm,0.3s,baz=79,slow=2.1,SNR=5.4
KAPI Kappang 79.88 103 P **P 07 03 33.3 -1.5**
KAPI IAmb IAmb 07 03 42.8
comp=Z,148nm,2.0s
D62A Allapoint, All 79.90 321 P **P 07 03 33.3 -1.1**
JCJ Chichijima 80.21 64 P **P 07 03 36.1 -0.3**
comp=Z,34nm,0.5s,baz=277,slow=21,SNR=2.5
POKR Poker Plat Res 80.27 6 P **P 07 03 36.5 +0.4**
baz=349
MDM Murphy Dome 80.36 6 IAmb IAmb 07 03 50.7
comp=Z,88nm,1.4s
MDM IAMs_20 IAMs_20 07 35 22.5
comp=Z,1μm,18.0s
TCOL CIGO, UAF Yank 80.47 6 P **P 07 03 37.6 +0.5**
baz=349
COLA College 80.47 6 P **P 07 03 37.0 -0.1**
COLA College 80.47 6 P **P 07 03 37.0 -0.1**
ILAR Eielson Array 80.65 5 P **P 07 03 37.8 -0.4**
comp=Z,5.1nm,0.9s,baz=343,slow=3.4,SNR=23
ILAR PKPPKP **P'P'df 07 30 28.1 0.0**
comp=Z,0.7nm,1.0s,baz=207,slow=3.8,SNR=5.0
ILAR LR LR 07 41 54.2
comp=Z,345nm,21.6s,baz=340,slow=38
ILAR Eielson Array 80.65 5 P **P 07 03 37.0 -1.1**
EGAK Eagle 80.99 3 IAmb IAmb 07 03 42.2
comp=Z,75nm,1.5s
TTA Tatalina 81.45 10 IAmb IAmb 07 03 56.8
comp=Z,71nm,1.6s
MCK McKinley 81.50 6 IAmb IAmb 07 03 55.9
comp=Z,76nm,1.6s
DAWY Dawson 81.77 2 IAmb IAmb 07 03 46.5
comp=Z,60nm,1.5s
RND Reindeer 81.83 7 IAmb IAmb 07 03 57.1
comp=Z,36nm,1.1s
PPLA Purkeypile 81.98 8 P **P 07 03 44.5 -0.9**
YKA Yellowknife Ar 82.11 351 P **P 07 03 45.1 -0.8**
comp=Z,4.6nm,0.8s,baz=17,slow=5.9,SNR=12
YKA LR LR 07 41 58.1
comp=Z,92nm,19.3s,baz=16,slow=37
DHY Denali Highway 82.29 6 P **P 07 03 46.4 -0.6**
WBSI Waikabubak, Su 82.33 107 P P 07 03 56.4 +8.6
D57A Chemin Vers le 82.41 323 P **P 07 03 48.3 +0.5**
baz=46
LSQQ Lebel-sur-Quev 82.46 326 P **P 07 03 48.0 0.0**
baz=45
PAX Paxson 82.54 5 IAmb IAmb 07 04 01.7
comp=Z,65nm,1.6s
BCAR Beaver Creek A 82.67 3 P **P 07 03 48.6 -0.2**
VLDQ Val d'Or 83.36 326 IAmb IAmb 07 04 04.6
comp=Z,26nm,1.2s
G58A Ormstown 83.78 322 P **P 07 03 55.8 +0.9**
baz=46
I59A Olmsteadville 84.62 321 P **P 07 03 59.5 +0.3**
baz=46
BATI Baumata 86.05 105 P **P 07 04 06.7 -0.1**
comp=Z,27nm,0.4s,baz=267,slow=10,SNR=3.0
SOEI Soe 86.27 104 IAMs_20 IAMs_20 07 46 08.1
comp=Z,996nm,21.0s
L59A Walton 86.35 320 P **P 07 04 07.8 -0.1**
KDAK Kodiak Island 86.89 10 *i*P **P 07 04 10.6 +0.5**
KDAK Kodiak Island 86.89 10 P **P 07 04 10.3 +0.2**
comp=Z,29nm,0.7s,baz=242,slow=0.9,SNR=13
KDAK Kodiak Island 86.89 10 P **P 07 04 09.6 -0.5**
SIJI Sorong 86.93 93 P **P 07 04 11.5 +0.4**
comp=Z,8.8nm,0.7s,baz=316,slow=5.5,SNR=6.2
J55A Hilton 87.02 322 IAMs_20 IAMs_20 07 43 18.0
comp=Z,1μm,19.0s
MEDO Medina 87.42 323 IAMs_20 IAMs_20 07 44 12.4
comp=Z,1μm,20.0s
FAKI Fak Fak 88.89 94 P P 07 04 32.2 +12
ULM Lac du Bonnet 89.06 336 P **P 07 04 20.7 0.0**
comp=Z,2.0nm,0.7s,baz=63,slow=4.5,SNR=2.1
ULM LR LR 07 45 32.3
comp=Z,1μm,20.3s,baz=29,slow=36
ULM Lac du Bonnet 89.06 336 IAmb IAmb 07 04 50.4
comp=Z,44nm,1.8s
PSAD1 Pilbara Seismi 89.75 116 IAMs_20 IAMs_20 07 44 10.4
comp=Z,2μm,21.0s
PSAC1 Pilbara Seismi 89.78 116 IAMs_20 IAMs_20 07 44 09.3
comp=Z,1μm,20.0s
N54A Moraine State 89.81 322 IAMs_20 IAMs_20 07 49 50.8
comp=Z,968nm,19.0s
PSAB1 Pilbara Seismi 89.82 116 IAMs_20 IAMs_20 07 46 32.1
comp=Z,1μm,20.0s
PSA00 Pilbara Seismi 89.84 116 P **P 07 04 22.8 -1.9**
T60A Surry 90.85 318 IAMs_20 IAMs_20 07 45 52.5
comp=Z,906nm,21.0s
U61A Possum Corner 91.26 317 IAMs_20 IAMs_20 07 47 40.5
comp=Z,953nm,19.0s
I42A Draeger Farm, 91.72 329 IAMs_20 IAMs_20 07 48 33.0
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 91.86 323 IAmb IAmb 07 05 00.3
comp=Z,37nm,1.3s
N49A Columbus Grove 91.92 324 P **P 07 04 33.6 -0.5**
baz=39
U59A Littleton 92.00 318 IAMs_20 IAMs_20 07 47 27.1
comp=Z,1μm,19.0s
L46A Eue Claire 92.06 326 IAMs_20 IAMs_20 07 49 24.1
comp=Z,1μm,18.0s
FITZ Fitzroy Crossi 92.19 110 P **P 07 04 34.8 -0.9**
comp=Z,3.2nm,0.6s,baz=257,slow=3.6,SNR=6.8
FITZ LR LR 07 47 55.3
comp=Z,557nm,21.6s,baz=314,slow=37
FITZ Fitzroy Crossi 92.19 110 P **P 07 04 34.6 -1.0**
MDND Maddock 92.36 337 IAMs_20 IAMs_20 07 50 10.5
comp=Z,1μm,21.0s
N48A Decatur 92.37 325 P **P 07 04 36.6 +0.4**
baz=39
P51A Williamsport 92.47 323 IAMs_20 IAMs_20 07 51 52.2
comp=Z,985nm,19.0s
O49A Covington 92.56 324 P **P 07 04 37.0 -0.1**
baz=39
N47A Urbana 92.67 325 IAMs_20 IAMs_20 07 49 38.4
comp=Z,1μm,20.0s
CNNC Cliffs of the 92.86 317 IAMs_20 IAMs_20 07 48 39.9
comp=Z,839nm,19.0s
Q51A Peebles 92.96 323 P **P 07 04 39.0 0.0**
baz=40
JFWS Jewell Farm 93.08 329 IAMs_20 IAMs_20 07 48 35.0
comp=Z,1μm,20.0s
V58A Windy Hill, Pi 93.14 318 IAMs_20 IAMs_20 07 48 34.3
comp=Z,929nm,20.0s
R51A Hillsboro 93.64 322 P **P 07 04 42.4 +0.3**
baz=40
R50A Paris 94.02 323 IAMs_20 IAMs_20 07 42 51.2
comp=Z,997nm,21.0s
W57A Gilead 94.10 318 IAMs_20 IAMs_20 07 49 01.6
comp=Z,1μm,21.0s
X58A Rowland 94.17 317 IAMs_20 IAMs_20 07 52 35.6
comp=Z,785nm,18.0s
SKI Saint Kitts 94.67 295 IAMs_20 IAMs_20 07 55 19.4
comp=Z,755nm,19.0s
BIRD Birdtown, Kers 94.73 318 IAMs_20 IAMs_20 07 49 30.4
comp=Z,924nm,20.0s
NWAO Narrogin (SRO) 94.91 127 LR LR 07 45 44.6
comp=Z,430nm,20.3s,baz=343,slow=34
NWAO Narrogin (SRO) 94.91 127 IAMs_20 IAMs_20 07 52 28.1
comp=Z,702nm,19.0s
OLIL Olney 95.50 325 IAMs_20 IAMs_20 07 50 30.1
comp=Z,1μm,22.0s
Z56A Williston 96.22 318 IAMs_20 IAMs_20 07 50 53.7
comp=Z,945nm,20.0s
NEW Newport 96.24 348 P **P 07 04 53.1 -0.9**
comp=Z,1.2nm,0.9s,baz=122,slow=19,SNR=1.6
NEW Newport 96.24 348 IAmb IAmb 07 07 07.6
comp=Z,14nm,1.7s
B08A Colville Reser 96.49 350 IAMs_20 IAMs_20 07 49 31.9
comp=Z,1μm,21.0s
B06A Marblemount 96.63 351 IAMs_20 IAMs_20 07 52 39.4
comp=Z,959nm,20.0s
W50A Signal Mountai 96.91 321 IAMs_20 IAMs_20 07 50 48.7
comp=Z,1μm,19.0s
RSSD Black Hills 97.08 338 IAMs_20 IAMs_20 07 53 30.6
comp=Z,1μm,20.0s
SWET Sewanee 97.21 322 IAMs_20 IAMs_20 07 44 09.8
comp=Z,932nm,22.0s
X48A Hartselle 98.38 322 IAMs_20 IAMs_20 07 50 21.6
comp=Z,820nm,20.0s
LON Longmire 98.41 351 IAMs_20 IAMs_20 07 51 46.4
comp=Z,762nm,19.0s
F10A Beach Ranch, E 98.48 348 IAMs_20 IAMs_20 07 57 36.5
comp=Z,1μm,19.0s
K22A Casper 99.16 340 IAMs_20 IAMs_20 07 50 34.7
comp=Z,1μm,21.0s
IMW Indian Meadow 99.17 343 IAMs_20 IAMs_20 07 52 47.7
comp=Z,1μm,20.0s
F04A Amboy 99.29 352 IAMs_20 IAMs_20 07 53 53.7
comp=Z,868nm,20.0s
OGNE Ogallala 99.29 336 IAMs_20 IAMs_20 07 48 04.9
comp=Z,755nm,19.0s
TPAW Teton Pass 99.55 343 IAMs_20 IAMs_20 07 53 11.0
comp=Z,1μm,21.0s
BMO Blue Mountains 99.58 348 IAMs_20 IAMs_20 07 56 29.6
comp=Z,946nm,22.0s
SDDR Presa de Saban 99.88 301 IAMs_20 IAMs_20 07 57 04.8
comp=Z,669nm,18.0s
BW06 Boulder Array 99.88 342 IAMs_20 IAMs_20 07 52 42.8
comp=Z,1μm,21.0s
PDAR Pinedale Array 99.88 342 PKKP **PKKPdf 07 21 34.6 +1.5**
comp=Z,0.5nm,0.6s,baz=183,slow=3.6,SNR=5.4
PDAR LR LR 07 52 54.1
comp=Z,828nm,19.4s,baz=30,slow=37
250A Grady 99.91 320 IAMs_20 IAMs_20 07 50 34.3
comp=Z,688nm,20.0s
WRA Warramunga Arr 100.02 107 *i*P **Pdif 07 05 16.1 +4.9**
WRA Warramunga Arr 100.02 107 P **Pdif 07 05 09.6 -1.6**
comp=Z,0.6nm,0.5s,baz=317,slow=3.9,SNR=3.4
WRAB Tennant Creek 100.03 107 *i*P **Pdif 07 05 11.1 -0.2**
AHID Auburn Hatcher 100.27 343 IAMs_20 IAMs_20 07 54 06.1
comp=Z,896nm,20.0s
N23A Red Feather La 100.60 338 IAMs_20 IAMs_20 07 55 28.8
comp=Z,1μm,22.0s
MFID Camas Ranch 100.70 346 IAMs_20 IAMs_20 07 56 07.1
comp=Z,1μm,19.0s
KSCO Kaye Shedlock' 101.22 335 IAMs_20 IAMs_20 07 52 16.1
comp=Z,1μm,21.0s
BDFB Brasilia 101.57 259 PP **PP 07 09 30.2 +1.4**
comp=Z,5.5nm,0.8s,baz=125,slow=5.9,SNR=6.5
ASAR Alice Springs 101.69 111 P **Pdif 07 05 21.1 +2.5**
ASAR Alice Springs 101.69 111 P **Pdif 07 05 17.4 -1.2**
comp=Z,1.0nm,0.6s,baz=306,slow=4.5,SNR=5.6
ASAR PKiKP **PKiKP 07 09 41.7 -0.4**
comp=Z,1.0nm,0.6s,baz=316,slow=0.9,SNR=5.3
ASAR PKKPbc **PKKPbc 07 21 23.9 -0.6**
comp=Z,0.8nm,0.9s,baz=116,slow=3.7,SNR=5.2
ASAR Alice Springs 101.69 111 **Pdif 07 05 21.1 +2.5**
WVOR Wild Horse Val 102.16 348 IAMs_20 IAMs_20 07 54 52.8
comp=Z,873nm,20.0s
Z41A Richland Creek 102.16 325 IAMs_20 IAMs_20 07 53 03.0
comp=Z,1μm,21.0s
MAW Mawson 102.55 173 P **Pdif 07 05 19.9 -1.3**
comp=Z,0.8nm,0.3s,baz=339,slow=7.7,SNR=3.5
WAKE Wake Island 102.62 56 IAMs_20 IAMs_20 08 00 28.0
comp=Z,614nm,18.0s
HUMO Hull Mountain 102.63 351 IAMs_20 IAMs_20 07 53 31.1
comp=Z,1μm,21.0s
MOD Modoc Plateau 102.95 349 IAMs_20 IAMs_20 07 53 21.7
comp=Z,1μm,21.0s
DUG Dugway, Tooele 103.12 343 IAMs_20 IAMs_20 07 52 15.4
comp=Z,1μm,22.0s
SYO Syowa Base 103.22 182⇑ *e*PP **PP 07 09 43.0 +3.0**
SYO Syowa Base 103.22 182⇑ *e*PKiKP **PKiKP 07 09 46.0 +2.6**
SYO Syowa Base 103.22 182⇓ *e*X **Pdif 07 05 20.6 -3.6**
SDCO Great Sand Dun 103.33 337 IAMs_20 IAMs_20 07 52 19.2

comp=Z,1μm,22.0s
YBH Yreka Blue Hor 103.46 351 IAMs_20 IAMs_20 07 53 00.1
comp=Z,924nm,21.0s
S22A 4UR Ranch, Cre 103.75 338 IAMs_20 IAMs_20 07 57 36.4
comp=Z,1μm,21.0s
PV16 Nyswonger Mesa 103.86 340 IAMs_20 IAMs_20 08 00 16.1
comp=Z,1μm,20.0s
PV03 Paradox Valley 103.89 340 IAMs_20 IAMs_20 07 57 16.1
comp=Z,1μm,22.0s
PV01 Paradox Valley 103.92 339 IAMs_20 IAMs_20 07 53 17.8
comp=Z,1μm,22.0s
PV05 Paradox Valley 104.13 340 IAMs_20 IAMs_20 07 54 14.5
comp=Z,997nm,21.0s
PAHR Pah Rah Range 104.94 348 IAMs_20 IAMs_20 07 58 51.4
comp=Z,702nm,21.0s
BEKR Beckworth 104.95 349 IAMs_20 IAMs_20 08 03 07.6
comp=Z,869nm,19.0s
WHTX Lake Whitney, 105.34 328 IAMs_20 IAMs_20 07 56 57.5
comp=Z,1μm,19.0s
VCNR Virginia City 105.39 348 IAMs_20 IAMs_20 08 00 43.3
comp=Z,721nm,20.0s
ORV Oroville 105.43 350 IAMs_20 IAMs_20 07 54 54.3
comp=Z,1μm,21.0s
R11A Troy Canyon, C 105.52 345 IAMs_20 IAMs_20 07 58 02.7
comp=Z,921nm,20.0s
PNTR Pine Nut 105.58 348 IAMs_20 IAMs_20 07 59 09.5
comp=Z,775nm,22.0s
MSTX Muleshoe 105.78 333 IAMs_20 IAMs_20 07 53 41.7
comp=Z,948nm,18.0s
RYN Ryan 105.84 347 IAMs_20 IAMs_20 07 57 31.2
comp=Z,958nm,20.0s
AFDM Forest Hills D 105.94 349 IAMs_20 IAMs_20 07 55 30.8
comp=Z,838nm,22.0s
NV11 Mina Array Sit 105.96 347 IAMs_20 IAMs_20 07 59 54.4
comp=Z,932nm,20.0s
NVAR Mina Array Bea 105.99 347 PP **PP 07 09 53.7 -6.3**
comp=Z,0.2nm,0.3s,baz=260,slow=3.6,SNR=2.3
ANMO Albuquerque 106.20 336 IAMs_20 IAMs_20 07 55 31.1
comp=Z,1μm,22.0s
U15A North Rim 106.55 342 IAMs_20 IAMs_20 08 02 23.3
comp=Z,790nm,22.0s
CMB Columbia Colle 106.74 348 IAMs_20 IAMs_20 08 01 36.1
comp=Z,858nm,20.0s
OMMB Old Mammoth Mi 106.91 347 IAMs_20 IAMs_20 08 03 08.6
comp=Z,1μm,20.0s
W18A Petrified Fore 107.07 339 IAMs_20 IAMs_20 07 58 11.1
comp=Z,916nm,18.0s
Y22D IRIS PASSCAL I 107.15 336 IAMs_20 IAMs_20 07 56 01.2
comp=Z,1μm,21.0s
WUAZ Wupatki 107.16 340 IAMs_20 IAMs_20 07 56 24.6
comp=Z,714nm,19.0s
SHPR Sheep Range 107.19 344 IAMs_20 IAMs_20 07 56 25.0
comp=Z,630nm,20.0s
JCT Junction City 107.66 329 IAMs_20 IAMs_20 07 57 47.7
comp=Z,863nm,19.0s
X18A Snowflake 107.68 339 IAMs_20 IAMs_20 07 58 38.3
comp=Z,853nm,19.0s
DAC Darwin (Calif) 107.93 346 IAMs_20 IAMs_20 08 04 58.7
comp=Z,930nm,20.0s
MNTX Cornudas Mount 108.77 334 IAMs_20 IAMs_20 07 56 59.0
comp=Z,693nm,20.0s
121A Cookes Peak, D 108.85 336 IAMs_20 IAMs_20 07 57 40.3
comp=Z,1μm,22.0s
Y14A Wickenburg 109.09 341 IAMs_20 IAMs_20 08 01 00.6
comp=Z,853nm,20.0s
833A Chaparral WMA, 109.34 328 IAMs_20 IAMs_20 08 06 10.4
comp=Z,655nm,20.0s
CTAO Charters Tower 109.64 101 IAMs_20 IAMs_20 07 59 27.3
comp=Z,665nm,22.0s
TUC Tucson 110.00 339 IAMs_20 IAMs_20 07 59 51.6
comp=Z,972nm,20.0s
TXAR Lajitas Array 110.25 332 PKKP **PKKPdf 07 21 14.7 +0.8**
comp=Z,1.4nm,1.0s,baz=193,slow=5.1,SNR=6.8
SNAA Sanae 111.11 195 PKiKP **PKiKP 07 09 59.1 +0.9**
SNAA Sanae 111.11 195 PP **PP 07 10 40.2 +2.3**
comp=Z,3.3nm,1.2s,baz=79,slow=12,SNR=3.1
VNA2 Neumayer--Watz 111.57 196 PKiKP **PKiKP 07 10 00.0 +1.0**
baz=30,slow=2.6
VNA1 Neumayer--Stat 111.58 197 PKiKP **PKiKP 07 09 59.7 +0.8**
STKA Stephens Creek 111.69 114 PKiKP **PKiKP 07 10 00.1 -0.3**
comp=Z,1.1nm,0.6s,baz=20,slow=7.8,SNR=3.0
VNA3 Neumayer Olymp 112.33 197 PKiKP **PKiKP 07 10 01.0 +0.6**
SIV San Ignacio 112.44 266 PP **PP 07 10 48.8 +0.3**
comp=Z,2.6nm,0.8s,baz=88,slow=9.0,SNR=7.4
HSIG 113.11 338 IAMs_20 IAMs_20 07 58 35.2
comp=Z,755nm,20.0s
CPUP Villa Florida 114.45 254 PKP **PKiKP 07 10 08.0 +2.3**
comp=Z,1.6nm,0.8s,baz=90,slow=4.0,SNR=4.0
CPUP PP **PP 07 11 03.6 +0.9**
comp=Z,3.0nm,0.9s,baz=61,slow=5.9,SNR=3.3
SRIG Santa Rosalia 115.10 338 IAMs_20 IAMs_20 08 00 08.8
comp=Z,816nm,20.0s
CCIG Comitan 115.50 314 IAMs_20 IAMs_20 08 02 06.7
comp=Z,593nm,21.0s
CMIG Matias Romero 116.44 317 PKiKP **PKiKP 07 10 13.4 +3.5**
comp=Z,1.6nm,0.8s,baz=24,slow=6.3,SNR=3.5
CMIG PP **PP 07 11 13.7 -1.9**
comp=Z,8.3nm,0.7s,baz=332,slow=9.2,SNR=13
TOO Toolangi 117.05 118 PKiKP **PKiKP 07 10 11.2 +0.7**
TOO Toolangi 117.05 118 PKPdf **PKiKP 07 10 11.2 +0.7**
LPAZ La Paz 118.42 269 PKiKP **PKiKP 07 10 15.3 +0.8**
LPAZ La Paz 118.42 269 PKP **PKiKP 07 10 14.9 +0.4**
comp=Z,1.6nm,0.6s,baz=117,slow=2.6,SNR=7.4
LPAZ La Paz 118.42 269 PKiKP 07 10 15.2 +0.8
CAN Canberra 118.74 115 PKiKP **PKPdf 07 10 13.7 -0.2**
CAN Canberra 118.74 115 PKPdf **PKPdf 07 10 13.7 -0.2**
GO01 Chusmiza 120.97 266 PKPdf **PKiKP 07 10 20.1 +0.8**
PB11 IPOC Station P 121.39 267 PKPdf **PKiKP 07 10 20.5 +0.8**
ATAH Atahualpa 121.85 284 PKP **PKiKP 07 10 22.2 +1.1**
comp=Z,2.4nm,0.7s,baz=138,slow=2.9,SNR=1.4
LVC Limon Verde 122.12 263 PKiKP **PKiKP 07 10 21.9 +0.6**
LVC Limon Verde 122.12 263 PKP **PKiKP 07 10 21.4 +0.1**
comp=Z,3.1nm,0.7s,baz=34,slow=3.6,SNR=3.1
LVC Limon Verde 122.12 263 PKiKP 07 10 21.9 +0.6
NNA Nana 123.35 279 PKP **PKPdf 07 10 22.6 -0.7**
comp=Z,6.5nm,0.9s,baz=251,slow=8.5,SNR=2.1
NNA Nana 123.35 279 IAMs_20 IAMs_20 08 04 38.5
comp=Z,817nm,20.0s
QSPA South Pole Qui 124.25 180 PKP **PKPdf 07 10 23.4 -0.1**
comp=Z,4.0nm,0.5s,baz=261,slow=1.6,SNR=23
QSPA South Pole Qui 124.25 180 PKPdf 07 10 22.9 -0.5
LHI Lord Howe Isla 125.04 107 IAMs_20 IAMs_20 08 03 50.1
comp=Z,756nm,21.0s
CFA Coronel Fontan 125.32 253 PKP **PKiKP 07 10 27.0 0.0**
comp=Z,2.8nm,0.8s,baz=297,slow=2.3,SNR=8.7
DZM Mont Dzumac 127.14 93 *e*LR LR 07 50 16.6
comp=Z,508nm,21.0s
DZM Mont Dzumac 127.14 93 PKP **PKiKP 07 10 30.7 -0.2**
comp=Z,3.3nm,0.5s,baz=237,slow=6.8,SNR=10.0
PMSA Palmer Station 128.85 211 PKP **PKiKP 07 10 32.7 -0.2**
comp=Z,8.1nm,0.8s,baz=82,slow=6.7,SNR=2.5
PLCA Paso Flores 129.97 243 PKiKP **PKiKP 07 10 37.2 +1.2**
PLCA Paso Flores 129.97 243 PKP **PKiKP 07 10 35.7 -0.3**
comp=Z,5.2nm,0.9s,baz=76,slow=4.4,SNR=6.1
PLCA Paso Flores 129.97 243 PKiKP 07 10 37.2 +1.2
GO06 Curarrehue 130.36 245 PKiKP 07 10 37.6 +0.7
USHA Ushuaia 130.81 224 PKP **PKiKP 07 10 37.0 -0.1**
comp=Z,7.5nm,0.9s,baz=352,slow=9.9,SNR=2.9
FOZ Fox Glacier 136.43 119 PKPdf **PKiKP 07 10 49.6 +0.8**
KHZ Kahutara 139.00 117 PKPdf **PKiKP 07 10 54.0 -0.1**
AFI Afiamalu 140.59 68 PKP **PKPdf 07 10 55.4 -0.3**
comp=Z,15nm,0.8s,baz=29,slow=24,SNR=1.9
AFI Afiamalu 140.59 68 PKPdf 07 10 54.6 -1.1
BFZ Birch Farm 140.82 114 PKPdf **PKPdf 07 10 56.0 +0.7**
URZ Urewera 141.13 110 PKhKP PKPpre 07 10 52.2
comp=Z,6.8nm,0.6s,baz=248,slow=5.3,SNR=5.7
URZ PKP **PKPdf 07 10 55.5 -0.4**
comp=Z,6.8nm,0.6s,baz=287,slow=2.6,SNR=6.8
URZ Urewera 141.13 110 PKPdf 07 10 54.3 -1.7
PPT2 Papeete2 158.45 43 *e*PP PP 07 15 26.0 -12
comp=Z,229nm,27.0s
PPT2 Papeete2 158.45 43 *e*SS SS 07 35 43.3 +5.5
comp=Z,400nm,24.0s
PPT2 Papeete2 158.45 43 *e*LR LR 08 04 56.4
comp=Z,989nm,22.8s
TBI Tubuai 162.85 54 *e*PP PP 07 15 54.4 -7.3
comp=Z,159nm,27.5s
TBI Tubuai 162.85 54 *e*SS SS 07 36 22.5 -1.9
comp=Z,419nm,28.5s
TBI Tubuai 162.85 54 *e*LR LR 08 06 56.7
comp=Z,914nm,27.2s

ATH ***22*** *06:53:29.0, 38.°42N×22.°45E, h8km±3km, ML2.2/7, Error ellipse: s-maj=3.2km s-min=0.7km az=8.0*
THE 22 06:53:29.2, 38.°42N×22.°45E, h10km±2km, ML1.9/11, Error

ellipse: s-maj=2.0km s-min=0.3km az=211.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	**Delphi**	**0.07**	**31**	P	Pg	06 53 30.8	-0.7
DLFA				S	Sg	06 53 32.2	-1.0
KALE	**Kalithea**	**0.24**	**264**	P	Pg	06 53 34.1	-0.1
KALE				S	Sg	06 53 38.1	+0.5
518nm,0.2s							
KALE	**Kalithea**	**0.24**	**264**	P	Pg	06 53 34.1	-0.1
KALE				S	Sg	06 53 37.7	+0.1
KALE				AML	AML	06 53 39.5	
comp=N,1054μm,0.2s							
KALE				AML	AML	06 53 40.0	
comp=E,1009μm,0.2s							
TRIZ	**Trizonia**	**0.30**	**260**	P	Pg	06 53 35.0	-0.2
TRIZ				S	Sg	06 53 39.8	+0.6
comp=E,525nm,0.3s							
TRIZ	**Trizonia**	**0.30**	**260**	P	Pg	06 53 35.0	-0.2
TRIZ				S	Sg	06 53 39.6	+0.4
SERG	**Sergoula**	**0.31**	**270**	P	Pg	06 53 35.1	-0.3
SERG				S	Sg	06 53 40.3	+0.8
comp=E,985nm,0.3s							
SERG	**Sergoula**	**0.31**	**270**	P	Pg	06 53 35.1	-0.3
SERG				S	Sg	06 53 39.6	+0.1
SERG				AML	AML	06 53 40.7	
comp=N,2856μm,0.3s							
SERG				AML	AML	06 53 43.5	
comp=E,1167μm,0.3s							
AXAR	**Agios Charalam**	**0.39**	**25**	P	Pg	06 53 36.8	-0.1
AXAR				AML	AML	06 53 44.5	
comp=N,2883μm,0.3s							
AXAR				AML	AML	06 53 46.0	
comp=E,2770μm,0.3s							
PROD	**Prodromos**	**0.39**	**114**	P	Pg	06 53 36.5	-0.4
PROD				S	Sg	06 53 42.9	+0.9
PROD	**Prodromos**	**0.39**	**114**	P	Pg	06 53 36.5	-0.4
PROD				S	Sg	06 53 42.4	+0.4
PROD				AML	AML	06 53 43.7	
comp=E,954μm,0.2s							
PROD				AML	AML	06 53 43.8	
comp=N,1161μm,0.2s							
LAKA	**Lakka**	**0.41**	**245**	P	Pg	06 53 37.0	-0.3
LAKA				S	Sg	06 53 43.2	+0.5
LAKA	**Lakka**	**0.41**	**245**	P	Pg	06 53 37.0	-0.3
EFP	**Efpalio**	**0.43**	**272**	P	Pg	06 53 37.1	-0.5
EFP				S	Sg	06 53 43.8	+0.6
comp=N,228nm,0.3s							
EFP	**Efpalio**	**0.43**	**272**	P	Pg	06 53 37.1	-0.5
EFP				S	Sg	06 53 43.6	+0.4
EFP				AML	AML	06 53 47.1	
comp=E,493μm,0.3s							
EFP				AML	AML	06 53 48.5	
comp=N,410μm,0.4s							
KLV	**Kalavryta, Ach**	**0.44**	**212**	P	Pg	06 53 37.1	-0.7
KLV				S	Sg	06 53 43.8	+0.1
KLV	**Kalavryta, Ach**	**0.44**	**212**	P	Pg	06 53 37.3	-0.5
KLV				S	Sg	06 53 43.7	+0.1
LKR	**Lokris**	**0.49**	**61**	P	Pg	06 53 38.1	-0.7
LKR				S	Sg	06 53 45.9	+0.6
comp=N,395nm,0.1s							
LKR	**Lokris**	**0.49**	**61**	P	Pg	06 53 38.1	-0.7
LKR				S	Sg	06 53 45.3	0.0
LKR				AML	AML	06 53 47.2	
comp=E,825μm,0.1s							
LKR				AML	AML	06 53 48.4	
comp=N,725μm,0.2s							
LTK	**Loutraki**	**0.57**	**134**	P	Pg	06 53 39.9	-0.3
LTK				S	Sb	06 53 48.9	-0.4
comp=N,95nm,0.5s							
LTK	**Loutraki**	**0.57**	**134**	P	Pg	06 53 40.1	-0.1
LTK				S	Sg	06 53 48.1	+0.5
LOUT	**Loutraki**	**0.59**	**136**	P	Pg	06 53 40.7	-0.1
LOUT				S	Sg	06 53 49.3	+0.7
comp=N,88nm,0.3s							
LOUT	**Loutraki**	**0.59**	**136**	P	Pg	06 53 40.7	0.0
AGG	**Agios Georgios**	**0.61**	**351**	P	Pg	06 53 40.2	-0.9
AGG				S	Sb	06 53 50.0	-0.7
comp=N,60nm,0.3s							
AGG	**Agios Georgios**	**0.61**	**351**	P	Pg	06 53 40.1	-1.0
MAKR	**Makrakomi, Fth**	**0.65**	**338**	P	Pg	06 53 41.3	-0.4
MAKR	**Makrakomi, Fth**	**0.65**	**338**	P	Pg	06 53 41.4	-0.3
VIL2	**Platees**	**0.68**	**107**	P	Pb	06 53 42.8	-0.3
VIL2				AML	AML	06 53 55.9	
comp=N,394μm,0.4s							
VIL2				AML	AML	06 53 57.5	
comp=E,306μm,0.4s							
EVR	**Evrytania**	**0.71**	**315**	P	Pg	06 53 42.6	-0.3
EVR				S	Sb	06 53 53.3	-0.2
comp=E,72nm,0.3s							
EVR	**Evrytania**	**0.71**	**315**	P	Pg	06 53 42.6	-0.3
VILL	**Villía**	**0.72**	**110**	P	Pg	06 53 42.4	-0.8
VILL				S	Sb	06 53 54.1	+0.2
MRKA	**Markates**	**0.94**	**72**	P	Pg	06 53 47.0	-0.3
MRKA				S	Sb	06 54 00.0	-0.1
comp=E,40nm,0.3s							
PDO	**Prodromos**	**1.01**	**281**	P	Pb	06 53 48.7	-0.1
XOR	**Xorichti**	**1.11**	**31**	P	Pb	06 53 50.2	-0.3
XOR				S	Sn	06 54 06.0	-0.2
comp=E,55nm,1.0s							

ISCJB ***22*** *06:53:37.8±0.2, 8.°66S±0.°04×118.°44E±0.°02, h152km, mb4.4/12, Error ellipse: s-maj=5.4km s-min=3.1km az=16.9*
NEIC ***22*** *06:53:38.5±1.6, 8.°61S±0.°08×118.°37E±0.°06, h159km±6km, mb4.6/14*
IDC ***22*** *06:53:39.3±1.4, 8.°64S×118.°45E, h162km±13km, mb4.0/9, mb1 4.1/14, mb1mx3.7/63, mbtmp4.6/14, MS3.4/1, Ms1 3.4/1, ms1mx2.5/45, Error ellipse: s-maj=17.9km s-min=7.5km az=52.0*
DJA ***22*** *06:53:40.0±0.3, 9.°S±4.°×11.°8E±.°, h145km±3km, M4.6/13, mb4.7/4, mB5.0/2, MLv4.5/13, Mw(mB)4.2/2*
ISC 22 06:53:38.1±0.4, 8.°69S±0.°05×118.°43E±0.°04, h152km, n90, σ1°68/104, mb4.4/17, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.66**	**258**	P	**Pn**	**06 54 03.0**	**+2.4**
PLAI				S	**Sn**	**06 54 19.3**	**+1.6**
WBSI	**Waikabubak, Su**	**1.34**	**135**	P	**Pn**	**06 54 08.3**	**+2.0**
WBSI				S	**Sn**	**06 54 29.1**	**+1.2**
TWSI	**Taliwang, Sumb**	**1.53**	**268**	P	**Pn**	**06 54 09.9**	**+1.8**
TWSI				S	**Sn**	**06 54 33.0**	**+1.9**
BASI	**Baing, Sumba**	**2.61**	**126**	P	**Pn**	**06 54 22.8**	**+2.1**
SRBI	**Singaraja**	**3.23**	**280**	P	**Pn**	**06 54 30.0**	**+1.4**
SRBI				S	**Sn**	**06 55 08.9**	**+1.3**
IGBI	**Denpasar**	**3.25**	**267**	P	**Pn**	**06 54 29.3**	**+0.6**
IGBI				S	**Sn**	**06 55 08.7**	**+0.8**
BKSI	**Bulukumba**	**3.74**	**27**	P	**Pn**	**06 54 37.4**	**+2.3**
MMRI	**Maumere**	**3.77**	**90**		**Pn**	**06 54 36.8**	**+1.3**
MMRI				Sn	**Sn**	**06 55 20.3**	**+0.3**
KAPI	**Kappang**	**3.88**	**20**	P	**Pn**	**06 54 39.2**	**+2.3**
1.8nm,0.3s,baz=190,slow=4.9,SNR=7.7							
KAPI				S	**Sn**	**06 55 23.6**	**+1.0**
4.1nm,0.3s,baz=337,slow=23,SNR=9.3							
KAPI	**Kappang**	**3.88**	**20**		**Pn**	**06 54 38.6**	**+1.7**
JAGI	**Jajag, Banyuwa**	**4.23**	**273**	P	**Pn**	**06 54 40.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.23**	**273**		**Pn**	**06 54 40.6**	**-0.9**
JAGI				Sn	**Sn**	**06 55 27.5**	**-3.4**
BNSI	**Bone**	**4.57**	**22**	P	**Pn**	**06 54 50.5**	**+4.5**
BATI	**Baumata**	**5.38**	**107**	P	**Pn**	**06 54 58.3**	**+1.5**
34nm,0.3s,baz=267,slow=2.4,SNR=8.2							
BATI				S	**Sn**	**06 55 57.7**	**-0.4**
85nm,0.3s,baz=314,slow=21,SNR=13							
BATI	**Baumata**	**5.38**	**107**	P	**Pn**	**06 54 58.4**	**+1.7**
74nm,0.6s,1μm0.7nm							
SOEI	**Soe**	**5.86**	**101**	P	**Pn**	**06 55 04.6**	**+1.4**
100nm,0.6s,2μm1.4nm							
SOEI	**Soe**	**5.86**	**101**		**Pn**	**06 55 04.3**	**+1.1**
SOEI				Sn	**Sn**	**06 56 06.8**	**-2.9**
PWJI	**Pagerwojo**	**6.59**	**275**	P	**Pn**	**06 55 13.7**	**+1.0**
UGM	**Wanagama**	**7.86**	**275**	Pn	**Pn**	**06 55 29.7**	**0.0**
KPJI	**Karang Pucung**	**9.50**	**277**	P	**Pn**	**06 55 54.4**	**+2.8**
SANI	**Sanana**	**10.01**	**49**	P	**Pn**	**06 56 01.3**	**+3.0**
14nm,1.2s							
CISI	**Cisompet, Garu**	**10.56**	**275**	Pn	**Pn**	**06 56 03.9**	**-1.9**
LEM	**Lembang**	**10.87**	**279**	P	**Pn**	**06 56 11.0**	**+1.2**
10nm,0.3s,baz=60,slow=15,SNR=3.1							
FITZ	**Fitzroy Crossi**	**11.69**	**144**	P	**Pn**	**06 56 22.4**	**+2.1**
2.0nm,0.3s,baz=340,slow=9.0,SNR=45							
FITZ				S	**Sn**	**06 58 26.6**	**-3.1**
2.4nm,0.3s,baz=170,slow=22,SNR=6.5							
BNDI	**Bandanaira**	**12.13**	**71**	P	**P**	**06 56 34.2**	**+1.8**
KNRA	**Kununurra**	**12.26**	**126**		**Pn**	**06 56 28.7**	**+0.9**
MTN	**Manton Dam**	**13.15**	**109**		**Pn**	**06 56 39.5**	**+0.3**
GIRL	**Giralia**	**14.45**	**196**	P	**P**	**06 56 59.4**	**+1.3**
KKM	**Kota Kinabalu**	**14.80**	**351**	P	**P**	**06 57 02.7**	**+0.5**
FAKI	**Fak Fak**	**14.89**	**68**		**Pn**	**06 56 59.6**	**-1.7**
SIJI	**Sorong**	**14.96**	**59**	P	**P**	**06 57 03.3**	**-0.6**
2.2nm,0.3s,baz=255,slow=6.0,SNR=12							
MNAI	**Manna**	**15.96**	**285**	P	**Pn**	**06 57 14.1**	**-0.3**
MNAI				IAmb	IAmb	06 57 32.1	
comp=Z,56nm,0.8s							
WRA	**Warramunga Arr**	**19.03**	**128**	P	**P**	**06 57 49.5**	**+0.9**
comp=Z,2.7nm,0.3s,baz=306,slow=9.3,SNR=36							
WRA				S	**S**	**07 01 17.3**	**+0.6**
comp=Z,0.5nm,0.3s,baz=305,slow=22,SNR=8.4							
WRA	**Warramunga Arr**	**19.03**	**128**	P	**P**	**06 57 49.3**	**+0.7**
WRAB	**Tennant Creek**	**19.03**	**128**	P	**P**	**06 57 49.8**	**+1.2**
WRAB				IAmb	IAmb	06 57 50.5	
comp=Z,11nm,0.8s							
WB2	**Warramunga Arr**	**19.04**	**128**	P	**P**	**06 57 49.7**	**+1.0**
AS31	**Alice Springs**	**21.01**	**137**	P	**P**	**06 58 11.2**	**+1.3**
ASAR	**Alice Springs**	**21.01**	**137**	P	**P**	**06 58 11.2**	**+1.3**
comp=Z,5.1nm,0.4s,baz=317,slow=9.4,SNR=54							
ASAR				S	**S**	**07 01 54.6**	**-0.9**
comp=Z,5.2nm,1.1s,baz=331,slow=24,SNR=14							
ASAR	**Alice Springs**	**21.01**	**137**	P	**P**	**06 58 11.4**	**+1.5**
RPSI	**Rantau Prapat**	**22.49**	**299**	P	**P**	**06 58 24.4**	**-0.8**
RPSI				IAmb	IAmb	06 58 26.4	
comp=Z,8.1nm,1.0s							
PSI	**Prapat**	**22.55**	**300**	P	**P**	**06 58 24.1**	**-1.7**
comp=Z,5.5nm,0.3s,baz=181,slow=21,SNR=8.0							
JAY	**Jayapura**	**22.99**	**76**	LR	LR	07 09 24.6	
comp=Z,89nm,19.6s,baz=346,slow=41							
COEN	**Coen**	**24.82**	**104**	P	**P**	**06 58 46.9**	**+0.4**
COEN				IAmb	IAmb	06 58 47.7	
comp=Z,8.6nm,0.6s							
BBOO	**Buckleboo**	**29.03**	**148**	P	**P**	**06 59 25.0**	**+1.1**
BBOO				IAmb	IAmb	06 59 33.4	
comp=Z,9.0nm,1.1s							
STKA	**Stephens Creek**	**31.55**	**140**	P	**P**	**06 59 47.8**	**+1.6**
comp=Z,2.3nm,0.5s,baz=320,slow=9.4,SNR=7.9							
STKA	**Stephens Creek**	**31.55**	**140**	P	**P**	**06 59 47.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**33.12**	**325**	P	**P**	**07 00 00.2**	**+0.1**
comp=Z,1.1nm,0.4s,baz=146,slow=6.6,SNR=3.5							
NJ2	**Nanjing**	**40.51**	**1**	*e*P	**P**	**07 01 03.0**	**+0.7**
NJ2				pmax	pmax		
comp=Z,15nm,0.5s							
CD2	**Chengdu**	**41.81**	**341**	P	**P**	**07 01 13.0**	**0.0**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**49.69**	**353**	*e*P	**P**	**07 02 17.1**	**+2.3**
HHC				pmax	pmax		
comp=Z,7.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**54.05**	**12**	P	**P**	**07 02 46.3**	**-0.5**
comp=Z,7.3nm,0.8s,baz=199,slow=5.9,SNR=5.4							
ERM	**Erimo**	**55.31**	**22**	P	**P**	**07 02 55.2**	**-0.7**
MLZ	**Mavora Lakes**	**56.13**	**140**	P	**P**	**07 03 03.7**	**+1.8**
MLZ				IAmb	IAmb	07 03 04.4	
comp=Z,18nm,1.1s							
WHZ	**Wether Hill Ro**	**56.24**	**140**	P	**P**	**07 03 03.9**	**+1.3**
RPZ	**Rata Peaks**	**57.42**	**137**	P	**P**	**07 03 12.6**	**+1.6**
comp=Z,11nm,0.8s,baz=252,slow=3.2,SNR=4.2							
THZ	**Tophouse**	**58.04**	**134**	P	**P**	**07 03 17.4**	**+2.0**
KSH	**Kashi**	**62.02**	**324**	P	**P**	**07 03 44.3**	**+1.7**
KSH				PP	**PP**	**07 06 06.1**	**+5.1**
KSH				S	**S**	**07 11 50.5**	**-4.8**
KSH				sS	sS	07 12 55.8	-1.7
KSH				SS	**SS**	**07 15 57.3**	**-3.6**
KSH				LR	LR		
comp=Z,860nm,14.9s							
KSH				LR	LR		
comp=Z,600nm,14.0s							
KSH				LR	LR		
comp=Z,630nm,16.9s							
MKAR	**Makanchi Array**	**63.92**	**333**	P	**P**	**07 03 53.6**	**-1.3**
comp=Z,2.6nm,0.6s,baz=168,slow=7.7,SNR=7.7							
MKAR	**Makanchi Array**	**63.92**	**333**	P	**P**	**07 03 53.1**	**-1.7**
MKAR				PcP	**PcP**	**07 04 28.9**	**-0.2**
AAK	**Ala-Archa**	**64.90**	**326**	P	**P**	**07 04 00.2**	**-1.3**
AAK				IAmb	IAmb	07 04 12.0	
comp=Z,14nm,0.9s							
AAK	**Ala-Archa**	**64.90**	**326**	ScP	**P**	**07 04 00.4**	**-1.1**
comp=Z,6.2nm,0.7s,baz=116,slow=2.2,SNR=4.9							
ARSB	**Arslanbob**	**64.93**	**324**	P	**P**	**07 04 00.4**	**-1.3**
GAR	**Garm**	**65.14**	**320**	P	**P**	**07 04 00.6**	**-2.4**
ZALV	**Zalesovo Beam**	**68.55**	**339**	P	**P**	**07 04 22.8**	**-1.4**
comp=Z,1.8nm,0.4s,baz=143,slow=5.9,SNR=3.2							
PETK	**Petropavlovsk-**	**70.02**	**24**	P	**P**	**07 04 33.0**	**-0.2**
comp=Z,2.5nm,0.8s,baz=237,slow=5.0,SNR=3.5							
PETK	**Petropavlovsk-**	**70.02**	**24**	P	**P**	**07 04 32.5**	**-0.7**
ABKAR	**Akbulak array**	**76.98**	**325**	P	**P**	**07 05 11.8**	**-2.1**
TORD	**Torodi Ar. Bea**	**117.85**	**280**	PKP	**PKPdf**	**07 12 07.2**	**-0.4**
comp=Z,0.2nm,0.3s,baz=68,slow=2.9,SNR=3.1							
TORD	**Torodi Ar. Bea**	**117.85**	**280**		**PKPdf**	**07 12 06.4**	**-1.2**
WVT	**Waverly**	**143.70**	**37**	PKPdf	PKPab	07 12 52.5	-0.1
V48A	**Smith Brothers**	**144.56**	**37**	PKPdf	**PKPab**	**07 12 55.6**	**-0.3**
CLTN	**Cedars of Leba**	**144.61**	**36**	PKPdf	PKPbc	07 12 56.2	0.0
CPUP	**Villa Florida**	**144.95**	**187**	PKPbc	**PKPdf**	**07 12 58.9**	**+0.9**
comp=Z,1.7nm,0.9s,baz=207,slow=4.5,SNR=2.5							
CPUP	**Villa Florida**	**144.95**	**187**		**PKPdf**	**07 12 59.0**	**+0.9**
Q54A	**Coxs Mills**	**145.23**	**27**		**PKPbc**	**07 12 57.6**	**-0.5**
N58A	**Sunbury**	**145.27**	**20**	PKPdf	**PKPdf**	**07 12 57.4**	**-0.7**
KSCT	**Kent School, K**	**145.45**	**16**	PKPdf	**PKPdf**	**07 12 58.1**	**-0.3**
N59A	**State Game Lan**	**145.51**	**19**	PKPdf	**PKPdf**	**07 12 58.5**	**-0.1**
W50A	**Signal Mountai**	**145.82**	**36**	PKPbc	**PKPdf**	**07 12 59.2**	**-0.1**
Y49A	**Blount Mountai**	**146.08**	**39**	PKPbc	**PKPdf**	**07 12 59.9**	**+0.2**
LRAL	**Lakeview Retre**	**146.25**	**40**	PKPbc	**PKPdf**	**07 13 00.8**	**+0.7**
TKL	**Tuckaleechee C**	**146.36**	**34**	PKPbc	**PKPbc**	**07 13 01.1**	**-0.5**

comp=Z,3μm,0.3s
ACDV Cuesta del Vie 1.48 21 *i* P **Pn 06 59 28.7 +1.7**
ACDV *e*S **Sn 06 59 47.7 +0.8**
UTNM Universidad Te 1.53 151 *i* P **Pn 06 59 28.0 +0.5**
GO04 Tololo Observa 1.65 326 Pn 06 59 30.1 +0.9
GO04 Sn **Sn 06 59 52.4 +1.5**
AAGR Agrelo 1.71 154 *i* P **Pn 06 59 30.6 +0.8**
PEL Peldehue 1.78 207 Pn 06 59 30.7 +0.1
PEL Sn **Sn 06 59 53.8 +0.4**
ROC1 El Roble 1.79 217 *i* P **Pn 06 59 30.6 -0.2**
ROC1 El Roble 1.79 217 Pn 06 59 30.6 -0.2
ROC1 Sn **Sn 06 59 53.5 -0.4**
ACAN Cantantal 2.28 109 *i* P **Pn 06 59 37.1 +0.1**
MRA San Martin 3.52 105 T *i* P **Pn 06 59 53.3 -0.1**
MRA IAML 07 01 00.9
comp=Z,241nm,0.6s
GO05 Huala 3.91 208 Pn 06 59 56.0 -2.6
GO05 Sn **Sn 07 00 40.0 -3.5**
PUMA Malargue 3.94 177 *i* P **Pn 06 59 59.3 +0.3**
GO03 Copiap 3.97 354 *i* P **Pn 06 59 59.9 +0.3**
GO03 Copiap 3.97 354 Pn 07 00 00.2 +0.7
EDS3 Malargue 4.21 176 *i* P **Pn 07 00 03.2 +0.3**
TCA Tanti 4.40 89 *i* P **Pn 07 00 05.3 0.0**
CYA Choya 4.61 49 *i* P **Pn 07 00 07.6 -0.6**
CYA IAML 07 01 00.7
comp=Z,69nm,0.6s
CCHI Chillan 5.40 200 *i* P **Pn 07 00 16.2 -2.5**
AHML Horco Molle 6.11 40 *i* P **Pn 07 00 26.9 -1.6**
GO02 Mina Guanaco 6.37 1 Pn 07 00 31.1 -1.2
GO06 Curarrehue 8.14 190 Pn **Pn 07 00 52.6 -3.4**
AZAP Zapla 8.39 31 *i* P **Pn 07 00 58.8 -0.8**
PB05 IPOC Station P 8.68 357 *i* P Pn 07 00 59.4 -4.1
LVC Limon Verde 8.94 5 P **Pn 07 01 04.4 -2.9**
comp=Z,1.0nm,0.3s,baz=195,slow=12,SNR=7.9
LVC S **Sn 07 02 45.0 -1.3**
comp=Z,0.8nm,0.3s,baz=153,slow=22,SNR=2.3
LVC Limon Verde 8.94 5 Pn **Pn 07 01 05.1 -2.2**
TRQA Tornquist 9.09 138 Pn 07 01 07.0 -2.0
PLCA Paso Flores 9.18 184 P **Pn 07 01 08.8 -1.4**
comp=Z,0.2nm,0.3s,baz=19,slow=13,SNR=6.9
PLCA Paso Flores 9.18 184 *i* P **Pn 07 01 08.6 -1.6**
PB01 IPOC Station P 10.47 1 Pn **Pn 07 01 27.4 -0.4**
CPUP Villa Florida 12.04 68 P **Pn 07 01 45.5 -3.3**
comp=Z,0.2nm,0.3s,baz=231,slow=11,SNR=4.6
CPUP S **Sn 07 03 54.3 -6.9**
comp=Z,0.2nm,0.3s,baz=305,slow=20,SNR=2.2
CPUP Villa Florida 12.04 68 Pn **Pn 07 01 46.3 -2.4**
LPAZ La Paz 15.27 6 P **Pn 07 02 31.0 -0.2**
comp=Z,1.0nm,0.3s,baz=150,slow=6.3,SNR=30
LPAZ La Paz 15.27 6 Pn 07 02 32.5 +1.3
SIV San Ignacio 17.39 29 P **P 07 02 55.5 -1.1**
comp=Z,1.0nm,0.3s,baz=217,slow=11,SNR=45
USHA Ushuaia 23.29 178 P 07 04 02.1 +3.2
comp=Z,6.7nm,0.8s,baz=2.3,slow=8.0,SNR=3.8
BDFB Brasilia 25.36 56 P 07 04 18.2 0.0
comp=Z,3.9nm,0.6s,baz=218,slow=7.0,SNR=5.8
BDFB Brasilia 25.36 56 P 07 04 18.3 0.0
BDFB IAmb IAmb 07 04 20.0
comp=Z,12nm,1.3s
MDP Montagnes des 39.93 27 P **P 07 06 24.0 -0.8**
comp=Z,4.7nm,0.7s,baz=234,slow=5.1,SNR=4.8
MLPR Magueyes Islan 49.31 3 P **P 07 07 40.2 +1.0**
CRPR Cabo Rojo, PR 49.34 3 P **P 07 07 39.4 0.0**
OBIP Obispado Ponce 49.40 4 P **P 07 07 39.9 0.0**
PDPR Patillas Dam, 49.42 5 P **P 07 07 39.3 -0.8**
VNA3 Neumayer Olymp 50.91 159 P **P 07 07 52.5 +1.8**
VNA1 Neumayer--Stat 51.18 158 P **P 07 07 55.3 +2.6**
VNA2 Neumayer--Watz 51.53 158 P **P 07 07 56.3 +0.9**
baz=248,slow=5.6
SNAA Sanae 53.13 159 P **P 07 08 08.0 +0.7**
SNAA Sanae 53.13 159 P **P 07 08 08.1 +0.8**
comp=Z,0.6nm,0.7s,baz=298,slow=12,SNR=5.3
SNAA Sanae 53.13 159 P **P 07 08 07.7 +0.4**
TEIG Tepich 54.47 338 P **P 07 08 17.7 +0.2**
comp=Z,3.6nm,0.4s,baz=296,slow=0.8,SNR=13
TEIG Tepich 54.47 338 P **P 07 08 18.1 +0.6**
QSPA South Pole Qui 58.68 180 P **P 07 08 47.5 +0.5**
comp=Z,1.2nm,0.7s,baz=287,slow=4.5,SNR=5.6
GOGA Godfrey 65.91 347 P **P 07 09 35.5 +0.2**
GOGA IAmb IAmb 07 09 50.9
comp=Z,5.7nm,1.1s
Z50A Ashland 66.25 345 P **P 07 09 37.9 +0.4**
Z50A IAmb IAmb 07 09 38.0
comp=Z,4.1nm,0.8s
JSC Jenkinsville 66.38 350 P **P 07 09 38.5 +0.2**
JSC IAmb IAmb 07 09 43.4
comp=Z,4.4nm,1.1s
Y49A Blount Mountai 66.94 345 P **P 07 09 42.2 +0.3**
HPIG 67.51 325 P **P 07 09 47.1 +1.2**
HPIG IAmb IAmb 07 09 48.6
comp=Z,2.8nm,0.8s
V58A Windy Hill, Pi 67.57 352 P **P 07 09 46.6 +0.8**
V58A IAmb IAmb 07 09 58.8
comp=Z,9.7nm,1.1s
CPCT Cooper Cave 68.08 347 P **P 07 09 49.5 +0.5**
TKL Tuckaleechee C 68.15 348 P **P 07 09 49.4 -0.1**
comp=Z,2.3nm,0.6s,baz=188,slow=9.2,SNR=3.4
V52A Sevierville 68.29 348 P **P 07 09 50.3 -0.1**
V52A IAmb IAmb 07 09 50.5
comp=Z,3.4nm,0.7s
PLAL Pickwick Lake 68.40 344 P **P 07 09 51.1 +0.1**
PLAL IAmb IAmb 07 10 02.1
comp=Z,3.3nm,1.0s
TXAR Lajitas Array 68.61 328 P **P 07 09 53.6 +0.9**
comp=Z,0.4nm,0.7s,baz=150,slow=8.6,SNR=3.8
TXAR Lajitas Array 68.61 328 P **P 07 09 53.9 +1.3**
CLTN Cedars of Leba 69.07 346 P **P 07 09 55.9 +0.7**
WVT Waverly 69.44 344 P **P 07 09 57.7 +0.2**
WVT IAmb IAmb 07 09 58.4
comp=Z,6.7nm,0.7s
T49A Edmonton 69.89 347 P **P 07 10 00.2 +0.1**
W39A Magazine 70.14 339 P **P 07 10 03.0 +1.2**
LCAR Lake Charles 70.21 342 P **P 07 10 02.7 +0.6**
LCAR IAmb IAmb 07 10 03.1
comp=Z,4.1nm,0.5s
PBMO Poplar Bluff 70.69 343 P **P 07 10 05.4 +0.4**
CCM Cathedral Cave 72.10 342 P **P 07 10 14.3 +0.7**
CCM IAmb IAmb 07 10 14.6
comp=Z,5.3nm,1.1s
DBIC Dimbokro 72.55 71 P **P 07 10 16.2 -0.6**
comp=Z,3.3nm,0.7s,baz=199,slow=6.4,SNR=4.8
DBIC Dimbokro 72.55 71 P **P 07 10 16.9 +0.1**
DBIC IAmb IAmb 07 10 16.9
comp=Z,3.5nm,0.6s
N47A Urbana 73.57 347 P **P 07 10 21.9 -0.2**
N47A IAmb IAmb 07 10 37.3
comp=Z,7.0nm,0.8s
HDIL Hopedale 74.00 345 P **P 07 10 24.8 +0.2**
HDIL IAmb IAmb 07 10 25.6
comp=Z,10.0nm,0.9s
GGN Saint George 76.35 2 P **P 07 10 39.7 +1.7**
SADO Sadowa 76.44 353 P **P 07 10 38.9 +0.3**
comp=Z,2.8nm,0.6s,baz=97,slow=1.4,SNR=3.1
SADO Sadowa 76.44 353 P **P 07 10 38.1 -0.5**
SADO IAmb IAmb 07 10 39.5
comp=Z,5.4nm,0.9s
F64A Sherman 77.06 1 P **P 07 10 43.7 +1.6**
F64A IAmb IAmb 07 10 43.8
comp=Z,5.5nm,0.8s
E63A Oxbow 77.62 1 P **P 07 10 46.4 +1.3**
E63A IAmb IAmb 07 10 57.0
comp=Z,11nm,1.1s
PQI Presque Isle 77.88 1 P **P 07 10 48.2 +1.7**
ECSD EROS Data Cent 78.86 340 P **P 07 10 51.2 -0.8**
ECSD IAmb IAmb 07 10 52.9
comp=Z,4.2nm,0.7s
DRLN Deer Lake 81.19 8 P **P 07 11 05.5 +1.1**
TORD Torodi Ar. Bea 81.54 69 P **P 07 11 07.0 -0.1**
comp=Z,2.7nm,0.6s,baz=274,slow=5.7,SNR=15
TORD Torodi Ar. Bea 81.54 69 P **P 07 11 07.3 +0.2**
NVAR Mina Array Bea 83.03 324 P **P 07 11 16.1 +1.5**
comp=Z,0.2nm,0.3s,baz=168,slow=7.6,SNR=2.3
NVAR Mina Array Bea 83.03 324 P **P 07 11 15.2 +0.5**
RLMT Red Lodge 84.36 333 P **P 07 11 22.1 +0.9**
ASAR Alice Springs 120.61 205 PKP **PKPdf 07 17 39.7 -1.1**
comp=Z,0.1nm,0.4s,baz=95,slow=2.2,SNR=3.2
WB2 Warramunga Arr 123.82 208 PKPdf **PKPdf 07 17 46.1 -0.9**
WRA Warramunga Arr 123.83 208 PKP **PKPdf 07 17 46.0 -1.1**
comp=Z,0.4nm,0.4s,baz=157,slow=1.7,SNR=15
ABKAR Akbulak array 138.64 50 PKPdf **PKPdf 07 18 14.3 +0.4**
BVAR Borovoye Array 144.17 41 PKP **PKPdf 07 18 24.1 +0.3**
comp=Z,0.5nm,0.5s,baz=252,slow=0.5,SNR=3.2
ARSB Arslanbob 148.67 61 PKPbc **PKiKP 07 18 36.4 -0.8**
AAK Ala-Archa 149.61 58 PKPbc **PKiKP 07 18 39.3 +0.2**
comp=Z,3.1nm,0.7s,baz=196,slow=7.4,SNR=7.8
AAK PKPab **PKPab 07 18 44.2 +0.7**
comp=Z,1.4nm,0.5s,baz=283,slow=2.0,SNR=5.1
AAK Ala-Archa 149.61 58 PKiKP 07 18 38.6 -0.5
AAK PKPab **PKPab 07 18 43.7 +0.1**
KSH Kashi 151.12 64 *e*PKPbc **PKPdf 07 18 35.3 -0.5**
ZAA0 Zalesovo Array 151.13 32 PKPbc **PKiKP 07 18 41.8 +0.1**
ZALV Zalesovo Beam 151.13 32 PKPbc **PKiKP 07 18 41.6 0.0**
comp=Z,5.6nm,0.5s,baz=302,slow=3.1,SNR=16
ZALV Zalesovo Beam 151.13 32 PKiKP 07 18 41.8 +0.2

IDC ***22*** *07:00:46.6±3.0, 17°.43S×167°.70E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/44, mbtmp4.2/7, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/28, Error ellipse: s-maj=67.9km s-min=32.5km az=104.0*
ISCJB ***22*** *07:00:47.2±0.6, 17°.62S±0°.06×167°.95E±0°.09, h27km, mb4.1/6, Error ellipse: s-maj=13.7km s-min=7.7km az=24.3*
NEIC ***22*** *07:00:49.5±1.5, 17°.6S±0°.1×167°.9E±0°.1, h29km±7km, mb4.6/12*
ISC 22 07:00:49.5±0.7,**17°.61S**±0°.08×**167°.9E**±0°.1,**h27**km,**n22,**
σ**1**º**00**/24,**mb4.3/8,Vanuatu Islands**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 4.65 197 Pn **Pn 07 01 58.6 +0.5**
4.3nm,0.3s,baz=33,slow=15,SNR=39
DZM Sn **Sn 07 02 51.5 +0.2**
4.7nm,0.3s,baz=127,slow=23,SNR=12
DZM LR LR 07 03 45.1
comp=Z,112nm,19.6s,baz=68,slow=38
DZM Mont Dzumac 4.65 197 Pn 07 01 58.6 +0.5
DZM **Sn 07 02 50.4 -0.9**
MSVF Nonsavu 9.66 92 Pn **Pn 07 03 07.3 +0.4**
LHI Lord Howe Isla 16.01 208 Pn 07 04 30.4 -2.5
LHI IAmb IAmb 07 04 32.9
comp=Z,79nm,1.1s
TARA Tarawa 19.48 15 P **P 07 05 14.2 -0.2**
TARA IAmb IAmb 07 05 27.5
comp=Z,53nm,1.1s
ARMA Armidale 19.56 226 P **Pn 07 05 16.9 0.0**
ARMA IAmb IAmb 07 05 24.0
comp=Z,20nm,1.5s
KWAJ Kwajalein Atol 26.24 359 P **P 07 06 21.9 -0.6**
STKA Stephens Creek 27.71 234 P **P 07 06 37.3 +1.7**
comp=Z,1.8nm,0.7s,baz=69,slow=12,SNR=4.5
STKA Stephens Creek 27.71 234 P **P 07 06 37.8 +2.1**
WB0 Warramunga Arr 31.80 261 P **P 07 07 10.5 -1.6**
WB0 IAmb IAmb 07 07 24.4
comp=Z,5.7nm,1.2s
WRA Warramunga Arr 31.84 260 P **P 07 07 11.5 -0.9**
comp=Z,0.7nm,0.7s,baz=88,slow=9.3,SNR=4.0
WRA Warramunga Arr 31.84 260 P **P 07 07 12.7 +0.3**
AS31 Alice Springs 32.34 253 P **P 07 07 16.5 -0.3**
ASAR Alice Springs 32.34 253 P **P 07 07 16.4 -0.4**
comp=Z,2.3nm,0.6s,baz=78,slow=8.6,SNR=24
ASAR Alice Springs 32.34 253 P **P 07 07 16.6 -0.2**
FITZ Fitzroy Crossi 40.18 263 P **P 07 08 23.1 -0.6**
comp=Z,4.1nm,0.7s,baz=101,slow=5.9,SNR=5.7
FITZ Fitzroy Crossi 40.18 263 P **P 07 08 23.3 -0.5**
FITZ IAmb IAmb 07 08 24.5
comp=Z,3.8nm,0.8s
NWAO Narrogin (SRO) 47.86 241 P **P 07 09 25.6 +0.3**
NWAO IAmb IAmb 07 09 32.2
comp=Z,45nm,1.4s
CMAR Chiang Mai Arr 76.69 294 P **P 07 12 39.5 +0.9**
comp=Z,1.4nm,0.3s,baz=134,slow=5.2,SNR=5.2
ANM Nome 84.45 11 P **P 07 13 18.4 -0.8**
SONM Songino Array 85.17 324 P **P 07 13 23.2 -0.2**
comp=Z,1.9nm,0.7s,baz=143,slow=5.0,SNR=8.5
SONM Songino Array 85.17 324 P **P 07 13 23.9 +0.5**

ISN ***22*** *07:02:02.1±1.0, 34°.59N×45°.67E, h15km±6km, ML3.4*
ISCJB ***22*** *07:02:06.3±0.4, 34°.54N±0°.04×45°.41E±0°.03, h18km, Error ellipse: s-maj=5.8km s-min=3.8km az=12.7*
TEH ***22*** *07:02:07.1, 34°.41N×45°.58E, h13km, ML3.4*
ISC 22 07:02:07.0±0.9,**34°.43N**±0°.05×**45°.50E**±0°.04,**h18**km,**n17,**
σ**1**º**61**/22,**Iran-Iraq border region**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IDHR Dehrash 0.78 70 *e*Pg **Pb 07 02 20.7 -1.4**
IDHR *e*Sg **Sg 07 02 32.3 -0.4**
IDHR IAMB IAmb 07 02 36.8
comp=Z,0.0nm,0.4s
IGHG Ghaleghazi 0.89 96 *e*Pg **Pb 07 02 23.1 -0.9**
IGHG IAMB IAmb 07 02 43.0
comp=Z,18μm,0.5s
KCHF Cheshme Sefid, 1.28 96 *e*Pg **Pb 07 02 30.6 -0.1**
KCHF IAMB IAmb 07 02 54.2
comp=Z,0.0nm,0.3s
ILIN Lien 1.30 68 *e*Pg **Pn 07 02 30.5 0.0**
ILIN IAMB IAmb 07 02 37.0
comp=Z,7μm,0.2s
KER Kermanshah 1.35 91 *e*Pg **Pb 07 02 31.7 -0.1**
IKRK Kirkuk 1.36 316 *e*Pg Pn 07 02 27.5 -3.6
IKRK AML AML 07 02 28.9
comp=Z,311nm,0.4s
IKRK *e*Sg **Sn 07 02 45.5 -3.1**
IBDR Badra 1.36 165 *e*Pn **Pn 07 02 30.5 -0.6**
IBDR AML AML 07 02 44.1
comp=Z,200nm,0.9s
IBDR *e*Sn **Sg 07 02 51.0 -0.1**
BHD Baghdad 1.49 219 *e*Pn **Pn 07 02 33.0 +0.2**
BHD AML AML 07 02 38.8
comp=Z,8μm,0.5s
BHD *e*Sn **Sb 07 02 55.0 +2.5**
IKOM Komasi 1.68 98 *e*Pn **Pb 07 02 37.1 -0.4**
IKOM *e*Sg **Sg 07 03 00.2 -1.1**
IKOM IAMB IAmb 07 03 07.9
comp=Z,0.0nm,0.4s
IBZA Bozab 1.95 88 *e*Pn **Pb 07 02 41.4 -0.7**
IKFM Kafar-mosalman 2.15 114 *e*Pn **Pb 07 02 44.0 -1.3**
MAHB Mahabad 2.34 4 *e*Pn **Pn 07 02 47.4 +2.8**
MAHB IAMB IAmb 07 03 22.3
comp=Z,0.0nm,0.6s
IKMR Kamar-syah 2.56 110 *e*Pn **Pn 07 02 48.9 +1.4**
MSL Mosul 2.77 316 *e*Pn Pn 07 02 47.0 -3.5
MSL AML AML 07 02 58.0
comp=Z,244nm,0.2s
MSL *e*Sn **Sn 07 03 21.0 -2.5**
IRAZ Razeghan 3.77 74 *e*Pn **Pn 07 03 06.9 +2.5**
RTB Rutbah 4.55 254 *e*Pn **Pn 07 03 15.0 +0.1**
RTB *e*Sn **Sn 07 04 08.5 +1.2**
IKLH Kolahrood 5.18 101 *e*Pn **Pn 07 03 25.5 +1.7**
IKLH IAMB IAmb 07 04 54.5
comp=Z,559nm,1.5s

ISN ***22*** *07:06:21.0±1.2, 34°.39N×45°.59E, h15km±5km, ML3.2*
TEH ***22*** *07:06:22.3, 34°.37N×45°.58E, h17km, ML3.1*
ISC 22 07:06:21.8±1.2,**34°.36N**±0°.04×**45°.57E**±0°.03,**h11**km±**11**km,
n20,σ**1**º**22**/28,**Iran-Iraq border region**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IDHR Dehrash 0.76 63 *e*Pg **Pb 07 06 36.4 -0.6**
IDHR IAMB IAmb 07 06 49.7
comp=Z,0.0nm,0.3s
IGHG Ghaleghazi 0.83 92 *e*Pg **Pb 07 06 37.9 -0.4**
IGHG *e*Sg **Sn 07 06 50.6 -1.3**
IGHG IAMB IAmb 07 06 56.9
comp=Z,7μm,0.2s
KCHF Cheshme Sefid, 1.22 94 *e*Pg **Pg 07 06 45.4 +0.1**
KCHF *e*Sg **Sg 07 07 02.7 +1.4**
KCHF IAMB IAmb 07 07 06.2
comp=Z,0.0nm,0.4s
ILIN Lien 1.28 64 *e*Pg **Pg 07 06 46.8 +0.4**
ILIN IAMB IAmb 07 06 47.5
comp=Z,3μm,0.2s
ILIN *e*Sg **Sg 07 07 04.5 +1.5**
IBDR Badra 1.29 166 *e*Pg **Pn 07 06 45.0 -0.6**
IBDR *e*Sg **Sg 07 07 03.0 -0.2**
KER Kermanshah 1.29 89 *e*Pg **Pg 07 06 46.7 0.0**
IKRK Kirkuk 1.44 316 *e*Pg **Pn 07 06 47.0 -0.8**
IKRK AML AML 07 06 49.7
comp=Z,148nm,0.4s
IKRK *e*Sg **Sb 07 07 07.0 0.0**
BHD Baghdad 1.47 222 *e*Pn **Pb 07 06 49.0 -0.1**
BHD AML AML 07 06 55.1
comp=Z,787nm,0.9s
BHD *e*Sn **Sg 07 07 09.0 -0.1**
IKOM Komasi 1.62 96 *e*Pn **Pg 07 06 52.1 -0.8**
IKOM IAMB IAmb 07 07 21.7
comp=Z,0.0nm,0.6s
IBZA Bozab 1.90 86 *e*Pn **Pb 07 06 56.1 -0.5**
IKFM Kafar-mosalman 2.07 113 *e*Pn **Pb 07 06 58.8 -0.5**
IKFM IAMB IAmb 07 07 33.2
comp=Z,0.0nm,0.4s
IDOB Doab 2.24 104 *e*Pn **Pb 07 07 00.3 -2.1**
MAHB Mahabad 2.40 3 IAMB IAmb 07 07 04.3
comp=Z,0.0nm,0.5s
MAHB *e*Pn **Pb 07 07 02.8 -2.3**
IKMR Kamar-syah 2.49 109 *e*Pn **Pn 07 07 03.3 +1.2**
HSAM Samen 2.52 93 IAMB IAmb 07 07 09.8
comp=Z,0.0nm,0.7s
HSAM *e*Pn **Pb 07 07 04.4 -2.7**
BDRS Dareh Seyedi 2.78 98 *e*Pn **Pn 07 07 07.6 +1.2**
BMDN Meydan 2.79 103 *e*Pn **Pn 07 07 08.0 +1.5**
MSL Mosul 2.86 316 *e*Pn **Pn 07 07 08.0 +0.8**
MSL AML AML 07 07 12.1
comp=Z,563nm,0.5s
MSL *e*Sn **Sn 07 07 43.0 +1.4**
HAGD Aghdareh 2.98 80 *e*Pn **Pn 07 07 10.0 +0.8**
HAGD IAMB IAmb 07 07 52.4
comp=Z,0.0nm,0.4s
RTB Rutbah 4.58 255 *e*Pn **Pn 07 07 32.0 +1.0**
RTB *e*Sn **Sn 07 08 25.0 +0.8**

ISCJB ***22*** *07:47:25.0±0.8, 47°.74N±0°.04×2°.73W±0°.05, h4km±5km, Error ellipse: s-maj=6.8km s-min=4.5km az=29.0*
STR ***22*** *07:47:27.0±0.7, 48°.N±4°.×±°., h10km±6km, MLv2.3/2*
LDG ***22*** *07:47:27.5±0.1, 47°.69N×2°.82W, h6km, Ml2.3/4, Error ellipse: s-maj=2.0km s-min=1.1km az=27.0*
ISC 22 07:47:26.8±1.1,**47°.77N**±0°.04×**2°.80W**±0°.03,**h7**km±**10**km,
n21,σ**1**º**16**/42,**France**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
QUIF Quistinic 0.29 302 *e*Pg **Pg 07 47 31.1 -1.4**
QUIF *e*Sg **Sg 07 47 35.4 -0.9**
10nm,0.2s
QUIF Quistinic 0.29 302 *e*Pg **Pg 07 47 33.7 +1.2**
QUIF *e*Sg **Sg 07 47 38.1 +1.8**
14nm,0.2s
SGMF Saint Gilles 0.52 19 *e*Pg **Pg 07 47 36.2 -0.6**
SGMF Saint Gilles 0.52 19 *e*Pn **Pb 07 47 38.4 +0.2**
SGMF *e*Sg **Sg 07 47 43.6 0.0**
16nm,0.2s
SGMF *e*Sn **Sb 07 47 47.7 +1.8**
8.5nm,0.2s
SGMF Saint Gilles 0.52 19 *e*Pg **Pb 07 47 38.9 +0.7**
SGMF *e*Sg **Sb 07 47 46.3 +0.4**
15nm,0.2s
SGMF *e*Sn **Sn 07 47 50.3 +0.7**
10.0nm,0.2s
ROSF Rostrenen 0.65 331 *e*Pg **Pg 07 47 38.3 -1.1**
ROSF Rostrenen 0.65 331 *e*P **Pg 07 47 39.8 +0.4**
ROSF *e*Sg **Sg 07 47 47.6 -0.3**
5.4nm,0.2s
ROSF Rostrenen 0.65 331 *e*Pg **Pb 07 47 41.1 +0.6**
ROSF *e*Sg **Sb 07 47 50.4 +0.6**
4.3nm,0.1s
RENF Rennes 0.86 65 Pg **Pg 07 47 42.3 -1.1**
RENF Pn **Pb 07 47 43.2 -0.8**
RENF Sn **Sb 07 47 56.2 +0.4**
GRR Gorron 1.45 64 *e*Pg **Pn 07 47 52.6 -0.7**
GRR *e*Sg **Sn 07 48 11.8 -0.7**
4.8nm,0.2s
GRR Gorron 1.45 64 *e*Pg **Pg 07 47 55.3 +0.8**
GRR *e*Sg **Sg 07 48 14.7 +1.4**
3.9nm,0.1s
JSA Saint Aubin 1.48 16 Pn **Pn 07 47 51.3 -2.5**
JSA Pg **Pb 07 47 54.1 -0.6**
JSA Sg **Sn 07 48 14.0 +0.5**
FLN La Foliniere 1.84 56 *e*Pn **Pn 07 47 56.4 -2.4**
FLN La Foliniere 1.84 56 *e*Pg **Pn 07 47 59.7 +0.9**
FLN *e*Sg **Sb 07 48 24.3 +0.2**
2.0nm,0.2s
FLN La Foliniere 1.84 56 *e*Pg **Pg 07 48 02.5 +0.3**
FLN *e*Sg **Sg 07 48 27.2 +1.1**
3.1nm,0.2s
LDF La Druitiere 1.98 64 *e*Pn **Pn 07 47 58.3 -2.3**
LDF La Druitiere 1.98 64 *e*Pg **Pn 07 48 01.9 +1.3**
LDF *e*Sg **Sb 07 48 28.4 +0.5**
1.9nm,0.2s
LDF La Druitiere 1.98 64 *e*Pg **Pg 07 48 04.7 0.0**
LDF *e*Sg **Sg 07 48 31.1 +0.8**
2.6nm,0.2s
MFF Saint Martin d 2.15 122 *e*Pg **Pn 07 48 04.5 +1.4**
MFF *e*Sg **Sb 07 48 32.0 -1.0**
5.3nm,0.2s
MFF Saint Martin d 2.15 122 *e*Pg **Pb 07 48 07.0 +0.9**
MFF *e*Sg **Sg 07 48 34.7 -1.3**
2.6nm,0.2s
MFF Saint Martin d 2.15 122 Pn **Pn 07 48 01.7 -1.4**
MFF Sn **Sn 07 48 30.5 +0.5**

ISCJB ***22*** *08:08:40.4±1.1, 6°.9S±0°.3×120°.1E±0°.4, h600km, mb3.2/3, Error ellipse: s-maj=62.0km s-min=13.0km az=144.3*
IDC ***22*** *08:08:42.9±1.3, 7°.03S×120°.29E, h610km±14km, mb2.5/3, mb1 2.7/7, mb1mx2.5/46, mbtmp3.5/7, Error ellipse: s-maj=96.3km s-min=16.0km az=53.0*
ISC 22 08:08:41.9±1.4,**7°.0S**±0°.4×**120°.2E**±0°.5,**h600**km,**n7,**
σ**2**º**39**/10,**mb3.3**/3,**Flores Sea**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAPI Kappang 1.99 347 P **P 08 09 58.8 +2.6**
2.1nm,0.3s,baz=160,slow=5.7,SNR=10
KAPI S **S 08 10 51.7 -4.8**
1.4nm,0.3s,baz=196,slow=18,SNR=1.6
BATI Baumata 4.70 133 P **P 08 10 14.4 +1.9**
7.7nm,0.3s,baz=284,slow=8.3,SNR=2.3
BATI S **S 08 11 26.4 -0.1**
9.2nm,0.3s,baz=235,slow=16,SNR=3.9
FITZ Fitzroy Crossi 12.27 155 P **P 08 11 22.0 -1.3**
0.2nm,0.3s,baz=339,slow=9.9,SNR=7.8
WRA Warramunga Arr 18.83 135 P **P 08 12 25.8 +0.6**
0.1nm,0.3s,baz=308,slow=11,SNR=9.1
WRA S **S 08 15 24.1 -2.0**
0.0nm,0.3s,baz=308,slow=15,SNR=1.8
ASAR Alice Springs 21.19 143 P **P 08 12 46.5 +0.1**
0.4nm,0.5s,baz=315,slow=8.5,SNR=14
STKA Stephens Creek 31.82 144 P **P 08 14 19.2 +0.1**
0.5nm,0.4s,baz=329,slow=12,SNR=1.1
MKAR Makanchi Array 63.22 332 P **P 08 18 12.9 +0.2**
0.2nm,0.5s,baz=146,slow=6.1,SNR=2.2

IDC ***22*** *08:18:47.5±0.4, 44°.60N×124°.22E, h0km, mb4.6/31, mb1 4.7/36, mb1mx4.6/47, mbtmp4.6/36, ML3.6/5, MS4.4/32, Ms1 4.4/32, ms1mx4.3/46, Error ellipse: s-maj=11.3km s-min=9.9km az=24.0*
ISCJB ***22*** *08:18:48.5±0.1, 44°.63N±0°.02×124°.16E±0°.02, h10km, mb4.9/106, MS4.7/50, Error ellipse: s-maj=2.5km s-min=2.4km az=10.4*
MOS ***22*** *08:18:48.8±1.2, 44°.61N×124°.05E, h14km, mb5.2/64, MS4.8/20, Error ellipse: s-maj=6.4km s-min=4.3km az=114.1*
BJI ***22*** *08:18:49.2±0.0, 44°.67N×124°.13E, h8km, mb4.8/54, mB5.0/44, ML5.5/24, Ms5.2/73, Ms7 5.1/65*
GCMT ***22*** *08:18:51.2±0.2, 44°.73N±0°.02×124°.05E±0°.01, h12km, MW5.0/78, Moment Tensor Solution. s27,c32; s78,c124; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.41±.09; Mθθ0.82±.09; Mφφ-3.22±.07; Mrθ-1.83±.31; Mrφ0.58±.06; Mθφ-0.95±.22; Best double couple: M0.59300×1016 NP1:*φs*202.00000°, δ61.00000°, λ129.00000°. NP2: φs323.00000°, δ47.00000°, λ42.00000°. Principal axes: T 3.7870, Plg56.0000°, Azm164.0000°; N -0.3820, Plg33.0000°, Azm1.0000°; P -3.3980, Plg8.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***22*** *08:18:51.2±1.8, 44°.64N±0°.06×124°.10E±0°.09, h17km±3km, mb4.9/186*
ISC 22 08:18:48.5±0.7,**44°.70N**±0°.03×**124°.21E**±0°.03,**h1**km±**4**km,
n531,σ**1**º**77**/538,**mb5.0**/189,**MS4.7**/50,**24C-20D,**

Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.27**	**135**	*e*Pg	**Pb**	**08 19 13.0**	**-0.1**
CN2				*e*Sg	**Sn**	**08 19 30.8**	**-0.1**
CN2				smax	smax		
	comp=N,78μm,1.0s						
CN2				smax	smax		
	comp=E,41μm,1.0s						
SNY	**Shenyang**	**2.91**	**189**	Pn	**Pn**	**08 19 34.6**	**-1.2**
SNY				Pg	**Pg**	**08 19 43.4**	**-0.9**
SNY				Sn	**Sn**	**08 20 10.0**	**-1.4**
SNY				Sg	**Sb**	**08 20 18.4**	**+1.2**
SNY				smax	smax		
	comp=N,5μm,0.5s						
SNY				smax	smax		
	comp=E,7μm,0.7s						
MDJ	**Mudanjiang**	**3.84**	**89**	Pn	**Pn**	**08 19 49.0**	**+0.3**
MDJ				Pg	**Pg**	**08 20 02.3**	**+0.2**
MDJ				Sg	**Sg**	**08 20 55.8**	**+3.9**
MDJ				smax	smax		
	comp=E,5μm,0.9s						
MDJ	**Mudanjiang**	**3.84**	**89**	Pn	**Pn**	**08 19 49.3**	**+0.6**
MDJ				Pg	**Pg**	**08 20 02.3**	**+0.2**
MDJ				Sg	**Sg**	**08 20 55.9**	**+4.0**
MDJ				smax	smax		
	comp=E,10μm,0.6s						
MDJ				smax	smax		
	comp=E,6μm,0.5s						
MDJ	**Mudanjiang**	**3.84**	**89**		**Pn**	**08 19 49.1**	**+0.4**
MDJ				Pg	**Pg**	**08 20 02.2**	**+0.2**
MSHR	**Mys Shultsa**	**5.47**	**110**	*i* P	Pn	08 20 16.3	+5.3
HIA	**Hailar**	**5.49**	**328**	P	**Pn**	**08 20 10.4**	**-1.0**
HIA	**Hailar**	**5.49**	**328**		**Pn**	**08 20 10.4**	**-1.0**
USA0B	**Ussuriysk Arra**	**5.59**	**92**	P	**Pn**	**08 20 13.5**	**+0.8**
USA0B	**Ussuriysk Arra**	**5.59**	**92**		**Pn**	**08 20 13.5**	**+0.8**
USA0B				Pg	**Pg**	**08 20 34.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**5.59**	**92**	P	**Pn**	**08 20 12.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**5.59**	**92**	Pn	**Pn**	**08 20 13.2**	**+0.5**
	baz=273,slow=13,SNR=26						
USRK				Pg	**Pg**	**08 20 34.6**	**-1.0**
	baz=277,slow=16,SNR=25						
USRK				Lg	Lg	08 21 43.5	
	baz=276,slow=17,SNR=2.9						
USRK	**Ussuriysk Ar.**	**5.59**	**92**		**Pn**	**08 20 12.8**	**+0.1**
USRK					**Pg**	**08 20 34.6**	**-1.0**
VLA	**Vladivostok**	**5.77**	**103**	*i* P	Pn	08 20 20.1	+5.0
DL2	**Dalian**	**6.11**	**199**	⇓Pn	**Pn**	**08 20 19.3**	**-0.4**
DL2				Sn	**Sn**	**08 21 26.8**	**-3.4**
DL2				smax	smax		
	comp=E,1μm,0.9s						
DL2				smax	smax		
	comp=E,2μm,0.9s						
DL2				LR	LR		
	comp=E,8μm,11.0s						
DL2				LR	LR		
	comp=E,17μm,9.8s						
DL2				LR	LR		
	comp=E,8μm,8.6s						
KLR	**Kul'dur**	**6.86**	**46**	*i* P	**Pn**	**08 20 32.0**	**+1.9**
KLR	**Kul'dur**	**6.86**	**46**	Pn	**Pn**	**08 20 31.0**	**+0.8**
	comp=E,8.9nm,0.3s,baz=233,slow=14,SNR=83						
KLR				Pg	**Pg**	**08 20 56.8**	**-3.2**
	comp=E,11nm,0.3s,baz=228,slow=16,SNR=9.1						
KLR				Lg	Lg	08 22 26.9	
	comp=E,36nm,0.3s,baz=330,slow=20,SNR=4.1						
INCN	**Inchon**	**7.44**	**165**	P	**Pn**	**08 20 39.0**	**+0.8**
INCN	**Inchon**	**7.44**	**165**		**Pn**	**08 20 39.0**	**+0.8**
BJI	**Beijing**	**7.55**	**235**	Pn	**Pn**	**08 20 38.6**	**-1.0**
BJI				Sg	**Sg**	**08 22 42.8**	**-8.2**
BJI				smax	smax		
	comp=E,2μm,1.0s						
BJI				smax	smax		
	comp=E,2μm,1.2s						
BJT	**Baijiatuau**	**7.57**	**235**	P	**Pn**	**08 20 38.0**	**-1.9**
BJT	**Baijiatuau**	**7.57**	**235**		**Pn**	**08 20 38.0**	**-1.9**
KS19	**Wonju Array Si**	**7.71**	**158**		**Pn**	**08 20 43.5**	**+1.7**
KSRS	**Korea Array**	**7.77**	**158**	Pn	**Pn**	**08 20 42.5**	**0.0**
	comp=E,5.5nm,0.3s,baz=342,slow=13,SNR=65						
KSRS				Pg	**Pg**	**08 21 13.4**	**-3.8**
	comp=E,9.8nm,0.3s,baz=331,slow=17,SNR=9.5						
KSRS				Lg	Lg	08 22 50.8	
	comp=E,16nm,0.3s,baz=336,slow=26,SNR=8.7						
KSRS				LR	LR	08 24 06.3	
	comp=E,461nm,21.8s,baz=340,slow=42						
KSAR	**Wonju Array Be**	**7.77**	**158**	P	**Pn**	**08 20 42.7**	**+0.2**
KSAR	**Wonju Array Be**	**7.77**	**158**		**Pn**	**08 20 42.7**	**+0.2**
TJN	**Taejon**	**8.66**	**163**	*i* P	**Pn**	**08 20 56.0**	**+1.2**
ZEA	**Zeya**	**9.26**	**11**	*e*P	**Pn**	**08 21 02.2**	**-0.8**
ZEA				*e*S	Sn	08 23 03.5	+16
ZEA				pmax	pmax		
	comp=N,20nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				smax	smax		
	comp=N,500nm,4.0s						
ZEA				MLR	MLR		
	comp=Z,12μm,8.0s						
ZEA				MLR	MLR		
	comp=E,6μm,4.0s						
ZEA				MLR	MLR		
	comp=N,11μm,7.0s						
TIA	**Tai'an**	**10.05**	**215**	P	**Pn**	**08 21 12.8**	**-1.1**
TIA				pmax	pmax		
	comp=N,12nm,0.5s						
TIA				pmax	pmax		
	comp=N,66nm,4.1s						
TIA				LR	LR		
	comp=N,3μm,10.1s						
TIA				LR	LR		
	comp=N,5μm,9.3s						
TIA				LR	LR		
	comp=N,4μm,9.7s						
HHC	**Hu-ho-hao-te**	**10.06**	**252**	*e*P	**Pn**	**08 21 17.1**	**+3.0**
HHC				S	**Sn**	**08 23 08.6**	**+1.0**
HHC				pmax	pmax		
	comp=N,9.0nm,0.9s						
HHC				LR	LR		
	comp=N,1μm,7.0s						
HHC				LR	LR		
	comp=N,1μm,6.6s						
GRNR	**Gornyy**	**10.22**	**49**	*e*P	**Pn**	**08 21 13.0**	**-3.1**
GRNR				MLR	MLR		
	comp=Z,8μm,15.0s						
BTO	**Baotou**	**11.22**	**254**	*e*P	**Pn**	**08 21 30.8**	**+0.8**
TIY	**Taiyuan**	**11.28**	**236**	*e*P	Pn	08 21 38.1	+7.3
TIY				S	Sn	08 23 46.6	+9.1
TIY				pmax	pmax		
	comp=Z,30nm,0.8s						
TIY				pmax	pmax		
	comp=Z,170nm,5.1s						
TIY				LR	LR		
	comp=Z,9μm,8.6s						
TIY				LR	LR		
	comp=Z,6μm,4.4s						
TIY				LR	LR		
	comp=Z,9μm,10.7s						
ULN	**Ulaanbaatar**	**12.28**	**291**	P	**Pn**	**08 21 42.8**	**-1.8**
	SNR=6.0						
ULN	**Ulaanbaatar**	**12.28**	**291**	*ce*P	**Pn**	**08 21 42.7**	**-1.8**
ULN				pmax	pmax		
	comp=Z,19nm,1.3s						
ULN	**Ulaanbaatar**	**12.28**	**291**		**Pn**	**08 21 42.8**	**-1.8**
JNU	**Nakatsue**	**12.67**	**154**	Pn	**Pn**	**08 21 46.9**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=5.7,slow=19,SNR=2.2						
JNU				Lg	Lg	08 25 23.8	
	comp=Z,0.9nm,0.3s,baz=30,slow=7.5,SNR=3.7						
JNU	**Nakatsue**	**12.67**	**154**		**Pn**	**08 21 47.8**	**-2.0**
SONM	**Songino Array**	**12.71**	**291**	P	**Pn**	**08 21 47.6**	**-2.8**
SONM	**Songino Array**	**12.71**	**291**	Pn	**Pn**	**08 21 46.7**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=96,slow=13,SNR=25						
SONM				Sn	Sn	08 24 02.5	-10
	comp=Z,1.2nm,0.3s,baz=103,slow=17,SNR=5.3						
SONM				Lg	Lg	08 25 28.9	
	comp=Z,3.2nm,0.3s,baz=98,slow=23,SNR=5.4						
SONM				LR	LR	08 27 09.8	
	comp=Z,5μm,18.3s,baz=100,slow=39						
SONM	**Songino Array**	**12.71**	**291**		**Pn**	**08 21 47.6**	**-2.8**
YSS	**Yuzh-Sakhalins**	**13.13**	**74**	⇓*e*P	Pn	08 22 00.9	+5.0
YSS				*e*S	**Sn**	**08 24 22.7**	**+0.2**
YSS				MLR	MLR		
	comp=Z,6μm,15.0s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,6μm,16.0s						
ASAJ	**Asahikawa**	**13.16**	**86**	Pn	**Pn**	**08 21 53.8**	**-2.6**
	comp=E,0.2nm,0.3s,baz=300,slow=20,SNR=2.0						
ASAJ				LR	LR	08 27 03.8	
	comp=E,3μm,19.4s,baz=288,slow=38						
JKA	**Kamikawa-asahi**	**13.17**	**86**		**Pn**	**08 21 53.8**	**-2.7**
NJ2	**Nanjing**	**13.31**	**200**	*e*P	**Pn**	**08 22 00.8**	**+2.4**
NJ2				pP	**P**	**08 22 04.1**	**-4.3**
NJ2				sP		08 22 08.8	
NJ2				PP	**PnPn**	**08 22 10.8**	**+4.6**
NJ2				S	**Sn**	**08 24 34.6**	**+7.7**
NJ2				pmax	pmax		
	comp=E,19nm,0.8s						
NJ2				LR	LR		
	comp=E,4μm,9.0s						
NJ2				LR	LR		
	comp=E,4μm,10.0s						
NJ2				LR	LR		
	comp=E,4μm,10.4s						
MAJO	**Matsushiro**	**13.38**	**123**	*i* P	**P**	**08 22 06.9**	**-2.4**
MAT	**Matsushiro**	**13.38**	**123**	P	**Pn**	**08 22 00.5**	**+1.0**
MAT				S	**Sn**	**08 24 31.6**	**+2.7**
MJAR	**Matsushiro Arr**	**13.39**	**123**	P	**P**	**08 22 06.1**	**-3.2**
MJAR	**Matsushiro Arr**	**13.39**	**123**	Pn	**P**	**08 22 09.7**	**+0.4**
	comp=E,0.2nm,0.3s,baz=307,slow=10,SNR=23						
MJAR				LR	LR	08 26 41.4	
	comp=E,2μm,19.8s,baz=315,slow=36						
MJAR	**Matsushiro Arr**	**13.39**	**123**		**P**	**08 22 06.1**	**-3.2**
INU	**Inuyama**	**13.54**	**129**		**P**	**08 22 07.4**	**-3.5**
NKL	**Nikolayevsk**	**13.71**	**46**	*e*P	**Pn**	**08 22 06.1**	**+2.3**
NKL				pmax	pmax		
	comp=E,9.0nm,1.3s						
NKL				pmax	pmax		
	comp=Z,24nm,1.3s						
NKL				pmax	pmax		
	comp=N,6.0nm,1.0s						
SSE	**Sheshan**	**13.79**	**191**	P	**Pn**	**08 22 07.0**	**+2.0**
SSE				S	**Sn**	**08 24 41.0**	**+2.2**
SSE				pmax	pmax		
	comp=N,27nm,0.8s						
SSE				LR	LR		
	comp=N,1μm,10.7s						
SSE				LR	LR		
	comp=N,2μm,14.9s						
BOD	**Bodaibo**	**14.58**	**338**	*e*P	**Pn**	**08 22 14.4**	**-1.3**
BOD				pmax	pmax		
	comp=Z,24nm,1.7s						
IRK	**Irkutsk**	**15.19**	**307**	*e*P	**P**	**08 22 29.8**	**+0.6**
ZAK	**Zakamensk**	**15.21**	**299**	*e*P	**Pn**	**08 22 24.1**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,25nm,1.3s						
TLY	**Talaya**	**15.36**	**304**	P	**Pn**	**08 22 27.3**	**+1.1**
	SNR=7.9						
TLY	**Talaya**	**15.36**	**304**	*e*P	**P**	**08 22 30.9**	**-0.2**
TLY				pmax	pmax		
	comp=Z,61nm,1.1s						
TLY				MLR	MLR		
	comp=Z,9μm,14.0s						
TLY	**Talaya**	**15.36**	**304**	Lg	Lg	08 26 52.5	
	comp=Z,0.0nm,0.3s,baz=111,slow=8.6,SNR=2.6						
TLY				LR	LR	08 29 13.2	
	comp=E,2μm,19.1s,baz=110,slow=41						
TLY	**Talaya**	**15.36**	**304**	P	**P**	**08 22 31.6**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**15.50**	**85**	P	**P**	**08 22 32.0**	**-0.6**
YUK				S	**Sn**	**08 25 24.1**	**+3.9**
YUK				MLR	MLR		
	comp=Z,2μm,12.0s						
YUK				MLR	MLR		
	comp=E,3μm,11.0s						
XAN	**Xi'an**	**15.88**	**233**	P	**P**	**08 22 35.4**	**-1.6**
XAN				sP	sP	08 22 41.3	+3.6
XAN				S	**Sn**	**08 25 35.8**	**+6.0**
XAN				sS	S	08 25 40.6	-3.9
XAN				SS		08 25 53.4	
XAN				pmax	pmax		
	comp=E,11nm,1.2s						
XAN				pmax	pmax		
	comp=E,340nm,4.6s						
XAN				LR	LR		
	comp=E,5μm,13.0s						
XAN				LR	LR		
	comp=E,4μm,11.7s						
XAN				LR	LR		
	comp=E,5μm,11.9s						
XAN	**Xi'an**	**15.88**	**233**	P	**Pn**	**08 22 35.1**	**+1.9**
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
XAN	**Xi'an**	**15.88**	**233**	P	**Pn**	**08 22 35.1**	**+1.9**
WHN	**Wuhan**	**16.13**	**212**	⇓*i*P	**Pn**	**08 22 37.1**	**+0.8**
WHN				S	**Sn**	**08 25 38.1**	**+2.4**
WHN				pmax	pmax		
	comp=Z,56nm,0.9s						
WHN				pmax	pmax		
	comp=Z,830nm,4.2s						
WHN				LR	LR		
	comp=Z,5μm,8.0s						
WHN				LR	LR		
	comp=Z,3μm,7.0s						
WHN				LR	LR		
	comp=Z,6μm,11.3s						
JHJ	**Hachijo jima 2**	**16.72**	**128**	LR	LR	08 28 37.8	
	comp=Z,691nm,18.5s,baz=16,slow=35						
MOY	**Mondy**	**16.93**	**303**	*e*P	**P**	**08 22 47.9**	**-0.7**
MOY				pmax	pmax		
	comp=Z,111nm,2.2s						
YAK	**Yakutsk**	**17.65**	**9**	*e*P	**P**	**08 22 55.9**	**-0.5**
YAK				*e*S	**Sn**	**08 26 06.1**	**-6.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.3s						
YAK				smax	smax		
	comp=N,30nm,1.5s						
YAK				smax	smax		
	comp=E,22nm,1.8s						
YAK				MLR	MLR		
	comp=Z,353nm,11.0s						
YAK				MLR	MLR		
	comp=N,328nm,13.0s						
YAK	**Yakutsk**	**17.65**	**9**	Lg	Lg	08 28 06.9	
	comp=N,0.1nm,0.3s,baz=208,slow=0.3,SNR=3.4						
YAK				LR	LR	08 30 23.0	
	comp=N,513nm,20.1s,baz=200,slow=39						
YAK	**Yakutsk**	**17.65**	**9**	P	**P**	**08 22 55.8**	**-0.5**
LZH	**Lanzhou**	**17.70**	**248**	*e*P	**P**	**08 22 56.9**	**-0.4**
LZH				pP	sP	08 23 04.0	+6.0
LZH				sP	pP	08 23 09.0	+11
LZH				S	**Sn**	**08 26 12.3**	**-1.9**
LZH				sS	S	08 26 21.5	-0.3
LZH				pmax	pmax		
	comp=N,45nm,1.0s						
LZH				pmax	pmax		
	comp=N,460nm,4.3s						
LZH				LR	LR		
	comp=N,6μm,11.4s						
LZH				LR	LR		
	comp=N,6μm,12.5s						
LZH				LR	LR		
	comp=N,7μm,14.1s						
GTA	**Gaotai**	**18.84**	**262**	⇓P	**P**	**08 23 09.8**	**0.0**
GTA				pP	sP	08 23 13.0	+2.5
GTA				sP	pP	08 23 15.8	+5.6
GTA				S	**Sn**	**08 26 41.3**	**-0.2**
GTA				sS	sS	08 26 46.3	+0.8
GTA				SS	**SnSn**	**08 27 01.8**	**+6.6**
GTA				pmax	pmax		
	comp=N,340nm,6.2s						
GTA				LR	LR		
	comp=N,3μm,10.5s						
GTA				LR	LR		
	comp=N,7μm,14.0s						
GTA				LR	LR		
	comp=N,7μm,13.4s						
YHNB	**Yeheng**	**20.12**	**188**	P	Pn	08 23 25.2	-0.3
QZH	**Quanzhou**	**20.24**	**195**	*e*P	Pn	08 23 27.8	+1.0
QZH				S	**S**	**08 27 11.1**	**-1.5**
QZH				LR	LR		
	comp=N,810nm,11.8s						
QZH				LR	LR		
	comp=N,5μm,14.9s						
QZH				LR	LR		
	comp=N,3μm,11.4s						
SSLB	**Suanglung**	**21.03**	**188**	P	**P**	**08 23 33.6**	**0.0**
SSLB				IAmb	IAmb	08 23 39.6	
	comp=Z,57nm,1.1s						
CD2	**Chengdu**	**21.15**	**236**	⇓*i*P	**P**	**08 23 34.3**	**-0.6**
CD2				S	**S**	**08 27 28.8**	**-2.1**
CD2				sS	Sn	08 27 38.4	+1.2
CD2				PcS	**PcS**	**08 31 22.5**	**+3.5**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				LR	LR		
	comp=Z,4μm,10.8s						
CD2				LR	LR		
	comp=Z,5μm,12.0s						
CD2				LR	LR		
	comp=Z,3μm,11.0s						
YULB	**Yu-li**	**21.39**	**187**	P	**P**	**08 23 40.8**	**+3.3**
YULB				IAmb	IAmb	08 23 46.5	
	comp=Z,54nm,1.1s						
TPUB	**Ta-pu**	**21.55**	**189**	P	**P**	**08 23 38.8**	**-0.4**
TPUB				IAmb	IAmb	08 23 42.0	
	comp=Z,59nm,0.9s						
MA2	**Magadan**	**21.86**	**38**	*ce*P	**P**	**08 23 46.7**	**+4.4**
MA2				pmax	pmax		
	comp=Z,23nm,1.2s						
MA2	**Magadan**	**21.86**	**38**	LR	LR	08 31 24.7	
	comp=Z,442nm,20.8s,baz=245,slow=34						
JCJ	**Chichijima**	**22.73**	**135**	LR	LR	08 31 38.4	
	comp=Z,421nm,19.4s,baz=306,slow=34						
GYA	**Guiyang**	**23.04**	**224**	⇑*i*P	**P**	**08 23 55.5**	**+0.3**
GYA				pP	sP	08 24 01.6	+5.7
GYA				PP	**PnPn**	**08 24 26.8**	**+6.9**
GYA				S	**S**	**08 28 01.9**	**-5.1**
GYA				SS	**SnSn**	**08 28 49.8**	**+11**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,200nm,5.9s						
GYA				LR	LR		
	comp=Z,2μm,13.4s						
GYA				LR	LR		
	comp=Z,2μm,10.6s						
GYA				LR	LR		
	comp=Z,3μm,15.2s						
PETK	**Petropavlovsk-**	**23.39**	**57**	P	**P**	**08 23 59.3**	**+0.9**
PETK	**Petropavlovsk-**	**23.39**	**57**	P	**P**	**08 23 57.8**	**-0.6**
	comp=Z,16nm,0.8s,baz=248,slow=4.7,SNR=18						
PETK				LR	LR	08 34 13.3	
	comp=Z,1μm,18.0s,baz=254,slow=40						
PETK	**Petropavlovsk-**	**23.39**	**57**	P	**P**	**08 23 59.3**	**+0.9**
PET	**Petropavlovsk**	**23.95**	**57**	*e*P	**P**	**08 24 05.2**	**+1.4**
PET				*e*S	**S**	**08 28 16.7**	**-4.3**
PET				pmax	pmax		
	comp=Z,100nm,13.6s						
PET				MLR	MLR		
	comp=Z,3μm,13.0s						
SEY	**Seymchan**	**24.36**	**32**	*i* P	**P**	**08 24 08.2**	**+0.6**
SEY	**Seymchan**	**24.36**	**32**	P	**P**	**08 24 09.4**	**+1.7**
	comp=Z,4.7nm,0.7s,baz=219,slow=7.9,SNR=15						
SEY				LR	LR	08 34 49.8	
	comp=Z,1μm,18.7s,baz=242,slow=39						
DGZ	**Jazzator, Alta**	**25.30**	**295**	*c i*P	**P**	**08 24 16.9**	**+0.4**
WMQ	**Urumqi**	**26.03**	**281**	IAmb	IAmb	08 24 28.1	
	comp=Z,37nm,0.9s						
KMI	**Kunming**	**26.16**	**229**	⇑P	**P**	**08 24 26.8**	**+2.3**
KMI				pP	sP	08 24 29.9	+4.7
KMI				S	**S**	**08 28 57.8**	**+0.6**
KMI				sS	pS	08 29 03.8	+5.6
KMI				pmax	pmax		
	comp=Z,38nm,0.8s						
KMI				pmax	pmax		
	comp=Z,190nm,4.3s						
KMI				LR	LR		
	comp=Z,3μm,15.4s						
KMI				LR	LR		
	comp=Z,3μm,13.6s						
KMI				LR	LR		
	comp=Z,3μm,13.6s						
ZAA0	**Zalesovo Array**	**26.97**	**304**	P	**P**	**08 24 30.9**	**-0.4**
ZALV	**Zalesovo Beam**	**26.97**	**304**	P	**P**	**08 24 31.3**	**0.0**
	comp=Z,6.3nm,0.6s,baz=102,slow=9.1,SNR=13						
ZALV				PcP	**PcP**	**08 27 52.6**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=112,slow=1.6,SNR=6.9						
ZALV				LR	LR	08 35 47.1	
	comp=Z,1μm,18.9s,baz=99,slow=38						
ZALV	**Zalesovo Beam**	**26.97**	**304**	P	**P**	**08 24 30.8**	**-0.5**
ZALV					**PcP**	**08 27 52.9**	**+0.1**
TIXI	**Tiksi**	**27.12**	**3**	*ce*P	**P**	**08 24 32.6**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,83nm,1.7s						
TIXI	**Tiksi**	**27.12**	**3**	P	**P**	**08 24 32.8**	**+0.4**
	comp=Z,16nm,0.7s,baz=0.0,slow=24,SNR=57						
TIXI				LR	LR	08 36 38.4	
	comp=Z,779nm,20.3s,baz=194,slow=39						
TIXI	**Tiksi**	**27.12**	**3**	P	**P**	**08 24 32.3**	**-0.2**
QIZ	**Qiongzhong**	**28.27**	**210**	P	**P**	**08 24 43.3**	**+0.1**
QIZ				S	**S**	**08 29 31.3**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,43nm,2.4s						
QIZ				LR	LR		
	comp=Z,2μm,14.7s						
QIZ				LR	LR		
	comp=Z,2μm,12.7s						
QIZ				LR	LR		
	comp=Z,2μm,11.8s						
MK31	**Makanchi Array**	**29.08**	**289**	P	**P**	**08 24 49.8**	**-0.5**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MK31	**Makanchi Array**	**29.08**	**289**	P	**P**	**08 24 49.8**	**-0.5**
MKAR	**Makanchi Array**	**29.08**	**289**	P	**P**	**08 24 50.3**	**+0.1**
	comp=Z,7.8nm,0.8s,baz=88,slow=9.7,SNR=21						
MKAR				PcP	**PcP**	**08 27 57.6**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=70,slow=3.0,SNR=7.2						
MKAR				Lg	Lg	08 34 07.6	
	comp=Z,0.2nm,0.5s,baz=88,slow=28,SNR=3.6						
MKAR				LR	LR	08 37 17.0	
	comp=Z,2μm,18.1s,baz=87,slow=38						
MKAR	**Makanchi Array**	**29.08**	**289**	P	**P**	**08 24 49.7**	**-0.6**
MKAR					**PcP**	**08 27 57.8**	**-0.4**
NRIK	**Noril'sk**	**30.86**	**336**	P	**P**	**08 25 05.5**	**-0.3**
	comp=Z,10nm,0.6s,baz=128,slow=8.5,SNR=15						
NRIK				Lg	Lg	08 35 04.2	
	comp=Z,1.5nm,0.3s,baz=229,slow=21,SNR=5.6						
NRIK				LR	LR	08 38 55.0	
	comp=Z,352nm,21.5s,baz=128,slow=39						
KURK	**Kurchatov**	**30.86**	**298**	P	**P**	**08 25 07.4**	**+1.5**
	SNR=8.5						
KURK	**Kurchatov**	**30.86**	**298**	P	**P**	**08 25 05.4**	**-0.6**
KURK						08 28 02.8	
KURK				pmax	pmax		
	comp=Z,17nm,0.7s						
KURK	**Kurchatov**	**30.86**	**298**	P	**P**	**08 25 05.4**	**-0.6**
KURK				IAmb	IAmb	08 25 09.4	
	comp=Z,17nm,0.7s						
KURK					**PcP**	**08 28 02.8**	**+0.1**
KURBB	**Kurchatov Arra**	**30.93**	**298**	P	**P**	**08 25 06.1**	**-0.4**
	comp=Z,12nm,0.6s,baz=84,slow=9.5,SNR=28						
KURBB				PcP	**PcP**	**08 28 02.5**	**-0.4**
	comp=Z,6.2nm,0.9s,baz=95,slow=2.5,SNR=8.9						
KURBB				Lg	Lg	08 35 05.0	
	comp=Z,0.6nm,0.2s,baz=70,slow=25,SNR=4.6						
BILL	**Bilibino**	**31.93**	**28**	*e*P	**P**	**08 25 17.0**	**+1.8**
BILL				*i*		08 28 07.1	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,1μm,19.0s						
SHL	**Shillong**	**32.31**	**245**	P	**P**	**08 25 18.8**	**-0.3**
	SNR=12						
SHL	**Shillong**	**32.31**	**245**	P	**P**	**08 25 17.2**	**-2.0**
SHL				pmax	pmax		
	comp=Z,65nm,1.4s						
SHL	**Shillong**	**32.31**	**245**	P	**P**	**08 25 17.2**	**-2.0**
LAMP	**Lampang**	**33.21**	**226**	P	P	08 25 32.7	+5.9
	comp=Z,42μm,0.8s						
CMMT	**Chiang Mai**	**33.32**	**227**	P	**P**	**08 25 28.7**	**+0.9**
	comp=Z,2.8nm,0.7s						
CHTO	**Chiang Mai**	**33.32**	**227**	P	**P**	**08 25 27.6**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,14nm,1.2s						
CHTO	**Chiang Mai**	**33.32**	**227**	P	**P**	**08 25 27.6**	**-0.2**
CHTO				IAmb	IAmb	08 25 28.9	
	comp=Z,14nm,1.2s						
TARG	**Taragay, Kyrgy**	**33.60**	**282**	P	**P**	**08 25 31.4**	**+0.8**
TARG				IAmb	IAmb	08 25 34.6	
	comp=Z,23nm,0.9s						
TARG					**PcP**	**08 28 10.7**	**-0.2**
CMAR	**Chi

comp=Z,2.6nm,0.8s,baz=37,slow=9.1,SNR=7.2
CMAR LR LR 08 41 22.9
comp=Z,687nm,18.5s,baz=47,slow=40
CMAR Chiang Mai Arr 33.62 227 P **P 08 25 30.4 -0.1**
TAPN Taplejung 33.87 252 *eP* **P 08 25 32.4 -0.5**
comp=Z,32nm,0.8s
PBKT Sadao Pong 34.20 222 P **P 08 25 37.7 +2.3**
comp=Z,4.7nm,0.7s,comp=Z,770nm
PBKT Sadao Pong 34.20 222 P **P 08 25 34.8 -0.6**
MHMT Maesarieng 34.38 228 P **P 08 25 40.3 +3.2**
comp=Z,19nm,0.9s,comp=Z,1μm
ODAN Odare 34.41 251 *eP* **P 08 25 37.6 +0.1**
comp=Z,35nm,0.8s
ULHL Ulahol 34.50 283 P **P 08 25 41.5 +3.3**
SNR=7.8
BOOM Boomskoye usch 34.62 284 IAmb IAmb 08 25 43.6
comp=Z,18nm,0.8s
JIRN Jiri 34.71 254 *eP* **P 08 25 36.0 -4.3**
comp=Z,51nm,0.7s
TKM2 Tokmak 2 34.71 285 P **P 08 25 40.8 +0.8**
SNR=62
GUN Gumba 34.76 254 *eP* **P 08 25 36.1 -4.6**
comp=Z,38nm,0.8s
RAMN Ramite 34.88 252 *eP* **P 08 25 39.7 -2.0**
comp=Z,85nm,0.8s
NRN Naryn 34.96 282 P **P 08 25 42.6 +0.3**
NRN pmax pmax
comp=Z,13nm,0.8s
NRN Naryn 34.96 282 P **P 08 25 42.6 +0.3**
NRN IAmb IAmb 08 25 47.8
comp=Z,13nm,0.8s
KZA Kyzart 35.25 283 P **P 08 25 46.4 +1.5**
SNR=15
KBK Karagaybulak 35.25 284 P **P 08 25 45.9 +1.3**
SNR=21
CHMS Chumysh 35.27 285 P **P 08 25 45.5 +0.9**
SNR=9.8
PKI Pulchoki 35.30 254 *eP* P 08 25 40.1 -5.2
comp=Z,30nm,0.8s
PKIN Phulchoki 35.31 254 *eP* P 08 25 40.3 -5.0
comp=Z,12nm,0.5s
USP Ospenovka 35.35 286 P **P 08 25 46.1 +0.8**
SNR=20
AAK Ala-Archa 35.57 285 *i* P **P 08 25 48.3 +0.9**
SNR=24
AAK Ala-Archa 35.57 285 P **P 08 25 47.7 +0.4**
SNR=14
AAK Ala-Archa 35.57 285 *i* P **P 08 25 47.9 +0.6**
AAK pmax pmax
comp=Z,41nm,1.1s
AAK Ala-Archa 35.57 285 P **P 08 25 47.1 -0.2**
comp=Z,25nm,0.9s,baz=90,slow=7.3,SNR=23
AAK PcP **PcP 08 28 16.4 +0.1**
comp=Z,6.3nm,1.0s,baz=80,slow=5.3,SNR=5.0
AAK LR LR 08 42 09.1
comp=Z,2μm,18.2s,baz=60,slow=39
AAK Ala-Archa 35.57 285 P **P 08 25 49.6 +2.3**
SNR=20
AAK Ala-Archa 35.57 285 P **P 08 25 47.9 +0.6**
AAK **PcP 08 28 16.4 +0.1**
BVAR Borovoye Array 35.61 303 P **P 08 25 47.1 -0.3**
comp=Z,5.3nm,0.5s,baz=70,slow=13,SNR=15
BVAR PcP **PcP 08 28 15.9 0.0**
comp=Z,2.5nm,0.5s,baz=87,slow=1.1,SNR=5.7
BRVK Borovoye 35.67 303 *ceP* **P 08 25 49.6 +1.8**
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 35.67 303 P **P 08 25 48.3 +0.4**
BRVK IAmb IAmb 08 25 51.6
comp=Z,11nm,0.7s
SIMRM Sittwe 35.68 237 P **P 08 25 47.8 -0.4**
SIMRM IAmb IAmb 08 25 51.6
comp=Z,18nm,0.8s
UCH Uchtor 35.70 284 P **P 08 25 49.7 +0.9**
SNR=15
KSH Kashi 35.74 279 P P 08 25 54.3 +5.6
KSH PP **PP 08 27 16.3 +6.7**
KSH S **S 08 31 34.3 +7.8**
KSH sS sS 08 31 40.5 +13
KSH ScP **ScP 08 32 06.8 +3.1**
KSH PcS **PcS 08 32 09.8 +5.7**
KSH SS **SS 08 33 56.0 -5.6**
KSH pmax pmax
comp=Z,70nm,1.2s
KSH pmax pmax
comp=Z,380nm,5.9s
KSH LR LR
comp=Z,3μm,13.7s
KSH LR LR
comp=Z,3μm,11.3s
KSH LR LR
comp=Z,1μm,12.2s
UTHA Uthaitani 35.81 224 P **P 08 25 50.5 +1.2**
comp=Z,19μm,0.8s
EKS2 Erkin-Say 36.06 285 P **P 08 25 50.5 -0.9**
SNR=5.8
AML Almayashu 36.31 284 P **P 08 25 57.1 +3.2**
SNR=12
ARSB Arslanbob 37.11 283 IAmb IAmb 08 26 05.9
comp=Z,39nm,1.1s
KK31 Karatay Array 38.13 287 P **P 08 26 08.9 -0.1**
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 38.13 287 P **P 08 26 08.9 -0.1**
KKAR Karatay Array 38.13 287 P **P 08 26 09.5 +0.5**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 38.13 287 P **P 08 26 08.9 -0.1**
KKAR Karatay Array 38.13 287 P **P 08 26 09.5 +0.5**
KKAR IAmb IAmb 08 26 10.4
comp=Z,7.7nm,1.1s
BTK Batken 39.12 282 IAmb IAmb 08 26 21.0
comp=Z,48nm,1.0s
KKM Kota Kinabalu 39.14 193 P **P 08 26 17.7 0.0**
GAR Garm 39.93 281 P **P 08 26 24.2 0.0**
GAR IAmb IAmb 08 26 27.0
comp=Z,55nm,1.2s
NIL Nilore 40.42 272 P **P 08 26 29.4 +1.2**
NIL Nilore 40.42 272 P **P 08 26 28.9 +0.7**
NIL pmax pmax
comp=Z,13nm,0.7s
NIL Nilore 40.42 272 P **P 08 26 28.9 +0.7**
NIL IAmb IAmb 08 26 33.8
comp=Z,13nm,0.7s
CHGR Chuyangaron 40.89 281 P **P 08 26 31.5 -0.6**
ARU Arti 41.73 311 *d i* P **P 08 26 39.6 +1.0**
ARU 08 28 13.9
ARU S **S 08 32 57.9 +1.7**
ARU SS **SS 08 36 01.3 +0.1**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU MLR MLR
comp=Z,402nm,14.0s
ARU Arti 41.73 311 P **P 08 26 37.7 -1.0**
comp=Z,1.7nm,0.3s,baz=67,slow=3.4,SNR=7.1
ARU Arti 41.73 311 P **P 08 26 39.0 +0.4**
ABKAR Akbulak array 42.90 300 P **P 08 26 47.9 -0.4**
ABKAR IAmb IAmb 08 26 51.4
comp=Z,38nm,1.4s
ABKAR Akbulak array 42.90 300 P **P 08 26 48.1 -0.2**
KBL Kabul 42.95 276 P **P 08 26 48.8 -0.3**
KBL pmax pmax
comp=Z,19nm,1.5s
KBL Kabul 42.95 276 P **P 08 26 48.8 -0.3**
PKDT Phuket 43.01 219 P P 08 26 54.9 +5.5
comp=Z,165nm,0.5s,comp=Z,31μm
SBUM Sibu 43.39 198 P **P 08 26 51.5 -1.0**
AKTO Aktyubinsk 43.69 302 P **P 08 26 53.9 -0.8**
comp=Z,4.1nm,0.7s,baz=75,slow=9.9,SNR=13
AKTO LR LR 08 44 26.7
comp=Z,415nm,18.7s,baz=62,slow=35
KSM Kuching 44.77 200 P **P 08 27 02.6 -1.0**
KSM IAmb IAmb 08 27 05.6
comp=Z,19nm,0.9s
IPM Ipoh 44.93 214 P **P 08 27 03.9 -1.1**
IPM IAmb IAmb 08 27 07.7
comp=Z,12nm,0.7s
MYKOM Kota Tinggi 46.37 209 P **P 08 27 16.1 -0.2**
MYKOM IAmb IAmb 08 27 18.9
comp=Z,21nm,1.0s
PRGR Permogore 46.89 320 *eP* **P 08 27 18.9 -1.0**
PRGR pmax pmax
comp=Z,38nm,1.4s
IMAR Indian Mountai 47.15 34 P **P 08 27 22.1 +0.2**
HRA Herat 47.83 280 P **P 08 27 27.7 -0.2**
HRA IAmb IAmb 08 27 31.4
comp=Z,10nm,1.0s
FAKI Fak Fak 47.95 169 P **P 08 27 28.9 +0.3**
FAKI IAmb IAmb 08 27 31.4
comp=Z,11nm,0.6s
BKNI Bangkinang 48.73 212 P **P 08 27 34.5 -0.2**
GEYT Alibeck 48.88 286 P **P 08 27 35.6 -0.1**
comp=Z,6.3nm,0.7s,baz=31,slow=6.1,SNR=9.8
GEYT LR LR 08 50 08.3
comp=Z,1μm,18.2s,baz=80,slow=38
GEYT Alibeck 48.88 286 P **P 08 27 35.9 +0.2**
GYA0B ALIBECK ARRAY 48.88 286 P **P 08 27 35.5 -0.2**
GYA0B IAmb IAmb 08 27 39.1
comp=Z,11nm,0.8s
RSO Redoubt South 49.33 40 P **P 08 27 34.2 -4.7**
TMCR Tamitsa 49.38 325 *eP* **P 08 27 38.6 -0.5**
TMCR pmax pmax
comp=Z,26nm,0.8s
KAPI Kappang 49.65 186 P **P 08 27 40.9 -0.7**
KAPI pmax pmax
comp=Z,25nm,1.1s
KAPI Kappang 49.65 186 P **P 08 27 40.9 -0.7**
KLMR Klimovskoe 49.94 320 *eP* **P 08 27 42.3 -1.1**
KLMR pmax pmax
comp=Z,49nm,1.4s
KLMR Klimovskoe 49.94 320 *eP* **P 08 27 42.3 -1.1**
KLMR AMP 08 27 47.2
comp=Z,49nm,1.4s
KLMR LQ LQ 08 45 09.9
KLMR LQ LQ 08 45 09.9
KLMR LR LR 08 46 50.8
CCB Clear Creek Bu 49.95 34 P **P 08 27 43.5 +0.2**
CCB IAmb IAmb 08 27 46.7
comp=Z,17nm,1.3s
BMAR Burnt Mountain 50.14 30 P **P 08 27 46.0 +1.1**
IL31 50.27 34 P **P 08 27 46.4 +0.6**
ILAR Eielson Array 50.27 34 P **P 08 27 45.8 0.0**
ILAR Eielson Array 50.27 34 P **P 08 27 45.0 -0.9**
comp=Z,3.5nm,0.7s,baz=285,slow=7.1,SNR=39
ILAR LR LR 08 50 19.0
comp=Z,370nm,18.1s,baz=320,slow=38
ILAR Eielson Array 50.27 34 P **P 08 27 45.8 0.0**
KDAK Kodiak Island 50.42 44 *i* P **P 08 27 48.0 +0.9**
PRP Porcupine Dome 50.51 33 P **P 08 27 49.1 +1.2**
PRP IAmb IAmb 08 27 51.9
comp=Z,19nm,0.8s
SCM Sheep Creek Mo 51.23 37 P **P 08 27 54.8 +1.5**
SCM pmax pmax
comp=Z,23nm,1.1s
SCM Sheep Creek Mo 51.23 37 P **P 08 27 54.8 +1.5**
SCM IAmb IAmb 08 28 11.8
comp=Z,23nm,1.1s
ARCES ARCESS Array B 51.81 334 P **P 08 27 58.6 +1.3**
ARCES 08 29 09.7
ARCES ARCESS Array B 51.81 334 P **P 08 27 56.9 -0.5**
comp=Z,2.6nm,0.6s,baz=62,slow=8.9,SNR=17
ARCES PcP **PcP 08 29 10.4 +0.1**
comp=Z,9.5nm,1.0s,baz=74,slow=4.1,SNR=5.4
ARCES ARCESS Array B 51.81 334 P **P 08 27 58.6 +1.3**
ARCES **PcP 08 29 09.7 -0.7**
JOF Joensuu 52.64 325 P **P 08 28 05.2 +1.6**
JOF pmax pmax
comp=Z,22nm,0.9s
VRH Novokhopyorsk 52.87 309 *eP* **P 08 28 05.5 0.0**
VRH pmax pmax
comp=Z,20nm,0.5s
VRH MLR MLR
comp=Z,950nm,17.0s
MOS Moscow 52.97 315 *eP* **P 08 28 04.3 -1.8**
MOS MLR MLR
comp=Z,800nm,20.0s
BCAR Beaver Creek A 53.03 35 P **P 08 28 08.2 +1.6**
PALK Pallekele 53.04 239 *i* P **P 08 28 06.8 -0.4**
SNR=11
PALK Pallekele 53.04 239 P **P 08 28 07.0 -0.2**
PALK Pallekele 53.04 239 P **P 08 28 06.7 -0.5**
PALK pmax pmax
comp=Z,35nm,1.0s
PALK Pallekele 53.04 239 P **P 08 28 06.7 -0.5**
MCARA McCarthy VSAT 53.28 37 P **P 08 28 09.6 +1.2**
EPYK Eagle Plains 53.40 30 P **P 08 28 10.4 +1.1**
EPYK IAmb IAmb 08 28 10.8
comp=Z,8.8nm,0.8s
INK Inuvik 53.52 27 P **P 08 28 10.6 +0.6**
INK pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 53.52 27 P **P 08 28 10.6 +0.6**
INK IAmb IAmb 08 28 12.0
comp=Z,13nm,0.8s
LPSR Galich'ya Gora 53.75 311 *eP* **P 08 28 10.8 -1.1**
LPSR pmax pmax
comp=Z,40nm,1.7s
LPSR MLR MLR
comp=Z,480nm,16.0s
OBN Obninsk 53.80 315 ⇓*eP* **P 08 28 12.3 +0.1**
OBN *e* 08 29 17.8
OBN *e* 08 30 12.4
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,624nm,16.0s
AKT Akhty 53.99 295 *eP* **P 08 28 14.8 +0.8**
AKT *e* 08 30 15.6
AKT pmax pmax
comp=Z,43nm,0.9s
CISI Cisompet, Garu 54.08 200 P **P 08 28 13.6 -1.1**
VSR Storozhevoye 54.28 309 *eP* **P 08 28 15.9 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR MLR MLR
comp=Z,600nm,14.0s
SUF Sumiainen 54.82 326 P **P 08 28 21.2 +1.6**
SUF pmax pmax
comp=Z,35nm,1.4s
FIA1 FINESS Array S 55.50 325 P **P 08 28 24.9 +0.4**
FINES FINESS Array B 55.50 325 P **P 08 28 24.8 +0.3**
FINES 08 29 23.4
FINES FINESS Array B 55.50 325 P **P 08 28 24.6 +0.1**
comp=Z,16nm,0.8s,baz=66,slow=6.1,SNR=39
FINES PcP **PcP 08 29 23.5 -0.9**
comp=Z,7.2nm,0.9s,baz=56,slow=5.5,SNR=3.5
FINES LR LR 08 53 16.7
comp=Z,130nm,19.1s,baz=74,slow=37
TBLG Delisi 55.77 297 P **P 08 28 27.9 +1.1**
TBLG pmax pmax
comp=Z,10.0nm,0.4s
TBLG Delisi 55.77 297 P **P 08 28 27.9 +1.1**
KBZ Khabaz 55.88 300 LR LR 08 52 45.4
comp=Z,959nm,18.4s,baz=76,slow=36
KIV Kislovodsk 55.89 300 P **P 08 28 31.6 +3.9**
KIV Kislovodsk 55.89 300 P **P 08 28 28.3 +0.6**
SNR=7.2
KIV Kislovodsk 55.89 300 *eP* **P 08 28 27.8 +0.1**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 55.89 300 P **P 08 28 27.1 -0.6**
HYT Haines Junctio 55.89 36 P **P 08 28 29.5 +2.0**
GNI Garni 56.62 296 *ceP* **P 08 28 33.7 +0.6**
GNI pmax pmax
comp=Z,60nm,1.3s
VSU Vasula 56.79 321 *ceP* **P 08 28 34.2 +0.4**
VSU pmax pmax
comp=Z,159nm,1.7s
VSU Vasula 56.79 321 *eP* **P 08 28 33.9 +0.1**
BANOM Banah 56.88 275 P **P 08 28 35.1 +0.1**
BANOM Banah 56.88 275 P **P 08 28 36.6 +1.7**
SHME Shamm 56.92 275 P **P 08 28 37.7 +2.5**
MSFE Esma-Masafi 57.33 275 P **P 08 28 40.8 +2.7**
UOSS Minazif 57.55 274 P **P 08 28 42.2 +2.5**
MTN Manton Dam 57.62 172 P **P 08 28 38.4 -1.6**
HATD Hatta, Dubai 57.68 274 P **P 08 28 41.4 +0.8**
ASHO Ashiyiah 57.82 274 *i* P **P 08 28 42.2 +0.6**
SNR=6.2
RES Resolute Bay 58.08 11 P **P 08 28 42.5 -0.1**
RES pmax pmax
comp=Z,21nm,1.3s
RES Resolute Bay 58.08 11 P **P 08 28 42.5 -0.1**
RES IAmb IAmb 08 28 45.7
comp=Z,21nm,1.3s
HMDM Hanimaadhoo 58.16 245 P **P 08 28 44.6 +0.7**
ASUD Al Ashush, Dub 58.37 274 P **P 08 28 45.7 +0.3**
MICGM Minsk 58.42 317 *eP* **P 08 28 46.0 +0.7**
MICGM *e*LR LR 08 51 24.0
MICGM LRM MLR 08 55 44.0
comp=Z,1.8nm,8.0s
MICGM LRM MLR 08 55 45.0
comp=N,2.5nm,8.0s
MNK Minsk 58.42 317 *eP* **P 08 28 46.0 +0.7**
MNK MLR MLR
comp=Z,2μm,8.0s
MNK MLR MLR
comp=N,3μm,8.0s
ALNE Al Ain 58.43 274 *i* P **P 08 28 45.6 -0.3**
SNR=11
IZAR Zarasai 58.51 319 *i* Pg **P 08 28 47.6 +1.7**
ANN Anapa 58.61 304 *eP* **P 08 28 46.4 -0.4**
ANN pmax pmax
comp=Z,40nm,1.3s
ANN MLR MLR
comp=Z,723nm,16.0s
ANN MLR MLR
comp=E,431nm,16.0s
ISAL Salakas 58.66 319 *eP* **P 08 28 48.2 +1.2**
ISAL IAmb IAmb 08 28 51.1
comp=Z,24nm,0.7s
NACGM Naroch 58.73 318 *e* **P 08 28 46.0 -1.4**
NACGM *e*LR LR 08 51 28.0
IIGN Ignalina 58.74 319 *eP* **P 08 28 49.3 +1.8**
IIGN IAmb IAmb 08 28 52.4
comp=Z,20nm,0.7s
SLIT Slitere, Latvi 59.22 322 *eP* **P 08 28 50.6 -0.2**
SLIT IAmb IAmb 08 28 54.2
comp=Z,211nm,0.5s
PABE Paberze 59.71 320 *eP* **P 08 28 54.3 +0.1**
PABE IAmb IAmb 08 28 58.3
comp=Z,63nm,0.7s
AKASG Malin Array Be 59.89 313 P **P 08 28 55.8 +0.2**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 59.89 313 P **P 08 28 55.0 -0.5**
comp=Z,19nm,0.6s,baz=48,slow=7.5,SNR=38
AKASG LR LR 08 57 09.7
comp=Z,407nm,19.8s,baz=50,slow=38
AKASG Malin Array Be 59.89 313 P **P 08 28 55.8 +0.2**
AKBB Malin Array Si 59.89 313 P **P 08 28 55.6 +0.1**
AKBB pmax pmax
comp=Z,24nm,0.8s
AKBB Malin Array Si 59.89 313 P **P 08 28 55.6 +0.1**
KNRA Kununurra 60.23 175 P **P 08 28 57.0 -1.1**
SIM Simferopol' 60.48 305 P **P 08 29 01.8 +2.1**
SIM pmax pmax
comp=Z,18nm,1.2s
SIM MLR MLR
comp=Z,300nm,17.7s
COEN Coen 60.88 159 P **P 08 29 02.5 -0.1**
NC405 NORSAR Array S 61.29 329 P **P 08 29 05.1 +0.1**
NB201 NORSAR Array S 61.48 329 P **P 08 29 05.7 -0.6**
NB201 IAmb IAmb 08 29 16.5
comp=Z,17nm,1.1s
NB2 NORSAR Subarra 61.52 329 P **P 08 29 05.9 -0.7**
comp=Z,28nm,1.4s,baz=50,slow=6.9
NB2 NORSAR Subarra 61.52 329 P **P 08 29 05.9 -0.7**
baz=50,slow=6.9
NOA NORSAR Array B 61.52 329 P **P 08 29 05.8 -0.7**
comp=Z,1.0nm,0.5s,baz=58,slow=6.9,SNR=15
NOA LR LR 08 56 53.9
comp=Z,137nm,18.8s,baz=95,slow=37
FITZ Fitzroy Crossi 62.51 178 P **P 08 29 12.5 -1.1**
LVV L'vov 63.10 314 *eP* **P 08 29 18.1 +0.9**
YKA Yellowknife Ar 63.29 26 P **P 08 29 18.1 -0.2**
comp=Z,2.1nm,0.7s,baz=313,slow=7.0,SNR=8.0
YKA Yellowknife Ar 63.29 26 P **P 08 29 17.8 -0.5**
CFR Carcaliu 63.75 308 ⇑P **P 08 29 22.2 +0.6**
BIZ Bicaz 63.79 311 ⇓P **P 08 29 22.6 +0.8**
TOPG Topolog 63.80 308 ⇑P **P 08 29 23.4 +1.4**
BUR08 Bucovina Ar. S 63.83 312 P **P 08 29 22.4 0.0**
BURAR Bucovina Array 63.84 312 ⇓P **P 08 29 23.0 +0.7**
BURAR mb 08 29 26.5
BURAR Bucovina Array 63.84 312 P **P 08 29 21.9 -0.5**
BR131 Keskin Array S 63.84 301 P **P 08 29 25.6 +3.0**
SNR=5.7
BR131 Keskin Array S 63.84 301 P **P 08 29 22.4 -0.2**
BR131 pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 63.84 301 P **P 08 29 22.4 -0.2**
BR131 IAmb IAmb 08 29 26.8
comp=Z,11nm,1.0s
BRTR Keskin Array B 63.84 301 P **P 08 29 21.9 -0.7**
comp=Z,7.5nm,0.8s,baz=73,slow=5.4,SNR=18
BRTR LR LR 08 58 24.9
comp=Z,203nm,20.6s,baz=29,slow=37
KWP Kalwaria Pacla 63.88 315 P **P 08 29 23.5 +1.0**
KWP Kalwaria Pacla 63.88 315 *eP* **P 08 29 23.0 +0.5**
KWP *eP* **P 08 29 23.0 +0.5**
KWP Kalwaria Pacla 63.88 315 P **P 08 29 23.5 +1.0**
VRI Vrincioaia 64.11 310 ⇑P **P 08 29 26.5 +2.5**
PLOR Plostina 64.16 310 ⇑P **P 08 29 26.1 +1.7**
HARR Harsova 64.17 308 ⇓P **P 08 29 27.3 +3.0**
TLB Topalu 64.17 308 ⇓P **P 08 29 24.4 0.0**
BISRR Bisoca 64.32 309 ⇑P **P 08 29 27.2 +1.8**
KOLS Kolonicke sedl 64.55 314 *eP* **P 08 29 28.2 +1.4**
KOLS pmax pmax
comp=Z,18nm,1.4s
KOLS Kolonicke sedl 64.55 314 *eP* **P 08 29 28.2 +1.4**
ICOR Ion Corvin 64.59 308 ⇓P **P 08 29 29.2 +2.0**
ISR Istrita 64.68 309 ⇓P **P 08 29 29.0 +1.2**
UZH Uzhgorod 64.73 314 *eP* **P 08 29 26.2 -1.8**
UZH *e* 08 29 33.9
MLR Muntele Rosu 64.77 310 P **P 08 29 29.7 +1.2**
MLR pmax pmax
comp=Z,47nm,1.4s
MLR Muntele Rosu 64.77 310 ⇑P **P 08 29 29.9 +1.3**
MLR Muntele Rosu 64.77 310 P **P 08 29 29.7 +1.2**
DOPR Dopca 64.78 310 ⇑P **P 08 29 30.5 +2.1**
WB0 Warramunga Arr 64.83 169 P **P 08 29 27.3 -1.5**
TRPA Tarpa 64.92 314 ⇑P **P 08 29 29.7 +0.4**
TRPA mb 08 29 32.6
OJC Ojcow 64.96 317 P **P 08 29 29.5 0.0**
OJC pmax pmax
comp=Z,100nm,1.4s
OJC Ojcow 64.96 317 *eP* **P 08 29 29.6 0.0**
OJC *eP* **P 08 29 29.6 0.0**
OJC Ojcow 64.96 317 P **P 08 29 29.5 0.0**
WRAB Tennant Creek 64.99 169 P **P 08 29 29.0 -0.9**
WRAB pmax pmax
comp=Z,23nm,0.9s
WRAB Tennant Creek 64.99 169 P **P 08 29 28.9 -0.9**
WRA Warramunga Arr 64.99 169 P **P 08 29 28.3 -1.6**
comp=Z,16nm,0.8s,baz=354,slow=7.2,SNR=55
WB2 Warramunga Arr 65.00 169 **P 08 29 28.7 -1.3**
WR0 Warramunga Arr 65.04 169 P **P 08 29 28.4 -1.8**
VOIR 65.30 310 ⇑P **P 08 29 32.9 +1.0**
ARR Arges 65.57 310 ⇑P **P 08 29 35.2 +1.6**
DRGR 65.69 312 P **P 08 29 37.2 +2.8**
DRGR pmax pmax
comp=Z,18nm,1.4s
DRGR 65.69 312 ⇑P **P 08 29 36.1 +1.7**
LANS Liptovska Anna 65.82 316 *eP* **P 08 29 37.3 +2.2**
LANS pmax pmax
comp=Z,10.0nm,0.9s
LANS Liptovska Anna 65.82 316 *eP* **P 08 29 37.3 +2.2**
OKC Ostrava-Krasne 66.01 317 AMS AMS 09 01 00.0
comp=Z,800nm,16.3s
PSA00 Pilbara Seismi 66.07 184 P **P 08 29 35.9 -1.0**
KSP Ksiaz 66.23 319 *eP* **P 08 29 36.2 -1.5**
KSP Ksiaz 66.23 319 *eP* **P 08 29 36.1 -1.5**
KSP *eP* **P 08 29 36.1 -1.5**
MORC Moravsky Berou 66.35 317 P **P 08 29 39.4 +0.9**
MORC pmax pmax
comp=Z,34nm,1.3s
MORC Moravsky Berou 66.35 317 ⇓P **P 08 29 39.2 +0.7**
MORC mb 08 29 42.4
MORC Moravsky Berou 66.35 317 *eP* **P 08 29 40.0 +1.5**
MORC Moravsky Berou 66.35 317 P **P 08 29 39.4 +0.9**
PSZ Piszkesteto 66.41 315 P **P 08 29 40.3 +1.3**
PSZ pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 66.41 315 ⇓P **P 08 29 40.4 +1.4**
PSZ mb 08 29 43.7
PSZ Piszkesteto 66.41 315 P **P 08 29 40.4 +1.4**
PSZ IAmb IAmb 08 29 44.1
comp=Z,16nm,1.0s
ELND Elena 66.43 308 ⇑P **P 08 29 39.9 +0.7**
CHVC Chvalec 66.51 319 *eP* **P 08 29 41.0 +1.4**
KRLC Kraliky 66.51 318 *eP* **P 08 29 39.7 +0.1**
KRLC Kraliky 66.51 318 *eP* **P 08 29 39.7 +0.1**
DPC Dobruska-Polom 66.55 318 *eP* **P 08 29 41.1 +1.3**

DPC *e* 08 29 43.3
DPC MLR MLR
comp=Z,600nm,16.4s
DPC Dobruska-Polom 66.55 318 *e*P **P** **08 29 41.1 +1.3**
DPC *e*pP **sP** **08 29 43.3 +2.8**
DPC AMS AMS 08 59 00.0
comp=Z,600nm,16.4s
GZR Gura Zlata 66.56 311 ⇓P **P** **08 29 40.7 +0.8**
VYHS Vyhne 66.56 316 *e*P **P** **08 29 41.5 +1.6**
VYHS pmax pmax
comp=Z,31nm,1.5s
VYHS Vyhne 66.56 316 *e*P **P** **08 29 41.5 +1.6**
SIRR Siria 66.58 312 ⇑P **P** **08 29 41.3 +1.2**
UPC Upice 66.59 319 *e*P **P** **08 29 41.8 +1.8**
UPC MLR MLR
comp=Z,600nm,15.6s
UPC Upice 66.59 319 *e*P **P** **08 29 41.8 +1.8**
UPC AMS AMS 09 01 50.0
comp=Z,600nm,15.6s
JAVC Velka Javorina 66.90 317 *e*P **P** **08 29 44.7 +2.6**
CSS Mathiatis 66.99 297 P **P** **08 29 42.1 -0.7**
CSS IAmb IAmb 08 29 46.7
comp=Z,14nm,0.9s
BZS Buzias 67.03 312 ⇓P **P** **08 29 43.5 +0.6**
HERR Herculane 67.08 311 ⇑P **P** **08 29 44.7 +1.5**
VRAC Vranov 67.12 317 ⇓P **P** **08 29 44.7 +1.2**
VRAC mb 08 29 47.5
VRAC Vranov 67.12 317 *e*P **P** **08 29 45.1 +1.7**
PUNG Punghina 67.19 310 ⇓P **P** **08 29 45.9 +2.0**
SMOL Smolenice 67.25 316 *e*P **P** **08 29 46.4 +2.2**
SMOL pmax pmax
comp=Z,10.0nm,0.8s
SMOL Smolenice 67.25 316 *e*P **P** **08 29 46.4 +2.2**
PVCC Panska Ves 67.25 319 *e*P **P** **08 29 44.8 +0.6**
PVCC Panska Ves 67.25 319 *e*P **P** **08 29 44.8 +0.6**
BRG Berggiesshubel 67.30 320 *e*P **P** **08 29 45.8 +1.3**
comp=Z,20nm,1.4s
BRG Berggiesshubel 67.30 320 *e*P **P** **08 29 45.8 +1.3**
BRG pmax pmax
comp=Z,20nm,1.4s
KRUC Moravsky 67.38 317 *e*P **P** **08 29 46.8 +1.7**
MODS Modra-Piesok 67.42 316 *e*P **P** **08 29 47.4 +2.1**
MODS pmax pmax
comp=Z,26nm,1.3s
MODS Modra-Piesok 67.42 316 *e*P **P** **08 29 47.4 +2.1**
CLL Collm 67.43 321 *i* P **P** **08 29 46.1 +0.8**
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 67.43 321 *i* P **P** **08 29 46.1 +0.8**
comp=Z,18nm,1.0s
CLL Collm 67.43 321 P **P** **08 29 44.8 -0.5**
MDVR Moldovita 67.53 311 ⇓P **P** **08 29 46.2 +0.1**
CTAO Charters Tower 67.55 158 P **P** **08 29 45.7 -0.6**
CTAO pmax pmax
comp=Z,9.0nm,0.8s
GOPC GO Pecny, Ondr 67.57 319 *e*P **P** **08 29 47.9 +1.6**
GOPC MLR MLR
comp=Z,500nm,15.9s
GOPC GO Pecny, Ondr 67.57 319 *e*P **P** **08 29 47.9 +1.6**
GOPC AMS AMS 09 02 40.0
comp=Z,500nm,15.9s
PRA Prague 67.63 319 AMS AMS 09 02 30.0
comp=Z,600nm,16.6s
PRU Pruhonice 67.63 319 *e*P **P** **08 29 47.9 +1.3**
PRU MLR MLR
comp=Z,600nm,13.6s
PRU Pruhonice 67.63 319 *e*P **P** **08 29 47.9 +1.3**
PRU AMS AMS 09 02 20.0
comp=Z,600nm,13.6s
TREC Trest 67.66 318 AMS AMS 09 02 10.0
comp=Z,700nm,20.1s
VTS Vitosha 68.11 309 P **P** **08 29 50.5 +0.5**
VTS pmax pmax
comp=Z,30nm,1.3s
VTS Vitosha 68.11 309 ⇑P **P** **08 29 50.1 +0.1**
VTS mb 08 29 54.5
VTS Vitosha 68.11 309 P **P** **08 29 50.5 +0.5**
CONA Conrad Observa 68.42 317 *i* pP **P** **08 29 53.9 +2.2**
comp=Z,18nm,0.9s
NKC Novy Kostel 68.43 320 *e*P **P** **08 29 53.1 +1.4**
NKC Novy Kostel 68.43 320 *e*P **P** **08 29 53.1 +1.4**
MOX Moxa 68.52 321 P **P** **08 29 53.2 +1.0**
MOX pmax pmax
comp=Z,10.0nm,2.0s
AS31 Alice Springs 68.61 170 P **P** **08 29 52.0 -0.9**
ASAR Alice Springs 68.61 170 P **P** **08 29 51.8 -1.2**
comp=Z,6.8nm,0.8s,baz=355,slow=6.6,SNR=45
ASAR PKP2bc 08 58 08.5
comp=Z,0.6nm,0.9s,baz=170,slow=3.8,SNR=5.8
ASAR Alice Springs 68.61 170 P **P** **08 29 51.4 -1.6**
KHC Kasperske Hory 68.68 319 P **P** **08 29 53.6 +0.3**
KHC pmax pmax
comp=Z,17nm,1.4s
KHC Kasperske Hory 68.68 319 *e*P **P** **08 29 53.8 +0.5**
KHC AMS AMS 09 03 10.0
comp=Z,700nm,14.5s
KHC Kasperske Hory 68.68 319 P **P** **08 29 53.6 +0.3**
KHC IAmb IAmb 08 29 57.1
comp=Z,17nm,1.4s
GEC2 GERESS Array S 68.82 318 P **P** **08 29 55.3 +1.1**
GEC2 IAmb IAmb 08 29 57.6
comp=Z,19nm,1.3s
GERES GERESS Array B 68.82 318 P **P** **08 29 54.6 +0.4**
GERES GERESS Array B 68.82 318 P **P** **08 29 54.0 -0.2**
comp=Z,3.2nm,0.6s,baz=49,slow=6.1,SNR=16
GERES LR LR 09 03 25.5
comp=Z,408nm,19.2s,baz=52,slow=39
GERES GERESS Array B 68.82 318 P **P** **08 29 54.6 +0.4**
ARSA Arzberg 69.05 316 *i* P **P** **08 29 56.0 +0.4**
comp=Z,9.7nm,0.7s
MOA Molln 69.25 317 *i* pP **P** **08 29 59.9 +3.1**
comp=Z,5.8nm,0.8s
GRA1 Grafenberg Arr 69.38 320 P **P** **08 29 58.4 +0.8**
GRF Grafenberg Arr 69.38 320 P **P** **08 29 58.4 +0.8**
GRF pmax pmax
comp=Z,68nm,1.4s
SOKA Soboth 69.69 316 *i* pP **P** **08 30 01.2 +1.5**
comp=Z,25nm,1.3s
OBKA Obir 70.05 316 *i* pP **P** **08 30 03.4 +1.6**
comp=Z,19nm,1.0s
KBA Koelnbreinsper 70.23 317 *i* pP **P** **08 30 04.8 +1.7**
comp=Z,23nm,0.9s
MYKA Terra Mystica 70.41 317 *i* pP **P** **08 30 05.3 +1.2**
comp=Z,10nm,0.8s
B06A Marblemount 70.82 40 P **P** **08 30 06.9 +0.5**
B06A IAmb IAmb 08 30 15.2
comp=Z,7.3nm,0.7s
WATA Walderalm 70.90 318 *i* pP **P** **08 30 08.6 +1.5**
comp=Z,14nm,0.9s
WTTA Wattenberg 70.92 318 *i* pP **P** **08 30 09.0 +1.7**
comp=Z,8.1nm,0.6s
STU Stuttgart 70.96 321 P **P** **08 30 08.0 +0.8**
STU pmax pmax
comp=Z,28nm,1.1s
STU Stuttgart 70.96 321 P **P** **08 30 08.1 +0.8**
MOTA Moosalm 71.11 319 *i* pP **P** **08 30 10.0 +1.5**
comp=Z,16nm,0.7s
SQTA Sankt Quirin 71.15 318 *i* P **P** **08 30 08.8 +0.2**
comp=Z,7.6nm,0.7s
RETA Reutte 71.17 319 *i* pP **P** **08 30 10.2 +1.6**
comp=Z,18nm,0.8s
BFO Black Forest 71.67 321 P **P** **08 30 11.6 -0.1**
BFO pmax pmax
comp=Z,30nm,1.2s
BFO Black Forest 71.67 321 P **P** **08 30 11.6 -0.1**
DAVA Damuels 71.73 319 *i* P **P** **08 30 12.5 +0.4**
comp=Z,38nm,1.5s
CTI Castel Tesino 71.79 317 P **P** **08 30 12.6 +0.2**
CTI pmax pmax
comp=Z,15nm,0.6s
CTI Castel Tesino 71.79 317 P **P** **08 30 12.6 +0.2**
TUE Stuetta 72.57 319 P **P** **08 30 18.2 +0.9**
DAMY Dhamar 72.70 273 P **P** **08 30 20.2 +1.6**
SNR=6.2
DAMY Dhamar 72.70 273 P **P** **08 30 19.1 +0.5**
C09A Chrisman Ranch 72.80 39 P **P** **08 30 19.7 +1.3**
NEW Newport 72.96 38 P **P** **08 30 20.2 +0.8**
NEW pmax pmax
comp=Z,12nm,1.3s
NEW Newport 72.96 38 P **P** **08 30 20.2 +0.8**
NEW IAmb IAmb 08 30 23.3
comp=Z,12nm,1.3s
HAWA Hanford 73.28 40 P **P** **08 30 21.8 +0.6**
HAWA IAmb IAmb 08 30 24.1
comp=Z,10nm,1.1s
F07A Phinny Hill Vi 73.47 41 P **P** **08 30 23.9 +1.5**
F07A IAmb IAmb 08 30 26.8
comp=Z,19nm,1.4s
EIDS Eidsvold 73.93 155 P **P** **08 30 25.7 +0.6**
PINE Pine Mountain 74.55 43 P **P** **08 30 30.8 +1.9**
PINE IAmb IAmb 08 30 31.8
comp=Z,12nm,1.1s
JTMT Jette 74.59 37 P **P** **08 30 30.6 +1.6**
F10A Beach Ranch, E 74.66 39 P **P** **08 30 30.8 +1.4**
F10A IAmb IAmb 08 30 31.7
comp=Z,13nm,1.4s
MSO Missoula 75.45 37 P **P** **08 30 34.9 +0.9**
MSO IAmb IAmb 08 30 36.0
comp=Z,13nm,1.2s
BMO Blue Mountains 75.47 40 P **P** **08 30 35.2 +1.1**
BMO pmax pmax
comp=Z,13nm,1.3s
BMO Blue Mountains 75.47 40 P **P** **08 30 35.2 +1.1**
BMO IAmb IAmb 08 30 37.6
comp=Z,13nm,1.3s
PLID Pearl Lake 75.89 39 P **P** **08 30 37.6 +0.9**
PLID IAmb IAmb 08 30 39.5
comp=Z,11nm,1.4s
WDC Whiskeytown Da 76.12 46 P **P** **08 30 37.7 -0.1**
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC Whiskeytown Da 76.12 46 P **P** **08 30 37.7 -0.1**
WDC IAmb IAmb 08 30 41.4
comp=Z,8.6nm,1.1s
EGMT Eagleton 76.23 34 P **P** **08 30 38.6 +0.2**
EGMT IAmb IAmb 08 30 40.8
comp=Z,28nm,1.4s
HRY Holter Researc 76.43 36 P **P** **08 30 40.7 +1.1**
WVOR Wild Horse Val 76.68 43 P **P** **08 30 41.5 +0.4**
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 76.68 43 P **P** **08 30 41.5 +0.4**
DLMT Dillon 77.18 37 P **P** **08 30 45.1 +1.3**
MFID Camas Ranch 77.26 40 P **P** **08 30 44.9 +0.6**
MFID IAmb IAmb 08 30 48.5
comp=Z,8.9nm,1.1s
BOZ Bozeman (W) 77.41 37 P **P** **08 30 46.0 +0.8**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 77.41 37 P **P** **08 30 46.0 +0.8**
ORV Oroville 77.42 46 P **P** **08 30 45.5 +0.4**
ORV pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville 77.42 46 P **P** **08 30 45.5 +0.4**
MCMT McKenzie Canyo 77.49 38 P **P** **08 30 46.5 +0.7**
STKA Stephens Creek 77.85 165 P **P** **08 30 46.9 -0.4**
STKA pmax pmax
comp=Z,1.0nm,1.3s
STKA Stephens Creek 77.85 165 P **P** **08 30 45.3 -2.0**
comp=Z,3.0nm,0.7s,baz=340,slow=4.7,SNR=13
STKA Stephens Creek 77.85 165 P **P** **08 30 46.9 -0.4**
DGMT Dagmar 77.98 31 P **P** **08 30 49.2 +1.0**
DGMT IAmb IAmb 08 30 51.2
comp=Z,29nm,1.5s
GCMT Greycliff 78.07 35 P **P** **08 30 50.2 +1.4**
YHB Horse Butte 78.27 37 P **P** **08 30 51.8 +1.7**
PAHR Pah Rah Range 78.38 45 IAmb IAmb 08 30 54.9
comp=Z,13nm,1.2s
RLMT Red Lodge 78.78 35 P **P** **08 30 54.0 +1.2**
RLMT IAmb IAmb 08 30 56.8
comp=Z,22nm,1.4s
YERR Yerington 79.00 45 IAmb IAmb 08 30 56.7
comp=Z,11nm,1.0s
FLWY Flag Ranch 79.01 37 P **P** **08 30 55.3 +1.1**
IMW Indian Meadow 79.06 37 IAmb IAmb 08 30 57.3
comp=Z,12nm,1.3s
CMB Columbia Colle 79.13 47 IAmb IAmb 08 30 57.1
comp=Z,11nm,1.2s
ULM Lac du Bonnet 79.21 25 P **P** **08 30 53.6 -1.3**
comp=Z,5.6nm,0.8s,baz=338,slow=6.2,SNR=7.7
ULM LR LR 09 09 40.3
comp=Z,252nm,19.0s,baz=329,slow=38
ULM Lac du Bonnet 79.21 25 IAmb IAmb 08 30 54.9
comp=Z,14nm,1.1s
FXWY Fox Creek 79.23 37 P **P** **08 30 57.2 +1.8**
KVN Kaiserville 79.52 45 P **P** **08 30 57.7 +0.7**
KVN pmax pmax
comp=Z,9.0nm,1.1s
KVN Kaiserville 79.52 45 P **P** **08 30 57.7 +0.7**
REDW Red Top Meadow 79.53 37 IAmb IAmb 08 31 01.3
comp=Z,14nm,1.4s
RYN Ryan 79.63 45 IAmb IAmb 08 31 02.2
comp=Z,9.1nm,1.0s
NVAR Mina Array Bea 79.90 45 P **P** **08 30 59.6 +0.5**
comp=Z,2.4nm,0.6s,baz=310,slow=4.1,SNR=14
NVAR LR LR 09 08 40.2
comp=Z,266nm,18.3s,baz=268,slow=37
NVAR Mina Array Bea 79.90 45 P **P** **08 31 00.7 +1.6**
PDAR Pinedale Array 80.57 37 P **P** **08 31 02.0 -0.7**
comp=Z,0.5nm,0.4s,baz=0.0,slow=1.6,SNR=7.2
PDAR LR LR 09 08 27.8
comp=Z,249nm,20.0s,baz=310,slow=37
KEST Kesra 80.58 312 P **P** **08 31 02.9 +0.3**
comp=Z,10nm,0.9s,baz=331,slow=13,SNR=2.6
KEST Kesra 80.58 312 IAmb IAmb 08 31 07.9
comp=Z,22nm,1.1s
AGMN Agassiz Nation 80.94 26 IAmb IAmb 08 31 05.8
comp=Z,7.8nm,0.8s
TCUT Toone Canyon 81.08 39 P **P** **08 31 06.9 +1.4**
RSSD Black Hills 81.70 33 P **P** **08 31 08.4 -0.2**
RSSD pmax pmax
comp=Z,15nm,1.2s
RSSD Black Hills 81.70 33 P **P** **08 31 08.4 -0.2**
RSSD IAmb IAmb 08 31 10.1
comp=Z,15nm,1.1s
MSU Marysvale 82.82 41 P **P** **08 31 16.3 +1.7**
MSU Marysvale 82.82 41 P **P** **08 31 16.3 +1.7**
SHPR Sheep Range 82.96 44 IAmb IAmb 08 31 18.3
comp=Z,6.5nm,1.0s
N23A Red Feather La 83.64 36 IAmb IAmb 08 31 22.6
comp=Z,8.6nm,1.1s
ESDC Sonseca Array 83.94 322 P **P** **08 31 19.7 -0.4**
comp=Z,1.3nm,0.6s,baz=31,slow=4.9,SNR=6.0
ESDC Sonseca Array 83.94 322 P **P** **08 31 20.6 +0.5**
PV21 Cone Mtn., Par 84.25 39 IAmb IAmb 08 31 24.1
comp=Z,10nm,1.1s
PV23 Carpenter Ridg 84.32 39 IAmb IAmb 08 31 24.3
comp=Z,12nm,1.0s
PV22 Blue Mesa, Par 84.36 39 IAmb IAmb 08 31 26.3
comp=Z,10nm,1.1s
PV14 Lion Creek, Pa 84.38 39 P **P** **08 31 22.8 +0.2**
PV04 Paradox Valley 84.42 39 IAmb IAmb 08 31 26.8
comp=Z,13nm,1.3s
PV20 West Nyswonger 84.43 39 P **P** **08 31 24.3 +1.4**
PV20 IAmb IAmb 08 31 24.8
comp=Z,11nm,1.2s
PV19 Morning Glory 84.45 39 IAmb IAmb 08 31 26.9
comp=Z,12nm,1.1s
PV16 Nyswonger Mesa 84.48 39 IAmb IAmb 08 31 27.0
comp=Z,20nm,1.5s
PV17 East Wray Mesa 84.49 39 IAmb IAmb 08 31 25.2
comp=Z,9.3nm,1.0s
PV07 Paradox Valley 84.50 39 IAmb IAmb 08 31 28.6
comp=Z,6.8nm,1.1s
PV11 David Mesa, Pa 84.51 39 P **P** **08 31 24.4 +1.2**
PV11 IAmb IAmb 08 31 25.2
comp=Z,7.3nm,1.0s
PV12 Saucer Basin, 84.53 39 IAmb IAmb 08 31 28.1
comp=Z,4.6nm,0.8s
PFO Pinyon Flats O 84.56 47 P **P** **08 31 24.3 +0.8**
PFO pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 84.56 47 P **P** **08 31 24.3 +0.8**
PFO IAmb IAmb 08 31 27.7
comp=Z,9.5nm,1.1s
SMCO Snowmass 84.63 37 IAmb IAmb 08 31 26.1
comp=Z,9.5nm,1.0s
SPMN Marine on St. 84.63 25 IAmb IAmb 08 31 26.8
comp=Z,6.4nm,0.7s
PV13 Radium Mtn., P 84.65 39 IAmb IAmb 08 31 27.8
comp=Z,14nm,1.3s
ECSD EROS Data Cent 84.73 28 IAmb IAmb 08 31 25.2
comp=Z,11nm,1.1s
PV01 Paradox Valley 84.78 39 IAmb IAmb 08 31 26.7
comp=Z,6.8nm,0.9s
Y12C Blythe 85.45 46 IAmb IAmb 08 31 32.4
comp=Z,7.4nm,1.1s
MVCO Mesa Verde 85.57 40 P **P** **08 31 29.8 +1.1**
MVCO IAmb IAmb 08 31 33.1
comp=Z,9.8nm,0.9s
WUAZ Wupatki 85.61 42 IAmb IAmb 08 31 32.3
comp=Z,12nm,1.0s
Y14A Wickenburg 86.07 44 IAmb IAmb 08 31 33.5
comp=Z,4.9nm,0.8s
X16A Lo Mia Camp, P 86.46 43 IAmb IAmb 08 31 36.1
comp=Z,6.2nm,0.8s
X18A Snowflake 87.09 42 IAmb IAmb 08 31 40.5
comp=Z,7.6nm,1.0s
ANMO Albuquerque 88.37 39 P **P** **08 31 43.5 +1.2**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 88.37 39 P **P** **08 31 43.5 +1.2**
ANMO IAmb IAmb 08 31 44.9
comp=Z,9.9nm,1.2s
KMBO Kilima Mbogo 88.61 267 P **P** **08 31 41.7 -2.0**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 88.61 267 P **P** **08 31 43.5 -0.2**
comp=Z,1.0nm,0.4s,baz=29,slow=9.7,SNR=4.0
KMBO LR LR 09 16 15.6
comp=Z,172nm,18.3s,baz=90,slow=39
KMBO Kilima Mbogo 88.61 267 P **P** **08 31 41.7 -2.0**
MNTX Cornudas Mount 91.57 40 IAmb IAmb 08 31 59.6
comp=Z,7.2nm,1.1s
LCAR Lake Charles 93.45 28 IAmb IAmb 08 32 09.4
comp=Z,7.3nm,1.0s
ABPO Ambohimpanom 94.31 248 P **P** **08 32 08.8 -1.0**
ABPO pmax pmax
comp=Z,7.0nm,1.0s
ABPO Ambohimpanom 94.31 248 P **P** **08 32 08.8 -1.0**
ABPO IAmb IAmb 08 32 12.3
comp=Z,6.6nm,0.9s
TXAR Lajitas Array 94.36 41 P **P** **08 32 11.1 +1.1**
TXAR Lajitas Array 94.36 41 P **P** **08 32 10.6 +0.6**
comp=Z,1.1nm,0.8s,baz=300,slow=2.5,SNR=9.4
TXAR PKKPbc **PKKPbc** **08 49 08.6 +0.5**
comp=Z,0.3nm,0.8s,baz=182,slow=3.3,SNR=4.0
TXAR LR LR 09 18 21.8
comp=Z,90nm,18.1s,baz=0.0,slow=38
TXAR Lajitas Array 94.36 41 P **P** **08 32 11.1 +1.1**
PPT Papeete 99.52 105 LR LR 09 09 24.4
comp=Z,157nm,21.9s,baz=308,slow=30
TORD Torodi Ar. Bea 102.41 303 PP **PP** **08 36 57.8 -0.5**
comp=Z,2.1nm,1.1s,baz=23,slow=8.0,SNR=3.8
MAW Mawson 121.09 203 PKIKP **PKPdf** **08 37 40.8 -0.7**
MAW Mawson 121.09 203 PKP **PKPdf** **08 37 40.3 -1.2**
comp=Z,2.3nm,0.8s,baz=78,slow=9.3,SNR=4.0
MAW Mawson 121.09 203 **PKPdf** **08 37 40.8 -0.7**
SDV Santo Domingo 125.00 18 **PKPdf** **08 37 50.4 -0.6**
QSPA South Pole Qui 134.44 180 PKPpre 08 37 58.0
QSPA PKPdf **PKiKP** **08 38 08.8 +0.4**
SNAA Sanae 143.22 205 PKPdf PKPab 08 38 18.5 -0.2
SNAA Sanae 143.22 205 PKIKP PKPab 08 38 18.7 0.0
SNAA Sanae 143.22 205 PKPpre PKPab 08 38 18.7 0.0
VNA2 Neumayer--Watz 144.86 205 PKPdf **PKPab** **08 38 23.6 -1.3**
baz=88,slow=3.0
VNA1 Neumayer--Stat 145.23 206 PKPdf **PKPbc** **08 38 25.0 -1.1**
VNA3 Neumayer Olymp 145.41 204 PKPdf **PKPbc** **08 38 25.1 -1.6**
LPAZ La Paz 149.82 24 PKIKP **PKPdf** **08 38 34.1 -2.4**
LPAZ 08 38 40.9
LPAZ La Paz 149.82 24 PKP **PKPdf** **08 38 33.4 -3.0**
comp=Z,1.1nm,0.9s,baz=280,slow=6.1,SNR=3.9
LPAZ PKPbc **PKPbc** **08 38 40.1 -1.1**
comp=Z,15nm,1.2s,baz=281,slow=3.5,SNR=15
LPAZ La Paz 149.82 24 **PKPdf** **08 38 34.1 -2.4**
LPAZ PKPbc **PKPbc** **08 38 40.9 -0.3**
BDFB Brasilia 150.29 345 PKIKP **PKPbc** **08 38 40.0 -1.7**
BDFB Brasilia 150.29 345 PKPbc **PKPbc** **08 38 40.0 -1.7**
comp=Z,6.2nm,1.1s,baz=39,slow=9.8,SNR=4.0
BDFB Brasilia 150.29 345 **PKPbc** **08 38 40.0 -1.7**
MNMC Minye Minye 152.02 29 **PKPdf** **08 38 37.1 -2.3**
MNMC **PKPbc** **08 38 46.1 +0.2**
PB11 IPOC Station P 152.58 29 **PKPbc** **08 38 45.3 -1.7**
GO02 Mina Guanaco 157.52 34 PKPab **PKPab** **08 39 18.6 +0.1**
GO05 Huala 164.30 57 PKPdf **PKPdf** **08 38 51.8 -1.7**

WEL 22 08:26:22.1, 40°S±3°×17°5E±°, h23km±3km, M3.4/17,
ML3.7/13, MLv3.4/17, Error ellipse: s-maj=0.0km
s-min=0.0km az=29.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.19**	**105**	P	Pb	08 26 27.8	+0.4
OHWZ				S	Sb	08 26 32.1	+1.2
WAZ	**Wanganui**	**0.41**	**350**	P	Pb	08 26 31.2	+0.5
WAZ				S	Sb	08 26 37.6	+1.1
POWZ	**Post Office Ro**	**0.58**	**114**	P	Pb	08 26 33.9	+0.3
POWZ				S	Sb	08 26 42.1	+0.7
MRZ	**Mangatainoka R**	**0.63**	**143**	P	Pb	08 26 34.9	+0.4
MRZ				S	Sb	08 26 43.6	+0.7
OGWZ	**Otaki Gorge**	**0.66**	**174**	P	Pb	08 26 35.0	+0.1
OGWZ				S	Sb	08 26 43.5	-0.3
TSZ	**Takapari Road**	**0.69**	**82**	P	Pb	08 26 35.6	+0.2
TSZ				S	Sb	08 26 44.6	+0.1
KIW	**Kapiti Island**	**0.71**	**190**	P	Pb	08 26 35.3	-0.6
KIW				S	Sb	08 26 44.5	-0.8
PRWZ	**Pori Road**	**0.79**	**120**	P	Pn	08 26 38.0	+0.2
PRWZ				S	Sn	08 26 49.7	+0.7
HOWZ	**Holdsworth Sta**	**0.81**	**156**	P	Pn	08 26 38.0	-0.1
HOWZ				S	Sb	08 26 48.7	+0.7
MTVZ	**Mangateitei**	**0.83**	**22**	P	Pb	08 26 37.4	-0.5
MTVZ				S	Sb	08 26 48.9	+0.3
DVHZ	**Dannevirke**	**0.85**	**100**	P	Pn	08 26 38.7	+0.1
LREZ	**Lake Rotokare**	**0.87**	**323**	P	Pn	08 26 39.5	+0.6
TIWZ	**Tintock**	**0.87**	**135**	P	Pn	08 26 39.4	+0.4
PKVZ	**Pokaka**	**0.89**	**14**	P	Pb	08 26 38.3	-0.6
PNHZ	**Pukenui**	**0.90**	**75**	P	Pb	08 26 38.9	-0.1
MOVZ	**Moawhango**	**0.91**	**35**	P	Pb	08 26 38.3	-1.0
TRVZ	**Turoa**	**0.93**	**23**	P	Pb	08 26 38.9	-0.7
CAW	**Cannon Point**	**0.95**	**180**	P	Pb	08 26 39.7	-0.1
DRZ	**Dome Shelter**	**0.96**	**23**	P	Pb	08 26 39.7	-0.5
WHVZ	**Whangaehu Hut**	**0.96**	**24**	P	Pb	08 26 39.5	-0.7
FWVZ	**Far West T-bar**	**0.97**	**22**	P	Pb	08 26 39.6	-0.8
TUVZ	**Tukino**	**0.99**	**27**	P	Pb	08 26 40.1	-0.6
BHHZ	**Black Hill Sta**	**1.01**	**49**	P	Pn	08 26 40.1	-0.8
BFZ	**Birch Farm**	**1.03**	**121**	P	Pb	08 26 41.7	+0.4
MTW	**Mount Morrison**	**1.05**	**162**	P	Pb	08 26 42.1	+0.5
WPHZ	**Waipukurau**	**1.05**	**85**	P	Pb	08 26 42.6	+1.0
NGZ	**Ngauruhoe**	**1.06**	**23**	P	Pn	08 26 41.3	-0.4
VRZ	**Vera Road**	**1.06**	**347**	P	Pb	08 26 41.7	0.0
PREZ	**Palmer Road**	**1.08**	**319**	P	Pb	08 26 42.9	+0.9
DUWZ	**D'Urville Isla**	**1.09**	**233**	P	Pn	08 26 41.6	-0.4
ANWZ	**Angora Road**	**1.11**	**106**	P	Pb	08 26 43.4	+0.8
WTVZ	**West Tongariro**	**1.11**	**21**	P	Pn	08 26 42.0	-0.3
KRHZ	**Kereru**	**1.12**	**63**	P	Pn	08 26 42.5	+0.2
TWVZ	**Taurewa**	**1.12**	**15**	P	Pn	08 26 41.9	-0.6
TMWZ	**Te Maipa**	**1.13**	**147**	P	Pb	08 26 43.0	0.0
CPWZ	**Castlepoint**	**1.14**	**132**	P	Pb	08 26 43.9	+0.8
KRVZ	**Karewarewa**	**1.15**	**23**	P	Pn	08 26 42.6	-0.3
DREZ	**Durham Road**	**1.18**	**325**	P	Pb	08 26 44.6	+0.8
NMEZ	**Namu Road**	**1.19**	**308**	P	Pb	08 26 44.5	+0.7
KHEZ	**Kahui Hut**	**1.19**	**316**	P	Pb	08 26 44.7	+0.7
PRHZ	**Porangahau**	**1.20**	**96**	P	Pb	08 26 44.5	+0.4
TCW	**Tory Channel**	**1.22**	**210**	P	Pn	08 26 43.2	-0.4
MHEZ	**Mangahewa**	**1.23**	**331**	P	Pb	08 26 45.3	+0.8
PAWZ	**Paruwai Farm**	**1.25**	**168**	P	Pn	08 26 44.4	+0.2
BHW	**Baring Head**	**1.26**	**187**	P	Pb	08 26 44.7	-0.4
MSWZ	**Moikau Station**	**1.26**	**174**	P	Pn	08 26 44.7	+0.4
KWHZ	**Kaweka Forest**	**1.27**	**55**	P	Pb	08 26 45.1	-0.3
KATZ	**Kakaramea**	**1.27**	**22**	P	Pn	08 26 44.9	+0.3
PKE	**Pukeiti**	**1.28**	**319**	P	Pb	08 26 46.2	+0.7
NBEZ	**Newall Road No**	**1.29**	**313**	P	Pb	08 26 46.3	+0.7
TRWZ	**Traveller**	**1.32**	**160**	P	Pb	08 26 46.3	0.0
RITZ	**Rihia Road**	**1.32**	**27**	P	Pb	08 26 45.8	-0.5
RATZ	**Rangitukua**	**1.40**	**23**	P	Pb	08 26 47.4	-0.1
PLWZ	**Palliser**	**1.42**	**175**	P	Pb	08 26 47.2	-0.6
KAHZ	**Kahuranaki**	**1.43**	**76**	P	Pb	08 26 47.7	-0.4
MCHZ	**McNeill Hill**	**1.44**	**61**	P	Pb	08 26 48.5	+0.3
BKZ	**Black Stump Fm**	**1.48**	**48**	P	Pb	08 26 48.4	-0.5
TUWZ	**Tuamarina**	**1.53**	**214**	P	Pn	08 26 48.6	+0.6
WATZ	**Wairara**	**1.54**	**20**	P	Pb	08 26 49.3	-0.6
CKHZ	**Cape Kidnapper**	**1.62**	**73**	P	Pb	08 26 51.7	+0.4
WHTZ	**Whakaora**	**1.64**	**25**	P	Pb	08 26 50.8	-0.9
HIZ	**Hauiti**	**1.65**	**354**	P	Pn	08 26 50.0	+0.3
NNZ	**Nelson**	**1.67**	**230**	P	Pn	08 26 50.6	+0.7
MRHZ	**Matea Rd**	**1.68**	**39**	P	Pb	08 26 52.0	-0.3
NMHZ	**Naumai**	**1.71**	**52**	P	Pb	08 26 52.5	-0.3
CMWZ	**Cape Campbell**	**1.72**	**202**	P	Pb	08 26 52.0	-1.0
ARHZ	**Aropaoanui**	**1.73**	**60**	P	Pb	08 26 52.2	-1.0
KUTZ	**Kaahu Road**	**1.76**	**19**	P	Pb	08 26 53.9	+0.2
BSWZ	**Blackbirch Sta**	**1.80**	**210**	P	Pn	08 26 52.9	+1.2
TLZ	**Tolley Road**	**1.86**	**11**	P	Pn	08 26 53.8	+1.3

ALRZ	**Allen Road**	**1.87**	**32**	P	Pb	08 26 54.8 -0.8
MTHZ	**Maungataniwha**	**1.89**	**47**	P	Pn	08 26 53.9 +0.9
PRRZ	**Plateau Road**	**1.95**	**32**	P	Pb	08 26 55.4 -1.4
GRRZ	**Galatos Road**	**1.98**	**24**	P	Pb	08 26 56.4 -0.9
WHHZ	**Waihua**	**1.99**	**58**	P	Pn	08 26 55.4 +1.1
RAHZ	**Arahi**	**1.99**	**52**	P	Pn	08 26 55.6 +1.3
QRZ	**Quartz Range**	**2.05**	**250**	P	Pn	08 26 55.8 +0.6
MUGZ	**Murupara**	**2.13**	**39**	P	Pb	08 26 59.1 -0.9
RTZ	**Ruatahuna**	**2.13**	**44**	P	Pn	08 26 57.7 +1.4
TARZ	**Mount Tarawera**	**2.22**	**31**	P	Pb	08 27 00.1 -1.4
SNGZ	**Shannon Station**	**2.23**	**53**	P	Pn	08 26 58.9 +1.3
THZ	**Tophouse**	**2.30**	**225**	P	Pn	08 26 59.8 +1.2
KNZ	**Kokohu**	**2.31**	**61**	P	Pn	08 26 58.6 0.0
MHGZ	**Mahia Peninsul**	**2.41**	**66**	P	Pn	08 27 00.2 +0.2
URZ	**Urewera**	**2.47**	**40**	P	Pn	08 27 00.9 0.0
PRGZ	**Paritu Road**	**2.50**	**61**	P	Pn	08 27 01.1 -0.2
MARZ	**Manawahe**	**2.50**	**30**	P	Pb	08 27 03.9 -2.4
RIGZ	**Rimuhau**	**2.54**	**56**	P	Pn	08 27 02.1 +0.3
KHZ	**Kahutara**	**2.54**	**207**	P	Pn	08 27 02.0 +0.2
MWZ	**Matawai**	**2.63**	**47**	P	Pn	08 27 03.8 +0.6
TKGZ	**Te Karaka**	**2.75**	**52**	P	Pn	08 27 05.0 +0.3
DSZ	**Denniston Nort**	**2.94**	**236**	P	Pn	08 27 08.9 +1.5
RUGZ	**Raukumara Rang**	**2.98**	**44**	P	Pn	08 27 09.3 +1.2
AWAZ	**Awhitu Peninsu**	**3.11**	**354**	P	Pn	08 27 10.9 +1.2
HAZ	**Te Kaha**	**3.19**	**42**	P	Pn	08 27 11.6 +0.8
GVZ	**Greta Valley S**	**3.20**	**208**	P	Pn	08 27 10.5 -0.5
PUZ	**Puketiti**	**3.23**	**51**	P	Pn	08 27 10.4 -1.0
LTZ	**Lake Taylor**	**3.36**	**218**	P	Pn	08 27 13.1 -0.2
MBAZ	**Motutapu North**	**3.39**	**358**	P	Pn	08 27 14.4 +0.9
INZ	**Inchbonnie**	**3.75**	**226**	P	Pn	08 27 18.4 -0.1
OKCZ	**Okains Bay**	**3.87**	**202**	P	Pn	08 27 18.8 -1.3
OXZ	**Oxford**	**3.90**	**215**	P	Pn	08 27 18.9 -1.6
AKCZ	**Akaroa Harbour**	**4.05**	**203**	P	Pn	08 27 21.1 -1.5
WVZ	**Waitaha Valley**	**4.37**	**227**	P	Pn	08 27 28.1 +1.2
FOZ	**Fox Glacier**	**5.18**	**228**	P	Pn	08 27 37.5 -0.6
JCZ	**Jackson Bay**	**6.10**	**228**	P	Pn	08 27 50.1 -0.7
CTZ	**Chatham Island**	**7.15**	**123**	P	Pn	08 28 04.7 -0.4

*ATH **22** 08:35:37.7, 37°.81N×29°.25E, h12km±7km, ML3.4/2, Error ellipse: s-maj=8.3km s-min=0.8km az=54.0*
*IDC **22** 08:35:37.9±1.4, 37°.70N×29°.41E, h0km, mb3.6/1, mb1 3.7/7, mb1mx3.5/51, mbtmp3.6/7, ML3.6/6, Error ellipse: s-maj=22.2km s-min=18.0km az=50.0*
*THE **22** 08:35:37.9, 37°.74N×29°.31E, h0km, ML3.6/1, Error ellipse: s-maj=1.2km s-min=0.8km az=169.0*
*ISCJB **22** 08:35:38.5±0.6, 37°.71N±0°.02×29°.29E±0°.03, h5km±5km, mb3.6/1, Error ellipse: s-maj=4.2km s-min=3.3km az=17.3*
*ISK **22** 08:35:38.3, 37°.69N×29°.26E, h6km, ML3.5/19*

ISC 22 08:35:38.0±1.3, 37°.72N±0°.02×29°.33E±0°.02, h3km±11km, n47, σ0°91/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.23**	**278**	PG	**Pg**	**08 35 42.5**	**-0.1**
KHL	**Karahalli**	**0.62**	**14**	PG	**Pb**	**08 35 51.4**	**-0.2**
KULA	**Kula-Manisa**	**0.95**	**327**	P	**Pg**	**08 35 56.4**	**+0.2**
KULA				S	**Sb**	**08 36 10.6**	**+0.3**
KULA	**Kula-Manisa**	**0.95**	**327**	PG	**Pg**	**08 35 56.5**	**+0.2**
KULA				SG	**Sb**	**08 36 11.1**	**+0.8**
ISP	**Isparta**	**0.95**	**83**	P	**Pg**	**08 35 56.8**	**+0.5**
ISP				S	**Sn**	**08 36 11.5**	**-1.1**
ISP	**Isparta**	**0.95**	**83**	P	**Pg**	**08 35 56.7**	**+0.5**
ISP				S	**Sb**	**08 36 10.9**	**+0.6**
ISP				AML	AML	08 36 17.5	
	comp=N,2852μm,0.6s						
ISP				AML	AML	08 36 17.7	
	comp=E,4012μm,0.6s						
ISP	**Isparta**	**0.95**	**83**	PG	**Pb**	**08 35 57.1**	**-0.1**
ISP				SG	**Sn**	**08 36 12.5**	**-0.1**
YER	**Yerkesik**	**1.02**	**235**	P	**Pg**	**08 35 57.3**	**-0.2**
YER				S	**Sn**	**08 36 13.5**	**-0.6**
BCK	**Bucak**	**1.04**	**104**	PG	**Pn**	**08 35 59.2**	**-0.3**
BCK				SG	**Sn**	**08 36 15.0**	**+0.4**
ELL	**Elmali**	**1.08**	**154**	PG	**Pb**	**08 35 59.3**	**0.0**
KORT	**Korkueli**	**1.09**	**131**	PN	**Pn**	**08 36 00.2**	**-0.1**
KORT				SN	**Sn**	**08 36 15.7**	**-0.2**
FETY	**Fethiye**	**1.10**	**190**	P	**Pg**	**08 35 58.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**282**	PN	**Pg**	**08 36 00.4**	**+0.2**
SHUT	**Suhut-Afyon**	**1.27**	**49**	PN	**Pn**	**08 36 03.7**	**+0.8**
SHAP	**Saphane-Kutahy**	**1.30**	**356**	PN	**Pb**	**08 36 03.6**	**+0.4**
GEDZ	**Gediz**	**1.32**	**3**	PN	**Pb**	**08 36 04.7**	**+1.1**
ANTB	**Antalya**	**1.34**	**127**	PN	**Pg**	**08 36 04.2**	**+0.6**
SIMA	**Simav-Kutahya**	**1.39**	**349**	PN	**Pg**	**08 36 05.3**	**+0.7**
KSL	**Kastellorizon**	**1.58**	**172**	P	**Pg**	**08 36 09.0**	**+0.7**
BODT	**Bodrum**	**1.73**	**248**	P	**Pn**	**08 36 09.7**	**+0.6**
ARG	**Arkhangelos**	**1.78**	**213**	P	**Pg**	**08 36 11.9**	**-0.3**
ARG	**Arkhangelos**	**1.78**	**213**	P	**Pb**	**08 36 11.0**	**-0.3**
ARG				S	**Sg**	**08 36 35.2**	**-0.1**
ARG				AML	AML	08 36 41.5	
	comp=N,1638μm,0.6s						
ARG				AML	AML	08 36 42.9	
	comp=E,2276μm,0.5s						
SMG	**Samos**	**1.98**	**270**	P	**Pn**	**08 36 12.2**	**-0.1**
KIZT	**Kizilcal**	**2.32**	**59**	PN	**Pn**	**08 36 18.6**	**+1.4**
KONT	**Konya--Tatoy**	**2.41**	**84**	PN	**Pn**	**08 36 19.9**	**+1.5**
LADK	**Ladik-KONYA**	**2.45**	**78**	PN	**Pb**	**08 36 20.9**	**-1.9**
CAVI	**Cavuskoy**	**2.51**	**9**	PN	**Pb**	**08 36 21.9**	**-1.9**
SRCK	**Saricakaya, Es**	**2.53**	**23**	PN	**Pb**	**08 36 22.6**	**-1.5**
CHOS	**Chios island**	**2.67**	**285**	P	**Pn**	**08 36 22.4**	**+0.4**
CHOS	**Chios island**	**2.67**	**285**	P	**Pn**	**08 36 21.9**	**0.0**
AUMIH	**MIHALICIK**	**2.73**	**37**	PN	**Pb**	**08 36 25.2**	**-2.3**
KARP	**Karpathos**	**2.78**	**219**	P	**Pn**	**08 36 25.0**	**+1.5**
PRK	**Paraskevi**	**2.84**	**303**	P	**Pn**	**08 36 23.2**	**-1.0**
YLV	**Yalova**	**2.84**	**1**	PN	**Pb**	**08 36 26.9**	**-2.6**
AMGA	**Amorgos Island**	**2.88**	**253**	P	**Pn**	**08 36 25.6**	**+0.8**
APE	**Apeiranthos**	**3.09**	**259**	P	**Pn**	**08 36 28.5**	**+0.7**
SIGR	**SIGRI**	**3.10**	**300**	P	**Pn**	**08 36 27.4**	**-0.5**
BRTR	**Keskin Array B**	**3.92**	**58**	Pn	**Pn**	**08 36 40.8**	**+1.5**
	comp=E,1.7nm,0.3s,baz=239,slow=17,SNR=13						
BRTR				Sn	**Sn**	**08 37 26.1**	**+0.2**
	comp=E,1.8nm,0.3s,baz=240,slow=25,SNR=10						
SMTH	**Samothraki Isl**	**4.03**	**314**	P	**Pn**	**08 36 40.8**	**+0.1**
ALN	**Alexandroupoli**	**4.07**	**322**	P	**Pn**	**08 36 41.3**	**+0.2**
RDO	**Rodhopi**	**4.51**	**321**	P	**Pn**	**08 36 47.8**	**+0.7**
MMAI	**Mount Meron Ar**	**6.83**	**132**	Pn	**Pn**	**08 37 20.0**	**+0.8**
	comp=E,4.5nm,0.3s,baz=319,slow=14,SNR=5.2						
MMAI				Sn	**Sn**	**08 38 36.7**	**-0.8**
	baz=314,slow=26,SNR=1.6						
MLR	**Muntele Rosu**	**8.17**	**343**	Pn	**Pn**	**08 37 38.9**	**+1.4**
	comp=E,0.3nm,0.3s,baz=252,slow=1.5,SNR=3.5						
ASF	**Jabal al Asfar**	**8.32**	**129**	Pn	**Pn**	**08 37 39.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=320,slow=17,SNR=3.3						
EIL	**Elat**	**9.29**	**148**	Pn	**Pn**	**08 37 52.7**	**-0.2**
	comp=E,0.3nm,0.3s,baz=49,slow=9.3,SNR=2.3						
GERES	**GERESS Array B**	**15.87**	**319**	Pn	**P**	**08 39 26.6**	**+0.3**
	comp=E,0.1nm,0.3s,baz=123,slow=11,SNR=4.7						
TORD	**Torodi Ar. Bea**	**34.71**	**233**	P	**P**	**08 42 28.9**	**-0.4**
	comp=E,0.4nm,0.5s,baz=39,slow=7.9,SNR=2.8						

BJI 22 08:43:36.2±0.0, 44°.61N×124°.12E, h10km, ML3.6/13, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.25**	**130**	*e*Pg	Pn	08 43 57.4	-2.3
CN2				*e*Sg	Sb	08 44 14.5	-1.5
CN2				smax	smax		
	comp=N,940nm,1.0s						
CN2				smax	smax		
	comp=E,360nm,1.0s						
SNY	**Shenyang**	**2.81**	**188**	⇑Pg	Pb	08 44 27.8	+1.4
SNY				Sg	Sb	08 45 02.1	+1.2
SNY				smax	smax		
	comp=N,120nm,0.3s						
SNY				smax	smax		
	comp=E,130nm,0.3s						
WHN	**Wuhan**	**16.02**	**212**	P	P	08 47 31.0	+6.0

*ISCJB **22** 08:55:41.2±0.5, 24°.86N±0°.02×122°.22E±0°.02, h12km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=33.9*
*TAP **22** 08:55:41.4, 24°.86N×122°.16E, h20km, ML3.1, C*
*JMA **22** 08:55:41.9±0.1, 24°.81N×122°.20E, h45km, M2.6*

ISC 22 08:55:40.2±1.2, 24°.89N±0°.03×122°.22E±0°.02, h12km±9km, n53, σ0°72/94, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.27**	**259**	P	**Pb**	**08 55 47.4**	**+0.4**
	baz=266						
EGS				S	**Sb**	**08 55 51.1**	**-0.4**
	baz=266						
EOS1	**EOS1**	**0.35**	**194**	P	**Pb**	**08 55 48.5**	**+0.1**
	baz=186						
EOS1				S	**Sg**	**08 55 53.2**	**+1.2**
	baz=186						
NTC	**Toucheng**	**0.36**	**264**	P	**Pb**	**08 55 48.3**	**-0.2**
	baz=270						
NWF	**Wu-fen Shan**	**0.44**	**294**	*i* P	**Pb**	**08 55 50.1**	**+0.2**
	baz=302						
NWF				S	**Sb**	**08 55 57.0**	**+0.5**
	baz=302						
WFSB	**Wu-fen Shan**	**0.44**	**294**	P	**Pb**	**08 55 50.3**	**+0.4**
	baz=302						
TWC	**Suao**	**0.44**	**230**	*i* P	**Pb**	**08 55 49.1**	**-0.8**
	baz=225						
TWC				S	**Sg**	**08 55 55.1**	**+0.3**
	baz=225						
SLBB	**Yuanshan**	**0.55**	**255**	P	**Pb**	**08 55 51.5**	**-0.3**
	baz=256						
TWA	**Mucha**	**0.58**	**279**	P	**Pb**	**08 55 52.0**	**-0.3**
	baz=284						
TWA				*e*S	**Sb**	**08 56 00.6**	**-0.1**
	baz=284						
ENA	**Nanau**	**0.64**	**223**	*i* P	**Pb**	**08 55 52.8**	**-0.5**
	baz=216						
ENA				S	**Sg**	**08 56 00.4**	**-0.5**
	baz=216						
YM01	**YM01**	**0.64**	**293**	P	**Pn**	**08 55 54.3**	**-0.9**
	baz=298						
YM01				*e*S	**Sb**	**08 56 03.0**	**+0.7**
	baz=298						
YM08	**YM08**	**0.64**	**297**	P	**Pn**	**08 55 54.1**	**-1.1**
	baz=302						
YM08				S	**Sb**	**08 56 02.9**	**+0.6**
	baz=302						
ENTT	**Nioudou**	**0.65**	**247**	*i* P	**Pb**	**08 55 53.4**	**-0.1**
	baz=249						
ENTT				S	**Sb**	**08 56 01.7**	**-0.8**
	baz=249						
YM11	**YM11**	**0.65**	**295**	P	**Pn**	**08 55 54.4**	**-0.9**
	baz=300						
YM10	**YM10**	**0.65**	**294**	P	**Pn**	**08 55 54.6**	**-0.8**
	baz=299						
YM10				*e*S	**Sb**	**08 56 03.4**	**+0.7**
	baz=299						
NWLT	**Wulai**	**0.66**	**260**	P	**Pb**	**08 55 54.0**	**+0.2**
	baz=263						
NWLT				*e*S	**Sb**	**08 56 02.6**	**-0.3**
	baz=263						
TWY	**Chenhua**	**0.68**	**304**	P	**Pn**	**08 55 55.2**	**-0.4**
	baz=299						
TWY				S	**Sb**	**08 56 04.4**	**+1.0**
	baz=299						
PCYT	**Pengchaiyu**	**0.74**	**350**	*i* P	**Pn**	**08 55 56.3**	**-0.3**
	baz=353						
PCYT				S	**Sn**	**08 56 07.8**	**0.0**
	baz=353						
NTST	**Danshui**	**0.75**	**291**	*e*P	**Pn**	**08 55 56.5**	**-0.2**
	baz=304						
NTST				*e*S	**Sb**	**08 56 05.9**	**+0.5**
	baz=304						
TWS1	**Kuangyinshan**	**0.76**	**286**	*e*P	**Pn**	**08 55 55.9**	**-0.8**
	baz=290						
TWS1				*e*S	**Sb**	**08 56 05.9**	**+0.3**
	baz=290						
JYNG	**Yonagunijimaku**	**0.79**	**124**	P	**Pb**	**08 55 56.4**	**+0.5**
JYNG				*e*S	**Sb**	**08 56 06.7**	**+0.1**
YHNB	**Yeheng**	**0.80**	**254**	P	**Pb**	**08 55 56.2**	**+0.1**
	baz=262						
YHNB				*e*S	**Sb**	**08 56 06.2**	**-0.7**
	baz=262						
NSK	**Sanguang**	**0.81**	**255**	P	**Pb**	**08 55 56.6**	**+0.2**
	baz=257						
NSK				*e*S	**Sb**	**08 56 06.9**	**-0.4**
	baz=257						
YOJ	**Yonaguni jima**	**0.84**	**121**	P	**Pn**	**08 55 57.7**	**-0.1**
	baz=116						
YOJ				S	**Sb**	**08 56 08.9**	**+0.9**
	baz=116						
YOJ	**Yonaguni jima**	**0.84**	**121**	P	**Pb**	**08 55 57.1**	**+0.4**
YOJ				*e*S	**Sb**	**08 56 08.3**	**+0.4**
NNSB	**Datong**	**0.89**	**239**	P	**Pb**	**08 55 57.7**	**0.0**
	baz=233						
NNSB				*e*S	**Sb**	**08 56 09.2**	**-0.4**
	baz=233						
NNS	**Nan Shan**	**0.89**	**240**	P	**Pn**	**08 55 58.8**	**+0.1**
	baz=234						
NNS				*e*S	**Sg**	**08 56 09.1**	**-0.1**
	baz=234						
NACB	**Ninganchiao**	**0.92**	**219**	P	**Pb**	**08 55 57.8**	**-0.3**
	baz=210						
NACB				S	**Sg**	**08 56 09.2**	**-0.6**
	baz=210						
TWD	**Chiawan**	**0.99**	**215**	P	**Pb**	**08 55 59.4**	**+0.1**
	baz=215						
TWD				S	**Sg**	**08 56 11.9**	**-0.3**
	baz=215						
NSTT	**Nanjuang**	**1.14**	**257**	*e*P	**Pn**	**08 56 02.2**	**+0.2**
	baz=259						
NSTT				*e*S	**Sb**	**08 56 16.6**	**-0.1**
	baz=259						
WHF	**Hehuan Shan**	**1.15**	**230**	*i* P	**Pn**	**08 56 02.8**	**+0.3**
	baz=231						
WHF				S	**Sg**	**08 56 16.9**	**-0.4**
	baz=231						
TDCB	**Techi**	**1.16**	**237**	*e*P	**Pn**	**08 56 03.5**	**+1.1**
	baz=233						
TDCB				*e*S	**Sg**	**08 56 17.0**	**-0.6**
	baz=233						
CHGB	**Renai**	**1.26**	**229**	P	**Pn**	**08 56 05.1**	**+1.2**
	baz=231						
CHGB				S	**Sb**	**08 56 21.0**	**+0.5**
	baz=231						
ESL	**Shilin**	**1.29**	**214**	P	**Pb**	**08 56 04.7**	**+0.2**
	baz=220						
ESL				S	**Sg**	**08 56 20.6**	**-1.2**
	baz=220						
EGFH	**Guangfu**	**1.42**	**211**	*e*P	**Pn**	**08 56 06.3**	**+0.5**
	baz=227						
EGFH				*e*S	**Sg**	**08 56 23.3**	**-2.5**
	baz=227						
DPDB	**Guoxing**	**1.46**	**234**	*e*P	**Pg**	**08 56 08.4**	**+0.2**
	baz=236						
DPDB				*e*S	**Sn**	**08 56 26.6**	**+1.0**
	baz=236						
IRIF	**Iriomote-Funau**	**1.48**	**112**	P	**Pn**	**08 56 06.0**	**-0.7**
VWDT	**VWDT**	**1.50**	**221**	*e*P	**Pg**	**08 56 09.3**	**+0.3**
	baz=228						
VWDT				S	**Sn**	**08 56 26.9**	**+0.4**
	baz=228						
SMLT	**Sun Moon Lake**	**1.57**	**230**	P	**Pg**	**08 56 10.7**	**+0.3**
	baz=227						
SMLT				S	**Sn**	**08 56 29.3**	**+0.9**
	baz=227						
HGSD	**Ruisui**	**1.57**	**208**	*e*P	**Pn**	**08 56 08.7**	**+0.7**
	baz=192						
TYC	**Yuchr**	**1.59**	**232**	P	**Pg**	**08 56 10.8**	**+0.1**
	baz=234						
TYC				S	**Sn**	**08 56 29.0**	**+0.4**
	baz=234						
EHY	**Hungye**	**1.61**	**211**	P	**Pn**	**08 56 08.6**	**+0.2**
	baz=225						
EHY				*e*S	**Sn**	**08 56 28.8**	**-0.4**
	baz=225						
YULB	**Yu-li**	**1.72**	**210**	*e*P	**Pn**	**08 56 09.6**	**-0.3**
	baz=208						
YULB				*e*S	**Sn**	**08 56 30.5**	**-1.4**
	baz=208						
TWF1	**Yuli**	**1.75**	**209**	*e*P	**Pn**	**08 56 10.4**	**-0.1**
	baz=208						
JKRS	**Kuro-shima**	**1.75**	**112**	P	**Pn**	**08 56 10.3**	**-0.2**
JKRS				*e*S	**Sn**	**08 56 32.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.83**	**106**	P	**Pb**	**08 56 12.8**	**-0.8**
ALS	**Alishan**	**1.89**	**223**	P	**Pb**	**08 56 15.2**	**+0.4**
	baz=212						
ALS				S	**Sn**	**08 56 38.0**	**+1.5**
	baz=212						
CHN5	**Tsauling**	**1.91**	**228**	*e*S	**Sb**	**08 56 39.1**	**+0.2**
	baz=228						
WDLH	**Douliu**	**1.95**	**232**	*e*P	**Pb**	**08 56 15.6**	**-0.1**
	baz=254						
WDLH				*e*S	**Sb**	**08 56 40.3**	**+0.4**
	baz=254						
TPUB	**Ta-pu**	**2.15**	**223**	P	**Pb**	**08 56 18.7**	**-0.5**
	baz=211						
TPUB				*e*S	**Sn**	**08 56 45.2**	**+2.5**
	baz=211						
TWK	**Hsinying**	**2.27**	**225**	P	**Pb**	**08 56 19.6**	**-1.5**
	baz=222						
TWK				S	**Sb**	**08 56 48.5**	**-0.6**
	baz=222						
MATB	**Ma-tsu**	**2.41**	**302**	*e*P	**Pn**	**08 56 20.0**	**+0.6**
	baz=305						
PHUB	**P'eng-hu**	**2.78**	**241**	*e*S	**Sn**	**08 56 57.0**	**-1.1**
	baz=244						
EAST	**Anshuo**	**2.80**	**207**	*e*P	**Pn**	**08 56 25.1**	**+0.2**
	baz=191						

ISC 22 09:06:11.1±1.0, 50°.28N±0°.06×18°.79E±0°.03, h0km, n5, σ0°40/14, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.65**	**94**	*e*Pg	**Pg**	**09 06 23.3**	**-0.3**
OJC				*e*Pg	**Pg**	**09 06 23.3**	**-0.3**
OJC				*e*Sg	**Sg**	**09 06 32.7**	**+0.7**
OJC				*e*Sg	**Sg**	**09 06 32.7**	**+0.7**
MORC	**Moravsky Berou**	**0.94**	**239**	*e*PG	**Pg**	**09 06 29.2**	**0.0**
MORC				*e*SG	**Sg**	**09 06 41.9**	**+0.5**
LANS	**Liptovska Anna**	**1.21**	**158**	*e*PG	**Pg**	**09 06 34.3**	**+0.1**
LANS				*e*SG	**Sb**	**09 06 51.1**	**+0.1**
LANS				*e*LG	Lg	09 06 51.5	
KSP	**Ksiaz**	**1.69**	**291**	*e*Pg	**Pb**	**09 06 43.1**	**+0.1**
KSP				*e*Pg	**Pb**	**09 06 43.1**	**+0.1**
KSP				*e*Sg	**Sg**	**09 07 05.6**	**+0.2**
KSP				*e*Sg	**Sg**	**09 07 05.6**	**+0.2**
VYHS	**Vyhne**	**1.78**	**179**	*e*PN	**Pn**	**09 06 42.9**	**-0.2**
VYHS				*e*SN	**Sn**	**09 07 05.9**	**-0.6**

*GCG **22** 09:25:08.9±0.6, 13°.38N×90°.98W, h13km±39km, MD3.8*
*SNET **22** 09:25:11.3±1.6, 13°.50N×90°.76W, h19km±11km, ML2.8*

ISC 22 09:25:08.2±2.8, 13°.4N±0°.1×90°.93W±0°.10, h19km±7km, n11, σ0°49/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.90**	**31**	*e*P	**Pn**	**09 25 26.2**	**+0.2**
IXG				*e*S	**Sn**	**09 25 38.6**	**+0.1**
IXG	**Ixpaco**	**0.90**	**31**	*e*P	**Pb**	**09 25 25.3**	**0.0**
FUG	**Fuego 3**	**1.04**	**4**	*e*P	**Pg**	**09 25 28.5**	**-0.1**
FUG				*e*S	**Sn**	**09 25 42.7**	**+0.6**
RTR	**El Retiro**	**1.34**	**68**	*e*P	**Pn**	**09 25 32.0**	**0.0**
SBLS	**San Blas**	**1.34**	**71**	*e*P	**Pn**	**09 25 31.8**	**-0.3**
SNJE	**San Jose**	**1.36**	**70**	*e*P	**Pn**	**09 25 32.2**	**-0.2**
STG3	**Santiaguito 3,**	**1.45**	**334**	*e*P	**Pn**	**09 25 33.4**	**-0.1**
STG3				*e*S	**Sn**	**09 25 52.2**	**+0.1**
UEES	**Universidad Ev**	**1.67**	**79**	*e*P	**Pn**	**09 25 37.0**	**+0.5**
UEES				*e*S	**Sn**	**09 25 56.9**	**-0.5**
UEES				IAML		09 26 02.6	
	comp=Z,138nm,0.2s						
SNET	**Serv Nac Est T**	**1.67**	**80**	*e*P	**Pn**	**09 25 37.0**	**+0.5**
SNET				*e*S	**Sn**	**09 25 56.9**	**-0.6**
SNET				IAML		09 26 01.2	
	comp=Z,127nm,0.2s						
COEG	**Centro de Oper**	**2.00**	**84**	*e*P	**Pb**	**09 25 43.4**	**-0.6**
COEG				*e*S	**Sn**	**09 26 06.1**	**+0.5**
COEG				IAML		09 26 13.6	
	comp=Z,81nm,0.4s						
COEB	**Comit de Eme**	**2.33**	**87**	*e*P	**Pn**	**09 25 46.7**	**+1.0**
COEB				*e*S	**Sn**	**09 26 14.1**	**+0.3**
COEB				IAML		09 26 20.0	
	comp=Z,42nm,0.3s						

*JMA **22** 09:29:46.7±0.1, 23°.55N×121°.52E, h35km±2km, M2.8*
*ISCJB **22** 09:29:47.4±0.3, 23°.56N±0°.02×121°.58E±0°.02, h30km±2km, Error ellipse: s-maj=3.3km s-min=2.1km az=43.4*
*TAP **22** 09:29:47.3, 23°.56N×121°.55E, h33km, ML2.9, C*

ISC 22 09:29:47.3±0.9, 23°.56N±0°.02×121°.57E±0°.02, h33km±5km, n62, σ0°74/110, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.15**	**245**	P	**Pb**	**09 29 53.9**	**+0.6**
	baz=239						
EGFH	**Guangfu**	**0.17**	**310**	P	**Pb**	**09 29 53.6**	**+0.1**
	baz=301						
EGFH				S	**Sb**	**09 29 58.0**	**+0.1**
	baz=301						
EHY	**Hungye**	**0.23**	**258**	*i* P	**Pb**	**09 29 53.8**	**-0.4**
	baz=264						
EHY				S	**Sb**	**09 29 58.4**	**-0.5**
	baz=264						
ESL	**Shilin**	**0.29**	**334**	P	**Pn**	**09 29 54.4**	**-0.8**
	baz=329						
ESL				S	**Sb**	**09 29 59.2**	**-0.8**
	baz=329						
YULB	**Yu-li**	**0.30**	**237**	P	**Pb**	**09 29 54.8**	**-0.2**
	baz=244						
YULB				S	**Sb**	**09 30 00.0**	**-0.3**
	baz=244						
TWF1	**Yuli**	**0.33**	**231**	⇑*i* P	**Pn**	**09 29 55.2**	**-0.6**
	baz=237						
HWA	**Hwalien**	**0.42**	**4**	*e*P	**Pn**	**09 29 57.5**	**+0.5**
	baz=18						
HWA				*e*S	**Sn**	**09 30 04.8**	**+1.1**
	baz=18						
VWDT	**VWDT**	**0.44**	**296**	P	**Pn**	**09 29 56.9**	**-0.4**
	baz=296						
VWDT				S	**Sn**	**09 30 03.5**	**-0.7**
	baz=296						
TWD	**Chiawan**	**0.52**	**2**	P	**Pb**	**09 29 57.9**	**-0.3**
	baz=354						
TWD				*e*S	**Sn**	**09 30 06.0**	**-0.2**
	baz=354						
OWD	**Renai**	**0.54**	**318**	*e*P	**Pn**	**09 29 58.3**	**-0.5**
	baz=325						
YUS	**Yu-Shan**	**0.57**	**263**	P	**Pn**	**09 29 59.2**	**-0.4**
	baz=269						
YUS				S	**Sn**	**09 30 07.3**	**-0.9**
	baz=269						
SSLB	**Suanglung**	**0.61**	**292**	P	**Pb**	**09 29 59.1**	**-0.5**
	baz=292						
SSLB				S	**Sn**	**09 30 07.4**	**-1.1**
	baz=292						
NACB	**Ninganchiao**	**0.61**	**2**	P	**Pn**	**09 29 58.7**	**-1.0**
	baz=355						
NACB

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
	baz=236						
TWGBT	**Beinan**	**0.86**	**212**	P	**Pn**	**09 30 02.4**	**-0.8**
	baz=197						
TWG	**Pinlang**	**0.86**	**212**	P	**Pn**	**09 30 02.2**	**-1.0**
	baz=197						
WNT	**Mingjian**	**0.88**	**292**	P	**Pb**	**09 30 04.9**	**+0.9**
	baz=291						
WNT				S	**Sb**	**09 30 16.4**	**+1.0**
	baz=291						
ENA	**Nanau**	**0.88**	**10**	P	**Pn**	**09 30 03.2**	**-0.2**
	baz=1.0						
ENA				*e*S	**Sb**	**09 30 15.5**	**-0.1**
	baz=1.0						
NNSB	**Datong**	**0.89**	**349**	P	**Pn**	**09 30 03.4**	**-0.1**
	baz=1.0						
NNSB				S	**Sn**	**09 30 14.5**	**-0.9**
	baz=1.0						
NNS	**Nan Shan**	**0.90**	**348**	P	**Pn**	**09 30 03.5**	**-0.2**
	baz=1.0						
NNS				S	**Sn**	**09 30 14.8**	**-0.9**
	baz=1.0						
TPUB	**Ta-pu**	**0.90**	**254**	P	**Pb**	**09 30 04.7**	**+0.2**
	baz=252						
TPUB				S	**Sb**	**09 30 16.6**	**+0.4**
	baz=252						
SLGT	**Liugui**	**1.02**	**237**	P	**Pb**	**09 30 06.4**	**-0.1**
	baz=233						
SLGT				S	**Sb**	**09 30 20.2**	**+0.7**
	baz=233						
SGST	**Jiashian**	**1.02**	**243**	P	**Pb**	**09 30 06.1**	**-0.4**
	baz=241						
SGST				S	**Sb**	**09 30 20.2**	**+0.5**
	baz=241						
TWK	**Hsinying**	**1.04**	**254**	*i* P	**Pb**	**09 30 06.7**	**-0.1**
	baz=252						
TWK				S	**Sb**	**09 30 21.0**	**+0.9**
	baz=252						
ENTT	**Nioudou**	**1.08**	**360**	P	**Pn**	**09 30 06.2**	**+0.1**
	baz=3.0						
EOS1	**EOS1**	**1.11**	**27**	*e*P	**Pb**	**09 30 07.2**	**-0.7**
	baz=46						
EOS1				*e*S	**Sb**	**09 30 22.7**	**+0.6**
	baz=46						
YHNB	**Yeheng**	**1.12**	**351**	P	**Pn**	**09 30 07.1**	**+0.3**
	baz=4.0						
YHNB				S	**Sn**	**09 30 21.1**	**-0.1**
	baz=4.0						
NSK	**Sanguang**	**1.13**	**350**	*i* P	**Pb**	**09 30 07.4**	**-1.0**
	baz=353						
NSK				S	**Sn**	**09 30 21.4**	**0.0**
	baz=353						
NSY	**Sanyi**	**1.13**	**319**	P	**Pb**	**09 30 08.9**	**+0.6**
	baz=320						
RLNB	**Erlin**	**1.16**	**287**	*e*P	**Pb**	**09 30 08.6**	**-0.2**
	baz=276						
RLNB				*e*S	**Sb**	**09 30 24.3**	**+0.7**
	baz=276						
NWLT	**Wulai**	**1.22**	**357**	P	**Pb**	**09 30 09.1**	**-0.7**
	baz=359						
NWLT				*e*S	**Sn**	**09 30 23.5**	**+0.1**
	baz=359						
MASBT	**Mashibuluo**	**1.28**	**223**	*e*P	**Pb**	**09 30 10.7**	**-0.1**
	baz=220						
EAST	**Anshuo**	**1.35**	**210**	*e*P	**Pn**	**09 30 09.4**	**-0.4**
	baz=198						
EAST				*e*S	**Sn**	**09 30 25.5**	**-1.1**
	baz=198						
SSPT	**Xinbi**	**1.41**	**221**	*e*P	**Pb**	**09 30 12.1**	**-1.0**
	baz=217						
SCZT	**Fangliau**	**1.47**	**217**	*e*P	**Pb**	**09 30 13.2**	**-0.8**
	baz=199						
SCZT				*e*S	**Sb**	**09 30 31.8**	**-0.6**
	baz=199						
WFSB	**Wu-fen Shan**	**1.52**	**7**	*e*P	**Pb**	**09 30 13.6**	**-1.3**
	baz=12						
WFSB				*e*S	**Sb**	**09 30 32.6**	**-1.2**
	baz=12						
JYNG	**Yonagunijimaku**	**1.54**	**54**	P	**Pb**	**09 30 14.0**	**-1.2**
JYNG				*e*S	**Sb**	**09 30 33.3**	**-1.0**
TWS1	**Kuangyinshan**	**1.54**	**355**	*e*S	**Sb**	**09 30 34.3**	**-0.2**
	baz=10.0						
YM01	**YM01**	**1.58**	**360**	*e*P	**Pb**	**09 30 14.4**	**-1.5**
	baz=4.0						
YM01				*e*S	**Sn**	**09 30 33.2**	**+0.7**
	baz=4.0						
YOJ	**Yonaguni jima**	**1.59**	**55**	*e*P	**Pn**	**09 30 13.6**	**+0.4**
	baz=60						
YOJ				*e*S	**Sn**	**09 30 34.6**	**+1.9**
	baz=60						
YM08	**YM08**	**1.62**	**1**	*e*S	**Sn**	**09 30 34.5**	**+1.0**
	baz=5.0						
PHUB	**P'eng-hu**	**1.84**	**269**	P	**Pn**	**09 30 17.2**	**+0.7**
	baz=268						
PHUB				S	**Sn**	**09 30 38.9**	**+0.2**
	baz=268						
PNG	**Penghu**	**1.85**	**271**	P	**Pn**	**09 30 17.6**	**+0.9**
	baz=270						
PNG				S	**Sn**	**09 30 39.6**	**+0.6**
	baz=270						
VCHM	**Qimei**	**2.00**	**260**	*e*P	**Pn**	**09 30 19.2**	**+0.5**
	baz=260						
VCHM				S	**Sn**	**09 30 42.9**	**+0.2**
	baz=260						
HATJ	**Hateruma jima**	**2.10**	**76**	P	**Pn**	**09 30 20.5**	**+0.3**
HATJ				*e*S	**Sn**	**09 30 46.4**	**+1.1**
JKRS	**Kuro-shima**	**2.33**	**73**	P	**Pn**	**09 30 23.8**	**+0.5**
JKRS				*e*S	**Sn**	**09 30 52.3**	**+1.4**
VWUC	**VWUC**	**2.41**	**307**	P	**Pn**	**09 30 24.8**	**+0.5**
	baz=306						
VWUC				*e*S	**Sn**	**09 30 53.9**	**+1.2**
	baz=306						
JIJ	**Ishigaki jima**	**2.48**	**71**	P	**Pn**	**09 30 27.1**	**+1.6**
JIJ				S	**Sn**	**09 30 55.4**	**+0.7**
PTMZ	**Houxiangcun**	**2.68**	**304**	*e*P	**Pn**	**09 30 29.2**	**+1.1**
	baz=304						
JISG	**Ishigakijimahi**	**2.71**	**67**	P	**Pn**	**09 30 29.9**	**+1.4**
JISG				*e*S	**Sn**	**09 31 00.1**	**0.0**
MATB	**Ma-tsu**	**2.98**	**331**	*e*S	**Sn**	**09 31 07.7**	**+0.9**
	baz=330						
AXDP	**Jialang**	**3.55**	**293**	*e*P	**Pn**	**09 30 40.7**	**+0.6**
	baz=291						
AXDP				*e*S	**Sn**	**09 31 21.4**	**+0.4**
	baz=291						

GCMT ***22*** *09:40:24.0±0.3, 24°.41S±0°.02×115°.74W±0°.02, h20km±1km, MW4.9/72, Moment Tensor Solution. s22,c24; s72,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.12±.12; Mθθ-1.83±.11; Mφφ 1.71±.10; Mrθ-0.86±.21; Mφφ 1.53±.08; Mφr-0.13±.18; Best double couple: M=2.49000×10^16 NP1:φs65.00000°, δ87.00000°, λ-19.00000°. NP2: φs156.00000°, δ71.00000°, λ-177.00000°. Principal axes: T 2.3640, Plg11.0000°, Azm112.0000°; N 0.2530, Plg70.0000°, Azm236.0000°; P -2.6160, Plg16.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 22 09:40:20.8±1.3, 24°.12S×115°.43W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/25, mbtmp3.8/2, MS3.8/9, Ms1 3.7/9, ms1mx3.6/16 Error ellipse: s-maj=68.2km s-min=39.4km az=10.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAOE	**Nuku Hiva Isla**	**28.07**	**299**	*e*LR	LR	09 53 08.9	
	comp=Z,791nm,26.6s						
TBI	**Tubuai**	**31.12**	**264**	*e*LQ	LQ	09 53 17.7	
	161nm,28.0s						
TBI				*e*LR	LR	09 54 33.0	
	comp=Z,337nm,27.5s,baz=94						
PPT2	**Papeete2**	**32.51**	**275**	*e*S	S	09 51 52.3	-18
	70nm,26.8s						
PPT2				*e*LQ	LQ	09 53 51.3	
	290nm,25.2s						
PPT2				*e*LR	LR	09 55 06.4	
	comp=Z,469nm,28.2s,baz=100						
PPT	**Papeete**	**32.51**	**275**	LR	LR	09 57 13.6	
	comp=Z,109nm,18.1s,baz=124,slow=31						
PLCA	**Paso Flores**	**40.87**	**125**	LR	LR	10 00 44.6	
	comp=Z,287nm,21.9s,baz=304,slow=30						
LPAZ	**La Paz**	**44.90**	**89**	P	P	09 48 38.0	-0.3
	2.5nm,0.9s,baz=288,slow=5.3,SNR=6.1						
LPAZ				LR	LR	10 03 43.4	
	comp=Z,117nm,20.7s,baz=67,slow=31						
CPUP	**Villa Florida**	**52.23**	**105**	LR	LR	10 08 13.5	
	comp=Z,74nm,18.6s,baz=194,slow=32						
NVAR	**Mina Array Bea**	**62.28**	**357**	LR	LR	10 11 14.0	
	comp=Z,84nm,19.3s,baz=256,slow=30						
BDFB	**Brasilia**	**63.45**	**96**	LR	LR	10 14 57.4	
	comp=Z,65nm,18.2s,baz=243,slow=33						
PDAR	**Pinedale Array**	**66.77**	**5**	P	P	09 51 14.4	+0.2
	0.4nm,0.7s,baz=145,slow=5.4,SNR=3.5						
DZM	**Mont Dzumac**	**70.96**	**254**	*e*LR	LR	10 13 04.9	
	comp=Z,139nm,25.9s						
H11S2	**WAKE ISLAND Hy**	**86.89**	**292**	T	T	11 28 53.2	
	baz=118,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**86.91**	**292**	T	T	11 28 53.1	
	baz=118,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	**86.91**	**292**	T	T	11 28 53.2	
	baz=118,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**87.27**	**293**	T	T	11 29 29.8	
	baz=114,slow=78,SNR=14						
H11N1	**WAKE ISLAND Hy**	**87.28**	**293**	T	T	11 29 31.5	
	baz=114,slow=78,SNR=11						
H11N2	**WAKE ISLAND Hy**	**87.28**	**293**	T	T	11 29 32.1	
	baz=114,slow=78,SNR=18						
MAW	**Mawson**	**88.55**	**179**	LR	LR	10 29 14.8	
	comp=Z,61nm,19.0s,baz=236,slow=33						
SCHQ	**Schefferville**	**88.96**	**26**	LR	LR	10 31 32.9	
	comp=Z,24nm,20.3s,baz=358,slow=34						
WRA	**Warramunga Arr**	**99.17**	**243**	LR	LR	10 35 08.1	
	comp=Z,14nm,19.1s,baz=90,slow=33						
ZALV	**Zalesovo Beam**	**146.56**	**338**	PKPbc	PKPdf	10 00 03.0	+0.6
	0.7nm,0.4s,baz=40,slow=4.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**147.53**	**267**	PKPbc	PKPbc	10 00 07.3	-0.5
	0.7nm,0.3s,baz=116,slow=2.1,SNR=3.5						
BRTR	**Keskin Array B**	**149.67**	**52**	PKPbc	PKPbc	10 00 12.9	+0.1
	0.2nm,0.4s,baz=279,slow=3.9,SNR=2.3						
BVAR	**Borovoye Array**	**150.80**	**353**	PKPbc	PKPbc	10 00 14.6	-0.3
	0.4nm,0.5s,baz=29,slow=2.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**151.41**	**341**	PKPbc	PKPbc	10 00 15.2	-1.2
	0.5nm,0.5s,baz=26,slow=1.4,SNR=4.2						
MKAR	**Makanchi Array**	**153.28**	**332**	PKPbc	PKPbc	10 00 20.7	-0.1
	0.2nm,0.5s,baz=48,slow=2.1,SNR=3.4						

ISCJB ***22*** *09:46:42.3±0.4, 19°.60S±0°.07×172°.90W±0°.05, h26km, mb4.2/7, MS3.5/1, Error ellipse: s-maj=10.0km s-min=6.2km az=158.2*

NEIC ***22*** *09:46:42.2±2.8, 19°.59S±0°.10×172°.95W±0°.09, h10km±1km, mb4.6/21*

IDC ***22*** *09:46:44.3±1.1, 19°.56S×173°.44W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/25, mbtmp4.2/9, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=40.6km s-min=20.3km az=136.0*

ISC 22 09:46:45.0±0.5, 19°.67S±0°.08×172°.89W±0°.06, h26km, n39, σ1§55/41, mb4.6/17, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.86**	**79**		**Pn**	**09 47 29.0**	**0.0**
NIUE				Sn	**Sn**	**09 48 00.3**	**-2.3**
AFI	**Afiamalu**	**5.83**	**11**	Pn	**Pn**	**09 48 07.5**	**-2.4**
	4.6nm,0.3s,baz=107,slow=20,SNR=9.5						
AFI				Sn	Sn	09 49 05.9	-10
	2.6nm,0.3s,baz=150,slow=20,SNR=2.1						
AFI	**Afiamalu**	**5.83**	**11**		**Pn**	**09 48 08.0**	**-1.9**
AFI					**Sn**	**09 49 16.4**	**+0.4**
RAR	**Rarotonga**	**12.39**	**99**	Pn	**Pn**	**09 49 40.1**	**+0.3**
	5.5nm,0.3s,baz=257,slow=10,SNR=14						
RAR				LR	LR	09 53 55.6	
	comp=Z,126nm,20.9s,baz=267,slow=33						
RAR	**Rarotonga**	**12.39**	**99**		**Pn**	**09 49 39.9**	**0.0**
DZM	**Mont Dzumac**	**19.46**	**259**	P	**P**	**09 51 09.2**	**-0.8**
	0.9nm,0.3s,baz=90,slow=20,SNR=16						
DZM	**Mont Dzumac**	**19.46**	**259**	P	**P**	**09 51 10.3**	**+0.4**
URZ	**Urewera**	**20.46**	**203**	P	Pn	09 51 24.0	+1.2
	4.3nm,0.4s,baz=292,slow=2.2,SNR=10						
BKZ	**Black Stump Fm**	**21.48**	**203**	P	**P**	**09 51 32.5**	**+0.7**
QRZ	**Quartz Range**	**24.49**	**207**	P	**P**	**09 52 03.1**	**+1.0**
THZ	**Tophouse**	**25.11**	**206**	P	**P**	**09 52 05.8**	**-2.0**
THZ				IAmb	IAmb	09 52 09.9	
	comp=Z,31nm,1.5s						
HNR	**Honiara**	**28.15**	**287**	P	**P**	**09 52 36.0**	**+0.7**
ARMA	**Armidale**	**33.75**	**244**	P	**P**	**09 53 24.8**	**0.0**
ARMA				IAmb	IAmb	09 53 25.2	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**42.35**	**271**	P	**P**	**09 54 36.1**	**-1.2**
COEN				IAmb	IAmb	09 54 48.1	
	comp=Z,6.2nm,0.8s						
STKA	**Stephens Creek**	**42.47**	**244**	P	**P**	**09 54 36.9**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=85,slow=9.1,SNR=5.8						
STKA				LR	LR	10 10 47.9	
	comp=Z,66nm,19.0s,baz=21,slow=34						
STKA	**Stephens Creek**	**42.47**	**244**	P	**P**	**09 54 37.5**	**-0.5**
BBOO	**Buckleboo**	**47.21**	**243**	P	**P**	**09 55 15.3**	**-0.5**
BBOO				IAmb	IAmb	09 55 26.0	
	comp=Z,9.1nm,1.1s						
AS31	**Alice Springs**	**49.38**	**255**	P	**P**	**09 55 32.1**	**-0.6**
ASAR	**Alice Springs**	**49.38**	**255**	P	**P**	**09 55 31.9**	**-0.9**
	comp=Z,9.5nm,0.9s,baz=88,slow=8.5,SNR=63						
ASAR				PcP	**PcP**	**09 56 57.1**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=94,slow=5.0,SNR=2.5						
ASAR	**Alice Springs**	**49.38**	**255**	P	**P**	**09 55 30.8**	**-2.0**
WB0	**Warramunga Arr**	**49.45**	**260**	P	**P**	**09 55 31.7**	**-1.6**
WB0				IAmb	IAmb	09 55 43.3	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**49.46**	**260**	P	**P**	**09 55 31.6**	**-1.8**
WB2				IAmb	IAmb	09 55 35.9	
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**49.46**	**260**	P	**P**	**09 55 31.7**	**-1.8**
WRAB				IAmb	IAmb	09 55 32.8	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**49.47**	**260**	P	**P**	**09 55 31.6**	**-1.9**
	comp=Z,1.9nm,0.4s,baz=98,slow=8.0,SNR=48						
WRA				PcP	**PcP**	**09 56 57.8**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=90,slow=3.2,SNR=2.4						
WRA	**Warramunga Arr**	**49.47**	**260**	P	**P**	**09 55 31.7**	**-1.9**
MTN	**Manton Dam**	**53.97**	**268**	P	**P**	**09 56 06.2**	**-1.0**
KNRA	**Kununurra**	**55.51**	**264**	P	**P**	**09 56 17.8**	**-0.4**
KNRA				IAmb	IAmb	09 56 19.4	
	comp=Z,8.4nm,0.8s						
FAKI	**Fak Fak**	**56.04**	**280**	P	**P**	**09 56 21.3**	**-0.8**
FAKI				IAmb	IAmb	09 56 26.0	
	comp=Z,4.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.90**	**261**	P	**P**	**09 56 35.2**	**0.0**
FITZ				IAmb	IAmb	09 56 38.8	
	comp=Z,8.3nm,1.4s						
PSA00	**Pilbara Seismi**	**62.52**	**255**	P	**P**	**09 57 07.4**	**+0.5**
QSPA	**South Pole Qui**	**70.39**	**180**	P	**P**	**09 57 55.5**	**-1.2**
MJAR	**Matsushiro Arr**	**72.51**	**320**	P	**P**	**09 58 11.0**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=128,slow=6.8,SNR=3.4						
PETK	**Petropavlovsk-**	**76.83**	**342**	P	**P**	**09 58 37.7**	**+3.4**
	comp=Z,4.2nm,1.0s,baz=97,slow=8.5,SNR=4.7						
TXAR	**Lajitas Array**	**82.60**	**55**	P	P	09 59 11.5	+5.2
	comp=Z,0.7nm,0.9s,baz=224,slow=6.3,SNR=5.1						
KNK	**Knik Glacier**	**83.15**	**12**	P	**P**	**09 59 05.5**	**-2.8**
ILAR	**Eielson Array**	**86.53**	**11**	P	**P**	**09 59 28.1**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=225,slow=6.0,SNR=14						
CLL	**Collm**	**148.09**	**353**	*e*PKPbc	**PKPbc**	**10 06 28.0**	**-0.2**
BRTR	**Keskin Array B**	**149.68**	**317**	PKPbc	**PKiKP**	**10 06 35.0**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=93,slow=2.5,SNR=5.9						
GERES	**GERESS Array B**	**150.41**	**351**	PKPbc	**PKiKP**	**10 06 36.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=11,slow=6.2,SNR=2.5						

ISN ***22*** *10:00:46.2±1.2, 34°.45N×45°.57E, h33km±6km, ML3.1*

ISCJB ***22*** *10:00:47.4±0.8, 34°.42N±0°.04×45°.45E±0°.04, h17km±9km, Error ellipse: s-maj=6.7km s-min=4.8km az=20.0*

TEH ***22*** *10:00:47.2, 34°.35N×45°.57E, h9km, ML3.0*

ISC 22 10:00:45.8±1.6, 34°.40N±0°.04×45°.48E±0°.03, h6km±13km, n20, σ1§12/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.81**	**68**	IAMB	IAmb	10 01 03.1	
	comp=Z,0.0nm,0.2s						
IDHR				*e*Pg	**Pb**	**10 01 01.5**	**-0.9**
IGHG	**Ghaleghazi**	**0.91**	**94**	*e*Sg	**Sb**	**10 01 16.3**	**-0.1**
IGHG				*e*Pg	**Pb**	**10 01 03.3**	**-0.7**
IGHG				IAMB	IAmb	10 01 18.6	
	comp=Z,7μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.30**	**95**	*e*Pg	**Pn**	**10 01 10.6**	**-0.1**
KCHF				*e*Sg	**Sn**	**10 01 27.8**	**-0.7**
KCHF				IAMB	IAmb	10 01 31.2	
	comp=Z,0.0nm,0.6s						
ILIN	**Lien**	**1.33**	**66**	*e*Pg	**Pn**	**10 01 11.9**	**+0.7**
ILIN				IAMB	IAmb	10 01 12.8	
	comp=Z,3μm,0.2s						
IBDR	**Badra**	**1.34**	**163**	*e*Pg	**Pn**	**10 01 10.6**	**-0.4**
IBDR				AML	AML	10 01 13.0	
	comp=Z,184nm,0.3s						
IBDR				*e*Sg	**Sb**	**10 01 29.0**	**+0.4**
KER	**Kermanshah**	**1.37**	**90**	*e*Pg	**Pb**	**10 01 12.1**	**+0.2**
KER				*e*Sg	**Sn**	**10 01 30.8**	**+0.7**
IKRK	**Kirkuk**	**1.37**	**317**	*e*Pg	**Pb**	**10 01 11.5**	**-0.4**
IKRK				AML	AML	10 01 15.2	
	comp=Z,111nm,0.3s						
IKRK				*e*Sg	**Sn**	**10 01 30.0**	**0.0**
BHD	**Baghdad**	**1.45**	**219**	*e*Pn	**Pg**	**10 01 14.0**	**+0.5**
BHD				AML	AML	10 01 16.1	
	comp=Z,6μm,0.6s						
BHD				*e*Sn	**Sn**	**10 01 33.0**	**+1.2**
IKOM	**Komasi**	**1.70**	**97**	*e*Pn	**Pg**	**10 01 17.9**	**-0.4**
IKOM				IAMB	IAmb	10 01 47.9	
	comp=Z,0.0nm,0.4s						
IBZA	**Bozab**	**1.97**	**87**	*e*Pn	**Pb**	**10 01 22.1**	**-0.1**
IKFM	**Kafar-mosalman**	**2.15**	**113**	*e*Pn	**Pb**	**10 01 24.2**	**-0.9**
IKFM				IAMB	IAmb	10 02 04.3	
	comp=Z,0.0nm,0.5s						
IDOB	**Doab**	**2.32**	**104**	*e*Pn	**Pn**	**10 01 25.9**	**+1.2**
MAHB	**Mahabad**	**2.37**	**4**	*e*Pn	**Pb**	**10 01 29.2**	**+0.2**
MAHB				IAMB	IAmb	10 02 03.0	
	comp=Z,0.0nm,0.4s						
HSAM	**Samen**	**2.59**	**93**	*e*Pn	**Pb**	**10 01 30.6**	**-2.2**
HSAM				IAMB	IAmb	10 01 35.3	
	comp=Z,0.0nm,0.6s						
MSL	**Mosul**	**2.78**	**317**	*e*Pn	**Pn**	**10 01 31.0**	**+0.1**
MSL				AML	AML	10 01 36.9	
MSL				AML	AML	10 01 43.7	
	comp=N,190nm,0.2s						
MSL				*e*Sn	**Sn**	**10 02 03.0**	**-1.8**
BDRS	**Dareh Seyedi**	**2.85**	**98**	*e*Pn	**Pn**	**10 01 32.8**	**+0.6**
BDRS				IAMB	IAmb	10 01 39.8	
	comp=Z,0.0nm,0.3s						
BMDN	**Meydan**	**2.87**	**104**	*e*Pn	**Pn**	**10 01 33.5**	**+1.2**
BMDN				IAMB	IAmb	10 02 34.8	
	comp=Z,0.0nm,1.0s						
HAGD	**Aghdareh**	**3.05**	**81**	*e*Pn	**Pn**	**10 01 36.3**	**+1.5**
HAGD				IAMB	IAmb	10 01 42.7	
	comp=Z,0.0nm,0.3s						
RTB	**Rutbah**	**4.52**	**254**	*e*Pn	**Pn**	**10 01 56.5**	**+1.7**
RTB				AML	AML	10 02 06.3	
	comp=Z,30nm,0.5s						
RTB				*e*Sn	**Sn**	**10 02 46.0**	**-1.7**
IKLH	**Kolahrood**	**5.19**	**100**	*e*Pn	**Pn**	**10 02 06.3**	**+2.1**

IDC ***22*** *10:09:57.2±0.9, 34°.48N×45°.48E, h0km, mb3.8/10, mb1 3.9/16, mb1mx3.7/54, mbtmp3.8/16, ML3.4/5, MS3.0/1, Ms1 3.0/1, ms1mx2.2/39, Error ellipse: s-maj=22.1km s-min=12.4km az=164.0*

NEIC ***22*** *10:09:58.7±2.5, 34°.43N±0°.06×45°.38E±0°.04, h6km±4km, mb4.2/16, mb_Lg4.0(TEH), ML3.9(THR)*

TEH ***22*** *10:09:59.2, 34°.45N×45°.46E, h12km, ML4.0*

ISN ***22*** *10:09:59.7±1.0, 34°.46N×45°.57E, h17km±7km, ML4.0*

THR ***22*** *10:10:01.1, 34°.46N×45°.51E, h18km, ML3.9*

AZER ***22*** *10:10:02.2±3.4, 34°.72N×45°.12E, h3km, ml3.8/8, Error ellipse: s-maj=30.8km s-min=23.2km az=72.0*

ISC 22 10:09:59.7±1.1, 34°.46N±0°.03×45°.46E±0°.02, h15km±7km, n128, σ1§88/147, mb4.1/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.80**	**72**	*e*Pg	**Pg**	**10 10 14.8**	**-0.6**
IDHR				*e*Sg	**Sb**	**10 10 27.0**	**+0.7**
IDHR				IAMB	IAmb	10 10 28.5	
	comp=Z,0.0nm,0.6s						
IDHR	**Dehrash**	**0.80**	**72**	Pg	**Pg**	**10 10 14.8**	**-0.6**
IDHR				Sg	**Sb**	**10 10 26.7**	**+0.4**
IGHG	**Ghaleghazi**	**0.93**	**98**	*e*Pg	**Pb**	**10 10 17.7**	**+0.1**
IGHG				*e*Sg	**Sn**	**10 10 31.4**	**-0.2**
IGHG				IAMB	IAmb	10 10 34.2	
	comp=Z,63μm,0.6s						
IGHG	**Ghaleghazi**	**0.93**	**98**	Pg	**Pb**	**10 10 17.7**	**+0.1**
IKRK	**Kirkuk**	**1.31**	**316**	AML	AML	10 10 26.4	
	comp=Z,15μm,0.6s						
IKRK				*e*Sg	**Sg**	**10 10 44.0**	**+1.8**
KCHF	**Cheshme Sefid,**	**1.32**	**97**	*e*Pg	**Pg**	**10 10 24.8**	**-0.4**
KCHF				*e*Sg	**Sg**	**10 10 43.7**	**+1.3**
KCHF				IAMB	IAmb	10 10 47.3	
	comp=Z,0.0nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.32**	**97**	Pn	**Pg**	**10 10 24.7**	**-0.4**
ILIN	**Lien**	**1.32**	**69**	*e*Pg	**Pb**	**10 10 24.3**	**-0.1**
ILIN				IAMB	IAmb	10 10 28.9	
	comp=Z,20μm,0.2s						
ILIN				*e*Sg	**Sg**	**10 10 43.9**	**+1.4**
ILIN	**Lien**	**1.32**	**69**	Pn	**Pg**	**10 10 24.6**	**-0.6**
KER	**Kermanshah**	**1.39**	**92**	*e*Pg	**Pg**	**10 10 26.3**	**-0.1**
KER				*e*Sg	**Sg**	**10 10 45.9**	**+1.4**
KER	**Kermanshah**	**1.39**	**92**	Pn	**Pg**	**10 10 26.4**	**0.0**
IBDR	**Badra**	**1.40**	**164**	*e*Pn	**Pg**	**10 10 26.0**	**-0.6**
IBDR				AML	AML	10 10 33.7	
	comp=Z,630nm,0.6s						
IBDR				*e*Sn	**Sg**	**10 10 46.0**	**+1.2**
BHD	**Baghdad**	**1.48**	**217**	*e*Pn	**Pg**	**10 10 27.5**	**-0.8**
BHD				*e*Sn	**Sg**	**10 10 49.0**	**+1.4**
IKOM	**Komasi**	**1.72**	**99**	*e*Pn	**Pg**	**10 10 31.9**	**-0.9**
IKOM				IAMB	IAmb	10 11 03.2	
	comp=Z,0.0nm,0.5s						
IKOM	**Komasi**	**1.72**	**99**	Pn	**Pg**	**10 10 32.0**	**-0.9**
IBZA	**Bozab**	**1.99**	**89**	*e*Pn	**Pb**	**10 10 35.3**	**-0.4**
IBZA	**Bozab**	**1.99**	**89**	Pn	**Pb**	**10 10 35.4**	**-0.3**

IQOM	Qom	4.64	84	ePn	Pn	10 11 11.8	+2.3
QALM	Alamut, Qazvin	4.67	64	ePn	Pn	10 11 12.1	+2.2
NAX	Nakhchivan	4.71	0	ePn	Pn	10 11 11.6	+1.4
NAX	Nakhchivan	4.71	0	P	Pn	10 11 11.7	+1.4
NAX				S	Sn	10 12 04.7	0.0
LRK	Lerik	4.78	28	ePn	Pn	10 11 14.1	+2.8
LRK	Lerik	4.78	28	P	Pn	10 11 14.1	+2.8
	SNR=7.9						
LRK				S	Sn	10 12 09.0	+2.4
GHVR	GHOM	4.82	88	ePn	Pn	10 11 13.8	+2.0
GHVR	GHOM	4.82	88	ePn	Pn	10 11 13.8	+2.0
GHVR	GHOM	4.82	88	Pn	Pn	10 11 13.0	+1.2
CHTH	Charan	4.86	71	ePn	Pn	10 11 15.2	+2.6
CHTH	Charan	4.86	71	ePn	Pn	10 11 15.2	+2.6
CHTH	Charan	4.86	71	Pn	Pn	10 11 15.0	+2.4
IPIR	Pirpir	4.87	110	ePn	Pn	10 11 13.8	+1.1
JHBN	Jahan bin	4.89	116	ePn	Pn	10 11 13.7	+0.7
JHBN				IAMB	IAmb	10 12 19.9	
	comp=Z,0.0nm,0.3s						
ASTR	Astara	4.90	32	ePn	Pn	10 11 13.8	+1.0
ASTR	Astara	4.90	32	P	Pn	10 11 14.3	+1.5
	SNR=3.4						
ASTR				S	Sn	10 12 11.8	+2.7
SBZ	Shahbuz	4.93	1	P	Pn	10 11 14.2	+0.9
SBZ				S	Sn	10 12 10.0	-0.2
YRD	Yardimli	4.98	26	P	Pn	10 11 17.2	+3.1
	SNR=3.8						
YRD				S	Sn	10 12 13.8	+2.3
QAM	Ghamsar	5.01	96	ePn	Pn	10 11 16.9	+2.3
LKRN	Lenkeran, Azer	5.02	31	P	Pn	10 11 17.9	+3.5
LKRN				S	Sn	10 12 17.1	+5.1
ZNGN	Zangian	5.09	116	ePn	Pn	10 11 16.7	+1.0
ROKH	ROKH	5.12	113	ePn	Pn	10 11 18.0	+2.0
IVRN	Varamin	5.19	82	ePn	Pn	10 11 18.9	+2.0
IKLH	Kolahrood	5.22	101	ePn	Pn	10 11 19.5	+2.1
GLBA	Ciilabad	5.33	25	ePn	Pn	10 11 20.7	+2.1
GLBA	Ciilabad	5.33	25	P	Pn	10 11 20.7	+2.1
	SNR=3.6						
GLBA				S	Sn	10 12 23.3	+3.6
IBRJ	Brojen	5.49	116	ePn	Pn	10 11 22.7	+1.5
IDMV	Damavand	5.51	76	ePn	Pn	10 11 23.6	+2.1
KRSH	Karshahi	5.55	93	ePn	Pn	10 11 23.9	+1.9
IGAR	Gharneh	5.87	109	ePn	Pn	10 11 27.4	+1.0
IZEF	Zefreh	5.94	103	ePn	Pn	10 11 29.4	+2.1
IFIR	Firoozkooh	6.10	77	ePn	Pn	10 11 31.8	+2.2
ANAR	Anarak	7.00	98	ePn	Pn	10 11 43.1	+1.3
IKAZ	Kazeroun	7.14	129	ePn	Pn	10 11 44.7	+0.7
ASF	Jabal al Asfar	7.52	255	Pn	Pn	10 11 48.8	-0.1
	comp=Z,0.7nm,0.3s,baz=14,slow=2.0,SNR=11						
ASF				Lg	Lg	10 13 55.4	
	comp=Z,0.9nm,0.3s,baz=128,slow=7.2,SNR=3.1						
YZKH	Yazd	7.91	103	ePn	Pn	10 11 57.1	+2.8
YZKH	Yazd	7.91	103	ePn	Pn	10 11 57.1	+2.8
YZKH	Yazd	7.91	103	Pn	Pn	10 11 57.0	+2.8
MMAI	Mount Meron Ar	8.50	263	Pn	Pn	10 12 03.9	+1.6
	baz=76,slow=14,SNR=1.7						
MMAI				Lg	Lg	10 14 25.0	
	comp=Z,2.6nm,0.3s,baz=87,slow=30,SNR=3.4						
EIL	Elat	10.11	245	Pn	Pn	10 12 23.4	-0.9
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=4.6						
EIL				Lg	Lg	10 15 18.9	
	comp=Z,0.5nm,0.3s,baz=85,slow=18,SNR=2.9						
BRTR	Keskin Array B	10.80	303	Pn	Pn	10 12 38.3	+4.3
	comp=Z,0.0nm,0.3s,baz=134,slow=14,SNR=2.6						
UOSS	Minazif	13.30	133	Pn	Pn	10 13 07.4	-0.6
WSAR	Wadi Sarin	16.05	131	Pn	Pn	10 13 42.6	-2.2
	comp=Z,0.8nm,0.3s,baz=307,slow=11,SNR=8.0						
WSAR				Sn	Sn	10 16 27.2	-15
	comp=Z,0.4nm,0.3s,baz=260,slow=6.1,SNR=3.5						
WSAR				LR	LR	10 22 16.3	
	comp=Z,47nm,19.2s,baz=14,slow=46						
ABKAR	Abkulak array	18.26	32	P	P	10 14 12.9	+0.4
ABKAR	Abkulak array	18.26	32	P	P	10 14 13.0	+0.5
AKTO	Aktyubinsk	18.42	26	P	P	10 14 13.5	-0.8
	comp=Z,0.1nm,0.3s,baz=223,slow=3.9,SNR=5.3						
KBL	Kabul	19.44	83	P	P	10 14 25.2	-0.6
KBL				IAmb	IAmb	10 14 36.8	
	comp=Z,10nm,1.2s						
BURAR	Bucovina Array	20.07	317	P	P	10 14 31.1	-1.5
AKASG	Malin Array Be	20.09	329	P	P	10 14 31.2	-1.3
	comp=Z,0.5nm,0.3s,baz=141,slow=11,SNR=3.0						
AKASG	Malin Array Be	20.09	329	P	P	10 14 31.9	-0.6
AKBB	Malin Array Si	20.09	329	P	P	10 14 33.1	+0.6
AKBB				IAmb	IAmb	10 14 38.1	
	comp=Z,6.2nm,1.0s						
BUR08	Bucovina Ar. S	20.10	317	P	P	10 14 33.5	+0.7
BUR08				IAmb	IAmb	10 14 36.0	
	comp=Z,3.7nm,0.8s						
KKAR	Karatay Array	21.30	59	P	P	10 14 46.7	+0.9
SOCY	Socotra	23.49	159	P	P	10 15 05.8	-3.2
SOCY				IAmb	IAmb	10 15 24.7	
	comp=Z,20nm,1.2s						
KURBB	Kurchatov Arra	28.93	46	P	P	10 15 57.2	-0.9
	comp=Z,0.2nm,0.3s,baz=251,slow=9.0,SNR=2.6						
KURK	Kurchatov	29.02	46	P	P	10 15 58.4	-0.4
KURK				IAmb	IAmb	10 16 11.8	
	comp=Z,2.1nm,1.0s						
FIA1	FINESS Array S	29.72	341	P	P	10 16 04.8	-0.2
FIA1				IAmb	IAmb	10 16 08.2	
	comp=Z,10nm,1.1s						
FINES	FINESS Array B	29.72	341	P	P	10 16 04.1	-0.8
	comp=Z,1.2nm,0.4s,baz=153,slow=10,SNR=15						
FINES	FINESS Array B	29.72	341	P	P	10 16 04.7	-0.3
POO	Poona	29.82	115	ex	x	10 15 57.5	
MK31	Makanchi Array	30.27	55	P	P	10 16 11.5	+1.4
MKAR	Makanchi Array	30.27	55	P	P	10 16 10.5	+0.4
	comp=Z,0.5nm,0.6s,baz=256,slow=4.9,SNR=6.1						
MKAR	Makanchi Array	30.27	55	P	P	10 16 11.2	+1.1
BNI	Bardonecchia	31.36	301	P	P	10 16 18.9	-1.0
NB2	NORSAR Subarra	34.47	331	P	P	10 16 46.0	-0.7
	comp=Z,0.5nm,0.7s,baz=125,slow=8.6						
NOA	NORSAR Array B	34.47	331	P	P	10 16 45.4	-1.2
	comp=Z,0.6nm,0.6s,baz=125,slow=8.7,SNR=4.1						
ARCES	ARCESS Array B	36.83	348	P	P	10 17 06.0	-0.8
	comp=Z,1.9nm,0.8s,baz=168,slow=8.3,SNR=14						
ARCES	ARCESS Array B	36.83	348	P	P	10 17 06.8	-0.1
ARE0	ARCESS Array S	36.83	348	P	P	10 17 07.2	+0.4
LSA	Lhasa	38.76	84	P	P	10 17 22.8	-1.3
TOA0	Torodi Ar. Sit	44.88	253	P	P	10 18 14.0	+0.2
TOA0				IAmb	IAmb	10 18 14.6	
	comp=Z,5.0nm,1.4s						
TORD	Torodi Ar. Bea	44.88	253	P	P	10 18 14.2	+0.4
	comp=Z,1.8nm,0.7s,baz=51,slow=7.1,SNR=14						
TORD	Torodi Ar. Bea	44.88	253	P	P	10 18 13.5	-0.3
CM31	Chiang Mai Arr	49.91	94	P	P	10 18 52.7	-0.3
CMAR	Chiang Mai Arr	49.91	94	P	P	10 18 52.2	-0.8
	comp=Z,1.1nm,0.5s,baz=296,slow=9.1,SNR=6.2						
DBIC	Dimbokro	53.90	251	P	P	10 19 23.0	+0.3
DBIC				IAmb	IAmb	10 19 24.6	
	comp=Z,4.2nm,1.1s						
KSRS	Korea Array	64.71	61	P	P	10 20 36.9	-0.3
	comp=Z,0.5nm,0.5s,baz=288,slow=6.4,SNR=3.0						
SEY	Seymchan	67.00	28	P	P	10 20 51.7	+0.1
	comp=Z,3.4nm,1.1s,baz=245,slow=15,SNR=3.2						

*ISN **22** 10:16:25.2±0.9, 34°.34N×45°.54E, h6km±4km, ML3.0*
*TEH **22** 10:16:27.2, 34°.35N×45°.57E, h9km, ML3.0*
ISC 22 10:16:26.6±1.2, 34°.33N±0°.03×45°.51E±0°.03, h4km±11km, n23, σ0s96/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.81	63	ePg	Pg		10 16 41.6	-0.6
IDHR				eSg	Sg		10 16 53.6	+0.8
IDHR				IAMB	IAmb		10 16 55.4	
	comp=Z,0.0nm,0.3s							
IGHG	Ghaleghazi	0.88	90	ePg	Pg		10 16 43.5	0.0
IGHG				IAMB	IAmb		10 16 44.6	
	comp=Z,4μm,0.2s							
IGHG				eSg	Sb		10 16 56.7	0.0
IBDR	Badra	1.27	164	ePg	Pn		10 16 50.0	-1.1
IBDR				AML	AML		10 16 52.9	
	comp=Z,196nm,0.5s							
IBDR				eSg	Sg		10 17 07.0	-0.4
KCHF	Cheshme Sefid,	1.27	92	ePg	Pg		10 16 50.9	-0.1
KCHF				eSg	Sn		10 17 08.3	-0.6
KCHF				IAMB	IAmb		10 17 11.7	
	comp=Z,0.0nm,0.5s							
ILIN	Lien	1.33	64	ePg	Pb		10 16 51.8	-0.6
ILIN				IAMB	IAmb		10 16 53.0	
	comp=Z,2μm,0.3s							
ILIN				eSg	Sg		10 17 10.8	+1.3
KER	Kermanshah	1.34	87	ePg	Pg		10 16 52.4	0.0
KER				eSg	Sg		10 17 10.2	+0.3
BHD	Baghdad	1.42	222	ePn	Pg		10 16 54.0	+0.2
BHD				AML	AML		10 16 54.9	
	comp=Z,6μm,0.5s							
BHD				eSn	Sg		10 17 14.0	+1.9
IKRK	Kirkuk	1.43	318	ePg	Pn		10 16 53.0	-0.4
IKRK				AML	AML		10 16 55.5	
	comp=Z,92nm,0.3s							
IKRK				eSg	Sg		10 17 13.0	+0.3
IKOM	Komasi	1.67	95	ePn	Pb		10 16 57.9	0.0
IKOM				IAMB	IAmb		10 17 35.0	
	comp=Z,0.0nm,0.5s							
IBZA	Bozab	1.95	85	ePn	Pb		10 17 02.4	-0.5
IKFM	Kafar-mosalman	2.10	112	ePn	Pb		10 17 04.4	-0.9
IKFM				IAMB	IAmb		10 17 51.0	
	comp=Z,0.0nm,0.6s							
IDOB	Doab	2.28	103	IAMB	IAmb		10 17 50.9	
	comp=N,0.0nm,0.5s							
IDOB				ePn	Pb		10 17 06.2	-2.3
MAHB	Mahabad	2.43	4	IAMB	IAmb		10 17 51.6	
	comp=Z,0.0nm,0.4s							
MAHB				ePn	Pb		10 17 09.1	-1.9
IKMR	Kamar-syah	2.52	108	ePn	Pn		10 17 09.1	+0.8
HSAM	Samen	2.56	92	IAMB	IAmb		10 17 15.1	
	comp=Z,0.0nm,0.7s							
HSAM				ePn	Pn		10 17 09.9	+0.7
BDRS	Dareh Seyedi	2.82	97	ePn	Pn		10 17 13.2	+0.4
BDRS				IAMB	IAmb		10 18 11.8	
	comp=Z,0.0nm,0.5s							
BMDN	Meydan	2.83	103	ePn	Pn		10 17 13.3	+0.5
BMDN				IAMB	IAmb		10 18 08.7	
	comp=Z,0.0nm,0.8s							
MSL	Mosul	2.84	317	ePn	Pn		10 17 13.0	+0.2
MSL				AML	AML		10 17 21.6	
	comp=Z,110nm,0.3s							
MSL				eSn	Sn		10 17 49.0	+1.5
HAGD	Aghdareh	3.04	80	ePn	Pn		10 17 16.8	+1.2
HAGD				IAMB	IAmb		10 17 22.9	
	comp=Z,0.0nm,0.4s							
RTB	Rutbah	4.53	255	ePn	Pn		10 17 37.0	+1.0
RTB				AML	AML		10 17 40.1	
	comp=Z,21nm,0.5s							
RTB				eSn	Sn		10 18 29.0	0.0
IPIR	Pirpir	4.79	109	ePn	Pn		10 17 40.0	+0.2
IPIR				IAMB	IAmb		10 18 40.2	
	comp=Z,115nm,0.3s							
JHBN	Jahan bin	4.80	114	ePn	Pn		10 17 40.9	+0.9
IKLH	Kolahrood	5.15	100	ePn	Pn		10 17 45.7	+0.9
IKLH				IAMB	IAmb		10 18 54.1	
	comp=Z,75nm,0.2s							

*SOME **22** 10:41:55.6, 43°.38N×77°.07E, h10km*
KRNET 22 10:41:54.7±0.1, 43°.30N×77°.09E, h19km, mb2.4, 15C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTBS	Maitube	0.51	251	eP		Pb	10 42 05.5	+0.4
MTBS	baz=51			eS		Sb	10 42 12.7	+0.5
MTBS	Maitube	0.51	251	eP		Pb	10 42 05.5	+0.4
MTBS	2.9nm,0.1s			eS		Sb	10 42 12.7	+0.5
	11nm,0.3s							
ANVS	Anan'yevo	0.67	140	⇓iP		Pb	10 42 07.0	-0.7
ANVS	baz=40			⇓iS		Sg	10 42 17.2	+0.4
	baz=40							
KUU	Kurty	0.81	318	eP		Pb	10 42 10.3	+0.2
KUU	baz=18			eS		Sb	10 42 20.8	+0.1
	baz=18							
KUU	Kurty	0.81	318	eP		Pb	10 42 10.3	+0.2
KUU	2.1nm,0.3s			eS		Sb	10 42 20.9	+0.2
	11nm,0.4s							
KST	Kastek	0.86	253	eP		Pn	10 42 12.2	+0.3
KST	3.5nm,0.3s			eS		Sn	10 42 24.2	+0.1
	11nm,0.5s							
DGS	Degeres	0.96	267	eP		Pb	10 42 12.8	-0.1
DGS	baz=67			eS		Sb	10 42 25.3	0.0
	baz=67							
DGS	Degeres	0.96	267	eP		Pb	10 42 12.8	-0.1
DGS	3.8nm,0.4s			eS		Sb	10 42 25.2	0.0
	7.8nm,0.5s							
SATY	Saty	0.99	103	eP		Pn	10 42 13.7	0.0
SATY	6.8nm,0.6s			eS		Sg	10 42 26.7	-0.3
	12nm,0.4s							
ARXS	Arharly	1.06	30	eP		Pg	10 42 15.5	+0.2
ARXS	2.5nm,0.1s			eS		Sg	10 42 29.7	+0.5
	14nm,0.3s							
BOOM	Boomskoye usch	1.17	227	⇑eP		Pn	10 42 15.3	-0.9
BOOM	baz=27			⇑iS		Sg	10 42 32.2	-0.5
	baz=27							
KPKS	Kokpek	1.17	81	eP		Pg	10 42 17.5	0.0
KPKS	8.1nm,0.3s			eS		Sg	10 42 33.2	+0.4
	24nm,0.5s							
ULHL	Ulahol	1.22	211	⇑iP		Pn	10 42 16.4	-0.6
ULHL	baz=11			⇑iS		Sg	10 42 34.1	-0.3
	baz=11							
PRZ	Przheval'sk	1.26	130	⇑iP		Pn	10 42 17.0	-0.4
PRZ	baz=29			⇑iS		Sn	10 42 34.6	+0.7
	baz=29							
UZB	Uzynbulak	1.42	95	eP		Pg	10 42 21.6	-0.5
UZB	baz=95			eS		Sg	10 42 40.5	-0.1
	baz=95							
UZB	Uzynbulak	1.42	95	eP		Pg	10 42 21.6	-0.5
UZB	1.8nm,0.1s			eS		Sg	10 42 40.4	-0.2
	5.0nm,0.3s							
TARG	Taragay, Kyrgy	1.65	161	⇓iP		Pb	10 42 24.2	-0.6
TARG	baz=61			⇓iS		Sg	10 42 47.6	-0.5
	baz=61							
SHLS	Shalkode	1.74	94	eP		Pg	10 42 33.1	+5.0
SHLS	7.8nm,0.0s			eS		Sg	10 42 60.0	+9.2
	11nm,0.3s							
PDGK	Podgornoye	1.75	88	⇓Pn		Pn	10 42 00.2	-24
PDGK	0.8nm,0.9s			⇑Sn		Sn	10 42 26.5	-19
	7.5nm,1.1s							
KZA	Kyzart	1.82	229	⇑iP		Pb	10 42 26.8	-0.9
KZA	baz=29			⇑iS		Sb	10 42 51.8	+1.5
	baz=29							
UCH	Uchtor	2.18	242	⇑iP		Pn	10 42 31.8	+1.5
UCH	baz=42			⇑iS		Sb	10 42 59.9	-0.6
	baz=42							
DJR	Jarkent	2.21	61	eP		Pb	10 42 34.6	+0.5
DJR	3.9nm,0.3s			eS		Sb	10 43 03.0	+1.9
	6.4nm,0.3s							
ARLS	Aral	2.50	236	⇑iP		Pn	10 42 35.1	+0.7
ARLS	baz=36			⇑iS		Sn	10 43 06.8	+2.3
	baz=36							
KAPS	Kapalarasan	2.57	39	eP		Pg	10 42 42.2	-1.8
KAPS	1.0nm,0.3s			eS		Sg	10 43 15.8	-1.5
	3.8nm,0.4s							
AML	Almayashu	2.76	246	⇑iP		Pn	10 42 39.5	+1.2
AML	baz=46			⇑iS		Sn	10 43 14.0	+2.7
	baz=46							
MRKS	Merke	2.89	260	eP		Pb	10 42 47.8	+2.1
MRKS	0.9nm,0.1s			eS		Sg	10 43 25.1	-2.4
	3.4nm,0.4s							

IDC 22 10:42:38.1±3.0, 32°.36S×178°.14W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/19, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=69.3km s-min=35.9km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.05	212	Pn		Pn	10 44 21.3	-1.3
	0.4nm,0.3s,baz=120,slow=20,SNR=3.0							
URZ				Sn		Sn	10 45 45.2	+1.7
	0.5nm,0.3s,baz=76,slow=4.2,SNR=4.9							
ASAR	Alice Springs	42.92	269	P		P	10 50 38.8	-0.1
	0.4nm,0.5s,baz=111,slow=7.2,SNR=9.3							
WRA	Warramunga Arr	44.09	274	P		P	10 50 48.3	0.0
	0.6nm,0.4s,baz=113,slow=7.8,SNR=20							
FINES	FINESS Array B	146.93	339	PKPbc		PKPbc	11 02 21.0	-0.7
	0.9nm,0.5s,baz=57,slow=5.1,SNR=5.6							

*IDC **22** 11:16:30.0±2.7, 38°.98N×142°.10E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/51, mbtmp3.6/5, ML2.8/2, Error ellipse: s-maj=68.1km s-min=26.8km az=74.0*
*ISCJB **22** 11:16:36.6±0.9, 38°.70N±0°.04×141°.8E±0°.1, h56km±5km, mb3.3/3, Error ellipse: s-maj=13.7km s-min=6.6km az=11.3*
*JMA **22** 11:16:37.5, 38°.70N×141°.79E, h53km±1km, M3.1*
JMA Felt I J1.
ISC 22 11:16:37.9±1.2, 38°.71N±0°.04×141°.78E±0°.09, h49km±7km, n22, σ0s54/25, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKMT	Kesennumamotoy	0.26	293	P		Pn	11 16 46.8	+0.2
JKMT				i S		Sn	11 16 53.1	+0.3
OFUJ	Ofunato	0.38	347	P		Pn	11 16 47.8	0.0
OFUJ				S		Sn	11 16 54.8	0.0
JIO	Ouri	0.42	233	P		Pn	11 16 48.1	-0.1
JIO				i S		Sn	11 16 55.3	-0.2
JIKH	Ishinomakikobu	0.47	212	P		Pn	11 16 48.5	-0.2
JIKH				S		Sn	11 16 56.1	-0.3
JMK	Ichinoseki	0.50	299	P		Pn	11 16 49.2	+0.1
JMK				S		Sn	11 16 57.5	+0.4
JOM	Ohasama	0.85	334	P		Pn	11 16 53.5	-0.1
JOM				S		Sn	11 17 05.0	-0.1
JOU	Okura	0.94	249	P		Pn	11 16 54.6	-0.2
JOU				S		Sn	11 17 07.2	0.0
JRG	Rokugo	1.12	308	P		Pn	11 16 57.3	0.0
JYK	Kaneyama	1.13	281	P		Pn	11 16 57.3	0.0
JMM	Marumori	1.14	223	P		Pn	11 16 56.9	-0.6
JMM				S		Sn	11 17 11.2	-0.9
JYS	Shiratake	1.43	251	P		Pn	11 17 01.8	+0.4
JYS				eS		Sn	11 17 20.0	+0.9
MJAR	Matsushiro Arr	3.56	234	Pn		Pn	11 17 31.1	+0.4
	0.1nm,0.3s,baz=46,slow=13,SNR=4.5							
JHJ	Hachijo jima 2	5.81	197	Pn		Pn	11 18 02.4	+0.9
	5.2nm,0.3s,baz=66,slow=20,SNR=2.8							
H11N2	WAKE ISLAND Hy	28.80	124	T		T	11 52 50.9	
	baz=317,slow=75,SNR=9.8							
H11N1	WAKE ISLAND Hy	28.81	124	T		T	11 52 49.8	
	baz=317,slow=75,SNR=18							
H11N3	WAKE ISLAND Hy	28.82	124	T		T	11 52 52.1	
	baz=317,slow=75,SNR=18							
H11S1	WAKE ISLAND Hy	29.57	126	T		T	11 53 42.0	
	baz=318,slow=76,SNR=6.0							
H11S3	WAKE ISLAND Hy	29.57	126	T		T	11 53 43.1	
	baz=318,slow=76,SNR=8.9							
H11S2	WAKE ISLAND Hy	29.58	126	T		T	11 53 45.4	
	baz=318,slow=76,SNR=6.6							
MKAR	Makanchi Array	43.49	301	P		P	11 24 35.6	-0.6
	0.4nm,0.7s,baz=88,slow=9.0,SNR=4.3							
KURBB	Kurchatov Arra	45.21	307	P		P	11 24 48.8	-1.1
	0.4nm,0.6s,baz=83,slow=8.4,SNR=7.1							
WRA	Warramunga Arr	58.76	188	P		P	11 26 31.6	+0.8
	0.1nm,0.5s,baz=7.2,slow=8.3,SNR=2.9							

IDC 22 11:17:40.5±3.1, 21°.71N×142°.99E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/49, mbtmp3.6/5, ML4.5/1, Error ellipse: s-maj=136.1km s-min=22.2km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.41	352	Pn		Pn	11 19 03.5	+0.9
	14nm,0.3s,baz=144,slow=15,SNR=11							
JCJ				Sn		Sn	11 19 58.0	-7.6
	6.4nm,0.3s,baz=209,slow=19,SNR=3.0							
KSRS	Korea Array	20.40	324	P		P	11 22 18.5	-0.5
	0.5nm,0.5s,baz=145,slow=10,SNR=2.2							
WRA	Warramunga Arr	42.25	192	P		P	11 25 36.2	+0.4
	0.4nm,0.3s,baz=16,slow=9.1,SNR=29							
ASAR	Alice Springs	45.96	192	P		P	11 26 04.8	-0.7
	0.1nm,0.3s,baz=16,slow=6.9,SNR=4.6							
BVAR	Borovoye Array	62.54	319	P		P	11 28 06.0	-0.2
	0.4nm,0.4s,baz=68,slow=8.7,SNR=1.9							

*IDC **22** 11:28:10.5±0.6, 60°.29S×46°.63W, h0km, mb4.4/11, mb1 4.4/12, mb1mx4.3/20, mbtmp4.4/12, ML4.2/1, MS3.4/11, Ms1 3.3/11, ms1mx3.3/17, Error ellipse: s-maj=22.1km s-min=16.2km az=60.0*
*ISCJB **22** 11:28:11.2±0.4, 60°.14S±0°.05×46°.5W±0°.1, h10km, mb4.3/11, MS3.2/9, Error ellipse: s-maj=8.7km s-min=7.1km az=142.0*
*NEIC **22** 11:28:12.0±1.5, 60°.22S±0°.09×46°.6W±0°.2, h10km±1km, mb4.7/23*
ISC 22 11:28:12.2±0.4, 60°.20S±0°.07×46°.72W±0°.07, h10km, n67, σ1s10/61, mb4.6/19, MS3.1/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.12	48	Pn		Pn	11 30 08.8	-1.2
HOPE				Sn		Sn	11 31 40.5	-1.1
PMSA	Palmer Station	9.22	233	Pn		Pn	11 30 25.0	+0.1
	2.3nm,0.3s,baz=73,slow=10,SNR=8.4							
PMSA				LR		LR	11 34 22.2	
	comp=Z,276nm,18.1s,baz=68,slow=40							
PMSA	Palmer Station	9.22	233			Pn	11 30 25.2	+0.3
PMSA						Sn	11 32 07.1	-1.4
USHA	Ushuaia	12.82	285	LR		LR	11 35 01.9	
	comp=Z,504nm,19.2s,baz=160,slow=32							
GO09	Cerro Castillo	16.87	291			P	11 32 10.2	0.0
VNA3	Neumayer Olymp	18.43	142	P		P	11 32 30.2	+2.9
VNA1	Neumayer--Stat	18.71	140	P		Pn	11 32 33.2	+2.5
VNA2	Neumayer--Watz	19.06	140	P		Pn	11 32 36.6	+1.7
	baz=282,slow=12							
SNAA	Sanae	20.65	142	P		Pn	11 32 56.0	+2.1
SNAA	Sanae	20.65	142	P		Pn	11 32 54.8	+0.9
	11nm,0.8s,baz=288,slow=9.6,SNR=38							
SNAA				PcP		PcP	11 36 59.3	-1.8

comp=Z,6.1nm,1.1s
GO02 Mina Guanaco 38.43 325 P P 11 35 34.9 +0.8
GO02 IAmb IAmb 11 35 35.7
comp=Z,7.7nm,0.8s
LVC Limon Verde 40.67 328 P P 11 35 54.1 +1.3
MAW Mawson 42.60 148 LR LR 11 53 26.2
comp=Z,83nm,18.1s,baz=240,slow=36
GO01 Chusmiza 43.55 328 P P 11 36 17.5 +1.1
MNMC Minye Minye 44.17 328 P P 11 36 22.1 +0.9
BDFB Brasilia 44.51 358 P P 11 36 24.6 +0.9
comp=Z,2.3nm,0.4s,baz=193,slow=7.2,SNR=4.4
BDFB LR LR 11 51 58.0
comp=Z,25nm,20.4s,baz=155,slow=32
SIV San Ignacio 45.37 340 P P 11 36 31.4 +0.9
comp=Z,5.7nm,0.7s,baz=178,slow=7.5,SNR=35
SIV PcP **PcP 11 38 09.5 -0.3**
comp=Z,1.4nm,0.7s,baz=243,slow=6.8,SNR=3.4
LPAZ La Paz 46.52 331 P P 11 36 41.7 +1.4
comp=Z,2.0nm,0.7s,baz=188,slow=7.5,SNR=6.7
LPAZ PcP **PcP 11 38 14.4 -0.2**
comp=Z,1.1nm,0.7s,baz=106,slow=4.0,SNR=2.7
LPAZ LR LR 11 57 17.6
comp=Z,21nm,19.5s,baz=171,slow=38
LPAZ La Paz 46.52 331 P P 11 36 41.6 +1.3
SUR Sutherland 51.45 89 P P 11 37 17.2 -0.3
comp=Z,4.1nm,0.7s,baz=237,slow=12,SNR=5.4
SUR Sutherland 51.45 89 P P 11 37 18.0 +0.5
SAML Samuel 52.62 339 P P 11 37 27.2 +1.1
SAML IAmb IAmb 11 37 27.9
comp=Z,9.3nm,0.7s
H10S2 ASCENSION HYDR 56.49 39 T T 12 39 28.4
baz=200,slow=74,SNR=31
H10S3 ASCENSION HYDR 56.49 39 T T 12 39 28.9
baz=20,slow=74,SNR=26
BOSA Boshof 56.73 90 P P 11 37 56.0 0.0
comp=Z,1.3nm,0.7s,baz=230,slow=6.0,SNR=3.7
BOSA LR LR 11 58 11.7
comp=Z,39nm,18.7s,baz=33,slow=32
BOSA Boshof 56.73 90 P P 11 37 55.9 -0.1
BOSA IAmb IAmb 11 37 58.2
comp=Z,13nm,1.4s
H10N3 ASCENSION HYDR 57.59 39 T T 12 40 50.0
baz=199,slow=75,SNR=19
H10N1 ASCENSION HYDR 57.59 39 T T 12 40 50.8
baz=199,slow=75,SNR=20
H10N2 ASCENSION HYDR 57.60 39 T T 12 40 51.9
baz=199,slow=75,SNR=23
LBTB Lobatse 59.87 88 P P 11 38 17.7 -0.3
comp=Z,3.1nm,0.6s,baz=206,slow=9.2,SNR=5.3
LBTB Lobatse 59.87 88 P P 11 38 17.9 -0.1
OTAV Otavalo 65.09 325 P P 11 38 53.4 +0.1
LTZ Lake Taylor 72.51 209 P P 11 39 39.1 +0.3
LTZ IAmb IAmb 11 39 57.8
comp=Z,11nm,1.1s
THZ Tophouse 73.32 210 P P 11 39 43.5 -0.1
THZ IAmb IAmb 11 39 50.7
comp=Z,10nm,0.9s
DBIC Dimbokro 74.37 44 P P 11 39 50.3 +0.5
DBIC IAmb IAmb 11 39 58.4
comp=Z,13nm,1.4s
PPT Papeete 81.14 250 LR LR 12 05 18.0
comp=Z,9.6nm,21.6s,baz=244,slow=28
TOA0 Torodi Ar. Sit 82.70 47 P P 11 40 36.3 +0.5
TOA0 IAmb IAmb 11 40 37.1
comp=Z,4.6nm,0.9s
TORD Torodi Ar. Bea 82.70 47 P P 11 40 36.0 +0.3
comp=Z,2.9nm,0.9s,baz=208,slow=5.7,SNR=11
TORD Torodi Ar. Bea 82.70 47 P P 11 40 35.4 -0.4
TEIG Tepich 86.95 321 P P 11 40 56.7 -0.3
ASAR Alice Springs 96.44 181 P P 11 41 39.5 -2.0
comp=Z,1.3nm,1.1s,baz=178,slow=3.7,SNR=6.8
ASAR Alice Springs 96.44 181 P P 11 41 39.7 -1.7
WRA Warramunga Arr 100.14 181 P Pdif 11 41 56.0 -2.0
comp=Z,0.4nm,0.7s,baz=181,slow=4.2,SNR=8.3
WRA Warramunga Arr 100.14 181 Pdif 11 41 56.4 -1.7
CMAR Chiang Mai Arr 131.61 134 PKP **PKPdf 11 47 22.4 -2.5**
comp=Z,0.5nm,0.3s,baz=255,slow=3.3,SNR=4.4
CMAR Chiang Mai Arr 131.61 134 PKPdf 11 47 22.7 -2.1
IL31 145.14 312 PKPbc 11 47 47.9 +0.2
ILAR Eielson Array 145.14 312 PKPbc **PKPbc 11 47 47.2 -0.5**
comp=Z,8.9nm,0.9s,baz=156,slow=2.4,SNR=52
ILAR Eielson Array 145.14 312 PKPbc 11 47 47.4 -0.3
RND Reindeer 145.17 310 PKPbc 11 47 48.0 +0.1
BMAR Burnt Mountain 145.64 317 PKPdf 11 47 49.2 +0.3
BRVK Borovoye 145.86 73 PKPdf 11 47 49.4 -0.2
MK31 Makanchi Array 147.72 91 PKPbc 11 47 54.8 -1.1
MKAR Makanchi Array 147.72 91 PKPbc **PKPbc 11 47 54.8 -1.2**
comp=Z,3.2nm,0.6s,baz=241,slow=2.6,SNR=29
IMAR Indian Mountai 148.25 312 PKPbc 11 47 56.6 -0.1
KURK Kurchatov 148.48 83 PKPbc 11 47 57.1 -0.6

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*ISCJB **22** 11:49:12.5±0.6,23.°95S±0.°03×66.°89W±0.°03,h203km±7km, Error ellipse: s-maj=5.7km s-min=4.0km az=141.3*
*SJA **22** 11:49:12.5±0.8,23.°92S×66.°80W,h203km±5km,ML3.2, MW3.2*
*GUC **22** 11:49:15.0±0.5,23.°64S×67.°42W,h250km±13km,ML3.9*
ISC 22 11:49:12.5±1.7,23.°94S±0.°05×66.°89W±0.°04, h209km±17km,n33,σ1§67/62,4C-6D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**122**	*i* P	**Pn**	**11 49 47.4**	**+0.3**
SLA				IAML		11 49 47.7	
comp=Z,45nm,0.7s							
SLA				*i* S	**S**	**11 50 13.0**	**-0.7**
HJA	**Humahuaca**	**1.54**	**62**	*i* P	**Pn**	**11 49 47.4**	**-0.4**
HJA				*i* S	**S**	**11 50 13.1**	**-1.7**
HJA				IAML		11 50 17.6	
comp=Z,21nm,0.6s							
AZAP	**Zapla**	**1.69**	**100⇓**	*i* P	**Pn**	**11 49 48.4**	**-0.5**
AZAP				IAML		11 49 48.5	
comp=Z,118nm,0.6s							
AZAP				*i* S	**S**	**11 50 24.4**	**+7.5**
YJA	**Yavi**	**2.16**	**36**	*i* P	**Pn**	**11 49 54.0**	**+0.2**
YJA				*i* S	**S**	**11 50 24.3**	**-1.3**
YJA				IAML		11 50 26.0	
comp=Z,6.8nm,0.6s							
LVC	**Limon Verde**	**2.28**	**305**	*i* P	**Pn**	**11 49 56.1**	**+1.2**
LVC				*i* S	**S**	**11 50 28.1**	**+0.5**
FSA	**Cafayete**	**2.32**	**159**	*i* P	**Pn**	**11 49 55.5**	**+0.4**
FSA				*i* S	**S**	**11 50 26.9**	**-1.2**
PB15	**IPOC Station P**	**2.48**	**286⇓**	*i* P	**Pn**	**11 49 58.1**	**+1.2**
PB15				*i* S	**S**	**11 50 31.4**	**+0.3**
PB15	**IPOC Station P**	**2.48**	**286**	*i* P	**Pn**	**11 49 58.3**	**+1.4**
PB15				*i* S	**S**	**11 50 31.7**	**+0.7**
GO02	**Mina Guanaco**	**2.75**	**243⇓**	*i* P	**Pn**	**11 50 01.4**	**+1.4**
GO02				*i* S	**S**	**11 50 38.0**	**+1.4**
GO02				IAML		11 50 38.4	
comp=N,180nm,0.3s							
PB06	**IPOC Station P**	**2.75**	**296⇑**	*i* P	**Pn**	**11 50 01.2**	**+1.2**
PB06				*i* S	**S**	**11 50 36.3**	**-0.2**
PB06				IAML		11 50 38.5	
comp=E,351nm,0.4s							
PB06	**IPOC Station P**	**2.75**	**296**	*i* P	**Pn**	**11 50 01.2**	**+1.2**
PB06				*i* S	**S**	**11 50 36.4**	**-0.1**
PB06				IAML		11 50 39.0	
comp=Z,163nm,0.3s							
PB09	**IPOC Station P**	**3.04**	**314⇓**	*i* P	**Pn**	**11 50 05.1**	**+1.8**
PB09				*i* S	**S**	**11 50 43.2**	**+0.7**
PB09				IAML		11 50 49.2	
comp=N,116nm,0.3s							
PB09	**IPOC Station P**	**3.04**	**314**	*i* P	**Pn**	**11 50 05.0**	**+1.7**
PB09				*i* S	**S**	**11 50 43.2**	**+0.7**
PB09				IAML		11 50 45.5	
comp=Z,150nm,0.3s							
PB05	**IPOC Station P**	**3.23**	**289⇑**	*i* P	**Pn**	**11 50 06.4**	**+1.0**
PB05				*i* S	**S**	**11 50 45.1**	**-1.2**
PB05				IAML		11 50 50.2	
comp=E,114nm,0.7s							
PB05	**IPOC Station P**	**3.23**	**289**	*i* P	**Pn**	**11 50 06.4**	**+1.0**
PB05				*i* S	**S**	**11 50 45.1**	**-1.2**
PB03	**IPOC Station P**	**3.24**	**305⇓**	*i* P	**Pn**	**11 50 06.3**	**+0.7**
PB03				*i* S	**S**	**11 50 45.4**	**-1.3**
PB03				IAML		11 50 47.6	
comp=N,249nm,0.3s							
PB03	**IPOC Station P**	**3.24**	**305**	*i* P	**Pn**	**11 50 06.3**	**+0.7**
PB03				*i* S	**S**	**11 50 45.4**	**-1.3**
PB14	**IPOC Station P**	**3.28**	**257**	*i* P	**Pn**	**11 50 07.4**	**+1.2**
PB14				*i* S	**S**	**11 50 47.4**	**-0.4**
PB14				IAML		11 50 53.9	
comp=Z,45nm,0.2s							
PB10	**IPOC Station P**	**3.38**	**276⇓**	*i* P	**Pn**	**11 50 08.3**	**+1.2**
PB10				*i* S	**S**	**11 50 48.2**	**-1.2**
PB10				IAML		11 50 51.0	
comp=E,97nm,0.3s							
PB10	**IPOC Station P**	**3.38**	**276**	*i* P	**Pn**	**11 50 08.3**	**+1.2**
PB10				*i* S	**S**	**11 50 48.3**	**-1.2**
PB10				IAML		11 50 54.6	
comp=Z,51nm,0.3s							
PB04	**IPOC Station P**	**3.40**	**297**	*eP*	**Pn**	**11 50 08.1**	**+0.7**
PB04				*i* S	**S**	**11 50 49.1**	**-1.0**
PB04				IAML		11 50 56.2	
comp=N,171nm,0.4s							
PB04	**IPOC Station P**	**3.40**	**297**	*i* P	**Pn**	**11 50 08.5**	**+1.0**
PB04				*i* S	**S**	**11 50 49.1**	**-1.0**
PB04				IAML		11 50 57.3	
comp=Z,121nm,0.4s							
PB07	**IPOC Station P**	**3.53**	**308⇑**	*i* P	**Pn**	**11 50 09.8**	**+0.7**
PB07				*i* S	**S**	**11 50 51.1**	**-1.8**
PB07				IAML		11 50 52.8	
comp=N,224nm,0.2s							
PB01	**IPOC Station P**	**3.75**	**320⇑**	*i* P	**Pn**	**11 50 12.1**	**+0.4**
PB01				*i* S	**S**	**11 50 55.8**	**-1.8**
PB01				IAML		11 50 59.5	
comp=E,189nm,0.4s							
PB02	**IPOC Station P**	**3.81**	**313**	*eP*	**Pn**	**11 50 12.5**	**+0.1**
PB02				*i* S	**S**	**11 50 56.5**	**-2.4**
ACDV	**Cuesta del Vie**	**6.52**	**197**	*i* P	**Pn**	**11 50 48.6**	**+1.8**
ACDV				IAML		11 50 49.0	
comp=Z,3.3nm,0.4s							
ACCO	**Cerro Coronel**	**6.90**	**196**	*i* P	**Pn**	**11 50 52.8**	**+1.0**
ACCO				*i* S	**S**	**11 52 09.7**	**-0.9**
AMOG	**MOGNA**	**7.12**	**191**	*i* P	**Pn**	**11 50 54.1**	**-0.3**
AMOG				*eS*	**S**	**11 52 13.3**	**-2.1**
TCA	**Tanti**	**7.65**	**165**	*i* P	**Pn**	**11 51 00.4**	**-0.9**
TCA				IAML		11 51 02.5	
comp=Z,3.5nm,0.2s							
LPAZ	**La Paz**	**7.70**	**351**	*i* P	**Pn**	**11 51 03.6**	**+1.1**
LPAZ				*i* S	**S**	**11 52 28.3**	**-1.7**
CFA	**Coronel Fontan**	**7.73**	**189**	*i* P	**Pn**	**11 51 01.6**	**-0.7**
CFA				*i* S	**S**	**11 52 24.4**	**-5.4**
MRA	**San Martin**	**8.52**	**173**	*i* P	**Pn**	**11 51 11.2**	**-1.2**
MRA				IAML		11 51 13.3	
comp=Z,1.8nm,0.3s							
ASAL	**Salagasta**	**8.79**	**191**	*i* P	**Pn**	**11 51 16.5**	**+0.4**

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*IDC **22** 11:56:00.3±2.1,24.°09N×122.°57E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.3/47,mbtmp3.4/4,Error ellipse: s-maj=172.0km s-min=22.7km az=65.0*
*ISCJB **22** 11:56:03.5±0.3,23.°91N±0.°01×122.°43E±0.°01,h15km±2km, mb3.3/4,Error ellipse: s-maj=2.5km s-min=1.8km az=150.9*
*JMA **22** 11:56:04.2±0.2,23.°95N×122.°42E,h22km±3km,M3.1*
*TAP **22** 11:56:04.6,23.°98N×122.°42E,h29km,ML3.7,D*
ISC 22 11:56:02.1±1.0,23.°91N±0.°02×122.°44E±0.°02,h12km±8km, n126,σ0§65/226,mb3.3/4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.70**	**336**	P	**Pb**	**11 56 17.0**	**+0.8**
baz=328							
EOS1				*eS*	**Sb**	**11 56 26.6**	**+0.9**
baz=328							
JYNG	**Yonagunijimaku**	**0.71**	**41**	P	**Pn**	**11 56 17.5**	**-0.5**
JYNG				S	**Sb**	**11 56 26.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.76**	**44**	P	**Pn**	**11 56 18.5**	**-0.3**
baz=54							
YOJ				*eS*	**Sb**	**11 56 27.4**	**-0.2**
baz=54							
YOJ	**Yonaguni jima**	**0.76**	**44**	P	**Pn**	**11 56 18.4**	**-0.3**
YOJ				S	**Sb**	**11 56 27.4**	**-0.2**
ENLB	**Shoufeng**	**0.76**	**270**	*eP*	**Pb**	**11 56 17.7**	**+0.4**
baz=253							
ENLB				*eS*	**Sb**	**11 56 28.9**	**+1.1**
baz=253							
HWA	**Hwalien**	**0.76**	**275**	*eP*	**Pn**	**11 56 18.9**	**+0.2**
baz=257							
TWD	**Chiawan**	**0.79**	**283**	P	**Pn**	**11 56 18.5**	**-0.6**
baz=277							
TWD				*eS*	**Sb**	**11 56 28.9**	**+0.5**
baz=277							
NANB	**Nanao**	**0.81**	**310**	*eP*	**Pb**	**11 56 18.8**	**+0.6**
baz=313							
NANB				*eS*	**Sb**	**11 56 28.9**	**-0.2**
baz=313							
NACB	**Ninganchiao**	**0.81**	**289**	*eP*	**Pn**	**11 56 18.9**	**-0.5**
baz=270							
NACB				*eS*	**Sb**	**11 56 29.4**	**+0.2**
baz=270							
ENA	**Nanau**	**0.82**	**309**	*eP*	**Pb**	**11 56 18.9**	**+0.6**
baz=313							
ENA				*eS*	**Sg**	**11 56 28.9**	**+0.2**
baz=313							
TWC	**Suao**	**0.88**	**323**	P	**Pb**	**11 56 19.4**	**+0.1**
baz=320							
TWC				*eS*	**Sg**	**11 56 30.3**	**-0.3**
baz=320							
ETLH	**Xiulin Townshi**	**0.92**	**289**	*eP*	**Pn**	**11 56 20.7**	**-0.3**
baz=273							
ETLH				*eS*	**Sb**	**11 56 32.9**	**+0.5**
baz=273							
ESL	**Shilin**	**0.92**	**264**	P	**Pb**	**11 56 20.3**	**+0.2**
baz=259							
ESL				*eS*	**Sb**	**11 56 32.5**	**+0.2**
baz=259							
EGFH	**Guangfu**	**0.95**	**256**	*eP*	**Pn**	**11 56 21.4**	**0.0**
baz=251							
EGFH				*eS*	**Sb**	**11 56 34.0**	**+0.8**
baz=251							
HGSD	**Ruisui**	**1.02**	**246**	*eP*	**Pn**	**11 56 22.2**	**0.0**
baz=242							
HGSD				*eS*	**Sg**	**11 56 34.7**	**-0.3**
baz=242							
EGS		**1.04**	**334**	*eP*	**Pn**	**11 56 23.2**	**+0.7**
baz=321							
EGS				*eS*	**Sb**	**11 56 36.1**	**+0.5**
baz=321							
ILA	**Ilan**	**1.06**	**324**	*eP*	**Pn**	**11 56 23.3**	**+0.5**
baz=322							
ILA				*eS*	**Sn**	**11 56 38.1**	**+0.6**
baz=322							
TWE	**Neicheng**	**1.07**	**319**	P	**Pn**	**11 56 23.4**	**+0.4**
baz=317							
TWE				*eS*	**Sg**	**11 56 36.0**	**-0.7**
baz=317							
ENTT	**Nioudou**	**1.08**	**313**	*eP*	**Pn**	**11 56 23.5**	**+0.4**
baz=296							
ENTT				*eS*	**Sb**	**11 56 37.2**	**+0.4**
baz=296							
NDT	**Datong Townshi**	**1.09**	**309**	*eP*	**Pn**	**11 56 23.8**	**+0.5**
baz=306							
NDT				*eS*	**Sb**	**11 56 37.5**	**+0.4**
baz=306							
NTC	**Toucheng**	**1.09**	**330**	*eP*	**Pn**	**11 56 23.8**	**+0.6**
baz=328							
NNSB	**Datong**	**1.09**	**298**	*eP*	**Pn**	**11 56 23.7**	**+0.3**
baz=294							
NNSB				*eS*	**Sb**	**11 56 37.7**	**+0.3**
baz=294							
WHF	**Hehuan Shan**	**1.10**	**283**	*eP*	**Pb**	**11 56 23.5**	**+0.2**
baz=265							
WHF				*eS*	**Sg**	**11 56 37.5**	**-0.2**
baz=265							
EHY	**Hungye**	**1.10**	**249**	*eP*	**Pn**	**11 56 23.5**	**+0.2**
baz=259							
EHY				*eS*	**Sn**	**11 56 38.2**	**-0.3**
baz=259							
NNS	**Nan Shan**	**1.10**	**299**	P	**Pn**	**11 56 23.9**	**+0.3**
baz=295							
NNS				*eS*	**Sg**	**11 56 37.7**	**-0.1**
baz=295							
SLBB	**Yuanshan**	**1.11**	**319**	P	**Pg**	**11 56 23.5**	**-0.1**
baz=316							
SLBB				*eS*	**Sg**	**11 56 37.8**	**-0.3**
baz=316							
CHGB	**Renai**	**1.16**	**278**	*eP*	**Pn**	**11 56 24.8**	**+0.3**
baz=273							
CHGB				*eS*	**Sb**	**11 56 38.8**	**-0.7**
baz=273							
YULB	**Yu-li**	**1.16**	**244**	*eP*	**Pg**	**11 56 24.8**	**+0.3**
baz=240							
YULB				*eS*	**Sb**	**11 56 39.5**	**+0.2**
baz=240							
TWB1	**Santiao Chiao**	**1.17**	**340**	*eP*	**Pg**	**11 56 24.5**	**-0.1**
baz=355							
TWB1				*eS*	**Sg**	**11 56 39.6**	**-0.2**
baz=355							
TWF1	**Yuli**	**1.18**	**242**	P	**Pg**	**11 56 25.2**	**+0.3**
baz=238							
TWF1				*eS*	**Sg**	**11 56 40.2**	**-0.1**
baz=238							
TIPB	**Shuangxi**	**1.20**	**332**	*eP*	**Pg**	**11 56 25.1**	**0.0**
baz=331							
TIPB				*eS*	**Sb**	**11 56 40.2**	**0.0**
baz=331							
VWDT	**VWDT**	**1.20**	**263**	*eP*	**Pg**	**11 56 25.3**	**+0.1**
baz=258							
VWDT				*eS*	**Sb**	**11 56 40.0**	**-0.2**
baz=258							
TWT	**Tachien**	**1.20**	**287**	*eP*	**Pg**	**11 56 26.0**	**+0.7**
baz=270							
TWT				*eS*	**Sn**	**11 56 41.7**	**+0.4**
baz=270							
TDCB	**Techi**	**1.22**	**287**	*eP*	**Pg**	**11 56 25.8**	**+0.2**
baz=271							
TDCB				*eS*	**Sb**	**11 56 40.4**	**-0.6**
baz=271							
YHNB	**Yeheng**	**1.23**	**308**	*eP*	**Pg**	**11 56 25.7**	**-0.1**
baz=293							
YHNB				*eS*	**Sb**	**11 56 41.4**	**+0.2**
baz=293							
NSK	**Sanguang**	**1.25**	**308**	P	**Pg**	**11 56 26.0**	**-0.1**
baz=293							
NSK				*eS*	**Sb**	**11 56 41.3**	**-0.4**
baz=293							
IRIF	**Iriomote-Funau**	**1.26**	**70**	P	**Pg**	**11 56 27.0**	**+0.7**
IRIF				S	**Sn**	**11 56 43.7**	**+1.3**
HATJ	**Hateruma jima**	**1.26**	**83**	P	**Pg**	**11 56 26.7**	**+0.3**
HATJ				*eS*	**Sg**	**11 56 43.2**	**+0.4**
FULB	**Fuli**	**1.27**	**236**	*eP*	**Pb**	**11 56 26.0**	**0.0**
baz=222							
FULB				*eS*	**Sb**	**11 56 42.3**	**+0.1**
baz=222							
CHKT	**Chengkung**	**1.27**	**231**	*eP*	**Pg**	**11 56 26.4**	**-0.3**
baz=227							
CHKT				*eS*	**Sb**	**11 56 40.8**	**-1.5**
baz=227							
NWF	**Wu-fen Shan**	**1.30**	**333**	*eP*	**Pb**	**11 56 26.7**	**+0.1**
baz=331							
NWF				*eS*	**Sb**	**11 56 43.0**	**-0.3**
baz=331							
WFSB	**Wu-fen Shan**	**1.30**	**333**	*eP*	**Pn**	**11 56 26.2**	**0.0**
baz=331							
WFSB				*eS*	**Sb**	**11 56 43.2**	**0.0**
baz=331							
TWA	**Mucha**	**1.32**	**324**	*eP*	**Pg**	**11 56 28.5**	**+1.0**
baz=322							
TWA				*eS*	**Sb**	**11 56 44.0**	**+0.2**
baz=322							
NHDH	**Xindian Distri**	**1.34**	**322**	*eP*	**Pg**	**11 56 28.2**	**+0.3**
baz=333							
SSLB	**Suanglung**	**1.36**	**265**	*eP*	**Pb**	**11 56 27.6**	**0.0**
baz=261							
SSLB				*eS*	**Sb**	**11 56 44.2**	**-0.9**
baz=261							
TATO	**Taipei**	**1.37**	**321**	*eP*	**Pg**	**11 56 28.4**	**-0.1**
baz=302							
TATO				*eS*	**Sb**	**11 56 44.9**	**-0.3**
baz=302							
DPDB	**Guoxing**	**1.39**	**275**	*eP*	**Pg**	**11 56 28.4**	**-0.4**
baz=264							
DPDB				*eS*	**Sb**	**11 56 45.4**	**-0.3**
baz=264							
SMLT	**Sun Moon Lake**	**1.41**	**269**	P	**Pb**	**11 56 28.6**	**+0.2**
baz=265							
SMLT				*eS*	**Sn**	**11 56 45.5**	**-0.8**
baz=265							
WHP	**Taichung City**	**1.41**	**285**	*eP*	**Pg**	**11 56 29.5**	**+0.2**
baz=272							
YUS	**Yu-Shan**	**1.42**	**253**	*eP*	**Pb**	**11 56 29.1**	**+0.2**
baz=249							
YUS				*eS*	**Sb**	**11 56 46.3**	**-0.9**
baz=249							
WLTB	**Daxi**	**1.43**	**311**	*eP*	**Pg**	**11 56 29.6**	**-0.1**
baz=295							
WLTB				*eS*	**Sn**	**11 56 46.8**	**+0.1**
baz=295							
TYC	**Yuchr**	**1.45**	**270**	*eP*	**Pb**	**11 56 29.1**	**+0.1**
baz=266							
TYC				*eS*	**Sn**	**11 56 46.7**	**-0.3**
baz=266							
YM01	**YM01**	**1.46**	**328**	*eP*	**Pb**	**11 56 29.4**	**+0.1**
baz=341							
YM01				*eS*	**Sn**	**11 56 47.6**	**+0.1**
baz=341							
WHYT	**Xinyi Township**	**1.47**	**262**	*eP*	**Pb**	**11 56 29.8**	**+0.4**
baz=246							
WHYT				*eS*	**Sg**	**11 56 49.1**	**-0.2**
baz=246							
YM10	**YM10**	**1.47**	**327**	*eP*	**Pb**	**11 56 29.2**	**-0.4**
baz=341							
YM10				*eS*	**Sn**	**11 56 47.5**	**-0.4**
baz=341							
JKRS	**Kuro-shima**	**1.48**	**77**	P	**Pg**	**11 56 30.2**	**-0.3**
JKRS				*eS*	**Sg**	**11 56 49.4**	**-0.2**
YM11	**YM11**	**1.48**	**328**	*eP*	**Pb**	**11 56 29.8**	**+0.2**
baz=326							
YM11				*eS*	**Sg**	**11 56 50.0**	**+0.3**
baz=326							
YM05	**YM05**	**1.48**	**328**	*eP*	**Pn**	**11 56 29.2**	**+0.5**
baz=326							
YM05				*eS*	**Sn**	**11 56 46.9**	**-1.1**
baz=326							
YM04	**YM04**	**1.48**	**327**	*eP*	**Pb**	**11 56 29.3**	**-0.4**
baz=341							
YM04				*eS*	**Sn**	**11 56 48.0**	**-0.1**
baz=341							
ELDTW	**Lidau**	**1.49**	**241**	*eP*	**Pn**	**11 56 29.2**	**+0.4**
baz=238							
ELDTW				*eS*	**Sn**	**11 56 47.6**	**-0.6**
baz=238							
YM08	**YM08**	**1.49**	**329**	*eP*	**Pb**	**11 56 29.9**	**+0.1**
baz=327							
YM08				*eS*	**Sn**	**11 56 48.0**	**-0.2**
baz=327							
LIOB	**Emei**	**1.49**	**300**	*eP*	**Pg**	**11 56 30.8**	**0.0**
baz=296							
LIOB				*eS*	**Sn**	**11 56 48.1**	**-0.1**
baz=296							
NSTT	**Nanjuang**	**1.49**	**299**	P	**Pg**	**11 56 30.4**	**-0.5**
baz=283							
NSTT				*eS*	**Sb**	**11 56 48.9**	**+0.1**
baz=283							
TWS1	**Kuangyinshan**	**1.50**	**322**	*eP*	**Pb**	**11 56 30.2**	**+0.2**
baz=320							
TWS1				*eS*	**Sn**	**11 56 48.0**	**-0.5**
baz=320							
ALS	**Alishan**	**1.55**	**255**	P	**Pb**	**11 56 31.3**	**+0.4**
baz=252							
ALS				*eS*	**Sn**	**11 56 49.5**	**-0.4**
baz=252							
NCUH	**Zhongli**	**1.55**	**313**	*eP*	**Pg**	**11 56 31.4**	**-0.6**
baz=310							
NCUH				*eS*	**Sn**	**11 56 50.2**	**+0.5**
baz=310							
TWY	**Chenhua**	**1.56**	**331**	*eP*	**Pb**	**11 56 31.0**	**0.0**
baz=329							
WJS	**Zhushan**	**1.57**	**267**	*eP*	**Pg**	**11 56 32.1**	**-0.1**
baz=263							
WJS				*eS*	**Sb**	**11 56 51.6**	**+0.7**
baz=263							
TWQ1	**Liyutan**	**1.58**	**286**	*eP*	**Pg**	**11 56 32.2**	**-0.3**
baz=282							
TWQ1				*eS*	**Sb**	**11 56 51.9**	**+0.6**
baz=282							
WNT	**Mingjian**	**1.60**	**269**	*eP*	**Pg**	**11 56 32.7**	**-0.3**
baz=265							
WNT				*eS*	**Sb**	**11 56 52.5**	**+0.6**
baz=265							
NSY	**Sanyi**	**1.61**	**289**	*eP*	**Pg**	**11 56 32.7**	**-0.4**
baz=285							
NSY				*eS*	**Sb**	**11 56 51.9**	**-0.2**
baz=285							
JIJ	**Ishigaki jima**	**1.62**	**74**	P	**Pb**	**11 56 31.8**	**-0.3**
JIJ				*eS*	**Sn**	**11 56 51.8**	**+0.4**
NMLH	**Miaoli**	**1.63**	**293**	*eP*	**Pg**	**11 56 32.9**	**-0.5**
baz=291							
TCU	**Taichung**	**1.63**	**279**	*eP*	**Pg**	**11 56 33.2**	**-0.2**
baz=275							
TCU				*eS*	**Sb**	**11 56 53.1**	**+0.5**
baz=275							
TWGBT	**Beinan**	**1.65**	**229**	*eP*	**

	baz=239							
TWG				eS	Sn	11 56 51.6	-0.7	
	baz=239							
PTSB	**Yuanli**	**1.67**	**289**	eP	Pg	11 56 33.5	-0.7	
	baz=287							
WDJ	**Dajia District**	**1.70**	**285**	eP	Pb	11 56 33.7	+0.3	
	baz=283							
STYT	**Tauyuan**	**1.71**	**245**	eP	Pb	11 56 33.4	-0.2	
	baz=233							
STYT				eS	Sn	11 56 54.0	+0.3	
	baz=233							
WCHH	**Zhanghua**	**1.73**	**276**	eP	Pg	11 56 34.5	-0.8	
	baz=272							
WCHH				eS	Sb	11 56 56.5	+1.0	
	baz=272							
WGK	**Gukeng**	**1.73**	**263**	eP	Pb	11 56 34.6	+0.7	
	baz=259							
WGK				eS	Sb	11 56 56.7	+1.1	
	baz=259							
PCYT	**Pengchaiyu**	**1.74**	**349**	eP	Pn	11 56 33.1	+0.8	
	baz=334							
WDLH	**Douliu**	**1.75**	**263**	eP	Pg	11 56 35.0	-0.8	
	baz=259							
WDLH				eS	Sg	11 56 57.5	-1.1	
	baz=259							
TPUB	**Ta-pu**	**1.76**	**250**	eP	Pb	11 56 34.9	+0.4	
	baz=247							
TPUB				eS	Sb	11 56 56.8	+0.2	
	baz=247							
CHN4	**Tsaushan**	**1.78**	**252**	P	Pb	11 56 35.3	+0.6	
	baz=249							
CHN4				eS	Sb	11 56 57.7	+0.7	
	baz=249							
WTP	**Ta-pu**	**1.80**	**249**	eP	Pb	11 56 35.3	+0.2	
	baz=236							
WTP				eS	Sb	11 56 57.5	-0.1	
	baz=236							
CHN2	**Minshiung**	**1.84**	**259**	eP	Pg	11 56 36.7	-0.6	
	baz=255							
CHN2				eS	Sn	11 56 57.5	+0.8	
	baz=255							
JISG	**Ishigakijimahi**	**1.84**	**68**	P	Pb	11 56 35.1	-0.6	
JISG				S	Sn	11 56 56.7	-0.1	
SLGT	**Liugui**	**1.88**	**241**	eP	Pb	11 56 36.6	+0.1	
	baz=231							
SLGT				eS	Sb	11 57 00.2	+0.3	
	baz=231							
ECL	**Taimali**	**1.89**	**226**	eP	Pn	11 56 34.7	+0.5	
	baz=234							
CHY	**Chiayi**	**1.89**	**258**	eP	Pb	11 56 36.9	+0.3	
	baz=255							
SGST	**Jiashian**	**1.89**	**245**	eP	Pb	11 56 36.2	-0.4	
	baz=233							
SGST				eS	Sn	11 56 59.2	+1.2	
	baz=233							
CHN1	**Nanshi**	**1.89**	**248**	eP	Pb	11 56 37.1	+0.5	
	baz=245							
CHN1				eS	Sb	11 57 01.0	+0.6	
	baz=245							
TWK	**Hsinying**	**1.90**	**251**	P	Pb	11 56 37.0	+0.2	
	baz=247							
TWK				eS	Sb	11 57 00.6	+0.1	
	baz=247							
RLNB	**Erlin**	**1.90**	**270**	eP	Pn	11 56 34.5	+0.1	
	baz=280							
RLNB				eS	Sb	11 57 00.8	+0.3	
	baz=280							
SNST	**Tainan City**	**1.91**	**249**	eP	Pb	11 56 37.2	+0.3	
	baz=246							
SNST				eS	Sb	11 57 00.6	-0.1	
	baz=246							
WTCT	**Ta-ch'eng**	**1.97**	**269**	eS	Sb	11 57 02.8	+0.2	
	baz=279							
WLGB	**Puzi**	**2.00**	**258**	eS	Sb	11 57 03.8	+0.3	
	baz=255							
SSD	**Sandimen**	**2.02**	**235**	eP	Pb	11 56 37.7	-1.1	
	baz=228							
SSD				eS	Sn	11 57 02.2	+0.9	
	baz=228							
LAY	**Lan-yu**	**2.03**	**204**	eP	Pn	11 56 36.4	+0.2	
	baz=203							
LAY				eS	Sn	11 57 00.5	-1.1	
	baz=203							
WSF	**Szhu**	**2.05**	**263**	eP	Pb	11 56 39.1	-0.1	
	baz=259							
WSF				eS	Sb	11 57 04.3	-0.3	
	baz=259							
CHN3	**Shinhua**	**2.07**	**247**	eS	Sb	11 57 05.8	+0.3	
	baz=244							
MASBT	**Mashibuluo**	**2.10**	**232**	eP	Pb	11 56 39.0	-1.2	
	baz=225							
MASBT				eS	Sn	11 57 03.7	+0.4	
	baz=225							
EAST	**Anshuo**	**2.11**	**224**	eP	Pn	11 56 37.5	+0.2	
	baz=222							
CHN8	**Yiju**	**2.12**	**255**	eS	Sb	11 57 05.5	-1.2	
	baz=252							
JTJ	**Tarama**	**2.19**	**70**	P	Pb	11 56 41.6	-0.1	
JTJ				eS	Sb	11 57 07.9	-1.0	
SSPT	**Xinbi**	**2.23**	**231**	eP	Pb	11 56 41.8	-0.6	
	baz=223							
SCZT	**Fangliau**	**2.27**	**228**	eP	Pb	11 56 41.9	-1.1	
	baz=219							
SCZT				eS	Sn	11 57 07.2	-0.1	
	baz=219							
TWKBT	**Hengchun**	**2.47**	**218**	eP	Pn	11 56 43.6	+1.5	
	baz=216							
TWKBT				eS	Sn	11 57 13.2	+1.0	
	baz=216							
WDGT	**Dungji**	**2.63**	**256**	eP	Pn	11 56 46.4	+1.9	
	baz=253							
WDGT				eS	Sn	11 57 16.3	+0.1	
	baz=253							
PHUB	**P'eng-hu**	**2.65**	**262**	eP	Pn	11 56 46.3	+1.6	
	baz=259							
PHUB				eS	Sn	11 57 16.6	-0.3	
	baz=259							
PNG	**Penghu**	**2.66**	**263**	eP	Pn	11 56 46.5	+1.6	
	baz=260							
PNG				eS	Sn	11 57 17.2	+0.2	
	baz=260							
VCHM	**Qimei**	**2.85**	**256**	eP	Pn	11 56 49.3	+1.9	
	baz=255							
PTTC	**Pingtan**	**2.90**	**304**	eP	Pn	11 56 47.9	-0.2	
	baz=302							
VWUC	**VWUC**	**2.93**	**292**	eP	Pn	11 56 48.7	+0.2	
	baz=288							
VWUC				eS	Sn	11 57 21.1	-2.5	
	baz=288							
MATB	**Ma-tsu**	**3.18**	**315**	eP	Pn	11 56 52.0	0.0	
	baz=312							
PTMZ	**Houxiangcun**	**3.22**	**291**	eP	Pn	11 56 53.0	+0.4	
	baz=287							
PTMZ				eS	Sn	11 57 28.5	-2.4	
	baz=287							
XPSS	**Dashiqiu**	**3.63**	**326**	eP	Pn	11 56 58.5	+0.4	
	baz=334							
KNMB	**Chin-men Tao**	**3.74**	**279**	eP	Pn	11 57 00.3	+0.6	
	baz=276							
KNMB				eS	Sn	11 57 41.7	-2.0	
	baz=276							
MHZQ	**Yeshan**	**3.78**	**306**	eP	Pn	11 57 00.4	+0.1	
	baz=304							
AXDP	**Jialang**	**4.19**	**285**	eP	Pn	11 57 06.5	+0.6	
	baz=280							
AXDP				eS	Sn	11 57 53.1	-1.7	
	baz=280							
ZPLA	**Ao Xicun**	**4.29**	**271**	eP	Pn	11 57 08.2	+0.9	
	baz=268							
ZPLA				eS	Sn	11 57 55.5	-1.7	
	baz=268							
SONM	**Songino Array**	**27.07**	**336**	P	P	12 01 43.7	-1.0	
	0.4nm,0.5s,baz=148,slow=8.4,SNR=3.5							
MKAR	**Makanchi Array**	**39.33**	**316**	P	P	12 03 30.8	-0.4	
	0.3nm,0.5s,baz=99,slow=10.0,SNR=5.1							
WRA	**Warramunga Arr**	**45.10**	**164**	P	P	12 04 19.0	+0.5	
	0.3nm,0.8s,baz=346,slow=8.9,SNR=2.8							
ASAR	**Alice Springs**	**48.59**	**166**	P	P	12 04 47.4	+1.6	
	0.4nm,1.0s,baz=346,slow=6.7,SNR=5.4							

ISCJB ***22*** *11:57:20.5±0.5,8°.33N±0°.04×82°.67W±0°.03,h43km±4km, Error ellipse: s-maj=7.8km s-min=3.5km az=26.8*
UPA ***22*** *11:57:20.1±1.1,8°.38N×82°.68W,h46km±4km,MW3.8*
UCR ***22*** *11:57:21.5±1.4,8°.37N×82°.74W,h28km±4km,MW3.5*
ISC 22 11:57:21.3±1.0,8°.36N±0°.04×82°.67W±0°.03,h33km±2km, n29,σ0°96/47,4C-1D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.13**	**290**	⇑*i*P	Pn	11 57 26.7	+1.4
LESP3				eS	Sb	**11 57 30.5**	**-0.9**
BAGA3	**Bagala, Chiriq**	**0.17**	**52**	eP	Pn	**11 57 27.5**	**+0.9**
BAGA3				eS	Sb	**11 57 33.7**	**+1.6**
SBAR3	**San Bartolo, C**	**0.22**	**259**	⇓*i*P	Pb	**11 57 28.6**	**+0.4**
SBAR3				eS	Sb	**11 57 34.8**	**+2.1**
DVD	**David**	**0.23**	**71**	eP	Pn	**11 57 28.2**	**+0.3**
DVD				eS	Sb	**11 57 34.4**	**+1.5**
PEDE3	**Pedregal, Chir**	**0.24**	**84**	eP	Pn	**11 57 28.4**	**+0.1**
PEDE3				eS	Sb	**11 57 34.3**	**+1.1**
LOCO3	**Loma Colorada,**	**0.25**	**79**	eP	Pn	**11 57 27.9**	**-0.4**
LOCO3				eS	Sb	**11 57 34.8**	**+1.4**
LOMA3	**Las Lomas, Chi**	**0.28**	**75**	eP	Pb	**11 57 28.1**	**-0.8**
LOMA3				eS	Sn	**11 57 34.3**	**+0.8**
CHIR3	**Chiriqui UPA,**	**0.33**	**84**	eP	Pb	**11 57 29.1**	**-0.4**
CHIR3				eS	Sn	**11 57 36.4**	**+1.1**
PTAR3	**Potrerillos Ar**	**0.37**	**27**	eP	Pb	**11 57 29.8**	**-0.4**
PTAR3				eS	Sb	**11 57 37.3**	**+1.1**
BCO2	**Palmira**	**0.38**	**21**	⇑*i*P	Pb	**11 57 30.0**	**-0.4**
BCO2				eS	Sb	**11 57 37.3**	**+0.7**
BRU2	**Volcan**	**0.43**	**357**	⇑eP	Pb	**11 57 30.1**	**-1.0**
BRU2				eS	Sb	**11 57 38.4**	**+0.7**
BRU2	**Volcan**	**0.43**	**357**	⇑*i*P	Pb	**11 57 30.1**	**-1.0**
BRU2				eS	Sb	**11 57 37.8**	**0.0**
MLIR3	**Monte Lirio, C**	**0.46**	**340**	eP	Pb	**11 57 30.7**	**-0.7**
MLIR3				eS	Sb	**11 57 39.4**	**+1.1**
EDSV	**San Vito**	**0.55**	**327**	eP	Pn	**11 57 31.6**	**-1.2**
CHGR2	**Aguacate**	**0.77**	**42**	eP	Pn	**11 57 34.0**	**-1.9**
CHGR2				eS	Sn	**11 57 45.5**	**-0.9**
REME3	**Remedios, Chir**	**0.84**	**99**	eP	Pn	**11 57 35.9**	**-0.9**
REME3				eS	Sn	**11 57 47.4**	**-0.5**
NANC3	**Nancito, Chiri**	**0.93**	**97**	eS	Sn	**11 57 50.3**	**-0.1**
PVID3	**Puerto Vidal,**	**1.09**	**106**	eS	Sn	**11 57 54.6**	**+0.3**
EDLM	**Las Mercedes**	**1.29**	**315**	eS	Sn	**11 57 59.5**	**+0.2**
EDDO	**Dominical**	**1.48**	**307**	eP	Pn	**11 57 44.3**	**-1.3**
GMAL	**Guarumal, Vera**	**1.54**	**113**	eP	Pn	**11 57 45.5**	**-0.9**
GMAL				eS	Sn	**11 58 05.8**	**+0.5**
LCR2	**La Lucha 2**	**1.91**	**316**	eP	Pn	**11 57 51.3**	**-0.4**
LCR2				eS	Sn	**11 58 14.9**	**+0.2**
CVTR	**Volcan Turrial**	**1.97**	**327**	eP	Pn	**11 57 52.8**	**0.0**
CACAO	**El Cacao, Vera**	**2.05**	**119**	eP	Pn	**11 57 52.0**	**-1.5**
CACAO				eS	Sn	**11 58 17.7**	**-0.3**
AZU	**Azuero**	**2.44**	**103**	eP	Pn	**11 57 58.6**	**-0.2**
AZU				eS	Sn	**11 58 26.9**	**-0.5**
ARE1	**Arenal 1**	**2.91**	**316**	eP	Pn	**11 58 06.3**	**+1.0**
BCIP	**Isla Barro Col**	**2.91**	**74**	eP	Pn	**11 58 06.4**	**+1.1**
JTS	**Las Juntas de**	**2.96**	**311**	eP	Pn	**11 58 06.8**	**+0.7**
CUI	**Cuipilapa**	**3.36**	**313**	eP	Pn	**11 58 12.4**	**+0.9**

ISCJB ***22*** *12:00:22.7±0.1,35°.37N±0°.01×31°.86E±0°.02,h84km±2km, mb3.9/12,Error ellipse: s-maj=2.6km s-min=1.7km az=135.4*
DDA ***22*** *12:00:23.9,35°.49N×31°.94E,h56km±3km,MW3.9*
IDC ***22*** *12:00:23.5±1.4,35°.44N×31°.94E,h69km±15km,mb3.8/12, mb1 3.9/21,mb1mx3.7/44,mbtmp4.1/21,MS2.2/1, Ms1 2.2/1,ms1mx1.8/45,Error ellipse: s-maj=14.3km s-min=9.0km az=65.0*
ISK ***22*** *12:00:24.6,35°.50N×31°.97E,h24km,ML4.0/31*
NEIC ***22*** *12:00:24.4±1.3,35°.44N±0°.04×31°.89E±0°.05,h70km±6km, mb4.1/15,ML4.0(ISK)*
HLW ***22*** *12:00:24.1,35°.27N×31°.93E,h10km±20km,Md4.0,Ml4.5*
THE ***22*** *12:00:25.0,35°.35N×31°.79E,h62km±7km,ML4.0/4,Error ellipse: s-maj=7.5km s-min=0.6km az=138.0*
NIC ***22*** *12:00:25.1±0.0,35°.55N×31°.95E,h28km±2km,Ml4.2/8*
GII ***22*** *12:00:25.6±0.0,35°.27N×32°.08E,h20km,mb4.1/1, MD3.6/8*
ISC 22 12:00:23.7±0.7,35°.41N±0°.02×31°.86E±0°.02,h71km±7km, n229,σ1°12/300,mb4.0/16,3C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.56**	**135**	P	Pn	**12 00 37.7**	**+0.5**
AKMS				S	Sn	**12 00 47.7**	**+0.6**
AKMS				AML	AML	12 00 47.9	
	68nm,0.4s						
AKMS				AML	AML	12 00 47.9	
	68nm,0.4s						
AKMS				AML	AML	12 00 48.0	
	73nm,0.1s						
AKMS				AML	AML	12 00 48.0	
	73nm,0.1s						
ALFC	**Alefka**	**0.66**	**113**	⇓P	Pn	**12 00 38.5**	**+0.2**
ALFC				S	Sn	**12 00 49.1**	**0.0**
ALFC				AML	AML	12 00 49.2	
	78nm,0.2s						
ALFC				AML	AML	12 00 49.2	
	78nm,0.2s						
ALFC				AML	AML	12 00 49.2	
	51nm,0.1s						
ALFC				AML	AML	12 00 49.2	
	51nm,0.1s						
NATA	**Nata**	**0.86**	**137**	P	Pn	**12 00 41.7**	**+1.0**
NATA				S	Sn	**12 00 55.3**	**+2.2**
NATA				AML	AML	12 00 58.8	
	89nm,0.4s						
NATA				AML	AML	12 00 58.8	
	89nm,0.4s						
NATA				AML	AML	12 01 00.0	
	90nm,1.0s						
NATA				AML	AML	12 01 00.0	
	90nm,1.0s						
LEF	**Lefka**	**0.90**	**109**	*i* P	Pn	**12 00 40.7**	**-0.2**
LEF				*i* S	Sn	**12 00 52.7**	**-1.1**
LEF				IAML		12 00 54.0	
	comp=E,4μm,0.8s						
LEF				IAML		12 00 56.0	
	comp=N,3μm,0.7s						
LEF	**Lefka**	**0.90**	**109**	PG	Pn	**12 00 40.8**	**-0.2**
LEF				SG	Sn	**12 00 52.5**	**-1.3**
LEF	**Lefka**	**0.90**	**109**		Pn	**12 00 40.8**	**-0.1**
LEF					Sn	**12 00 52.5**	**-1.3**
GAZI	**Gazipasa**	**0.90**	**24**	*i* P	Pn	**12 00 40.7**	**-0.4**
GAZI				*i* S	Sn	**12 00 52.3**	**-1.8**
GAZI				IAML		12 00 53.0	
	comp=E,3μm,0.4s						
GAZI				IAML		12 00 53.0	
	comp=N,3μm,1.1s						
GAZI	**Gazipasa**	**0.90**	**24**	PG	Pn	**12 00 40.7**	**-0.4**
GAZI				SG	Sn	**12 00 52.0**	**-2.0**
AKDN	**Akdeniz- Kıbrı**	**0.92**	**97**	PG	Pn	**12 00 41.5**	**+0.3**
AKDN	**Akdeniz- Kıbrı**	**0.92**	**97**		Pn	**12 00 41.5**	**+0.3**
SZAC	**Souni**	**1.07**	**128**	⇑P	Pn	**12 00 44.0**	**+0.9**
SZAC				AML	AML	12 00 59.5	
	comp=N,25nm,0.4s						
SZAC				AML	AML	12 00 59.5	
	comp=N,25nm,0.4s						
SZAC				S	Sn	**12 00 59.6**	**+2.0**
SZAC				AML	AML	12 01 00.7	
	comp=N,27nm,0.3s						
SZAC				AML	AML	12 01 00.7	
	comp=N,27nm,0.3s						
ALAN	**Alanya-ANTALYA**	**1.15**	**7**	PG	Pn	**12 00 44.3**	**+0.1**
ALAN				SG	Sn	**12 00 58.8**	**-0.7**
ALAN	**Alanya-ANTALYA**	**1.15**	**7**		Pn	**12 00 44.3**	**+0.1**
ALAN					Sn	**12 00 58.8**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.26**	**54**	PN	Pn	**12 00 45.5**	**0.0**
TEKE				SN	Sn	**12 01 00.5**	**-1.4**
TEKE	**Tekeli-Mersin**	**1.26**	**54**	Pn	Pn	**12 00 45.5**	**0.0**
TEKE				Sn	Sn	**12 01 00.4**	**-1.4**
CSS	**Mathiatis**	**1.29**	**110**	P	Pn	**12 00 46.3**	**+0.3**
CSS				S	Sn	**12 01 03.3**	**+0.6**
CSS	**Mathiatis**	**1.29**	**110**	Pg	Pn	**12 00 45.6**	**-0.4**
CSS	**Mathiatis**	**1.29**	**110**	PN	Pn	**12 00 46.7**	**+0.7**
CSS				SN	Sn	**12 01 03.0**	**+0.3**
CSS	**Mathiatis**	**1.29**	**110**	P	Pn	**12 00 46.6**	**+0.6**
CSS	**Mathiatis**	**1.29**	**110**	⇑P	Pn	**12 00 46.5**	**+0.5**
CSS				S	Sn	**12 01 03.9**	**+1.2**
CSS	**Mathiatis**	**1.29**	**110**		Pn	**12 00 46.6**	**+0.6**
CSS				Sn	Sn	**12 01 02.0**	**-0.7**
ATHAL	**Athalassa**	**1.29**	**102**	P	Pn	**12 00 46.6**	**+0.7**
ATHAL				S	Sn	**12 01 04.1**	**+1.5**
ATHAL				AML	AML	12 01 07.2	
	comp=N,17nm,0.7s						
ATHAL				AML	AML	12 01 07.2	
	comp=N,17nm,0.7s						
ATHAL				AML	AML	12 01 15.6	
	comp=N,16nm,0.6s						
ATHAL				AML	AML	12 01 15.6	
	comp=N,16nm,0.6s						
ASGA	**Asgata**	**1.30**	**118**	P	Pn	**12 00 46.7**	**+0.6**
ASGA				S	Sn	**12 01 04.4**	**+1.5**
ASGA				AML	AML	12 01 05.3	
	comp=N,8.3nm,0.2s						
ASGA				AML	AML	12 01 05.3	
	comp=N,8.3nm,0.2s						
ASGA				AML	AML	12 01 16.6	
	comp=N,8.9nm,0.5s						
ASGA				AML	AML	12 01 16.6	
	comp=N,8.9nm,0.5s						
AKIN	**Akıncılar- Kıb**	**1.38**	**106**	PN	Pn	**12 00 47.9**	**+0.8**
AKIN	**Akıncılar- Kıb**	**1.38**	**106**	Pn	Pn	**12 00 47.9**	**+0.8**
YORU	**Yoruktepe-Mers**	**1.46**	**59**	PN	Pn	**12 00 48.4**	**+0.2**
YORU	**Yoruktepe-Mers**	**1.46**	**59**	Pn	Pn	**12 00 48.4**	**+0.2**
ERMK	**Ermenek**	**1.50**	**35**	*i* PA	Pn	**12 00 49.9**	**+1.0**
ERMK				*i* S	Sn	**12 01 09.8**	**+2.0**
ERMK				IAML		12 01 11.0	
	comp=N,2μm,0.4s						
ERMK				IAML		12 01 13.0	
	comp=E,3μm,0.4s						
KEPZ	**Antalya-Kepez**	**1.50**	**352**	*i* P	Pn	**12 00 49.1**	**+0.4**
KEPZ				*i* S	Sn	**12 01 06.9**	**-0.8**
KEPZ				IAML		12 01 15.0	
	comp=E,758nm,0.6s						
MVOU	**Mavrovouni**	**1.51**	**105**	⇑P	Pn	**12 00 48.9**	**+0.1**
MVOU				S	Sn	**12 01 09.1**	**+1.3**
MVOU				AML	AML	12 01 12.8	
	comp=E,6.7nm,0.7s						
MVOU				AML	AML	12 01 12.8	
	comp=E,6.7nm,0.7s						
MVOU				AML	AML	12 01 22.0	
	comp=E,4.5nm,0.6s						
MVOU				AML	AML	12 01 22.0	
	comp=E,4.5nm,0.6s						
OREN	**Orenkoy-Mersin**	**1.53**	**58**	PN	Pn	**12 00 49.1**	**0.0**
OREN	**Orenkoy-Mersin**	**1.53**	**58**	Pn	Pn	**12 00 49.1**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.55**	**61**	PN	Pn	**12 00 49.6**	**+0.2**
AKK1	**Akkuyu-Mersin**	**1.55**	**61**	Pn	Pn	**12 00 49.5**	**+0.2**
AKK2	**Akkuyu-Mersin**	**1.56**	**62**	PN	Pn	**12 00 49.7**	**+0.3**
AKK2	**Akkuyu-Mersin**	**1.56**	**62**	Pn	Pn	**12 00 49.6**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.57**	**61**	PN	Pn	**12 00 49.9**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.57**	**61**	Pn	Pn	**12 00 50.0**	**+0.3**
GULN	**MERSIN_Gulnar**	**1.57**	**60**	*i* PA	Pn	**12 00 49.8**	**+0.1**
GULN				*i* S	Sn	**12 01 08.7**	**-0.6**
GULN				IAML		12 01 11.0	
	comp=E,1μm,0.5s						
GULN				IAML		12 01 12.0	
	comp=N,1μm,0.5s						
TEPE	**Tepekoy-Mersin**	**1.60**	**59**	PN	Pn	**12 00 50.3**	**+0.2**
TEPE	**Tepekoy-Mersin**	**1.60**	**59**	Pn	Pn	**12 00 50.3**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.65**	**51**	PN	Pn	**12 00 51.2**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.65**	**51**	Pn	Pn	**12 00 51.2**	**+0.5**
YESI	**Yesilovacik-Me**	**1.65**	**61**	PN	Pn	**12 00 51.0**	**+0.3**
YESI	**Yesilovacik-Me**	**1.65**	**61**	Pn	Pn	**12 00 51.0**	**+0.3**
TISA	**Tisan-Mersin**	**1.66**	**63**	PN	Pn	**12 00 51.4**	**+0.6**
TISA	**Tisan-Mersin**	**1.66**	**63**	Pn	Pn	**12 00 51.4**	**+0.6**
IKL	**Isikli**	**1.70**	**60**	PN	Pn	**12 00 51.8**	**+0.4**
IKL	**Isikli**	**1.70**	**60**	Pn	Pn	**12 00 51.8**	**+0.4**
KARG	**Kargicak-Mersi**	**1.70**	**62**	PN	Pn	**12 00 51.9**	**+0.6**
KARG	**Kargicak-Mersi**	**1.70**	**62**	Pn	Pn	**12 00 52.0**	**+0.6**
ANTB	**Antalya**	**1.77**	**327**	PN	Pn	**12 00 54.6**	**+2.3**
ANTB	**Antalya**	**1.77**	**327**	Pn	Pn	**12 00 54.7**	**+2.4**
KEBE	**Keben-Mersin**	**1.83**	**55**	PN	Pn	**12 00 53.9**	**+0.8**
KEBE	**Keben-Mersin**	**1.83**	**55**	Pn	Pn	**12 00 53.9**	**+0.8**
PARAL	**Paralimni**	**1.84**	**102**	P	Pn	**12 00 54.6**	**+1.4**
PARAL				AML	AML	12 01 27.7	
	comp=N,6.3nm,0.7s						
PARAL				AML	AML	12 01 33.6	
	comp=N,5.5nm,0.7s						
EREN	**Erenkoy**	**1.89**	**86**	*i* P	Pn	**12 00 54.1**	**+0.2**
EREN				*i* S	Sn	**12 01 17.2**	**+0.3**
EREN				IAML		12 01 19.0	
	comp=E,896nm,0.5s						
EREN				IAML		12 01 26.0	
	comp=N,520nm,0.6s						
EREN	**Erenkoy**	**1.89**	**86**	PN	Pn	**12 00 54.3**	**+0.4**
EREN	**Erenkoy**	**1.89**	**86**	Pn	Pn	**12 00 54.3**	**+0.4**
SILI	**Silifke-Mersin**	**1.93**	**60**	PN	Pn	**12 00 55.2**	**+0.8**
SILI	**Silifke-Mersin**	**1.93**	**60**	Pn	Pn	**12 00 55.2**	**+0.8**
SLFK	**Silifke-Mersin**	**1.96**	**59**	PN	Pn	**12 00 55.2**	**+0.4**
SLFK	**Silifke-Mersin**	**1.96**	**59**	Pn	Pn	**12 00 55.2**	**+0.4**
KSL	**Kastellorizon**	**1.99**	**292**	P	Pn	**12 00 55.6**	**+0.4**
KSL				S	Sn	**12 01 18.6**	**-0.6**
	comp=N,495nm,0.9s						
KSL	**Kastellorizon**	**1.99**	**292**	P	Pn	**12 00 57.3**	**+2.1**
KORT	**Korkueli**	**2.00**	**323**	*i* P	Pn	**12 00 56.3**	**+0.8**
KORT				*i* S	Sn	**12 01 20.8**	**+1.1**
KORT	**Korkueli**	**2.00**	**323**	PN	Pn	**12 00 58.0**	**+2.5**
AKAS	**Kas**	**2.00**	**295**	eP	Pn	**12 00 56.7**	**+1.1**
AKAS				*i* S	Sn	**12 01 19.2**	**-0.6**
ELL	**Elmali**	**2.06**	**311**	P	Pn	**12 00 57.8**	**+1.4**
ELL				S	Sn	**12 01 22.5**	**+1.2**
ELL	**Elmali**	**2.06**	**311**		Pn	**12 00 57.5**	**+1.1**
ELL				Sn	Sn	**12 01 22.2**	**+0.9**
KIZK	**Mersin**	**2.14**	**59**	*i* PA	Pn	**12 00 58.3**	**+1.0**
KIZK				*i* S	Sn	**12 01 23.1**	**+0.2**
KIZK				IAML		12 01 24.0	
	comp=N,1μm,0.6s						
KIZK				IAML		12 01 25.0	
	comp=E,1μm,0.5s						
KIZK	**Mersin**	**2.14**	**59**	PN	Pn	**12 00 58.1**	**+0.8**
BCK	**Bucak**	**2.29**	**334**	PN	Pn	**12 01 01.1**	**+1.8**
KMER	**Konya-Meram**	**2.39**	**10**	*i* PA	Pn	**12 01 02.2**	**+1.5**
KMER				*i* S	Sn	**12 01 30.3**	**+1.2**
FETY	**Fethiye**	**2.56**	**299**	P	Pn	**12 01 02.6**	**-0.3**
FETY				S	Sn	**12 01 32.4**	**-0.6**
FETY	**Fethiye**	**2.56**	**299**	*i* P	Pn	**12 01 03.6**	**+0.7**
KONT	**Konya--Tatoy**	**2.56**	**9**	*i* P	Pn	**12 01 04.6**	**+1.6**
KONT				*i* S	Sn	**12 01 34.4**	**+1.3**
KONT	**Konya--Tatoy**	**2.56**	**9**	PN	Pn	**12 01 04.7**	**+1.7**
KONT	**Konya--Tatoy**	**2.56**	**9**	Pn	Pn	**12 01 04.7**	**+1.7**
GOLH	**Golhisar**	**2.60**	**315**	*i* P	Pn	**12 01 06.2**	**+2.6**
GOLH				*i* S	Sn	**12 01 36.0**	**+1.9**
MERS	**Mersin**	**2.60**	**55**	PN	Pn	**12 01 04.6**	**+1.0**
MERS	**Mersin**	**2.60**	**55**	Pn	P

BHL	**Bhannes**	**3.47 115**	*e*P	**Pn**	**12 01 14.6**	**-0.9**
DQRL	**Deir Qamar**	**3.51 118**	*e*P	**Pn**	**12 01 15.1**	**-0.8**
KHAL	**Karahalli**	**3.51 328**	*i* P	**Pn**	**12 01 16.9**	**+0.9**
CEYT	**Ceyhan**	**3.53 62**	PN	**Pn**	**12 01 16.3**	**+0.2**
CEYT	**Ceyhan**	**3.53 62**	Pn	**Pn**	**12 01 16.3**	**+0.2**
AKO	**Adana**	**3.54 54**	*i* P	**Pn**	**12 01 17.9**	**+1.5**
AKO			*i* S	**Sn**	**12 01 56.8**	**-0.3**
HWQ	**Hawqa**	**3.55 107**	*e*P	**Pn**	**12 01 16.7**	**+0.2**
AFYO	**Afyonkarahisar**	**3.59 340**	*i* P	**Pn**	**12 01 18.5**	**+1.4**
HNTI	**Hanita**	**3.60 129**	Pn	**Pn**	**12 01 17.0**	**-0.1**
HNTI			Sn	**Sn**	**12 01 56.9**	**-1.5**
QRWL	**Qaraoun**	**3.67 119**	*e*P	**Pn**	**12 01 18.2**	**+0.1**
DAT	**Datca**	**3.71 292**	*i* P	**Pn**	**12 01 19.2**	**+0.6**
KULU	**Kulu**	**3.74 14**	PN	**Pn**	**12 01 20.9**	**+1.8**
MMA0B	**Mount Meron ar**	**3.79 128**	Pn	**Pn**	**12 01 19.9**	**+0.1**
MMA0B			Sn	**Sn**	**12 02 01.5**	**-1.7**
MMAI	**Mount Meron Ar**	**3.79 128**	P	**Pn**	**12 01 20.4**	**+0.6**
	comp=E,37nm,0.3s,baz=315,slow=13,SNR=42					
MMAI			S	**Sn**	**12 02 01.9**	**-1.3**
	comp=E,94nm,0.3s,baz=310,slow=22,SNR=16					
RCY	**Rachaya**	**3.80 119**	*e*P	**Pn**	**12 01 20.1**	**+0.1**
OFRI	**`Ofer**	**3.81 136**	Pn	**Pn**	**12 01 19.9**	**-0.1**
OFRI			Sn	**Sn**	**12 02 01.4**	**-2.2**
KARP	**Karpathos**	**3.83 273**	P	**Pn**	**12 01 20.6**	**+0.3**
KARP			S	**Sn**	**12 02 03.0**	**-1.2**
	comp=E,1μm,0.5s					
KARP	**Karpathos**	**3.83 273**		**Pn**	**12 01 20.8**	**+0.5**
KARP			Sn	**Sn**	**12 02 03.8**	**-0.3**
GEM	**Giv'at Ha'Em**	**3.84 124**	Pn	**Pn**	**12 01 20.7**	**+0.3**
GEM			Sn	**Sn**	**12 02 02.0**	**-2.3**
BLGI	**Bet Lehem HaGe**	**3.85 133**	Pn	**Pn**	**12 01 20.9**	**+0.4**
BLGI			Sn	**Sn**	**12 02 02.8**	**-1.7**
KKUL	**Konya-Kulu**	**3.85 12**	*i* P	**Pn**	**12 01 22.0**	**+1.5**
KSDI	**Kefar Szold**	**3.85 124**	Pn	**Pn**	**12 01 20.8**	**+0.3**
KSDI			Sn	**Sn**	**12 02 02.9**	**-1.6**
KSDI	**Kefar Szold**	**3.85 124**	P	**Pn**	**12 01 21.5**	**+1.0**
NATI	**Neve Ativ**	**3.86 123**	Pn	**Pn**	**12 01 21.1**	**+0.5**
NATI			Sn	**Sn**	**12 02 02.2**	**-2.6**
YAHY	**KAYSERI_Yahyal**	**3.89 45**	*i* P	**Pn**	**12 01 22.8**	**+1.6**
YAHY			*i* S	**Sn**	**12 02 05.6**	**0.0**
USAK	**Uak-Merkez**	**4.00 326**	*i* P	**Pn**	**12 01 23.5**	**+0.9**
KULA	**Kula-Manisa**	**4.02 321**	P	**Pn**	**12 01 23.4**	**+0.6**
KULA			S	**Sn**	**12 02 06.5**	**-2.2**
BODT	**Bodrum**	**4.03 295**	P	**Pn**	**12 01 23.2**	**+0.3**
BODT			S	**Sn**	**12 02 06.8**	**-2.0**
MANT	**Manisa**	**4.05 320**	*i* PA	**Pn**	**12 01 23.7**	**+0.2**
MANT	**Manisa**	**4.05 320**		**Pn**	**12 01 23.6**	**+0.2**
MANT			Sn	**Sn**	**12 02 06.9**	**-2.9**
SLTI	**Sal'it**	**4.13 139**	Pn	**Pn**	**12 01 24.3**	**0.0**
MMLI	**Mount Malkishu**	**4.19 134**	Pn	**Pn**	**12 01 25.7**	**+0.5**
MMLI			Sn	**Sn**	**12 02 11.9**	**-1.1**
MMLI	**Mount Malkishu**	**4.19 134**	P	**Pn**	**12 01 26.0**	**+0.8**
SHMJ	**Saham**	**4.21 128**	P	**Pn**	**12 01 26.2**	**+0.8**
KAMA	**Osmaniye**	**4.27 64**	*i* P	**Pn**	**12 01 27.2**	**+0.8**
GCAM	**G?zelcaml?**	**4.37 303**	*i* P	**Pn**	**12 01 27.7**	**+0.2**
HMDT	**Nahal Hemdat**	**4.39 135**	Pn	**Pn**	**12 01 29.0**	**+1.1**
HMDT			Sn	**Sn**	**12 02 16.9**	**-0.8**
DEMI	**Demirci**	**4.41 326**	*i* P	**Pn**	**12 01 28.6**	**+0.4**
KUZU	**Kuzuini**	**4.44 71**	*i* P	**Pn**	**12 01 30.2**	**+1.6**
AYKD	**Aykdinkavak**	**4.47 62**	*i* P	**Pn**	**12 01 29.4**	**+0.5**
BR231	**Keskin MP Arra**	**4.48 9**	Pn	**Pn**	**12 01 28.9**	**-0.3**
HCB	**Kahramanmara**	**4.51 63**	*e*P	**Pn**	**12 01 29.4**	**-0.1**
BR131	**Keskin Array S**	**4.53 18**		**Pn**	**12 01 30.2**	**+0.3**
BRTR	**Keskin Array B**	**4.53 18**	P	**Pn**	**12 01 30.4**	**+0.5**
	comp=E,2.2nm,0.3s,baz=195,slow=16,SNR=40					
BRTR			S	**Sn**	**12 02 19.1**	**-2.4**
	comp=E,1.4nm,0.3s,baz=192,slow=21,SNR=4.9					
BRTR	**Keskin Array B**	**4.53 18**		**Pn**	**12 01 30.1**	**+0.2**
ZKR	**Zakros**	**4.62 268**	P	**Pn**	**12 01 31.5**	**+0.4**
ZKR			S	**Sn**	**12 02 22.4**	**-1.0**
	comp=E,298nm,0.4s					
AMAZ	**Amatzia**	**4.64 146**	Pn	**Pn**	**12 01 31.6**	**+0.3**
AMAZ	**Amatzia**	**4.64 146**	P	**Pn**	**12 01 31.8**	**+0.5**
CDAG	**Cicekdag**	**4.66 25**	*i* P	**Pn**	**12 01 33.6**	**+2.0**
DSI	**Dead Sea**	**4.83 141**	Pn	**Pn**	**12 01 34.7**	**+0.8**
DSI			Sn	**Sn**	**12 02 27.5**	**-1.1**
DELI	**KIRIKKALE**	**4.86 19**	*i* P	**Pn**	**12 01 35.5**	**+1.1**
YTIR	**Yattir**	**4.87 145**	Pn	**Pn**	**12 01 35.2**	**+0.6**
YTIR			Sn	**Sn**	**12 02 28.4**	**-1.3**
DURS	**Dursunbey**	**4.97 328**	*i* P	**Pn**	**12 01 36.6**	**+0.8**
KZIT	**Kziot**	**4.97 154**	Pn	**Pn**	**12 01 36.4**	**+0.5**
KZIT	**Kziot**	**4.97 154**	P	**Pn**	**12 01 36.4**	**+0.5**
GZT	**Gaziantep**	**5.00 65**	*i* P	**Pn**	**12 01 37.8**	**+1.5**
MZDA	**Masada**	**5.03 143**	Pn	**Pn**	**12 01 37.8**	**+1.2**
MZDA			Sn	**Sn**	**12 02 33.0**	**-0.5**
WALJ	**Wala**	**5.07 138**	P	**Pn**	**12 01 35.6**	**-1.5**
HBRG	**Burj al `Arab**	**5.11 200**	P	**Pn**	**12 01 39.1**	**+1.3**
	baz=202					
HBRG			S	**Sn**	**12 02 33.0**	**-2.5**
	baz=202					
ELBS	**KAHRAMANMARAS**	**5.13 54**	*i* P	**Pn**	**12 01 39.0**	**+0.9**
LISJ	**El Lisan**	**5.15 143**	P	**Pn**	**12 01 38.8**	**+0.6**
SANT	**Santorini**	**5.28 282**	Pn	**Pn**	**12 01 39.4**	**-0.6**
SANT			Sn	**Sn**	**12 02 34.8**	**-4.8**
ASF	**Jabal al Asfar**	**5.30 126**	P	**Pn**	**12 01 41.5**	**+1.1**
	comp=E,2.3nm,0.3s,baz=237,slow=8.1,SNR=25					
ASF			S	**Sn**	**12 02 39.6**	**-0.5**
	comp=E,6.0nm,0.3s,baz=110,slow=21,SNR=12					
ASF	**Jabal al Asfar**	**5.30 126**	P	**Pn**	**12 01 39.0**	**-1.4**
HHAG	**Hagoal**	**5.45 178**	P	**Pn**	**12 01 43.4**	**+1.0**
	baz=178					
KOT	**Kottamia**	**5.47 180**	P	**Pn**	**12 01 43.2**	**+0.5**
	baz=181					
ZFRI	**Zfri**	**5.59 149**	Pn	**Pn**	**12 01 44.4**	**+0.1**
MATC	**Matruh**	**5.60 225**	P	**Pn**	**12 01 45.9**	**+1.4**
	baz=227					
SUZ	**Suez**	**5.62 171**	P	**Pn**	**12 01 45.2**	**+0.6**
	baz=171					
HMYD	**Mayadein**	**5.67 189**	P	**Pn**	**12 01 46.5**	**+1.1**
	baz=191					
PRNI	**Paran**	**5.70 151**	Pn	**Pn**	**12 01 46.1**	**+0.3**
HNAT	**Natroun**	**5.86 191**	P	**Pn**	**12 01 49.7**	**+1.7**
	baz=192					
HRFI	**Mount Harif**	**5.99 153**	Pn	**Pn**	**12 01 50.1**	**+0.3**
HRFI	**Mount Harif**	**5.99 153**	P	**Pn**	**12 01 49.8**	**0.0**
EIL	**Elat**	**6.29 155**	Pn	**Pn**	**12 01 53.8**	**-0.2**
EIL	**Elat**	**6.29 155**	P	**Pn**	**12 01 54.0**	**+0.1**
	comp=E,2.3nm,0.3s,baz=273,slow=3.1,SNR=56					
EIL			S	**Sn**	**12 03 03.0**	**-1.4**
	comp=E,7.1nm,0.3s,baz=72,slow=18,SNR=4.5					
EIL			LR	LR	12 04 19.2	
	comp=E,22nm,21.6s,baz=7.5,slow=38					
EIL	**Elat**	**6.29 155**	P	**Pn**	**12 01 53.7**	**-0.2**
HBST	**Basata**	**6.64 158**	AMP		12 02 00.0	
	baz=157					
HDHB	**Dhahab**	**7.07 160**	P	**Pn**	**12 02 04.7**	**+0.1**
	baz=159					
ALN	**Alexandroupoli**	**7.14 322**	Pn	**Pn**	**12 02 05.8**	**+0.5**
ALN			Sn	**Sn**	**12 03 24.6**	**-0.3**
ITM	**Ithomi**	**8.21 285**	Pn	**Pn**	**12 02 20.6**	**+0.5**
TIRR	**Tirgusor**	**9.41 345**	Pn	**Pn**	**12 02 37.0**	**+0.6**
MLR	**Muntele Rosu**	**11.03 338**	P	**Pn**	**12 03 00.1**	**+1.5**
	comp=E,0.3nm,0.3s,baz=222,slow=18,SNR=3.9					
TIP	**Timpagrande**	**12.60 292**	Pn	**Pn**	**12 03 17.3**	**-2.7**
VAE	**Valguarnera**	**14.19 283**	P	**Pn**	**12 03 43.7**	**+2.5**
	comp=E,1.8nm,0.3s,baz=69,slow=17,SNR=3.2					
AKASG	**Malin Array Be**	**15.40 354**	P	**Pn**	**12 03 58.0**	**+1.4**
	comp=E,6.4nm,0.3s,baz=178,slow=9.7,SNR=36					
AKASG	**Malin Array Be**	**15.40 354**	P	**P**	**12 03 58.5**	**-1.2**
AKBB	**Malin Array Si**	**15.40 354**	P	**P**	**12 03 59.4**	**-0.4**
KWP	**Kalwaria Pacla**	**15.71 338**	P	**P**	**12 04 04.5**	**+1.3**
VYHS	**Vyhne**	**16.24 328**	*e*PN	**P**	**12 04 10.2**	**+1.1**
KEST	**Kesra**	**18.31 278**	P	**Pn**	**12 04 34.1**	**+1.2**
	comp=E,0.2nm,0.3s,baz=344,slow=3.9,SNR=4.4					
KEST	**Kesra**	**18.31 278**	P	**Pn**	**12 04 34.6**	**+1.7**
KEST			IAmb	IAmb	12 04 42.3	
	comp=Z,22nm,1.4s					
GEC2	**GERESS Array S**	**18.95 321**	P	**P**	**12 04 39.7**	**+0.7**
GERES	**GERESS Array B**	**18.95 321**	P	**P**	**12 04 39.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=131,slow=8.3,SNR=24					
KHC	**Kasperske Hory**	**19.19 321**	P	**P**	**12 04 42.2**	**+0.6**
KHC			IAmb	IAmb	12 04 42.8	
	comp=Z,6.4nm,0.6s					
BRG	**Berggiesshubel**	**20.16 326**	*e*P	**P**	**12 04 52.1**	**0.0**
	comp=Z,5.7nm,0.8s					
TUE	**Stuetta**	**20.21 310**	P	**P**	**12 04 53.7**	**+0.9**
TUE			IAmb	IAmb	12 04 54.3	
	comp=Z,11nm,1.4s					
SENIN	**Lac Senin/Sane**	**21.46 308**	P	**P**	**12 05 06.7**	**+0.3**
SENIN			IAmb	IAmb	12 05 16.0	
	comp=Z,5.8nm,1.1s					
BFO	**Black Forest**	**21.66 314**	P	**P**	**12 05 09.0**	**+0.8**
BFO			IAmb	IAmb	12 05 10.8	
	comp=Z,5.7nm,0.9s					
AKTO	**Aktyubinsk**	**24.17 44**	P	**P**	**12 05 32.9**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=238,slow=7.9,SNR=9.9					
ABKAR	**Akbulak array**	**24.78 47**	P	**P**	**12 05 38.5**	**-0.2**
ABKAR	**Akbulak array**	**24.78 47**	P	**P**	**12 05 38.3**	**-0.4**
ABKAR			IAmb	IAmb	12 05 41.7	
	comp=Z,2.1nm,0.8s					
KLMR	**Klimovskoe**	**25.93 9**	*e*	**P**	**12 05 47.3**	**-1.7**
KLMR			AMP		12 05 48.8	
	comp=Z,33nm,1.0s					
FIA1	**FINESS Array S**	**26.31 354**	P	**P**	**12 05 51.7**	**-0.7**
FIA1			IAmb	IAmb	12 06 03.7	
	comp=Z,6.3nm,1.0s					
FINES	**FINESS Array B**	**26.31 354**	P	**P**	**12 05 51.8**	**-0.6**
	comp=Z,3.5nm,0.4s,baz=159,slow=12,SNR=28					
HFS	**Hagfors**	**27.39 340**	P	**P**	**12 06 01.3**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=141,slow=5.7,SNR=6.6					
ARU	**Arti**	**27.74 32**	P	**P**	**12 06 04.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=332,slow=22,SNR=3.3					
NB2	**NORSAR Subarra**	**28.84 339**	P	**P**	**12 06 14.0**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=142,slow=10					
NOA	**NORSAR Array B**	**28.84 339**	P	**P**	**12 06 13.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=141,slow=9.3,SNR=7.9					
ARCES	**ARCESS Array B**	**34.36 356**	P	**P**	**12 07 02.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=175,slow=9.8,SNR=14					
KSH	**Kashi**	**34.99 70**	*e*P	**P**	**12 07 12.3**	**+3.0**
TORD	**Torodi Ar. Bea**	**35.08 238**	P	**P**	**12 07 10.5**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=44,slow=7.6,SNR=5.6					
TORD	**Torodi Ar. Bea**	**35.08 238**	P	**P**	**12 07 11.3**	**+1.2**
KURK	**Kurchatov**	**36.77 51**	P	**P**	**12 07 24.6**	**+0.3**
MK31	**Makanchi Array**	**39.05 57**	P	**P**	**12 07 44.0**	**+0.6**
MK31			IAmb	IAmb	12 07 44.9	
	comp=Z,2.4nm,0.6s					
MKAR	**Makanchi Array**	**39.05 57**	P	**P**	**12 07 44.1**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=273,slow=7.2,SNR=32					
ZALV	**Zalesovo Beam**	**40.88 46**	P	**P**	**12 07 57.4**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=238,slow=8.1,SNR=4.1					
ZALV	**Zalesovo Beam**	**40.88 46**	P	**P**	**12 07 58.1**	**-0.4**
NRIK	**Noril'sk**	**45.36 24**	P	**P**	**12 08 34.7**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=228,slow=6.2,SNR=4.2					
SONM	**Songino Array**	**55.04 52**	P	**P**	**12 09 48.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=297,slow=8.8,SNR=8.1					
SONM	**Songino Array**	**55.04 52**	P	**P**	**12 09 48.7**	**+0.7**
ILAR	**Eielson Array**	**80.14 359**	P	**P**	**12 12 24.7**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=4.7,slow=6.1,SNR=3.6					

STR ***22*** *12:18:44.4±0.8, 44°N±3°×1°2E±°, h0km, mb3.5/5, MLv3.4/7*
PRU ***22*** *12:18:49.0±0.0, 44.01N×12.03E, h10km*
ROM ***22*** *12:18:50.5±0.1, 43.981N±0.008×11.823E±0.009, h33km±1km, ML3.0/25, Error ellipse: s-maj=0.8km s-min=0.6km az=214.0*
LDG ***22*** *12:18:51.9, 43.90N×11.87E, h35km*
ISC 22 12:18:50.9±1.0, 43.99N±0.02×11.80E±0.02, h34km±2km, n147, σ1.15/164, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD	**Lutirano**	**0.11**	**321**	P	**Pb**	**12 18 56.0**	**-0.9**
LMD				S	**Sb**	**12 19 00.3**	**-0.7**
ASQU	**Asqua**	**0.20**	**183**	P	**Pn**	**12 18 56.8**	**+0.4**
ASQU				S	**Sb**	**12 19 01.9**	**-0.3**
BRIS	**BRISIGHELLA**	**0.26**	**307**	P	**Pn**	**12 18 57.3**	**-0.7**
BRIS				S	**Sb**	**12 19 03.1**	**-0.2**
BRIS				AML	AML		
	comp=E,3805μm,0.4s						
BRIS				AML	AML		
	comp=N,10750μm,0.3s						
SEI	**Scarperia**	**0.33**	**281**	P	**Pb**	**12 18 59.0**	**-0.1**
SEI				S	**Sb**	**12 19 05.9**	**+1.2**
SEI				AML	AML		
	comp=E,2170μm,0.4s						
SEI				AML	AML		
	comp=N,4635μm,0.4s						
SEI				AML	AML		
	comp=E,2175μm,0.4s						
CPGN	**Carpegna, Ital**	**0.42**	**117**	P	**Pb**	**12 18 59.8**	**-0.6**
CPGN				AML	AML		
	comp=E,2835μm,0.5s						
CPGN				AML	AML		
	comp=E,2575μm,0.5s						
CPGN				AML	AML		
	comp=E,2570μm,0.5s						
CPGN				AML	AML		
	comp=N,1550μm,0.8s						
CPGN				AML	AML		
	comp=N,1565μm,0.8s						
PARC	**Parchiule**	**0.47**	**137**	P	**Pb**	**12 18 59.8**	**-1.2**
PARC				S	**Sn**	**12 19 08.3**	**0.0**
PARC				AML	AML		
	comp=N,1750μm,0.5s						
PARC				AML	AML		
	comp=E,1250μm,0.6s						
RSM	**Repubblica di**	**0.47**	**97**	P	**Pb**	**12 19 00.7**	**-0.4**
RSM				S	**Sn**	**12 19 10.1**	**+1.6**
SSP9	**Sansepolcro**	**0.48**	**150**	P	**Pb**	**12 19 00.4**	**-0.8**
SSP9				S	**Sn**	**12 19 09.0**	**+0.4**
SSP9				AML	AML		
	comp=N,2435μm,0.7s						
SSP9				AML	AML		
	comp=E,2900μm,0.4s						
SSP9				AML	AML		
	comp=N,2440μm,0.7s						
SSP9				AML	AML		
	comp=E,2895μm,0.4s						
BLLA	**Bellaria**	**0.51**	**72**	P	**Pn**	**12 19 01.6**	**-0.1**
BLLA				AML	AML		
	comp=E,2840μm,1.3s						
BLLA				AML	AML		
	comp=E,2830μm,1.3s						
BLLA				AML	AML		
	comp=N,2830μm,1.3s						
BLLA				AML	AML		
	comp=N,2825μm,1.3s						
BLLA				AML	AML		
	comp=E,2845μm,1.3s						
FNVD	**Fontana Vidola**	**0.52**	**290**	P	**Pb**	**12 19 02.2**	**+0.3**
FNVD				AML	AML		
	comp=E,938μm,0.8s						
FNVD				AML	AML		
	comp=N,904μm,0.4s						
PTF	**Prato**	**0.53**	**267**	P	**Pb**	**12 19 02.4**	**+0.4**
PTF				S	**Sb**	**12 19 09.8**	**+0.1**
BADI	**Badiali**	**0.58**	**146**	P	**Pn**	**12 19 02.1**	**-0.6**
BADI				S	**Sb**	**12 19 11.8**	**+0.9**
MTCR	**Monte La Croce**	**0.58**	**274**	P	**Pb**	**12 19 03.2**	**+0.3**
MTCR				AML	AML		
	comp=E,430μm,0.6s						
MTCR				AML	AML		
	comp=N,792μm,1.5s						
PE3	**Peglio**	**0.58**	**120**	P	**Pn**	**12 19 02.0**	**-0.7**
PE3				AML	AML		
	comp=N,2935μm,0.4s						
PE3				AML	AML		
	comp=E,3185μm,0.5s						
PE3				AML	AML		
	comp=N,2940μm,0.4s						
CMPO	**Campotto Po**	**0.59**	**0**	P	**Pb**	**12 19 04.3**	**+1.4**
CDCA	**Citt' di Caste**	**0.62**	**149**	P	**Pb**	**12 19 03.5**	**+0.1**
CDCA				AML	AML		
	comp=N,3900μm,0.8s						
CDCA				AML	AML		
	comp=E,1890μm,0.5s						
CDCA				AML	AML		
	comp=N,1144μm,0.6s						
CDCA				AML	AML		
	comp=N,1158μm,0.6s						
CDCA				AML	AML		
	comp=E,3560μm,0.4s						
CDCA				AML	AML		
	comp=N,3905μm,0.8s						
CDCA				AML	AML		
	comp=E,1885μm,0.5s						
OSSC	**Osservatorio P**	**0.62**	**221**	P	**Pb**	**12 19 03.7**	**+0.3**
OSSC				AML	AML		
	comp=E,2015μm,0.5s						
OSSC				AML	AML		
	comp=N,2010μm,0.7s						
OSSC				AML	AML		
	comp=N,1995μm,0.7s						
OSSC				AML	AML		
	comp=E,2055μm,0.5s						
CRMI	**Carmignano**	**0.64**	**252**	P	**Pn**	**12 19 03.5**	**+0.1**
CRMI				AML	AML		
	comp=N,170μm,0.6s						
CRMI				AML	AML		
	comp=E,172μm,0.8s						
CSNT	**Castellina Chi**	**0.64**	**216**	P	**Pb**	**12 19 03.9**	**+0.1**
CSNT				S	**Sb**	**12 19 13.2**	**+0.6**
CSNT				AML	AML		
	comp=N,1425μm,0.5s						
CSNT				AML	AML		
	comp=E,974μm,0.5s						
CAFI	**Castiglion Fio**	**0.67**	**170**	P	**Pn**	**12 19 03.6**	**-0.4**
CAFI				AML	AML		
	comp=N,852μm,1.1s						
CAFI				AML	AML		
	comp=E,1265μm,0.9s						
NARO	**Abbazia di Nar**	**0.68**	**124**	P	**Pn**	**12 19 03.2**	**-0.8**
NARO				AML	AML		
	comp=E,806μm,0.6s						
NARO				AML	AML		
	comp=N,581μm,1.1s						
ATPI	**Pietralunga -**	**0.69**	**141**	P	**Pn**	**12 19 04.2**	**-0.2**
ATPI				AML	AML		
	comp=N,744μm,1.3s						
ATPI				AML	AML		
	comp=E,963μm,0.4s						
ATPI				AML	AML		
	comp=E,962μm,0.4s						
ZCCA	**Zocca**	**0.69**	**301**	P	**Pb**	**12 19 06.5**	**+1.8**
ZCCA				AML	AML		
	comp=N,326μm,0.6s						
ZCCA				AML	AML		
	comp=E,430μm,0.5s						
ZCCA				AML	AML		
	comp=N,326μm,0.6s						
ATMI	**Monte Miggiano**	**0.74**	**153**	P	**Pn**	**12 19 05.0**	**0.0**
ATMI				AML	AML		
	comp=E,1675μm,0.4s						
ATMI				AML	AML		
	comp=N,2460μm,0.8s						
ATVO	**AVT- Monte Val**	**0.75**	**144**	P	**Pn**	**12 19 04.9**	**-0.3**
ATVO				AML	AML		
	comp=E,1270μm,0.4s						
ATVO				AML	AML		
	comp=N,1390μm,0.6s						
PESA	**Pesaro**	**0.75**	**93**	P	**Pb**	**12 19 05.3**	**-0.3**
PESA				AML	AML		
	comp=E,1845μm,0.6s						
PESA				AML	AML		
	comp=N,1975μm,1.4s						
POPM	**Popiglio**	**0.76**	**274**	P	**Pn**	**12 19 05.3**	**+0.1**
FSSB	**Fossombrone**	**0.77**	**113**	P	**Pn**	**12 19 05.0**	**-0.4**
FSSB				AML	AML		
	comp=E,1510μm,0.3s						
FSSB				AML	AML		
	comp=N,2470μm,1.5s						
MPAG	**Monte Paganucc**	**0.78**	**117**	P	**Pn**	**12 19 05.2**	**-0.4**
MPAG				AML	AML		
	comp=E,530μm,0.6s						
MPAG				AML	AML		
	comp=E,712μm,0.6s						
MPAG				AML	AML		
	comp=E,529μm,0.6s						
MPAG				AML	AML		
	comp=N,712μm,0.6s						
FRON	**Frontone**	**0.82**	**125**	P	**Pn**	**12 19 05.8**	**-0.2**
FRON				AML	AML		
	comp=E,724μm,0.7s						
FRON				AML	AML		
	comp=N,1260μm,0.6s						
ATFO	**Monte Foce - G**	**0.84**	**138**	P	**Pn**	**12 19 06.7**	**+0.3**
ATFO				AML	AML		
	comp=N,794μm,0.8s						
ATFO				AML	AML		
	comp=E,1040μm,0.5s						
ATFO				AML	AML		
	comp=N,794μm,0.8s						
BDI	**Bagni Di Lucca**	**0.87**	**275**	AML	AML		
	comp=N,344μm,0.6s						
BDI				AML	AML		
	comp=E,378μm,1.2s						
ATTE	**AVT- Monte Tez**	**0.89**	**153**	P	**Pn**	**12 19 06.9**	**-0.1**
ATTE				AML	AML		
	comp=E,770μm,0.4s						
ATTE				AML	AML		
	comp=N,701μm,0.4s						
ATTE				AML	AML		
	comp=E,771μm,0.4s						
MURB	**Monte Urbino**	**0.90**	**144**	P	**Pn**	**12 19 07.4**	**+0.2**
MURB				AML	AML		
	comp=E,2060μm,0.4s						
MURB				AML	AML		
	comp=E,1760μm,0.4s						
MURB				AML	AML		
	comp=N,1960μm,0.6s						
MURB				AML	AML		
	comp=N,1345μm,1.0s						
MURB				AML	AML		
	comp=N,1500μm,0.8s						
MURB				AML	AML		
	comp=E,1755μm,0.4s						
SSFR	**Montelago di S**	**0.90**	**128**	AML	AML		
	comp=E,1540μm,0.3s						
SSFR				AML	AML		
	comp=N,1380μm,0.3s						
SSFR				AML	AML		
	comp=E,1605μm,0.9s						
SSFR				AML	AML		
	comp=N,1340μm,0.7s						
FROS	**Frosini**	**0.91**	**211**	AML	AML		
	comp=N,488μm,0.4s						
FROS				AML	AML		
	comp=E,417μm,1.3s						
MAIM	**Mastiano**	**0.95**	**266**	P	**Pn**	**12 19 07.6**	**-0.3**
MAIM				S	**Sn**	**12 19 20.1**	**-0.1**
MAIM	**Mastiano**	**0.95**	**266**	P	**Pn**	**12 19 07.8**	**0.0**
MAIM				AML	AML		
	comp=E,230μm,0.6s						
MAIM				AML	AML		
	comp=N,279μm,0.8s						
CARD	**Cardoso**	**0.95**	**273**	P	**Pn**	**12 19 07.7**	**-0.2**
ARVD	**Arcevia**	**0.96**	**120**	P	**Pb**	**12 19 08.7**	**-0.5**
ARVD				AML	AML		
	comp=N,288μm,1.6s						
ARVD				AML	AML		
	comp=E,424μm,0.9s						
PII	**Pisa**	**0.96**	**254**	P	**Pn**	**12 19 08.0**	**+0.1**
PII				AML	AML		
	comp=E,506μm,0.3s						
PII				AML	AML		
	comp=N,642μm,1.6s						
FOSV	**Fossato di Vic**	**0.98**	**135**	AML	AML		
	comp=E,364μm,0.4s						
FOSV				AML	AML		
	comp=E,364μm,0.4s						
FOSV				AML	AML		
	comp=N,332μm,0.6s						
FOSV				AML	AML		
	comp=N,332μm,0.6s						
ATCC	**AVT- Casa Cast**

comp=E,370μm,0.3s
SNTG AML AML
comp=N,634μm,0.4s
ASSB Assisi San Ben 1.13 146 AML AML
comp=E,330μm,0.8s
ASSB AML AML
comp=N,309μm,0.8s
SACS San Casciano d 1.14 176 AML AML
comp=E,333μm,0.4s
SACS AML AML
comp=E,342μm,0.4s
SACS AML AML
comp=N,326μm,0.5s
SACS AML AML
comp=N,320μm,0.5s
CING Cingoli 1.18 121 AML AML
comp=N,399μm,0.6s
CING AML AML
comp=E,230μm,0.8s
EQUI Equi 1.20 279 P **Pn 12 19 11.2 -0.1**
EQUI S **Sn 12 19 26.7 +0.3**
MOMA Monte Martano 1.31 154 AML AML
comp=N,430μm,0.3s
MOMA AML AML
comp=E,399μm,0.2s
FDMO Fiordimonte 1.34 135 AML AML
comp=N,240μm,1.4s
FDMO AML AML
comp=E,192μm,0.4s
GRAM Graiana 1.34 292 AML AML
comp=E,543μm,0.4s
GRAM AML AML
comp=N,471μm,1.0s
CSP1 Cessapalombo 1.36 131 AML AML
comp=E,487μm,0.9s
CSP1 AML AML
comp=N,750μm,0.7s
TEOL Teolo 1.37 356 *e*Pg **Pn 12 19 13.4 -0.3**
TEOL Teolo 1.37 356 AML AML
comp=E,1670μm,0.6s
TEOL AML AML
comp=N,1390μm,0.6s
CASP Castiglione de 1.38 210 AML AML
comp=E,158μm,0.7s
CASP AML AML
comp=N,152μm,0.4s
CESX Cesi 1.49 157 AML AML
comp=N,380μm,0.5s
CESX AML AML
comp=E,386μm,1.6s
ARRO Arrone 1.58 153 AML AML
comp=E,193μm,0.5s
ARRO AML AML
comp=N,179μm,0.4s
LNSS Leonessa 1.66 147 AML AML
comp=E,274μm,0.5s
LNSS AML AML
comp=N,256μm,0.6s
MARN Marana (Italy) 1.70 346 *e*Pg **Pn 12 19 18.1 -0.1**
SALO Salr 1.86 331 AML AML
comp=N,393μm,0.5s
SALO AML AML
comp=E,276μm,1.1s
CGRP Cima Grappa 1.89 360 *e*Pg **Pn 12 19 20.4 -0.5**
CGRP *e*Sg **Sn 12 19 42.0 -1.7**
TERO Teramo 1.90 136 AML AML
comp=N,78μm,0.9s
TERO AML AML
comp=E,72μm,1.1s
DOSS Dosso del Somm 1.94 347 *e*Pg **Pn 12 19 21.4 -0.2**
PANI Panarotta 2.09 351 *e*Pn **Pn 12 19 23.4 -0.2**
PANI *e*Sn **Sn 12 19 47.5 -1.1**
TRI Trieste 2.21 38 AML AML
comp=N,130μm,0.7s
TRI AML AML
comp=E,133μm,0.5s
SKDS Skadanscina 2.21 45 *i* Pn **Pn 12 19 23.9 -1.3**
SKDS *i* Sn **Sn 12 19 50.0 -1.5**
comp=Z,48nm,0.2s
MABI Malga Bissina 2.26 337 AML AML
comp=N,64μm,0.5s
MABI AML AML
comp=E,58μm,0.9s
NVLJ Novalja 2.28 74 *i* Pn **Pn 12 19 25.8 -0.2**
NVLJ Sn **Sn 12 19 51.9 -1.0**
DUGI Dugi Otok 2.35 89 *e*Pn **Pn 12 19 27.2 +0.2**
DUGI Sn **Sn 12 19 53.4 -1.4**
STAL STALIGIAL 2.36 15 AML AML
comp=E,310μm,1.6s
STAL AML AML
comp=N,574μm,0.9s
STAL AML AML
comp=E,351μm,1.3s
STAL AML AML
comp=N,408μm,0.2s
KOSI Kohlern 2.49 353 AML AML
comp=N,162μm,0.5s
KOSI AML AML
comp=E,211μm,0.6s
PGF Pioggiola 2.50 236 *e*Pn **Pn 12 19 29.7 +0.4**
PGF *e*Sn **Sn 12 19 58.7 0.0**
comp=E,22nm,0.3s
PGF Pioggiola 2.50 236 P **Pn 12 19 28.6 -0.7**
PGF S **Sn 12 19 59.4 +0.7**
APPI Appiano 2.52 351 AML AML
comp=E,234μm,0.4s
APPI AML AML
comp=N,218μm,0.4s
ABSI Aberstueckl 2.76 353 AML AML
comp=N,282μm,0.9s
ABSI AML AML
comp=E,298μm,0.6s
MOSI Grossmontoni 2.77 342 AML AML
comp=N,232μm,1.0s
MOSI AML AML
comp=E,180μm,0.3s
ZIRJ Zirje 2.80 96 *e*Pn **Pn 12 19 32.6 -0.6**
ZIRJ Sn **Sn 12 20 04.2 -1.7**
ABTA Abfaltersbach 2.80 10 *e*Pn **Pn 12 19 33.6 +0.2**
comp=E,1.5nm,0.2s
ABTA *e*Sn **Sn 12 20 06.1 +0.1**
comp=E,21nm,0.4s
MORI Morici 2.82 91 Sn **Sn 12 20 06.0 -0.4**
UDBI Udbina 2.90 78 *e*Pn **Pn 12 19 36.8 +2.1**
UDBI Sn **Sn 12 20 08.1 -0.3**
MYKA Terra Mystica 2.94 26 *e*Sn **Sn 12 20 10.1 +0.7**
comp=E,2.1nm,0.1s
SAOF Saorge 3.06 271 P **Pn 12 19 37.9 +0.9**
DAVOX Davos/Dischmat 3.10 335 AML AML
comp=E,37μm,1.6s
DAVOX AML AML
comp=N,54μm,0.5s
FETA Feichten 3.12 346 *i* Pn **Pn 12 19 39.7 +1.8**
comp=N,5.2nm,0.4s,SNR=10
FETA *e*Sn **Sn 12 20 13.4 -0.6**
comp=N,0.1nm,0.1s
SBF Sospel 3.16 269 *e*Pn **Pn 12 19 39.5 +1.2**
SBF *e*Sn **Sn 12 20 13.6 -1.2**
comp=N,56nm,0.4s
OBKA Obir 3.18 37 *e*Pn **Pn 12 19 41.6 +3.0**
comp=N,1.8nm,0.2s
OBKA *e*Sn **Sn 12 20 14.2 -1.1**
comp=N,14nm,0.3s
TURF col de Turini 3.18 271 P **Pn 12 19 39.0 +0.3**
SQTA Sankt Quirin 3.26 353 *i* Pn **Pn 12 19 41.7 +2.0**
comp=N,15nm,0.3s
SQTA *e*Sn **Sn 12 20 16.1 -1.2**
comp=N,18nm,0.3s
KBA Koelnbreinsper 3.27 19 *i* Pn **Pn 12 19 40.1 +0.2**
comp=N,1.2nm,0.1s
KBA *i* Sn **Sn 12 20 16.8 -1.0**
comp=N,14nm,0.5s
WTTA Wattenberg 3.27 358 AML AML
comp=N,92μm,1.1s
WTTA AML AML
comp=E,88μm,1.5s
WTTA Wattenberg 3.27 358 *i* Pn **Pn 12 19 41.7 +1.7**
comp=E,2.5nm,0.2s
WTTA *e*Sn **Sn 12 20 18.6 +0.8**
comp=E,10.0nm,0.3s
WATA Walderalm 3.35 357 *i* Pn **Pn 12 19 43.5 +2.5**
comp=E,3.0nm,0.2s
WATA *i* Sn **Sn 12 20 20.5 +0.9**
comp=E,5.8nm,0.2s
MOTA Moosalm 3.39 352 *i* Pn **Pn 12 19 43.6 +2.1**
comp=E,5.0nm,0.3s,SNR=5.7
MOTA *e*Sn **Sn 12 20 21.5 +0.9**

comp=E,13nm,0.6s
SOKA Soboth 3.52 39 *e*Sn **Sn 12 20 22.2 -1.6**
comp=E,4.8nm,0.4s
PTJ Puntijarka 3.52 56 *e*Pn **Pn 12 19 43.0 -0.3**
CALF Calern 3.54 268 P **Pn 12 19 44.5 +0.9**
DAVA Damuels 3.56 338 *i* Pn **Pn 12 19 46.7 +2.8**
comp=E,3.0nm,0.2s,SNR=7.5
DAVA *e*Sn **Sn 12 20 25.2 +0.3**
comp=E,13nm,0.7s
RETA Reutte 3.57 349 *e*Sn **Sn 12 20 25.1 +0.1**
comp=E,4.1nm,0.2s
SURF Saint Ours 3.62 280 P **Pn 12 19 45.6 +0.9**
MBDF Montbardon 3.68 283 *e*Pn **Pn 12 19 46.1 +0.6**
MBDF *e*Sn **Sn 12 20 28.6 +0.8**
comp=E,11nm,0.6s
FRF La Foret Royal 3.76 265 *e*Pn **Pn 12 19 46.8 +0.4**
FRF *e*Sn **Sn 12 20 27.1 -2.4**
comp=E,7.3nm,0.2s
LMR La Mourre 3.90 262 *e*Pn **Pn 12 19 48.2 -0.1**
LMR *e*Sn **Sn 12 20 28.6 -4.3**
comp=E,4.2nm,0.2s
LPG La Plagne 3.90 294 *e*Pn **Pn 12 19 49.1 +0.4**
LPL La Plagne 3.92 295 *e*Pn **Pn 12 19 49.4 +0.5**
LPL *e*Sn **Sn 12 20 34.8 +1.0**
comp=E,6.2nm,0.3s
RSL Roselend 4.05 297 P **Pn 12 19 52.5 +1.8**
MOA Molln 4.22 23 *e*Pn **Pn 12 19 53.1 +0.3**
comp=E,1.7nm,0.2s
MOA *e*Sn **Sn 12 20 40.0 -1.0**
comp=E,4.4nm,0.3s
ASEAF Site Antares, 4.28 256 P **Pn 12 19 53.8 +0.5**
ORIF Oris-en-Rattie 4.34 284 *e*Pn **Pn 12 19 56.6 +2.1**
ORIF *e*Sn **Sn 12 20 44.2 +0.2**
comp=E,5.6nm,0.5s
BSTF la Bastide-des 4.45 271 P **Pn 12 19 56.0 0.0**
SMRF Simiane la Rot 4.49 272 *e*Pn **Pn 12 19 58.2 +1.6**
SMRF *e*Sn **Sn 12 20 48.5 +0.8**
RUSF Rustrel 4.56 272 P **Pn 12 19 57.7 +0.2**
KIZ Kirchzarten 4.80 327 P **Pn 12 20 01.5 +0.7**
CABF La Chapelle 4.81 305 *e*Pn **Pn 12 20 01.9 +1.0**
CABF *e*Sn **Sn 12 20 54.7 -0.8**
LOMF Lomont 4.84 316 P **Pn 12 20 02.6 +1.2**
LOMF S **Sn 12 20 57.8 +1.5**
CONA Conrad Observa 4.85 34 *i* Pn **Pn 12 20 00.7 -0.8**
comp=E,0.3nm,0.1s
CONA *e*Sn **Sn 12 20 56.3 -0.2**
comp=E,2.8nm,0.3s
OG35 Corcelles 4.87 297 P **Pn 12 20 02.8 +1.0**
OG35 S **Sn 12 20 57.4 +0.4**
MOF Molkenrain 5.05 321 P **Pn 12 20 04.9 +0.6**
MPLH Magyarpolny 5.13 50 *e*Pg Pb 12 20 35.1 +15
MPLH *e*Sg Sn 12 20 46.1 -17
HINF Hinteralfeld 5.15 320 *e*Pn **Pn 12 20 05.4 -0.2**
HINF *e*Sn **Sn 12 21 00.8 -3.1**
comp=E,5.4nm,0.3s
OPP Oppenau 5.16 332 P **Pn 12 20 06.4 +0.7**
TIH Tihany 5.18 54 *e*Pg Pb 12 20 34.1 +13
TIH *e*Sg Sn 12 20 41.0 -23
VIVF Saint-Julien-l 5.18 282 *e*Pn **Pn 12 20 07.0 +1.0**
KHC Kasperske Hory 5.29 13 *e*PN **Pn 12 20 06.5 -0.9**
KHC *e*SN **Sn 12 21 04.0 -3.2**
ECH Echery 5.32 324 P **Pn 12 20 08.3 +0.5**
SSB Saint Sauveur 5.34 286 P **Pn 12 20 09.2 +1.0**
WLS Welschbruch 5.39 327 P **Pn 12 20 09.5 +0.6**
CDF Champ du Feu 5.42 326 *e*Pn **Pn 12 20 09.4 0.0**
CDF *e*Sn **Sn 12 21 07.6 -3.0**
comp=E,3.4nm,0.3s
HAU Haudompre 5.53 318 *e*Pn **Pn 12 20 10.7 -0.1**
HAU *e*Sn **Sn 12 21 09.6 -3.5**
comp=E,12nm,0.3s
CSKK Cskako 5.64 51 *e*Pg **Pb 12 20 30.0 +1.5**
CSKK *e*Sg Sn 12 20 32.1 -44
SMF Signal de Mont 6.21 298 *e*Pn **Pn 12 20 20.5 +0.4**
SMF *e*Sn **Sn 12 21 26.5 -3.4**
comp=E,4.2nm,0.5s
PAGF Fort de Pagny 6.21 319 *e*Pn **Pn 12 20 20.6 +0.5**
comp=E,23nm,0.8s,baz=134
SFTF Sexfontaines 6.31 314 *e*Pn **Pn 12 20 22.0 +0.5**
baz=135
LOR Lormes 6.46 303 *e*Pn **Pn 12 20 23.8 +0.2**
baz=119
LOR *e*Sn **Sn 12 21 34.8 -1.3**
comp=E,6.6nm,0.5s
LOR Lormes 6.46 303 P **Pn 12 20 24.0 +0.4**
LOR S **Sn 12 21 35.4 -0.7**
AVF Avril sur Loir 6.58 298 *e*Pn **Pn 12 20 25.4 +0.3**
AVF *e*Sn **Sn 12 21 37.3 -1.5**
comp=E,1.4nm,0.4s
SSF Saint Saulge 6.59 301 *e*Pn **Pn 12 20 25.2 -0.1**
BGF Bois d'Agland 6.82 295 *e*Pn **Pn 12 20 29.0 +0.5**
MTLF Montolieu 6.98 268 *e*Pn **Pn 12 20 30.9 +0.2**
TCF Toulx Ste Croi 7.16 292 *e*Pn **Pn 12 20 33.6 +0.4**
TCF *e*Sn **Sn 12 21 50.9 -2.5**
MFF Saint Martin d 8.82 291 *e*Pn **Pn 12 20 56.2 +0.3**
LDF La Druitiere 9.45 303 *e*Pn **Pn 12 21 05.7 +1.2**
GRR Gorron 9.82 301 *e*Pn **Pn 12 21 10.0 +0.5**

IDC 22 12:21:22.9±2.1, 3°.09N×125°.21E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, Error ellipse: s-maj=209.4km s-min=26.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.58**	**159**	P	P	12 26 44.8	-0.1
	0.4nm,0.4s,baz=338,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**27.91**	**163**	P	P	12 27 15.2	+0.2
	0.1nm,0.7s,baz=342,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**57.23**	**326**	P	P	12 31 11.9	-0.2
	0.2nm,0.4s,baz=121,slow=6.7,SNR=5.6						

*JMA **22** 12:31:21.8±0.2, 23°.94N×122°.42E, h24km±5km, M2.2*
*TAP **22** 12:31:22.5, 23°.98N×122°.41E, h30km±1km, ML2.8, D*
ISC 22 12:31:21.7±1.0, 23°.93N±0°.03×122°.41E±0°.02, h20km±7km, n59, σ0°61/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.66**	**337**	P	**Pb**	**12 31 34.8**	**+0.2**
	baz=328						
EOS1				*e*S	**Sn**	**12 31 44.7**	**-1.0**
	baz=328						
JYNG	**Yonagunijimaku**	**0.71**	**43**	P	**Pb**	**12 31 35.2**	**-0.2**
JYNG				S	**Sb**	**12 31 43.7**	**-1.1**
YOJ	**Yonaguni jima**	**0.76**	**46**	*e*P	**Pb**	**12 31 36.0**	**-0.3**
	baz=54						
YOJ				*e*S	**Sb**	**12 31 45.0**	**-1.1**
	baz=54						
YOJ	**Yonaguni jima**	**0.76**	**46**	P	**Pb**	**12 31 36.1**	**-0.2**
YOJ				S	**Sb**	**12 31 45.1**	**-1.1**
NANB	**Nanao**	**0.78**	**309**	P	**Pb**	**12 31 36.5**	**0.0**
	baz=314						
NANB				*e*S	**Sn**	**12 31 48.0**	**-0.6**
	baz=314						
NACB	**Ninganchiao**	**0.78**	**288**	*e*P	**Pb**	**12 31 36.7**	**+0.1**
	baz=271						
NACB				*e*S	**Sb**	**12 31 47.1**	**+0.3**
	baz=271						
TWC	**Suao**	**0.84**	**323**	*e*P	**Pb**	**12 31 37.2**	**-0.5**
	baz=321						
TWC				*e*S	**Sb**	**12 31 48.2**	**-0.4**
	baz=321						
ETLH	**Xiulin Townshi**	**0.89**	**288**	*e*P	**Pn**	**12 31 38.4**	**-0.8**
	baz=273						
ETLH				*e*S	**Sn**	**12 31 51.2**	**-0.3**
	baz=273						
ESL	**Shilin**	**0.90**	**263**	*e*P	**Pn**	**12 31 38.1**	**-1.1**
	baz=259						
EGFH	**Guangfu**	**0.94**	**254**	*e*P	**Pn**	**12 31 39.4**	**-0.4**
	baz=251						
EGFH				*e*S	**Sb**	**12 31 51.8**	**+0.5**
	baz=251						
HGSD	**Ruisui**	**1.00**	**244**	*e*P	**Pn**	**12 31 40.8**	**+0.1**
	baz=242						
HGSD				*e*S	**Sn**	**12 31 53.1**	**-1.1**
	baz=242						
TWE	**Neicheng**	**1.03**	**319**	P	**Pb**	**12 31 41.4**	**+0.4**
	baz=317						
TWE				*e*S	**Sb**	**12 31 54.3**	**+0.2**
	baz=317						
ENTT	**Nioudou**	**1.04**	**313**	P	**Pb**	**12 31 41.6**	**+0.5**
	baz=296						
ENTT				*e*S	**Sb**	**12 31 54.8**	**+0.5**
	baz=296						
NDT	**Datong Townshi**	**1.05**	**309**	*e*P	**Pb**	**12 31 41.5**	**+0.2**
	baz=306						
NDT				*e*S	**Sb**	**12 31 55.8**	**+1.1**
	baz=306						
NNSB	**Datong**	**1.06**	**298**	*e*P	**Pn**	**12 31 41.4**	**-0.1**
	baz=295						
NNSB				*e*S	**Sb**	**12 31 55.6**	**+0.7**
	baz=295						
WHF	**Hehuan Shan**	**1.07**	**282**	*e*P	**Pn**	**12 31 41.3**	**-0.5**
	baz=267						
WHF				*e*S	**Sn**	**12 31 55.4**	**-0.9**
	baz=267						
NNS	**Nan Shan**	**1.07**	**298**	*e*P	**Pn**	**12 31 41.7**	**0.0**
	baz=295						
NNS				*e*S	**Sb**	**12 31 56.0**	**+0.8**
	baz=295						
SLBB	**Yuanshan**	**1.08**	**319**	*e*P	**Pn**	**12 31 41.3**	**-0.4**
	baz=317						
SLBB				*e*S	**Sb**	**12 31 55.5**	**+0.1**
	baz=317						
EHY	**Hungye**	**1.08**	**247**	*e*P	**Pn**	**12 31 41.4**	**-0.3**
	baz=259						
EHY				*e*S	**Sn**	**12 31 55.2**	**-0.9**
	baz=259						
CHGB	**Renai**	**1.14**	**277**	*e*P	**Pn**	**12 31 42.5**	**-0.2**
	baz=273						
CHGB				*e*S	**Sn**	**12 31 56.8**	**-0.9**
	baz=273						
YULB	**Yu-li**	**1.15**	**242**	*e*P	**Pn**	**12 31 42.5**	**-0.2**
	baz=255						
YULB				*e*S	**Sn**	**12 31 57.3**	**-0.6**
	baz=255						
TIPB	**Shuangxi**	**1.16**	**333**	*e*P	**Pb**	**12 31 43.3**	**+0.2**
	baz=331						
TIPB				*e*S	**Sb**	**12 31 58.1**	**+0.4**
	baz=331						
TWF1	**Yuli**	**1.17**	**241**	*e*P	**Pn**	**12 31 42.9**	**0.0**
	baz=238						
TWF1				*e*S	**Sn**	**12 31 57.9**	**-0.4**
	baz=238						
VWDT	**VWDT**	**1.17**	**261**	*e*P	**Pn**	**12 31 43.0**	**0.0**
	baz=259						
VWDT				*e*S	**Sn**	**12 31 58.0**	**-0.4**
	baz=259						
YHNB	**Yeheng**	**1.19**	**308**	*e*P	**Pb**	**12 31 43.6**	**-0.1**
	baz=293						
YHNB				*e*S	**Sb**	**12 31 59.7**	**+1.0**
	baz=293						
NSK	**Sanguang**	**1.21**	**308**	*e*P	**Pn**	**12 31 43.6**	**+0.1**
	baz=293						
NSK				*e*S	**Sn**	**12 31 59.0**	**-0.4**
	baz=293						
FULB	**Fuli**	**1.26**	**235**	*e*P	**Pn**	**12 31 44.3**	**+0.1**
	baz=222						
FULB				*e*S	**Sb**	**12 32 01.2**	**+0.7**
	baz=222						
NWF	**Wu-fen Shan**	**1.27**	**333**	*e*P	**Pn**	**12 31 44.4**	**0.0**
	baz=332						
WFSB	**Wu-fen Shan**	**1.27**	**333**	*e*P	**Pn**	**12 31 44.4**	**+0.1**
	baz=332						
IRIF	**Iriomote-Funau**	**1.27**	**71**	*e*S	**Sb**	**12 32 00.6**	**-0.3**
HATJ	**Hateruma jima**	**1.28**	**84**	*e*S	**Sn**	**12 32 00.8**	**-0.3**
NHDH	**Xindian Distri**	**1.30**	**322**	*e*P	**Pn**	**12 31 44.8**	**0.0**
	baz=333						
SSLB	**Suanglung**	**1.34**	**264**	*e*P	**Pn**	**12 31 45.6**	**+0.3**
	baz=261						
SSLB				*e*S	**Sn**	**12 32 02.0**	**-0.6**
	baz=261						
DPDB	**Guoxing**	**1.36**	**274**	*e*P	**Pn**	**12 31 46.2**	**+0.6**
	baz=264						
DPDB				*e*S	**Sn**	**12 32 03.3**	**+0.2**
	baz=264						
WHP	**Taichung City**	**1.38**	**285**	*e*P	**Pb**	**12 31 47.6**	**+0.8**
	baz=273						
YUS	**Yu-Shan**	**1.41**	**252**	*e*S	**Sn**	**12 32 04.6**	**-0.2**
	baz=249						
YM11	**YM11**	**1.44**	**328**	*e*P	**Pb**	**12 31 47.5**	**-0.5**
	baz=327						
WHYT	**Xinyi Township**	**1.44**	**261**	*e*P	**Pb**	**12 31 48.5**	**+0.6**
	baz=259						
YM05	**YM05**	**1.45**	**328**	*e*P	**Pn**	**12 31 47.1**	**+0.3**
	baz=326						
LIOB	**Emei**	**1.46**	**299**	*e*P	**Pb**	**12 31 48.5**	**+0.4**
	baz=296						
LIOB				*e*S	**Sb**	**12 32 06.3**	**+0.1**
	baz=296						
NSTT	**Nanjuang**	**1.46**	**299**	*e*P	**Pb**	**12 31 48.4**	**+0.2**
	baz=297						
ELDTW	**Lidau**	**1.48**	**240**	*e*P	**Pn**	**12 31 46.7**	**-0.5**
	baz=238						
ELDTW				*e*S	**Sn**	**12 32 04.5**	**-1.5**
	baz=238						
ALS	**Alishan**	**1.53**	**254**	*e*P	**Pn**	**12 31 47.7**	**-0.5**
	baz=252						
CHN5	**Tsauling**	**1.62**	**258**	*e*P	**Pb**	**12 31 51.1**	**+0.2**
	baz=246						
CHN5				*e*S	**Sn**	**12 32 10.4**	**+0.8**
	baz=246						
JIJ	**Ishigaki jima**	**1.64**	**75**	P	**Pn**	**12 31 50.1**	**+0.7**
JIJ				*e*S	**Sn**	**12 32 10.2**	**+0.3**
TWGBT	**Beinan**	**1.65**	**228**	*e*S	**Sn**	**12 32 09.4**	**-0.7**
	baz=239						
TPUB	**Ta-pu**	**1.75**	**249**	*e*P	**Pb**	**12 31 52.7**	**-0.4**
	baz=247						
TPUB				*e*S	**Sb**	**12 32 14.2**	**-0.5**
	baz=247						
CHN4	**Tsaushan**	**1.76**	**251**	*e*P	**Pb**	**12 31 53.4**	**+0.1**
	baz=249						
CHN4				*e*S	**Sb**	**12 32 15.5**	**+0.4**
	baz=249						
WTP	**Ta-pu**	**1.78**	**248**	*e*P	**Pb**	**12 31 53.0**	**-0.7**
	baz=236						
WTP				*e*S	**Sb**	**12 32 15.6**	**-0.1**
	baz=236						
JISG	**Ishigakijimahi**	**1.85**	**69**	P	**Pn**	**12 31 53.0**	**+0.7**
JISG				S	**Sn**	**12 32 15.1**	**-0.1**
SLGT	**Liugui**	**1.87**	**240**	*e*P	**Pb**	**12 31 54.5**	**-0.7**
	baz=231						
RLNB	**Erlin**	**1.88**	**269**	*e*S	**Sb**	**12 32 18.2**	**-0.1**
	baz=280						
SGST	**Jiashian**	**1.88**	**244**	*e*P	**Pn**	**12 31 53.8**	**+1.2**
	baz=233						
SGST				*e*S	**Sb**	**12 32 17.7**	**-0.7**
	baz=233						
CHN1	**Nanshi**	**1.88**	**247**	*e*P	**Pb**	**12 31 55.2**	**-0.1**
	baz=245						
CHN1				*e*S	**Sb**	**12 32 17.7**	**-0.7**
	baz=245						
TWK	**Hsinying**	**1.88**	**250**	*e*P	**Pb**	**12 31 54.8**	**-0.6**
	baz=247						
TWK				*e*S	**Sb**	**12 32 18.2**	**-0.3**
	baz=247						
MASBT	**Mashibuluo**	**2.10**	**231**	*e*P	**Pn**	**12 31 57.1**	**+1.4**
	baz=225						
MASBT				*e*S	**Sn**	**12 32 21.8**	**+0.6**
	baz=225						
EAST	**Anshuo**	**2.11**	**223**	*e*P	**Pn**	**12 31 56.8**	**+1.0**
	baz=222						
JTJ	**Tarama**	**2.21**	**71**	*e*S	**Sn**	**12 32 25.1**	**+1.2**
PTMZ	**Houxiangcun**	**3.19**	**291**	*e*P	**Pn**	**12 32 10.8**	**0.0**
	baz=287						
PTMZ				*e*S	**Sn**	**12 32 47.7**	**-0.5**
	baz=287						

*ISCJB **22** 12:32:13.0±0.2, 5°.77S±0°.02×129°.90E±0°.04, h200km, mb3.8/10, Error ellipse: s-maj=5.0km s-min=3.4km az=176.4*
*DJA **22** 12:32:15.7±0.2, 6°.S±3°×13°.0E±°, h219km±4km, M4.4/12, mB4.8/8, mb4.4/12, MLv4.8/12, Mw(mB)4.1/8*
*NEIC **22** 12:32:15.6±1.4, 5°.78S±0°.07×129°.92E±0°.05, h216km±7km, mb4.5/24*
*IDC **22** 12:32:15.8±1.3, 5°.81S×129°.86E, h221km±13km, mb3.5/9, mb1 3.7/14, mb1mx3.4/47, mbtmp4.3/14, Error ellipse: s-maj=13.6km s-min=8.7km az=72.0*
ISC 22 12:32:14.2±0.4, 5°.81S±0°.04×129°.90E±0°.05, h200km, n74, σ2°00/88, mb4.2/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.28**	**0**	P	**Pn**	**12 32 50.1**	**+4.0**
BNDI				S	**Sn**	**12 33 15.4**	**+4.5**
SAUI	**Saumlaki**	**2.57**	**147**	Pn	**Pn**	**12 33 02.4**	**+3.5**
SAUI				S	**Sn**	**12 33 39.2**	**+5.3**
MSAI	**Masohi**	**2.63**	**338**	P	**Pn**	**12 33 01.9**	**+2.3**
MSAI				S	**Sn**	**12 33 35.2**	**+0.1**

AAI	**Ambon**	**2.71**	**321**	P	**Pn**	**12 33 03.5 +3.0**
FAKI	**Fak Fak**	**3.71**	**39**	P	**Pn**	**12 33 13.6 +1.2**
FAKI	**Fak Fak**	**3.71**	**39**		**Pn**	**12 33 13.7 +1.2**
FAKI				S	**Sn**	**12 33 57.5 -0.6**
NLAI	**Namlea**	**3.78**	**312**	P	**Pn**	**12 33 17.0 +3.7**
NLAI				S	**Sn**	**12 34 04.0 +4.4**
SIJI	**Sorong**	**5.09**	**16**	P	**Pn**	**12 33 30.1 +0.3**
59nm,0.3s,baz=223,slow=22,SNR=175						
SIJI				S	**Sn**	**12 34 25.6 -4.0**
84nm,0.3s,baz=79,slow=23,SNR=23						
SWI	**Sorong**	**5.10**	**16**	P	**Pn**	**12 33 30.1 +0.2**
SANI	**Sanana**	**5.40**	**314**	P	**Pn**	**12 33 35.0 +1.2**
RKPI	**Ransiki, Papua**	**6.04**	**45**	P	**Pn**	**12 33 43.1 +1.0**
SOEI	**Soe**	**6.82**	**235**	P	**Pn**	**12 33 54.7 +2.5**
SOEI	**Soe**	**6.82**	**235**		**Pn**	**12 33 54.7 +2.5**
SOEI				S	**Sn**	**12 35 12.2 +2.3**
TNTI	**Ternate**	**7.01**	**339**	Pn	**Pn**	**12 33 56.6 +2.0**
MTN	**Manton Dam**	**7.10**	**170**		**Pn**	**12 33 57.7 +2.0**
MTN				S	**Sn**	**12 35 15.6 -0.8**
BATI	**Baumata**	**7.56**	**234**	P	**Pn**	**12 34 03.8 +2.0**
12nm,0.3s,baz=106,slow=1.4,SNR=23						
BATI				S	**Sn**	**12 35 26.9 -0.5**
15nm,0.3s,baz=111,slow=22,SNR=22						
BATI	**Baumata**	**7.56**	**234**	P	**Pn**	**12 34 04.2 +2.4**
BAKI	**Biak**	**7.71**	**54**	P	Pn	12 34 09.4 +5.6
KNRA	**Kununurra**	**9.87**	**186**		**Pn**	**12 34 33.2 +1.4**
KNRA				S	**Sn**	**12 36 17.4 -4.8**
PLAI	**Plampang**	**12.39**	**255**	P	**Pn**	**12 35 06.8 +2.7**
FITZ	**Fitzroy Crossi**	**12.90**	**198**	P	**Pn**	**12 35 10.8 +0.3**
2.5nm,0.3s,baz=27,slow=8.8,SNR=31						
FITZ				S	**S**	**12 37 29.4 -5.1**
1.1nm,0.3s,baz=295,slow=19,SNR=4.7						
TWSI	**Taliwang, Sumb**	**13.23**	**257**	P	**Pn**	**12 35 15.8 +1.1**
WRAB	**Tennant Creek**	**14.69**	**163**	P	**Pn**	**12 35 33.3 +0.5**
WRAB					**S**	**12 38 15.9 -0.3**
WRA	**Warramunga Arr**	**14.70**	**163**	P	**Pn**	**12 35 33.0 +0.2**
1.7nm,0.3s,baz=343,slow=13,SNR=54						
WRA				S	**S**	**12 38 12.3 -4.0**
1.1nm,0.3s,baz=344,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**14.70**	**163**		**Pn**	**12 35 32.3 -0.5**
WB2	**Warramunga Arr**	**14.70**	**163**	P	**Pn**	**12 35 33.3 +0.4**
COEN	**Coen**	**15.38**	**123**	P	**Pn**	**12 35 42.5 +1.3**
COEN				IAmb	IAmb	12 35 43.6
comp=Z,25nm,1.1s						
PMG	**Port Moresby**	**17.48**	**103**	P	**P**	**12 36 05.8 +1.3**
comp=Z,0.7nm,0.3s,baz=287,slow=8.8,SNR=6.1						
PMG	**Port Moresby**	**17.48**	**103**	P	**P**	**12 36 04.9 +0.4**
PMG				IAmb	IAmb	12 36 09.8
comp=Z,11nm,0.9s						
KKM	**Kota Kinabalu**	**18.03**	**311**	P	**P**	**12 36 10.6 0.0**
KKM				IAmb	IAmb	12 36 22.6
comp=Z,36nm,1.5s						
AS31	**Alice Springs**	**18.17**	**168**	P	**P**	**12 36 14.0 +2.0**
ASAR	**Alice Springs**	**18.17**	**168**	P	**P**	**12 36 14.0 +2.0**
comp=Z,1.5nm,0.3s,baz=347,slow=11,SNR=174						
ASAR				S	**S**	**12 39 27.4 -2.3**
comp=Z,0.8nm,0.3s,baz=350,slow=20,SNR=29						
ASAR				ScP	**ScP**	**12 43 48.0 -4.7**
comp=Z,0.1nm,0.3s,baz=2.6,slow=1.8,SNR=5.3						
PSA00	**Pilbara Seismi**	**18.45**	**211**	P	**P**	**12 36 16.1 +1.1**
PSA00	**Pilbara Seismi**	**18.45**	**211**	P	**P**	**12 36 15.6 +0.7**
PSA00				IAmb	IAmb	12 36 16.9
comp=Z,13nm,0.7s						
CTA	**Charters Tower**	**21.31**	**133**	P	**P**	**12 36 46.4 +0.8**
comp=Z,1.7nm,0.3s,baz=296,slow=9.3,SNR=9.7						
CISI	**Cisompet, Garu**	**22.00**	**264**	P	**P**	**12 36 52.4 -0.3**
KRVT	**Keravat (AS076**	**22.09**	**87**	P	**P**	**12 36 52.5 -1.0**
comp=Z,13nm,0.6s,baz=352,slow=7.8,SNR=4.4						
GIRL	**Giralia**	**22.55**	**221**	P	**P**	**12 36 58.7 +1.1**
MORW	**Morawa**	**26.59**	**208**	P	**P**	**12 37 33.9 -0.1**
MORW				IAmb	IAmb	12 37 43.5
comp=Z,19nm,1.4s						
BBOO	**Buckleboo**	**27.47**	**169**	P	**P**	**12 37 41.9 0.0**
BBOO				IAmb	IAmb	12 38 00.7
comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**28.15**	**159**	P	**P**	**12 37 48.2 +0.3**
comp=Z,1.4nm,0.6s,baz=338,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**28.15**	**159**	P	**P**	**12 37 48.2 +0.3**
NWAO	**Narrogin (SRO)**	**29.45**	**202**	P	**P**	**12 37 59.8 +0.4**
comp=Z,13nm,1.1s,baz=50,slow=11,SNR=3.7						
NWAO	**Narrogin (SRO)**	**29.45**	**202**	P	**P**	**12 37 59.7 +0.4**
NWAO				IAmb	IAmb	12 38 05.2
comp=Z,21nm,1.2s						
NWAO	**Narrogin (SRO)**	**29.45**	**202**	P	**P**	**12 37 59.5 +0.2**
NWAO				IAmb	IAmb	12 38 05.2
comp=Z,27nm,1.2s						
ARMA	**Armidale**	**31.90**	**143**	P	**P**	**12 38 21.6 +0.6**
ARMA				IAmb	IAmb	12 38 30.5
comp=Z,18nm,1.5s						
LHMI	**Lhok Sumawe**	**34.68**	**288**	P	**P**	**12 38 45.4 +0.3**
DZM	**Mont Dzumac**	**38.83**	**118**	P	**P**	**12 39 20.0 -0.3**
DZM				IAmb	IAmb	12 39 28.9
comp=Z,26nm,1.5s						
CMAR	**Chiang Mai Arr**	**38.90**	**309**	P	**P**	**12 39 19.5 -1.2**
comp=Z,1.2nm,0.5s,baz=133,slow=6.9,SNR=7.0						
HHC	**Hu-ho-hao-te**	**49.39**	**342**	*e*P	**P**	**12 40 46.8 +3.1**
HHC				pmax	pmax	
comp=Z,5.0nm,0.7s						
HHC				pmax	pmax	
comp=Z,9.0nm,5.5s						
QRZ	**Quartz Range**	**51.62**	**139**	P	**P**	**12 41 00.5 +0.2**
WHZ	**Wether Hill Ro**	**51.75**	**147**	P	**P**	**12 41 01.1 -0.1**
WHZ				IAmb	IAmb	12 41 05.2
comp=Z,9.2nm,1.3s						
LBZ	**Lake Benmore**	**52.10**	**144**	P	**P**	**12 41 04.0 +0.1**
LBZ				IAmb	IAmb	12 41 14.2
comp=Z,27nm,1.5s						
TAPN	**Taplejung**	**52.42**	**311**	*e*P	**P**	**12 41 05.6 -1.3**
comp=Z,8.6nm,0.3s						
RAMN	**Ramite**	**53.05**	**310**	*e*P	**P**	**12 41 10.7 -0.7**
comp=Z,18nm,0.4s						
BKZ	**Black Stump Fm**	**53.51**	**135**	P	**P**	**12 41 14.2 -0.1**
BKZ				IAmb	IAmb	12 41 24.6
comp=Z,9.3nm,1.3s						
JIRN	**Jiri**	**53.73**	**311**	*e*P	**P**	**12 41 15.4 -1.1**
comp=Z,8.9nm,0.3s						
GUN	**Gumba**	**54.10**	**311**	*e*P	**P**	**12 41 17.9 -1.2**
comp=Z,11nm,0.4s						
PKI	**Pulchoki**	**54.28**	**310**	*e*P	**P**	**12 41 18.8 -1.6**
comp=Z,1.5nm,0.2s						
PKIN	**Phulchoki**	**54.29**	**310**	*e*P	**P**	**12 41 18.8 -1.6**
comp=Z,3.5nm,0.4s						
GKN	**Gorkha**	**55.09**	**310**	*e*P	**P**	**12 41 24.9 -1.1**
comp=Z,15nm,0.3s						
KOLN	**Koldanda**	**55.77**	**309**	*e*P	**P**	**12 41 29.7 -1.2**
comp=Z,4.4nm,0.4s						
DANN	**Dangsing**	**55.93**	**310**	*e*P	**P**	**12 41 30.6 -1.6**
comp=Z,5.9nm,0.5s						
SONM	**Songino Array**	**57.29**	**341**	P	**P**	**12 41 40.8 -0.3**
comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=2.6						
SONM	**Songino Array**	**57.29**	**341**	P	**P**	**12 41 40.5 -0.6**
KSH	**Kashi**	**67.08**	**317**	*e*P	**P**	**12 42 49.3 +2.9**
MK31	**Makanchi Array**	**67.18**	**327**	P	**P**	**12 42 45.6 -1.1**
MKAR	**Makanchi Array**	**67.18**	**327**	P	**P**	**12 42 46.1 -0.6**
comp=Z,1.8nm,0.8s,baz=127,slow=7.7,SNR=19						
KURBB	**Kurchatov Arra**	**71.45**	**328**	P	**P**	**12 43 11.8 -1.0**
comp=Z,0.5nm,0.4s,baz=132,slow=4.8,SNR=7.7						
KKAR	**Karatay Array**	**72.38**	**319**	P	**P**	**12 43 17.7 -0.8**
MAW	**Mawson**	**76.01**	**201**	P	**P**	**12 43 39.0 0.0**
comp=Z,0.6nm,0.4s,baz=146,slow=7.3,SNR=4.8						
MAW	**Mawson**	**76.01**	**201**	P	**P**	**12 43 39.3 +0.3**
ABKAR	**Abkulak array**	**81.52**	**322**	P	**P**	**12 44 09.3 0.0**
QSPA	**South Pole Qui**	**84.16**	**180**	P	**P**	**12 44 21.8 -1.0**

IDC 22 12:44:04.0±1.6, 3°.50N×128°.85E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/47, mbtmp3.9/5, Error ellipse: s-maj=141.8km s-min=19.9km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**167**	P	P	12 49 20.1	+0.3
1.6nm,0.7s,baz=348,slow=11,SNR=18							
ASAR	**Alice Springs**	**27.45**	**170**	P	P	12 49 51.4	-0.5
0.2nm,0.4s,baz=349,slow=6.9,SNR=7.5							
ASAR				PcP	PcP	12 53 10.0	-0.8
0.2nm,0.6s,baz=341,slow=2.2,SNR=4.9							
STKA	**Stephens Creek**	**37.21**	**162**	P	P	12 51 17.6	+0.4
3.5nm,1.0s,baz=338,slow=7.7,SNR=4.9							
MKAR	**Makanchi Array**	**58.96**	**324**	P	P	12 54 05.7	+0.4
0.4nm,0.5s,baz=123,slow=7.7,SNR=6.7							
KURBB	**Kurchatov Arra**	**63.08**	**327**	P	P	12 54 32.8	-0.4
0.2nm,0.4s,baz=130,slow=6.3,SNR=4.0							

*ISCJB **22** 12:56:15.5±0.3, 6°.40S×0°.05×154°.85E±0°.04, h56km, mb4.0/11, Error ellipse: s-maj=6.5km s-min=6.3km az=23.6*
*NEIC **22** 12:56:15.2±1.4, 6°.41S±0°.07×154°.85E±0°.06, h35km±1km, mb4.3/23*
*IDC **22** 12:56:19.8±1.8, 6°.46S×154°.88E, h80km±16km, mb3.7/11, mb1 3.8/16, mb1mx3.7/35, mbtmp4.0/16, MS3.1/3, Ms1 3.1/3, ms1mx2.6/23, Error ellipse: s-maj=15.8km s-min=12.2km az=34.0*
ISC 22 12:56:17.4±0.4, 6°.42S±0°.06×154°.86E±0°.06, h56km, n53, σ1.9°08/57, mb4.1/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.52**	**306**	P	**Pn**	**12 57 12.8**	**+3.2**
7.9nm,0.3s,baz=169,slow=1.7,SNR=15							
KRVT				S	Sn	12 57 60.0	+10
36nm,0.3s,baz=167,slow=10,SNR=5.8							
KRVT				LR	LR	12 58 56.3	
comp=Z,158nm,19.6s,baz=100,slow=44							
HNR	**Honiara**	**5.86**	**121**	P	**Pn**	**12 57 43.1**	**+1.4**
3.7nm,0.3s,baz=309,slow=14,SNR=2.7							
HNR				S	**Sn**	**12 58 50.7**	**+3.1**
2.0nm,0.3s,baz=187,slow=19,SNR=2.2							
HNR				LR	LR	12 59 56.1	
comp=Z,146nm,18.0s,baz=330,slow=37							
HNR	**Honiara**	**5.86**	**121**		**Pn**	**12 57 40.8**	**-1.0**
HNR				Sn	**Sn**	**12 58 49.6**	**+2.0**
PMG	**Port Moresby**	**8.19**	**248**	P	**Pn**	**12 58 16.0**	**+2.4**
4.7nm,0.3s,baz=47,slow=6.9,SNR=15							
PMG				S	**Sn**	**12 59 47.6**	**+2.8**
0.5nm,0.3s,baz=233,slow=22,SNR=5.5							
PMG	**Port Moresby**	**8.19**	**248**		**Pn**	**12 58 12.3**	**-1.4**
PMG				Sn	**Sn**	**12 59 45.1**	**+0.3**
PATS	**Pohnpei**	**13.61**	**15**	Pn	**Pn**	**12 59 26.3**	**-1.5**
COEN	**Coen**	**13.72**	**236**	Pn	**Pn**	**12 59 28.1**	**-1.2**
CTA	**Charters Tower**	**15.96**	**211**	P	**Pn**	**12 59 58.9**	**+0.5**
0.1nm,0.3s,baz=25,slow=17,SNR=2.7							
DZM	**Mont Dzumac**	**19.17**	**145**	P	**P**	**13 00 36.7**	**+0.2**
0.4nm,0.3s,baz=175,slow=16,SNR=7.2							
DZM				LR	LR	13 06 26.0	
comp=Z,77nm,19.5s,baz=27,slow=32							
DZM	**Mont Dzumac**	**19.17**	**145**	P	**P**	**13 00 35.9**	**-0.7**
EIDS	**Eidsvold**	**19.19**	**190**	P	**P**	**13 00 36.1**	**-0.6**
WB2	**Warramunga Arr**	**24.03**	**234**	P	**P**	**13 01 27.4**	**0.0**
WB2				IAmb	IAmb	13 01 41.1	
comp=Z,5.5nm,1.1s							
WRA	**Warramunga Arr**	**24.04**	**234**	P	**P**	**13 01 27.6**	**+0.1**
comp=Z,1.6nm,0.7s,baz=55,slow=9.7,SNR=10							
WRA				PcP	**PcP**	**13 05 08.1**	**-0.1**
comp=Z,0.9nm,0.5s,baz=61,slow=2.1,SNR=12							
WRA	**Warramunga Arr**	**24.04**	**234**	P	**P**	**13 01 27.6**	**+0.1**
ARMA	**Armidale**	**24.07**	**187**	P	**P**	**13 01 28.1**	**+0.4**
ARMA				IAmb	IAmb	13 01 28.7	
comp=Z,13nm,1.3s							
AS31	**Alice Springs**	**26.46**	**227**	P	**P**	**13 01 49.1**	**-0.3**
ASAR	**Alice Springs**	**26.46**	**227**	P	**P**	**13 01 49.2**	**-0.3**
comp=Z,0.2nm,0.3s,baz=57,slow=9.3,SNR=12							
ASAR				PcP	**PcP**	**13 05 13.8**	**+0.1**
comp=Z,0.7nm,0.7s,baz=69,slow=2.3,SNR=9.9							
ASAR	**Alice Springs**	**26.46**	**227**	P	**P**	**13 01 48.7**	**-0.8**
ASAR				PcP	**PcP**	**13 05 13.7**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**27.36**	**25**	T	T	13 30 06.8	
baz=205,slow=75,SNR=17							
H11S2	**WAKE ISLAND Hy**	**27.37**	**25**	T	T	13 30 02.5	
baz=205,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**27.38**	**25**	T	T	13 30 03.7	
baz=205,slow=75,SNR=13							
FITZ	**Fitzroy Crossi**	**30.77**	**245**	P	**P**	**13 02 26.6**	**-1.2**
FITZ				IAmb	IAmb	13 02 44.2	
comp=Z,4.1nm,1.0s							
BKZ	**Black Stump Fm**	**38.00**	**152**	P	**P**	**13 03 29.9**	**-0.2**
BKZ				IAmb	IAmb	13 03 41.9	
comp=Z,7.2nm,1.4s							
LTZ	**Lake Taylor**	**39.35**	**160**	P	**P**	**13 03 41.1**	**-0.3**
LTZ				IAmb	IAmb	13 03 52.2	
comp=Z,9.8nm,1.2s							
RPZ	**Rata Peaks**	**39.78**	**162**	P	**P**	**13 03 43.5**	**-1.4**
comp=Z,9.6nm,0.9s,baz=338,slow=5.4,SNR=3.4							
RPZ	**Rata Peaks**	**39.78**	**162**	P	**P**	**13 03 44.8**	**-0.2**
SSLB	**Suanglung**	**44.68**	**313**	P	**P**	**13 04 25.4**	**+0.3**
SSLB				IAmb	IAmb	13 04 34.3	
comp=Z,15nm,1.1s							
YHNB	**Yeheng**	**44.93**	**315**	P	**P**	**13 04 27.3**	**+0.2**
JNU	**Nakatsue**	**45.44**	**331**	P	**P**	**13 04 30.4**	**-0.7**
KSRS	**Korea Array**	**50.37**	**332**	P	**P**	**13 05 08.3**	**-0.6**
comp=Z,0.9nm,0.7s,baz=151,slow=7.4,SNR=4.1							
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**13 06 14.4**	**+0.8**
comp=Z,2.8nm,0.9s,baz=153,slow=5.5,SNR=4.7							
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**13 06 13.8**	**+0.2**
CM31	**Chiang Mai Arr**	**60.42**	**295**	P	**P**	**13 06 22.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.42**	**295**	P	**P**	**13 06 22.7**	**+1.0**
comp=Z,4.7nm,0.8s,baz=121,slow=5.3,SNR=26							
CMAR	**Chiang Mai Arr**	**60.42**	**295**	P	**P**	**13 06 22.1**	**+0.5**
CHTO	**Chiang Mai**	**60.53**	**296**	P	**P**	**13 06 22.7**	**+0.3**
CHTO				IAmb	IAmb	13 06 24.2	
comp=Z,5.2nm,1.1s							
ADK	**Adak**	**62.97**	**19**	P	**P**	**13 06 38.7**	**+0.6**
SONM	**Songino Array**	**68.78**	**327**	P	**P**	**13 07 15.9**	**+0.1**
comp=Z,1.0nm,0.5s,baz=139,slow=5.5,SNR=5.9							
SONM	**Songino Array**	**68.78**	**327**	P	**P**	**13 07 15.6**	**-0.2**
YAK	**Yakutsk**	**70.97**	**348**	P	**P**	**13 07 29.7**	**+1.0**
CHGN	**Chignik**	**73.29**	**25**	P	**P**	**13 07 42.4**	**-0.2**
MK31	**Makanchi Array**	**82.89**	**319**	P	**P**	**13 08 36.1**	**0.0**
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**13 08 36.1**	**0.0**
comp=Z,0.7nm,0.5s,baz=99,slow=5.2,SNR=13							
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**13 08 36.3**	**+0.1**
IL31		**82.89**	**22**	P	**P**	**13 08 34.6**	**-1.1**
IL31				IAmb	IAmb	13 08 45.9	
comp=Z,2.9nm,1.2s							
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**13 08 35.1**	**-0.6**
comp=Z,0.2nm,0.4s,baz=234,slow=5.5,SNR=5.1							
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**13 08 39.0**	**-0.4**
QSPA				IAmb	IAmb	13 08 51.0	
comp=Z,4.0nm,1.2s							
ZALV	**Zalesovo Beam**	**83.63**	**326**	P	**P**	**13 08 38.4**	**-1.3**
comp=Z,0.9nm,0.7s,baz=106,slow=4.1,SNR=4.3							
ZALV	**Zalesovo Beam**	**83.63**	**326**	P	**P**	**13 08 38.6**	**-1.1**
MAW	**Mawson**	**84.88**	**203**	P	**P**	**13 08 45.4**	**-0.5**
comp=Z,1.2nm,0.6s,baz=104,slow=4.2,SNR=5.2							
MAW	**Mawson**	**84.88**	**203**	P	**P**	**13 08 45.8**	**0.0**
MAW				IAmb	IAmb	13 08 49.5	
comp=Z,2.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**152.74**	**286**	PKPbc	**PKPbc**	**13 16 07.6**	**-1.5**
comp=Z,0.8nm,0.6s,baz=60,slow=2.3,SNR=5.5							
TORD	**Torodi Ar. Bea**	**152.74**	**286**		**PKPbc**	**13 16 08.3**	**-0.8**

*ISCJB **22** 12:59:35.9±0.6, 34°.44N±0°.03×45°.60E±0°.03, h9km±4km, Error ellipse: s-maj=5.2km s-min=3.9km az=23.1*
*TEH **22** 12:59:35.6, 34°.34N×45°.57E, h14km, ML3.4*
*ISN **22** 12:59:38.2±0.8, 34°.47N×45°.61E, h31km±3km, ML3.6*
ISC 22 12:59:37.4±1.2, 34°.42N±0°.03×45°.61E±0°.03, h12km±10km, n30, σ0.9°96/40, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.70**	**66**	*e*Pg	**Pg**	**12 59 50.0**	**-1.0**
IDHR				*e*Sg	**Sg**	**13 00 01.5**	**+1.3**
IDHR				IAMB	IAmb	13 00 04.5	
comp=Z,0.0nm,0.3s							
IGHG	**Ghaleghazi**	**0.80**	**96**	*e*Pg	**Pg**	**12 59 51.6**	**-1.2**
IGHG				IAMB	IAmb	12 59 52.9	
comp=Z,22μm,0.2s							
IGHG				*e*Sg	**Sg**	**13 00 04.2**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.19**	**96**	*e*Pg	**Pn**	**12 59 58.1**	**-2.0**
KCHF				*e*Sg	**Sb**	**13 00 16.3**	**+0.8**
KCHF				IAMB	IAmb	13 00 19.5	
comp=Z,0.0nm,0.3s							
ILIN	**Lien**	**1.22**	**65**	*e*Pg	**Pn**	**12 59 59.6**	**-1.0**
ILIN				IAMB	IAmb	13 00 21.1	
comp=Z,7μm,0.4s							
KER	**Kermanshah**	**1.26**	**91**	*e*Pg	**Pn**	**13 00 00.4**	**-0.6**
KER				*e*Sg	**Sb**	**13 00 18.1**	**+0.7**
IBDR	**Badra**	**1.33**	**168**	*e*Pg	**Pg**	**13 00 03.0**	**+0.1**
IBDR				AML	AML	13 00 05.4	
comp=Z,1μm,0.4s							
IBDR				*e*Sg	**Sg**	**13 00 22.0**	**+1.8**
IKRK	**Kirkuk**	**1.44**	**314**	*e*Pg	**Pb**	**13 00 04.0**	**-0.1**
IKRK				AML	AML	13 00 08.0	
comp=Z,1μm,0.1s							
IKRK				*e*Sg	**Sn**	**13 00 22.0**	**-0.2**

BHD	**Baghdad**	**1.54**	**222**	*e*Pn	**Pg**	**13 00 06.0**	**-0.9**
BHD				*e*Sn	**Sg**	**13 00 26.0**	**-0.8**
IKOM	**Komasi**	**1.59**	**98**	IAMB	IAmb	13 00 13.0	
comp=Z,0.0nm,0.6s							
IKOM				*e*Pn	**Pn**	**13 00 05.8**	**+0.2**
IBZA	**Bozab**	**1.86**	**88**	IAMB	IAmb	13 00 12.3	
comp=Z,0.0nm,0.4s							
IBZA				*e*Pn	**Pn**	**13 00 09.4**	**0.0**
IKFM	**Kafar-mosalman**	**2.06**	**115**	*e*Pn	**Pn**	**13 00 11.8**	**0.0**
IKFM				IAMB	IAmb	13 00 17.5	
comp=Z,0.0nm,0.3s							
IDOB	**Doab**	**2.22**	**106**	*e*Pn	**Pn**	**13 00 13.9**	**-0.4**
MAHB	**Mahabad**	**2.35**	**2**	*e*Pn	**Pn**	**13 00 17.0**	**+1.0**
MAHB				IAMB	IAmb	13 00 56.8	
comp=Z,0.0nm,0.4s							
IKMR	**Kamar-syah**	**2.47**	**110**	*e*Pn	**Pn**	**13 00 17.2**	**-0.3**
HSAM	**Samen**	**2.48**	**94**	*e*Pn	**Pn**	**13 00 18.1**	**+0.1**
HSAM				IAMB	IAmb	13 00 23.0	
comp=Z,0.0nm,0.5s							
BDRS	**Dareh Seyedi**	**2.75**	**99**	*e*Pn	**Pn**	**13 00 21.4**	**-0.2**
BDRS				IAMB	IAmb	13 00 29.1	
comp=Z,0.0nm,0.2s							
MSL	**Mosul**	**2.85**	**315**	*e*Pn	**Pn**	**13 00 23.0**	**+0.3**
MSL				AML	AML	13 00 32.6	
comp=Z,372nm,0.5s							
MSL				*e*Sn	**Sn**	**13 00 56.0**	**-1.0**
HAGD	**Aghdareh**	**2.94**	**81**	*e*Pn	**Pn**	**13 00 25.1**	**+0.9**
HAGD				IAMB	IAmb	13 01 13.5	
comp=Z,0.0nm,0.9s							
NSR	**Nassriya**	**3.42**	**172**	*e*Pn	**Pn**	**13 00 32.0**	**+1.4**
NSR				AML	AML	13 00 34.3	
comp=Z,3μm,0.2s							
NSR				*e*Sn	**Sn**	**13 01 12.0**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.50**	**67**	*e*Pn	**Pn**	**13 00 33.2**	**+1.3**
IHRS	**Heris**	**4.06**	**16**	*e*Pn	**Pn**	**13 00 40.5**	**+0.9**
IHRS				IAMB	IAmb	13 00 53.6	
comp=Z,243nm,0.4s							
IQOM	**Qom**	**4.52**	**83**	*e*Pn	**Pn**	**13 00 46.4**	**+0.4**
IQOM				IAMB	IAmb	13 01 04.2	
comp=Z,0.0nm,0.6s							
RTB	**Rutbah**	**4.63**	**254**	*e*Pn	**Pn**	**13 00 48.0**	**+0.7**
RTB				AML	AML	13 01 01.2	
comp=Z,44nm,0.7s							
RTB				*e*Sn	**Sn**	**13 01 40.0**	**-1.1**
IPIR	**Pirpir**	**4.73**	**110**	*e*Pn	**Pn**	**13 00 47.9**	**-1.0**
JHBN	**Jahan bin**	**4.76**	**116**	*e*Pn	**Pn**	**13 00 48.5**	**-0.8**
JHBN				IAMB	IAmb	13 01 51.8	
comp=Z,0.0nm,0.2s							
IKLH	**Kolahrood**	**5.08**	**101**	*e*Pn	**Pn**	**13 00 52.9**	**-0.8**
IKLH				IAMB	IAmb	13 00 54.9	
comp=Z,215nm,0.3s							
KRSH	**Karshahi**	**5.42**	**93**	*e*Pn	**Pn**	**13 00 58.5**	**+0.2**
IGAR	**Gharneh**	**5.74**	**109**	IAMB	IAmb	13 01 02.5	
comp=Z,424nm,0.3s							
IGAR				*e*Pn	**Pn**	**13 01 01.4**	**-1.3**
IZEF	**Zefreh**	**5.80**	**103**	*e*Pn	**Pn**	**13 01 02.6**	**-1.0**
IRAM	**Ramesheh**	**6.25**	**113**	*e*Pn	**Pn**	**13 01 08.2**	**-1.4**

*UCR **22** 13:16:34.5±0.3, 8°.72N×82°.88W, h34km±1km, MW3.2*
*UPA **22** 13:16:35.7±1.3, 8°.93N×82°.85W, h26km±4km, ML3.5, MW3.2*
ISC 22 13:16:35.7±1.0, 8°.91N±0°.08×82°.85W±0°.05, h30km±7km, n12, σ0.8°53/19, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.12**	**167**	⇑*i*P	**Pb**	**13 16 40.9**	**-0.4**
MLIR3				AMP		13 16 41.0	
comp=Z,3μm,0.1s							
MLIR3				*i* S	**Sb**	**13 16 46.4**	**+1.2**
EDSV	**San Vito**	**0.15**	**232**	*e*P	**Pb**	**13 16 40.8**	**-0.8**
EDSV				*e*S	**Sb**	**13 16 45.6**	**0.0**
BRU2	**Volcan**	**0.20**	**127**	*e*P	**Pb**	**13 16 41.6**	**-0.5**
BRU2				*e*S	**Sb**	**13 16 46.6**	**+0.2**
BRU2	**Volcan**	**

2.3nm,0.8s,baz=145,slow=6.9,SNR=22
ASAR LR LR 14 16 11.4
comp=Z,72nm,21.1s,baz=149,slow=32
H01W1 Cape Leeuwin H 62.61 247 T T 15 02 15.3
baz=144
H01W2 Cape Leeuwin H 62.61 247 T T 15 02 15.3
baz=144
H01W3 Cape Leeuwin H 62.62 247 T T 15 02 15.3
baz=144
WRA Warramunga Arr 64.91 273 P P 13 53 30.5 +0.2
1.0nm,0.8s,baz=151,slow=5.6,SNR=6.6
WRA LR LR 14 18 17.5
comp=Z,37nm,21.5s,baz=160,slow=33
BDFB Brasilia 83.40 110 LR LR 14 28 06.0
comp=Z,33nm,20.5s,baz=129,slow=33
JTS Las Juntas de 87.43 65 LR LR 14 26 07.5
comp=Z,40nm,18.1s,baz=296,slow=30
ROSC El Rosal 87.79 77 LR LR 14 26 44.4
comp=Z,48nm,19.4s,baz=291,slow=30
BOSA Boshof 92.07 177 LR LR 14 32 31.4
comp=Z,75nm,21.4s,baz=209,slow=32
MKAR Makanchi Array 146.21 272 PKPbc PKPdf 14 02 29.0 -0.3
0.8nm,0.8s,baz=126,slow=3.7,SNR=8.6

IDC 22 13:52:24.0±999.0, 50.90N×45.40E, h0km, Error ellipse: s-maj=1302.0km s-min=169.5km az=85.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.05**	**89**	*i*		14 40 45.0	
baz=278,slow=315,SNR=2.7							
I46RU	**ZALESOVO INFRA**	**24.02**	**67**	*i*		16 20 50.0	
baz=278,slow=325,SNR=3.8							
I34MN	**SONGINO INFRAS**	**38.87**	**70**	*i*		17 49 20.0	
baz=300,slow=317,SNR=0.6							

TAP 22 13:52:59.1, 23.27N×121.26E, h28km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FULB	**Fuli**	**0.08**	**158**	*eP*	Pb	13 53 04.3	+0.3
baz=158							
FULB				*eS*	Sb	13 53 08.0	+0.7
baz=158							
TWF1	**Yuli**	**0.09**	**21**	*eS*	Sb	13 53 08.4	+0.9
baz=26							
YULB	**Yu-li**	**0.12**	**15**	*eP*	Pb	13 53 04.7	+0.3
baz=14							
YULB				*eS*	Sb	13 53 08.6	+0.6
baz=14							
EHY	**Hungye**	**0.24**	**13**	*eS*	Sb	13 53 11.1	+1.0
baz=14							
ELDTW	**Lidau**	**0.24**	**250**	*eS*	Sb	13 53 10.9	+0.7
baz=249							
HGSD	**Ruisui**	**0.27**	**34**	*eP*	Pb	13 53 06.3	+0.4
baz=33							

TAP 22 13:53:00.9, 23.16N×120.96E, h6km±1km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.06**	**63**	P	Pg	13 53 03.1	+0.5
baz=67							
ELDTW				*eS*	Sg	13 53 04.6	+0.8
baz=67							
STYT	**Tauyuan**	**0.19**	**270**	*eS*	Sg	13 53 08.9	+1.5
baz=269							
WTP	**Ta-pu**	**0.33**	**284**	*eP*	Pb	13 53 08.8	-0.5
baz=284							
TPUB	**Ta-pu**	**0.34**	**294**	*eP*	Pb	13 53 09.2	-0.2
baz=272							
TPUB	**Ta-pu**	**0.34**	**294**	*eP*	Pb	13 53 09.2	-0.2
baz=293							
TPUB				*eS*	Sb	13 53 14.0	-1.0
baz=293							
TWGBT	**Beinan**	**0.36**	**163**	*eP*	Pb	13 53 09.2	-0.6
baz=162							
CHN4	**Tsaushan**	**0.39**	**299**	*eS*	Sb	13 53 16.1	-0.3
baz=298							

*IDC **22** 13:58:05.5±0.9, 60.07N×153.86W, h132km±11km, mb3.8/16, mb1 4.0/21, mb1mx3.7/53, mbtmp4.2/21, Error ellipse: s-maj=10.5km s-min=10.1km az=130.0*
*ISCJB **22** 13:58:06.3±0.2, 60.00N±0.02×153.59W±0.04, h171km±1km, mb4.1/20, Error ellipse: s-maj=3.8km s-min=2.7km az=41.5*
*NEIC **22** 13:58:07.0±1.3, 60.00N±0.05×153.7W±0.1, h170km±3km*
*AEIC **22** 13:58:08.1±1.4, 59.99N±0.04×153.6W±0.1, h168km±3km, ML4.3, mb4.3/10(NEIC)*

ISC 22 13:58:07.6±0.6, 60.00N±0.04×153.53W±0.04, h170km±5km, n198, σ1°23/218, mb4.1/23, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.21**	**72**		**Pn**	**13 58 30.0**	**-0.5**
ILW					**Sn**	**13 58 47.1**	**-0.9**
ILS	**Iliamna Low So**	**0.23**	**99**		**Pn**	**13 58 30.1**	**-0.4**
IVE	**Iliamna Volcan**	**0.26**	**85**		**Pn**	**13 58 30.3**	**-0.2**
IVE					**Sn**	**13 58 47.7**	**-0.4**
ILIM	**Iliamna**	**0.30**	**73**		**Pn**	**13 58 30.3**	**-0.2**
ILIM					**Sn**	**13 58 47.9**	**-0.3**
RED	**Redoubt Volcan**	**0.57**	**41**		**Pn**	**13 58 31.6**	**0.0**
RED					**Sn**	**13 58 49.4**	**-0.8**
RDWB	**Redoubt West**	**0.60**	**34**		**Pn**	**13 58 31.7**	**-0.2**
RDWB					**Sn**	**13 58 49.8**	**-0.8**
RSO	**Redoubt South**	**0.61**	**39**		**Pn**	**13 58 31.9**	**-0.1**
AUW	**Augustine West**	**0.63**	**177**		**Pn**	**13 58 31.9**	**+0.1**
AU22	**Augustine Moun**	**0.63**	**172**		**Pn**	**13 58 31.8**	**-0.1**
AU22					**Sn**	**13 58 49.5**	**-0.9**
AUH	**Augustine H**	**0.64**	**176**		**Pn**	**13 58 32.0**	**0.0**
AUP	**Augustine Pinn**	**0.64**	**175**		**Pn**	**13 58 32.1**	**0.0**
NCT	**North Crescent**	**0.64**	**27**		**Pn**	**13 58 31.9**	**-0.1**
NCT					**Sn**	**13 58 49.8**	**-1.0**
AUQ	**Augustine Qik'**	**0.65**	**175**		**Pn**	**13 58 31.9**	**-0.1**
AUQ					**Sn**	**13 58 49.9**	**-0.7**
RDJH	**Redoubt Jeurge**	**0.70**	**31**		**Pn**	**13 58 32.3**	**0.0**
RDJH					**Sn**	**13 58 50.6**	**-0.8**
DFR	**Drift River**	**0.73**	**35**		**Pn**	**13 58 32.3**	**-0.2**
DFR					**Sn**	**13 58 51.6**	**-0.1**
HOM	**Homer**	**1.01**	**109**		**Pn**	**13 58 34.6**	**+0.3**
HOM	**Homer**	**1.01**	**109**		**Pn**	**13 58 34.9**	**+0.5**
HOM				Sn	**Sn**	**13 58 54.6**	**-0.2**
FOSS	**Fourpeaked Sta**	**1.20**	**184**		**Pn**	**13 58 35.5**	**-0.5**
CNPM	**China Poot**	**1.25**	**111**	Pn	**Pn**	**13 58 36.5**	**+0.1**
CNPM	**China Poot**	**1.25**	**111**		**Sn**	**13 58 57.0**	**-1.5**
CNPM	**China Poot**	**1.25**	**111**	Sn	**Sn**	**13 58 57.3**	**-1.3**
CKL	**Chakachamna La**	**1.34**	**25**		**Pn**	**13 58 37.5**	**+0.2**
BRLK	**Bradley Lake**	**1.35**	**99**	Pn	**Pn**	**13 58 37.5**	**+0.2**
BRLK	**Bradley Lake**	**1.35**	**99**		**Sn**	**13 58 59.0**	**-1.2**
SPWE	**Spurr West**	**1.37**	**20**		**Pn**	**13 58 37.8**	**+0.3**
SPCR	**Spurr Chakacha**	**1.37**	**28**		**Pn**	**13 58 37.5**	**0.0**
SPBG	**Spurr Blockage**	**1.39**	**24**		**Pn**	**13 58 38.2**	**+0.5**
SPU	**Mount Spurr**	**1.39**	**31**		**Pn**	**13 58 37.6**	**-0.1**
CAPN	**Captain Cook N**	**1.41**	**56**		**Pn**	**13 58 39.1**	**+1.4**
BRSE	**Bradley Lake S**	**1.43**	**99**		**Pn**	**13 58 38.1**	**+0.1**
BRSE					**Sn**	**13 58 59.9**	**-1.6**
SPNN	**North Nagishla**	**1.43**	**16**		**Pn**	**13 58 38.3**	**+0.1**
SPCP	**Crater Peak Br**	**1.44**	**27**		**Pn**	**13 58 38.5**	**+0.2**
SPCP					**Sn**	**13 59 02.1**	**0.0**
SPCG	**Spurr Capps Gl**	**1.50**	**29**		**Pn**	**13 58 38.6**	**-0.1**
SVW2	**Sparrevohn**	**1.50**	**318**		**Sn**	**13 59 00.8**	**-2.0**
SVW2	**Sparrevohn**	**1.50**	**318**	Pn	**Pn**	**13 58 37.3**	**-1.4**
SVW2					Pn	13 58 38.2	-0.5
KAHG	**Katmai Hook Gl**	**1.60**	**200**		**Pn**	**13 58 39.0**	**-0.7**
SLKM	**Skilak Lake**	**1.73**	**71**		**Pn**	**13 58 41.2**	**+0.2**
SLKM					**Sn**	**13 59 05.0**	**-1.9**
KAKN	**Katmai Knife C**	**1.88**	**206**		**Pn**	**13 58 41.8**	**-1.0**
KAKN					**Sn**	**13 59 07.7**	**-2.1**
KCG	**Knife Ck. Glac**	**1.88**	**206**		**Pn**	**13 58 41.8**	**-0.9**
KELA	**Mount Kelaz**	**1.93**	**217**		**Pn**	**13 58 42.4**	**-0.9**
KABU	**Katmai Buttres**	**1.95**	**208**		**Pn**	**13 58 42.8**	**-0.7**
FIS	**Fire Island**	**2.00**	**53**		**Pn**	**13 58 44.3**	**+0.5**
SUA	**Susitna One**	**2.01**	**42**		**Pn**	**13 58 43.9**	**-0.3**
SUA				Sn	**Sn**	**13 59 12.5**	**0.0**
SEW	**Seward**	**2.05**	**85**		**Pn**	**13 58 44.7**	**+0.3**
SEW					**Sn**	**13 59 11.3**	**-1.6**
RC01	**Rabbit Creek A**	**2.17**	**58**		**Pn**	**13 58 45.1**	**-0.7**
RC01	**Rabbit Creek A**	**2.17**	**58**	Sn	**Sn**	**13 59 14.1**	**-1.3**
SKT	**Skwentna**	**2.21**	**25**		**Pn**	**13 58 46.2**	**-0.1**
SKT	**Skwentna**	**2.21**	**25**		**Pn**	**13 58 46.8**	**+0.5**
SKT	**Skwentna**	**2.21**	**25**		**Sn**	**13 59 15.0**	**-1.5**
KDAK	**Kodiak Island**	**2.27**	**167**	P	**Pn**	**13 58 45.3**	**-1.7**
58nm,0.3s,baz=42,slow=5.9,SNR=1654							
KDAK				S	**Sn**	**13 59 14.4**	**-3.1**
576nm,0.3s,baz=180,slow=17,SNR=47							
PLK5	**Peulik 5**	**2.65**	**222**		**Pn**	**13 58 51.5**	**0.0**
PLK2	**Peulik 2**	**2.67**	**214**		**Pn**	**13 58 51.3**	**-0.4**
PMR	**Palmer**	**2.68**	**51**		**Pn**	**13 58 50.2**	**-1.6**
PWL	**Port Wells**	**2.72**	**69**		**Pn**	**13 58 51.2**	**-1.0**
PLK3	**Peulik 3**	**2.72**	**213**		**Pn**	**13 58 51.8**	**-0.5**
PLK1	**Peulik 1**	**2.72**	**217**		**Pn**	**13 58 51.8**	**-0.5**
OHAK	**Old Harbor**	**2.79**	**177**		**Pn**	**13 58 51.2**	**-1.9**
KNK	**Knik Glacier**	**2.87**	**58**		**Pn**	**13 58 52.8**	**-1.3**
GHO	**Glory Hole Cre**	**2.87**	**50**		**Pn**	**13 58 52.9**	**-1.3**
PPLA	**Purkeypile**	**2.98**	**12**		**Pn**	**13 58 56.5**	**+0.9**
SML	**Sawmill**	**3.12**	**52**		**Pn**	**13 58 55.9**	**-1.4**
TT01	**Tatalina**	**3.16**	**339**		**Pn**	**13 58 57.2**	**-0.5**
TTA	**Tatalina**	**3.18**	**339**		**Pn**	**13 58 57.3**	**-0.7**
GLI	**Glacier Island**	**3.31**	**72**		**Pn**	**13 58 58.9**	**-0.7**
SII	**Sitkinak Islan**	**3.46**	**186**		**Pn**	**13 58 59.8**	**-1.8**
HUR	**Hurricane**	**3.52**	**30**		**Pn**	**13 59 01.6**	**-0.6**
HIN	**Hinchinbrook I**	**3.53**	**80**		**Pn**	**13 59 02.2**	**-0.1**
SCM	**Sheep Creek Mo**	**3.54**	**56**		**Pn**	**13 59 01.7**	**-0.9**
FID	**Port Fidalgo**	**3.58**	**75**		**Pn**	**13 59 02.6**	**-0.4**
JPK	**Jack Peak**	**3.58**	**70**		**Pn**	**13 59 02.3**	**-0.8**
VMT	**TAPS TI Valdez**	**3.70**	**70**		**Pn**	**13 59 05.0**	**+0.6**
VMT					**Sn**	**13 59 46.6**	**-2.2**
WAT1	**Susitna Watana**	**3.71**	**38**		**Pn**	**13 59 03.9**	**-0.8**
KTH	**Kantishna Hill**	**3.78**	**18**		**Pn**	**13 59 04.9**	**-0.6**
TRF	**Thorofare Moun**	**3.79**	**23**		**Pn**	**13 59 05.2**	**-0.6**
WAT2	**Susitna Watana**	**3.80**	**36**		**Pn**	**13 59 05.1**	**-0.8**
WAT6	**Susitna Watana**	**3.81**	**45**		**Pn**	**13 59 05.0**	**-1.0**
ANNE	**Aniakchak Nort**	**3.90**	**220**		**Pn**	**13 59 06.7**	**-0.5**
ANNW	**Aniakchak Nort**	**3.91**	**221**		**Pn**	**13 59 06.2**	**-1.0**
EYAK	**Cordova Ski Ar**	**3.91**	**78**		**Pn**	**13 59 07.2**	**0.0**
CHUM	**Lake Minchumin**	**3.94**	**8**		**Pn**	**13 59 07.4**	**-0.1**
RND	**Reindeer**	**4.08**	**31**		**Pn**	**13 59 08.6**	**-0.8**
DHY	**Denali Highway**	**4.27**	**41**		**Pn**	**13 59 11.3**	**-0.5**
BPAW	**Bear Paw Mtn.**	**4.29**	**15**		**Pn**	**13 59 11.2**	**-0.8**
CHIR	**Chirikof Islan**	**4.33**	**196**		**Pn**	**13 59 10.0**	**-2.6**
MCK	**McKinley**	**4.33**	**28**		**Pn**	**13 59 12.2**	**-0.4**
PS12	**TAPS Pump St12**	**4.37**	**67**		**Pn**	**13 59 12.8**	**-0.3**
GOAT	**Goat Mountain**	**4.42**	**79**		**Pn**	**13 59 14.0**	**+0.2**
PS11	**TAPS Pump St11**	**4.44**	**58**		**Pn**	**13 59 13.9**	**0.0**
CHGN	**Chignik**	**4.52**	**217**		**Pn**	**13 59 13.5**	**-1.5**
BWN	**Browne**	**4.60**	**23**		**Pn**	**13 59 15.7**	**-0.3**
PAX	**Paxson**	**4.88**	**49**		**Pn**	**13 59 19.5**	**-0.3**
BERG	**Berg Lake**	**4.92**	**81**		**Pn**	**13 59 20.3**	**+0.1**
GLB	**Gilahina Butte**	**4.99**	**69**		**Pn**	**13 59 21.3**	**+0.2**
PS10	**TAPS Pump St10**	**5.04**	**44**		**Pn**	**13 59 22.5**	**+0.7**
NEA	**Nenana**	**5.04**	**22**		**Pn**	**13 59 20.5**	**-1.3**
VNKR	**Veniaminof 5**	**5.04**	**221**		**Pn**	**13 59 20.8**	**-1.1**
VRDI	**Verde Repeater**	**5.11**	**72**		**Pn**	**13 59 23.2**	**+0.2**
WRH	**Wood River Hil**	**5.16**	**27**		**Pn**	**13 59 22.1**	**-1.2**
CRQM	**Cirque**	**5.21**	**77**		**Pn**	**13 59 24.7**	**+0.5**
MLY	**Manley**	**5.21**	**13**		**Pn**	**13 59 23.1**	**-1.0**
MCARA	**McCarthy VSAT**	**5.34**	**70**		**Pn**	**13 59 26.6**	**+0.9**
TGL	**Tana Glacier**	**5.36**	**77**		**Pn**	**13 59 26.6**	**+0.5**
CCB	**Clear Creek Bu**	**5.37**	**27**		**Pn**	**13 59 25.1**	**-1.0**
HDA	**Harding Lake**	**5.39**	**32**	P	**Pn**	**13 59 25.4**	**-1.0**
baz=218,SNR=106							
HDA	**Harding Lake**	**5.39**	**32**		**Pn**	**13 59 25.4**	**-1.0**
PS08	**TAPS Pump Stn8**	**5.53**	**32**		**Pn**	**13 59 27.3**	**-0.9**
MENT	**Mentasta**	**5.55**	**54**		**Pn**	**13 59 28.7**	**+0.2**
MDM	**Murphy Dome**	**5.55**	**24**		**Pn**	**13 59 27.5**	**-1.0**
TCOL	**CIGO, UAF Yank**	**5.55**	**26**	P	**Pn**	**13 59 27.3**	**-1.1**
baz=211,SNR=71							
TCOL	**CIGO, UAF Yank**	**5.55**	**26**		**Pn**	**13 59 27.6**	**-0.9**
COLA	**College**	**5.56**	**26**		**Pn**	**13 59 27.8**	**-0.7**
RIDG	**Independent Ri**	**5.56**	**44**		**Pn**	**13 59 28.8**	**+0.2**
PTPK	**Patty Peak**	**5.58**	**73**		**Pn**	**13 59 30.1**	**+1.0**
KIAG	**Kiagna River**	**5.60**	**76**		**Pn**	**13 59 30.1**	**+0.7**
BALM	**Baldy**	**5.62**	**74**		**Pn**	**13 59 30.3**	**+0.8**
IL31		**5.70**	**30**		**Pn**	**13 59 29.2**	**-1.2**
ILAR	**Eielson Array**	**5.70**	**30**	P	**Pn**	**13 59 29.1**	**-1.3**
59nm,0.3s,baz=219,slow=13,SNR=1257							
ILAR				S	**Sn**	**14 00 31.2**	**-4.1**
22nm,0.3s,baz=197,slow=24,SNR=9.8							
ILAR	**Eielson Array**	**5.70**	**30**		**Pn**	**13 59 28.7**	**-1.7**
DOT	**Dot Lake**	**5.79**	**47**		**Pn**	**13 59 31.4**	**-0.2**
PS07	**TAPS Pump Stn7**	**5.86**	**22**		**Pn**	**13 59 31.5**	**-0.9**
POKR	**Poker Plat Res**	**5.86**	**26**	P	**Pn**	**13 59 31.4**	**-1.1**
baz=212,SNR=151							
POKR	**Poker Plat Res**	**5.86**	**26**		**Pn**	**13 59 31.7**	**-0.8**
GRNC	**Granite Creek**	**5.89**	**78**		**Pn**	**13 59 34.0**	**+0.9**
BARN	**Barnard Glacie**	**5.96**	**75**		**Pn**	**13 59 35.2**	**+1.2**
SDPT	**Sand Point**	**5.97**	**222**		**Pn**	**13 59 31.8**	**-2.2**
IM03		**6.01**	**359**		**Pn**	**13 59 34.5**	**0.0**
IMAR	**Indian Mountai**	**6.01**	**359**		**Pn**	**13 59 34.5**	**+0.1**
CTGM	**Chitina Glacie**	**6.11**	**76**		**Pn**	**13 59 37.1**	**+1.2**
PS06	**TAPS Pump Stn6**	**6.13**	**15**		**Pn**	**13 59 35.4**	**-0.6**
CNBA	**Chernabura Isl**	**6.13**	**215**		**Pn**	**13 59 34.7**	**-1.5**
BC03		**6.40**	**56**		**Pn**	**13 59 40.1**	**+0.5**
BCAR	**Beaver Creek A**	**6.40**	**56**		**Pn**	**13 59 39.9**	**+0.2**
YUK2	**White River**	**6.45**	**68**		**Pn**	**13 59 40.8**	**+0.4**
BVCY	**Beaver Creek**	**6.58**	**63**		**Pn**	**13 59 43.0**	**+1.0**
PRP	**Porcupine Dome**	**6.64**	**30**		**Pn**	**13 59 41.9**	**-1.0**
PS05	**TAPS Pump Stn5**	**6.96**	**9**		**Pn**	**13 59 46.4**	**-0.6**
PNL	**Peninsula**	**7.13**	**87**		**Pn**	**13 59 49.4**	**0.0**
COLD	**Coldfoot**	**7.41**	**10**		**Pn**	**13 59 52.6**	**-0.3**
YUK4	**Talbot Arm**	**7.43**	**73**		**Pn**	**13 59 54.7**	**+1.2**
EGAK	**Eagle**	**7.48**	**45**		**Pn**	**13 59 53.2**	**-0.6**
FYU	**Fort Yukon**	**7.57**	**26**		**Pn**	**13 59 53.9**	**-1.2**
DAWY	**Dawson**	**7.79**	**52**		**Pn**	**13 59 58.6**	**+0.6**
HYT	**Haines Junctio**	**7.97**	**77**		**Pn**	**14 00 01.7**	**+1.1**
BM03	**Burnt Mountain**	**8.43**	**24**		**Pn**	**14 00 04.3**	**-2.1**
BMAR	**Burnt Mountain**	**8.44**	**24**		**Pn**	**14 00 04.2**	**-2.4**
TOLK	**Toolik Lake Re**	**8.85**	**9**	P	**Pn**	**14 00 11.4**	**-0.5**
baz=193,SNR=21							
TOLK	**Toolik Lake Re**	**8.85**	**9**		**Pn**	**14 00 11.6**	**-0.3**
SKAG	**Skagway**	**9.21**	**85**		**Pn**	**14 00 17.7**	**+1.1**
WHY	**Whitehorse**	**9.27**	**78**		**Pn**	**14 00 20.7**	**+3.1**
UNV	**Unalaska Valle**	**9.39**	**235**		**Pn**	**14 00 17.4**	**-1.7**
BESE	**Bessie Mountai**	**9.65**	**90**		**Pn**	**14 00 20.5**	**-2.2**
EPYK	**Eagle Plains**	**9.90**	**43**	P	**Pn**	**14 00 25.3**	**-0.5**
baz=238,SNR=106							
EPYK	**Eagle Plains**	**9.90**	**43**		**Pn**	**14 00 25.8**	**0.0**
JIS	**Juneau Island**	**9.98**	**92**		**Pn**	**14 00 27.2**	**+0.3**
INK	**Inuvik**	**12.00**	**38**	P	**Pn**	**14 00 53.5**	**+0.5**
4.0nm,0.3s,baz=230,slow=16,SNR=33							
INK	**Inuvik**	**12.00**	**38**		**Pn**	**14 00 52.9**	**-0.1**
DLBC	**Dease Lake**	**12.12**	**87**	P	**Pn**	**14 00 57.1**	**+2.4**
0.3nm,0.3s,baz=187,slow=12,SNR=2.4							
DLBC				S	**Sn**	**14 03 06.3**	**-2.8**
0.8nm,0.3s,baz=185,slow=1.7,SNR=2.8							
C36M	**Paulatuk**	**15.52**	**41**	P	**Pn**	**14 01 35.8**	**-1.3**
baz=248,SNR=22							
BBB	**Bella Bella**	**16.11**	**108**	P	**P**	**14 01 46.0**	**+1.6**
0.2nm,0.3s,baz=323,slow=18,SNR=2.5							
BBB				S	**Sn**	**14 04 47.4**	**+3.1**
0.4nm,0.3s,baz=126,slow=19,SNR=3.1							
YKA	**Yellowknife Ar**	**18.69**	**66**	P	**Pn**	**14 02 14.0**	**-1.0**
0.8nm,0.3s,baz=277,slow=9.9,SNR=22							
YKA	**Yellowknife Ar**	**18.69**	**66**	P	**P**	**14 02 12.1**	**-0.5**
BILL	**Bilibino**	**19.02**	**312**	P	**P**	**14 02 15.8**	**-0.3**
BILL				IAmb	IAmb	14 02 17.5	
comp=Z,14nm,1.3s							
NEW	**Newport**	**24.01**	**103**	P	**P**	**14 03 04.6**	**-1.9**
baz=313,SNR=5.8							
NEW	**Newport**	**24.01**	**103**	P	**P**	**14 03 09.3**	**+2.7**
comp=Z,3.9nm,0.5s,baz=300,slow=8.0,SNR=10							
NEW	**Newport**	**24.01**	**103**	P	**P**	**14 03 07.8**	**+1.2**
NEW				IAmb	IAmb	14 03 10.3	
comp=Z,6.3nm,0.9s							
SEY	**Seymchan**	**25.36**	**300**	P	**P**	**14 03 18.4**	**-0.1**
comp=Z,1.9nm,0.6s,baz=95,slow=12,SNR=5.0							
RES	**Resolute Bay**	**25.45**	**32**	P	**P**	**14 03 21.9**	**+2.8**
comp=Z,1.0nm,0.3s,baz=247,slow=9.9,SNR=9.0							
MSO	**Missoula**	**26.56**	**102**	P	**P**	**14 03 27.3**	**-2.3**
baz=314							
PETK	**Petropavlovsk-**	**27.20**	**277**	P	**P**	**14 03 34.4**	**-0.8**
comp=Z,2.9nm,0.7s,baz=69,slow=14,SNR=16							
O02D	**Mt. Diablo Mer**	**27.56**	**122**	P	**P**	**14 03 35.9**	**-2.6**
baz=326,SNR=5.0							
BOZ	**Bozeman (W)**	**28.57**	**101**	P	**P**	**14 03 44.0**	**-3.5**
baz=316							
BEKR	**Beckworth**	**28.86**	**119**	P	**P**	**14 03 49.4**	**-0.8**
BEKR				IAmb	IAmb	14 04 21.3	
comp=Z,9.0nm,0.6s							
PNTR	**Pine Nut**	**29.84**	**119**	P	**P**	**14 03 54.8**	**-4.0**
NVAR	**Mina Array Bea**	**30.95**	**118**	P	**P**	**14 04 11.7**	**+3.0**
comp=Z,1.3nm,0.6s,baz=319,slow=9.9,SNR=6.4							
TIXI	**Tiksi**	**31.33**	**323**	P	**P**	**14 04 11.3**	**0.0**
comp=Z,0.4nm,0.4s,baz=90,slow=7.9,SNR=2.7							
PDAR	**Pinedale Array**	**31.65**	**103**	P	**P**	**14 04 17.8**	**+3.0**
comp=Z,0.7nm,0.5s,baz=358,slow=4.6,SNR=10							
R11A	**Troy Canyon, C**	**32.24**	**115**	P	**P**	**14 04 17.3**	**-2.6**
baz=325							
NRIK	**Noril'sk**	**43.78**	**333**	P	**P**	**14 05 55.2**	**-0.5**
comp=Z,1.4nm,0.3s,baz=18,slow=3.9,SNR=3.9							
TXAR	**Lajitas Array**	**45.23**	**110**	P	**P**	**14 06 10.4**	**+2.7**
comp=Z,1.1nm,0.8s,baz=329,slow=9.4,SNR=4.1							
JCT	**Junction City**	**46.13**	**105**	P	**P**	**14 06 12.5**	**-2.2**
baz=326,SNR=6.6							
MJAR	**Matsushiro Arr**	**48.52**	**273**	P	**P**	**14 06 33.3**	**+0.2**
comp=Z,6.8nm,1.2s,baz=19,slow=7.8,SNR=4.5							
KSRS	**Korea Array**	**52.92**	**282**	P	**P**	**14 07 07.7**	**+1.8**
comp=Z,2.9nm,0.9s,baz=34,slow=7.0,SNR=9.6							
SONM	**Songino Array**	**54.58**	**306**	P	**P**	**14 07 19.2**	**+1.2**
comp=Z,1.9nm,0.6s,baz=22,slow=5.0,SNR=11							
SONM	**Songino Array**	**54.58**	**306**	P	**P**	**14 07 19.9**	**+1.9**
ZALV	**Zalesovo Beam**	**57.22**	**323**	P	**P**	**14 07 37.2**	**+0.7**
comp=Z,7.4nm,0.5s,baz=28,slow=7.2,SNR=31							
HHC	**Hu-ho-hao-te**	**57.95**	**297**	*eP*	P	14 07 50.3	+8.3
HHC				pmax	pmax		
comp=Z,6.0nm,1.0s							
HHC				pmax	pmax		
comp=Z,7.0nm,6.1s							
FINES	**FINESS Array B**	**58.89**	**0**	P	**P**	**14 07 49.4**	**+1.5**
comp=Z,2.1nm,0.8s,baz=0.0,slow=9.7,SNR=3.6							
KURK	**Kurchatov**	**61.88**	**325**	P	**P**	**14 08 08.9**	**+0.5**
BRVK	**Borovoye**	**61.94**	**332**	P	**P**	**14 08 08.4**	**-0.4**
BRVK				IAmb	IAmb	14 08 09.9	
comp=Z,3.1nm,0.7s							
GTA	**Gaotai**	**64.21**	**304**	*eP*	**P**	**14 08 24.9**	**+0.8**
GTA				pP	pP	14 09 05.9	+1.7
GTA				sP	sP	14 09 25.8	+3.2
GTA				pmax	pmax		
comp=Z,4.0nm,1.0s							
MK31	**Makanchi Array**	**64.27**	**321**	P	**P**	**14 08 24.0**	**-0.2**
MKAR	**Makanchi Array**	**64.27**	**321**	P	**P**	**14 08 24.4**	**+0.1**
comp=Z,1.2nm,0.5s,baz=37,slow=6.3,SNR=22							
MKAR	**Makanchi Array**	**64.27**	**321**	P	**P**	**14 08 24.6**	**+0.3**
WHN	**Wuhan**	**65.10**	**288**	P	**P**	**14 08 29.8**	**0.0**
WHN				pmax	pmax		
comp=Z,34nm,0.5s							
ABKAR	**Akbulak array**	**67.76**	**337**	P	**P**	**14 08 46.6**	**+0.2**
ABKAR	**Akbulak array**	**67.76**	**337**	P	**P**	**14 08 46.6**	**+0.2**
ABKAR				IAmb	IAmb	14 09 37.5	
comp=Z,9.2nm,1.9s							
CD2	**Chengdu**	**69.71**	**297**	P	P	14 09 05.1	+6.3
CD2				pmax	pmax		
comp=Z,20nm,0.6s							
CMAR	**Chiang Mai Arr**	**82.62**	**294**	P	**P**	**14 10 11.7**	**-0.1**
comp=Z,0.9nm,0.6s,baz=22,slow=6.5,SNR=7.5							

IDC 22 14:07:16.4±5.1, 23.69N×108.77W, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/40, mbtmp3.3/4, ML3.7/3, MS3.1/9, Ms1 3.1/9, ms1mx2.8/44, Error ellipse: s-maj=72.8km s-min=19.8km az=158.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.46**	**287**	Pn	Pn	14 07 43.9	-0.2
18nm,0

TWE				eS	Sb	14 18 27.2	-0.4
	baz=341						
ILA	**Ilan**	**0.64**	**344**	eS	Sn	14 18 29.6	-0.7
	baz=348						
SLBB	**Yuanshan**	**0.67**	**335**	eP	Pb	14 18 18.9	-1.1
	baz=338						
SLBB				eS	Sb	14 18 27.7	-1.1
	baz=338						
EGFH	**Guangfu**	**0.67**	**225**	eP	Pb	14 18 20.2	+0.2
	baz=229						
EGFH				eS	Sn	14 18 30.3	-0.7
	baz=229						
EGS		**0.69**	**359**	eP	Pn	14 18 21.0	-0.5
	baz=2.0						
EGS				eS	Sb	14 18 30.0	+0.4
	baz=2.0						
CHGB	**Renai**	**0.71**	**263**	eP	Pb	14 18 20.6	-0.2
	baz=249						
CHGB				eS	Sb	14 18 30.3	+0.1
	baz=249						
TWT	**Tachien**	**0.71**	**279**	eP	Pb	14 18 21.0	+0.3
	baz=274						
TWT				eS	Sb	14 18 30.3	+0.2
	baz=274						
NTC	**Toucheng**	**0.71**	**352**	eP	Pb	14 18 20.5	-0.2
	baz=356						
TDCB	**Techi**	**0.72**	**278**	eP	Pb	14 18 20.8	-0.2
	baz=274						
TDCB				eS	Sb	14 18 30.6	0.0
	baz=274						
OWD	**Renai**	**0.73**	**255**	eP	Pb	14 18 20.9	-0.2
	baz=249						
YHNB	**Yeheng**	**0.73**	**315⇑**	eP	Pb	14 18 20.6	-0.5
	baz=307						
YHNB				eS	Sb	14 18 30.2	-0.6
	baz=307						
NWLT	**Wulai**	**0.74**	**327**	eS	Sb	14 18 31.0	-0.1
	baz=327						
NSK	**Sanguang**	**0.75**	**315**	P	Pb	14 18 20.8	-0.6
	baz=307						
NSK				eS	Sb	14 18 30.6	-0.6
	baz=307						
HGSD	**Ruisui**	**0.81**	**216**	eP	Pn	14 18 22.7	-0.4
	baz=210						
HGSD				eS	Sn	14 18 35.6	+1.3
	baz=210						
TIPB	**Shuangxi**	**0.83**	**353⇑**	eP	Pb	14 18 22.8	+0.1
	baz=4.0						
TIPB				eS	Sn	14 18 34.2	-0.7
	baz=4.0						
VWDT	**VWDT**	**0.83**	**242**	eP	Pb	14 18 22.6	-0.1
	baz=227						
VWDT				eS	Sn	14 18 34.3	-0.6
	baz=227						
EHY	**Hungye**	**0.86**	**222**	eP	Pb	14 18 22.5	-0.7
	baz=216						
TWB1	**Santiao Chiao**	**0.86**	**3**	eP	Pn	14 18 23.6	-0.2
	baz=8.0						
TWB1				eS	Sn	14 18 35.6	0.0
	baz=8.0						
TWA	**Mucha**	**0.89**	**338**	eP	Pn	14 18 24.1	-0.2
	baz=334						
TWA				eS	Sn	14 18 36.1	-0.4
	baz=334						
WHP	**Taichung City**	**0.92**	**278**	eP	Pn	14 18 24.4	-0.3
	baz=274						
WHP				eS	Sn	14 18 36.7	-0.5
	baz=274						
TATO	**Taipei**	**0.92**	**333**	eP	Pn	14 18 24.5	-0.1
	baz=335						
TATO				eS	Sn	14 18 36.6	-0.6
	baz=335						
NWF	**Wu-fen Shan**	**0.93**	**351**	eP	Pn	14 18 24.9	+0.1
	baz=347						
NWF				eS	Sn	14 18 37.8	+0.3
	baz=347						
WFSB	**Wu-fen Shan**	**0.93**	**351**	eP	Pn	14 18 24.9	+0.1
	baz=347						
WFSB				eS	Sn	14 18 37.6	+0.2
	baz=347						
DPDB	**Guoxing**	**0.94**	**263**	eP	Pb	14 18 24.3	-0.3
	baz=249						
DPDB				eS	Sb	14 18 36.6	0.0
	baz=249						
WLTB	**Daxi**	**0.94**	**318**	eP	Pn	14 18 25.0	+0.1
	baz=318						
WLTB				eS	Sn	14 18 37.8	+0.1
	baz=318						
YULB	**Yu-li**	**0.96**	**218**	eP	Pb	14 18 23.7	-1.2
	baz=224						
YULB				eS	Sn	14 18 37.9	-0.1
	baz=224						
JYNG	**Yonagunijimaku**	**0.96**	**72**	P	Pb	14 18 24.9	-0.1
SSLB	**Suanglung**	**0.97**	**249**	eP	Pb	14 18 24.8	-0.4
	baz=243						
SSLB				eS	Sb	14 18 37.3	-0.3
	baz=243						
LIOB	**Emei**	**0.98**	**301**	eP	Pn	14 18 25.4	0.0
	baz=292						
LIOB				eS	Sb	14 18 38.0	+0.1
	baz=292						
NSTT	**Nanjuang**	**0.98**	**299**	eP	Pn	14 18 25.4	-0.1
	baz=290						
NSTT				eS	Sn	14 18 38.2	-0.6
	baz=290						
TWF1	**Yuli**	**0.99**	**217**	eP	Pb	14 18 24.2	-1.2
	baz=224						
TWF1				eS	Sb	14 18 37.6	-0.5
	baz=224						
TYC	**Yuchr**	**1.02**	**256**	eP	Pn	14 18 26.2	+0.2
	baz=245						
TYC				eS	Sb	14 18 38.6	-0.3
	baz=245						
YOJ	**Yonaguni jima**	**1.02**	**72**	eP	Pb	14 18 25.7	-0.3
	baz=76						
YOJ				eS	Sn	14 18 41.5	+1.8
	baz=76						
YOJ	**Yonaguni jima**	**1.02**	**72**	P	Pb	14 18 25.7	-0.3
YM01	**YM01**	**1.05**	**341**	eP	Pb	14 18 26.9	+0.3
	baz=329						
YM01				eS	Sn	14 18 40.9	+0.5
	baz=329						
YM10	**YM10**	**1.06**	**341**	eP	Pb	14 18 26.7	0.0
	baz=329						
YM10				eS	Sn	14 18 41.0	+0.3
	baz=329						
TWS1	**Kuangyinshan**	**1.06**	**333**	eP	Pb	14 18 27.3	+0.6
	baz=335						
YM04	**YM04**	**1.07**	**340**	eP	Pb	14 18 27.1	+0.3
	baz=328						
YM04				eS	Sn	14 18 40.5	-0.4
	baz=328						
YM11	**YM11**	**1.07**	**342**	eP	Pb	14 18 26.9	+0.1
	baz=330						
YM11				eS	Sn	14 18 40.6	-0.4
	baz=330						
YM05	**YM05**	**1.07**	**341**	eP	Pn	14 18 26.3	-0.4
	baz=329						
YM05				eS	Sn	14 18 41.2	+0.3
	baz=329						
NCU	**National Centr**	**1.07**	**320**	eP	Pb	14 18 27.6	+0.8
	baz=321						
NCU				eS	Sn	14 18 42.2	+1.3
	baz=321						
SBCB	**Hsinchu**	**1.08**	**307**	eP	Pb	14 18 27.6	+0.6
	baz=306						
SBCB				eS	Sn	14 18 43.5	+2.3
	baz=306						
YM08	**YM08**	**1.08**	**343**	eP	Pn	14 18 26.7	-0.2
	baz=331						
YM08				eS	Sn	14 18 41.5	+0.3
	baz=331						
TWQ1	**Liyutan**	**1.09**	**281**	eP	Pb	14 18 27.6	+0.5
	baz=276						
TWQ1				eS	Sn	14 18 42.1	+0.8
	baz=276						
WHYT	**Xinyi Township**	**1.09**	**246**	eP	Pb	14 18 27.4	+0.1
	baz=240						
WHYT				eS	Sn	14 18 42.4	+0.9
	baz=240						
ANP	**Anpu**	**1.10**	**340**	eP	Pn	14 18 27.0	-0.2
	baz=329						
ANP				eS	Sn	14 18 42.4	+0.5
	baz=329						
FULB	**Fuli**	**1.12**	**212**	eP	Pn	14 18 26.7	-0.6
	baz=191						
FULB				eS	Sn	14 18 42.8	+0.7
	baz=191						
YUS	**Yu-Shan**	**1.12**	**234**	eP	Pb	14 18 27.9	-0.1
	baz=229						
NMLH	**Miaoli**	**1.12**	**290**	eP	Pb	14 18 28.6	+0.9
	baz=289						
TCU	**Taichung**	**1.16**	**270**	eP	Pb	14 18 28.9	+0.6
	baz=264						
TCU				eS	Sn	14 18 44.0	+1.0
	baz=264						
WJS	**Zhushan**	**1.16**	**254**	eP	Pb	14 18 29.1	+0.8
	baz=246						
WJS				eS	Sn	14 18 44.4	+1.4
	baz=246						
TWY	**Chenhua**	**1.17**	**345**	eP	Pb	14 18 28.4	0.0
	baz=347						
TWY				eS	Sn	14 18 43.7	+0.5
	baz=347						
PTSB	**Yuanli**	**1.17**	**285**	eP	Pb	14 18 29.6	+1.1
	baz=283						
WNT	**Mingjian**	**1.18**	**257**	eP	Pb	14 18 29.3	+0.6
	baz=236						
WNT				eS	Sn	14 18 44.8	+1.1
	baz=236						
WCHH	**Zhanghua**	**1.27**	**267**	eP	Pb	14 18 30.6	+0.4
	baz=261						
WCHH				eS	Sb	14 18 46.9	+0.9
	baz=261						
ELDTW	**Lidau**	**1.28**	**222**	eP	Pn	14 18 28.5	-1.1
	baz=205						
ELDTW				eS	Sn	14 18 45.2	-0.9
	baz=205						
CHN5	**Tsauling**	**1.28**	**245**	eP	Pb	14 18 30.6	+0.1
	baz=238						
CHN5				eS	Sb	14 18 48.0	+1.4
	baz=238						
WGK	**Gukeng**	**1.34**	**250**	eS	Sb	14 18 50.0	+1.7
	baz=244						
WDLH	**Douliu**	**1.36**	**251**	eP	Pb	14 18 32.1	+0.3
	baz=245						
STYT	**Tauyuan**	**1.47**	**228**	eP	Pb	14 18 33.1	-0.5
	baz=221						
STYT				eS	Sb	14 18 52.2	+0.4
	baz=221						
CHN4	**Tsaushan**	**1.47**	**238**	eP	Pb	14 18 33.7	+0.1
	baz=220						
CHN4				eS	Sb	14 18 52.8	+0.9
	baz=220						
TPUB	**Ta-pu**	**1.47**	**235**	eP	Pb	14 18 33.5	-0.1
	baz=219						
TPUB				eS	Sb	14 18 53.1	+1.2
	baz=219						
RLNB	**Erlin**	**1.47**	**260**	eP	Pb	14 18 33.4	-0.3
	baz=254						
RLNB				eS	Sb	14 18 52.7	+0.9
	baz=254						
WTP	**Ta-pu**	**1.51**	**234**	eP	Pb	14 18 34.1	-0.3
	baz=227						
WTP				eS	Sb	14 18 54.1	+0.9
	baz=227						
TWGBT	**Beinan**	**1.54**	**211**	eP	Pn	14 18 32.5	-0.7
	baz=205						
TWGBT				eS	Sn	14 18 52.7	+0.1
	baz=205						
TWG	**Pinlang**	**1.54**	**211**	eP	Pn	14 18 32.7	-0.5
	baz=195						
WTCT	**Ta-ch'eng**	**1.55**	**260**	eP	Pb	14 18 33.9	-1.1
	baz=255						
TWK	**Hsinying**	**1.60**	**237**	P	Pb	14 18 35.4	-0.4
	baz=218						
TWK				eS	Sb	14 18 56.2	+0.6
	baz=218						
CHN1	**Nanshi**	**1.61**	**234**	eP	Pb	14 18 35.6	-0.5
	baz=227						
CHN1				eS	Sb	14 18 57.5	+1.5
	baz=227						
TSNT	**Tainan City**	**1.62**	**235**	eP	Pb	14 18 36.6	+0.5
	baz=230						
SGST	**Jiashian**	**1.64**	**230**	eP	Pb	14 18 36.5	0.0
	baz=223						
SGST				eS	Sb	14 18 57.3	+0.6
	baz=223						
IRIF	**Iriomote-Funau**	**1.64**	**83**	P	Pn	14 18 34.6	+0.1
SLGT	**Liugui**	**1.65**	**226**	eP	Pb	14 18 36.4	-0.4
	baz=220						
SLGT				eS	Sb	14 18 57.7	+0.5
	baz=220						
WSF	**Szhu**	**1.66**	**252**	eS	Sb	14 18 58.7	+1.5
	baz=246						
ECL	**Taimali**	**1.79**	**211**	eP	Pn	14 18 36.8	+0.2
	baz=196						
SSD	**Sandimen**	**1.84**	**221**	eP	Pb	14 18 39.3	-0.7
	baz=198						
SSD				eS	Sb	14 19 02.7	+0.1
	baz=198						
JKRS	**Kuro-shima**	**1.89**	**87**	P	Pn	14 18 38.7	+0.8
MASBT	**Mashibuluo**	**1.95**	**218**	eP	Pb	14 18 40.3	-1.4
	baz=198						
MASBT				eS	Sb	14 19 05.7	+0.1
	baz=198						
JIJ	**Ishigaki jima**	**2.02**	**83**	P	Pn	14 18 39.5	-0.2
JIJ				eS	Sn	14 19 04.4	+0.1
EAST	**Anshuo**	**2.02**	**210**	eP	Pn	14 18 39.8	-0.1
	baz=196						
JISG	**Ishigakijimahi**	**2.20**	**78**	P	Pn	14 18 42.0	-0.2
JISG				eS	Sn	14 19 09.6	+0.8
PHUB	**P'eng-hu**	**2.26**	**254**	eP	Pn	14 18 43.2	+0.2
	baz=249						
PHUB				eS	Sn	14 19 10.4	+0.1
	baz=249						
PNG	**Penghu**	**2.26**	**256**	eP	Pn	14 18 43.1	0.0
	baz=250						
PNG				eS	Sn	14 19 10.5	+0.3
	baz=250						
PTTC	**Pingtan**	**2.39**	**305**	eP	Pn	14 18 43.8	-1.0
	baz=304						
VWUC	**VWUC**	**2.42**	**291**	eP	Pn	14 18 44.5	-0.7
	baz=289						
VWUC				eS	Sn	14 19 12.5	-1.7
	baz=289						
MATB	**Ma-tsu**	**2.69**	**318**	eP	Pn	14 18 48.4	-0.6
	baz=317						
PTMZ	**Houxiangcun**	**2.72**	**290**	eP	Pn	14 18 49.0	-0.3
	baz=288						
XPSS	**Dashiqiu**	**3.19**	**331**	eP	Pn	14 18 56.2	+0.4
	baz=329						
KNM	**Kinmen**	**3.21**	**275**	eP	Pn	14 18 57.6	+1.4
	baz=269						
KNMB	**Chin-men Tao**	**3.26**	**276**	eP	Pn	14 18 56.1	-0.6
	baz=271						
AXDP	**Jialang**	**3.70**	**283**	eP	Pn	14 19 03.4	+0.6
	baz=278						

*ISCJB **22** 14:23:21.7±1.1, 8.°99N±0.°06×77.°50W±0.°03, h29km±9km, Error ellipse: s-maj=10.2km s-min=4.8km az=174.3*
*UPA **22** 14:23:21.5±1.3, 9.°01N×77.°53W, h15km±9km, MW3.4*
*RSNC **22** 14:23:22.3±1.2, 8.°96N×77.°50W, h112km±15km, ML2.4*
ISC 22 14:23:22.5±1.3, 9.°01N±0.°06×77.°55W±0.°03, h30km±13km, n11, σ1°27/22, 1D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.65**	**225**	⇓iP	**Pb**	**14 23 34.3**	**-1.1**
UPD2				eS	**Sn**	**14 23 44.1**	**-0.6**
LCBC	**Los crdobas,**	**1.18**	**97**	eP	**Pb**	**14 23 44.0**	**-0.3**
LCBC				eS	**Sb**	**14 24 02.3**	**+3.1**
PTAC	**Punta Ardita,**	**1.86**	**188**	eP	**Pn**	**14 23 52.5**	**+0.2**
PTAC				eS	**Sn**	**14 24 16.1**	**+1.2**
PTAC				*i*		14 24 21.0	
	comp=Z,96nm,0.2s						
PTAC	**Punta Ardita,**	**1.86**	**188**	eP	**Pn**	**14 23 52.5**	**+0.2**
PTAC				eS	**Sn**	**14 24 16.1**	**+1.2**
BCIP	**Isla Barro Col**	**2.26**	**274**	eP	**Pn**	**14 23 58.1**	**+0.3**
BCIP				eS	**Sn**	**14 24 26.1**	**+1.4**
ZANG	**Zanguenga, Cho**	**2.29**	**269**	eP	**Pn**	**14 23 59.7**	**+1.5**
ZANG				eS	**Sb**	**14 24 29.3**	**-1.7**
SJCC	**San Jacinto, C**	**2.50**	**69**	eP	**Pn**	**14 24 01.8**	**+0.6**
SJCC				eS	**Sn**	**14 24 30.2**	**-0.5**
SJCC				*i*		14 24 31.8	
	comp=Z,3.1nm,0.4s						
SJCC	**San Jacinto, C**	**2.50**	**69**	eP	**Pn**	**14 24 01.8**	**+0.6**
SJCC				eS	**Sn**	**14 24 30.2**	**-0.5**
AZU	**Azuero**	**2.95**	**246**	eP	**Pn**	**14 24 07.0**	**-0.3**
AZU				eS	**Sn**	**14 24 42.4**	**+0.7**
ZARC	**Zaragoza, Cauc**	**3.06**	**119**	eP	**Pn**	**14 24 08.9**	**+0.1**
ZARC				eS	**Sn**	**14 24 42.9**	**-1.5**
ZARC				*i*		14 24 46.7	
	comp=Z,7.1nm,0.1s						
SMLC	**San Martn de**	**3.44**	**93**	eP	**Pn**	**14 24 13.3**	**-0.8**
SMLC				eS	**Sn**	**14 24 52.3**	**-1.7**
SMLC				*i*		14 24 54.1	
	comp=Z,11nm,0.2s						

*ISCJB **22** 14:25:35.2±0.7, 1.°38S±0.°06×134.°14E±0.°09, h24km, mb3.4/2, Error ellipse: s-maj=13.0km s-min=8.9km az=162.7*
*IDC **22** 14:25:35.2±1.9, 1.°47S×134.°10E, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/39, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=42.5km s-min=22.8km az=65.0*
*NEIC **22** 14:25:36.9±1.6, 1.°3S±0.°1×134.°06E±0.°05, h20km±7km, mb4.2/10*
ISC 22 14:25:37.6±1.0, 1.°49S±0.°08×134.°02E±0.°09, h24km, n19, σ2°25/21, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.27**	**231**	Pn	**Pn**	**14 26 15.2**	**+1.5**
SIJI	**Sorong**	**2.82**	**283**	Pn	**Pn**	**14 26 20.4**	**-0.7**
	4.9nm,0.3s,baz=108,slow=16,SNR=87						
SIJI				Sn	**Sb**	**14 27 01.1**	**-0.3**
	17nm,0.3s,baz=122,slow=24,SNR=13						
MTN	**Manton Dam**	**11.64**	**194**	Pn	**Pn**	**14 28 25.0**	**+2.6**
SOEI	**Soe**	**12.71**	**229**	Pn	**Pn**	**14 28 38.9**	**+1.8**
KNRA	**Kununurra**	**15.02**	**200**	Pn	**Pn**	**14 29 09.7**	**+1.1**
KNRA				IAmb	IAmb	14 29 21.9	
	comp=Z,23nm,1.3s						
PMG	**Port Moresby**	**15.26**	**122**	Pn	**Pn**	**14 29 10.1**	**-1.6**
WB0	**Warramunga Arr**	**18.17**	**179**		**Pn**	**14 29 49.1**	**+0.6**
WRAB	**Tennant Creek**	**18.34**	**179**	P	**Pn**	**14 29 51.3**	**+0.8**
WRAB				IAmb	IAmb	14 30 10.7	
	comp=Z,39nm,1.9s						
WRA	**Warramunga Arr**	**18.35**	**179**	P	**Pn**	**14 29 51.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=360,slow=12,SNR=30						
WRA	**Warramunga Arr**	**18.35**	**179**	P	**Pn**	**14 29 51.7**	**+1.1**
WB2	**Warramunga Arr**	**18.35**	**179**	P	**P**	**14 29 51.2**	**+0.7**
WB2				IAmb	IAmb	14 29 59.3	
	comp=Z,32nm,1.9s						
WR0	**Warramunga Arr**	**18.37**	**178**	P	**Pn**	**14 29 52.1**	**+1.2**
WR0				IAmb	IAmb	14 30 45.9	
	comp=Z,41nm,2.0s						
FITZ	**Fitzroy Crossi**	**18.45**	**206**	P	**Pn**	**14 29 53.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=4.3						
FITZ				S	**Sn**	**14 33 10.4**	**-7.0**
	comp=Z,0.0nm,0.3s,baz=307,slow=15,SNR=2.4						
FITZ	**Fitzroy Crossi**	**18.45**	**206**	P	**Pn**	**14 29 54.7**	**+2.8**
FITZ				IAmb	IAmb	14 30 16.7	
	comp=Z,17nm,1.6s						
ASAR	**Alice Springs**	**22.05**	**180**	P	**P**	**14 30 31.8**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=7.0,slow=13,SNR=15						
ASAR	**Alice Springs**	**22.05**	**180**	P	**P**	**14 30 29.3**	**-1.5**
JOW	**Kunigami**	**28.69**	**349**	P	**P**	**14 31 31.9**	**-1.1**
YHNB	**Yeheng**	**28.75**	**336**	P	**P**	**14 31 32.3**	**-1.2**
MKAR	**Makanchi Array**	**66.00**	**324**	P	**P**	**14 36 24.1**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=130,slow=6.1,SNR=2.5						

*ISCJB **22** 14:33:58.3±0.3, 36.°21N±0.°03×96.°97W±0.°03, h10km, Error ellipse: s-maj=3.8km s-min=2.9km az=165.7*
*ANF **22** 14:33:58.8±0.3, 36.°20N×96.°94W, ML4.6/11, Error ellipse: s-maj=3.5km s-min=2.1km az=19.0*
*NEIC **22** 14:33:59.5±1.4, 36.°16N±0.°02×96.°97W±0.°04, h5km±2km*
ISC 22 14:33:59.4±0.7, 36.°15N±0.°04×96.°95W±0.°03, h10km, n56, σ1°24/65, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.53**	**202**		**Pg**	**14 34 09.7**	**0.0**
ADOK	**Arcadia Dam**	**0.60**	**215**		**Pg**	**14 34 11.0**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.84**	**208**		**Pg**	**14 34 14.9**	**-0.7**
OKCSW				Sg	**Sb**	**14 34 27.2**	**-0.3**
FNO	**Franklin**	**0.96**	**203**		**Pg**	**14 34 17.1**	**-0.8**
FNO				Sn	**Sn**	**14 34 35.4**	**+2.6**
TUL1	**Leonard**	**0.97**	**104**	P	**Pg**	**14 34 17.2**	**-0.9**
	baz=286						
TUL1				S	**Sg**	**14 34 30.4**	**-0.2**
	baz=286						
TUL1	**Leonard**	**0.97**	**104**		**Pg**	**14 34 17.1**	**-0.9**
W35A	**Tecumseh**	**1.00**	**176**		**Pg**	**14 34 17.7**	**-0.9**
U32A	**Winter Ranch,**	**1.68**	**278**		**Pb**	**14 34 29.0**	**-1.3**
U32A				Sg	**Sg**	**14 34 53.2**	**-0.1**
X34A	**Smith Ranch, M**	**1.71**	**205**		**Pb**	**14 34 30.4**	**-0.5**
X34A				Sn	**Sb**	**14 34 51.6**	**-0.8**
WMOK	**Wichita Mounta**	**2.05**	**227**	P	**Pn**	**14 34 34.7**	**+0.7**
	baz=46						
WMOK				S	**Sb**	**14 35 02.8**	**+0.3**
	baz=46						
WMOK	**Wichita Mounta**	**2.05**	**227**		**Pn**	**14 34 34.9**	**+0.9**
WMOK				Sg	**Sg**	**14 35 03.7**	**-1.8**
HHAR	**Hobbs**	**2.44**	**86**		**Pn**	**14 34 40.1**	**+0.9**
W39A	**Magazine**	**2.75**	**109**	P	**Pn**	**14 34 44.2**	**+0.7**
	baz=292						
W39A				Sb	**Sg**	**14 35 25.3**	**-2.3**
	baz=292						
W39A	**Magazine**	**2.75**	**109**		**Pn**	**14 34 44.7**	**+1.2**
KSU1	**Kansas State U**	**2.96**	**5**	Sb	**Sb**	**14 35 29.7**	**+1.2**
	baz=186						
MIAR	**Mount Ida**	**3.19**	**119**	P	**Pn**	**14 34 50.6**	**+1.1**
	baz=301						
MIAR				S	**Sn**	**14 35 30.7**	**+3.0**
	baz=301						
MIAR	**Mount Ida**	**3.19**	**119**		**Pn**	**14 34 50.7**	**+1.1**
U40A	**Yellville**	**3.32**	**85**	P	**Pn**	**14 34 51.9**	**+0.6**
	baz=268						
U40A	**Yellville**	**3.32**	**85**		**Pn**	**14 34 52.0**	**+0.7**
CBKS	**Cedar Bluff**	**3.46**	**321**	P	**Pn**	**14 34 53.6**	**+0.2**
	baz=139						
CBKS	**Cedar Bluff**	**3.46**	**321**		**Pn**	**14 34 53.4**	**0.0**
X40A	**Basin Creek Fa**	**3.75**	**115**	P	**Pn**	**14 34 59.0**	**+1.7**
	baz=298						
X40A	**Basin Creek Fa**	**3.75**	**115**		**Pn**	**14 34 59.0**	**+1.7**
WHAR	**Wooly Hollow**	**3.89**	**101**		**Pn**	**14 35 00.6**	**+1.4**
MGMO	**Mountain Grove**	**3.90**	**74**		**Pn**	**14 35 00.1**	**+0.8**
FCAR	**Ozark Folk Cen**	**3.92**	**92**		**Pn**	**14 35 01.0**	**+1.4**
W41B	**Gary Mavity, V**	**3.95**	**103**	P	**Pn**	**14 35 00.9**	**+0.9**
	baz=286						
W41B	**Gary Mavity, V**	**3.95**	**103**		**Pn**	**14 35 00.9**	**+0.9**
WLAR	**White Oak Lake**	**4.00**	**127**	Pn	**Pn**	**14 35 01.7**	**+1.0**
UALR	**University of**	**4.00**	**109**	Pn	**Pn**	**14 35 02.8**	**+2.1**
AMTX	**Amarillo**	**4.06**	**253**		**Pn**	**14 35 01.8**	**+0.1**
ABTX	**Abilene, Hawle**	**4.16**	**213**	Sb	**Sb**	**14 36 06.4**	**+3.3**
	baz=31						
ABTX	**Abilene, Hawle**	**4.16**	**213**		**Pn**	**14 35 04.6**	**+1.5**
WHTX	**Lake Whitney,**	**4.17**	**186**	P	**Pn**	**14 35 04.4**	**+1.3**
	baz=5.5						
WHTX	**Lake Whitney,**	**4.17**	**186**	Pn	**Pn**	**14 35 04.2**	**+1.1**
LCAR	**Lake Charles**	**4.69**	**89**		**Pn**	**14 35 10.4**	**+0.2**
CCM	**Cathedral Cave**	**4.94**	**66**		**Pn**	**14 35 15.2**	**+1.5**
MSTX	**Muleshoe**	**5.25**	**247**		**Pn**	**14 35 17.5**	**-0.5**
BGNE	**Belgrade**	**5.33**	**350**		**Pn**	**14 35 19.2**	**+0.1**
KSCO	**Kaye Shedlock'**	**5.34**	**304**		**Pn**	**14 35 19.4**	**+0.1**
435B	**Jarrell**	**5.38**	**186**		**Pn**	**14 35 19.9**	**+0.2**
T25A	**Trinidad**	**6.08**	**282**		**Pn**	**14 35 30.4**	**+0.9**
OXF	**Oxford**	**6.38**	**103**		**Pn**	**14 35 32.4**	**-1.0**
SCIA	**State Center**	**6.44**	**26**	Pn	**Pn**	**14 35 35.2**	**+0.9**
SDCO	**Great Sand Dun**	**7.03**	**286**	Pn	**Pn**	**14 35 44.4**	**+1.7**
PLAL	**Pickwick Lake**	**7.33**	**97**	Pn	**Pn**	**14 35 47.1**	**+0.7**
WVT	**Waverly**	**7.38**	**87**	Pn	**Pn**	**14 35 46.9**	**-0.2**
HDIL	**Hopedale**	**7.45**	**52**	Pn	**Pn**	**14 35 48.2**	**0.0**
ECSD	**EROS Data Cent**	**7.58**	**2**	Pn	**Pn**	**14 35 50.0**	**0.0**
ISCO	**Idaho Springs**	**7.75**	**301**	Pn	**Pn**	**14 35 53.0**	**+0.4**
BNM	**Barren Site**	**8.18**	**259**	Pn	**Pn**	**14 35 56.2**	**-2.1**
N23A	**Red Feather La**	**8.49**	**

ISC 22 14:44:04.9±0.9,**52°82N**±0°.04×**132°29W**±0°.06,**h22**km,**n32,** σ1§**41**/39,**Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG1B	**Mitchell Dam**	**0.15**	**41**	P	**Pb**	**14 44 09.4**	**-0.9**
HG1B				S	**Sb**	**14 44 12.5**	**-1.4**
MOBC	**Moresby Island**	**0.38**	**31**	P	**Pb**	**14 44 12.9**	**0.0**
DIB	**Dawson Inlet,**	**0.40**	**344**	P	**Pb**	**14 44 12.7**	**-0.5**
DIB				S	**Sb**	**14 44 18.3**	**-0.6**
BNB	**Barry Inlet**	**0.41**	**127**	P	**Pb**	**14 44 13.4**	**-0.1**
HG3B	**Hotspring**	**0.57**	**115**	P	**Pb**	**14 44 15.8**	**-0.4**
HG3B				S	**Sb**	**14 44 23.8**	**-0.1**
NDB	**Naden**	**1.20**	**341**	P	**Pb**	**14 44 25.9**	**-1.1**
NDB				S	**Sn**	**14 44 41.1**	**-1.0**
LIB	**Langara Island**	**1.51**	**343**	P	**Pn**	**14 44 29.8**	**-0.8**
RUBB	**Prince Rupert**	**1.94**	**38**	Pn	**Pn**	**14 44 36.2**	**-0.2**
RUBB				Sn	**Sn**	**14 44 59.4**	**-0.7**
RUBB				Sg	**Sb**	**14 45 04.6**	**+1.5**
BBB	**Bella Bella**	**2.63**	**102**	Pn	**Pn**	**14 44 45.8**	**-0.2**
	4.1nm,0.3s,baz=282,slow=15,SNR=28						
BBB				Pg	**Pb**	**14 44 52.4**	**+1.0**
	6.2nm,0.3s,baz=288,slow=17,SNR=19						
BBB				Sn	**Sn**	**14 45 15.7**	**-1.5**
	14nm,0.3s,baz=170,slow=22,SNR=12						
BBB				Lg	Lg	14 45 24.4	
	30nm,0.3s,baz=198,slow=20,SNR=15						
BBB	**Bella Bella**	**2.63**	**102**	Pn	**Pn**	**14 44 45.3**	**-0.7**
BBB				Sn	**Sn**	**14 45 15.2**	**-2.1**
HOLB	**Holberg**	**3.38**	**129**	Pn	**Pn**	**14 44 55.5**	**-0.9**
HOLB				Sn	**Sn**	**14 45 32.8**	**-3.1**
BCBC	**Bella Coola**	**3.41**	**95**	Sn	**Sn**	**14 45 33.8**	**-2.5**
PHC	**Port Hardy**	**3.69**	**123**	Pn	**Pn**	**14 44 59.4**	**-1.2**
PHC				Sn	**Sn**	**14 45 40.4**	**-2.9**
PACB	**Port Alice, BC**	**3.83**	**127**	Pn	**Pn**	**14 45 02.1**	**-0.4**
BPBC	**Brooks Peninsu**	**3.89**	**132**	Pn	**Pn**	**14 45 02.9**	**-0.4**
MAYB	**Maynard**	**4.01**	**125**	Pn	**Pn**	**14 45 05.2**	**+0.1**
WOSB	**Woss**	**4.46**	**124**	Pn	**Pn**	**14 45 11.2**	**0.0**
NCRB	**Newcastle Ridg**	**4.58**	**119**	Pn	**Pn**	**14 45 12.9**	**0.0**
GDR	**Gold River**	**4.97**	**125**	Pn	**Pn**	**14 45 18.3**	**+0.2**
CBB	**Campbell River**	**5.16**	**120**	Sn	**Sn**	**14 46 17.6**	**-1.9**
DLBC	**Dease Lake**	**5.77**	**12**	Pn	**Pn**	**14 45 28.6**	**-0.7**
	0.4nm,0.3s,baz=5.9,slow=3.3,SNR=3.0						
DLBC				Pg	**Pb**	**14 45 43.0**	**-1.9**
	0.9nm,0.3s,baz=38,slow=5.5,SNR=3.0						
DLBC				Sn	**Sn**	**14 46 32.6**	**-2.2**
	0.5nm,0.3s,baz=239,slow=19,SNR=2.7						
DLBC				Lg	Lg	14 47 02.1	
	1.1nm,0.3s,baz=290,slow=20,SNR=7.2						
YBH	**Yreka Blue Hor**	**12.85**	**146**	LR	LR	14 50 59.9	
	comp=Z,19nm,19.9s,baz=352,slow=32						
YKA	**Yellowknife Ar**	**13.49**	**37**	Pn	**Pn**	**14 47 13.6**	**-1.2**
	0.1nm,0.3s,baz=231,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**14.12**	**334**	Pn	**Pn**	**14 47 25.9**	**+2.6**
	0.0nm,0.3s,baz=164,slow=11,SNR=3.0						
ELK	**Elko**	**16.75**	**129**	LR	LR	14 54 29.2	
	comp=Z,48nm,20.9s,baz=22,slow=37						
PDAR	**Pinedale Array**	**18.21**	**114**	P	**P**	**14 48 18.5**	**+2.0**
	0.2nm,0.3s,baz=290,slow=10,SNR=3.4						
TKL	**Tuckaleechee C**	**37.94**	**97**	LR	LR	15 06 08.3	
	comp=Z,22nm,18.1s,baz=8.5,slow=35						
H11N2	**WAKE ISLAND Hy**	**56.94**	**259**	T	T	15 55 37.3	
	baz=39,slow=76,SNR=164						
H11N3	**WAKE ISLAND Hy**	**56.94**	**259**	T	T	15 55 31.0	
	baz=39,slow=76,SNR=135						
H11N1	**WAKE ISLAND Hy**	**56.96**	**259**	T	T	15 55 36.2	
	baz=39,slow=76,SNR=148						
ZALV	**Zalesovo Beam**	**69.20**	**338**	P	**P**	**14 55 10.7**	**+1.3**
	0.3nm,0.3s,baz=5.6,slow=5.9,SNR=2.1						
MKAR	**Makanchi Array**	**76.45**	**336**	P	**P**	**14 55 53.7**	**+1.1**
	0.5nm,0.7s,baz=24,slow=4.0,SNR=5.4						

*SJA **22** 14:49:55.6±0.6,23°.92S×66°.69W,h223km±4km,ML2.9, MW3.0*
*NEIC **22** 14:49:55.5±2.3,24°.01S±0°.07×66°.69W±0°.09, h232km±16km,mb4.4/4*
*IDC **22** 14:49:56.0±1.1,23°.92S×66°.60W,h201km±13km,mb3.3/1, mb1 3.3/7,mb1mx3.2/37,mbtmp3.8/7,Error ellipse: s-maj=20.5km s-min=17.2km az=6.0*
*ISCJB **22** 14:49:57.6±0.4,24°.00S±0°.04×66°.79W±0°.04,h195km, mb3.4/1,Error ellipse: s-maj=5.6km s-min=5.0km az=144.0*

ISC 22 14:49:55.1±0.7,**24°03S**±0°.06×**66°74W**±0°.05,**h195**km,**n39,** σ2§**80**/44,**1D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.32**	**122**	*i* P	**Pn**	**14 50 31.4**	**+4.4**
SLA				IAML		14 50 32.0	
	comp=Z,51nm,0.6s						
SLA				*e*S	**Sn**	**14 50 56.6**	**+4.9**
HJA	**Humahuaca**	**1.47**	**56**	*i* P	**Pn**	**14 50 31.5**	**+2.9**
AZAP	**Zapla**	**1.54**	**97**	*i* P	**Pn**	**14 50 32.3**	**+3.3**
AZAP				IAML		14 50 32.9	
	comp=Z,205nm,0.3s						
AZAP				*e*S	**Sn**	**14 50 59.5**	**+4.3**
ASTB	**Santa Barbara**	**2.09**	**88**	*i* P	**Pn**	**14 50 37.1**	**+2.7**
YJA	**Yavi**	**2.17**	**32**	⇓*i* P	**Pn**	**14 50 37.9**	**+2.4**
YJA				IAML		14 50 38.5	
	comp=Z,18nm,0.3s						
YJA				*e*S	**Sn**	**14 51 09.1**	**+2.2**
FSA	**Cafayete**	**2.18**	**162**	*i* P	**Pn**	**14 50 39.6**	**+4.2**
LVC	**Limon Verde**	**2.45**	**305**	P	**Pn**	**14 50 41.6**	**+3.1**
	comp=Z,14nm,0.3s,baz=136,slow=6.3,SNR=47						
LVC				S	**Sn**	**14 51 14.4**	**+2.2**
	comp=Z,8.7nm,0.3s,baz=123,slow=5.0,SNR=5.6						
LVC	**Limon Verde**	**2.45**	**305**		**Pn**	**14 50 41.8**	**+3.3**
GO02	**Mina Guanaco**	**2.83**	**246**		**Pn**	**14 50 47.0**	**+4.2**
AHML	**Horco Molle**	**3.02**	**155**	*i* P	**Pn**	**14 50 48.7**	**+3.9**
PB14	**IPOC Station P**	**3.40**	**259**	⇑*i* P	**Pn**	**14 50 52.6**	**+3.0**
PB14				*e*S	**Sn**	**14 51 35.4**	**+3.3**
PB10	**IPOC Station P**	**3.53**	**278**	*i* P	**Pn**	**14 50 53.8**	**+2.9**
PB10	**IPOC Station P**	**3.53**	**278**		**Pn**	**14 50 53.9**	**+3.0**
PB04	**IPOC Station P**	**3.56**	**298**		**Pn**	**14 50 53.9**	**+2.4**
PB01	**IPOC Station P**	**3.91**	**319**		**Pn**	**14 50 57.4**	**+1.6**
GO03	**Copiap**	**4.74**	**221**		**Pn**	**14 51 08.8**	**+2.7**
GO01	**Chusmiza**	**4.91**	**332**		**Pn**	**14 51 10.0**	**+1.3**
PB11	**IPOC Station P**	**5.04**	**327**	Pn	**Pn**	**14 51 09.9**	**-0.3**
ACLC	**CERRO LA CRUZ**	**5.38**	**182**	*i* P	**Pn**	**14 51 17.9**	**+3.6**
MNMC	**Minye Minye**	**5.55**	**331**		**Pn**	**14 51 17.5**	**+0.6**
ACCO	**Cerro Coronel**	**6.85**	**197**	*i* P	**Pn**	**14 51 36.6**	**+3.0**
AMOG	**MOGNA**	**7.05**	**192**	*i* P	**Pn**	**14 51 38.8**	**+2.7**
GO04	**Tololo Observa**	**7.11**	**210**	Pn	**Pn**	**14 51 37.4**	**+0.5**
TCA	**Tanti**	**7.52**	**166**	*i* P	**Pn**	**14 51 44.3**	**+2.1**
CFA	**Coronel Fontan**	**7.66**	**190**	P	**Pn**	**14 51 46.4**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=331,slow=8.7,SNR=6.8						
CFA				S	**Sn**	**14 53 07.6**	**-2.8**
	comp=Z,1.3nm,0.3s,baz=133,slow=23,SNR=14						
CFA	**Coronel Fontan**	**7.66**	**190**	*i* P	**Pn**	**14 51 46.4**	**+2.5**
LPAZ	**La Paz**	**7.81**	**350**	P	**Pn**	**14 51 47.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=164,slow=7.4,SNR=3.5						
ASAL	**Salagasta**	**8.72**	**192**	*i* P	**Pn**	**14 52 00.3**	**+2.5**
CPUP	**Villa Florida**	**8.82**	**107**	P	**Pn**	**14 51 58.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=295,slow=12,SNR=5.9						
SIV	**San Ignacio**	**9.61**	**35**	P	**Pn**	**14 52 07.6**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=223,slow=14,SNR=13						
GO06	**Curarrehue**	**16.01**	**193**	P	**P**	**14 53 25.8**	**-3.7**
BDFB	**Brasilia**	**19.48**	**68**	P	**P**	**14 54 07.1**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=238,slow=10,SNR=4.6						
BDFB	**Brasilia**	**19.48**	**68**	IAmb	IAmb	14 54 08.1	
	comp=Z,5.6nm,0.8s						
GO09	**Cerro Castillo**	**27.54**	**188**	P	**P**	**14 55 21.4**	**-2.1**
SMRT	**St. Maarten**	**41.98**	**5**	P	**P**	**14 57 24.7**	**-2.5**
SMRT				IAmb	IAmb	14 57 29.2	
	comp=Z,22nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**15 01 21.8**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=246,slow=5.2,SNR=5.3						
ASAR	**Alice Springs**	**128.53**	**204**	PKP	**PKPdf**	**15 08 39.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=148,slow=1.7,SNR=3.6						
WRA	**Warramunga Arr**	**131.71**	**207**	PKP	**PKPdf**	**15 08 46.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=161,slow=1.8,SNR=3.1						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPdf**	**15 09 12.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=303,slow=3.4,SNR=6.9						

*BJI **22** 15:06:00.3±0.0,57°.80S×25°.30W,h10km,mB5.5/6, Ms5.4/5,Ms7 5.1/3*
*ISCJB **22** 15:06:00.2±0.2,57°.75S±0°.03×25°.38W±0°.09,h10km, mb5.1/27,MS4.5/18,Error ellipse: s-maj=7.2km s-min=3.6km az=159.2*
*NEIC **22** 15:06:03.6±1.4,57°.7S±0°.1×25°.3W±0°.2,h23km±3km, mb5.3/74*
*MOS **22** 15:06:03.9±1.0,57°.67S×25°.41W,h33km,mb5.4/15,Error ellipse: s-maj=21.8km s-min=11.4km az=108.7*
*IDC **22** 15:06:06.3±1.4,57°.76S×25°.38W,h43km±11km,mb4.8/16, mb1 4.8/18,mb1mx4.7/26,mbtmp5.1/18,ML5.0/2,MS4.5/17, Ms1 4.4/17,ms1mx4.4/18,Error ellipse: s-maj=13.7km s-min=11.7km az=30.0*
*GCMT **22** 15:06:07.6±0.2,57°.89S±0°.02×24°.71W±0°.02,h38km, MW5.2/96,Moment Tensor Solution. s78,c112; s96,c140; Duration: 1*θ *Moment tensor: Scale 10*^{17}*Nm; M*$_{rr}$*0.67±.02; M*$_{\theta\theta}$*0.02±.02; M*$_{\phi\phi}$*-0.68±.01; M*$_{r\theta}$*-0.04±.02; M*$_{\theta\phi}$*0.23±.01; M*$_{\phi r}$*0.30±.02; Best double couple: M*$_0$*0.77800×10*^{17} *NP1*ϕ_s*347.00000°,*δ*57.00000°,* λ*95.00000°. NP2*ϕ_s*159.00000°,*δ*34.00000°,*λ*83.00000°. Principal axes: T 0.7370, Plg78.0000°, Azm273.0000°; N 0.0830, Plg4.0000°, Azm165.0000°; P -0.8190, Plg12.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 15:06:01.6±0.2,**57°80S**±0°.05×**25°30W**±0°.06,**h10**km,**n517,** σ1§**34**/515,**mb5.3**/49,**MS4.5**/19,**5C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.19**	**295**	P	Pn	15 07 52.4	+5.8
HOPE	**Hope Point**	**7.19**	**295**		Pn	15 07 52.4	+5.8
VNA1	**Neumayer--Stat**	**14.78**	**157**	P	**Pn**	**15 09 32.2**	**+1.8**
VNA1				S	**Sn**	**15 12 12.6**	**-1.3**
VNA3	**Neumayer Olymp**	**14.99**	**160**	P	**Pn**	**15 09 34.0**	**+0.8**
VNA3	**Neumayer Olymp**	**14.99**	**160**	PcS	PcS	15 18 15.9	-0.1
VNA3				S	Sn	15 12 11.6	-7.5
VNA2	**Neumayer--Watz**	**15.18**	**157**	P	**Pn**	**15 09 36.5**	**+0.8**
	baz=317,slow=15						
VNA2	**Neumayer--Watz**	**15.18**	**157**	PcS	PcS	15 18 13.2	-3.0
	baz=304,slow=3.1						
VNA2				S	**Sn**	**15 12 17.2**	**-6.4**
	baz=319,slow=21						
SNAA	**Sanae**	**16.72**	**155**	P	**Pn**	**15 09 57.8**	**+2.2**
SNAA	**Sanae**	**16.72**	**155**	PcS	PcS	15 18 14.8	-4.5
SNAA				S	Sn	15 12 54.5	-6.6
SNAA	**Sanae**	**16.72**	**155**	P	**Pn**	**15 09 58.1**	**+2.5**
SNAA				pmax	pmax		
	comp=Z,53nm,0.6s						
SNAA	**Sanae**	**16.72**	**155**	P	**Pn**	**15 09 57.6**	**+2.0**
	comp=Z,10nm,0.3s,baz=316,slow=14,SNR=385						
SNAA				S	Sn	15 12 50.3	-11
	comp=Z,0.6nm,0.3s,baz=321,slow=18,SNR=3.6						
SNAA				LR	LR	15 15 03.3	
	comp=Z,1μm,21.0s,baz=322,slow=32						
SNAA				ScP	**ScP**	**15 18 14.7**	**-3.5**
	comp=Z,0.0nm,0.3s,baz=265,slow=3.0,SNR=3.2						
SNAA	**Sanae**	**16.72**	**155**	P	**Pn**	**15 09 58.1**	**+2.5**
PMSA	**Palmer Station**	**19.61**	**233**	P	**P**	**15 10 32.1**	**+2.5**
	comp=Z,2.5nm,0.3s,baz=77,slow=7.9,SNR=16						
PMSA				PcP	**PcP**	**15 14 48.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=101,slow=3.3,SNR=4.3						
PMSA				LR	LR	15 17 15.0	
	comp=Z,2μm,18.7s,baz=82,slow=34						
PMSA	**Palmer Station**	**19.61**	**233**		**P**	**15 10 32.8**	**+3.2**
PMSA				IAmb	IAmb	15 10 37.5	
	comp=Z,111nm,0.8s						
EFI	**East Falkland**	**19.74**	**274**	*c i* P	**P**	**15 10 33.2**	**+2.0**
EFI				pmax	pmax		
	comp=Z,233nm,0.9s						
EFI	**East Falkland**	**19.74**	**274**	P	**P**	**15 10 33.8**	**+2.6**
USHA	**Ushuaia**	**23.80**	**259**	P	**P**	**15 11 14.5**	**+0.3**
	comp=Z,34nm,0.6s,baz=106,slow=10,SNR=24						
USHA				PcP	**PcP**	**15 14 57.7**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=94,slow=5.6,SNR=3.9						
USHA				LR	LR	15 18 20.1	
	comp=Z,3μm,21.3s,baz=94,slow=31						
GO09	**Cerro Castillo**	**27.58**	**263**	P	**P**	**15 11 47.7**	**-0.8**
SYO	**Syowa Base**	**29.58**	**139**‖	*e* P	**P**	**15 12 05.2**	**-0.9**
SYO	**Syowa Base**	**29.58**	**139**‖	*e* pP	pP	15 12 10.0	+2.0
OGAUY	**Aigu**	**30.67**	**307**	*e* P	**P**	**15 12 15.8**	**-0.2**
OGAUY	**Aigu**	**30.67**	**307**	*e* P	**P**	**15 12 15.8**	**-0.2**
TRQA	**Tornquist**	**30.97**	**294**	P	**P**	**15 12 17.1**	**-1.6**
TRQA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TRQA	**Tornquist**	**30.97**	**294**	P	**P**	**15 12 17.1**	**-1.6**
PLTB	**Pedras Altas**	**32.43**	**311**	*e* P	**P**	**15 12 31.5**	**-0.2**
PLTB	**Pedras Altas**	**32.43**	**311**	*e* P	**P**	**15 12 31.5**	**-0.2**
QSPA	**South Pole Qui**	**32.45**	**180**	P	**P**	**15 12 33.3**	**+1.6**
	comp=Z,49nm,0.6s,baz=206,slow=3.0,SNR=415						
QSPA	**South Pole Qui**	**32.45**	**180**	P	**P**	**15 12 33.3**	**+1.6**
PLCA	**Paso Flores**	**33.34**	**281**	P	**P**	**15 12 38.7**	**-0.9**
PLCA						15 15 20.8	
PLCA				pmax	pmax		
	comp=Z,14nm,0.8s						
PLCA	**Paso Flores**	**33.34**	**281**	P	**P**	**15 12 38.5**	**-1.1**
	comp=Z,13nm,0.8s,baz=166,slow=9.4,SNR=25						
PLCA				PcP	**PcP**	**15 15 20.8**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=129,slow=3.5,SNR=6.2						
PLCA				LR	LR	15 26 31.7	
	comp=Z,721nm,18.7s,baz=150,slow=37						
PLCA	**Paso Flores**	**33.34**	**281**	*e* P	**P**	**15 12 39.0**	**-0.5**
PLCA	**Paso Flores**	**33.34**	**281**	*e* P	**P**	**15 12 39.0**	**-0.5**
PLCA	**Paso Flores**	**33.34**	**281**	P	**P**	**15 12 38.6**	**-0.9**
CNLB	**Canela**	**33.56**	**317**	*e* P	**P**	**15 12 41.7**	**+0.1**
CNLB	**Canela**	**33.56**	**317**	*e* P	**P**	**15 12 41.7**	**+0.1**
CPSB	**Cacapava Do Su**	**33.57**	**313**	*e* P	**P**	**15 12 41.7**	**+0.2**
CPSB	**Cacapava Do Su**	**33.57**	**313**	*e* P	**P**	**15 12 41.7**	**+0.2**
GO06	**Curarrehue**	**34.66**	**281**	P	P	15 12 48.0	-3.1
ITAB	**Concordia**	**35.91**	**317**	*e* P	**P**	**15 13 02.5**	**+0.7**
ITAB	**Concordia**	**35.91**	**317**	*e* P	**P**	**15 13 02.5**	**+0.7**
MAN01	**Angra dos Reis**	**37.42**	**331**	*e* P	**P**	**15 13 16.3**	**+1.6**
MAN01	**Angra dos Reis**	**37.42**	**331**	*e* P	**P**	**15 13 16.3**	**+1.6**
SPB	**Sao Paulo**	**37.71**	**326**	*e* P	**P**	**15 13 18.6**	**+1.5**
SPB	**Sao Paulo**	**37.71**	**326**	*e* P	**P**	**15 13 18.6**	**+1.5**
DUB01	**Friburgo-RJ**	**37.77**	**334**	*e* P	**P**	**15 13 19.3**	**+1.6**
DUB01	**Friburgo-RJ**	**37.77**	**334**	*e* P	**P**	**15 13 19.3**	**+1.6**
VAS01	**Vassouras-RJ**	**37.84**	**332**	*e* P	**P**	**15 13 20.1**	**+1.8**
VAS01	**Vassouras-RJ**	**37.84**	**332**	*e* P	**P**	**15 13 20.1**	**+1.8**
CAM01	**Campos-RJ**	**37.85**	**335**	*e* P	**P**	**15 13 19.9**	**+1.6**
CAM01	**Campos-RJ**	**37.85**	**335**	*e* P	**P**	**15 13 19.9**	**+1.6**
VAO	**Valinhos**	**38.12**	**327**	*e* P	**P**	**15 13 22.2**	**+1.5**
VAO	**Valinhos**	**38.12**	**327**	*e* P	**P**	**15 13 22.2**	**+1.5**
MAW	**Mawson**	**38.13**	**142**	P	**P**	**15 13 20.9**	**+0.7**
MAW						15 15 35.3	
MAW				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MAW	**Mawson**	**38.13**	**142**	P	**P**	**15 13 20.7**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=232,slow=8.9,SNR=18						
MAW				PcP	**PcP**	**15 15 35.3**	**+0.6**
	comp=Z,5.1nm,0.7s,baz=200,slow=3.8,SNR=4.5						
MAW				LR	LR	15 26 45.8	
	comp=Z,557nm,21.4s,baz=242,slow=32						
MAW	**Mawson**	**38.13**	**142**	P	**P**	**15 13 20.9**	**+0.7**
PTGB	**Pitanga**	**38.19**	**319**	*e* P	**P**	**15 13 21.4**	**+0.1**
PTGB	**Pitanga**	**38.19**	**319**	*e* P	**P**	**15 13 21.4**	**+0.1**
GO05	**Huala**	**38.35**	**286**	P	**P**	**15 13 22.3**	**-0.2**
FRTB	**Fartura**	**38.61**	**323**	*e* P	**P**	**15 13 25.9**	**+1.2**
FRTB	**Fartura**	**38.61**	**323**	*e* P	**P**	**15 13 25.9**	**+1.2**
CPUP	**Villa Florida**	**38.74**	**310**	P	**P**	**15 13 24.9**	**-0.9**
CPUP						15 15 37.0	
CPUP				pmax	pmax		
	comp=Z,41nm,1.3s						
CPUP	**Villa Florida**	**38.74**	**310**	P	**P**	**15 13 24.7**	**-1.1**
	comp=Z,11nm,0.5s,baz=153,slow=7.2,SNR=44						
CPUP				PcP	**PcP**	**15 15 37.0**	**-0.3**
	comp=Z,14nm,0.8s,baz=109,slow=2.6,SNR=7.8						
CPUP				LR	LR	15 28 42.7	
	comp=Z,299nm,19.7s,baz=162,slow=35						
CPUP	**Villa Florida**	**38.74**	**310**	*e* P	**P**	**15 13 25.2**	**-0.6**
CPUP	**Villa Florida**	**38.74**	**310**	*e* P	**P**	**15 13 25.2**	**-0.6**
CPUP	**Villa Florida**	**38.74**	**310**	P	**P**	**15 13 24.9**	**-0.9**
ALF01	**Guarapari-ES**	**38.81**	**337**	*e* P	**P**	**15 13 28.4**	**+2.0**
ALF01	**Guarapari-ES**	**38.81**	**337**	*e* P	**P**	**15 13 28.4**	**+2.0**
PEL	**Peldehue**	**39.19**	**289**	P	**P**	**15 13 29.3**	**-0.2**
PEL				pmax	pmax		
	comp=Z,27nm,0.5s						
PEL	**Peldehue**	**39.19**	**289**	P	**P**	**15 13 29.3**	**-0.2**
PEL				IAmb	IAmb	15 13 31.7	
	comp=Z,26nm,0.5s						
BSCB	**Bom Sucesso**	**39.41**	**331**	*e* P	**P**	**15 13 32.9**	**+1.4**
BSCB	**Bom Sucesso**	**39.41**	**331**	*e* P	**P**	**15 13 32.9**	**+1.4**
ROC1	**El Roble**	**39.49**	**289**	P	**P**	**15 13 32.9**	**+0.6**
RIB01	**Linhares ES**	**40.01**	**338**	*e* P	**P**	**15 13 37.9**	**+1.4**
RIB01	**Linhares ES**	**40.01**	**338**	*e* P	**P**	**15 13 37.9**	**+1.4**
TRCB	**Terra Rica**	**40.15**	**319**	*e* P	**P**	**15 13 37.9**	**+0.2**
TRCB	**Terra Rica**	**40.15**	**319**	*e* P	**P**	**15 13 37.9**	**+0.2**
BB19B	**Bebedouro**	**40.41**	**325**	*e* P	**P**	**15 13 41.1**	**+1.3**
BB19B	**Bebedouro**	**40.41**	**325**	*e* P	**P**	**15 13 41.1**	**+1.3**
BSFB	**Barra de Sao F**	**40.57**	**337**	*e* P	**P**	**15 13 42.6**	**+1.5**
BSFB	**Barra de Sao F**	**40.57**	**337**	*e* P	**P**	**15 13 42.6**	**+1.5**
SJMB	**Sao Joao De Ma**	**40.77**	**337**	*e* P	**P**	**15 13 43.9**	**+1.2**
SJMB	**Sao Joao De Ma**	**40.77**	**337**	*e* P	**P**	**15 13 43.9**	**+1.2**
GO04	**Tololo Observa**	**41.64**	**292**	P	**P**	**15 13 48.9**	**-1.2**
PMNB	**Patos De Minas**	**42.20**	**329**	*e* P	**P**	**15 13 55.8**	**+1.2**
PMNB	**Patos De Minas**	**42.20**	**329**	*e* P	**P**	**15 13 55.8**	**+1.2**
ITRB	**Iturama**	**42.26**	**324**	*e* P	**P**	**15 13 56.0**	**+1.0**
ITRB	**Iturama**	**42.26**	**324**	*e* P	**P**	**15 13 56.0**	**+1.0**
AQDB	**Aquidauana**	**43.39**	**316**	*e* P	**P**	**15 14 03.2**	**-0.9**
AQDB	**Aquidauana**	**43.39**	**316**	*e* P	**P**	**15 14 03.2**	**-0.9**
C2SB	**Chapadao do Su**	**43.95**	**321**	*e* P	**P**	**15 14 09.4**	**+0.9**
C2SB	**Chapadao do Su**	**43.95**	**321**	*e* P	**P**	**15 14 09.4**	**+0.9**
NBIT	**Itapeh - BA**	**44.09**	**340**	*e* P	**P**	**15 14 10.6**	**+0.8**
NBIT	**Itapeh - BA**	**44.09**	**340**	*e* P	**P**	**15 14 10.6**	**+0.8**
SBA	**Scott Base**	**44.40**	**184**	P	**P**	**15 14 14.4**	**+2.8**
SBA				pmax	pmax		
	comp=Z,51nm,1.1s						
SBA	**Scott Base**	**44.40**	**184**	P	**P**	**15 14 14.4**	**+2.8**
SBA				IAmb	IAmb	15 14 14.8	
	comp=Z,51nm,1.1s						
GO02	**Mina Guanaco**	**45.21**	**297**	P	**P**	**15 14 17.9**	**-1.2**
GO02				IAmb	IAmb	15 14 19.4	
	comp=Z,24nm,1.0s						
BDFB	**Brasilia**	**45.40**	**328**	P	**P**	**15 14 19.5**	**-0.8**
BDFB				pmax	pmax		
	comp=Z,30nm,0.9s						
BDFB	**Brasilia**	**45.40**	**328**	P	**P**	**15 14 21.4**	**+1.1**
	comp=Z,23nm,0.8s,baz=152,slow=6.8,SNR=23						
BDFB				LR	LR	15 32 26.5	
	comp=Z,568nm,19.7s,baz=143,slow=35						
BDFB	**Brasilia**	**45.40**	**328**	P	**P**	**15 14 19.5**	**-0.8**
BDFB				IAmb	IAmb	15 14 22.0	
	comp=Z,30nm,0.9s						
BOSA	**Boshof**	**45.45**	**72**	P	**P**	**15 14 20.2**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,15nm,1.0s						
BOSA	**Boshof**	**45.45**	**72**	P	**P**	**15 14 20.7**	**0.0**
	comp=Z,7.0nm,0.9s,baz=203,slow=7.9,SNR=15						
BOSA				LR	LR	15 29 18.8	
	comp=Z,894nm,21.6s,baz=214,slow=31						
BOSA	**Boshof**	**45.45**	**72**	P	**P**	**15 14 20.2**	**-0.5**
PP1B	**Ponte de Pedra**	**45.73**	**319**	*e* P	**P**	**15 14 22.9**	**0.0**
PP1B	**Ponte de Pedra**	**45.73**	**319**	*e* P	**P**	**15 14 22.9**	**0.0**
ARAG	**Araguaiana, MT**	**46.47**	**324**	*e* P	**P**	**15 14 29.6**	**+0.9**
ARAG	**Araguaiana, MT**	**46.47**	**324**	*e* P	**P**	**15 14 29.6**	**+0.9**
LVC	**Limon Verde**	**47.07**	**299**	P	**P**	**15 14 33.3**	**-0.5**
LVC				pmax	pmax		
	comp=Z,18nm,0.8s						
LVC	**Limon Verde**	**47.07**	**299**	*e* P	**P**	**15 14 32.9**	**-0.9**
LVC	**Limon Verde**	**47.07**	**299**	*e* P	**P**	**15 14 32.9**	**-0.9**
**LVC

POPC Popayan, Colom 72.74 305 eP P 15 17 29.8 -0.3
POPC Popayan, Colom 72.74 305 eP P 15 17 29.8 -0.3
ORTC Ortega, Tolima 73.34 307 eP P 15 17 31.8 -1.6
ORTC Ortega, Tolima 73.34 307 eP P 15 17 31.8 -1.6
CHIC Chingaza 73.36 309 eP P 15 17 32.5 -1.4
CHIC Chingaza 73.36 309 eP P 15 17 32.5 -1.4
ROSC El Rosal 73.79 308 P P 15 17 36.3 -0.1
comp=Z,38nm,0.8s,baz=146,slow=10,SNR=8.7
ROSC LR LR 15 51 25.8
comp=Z,200nm,20.3s,baz=152,slow=37
ELOV Elorza 73.80 314 eP P 15 17 33.8 -2.2
ELOV Elorza 73.80 314 eP P 15 17 33.8 -2.2
GRGC Isla de Gorgon 73.81 304 eP P 15 17 35.8 -0.3
GRGC Isla de Gorgon 73.81 304 eP P 15 17 35.8 -0.3
YOTC Yotoco, Valle 73.88 306 eP P 15 17 33.8 -2.9
YOTC eP P 15 17 34.5 -2.2
YOTC Yotoco, Valle 73.88 306 eP P 15 17 33.8 -2.9
YOTC eP P 15 17 34.5 -2.2
TOA0 Torodi Ar. Sit 74.10 27 P P 15 17 38.4 +0.7
TORD Torodi Ar. Bea 74.10 27 P P 15 17 38.2 +0.5
comp=Z,33nm,0.6s,baz=197,slow=6.6,SNR=183
TORD LR LR 15 43 28.1
comp=Z,301nm,21.1s,baz=310,slow=30
TORD Torodi Ar. Bea 74.10 27 P P 15 17 36.8 -0.9
MALC Bahia Malaga 74.34 305 eP P 15 17 39.1 -0.1
MALC Bahia Malaga 74.34 305 eP P 15 17 39.1 -0.1
GUY2C Guyana, Caldas 74.58 308 eP P 15 17 39.8 -1.4
GUY2C eP P 15 17 39.8 -1.4
GUY2C Guyana, Caldas 74.58 308 eP P 15 17 39.8 -1.4
GUY2C eP P 15 17 39.8 -1.4
NORC Norcasia 74.67 308 eP P 15 17 38.5 -2.7
NORC Norcasia 74.67 308 eP P 15 17 38.5 -2.7
PLMC San Jos del P 74.68 307 eP P 15 17 37.1 -4.2
PLMC San Jos del P 74.68 307 eP P 15 17 37.1 -4.2
BARC Barichara 74.90 310 eP P 15 17 39.1 -3.6
BARC Barichara 74.90 310 eP P 15 17 39.1 -3.6
PTBC PUERTO BERRIO, 75.38 309 eP P 15 17 41.8 -3.4
PTBC PUERTO BERRIO, 75.38 309 eP P 15 17 41.8 -3.4
PAMC Pamplona, Colo 75.38 311 eP P 15 17 44.5 -1.4
PAMC Pamplona, Colo 75.38 311 eP P 15 17 44.5 -1.4
CBOC Ciudad Bolivar 75.43 307 eP P 15 17 42.5 -3.2
CBOC Ciudad Bolivar 75.43 307 eP P 15 17 42.5 -3.2
HELC Santa Helena 75.52 308 eP P 15 17 45.8 -0.7
HELC Santa Helena 75.52 308 eP P 15 17 45.8 -0.7
BRRC Barranca, Sant 75.59 310 eP P 15 17 44.5 -1.9
BRRC Barranca, Sant 75.59 310 eP P 15 17 44.5 -1.9
CAPV Capacho 75.71 312 eP P 15 17 47.1 -0.2
CAPV Capacho 75.71 312 eP P 15 17 47.1 -0.2
GRGR Grenville 75.80 323 P P 15 17 47.7 +0.2
SDV Santo Domingo 75.97 314 eP P 15 17 48.4 -0.5
SDV Santo Domingo 75.97 314 eP P 15 17 48.4 -0.5
SDV Santo Domingo 75.97 314 P P 15 17 47.9 -0.9
WHZ Wether Hill Ro 76.09 189 P P 15 17 49.5 +0.5
WHZ IAmb IAmb 15 17 50.5
comp=Z,27nm,0.9s
BBGH Gun Hill 76.09 326 P P 15 17 48.3 -0.9
DBBC Dabeiba 76.55 308 eP P 15 17 51.1 -0.9
DBBC Dabeiba 76.55 308 eP P 15 17 51.1 -0.9
DCZ Deep Cove 76.58 188 P P 15 17 52.7 +1.0
MLZ Mavora Lakes 76.60 190 P P 15 17 52.6 +0.7
MLZ IAmb IAmb 15 17 52.8
comp=Z,22nm,0.9s
ODZ Otahua Downs 76.67 192 P P 15 17 53.0 +0.8
WKZ Wanaka 77.05 190 P P 15 17 54.9 +0.4
WKZ IAmb IAmb 15 18 00.7
comp=Z,42nm,1.0s
MCLT Moule a Chique 77.05 324 P P 15 17 53.6 -1.1
SMLC San Martn de 77.27 310 eP P 15 17 53.8 -2.1
SMLC San Martn de 77.27 310 eP P 15 17 53.8 -2.1
LBZ Lake Benmore 77.37 191 P P 15 17 55.8 -0.5
LBZ Lake Benmore 77.37 191 P P 15 17 57.0 +0.8
LBZ IAmb IAmb 15 17 58.1
comp=Z,23nm,0.8s
MQZ McQueen's Vall 77.76 193 P P 15 17 58.4 +0.1
MQZ McQueen's Vall 77.76 193 P P 15 17 58.9 +0.5
MQZ IAmb IAmb 15 18 07.8
comp=Z,60nm,1.5s
RPZ Rata Peaks 77.94 192 P P 15 17 59.3 -0.1
RPZ Rata Peaks 77.94 192 P P 15 17 59.1 -0.3
RPZ IAmb IAmb 15 18 04.0
comp=Z,22nm,0.9s
OXZ Oxford 78.21 193 P P 15 18 01.6 +0.7
FOZ Fox Glacier 78.25 191 P P 15 18 00.1 -1.0
SJCC San Jacinto, C 78.71 310 eP P 15 18 03.7 -0.3
SJCC San Jacinto, C 78.71 310 eP P 15 18 03.7 -0.3
LTZ Lake Taylor 78.72 193 P P 15 18 03.8 0.0
LTZ Lake Taylor 78.72 193 P P 15 18 04.3 +0.5
LTZ IAmb IAmb 15 18 06.0
comp=Z,22nm,0.8s
INZ Inchbonnie 78.87 192 P P 15 18 04.1 -0.4
KHZ Kahutara 78.92 194 P P 15 18 04.3 -0.5
URIC Uribia, Colomb 79.07 313 eP P 15 18 01.1 -4.8
URIC Uribia, Colomb 79.07 313 eP P 15 18 01.1 -4.8
SMRC Santa Marta, M 79.47 311 eP P 15 18 07.0 -1.0
SMRC Santa Marta, M 79.47 311 eP P 15 18 07.0 -1.0
TAU Tasmania Unive 79.47 174 P P 15 18 07.6 -0.2
TAU pmax pmax
comp=Z,35nm,0.9s
TAU Tasmania Unive 79.47 174 P P 15 18 07.6 -0.2
TAU IAmb IAmb 15 18 08.6
comp=Z,35nm,0.9s
THZ Tophouse 79.64 194 P P 15 18 09.3 +0.5
THZ Tophouse 79.64 194 P P 15 18 09.6 +0.7
BHW Baring Head 79.72 195 P P 15 18 08.5 -0.7
BHW Baring Head 79.72 195 P P 15 18 09.4 +0.1
DSZ Denniston Nort 79.79 193 P P 15 18 08.7 -1.0
TUWZ Tuamarina 79.83 195 P P 15 18 10.2 +0.4
TUWZ Tuamarina 79.83 195 P P 15 18 10.5 +0.7
SNZO South Karori 79.84 195 P P 15 18 10.4 +0.5
MTW Mount Morrison 79.88 196 P P 15 18 09.5 -0.6
TCW Tory Channel 80.00 195 P P 15 18 10.8 +0.1
BCIP Isla Barro Col 80.03 305 P P 15 18 10.4 -0.7
BCIP pmax pmax
comp=Z,18nm,0.8s
BCIP Isla Barro Col 80.03 305 P P 15 18 10.4 -0.7
BCIP IAmb IAmb 15 18 11.5
comp=Z,18nm,0.8s
NNZ Nelson 80.12 194 P P 15 18 11.9 +0.5
NNZ Nelson 80.12 194 P P 15 18 11.6 +0.3
NNZ IAmb IAmb 15 18 13.7
comp=Z,31nm,1.2s
BFZ Birch Farm 80.24 196 P P 15 18 12.8 +0.8
BFZ Birch Farm 80.24 196 P P 15 18 12.8 +0.8
BFZ IAmb IAmb 15 18 17.5
comp=Z,42nm,1.1s
MRZ Mangatainoka R 80.36 196 P P 15 18 13.2 +0.5
DUWZ D'Urville Isla 80.45 195 P P 15 18 13.7 +0.5
PRHZ Porangahau 80.58 197 P P 15 18 15.0 +1.1
QRZ Quartz Range 80.61 194 P P 15 18 12.4 -1.7
QRZ Quartz Range 80.61 194 P P 15 18 12.9 -1.2
QRZ IAmb IAmb 15 18 21.8
comp=Z,61nm,1.4s
PXZ Pawanui 80.78 197 P P 15 18 15.0 +0.1
TSZ Takapari Road 80.89 196 P P 15 18 15.2 -0.4
WAZ Wanganui 81.33 196 P P 15 18 17.8 -0.1
BHHZ Black Hill Sta 81.43 197 P P 15 18 18.2 -0.3
BKZ Black Stump Fm 81.68 197 P P 15 18 20.8 +0.9
BKZ Black Stump Fm 81.68 197 P P 15 18 20.6 +0.8
BKZ IAmb IAmb 15 18 21.1
comp=Z,14nm,0.8s
TRVZ Turoa 81.70 196 P P 15 18 20.9 +0.7
FWVZ Far West T-bar 81.74 196 P P 15 18 21.2 +0.9
NGZ Ngauruhoe 81.81 196 P P 15 18 21.6 +1.0
KHEZ Kahui Hut 81.92 195 P P 15 18 21.1 0.0
VRZ Vera Road 81.98 196 P P 15 18 21.8 +0.4
RTZ Ruatahuna 82.14 197 P P 15 18 23.9 +1.6
URZ Urewera 82.47 198 P P 15 18 24.1 +0.2
HIZ Hauiti 82.57 196 P P 15 18 24.4 0.0
TLZ Tolley Road 82.65 196 P P 15 18 24.3 -0.6
MTP Monte Pirata 82.65 322 P P 15 18 24.1 -0.8
STVI Saint Thomas 82.69 322 P P 15 18 24.3 -0.8
PDPR Patillas Dam, 82.73 321 P P 15 18 24.2 -1.0
CUPR Culebra, Puert 82.75 322 P P 15 18 24.8 -0.6
HUMP Col San Antoni 82.79 321 P P 15 18 26.5 +0.9
SJG San Juan 82.86 321 P P 15 18 24.4 -1.6
SJG pmax pmax
comp=Z,50nm,1.1s
SJG San Juan 82.86 321 P P 15 18 24.4 -1.6
CBYP Canovanas 82.91 321 P P 15 18 24.7 -1.6
OBIP Obispado Ponce 82.95 321 P P 15 18 25.3 -1.1
GCPR Guaynabo City 83.02 321 P P 15 18 26.1 -0.7

MLPR Magueyes Islan 83.03 320 P P 15 18 25.1 -1.8
CRPR Cabo Rojo, PR 83.09 320 P P 15 18 25.5 -1.6
AOPR Arecibo Observ 83.28 321 P P 15 18 26.6 -1.6
JTS Las Juntas de 83.32 301 i P P 15 18 27.6 -0.9
JTS pmax pmax
comp=Z,23nm,1.1s
JTS Las Juntas de 83.32 301 P P 15 18 27.9 -0.6
JTS IAmb IAmb 15 18 29.3
comp=Z,24nm,1.1s
ACON Acoyapa 84.89 302 P P 15 18 33.8 -2.7
SDDR Presa de Saban 85.47 317 P P 15 18 38.6 -0.7
SDDR IAmb IAmb 15 18 51.3
comp=Z,23nm,1.0s
OUZ Omahuta 85.98 195 P P 15 18 41.6 -0.2
CAN Canberra 87.11 175 P P 15 18 47.8 +0.3
CAN pmax pmax
comp=Z,56nm,1.5s
CAN Canberra 87.11 175 P P 15 18 47.8 +0.3
MTDJ Mount Denham 87.18 311 P P 15 18 47.2 -0.7
MORW Morawa 87.58 147 P P 15 18 49.3 -0.5
MORW IAmb IAmb 15 18 52.6
comp=Z,15nm,1.1s
BBOO Buckleboo 88.39 164 P P 15 18 52.6 -0.9
BBOO IAmb IAmb 15 18 53.5
comp=Z,18nm,0.8s
STKA Stephens Creek 89.99 169 P P 15 19 01.3 +0.2
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 89.99 169 P P 15 19 00.9 -0.1
comp=Z,6.5nm,0.7s,baz=150,slow=8.5,SNR=9.2
STKA Stephens Creek 89.99 169 P P 15 19 01.3 +0.2
PPT2 Papeete2 91.95 232 eS S 15 30 09.0 -3.1
comp=Z,154nm,29.8s
PPT2 Papeete2 91.95 232 eLR LR 15 48 41.4
comp=Z,871nm,24.5s
PPT Papeete 91.97 232 P P 15 19 09.9 -0.5
comp=Z,22nm,0.9s,baz=90,slow=19,SNR=3.9
PPT LR LR 15 52 05.6
comp=Z,376nm,20.4s,baz=162,slow=30
TEIG Tepich 93.54 303 P P 15 19 16.8 -0.6
TAOE Nuku Hiva Isla 95.35 244 eLR LR 15 50 08.7
comp=Z,239nm,26.4s
ASAR Alice Springs 97.00 161 P P 15 19 32.7 -0.8
ASAR Alice Springs 97.00 161 P P 15 19 32.5 -1.0
comp=Z,5.3nm,0.7s,baz=186,slow=3.9,SNR=26
ASAR LR LR 16 00 48.2
comp=Z,271nm,19.9s,baz=210,slow=34
ASAR Alice Springs 97.00 161 P P 15 19 32.7 -0.8
KEST Kesra 97.62 28 LR LR 15 59 02.0
comp=Z,225nm,19.5s,baz=184,slow=32
ESDC Sonseca Array 98.75 17 LR LR 15 59 48.8
comp=Z,66nm,20.5s,baz=135,slow=33
WRA Warramunga Arr 100.72 161 P Pdif 15 19 49.1 -1.0
comp=Z,1.8nm,0.7s,baz=188,slow=4.8,SNR=4.6
BRTR Keskin Array B 108.94 44 PKKPbc PKKPbc 15 35 38.2 +1.1
comp=Z,1.3nm,0.7s,baz=106,slow=2.8,SNR=7.5
CLL Collm 113.18 25 ePP PP 15 25 33.0 +4.2
CLL ePS PKKPbc 15 35 18.0 -5.2
CLL eSS SS 15 41 30.0 +17
CLL Lm MLR 16 06 00.0
comp=Z,200nm,21.6s
T25A Trinidad 115.27 300 P PKPdf 15 24 41.8 -1.0
baz=144
MATQ Matagami 115.51 325 P PKPdf 15 24 42.0 -0.5
baz=152
KIV Kislovodsk 116.05 48 i PKIKP PKPdf 15 24 42.1 -1.8
KIV pmax pmax
comp=Z,21nm,1.1s
S22A 4UR Ranch, Cre 116.89 298 P PKPdf 15 24 45.7 -0.3
baz=144
GLA Glamis 117.05 289 P PKPdf 15 24 45.7 -0.5
baz=143
WUAZ Wupatki 117.29 294 P PKPdf 15 24 46.5 -0.2
baz=143
IKP In-Ko-Pah, Jac 117.38 288 P PKPdf 15 24 46.6 -0.2
baz=143
Y12C Blythe 117.45 290 P PKPdf 15 24 46.8 0.0
baz=143
MONP2 Monument Peak 117.73 288 P PKPdf 15 24 47.5 -0.1
baz=143
BC3 Big Chuckawall 117.84 289 P PKPdf 15 24 47.3 -0.4
baz=143
ISCO Idaho Springs 117.97 301 P PKPdf 15 24 48.0 0.0
baz=143
BELC Belle Mtn. Jos 118.39 289 P PKPdf 15 24 48.3 -0.5
baz=142
GMRC Granite Mounta 118.84 290 P PKPdf 15 24 49.2 -0.4
baz=142
N23A Red Feather La 119.00 301 P PKPdf 15 24 49.4 -0.5
baz=143
HEC Hector,Ludlow 119.22 290 P PKPdf 15 24 50.4 +0.1
baz=142
O20A White River Ci 119.46 299 P PKPdf 15 24 50.4 -0.3
baz=142
GSC Goldstone, Bar 119.83 290 P PKPdf 15 24 51.4 0.0
baz=142
EDW2 Edwards Air Fo 120.10 288 P PKPdf 15 24 51.8 -0.1
baz=142
AGMN Agassiz Nation 120.64 313 P PKPdf 15 24 51.7 -0.8
baz=144
K22A Casper 120.65 302 P PKPdf 15 24 51.7 -1.2
baz=142
RSSD Black Hills 120.70 305 P PKPdf 15 24 52.1 -0.9
baz=142
RSSD Black Hills 120.70 305 PKIKP PKPdf 15 24 52.3 -0.7
RSSD Black Hills 120.70 305 PKPdf 15 24 52.3 -0.7
MPMC Manual Prospec 120.76 290 P PKPdf 15 24 53.3 0.0
baz=142
FURC Furnace Creek, 120.77 290 P PKPdf 15 24 53.3 +0.3
baz=141
TPNV Topopah Spring 120.84 291 P PKPdf 15 24 52.9 -0.5
baz=141
ISA Isabella, Lake 120.95 289 P PKPdf 15 24 53.7 +0.1
baz=141
CWC Cottonwood Cre 121.36 289 P PKPdf 15 24 54.7 +0.2
baz=141
SMMC Simmler 121.46 287 P PKPdf 15 24 55.0 +0.5
baz=141
HFS Hagfors 121.52 22 PKP PKPdf 15 24 51.9 -1.9
comp=Z,1.1nm,0.6s,baz=193,slow=5.8,SNR=8.8
R11A Troy Canyon, C 121.60 293 P PKPdf 15 24 54.9 +0.1
baz=141
DUG Dugway, Tooele 121.68 296 P PKPdf 15 24 54.3 -0.6
baz=141
DUG Dugway, Tooele 121.68 296 PKIKP PKPdf 15 24 55.2 +0.3
DUG Dugway, Tooele 121.68 296 PKPdf 15 24 55.2 +0.3
NB2 NORSAR Subarra 121.89 20 PKPdf PKPdf 15 24 53.6 -0.9
comp=Z,5.5nm,1.2s,baz=202,slow=1.9
NOA NORSAR Array B 121.89 20 PKP PKPdf 15 24 53.6 -0.9
comp=Z,2.1nm,0.8s,baz=201,slow=1.9,SNR=6.2
NOA PKKPbc PKKPab 15 34 51.5 +1.4
comp=Z,0.9nm,0.7s,baz=26,slow=4.2,SNR=4.8
PDAR Pinedale Array 122.14 300 PKP PKPdf 15 24 54.5 -1.4
comp=Z,1.7nm,0.5s,baz=130,slow=5.8,SNR=17
PDAR Pinedale Array 122.14 300 PKPdf 15 24 54.7 -1.1
BW06 Boulder Array 122.14 300 P PKPdf 15 24 54.4 -1.4
baz=141
ULM Lac du Bonnet 122.22 314 PKIKP PKPdf 15 24 54.2 -1.2
ULM Lac du Bonnet 122.22 314 PKP PKPdf 15 24 53.9 -1.5
comp=Z,7.7nm,0.6s,baz=72,slow=1.8,SNR=12
ULM Lac du Bonnet 122.22 314 PKPdf 15 24 54.2 -1.2
PBKT Sadao Pong 122.90 113 P PKPdf 15 24 57.7 0.0
PBKT Sadao Pong 122.90 113 PKPdf 15 24 57.6 -0.1
NVAR Mina Array Bea 123.01 291 PKP PKPdf 15 24 58.1 +0.5
comp=Z,3.4nm,0.7s,baz=140,slow=2.5,SNR=16
NVAR Mina Array Bea 123.01 291 PKPdf 15 24 57.9 +0.3
KOLN Koldanda 123.03 90 eP PKPdf 15 24 56.3 -1.7
comp=Z,30nm,0.9s
VSU Vasula 123.05 30 i PKIKP PKPdf 15 24 54.6 -2.1
OBN Obninsk 123.10 37 ePKIKP PKPdf 15 24 55.9 -1.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 123.49 110 PKIKP PKPdf 15 24 58.9 0.0
CMAR Chiang Mai Arr 123.49 110 PKP PKPdf 15 24 58.2 -0.6
comp=Z,6.9nm,0.8s,baz=229,slow=3.8,SNR=42
CMAR Chiang Mai Arr 123.49 110 PKPdf 15 24 58.9 0.0
DANN Dangsing 123.58 89 eP PKPdf 15 24 58.2 -0.9
comp=Z,27nm,0.7s
LAO LASA Array 123.67 305 P PKPdf 15 24 57.8 -0.6
baz=140
FLWY Flagg Ranch 123.68 300 PKPdf 15 24 59.5 +0.8
DMN Daman 123.71 91 eP PKPdf 15 24 58.2 -1.2
comp=Z,16nm,0.8s
GKN Gorkha 123.77 90 eP PKPdf 15 24 57.9 -1.4
CMMT Chiang Mai 123.79 110 P PKPdf 15 25 00.2 +0.7
comp=Z,3.2nm,1.5s

PKIN Phulchoki 123.84 91 eP PKPdf 15 24 58.1 -1.5
comp=Z,18nm,0.9s
PKI Pulchoki 123.84 91 eP PKPdf 15 24 58.1 -1.6
comp=Z,17nm,0.8s
KKN Kakani 123.95 91 eP PKPdf 15 24 58.4 -1.4
comp=Z,13nm,0.7s
RAMN Ramite 123.98 93 eP PKPdf 15 24 59.3 -0.6
comp=Z,26nm,0.6s
PHRA Phrae 124.17 111 P PKPdf 15 25 00.3 +0.1
comp=Z,2.3nm,1.6s,comp=Z,492nm
DGMT Dagmar 124.18 308 P PKPdf 15 24 58.9 -0.4
baz=140
YHH Holmes Hill 124.29 301 PKPdf 15 25 00.8 +0.8
JIRN Jiri 124.33 92 eP PKPdf 15 24 59.8 -0.9
comp=Z,36nm,0.6s
ODAN Odare 124.34 93 eP PKPdf 15 25 00.2 -0.4
comp=Z,14nm,0.6s
GUN Gumba 124.36 91 eP PKPdf 15 24 59.8 -0.9
comp=Z,25nm,0.8s
GAR Garm 124.76 71 PKPdf 15 25 01.3 +0.4
TAPN Taplejung 124.90 93 eP PKPdf 15 25 01.0 -0.7
comp=Z,6.9nm,0.7s
BOZ Bozeman (W) 125.26 301 P PKPdf 15 25 01.4 -0.2
baz=139
FINES FINESS Array B 125.45 27 PKIKP PKPdf 15 25 00.7 -0.5
FINES FINESS Array B 125.45 27 PKP PKPdf 15 25 00.3 -0.9
comp=Z,7.4nm,0.6s,baz=176,slow=1.7,SNR=31
FINES FINESS Array B 125.45 27 PKPdf 15 25 00.7 -0.5
O03E Paynes Creek 126.19 290 P PKPdf 15 25 03.2 -0.3
baz=139,SNR=5.9
EGMT Eagleton 126.25 304 P PKPdf 15 25 03.3 0.0
baz=139
O02D Mt. Diablo Mer 126.60 289 P PKPdf 15 25 04.2 -0.1
baz=139
N02D Trinity Center 127.15 290 P PKPdf 15 25 05.5 +0.2
baz=138,SNR=6.2
MSO Missoula 127.25 300 P PKPdf 15 25 05.5 +0.1
baz=138
M04C Macdoel 127.32 291 P PKPdf 15 25 05.8 +0.2
baz=138,SNR=7.7
BMO Blue Mountains 127.37 297 PKIKP PKPdf 15 25 05.9 +0.3
BMO Blue Mountains 127.37 297 PKPdf 15 25 05.9 +0.3
ABKAR Akbulak array 127.51 55 PKPdf 15 25 05.3 -0.2
ABKAR Akbulak array 127.51 55 PKPdf 15 25 05.5 -0.1
M02C Callahan 127.54 290 P PKPdf 15 25 06.2 +0.1
baz=138,SNR=6.4
AKTO Aktyubinsk 127.55 53 PKP PKPdf 15 25 05.0 -0.6
comp=Z,5.7nm,0.8s,baz=196,slow=3.8,SNR=14
L04D Klamath Falls 127.87 291 P PKPdf 15 25 06.3 -0.4
baz=138
KSH Kashi 128.04 74 PKP PKPdf 15 25 07.5 +0.4
KSH PP PP 15 27 13.9 +3.0
KSH PKS PKSdf 15 28 40.4 -3.3
KSH SKS SKSdf 15 32 15.3 -3.2
KSH SS SS 15 44 21.6 -3.1
KSH AMB AMB
comp=Z,210nm,4.4s
KSH LR LR
comp=Z,140nm,11.2s
KSH LR LR
comp=Z,170nm,7.5s
KSH LR LR
comp=Z,190nm,10.0s
J05D Fort Rock, OR 128.13 293 P PKPdf 15 25 07.5 +0.3
baz=137,SNR=8.4
L02E Cave Junction 128.48 290 P PKPdf 15 25 07.9 +0.2
baz=137
J04D Umpqua Nationa 128.53 292 P PKPdf 15 25 08.7 +0.7
baz=137
KLMR Klimovskoe 128.67 35 ePKIKP PKPdf 15 25 05.8 -1.6
KLMR pmax pmax
comp=Z,45nm,1.4s
KLMR Klimovskoe 128.67 35 ePKPdf PKPdf 15 25 05.9 -1.5
KLMR AMP 15 25 08.5
comp=Z,45nm,1.4s
AML Almayashu 128.81 71 P PKPdf 15 25 08.4 -0.4
SNR=14
K02D Willamette Mer 128.91 290 P PKPdf 15 25 08.8 +0.2
baz=137,SNR=7.7
I05D Terrebonne, OR 128.95 293 P PKPdf 15 25 09.0 +0.4
baz=137,SNR=6.1
EKS2 Erkin-Say 129.24 70 P PKPdf 15 25 08.9 -0.3
SNR=8.9
UCH Uchtor 129.29 71 P PKPdf 15 25 09.9 +0.1
SNR=7.7
KZA Kyzart 129.56 72 P PKPdf 15 25 07.7 -2.6
SNR=5.4
AAK Ala-Archa 129.58 71 i PKIKP PKPdf 15 25 09.5 -0.4
AAK Ala-Archa 129.58 71 PKP PKPdf 15 25 09.4 -0.6
comp=Z,7.8nm,0.6s,baz=194,slow=3.3,SNR=29
AAK Ala-Archa 129.58 71 P PKPdf 15 25 09.6 -0.4
SNR=7.9
AAK Ala-Archa 129.58 71 PKPdf 15 25 10.4 +0.4
G05D Wamic, OR 129.60 294 P PKPdf 15 25 09.9 +0.1
baz=136
NEW Newport 129.77 300 P PKPdf 15 25 09.7 -0.3
baz=136
H04D Lebanon 129.77 293 P PKPdf 15 25 10.0 -0.1
baz=136
KBK Karagaybulak 129.82 71 P PKPdf 15 25 09.7 -0.7
SNR=6.2
E04D Cinebar 131.15 295 P PKPdf 15 25 12.2 -0.3
baz=135
D03D Eldon 132.09 295 P PKPdf 15 25 13.4 -0.9
baz=134
ARU Arti 132.10 48 i PKIKP PKPdf 15 25 13.5 -0.5
ARU Arti 132.10 48 PKP PKPdf 15 25 13.1 -0.9
comp=Z,0.8nm,0.5s,baz=311,slow=1.2,SNR=6.6
B05A Bryant 132.12 297 P PKPdf 15 25 14.4 0.0
baz=134
ARCES ARCESS Array B 132.19 22 PKIKP PKPdf 15 25 13.4 -0.5
ARCES ARCESS Array B 132.19 22 PKP PKPdf 15 25 13.1 -0.8
comp=Z,3.6nm,0.6s,baz=226,slow=1.6,SNR=20
ARCES ARCESS Array B 132.19 22 PKPdf 15 25 13.4 -0.5
BVAR Borovoye Array 134.84 58 PKP PKPdf 15 25 18.6 -0.7
comp=Z,4.7nm,0.7s,baz=247,slow=2.1,SNR=17
CD2 Chengdu 136.19 105 Pdif Pdif 15 22 27.4 -0.1
MKAR Makanchi Array 136.45 72 PKhKP PKPpre 15 25 11.1
comp=Z,0.6nm,0.6s,baz=247,slow=4.2,SNR=5.9
MKAR PKP PKPdf 15 25 23.3 +0.7
comp=Z,2.0nm,0.6s,baz=243,slow=2.4,SNR=13
MKAR SKPbc SKPbc 15 28 49.9 -4.8
comp=Z,0.7nm,0.8s,baz=232,slow=3.5,SNR=5.5
MKAR PKKP PKKPdf 15 34 59.5 -0.2
comp=Z,0.6nm,0.7s,baz=58,slow=3.0,SNR=6.0
KURBB Kurchatov Arra 137.10 65 PKhKP PKPpre 15 25 15.6
comp=Z,0.8nm,0.8s,baz=236,slow=3.2,SNR=4.6
KURBB PKP PKPdf 15 25 24.8 +1.2
comp=Z,2.8nm,0.6s,baz=228,slow=2.7,SNR=18
KURBB SKPbc SKPbc 15 28 51.8 -4.6
comp=Z,0.4nm,0.2s,baz=230,slow=4.2,SNR=6.4
KURK Kurchatov 137.21 65c i PKIKP PKPdf 15 25 25.4 +1.6
KURK pmax pmax
comp=Z,108nm,2.5s
YKA Yellowknife Ar 138.16 316 PKhKP PKPpre 15 25 15.7
comp=Z,1.3nm,0.6s,baz=122,slow=3.5,SNR=8.7
YKA PKP PKPdf 15 25 24.8 -0.3
comp=Z,14nm,0.8s,baz=126,slow=2.3,SNR=8.0
YKA PP PP 15 28 11.5 -3.5
comp=Z,1.4nm,0.6s,baz=124,slow=6.2,SNR=5.5
YKA SKP 15 28 55.0
comp=Z,2.7nm,0.7s,baz=131,slow=3.4,SNR=8.8
LZH Lanzhou 140.27 101 ePKP PKPdf 15 25 26.5 -3.6
LZH sPKP 15 25 38.4
GTA Gaotai 140.59 93 ePKP PKiKP 15 25 34.9 +1.7
DGZ Jazzator, Alta 140.95 72 i PKIKP PKPdf 15 25 30.7 -0.2
WHN Wuhan 141.18 117 PKPbc PKiKP 15 25 47.8 +13
XAN Xi'an 141.32 108 PKP PKPdf 15 25 33.5 +1.5
ZALV Zalesovo Beam 142.19 65 PKhKP PKPpre 15 25 26.8
comp=Z,1.7nm,0.4s,baz=253,slow=2.6,SNR=8.9
ZALV PKP PKPdf 15 25 33.6 +0.9
comp=Z,1.9nm,0.4s,baz=236,slow=2.6,SNR=8.1
ZALV SKPbc SKPbc 15 29 05.6 -4.4
comp=Z,0.3nm,0.3s,baz=246,slow=2.6,SNR=3.7
NJ2 Nanjing 144.55 121 ePKP PKPab 15 25 36.1 0.0
C36M Paulatuk 144.94 322 P PKPab 15 25 35.3 -1.2
baz=113
WHY Whitehorse 145.43 305 PKPbc 15 25 38.3 -0.1
HYT Haines Junctio 146.66 304 PKPdf 15 25 42.6 +2.1
BTO Baotou 146.87 102 ePKPbc PKPdf 15 25 43.0 +1.5
TIA Tai'an 147.14 115 PKPbc PKPdf 15 25 43.9 +2.0
INK Inuvik 147.81 318 PKP2 PKPdf 15 25 44.7 +2.7
INK Inuvik 147.81 318 PKPbc PKPdf 15 25 44.4 +2.4
comp=Z,47nm,0.7s,baz=85,slow=2.9,SNR=7.0
INK Inuvik 147.81 318 PKPdf 15 25 44.7 +2.7
HHC Hu-ho-hao-te 147.85 103 ePKPbc PKPdf 15 25 38.8 -4.3

JCJ	**Chichijima**	**148.07 159**	PKPbc	**PKPdf**	**15 25 45.5**	**+1.7**	
	comp=Z,36nm,0.5s,baz=189,slow=19,SNR=3.3						
YAH	**Yahtse**	**148.36 302**		**PKPbc**	**15 25 47.6**	**+0.6**	
EPYK	**Eagle Plains**	**148.40 314**	P	**PKPdf**	**15 25 46.2**	**+3.1**	
	baz=108						
EPYK	**Eagle Plains**	**148.40 314**		**PKPdf**	**15 25 46.4**	**+3.3**	
DAWY	**Dawson**	**148.72 309**		**PKPdf**	**15 25 47.1**	**+3.4**	
TGL	**Tana Glacier**	**149.01 302**		**PKPbc**	**15 25 48.7**	**+0.2**	
MOY	**Mondy**	**149.11 78**	*e*PKP2	**PKPdf**	**15 25 48.7**	**+3.9**	
MOY			pmax	pmax			
	comp=Z,51nm,2.7s						
CRQM	**Cirque**	**149.15 302**		**PKPbc**	**15 25 49.0**	**0.0**	
BCAR	**Beaver Creek A**	**149.39 307**		**PKPbc**	**15 25 49.6**	**+0.3**	
ZAK	**Zakamensk**	**149.60 82**	*e*PKP2	**PKPdf**	**15 25 49.3**	**+3.7**	
ZAK			pmax	pmax			
	comp=Z,30nm,1.6s						
NRIK	**Noril'sk**	**149.70 40**	PKPbc	**PKPbc**	**15 25 49.5**	**-0.3**	
	comp=Z,10.0nm,0.8s,baz=245,slow=0.6,SNR=30						
SONM	**Songino Array**	**149.78 88**	PKP	**PKPdf**	**15 25 45.3**	**-0.8**	
	comp=Z,10nm,1.1s,baz=210,slow=2.8,SNR=7.4						
SONM			PKPbc	**pPKPdf**	**15 25 50.4**	**+2.2**	
	comp=Z,24nm,0.7s,baz=223,slow=3.3,SNR=136						
SONM	**Songino Array**	**149.78 88**		**PKPbc**	**15 25 50.6**	**-0.2**	
JNU	**Nakatsue**	**150.50 136**	PKPbc	**PKPdf**	**15 25 51.9**	**+4.3**	
	comp=Z,14nm,0.7s,baz=250,slow=1.6,SNR=15						
JNU	**Nakatsue**	**150.50 136**		**PKPbc**	**15 25 52.8**	**-0.1**	
TLY	**Talaya**	**150.51 80**	*e*PKIKP	**PKPbc**	**15 25 52.1**	**-0.2**	
TLY			pmax	pmax			
	comp=Z,87nm,1.3s						
TLY	**Talaya**	**150.51 80**		**PKPbc**	**15 25 52.4**	**+0.1**	
DOT	**Dot Lake**	**150.55 307**		**PKPbc**	**15 25 52.7**	**+0.7**	
PAX	**Paxson**	**150.95 306**	PKIKP	**PKPbc**	**15 25 53.1**	**0.0**	
PAX	**Paxson**	**150.95 306**		**PKPbc**	**15 25 53.1**	**0.0**	
IRK	**Irkutsk**	**151.13 79**	*e*PKIKP	**PKPdf**	**15 25 51.1**	**+3.3**	
IRK			pmax	pmax			
	comp=Z,43nm,2.6s						
PRP	**Porcupine Dome**	**151.65 311**		**PKPbc**	**15 25 55.0**	**+0.3**	
BMAR	**Burnt Mountain**	**151.66 315**		**PKPbc**	**15 25 55.1**	**+0.6**	
HDA	**Harding Lake**	**151.98 308**	P	**PKPbc**	**15 25 54.3**	**-1.0**	
	baz=104						
ILAR	**Eielson Array**	**152.04 309**	PKP	**PKPdf**	**15 25 45.9**	**-2.9**	
	comp=Z,1.0nm,0.9s,baz=256,slow=2.6,SNR=6.8						
ILAR			PKPbc	**sPKPdf**	**15 25 54.8**	**+3.1**	
	comp=Z,20nm,0.5s,baz=131,slow=2.6,SNR=219						
ILAR	**Eielson Array**	**152.04 309**		**PKPbc**	**15 25 55.1**	**-0.3**	
RC01	**Rabbit Creek A**	**152.29 300**		**PKPbc**	**15 25 56.4**	**+0.4**	
POKR	**Poker Plat Res**	**152.34 309**	P	**PKPbc**	**15 25 54.9**	**-1.2**	
	baz=102						
BRLK	**Bradley Lake**	**152.39 297**		**PKPbc**	**15 25 56.4**	**0.0**	
TCOL	**CIGO, UAF Yank**	**152.47 309**	P	**PKPbc**	**15 25 55.7**	**-0.7**	
	baz=102						
CNPM	**China Poot**	**152.47 297**		**PKPbc**	**15 25 56.8**	**+0.2**	
WRH	**Wood River Hil**	**152.47 308**		**PKPbc**	**15 25 56.4**	**0.0**	
KDAK	**Kodiak Island**	**152.49 293**	*i* PKIKP	**PKPbc**	**15 25 56.3**	**-0.3**	
KDAK	**Kodiak Island**	**152.49 293**		**PKPbc**	**15 25 56.8**	**+0.2**	
RND	**Reindeer**	**152.55 306**	PKIKP	**PKPbc**	**15 25 57.0**	**+0.3**	
RND	**Reindeer**	**152.55 306**		**PKPbc**	**15 25 57.0**	**+0.3**	
MCK	**McKinley**	**152.66 306**	PKIKP	**PKPbc**	**15 25 57.1**	**+0.2**	
MCK	**McKinley**	**152.66 306**		**PKPbc**	**15 25 57.1**	**+0.2**	
KSAR	**Wonju Array Be**	**153.08 128**	PKIKP	**PKPbc**	**15 25 58.2**	**-0.3**	
KSAR	**Wonju Array Be**	**153.08 128**		**PKPbc**	**15 25 58.2**	**-0.3**	
KSRS	**Korea Array**	**153.11 128**	PKPbc	**PKPbc**	**15 25 58.1**	**-0.5**	
	comp=Z,3.7nm,0.6s,baz=183,slow=2.1,SNR=15						
KSRS			PKPab	**PKPab**	**15 26 10.6**	**+0.3**	
	comp=Z,3.8nm,0.9s,baz=209,slow=3.9,SNR=6.9						
SKT	**Skwentna**	**153.37 302**		**PKPbc**	**15 25 58.8**	**+0.4**	
KTH	**Kantishna Hill**	**153.48 305**		**PKPbc**	**15 25 58.5**	**-0.2**	
BPAW	**Bear Paw Mtn.**	**153.63 307**		**PKPbc**	**15 25 59.1**	**+0.1**	
TOLK	**Toolik Lake Re**	**153.68 317**	P	**PKPbc**	**15 25 59.0**	**0.0**	
	baz=94						
TOLK	**Toolik Lake Re**	**153.68 317**		**PKPbc**	**15 25 59.1**	**+0.1**	
PPLA	**Purkeypile**	**153.89 304**		**PKPbc**	**15 25 59.5**	**-0.2**	
IMAR	**Indian Mountai**	**155.07 310**		PKPdf	15 26 02.5	+9.3	
MJAR	**Matsushiro Arr**	**156.09 146**	PKPab	**PKPab**	**15 26 22.9**	**-0.1**	
	comp=Z,3.1nm,0.7s,baz=193,slow=4.8,SNR=6.2						
RDOG	**Red Dog Mine**	**158.63 316**		**PKPab**	**15 26 33.8**	**+0.6**	
MDJ	**Mudanjiang**	**159.63 119**	P	**PKPdf**	**15 26 05.6**	**+6.1**	
MDJ			pmax	pmax			
	comp=Z,4.0nm,1.5s						
MDJ			pmax	pmax			
	comp=Z,120nm,6.9s						
USRK	**Ussuriysk Ar.**	**160.40 124**	PKP2	**PKPab**	**15 26 40.7**	**-0.7**	
USRK	**Ussuriysk Ar.**	**160.40 124**	PKPab	**PKPab**	**15 26 40.4**	**-1.1**	
	comp=Z,2.8nm,0.8s,baz=220,slow=3.8,SNR=6.0						
USRK	**Ussuriysk Ar.**	**160.40 124**		**PKPab**	**15 26 40.7**	**-0.7**	
ADK	**Adak**	**162.58 262**	PKP2	**PKPab**	**15 26 49.6**	**-1.2**	
ADK	**Adak**	**162.58 262**		**PKPab**	**15 26 49.6**	**-1.2**	
PETK	**Petropavlovsk-**	**175.00 201**	PKPab	**PKPab**	**15 27 45.5**	**-0.2**	
	comp=Z,3.8nm,0.8s,baz=111,slow=6.7,SNR=7.9						

*ISCJB **22** 15:11:52.7±0.6, 4°.57S±0°.05×140°.33E±0°.07, h33km, mb3.4/3, Error ellipse: s-maj=10.6km s-min=6.7km az=3.2*
*IDC **22** 15:11:57.4±2.0, 4°.41S×140°.48E, h59km±21km, mb3.4/4, mb1 3.8/7, mb1mx3.4/41, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=29.3km s-min=18.6km az=95.0*
ISC 22 15:11:54.2±0.7, **4°.55S**±0°.06×**140°.14E**±0°.09, **h35**km, **n9**, σ**2**§**80**/13, **mb3.4**/3, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.10**	**16**	P	**Pn**	**15 12 26.6**	**-0.3**
	68nm,0.3s,baz=205,slow=12,SNR=187						
JAY				S	**Sn**	**15 12 49.4**	**-2.5**
	31nm,0.3s,baz=196,slow=19,SNR=7.4						
JAY				LR	LR	15 13 04.4	
	comp=Z,36nm,19.2s,baz=190,slow=35						
PMG	**Port Moresby**	**8.47**	**125**	P	**Pn**	**15 13 56.4**	**+1.9**
	1.7nm,0.3s,baz=294,slow=2.9,SNR=15						
PMG				S	**Sn**	**15 15 26.7**	**-2.2**
	0.5nm,0.3s,baz=215,slow=18,SNR=2.3						
SIJI	**Sorong**	**9.59**	**292**	P	Pn	15 14 16.9	+7.0
	1.3nm,0.3s,baz=107,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**16.31**	**200**	P	**Pn**	**15 15 41.6**	**+1.0**
	0.3nm,0.3s,baz=16,slow=13,SNR=12						
WRA				S	**Sn**	**15 18 39.0**	**-1.6**
	0.1nm,0.3s,baz=24,slow=26,SNR=3.2						
WRA				Lg	Lg	15 20 36.2	
	baz=26,slow=30,SNR=2.6						
FITZ	**Fitzroy Crossi**	**19.55**	**225**	P	**Pn**	**15 16 22.7**	**+2.2**
	0.2nm,0.3s,baz=59,slow=12,SNR=6.6						
FITZ				S	**S**	**15 19 51.8**	**-6.3**
	0.3nm,0.3s,baz=159,slow=17,SNR=5.0						
ASAR	**Alice Springs**	**19.93**	**197**	P	**Pn**	**15 16 27.6**	**+2.5**
	11nm,0.8s,baz=30,slow=9.4,SNR=165						
KSRS	**Korea Array**	**43.31**	**346**	P	**P**	**15 19 53.7**	**+1.0**
	0.3nm,0.4s,baz=160,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**72.11**	**322**	P	**P**	**15 23 16.8**	**+1.6**
	0.1nm,0.6s,baz=104,slow=6.1,SNR=2.7						
MKAR				pP	**sP**	**15 23 32.3**	**+1.0**
	0.2nm,0.5s,baz=116,slow=5.6,SNR=3.2						
ILAR	**Eielson Array**	**86.91**	**24**	P	**P**	**15 24 33.1**	**-2.1**
	0.4nm,0.6s,baz=270,slow=4.7,SNR=5.0						

*BEO **22** 15:11:49.1±0.7, 38°.05N×22°.97E, h3km±8km, ML4.3/7*
*IDC **22** 15:12:00.2±0.9, 38°.92N×22°.41E, h0km, mb4.0/15, mb1 4.1/20, mb1mx3.9/52, mbtmp4.0/20, ML3.8/5, MS3.4/10, Ms1 3.4/10, ms1mx3.0/61, Error ellipse: s-maj=18.6km s-min=14.6km az=11.0*
*MOS **22** 15:12:02.3±1.3, 39°.04N×22°.38E, h17km, mb4.5/8, Error ellipse: s-maj=7.5km s-min=4.2km az=83.2*
*ISCJB **22** 15:12:03.8±0.2, 39°.07N±0°.01×22°.41E±0°.01, h26km±2km, mb4.1/21, MS3.3/5, Error ellipse: s-maj=1.8km s-min=1.5km az=34.0*
*ATH **22** 15:12:03.4, 39°.05N×22°.41E, h21km, ML4.2/18, Error ellipse: s-maj=1.0km s-min=0.6km az=168.0*
*PDG **22** 15:12:03.4±0.5, 39°.06N×22°.43E, h16km, ML4.2/14, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*THE **22** 15:12:04.0, 39°.03N×22°.40E, h15km, ML4.2/15, Error ellipse: s-maj=0.6km s-min=0.4km az=305.0*
*NEIC **22** 15:12:04.7±3.5, 39°.12N±0°.04×22°.41E±0°.06, h16km±3km*
*ISK **22** 15:12:04.7, 39°.24N×22°.68E, h4km, ML3.8/20*
*SOF **22** 15:12:05.9, 39°.21N×22°.67E, h18km*
*DDA **22** 15:12:16.1, 38°.73N×23°.87E, h3km±9km, MW3.9*
ISC 22 15:12:03.9±0.6, **39°.03N**±0°.01×**22°.41E**±0°.01, **h17**km±3km, **n413**, σ1§**36**/517, **mb4.0**/23, **MS3.2**/5, **36C-19D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.06**	**266**	P	**Pg**	**15 12 07.0**	**-0.1**
AGG				S	**Sg**	**15 12 09.1**	**-0.3**
AGG	**Agios Georgios**	**0.06**	**266**	P	**Pg**	**15 12 07.1**	**-0.1**
AGG	**Agios Georgios**	**0.06**	**266**	P	**Pg**	**15 12 06.9**	**-0.3**
AGG				S	**Sg**	**15 12 09.0**	**-0.3**
AGG				AML	AML	15 12 09.4	
AGG				AML	AML	15 12 09.5	
AGG	**Agios Georgios**	**0.06**	**266**		**Pg**	**15 12 07.1**	**-0.1**
AGG					**Sg**	**15 12 09.3**	**0.0**
MAKR	**Makrakomi, Fth**	**0.22**	**267**	P	**Pg**	**15 12 09.1**	**0.0**
MAKR				S	**Sg**	**15 12 12.8**	**+0.2**
	141μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.22**	**267**	P	**Pg**	**15 12 09.1**	**0.0**
MAKR				S	**Sg**	**15 12 12.1**	**-0.4**
MAKR				AML	AML	15 12 12.9	
MAKR				AML	AML	15 12 13.1	
AXAR	**Agios Charalam**	**0.32**	**143**	P	**Pg**	**15 12 10.8**	**0.0**
AXAR				S	**Sb**	**15 12 15.9**	**-0.3**
AXAR				AML	AML	15 12 17.2	
AXAR				AML	AML	15 12 18.4	
EVR	**Evrytania**	**0.48**	**257**	P	**Pg**	**15 12 13.0**	**-0.6**
EVR				S	**Sg**	**15 12 20.1**	**-0.1**
EVR	**Evrytania**	**0.48**	**257**	P	**Pg**	**15 12 13.1**	**-0.5**
EVR				S	**Sg**	**15 12 20.0**	**-0.1**
EVR				AML	AML	15 12 22.1	
	comp=N,24980μm,0.3s						
EVR				AML	AML	15 12 22.5	
	comp=E,31537μm,0.4s						
DLFA	**Delphi**	**0.55**	**173**	P	**Pg**	**15 12 14.9**	**0.0**
DLFA				S	**Sg**	**15 12 22.0**	**-0.2**
DLFA				AML	AML	15 12 25.1	
	comp=N,88967μm,0.4s						
DLFA				AML	AML	15 12 28.5	
	comp=E,64432μm,0.7s						
LKR	**Lokris**	**0.59**	**129**	P	**Pg**	**15 12 15.5**	**-0.2**
LKR				S	**Sb**	**15 12 25.0**	**+1.1**
	comp=E,12μm,0.3s						
LKR	**Lokris**	**0.59**	**129**	P	**Pb**	**15 12 15.8**	**0.0**
LKR				S	**Sb**	**15 12 24.9**	**+1.0**
LKR				AML	AML	15 12 26.2	
	comp=N,26784μm,0.5s						
LKR				AML	AML	15 12 26.8	
	comp=E,19978μm,0.2s						
THL	**Klokotos Trika**	**0.62**	**330**	P	**Pg**	**15 12 15.1**	**-1.1**
THL				S	**Sb**	**15 12 24.6**	**-0.1**
THL	**Klokotos Trika**	**0.62**	**330**	P	**Pg**	**15 12 15.0**	**-1.2**
THL				S	**Sg**	**15 12 23.2**	**-1.2**
THL				AML	AML	15 12 28.1	
	comp=E,18816μm,0.3s						
THL				AML	AML	15 12 28.3	
	comp=N,19060μm,0.2s						
LRSO	**Larissa Observ**	**0.64**	**359**	P	**Pg**	**15 12 16.1**	**-0.5**
LRSO				S	**Sg**	**15 12 25.2**	**0.0**
LRSO	**Larissa Observ**	**0.64**	**359**	P	**Pg**	**15 12 16.0**	**-0.6**
LRSO				S	**Sg**	**15 12 24.5**	**-0.8**
LRSO				AML	AML	15 12 29.3	
	comp=N,61605μm,0.5s						
LRSO				AML	AML	15 12 29.7	
	comp=E,48320μm,0.5s						
KALE	**Kalithea**	**0.67**	**199**	P	**Pg**	**15 12 16.4**	**-0.7**
KALE				S	**Sb**	**15 12 26.9**	**+0.7**
	comp=E,34μm,0.6s						
KALE	**Kalithea**	**0.67**	**199**	P	**Pg**	**15 12 16.2**	**-0.8**
KALE				S	**Sg**	**15 12 25.8**	**-0.2**
KALE				AML	AML	15 12 30.7	
	comp=E,52716μm,0.3s						
KALE				AML	AML	15 12 30.9	
	comp=N,50571μm,0.5s						
SERG	**Sergoula**	**0.67**	**204**	P	**Pg**	**15 12 16.4**	**-0.7**
SERG				S	**Sb**	**15 12 26.4**	**+0.2**
	comp=N,23μm,0.3s						
SERG	**Sergoula**	**0.67**	**204**	P	**Pg**	**15 12 16.2**	**-0.9**
SERG				S	**Sg**	**15 12 26.0**	**-0.1**
SERG				AML	AML	15 12 27.8	
	comp=N,32108μm,0.3s						
SERG				AML	AML	15 12 31.1	
	comp=E,52147μm,0.3s						
NEO	**Neokhori**	**0.69**	**66**	P	**Pg**	**15 12 17.3**	**-0.2**
NEO				S	**Sb**	**15 12 27.2**	**+0.4**
	comp=E,39μm,0.3s						
NEO	**Neokhori**	**0.69**	**66**	P	**Pg**	**15 12 17.3**	**-0.2**
NEO				S	**Sb**	**15 12 26.8**	**+0.1**
NEO				AML	AML	15 12 30.1	
	comp=E,68452μm,0.4s						
NEO				AML	AML	15 12 30.2	
	comp=N,90677μm,0.3s						
XOR	**Xorichti**	**0.70**	**61**	P	**Pg**	**15 12 17.2**	**-0.4**
XOR				S	**Sb**	**15 12 27.7**	**+0.8**
	comp=N,29μm,0.7s						
XOR	**Xorichti**	**0.70**	**61**	P	**Pg**	**15 12 17.5**	**-0.1**
XOR				S	**Sg**	**15 12 26.0**	**-0.8**
XOR				AML	AML	15 12 30.6	
	comp=N,74837μm,0.4s						
XOR				AML	AML	15 12 31.8	
	comp=E,45127μm,0.8s						
TRIZ	**Trizonia**	**0.71**	**202**	P	**Pb**	**15 12 17.0**	**-0.8**
TRIZ	**Trizonia**	**0.71**	**202**	P	**Pb**	**15 12 17.2**	**-0.6**
TRIZ				S	**Sg**	**15 12 27.6**	**+0.3**
EFP	**Efpalio**	**0.72**	**214**	P	**Pb**	**15 12 17.2**	**-0.7**
EFP				S	**Sb**	**15 12 27.4**	**-0.1**
EFP	**Efpalio**	**0.72**	**214**	P	**Pb**	**15 12 17.6**	**-0.3**
EFP				S	**Sg**	**15 12 28.1**	**+0.6**
EFP				AML	AML	15 12 33.0	
	comp=N,45351μm,0.3s						
EFP				AML	AML	15 12 33.2	
	comp=E,43599μm,0.3s						
PVO	**Paravola**	**0.80**	**240**	P	**Pb**	**15 12 18.7**	**-0.7**
PVO				S	**Sg**	**15 12 30.9**	**+0.7**
	comp=E,17μm,0.8s						
PVO	**Paravola**	**0.80**	**240**	P	**Pb**	**15 12 18.8**	**-0.7**
PVO				S	**Sb**	**15 12 29.9**	**0.0**
PVO				AML	AML	15 12 34.5	
	comp=N,34322μm,0.4s						
PVO				AML	AML	15 12 35.5	
	comp=E,32015μm,0.5s						
SKIA	**Skiathos**	**0.83**	**80**	P	**Pb**	**15 12 19.6**	**-0.3**
SKIA				S	**Sg**	**15 12 31.8**	**+0.6**
	comp=E,11μm,0.4s						
SKIA	**Skiathos**	**0.83**	**80**	P	**Pg**	**15 12 20.0**	**-0.1**
SKIA				S	**Sb**	**15 12 30.9**	**0.0**
SKIA				AML	AML	15 12 33.5	
	comp=N,18873μm,0.5s						
SKIA				AML	AML	15 12 36.6	
	comp=E,23414μm,0.4s						
LAKA	**Lakka**	**0.85**	**203**	P	**Pb**	**15 12 19.6**	**-0.7**
LAKA				S	**Sg**	**15 12 32.1**	**+0.3**
LAKA	**Lakka**	**0.85**	**203**	P	**Pb**	**15 12 20.1**	**-0.2**
LAKA				S	**Sb**	**15 12 31.4**	**-0.1**
PROD	**Prodromos**	**0.86**	**153**	P	**Pb**	**15 12 20.0**	**-0.3**
PROD				S	**Sg**	**15 12 32.1**	**+0.2**
PROD	**Prodromos**	**0.86**	**153**	P	**Pb**	**15 12 20.0**	**-0.3**
UPR	**University Cam**	**0.89**	**214**	P	**Pg**	**15 12 21.5**	**+0.3**
MRKA	**Markates**	**0.97**	**109**	P	**Pb**	**15 12 22.3**	**0.0**
MRKA				S	**Sn**	**15 12 36.2**	**0.0**
MRKA	**Markates**	**0.97**	**109**	P	**Pb**	**15 12 22.5**	**+0.2**
MRKA				S	**Sn**	**15 12 36.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.00**	**192**	P	**Pb**	**15 12 21.9**	**-0.9**
KLV	**Kalavryta, Ach**	**1.00**	**192**	P	**Pn**	**15 12 23.2**	**-0.1**
PDO	**Prodromos**	**1.05**	**246**	P	**Pb**	**15 12 22.4**	**-1.2**
PDO				S	**Sb**	**15 12 37.5**	**+0.4**
	comp=E,36μm,0.5s						
PDO	**Prodromos**	**1.05**	**246**	P	**Pn**	**15 12 24.0**	**+0.2**
VIL2	**Platees**	**1.05**	**140**	P	**Pg**	**15 12 25.0**	**+0.6**
VIL2				S	**Sn**	**15 12 40.1**	**+1.8**
VIL2				AML	AML	15 12 46.6	
	comp=N,11615μm,0.7s						
VIL2				AML	AML	15 12 49.8	
	comp=E,21130μm,0.7s						
LIT	**Litokhoron**	**1.07**	**3**	P	**Pb**	**15 12 23.4**	**-0.7**
LIT				S	**Sn**	**15 12 38.6**	**-0.2**
	comp=E,7μm,0.6s						
LIT	**Litokhoron**	**1.07**	**3**	P	**Pb**	**15 12 23.0**	**-1.1**
LIT				S	**Sn**	**15 12 38.6**	**-0.2**
LIT	**Litokhoron**	**1.07**	**3**	P	**Pb**	**15 12 23.5**	**-0.6**
LIT	**Litokhoron**	**1.07**	**3**		**Pb**	**15 12 23.3**	**-0.7**
LTK	**Loutraki**	**1.09**	**156**	P	**Pb**	**15 12 24.4**	**0.0**
LTK				S	**Sg**	**15 12 39.7**	**+0.3**
	comp=E,10μm,0.7s						
LTK	**Loutraki**	**1.09**	**156**	P	**Pg**	**15 12 24.8**	**-0.2**
LTK				S	**Sg**	**15 12 40.3**	**+1.0**
VILL	**Villia**	**1.11**	**140**	P	**Pn**	**15 12 24.9**	**+0.1**
VILL				S	**Sn**	**15 12 39.7**	**0.0**
LOUT	**Loutraki**	**1.13**	**157**	P	**Pn**	**15 12 24.7**	**-0.2**
LOUT				S	**Sb**	**15 12 39.3**	**0.0**
LOUT	**Loutraki**	**1.13**	**157**	P	**Pb**	**15 12 25.3**	**+0.4**
LOUT				S	**Sg**	**15 12 40.4**	**-0.1**
ALNA	**Alonissos**	**1.14**	**83**	P	**Pb**	**15 12 25.2**	**+0.1**
AOS	**Alonnisos**	**1.15**	**82**	P	**Pn**	**15 12 25.0**	**-0.2**
AOS				S	**Sb**	**15 12 40.2**	**+0.2**
	comp=E,5μm,0.5s						
AOS	**Alonnisos**	**1.15**	**82**	P	**Pn**	**15 12 25.0**	**-0.2**
AOS				S	**Sg**	**15 12 41.9**	**+0.6**
AOS				AML	AML	15 12 46.1	
	comp=N,13385μm,0.6s						
AOS				AML	AML	15 12 46.2	
	comp=E,7251μm,0.3s						
MEV	**Metsovon**	**1.19**	**310**	P	**Pn**	**15 12 25.7**	**-0.2**
DRO	**Drossia**	**1.21**	**207**	P	**Pn**	**15 12 25.4**	**-0.6**
DRO				S	**Sn**	**15 12 42.0**	**+0.1**
	comp=E,16μm,0.6s						
DRO	**Drossia**	**1.21**	**207**	P	**Pb**	**15 12 26.7**	**+0.4**
RLS	**Riolos of Patr**	**1.22**	**218**	P	**Pn**	**15 12 26.2**	**+0.1**
RLS				S	**Sn**	**15 12 42.2**	**0.0**
	comp=E,5μm,0.4s						
RLS	**Riolos of Patr**	**1.22**	**218**	P	**Pb**	**15 12 27.0**	**+0.5**
KPRO	**Kipourio**	**1.23**	**319**	P	**Pn**	**15 12 25.6**	**-0.8**
KPRO	**Kipourio**	**1.23**	**319**	P	**Pn**	**15 12 26.5**	**+0.1**
KPRO				S	**Sg**	**15 12 44.4**	**+0.5**
KPRO				AML	AML	15 12 51.8	
	comp=E,16911μm,0.6s						
KPRO				AML	AML	15 12 52.4	
	comp=N,17448μm,1.0s						
MGNA	**Meganis**	**1.32**	**254**	P	**Pb**	**15 12 28.5**	**+0.3**
PAIG	**Paliouri**	**1.33**	**47**	P	**Pn**	**15 12 27.1**	**-0.6**
EREA	**Eretria**	**1.33**	**116**	P	**Pb**	**15 12 28.4**	**-0.1**
EREA	**Eretria**	**1.33**	**116**	P	**Pb**	**15 12 28.7**	**+0.2**
JAN	**Janina**	**1.36**	**298**	P	**Pb**	**15 12 29.5**	**+0.5**
KZN	**Kozani**	**1.37**	**339**	P	**Pn**	**15 12 28.2**	**-0.1**
KZN	**Kozani**	**1.37**	**339**	P	**Pn**	**15 12 28.6**	**+0.3**
KTI	**Kastanea**	**1.38**	**351**	P	**Pn**	**15 12 28.5**	**-0.1**
TSLK	**Tsoukalades, L**	**1.38**	**262**	P	**Pg**	**15 12 30.2**	**-0.4**
LKD2	**Lefkada island**	**1.39**	**261**	P	**Pb**	**15 12 29.1**	**-0.3**
LKD2	**Lefkada island**	**1.39**	**261**	P	**Pb**	**15 12 30.0**	**+0.6**
EVGI	**Lefkada island**	**1.43**	**254**	P	**Pn**	**15 12 29.2**	**+0.1**
EVGI	**Lefkada island**	**1.43**	**254**	P	**Pb**	**15 12 30.2**	**+0.1**
ATH	**Athens Observa**	**1.47**	**135**	P	**Pb**	**15 12 30.2**	**-0.5**
ATH				S	**Sn**	**15 12 48.0**	**-0.4**
	comp=N,4μm,0.9s						
ATH	**Athens Observa**	**1.47**	**135**	P	**Pb**	**15 12 31.0**	**+0.3**
PTL	**Penteli**	**1.50**	**130**	P	**Pn**	**15 12 30.0**	**-0.1**
PTL	**Penteli**	**1.50**	**130**	P	**Pb**	**15 12 31.4**	**0.0**
ATHU	**Athens Univers**	**1.51**	**134**	P	**Pb**	**15 12 31.4**	**-0.1**
PENT	**Pentalofos**	**1.53**	**320**	P	**Pn**	**15 12 30.5**	**0.0**
PENT	**Pentalofos**	**1.53**	**320**	P	**Pn**	**15 12 30.6**	**+0.1**
PLG	**Polygyros**	**1.56**	**30**	P	**Pn**	**15 12 30.3**	**-0.7**
PLG	**Polygyros**	**1.56**	**30**	P	**Pn**	**15 12 30.6**	**-0.3**
KFL	**Anninata**	**1.57**	**235**	P	**Pb**	**15 12 33.0**	**+0.5**
AMT	**Artemida-Makis**	**1.59**	**201**	P	**Pg**	**15 12 33.8**	**-0.7**
VLY	**Voula,Athens**	**1.60**	**137**	P	**Pn**	**15 12 32.0**	**+0.6**
VLY	**Voula,Athens**	**1.60**	**137**	P	**Pb**	**15 12 32.6**	**-0.4**
DID	**Didima**	**1.65**	**157**	P	**Pn**	**15 12 32.9**	**+0.8**
DID	**Didima**	**1.65**	**157**	P	**Pb**	**15 12 33.2**	**-0.7**
VLX	**Vlachokerasia**	**1.65**	**181**	P	**Pb**	**15 12 33.8**	**-0.2**
HORT	**Hortiatis**	**1.66**	**18**	P	**Pn**	**15 12 31.6**	**-0.7**
HORT	**Hortiatis**	**1.66**	**18**	P	**Pn**	**15 12 32.0**	**-0.3**
HORT	**Hortiatis**	**1.66**	**18**	PN	**Pn**	**15 12 31.7**	**-0.6**
HORT				SN	**Sn**	**15 12 51.1**	**-2.1**
THE	**Thessaloniki**	**1.66**	**15**	P	**Pn**	**15 12 31.7**	**-0.6**
THE	**Thessaloniki**	**1.66**	**15**	P	**Pn**	**15 12 31.6**	**-0.6**
VLS	**Valsamata**	**1.66**	**240**	P	**Pb**	**15 12 33.6**	**-0.4**
SKY	**Skiros Island**	**1.68**	**94**	P	**Pn**	**15 12 32.8**	**+0.4**
IGT	**Igoumenitsa**	**1.69**	**288**	*e*Pg	**Pb**	**15 12 34.9**	**+0.4**
IGT				*e*Sn	**Sg**	**15 13 03.8**	**+5.4**
IGT	**Igoumenitsa**	**1.69**	**288**	P	**Pb**	**15 12 34.6**	**+0.1**
NEST	**Nestorio**	**1.74**	**323**	P	**Pn**	**15 12 34.1**	**+0.7**
NEST	**Nestorio**	**1.74**	**323**	P	**Pb**	**15 12 34.6**	**-0.9**
VLMS	**Volimes, Zakyn**	**1.79**	**231**	P	**Pb**	**15 12 36.0**	**-0.3**
KARY	**Karystos**	**1.87**	**121**	P	**

VTS							15 13 42.0
VTS	**Vitosha**	**3.64**	**10**	⇓P		**Pn**	**15 13 00.2 +0.6**
VTS				⇓S		**Sn**	**15 13 42.2 -0.1**
VTS				AML		AML	15 13 47.5
VTS	**Vitosha**	**3.64**	**10**			**Pn**	**15 13 00.2 +0.6**
VTS				Sn		**Sn**	**15 13 42.0 -0.2**
ULC	**Ulcinj**	**3.80**	**322**	⇓*i*Pn		**Pn**	**15 13 02.6 +0.9**
ULC				*e*Sn		**Sn**	**15 13 47.6 +1.6**
BARS	**Barje**	**3.81**	**353**	*e*Pn		**Pn**	**15 13 02.2 +0.4**
BARS	**Barje**	**3.81**	**353**	*e*Pn		**Pg**	**15 13 20.1 +3.2**
DIM	**Dimitrovgrad**	**3.84**	**37**	P		**Pn**	**15 13 02.6 +0.3**
UKOP	**Uzunkopru-Edir**	**3.86**	**56**	PN		**Pn**	**15 13 02.6 +0.2**
DRME	**Dracevica, Mon**	**4.00**	**323**	*e*Pn		**Pn**	**15 13 06.1 +1.7**
DRME	**Dracevica, Mon**	**4.00**	**323**	⇑*i*Pn		**Pn**	**15 13 05.9 +1.5**
DRME				*e*Sn		**Sn**	**15 13 52.2 +1.3**
KRBG	**Karabiga-Canak**	**4.01**	**69**	PN		**Pn**	**15 13 05.2 +0.7**
GCAM	**G?zelcaml?**	**4.01**	**108**	*i*P		**Pn**	**15 13 06.6 +2.0**
PVY	**Plav**	**4.02**	**333**	⇑*i*Pn		**Pn**	**15 13 05.9 +1.1**
PVY				*e*Sn		**Sn**	**15 13 52.9 +1.3**
RKY	**Sarkoy-Tekirda**	**4.03**	**64**	PN		**Pn**	**15 13 05.1 +0.3**
BALY	**Balya**	**4.10**	**78**	*i*P		**Pn**	**15 13 07.9 +2.1**
PDG	**Podgorica**	**4.16**	**326**	*e*Pn		**Pn**	**15 13 07.7 +1.1**
PDG				*e*Sn		**Sb**	**15 14 05.8 -0.8**
PDG	**Podgorica**	**4.16**	**326**	*e*Pn		**Pn**	**15 13 07.9 +1.3**
PDG	**Podgorica**	**4.16**	**326**	⇓P		**Pn**	**15 13 07.8 +1.3**
PDG				⇑S		**Sn**	**15 13 57.4 +2.6**
PDG				AML		AML	15 13 58.5
PDG	**Podgorica**	**4.16**	**326**			**Pn**	**15 13 08.1 +1.5**
TTG	**Podgorica**	**4.16**	**326**	⇑*i*Pn		**Pn**	**15 13 07.7 +1.1**
TTG				*e*Sn		**Sn**	**15 13 56.4 +1.6**
TAR1	**Taranto**	**4.22**	**292**	*e*Pn		**Pn**	**15 13 08.5 +1.0**
BUM	**Brajici-Budva**	**4.22**	**322**	⇑*i*Pn		**Pn**	**15 13 08.7 +1.1**
BUM				*e*Sn		**Sn**	**15 13 57.9 +1.4**
ZAPS	**Zavoj**	**4.25**	**2**	*e*Pn		**Pn**	**15 13 08.0 +0.2**
BALB	**Balikesir**	**4.29**	**80**	PN		**Pn**	**15 13 09.2 +0.9**
IVA	**Berane**	**4.29**	**334**	⇓*i*Pn		**Pn**	**15 13 09.8 +1.4**
IVA				*e*Sn		**Sn**	**15 13 58.5 +0.4**
MRMT	**Marmara Adasi**	**4.29**	**67**	PN		**Pn**	**15 13 08.9 +0.4**
SELS	**Selova**	**4.30**	**347**	*e*Pn		**Pn**	**15 13 08.4 -0.2**
EDRB	**Edirne**	**4.34**	**48**	PN		**Pn**	**15 13 08.9 -0.2**
MASS	**Massafra**	**4.36**	**293**	*e*Pn		**Pn**	**15 13 10.7 +1.3**
TIP	**Timpagrande**	**4.40**	**274**	⇓P		**Pn**	**15 13 10.2 +0.2**
TIP				⇓S		**Sn**	**15 14 01.1 +0.2**
TIP				AML		AML	15 14 01.9
TIP	**Timpagrande**	**4.40**	**274**			**Pn**	**15 13 11.2 +1.2**
CEME	**Cevo**	**4.40**	**324**	⇓*i*Pn		**Pn**	**15 13 11.0 +1.0**
CEME				*e*Sn		**Sn**	**15 14 02.1 +1.2**
KOME	**Kolasin**	**4.41**	**331**	⇓*i*Pn		**Pn**	**15 13 11.1 +1.0**
KOME				*e*Sn		**Sn**	**15 14 02.0 +1.0**
AYDB	**Zeytinkoy-Aydi**	**4.43**	**102**	PN		**Pn**	**15 13 12.7 +2.2**
MPEP	**Malo Peshtene**	**4.44**	**13**	*i*P		**Pn**	**15 13 12.4 +1.9**
HCY	**Herceg Novi**	**4.53**	**320**	*e*Pn		**Pn**	**15 13 12.3 +0.6**
HCY	**Herceg Novi**	**4.53**	**320**	⇓*i*Pn		**Pn**	**15 13 12.9 +1.2**
HCY				*e*Sn		**Sn**	**15 14 05.4 +1.4**
NKME	**Niksic**	**4.56**	**326**	⇓*i*Pn		**Pn**	**15 13 13.5 +1.3**
NKME				*e*Sn		**Sn**	**15 14 06.3 +1.5**
NKY	**Niksic**	**4.58**	**327**	⇑*i*Pn		**Pn**	**15 13 13.7 +1.2**
NKY				*e*Sn		**Sn**	**15 14 06.0 +0.6**
CRLT	**Corlu**	**4.59**	**61**	PN		**Pn**	**15 13 13.0 +0.5**
BLKB	**Belogradchik**	**4.60**	**2**	⇑S		**Sn**	**15 14 05.1 -0.5**
SJES	**Sjenica**	**4.61**	**337**	*e*Pn		**Pn**	**15 13 14.1 +1.2**
SJES				*e*Sn		**Sb**	**15 14 18.4 -1.3**
BOVS	**Bovan**	**4.63**	**354**	*e*Pn		**Pn**	**15 13 13.2 +0.1**
PLVB	**Pleven**	**4.67**	**20**	⇑P		**Pn**	**15 13 13.9 +0.4**
PLVB				AML		AML	15 14 56.9
MATE	**Matera**	**4.68**	**292**	⇑P		**Pn**	**15 13 14.8 +1.0**
MATE				⇓S		**Sn**	**15 14 08.9 +1.2**
MATE				AML		AML	15 14 08.2
BAI	**Bari**	**4.72**	**298**	*e*Pn		**Pn**	**15 13 15.1 +0.8**
DURS	**Dursunbey**	**4.74**	**81**	*i*P		**Pn**	**15 13 17.1 +2.5**
KCTX	**Karacabey (Bur**	**4.75**	**73**	PN		**Pn**	**15 13 15.5 +0.7**
SG1	**Sgolgore (BA)**	**4.76**	**294**	*e*Pn		**Pn**	**15 13 16.0 +1.1**
ZAGS	**Zajecar**	**4.78**	**358**	*e*Pn		**Pn**	**15 13 15.2 0.0**
TREB	**Trebinje**	**4.80**	**321**	*e*Pn		**Pn**	**15 13 16.1 +0.7**
TREB	**Trebinje**	**4.80**	**321**	*e*Pn		**Pn**	**15 13 15.6 +0.2**
IVAS	**Ivanjica**	**4.85**	**340**	*e*Pn		**Pn**	**15 13 16.5 +0.3**
BRY	**Bratogost**	**4.86**	**324**	*e*Pn		**Pn**	**15 13 17.2 +0.9**
BRY	**Bratogost**	**4.86**	**324**	⇑*i*Pn		**Pn**	**15 13 17.4 +1.1**
BRY				*e*Sn		**Sn**	**15 14 12.5 +0.3**
PLE	**Pljevlja**	**4.87**	**333**	⇓*i*Pn		**Pn**	**15 13 17.4 +1.0**
PLE				*e*Sn		**Sn**	**15 14 13.0 +0.6**
DBRK	**Dubrovnik**	**4.87**	**320**	*i*Pn		**Pn**	**15 13 16.4 +0.1**
DBRK				Sn		**Sn**	**15 14 10.8 -1.5**
UPM	**Unac-Piva**	**4.94**	**329**	*e*Pn		**Pn**	**15 13 19.1 +1.6**
UPM	**Unac-Piva**	**4.94**	**329**	⇑*i*Pn		**Pn**	**15 13 18.6 +1.1**
UPM				*e*Sn		**Sn**	**15 14 14.7 +0.4**
SLVT	**Silivri**	**4.96**	**62**	PN		**Pn**	**15 13 18.3 +0.7**
SZH	**Strazhica**	**5.00**	**31**	P		**Pn**	**15 13 18.8 +0.6**
GRUS	**Gruza**	**5.02**	**346**	*e*Pn		**Pn**	**15 13 18.9 +0.5**
RUDO	**Rudo**	**5.13**	**334**	*e*Pn		**Pn**	**15 13 20.9 +1.0**
KARP	**Karpathos**	**5.14**	**131**	Pn		**Pn**	**15 13 23.2 +3.1**
MDNY	**Mudanya-Bursa**	**5.17**	**73**	PN		**Pn**	**15 13 21.8 +1.3**
ARMT	**Armutlu**	**5.20**	**71**	PN		**Pn**	**15 13 21.8 +0.9**
STON	**Ston**	**5.24**	**319**	*e*Pn		**Pn**	**15 13 21.3 -0.1**
STON				Sn		**Sn**	**15 14 19.2 -2.2**
STON	**Ston**	**5.24**	**319**	*e*Pn		**Pn**	**15 13 20.5 -0.9**
ACER	**Acerenza**	**5.28**	**292**			**Pn**	**15 13 23.2 +1.2**
ACER				Sn		**Sn**	**15 14 20.8 -1.6**
SVIS	**Svilajnac**	**5.31**	**351**	*e*Pn		**Pn**	**15 13 23.5 +1.1**
BBLS	**Lazići**	**5.34**	**336**	*e*Pn		**Pn**	**15 13 24.2 +1.4**
BBLS	**Lazići**	**5.34**	**336**	*e*Pn		**Pn**	**15 13 23.2 +0.4**
TAVA	**DENIZLI_Tavas**	**5.35**	**105**	*i*P		**Pn**	**15 13 26.0 +2.9**
DIVS	**Divibare**	**5.38**	**341**	*e*Pn		**Pn**	**15 13 23.9 +0.4**
DIVS	**Divibare**	**5.38**	**341**	*e*Pn		**Pn**	**15 13 23.7 +0.2**
TRUS	**Trudelj**	**5.41**	**345**	*e*Pn		**Pn**	**15 13 25.0 +1.3**
KUBS	**Kucevo**	**5.41**	**354**	*e*Pn		**Pn**	**15 13 22.8 -1.0**
RAZG	**Razgrad**	**5.49**	**33**	⇑P		**Pn**	**15 13 25.2 +0.3**
HAPS	**Han Pijesak,Bl**	**5.68**	**334**	*e*Pn		**Pn**	**15 13 28.3 +0.7**
HAPS	**Han Pijesak,Bl**	**5.68**	**334**	*e*Pn		**Pn**	**15 13 27.3 -0.3**
SGRT	**San Giovanni R**	**5.77**	**300**			**Pn**	**15 13 28.8 0.0**
SGRT				Sn		**Sn**	**15 14 31.4 -3.3**
MDVR	**Moldovita**	**5.77**	**355**	⇓P		**Pn**	**15 13 28.2 -0.7**
HERR	**Herculane**	**5.85**	**0**	⇑P		**Pn**	**15 13 29.6 -0.2**
TEKS	**Tekeris**	**5.92**	**340**	*e*Pn		**Pn**	**15 13 31.9 +1.1**
TEKS	**Tekeris**	**5.92**	**340**	*e*Pn		**Pn**	**15 13 30.9 +0.1**
BORA	**Eskisehir**	**6.28**	**80**	*i*P		**Pn**	**15 13 38.0 +2.1**
KALB	**Balgarevo**	**6.29**	**44**	⇑P		**Pn**	**15 13 36.2 +0.3**
PAOL	**Paolisi**	**6.34**	**291**			**Pn**	**15 13 38.8 +2.1**
GZR	**Gura Zlata**	**6.37**	**2**	P		**Pn**	**15 13 36.7 -0.3**
GZR	**Gura Zlata**	**6.37**	**2**	⇑P		**Pn**	**15 13 36.7 -0.3**
FRGS	**Fruska Gora**	**6.42**	**343**	*e*Pn		**Pn**	**15 13 38.7 +1.0**
FRGS	**Fruska Gora**	**6.42**	**343**	*e*Pn		**Pn**	**15 13 38.5 +0.8**
VAE	**Valguarnera**	**6.48**	**259**	Pn		**Pn**	**15 13 39.1 +0.6**
	comp=N,2.1nm,0.3s,baz=51,slow=6.5,SNR=2.1						
VAE				Sn		**Sn**	**15 14 52.7 +0.6**
	comp=N,4.6nm,0.3s,baz=22,slow=17,SNR=3.7						
ICOR	**Ion Corvin**	**6.50**	**37**	⇑P		**Pn**	**15 13 39.5 +0.8**
LOT	**Lotru**	**6.50**	**8**	⇑P		**Pn**	**15 13 39.0 +0.2**
ARR	**Arges**	**6.55**	**14**	⇑P		**Pn**	**15 13 40.0 +0.6**
RAFF	**Raffo Rosso**	**6.59**	**257**			**Pn**	**15 13 37.6 -2.5**
RAFF				Sn		**Sn**	**15 14 53.5 -1.3**
BZS	**Buzias**	**6.61**	**355**	⇓P		**Pn**	**15 13 40.6 +0.3**
MANR	**Mangalia**	**6.67**	**42**	⇑P		**Pn**	**15 13 41.2 +0.2**
MGRS	**Mrkonjic Grad**	**6.70**	**325**	*e*Pn		**Pn**	**15 13 42.7 +1.2**
VOIR		**6.70**	**16**	P		**Pn**	**15 13 42.3 +0.8**
VOIR		**6.70**	**16**	⇑P		**Pn**	**15 13 42.4 +0.8**
SAHE	**Sakarya_HENDEK**	**6.74**	**72**	*i*P		**Pn**	**15 13 43.6 +1.6**
ZIRJ	**Zirje**	**6.88**	**314**	*e*Pn		**Pn**	**15 13 43.3 -0.6**
BLY	**Banja Luka**	**6.92**	**327**	*e*Pn		**Pn**	**15 13 44.0 -0.5**
BLY	**Banja Luka**	**6.92**	**327**	⇑P		**Pn**	**15 13 44.8 +0.3**
BLY	**Banja Luka**	**6.92**	**327**			**Pn**	**15 13 45.7 +1.2**
TLB	**Topalu**	**6.97**	**35**	⇑P		**Pn**	**15 13 45.0 -0.1**
MLR	**Muntele Rosu**	**6.97**	**21**	Pn		**Pn**	**15 13 46.5 +1.2**
	comp=N,1.5nm,0.3s,baz=187,slow=7.1,SNR=20						
MLR				LR		LR	15 16 57.3
	comp=N,438nm,19.3s,baz=222,slow=42						
MLR	**Muntele Rosu**	**6.97**	**21**	⇑P		**Pn**	**15 13 46.6 +1.2**
MLR	**Muntele Rosu**	**6.97**	**21**			**Pn**	**15 13 46.0 +0.7**
MORI	**Morici**	**6.98**	**316**	*i*Pn		**Pn**	**15 13 45.5 +0.2**
WDD	**Wied Dalam**	**7.04**	**246**			**Pn**	**15 13 47.4 +1.4**
TIRR	**Tirgusor**	**7.04**	**38**	P		**Pn**	**15 13 46.5 +0.4**
TIRR	**Tirgusor**	**7.04**	**38**	⇑P		**Pn**	**15 13 45.7 -0.4**
TIRR	**Tirgusor**	**7.04**	**38**	⇑P		**Pn**	**15 13 45.7 -0.4**
TIRR	**Tirgusor**	**7.04**	**38**			**Pn**	**15 13 46.5 +0.4**
INTR	**Introdacqua**	**7.13**	**297**			**Pn**	**15 13 49.6 +2.1**
DOPR	**Dopca**	**7.28**	**17**	⇑P		**Pn**	**15 13 50.9 +1.5**
TOPG	**Topolog**	**7.34**	**35**	⇑P		**Pn**	**15 13 51.3 +1.0**
UDBI	**Udbina**	**7.41**	**320**	*i*Pn		**Pn**	**15 13 52.1 +0.8**
DUGI	**Dugi Otok**	**7.42**	**314**	*e*Pn		**Pn**	**15 13 52.2 +0.9**
CFR	**Carcaliu**	**7.47**	**33**	⇑P		**Pn**	**15 13 52.2 +0.1**
PLOR	**Plostina**	**7.50**	**23**	P		**Pn**	**15 13 54.5 +2.0**
PLOR	**Plostina**	**7.50**	**23**	⇑P		**Pn**	**15 13 54.6 +2.0**
VRI	**Vrincioaia**	**7.54**	**24**	⇓P		**Pn**	**15 13 54.9 +1.8**
TLCR		**7.78**	**36**	⇑P		**Pn**	**15 13 56.3 +0.1**
NVLJ	**Novalja**	**7.89**	**317**	*i*Pn		**Pn**	**15 13 57.9 +0.1**
NRCA	**Norcia**	**8.00**	**301**			**Pn**	**15 14 01.1 +1.7**
KALN	**Kalnik**	**8.35**	**330**	*e*Pn		**Pn**	**15 14 03.5 -0.6**
PTJ	**Puntijarka**	**8.36**	**327**	*e*Pn		**Pn**	**15 14 03.5 -0.9**
CRES	**Cresnjev**	**8.52**	**325**	*e*Pn		**Pn**	**15 14 05.6 -0.8**
MURB	**Monte Urbino**	**8.57**	**303**			**Pn**	**15 14 09.6 +2.4**
MURB				Sn		**Sn**	**15 15 42.3 -1.3**
BR131	**Keskin Array S**	**8.72**	**82**	P		**Pn**	**15 14 11.9 +2.5**
BR131	**Keskin Array S**	**8.72**	**82**			**Pn**	**15 14 11.9 +2.5**
BRTR	**Keskin Array B**	**8.72**	**82**	P		**Pn**	**15 14 12.3 +2.9**
BRTR							15 15 42.5
BRTR	**Keskin Array B**	**8.72**	**82**	Pn		**Pn**	**15 14 11.1 +1.6**
	comp=N,0.5nm,0.3s,baz=264,slow=12,SNR=13						
BRTR				Sn		**Sn**	**15 15 42.5 -4.9**
	comp=N,0.1nm,0.3s,baz=265,slow=24,SNR=2.6						
BRTR	**Keskin Array B**	**8.72**	**82**			**Pn**	**15 14 12.3 +2.9**
BURAR	**Bucovina Array**	**8.82**	**12**	⇑P		**Pn**	**15 14 12.0 +1.3**
BUR08	**Bucovina Ar. S**	**8.85**	**12**			**Pn**	**15 14 12.3 +1.2**
CEY	**Cerknica**	**8.94**	**321**	*e*Pn		**Pn**	**15 14 11.1 -1.1**
PSZ	**Piszkesteto**	**9.07**	**349**	P		**Pn**	**15 14 15.7 +1.6**
PSZ	**Piszkesteto**	**9.07**	**349**	⇑P		**Pn**	**15 14 15.6 +1.6**
PSZ	**Piszkesteto**	**9.07**	**349**			**Pn**	**15 14 15.7 +1.6**
TRPA	**Tarpa**	**9.10**	**1**	⇓P		**Pn**	**15 14 15.0 +0.6**
SOKA	**Soboth**	**9.37**	**327**	*e*Pn		**Pn**	**15 14 18.0 -0.2**
	comp=N,2.5nm,0.3s						
OBKA	**Obir**	**9.45**	**325**	*e*Pn		**Pn**	**15 14 19.9 +0.7**
	comp=N,3.5nm,0.2s						
OBKA				*e*Sn		**Sn**	**15 16 02.9 -2.2**
	comp=N,18nm,0.8s						
KECS	**Kecovo**	**9.56**	**352**	*e*P		**Pn**	**15 14 24.2 +3.6**
KECS	**Kecovo**	**9.56**	**352**	*e*PN		**Pn**	**15 14 24.2 +3.6**
ARSA	**Arzberg**	**9.63**	**331**	*e*Pn		**Pn**	**15 14 21.0 -0.8**
	comp=N,6.3nm,0.4s						
ARSA				*e*Sn		**Sn**	**15 16 06.0 -3.5**
	comp=N,4.2nm,0.6s						
VYHS	**Vyhne**	**9.81**	**346**	*e*P		**Pn**	**15 14 27.0 +2.9**
VYHS				*e*			15 16 14.5
VYHS	**Vyhne**	**9.81**	**346**	*e*PN		**Pn**	**15 14 27.0 +2.9**
VYHS				*e*SN		**Sn**	**15 16 14.5 +0.7**
KOLS	**Kolonicke sedl**	**9.90**	**359**	*e*P		**Pn**	**15 14 28.5 +3.1**
KOLS	**Kolonicke sedl**	**9.90**	**359**	*e*PN		**Pn**	**15 14 28.5 +3.1**
MYKA	**Terra Mystica**	**9.96**	**323**	*e*Sn		**Sn**	**15 16 13.5 -4.0**
	comp=N,3.4nm,0.5s						
MODS	**Modra-Piesok**	**10.05**	**340**	*e*P		**Pn**	**15 14 28.9 +1.4**
MODS				*e*			15 16 17.1
MODS	**Modra-Piesok**	**10.05**	**340**	*e*PN		**Pn**	**15 14 28.9 +1.4**
MODS				*e*SN		**Sn**	**15 16 17.1 -2.7**
CONA	**Conrad Observa**	**10.09**	**334**	*i*Pn		**Pn**	**15 14 28.3 +0.3**
	comp=N,0.5nm,0.2s						
KBA	**Koelnbreinsper**	**10.42**	**323**	*e*Pn		**Pn**	**15 14 31.9 -0.8**
	comp=N,1.1nm,0.0s						
KBA				*e*Sn		**Sn**	**15 16 25.9 -3.2**
	comp=N,2.5nm,0.4s						
ABTA	**Abfaltersbach**	**10.59**	**320**	*e*Pn		**Pn**	**15 14 35.1 +0.2**
	comp=N,2.4nm,0.3s,SNR=6.4						
ABTA				*e*Sn		**Sn**	**15 16 28.6 -4.4**
	comp=N,11nm,0.6s						
CTI	**Castel Tesino**	**10.59**	**315**	P		**Pn**	**15 14 35.3 +0.4**
CTI							15 16 27.5
CTI	**Castel Tesino**	**10.59**	**315**			**Pn**	**15 14 35.3 +0.4**
CTI						**Sn**	**15 16 27.5 -5.6**
MOA	**Molln**	**10.62**	**329**	*e*Pn		**Pn**	**15 14 35.4 +0.2**
	comp=N,1.7nm,0.3s						
KEST	**Kesra**	**10.90**	**256**	Pn		**Pn**	**15 14 42.0 +2.8**
	comp=N,0.8nm,0.3s,baz=44,slow=5.5,SNR=4.7						
VRAC	**Vranov**	**11.09**	**340**	LR		LR	15 20 31.9
	comp=N,94nm,19.4s,baz=178,slow=46						
WTTA	**Wattenberg**	**11.38**	**320**	*e*Pn		**Pn**	**15 14 46.7 +0.9**
	comp=N,1.5nm,0.2s						
WTTA				*e*Sn		**Sn**	**15 16 48.9 -3.6**
	comp=N,24nm,0.8s						
WATA	**Walderalm**	**11.46**	**320**	*e*Pn		**Pn**	**15 14 47.4 +0.6**
	comp=N,2.9nm,0.3s						
WATA				*e*Sn		**Sn**	**15 16 50.4 -4.0**
	comp=N,11nm,0.6s						
GERES	**GERESS Array B**	**11.64**	**330**	Pn		**Pn**	**15 14 49.6 +0.3**
	comp=N,0.3nm,0.3s,baz=157,slow=14,SNR=8.4						
GERES				Sn		**Sn**	**15 16 53.7 -5.1**
	comp=N,0.2nm,0.3s,baz=151,slow=24,SNR=2.1						
GERES				LR		LR	15 20 28.9
	comp=N,202nm,19.1s,baz=131,slow=43						
FETA	**Feichten**	**11.69**	**317**	*e*Pn		**Pn**	**15 14 51.5 +1.5**
	comp=N,3.5nm,0.7s						
FETA				*e*Sn		**Sn**	**15 16 54.1 -6.1**
	comp=N,6.0nm,0.6s						
MOTA	**Moosalm**	**11.70**	**319**	*e*Pn		**Pn**	**15 14 50.3 +0.1**
	comp=N,10.0nm,0.8s,SNR=4.3						
MOTA				*e*Sn		**Sn**	**15 16 56.2 -4.3**
	comp=N,12nm,0.6s						
KHC	**Kasperske Hory**	**11.92**	**331**	*e*P		**Pn**	**15 14 52.9 -0.1**
KHC				MLR		MLR	
	comp=Z,400nm,14.2s						
KHC	**Kasperske Hory**	**11.92**	**331**	*e*P		**Pn**	**15 14 52.9 -0.1**
KHC				AMS		AMS	15 20 00.0
	comp=Z,400nm,14.2s						
KHC	**Kasperske Hory**	**11.92**	**331**			**Pn**	**15 14 51.2 -1.9**
DAVOX	**Davos/Dischmat**	**12.01**	**314**	LR		LR	15 20 47.9
	comp=Z,186nm,18.6s,slow=44						
MMAI	**Mount Meron Ar**	**12.10**	**116**	Pn		**Pn**	**15 14 56.5 +0.8**
	comp=Z,0.5nm,0.3s,baz=295,slow=14,SNR=3.7						
MMAI				LR		LR	15 20 39.1
	comp=Z,108nm,18.1s,baz=280,slow=43						
DPC	**Dobruska-Polom**	**12.12**	**341**	AMS		AMS	15 20 20.0
	comp=Z,400nm,12.4s						
TUE	**Stuetta**	**12.14**	**312**	Pn		**Pn**	**15 14 54.0 -2.2**
TUE						**Sn**	**15 17 07.6 -3.5**
PRU	**Pruhonice**	**12.31**	**336**	AMS		AMS	15 20 10.0
	comp=Z,400nm,7.4s						
UPC	**Upice**	**12.34**	**341**	AMS		AMS	15 20 30.0
	comp=Z,400nm,11.7s						
AKASG	**Malin Array Be**	**12.63**	**20**	Pn		**Pn**	**15 15 02.8 +0.2**
	comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=3.0						
SENIN	**Lac Senin/Sane**	**13.30**	**308**	Pn		**Pn**	**15 15 11.9 -0.2**
SENIN						**Sn**	**15 17 40.1 +0.5**
SOC	**Sochi**	**13.78**	**65**	*e*P		**Pn**	**15 15 17.2 -1.2**
SOC				*e*			15 17 52.9
SOC				MLR		MLR	
	comp=Z,45nm,11.0s						
EIL	**Elat**	**13.93**	**128**	Pn		**Pn**	**15 15 20.9 +0.4**
	comp=Z,0.5nm,0.3s,baz=330,slow=10,SNR=4.8						
EIL				Sn		**Sn**	**15 17 51.0 -3.7**
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=2.3						
KIV	**Kislovodsk**	**15.96**	**66**	*e*P		**P**	**15 15 50.9 -0.3**
KIV				pmax		pmax	
	comp=Z,16nm,1.0s						
VSR	**Storozhevoye**	**16.93**	**39**	*e*P		**Pn**	**15 16 00.7 +0.9**
VSR				pmax		pmax	
	comp=Z,4.0nm,0.5s						
LPSR	**Galich'ya Gora**	**17.74**	**35**	*e*P		**Pn**	**15 16 08.8 -1.1**
LPSR				pmax		pmax	
	comp=Z,9.0nm,0.5s						
VRH	**Novokhopyorsk**	**18.21**	**42**	*e*P		**Pn**	**15 16 14.1 -1.5**
VRH				pmax		pmax	
	comp=Z,10.0nm,1.6s						
OBN	**Obninsk**	**18.70**	**26**	*e*P		**P**	**15 16 21.2 0.0**
OBN				pmax		pmax	
	comp=Z,9.0nm,1.0s						
AKT	**Akhty**	**19.46**	**75**	*i*P		**Pn**	**15 16 30.8 -0.3**
VSU	**Vasula**	**19.65**	**7**	*i*P		**Pn**	**15 16 33.3 +0.3**
VSU				pmax		pmax	
	comp=Z,47nm,1.1s						
ESDC	**Sonseca Array**	**20.39**	**280**	P		**P**	**15 16 40.3 +0.4**
	comp=Z,2.2nm,0.6s,baz=73,slow=11,SNR=15						
HFS	**Hagfors**	**21.83**	**348**	P		**P**	**15 16 53.9 -1.3**
	comp=Z,2.2nm,0.5s,baz=156,slow=11,SNR=18						
HFS				LR		LR	15 26 56.0
	comp=Z,59nm,20.2s,baz=68,slow=41						
FINES	**FINESS Array B**	**22.56**	**5**	P		**P**	**15 17 01.1 -1.8**
	comp=Z,2.4nm,0.6s,baz=176,slow=12,SNR=13						
NB2	**NORSAR Subarra**	**23.11**	**346**	P		**P**	**15 17 08.4 -0.4**
	comp=Z,1.4nm,0.6s,baz=157,slow=11						
NOA	**NORSAR Array B**	**23.11**	**346**	P		**P**	**15 17 08.5 -0.4**
	comp=Z,0.5nm,0.4s,baz=159,slow=9.7,SNR=14						
EKA	**Eskdalemuir Ar**	**23.63**	**322**	P		**P**	**15 17 13.1 -0.8**
	comp=Z,18nm,0.8s,baz=120,slow=9.4,SNR=35						
ESK	**Eskdalemuir**	**23.64**	**322**	P		**P**	**15 17 13.5 -0.6**
ESK				pmax		pmax	
	comp=Z,34nm,1.0s						
ESK	**Eskdalemuir**	**23.64**	**322**	P		**P**	**15 17 13.5 -0.6**
ESK				IAmb		IAmb	15 17 15.6
	comp=Z,34nm,0.9s						
KLMR	**Klimovskoe**	**24.32**	**20**	*e*P		**P**	**15 17 19.8 -0.5**
KLMR				pmax		pmax	
	comp=Z,25nm,1.3s						
KLMR	**Klimovskoe**	**24.32**	**20**	*e*P		**P**	**15 17 19.9 -0.4**
KLMR				AMP			15 17 26.2
	comp=Z,25nm,1.3s						
ARU	**Arti**	**29.44**	**42**	LR		LR	15 31 44.4
	comp=Z,37nm,18.7s,baz=216,slow=40						
ARCES	**ARCESS Array B**	**30.61**	**2**	P		**P**	**15 18 15.5 -1.2**
	comp=Z,3.1nm,0.7s,baz=195,slow=8.6,SNR=13						
ARCES				LR		LR	15 31 57.6
	comp=Z,136nm,18.3s,baz=118,slow=39						
WSAR	**Wadi Sarin**	**34.51**	**106**	LR		LR	15 34 58.8
	comp=Z,46nm,21.2s,baz=106,slow=40						
KK31	**Karatay Array**	**36.10**	**68**	P		**P**	**15 19 06.7 +1.9**
KK31				pmax		pmax	
	comp=Z,2.0nm,1.0s						
KK31	**Karatay Array**	**36.10**	**68**	P		**P**	**15 19 06.7 +1.9**
KK31				IAmb		IAmb	15 19 16.2
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**36.10**	**68**	P		**P**	**15 19 04.9 +0.1**
KKAR							15 19 06.6
KKAR	**Karatay Array**	**36.10**	**68**	P		**P**	**15 19 04.9 +0.1**
KKAR	**Karatay Array**	**36.10**	**68**	P		**P**	**15 19 06.6 +1.8**
KKAR				IAmb		IAmb	15 19 16.2
	comp=Z,2.0nm,0.9s						
GAR	**Garm**	**36.88**	**74**	P		**P**	**15 19 13.7 +2.1**
GAR				IAmb		IAmb	15 19 24.7
	comp=Z,5.3nm,0.7s						
MK31	**Makanchi Array**	**43.60**	**60**	P		**P**	**15 20 06.3 -0.7**
MK31		

HAGD IAMB IAmb 15 25 08.2
comp=Z,0.0nm,0.7s
ZNJK Zanjan 3.34 48 *e*Pn **Pb 15 24 20.7 -2.4**
ZNJK Zanjan 3.34 48 *e*Pn **Pb 15 24 20.7 -2.4**
IBST Bostanabad 3.40 18 *e*Pn **Pb 15 24 20.3 -3.6**
IBST IAMB IAmb 15 25 23.9
comp=Z,1μm,0.6s
NSR Nassriya 3.48 172 *e*Pn **Pn 15 24 19.0 +1.0**
NSR AML AML 15 24 25.4
comp=Z,856nm,0.3s
NSR *e*Sn **Sn 15 25 00.0 +0.3**
QABG Abgarm-Qazvin 3.50 68 *e*Pn **Pb 15 24 22.6 -3.1**
QABG IAMB IAmb 15 25 29.9
comp=Z,0.0nm,0.8s
SHGR Shooshtar-Gavs 3.57 130 *e*Pn **Pn 15 24 22.2 +2.9**
SHGR Shooshtar-Gavs 3.57 130 *e*S **Sn 15 25 04.0 +1.9**
SHGR Shooshtar-Gavs 3.57 130 *e*Pn **Pn 15 24 22.2 +2.9**
SHGR *e*AML AML 15 25 06.9
comp=Z,141nm,0.2s
SHGR *e*AML AML 15 25 08.2
comp=Z,184nm,0.2s
IRAZ Razeghan 3.68 74 *e*Pn **Pb 15 24 25.8 -3.0**
IRAZ IAMB IAmb 15 25 39.2
comp=Z,2μm,0.6s
KHMZ Khomeyn 3.69 100 *e*Pn **Pn 15 24 24.9 +3.7**
KHMZ Khomeyn 3.69 100 *e*Pn **Pn 15 24 24.9 +3.7**
ITBZ Tabriz 3.79 7 *e*Pn **Pn 15 24 25.9 +3.4**
ITBZ IAMB IAmb 15 25 35.6
comp=Z,1μm,0.6s
IGZV Ghazvin 4.23 62 *e*Pn **Pn 15 24 31.9 +3.2**
IGZV IAMB IAmb 15 25 52.4
comp=Z,2μm,0.8s
IQOM Qom 4.53 84 *e*Pn **Pn 15 24 35.7 +2.9**
IQOM IAMB IAmb 15 24 55.3
comp=Z,0.0nm,0.5s
QALM Alamut, Qazvin 4.57 63 *e*Pn Pn 15 24 38.1 +4.8
QALM IAMB IAmb 15 26 10.4
comp=Z,0.0nm,1.0s
RTB Rutbah 4.63 253 *e*Pn **Pn 15 24 35.0 +1.0**
RTB AML AML 15 24 39.6
comp=Z,77nm,0.3s
RTB *e*Sn **Sn 15 25 27.0 -1.3**
GHVR GHOM 4.71 88 *e*Pn **Pn 15 24 38.3 +3.2**
GHVR GHOM 4.71 88 *e*Pn **Pn 15 24 38.3 +3.2**
CHTH Charan 4.75 71 *e*Pn **Pn 15 24 39.9 +4.1**
CHTH Charan 4.75 71 *e*Pn **Pn 15 24 39.9 +4.1**
IHSB Hasanabad 4.77 77 *e*Pn **Pn 15 24 39.8 +3.9**
IPIR Pirpir 4.77 110 *e*Pn **Pn 15 24 38.1 +2.1**
IPIR IAMB IAmb 15 25 39.7
comp=Z,2μm,0.7s
JHBN Jahan bin 4.79 116 *e*Pn **Pn 15 24 37.7 +1.3**
JHBN IAMB IAmb 15 25 37.8
comp=Z,0.0nm,0.3s
QAM Ghamsar 4.90 97 *e*Pn **Pn 15 24 41.1 +3.3**
ZNGN Zangian 4.99 117 *e*Pn **Pn 15 24 40.7 +1.6**
ZNGN IAMB IAmb 15 25 47.9
comp=Z,0.0nm,0.5s
IVRN Varamin 5.08 82 *e*Pn **Pn 15 24 43.0 +2.9**
IVRN IAMB IAmb 15 25 07.7
comp=Z,0.0nm,0.7s
IKLH Kolahrood 5.11 101 *e*Pn **Pn 15 24 43.7 +3.0**
IKLH IAMB IAmb 15 25 51.4
comp=Z,790nm,0.6s
IBRJ Brojen 5.39 117 *e*Pn **Pn 15 24 45.6 +1.0**
IBRJ IAMB IAmb 15 25 51.3
comp=Z,568nm,0.3s
IDMV Damavand 5.40 76 *e*Pn **Pn 15 24 47.8 +3.1**
KRSH Karshahi 5.44 93 *e*Pn **Pn 15 24 48.3 +3.1**
GNI Garni 5.71 353 Pn **Pn 15 24 46.5 -2.4**
GNI **Pg 15 25 08.4 -4.0**
IGAR Gharneh 5.77 109 *e*Pn **Pn 15 24 51.8 +2.0**
IGAR IAMB IAmb 15 24 53.6
comp=Z,886nm,0.3s
IZEF Zefreh 5.83 104 *e*Pn **Pn 15 24 53.0 +2.4**
IFIR Firoozkooh 5.99 77 *e*Pn **Pn 15 24 56.4 +3.6**
ILAS Lasjerd 6.12 79 *e*Pn **Pn 15 24 57.5 +2.9**
IRAM Ramesheh 6.28 113 *e*Pn **Pn 15 24 57.5 +0.7**
KARS Kars 6.47 343 Pn **Pn 15 24 55.6 -3.7**
IKAZ Kazeroun 7.06 130 *e*Pn **Pn 15 25 09.1 +1.5**
TBLG Delisi 7.29 355 Pn **Pn 15 25 10.8 +0.4**
ASF Jabal al Asfar 7.63 255 Pn **Pn 15 25 14.9 -0.3**
comp=Z,0.6nm,0.3s,baz=41,slow=18,SNR=3.7
ASF Lg Lg 15 27 24.4
comp=Z,0.5nm,0.3s,baz=53,slow=20,SNR=2.8
KSHT Keshet 8.28 262 Pn **Pn 15 25 25.3 +1.2**
NATI Neve Ativ 8.29 264 Pn **Pn 15 25 24.6 +0.5**
KSDI Kefar Szold 8.36 264 Pn **Pn 15 25 25.6 +0.4**
MMAI Mount Meron Ar 8.61 263 Pn **Pn 15 25 29.1 +0.5**
comp=Z,0.4nm,0.3s,baz=78,slow=13,SNR=3.1
MMAI Sn **Sn 15 27 08.9 +2.6**
comp=Z,0.9nm,0.3s,baz=67,slow=22,SNR=3.2
MMAI Lg Lg 15 27 55.9
comp=Z,1.1nm,0.3s,baz=73,slow=33,SNR=3.4
MMAI LR LR 15 29 33.4
comp=Z,121nm,18.4s,baz=55,slow=43
HMDT Nahal Hemdat 8.71 258 Pn **Pn 15 25 31.1 +1.2**
MMLI Mount Malkishu 8.74 259 Pn **Pn 15 25 31.1 +0.8**
HNTI Hanita 8.78 264 Pn **Pn 15 25 32.2 +1.3**
OFRI `Ofer 9.04 261 Pn **Pn 15 25 35.4 +0.9**
PRNI Paran 9.84 248 Pn **Pn 15 25 46.4 +0.9**
HRFI Mount Harif 9.97 247 Pn **Pn 15 25 48.3 +1.1**
MBRI Mt Berech 10.18 246 Pn **Pn 15 25 51.3 +1.1**
EIL Elat 10.21 245 Pn **Pn 15 25 50.3 -0.3**
EIL Elat 10.21 245 Pn **Pn 15 25 50.6 +0.1**
comp=Z,0.5nm,0.3s,baz=120,slow=5.9,SNR=5.0
EIL Lg Lg 15 28 46.2
comp=Z,0.4nm,0.3s,baz=103,slow=19,SNR=3.2
EIL LR LR 15 30 45.0
comp=Z,86nm,19.7s,baz=50,slow=44
GEYT Alibeck 10.69 68 Pn **Pn 15 26 00.7 +3.6**
comp=Z,0.3nm,0.3s,baz=270,slow=14,SNR=2.8
GEYT LR LR 15 30 39.0
comp=Z,88nm,18.9s,baz=190,slow=40
GEYT Alibeck 10.69 68 **Pn 15 25 55.5 -1.6**
BRTR Keskin Array B 10.89 302 Pn Pn 15 26 05.6 +5.7
comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=3.1
BRTR Keskin Array B 10.89 302 Pn **Pn 15 25 59.0 -1.0**
BANOM Banah 12.57 130 *i* P **Pn 15 26 21.5 -1.3**
SNR=23
BANOM Banah 12.57 130 P **Pn 15 26 21.6 -1.3**
BANOM S **Sn 15 28 36.0 -7.5**
ASUD Al Ashush, Dub 12.95 137 P **Pn 15 26 26.2 -1.8**
MDH Madha 13.02 132 *i* P **Pn 15 26 27.4 -1.5**
SNR=8.2
MDH Madha 13.02 132 P **Pn 15 26 28.2 -0.8**
SNR=8.3
MDH S **Sn 15 28 46.3 -8.1**
UOSS Minazif 13.22 133 P **Pn 15 26 29.6 -2.1**
UOSS Minazif 13.22 133 P **Pn 15 26 30.8 -0.9**
SNR=12
UOSS Minazif 13.22 133 Pn **Pn 15 26 31.1 -0.6**
HATD Hatta, Dubai 13.27 134 P **Pn 15 26 31.6 -0.8**
HATD S Sn 15 28 50.6 -10
HATD Hatta, Dubai 13.27 134 P **Pn 15 26 31.3 -1.0**
HATD S Sn 15 28 51.3 -9.2
ASHO Ashiyiah 13.33 134 *i* P **Pn 15 26 32.1 -1.1**
SNR=40
ASHO Ashiyiah 13.33 134 P **Pn 15 26 32.1 -1.1**
SNR=40
ASHO S Sn 15 28 53.3 -8.8
ARQ Araqi 14.63 136 P **Pn 15 26 49.4 -1.7**
SNR=15
ARQ S Sn 15 29 24.7 -9.2
HOQ Hoqain 14.91 134 P **Pn 15 26 54.1 -0.7**
SNR=6.0
BSY Bisya 15.48 136 P **Pn 15 27 00.6 -1.9**
BSY S Sn 15 29 42.4 -12
SMDO Samad 15.74 133 P **Pn 15 27 04.6 -1.3**
SMDO S Sn 15 29 47.9 -13
WSAR Wadi Sarin 15.97 131 P **Pn 15 27 06.1 -2.7**
WSAR S Sn 15 29 53.5 -13
WSAR Wadi Sarin 15.97 131 Pn **Pn 15 27 05.8 -3.0**
comp=Z,1.4nm,0.3s,baz=332,slow=9.2,SNR=16
JMDO Jabal Madar 16.30 134 P **Pn 15 27 11.5 -1.5**
WBK Wadi Bani Khal 16.64 132 P **Pn 15 27 15.5 -1.8**
SNR=8.2
ALN Alexandroupoli 16.74 298 P **P 15 27 19.9 -0.9**
JLN Jalan Bani Buh 17.25 132 P **Pn 15 27 23.5 -1.6**
WHFO Wadi Hawf 18.02 154 P **Pn 15 27 32.1 -2.6**
WHFO S Sn 15 30 38.7 -18
ABKAR Akbulak array 18.19 31 P **P 15 27 38.0 +1.2**
ABKAR Akbulak array 18.19 31 P **P 15 27 38.2 +1.4**
ABKAR IAmb IAmb 15 27 47.2
comp=Z,2.7nm,0.7s

AKTO Aktyubinsk 18.36 26 P **P 15 27 40.3 +1.6**
comp=Z,0.2nm,0.3s,baz=224,slow=12,SNR=9.7
ABTO Aybut 18.38 156 P **Pn 15 27 34.8 -4.3**
ABTO S Sn 15 30 49.0 -16
RBK Rabkut 18.57 153 P **P 15 27 37.3 -3.9**
RBK S Sn 15 30 54.5 -15
MLR Muntele Rosu 18.60 312 P **Pn 15 27 43.8 +2.1**
comp=Z,0.2nm,0.3s,baz=146,slow=15,SNR=2.0
MLR Muntele Rosu 18.60 312 P **Pn 15 27 42.4 +0.6**
MLR IAmb IAmb 15 27 46.8
comp=Z,5.5nm,1.4s
DMTO DMTO 18.66 151 P **P 15 27 40.0 -2.1**
DMTO S Sn 15 30 54.5 -17
SHAO Shalim 18.66 149 *i* P **P 15 27 40.1 -2.1**
SNR=11
ITM Ithomi 19.37 285 P **P 15 27 48.5 -1.4**
AKASG Malin Array Be 20.14 329 P Pn 15 28 00.6 +0.7
comp=Z,0.5nm,0.4s,baz=140,slow=10.0,SNR=2.2
AKASG Malin Array Be 20.14 329 P **P 15 27 57.9 -0.2**
KKAR Karatay Array 21.19 59 P **P 15 28 10.3 +0.6**
NIL Nilore 22.91 84 P **P 15 28 26.4 -1.7**
SOCY Socotra 23.46 159 P **P 15 28 30.2 -3.7**
BRVK Borovoye 25.54 36 P **P 15 28 54.5 +1.6**
BVAR Borovoye Array 25.57 36 P **P 15 28 54.7 +1.5**
comp=Z,3.9nm,0.7s,baz=240,slow=7.4,SNR=15
MORC Moravsky Berou 25.63 315 P **P 15 28 53.2 -0.5**
MORC IAmb IAmb 15 29 09.6
comp=Z,3.1nm,1.1s
KURBB Kurchatov Arra 28.84 46 P **P 15 29 24.9 +2.4**
comp=Z,3.9nm,0.7s,baz=253,slow=9.1,SNR=20
FINES FINESS Array B 29.75 341 P **P 15 29 30.4 0.0**
comp=Z,0.7nm,0.4s,baz=148,slow=11,SNR=4.8
MK31 Makanchi Array 30.18 55 P **P 15 29 36.3 +1.9**
MK31 IAmb IAmb 15 29 38.8
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 30.18 55 P **P 15 29 36.5 +2.1**
comp=Z,1.3nm,0.7s,baz=252,slow=11,SNR=12
MKAR Makanchi Array 30.18 55 P **P 15 29 35.5 +1.1**
HFS Hagfors 32.99 331 P **P 15 29 59.3 +0.3**
baz=141,slow=7.3
DANN Dangsing 33.00 90 *e*P **P 15 30 01.0 +1.2**
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 33.62 42 P **P 15 30 05.7 +1.1**
comp=Z,1.0nm,0.3s,baz=252,slow=8.6,SNR=4.1
GKN Gorkha 33.85 90 *e*P **P 15 30 07.5 +0.5**
comp=Z,10nm,0.3s
DMN Daman 34.38 90 *e*P **P 15 30 12.7 +1.0**
KKN Kakani 34.45 90 *e*P **P 15 30 13.2 +0.8**
comp=Z,8.5nm,0.6s
NOA NORSAR Array B 34.51 331 P **P 15 30 12.4 +0.1**
comp=Z,0.5nm,0.8s,baz=119,slow=9.2,SNR=3.3
PKIN Phulchoki 34.63 90 *e*P **P 15 30 14.1 +0.2**
comp=Z,9.5nm,0.8s
PKI Pulchoki 34.64 90 *e*P **P 15 30 14.9 +0.8**
comp=Z,8.6nm,0.5s
GUN Gumba 34.91 90 *e*P **P 15 30 17.4 +1.0**
comp=Z,22nm,0.8s
JIRN Jiri 35.25 90 *e*P **P 15 30 20.3 +0.9**
comp=Z,30nm,0.6s
RAMN Ramite 35.85 91 *e*P **P 15 30 24.8 +0.3**
comp=Z,21nm,0.6s
TAPN Taplejung 36.62 89 *e*P **P 15 30 32.2 +1.1**
comp=Z,11nm,0.5s
ARCES ARCESS Array B 36.85 348 P **P 15 30 32.9 +0.7**
comp=Z,2.2nm,0.9s,baz=90,slow=2.4,SNR=4.1
NRIK Noril'sk 41.87 21 P **P 15 31 16.2 +2.2**
comp=Z,2.1nm,0.6s,baz=213,slow=7.8,SNR=4.4
TORD Torodi Ar. Bea 44.99 253 P **P 15 31 39.6 -0.3**
comp=Z,1.1nm,0.8s,baz=44,slow=7.9,SNR=5.2
TORD Torodi Ar. Bea 44.99 253 IAmb IAmb 15 31 46.5
comp=Z,1.5nm,1.1s
SONM Songino Array 46.54 54 P **P 15 31 53.5 +1.5**
comp=Z,0.4nm,0.4s,baz=267,slow=7.9,SNR=3.5
SONM Songino Array 46.54 54 IAmb IAmb 15 31 55.2
comp=Z,0.4nm,0.9s
CMAR Chiang Mai Arr 49.80 94 P **P 15 32 17.1 -0.3**
comp=Z,2.2nm,0.6s,baz=292,slow=8.4,SNR=14
KSRS Korea Array 64.60 61 P **P 15 34 02.5 +0.7**
comp=Z,1.2nm,0.6s,baz=288,slow=6.7,SNR=8.3
USRK Ussuriysk Ar. 64.61 53 P **P 15 34 01.6 -0.2**
comp=Z,1.8nm,0.7s,baz=297,slow=9.1,SNR=7.3
SCHQ Schefferville 73.91 326 LR LR 16 07 13.3
comp=Z,153nm,21.7s,baz=43,slow=36
ILAR Eielson Array 80.61 5 P **P 15 35 37.4 +0.7**
comp=Z,0.4nm,0.7s,baz=331,slow=5.4,SNR=3.4
ULM Lac du Bonnet 89.03 336 LR LR 16 18 15.7
comp=Z,150nm,19.9s,baz=91,slow=37

JMA ***22*** *15:26:25.9±0.1,24°.35N×122°.61E,h80km±1km,M3.3*
ISCJB ***22*** *15:26:26.1±0.3,24°.40N±0°.02×122°.65E±0°.01,h75km±3km,*
Error ellipse: s-maj=3.0km s-min=1.8km az=170.2
TAP ***22*** *15:26:26.0,24°.38N×122°.66E,h81km,ML3.8,C*
ISC 22 15:26:26.4±1.2,24°.38N±0°.03×122°.65E±0°.02,h76km±6km,
n124,σ1§02/221,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**76**	P	**Pn**	**15 26 38.4**	**+0.3**
JYNG				S	**Sn**	**15 26 47.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.34**	**76**	*e*P	**Pn**	**15 26 38.8**	**+0.3**
	baz=70						
YOJ				*e*S	**Sn**	**15 26 47.4**	**0.0**
	baz=70						
YOJ	**Yonaguni jima**	**0.34**	**76**	P	**Pn**	**15 26 38.8**	**+0.3**
YOJ				S	**Sn**	**15 26 47.7**	**+0.2**
EOS1	**EOS1**	**0.50**	**290**	P	**Pn**	**15 26 40.2**	**+0.5**
	baz=297						
EOS1				*e*S	**Sn**	**15 26 50.8**	**+1.2**
	baz=297						
TWC	**Suao**	**0.76**	**288**	P	**Pn**	**15 26 42.5**	**+0.1**
	baz=293						
TWC				*e*S	**Sn**	**15 26 54.0**	**-0.3**
	baz=293						
EGS	**Suao**	**0.80**	**306**	*e*P	**Pn**	**15 26 43.0**	**+0.2**
	baz=306						
EGS				*e*S	**Sn**	**15 26 54.7**	**-0.3**
	baz=306						
NANB	**Nanao**	**0.82**	**273**	*e*P	**Pn**	**15 26 43.0**	**-0.1**
	baz=273						
NANB				*e*S	**Sn**	**15 26 55.8**	**+0.3**
	baz=273						
ENA	**Nanau**	**0.83**	**273**	*e*P	**Pn**	**15 26 43.2**	**0.0**
	baz=273						
ENA				*e*S	**Sn**	**15 26 56.0**	**+0.3**
	baz=273						
TWB1	**Santiao Chiao**	**0.86**	**316**	*e*P	**Pn**	**15 26 43.8**	**+0.2**
	baz=323						
TWB1				*e*S	**Sn**	**15 26 55.8**	**-0.7**
	baz=323						
NTC	**Toucheng**	**0.88**	**303**	*e*P	**Pn**	**15 26 44.0**	**+0.3**
	baz=303						
NTC				*e*S	**Sn**	**15 26 56.2**	**-0.5**
	baz=303						
ILA	**Ilan**	**0.90**	**295**	*e*S	**Sn**	**15 26 57.5**	**+0.3**
	baz=295						
TIPB	**Shuangxi**	**0.95**	**308**	*e*P	**Pn**	**15 26 44.7**	**+0.1**
	baz=314						
TIPB				*e*S	**Sn**	**15 26 57.8**	**-0.5**
	baz=314						
TWE	**Neicheng**	**0.95**	**291**	P	**Pn**	**15 26 44.9**	**+0.3**
	baz=296						
TWE				*e*S	**Sn**	**15 26 58.4**	**+0.1**
	baz=296						
NACB	**Ninganchiao**	**0.98**	**258**	*e*P	**Pn**	**15 26 44.6**	**-0.4**
	baz=258						
NACB				*e*S	**Sn**	**15 26 58.0**	**-0.8**
	baz=258						
IRIF	**Iriomote-Funau**	**0.99**	**92**	P	**Pn**	**15 26 45.3**	**+0.2**
IRIF				S	**Sn**	**15 26 59.3**	**+0.3**
SLBB	**Yuanshan**	**0.99**	**292**	P	**Pn**	**15 26 44.8**	**-0.4**
	baz=298						
SLBB				*e*S	**Sn**	**15 26 58.4**	**-0.8**
	baz=298						
TWD	**Chiawan**	**1.00**	**253**	P	**Pn**	**15 26 44.9**	**-0.4**
	baz=253						
TWD				*e*S	**Sn**	**15 26 58.4**	**-0.9**
	baz=253						
ENTT	**Nioudou**	**1.02**	**285**	P	**Pn**	**15 26 46.1**	**+0.7**
	baz=291						
ENTT				*e*S	**Sn**	**15 27 00.4**	**+0.7**
	baz=291						
HWA	**Hwalien**	**1.03**	**247**	*e*P	**Pn**	**15 26 45.6**	**0.0**
	baz=247						
NWF	**Wu-fen Shan**	**1.04**	**311**	P	**Pn**	**15 26 46.2**	**+0.3**
	baz=311						
NWF				*e*S	**Sn**	**15 27 00.2**	**-0.2**
	baz=311						
WFSB	**Wu-fen Shan**	**1.04**	**311**	*e*P	**Pn**	**15 26 46.1**	**+0.4**
	baz=311						
WFSB				*e*S	**Sn**	**15 26 59.8**	**-0.5**
	baz=311						
NDT	**Datong Townshi**	**1.05**	**282**	*e*P	**Pn**	**15 26 46.6**	**+0.7**
	baz=288						
NDT				*e*S	**Sn**	**15 27 01.1**	**+0.6**
	baz=288						
ENLB	**Shoufeng**	**1.07**	**244**	*e*P	**Pn**	**15 26 45.0**	**-1.0**
	baz=239						
ENLB				*e*S	**Sn**	**15 26 59.5**	**-1.2**
	baz=239						
ETLH	**Xiulin Townshi**	**1.08**	**261**	*e*P	**Pn**	**15 26 46.0**	**-0.2**
	baz=256						
ETLH				*e*S	**Sn**	**15 27 00.6**	**-0.5**
	baz=256						
HATJ	**Hateruma jima**	**1.11**	**107**	P	**Pn**	**15 26 47.3**	**+0.8**
HATJ				*e*S	**Sn**	**15 27 03.0**	**+1.4**
NWLT	**Wulai**	**1.11**	**291**	*e*P	**Pn**	**15 26 46.9**	**+0.2**
	baz=295						
NWLT				*e*S	**Sn**	**15 27 01.4**	**-0.5**
	baz=295						
NNSB	**Datong**	**1.15**	**273**	*e*P	**Pn**	**15 26 47.3**	**+0.1**
	baz=273						
NNSB				*e*S	**Sn**	**15 27 02.0**	**-0.8**
	baz=273						
NNS	**Nan Shan**	**1.16**	**273**	P	**Pn**	**15 26 47.4**	**+0.1**
	baz=273						
NNS				*e*S	**Sn**	**15 27 02.6**	**-0.4**
	baz=273						
NHDH	**Xindian Distri**	**1.17**	**300**	*e*P	**Pn**	**15 26 47.7**	**+0.3**
	baz=300						
NHDH				*e*S	**Sn**	**15 27 02.5**	**-0.5**
	baz=300						
YHNB	**Yeheng**	**1.19**	**284**	*e*P	**Pn**	**15 26 48.2**	**+0.5**
	baz=285						
YHNB				*e*S	**Sn**	**15 27 03.4**	**-0.2**
	baz=285						
TATO	**Taipei**	**1.21**	**300**	*e*P	**Pn**	**15 26 47.8**	**0.0**
	baz=300						
TATO				*e*S	**Sn**	**15 27 02.9**	**-1.0**
	baz=300						
TAP	**Taipei**	**1.23**	**303**	*e*S	**Sn**	**15 27 03.8**	**-0.5**
	baz=303						
YM01	**YM01**	**1.24**	**308**	*e*P	**Pn**	**15 26 48.3**	**+0.1**
	baz=300						
YM01				*e*S	**Sn**	**15 27 04.1**	**-0.6**
	baz=300						
ESL	**Shilin**	**1.24**	**243**	P	**Pn**	**15 26 47.7**	**-0.6**
	baz=250						
ESL				*e*S	**Sn**	**15 27 03.4**	**-1.4**
	baz=250						
YM11	**YM11**	**1.25**	**309**	*e*P	**Pn**	**15 26 48.0**	**-0.4**
	baz=302						
YM11				*e*S	**Sn**	**15 27 04.2**	**-0.7**
	baz=302						
YM08	**YM08**	**1.25**	**310**	*e*P	**Pn**	**15 26 48.3**	**-0.1**
	baz=303						
YM08				*e*S	**Sn**	**15 27 03.9**	**-1.0**
	baz=303						
YM10	**YM10**	**1.25**	**308**	*e*P	**Pn**	**15 26 48.5**	**+0.1**
	baz=299						
YM10				*e*S	**Sn**	**15 27 04.3**	**-0.6**
	baz=299						
JKRS	**Kuro-shima**	**1.25**	**96**	P	**Pn**	**15 26 48.7**	**+0.3**
JKRS				S	**Sn**	**15 27 05.7**	**+0.8**
YM05	**YM05**	**1.25**	**309**	*e*P	**Pn**	**15 26 48.3**	**-0.1**
	baz=301						
YM05				*e*S	**Sn**	**15 27 04.1**	**-0.9**
	baz=301						
YM04	**YM04**	**1.27**	**308**	*e*P	**Pn**	**15 26 48.6**	**0.0**
	baz=299						
YM04				*e*S	**Sn**	**15 27 04.4**	**-0.9**
	baz=299						
WHF	**Hehuan Shan**	**1.28**	**260**	P	**Pn**	**15 26 49.0**	**-0.2**
	baz=252						
WHF				*e*S	**Sn**	**15 27 05.5**	**-0.7**
	baz=252						
ANP	**Anpu**	**1.30**	**308**	*e*P	**Pn**	**15 26 49.0**	**0.0**
	baz=299						
TWY	**Chenhua**	**1.30**	**313**	*e*P	**Pn**	**15 26 49.6**	**+0.6**
	baz=307						
TWY				*e*S	**Sn**	**15 27 05.6**	**-0.4**
	baz=307						
EGFH	**Guangfu**	**1.32**	**238**	*e*P	**Pn**	**15 26 48.9**	**-0.4**
	baz=233						
EGFH				*e*S	**Sn**	**15 27 05.8**	**-0.6**
	baz=233						
TWS1	**Kuangyinshan**	**1.33**	**303**	P	**Pn**	**15 26 49.7**	**+0.4**
	baz=303						
TWS1				*e*S	**Sn**	**15 27 06.2**	**-0.4**
	baz=303						
NTST	**Danshui**	**1.34**	**306**	*e*P	**Pn**	**15 26 49.8**	**+0.4**
	baz=306						
NTST				*e*S	**Sn**	**15 27 06.4**	**-0.4**
	baz=306						
WLTB	**Daxi**	**1.35**	**291**	*e*P	**Pn**	**15 26 50.5**	**+0.9**
	baz=281						
WLTB				*e*S	**Sn**	**15 27 08.1**	**+0.9**
	baz=281						
TDCB	**Techi**	**1.36**	**265**	*e*P	**Pn**	**15 26 50.6**	**+0.7**
	baz=265						
TDCB				*e*S	**Sn**	**15 27 07.4**	**-0.2**
	baz=265						
JIJ	**Ishigaki jima**	**1.37**	**90**	P	**Pn**	**15 26 49.7**	**-0.1**
JIJ				S	**Sn**	**15 27 06.7**	**-0.8**
CHGB	**Renai**	**1.38**	**257**	*e*P	**Pn**	**15 26 50.4**	**+0.2**
	baz=250						
CHGB				*e*S	**Sn**	**15 27 07.6**	**-0.6**
	baz=250						
OWD	**Renai**	**1.41**	**253**	*e*S	**Sn**	**15 27 07.9**	**-0.8**
	baz=253						
HGSD	**Ruisui**	**1.43**	**232**	*e*P	**Pn**	**15 26 50.0**	**-0.6**
	baz=228						
HGSD				*e*S	**Sn**	**15 27 07.9**	**-1.0**
	baz=228						
NCU	**National Centr**	**1.45**	**294**	*e*S	**Sn**	**15 27 09.8**	**+0.4**
	baz=295						
NCUH	**Zhongli**	**1.45**	**294**	*e*P	**Pn**	**15 26 50.8**	**-0.1**
	baz=294						
EHY	**Hungye**	**1.49**	**235**	P	**Pn**	**15 26 50.9**	**-0.6**
	baz=234						
EHY				*e*S	**Sn**	**15 27 08.8**	**-1.6**
	baz=234						
LIOB	**Emei**	**1.51**	**280**	*e*P	**Pn**	**15 26 52.5**	**+0.8**
	baz=291						
LIOB				*e*S	**Sn**	**15 27 11.4**	**+0.6**
	baz=291						
VWDT	**VWDT**	**1.51**	**246**	*e*P	**Pn**	**15 26 52.0**	**+0.3**
	baz=239						
VWDT				*e*S	**Sn**	**15 27 10.2**	**-0.6**
	baz=239						
NSTT	**Nanjuang**	**1.52**	**280**	*e*P	**Pn**	**15 26 52.5**	**+0.6**
	baz=291						
NSTT				*e*S	**Sn**	**15 27 11.4**	**+0.4**
	baz=291						
JISG	**Ishigakijimahi**	**1.53**	**82**	P	**Pn**	**15 26 51.9**	**-0.1**
JISG				*e*S	**Sn**	**15 27 10.5**	**-0.8**
WHP	**Taichung City**	**1.55**	**267**	*e*P	**Pn**	**15 26 53.7**	**+1.3**
	baz=263						
WHP				*e*S	**Sn**	**15 27 12.8**	**+0.8**
	baz=263						
SBCB	**Hsinchu**	**1.56**	**285**	*e*S	**Sn**	**15 27 13.0**	**+0.9**
	baz=286						
YULB	**Yu-li**	**1.58**	**232**	*e*P	**Pn**	**15 26 52.1**	**-0.5**
	baz=241						
YULB				*e*S	**Sn**	**15 27 10.8**	**-1.7**
	baz=241						
HSN	**Hsinchu**	**1.58**	**286**	*e*S	**Sn**	**15 27 12.3**	**-0.2**
	baz=288						
TWF1	**Yuli**	**1.60**	**231**	P	**Pn**	**15 26 52.6**	**-0.4**
	baz=240						
TWF1				*e*S	**Sn**	**15 27 11.7**	**-1.4**
	baz=240						
DPDB	**Guoxing**	**1.61**	**258**	*e*P	**Pn**	**15 26 53.9**	**+0.8**
	baz=255						
DPDB				*e*S	**Sn**	**15 27 13.6**	**+0.4**
	baz=255						
SSLB	**Suanglung**	**1.66**	**249**	*e*P	**Pn**	**15 26 53.8**	**+0.2**
	baz=253						
SSLB				*e*S	**Sn**	**15 27 13.6**	**-0.7**
	baz=253						
NMLH	**Miaoli**	**1.70**	**276**	*e*P	**Pn**	**15 26 55.2**	**+1.0**
	baz=276						
NMLH				*e*S	**Sn**	**15 27 16.2**	**+0.9**
	baz=276						
TWQ1	**Liyutan**	**1.71**	**269**	*e*P	**Pn**	**15 26 55.3**	**+1.0**

baz=280
TWQ1 eS Sn 15 27 16.1 +0.6
baz=280
FULB Fuli 1.71 227 eP Pn 15 26 53.6 -0.7
baz=221
FULB eS Sn 15 27 14.2 -1.3
baz=221
CHKT Chengkung 1.73 223 eS Sn 15 27 13.2 -2.9
baz=219
PTSB Yuanli 1.77 272 eP Pn 15 26 56.0 +0.9
baz=284
PTSB eS Sn 15 27 17.0 0.0
baz=284
WHYT Xinyi Township 1.77 248 eP Pn 15 26 56.3 +1.0
baz=251
WHYT eS Sn 15 27 18.0 +0.9
baz=251
YUS Yu-Shan 1.79 241 P Pn 15 26 56.2 +0.4
baz=234
YUS eS Sn 15 27 16.6 -1.4
baz=234
TCU Taichung 1.81 263 eP Pn 15 26 57.2 +1.5
baz=275
TCU eS Sn 15 27 19.4 +1.5
baz=275
WDJ Dajia District 1.83 269 eP Pn 15 26 57.2 +1.3
baz=280
WDJ eS Sn 15 27 19.8 +1.4
baz=280
WJS Zhushan 1.84 253 eP Pn 15 26 57.9 +1.8
baz=251
WJS eS Sn 15 27 20.2 +1.7
baz=251
WNT Mingjian 1.86 255 eP Pn 15 26 58.0 +1.7
baz=255
WNT eS Sn 15 27 21.0 +1.9
baz=255
JTJ Tarama 1.89 82 P Pn 15 26 56.9 +0.2
JTJ eS Sn 15 27 19.5 -0.3
ELDTW Lidau 1.91 232 P Pn 15 26 56.6 -0.4
baz=227
ELDTW eS Sn 15 27 18.8 -1.6
baz=227
WCHH Zhanghua 1.93 261 eS Sn 15 27 21.4 +0.7
baz=274
CHN5 Tsauling 1.96 247 eP Pn 15 26 58.9 +1.2
baz=240
CHN5 eS Sn 15 27 22.9 +1.3
baz=240
WGK Gukeng 2.03 250 eP Pn 15 27 00.9 +2.3
baz=240
WGK eS Sn 15 27 25.6 +2.6
baz=240
WDLH Douliu 2.05 251 eP Pn 15 27 00.6 +1.8
baz=265
WDLH eS Sn 15 27 25.5 +1.9
baz=265
STYT Tauyuan 2.11 235 eP Pn 15 27 00.7 +1.0
baz=231
STYT eS Sn 15 27 25.5 +0.2
baz=231
TWGBT Beinan 2.12 223 eS Sn 15 27 23.6 -1.7
baz=230
TWG Pinlang 2.12 223 eS Sn 15 27 23.6 -1.8
baz=230
TPUB Ta-pu 2.14 240 eP Pn 15 27 01.1 +1.0
baz=240
TPUB eS Sn 15 27 27.0 +1.3
baz=240
CHN4 Tsaushan 2.14 242 P Pn 15 27 01.7 +1.6
baz=235
CHN4 eS Sn 15 27 27.4 +1.6
baz=235
RLNB Erlin 2.15 257 eP Pn 15 27 01.1 +0.9
baz=258
RLNB eS Sn 15 27 27.0 +1.1
baz=258
CHN2 Minshiung 2.16 247 eS Sn 15 27 29.1 +2.9
baz=237
WTP Ta-pu 2.18 239 eP Pn 15 27 01.9 +1.3
baz=239
WTP eS Sn 15 27 28.3 +1.5
baz=239
CHY Chiayi 2.21 247 eS Sn 15 27 29.3 +1.8
baz=237
WTCT Ta-ch'eng 2.22 257 eP Pn 15 27 01.8 +0.6
baz=258
WTCT eS Sn 15 27 28.1 +0.4
baz=258
CHN1 Nanshi 2.28 239 eP Pn 15 27 02.9 +1.0
baz=239
CHN1 eS Sn 15 27 30.0 +0.9
baz=239
SNST Tainan City 2.28 240 eP Pn 15 27 03.6 +1.6
baz=240
SNST eS Sn 15 27 31.3 +2.1
baz=240
SGST Jiashian 2.29 236 eP Pn 15 27 03.0 +0.9
baz=242
SGST eS Sn 15 27 30.3 +0.9
baz=242
SLGT Liugui 2.29 233 eP Pn 15 27 03.7 +1.5
baz=227
SLGT eS Sn 15 27 31.2 +1.6
baz=227
WLGB Puzi 2.33 248 eS Sn 15 27 33.1 +2.8
baz=236
WSF Szhu 2.34 252 eP Pn 15 27 03.6 +0.9
baz=263
WSF eS Sn 15 27 31.7 +1.2
baz=263
JIRB Irabujima 2.34 79 P Pn 15 27 02.7 -0.1
JIRB S Sn 15 27 30.3 -0.4
ECL Taimali 2.36 221 eP Pn 15 27 02.1 -0.9
baz=221
ECL eS Sn 15 27 27.8 -3.3
baz=221
JIKM Ikemajima 2.43 77 P Pn 15 27 04.4 +0.5
JIKM eS Sn 15 27 32.1 -0.6
JMJ Miyako jima 2 2.45 79 eP Pn 15 27 05.1 +0.9
baz=79
JMJ eS Sn 15 27 32.6 -0.6
baz=79
CHN8 Yiju 2.46 246 eP Pn 15 27 05.4 +1.1
baz=236
CHN8 eS Sn 15 27 35.3 +2.0
baz=236
SSD Sandimen 2.46 229 eP Pn 15 27 05.2 +0.8
baz=227
SSD eS Sn 15 27 34.9 +1.3
baz=227
JMJ2 Miyako jima3 2.47 81 P Pn 15 27 04.9 +0.4
JMJ2 S Sn 15 27 33.6 -0.1
LAY Lan-yu 2.54 204 eS Sn 15 27 33.0 -2.5
baz=197
JOGS Gusukube 2.54 81 P Pn 15 27 06.1 +0.6
JOGS eS Sn 15 27 35.4 -0.1
SCLT Jiali 2.55 242 eS Sn 15 27 37.1 +1.5
baz=242
MASBT Mashibuluo 2.55 227 eP Pn 15 27 06.3 +0.6
baz=226
MASBT eS Sn 15 27 36.7 +1.0
baz=226
EAST Anshuo 2.59 220 eP Pn 15 27 05.3 -0.9
baz=219
SCZT Fangliau 2.73 223 eP Pn 15 27 10.4 +2.4
baz=222
PTTC Pingtan 2.84 294 eP Pn 15 27 09.1 -0.4
baz=295
PTTC eS Sn 15 27 40.1 -2.5
baz=295
PNG Penghu 2.94 255 eP Pn 15 27 10.5 -0.4
baz=255
PNG eS Sn 15 27 43.1 -2.0
baz=255
PHUB P'eng-hu 2.94 254 eP Pn 15 27 10.5 -0.4
baz=265
PHUB eS Sn 15 27 43.3 -1.9
baz=265
WDGT Dungji 2.95 248 eP Pn 15 27 11.3 +0.2
baz=247
TWKBT Hengchun 2.96 215 eP Pn 15 27 12.2 +1.1
baz=214
TWKBT eS Sn 15 27 45.7 +0.1
baz=214
VWUC VWUC 2.97 282 eP Pn 15 27 10.8 -0.5
baz=282
MATB Ma-tsu 3.01 306 eP Pn 15 27 11.7 -0.1
baz=305
VCHM Qimei 3.17 249 eS Sn 15 27 49.6 -1.0
baz=248
PTMZ Houxiangcun 3.27 282 eP Pn 15 27 14.9 -0.4
baz=282
LYJJ Jianjiangzhen 3.39 310 eP Pn 15 27 16.2 -0.7
baz=310
LYJJ eS Sn 15 27 54.9 -1.1
baz=310
AXDP Jialang 4.29 278 eP Pn 15 27 29.1 0.0
baz=278
ZPLA Ao Xicun 4.49 265 eP Pn 15 27 31.4 -0.6
baz=265

BJI ***22*** *15:27:39.9±0.0, 4°.79S×154°.37E, h121km, mb5.5/69, mB5.3/43*
ISCJB ***22*** *15:27:40.6±0.6, 5°.09S±0°.02×153°.90E±0°.02, h119km±5km, mb5.5/127, Error ellipse: s-maj=4.4km s-min=3.6km az=140.3*
IDC ***22*** *15:27:41.7±0.7, 5°.10S×153°.96E, h119km±6km, mb4.9/33, mb1 4.9/38, mb1mx4.9/45, mbtmp5.3/38, MS3.7/11, Ms1 3.7/11, ms1mx3.4/40, Error ellipse: s-maj=10.6km s-min=8.4km az=67.0*
MOS ***22*** *15:27:41.4±0.8, 5°.03S×153°.94E, h127km, mb5.2/38, Error ellipse: s-maj=8.7km s-min=6.0km az=113.8*
GCMT ***22*** *15:27:41.7±0.2, 5°.12S±0°.01×153°.90E±0°.01, h109km±1km, MW5.2/109, Moment Tensor Solution. s78,c102; s109,c164; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.47±.14; Mθθ=0.29±.16; Mφφ=2.76±.16; Mrθ=3.25±.11; Mrφ=-5.20±.17; Mθφ=-3.38±.10; Best double couple: M0=7.39100×10^16 NP1:φs=1.00000°, δ68.00000°, λ=-35.00000°. NP2:φs=106.00000°, δ58.00000°, λ=-153.00000°. Principal axes: T 6.7340, Plg6.0000°, Azm56.0000°; N 1.3170, Plg50.0000°, Azm153.0000°; P -8.0480, Plg40.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***22*** *15:27:42.7±2.1, 5°.11S±0°.08×153°.91E±0°.07, h124km±5km, mb5.2/103*
DJA ***22*** *15:27:42.1±0.6, 5°.5S±3°.×15°.4E±°, h123km±5km, M5.2/72, mb5.5/72, mB5.7/54, MLv5.5/1, Mw(mB)5.2/54, Mwp7.3/1*
ISC 22 15:27:41.6±0.5,**5°.12S**±0°.04×**153°.95E**±0°.04,**h116**km±3km, **h116**km:**pP-P, n451**,σ1º**21**/491,**mb5.3**/158,**12C-12D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.08**	**293**	P	**Pn**	**15 28 15.0**	**-0.9**
	1μm,0.3s,baz=130,slow=0.8,SNR=282						
KRVT				S	**Sn**	**15 28 39.9**	**-2.1**
	4μm,0.3s,baz=143,slow=20,SNR=17						
MANU	**Manus Island**	**7.24**	**295**		**Pn**	**15 29 25.0**	**+0.1**
HNR	**Honiara**	**7.33**	**126**	P	**Pn**	**15 29 26.6**	**+0.5**
HNR						15 30 48.6	
HNR	**Honiara**	**7.33**	**126**	P	**Pn**	**15 29 26.0**	**-0.1**
	28nm,0.3s,baz=232,slow=2.8,SNR=18						
HNR				S	**Sn**	**15 30 48.6**	**+0.7**
	110nm,0.3s,baz=354,slow=19,SNR=4.1						
HNR				LR	LR	15 32 34.8	
	comp=Z,1μm,18.2s,baz=298,slow=40						
HNR	**Honiara**	**7.33**	**126**	P	**Pn**	**15 29 26.0**	**-0.1**
HNR				eS	Sn	15 30 59.0	+11
HNR	**Honiara**	**7.33**	**126**		**Pn**	**15 29 26.6**	**+0.5**
PMG	**Port Moresby**	**7.96**	**237**	P	**Pn**	**15 29 36.9**	**+2.2**
PMG						15 31 03.9	
PMG	**Port Moresby**	**7.96**	**237**	P	**Pn**	**15 29 35.9**	**+1.2**
	186nm,0.3s,baz=57,slow=6.4,SNR=357						
PMG				S	**Sn**	**15 31 03.9**	**+0.8**
	15nm,0.3s,baz=330,slow=20,SNR=1.6						
PMG	**Port Moresby**	**7.96**	**237**		**Pn**	**15 29 36.9**	**+2.2**
PATS	**Pohnpei**	**12.65**	**20**	P	**Pn**	**15 30 35.8**	**-1.7**
	baz=13,SNR=18						
PATS	**Pohnpei**	**12.65**	**20**		**Pn**	**15 30 36.2**	**-1.3**
JAY	**Jayapura**	**13.46**	**281**	P	**Pn**	**15 30 49.9**	**+1.8**
	16nm,0.3s,baz=99,slow=3.9,SNR=59						
JAY	**Jayapura**	**13.46**	**281**	P	**Pn**	**15 30 47.9**	**-0.2**
COEN	**Coen**	**13.78**	**230**	P	**Pn**	**15 30 51.5**	**-0.7**
	baz=14,SNR=49						
COEN	**Coen**	**13.78**	**230**		**Pn**	**15 30 54.1**	**+1.9**
MMPI	**Merauke**	**13.87**	**255**	P	**P**	**15 31 01.5**	**+3.8**
SMPI	**Sarmi**	**15.52**	**281**	P	**Pn**	**15 31 15.1**	**+0.9**
MTSU	**Mount Surprise**	**16.00**	**215**	P	**Pn**	**15 31 20.3**	**+0.2**
	baz=16,SNR=120						
CTA	**Charters Tower**	**16.66**	**206**	P	**P**	**15 31 29.9**	**+1.2**
	3.7nm,0.3s,baz=28,slow=14,SNR=93						
SRPI	**Serui, Papua**	**17.96**	**280**	P	**P**	**15 31 43.2**	**+0.1**
BAKI	**Biak**	**18.23**	**282**	P	**P**	**15 31 46.6**	**+0.6**
TARA	**Tarawa**	**20.02**	**72**	P	Pn	15 32 07.2	-1.1
TARA				IAmb	IAmb	15 32 13.7	
	comp=Z,260nm,1.1s						
RKPI	**Ransiki, Papua**	**20.05**	**280**	P	**P**	**15 32 07.1**	**+1.2**
EIDS	**Eidsvold**	**20.32**	**187**	P	**P**	**15 32 09.5**	**+0.9**
	baz=20,SNR=19						
EIDS	**Eidsvold**	**20.32**	**187**	P	**P**	**15 32 09.5**	**+0.9**
EIDS				IAmb	IAmb	15 32 14.5	
	comp=Z,78nm,1.0s						
GUMO	**Guam**	**20.66**	**334**	P	**P**	**15 32 12.5**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,538nm,0.9s						
GUMO	**Guam**	**20.66**	**334**	P	**P**	**15 32 12.3**	**+0.1**
	comp=Z,512nm,0.7s,baz=179,slow=9.9,SNR=19						
GUMO				LR	LR	15 39 56.6	
	comp=Z,54nm,20.4s,baz=121,slow=36						
GUMO	**Guam**	**20.66**	**334**	P	**P**	**15 32 12.5**	**+0.3**
QIS	**Mount Isa**	**20.73**	**221**	P	**P**	**15 32 13.6**	**+0.5**
	baz=21,SNR=100						
DZM	**Mont Dzumac**	**20.75**	**145**	eP	**P**	**15 32 13.0**	**-0.3**
	comp=Z,84nm,0.9s						
DZM	**Mont Dzumac**	**20.75**	**145**	P	**P**	**15 32 12.6**	**-0.7**
	comp=Z,30nm,0.6s,baz=268,slow=6.8,SNR=56						
DZM	**Mont Dzumac**	**20.75**	**145**	P	**P**	**15 32 13.1**	**-0.2**
FAKI	**Fak Fak**	**21.75**	**275**	P	**P**	**15 32 23.4**	**-0.7**
FAKI	**Fak Fak**	**21.75**	**275**	P	**P**	**15 32 23.1**	**-0.9**
FAKI				IAmb	IAmb	15 32 26.4	
	comp=Z,87nm,1.0s						
RMQ	**Roma**	**21.82**	**193**	P	**P**	**15 32 25.3**	**+0.6**
	baz=22,SNR=72						
KDU	**Kakadu**	**22.49**	**249**	P	**P**	**15 32 31.0**	**-0.7**
	baz=23,SNR=28						
SAUI	**Saumlaki**	**22.67**	**262**	P	**P**	**15 32 33.6**	**+0.1**
SAUI	**Saumlaki**	**22.67**	**262**	P	**P**	**15 32 34.3**	**+0.8**
ANA2	**Anatahan**	**22.82**	**339**	P	**P**	**15 32 34.2**	**-0.7**
SIJI	**Sorong**	**23.03**	**280**	P	**P**	**15 32 36.0**	**-1.0**
	comp=Z,48nm,0.5s,baz=148,slow=8.5,SNR=36						
PALU	**Palau**	**23.04**	**302**	P	**P**	**15 32 36.9**	**-0.1**
	baz=23,SNR=13						
SWI	**Sorong**	**23.04**	**280**	P	**P**	**15 32 36.7**	**-0.3**
SARN	**Sarigan**	**23.13**	**340**	P	**P**	**15 32 36.7**	**-1.2**
SARN				IAmb	IAmb	15 32 40.1	
	comp=Z,92nm,0.6s						
QLP	**Quilpie**	**23.27**	**202**	P	**P**	**15 32 39.1**	**0.0**
	baz=23,SNR=92						
MTN	**Manton Dam**	**23.79**	**250**	P	**P**	**15 32 44.0**	**+0.1**
	baz=24,SNR=30						
MTN	**Manton Dam**	**23.79**	**250**	P	**P**	**15 32 43.8**	**0.0**
MTN				IAmb	IAmb	15 32 45.5	
	comp=Z,82nm,0.9s						
BNDI	**Bandanaira**	**23.96**	**270**	P	**P**	**15 32 45.0**	**-0.4**
WRAB	**Tennant Creek**	**24.09**	**231**	P	**P**	**15 32 46.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,60nm,0.6s						
WRAB	**Tennant Creek**	**24.09**	**231**	P	**P**	**15 32 46.7**	**+0.1**
WRAB				IAmb	IAmb	15 32 47.9	
	comp=Z,60nm,0.6s						
WB2	**Warramunga Arr**	**24.10**	**231**	P	**P**	**15 32 47.0**	**+0.3**
WB2				IAmb	IAmb	15 32 48.0	
	comp=Z,59nm,0.6s						
WRA	**Warramunga Arr**	**24.11**	**231**	P	**P**	**15 32 46.3**	**-0.4**
WRA	**Warramunga Arr**	**24.11**	**231**	P	**P**	**15 32 46.8**	**+0.1**
	comp=Z,50nm,0.6s,baz=56,slow=10,SNR=342						
WRA				S	**S**	**15 36 54.2**	**-2.0**
	comp=Z,9.3nm,1.2s,baz=52,slow=17,SNR=5.0						
WRA				ScP	**ScP**	**15 39 53.0**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=56,slow=3.2,SNR=5.3						
WRA				LR	LR	15 42 46.0	
	comp=Z,210nm,18.3s,baz=70,slow=38						
WRA	**Warramunga Arr**	**24.11**	**231**	P	**P**	**15 32 46.3**	**-0.4**
MSAI	**Masohi**	**25.01**	**273**	P	**P**	**15 32 59.9**	**+4.9**
ARMA	**Armidale**	**25.26**	**185**	P	**P**	**15 32 57.7**	**+0.5**
	baz=25,SNR=26						
ARMA	**Armidale**	**25.26**	**185**	P	**P**	**15 32 57.2**	**0.0**
AAI	**Ambon**	**25.71**	**272**	P	**P**	**15 33 00.6**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**26.62**	**28**	T	T	16 01 42.3	
	baz=208,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**26.62**	**28**	T	T	16 01 43.5	
	baz=208,slow=76,SNR=157						
H11S1	**WAKE ISLAND Hy**	**26.63**	**28**	T	T	16 01 44.4	
	baz=208,slow=76,SNR=95						
MSVF	**Nonsavu**	**26.70**	**120**	P	**P**	**15 33 11.3**	**+1.0**
MSVF				pmax	pmax		
	comp=Z,23nm,1.2s						
MSVF	**Nonsavu**	**26.70**	**120**	P	**P**	**15 33 11.3**	**+1.0**
AS31	**Alice Springs**	**26.70**	**224**	P	**P**	**15 33 10.1**	**-0.1**
ASAR	**Alice Springs**	**26.70**	**224**	P	**P**	**15 33 09.3**	**-0.9**
ASAR	**Alice Springs**	**26.70**	**224**	P	**P**	**15 33 10.1**	**-0.2**
	comp=Z,11nm,0.6s,baz=54,slow=8.8,SNR=226						
ASAR				ScP	**ScP**	**15 40 00.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=55,slow=2.8,SNR=5.0						
ASAR				LR	LR	15 43 03.0	
	comp=Z,186nm,20.5s,baz=66,slow=34						
ASAR	**Alice Springs**	**26.70**	**224**	P	**P**	**15 33 09.3**	**-0.9**
LBMI	**Labuha**	**26.78**	**279**	P	P	15 33 02.5	-8.4
NLAI	**Namlea**	**26.84**	**273**	P	**P**	**15 33 09.9**	**-1.6**
KNRA	**Kununurra**	**26.86**	**245**	P	**P**	**15 33 11.9**	**+0.3**
	baz=27,SNR=34						
KNRA	**Kununurra**	**26.86**	**245**	P	**P**	**15 33 11.6**	**-0.1**
KNRA				IAmb	IAmb	15 33 21.3	
	comp=Z,34nm,0.6s						
TNTI	**Ternate**	**27.18**	**282**	P	**P**	**15 33 12.5**	**-2.1**
CMSA	**Cobar Meteorol**	**27.40**	**195**	P	**P**	**15 33 15.9**	**-0.4**
	baz=28,SNR=54						
SANI	**Sanana**	**28.06**	**275**	P	**P**	**15 33 22.0**	**-0.4**
STKA	**Stephens Creek**	**29.03**	**202**	P	**P**	**15 33 30.2**	**-0.5**
	baz=29,SNR=38						
STKA	**Stephens Creek**	**29.03**	**202**	P	**P**	**15 33 29.0**	**-1.8**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
STKA	**Stephens Creek**	**29.03**	**202**	P	**P**	**15 33 30.3**	**-0.5**
	comp=Z,9.7nm,0.5s,baz=3.6,slow=7.5,SNR=36						
STKA				LR	LR	15 45 06.4	
	comp=Z,297nm,18.7s,baz=12,slow=36						
STKA	**Stephens Creek**	**29.03**	**202**	P	**P**	**15 33 28.9**	**-1.8**
SOEI	**Soe**	**29.78**	**259**	P	**P**	**15 33 40.1**	**+2.4**
SOEI	**Soe**	**29.78**	**259**	P	**P**	**15 33 38.6**	**+0.9**
SOEI				IAmb	IAmb	15 33 49.5	
	comp=Z,57nm,0.9s						
BATI	**Baumata**	**30.42**	**259**	P	**P**	**15 33 44.2**	**+0.9**
	comp=Z,68nm,0.7s,baz=118,slow=2.9,SNR=11						
BATI				LR	LR	15 49 03.6	
	comp=Z,210nm,20.4s,baz=66,slow=42						
BATI	**Baumata**	**30.42**	**259**	P	**P**	**15 33 43.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**30.52**	**243**	P	**P**	**15 33 43.3**	**-0.7**
	baz=31,SNR=78						
FITZ	**Fitzroy Crossi**	**30.52**	**243**	P	**P**	**15 33 43.8**	**-0.3**
FITZ				IAmb	IAmb	15 33 44.7	
	comp=Z,41nm,0.6s						
KCP	**Kidapawan**	**31.21**	**292**	↑iP	**P**	**15 33 51.2**	**+0.9**
LUWI	**Luwuk**	**31.38**	**276**	P	**P**	**15 33 51.9**	**+0.1**
HTT	**Hallett**	**31.45**	**205**	P	**P**	**15 33 52.2**	**0.0**
	baz=32,SNR=9.4						
WRKA	**Warakurna**	**31.59**	**229**	P	**P**	**15 33 52.6**	**-0.9**
	baz=32,SNR=155						
MMRI	**Maumere**	**31.66**	**262**	P	**P**	**15 33 53.5**	**-0.7**
MMRI				IAmb	IAmb	15 33 54.7	
	comp=Z,89nm,1.0s						
CTBH	**Cotabato--PC H**	**32.07**	**292**	↓iP	**P**	**15 33 57.6**	**-0.2**
BBOO	**Buckleboo**	**32.21**	**209**	P	**P**	**15 33 58.2**	**-0.6**
	baz=32,SNR=15						
BBOO	**Buckleboo**	**32.21**	**209**	P	**P**	**15 33 58.1**	**-0.7**
ARPS	**Mount Arapiles**	**33.40**	**198**	P	**P**	**15 34 09.5**	**+0.4**
	baz=34,SNR=9.6						
BNSI	**Bone**	**33.73**	**270**	P	**P**	**15 34 12.6**	**+0.4**
JCJ	**Chichijima**	**33.98**	**341**	P	**P**	**15 34 11.3**	**-3.0**
	comp=Z,156nm,0.5s,baz=192,slow=14,SNR=19						
KAPI	**Kappang**	**34.06**	**269**	P	**P**	**15 34 15.3**	**+0.2**
	SNR=13						
KAPI				P	**P**	**15 34 15.3**	**+0.2**
	SNR=13						
KAPI	**Kappang**	**34.06**	**269**	P	**P**	**15 34 14.5**	**-0.6**
KAPI				pmax	pmax		
	comp=Z,70nm,0.9s						
KAPI	**Kappang**	**34.06**	**269**	P	**P**	**15 34 15.0**	**-0.1**
	comp=Z,65nm,0.9s,baz=109,slow=4.0,SNR=38						
KAPI	**Kappang**	**34.06**	**269**	P	**P**	**15 34 14.5**	**-0.6**
KAPI				IAmb	IAmb	15 34 16.3	
	comp=Z,70nm,0.8s						
WBSI	**Waikabubak, Su**	**34.55**	**260**	P	**P**	**15 34 19.2**	**-0.2**
PLAI	**Plampang**	**36.08**	**262**	P	**P**	**15 34 30.8**	**-1.7**
MBWA	**Marble Bar**	**36.81**	**241**	P	**P**	**15 34 36.9**	**-1.6**
MBWA				P	**P**	**15 34 36.9**	**-1.6**
PSA00	**Pilbara Seismi**	**36.86**	**240**	P	**P**	**15 34 38.2**	**-0.8**
PSA00				IAmb	IAmb	15 34 39.3	
	comp=Z,32nm,0.8s						
TWSI	**Taliwang, Sumb**	**36.95**	**262**	P	**P**	**15 34 39.5**	**-0.4**
SMKI	**Samarinda**	**36.97**	**276**	P	**P**	**15 34 43.0**	**+2.9**
TGY	**Tagaytay City**	**37.91**	**301**	P	**P**	**15 34 48.8**	**+0.8**
	comp=Z,177nm,0.7s,baz=145,slow=22,SNR=6.0						
HAZ	**Te Kaha**	**39.09**	**149**	P	**P**	**15 34 58.7**	**+1.3**
WTVZ	**West Tongariro**	**39.11**	**153**	P	**P**	**15 35 00.4**	**+2.6**
URZ	**Urewera**	**39.14**	**151**	P	**P**	**15 34 58.2**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=278,slow=4.6,SNR=9.1						
URZ	**Urewera**	**39.14**	**151**	P	**P**	**15 34 59.7**	**+1.8**
URZ	**Urewera**	**39.14**	**151**	P	**P**	**15 35 00.1**	**+2.1**
RUGZ	**Raukumara Rang**	**39.20**	**150**	P	**P**	**15 34 59.3**	**+0.7**
KKM	**Kota Kinabalu**	**39.27**	**286**	P	**P**	**15 34 58.5**	**-0.9**
KKM				IAmb	IAmb	15 35 00.5	
	comp=Z,102nm,1.1s						
PKGZ	**Pakihiroa**	**39.34**	**149**	P	**P**	**15 35 00.3**	**+0.7**
MWZ	**Matawai**	**39.41**	**150**	P	**P**	**15 35 00.9**	**+0.7**
WMGZ	**Waiomatatini S**	**39.46**	**149**	P	**P**	**15 35 01.0**	**+0.4**
BKZ	**Black Stump Fm**	**39.57**	**152**	P	**P**	**15 35 01.4**	**-0.1**
JAGI	**Jajag, Banyuwa**	**39.64**	**263**	P	**P**	**15 35 01.6**	**-0.8**
JAGI	**Jajag, Banyuwa**	**39.64**	**263**	P	**P**	**15 35 01.4**	**-1.0**
JAGI				IAmb	IAmb	15 35 02.2	
	comp=Z,53nm,1.1s						
RAHZ	**Arahi**	**39.65**	**151**	P	**P**	**15 35 03.7**	**+1.5**
TKGZ	**Te Karaka**	**39.65**	**150**	P	**P**	**15 35 03.0**	**+0.9**
SNGZ	**Shannon Statio**	**39.66**	**151**	P	**P**	**15 35 02.8**	**+0.5**
RIGZ	**Rimuhau**	**39.81**	**150**	P	**P**	**15 35 04.5**	**+1.0**
KMBL	**Kambalda**	**39.83**	**225**	P	**P**	**15 35 03.5**	**-0.2**
	baz=40,SNR=22						
CNGZ	**Carnagh Statio**	**39.86**	**150**	P	**P**	**15 35 04.4**	**+0.5**
ARHZ	**Aropaoanui**	**39.88**	**152**	P	**P**	**15 35 04.4**	**+0.3**
MCHZ	**McNeill Hill**	**39.88**	**152**	P	**P**	**15 35 04.6**	**+0.5**
MEEK	**Meekatharra**	**39.93**	**234**	P	**P**	**15 35 04.6**	**-0.1**
	baz=40,SNR=21						
THZ	**Tophouse**	**40.22**	**158**	P	**P**	**15 35 06.5**	**-0.4**
JOW	**Kunigami**	**40.32**	**323**	P	**P**	**15 35 08.8**	**+1.0**
	comp=Z,7.1nm,0.4s,baz=148,slow=12,SNR=34						
JOW	**Kunigami**	**40.32**	**323**	P	**P**	**15 35 08.8**	**+1.0**
LTZ	**Lake Taylor**	**40.88**	**159**	P	**P**	**15 35 12.4**	**+0.1**
RPZ	**Rata Peaks**	**41.30**	**161**	P	**P**	**15 35 15.2**	**-0.4**
	comp=Z,22nm,0.7s,baz=294,slow=1.3,SNR=16						
YOJ	**Yonaguni jima**	**42.09**	**316**	P	**P**	**15 35 23.5**	**+1.2**
YOJ	**Yonaguni jima**	**42.09**	**316**	P	**P**	**15 35 23.5**	**+1.2**
YULB	**Yu-li**	**42.64**	**313**	P	**P**	**15 35 27.1**	**+0.2**
YULB				IAmb	IAmb	15 35 29.3	
	comp=Z,76nm,0.7s						
STKI	**Sintang**	**42.72**	**276**	P	**P**	**15 35 28.7**	**+1.0**
	comp=Z,108nm,1.1s,comp=Z,14μm						
WOJI	**Wonogiri, Jawa**	**42.82**	**264**	P	**P**	**15 35 28.5**	**+0.1**
	comp=Z,47nm,1.5s						
NACB	**Ninganchiao**	**42.91**	**314**	P	**P**	**15 35 29.7**	**+0.7**
KLBR	**Kellerberrin**	**42.93**	**228**	P	**P**	**15 35 28.5**	**-0.6**
	baz=43,SNR=13						
MORW	**Morawa**	**43.04**	**232**	P	**P**	**15 35 29.6**	**-0.4**
	baz=43,SNR=12						
MORW	**Morawa**	**43.04**	**232**	P	**P**	**15 35 30.1**	**+0.1**
MORW				IAmb	IAmb	15 35 31.3	
	comp=Z,21nm,0.7s						
TPUB	**Ta-pu**	**43.08**	**312**	P	**P**	**15 35 30.5**	**+0.1**
SMRI	**Semarang**	**43.29**	**265**	P	**P**	**15 35 33.3**	**+1.0**
	comp=Z,101nm,0.9s						
YHNB	**Yeheng**	**43.37**	**315**	P	**P**	**15 35 33.9**	**+1.1**
TATO	**Taipei**	**43.48**	**315**	P	**P**	**15 35 34.2**	**+0.6**
JNU	**Nakatsue**	**43.88**	**332**	P	**P**	**15 35 36.3**	**-0.4**
	comp=Z,134nm,0.8s,baz=138,slow=2.1,SNR=100						
JNU	**Nakatsue**	**43.88**	**332**	P	**P**	**15 35 36.6**	**-0.1**
MJAR	**Matsushiro Arr**	**43.98**	**342**	P	**P**	**15 35 36.6**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MJAR	**Matsushiro Arr**	**43.98**	**342**	P	**P**	**15 35 35.6**	**-1.8**
	comp=Z,17nm,0.7s,baz=165,slow=6.6,SNR=44						
MJAR				LR	LR	15 50 43.0	
	comp=Z,61nm,21.6s,baz=185,slow=31						
MJAR	**Matsushiro Arr**	**43.98**	**342**	P	**P**	**15 35 36.6**	**-0.8**

MAJO	**Matsushiro**	**43.98 342**	*i* P	**P**	**15 35 36.8**	**-0.6**
MAJO			pmax	pmax		
comp=Z,43nm,1.3s						
MAJO	**Matsushiro**	**43.98 342**	P	**P**	**15 35 35.9**	**-1.5**
MAJO			IAmb	IAmb	15 35 38.3	
comp=Z,26nm,0.5s						
MAT	**Matsushiro**	**43.98 342**	P	**P**	**15 35 36.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**43.99 342**	P	**P**	**15 35 35.9**	**-1.6**
MJB9			IAmb	IAmb	15 35 38.3	
comp=Z,27nm,0.5s						
MUN	**Mundaring**	**44.26 228**	P	**P**	**15 35 40.7**	**+0.9**
baz=44,SNR=5.3						
RKGY	**Rocky Gully**	**45.05 224**	P	**P**	**15 35 45.9**	**0.0**
baz=45,SNR=16						
JCJI	**Jatiwangi**	**45.45 266**	P	**P**	**15 35 50.0**	**+0.6**
comp=Z,316nm,0.6s						
QZH	**Quanzhou**	**45.55 313**	⇓*i* P	**P**	**15 35 50.8**	**+0.8**
QZH			pmax	pmax		
comp=Z,130nm,0.7s						
CISI	**Cisompet, Garu**	**45.90 264**	P	**P**	**15 35 51.9**	**-1.1**
comp=Z,262nm,0.6s,comp=Z,3μm						
CISI	**Cisompet, Garu**	**45.90 264**	P	**P**	**15 35 51.9**	**-1.1**
LEM	**Lembang**	**46.09 265**	P	**P**	**15 35 54.9**	**+0.2**
comp=Z,62nm,0.7s,baz=48,slow=6.8,SNR=6.8						
LEM			LR	LR	15 59 43.6	
comp=Z,109nm,19.9s,baz=82,slow=42						
TPI	**Tanjungpandan**	**46.23 271**	P	**P**	**15 35 56.5**	**+0.9**
comp=Z,93nm,1.1s,comp=Z,952nm						
SKJI	**Sukabumi**	**47.15 265**	P	**P**	**15 36 01.8**	**-0.9**
comp=Z,203nm,0.6s,comp=Z,2μm						
TJN	**Taejon**	**48.20 331**	*ce*P	**P**	**15 36 10.2**	**-0.2**
DLV	**T Lat**	**48.28 291**	P	**P**	**15 36 12.7**	**+1.1**
KSRS	**Korea Array**	**48.80 332**	P	**P**	**15 36 14.8**	**-0.2**
comp=Z,34nm,0.8s,baz=147,slow=8.2,SNR=125						
KSRS			LR	LR	15 55 05.6	
comp=Z,45nm,21.8s,baz=152,slow=34						
KSAR	**Wonju Array Be**	**48.81 332**	P	**P**	**15 36 15.2**	**+0.1**
KSAR	**Wonju Array Be**	**48.81 332**	P	**P**	**15 36 15.2**	**+0.1**
KS19	**Wonju Array Si**	**48.87 332**	P	**P**	**15 36 15.3**	**-0.3**
KS19			IAmb	IAmb	15 36 16.3	
comp=Z,32nm,0.8s						
KLSI		**49.03 268**	P	**P**	**15 36 16.7**	**-0.5**
comp=Z,29nm,1.1s,comp=Z,14μm						
KASI	**Kota Agung**	**49.23 267**	P	**P**	**15 36 16.8**	**-1.9**
comp=Z,190nm,1.1s,comp=Z,1μm						
INCN	**Inchon**	**49.43 331**	P	**P**	**15 36 19.6**	**-0.3**
INCN			pmax	pmax		
comp=Z,160nm,0.8s						
INCN	**Inchon**	**49.43 331**	P	**P**	**15 36 19.6**	**-0.3**
LWLI	**Liwa**	**49.68 268**	P	**P**	**15 36 21.0**	**-1.3**
comp=Z,99nm,0.8s						
TPRI	**Tanjung Pinang**	**49.72 276**	P	**P**	**15 36 23.7**	**+1.2**
comp=Z,125nm,1.2s,comp=Z,2μm						
NJ2	**Nanjing**	**49.81 320**	*e*P	**P**	**15 36 23.8**	**+1.0**
NJ2			pmax	pmax		
comp=Z,37nm,0.7s						
MYKOM	**Kota Tinggi**	**50.51 277**	P	**P**	**15 36 28.7**	**+0.3**
MYKOM			IAmb	IAmb	15 36 29.3	
comp=Z,51nm,0.9s						
MASI	**Maura Aman, Be**	**51.60 270**	P	**P**	**15 36 35.7**	**-0.9**
comp=Z,310nm,0.7s,comp=Z,3μm						
WHN	**Wuhan**	**51.88 316**	⇓*i* P	**P**	**15 36 39.1**	**+0.8**
WHN			pmax	pmax		
comp=Z,130nm,1.0s						
UBPT	**Khong Chiam**	**52.12 294**	P	**P**	**15 36 41.7**	**+1.4**
comp=Z,26nm,1.1s						
UBPT	**Khong Chiam**	**52.12 294**	P	**P**	**15 36 41.2**	**+0.8**
UBPT			IAmb	IAmb	15 36 42.3	
comp=Z,32nm,0.9s						
TEY	**Ternei**	**52.29 345**⇑	*e*P	**P**	**15 36 41.5**	**+0.4**
TEY			pmax	pmax		
comp=N,10.0nm,0.9s						
TEY			pmax	pmax		
comp=Z,30nm,0.9s						
KRJI	**Kerinci**	**52.45 271**	P	**P**	**15 36 42.6**	**-0.4**
comp=Z,347nm,0.9s						
SDSI	**Sungai Dareh**	**52.59 273**	P	**P**	**15 36 43.4**	**-0.5**
comp=Z,327nm,0.7s						
YSS	**Yuzh-Sakhalins**	**52.78 350**	*e*P	**P**	**15 36 44.6**	**-0.1**
YSS			*e*S	**S**	**15 44 00.6**	**-3.5**
YSS			pmax	pmax		
comp=Z,60nm,0.5s						
YSS	**Yuzh-Sakhalins**	**52.78 350**	P	**P**	**15 36 45.2**	**+0.5**
USA0B	**Ussuriysk Arra**	**52.92 340**	P	**P**	**15 36 45.9**	**+0.1**
USA0B			pmax	pmax		
comp=Z,36nm,0.9s						
USA0B	**Ussuriysk Arra**	**52.92 340**	P	**P**	**15 36 45.9**	**+0.1**
USA0B			IAmb	IAmb	15 36 47.9	
comp=Z,36nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.92 340**	P	**P**	**15 36 45.9**	**+0.1**
comp=Z,23nm,0.7s,baz=166,slow=7.5,SNR=57						
DL2	**Dalian**	**53.03 329**	P	**P**	**15 36 46.9**	**+0.2**
DL2			pmax	pmax		
comp=Z,75nm,0.9s						
BKNI	**Bangkinang**	**53.11 274**	P	**P**	**15 36 47.6**	**-0.2**
comp=Z,272nm,0.9s,comp=Z,2μm						
BKNI	**Bangkinang**	**53.11 274**	P	**P**	**15 36 47.2**	**-0.6**
PDSI	**Padang**	**53.55 273**	P	**P**	**15 36 49.2**	**-1.9**
comp=Z,132nm,0.7s,comp=Z,1μm						
TIA	**Tai'an**	**53.65 323**	P	**P**	**15 36 50.9**	**-0.4**
TIA			pmax	pmax		
comp=Z,43nm,0.9s						
IPM	**Ipoh**	**53.71 279**	P	**P**	**15 36 52.0**	**-0.2**
IPM			IAmb	IAmb	15 36 52.4	
comp=Z,46nm,0.7s						
PPSI	**Pulau Pagai**	**53.85 270**	P	**P**	**15 36 52.9**	**-0.2**
comp=Z,124nm,0.6s,comp=Z,1μm						
MDJ	**Mudanjiang**	**54.12 339**	P	**P**	**15 36 54.4**	**-0.2**
MDJ			pP	pP	15 37 21.4	+0.5
MDJ			sP	sP	15 37 36.1	+2.8
MDJ			PcP	**PcP**	**15 37 55.8**	**-2.0**
MDJ			PP	**PP**	**15 38 58.8**	**+1.3**
MDJ			ScP	**ScP**	**15 41 42.4**	**-3.0**
MDJ			PcS	**PcS**	**15 41 54.8**	**-2.4**
MDJ			S	**S**	**15 44 24.8**	**+2.5**
MDJ			ScS	**ScS**	**15 46 32.0**	**-0.5**
MDJ			pmax	pmax		
comp=Z,35nm,1.3s						
MDJ			pmax	pmax		
comp=Z,220nm,5.8s						
MDJ	**Mudanjiang**	**54.12 339**	P	**P**	**15 36 54.0**	**-0.6**
MDJ			IAmb	IAmb	15 36 56.6	
comp=Z,24nm,0.8s						
SISI	**Saibi**	**54.88 272**	P	**P**	**15 36 59.8**	**-0.8**
comp=Z,90nm,0.9s,comp=Z,911nm						
CN2	**Changchun**	**55.06 335**	*e*P	**P**	**15 37 01.0**	**-0.4**
CN2			pmax	pmax		
comp=Z,40nm,1.0s						
NONG	**Nongkai**	**55.14 296**	P	**P**	**15 37 03.1**	**+0.7**
comp=Z,2.3nm,1.0s,comp=Z,176nm						
ENH	**Enshi**	**55.21 312**	P	**P**	**15 37 03.1**	**+0.3**
CHAI	**Chaiyaphum**	**55.49 293**	P	**P**	**15 37 05.2**	**+0.2**
comp=Z,135μm,0.8s						
GYA	**Guiyang**	**55.49 307**	⇓*i* P	**P**	**15 37 05.9**	**+0.9**
GYA			pP	pP	15 37 32.6	+1.3
GYA			sP	sP	15 37 45.3	+1.7
GYA			PP	**PP**	**15 39 14.0**	**+3.8**
GYA			S	**S**	**15 44 45.6**	**+4.0**
GYA			sS	sS	15 45 27.8	-0.5
GYA			pmax	pmax		
comp=Z,40nm,0.8s						
GYA			pmax	pmax		
comp=Z,120nm,5.8s						
GYA			LR	LR		
comp=Z,390nm,17.0s						
GYA			LR	LR		
comp=Z,410nm,17.4s						
GYA			LR	LR		
comp=Z,380nm,17.3s						
RPSI	**Rantau Prapat**	**55.51 277**	P	**P**	**15 37 03.4**	**-1.8**
RPSI			IAmb	IAmb	15 37 06.0	
comp=Z,34nm,1.0s						
PSI	**Prapat**	**55.52 277**	P	**P**	**15 37 03.4**	**-2.0**
PSI			pmax	pmax		
comp=Z,34nm,1.0s						
TRTT	**Trang**	**55.63 283**	P	**P**	**15 37 07.6**	**+1.6**
comp=Z,37nm,1.3s						
PATY	**Pattaya**	**55.69 289**	P	**P**	**15 37 07.4**	**+1.0**
comp=Z,196μm,0.8s						
PPT	**Papeete**	**56.54 108**	P	**P**	**15 37 14.2**	**+1.7**
comp=Z,28nm,0.8s,baz=329,slow=19,SNR=6.3						
PPT2	**Papeete2**	**56.54 108**	*e*P	**P**	**15 37 14.5**	**+2.0**
comp=Z,67nm,1.4s						
PAE	**Paea**	**56.55 108**	*e*P	**P**	**15 37 14.3**	**+1.8**
comp=Z,3.6nm,0.7s						
TYV	**Tymovskoe**	**56.60 351**	*e*P	**P**	**15 37 13.1**	**+0.9**
TYV			*e*S	**S**	**15 44 56.1**	**+1.1**
TYV			pmax	pmax		
comp=Z,109nm,0.7s						
TYV			pmax	pmax		
comp=Z,400nm,3.6s						
TYV			smax	smax		
comp=E,21nm,1.4s						
PBKT	**Sadao Pong**	**56.63 294**	P	**P**	**15 37 14.1**	**+1.1**
comp=E,39nm,1.1s,comp=E,422nm						
PBKT	**Sadao Pong**	**56.63 294**	P	**P**	**15 37 14.4**	**+1.4**
PBKT			IAmb	IAmb	15 37 14.8	
comp=Z,38nm,0.7s						
GSI	**Gunungsitoli**	**56.67 275**	P	**P**	**15 37 12.4**	**-1.0**
comp=Z,93nm,1.0s,comp=Z,868nm						
GSI	**Gunungsitoli**	**56.67 275**	P	**P**	**15 37 12.2**	**-1.2**
SURT	**Suratani**	**56.73 284**	P	**P**	**15 37 14.4**	**+0.6**
comp=Z,66nm,1.1s						
TIAR	**Tiarei**	**56.76 108**	*e*P	**P**	**15 37 16.0**	**+2.0**
comp=Z,20nm,0.8s						
BJI	**Beijing**	**56.79 326**	P	**P**	**15 37 13.4**	**-0.3**
BJI			pP	**pP**	**15 37 38.3**	**-2.0**
BJI			pmax	pmax		
comp=Z,30nm,0.7s						
PHET	**Kaeng Krachan**	**56.85 289**	P	**P**	**15 37 15.9**	**+1.3**
comp=Z,201μm,0.7s						
TVO	**Taravao**	**56.87 108**	*e*P	**P**	**15 37 16.9**	**+2.1**
comp=Z,14nm,0.7s						
TBI	**Tubuai**	**57.39 114**	*e*P	**P**	**15 37 19.8**	**+1.5**
comp=Z,88nm,1.0s						
KLR	**Kul'dur**	**57.48 343**	*d i* P	**P**	**15 37 18.3**	**-0.1**
KLR			pmax	pmax		
comp=Z,95nm,1.3s						
XAN	**Xi'an**	**57.64 316**	P	**P**	**15 37 19.8**	**-0.1**
XAN			pP	pwP	15 37 50.1	-2.3
XAN			PP	**PP**	**15 39 31.0**	**+1.9**
XAN			S	**S**	**15 45 07.6**	**-1.8**
XAN			sS	sS	15 45 59.3	+2.6
XAN			pmax	pmax		
comp=Z,68nm,0.9s						
XAN			pmax	pmax		
comp=Z,270nm,3.9s						
XAN	**Xi'an**	**57.64 316**	P	**P**	**15 37 20.3**	**+0.4**
XAN			pmax	pmax		
comp=Z,48nm,0.7s						
XAN	**Xi'an**	**57.64 316**	P	**P**	**15 37 20.3**	**+0.4**
XAN			IAmb	IAmb	15 37 20.5	
comp=Z,48nm,0.7s						
GRNR	**Gornyy**	**57.68 347**	⇓*i* P	**P**	**15 37 19.8**	**0.0**
GRNR			pmax	pmax		
comp=Z,30nm,1.1s						
SRDT	**SRDT**	**57.70 290**	P	**P**	**15 37 16.6**	**-4.0**
comp=Z,70nm,0.7s,comp=Z,8μm						
UTHA	**Uthaitani**	**57.73 292**	P	**P**	**15 37 21.8**	**+1.0**
comp=Z,252μm,0.7s						
PHRA	**Phrae**	**57.90 295**	P	**P**	**15 37 23.1**	**+1.2**
comp=Z,17nm,1.1s,comp=Z,566nm						
PMOR	**Pomariorio Ree**	**57.96 104**	*e*P	**P**	**15 37 23.9**	**+1.5**
comp=Z,167nm,1.3s						
MEH	**Mehetia**	**58.00 108**	*e*P	**P**	**15 37 24.4**	**+1.7**
comp=Z,29nm,0.9s						
PET	**Petropavlovsk**	**58.06 3**	P	**P**	**15 37 23.0**	**+0.6**
PET			pmax	pmax		
comp=Z,57nm,0.8s						
PET	**Petropavlovsk**	**58.06 3**	P	**P**	**15 37 23.0**	**+0.6**
PEA0B	**Petropavlovsk-**	**58.09 3**	P	**P**	**15 37 23.8**	**+1.1**
PEA0B			pmax	pmax		
comp=Z,51nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.09 3**	P	**P**	**15 37 23.8**	**+1.1**
PETK	**Petropavlovsk-**	**58.09 3**	P	**P**	**15 37 23.9**	**+1.2**
PETK	**Petropavlovsk-**	**58.09 3**	P	**P**	**15 37 23.5**	**+0.9**
comp=Z,57nm,0.7s,baz=160,slow=6.2,SNR=121						
PETK			LR	LR	15 57 20.1	
comp=Z,90nm,22.0s,baz=235,slow=31						
PETK	**Petropavlovsk-**	**58.09 3**	P	**P**	**15 37 23.9**	**+1.2**
KMI	**Kunming**	**58.11 304**	P	**P**	**15 37 25.0**	**+1.4**
KMI			S	**S**	**15 45 21.5**	**+5.3**
KMI			sS	sS	15 46 09.9	+6.4
KMI			SS	**SS**	**15 49 13.1**	**+3.4**
KMI			pmax	pmax		
comp=Z,120nm,1.1s						
KMI			pmax	pmax		
comp=Z,340nm,4.4s						
KMI			LR	LR		
comp=Z,240nm,19.3s						
KMI			LR	LR		
comp=Z,96nm,19.3s						
KMI			LR	LR		
comp=Z,220nm,29.4s						
MLSI	**Meulaboh, Aceh**	**58.23 278**	P	**P**	**15 37 23.0**	**-1.3**
comp=Z,110nm,0.7s						
LAMP	**Lampang**	**58.44 295**	P	**P**	**15 37 27.3**	**+1.6**
comp=Z,206μm,0.8s						
UMPA	**Umpang Tak**	**58.45 292**	P	**P**	**15 37 26.9**	**+1.0**
comp=Z,114μm,1.1s						
CM31	**Chiang Mai Arr**	**59.04 295**	P	**P**	**15 37 31.5**	**+1.5**
SNR=28						
CMAR	**Chiang Mai Arr**	**59.04 295**	P	**P**	**15 37 31.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**59.04 295**	P	**P**	**15 37 31.2**	**+1.3**
comp=Z,58nm,0.8s,baz=114,slow=5.1,SNR=311						
CMAR	**Chiang Mai Arr**	**59.04 295**	P	**P**	**15 37 31.4**	**+1.5**
CMMT	**Chiang Mai**	**59.15 295**	P	**P**	**15 37 31.4**	**+0.7**
comp=Z,35nm,1.3s,comp=Z,377nm						
CHTO	**Chiang Mai**	**59.15 295**	P	**P**	**15 37 31.8**	**+1.1**
SNR=18						
CHTO			P	**P**	**15 37 31.8**	**+1.1**
SNR=18						
CHTO	**Chiang Mai**	**59.15 295**	P	**P**	**15 37 31.2**	**+0.5**
CHTO			pmax	pmax		
comp=Z,36nm,1.0s						
CHTO	**Chiang Mai**	**59.15 295**	P	**P**	**15 37 31.2**	**+0.5**
CHTO			IAmb	IAmb	15 37 32.2	
comp=Z,36nm,0.9s						
CD2	**Chengdu**	**59.81 310**	⇓*i* P	**P**	**15 37 35.9**	**+0.9**
MHMT	**Maesarieng**	**59.88 294**	P	**P**	**15 37 36.7**	**+1.1**
comp=Z,85nm,1.2s,comp=Z,1μm						
HHC	**Hu-ho-hao-te**	**59.97 324**	*e*P	**P**	**15 37 37.3**	**+1.3**
HIA	**Hailar**	**61.79 335**	*i* P	**P**	**15 37 47.7**	**-0.4**
HIA			pmax	pmax		
comp=Z,187nm,0.8s						
KIWB	**Kanaga Island**	**61.88 20**	P	**P**	**15 37 49.5**	**+1.0**
ADK	**Adak**	**62.06 20**	P	**P**	**15 37 50.7**	**+0.9**
ADK			pmax	pmax		
comp=Z,46nm,0.8s						
ADK	**Adak**	**62.06 20**	P	**P**	**15 37 50.7**	**+0.9**
ADK			IAmb	IAmb	15 37 52.7	
comp=Z,46nm,0.8s						
LZH	**Lanzhou**	**62.25 315**	⇓P	**P**	**15 37 53.0**	**+1.4**
LZH			pP	pP	15 38 21.3	+2.8
LZH			sP	sP	15 38 34.3	+3.6
LZH			S	**S**	**15 46 09.3**	**+0.5**
LZH			sS	sS	15 46 59.3	+2.2
LZH			pmax	pmax		
comp=Z,87nm,1.1s						
LZH			pmax	pmax		
comp=Z,210nm,4.2s						
ZEA	**Zeya**	**62.78 343**	*e*P	**P**	**15 37 54.2**	**-0.3**
ZEA			pmax	pmax		
comp=N,65nm,1.2s						
ZEA			pmax	pmax		
comp=Z,90nm,1.0s						
MA2	**Magadan**	**64.54 358**	*ce*P	**P**	**15 38 05.6**	**-0.4**
MA2			pmax	pmax		
comp=Z,65nm,0.7s						
MA2	**Magadan**	**64.54 358**	P	**P**	**15 38 06.1**	**+0.2**
LKP	**Lekhapani**	**64.67 303**	*e*P	**P**	**15 38 07.5**	**0.0**
KOHI	**KOHIMA**	**65.59 301**	*e*P	**P**	**15 38 13.0**	**-0.7**
JORH	**JORHAT**	**65.81 302**	*e*P	**P**	**15 38 15.2**	**+0.5**
GTA	**Gaotai**	**66.67 317**	⇓P	**P**	**15 38 21.3**	**+1.1**
GTA			pP	pwP	15 38 52.1	-1.2
GTA			sP	sP	15 39 06.3	+6.7
GTA			S	**S**	**15 47 04.5**	**+1.6**
GTA			sS	sS	15 47 57.0	+4.8
GTA			pmax	pmax		
comp=Z,58nm,1.1s						
GTA			pmax	pmax		
comp=Z,230nm,5.6s						
GTA			LR	LR		
comp=Z,130nm,20.9s						
GTA			LR	LR		
comp=Z,170nm,21.6s						
GTA			LR	LR		
comp=Z,130nm,19.7s						
ULN	**Ulaanbaatar**	**66.87 328**	P	**P**	**15 38 22.2**	**+0.8**
SNR=18						
ULN	**Ulaanbaatar**	**66.87 328**	*ce*P	**P**	**15 38 22.0**	**+0.6**
ULN			pmax	pmax		
comp=Z,33nm,0.9s						
ULN	**Ulaanbaatar**	**66.87 328**	P	**P**	**15 38 22.1**	**+0.8**
ULN			IAmb	IAmb	15 38 25.6	
comp=Z,27nm,0.7s						
BELO	**BELONIA**	**67.15 298**	*e*P	**P**	**15 38 25.1**	**+1.7**
SONM	**Songino Array**	**67.20 327**	P	**P**	**15 38 24.2**	**+0.7**
SONM			pmax	pmax		
comp=Z,18nm,0.6s						
SONM	**Songino Array**	**67.20 327**	P	**P**	**15 38 24.0**	**+0.5**
comp=Z,17nm,0.6s,baz=138,slow=5.5,SNR=84						
SONM	**Songino Array**	**67.20 327**	P	**P**	**15 38 24.1**	**+0.7**
SHL	**Shillong**	**67.45 300**	P	**P**	**15 38 26.0**	**+0.5**
SNR=53						
SHL	**Shillong**	**67.45 300**	*e*P	**P**	**15 38 25.7**	**+0.2**
SEY	**Seymchan**	**67.87 359**	*i* P	**P**	**15 38 26.8**	**-0.3**
LSA	**Lhasa**	**69.36 304**	P	**P**	**15 38 39.1**	**+1.4**
LSA			P	**P**	**15 38 39.1**	**+1.4**
LSA	**Lhasa**	**69.36 304**	P	**P**	**15 38 39.2**	**+1.5**
LSA			pmax	pmax		
comp=Z,96nm,0.8s						
LSA	**Lhasa**	**69.36 304**	P	**P**	**15 38 39.2**	**+1.5**
YAK	**Yakutsk**	**69.52 348**	*e*P	**P**	**15 38 36.8**	**-0.5**
YAK			*e*		15 38 57.3	
YAK			*e*		15 41 11.3	
YAK			*e*PPP	PPP	15 42 55.5	
YAK			*e*S	**S**	**15 47 35.5**	**0.0**
YAK			*e**SS	**sS**	**15 48 22.4**	**-1.3**
YAK			*e*SS	**SS**	**15 52 08.3**	**+2.7**
YAK			pmax	pmax		
comp=Z,59nm,1.1s						
YAK			pmax	pmax		
comp=N,49nm,1.5s						
YAK			pmax	pmax		
comp=E,17nm,1.4s						
YAK			pmax	pmax		
comp=Z,30nm,2.0s						
YAK			pmax	pmax		
comp=N,34nm,2.3s						
YAK			pmax	pmax		
comp=E,17nm,2.0s						
YAK			smax	smax		
comp=N,78nm,2.8s						
YAK			smax	smax		
comp=E,31nm,3.0s						
YAK	**Yakutsk**	**69.52 348**	P	**P**	**15 38 37.6**	**+0.2**
YAK			IAmb	IAmb	15 38 40.2	
comp=Z,53nm,1.0s						
ZAK	**Zakamensk**	**70.36 328**	*e*P	**P**	**15 38 42.9**	**0.0**
ZAK			pmax	pmax		
comp=Z,42nm,0.9s						
BOD	**Bodaibo**	**70.50 339**⇑	*i* P	**P**	**15 38 42.3**	**-1.2**
BOD			pmax	pmax		
comp=Z,57nm,0.8s						
GTK	**Tadong**	**70.78 301**	*e*P	**P**	**15 38 46.8**	**+0.8**
TLY	**Talaya**	**70.93 330**	P	**P**	**15 38 46.9**	**+0.6**
SNR=9.0						
TLY	**Talaya**	**70.93 330**	*ce*P	**P**	**15 38 46.9**	**+0.6**
TLY			pmax	pmax		
comp=Z,18nm,0.8s						
TLY	**Talaya**	**70.93 330**	P	**P**	**15 38 45.9**	**-0.3**
IRK	**Irkutsk**	**70.95 330**	*e*P	**P**	**15 38 44.5**	**-1.8**
IRK			pmax	pmax		
comp=Z,78nm,0.8s						
BWNR	**Bhubaneshwar**	**71.48 293**	IAmb	IAmb	15 38 49.0	
comp=Z,60nm,1.0s						
BWNR			*e*P	**P**	**15 38 49.7**	**-0.4**
TAPN	**Taplejung**	**71.55 301**	*e*P	**P**	**15 38 51.6**	**+0.8**
comp=Z,308nm,0.8s						
ODAN	**Odare**	**71.69 300**	*e*P	**P**	**15 38 52.2**	**+0.6**
comp=Z,525nm,0.7s						
BOK	**Bokaro**	**72.22 297**	*e*P	**P**	**15 38 55.1**	**+0.5**
BOK			IAmb	IAmb	15 38 56.8	
comp=Z,63nm,1.1s						
MOY	**Mondy**	**72.28 329**	*e*P	**P**	**15 38 54.6**	**+0.1**
MOY			pmax	pmax		
comp=Z,32nm,1.2s						
RAMN	**Ramite**	**72.39 300**	*e*P	**P**	**15 38 56.3**	**+0.5**
comp=Z,100nm,0.6s						
JIRN	**Jiri**	**72.93 301**	*e*P	**P**	**15 38 59.6**	**+0.4**
comp=Z,261nm,0.9s						
GUN	**Gumba**	**73.26 301**	*e*P	**P**	**15 39 01.8**	**+0.7**
comp=Z,343nm,0.9s						
BILL	**Bilibino**	**73.51 5**	*de*P	**P**	**15 39 01.2**	**0.0**
BILL			*e*		15 41 45.5	
BILL			*e*S	**S**	**15 48 25.1**	**+3.8**
BILL			pmax	pmax		
comp=Z,28nm,0.6s						
BILL	**Bilibino**	**73.51 5**	P	**P**	**15 39 01.9**	**+0.7**
BILL			IAmb	IAmb	15 39 03.5	
comp=Z,33nm,0.6s						
PKI	**Pulchoki**	**73.58 301**	*e*P	**P**	**15 39 03.2**	**+0.3**
comp=Z,256nm,1.1s						
PKIN	**Phulchoki**	**73.59 301**	*e*P	**P**	**15 39 03.2**	**+0.3**
comp=Z,196nm,1.1s						
KKN	**Kakani**	**73.74 301**	*e*P	**P**	**15 39 04.2**	**+0.5**
comp=Z,113nm,0.6s						
DMN	**Daman**	**73.84 301**	*e*P	**P**	**15 39 05.0**	**+0.6**
comp=Z,431nm,1.0s						
PALK	**Pallekele**	**74.11 279**	P	**P**	**15 39 05.9**	**0.0**
PALK			pmax	pmax		
comp=Z,15nm,0.9s						
PALK	**Pallekele**	**74.11 279**	P	**P**	**15 39 05.9**	**0.0**
GKN	**Gorkha**	**74.35 301**	*e*P	**P**	**15 39 07.5**	**+0.3**
comp=Z,469nm,1.1s						
KOLN	**Koldanda**	**75.18 300**	*e*P	**P**	**15 39 12.2**	**+0.2**
comp=Z,289nm,0.9s						
DANN	**Dangsing**	**75.18 301**	*e*P	**P**	**15 39 12.2**	**0.0**
comp=Z,206nm,0.8s						
SVW2	**Sparrevohn**	**76.67 23**	P	**P**	**15 39 21.1**	**+1.5**
WMQ	**Urumqi**	**76.75 317**	P	**P**	**15 39 18.1**	**-2.3**
WMQ			pmax	pmax		
comp=Z,48nm,1.2s						
WMQ	**Urumqi**	**76.75 317**	P	**P**	**15 39 18.1**	**-2.3**
WMQ			IAmb	IAmb	15 39 21.6	
comp=Z,48nm,1.2s						
TTA	**Tatalina**	**77.65 21**	P	**P**	**15 39 25.6**	**+0.5**
TTA			pmax	pmax		
comp=Z,8.0nm,0.8s						
TTA	**Tatalina**	**77.65 21**	P	**P**	**15 39 25.6**	**+0.5**
HYB	**Hyderabad**	**77.67 289**	*i* P	**P**	**15 39 24.5**	**-1.6**
comp=Z,100nm,1.0s						
TIXI	**Tiksi**	**78.36 352**	*ce*P	**P**	**15 39 28.0**	**-0.7**
TIXI			pmax	pmax		
comp=Z,6.0nm,1.2s						
TIXI	**Tiksi**	**78.36 352**	P	**P**	**15 39 28.5**	**-0.2**
DGZ	**Jazzator, Alta**	**79.03 323**	*d i* P	**P**	**15 39 33.0**	**0.0**
BHPL	**Bhopal**	**79.70 295**	*e*P	**P**	**15 39 36.1**	**-1.0**
BHPL			IAmb	IAmb	15 39 38.5	
comp=Z,26nm,0.6s						
RND	**Reindeer**	**80.58 23**	P	**P**	**15 39 40.1**	**-0.9**
RND			pmax	pmax		
comp=Z,23nm,0.9s						
RND	**Reindeer**	**80.58 23**	P	**P**	**15 39 40.1**	**-0.9**
RND			IAmb	IAmb	15 39 41.1	
comp=Z,23nm,0.9s						
MCK	**McKinley**	**80.72 22**	P	**P**	**15 39 41.4**	**-0.3**
MCK			pmax	pmax		
comp=Z,42nm,1.0s						
MCK	**McKinley**	**80.72 22**	P	**P**	**15 39 41.4**	**-0.3**
MCK			IAmb	IAmb	15 39 43.9	
comp=Z,42nm,1.0s						
MK31	**Makanchi Array**	**81.31 319**	P	**P**	**15 39 45.5**	**+0.3**
MK31			pmax	pmax		

COLA College 81.72 22 P **P 15 39 46.6 -0.3**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 81.72 22 P **P 15 39 46.6 -0.3**
COLA IAmb IAmb 15 39 48.3
comp=Z,22nm,0.8s
MNCI Minicoy 81.75 279 P **P 15 39 46.9 -1.2**
MNCI IAmb IAmb 15 39 49.7
comp=Z,50nm,0.9s
GOA Goa 81.88 286 *e*P **P 15 39 48.3 -0.4**
GOA IAmb IAmb 15 39 49.8
comp=Z,30nm,0.6s
POKR Poker Plat Res 82.00 21 P **P 15 39 48.2 -0.2**
baz=239
IL31 82.03 22 P **P 15 39 47.2 -1.2**
ILAR Eielson Array 82.03 22 P **P 15 39 47.2 -1.3**
comp=Z,6.7nm,0.8s,baz=249,slow=5.5,SNR=57
ILAR pP **pP 15 40 18.8 +1.2**
comp=Z,8.4nm,0.9s,baz=242,slow=5.2,SNR=3.4
ILAR Eielson Array 82.03 22 P **P 15 39 47.5 -1.1**
ZAA0 Zalesovo Array 82.05 326 P **P 15 39 48.0 -0.8**
ZALV Zalesovo Beam 82.05 326 P **P 15 39 48.1 -0.7**
ZALV Zalesovo Beam 82.05 326 P **P 15 39 48.0 -0.9**
comp=Z,18nm,0.5s,baz=115,slow=5.9,SNR=60
ZALV Zalesovo Beam 82.05 326 P **P 15 39 48.1 -0.7**
POO Poona 82.27 289 *e*P **P 15 39 52.5 +1.7**
DHRM DHARAMSHALA 82.33 303 *e*P **P 15 39 50.2 -0.9**
TARG Taragay, Kyrgy 83.12 313 P **P 15 39 55.4 +0.2**
TARG IAmb IAmb 15 39 57.1
comp=Z,19nm,0.8s
TOLK Toolik Lake Re 83.16 18 P **P 15 39 55.1 +0.7**
baz=237
BCAR Beaver Creek A 83.22 24 P **P 15 39 55.9 +1.1**
BOM Bombay 83.29 290 *ex* **P 15 40 00.6 +4.6**
BOM IAmb IAmb 15 40 06.8
comp=Z,25nm,0.9s
KSH Kashi 84.01 310 P **P 15 40 00.6 +1.1**
KSH sP sP 15 40 46.3 +6.6
KSH PP **PP 15 43 17.9 +3.0**
KSH S **S 15 50 09.8 -4.6**
KSH sS sS 15 51 05.8 +0.3
KSH SS **SS 15 55 45.8 +0.4**
KSH pmax pmax
comp=Z,150nm,1.0s
KSH pmax pmax
comp=Z,380nm,4.9s
KSH LR LR
comp=Z,140nm,11.2s
KSH LR LR
comp=Z,200nm,11.7s
KSH LR LR
comp=Z,160nm,17.3s
BMAR Burnt Mountain 84.15 20 P **P 15 40 00.3 +0.8**
EGAK Eagle 84.20 23 IAmb IAmb 15 40 02.6
comp=Z,16nm,0.9s
NRN Naryn 84.38 312 IAmb IAmb 15 40 03.8
comp=Z,13nm,0.7s
KURK Kurchatov 84.72 322 P **P 15 40 02.5 -0.1**
SNR=20
KURK P **P 15 40 02.5 -0.1**
SNR=20
KURK Kurchatov 84.72 322*ce*P **P 15 40 02.0 -0.6**
KURK pmax pmax
comp=Z,47nm,1.0s
KURK Kurchatov 84.72 322 P **P 15 40 02.1 -0.5**
KURK IAmb IAmb 15 40 03.2
comp=Z,39nm,0.9s
KURBB Kurchatov Arra 84.75 322 P **P 15 40 02.2 -0.6**
comp=Z,18nm,0.8s,baz=110,slow=3.4,SNR=146
KZA Kyzart 85.06 313 P **P 15 40 06.4 +1.3**
SNR=24
NIL Nilore 85.10 304 P **P 15 40 04.8 -0.1**
NIL Nilore 85.10 304 P **P 15 40 05.0 0.0**
NIL pmax pmax
comp=Z,55nm,0.7s
NIL Nilore 85.10 304 P **P 15 40 05.0 0.0**
KBK Karagaybulak 85.39 313 P **P 15 40 06.7 +0.3**
SNR=21
CHMS Chumysh 85.60 314 P **P 15 40 07.4 +0.2**
SNR=17
UCH Uchtor 85.62 313 P **P 15 40 08.8 +0.8**
SNR=34
AAK Ala-Archa 85.71 313 P **P 15 40 08.6 +0.5**
SNR=11
AAK P **P 15 40 08.6 +0.5**
SNR=11
AAK Ala-Archa 85.71 313*ce*P **P 15 40 08.5 +0.5**
AAK pmax pmax
comp=Z,29nm,1.3s
AAK Ala-Archa 85.71 313 P **P 15 40 08.2 +0.2**
comp=Z,14nm,0.9s,baz=111,slow=4.3,SNR=30
AAK Ala-Archa 85.71 313 P **P 15 40 08.5 +0.5**
SNR=15
AAK Ala-Archa 85.71 313 P **P 15 40 08.3 +0.3**
AAK IAmb IAmb 15 40 10.0
comp=Z,14nm,0.8s
MAW Mawson 85.72 203 P **P 15 40 07.1 -0.1**
baz=86,SNR=24
MAW Mawson 85.72 203 P **P 15 40 07.3 +0.1**
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 85.72 203 P **P 15 40 06.7 -0.6**
comp=Z,8.4nm,0.6s,baz=92,slow=5.5,SNR=27
MAW LR LR 16 14 18.8
comp=Z,34nm,21.3s,baz=58,slow=33
MAW Mawson 85.72 203 P **P 15 40 07.3 +0.1**
USP Ospenovka 85.83 314 P **P 15 40 08.3 -0.1**
SNR=13
AML Almayashu 86.20 313 P **P 15 40 11.6 +0.8**
SNR=26
EKS2 Erkin-Say 86.24 313 P **P 15 40 10.7 +0.2**
SNR=16
EPYK Eagle Plains 86.53 22 P **P 15 40 11.9 +0.6**
baz=249
EPYK Eagle Plains 86.53 22 P **P 15 40 11.9 +0.6**
EPYK IAmb IAmb 15 40 12.4
comp=Z,29nm,0.8s
NRIK Noril'sk 86.63 341 P **P 15 40 10.6 -1.1**
comp=Z,21nm,0.7s,baz=115,slow=4.2,SNR=53
BTK Batken 88.01 310 P **P 15 40 17.7 -1.4**
BTK pmax pmax
comp=Z,20nm,0.9s
BTK Batken 88.01 310 P **P 15 40 17.7 -1.4**
BTK IAmb IAmb 15 40 20.1
comp=Z,20nm,0.8s
GAR Garm 88.25 309 P **P 15 40 18.9 -1.4**
GAR IAmb IAmb 15 40 21.2
comp=Z,66nm,1.2s
INK Inuvik 88.34 21 P **P 15 40 19.5 -0.3**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 88.34 21 P **P 15 40 19.5 -0.3**
HUMO Hull Mountain 88.36 47 P **P 15 40 21.2 +0.6**
YBH Yreka Blue Hor 88.42 48 P **P 15 40 21.2 +0.3**
comp=Z,17nm,0.8s,baz=315,slow=2.9,SNR=3.0
BVAR Borovoye Array 90.18 323 P **P 15 40 27.6 -1.3**
comp=Z,18nm,0.8s,baz=101,slow=6.2,SNR=96
BVAR pP **pP 15 40 58.8 +1.3**
comp=Z,8.2nm,0.7s,baz=90,slow=5.8,SNR=4.7
BRVK Borovoye 90.25 323 P **P 15 40 28.0 -1.2**
SNR=8.6
BRVK P **P 15 40 28.0 -1.2**
SNR=8.6
BRVK Borovoye 90.25 323*ce*P **P 15 40 27.9 -1.2**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 90.25 323 P **P 15 40 28.0 -1.2**
BRVK IAmb IAmb 15 40 28.8
comp=Z,20nm,1.0s
NVAR Mina Array Bea 91.39 52 P **P 15 40 35.6 +0.6**
comp=Z,3.1nm,0.9s,baz=255,slow=6.7,SNR=6.3
R11A Troy Canyon, C 93.51 52 P **P 15 40 46.2 +1.4**
baz=266
SYO Syowa Base 93.75 199 *e*P **P 15 40 43.0 -2.0**
SYO Syowa Base 93.75 199 *e*PcP **PcP 15 40 47.3 +1.9**
YKA Yellowknife Ar 95.17 28 P **P 15 40 51.5 -0.1**
comp=Z,2.2nm,0.7s,baz=267,slow=4.5,SNR=10
WBK Wadi Bani Khal 96.53 292 P **P 15 40 57.7 -1.0**
WBK P **P 15 40 57.7 -1.0**
WSAR Wadi Sarin 96.87 293 P **P 15 40 59.4 -0.9**
ARU Arti 97.22 326 P **P 15 40 58.8 -2.2**
baz=101,slow=5.2
SMDO Samad 97.40 293 P **P 15 41 01.6 -1.2**
GEYT Alibeck 97.71 307 P **P 15 41 02.0 -1.8**
comp=Z,1.9nm,0.9s,baz=116,slow=5.2,SNR=3.7
GEYT PP **PP 15 45 05.2 +2.0**
comp=Z,2.1nm,0.7s,baz=106,slow=7.2,SNR=5.4
PDAR Pinedale Array 98.22 48 PP **PP 15 45 12.5 +5.3**
comp=Z,1.4nm,0.9s,baz=290,slow=6.1,SNR=4.8
ARQ Araqi 98.81 293 P **P 15 41 07.9 -1.1**
BANOM Banah 99.08 295 P **Pdif 15 41 09.3 -0.9**
ARCES ARCESS Array B 107.50 343 PKiKP **PKiKP 15 45 53.5 -0.8**
comp=Z,5.3nm,1.1s,baz=92,slow=2.2,SNR=5.7
FINES FINESS Array B 111.81 336 Pdiff **Pdif 15 42 04.9 -1.0**
comp=Z,1.1nm,0.6s,baz=29,slow=3.2,SNR=6.5
FINES PKiKP **PKiKP 15 46 01.1 -1.4**
comp=Z,1.2nm,0.6s,baz=107,slow=2.3,SNR=3.9
AKASG Malin Array Be 115.42 325 PKIKP **PKiKP 15 46 08.0 -1.8**
AKASG Malin Array Be 115.42 325 PKP **PKiKP 15 46 08.0 -1.8**
comp=Z,1.8nm,0.6s,baz=48,slow=2.7,SNR=2.8
AKASG PP **PP 15 47 13.7 +1.3**
comp=Z,0.5nm,0.4s,baz=60,slow=6.4,SNR=5.8
BRTR Keskin Array B 116.36 312 PKP **PKPdf 15 46 10.6 -1.6**
comp=Z,0.7nm,0.6s,baz=130,slow=3.1,SNR=4.6
BRTR PP **PP 15 47 18.9 -0.9**
comp=Z,4.2nm,1.0s,baz=103,slow=6.4,SNR=12
NB2 NORSAR Subarra117.59 341 PKP **PKPdf 15 46 12.8 -0.9**
comp=Z,4.9nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B117.59 341 PKP **PKPdf 15 46 11.9 -1.8**
comp=Z,0.3nm,0.6s,baz=42,slow=1.9,SNR=2.9
PLCA Paso Flores 118.84 143 PKP **PKPdf 15 46 16.5 -0.3**
comp=Z,1.6nm,0.7s,baz=297,slow=4.5,SNR=3.1
BOSA Boshof 120.34 233 PKP **PKPdf 15 46 19.9 -0.2**
comp=Z,2.2nm,0.7s,baz=145,slow=3.7,SNR=4.5
VYHS Vyhne 122.38 326 *e*PKIKP **PKiKP 15 46 24.0 +0.5**
VYHS Vyhne 122.38 326 *e*PKP **PKiKP 15 46 24.0 +0.5**
KRLC Kraliky 122.57 329 *e*PKIKP **PKPdf 15 46 22.8 -0.8**
KRLC Kraliky 122.57 329 *e*PKPDF **PKPdf 15 46 22.8 -0.8**
U58A Oxford 122.80 50 P **PKPdf 15 46 21.3 -3.1**
baz=290
J59A Piesco 122.81 40 P **PKPdf 15 46 23.1 -1.2**
baz=298
M59A Waymart 123.05 43 P **PKPdf 15 46 23.9 -0.9**
baz=296
I60A Shoreham 123.40 40 P **PKPdf 15 46 24.8 -0.6**
baz=299
CLL Collm 123.67 332 *i* PKPdf **PKPdf 15 46 24.8 -0.8**
comp=Z,4.0nm,0.6s
GOPC GO Pecny, Ondr 123.69 329 *e*PKIKP **PKPdf 15 46 24.9 -0.9**
GOPC GO Pecny, Ondr 123.69 329 *e*PKPDF **PKPdf 15 46 24.9 -0.9**
E61A Lac Etchemin 123.78 36 P **PKPdf 15 46 25.1 -0.9**
baz=303
CONA Conrad Observa 124.34 327 *e*PKiKP **PKPdf 15 46 26.3 -0.8**
comp=Z,2.2nm,0.6s
WSPT Westport, CT 124.63 42 **PKiKP 15 46 28.2 +0.1**
FNA Florina 124.70 317 PKIKP **PKPdf 15 46 26.8 -1.2**
FNA Florina 124.70 317 **PKPdf 15 46 26.8 -1.2**
KHC Kasperske Hory 124.80 329 *e*PKIKP **PKPdf 15 46 27.5 -0.4**
KHC *e* 15 46 58.5
KHC *e* 15 47 09.9
KHC Kasperske Hory 124.80 329 *e*PKPDF **PKPdf 15 46 27.5 -0.4**
KHC *ep*PKP **pPKPdf 15 46 58.5 +0.3**
KHC *ex* x 15 47 09.9
GEC2 GERESS Array S 124.92 329 **PKPdf 15 46 27.8 -0.5**
GERES GERESS Array B 124.92 329 PKP **PKPdf 15 46 27.1 -1.1**
comp=Z,1.9nm,0.6s,baz=72,slow=2.0,SNR=21
MYKA Terra Mystica 126.33 327 *e*PKiKP **PKiKP 15 46 31.2 -0.2**
comp=Z,6.3nm,1.1s
ABTA Abfaltersbach 126.86 328 *i* PKiKP **PKPdf 15 46 31.1 -0.9**
comp=Z,1.9nm,0.6s
WATA Walderalm 126.98 329 *e*PKiKP **PKPdf 15 46 31.3 -1.0**
comp=Z,3.5nm,0.5s
WTTA Wattenberg 126.99 329 *i* PKiKP **PKPdf 15 46 31.7 -0.7**
comp=Z,6.7nm,0.9s
MOTA Moosalm 127.22 329 *e*PKiKP **PKPdf 15 46 32.4 -0.4**
comp=Z,2.0nm,0.5s
FETA Feichten 127.62 329 *e*PKiKP **PKPdf 15 46 33.5 0.0**
comp=Z,6.2nm,1.1s
LPAZ La Paz 133.26 118 PKP **PKiKP 15 46 47.0 +0.1**
comp=Z,1.0nm,0.4s,baz=163,slow=1.9,SNR=5.0
ESDC Sonseca Array 140.23 333 PP PP 15 49 54.8 -0.3
comp=Z,1.4nm,0.7s,baz=37,slow=6.4,SNR=5.6
BDFB Brasilia 150.03 134 PKIKP **PKPbc 15 47 19.0 -0.8**
BDFB Brasilia 150.03 134 PKPbc **PKPbc 15 47 19.0 -0.8**
comp=Z,10nm,0.6s,baz=153,slow=2.3,SNR=12
TOA0 Torodi Ar. Sit 151.49 288 **PKPbc 15 47 21.8 -1.3**
TORD Torodi Ar. Bea 151.49 288 PKP **PKPdf 15 47 16.6 -0.3**
comp=Z,1.5nm,0.8s,baz=8.4,slow=1.4,SNR=4.7
TORD PKPbc **PKPbc 15 47 20.9 -2.2**
comp=Z,12nm,0.8s,baz=58,slow=3.0,SNR=55
TORD PKPab **PKPab 15 47 31.4 -0.5**
comp=Z,29nm,0.7s,baz=74,slow=2.9,SNR=34
TORD pPKP **pPKPdf 15 47 48.1 +0.6**
comp=Z,5.1nm,0.5s,baz=66,slow=2.0,SNR=2.4
KIC Kosan Boka 158.76 274 *e*PKP2 **PKPab 15 48 02.7 -0.3**
comp=Z,91nm,1.0s
DBIC Dimbokro 158.86 275 PKP2 **PKPab 15 48 03.3 -0.1**
DBIC Dimbokro 158.86 275 PKPab **PKPab 15 48 03.1 -0.3**
comp=Z,30nm,1.0s,baz=87,slow=4.9,SNR=18
DBIC Dimbokro 158.86 275 **PKPab 15 48 03.2 -0.1**
TIC Toumodi 159.02 275 *e*PKP2 **PKPab 15 48 03.7 -0.5**
LIC Lamto 159.05 274 *e*PKP2 **PKPab 15 48 03.8 -0.5**
comp=Z,80nm,1.0s

ISCJB ***22*** *15:35:20.2±0.6, 60°.33S±0°.08×46°.6W±0°.2, h10km, mb3.9/2, MS3.0/1, Error ellipse: s-maj=12.9km s-min=9.5km az=140.0*
IDC ***22*** *15:35:20.6±1.7, 60°.41S×46°.53W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.8/17, mbtmp3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/20, Error ellipse: s-maj=140.0km s-min=31.3km az=26.0*
NEIC ***22*** *15:35:21.2±1.4, 60°.42S±0°.10×46°.5W±0°.2, h10km±1km, mb4.5/9*
ISC 22 15:35:22.0±0.6,**60°.36S**±0°.09×**46°.6W**±0°.1,**h10**km,**n28,**
σ1°**28**/23,**mb4.4/7,Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.19**	**46**	Pn	**Pn**	**15 37 20.0**	**-0.6**
PMSA	**Palmer Station**	**9.17**	**234**	Pn	**Pn**	**15 37 33.9**	**-0.1**
VNA3	**Neumayer Olymp**	**18.28**	**142**	P	**P**	**15 39 36.8**	**+1.4**
VNA1	**Neumayer--Stat**	**18.56**	**139**	P	**Pn**	**15 39 40.7**	**+2.0**
VNA2	**Neumayer--Watz**	**18.91**	**140**	P	**Pn**	**15 39 43.7**	**+0.8**
baz=286,slow=12							
SNAA	**Sanae**	**20.50**	**141**	P	**P**	**15 40 01.0**	**+1.3**
SNAA	**Sanae**	**20.50**	**141**	P	**P**	**15 40 00.8**	**+1.0**
TRQA	**Tornquist**	**24.35**	**330**	P	**P**	**15 40 42.8**	**+3.0**
PLCA	**Paso Flores**	**24.59**	**312**	P	**P**	**15 40 43.1**	**+1.1**
1.1nm,0.7s,baz=188,slow=7.1,SNR=3.1							
PLCA				LR	LR	15 48 36.7	
comp=Z,53nm,20.1s,baz=173,slow=32							
PLCA	**Paso Flores**	**24.59**	**312**	IAmb	IAmb	15 40 45.5	
comp=Z,8.0nm,1.5s							
GO06	**Curarrehue**	**25.94**	**312**	P	**P**	**15 40 54.0**	**-0.3**
GO06				IAmb	IAmb	15 41 08.6	
comp=Z,9.7nm,1.2s							
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**15 41 28.0**	**-1.4**
QSPA				IAmb	IAmb	15 41 45.8	
comp=Z,12nm,1.1s							
MNMC	**Minye Minye**	**44.33**	**328**	P	**P**	**15 43 34.1**	**+1.9**
MNMC				IAmb	IAmb	15 43 36.1	
comp=Z,15nm,1.3s							
SUR	**Sutherland**	**51.40**	**89**	P	**P**	**15 44 27.2**	**+0.3**
SAML	**Samuel**	**52.78**	**339**	P	**P**	**15 44 36.4**	**-0.6**
SAML				IAmb	IAmb	15 44 41.1	
comp=Z,4.6nm,1.1s							
BOSA	**Boshof**	**56.68**	**90**	P	**P**	**15 45 05.6**	**+0.2**
comp=Z,1.6nm,0.5s,baz=222,slow=7.5,SNR=3.9							
BOSA	**Boshof**	**56.68**	**90**	P	**P**	**15 45 04.4**	**-1.0**
H10N3	**ASCENSION HYDR**	**57.67**	**39**	T	T	16 48 02.7	
baz=199,slow=74,SNR=50							
H10N1	**ASCENSION HYDR**	**57.67**	**39**	T	T	16 47 59.2	
baz=199,slow=74,SNR=31							
H10N2	**ASCENSION HYDR**	**57.69**	**39**	T	T	16 48 04.0	
baz=199,slow=74,SNR=58							
LBTB	**Lobatse**	**59.83**	**88**	P	**P**	**15 45 26.3**	**-1.1**
LBTB				IAmb	IAmb	15 45 33.7	
comp=Z,5.8nm,1.2s							
YKA	**Yellowknife Ar**	**133.00**	**324**	PKP	**PKiKP**	**15 54 36.1**	**-0.9**
comp=Z,0.4nm,0.5s,baz=143,slow=1.8,SNR=2.8							
FINES	**FINESS Array B**	**133.62**	**39**	PKP	**PKPdf**	**15 54 35.8**	**-1.2**
comp=Z,1.1nm,0.7s,baz=202,slow=1.5,SNR=3.6							
ARCES	**ARCESS Array B**	**139.34**	**31**	PKhKP	PKPpre	15 54 37.7	
comp=Z,3.2nm,0.8s,baz=212,slow=3.2,SNR=5.3							
IL31		**145.28**	**312**		**PKPbc**	**15 54 57.0**	**-0.9**
ILAR	**Eielson Array**	**145.28**	**312**	PKPbc	**PKPdf**	**15 54 57.6**	**-0.5**
comp=Z,4.0nm,0.9s,baz=114,slow=1.3,SNR=26							
MKAR	**Makanchi Array**	**147.67**	**91**	PKPbc	**PKPbc**	**15 55 04.4**	**-1.2**
comp=Z,0.9nm,0.6s,baz=236,slow=1.0,SNR=13							
SONM	**Songino Array**	**159.99**	**117**	PKPab	**PKPab**	**15 56 00.2**	**+0.1**
comp=Z,0.3nm,0.6s,baz=216,slow=3.8,SNR=3.0							

IDC ***22*** *15:37:11.1±1.8, 13°.92N×121°.16E, h162km±8km, mb3.3/4, mb1 3.4/4, mb1mx3.0/47, mbtmp3.7/4, MS3.7/3, Ms1 3.7/3, ms1mx3.0/28, 1C, Error ellipse: s-maj=186.4km s-min=16.0km az=64.0, Mindoro*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.28**	**309**	P	Pn	15 37 34.0	+0.9
119nm,0.3s,baz=153,slow=9.0,SNR=7.4							
TGY				S	Sn	15 37 51.1	+1.2
200nm,0.3s,baz=197,slow=20,SNR=14							
TGY	**Tagaytay City**	**0.28**	**309**	*e*P	Pn	15 37 33.5	+0.4
FITZ	**Fitzroy Crossi**	**32.12**	**172**	LR	LR	15 59 44.9	
comp=Z,98nm,19.8s,baz=202,slow=42							
WRA	**Warramunga Arr**	**36.07**	**159**	P	P	15 43 56.5	-0.8
0.5nm,0.3s,baz=338,slow=9.5,SNR=14							
KLR	**Kul'dur**	**36.27**	**12**	LR	LR	16 01 19.6	
comp=Z,50nm,18.1s,baz=180,slow=40							
ASAR	**Alice Springs**	**39.38**	**161**	P	P	15 44 25.6	+0.5
0.5nm,0.4s,baz=336,slow=7.3,SNR=10							
CTA	**Charters Tower**	**41.85**	**143**	LR	LR	16 03 58.9	
comp=Z,390nm,21.6s,baz=192,slow=38							
MKAR	**Makanchi Array**	**46.12**	**323**	P	P	15 45 19.2	+0.2
0.2nm,0.3s,baz=112,slow=8.3,SNR=5.4							
ZALV	**Zalesovo Beam**	**49.07**	**332**	P	P	15 45 41.1	-0.5
0.7nm,0.3s,baz=125,slow=6.2,SNR=3.4							

ISCJB ***22*** *15:59:00.8±0.5, 6°.81S±0°.04×130°.55E±0°.08, h150km, mb3.3/1, Error ellipse: s-maj=11.6km s-min=6.1km az=171.8*
IDC ***22*** *15:59:00.7±2.4, 6°.88S×130°.53E, h98km±28km, mb3.3/1, mb1 3.9/6, mb1mx3.3/50, mbtmp4.2/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/22, Error ellipse: s-maj=40.3km s-min=21.6km az=94.0*
NEIC ***22*** *15:59:01.8±2.6, 6°.78S±0°.07×130°.5E±0°.1, h140km±11km, mb4.4/4*
ISC 22 15:59:01.1±0.8,**6°.79S**±0°.06×**130°.51E**±0°.08,**h150**km,**n23,**
σ2°**89**/25,**mb4.5/3,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.43**	**146**		**Pn**	**15 59 32.0**	**+2.1**
SAUI				Sn	**Sn**	**15 59 48.7**	**-3.3**
FAKI	**Fak Fak**	**4.22**	**24**		**Pn**	**16 00 04.5**	**+0.3**
SIJI	**Sorong**	**5.93**	**7**	P	**Pn**	**16 00 26.5**	**-0.4**
13nm,0.3s,baz=245,slow=23,SNR=55							
SIJI				S	**Sn**	**16 01 28.3**	**-5.7**
9.8nm,0.3s,baz=236,slow=22,SNR=13							
MTN	**Manton Dam**	**6.05**	**174**		**Pn**	**16 00 29.9**	**+1.4**
SOEI	**Soe**	**6.84**	**244**	Pn	**Pn**	**16 00 41.0**	**+1.8**
BATI	**Baumata**	**7.57**	**243**	P	**Pn**	**16 00 50.0**	**+1.2**
4.5nm,0.3s,baz=95,slow=6.6,SNR=6.7							
BATI				S	**Sn**	**16 02 09.3**	**-4.1**
5.6nm,0.3s,baz=157,slow=21,SNR=7.0							
TNTI	**Ternate**	**8.13**	**337**	Pn	**Pn**	**16 00 57.9**	**+1.5**
KNRA	**Kununurra**	**9.00**	**191**		**Pn**	**16 01 08.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**12.20**	**202**	P	**Pn**	**16 01 48.9**	**-1.1**
1.4nm,0.3s,baz=35,slow=11,SNR=31							
FITZ				S	Sn	16 03 53.4	-12
1.3nm,0.3s,baz=90,slow=20,SNR=5.8							
WB0	**Warramunga Arr**	**13.45**	**164**	Pn	**Pn**	**16 02 06.7**	**+0.7**
WRAB	**Tennant Creek**	**13.59**	**164**		**Pn**	**16 02 08.6**	**+0.7**
WRA	**Warramunga Arr**	**13.60**	**164**	P	**Pn**	**16 02 07.4**	**-0.6**
1.2nm,0.3s,baz=340,slow=14,SNR=51							
WRA				S	Sn	16 04 29.3	-9.3
1.3nm,0.3s,baz=344,slow=22,SNR=12							
WRA	**Warramunga Arr**	**13.60**	**164**		**Pn**	**16 02 08.1**	**+0.1**
WB2	**Warramunga Arr**	**13.60**	**164**		**Pn**	**16 02 07.9**	**-0.1**
WR0	**Warramunga Arr**	**13.67**	**164**	Pn	**Pn**	**16 02 09.0**	**+0.2**
AS31	**Alice Springs**	**17.10**	**169**		**Pn**	**16 02 54.3**	**+3.1**
AS31				IAmb	IAmb	16 02 57.0	
comp=Z,1.5nm,0.6s							
ASAR	**Alice Springs**	**17.10**	**169**	P	**Pn**	**16 02 53.8**	**+2.5**
comp=Z,0.5nm,0.3s,baz=350,slow=11,SNR=24							
ASAR				S	**S**	**16 05 53.8**	**-7.5**
comp=Z,0.2nm,0.3s,baz=355,slow=27,SNR=5.2							
ASAR	**Alice Springs**	**17.10**	**169**		**Pn**	**16 02 56.4**	**+5.2**
MORW	**Morawa**	**26.03**	**210**	P	**P**	**16 04 19.7**	**-0.7**
MORW				IAmb	IAmb	16 04 33.2	
comp=Z,17nm,1.4s							
ARMA	**Armidale**	**30.76**	**142**	P	**P**	**16 05 04.1**	**+1.7**
ARMA				IAmb	IAmb	16 05 14.2	
comp=Z,25nm,1.5s							
YOJ	**Yonaguni jima**	**31.91**	**347**	P	**P**	**16 05 14.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**50.77**	**1**	LR	LR	16 30 41.4	
comp=Z,59nm,20.9s,baz=202,slow=37							
MKAR	**Makanchi Array**	**68.32**	**327**	P	P	16 09 52.1	+6.0
comp=Z,0.3nm,0.4s,baz=117,slow=8.0,SNR=6.3							

ISCJB ***22*** *16:11:22.9±1.5, 31°.12S±0°.06×177°.3W±0°.2, h27km, mb4.0/3, Error ellipse: s-maj=26.7km s-min=7.2km az=11.6*
IDC ***22*** *16:11:25.1±2.9, 30°.97S×177°.86W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/36, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=67.4km s-min=26.0km az=116.0*
NEIC ***22*** *16:11:26.6±1.1, 31°.05S±0°.07×177°.2W±0°.2, h46km±12km, mb4.4/11*
ISC 22 16:11:25.2±1.6,**30°.95S**±0°.07×**177°.4W**±0°.2,**h27**km,**n16,**
σ0°**83**/17,**mb4.3/9,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.76**	**345**	Pn	**Pb**	**16 11 56.9**	**+0.1**
53nm,0.3s,baz=217,slow=20,SNR=3.7							
RAO				Sn	**Sb**	**16 12 17.6**	**-0.8**
191nm,0.3s,baz=189,slow=19,SNR=6.4							
URZ	**Urewera**	**8.58**	**210**	Pn	**Pn**	**16 13 28.2**	**+0.6**
0.5nm,0.3s,baz=20,slow=19,SNR=7.4							
URZ				Sn	**Sn**	**16 15 01.5**	**-2.0**
1.0nm,0.3s,baz=8.3,slow=22,SNR=14							
AFI	**Afiamalu**	**17.73**	**18**		**Pn**	**16 15 30.1**	**-0.2**
CAN	**Canberra**	**28.41**	**252**	P	**P**	**16 17 18.9**	**+1.4**
STKA	**Stephens Creek**	**34.88**	**258**	P	**P**	**16 18 15.1**	**+0.7**
1.0nm,0.4s,baz=84,slow=10,SNR=6.3							
BBOO	**Buckleboo**	**39.33**	**255**	P	**P**	**16 18 51.6**	**-0.6**
BBOO				IAmb	IAmb	16 19 06.2	
comp=Z,22nm,1.4s							
COEN	**Coen**	**39.93**	**286**	P	**P**	**16 18 57.3**	**-0.1**
COEN				IAmb	IAmb	16 19 10.9	
comp=Z,13nm,1.5s							
AS31	**Alice Springs**	**43.61**	**267**	P	**P**	**16 19 27.8**	**+0.3**
ASAR	**Alice Springs**	**43.61**	**267**	P	**P**	**16 19 27.9**	**+0.4**
comp=Z,0.9nm,0.5s,baz=105,slow=7.2,SNR=32							
WR0	**Warramunga Arr**	**44.47**	**272**	P	**P**	**16 19 34.7**	**+0.3**
WR0				IAmb	IAmb	16 19 35.3	
comp=Z,12nm,1.5s							
WB2	**Warramunga Arr**	**44.64**	**272**	P	**P**	**16 19 36.3**	**+0.6**
WB2				IAmb	IAmb	16 19 36.7	
comp=Z,3.4nm,0.8s							
WRAB	**Tennant Creek**	**44.65**	**272**	P	**P**	**16 19 36.1**	**+0.4**
WRAB				IAmb	IAmb	16 19 42.4	
comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**16 19 36.0**	**+0.2**
comp=Z,1.0nm,0.3s,baz=111,slow=8.1,SNR=46							
WRA	**Warramunga Arr**	**44.65**	**272**	IAmb	IAmb	16 19 37.4	
comp=Z,0.3nm,1.3s							
WB0	**Warramunga Arr**	**44.68**	**273**	P	**P**	**16 19 36.1**	**+0.1**
WB0				IAmb	IAmb	16 19 41.1	
comp=Z,2.5nm,1.0s							
FINES	**FINESS Array B**	**145.85**	**340**	PKPbc	**PKiKP**	**16 31 04.0**	**-0.7**
comp=Z,1.1nm,0.6s,baz=14,slow=2.9,SNR=8.8							

ISCJB ***22*** *16:21:44.9±0.5, 1°.50S±0°.05×134°.03E±0°.04, h27km, mb3.8/3, MS3.4/3, Error ellipse: s-maj=6.9km s-min=5.7km az=21.9*
DJA ***22*** *16:21:44.1±0.6, 1°.5±5°.×13°.4E±°., h13km±4km, M4.4/9, mb4.6/4, MLv4.3/9*
IDC ***22*** *16:21:45.3±1.4, 1°.63S×133°.79E, h0km, mb3.7/3, mb1 4.0/7, mb1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.18**	**171**	P	**Pb**	**16 21 49.9**	**+0.2**
BAKI	**Biak**	**1.96**	**86**	P	**Pb**	**16 22 17.6**	**-1.5**
SRPI	**Serui, Papua**	**2.15**	**104**	P	**Pb**	**16 22 22.7**	**+0.3**
FAKI	**Fak Fak**	**2.47**	**230**	P	**Pn**	**16 22 22.2**	**-0.3**
FAKI	**Fak Fak**	**2.47**	**230**		**Pn**	**16 22 23.6**	**+1.1**
SIJI	**Sorong**	**2.92**	**279**	Pn	**Pn**	**16 22 27.4**	**-1.3**
	22nm,0.3s,baz=62,slow=5.9,SNR=124						
SIJI				Sn	**Sn**	**16 23 02.5**	**-0.5**
	27nm,0.3s,baz=308,slow=20,SNR=4.6						
SIJI				Lg	Lg	16 23 09.1	
	53nm,0.3s,baz=128,slow=24,SNR=15						
SWI	**Sorong**	**2.93**	**279**	P	**Pn**	**16 22 28.0**	**-0.8**
BNDI	**Bandanaira**	**5.29**	**233**	P	**Pn**	**16 23 02.7**	**+1.3**
BNDI				S	**Sn**	**16 24 01.2**	**-0.3**
AAI	**Ambon**	**6.39**	**248**	P	**Pn**	**16 23 17.3**	**+0.8**
JAY	**Jayapura**	**6.65**	**100**	Pn	Pb	16 23 29.8	-9.3
	0.4nm,0.3s,baz=253,slow=14,SNR=3.3						
MTN	**Manton Dam**	**11.82**	**195**	Pn	**Pn**	**16 24 32.7**	**+1.7**
DAV	**Davao City (W)**	**11.95**	**314**	LR	LR	16 28 48.3	
	comp=Z,62nm,18.4s,baz=150,slow=36						
KNRA	**Kununurra**	**15.21**	**200**	P	**Pn**	**16 25 16.6**	**-0.5**
COEN	**Coen**	**15.39**	**145**	Pn	**Pn**	**16 25 19.0**	**-0.5**
WB0	**Warramunga Arr**	**18.32**	**179**		**Pn**	**16 25 58.0**	**+1.6**
WRAB	**Tennant Creek**	**18.48**	**179**	P	**Pn**	**16 25 59.5**	**+1.1**
WRAB				IAmb	IAmb	16 26 02.0	
	comp=Z,4.5nm,0.7s						
WRA	**Warramunga Arr**	**18.49**	**179**	P	**Pn**	**16 25 58.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=0.2,slow=12,SNR=66						
WRA				S	**Sn**	**16 29 17.6**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=356,slow=23,SNR=2.5						
WRA				LR	LR	16 33 39.7	
	comp=Z,29nm,19.6s,baz=335,slow=39						
WRA	**Warramunga Arr**	**18.49**	**179**	P	**Pn**	**16 25 59.2**	**+0.7**
WB2	**Warramunga Arr**	**18.50**	**179**	P	**Pn**	**16 25 59.2**	**+0.7**
WB2				IAmb	IAmb	16 26 00.5	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**18.51**	**179**		**Pn**	**16 25 59.9**	**+1.1**
WR0				IAmb	IAmb	16 26 01.0	
	comp=Z,6.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.64**	**206**	P	**Pn**	**16 26 01.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=8.6						
FITZ				S	Sn	16 29 16.6	-11
	comp=Z,0.0nm,0.3s,baz=72,slow=20,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.64**	**206**	P	**P**	**16 25 59.8**	**0.0**
FITZ				IAmb	IAmb	16 26 16.6	
	comp=Z,4.8nm,1.1s						
AS31	**Alice Springs**	**22.20**	**181**	P	**P**	**16 26 39.8**	**+1.3**
ASAR	**Alice Springs**	**22.20**	**181**	P	**P**	**16 26 39.8**	**+1.3**
	comp=Z,5.7nm,0.8s,baz=6.5,slow=12,SNR=48						
ASAR				LR	LR	16 36 26.6	
	comp=Z,104nm,18.5s,baz=355,slow=40						
ASAR	**Alice Springs**	**22.20**	**181**	P	**P**	**16 26 40.1**	**+1.6**
PSA00	**Pilbara Seismi**	**24.47**	**214**	P	**P**	**16 26 57.0**	**-4.0**
PSA00				IAmb	IAmb	16 26 59.6	
	comp=Z,9.1nm,0.9s						
TPUB	**Ta-pu**	**27.80**	**333**	P	**P**	**16 27 33.2**	**+2.1**
TPUB				IAmb	IAmb	16 27 37.3	
	comp=Z,18nm,1.0s						
YOJ	**Yonaguni jima**	**27.83**	**338**	P	P	16 27 36.9	+5.7
STKA	**Stephens Creek**	**31.18**	**168**	LR	LR	16 41 48.9	
	comp=Z,38nm,20.9s,baz=19,slow=39						
MORW	**Morawa**	**32.54**	**210**	P	**P**	**16 28 10.9**	**-2.0**
ARMA	**Armidale**	**33.34**	**152**	P	**P**	**16 28 22.1**	**+2.0**
ARMA				IAmb	IAmb	16 28 36.3	
	comp=Z,19nm,1.5s						
CMAR	**Chiang Mai Arr**	**39.82**	**301**	P	P	16 29 20.4	+5.0
	comp=Z,1.7nm,1.1s,baz=116,slow=5.3,SNR=8.0						
MKAR	**Makanchi Array**	**65.96**	**324**	P	P	16 32 32.9	+5.0
	comp=Z,0.4nm,0.6s,baz=122,slow=7.6,SNR=5.2						
GNI	**Garni**	**90.40**	**310**	LR	LR	17 21 56.4	
	comp=Z,43nm,19.6s,baz=56,slow=40						

*ISCJB **22** 16:22:58.2±0.6,20°.2S±0°.1×177°.92W±0°.10,h500km, mb3.7/8,Error ellipse: s-maj=17.9km s-min=7.9km az=143.5*
*NEIC **22** 16:22:59.5±1.8,20°.3S±0°.1×177°.7W±0°.1,h525km±8km, mb4.2/17*
*IDC **22** 16:23:01.0±2.1,20°.24S×177°.79W,h527km±24km, mb3.3/8, mb1 3.5/11,mb1mx3.1/46,mbtmp4.2/11,Error ellipse: s-maj=28.3km s-min=15.5km az=144.0*

ISC 22 16:22:59.0±0.7,20°.2S±0°.1×177°.8W±0°.1,h500km,n33, σ1§21/31,mb4.0/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**301**	P	P	16 24 30.4	+7.4
AFI	**Afiamalu**	**8.49**	**44**	P	**P**	**16 25 03.2**	**+2.6**
	2.6nm,0.3s,baz=216,slow=19,SNR=6.5						
AFI				S	**S**	**16 26 38.8**	**-1.6**
	2.1nm,0.3s,baz=221,slow=19,SNR=4.2						
DZM	**Mont Dzumac**	**14.83**	**260**	P	**P**	**16 26 10.6**	**+2.9**
	0.3nm,0.3s,baz=108,slow=20,SNR=3.3						
URZ	**Urewera**	**18.54**	**193**	P	**P**	**16 26 44.5**	**+0.4**
	1.4nm,0.3s,baz=66,slow=19,SNR=11						
CTA	**Charters Tower**	**33.72**	**264**	P	**P**	**16 28 58.8**	**+0.4**
	2.7nm,0.7s,baz=96,slow=13,SNR=4.4						
PMG	**Port Moresby**	**35.47**	**282**	P	**P**	**16 29 12.7**	**-0.4**
PMG				IAmb	IAmb	16 29 14.0	
	comp=Z,4.6nm,0.9s						
COEN	**Coen**	**37.77**	**273**	P	**P**	**16 29 32.6**	**+0.6**
COEN				IAmb	IAmb	16 29 44.2	
	comp=Z,11nm,1.4s						
TAOE	**Nuku Hiva Isla**	**38.04**	**78**	P	P	16 29 30.9	-3.6
STKA	**Stephens Creek**	**38.10**	**244**	P	**P**	**16 29 34.2**	**-0.4**
BBOO	**Buckleboo**	**42.87**	**243**	P	**P**	**16 30 11.8**	**-0.9**
JAY	**Jayapura**	**44.14**	**288**	P	**P**	**16 30 23.1**	**+0.2**
	baz=169,slow=5.2						
WR0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**16 30 26.1**	**-0.7**
WR0				IAmb	IAmb	16 30 43.1	
	comp=Z,8.3nm,1.2s						
AS31	**Alice Springs**	**44.78**	**256**	P	**P**	**16 30 27.6**	**-0.2**
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**16 30 27.6**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=95,slow=7.7,SNR=32						
ASAR				PcP	**PcP**	**16 31 58.5**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=107,slow=3.8,SNR=4.1						
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**16 30 27.4**	**-0.4**
WB0	**Warramunga Arr**	**44.82**	**262**	P	**P**	**16 30 27.6**	**-0.5**
WB0				IAmb	IAmb	16 30 28.0	
	comp=Z,4.1nm,0.6s						
WB2	**Warramunga Arr**	**44.83**	**262**	P	**P**	**16 30 27.8**	**-0.4**
WB2				IAmb	IAmb	16 30 28.1	
	comp=Z,6.3nm,1.1s						
WRAB	**Tennant Creek**	**44.83**	**262**	P	**P**	**16 30 27.8**	**-0.4**
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**16 30 27.3**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=97,slow=7.8,SNR=22						
WRA	**Warramunga Arr**	**44.84**	**262**	IAmb	IAmb	16 30 27.8	
	comp=Z,0.2nm,0.7s						
MTN	**Manton Dam**	**49.36**	**270**	P	**P**	**16 31 00.5**	**-1.9**
MTN				IAmb	IAmb	16 31 04.7	
	comp=Z,18nm,1.2s						
KNRA	**Kununurra**	**50.88**	**266**	P	**P**	**16 31 12.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.27**	**262**	P	**P**	**16 31 30.1**	**-0.7**
MORW	**Morawa**	**60.13**	**247**	P	**P**	**16 32 15.8**	**-2.1**
MORW				IAmb	IAmb	16 32 17.1	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**69.88**	**180**	P	**P**	**16 33 19.2**	**+0.3**
QSPA				IAmb	IAmb	16 33 21.2	
	comp=Z,6.2nm,1.1s						
PETK	**Petropavlovsk-**	**76.03**	**345**	P	**P**	**16 33 54.1**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=111,slow=7.9,SNR=3.5						
SEY	**Seymchan**	**86.12**	**347**	P	**P**	**16 34 45.5**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=121,slow=12,SNR=4.3						
ILAR	**Eielson Array**	**87.97**	**13**	P	**P**	**16 34 53.8**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=215,slow=5.4,SNR=5.1						
PDAR	**Pinedale Array**	**88.60**	**43**	P	**P**	**16 34 58.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=252,slow=1.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**90.20**	**289**	P	**P**	**16 35 07.0**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=116,slow=3.1,SNR=6.9						
MKAR	**Makanchi Array**	**111.13**	**313**	PKiKP	**PKiKP**	**16 40 33.5**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=149,slow=0.8,SNR=2.2						
AKASG	**Malin Array Be**	**142.84**	**331**	PKhKP	PKPpre	16 41 30.6	
	comp=Z,0.8nm,0.4s,baz=40,slow=4.2,SNR=6.9						
BRTR	**Keskin Array B**	**146.78**	**313**	PKPbc	**PKPdf**	**16 41 44.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=81,slow=1.9,SNR=3.6						

*ISCJB **22** 16:48:00.4±0.7,60°.5S±0°.1×44°.3W±0°.2,h10km,mb4.2/1, MS3.4/1,Error ellipse: s-maj=17.1km s-min=15.0km az=147.4*
*NEIC **22** 16:48:01.8±2.7,60°.6S±0°.1×44°.6W±0°.2,h10km±1km, mb4.5/8*
*IDC **22** 16:48:01.8±2.2,60°.66S×44°.62W,h0km,mb4.3/1, mb1 4.3/1,mb1mx3.7/17,mbtmp4.3/1,MS3.4/1,Ms1 3.3/1, ms1mx2.7/17,Error ellipse: s-maj=121.7km s-min=69.8km az=175.0*

ISC 22 16:48:02.4±0.8,60°.5S±0°.1×44°.5W±0°.1,h10km,n18, σ1§08/16,mb4.4/5,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.54**	**38**	Pn	**Pn**	**16 49 51.5**	**-0.7**
PMSA	**Palmer Station**	**9.98**	**236**	Pn	Pn	16 50 20.6	-5.1
TRQA	**Tornquist**	**25.01**	**326**	P	**P**	**16 53 26.7**	**+0.5**
TRQA				IAmb	IAmb	16 53 27.2	
	comp=Z,29nm,1.4s						
QSPA	**South Pole Qui**	**29.78**	**180**	P	**P**	**16 54 10.0**	**+1.0**
GO02	**Mina Guanaco**	**39.30**	**323**	P	**P**	**16 55 31.7**	**+0.1**
GO02				IAmb	IAmb	16 55 50.4	
	comp=Z,11nm,1.3s						
LVC	**Limon Verde**	**41.51**	**325**	P	**P**	**16 55 49.8**	**-0.2**
MAW	**Mawson**	**41.78**	**147**	LR	LR	17 12 43.5	
	comp=Z,41nm,18.0s,baz=240,slow=36						
MNMC	**Minye Minye**	**45.00**	**325**	P	**P**	**16 56 18.6**	**+0.4**
MNMC				IAmb	IAmb	16 56 25.1	
	comp=Z,8.2nm,1.2s						
SUR	**Sutherland**	**50.33**	**87**	P	**P**	**16 56 58.6**	**-0.8**
SAML	**Samuel**	**53.28**	**337**	P	**P**	**16 57 20.2**	**-1.0**
SAML				IAmb	IAmb	16 57 22.3	
	comp=Z,3.5nm,0.7s						
LBTB	**Lobatse**	**58.76**	**86**	P	**P**	**16 57 59.8**	**-0.7**
WHZ	**Wether Hill Ro**	**70.77**	**203**	P	**P**	**16 59 16.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**82.06**	**45**	P	**P**	**17 00 24.8**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=203,slow=6.8,SNR=8.6						
ILAR	**Eielson Array**	**146.15**	**311**	PKPbc	**PKPbc**	**17 07 41.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=133,slow=3.2,SNR=14						
ILAR	**Eielson Array**	**146.15**	**311**		**PKPbc**	**17 07 42.2**	**+1.0**
MK31	**Makanchi Array**	**146.60**	**90**		**PKPbc**	**17 07 43.9**	**+0.8**
MKAR	**Makanchi Array**	**146.60**	**90**	PKPbc	**PKPbc**	**17 07 43.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=236,slow=3.6,SNR=22						
MKAR	**Makanchi Array**	**146.60**	**90**		**PKPbc**	**17 07 43.8**	**+0.7**

*IDC **22** 16:54:41.1±1.1,0°.92S×130°.93E,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.6/42,mbtmp3.8/5,ML4.0/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/39,Error ellipse: s-maj=21.4km s-min=7.9km az=171.0*
*ISCJB **22** 16:54:42.6±0.6,0°.97S±0°.05×131°.16E±0°.10,h33km±8km, mb3.8/3,MS3.0/1,Error ellipse: s-maj=16.6km s-min=8.0km az=167.3*
*DJA **22** 16:54:42.3±1.2,1°S±12°×13°1E±1°8,h19km±10km,M3.9/4, MLv3.9/4*
*NEIC **22** 16:54:43.8±2.4,0°.80S±0°.08×131°.2E±0°.1,h28km±5km, mb3.9/12*

ISC 22 16:54:43.2±0.9,0°.98S±0°.05×131°.10E±0°.05,h23km±8km, n39,σ2§09/37,mb4.0/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.20**	**55**	P	**Pb**	**16 54 48.0**	**-0.5**
SWI				S	**Sb**	**16 54 51.5**	**-0.7**
SIJI	**Sorong**	**0.20**	**58**	Pg	**Pb**	**16 54 48.0**	**-0.6**
	baz=221,slow=19						
SIJI				Lg	Lg	16 54 52.0	
	3μm,0.3s,baz=180,slow=20,SNR=344						
FAKI	**Fak Fak**	**2.25**	**149**	P	**Pn**	**16 55 20.4**	**+1.4**
FAKI	**Fak Fak**	**2.25**	**149**		**Pn**	**16 55 21.0**	**+2.0**
RKPI	**Ransiki, Papua**	**3.12**	**100**	P	**Pb**	**16 55 36.5**	**-1.6**
MSAI	**Masohi**	**3.20**	**223**	P	**Pb**	**16 55 40.5**	**+1.1**
BNDI	**Bandanaira**	**3.72**	**199**	P	**Pb**	**16 55 46.1**	**-2.1**
AAI	**Ambon**	**3.96**	**227**	P	**Pb**	**16 55 49.8**	**-2.5**
TNTI	**Ternate**	**4.12**	**295**	P	**Pn**	**16 55 47.1**	**+2.4**
TNTI	**Ternate**	**4.12**	**295**		**Pn**	**16 55 47.2**	**+2.4**
SAUI	**Saumlaki**	**6.96**	**178**	Pn	**Pn**	**16 56 27.1**	**+3.2**
GENI	**Genyem**	**9.21**	**100**	P	Pn	16 57 04.3	+10
MTN	**Manton Dam**	**11.79**	**180**		**Pn**	**16 57 31.2**	**+1.1**
MTN					**Sn**	**16 59 40.6**	**-0.6**
KNRA	**Kununurra**	**14.79**	**189**		**Pn**	**16 58 10.1**	**-1.0**
COEN	**Coen**	**17.58**	**138**	P	**Pn**	**16 58 46.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**17.84**	**197**	P	**Pn**	**16 58 51.0**	**+0.9**
	0.3nm,0.3s,baz=31,slow=12,SNR=17						
FITZ				S	**Sn**	**17 02 03.5**	**-4.9**
	0.1nm,0.3s,baz=348,slow=20,SNR=2.5						
FITZ	**Fitzroy Crossi**	**17.84**	**197**	P	**P**	**16 58 53.1**	**+2.4**
FITZ				IAmb	IAmb	16 59 10.7	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**18.95**	**170**		**Pn**	**16 59 04.4**	**+0.7**
WB0				IAmb	IAmb	16 59 15.3	
	comp=Z,3.6nm,0.6s						
WRAB	**Tennant Creek**	**19.11**	**171**	P	**P**	**16 59 05.6**	**+0.9**
WRAB				IAmb	IAmb	16 59 09.0	
	comp=Z,3.2nm,0.7s						
WRA	**Warramunga Arr**	**19.11**	**171**	P	**P**	**16 59 05.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=350,slow=11,SNR=26						
WRA	**Warramunga Arr**	**19.11**	**171**	P	**Pn**	**16 59 06.9**	**+1.2**
WB2	**Warramunga Arr**	**19.12**	**171**	P	**Pn**	**16 59 06.8**	**+1.1**
WR0	**Warramunga Arr**	**19.17**	**170**		**Pn**	**16 59 07.4**	**+1.1**
WR0				IAmb	IAmb	16 59 16.6	
	comp=Z,6.3nm,1.1s						
AS31	**Alice Springs**	**22.72**	**173**	P	**P**	**16 59 46.5**	**+2.8**
AS31				IAmb	IAmb	16 59 54.4	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**22.72**	**173**	P	**P**	**16 59 46.1**	**+2.4**
	comp=Z,3.4nm,0.6s,baz=352,slow=10,SNR=25						
ASAR	**Alice Springs**	**22.72**	**173**	P	**P**	**16 59 47.2**	**+3.5**
LEM	**Lembang**	**24.13**	**255**	LR	LR	17 10 08.0	
	comp=Z,46nm,19.1s,baz=263,slow=39						
YOJ	**Yonaguni jima**	**26.48**	**343**	P	**P**	**17 00 14.6**	**-4.2**
SSLB	**Suanglung**	**26.52**	**339**	P	**P**	**17 00 18.8**	**-0.5**
SSLB				IAmb	IAmb	17 00 23.9	
	comp=Z,4.2nm,1.1s						
MORW	**Morawa**	**31.41**	**206**	P	**P**	**17 01 00.1**	**-2.7**
MORW				IAmb	IAmb	17 01 03.6	
	comp=Z,4.8nm,0.9s						
ARMA	**Armidale**	**35.18**	**148**	P	**P**	**17 01 35.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.05**	**303**	P	**P**	**17 01 52.9**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=127,slow=6.2,SNR=6.5						
CMAR	**Chiang Mai Arr**	**37.05**	**303**	P	**P**	**17 01 50.6**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**40.68**	**58**	T	T	17 45 20.6	
	baz=245,slow=76,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**40.69**	**58**	T	T	17 45 21.4	
	baz=245,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**40.69**	**58**	T	T	17 45 22.0	
	baz=245,slow=76,SNR=11						
MKAR	**Makanchi Array**	**63.89**	**325**	P	**P**	**17 05 13.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=123,slow=7.8,SNR=8.2						
MKAR	**Makanchi Array**	**63.89**	**325**	P	**P**	**17 05 13.2**	**-1.1**
KSH	**Kashi**	**64.44**	**315**	*e*P	**P**	**17 05 20.6**	**+2.5**

*IDC **22** 16:59:52.5±3.7,30°.87S×138°.32E,h0km,mb1 3.9/3, mb1mx3.5/28,mbtmp3.7/3,ML3.2/3,Error ellipse: s-maj=95.8km s-min=20.8km az=38.0*
*ISCJB **22** 16:59:53.0±1.0,31°.04S±0°.04×138°.35E±0°.04,h24km±10km, Error ellipse: s-maj=6.6km s-min=5.4km az=36.1*
*AUST **22** 16:59:53.7±0.7,31°.03S×138°.36E,h16km±4km,Error ellipse: s-maj=3.0km s-min=2.7km az=83.0*

ISC 22 16:59:52.8±2.0,31°.02S±0°.04×138°.33E±0°.04,h17km±14km, n14,σ1§98/27,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.58**	**350**	P	**Pn**	**17 00 05.0**	**-1.3**
	baz=0.6,SNR=135						
LCRK				S	**Sb**	**17 00 13.2**	**+0.8**
	baz=0.6						
HTT	**Hallett**	**2.45**	**168**	P	**Pn**	**17 00 33.0**	**+0.9**
	baz=2.4,SNR=8.8						
HTT				S	**Sn**	**17 01 03.7**	**+1.9**
	baz=2.4						
BBOO	**Buckleboo**	**2.63**	**227**	P	Pn	**17 00 35.1**	**+0.7**
	baz=2.6,SNR=21						
BBOO				S	**Sn**	**17 01 07.0**	**+1.1**
	baz=2.6						
STKA	**Stephens Creek**	**2.92**	**108**	P	**Pn**	**17 00 40.1**	**+1.7**
	baz=2.9,SNR=13						
STKA				S	**Sn**	**17 01 13.7**	**+0.6**
	baz=2.9						
STKA	**Stephens Creek**	**2.92**	**108**	Pn	**Pn**	**17 00 39.7**	**+1.2**
	0.7nm,0.3s,baz=294,slow=14,SNR=11						
STKA				Pg	**Pg**	**17 00 47.8**	**-1.0**
	8.7nm,0.3s,baz=291,slow=15,SNR=78						
STKA				Sn	**Sn**	**17 01 14.7**	**+1.6**
	3.2nm,0.3s,baz=205,slow=18,SNR=4.8						
STKA				Lg	Lg	17 01 23.4	
	5.8nm,0.3s,baz=13,slow=16,SNR=5.7						
MULG	**Mulgathing**	**3.75**	**280**	P	**Pn**	**17 00 51.1**	**+1.2**
	baz=3.8,SNR=6.3						
MULG				S	**Sn**	**17 01 35.7**	**+2.0**
	baz=3.8						
INKA	**Innaminka**	**3.89**	**33**	P	**Pn**	**17 00 55.0**	**+3.2**
	baz=3.9,SNR=8.6						
INKA				S	**Sn**	**17 01 39.8**	**+2.7**
	baz=3.9						
OOD	**Oodnadatta**	**3.96**	**324**	P	**Pn**	**17 00 54.0**	**+1.3**
	baz=4.0,SNR=4.5						
OOD				S	**Sn**	**17 01 41.6**	**+2.9**
	baz=4.0						
CMSA	**Cobar Meteorol**	**6.32**	**97**	P	**Pn**	**17 01 26.6**	**+1.4**
	baz=6.3						
CMSA				S	**Sn**	**17 02 36.3**	**-0.8**
	baz=6.3						
ARPS	**Mount Arapiles**	**6.43**	**154**	P	**Pn**	**17 01 27.3**	**+0.6**
	baz=6.4						
ARPS				S	**Sn**	**17 02 36.9**	**-2.8**
	baz=6.4						
ASAR	**Alice Springs**	**8.31**	**331**	Pn	**Pn**	**17 01 53.9**	**+1.2**
	0.4nm,0.3s,baz=152,slow=12,SNR=14						
ASAR				Sn	**Sn**	**17 03 23.6**	**-2.6**
	1.0nm,0.3s,baz=151,slow=22,SNR=19						
TOO	**Toolangi**	**8.82**	**140**	P	**Pn**	**17 01 59.5**	**0.0**
	baz=8.8,SNR=5.2						
WRA	**Warramunga Arr**	**11.60**	**341**	Pn	**Pn**	**17 02 37.2**	**-0.5**
	0.5nm,0.3s,baz=163,slow=12,SNR=11						
WRA				Sn	**Sn**	**17 04 42.5**	**-4.5**
	0.2nm,0.3s,baz=167,slow=24,SNR=4.3						
FITZ	**Fitzroy Crossi**	**17.26**	**315**	P	**Pn**	**17 03 52.7**	**-0.5**
	baz=146,slow=15,SNR=2.4						

*ISCJB **22** 17:00:54.0±1.3,24°.0N±0°.2×94°.4E±0°.4,h96km,mb3.5/5, Error ellipse: s-maj=57.0km s-min=14.5km az=152.6*
*IDC **22** 17:00:54.5±4.4,24°.05N×94°.44E,h79km±42km,mb3.3/5, mb1 3.3/6,mb1mx3.1/65,mbtmp3.5/6,ML3.3/1,Error ellipse: s-maj=72.4km s-min=20.3km az=63.0*

ISC 22 17:00:55.9±1.4,24°.0N±0°.3×94°.5E±0°.4,h96km,n6,σ0§96/6, mb3.4/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.92**	**142**	P	**Pn**	**17 02 34.0**	**-0.7**
	0.1nm,0.3s,baz=316,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**24.75**	**340**	P	**P**	**17 06 08.4**	**-0.1**
	0.8nm,0.5s,baz=152,slow=9.1,SNR=10						
SONM	**Songino Array**	**25.60**	**19**	P	**P**	**17 06 16.1**	**-0.2**
	0.2nm,0.5s,baz=193,slow=5.9,SNR=2.6						
WRA	**Warramunga Arr**	**58.45**	**135**	P	**P**	**17 10 43.5**	**+1.5**
	0.4nm,0.4s,baz=322,slow=7.6,SNR=1.3						
FINES	**FINESS Array B**	**58.90**	**329**	P	**P**	**17 10 44.4**	**-0.2**
	1.2nm,0.8s,baz=88,slow=14,SNR=1.8						
ASAR	**Alice Springs**	**60.91**	**138**	P	**P**	**17 10 59.0**	**+0.1**
	0.2nm,0.7s,baz=314,slow=7.3,SNR=1.7						

*ISK **22** 17:09:02.7,35°.61N×32°.20E,h19km,ML3.1/18*
*NIC **22** 17:09:03.1±0.0,35°.67N×32°.22E,h15km±31km,Ml2.8/5*
*GII **22** 17:09:04.2±0.0,35°.38N×32°.17E,h20km*

ISC 22 17:09:03.6±1.2,35°.58N±0°.03×32°.22E±0°.04,h26km±13km, n54,σ1§28/73,2C-3D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.52**	**144**	⇓P	**Pb**	**17 09 14.9**	**+0.6**
ALFC				S	**Sn**	**17 09 24.1**	**+0.6**
ALFC				AML	AML	17 09 27.1	
	2.2nm,0.2s						
ALFC				AML	AML	17 09 27.1	
	2.2nm,0.2s						
ALFC				AML	AML	17 09 28.3	
	2.2nm,0.2s						
ALFC				AML	AML	17 09 28.3	
	2.2nm,0.2s						
AKMS	**Akamas**	**0.57**	**171**	⇑P	**Pb**	**17 09 15.4**	**+0.4**
AKMS				S	**Sn**	**17 09 26.4**	**+1.8**
AKMS				AML	AML	17 09 27.2	
	3.8nm,0.3s						
AKMS				AML	AML	17 09 27.2	
	3.8nm,0.3s						
AKMS				AML	AML	17 09 30.9	
	2.6nm,0.3s						
AKMS				AML	AML	17 09 30.9	
	2.6nm,0.3s						
GAZI	**Gazipasa**	**0.66**	**7**	PG	**Pb**	**17 09 15.9**	**-0.6**
GAZI				SG	**Sb**	**17 09 25.1**	**-0.2**
AKDN	**Akdeniz- Kıbrı**	**0.67**	**115**	PG	**Pb**	**17 09 17.0**	**+0.3**
AKDN				SG	**Sn**	**17 09 26.9**	**-0.2**
LEF	**Lefka**	**0.71**	**130**	PG	**Pb**	**17 09 17.3**	**-0

KSDI	**Kefar Szold**	**3.71**	**129**	Pn	**Pn**	**17 09 59.1**	**-0.1**
KSDI				Sn	**Sn**	**17 10 40.5**	**-1.6**
NATI	**Neve Ativ**	**3.71**	**128**	Pn	**Pn**	**17 09 58.9**	**-0.4**
NATI				Sn	**Sn**	**17 10 40.9**	**-1.3**
OFRI	**`Ofer**	**3.74**	**141**	Pn	**Pn**	**17 09 58.7**	**-1.0**
OFRI				Sn	**Sn**	**17 10 40.6**	**-2.3**
KSHT	**Keshet**	**3.94**	**130**	Pn	**Pn**	**17 10 01.9**	**-0.6**
SLTI	**Sal'it**	**4.07**	**144**	Pn	**Pn**	**17 10 03.1**	**-1.1**
MMLI	**Mount Malkishu**	**4.11**	**139**	Pn	**Pn**	**17 10 04.0**	**-0.8**
HMDT	**Nahal Hemdat**	**4.31**	**139**	Pn	**Pn**	**17 10 06.5**	**-1.0**
HMDT				Sn	**Sn**	**17 10 55.9**	**-1.0**
DSI	**Dead Sea**	**4.79**	**146**	Pn	**Pn**	**17 10 12.8**	**-1.3**
YTIR	**Yattir**	**4.85**	**149**	Pn	**Pn**	**17 10 13.9**	**-1.1**
YTIR				Sn	**Sn**	**17 11 08.1**	**-2.3**
PRNI	**Paran**	**5.71**	**155**	Pn	**Pn**	**17 10 25.9**	**-0.9**
MBRI	**Mt Berech**	**6.20**	**158**	Pn	**Pn**	**17 10 32.5**	**-1.1**
VYHS	**Vyhne**	**16.26**	**327**	*e*PN	**Pn**	**17 12 49.2**	**-0.9**

BJI ***22*** *17:20:53.0±0.0, 5°.12N×92°.78E, h6km, mb5.3/78, mB5.2/60, Ms5.3/91, Ms7 5.1/81*
ISCJB ***22*** *17:20:57.5±0.6, 5°.41N±0°.02×92°.82E±0°.01, h21km±4km, mb5.5/195, MS4.9/77, Error ellipse: s-maj=3.0km s-min=2.1km az=26.6*
MOS ***22*** *17:20:57.5±1.1, 5°.52N×92°.78E, h18km, mb6.0/48, Error ellipse: s-maj=5.5km s-min=3.4km az=118.7*
NEIC ***22*** *17:20:58.3±1.7, 5°.42N±0°.06×92°.82E±0°.06, h16km±1km, mb5.6/237, Mwb5.3, Mww5.5, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.09; Mθθ=0.09; Mφφ=0.18; Mrθ=0.06; Mφφ=-1.03; Mφr=0.54; Fault plane solution: M0 1.17000×10^17^ NP1: φs=94.45000°, δ=62.31000°, λ=-176.29000°. NP2: φs=2.72000°, δ=86.71000°, λ=-27.74000°. Principal axes: T 1.1947, Plg17.0000°, Azm52.0000°; N -0.0405, Plg62.0000°, Azm176.0000°; P -1.1543, Plg22.0000°, Azm315.0000°;*
DJA ***22*** *17:20:58.2±0.9, 5°N±2°×9°3E±°, h10km±6km, M5.4/85, mb5.6/85, mB5.8/70, MLv6.0/7, Mw(mB)5.3/70, Mwp5.4/5*
GCMT ***22*** *17:21:00.3±0.1, 5°.38N±0°.01×92°.78E±0°.01, h12km, MW5.5/113, Moment Tensor Solution. s90, c156; s113, c219; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=0.65±.02; Mθθ=0.00±.02; Mφφ=0.64±.02; Mrθ=0.09±.05; Mφφ=-1.45±.02; Mφr=-1.13±.09; Best double couple: M0 1.93600×10^17^ NP1: φs=359.00000°, δ=77.00000°, λ=-43.00000°. NP2: φs=101.00000°, δ=49.00000°, λ=-163.00000°. Principal axes: T 2.0770, Plg18.0000°, Azm56.0000°; N -0.2820, Plg46.0000°, Azm165.0000°; P -1.7950, Plg39.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***22*** *17:21:01, 5°.37N×92°.77E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.66; Mθθ=0.02; Mφφ=0.64; Mrθ=-0.28; Mφφ=-1.55; Mφr=-0.89; Fault plane solution: M0 1.92000×10^17^ NP1: φs=360.00000°, δ=74.00000°, λ=-35.00000°. NP2: φs=100.00000°, δ=56.00000°, λ=-161.00000°. Principal axes: T 2.0166, Plg12.0000°, Azm53.0000°; N -0.2011, Plg52.0000°, Azm158.0000°; P -1.8155, Plg36.0000°, Azm315.0000°;*
IDC ***22*** *17:21:02.0±0.4, 5°.46N×92°.86E, h37km±2km, mb5.0/27, mb1 5.1/30, mb1mx5.1/31, mbtmp5.2/30, ML4.9/3, MS4.8/35, Ms1 4.8/35, ms1mx4.6/50 Error ellipse: s-maj=12.0km s-min=7.9km az=44.0*
NEIC ***22*** *17:21:04, 5°.49N×92°.81E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.85; Mθθ=0.12; Mφφ=0.74; Mrθ=-0.65; Mφφ=-1.48; Mφr=-0.88; Fault plane solution: M0 2.00000×10^17^ NP1: φs=358.00000°, δ=67.00000°, λ=-37.00000°. NP2: φs=104.00000°, δ=56.00000°, λ=-151.00000°. Principal axes: T 1.9662, Plg6.0000°, Azm53.0000°; N 0.0711, Plg47.0000°, Azm150.0000°; P -2.0373, Plg42.0000°, Azm317.0000°;*
ISC 22 17:21:00.1±0.3, 5°.42N±0°.03×92°.82E±0°.03, h27km±2km, h27km:pP-P, n1575, σ1°40/1700, mb5.6/279, MS5.0/77, 67C-163D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.92**	**35**	⇑*i*P		**Pn**	**17 21 32.1**	**+1.0**
CMBY				*e*S		**Sn**	**17 21 54.2**	**-0.2**
CMBY				IAML			17 21 56.8	
	comp=N,30μm,0.6s							
CMBY				IAML			17 22 00.6	
	comp=E,51μm,0.8s							
MLSI	**Meulaboh, Aceh**	**3.75**	**108**	P		**Pn**	**17 21 55.4**	**-0.9**
LHMI	**Lhok Sumawe**	**4.12**	**93**	P		**Pn**	**17 22 02.3**	**+1.1**
LHMI	**Lhok Sumawe**	**4.12**	**93**			**Pn**	**17 22 02.6**	**+1.4**
TPTI		**4.85**	**116**	P		**Pn**	**17 22 12.3**	**+0.9**
TPTI				S		**Sn**	**17 23 03.5**	**-3.2**
PKDT	**Phuket**	**6.00**	**66**	P		**Pn**	**17 22 28.3**	**+1.1**
	comp=E,4μm,0.8s,comp=E,42μmcomp=E,14nm							
PBA	**Port Blair**	**6.19**	**359**	P		Pn	17 22 31.5	+1.7
PBA	**Port Blair**	**6.19**	**359**	*e*P		Pn	17 22 26.9	-2.9
PBA				*ex*		x	17 23 34.1	
PBA				*ex*		x	17 23 35.6	
PBA				IAML			17 23 40.2	
	comp=N,2μm,0.3s							
PBA				IAML			17 23 49.4	
	comp=E,2μm,0.4s							
PBA	**Port Blair**	**6.19**	**359**			Pn	17 22 29.7	-0.1
GSI	**Gunungsitoli**	**6.27**	**131**	P		**Pn**	**17 22 28.7**	**-2.2**
GSI	**Gunungsitoli**	**6.27**	**131**	Pn		**Pn**	**17 22 28.5**	**-2.4**
PSI	**Prapat**	**6.62**	**113**	P		**Pn**	**17 22 36.3**	**+0.5**
PSI							17 23 45.8	
PSI	**Prapat**	**6.62**	**113**	Pn		**Pn**	**17 22 37.5**	**+1.6**
	comp=E,22nm,0.3s,baz=285,slow=9.7,SNR=23							
PSI				Sn		**Sn**	**17 23 45.9**	**-4.7**
	comp=E,56nm,0.3s,baz=45,slow=18,SNR=8.5							
PSI				LR		LR	17 25 49.6	
	comp=E,23μm,19.3s,baz=272,slow=43							
RPSI	**Rantau Prapat**	**6.67**	**114**			**Pn**	**17 22 36.3**	**0.0**
RPSI	**Rantau Prapat**	**6.67**	**114**			**Pn**	**17 22 37.5**	**+1.2**
RPSI						**Sn**	**17 23 45.9**	**-5.6**
SURT	**Suratani**	**6.89**	**59**	P		**Pn**	**17 22 41.0**	**+1.6**
	comp=E,1μm,0.7s,comp=E,18μmcomp=E,6.1nm							
TRTT	**Trang**	**7.24**	**70**	P		**Pn**	**17 22 45.0**	**+0.9**
	comp=E,1μm,0.5s,comp=E,16μmcomp=E,5.6nm							
DGPR	**DIGLIPUR**	**7.71**	**1**	*e*P		**Pn**	**17 22 51.8**	**+1.2**
DGPR				*ex*		x	17 24 01.9	
DGPR				IAML			17 24 16.1	
	comp=N,969nm,0.7s							
SKLT	**Songkhla**	**7.95**	**77**	P		**Pn**	**17 22 55.3**	**+1.4**
	comp=N,404nm,0.8s,comp=N,4μmcomp=N,1.3nm							
IPM	**Ipoh**	**8.23**	**96**			**Pn**	**17 22 57.3**	**-0.5**
SISI	**Saibi**	**9.18**	**137**	P		**Pn**	**17 23 08.4**	**-2.4**
SISI				S		**Sn**	**17 24 46.7**	**-6.5**
BKNI	**Bangkinang**	**9.64**	**121**	P		**Pn**	**17 23 18.1**	**+0.9**
BKNI	**Bangkinang**	**9.64**	**121**			**Pn**	**17 23 16.9**	**-0.3**
PDSI	**Padang**	**9.89**	**129**	P		**Pn**	**17 23 20.6**	**-0.1**
PHET	**Kaeng Krachan**	**10.03**	**42**	P		**Pn**	**17 23 24.0**	**+1.6**
	comp=N,492μm,0.8s							
SRDT	**SRDT**	**10.82**	**35**	P		**Pn**	**17 23 35.6**	**+2.2**
	comp=N,119nm,0.7s							
PPSI	**Pulau Pagai**	**10.85**	**138**	P		**Pn**	**17 23 31.1**	**-2.6**
PATY	**Pattaya**	**10.89**	**46**	P		**Pn**	**17 23 36.2**	**+1.9**
	comp=N,517μm,0.6s							
KRJI	**Kerinci**	**11.41**	**131**	P		**Pn**	**17 23 40.3**	**-1.3**
MYKOM	**Kota Tinggi**	**11.59**	**108**			**Pn**	**17 23 43.3**	**-0.5**
UTHA	**Uthaitani**	**11.99**	**32**	P		**Pn**	**17 23 50.8**	**+1.4**
	comp=N,381μm,0.8s							
PALK	**Pallekele**	**12.18**	**279**	*i*P		**Pn**	**17 23 50.3**	**-1.8**
	SNR=150							
PALK	**Pallekele**	**12.18**	**279**	P		**Pn**	**17 23 50.1**	**-2.0**
PALK	**Pallekele**	**12.18**	**279**	Pn		**Pn**	**17 23 50.8**	**-1.2**
	comp=N,107nm,0.3s,baz=116,slow=15,SNR=256							
PALK				Sn		Sn	17 25 53.5	-14
	comp=N,174nm,0.3s,baz=296,slow=3.4,SNR=16							
PALK				LR		LR	17 28 01.3	
	comp=N,9μm,19.0s,baz=120,slow=34							
PALK	**Pallekele**	**12.18**	**279**			**Pn**	**17 23 50.1**	**-2.0**
PALK						Sn	17 25 53.1	-14
UMPA	**Umpang Tak**	**12.24**	**28**	P		**Pn**	**17 23 52.2**	**-0.7**
	comp=N,891μm,0.7s							
TPRI	**Tanjung Pinang**	**12.52**	**111**	P		**P**	**17 24 11.2**	**+3.2**
MHMT	**Maesarieng**	**13.62**	**21**	P		**Pn**	**17 24 12.5**	**+0.8**
	comp=N,370nm,0.7s,comp=N,3μm							
PBKT	**Sadao Pong**	**13.66**	**35**	P		**Pn**	**17 24 13.5**	**+1.4**
	comp=N,228nm,0.8s,comp=N,3μm							
PBKT	**Sadao Pong**	**13.66**	**35**			**Pn**	**17 24 13.4**	**+1.4**
CHAI	**Chaiyaphum**	**13.76**	**40**	P		**Pn**	**17 24 15.7**	**+2.1**
	comp=N,417μm,0.7s							
MNAI	**Manna**	**14.04**	**134**	P		**Pn**	**17 24 15.0**	**-2.3**
MNAI	**Manna**	**14.04**	**134**	Pn		**Pn**	**17 24 15.9**	**-1.5**
CM31	**Chiang Mai Arr**	**14.27**	**24**	P		**Pn**	**17 24 21.4**	**+0.9**
	SNR=96							
CM31	**Chiang Mai Arr**	**14.27**	**24**			**Pn**	**17 24 21.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**14.27**	**24**	P		**Pn**	**17 24 20.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.27**	**24**	Pn		**Pn**	**17 24 21.1**	**+0.7**
	comp=N,3.8nm,0.3s,baz=217,slow=14,SNR=709							
CMAR				Sn		**Sn**	**17 27 02.7**	**+4.8**
	baz=238,slow=14,SNR=2.2							
CMAR				LR		LR	17 30 07.2	
	comp=N,3μm,19.5s,baz=215,slow=38							
CMAR				ScP		**ScP**	**17 33 11.4**	**+1.8**
	comp=N,0.0nm,0.3s,baz=233,slow=3.2,SNR=4.5							
CMAR	**Chiang Mai Arr**	**14.27**	**24**			**Pn**	**17 24 20.2**	**-0.3**
CMAR						**ScP**	**17 33 09.7**	**0.0**
PMBI	**Palembang**	**14.54**	**125**	P		P	17 24 43.3	+13
PMBI	**Palembang**	**14.54**	**125**	Pn		**Pn**	**17 24 23.8**	**-0.5**
MDRS	**Chennai**	**14.54**	**302**	*e*P		**Pn**	**17 24 22.6**	**-1.6**
CHTO	**Chiang Mai**	**14.59**	**24**	P		**Pn**	**17 24 25.4**	**+0.5**
	SNR=40							
CHTO	**Chiang Mai**	**14.59**	**24**	P		**Pn**	**17 24 24.8**	**-0.1**
CHTO	**Chiang Mai**	**14.59**	**24**			**Pn**	**17 24 24.8**	**-0.1**
CMMT	**Chiang Mai**	**14.59**	**24**	P		**Pn**	**17 24 24.8**	**-0.1**
	comp=N,96nm,1.2s,comp=N,1μm							
SIMRM	**Sittwe**	**14.62**	**0**			**Pn**	**17 24 23.0**	**-2.3**
PHRA	**Phrae**	**14.87**	**28**	P		**Pn**	**17 24 29.8**	**+1.1**
	comp=N,26nm,0.5s							
LWLI	**Liwa**	**15.28**	**133**	P		**Pn**	**17 24 32.2**	**-2.1**
KLSI		**15.57**	**130**	P		**Pn**	**17 24 38.4**	**+0.5**
UBPT	**Khong Chiam**	**15.83**	**51**	P		**Pn**	**17 24 42.9**	**+1.7**
	comp=N,491nm,1.2s,comp=N,6μm							
UBPT	**Khong Chiam**	**15.83**	**51**	P		**Pn**	**17 24 42.6**	**+1.4**
UBPT				IAmb		IAmb	17 24 47.8	
	comp=Z,570nm,0.8s							
KASI	**Kota Agung**	**15.94**	**133**	P		**P**	**17 24 45.9**	**-0.2**
TRD	**Trivandrum**	**16.04**	**282**	⇓*ix*		**P**	**17 24 42.0**	**-5.2**
NONG	**Nongkai**	**16.11**	**38**	P		**Pn**	**17 24 45.4**	**+0.5**
	comp=Z,21nm,1.0s,comp=Z,215nm							
BWNR	**Bhubaneshwar**	**16.28**	**336**	*e*P		**Pn**	**17 24 42.2**	**-4.7**
BLSI	**Bandar Lampung**	**16.40**	**131**	P		**P**	**17 24 54.0**	**+2.8**
DLV	**T Lat**	**16.78**	**66**	P		**P**	**17 24 54.9**	**-0.7**
TPI	**Tanjungpandan**	**16.90**	**118**	P		**Pn**	**17 24 55.5**	**+0.6**
BELO	**BELONIA**	**17.77**	**356**	*e*P		**Pn**	**17 25 05.3**	**-0.4**
BELO				*ex*		x	17 28 12.8	
KSM	**Kuching**	**17.89**	**102**	P		**P**	**17 25 08.6**	**+0.9**
HYB	**Hyderabad**	**18.35**	**312**	*i*P		**P**	**17 25 11.0**	**-1.8**
	comp=Z,300nm,1.0s							
HYB				*e*			17 28 20.0	
HYB				*e*S		**Sn**	**17 28 36.0**	**-1.3**
HYB	**Hyderabad**	**18.35**	**312**	⇓*i*P		**P**	**17 25 10.5**	**-2.3**
HYB				IAmb		IAmb	17 25 16.7	
	comp=Z,164nm,0.5s							
SKJI	**Sukabumi**	**18.45**	**132**	P		**Pn**	**17 25 14.6**	**+0.5**
SLVN	**Son La**	**19.12**	**33**	P		**Pn**	**17 25 21.9**	**-0.3**
SLVN				IAmb		IAmb	17 25 26.1	
	comp=Z,260nm,1.1s							
LEM	**Lembang**	**19.14**	**129**	P		**Pn**	**17 25 22.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=143,slow=20,SNR=3.3							
LEM				S		**Sn**	**17 28 54.0**	**-2.5**
	comp=Z,1.7nm,0.3s,baz=349,slow=19,SNR=2.2							
LEM				LR		LR	17 34 00.8	
	comp=Z,4μm,18.5s,baz=307,slow=41							
STKI	**Sintang**	**19.38**	**105**	P		**Pn**	**17 25 25.4**	**+0.1**
BOK	**Bokaro**	**19.45**	**341**	⇓*i*P		**P**	**17 25 23.3**	**-1.4**
BOK				*ex*		x	17 28 46.4	
HMDM	**Hanimaadhoo**	**19.57**	**275**	P		**Pn**	**17 25 28.1**	**+0.5**
	SNR=11							
HMDM	**Hanimaadhoo**	**19.57**	**275**	P		**Pn**	**17 25 27.4**	**-0.2**
HMDM				IAmb		IAmb	17 25 43.3	
	comp=Z,183nm,0.6s							
SBUM	**Sibu**	**19.58**	**98**	P		**Pn**	**17 25 27.3**	**-0.3**
CISI	**Cisompet, Garu**	**19.75**	**131**	P		**P**	**17 25 27.8**	**-0.4**
CISI	**Cisompet, Garu**	**19.75**	**131**	P		**P**	**17 25 28.6**	**+0.4**
MNCI	**Minicoy**	**19.82**	**279**	P		**P**	**17 25 29.4**	**+0.5**
SHL	**Shillong**	**20.05**	**358**	P		**P**	**17 25 30.6**	**-0.8**
	SNR=81							
SHL	**Shillong**	**20.05**	**358**	P		**P**	**17 25 30.1**	**-1.4**
SHL				pmax		pmax		
	comp=Z,210nm,0.6s							
SHL	**Shillong**	**20.05**	**358**	⇓*i*P		**P**	**17 25 30.2**	**-1.4**
SHL	**Shillong**	**20.05**	**358**	P		**P**	**17 25 30.1**	**-1.4**
SHL				IAmb		IAmb	17 25 44.5	
	comp=Z,210nm,0.6s							
KOHI	**KOHIMA**	**20.22**	**3**	*e*P		**P**	**17 25 32.0**	**-1.2**
KOHI				*ex*		x	17 29 11.0	
XMIS	**Christmas Isla**	**20.32**	**141**	P		**P**	**17 25 34.8**	**+0.5**
CMJI	**Cimerak**	**20.38**	**130**	P		**P**	**17 25 32.0**	**-2.9**
KAAM	**Kaadhehdhoo**	**20.39**	**257**	P		Pn	17 25 38.3	+1.0
KAAM	**Kaadhehdhoo**	**20.39**	**257**	P		Pn	17 25 36.2	-1.1
KAAM				IAmb		IAmb	17 25 49.8	
	comp=Z,212nm,1.0s							
NGP	**Nagpur**	**20.56**	**321**	*ex*		**P**	**17 25 30.5**	**-6.3**
NGP				*e*P		Pn	17 25 38.3	-0.9
GOA	**Goa**	**21.17**	**300**	⇓*i*P		**P**	**17 25 44.3**	**+0.9**
GOA				IAML			17 30 26.2	
	comp=Z,124nm,0.6s							
JORH	**JORHAT**	**21.25**	**4**	*e*P		**P**	**17 25 43.1**	**-1.1**
JORH				*ex*		x	17 29 27.3	
QIZ	**Qiongzhong**	**21.41**	**49**	P		**P**	**17 25 47.4**	**+1.4**
QIZ				S		**S**	**17 29 45.8**	**+3.3**
QIZ				pmax		pmax		
	comp=Z,390nm,1.0s							
QIZ				LR		LR		
	comp=Z,7μm,12.8s							
QIZ				LR		LR		
	comp=Z,4μm,13.7s							
QIZ				LR		LR		
	comp=Z,3μm,14.7s							
QIZ	**Qiongzhong**	**21.41**	**49**	P		**P**	**17 25 47.1**	**+1.1**
QIZ				IAmb		IAmb	17 25 48.8	
	comp=Z,405nm,0.9s							
SMRI	**Semarang**	**21.51**	**125**	P		**P**	**17 25 47.9**	**+0.7**
SMRI	**Semarang**	**21.51**	**125**	P		**P**	**17 25 47.0**	**-0.2**
SMRI				IAmb		IAmb	17 26 04.4	
	comp=Z,164nm,0.8s							
JBP	**Jabalpur**	**21.55**	**326**	⇓*e*P		**P**	**17 25 48.8**	**+1.3**
JBP				AMB		AMB	17 25 52.3	
	comp=Z,381nm,1.2s							
JBP				*e*S		**S**	**17 29 41.0**	**-4.2**
KAD	**Karad**	**21.73**	**304**	*e*P		**P**	**17 25 50.6**	**+1.1**
KMI	**Kunming**	**21.78**	**25**	P		**P**	**17 25 51.9**	**+1.7**
KMI				pP		pP	17 25 54.5	-2.3
KMI				sP		sP	17 25 55.9	-4.0
KMI				PP		**PnPn**	**17 26 20.0**	**+8.2**
KMI				S		**S**	**17 29 49.8**	**-0.2**
KMI				sS		Sn	17 29 55.1	-4.9
KMI				SS			17 30 25.3	
KMI				pmax		pmax		
	comp=Z,77nm,1.7s							
KMI				pmax		pmax		
	comp=Z,570nm,3.1s							
KMI				LR		LR		
	comp=Z,3μm,19.8s							
KMI				LR		LR		
	comp=Z,5μm,19.8s							
KMI				LR		LR		
	comp=Z,3μm,13.6s							
KMI	**Kunming**	**21.78**	**25**	P		**P**	**17 25 50.8**	**+0.6**
KMI				pmax		pmax		
	comp=Z,129nm,0.8s							
KMI	**Kunming**	**21.78**	**25**	P		**P**	**17 25 50.8**	**+0.6**
KMI				IAmb		IAmb	17 26 05.8	
	comp=Z,129nm,0.8s							
ODAN	**Odare**	**21.94**	**347**	*e*P		**P**	**17 25 52.4**	**+0.5**
	comp=Z,1μm,1.6s							
LKP	**Lekhapani**	**21.98**	**7**	*e*P		**P**	**17 25 50.9**	**-1.2**
LKP				IAmb		IAmb	17 25 58.3	
	comp=Z,516nm,1.3s							
ZIRO	**ZIRO**	**22.00**	**2**	*e*P		**P**	**17 25 51.1**	**-1.5**
ZIRO				IAmb		IAmb	17 26 02.2	
	comp=Z,779nm,1.1s							
UGM	**Wanagama**	**22.08**	**127**	P		**P**	**17 25 52.5**	**-0.8**
GTK	**Tadong**	**22.14**	**350**	*ex*		x	17 25 47.0	
GTK				⇓*i*P		**P**	**17 25 54.1**	**+0.1**
GTK				*ex*		x	17 29 54.8	
RAMN	**Ramite**	**22.21**	**345**	*e*P		**P**	**17 25 56.2**	**+1.3**
	comp=Z,609nm,0.9s							
TAPN	**Taplejung**	**22.34**	**348**	*e*P		**P**	**17 25 56.9**	**+0.6**
	comp=Z,471nm,0.9s							
WOJI	**Wonogiri, Jawa**	**22.36**	**126**	P		P	17 26 09.7	+13
NGJI	**Ngawi**	**22.53**	**124**	P		P	17 26 06.8	+8.7
POO	**Poona**	**22.64**	**307**	⇑*ix*		**P**	**17 26 06.0**	**+6.7**
	comp=Z,150nm,1.0s							
POO				*ex*		x	17 33 36.8	
JIRN	**Jiri**	**23.00**	**345**	*e*P		**P**	**17 26 03.9**	**+0.6**
	comp=Z,797nm,0.7s							
BHPL	**Bhopal**	**23.11**	**322**	⇓*i*P		**P**	**17 26 03.2**	**-0.9**
BHPL				IAmb		IAmb	17 26 11.9	
	comp=Z,119nm,1.0s							
PKI	**Pulchoki**	**23.13**	**343**	*e*P		**P**	**17 26 05.0**	**+0.4**
	comp=Z,776nm,1.2s							
GRJI	**Gresik**	**23.14**	**122**	P		P	17 26 17.9	+13
PKIN	**Phulchoki**	**23.14**	**343**	*e*P		**P**	**17 26 04.9**	**+0.3**
	comp=Z,348nm,1.0s							
PWJI	**Pagerwojo**	**23.17**	**125**	P		P	17 26 12.8	+8.0
DMN	**Daman**	**23.25**	**342**	*e*P		**P**	**17 26 06.3**	**+0.5**
	comp=Z,305nm,0.8s							
KKM	**Kota Kinabalu**	**23.29**	**87**	P		**P**	**17 26 05.9**	**-0.2**
KKM				IAmb		IAmb	17 26 16.2	
	comp=Z,99nm,0.8s							
GUN	**Gumba**	**23.32**	**344**	*e*P		**P**	**17 26 07.0**	**+0.5**
	comp=Z,683nm,0.8s							
KKN	**Kakani**	**23.37**	**343**	*e*P		**P**	**17 26 07.2**	**+0.3**
	comp=Z,637nm,1.1s							
BOM	**Bombay**	**23.66**	**306**	*e*P		**P**	**17 26 11.3**	**+1.7**
GKN	**Gorkha**	**23.76**	**342**	*e*P		**P**	**17 26 11.6**	**+1.0**
KOLN	**Koldanda**	**23.89**	**339**	*e*P		**P**	**17 26 12.9**	**+1.0**
	comp=Z,810nm,1.0s							
DGAR	**Diego Garcia**	**23.99**	**238**	P		**P**	**17 26 16.9**	**+4.2**
DGAR	**Diego Garcia**	**23.99**	**238**	*i* P		**P**	**17 26 12.9**	**+0.2**
DGAR				pmax		pmax		
	comp=Z,272nm,0.9s							
DGAR	**Diego Garcia**	**23.99**	**238**	P		**P**	**17 26 12.6**	**-0.1**
DGAR				IAmb		IAmb	17 26 31.2	
	comp=Z,237nm,1.1s							
H08S3	**Diego Garcia H**	**24.08**	**238**	P		**P**	**17 26 16.0**	**+2.8**
	baz=29,slow=14,SNR=13							
H08S3				T		T	17 51 17.5	
	baz=58,slow=76,SNR=280							
H08S2	**Diego Garcia H**	**24.08**	**238**	P		**P**	**17 26 13.4**	**+0.2**
	baz=29,slow=14,SNR=11							
H08S2				T		T	17 51 19.8	
	baz=58,slow=76,SNR=267							
H08S1	**Diego Carcia H**	**24.09**	**238**	P		**P**	**17 26 13.6**	**+0.2**
	baz=29,slow=14,SNR=9.1							
H08S1				T		T	17 51 08.6	
	baz=58,slow=76,SNR=177							
LSA	**Lhasa**	**24.20**	**356**	P		**P**	**17 26 16.2**	**+1.1**
LSA	**Lhasa**	**24.20**	**356**	P		**P**	**17 26 16.2**	**+1.1**
LSA	**Lhasa**	**24.20**	**356**	P		**P**	**17 26 14.5**	**-0.5**
LSA				pmax		pmax		
	comp=Z,100nm,0.8s							
LSA	**Lhasa**	**24.20**	**356**	P		**P**	**17 26 14.5**	**-0.5**
LSA				IAmb		IAmb	17 26 28.4	
	comp=Z,100nm,0.8s							
DANN	**Dangsing**	**24.37**	**340**	*e*P		**P**	**17 26 17.4**	**+1.0**
	comp=Z,1μm,1.1s							
KMMI	**Kalianget**	**24.47**	**120**	P		**P**	**17 26 23.2**	**+6.0**
H08N1	**Diego Carcia H**	**24.70**	**242**	P		**P**	**17 26 19.1**	**+0.2**
	baz=67,slow=5.2,SNR=22							
H08N2	**Diego Garcia H**	**24.71**	**242**	P		**P**	**17 26 17.0**	**-2.0**
	baz=67,slow=5.2,SNR=18							
H08N3	**Diego Garcia H**	**24.73**	**242**	P		**P**	**17 26 17.3**	**-1.8**
	baz=67,slow=5.2,SNR=28							
GYA	**Guiyang**	**24.75**	**31**	⇓*i*P		**P**	**17 26 19.8**	**+0.1**
GYA				pP		pP	17 26 24.8	-1.9
GYA				sP		sP	17 26 26.8	-2.8
GYA				PP		**PnPn**	**17 26 55.8**	**+3.5**
GYA				S		**S**	**17 30 39.3**	**-1.2**
GYA				SS		**SnSn**	**17 31 36.3**	**+8.1**
GYA				pmax		pmax		
	comp=Z,40nm,0.9s							
GYA				pmax		pmax		
	comp=Z,420nm,5.0s							
GYA				LR		LR		
	comp=Z,4μm,15.8s							
GYA				LR		LR		
	comp=Z,6μm,15.0s							
GYA				LR		LR		
	comp=Z,4μm,17.7s							
KBKI	**Kotabaru**	**24.88**	**110**	P		**P**	**17 26 21.5**	**+0.6**
BKB	**Balikpapan**	**24.95**	**105**	P		**P**	**17 26 24.8**	**+3.3**
BKB	**Balikpapan**	**24.95**	**105**	P		**P**	**17 26 21.2**	**-0.3**
BATP	**Bataraza**	**25.01**	**81**	*e*P		**P**	**17 26 21.0**	**-1.1**
BATP				*e*S		**S**	**17 30 42.8**	**-1.9**
SMKI	**Samarinda**	**25.04**	**103**	P		P	17 26 35.9	+14
JAGI	**Jajag, Banyuwa**	**25.36**	**123**	P		**P**

LZH pmax pmax
comp=Z,260nm,5.4s
LZH LR LR
comp=Z,3μm,12.5s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,13.5s
XAN Xi'an 32.16 26 P **P 17 27 25.1 -0.6**
XAN pP sP 17 27 34.9 -0.8
XAN sP pwP 17 27 38.1 +1.7
XAN S **S 17 32 33.3 -3.6**
XAN sS sS 17 32 49.3 +0.7
XAN pmax pmax
comp=Z,120nm,0.6s
XAN pmax pmax
comp=Z,310nm,3.6s
XAN LR LR
comp=Z,4μm,17.9s
XAN LR LR
comp=Z,5μm,17.3s
XAN LR LR
comp=Z,3μm,16.8s
XAN Xi'an 32.16 26 P **P 17 27 24.5 -1.2**
XAN pmax pmax
comp=Z,94nm,0.6s
XAN Xi'an 32.16 26 P **P 17 27 24.5 -1.2**
TPUB Ta-pu 32.16 54 P **P 17 27 26.4 +0.5**
WHN Wuhan 32.17 36 ⇓P **P 17 27 26.8 +1.1**
WHN sP **pwP 17 27 36.8 0.0**
WHN S **S 17 32 35.8 -1.2**
WHN pmax pmax
comp=Z,70nm,0.7s
WHN pmax pmax
comp=Z,470nm,7.7s
WHN LR LR
comp=Z,6μm,13.2s
WHN LR LR
comp=Z,2μm,11.6s
WHN LR LR
comp=Z,7μm,15.4s
TWG Pinlang 32.29 55 P **P 17 27 28.4 +1.4**
MMRI Maumere 32.49 115 P **P 17 27 28.1 -0.6**
MMRI IAmb IAmb 17 27 41.1
comp=Z,38nm,0.7s
SSLB Suanglung 32.66 53 P **P 17 27 31.0 +0.8**
SSLB IAmb IAmb 17 27 32.4
comp=Z,56nm,1.1s
DDMP Don Marcelino, 32.73 87 *e*P P 17 27 24.5 -6.4
YULB Yu-li 32.74 54 P **P 17 27 32.0 +1.1**
YULB IAmb IAmb 17 27 34.0
comp=Z,46nm,0.9s
NACB Ninganchiao 33.36 53 P **P 17 27 36.7 +0.4**
NACB IAmb IAmb 17 27 42.6
comp=Z,44nm,0.9s
YHNB Yeheng 33.43 52 P **P 17 27 38.4 +1.4**
YHNB IAmb IAmb 17 27 56.8
comp=Z,51nm,1.0s
NIL Nilore 33.46 330 P **P 17 27 37.6 +0.5**
NIL Nilore 33.46 330 P **P 17 27 37.0 0.0**
NIL pmax pmax
comp=Z,341nm,0.8s
NIL Nilore 33.46 330 P **P 17 27 37.0 0.0**
SANI Sanana 33.95 102 P **P 17 27 40.5 -1.1**
GTA Gaotai 34.42 10 ⇑P **P 17 27 46.8 +1.4**
GTA pP pP 17 27 49.8 -2.9
GTA sP sP 17 27 52.8 -2.1
GTA PcP **PcP 17 30 21.9 +1.2**
GTA S **S 17 33 11.3 -0.7**
GTA sS pS 17 33 21.8 +1.7
GTA ScS **ScS 17 38 05.8 -1.2**
GTA pmax pmax
comp=Z,19nm,1.3s
GTA pmax pmax
comp=Z,200nm,5.7s
GTA LR LR
comp=Z,1μm,18.2s
GTA LR LR
comp=Z,1μm,19.2s
GTA LR LR
comp=Z,1μm,17.9s
BATI Baumata 34.42 117 P **P 17 27 43.0 -2.6**
baz=264,slow=11
BATI Baumata 34.42 117 P **P 17 27 42.6 -3.0**
SOEI Soe 34.77 116 P **P 17 27 44.7 -4.1**
SOEI Soe 34.77 116 P **P 17 27 46.0 -2.8**
SOEI IAmb IAmb 17 27 59.0
comp=Z,75nm,0.8s
SOEI **S 17 33 16.7 -1.3**
TNTI Ternate 34.80 96 P **P 17 27 45.6 -3.3**
TNTI Ternate 34.80 96 P **P 17 27 46.6 -2.2**
GIRL Giralia 34.88 144 P **P 17 27 50.6 +1.1**
baz=35,SNR=4.4
GIRL Giralia 34.88 144 P **P 17 27 50.5 +1.1**
GIRL IAmb IAmb 17 28 07.7
comp=Z,104nm,0.9s
LBMI Labuha 35.16 99 P **P 17 27 56.4 +4.4**
NLAI Namlea 35.31 103 P **P 17 27 53.5 +0.2**
NJ2 Nanjing 35.98 39 ⇑P **P 17 27 59.3 +0.5**
NJ2 S **S 17 33 32.4 -3.5**
NJ2 pmax pmax
comp=Z,32nm,0.9s
NJ2 pmax pmax
comp=Z,190nm,8.5s
NJ2 LR LR
comp=Z,3μm,12.3s
NJ2 LR LR
comp=Z,2μm,14.2s
NJ2 LR LR
comp=Z,3μm,10.6s
JLN Jalan Bani Buh 36.32 300 P **P 17 28 03.5 +1.6**
SNR=11
KBL Kabul 36.38 326 P **P 17 28 02.7 +0.2**
KBL Kabul 36.38 326 P **P 17 28 02.3 -0.2**
KBL pmax pmax
comp=Z,45nm,0.9s
KBL Kabul 36.38 326 P **P 17 28 02.3 -0.2**
AAI Ambon 36.48 104 P **P 17 28 02.4 -0.9**
TIY Taiyuan 36.78 26 *e*P **P 17 28 06.8 +1.1**
TIY PP **PnPn 17 29 33.3 +3.5**
TIY S **S 17 33 51.1 +2.9**
TIY sS **pS 17 33 56.3 -0.4**
TIY SS **SS 17 36 18.4 -11**
TIY ScS **ScS 17 38 19.3 -0.5**
TIY pmax pmax
comp=Z,250nm,3.8s
TIY LR LR
comp=Z,770nm,9.0s
TIY LR LR
comp=Z,4μm,15.0s
TIY LR LR
comp=Z,3μm,16.0s
WBK Wadi Bani Khal 36.88 301 P **P 17 28 08.8 +2.2**
SNR=5.7
SSE Sheshan 36.89 43 P **P 17 28 08.0 +1.4**
SSE S **S 17 33 51.4 +1.5**
SSE pmax pmax
comp=Z,7.0nm,0.7s
SSE pmax pmax
comp=Z,140nm,3.0s
SSE LR LR
comp=Z,1μm,18.0s
SSE LR LR
comp=Z,1μm,16.4s
KSH Kashi 37.20 338 P **P 17 28 07.8 -1.4**
KSH PP **PP 17 29 34.3 0.0**
KSH PcP **PcP 17 30 28.3 -0.6**
KSH S **S 17 33 51.5 -3.1**
KSH PcS **PcS 17 34 11.8 -5.5**
KSH SS **SnSn 17 36 22.0 -8.8**
KSH pmax pmax
comp=Z,110nm,0.7s
KSH pmax pmax
comp=Z,1μm,3.8s
KSH LR LR
comp=Z,1μm,13.9s
KSH LR LR
comp=Z,2μm,13.0s
KSH LR LR
comp=Z,2μm,15.8s
DQM DQM 37.20 296 P **P 17 28 11.2 +1.8**
WSAR Wadi Sarin 37.41 302 P **P 17 28 13.3 +2.2**
SNR=5.7
JMDO Jabal Madar 37.53 300 P **P 17 28 13.9 +1.8**
PSA00 Pilbara Seismi 37.71 136 P **P 17 28 13.6 0.0**

SMDO Samad 37.83 301 P **P 17 28 16.8 +2.0**
SNR=7.1
TIA Tai'an 37.91 33 P **P 17 28 15.6 +0.4**
TIA S **S 17 34 04.6 -0.6**
TIA sS **ScP 17 34 17.3 +0.3**
TIA pmax pmax
comp=Z,18nm,1.4s
TIA pmax pmax
comp=Z,190nm,5.5s
TIA LR LR
comp=Z,940nm,17.7s
TIA LR LR
comp=Z,2μm,19.0s
TIA LR LR
comp=Z,910nm,17.7s
BTO Baotou 38.28 21 *e*P **P 17 28 18.9 +0.5**
BTO S **S 17 34 04.8 -6.2**
SHAO Shalim 38.42 292 *i* P **P 17 28 21.5 +1.8**
SNR=11
SHAO Shalim 38.42 292 P **P 17 28 21.8 +2.0**
BSY Bisya 38.44 300 P **P 17 28 22.1 +2.2**
SNR=11
WMQ Urumqi 38.51 354 P **P 17 28 21.1 +0.9**
WMQ pmax pmax
comp=Z,104nm,0.9s
WMQ Urumqi 38.51 354 P **P 17 28 21.1 +0.9**
WMQ IAmb IAmb 17 28 22.7
comp=Z,104nm,0.9s
TARG Taragay, Kyrgy 38.55 342 P **P 17 28 21.6 +0.6**
MSEY Mahe Island 38.62 256 P **P 17 28 23.0 +1.5**
MSEY pmax pmax
comp=Z,25nm,1.2s
MSEY Mahe Island 38.62 256 P **P 17 28 23.0 +1.5**
HOQ Hoqain 38.66 301 P **P 17 28 23.9 +2.2**
SNR=10
NRN Naryn 38.88 340 P **P 17 28 23.7 +0.1**
NRN S **S 17 34 19.7 -0.7**
NRN pmax pmax
comp=Z,106nm,1.1s
NRN Naryn 38.88 340 P **P 17 28 23.7 +0.1**
NRN IAmb IAmb 17 28 25.5
comp=Z,106nm,1.1s
NRN **S 17 34 19.7 -0.7**
SWI Sorong 38.90 98 P **P 17 28 23.2 -0.6**
SOCY Socotra 38.92 283 P **P 17 28 25.4 +1.3**
SNR=18
SOCY Socotra 38.92 283 P **P 17 28 25.5 +1.4**
SOCY IAmb IAmb 17 28 26.6
comp=Z,250nm,1.1s
DMTO DMTO 38.97 291 P **P 17 28 25.7 +1.4**
PRZ Przheval'sk 39.06 343 P **P 17 28 26.4 +1.4**
PRZ pmax pmax
comp=Z,109nm,0.9s
PRZ Przheval'sk 39.06 343 P **P 17 28 26.4 +1.4**
PRZ IAmb IAmb 17 28 27.5
comp=Z,108nm,0.9s
HHC Hu-ho-hao-te 39.07 23 *e*P **P 17 28 26.9 +1.9**
HHC sP pwP 17 28 37.3 +1.5
HHC pmax pmax
comp=Z,35nm,1.4s
KDJ Kajisay 39.11 341 P **P 17 28 25.4 0.0**
KDJ pmax pmax
comp=Z,113nm,1.0s
KDJ Kajisay 39.11 341 P **P 17 28 25.4 0.0**
KDJ IAmb IAmb 17 28 27.6
comp=Z,113nm,0.9s
GAR Garm 39.15 332 P **P 17 28 25.1 -0.5**
GAR PP **PP 17 29 48.6 -7.1**
ARQ Araqi 39.24 301 P **P 17 28 28.6 +2.1**
SNR=8.4
CHGR Chuyangaron 39.43 330 P **P 17 28 27.3 -0.8**
CHGR PP **PP 17 29 50.7 -8.1**
ULHL Ulahol 39.52 341 P **P 17 28 29.4 +0.5**
SNR=14
PDGK Podgornoye 39.54 345 P **P 17 28 27.7 -1.3**
PDGK pmax pmax
comp=Z,112nm,1.2s
RBK Rabkut 39.61 291 P **P 17 28 31.5 +1.8**
SNR=6.6
KZA Kyzart 39.71 339 P **P 17 28 31.6 +1.0**
SNR=60
BTK Batken 39.77 333 P **P 17 28 31.8 +1.0**
BTK pmax pmax
comp=Z,231nm,0.9s
BTK Batken 39.77 333 P **P 17 28 31.8 +1.0**
ARSB Arslanbob 39.90 337 P **P 17 28 32.2 +0.3**
ARSB IAmb IAmb 17 28 33.7
comp=Z,159nm,0.9s
JOW Kunigami 39.93 54 P **P 17 28 32.9 +0.6**
FITZ Fitzroy Crossi 39.94 127 P **P 17 28 31.7 -0.6**
baz=40,SNR=40
FITZ Fitzroy Crossi 39.94 127 P **P 17 28 31.5 -0.9**
UCH Uchtor 40.10 339 P **P 17 28 35.0 +1.0**
SNR=126
WHFO Wadi Hawf 40.10 291 P **P 17 28 35.0 +1.2**
SNR=16
UOSS Minazif 40.11 303 *i* P **P 17 28 34.7 +0.9**
SNR=6.0
UOSS Minazif 40.11 303 P **P 17 28 34.9 +1.1**
UOSS Minazif 40.11 303 P **P 17 28 34.8 +0.9**
HATD Hatta, Dubai 40.12 303 *i* P **P 17 28 35.6 +1.7**
SNR=12
HATD Hatta, Dubai 40.12 303 P **P 17 28 36.1 +2.2**
SNR=7.6
ASHO Ashiyiah 40.13 302 *i* P **P 17 28 35.8 +1.8**
SNR=15
ASHO Ashiyiah 40.13 302 P **P 17 28 36.0 +2.0**
ALNE Al Ain 40.16 301 *i* P **P 17 28 36.5 +2.2**
SNR=58
MDH Madha 40.17 303 *i* P **P 17 28 35.1 +0.9**
SNR=6.6
MDH Madha 40.17 303 P **P 17 28 35.3 +1.1**
FAKI Fak Fak 40.25 101 P **P 17 28 35.6 +0.5**
comp=Z,82nm,0.9s,comp=Z,925nm
FAKI Fak Fak 40.25 101 P **P 17 28 33.9 -1.2**
FAKI IAmb IAmb 17 28 48.5
comp=Z,71nm,0.9s
MSFE Esma-Masafi 40.31 303 *i* P **P 17 28 37.4 +1.9**
SNR=9.8
AML Almayashu 40.32 338 P **P 17 28 36.9 +1.1**
SNR=232
KBK Karagaybulak 40.32 340 P **P 17 28 36.9 +1.4**
SNR=134
BJT Baijiatuau 40.35 28 P **P 17 28 36.6 +1.1**
BJT pmax pmax
comp=Z,64nm,1.1s
BJT Baijiatuau 40.35 28 P **P 17 28 36.6 +1.1**
BJI Beijing 40.37 28 P **P 17 28 37.3 +1.6**
BJI S **S 17 34 44.6 +2.4**
BJI pmax pmax
comp=Z,38nm,1.4s
BJI LR LR
comp=Z,2μm,17.9s
BJI LR LR
comp=Z,2μm,18.2s
HRA Herat 40.39 320 P **P 17 28 36.4 +0.2**
BANOM Banah 40.42 304 P **P 17 28 38.1 +1.8**
BANOM Banah 40.42 304 P **P 17 28 38.2 +1.8**
ABTO Aybut 40.42 290 P **P 17 28 37.7 +1.2**
SNR=10.0
AAK Ala-Archa 40.47 339 *i* P **P 17 28 37.8 +1.1**
SNR=79
AAK Ala-Archa 40.47 339 P **P 17 28 37.9 +1.3**
SNR=60
AAK Ala-Archa 40.47 339 *de*P **P 17 28 37.7 +1.1**
AAK pmax pmax
comp=Z,118nm,1.0s
AAK Ala-Archa 40.47 339 P **P 17 28 37.9 +1.1**
SNR=60
AAK Ala-Archa 40.47 339 P **P 17 28 37.5 +0.9**
AAK IAmb IAmb 17 28 39.2
comp=Z,101nm,1.0s
MEEK Meekatharra 40.50 143 P **P 17 28 36.7 -0.2**
baz=41,SNR=5.6
FRU1 Bishkek 40.57 339 P **P 17 28 38.4 +1.0**
FRU1 pmax pmax
comp=Z,82nm,1.0s
FRU1 Bishkek 40.57 339 P **P 17 28 38.4 +1.0**
FRU1 IAmb IAmb 17 28 40.9
comp=Z,82nm,1.0s
SAUI Saumlaki 40.63 109 P **P 17 28 38.5 +0.3**
CHMS Chumysh 40.69 340 P **P 17 28 39.0 +0.6**
SNR=27
ASUD Al Ashush, Dub 40.73 302 *i* P **P 17 28 41.3 +2.4**
SNR=15

ASUD Al Ashush, Dub 40.73 302 P **P 17 28 41.2 +2.4**
SNR=11
EKS2 Erkin-Say 40.75 338 P **P 17 28 40.2 +1.2**
SNR=78
MORW Morawa 40.92 148 P **P 17 28 41.7 +1.3**
baz=41,SNR=5.5
MORW Morawa 40.92 148 P **P 17 28 40.7 +0.3**
AJN Ajban 40.99 302 *i* P **P 17 28 42.7 +1.6**
SNR=8.5
AJN Ajban 40.99 302 P **P 17 28 42.8 +1.7**
SNR=5.5
USP Ospenovka 41.02 340 P **P 17 28 41.9 +0.9**
SNR=64
KNRA Kununurra 41.31 121 P **P 17 28 42.9 -0.8**
baz=41,SNR=5.5
KNRA Kununurra 41.31 121 P **P 17 28 42.5 -1.2**
PALU Palau 41.43 85 P **P 17 28 44.0 -0.9**
baz=41,SNR=5.9
TAS Tashkent 41.48 333 P **P 17 28 45.1 +0.3**
TAS pmax pmax
comp=Z,245nm,0.8s
TAS Tashkent 41.48 333 P **P 17 28 45.1 +0.3**
RKPI Ransiki, Papua 41.88 98 P **P 17 28 49.7 +1.2**
comp=Z,120nm,0.9s,comp=Z,2μm
MTN Manton Dam 42.17 116 P **P 17 28 49.7 -1.1**
baz=42,SNR=25
MTN Manton Dam 42.17 116 P **P 17 28 49.7 -1.1**
MTN IAmb IAmb 17 28 59.8
comp=Z,40nm,0.5s
MK31 Makanchi Array 42.20 349 *i* P **P 17 28 50.2 -0.5**
MK31 pmax pmax
comp=Z,104nm,1.2s
MK31 Makanchi Array 42.20 349 P **P 17 28 51.0 +0.3**
MKAR Makanchi Array 42.20 349 P **P 17 28 50.9 +0.2**
comp=Z,48nm,0.9s,baz=168,slow=8.9,SNR=327
MKAR pP **pwP 17 29 02.8 0.0**
comp=Z,46nm,0.8s,baz=166,slow=8.6,SNR=16
MKAR LR LR 17 50 44.2
comp=Z,1μm,18.2s,baz=159,slow=42
MKAR Makanchi Array 42.20 349 P **P 17 28 50.7 0.0**
DL2 Dalian 42.32 34 P **P 17 28 51.8 +0.1**
DL2 S **S 17 35 12.6 +1.4**
DL2 pmax pmax
comp=Z,55nm,1.1s
DL2 pmax pmax
comp=Z,400nm,3.6s
DL2 LR LR
comp=Z,2μm,14.7s
DL2 LR LR
comp=Z,1μm,14.8s
DL2 LR LR
comp=Z,1μm,17.2s
KK31 Karatay Array 42.39 336 *i* P **P 17 28 52.1 -0.2**
KK31 pmax pmax
comp=Z,107nm,1.0s
KK31 Karatay Array 42.39 336 P **P 17 28 52.4 +0.1**
KK31 IAmb IAmb 17 28 53.8
comp=Z,111nm,0.9s
KKAR Karatay Array 42.39 336 P **P 17 28 52.1 -0.2**
KKAR pmax pmax
comp=Z,111nm,1.0s
KKAR Karatay Array 42.39 336 P **P 17 28 52.5 +0.2**
KKAR Karatay Array 42.39 336 P **P 17 28 52.1 -0.2**
KKAR IAmb IAmb 17 28 53.8
comp=Z,111nm,0.9s
KDU Kakadu 43.32 115 P **P 17 28 59.2 -1.0**
baz=43,SNR=9.8
MUN Mundaring 43.36 151 P **P 17 29 01.5 +1.2**
baz=44,SNR=7.0
BAKI Biak 43.73 97 P **P 17 29 02.3 -1.2**
KLBR Kellerberrin 43.83 149 P **P 17 29 05.5 +1.5**
baz=44,SNR=4.4
SONM Songino Array 43.83 13 P **P 17 29 04.4 +0.5**
SONM 17 30 50.9
SONM pmax pmax
comp=Z,53nm,1.1s
SONM Songino Array 43.83 13 P **P 17 29 04.8 +0.9**
comp=Z,22nm,0.8s,baz=196,slow=8.6,SNR=111
SONM pP **pwP 17 29 15.4 +0.8**
comp=Z,67nm,1.2s,baz=198,slow=6.1,SNR=16
SONM PcP **PcP 17 30 51.4 +1.3**
comp=Z,29nm,0.7s,baz=195,slow=3.5,SNR=15
SONM LR LR 17 49 10.0
comp=Z,1μm,19.3s,baz=194,slow=39
SONM Songino Array 43.83 13 P **P 17 29 04.4 +0.5**
SONM PcP **PcP 17 30 50.9 +0.8**
ULN Ulaanbaatar 44.01 14 P **P 17 29 06.0 +0.6**
SNR=20
ULN Ulaanbaatar 44.01 14 P **P 17 29 05.8 +0.3**
ULN 17 30 50.9
ULN pmax pmax
comp=Z,28nm,1.1s
ULN Ulaanbaatar 44.01 14 P **P 17 29 05.8 +0.3**
ULN PcP **PcP 17 30 50.9 +0.1**
TJN Taejon 44.17 41 *ce*P **P 17 29 05.9 -0.8**
DGZ Jazzator, Alta 44.36 355 *d* *i* P **P 17 29 09.1 +0.9**
INCN Inchon 44.36 39 P **P 17 29 07.7 -0.6**
INCN pmax pmax
comp=Z,30nm,1.1s
INCN Inchon 44.36 39 P **P 17 29 07.7 -0.6**
NWAO Narrogin (SRO) 44.63 150 P **P 17 29 11.3 +0.9**
baz=45,SNR=14
NWAO Narrogin (SRO) 44.63 150 P **P 17 29 10.4 0.0**
NWAO pmax pmax
comp=Z,27nm,0.7s
NWAO Narrogin (SRO) 44.63 150 P **P 17 29 10.4 0.0**
NWAO Narrogin (SRO) 44.63 150 P **P 17 29 10.0 -0.4**
NWAO IAmb IAmb 17 29 22.9
comp=Z,34nm,0.7s
H01W3 Cape Leeuwin H 44.84 155 T T 18 16 27.5
baz=330,slow=76,SNR=118
JNU Nakatsue 44.85 47 LR LR 17 49 51.0
comp=Z,1μm,18.4s,baz=240,slow=39
JNU Nakatsue 44.85 47 P **P 17 29 11.6 -0.8**
H01W2 Cape Leeuwin H 44.86 155 T T 18 16 28.4
baz=330,slow=76,SNR=100
H01W1 Cape Leeuwin H 44.86 155 T T 18 16 27.5
baz=330,slow=76,SNR=96
RER Riviere de l'E 44.95 233 P **P 17 29 15.4 +2.1**
RER Riviere de l'E 44.95 233 P **P 17 29 14.7 +1.5**
RER IAmb IAmb 17 29 29.3
comp=Z,67nm,0.9s
ASHT Ashkhabad 45.03 321 P **P 17 29 15.1 +1.5**
ASHT pmax pmax
comp=Z,303nm,1.1s
ASHT Ashkhabad 45.03 321 P **P 17 29 15.1 +1.5**
KSAR Wonju Array Be 45.13 40 P **P 17 29 14.0 -0.4**
KSAR 17 30 55.3
KSAR Wonju Array Be 45.13 40 P **P 17 29 13.9 -0.4**
KSAR PcP **PcP 17 30 55.2 +0.6**
KS19 Wonju Array Si 45.16 40 P **P 17 29 14.6 -0.1**
KSRS Korea Array 45.17 40 P **P 17 29 14.0 -0.7**
comp=Z,1.9nm,0.5s,baz=218,slow=8.1,SNR=9.3
KSRS PcP **PcP 17 30 55.7 +0.9**
comp=Z,1.9nm,0.6s,baz=224,slow=2.7,SNR=5.3
KSRS ScP **ScP 17 34 46.0 +0.3**
comp=Z,1.7nm,0.8s,baz=221,slow=4.9,SNR=6.5
KSRS LR LR 17 51 01.0
comp=Z,952nm,18.7s,baz=237,slow=40
GEYT Alibeck 45.19 321 P **P 17 29 16.4 +1.5**
comp=Z,97nm,0.6s,baz=152,slow=8.0,SNR=198
GEYT LR LR 17 51 08.9
comp=Z,959nm,20.6s,baz=75,slow=40
GEYT Alibeck 45.19 321 P **P 17 29 16.2 +1.2**
GEYT PcP **PcP 17 30 55.4 +0.5**
GYA0B ALIBECK ARRAY 45.19 321 P **P 17 29 16.6 +1.6**
SNY Shenyang 45.43 32 ⇑P **P 17 29 16.6 0.0**
SNY S **S 17 35 55.6 -0.8**
SNY pmax pmax
comp=Z,38nm,1.4s
SNY pmax pmax
comp=Z,260nm,4.7s
SNY LR LR
comp=Z,2μm,14.9s
SNY LR LR
comp=Z,2μm,14.3s
SNY LR LR
comp=Z,2μm,16.1s
ZAK Zakamensk 45.66 9 *e*P **P 17 29 19.6 +1.1**
ZAK *e* 17 30 57.6
ZAK pmax pmax
comp=Z,36nm,1.4s
WRKA Warakurna 45.90 133 P **P 17 29 21.1 +0.4**
baz=46,SNR=6.2
KMBL Kambalda 45.91 145 P **P 17 29 21.8 +1.1**
baz=46,SNR=5.5

SMPI Sarmi 46.43 98 P **P 17 29 24.7 -0.3**
MOY Mondy 46.59 7 *e*P **P 17 29 27.4 +1.6**
MOY pmax pmax
comp=Z,89nm,2.1s
KURK Kurchatov 46.68 348 P **P 17 29 26.9 +0.5**
SNR=47
KURK Kurchatov 46.68 348 P **P 17 29 26.5 +0.2**
KURK 17 30 58.6
KURK pmax pmax
comp=Z,81nm,0.9s
KURK Kurchatov 46.68 348 P **P 17 29 26.5 +0.2**
KURK IAmb IAmb 17 29 27.6
comp=Z,81nm,0.8s
KURK **PcP 17 30 58.6 -1.2**
TLY Talaya 46.98 9 P **P 17 29 31.5 +2.8**
SNR=16
TLY Talaya 46.98 9*d i*P **P 17 29 30.3 +1.6**
TLY *e* 17 29 39.7
TLY *e* 17 31 02.6
TLY *e* 17 31 22.2
TLY *e*S **S 17 36 19.3 +0.9**
TLY *e* 17 39 21.6
TLY pmax pmax
comp=Z,71nm,1.1s
TLY Talaya 46.98 9 P **P 17 29 29.7 +1.0**
TLY IAmb IAmb 17 29 42.2
comp=Z,51nm,1.1s
TLY PcP **PcP 17 30 60.0 -0.9**
IRK Irkutsk 47.62 10 *e*P **P 17 29 34.0 +0.3**
IRK *e* 17 36 40.2
IRK pmax pmax
comp=Z,126nm,1.7s
CN2 Changchun 47.79 32 *e*P **P 17 29 35.3 +0.2**
CN2 *e*S **S 17 36 28.8 -1.4**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,850nm,18.0s
CN2 LR LR
comp=Z,1μm,15.0s
GENI Genyem 47.96 98 P **P 17 29 35.7 -1.2**
WRA Warramunga Arr 47.98 123 P **P 17 29 37.2 +0.2**
WRA Warramunga Arr 47.98 123 P **P 17 29 37.0 0.0**
comp=Z,26nm,0.8s,baz=300,slow=9.3,SNR=202
WRA pP **sP 17 29 47.3 +0.3**
comp=Z,57nm,0.6s,baz=302,slow=9.7,SNR=22
WRA S **S 17 36 30.9 -2.7**
comp=Z,5.8nm,1.1s,baz=302,slow=15,SNR=17
WRA LR LR 17 50 52.1
comp=Z,1μm,21.9s,baz=325,slow=37
WRA Warramunga Arr 47.98 123 P **P 17 29 37.2 +0.2**
WRAB Tennant Creek 47.98 123 P **P 17 29 36.9 -0.1**
WRAB 17 31 04.0
WRAB pmax pmax
comp=Z,94nm,0.7s
WRAB Tennant Creek 47.98 123 P **P 17 29 36.9 -0.1**
WRAB PcP **PcP 17 31 04.0 -1.0**
WB2 Warramunga Arr 47.99 123 P **P 17 29 37.0 -0.1**
WB2 PcP **PcP 17 31 05.0 -0.1**
DAMY Dhamar 48.46 285 P **P 17 29 43.5 +2.4**
SNR=30
DAMY Dhamar 48.46 285 P **P 17 29 42.1 +1.0**
DAMY PcP **PcP 17 31 08.4 +1.2**
JAY Jayapura 48.48 98 P **P 17 29 38.8 -2.2**
ZAA0 Zalesovo Array 48.81 354 P **P 17 29 42.8 0.0**
ZALV Zalesovo Beam 48.81 354 *i* P **P 17 29 43.5 +0.6**
ZALV pmax pmax
comp=Z,117nm,0.6s
ZALV Zalesovo Beam 48.81 354 P **P 17 29 43.6 +0.8**
comp=Z,117nm,0.6s,baz=177,slow=8.0,SNR=589
ZALV pP **pwP 17 29 54.6 -0.4**
comp=Z,54nm,0.6s,baz=173,slow=8.2,SNR=8.2
ZALV S **S 17 36 45.2 +0.9**
comp=Z,1.3nm,0.6s,baz=174,slow=16,SNR=4.2
ZALV LR LR 17 53 28.6
comp=Z,1μm,19.8s,baz=176,slow=40
ZALV Zalesovo Beam 48.81 354 P **P 17 29 43.1 +0.2**
HIA Hailar 49.27 23 P **P 17 29 47.3 +0.8**
HIA 17 31 10.3
HIA pmax pmax
comp=Z,39nm,0.9s
HIA Hailar 49.27 23 P **P 17 29 47.3 +0.8**
HIA IAmb IAmb 17 29 58.2
comp=Z,39nm,0.9s
HIA **PcP 17 31 10.3 +1.1**
AS31 Alice Springs 49.42 127 P **P 17 29 48.0 -0.1**
ASAR Alice Springs 49.42 127 P **P 17 29 48.2 +0.2**
comp=Z,6.7nm,0.8s,baz=301,slow=8.0,SNR=140
ASAR pP **sP 17 29 58.5 +0.4**
comp=Z,23nm,0.8s,baz=309,slow=7.8,SNR=16
ASAR PcP **PcP 17 31 11.2 +1.0**
comp=Z,15nm,0.8s,baz=297,slow=3.7,SNR=6.1
ASAR S **S 17 36 52.6 -1.1**
comp=Z,2.7nm,1.1s,baz=296,slow=14,SNR=7.6
ASAR LR LR 17 53 54.3
comp=Z,2μm,19.5s,baz=312,slow=40
ASAR PKPPKP **P'P'df 18 00 40.5 -5.6**
comp=Z,0.4nm,0.8s,baz=152,slow=2.8,SNR=5.0
ASAR Alice Springs 49.42 127 P **P 17 29 47.1 -0.9**
ASAR PcP **PcP 17 31 10.6 +0.4**
CIT Chita 49.52 17 *e*P **P 17 29 50.2 +1.8**
CIT pmax pmax
comp=Z,234nm,1.3s
ATD Arta Tunnel 49.74 280 P **P 17 29 52.9 +2.2**
SNR=21
INU Inuyama 50.39 48 P **P 17 29 54.8 -0.4**
INU IAmb IAmb 17 29 56.4
comp=Z,65nm,1.1s
MDJ Mudanjiang 50.56 34 P **P 17 29 57.8 +1.5**
MDJ sP pP 17 30 00.3 -3.4
MDJ PcP **PcP 17 31 14.5 +0.6**
MDJ PP **PP 17 31 53.3 +0.9**
MDJ ScP **ScP 17 35 09.8 +1.4**
MDJ PcS **PcS 17 35 11.0 -0.1**
MDJ S **S 17 37 11.8 +2.7**
MDJ sS pS 17 37 18.0 -0.1
MDJ ScS **ScS 17 39 48.3 +2.7**
MDJ pmax pmax
comp=Z,48nm,1.4s
MDJ pmax pmax
comp=Z,500nm,6.7s
MDJ LR LR
comp=Z,460nm,16.4s
MDJ LR LR
comp=Z,680nm,15.7s
MDJ LR LR
comp=Z,2μm,15.0s
MDJ Mudanjiang 50.56 34 P **P 17 29 57.1 +0.7**
MDJ IAmb IAmb 17 30 09.9
comp=Z,45nm,1.0s
BRVK Borovoye 50.96 343 P **P 17 29 59.3 +0.1**
SNR=32
BRVK Borovoye 50.96 343*ce*P **P 17 29 58.9 -0.3**
BRVK pmax pmax
comp=Z,86nm,1.0s
BRVK Borovoye 50.96 343 P **P 17 29 58.6 -0.6**
BRVK IAmb IAmb 17 30 00.2
comp=Z,96nm,1.0s
ABPO Ambohimpanom 51.05 240 P **P 17 30 01.9 +1.3**
ABPO Ambohimpanom 51.05 240 P **P 17 30 01.9 +1.3**
ABPO IAmb IAmb 17 30 03.3
comp=Z,73nm,1.1s
USA0B Ussuriysk Arra 51.66 35 P **P 17 30 04.0 -0.6**
USA0B pmax pmax
comp=Z,17nm,1.2s
USA0B Ussuriysk Arra 51.66 35 P **P 17 30 04.0 -0.6**
USRK Ussuriysk Ar. 51.66 35 P **P 17 30 04.5 0.0**
comp=Z,6.9nm,0.9s,baz=261,slow=6.2,SNR=11
USRK PcP **PcP 17 31 18.2 +0.2**
comp=Z,3.1nm,0.6s,baz=215,slow=4.8,SNR=2.9
USRK LR LR 17 54 30.4
comp=Z,1μm,19.6s,baz=224,slow=39
USRK Ussuriysk Ar. 51.66 35 P **P 17 30 04.1 -0.5**
USRK PcP **PcP 17 31 17.3 -0.7**
AB31 Akbulak array 51.77 333 *i* P **P 17 30 04.9 -0.5**
AB31 pmax pmax
comp=Z,71nm,0.6s
ABKAR Akbulak array 51.77 333 P **P 17 30 05.0 -0.4**
MAT Matsushiro 51.77 47 P **P 17 30 05.6 -0.1**
MAT S **S 17 37 25.8 -0.4**
MJB9 Matsu-Tunnel 51.77 47 P **P 17 30 05.4 -0.3**

MAJO Matsushiro 51.78 47 *i* P **P 17 30 05.7 +0.1**
MAJO pmax pmax
comp=Z,61nm,2.3s
MAJO Matsushiro 51.78 47 P **P 17 30 05.8 +0.1**
MJAR Matsushiro Arr 51.78 47 P **P 17 30 05.7 0.0**
MJAR 17 31 21.0
MJAR Matsushiro Arr 51.78 47 P **P 17 30 06.1 +0.4**
comp=Z,4.2nm,0.7s,baz=250,slow=5.6,SNR=9.4
MJAR PcP **PcP 17 31 19.7 +1.0**
comp=Z,11nm,0.9s,baz=248,slow=5.7,SNR=6.3
MJAR LR LR 17 54 43.2
comp=Z,1μm,18.9s,baz=245,slow=39
MJAR Matsushiro Arr 51.78 47 P **P 17 30 05.7 0.0**
MJAR **PcP 17 31 21.0 +2.3**
GUMO Guam 51.88 77 P **P 17 30 07.0 +0.3**
GUMO pmax pmax
comp=Z,115nm,0.9s
GUMO Guam 51.88 77 LR LR 17 49 54.5
comp=Z,310nm,21.6s,baz=265,slow=33
GUMO Guam 51.88 77 P **P 17 30 07.0 +0.3**
GUMO IAmb IAmb 17 30 14.1
comp=Z,115nm,0.9s
QIS Mount Isa 52.70 121 P **P 17 30 12.8 +0.1**
baz=53,SNR=9.5
SARN Sarigan 53.02 73 P **P 17 30 15.6 +0.4**
SARN IAmb IAmb 17 30 16.8
comp=Z,63nm,0.9s
AKTO Aktyubinsk 53.49 333 P **P 17 30 16.1 -2.0**
AKTO pmax pmax
comp=Z,93nm,0.9s
COEN Coen 53.55 112 P **P 17 30 18.2 -0.8**
baz=54,SNR=20
COEN Coen 53.55 112 P **P 17 30 17.5 -1.5**
FURI Furi 53.79 277 P **P 17 30 22.8 +1.6**
FURI IAmb IAmb 17 30 25.0
comp=Z,106nm,1.1s
AKT Akhty 53.84 319⇓ *i* P **P 17 30 21.1 +0.2**
AKT *e* 17 31 25.4
AKT *e* 17 32 20.3
AKT pmax pmax
comp=Z,132nm,1.0s
KLR Kul'dur 54.65 30*c i* P **P 17 30 26.9 +0.4**
KLR pmax pmax
comp=Z,59nm,1.4s
MAK Makhachkala 54.71 320 *e*P P 17 30 21.3 -5.8
MAK *e*S **S 17 37 58.6 -7.2**
MAK pmax pmax
comp=Z,273nm,1.1s
MAK MLR MLR
comp=Z,329nm,15.0s
MANU Manus Island 54.99 96 P **P 17 30 29.9 +0.3**
GNI Garni 55.24 316 *i* P **P 17 30 31.8 +0.6**
SNR=24
GNI Garni 55.24 316 P **P 17 30 32.0 +0.8**
SNR=22
GNI Garni 55.24 316 P **P 17 30 31.4 +0.2**
GNI pmax pmax
comp=Z,99nm,1.1s
GNI Garni 55.24 316 P **P 17 30 31.4 +0.2**
GNI IAmb IAmb 17 30 32.4
comp=Z,99nm,1.1s
KIBK Kibwezi 55.25 263 P **P 17 30 32.8 +1.2**
SNR=18
ZEA Zeya 55.71 24 *e*P **P 17 30 33.0 -1.1**
ZEA *e* 17 30 45.0
ZEA *e*S **S 17 38 21.0 +2.1**
ZEA pmax pmax
comp=E,26nm,0.8s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA smax smax
comp=N,500nm,5.0s
ZEA MLR MLR
comp=N,1μm,17.0s
ZEA MLR MLR
comp=Z,2μm,17.0s
KMBO Kilima Mbogo 55.87 265 P **P 17 30 38.0 +1.7**
KMBO Kilima Mbogo 55.87 265 P **P 17 30 37.8 +1.5**
KMBO Kilima Mbogo 55.87 265 P **P 17 30 37.4 +1.1**
KMBO pmax pmax
comp=Z,12nm,0.8s
KMBO Kilima Mbogo 55.87 265 P **P 17 30 37.9 +1.7**
comp=Z,12nm,0.5s,baz=60,slow=9.0,SNR=61
KMBO LR LR 17 52 50.0
comp=Z,1μm,18.1s,baz=86,slow=34
KMBO Kilima Mbogo 55.87 265 P **P 17 30 37.4 +1.1**
GROC Groznyy 55.92 320 *e*P **P 17 30 35.0 -0.8**
GROC *e* 17 32 40.3
GROC pmax pmax
comp=Z,137nm,0.8s
MTSU Mount Surprise 55.92 116 P **P 17 30 36.7 +0.5**
baz=56,SNR=10.0
BBOO Buckleboo 55.94 136 P **P 17 30 37.6 +1.5**
baz=56,SNR=7.4
BBOO Buckleboo 55.94 136 P **P 17 30 37.1 +1.0**
BBOO IAmb IAmb 17 30 47.8
comp=Z,34nm,0.9s
TBLG Delisi 55.94 318 P **P 17 30 36.4 +0.4**
TBLG pmax pmax
comp=Z,164nm,0.9s
TBLG Delisi 55.94 318 P **P 17 30 36.4 +0.4**
PMG Port Moresby 56.12 105*c i* P **P 17 30 37.7 0.0**
PMG pmax pmax
comp=Z,134nm,0.8s
PMG Port Moresby 56.12 105 P **P 17 30 37.6 -0.1**
PMG IAmb IAmb 17 30 40.2
comp=Z,39nm,0.8s
KARS Kars 56.59 316 P **P 17 30 39.9 -1.0**
KARS Kars 56.59 316 P **P 17 30 39.9 -1.0**
AKH Akhalkalaki 56.64 317 P **P 17 30 40.7 -0.5**
AKH pmax pmax
comp=Z,45nm,0.9s
AKH Akhalkalaki 56.64 317 ⇑P **P 17 30 42.1 +0.9**
AKH Akhalkalaki 56.64 317 P **P 17 30 40.7 -0.5**
AKH IAmb IAmb 17 30 43.0
comp=Z,46nm,0.9s
ZEI Tsey 56.96 319 *e*P **P 17 30 41.6 -1.9**
ZEI pmax pmax
comp=Z,60nm,0.8s
SVE Sverdlovsk 57.20 340*c i* P **P 17 30 45.0 +0.3**
SVE *e*S **S 17 38 37.8 -0.8**
SVE pmax pmax
comp=Z,308nm,1.3s
SVE MLR MLR
comp=Z,2μm,22.0s
LODK Lodwar 57.30 271 P **P 17 30 47.8 +1.6**
SNR=20
ERM Erimo 57.58 43 P **P 17 30 49.7 +2.1**
ARU Arti 57.64 338*d i* P **P 17 30 47.4 -0.4**
ARU 17 31 40.7
ARU 17 32 56.0
ARU PPP PPP 17 34 11.5
ARU S **S 17 38 47.9 +3.6**
ARU SS **SS 17 42 34.0 -0.8**
ARU pmax pmax
comp=Z,169nm,1.1s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 57.64 338 P **P 17 30 47.1 -0.7**
BCA Borcka 57.93 316 ⇓P **P 17 30 50.2 0.0**
BATM Batumi 57.95 316 ⇑P **P 17 30 46.9 -3.3**
KBZ Khabaz 58.04 319 P **P 17 30 50.8 0.0**
comp=Z,50nm,0.9s,baz=133,slow=5.8,SNR=69
KBZ PcP **PcP 17 31 43.2 +0.7**
comp=Z,20nm,0.8s,baz=121,slow=3.6,SNR=4.4
SHA1 Shidzhatmaz 58.20 319*d i* P **P 17 30 52.0 -0.2**
KIV Kislovodsk 58.27 319 *i* P **P 17 30 52.6 0.0**
SNR=37
KIV Kislovodsk 58.27 319 P **P 17 30 52.5 -0.1**
SNR=22
KIV Kislovodsk 58.27 319 P **P 17 30 51.9 -0.7**
KIV pmax pmax
comp=Z,83nm,0.9s
KIV Kislovodsk 58.27 319 ⇓P **P 17 30 52.4 -0.2**
KIV Kislovodsk 58.27 319 P **P 17 30 51.9 -0.7**
KIV IAmb IAmb 17 30 53.7
comp=Z,83nm,0.9s
HTT Hallett 58.28 135 P **P 17 30 53.8 +1.1**
baz=58,SNR=9.3
GOF Gofitskoye 58.54 321⇑ *e*P **P 17 30 53.7 -0.6**
GOF pmax pmax
comp=Z,110nm,0.9s
QLP Quilpie 59.05 125 P **P 17 30 59.4 +1.2**

baz=59,SNR=5.4
STKA Stephens Creek 59.41 132 P **P 17 31 01.4 +0.8**
baz=60,SNR=23
STKA Stephens Creek 59.41 132 P **P 17 31 00.6 0.0**
STKA pmax pmax
comp=Z,11nm,0.8s
STKA Stephens Creek 59.41 132 P **P 17 31 01.4 +0.8**
comp=Z,7.6nm,0.6s,baz=321,slow=5.6,SNR=28
STKA pP **pwP 17 31 11.8 -0.6**
comp=Z,62nm,0.8s,baz=309,slow=9.0,SNR=30
STKA LR LR 18 00 22.8
comp=Z,695nm,18.9s,baz=303,slow=40
STKA Stephens Creek 59.41 132 P **P 17 31 00.6 0.0**
YSS Yuzh-Sakhalins 59.51 37 *e*P **P 17 31 01.3 +0.3**
YSS *e**SP **pP 17 31 05.8 -2.6**
YSS *e* 17 33 09.9
YSS *e*S **S 17 39 10.1 +1.1**
YSS *e*SS **SS 17 43 02.4 -2.1**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=N,500nm,16.0s
YSS Yuzh-Sakhalins 59.51 37 P **P 17 31 01.6 +0.6**
YSS IAmb IAmb 17 31 13.8
comp=Z,59nm,1.1s
EIL Elat 59.53 301 P **P 17 31 01.5 0.0**
comp=Z,106nm,1.2s,comp=Z,2μm
SHBL Chebaa 59.71 306 *e*P **P 17 31 04.5 +1.7**
HWQ Hawqa 59.79 307 *e*P **P 17 31 04.9 +1.6**
BHL Bhannes 59.93 306 *e*P **P 17 31 06.0 +1.8**
SOC Sochi 60.08 318*d i* P **P 17 31 03.8 -1.1**
SOC *e* 17 33 14.8
SOC *e*S **S 17 39 16.0 -0.4**
SOC *e*SS **SS 17 43 13.7 +0.2**
SOC pmax pmax
comp=Z,49nm,0.7s
SOC MLR MLR
comp=Z,373nm,19.0s
YUK Yuzh-Kuril'sk 60.21 42 *e*P **P 17 31 01.9 -4.0**
YUK *i* S **S 17 39 17.8 -0.3**
YUK pmax pmax
comp=E,352nm,1.5s
YUK pmax pmax
comp=Z,400nm,1.5s
YUK pmax pmax
comp=N,254nm,1.2s
YUK MLR MLR
comp=E,407nm,15.0s
YUK MLR MLR
comp=Z,836nm,15.0s
YUK MLR MLR
comp=N,835nm,12.0s
TYV Tymovskoe 61.34 33 *e*P **P 17 31 15.2 +1.8**
TYV *e*S **S 17 39 39.2 +6.9**
TYV pmax pmax
comp=Z,30nm,1.2s
TYV smax smax
comp=N,12nm,1.2s
TYV smax smax
comp=E,2μm,10.0s
CSS Mathiatis 62.05 307 P **P 17 31 19.3 +0.8**
comp=E,32nm,1.3s,comp=E,387nm
CSS Mathiatis 62.05 307 P **P 17 31 18.7 +0.2**
ANN Anapa 62.06 318 *e*P **P 17 31 16.7 -1.7**
ANN *e**PP **pP 17 31 19.8 -5.8**
ANN *e* 17 33 37.9
ANN *e*PPP PPP 17 35 10.7
ANN *e*S **S 17 39 42.3 +0.7**
ANN pmax pmax
comp=Z,49nm,1.2s
ANN MLR MLR
comp=Z,640nm,18.0s
ANN MLR MLR
comp=N,489nm,18.0s
ANN MLR MLR
comp=E,395nm,18.0s
VRH Novokhopyorsk 62.20 326 *e*P **P 17 31 17.3 -1.9**
VRH pmax pmax
comp=Z,190nm,0.8s
MBAR Mbarara 62.28 266 P **P 17 31 21.8 +1.2**
MBAR 17 32 01.6
MBAR pmax pmax
comp=Z,42nm,1.2s
MBAR Mbarara 62.28 266 P **P 17 31 21.8 +1.2**
MBAR IAmb IAmb 17 31 22.8
comp=Z,42nm,1.1s
MBAR **PcP 17 32 01.6 +1.2**
CMSA Cobar Meteorol 62.34 130 P **P 17 31 21.7 +1.2**
baz=62,SNR=20
LEF Lefka 62.44 307 ⇑P **P 17 31 22.5 +1.4**
DIKM Dikmen 62.46 314 ⇓P **P 17 31 21.3 +0.1**
YAK Yakutsk 62.72 19 *e*P **P 17 31 22.3 -0.1**
YAK *e* 17 31 59.2
YAK *e* 17 33 42.0
YAK *e*PPP PPP 17 35 19.3
YAK *e*S **S 17 39 47.5 -1.8**
YAK *e**SS sS 17 40 14.0 +12
YAK *e* 17 41 07.3
YAK *e*SS **SS 17 43 55.9 +1.7**
YAK pmax pmax
comp=Z,77nm,1.2s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,25nm,1.4s
YAK pmax pmax
comp=Z,155nm,4.0s
YAK pmax pmax
comp=N,73nm,3.6s
YAK pmax pmax
comp=E,75nm,4.0s
YAK smax smax
comp=N,295nm,2.5s
YAK smax smax
comp=E,202nm,2.5s
YAK Yakutsk 62.72 19 P **P 17 31 22.4 -0.1**
YAK IAmb IAmb 17 31 24.5
comp=Z,61nm,1.0s
RMQ Roma 62.74 123 P **P 17 31 25.0 +1.8**
baz=63,SNR=5.8
BR131 Keskin Array S 63.05 312 P **P 17 31 25.3 -0.1**
SNR=63
BR131 Keskin Array S 63.05 312 P **P 17 31 24.6 -0.7**
BR131 pmax pmax
comp=Z,121nm,0.9s
BR131 Keskin Array S 63.05 312 P **P 17 31 24.6 -0.7**
BRTR Keskin Array B 63.05 312 P **P 17 31 24.3 -1.0**
BRTR 17 32 02.6
BRTR Keskin Array B 63.05 312 P **P 17 31 24.9 -0.4**
comp=Z,77nm,0.7s,baz=126,slow=7.5,SNR=484
BRTR pP **pwP 17 31 36.9 -1.2**
comp=Z,9.8nm,0.7s,baz=127,slow=6.3,SNR=3.4
BRTR LR LR 18 00 50.2
comp=Z,361nm,18.6s,baz=102,slow=38
BRTR Keskin Array B 63.05 312 P **P 17 31 24.3 -1.0**
BRTR PcP **PcP 17 32 02.6 -0.4**
CRZF Crozet Islands 63.11 211 P **P 17 31 26.4 +1.1**
ILGA Ilgaz 63.38 313 P **P 17 31 27.3 -0.3**
BZK Bozkurt 63.45 314 ⇑P **P 17 31 28.0 +0.3**
VSR Storozhevoye 63.63 326 *e*P **P 17 31 26.6 -2.1**
VSR pmax pmax
comp=Z,160nm,1.4s
ANTO Ankara 63.72 312 P **P 17 31 29.9 +0.2**
SNR=33
ANTO Ankara 63.72 312 P **P 17 31 29.0 -0.6**
ANTO pmax pmax
comp=Z,181nm,1.1s
ANTO Ankara 63.72 312 ⇓P **P 17 31 29.8 +0.2**
ANTO Ankara 63.72 312 P **P 17 31 29.0 -0.6**
BR231 Keskin MP Arra 63.73 312 P **P 17 31 29.3 -0.4**
NRIK Noril'sk 63.92 358 P **P 17 31 30.6 +0.4**
comp=Z,42nm,1.0s,baz=164,slow=5.1,SNR=48
NRIK LR LR 18 04 06.2
comp=Z,577nm,18.8s,baz=180,slow=40
EIDS Eidsvold 64.29 121 P **P 17 31 34.3 +0.7**
baz=64,SNR=5.4
EIDS Eidsvold 64.29 121 P **P 17 31 33.9 +0.3**
SIM Simferopol' 64.32 318*de*P **P 17 31 33.2 -0.2**
SIM *e*S **S 17 40 13.0 +3.1**
SIM pmax pmax
comp=Z,124nm,0.9s
LPSR Galich'ya Gora 64.39 327 *e*P **P 17 31 31.9 -1.8**
LPSR pmax pmax

comp=Z,200nm,0.8s
ISP Isparta 64.92 309 P P 17 31 37.1 -0.5
ISP Isparta 64.92 309 P P 17 31 37.3 -0.3
ISP pmax pmax
comp=Z,258nm,1.1s
ISP Isparta 64.92 309 P P 17 31 37.3 -0.3
TOO Toolangi 65.00 136 P P 17 31 39.0 +1.0
baz=65,SNR=5.7
TOO Toolangi 65.00 136 P P 17 31 40.4 +2.4
TOO pmax pmax
comp=Z,27nm,0.9s
TOO Toolangi 65.00 136 P P 17 31 40.4 +2.4
TOO IAmb IAmb 17 31 51.5
comp=Z,27nm,0.9s
KDZE Karadeniz Ereo 65.10 313 ⇓P P 17 31 38.7 +0.1
ELL Elmali 65.16 308 P P 17 31 39.5 +0.3
ELL Elmali 65.16 308 P P 17 31 39.5 +0.3
YNG Young 65.59 131 P P 17 31 42.8 +1.0
baz=66,SNR=5.7
PRGR Permogore 66.07 337 ⇓*i*P P 17 31 43.8 -0.6
PRGR pmax pmax
comp=Z,170nm,0.7s
SILT Sile 66.37 313 ⇓P P 17 31 49.1 +2.3
YLV Yalova 66.43 312 ⇓P P 17 31 47.3 +0.1
YLV Yalova 66.43 312 ⇓P P 17 31 47.3 +0.1
CAN Canberra 66.48 132 P P 17 31 48.6 +1.0
CAN pmax pmax
comp=Z,42nm,1.0s
CAN Canberra 66.48 132 P P 17 31 48.6 +1.0
CAN IAmb IAmb 17 32 01.0
comp=Z,42nm,1.0s
MOS Moscow 66.50 330 *e*P P 17 31 45.1 -2.1
MOS *e* 17 31 57.4
MOS *e* 17 32 12.8
MOS *e* 17 34 14.7
MOS *e*S **S 17 40 36.7 +0.6**
MOS pmax pmax
comp=Z,500nm,1.4s
MOS pmax pmax
comp=Z,330nm,1.3s
MOS MLR MLR
comp=Z,1μm,20.0s
KULA Kula-Manisa 66.50 310 P P 17 31 38.5 -9.3
ARMA Armidale 66.54 126 P P 17 31 48.6 +0.5
baz=67,SNR=4.3
ARMA Armidale 66.54 126 P P 17 31 49.8 +1.6
ARMA IAmb IAmb 17 32 02.6
comp=Z,30nm,1.1s
MANT Manisa 66.58 310 P P 17 31 48.1 -0.3
OBN Obninsk 66.76 329*d*iP **P 17 31 48.2 -0.6**
OBN *i* 17 32 17.1
OBN *e* 17 34 17.4
OBN *i*S **S 17 40 38.3 -0.9**
OBN *e*SS **SS 17 44 54.0 -3.3**
OBN pmax pmax
comp=Z,310nm,1.5s
OBN MLR MLR
comp=Z,954nm,18.0s
OBN Obninsk 66.76 329 ⇑P P 17 31 48.3 -0.6
OBN Obninsk 66.76 329 P P 17 31 48.0 -0.9
ISK Istanbul-Kandi 66.78 312 P P 17 31 49.1 -0.2
KLYT Kilyos 66.83 313 ⇓P P 17 31 51.7 +2.0
KARP Karpathos 67.11 306 P P 17 31 51.9 +0.3
KARP Karpathos 67.11 306 P P 17 31 52.2 +0.6
LSZ Lusaka 67.23 251 P P 17 31 53.3 +0.6
LSZ Lusaka 67.23 251 P P 17 31 53.0 +0.2
LSZ pmax pmax
comp=Z,76nm,1.1s
LSZ Lusaka 67.23 251 P P 17 31 53.0 +0.2
LSZ IAmb IAmb 17 31 54.7
comp=Z,76nm,1.1s
TSSL Sulina 67.35 317 ⇑P P 17 31 55.3 +2.4
MANR Mangalia 67.78 315 ⇑P P 17 31 55.7 +0.1
KALB Balgarevo 67.80 315 ⇓P P 17 31 56.6 +0.8
EFOR EFORIE 67.82 316 ⇑P P 17 31 55.6 -0.3
TSCT Constanta Port 67.82 316 ⇑P P 17 31 56.1 +0.2
JURR Jurilovca 67.83 316 ⇑P P 17 31 55.1 -0.8
TLCR 67.98 317 ⇑P P 17 31 56.0 -0.8
TLCR 67.98 317 ⇑P P 17 31 56.0 -0.8
MFTR Murfatlar 67.99 316 ⇑P P 17 31 56.4 -0.5
PSN Preselentsi 68.03 315 *i* P P 17 31 56.5 -0.8
TIRR Tirgusor 68.07 316 P P 17 31 57.3 -0.1
TIRR pmax pmax
comp=Z,327nm,0.9s
TIRR Tirgusor 68.07 316 P P 17 31 57.3 -0.1
KLMR Klimovskoe 68.09 335 *e*P P 17 31 55.4 -1.8
KLMR *e*S **S 17 40 52.5 -2.6**
KLMR pmax pmax
comp=Z,195nm,1.5s
KLMR Klimovskoe 68.09 335 *e*P P 17 31 55.5 -1.8
KLMR AMP 17 31 57.8
comp=Z,195nm,1.5s
KLMR *e*PP PP 17 34 17.9 -10
KLMR *e*S **S 17 40 52.5 -2.6**
KLMR *e*S **S 17 40 52.5 -2.6**
KLMR LQ LQ 17 57 10.6
KLMR LQ LQ 17 57 10.6
KLMR LR LR 18 01 44.5
TOPG Topolog 68.20 316 ⇓P P 17 31 57.6 -0.6
CVDA Cernavoda 68.30 316 ⇓P P 17 31 58.9 0.0
NPS Neapolis 68.31 306 P P 17 32 00.1 +0.9
TLB Topalu 68.36 316 ⇓P P 17 31 59.5 +0.3
TLB Topalu 68.36 316 ⇓P P 17 31 59.5 +0.3
ANAF Anafi Island 68.36 307 P P 17 31 58.1 -1.3
ICOR Ion Corvin 68.41 315 ⇓P P 17 31 59.9 +0.3
CFR Carcaliu 68.44 317 ⇓P P 17 31 59.6 -0.1
CFR Carcaliu 68.44 317 ⇓P P 17 31 59.6 -0.1
MILM Milestii Mici 68.44 319 ⇓P P 17 31 59.1 -0.6
HARR Harsova 68.46 316 ⇓P P 17 32 00.1 +0.2
HARR Harsova 68.46 316 ⇓P P 17 32 00.1 +0.2
KIS Kishinev 68.46 319 ⇓*i*P P 17 31 58.0 -1.8
KIS *i*pP PcP 17 32 38.5 +13
KIS Kishinev 68.46 319 *e*PP PP 17 34 34.0 +2.9
KIS *e*S **S 17 41 00.0 0.0**
KIS Kishinev 68.46 319 ⇓*i*P P 17 31 58.0 -1.8
KIS *i* 17 32 10.0
KIS *e* 17 34 34.0
KIS *e*S **S 17 41 00.0 0.0**
KIS *i*PS **PnS 17 41 18.0 -8.0**
KIS *e*SS **SS 17 45 31.0 +6.9**
KIS MLR MLR
comp=Z,500nm,18.0s
PRK Paraskevi 68.48 310 P P 17 32 01.6 +1.5
CHOS Chios island 68.48 309 P P 17 32 01.0 +0.7
HNR Honiara 68.50 102 P P 17 32 01.1 +0.4
HNR pmax pmax
comp=Z,148nm,1.0s
HNR Honiara 68.50 102 LR LR 18 04 26.5
comp=Z,489nm,21.6s,baz=276,slow=38
HNR Honiara 68.50 102 P P 17 32 01.1 +0.4
EZN Ezine 68.55 311 P P 17 32 00.8 +0.3
EZN Ezine 68.55 311 ⇓P P 17 32 02.1 +1.6
EZN Ezine 68.55 311 ⇓P P 17 32 02.1 +1.6
THR8 Santorini-Mono 68.60 307 P P 17 32 00.5 -0.4
SANT Santorini 68.61 307 ⇓P P 17 32 00.1 -0.9
SANT Santorini 68.61 307 P P 17 32 00.5 -0.5
EDRB Edirne 68.65 313 P P 17 32 01.1 0.0
THR6 Thira Island, 68.65 307 P P 17 32 01.3 0.0
THR3 Thira Island, 68.66 307 P P 17 32 01.4 +0.1
APE Apeiranthos 68.67 308*d*iP **P 17 32 00.6 -0.8**
APE pmax pmax
comp=Z,63nm,0.9s
APE Apeiranthos 68.67 308 ⇑P P 17 32 01.4 -0.1
THR5 Thira Island, 68.70 307 P P 17 32 01.7 +0.1
SIGR SIGRI 68.79 310 P P 17 32 02.2 +0.1
AMRR Amara 68.85 316 ⇓P P 17 32 03.4 +1.1
AMRR Amara 68.85 316 ⇓P P 17 32 03.4 +1.1
TUDR 68.86 317 ⇓P P 17 32 03.1 +0.7
SIVA Sivas 68.92 305 P P 17 32 03.7 +0.7
GADA Gvkgeada 68.94 311 P P 17 32 02.9 -0.1
ALN Alexandroupoli 68.97 312 P P 17 32 03.3 +0.1
ALN Alexandroupoli 68.97 312 P P 17 32 03.2 +0.1
ALN pmax pmax
comp=Z,143nm,1.2s
ALN Alexandroupoli 68.97 312 P P 17 32 03.2 0.0
VASR Vaslui 69.04 318 ⇓P P 17 32 03.7 +0.2
SORM Soroca 69.07 320 ⇓P P 17 32 03.4 -0.2
SORM Soroca 69.07 320 ⇓P P 17 32 03.4 -0.2
SKR Severo-Kuril's 69.08 37 *e*P P 17 32 13.4 +10
SKR *e*S **S 17 41 10.2 +3.0**
SKR pmax pmax
comp=Z,107nm,0.9s
SKR pmax pmax
comp=Z,1μm,4.1s
SKR MLR MLR
comp=Z,600nm,15.0s
LEHL Lehliu 69.18 316 ⇑P P 17 32 05.4 +1.0
PETR Petresti 69.19 317 ⇓P P 17 32 04.2 -0.2
RAZG Razgrad 69.19 315 ⇓P P 17 32 04.9 +0.4
AKASG Malin Array Be 69.27 322 P P 17 32 03.6 -1.2
comp=Z,8.0nm,0.6s,baz=88,slow=4.8,SNR=99
AKASG pP **pwP 17 32 16.0 -1.1**
comp=Z,2.0nm,0.4s,baz=130,slow=14,SNR=4.6
AKASG PP **PP 17 34 36.2 -1.8**
comp=Z,8.3nm,1.0s,baz=95,slow=7.5,SNR=5.5
AKASG LR LR 18 06 53.1
comp=Z,624nm,19.4s,baz=100,slow=40
SMTH Samothraki Isl 69.27 311 P P 17 32 04.8 -0.3
GRER 69.28 317 ⇓P P 17 32 07.2 +2.1
ODBI Odobesti 69.32 317 ⇓P P 17 32 06.8 +1.5
IAS Iasi 69.34 319 ⇓P P 17 32 04.8 -0.5
IAS Iasi 69.34 319 ⇓P P 17 32 04.8 -0.5
RDO Rodhopi 69.39 312 P P 17 32 05.7 -0.1
VAM Vamos 69.47 306 P P 17 32 07.9 +1.5
ELND Elena 69.51 314 ⇑P P 17 32 06.6 +0.1
ISR Istrita 69.52 316 ⇓P P 17 32 08.1 +1.5
ISR Istrita 69.52 316 ⇓P P 17 32 08.1 +1.5
SZH Strazhica 69.54 314 *i* P **P 17 32 04.5 -2.1**
VRI Vrincioaia 69.57 317 ⇓P P 17 32 07.6 +0.8
VRI Vrincioaia 69.57 317 ⇓P P 17 32 07.6 +0.8
CHAN Chania 69.61 306 P P 17 32 08.5 +1.3
PLOR Plostina 69.62 317 ⇓P P 17 32 08.1 +0.9
PLOR Plostina 69.62 317 ⇓P P 17 32 08.1 +0.9
SULR 69.62 316 ⇓P P 17 32 08.4 +1.3
IMMV Iera Moni Meta 69.66 306 P P 17 32 07.9 +0.4
SGRR Singureni 69.71 315 ⇓P P 17 32 08.2 +0.5
TESR Tescani 69.78 318 ⇓P P 17 32 08.2 +0.2
SECR 69.83 316 ⇓P P 17 32 09.6 +1.2
PLAR PLOIESTI 69.83 316 ⇑P P 17 32 10.3 +1.9
TIXI Tiksi 69.88 11*d i*P **P 17 32 08.3 +0.2**
TIXI pmax pmax
comp=Z,133nm,0.7s
TIXI MLR MLR
comp=Z,863nm,19.0s
TIXI Tiksi 69.88 11 P P 17 32 07.7 -0.5
THAS Thassos island 69.90 311 P P 17 32 08.3 -0.6
MLR Muntele Rosu 70.01 317 P P 17 32 09.6 -0.1
MLR pmax pmax
comp=Z,326nm,0.9s
MLR Muntele Rosu 70.01 317 ⇑P P 17 32 10.1 +0.4
MLR Muntele Rosu 70.01 317 P P 17 32 09.6 -0.1
ZIMR 70.02 315 ⇑P P 17 32 09.3 -0.3
ZIMR 70.02 315 ⇑P P 17 32 09.3 -0.3
RZN Rozhen 70.10 312 *i* P **P 17 32 09.5 -0.9**
KAVA Kavala 70.13 312 P P 17 32 10.2 -0.1
PTL Penteli 70.13 308 P P 17 32 09.9 -0.5
VLY Voula,Athens 70.15 308 P P 17 32 09.6 -0.9
ATHU Athens Univers 70.18 308 P P 17 32 10.0 -0.7
COPA Copaceanca 70.23 315 ⇑P P 17 32 10.9 +0.1
BIZ Bicaz 70.24 318 ⇑P P 17 32 11.1 +0.2
OZUR 70.26 317 ⇓P P 17 32 10.7 -0.4
PRAR RASCA 70.26 318 ⇑P P 17 32 11.1 +0.1
ANKY Antikythira Is 70.26 306 P P 17 32 12.2 +1.0
AOS Alonnisos 70.29 310 P P 17 32 10.6 -0.8
TMCR Tamitsa 70.37 338 *e*P **P 17 32 10.9 -0.4**
TMCR pmax pmax
comp=Z,148nm,1.3s
MRKA Markates 70.45 309 P P 17 32 11.4 -0.9
HUMR Humele 70.47 315 ⇓P P 17 32 12.9 +0.5
PLVB Pleven 70.50 314 ⇓P P 17 32 13.1 +0.6
DOPR Dopca 70.50 317 ⇑P P 17 32 12.5 -0.1
KTHA Kythira Island 70.50 306 P P 17 32 12.3 -0.4
DID Didima 70.54 308 P P 17 32 11.5 -1.5
GOLR 70.55 316 ⇑P P 17 32 13.1 +0.3
KTHR Kythira 70.55 306 P P 17 32 12.6 -0.4
PAIG Paliouri 70.57 310 P P 17 32 13.0 0.0
VILL Villia 70.58 308 P P 17 32 11.8 -1.4
VOIR 70.62 316 ⇓P P 17 32 13.0 -0.3
VOIR 70.62 316 ⇓P P 17 32 13.0 -0.3
PGB Panagyurishte 70.67 313 *i* P **P 17 32 13.5 -0.2**
NVR Nevrokopi 70.67 312 P P 17 32 13.3 -0.4
PETK Petropavlovsk- 70.75 35 P P 17 32 13.5 -0.4
comp=Z,4.9nm,1.0s,baz=80,slow=3.1,SNR=5.7
PETK LR LR 18 06 28.0
comp=Z,473nm,18.2s,baz=237,slow=39
MMB Musomiste 70.81 312 *i* P **P 17 32 13.0 -1.6**
LOUT Loutraki 70.82 308 P P 17 32 12.8 -1.8
PLG Polygyros 70.82 311 P P 17 32 14.2 -0.4
LTK Loutraki 70.83 308 P P 17 32 13.1 -1.6
XOR Xorichti 70.85 310 P P 17 32 13.2 -1.6
ARR Arges 70.89 316 ⇓P P 17 32 14.9 0.0
SOH Sokhos 70.96 311 P P 17 32 15.0 -0.5
BURAR Bucovina Array 70.98 319 ⇓P P 17 32 16.2 +0.7
BURAR Bucovina Array 70.98 319 ⇓P P 17 32 16.2 +0.7
BURAR Bucovina Array 70.98 319 P P 17 32 15.0 -0.5
BUR08 Bucovina Ar. S 71.00 319 P P 17 32 15.8 +0.1
BUR08 IAmb IAmb 17 32 17.5
comp=Z,64nm,1.1s
HORT Hortiatis 71.12 311 P P 17 32 15.7 -0.8
DYR Agios Nikonas 71.15 307 P P 17 32 16.1 -0.6
VLX Vlachokerasia 71.20 308 P P 17 32 16.2 -0.8
MICGM Minsk 71.20 326 ⇑*i*P P 17 32 15.0 -1.5
MICGM PM 17 32 16.0
comp=Z,0.6nm,1.0s
MNK Minsk 71.20 326 ⇑*i*P P 17 32 15.0 -1.5
MNK pmax pmax
comp=Z,600nm,1.0s
MDB Medias 71.22 317 ⇑P P 17 32 17.8 +0.9
MDB Medias 71.22 317 ⇑P P 17 32 17.8 +0.9
PET Petropavlovsk 71.28 36 *e*P P 17 32 11.9 -5.1
PET *e*S **S 17 41 26.8 -6.0**
PET pmax pmax
comp=Z,100nm,9.6s
PET MLR MLR
comp=Z,900nm,21.0s
PET Petropavlovsk 71.28 36 P P 17 32 16.7 -0.3
KKB Krupnik 71.34 312 *i* P **P 17 32 16.0 -1.7**
VTS Vitosha 71.36 313 P P 17 32 17.7 -0.2
VTS Vitosha 71.36 313 *i* P **P 17 32 17.0 -1.0**
VTS Vitosha 71.36 313 P P 17 32 17.8 -0.2
VTS pmax pmax
comp=Z,140nm,1.0s
VTS Vitosha 71.36 313 ⇓P P 17 32 17.9 -0.1
VTS Vitosha 71.36 313 P P 17 32 17.8 -0.1
KNT Kendrikon 71.36 312 P P 17 32 17.3 -0.5
ARCR ARCALIA 71.44 318 ⇑P P 17 32 18.7 +0.5
AGG Agios Georgios 71.46 309 P P 17 32 16.7 -1.8
AGG pmax pmax
comp=Z,61nm,1.2s
AGG Agios Georgios 71.46 309 P P 17 32 16.7 -1.8
AGG IAmb IAmb 17 32 18.1
comp=Z,61nm,1.2s
KLV Kalavryta, Ach 71.47 308 P P 17 32 17.5 -1.1
LIT Litokhoron 71.50 310 P P 17 32 17.6 -1.1
LIT Litokhoron 71.50 310 P P 17 32 17.2 -1.5
LIT pmax pmax
comp=Z,149nm,0.9s
LIT Litokhoron 71.50 310 P P 17 32 17.2 -1.5
LOT Lotru 71.50 316 ⇑P P 17 32 16.9 -1.9
KALE Kalithea 71.52 309 P P 17 32 17.5 -1.4
BAIL Bailesti 71.53 315 ⇑P P 17 32 19.6 +0.8
ITM Ithomi 71.53 307 P P 17 32 18.3 -0.7
ITM Ithomi 71.53 307 P P 17 32 18.2 -0.7
TRIZ Trizonia 71.57 309 P P 17 32 18.0 -1.1
SERG Sergoula 71.59 309 P P 17 32 17.9 -1.4
VAY Valandovo 71.63 312 ⇓*i*P P 17 32 18.8 -0.6
LAKA Lakka 71.63 308 P P 17 32 18.6 -0.9
PYL PYLOS 71.64 307 P P 17 32 18.4 -1.2
SEY Seymchan 71.69 25 *i* P **P 17 32 20.6 +1.3**
GRG Griva 71.70 311 P P 17 32 19.1 -0.8
EFP Efpalio 71.71 309 P P 17 32 18.4 -1.6
DRO Drossia 71.80 308 P P 17 32 20.5 -0.1
PUNG Punghina 71.86 315 ⇑P P 17 32 21.0 +0.2
CJR Cluj-Napoca 71.87 317 ⇑P P 17 32 21.9 +1.1
CJR Cluj-Napoca 71.87 317 ⇑P P 17 32 21.9 +1.1
LBTB Lobatse 71.93 242 P P 17 32 22.0 +0.4
LBTB pmax pmax
comp=Z,83nm,1.2s
LBTB Lobatse 71.93 242 LR LR 18 00 00.1
comp=Z,795nm,18.9s,baz=65,slow=32
LBTB Lobatse 71.93 242 P P 17 32 22.0 +0.4
LBTB IAmb IAmb 17 32 23.6
comp=Z,83nm,1.1s
NACGM Naroch 71.93 326 *e*P **P 17 32 20.0 -0.9**
STIP Stip 71.97 312 ⇓*i*P P 17 32 19.9 -1.6
RLS Riolos of Patr 72.00 308 P P 17 32 21.5 -0.2
PVO Paravola 72.03 309 P P 17 32 21.8 -0.1
IDID Didziasalis 72.07 327 *e*P **P 17 32 22.1 +0.3**
BMR Baia Mare 72.13 318 ⇑P P 17 32 22.9 +0.6
BMR Baia Mare 72.13 318 ⇑P P 17 32 22.9 +0.6
GZR Gura Zlata 72.18 316 ⇑P P 17 32 21.3 -1.4
GZR Gura Zlata 72.18 316 ⇑P P 17 32 21.3 -1.4
DEV Deva 72.18 316 ⇓P P 17 32 23.6 +0.9
DEV Deva 72.18 316 ⇓P P 17 32 23.6 +0.9
LVV L'vov 72.25 321 *e*P **P 17 32 22.1 -0.9**
PDO Prodromos 72.30 309 P P 17 32 22.8 -0.7
KPRO Kipourio 72.33 310 P P 17 32 22.1 -1.7
HERR Herculane 72.34 315 ⇑P P 17 32 23.8 +0.2
IIGN Ignalina 72.37 327 *e*P **P 17 32 23.6 0.0**
IIGN IAmb IAmb 17 32 25.0
comp=Z,91nm,1.2s
FNA Florina 72.44 311 P P 17 32 23.1 -1.3
FNA Florina 72.44 311 P P 17 32 23.2 -1.2
FNA pmax pmax
comp=Z,68nm,1.1s
FNA Florina 72.44 311 P P 17 32 23.2 -1.2
FNA IAmb IAmb 17 32 24.3
comp=Z,68nm,1.1s
IZAR Zarasai 72.47 327 *e*P **P 17 32 24.1 -0.1**
ISAL Salakas 72.48 327 *e*P **P 17 32 24.2 0.0**
ISAL IAmb IAmb 17 32 25.6
comp=Z,48nm,1.0s
DRGR 72.48 317 ⇑P P 17 32 25.1 +0.6
DRGR 72.48 317 ⇑P P 17 32 25.1 +0.6
KFL Anninata 72.54 308 P P 17 32 24.3 -0.7
SKO Skopje 72.56 312 ⇓*i*P P 17 32 24.0 -1.1
NEST Nestorio 72.64 311 P P 17 32 24.1 -1.5
CASY Casey 72.67 173 P P 17 32 25.3 +0.2
EVGI Lefkada island 72.71 309 P P 17 32 25.5 -0.5
LKD2 Lefkada island 72.73 309 P P 17 32 25.6 -0.5
MDVR Moldovita 72.81 315 ⇓P P 17 32 26.5 0.0
TRPA Tarpa 72.86 319 ⇓P P 17 32 27.2 +0.6
OHR Ohrid 72.92 311 ⇓*i*P P 17 32 26.1 -1.2
BZS Buzias 73.02 316 ⇓P P 17 32 27.8 +0.2
BZS Buzias 73.02 316 ⇓P P 17 32 27.8 +0.2
VSU Vasula 73.02 330*de*P **P 17 32 26.7 -0.6**
VSU pmax pmax
comp=Z,477nm,1.3s
VSU Vasula 73.02 330 *e*P **P 17 32 26.8 -0.6**
VSU IAmb IAmb 17 32 27.8
comp=Z,292nm,0.7s
KWP Kalwaria Pacla 73.05 320 ⇓*e*P P 17 32 27.9 +0.1
KWP Kalwaria Pacla 73.05 320 *e*P **P 17 32 27.9 +0.1**
KWP *e*P **P 17 32 27.9 +0.1**
KWP Kalwaria Pacla 73.05 320 P P 17 32 27.9 +0.1
SIRR Siria 73.10 317 ⇓P P 17 32 28.7 +0.5
UZH Uzhgorod 73.11 319 ⇓*i*P P 17 32 26.6 -1.5
UZH *e* 17 32 34.0
UZH *e* 17 32 42.5
BOSA Boshof 73.18 238 P P 17 32 29.4 +0.4
comp=Z,20nm,1.0s,baz=81,slow=7.7,SNR=15
BOSA LR LR 17 58 54.1
comp=Z,599nm,21.4s,baz=54,slow=31
BOSA Boshof 73.18 238 P P 17 32 29.5 +0.4
KOLS Kolonicke sedl 73.19 319 *e*P **P 17 32 29.3 +0.7**
KOLS pmax pmax
comp=Z,76nm,1.0s
KOLS Kolonicke sedl 73.19 319 *e*P **P 17 32 29.3 +0.7**
PHP Peshkopia 73.26 312 P P 17 32 27.6 -1.7
TIM Timisoara 73.31 316 ⇑P P 17 32 30.4 +1.0
TIM Timisoara 73.31 316 ⇑P P 17 32 30.4 +1.0
BANR Banloc 73.31 316 ⇓P P 17 32 30.0 +0.6
LVZ Lovozero 73.40 340 P P 17 32 28.9 -0.6
LVZ pmax pmax
comp=Z,57nm,0.8s
LVZ Lovozero 73.40 340 P P 17 32 28.9 -0.6
LVZ IAmb IAmb 17 32 30.0
comp=Z,56nm,0.8s
PABE Paberze 73.65 326 *e*P **P 17 32 30.6 -0.5**
PABE IAmb IAmb 17 32 31.1
comp=Z,114nm,0.8s
TIR Tirane 73.65 311 P P 17 32 30.4 -1.1
TIR pmax pmax
comp=Z,68nm,0.9s
TIR Tirane 73.65 311 ⇓P P 17 32 30.6 -0.9
TIR Tirane 73.65 311 P P 17 32 30.4 -1.1
TIR IAmb IAmb 17 32 43.5
comp=Z,68nm,0.9s
APA Apatity 73.67 340 ⇓*i*P P 17 32 29.9 -1.1
APA pmax pmax
comp=Z,75nm,0.9s
SUW Suwalki 73.72 325 P P 17 32 31.1 -0.5
SUW Suwalki 73.72 325 P P 17 32 31.1 -0.5
IVA Berane 73.83 313 ⇓*i*P P 17 32 32.1 -0.5
DIVS Divibare 73.92 314 ⇓*i*P P 17 32 32.9 -0.2
KOME Kolasin 74.10 313 ⇓*i*P P 17 32 33.7 -0.5
ULC Ulcinj 74.19 312 ⇓*i*P P 17 32 34.2 -0.4
FRGS Fruska Gora 74.20 315 ⇓*i*P P 17 32 34.3 -0.4
PDG Podgorica 74.24 312 ⇓*i*P P 17 32 33.6 -1.2
PDG Podgorica 74.24 312 ⇑*i*P P 17 32 34.5 -0.3
PDG Podgorica 74.24 312 P P 17 32 33.4 -1.5
TTG Podgorica 74.24 312 ⇓*i*P P 17 32 33.9 -0.9
PLE Pljevlja 74.25 313 ⇓*i*P P 17 32 35.4 +0.3
DRME Dracevica, Mon 74.26 312 ⇓*i*P P 17 32 34.2 -0.8
DRME Dracevica, Mon 74.26 312 ⇓*i*P P 17 32 34.3 -0.8
FIA1 FINESS Array S 74.26 333 P P 17 32 33.9 -0.7
FINES FINESS Array B 74.26 333 P P 17 32 34.2 -0.4
comp=Z,70nm,0.8s,baz=104,slow=8.0,SNR=138
FINES pP **pwP 17 32 45.7 -1.3**
comp=Z,14nm,0.6s,baz=92,slow=6.7,SNR=5.3
FINES LR LR 18 07 57.3
comp=Z,567nm,18.4s,baz=108,slow=38
FINES FINESS Array B 74.26 333 P P 17 32 33.5 -1.1
KECS Kecovo 74.27 319 *e*P **P 17 32 35.3 +0.4**
KECS pmax pmax
comp=Z,39nm,0.9s
KECS Kecovo 74.27 319 *e*P **P 17 32 35.3 +0.4**
RUDO Rudo 74.30 314 *e*P **P 17 32 35.0 -0.3**
BBLS Lazići 74.31 314 ⇓*i*P P 17 32 35.6 +0.2
NKY Niksic 74.47 313 ⇓*i*P P 17 32 35.8 -0.6
BUM Brajici-Budva 74.49 312 ⇓*i*P P 17 32 35.5 -0.9
CEME Cevo 74.50 313 ⇓*i*P P 17 32 36.0 -0.5
NKME Niksic 74.50 313 ⇓*i*P P 17 32 36.1 -0.4
NIE Niedzica 74.55 320 *e*P **P 17 32 36.8 +0.2**
NIE Niedzica 74.55 320 *e*P **P 17 32 36.8 +0.2**
NIE *e*P **P 17 32 36.8 +0.2**
SCTE Santa Cesarea 74.56 310 P P 17 32 36.5 -0.3
PSZ Piszkesteto 74.57 318 P P 17 32 36.5 -0.3
PSZ Piszkesteto 74.57 318 ⇓P P 17 32 37.0 +0.2
PSZ Piszkesteto 74.57 318 P P 17 32 36.5 -0.3
PSZ IAmb IAmb 17 32 38.0
comp=Z,75nm,0.9s
UPM Unac-Piva 74.59 313 ⇓*i*P P 17 32 36.4 -0.7
HAPS Han Pijesak,BI 74.67 314 ⇓*i*P P 17 32 36.9 -0.6
BEL Belsk 74.68 322 *e*P **P 17 32 37.5 +0.2**
BEL Belsk 74.68 322 *e*P **P 17 32 37.5 +0.2**
BEL *e*P **P 17 32 37.5 +0.2**
BRY Bratogost 74.82 313 ⇓*i*P P 17 32 37.6 -0.8
BRY Bratogost 74.82 313 ⇓*i*P P 17 32 37.8 -0.6
PBUR Paburg 74.89 327 *e*P **P 17 32 38.3 0.0**
PBUR IAmb IAmb 17 32 39.0
comp=Z,295nm,0.8s
TREB Trebinje 74.93 313 ⇓*i*P P 17 32 37.9 -1.0
OJC Ojcow 75.00 321 P P 17 32 39.1 -0.1
OJC pmax pmax
comp=Z,160nm,1.1s
OJC Ojcow 75.00 321 *e*P **P 17 32 39.5 +0.3**
OJC *e*P **P 17 32 39.5 +0.3**
OJC Ojcow 75.00 321 P P 17 32 39.1 -0.1
LANS Liptovska Anna 75.04 319 *e*P **P 17 32 40.1 +0.6**
LANS pmax pmax
comp=Z,25nm,1.3s
LANS Liptovska Anna 75.04 319 *e*P **P 17 32 40.1 +0.6**
SLIT Slitere, Latvi 75.07 328 *e*P **P 17 32 38.1 -1.2**
DOB Doboj 75.35 315 *e*P **P 17 32 43.4 +2.1**
VYHS Vyhne 75.35 319 *e*P **P 17 32 41.5 +0.3**
VYHS pmax pmax
comp=Z,114nm,1.3s
VYHS Vyhne 75.35 319 *e*P **P 17 32 41.5 +0.3**
STON Ston 75.43 313 ⇓*i*P P 17 32 40.1 -1.6
SRO Srobarova 75.60 318 *e*P **P 17 32 43.9 +1.3**
SRO pmax pmax
comp=Z,133nm,0.9s
SRO Srobarova 75.60 318 *e*P **P 17 32 43.9 +1.3**
KOLL Kolacno 75.65 319 *e*P **P 17 32 43.5 +0.6**
TIP Timpagrande 75.79 309 ⇓P P 17 32 44.4 +0.4

TIP Timpagrande 75.79 309 P P 17 32 43.9 -0.1
TIP IAmb IAmb 17 32 45.0
comp=Z,59nm,0.9s
MAW Mawson 75.89 191 P P 17 32 45.9 +2.2
baz=76,SNR=18
MAW Mawson 75.89 191 P P 17 32 45.9 +2.2
comp=Z,12nm,0.7s,baz=4.6,slow=4.5,SNR=26
MATE Matera 75.95 310 ⇑P P 17 32 45.1 +0.3
OKC Ostrava-Krasne 76.00 320⇓iP P 17 32 45.5 +0.6
OKC Ostrava-Krasne 76.00 320⇓iP P 17 32 45.5 +0.6
BLY Banja Luka 76.00 315⇓iP P 17 32 44.8 -0.2
BLY Banja Luka 76.00 315 ⇓P P 17 32 45.1 +0.1
BLY Banja Luka 76.00 315 P P 17 32 44.8 -0.2
BLY IAmb IAmb 17 32 45.7
comp=Z,64nm,0.8s
MGRS Mrkonjic Grad 76.04 314 eP P 17 32 45.2 -0.1
JAVC Velka Javorina 76.17 319⇓iP P 17 32 47.0 +1.0
SMOL Smolenice 76.28 319 eP P 17 32 47.1 +0.6
SMOL pmax pmax
comp=Z,33nm,1.2s
SMOL Smolenice 76.28 319 eP P 17 32 47.1 +0.6
MODS Modra-Piesok 76.37 318 eP P 17 32 46.5 -0.5
MODS pmax pmax
comp=Z,228nm,1.3s
MODS Modra-Piesok 76.37 318 eP P 17 32 46.5 -0.5
MORC Moravsky Berou 76.38 320 P P 17 32 46.9 -0.2
MORC pmax pmax
comp=Z,66nm,1.0s
MORC Moravsky Berou 76.38 320 ⇓P P 17 32 47.8 +0.7
MORC Moravsky Berou 76.38 320⇓iP P 17 32 47.4 +0.3
MORC Moravsky Berou 76.38 320 P P 17 32 46.9 -0.2
MORC IAmb IAmb 17 32 48.3
comp=Z,66nm,1.0s
ZST Bratislava 76.46 318 eP P 17 32 47.3 -0.2
ZST Bratislava 76.46 318 eP P 17 32 47.3 -0.2
ACER Acerenza 76.54 311 P P 17 32 48.4 +0.2
KEV Kevo 76.70 341 P P 17 32 48.5 +0.1
KEV pmax pmax
comp=Z,108nm,1.1s
KEV Kevo 76.70 341 P P 17 32 48.5 +0.1
SGRT San Giovanni R 76.77 311 P P 17 32 48.9 -0.6
SGRT IAmb IAmb 17 32 50.0
comp=Z,46nm,0.9s
KOGS Kog 76.84 316 iP P 17 32 49.8 +0.1
KRLC Kraliky 76.90 320⇓iP P 17 32 50.8 +0.7
KRLC Kraliky 76.90 320⇓iP P 17 32 50.8 +0.7
VRAC Vranov 76.93 319 ⇓P P 17 32 50.5 +0.3
VRAC Vranov 76.93 319 ⇓P P 17 32 50.5 +0.3
VRAC Vranov 76.93 319⇓iP P 17 32 50.5 +0.3
ZAG Zagreb 76.95 316⇓iP P 17 32 50.6 +0.2
DZM Mont Dzumac 76.98 114 eP P 17 32 51.2 +0.1
comp=Z,64nm,1.2s
DZM eS S 17 42 36.7 -1.6
comp=Z,84nm,24.9s
DZM eSS SS 17 47 39.6 +3.9
comp=Z,321nm,28.4s
DZM eLR LR 17 56 40.6
comp=Z,2μm,31.0s
DZM Mont Dzumac 76.98 114 P P 17 32 50.9 -0.2
KRUC Moravsky 77.03 319⇓iP P 17 32 51.0 +0.3
GKP Gorka Klasztor 77.06 323 eP P 17 32 50.5 -0.3
GKP Gorka Klasztor 77.06 323 eP P 17 32 50.5 -0.3
GKP eP P 17 32 50.5 -0.3
ARCES ARCESS Array B 77.12 341 P P 17 32 51.1 +0.2
comp=Z,56nm,0.9s,baz=96,slow=5.2,SNR=43
ARCES pP PcP 17 33 01.5 -0.1
comp=Z,23nm,0.9s,baz=111,slow=3.7,SNR=4.8
ARCES LR LR 18 10 56.1
comp=Z,2μm,18.8s,baz=112,slow=39
ARCES ARCESS Array B 77.12 341 P P 17 32 50.8 0.0
ARE0 ARCESS Array S 77.12 341 eP P 17 32 51.2 +0.4
ARE0 ARCESS Array S 77.12 341 P P 17 32 50.8 0.0
DPC Dobruska-Polom 77.23 320⇓iP P 17 32 52.9 +1.0
DPC MLR MLR
comp=Z,600nm,17.7s
DPC Dobruska-Polom 77.23 320⇓iP P 17 32 52.9 +1.0
DPC AMS AMS 18 13 00.0
comp=Z,600nm,17.7s
CONA Conrad Observa 77.26 318 iP P 17 32 52.3 +0.2
comp=Z,61nm,1.1s,SNR=26
KSP Ksiaz 77.31 321 eP P 17 32 53.1 +0.8
KSP Ksiaz 77.31 321 eP P 17 32 53.1 +0.8
KSP eP P 17 32 53.1 +0.8
CRES Cresnjev 77.32 316⇓iP P 17 32 52.4 -0.1
ARSA Arzberg 77.41 317 iP P 17 32 53.5 +0.6
comp=Z,107nm,0.9s,SNR=46
CHVC Chvalec 77.43 321⇓iP P 17 32 53.9 +0.9
CHVC AMS AMS 18 12 10.0
comp=Z,400nm,19.8s
UPC Upice 77.45 320 eP P 17 32 54.0 +0.9
UPC MLR MLR
comp=Z,500nm,17.0s
UPC Upice 77.45 320⇓eP P 17 32 54.0 +0.9
UPC AMS AMS 18 14 10.0
comp=Z,500nm,17.0s
RAFF Raffo Rosso 77.55 307 P P 17 32 54.1 +0.2
RAFF IAmb IAmb 17 33 09.2
comp=Z,70nm,1.1s
TREC Trest 77.65 319 eP P 17 32 54.8 +0.6
TREC Trest 77.65 319⇓eP P 17 32 54.8 +0.6
SOKA Soboth 77.69 316 iP P 17 32 55.1 +0.5
comp=Z,113nm,0.9s,SNR=43
KTK1 Kautokeino 77.72 340 eP P 17 32 54.0 -0.2
SUR Sutherland 77.87 235 P P 17 32 57.2 +1.3
SUR Sutherland 77.87 235 LR LR 18 00 54.2
comp=Z,382nm,21.0s,baz=80,slow=31
SUR Sutherland 77.87 235 P P 17 32 57.0 +1.0
TSUM Tsumeb 77.93 249 LR LR 18 04 50.7
comp=Z,733nm,18.3s,baz=72,slow=34
LJU Ljubljana 77.99 316 iP P 17 32 56.6 +0.5
LJU Ljubljana 77.99 316⇓iP P 17 32 56.5 +0.3
OBKA Obir 78.01 316 iP P 17 32 56.9 +0.5
comp=Z,91nm,0.9s,SNR=18
CEY Cerknica 78.03 315⇓iP P 17 32 56.1 -0.4
HAMF Hammerfest 78.07 341 eP P 17 32 56.2 +0.2
INTR Introdacqua 78.16 312 P P 17 32 56.2 -1.0
INTR IAmb IAmb 17 33 02.1
comp=Z,46nm,1.0s
GOPC GO Pecny, Ondr 78.16 320⇓iP P 17 32 57.5 +0.4
GOPC MLR MLR
comp=Z,400nm,15.6s
GOPC GO Pecny, Ondr 78.16 320⇓iP P 17 32 57.5 +0.4
GOPC AMS AMS 18 12 10.0
comp=Z,400nm,15.6s
MOA Molln 78.32 318 iP P 17 32 58.1 +0.1
comp=Z,61nm,1.1s,SNR=20
PRU Pruhonice 78.33 320⇓iP P 17 32 58.6 +0.6
PRU MLR MLR
comp=Z,600nm,17.3s
PRU Pruhonice 78.33 320⇓iP P 17 32 58.6 +0.6
PRU AMS AMS 18 14 00.0
comp=Z,600nm,17.3s
PVCC Panska Ves 78.36 320 eP P 17 32 59.0 +0.9
PVCC MLR MLR
comp=Z,500nm,18.8s
PVCC Panska Ves 78.36 320⇓eP P 17 32 59.0 +0.9
PVCC AMS AMS 18 14 00.0
comp=Z,500nm,18.8s
PRA Prague 78.41 320 eP P 17 32 59.5 +1.1
PRA Prague 78.41 320⇓eP P 17 32 59.5 +1.1
CORL Corleone 78.42 307 P P 17 32 58.4 -0.4
CORL IAmb IAmb 17 32 59.1
comp=Z,74nm,0.9s
CLTB Caltabellotta 78.48 307 P P 17 32 58.4 -0.7
CLTB IAmb IAmb 17 33 05.5
comp=Z,31nm,0.8s
TRI Trieste 78.50 315 P P 17 32 57.3 -1.6
TRI pmax pmax
comp=Z,60nm,0.7s
TRI Trieste 78.50 315 P P 17 32 57.3 -1.6
TRI IAmb IAmb 17 32 59.3
comp=Z,60nm,0.7s
AQU L'Aquila 78.55 312 P P 17 32 59.4 0.0
AQU pmax pmax
comp=Z,74nm,0.9s
AQU L'Aquila 78.55 312⇓iP P 17 32 59.3 -0.1
AQU L'Aquila 78.55 312 P P 17 32 59.4 -0.1
AQU IAmb IAmb 17 33 00.7
comp=Z,74nm,0.9s
CADS Cadrg 78.55 316 iP P 17 32 59.2 -0.1
MYKA Terra Mystica 78.65 316 iP P 17 33 00.1 +0.3
comp=Z,76nm,1.0s,SNR=22
BSD Bornholm Skovb 78.66 325⇓iP P 17 32 58.9 -0.7
BSD pmax pmax
comp=Z,79nm,0.7s
BSD Bornholm Skovb 78.66 325⇓iP P 17 32 58.9 -0.7
comp=Z,79nm,0.7s
GEC2 GERESS Array S 78.78 319 P P 17 32 59.9 -0.7
GERES GERESS Array B 78.78 319 P P 17 33 01.1 +0.5
comp=Z,101nm,0.8s,baz=93,slow=5.3,SNR=578
GERES pP pwP 17 33 12.9 0.0
comp=Z,11nm,1.1s,baz=241,slow=33,SNR=3.5
GERES LR LR 18 14 39.3
comp=Z,182nm,18.4s,baz=92,slow=41
GERES GERESS Array B 78.78 319 P P 17 33 00.5 -0.1
NRCA Norcia 78.78 312 P P 17 33 00.1 -0.6
NRCA IAmb IAmb 17 33 01.8
comp=Z,56nm,1.1s
BRG Berggiesshubel 78.79 321⇓iP P 17 33 01.1 +0.6
comp=Z,72nm,0.9s
BRG ePP PP 17 35 56.9 -2.1
comp=Z,25nm,1.6s
BRG S S 17 42 57.0 +0.4
BRG SS SS 17 47 57.0 -4.4
comp=N,439nm,14.2s
comp=E,383nm,21.3s
comp=Z,439nm,12.0s
BRG Berggiesshubel 78.79 321⇓iP P 17 33 01.1 +0.6
BRG e 17 35 56.9
BRG S S 17 42 57.0 +0.4
BRG SS SS 17 47 57.0 -4.4
BRG pmax pmax
comp=Z,73nm,0.9s
BRG pmax pmax
comp=Z,25nm,1.6s
BRG MLR MLR
comp=N,439nm,14.2s
BRG MLR MLR
comp=E,383nm,21.3s
BRG MLR MLR
comp=Z,439nm,12.0s
BILL Bilibino 78.83 22ceP P 17 33 01.0 +0.6
BILL i 17 33 10.3
BILL eS S 17 42 56.6 +0.1
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,739nm,16.0s
BILL Bilibino 78.83 22 P P 17 33 00.5 +0.2
KHC Kasperske Hory 78.88 319⇓iP P 17 33 01.4 +0.3
KHC e 17 33 10.3
KHC MLR MLR
comp=Z,500nm,18.1s
KHC Kasperske Hory 78.88 319⇓iP P 17 33 01.4 +0.3
KHC ex x 17 33 10.3
KHC AMS AMS 18 13 00.0
comp=Z,500nm,18.1s
KHC Kasperske Hory 78.88 319 P P 17 33 01.2 +0.1
KBA Koelnbreinsper 78.88 317 iP P 17 33 01.1 -0.2
comp=Z,27nm,0.6s,SNR=16
RUE Ruedersdorf 79.04 322 eP P 17 33 02.1 +0.3
MURB Monte Urbino 79.24 313 P P 17 33 03.0 -0.2
MURB IAmb IAmb 17 33 05.7
comp=Z,49nm,0.9s
STAL STALIGIAL 79.26 316 P P 17 33 02.9 -0.3
TRO Tromso 79.36 340 eP P 17 33 02.8 -0.4
CLL Collm 79.42 321⇓iP P 17 33 04.0 +0.1
CLL eS S 17 43 10.0 +6.7
CLL pmax pmax
comp=Z,54nm,1.0s
CLL MLR MLR
comp=Z,500nm,18.3s
CLL Collm 79.42 321⇓iP P 17 33 04.0 +0.1
comp=Z,54nm,1.0s
CLL eS S 17 43 10.0 +6.7
CLL e(PS) 17 43 38.0
CLL eSS SS 17 48 18.0 +7.2
CLL LmH 18 08 00.0
comp=N,600nm,21.7s
CLL LmH 18 08 00.0
comp=E,300nm,21.8s
CLL L L 18 13 00.0
comp=Z,500nm,18.3s
CLL Collm 79.42 321 P P 17 33 03.7 -0.2
CLL IAmb IAmb 17 33 05.1
comp=Z,52nm,1.0s
ABTA Abfaltersbach 79.43 316 iP P 17 33 03.9 -0.3
comp=Z,37nm,0.7s,SNR=16
RGN Rugen 79.51 324 P P 17 33 02.7 -1.6
NKC Novy Kostel 79.69 320⇓iP P 17 33 05.7 +0.2
NKC Novy Kostel 79.69 320⇓iP P 17 33 05.7 +0.2
LATE Laterza 79.74 312 P P 17 33 04.8 -1.1
TEOL Teolo 79.94 315 P P 17 33 06.4 -0.5
CTI Castel Tesino 79.99 316 P P 17 33 07.4 +0.1
CTI pmax pmax
comp=Z,146nm,1.0s
CTI Castel Tesino 79.99 316 P P 17 33 07.4 +0.1
WTTA Wattenberg 80.06 317 iP P 17 33 07.3 -0.4
comp=Z,145nm,0.8s,SNR=38
WATA Walderalm 80.10 317 iP P 17 33 07.3 -0.6
comp=Z,124nm,1.1s,SNR=31
COP Copenhagen 80.12 325 iP P 17 33 07.9 +0.3
COP pmax pmax
comp=Z,52nm,0.8s
COP Copenhagen 80.12 325 iP P 17 33 07.9 +0.3
comp=Z,52nm,0.8s
OSSC Osservatorio P 80.18 313 P P 17 33 07.5 -0.8
OSSC IAmb IAmb 17 33 08.5
comp=Z,58nm,1.1s
STEI Steigen 80.34 338 eP P 17 33 08.2 -0.2
SQTA Sankt Quirin 80.34 317 iP P 17 33 08.9 -0.3
comp=Z,125nm,0.7s,SNR=42
MOR8 Moi Rana 80.37 336 eP P 17 33 07.8 -1.0
ZCCA Zocca 80.40 314 P P 17 33 10.6 +1.1
MOTA Moosalm 80.42 317 iP P 17 33 09.2 -0.4
comp=Z,214nm,1.3s,SNR=45
CASP Castiglione de 80.44 312 P P 17 33 09.1 -0.5
CASP IAmb IAmb 17 33 10.9
comp=Z,33nm,0.8s
GRA1 Grafenberg Arr 80.45 319 P P 17 33 09.7 +0.1
GRA1 IAmb IAmb 17 33 11.6
comp=Z,92nm,0.9s
GRF Grafenberg Arr 80.45 319 P P 17 33 09.7 +0.1
GRF pmax pmax
comp=Z,93nm,0.9s
RETA Reutte 80.66 317 iP P 17 33 10.8 0.0
comp=Z,99nm,0.6s,SNR=41
FETA Feichten 80.66 317 iP P 17 33 11.0 +0.1
comp=Z,99nm,1.1s,SNR=26
SALO Salr 80.76 315 P P 17 33 11.2 -0.1
VLC Villacollemand 80.82 314 P P 17 33 11.6 -0.1
VLC IAmb IAmb 17 33 14.7
comp=Z,45nm,1.0s
PRMA PARMA 80.89 314 P P 17 33 13.0 +1.1
PRMA IAmb IAmb 17 33 13.7
comp=Z,67nm,0.9s
NC405 NORSAR Array S 80.98 331 P P 17 33 11.6 -0.6
NC405 IAmb IAmb 17 33 12.3
comp=Z,58nm,0.8s
NC602 NORSAR Array S 81.03 331 eP P 17 33 11.7 -0.7
NC602 NORSAR Array S 81.03 331 P P 17 33 11.6 -0.8
NC602 IAmb IAmb 17 33 12.3
comp=Z,67nm,0.8s
NC303 NORSAR Array S 81.15 331 P P 17 33 12.1 -1.0
NC303 IAmb IAmb 17 33 13.2
comp=Z,42nm,0.9s
NB201 NORSAR Array S 81.17 331 P P 17 33 12.5 -0.7
NB201 IAmb IAmb 17 33 13.2
comp=Z,61nm,0.9s
NSS Namsos 81.19 334 eP P 17 33 12.8 -0.3
NB2 NORSAR Subarra 81.21 331 P P 17 33 12.3 -1.1
comp=Z,61nm,1.1s,baz=97,slow=5.1
NB2 NORSAR Subarra 81.21 331 P P 17 33 12.3 -1.1
baz=97,slow=5.1
NOA NORSAR Array B 81.21 331 P P 17 33 12.5 -0.9
comp=Z,27nm,0.9s,baz=94,slow=5.5,SNR=58
NOA PP PP 17 36 17.3 -1.6
comp=Z,2.0nm,0.8s,baz=117,slow=8.8,SNR=4.1
NOA LR LR 18 11 30.1
comp=Z,356nm,21.5s,baz=80,slow=37
DAVA Damuels 81.25 317 iP P 17 33 14.4 +0.3
comp=Z,191nm,1.1s,SNR=33
NAO01 NORSAR Array S 81.36 331 P P 17 33 13.0 -1.1
NAO01 IAmb IAmb 17 33 14.7
comp=Z,116nm,1.1s
OSL Oslo 81.37 330 eP P 17 33 14.4 +0.3
NBO00 NORSAR Array S 81.42 331 P P 17 33 13.9 -0.6
NBO00 IAmb IAmb 17 33 15.2
comp=Z,91nm,1.0s
MSSA Maissana 81.45 314 P P 17 33 14.2 -0.9
MSSA IAmb IAmb 17 33 15.0
comp=Z,64nm,0.7s
NC204 NORSAR Array S 81.45 331 P P 17 33 14.3 -0.4
NC204 IAmb IAmb 17 33 15.4
comp=Z,74nm,1.0s
KEST Kesra 81.57 305 P P 17 33 17.1 +1.2
comp=Z,60nm,0.7s,baz=61,slow=0.9,SNR=41
KEST Kesra 81.57 305 P P 17 33 16.9 +1.0
TUE Stuetta 81.60 316 P P 17 33 15.8 -0.2
TUE IAmb IAmb 17 33 20.3
comp=Z,67nm,0.8s
STU Stuttgart 81.75 318 P P 17 33 16.2 -0.3
STU pmax pmax
comp=Z,30nm,0.7s
STU Stuttgart 81.75 318 P P 17 33 16.2 -0.3
STU IAmb IAmb 17 33 17.6
comp=Z,30nm,0.7s
KONO Kongsberg 81.92 329 P P 17 33 16.7 -0.4
KONO pmax pmax
comp=Z,53nm,1.0s
KONO Kongsberg 81.92 329 eP P 17 33 16.7 -0.4
KONO Kongsberg 81.92 329 P P 17 33 16.7 -0.4
KONO IAmb IAmb 17 33 18.7
comp=Z,53nm,1.0s
SPA0 Spitsbergen Ar 81.95 348 P P 17 33 17.6 +0.6
SPA0 IAmb IAmb 17 33 19.0
comp=Z,105nm,1.2s
MUD Monsted U'grnd 81.99 326 iP P 17 33 18.1 +0.6
MUD pmax pmax
comp=Z,52nm,0.8s
MUD Monsted U'grnd 81.99 326 iP P 17 33 18.1 +0.6
comp=Z,52nm,0.8s
DOMB Dombas 82.31 332 eP P 17 33 19.3 +0.1
BFO Black Forest 82.31 318 P P 17 33 19.2 -0.3
BFO pmax pmax
comp=Z,35nm,0.8s
BFO Black Forest 82.31 318 P P 17 33 19.2 -0.3
BFO IAmb IAmb 17 33 20.4
comp=Z,35nm,0.8s
HOMB Homborsund 82.42 328 eP P 17 33 20.0 +0.2
SKAR Skarslia 82.61 330 eP P 17 33 21.3 +0.5
SYO Syowa Base 82.69 197⇑iP P 17 33 21.2 +0.3
SYO Syowa Base 82.69 197⇑ePcP PcP 17 33 26.0 +0.2
SYO Syowa Base 82.69 197⇑esP sP 17 33 29.8 -1.1
KBS Kingsbay 82.95 349 P P 17 33 21.5 -0.7
KBS pmax pmax
comp=Z,32nm,1.0s
KBS Kingsbay 82.95 349 P P 17 33 21.5 -0.7
KBS IAmb IAmb 17 33 22.5
comp=Z,32nm,0.9s
DCZ Deep Cove 82.97 137 P P 17 33 22.9 +0.1
SENIN Lac Senin/Sane 83.02 316 P P 17 33 23.8 +0.4
SENIN IAmb IAmb 17 33 25.7
comp=Z,49nm,0.8s
MOL Molde 83.04 332 eP P 17 33 23.2 +0.4
ABSA Djebel Ababsia 83.07 306 P P 17 33 24.5 +0.7
ECH Echery 83.10 318 P P 17 33 22.9 -0.7
ECH pmax pmax
comp=Z,28nm,0.9s
ECH Echery 83.10 318 P P 17 33 22.9 -0.7
ECH IAmb IAmb 17 33 24.6
comp=Z,28nm,0.9s
CMAH Djebel Manchou 83.11 306 P P 17 33 22.1 -1.8
SNART Snartemo 83.11 328 eP P 17 33 23.3 0.0
AKN Aaknes 83.28 332 eP P 17 33 24.6 +0.4
ODD1 Odda 83.43 330 eP P 17 33 24.6 -0.4
BNI Bardonecchia 83.47 315 P P 17 33 25.6 -0.1
BNI pmax pmax
comp=Z,44nm,0.8s
BNI Bardonecchia 83.47 315 P P 17 33 25.6 -0.1
BNI IAmb IAmb 17 33 30.1
comp=Z,44nm,0.8s
BLS5 Blasjo 83.51 329 eP P 17 33 26.0 +0.5
WHZ Wether Hill Ro 83.61 137 P P 17 33 26.5 +0.3
HYA Hoyanger 83.66 331 eP P 17 33 26.4 +0.4
CKFL Kef-Lekhel 83.68 306 P P 17 33 28.1 +1.2
WLF Walferdange 83.74 319 P P 17 33 27.0 +0.2
WLF pmax pmax
comp=Z,55nm,1.0s
WLF Walferdange 83.74 319 P P 17 33 27.0 +0.2
WLF IAmb IAmb 17 33 28.6
comp=Z,55nm,1.0s
CASM Ain Smara 83.87 306 P P 17 33 28.8 +1.0
CTEI Djebel Teioual 83.94 306 P P 17 33 29.6 +1.3
BER Bergen 84.08 330 eP P 17 33 28.7 +0.4
KMY Karmoy 84.13 329 eP P 17 33 28.9 +0.3
ASK Askoy 84.14 330 eP P 17 33 28.8 +0.3
DFRA Djebel Bou Aff 84.35 306 P P 17 33 30.6 +0.2
SET Setif 84.75 306 P P 17 33 32.0 -0.4
LBZ Lake Benmore 84.80 135 P P 17 33 32.0 -0.3
SSB Saint Sauveur 84.97 315 P P 17 33 33.5 +0.3
SSB pmax pmax
comp=Z,61nm,0.8s
SSB Saint Sauveur 84.97 315 P P 17 33 33.5 +0.3
RPZ Rata Peaks 85.27 135 P P 17 33 34.1 -0.5
TAM Tamanrasset 85.44 292 P P 17 33 37.6 +1.5
TAM pmax pmax
comp=Z,42nm,1.0s
TAM Tamanrasset 85.44 292 P P 17 33 37.6 +1.5
TAM IAmb IAmb 17 33 38.7
comp=Z,42nm,1.0s
ADK Adak 86.08 38 P P 17 33 37.0 -1.5
ADK pmax pmax
comp=Z,44nm,1.0s
ADK Adak 86.08 38 P P 17 33 37.0 -1.5
ADK IAmb IAmb 17 33 50.0
comp=Z,44nm,0.9s
THZ Tophouse 86.22 132 P P 17 33 39.8 +0.3
CRLZ Canterbury Las 86.36 134 P P 17 33 41.2 +1.3
CRLZ IAmb IAmb 17 33 53.4
comp=Z,41nm,1.0s
CLF Chambon-Foret 86.38 318 P P 17 33 40.0 0.0
NNZ Nelson 86.47 132 P P 17 33 40.2 -0.4
BSWZ Blackbirch Sta 86.93 132 P P 17 33 42.5 -0.4
TUWZ Tuamarina 86.93 132 P P 17 33 41.6 -1.2
WACR West Acre 87.06 323 eP P 17 33 43.7 +0.4
WACR IAmb IAmb 17 33 44.2
comp=Z,290nm,0.9s
MSVF Nonsavu 87.11 108 P P 17 33 45.4 +1.1
MSVF pmax pmax
comp=Z,36nm,1.2s
MSVF Nonsavu 87.11 108 P P 17 33 45.4 +1.1
MSVF IAmb IAmb 17 33 58.9
comp=Z,36nm,1.1s
SNZO South Karori 87.47 132 P P 17 33 44.8 -0.6
SNZO IAmb IAmb 17 33 46.1
comp=Z,35nm,1.1s
LMK Market Rasen 87.56 323 eP P 17 33 46.1 +0.4
LMK IAmb IAmb 17 33 46.5
comp=Z,552nm,1.3s
ATKA Atka Island 87.59 38 P P 17 33 45.9 +0.1
ATKA IAmb IAmb 17 34 03.6
comp=Z,39nm,1.0s
MSWZ Moikau Station 87.89 132 P P 17 33 48.0 +0.4
PLWZ Palliser 87.92 132 P P 17 33 47.7 0.0
CWF Charnwood Fore 88.22 323 eP P 17 33 48.6 -0.3
CWF IAmb IAmb 17 33 49.7
comp=Z,54nm,1.3s
HPK Haverah Park 88.27 324 eP P 17 33 49.6 +0.5
HPK IAmb IAmb 17 33 50.3
comp=Z,151nm,1.2s
WOL Wolverton 88.33 321 eP P 17 33 49.9 +0.5
WOL IAmb IAmb 17 33 50.3
comp=Z,115nm,1.0s
EDMD Edmundbyers 88.36 325 eP P 17 33 49.5 0.0
LBWR Ladybower, Pea 88.40 323 eP P 17 33 50.0 +0.3
LBWR IAmb IAmb 17 33 50.8
comp=Z,115nm,1.0s
BFZ Birch Farm 88.53 131 P P 17 33 50.8 +0.3
BFZ IAmb IAmb 17 34 03.9
comp=Z,29nm,1.1s
URZ Urewera 88.85 128 LR LR 18 15 23.6
comp=Z,657nm,20.2s,baz=303,slow=37
URZ Urewera 88.85 128 P P 17 33 52.3 +0.2
URZ IAmb IAmb 17 34 08.8
comp=Z,19nm,0.9s
STRD Stroud 88.86 322 eP P 17 33 52.3 +0.4
STRD IAmb IAmb 17 33 52.4
comp=Z,67nm,1.0s
EDI Edinburgh 88.91 326 eP P 17 33 52.3 +0.3
EDI IAmb IAmb 17 33 53.1
comp=Z,33nm,1.0s
ESK Eskdalemuir 89.01 325 eP P 17 33 52.6 +0.1

ESK IAmb IAmb 17 33 53.1
comp=Z,31nm,0.9s
ESK Eskdalemuir 89.01 325 P P 17 33 52.6 +0.1
ESK pmax pmax
comp=Z,28nm,0.9s
ESK Eskdalemuir 89.01 325 P P 17 33 52.6 +0.1
ESK IAmb IAmb 17 33 53.3
comp=Z,28nm,0.9s
OLDB Oldbury-Upon-S 89.12 322 *eP* **P 17 33 53.1 +0.1**
OLDB IAmb IAmb 17 33 54.0
comp=Z,95nm,0.9s
HLM1 Long Mynd 89.20 323 *eP* **P 17 33 54.1 +0.6**
HLM1 IAmb IAmb 17 33 54.8
comp=Z,41nm,1.1s
MONM Monmouth 89.25 322 *eP* **P 17 33 54.0 +0.3**
MONM IAmb IAmb 17 33 54.4
comp=Z,38nm,1.0s
FOEL Foel Wylfa 89.34 323 *eP* **P 17 33 54.7 +0.5**
FOEL IAmb IAmb 17 33 55.0
comp=Z,38nm,0.8s
MCH1 Michaelchurch 89.35 322 *eP* **P 17 33 54.3 +0.1**
MCH1 IAmb IAmb 17 33 55.1
comp=Z,25nm,0.9s
DAG Danmarks Havn 89.57 348 ↓*iP* **P 17 33 54.4 -0.3**
DAG pmax pmax
comp=Z,16nm,0.7s
DAG Danmarks Havn 89.57 348 ↓*iP* **P 17 33 54.4 -0.3**
comp=Z,23nm,0.7s
CART Cartagena 89.75 308 P **P 17 33 57.2 +0.8**
CART IAmb IAmb 17 33 57.7
comp=Z,38nm,0.8s
TOA0 Torodi Ar. Sit 89.87 283 P **P 17 33 58.2 +0.8**
TOA0 Torodi Ar. Sit 89.87 283 P **P 17 33 57.8 +0.4**
TORD Torodi Ar. Bea 89.87 283 P **P 17 33 58.1 +0.7**
comp=Z,9.5nm,0.9s,baz=87,slow=5.3,SNR=39
TORD pP **pwP 17 34 09.5 -0.1**
comp=Z,5.1nm,0.9s,baz=65,slow=4.3,SNR=7.9
TORD PP **PP 17 37 31.1 +0.8**
comp=Z,3.1nm,0.9s,baz=98,slow=6.7,SNR=4.8
TORD LR LR 18 12 41.6
comp=Z,610nm,19.1s,baz=30,slow=34
TORD Torodi Ar. Bea 89.87 283 P **P 17 33 56.7 -0.7**
WME Myndd Eilian 89.93 324 *eP* **P 17 33 56.9 +0.1**
GAL1 Galloway 89.93 325 *eP* **P 17 33 57.4 +0.6**
GAL1 IAmb IAmb 17 33 57.5
comp=Z,42nm,1.0s
WLF1 Llynfaes 90.00 323 *eP* **P 17 33 58.0 +0.8**
WLF1 IAmb IAmb 17 33 58.8
comp=Z,96nm,1.1s
YRC Rhoscolyn 90.11 323 *eP* **P 17 33 58.1 +0.5**
YRC IAmb IAmb 17 33 59.3
comp=Z,62nm,1.1s
RDOG Red Dog Mine 90.30 21 P **P 17 33 59.5 +1.2**
RDOG IAmb IAmb 17 34 00.4
comp=Z,27nm,1.0s
RSBS Rosebush, Pemb 90.42 322 *eP* **P 17 33 59.6 +0.4**
RSBS IAmb IAmb 17 33 59.8
comp=Z,13nm,0.8s
ESBB Sonseca Array 91.78 310 P **P 17 34 06.4 +0.5**
ESBB IAmb IAmb 17 34 07.2
comp=Z,18nm,0.8s
ESDC Sonseca Array 91.78 310 P **P 17 34 06.4 +0.5**
comp=Z,18nm,0.7s,baz=59,slow=4.3,SNR=50
ESDC pP **pwP 17 34 18.0 -0.3**
comp=Z,2.2nm,0.6s,baz=65,slow=4.1,SNR=4.1
ESDC PP **PP 17 37 47.2 +2.4**
comp=Z,0.4nm,0.4s,baz=83,slow=7.2,SNR=4.7
ESDC Sonseca Array 91.78 310 P **P 17 34 06.1 +0.2**
PAB San Pablo 92.09 310 P **P 17 34 08.0 +0.6**
PAB pmax pmax
comp=Z,25nm,1.0s
PAB San Pablo 92.09 310 P **P 17 34 08.0 +0.6**
PAB IAmb IAmb 17 34 09.3
comp=Z,25nm,0.9s
SCO Scoresbysund 92.97 342 *i* P **P 17 34 11.5 +0.9**
SCO pmax pmax
comp=Z,33nm,1.4s
SCO Scoresbysund 92.97 342 *i* P **P 17 34 11.5 +0.9**
comp=Z,33nm,1.4s
MDT Midelt 93.31 303 P **P 17 34 14.9 +1.7**
comp=Z,9.0nm,0.8s,baz=90,slow=5.5
MDT PP **PP 17 37 56.9 -0.1**
comp=Z,7.7nm,1.0s,baz=162,slow=6.6,SNR=5.2
PBRG Braganca 93.51 312 *eP* **P 17 34 14.5 +0.7**
comp=Z,32nm,1.9s
MVO Moncorvo 93.84 312 *eP* **P 17 34 16.7 +1.3**
MTE Manteigas 94.37 311 *eP* **P 17 34 18.6 +0.8**
comp=Z,44nm,1.9s
IMAR Indian Mountai 94.38 22 P **P 17 34 18.0 +0.8**
PMRV Marv??o 94.43 310 *eP* **P 17 34 18.2 +0.1**
TTA Tatalina 94.65 25 P **P 17 34 20.1 +1.5**
TTA pmax pmax
comp=Z,10.0nm,1.0s
TTA Tatalina 94.65 25 P **P 17 34 20.1 +1.5**
TOLK Toolik Lake Re 94.68 19 P **P 17 34 20.0 +1.4**
baz=298
TOLK Toolik Lake Re 94.68 19 P **P 17 34 19.4 +0.7**
COLD Coldfoot 95.13 20 P **P 17 34 21.2 +0.6**
QSPA South Pole Qui 95.34 180 PKKP 17 51 14.1
comp=Z,2.2nm,0.8s,baz=80,slow=1.5,SNR=9.2
QSPA South Pole Qui 95.34 180 P **P 17 34 22.1 +0.4**
QSPA **PKKPdf 17 51 14.1 -3.7**
MESJ Messejana 95.37 309 *eP* **P 17 34 23.9 +1.6**
comp=Z,57nm,1.8s
SUMG Summit 96.22 347 *i* P **P 17 34 26.0 0.0**
SUMG pmax pmax
comp=Z,61nm,1.1s
SUMG Summit 96.22 347 *i* P **P 17 34 26.0 0.0**
comp=Z,61nm,1.1s
SUMG Summit 96.22 347 P **P 17 34 26.2 +0.2**
SUMG IAmb IAmb 17 34 27.1
comp=Z,14nm,1.0s
KIC Kosan Boka 96.88 277 *e*PKP2 **P 17 34 31.3 +1.6**
comp=Z,6.8nm,0.7s
SNAA Sanae 96.90 198 P **P 17 34 29.9 +1.3**
SNAA Sanae 96.90 198 P **P 17 34 29.3 +0.7**
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SNAA Sanae 96.90 198 P **P 17 34 29.3 +0.7**
BMAR Burnt Mountain 96.92 19 P **P 17 34 29.4 +0.6**
DBIC Dimbokro 96.96 277 P **P 17 34 30.7 +0.6**
comp=Z,3.8nm,0.6s,baz=60,slow=5.2,SNR=6.9
DBIC Dimbokro 96.96 277 IAmb IAmb 17 34 31.7
comp=Z,11nm,1.0s
TIC Toumodi 97.13 277 *e*PKP2 Pdif 17 34 32.3 +1.3
LIC Lamto 97.18 277 *e*PKP2 Pdif 17 34 32.4 +1.2
comp=Z,17nm,0.7s
RND Reindeer 97.40 24 P **P 17 34 30.1 -1.0**
RND pmax pmax
comp=Z,20nm,0.8s
RND Reindeer 97.40 24 P **P 17 34 30.1 -1.0**
RND IAmb IAmb 17 34 31.5
comp=Z,20nm,0.8s
TULEG Thule 97.48 356 P **P 17 34 29.6 -1.5**
TULEG IAmb IAmb 17 34 31.5
comp=Z,8.2nm,0.8s
ILAR Eielson Array 97.49 22 P **P 17 34 30.7 -0.7**
comp=Z,1.9nm,0.9s,baz=273,slow=4.1,SNR=14
ILAR pP **pwP 17 34 44.6 +1.8**
comp=Z,1.1nm,0.7s,baz=296,slow=3.6,SNR=5.2
ILAR PP **PP 17 38 30.2 +1.9**
comp=Z,0.8nm,0.6s,baz=311,slow=8.1,SNR=5.4
ILAR LR LR 18 21 49.1
comp=Z,338nm,21.1s,baz=313,slow=37
ILAR Eielson Array 97.49 22 P **P 17 34 29.8 -1.6**
VNA2 Neumayer--Watz 98.44 199 Pdiff Pdif 17 34 36.9 +1.5
baz=52,slow=5.8
VNA1 Neumayer--Stat 98.76 199 Pdiff Pdif 17 34 39.1 +2.2
VNA3 Neumayer Olymp 99.12 199 Pdiff **Pdif 17 34 39.9 +1.3**
INK Inuvik 99.69 16 P **Pdif 17 34 41.2 +0.1**
INK pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 99.69 16 PP **PP 17 38 43.5 -1.4**
comp=Z,1.1nm,0.8s,baz=322,slow=12,SNR=3.7
INK PKKPbc **PKKPbc 17 51 02.1 -2.8**
comp=Z,1.7nm,0.9s,baz=142,slow=3.9,SNR=6.0
INK Inuvik 99.69 16 Pdif 17 34 41.2 +0.1
RES Resolute Bay 99.88 2 P **Pdif 17 34 42.5 +0.6**
RES pmax pmax
comp=Z,15nm,0.9s
RES Resolute Bay 99.88 2 Pdif 17 34 42.5 +0.6
RES IAmb IAmb 17 34 44.5
comp=Z,15nm,0.9s
EPYK Eagle Plains 100.05 18 P **Pdif 17 34 43.3 +0.4**
baz=310
EPYK Eagle Plains 100.05 18 Pdif 17 34 42.8 -0.1

BCAR Beaver Creek A 100.31 22 Pdif 17 34 44.5 +0.3
C36M Paulatuk 101.23 13 P **Pdif 17 34 48.7 +0.8**
baz=322
YKA Yellowknife Ar 109.09 13 Pdiff **Pdif 17 35 23.2 +0.1**
comp=Z,0.4nm,0.5s,baz=336,slow=4.7,SNR=2.5
YKA PKiKP **PKiKP 17 39 27.0 -0.1**
comp=Z,0.8nm,0.7s,baz=314,slow=2.7,SNR=4.8
YKA PP **PP 17 39 51.2 -3.5**
comp=Z,1.6nm,0.7s,baz=336,slow=7.8,SNR=5.6
YKA PKKPab **PKKPab 17 50 45.7 -2.4**
comp=Z,1.6nm,0.7s,baz=150,slow=4.4,SNR=5.8
YKA Yellowknife Ar 109.09 13 PKiKP 17 39 27.4 +0.2
YKA **PKKPab 17 50 46.8 -1.3**
TBI Tubuai 117.56 113 *e*PS PS 17 50 41.8 -0.3
comp=Z,129nm,24.5s
TBI Tubuai 117.56 113 *e*LR LR 18 15 23.3
comp=Z,515nm,31.2s
SCHQ Schefferville 117.61 347 PP PP 17 40 55.8 +0.5
comp=Z,5.2nm,0.8s,baz=62,slow=6.6,SNR=3.7
PPT2 Papeete2 117.92 107 *e*PS PS 17 50 44.2 -1.5
comp=Z,188nm,24.5s
PPT2 Papeete2 117.92 107 *e*LR LR 18 15 42.3
comp=Z,372nm,24.0s
B05A Bryant 118.40 26 P **PKiKP 17 39 46.4 +1.1**
baz=320
D03D Eldon 118.51 27 P **PKiKP 17 39 47.1 +1.5**
baz=318
FFC Flin Flon 118.81 10 PKIKP **PKPdf 17 39 45.8 -0.1**
FFC Flin Flon 118.81 10 PKPdf 17 39 45.8 -0.1
E04D Cinebar 119.48 27 P **PKiKP 17 39 48.8 +1.2**
baz=319
B08A Colville Reser 119.49 24 PKPdf 17 39 47.0 -0.5
LON Longmire 119.68 27 PKIKP **PKPdf 17 39 47.8 -0.2**
LON Longmire 119.68 27 PKPdf 17 39 47.8 -0.2
LTY Liberty 119.79 26 PKiKP 17 39 48.3 0.0
C09A Chrisman Ranch 120.36 24 PKPdf 17 39 49.2 0.0
NEW Newport 120.44 23 P **PKiKP 17 39 50.0 +0.6**
baz=325
NEW Newport 120.44 23 PKIKP **PKiKP 17 39 49.8 +0.3**
NEW Newport 120.44 23 PKiKP 17 39 49.8 +0.3
H04D Lebanon 120.91 29 P **PKiKP 17 39 51.4 +1.0**
baz=318
HAWA Hanford 120.95 26 PKiKP 17 39 50.8 +0.3
E08A Dider Farm, El 121.08 25 PKiKP 17 39 51.3 +0.6
I03D Drain, OR 121.22 30 P **PKiKP 17 39 52.2 +1.1**
baz=317
I05D Terrebonne, OR 121.72 28 P **PKiKP 17 39 53.2 +1.1**
baz=319
G08A Pilot Rock 122.07 26 PKiKP 17 39 53.5 +0.6
HUMO Hull Mountain 122.21 31 PKiKP 17 39 53.5 +0.4
F10A Beach Ranch, E 122.26 24 PKiKP 17 39 53.5 +0.4
PINE Pine Mountain 122.32 28 PKiKP 17 39 54.9 +1.4
J05D Fort Rock, OR 122.56 29 P **PKiKP 17 39 55.0 +1.1**
baz=319
L04D Klamath Falls 122.82 31 P **PKiKP 17 39 55.0 +0.5**
baz=317
MSO Missoula 122.83 22 P **PKPdf 17 39 54.1 0.0**
baz=328
MSO Missoula 122.83 22 PKPdf 17 39 53.1 -0.9
M02C Callahan 123.14 32 P **PKiKP 17 39 56.3 +1.3**
baz=316
EGMT Eagleton 123.20 18 P **PKiKP 17 39 55.4 +0.4**
baz=333
EGMT Eagleton 123.20 18 PKPdf 17 39 54.8 +0.1
M04C Macdoel 123.38 31 P **PKPdf 17 39 55.3 0.0**
baz=317
PLID Pearl Lake 123.48 24 PKPdf 17 39 55.5 -0.1
N02D Trinity Center 123.52 32 P **PKiKP 17 39 56.9 +1.1**
baz=316
HRY Holter Researc 123.68 20 PKPdf 17 39 55.3 -0.4
CHGQ Chibougamau 123.78 350 P **PKPdf 17 39 55.6 -0.1**
baz=15
WDC Whiskeytown Da 123.89 32 PKIKP **PKPdf 17 39 56.1 0.0**
WDC Whiskeytown Da 123.89 32 PKPdf 17 39 56.1 0.0
ULM Lac du Bonnet 124.04 7 PKIKP **PKPdf 17 39 55.3 -0.8**
ULM 17 41 37.2
ULM Lac du Bonnet 124.04 7 PKP **PKPdf 17 39 56.1 0.0**
comp=Z,18nm,0.7s,baz=4.6,slow=2.5,SNR=23
ULM PP **PP 17 41 37.5 -1.6**
comp=Z,18nm,1.1s,baz=340,slow=5.3,SNR=6.3
ULM Lac du Bonnet 124.04 7 PKPdf 17 39 55.3 -0.8
ULM PP **PP 17 41 37.2 -1.9**
MOD Modoc Plateau 124.05 29 PKiKP 17 39 57.4 +0.5
LRM Limekiln Ridge 124.23 21 PKPdf 17 39 55.7 -1.3
DGMT Dagmar 124.30 14 P **PKiKP 17 39 58.0 +1.0**
baz=339
DGMT Dagmar 124.30 14 PKiKP 17 39 57.5 +0.4
DGMT PP **PP 17 41 37.4 -3.6**
MATQ Matagami 124.42 353 P **PKPdf 17 39 56.9 0.0**
baz=12
WVOR Wild Horse Val 124.44 28 PKIKP **PKiKP 17 39 57.7 +0.1**
WVOR Wild Horse Val 124.44 28 PKiKP 17 39 57.7 +0.1
O03E Paynes Creek 124.48 32 P **PKiKP 17 39 58.0 +0.2**
baz=317
DLMT Dillon 124.57 22 PKiKP 17 39 58.0 +0.1
BOZ Bozeman (W) 124.71 21 P **PKiKP 17 39 58.7 +0.6**
baz=330
BOZ Bozeman (W) 124.71 21 PKIKP **PKiKP 17 39 58.4 +0.3**
BOZ Bozeman (W) 124.71 21 PKiKP 17 39 58.4 +0.3
MFID Camas Ranch 124.92 25 PKiKP 17 39 59.0 +0.5
MCMT McKenzie Canyo 124.93 22 PKiKP 17 39 59.2 +0.5
LSQQ Lebel-sur-Quev 125.02 352 P **PKiKP 17 39 58.4 0.0**
baz=12
ORV Oroville 125.18 32 PKIKP **PKiKP 17 39 59.2 +0.2**
ORV Oroville 125.18 32 PKiKP 17 39 59.1 +0.2
LMN Caledonia Moun 125.19 341 PKPdf 17 39 58.5 0.0
GCMT Greycliff 125.21 19 PKiKP 17 39 59.5 +0.4
D62A Allapoint, All 125.31 345 P **PKPdf 17 39 58.7 0.0**
baz=22
PQI Presque Isle 125.42 344 PKPdf 17 39 58.6 -0.2
LAO LASA Array 125.43 16 P **PKiKP 17 40 00.9 +1.5**
baz=337
LAO LASA Array 125.43 16 PKiKP 17 40 00.7 +1.3
QLMT Earthquake Lak 125.45 21 PKiKP 17 40 00.8 +1.1
D61A St Aubert, Com 125.49 346 P **PKiKP 17 39 59.3 -0.1**
baz=21
YHL Hebgen Lake 125.52 21 PKiKP 17 40 00.9 +1.0
BEKR Beckworth 125.55 31 PKPpre 17 39 49.1
BEKR PKPdf **PKiKP 17 40 00.5 +0.5**
YHB Horse Butte 125.60 21 PKiKP 17 40 01.2 +1.2
YHH Holmes Hill 125.69 21 PKPpre PKPpre 17 39 48.4
YHH **PKiKP 17 40 01.4 +1.1**
YMR Madison River 125.75 21 PKiKP 17 40 01.3 +1.0
E63A Oxbow 125.75 344 P **PKPdf 17 39 59.7 +0.2**
baz=23
E63A Oxbow 125.75 344 PKPdf 17 39 59.3 -0.2
YNE Yellowstone No 125.79 20 PKiKP 17 40 01.0 +0.6
YNR Norris Junctio 125.81 21 PKiKP 17 40 01.6 +1.1
MDND Maddock 125.84 10 P **PKiKP 17 39 60.0 -0.1**
baz=345
MDND Maddock 125.84 10 PKPdf 17 39 59.6 -0.1
LATQ La Tuque 125.90 348 P **PKiKP 17 40 00.0 -0.1**
baz=18
LATQ La Tuque 125.90 348 PKPdf 17 39 59.6 -0.2
RLMT Red Lodge 125.93 19 P **PKiKP 17 40 01.5 +0.9**
baz=333
RLMT Red Lodge 125.93 19 PKiKP 17 40 01.0 +0.4
YMP Mirror Lake PI 125.97 20 PKiKP 17 40 01.9 +1.0
VLDQ Val d'Or 126.01 352 PKPdf 17 39 59.3 -0.6
LKWY Lake 126.04 20 PKIKP **PKiKP 17 40 02.3 +1.4**
LKWY Lake 126.04 20 PKiKP 17 40 02.3 +1.4
H17A Grant Village 126.13 21 P **PKiKP 17 40 03.1 +2.0**
baz=331
PAHR Pah Rah Range 126.17 31 PKiKP 17 40 01.4 +0.3
D58A Chemin du LacG 126.20 348 P **PKPdf 17 40 00.3 -0.1**
baz=18
F64A Sherman 126.25 344 P **PKPdf 17 40 00.7 +0.3**
baz=23
E61A Lac Etchemin 126.28 346 P **PKPdf 17 40 00.8 +0.2**
baz=21
FLWY Flagg Ranch 126.36 21 PKiKP 17 40 02.2 +0.7
IMW Indian Meadow 126.43 21 PKiKP 17 40 02.1 +0.4
D57A Chemin Vers le 126.47 349 P **PKPdf 17 40 01.1 +0.1**
baz=16
PNTR Pine Nut 126.52 31 PKiKP 17 40 02.7 +0.7
E60A Ste Agathe de 126.57 346 P **PKPdf 17 40 01.1 0.0**
baz=20
D56A ZEC Mazanza, M 126.61 349 P **PKPdf 17 40 01.3 +0.1**
baz=15
FXWY Fox Creek 126.62 21 PKiKP 17 40 02.6 +0.5
MOOW Moose Ponds 126.63 21 PKiKP 17 40 02.6 +0.5
BMN Battle Mountai 126.67 28 PKIKP **PKiKP 17 40 02.6 +0.4**
BMN Battle Mountai 126.67 28 PKiKP 17 40 02.6 +0.4
EYMN Ely 126.72 4 P **PKiKP 17 40 02.1 +0.3**
baz=355
D55A Sainte-Anne-du 126.77 350 P **PKPdf 17 40 01.8 +0.3**
baz=15
TPAW Teton Pass 126.78 21 PKiKP 17 40 02.9 +0.4
D54A Lac Fusel, La 126.83 351 P **PKPdf 17 40 01.6 0.0**
baz=13
F61A St Evariste 126.83 346 P **PKiKP 17 40 02.3 +0.2**
baz=20
SNOW Snow King Moun 126.87 21 PKiKP 17 40 03.5 +0.9
G64A Maxfield 126.92 344 P **PKiKP 17 40 02.2 -0.1**
baz=23
REDW Red Top Meadow 126.92 21 PKiKP 17 40 03.2 +0.5
H66A Whiting 126.93 342 P **PKiKP 17 40 02.1 -0.2**
baz=25
E58A La Victoria 126.97 348 P **PKPdf 17 40 02.0 +0.1**
baz=17
D53A Lac Vacive, Po 127.05 352 P **PKiKP 17 40 02.3 -0.2**
baz=12
D53A Lac Vacive, Po 127.05 352 PKPdf 17 40 01.8 -0.2
PKME Peaks-Kenny Pk 127.06 344 P **PKiKP 17 40 02.6 +0.1**
baz=22
F60A Warwick 127.06 347 P **PKPdf 17 40 02.1 +0.1**
baz=19
E57A Chemin Saint G 127.11 349 P **PKPdf 17 40 02.4 +0.3**
baz=16
E56A St. Veronique 127.15 350 P **PKPdf 17 40 02.5 +0.3**
baz=15
D50A G1974 Best Tow 127.23 354 P **PKPdf 17 40 02.2 -0.1**
baz=9.2
D52A ZEK Kipawa Sen 127.25 352 P **PKPdf 17 40 02.4 0.0**
baz=11
D51A Lot 18 Range I 127.26 353 P **PKPdf 17 40 02.1 -0.3**
baz=9.8
G63A Kingsbury 127.28 344 P **PKiKP 17 40 02.9 -0.1**
baz=22
KVN Kaiserville 127.31 30 PKIKP **PKiKP 17 40 04.0 +0.5**
KVN Kaiserville 127.31 30 PKiKP 17 40 04.0 +0.5
ELK Elko 127.33 27 PKIKP **PKiKP 17 40 04.0 +0.4**
ELK Elko 127.33 27 PKiKP 17 40 04.0 +0.4
E55A Montcerf-Lytto 127.41 350 P **PKPdf 17 40 02.9 +0.2**
baz=14
D48A Paudash Townsh 127.41 355 P **PKPdf 17 40 02.8 +0.1**
baz=6.7
RYN Ryan 127.42 31 PKiKP 17 40 04.7 +0.9
E54A Lac Daplat, Po 127.61 351 P **PKPdf 17 40 02.9 -0.2**
baz=13
D47A Chapleau 127.62 356 P **PKPdf 17 40 03.3 +0.1**
baz=5.1
NVAR Mina Array Bea 127.68 31 PKP **PKiKP 17 40 05.3 +0.9**
comp=Z,6.2nm,0.6s,baz=323,slow=1.6,SNR=26
NVAR PP PP 17 42 14.0 +10
comp=Z,1.3nm,0.8s,baz=315,slow=4.5,SNR=4.4
NVAR Mina Array Bea 127.68 31 PKPpre PKPpre 17 39 52.2
NVAR **PKPdf 17 40 03.9 +0.2**
NV11 Mina Array Sit 127.75 31 PKPdf 17 40 04.1 +0.3
H63A New Sharon 127.81 345 P **PKPdf 17 40 03.6 +0.1**
baz=22
E51A G1948 Merrick 127.82 353 P **PKPdf 17 40 03.4 -0.1**
baz=9.7
D46A Sault St. Mari 127.84 357 P **PKPdf 17 40 03.7 +0.2**
baz=4.0
BW06 Boulder Array 127.91 21 P **PKiKP 17 40 04.8 +0.1**
baz=331
PD31 Pinedale Array 127.91 21 PKPdf 17 40 03.7 -0.4
PDAR Pinedale Array 127.91 21 PKP **PKPdf 17 40 04.0 -0.2**
comp=Z,7.9nm,0.7s,baz=118,slow=0.9,SNR=55
PDAR SKPbc **SKiKP 17 43 30.9 -8.2**
comp=Z,0.7nm,0.5s,baz=328,slow=3.0,SNR=3.5
PDAR Pinedale Array 127.91 21 PKPdf 17 40 03.6 -0.5
E52A Mattawa 127.96 353 P **PKPdf 17 40 03.3 -0.5**
baz=11
G60A Masonville 127.97 347 P **PKiKP 17 40 04.2 -0.2**
baz=19
E38A The Farm, Brul 128.05 4 P **PKiKP 17 40 04.5 0.0**
baz=354
E50A Wahnapitae 128.06 354 P **PKiKP 17 40 04.4 -0.2**
baz=8.2
G59A Clarenceville 128.18 347 P **PKPdf 17 40 04.5 +0.3**
baz=18
H62A Milan 128.19 345 P **PKiKP 17 40 04.8 0.0**
baz=20
E47A Iron Bridge 128.23 357 P **PKiKP 17 40 04.7 -0.2**
baz=5.0
NBRF Rio Formoso - 128.27 263 *eP* **PKiKP 17 40 06.8 +1.0**
NBRF Rio Formoso - 128.27 263 *eP* **PKiKP 17 40 06.8 +1.0**
E46A Sault Ste Mari 128.37 357 P **PKiKP 17 40 05.4 +0.2**
baz=3.7
I64A Boothbay 128.39 344 P **PKiKP 17 40 05.2 -0.1**
baz=22
RSSD Black Hills 128.40 15 P **PKiKP 17 40 05.7 +0.1**
baz=338
RSSD Black Hills 128.40 15 PKIKP **PKPdf 17 40 02.8 -2.1**
RSSD Black Hills 128.40 15 PKPdf 17 40 02.9 -2.1
H61A Lyndonville 128.41 346 P **PKiKP 17 40 05.6 +0.2**
baz=20
E43A Lone Tree Farm 128.43 360 P **PKiKP 17 40 05.3 0.0**
baz=0.3
F51A Arnstein 128.47 354 P **PKPdf 17 40 05.0 +0.3**
baz=9.2
G57A Newington 128.53 349 P **PKPdf 17 40 05.2 +0.3**
baz=16
I63A Otisfield 128.53 345 P **PKiKP 17 40 05.7 +0.2**
baz=21
F52A Sundridge 128.53 353 P **PKiKP 17 40 05.5 0.0**
baz=10.0
H59A Cadyville 128.70 348 P **PKiKP 17 40 05.8 -0.1**
baz=17
G54A Lake Saint Pet 128.76 352 P **PKiKP 17 40 05.9 -0.1**
baz=12
DUG Dugway, Tooele 128.84 25 P **PKiKP 17 40 07.6 +1.1**
baz=327
DUG Dugway, Tooele 128.84 25 PKIKP **PKiKP 17 40 07.3 +0.8**
DUG Dugway, Tooele 128.84 25 PKiKP 17 40 07.2 +0.8
LONY Lake Ozonia 128.91 348 P **PKiKP 17 40 06.2 -0.1**
baz=16
LONY Lake Ozonia 128.91 348 PKPdf 17 40 05.6 0.0
RCBR Riachuelo 128.98 267 PKIKP **PKiKP 17 40 07.2 -0.2**
RCBR Riachuelo 128.98 267 *eP* **PKiKP 17 40 07.2 -0.2**
RCBR Riachuelo 128.98 267 *eP* **PKiKP 17 40 07.2 -0.2**
RCBR Riachuelo 128.98 267 PKiKP 17 40 07.2 -0.2
H58A Gabriels 129.03 348 P **PKiKP 17 40 06.3 -0.2**
baz=17
K22A Casper 129.03 18 P **PKiKP 17 40 06.6 -0.3**
baz=335
K22A Casper 129.03 18 PKPdf 17 40 06.0 -0.2
R11A Troy Canyon, C 129.09 29 P **PKiKP 17 40 07.9 +0.8**
baz=322
R11A Troy Canyon, C 129.09 29 PKPdf 17 40 06.6 +0.2
H57A Richville 129.22 349 P **PKPdf 17 40 06.5 +0.3**
baz=15
H56A Elgin 129.25 350 P **PKiKP 17 40 07.2 +0.2**
baz=14
NLU North Lily Min 129.35 25 PKPdf 17 40 07.3 +0.3
I60A Shoreham 129.38 347 P **PKiKP 17 40 07.3 +0.1**
baz=18
H55A Tweed 129.45 351 P **PKiKP 17 40 07.1 -0.3**
baz=13
NCB Newcomb 129.46 348 PKPdf 17 40 07.1 +0.3
I59A Olmsteadville 129.56 348 P **PKiKP 17 40 07.5 -0.2**
baz=17
ISA Isabella, Lake 129.66 33 PKIKP **PKiKP 17 40 08.0 -0.2**
ISA Isabella, Lake 129.66 33 PKiKP 17 40 08.0 -0.2
RWWY Rawlins 129.67 19 PKPdf 17 40 07.2 -0.3
PSUT Pine Spring 129.75 27 PKiKP 17 40 09.0 +0.5
I57A Carthage 129.78 349 P **PKPdf 17 40 07.6 +0.3**
baz=15
RDMU Red Mountain 129.82 22 PKPdf 17 40 07.3 -0.5
I58A Old Forge 129.88 348 P **PKiKP 17 40 08.3 -0.1**
baz=16
MPMC Manual Prospec 129.90 32 P **PKiKP 17 40 09.3 +0.5**
baz=319
J59A Piesco 130.00 348 P **PKiKP 17 40 08.4 -0.1**
baz=16
K63A Dunstable 130.05 345 P **PKiKP 17 40 08.8 +0.2**
baz=20
NBLI Livramento-PB 130.06 265 *eP* **PKiKP 17 40 10.5 +0.9**
NBLI Livramento-PB 130.06 265 *eP* **PKiKP 17 40 10.5 +0.9**
NBPA Parau_RN 130.18 267 *eP* **PKiKP 17 40 10.0 +0.3**
NBPA Parau_RN 130.18 267 *eP* **PKiKP 17 40 10.0 +0.3**
HRV Adam Dziewonsk 130.22 345 P **PKiKP 17 40 08.9 -0.1**
baz=20
K62A Royalston 130.25 346 P **PKiKP 17 40 09.3 +0.3**
baz=20
J58A Remsen 130.26 349 P **PKiKP 17 40 09.2 +0.1**
baz=16
TMUT Trail Mountain 130.27 24 PKPdf 17 40 08.6 -0.2

ECSD	EROS Data Cent	130.33	9	P	PKiKP	17 40 09.0	-0.3
baz=348							
ECSD	EROS Data Cent	130.33	9		PKPdf	17 40 08.6	+0.2
J57A	Williamstown	130.35	349	P	PKiKP	17 40 09.2	0.0
baz=15							
MSU	Marysvale	130.52	26	PKIKP	PKiKP	17 40 10.4	+0.4
MSU	Marysvale	130.52	26		PKiKP	17 40 10.4	+0.4
L61B	Northampton	130.56	346	P	PKiKP	17 40 09.6	-0.1
baz=19							
PHWY	Pilot Hill	130.58	18		PKPdf	17 40 08.9	-0.4
Q16A	Castle Valley	130.60	25		PKiKP	17 40 10.7	+0.6
O20A	White River Ci	130.69	21	P	PKiKP	17 40 10.1	-0.2
baz=332							
O20A	White River Ci	130.69	21		PKPdf	17 40 07.2	-2.2
SRU	San Rafael Swe	130.71	24	PKIKP	PKPdf	17 40 07.9	-1.6
SRU	San Rafael Swe	130.71	24		PKPdf	17 40 07.9	-1.6
SHPR	Sheep Range	130.75	30		PKPdf	17 40 10.1	+0.5
CCUT	Cedar City	130.78	28		PKPdf	17 40 10.0	+0.2
J55A	Hilton	130.80	351	P	PKiKP	17 40 09.9	-0.2
baz=12							
GSC	Goldstone, Bar	130.83	32	P	PKiKP	17 40 11.9	+1.4
baz=320							
GSC	Goldstone, Bar	130.83	32	PKIKP	PKiKP	17 40 10.3	-0.3
GSC	Goldstone, Bar	130.83	32		PKiKP	17 40 10.3	-0.3
NBLA	Lagarto - SE	130.85	260	eP	PKPdf	17 40 10.2	+0.1
NBLA	Lagarto - SE	130.85	260	eP	PKPdf	17 40 10.2	+0.1
MTPU	Mount Pierson	130.90	26		PKPdf	17 40 10.2	+0.1
K58A	Earlville	130.91	349	P	PKiKP	17 40 10.4	0.0
baz=15							
NBTA	Tacaratu-PE	131.17	263	eP	PKPdf	17 40 10.9	+0.2
NBTA	Tacaratu-PE	131.17	263	eP	PKPdf	17 40 10.9	+0.2
LCMT	Little Creek M	131.27	28	PKPpre	PKPpre	17 39 57.5	
LCMT					PKPdf	17 40 11.0	+0.5
K56A	Middlesex	131.27	350	P	PKiKP	17 40 10.9	-0.3
baz=13							
K55A	Perry	131.37	351	P	PKPdf	17 40 10.9	+0.5
baz=12							
BINY	Binghamton	131.52	349	P	PKPdf	17 40 11.0	+0.3
baz=15							
BINY	Binghamton	131.52	349		PKPdf	17 40 10.3	-0.4
K54A	Basiliko Farm,	131.57	352	P	PKiKP	17 40 11.7	-0.1
baz=11							
L58A	Harry Jones Me	131.64	349	P	PKiKP	17 40 11.9	0.0
baz=15							
PV09	Paradox Valley	131.78	23		PKPpre	17 39 56.6	
PV09				PKPdf	PKiKP	17 40 13.0	+0.3
JFWS	Jewell Farm	131.81	3	P	PKPdf	17 40 11.4	+0.2
baz=356							
JFWS	Jewell Farm	131.81	3	PKIKP	PKPdf	17 40 10.8	-0.4
JFWS	Jewell Farm	131.81	3		PKPdf	17 40 10.8	-0.4
L56A	Greenwood	131.86	350	P	PKPdf	17 40 11.9	+0.5
baz=13							
NBMA	Muriti-CE	131.86	265	eP	PKiKP	17 40 13.3	+0.2
NBMA	Muriti-CE	131.86	265	eP	PKiKP	17 40 13.3	+0.2
L57A	Andrews Acres	131.87	350	P	PKiKP	17 40 12.0	-0.4
baz=14							
PV22	Blue Mesa, Par	131.89	23		PKPdf	17 40 11.5	-0.2
ISCO	Idaho Springs	131.90	19	PKIKP	PKPdf	17 40 12.4	+0.5
ISCO	Idaho Springs	131.90	19		PKPdf	17 40 12.4	+0.5
M61A	Granite Spring	131.90	346	P	PKPdf	17 40 11.8	+0.4
baz=18							
K48A	Perry	131.92	357	P	PKPdf	17 40 11.4	0.0
baz=4.1							
PV14	Lion Creek, Pa	131.94	23		PKPdf	17 40 11.8	-0.2
L55A	Hinsdale	131.95	351	P	PKiKP	17 40 12.2	-0.3
baz=12							
SMCO	Snowmass	131.99	21	PKPpre	PKPpre	17 40 01.2	
SMCO					PKPdf	17 40 11.2	-1.0
L54A	Sinclairville	132.03	352	P	PKiKP	17 40 12.4	-0.3
baz=11							
PV16	Nyswonger Mesa	132.03	23		PKPdf	17 40 12.6	+0.6
PV12	Saucer Basin,	132.07	23		PKPdf	17 40 10.6	-1.5
KSPA	Keystone Colle	132.09	348		PKPdf	17 40 11.9	+0.2
NBIT	Itapeh - BA	132.16	255	eP	PKiKP	17 40 13.9	+0.4
NBIT	Itapeh - BA	132.16	255	eP	PKiKP	17 40 13.9	+0.4
U15A	North Rim	132.19	28		PKPdf	17 40 10.6	-1.9
PV02	Paradox Valley	132.19	23		PKPdf	17 40 10.7	-1.6
PV13	Radium Mtn., P	132.20	23		PKPdf	17 40 11.6	-0.8
ODNJ	Ogdensburg	132.31	347		PKPdf	17 40 11.9	-0.3
BGNE	Belgrade	132.32	11		PKPdf	17 40 11.5	-0.7
M58A	Price's Panora	132.41	349	P	PKiKP	17 40 13.2	-0.3
baz=14							
W13A	Hualapai Mount	132.50	30		PKPdf	17 40 13.1	+0.1
M57A	Sunshine Farm,	132.56	350	P	PKiKP	17 40 13.3	-0.4
baz=14							
M57A	Sunshine Farm,	132.56	350		PKPdf	17 40 12.8	+0.1
L40A	Anamosa	132.60	4	P	PKPdf	17 40 12.7	+0.1
baz=355							
L40A	Anamosa	132.60	4		PKPdf	17 40 11.2	-1.5
M56A	Emporium	132.60	351	P	PKPdf	17 40 12.7	0.0
baz=12							
M56A	Emporium	132.60	351		PKPdf	17 40 12.3	-0.4
NBPB	Pedra_Branca-C	132.63	267	eP	PKiKP	17 40 14.8	+0.2
NBPB	Pedra_Branca-C	132.63	267	eP	PKiKP	17 40 14.8	+0.2
N59A	State Game Lan	132.71	348		PKPdf	17 40 12.7	-0.3
L48A	N Adams	132.79	357	P	PKPdf	17 40 12.7	-0.4
baz=3.7							
MVCO	Mesa Verde	133.15	23		PKPdf	17 40 14.4	+0.2
O60A	Telford	133.21	348	P	PKPdf	17 40 14.0	+0.1
baz=16							
Y12C	Blythe	133.23	32		PKiKP	17 40 15.0	-0.3
WUAZ	Wupatki	133.36	27		PKPdf	17 40 14.2	-0.4
SSPA	Standing Stone	133.38	350	P	PKPdf	17 40 14.4	+0.2
baz=13							
PSUB	Penn St. - Bra	133.59	348		PKPdf	17 40 12.8	-1.8
N53A	Lisbon	133.63	353	P	PKPdf	17 40 15.3	+0.6
baz=8.7							
N53A	Lisbon	133.63	353		PKPdf	17 40 14.0	-0.7
O58A	Lewisberry	133.70	349	P	PKPdf	17 40 15.1	+0.3
baz=14							
MVL	Millersville	133.71	348		PKPdf	17 40 14.0	-0.8
O56A	Blue Knob Stat	133.85	351	P	PKPdf	17 40 15.0	-0.1
baz=12							
O56A	Blue Knob Stat	133.85	351		PKPdf	17 40 14.7	-0.5
P59A	Jarrettsville	134.10	348	P	PKPdf	17 40 15.9	+0.4
baz=15							
X16A	Lo Mia Camp, P	134.23	28		PKiKP	17 40 17.6	0.0
O52A	Adamsville	134.42	354	P	PKPdf	17 40 16.7	+0.6
baz=7.5							
P57A	Homestead Farm	134.52	350	P	PKPdf	17 40 17.1	+0.7
baz=13							
O50A	Cable	134.54	356	P	PKPdf	17 40 16.6	+0.2
baz=5.0							
P56A	Dayton Farm, R	134.64	351	P	PKPdf	17 40 17.3	+0.7
baz=12							
T25A	Trinidad	134.70	19	P	PKiKP	17 40 17.9	-0.6
baz=336							
T25A	Trinidad	134.70	19		PKPpre	17 40 06.2	
T25A					PKPdf	17 40 16.0	-1.1
KSU1	Kansas State U	134.85	10	P	PKiKP	17 40 18.3	-0.1
baz=347							
Q58A	Fox Den Farm,	134.99	350	P	PKiKP	17 40 18.5	-0.3
baz=13							
P50A	Jamestown	135.08	356	P	PKPdf	17 40 17.6	+0.1
baz=4.8							
P48A	Milroy	135.31	358	P	PKPdf	17 40 18.5	+0.6
baz=2.5							
Q55A	Buckhannon	135.32	352	P	PKiKP	17 40 18.9	-0.6
baz=10							
Q54A	Coxs Mills	135.43	353	P	PKiKP	17 40 19.6	0.0
baz=9.0							
Q53A	Leroy	135.63	354	P	PKiKP	17 40 19.8	-0.3
baz=8.1							
R57A	Stanardsville	135.76	350	P	PKPdf	17 40 19.5	+0.8
baz=12							
ANMO	Albuquerque	135.93	23	P	PKiKP	17 40 21.2	+0.1
baz=332							
ANMO	Albuquerque	135.93	23	PKHKP	PKPpre	17 40 10.4	
ANMO						17 40 20.2	
ANMO	Albuquerque	135.93	23	PKPpre	PKPpre	17 40 10.4	
ANMO					PKPdf	17 40 20.2	+0.8
R58B	Mineral	135.97	349	P	PKiKP	17 40 20.8	0.0
baz=13							
TUC	Tucson	136.27	29	PKIKP	PKiKP	17 40 21.2	-0.4
TUC	Tucson	136.27	29		PKiKP	17 40 21.2	-0.4
S58A	Poland Farm, P	136.35	349	P	PKPdf	17 40 20.2	+0.3
baz=13							
S58A	Poland Farm, P	136.35	349		PKPdf	17 40 19.4	-0.5
S57A	Dark Hollow, R	136.36	351		PKPdf	17 40 19.0	-0.9
CCM	Cathedral Cave	136.58	5	PKIKP	PKPdf	17 40 19.8	-0.5
CCM	Cathedral Cave	136.58	5		PKPdf	17 40 19.8	-0.5
T59A	Double "B" Far	136.88	349	P	PKPdf	17 40 21.4	+0.6
baz=14							
T56A	Rocky Mt	137.24	352	P	PKPdf	17 40 22.3	+0.8
baz=10							
MGMO	Mountain Grove	137.38	6		PKPpre	17 40 11.7	
MGMO				PKPdf	PKPdf	17 40 21.7	-0.2
U58A	Oxford	137.62	350	P	PKPdf	17 40 22.5	+0.2
baz=13							
T47A	Sharon Grove	137.81	360	P	PKPdf	17 40 22.9	+0.3
baz=0.1							
U55A	TA2, Sparta	137.90	353	P	PKPdf	17 40 23.5	+0.6
baz=9.1							
PBMO	Poplar Bluff	137.91	4		PKPpre	17 40 13.4	
PBMO					PKPdf	17 40 22.4	-0.4
HHAR	Hobbs	138.03	8		PKPpre	17 40 13.3	
HHAR					PKPdf	17 40 22.6	-0.5
U40A	Yellville	138.10	7		PKPpre	17 40 11.6	
U40A				PKPdf	PKPdf	17 40 21.6	-1.5
TZTN	Tazewell	138.11	356		PKPpre	17 40 13.3	
TZTN				PKPdf	PKPdf	17 40 22.1	-1.1
MSTX	Muleshoe	138.14	20		PKPpre	17 40 14.9	
MSTX				PKPdf	PKPdf	17 40 23.9	+0.4
LCAR	Lake Charles	138.56	5		PKPpre	17 40 14.3	
LCAR					PKPdf	17 40 23.4	-0.5
WMOK	Wichita Mounta	138.58	14	PKHKP	PKPpre	17 40 13.5	
WMOK	Wichita Mounta	138.58	14		PKPpre	17 40 13.5	
FCAR	Ozark Folk Cen	138.64	6		PKPpre	17 40 14.9	
WVT	Waverly	138.66	1	P	PKPdf	17 40 24.3	0.0
baz=359							
WVT	Waverly	138.66	1	PKHKP	PKPpre	17 40 14.6	
WVT						17 40 24.2	
WVT	Waverly	138.66	1		PKPpre	17 40 14.6	
WVT				PKPdf	PKPdf	17 40 24.2	0.0
CLTN	Cedars of Leba	138.70	359		PKPdf	17 40 23.9	-0.3
V52A	Sevierville	138.81	356		PKPdf	17 40 24.3	-0.2
V53A	Saluda	138.92	355	P	PKPdf	17 40 25.4	+0.6
baz=6.6							
V53A	Saluda	138.92	355		PKPdf	17 40 24.1	-0.6
X34A	Smith Ranch, M	138.94	13	PKPpre	PKPpre	17 40 16.2	
X34A					PKPdf	17 40 25.1	+0.3
V50A	Pikevile	139.08	357	P	PKPdf	17 40 25.1	+0.2
baz=3.2							
MNTX	Cornudas Mount	139.21	24		PKPpre	17 40 16.6	
MNTX				PKPdf	PKPdf	17 40 26.5	+1.2
CPCT	Cooper Cave	139.27	357		PKPdf	17 40 25.1	-0.2
KMSC	Kings Mountain	139.28	353		PKPdf	17 40 24.7	-0.6
W41B	Gary Mavity, V	139.34	6		PKPdf	17 40 24.4	-1.0
X37A	Clayton	139.46	10		PKPdf	17 40 26.2	+0.5
W50A	Signal Mountai	139.56	358		PKPdf	17 40 23.6	-2.3
MIAR	Mount Ida	139.79	8	PKIKP	PKPdf	17 40 25.8	-0.5
MIAR	Mount Ida	139.79	8		PKPpre	17 40 17.2	
MIAR				PKPdf	PKPdf	17 40 25.8	-0.5
PLAL	Pickwick Lake	139.80	1		PKPpre	17 40 19.6	
PLAL				PKPdf	PKPdf	17 40 26.2	0.0
X40A	Basin Creek Fa	139.95	7		PKPpre	17 40 18.9	
X54A	Belton	139.99	354	P	PKPdf	17 40 27.4	+0.8
baz=7.5							
X52A	Dahlonega	140.07	356	P	PKPdf	17 40 27.4	+0.6
baz=5.1							
X51A	Calhoun	140.16	357		PKPdf	17 40 25.5	-1.4
BDFB	Brasilia	140.25	252	PKP	PKPdf	17 40 28.6	+0.9
comp=Z,6.5nm,0.7s,baz=161,slow=2.3,SNR=7.2							
X48A	Hartselle	140.34	360	P	PKPdf	17 40 27.5	+0.2
baz=0.2							
ABTX	Abilene, Hawle	140.35	17		PKPpre	17 40 19.7	
ABTX				PKPdf	PKPdf	17 40 28.6	+1.2
Z50A	Ashland	141.52	358		PKPdf	17 40 29.2	-0.3
PLCA	Paso Flores	141.81	201	PKIKP	PKPdf	17 40 25.2	-4.6
PLCA	Paso Flores	141.81	201	PKhKP	PKPpre	17 40 24.1	
comp=Z,2.9nm,0.9s,baz=190,slow=2.4,SNR=4.9							
PLCA	Paso Flores	141.81	201	eP	PKPdf	17 40 30.6	+0.8
PLCA	Paso Flores	141.81	201	eP	PKPdf	17 40 30.6	+0.8
PLCA	Paso Flores	141.81	201		PKPpre	17 40 25.2	
TXAR	Lajitas Array	141.98	24	PKHKP	PKPpre	17 40 25.3	
TXAR						17 43 39.5	
TXAR	Lajitas Array	141.98	24	PKhKP	PKPpre	17 40 25.7	
comp=Z,2.0nm,0.6s,baz=337,slow=1.5,SNR=8.3							
TXAR				PP	PP	17 43 40.3	+5.9
comp=Z,5.1nm,1.1s,baz=345,slow=1.4,SNR=4.6							
TXAR	Lajitas Array	141.98	24		PKPpre	17 40 25.3	
TXAR					PP	17 43 39.5	+5.1
JCT	Junction City	142.31	18	P	PKPdf	17 40 26.6	-4.4
baz=339							
JCT	Junction City	142.31	18	PKHKP	PKPpre	17 40 24.6	
JCT	Junction City	142.31	18		PKPpre	17 40 24.6	
NATX	Nacogdoches	142.34	10	P	PKPdf	17 40 27.3	-3.6
baz=348							
252A	Lumpkin	142.72	357	P	PKPdf	17 40 29.3	-2.3
baz=4.0							
HPIG		143.19	28		PKPbc	17 40 30.7	+0.9
353A	Camilla	143.33	356	P	PKPbc	17 40 30.1	+0.4
baz=5.0							
ARAG	Araguaiana, MT	143.82	251	eP	PKPdf	17 40 34.2	+0.3
ARAG	Araguaiana, MT	143.82	251	eP	PKPdf	17 40 34.2	+0.3
453A	Whigham	143.82	356	P	PKPbc	17 40 31.8	+0.7
baz=4.8							
HKT	Hockley	143.86	13	PKIKP	PKPbc	17 40 31.4	+0.2
HKT	Hockley	143.86	13		PKPbc	17 40 31.4	+0.2
MDP	Montagnes des	143.96	286	PKP	PKPbc	17 40 32.2	+0.1
comp=Z,6.7nm,0.6s,baz=59,slow=1.7,SNR=9.9							
833A	Chaparral WMA,	144.44	19	P	PKPdf	17 40 34.1	-0.6
baz=339							
833A	Chaparral WMA,	144.44	19		PKPbc	17 40 33.3	+0.1
CPUP	Villa Florida	144.72	231	PKIKP	PKPab	17 40 34.0	0.0
CPUP	Villa Florida	144.72	231	PKP	PKPbc	17 40 34.4	+0.3
comp=Z,40nm,0.9s,baz=106,slow=3.6,SNR=61							
CPUP	Villa Florida	144.72	231	eP	PKPbc	17 40 34.3	+0.2
CPUP	Villa Florida	144.72	231	eP	PKPbc	17 40 34.3	+0.2
CPUP	Villa Florida	144.72	231		PKPab	17 40 34.0	0.0
656A	Willston	145.12	353	P	PKPdf	17 40 36.4	+0.6
baz=8.1							
656A	Willston	145.12	353		PKPdf	17 40 35.7	-0.1
AQDB	Aquidauana	145.97	241	eP	PKPab	17 40 39.6	+0.9
AQDB	Aquidauana	145.97	241	eP	PKPab	17 40 39.6	+0.9
PP1B	Ponte de Pedra	146.18	246	eP	PKPab	17 40 39.9	+0.2
PP1B	Ponte de Pedra	146.18	246	eP	PKPab	17 40 39.9	+0.2
H06N1	SOCORRO T-PHAS	146.35	44	PKPbc	PKPbc	17 40 39.0	-0.4
H06E1	SOCORRO T-PHAS	146.44	44	PKPbc	PKPbc	17 40 39.7	0.0
H06S1	SOCORRO T	146.45	44	PKPbc	PKPbc	17 40 39.5	-0.2
MLYT	Lee's Yard	146.91	312	eP	PKPbc	17 40 41.9	+0.7
SKI	Saint Kitts	146.92	314	PKP2	PKPdf	17 40 39.6	+0.4
SKI	Saint Kitts	146.92	314		PKPdf	17 40 39.6	+0.4
MDPO	Dominica; Chan	147.06	310	eP	PKPbc	17 40 41.6	+0.1
BBL	Barber's Block	147.11	310	eP	PKPbc	17 40 41.7	0.0
MDN	Morne-Daniel	147.18	309	eP	PKPab	17 40 43.2	-0.3
FDF	Fort de France	147.33	308	PKP2	PKPdf	17 40 40.9	+0.9
FDF	Fort de France	147.33	308	eP	PKPbc	17 40 42.9	+0.5
FDF	Fort de France	147.33	308		PKPdf	17 40 40.9	+0.9
GO05	Huala	147.36	204		PKPbc	17 40 42.0	+0.1
SLB	Belfond	147.77	307	eP	PKiKP	17 40 45.0	-0.6
STVI	Saint Thomas	147.77	318		PKPbc	17 40 42.8	-0.7
CUPR	Culebra, Puert	148.02	318	PKPdf	PKPdf	17 40 39.8	-1.2
CUPR					PKPbc	17 40 44.0	-0.1
ZAIG	Zacatecas	148.19	28		PKPbc	17 40 43.5	-1.4
MTP	Monte Pirata	148.35	318	PKPdf	PKPdf	17 40 40.0	-1.6
MTP					PKPbc	17 40 44.6	-0.4
CBYP	Canovanas	148.43	319		PKPbc	17 40 44.6	-0.7
PEL	Peldehue	148.43	207	PKIKP	PKPdf	17 40 41.3	-0.1
PEL						17 40 45.1	
PEL	Peldehue	148.43	207	PKPdf	PKPdf	17 40 41.3	-0.1
PEL					PKPbc	17 40 45.1	+0.2
CLDB	Colider	148.48	258	eP	PKPdf	17 40 43.7	+1.8
CLDB	Colider	148.48	258	eP	PKPdf	17 40 43.7	+1.8
HUMP	Col San Antoni	148.52	319		PKPdf	17 40 41.3	-0.5
HUMP				PKPbc	PKPbc	17 40 45.8	+0.4
GCPR	Guaynabo City	148.55	319	PKPdf	PKPdf	17 40 39.7	-2.2
GCPR					PKPbc	17 40 45.0	-0.5
PDPR	Patillas Dam,	148.72	319		PKPbc	17 40 45.7	-0.2
ROC1	El Roble	148.72	207		PKPdf	17 40 42.1	-0.1
ROC1				PKPbc	PKPbc	17 40 46.1	+0.2
SJG	San Juan	148.74	319	PKPbc	PKPbc	17 40 45.9	0.0
comp=Z,15nm,0.2s,baz=18,slow=19,SNR=3.4							
SJG	San Juan	148.74	319		PKPbc	17 40 45.2	-0.7
OBIP	Obispado Ponce	149.08	319		PKPbc	17 40 46.4	-0.4
GRGR	Grenville	149.20	305	eP	PKPbc	17 40 47.0	-0.3
MPR	Mayaguez	149.30	320		PKPbc	17 40 47.5	+0.1
MLPR	Magueyes Islan	149.42	320		PKPbc	17 40 47.2	-0.4
CRPR	Cabo Rojo, PR	149.43	320		PKPbc	17 40 47.3	-0.5
GO04	Tololo Observa	150.94	210	PKPdf	PKPdf	17 40 43.8	-1.9
GO04					PKPbc	17 40 50.9	-0.5
BANI	BANI	151.10	325		PKPbc	17 40 51.8	-0.1
SDDR	Presa de Saban	151.13	328		PKiKP	17 40 52.2	-0.2
SDDR				PKPab	PKPab	17 40 59.7	+0.3
LGNH	Logne	152.21	329		PKiKP	17 40 54.7	+0.1
GO03	Copiap	152.69	214	PKPdf	PKPdf	17 40 48.1	-0.1
GO03					PKPbc	17 40 55.1	-0.1
GO02	Mina Guanaco	154.12	219	PKPdf	PKPdf	17 40 48.8	-1.8
GO02					PKPab	17 41 13.0	+0.7
TEIG	Tepich	154.49	2		PKPdf	17 40 49.1	-1.7
TEIG				PKPab	PKPab	17 41 13.7	+0.3
LVC	Limon Verde	155.43	224	PKIKP	PKPdf	17 40 51.3	-1.3
LVC	Limon Verde	155.43	224	PKPdf	PKPdf	17 40 51.3	-1.3
LVC					PKPab	17 41 19.0	+1.0
SAML	Samuel	155.94	260	PKIKP	PKPdf	17 40 52.7	-0.3
SAML	Samuel	155.94	260	eP	PKPdf	17 40 54.9	+1.9
SAML	Samuel	155.94	260	eP	PKPdf	17 40 54.9	+1.9
SAML	Samuel	155.94	260		PKPdf	17 40 52.7	-0.3
SAML				PKPab	PKPab	17 41 20.6	+0.6
SDV	Santo Domingo	158.22	311	eP	PKPdf	17 40 56.2	+0.1
SDV	Santo Domingo	158.22	311	eP	PKPdf	17 40 56.2	+0.1
SDV	Santo Domingo	158.22	311		PKPdf	17 40 54.7	-1.5
SDV					PKPab	17 41 29.3	-0.7
LPAZ	La Paz	158.42	238	PKIKP	PKPdf	17 40 54.4	-2.4
LPAZ						17 41 31.8	
LPAZ	La Paz	158.42	238	PKP	PKPdf	17 40 57.5	+0.7
comp=Z,6.5nm,0.9s,baz=32,slow=2.1,SNR=15							
LPAZ				pPKP	sPKPdf	17 41 10.5	+3.4
comp=Z,6.6nm,0.8s,baz=342,slow=7.9,SNR=7.5							
LPAZ				PKPab	PKPab	17 41 32.0	+0.6
comp=Z,16nm,0.9s,baz=81,slow=11,SNR=10							
LPAZ				pPKPab	sPKPab	17 41 46.0	+4.6
comp=Z,10nm,0.9s,baz=118,slow=3.3,SNR=3.3							
LPAZ	La Paz	158.42	238	eP	PKPdf	17 40 59.7	+2.9
LPAZ	La Paz	158.42	238	eP	PKPdf	17 40 59.7	+2.9
LPAZ	La Paz	158.42	238		PKPdf	17 40 54.4	-2.4
LPAZ				PKPab	PKPab	17 41 31.8	+0.5
ACON	Acoyapa	162.61	353	PKPdf	PKPdf	17 40 59.9	-0.8
ACON					PKPab	17 41 46.5	-2.1
ROSC	El Rosal	163.60	308	PKP	PKPdf	17 41 03.3	+1.1
comp=Z,11nm,0.6s,baz=194,slow=2.9,SNR=6.4							
ROSC				PKPab	PKPab	17 41 54.1	+0.3
comp=Z,12nm,0.5s,baz=346,slow=21,SNR=5.6							
ROSC	El Rosal	163.60	308		PKPdf	17 41 00.5	-1.7
ROSC					PKPab	17 41 53.6	-0.2
OTAV	Otavalo	169.62	303	PKIKP	PKPdf	17 41 06.6	-0.3
OTAV						17 42 20.4	
OTAV	Otavalo	169.62	303	eP	PKPdf	17 41 07.4	+0.5
OTAV	Otavalo	169.62	303	eP	PKPdf	17 41 07.4	+0.5
OTAV	Otavalo	169.62	303	PKPdf	PKPdf	17 41 06.6	-0.3
OTAV					PKPab	17 42 20.4	-0.1

ISCJB ***22*** *17:36:23.3±2.2, 56°.6S±0°.4×150°.4W±0°.6, h10km, mb3.9/3, Error ellipse: s-maj=71.6km s-min=18.3km az=39.1*
IDC ***22*** *17:36:24.8±1.7, 56°.68S×150°.75W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/35, mbtmp3.8/3, Error ellipse: s-maj=56.0km s-min=39.0km az=55.0*
NEIC ***22*** *17:36:26.1±1.7, 56°.5S±0°.3×150°.3W±0°.4, h16km±5km, mb4.8/6*

ISC 22 17:36:26.0±1.0, 56°.7S±0°.2×150°.5W±0°.2, h10km, n25, σ0°68/17, mb4.4/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	South Pole Qui	33.45	180	P	P	17 43 05.3	+0.5
2.8nm,0.9s,baz=86,slow=0.9,SNR=5.5							
QSPA	South Pole Qui	33.45	180	P	P	17 43 05.7	+0.8
QSPA				IAmb	IAmb	17 43 06.4	
comp=Z,4.8nm,1.1s							
SNAA	Sanae	49.94	167	P	P	17 45 18.2	-1.1
SNAA				IAmb	IAmb	17 45 38.2	
comp=Z,9.4nm,1.7s							
HOPE	Hope Point	57.06	140	P	P	17 46 11.8	+0.2
AS31	Alice Springs	62.67	268	P	P	17 46 51.5	+0.7
ASAR	Alice Springs	62.67	268	P	P	17 46 49.8	-0.9
comp=Z,1.0nm,0.8s,baz=139,slow=6.6,SNR=15							
ASAR	Alice Springs	62.67	268	P	P	17 46 50.3	-0.5
H01W1	Cape Leeuwin H	64.34	245	T	T	18 57 08.8	
baz=142,slow=76,SNR=20							
H01W2	Cape Leeuwin H	64.35	245	T	T	18 57 08

comp=Z,0.3nm,0.3s,baz=296,slow=2.4,SNR=22
WRA Warramunga Arr 148.55 91 PKiKP 17 56 48.7 -0.5
ASAR Alice Springs 148.68 98 PKPbc PKiKP 17 56 49.5 +0.1
comp=Z,0.6nm,0.7s,baz=283,slow=1.9,SNR=12
ASAR Alice Springs 148.68 98 PKiKP 17 56 49.4 0.0

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*NEIC **22** 17:37:45.5±2.1, 17.12N±0.09×95.35W±0.04, h111km±9km*
*ISCJB **22** 17:37:46.7±0.7, 16.9N±0.1×95.29W±0.05, h105km, Error ellipse: s-maj=20.6km s-min=7.5km az=1.6*
*MEX **22** 17:37:47.3±0.6, 17.02N×95.34W, h109km±6km, MD3.9*
ISC 22 17:37:46.9±1.3, 16.9N±0.1×95.29W±0.05, h105km, n15, σ1§12/18, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**69**	*eP*	**Pn**	**17 38 02.9**	**+0.3**
CMIG				*eS*	**Sn**	**17 38 14.0**	**-0.5**
CMIG	**Matias Romero**	**0.41**	**69**		**Pn**	**17 38 02.9**	**+0.3**
CMIG					**Sn**	**17 38 14.0**	**-0.5**
VHO	**Vista Hermosa**	**1.39**	**276**	*eP*	**Pn**	**17 38 13.1**	**+0.9**
VHO				*i S*	**Sn**	**17 38 32.4**	**+1.0**
HUIG	**Huatulco**	**1.41**	**214**	*eP*	**Pn**	**17 38 12.1**	**-0.2**
HUIG	**Huatulco**	**1.41**	**214**		**Pn**	**17 38 12.1**	**-0.2**
TGIG		**2.08**	**94**	*eP*	**Pn**	**17 38 20.9**	**+0.2**
TGIG		**2.08**	**94**		**Pn**	**17 38 20.9**	**+0.2**
PCIG		**2.34**	**121**	*eP*	**Pn**	**17 38 24.8**	**+0.8**
PCIG		**2.34**	**121**		**Pn**	**17 38 24.8**	**+0.8**
PNIG	**Pinotepa**	**2.77**	**259**	*eP*	**Pn**	**17 38 28.7**	**-1.1**
PNIG	**Pinotepa**	**2.77**	**259**		**Pn**	**17 38 28.7**	**-1.1**
CCIG	**Comitan**	**3.09**	**102**	*eP*	**Pn**	**17 38 35.0**	**+0.9**
CCIG	**Comitan**	**3.09**	**102**		**Pn**	**17 38 34.8**	**+0.7**
CCIG	**Comitan**	**3.09**	**102**		**Pn**	**17 38 35.0**	**+0.9**
TEIG	**Tepich**	**7.41**	**63**	Pn	**Pn**	**17 39 29.0**	**-3.3**

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*IDC **22** 17:42:11.4±5.8, 31.79S×178.25W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/33, mbtmp3.6/2, Error ellipse: s-maj=243.1km s-min=56.6km az=157.0*
*ISCJB **22** 17:42:28.7±2.0, 32.88S±0.08×178.6W±0.3, h150km, mb3.5/1, Error ellipse: s-maj=38.4km s-min=11.1km az=3.6*
*NEIC **22** 17:42:28.5±2.4, 33.0S±0.2×178.3W±0.3, h162km±9km, mb4.7/5*
ISC 22 17:42:28.0±1.8, 32.9S±0.1×178.4W±0.2, h150km, n15, σ1§40/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**213**	Pn	**Pn**	**17 44 02.6**	**+1.9**
OUZ	**Omahuta**	**7.04**	**249**	Pn	**Pn**	**17 44 08.8**	**+0.3**
BFZ	**Birch Farm**	**8.85**	**208**	Pn	**Pn**	**17 44 30.7**	**-1.9**
MSWZ	**Moikau Station**	**9.87**	**209**	Pn	**Pn**	**17 44 47.7**	**+1.6**
PLWZ	**Palliser**	**9.99**	**209**	Pn	**Pn**	**17 44 49.9**	**+2.0**
BHW	**Baring Head**	**10.02**	**211**	Pn	**Pn**	**17 44 48.4**	**+0.2**
MSVF	**Nonsavu**	**15.48**	**347**	P	**Pn**	**17 45 59.8**	**+1.3**
MSVF				IAmb	IAmb	17 46 00.5	
comp=Z,94nm,1.1s							
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**17 50 11.3**	**+0.9**
comp=Z,0.3nm,0.5s,baz=109,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**17 50 12.0**	**+1.6**
WB2	**Warramunga Arr**	**43.92**	**275**	P	**P**	**17 50 20.2**	**+0.1**
WRA	**Warramunga Arr**	**43.93**	**275**	P	**P**	**17 50 20.5**	**+0.3**
comp=Z,0.5nm,0.4s,baz=115,slow=7.8,SNR=4.7							
WB0	**Warramunga Arr**	**43.97**	**275**	P	**P**	**17 50 19.9**	**-0.5**
WB0				IAmb	IAmb	17 50 35.7	
comp=Z,11nm,1.6s							
KNRA	**Kununurra**	**50.62**	**277**	P	**P**	**17 51 11.3**	**-0.6**
KNRA				IAmb	IAmb	17 51 22.3	
comp=Z,34nm,1.4s							
NWAO	**Narrogin (SRO)**	**53.24**	**251**	P	**P**	**17 51 29.3**	**-1.8**
FINES	**FINESS Array B**	**147.39**	**338**	PKPbc	**PKPbc**	**18 01 52.6**	**-0.7**
comp=Z,0.5nm,0.4s,baz=51,slow=7.5,SNR=7.1							

UCR 22 17:47:18.0±2.4, 7.30N×82.42W, h13km±19km, MW3.9, 5C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**1.51**	**350⇑**	*eP*	Pn	17 47 43.7	-1.3
BRU2				*eS*	Sg	17 48 07.0	+0.3
EDPN	**Palmar Norte**	**1.95**	**328**	*eP*	Pn	17 47 49.5	-1.3
DRK0	**Durika**	**2.12**	**337⇑**	*eP*	Pn	17 47 52.4	-0.9
AZU	**Azuero**	**2.18**	**77**	*eP*	Pn	17 47 53.5	-0.5
AZU				*eS*	Sn	17 48 20.2	-0.8
LCR2	**La Lucha 2**	**2.89**	**327⇑**	*iP*	Pn	17 48 03.4	-0.6
CVTR	**Volcan Turrial**	**3.01**	**334⇑**	*eP*	Pn	17 48 05.9	0.0
ZANG	**Zanguenga, Cho**	**3.02**	**57**	*eP*	Pn	17 48 06.3	+0.8
BCIP	**Isla Barro Col**	**3.16**	**54**	*eP*	Pg	17 48 19.9	+1.4
HDC	**Heredia**	**3.17**	**328⇑**	*iP*	Pn	17 48 07.6	-0.1
HDC	**Heredia**	**3.17**	**328**	P	Pn	17 48 07.7	0.0
ARE1	**Arenal 1**	**3.88**	**324**	*eP*	Pn	17 48 18.4	+0.9
JTS	**Las Juntas de**	**3.89**	**320**	*eP*	Pn	17 48 16.7	-0.9
JTS	**Las Juntas de**	**3.89**	**320**	P	Pn	17 48 16.7	-0.8
JTS				IAmb	IAmb	17 48 17.9	
comp=Z,56nm,0.5s							
CEDE	**Laguna Cedeo**	**3.89**	**325**	*eP*	Pn	17 48 19.6	+2.0
PLVR	**Palo Verde**	**4.19**	**316**	*eP*	Pn	17 48 21.1	-0.8
CUI	**Cuipilapa**	**4.30**	**321⇓**	*eP*	Pn	17 48 23.6	+0.3
ACON	**Acoyapa**	**5.38**	**330**	*eP*	Pn	17 48 38.6	+0.6

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*IDC **22** 17:56:23.6±3.0, 30.20S×177.71W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/19, mbtmp3.8/2, Error ellipse: s-maj=63.2km s-min=22.7km az=105.0*
*ISCJB **22** 17:56:26.1±4.3, 30.28S±0.08×177.6W±0.7, h35km, mb3.7/2, Error ellipse: s-maj=81.9km s-min=10.2km az=3.4*
*NEIC **22** 17:56:28.8±1.2, 30.16S±0.09×177.7W±0.3, h40km±15km, mb4.5/5*
ISC 22 17:56:27.4±2.1, 30.23S±0.09×177.6W±0.3, h35km, n12, σ0§90/14, mb4.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**345**	Pn	**Pn**	**17 56 45.3**	**+0.2**
157nm,0.3s,baz=62,slow=21,SNR=8.2							
RAO				Sn	**Sn**	**17 56 58.1**	**+0.2**
852nm,0.3s,baz=107,slow=19,SNR=21							
RAO	**Raoul Island**	**1.00**	**345**		**Pn**	**17 56 45.1**	**+0.1**
RAO					**Sn**	**17 56 56.2**	**-1.7**
THZ	**Tophouse**	**13.82**	**211**	Pn	**Pn**	**17 59 39.9**	**-1.0**
AS31	**Alice Springs**	**43.45**	**267**	P	**P**	**18 04 28.1**	**+0.8**
ASAR	**Alice Springs**	**43.45**	**267**	P	**P**	**18 04 27.5**	**+0.2**
0.4nm,0.4s,baz=105,slow=7.1,SNR=28							
WR0	**Warramunga Arr**	**44.24**	**272**	P	**P**	**18 04 34.6**	**+1.0**
WR0				IAmb	IAmb	18 04 40.9	
comp=Z,14nm,1.6s							
WB2	**Warramunga Arr**	**44.41**	**272**	P	**P**	**18 04 36.0**	**+1.0**
WRA	**Warramunga Arr**	**44.42**	**272**	P	**P**	**18 04 36.0**	**+0.8**
comp=Z,0.8nm,0.3s,baz=110,slow=8.1,SNR=49							
WRA	**Warramunga Arr**	**44.42**	**272**	P	**P**	**18 04 35.9**	**+0.8**
WB0	**Warramunga Arr**	**44.44**	**272**	P	**P**	**18 04 36.1**	**+0.9**
WB0				IAmb	IAmb	18 04 54.6	
comp=Z,9.9nm,1.4s							
FINES	**FINESS Array B**	**145.09**	**340**	PKPbc	**PKPdf**	**18 16 00.3**	**0.0**
comp=Z,1.1nm,0.5s,baz=47,slow=4.3,SNR=10							
FINES	**FINESS Array B**	**145.09**	**340**		**PKPab**	**18 16 00.2**	**+0.2**

IDC 22 18:15:41.6±14.0, 10.34S×152.45E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/41, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=205.1km s-min=88.1km az=40.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**11.38**	**211**	Pn	Pn	18 18 25.3	-0.3
0.5nm,0.3s,baz=30,slow=14,SNR=1.9							
WRA	**Warramunga Arr**	**19.90**	**239**	P	P	18 20 14.5	-0.4
0.1nm,0.3s,baz=61,slow=10,SNR=13							
ASAR	**Alice Springs**	**22.10**	**231**	P	P	18 20 39.2	+0.5
0.7nm,0.5s,baz=63,slow=9.5,SNR=20							
STKA	**Stephens Creek**	**23.67**	**204**	P	P	18 20 54.8	-0.1
2.4nm,0.9s,baz=4.1,slow=14,SNR=3.6							

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*ISCJB **22** 18:26:48.0±0.7, 34.36N±0.03×45.53E±0.03, h1km±5km, Error ellipse: s-maj=4.9km s-min=4.0km az=26.9*
*ISN **22** 18:26:49.2±1.2, 34.39N×45.56E, h15km±6km, ML3.1*
*TEH **22** 18:26:50.0, 34.36N×45.60E, h17km, ML3.4*
ISC 22 18:26:49.2±1.7, 34.36N±0.04×45.56E±0.03, h4km±13km, n29, σ0§75/39, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**64**	*eSg*	**Sb**	**18 27 15.4**	**-0.7**
IDHR				*ePg*	**Pg**	**18 27 03.5**	**-0.4**
IDHR				IAMB	IAmb	18 27 17.7	
comp=Z,0.0nm,0.3s							
IGHG	**Ghaleghazi**	**0.84**	**92**	IAMB	IAmb	18 27 32.2	
comp=Z,8μm,0.5s							
IGHG				*ePg*	**Pg**	**18 27 05.4**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.23**	**94**	*ePg*	**Pb**	**18 27 13.0**	**-0.2**
KCHF				*eSg*	**Sg**	**18 27 29.3**	**+0.4**
KCHF				IAMB	IAmb	18 27 32.1	
comp=Z,0.0nm,0.5s							
IBDR	**Badra**	**1.29**	**166**	*ePg*	**Pn**	**18 27 13.0**	**-0.9**
IBDR				AML	AML	18 27 16.2	
comp=Z,172nm,0.5s							
IBDR				*eSg*	**Sn**	**18 27 32.0**	**+0.4**
ILIN	**Lien**	**1.29**	**64**	*ePg*	**Pn**	**18 27 13.6**	**-0.6**
ILIN				*eSg*	**Sn**	**18 27 31.5**	**-0.5**
ILIN				IAMB	IAmb	18 27 33.9	
comp=Z,9μm,0.6s							
KER	**Kermanshah**	**1.30**	**88**	*ePg*	**Pb**	**18 27 14.4**	**0.0**
KER				*eSg*	**Sn**	**18 27 32.4**	**+0.1**
IKRK	**Kirkuk**	**1.44**	**316**	*ePg*	**Pn**	**18 27 15.6**	**-0.5**
IKRK				AML	AML	18 27 20.2	
comp=Z,380nm,0.4s							
IKRK				*eSg*	**Sn**	**18 27 35.0**	**-0.5**
BHD	**Baghdad**	**1.46**	**222**	*ePn*	**Pn**	**18 27 17.0**	**+0.6**
BHD				*eSn*	**Sn**	**18 27 37.0**	**+1.1**
IKOM	**Komasi**	**1.63**	**96**	*ePn*	**Pn**	**18 27 19.1**	**+0.3**
IKOM				IAMB	IAmb	18 27 26.9	
comp=Z,0.0nm,0.8s							
IBZA	**Bozab**	**1.91**	**86**	*ePn*	**Pn**	**18 27 23.4**	**+0.6**
IKFM	**Kafar-mosalman**	**2.08**	**113**	*ePn*	**Pn**	**18 27 25.6**	**+0.8**
IKFM				IAMB	IAmb	18 28 11.7	
comp=Z,0.0nm,1.3s							
IDOB	**Doab**	**2.25**	**104**	*ePn*	**Pn**	**18 27 27.7**	**+0.3**
MAHB	**Mahabad**	**2.40**	**3**	*ePn*	**Pn**	**18 27 30.7**	**+1.2**
IKMR	**Kamar-syah**	**2.49**	**109**	*ePn*	**Pn**	**18 27 30.7**	**+0.2**
HSAM	**Samen**	**2.53**	**93**	*ePn*	**Pn**	**18 27 31.1**	**-0.2**
BDRS	**Dareh Seyedi**	**2.79**	**97**	*ePn*	**Pn**	**18 27 34.6**	**-0.3**
BDRS				IAMB	IAmb	18 28 29.6	
comp=Z,0.0nm,1.0s							
MSL	**Mosul**	**2.85**	**316**	*ePn*	**Pn**	**18 27 35.0**	**-0.5**
MSL				AML	AML	18 27 52.0	
comp=Z,751nm,0.7s							
MSL				*eSn*	**Sn**	**18 28 10.0**	**-0.3**
HAGD	**Aghdareh**	**2.99**	**80**	*ePn*	**Pn**	**18 27 38.6**	**+0.9**
HAGD				IAMB	IAmb	18 28 33.6	
comp=Z,0.0nm,1.1s							
NSR	**Nassriya**	**3.38**	**171**	*ePn*	**Pn**	**18 27 43.7**	**+1.0**
NSR				AML	AML	18 27 47.5	
comp=Z,56nm,0.5s							
NSR				*eSn*	**Sn**	**18 28 23.5**	**+0.3**
IRAZ	**Razeghan**	**3.74**	**73**	*ePn*	**Pn**	**18 27 49.0**	**+1.0**
IRAZ				IAMB	IAmb	18 29 02.5	
comp=Z,731nm,0.9s							
ITBZ	**Tabriz**	**3.89**	**7**	*ePn*	**Pn**	**18 27 50.4**	**+0.4**
ITBZ				IAMB	IAmb	18 29 04.0	
comp=Z,767nm,0.5s							
IHRS	**Heris**	**4.13**	**16**	*ePn*	**Pn**	**18 27 54.8**	**+1.5**
IHRS				IAMB	IAmb	18 29 18.1	
comp=Z,786nm,0.7s							
RTB	**Rutbah**	**4.57**	**255**	*ePn*	**Pn**	**18 28 00.3**	**+1.1**
RTB				AML	AML	18 28 15.7	
comp=Z,128nm,0.8s							
RTB				*eSn*	**Sn**	**18 28 52.0**	**-0.8**
IPIR	**Pirpir**	**4.76**	**109**	*ePn*	**Pn**	**18 28 01.6**	**-0.4**
IPIR				IAMB	IAmb	18 29 07.5	
comp=Z,390nm,0.5s							
JHBN	**Jahan bin**	**4.78**	**115**	*ePn*	**Pn**	**18 28 01.1**	**-1.2**
ZNGN	**Zangian**	**4.97**	**115**	*ePn*	**Pn**	**18 28 03.6**	**-1.3**
IKLH	**Kolahrood**	**5.12**	**100**	*ePn*	**Pn**	**18 28 07.6**	**+0.7**
IKLH				IAMB	IAmb	18 29 19.6	
comp=Z,198nm,0.6s							
KRSH	**Karshahi**	**5.47**	**92**	*ePn*	**Pn**	**18 28 12.7**	**+1.1**
IGAR	**Garneh**	**5.77**	**108**	*ePn*	**Pn**	**18 28 15.8**	**0.0**

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*ISN **22** 18:30:55.4±0.3, 34.56N×45.73E, h0km±1km, ML5.6*
*IDC **22** 18:30:56.5±0.3, 34.35N×45.64E, h0km, mb5.3/49, mb1 5.3/57, mb1mx5.2/65, mbtmp5.3/57, ML5.1/6, MS5.3/54, Ms1 5.3/54, ms1mx5.1/69, Error ellipse: s-maj=9.1km s-min=7.8km az=159.0*
*ISK **22** 18:30:57.1, 34.31N×45.32E, h5km±1km, ML5.9/1*
*TEH **22** 18:30:57.5, 34.29N×45.56E, h10km, ML5.7*
*ISCJB **22** 18:30:57.3±0.3, 34.18N±0.01×45.574E±0.009, h21km±2km, mb5.5/225, MS5.4/131, Error ellipse: s-maj=2.2km s-min=1.2km az=17.2*
*NEIC **22** 18:30:58.0±1.8, 34.31N±0.06×45.61E±0.05, h14km±1km, mb5.7/345, Ms_20 5.5/481, Mwb5.6, Mwc5.8, Mww5.8, Mwc5.8(GCMT), Mwr5.7(TEH), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.82; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$-1.36; $M_{r\theta}$1.18; $M_{\theta\phi}$1.12; $M_{\phi r}$-1.79; Fault plane solution: $M_0$2.92000×10^{17} NP1:ϕ_s325.06000°, δ21.27000°, λ88.69000°. NP2:ϕ_s146.47000°, δ68.74000°, λ90.51000°. Principal axes: T 2.7634, Plg66.0000°, Azm57.0000°; N 0.2990, Plg0.0000°, Azm326.0000°; P -3.0624, Plg24.0000°, Azm236.0000°;*
*THR **22** 18:30:58.1, 34.35N×45.48E, h14km, ML5.7*
*DSN **22** 18:30:59.0±0.3, 34.14N×45.72E, h10km, mb5.8/7, Error ellipse: s-maj=6.9km s-min=4.4km az=49.0*
*MOS **22** 18:31:00.9±1.1, 34.34N×45.57E, h47km, mb5.8/49, MS5.3/75, Error ellipse: s-maj=3.8km s-min=2.7km az=107.8*
*GII **22** 18:31:00.9±0.2, 34.34N×45.59E, h50km*
*GCMT **22** 18:31:01.0±0.1, 34.22N±0.01×45.44E±0.01, h14km, MW5.7/134, Moment Tensor Solution. s114,c198; s134,c373; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.35±.04; $M_{\theta\theta}$-0.28±.03; $M_{\phi\phi}$-3.08±.03; $M_{r\theta}$2.12±.10; $M_{\theta\phi}$1.89±.03; $M_{\phi r}$-1.05±.08; Best double couple: $M_0$4.42000×10^{17} NP1:ϕ_s134.00000°, δ62.00000°, λ68.00000°. NP2:ϕ_s354.00000°, δ35.00000°, λ125.00000°. Principal axes: T 4.3310, Plg66.0000°, Azm3.0000°; N 0.1730, Plg19.0000°, Azm144.0000°; P -4.5100, Plg14.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BJI **22** 18:31:02.0±0.0, 34.30N×45.60E, h45km, mb5.6/79, mB5.8/74, Ms5.8/91, Ms7 5.6/83*
*NEIC **22** 18:31:04, 34.32N×45.40E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.07; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-2.91; $M_{r\theta}$3.05; $M_{\theta\phi}$1.95; $M_{\phi r}$-2.56; Fault plane solution: $M_0$5.35000×10^{17} NP1:ϕ_s135.00000°, δ70.00000°, λ74.00000°. NP2:ϕ_s354.00000°, δ25.00000°, λ127.00000°. Principal axes: T 5.1142, Plg62.0000°, Azm21.0000°; N 0.4431, Plg15.0000°, Azm140.0000°; P -5.5573, Plg24.0000°, Azm237.0000°;*
*NEIC **22** 18:31:10, 34.15N×45.53E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.76; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-3.96; $M_{r\theta}$2.24; $M_{\theta\phi}$2.28; $M_{\phi r}$-2.89; Fault plane solution: $M_0$5.79000×10^{17} NP1:ϕ_s145.00000°, δ65.00000°, λ79.00000°. NP2:ϕ_s351.00000°, δ27.00000°, λ113.00000°. Principal axes: T 5.1976, Plg68.0000°, Azm34.0000°; N 1.0395, Plg10.0000°, Azm150.0000°; P -6.2371, Plg20.0000°, Azm244.0000°;*
*NEIC **22** 18:31:15.5, 34.65N×45.61E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.05; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-2.57; $M_{r\theta}$3.63; $M_{\theta\phi}$1.64; $M_{\phi r}$-2.66; Fault plane solution: $M_0$5.57000×10^{17} NP1:ϕ_s350.82000°, δ21.70000°, λ127.51000°. NP2:ϕ_s131.27000°, δ72.95000°, λ76.38000°. Principal axes: T 5.5906, Plg60.0000°, Azm22.0000°; N -0.0349, Plg13.0000°, Azm135.0000°; P -5.5557, Plg27.0000°, Azm232.0000°;*
ISC 22 18:30:59.4±0.4, 34.38N±0.02×45.70E±0.02, h19km±1km, h20km: pP-P, n1983, σ1§95/2066, mb5.6/354, MS5.5/378, 119C-39D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.65**	**60**	*ePg*	**Pb**	**18 31 12.7**	**+0.5**
IDHR				*eSg*	**Sn**	**18 31 25.1**	**+1.4**
IDHR	**Dehrash**	**0.65**	**60**	*Pg*	**Pb**	**18 31 12.7**	**+0.5**
IGHG	**Ghaleghazi**	**0.72**	**94**	*ePg*	**Pn**	**18 31 14.4**	**-0.4**
IGHG	**Ghaleghazi**	**0.72**	**94**	*Pg*	**Pn**	**18 31 14.3**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.11**	**95**	*ePg*	**Pg**	**18 31 21.0**	**0.0**
ILIN	**Lien**	**1.17**	**62**	*ePg*	**Pg**	**18 31 21.9**	**-0.2**
ILIN				*eSg*	**Sg**	**18 31 41.6**	**+4.1**
ILIN	**Lien**	**1.17**	**62**		**Pg**	**18 31 21.9**	**-0.2**
KER	**Kermanshah**	**1.18**	**89**	*ePg*	**Pg**	**18 31 21.9**	**-0.4**
KER				*eSg*	**Sg**	**18 31 42.7**	**+4.8**
IBDR	**Badra**	**1.28**	**171**	*ePn*	**Pg**	**18 31 23.6**	**-0.5**
IBDR				*eSn*	**Sg**	**18 31 43.5**	**+2.7**
IBDR				AML	AML	18 31 53.9	
comp=Z,64μm,0.5s							
IKOM	**Komasi**	**1.51**	**97**	*ePn*	**Pg**	**18 31 27.6**	**-1.0**
IKOM	**Komasi**	**1.51**	**97**	Pn	**Pg**	**18 31 27.6**	**-1.0**
IKRK	**Kirkuk**	**1.52**	**313**	*ePg*	**Pb**	**18 31 26.9**	**0.0**
IKRK				*eSg*	**Sg**	**18 31 48.8**	**+0.4**
IKRK				AML	AML	18 32 31.1	
comp=Z,51μm,0.7s							
BHD	**Baghdad**	**1.56**	**225**	*ePn*	**Pb**	**18 31 27.1**	**-0.5**
BHD				*eSn*	**Sg**	**18 31 49.4**	**-0.4**
BHD				AML	AML	18 32 36.3	
comp=Z,674μm,0.7s							
IBZA	**Bozab**	**1.79**	**86**	*ePn*	**Pg**	**18 31 32.6**	**-1.2**
IKFM	**Kafar-mosalman**	**1.98**	**115**	*ePn*	**Pb**	**18 31 34.7**	**0.0**
IDOB	**Doab**	**2.14**	**105**	*ePn*	**Pb**	**18 31 36.9**	**-0.7**
IDOB	**Doab**	**2.14**	**105**	Pn	**Pb**	**18 31 36.8**	**-0.8**
MAHB	**Mahabad**	**2.38**	**0**	*ePn*	**Pb**	**18 31 40.3**	**-1.5**
IKMR	**Kamar-syah**	**2.39**	**110**	*ePn*	**Pb**	**18 31 40.4**	**-1.3**
HSAM	**Samen**	**2.41**	**93**	*ePn*	**Pb**	**18 31 40.8**	**-1.5**
BDRS	**Dareh Seyedi**	**2.67**	**98**	*ePn*	**Pb**	**18 31 44.2**	**-2.6**
HAGD	**Aghdareh**	**2.87**	**80**	*ePn*	**Pb**	**18 31 47.6**	**-2.6**
MSL	**Mosul**	**2.92**	**314**	*ePn*	**Pn**	**18 31 43.0**	**-1.9**
MSL				*eSn*	**Sn**	**18 32 16.3**	**-3.2**
MSL				AML	AML	18 33 47.7	
comp=Z,125μm,9.5s							
CUKT	**Cukurca**	**3.33**	**330**	*ePn*	**Pn**	**18 31 50.9**	**+0.3**
CUKT	**Cukurca**	**3.33**	**330**	PN	**Pn**	**18 31 51.2**	**+0.6**
ZNJK	**Zanjan**	**3.34**	**46**	*ePn*	**Pb**	**18 31 54.6**	**-3.6**
ZNJK	**Zanjan**	**3.34**	**46**	*ePn*	**Pb**	**18 31 54.6**	**-3.6**
YOVA	**Hakkari_Yksek**	**3.40**	**341**	*ePn*	**Pn**	**18 31 53.7**	**+2.0**
SHGR	**Shooshtar-Gavs**	**3.44**	**130**	*ePn*	**Pn**	**18 31 54.8**	**+2.8**
SHGR	**Shooshtar-Gavs**	**3.44**	**130**	*e*AML	AML	18 33 16.8	
comp=E,3μm,0.6s							
SHGR				*eS*	**Sn**	**18 32 36.6**	**+4.3**
SHGR				*e*AML	AML	18 33 14.2	
comp=N,7μm,0.6s							
SHGR	**Shooshtar-Gavs**	**3.44**	**130**	*ePn*	**Pn**	**18 31 55.0**	**+2.9**
QABG	**Abgarm-Qazvin**	**3.45**	**66**	*ePn*	**Pn**	**18 31 55.6**	**+3.3**
HAKT	**HAKKARI**	**3.56**	**334**	*ePn*	**Pn**	**18 31 55.0**	**+1.1**
KHMZ	**Khomeyn**	**3.59**	**99**	*ePn*	**Pn**	**18 31 57.3**	**+3.0**
KHMZ	**Khomeyn**	**3.59**	**99**	*ePn*	**Pn**	**18 31 57.9**	**+3.6**
IRAZ	**Razeghan**	**3.62**	**72**	*ePn*	**Pn**	**18 31 57.9**	**+3.2**
ITBZ	**Tabriz**	**3.86**	**5**	*ePn*	**Pn**	**18 32 00.2**	**+2.2**
IHRS	**Heris**	**4.08**	**15**	*ePn*	**Pn**	**18 32 04.0**	**+3.0**
SIRT	**Sirnak**	**4.09**	**321**	*ePn*	**Pn**	**18 32 00.8**	**-0.2**
SIRT	**Sirnak**	**4.09**	**321**	PN	**Pn**	**18 32 01.3**	**+0.3**
SIRN	**Sırnak**	**4.10**	**320**	*ePn*	**Pn**	**18 32 01.4**	**+0.3**
IGZV	**Ghazvin**	**4.20**	**60**	*ePn*	**Pn**	**18 32 04.7**	**+2.1**
IMHD	**Mahdasht**	**4.28**	**71**	*ePn*	**Pn**	**18 32 06.2**	**+2.6**
IQOM	**Qom**	**4.45**	**83**	*ePn*	**Pn**	**18 32 08.4**	**+2.3**
GEVA	**Gevas**	**4.47**	**332**	*ePn*	**Pn**	**18 32 08.3**	**+2.0**
QALM	**Alamut, Qazvin**	**4.53**	**62**	*ePn*	**Pn**	**18 32 09.3**	**+2.1**
TVAN	**Van**	**4.54**	**337**	*ePn*	**Pn**	**18 32 09.9**	**+2.6**
VANB	**Van**	**4.60**	**337**	PN	**Pn**	**18 32 08.8**	**+0.7**
GHVR	**GHOM**	**4.62**	**87**	*ePn*	**Pn**	**18 32 11.4**	**+3.1**
GHVR	**GHOM**	**4.62**	**87**	*ePn*	**Pn**	**18 32 11.5**	**+3.1**
IPIR	**Pirpir**	**4.65**	**110**	*ePn*	**Pn**	**18 32 10.8**	**+1.9**
RTB	**Rutbah**	**4.69**	**255**	*ePn*	**Pn**	**18 32 10.4**	**+1.1**
RTB				*eSn*	**Sn**	**18 33 03.0**	**-0.2**
CHTH	**Charan**	**4.70**	**70**	*eSg*	**Sg**	**18 33 29.4**	**-0.9**
CHTH				*ePn*	**Pn**	**18 32 13.2**	**+3.7**
IHSB	**Hasanabad**	**4.70**	**75**	*ePn*	**Pn**	**18 32 11.7**	**+2.3**
SRTM	**Siirt_Merkez**	**4.73**	**321**	*ePn*	**Pn**	**18 32 10.2**	**+0.4**
QAM	**Ghamsar**	**4.80**	**96**	*ePn*	**Pn**	**18 32 14.2**	**+3.3**
ZNGN	**Zangian**	**4.87**	**116**	*ePn*	**Pn**	**18 32 13.0**	**+1.1**
ROKH	**ROKH**	**4.90**	**113**	*ePn*	**Pn**	**18 32 13.7**	**+1.4**
BLIS	**Bitlis-Merkez**	**4.96**	**325**	*ePn*	**Pn**	**18 32 13.7**	**+0.7**
**CLDR

ASF Jabal al Asfar 7.69 256 Pn **Pn 18 32 48.4 -2.1**
comp=Z,10nm,0.3s,baz=0.0,slow=6.6,SNR=56
ASF Pg **Pb 18 33 15.8 +3.5**
comp=Z,19nm,0.3s,baz=14,slow=6.8,SNR=6.1
ASF Lg Lg 18 35 00.8
comp=Z,34nm,0.3s,baz=23,slow=19,SNR=4.4
ASF LR LR 18 36 38.0
comp=Z,38μm,18.5s,baz=20,slow=45
ASF Jabal al Asfar 7.69 256 P **Pn 18 32 49.2 -1.3**
comp=Z,211nm,1.0s,comp=Z,30μmcomp=Z,13nm
BCA Borcka 7.76 337 PN **Pn 18 32 53.8 +2.5**
CHOM Cayeli-Rize 7.76 331 PN **Pn 18 32 53.6 +2.2**
KMRS Kahramanmaras 7.79 296 PN **Pn 18 32 50.8 -1.0**
DARE Darende-Malaty 7.83 305 PN **Pn 18 32 52.8 +0.4**
BATM Batumi 7.88 338 P **Pn 18 32 56.0 +3.1**
BATM Batumi 7.88 338 PN **Pn 18 32 54.5 +1.6**
IMEH Mehriz 8.06 109 *e*Pn **Pn 18 32 55.7 -0.1**
HWQ Hawqa 8.07 272 *e*P **Pn 18 32 53.9 -1.8**
GUDG Gudauri 8.13 354 P Pn 18 33 01.7 +5.1
RCY Rachaya 8.25 267 *e*P **Pn 18 32 56.6 -1.6**
HSUJ Al Zarqa 8.28 257 P **Pn 18 32 58.2 -0.4**
comp=Z,300nm,1.1s,comp=Z,61μmcomp=Z,12nm
BHL Bhannes 8.34 270 *e*P **Pn 18 32 57.6 -1.9**
SHBL Chebaa 8.35 266 *e*P **Pn 18 32 57.1 -2.4**
KSHT Keshet 8.36 263 Pn **Pn 18 32 58.7 -1.0**
NATI Neve Ativ 8.37 265 Pn **Pn 18 32 58.4 -1.3**
ONI Oni 8.39 349 PN **Pn 18 33 03.1 +3.1**
DQRL Deir Qamar 8.44 268 *e*P **Pn 18 32 60.0 -0.7**
GEM Giv'at Ha'Em 8.44 265 Pn **Pn 18 32 59.2 -1.4**
KSDI Kefar Szold 8.44 265 Pn **Pn 18 32 59.0 -1.7**
KSDI Kefar Szold 8.44 265 P **Pn 18 32 58.8 -1.9**
comp=Z,322nm,1.0s,comp=Z,23μmcomp=Z,48μmcomp=Z,7.6nm
SHMJ Saham 8.46 262 P **Pn 18 33 01.0 +0.1**
comp=Z,475nm,0.6s,comp=Z,16μmcomp=Z,11nm
CEYT Ceyhan 8.51 291 PN **Pn 18 33 01.1 -0.5**
ZEI Tsey 8.52 351 *e*P **Pn 18 33 05.0 +3.1**
ZEI pmax pmax
comp=Z,212nm,0.9s
YURE YUREGIR 8.56 289 PN **Pn 18 33 01.4 -0.9**
MAK Makhachkala 8.69 9 *e*P **Pn 18 33 06.3 +2.3**
MAK *e*S **Sn 18 34 43.2 +1.9**
MAK pmax pmax
comp=Z,393nm,1.1s
MAK MLR MLR
comp=Z,29μm,13.0s
MMA0B Mount Meron ar 8.69 264 Pn **Pn 18 33 03.1 -1.1**
MMAI Mount Meron Ar 8.69 264 Pn **Pn 18 33 02.8 -1.4**
comp=Z,13nm,0.3s,baz=80,slow=16,SNR=54
MMAI Pg 18 33 34.9
comp=Z,24nm,0.3s,baz=89,slow=18,SNR=6.6
MMAI Lg Lg 18 35 32.8
comp=Z,68nm,0.3s,baz=112,slow=35,SNR=5.6
MMAI LR LR 18 37 09.5
comp=Z,27μm,19.1s,baz=75,slow=43
KRTS Karatas 8.70 288 PN **Pn 18 33 03.6 -0.7**
IBAF Bafgh 8.74 106 *e*Pn **Pn 18 33 05.2 +0.2**
WALJ Wala 8.77 254 P **Pn 18 33 03.9 -1.3**
comp=Z,460nm,0.9s,comp=Z,19μmcomp=Z,6.5nm
HMDT Nahal Hemdat 8.78 259 Pn **Pn 18 33 04.6 -0.7**
MMLI Mount Malkishu 8.81 260 Pn **Pn 18 33 05.6 -0.2**
MMLI Mount Malkishu 8.81 260 PN **Pn 18 33 04.1 -1.7**
MMLI Mount Malkishu 8.81 260 P **Pn 18 33 04.3 -1.5**
comp=Z,186nm,1.8s,comp=Z,28μmcomp=Z,6.1nm
GROC Groznyy 8.81 0 *e*P **Pn 18 33 09.8 +4.1**
GROC *e*S **Sn 18 34 51.2 +6.7**
GROC pmax pmax
comp=Z,246nm,1.0s
GROC smax smax
comp=E,554nm,1.3s
HNTI Hanita 8.86 265 Pn **Pn 18 33 04.8 -1.7**
SVSK Karacayir 8.88 311 PN **Pn 18 33 07.4 +0.8**
BLGI Bet Lehem HaGe 8.93 262 Pn **Pn 18 33 06.6 -0.7**
RSDY Resadiye-TOKAT 8.97 314 PN **Pn 18 33 08.5 +0.5**
TNSJ Nastanj 9.05 90 *e*Pn **Pn 18 33 11.5 +2.4**
KARJ 9.06 252 P **Pn 18 33 05.8 -3.4**
comp=E,617nm,0.8s,comp=E,23μmcomp=E,4μmcomp=E,8.2nm
BNN Bunyan 9.09 302 PN **Pn 18 33 09.9 +0.2**
DSI Dead Sea 9.11 255 Pn **Pn 18 33 08.5 -1.4**
KARA Karaisali 9.11 291 PN **Pn 18 33 09.2 -0.7**
OFRI `Ofer 9.12 262 Pn **Pn 18 33 09.0 -1.0**
LISJ El Lisan 9.15 253 P **Pn 18 33 08.7 -1.7**
comp=E,187nm,1.2s,comp=E,19μmcomp=E,4.9nm
SLTI Sal'it 9.17 260 Pn **Pn 18 33 09.4 -1.4**
MZDA Masada 9.22 253 Pn **Pn 18 33 09.7 -1.6**
TPRV Parvadeh(Tabas 9.25 95 *e*Pn **Pn 18 33 14.1 +2.2**
NCK Nalchik 9.25 350*c i*P Pn 18 33 17.4 +5.6
TOKT Tokat 9.39 312 PN **Pn 18 33 13.9 +0.1**
YTIR Yattir 9.40 254 Pn **Pn 18 33 12.8 -1.1**
HSNJ Maan 9.42 247 P **Pn 18 33 12.8 -1.4**
comp=E,652nm,0.7s,comp=E,45μmcomp=E,14nm
MERS Mersin 9.44 288 PN **Pn 18 33 12.4 -2.0**
AMAZ Amatzia 9.50 256 Pn **Pn 18 33 14.0 -1.2**
AMAZ Amatzia 9.50 256 P **Pn 18 33 16.1 +0.9**
comp=E,526nm,1.3s,comp=E,25μmcomp=E,49μm
EREN Erenkoy 9.54 280 PN **Pn 18 33 14.5 -1.2**
KBZ Khabaz 9.59 348 Pn Pn 18 33 21.9 +5.6
comp=E,1.2nm,0.3s,baz=174,slow=9.1,SNR=130
KBZ Lg Lg 18 36 08.8
comp=E,0.5nm,0.3s,baz=131,slow=20,SNR=2.1
KBZ LR LR 18 37 49.9
comp=E,24μm,20.6s,baz=150,slow=43
SHA1 Shidzhatmaz 9.64 347*c i*P Pn 18 33 22.5 +5.2
KIZK Mersin 9.66 286 PN **Pn 18 33 16.3 -1.1**
ZFRI Zfri 9.67 250 Pn **Pn 18 33 16.5 -1.1**
SILI Silifke-Mersin 9.82 285 PN **Pn 18 33 18.4 -1.2**
YOZ Yozgat 9.82 305 PN **Pn 18 33 19.3 -0.4**
KVAR Kislovodsk Arr 9.84 347 Pn Pn 18 33 25.8 +5.8
baz=270,slow=20,SNR=73
KVAR LR LR 18 37 06.5
comp=E,24μm,20.6s,baz=26,slow=38
KIV Kislovodsk 9.85 347 *i*P **Pn 18 33 23.5 +3.5**
SNR=141
KIV Kislovodsk 9.85 347 P Pn 18 33 25.3 +5.3
SNR=120
KIV Kislovodsk 9.85 347 *e*P Pn 18 33 25.1 +5.1
KIV *e*S **Sn 18 35 14.6 +4.6**
KIV pmax pmax
comp=Z,1μm,1.1s
KIV MLR MLR
comp=Z,25μm,11.0s
KIV Kislovodsk 9.85 347 PN **Pn 18 33 22.1 +2.1**
KIV Kislovodsk 9.85 347 **Pn 18 33 23.9 +3.9**
PRNI Paran 9.90 249 Pn **Pn 18 33 19.2 -1.5**
SBZV Sabzevar 9.93 75 *e*Pn **Pn 18 33 24.0 +2.7**
KHGB Koh Gabri 9.95 111 *e*Pn **Pn 18 33 21.1 -0.4**
RMNI Mount Ramon 9.98 251 Pn **Pn 18 33 21.4 -0.4**
IKL Isikli 9.99 284 PN **Pn 18 33 20.3 -1.7**
KEBE Keben-Mersin 10.00 285 PN **Pn 18 33 20.9 -1.2**
HRFI Mount Harif 10.02 247 *e*Pn **Pn 18 33 22.5 +0.2**
HRFI Mount Harif 10.02 247 Pn **Pn 18 33 21.1 -1.2**
HRFI Mount Harif 10.02 247 PN **Pn 18 33 19.9 -2.4**
HRFI Mount Harif 10.02 247 P **Pn 18 33 22.2 -0.1**
comp=Z,615nm,1.1s,comp=Z,41μmcomp=Z,53μm
AKKU Akkuyu-Mersin 10.09 284 PN **Pn 18 33 22.1 -1.2**
KZIT Kziot 10.14 253 Pn **Pn 18 33 22.9 -1.1**
KZIT Kziot 10.14 253 PN **Pn 18 33 21.9 -2.1**
KZIT Kziot 10.14 253 P **Pn 18 33 23.8 -0.2**
comp=Z,287nm,0.8s,comp=Z,30μmcomp=Z,43μm
AQBJ Aqaba 10.16 246 P **Pn 18 33 22.9 -1.3**
comp=Z,884nm,0.7s,comp=Z,11μm
KVT Kavak 10.16 314 PN **Pn 18 33 24.4 +0.2**
CSS Mathiatis 10.21 277 Pn **Pn 18 33 23.9 -1.0**
CSS Mathiatis 10.21 277 PN **Pn 18 33 22.8 -2.1**
CSS Mathiatis 10.21 277 P **Pn 18 33 25.6 +0.7**
comp=Z,25nm,1.1s,comp=Z,700nmcomp=Z,9μm
CSS Mathiatis 10.21 277 **Pn 18 33 26.1 +1.1**
TEVE Tevekalti-Mers 10.21 285 PN **Pn 18 33 23.6 -1.5**
KRMI Paran Flat 10.22 248 Pn **Pn 18 33 23.9 -1.2**
MBRI Mt Berech 10.23 246 Pn **Pn 18 33 23.9 -1.4**
EIL Elat 10.26 246 *e*Pn **Pn 18 33 24.5 -1.1**
EIL Elat 10.26 246 Pn **Pn 18 33 24.3 -1.3**
EIL Elat 10.26 246 Pn **Pn 18 33 23.1 -2.5**
comp=Z,5.3nm,0.3s,baz=138,slow=3.8,SNR=41
EIL Lg Lg 18 36 24.4
comp=Z,11nm,0.3s,baz=331,slow=19,SNR=2.5
EIL LR LR 18 38 19.7
comp=Z,36μm,19.6s,baz=67,slow=43
EIL Elat 10.26 246 P **Pn 18 33 23.5 -2.1**
comp=Z,300nm,1.3s,comp=Z,21μmcomp=Z,35μm
SOC Sochi 10.30 335*c i*P **Pn 18 33 29.2 +3.1**
SOC *i* 18 35 23.7
SOC pmax pmax
comp=Z,339nm,1.2s
SOC MLR MLR
comp=Z,39μm,12.0s
TVBK TV Kerman 10.34 112 *e*Pn **Pn 18 33 26.7 -0.4**
ISFR Sfrayin 10.35 72 *e*Pn **Pn 18 33 31.7 +4.6**
TEKE Tekeli-Mersin 10.44 283 PN **Pn 18 33 26.9 -1.2**
NGRK Negar Kerman 10.48 114 *e*Pn **Pn 18 33 30.1 +1.1**
LEF Lefka 10.57 278 PN **Pn 18 33 28.9 -0.9**
YAYX Yaylak 10.58 299 PN **Pn 18 33 29.6 -0.5**
GEYT Alibeck 10.64 67 Pn **Pn 18 33 35.0 +4.1**
comp=Z,0.8nm,0.3s,baz=262,slow=11,SNR=29
GEYT Lg Lg 18 36 44.9
baz=248,slow=31,SNR=2.0
GEYT Alibeck 10.64 67 **Pn 18 33 33.3 +2.4**
GYA0B ALIBECK ARRAY 10.64 67 **Pn 18 33 33.7 +2.8**
IKRD Kardeh 10.71 73 *e*Pn Pn 18 33 46.2 +14
SERE Sereflikochisa 10.76 299 PN **Pn 18 33 31.7 -0.9**
ASHT Ashkhabad 10.85 67 P **Pn 18 33 36.0 +2.3**
ASHT Ashkhabad 10.85 67 Pn **Pn 18 33 36.0 +2.3**
GOF Gofitskoye 10.86 350⇑*i*P **Pn 18 33 38.4 +4.6**
GOF pmax pmax
comp=Z,583nm,1.1s
IAKL Akhelmad 10.87 74 *e*Pn **Pn 18 33 37.6 +3.3**
IEMG Emamgholi 10.93 70 *e*Pn **Pn 18 33 37.9 +2.8**
DIKM Dikmen 10.97 314 PN **Pn 18 33 35.1 -0.3**
ITEG Tejag 10.98 94 *e*Pn **Pn 18 33 36.7 +1.1**
CHMN Cheshme madani 11.00 111 *e*Pn **Pn 18 33 36.5 +0.4**
BR131 Keskin Array S 11.02 302 P **Pn 18 33 39.4 +3.3**
SNR=26
BR131 Keskin Array S 11.02 302 P **Pn 18 33 38.3 +2.2**
BR131 Keskin Array S 11.02 302 **Pn 18 33 38.3 +2.2**
BRTR Keskin Array B 11.02 302 P **Pn 18 33 35.6 -0.5**
BRTR Keskin Array B 11.02 302 Pn **Pn 18 33 39.3 +3.2**
comp=Z,0.3nm,0.3s,baz=130,slow=15,SNR=26
BRTR Lg Lg 18 36 51.0
comp=Z,0.2nm,0.3s,baz=155,slow=28,SNR=2.8
BRTR LR LR 18 38 43.6
comp=Z,10μm,18.5s,baz=100,slow=42
BRTR Keskin Array B 11.02 302 PN **Pn 18 33 35.6 -0.5**
BRTR Keskin Array B 11.02 302 **Pn 18 33 35.6 -0.5**
CHBY Cihanbeyli 11.13 296 PN **Pn 18 33 36.8 -0.9**
KULU Kulu 11.20 298 PN **Pn 18 33 37.1 -1.5**
IKOO Kooshah 11.29 96 *e*Pn **Pn 18 33 41.4 +1.4**
AFSR Afar-Bala (An 11.30 300 PN **Pn 18 33 38.4 -1.6**
KONT Konya--Tatoy 11.36 292 PN **Pn 18 33 39.2 -1.4**
GENO Geno 11.36 125 *e*Pn **Pn 18 33 39.8 -1.1**
LADK Ladik-KONYA 11.42 293 PN **Pn 18 33 40.1 -1.5**
CANT Cankiri 11.43 306 PN **Pn 18 33 40.2 -1.5**
ILGA Ilgaz 11.59 309 **Pn 18 33 47.4 +3.4**
ANTO Ankara 11.67 302 P **Pn 18 33 49.0 +4.1**
SNR=33
ANTO Ankara 11.67 302 P **Pn 18 33 47.8 +2.9**
ANTO Ankara 11.67 302 PN **Pn 18 33 43.7 -1.2**
ANTO Ankara 11.67 302 **Pn 18 33 47.8 +2.9**
BR231 Keskin MP Arra 11.67 302 Pn **Pn 18 33 47.6 +2.7**
IMON Monand 11.68 92 *e*Pn **Pn 18 33 48.0 +2.7**
NIAN Nian 11.72 122 *e*Pn **Pn 18 33 44.1 -1.5**
IMYA Miami 11.92 76 *e*Pn **Pn 18 33 52.6 +4.1**
IDAH Dahanechah 11.93 94 *e*Pn **Pn 18 33 51.2 +2.5**
ANN Anapa 12.20 331*c i*P **Pn 18 33 55.7 +3.6**
ANN *e*S **Sn 18 36 14.7 +7.2**
ANN pmax pmax
comp=Z,102nm,1.3s
ANN pmax pmax
comp=E,56nm,1.4s
ANN pmax pmax
comp=N,68nm,1.5s
ANN MLR MLR
comp=N,52μm,13.0s
ANN MLR MLR
comp=Z,32μm,13.0s
ANN MLR MLR
comp=E,24μm,13.0s
SHME Shamm 12.26 130 *i*P **Pn 18 33 50.9 -2.1**
SNR=29
UMQ Umm Al-Quwin 12.34 133 *i*P **Pn 18 33 53.6 -0.5**
SNR=12
UMQ Umm Al-Quwin 12.34 133 P **Pn 18 33 54.8 +0.7**
SNR=12
UMQ S **Sn 18 36 08.8 -2.2**
NHDN Nehbandan 12.42 100 *e*Pn **Pn 18 33 55.6 +0.2**
BANOM Banah 12.45 130 *i*P **Pn 18 33 54.5 -1.1**
SNR=184
BANOM Banah 12.45 130 P **Pn 18 33 54.2 -1.4**
SNR=178
BANOM S **Sn 18 36 06.9 -6.9**
AJN Ajban 12.68 138 *i*P **Pn 18 33 57.3 -1.5**
SNR=41
AJN Ajban 12.68 138 P **Pn 18 33 58.8 0.0**
SNR=41
AJN S **Sn 18 36 15.0 -4.6**
ISP Isparta 12.75 290 P **Pn 18 34 02.3 +2.6**
ISP Isparta 12.75 290 **Pn 18 34 02.4 +2.6**
MSFE Esma-Masafi 12.76 132 *i*P **Pn 18 33 57.5 -2.4**
SNR=59
ASUD Al Ashush, Dub 12.83 137 *i*P **Pn 18 33 59.3 -1.5**
SNR=121
ASUD Al Ashush, Dub 12.83 137 P **Pn 18 33 60.0 -0.8**
SNR=120
ASUD S **Sn 18 36 16.4 -6.7**
SNR=11
FAQ Al Faqa, Dubai 12.88 136 *i*P **Pn 18 33 59.6 -1.9**
SNR=25
FAQ Al Faqa, Dubai 12.88 136 P **Pn 18 34 01.6 0.0**
SNR=25
FAQ S **Sn 18 36 15.9 -8.6**
MDH Madha 12.89 132 *i*P **Pn 18 33 59.6 -2.0**
SNR=113
MDH Madha 12.89 132 P **Pn 18 33 60.0 -1.7**
SNR=113
MDH S **Sn 18 36 17.0 -7.7**
SNR=17
ELL Elmali 13.08 285 P **Pn 18 34 07.6 +3.4**
ELL Elmali 13.08 285 **Pn 18 34 07.6 +3.4**
UOSS Minazif 13.10 133 *i*P **Pn 18 34 02.0 -2.5**
SNR=58
UOSS Minazif 13.10 133 P **Pn 18 34 02.9 -1.5**
SNR=36
UOSS Minazif 13.10 133 **Pn 18 34 01.4 -3.0**
HATD Hatta, Dubai 13.14 134 *i*P **Pn 18 34 03.0 -2.1**
SNR=93
HATD Hatta, Dubai 13.14 134 P **Pn 18 34 04.0 -1.1**
SNR=94
HATD S **Sn 18 36 24.0 -6.8**
SNR=8.3
ASHO Ashiyiah 13.20 134 *i*P **Pn 18 34 04.8 -1.2**
SNR=148
ASHO Ashiyiah 13.20 134 P **Pn 18 34 04.3 -1.7**
SNR=147
ASHO S **Sn 18 36 26.2 -6.2**
SNR=10
ALNE Al Ain 13.51 137 *i*P **Pn 18 34 08.4 -1.7**
SNR=34
HRA Herat 13.67 85 **Pn 18 34 12.9 +0.5**
SIM Simferopol' 13.81 323*ce*P **Pn 18 34 15.7 +1.6**
SIM *e*S **Sn 18 36 51.0 +4.2**
KULA Kula-Manisa 14.32 292 P **Pn 18 34 23.2 +2.0**
KULA Kula-Manisa 14.32 292 P **Sn 18 37 08.5 +8.9**
MANT Manisa 14.40 292 Pn **Pn 18 34 24.8 +2.4**
ARQ Araqi 14.51 136 P **Pn 18 34 22.0 -1.8**
SNR=107
ARQ S Sn 18 36 54.8 -9.4
HOQ Hoqain 14.78 134 P **Pn 18 34 25.1 -2.4**
SNR=42
HOQ S Sn 18 37 01.4 -9.4
KARP Karpathos 15.25 280 P Pn 18 34 19.6 -14
KARP Karpathos 15.25 280 P **P 18 34 38.9 +0.4**
KARP IAmb IAmb 18 34 47.6
comp=Z,438nm,0.9s
BIDO Bidbid 15.32 132 P **Pn 18 34 32.5 -2.2**
BIDO S **Sn 18 37 13.5 -10**
BSY Bisya 15.36 136 P **Pn 18 34 32.1 -3.1**
SNR=38
BSY S Sn 18 37 13.3 -12
SMG Samos 15.62 288 P **Pn 18 34 36.8 -1.7**
SMDO Samad 15.62 133 P **Pn 18 34 36.3 -2.4**
SNR=89
SMDO S **Sn 18 37 22.6 -8.8**
WSAR Wadi Sarin 15.84 131 P **Pn 18 34 39.0 -2.5**
SNR=75
WSAR Wadi Sarin 15.84 131 Pn **Pn 18 34 39.2 -2.3**
comp=Z,24nm,0.3s,baz=327,slow=8.7,SNR=72
WSAR Sn Sn 18 37 24.7 -12
comp=Z,14nm,0.3s,baz=321,slow=23,SNR=12
WSAR LR LR 18 41 38.6
comp=Z,11μm,21.9s,baz=328,slow=40
KALB Balgarevo 16.17 309⇑P **P 18 34 47.4 -1.2**
JMDO Jabal Madar 16.18 134 P **Pn 18 34 43.1 -2.7**
SNR=37
JMDO S **Sn 18 37 37.7 -7.0**
MANR Mangalia 16.26 310⇑P **P 18 34 49.5 -0.1**
PRK Paraskevi 16.30 293 P **P 18 34 49.6 -0.4**
PRK Paraskevi 16.30 293 P **Sn 18 37 55.2 +7.8**
AMGA Amorgos Island 16.30 284 P **Pn 18 34 45.7 -1.5**
CHOS Chios island 16.32 290 P **Pn 18 34 44.0 -3.5**
CHOS Chios island 16.32 290 P Sn 18 37 59.8 +12
EFOR EFORIE 16.37 311⇓P **P 18 34 49.4 -1.4**
EZN Ezine 16.38 295 P **P 18 34 51.5 +0.6**
EZN Ezine 16.38 295 P **Sn 18 37 58.1 +8.7**
PSN Preselentsi 16.45 310 P **Pn 18 34 48.0 -1.1**
WBK Wadi Bani Khal 16.52 132 P **Pn 18 34 48.0 -2.1**
SNR=61
WBK S **Sn 18 37 43.8 -9.2**
NPS Neapolis 16.52 279 P **Pn 18 34 49.0 -1.1**
NPS Neapolis 16.52 279 P **Sn 18 37 54.6 +1.5**
MFTR Murfatlar 16.55 311⇓P **P 18 34 52.5 -0.3**
JURR Jurilovca 16.58 314⇑P **P 18 34 53.0 -0.1**
APE Apeiranthos 16.60 285 P Pn 18 34 41.5 -10
APE Apeiranthos 16.60 285*d i*P **Pn 18 34 50.9 -0.2**
APE Apeiranthos 16.60 285⇑P **Pn 18 34 51.5 +0.4**
SIGR SIGRI 16.61 293 P **P 18 34 59.0 +5.5**
SANT Santorini 16.63 283⇓P **P 18 34 53.3 -0.5**
SANT Santorini 16.63 283 P **Pn 18 34 50.6 -0.9**
EDRB Edirne 16.66 302 P **Pn 18 34 52.4 +0.6**
THT2 Imerovigli 16.66 283 P **P 18 34 54.6 +0.4**
TIRR Tirgusor 16.70 312 P **P 18 34 53.3 -1.1**
TIRR pmax pmax
comp=Z,738nm,1.2s
TIRR Tirgusor 16.70 312 P **P 18 34 53.3 -1.1**
TIRR IAmb IAmb 18 35 03.6
comp=Z,738nm,1.2s
PRD Provadia 16.74 307 P **Pn 18 34 51.0 -1.8**
GADA Gvkgeada 16.78 296 P **P 18 34 54.6 -0.8**
TLCR 16.85 315⇓P **P 18 34 55.7 -0.4**
ALN Alexandroupoli 16.86 298 P **P 18 34 56.3 0.0**
ALN Alexandroupoli 16.86 298 P **Pn 18 34 54.8 +0.5**
ALN pmax pmax
comp=Z,114nm,1.2s
ALN Alexandroupoli 16.86 298 P **Pn 18 34 54.8 +0.5**
CVDA Cernavoda 16.86 311⇑P **P 18 34 56.0 -0.3**
ICOR Ion Corvin 16.91 310⇓P **P 18 34 56.7 -0.1**
TOPG Topolog 16.94 313⇓P **P 18 34 57.3 +0.2**
TLB Topalu 16.99 312⇓P **P 18 34 57.7 0.0**
JMB Yambol 17.00 304 P **P 18 34 58.0 +0.2**
VRH Novokhopyorsk 17.06 351 *e*P **Pn 18 34 55.7 -1.0**
VRH *e*S **Sn 18 38 00.4 -5.4**
VRH pmax pmax
comp=Z,180nm,0.6s
VRH smax smax
comp=E,2μm,9.7s
VRH MLR MLR
comp=Z,6μm,15.0s
HARR Harsova 17.11 312⇑P **P 18 34 59.4 +0.4**
SMTH Samothraki Isl 17.12 297 P **P 18 34 59.9 +0.7**
JLN Jalan Bani Buh 17.13 132 P **Pn 18 34 57.0 -0.8**
SNR=46
JLN S Sn 18 37 54.3 -14
SIVA Sivas 17.20 278 P **Pn 18 34 56.3 -2.2**
CFR Carcaliu 17.24 314⇑P **Pn 18 34 59.7 +0.6**
RDO Rodhopi 17.30 299 P **P 18 35 01.5 +0.4**
AMRR Amara 17.44 311⇓P **Pn 18 35 01.2 -0.3**
SERI Serifos 17.44 285 P **Pn 18 34 59.1 -2.5**
VSR Storozhevoye 17.49 346 *e*P **Pn 18 35 01.6 -0.4**
VSR *e*S **Sn 18 38 15.7 -0.4**
VSR pmax pmax
comp=Z,370nm,1.1s
VSR smax smax
comp=E,3μm,11.2s
VSR MLR MLR
comp=Z,20μm,16.0s
RAZG Razgrad 17.49 307⇓P **P 18 35 03.0 -0.2**
MHLO Agia Marina, M 17.49 284 P **P 18 35 03.8 +0.5**
KDZ Kurdzhali 17.53 300 P **P 18 35 03.4 -0.4**
ELND Elena 17.65 305⇑P **P 18 35 05.0 0.0**
VAM Vamos 17.67 279 P **Pn 18 35 02.9 -1.6**
VAM Vamos 17.67 279 P **Sn 18 38 20.8 0.0**
LEHL Lehliu 17.70 310⇓P **P 18 35 06.0 +0.5**
SZH Strazhica 17.75 306 P **Pn 18 35 04.5 -0.8**
THAS Thassos island 17.76 297 P **Pn 18 35 05.1 -0.4**
THAS Thassos island 17.76 297 P **Sn 18 38 30.6 +7.8**
CHAN Chania 17.79 280 P **P 18 35 06.4 -0.2**
PGOR Pogoanele 17.80 312⇓P **P 18 35 07.6 +0.9**
DQM DQM 17.81 141 P **Pn 18 35 05.0 -1.3**
SNR=18
DQM S Sn 18 38 09.0 -15
IMMV Iera Moni Meta 17.85 280 P **Pn 18 35 04.6 -2.0**
IMMV Iera Moni Meta 17.85 280 P **Sn 18 38 25.7 +0.6**
MILM Milestii Mici 17.87 320⇑P **Pn 18 35 06.3 -0.6**
WHFO Wadi Hawf 17.91 154 P **Pn 18 35 03.4 -4.1**
SNR=157
WHFO S Sn 18 38 10.0 -17
VORR Voronezh 17.91 347 *e*P **P 18 35 09.0 +1.2**
VORR *e*S **S 18 38 30.0 -2.6**
VORR pmax pmax
comp=Z,750nm,1.2s
KIS Kishinev 17.92 320⇓*i*P **Pn 18 35 06.0 -1.4**
comp=Z,400nm,2.3s
KIS Kishinev 17.92 320 *i* PP P 18 35 21.0 +13
KIS *e*S **Sn 18 38 23.0 -3.7**
KIS *i* SS **S 18 38 36.0 +3.1**
KIS *e*Li 18 39 54.0
KIS *e*LQ LQ 18 40 30.0
KIS *e*RQ 18 41 56.0
KIS LRM MLR 18 44 12.0
comp=Z,10μm,16.0s
KIS Kishinev 17.92 320⇓*i*P **Pn 18 35 06.0 -1.4**
KIS *e*S **Sn 18 38 23.0 -3.7**
KIS pmax pmax
comp=Z,400nm,2.3s
KIS pmax pmax
comp=Z,2μm,10.0s
KIS MLR MLR
comp=Z,10μm,16.0s
EREA Eretria 17.98 289 P **Sn 18 38 32.2 +4.0**
PTL Penteli 17.99 288 P **P 18 35 08.8 -0.1**
PTL Penteli 17.99 288 P **Sn 18 38 32.5 +3.9**
KAVA Kavala 18.00 298 P **P 18 35 09.4 +0.5**
VLY Voula,Athens 18.03 287 P **Pn 18 35 09.0 +0.1**
VLY Voula,Athens 18.03 287 P **Sn 18 38 36.9 +7.4**
GRER 18.05 313⇑P **P 18 35 09.8 +0.4**
ATHU Athens Univers 18.05 288 P **P 18 35 09.3 -0.2**
ATHU Athens Univers 18.05 288 P **Sn 18 38 33.6 +3.7**
PETR Petresti 18.07 314⇑P **P 18 35 10.7 +1.0**
KNDR Palaiochora Ch 18.10 279 P **Pn 18 35 08.8 -0.9**
ATH Athens Observa 18.10 288 P **P 18 35 10.7 +0.7**
ATH Athens Observa 18.10 288 P **Sn 18 38 31.5 +0.3**
AOS Alonnisos 18.11 292 P **P 18 35 11.8 +1.6**
AOS Alonnisos 18.11 292 P **Sn 18 38 36.4 +4.9**
PVL Pavlikeni 18.13 305 P **P 18 35 11.0 +0.7**
SULR 18.15 310⇓P **P 18 35 11.8 +1.4**
ISR Istrita 18.18 312⇑P **P 18 35 12.3 +1.4**
ODBI Odobesti 18.20 314⇓P **P 18 35 11.6 +0.6**
ABKAR Akbulak array 18.22 31 P **Pn 18 35 11.0 -0.1**
ABKAR Akbulak array 18.22 31 P **P 18 35 11.3 0.0**
ABKAR IAmb IAmb 18 35 20.7
comp=Z,375nm,1.0s
ABTO Aybut 18.27 156 P **Pn 18 35 08.0 -3.9**
SNR=24
ABTO S Sn 18 38 19.6 -16
MRKA Markates 18.28 290 P **P 18 35 12.1 +0.1**
MRKA Markates 18.28 290 P **Sn 18 38 39.8 +4.3**
ANKY Antikythira Is 18.38 281 P **Pn 18 35 13.6 +0.4**
PAIG Paliouri 18.39 294 P **P 18 35 12.9 -0.3**
PAIG Paliouri 18.39 294 P **Sn 18 38 44.0 +5.8**
AKTO Aktyubinsk 18.40 26 P **Pn 18 35 14.3 +1.0**
comp=Z,12nm,0.3s,baz=215,slow=11,SNR=271
AKTO S **S 18 38 45.0 +2.3**
comp=Z,0.9nm,0.3s,baz=169,slow=16,SNR=1.8
AKTO ScP **ScP 18 43 17.8 -0.2**
comp=Z,0.3nm,0.3s,baz=166,slow=5.3,SNR=6.0
AKTO LR LR 18 44 53.0
comp=Z,6μm,20.8s,baz=214,slow=45
SKIA Skiathos 18.43 291 P **Pn 18 35 14.9 +1.1**
SKIA Skiathos 18.43 291 P **Sn 18 38 40.3 +1.1**
VILL Villia 18.44 288 P **Pn 18 35 14.6 +0.7**
VILL Villia 18.44 288 P **Sn 18 38 40.3 +0.9**
RBK Rabkut 18.45 154 P **P 18 35 10.3 -3.7**
SNR=380
RBK S Sn 18 38 22.6 -17

VRI	**Vrincioaia**	**18.45 314**	⇑P	**Pn**	**18 35 14.8**	**+0.8**
DID	**Didima**	**18.45 286**	P	**P**	**18 35 13.5**	**-0.4**
DID	**Didima**	**18.45 286**	P	**Sn**	**18 38 48.2**	**+8.5**
PLOR	**Plostina**	**18.49 314**	⇑P	**Pn**	**18 35 14.5**	**+0.1**
DMTO	**DMTO**	**18.54 151**	P	**P**	**18 35 11.8**	**-3.2**
	SNR=31					
DMTO			S	Sn	18 38 27.3	-15
SHAO	**Shalim**	**18.54 149**	*i* P	**P**	**18 35 12.5**	**-2.5**
	SNR=121					
SHAO	**Shalim**	**18.54 149**	P	**P**	**18 35 12.0**	**-3.0**
	SNR=117					
SHAO			S	Sn	18 38 26.6	-16
KTHA	**Kythira Island**	**18.57 282**	P	**P**	**18 35 12.9**	**-2.3**
NVR	**Nevrokopi**	**18.57 298**	P	**Pn**	**18 35 15.4**	**-0.1**
NVR	**Nevrokopi**	**18.57 298**	P	**Sn**	**18 38 50.3**	**+7.7**
COPA	**Copaceanca**	**18.57 308**	⇓P	**Pn**	**18 35 15.7**	**+0.2**
KTHR	**Kythira**	**18.61 282**	P	**Pn**	**18 35 17.4**	**+1.4**
KTHR	**Kythira**	**18.61 282**	P	**Sn**	**18 38 42.6**	**-1.1**
NEO	**Neokhori**	**18.64 292**	P	**Pn**	**18 35 16.2**	**-0.1**
NEO	**Neokhori**	**18.64 292**	P	**Sn**	**18 38 44.3**	**+0.1**
PLG	**Polygyros**	**18.65 295**	P	**P**	**18 35 15.7**	**-0.4**
PLG	**Polygyros**	**18.65 295**	P	**Sn**	**18 38 45.5**	**+0.9**
VLI	**Veliai**	**18.67 284**	P	**P**	**18 35 15.4**	**-0.9**
XOR	**Xorichti**	**18.67 292**	P	**Pn**	**18 35 17.6**	**+0.9**
XOR	**Xorichti**	**18.67 292**	P	**Sn**	**18 38 46.2**	**+1.2**
PLVB	**Pleven**	**18.68 305**	⇓P	**P**	**18 35 15.6**	**-0.7**
LOUT	**Loutraki**	**18.69 288**	P	**Pn**	**18 35 18.8**	**+1.9**
LOUT	**Loutraki**	**18.69 288**	P	**Sn**	**18 38 43.9**	**-1.5**
LTK	**Loutraki**	**18.70 288**	P	**P**	**18 35 15.4**	**-1.2**
LTK	**Loutraki**	**18.70 288**	P	**Sn**	**18 38 47.8**	**+2.2**
PGB	**Panagyurishte**	**18.70 302**	P	**P**	**18 35 15.0**	**-1.7**
IAS	**Iasi**	**18.72 319**	⇓P	**P**	**18 35 16.2**	**-0.5**
LKR	**Lokris**	**18.73 290**	P	**Pn**	**18 35 19.0**	**+1.6**
LKR	**Lokris**	**18.73 290**	P	**Sn**	**18 38 47.4**	**+1.0**
MLR	**Muntele Rosu**	**18.73 312**	P	**P**	**18 35 17.1**	**0.0**
MLR			pmax	pmax		
	comp=Z,128nm,1.0s					
MLR	**Muntele Rosu**	**18.73 312**	P	**Pn**	**18 35 18.0**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=145,slow=5.5,SNR=23					
MLR			S	S	18 39 03.1	+14
	baz=240,slow=18,SNR=3.1					
MLR			ScP	**ScP**	**18 43 21.4**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=131,slow=9.3,SNR=3.0					
MLR	**Muntele Rosu**	**18.73 312**	⇑P	**Pn**	**18 35 17.7**	**+0.2**
MLR	**Muntele Rosu**	**18.73 312**	P	**P**	**18 35 17.1**	**0.0**
PROD	**Prodromos**	**18.77 289**	P	**Pn**	**18 35 19.0**	**+1.1**
SOH	**Sokhos**	**18.82 297**	P	**Pn**	**18 35 19.0**	**+0.5**
SOH	**Sokhos**	**18.82 297**	P	**Sn**	**18 38 49.9**	**+1.4**
TESR	**Tescani**	**18.84 316**	⇑P	**P**	**18 35 17.6**	**-0.6**
LPSR	**Galich'ya Gora**	**18.85 347**	*e*P	**P**	**18 35 17.0**	**-1.1**
LPSR			*e*S	**Sn**	**18 38 40.4**	**-8.7**
LPSR			pmax	pmax		
	comp=Z,1μm,0.9s					
LPSR			smax	smax		
	comp=E,7μm,13.3s					
LPSR			MLR	MLR		
	comp=Z,12μm,15.0s					
SORM	**Soroca**	**18.89 322**	⇑P	**P**	**18 35 17.8**	**-0.8**
HUMR	**Humele**	**18.89 309**	⇑P	**Pn**	**18 35 19.9**	**+0.6**
HORT	**Hortiatis**	**18.96 296**	P	**Pn**	**18 35 22.0**	**+1.8**
VLAD	**Vladila**	**19.05 307**	⇑P	**Pn**	**18 35 20.9**	**-0.4**
VLX	**Vlachokerasia**	**19.13 286**	P	**P**	**18 35 21.8**	**+0.4**
OZUR		**19.13 314**	⇑P	**Pn**	**18 35 21.9**	**-0.3**
DYR	**Agios Nikonas**	**19.15 284**	P	**P**	**18 35 21.8**	**+0.2**
DYR	**Agios Nikonas**	**19.15 284**	P	**Sn**	**18 38 49.3**	**-7.4**
MTUR	**Matau**	**19.15 311**	⇓P	**Pn**	**18 35 23.2**	**+0.6**
KNT	**Kendrikon**	**19.23 297**	P	**Pn**	**18 35 24.3**	**+0.9**
KNT	**Kendrikon**	**19.23 297**	P	**Sn**	**18 38 55.3**	**-3.2**
KBL	**Kabul**	**19.24 83**	P	**Pn**	**18 35 26.0**	**+2.1**
KBL	**Kabul**	**19.24 83**	P	**Pn**	**18 35 24.5**	**+0.6**
KBL			pmax	pmax		
	comp=Z,276nm,0.9s					
KBL	**Kabul**	**19.24 83**	P	**Pn**	**18 35 24.5**	**+0.6**
KBL			IAmb	IAmb	18 35 34.0	
	comp=Z,276nm,0.9s					
VOIR		**19.26 311**	⇑P	**Pn**	**18 35 24.1**	**+0.2**
AGG	**Agios Georgios**	**19.29 291**	P	**P**	**18 35 23.2**	**+0.1**
AGG	**Agios Georgios**	**19.29 291**	P	**P**	**18 35 22.9**	**-0.2**
AGG			pmax	pmax		
	comp=Z,212nm,1.0s					
AGG	**Agios Georgios**	**19.29 291**	P	**P**	**18 35 22.9**	**-0.2**
DOPR	**Dopca**	**19.30 313**	⇓P	**Pn**	**18 35 24.3**	**0.0**
CHGR	**Chuyangaron**	**19.32 70**	P	**Pn**	**18 35 25.1**	**+0.6**
LIT	**Litokhoron**	**19.32 294**	P	**Pn**	**18 35 24.3**	**-0.3**
LIT	**Litokhoron**	**19.32 294**	P	Sn	18 39 16.0	+15
LIT	**Litokhoron**	**19.32 294**	P	**P**	**18 35 22.9**	**-0.5**
LIT			pmax	pmax		
	comp=Z,126nm,1.0s					
LIT	**Litokhoron**	**19.32 294**	P	**P**	**18 35 22.9**	**-0.5**
KLV	**Kalavryta, Ach**	**19.34 288**	P	**P**	**18 35 22.9**	**-0.8**
KLV	**Kalavryta, Ach**	**19.34 288**	P	**Sn**	**18 39 01.2**	**-0.1**
KALE	**Kalithea**	**19.38 289**	P	**P**	**18 35 24.0**	**-0.1**
KALE	**Kalithea**	**19.38 289**	P	**Sn**	**18 39 04.7**	**+2.6**
VTS	**Vitosha**	**19.38 302**	P	**P**	**18 35 23.5**	**-0.7**
VTS	**Vitosha**	**19.38 302**	P	**Sn**	**18 39 06.6**	**+4.4**
VTS	**Vitosha**	**19.38 302**	P	**P**	**18 35 21.0**	**-3.2**
VTS	**Vitosha**	**19.38 302**	P	**P**	**18 35 23.8**	**-0.4**
VTS			pmax	pmax		
	comp=Z,49nm,0.9s					
VTS	**Vitosha**	**19.38 302**	⇑P	**P**	**18 35 24.5**	**+0.3**
VTS	**Vitosha**	**19.38 302**	P	**P**	**18 35 23.8**	**-0.4**
BIZ	**Bicaz**	**19.39 316**	⇑P	**P**	**18 35 24.5**	**+0.3**
TRIZ	**Trizonia**	**19.43 289**	P	**P**	**18 35 24.3**	**-0.3**
TRIZ	**Trizonia**	**19.43 289**	P	**Sn**	**18 39 03.3**	**+0.1**
SERG	**Sergoula**	**19.44 289**	P	**Pn**	**18 35 28.2**	**+2.2**
SERG	**Sergoula**	**19.44 289**	P	**Sn**	**18 39 06.2**	**+2.5**
ITM	**Ithomi**	**19.48 285**	P	**Sn**	**18 38 56.6**	**-8.0**
ITM	**Ithomi**	**19.48 285**	P	**P**	**18 35 23.9**	**-1.4**
ARR	**Arges**	**19.48 311**	⇓P	**Pn**	**18 35 26.5**	**0.0**
LAKA	**Lakka**	**19.49 288**	P	**Pn**	**18 35 26.0**	**-0.6**
LAKA	**Lakka**	**19.49 288**	P	**Sn**	**18 39 06.0**	**+1.2**
VAY	**Valandovo**	**19.51 298**	*i* P	**P**	**18 35 25.4**	**0.0**
VAY			*i* S	**Sn**	**18 39 06.2**	**+1.1**
GRG	**Griva**	**19.55 296**	P	**Sn**	**18 39 01.8**	**-4.4**
PRAR	**RASCA**	**19.56 317**	⇑P	**P**	**18 35 25.6**	**-0.4**
EFP	**Efpalio**	**19.56 289**	P	**Pn**	**18 35 29.8**	**+2.4**
EFP	**Efpalio**	**19.56 289**	P	**Sn**	**18 39 06.0**	**-0.5**
THL	**Klokotos Trika**	**19.60 292**	P	**P**	**18 35 26.2**	**-0.3**
THL	**Klokotos Trika**	**19.60 292**	P	**Sn**	**18 39 02.4**	**-5.0**
PYL	**PYLOS**	**19.63 284**	P	**P**	**18 35 24.7**	**-2.1**
AMT	**Artemida-Makis**	**19.66 286**	P	**P**	**18 35 25.3**	**-1.9**
DRO	**Drossia**	**19.68 287**	P	**Pn**	**18 35 28.9**	**0.0**
DAMY	**Dhamar**	**19.75 184**	P	**Pn**	**18 35 31.1**	**+0.9**
	SNR=76					
DAMY	**Dhamar**	**19.75 184**	P	**P**	**18 35 28.7**	**+0.1**
DAMY			IAmb	IAmb	18 35 50.2	
	comp=Z,293nm,1.0s					
BAIL	**Bailesti**	**19.77 306**	⇓P	**P**	**18 35 28.7**	**+0.4**
TAS	**Tashkent**	**19.84 63**	P	**Pn**	**18 35 30.9**	**+0.2**
TAS			pmax	pmax		
	comp=Z,488nm,1.0s					
TAS	**Tashkent**	**19.84 63**	P	**Pn**	**18 35 30.9**	**+0.2**
TAS			IAmb	IAmb	18 35 58.8	
	comp=Z,488nm,1.0s					
PVO	**Paravola**	**19.87 289**	P	**Pn**	**18 35 30.9**	**-0.2**
PVO	**Paravola**	**19.87 289**	P	**Sn**	**18 39 12.0**	**-2.0**
STIP	**Stip**	**19.87 298**	*i* P	**P**	**18 35 27.1**	**-2.4**
STIP			*i* S	**Sn**	**18 39 13.5**	**-0.5**
RLS	**Riolos of Patr**	**19.88 288**	P	**Pn**	**18 35 34.2**	**+3.0**
MDB	**Medias**	**20.00 312**	⇓P	Pn	18 35 32.3	-0.3
LOT	**Lotru**	**20.07 310**	⇑P	**P**	**18 35 32.3**	**+0.6**
SRE	**Strehaia**	**20.11 307**	⇓P	**P**	**18 35 32.1**	**+0.1**
PDO	**Prodromos**	**20.14 289**	P	Pn	18 35 33.7	-0.6
PUNG	**Punghina**	**20.14 306**	⇑P	**P**	**18 35 32.4**	**0.0**
KPRO	**Kipourio**	**20.15 293**	P	Pn	18 35 34.3	-0.2
GAR	**Garm**	**20.25 70**	P	Pn	18 35 35.6	-0.1
AKASG	**Malin Array Be**	**20.26 329**	P	**P**	**18 35 30.8**	**-2.7**
AKASG			pmax	pmax		
	comp=Z,73nm,0.9s					
AKASG	**Malin Array Be**	**20.26 329**	P	**P**	**18 35 32.6**	**-0.9**
	comp=Z,61nm,0.8s,baz=136,slow=9.8,SNR=156					
AKASG			S	Sn	18 39 27.1	+4.0
	comp=Z,10.0nm,0.8s,baz=138,slow=17,SNR=4.1					
AKASG			ScP	**ScP**	**18 43 23.8**	**+1.6**
	comp=Z,14nm,0.9s,baz=114,slow=1.7,SNR=9.2					
AKASG			LR	LR	18 46 18.0	
	comp=Z,6μm,18.2s,baz=140,slow=46					
AKASG	**Malin Array Be**	**20.26 329**	P	**P**	**18 35 30.8**	**-2.7**
AKASG				**ScP**	**18 43 22.6**	**+0.4**
AKBB	**Malin Array Si**	**20.26 329**	P	**P**	**18 35 32.3**	**-1.2**
AKBB			pmax	pmax		
	comp=Z,295nm,0.8s					
AKBB	**Malin Array Si**	**20.26 329**	⇑P	**P**	**18 35 32.3**	**-1.2**
AKBB			IAmb	IAmb	18 35 45.3	
	comp=Z,295nm,0.8s					
BURAR	**Bucovina Array**	**20.27 317**	⇑P	**P**	**18 35 34.1**	**+0.3**
BURAR			mb		18 35 44.6	
BURAR	**Bucovina Array**	**20.27 317**	P	**P**	**18 35 33.2**	**-0.6**
FNA	**Florina**	**20.28 296**	P	Pn	18 35 35.2	-0.8
FNA	**Florina**	**20.28 296**	P	**P**	**18 35 33.3**	**-0.6**
FNA			pmax	pmax		
	comp=Z,199nm,1.0s					
FNA			MLR	MLR		
	comp=Z,6μm,20.0s					
FNA	**Florina**	**20.28 296**	P	**P**	**18 35 33.3**	**-0.6**
BUR08	**Bucovina Ar. S**	**20.29 317**	P	**P**	**18 35 33.5**	**-0.6**
BUR08			IAmb	IAmb	18 35 43.9	
	comp=Z,227nm,1.0s					
PENT	**Pentalofos**	**20.36 294**	P	Pn	18 35 40.4	+3.4
KFL	**Anninata**	**20.42 288**	P	Pn	18 35 39.5	+1.9
NEST	**Nestorio**	**20.46 294**	P	Pn	18 35 38.5	+0.4
SKO	**Skopje**	**20.48 299**	*i* P	Pn	18 35 39.3	+1.0
SKO			*i* S	**S**	**18 39 19.6**	**-4.9**
ARCR	**ARCALIA**	**20.48 315**	⇑P	**P**	**18 35 36.9**	**+0.9**
LKD2	**Lefkada island**	**20.57 290**	P	**P**	**18 35 37.6**	**+0.6**
IUG	**Iuzhnay**	**20.57 61**	⇑*i* P	Pn	18 35 38.9	-0.5
IUG			*e*S	Sn	18 39 42.2	+11
IUG	**Iuzhnay**	**20.57 61**	*c i* P	Pn	18 35 38.9	-0.5
IUG			*e*S	Sn	18 39 42.2	+11
VLS	**Valsamata**	**20.58 288**	P	**P**	**18 35 35.2**	**-2.0**
GZR	**Gura Zlata**	**20.68 309**	⇑P	**P**	**18 35 37.7**	**-0.6**
HERR	**Herculane**	**20.71 307**	⇓P	**P**	**18 35 39.2**	**+0.7**
CJR	**Cluj-Napoca**	**20.75 313**	⇑P	**P**	**18 35 40.0**	**+1.0**
BTK	**Batken**	**20.76 67**	P	Pn	18 35 40.6	-1.0
BTK			pmax	pmax		
	comp=Z,141nm,0.8s					
BTK	**Batken**	**20.76 67**	P	Pn	18 35 40.6	-1.0
OHR	**Ohrid**	**20.77 296**	*i* P	Pn	18 35 42.9	+1.2
OHR			*i* S	**S**	**18 39 26.7**	**-3.6**
DEV	**Deva**	**20.80 310**	⇑P	**P**	**18 35 38.9**	**-0.6**
IGT	**Igoumenitsa**	**20.89 292**	P	**P**	**18 35 39.5**	**-1.0**
JBG	**Jabagly**	**21.01 60**	*c i* P	**P**	**18 35 42.7**	**+0.8**
JBG			*e*S	Sn	18 39 44.5	+3.0
JBG			pmax	pmax		
	comp=Z,761nm,1.6s					
MDVR	**Moldovita**	**21.14 307**	⇓P	**P**	**18 35 43.6**	**+0.4**
PHP	**Peshkopia**	**21.15 298**	P	**P**	**18 35 47.3**	**+4.0**
KK31	**Karatay Array**	**21.16 58**	P	**P**	**18 35 44.1**	**+0.7**
KK31			pmax	pmax		
	comp=Z,240nm,1.2s					
KK31	**Karatay Array**	**21.16 58**	P	**P**	**18 35 44.1**	**+0.7**
KK31			IAmb	IAmb	18 35 55.8	
	comp=Z,240nm,1.2s					
KKAR	**Karatay Array**	**21.16 58**	P	**P**	**18 35 44.1**	**+0.7**
KKAR			pmax	pmax		
	comp=Z,240nm,1.2s					
KKAR	**Karatay Array**	**21.16 58**	P	**P**	**18 35 44.3**	**+0.8**
KKAR	**Karatay Array**	**21.16 58**	P	**P**	**18 35 44.1**	**+0.7**
KKAR			IAmb	IAmb	18 35 55.8	
	comp=Z,240nm,1.2s					
TPE	**Tepelena**	**21.23 294**	P	**P**	**18 35 41.3**	**-2.8**
BMR	**Baia Mare**	**21.29 315**	⇑P	**P**	**18 35 45.4**	**+0.7**
DRGR		**21.33 312**	P	**P**	**18 35 45.3**	**+0.1**
DRGR			pmax	pmax		
	comp=Z,212nm,1.0s					
DRGR		**21.33 312**	⇓P	**P**	**18 35 45.8**	**+0.6**
TIR	**Tirane**	**21.50 296**	P	**P**	**18 35 47.3**	**+0.2**
TIR			pmax	pmax		
	comp=Z,211nm,1.0s					
TIR			MLR	MLR		
	comp=Z,5μm,21.0s					
TIR	**Tirane**	**21.50 296**	P	**P**	**18 35 47.3**	**+0.2**
TIR			IAmb	IAmb	18 36 14.7	
	comp=Z,211nm,1.0s					
BZS	**Buzias**	**21.51 309**	⇓P	**P**	**18 35 46.0**	**-1.2**
OBN	**Obninsk**	**21.69 346**	*c e*P	**P**	**18 35 47.6**	**-1.3**
OBN			*e*S	**S**	**18 39 44.1**	**-3.9**
OBN			pmax	pmax		
	comp=Z,196nm,0.8s					
OBN			MLR	MLR		
	comp=Z,16μm,19.0s					
OBN	**Obninsk**	**21.69 346**	P	**P**	**18 35 47.1**	**-1.8**
	comp=Z,34nm,0.4s,baz=348,slow=2.0,SNR=39					
OBN			S	**S**	**18 39 43.6**	**-4.4**
	comp=Z,44nm,1.0s,baz=235,slow=23,SNR=8.9					
OBN			LR	LR	18 45 23.1	
	comp=Z,4μm,20.4s,baz=154,slow=40					
OBN	**Obninsk**	**21.69 346**	⇑P	**P**	**18 35 47.6**	**-1.3**
OBN			mb		18 35 59.2	
OBN	**Obninsk**	**21.69 346**	P	**P**	**18 35 47.0**	**-1.8**
OBN			IAMs_20	IAMs_20	18 44 58.9	
	comp=Z,17μm,21.0s					
BANR	**Banloc**	**21.74 308**	⇓P	**P**	**18 35 50.0**	**+0.4**
SIRR	**Siria**	**21.75 310**	⇓P	**P**	**18 35 49.7**	**0.0**
TRPA	**Tarpa**	**22.07 315**	⇑P	**P**	**18 35 52.7**	**-0.4**
TRPA			mb		18 36 06.7	
DIVS	**Divibare**	**22.08 304**	⇑*i* P	**P**	**18 35 51.7**	**-1.6**
MOS	**Moscow**	**22.08 348**	*e*P	**P**	**18 35 50.3**	**-2.8**
MOS			*e*		18 36 02.4	
MOS			*i* S	**S**	**18 39 51.0**	**-4.6**
MOS			pmax	pmax		
	comp=Z,289nm,0.9s					
MOS			pmax	pmax		
	comp=Z,800nm,1.7s					
MOS			smax	smax		
	comp=N,1.0nm,1.7s					
MOS			MLR	MLR		
	comp=Z,13μm,20.0s					
MOS			MLR	MLR		
	comp=N,10μm,18.0s					
MOS			MLR	MLR		
	comp=E,4μm,15.0s					
DRME	**Dracevica, Mon**	**22.17 298**	*e*P	**P**	**18 35 50.4**	**-3.8**
LVV	**L'vov**	**22.17 321**	*e*P	**P**	**18 35 52.6**	**-1.5**
LVV			*e*S	**S**	**18 39 49.6**	**-7.8**
LVV			pmax	pmax		
	comp=Z,700nm,1.8s					
LVV			smax	smax		
	comp=E,1μm,2.5s					
LVV			smax	smax		
	comp=N,2μm,2.7s					
PDG	**Podgorica**	**22.17 299**	*e*P	**P**	**18 35 53.9**	**-0.3**
PDG	**Podgorica**	**22.17 299**	⇑P	**P**	**18 35 52.5**	**-1.7**
PDG			mb		18 36 12.3	
PDG	**Podgorica**	**22.17 299**	P	**P**	**18 35 54.9**	**+0.7**
RUDO	**Rudo**	**22.37 302**	*e*P	**P**	**18 35 55.0**	**-1.4**
SCTE	**Santa Cesarea**	**22.37 293**	P	**P**	**18 35 58.5**	**+2.1**
SCTE			IAmb	IAmb	18 36 24.8	
	comp=Z,209nm,1.1s					
BBLS	**Lazići**	**22.41 303**	*e*P	**P**	**18 35 56.1**	**-0.8**
UZH	**Uzhgorod**	**22.47 316**	*e*P	**P**	**18 35 54.3**	**-3.0**
UZH			*e*		18 36 13.6	
UZH			*i*		18 36 27.2	
UZH			*i* S	**S**	**18 39 53.0**	**-10**
UZH			*e*		18 40 43.5	
UZH			MLR	MLR		
	comp=N,800nm,15.0s					
UZH			MLR	MLR		
	comp=E,500nm,15.0s					
TEKS	**Tekeris**	**22.53 305**	*e*P	**P**	**18 35 57.7**	**-0.4**
FRGS	**Fruska Gora**	**22.53 306**	*e*P	**P**	**18 35 56.9**	**-1.2**
ARSB	**Arslanbob**	**22.57 64**	P	**P**	**18 35 59.7**	**+0.9**
ARSB			IAmb	IAmb	18 36 14.9	
	comp=Z,254nm,1.1s					
KOLS	**Kolonicke sedl**	**22.63 317**	*e*P	**P**	**18 35 59.6**	**+0.5**
KOLS	**Kolonicke sedl**	**22.63 317**	*e*P	**P**	**18 35 59.6**	**+0.5**
KOLS			*e*S	**S**	**18 40 10.4**	**+4.3**
HCY	**Herceg Novi**	**22.72 299**	⇑*i* P	**P**	**18 35 59.8**	**-0.3**
KWP	**Kalwaria Pacla**	**22.77 319**	*e*P	**P**	**18 36 00.1**	**-0.5**
KWP			*e*S	**S**	**18 40 09.4**	**+1.0**
KWP	**Kalwaria Pacla**	**22.77 319**	*e*P	**P**	**18 36 00.1**	**-0.5**
KWP			*e*P	**P**	**18 36 00.1**	**-0.5**
KWP			*e*S	**S**	**18 40 09.4**	**+1.0**
KWP			*e*S	**S**	**18 40 09.4**	**+1.0**
KWP	**Kalwaria Pacla**	**22.77 319**	P	**P**	**18 35 59.6**	**-0.9**
BRY	**Bratogost**	**22.79 300**	⇑*i* P	**P**	**18 36 00.6**	**-0.4**
HAPS	**Han Pijesak,BI**	**22.79 303**	⇑*i* P	**P**	**18 35 59.4**	**-1.6**
NIL	**Nilore**	**22.82 84**	P	**P**	**18 36 02.9**	**+1.6**
NIL	**Nilore**	**22.82 84**	P	**P**	**18 36 01.3**	**-0.1**
NIL			pmax	pmax		
	comp=Z,211nm,0.9s					
NIL			MLR	MLR		
	comp=Z,7μm,19.0s					
NIL	**Nilore**	**22.82 84**	P	**P**	**18 36 01.2**	**-0.1**
NIL			IAmb	IAmb	18 36 42.2	
	comp=Z,211nm,0.9s					
TREB	**Trebinje**	**22.88 299**	⇑*i* P	**P**	**18 36 01.1**	**-0.7**
ATD	**Arta Tunnel**	**22.89 187**	P	**P**	**18 36 04.0**	**+1.9**
	SNR=31					
ATD	**Arta Tunnel**	**22.89 187**	P	**P**	**18 36 03.8**	**+1.7**
	comp=Z,145nm,1.0s,baz=359,slow=5.6,SNR=23					
ATD			S	**S**	**18 40 16.4**	**+5.3**
	comp=Z,4.2nm,0.5s,baz=221,slow=20,SNR=1.9					
ATD			Lg	Lg	18 43 26.1	
	comp=Z,63nm,0.9s,baz=147,slow=20,SNR=5.5					
ATD			LR	LR	18 45 30.6	
	comp=Z,9μm,20.1s,baz=8.0,slow=38					
DBRK	**Dubrovnik**	**23.02 299**	*i* P	**P**	**18 36 01.7**	**-1.5**
AML	**Almayashu**	**23.23 62**	P	**P**	**18 36 08.0**	**+2.1**
	SNR=103					
TAR1	**Taranto**	**23.32 294**	*e*P	**P**	**18 36 04.2**	**-2.1**
SOCY	**Socotra**	**23.34 159**	P	**P**	**18 36 02.8**	**-3.9**
	SNR=69					
SOCY	**Socotra**	**23.34 159**	P	**P**	**18 36 02.5**	**-4.2**
SOCY			IAmb	IAmb	18 36 37.8	
	comp=Z,200nm,0.9s					
STON	**Ston**	**23.38 300**	*i* P	**P**	**18 36 05.9**	**-0.9**
STON	**Ston**	**23.38 300**	⇑*i* P	**P**	**18 36 04.9**	**-1.9**
EKS2	**Erkin-Say**	**23.39 61**	P	**P**	**18 36 09.4**	**+2.2**
	SNR=52					
MASS	**Massafra**	**23.44 294**	*e*P	**P**	**18 36 07.6**	**+0.1**
KECS	**Kecovo**	**23.44 315**	*e*P	**P**	**18 36 09.2**	**+1.8**
KECS	**Kecovo**	**23.44 315**	*e*P	**P**	**18 36 09.2**	**+1.8**
KECS			*e*S	**S**	**18 40 24.4**	**+4.6**
PSZ	**Piszkesteto**	**23.54 313**	P	**P**	**18 36 07.9**	**-0.6**
PSZ			pmax	pmax		
	comp=Z,125nm,1.1s					
PSZ			MLR	MLR		
	comp=Z,6μm,18.0s					
PSZ	**Piszkesteto**	**23.54 313**	⇑P	**P**	**18 36 07.9**	**-0.6**
PSZ			mb		18 36 18.4	
PSZ	**Piszkesteto**	**23.54 313**	P	**P**	**18 36 07.9**	**-0.6**
TIP	**Timpagrande**	**23.62 290**	P	**P**	**18 36 08.9**	**-0.5**
TIP	**Timpagrande**	**23.62 290**	⇑P	**P**	**18 36 07.6**	**-1.7**
TIP			mb		18 36 15.5	
TIP	**Timpagrande**	**23.62 290**	P	**P**	**18 36 08.1**	**-1.2**
BHUJ	**Bhuj**	**23.67 112**	⇑*i* P	**P**	**18 36 10.2**	**+0.3**
BHUJ			IAmb	IAmb	18 36 12.6	
	comp=Z,108nm,0.8s					
BHUJ			IAMs_20	IAMs_20	18 48 13.5	
	comp=Z,10μm,11.9s					
MICGM	**Minsk**	**23.68 334**	⇓*i* P	**P**	**18 36 06.0**	**-3.6**
MICGM			PM		18 36 10.0	
	comp=Z,1.2nm,1.0s					
MICGM			PM		18 36 10.0	
	comp=Z,4.5nm,2.0s					
MICGM			PM		18 36 11.0	
	comp=N,0.9nm,1.0s					
MICGM			PM		18 36 11.0	
	comp=E,0.8nm,1.0s					
MICGM			*e*pP	**sP**	**18 36 16.0**	**-2.0**
MICGM			*e*sP	**pP**	**18 36 18.0**	**+2.6**
MICGM			*e*PP	PnPn	18 36 20.0	-17
MICGM			*e*PPP	PPP	18 37 02.0	
MICGM			*e*PcP	PcP	18 39 20.0	-34
MICGM			*e*S	**S**	**18 40 16.0**	**-7.4**
MICGM			*e*sS	**pS**	**18 40 24.0**	**-5.2**
MICGM			*e*SS	SnSn	18 41 26.0	+25
MICGM			*e*SSS	SSS	18 42 40.0	
MICGM			*e*LQ	LQ	18 44 22.0	
MICGM			*e*LR	LR	18 45 04.0	
MICGM			LRM	MLR	18 45 38.0	
	comp=E,8.3nm,16.0s					
MICGM			LRM	MLR	18 45 40.0	
	comp=E,3.3nm,16.0s					
MICGM			LRM	MLR	18 46 32.0	
	comp=N,14nm,16.0s					
MICGM			LRM	MLR	18 46 34.0	
	comp=N,7.5nm,16.0s					
MICGM			LRM	MLR	18 46 36.0	
	comp=Z,9.3nm,16.0s					
MICGM			LRM	MLR	18 46 38.0	
	comp=Z,22nm,16.0s					
MNK	**Minsk**	**23.68 334**	⇓*i* P	**P**	**18 36 06.0**	**-3.6**
MNK			*e*		18 36 18.0	
MNK			*e*		18 36 20.0	
MNK			*e*S	**S**	**18 40 16.0**	**-7.4**
MNK			*e*		18 41 26.0	
MNK			pmax	pmax		
	comp=Z,1μm,1.0s					
MNK			pmax	pmax		
	comp=Z,5μm,2.0s					
MNK			pmax	pmax		
	comp=N,880nm,1.0s					
MNK			pmax	pmax		
	comp=E,850nm,1.0s					
MNK			MLR	MLR		
	comp=N,14μm,16.0s					
MNK			MLR	MLR		
	comp=N,8μm,16.0s					
MNK			MLR	MLR		
	comp=Z,9μm,16.0s					
MNK			MLR	MLR		
	comp=E,8μm,16.0s					
MNK			MLR	MLR		
	comp=Z,22μm,16.0s					
MNK			MLR	MLR		
	comp=E,3μm,16.0s					
BAI	**Bari**	**23.69 295**	*e*P	**P**	**18 36 15.1**	**+5.2**
ARU	**Arti**	**23.75 18**	*c i*P	**

BTLS	**Baital**	**24.15**	**55**	*i* P	**P**	**18 36 15.6**	**+1.4**
BTLS				*e*S	**S**	**18 40 35.9**	**+4.7**
CHMS	**Chumysh**	**24.16**	**60**	P	**P**	**18 36 16.6**	**+2.2**
	SNR=89						
SGDS	**Sogindy**	**24.16**	**59⇑**	*i* P	**P**	**18 36 16.0**	**+1.5**
	comp=Z,1μm,3.7s						
SGDS				*e*S	**S**	**18 40 39.3**	**+7.7**
SGDS				*e*LR	LR	18 47 08.8	
	comp=Z,3μm,10.6s						
MGRS	**Mrkonjic Grad**	**24.17**	**303**	*e*P	**P**	**18 36 13.5**	**-1.0**
BLY	**Banja Luka**	**24.19**	**304⇑**	*i* P	**P**	**18 36 12.8**	**-1.8**
BLY	**Banja Luka**	**24.19**	**304**	P	**P**	**18 36 13.4**	**-1.1**
KBK	**Karagaybulak**	**24.24**	**61**	P	**P**	**18 36 17.9**	**+2.6**
	SNR=44						
KIRV	**Kirov**	**24.34**	**5**	P	**P**	**18 36 15.8**	**0.0**
	comp=Z,166nm,0.6s,baz=208,slow=0.5,SNR=87						
KIRV				LR	LR	18 47 47.4	
	comp=Z,14μm,18.3s,baz=190,slow=42						
LANS	**Liptovska Anna**	**24.35**	**315**	*e*P	**P**	**18 36 16.5**	**+0.4**
LANS				*e*S	**S**	**18 40 34.7**	**+0.3**
LANS	**Liptovska Anna**	**24.35**	**315**	*e*P	**P**	**18 36 16.5**	**+0.4**
LANS				*e*S	**S**	**18 40 34.7**	**+0.3**
KZA	**Kyzart**	**24.36**	**63**	P	**P**	**18 36 19.1**	**+2.4**
	SNR=20						
NACGM	**Naroch**	**24.39**	**333**	*e*P	**P**	**18 36 15.0**	**-1.3**
NACGM				*e*P	**P**	**18 36 15.0**	**-1.3**
NACGM				PM		18 36 18.0	
	comp=Z,1.8nm,1.0s						
NACGM				*e*PP	**PnPn**	**18 36 50.0**	**+3.1**
NACGM				*e*PPP	PPP	18 37 14.0	
NACGM				*e*S	**S**	**18 40 30.0**	**-4.9**
NACGM				*e*SS	SnSn	18 41 34.0	+15
NACGM				*e*SSS	SSS	18 42 30.0	
NACGM				*e*LQ	LQ	18 44 26.0	
NACGM				*e*LR	LR	18 46 16.0	
NACGM				LRM	MLR	18 47 30.0	
	comp=Z,22nm,18.0s						
VYHS	**Vyhne**	**24.43**	**313**	*e*P	**P**	**18 36 16.6**	**-0.2**
VYHS	**Vyhne**	**24.43**	**313**	*e*P	**P**	**18 36 16.6**	**-0.2**
VYHS				*e*S	**S**	**18 40 39.9**	**+4.2**
SRO	**Srobarova**	**24.47**	**312**	*e*P	**P**	**18 36 17.4**	**+0.3**
SRO	**Srobarova**	**24.47**	**312**	*e*P	**P**	**18 36 17.4**	**+0.3**
SGRT	**San Giovanni R**	**24.62**	**296**	P	**P**	**18 36 17.6**	**-1.1**
SGRT				IAmb	IAmb	18 36 25.2	
	comp=Z,342nm,1.9s						
SVE	**Sverdlovsk**	**24.65**	**20***d*	*i* P	**P**	**18 36 19.8**	**+1.1**
SVE				pmax	pmax		
	comp=Z,351nm,1.1s						
SVE				MLR	MLR		
	comp=Z,7μm,19.0s						
KSH	**Kashi**	**24.66**	**69**	P	**P**	**18 36 18.8**	**-0.3**
KSH				pP	sP	18 36 30.3	+2.9
KSH				sP	pP	18 36 35.1	+10
KSH				PP		18 36 55.3	
KSH				S	**S**	**18 40 31.9**	**-8.0**
KSH				sS	sS	18 40 51.0	+1.6
KSH				SS	**SnSn**	**18 41 28.6**	**+2.7**
KSH				pmax	pmax		
	comp=Z,200nm,1.0s						
KSH				LR	LR		
	comp=Z,21μm,14.4s						
KSH				LR	LR		
	comp=Z,44μm,15.7s						
KSH				LR	LR		
	comp=Z,40μm,21.7s						
OJC	**Ojcow**	**24.68**	**318**	*e*P	**P**	**18 36 18.7**	**-0.3**
OJC				*e*S	**S**	**18 40 38.1**	**-1.5**
OJC	**Ojcow**	**24.68**	**318**	*e*P	**P**	**18 36 18.7**	**-0.3**
OJC				*e*P	**P**	**18 36 18.7**	**-0.3**
OJC				*e*S	**S**	**18 40 38.1**	**-1.5**
OJC				*e*S	**S**	**18 40 38.1**	**-1.5**
OJC	**Ojcow**	**24.68**	**318**	P	**P**	**18 36 18.4**	**-0.6**
OJC				IAmb	IAmb	18 36 28.4	
	comp=Z,285nm,1.4s						
IDID	**Didziasalis**	**24.73**	**334**	*e*P	**P**	**18 36 19.5**	**+0.2**
KOLL	**Kolacno**	**24.73**	**313**	*e*P	**P**	**18 36 19.8**	**+0.4**
NRN	**Naryn**	**24.84**	**65**	P	**P**	**18 36 22.3**	**+1.4**
NRN				pmax	pmax		
	comp=Z,183nm,1.0s						
NRN	**Naryn**	**24.84**	**65**	P	**P**	**18 36 22.3**	**+1.4**
NRN				IAmb	IAmb	18 36 32.4	
	comp=Z,183nm,1.0s						
IIGN	**Ignalina**	**24.94**	**333**	*e*P	**P**	**18 36 21.5**	**+0.2**
IIGN				IAmb	IAmb	18 36 23.6	
	comp=Z,179nm,0.8s						
MORI	**Morici**	**25.01**	**301**	*i* P	**P**	**18 36 20.7**	**-1.3**
BEL	**Belsk**	**25.01**	**322**	*e*P	**P**	**18 36 21.6**	**-0.3**
BEL	**Belsk**	**25.01**	**322**	*e*P	**P**	**18 36 21.6**	**-0.3**
BEL				*e*P	**P**	**18 36 21.6**	**-0.3**
ZIRJ	**Zirje**	**25.01**	**301**	*i* P	**P**	**18 36 20.5**	**-1.5**
KALN	**Kalnik**	**25.07**	**307**	*i* P	**P**	**18 36 22.3**	**-0.4**
UDBI	**Udbina**	**25.12**	**303**	*i* P	**P**	**18 36 21.5**	**-1.5**
ISAL	**Salakas**	**25.15**	**333**	*e*P	**P**	**18 36 23.3**	**+0.2**
ISAL				IAmb	IAmb	18 36 25.6	
	comp=Z,194nm,1.0s						
BRZS	**Berezniki**	**25.16**	**44⇑**	*i*P	**P**	**18 36 24.8**	**+1.4**
	comp=Z,805nm,2.4s						
BRZS				*e*S	S	18 41 01.1	+14
BRZS				*e*LR	LR	18 47 50.7	
	comp=Z,4μm,15.7s						
BRZS	**Berezniki**	**25.16**	**44***c*	*i*P	**P**	**18 36 24.8**	**+1.4**
BRZS				pmax	pmax		
	comp=Z,805nm,2.4s						
BRZS				MLR	MLR		
	comp=Z,4μm,16.0s						
SUW	**Suwalki**	**25.22**	**328**	P	**P**	**18 36 23.1**	**-0.7**
SUW	**Suwalki**	**25.22**	**328**	P	**P**	**18 36 23.1**	**-0.7**
IZAR	**Zarasai**	**25.24**	**334**	*e*P	**P**	**18 36 24.1**	**+0.2**
IZAR				IAmb	IAmb	18 36 33.0	
	comp=Z,206nm,1.0s						
IZAR				*e*S	**S**	**18 40 49.7**	**+1.3**
JAVC	**Velka Javorina**	**25.28**	**313⇑**	*i*P	**P**	**18 36 25.2**	**+0.7**
JAVC				*e*S	**S**	**18 40 46.5**	**-3.0**
SMOL	**Smolenice**	**25.29**	**312**	*e*P	**P**	**18 36 24.6**	**+0.1**
SMOL	**Smolenice**	**25.29**	**312**	*e*P	**P**	**18 36 24.6**	**+0.1**
KOGS	**Kog**	**25.31**	**307**	*i* P	**P**	**18 36 24.6**	**-0.1**
MODS	**Modra-Piesok**	**25.33**	**312**	*e*P	**P**	**18 36 23.4**	**-1.5**
MODS				*e*		18 40 52.6	
MODS	**Modra-Piesok**	**25.33**	**312**	*e*P	**P**	**18 36 23.3**	**-1.6**
MODS	**Modra-Piesok**	**25.33**	**312**	*e*SN	**S**	**18 40 52.6**	**+2.5**
PTJ	**Puntijarka**	**25.33**	**306**	*i* P	**P**	**18 36 24.5**	**-0.6**
ZST	**Bratislava**	**25.37**	**312**	*e*P	**P**	**18 36 24.1**	**-1.1**
ZST	**Bratislava**	**25.37**	**312**	*e*P	**P**	**18 36 24.1**	**-1.1**
MTBS	**Maitube**	**25.39**	**61**	*e*P	**P**	**18 36 27.4**	**+1.7**
MTBS	**Maitube**	**25.39**	**61**	*e*P	**P**	**18 36 27.3**	**+1.7**
PAOL	**Paolisi**	**25.42**	**294**	P	**P**	**18 36 25.9**	**0.0**
PAOL				IAmb	IAmb	18 36 33.5	
	comp=Z,120nm,1.1s						
OKC	**Ostrava-Krasne**	**25.43**	**316**	*e*P	**P**	**18 36 25.5**	**-0.3**
OKC				*e*S	**S**	**18 40 49.5**	**-2.1**
OKC				MLR	MLR		
	comp=Z,5μm,13.6s						
OKC	**Ostrava-Krasne**	**25.43**	**316**	*e*P	**P**	**18 36 25.5**	**-0.3**
OKC				*e*S	**S**	**18 40 49.5**	**-2.1**
OKC				AMS	AMS	18 49 00.0	
	comp=Z,5μm,13.6s						
VAE	**Valguarnera**	**25.47**	**286**	P	**P**	**18 36 28.7**	**+2.4**
	comp=Z,51nm,0.8s,baz=324,slow=2.9,SNR=9.2						
VAE				S	**S**	**18 40 58.7**	**+6.1**
	comp=Z,7.4nm,0.5s,baz=135,slow=8.6,SNR=2.6						
KUU	**Kurty**	**25.47**	**59⇑**	*i*P	**P**	**18 36 27.6**	**+1.3**
	comp=Z,1μm,4.0s						
KUU				*e*S	S	18 41 08.2	+16
KUU	**Kurty**	**25.47**	**59***c*	*i*P	**P**	**18 36 27.5**	**+1.3**
DUGI	**Dugi Otok**	**25.50**	**301**	*i* P	**P**	**18 36 24.5**	**-2.0**
WDD	**Wied Dalam**	**25.50**	**282**	P	**P**	**18 36 28.8**	**+2.3**
RAC	**Raciborz**	**25.51**	**316**	*e*P	**P**	**18 36 26.6**	**+0.1**
RAC				*e*S	**S**	**18 40 52.3**	**-0.6**
RAC				MLR	MLR		
	comp=Z,3μm,19.2s						
RAFF	**Raffo Rosso**	**25.52**	**285**	P	**P**	**18 36 28.3**	**+1.6**
BRVK	**Borovoye**	**25.56**	**36**	P	**P**	**18 36 28.5**	**+1.6**
	SNR=108						
BRVK				P	**P**	**18 36 28.5**	**+1.6**
	SNR=108						
BRVK				P	**P**	**18 36 28.5**	**+1.6**
	SNR=108						
BRVK	**Borovoye**	**25.56**	**36**	P	**P**	**18 36 28.2**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,195nm,1.0s						
BRVK	**Borovoye**	**25.56**	**36**	P	**P**	**18 36 28.2**	**+1.3**
BRVK				IAmb	IAmb	18 36 56.9	
	comp=Z,195nm,1.0s						
BVAR	**Borovoye Array**	**25.59**	**36**	P	**P**	**18 36 28.5**	**+1.3**
	comp=Z,66nm,0.8s,baz=230,slow=6.9,SNR=114						
BVAR				PcP	**PcP**	**18 39 58.8**	**+1.0**
	comp=Z,28nm,0.8s,baz=251,slow=2.1,SNR=6.9						
BVAR				ScP	**ScP**	**18 43 37.1**	**+0.9**
	comp=Z,19nm,0.8s,baz=229,slow=1.4,SNR=10						
DHRM	**DHARAMSHALA**	**25.61**	**86⇑**	*i*P	**P**	**18 36 29.4**	**+1.5**
CRES	**Cresnjev**	**25.65**	**306⇑**	*i*P	**P**	**18 36 27.3**	**-0.6**
BOJS	**Bojanci**	**25.71**	**305**	*e*P	**P**	**18 36 27.4**	**-0.9**
BOJS				*e*S	**S**	**18 40 53.4**	**-2.7**
NVLJ	**Novalja**	**25.75**	**302**	*i* P	**P**	**18 36 26.8**	**-1.9**
MORC	**Moravsky Berou**	**25.75**	**315**	P	**P**	**18 36 27.9**	**-0.9**
MORC				pmax	pmax		
	comp=Z,130nm,1.0s						
MORC				MLR	MLR		
	comp=Z,3μm,18.0s						
MORC	**Moravsky Berou**	**25.75**	**315⇑**	P	**P**	**18 36 27.9**	**-0.9**
MORC				mb		18 36 39.6	
MORC	**Moravsky Berou**	**25.75**	**315⇑**	*i*P	**P**	**18 36 28.3**	**-0.5**
MORC				*e*S	**S**	**18 40 53.6**	**-3.2**
MORC	**Moravsky Berou**	**25.75**	**315**	P	**P**	**18 36 27.9**	**-0.9**
MORC				IAmb	IAmb	18 36 38.0	
	comp=Z,130nm,1.0s						
TNSS	**Tian-Shan**	**25.75**	**61⇑**	*i*P	**P**	**18 36 31.2**	**+1.9**
TNSS	**Tian-Shan**	**25.75**	**61⇑**	*i*P	**P**	**18 36 31.2**	**+1.9**
AAA	**Alma-Ata**	**25.76**	**61**	*e*P	**P**	**18 36 28.6**	**-0.3**
AAA				*e*S	S	18 41 10.6	+13
AAA				*e*LR	LR	18 47 53.3	
	comp=Z,6μm,13.8s						
AAA	**Alma-Ata**	**25.76**	**61**	*e*P	**P**	**18 36 28.6**	**-0.3**
AAA				MLR	MLR		
	comp=Z,6μm,14.0s						
KDJ	**Kajisay**	**25.80**	**63**	P	**P**	**18 36 31.6**	**+2.2**
KDJ				pmax	pmax		
	comp=Z,144nm,1.1s						
KDJ	**Kajisay**	**25.80**	**63**	P	**P**	**18 36 31.6**	**+2.2**
KDJ				IAmb	IAmb	18 36 41.7	
	comp=Z,144nm,1.1s						
MDOK	**Medeo**	**25.85**	**61**	*i* P	**P**	**18 36 31.3**	**+1.5**
MDOK				*e*S	**S**	**18 41 02.2**	**+3.5**
MDOK				*e*LR	LR	18 47 56.1	
	comp=Z,8μm,11.0s						
MDOK	**Medeo**	**25.85**	**61**	*i* P	**P**	**18 36 31.3**	**+1.5**
MDOK				*e*S	**S**	**18 41 02.2**	**+3.5**
MDOK				MLR	MLR		
	comp=Z,8μm,11.0s						
PABE	**Paberze**	**25.93**	**331**	*e*P	**P**	**18 36 29.8**	**-0.4**
PABE				IAmb	IAmb	18 36 42.8	
	comp=Z,357nm,0.8s						
INTR	**Introdacqua**	**26.02**	**296**	P	**P**	**18 36 30.1**	**-1.2**
INTR				IAmb	IAmb	18 37 15.8	
	comp=Z,181nm,1.2s						
AAE	**Adis Abeba**	**26.02**	**196**	*e*P	**P**	**18 36 35.7**	**+4.0**
AAE				*e*S	**S**	**18 41 12.3**	**+10**
ARSA	**Arzberg**	**26.03**	**309**	*i* P	**P**	**18 36 31.2**	**-0.1**
	comp=Z,75nm,1.2s,SNR=16						
ARSA				*e*ScP	**ScP**	**18 43 39.8**	**+2.2**
	comp=Z,11nm,0.9s						
CONA	**Conrad Observa**	**26.04**	**310**	*i* P	**P**	**18 36 31.1**	**-0.4**
	comp=Z,152nm,1.4s,SNR=33						
CONA				*e*ScP	**ScP**	**18 43 40.2**	**+2.5**
	comp=Z,8.0nm,1.1s						
VRAC	**Vranov**	**26.11**	**314**	P	**P**	**18 36 32.1**	**0.0**
	comp=Z,32nm,0.9s,baz=113,slow=8.6,SNR=36						
VRAC				LR	LR	18 48 47.6	
	comp=Z,5μm,19.1s,baz=115,slow=41						
VRAC	**Vranov**	**26.11**	**314⇑**	P	**P**	**18 36 31.1**	**-0.9**
VRAC				mb		18 36 41.7	
VRAC	**Vranov**	**26.11**	**314⇑**	*i*P	**P**	**18 36 31.9**	**-0.1**
VRAC				*e*S	**S**	**18 41 01.2**	**-1.3**
KRUC	**Moravsky**	**26.14**	**313⇑**	*i*P	**P**	**18 36 31.9**	**-0.3**
KRUC				*e*S	**S**	**18 40 59.6**	**-3.2**
FURI	**Furi**	**26.17**	**196**	*e*P	**P**	**18 36 36.6**	**+3.5**
FURI				*e*S	**S**	**18 41 13.2**	**+8.8**
FURI	**Furi**	**26.17**	**196**	P	**P**	**18 36 34.9**	**+1.8**
FURI				IAmb	IAmb	18 36 42.9	
	comp=Z,244nm,1.0s						
SOKA	**Soboth**	**26.18**	**307**	*i* P	**P**	**18 36 32.4**	**-0.3**
	comp=Z,57nm,1.0s,SNR=9.9						
SOKA				*e*PcP	**PcP**	**18 40 01.0**	**+1.6**
	comp=Z,23nm,1.1s						
SOKA				*e*ScP	**ScP**	**18 43 39.9**	**+1.8**
	comp=Z,17nm,0.9s						
RIY	**Rijeka**	**26.19**	**304**	*e*P	**P**	**18 36 33.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**26.21**	**64**	P	**P**	**18 36 35.8**	**+2.3**
KRLC	**Kraliky**	**26.32**	**315**	*e*P	**P**	**18 36 33.4**	**-0.6**
KRLC				*e*S	**S**	**18 41 05.0**	**-0.9**
KRLC	**Kraliky**	**26.32**	**315**	*e*P	**P**	**18 36 33.4**	**-0.6**
KRLC				*e*S	**S**	**18 41 05.0**	**-0.9**
CEY	**Cerknica**	**26.33**	**305**	*e*P	**P**	**18 36 32.4**	**-1.6**
LJU	**Ljubljana**	**26.34**	**306**	*i* P	**P**	**18 36 34.1**	**+0.1**
LJU				*e*S	**S**	**18 41 05.0**	**-1.1**
LJU	**Ljubljana**	**26.34**	**306⇑**	*i*P	**P**	**18 36 33.9**	**-0.2**
CLTB	**Caltabellotta**	**26.41**	**286**	P	**P**	**18 36 36.6**	**+1.7**
CLTB				IAmb	IAmb	18 36 52.2	
	comp=Z,168nm,1.0s						
AQU	**L'Aquila**	**26.43**	**297**	P	**P**	**18 36 35.1**	**+0.1**
AQU				pmax	pmax		
	comp=Z,174nm,1.0s						
AQU	**L'Aquila**	**26.43**	**297**	*e*P	**P**	**18 36 34.3**	**-0.7**
AQU	**L'Aquila**	**26.43**	**297**	P	**P**	**18 36 35.1**	**+0.1**
AQU				IAmb	IAmb	18 37 32.7	
	comp=Z,174nm,1.0s						
OBKA	**Obir**	**26.45**	**307**	*i* P	**P**	**18 36 35.2**	**0.0**
	comp=Z,79nm,1.4s,SNR=10						
OBKA				*e*ScP	**ScP**	**18 43 41.6**	**+2.6**
	comp=Z,32nm,1.9s						
SMLA	**Simla**	**26.61**	**88⇑**	*i*P	**P**	**18 36 37.2**	**+0.6**
NRCA	**Norcia**	**26.70**	**298**	P	**P**	**18 36 36.1**	**-1.4**
DPC	**Dobruska-Polom**	**26.71**	**316**	*e*P	**P**	**18 36 36.9**	**-0.5**
DPC				*e*S	**S**	**18 41 10.9**	**-1.0**
DPC				MLR	MLR		
	comp=Z,4μm,14.0s						
DPC	**Dobruska-Polom**	**26.71**	**316**	*e*P	**P**	**18 36 36.9**	**-0.5**
DPC				*e*S	**S**	**18 41 10.9**	**-1.0**
DPC				AMS	AMS	18 53 00.0	
	comp=Z,4μm,14.0s						
PRZ	**Przheval'sk**	**26.74**	**63**	P	**P**	**18 36 36.8**	**-1.1**
PRZ				pmax	pmax		
	comp=Z,171nm,1.2s						
PRZ	**Przheval'sk**	**26.74**	**63**	P	**P**	**18 36 36.8**	**-1.1**
PRZ				IAmb	IAmb	18 36 48.7	
	comp=Z,171nm,1.2s						
TRI	**Trieste**	**26.77**	**305**	P	**P**	**18 36 37.1**	**-0.8**
TRI				pmax	pmax		
	comp=Z,88nm,1.3s						
TRI	**Trieste**	**26.77**	**305**	P	**P**	**18 36 37.1**	**-0.8**
TREC	**Trest**	**26.77**	**313**	*e*P	**P**	**18 36 38.0**	**0.0**
TREC				MLR	MLR		
	comp=Z,5μm,15.4s						
TREC	**Trest**	**26.77**	**313**	*e*P	**P**	**18 36 38.0**	**0.0**
TREC				AMS	AMS	18 51 10.0	
	comp=Z,5μm,15.4s						
KLMR	**Klimovskoe**	**26.79**	**353**	*e*P	**P**	**18 36 36.5**	**-1.4**
KLMR				*e*S	**S**	**18 41 09.6**	**-3.3**
KLMR				pmax	pmax		
	comp=Z,183nm,1.1s						
KLMR				MLR	MLR		
	comp=Z,11μm,16.0s						
KLMR	**Klimovskoe**	**26.79**	**353**	*e*P	**P**	**18 36 36.6**	**-1.4**
KLMR				AMP		18 36 52.2	
	comp=Z,183nm,1.1s						
KLMR				*e*S	**S**	**18 41 09.7**	**-3.2**
KLMR				*e*S	**S**	**18 41 09.7**	**-3.2**
KLMR				LQ	LQ	18 45 02.7	
KLMR				LQ	LQ	18 45 02.7	
KLMR				LR	LR	18 46 50.8	
KLMR				AMP		18 48 34.3	
	comp=Z,11μm,16.0s						
SATY	**Saty**	**26.81**	**61⇑**	*i*P	**P**	**18 36 40.9**	**+2.4**
	comp=Z,175nm,1.2s						
SATY				*e*S	S	18 41 32.5	+19
SATY				*e*LR	LR	18 48 36.5	
SATY	**Saty**	**26.81**	**61***c*	*i*P	**P**	**18 36 40.9**	**+2.4**
SATY				pmax	pmax		
	comp=Z,175nm,1.2s						
KLNR	**Kaliningrad**	**26.94**	**326**	*i* P	**P**	**18 36 38.7**	**-0.6**
KLNR				pmax	pmax		
	comp=Z,118nm,1.1s						
KSP	**Ksiaz**	**26.94**	**317**	*e*P	**P**	**18 36 39.1**	**-0.4**
KSP				*e*S	**S**	**18 41 13.1**	**-2.4**
KSP	**Ksiaz**	**26.94**	**317**	*e*P	**P**	**18 36 39.1**	**-0.4**
KSP				*e*P	**P**	**18 36 39.1**	**-0.4**
KSP				*e*S	**S**	**18 41 13.1**	**-2.4**
KSP				*e*S	**S**	**18 41 13.1**	**-2.4**
UPC	**Upice**	**26.96**	**316**	*e*P	**P**	**18 36 39.3**	**-0.3**
UPC				MLR	MLR		
	comp=Z,4μm,13.3s						
UPC	**Upice**	**26.96**	**316**	*e*P	**P**	**18 36 39.3**	**-0.3**
UPC				AMS	AMS	18 51 00.0	
	comp=Z,4μm,13.3s						
CHVC	**Chvalec**	**26.97**	**316**	*e*P	**P**	**18 36 39.3**	**-0.4**
CHVC				*e*S	**S**	**18 41 14.5**	**-1.5**
CHVC				AMS	AMS	18 51 10.0	
	comp=Z,4μm,12.7s						
MOA	**Molln**	**27.03**	**309**	*i* P	**P**	**18 36 40.1**	**-0.2**
	comp=Z,65nm,0.8s,SNR=31						
KPKS	**Kokpek**	**27.07**	**61⇑**	*i*P	**P**	**18 36 42.2**	**+1.4**
	comp=Z,235nm,2.5s						
KPKS				*e*S	S	18 41 39.1	+21
KPKS				*e*LR	LR	18 48 39.1	
	comp=Z,4μm,11.6s						
KPKS	**Kokpek**	**27.07**	**61***c*	*i*P	**P**	**18 36 42.2**	**+1.4**
KPKS				pmax	pmax		
	comp=Z,235nm,2.5s						
KPKS				MLR	MLR		
	comp=Z,4μm,12.0s						
MYKA	**Terra Mystica**	**27.08**	**307**	*e*P	**P**	**18 36 40.2**	**-0.6**
	comp=Z,29nm,0.8s						
MYKA				*e*PcP	**PcP**	**18 40 02.2**	**+0.7**
	comp=Z,41nm,1.5s						
MYKA				*e*ScP	**ScP**	**18 43 42.3**	**+1.6**
	comp=Z,6.9nm,1.0s						
PBUR	**Paburg**	**27.12**	**330**	*e*P	**P**	**18 36 40.9**	**0.0**
TDK	**Taldyqorghan**	**27.14**	**57**	*i* P	**P**	**18 36 42.5**	**+1.1**
	comp=Z,587nm,3.3s						
TDK				*e*S	S	18 41 38.6	+20
TDK				*e*LR	LR	18 48 48.3	
TDK	**Taldyqorghan**	**27.14**	**57**	*i* P	**P**	**18 36 42.4**	**+1.1**
TDK				pmax	pmax		
	comp=Z,587nm,3.3s						
MURB	**Monte Urbino**	**27.18**	**299**	P	**P**	**18 36 41.3**	**-0.5**
MURB				IAmb	IAmb	18 36 49.3	
	comp=Z,126nm,0.9s						
VSU	**Vasula**	**27.22**	**338***c*	*e*P	**P**	**18 36 41.2**	**-0.6**
VSU				pmax	pmax		
	comp=Z,304nm,0.8s						
VSU	**Vasula**	**27.22**	**338**	*e*P	**P**	**18 36 41.1**	**-0.6**
VSU				IAmb	IAmb	18 36 49.2	
	comp=Z,354nm,0.6s						
UZB	**Uzynbulak**	**27.27**	**61⇑**	*i*P	**P**	**18 36 44.4**	**+1.6**
	comp=Z,388nm,3.6s						
UZB				*e*LR	LR	18 48 47.0	
UZB	**Uzynbulak**	**27.27**	**61***c*	*i*P	**P**	**18 36 44.3**	**+1.6**
UZB				pmax	pmax		
	comp=Z,388nm,3.6s						
PRGR	**Permogore**	**27.28**	**360⇑**	*i*P	**P**	**18 36 41.6**	**-0.7**
PRGR				*e*S	**S**	**18 41 19.7**	**-0.8**
PRGR				pmax	pmax		
	comp=Z,240nm,1.2s						
PUL	**Pulkovo**	**27.34**	**343***c*	*e*P	**P**	**18 36 43.1**	**+0.2**
PUL				pmax	pmax		
	comp=Z,160nm,0.8s						
KBA	**Koelnbreinsper**	**27.40**	**307**	*i* P	**P**	**18 36 43.4**	**-0.4**
	comp=Z,31nm,0.8s,SNR=10						
GOPC	**GO Pecny, Ondr**	**27.43**	**314**	*e*P	**P**	**18 36 43.4**	**-0.5**
GOPC				*e*S	**S**	**18 41 22.9**	**-0.4**
GOPC				MLR	MLR		
	comp=Z,5μm,15.4s						
GOPC	**GO Pecny, Ondr**	**27.43**	**314**	*e*P	**P**	**18 36 43.4**	**-0.5**
GOPC				*e*S	**S**	**18 41 22.9**	**-0.4**
GOPC				AMS	AMS	18 50 10.0	
	comp=Z,5μm,15.4s						
DDI	**Dehra Dun**	**27.56**	**89**	*e*S	**S**	**18 41 31.5**	**+5.6**
SHLS	**Shalkode**	**27.59**	**61**	*e*S	S	18 41 44.0	+18
PRU	**Pruhonice**	**27.61**	**314**	*e*P	**P**	**18 36 44.9**	**-0.5**
PRU				*e*S	**S**	**18 41 25.0**	**-1.0**
PRU				MLR	MLR		
	comp=Z,5μm,16.2s						
PRU	**Pruhonice**	**27.61**	**314**	*e*P	**P**	**18 36 44.9**	**-0.5**
PRU				*e*S	**S**	**18 41 25.0**	**-1.0**
PRU				AMS	AMS	18 50 20.0	
	comp=Z,5μm,16.2s						
GKP	**Gorka Klasztor**	**27.61**	**322**	*e*P	**P**	**18 36 46.0**	**+0.6**
GKP	**Gorka Klasztor**	**27.61**	**322**	*e*P	**P**	**18 36 46.0**	**+0.6**
GKP				*e*P	**P**	**18 36 46.0**	**+0.6**
STAL	**STALIGIAL**	**27.61**	**305**	P	**P**	**18 36 44.2**	**-1.4**
LATE	**Laterza**	**27.63**	**297**	P	**P**	**18 36 45.3**	**-0.5**
PRA	**Prague**	**27.70**	**314**	*e*S	**S**	**18 41 26.8**	**-0.7**
PRA				AMS	AMS	18 50 30.0	
	comp=Z,6μm,15.5s						
GEC2	**GERESS Array S**	**27.71**	**311**	P	**P**	**18 36 45.6**	**-0.9**
GERES	**GERESS Array B**	**27.71**	**311**	P	**P**	**18 36 45.3**	**-1.2**
	comp=Z,7.5nm,0.8s,baz=112,slow=8.1,SNR=36						
GERES				PcP	**PcP**	**18 40 03.7**	**+0.7**
	comp=Z,6.0nm,0.9s,baz=139,slow=2.8,SNR=4.4						
GERES				ScP	**ScP**	**18 43 43.1**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=128,slow=2.2,SNR=7.1						
GERES				LR	LR	18 48 59.4	
	comp=Z,2μm,20.3s,baz=116,slow=39						
GERES	**GERESS Array B**	**27.71**	**311**	P	**P**	**18 36 44.7**	**-1.7**
GERES					**ScP**	**18 43 43.2**	**+0.5**
PVCC	**Panska Ves**	**27.80**	**315**	*e*P	**P**	**18 36 46.8**	**-0.4**
PVCC				*e*S	**S**	**18 41 28.4**	**-0.7**
PVCC				MLR	MLR		
	comp=Z,5μm,14.5s						
PVCC	**Panska Ves**	**27.80**	**315**	*e*P	**P

ZCCA IAMs_20 IAMs_20 18 50 03.2
comp=Z,11μm,20.0s
WTTA Wattenberg 28.57 307 *i* P **P 18 36 53.3 -1.0**
comp=Z,117nm,1.4s,SNR=14
WTTA *e*PcP **PcP 18 40 05.1 -0.1**
comp=Z,56nm,1.7s
WTTA *e*S **S 18 41 38.2 -3.5**
comp=Z,67nm,1.0s
WTTA *e*ScP **ScP 18 43 47.7 +2.2**
comp=Z,13nm,0.9s
WTTA *e*PKiKP **PKiKP 18 47 37.8 -2.2**
comp=Z,36nm,1.6s
WATA Walderalm 28.63 307 *i* P **P 18 36 53.5 -1.3**
comp=Z,40nm,0.8s,SNR=16
WATA *e*PcP **PcP 18 40 05.6 +0.2**
comp=Z,34nm,1.1s
WATA *e*S **S 18 41 40.0 -2.5**
comp=Z,33nm,1.2s
WATA *e*ScP **ScP 18 43 46.8 +1.2**
comp=Z,15nm,1.0s
WATA PKiKP **PKiKP 18 47 37.9 -2.1**
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 28.84 46 P **P 18 36 58.4 +2.0**
comp=Z,61nm,0.8s,baz=253,slow=9.4,SNR=99
KURBB PcP **PcP 18 40 06.3 +0.7**
comp=Z,34nm,0.8s,baz=242,slow=3.4,SNR=10
KURBB ScP **ScP 18 43 46.7 +0.7**
comp=Z,34nm,1.0s,baz=255,slow=4.0,SNR=21
VLC Villacollemand 28.84 300 P **P 18 36 56.1 -0.5**
SQTA Sankt Quirin 28.85 307 *i* P **P 18 36 55.4 -1.2**
comp=Z,70nm,0.8s,SNR=14
SQTA *e*PcP **PcP 18 40 06.0 +0.2**
comp=Z,14nm,0.7s
SQTA *e*S **S 18 41 42.5 -3.3**
comp=Z,38nm,1.0s
SQTA *e*ScP **SS 18 43 47.8 -0.2**
comp=Z,16nm,0.9s
SQTA *e*PKiKP **PKiKP 18 47 39.4 -0.7**
comp=Z,14nm,1.1s
KURK Kurchatov 28.93 46 P **P 18 36 59.3 +2.1**
SNR=74
KURK P **P 18 36 59.3 +2.1**
SNR=74
KURK Kurchatov 28.93 46 P **P 18 36 58.8 +1.7**
KURK pmax pmax
comp=Z,565nm,1.9s
KURK MLR MLR
comp=Z,9μm,19.0s
KURK Kurchatov 28.93 46 P **P 18 36 58.8 +1.7**
KURK **ScP 18 43 46.4 +0.1**
KURK Kurchatov 28.93 46 IAMs_20 IAMs_20 18 50 40.7
comp=Z,9μm,19.0s
MOTA Moosalm 28.95 307 *i* P **P 18 36 56.1 -1.5**
comp=Z,38nm,0.6s,SNR=14
MOTA *e*PcP **PcP 18 40 06.4 +0.3**
comp=Z,32nm,1.4s
MOTA *e*S **S 18 41 42.7 -4.7**
comp=Z,42nm,1.0s
MOTA *e*ScP **ScP 18 43 47.9 +1.3**
comp=Z,22nm,0.9s
NKC Novy Kostel 28.95 313 *e*P **P 18 36 56.7 -0.8**
NKC *e*S **S 18 41 46.7 -0.5**
NKC MLR MLR
comp=Z,5μm,13.8s
NKC Novy Kostel 28.95 313 *e*P **P 18 36 56.7 -0.8**
NKC *e*S **S 18 41 46.7 -0.5**
NKC AMS AMS 18 50 40.0
comp=Z,5μm,13.8s
SALO Salr 28.97 303 P **P 18 36 56.3 -1.4**
SALO IAmb IAmb 18 37 05.5
comp=Z,84nm,1.0s
PRMA PARMA 28.98 302 P **P 18 36 57.0 -0.7**
PRMA IAmb IAmb 18 37 39.6
comp=Z,365nm,1.7s
CLL Collm 29.02 316 *e*P **P 18 36 57.0 -1.0**
CLL *e*S **S 18 41 45.0 -3.2**
CLL pmax pmax
comp=Z,92nm,1.6s
CLL MLR MLR
comp=Z,4μm,19.4s
CLL Collm 29.02 316 *e*P **P 18 36 57.0 -1.0**
comp=Z,92nm,1.6s
CLL *e*PcP **PcP 18 40 06.0 0.0**
CLL *e*S **S 18 41 45.0 -3.2**
CLL *e* 18 42 28.0
CLL *i* ScP **SS 18 43 49.2 -2.1**
CLL *i* sScP 18 43 56.7
comp=Z,54nm,1.7s
CLL *i* ScS **ScS 18 47 39.1 -1.1**
CLL LmV 18 50 00.0
comp=Z,4μm,19.4s
CLL Collm 29.02 316 P **P 18 36 57.0 -1.0**
FETA Feichten 29.12 306 *i* P **P 18 36 58.1 -1.0**
comp=Z,35nm,0.9s,SNR=11
FETA *e*PcP **PcP 18 40 05.7 -0.9**
comp=Z,27nm,1.0s
FETA *e*S **S 18 41 47.2 -3.0**
comp=Z,44nm,1.0s
FETA *e*ScP **ScP 18 43 44.6 -2.6**
comp=Z,19nm,0.9s
FETA *e*PKiKP **PKiKP 18 47 40.8 +0.5**
comp=Z,22nm,1.2s
RETA Reutte 29.20 307 *e*P **P 18 36 58.2 -1.6**
comp=Z,16nm,0.5s
RETA *e*S **S 18 41 47.6 -3.7**
comp=Z,47nm,1.5s
RETA *i* ScP **ScP 18 43 42.3 -5.1**
comp=Z,17nm,1.3s
MSSA Maissana 29.48 301 P **P 18 37 01.1 -1.2**
MSSA IAmb IAmb 18 37 07.9
comp=Z,394nm,2.0s
GRA1 Grafenberg Arr 29.52 312 P **P 18 37 01.3 -1.2**
GRA1 IAmb IAmb 18 37 18.1
comp=Z,71nm,0.9s
GRF Grafenberg Arr 29.52 312 P **P 18 37 01.3 -1.2**
GRF pmax pmax
comp=Z,71nm,0.9s
DAVOX Davos/Dischmat 29.64 306 P **P 18 37 02.8 -1.0**
comp=Z,18nm,0.8s,baz=111,slow=9.4,SNR=21
DAVOX S **S 18 41 57.0 -1.4**
comp=Z,8.4nm,0.8s,baz=210,slow=20,SNR=3.4
DAVOX LR LR 18 50 03.5
comp=Z,4μm,21.3s,baz=101,slow=39
KEST Kesra 29.69 283 P **P 18 37 05.3 +1.1**
comp=Z,31nm,1.2s,baz=247,slow=5.2,SNR=6.5
KEST ScP **ScP 18 43 52.0 +2.9**
comp=Z,10nm,0.9s,baz=243,slow=2.3,SNR=3.6
KEST Kesra 29.69 283 P **P 18 37 05.2 +1.1**
KEST IAmb IAmb 18 37 11.2
comp=Z,90nm,1.1s
DAVA Damuels 29.74 307 *i* P **P 18 37 03.3 -1.4**
comp=Z,44nm,0.6s,SNR=22
DAVA *e*S **S 18 41 56.8 -3.1**
comp=Z,39nm,1.4s
DAVA *e*ScP **ScP 18 43 46.4 -2.8**
comp=Z,14nm,0.8s
BSD Bornholm Skovb 29.74 324 *i* P **P 18 37 02.8 -1.5**
BSD pmax pmax
comp=Z,35nm,0.8s
BSD Bornholm Skovb 29.74 324 *i* P **P 18 37 02.8 -1.5**
comp=Z,35nm,0.8s
SEM Semipalatinsk 29.79 47 *e*P **P 18 37 05.8 +0.7**
SEM Semipalatinsk 29.79 47 *e*P **P 18 37 05.8 +0.7**
BHPL Bhopal 29.81 103 ⇑*i*P **P 18 37 04.8 -0.5**
BHPL IAmb IAmb 18 37 23.2
comp=Z,65nm,1.2s
BHPL IAMs_20 IAMs_20 18 51 45.5
comp=Z,8μm,11.3s
FIA1 FINESS Array S 29.86 341 P **P 18 37 04.5 -0.8**
FIA1 IAmb IAmb 18 37 12.7
comp=Z,116nm,1.2s
FINES FINESS Array B 29.86 341 P **P 18 37 04.7 -0.6**
comp=Z,21nm,0.5s,baz=144,slow=9.6,SNR=116
FINES LR LR 18 50 27.3
comp=Z,9μm,18.1s,baz=144,slow=39
FINES FINESS Array B 29.86 341 P **P 18 37 04.4 -0.9**
TUE Stuetta 29.93 305 P **P 18 37 05.2 -1.2**
MK31 Makanchi Array 30.15 55 P **P 18 37 09.7 +1.6**
MK31 pmax pmax
comp=Z,35nm,0.9s
MK31 Makanchi Array 30.15 55 P **P 18 37 09.7 +1.6**
MKAR Makanchi Array 30.15 55 P **P 18 37 09.9 +1.7**
comp=Z,46nm,0.9s,baz=252,slow=7.5,SNR=158
MKAR PcP **PcP 18 40 09.5 +0.4**
comp=Z,14nm,0.9s,baz=248,slow=5.8,SNR=3.1
MKAR ScP **ScP 18 43 50.3 -0.1**
comp=Z,7.1nm,0.9s,baz=279,slow=8.5,SNR=3.8
MKAR LR LR 18 52 06.2
comp=Z,5μm,19.9s,baz=251,slow=42
MKAR P3KPbc 19 09 04.7
comp=Z,0.7nm,0.9s,baz=123,slow=5.3,SNR=3.6
MKAR Makanchi Array 30.15 55 P **P 18 37 09.3 +1.2**
MKAR **PcP 18 40 09.8 +0.8**
MKAR **ScP 18 43 49.9 -0.4**
TMCR Tamitsa 30.19 353 *e*P **P 18 37 07.2 -0.9**
TMCR *e*S **S 18 42 02.8 -3.3**
TMCR pmax pmax
comp=Z,120nm,0.8s
RGN Rugen 30.26 322 P **P 18 37 08.6 -0.3**
STU Stuttgart 30.54 309 P **P 18 37 10.8 -0.7**
STU pmax pmax
comp=Z,28nm,0.9s
STU Stuttgart 30.54 309 P **P 18 37 10.8 -0.7**
BFO Black Forest 30.99 308 P **P 18 37 15.1 -0.4**
BFO pmax pmax
comp=Z,26nm,0.9s
BFO Black Forest 30.99 308 P **P 18 37 15.1 -0.4**
COP Copenhagen 31.25 323 *i* P **P 18 37 17.8 +0.1**
COP pmax pmax
comp=Z,140nm,1.3s
COP Copenhagen 31.25 323 *i* P **P 18 37 17.8 +0.1**
comp=Z,136nm,1.3s
SENIN Lac Senin/Sane 31.31 304 P **P 18 37 17.7 -0.9**
LPG La Plagne 31.58 302 *e*P **P 18 37 19.5 -1.5**
LPG pmax pmax
comp=Z,43nm,0.7s
BNI Bardonecchia 31.58 302 P **P 18 37 19.5 -1.4**
BNI pmax pmax
comp=Z,178nm,0.9s
BNI Bardonecchia 31.58 302 P **P 18 37 19.4 -1.4**
ECH Echery 31.73 308 P **P 18 37 19.8 -2.2**
ECH pmax pmax
comp=Z,51nm,1.1s
ECH Echery 31.73 308 P **P 18 37 19.9 -2.2**
ZSN Zaisan 32.00 54⇑*i*P **P 18 37 25.4 +1.0**
comp=Z,257nm,4.1s
ZSN Zaisan 32.00 54*c i*P **P 18 37 25.4 +1.0**
LODK Lodwar 32.27 200 P **P 18 37 28.6 +1.6**
SNR=65
WLF Walferdange 32.69 310 P **P 18 37 28.6 -1.7**
WLF pmax pmax
comp=Z,65nm,0.9s
WLF MLR MLR
comp=Z,2μm,20.0s
WLF Walferdange 32.69 310 P **P 18 37 28.6 -1.7**
WLF IAmb IAmb 18 37 37.4
comp=Z,65nm,0.9s
DANN Dangsing 32.91 90 *e*P **P 18 37 34.1 +1.2**
comp=Z,705nm,0.8s
KOLN Koldanda 32.98 91 *e*P **P 18 37 34.1 +0.7**
comp=Z,185nm,0.9s
SSB Saint Sauveur 33.10 302 P **P 18 37 32.4 -1.7**
SSB pmax pmax
comp=Z,38nm,0.9s
SSB Saint Sauveur 33.10 302 P **P 18 37 32.4 -1.7**
MUD Monsted U'grnd 33.23 323⇑*i*P **P 18 37 35.6 +0.6**
MUD pmax pmax
comp=Z,66nm,0.9s
MUD Monsted U'grnd 33.23 323⇑*i*P **P 18 37 35.6 +0.6**
comp=Z,66nm,0.9s
MAHO Mahon 33.27 292⇑*e*P **P 18 37 35.0 -0.5**
MAHO *e*S **S 18 42 54.4 -0.4**
WMQ Urumqi 33.62 61 P **P 18 37 40.9 +2.2**
WMQ pmax pmax
comp=Z,61nm,0.8s
WMQ Urumqi 33.62 61 P **P 18 37 40.9 +2.2**
WMQ IAmb IAmb 18 37 50.0
comp=Z,61nm,0.8s
ZAA0 Zalesovo Array 33.62 42 P **P 18 37 39.2 +0.8**
ZAA0 IAmb IAmb 18 37 41.7
comp=Z,94nm,1.0s
ZALV Zalesovo Beam 33.62 42 P **P 18 37 39.5 +1.1**
comp=Z,53nm,0.8s,baz=261,slow=8.8,SNR=122
ZALV PcP **PcP 18 40 17.5 -0.8**
comp=Z,17nm,0.9s,baz=261,slow=5.4,SNR=3.1
ZALV ScP **ScP 18 44 02.9 +1.0**
comp=Z,11nm,1.0s,baz=261,slow=7.4,SNR=4.0
ZALV LR LR 18 54 01.9
comp=Z,9μm,18.3s,baz=248,slow=41
ZALV Zalesovo Beam 33.62 42 P **P 18 37 39.0 +0.5**
ZALV **PcP 18 40 17.3 -1.0**
ZALV **ScP 18 44 00.9 -1.0**
GKN Gorkha 33.76 90 *e*P **P 18 37 40.8 +0.7**
comp=Z,486nm,0.7s
HYB Hyderabad 33.84 112 *i* P **P 18 37 39.5 -1.3**
comp=Z,100nm,0.8s
HYB *e*S **S 18 43 08.0 +3.8**
HYB Hyderabad 33.84 112⇑*i*P **P 18 37 40.2 -0.5**
APA Apatity 33.99 352⇑*i*P **P 18 37 40.4 -1.1**
APA pmax pmax
comp=Z,123nm,0.8s
APA MLR MLR
comp=Z,9μm,16.0s
UCC Uccle 34.06 312 P **P 18 37 41.7 -0.6**
UCC pmax pmax
comp=Z,82nm,1.5s
UCC Uccle 34.06 312 P **P 18 37 41.7 -0.6**
DGZ Jazzator, Alta 34.08 50*c i*P **P 18 37 44.4 +1.7**
LVZ Lovozero 34.16 353*c e*P **P 18 37 43.3 +0.3**
LVZ pmax pmax
comp=Z,77nm,1.3s
LVZ Lovozero 34.16 353 P **P 18 37 41.9 -1.2**
LVZ IAmb IAmb 18 37 56.9
comp=Z,74nm,0.9s
LVZ IAMs_20 IAMs_20 18 52 48.9
comp=Z,8μm,18.0s
OSL Oslo 34.23 329 *e*P **P 18 37 43.1 -0.5**
DMN Daman 34.29 90 *e*P **P 18 37 45.7 +0.8**
comp=Z,442nm,1.0s
NC602 NORSAR Array S 34.33 331 *e*P **P 18 37 43.5 -1.1**
NC602 NORSAR Array S 34.33 331 P **P 18 37 43.3 -1.2**
NC602 IAmb IAmb 18 37 51.6
comp=Z,105nm,1.0s
KKN Kakani 34.37 90 *e*P **P 18 37 46.2 +0.7**
comp=Z,233nm,0.7s
HOMB Homborsund 34.38 326 *e*P **P 18 37 44.3 -0.6**
NC405 NORSAR Array S 34.48 331 P **P 18 37 44.7 -1.1**
PKIN Phulchoki 34.54 90 *e*P **P 18 37 47.8 +0.8**
comp=Z,239nm,0.7s
PKI Pulchoki 34.55 90 *e*P **P 18 37 47.9 +0.7**
comp=Z,332nm,0.7s
KONO Kongsberg 34.56 328 P **P 18 37 45.3 -1.2**
KONO pmax pmax
comp=Z,117nm,1.0s
KONO MLR MLR
comp=Z,5μm,19.0s
KONO Kongsberg 34.56 328 *e*P **P 18 37 45.5 -1.0**
KONO Kongsberg 34.56 328 P **P 18 37 45.3 -1.2**
KONO IAmb IAmb 18 37 53.6
comp=Z,117nm,1.0s
NB201 NORSAR Array S 34.61 331 P **P 18 37 46.0 -1.0**
NB201 IAmb IAmb 18 37 54.0
comp=Z,164nm,1.2s
NB2 NORSAR Subarra 34.63 331 P **P 18 37 45.7 -1.5**
comp=Z,70nm,1.2s,baz=125,slow=8.6
NB2 NORSAR Subarra 34.63 331 P **P 18 37 45.7 -1.5**
baz=125,slow=8.6
NOA NORSAR Array B 34.63 331 P **P 18 37 45.8 -1.5**
comp=Z,20nm,0.9s,baz=125,slow=8.6,SNR=58
NOA LR LR 18 53 40.4
comp=Z,8μm,19.7s,baz=125,slow=39
NAO01 NORSAR Array S 34.66 331 P **P 18 37 46.2 -1.2**
NC303 NORSAR Array S 34.68 331 P **P 18 37 46.1 -1.5**
NBO00 NORSAR Array S 34.80 331 P **P 18 37 47.4 -1.2**
NBO00 IAmb IAmb 18 39 04.0
comp=Z,97nm,1.1s
GUN Gumba 34.82 89 *e*P **P 18 37 50.5 +0.9**
comp=Z,1μm,0.8s
CAF Calviac 34.83 301 *e*P **P 18 37 47.4 -1.7**
CAF pmax pmax
comp=Z,61nm,1.7s
CLF Chambon-Foret 34.94 306 P **P 18 37 48.7 -1.3**
CLF IAmb IAmb 18 38 15.3
comp=Z,74nm,1.1s
NC204 NORSAR Array S 34.95 331 P **P 18 37 48.7 -1.3**
NC204 IAmb IAmb 18 37 57.5
comp=Z,170nm,1.4s
SNART Snartemo 35.02 325 *e*P **P 18 37 50.3 -0.2**
JIRN Jiri 35.16 90 *e*P **P 18 37 53.6 +1.0**
comp=Z,812nm,0.7s
SKAR Skarslia 35.64 329 *e*P **P 18 37 56.1 +0.2**
RAMN Ramite 35.76 91 *e*P **P 18 37 58.0 +0.4**
comp=Z,601nm,0.7s
LFF La Frestale 35.77 301 *e*P **P 18 37 54.6 -2.6**
LFF pmax pmax
comp=Z,21nm,0.6s
BLS5 Blasjo 35.85 326 *e*P **P 18 37 57.8 +0.1**
ODD1 Odda 36.00 327 *e*P **P 18 37 59.4 +0.4**
DOMB Dombas 36.05 331 *e*P **P 18 37 59.2 -0.2**
MNCI Minicoy 36.15 130 P **P 18 38 02.4 +1.7**
MNCI IAmb IAmb 18 38 38.3
comp=Z,137nm,1.2s
KMBO Kilima Mbogo 36.20 194 P **P 18 38 03.0 +1.7**
KMBO Kilima Mbogo 36.20 194 P **P 18 38 03.3 +2.0**
KMBO Kilima Mbogo 36.20 194 P **P 18 38 02.6 +1.3**
KMBO pmax pmax
comp=Z,69nm,1.3s
KMBO MLR MLR
comp=Z,9μm,18.0s
KMBO Kilima Mbogo 36.20 194 P **P 18 38 03.0 +1.7**
comp=Z,26nm,1.1s,baz=7.5,slow=9.2,SNR=19
KMBO ScP **ScP 18 44 14.2 +2.2**
comp=Z,3.9nm,1.0s,baz=21,slow=4.2,SNR=4.1
KMBO LR LR 18 52 56.8
comp=Z,9μm,19.1s,baz=9.0,slow=36
KMBO Kilima Mbogo 36.20 194 P **P 18 38 02.6 +1.3**
KMBO **ScP 18 44 13.9 +1.8**
KMBO Kilima Mbogo 36.20 194 IAMs_20 IAMs_20 18 52 54.0
comp=Z,9μm,18.0s
KMY Karmoy 36.32 326 *e*P **P 18 38 01.6 0.0**
ODAN Odare 36.45 90 *e*P **P 18 38 04.0 +0.5**
comp=Z,139nm,0.6s
MFF Saint Martin d 36.45 304 *e*P **P 18 38 00.9 -2.1**
MFF pmax pmax
comp=Z,68nm,0.8s
BOK Bokaro 36.46 96⇑*i*P **P 18 38 01.8 -1.5**
BOK IAMs_20 IAMs_20 18 55 58.8
comp=Z,8μm,13.0s
NSS Namsos 36.47 336 *e*P **P 18 38 02.4 -0.4**
TAPN Taplejung 36.53 89 *e*P **P 18 38 05.2 +1.0**
comp=Z,716nm,0.8s
HYA Hoyanger 36.78 329 *e*P **P 18 38 07.1 +1.5**
BER Bergen 36.79 328 *e*P **P 18 38 05.8 +0.2**
MOR8 Moi Rana 36.79 339 *e*P **P 18 38 05.1 -0.6**
ASK Askoy 36.90 328 *e*P **P 18 38 06.7 +0.1**
KTK1 Kautokeino 36.90 347 *e*P **P 18 38 05.7 -0.8**
TAM Tamanrasset 36.90 263 P **P 18 38 07.7 +0.4**
TAM pmax pmax
comp=Z,267nm,1.3s
TAM MLR MLR
comp=Z,8μm,18.0s
TAM Tamanrasset 36.90 263 P **P 18 38 07.7 +0.4**
TAM IAMs_20 IAMs_20 18 56 07.0
comp=Z,8μm,18.0s
KEV Kevo 36.91 349 P **P 18 38 06.7 +0.2**
KEV pmax pmax
comp=Z,89nm,1.0s
KEV MLR MLR
comp=Z,8μm,20.0s
KEV Kevo 36.91 349 P **P 18 38 06.7 +0.2**
KEV IAmb IAmb 18 38 09.5
comp=Z,89nm,1.0s
KEV IAMs_20 IAMs_20 18 54 22.2
comp=Z,8μm,20.0s
MOL Molde 36.93 332 *e*P **P 18 38 07.4 +0.6**
AKN Aaknes 36.95 331 *e*P **P 18 38 07.6 +0.6**
ARCES ARCESS Array B 36.95 348 P **P 18 38 06.7 -0.2**
comp=Z,87nm,0.8s,baz=170,slow=8.7,SNR=140
ARCES LR LR 18 54 36.0
comp=Z,11μm,19.2s,baz=148,slow=38
ARCES ARCESS Array B 36.95 348 P **P 18 38 05.8 -1.1**
ARE0 ARCESS Array S 36.95 348 *e*P **P 18 38 06.5 -0.4**
ARE0 ARCESS Array S 36.95 348 P **P 18 38 06.1 -0.8**
KIBK Kibwezi 37.23 193 P **P 18 38 11.4 +1.5**
SNR=42
GTK Tadong 37.28 89 *e*P **P 18 38 11.7 +1.3**
GTK ⇑*i*P **P 18 38 12.4 +2.0**
GTK IAmb IAmb 18 38 18.0
comp=Z,703nm,0.4s
SUE Sulen 37.34 328 *e*P **P 18 38 09.9 -0.4**
HMDM Hanimaadhoo 37.38 131 P **P 18 38 13.1 +1.9**
SNR=14
HMDM Hanimaadhoo 37.38 131 P **P 18 38 12.1 +0.9**
HMDM IAmb IAmb 18 38 24.3
comp=Z,139nm,1.0s
KONS Konsvik 37.40 339 *e*P **P 18 38 11.2 +0.5**
MBAR Mbarara 37.52 205 P **P 18 38 11.9 -0.6**
MBAR pmax pmax
comp=Z,99nm,1.5s
MBAR MLR MLR
comp=Z,9μm,22.0s
MBAR Mbarara 37.52 205 P **P 18 38 12.2 -0.3**
comp=Z,23nm,0.9s,baz=199,slow=23,SNR=4.0
MBAR Mbarara 37.52 205 P **P 18 38 11.9 -0.6**
MBAR IAMs_20 IAMs_20 18 53 46.9
comp=Z,9μm,22.0s
CART Cartagena 37.63 289 P **P 18 38 13.8 +0.8**
CART IAmb IAmb 18 39 20.4
comp=Z,161nm,1.6s
STEI Steigen 37.83 342 *e*P **P 18 38 14.3 -0.1**
CWF Charnwood Fore 37.89 314 *e*P **P 18 38 13.9 -1.2**
CWF IAmb IAmb 18 38 21.6
comp=Z,46nm,0.8s
CWF IAMs_20 IAMs_20 18 59 19.9
comp=Z,3μm,16.1s
JSA Saint Aubin 37.98 308 *e*P **P 18 38 14.6 -1.3**
JSA IAmb IAmb 18 38 16.3
comp=Z,42nm,0.8s
JSA IAMs_20 IAMs_20 18 57 47.3
comp=Z,3μm,16.7s
HAMF Hammerfest 38.23 348 *e*P **P 18 38 18.4 +0.7**
LBWR Ladybower, Pea 38.26 315 *e*P **P 18 38 17.7 -0.5**
LBWR IAmb IAmb 18 38 18.9
comp=Z,46nm,0.9s
LBWR IAMs_20 IAMs_20 18 59 07.4
comp=Z,8μm,14.7s
STRD Stroud 38.27 312 *e*P **P 18 38 17.1 -1.1**
STRD IAmb IAmb 18 38 20.9
comp=Z,81nm,0.9s
STRD IAMs_20 IAMs_20 18 57 46.4
comp=Z,5μm,16.5s
TRO Tromso 38.28 345 *e*P **P 18 38 17.4 -0.7**
HPK Haverah Park 38.30 315 *e*P **P 18 38 17.8 -0.7**
HPK IAMs_20 IAMs_20 18 59 07.0
comp=Z,7μm,14.2s
OLDB Oldbury-Upon-S 38.49 312 *e*P **P 18 38 19.1 -1.0**
OLDB IAMs_20 IAMs_20 18 57 51.9
comp=Z,4μm,16.6s
TRD Trivandrum 38.56 125⇑*i*P **P 18 38 21.5 +0.5**
TRD IAmb IAmb 18 38 28.5
comp=Z,100nm,1.2s
LSA Lhasa 38.56 84 P **P 18 38 22.2 +0.6**
LSA Lhasa 38.56 84 P **P 18 38 23.0 +1.4**
LSA P **P 18 38 23.0 +1.4**
LSA P **P 18 38 23.0 +1.4**
LSA Lhasa 38.56 84 P **P 18 38 21.4 -0.2**
LSA S **S 18 44 16.0 -1.1**
LSA pmax pmax
comp=Z,64nm,0.9s
LSA MLR MLR
comp=Z,5μm,19.0s
LSA Lhasa 38.56 84 P **P 18 38 21.4 -0.2**
LSA **S 18 44 16.0 -1.1**
LSA IAMs_20 IAMs_20 18 55 33.0
comp=Z,5μm,19.0s
MONM Monmouth 38.67 312 *e*P **P 18 38 20.2 -1.4**
EDMD Edmundbyers 38.67 317 *e*P **P 18 38 20.8 -0.9**
HLM1 Long Mynd 38.81 313 *e*P **P 18 38 21.7 -1.2**
HLM1 IAmb IAmb 18 38 29.9
comp=Z,72nm,1.0s
HLM1 IAMs_20 IAMs_20 19 00 06.3
comp=Z,5μm,15.6s
MCH1 Michaelchurch 38.81 312 *e*P **P 18 38 21.3 -1.5**
MCH1 IAMs_20 IAMs_20 18 59 13.8
comp=Z,4μm,16.9s
UCM Universidad Co 38.96 293 *i* S **S 18 44 21.8 -0.2**
FOEL Foel Wylfa 39.05 314 *e*P **P 18 38 24.2 -0.7**
FOEL IAmb IAmb 18 38 32.0
comp=Z,96nm,1.0s
FOEL IAMs_20 IAMs_20 18 59 55.6
comp=Z,6μm,16.4s
ESY Stoneypath 39.27 318 *e*P **P 18 38 26.0 -0.7**
KESW Keswick, Cumbr 39.28 316 *e*P **P 18 38 26.1 -0.6**
KESW IAmb IAmb 18 38 27.9
comp=Z,84nm,1.2s
KESW IAMs_20 IAMs_20 19 00 42.5
comp=Z,4μm,16.5s

DRUM Mains of Drumt 39.43 320 *e*P **P 18 38 26.9 -1.0**
DRUM IAMs_20 IAMs_20 18 58 31.4
comp=Z,4μm,19.1s
ESK Eskdalemuir 39.47 317 *e*P **P 18 38 26.8 -1.5**
ESK IAMs_20 IAMs_20 18 59 03.0
comp=Z,3μm,21.4s
ESK Eskdalemuir 39.47 317 P **P 18 38 26.8 -1.5**
ESK pmax pmax
comp=Z,78nm,1.4s
ESK Eskdalemuir 39.47 317 P **P 18 38 26.8 -1.5**
EBL Broad Law 39.48 318 *e*P **P 18 38 27.8 -0.5**
EDI Edinburgh 39.59 318 *e*P **P 18 38 28.5 -0.7**
EDI IAMs_20 IAMs_20 19 01 20.9
comp=Z,3μm,15.3s
ESBB Sonseca Array 39.59 293 P **P 18 38 28.9 -0.7**
ESDC Sonseca Array 39.59 293 P **P 18 38 28.7 -0.9**
comp=Z,2.9nm,0.5s,baz=70,slow=8.6,SNR=38
ESDC ScP **ScP 18 44 27.9 +3.5**
comp=Z,1.6nm,0.8s,baz=72,slow=5.8,SNR=2.8
ESDC LR LR 18 57 01.2
comp=Z,1μm,18.9s,baz=85,slow=40
ESDC Sonseca Array 39.59 293 P **P 18 38 28.3 -1.4**
ESDC **ScP 18 44 25.2 +0.8**
EDU Dundee 39.63 319 *e*P **P 18 38 28.0 -1.5**
LRW Lerwick 39.69 325 *e*P **P 18 38 28.8 -1.2**
LRW IAmb IAmb 18 38 36.5
comp=Z,58nm,0.9s
LRW IAMs_20 IAMs_20 18 59 36.9
comp=Z,4μm,15.3s
WLF1 Llynfaes 39.82 314 *e*P **P 18 38 31.1 -0.2**
WLF1 IAmb IAmb 18 38 33.8
comp=Z,91nm,1.3s
WLF1 IAMs_20 IAMs_20 19 00 31.0
comp=Z,9μm,17.0s
RSBS Rosebush, Pemb 39.88 312 *e*P **P 18 38 30.1 -1.6**
PAB San Pablo 39.91 292 P **P 18 38 31.7 -0.6**
PAB pmax pmax
comp=Z,90nm,1.5s
PAB San Pablo 39.91 292 P **P 18 38 31.7 -0.6**
MSEY Mahe Island 39.92 165 P **P 18 38 33.2 +0.8**
MSEY Mahe Island 39.92 165 P **P 18 38 32.7 +0.2**
MSEY pmax pmax
comp=Z,91nm,1.4s
MSEY MLR MLR
comp=Z,6μm,19.0s
MSEY Mahe Island 39.92 165 P **P 18 38 32.7 +0.2**
MSEY Mahe Island 39.92 165 IAMs_20 IAMs_20 18 55 32.7
comp=Z,6μm,19.0s
YRC Rhoscolyn 39.92 314 *e*P **P 18 38 31.7 -0.4**
MCD Coleburn Disti 40.00 321 *e*P **P 18 38 31.8 -0.8**
IOMK Kirk Michael 40.06 315 *e*P **P 18 38 32.7 -0.5**
IOMK IAMs_20 IAMs_20 18 59 23.5
comp=Z,8μm,17.4s
INVG Invergeldie, C 40.16 319 *e*P **P 18 38 33.1 -0.9**
INVG IAmb IAmb 18 38 41.4
comp=Z,103nm,0.9s
INVG IAMs_20 IAMs_20 19 00 31.6
comp=Z,4μm,14.4s
GAL1 Galloway 40.24 316 *e*P **P 18 38 33.7 -1.0**
GAL1 IAMs_20 IAMs_20 19 01 20.1
comp=Z,4μm,19.9s
EAB Aberfoyle 40.27 318 *e*P **P 18 38 33.8 -1.2**
PGBU Glenifferbraes 40.28 318 *e*P **P 18 38 34.1 -1.0**
BIGH Upper Bighouse 40.56 322 *e*P **P 18 38 36.1 -1.1**
BIGH IAMs_20 IAMs_20 19 01 47.5
comp=Z,4μm,15.5s
SHL Shillong 40.67 90 P **P 18 38 39.5 +0.7**
SHN=68
SHL Shillong 40.67 90 P **P 18 38 38.1 -0.8**
SHL pmax pmax
comp=Z,146nm,0.9s
SHL MLR MLR
comp=Z,8μm,18.0s
SHL Shillong 40.67 90 P **P 18 38 38.1 -0.8**
SHL IAmb IAmb 18 38 52.0
comp=Z,146nm,0.9s
GMM Mts of Mourne 40.87 315 *e*P **P 18 38 39.1 -0.8**
LAWE Loch Awe, Argy 40.87 318 *e*P **P 18 38 38.7 -1.1**
LAWE IAMs_20 IAMs_20 19 02 20.9
comp=Z,4μm,14.8s
DSB Dublin 41.00 314 P **P 18 38 40.2 -0.8**
KAC Achnashellach 41.05 320 *e*P **P 18 38 40.5 -0.9**
CLGH Cloghs, Cushen 41.07 317 *e*P **P 18 38 40.9 -0.7**
CLGH IAMs_20 IAMs_20 19 00 45.4
comp=Z,4μm,14.9s
IWEX Carrickbyrne, 41.16 312 *e*P **P 18 38 41.3 -1.0**
IWEX IAMs_20 IAMs_20 19 01 35.2
comp=Z,4μm,15.8s
RSC Scourie 41.17 322 *e*P **P 18 38 41.6 -0.7**
KPL Plockton 41.21 320 *e*P **P 18 38 42.6 0.0**
KPL IAMs_20 IAMs_20 19 01 06.5
comp=Z,5μm,16.1s
LIJA Lijar 41.21 289 *e*P **P 18 38 42.0 -1.1**
BELO BELONIA 41.28 93⇑ *i*P **P 18 38 44.6 +1.0**
BELO IAmb IAmb 18 38 53.9
PBRG Braganca 41.39 296 *e*P **P 18 38 43.8 -0.7**
comp=Z,47nm,2.0s
ALJ Aljibe 41.48 288 *e*P **P 18 38 48.0 +2.8**
MDT Midelt 41.59 283 P **P 18 38 46.9 +0.6**
comp=Z,47nm,1.2s,baz=245,slow=7.1,SNR=6.2
GIBL Gibalbin 41.66 289 *e*P **P 18 38 50.0 +3.3**
MVO Moncorvo 41.70 295 *e*P **P 18 38 46.2 -0.8**
comp=Z,77nm,1.4s
MVO *e*S **S 18 45 04.8 +1.9**
BRDH Bariadhala 41.70 94 LR LR 18 58 31.7
comp=Z,11034μm,20.4s,baz=183,slow=40
IFR Ifrane 41.81 284⇓ *i*P **P 18 38 52.1 +4.0**
IFR *i* S **S 18 45 07.3 +2.3**
IDGL Inch Island, C 41.87 316 *e*P **P 18 38 47.1 -1.0**
IDGL IAMs_20 IAMs_20 19 01 39.9
comp=Z,4μm,15.9s
NRIK Noril'sk 41.92 21 P **P 18 38 49.9 +1.6**
comp=Z,95nm,0.9s,baz=232,slow=5.7,SNR=54
NRIK ScP **ScP 18 44 34.0 +1.1**
comp=Z,11nm,0.8s,baz=149,slow=8.7,SNR=4.0
NRIK LR LR 19 00 34.1
comp=Z,4μm,19.0s,baz=232,slow=42
NRIK PKKP **PKKPdf 19 02 22.6 -5.0**
comp=Z,3.4nm,0.5s,baz=148,slow=4.1,SNR=5.6
PALK Pallekele 42.03 122 *i* P **P 18 38 50.3 +0.3**
SNR=12
PALK Pallekele 42.03 122 P **P 18 38 50.4 +0.5**
PALK Pallekele 42.03 122 P **P 18 38 50.0 +0.1**
PALK pmax pmax
comp=Z,58nm,1.0s
PALK Pallekele 42.03 122 P **P 18 38 50.6 +0.7**
comp=Z,27nm,0.7s,baz=296,slow=9.5,SNR=27
PALK LR LR 18 56 42.9
comp=Z,4μm,21.4s,baz=297,slow=37
PALK Pallekele 42.03 122 P **P 18 38 50.0 +0.1**
PVRL Vila Real 42.19 296 *e*P **P 18 38 50.5 -0.5**
comp=Z,80nm,1.4s
MTE Manteigas 42.20 294 *e*P **P 18 38 50.6 -0.5**
comp=Z,102nm,2.4s
MTE *e*S **S 18 45 12.3 +1.9**
MTE Manteigas 42.20 294 P **P 18 38 49.3 -1.8**
POLO Lamas de Olo 42.23 296 *e*P **P 18 38 50.7 -0.7**
comp=Z,34nm,1.2s
POLO *e*S **S 18 45 13.9 +2.9**
PCBR Castelo Branco 42.24 294 *e*P **P 18 38 51.0 -0.4**
comp=Z,121nm,1.0s
PMRV Marv??o 42.25 293 *e*P **P 18 38 50.7 -0.8**
comp=Z,64nm,1.2s
PMRV *e*S **S 18 45 09.5 -1.6**
KAAM Kaadhehdhoo 42.29 137 P **P 18 38 52.1 +0.2**
KAAM IAmb IAmb 18 38 59.1
comp=Z,260nm,1.5s
KAAM IAMs_20 IAMs_20 18 56 36.7
comp=Z,5μm,20.0s
PVIS Viseu 42.41 295 *e*P **P 18 38 52.3 -0.5**
comp=Z,100nm,1.7s
KOHI KOHIMA 42.45 88⇑ *i*P **P 18 38 53.4 0.0**
KOHI IAmb IAmb 18 39 02.1
comp=Z,176nm,1.1s
PESTR Estremoz 42.51 292 *e*S **S 18 45 11.6 -3.2**
PESTR Estremoz 42.51 292 P **P 18 38 52.0 -1.6**
IGLA Glengowla, Co 42.80 314 *e*P **P 18 38 53.9 -1.8**
IGLA IAMs_20 IAMs_20 19 01 58.9
comp=Z,6μm,15.6s
MOY Mondy 42.86 49 *e*P **P 18 38 59.0 +2.6**
MOY *e* 18 40 40.2
MOY pmax pmax
comp=Z,242nm,3.2s
COI Coimbra 42.89 294 *e*P **P 18 38 56.7 +0.1**
comp=Z,136nm,1.4s
COI *e*S **S 18 45 21.9 +1.6**
COI Coimbra 42.89 294 P **P 18 38 55.7 -0.9**
COI pmax pmax
comp=Z,66nm,0.8s
COI Coimbra 42.89 294 P **P 18 38 55.7 -0.9**
PBEJ Beja 42.89 291 *e*P **P 18 38 56.3 -0.3**
comp=Z,107nm,1.3s
PVAQ Vaqueiros 42.91 290 *e*P **P 18 38 56.2 -0.6**
comp=Z,103nm,1.5s
PVAQ *e*S **S 18 45 23.3 +2.6**
PVAQ Vaqueiros 42.91 290 P **P 18 38 55.5 -1.3**
PMTG Montargil 42.95 293 *e*P **P 18 38 57.2 0.0**
comp=Z,57nm,1.6s
PMTG *e*S **S 18 45 23.1 +1.7**
PCAS Casmilo, Conde 42.98 294 *e*P **P 18 38 57.0 -0.4**
comp=Z,113nm,1.6s
PCAS *e*S **S 18 45 23.8 +2.1**
PTOM Tomar 42.99 293 *e*P **P 18 38 57.3 -0.2**
comp=Z,181nm,1.2s
GTA Gaotai 43.03 67⇑ P **P 18 38 59.6 +1.7**
GTA PcP **PcP 18 40 47.1 -0.9**
GTA ScP **ScP 18 44 38.6 +0.5**
GTA S **S 18 45 24.1 +1.3**
GTA SS **SS 18 48 30.1 -4.7**
GTA ScS **ScS 18 48 56.8 -1.0**
GTA pmax pmax
comp=Z,130nm,1.1s
GTA pmax pmax
comp=Z,1μm,5.3s
GTA LR LR
comp=Z,3μm,13.4s
GTA LR LR
comp=Z,5μm,15.1s
GTA LR LR
comp=Z,9μm,15.8s
RTC Rabat Centre 43.07 285 P **P 18 38 59.0 +0.9**
PCVE Castro Verde 43.10 290 *e*P **P 18 38 58.3 -0.1**
comp=Z,107nm,1.4s
PCVE *e*S **S 18 45 24.8 +1.2**
PBDV Barranco-do-Ve 43.11 290 *e*S **S 18 45 25.4 +1.7**
MESJ Messejana 43.20 291 *e*P **P 18 38 58.4 -0.8**
MESJ AMb AMB 18 39 10.9
comp=Z,104nm,1.3s
MESJ *e*PP **PP 18 40 39.0 -0.6**
MESJ *e*S **S 18 45 25.5 +0.5**
MESJ Messejana 43.20 291 *e*P P 18 39 04.4 +5.2
comp=Z,103nm,1.5s
MESJ Messejana 43.20 291 *e*P **P 18 38 58.4 -0.8**
MESJ *e* 18 40 39.0
MESJ *e*S **S 18 45 25.5 +0.5**
LKP Lekhapani 43.26 85⇑ *i*P **P 18 38 59.0 -0.8**
PNCL Nicolau / Gran 43.38 291 *e*P **P 18 39 00.4 -0.2**
comp=Z,66nm,1.9s
PNCL *e*S **S 18 45 29.7 +2.1**
MORF Marmelete 43.65 290 *e*P **P 18 39 02.1 -0.8**
MORF AMb AMB 18 39 06.9
comp=Z,80nm,1.6s
MORF *e*S **S 18 45 31.9 +0.2**
MORF Marmelete 43.65 290 *e*S **S 18 45 32.7 +0.9**
MORF Marmelete 43.65 290 *e*P **P 18 39 02.1 -0.8**
MORF *e*S **S 18 45 31.9 +0.2**
LIS Lisbon 43.73 292 *e*P **P 18 39 02.8 -0.6**
LIS AMb AMB 18 39 08.7
comp=Z,207nm,1.6s
LIS *e*S **S 18 45 33.4 +0.7**
LIS Lisbon 43.73 292 *e*P **P 18 39 02.8 -0.6**
LIS *e*S **S 18 45 33.4 +0.7**
PMAFR Mafra 43.78 293 *e*P **P 18 39 03.6 -0.3**
comp=Z,340nm,1.6s
PMAFR *e*S **S 18 45 35.9 +2.3**
PFVI Vila Bisbo 43.83 290 *e*S **S 18 45 35.9 +1.7**
PFVI Vila Bisbo 43.83 290 P **P 18 39 05.2 +0.9**
SIMRM Sittwe 43.90 96 P **P 18 39 05.5 +0.5**
ZAK Zakamensk 44.30 51 *e*P **P 18 39 09.4 +1.4**
ZAK *e* 18 40 52.5
ZAK pmax pmax
comp=Z,29nm,2.0s
TLY Talaya 44.51 49 P **P 18 39 12.8 +3.2**
SNR=16
TLY Talaya 44.51 49*c* *i*P **P 18 39 11.2 +1.7**
TLY *e* 18 40 55.5
TLY *e*S **S 18 45 52.4 +8.6**
TLY pmax pmax
comp=Z,132nm,1.7s
TLY MLR MLR
comp=Z,10μm,14.0s
TLY Talaya 44.51 49 P **P 18 39 11.9 +2.4**
comp=Z,7.9nm,0.7s,baz=260,slow=7.9,SNR=9.0
TLY LR LR 18 59 19.1
comp=Z,2μm,20.1s,baz=275,slow=38
TLY Talaya 44.51 49 P **P 18 39 11.4 +1.9**
TLY IAmb IAmb 18 39 20.2
comp=Z,134nm,1.9s
HSPB Hornsund (broa 44.82 351 *e*P **P 18 39 12.6 +1.0**
IRK Irkutsk 44.89 48⇑ *i*P **P 18 39 13.7 +1.1**
IRK *e* 18 40 55.5
IRK pmax pmax
comp=Z,285nm,1.6s
TOC1 Torodi Ar. Sit 45.03 253 IAMs_20 IAMs_20 18 58 36.6
comp=Z,4μm,19.0s
TOC3 Torodi Ar. Sit 45.03 253 IAMs_20 IAMs_20 19 00 46.4
comp=Z,5μm,18.0s
TOA0 Torodi Ar. Sit 45.05 253 P **P 18 39 14.1 -0.1**
SNR=26
TOA0 Torodi Ar. Sit 45.05 253 P **P 18 39 13.1 -1.1**
TOA0 IAmb IAmb 18 39 19.1
comp=Z,157nm,1.3s
TORD Torodi Ar. Bea 45.05 253 P **P 18 39 13.7 -0.5**
comp=Z,110nm,1.2s,baz=46,slow=8.6,SNR=53
TORD LR LR 18 58 49.0
comp=Z,3μm,19.4s,baz=5.0,slow=37
TORD PKPPKP P'P'df 19 10 24.0 -27
comp=Z,0.6nm,0.9s,baz=242,slow=3.1,SNR=2.5
TORD Torodi Ar. Bea 45.05 253 P **P 18 39 12.9 -1.4**
TOC5 Torodi Ar. Sit 45.07 253 IAMs_20 IAMs_20 18 58 38.5
comp=Z,4μm,20.0s
SPA0 Spitsbergen Ar 45.68 352 *e*P **P 18 39 19.2 +0.7**
SPA0 Spitsbergen Ar 45.68 352 P **P 18 39 17.9 -0.6**
SPITS Spitsbergen Ar 45.68 352 P **P 18 39 19.0 +0.5**
comp=Z,41nm,0.4s,baz=134,slow=10,SNR=121
SONM Songino Array 46.52 54 P **P 18 39 25.7 +0.1**
SONM 18 40 59.9
SONM pmax pmax
comp=Z,16nm,1.2s
SONM Songino Array 46.52 54 P **P 18 39 26.8 +1.1**
comp=Z,6.8nm,0.8s,baz=278,slow=9.7,SNR=38
SONM PcP **PcP 18 41 00.7 +0.9**
comp=Z,5.3nm,0.8s,baz=256,slow=3.3,SNR=4.2
SONM ScP **ScP 18 44 53.1 +0.8**
comp=Z,7.2nm,0.9s,baz=256,slow=8.4,SNR=6.6
SONM LR LR 19 03 12.2
comp=Z,3μm,18.2s,baz=281,slow=42
SONM PKPPKP P'P'df 19 10 28.9 -27
comp=Z,0.5nm,0.9s,baz=160,slow=4.7,SNR=3.5
SONM Songino Array 46.52 54 P **P 18 39 25.7 +0.1**
SONM **PcP 18 40 59.9 +0.1**
SONM **ScP 18 44 51.9 -0.4**
KBS Kingsbay 46.81 352 P **P 18 39 27.4 +0.1**
KBS pmax pmax
comp=Z,515nm,2.0s
KBS MLR MLR
comp=Z,3μm,19.0s
KBS Kingsbay 46.81 352 *e*P **P 18 39 27.5 +0.2**
KBS Kingsbay 46.81 352 P **P 18 39 27.4 +0.1**
LZH Lanzhou 46.90 70⇑ P **P 18 39 30.3 +1.4**
LZH PP **PP 18 41 24.9 +5.8**
LZH S **S 18 46 22.1 +3.1**
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,1μm,4.3s
LZH LR LR
comp=Z,4μm,14.6s
LZH LR LR
comp=Z,6μm,16.3s
LZH LR LR
comp=Z,4μm,17.9s
ULN Ulaanbaatar 46.96 54 P **P 18 39 30.3 +1.2**
SNR=17
ULN Ulaanbaatar 46.96 54*c*e*P* **P 18 39 30.9 +1.8**
ULN pmax pmax
comp=Z,120nm,1.7s
ULN Ulaanbaatar 46.96 54 P **P 18 39 29.1 0.0**
ULN **P 18 39 29.3 +0.2**
ULN IAmb IAmb 18 39 32.6
comp=Z,72nm,1.0s
DGPR DIGLIPUR 47.59 104 *e*P **P 18 39 34.2 0.0**
DGPR IAMs_20 IAMs_20 19 02 07.8
comp=Z,7μm,17.1s
SBV Sambava 47.74 174 P **P 18 39 38.3 +3.1**
SNR=5.3
CD2 Chengdu 48.44 77⇓ *i*P **P 18 39 41.8 +1.1**
CD2 pP sP 18 39 54.5 +5.3
CD2 PP **PP 18 41 37.8 +4.5**
CD2 S **S 18 46 40.8 +0.1**
CD2 sS sS 18 47 05.3 +15
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,1μm,11.0s
CD2 LR LR
comp=Z,8μm,15.9s
CD2 LR LR
comp=Z,9μm,15.9s
CD2 LR LR
comp=Z,10μm,17.1s
DGAR Diego Garcia 48.66 144 P **P 18 39 43.5 +1.0**
SNR=9.8
DGAR P **P 18 39 43.5 +1.0**
SNR=9.8
DGAR Diego Garcia 48.66 144 P **P 18 39 42.9 +0.5**
DGAR pmax pmax
comp=Z,228nm,1.0s
DGAR MLR MLR
comp=Z,5μm,20.0s
DGAR Diego Garcia 48.66 144 P **P 18 39 42.9 +0.5**
DGAR Diego Garcia 48.66 144 IAMs_20 IAMs_20 18 59 52.7
comp=Z,5μm,20.0s
MHMT Maesarieng 49.01 95 P **P 18 39 45.2 0.0**
comp=Z,208nm,0.8s,comp=Z,2μm
CHTO Chiang Mai 49.53 94 P **P 18 39 49.0 -0.2**
SNR=28
CHTO P **P 18 39 49.0 -0.2**
SNR=28
CHTO P **P 18 39 49.0 -0.2**
SNR=28
CHTO Chiang Mai 49.53 94 P **P 18 39 48.8 -0.4**
CHTO pmax pmax
comp=Z,145nm,1.2s
CHTO Chiang Mai 49.53 94 P **P 18 39 48.8 -0.4**
CHTO IAmb IAmb 18 39 50.7
comp=Z,146nm,1.2s
CMMT Chiang Mai 49.54 94 P **P 18 39 48.8 -0.4**
comp=Z,56nm,0.9s,comp=Z,682nm
CM31 Chiang Mai Arr 49.71 94 P **P 18 39 50.4 0.0**
SNR=38
CM31 Chiang Mai Arr 49.71 94 P **P 18 39 49.7 -0.8**
CM31 IAmb IAmb 18 39 58.0
comp=Z,97nm,0.8s
CMAR Chiang Mai Arr 49.71 94 *i* P **P 18 39 49.7 -0.8**
CMAR pmax pmax
comp=Z,58nm,0.9s
CMAR Chiang Mai Arr 49.71 94 P **P 18 39 50.4 -0.1**
comp=Z,56nm,0.9s,baz=295,slow=8.3,SNR=216
CMAR LR LR 19 04 49.6
comp=Z,3μm,21.0s,baz=289,slow=41
CMAR Chiang Mai Arr 49.71 94 P **P 18 39 49.3 -1.2**
BORG Borgarnes 49.74 329 P **P 18 39 51.1 +1.0**
BORG pmax pmax
comp=Z,195nm,1.5s
BORG Borgarnes 49.74 329 P **P 18 39 51.1 +1.0**
KMI Kunming 49.82 85 P **P 18 39 51.1 -0.5**
KMI PcP **PcP 18 41 11.9 -0.3**
KMI PP **PP 18 41 48.8 +2.6**
KMI S **S 18 46 59.0 -1.5**
KMI SS **SS 18 50 25.0 -8.1**
KMI pmax pmax
comp=Z,77nm,1.2s
KMI pmax pmax
comp=Z,680nm,4.3s
KMI LR LR
comp=Z,4μm,18.2s
KMI LR LR
comp=Z,2μm,20.8s
KMI LR LR
comp=Z,4μm,23.7s
KMI Kunming 49.82 85 P **P 18 39 51.0 -0.5**
KMI pmax pmax
comp=Z,74nm,1.0s
KMI Kunming 49.82 85 P **P 18 39 51.0 -0.5**
KMI IAmb IAmb 18 40 01.1
comp=Z,74nm,1.0s
LAMP Lampang 50.24 94 P **P 18 39 55.2 +0.6**
comp=Z,214μm,0.9s
BOD Bodaibo 50.32 40 *e*P **P 18 39 54.8 +0.2**
BOD pmax pmax
comp=Z,126nm,1.6s
BTO Baotou 50.41 63 *e*P **P 18 39 55.3 -0.4**
SCO Scoresbysund 50.58 336 P **P 18 39 57.0 +0.6**
SCO pmax pmax
comp=Z,45nm,1.2s
SCO MLR MLR
comp=Z,5μm,19.0s
SCO Scoresbysund 50.58 336 *i* P **P 18 39 57.5 +1.2**
SCO Scoresbysund 50.58 336 P **P 18 39 57.0 +0.6**
SCO IAMs_20 IAMs_20 19 02 22.6
comp=Z,5μm,19.0s
CIT Chita 50.61 48 *e*P **P 18 39 58.2 +1.2**
CIT *e* 18 40 17.6
CIT *e* 18 41 54.1
CIT pmax pmax
comp=Z,193nm,1.7s
PHRA Phrae 50.75 94 P **P 18 39 58.4 0.0**
comp=Z,12nm,0.9s
UMPA Umpang Tak 50.77 97 P **P 18 39 59.1 +0.5**
comp=Z,128μm,0.8s
DAG Danmarks Havn 50.99 345⇑ *i*P **P 18 39 59.2 -0.2**
DAG pmax pmax
comp=Z,80nm,1.3s
DAG Danmarks Havn 50.99 345⇑ *i*P **P 18 39 59.2 -0.2**
comp=Z,42nm,1.3s
HHC Hu-ho-hao-te 51.48 62 *e*P **P 18 40 00.1 -3.6**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,20nm,6.7s
HHC Hu-ho-hao-te 51.48 62 *e*P **P 18 40 06.1 +2.4**
HHC pmax pmax
comp=Z,20nm,0.9s
XAN Xi'an 51.49 71 P **P 18 40 04.1 +0.2**
XAN pP sP 18 40 16.8 +4.4
XAN sP pP 18 40 21.8 +12
XAN PP **PP 18 42 04.8 +3.8**
XAN S **S 18 47 25.3 +2.0**
XAN sS sS 18 47 46.5 +13
XAN ScS **ScS 18 49 48.5 -5.0**
XAN pmax pmax
comp=Z,100nm,0.8s
XAN pmax pmax
comp=Z,860nm,5.3s
XAN LR LR
comp=Z,4μm,14.1s
XAN LR LR
comp=Z,4μm,16.3s
XAN LR LR
comp=Z,5μm,16.3s
UTHA Uthaitani 51.59 97 P **P 18 40 04.4 -0.3**
comp=Z,93μm,0.8s,comp=Z,967μm
PMOZ Porto Moniz, M 51.65 287 P **P 18 40 04.4 -0.7**
SRDT SRDT 51.96 99 P **P 18 40 08.0 +0.5**
comp=Z,21nm,1.2s
LSZ Lusaka 52.12 202 P **P 18 40 09.8 +1.2**
LSZ pmax pmax
comp=Z,158nm,1.5s
LSZ MLR MLR
comp=Z,6μm,18.0s
LSZ Lusaka 52.12 202 P **P 18 40 09.1 +0.5**
comp=Z,49nm,1.1s,baz=27,slow=7.9,SNR=25
LSZ Lusaka 52.12 202 P **P 18 40 09.8 +1.2**
LSZ IAmb IAmb 18 40 15.6
comp=Z,158nm,1.4s
PBKT Sadao Pong 52.32 95 P **P 18 40 09.9 -0.2**
comp=Z,52nm,1.0s,comp=Z,936nm
PBKT Sadao Pong 52.32 95 P **P 18 40 09.8 -0.4**
SLVN Son La 52.44 88 P **P 18 40 11.1 0.0**
SLVN IAmb IAmb 18 40 34.1
comp=Z,66nm,0.8s
SLVN IAMs_20 IAMs_20 19 06 34.5
comp=Z,3μm,18.0s
GYA Guiyang 52.48 81⇑ *i*P **P 18 40 11.1 -0.3**
GYA PP **PP 18 42 09.0 -1.3**

GYA				S	S	18 47 32.8	-4.4
GYA				SS	SS	18 51 07.5	-7.7
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,370nm,5.0s						
GYA				LR	LR		
	comp=Z,2μm,18.7s						
GYA				LR	LR		
	comp=Z,3μm,21.9s						
GYA				LR	LR		
	comp=Z,3μm,22.7s						
MACI	**Morro de la Ar**	**52.78**	**281**	P	**P**	**18 40 14.7**	**+1.0**
MACI				IAmb	IAmb	18 40 23.8	
	comp=Z,118nm,1.2s						
TIY	**Taiyuan**	**53.02**	**66**	*e*P	**P**	**18 40 16.3**	**+1.1**
TIY				PP	**PP**	**18 42 18.3**	**+3.4**
TIY				S	**S**	**18 47 45.8**	**+1.6**
TIY				ScS	**ScS**	**18 50 03.1**	**-1.0**
TIY				SS	**SS**	**18 51 23.6**	**+0.4**
TIY				pmax	pmax		
	comp=Z,38nm,0.9s						
TIY				pmax	pmax		
	comp=Z,640nm,4.1s						
TIY				LR	LR		
	comp=Z,3μm,15.0s						
TIY				LR	LR		
	comp=Z,730nm,12.2s						
TIY				LR	LR		
	comp=Z,3μm,15.0s						
ABPO	**Ambohimpanom**	**53.12**	**178**	P	**P**	**18 40 17.5**	**+1.4**
ABPO				pmax	pmax		
	comp=Z,138nm,1.7s						
ABPO				MLR	MLR		
	comp=Z,4μm,19.0s						
ABPO	**Ambohimpanom**	**53.12**	**178**	P	**P**	**18 40 17.5**	**+1.4**
ABPO				IAmb	IAmb	18 40 23.0	
	comp=Z,138nm,1.6s						
ABPO	**Ambohimpanom**	**53.12**	**178**	IAMs_20	IAMs_20	19 03 11.6	
	comp=Z,4μm,19.0s						
PHET	**Kaeng Krachan**	**53.16**	**100**	P	**P**	**18 40 16.2**	**-0.1**
	comp=Z,136μm,1.1s						
ENH	**Enshi**	**53.27**	**76**	P	**P**	**18 40 16.8**	**-0.3**
ENH				IAmb	IAmb	18 40 25.1	
	comp=Z,103nm,1.0s						
ENH					**S**	**18 47 49.9**	**+2.2**
NONG	**Nongkai**	**53.37**	**92**	P	**P**	**18 40 17.8**	**-0.1**
	comp=Z,1.3nm,1.0s						
CHAI	**Chaiyaphum**	**53.50**	**95**	P	**P**	**18 40 18.7**	**-0.2**
	comp=Z,82μm,1.2s,comp=Z,922μm						
DBIC	**Dimbokro**	**54.07**	**251**	P	**P**	**18 40 22.2**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,55nm,0.8s						
DBIC	**Dimbokro**	**54.07**	**251**	P	**P**	**18 40 22.9**	**-0.2**
	comp=Z,35nm,0.9s,baz=28,slow=8.9,SNR=30						
DBIC				LR	LR	19 04 05.0	
	comp=Z,4μm,18.4s,baz=26,slow=37						
DBIC	**Dimbokro**	**54.07**	**251**	P	**P**	**18 40 22.2**	**-0.8**
DBIC				IAmb	IAmb	18 40 29.2	
	comp=Z,55nm,0.8s						
PATY	**Pattaya**	**54.16**	**99**	P	P	18 40 34.7	+11
KIC	**Kosan Boka**	**54.17**	**251**	*e*P	**P**	**18 40 23.3**	**-0.5**
	comp=Z,103nm,1.0s						
TIC	**Toumodi**	**54.21**	**251**	*e*P	**P**	**18 40 23.5**	**-0.6**
LIC	**Lamto**	**54.48**	**251**	*e*P	**P**	**18 40 25.4**	**-0.6**
	comp=Z,131nm,1.1s						
SURT	**Suratani**	**54.71**	**105**	P	P	18 40 33.0	+5.3
HIA	**Hailar**	**54.99**	**50**	P	**P**	**18 40 29.7**	**+0.3**
HIA				pmax	pmax		
	comp=Z,70nm,0.9s						
HIA				MLR	MLR		
	comp=Z,4μm,19.0s						
HIA	**Hailar**	**54.99**	**50**	P	**P**	**18 40 29.7**	**+0.3**
HIA				IAmb	IAmb	18 40 32.7	
	comp=Z,70nm,0.9s						
HIA	**Hailar**	**54.99**	**50**	IAMs_20	IAMs_20	19 06 44.8	
	comp=Z,4μm,19.0s						
BJI	**Beijing**	**55.08**	**62**	P	**P**	**18 40 30.9**	**+0.8**
BJI				PP	**PP**	**18 42 33.3**	**+0.1**
BJI				S	**S**	**18 48 10.4**	**-1.3**
BJI				ScS	**ScS**	**18 50 19.4**	**+1.0**
BJI				SS	**SS**	**18 51 55.8**	**+0.5**
BJI				LR	LR		
	comp=Z,2μm,14.1s						
BJI				LR	LR		
	comp=Z,3μm,16.9s						
BJT	**Baijiatuau**	**55.08**	**62**	P	**P**	**18 40 29.9**	**-0.2**
BJT				pmax	pmax		
	comp=Z,42nm,0.9s						
BJT				MLR	MLR		
	comp=Z,3μm,19.0s						
BJT	**Baijiatuau**	**55.08**	**62**	P	**P**	**18 40 29.9**	**-0.2**
BJT				IAmb	IAmb	18 40 32.9	
	comp=Z,42nm,0.9s						
BJT	**Baijiatuau**	**55.08**	**62**	IAMs_20	IAMs_20	19 07 31.5	
	comp=Z,3μm,19.0s						
LHMI	**Lhok Sumawe**	**55.49**	**110**	IAMs_20	IAMs_20	19 06 11.4	
	comp=Z,3μm,20.0s						
TIXI	**Tiksi**	**55.65**	**22**	*ce*P	**P**	**18 40 33.4**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,66nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,4μm,16.0s						
TIXI	**Tiksi**	**55.65**	**22**	P	**P**	**18 40 34.1**	**+0.4**
	comp=Z,44nm,0.9s,baz=180,slow=24,SNR=103						
TIXI				PcP	**PcP**	**18 41 33.7**	**+0.7**
	comp=Z,44nm,1.1s,baz=319,slow=3.6,SNR=3.6						
TIXI	**Tiksi**	**55.65**	**22**	P	**P**	**18 40 33.4**	**-0.3**
TIXI				IAmb	IAmb	18 40 42.4	
	comp=Z,62nm,0.9s						
TIXI					**PcP**	**18 41 32.8**	**-0.2**
MLSI	**Meulaboh, Aceh**	**55.67**	**111**	P	**P**	**18 40 31.3**	**-3.3**
SUMG	**Summit**	**55.85**	**339**	*i* P	**P**	**18 40 35.0**	**-0.6**
SUMG				pmax	pmax		
	comp=Z,200nm,1.2s						
SUMG	**Summit**	**55.85**	**339**	*i* P	**P**	**18 40 35.0**	**-0.6**
	comp=Z,204nm,1.2s						
SUMG	**Summit**	**55.85**	**339**	P	**P**	**18 40 35.3**	**-0.4**
SUMG				IAmb	IAmb	18 40 46.4	
	comp=Z,74nm,1.1s						
RER	**Riviere de l'E**	**56.05**	**169**	P	**P**	**18 40 38.5**	**+1.4**
	SNR=27						
RER	**Riviere de l'E**	**56.05**	**169**	P	**P**	**18 40 38.4**	**+1.2**
TRTT	**Trang**	**56.09**	**105**	P	**P**	**18 40 36.7**	**-0.9**
	comp=Z,99nm,1.5s						
CMLA	**Cha da Macela**	**56.38**	**296**	P	**P**	**18 40 40.0**	**+0.5**
CMLA				pmax	pmax		
	comp=Z,765nm,1.6s						
CMLA	**Cha da Macela**	**56.38**	**296**	P	**P**	**18 40 40.0**	**+0.5**
ANGG	**Ammassalik, Gr**	**56.55**	**330**	P	**P**	**18 40 40.1**	**-0.1**
UBPT	**Khong Chiam**	**56.69**	**94**	P	**P**	**18 40 42.4**	**+0.5**
	comp=Z,24nm,0.9s						
UBPT	**Khong Chiam**	**56.69**	**94**	P	**P**	**18 40 41.0**	**-0.9**
TPTI		**56.90**	**111**	P	**P**	**18 40 43.5**	**+0.1**
WHN	**Wuhan**	**57.04**	**73**	⇑P	**P**	**18 40 44.3**	**0.0**
WHN				PP	**PP**	**18 42 54.3**	**+3.4**
WHN				S	**S**	**18 48 38.1**	**0.0**
WHN				pmax	pmax		
	comp=Z,130nm,0.9s						
WHN				pmax	pmax		
	comp=Z,1μm,5.0s						
WHN				LR	LR		
	comp=Z,7μm,11.9s						
WHN				LR	LR		
	comp=Z,4μm,13.6s						
WHN				LR	LR		
	comp=Z,13μm,18.4s						
TIA	**Tai'an**	**57.06**	**66**	P	**P**	**18 40 45.0**	**+0.6**
TIA				PP	**PP**	**18 42 54.9**	**+3.9**
TIA				S	**S**	**18 48 38.3**	**0.0**
TIA				pmax	pmax		
	comp=Z,52nm,0.9s						
TIA				pmax	pmax		
	comp=Z,930nm,8.9s						
TIA				LR	LR		
	comp=Z,2μm,15.7s						
TIA				LR	LR		
	comp=Z,3μm,15.7s						
TIA				LR	LR		
	comp=Z,2μm,13.7s						
YAK	**Yakutsk**	**57.55**	**34**	⇑*i*P	**P**	**18 40 47.2**	**-0.1**
YAK				*e**PP	**sP**	**18 40 59.6**	**+3.7**
YAK				*e*		18 41 39.6	
YAK				*e*		18 42 54.5	
YAK				*e*PPP	PPP	18 44 13.1	
YAK				*e*S	**S**	**18 48 42.7**	**-1.1**
YAK				*e**SS	sS	18 49 06.6	+13
YAK				*e*		18 50 33.2	
YAK				*e*SS	**SS**	**18 52 33.8**	**+0.6**
YAK				pmax	pmax		
	comp=Z,48nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,36nm,1.3s						
YAK				pmax	pmax		
	comp=Z,176nm,2.6s						
YAK				pmax	pmax		
	comp=N,44nm,2.5s						
YAK				pmax	pmax		
	comp=E,103nm,2.5s						
YAK				smax	smax		
	comp=N,235nm,2.5s						
YAK				smax	smax		
	comp=E,37nm,2.3s						
YAK	**Yakutsk**	**57.55**	**34**	P	**P**	**18 40 46.0**	**-1.3**
YAK				IAmb	IAmb	18 40 51.3	
	comp=Z,90nm,0.8s						
ROSA	**Rosais**	**58.06**	**298**	P	**P**	**18 40 50.8**	**-0.5**
ZEA	**Zeya**	**58.38**	**44**	*e*P	**P**	**18 40 54.3**	**+1.0**
ZEA				*e*S	S	18 49 04.0	+9.1
ZEA				pmax	pmax		
	comp=N,27nm,0.9s						
ZEA				pmax	pmax		
	comp=E,41nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,78nm,1.0s						
ZEA				pmax	pmax		
	comp=E,600nm,10.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,10.0s						
ZEA				MLR	MLR		
	comp=E,6μm,18.0s						
ZEA				MLR	MLR		
	comp=Z,9μm,18.0s						
ZEA				MLR	MLR		
	comp=N,2μm,14.0s						
QIZ	**Qiongzhong**	**58.44**	**88**	P	**P**	**18 40 54.0**	**-0.2**
QIZ				S	**S**	**18 48 58.6**	**+1.9**
QIZ				pmax	pmax		
	comp=N,630nm,9.8s						
QIZ				LR	LR		
	comp=N,2μm,23.5s						
QIZ				LR	LR		
	comp=N,1μm,20.6s						
QIZ				LR	LR		
	comp=N,3μm,19.1s						
QIZ	**Qiongzhong**	**58.44**	**88**	P	**P**	**18 40 54.2**	**0.0**
QIZ				IAmb	IAmb	18 41 01.5	
	comp=Z,72nm,1.0s						
QIZ	**Qiongzhong**	**58.44**	**88**	IAMs_20	IAMs_20	19 10 17.1	
	comp=Z,3μm,20.0s						
GSI	**Gunungsitoli**	**58.45**	**113**	P	**P**	**18 40 53.9**	**-0.4**
GSI	**Gunungsitoli**	**58.45**	**113**	P	**P**	**18 40 53.6**	**-0.8**
GSI				IAmb	IAmb	18 41 03.0	
	comp=Z,70nm,0.7s						
PSI	**Prapat**	**58.54**	**110**	P	**P**	**18 40 54.1**	**-1.0**
PSI				pmax	pmax		
	comp=Z,58nm,1.1s						
PSI				MLR	MLR		
	comp=Z,2μm,22.0s						
PSI	**Prapat**	**58.54**	**110**	P	**P**	**18 40 54.1**	**-1.0**
	comp=Z,20nm,0.9s,baz=292,slow=8.1,SNR=12						
PSI				LR	LR	19 09 44.1	
	comp=Z,1μm,18.4s,baz=304,slow=40						
RPSI	**Rantau Prapat**	**58.61**	**110**	P	**P**	**18 40 54.1**	**-1.3**
RPSI				IAmb	IAmb	18 40 55.4	
	comp=Z,58nm,1.1s						
IPM	**Ipoh**	**59.15**	**107**	P	**P**	**18 40 56.8**	**-2.5**
IPM				IAmb	IAmb	18 41 03.2	
	comp=Z,48nm,0.8s						
DL2	**Dalian**	**59.44**	**62**	⇑P	**P**	**18 41 01.8**	**+0.9**
DL2				PP	**PP**	**18 43 19.4**	**+7.5**
DL2				S	**S**	**18 49 07.3**	**-1.8**
DL2				pmax	pmax		
	comp=Z,290nm,0.9s						
DL2				pmax	pmax		
	comp=Z,1μm,3.9s						
DL2				LR	LR		
	comp=Z,2μm,12.9s						
DL2				LR	LR		
	comp=Z,2μm,16.4s						
DL2				LR	LR		
	comp=Z,3μm,15.7s						
SNY	**Shenyang**	**59.78**	**58**	⇓P	**P**	**18 41 04.0**	**+0.8**
SNY				S	**S**	**18 49 11.8**	**-1.7**
SNY				pmax	pmax		
	comp=Z,1μm,6.7s						
SNY				LR	LR		
	comp=Z,2μm,15.9s						
SNY				LR	LR		
	comp=Z,5μm,13.7s						
SNY				LR	LR		
	comp=Z,8μm,15.3s						
NJ2	**Nanjing**	**59.97**	**70**	⇑P	**P**	**18 41 04.8**	**+0.1**
NJ2				PP	**PP**	**18 43 19.0**	**+2.1**
NJ2				S	**S**	**18 49 15.9**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,93nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,1μm,8.1s						
NJ2				LR	LR		
	comp=Z,3μm,17.1s						
NJ2				LR	LR		
	comp=Z,3μm,19.0s						
NJ2				LR	LR		
	comp=Z,3μm,16.7s						
CN2	**Changchun**	**60.38**	**55**	*e*P	**P**	**18 41 07.1**	**-0.2**
CN2				*e*S	**S**	**18 49 18.4**	**-2.7**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
CN2				LR	LR		
	comp=Z,3μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,18.0s						
HKPS	**Hong Kong Po S**	**60.44**	**82**	P	**P**	**18 41 07.7**	**-0.3**
ILULI	**Ilulissat**	**60.66**	**336**	P	**P**	**18 41 08.3**	**-0.4**
ILULI				pmax	pmax		
	comp=Z,80nm,1.4s						
ILULI				MLR	MLR		
	comp=Z,4μm,18.0s						
ILULI	**Ilulissat**	**60.66**	**336**	P	**P**	**18 41 08.3**	**-0.4**
ILULI				IAmb	IAmb	18 41 16.8	
	comp=Z,80nm,1.4s						
DLV	**T Lat**	**60.94**	**95**	P	**P**	**18 41 11.1**	**-0.6**
DLV				IAmb	IAmb	18 41 20.1	
	comp=Z,49nm,0.9s						
NRS	**Narsarsuaq**	**61.07**	**326**	P	**P**	**18 41 10.9**	**-0.8**
NRS				pmax	pmax		
	comp=Z,74nm,0.9s						
NRS	**Narsarsuaq**	**61.07**	**326**	P	**P**	**18 41 10.9**	**-0.8**
NRS				IAmb	IAmb	18 41 19.9	
	comp=Z,74nm,0.9s						
SFJD	**Kangerlussuaq**	**61.25**	**334**	P	**P**	**18 41 12.5**	**-0.3**
SFJD				pmax	pmax		
	comp=Z,33nm,0.9s						
SFJD				MLR	MLR		
	comp=Z,3μm,20.0s						
SFJD	**Kangerlussuaq**	**61.25**	**334**	*i* P	**P**	**18 41 12.6**	**-0.3**
SFJD	**Kangerlussuaq**	**61.25**	**334**	P	**P**	**18 41 12.5**	**-0.3**
SFJD				IAmb	IAmb	18 41 19.6	
	comp=Z,33nm,0.9s						
SFJD	**Kangerlussuaq**	**61.25**	**334**	IAMs_20	IAMs_20	19 08 21.7	
	comp=Z,3μm,20.0s						
SISI	**Saibi**	**61.30**	**114**	P	**P**	**18 41 13.5**	**-0.4**
BKNI	**Bangkinang**	**61.73**	**111**	P	**P**	**18 41 14.8**	**-2.1**
BKNI	**Bangkinang**	**61.73**	**111**	P	**P**	**18 41 15.0**	**-1.9**
LBTB	**Lobatse**	**62.07**	**201**	P	**P**	**18 41 20.2**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,194nm,1.3s						
LBTB	**Lobatse**	**62.07**	**201**	P	**P**	**18 41 20.2**	**+1.2**
PDSI	**Padang**	**62.08**	**112**	P	**P**	**18 41 17.6**	**-1.6**
SSE	**Sheshan**	**62.18**	**70**	P	**P**	**18 41 19.9**	**+0.2**
SSE				S	**S**	**18 49 41.1**	**-3.3**
SSE				pmax	pmax		
	comp=Z,17nm,0.7s						
SSE				pmax	pmax		
	comp=Z,370nm,3.8s						
SSE				LR	LR		
	comp=Z,1μm,16.2s						
SSE				LR	LR		
	comp=Z,1μm,15.3s						
SSE	**Sheshan**	**62.18**	**70**	P	**P**	**18 41 19.2**	**-0.4**
TULEG	**Thule**	**62.23**	**346**	P	**P**	**18 41 18.3**	**-1.0**
TULEG				IAmb	IAmb	18 41 26.9	
	comp=Z,83nm,1.3s						
IVI	**Ivigtut**	**62.31**	**327**	P	**P**	**18 41 18.8**	**-1.2**
KLR	**Kul'dur**	**62.49**	**48**	*c i* P	**P**	**18 41 22.2**	**+0.7**
KLR				pmax	pmax		
	comp=Z,91nm,1.5s						
KLR	**Kul'dur**	**62.49**	**48**	P	**P**	**18 41 21.8**	**+0.3**
	comp=Z,25nm,0.9s,baz=293,slow=7.9,SNR=48						
KLR				LR	LR	19 12 13.6	
	comp=Z,4μm,19.5s,baz=295,slow=40						
QZH	**Quanzhou**	**62.83**	**77**	P	**P**	**18 41 25.3**	**+1.2**
QZH				S	**S**	**18 49 52.1**	**-0.6**
QZH				LR	LR		
	comp=Z,2μm,17.5s						
QZH				LR	LR		
	comp=Z,2μm,17.5s						
QZH				LR	LR		
	comp=Z,3μm,21.1s						
SDSI	**Sungai Dareh**	**62.83**	**112**	P	**P**	**18 41 22.7**	**-1.5**
MDJ	**Mudanjiang**	**62.85**	**53**	P	**P**	**18 41 24.4**	**+0.4**
MDJ				PcP	**PcP**	**18 42 02.8**	**+0.6**
MDJ				PP	**PP**	**18 43 42.0**	**0.0**
MDJ				ScP	**ScP**	**18 46 04.3**	**+0.9**
MDJ				PcS	**PcS**	**18 46 05.9**	**+0.4**
MDJ				S	**S**	**18 49 56.6**	**+4.1**
MDJ				ScS	**ScS**	**18 51 16.5**	**+0.8**
MDJ				SS	**SS**	**18 53 58.8**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,22nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,930nm,11.1s						
MDJ				LR	LR		
	comp=Z,5μm,19.9s						
MDJ				LR	LR		
	comp=Z,2μm,20.6s						
MDJ				LR	LR		
	comp=Z,6μm,14.2s						
MDJ	**Mudanjiang**	**62.85**	**53**	P	**P**	**18 41 23.9**	**-0.1**
MDJ				IAmb	IAmb	18 41 31.6	
	comp=Z,96nm,2.0s						
MDJ				IAMs_20	IAMs_20	19 13 39.8	
	comp=Z,3μm,20.0s						
MYKOM	**Kota Tinggi**	**63.02**	**108**	P	**P**	**18 41 23.1**	**-2.3**
MYKOM				IAmb	IAmb	18 41 25.6	
	comp=Z,84nm,1.1s						
KRJI	**Kerinci**	**63.60**	**113**	P	**P**	**18 41 28.8**	**-0.6**
INCN	**Inchon**	**63.62**	**61**	P	**P**	**18 41 28.3**	**-0.9**
INCN				pmax	pmax		
	comp=Z,74nm,0.9s						
INCN	**Inchon**	**63.62**	**61**	P	**P**	**18 41 28.3**	**-0.9**
KS19	**Wonju Array Si**	**64.51**	**61**	P	**P**	**18 41 34.5**	**-0.6**
KS19				IAmb	IAmb	18 41 43.9	
	comp=Z,51nm,0.8s						
KSAR	**Wonju Array Be**	**64.54**	**61**	P	**P**	**18 41 34.3**	**-0.9**
KSAR	**Wonju Array Be**	**64.54**	**61**	P	**P**	**18 41 34.3**	**-0.9**
KSRS	**Korea Array**	**64.57**	**61**	P	**P**	**18 41 35.0**	**-0.4**
	comp=Z,52nm,0.9s,baz=281,slow=6.7,SNR=75						
KSRS				LR	LR	19 14 46.2	
	comp=Z,2μm,18.8s,baz=291,slow=41						
USA0B	**Ussuriysk Arra**	**64.59**	**53**	P	**P**	**18 41 34.6**	**-0.9**
USA0B				pmax	pmax		
	comp=Z,72nm,1.1s						
USA0B				MLR	MLR		
	comp=Z,4μm,18.0s						
USA0B	**Ussuriysk Arra**	**64.59**	**53**	P	**P**	**18 41 34.6**	**-0.9**
USA0B				IAmb	IAmb	18 41 37.0	
	comp=Z,72nm,1.1s						
USRK	**Ussuriysk Ar.**	**64.59**	**53**	P	**P**	**18 41 34.8**	**-0.7**
	comp=Z,46nm,1.0s,baz=284,slow=5.7,SNR=40						
USRK				LR	LR	19 13 20.1	
	comp=Z,3μm,18.2s,baz=289,slow=39						
USRK	**Ussuriysk Ar.**	**64.59**	**53**	P	**P**	**18 41 34.2**	**-1.3**
TJN	**Taejon**	**64.61**	**62**	*ce*P	**P**	**18 41 35.8**	**+0.1**
GRNR	**Gornyy**	**64.68**	**45**	*i* P	**P**	**18 41 36.5**	**+0.5**
GRNR				pmax	pmax		
	comp=Z,30nm,1.3s						
GRNR				MLR	MLR		
	comp=E,3μm,17.0s						
GRNR				MLR	MLR		
	comp=Z,4μm,17.0s						
GRNR				MLR	MLR		
	comp=N,2μm,14.0s						
MSHR	**Mys Shultsa**	**64.70**	**55**	*i* P	**P**	**18 41 37.4**	**+1.2**
SACV	**Santiago Islan**	**64.74**	**271**	P	**P**	**18 41 38.1**	**+1.2**
SACV				IAmb	IAmb	18 41 57.9	
	comp=Z,58nm,1.0s						
MASI	**Maura Aman, Be**	**64.86**	**113**	P	**P**	**18 41 37.2**	**-0.4**
VLA	**Vladivostok**	**64.97**	**54**	*c i* P	**P**	**18 41 37.3**	**-0.6**
VLA				pmax	pmax		
	comp=Z,37nm,1.0s						
DSRI	**Dabo**	**64.99**	**109**	P	**P**	**18 41 37.6**	**-0.8**
TATO	**Taipei**	**65.14**	**76**	P	**P**	**18 41 40.3**	**+1.0**
YHNB	**Yeheng**	**65.20**	**76**	P	**P**	**18 41 40.4**	**+0.6**
YHNB				IAMs_20	IAMs_20	19 13 12.6	
	comp=Z,3μm,19.0s						
TPUB	**Ta-pu**	**65.24**	**78**	P	**P**	**18 41 40.2**	**+0.2**
SSLB	**Suanglung**	**65.27**	**77**	P	**P**	**18 41 41.1**	**+0.9**
SSLB				IAmb	IAmb	18 41 44.1	
	comp=Z,72nm,1.2s						
BOSA	**Boshof**	**65.57**	**200**	P	**P**	**18 41 42.1**	**+0.2**
BOSA				pmax	pmax		
	comp=Z,77nm,0.7s						
BOSA	**Boshof**	**65.57**	**200**	P	**P**	**18 41 43.0**	**+1.0**
	comp=Z,53nm,0.6s,baz=10,slow=6.6,SNR=36						
BOSA				LR	LR	19 11 34.9	
	comp=Z,6μm,18.0s,baz=23,slow=37						
BOSA	**Boshof**	**65.57**	**200**	P	**P**	**18 41 42.1**	**+0.2**
YULB	**Yu-li**	**65.74**	**77**	P	**P**	**18 41 43.9**	**+0.6**
YULB				IAmb	IAmb	18 41 46.2	
	comp=Z,60nm,1.0s						
TWG	**Pinlang**	**65.83**	**78**	P	**P**	**18 41 43.8**	**0.0**
NKL	**Nikolayevsk**	**66.08**	**41**	*e*P	**P**	**18 41 43.7**	**-1.2**
NKL				*e*		18 44 09.3	
NKL				*e*S	**S**	**18 50 29.6**	**-2.4**
NKL				pmax	pmax		
	comp=Z,111nm,1.2s						
NKL				pmax	pmax		
	comp=N,4.0nm,1.0s						
NKL				pmax	pmax		
	comp=E,24nm,1.1s						
NKL				MLR	MLR		
	comp=E,2μm,13.0s						
NKL				MLR	MLR		
	comp=Z,3μm,13.0s						
NKL				MLR	MLR		
	comp=N,190nm,15.0s						
SEY	**Seymchan**	**66.97**	**28**	*c i* P	**P**	**18 41 52.0**	**+1.6**
SEY	**Seymchan**	**66.97**	**28**	P	**P**	**18 41 52.2**	**+1.8**
	comp=N,153nm,1.0s,baz=281,slow=6.3,SNR=113						
SEY				LR	LR	19 16 32.7	
	comp=N,4μm,18.3s,baz=309,slow=41						
TEY	**Ternei**	**67.22**	**50**	⇑*e*P	**P**	**18 41 52.3**	**0.0**
TEY				pmax	pmax		
	comp=Z,30nm,1.1s						
LWLI	**Liwa**	**67.45**	**113**	P	**P**	**18 41 52.4**	**-1.9**
KLSI		**67.75**	**113**	P	**P**	**18 41 53.7**	**-2.4**
MA2	**Magadan**	**68.01**	**32**	P	**P**	**18 41 58.9**	**+1.8**
MA2				pmax	pmax		
	comp=Z,126nm,1.1s						
MA2				MLR	MLR		
	comp=Z,4μm,20.0s						
MA2	**Magadan**	**68.01**	**32**	P	**P**	**18 41 59.4**	**+2.3**
	comp=Z,78nm,0.9s,baz=296,slow=3.3,SNR=15						
MA2				LR	LR	19 16 02.0	
	comp=Z,4μm,18.1s,baz=302,slow=40						
MA2	**Magadan**	**68.01**	**32**	P	**P**	**18 41 58.9**	**+1.8**
KASI	**Kota Agung**	**68.11**	**113**	P	**P**	**18 41 57.3**	**-1.0**
RES	**Resolute Bay**	**68.16**	**350**	P	**P**	**18 41 58.0**	**+0.2**
RES				pmax	pmax		
	comp=Z,36nm,1.1s						
RES				MLR	MLR		
	comp=Z,2μm,20.0s						
RES	**Resolute Bay**	**68.16**	**350**	P	**P**	**18 41 58.0**	**+0.2**
TYV	**Tymovskoe**	**68.20**	**43**	*e*P	**P**	**18 41 59.8**	**+1.4**
TYV				*e*S	**S**	**18 50 58.3**	**+0.6**
TYV				pmax	pmax		
	comp=Z,1μm,4.4s						
TYV				pmax	pmax		
	comp=Z,133nm,1.1s						

TYV smax smax
comp=E,13nm,1.6s
TYV smax smax
comp=E,1µm,9.5s
KSM Kuching 68.35 104 P **P 18 41 59.2 -0.7**
KSM IAMs_20 IAMs_20 19 14 14.3
comp=Z,2µm,20.0s
JNU Nakatsue 68.65 64 P **P 18 42 02.2 +0.6**
comp=Z,33nm,0.8s,baz=14,slow=5.2,SNR=16
JNU LR LR 19 15 00.6
comp=Z,901nm,19.1s,baz=304,slow=38
JNU Nakatsue 68.65 64 P **P 18 42 01.1 -0.6**
JNU IAmb IAmb 18 42 05.6
comp=Z,53nm,1.0s
BILL Biilibino 68.74 20 *ce*P **P 18 42 02.1 +0.6**
BILL *i* 18 42 24.1
BILL *e* 18 44 35.3
BILL *e*S **S 18 50 55.5 -8.1**
BILL *e*SS **SS 18 55 23.8 -3.7**
BILL pmax pmax
comp=Z,107nm,1.0s
BILL MLR MLR
comp=Z,3µm,16.0s
BILL Biilibino 68.74 20 P **P 18 42 02.0 +0.4**
BILL IAMs_20 IAMs_20 19 17 52.9
comp=Z,4µm,20.0s
TPI Tanjungpandan 68.80 109 P **P 18 42 00.6 -2.1**
SBUM Sibu 69.32 102 P **P 18 42 03.8 -2.1**
JOW Kunigami 69.64 71 P **P 18 42 07.2 -0.6**
JOW IAmb IAmb 18 43 29.1
comp=Z,52nm,1.3s
SHEL Horse Pasture 69.98 233 P **P 18 42 09.8 -0.1**
SHEL pmax pmax
comp=Z,153nm,1.0s
SHEL MLR MLR
comp=Z,3µm,18.0s
SHEL Horse Pasture 69.98 233 P **P 18 42 09.8 -0.1**
SHEL Horse Pasture 69.98 233 IAMs_20 IAMs_20 19 13 17.7
comp=Z,3µm,18.0s
TGY Tagaytay City 70.09 86 LR LR 19 16 19.3
comp=Z,2µm,20.2s,baz=295,slow=39
STKI Sintang 70.12 104 P **P 18 42 10.4 -0.5**
YSS Yuzh-Sakhalins 70.13 46 *e*P **P 18 42 09.7 -0.7**
YSS *e* 18 44 50.2
YSS *e*PPP PPP 18 46 32.8
YSS *e*S **S 18 51 14.6 -6.0**
YSS pmax pmax
comp=Z,900nm,4.6s
YSS pmax pmax
comp=Z,120nm,1.1s
YSS pmax pmax
comp=E,300nm,6.2s
YSS pmax pmax
comp=Z,600nm,6.2s
YSS pmax pmax
comp=N,300nm,7.0s
YSS MLR MLR
comp=N,2µm,16.0s
YSS MLR MLR
comp=E,2µm,16.0s
YSS Yuzh-Sakhalins 70.13 46 P **P 18 42 10.7 +0.3**
SUR Sutherland 70.41 202 P **P 18 42 15.8 +3.4**
SNR=5.8
SUR Sutherland 70.41 202 P **P 18 42 13.5 +1.1**
KKM Kota Kinabalu 70.54 96 P **P 18 42 13.3 -0.2**
KKM IAmb IAmb 18 42 20.9
comp=Z,67nm,0.9s
KKM IAMs_20 IAMs_20 19 15 22.0
comp=Z,2µm,22.0s
ASCN Ascension 70.62 245 P **P 18 42 14.3 +0.4**
SKJI Sukabumi 70.62 113 P **P 18 42 12.6 -1.3**
LEM Lembang 71.32 112 P **P 18 42 20.9 +2.6**
comp=Z,32nm,0.7s,baz=198,slow=7.3,SNR=7.0
ASAJ Asahikawa 71.43 49 P **P 18 42 19.3 +0.8**
comp=Z,14nm,0.8s,baz=278,slow=7.8,SNR=8.9
ASAJ LR LR 19 17 05.7
comp=Z,4µm,19.5s,baz=304,slow=39
CISI Cisompet, Garu 71.93 113 P **P 18 42 19.1 -2.8**
CISI Cisompet, Garu 71.93 113 P **P 18 42 18.8 -3.1**
INU Inuyama 72.05 59 P **P 18 42 21.1 -1.2**
INU IAMs_20 IAMs_20 19 20 11.7
comp=Z,2µm,18.0s
XMIS Christmas Isla 72.19 117 P **P 18 42 22.1 -1.3**
XMIS IAmb IAmb 18 42 23.8
comp=Z,79nm,1.2s
MJB9 Matsu-Tunnel 72.29 58 P **P 18 42 23.3 -0.5**
MJB9 IAmb IAmb 18 42 32.5
comp=Z,112nm,1.8s
MJB9 IAMs_20 IAMs_20 19 19 29.9
comp=Z,2µm,19.0s
MAJO Matsushiro 72.30 58 P **P 18 42 23.6 -0.2**
MAJO pmax pmax
comp=Z,111nm,1.8s
MAJO MLR MLR
comp=Z,2µm,18.0s
MAJO Matsushiro 72.30 58 P **P 18 42 23.6 -0.2**
MAJO IAmb IAmb 18 42 32.5
comp=Z,111nm,1.8s
MAJO Matsushiro 72.30 58 IAMs_20 IAMs_20 19 19 29.9
comp=Z,2µm,18.0s
MAT Matsushiro 72.30 58 P **P 18 42 23.9 +0.1**
MAT S **S 18 51 44.4 -1.7**
MJAR Matsushiro Arr 72.30 58 P **P 18 42 23.2 -0.6**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 72.30 58 P **P 18 42 23.9 0.0**
comp=Z,8.2nm,0.8s,baz=1.1,slow=3.1,SNR=9.4
MJAR LR LR 19 17 15.6
comp=Z,1µm,19.3s,baz=300,slow=38
MJAR Matsushiro Arr 72.30 58 P **P 18 42 23.2 -0.6**
DRLN Deer Lake 72.49 318 P **P 18 42 23.4 -1.3**
CMJI Cimerak 72.56 113 P **P 18 42 25.0 -0.6**
ERM Erimo 72.85 51 P **P 18 42 27.4 +0.5**
ERM pmax pmax
comp=Z,69nm,1.0s
ERM MLR MLR
comp=Z,3µm,20.0s
ERM Erimo 72.85 51 P **P 18 42 27.4 +0.5**
ERM IAmb IAmb 18 42 35.2
comp=Z,69nm,1.0s
ERM Erimo 72.85 51 IAMs_20 IAMs_20 19 18 03.3
comp=Z,3µm,20.0s
YUK Yuzh-Kuril'sk 73.49 48 *e*P **P 18 42 27.0 -3.7**
YUK *i* 18 42 47.5
YUK PPP PPP 18 47 00.5
YUK *i* S **S 18 51 52.8 -6.6**
YUK *i* 18 52 36.2
YUK pmax pmax
comp=Z,467nm,2.0s
YUK pmax pmax
comp=Z,393nm,1.6s
YUK pmax pmax
comp=N,261nm,1.5s
YUK pmax pmax
comp=E,307nm,1.2s
SMRI Semarang 73.63 111 P **P 18 42 30.7 -1.3**
SMRI IAmb IAmb 18 43 46.6
comp=Z,58nm,1.0s
SCHQ Schefferville 74.04 326 P **P 18 42 32.2 -1.6**
comp=Z,10.0nm,0.5s,baz=64,slow=7.1,SNR=6.9
SCHQ LR LR 19 15 59.1
comp=Z,1µm,19.9s,baz=58,slow=36
SCHQ Schefferville 74.04 326 P **P 18 42 32.1 -1.6**
SCHQ IAmb IAmb 18 42 41.2
comp=Z,55nm,1.1s
KUR Kuril'sk 74.06 46 *e*P **P 18 42 34.3 +0.3**
KUR *e* 18 42 47.0
KUR *e*PPP PPP 18 47 13.2
KUR S **S 18 52 05.2 -0.6**
KUR *e* 18 52 46.5
KUR MLR MLR
comp=Z,2µm,14.0s
KUR MLR MLR
comp=E,2µm,13.0s
UGM Wanagama 74.23 111 P **P 18 42 34.5 -1.0**
PEA0B Petropavlovsk- 74.83 35 P **P 18 42 36.8 -1.6**
PEA0B pmax pmax
comp=Z,80nm,1.1s
PEA0B Petropavlovsk- 74.83 35 P **P 18 42 36.8 -1.6**
PEA0B IAmb IAmb 18 42 39.9
comp=Z,80nm,1.1s
PETK Petropavlovsk- 74.83 35 P **P 18 42 37.5 -0.9**
comp=Z,56nm,0.9s,baz=301,slow=1.9,SNR=35
PETK LR LR 19 18 50.2
comp=Z,2µm,21.2s,baz=301,slow=38

PETK Petropavlovsk- 74.83 35 P **P 18 42 36.8 -1.6**
BKB Balikpapan 75.27 102 P **P 18 42 39.9 -1.6**
BKB IAmb IAmb 18 42 52.2
comp=Z,92nm,0.8s
BKB IAMs_20 IAMs_20 19 19 22.5
comp=Z,2µm,19.0s
PET Petropavlovsk 75.34 35 *e*P **P 18 42 43.5 +2.2**
PET *e* 18 45 35.2
PET *e*PPP PPP 18 47 12.8
PET *e*S **S 18 52 20.6 +0.9**
PET pmax pmax
comp=Z,500nm,6.9s
PET pmax pmax
comp=Z,800nm,6.7s
PET pmax pmax
comp=Z,500nm,6.3s
PET Petropavlovsk 75.34 35 P **P 18 42 40.0 -1.3**
PET IAmb IAmb 18 43 19.7
comp=Z,87nm,1.2s
RDOG Red Dog Mine 75.65 11 P **P 18 42 42.8 -0.1**
RDOG IAmb IAmb 18 42 51.7
comp=Z,134nm,1.3s
RDOG IAMs_20 IAMs_20 19 22 14.3
comp=Z,2µm,19.0s
KBKI Kotabaru 75.88 104 P **P 18 42 45.1 +0.1**
C36M Paulatuk 76.31 356 P **P 18 42 46.1 -0.4**
baz=8.7
CTBH Cotabato--PC H 76.52 90 ||*i*P **P 18 42 47.3 -1.4**
TOLK Toolik Lake Re 76.66 6 P **P 18 42 49.6 +1.0**
baz=347,SNR=66
TOLK Toolik Lake Re 76.66 6 P **P 18 42 49.3 +0.7**
GBN Guysborough 76.91 316 P **P 18 42 49.5 -0.9**
GBN IAmb IAmb 18 42 58.5
comp=Z,75nm,1.0s
JAGI Jajag, Banyuwa 77.39 109 P **P 18 42 55.4 +1.9**
JAGI Jajag, Banyuwa 77.39 109 P **P 18 42 51.0 -2.5**
JAGI IAmb IAmb 18 43 05.3
comp=Z,52nm,1.0s
INK Inuvik 77.63 360 P **P 18 42 53.5 -0.4**
INK pmax pmax
comp=Z,46nm,1.0s
INK MLR MLR
comp=Z,2µm,22.0s
INK Inuvik 77.63 360 P **P 18 42 53.7 -0.2**
comp=Z,34nm,1.0s,baz=13,slow=8.3,SNR=46
INK LR LR 19 20 39.0
comp=Z,1µm,21.6s,baz=4.5,slow=38
INK Inuvik 77.63 360 P **P 18 42 53.5 -0.4**
INK IAmb IAmb 18 43 02.1
comp=Z,46nm,0.9s
INK IAMs_20 IAMs_20 19 20 18.0
comp=Z,2µm,22.0s
DAV Davao City (W) 77.70 90 LR LR 19 24 13.8
comp=Z,1µm,18.2s,baz=342,slow=41
GAMB Gambell 77.78 16 IAMs_20 IAMs_20 19 23 47.1
comp=Z,3µm,19.0s
SRBI Singaraja 77.99 109 P P 18 43 05.5 +8.7
COLD Coldfoot 77.99 6 P **P 18 42 56.5 +0.5**
COLD IAmb IAmb 18 43 07.3
comp=Z,90nm,1.2s
COLD IAMs_20 IAMs_20 19 23 56.0
comp=Z,1µm,18.0s
BMAR Burnt Mountain 78.21 4 P **P 18 42 56.9 -0.4**
BATG Bathurst New B 78.30 320 P **P 18 42 58.3 +0.2**
ANM Nome 78.40 13 P **P 18 42 59.2 +0.9**
ANM pmax pmax
comp=Z,231nm,1.4s
ANM MLR MLR
comp=Z,2µm,20.0s
ANM Nome 78.40 13 P **P 18 42 59.2 +0.9**
ANM IAMs_20 IAMs_20 19 24 08.2
comp=Z,2µm,20.0s
LMN Caledonia Moun 78.49 318 P **P 18 42 57.6 -1.6**
LMN IAmb IAmb 18 43 07.2
comp=Z,80nm,1.1s
HAL Halifax 78.55 317 P **P 18 42 59.3 -0.2**
HAL Halifax 78.55 317 P **P 18 42 59.3 -0.2**
HAL IAmb IAmb 18 43 08.0
comp=Z,89nm,0.9s
TTSI Tana Toraja 78.67 102 P **P 18 43 04.9 +4.2**
IMAR Indian Mountai 78.83 8 P **P 18 43 00.8 +0.1**
FYU Fort Yukon 79.03 4 P **P 18 43 01.3 -0.5**
FYU IAmb IAmb 18 43 11.4
comp=Z,149nm,1.2s
SPSI Sidrap Palu 79.17 102 P P 18 43 10.9 +7.5
D63A Stockholm 79.53 320 P **P 18 43 04.5 -0.4**
baz=50
EPYK Eagle Plains 79.56 1 P **P 18 43 04.9 +0.2**
baz=358
EPYK Eagle Plains 79.56 1 P **P 18 43 04.6 -0.1**
BNSI Bone 79.70 103 P **P 18 43 08.4 +2.2**
PQI Presque Isle 79.72 320 P **P 18 43 06.0 +0.1**
KAPI Kappang 79.77 103 P **P 18 43 07.2 +0.6**
SNR=9.1
KAPI P **P 18 43 07.2 +0.6**
SNR=9.1
KAPI Kappang 79.77 103 P **P 18 43 06.0 -0.6**
KAPI pmax pmax
comp=Z,91nm,1.5s
KAPI MLR MLR
comp=Z,900nm,20.0s
KAPI Kappang 79.77 103 P **P 18 43 06.8 +0.2**
comp=Z,7.7nm,0.7s,baz=13,slow=2.4,SNR=10.0
KAPI Kappang 79.77 103 P **P 18 43 06.0 -0.6**
KAPI IAmb IAmb 18 43 14.5
comp=Z,91nm,1.5s
D62A Allapoint, All 80.00 321 P **P 18 43 07.3 -0.1**
baz=50,SNR=12
D62A Allapoint, All 80.00 321 P **P 18 43 06.5 -0.9**
D62A IAmb IAmb 18 43 15.6
comp=Z,59nm,1.1s
PRP Porcupine Dome 80.05 5 P **P 18 43 07.5 0.0**
PRP IAmb IAmb 18 43 16.8
comp=Z,126nm,1.9s
GGN Saint George 80.07 318 P **P 18 43 07.1 -0.7**
MLY Manley 80.08 7 P **P 18 43 08.3 +0.7**
MLY IAmb IAmb 18 43 10.7
comp=Z,60nm,1.0s
E63A Oxbow 80.09 320 P **P 18 43 07.2 -0.8**
BKSI Bulukumba 80.25 103 P **P 18 43 10.2 +1.0**
POKR Poker Plat Res 80.30 6 P **P 18 43 09.8 +1.0**
baz=349,SNR=38
MDM Murphy Dome 80.39 6 P **P 18 43 09.9 +0.7**
F64A Sherman 80.42 320 P **P 18 43 10.2 +0.5**
baz=50
F64A Sherman 80.42 320 P **P 18 43 10.1 +0.5**
G65A Princeton 80.42 319 P **P 18 43 10.9 +1.3**
PLAI Plampang 80.45 108 P **P 18 43 08.8 -1.5**
TCOL CIGO, UAF Yank 80.50 6 P **P 18 43 10.0 +0.2**
baz=349,SNR=9.0
COLA College 80.50 6 P **P 18 43 10.4 +0.6**
COLA pmax pmax
comp=Z,115nm,1.0s
COLA College 80.50 6 P **P 18 43 10.4 +0.6**
COLA IAmb IAmb 18 43 12.6
comp=Z,115nm,0.9s
D61A St Aubert, Com 80.51 322 P **P 18 43 09.4 -0.7**
baz=49
E62A Clayton Lake 80.55 321 P **P 18 43 09.7 -0.6**
baz=49
E62A Clayton Lake 80.55 321 P **P 18 43 10.1 -0.2**
E62A IAmb IAmb 18 43 19.0
comp=Z,89nm,1.6s
IL31 80.68 5 P **P 18 43 10.7 0.0**
ILAR Eielson Array 80.68 5 P **P 18 43 10.5 -0.3**
ILAR 18 46 16.0
ILAR Eielson Array 80.68 5 P **P 18 43 10.9 +0.1**
comp=Z,24nm,0.9s,baz=336,slow=3.9,SNR=111
ILAR PP **PP 18 46 16.0 +2.2**
comp=Z,4.7nm,0.9s,baz=342,slow=6.1,SNR=5.5
ILAR PKKPbc **PKKPbc 19 01 50.2 -0.4**
comp=Z,1.6nm,0.8s,baz=181,slow=2.6,SNR=9.6
ILAR PKPPKP **P'P'df 19 09 53.6 -7.0**
comp=Z,1.6nm,1.1s,baz=212,slow=3.2,SNR=4.4
ILAR LR LR 19 21 18.5
comp=Z,784nm,21.5s,baz=337,slow=37
ILAR Eielson Array 80.68 5 P **P 18 43 10.5 -0.3**
CCB Clear Creek Bu 80.73 6 P **P 18 43 11.1 +0.1**
CCB IAmb IAmb 18 43 19.6
comp=Z,47nm,1.0s
WRH Wood River Hil 80.88 6 P **P 18 43 11.4 -0.4**
F63A Nahmakanta, Br 80.92 320 P **P 18 43 12.2 -0.2**
baz=50
F63A Nahmakanta, Br 80.92 320 P **P 18 43 13.0 +0.6**
F63A IAMs_20 IAMs_20 19 18 40.6
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 80.97 7 P **P 18 43 12.1 -0.3**
EGAK Eagle 81.03 3 P **P 18 43 13.1 +0.5**
EGAK IAmb IAmb 18 43 21.4
comp=Z,105nm,1.1s
HDA Harding Lake 81.04 6 P **P 18 43 12.2 -0.4**
baz=350,SNR=10
HDA Harding Lake 81.04 6 P **P 18 43 12.0 -0.6**
F62A Pittston Farm, 81.25 320 P **P 18 43 14.0 -0.2**
baz=49
F62A Pittston Farm, 81.25 320 P **P 18 43 13.3 -0.8**
FCC Fort Churchill 81.34 340 P **P 18 43 12.9 -1.4**
FCC pmax pmax
comp=Z,63nm,1.2s
FCC Fort Churchill 81.34 340 P **P 18 43 12.9 -1.4**
FCC IAmb IAmb 18 43 23.0
comp=Z,63nm,1.1s
KDI Kendari 81.47 101 P **P 18 43 16.5 +0.7**
TTA Tatalina 81.47 10 P **P 18 43 15.2 +0.1**
TTA Tatalina 81.47 10 P **P 18 43 15.2 +0.1**
KTH Kantishna Hill 81.51 7 P **P 18 43 14.7 -0.6**
KTH IAmb IAmb 18 43 18.2
comp=Z,63nm,0.8s
KTH IAMs_20 IAMs_20 19 23 55.0
comp=Z,2µm,20.0s
MCK McKinley 81.53 7 P **P 18 43 14.9 -0.4**
MCK pmax pmax
comp=Z,74nm,1.0s
MCK McKinley 81.53 7 P **P 18 43 14.9 -0.4**
MCK IAmb IAmb 18 43 23.8
comp=Z,74nm,1.0s
G63A Kingsbury 81.58 320 P **P 18 43 15.7 -0.2**
baz=49
TRF Thorofare Moun 81.67 7 P **P 18 43 16.6 +0.4**
TRF IAmb IAmb 18 43 27.1
comp=Z,71nm,1.2s
H64A Troy 81.67 319 P **P 18 43 16.1 -0.3**
baz=49
SCRK Sand Creek 81.67 4 P **P 18 43 16.4 +0.2**
SCRK IAmb IAmb 18 43 25.6
comp=Z,115nm,1.0s
E60A Ste Agathe de 81.71 321 P **P 18 43 16.4 -0.2**
baz=48
F61A St Evariste 81.74 321 P **P 18 43 16.4 -0.3**
baz=48
DAWY Dawson 81.80 2 P **P 18 43 16.1 -0.7**
DAWY IAmb IAmb 18 43 25.7
comp=Z,97nm,1.2s
RIDG Independent Ri 81.86 5 P **P 18 43 16.4 -0.7**
RND Reindeer 81.86 7 P **P 18 43 16.3 -0.9**
RND pmax pmax
comp=Z,66nm,1.1s
RND Reindeer 81.86 7 P **P 18 43 16.3 -0.9**
RND IAmb IAmb 18 43 25.0
comp=Z,66nm,1.1s
D58A Chemin du LacG 81.95 323 P **P 18 43 18.0 +0.1**
baz=47
DOT Dot Lake 82.00 4 P **P 18 43 18.2 +0.4**
DOT IAmb IAmb 18 43 28.9
comp=Z,110nm,1.2s
G62A West of Eustis 82.00 320 P **P 18 43 18.5 +0.3**
baz=48
G62A West of Eustis 82.00 320 P **P 18 43 18.6 +0.5**
PPLA Purkeypile 82.00 8 P **P 18 43 18.2 +0.3**
PPLA IAmb IAmb 18 43 26.5
comp=Z,72nm,1.2s
H63A New Sharon 82.10 320 P **P 18 43 18.6 -0.1**
baz=49
YKW3 Yellowknife Ar 82.11 351 P **P 18 43 17.5 -0.8**
YKW3 IAmb IAmb 18 43 26.4
comp=Z,50nm,1.1s
YKW3 IAMs_20 IAMs_20 19 21 12.4
comp=Z,2µm,20.0s
YKA Yellowknife Ar 82.17 351 P **P 18 43 18.2 -0.4**
comp=Z,5.2nm,0.6s,baz=14,slow=5.7,SNR=25
YKA PP **PP 18 46 22.6 -3.4**
comp=Z,3.4nm,0.8s,baz=16,slow=6.6,SNR=4.6
YKA LR LR 19 21 23.9
comp=Z,207nm,19.9s,baz=16,slow=37
YKA Yellowknife Ar 82.17 351 P **P 18 43 17.2 -1.5**
WBSI Waikabubak, Su 82.21 107 P **P 18 43 19.7 0.0**
F60A Warwick 82.24 321 P **P 18 43 18.9 -0.4**
baz=48
DHY Denali Highway 82.32 6 P **P 18 43 19.5 -0.2**
DHY IAmb IAmb 18 43 27.9
comp=Z,114nm,1.7s
MATQ Matagami 82.36 327 P **P 18 43 19.7 -0.2**
baz=44
I64A Boothbay 82.37 319 P **P 18 43 18.6 -1.4**
baz=49
G61A St-Isidore-de- 82.48 321 P **P 18 43 20.1 -0.6**
baz=48
D57A Chemin Vers le 82.50 323 P **P 18 43 20.4 -0.3**
baz=46
LSQQ Lebel-sur-Quev 82.56 326 P **P 18 43 20.2 -0.8**
baz=45
PAX Paxson 82.57 5 P **P 18 43 21.0 +0.1**
PAX pmax pmax
comp=Z,51nm,1.2s
PAX Paxson 82.57 5 P **P 18 43 20.9 +0.1**
PAX IAmb IAmb 18 43 29.6
comp=Z,51nm,1.2s
E58A La Victoria 82.64 322 P **P 18 43 21.6 +0.1**
baz=47
TNTI Ternate 82.68 94 P **P 18 43 20.5 -1.6**
TNTI IAmb IAmb 18 43 25.8
comp=Z,71nm,1.3s
BCAR Beaver Creek A 82.71 3 P **P 18 43 21.6 +0.1**
MENT Mentasta 82.72 4 P **P 18 43 21.6 0.0**
MENT IAmb IAmb 18 43 32.8
comp=Z,67nm,1.0s
F59A Saint Guilaume 82.75 322 P **P 18 43 21.1 -0.9**
baz=47
H62A Milan 82.76 320 P **P 18 43 22.1 0.0**
baz=48
I63A Otisfield 82.80 319 P **P 18 43 21.9 -0.4**
baz=48
D56A ZEC Mazanza, M 82.91 324 P **P 18 43 22.6 -0.2**
baz=46
SKT Skwentna 82.97 8 P **P 18 43 22.1 -0.8**
SKT IAmb IAmb 18 43 32.3
comp=Z,80nm,1.1s
SKT IAMs_20 IAMs_20 19 26 24.7
comp=Z,2µm,21.0s
G60A Masonville 83.03 321 P **P 18 43 23.4 -0.1**
baz=47
E57A Chemin Saint G 83.05 323 P **P 18 43 23.6 0.0**
baz=46
SANI Sanana 83.14 97 P **P 18 43 23.9 -0.6**
H61A Lyndonville 83.19 320 P **P 18 43 24.2 -0.2**
baz=48
D55A Sainte-Anne-du 83.28 324 P **P 18 43 24.8 0.0**
baz=45
SVW2 Sparrevohn 83.29 10 P **P 18 43 25.5 +1.0**
SVW2 IAmb IAmb 18 43 34.2
comp=Z,46nm,1.1s
I62A Tamworth 83.32 320 P **P 18 43 25.2 +0.2**
baz=48
I62A Tamworth 83.32 320 IAMs_20 IAMs_20 19 19 41.1
comp=Z,1µm,20.0s
LBNH Lisbon 83.39 320 P **P 18 43 25.4 0.0**
baz=48
LBNH Lisbon 83.39 320 P **P 18 43 25.8 +0.4**
LBNH pmax pmax
comp=Z,181nm,2.0s
LBNH Lisbon 83.39 320 P **P 18 43 25.8 +0.4**
E56A St. Veronique 83.40 323 P **P 18 43 24.7 -0.7**
baz=46
VLDQ Val d'Or 83.45 326 P **P 18 43 25.2 -0.4**
GHO Glory Hole Cre 83.45 7 P **P 18 43 25.8 +0.3**
G59A Clarenceville 83.48 321 P **P 18 43 25.1 -0.7**
baz=47
SML Sawmill 83.48 7 P **P 18 43 25.5 -0.1**
SCM Sheep Creek Mo 83.55 6 P **P 18 43 26.3 +0.3**
SCM pmax pmax
comp=Z,421nm,2.0s
SCM Sheep Creek Mo 83.55 6 P **P 18 43 26.3 +0.3**
SUA Susitna One 83.56 8 P **P 18 43 26.1 0.0**
H60A Morristown 83.58 321 P **P 18 43 25.9 -0.5**
baz=47
PMR Palmer 83.61 7 P **P 18 43 26.5 +0.4**
PMR pmax pmax
comp=Z,84nm,1.1s
PMR Palmer 83.61 7 P **P 18 43 26.5 +0.4**
PMR IAmb IAmb 18 43 35.1
comp=Z,84nm,1.1s

F57A	Harrington	83.74	323	P	P	18 43 27.1	0.0
	baz=46						
D54A	Lac Fusel, La	83.76	325	P	P	18 43 26.8	-0.5
	baz=45						
FFD	Franklin Falls	83.76	319	IAMs_20	IAMs_20	19 25 51.9	
	comp=Z,2μm,18.0s						
VT1	Waterbury	83.77	321	P	P	18 43 26.2	-1.1
KNK	Knik Glacier	83.85	7	P	P	18 43 27.4	0.0
FRNY	Flat Rock	83.86	321	P	P	18 43 27.2	-0.6
FRNY				IAMs_20	IAMs_20	19 21 45.2	
	comp=Z,2μm,20.0s						
G58A	Ormstown	83.88	322	P	P	18 43 27.4	-0.4
	baz=46						
MMRI	Maumere	83.88	105	P	P	18 43 25.5	-2.8
E55A	Montcerf-Lytto	83.97	324	P	P	18 43 28.2	-0.1
	baz=45						
J62A	Henniker	84.02	319	P	P	18 43 28.7	+0.1
	baz=48						
H59A	Cadyville	84.04	321	P	P	18 43 28.3	-0.4
	baz=46						
RC01	Rabbit Creek A	84.04	7	P	P	18 43 28.1	-0.3
GLB	Gilahina Butte	84.21	5	P	P	18 43 29.1	-0.2
GLB				IAmb	IAmb	18 45 31.6	
	comp=Z,113nm,1.8s						
K63A	Dunstable	84.22	319	P	P	18 43 29.4	-0.2
	baz=48						
RSO	Redoubt South	84.29	9	P	P	18 43 29.8	-0.1
D53A	Lac Vacive, Po	84.31	325	P	P	18 43 29.0	-1.1
D53A				IAMs_20	IAMs_20	19 20 24.0	
	comp=Z,2μm,21.0s						
MCARA	McCarthy VSAT	84.31	4	P	P	18 43 30.6	+0.8
MCARA				IAmb	IAmb	18 43 40.1	
	comp=Z,113nm,1.6s						
J61A	Chester	84.33	320	P	P	18 43 30.4	+0.2
	baz=47						
L64A	Middleborough	84.35	318	P	P	18 43 30.6	+0.3
	baz=48						
HRV	Adam Dziewonsk	84.36	319	P	P	18 43 30.6	+0.2
	baz=48						
G57A	Newington	84.38	322	P	P	18 43 30.2	-0.2
	baz=46						
VRDI	Verde Repeater	84.44	4	P	P	18 43 31.5	+0.8
VRDI				IAmb	IAmb	18 43 39.6	
	comp=Z,39nm,1.0s						
H58A	Gabriels	84.45	321	P	P	18 43 30.4	-0.4
	baz=46						
GLI	Glacier Island	84.51	6	P	P	18 43 31.4	+0.7
LONY	Lake Ozonia	84.52	322	P	P	18 43 30.3	-0.8
	baz=46,SNR=7.4						
LONY	Lake Ozonia	84.52	322	P	P	18 43 30.8	-0.3
LONY				IAMs_20	IAMs_20	19 22 04.6	
	comp=Z,1μm,20.0s						
F55A	Otter Lake	84.55	323	P	P	18 43 30.6	-0.7
	baz=45						
K62A	Royalston	84.62	319	P	P	18 43 31.9	+0.2
	baz=47						
K62A	Royalston	84.62	319	IAMs_20	IAMs_20	19 26 18.6	
	comp=Z,1μm,18.0s						
FID	Port Fidalgo	84.69	6	P	P	18 43 32.8	+1.1
BALM	Baldy	84.70	4	P	P	18 43 33.0	+1.1
I59A	Olmsteadville	84.72	321	P	P	18 43 32.2	+0.1
	baz=46						
NLAI	Namlea	84.72	98	P	P	18 43 39.0	+6.4
CTGM	Chitina Glacie	84.83	3	P	P	18 43 28.1	-4.4
J60A	Lant Hill Farm	84.86	320	P	P	18 43 33.2	+0.3
	baz=46						
ACCN	Adirondack Com	84.90	320	P	P	18 43 32.2	-0.9
CRQM	Cirque	84.93	4	P	P	18 43 32.6	-0.5
EYAK	Cordova Ski Ar	84.95	6	P	P	18 43 34.3	+1.4
TGL	Tana Glacier	84.95	4	P	P	18 43 33.4	+0.3
L61B	Northampton	85.01	319	P	P	18 43 33.9	+0.3
	baz=47						
SEW	Seward	85.03	8	P	P	18 43 33.3	-0.1
H57A	Richville	85.04	322	P	P	18 43 33.7	0.0
	baz=45						
D51A	Lot 18 Range I	85.09	326	P	P	18 43 33.9	0.0
	baz=43						
HYT	Haines Junctio	85.10	2	P	P	18 43 35.0	+1.0
G55A	Calabogie	85.14	323	P	P	18 43 34.0	-0.3
	baz=44						
K61A	Williamstown	85.18	320	P	P	18 43 34.7	+0.2
	baz=46						
BRLK	Bradley Lake	85.20	8	P	P	18 43 34.6	+0.3
D50A	G1974 Best Tow	85.25	326	P	P	18 43 34.1	-0.6
	baz=42						
J59A	Piesco	85.28	321	P	P	18 43 34.8	-0.2
	baz=46,SNR=6.9						
J59A	Piesco	85.28	321	P	P	18 43 34.9	-0.1
J59A				IAmb	IAmb	18 43 43.3	
	comp=Z,35nm,1.0s						
ALGO	Algonquin Park	85.29	324	P	P	18 43 34.7	-0.3
	baz=44						
WHY	Whitehorse	85.31	0	P	P	18 43 34.9	0.0
WHY				IAmb	IAmb	18 43 36.7	
	comp=Z,118nm,1.9s						
E52A	Mattawa	85.34	325	P	P	18 43 34.8	-0.4
	baz=43						
TRY	Troy	85.35	320	IAMs_20	IAMs_20	19 25 35.7	
	comp=Z,1μm,18.0s						
I58A	Old Forge	85.37	321	P	P	18 43 35.4	-0.1
	baz=46						
H56A	Elgin	85.39	323	P	P	18 43 35.1	-0.4
	baz=45						
CNPM	China Poot	85.39	9	P	P	18 43 34.7	-0.6
PLVO	Plevna	85.47	323	P	P	18 43 35.2	-0.7
PLVO				IAMs_20	IAMs_20	19 22 33.6	
	comp=Z,2μm,20.0s						
I57A	Carthage	85.55	322	P	P	18 43 36.0	-0.3
	baz=45						
L61A	Hillsdale 1, H	85.66	319	P	P	18 43 36.5	-0.4
	baz=46						
G54A	Lake Saint Pet	85.71	324	P	P	18 43 36.3	-0.9
	baz=44						
J58A	Remsen	85.76	321	P	P	18 43 36.9	-0.5
	baz=45						
J58A	Remsen	85.76	321	P	P	18 43 37.0	-0.4
AAI	Ambon	85.87	97	P	P	18 43 38.9	+0.5
H55A	Tweed	85.88	323	P	P	18 43 37.9	0.0
	baz=44						
YLE	Yale	85.93	318	IAMs_20	IAMs_20	19 24 27.2	
	comp=Z,2μm,19.0s						
BATI	Baumata	85.94	105	P	P	18 43 38.6	-0.1
	comp=Z,32nm,0.8s,baz=289,slow=3.2,SNR=5.3						
BATI	Baumata	85.94	105	P	P	18 43 39.9	+1.3
KSCT	Kent School, K	85.94	319	P	P	18 43 37.8	-0.5
K59A	Cooperstown	85.94	321	P	P	18 43 38.0	-0.3
	baz=46						
F52A	Sundridge	86.02	325	P	P	18 43 38.8	+0.2
	baz=43						
J57A	Williamstown	86.09	322	P	P	18 43 38.5	-0.5
	baz=45						
J57A	Williamstown	86.09	322	P	P	18 43 37.7	-1.3
J57A				IAMs_20	IAMs_20	19 23 02.3	
	comp=Z,2μm,20.0s						
DELO	Deloro Mine	86.12	323	P	P	18 43 39.2	+0.1
DELO				IAmb	IAmb	18 43 47.0	
	comp=Z,37nm,1.1s						
D48A	Paudash Townsh	86.14	327	P	P	18 43 38.9	-0.3
	baz=41						
SOEI	Soe	86.16	104	P	P	18 43 40.5	+0.6
SOEI	Soe	86.16	104	P	P	18 43 38.3	-1.6
G53A	Haliburton	86.17	324	P	P	18 43 39.4	0.0
	baz=43						
F51A	Arnstein	86.20	325	P	P	18 43 39.0	-0.5
	baz=42						
NBPV	Pedro Velho	86.20	260	eP	P	18 43 42.9	+3.0
NBPV	Pedro Velho	86.20	260	eP	P	18 43 42.9	+3.0
E50A	Wahnapitae	86.21	326	P	P	18 43 39.6	+0.1
	baz=42						
GIRL	Giralia	86.30	121	P	P	18 43 38.4	-1.8
RCBR	Riachuelo	86.36	260	P	P	18 43 38.9	-1.9
RCBR				pmax	pmax		
	comp=Z,77nm,1.8s						
RCBR				MLR	MLR		
	comp=Z,2μm,18.0s						
RCBR	Riachuelo	86.36	260	eP	P	18 43 43.6	+2.8
RCBR	Riachuelo	86.36	260	eP	P	18 43 43.6	+2.8
RCBR	Riachuelo	86.36	260	P	P	18 43 38.9	-1.9
RCBR				IAmb	IAmb	18 44 58.2	
	comp=Z,77nm,1.8s						
RCBR				IAMs_20	IAMs_20	19 25 27.8	
	comp=Z,2μm,18.0s						
I55A	Frankford	86.37	323	P	P	18 43 40.1	-0.3
	baz=44						
K58A	Earlville	86.37	321	P	P	18 43 39.6	-0.8
	baz=45						
K58A	Earlville	86.37	321	P	P	18 43 38.4	-2.0
M61A	Granite Spring	86.38	319	P	P	18 43 39.5	-1.0
	baz=46						
ADK	Adak	86.42	25	P	P	18 43 42.1	+1.7
ADK				pmax	pmax		
	comp=Z,79nm,1.2s						
ADK	Adak	86.42	25		P	18 43 42.1	+1.7
ADK				IAmb	IAmb	18 43 44.1	
	comp=Z,79nm,1.2s						
L59A	Walton	86.45	320	P	P	18 43 40.3	-0.6
	baz=45						
L59A	Walton	86.45	320	P	P	18 43 40.1	-0.8
N62A	Caumsett State	86.48	318	P	P	18 43 40.2	-0.7
	baz=46						
SKAG	Skagway	86.51	1	P	P	18 43 39.6	-1.1
SKAG				IAmb	IAmb	18 43 43.7	
	comp=Z,56nm,1.2s						
H53A	Bobcaygeon	86.55	324	P	P	18 43 40.9	-0.4
	baz=43						
J56A	Wolcott	86.63	322	P	P	18 43 41.1	-0.5
	baz=44						
J56A	Wolcott	86.63	322	P	P	18 43 42.3	+0.7
J56A				IAmb	IAmb	18 43 52.2	
	comp=Z,45nm,1.4s						
J56A				IAMs_20	IAMs_20	19 27 33.5	
	comp=Z,1μm,18.0s						
PAL	Palisades	86.67	319	P	P	18 43 41.3	-0.6
	baz=46						
SADO	Sadowa	86.68	324	LR	LR	19 22 56.5	
	comp=Z,803nm,19.3s,baz=28,slow=36						
SWI	Sorong	86.81	93	P	P	18 43 43.3	+0.3
SIJI	Sorong	86.82	93	LR	LR	19 27 07.2	
	comp=Z,353nm,21.6s,baz=297,slow=39						
M60A	Port Jervis	86.83	319	P	P	18 43 42.2	-0.5
	baz=46						
K57A	Scipio Center	86.84	321	P	P	18 43 42.4	-0.3
	baz=44						
KDAK	Kodiak Island	86.91	10	P	P	18 43 43.4	+0.7
KDAK				pmax	pmax		
	comp=Z,235nm,1.1s						
KDAK	Kodiak Island	86.91	10	P	P	18 43 43.9	+1.2
	comp=Z,124nm,0.9s,baz=343,slow=1.4,SNR=39						
KDAK				LR	LR	19 27 58.5	
	comp=Z,1μm,20.2s,baz=5.4,slow=39						
KDAK	Kodiak Island	86.91	10	P	P	18 43 43.4	+0.7
ODNJ	Ogdensburg	87.00	319	P	P	18 43 44.4	+0.9
ODNJ				IAmb	IAmb	18 43 53.3	
	comp=Z,57nm,1.8s						
FFC	Flin Flon	87.00	342	P	P	18 43 42.2	-1.0
FFC				pmax	pmax		
	comp=Z,21nm,1.2s						
FFC				MLR	MLR		
	comp=Z,2μm,19.0s						
FFC	Flin Flon	87.00	342	P	P	18 43 42.2	-1.0
FFC	Flin Flon	87.00	342	IAMs_20	IAMs_20	19 26 29.3	
	comp=Z,2μm,19.0s						
J55A	Hilton	87.12	322	IAMs_20	IAMs_20	19 24 10.5	
	comp=Z,2μm,20.0s						
K56A	Middlesex	87.28	322	P	P	18 43 44.1	-0.8
	baz=44						
NBPA	Parau_RN	87.31	261	eP	P	18 43 48.2	+2.9
NBPA	Parau_RN	87.31	261	eP	P	18 43 48.2	+2.9
F49A	Sandfield	87.31	326	P	P	18 43 44.5	-0.4
	baz=41						
D46A	Sault St. Mari	87.34	328	P	P	18 43 44.7	-0.3
	baz=40						
OHAK	Old Harbor	87.35	10	P	P	18 43 45.8	+0.9
NBRF	Rio Formoso -	87.36	258	eP	P	18 43 48.6	+3.0
NBRF	Rio Formoso -	87.36	258	eP	P	18 43 48.6	+3.0
CHGN	Chignik	87.37	13	P	P	18 43 43.9	-1.1
CHGN				IAMs_20	IAMs_20	19 26 26.4	
	comp=Z,2μm,21.0s						
NBCL	Cascavel-CE	87.41	263	eP	P	18 43 48.9	+3.1
NBCL	Cascavel-CE	87.41	263	eP	P	18 43 48.9	+3.1
N60A	Cedar Hill Far	87.41	319	P	P	18 43 44.1	-1.4
	baz=45						
MEDO	Medina	87.52	323	IAMs_20	IAMs_20	19 25 14.9	
	comp=Z,1μm,19.0s						
F48A	Evansville	87.52	327	P	P	18 43 44.7	-1.2
	baz=40						
J54A	Appleton	87.53	323	P	P	18 43 45.5	-0.5
	baz=43						
K55A	Perry	87.64	322	P	P	18 43 45.7	-0.9
	baz=43						
N59A	State Game Lan	87.74	320	P	P	18 43 46.3	-0.8
	baz=45						
N59A	State Game Lan	87.74	320	IAMs_20	IAMs_20	19 24 21.3	
	comp=Z,2μm,19.0s						
BNDI	Bandanaira	87.75	97	P	P	18 43 52.3	+4.8
M58A	Price's Panora	87.78	320	P	P	18 43 47.0	-0.4
	baz=44						
L56A	Greenwood	87.81	322	P	P	18 43 47.0	-0.5
	baz=44						
L56A	Greenwood	87.81	322	P	P	18 43 46.4	-1.1
L56A				IAMs_20	IAMs_20	19 24 13.7	
	comp=Z,1μm,19.0s						
E46A	Sault Ste Mari	87.86	328	P	P	18 43 47.1	-0.4
	baz=39						
E46A	Sault Ste Mari	87.86	328	P	P	18 43 46.4	-1.2
E46A				IAmb	IAmb	18 43 59.4	
	comp=Z,32nm,1.1s						
O60A	Telford	87.96	319	P	P	18 43 47.9	-0.3
	baz=45						
K54A	Basiliko Farm,	88.04	322	P	P	18 43 48.0	-0.5
	baz=43						
NBLI	Livramento-PB	88.09	260	eP	P	18 43 52.5	+3.3
NBLI	Livramento-PB	88.09	260	eP	P	18 43 52.5	+3.3
WVNY	West Valley, N	88.14	322	IAMs_20	IAMs_20	19 23 34.6	
	comp=Z,2μm,21.0s						
M57A	Sunshine Farm,	88.16	321	P	P	18 43 48.7	-0.3
	baz=44						
M57A	Sunshine Farm,	88.16	321	IAMs_20	IAMs_20	19 24 19.1	
	comp=Z,2μm,21.0s						
L55A	Hinsdale	88.22	322	P	P	18 43 48.7	-0.7
	baz=43						
PSUB	Penn St. - Bra	88.27	319	IAMs_20	IAMs_20	19 25 59.1	
	comp=Z,2μm,22.0s						
N58A	Sunbury	88.30	320	P	P	18 43 50.1	+0.4
	baz=44						
N58A	Sunbury	88.30	320	IAMs_20	IAMs_20	19 26 34.8	
	comp=Z,1μm,18.0s						
I51A	Listowel	88.30	325	P	P	18 43 48.6	-1.1
	baz=42						
NBMO	Morrinhos-CE	88.34	265	eP	P	18 43 53.4	+3.1
NBMO	Morrinhos-CE	88.34	265	eP	P	18 43 53.4	+3.1
E44A	Grand Marais A	88.36	329	P	P	18 43 49.6	-0.3
	baz=38						
E44A	Grand Marais A	88.36	329	IAMs_20	IAMs_20	19 23 39.8	
	comp=Z,2μm,20.0s						
P60A	Greenville	88.45	319	P	P	18 43 49.3	-1.1
	baz=45						
P60A	Greenville	88.45	319	IAMs_20	IAMs_20	19 26 02.9	
	comp=Z,1μm,20.0s						
M56A	Emporium	88.60	321	P	P	18 43 50.5	-0.7
	baz=43						
M56A	Emporium	88.60	321	P	P	18 43 50.7	-0.5
M56A				IAmb	IAmb	18 43 58.9	
	comp=Z,41nm,1.4s						
L54A	Sinclairville	88.63	323	P	P	18 43 51.5	+0.2
	baz=43						
PAGS	Pennsylvania G	88.74	320	IAMs_20	IAMs_20	19 25 01.5	
	comp=Z,1μm,18.0s						
FAKI	Fak Fak	88.78	94	P	P	18 43 53.1	+0.7
FAKI	Fak Fak	88.78	94	P	P	18 43 51.5	-1.0
N57A	Milroy	88.80	321	P	P	18 43 51.4	-0.7
	baz=44						
NBAN	Anadia - AL	88.85	258	eP	P	18 43 55.8	+3.1
NBAN	Anadia - AL	88.85	258	eP	P	18 43 55.8	+3.1
M55A	Ridgway	88.91	322	P	P	18 43 52.2	-0.5
	baz=43						
M55A	Ridgway	88.91	322	P	P	18 43 51.9	-0.8
M55A				IAmb	IAmb	18 43 54.1	
	comp=Z,43nm,1.2s						
O58A	Lewisberry	88.92	320	P	P	18 43 52.8	+0.1
	baz=44						
E43A	Lone Tree Farm	89.01	329	P	P	18 43 53.0	0.0
	baz=37						
E43A	Lone Tree Farm	89.01	329	IAMs_20	IAMs_20	19 24 10.9	
	comp=Z,2μm,20.0s						
ERPA	Erie	89.05	323	P	P	18 43 52.6	-0.7
	baz=42						
SSPA	Standing Stone	89.06	321	P	P	18 43 52.5	-0.8
	baz=44						
SSPA	Standing Stone	89.06	321	P	P	18 43 52.6	-0.8
SSPA				IAmb	IAmb	18 44 03.8	
	comp=Z,65nm,1.6s						
SSPA	Standing Stone	89.06	321	IAMs_20	IAMs_20	19 24 55.0	
	comp=Z,2μm,21.0s						
D41A	Chassel	89.11	331	IAMs_20	IAMs_20	19 24 57.5	
	comp=Z,2μm,21.0s						
ULM	Lac du Bonnet	89.14	336	P	P	18 43 52.4	-1.2
	comp=Z,3.3nm,0.8s,baz=20,slow=8.7,SNR=3.3						
ULM				LR	LR	19 25 16.5	
	comp=Z,3μm,19.6s,baz=29,slow=37						
ULM	Lac du Bonnet	89.14	336	IAmb	IAmb	18 44 48.5	
	comp=Z,54nm,1.9s						
GLMI	Grayling	89.20	327	IAMs_20	IAMs_20	19 25 24.0	
	comp=Z,2μm,19.0s						
NBPB	Pedra_Branca-C	89.21	263	eP	P	18 43 57.4	+2.9
NBPB	Pedra_Branca-C	89.21	263	eP	P	18 43 57.4	+2.9
O57A	Amberson	89.23	320	P	P	18 43 53.7	-0.5
	baz=44						
L53A	Girard	89.31	323	P	P	18 43 53.3	-1.2
	baz=42						
M54A	Oil Creek Stat	89.34	322	P	P	18 43 54.1	-0.6
	baz=42						
M54A	Oil Creek Stat	89.34	322	P	P	18 43 53.6	-1.1
M54A				IAmb	IAmb	18 44 02.8	
	comp=Z,37nm,1.0s						
M54A				IAMs_20	IAMs_20	19 25 16.2	
	comp=Z,2μm,20.0s						
MBWA	Marble Bar	89.39	116	P	P	18 43 55.6	+0.6
MBWA	SNR=7.1						
MBWA				P	P	18 43 55.6	+0.6
	SNR=7.1						
MBWA	Marble Bar	89.39	116	IAMs_20	IAMs_20	19 23 50.2	
	comp=Z,2μm,19.0s						
G45A	Suttons Bay	89.49	328	IAMs_20	IAMs_20	19 27 19.8	
	comp=Z,2μm,19.0s						
N55A	Marion Center	89.53	321	P	P	18 43 54.8	-0.7
	baz=43						
NBMA	Muriti-CE	89.57	261	eP	P	18 43 58.4	+2.2
NBMA	Muriti-CE	89.57	261	eP	P	18 43 58.4	+2.2
P58A	Pank, Wackersv	89.58	320	P	P	18 43 55.3	-0.4
	baz=44						
J49A	Marlette	89.64	325	P	P	18 43 55.2	-0.8
	baz=40						
PSAB1	Pilbara Seismi	89.70	116	IAMs_20	IAMs_20	19 25 32.5	
	comp=Z,1μm,20.0s						
PSAD3	Pilbara Seismi	89.71	117	IAMs_20	IAMs_20	19 31 29.9	
	comp=Z,1μm,21.0s						
PSAA2	Pilbara Seismi	89.72	116	IAMs_20	IAMs_20	19 25 33.9	
	comp=Z,1μm,20.0s						
PSAA1	Pilbara Seismi	89.72	116	IAMs_20	IAMs_20	19 25 34.9	
	comp=Z,2μm,22.0s						
PSA00	Pilbara Seismi	89.72	116	P	P	18 43 56.1	-0.5
PSA00				IAmb	IAmb	18 44 06.8	
	comp=Z,68nm,1.1s						
PSA00				IAMs_20	IAMs_20	19 25 32.1	
	comp=Z,1μm,20.0s						
PSA00	Pilbara Seismi	89.72	116	P	P	18 43 55.8	-0.7
PSA00				IAmb	IAmb	18 44 03.8	
	comp=Z,42nm,1.1s						
PSAB2	Pilbara Seismi	89.72	116	IAMs_20	IAMs_20	19 29 23.1	
	comp=Z,1μm,20.0s						
PSAC3	Pilbara Seismi	89.74	116	IAMs_20	IAMs_20	19 26 01.5	
	comp=Z,1μm,21.0s						
I47A	Gladwin	89.77	327	IAMs_20	IAMs_20	19 25 03.4	
	comp=Z,2μm,22.0s						
GUMO	Guam	89.82	74	LR	LR	19 29 14.6	
	comp=Z,387nm,18.9s,baz=299,slow=39						
K50A	Casco	89.85	325	IAMs_20	IAMs_20	19 24 04.5	
	comp=Z,2μm,22.0s						
M53A	WI Miller and	89.90	323	P	P	18 43 56.7	-0.6
	baz=42						
N54A	Moraine State	89.91	322	IAMs_20	IAMs_20	19 28 21.3	
	comp=Z,1μm,19.0s						
P57A	Homestead Farm	89.96	320	IAMs_20	IAMs_20	19 25 37.9	
	comp=Z,1μm,19.0s						
S61A	Accomac	89.97	317	IAMs_20	IAMs_20	19 26 15.4	
	comp=Z,2μm,19.0s						
F42A	Maple Grove Fa	89.98	330	IAMs_20	IAMs_20	19 25 01.4	
	comp=Z,2μm,20.0s						
NBTA	Tacaratu-PE	89.99	259	eP	P	18 44 00.2	+2.2
NBTA	Tacaratu-PE	89.99	259	eP	P	18 44 00.2	+2.2
J48A	Bridge Port	89.99	326	IAMs_20	IAMs_20	19 28 03.3	
	comp=Z,1μm,20.0s						
NBPS	Pedro II - PI	90.10	265	eP	P	18 44 01.4	+2.7
NBPS	Pedro II - PI	90.10	265	eP	P	18 44 01.4	+2.7
COWI	Conover	90.12	330	IAMs_20	IAMs_20	19 25 27.2	
	comp=Z,2μm,20.0s						
M52A	Chesterland	90.16	323	IAMs_20	IAMs_20	19 26 10.0	
	comp=Z,1μm,19.0s						
N53A	Lisbon	90.45	322	P	P	18 44 00.1	+0.2
	baz=42						
N53A	Lisbon	90.45	322	P	P	18 43 59.1	-0.8
N53A				IAmb	IAmb	18 44 07.9	
	comp=Z,43nm,1.2s						
N53A				IAMs_20	IAMs_20	19 27 02.7	
	comp=Z,1μm,20.0s						
Q57A	Strasburg	90.50	320	P	P	18 44 00.3	+0.2
	baz=43						
J47A	Sumner	90.52	326	P	P	18 43 59.9	-0.2
	baz=39						
I45A	Fountain	90.53	328	IAMs_20	IAMs_20	19 26 48.5	
	comp=Z,2μm,18.0s						
E38A	The Farm, Brul	90.67	332	IAMs_20	IAMs_20	19 25 30.0	
	comp=Z,2μm,19.0s						
O54A	Avella	90.68	322	P	P	18 44 00.6	-0.4
O54A				IAmb	IAmb	18 44 08.5	
	comp=Z,41nm,1.2s						
O54A				IAMs_20	IAMs_20	19 27 53.9	
	comp=Z,2μm,18.0s						
AAM	Ann Arbor	90.70	325	IAMs_20	IAMs_20	19 24 30.1	
	comp=Z,2μm,22.0s						
NBLA	Lagarto - SE	90.83	257	eP	P	18 44 04.8	+2.9
NBLA	Lagarto - SE	90.83	257	eP	P	18 44 04.8	+2.9
H43A	Windswept, Lux	90.86	329	IAMs_20	IAMs_20	19 26 47.9	
	comp=Z,2μm,19.0s						
K47A	Vermontville	91.04	326	P	P	18 44 02.0	-0.6
	baz=39						
O53A	New Philadelph	91.06	322	P	P	18 44 02.3	-0.4
	baz=41						
J45A	Montague	91.08	327	IAMs_20	IAMs_20	19 26 48.9	
	comp=Z,2μm,18.0s						
M50A	Fremont	91.09	324	P	P	18 44 02.4	-0.4
	baz=40						
R57A	Stanardsville	91.10	319	P	P	18 44 02.2	-0.7
	baz=43						
N51A	Ashland	91.14	323	P	P	18 44 02.1	-1.0
	baz=41						
N51A	Ashland	91.14	323	IAMs_20	IAMs_20	19 26 48.7	
	comp=Z,2μm,20.0s						
G40A	Rib Lake	91.23	331	P	P	18 44 02.7	-0.7
	baz=35						
G40A	Rib Lake	91.23	331	P	P	18 44 02.7	-0.7
G40A				IAmb	IAmb	18 44 33.2	
	comp=Z,39nm,1.1s						
G40A				IAMs_20	IAMs_20	19 26 09.6	
	comp=Z,2μm,20.0s						
S58A	Poland Farm, P	91.34	319	P	P	18 44 03.4	-0.6
	baz=43						
L48A	N Adams	91.34	325	P	P	18 44 03.1	-0.9
	baz=39						
U61A	Possum Corner	91.37	317	IAMs_20	IAMs_20	19 27 16.3	
	comp=Z,1μm,20.0s						
O52A	Adamsville	91.47	323	P	P	18 44 04.7	+0.1
	baz=41						
O52A	Adamsville	91.47	323	P	P	18 44 04.1	-0

ACSO	Alum Creek Sta	91.96 323	P	P	18 44 05.8	-1.1	
	baz=40						
ACSO	Alum Creek Sta	91.96 323	P	P	18 44 05.8	-1.1	
ACSO			IAmb	IAmb	18 44 14.2		
	comp=Z,42nm,1.0s						
ACSO			IAMs_20	IAMs_20	19 27 13.5		
	comp=Z,2µm,20.0s						
R55A	Marlinton	91.96 320	P	P	18 44 06.7	-0.3	
	baz=42						
R55A	Marlinton	91.96 320	P	P	18 44 06.3	-0.7	
R55A			IAmb	IAmb	18 44 09.4		
	comp=Z,31nm,1.3s						
R55A			IAMs_20	IAMs_20	19 27 15.7		
	comp=Z,1µm,20.0s						
P52A	Corning	91.99 322	P	P	18 44 06.5	-0.5	
	baz=41						
N49A	Columbus Grove	92.01 324	P	P	18 44 06.5	-0.6	
	baz=39						
N49A	Columbus Grove	92.01 324	P	P	18 44 06.0	-1.0	
FITZ	Fitzroy Crossi	92.07 110	P	P	18 44 06.9	-0.7	
	comp=Z,16nm,0.9s,baz=307,slow=4.3,SNR=15						
FITZ	Fitzroy Crossi	92.07 110	P	P	18 44 07.0	-0.5	
FITZ			IAmb	IAmb	18 44 14.2		
	comp=Z,25nm,1.0s						
U59A	Littleton	92.11 318	IAMs_20	IAMs_20	19 27 01.7		
	comp=Z,1µm,19.0s						
V60A	Jim Taylor Roa	92.23 317	IAMs_20	IAMs_20	19 27 52.2		
	comp=Z,1µm,20.0s						
SPMN	Marine on St.	92.30 332	P	P	18 44 07.7	-0.6	
	baz=33						
SPMN	Marine on St.	92.30 332	IAMs_20	IAMs_20	19 31 09.8		
	comp=Z,2µm,19.0s						
O50A	Cable	92.34 324	P	P	18 44 07.8	-0.8	
	baz=40						
M47A	Cromwell	92.36 326	P	P	18 44 07.7	-1.0	
	baz=38						
MDND	Maddock	92.44 337	IAMs_20	IAMs_20	19 27 03.4		
	comp=Z,2µm,20.0s						
N48A	Decatur	92.47 325	P	P	18 44 08.9	-0.3	
	baz=39						
R54A	Victor	92.49 321	P	P	18 44 08.4	-0.9	
	baz=42						
U58A	Oxford	92.50 318	P	P	18 44 09.5	+0.1	
	baz=43						
S55A	Lewisburg	92.54 320	P	P	18 44 09.2	-0.5	
	baz=42						
Q52A	Bidwell	92.56 322	P	P	18 44 09.3	-0.4	
	baz=41						
P51A	Williamsport	92.57 323	P	P	18 44 09.5	-0.2	
	baz=40						
P51A	Williamsport	92.57 323	P	P	18 44 08.7	-0.9	
P51A			IAmb	IAmb	18 44 16.7		
	comp=Z,46nm,1.2s						
P51A			IAMs_20	IAMs_20	19 26 52.7		
	comp=Z,1µm,21.0s						
O49A	Covington	92.66 324	P	P	18 44 09.2	-0.9	
	baz=39,SNR=7.0						
O49A	Covington	92.66 324	P	P	18 44 08.6	-1.5	
O49A			IAMs_20	IAMs_20	19 25 52.9		
	comp=Z,1µm,19.0s						
NBPN	Ponto Novo - B	92.69 259	eP	P	18 44 13.1	+2.5	
NBPN	Ponto Novo - B	92.69 259	eP	P	18 44 13.1	+2.5	
L44A	Lake County Fo	92.76 327	P	P	18 44 09.5	-1.0	
	baz=37						
N47A	Urbana	92.77 325	IAMs_20	IAMs_20	19 25 32.7		
	comp=Z,2µm,21.0s						
P50A	Jamestown	92.84 323	P	P	18 44 10.2	-0.8	
	baz=40						
R53A	Hurricane	92.88 321	P	P	18 44 10.6	-0.6	
U57A	Blanch	92.90 319	P	P	18 44 11.1	-0.2	
	baz=43						
BLA	Blacksburg	92.91 320	P	P	18 44 11.1	-0.3	
	baz=42						
BLA	Blacksburg	92.91 320	IAMs_20	IAMs_20	19 27 29.0		
	comp=Z,1µm,20.0s						
CNNC	Cliffs of the	92.97 317	IAMs_20	IAMs_20	19 28 24.6		
	comp=Z,2µm,20.0s						
Q51A	Peebles	93.06 323	P	P	18 44 10.3	-1.6	
	baz=40,SNR=5.6						
Q51A	Peebles	93.06 323	P	P	18 44 10.5	-1.5	
JFWS	Jewell Farm	93.17 329	P	P	18 44 11.6	-0.8	
	baz=35						
T55A	Pulaski	93.18 320	P	P	18 44 12.0	-0.6	
	baz=42						
R52A	Catlettsburg	93.23 322	P	P	18 44 12.7	-0.1	
	baz=40						
V58A	Windy Hill, Pi	93.25 318	P	P	18 44 12.6	-0.3	
	baz=43						
V58A	Windy Hill, Pi	93.25 318	P	P	18 44 12.5	-0.3	
DGMT	Dagmar	93.25 340	IAMs_20	IAMs_20	19 28 05.7		
	comp=Z,2µm,19.0s						
P49A	Miami Univ. Ec	93.35 324	P	P	18 44 12.4	-0.9	
	baz=39						
Q50A	Georgetown	93.52 323	P	P	18 44 13.4	-0.7	
	baz=40						
U56A	King	93.53 319	P	P	18 44 13.9	-0.3	
	baz=42						
U56A	King	93.53 319	P	P	18 44 12.8	-1.4	
U56A			IAmb	IAmb	18 44 22.1		
	comp=Z,52nm,1.4s						
V57A	Coltrane Farms	93.54 319	P	P	18 44 14.3	0.0	
	baz=42						
T54A	Tazewell	93.64 320	P	P	18 44 14.3	-0.4	
	baz=41						
L42A	Oliver, Polo	93.67 328	IAMs_20	IAMs_20	19 28 34.4		
	comp=Z,2µm,18.0s						
R51A	Hillsboro	93.73 322	P	P	18 44 14.3	-0.8	
	baz=40						
P48A	Milroy	93.75 324	P	P	18 44 14.2	-0.9	
	baz=39						
P48A	Milroy	93.75 324	P	P	18 44 13.9	-1.2	
P48A			IAmb	IAmb	18 44 22.0		
	comp=Z,45nm,1.2s						
U55A	TA2, Sparta	93.78 320	P	P	18 44 15.1	-0.3	
	baz=42						
SFIN	Lafayette	93.82 326	P	P	18 44 15.3	-0.1	
	baz=37						
SFIN	Lafayette	93.82 326	IAMs_20	IAMs_20	19 27 39.5		
	comp=Z,2µm,20.0s						
Q49A	Aurora	93.84 324	P	P	18 44 15.2	-0.3	
	baz=39						
W58A	Raeford	93.88 318	P	P	18 44 15.5	-0.3	
	baz=43						
S52A	Salyersville	93.95 322	P	P	18 44 15.7	-0.4	
	baz=40						
R50A	Paris	94.12 323	P	P	18 44 16.0	-0.8	
	baz=39,SNR=6.4						
R50A	Paris	94.12 323	P	P	18 44 15.5	-1.4	
R50A			IAmb	IAmb	18 44 24.3		
	comp=Z,29nm,1.1s						
R50A			IAMs_20	IAMs_20	19 28 57.8		
	comp=Z,1µm,18.0s						
U54A	Nelsons Funny	94.17 320	P	P	18 44 16.0	-1.2	
	baz=41						
T53A	Wise	94.20 321	P	P	18 44 16.0	-1.4	
	baz=41						
W57A	Gilead	94.20 318	P	P	18 44 16.0	-1.2	
	baz=42						
S51A	Beattyville	94.25 322	P	P	18 44 16.5	-1.0	
	baz=40,SNR=7.5						
S51A	Beattyville	94.25 322	P	P	18 44 16.5	-1.0	
S51A			IAmb	IAmb	18 44 25.1		
	comp=Z,38nm,0.9s						
S51A			IAMs_20	IAMs_20	19 30 13.1		
	comp=Z,1µm,19.0s						
X58A	Rowland	94.28 317	IAMs_20	IAMs_20	19 29 25.4		
	comp=Z,2µm,19.0s						
L40A	Anamosa	94.28 329	P	P	18 44 16.0	-1.5	
	baz=34						
L40A	Anamosa	94.28 329	IAMs_20	IAMs_20	19 28 53.5		
	comp=Z,2µm,18.0s						
Q48A	North Vernon	94.31 324	P	P	18 44 16.4	-1.3	
	baz=38						
T52A	Hallie	94.34 321	P	P	18 44 17.4	-0.5	
	baz=40						
T52A	Hallie	94.34 321	P	P	18 44 17.3	-0.6	
T52A			IAMs_20	IAMs_20	19 24 49.7		
	comp=Z,1µm,20.0s						
V55A	Taylorsville	94.35 319	P	P	18 44 17.4	-0.6	
	baz=42						
V55A	Taylorsville	94.35 319	IAMs_20	IAMs_20	19 28 22.1		
	comp=Z,1µm,19.0s						
Y59A	Loris	94.43 317	IAMs_20	IAMs_20	19 29 17.4		
	comp=Z,2µm,20.0s						
BLO	Bloomington	94.50 325	IAMs_20	IAMs_20	19 26 36.7		
	comp=Z,1µm,22.0s						
S50A	Richmond	94.62 322	P	P	18 44 18.5	-0.7	
	baz=39						
O44A	Mansfield	94.63 327	IAMs_20	IAMs_20	19 29 00.9		
	comp=Z,1µm,19.0s						
HDIL	Hopedale	94.68 327	IAMs_20	IAMs_20	19 29 08.2		
	comp=Z,2µm,18.0s						
U53A	Fall Branch	94.69 321	P	P	18 44 19.1	-0.4	
	baz=41						
V54A	Nebo	94.80 320	P	P	18 44 19.5	-0.5	
	baz=41						
NWAO	Narrogin (SRO)	94.80 127	P	P	18 44 18.9	-0.9	
NWAO			pmax	pmax			
	comp=Z,34nm,1.3s						
NWAO			MLR	MLR			
	comp=Z,1µm,18.0s						
NWAO	Narrogin (SRO)	94.80 127	P	P	18 44 19.2	-0.6	
	comp=Z,7.9nm,0.8s,baz=0.0,slow=2.0,SNR=4.4						
NWAO	Narrogin (SRO)	94.80 127	P	P	18 44 18.9	-0.9	
NWAO			IAmb	IAmb	18 45 31.5		
	comp=Z,34nm,1.2s						
NWAO			IAMs_20	IAMs_20	19 34 52.3		
	comp=Z,1µm,18.0s						
Y58A	Scranton	94.94 317	P	P	18 44 20.0	-0.7	
	baz=42						
Y58A	Scranton	94.94 317	IAMs_20	IAMs_20	19 29 52.9		
	comp=Z,2µm,20.0s						
T51A	Gray	94.94 322	P	P	18 44 19.9	-0.7	
	baz=40						
KMSC	Kings Mountain	94.94 319	P	P	18 44 20.8	+0.1	
KMSC			IAMs_20	IAMs_20	19 29 05.9		
	comp=Z,1µm,20.0s						
S49A	Springfield	94.98 323	P	P	18 44 20.1	-0.7	
	baz=39						
ECSD	EROS Data Cent	95.01 334	P	P	18 44 19.9	-1.0	
	baz=30						
ECSD	EROS Data Cent	95.01 334	P	P	18 44 20.4	-0.4	
TZTN	Tazewell	95.06 321	P	P	18 44 20.7	-0.5	
	baz=40						
TZTN	Tazewell	95.06 321	P	P	18 44 20.5	-0.8	
TZTN			IAmb	IAmb	18 44 23.2		
	comp=Z,25nm,1.1s						
TZTN			IAMs_20	IAMs_20	19 29 25.8		
	comp=Z,1µm,20.0s						
U52A	Thorn Hill	95.08 321	P	P	18 44 20.7	-0.6	
	baz=40						
WCI	Wyandotte Cave	95.13 324	IAMs_20	IAMs_20	19 29 10.5		
	comp=Z,1µm,19.0s						
SCIA	State Center	95.24 330	IAMs_20	IAMs_20	19 31 03.7		
	comp=Z,2µm,18.0s						
Y57A	Sumter	95.26 318	IAMs_20	IAMs_20	19 33 32.0		
	comp=Z,1µm,19.0s						
X56A	White Oak	95.27 318	P	P	18 44 21.7	-0.5	
	baz=42						
V53A	Saluda	95.34 320	P	P	18 44 22.1	-0.4	
	baz=40						
V53A	Saluda	95.34 320	P	P	18 44 22.2	-0.4	
V53A			IAMs_20	IAMs_20	19 31 17.3		
	comp=Z,1µm,18.0s						
T50A	Nancy	95.35 322	P	P	18 44 22.1	-0.4	
	baz=39						
U51A	La Follette	95.43 321	P	P	18 44 22.5	-0.4	
	baz=40						
LAO	LASA Array	95.43 341	P	P	18 44 23.1	+0.3	
	baz=23						
LAO	LASA Array	95.43 341	P	P	18 44 22.9	+0.1	
LAO			IAmb	IAmb	18 44 48.0		
	comp=Z,27nm,1.2s						
PAULI	Pauline	95.45 319	P	P	18 44 23.1	+0.1	
PAULI			IAmb	IAmb	18 44 31.6		
	comp=Z,44nm,1.3s						
PAULI			IAMs_20	IAMs_20	19 29 11.1		
	comp=Z,1µm,20.0s						
W54A	Cherokee Point	95.45 319	P	P	18 44 22.6	-0.4	
	baz=41						
JAY	Jayapura	95.54 89	LR	LR	19 33 07.3		
	comp=Z,342nm,19.7s,baz=302,slow=39						
OLIL	Olney	95.59 325	P	P	18 44 22.2	-1.3	
OLIL			IAmb	IAmb	18 44 30.8		
	comp=Z,46nm,1.1s						
OLIL			IAMs_20	IAMs_20	19 30 16.6		
	comp=Z,2µm,20.0s						
V52A	Sevierville	95.62 321	P	P	18 44 22.2	-1.5	
	baz=40						
V52A	Sevierville	95.62 321	P	P	18 44 21.5	-2.2	
V52A			IAmb	IAmb	18 44 45.3		
	comp=Z,21nm,1.1s						
T49A	Edmonton	95.64 323	P	P	18 44 22.8	-1.0	
	baz=39						
T49A	Edmonton	95.64 323	IAMs_20	IAMs_20	19 29 54.9		
	comp=Z,2µm,20.0s						
NHSC	New Hope	95.81 317	IAMs_20	IAMs_20	19 29 49.1		
	comp=Z,2µm,19.0s						
U50A	Jamestown	95.82 322	P	P	18 44 24.0	-0.7	
	baz=39						
BG3	Lake Jocassee	95.92 320	P	P	18 44 24.2	-0.9	
X54A	Belton	95.95 319	P	P	18 44 25.4	+0.1	
	baz=41						
USIN	University of	96.00 325	IAMs_20	IAMs_20	19 31 04.4		
	comp=Z,1µm,20.0s						
V51A	Loudon	96.04 321	IAMs_20	IAMs_20	19 28 54.8		
	comp=Z,1µm,21.0s						
HODGE	Hodges	96.13 319	P	P	18 44 26.2	+0.1	
HODGE			IAmb	IAmb	18 44 34.6		
	comp=Z,22nm,1.3s						
HODGE			IAMs_20	IAMs_20	19 29 30.3		
	comp=Z,2µm,21.0s						
U49A	Red Boiling Sp	96.22 323	P	P	18 44 26.1	-0.4	
	baz=38						
JTMT	Jette	96.30 347	IAMs_20	IAMs_20	19 31 00.9		
	comp=Z,1µm,21.0s						
Z56A	Williston	96.32 318	IAMs_20	IAMs_20	19 30 18.0		
	comp=Z,1µm,20.0s						
CPCT	Cooper Cave	96.41 321	P	P	18 44 26.2	-1.2	
CPCT			IAmb	IAmb	18 44 38.4		
	comp=Z,20nm,1.2s						
X53A	Estanollee	96.49 320	P	P	18 44 27.3	-0.4	
	baz=40						
T47A	Sharon Grove	96.51 324	IAMs_20	IAMs_20	19 28 19.6		
	comp=Z,1µm,21.0s						
V50A	Pikevile	96.53 322	P	P	18 44 27.0	-0.9	
	baz=39						
Y54A	Tignall	96.64 319	P	P	18 44 28.0	-0.4	
	baz=41						
SLM	Saint Louis	96.66 327	IAMs_20	IAMs_20	19 30 21.7		
	comp=Z,2µm,20.0s						
B06A	Marblemount	96.68 351	IAMs_20	IAMs_20	19 31 30.0		
	comp=Z,2µm,20.0s						
X52A	Dahlonega	96.72 320	P	P	18 44 28.1	-0.7	
	baz=40						
W51A	Cleveland	96.75 321	P	P	18 44 28.2	-0.7	
	baz=39						
V49A	McMinnville	96.87 322	P	P	18 44 28.3	-1.1	
	baz=38						
SIUC	Southern Illin	96.94 326	IAMs_20	IAMs_20	19 30 59.5		
	comp=Z,2µm,18.0s						
S44A	Carbondale	96.97 326	P	P	18 44 29.1	-0.8	
	baz=36						
W50A	Signal Mountai	97.01 321	P	P	18 44 29.5	-0.6	
	baz=39						
W50A	Signal Mountai	97.01 321	IAMs_20	IAMs_20	19 29 34.2		
	comp=Z,1µm,21.0s						
MSO	Missoula	97.11 346	IAMs_20	IAMs_20	19 34 33.4		
	comp=Z,1µm,20.0s						
257A	Skidaway Islan	97.13 317	P	P	18 44 29.4	-1.3	
	baz=42						
RSSD	Black Hills	97.16 339	IAMs_20	IAMs_20	19 29 46.0		
	comp=Z,2µm,20.0s						
SWET	Sewanee	97.31 322	IAMs_20	IAMs_20	19 36 31.3		
	comp=Z,1µm,18.0s						
V48A	Smith Brothers	97.35 323	IAMs_20	IAMs_20	19 31 06.3		
	comp=Z,1µm,19.0s						
Y52A	Lilburn	97.38 320	IAMs_20	IAMs_20	19 29 13.3		
	comp=Z,1µm,22.0s						
GOGA	Godfrey	97.41 319	IAMs_20	IAMs_20	19 30 27.0		
	comp=Z,1µm,20.0s						
WVT	Waverly	97.54 324	IAMs_20	IAMs_20	19 29 01.2		
	comp=Z,1µm,20.0s						
BOZ	Bozeman (W)	97.79 344	IAMs_20	IAMs_20	19 32 11.5		
	comp=Z,2µm,19.0s						
LTY	Liberty	97.82 351	IAMs_20	IAMs_20	19 30 29.0		
	comp=Z,2µm,20.0s						
HENM	Henderson Moun	97.86 325	IAMs_20	IAMs_20	19 32 11.6		
	comp=Z,1µm,18.0s						
HICK	Hickman	97.89 325	IAMs_20	IAMs_20	19 30 48.3		
	comp=Z,1µm,20.0s						
YNE	Yellowstone No	97.97 343	P	P	18 44 33.2	-1.4	
255A	Hazlehurst	97.98 318	IAMs_20	IAMs_20	19 31 18.5		
	comp=Z,2µm,20.0s						
PARMO	Parma	98.04 325	IAMs_20	IAMs_20	19 31 41.2		
	comp=Z,1µm,19.0s						
D05A	Enumclaw	98.05 352	IAMs_20	IAMs_20	19 30 50.9		
	comp=Z,2µm,20.0s						
GLAT	Glass	98.13 325	IAMs_20	IAMs_20	19 33 44.9		
	comp=Z,1µm,20.0s						
PENMO	Penman	98.15 325	IAMs_20	IAMs_20	19 29 53.0		
	comp=Z,1µm,21.0s						
DLMT	Dillon	98.23 345	IAMs_20	IAMs_20	19 31 41.1		
	comp=Z,2µm,21.0s						
PBMO	Poplar Bluff	98.26 326	IAMs_20	IAMs_20	19 31 04.1		
	comp=Z,2µm,21.0s						
LNXT	Lenox	98.37 325	IAMs_20	IAMs_20	19 34 03.0		
	comp=Z,1µm,19.0s						
X48A	Hartselle	98.48 322	IAMs_20	IAMs_20	19 31 35.1		
	comp=Z,1µm,20.0s						
PEBM	Pemiscott Bayo	98.53 325	IAMs_20	IAMs_20	19 31 08.4		
	comp=Z,1µm,19.0s						
ALF01	Guarapari-ES	98.54 251	eP	Pdif	18 44 39.7	+2.7	
ALF01	Guarapari-ES	98.54 251	eP	Pdif	18 44 39.7	+2.7	
F10A	Beach Ranch, E	98.55 348	IAMs_20	IAMs_20	19 32 00.3		
	comp=Z,2µm,22.0s						
PLAL	Pickwick Lake	98.57 323	IAMs_20	IAMs_20	19 31 14.6		
	comp=Z,1µm,20.0s						
Y49A	Blount Mountai	98.62 321	IAMs_20	IAMs_20	19 35 38.0		
	comp=Z,1µm,19.0s						
GNAR	Gosnell	98.73 325	IAMs_20	IAMs_20	19 34 12.5		
	comp=Z,2µm,21.0s						
253A	Americus	98.80 319	IAMs_20	IAMs_20	19 31 28.9		
	comp=Z,1µm,20.0s						
Z50A	Ashland	98.83 321	IAMs_20	IAMs_20	19 31 39.7		
	comp=Z,1µm,19.0s						
E03A	Lebam	98.87 353	IAMs_20	IAMs_20	19 31 33.7		
	comp=Z,1µm,19.0s						
FLWY	Flagg Ranch	99.01 343	IAMs_20	IAMs_20	19 33 05.6		
	comp=Z,2µm,18.0s						
LPAR	Lepanto	99.16 325	IAMs_20	IAMs_20	19 31 26.9		
	comp=Z,1µm,21.0s						
LCAR	Lake Charles	99.18 326	IAMs_20	IAMs_20	19 32 08.1		
	comp=Z,2µm,18.0s						
IMW	Indian Meadow	99.24 343	IAMs_20	IAMs_20	19 31 02.8		
	comp=Z,2µm,22.0s						
SC01	Santiago de lo	99.30 301	IAMs_20	IAMs_20	19 36 53.8		
	comp=Z,1µm,18.0s						
MOOW	Moose Ponds	99.33 343	IAMs_20	IAMs_20	19 33 24.3		
	comp=Z,2µm,18.0s						
F04A	Amboy	99.34 352	IAMs_20	IAMs_20	19 31 40.3		
	comp=Z,1µm,20.0s						
MET	Memphis--Engin	99.37 324	IAMs_20	IAMs_20	19 29 57.5		
	comp=Z,2µm,22.0s						
FXWY	Fox Creek	99.50 343	IAMs_20	IAMs_20	19 31 20.8		
	comp=Z,1µm,20.0s						
LRAL	Lakeview Retre	99.57 321	IAMs_20	IAMs_20	19 33 36.1		
	comp=Z,1µm,19.0s						
SNOW	Snow King Moun	99.60 343	IAMs_20	IAMs_20	19 33 34.1		
	comp=Z,2µm,18.0s						
OXF	Oxford	99.61 324	IAMs_20	IAMs_20	19 32 35.9		
	comp=Z,1µm,19.0s						
TPAW	Teton Pass	99.63 343	IAMs_20	IAMs_20	19 33 26.0		
	comp=Z,1µm,18.0s						
BMO	Blue Mountains	99.64 348	IAMs_20	IAMs_20	19 34 18.4		
	comp=Z,1µm,22.0s						
352A	Blakely	99.68 319	IAMs_20	IAMs_20	19 32 05.2		
	comp=Z,1µm,19.0s						
U40A	Yellville	99.72 327	IAMs_20	IAMs_20	19 33 43.5		
	comp=Z,2µm,19.0s						
REDW	Red Top Meadow	99.72 343	IAMs_20	IAMs_20	19 33 37.6		
	comp=Z,2µm,18.0s						
FCAR	Ozark Folk Cen	99.77 326	IAMs_20	IAMs_20	19 32 01.0		
	comp=Z,2µm,19.0s						
453A	Whigham	99.82 318	IAMs_20	IAMs_20	19 32 47.0		
	comp=Z,2µm,20.0s						
WRA	Warramunga Arr	99.91 107	PP	PP	18 48 47.8	-0.7	
	comp=Z,4.2nm,1.0s,baz=304,slow=8.4,SNR=6.1						
WRA			PKKPbc	PKKPbc	19 01 02.0	0.0	
	comp=Z,0.4nm,0.8s,baz=114,slow=2.5,SNR=3.1						
WRA			LR	LR	19 34 55.6		
	comp=Z,582nm,19.0s,baz=270,slow=38						
PDAR	Pinedale Array	99.96 342	PP	PP	18 48 46.4	-1.0	
	comp=Z,1.2nm,1.0s,baz=38,slow=7.5,SNR=3.6						
PDAR			PKKPbc	PKKPbc	19 01 01.4	-1.1	
	comp=Z,0.8nm,0.9s,baz=127,slow=4.4,SNR=4.9						
PDAR			LR	LR	19 32 30.0		
	comp=Z,2µm,19.2s,baz=26,slow=37						
PDAR	Pinedale Array	99.96 342	Pdif	Pdif	18 44 41.6	-1.8	
PDAR				PKKPbc	19 00 59.5	-2.9	
SDDR	Presa de Saban	99.99 301	IAMs_20	IAMs_20	19 36 48.1		
	comp=Z,1µm,19.0s						
250A	Grady	100.01 320	IAMs_20	IAMs_20	19 31 21.9		
	comp=Z,1µm,19.0s						
PHWY	Pilot Hill	100.16 338	IAMs_20	IAMs_20	19 29 55.2		
	comp=Z,2µm,22.0s						
HHAR	Hobbs	100.26 328	IAMs_20	IAMs_20	19 36 38.9		
	comp=Z,1µm,20.0s						
X43A	Marvell	100.31 325	IAMs_20	IAMs_20	19 32 21.3		
	comp=Z,1µm,21.0s						
AHID	Auburn Hatcher	100.34 343	IAMs_20	IAMs_20	19 33 49.4		
	comp=Z,2µm,18.0s						
N23A	Red Feather La	100.67 339	IAMs_20	IAMs_20	19 30 56.9		
	comp=Z,2µm,22.0s						
MFID	Camas Ranch	100.76 346	IAMs_20	IAMs_20	19 35 30.0		
	comp=Z,1µm,20.0s						
UALR	University of	100.79 326	IAMs_20	IAMs_20	19 32 59.1		
	comp=Z,2µm,19.0s						
TUL1	Leonard	101.37 329	IAMs_20	IAMs_20	19 32 22.1		
	comp=Z,2µm,20.0s						
ASAR	Alice Springs	101.57 111	P	Pdif	18 44 48.7	-1.8	
ASAR					18 48 56.4		
ASAR	Alice Springs	101.57 111	P	Pdif	18 44 49.1	-1.4	
	comp=Z,1.8nm,0.8s,baz=303,slow=4.5,SNR=14						
ASAR			PP	PP	18 48 56.8	-4.4	
	comp=Z,2.9nm,1.1s,baz=300,slow=6.1,SNR=3.3						
ASAR			PKKPbc	PKKPbc	19 00 59.2	+1.9	
	comp=Z,0.4nm,0.5s,baz=120,slow=3.6,SNR=5.6						
ASAR	Alice Springs	101.57 111		Pdif	18 44 48.7	-1.8	
ASAR				PP	18 48 56.4	-4.7	
WLAR	White Oak Lake	102.05 326	IAMs_20	IAMs_20	19 32 33.1		
	comp=Z,1µm,21.0s						
SYO	Syowa Base	103.18 182	epPdif	pPdif	18 45 05.2	+2.2	
DUG	Dugway, Tooele	103.19 343	IAMs_20	IAMs_20	19 35 49.4		
	comp=Z,1µm,19.0s						
BMN	Battle Mountai	103.91 347	IAMs_20	IAMs_20	19 37 37.3		
	comp=Z,1µm,18.0s						
PV01	Paradox Valley	104.00 339	IAMs_20	IAMs_20	19 33 31.9		
	comp=Z,2µm,21.0s						
WDC	Whiskeytown Da	104.63 351	IAMs_20	IAMs_20	19 34 29.8		
	comp=Z,2µm,22.0s						
BEKR	Beckworth	105.01 349	IAMs_20	IAMs_20	19 34 13.3		
	comp=Z,2µm,22.0s						
KVN	Kaiserville	105.41 347	IAMs_20	IAMs_20	19 36 38.1		
	comp=Z,1µm,19.0s						
VCNR	Virginia City	105.45 348	IAMs_20	IAMs_20	19 40 09.0		
	comp=Z,985nm,20.0s						
PNTR	Pine Nut	105.64 348	IAMs_20	IAMs_20	19 38 34.1		
	comp=Z,1µm,20.0s						
YERR	Yerington	105.68 348	IAMs_20	IAMs_20	19 37 15.2		
	comp=Z,1µm,18.0s						
KRVT	Keravat (AS076	105.89 84	PP	PP	18 49 31.7	-1.5	
	baz=270,slow=7.1						
RYN	Ryan

833A	Chaparral WMA,	109.43	328	IAMs_20	IAMs_20	19 39 08.8	
	comp=Z,1μm,19.0s						
Y12C	Blythe	109.73	343	IAMs_20	IAMs_20	19 38 46.6	
	comp=Z,2μm,20.0s						
TXAR	Lajitas Array	110.33	332	*i* PKIKP	PKiKP	18 49 29.1	-1.6
TXAR						19 00 41.0	
TXAR	Lajitas Array	110.33	332	PKiKP	PKiKP	18 49 31.9	+1.3
	comp=Z,1.6nm,0.9s,baz=45,slow=1.9,SNR=4.3						
TXAR				PP	PP	18 50 04.3	-0.1
	comp=Z,2.2nm,1.0s,baz=4.8,slow=3.0,SNR=3.9						
TXAR				PKKPab	PKKPab	19 00 44.3	-0.5
	comp=Z,1.6nm,0.8s,baz=185,slow=9.1,SNR=4.6						
TXAR	Lajitas Array	110.33	332		PKiKP	18 49 29.1	-1.6
TXAR					PKKPab	19 00 41.0	-3.8
214A	Organ Pipe Nat	110.99	341	IAMs_20	IAMs_20	19 39 02.5	
	comp=Z,1μm,19.0s						
STKA	Stephens Creek	111.57	114	PKiKP	PKiKP	18 49 33.6	+1.0
	comp=Z,3.4nm,0.9s,baz=315,slow=2.9,SNR=4.2						
SIV	San Ignacio	112.55	266	PKiKP	PKiKP	18 49 35.2	+0.2
	comp=Z,1.6nm,0.8s,baz=137,slow=5.2,SNR=5.9						
SIV				PP	PP	18 50 19.4	-2.4
	comp=Z,1.1nm,0.6s,baz=34,slow=7.5,SNR=3.2						
CCIG	Comitan	115.61	314	IAMs_20	IAMs_20	19 42 20.6	
	comp=Z,911nm,21.0s						
LPAZ	La Paz	118.53	269	PKiKP	PKPdf	18 49 46.5	-0.7
LPAZ	La Paz	118.53	269	PKP	PKiKP	18 49 47.5	+0.3
	comp=Z,4.0nm,0.8s,baz=54,slow=2.3,SNR=10						
LPAZ	La Paz	118.53	269		PKPdf	18 49 46.5	-0.7
ARMA	Armidale	118.63	109	IAMs_20	IAMs_20	19 43 31.5	
	comp=Z,1μm,21.0s						
GO01	Chusmiza	121.08	266		PKPdf	18 49 50.8	-1.0
MNMC	Minye Minye	121.15	267		PKPdf	18 49 50.9	-0.8
PB11	IPOC Station P	121.50	267		PKPdf	18 49 51.8	-0.5
LVC	Limon Verde	122.22	263	PKiKP	PKPdf	18 49 51.9	-1.9
LVC	Limon Verde	122.22	263	PKP	PKiKP	18 49 55.2	+1.2
	comp=Z,8.9nm,0.8s,baz=335,slow=6.5,SNR=5.3						
LVC	Limon Verde	122.22	263	*e*P	PKiKP	18 49 56.3	+2.3
LVC	Limon Verde	122.22	263	*e*P	PKiKP	18 49 56.3	+2.3
LVC	Limon Verde	122.22	263		PKPdf	18 49 51.9	-1.9
NNA	Nana	123.46	279	PKiKP	PKPdf	18 49 54.0	-2.0
NNA				MLR	MLR		
	comp=Z,1μm,19.0s						
NNA	Nana	123.46	279	PKP	PKiKP	18 49 56.8	+0.5
	comp=Z,4.0nm,0.3s,baz=217,slow=7.6,SNR=3.1						
NNA	Nana	123.46	279		PKPdf	18 49 54.0	-2.0
NNA				IAMs_20	IAMs_20	19 48 42.8	
	comp=Z,987nm,19.0s						
QSPA	South Pole Qui	124.21	180		PKPdf	18 49 55.4	-0.6
CFA	Coronel Fontan	125.41	253	PKP	PKiKP	18 49 60.0	+0.3
	comp=Z,2.6nm,0.3s,baz=16,slow=3.1,SNR=5.5						
DZM	Mont Dzumac	127.02	93	*e*LR	LR	19 29 47.4	
	comp=Z,866nm,26.0s						
DZM	Mont Dzumac	127.02	93		PKPdf	18 50 01.9	-0.8
PMSA	Palmer Station	128.87	211	*e*P	PKiKP	18 50 07.6	+2.2
PMSA	Palmer Station	128.87	211	*e*P	PKiKP	18 50 07.6	+2.2
PLCA	Paso Flores	130.04	243	PKiKP	PKPdf	18 50 06.6	-1.3
PLCA	Paso Flores	130.04	243	PKP	PKiKP	18 50 09.2	+0.5
	comp=Z,14nm,1.0s,baz=77,slow=3.9,SNR=9.6						
PLCA	Paso Flores	130.04	243	*e*P	PKiKP	18 50 10.5	+1.8
PLCA	Paso Flores	130.04	243	*e*P	PKiKP	18 50 10.5	+1.8
PLCA	Paso Flores	130.04	243		PKPdf	18 50 06.6	-1.3
GO06	Curarrehue	130.44	245		PKPdf	18 50 07.6	-1.1
USHA	Ushuaia	130.85	224	SKPbc	SKPab	18 53 32.9	+0.8
	comp=Z,14nm,1.1s,baz=80,slow=3.9,SNR=5.3						
MSVF	Nonsavu	134.52	81	PKiKP	PKPdf	18 50 17.1	+0.1
MSVF	Nonsavu	134.52	81	PKPdf	PKPdf	18 50 17.1	+0.1
BHW	Baring Head	139.76	115		PKPdf	18 50 25.5	-0.4
AFI	Afiamalu	140.50	68	PKiKP	PKPdf	18 50 26.8	-1.3
AFI	Afiamalu	140.50	68	PKP	PKPdf	18 50 29.0	+0.9
	comp=Z,17nm,0.2s,baz=63,slow=4.3,SNR=4.3						
AFI	Afiamalu	140.50	68		PKPdf	18 50 26.8	-1.3
TAOE	Nuku Hiva Isla	154.03	13	*e*LR	LR	19 42 37.8	
	comp=Z,1μm,24.1s						
PPT2	Papeete2	158.41	43	*e*PP	PP	18 55 11.6	+1.5
	comp=Z,349nm,26.2s						
PPT2	Papeete2	158.41	43	*e*LR	LR	19 44 42.9	
	comp=Z,1μm,22.8s						
TBI	Tubuai	162.78	54	*e*PP	PP	18 55 23.9	-10
	comp=Z,232nm,28.5s						
TBI	Tubuai	162.78	54	*e*LR	LR	19 46 33.9	
	comp=Z,2μm,27.2s						

NEIC 22 18:32:54.0±2.9, 7°.27S±0°.03×131°.1E±0°.1, h109km±9km, mb4.1/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	0.72	168		Pn	18 33 12.4	0.0
FAKI	Fak Fak	4.46	14		Pn	18 34 00.3	+0.7
FAKI				Sn	Sn	18 34 49.3	-1.1
MTN	Manton Dam	5.54	180		Pn	18 34 15.3	+1.2
MTN				Sn	Sn	18 35 14.8	-1.8
SOEI	Soe	7.24	250		Pn	18 34 39.2	+2.0
SOEI					Sn	18 35 57.3	-0.6
KNRA	Kununurra	8.67	195		Pn	18 34 57.2	+0.6
KNRA					Sn	18 36 29.1	-3.7
FITZ	Fitzroy Crossi	12.02	206		Pn	18 35 40.0	-1.8
WRAB	Tennant Creek	12.97	166	Pn	Pn	18 35 53.8	-0.4
WRAB					Sn	18 38 07.7	-9.3
WRA	Warramunga Arr	12.97	166		Pn	18 35 51.9	-2.3
WRA					Sn	18 38 06.2	-11
WB2	Warramunga Arr	12.97	166	Pn	Pn	18 35 53.9	-0.4
WB2					Sn	18 38 08.8	-8.4
COEN	Coen	13.56	120	Pn	Pn	18 36 02.8	+0.9
AS31	Alice Springs	16.52	171	P	Pn	18 36 39.0	-0.3
AS31				IAmb	IAmb	18 36 47.7	
	comp=Z,1.3nm,0.8s						
ASAR	Alice Springs	16.52	171		P	18 36 40.2	+0.3
PSA00	Pilbara Seismi	17.92	216	P	Pn	18 36 57.8	+1.5
PSA00				IAmb	IAmb	18 37 04.2	
	comp=Z,20nm,1.5s						
KSAR	Wonju Array Be	44.58	356	P	P	18 40 53.1	-2.1
KS19	Wonju Array Si	44.64	356	P	P	18 40 54.1	-1.6
KS19				IAmb	IAmb	18 40 55.0	
	comp=Z,18nm,0.8s						

ISCJB 22 18:35:37.2±0.9, 6°.94N±0°.03×76°.79W±0°.03, h4km±5km, Error ellipse: s-maj=5.5km s-min=3.5km az=33.7
UPA 22 18:35:37.6±0.8, 7°.00N×76°.70W, h4km±5km, MW3.8
RSNC 22 18:35:38.7±0.9, 6°.96N×76°.71W, h0km±5km, ML3.3, Mw3.5
ISC 22 18:35:36.7±1.4, 6°.89N±0°.03×76°.80W±0°.03, h1km±11km, n26, σ1§62/48, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	Dabeiba	0.60	77⇑	*i*P	Pg	18 35 47.9	-0.3
DBBC				*e*S	Sg	18 35 56.1	+0.1
DBBC				*i*		18 35 57.0	
	comp=Z,2μm,0.4s						
DBBC				*i*		18 35 59.3	
	comp=Z,2μm,0.5s						
DBBC	Dabeiba	0.60	77	*e*P	Pg	18 35 47.9	-0.3
PTAC	Punta Ardita,	1.04	285	*e*P	Pb	18 35 58.1	+0.6
PTAC				*e*S	Sn	18 36 14.1	+0.5
PTAC				*i*		18 36 18.4	
	comp=Z,2μm,0.3s						
PTAC	Punta Ardita,	1.04	285	*e*P	Pb	18 35 58.1	+0.6
PTAC				*e*S	Sn	18 36 14.4	+0.8
CBOC	Ciudad Bolivar	1.28	142	*e*P	Pg	18 36 01.4	+0.1
CBOC				*e*S	Sn	18 36 20.2	+0.3
CBOC				*i*		18 36 25.5	
	comp=Z,457nm,0.6s						
HELC	Santa Helena	1.44	119	*e*P	Pn	18 36 02.9	-1.3
HELC				*e*S	Sg	18 36 23.0	0.0
HELC				*i*		18 36 27.8	
	comp=Z,319nm,0.5s						
HELC	Santa Helena	1.44	119	*e*P	Pn	18 36 03.1	-1.2
HELC				*e*S	Sg	18 36 23.4	+0.5
LCBC	Los crdobas,	2.00	12	*e*P	Pn	18 36 11.6	-0.2
LCBC				*e*S	Sb	18 36 39.0	-0.5
ZARC	Zaragoza, Cauc	2.02	72⇑	*i*P	Pn	18 36 11.9	-0.1
ZARC				*e*S	Sn	18 36 36.9	-0.9
ZARC				*i*		18 36 38.7	
	comp=Z,288nm,0.6s						
PLMC	San Jos del P	2.03	165	*e*P	Pn	18 36 11.0	-1.2
PLMC				*e*S	Sn	18 36 35.7	-2.6
PLMC				*i*		18 36 39.9	
	comp=Z,262nm,0.1s						
UPD2	Meteti	2.04	324	*e*P	Pn	18 36 12.3	0.0
UPD2				*e*S	Sn	18 36 37.3	-1.2
GUY2C	Guyana, Caldas	2.18	139	*e*P	Pn	18 36 16.0	+1.4
GUY2C				*e*S	Sb	18 36 44.8	-0.2
GUY2C				*i*		18 36 54.1	
	comp=Z,91nm,0.8s						
NORC	Norcasia	2.32	124	*e*P	Pn	18 36 18.1	+1.9
NORC				*e*S	Sn	18 36 47.1	+1.7
NORC				*i*		18 36 55.4	
	comp=Z,148nm,0.5s						
PTBC	PUERTO BERRIO,	2.35	98	*e*P	Pn	18 36 17.7	+1.2
PTBC				*e*S	Sn	18 36 46.2	+0.2
PTBC				*i*		18 36 50.2	
	comp=Z,376nm,0.7s						
YOTC	Yotoco, Valle	2.92	171	*e*P	Pn	18 36 22.8	-1.6
YOTC				*e*S	Sn	18 36 56.8	-3.4
YOTC				*i*		18 37 01.6	
	comp=Z,24nm,0.5s						
SPBC	San Pablo de B	2.97	114	*e*P	Pb	18 36 28.5	-2.1
SPBC				*e*S	Sn	18 37 04.2	+2.6
SPBC				*i*		18 37 23.4	
	comp=Z,56nm,1.0s						
BRRC	Barranca, Sant	3.07	86	*e*P	Pn	18 36 29.1	+2.6
BRRC				*e*S	Sn	18 37 05.7	+1.8
BRRC				*i*		18 37 29.2	
	comp=Z,52nm,0.6s						
CHPO	Chepo, Panama	3.23	315	*e*S	Sn	18 37 07.2	-0.5
SMLC	San Martn de	3.30	55	*e*P	Pn	18 36 29.9	+0.3
SMLC				*e*S	Sn	18 37 07.4	-2.2
SMLC				*i*		18 37 29.7	
	comp=Z,44nm,0.6s						
ORTC	Ortega, Tolima	3.34	152	*e*P	Pn	18 36 31.9	+1.8
ORTC				*e*S	Sn	18 37 12.5	+2.1
ORTC				*i*		18 37 39.6	
	comp=Z,36nm,0.7s						
SJCC	San Jacinto, C	3.39	28	*e*P	Pn	18 36 32.9	+2.0
SJCC				*e*S	Sn	18 37 07.3	-4.6
BARC	Barichara	3.60	94	*e*P	Pn	18 36 36.2	+2.2
BARC				*e*S	Sn	18 37 18.5	+1.2
BARC				*i*		18 37 20.7	
	comp=Z,352nm,0.6s						
BARC				*i*		18 37 21.8	
	comp=Z,243nm,0.6s						
ZANG	Zanguenga, Cho	3.67	304	*e*P	Pn	18 36 36.2	+1.6
OCAC	Ocana	3.70	68	*e*P	Pn	18 36 35.0	-0.3
OCAC				*e*S	Sn	18 37 19.6	0.0
OCAC				*i*		18 37 34.2	
	comp=Z,59nm,0.8s						
VTON	El Valle, Locl	3.71	298	*e*S	Sn	18 37 19.4	-0.2
PAMC	Pamplona, Colo	4.09	83	*e*P	Pn	18 36 42.7	+1.8
PAMC				*e*S	Sn	18 37 31.4	+1.7
PAMC				*i*		18 37 35.5	
	comp=Z,100nm,0.3s						
PAMC				*i*		18 37 35.6	
	comp=Z,93nm,0.4s						

IDC 22 18:36:40.1±2.1, 26°.82N×143°.80E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/66, mbtmp3.9/4, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/63, Error ellipse: s-maj=45.3km s-min=22.3km az=51.0
ISCJB 22 18:36:41.0±1.0, 27°.15N±0°.06×144°.05E±0°.08, h33km, mb4.0/4, Error ellipse: s-maj=11.0km s-min=8.5km az=25.8
JMA 22 18:36:43.0±0.3, 27°.33N×143°.90E, h34km, M3.6
ISC 22 18:36:44.4±1.4, 27°.11N±0°.08×143°.9E±0°.1, h35km, n18, σ2§42/14, mb4.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.56	270	Pn	Pn	18 37 08.5	-1.2
	17nm,0.3s,baz=288,slow=22,SNR=13						
JCJ				Sn	Sn	18 37 27.4	-1.4
	42nm,0.3s,baz=257,slow=23,SNR=9.6						
CBIJ	Chichi jima	1.56	270	P	Pn	18 37 08.9	-0.8
CBIJ				S	Sn	18 37 28.7	-0.1
JHH2	Haha-jima-NKT2	1.64	254	P	Pn	18 37 11.2	+0.4
BSO3	Boso 3	8.22	340	*e*S	Sn	18 40 12.2	-0.1
JHU	Hanno	9.58	337	P	Pn	18 39 00.3	+0.5
JHO	Hitachi	9.90	344	P	Pn	18 39 03.0	-1.2
JHO				*e*S	Sn	18 40 49.4	-4.6
MJAR	Matsushiro Arr	10.59	334	Pn	Pn	18 39 14.3	+0.6
	0.3nm,0.3s,baz=153,slow=11,SNR=11						
MJAR				LR	LR	18 43 08.6	
	comp=Z,162nm,20.6s,baz=270,slow=36						
KSRS	Korea Array	17.00	311	P	P	18 40 46.2	+5.2
	0.2nm,0.3s,baz=114,slow=15,SNR=4.6						
H11N2	WAKE ISLAND Hy	22.29	104	T	T	19 04 36.0	
	baz=291,slow=75,SNR=6.7						
H11N1	WAKE ISLAND Hy	22.29	104	T	T	19 04 33.9	
	baz=291,slow=75,SNR=4.8						
H11N3	WAKE ISLAND Hy	22.30	104	T	T	19 04 37.4	
	baz=291,slow=75,SNR=5.0						
H11S3	WAKE ISLAND Hy	22.63	107	T	T	19 05 04.1	
	baz=292						
H11S1	WAKE ISLAND Hy	22.63	107	T	T	19 05 16.1	
	baz=292						
H11S2	WAKE ISLAND Hy	22.64	107	T	T	19 05 09.9	
	baz=292						
WRA	Warramunga Arr	47.69	192	P	P	18 45 15.8	-1.9
	2.7nm,0.7s,baz=9.6,slow=8.2,SNR=7.1						
ASAR	Alice Springs	51.40	192	P	P	18 45 44.5	-1.4
	0.7nm,0.6s,baz=20,slow=6.3,SNR=5.3						
MKAR	Makanchi Array	51.67	310	P	P	18 45 49.9	+2.0
	0.5nm,0.4s,baz=82,slow=7.5,SNR=2.0						
BVAR	Borovoye Array	59.09	318	P	P	18 46 45.7	+4.6
	0.8nm,0.5s,baz=90,slow=5.9,SNR=1.1						

IDC 22 18:36:45.7±1.6, 34°.15N×45°.58E, h0km, mb4.2/5, mb1 4.4/8, mb1mx3.9/67, mbtmp4.4/8, ML1.5/1, Error ellipse: s-maj=32.7km s-min=24.4km az=7.0
TEH 22 18:36:48.8, 34°.33N×45°.60E, h14km, ML4.2
ISN 22 18:36:48.9±0.9, 34°.40N×45°.59E, h14km±4km, ML3.6
ISC 22 18:36:48.9±1.2, 34°.35N±0°.03×45°.58E±0°.03, h14km±9km, n30, σ1§91/40, mb4.3/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.76	62	*e*Sg	Sb	18 37 13.9	-0.3
IDHR				*e*Pg	Pg	18 37 02.6	-1.0
IDHR				IAMB	IAmb	18 37 16.6	
	comp=Z,0.0nm,0.4s						
IGHG	Ghaleghazi	0.82	91	*e*Sg	Sb	18 37 16.7	+0.5
IGHG				*e*Pg	Pg	18 37 04.3	-0.6
IGHG				IAMB	IAmb	18 37 20.0	
	comp=Z,32μm,0.6s						
KCHF	Cheshme Sefid,	1.22	93	*e*Pg	Pb	18 37 11.6	-0.2
KCHF				*e*Sg	Sg	18 37 29.1	+0.9
KCHF				IAMB	IAmb	18 37 31.6	
	comp=Z,0.0nm,0.6s						
IBDR	Badra	1.27	166	*e*Pg	Pg	18 37 13.0	-0.4
IBDR				AML	AML	18 37 14.0	
	comp=Z,771nm,0.3s						
IBDR				*e*Sg	Sg	18 37 31.0	+1.0
ILIN	Lien	1.28	63	*e*Pg	Pb	18 37 13.0	+0.1
ILIN				IAMB	IAmb	18 37 32.6	
	comp=Z,33μm,0.6s						
KER	Kermanshah	1.29	88	*e*Pg	Pg	18 37 13.1	-0.6
IKRK	Kirkuk	1.46	316	*e*Pg	Pn	18 37 15.0	+0.1
IKRK				AML	AML	18 37 21.6	
	comp=Z,1μm,0.5s						
IKRK				*e*Sg	Sb	18 37 35.0	+0.7
BHD	Baghdad	1.47	223	*e*Pn	Pg	18 37 17.0	-0.1
BHD				*e*Sn	Sg	18 37 37.5	+1.3
IKOM	Komasi	1.61	96	*e*Pn	Pb	18 37 18.7	+0.1
IKOM				IAMB	IAmb	18 37 50.3	
	comp=Z,0.0nm,0.7s						
IBZA	Bozab	1.89	86	*e*Pn	Pb	18 37 22.9	-0.5
IBZA				IAMB	IAmb	18 37 51.7	
	comp=Z,0.0nm,0.6s						
IKFM	Kafar-mosalman	2.06	113	*e*Pn	Pb	18 37 25.1	-1.0
IKFM				IAMB	IAmb	18 37 58.9	
	comp=Z,0.0nm,0.4s						
IDOB	Doab	2.23	104	*e*Pn	Pn	18 37 26.6	+0.9
IDOB				IAMB	IAmb	18 38 12.9	
	comp=Z,0.0nm,0.7s						
MAHB	Mahabad	2.41	2	*e*Pn	Pb	18 37 30.8	-1.4
MAHB				IAMB	IAmb	18 38 14.2	
	comp=Z,0.0nm,0.5s						
IKMR	Kamar-syah	2.48	109	*e*Pn	Pn	18 37 30.1	+1.3
IKMR				IAMB	IAmb	18 38 20.8	
	comp=Z,0.0nm,0.6s						
HSAM	Samen	2.51	92	*e*Pn	Pb	18 37 31.5	-2.4
BDRS	Dareh Seyedi	2.77	97	*e*Pn	Pn	18 37 34.5	+1.3
BDRS				IAMB	IAmb	18 38 23.3	
	comp=Z,0.0nm,0.6s						
MSL	Mosul	2.87	316	*e*Pn	Pn	18 37 36.0	+1.8
MSL				AML	AML	18 37 47.7	
	comp=Z,2μm,0.5s						
MSL				*e*Sn	Sn	18 38 10.0	+1.4
HAGD	Aghdareh	2.98	80	*e*Pn	Pb	18 37 39.2	-2.7
HAGD				IAMB	IAmb	18 38 31.4	
	comp=Z,0.0nm,0.7s						
NSR	Nassriya	3.37	172	*e*Pn	Pn	18 37 43.0	+1.9
NSR				AML	AML	18 37 44.5	
	comp=Z,399nm,0.8s						
NSR				*e*Sn	Sn	18 38 24.0	+3.2
IHRS	Heris	4.13	16	*e*Pn	Pn	18 37 54.6	+2.8
IHRS				IAMB	IAmb	18 39 28.1	
	comp=Z,4μm,1.4s						
RTB	Rutbah	4.58	255	*e*Pn	Pn	18 38 00.0	+2.1
RTB				AML	AML	18 38 25.1	
	comp=Z,27μm,5.2s						
RTB				*e*Sn	Sn	18 38 52.5	+1.5
IGAR	Gharneh	5.75	108	*e*Pn	Pn	18 38 14.7	+0.7
IGAR				IAMB	IAmb	18 38 14.9	
	comp=Z,2μm,0.3s						
GNI	Garni	5.83	354	Pn	Pn	18 38 19.8	+4.8
	comp=Z,0.5nm,0.3s,baz=168,slow=9.3,SNR=1.9						
ASF	Jabal al Asfar	7.58	256	Pn	Pn	18 38 37.6	-1.6
	baz=75,slow=20,SNR=0.9						
ASF				Sn	Sn	18 39 58.9	-6.1
	baz=315,slow=20,SNR=1.4						
MMAI	Mount Meron Ar	8.58	264	Pn	Pn	18 38 52.5	-0.3
	baz=88,slow=16,SNR=1.0						
AKASG	Malin Array Be	20.23	329	P	P	18 41 22.7	-0.7
	comp=Z,1.3nm,0.5s,baz=140,slow=9.4,SNR=1.5						
BVAR	Borovoye Array	25.68	36	P	P	18 42 20.2	+1.9
	comp=Z,3.9nm,0.8s,baz=216,slow=7.1,SNR=1.8						
FINES	FINESS Array B	29.85	341	P	P	18 42 54.8	-0.7
	comp=Z,2.8nm,0.8s,baz=148,slow=11,SNR=0.8						
CMAR	Chiang Mai Arr	49.81	94	P	P	18 45 39.8	-1.8
	comp=Z,2.3nm,0.6s,baz=290,slow=8.6,SNR=7.9						
SEY	Seymchan	67.04	28	P	P	18 47 41.7	+0.4
	comp=Z,3.8nm,0.6s,baz=278,slow=7.8,SNR=4.9						

ISN 22 18:38:55.9±0.5, 34°.30N×45°.47E, h7km±3km, ML3.5
TEH 22 18:38:57.9, 34°.33N×45°.64E, h8km, ML3.8
ISC 22 18:38:56.9±1.3, 34°.31N±0°.03×45°.56E±0°.04, h6km±12km, n14, σ0§55/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.79	60	*e*Pg	Pg	18 39 11.9	-0.1
IDHR				*e*Sg	Sg	18 39 22.8	+0.5
IDHR				IAMB	IAmb	18 39 29.4	
	comp=Z,0.0nm,0.4s						
IGHG	Ghaleghazi	0.84	88	*e*Pg	Pg	18 39 13.2	+0.2
IGHG				*e*Sg	Sg	18 39 24.6	+0.7
IGHG				IAMB	IAmb	18 39 31.1	
	comp=Z,17μm,0.4s						
KCHF	Cheshme Sefid,	1.23	91	*e*Pg	Pg	18 39 20.2	-0.3
KCHF				IAMB	IAmb	18 39 41.6	
	comp=Z,0.0nm,0.6s						
IBDR	Badra	1.24	165	*e*Pg	Pn	18 39 20.0	-0.7
IBDR				AML	AML	18 39 21.7	
	comp=Z,258nm,0.6s						
IBDR				*e*Sg	Sg	18 39 37.0	+0.3
KER	Kermanshah	1.30	86	*e*Pg	Pb	18 39 21.3	-0.5
ILIN	Lien	1.31	62	*e*Pg	Pb	18 39 22.0	0.0
ILIN				IAMB	IAmb	18 39 44.8	
	comp=Z,21μm,0.5s						
BHD	Baghdad	1.43	224	*e*Pn	Pn	18 39 23.0	-0.4
BHD				AML	AML	18 39 26.1	
	comp=Z,16μm,0.8s						
BHD				*e*Sn	Sg	18 39 43.0	+0.2
IKRK	Kirkuk	1.48	318	*e*Pn	Pn	18 39 24.0	-0.1
IKRK				AML	AML	18 39 30.3	
	comp=Z,544nm,0.7s						
IKRK				*e*Sn	Sg	18 39 45.0	+0.6
IKOM	Komasi	1.62	94	*e*Pn	Pg	18 39 27.8	-0.2
IKOM				IAMB	IAmb	18 39 56.1	
	comp=Z,0.0nm,0.9s						
IBZA	Bozab	1.91	85	*e*Pn	Pb	18 39 32.1	-0.2
IKFM	Kafar-mosalman	2.06	112	*e*Pn	Pb	18 39 34.2	-0.5
MAHB	Mahabad	2.45	3	*e*Pn	Pb	18 39 40.4	-1.1
MAHB				IAMB	IAmb	18 40 25.3	
	comp=Z,0.0nm,0.4s						
MSL	Mosul	2.89	317	*e*Pn	Pn	18 39 44.0	+0.5
MSL				AML	AML	18 39 56.3	
	comp=Z,634nm,0.4s						
MSL				*e*Sn	Sn	18 40 19.0	+0.4
NSR	Nassriya	3.33	171	*e*Pn	Pn	18 39 50.0	+0.5
NSR				AML	AML	18 39 51.9	
	comp=Z,155nm,0.8s						
NSR				*e*Sn	Sn	18 40 30.0	+0.7

IDC 22 18:39:22.7±1.4, 2°.93N×128°.80E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/61, mbtmp4.0/5, Error ellipse: s-maj=120.4km s-min=19.8km az=69.0
ISCJB 22 18:39:26.3±0.6, 2°.84N±0°.06×128°.54E±0°.06, h33km, mb4.2/6, Error ellipse: s-maj=9.0km s-min=7.1km az=39.1
NEIC 22 18:39:26.9±2.6, 2°.9N±0°.1×128°.51E±0°.06, h36km±10km, mb4.3/10
DJA 22 18:39:29.8±1.6, 3°N±7°×12°8E±°, h16km±12km, M4.3/9, mB4.9/5, mb4.5/9, MLv4.3/7, Mw(mB)4.2/5
ISC 22 18:39:28.0±0.8, 2°.83N±0°.10×128°.6E±0°.1, h35km, n36, σ1§44/34, mb4.2/10, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.38	211	P	Pn	18 40 04.3	-0.2
TNTI	Ternate	2.38	211		Pn	18 40 04.8	+0.2
SWI	Sorong	4.55	144	P	Pn	18 40 36.0	+1.6
KCP	Kidapawan	5.41

comp=N,400nm,9.2s
KSH LR LR
comp=E,430nm,5.8s
KSH LR LR
comp=Z,580nm,9.2s
NRN Naryn 60.74 317 P **P** **18 49 33.3 -3.5**
KURBB Kurchatov Arra 63.49 327 P **P** **18 49 54.8 +0.2**
comp=Z,0.4nm,0.4s,baz=128,slow=6.3,SNR=5.0

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*ISCJB **22** 18:41:17.9±1.1, 32°.55S±0°.05×72°.0W±0°.1, h7km±14km, Error ellipse: s-maj=18.8km s-min=5.5km az=163.1*
*SJA **22** 18:41:17.0±0.8, 32°.42S×72°.28W, h35km, ML3.4, MW3.8*
*GUC **22** 18:41:20.4±0.6, 32°.41S×71°.72W, h20km±8km, ML3.6*
ISC 22 18:41:16.9±1.8, 32°.40S±0°.03×71°.83W±0°.07, h7km±12km, n26, σ2s17/42, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.64**	**166**	*i* P	**Pn**	**18 41 31.4**	**-1.0**
VA01				*i* S	**Sn**	**18 41 40.9**	**-1.9**
VA01				IAML		18 41 42.9	
comp=N,6μm,0.1s							
ROC1	**El Roble**	**0.90**	**130**	*i* P	**Pn**	**18 41 36.0**	**-0.2**
ROC1				*e*S	**Sb**	**18 41 47.2**	**+0.1**
ROCH	**El Roble**	**0.90**	**130**	⇓*i*P	**Pn**	**18 41 35.9**	**-0.2**
ROCH				*i* S	**Sb**	**18 41 47.1**	**0.0**
ROCH				IAML		18 41 50.1	
comp=E,4μm,0.5s							
PEL	**Peldehue**	**1.22**	**128**	⇑*e*P	**Pb**	**18 41 40.5**	**+0.3**
PEL				*i* S	**Sb**	**18 41 56.2**	**+0.1**
PEL				IAML		18 41 57.1	
comp=E,4μm,0.2s							
PEL	**Peldehue**	**1.22**	**128**	*i* P	**Pg**	**18 41 41.1**	**+0.8**
PEL				*e*S	**Sb**	**18 41 56.5**	**+0.3**
CO02	**Combarbal**	**1.38**	**31**	⇓*i*P	**Pg**	**18 41 44.3**	**+0.9**
CO02				*i* S	**Sg**	**18 42 01.8**	**+0.4**
CO02				IAML		18 42 07.1	
comp=E,3μm,0.3s							
CLCH	**Cerro Calan**	**1.47**	**133**	*i* P	**Pb**	**18 41 44.8**	**+0.2**
CLCH				*i* S	**Sb**	**18 42 03.8**	**+0.2**
CLCH				IAML		18 42 12.0	
comp=N,1μm,0.5s							
ANTU	**Antumapu**	**1.54**	**140**	*i* P	**Pg**	**18 41 47.1**	**+0.7**
ANTU				*i* S	**Sb**	**18 42 06.3**	**+0.8**
ANTU				IAML		18 42 08.3	
comp=N,1μm,0.4s							
FCH	**Farellones**	**1.59**	**126**	*i* P	**Pb**	**18 41 46.7**	**-0.1**
FCH				*i* S	**Sn**	**18 42 06.9**	**+0.2**
FCH				IAML		18 42 11.2	
comp=E,998nm,0.2s							
LMEL	**Las Melosas**	**1.99**	**137**	⇑*i*P	**Pb**	**18 41 53.1**	**-0.4**
LMEL				*i* S	**Sb**	**18 42 17.7**	**-0.8**
LMEL				IAML		18 42 25.5	
comp=N,884nm,0.2s							
RTLS	**Leoncito**	**2.23**	**75**	*i* P	**Pg**	**18 41 59.2**	**-0.5**
RTLS				*e*S	**Sg**	**18 42 29.3**	**+0.7**
RTLS				IAML		18 42 32.2	
comp=Z,98nm,0.9s							
ARCO	**CERRO ARCO**	**2.48**	**101**	*i* P	**Pb**	**18 42 03.4**	**+1.4**
ARCO				IAML		18 42 52.1	
comp=Z,91nm,0.5s							
ASAL	**Salagasta**	**2.54**	**95**	*i* P	**Pb**	**18 42 03.5**	**+0.8**
ASAL				*e*S	**Sg**	**18 42 38.6**	**+0.2**
ASAL				IAML		18 42 49.4	
comp=Z,111nm,0.6s							
AAGR	**Agrelo**	**2.62**	**106**	*e*P	**Pb**	**18 42 04.8**	**+0.6**
AAGR				IAML		18 42 55.7	
comp=Z,88nm,0.9s							
RTCV	**Cerro Valdivia**	**2.84**	**80**	*i* P	**Pb**	**18 42 07.8**	**-0.2**
RTCV				IAML		18 42 60.0	
comp=Z,54nm,1.2s							
ACCO	**Cerro Coronel**	**2.97**	**53**	*e*P	**Pb**	**18 42 09.5**	**-0.8**
ACCO				*e*S	**Sb**	**18 42 47.3**	**+0.4**
ACCO				IAML		18 43 03.2	
comp=Z,123nm,0.6s							
AROD	**Rodeo**	**3.00**	**43**	*i* P	**Pb**	**18 42 09.9**	**-0.9**
CFA	**Coronel Fontan**	**3.15**	**76**	*i* P	**Pb**	**18 42 10.8**	**-2.4**
CFA				*e*S	**Sb**	**18 42 53.3**	**+1.4**
CFA				*e*S	**Sg**	**18 42 53.4**	**-4.7**
AMOG	**MOGNA**	**3.19**	**64**	*i* P	**Pb**	**18 42 12.4**	**-1.6**
AMOG				IAML		18 43 12.3	
comp=Z,91nm,0.4s							
ACAN	**Cantantal**	**3.93**	**89**	*e*P	**Pn**	**18 42 21.4**	**+3.8**
ACAN				⇓*e*S	**Sb**	**18 43 12.7**	**-1.5**
ACAN				IAML		18 43 16.4	
comp=Z,35nm,0.7s							
AGUA	**GUANDACOL**	**4.08**	**46**	*i* P	**Pb**	**18 42 24.8**	**-4.2**
VCA	**Vinchina**	**4.80**	**41**	*i* P	Pb	18 42 35.2	-6.3
VCA				*e*S	**Sb**	**18 43 39.0**	**-0.6**
VCA				IAML		18 43 45.7	
comp=Z,114nm,0.5s							
APLL	**PUNTA DE LOS L**	**4.95**	**68**	*i* P	**Pn**	**18 42 35.8**	**+4.1**
ACLC	**CERRO LA CRUZ**	**5.13**	**56**	*e*P	Pn	18 42 39.4	+5.1
MRA	**San Martin**	**5.17**	**92**	*i* P	**Pn**	**18 42 37.2**	**+2.5**
MRA				*e*S	**Sb**	**18 43 42.3**	**-7.7**
MRA				IAML		18 43 44.5	
comp=Z,19nm,0.7s							
CYA	**Choya**	**6.53**	**54**	*i* P	**Pn**	**18 42 57.4**	**+4.0**
CYA				IAML		18 44 56.7	
comp=Z,14nm,0.7s							

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*IDC **22** 18:42:54.2±1.7, 48°.67N×154°.17E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/76, mbtmp3.8/10, MS4.2/1, Ms1 4.2/1, ms1mx3.1/75, Error ellipse: s-maj=47.1km s-min=23.4km az=157.0*
*MOS **22** 18:42:55.9±1.2, 47°.97N×154°.92E, h61km, mb4.0/1, Error ellipse: s-maj=13.7km s-min=5.4km az=66.5*
*KRSC **22** 18:42:57.6±1.3, 48°.18N×155°.72E, h21km±26km, ML4.3*
*NEIC **22** 18:43:00.1±2.2, 48°.2N±0°.2×154°.4E±0°.2, h63km±11km, mb4.6/7*
ISC 22 18:42:58.0±0.8, 48°.2N±0°.1×154°.62E±0°.10, h42km, n73, σ1s78/76, mb4.0/13, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.68**	**21**	*e*P	**Pn**	**18 43 39.3**	**+0.7**
SKR				*e*S	**Sn**	**18 44 10.1**	**+0.3**
SKR	**Severo-Kuril's**	**2.68**	**21**	*e*PN	**Pn**	**18 43 40.1**	**+1.5**
SKR				*e*S	**Sn**	**18 44 11.6**	**+1.8**
SKR				pmax	pmax		
comp=Z,69nm,0.8s							
SKR				smax	smax		
comp=N,251nm,0.6s							
SKR				smax	smax		
comp=E,149nm,0.5s							
KDTR	**Khodutka, Kamc**	**4.25**	**30**	*e*P	**Pn**	**18 44 00.4**	**+0.2**
KDTR				*e*S	**Sn**	**18 44 47.5**	**-1.0**
KDTR	**Khodutka, Kamc**	**4.25**	**30**	PN	**Pn**	**18 44 00.4**	**+0.2**
KDTR				S	**Sn**	**18 44 47.5**	**-1.0**
ASAK	**Asacha**	**4.70**	**25**	*e*P	**Pn**	**18 44 07.8**	**+1.5**
ASAK	**Asacha**	**4.70**	**25**	PN	**Pn**	**18 44 07.8**	**+1.5**
MTVR	**Mutnovka**	**4.87**	**27**	*e*P	**Pn**	**18 44 09.6**	**+0.9**
MTVR	**Mutnovka**	**4.87**	**27**	PN	**Pn**	**18 44 09.6**	**+0.9**
RUS	**Russkaya**	**4.93**	**29**	*e*P	**Pn**	**18 44 09.6**	**+0.2**
RUS				*e*S	**Sn**	**18 45 03.9**	**-1.1**
RUS	**Russkaya**	**4.93**	**29**	PN	**Pn**	**18 44 09.6**	**+0.2**
PETK	**Petropavlovsk-**	**5.30**	**21**	PN	**Pn**	**18 44 17.3**	**+2.8**
PETK	**Petropavlovsk-**	**5.30**	**21**	Pn	**Pn**	**18 44 16.8**	**+2.2**
comp=E,1.2nm,0.3s,baz=180,slow=11,SNR=18							
PETK				Sn	**Sn**	**18 45 12.6**	**-1.7**
baz=184,slow=12,SNR=2.2							
PETK	**Petropavlovsk-**	**5.30**	**21**		**Pn**	**18 44 17.3**	**+2.8**
PET	**Petropavlovsk**	**5.48**	**26**	PN	**Pn**	**18 44 19.2**	**+2.2**
PET				S	**Sn**	**18 45 19.5**	**+0.9**
PET	**Petropavlovsk**	**5.48**	**26**	Pn	**Pn**	**18 44 15.5**	**-1.4**
KUR	**Kuril'sk**	**5.50**	**240**	*e*PN	**Pn**	**18 44 19.5**	**+2.2**
KUR				*i* S	**Sn**	**18 45 21.3**	**+2.0**
KUR				pmax	pmax		
comp=Z,40nm,0.5s							
KUR				pmax	pmax		
comp=N,38nm,0.4s							
KUR				smax	smax		
comp=E,65nm,0.8s							
KUR				smax	smax		
comp=N,70nm,0.6s							
DALK	**Dalny**	**5.52**	**27**	*e*P	**Pn**	**18 44 18.5**	**+1.0**
DALK				*e*S	**Sn**	**18 45 17.6**	**-1.9**
DALK	**Dalny**	**5.52**	**27**	PN	**Pn**	**18 44 18.5**	**+1.0**
KOK	**Koryaka**	**5.71**	**25**	*e*P	**Pn**	**18 44 22.6**	**+2.4**
KOK	**Koryaka**	**5.71**	**25**	PN	**Pn**	**18 44 22.6**	**+2.4**
AVH	**Avacha**	**5.71**	**26**	*e*P	**Pn**	**18 44 22.0**	**+1.7**
AVH	**Avacha**	**5.71**	**26**	PN	**Pn**	**18 44 22.0**	**+1.7**
KRX	**Arik**	**5.77**	**25**	*e*P	**Pn**	**18 44 23.7**	**+2.6**
KRX	**Arik**	**5.77**	**25**	PN	**Pn**	**18 44 23.7**	**+2.6**
GNL	**Ganaly**	**5.90**	**20**	*e*P	**Pn**	**18 44 25.2**	**+2.4**
GNL	**Ganaly**	**5.90**	**20**	PN	**Pn**	**18 44 25.2**	**+2.4**
SPN	**Mys Shipunski**	**6.00**	**33**	*e*P	**Pn**	**18 44 25.1**	**+1.0**
SPN				*e*S	**Sn**	**18 45 29.3**	**-2.1**
SPN	**Mys Shipunski**	**6.00**	**33**	PN	**Pn**	**18 44 25.1**	**+1.0**
GRPR	**Tuman**	**7.44**	**239**	*e*PN	**Pn**	**18 44 44.3**	**+0.4**
GRPR				pmax	pmax		
comp=Z,38nm,0.2s							
NMR	**Nemuro--Hokkai**	**7.86**	**235**	*c i*PN	**Pn**	**18 44 47.8**	**-1.9**
YSS	**Yuzh-Sakhalins**	**8.12**	**266**	PN	**Pn**	**18 44 53.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**8.12**	**266**	Pn	**Pn**	**18 44 53.4**	**+0.2**
JKA	**Kamikawa-asahi**	**9.28**	**248**		**Pn**	**18 45 12.4**	**+3.3**
ASAJ	**Asahikawa**	**9.28**	**248**	Pn	**Pn**	**18 45 12.4**	**+3.2**
comp=Z,0.9nm,0.3s,baz=85,slow=14,SNR=8.5							
KBTR	**Krutoberegovo**	**9.47**	**29**	*e*P	**Pn**	**18 45 13.8**	**+2.1**
KBTR	**Krutoberegovo**	**9.47**	**29**	PN	**Pn**	**18 45 13.8**	**+2.1**
ERM	**Erimo**	**10.18**	**237**	PN	**Pn**	**18 45 21.4**	**0.0**
ERM	**Erimo**	**10.18**	**237**	Pn	**Pn**	**18 45 21.4**	**0.0**
SMY	**Shemya**	**13.21**	**63**	PN	**Pn**	**18 45 59.3**	**-3.4**
SMY	**Shemya**	**13.21**	**63**	Pn	**Pn**	**18 45 59.3**	**-3.4**
USRK	**Ussuriysk Ar.**	**16.15**	**264**	P	**P**	**18 46 44.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**16.15**	**264**	Pn	**Pn**	**18 46 40.0**	**-1.7**
baz=74,slow=16,SNR=2.4							
USRK	**Ussuriysk Ar.**	**16.15**	**264**	P	**P**	**18 46 44.9**	**+0.4**
MJB9	**Matsu-Tunnel**	**16.77**	**232**		**P**	**18 46 50.6**	**-0.7**
MJB9				IAmb	IAmb	18 46 58.0	
comp=Z,16nm,1.2s							
MAJO	**Matsushiro**	**16.77**	**232**	P	**P**	**18 46 50.8**	**-0.6**
MAJO				pmax	pmax		
comp=Z,14nm,1.2s							
MAJO	**Matsushiro**	**16.77**	**232**		**P**	**18 46 50.8**	**-0.6**
YAK	**Yakutsk**	**19.71**	**324**	LR	LR	18 55 42.0	
comp=Z,723nm,18.2s,baz=88,slow=40							
KSRS	**Korea Array**	**22.22**	**251**	P	**P**	**18 47 51.9**	**+1.2**
comp=Z,3.9nm,0.8s,baz=57,slow=9.6,SNR=9.5							
H11N2	**WAKE ISLAND Hy**	**30.08**	**156**	T	T	19 20 41.4	
baz=340							
H11N1	**WAKE ISLAND Hy**	**30.10**	**156**	T	T	19 20 44.5	
baz=340,slow=74							
H11N3	**WAKE ISLAND Hy**	**30.10**	**156**	T	T	19 20 42.9	
baz=340,slow=74							
H11S1	**WAKE ISLAND Hy**	**31.20**	**157**	T	T	19 22 07.9	
baz=344,slow=76,SNR=659							
H11S3	**WAKE ISLAND Hy**	**31.21**	**157**	T	T	19 22 07.5	
baz=344,slow=76,SNR=522							
H11S2	**WAKE ISLAND Hy**	**31.22**	**157**	T	T	19 22 05.6	
baz=344,slow=76,SNR=430							
TOLK	**Toolik Lake Re**	**33.98**	**33**	P	**P**	**18 49 39.4**	**+2.3**
TOLK				IAmb	IAmb	18 49 57.6	
comp=Z,13nm,1.4s							
CRQM	**Cirque**	**36.83**	**46**	P	**P**	**18 50 05.7**	**+3.8**
CRQM				IAmb	IAmb	18 50 25.6	
comp=Z,163nm,1.8s							
ZAA0	**Zalesovo Array**	**42.61**	**305**	P	**P**	**18 50 47.4**	**-2.2**
ZAA0				IAmb	IAmb	18 50 49.8	
comp=Z,11nm,1.6s							
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**18 51 26.9**	**+0.6**
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**18 51 25.6**	**-0.7**
comp=Z,0.6nm,0.7s,baz=70,slow=6.9,SNR=2.9							
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**18 51 26.9**	**+0.6**
KURK	**Kurchatov**	**47.42**	**303**	P	**P**	**18 51 27.2**	**-0.7**
KURBB	**Kurchatov Arra**	**47.52**	**303**	P	**P**	**18 51 27.2**	**-1.5**
comp=Z,1.2nm,0.7s,baz=67,slow=8.4,SNR=4.3							
RES	**Resolute Bay**	**49.14**	**19**	P	**P**	**18 51 41.4**	**+0.5**
RES	**Resolute Bay**	**49.14**	**19**	P	**P**	**18 51 41.4**	**+0.5**
RES				IAmb	IAmb	18 51 41.5	
comp=Z,12nm,1.8s							
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**18 51 51.5**	**-1.8**
comp=Z,1.2nm,0.4s,baz=61,slow=6.7,SNR=6.8							
CMAR	**Chiang Mai Arr**	**53.70**	**257**	P	**P**	**18 52 15.3**	**-0.4**
comp=Z,0.4nm,0.6s,baz=33,slow=8.0,SNR=4.4							
PDAR	**Pinedale Array**	**63.08**	**55**	P	**P**	**18 53 23.8**	**+2.7**
comp=Z,0.3nm,0.6s,baz=294,slow=4.5,SNR=1.9							
FINES	**FINESS Array B**	**63.17**	**335**	P	**P**	**18 53 19.2**	**-1.9**
comp=Z,0.7nm,0.6s,baz=28,slow=9.5,SNR=3.5							
FINES	**FINESS Array B**	**63.17**	**335**	P	**P**	**18 53 18.8**	**-2.3**
GERES	**GERESS Array B**	**77.60**	**335**	P	**P**	**18 54 48.3**	**-1.2**
comp=Z,0.5nm,0.6s,baz=43,slow=6.2,SNR=4.5							
GERES	**GERESS Array B**	**77.60**	**335**	P	**P**	**18 54 48.1**	**-1.4**
BRTR	**Keskin Array B**	**78.03**	**317**	P	**P**	**18 54 50.7**	**-1.4**
comp=Z,0.6nm,0.6s,baz=80,slow=3.8,SNR=3.7							
BRTR	**Keskin Array B**	**78.03**	**317**	P	**P**	**18 54 49.8**	**-2.3**

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*DSN **22** 18:43:51.5±7.6, 34°.27N×44°.79E, h10km, Error ellipse: s-maj=102.7km s-min=37.5km az=169.0*
*IDC **22** 18:43:59.2±0.7, 34°.04N×45°.70E, h0km, mb4.0/18, mb1 4.2/27, mb1mx4.0/66, mbtmp4.0/27, ML3.1/7, Error ellipse: s-maj=14.7km s-min=11.9km az=160.0*
*ISN **22** 18:44:00.3±1.2, 34°.25N×45°.52E, h9km±6km, ML4.2*
*NEIC **22** 18:44:00.9±3.2, 33°.93N±0°.09×45°.70E±0°.09, h12km±5km, mb4.4/28, mb_Lg4.2(TEH)*
*TEH **22** 18:44:02.3, 34°.21N×45°.65E, h10km, ML4.2*
*OMAN **22** 18:44:13.1±3.4, 33°.40N×45°.89E, h96km±34km, Error ellipse: s-maj=32.2km s-min=20.5km az=160.0*
ISC 22 18:44:02.3±1.3, 34°.14N±0°.03×45°.64E±0°.03, h17km±8km, n149, σ1s96/155, mb4.0/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.79**	**76**	*e*Pg	**Pb**	**18 44 17.8**	**0.0**
IGHG				*e*Sg	**Sn**	**18 44 30.2**	**-0.3**
IGHG				IAMB	IAmb	18 44 35.6	
comp=Z,587nm,0.8s							
IDHR	**Dehrash**	**0.83**	**48**	*e*Pg	**Pg**	**18 44 17.3**	**-1.2**
IDHR				*e*Sg	**Sg**	**18 44 28.0**	**-1.6**
IDHR				IAMB	IAmb	18 44 35.0	
comp=Z,0.0nm,0.3s							
IBDR	**Badra**	**1.06**	**167**	*e*Pg	**Pb**	**18 44 23.0**	**+0.8**
IBDR				AML	AML	18 44 26.7	
comp=Z,13μm,0.4s							
IBDR				*e*Sg	**Sn**	**18 44 40.0**	**+3.3**
KCHF	**Cheshme Sefid,**	**1.17**	**83**	*e*Pg	**Pg**	**18 44 24.3**	**-0.6**
KCHF				*e*Sg	**Sn**	**18 44 41.1**	**+1.3**
KCHF				IAMB	IAmb	18 44 47.0	
comp=Z,0.0nm,0.6s							
KER	**Kermanshah**	**1.26**	**79**	*e*Pg	**Pg**	**18 44 26.4**	**-0.2**
KER				*e*Sg	**Sn**	**18 44 44.3**	**+2.4**
ILIN	**Lien**	**1.34**	**54**	*e*Pg	**Pb**	**18 44 26.9**	**-0.2**
ILIN				*e*Sg	**Sn**	**18 44 47.0**	**+3.0**
ILIN				IAMB	IAmb	18 44 50.0	
comp=Z,50μm,0.7s							
BHD	**Baghdad**	**1.36**	**231**	*e*Pn	**Pn**	**18 44 27.0**	**+0.5**
BHD				*e*Sn	**Sn**	**18 44 46.0**	**+1.8**
IKOM	**Komasi**	**1.55**	**88**	*e*Pn	**Pg**	**18 44 32.2**	**0.0**
IKOM				IAMB	IAmb	18 45 04.1	
comp=Z,0.0nm,0.7s							
IKRK	**Kirkuk**	**1.65**	**320**	*e*Pn	**Pn**	**18 44 29.0**	**-1.5**
IKRK				AML	AML	18 44 37.9	
comp=Z,8μm,0.8s							
IKRK				*e*Sn	**Sn**	**18 44 50.0**	**-1.3**
IBZA	**Bozab**	**1.87**	**79**	*e*Pn	**Pb**	**18 44 36.5**	**+0.3**
IBZA				IAMB	IAmb	18 44 37.9	
comp=Z,0.0nm,0.5s							
IKFM	**Kafar-mosalman**	**1.94**	**108**	*e*Pn	**Pb**	**18 44 37.3**	**+0.1**
IKFM				IAMB	IAmb	18 45 14.7	
comp=Z,0.0nm,0.9s							
IDOB	**Doab**	**2.14**	**99**	*e*Pn	**Pb**	**18 44 40.2**	**-0.6**
IDOB				IAMB	IAmb	18 45 22.1	
comp=Z,0.0nm,0.7s							
IKMR	**Kamar-syah**	**2.37**	**105**	*e*Pn	**Pn**	**18 44 43.0**	**+2.7**
IKMR				IAMB	IAmb	18 45 29.6	
comp=Z,0.0nm,0.7s							
HSAM	**Samen**	**2.46**	**88**	*e*Pn	**Pn**	**18 44 43.9**	**+2.0**
HSAM				IAMB	IAmb	18 44 49.1	
comp=Z,0.0nm,1.1s							
MAHB	**Mahabad**	**2.62**	**1**	*e*Pn	**Pb**	**18 44 46.4**	**-2.4**
MAHB				IAMB	IAmb	18 45 30.8	
comp=Z,0.0nm,0.8s							
BDRS	**Dareh Seyedi**	**2.70**	**93**	*e*Pn	**Pn**	**18 44 47.7**	**+2.5**
BDRS				IAMB	IAmb	18 45 39.9	
comp=Z,0.0nm,0.8s							
HAGD	**Aghdareh**	**2.97**	**76**	*e*Pn	**Pn**	**18 44 51.9**	**+3.0**
HAGD				IAMB	IAmb	18 45 44.2	
comp=Z,0.0nm,0.8s							
MSL	**Mosul**	**3.06**	**318**	*e*Pn	**Pn**	**18 44 49.0**	**-0.9**
MSL				AML	AML	18 44 58.5	
comp=Z,594nm,0.3s							
MSL				*e*Sn	**Sn**	**18 45 25.0**	**-1.1**
NSR	**Nassriya**	**3.15**	**172**	*e*Pn	**Pn**	**18 44 53.0**	**+1.8**
NSR				AML	AML	18 44 54.2	
comp=Z,1μm,0.2s							
NSR				*e*Sn	**Sn**	**18 45 33.0**	**+4.6**
QABG	**Abgarm-Qazvin**	**3.60**	**63**	*e*Pn	**Pn**	**18 44 59.8**	**+2.3**
IRAZ	**Razeghan**	**3.75**	**69**	IAMB	IAmb	18 45 14.8	
comp=Z,4μm,0.7s							
IRAZ				*e*Pn	**Pn**	**18 45 02.1**	**+2.5**
ITBZ	**Tabriz**	**4.10**	**6**	IAMB	IAmb	18 46 39.7	
comp=Z,2μm,0.9s							
IHRS	**Heris**	**4.32**	**15**	*e*Pn	**Pn**	**18 45 10.0**	**+2.6**
IHRS				IAMB	IAmb	18 46 22.2	
comp=Z,3μm,1.1s							
IMHD	**Mahdasht**	**4.41**	**68**	IAMB	IAmb	18 45 27.6	
comp=Z,1μm,0.5s							
IQOM	**Qom**	**4.54**	**80**	*e*Pn	**Pn**	**18 45 12.8**	**+2.3**
RTB	**Rutbah**	**4.58**	**257**	*e*Pn	**Pn**	**18 45 11.0**	**+0.1**
RTB				AML	AML	18 45 37.4	
comp=Z,2μm,0.9s							
RTB				*e*Sn	**Sn**	**18 46 03.0**	**-0.8**
JHBN	**Jahan bin**	**4.63**	**113**	*e*Pn	**Pn**	**18 45 14.4**	**+2.7**
JHBN				IAMB	IAmb	18 46 09.8	
comp=Z,0.0nm,0.4s							
IPIR	**Pirpir**	**4.63**	**107**	*e*Pn	**Pn**	**18 45 13.6**	**+1.8**
IPIR				IAMB	IAmb	18 46 13.7	
comp=Z,5μm,0.6s							
QALM	**Alamut, Qazvin**	**4.69**	**59**	*e*Pn	**Pn**	**18 45 15.0**	**+2.5**
ZNGN	**Zangian**	**4.82**	**113**	*e*Pn	**Pn**	**18 45 16.0**	**+1.6**
QAM	**Ghamsar**	**4.84**	**93**	*e*Pn	**Pn**	**18 45 17.2**	**+2.7**
ROKH	**ROKH**	**4.87**	**110**	*e*Pn	**Pn**	**18 45 16.0**	**+1.1**
ROKH				IAMB	IAmb	18 46 20.5	
comp=Z,0.0nm,0.7s							
IKLH	**Kolahrood**	**5.02**	**98**	*e*Pn	**Pn**	**18 45 20.0**	**+2.9**
IKLH				IAMB	IAmb	18 46 27.0	
comp=Z,2μm,0.4s							
IVRN	**Varamin**	**5.10**	**79**	*e*Pn	**Pn**	**18 45 20.5**	**+2.5**
IBRJ	**Brojen**	**5.22**	**114**	*e*Pn	**Pn**	**18 45 21.2**	**+1.3**
KRSH	**Karshahi**	**5.40**	**90**	*e*Pn	**Pn**	**18 45 23.9**	**+1.7**
IDMV	**Damavand**	**5.45**	**73**	*e*Pn	**Pn**	**18 45 24.5**	**+1.5**
IGAR	**Gharneh**	**5.64**	**106**	*e*Pn	**Pn**	**18 45 27.4**	**+1.8**
IGAR				IAMB	IAmb	18 46 35.2	
comp=Z,3μm,0.7s							
IZEF	**Zefreh**	**5.73**	**101**	*e*Pn	**Pn**	**18 45 28.6**	**+1.8**
IZEF				IAMB	IAmb	18 46 59.3	
comp=Z,750nm,0.8s							
GNI	**Garni**	**6.04**	**353**	Pn	**Pn**	**18 45 34.8**	**+3.8**
comp=Z,0.4nm,0.3s,baz=11,slow=16,SNR=2.1							
GNI				Pg	**Pb**	**18 45 50.8**	**+3.7**
comp=Z,1.0nm,0.3s,baz=350,slow=6.5,SNR=3.7							
GNI	**Garni**	**6.04**	**353**		**Pn**	**18 45 33.5**	**+2.5**
IRAM	**Ramesheh**	**6.13**	**110**	*e*Pn	**Pn**	**18 45 34.6**	**+2.3**
ILAS	**Lasjerd**	**6.15**	**76**	*e*Pn	**Pn**	**18 45 36.6**	**+4.0**
IGLO	**Ghaloghah**	**7.10**	**68**	*e*Pn	Pn	18 45 50.4	+4.8
ASF	**Jabal al Asfar**	**7.59**	**257**	Pn	**Pn**	**18 45 52.4**	**+0.2**
comp=Z,0.4nm,0.3s,baz=330,slow=3.3,SNR=6.5							
ASF				Lg	Lg	18 47 58.9	
comp=Z,1.6nm,0.3s,baz=45,slow=19,SNR=3.4							
MMAI	**Mount Meron Ar**	**8.61**	**265**	Pn	**Pn**	**18 46 06.9**	**+0.6**
comp=Z,0.7nm,0.3s,baz=82,slow=16,SNR=5.3							
MMAI				Lg	Lg	18 48 35.0	
comp=Z,2.5nm,0.3s,baz=96,slow=26,SNR=4.2							
KBZ	**Khabaz**	**9.80**	**348**	Pn	Pn	18 46 28.5	+6.1
comp=Z,0.0nm,0.3s,baz=166,slow=14,SNR=2.3							
KVAR	**Kislovodsk Arr**	**10.06**	**348**	Pn	Pn	18 46 31.6	+5.5
baz=270,slow=17,SNR=2.4							
EIL	**Elat**	**10.12**	**247**	Pn	**Pn**	**18 46 25.8**	**-1.0**
comp=Z,0.1nm,0.3s,baz=318,slow=12,SNR=3.2							
EIL				Lg	Lg	18 49 19.9	
comp=Z,0.8nm,0.3s,baz=318,slow=16,SNR=2.2							
GEYT	**Alibeck**	**10.79**	**66**	Pn	**Pn**	**18 46 38.0**	**+2.0**
comp=Z,0.2nm,0.3s,baz=232,slow=7.0,SNR=2.8							
GEYT	**Alibeck**	**10.79**	**66**		**Pn**	**18 46 37.3**	**+1.3**
GYA0B	**ALIBECK ARRAY**	**10.79**	**66**	Pn	**Pn**	**18 46 37.5**	**+1.5**
BRTR	**Keskin Array B**	**11.10**	**304**	Pn	**Pn**	**18 46 44.8**	**+4.5**
comp=Z,0.1nm,0.3s,baz=132,slow=8.7,SNR=3.7							
BRTR	**Keskin Array B**	**11.10**	**304**		**Pn**	**18 46 43.1**	**+2.8**
ILGA	**Ilgaz**	**11.70**	**310**	Pn	**Pn**	**18 46 51.4**	**+2.8**
ANTO	**Ankara**	**11.75**	**303**	Pn	**Pn**	**18 46 53.1**	**+4.0**
SHME	**Shamm**	**12

SOCY	**Socotra**	**23.14**	**159**	P	P	18 48 59.6	-8.3
SOCY				IAmb	IAmb	18 49 16.9	
	comp=Z,12nm,0.9s						
ARU	**Arti**	**23.99**	**18**	P	**P**	**18 49 20.2**	**+4.4**
	comp=Z,1.1nm,0.6s,baz=191,slow=16,SNR=4.7						
ARU	**Arti**	**23.99**	**18**	P	**P**	**18 49 18.7**	**+2.9**
ARU				IAmb	IAmb	18 49 28.6	
	comp=Z,9.2nm,0.8s						
KIRV	**Kirov**	**24.58**	**5**	P	**P**	**18 49 20.7**	**-0.5**
	comp=Z,9.8nm,0.7s,baz=59,slow=24,SNR=4.4						
NRN	**Naryn**	**24.99**	**64**	P	**P**	**18 49 25.6**	**+0.1**
NRN				IAmb	IAmb	18 49 34.0	
	comp=Z,9.4nm,0.8s						
BRVK	**Borovoye**	**25.78**	**35**	P	**P**	**18 49 32.8**	**+0.6**
BRVK				IAmb	IAmb	18 49 33.5	
	comp=Z,17nm,1.5s						
BVAR	**Borovoye Array**	**25.82**	**36**	P	**P**	**18 49 34.1**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=232,slow=8.2,SNR=3.5						
VRAC	**Vranov**	**26.24**	**314**	P	**P**	**18 49 36.9**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=100,slow=12,SNR=2.5						
GERES	**GERESS Array B**	**27.82**	**312**	P	**P**	**18 49 53.8**	**+3.0**
	comp=Z,0.8nm,0.8s,baz=114,slow=12,SNR=3.6						
GERES	**GERESS Array B**	**27.82**	**312**	P	**P**	**18 49 53.3**	**+2.6**
KURBB	**Kurchatov Arra**	**29.04**	**45**	P	**P**	**18 50 02.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=253,slow=8.8,SNR=4.0						
KURK	**Kurchatov**	**29.13**	**45**	P	**P**	**18 50 03.6**	**+1.5**
FINES	**FINESS Array B**	**30.06**	**341**	P	**P**	**18 50 09.6**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=141,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**30.06**	**341**	P	**P**	**18 50 10.5**	**+0.2**
MKAR	**Makanchi Array**	**30.33**	**54**	P	**P**	**18 50 12.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=251,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**30.33**	**54**	P	**P**	**18 50 11.6**	**-1.4**
ZALV	**Zalesovo Beam**	**33.83**	**42**	P	**P**	**18 50 43.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=267,slow=8.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**33.83**	**42**	P	**P**	**18 50 42.7**	**-0.9**
DMN	**Daman**	**34.34**	**90**	*e*P	**P**	**18 50 48.5**	**0.0**
	comp=Z,18nm,0.9s						
KKN	**Kakani**	**34.42**	**90**	*e*P	**P**	**18 50 49.0**	**-0.2**
	comp=Z,19nm,0.8s						
NC602	**NORSAR Array S**	**34.51**	**331**	P	**P**	**18 50 48.9**	**-0.4**
PKIN	**Phulchoki**	**34.59**	**90**	*e*P	**P**	**18 50 50.8**	**+0.1**
	comp=Z,18nm,1.0s						
PKI	**Pulchoki**	**34.60**	**90**	*e*P	**P**	**18 50 51.0**	**+0.1**
	comp=Z,15nm,0.7s						
NOA	**NORSAR Array B**	**34.81**	**331**	P	**P**	**18 50 50.6**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=127,slow=8.6,SNR=3.2						
GUN	**Gumba**	**34.87**	**89**	*e*P	**P**	**18 50 53.5**	**+0.2**
	comp=Z,38nm,0.8s						
JIRN	**Jiri**	**35.22**	**89**	*e*P	**P**	**18 50 56.1**	**-0.2**
	comp=Z,25nm,0.7s						
RAMN	**Ramite**	**35.82**	**90**	*e*P	**P**	**18 51 01.1**	**-0.2**
	comp=Z,25nm,0.7s						
TAPN	**Taplejung**	**36.59**	**89**	*e*P	**P**	**18 51 08.0**	**+0.1**
	comp=Z,26nm,0.7s						
ARCES	**ARCESS Array B**	**37.17**	**348**	P	**P**	**18 51 11.1**	**-0.9**
	comp=Z,7.9nm,1.1s,baz=152,slow=4.1,SNR=4.1						
ARCES	**ARCESS Array B**	**37.17**	**348**	P	**P**	**18 51 11.5**	**-0.5**
ARE0	**ARCESS Array S**	**37.17**	**348**	P	**P**	**18 51 11.7**	**-0.2**
GTA	**Gaotai**	**43.17**	**67**	*e*P	**P**	**18 52 03.9**	**+1.6**
GTA				pP	sP	18 52 09.8	-0.1
GTA				sP	pP	18 52 12.8	+5.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**44.93**	**253**	P	**P**	**18 52 15.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=50,slow=6.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**44.93**	**253**	P	**P**	**18 52 15.2**	**-1.2**
SONM	**Songino Array**	**46.70**	**54**	P	**P**	**18 52 30.1**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=294,slow=9.1,SNR=2.4						
CHTO	**Chiang Mai**	**49.57**	**94**	P	**P**	**18 52 52.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**49.74**	**94**	P	**P**	**18 52 53.2**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=297,slow=8.1,SNR=8.5						
CMAR	**Chiang Mai Arr**	**49.74**	**94**	P	**P**	**18 52 53.0**	**-1.0**
XAN	**Xi'an**	**51.62**	**71**	P	**P**	**18 53 06.1**	**-1.9**
XAN				IAmb	IAmb	18 53 14.9	
	comp=Z,5.1nm,0.8s						
PBKT	**Sadao Pong**	**52.35**	**95**	P	**P**	**18 53 13.2**	**-0.4**
PBKT				IAmb	IAmb	18 53 15.7	
	comp=Z,10nm,1.4s						
TIXI	**Tiksi**	**55.88**	**22**	P	**P**	**18 53 37.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=180,slow=24,SNR=6.9						
TIXI	**Tiksi**	**55.88**	**22**	P	**P**	**18 53 38.0**	**-0.6**
TIXI				IAmb	IAmb	18 54 37.9	
	comp=Z,6.9nm,1.4s						
KSRS	**Korea Array**	**64.73**	**61**	P	**P**	**18 54 38.2**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=291,slow=7.0,SNR=3.7						
BOSA	**Boshof**	**65.33**	**200**	P	**P**	**18 54 44.1**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=6.9,slow=8.6,SNR=5.9						
BOSA	**Boshof**	**65.33**	**200**	P	**P**	**18 54 43.3**	**-0.4**
SEY	**Seymchan**	**67.20**	**28**	P	**P**	**18 54 55.4**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=282,slow=7.5,SNR=17						
TOLK	**Toolik Lake Re**	**76.90**	**6**	P	**P**	**18 55 53.3**	**+0.1**
IMAR	**Indian Mountai**	**79.07**	**8**	P	**P**	**18 56 05.8**	**+0.5**
ILAR	**Eielson Array**	**80.92**	**5**	P	**P**	**18 56 15.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=323,slow=4.1,SNR=8.4						
ILAR	**Eielson Array**	**80.92**	**5**	P	**P**	**18 56 14.4**	**-0.8**
WRA	**Warramunga Arr**	**99.89**	**107**	P	**Pdif**	**18 57 45.2**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=326,slow=4.8,SNR=2.8						

*TEH **22** 18:48:23.7, 34°.29N×45°.63E, h10km, ML3.5*
*ISN **22** 18:48:24.1±1.1, 34°.25N×45°.52E, h8km±5km, ML3.4*
ISC 22 18:48:23.8±1.3, 34°32N±0°.05×45°57E±0°.03, h10km±13km, n23, σ1§18/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**60**	*e*Pg	**Pg**	**18 48 38.5**	**-0.2**
IDHR				*e*Sg	**Sg**	**18 48 48.0**	**-0.8**
IDHR				IAMB	IAmb	18 48 50.3	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.82**	**89**	*e*Pg	**Pg**	**18 48 39.1**	**-0.6**
IGHG				IAMB	IAmb	18 48 39.8	
	comp=Z,31μm,0.1s						
IGHG				*e*Sg	**Sb**	**18 48 51.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.22**	**92**	*e*Pg	**Pn**	**18 48 46.0**	**-1.0**
KCHF				IAMB	IAmb	18 48 50.1	
	comp=Z,0.0nm,0.3s						
IBDR	**Badra**	**1.24**	**166**	*e*Pg	**Pn**	**18 48 47.0**	**-0.2**
IBDR				AML	AML	18 48 49.4	
	comp=Z,107nm,0.7s						
IBDR				*e*Sg	**Sn**	**18 49 04.0**	**0.0**
KER	**Kermanshah**	**1.29**	**87**	*e*Pg	**Pn**	**18 48 47.7**	**-0.3**
KER				*e*Sg	**Sg**	**18 49 06.8**	**+1.4**
ILIN	**Lien**	**1.29**	**62**	*e*Pg	**Pb**	**18 48 48.1**	**-0.3**
ILIN				IAMB	IAmb	18 49 10.8	
	comp=Z,11μm,0.5s						
BHD	**Baghdad**	**1.44**	**224**	*e*Pg	**Pn**	**18 48 50.0**	**+0.1**
BHD				AML	AML	18 48 57.8	
	comp=Z,11μm,0.4s						
BHD				*e*Sg	**Sb**	**18 49 09.0**	**-0.1**
IKRK	**Kirkuk**	**1.48**	**317**	*e*Pn	**Pg**	**18 48 53.0**	**+0.8**
IKRK				AML	AML	18 48 54.1	
	comp=Z,197nm,0.6s						
IKRK				*e*Sn	**Sg**	**18 49 14.0**	**+2.5**
IKOM	**Komasi**	**1.61**	**95**	*e*Pn	**Pb**	**18 48 52.9**	**-0.8**
IKOM				IAMB	IAmb	18 49 23.5	
	comp=Z,0.0nm,0.6s						
IBZA	**Bozab**	**1.90**	**85**	*e*Pn	**Pb**	**18 48 57.6**	**-1.1**
IBZA				IAMB	IAmb	18 48 59.3	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**2.05**	**112**	*e*Pn	**Pn**	**18 48 58.9**	**+0.6**
IKFM				IAMB	IAmb	18 49 33.2	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.23**	**103**	*e*Pn	**Pn**	**18 49 01.5**	**+0.6**
MAHB	**Mahabad**	**2.44**	**2**	IAMB	IAmb	18 49 52.1	
	comp=Z,0.0nm,0.4s						
MAHB				*e*Pn	**Pb**	**18 49 07.3**	**-0.6**
IKMR	**Kamar-syah**	**2.47**	**108**	*e*Pn	**Pn**	**18 49 04.5**	**+0.5**
HSAM	**Samen**	**2.51**	**92**	IAMB	IAmb	18 49 10.5	
	comp=Z,0.0nm,0.4s						
HSAM				*e*Pn	**Pn**	**18 49 05.7**	**+0.8**
BDRS	**Dareh Seyedi**	**2.77**	**97**	IAMB	IAmb	18 49 15.4	
	comp=Z,0.0nm,0.3s						
BDRS				*e*Pn	**Pn**	**18 49 09.2**	**+0.7**
MSL	**Mosul**	**2.89**	**317**	*e*Pn	**Pb**	**18 49 13.0**	**-2.5**
MSL				AML	AML	18 49 22.4	
	comp=Z,228nm,0.2s						
MSL				*e*Sn	**Sb**	**18 49 49.0**	**-1.9**
HAGD	**Aghdareh**	**2.98**	**79**	*e*Pn	**Pn**	**18 49 13.4**	**+2.0**
HAGD				IAMB	IAmb	18 49 53.2	
	comp=Z,0.0nm,0.3s						
NSR	**Nassriya**	**3.33**	**172**	*e*Pn	**Pn**	**18 49 17.0**	**+1.0**
NSR				AML	AML	18 49 24.0	
	comp=Z,925nm,0.6s						
NSR				*e*Sn	**Sn**	**18 49 57.0**	**+1.4**

IRAZ	**Razeghan**	**3.74**	**72**	*e*Pn	**Pn**	**18 49 23.8**	**+2.0**
IPIR	**Pirpir**	**4.73**	**109**	*e*Pn	**Pn**	**18 49 34.9**	**-0.6**
IPIR				IAMB	IAmb	18 50 34.6	
	comp=Z,763nm,0.4s						
IKLH	**Kolahrood**	**5.10**	**100**	*e*Pn	**Pn**	**18 49 40.7**	**+0.2**
IRAM	**Ramesheh**	**6.24**	**112**	*e*Pn	**Pn**	**18 49 56.9**	**+0.8**

JMA 22 18:49:32.4, 24°.65N×123°.42E, h11km±3km, M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**243**	P	Pg	18 49 40.4	-0.2
YOJ	**Yonaguni jima**	**0.42**	**243**	P	Pg	18 49 40.7	+0.1
YOJ				*e*S	Sg	18 49 46.3	+0.1
YOJ	**Yonaguni jima**	**0.42**	**243**	P	Pg	18 49 40.4	-0.2
IRIF	**Iriomote-Funau**	**0.42**	**138**	P	Pg	18 49 40.6	-0.1
IRIF				S	Sg	18 49 46.2	-0.1
JYNG	**Yonagunijimaku**	**0.48**	**246**	P	Pg	18 49 41.8	+0.1
JYNG				*e*S	Sg	18 49 48.3	+0.3
JKRS	**Kuro-shima**	**0.68**	**127**	P	Pg	18 49 45.4	-0.1
JKRS				*e*S	Sg	18 49 54.7	+0.3
HATJ	**Hateruma jima**	**0.69**	**149**	*e*S	Sg	18 49 54.4	-0.3
JIJ	**Ishigaki jima**	**0.72**	**113**	P	Pg	18 49 45.8	-0.5
JIJ				*e*S	Sg	18 49 55.3	-0.4
JISG	**Ishigakijimahi**	**0.81**	**94**	P	Pg	18 49 47.8	-0.3
JISG				S	Sg	18 49 59.1	+0.4
JTJ	**Tarama**	**1.17**	**90**	S	Sb	18 50 09.2	-0.5

*IDC **22** 18:56:35.9±1.4, 1°.58N×127°.02E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/48, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=105.4km s-min=19.0km az=72.0*
*NEIC **22** 18:56:45.8±2.5, 1°.22N±0°.07×127°.1E±0°.2, h98km±8km, mb4.1/9*
ISC 22 18:56:46.2±0.8, 1°23N±0°.09×127°.1E±0°.2, h100km, n20, σ2§20/20, mb4.0/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.55**	**147**		**Pn**	**18 57 01.0**	**-1.4**
DAV	**Davao City (W)**	**5.98**	**346**		**Pn**	**18 58 13.0**	**+0.7**
FAKI	**Fak Fak**	**6.62**	**129**		**Pn**	**18 58 20.4**	**-0.7**
SOEI	**Soe**	**11.27**	**194**		**Pn**	**18 59 23.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.26**	**184**	P	**Pn**	**19 01 06.2**	**+1.2**
	0.1nm,0.3s,baz=355,slow=11,SNR=1.9						
FITZ	**Fitzroy Crossi**	**19.26**	**184**	P	**Pn**	**19 01 05.0**	**0.0**
WB0	**Warramunga Arr**	**22.07**	**161**	P	**P**	**19 01 36.2**	**+3.0**
WB0				IAmb	IAmb	19 01 52.5	
	comp=Z,7.6nm,1.1s						
WRAB	**Tennant Creek**	**22.22**	**162**	P	**P**	**19 01 37.9**	**+3.2**
WRAB				IAmb	IAmb	19 01 42.4	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**22.22**	**162**	P	**P**	**19 01 37.0**	**+2.2**
	comp=Z,1.7nm,0.6s,baz=339,slow=10,SNR=25						
WRA	**Warramunga Arr**	**22.22**	**162**	P	**P**	**19 01 36.7**	**+1.9**
WB2	**Warramunga Arr**	**22.23**	**162**	P	**P**	**19 01 37.9**	**+3.1**
WB2				IAmb	IAmb	19 01 42.7	
	comp=Z,17nm,1.6s						
WR0	**Warramunga Arr**	**22.30**	**161**	P	**P**	**19 01 38.8**	**+3.2**
ASAR	**Alice Springs**	**25.63**	**165**	P	**P**	**19 02 11.2**	**+4.5**
	comp=Z,0.5nm,0.6s,baz=345,slow=11,SNR=5.4						
SONM	**Songino Array**	**49.76**	**342**	P	**P**	**19 05 27.2**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=140,slow=7.0,SNR=2.3						
SONM	**Songino Array**	**49.76**	**342**	P	**P**	**19 05 28.1**	**-0.6**
MK31	**Makanchi Array**	**59.79**	**326**	P	**P**	**19 06 40.9**	**-0.1**
MK31				IAmb	IAmb	19 06 41.5	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**59.79**	**326**	P	**P**	**19 06 41.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.9,SNR=18						
MKAR	**Makanchi Array**	**59.79**	**326**	P	**P**	**19 06 40.6**	**-0.4**
OXZ	**Oxford**	**59.90**	**143**	P	**P**	**19 06 39.4**	**-2.3**
KURK	**Kurchatov**	**64.02**	**328**	P	**P**	**19 07 08.3**	**-0.9**
KURK				IAmb	IAmb	19 07 09.7	
	comp=Z,2.2nm,0.6s						

*ISCJB **22** 19:05:40.3±0.5, 14°.42N±0°.07×145°.4E±0°.1, h100km, mb3.7/7, Error ellipse: s-maj=14.5km s-min=9.1km az=15.8*
*IDC **22** 19:05:41.6±1.8, 14°.38N×145°.59E, h92km±13km, mb3.4/7, mb1 3.6/7, mb1mx3.2/54, mbtmp3.7/7, Error ellipse: s-maj=43.7km s-min=18.2km az=104.0*
*NEIC **22** 19:05:43.0±2.6, 14°.21N±0°.05×145°.5E±0°.1, h115km±6km, mb4.5/12*
ISC 22 19:05:42.1±0.6, 14°26N±0°.06×145°.4E±0°.1, h100km, n30, σ1§92/30, mb4.3/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.87**	**220**	P	**Pn**	**19 06 03.6**	**+2.5**
	239nm,0.3s,baz=89,slow=1.4,SNR=78						
GUMO				S	**Sn**	**19 06 17.4**	**+1.9**
	780nm,0.3s,baz=323,slow=23,SNR=20						
GUMO	**Guam**	**0.87**	**220**		**Pn**	**19 06 03.4**	**+2.3**
GUMO					**Sn**	**19 06 16.7**	**+1.3**
ANA2	**Anatahan**	**2.08**	**7**		**Pn**	**19 06 18.4**	**+2.6**
SARN	**Sarigan**	**2.45**	**8**	Pn	**Pn**	**19 06 22.8**	**+2.3**
SARN					**Sn**	**19 06 53.8**	**+3.8**
PATS	**Pohnpei**	**14.64**	**119**		**Pn**	**19 09 06.5**	**+2.2**
JOW	**Kunigami**	**20.34**	**311**	P	**P**	**19 10 09.6**	**-0.9**
JOW				IAmb	IAmb	19 10 11.2	
	comp=Z,31nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**20.81**	**75**	T	T	19 31 52.9	
	baz=260,slow=74						
H11S1	**WAKE ISLAND Hy**	**20.82**	**75**	T	T	19 31 39.4	
	baz=260,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.82**	**75**	T	T	19 31 37.6	
	baz=260						
FAKI	**Fak Fak**	**21.50**	**218**	P	**P**	**19 10 26.0**	**+2.9**
FAKI				IAmb	IAmb	19 10 51.5	
	comp=Z,14nm,1.0s						
TNTI	**Ternate**	**22.35**	**235**	P	**P**	**19 10 31.2**	**-0.8**
TNTI				IAmb	IAmb	19 10 50.6	
	comp=Z,29nm,1.4s						
WB0	**Warramunga Arr**	**35.52**	**198**	P	**P**	**19 12 29.5**	**-0.1**
WB0				IAmb	IAmb	19 12 41.8	
	comp=Z,14nm,1.6s						
WR0	**Warramunga Arr**	**35.66**	**198**	P	**P**	**19 12 29.5**	**-1.2**
WRAB	**Tennant Creek**	**35.69**	**198**	P	**P**	**19 12 31.0**	**0.0**
WRAB				IAmb	IAmb	19 12 35.4	
	comp=Z,7.5nm,1.4s						
WB2	**Warramunga Arr**	**35.70**	**198**	P	**P**	**19 12 30.3**	**-0.7**
WB2				IAmb	IAmb	19 12 49.7	
	comp=Z,12nm,1.6s						
WRA	**Warramunga Arr**	**35.70**	**198**	P	**P**	**19 12 32.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=12,slow=8.5,SNR=16						
WRA	**Warramunga Arr**	**35.70**	**198**	P	**P**	**19 12 32.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**37.62**	**212**	P	**P**	**19 12 49.0**	**+1.6**
	comp=Z,3.9nm,1.0s,baz=34,slow=11,SNR=8.7						
FITZ	**Fitzroy Crossi**	**37.62**	**212**	P	**P**	**19 12 48.7**	**+1.4**
FITZ				IAmb	IAmb	19 12 55.0	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**39.35**	**197**	P	**P**	**19 13 03.8**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=20,slow=9.7,SNR=4.6						
PEA0B	**Petropavlovsk-**	**39.96**	**11**	P	**P**	**19 13 04.6**	**-2.0**
MKAR	**Makanchi Array**	**61.40**	**316**	P	**P**	**19 15 48.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=103,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**61.40**	**316**	P	**P**	**19 15 48.5**	**+0.8**
BFZ	**Birch Farm**	**61.68**	**154**	P	**P**	**19 15 46.3**	**-3.2**
ARSB	**Arslanbob**	**67.60**	**309**	P	**P**	**19 16 27.0**	**-1.4**
ILAR	**Eielson Array**	**67.72**	**25**	P	**P**	**19 16 27.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=254,slow=5.2,SNR=4.7						
ILAR	**Eielson Array**	**67.72**	**25**	P	**P**	**19 16 27.0**	**-1.5**
YKA	**Yellowknife Ar**	**82.01**	**28**	P	**P**	**19 17 50.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=288,slow=5.1,SNR=2.9						
FINES	**FINESS Array B**	**90.79**	**335**	P	**P**	**19 18 32.7**	**-1.1**
	comp=Z,3.3nm,1.0s,baz=53,slow=7.1,SNR=3.4						
FINES	**FINESS Array B**	**90.79**	**335**	P	**P**	**19 18 31.5**	**-2.4**

*ISN **22** 19:14:42.9±0.6, 34°.26N×45°.47E, h7km±3km, ML3.3*
*TEH **22** 19:14:46.1, 34°.28N×45°.62E, h13km, ML3.3*
ISC 22 19:14:44.0±1.3, 34°25N±0°.03×45°.49E±0°.03, h4km±11km, n30, σ1§17/40, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.86**	**58**	*e*Pg	**Pg**	**19 15 00.5**	**-0.2**
IDHR				*e*Sg	**Sg**	**19 15 11.0**	**-0.9**
IDHR				IAMB	IAmb	19 15 15.9	
	comp=Z,0.0nm,0.3s						

IGHG	**Ghaleghazi**	**0.89**	**84**	IAMB	IAmb	19 15 02.3	
	comp=Z,30μm,0.1s						
IGHG				*e*Pg	**Pb**	**19 15 01.4**	**-0.9**
IGHG				*e*Sg	**Sb**	**19 15 14.2**	**-0.5**
IBDR	**Badra**	**1.19**	**162**	*e*Pg	**Pb**	**19 15 06.0**	**-1.2**
IBDR				AML	AML	19 15 10.2	
	comp=Z,1μm,0.4s						
IBDR				*e*Sg	**Sb**	**19 15 23.0**	**0.0**
KCHF	**Cheshme Sefid,**	**1.28**	**88**	*e*Sg	**Sn**	**19 15 25.6**	**-1.1**
KCHF				*e*Pg	**Pg**	**19 15 08.3**	**-0.3**
KCHF				IAMB	IAmb	19 15 31.1	
	comp=Z,0.0nm,0.3s						
BHD	**Baghdad**	**1.35**	**224**	*e*Pn	**Pn**	**19 15 10.0**	**+0.4**
BHD				*e*Sn	**Sg**	**19 15 29.0**	**+1.7**
KER	**Kermanshah**	**1.36**	**84**	*e*Pg	**Pg**	**19 15 10.2**	**0.0**
KER				*e*Sg	**Sg**	**19 15 28.3**	**+0.4**
ILIN	**Lien**	**1.39**	**61**	*e*Pg	**Pg**	**19 15 10.5**	**-0.1**
ILIN				IAMB	IAmb	19 15 13.5	
	comp=Z,7μm,0.2s						
IKRK	**Kirkuk**	**1.49**	**321**	*e*Pn	**Pn**	**19 15 12.0**	**+0.4**
IKRK				AML	AML	19 15 17.1	
	comp=Z,1μm,0.4s						
IKRK				*e*Sn	**Sg**	**19 15 33.0**	**+1.0**
IKOM	**Komasi**	**1.67**	**92**	*e*Pn	**Pg**	**19 15 15.8**	**-0.3**
IKOM				IAMB	IAmb	19 15 45.8	
	comp=Z,0.0nm,0.6s						
IBZA	**Bozab**	**1.97**	**83**	*e*Pn	**Pb**	**19 15 20.2**	**-0.5**
IBZA				IAMB	IAmb	19 15 21.7	
	comp=Z,0.0nm,0.5s						
IKFM	**Kafar-mosalman**	**2.09**	**110**	*e*Pn	**Pb**	**19 15 21.8**	**-0.7**
IKFM				IAMB	IAmb	19 15 25.3	
	comp=Z,0.0nm,0.3s						
IDOB	**Doab**	**2.28**	**101**	*e*Pn	**Pb**	**19 15 24.0**	**-1.8**
IKMR	**Kamar-syah**	**2.51**	**106**	*e*Pn	**Pn**	**19 15 26.9**	**+1.3**
IKMR				IAMB	IAmb	19 16 07.0	
	comp=Z,0.0nm,0.4s						
MAHB	**Mahabad**	**2.52**	**4**	*e*Pn	**Pb**	**19 15 29.1**	**-0.8**
MAHB				IAMB	IAmb	19 16 11.8	
	comp=Z,0.0nm,0.4s						
HSAM	**Samen**	**2.58**	**90**	*e*Pn	**Pn**	**19 15 28.1**	**+1.3**
HSAM				IAMB	IAmb	19 15 32.7	
	comp=Z,0.0nm,0.5s						
BDRS	**Dareh Seyedi**	**2.83**	**95**	*e*Pn	**Pn**	**19 15 31.5**	**+1.2**
BDRS				IAMB	IAmb	19 16 16.9	
	comp=Z,0.0nm,0.7s						
MSL	**Mosul**	**2.90**	**318**	*e*Pn	**Pn**	**19 15 31.0**	**0.0**
MSL				AML	AML	19 15 39.5	
	comp=Z,162nm,0.5s						
MSL				*e*Sn	**Sn**	**19 16 06.5**	**+0.2**
HAGD	**Aghdareh**	**3.06**	**78**	*e*Pn	**Pn**	**19 15 35.5**	**+2.0**
HAGD				IAMB	IAmb	19 16 24.1	
	comp=Z,0.0nm,0.7s						
NSR	**Nassriya**	**3.27**	**170**	*e*Pn	**Pn**	**19 15 37.0**	**+0.9**
NSR				AML	AML	19 15 44.3	
	comp=Z,345nm,0.5s						
NSR				*e*Sn	**Sn**	**19 16 16.0**	**+0.5**
IRAZ	**Razeghan**	**3.83**	**71**	*e*Pn	**Pn**	**19 15 46.3**	**+2.3**
IRAZ				IAMB	IAmb	19 15 58.9	
	comp=Z,328nm,0.6s						
RTB	**Rutbah**	**4.49**	**256**	*e*Pn	**Pn**	**19 15 53.0**	**0.0**
RTB				AML	AML	19 16 14.9	
	comp=Z,63nm,0.3s						
RTB				*e*Sn	**Sn**	**19 16 45.0**	**-0.7**
IQOM	**Qom**	**4.64**	**81**	*e*Pn	**Pn**	**19 15 57.6**	**+2.4**
IQOM				IAMB	IAmb	19 16 11.6	
	comp=Z,0.0nm,0.3s						
IPIR	**Pirpir**	**4.77**	**108**	*e*Pn	**Pn**	**19 15 57.1**	**0.0**
IPIR				IAMB	IAmb	19 16 56.5	
	comp=Z,518nm,0.5s						
JHBN	**Jahan bin**	**4.78**	**113**	*e*Pn	**Pn**	**19 15 57.6**	**+0.5**
JHBN				IAMB	IAmb	19 16 57.9	
	comp=Z,0.0nm,0.3s						
QAM	**Ghamsar**	**4.96**	**94**	*e*Pn	**Pn**	**19 16 01.9**	**+2.3**
ZNGN	**Zangian**	**4.97**	**114**	*e*Pn	**Pn**	**19 15 59.6**	**-0.2**
ZNGN				IAMB	IAmb	19 17 05.1	

RUS S **Sn** **19 19 00.4 +1.3**
PEA0B Petropavlovsk- 1.88 255 PN **Pn** **19 18 40.3 +1.4**
PEA0B Petropavlovsk- 1.88 255 **Pn** **19 18 40.3 +1.4**
PETK Petropavlovsk- 1.88 255 PN **Pn** **19 18 40.5 +1.6**
PETK Petropavlovsk- 1.88 255 Pg **Pn** **19 18 40.3 +1.4**
comp=N,16nm,0.3s,baz=78,slow=19,SNR=285
PETK Lg Lg 19 19 03.9
comp=N,24nm,0.3s,baz=46,slow=40,SNR=11
PETK Petropavlovsk- 1.88 255 **Pn** **19 18 40.5 +1.6**
MTVR Mutnovka 1.91 234 *eP* **Pn** **19 18 40.9 +1.5**
MTVR *eS* **Sn** **19 19 03.0 +0.7**
MTVR Mutnovka 1.91 234 PN **Pn** **19 18 40.9 +1.5**
MTVR S **Sn** **19 19 03.0 +0.7**
GRL Gorelyy 1.92 237 *eP* **Pn** **19 18 41.7 +2.1**
GRL Gorelyy 1.92 237 PN **Pn** **19 18 41.7 +2.1**
ASAK Asacha 2.10 235 *eP* **Pn** **19 18 44.6 +2.5**
ASAK *eS* **Sn** **19 19 09.8 +2.7**
ASAK Asacha 2.10 235 PN **Pn** **19 18 44.6 +2.5**
ASAK S **Sn** **19 19 09.8 +2.7**
KMNR Kamenistaya 2.15 353 *eP* **Pn** **19 18 45.0 +2.3**
KMNR Kamenistaya 2.15 353 PN **Pn** **19 18 45.0 +2.3**
APC Apacha 2.24 253 *eP* **Pn** **19 18 46.1 +2.2**
APC *eS* **Sn** **19 19 12.6 +2.2**
APC Apacha 2.24 253 PN **Pn** **19 18 46.1 +2.2**
APC S **Sn** **19 19 12.6 +2.2**
BZWR Bezymyannyi-We 2.35 357 *eP* **Pn** **19 18 47.9 +2.4**
BZWR Bezymyannyi-We 2.35 357 PN **Pn** **19 18 47.9 +2.4**
KPT Kopyto 2.36 353 *eP* **Pn** **19 18 47.8 +2.2**
KPT Kopyto 2.36 353 PN **Pn** **19 18 47.8 +2.2**
ZLN Zelenaya 2.40 1 *eP* **Pn** **19 18 47.8 +1.7**
ZLN *eS* **Sn** **19 19 15.1 +0.8**
ZLN Zelenaya 2.40 1 PN **Pn** **19 18 47.8 +1.7**
ZLN S **Sn** **19 19 15.1 +0.8**
KDTR Khodutka, Kamc 2.42 222 *eS* **Sn** **19 19 16.8 +2.1**
LGNR Loginova 2.46 360 *eP* **Pn** **19 18 48.3 +1.2**
LGNR Loginova 2.46 360 PN **Pn** **19 18 48.3 +1.2**
KOZ Kozyrevsk 2.48 349 *eP* **Pn** **19 18 49.1 +1.9**
KOZ Kozyrevsk 2.48 349 PN **Pn** **19 18 49.1 +1.9**
CIRR Tsirk 2.50 1 *eP* **Pn** **19 18 49.8 +2.3**
CIRR Tsirk 2.50 1 PN **Pn** **19 18 49.8 +2.3**
KRSR Krestovskiy 2.60 358 *eP* **Pn** **19 18 51.5 +2.7**
KRSR Krestovskiy 2.60 358 PN **Pn** **19 18 51.5 +2.7**
KLY Klyuchi 2.69 359 *eP* **Pn** **19 18 52.1 +2.1**
KLY Klyuchi 2.69 359 PN **Pn** **19 18 52.1 +2.1**
SRDR Sredinnyy 2.76 348 *eP* **Pn** **19 18 52.7 +1.7**
SRDR Sredinnyy 2.76 348 PN **Pn** **19 18 52.7 +1.7**
KBTR Krutoberegovo 2.86 24 *eP* **Pn** **19 18 54.3 +2.0**
KBTR *eS* **Sn** **19 19 26.5 +1.0**
KBTR Krutoberegovo 2.86 24 PN **Pn** **19 18 54.3 +2.0**
KBTR S **Sn** **19 19 26.5 +1.0**
KBG Krutoberegovo 2.88 23 *eP* **Pn** **19 18 56.3 +3.8**
KBG *eS* **Sn** **19 19 29.2 +3.4**
KBG Krutoberegovo 2.88 23 PN **Pn** **19 18 56.3 +3.8**
KBG S **Sn** **19 19 29.2 +3.4**
BDR Baidarnaya 2.96 5 *eP* **Pn** **19 18 54.5 +0.7**
BDR Baidarnaya 2.96 5 PN **Pn** **19 18 54.5 +0.7**
SMKR Semkarok 3.00 8 *eP* **Pn** **19 18 56.5 +2.3**
SMKR Semkarok 3.00 8 PN **Pn** **19 18 56.5 +2.3**
SRKR Sorokina 3.05 5 *eP* **Pn** **19 18 57.2 +2.3**
SRKR Sorokina 3.05 5 PN **Pn** **19 18 57.2 +2.3**
BKI Bering 3.46 61 *eP* **Pn** **19 19 01.5 +1.0**
BKI *eS* **Sn** **19 19 38.0 -2.1**
BKI Bering 3.46 61 PN **Pn** **19 19 01.5 +1.0**
BKI S **Sn** **19 19 38.0 -2.1**
SKR Severo-Kuril's 4.08 226 *eP* **Pn** **19 19 12.3 +3.2**
SKR Severo-Kuril's 4.08 226 *e*PN **Pn** **19 19 11.8 +2.7**
SKR *eS* **Sn** **19 19 59.3 +3.8**
SKR pmax pmax
comp=Z,57nm,1.0s
SKR smax smax
comp=N,33nm,0.5s
SKR smax smax
comp=E,67nm,0.7s
SKR MLR MLR
comp=Z,2μm,16.0s
SMY Shemya 8.10 91 PN **Pn** **19 20 06.5 +2.4**
SMY Shemya 8.10 91 Pn **Pn** **19 20 06.5 +2.4**
HYT Haines Junctio 33.05 52 P **P** **19 24 40.6 +1.2**
HYT IAmb IAmb 19 24 44.9
comp=Z,5.9nm,0.8s
SONM Songino Array 34.14 283 P **P** **19 24 45.4 -3.6**
SONM pmax pmax
comp=Z,2.0nm,1.6s
SONM Songino Array 34.14 283 P **P** **19 24 46.7 -2.3**
comp=Z,0.3nm,0.7s,baz=65,slow=6.8,SNR=3.0
SONM Songino Array 34.14 283 P **P** **19 24 45.4 -3.6**
H11N2 WAKE ISLAND Hy 34.17 170 T T 20 01 19.5
baz=354,slow=76,SNR=31
H11N3 WAKE ISLAND Hy 34.18 170 T T 20 01 42.1
baz=354,slow=76,SNR=72
H11N1 WAKE ISLAND Hy 34.19 170 T T 20 01 25.0
baz=354,slow=76,SNR=60
H11S1 WAKE ISLAND Hy 35.36 170 T T 20 02 43.3
baz=353,slow=74
H11S3 WAKE ISLAND Hy 35.37 170 T T 20 02 44.7
baz=353,slow=74
H11S2 WAKE ISLAND Hy 35.38 170 T T 20 02 44.0
baz=353
KURK Kurchatov 47.77 302 P **P** **19 26 39.0 -1.6**
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK Kurchatov 47.77 302 P **P** **19 26 39.0 -1.6**
KURK IAmb IAmb 19 26 50.3
comp=Z,2.9nm,1.3s
KURBB Kurchatov Arra 47.87 302 P **P** **19 26 39.4 -2.1**
comp=Z,0.9nm,0.5s,baz=59,slow=7.6,SNR=6.3
MKAR Makanchi Array 48.26 296 P **P** **19 26 42.4 -2.1**
comp=Z,0.2nm,0.4s,baz=56,slow=7.1,SNR=8.2
MKAR Makanchi Array 48.26 296 P **P** **19 26 41.6 -2.9**
BVAR Borovoye Array 50.35 308 P **P** **19 26 58.1 -2.2**
comp=Z,0.5nm,0.4s,baz=61,slow=6.5,SNR=4.5
ARCES ARCESS Array B 52.89 342 P **P** **19 27 19.3 +0.1**
comp=Z,7.0nm,1.0s,baz=27,slow=8.4,SNR=3.9
CMAR Chiang Mai Arr 58.65 258 P **P** **19 28 02.6 +1.6**
comp=Z,0.4nm,0.5s,baz=24,slow=7.3,SNR=4.8
FINES FINESS Array B 59.78 337 P **P** **19 28 08.5 +0.4**
FINES FINESS Array B 59.78 337 P **P** **19 28 08.1 0.0**
comp=Z,1.3nm,0.7s,baz=25,slow=6.4,SNR=9.1
FINES FINESS Array B 59.78 337 P **P** **19 28 08.5 +0.4**
NB2 NORSAR Subarra 63.13 344 P **P** **19 28 31.0 +0.2**
comp=Z,0.3nm,0.3s,baz=25,slow=6.9
NOA NORSAR Array B 63.13 344 P **P** **19 28 31.1 +0.2**
comp=Z,0.3nm,0.3s,baz=23,slow=6.0,SNR=8.6
AKASG Malin Array Be 68.34 329 P **P** **19 29 04.1 -0.4**
comp=Z,0.3nm,0.3s,baz=33,slow=7.0,SNR=2.1

ISCJB ***22*** *19:22:02.1±0.4,6°.13S±0°.05×154°.49E±0°.04,h61km, mb3.8/10, Error ellipse: s-maj=7.7km s-min=5.1km az=27.4*
NEIC ***22*** *19:22:04.0±1.5,6°.09S±0°.08×154°.53E±0°.10,h69km±6km, mb4.6/30*
IDC ***22*** *19:22:04.6±1.6,6°.15S×154°.47E,h67km±13km, mb3.7/9, mb1 4.0/13, mb1mx3.7/53, mbtmp4.2/13, MS3.3/1, Ms1 3.3/1, ms1mx2.9/36, Error ellipse: s-maj=19.4km s-min=12.6km az=23.0*
ISC 22 19:22:03.6±0.5,**6°.12S**±0°.06×**154°.48E**±0°.06,**h61**km,**n68,** σ0**99**/67,**mb4.3**/23,**2C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.03**	**306**	P	**Pn**	**19 22 49.9**	**+0.7**
	88nm,0.3s,baz=127,slow=1.6,SNR=126						
KRVT				S	Sn	19 23 34.2	+10
	99nm,0.3s,baz=135,slow=23,SNR=13						
KRVT				LR	LR	19 24 22.7	
	comp=Z,539nm,19.8s,baz=265,slow=45						
HNR	**Honiara**	**6.34**	**122**	P	**Pn**	**19 23 34.8**	**+0.3**
	17nm,0.3s,baz=237,slow=1.1,SNR=7.4						
HNR				S	**Sn**	**19 24 47.3**	**+1.7**
	baz=228,slow=6.5,SNR=1.1						
HNR	**Honiara**	**6.34**	**122**	P	**Pn**	**19 23 36.0**	**+1.5**
HNR	**Honiara**	**6.34**	**122**		**Pn**	**19 23 34.5**	**0.0**
PMG	**Port Moresby**	**7.95**	**245**	P	**Pn**	**19 23 57.5**	**+1.0**
	16nm,0.3s,baz=92,slow=5.4,SNR=101						
PMG				S	**Sn**	**19 25 25.3**	**+0.2**
	1.1nm,0.3s,baz=358,slow=20,SNR=1.8						
PMG	**Port Moresby**	**7.95**	**245**		**Pn**	**19 23 57.4**	**+0.8**
MANU	**Manus Island**	**8.17**	**299**		**Pn**	**19 24 01.1**	**+1.6**
PATS	**Pohnpei**	**13.43**	**17**	Pn	**Pn**	**19 25 10.6**	**-0.8**
COEN	**Coen**	**13.58**	**234**		**P**	**19 25 22.3**	**+1.8**
JAY	**Jayapura**	**14.19**	**284**	P	**Pn**	**19 25 22.1**	**+0.5**
	0.5nm,0.3s,baz=98,slow=4.9,SNR=5.6						
CTAO	**Charters Tower**	**16.02**	**209**		**P**	**19 25 47.3**	**-0.2**
EIDS	**Eidsvold**	**19.41**	**189**	P	**Pn**	**19 26 26.4**	**-0.2**
EIDS				IAmb	IAmb	19 26 27.1	
	comp=Z,22nm,1.4s						
DZM	**Mont Dzumac**	**19.63**	**145**	P	**P**	**19 26 27.8**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=316,slow=9.7,SNR=41						
DZM	**Mont Dzumac**	**19.63**	**145**	P	**Pn**	**19 26 28.3**	**-0.9**
DZM				IAmb	IAmb	19 26 29.1	
	comp=Z,51nm,1.4s						
SIJI	**Sorong**	**23.74**	**282**	P	**P**	**19 27 11.7**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=100,slow=17,SNR=3.6						
WR0	**Warramunga Arr**	**23.76**	**233**	P	**P**	**19 27 11.6**	**+1.0**
WB0	**Warramunga Arr**	**23.77**	**233**	P	**P**	**19 27 11.4**	**+0.6**
WRAB	**Tennant Creek**	**23.89**	**233**	P	**P**	**19 27 13.1**	**+1.2**
WB2	**Warramunga Arr**	**23.90**	**233**	P	**P**	**19 27 10.7**	**-1.2**
WRA	**Warramunga Arr**	**23.91**	**233**	P	**P**	**19 27 13.2**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=60,slow=9.8,SNR=20						
WRA				PcP	**PcP**	**19 30 53.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=56,slow=2.6,SNR=5.3						
WRA				ScP	**ScP**	**19 34 26.2**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=63,slow=2.5,SNR=3.2						
WRA	**Warramunga Arr**	**23.91**	**233**	P	**P**	**19 27 11.9**	**-0.1**
MTN	**Manton Dam**	**23.96**	**252**	P	**P**	**19 27 13.5**	**+1.0**
MTN				IAmb	IAmb	19 27 42.7	
	comp=Z,8.1nm,0.8s						
ARMA	**Armidale**	**24.32**	**186**	P	**P**	**19 27 15.2**	**-0.5**
ARMA				IAmb	IAmb	19 27 17.7	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**26.38**	**226**	P	**P**	**19 27 34.1**	**-0.3**
ASAR	**Alice Springs**	**26.38**	**226**	P	**P**	**19 27 34.6**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=56,slow=9.0,SNR=18						
ASAR				PcP	**PcP**	**19 30 58.9**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=59,slow=2.4,SNR=14						
ASAR				ScP	**ScP**	**19 34 32.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=57,slow=3.4,SNR=5.0						
ASAR	**Alice Springs**	**26.38**	**226**	P	**P**	**19 27 34.8**	**+0.4**
ASAR					**ScP**	**19 34 36.2**	**+2.4**
KNRA	**Kununurra**	**26.95**	**247**	P	**P**	**19 27 39.6**	**+0.1**
KNRA				IAmb	IAmb	19 27 57.8	
	comp=Z,51nm,1.6s						
H11S3	**WAKE ISLAND Hy**	**27.27**	**26**	T	T	19 56 20.1	
	baz=208,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**27.28**	**26**	T	T	19 56 06.0	
	baz=208,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.28**	**26**	T	T	19 56 22.7	
	baz=208,slow=76,SNR=13						
STKA	**Stephens Creek**	**28.31**	**204**	P	**P**	**19 27 48.7**	**-2.9**
	comp=Z,1.1nm,0.4s,baz=26,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**28.31**	**204**	P	**P**	**19 27 49.2**	**-2.5**
H11N1	**WAKE ISLAND Hy**	**28.43**	**25**	T	T	19 57 43.7	
	baz=204						
H11N3	**WAKE ISLAND Hy**	**28.44**	**25**	T	T	19 57 35.4	
	baz=204						
H11N2	**WAKE ISLAND Hy**	**28.45**	**25**	T	T	19 57 30.5	
	baz=204						
SOEI	**Soe**	**30.13**	**261**	P	**P**	**19 28 06.6**	**-1.5**
SOEI				IAmb	IAmb	19 28 23.3	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.55**	**245**	P	**P**	**19 28 11.7**	**+0.1**
	comp=Z,7nm,0.8s,baz=68,slow=12,SNR=4.7						
FITZ	**Fitzroy Crossi**	**30.55**	**245**	P	**P**	**19 28 11.4**	**-0.2**
FITZ				IAmb	IAmb	19 28 23.1	
	comp=Z,12nm,1.3s						
BBOO	**Buckleboo**	**31.61**	**211**	P	**P**	**19 28 20.9**	**+0.1**
NNZ	**Nelson**	**38.81**	**157**	P	**P**	**19 29 22.4**	**-0.1**
NNZ				IAmb	IAmb	19 29 50.6	
	comp=Z,12nm,1.0s						
THZ	**Tophouse**	**39.10**	**158**	P	**P**	**19 29 24.7**	**-0.3**
THZ				IAmb	IAmb	19 29 25.3	
	comp=Z,7.0nm,0.8s						
TUWZ	**Tuamarina**	**39.21**	**157**	P	**P**	**19 29 0.0**	**+0.1**
SNZO	**South Karori**	**39.42**	**156**	P	**P**	**19 29 27.6**	**+0.1**
BFZ	**Birch Farm**	**39.55**	**154**	P	**P**	**19 29 28.4**	**-0.4**
BHW	**Baring Head**	**39.57**	**156**	P	**P**	**19 29 26.6**	**-2.2**
PLWZ	**Palliser**	**39.86**	**155**	P	**P**	**19 29 30.8**	**-0.5**
KKM	**Kota Kinabalu**	**40.06**	**287**	P	**P**	**19 29 32.7**	**-0.7**
KKM				IAmb	IAmb	19 29 36.7	
	comp=Z,18nm,1.1s						
OXZ	**Oxford**	**40.16**	**160**	P	**P**	**19 29 33.9**	**+0.2**
RPZ	**Rata Peaks**	**40.18**	**161**	P	**P**	**19 29 34.0**	**0.0**
	comp=Z,6.7nm,0.7s,baz=333,slow=5.0,SNR=5.6						
RPZ	**Rata Peaks**	**40.18**	**161**	P	**P**	**19 29 34.1**	**+0.1**
LBZ	**Lake Benmore**	**40.52**	**163**	P	**P**	**19 29 36.6**	**-0.2**
LBZ				IAmb	IAmb	19 29 49.9	
	comp=Z,21nm,1.3s						
MLZ	**Mavora Lakes**	**40.86**	**165**	P	**P**	**19 29 39.6**	**+0.1**
MLZ				IAmb	IAmb	19 30 00.0	
	comp=Z,14nm,1.2s						
MORW	**Morawa**	**42.86**	**233**	P	**P**	**19 29 54.8**	**-1.2**
MORW				IAmb	IAmb	19 30 05.2	
	comp=Z,28nm,1.5s						
TPUB	**Ta-pu**	**44.14**	**313**	P	**P**	**19 30 06.7**	**+0.3**
JNU	**Nakatsue**	**45.00**	**332**	P	**P**	**19 30 13.2**	**0.0**
JNU				IAmb	IAmb	19 30 15.3	
	comp=Z,21nm,1.2s						
CMAR	**Chiang Mai Arr**	**59.95**	**295**	P	**P**	**19 32 05.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=123,slow=6.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**59.95**	**295**	P	**P**	**19 32 03.2**	**-0.9**
MKAR	**Makanchi Array**	**82.41**	**319**	P	**P**	**19 34 19.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=95,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	**82.41**	**319**	P	**P**	**19 34 18.4**	**-1.0**
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**19 34 21.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=252,slow=5.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**83.17**	**326**	pP	pP	19 34 35.3	-4.3
	comp=Z,0.6nm,0.4s,baz=124,slow=5.7,SNR=2.2						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**19 34 26.9**	**+0.4**
MAW	**Mawson**	**85.00**	**203**	P	**P**	**19 34 32.0**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=86,slow=7.8,SNR=7.2						
MAW	**Mawson**	**85.00**	**203**	P	**P**	**19 34 32.0**	**-0.1**
MAW				IAmb	IAmb	19 34 32.6	
	comp=Z,3.2nm,1.6s						
KURBB	**Kurchatov Arra**	**85.86**	**322**	pP	pP	19 34 48.6	-4.8
	comp=Z,0.4nm,0.9s,baz=100,slow=5.0,SNR=3.4						
SYO	**Syowa Base**	**92.98**	**199**	*e*P	**P**	**19 35 08.4**	**-1.5**
SYO	**Syowa Base**	**92.98**	**199**	*e*PcP	**P**	**19 35 09.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**152.29**	**287**	PKPbc	**PKPbc**	**19 41 52.6**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=114,slow=2.2,SNR=7.1						

IDC ***22*** *19:23:34.3±2.0,4°.85S×102°.97E,h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/64, mbtmp3.8/10, ML3.3/1, Error ellipse: s-maj=80.8km s-min=15.0km az=52.0*
NEIC ***22*** *19:23:45.0±3.0,4°.98S±0°.08×103°.1E±0°.1,h96km±8km, mb4.5/13*
DJA ***22*** *19:23:46.8±0.3,5°.S±4°.×10°.3E±°.,h70km±5km, M4.2/13, mb4.2/5, mB5.0/1, MLv4.2/13, Mw(mB)4.3/1*
ISC 22 19:23:45.1±0.7,**4°.95S**±0°.07×**103°.17E**±0°.07,**h100**km,**n59,** σ2**06**/58,**mb4.1**/15,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.63**	**340**	P	**Pn**	**19 24 00.9**	**-1.0**
MNAI				S	**Sn**	**19 24 12.5**	**-2.0**
MNAI	**Manna**	**0.63**	**340**		**Pn**	**19 24 00.6**	**-1.3**
LWLI	**Liwa**	**0.89**	**94**	P	**Pn**	**19 24 03.4**	**-1.0**
LWLI				S	**Sn**	**19 24 16.2**	**-2.8**
KASI	**Kota Agung**	**1.44**	**113**	P	**Pn**	**19 24 10.7**	**+0.2**
KASI				S	**Sn**	**19 24 28.4**	**-1.4**
KLSI		**1.57**	**80**	P	**Pn**	**19 24 11.2**	**-1.1**
MASI	**Maura Aman, Be**	**2.03**	**333**	P	**Pn**	**19 24 19.7**	**+1.6**
BLSI	**Bandar Lampung**	**2.11**	**101**	P	**Pn**	**19 24 19.6**	**+0.6**
BLSI				S	**Sn**	**19 24 43.7**	**-1.3**
PMBI	**Palembang**	**2.57**	**38**	P	**Pn**	**19 24 23.7**	**-1.4**
PMBI	**Palembang**	**2.57**	**38**	Pn	**Pn**	**19 24 23.6**	**-1.6**
CGJI	**Cibinong**	**3.00**	**123**	P	**Pn**	**19 24 31.2**	**+0.4**
KRJI	**Kerinci**	**3.32**	**329**	P	**Pn**	**19 24 37.4**	**+2.2**
PPSI	**Pulau Pagai**	**3.83**	**304**	P	**Pn**	**19 24 43.7**	**+1.7**
CNJI	**Cibinong**	**4.58**	**121**	P	**Pn**	**19 24 50.6**	**-1.5**
LEM	**Lembang**	**4.80**	**113**	Pn	**Pn**	**19 24 51.5**	**-3.7**
	1.3nm,0.3s,baz=300,slow=20,SNR=2.2						
TPI	**Tanjungpandan**	**4.98**	**64**	P	**Pn**	**19 24 56.2**	**-1.3**
CISI	**Cisompet, Garu**	**5.29**	**119**	P	**Pn**	**19 25 01.9**	**+0.1**
CISI	**Cisompet, Garu**	**5.29**	**119**		**Pn**	**19 25 01.8**	**-0.1**
SISI	**Saibi**	**5.44**	**311**	P	**Pn**	**19 25 04.3**	**+0.5**
CMJI	**Cimerak**	**5.95**	**118**	P	**Pn**	**19 25 11.9**	**+1.2**
XMIS	**Christmas Isla**	**6.02**	**156**	Pn	**Pn**	**19 25 07.6**	**-4.1**
XMIS				Sn	**Sn**	**19 26 11.8**	**-7.4**
UGM	**Wanagama**	**7.87**	**112**	P	**Pn**	**19 25 38.5**	**+1.6**
UGM	**Wanagama**	**7.87**	**112**	Pn	**Pn**	**19 25 37.5**	**+0.6**
GSI	**Gunungsitoli**	**8.36**	**318**	Pn	**Pn**	**19 25 42.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**11.45**	**108**	P	**Pn**	**19 26 25.0**	**-0.5**
JAGI	**Jajag, Banyuwa**	**11.45**	**108**	Pn	**Pn**	**19 26 25.0**	**-0.5**
BATI	**Baumata**	**20.96**	**106**	P	**P**	**19 28 22.1**	**+1.7**
	12nm,0.4s,baz=310,slow=6.0,SNR=8.3						
SOEI	**Soe**	**21.45**	**104**	P	**P**	**19 28 22.4**	**-3.3**
SOEI				IAmb	IAmb	19 28 37.0	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.63**	**350**	P	**P**	**19 28 45.1**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=184,slow=10,SNR=3.0						
CMAR	**Chiang Mai Arr**	**23.63**	**350**	P	**P**	**19 28 47.1**	**-0.3**
H08S2	**Diego Garcia H**	**30.61**	**263**	T	T	20 02 27.5	
	baz=86						
H08S3	**Diego Garcia H**	**30.61**	**263**	T	T	20 02 36.7	
	baz=86						
H08S1	**Diego Garcia H**	**30.62**	**263**	T	T	20 02 25.2	
	baz=86						
H01W3	**Cape Leeuwin H**	**31.46**	**163**	T	T	20 03 20.5	
	baz=340,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**31.48**	**163**	T	T	20 03 21.5	
	baz=340,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**31.48**	**163**	T	T	20 03 22.2	
	baz=340,slow=76,SNR=13						
WB0	**Warramunga Arr**	**33.77**	**119**	P	**P**	**19 30 19.5**	**+1.9**
WB0				IAmb	IAmb	19 30 29.9	
	comp=Z,21nm,1.6s						
WRA	**Warramunga Arr**	**33.79**	**119**	P	**P**	**19 30 19.2**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=299,slow=11,SNR=9.7						
WRA	**Warramunga Arr**	**33.79**	**119**	P	**P**	**19 30 19.7**	**+1.9**
WRAB	**Tennant Creek**	**33.80**	**119**	P	**P**	**19 30 19.4**	**+1.6**
WRAB				IAmb	IAmb	19 30 26.7	
	comp=Z,19nm,1.6s						
WB2	**Warramunga Arr**	**33.80**	**119**	P	**P**	**19 30 20.0**	**+2.2**
WB2				IAmb	IAmb	19 30 27.8	
	comp=Z,12nm,1.6s						
WR0	**Warramunga Arr**	**33.97**	**119**	P	**P**	**19 30 21.0**	**+1.7**
WR0				IAmb	IAmb	19 30 37.5	
	comp=Z,15nm,1.6s						
AS31	**Alice Springs**	**34.97**	**125**	P	**P**	**19 30 30.3**	**+2.4**
ASAR	**Alice Springs**	**34.97**	**125**	P	**P**	**19 30 30.6**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=295,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**34.97**	**125**	P	**P**	**19 30 30.3**	**+2.4**
SSE	**Sheshan**	**39.76**	**25**	P	**P**	**19 31 05.1**	**-3.1**
COEN	**Coen**	**40.40**	**106**	P	**P**	**19 31 15.2**	**+1.4**
COEN				IAmb	IAmb	19 31 31.5	
	comp=Z,6.6nm,1.1s						
BBOO	**Buckleboo**	**41.34**	**136**	P	**P**	**19 31 23.9**	**+2.7**
STKA	**Stephens Creek**	**44.83**	**131**	P	**P**	**19 31 52.4**	**+3.0**
	comp=Z,2.1nm,0.7s,baz=307,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**44.83**	**131**	P	**P**	**19 31 52.8**	**+3.3**
SONM	**Songino Array**	**52.64**	**3**	P	**P**	**19 32 50.1**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=184,slow=9.2,SNR=6.2						
SONM	**Songino Array**	**52.64**	**3**	P	**P**	**19 32 49.3**	**+0.3**
ULN	**Ulaanbaatar**	**52.71**	**3**	P	**P**	**19 32 46.9**	**-2.6**
ULN				IAmb	IAmb	19 33 04.2	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**54.74**	**343**	P	**P**	**19 33 04.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=147,slow=10.0,SNR=7.3						
MKAR	**Makanchi Array**	**54.74**	**343**	P	**P**	**19 33 04.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**55.37**	**25**	P	**P**	**19 33 08.9**	**+0.2**
KURBB	**Kurchatov Arra**	**59.29**	**342**	P	**P**	**19 33 36.5**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=159,slow=6.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**60.67**	**348**	P	**P**	**19 33 46.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=148,slow=5.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**60.67**	**348**	P	**P**	**19 33 46.0**	**+0.4**
ABKAR	**Akbulak array**	**65.74**	**331**	P	**P**	**19 34 19.8**	**+0.6**

ISCJB ***22*** *19:24:01.1±0.7,34°.10N±0°.03×45°.45E±0°.02,h2km±5km, mb3.6/10, Error ellipse: s-maj=4.6km s-min=3.0km az=27.7*
ISN ***22*** *19:24:02.3±1.2,34°.32N×45°.54E,h0km±6km, ML4.1*
NEIC ***22*** *19:24:03.3±2.1,34°.08N±0°.10×45°.5E±0°.1,h10km±5km*
THR ***22*** *19:24:03.9,34°.28N×45°.39E,h15km, ML3.9*
IDC ***22*** *19:24:03.1±1.0,34°.33N×45°.49E,h0km, mb3.7/11, mb1 3.7/18, mb1mx3.5/59, mbtmp3.6/18, ML3.4/5, Error ellipse: s-maj=20.0km s-min=14.8km az=164.0*
TEH ***22*** *19:24:05.6,34°.30N×45°.61E,h12km, ML4.0*
OMAN ***22*** *19:24:14.8±2.5,33°.23N×45°.51E,h39km±25km, Error ellipse: s-maj=66.0km s-min=42.7km az=20.0*
ISC 22 19:24:04.1±1.1,**34°.16N**±0°.03×**45°.57E**±0°.03,**h14**km±7km, **n132,** σ2**9**21/149,**mb3.7**/13,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.85**	**78**	*e*Pg	**Pg**	**19 24 21.4**	**+0.8**
IGHG				*e*Sg	**Sg**	**19 24 33.5**	**+1.8**
IGHG				IAMB	IAmb	19 24 36.1	
	comp=Z,80μm,0.4s						
IDHR	**Dehrash**	**0.86**	**51**	*e*Pg	**Pg**	**19 24 19.8**	**-1.1**
IDHR				*e*Sg	**Sg**	**19 24 31.0**	**-1.3**
IDHR				IAMB	IAmb	19 24 33.7	
	comp=Z,0.0nm,0.3s						
IBDR	**Badra**

SIRT	Sirnak	4.19	324	*e*P	Pn	19 25 07.1	-0.6
IHRS	Heris	4.31	16	*e*Pn	Pn	19 25 11.5	+1.9
IHRS				IAMB	IAmb	19 26 25.1	
	comp=Z,2μm,0.9s						
IMHD	Mahdasht	4.46	69	*e*Pn	Pn	19 25 13.7	+2.3
RTB	Rutbah	4.53	257	*e*Pn	Pn	19 25 15.0	+2.6
RTB				AML	AML	19 25 24.3	
	comp=Z,113nm,0.4s						
RTB				*e*Sn	Sn	19 26 08.0	+3.1
IQOM	Qom	4.59	80	*e*Pn	Pn	19 25 15.4	+2.0
IQOM				IAMB	IAmb	19 26 44.9	
	comp=Z,0.0nm,1.0s						
IPIR	Pirpir	4.69	107	*e*Pn	Pn	19 25 17.4	+2.6
IPIR				IAMB	IAmb	19 26 16.9	
	comp=Z,2μm,0.5s						
QALM	Alamut, Qazvin	4.73	60	*e*Pn	Pn	19 25 18.2	+2.9
QALM				IAMB	IAmb	19 25 35.6	
	comp=Z,0.0nm,0.8s						
GHVR	GHOM	4.75	85	*e*Pn	Pn	19 25 18.7	+3.3
GHVR	GHOM	4.75	85	*e*Pn	Pn	19 25 18.7	+3.3
CHTH	Charan	4.88	68	*e*Pn	Pn	19 25 20.2	+2.8
CHTH	Charan	4.88	68	*e*Pn	Pn	19 25 20.2	+2.8
ZNGN	Zangian	4.88	113	*e*Pn	Pn	19 25 19.7	+2.2
ZNGN				IAMB	IAmb	19 25 44.3	
	comp=Z,0.0nm,0.6s						
QAM	Ghamsar	4.90	93	*e*Pn	Pn	19 25 20.8	+3.2
ROKH	ROKH	4.93	110	*e*Pn	Pn	19 25 20.7	+2.7
ROKH				IAMB	IAmb	19 26 22.6	
	comp=Z,0.0nm,0.5s						
GRMI	Germi	5.00	21	*e*Pn	Pn	19 25 20.2	+1.3
GRMI	Germi	5.00	21	*e*Pn	Pn	19 25 20.2	+1.3
IKLH	Kolahrood	5.08	98	*e*Pn	Pn	19 25 22.9	+2.8
IKLH				IAMB	IAmb	19 26 31.6	
	comp=Z,1μm,0.4s						
CLDR	Caldiran	5.14	346	*e*P	Pn	19 25 22.8	+1.8
IVRN	Varamin	5.15	79	*e*Pn	Pn	19 25 23.0	+2.1
MAZI	Mazidag	5.30	310	*e*P	Pn	19 25 22.5	-0.5
KRSH	Karshahi	5.46	90	*e*Pn	Pn	19 25 28.0	+2.8
IGAR	Gharneh	5.70	106	*e*Pn	Pn	19 25 30.9	+2.3
IGAR				IAMB	IAmb	19 26 39.5	
	comp=Z,826nm,0.3s						
IZEF	Zefreh	5.79	101	*e*Pn	Pn	19 25 32.2	+2.4
IZEF				IAMB	IAmb	19 27 16.4	
	comp=Z,519nm,0.7s						
DYBB	Diyarbakir	5.80	312	*e*P	Pn	19 25 29.6	-0.2
TASB	TASBURUN-IGDIR	5.91	350	*e*P	Pn	19 25 34.7	+3.4
VRTB	Varto-Mus	5.98	328	*e*P	Pn	19 25 32.5	+0.1
GNI	Garni	6.01	354	Pn	Pn	19 25 33.2	+0.4
	comp=Z,0.3nm,0.3s,baz=159,slow=15,SNR=2.9						
GNI				Pg	Pb	19 25 48.5	-0.3
	comp=Z,0.6nm,0.3s,baz=90,slow=4.4,SNR=7.6						
GNI				Lg	Lg	19 27 17.6	
	baz=166,slow=23,SNR=1.1						
GNI	Garni	6.01	354	*e*P	Pn	19 25 37.3	+4.5
GNI	Garni	6.01	354		Pn	19 25 31.5	-1.3
IRAM	Ramesheh	6.19	110	*e*Pn	Pn	19 25 37.3	+2.0
BNGB	Bingl	6.22	322	*e*P	Pn	19 25 36.1	+0.5
URFA	Urfa	6.38	303	*e*P	Pn	19 25 38.4	+0.6
SVRC	Sivrice-ELAZID	6.58	312	*e*P	Pn	19 25 41.0	+0.4
ANAR	Anarak	6.87	96	*e*Pn	Pn	19 25 47.3	+2.7
MALT	Malatya	7.10	308	*e*P	Pn	19 25 48.3	+0.6
AKH	Akhalkalaki	7.42	348		Pn	19 25 52.7	+0.6
ASF	Jabal al Asfar	7.54	257	Pn	Pn	19 25 54.2	+0.5
	comp=Z,0.6nm,0.3s,baz=358,slow=7.2,SNR=15						
ASF				Pg	Pg	19 26 29.2	+0.8
	comp=Z,0.4nm,0.3s,baz=17,slow=21,SNR=6.1						
ASF				Lg	Lg	19 28 04.8	
	comp=Z,1.0nm,0.3s,baz=224,slow=18,SNR=2.3						
TBLG	Delisi	7.58	355		Pn	19 25 57.3	+3.0
KMRS	Kahramanmaras	7.79	298	*e*P	Pn	19 25 57.7	+0.6
DARE	Darende-Malaty	7.86	306	*e*P	Pn	19 25 58.5	+0.3
MMAI	Mount Meron Ar	8.56	265	Pn	Pn	19 26 08.9	+1.2
	comp=Z,0.9nm,0.3s,baz=69,slow=14,SNR=7.4						
MMAI				Pg	Pg	19 26 45.3	-2.6
	comp=Z,0.7nm,0.3s,baz=88,slow=15,SNR=3.2						
MMAI				Lg	Lg	19 28 38.8	
	comp=Z,2.3nm,0.3s,baz=71,slow=31,SNR=4.6						
TPRV	Parvadeh(Tabas	9.35	94	*e*Pn	Pn	19 26 20.9	+2.4
KBZ	Khabaz	9.77	349	Pn	Pn	19 26 27.1	+2.9
	comp=Z,0.1nm,0.3s,baz=183,slow=8.5,SNR=5.2						
KIV	Kislovodsk	10.03	348		Pn	19 26 32.0	+4.2
EIL	Elat	10.07	246	Pn	Pn	19 26 29.3	+0.9
	comp=Z,0.4nm,0.3s,baz=87,slow=4.8,SNR=4.5						
EIL				Pg		19 27 14.5	
	comp=Z,0.2nm,0.3s,baz=49,slow=11,SNR=1.5						
EIL				Lg	Lg	19 29 35.2	
	comp=Z,0.3nm,0.3s,baz=130,slow=22,SNR=1.7						
GEYT	Alibeck	10.83	66		Pn	19 26 39.1	+0.3
BR131	Keskin Array S	11.04	304	Pn	Pn	19 26 40.5	-1.2
BRTR	Keskin Array B	11.04	304	Pn	Pn	19 26 44.6	+2.9
	comp=Z,0.0nm,0.3s,baz=114,slow=9.5,SNR=2.7						
BRTR	Keskin Array B	11.04	304	Pn	Pn	19 26 40.7	-1.0
BANOM	Banah	12.40	129	P	Pn	19 27 01.2	+0.9
BANOM				S	Sn	19 29 13.2	-5.1
ASUD	Al Ashush, Dub	12.75	136	P	Pn	19 27 07.0	+1.9
	SNR=5.9						
ASUD				S	Sn	19 29 24.0	-2.9
MDH	Madha	12.84	131	P	Pn	19 27 06.8	+0.6
MDH				S	Sn	19 29 25.4	-3.6
UOSS	Minazif	13.03	132	P	Pn	19 27 09.1	+0.1
	SNR=8.8						
UOSS	Minazif	13.03	132		Pn	19 27 09.7	+0.8
UOSS					Sn	19 29 25.5	-8.3
HATD	Hatta, Dubai	13.08	133	P	Pn	19 27 10.1	+0.6
HATD				S	Sn	19 29 28.7	-6.2
ASHO	Ashiyiah	13.14	133	P	Pn	19 27 10.9	+0.5
ASHO				S	Sn	19 29 29.3	-7.1
ARQ	Araqi	14.43	136	P	Pn	19 27 28.1	0.0
HOQ	Hoqain	14.72	133	P	Pn	19 27 32.5	+0.5
SMDO	Samad	15.56	132	P	Pn	19 27 43.6	+0.4
WSAR	Wadi Sarin	15.79	130	P	Pn	19 27 46.7	+0.6
	SNR=6.7						
WSAR	Wadi Sarin	15.79	130	Pn	Pn	19 27 45.0	-1.2
	comp=Z,0.8nm,0.3s,baz=314,slow=9.8,SNR=12						
WHFO	Wadi Hawf	17.76	154	P	Pn	19 28 09.3	-1.9
	SNR=22						
WHFO				S	Sn	19 31 16.3	-13
ABTO	Aybut	18.12	156	P	Pn	19 28 13.7	-1.8
RBK	Rabkut	18.31	153	P	Pn	19 28 16.0	-1.8
	SNR=7.9						
DMTO	DMTO	18.41	151	P	Pn	19 28 18.1	-0.9
SHAO	Shalim	18.42	148	P	P	19 28 19.0	-0.1
	SNR=9.4						
ABKAR	Akbulak array	18.46	31	P	P	19 28 19.4	+0.1
ABKAR	Akbulak array	18.46	31	P	P	19 28 20.0	+0.7
ABKAR				IAmb	IAmb	19 28 26.5	
	comp=Z,3.2nm,1.0s						
AKTO	Aktyubinsk	18.64	26	P	P	19 28 21.2	-0.1
	comp=Z,0.2nm,0.3s,baz=200,slow=8.6,SNR=5.4						
KBL	Kabul	19.38	82	P	P	19 28 30.2	+0.4
VTS	Vitosha	19.39	302	P	P	19 28 28.9	-0.9
VTS				IAmb	IAmb	19 28 47.9	
	comp=Z,6.9nm,1.6s						
ITM	Ithomi	19.43	286	P	P	19 28 29.2	-0.9
ITM				IAmb	IAmb	19 28 42.0	
	comp=Z,14nm,1.0s						
CHGR	Chuyangaron	19.49	70	P	Pn	19 28 32.6	+0.5
CHGR				IAmb	IAmb	19 28 45.0	
	comp=Z,9.5nm,1.1s						
BURAR	Bucovina Array	20.35	317	P	P	19 28 40.9	+0.8
BUR08	Bucovina Ar. S	20.37	317	P	Pn	19 28 41.5	-0.9
BUR08				IAmb	IAmb	19 28 58.3	
	comp=Z,4.9nm,1.1s						
AKASG	Malin Array Be	20.38	329	P	P	19 28 38.9	-1.4
	comp=Z,1.3nm,0.3s,baz=142,slow=8.2,SNR=6.6						
AKASG	Malin Array Be	20.38	329	P	P	19 28 38.5	-1.9
AKBB	Malin Array Si	20.38	329	P	P	19 28 40.8	+0.4
AKBB				IAmb	IAmb	19 28 41.8	
	comp=Z,18nm,1.6s						
GAR	Garm	20.43	69	P	P	19 28 42.7	+1.6
GAR				IAmb	IAmb	19 28 50.6	
	comp=Z,5.9nm,1.0s						
KK31	Karatay Array	21.37	58	P	P	19 28 51.2	0.0
KK31				IAmb	IAmb	19 29 02.0	
	comp=Z,4.5nm,1.4s						
KKAR	Karatay Array	21.37	58	P	P	19 28 52.7	+1.5
KKAR	Karatay Array	21.37	58	P	P	19 28 51.6	+0.5
KKAR				IAmb	IAmb	19 29 02.0	
	comp=Z,4.5nm,1.4s						
NIL	Nilore	22.96	83	P	P	19 29 07.3	-0.9
NIL				IAmb	IAmb	19 29 24.9	
	comp=Z,2.6nm,0.7s						
NRN	Naryn	25.03	64	P	P	19 29 29.6	+1.4
NRN				IAmb	IAmb	19 29 36.5	
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	25.83	36	P	P	19 29 35.0	+0.1
	comp=Z,1.2nm,0.7s,baz=230,slow=11,SNR=2.9						
KURBB	Kurchatov Arra	29.07	46	P	P	19 30 05.1	+1.1
	comp=Z,0.7nm,0.7s,baz=252,slow=9.2,SNR=4.9						
FINES	FINESS Array B	30.02	341	P	P	19 30 11.1	-1.1
	comp=Z,1.6nm,0.8s,baz=144,slow=13,SNR=4.4						
FINES	FINESS Array B	30.02	341	P	P	19 30 11.7	-0.6
RGN	Rugen	30.36	322	P	P	19 30 15.3	0.0
MK31	Makanchi Array	30.37	54	P	P	19 30 16.8	+1.2
MKAR	Makanchi Array	30.37	54	P	P	19 30 15.2	-0.4
	comp=Z,0.4nm,0.7s,baz=242,slow=9.5,SNR=4.1						
MKAR	Makanchi Array	30.37	54	P	P	19 30 16.9	+1.4
SENIN	Lac Senin/Sane	31.34	304	P	P	19 30 23.4	-1.0
BNI	Bardonecchia	31.59	302	P	P	19 30 26.2	-0.3
ZALV	Zalesovo Beam	33.86	42	P	P	19 30 46.6	+0.6
	comp=Z,0.6nm,0.6s,baz=246,slow=11,SNR=3.4						
NC405	NORSAR Array S	34.61	332	P	P	19 30 53.6	+1.1
ARCES	ARCESS Array B	37.14	348	P	P	19 31 13.3	-0.7
	comp=Z,4.7nm,1.1s,baz=163,slow=9.4,SNR=3.0						
TORD	Torodi Ar. Bea	44.88	253	P	P	19 32 18.6	+0.2
	comp=Z,0.5nm,0.9s,baz=50,slow=7.7,SNR=2.8						
CMAR	Chiang Mai Arr	49.80	94	P	P	19 32 59.4	+2.6
	comp=Z,0.4nm,0.7s,baz=300,slow=9.0,SNR=2.9						
TIXI	Tiksi	55.89	22	P	P	19 33 41.2	+0.2
	comp=Z,0.2nm,0.3s,baz=18,slow=5.0,SNR=1.7						
KSRS	Korea Array	64.77	61	P	P	19 34 42.9	+0.7
	comp=Z,0.4nm,0.7s,baz=294,slow=9.2,SNR=3.2						

IDC ***22*** *19:26:20.7±1.2, 34°.18N×45°.53E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.5/48, mbtmp3.7/10, ML3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/36, Error ellipse: s-maj=27.6km s-min=21.1km az=180.0*

TEH ***22*** *19:26:24.5, 34°.30N×45°.62E, h13km, ML3.6*

ISN ***22*** *19:26:24.6±0.3, 34°.30N×45°.77E, h132km, ML3.5*

ISCJB ***22*** *19:26:25.3±0.6, 34°.40N±0°.03×45°.67E±0°.04, h11km±5km, mb3.6/8, MS3.9/1, Error ellipse: s-maj=5.5km s-min=5.1km az=27.9*

ISC 22 19:26:24.7±1.2, 34°.32N±0°.03×45°.76E±0°.03, h15km±9km, n32, σ2°.53/40, mb3.5/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.65	53	*e*Pg	Pb	19 26 38.4	+0.5
IDHR				IAMB	IAmb	19 26 52.1	
	comp=Z,0.0nm,0.3s						
IGHG	Ghaleghazi	0.67	89	*e*Pg	Pn	19 26 40.0	0.0
IGHG				IAMB	IAmb	19 26 54.0	
	comp=Z,29μm,0.4s						
KCHF	Cheshme Sefid,	1.06	92	*e*Pg	Pn	19 26 46.6	+1.3
KCHF				*e*Sg	Sn	19 27 03.9	+3.9
KCHF				IAMB	IAmb	19 27 09.0	
	comp=Z,0.0nm,0.3s						
KER	Kermanshah	1.14	86	*e*Pg	Pn	19 26 48.3	+2.0
KER				*e*Sg	Sn	19 27 06.4	+4.6
ILIN	Lien	1.16	59	*e*Pg	Pn	19 26 48.2	+1.5
ILIN				IAMB	IAmb	19 26 49.6	
	comp=Z,22μm,0.2s						
ILIN				*e*Sg	Sn	19 27 06.5	+4.0
IBDR	Badra	1.21	173	*e*Pg	Pg	19 26 50.0	+1.9
IBDR				AML	AML	19 26 54.9	
	comp=Z,7.9nm,0.0s						
IBDR				*e*Sg	Sn	19 27 08.0	+4.7
IKOM	Komasi	1.46	95	*e*Pn	Pg	19 26 54.0	+1.2
IKOM				IAMB	IAmb	19 27 00.3	
	comp=Z,0.0nm,0.5s						
BHD	Baghdad	1.55	228	*e*Pn	Pg	19 26 55.0	+0.5
BHD				*e*Sn	Sg	19 27 16.0	+1.4
IKRK	Kirkuk	1.59	313	*e*Pg	Pg	19 26 55.0	-0.3
IKRK				AML	AML	19 26 56.2	
	comp=Z,4μm,0.4s						
IKRK				*e*Sg	Sg	19 27 16.0	+0.1
IBZA	Bozab	1.75	84	*e*Pn	Pg	19 26 58.3	0.0
IBZA				IAMB	IAmb	19 26 60.0	
	comp=Z,0.0nm,0.5s						
IKFM	Kafar-mosalman	1.91	114	*e*Pn	Pb	19 26 59.9	+0.6
IKFM				IAMB	IAmb	19 27 34.5	
	comp=Z,0.0nm,0.8s						
IDOB	Doab	2.08	104	IAMB	IAmb	19 27 02.4	
	comp=Z,0.0nm,0.3s						
IDOB				*e*Pn	Pb	19 27 02.2	-0.1
IKMR	Kamar-syah	2.32	109	IAMB	IAmb	19 27 06.4	
	comp=Z,0.0nm,0.2s						
IKMR				*e*Pn	Pb	19 27 05.5	-0.8
HSAM	Samen	2.36	92	IAMB	IAmb	19 27 11.0	
	comp=Z,0.0nm,0.7s						
HSAM				*e*Pn	Pb	19 27 06.1	-1.0
MAHB	Mahabad	2.45	359	IAMB	IAmb	19 27 48.0	
	comp=Z,0.0nm,0.4s						
MAHB				*e*Pn	Pb	19 27 06.8	-1.7
BDRS	Dareh Seyedi	2.62	97	IAMB	IAmb	19 27 19.6	
	comp=Z,0.0nm,0.3s						
BDRS				*e*Pn	Pb	19 27 09.6	-1.9
HAGD	Aghdareh	2.84	79	*e*Pn	Pb	19 27 13.7	-1.6
HAGD				IAMB	IAmb	19 28 07.2	
	comp=Z,0.0nm,0.8s						
MSL	Mosul	3.00	315	*e*Sn	Pn	19 27 15.0	+3.2
MSL				*e*Pn	Sn	19 27 52.0	+4.5
MSL				AML	AML	19 28 01.1	
	comp=Z,740nm,0.5s						
NSR	Nassriya	3.31	174	*e*Pn	Pb	19 27 20.0	-3.2
NSR				*e*Sn	Sb	19 28 01.0	-2.3
NSR				AML	AML	19 28 11.4	
	comp=N,2μm,0.3s						
IRAZ	Razeghan	3.60	71	*e*Pn	Pn	19 27 24.0	+3.8
IRAZ				IAMB	IAmb	19 27 37.5	
	comp=Z,1μm,0.6s						
RTB	Rutbah	4.72	256	*e*Sn	Pn	19 27 39.0	+3.5
RTB				*e*Pn	Sn	19 28 35.0	+5.0
RTB				AML	AML	19 28 37.5	
	comp=Z,276nm,0.8s						
WSAR	Wadi Sarin	15.77	131	Pn	Pn	19 30 03.3	-3.1
	comp=Z,0.2nm,0.3s,baz=325,slow=13,SNR=2.3						
AKASG	Malin Array Be	20.34	329	P	P	19 30 58.0	-2.2
	comp=Z,0.7nm,0.3s,baz=135,slow=10,SNR=4.5						
BVAR	Borovoye Array	25.62	36	P	P	19 31 54.1	+0.7
	comp=Z,0.5nm,0.6s,baz=221,slow=7.7,SNR=2.7						
KURBB	Kurchatov Arra	28.85	46	P	P	19 32 23.1	+0.6
	comp=Z,0.5nm,0.6s,baz=255,slow=9.0,SNR=3.6						
FINES	FINESS Array B	29.93	341	P	P	19 32 30.1	-1.8
	comp=Z,1.1nm,0.6s,baz=144,slow=12,SNR=4.8						
MKAR	Makanchi Array	30.15	55	P	P	19 32 34.1	0.0
	comp=Z,0.4nm,0.8s,baz=248,slow=7.7,SNR=2.8						
ZALV	Zalesovo Beam	33.64	42	P	P	19 33 05.3	+0.7
	comp=Z,0.5nm,0.6s,baz=268,slow=5.6,SNR=3.1						
ARCES	ARCESS Array B	37.02	348	P	P	19 33 32.2	-1.3
	comp=Z,5.2nm,1.0s,baz=167,slow=9.3,SNR=3.2						
TORD	Torodi Ar. Bea	45.07	253	P	P	19 34 37.3	-3.1
	comp=Z,0.3nm,0.6s,baz=47,slow=6.5,SNR=4.2						
CMAR	Chiang Mai Arr	49.66	94	P	P	19 35 15.4	-0.7
	comp=Z,0.5nm,0.6s,baz=293,slow=7.7,SNR=3.0						
BORG	Borgarnes	49.82	329	LR	LR	19 58 09.4	
	comp=Z,98nm,18.0s,baz=96,slow=38						

ISCJB ***22*** *19:32:21.9±0.5, 21°.05S±0°.09×173°.53W±0°.07, h35km, mb4.4/7, Error ellipse: s-maj=13.8km s-min=9.0km az=162.7*

IDC ***22*** *19:32:22.7±2.4, 20°.73S×174°.22W, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/33, mbtmp4.0/7, ML3.1/1, Error ellipse: s-maj=76.0km s-min=31.4km az=134.0*

NEIC ***22*** *19:32:23.1±3.1, 21°.17S±0°.10×173°.53W±0°.07, h30km±6km, mb4.8/20*

ISC 22 19:32:23.8±0.6, 21°.1S±0°.1×173°.53W±0°.08, h35km, n36, σ1°.86/38, mb4.7/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.95	60		Pn	19 33 20.3	-1.7
AFI	Afiamalu	7.37	13		Pn	19 33 56.3	-13
MSVF	Nonsavu	8.63	292		Pn	19 34 27.7	+1.5
RAR	Rarotonga	12.84	93		Pn	19 35 24.6	+0.7
DZM	Mont Dzumac	18.64	263	P	P	19 36 35.8	-2.9
	0.1nm,0.3s,baz=73,slow=19,SNR=2.3						
DZM	Mont Dzumac	18.64	263	P	P	19 36 34.8	-4.0
BFZ	Birch Farm	21.35	202	P	P	19 37 04.2	-3.6
BFZ				IAmb	IAmb	19 37 12.2	
	comp=Z,68nm,1.6s						
THZ	Tophouse	23.55	206	P	P	19 37 32.0	+1.0
THZ				IAmb	IAmb	19 37 55.9	
	comp=Z,34nm,1.7s						
OXZ	Oxford	25.21	205	P	P	19 37 46.2	0.0
OXZ				IAmb	IAmb	19 38 09.9	
	comp=Z,33nm,1.6s						
STKA	Stephens Creek	41.31	245	P	P	19 40 07.2	+1.1
	comp=Z,4.7nm,1.2s,baz=99,slow=13,SNR=2.3						
STKA	Stephens Creek	41.31	245	P	P	19 40 06.0	-0.1
COEN	Coen	41.79	273	P	P	19 40 07.7	-2.5
HMH	Humu'ula Sheep	44.16	25	P	P	19 40 27.7	-1.9
HMH				IAmb	IAmb	19 40 39.0	
	comp=Z,25nm,1.0s						
BBOO	Buckleboo	46.03	244	P	P	19 40 44.3	+0.2
BBOO				IAmb	IAmb	19 40 50.4	
	comp=Z,35nm,1.5s						
ASAR	Alice Springs	48.44	257	P	P	19 41 02.6	-0.5
	comp=Z,1.4nm,0.8s,baz=94,slow=7.8,SNR=14						
ASAR				PcP	PcP	19 42 31.8	+2.7
	comp=Z,0.3nm,0.6s,baz=91,slow=3.7,SNR=2.0						
ASAR	Alice Springs	48.44	257	P	P	19 41 00.2	-2.9
WR0	Warramunga Arr	48.46	262	P	P	19 41 01.2	-2.1
WR0				IAmb	IAmb	19 41 02.9	
	comp=Z,23nm,1.8s						
WB0	Warramunga Arr	48.63	262	P	P	19 41 04.5	-0.1
WB0				IAmb	IAmb	19 41 21.8	
	comp=Z,16nm,1.6s						
WB2	Warramunga Arr	48.64	262	P	P	19 41 04.1	-0.5
WB2				IAmb	IAmb	19 41 06.5	
	comp=Z,10nm,1.4s						
WRAB	Tennant Creek	48.64	262	P	P	19 41 04.5	-0.1
WRAB				IAmb	IAmb	19 41 24.3	
	comp=Z,19nm,1.8s						
WRA	Warramunga Arr	48.65	262	P	P	19 41 03.7	-1.0
	comp=Z,0.8nm,0.8s,baz=97,slow=7.7,SNR=15						
WRA				PcP	PcP	19 42 32.7	+2.8
	comp=Z,0.5nm,0.9s,baz=100,slow=3.1,SNR=1.8						
WRA	Warramunga Arr	48.65	262	P	P	19 41 04.4	-0.3
WRA					PcP	19 42 32.9	+3.0
GUMO	Guam	53.47	307	P	P	19 41 41.1	+0.3
KNRA	Kununurra	54.78	265	P	P	19 41 51.7	+1.2
FITZ	Fitzroy Crossi	57.08	262	P	P	19 42 07.5	+0.6
	comp=Z,1.4nm,0.8s,baz=92,slow=11,SNR=1.3						
FITZ	Fitzroy Crossi	57.08	262	P	P	19 42 07.4	+0.5
SOEI	Soe	60.69	270	P	P	19 42 34.7	+2.5
SOEI				IAmb	IAmb	19 42 44.0	
	comp=Z,12nm,0.9s						
QSPA	South Pole Qui	68.95	180	P	P	19 43 26.9	+1.7
TGY	Tagaytay City	73.23	293	P	P	19 43 51.6	-0.2
	comp=Z,251nm,0.4s,baz=156,slow=2.7,SNR=4.5						
MJAR	Matsushiro Arr	73.25	321	P	P	19 43 51.6	+0.1
	comp=Z,2.5nm,1.1s,baz=121,slow=7.6,SNR=1.9						
MJAR	Matsushiro Arr	73.25	321	P	P	19 43 52.7	+1.3
PEA0B	Petropavlovsk-	78.02	343	P	P	19 44 19.6	+1.3
PETK	Petropavlovsk-	78.02	343	P	P	19 44 20.1	+1.7
	comp=Z,3.6nm,0.9s,baz=123,slow=11,SNR=4.2						
PETK	Petropavlovsk-	78.02	343	P	P	19 44 19.6	+1.3
AKASG	Malin Array Be	145.48	334	PKP	PKiKP	19 51 59.7	-2.2
	comp=Z,0.6nm,0.5s,baz=41,slow=3.8,SNR=2.4						
BRTR	Keskin Array B	150.30	315	PKPbc	PKiKP	19 52 13.9	+1.5
	comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=2.5						

PRU ***22*** *19:50:22.9±0.0, 44°.99N×9°.01E, h0km*

STR ***22*** *19:50:22.1±0.3, 45°.N±1°.×±°., h0km, mb4.0/2, MLv3.9/7*

IDC ***22*** *19:50:22.5±0.9, 44°.91N×9°.07E, h0km, mb3.5/6, mb1 3.6/13, mb1mx3.5/42, mbtmp3.5/13, ML3.9/6, Error ellipse: s-maj=20.3km s-min=9.8km az=124.0*

ISCJB ***22*** *19:50:23.2±0.3, 44°.98N±0°.01×8°.98E±0°.01, h11km±2km, mb3.5/6, Error ellipse: s-maj=1.9km s-min=1.6km az=173.9*

ROM ***22*** *19:50:24.8±0.1, 44°.912N±0°.005×9°.049E±0°.009, h20km±1km, ML3.7/30, Error ellipse: s-maj=0.6km s-min=0.3km az=262.0*

BGR ***22*** *19:50:24.2±0.6, 44°.85N×8°.75E, h10km, ML3.9/27, Error ellipse: s-maj=12.2km s-min=10.0km az=23.0*

GEN ***22*** *19:50:24.8, 44°.92N×9°.05E, h6km±3km, Ml3.6*

LDG ***22*** *19:50:25.2±0.1, 44°.90N×9°.02E, h3km, Md3.6/3, Ml3.8/56, Error ellipse: s-maj=1.8km s-min=1.5km az=67.0*

ISC 22 19:50:23.4±1.1, 44°.92N±0°.02×9°.00E±0°.02, h9km±8km, n255, σ1°.67/319, mb3.6/6, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	Bobbio (Coli)	0.35	115	P	Pb	19 50 31.6	-0.2
BOB				S	Sb	19 50 36.9	-0.7
BOB				AML	AML		
	comp=E,13300μm,0.5s						
BOB				AML	AML		
	comp=E,14550μm,0.5s						
BOB				AML	AML		
	comp=E,13250μm,0.5s						
BOB				AML	AML		
	comp=E,14500μm,0.5s						
BOB				AML	AML		
	comp=N,12150μm,1.1s						
BOB				AML	AML		
	comp=N,11850μm,0.

VARE	**Varese**	**0.96 351**	P	**Pb**	**19 50 42.9 +0.6**
VARE			S	**Sb**	**19 50 57.0 +1.8**
VARE			AML	AML	
	comp=E,3845µm,0.8s				
VARE			AML	AML	
	comp=E,3850µm,0.8s				
VARE			AML	AML	
	comp=N,4790µm,1.0s				
MDI	**Monti di Nese**	**1.00 30**	P	**Pb**	**19 50 42.8 -0.1**
MDI			AML	AML	
	comp=N,3380µm,1.0s				
MDI			AML	AML	
	comp=E,3755µm,0.7s				
MDI			AML	AML	
	comp=E,3935µm,0.7s				
MDI			AML	AML	
	comp=N,3325µm,1.0s				
MUGIO	**Muggio**	**1.01 2**	P	**Pb**	**19 50 43.4 +0.4**
MUGIO			AML	AML	
	comp=E,4635µm,0.3s				
MUGIO			AML	AML	
	comp=N,3615µm,0.4s				
MUGIO			AML	AML	
	comp=E,4635µm,0.3s				
MUGIO			AML	AML	
	comp=N,3615µm,0.4s				
RORO	**Rocca Rossa**	**1.04 220**	P	**Pn**	**19 50 44.7 +0.6**
RORO			AML	AML	
	comp=E,4670µm,0.5s				
RORO			AML	AML	
	comp=N,3145µm,0.3s				
PLMA	**Palmaria, Port**	**1.06 144**	P	**Pn**	**19 50 43.8 -0.5**
PLMA			AML	AML	
	comp=N,2250µm,1.4s				
PLMA			AML	AML	
	comp=E,2715µm,1.5s				
TRAV	**Traversella**	**1.06 304**	P	**Pn**	**19 50 45.1 +0.6**
TRAV			AML	AML	
	comp=E,9255µm,1.6s				
TRAV			AML	AML	
	comp=N,13700µm,0.3s				
TRAV			AML	AML	
	comp=E,9250µm,1.6s				
GBOS	**Grotte di Boss**	**1.07 231**	AML	AML	
GBOS			AML	AML	
	comp=N,5285µm,0.5s				
EQUI	**Equi**	**1.12 132**	P	**Pn**	**19 50 44.8 -0.4**
EQUI			AML	AML	
	comp=E,1205µm,0.7s				
EQUI			AML	AML	
	comp=N,1385µm,0.7s				
ERBM	**Eremo**	**1.13 116**	P	**Pn**	**19 50 46.2 +0.8**
ERBM			AML	AML	
	comp=E,1975µm,0.5s				
ERBM			AML	AML	
	comp=N,2240µm,0.7s				
ERBM			AML	AML	
	comp=E,1980µm,0.5s				
CIRO	**Champorcher**	**1.22 305**	P	**Pn**	**19 50 47.5 +0.7**
CIRO			AML	AML	
	comp=E,11150µm,0.3s				
CIRO			AML	AML	
	comp=N,17600µm,0.6s				
MGRO	**Montegrosso**	**1.22 225**	P	**Pn**	**19 50 47.9 +1.2**
MGRO			AML	AML	
	comp=E,4575µm,0.5s				
MGRO			AML	AML	
	comp=E,4580µm,0.5s				
MGRO			AML	AML	
	comp=N,3135µm,0.3s				
SARO	**Sassorosso**	**1.24 126**	P	**Pn**	**19 50 47.4 +0.5**
SARO			AML	AML	
	comp=N,3845µm,0.5s				
SARO			AML	AML	
	comp=E,2360µm,0.8s				
SATI	**Passo dei Sala**	**1.25 321**	P	**Pb**	**19 50 47.6 +0.4**
SATI			S	**Sb**	**19 51 04.7 +1.2**
SATI			AML	AML	
	comp=N,3940µm,0.7s				
SATI			AML	AML	
	comp=E,2840µm,0.5s				
VLC	**Villacollemand**	**1.25 127**	AML	AML	
	comp=E,1785µm,1.2s				
VLC			AML	AML	
	comp=N,2225µm,1.0s				
VLC			AML	AML	
	comp=E,1775µm,1.2s				
VLC			AML	AML	
	comp=N,2230µm,1.0s				
IMI	**Imperia**	**1.28 219**	P	**Pn**	**19 50 48.3 +0.9**
IMI			AML	AML	
	comp=E,2885µm,0.6s				
IMI			AML	AML	
	comp=E,2890µm,0.6s				
IMI			AML	AML	
	comp=N,3880µm,0.3s				
SALO	**Salr**	**1.29 56**	AML	AML	
	comp=N,4790µm,0.8s				
SALO			AML	AML	
	comp=E,3750µm,0.9s				
DOI	**San Damiano**	**1.31 252**	AML	AML	
	comp=N,6325µm,0.5s				
DOI			AML	AML	
	comp=E,5925µm,0.4s				
MMK	**Mattmark**	**1.35 328**	P	**Pg**	**19 50 49.0 -0.2**
MMK			AML	AML	
	comp=E,4875µm,0.5s				
MMK			AML	AML	
	comp=N,4430µm,0.3s				
MMK			AML	AML	
	comp=N,4430µm,0.3s				
STV	**Sant Anna di V**	**1.37 241**	AML	AML	
	comp=E,2140µm,0.5s				
STV			AML	AML	
	comp=N,2055µm,0.4s				
CARD	**Cardoso**	**1.39 129**	P	**Pb**	**19 50 49.7 +0.3**
CARD			AML	AML	
	comp=N,3955µm,0.4s				
CARD			AML	AML	
	comp=E,3035µm,0.6s				
CARD			AML	AML	
	comp=N,3950µm,0.4s				
SAOF	**Saorge**	**1.39 228**	Pn	**Pb**	**19 50 50.5 +1.1**
SAOF			Sn	**Sn**	**19 51 09.8 +2.5**
SAOF	**Saorge**	**1.39 228**	AML	AML	
	comp=N,2840µm,0.5s				
SAOF			AML	AML	
	comp=E,2885µm,1.4s				
PZZ	**Stroppo**	**1.40 254**	P	**Pn**	**19 50 48.9 -0.2**
PZZ			AML	AML	
	comp=E,2875µm,0.5s				
PZZ			AML	AML	
	comp=N,2535µm,0.6s				
NEGI	**Seborga**	**1.41 221**	P	**Pb**	**19 50 50.5 +0.6**
NEGI			AML	AML	
	comp=E,1950µm,0.3s				
NEGI			AML	AML	
	comp=N,2615µm,1.4s				
LSD	**Lago del Serru**	**1.42 293**	AML	AML	
	comp=E,1790µm,0.9s				
LSD			AML	AML	
	comp=N,1750µm,0.5s				
BDI	**Bagni Di Lucca**	**1.43 126**	AML	AML	
	comp=E,5605µm,0.5s				
BDI			AML	AML	
	comp=N,3775µm,1.2s				
BDI			AML	AML	
	comp=E,5180µm,0.5s				
BDI			AML	AML	
	comp=N,3815µm,1.2s				
MAIM	**Mastiano**	**1.47 133**	P	**Pg**	**19 50 50.7 -0.8**
MAIM			AML	AML	
	comp=E,2390µm,0.8s				
MAIM			AML	AML	
	comp=N,2285µm,0.5s				
TURF	**col de Turini**	**1.48 231**	Pn	**Pg**	**19 50 51.3 -0.5**
TURF			Sn	**Sn**	**19 51 12.1 +2.1**
BALD	**Monte Baldo**	**1.50 59**	*e*Pg	**Pg**	**19 50 51.9 -0.2**
BALD			*e*Sg	**Sn**	**19 51 14.1 +3.7**
RAVA	**Ravarino**	**1.52 95**	AML	AML	
	comp=E,3950µm,1.1s				
RAVA			AML	AML	
	comp=N,4955µm,0.5s				
ZCCA	**Zocca**	**1.52 111**	AML	AML	
	comp=E,1770µm,0.6s				
ZCCA			AML	AML	
	comp=N,2145µm,1.4s				
ZCCA			AML	AML	
	comp=E,1745µm,0.5s				
ZCCA			AML	AML	
	comp=N,2220µm,0.5s				
POPM	**Popiglio**	**1.53 124**	AML	AML	
	comp=N,3780µm,0.5s				
POPM			AML	AML	
	comp=E,5075µm,0.5s				
SBF	**Sospel**	**1.54 227**	*e*Pn	**Pg**	**19 50 52.5 -0.3**
SBF			*e*Sn	**Sn**	**19 51 09.5 -1.5**
	comp=E,3µm,0.6s				
FUSIO	**Fusio**	**1.56 352**	P	**Pn**	**19 50 51.0 -0.3**
FUSIO			AML	AML	
	comp=N,1910µm,0.7s				
FUSIO			AML	AML	
	comp=E,1595µm,0.3s				
FUSIO			AML	AML	
	comp=E,1595µm,0.3s				
MABI	**Malga Bissina**	**1.56 43**	AML	AML	
	comp=E,1415µm,0.5s				
MABI			AML	AML	
	comp=N,1190µm,0.2s				
RRL	**Rocca Remolon**	**1.57 271**	AML	AML	
	comp=E,766µm,0.7s				
RRL			AML	AML	
	comp=N,769µm,0.4s				
ISO	**Isola**	**1.57 243**	P	**Pn**	**19 50 52.0 +0.6**
ISO			Pn	**Pb**	**19 50 52.1 -0.5**
TUE	**Stuetta**	**1.57 9**	AML	AML	
	comp=E,1800µm,0.3s				
TUE			AML	AML	
	comp=N,1310µm,0.3s				
TUE			AML	AML	
	comp=E,2405µm,0.3s				
TUE			AML	AML	
	comp=N,1590µm,0.3s				
REMY	**Saint-Rhmy-en**	**1.59 306**	AML	AML	
	comp=N,4930µm,1.3s				
REMY			AML	AML	
	comp=E,3325µm,0.4s				
MBDF	**Montbardon**	**1.59 264**	*e*Pn	**Pn**	**19 50 52.2 +0.4**
MBDF			*e*Sg	**Sg**	**19 51 16.1 +1.5**
	comp=E,680nm,0.5s				
MRGE	**Morge**	**1.61 303**	AML	AML	
	comp=N,1525µm,0.6s				
MRGE			AML	AML	
	comp=E,1425µm,0.7s				
DIX	**Grande Dixence**	**1.61 317**	AML	AML	
	comp=N,2920µm,0.7s				
DIX			AML	AML	
	comp=E,2050µm,0.4s				
SURF	**Saint Ours**	**1.62 255**	Pn	**Pn**	**19 50 52.8 +0.6**
PII	**Pisa**	**1.62 137**	AML	AML	
	comp=E,2020µm,1.2s				
PII			AML	AML	
	comp=N,1600µm,0.5s				
GROG	**Isola di Gorgo**	**1.62 156**	AML	AML	
	comp=E,712µm,0.8s				
GROG			AML	AML	
	comp=N,497µm,1.4s				
MON	**Monaco**	**1.64 224**	Pn	**Pb**	**19 50 53.5 -0.1**
MON			Sn	**Sg**	**19 51 15.9 0.0**
ROVR	**Rover Verones**	**1.64 63**	AML	AML	
	comp=N,4240µm,1.6s				
ROVR			AML	AML	
	comp=E,2125µm,0.4s				
BNI	**Bardonecchia**	**1.65 276**	AML	AML	
	comp=E,347µm,0.4s				
BNI			AML	AML	
	comp=E,271µm,0.5s				
BNI			AML	AML	
	comp=N,286µm,0.7s				
BNI			AML	AML	
	comp=N,333µm,0.5s				
BERNI	**Berninapass**	**1.66 25**	AML	AML	
	comp=N,2100µm,0.3s				
BERNI			AML	AML	
	comp=E,1580µm,0.4s				
MTCR	**Monte La Croce**	**1.69 121**	AML	AML	
	comp=E,1805µm,0.6s				
MTCR			AML	AML	
	comp=N,3200µm,0.6s				
LPG	**La Plagne**	**1.69 291**	*e*Pn	**Pn**	**19 50 53.4 +0.1**
LPG			*e*Sn	**Sn**	**19 51 15.4 +0.2**
	comp=N,265nm,0.3s				
FNVD	**Fontana Vidola**	**1.69 115**	AML	AML	
	comp=E,3585µm,0.8s				
FNVD			AML	AML	
	comp=N,1750µm,0.8s				
LPL	**La Plagne**	**1.71 291**	*e*Pn	**Pn**	**19 50 54.0 +0.5**
LPL			*e*Sn	**Sn**	**19 51 14.9 -0.6**
	comp=N,330nm,0.3s				
GAGG	**Gaggia**	**1.81 49**	*e*Pn	**Pn**	**19 50 56.0 +1.2**
CRMI	**Carmignano**	**1.81 128**	AML	AML	
	comp=E,603µm,1.0s				
CRMI			AML	AML	
	comp=N,918µm,0.7s				
CRMI			AML	AML	
	comp=E,232µm,1.0s				
CRMI			AML	AML	
	comp=N,376µm,0.6s				
OGAG	**Argentiere**	**1.81 256**	Pn	**Pn**	**19 50 55.0 +0.3**
DOSS	**Dosso del Somm**	**1.82 57**	*e*Pn	**Pn**	**19 50 56.1 +1.1**
DOSS			*e*Sn	**Sg**	**19 51 21.9 -0.1**
BRMO	**Bormio**	**1.83 31**	AML	AML	
	comp=N,426µm,0.7s				
BRMO			AML	AML	
	comp=E,492µm,0.6s				
RSL	**Roselend**	**1.84 296**	Pn	**Pb**	**19 50 56.8 -0.4**
TEOL	**Teolo**	**1.94 76**	*e*Pn	**Pn**	**19 50 57.7 +1.2**
DAVOX	**Davos/Dischmat**	**1.96 18**	Pg	**Pb**	**19 50 59.0 -0.4**
	comp=E,175nm,0.3s,baz=202,slow=6.6,SNR=421				
DAVOX			Lg	Lg	19 51 24.2
	comp=E,81nm,0.3s,baz=142,slow=23,SNR=10				
DAVOX	**Davos/Dischmat**	**1.96 18**	AML	AML	
	comp=E,868µm,1.1s				
DAVOX			AML	AML	
	comp=N,1275µm,1.0s				
BNALP	**Bannalp**	**2.00 349**	AML	AML	
	comp=E,1022µm,0.4s				
BNALP			AML	AML	
	comp=N,1290µm,0.3s				
MOSI	**Grossmontoni**	**2.02 32**	AML	AML	
	comp=N,2100µm,0.4s				
MOSI			AML	AML	
	comp=E,2155µm,0.5s				
OSSC	**Osservatorio P**	**2.13 130**	AML	AML	
	comp=E,890µm,0.7s				
OSSC			AML	AML	
	comp=N,1165µm,1.1s				
PLONS	**Plons/SG**	**2.15 7**	*e*Pn	**Pn**	**19 51 01.3 +1.9**
PLONS	**Plons/SG**	**2.15 7**	AML	AML	
	comp=N,728µm,1.6s				
PLONS			AML	AML	
	comp=E,1120µm,0.6s				
FRF	**La Foret Royal**	**2.17 232**	*e*Pn	**Pn**	**19 51 01.1 +1.6**
FRF	**La Foret Royal**	**2.17 232**	*e*Pg	**Pg**	**19 51 06.2 +1.4**
FRF			*e*Sg	**Sg**	**19 51 30.9 -2.0**
	comp=E,703nm,0.5s				
CSNT	**Castellina Chi**	**2.19 130**	AML	AML	
	comp=E,560µm,0.7s				
CSNT			AML	AML	
	comp=N,949µm,0.7s				
APPI	**Appiano**	**2.21 44**	AML	AML	
	comp=E,1135µm,1.0s				
APPI			AML	AML	
	comp=N,1485µm,0.5s				
ORIF	**Oris-en-Rattie**	**2.21 271**	*e*Pn	**Pn**	**19 51 02.2 +1.9**
ORIF			*e*Sg	**Sg**	**19 51 34.6 +0.1**
	comp=N,373nm,0.4s				
KOSI	**Kohlern**	**2.28 46**	AML	AML	
	comp=N,630µm,1.3s				
KOSI			AML	AML	
	comp=E,616µm,1.6s				
FROS	**Frosini**	**2.31 137**	AML	AML	
	comp=E,652µm,0.6s				
FROS			AML	AML	
	comp=N,700µm,0.6s				
OG02	**Monnetier-Morn**	**2.31 303**	Pn	**Pn**	**19 51 03.4 +1.9**
OG02			Sn	**Sn**	**19 51 31.4 +1.3**
BLAF	**les Blancs**	**2.32 246**	Pn	**Pn**	**19 51 03.6 +1.9**
PGF	**Pioggiola**	**2.37 180**	*e*Pn	**Pn**	**19 51 02.2 -0.2**
PGF			*e*Sn	**Sn**	**19 51 28.9 -2.7**
	comp=N,76nm,0.4s				
PGF	**Pioggiola**	**2.37 180**	Pn	**Pn**	**19 51 02.2 -0.2**
LMR	**La Mourre**	**2.39 229**	*e*Pn	**Pn**	**19 51 03.6 +1.0**
LMR	**La Mourre**	**2.39 229**	*e*Pg	**Pg**	**19 51 10.1 +1.0**
LMR			*e*Sn	**Sn**	**19 51 30.3 -1.7**
	comp=N,179nm,0.3s				
FETA	**Feichten**	**2.43 29**	Pn	**Pn**	**19 51 05.5 +2.2**
	comp=N,20nm,0.3s,SNR=26				
FETA			*e*Sn	**Sn**	**19 51 35.7 +2.5**
	comp=N,90nm,0.6s				
DAVA	**Damuels**	**2.45 14**	*e*Pn	**Pn**	**19 51 05.8 +2.2**
DAVA	**Damuels**	**2.45 14**	*e*Pn	**Pn**	**19 51 05.8 +2.2**
	comp=N,8.5nm,0.2s,SNR=33				
DAVA			*e*Sn	**Sb**	**19 51 37.9 0.0**
	comp=N,228nm,0.4s				
CRE	**Caprese Michel**	**2.49 120**	AML	AML	
	comp=N,649µm,0.5s				
CRE			AML	AML	
	comp=E,616µm,0.8s				
MLYF	**Mely**	**2.49 249**	Pn	**Pn**	**19 51 06.1 +2.0**
WILA	**Wila**	**2.50 359**	*e*Pn	**Pn**	**19 51 05.3 +1.1**
GIMEL	**St. Georges /**	**2.50 311**	AML	AML	
	comp=E,317µm,1.0s				
GIMEL			AML	AML	
	comp=N,320µm,1.6s				
CASP	**Castiglione de**	**2.52 147**	AML	AML	
	comp=E,199µm,0.7s				
CASP			AML	AML	
	comp=N,220µm,1.2s				
BALST	**Balsthal**	**2.58 340**	*e*Pn	**Pn**	**19 51 06.3 +1.0**
BSTF	**la Bastide-des**	**2.62 248**	Pn	**Pn**	**19 51 07.7 +1.9**
SMRF	**Simiane la Rot**	**2.62 250**	*e*Pn	**Pn**	**19 51 07.0 +1.1**
SMRF	**Simiane la Rot**	**2.62 250**	*e*Pg	**Pg**	**19 51 14.3 +0.7**
SMRF			*e*Sg	**Sg**	**19 51 46.3 -1.3**
	comp=N,190nm,0.3s				
ROSI	**Rosskopf**	**2.62 39**	AML	AML	
	comp=E,580µm,0.9s				
ROSI			AML	AML	
	comp=N,728µm,0.9s				
CABF	**La Chapelle**	**2.65 311**	*e*Pn	**Pn**	**19 51 07.4 +1.1**
CABF			*e*Sn	**Sn**	**19 51 38.0 -0.5**
	comp=N,103nm,0.5s				
CABF			*e*Sg	**Sg**	**19 51 49.3 +0.9**
	comp=N,571nm,0.8s				
OBER	**Oberstdorf**	**2.65 19**	*e*Pn	**Pn**	**19 51 08.4 +2.1**
ARTF	**Artigues**	**2.65 241**	Pn	**Pn**	**19 51 07.9 +1.7**
OG35	**Corcelles**	**2.66 296**	Pn	**Pn**	**19 51 07.8 +1.4**
SULZ	**Cheisacher**	**2.68 347**	*e*Pn	**Pn**	**19 51 07.4 +0.7**
SQTA	**Sankt Quirin**	**2.77 33**	*e*Pn	**Pb**	**19 51 11.2 -1.9**
	comp=N,21nm,0.2s,SNR=11				
SQTA			*e*Sn	**Sn**	**19 51 45.2 +3.6**
	comp=N,83nm,0.3s				
SMPL	**Sampolo**	**2.83 176**	Pn	**Pn**	**19 51 09.8 +1.1**
SMPL			Sn	**Sn**	**19 51 42.7 -0.2**
MOTA	**Moosalm**	**2.84 30**	*e*Pn	**Pn**	**19 51 11.4 +2.5**
	comp=N,9.5nm,0.2s,SNR=28				
MOTA			*e*Sn	**Sn**	**19 51 46.3 +3.0**
	comp=N,141nm,0.6s				
CHMF	**Charmoille**	**2.85 326**	Pn	**Pn**	**19 51 10.2 +1.3**
CHMF			Sn	**Sn**	**19 51 43.3 0.0**
RETA	**Reutte**	**2.85 25**	*e*Pn	**Pn**	**19 51 11.2 +2.2**
	comp=N,16nm,0.3s,SNR=12				
RETA			*e*Sn	**Sn**	**19 51 45.7 +2.3**
	comp=N,88nm,0.4s				
ATPI	**Pietralunga -**	**2.85 120**	AML	AML	
	comp=E,253µm,0.8s				
ATPI			AML	AML	
	comp=N,398µm,0.6s				
LOMF	**Lomont**	**2.86 329**	Pn	**Pn**	**19 51 10.6 +1.4**
SLE	**Schleitheim**	**2.87 353**	*e*Pn	**Pn**	**19 51 09.4 +0.2**
UBR	**Ueberruh**	**2.87 15**	*e*Pn	**Pn**	**19 51 10.7 +1.3**
ATVO	**AVT- Monte Val**	**2.90 121**	AML	AML	
	comp=E,450µm,0.7s				
ATVO			AML	AML	
	comp=N,386µm,1.0s				
STAL	**STALIGIAL**	**2.93 61**	AML	AML	
	comp=E,642µm,1.4s				
STAL			AML	AML	
	comp=N,816µm,1.2s				
STAL			AML	AML	
	comp=E,758µm,1.5s				
STAL			AML	AML	
	comp=N,724µm,0.3s				
ASEAF	**Site Antares,**	**2.95 225**	Pn	**Pn**	**19 51 11.4 +1.4**
RISI	**Rein**	**2.96 46**	AML	AML	
	comp=E,882µm,0.4s				
RISI			AML	AML	
	comp=N,916µm,0.4s				
ATTE	**AVT- Monte Tez**	**2.97 124**	AML	AML	
	comp=N,252µm,1.3s				
ATTE			AML	AML	
	comp=E,439µm,1.2s				
PART	**Garmisch-Parte**	**2.97 29**	*e*Pn	**Pn**	**19 51 12.7 +2.0**
PART			*e*Sn	**Sn**	**19 51 50.4 +4.0**
WTTA	**Wattenberg**	**2.98 37**	*e*Pn	**Pn**	**19 51 13.9 +2.9**
WTTA	**Wattenberg**	**2.98 37**	AML	AML	
	comp=E,323µm,0.8s				
WTTA			AML	AML	
	comp=N,264µm,1.4s				
WTTA	**Wattenberg**	**2.98 37**	*e*Pn	**Pn**	**19 51 13.6 +2.7**
	comp=N,28nm,0.3s,SNR=13				
WTTA			Sn	**Sn**	**19 51 50.0 +3.1**
	comp=N,62nm,0.3s				
WATA	**Walderalm**	**3.01 36**	*e*Pn	**Pn**	**19 51 14.0 +2.7**
	comp=N,10.0nm,0.2s,SNR=40				
WATA			Sn	**Sn**	**19 51 50.7 +3.1**
	comp=N,49nm,0.3s				
ABTA	**Abfaltersbach**	**3.06 52**	*e*Pn	**Pn**	**19 51 14.4 +2.4**
	comp=N,27nm,0.4s,SNR=27				
ABTA			*e*Sn	**Sn**	**19 51 49.8 +1.0**
	comp=N,57nm,0.6s				
VIVF	**Saint-Julien-l**	**3.07 270**	*e*Pn	**Pn**	**19 51 12.8 +0.7**
VIVF			*e*Sn	**Sn**	**19 51 47.3 -1.6**
	comp=N,20nm,0.2s				
VIVF			*e*Sg	**Sg**	**19 52 02.7 +0.7**
	comp=N,19nm,0.3s				
KIZ	**Kirchzarten**	**3.13 347**	Pn	**Pn**	**19 51 12.7 -0.1**
KIZ			Sn	**Sn**	**19 51 48.3 -2.0**
ARVD	**Arcevia**	**3.17 115**	AML	AML	
	comp=E,166µm,1.0s				
ARVD			AML	AML	
	comp=N,240µm,1.6s				
MOF	**Molkenrain**	**3.21 337**	Pn	**Pn**	**19 51 14.9 +0.9**
HINF	**Hinteralfeld**	**3.26 334**	*e*Pn	**Pn**	**19 51 15.2 +0.6**
HINF			*e*Sn	**Sn**	**19 51 53.5 0.0**
	comp=N,158nm,0.3s				
HINF			*e*Sg	**Sg**	**19 52 08.4 +0.4**
	comp=N,117nm,0.3s				
MOMA	**Monte Martano**	**3.34 128**	AML	AML	
	comp=N,147µm,0.5s				
MOMA			AML	AML	
	comp=E,149µm,0.6s				
CING	**Cingoli**	**3.39 116**	AML	AML	
	comp=E,157µm,0.7s				
CING			AML	AML	
	comp=N,202µm,0.8s				
BFO	**Black Forest**	**3.45 353**	*e*Pn	**Pn**	**19 51 17.0 -0.2**
BFO			*e*Sn	**Sn**	**19 51 57.4 -0.7**
FDMO	**Fiordimonte**	**3.50 121**	AML	AML	
	comp=N,129µm,1.2s				
FDMO			AML	AML	
	comp=E,115µm,0.6s				
ECH	**Echery**	**3.54 340**	Pn	**Pn**	**19 51 18.7 +0.3**
HAU	**Haudompre**	**3.59 330**	*e*Pn	**Pn**	**19 51 20.3 +1.1**
HAU			*e*Sn	**Sn**	**19 52 01.3 -0.4**
	comp=E,289nm,0.3s				
HAU			*e*Sg	**Sg**	**19 52 17.9 -0.7**
	comp=E,89nm,0.3s				
FUR	**Furstenfeldbru**	**3.61 25**	*e*Pn	**Pn**	**19 51 20.7 +1.3**
FUR			*e*Sn	**Sn**	**19 52 02.4 +0.2**
OPP	**Oppenau**	**3.62 351**	Pn	**Pn**	**19 51 19.3 -0.3**
OPP			Sn	**Sn**	**19 52 00.6 -1.9**
NRCA	**Norcia**	**3.63 124**	AML	AML	
	comp=N,91µm,0.7s				
NRCA			AML	AML	
	comp=E,129µm,1.3s				
MYKA	**Terra Mystica**	**3.67 61**	*i* Pn	**Pn**	**19 51 22.1 +1.8**
	comp=E,5.3nm,0.2s				
MYKA			*e*Sn	**Sn**	**19 52 06.6 +2.8**
	comp=E,22nm,0.4s				
WLS	**Welschbruch**	**3.68 343**	Pn	**Pn**	**19 51 21.0 +0.6**
WLS			Sn	**Sn**	**19 52 02.4 -1.4**
CDF	**Champ du Feu**	**3.69 342**	*e*Pn	**Pn**	**19 51 21.0 +0.4**
CDF			*e*Sn	**Sn**	**19 52 03.3 -1.0**
	comp=E,86nm,0.3s				
CDF			*e*Sg	**Sg**	**19 52 21.9 0.0**
	comp=E,126nm,0.5s				
TRBF	**Trabuc cave**	**3.69 259**	Pn	**Pn**	**19 51 21.5 +1.0**
KBA	**Koelnbreinsper**	**3.72 53**	*e*Pn	**Pn**	**19 51 23.8 +2.7**

KBA	**Koelnbreinsper**	3.72	53	*i* Pn		**Pn**	19 51 23.8	+2.7
	comp=E,9.4nm,0.3s							
KBA				*e*Sn		**Sn**	19 52 07.6	+2.5
	comp=E,34nm,0.7s							
LASF	**Ste Croix**	3.77	259	*e*Pn		**Pn**	19 51 21.4	-0.2
LASF				*e*Sn		**Sn**	19 52 03.8	-2.3
	comp=E,28nm,0.3s							
LASF				*e*Sg				
	comp=E,16nm,0.3s							
RJOB	**Jochberg**	3.86	42	*e*Pn		**Pn**	19 51 24.9	+2.0
STU	**Stuttgart**	3.86	2	*e*Sn		**Sn**	19 52 06.4	-1.8
RIY	**Rijeka**	3.91	82	*e*Pn		**Pn**	19 51 23.3	-0.2
CEY	**Cerknica**	3.92	76	*e*Pn		**Pn**	19 51 24.1	+0.4
NORI	**Noerdlinger Ri**	3.97	16	*e*Pn		**Pn**	19 51 25.2	+0.9
SMF	**Signal de Mont**	4.00	297	*e*Pn		**Pn**	19 51 25.7	+0.9
SMF				*e*Sn		**Sn**	19 52 10.6	-1.1
	comp=E,44nm,0.2s							
SMF				*e*Sg		**Sg**	19 52 31.9	+0.2
	comp=E,59nm,0.5s							
GUMA	**Gualdo di Mace**	4.02	116	AML		AML		
	comp=N,570µm,0.5s							
GUMA				AML		AML		
	comp=E,617µm,0.5s							
GUMA				AML		AML		
	comp=E,692µm,1.1s							
GUMA				AML		AML		
	comp=N,556µm,0.5s							
LJU	**Ljubljana**	4.05	72	*e*Pn		**Pn**	19 51 27.5	+2.0
LJU	**Ljubljana**	4.05	72	AML		AML		
	comp=N,690µm,0.3s							
LJU				AML		AML		
	comp=E,782µm,0.6s							
SUBF	**Surbourg**	4.08	349	Pn		**Pn**	19 51 26.0	+0.2
LBL	**Lubilhac**	4.08	276	Pn		**Pn**	19 51 27.4	+1.4
AQU	**L'Aquila**	4.10	127	*e*Pn		**Pn**	19 51 27.5	+1.3
LANF	**Langenberg**	4.15	349	Pn		**Pn**	19 51 26.6	-0.2
NVLJ	**Novalja**	4.20	93	*e*Pn		**Pn**	19 51 28.2	+0.7
NVLJ				Sn		**Sn**	19 52 14.7	-2.0
OBKA	**Obir**	4.20	66	*e*Pn		**Pn**	19 51 29.4	+1.7
OBKA	**Obir**	4.20	66	*e*Pn		**Pn**	19 51 29.3	+1.7
	comp=E,4.6nm,0.3s							
OBKA				*e*Sn		**Sn**	19 52 19.4	+2.5
	comp=E,31nm,0.3s							
SFTF	**Sexfontaines**	4.27	322	*e*Pn		**Pn**	19 51 30.4	+1.9
	baz=139							
SFTF				*e*Sn		**Sn**	19 52 18.3	-0.2
	comp=E,62nm,0.3s,baz=135							
SFTF				*e*Sg		**Sg**	19 52 39.6	-0.9
	comp=E,94nm,0.5s							
AGO	**Saint Agoulin**	4.28	287	Pn		**Pn**	19 51 29.9	+1.3
AGO				Sn		**Sn**	19 52 18.3	-0.3
LOR	**Lormes**	4.28	305	*e*Pn		**Pn**	19 51 29.5	+0.9
	baz=121							
LOR				*e*Sn		**Sn**	19 52 16.7	-1.9
	comp=E,100nm,0.2s,baz=125							
LOR				*e*Sg		**Sg**	19 52 40.6	-0.1
	comp=E,45nm,0.4s							
LOR	**Lormes**	4.28	305	Pn		**Pn**	19 51 29.7	+1.1
LOR				Sn		**Sn**	19 52 18.1	-0.5
PAGF	**Fort de Pagny**	4.28	329	*e*Pn		**Pn**	19 51 29.9	+1.3
PAGF				*e*Sn		**Sn**	19 52 17.9	-0.7
	comp=E,84nm,0.3s							
PYM	**Petit Puy Mans**	4.30	283	Pn		**Pn**	19 51 30.3	+1.3
AVF	**Avril sur Loir**	4.37	297	*e*Pn		**Pn**	19 51 30.6	+0.8
AVF				*e*Sn		**Sn**	19 52 18.9	-1.8
	comp=E,11nm,0.3s							
AVF				*e*Sg		**Sg**	19 52 43.0	-0.5
	comp=E,63nm,0.6s							
SSF	**Saint Saulge**	4.39	301	*e*Pn		**Pn**	19 51 30.8	+0.7
SSF				*e*Sn		**Sn**	19 52 19.9	-1.3
	comp=E,31nm,0.3s							
SSF				*e*Sg		**Sg**	19 52 43.7	-0.4
	comp=E,36nm,0.5s							
DUGI	**Dugi Otok**	4.44	100	*e*Pn		**Pn**	19 51 31.6	+0.9
DUGI				Sn		**Sn**	19 52 19.6	-2.9
MEZF	**Maizieres J'vi**	4.50	324	*e*Pn		**Pn**	19 51 33.7	+2.1
	baz=140							
MEZF				*e*Sn		**Sn**	19 52 22.1	-1.8
	comp=E,32nm,0.3s							
MEZF				*e*Sg		**Sg**	19 52 47.3	-0.4
	comp=E,98nm,0.5s							
SOKA	**Soboth**	4.58	65	*i* Pn		**Pn**	19 51 33.6	+0.9
	comp=E,0.9nm,0.2s							
SOKA				*e*Sn		**Sn**	19 52 26.9	+0.9
	comp=E,14nm,0.5s							
BGF	**Bois d'Agland**	4.61	293	*e*Pn		**Pn**	19 51 34.6	+1.5
BGF				*e*Sn		**Sn**	19 52 26.0	-0.7
	comp=E,80nm,0.3s							
BGF				*e*Sg		**Sg**	19 52 50.2	-1.0
	comp=E,80nm,0.6s							
CRES	**Cresnjev**	4.64	76	*e*Pn		**Pn**	19 51 33.9	+0.3
MOA	**Molln**	4.68	49	*e*Pn		**Pn**	19 51 35.6	+1.5
MOA				*e*Sn		**Sn**	19 52 30.7	+2.2
MOA	**Molln**	4.68	49	*i* Pn		**Pn**	19 51 35.7	+1.5
	comp=E,6.4nm,0.4s							
MOA				*i* Sn		**Sn**	19 52 30.3	+1.7
	comp=E,10nm,0.3s							
UDBI	**Udbina**	4.84	92	*e*Pn		**Pn**	19 51 37.9	+1.6
UDBI				Sn		**Sn**	19 52 30.9	-1.6
CAF	**Calviac**	4.92	273	*e*Pn		**Pn**	19 51 38.2	+0.7
CAF				*e*Sn		**Sn**	19 52 32.2	-2.3
	comp=E,11nm,0.4s							
CAF				*e*Sg		**Sg**	19 52 59.6	-1.8
	comp=E,23nm,0.6s							
MORI	**Morici**	4.92	100	*i* Pn		**Pn**	19 51 38.6	+1.2
MORI				Sn		**Sn**	19 52 32.6	-1.9
ZIRJ	**Zirje**	4.94	102	*e*Pn		**Pn**	19 51 38.5	+0.9
ZIRJ				Sn		**Sn**	19 52 31.9	-2.9
TCF	**Toulx Ste Croi**	4.96	288	*e*Pn		**Pn**	19 51 39.3	+1.4
TCF				*e*Sn		**Sn**	19 52 32.9	-2.4
	comp=E,16nm,0.2s							
TCF				*e*Sg		**Sg**	19 53 01.3	-1.1
	comp=E,35nm,0.6s							
WET	**Wettzell**	4.99	31	*e*Pn		**Pn**	19 51 38.5	0.0
HYF	**Humbligny**	5.01	300	*e*Pn		**Pn**	19 51 39.4	+0.8
HYF				*e*Sn		**Sn**	19 52 34.8	-1.8
HYF				*e*Sg		**Sg**	19 53 03.0	-1.1
PTJ	**Puntijarka**	5.01	76	*e*Pn		**Pn**	19 51 39.5	+0.8
GRF	**Grafenberg Arr**	5.01	17	*e*Pn		**Pn**	19 51 38.5	-0.2
SJAF	**Saint Jean de**	5.05	243	Pn		**Pn**	19 51 40.1	+0.8
GEC2	**GERESS Array S**	5.08	38	*e*Pn		**Pn**	19 51 40.3	+0.6
GEC2				*e*Sn		**Sn**	19 52 37.4	-1.2
GERES	**GERESS Array B**	5.08	38	Pn		**Pn**	19 51 40.1	+0.4
	comp=E,9.7nm,0.3s,baz=210,slow=13,SNR=308							
GERES				Sn		**Sn**	19 52 36.0	-2.5
	comp=E,10nm,0.3s,baz=213,slow=24,SNR=14							
GERES				Lg		Lg	19 53 00.5	
	comp=E,1.3nm,0.3s,baz=224,slow=25,SNR=2.6							
ARSA	**Arzberg**	5.11	60	*e*Pn		**Pn**	19 51 41.3	+1.3
ARSA	**Arzberg**	5.11	60	*e*Pn		**Pn**	19 51 41.3	+1.3
	comp=E,5.1nm,0.3s							
ARSA				*i* Sn		**Sn**	19 52 39.1	+0.1
	comp=E,6.8nm,0.6s							
MTLF	**Montolieu**	5.13	254	*e*Pn		**Pn**	19 51 41.0	+0.7
MTLF				*e*Sn		**Sn**	19 52 36.1	-3.4
	comp=E,16nm,0.3s							
KHC	**Kasperske Hory**	5.25	35	*e*PN		**Pn**	19 51 42.5	+0.5
KHC				*e*PG		**Pg**	19 52 00.0	-3.9
KHC				*e*SN		**Sn**	19 52 40.2	-2.4
KHC				*e*SG		**Sg**	19 53 09.0	-2.9
RJF	**Les Rejaudoux**	5.31	277	*e*Pn		**Pn**	19 51 42.9	+0.2
RJF				*e*Sn		**Sn**	19 52 41.2	-2.8
	comp=E,14nm,0.5s							
RJF				*e*Sg		**Sg**	19 53 11.5	-2.2
	comp=E,14nm,0.5s							
ROTZ	**Rotzenmuhle**	5.32	23	*e*Pn		**Pn**	19 51 41.9	-1.0
ROTZ				*e*Sn		**Sn**	19 52 40.1	-4.2
TNS	**Taunus Mts**	5.32	356	*e*Pn		**Pn**	19 51 42.8	-0.2
FNEB	**Nbias**	5.37	250	Pn		**Pn**	19 51 45.2	+1.6
KALN	**Kalnik**	5.38	74	*i* Pn		**Pn**	19 51 43.6	-0.1
MANZ	**Manzenberg**	5.49	21	*e*Pn		**Pn**	19 51 44.3	-1.0
CONA	**Conrad Observa**	5.62	55	*i* Pn		**Pn**	19 51 48.8	+1.7
	comp=E,1.5nm,0.2s							
CONA				*e*Sn		**Sn**	19 52 54.0	+2.2
	comp=E,9.0nm,0.4s							
MGRS	**Mrkonjic Grad**	5.79	92	*e*Pn		**Pn**	19 51 50.0	+0.6
BLY	**Banja Luka**	5.83	89	*e*Pn		**Pn**	19 51 50.1	+0.3
LFF	**La Frestale**	5.86	273	*e*Pn		**Pn**	19 51 53.1	+2.8
LFF				*e*Sn		**Sn**	19 52 54.2	-3.4
	comp=E,12nm,0.4s							
LFF				*e*Sg		**Sg**	19 53 29.9	-1.6
	comp=E,17nm,0.4s							
GIVF	**Givet**	5.91	333	*e*Sn		**Sn**	19 52 56.5	-2.2
	comp=E,6.8nm,0.3s							
GIVF				*e*Sg		**Sg**	19 53 31.1	-1.8
	comp=E,12nm,0.3s							
MOX	**Moxa**	6.00	16	*e*Sn		**Sn**	19 52 57.4	-3.5
MAKA	**Makarska**	6.00	103	*e*Pn		**Pn**	19 51 53.5	+1.3
MAKA				Sn		**Sn**	19 52 59.5	-1.6
BAIF	**Baives**	6.08	329	*e*Pn		**Pn**	19 51 55.5	+2.2
BAIF				*e*Sn		**Sn**	19 53 00.2	-2.8
	comp=E,7.9nm,0.2s							
BAIF				*e*Sg		**Sg**	19 53 37.3	-1.2
	comp=E,21nm,0.6s							
TREC	**Trest**	6.23	43	*e*PN		**Pn**	19 51 55.7	+0.3
TREC				*e*SN		**Sn**	19 53 03.6	-3.1
PRU	**Pruhonice**	6.31	35	*e*PN		**Pn**	19 51 56.7	+0.2
PRU				*e*SN		**Sn**	19 53 05.9	-2.8
GOPC	**GO Pecny, Ondr**	6.36	36	*e*PN		**Pn**	19 51 57.3	+0.1
GOPC				*e*SN		**Sn**	19 53 06.4	-3.4
EPF	**Esparros**	6.52	256	*e*Pn		**Pn**	19 51 59.9	+0.4
EPF				*e*Sn		**Sn**	19 53 09.5	-4.5
	comp=E,5.4nm,0.4s							
KRUC	**Moravsky**	6.54	48	*e*PN		**Pn**	19 51 59.2	-0.5
KRUC				*e*SN		**Sn**	19 53 12.1	-2.2
STON	**Ston**	6.61	105	*e*Pn		**Pn**	19 52 01.0	+0.4
STON	**Ston**	6.61	105	*e*Pn		**Pn**	19 52 00.4	-0.2
MFF	**Saint Martin d**	6.61	288	*e*Pn		**Pn**	19 52 01.2	+0.6
MFF				*e*Sn		**Sn**	19 53 12.3	-3.8
	comp=E,8.5nm,0.4s							
MODS	**Modra-Piesok**	6.67	56	*e*PN		**Pn**	19 52 02.1	+0.7
MODS				*e*SN		**Sn**	19 53 16.0	-1.4
VRAC	**Vranov**	6.79	47	Pn		**Pn**	19 52 02.8	-0.3
	comp=E,1.0nm,0.3s,baz=225,slow=13,SNR=6.1							
VRAC				Sn		**Sn**	19 53 16.8	-3.8
	comp=E,1.5nm,0.3s,baz=276,slow=20,SNR=7.1							
VRAC				Lg		Lg	19 53 56.6	
	comp=E,0.9nm,0.3s,baz=155,slow=23,SNR=1.5							
VRAC	**Vranov**	6.79	47	*e*PN		**Pn**	19 52 02.6	-0.5
VRAC				*e*SN		**Sn**	19 53 17.3	-3.3
SMOL	**Smolenice**	6.82	55	*e*PN		**Pn**	19 52 05.9	+2.4
BRG	**Berggiesshubel**	6.82	27	PN		**Pn**	19 52 04.1	+0.6
BRG				*e*			19 52 32.2	
BRG				*e*			19 52 40.2	
BRG				*i*			19 53 22.2	
BRG	**Berggiesshubel**	6.82	27	SG		**Sg**	19 54 06.2	+3.9
	comp=E,15nm,0.9s							
CLL	**Collm**	6.93	21	*i* Pn		Pn	19 51 58.5	-6.5
CLL				*i* Pg		**Pg**	19 52 35.3	-0.7
CLL				*e*(Sn)		Sn	19 53 12.0	-12
CLL				*e*Sg		**Sg**	19 54 07.0	+1.2
	comp=Z,20nm,1.0s							
TREB	**Trebinje**	7.12	105	*e*Pn		**Pn**	19 52 05.5	-2.0
JAVC	**Velka Javorina**	7.13	53	*e*PN		**Pn**	19 52 10.8	+3.0
HAPS	**Han Pijesak,Bl**	7.17	93	*e*Pn		**Pn**	19 52 07.8	-0.6
ETSF	**Etsaut**	7.19	257	*e*P		**Pn**	19 52 12.7	+4.1
ETSF				*e*Sn		**Sn**	19 53 25.6	-4.8
	comp=Z,5.5nm,0.4s							
DPC	**Dobruska-Polom**	7.35	40	*e*PN		**Pn**	19 52 10.2	-0.6
DPC				*e*SN		**Sn**	19 53 30.6	-3.7
KRLC	**Kraliky**	7.38	43	*e*PN		**Pn**	19 52 11.1	-0.1
CHVC	**Chvalec**	7.40	37	*e*PN		**Pn**	19 52 11.2	-0.3
BBLS	**Lazići**	7.53	94	*e*Pn		**Pn**	19 52 13.8	+0.5
MORC	**Moravsky Berou**	7.57	47	*e*PN		**Pn**	19 52 13.4	-0.4
MORC				*e*SN		**Sn**	19 53 34.4	-5.3
GRR	**Gorron**	7.62	301	*e*Pn		**Pn**	19 52 14.9	+0.5
GRR				*e*Sn		**Sn**	19 53 37.4	-3.4
	comp=Z,6.8nm,0.3s							
VYHS	**Vyhne**	7.65	59	*e*PN		**Pn**	19 52 14.6	-0.3
VYHS				*e*SN		**Sn**	19 53 38.5	-3.2
DRME	**Dracevica, Mon**	7.89	107	*e*Pn		**Pn**	19 52 18.5	+0.4
LANS	**Liptovska Anna**	8.31	56	*e*PN		**Pn**	19 52 25.3	+1.3
KEST	**Kesra**	9.18	178	Pn		**Pn**	19 52 39.0	+3.0
	comp=Z,1.4nm,0.3s,baz=324,slow=1.8,SNR=10							
ESDC	**Sonseca Array**	10.93	246	Pn		**Pn**	19 53 01.0	+1.1
	comp=Z,0.8nm,0.3s,baz=57,slow=13,SNR=6.6							
EKA	**Eskdalemuir Ar**	13.00	328	Pn		**Pn**	19 53 28.0	0.0
	baz=140,slow=15,SNR=5.4							
EKA				Sn		Sn	19 55 44.3	-8.3
	baz=141,slow=25,SNR=4.7							
MDT	**Midelt**	16.04	226	Pn		**Pn**	19 54 10.1	+0.9
	comp=Z,0.1nm,0.3s,baz=47,slow=5.6,SNR=1.8							
BRTR	**Keskin Array B**	18.92	97	P		**Pn**	19 54 45.8	+0.9
	baz=287,slow=7.4,SNR=2.1							
FINES	**FINESS Array B**	19.36	25	P		**P**	19 54 49.5	+0.7
	comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=3.6							
ASF	**Jabal al Asfar**	25.12	111	P		**P**	19 55 48.4	-0.2
	comp=Z,0.7nm,0.4s,baz=261,slow=5.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	32.27	193	P		**P**	19 56 52.0	-0.3
	comp=Z,0.6nm,0.7s,baz=3.6,slow=8.6,SNR=4.0							
ZALV	**Zalesovo Beam**	47.90	51	P		**P**	19 59 01.2	-0.3
	comp=Z,0.4nm,0.4s,baz=280,slow=9.5,SNR=2.2							
MKAR	**Makanchi Array**	49.34	60	P		**P**	19 59 12.5	-0.2
	comp=Z,0.2nm,0.5s,baz=271,slow=6.4,SNR=4.3							
SONM	**Songino Array**	62.72	49	P		**P**	20 00 48.3	-0.2
	comp=Z,0.3nm,0.9s,baz=308,slow=7.1,SNR=2.6							
PDAR	**Pinedale Array**	76.94	318	P		**P**	20 02 16.9	+0.7
	comp=Z,0.2nm,0.5s,baz=51,slow=7.1,SNR=3.3							

OTT 22 19:55:13.2±0.4, 66°.19N×90°.13W, h18km, MN3.7/2,
178km west from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILON	**Igloolik, Nuna**	4.49	41	PN	Pn	19 56 20.1	-0.1
ILON				SG	Sg	19 57 33.4	-3.6
ILON				Trac		19 57 36.3	
	comp=Z,49nm,0.2s						
FCC	**Fort Churchill**	7.68	196	PN	Pn	19 57 02.1	-1.8
FCC				SN	Sn	19 58 25.0	-5.2
FCC				LG	Lg	19 59 06.0	
RES	**Resolute Bay**	8.68	352	PN	Pn	19 57 16.5	-1.1
RES				SN	Sn	19 58 49.8	-5.1
RES				LG	Lg	19 59 39.0	
CLRN	**Clyde River**	9.02	52	SN	Sn	19 58 55.9	-7.2
CLRN				SG		19 59 54.1	
CLRN				Trac		19 59 58.6	
	comp=Z,15nm,0.2s						
KNGQ	**Kangiqsujuaq**	9.23	112	LG	Lg	20 00 03.4	
KUKN	**Kugluktuk,NWT**	9.87	291	PN	Pn	19 57 34.6	+0.7
KUKN				SN	Sn	19 59 13.3	-11
KUKN				LG	Lg	20 00 11.0	

*JMA **22** 20:18:47.3±0.3, 23°.48N×120°.40E, h0km, M3.4*
*TAP **22** 20:18:47.7, 23°.45N×120°.40E, h11km, ML3.5, B*
*ISCJB **22** 20:18:48.4±0.2, 23°.47N±0°.01×120°.36E±0°.01, h14km±1km,*
Error ellipse: s-maj=2.1km s-min=1.8km az=4.4
ISC 22 20:18:48.3±0.8, **23°.47N**±0°.01×**120°.38E**±0°.02, **h15**km±4km,
n108, σ0°.93/157, **13C-16D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHY	**Chiayi**	0.05	58	⇑*i*P	**Pg**	20 18 50.4	-0.8
	baz=34						
CHY				S	**Sg**	20 18 51.7	-1.3
	baz=34						
WLGB	**Puzi**	0.07	276	⇓*i*P	**Pg**	20 18 50.8	-0.5
	baz=284						
WLGB				S	**Sg**	20 18 53.6	+0.4
	baz=284						
CHN2	**Minshiung**	0.11	56	⇑*i*P	**Pg**	20 18 51.3	-0.4
	baz=41						
CHN2				S	**Sg**	20 18 54.1	+0.2
	baz=41						
CHN8	**Yiju**	0.20	231	⇑*i*P	**Pg**	20 18 52.8	-0.2
	baz=237						
CHN8				*i* S	**Sg**	20 18 57.2	+1.3
	baz=237						
TWK	**Hsinying**	0.23	153	⇓*i*P	**Pg**	20 18 53.2	-0.3
	baz=154						
TWK				S	**Sg**	20 18 57.4	+0.5
	baz=154						
CHN4	**Tsaushan**	0.23	121	⇓*i*P	**Pg**	20 18 53.0	-0.4
	baz=120						
CHN4				*i* S	**Sg**	20 18 57.2	+0.3
	baz=120						
WDLH	**Douliu**	0.26	34	⇑*i*P	**Pb**	20 18 54.4	-0.4
	baz=28						
WDLH				S	**Sb**	20 19 00.1	+0.9
	baz=28						
SNST	**Tainan City**	0.27	156	⇓*i*P	**Pb**	20 18 53.9	-1.1
	baz=160						
SNST				S	**Sb**	20 18 58.6	-0.8
	baz=160						
WGK	**Gukeng**	0.27	38	⇑*i*P	**Pb**	20 18 54.7	-0.3
	baz=34						
WGK				S	**Sb**	20 19 00.2	+0.7
	baz=34						
TPUB	**Ta-pu**	0.29	126	⇓P	**Pb**	20 18 54.0	-1.2
	baz=126						
TPUB				S	**Sb**	20 18 58.6	-1.2
	baz=126						
CHN5	**Tsauling**	0.30	65	⇑*i*P	**Pb**	20 18 54.6	-1.0
	baz=61						
CHN5				S	**Sb**	20 18 59.4	-1.0
	baz=61						
WTP	**Ta-pu**	0.31	136	⇓*i*P	**Pb**	20 18 54.6	-1.1
	baz=136						
WTP				*i* S	**Sb**	20 18 59.8	-0.8
	baz=136						
CHN1	**Nanshi**	0.32	154	⇓*i*P	**Pb**	20 18 54.7	-1.1
	baz=157						
CHN1				S	**Sb**	20 18 59.8	-0.9
	baz=157						
SCLT	**Jiali**	0.34	210	⇑*i*P	**Pb**	20 18 55.4	-0.7
	baz=214						
SCLT				S	**Sb**	20 19 02.5	+1.2
	baz=214						
WMLT	**Mailiao**	0.36	337	P	**Pb**	20 18 55.8	-0.7
	baz=335						
WMLT				*e*S	**Sb**	20 19 02.5	+0.5
	baz=335						
CHN3	**Shinhua**	0.39	182	⇑*i*P	**Pb**	20 18 56.9	-0.1
	baz=186						
CHN3				S	**Sb**	20 19 04.0	+1.1
	baz=186						
WTCT	**Ta-ch'eng**	0.40	347	P	**Pb**	20 18 56.5	-0.6
	baz=345						
WTCT				*e*S	**Sb**	20 19 03.4	+0.2
	baz=345						
RLNB	**Erlin**	0.42	358	⇓P	**Pb**	20 18 57.1	-0.4
	baz=345						
RLNB				S	**Sb**	20 19 04.0	+0.4
	baz=345						
SGST	**Jiashian**	0.43	154	⇓*e*P	**Pg**	20 18 55.8	-1.2
	baz=155						
SGST				S	**Sb**	20 19 02.7	-1.2
	baz=155						
TAI1	**Yung-k'ang**	0.45	198	*e*P	**Pb**	20 18 57.9	-0.1
	baz=213						
TAI1				*e*S	**Sb**	20 19 06.2	+1.8
	baz=213						
STYT	**Tauyuan**	0.46	131	⇓*i*P	**Pb**	20 18 57.2	-1.0
	baz=132						
STYT				S	**Sb**	20 19 04.3	-0.7
	baz=132						
WJS	**Zhushan**	0.48	43	P	**Pb**	20 18 58.0	-0.4
	baz=39						
WJS				*e*S	**Sb**	20 19 05.5	+0.2
	baz=39						
WHYT	**Xinyi Township**	0.49	63	⇑P	**Pb**	20 18 58.0	-0.8
	baz=59						
WNT	**Mingjian**	0.49	35	*e*P	**Pb**	20 18 58.5	-0.3
	baz=32						
WNT				*e*S	**Sb**	20 19 06.5	+0.7
	baz=32						
YUS	**Yu-Shan**	0.53	88	P	**Pb**	20 18 59.0	-0.6
	baz=87						
YUS				S	**Sb**	20 19 06.2	-1.1
	baz=87						
SLGT	**Liugui**	0.54	152	*e*P	**Pb**	20 18 59.0	-0.4
	baz=144						
SSLB	**Suanglung**	0.62	59	⇑P	**Pb**	20 18 59.8	-1.0
	baz=57						
TYC	**Yuchr**	0.62	45	⇑*i*P	**Pb**	20 19 00.6	-0.2
	baz=44						
TYC				S	**Sb**	20 19 09.8	+0.5
	baz=44						
WCHH	**Zhanghua**	0.63	15	P	**Pb**	20 19 01.0	-0.1
	baz=26						
WCHH				S	**Sb**	20 19 11.1	+1.4
	baz=26						
TWM1	**Shoushan**	0.65	176	*e*P	**Pb**	20 19 02.1	+0.8
	baz=160						
TWM1				*e*S	**Sn**	20 19 15.1	+2.1
	baz=160						
ELDTW	**Lidau**	0.65	115	⇓*i*P	**Pb**	20 19 00.6	-0.9
	baz=115						
WDGT	**Dungji**	0.69	253	⇑*i*P	**Pg**	20 19 01.2	-0.7
	baz=254						
WDGT				*e*S	**Sg**	20 19 10.4	-0.6
	baz=254						
SNJT	**Kaohsiung City**	0.71	183	*e*P	**Pb**	20 19 03.2	+0.7
	baz=185						
SNJT				*e*S	**Sn**	20 19 15.7	+1.1
	baz=185						
TCU	**Taichung**	0.73	22	*e*P	**Pb**	20 19 02.7	-0.1
	baz=20						
PHUB	**P'eng-hu**	0.74	273	*e*P	**Pg**	20 19 01.9	-0.9
	baz=274

TDCB	Techi	1.06	42	eP		Pg	20 19 07.7	-1.2
	baz=41							
TDCB				eS		Sb	20 19 22.0	-0.2
	baz=41							
TWT	Tachien	1.07	43	eP		Pn	20 19 09.1	+0.1
	baz=41							
TWT				eS		Sb	20 19 22.6	+0.1
	baz=41							
WLCH	Liuqiu	1.11	180	eP		Pn	20 19 09.7	+0.2
	baz=181							
SCZT	Fangliau	1.12	168	eP		Pg	20 19 08.6	-1.3
	baz=169							
NMLH	Miaoli	1.13	20	eP		Pg	20 19 09.1	-1.0
	baz=17							
EAST	Anshuo	1.17	158	eP		Pg	20 19 09.6	-1.2
	baz=151							
EAST				eS		Sb	20 19 25.5	+0.4
	baz=151							
ENLB	Shoufeng	1.20	69	eP		Pn	20 19 12.2	+1.5
	baz=67							
ETLH	Xiulin Townshi	1.25	54	eP		Pb	20 19 11.4	-0.3
	baz=42							
TWD	Chiawan	1.27	61	eP		Pn	20 19 12.4	+0.8
	baz=47							
NSTT	Nanjuang	1.29	26	eP		Pn	20 19 11.6	-0.2
	baz=24							
LIOB	Emei	1.31	26	eP		Pn	20 19 11.8	-0.3
	baz=24							
NACB	Ninganchiao	1.32	58	eP		Pg	20 19 12.7	-1.1
	baz=55							
NNSB	Datong	1.32	44	eP		Pn	20 19 12.6	+0.1
	baz=41							
NNS	Nan Shan	1.33	43	eP		Pn	20 19 12.5	0.0
	baz=41							
SBCB	Hsinchu	1.43	23	eP		Pb	20 19 14.3	-0.4
	baz=20							
HEN	Hengchun	1.50	167	eP		Pn	20 19 14.4	-0.3
	baz=168							
NSK	Sanguang	1.50	37	eP		Pn	20 19 15.1	+0.3
	baz=22							
YHNB	Yeheng	1.50	37	eP		Pn	20 19 14.6	-0.3
	baz=22							
NDT	Datong Townshi	1.53	42	eP		Pb	20 19 16.0	-0.5
	baz=23							
ENA	Nanau	1.57	52	eP		Pb	20 19 16.7	-0.4
	baz=50							
TWKBT	Hengchun	1.57	165	eP		Pn	20 19 14.8	-1.0
	baz=166							
NANB	Nanao	1.58	53	eP		Pb	20 19 16.5	-0.7
	baz=50							
WLTB	Daxi	1.59	30	eP		Pn	20 19 16.1	+0.1
	baz=28							
ENTT	Nioudou	1.59	43	eP		Pn	20 19 16.6	+0.6
	baz=31							
TWE	Neicheng	1.71	43	eP		Pb	20 19 19.0	-0.6
	baz=41							
SLBB	Yuanshan	1.72	42	eP		Pn	20 19 17.8	0.0
	baz=39							
VWUC	VWUC	1.73	331	eP		Pn	20 19 17.0	-1.0
	baz=331							
TWC	Suao	1.76	50	eP		Pg	20 19 20.9	-1.3
	baz=47							
EOS1	EOS1	1.93	56	eP		Pb	20 19 23.1	-0.1
	baz=53							
PTMZ	Houxiangcun	1.94	324	eP		Pn	20 19 21.9	+1.1
	baz=324							
YM01	YM01	1.99	33	eP		Pn	20 19 21.0	-0.6
	baz=16							
YM10	YM10	2.00	33	eP		Pn	20 19 21.5	-0.1
	baz=16							
TIPB	Shuangxi	2.00	41	eP		Pn	20 19 21.8	+0.2
	baz=22							
KNM	Kinmen	2.01	298	eP		Pn	20 19 22.8	+1.0
	baz=297							
KNMB	Chin-men Tao	2.07	299	eP		Pn	20 19 21.8	-0.8
	baz=300							
PTTC	Pingtan	2.10	345	eP		Pn	20 19 22.1	-0.8
	baz=344							
ZPLA	Ao Xicun	2.45	281	eP		Pn	20 19 26.9	-0.9
	baz=282							
JYNG	Yonaguni jima	2.54	67	P		Pb	20 19 31.7	-2.0
JYNG				eS		Sn	20 20 02.4	+2.6
YOJ	Yonaguni jima	2.60	67	P		Pn	20 19 31.7	+1.8
AXDP	Jialang	2.62	303	eP		Pn	20 19 29.1	-1.0
	baz=304							
MATB	Ma-tsu	2.70	352	eP		Pn	20 19 30.3	-0.9
	baz=351							
ZZJH	Jiuhuzhen	2.70	292	eP		Pn	20 19 30.7	-0.5
	baz=293							
MHZQ	Yeshan	2.89	335	eP		Pn	20 19 33.3	-0.6
	baz=335							
LYJJ	Jianjiangzhen	3.12	350	eP		Pn	20 19 36.0	-0.9
	baz=350							
IRIF	Iriomote-Funau	3.19	74	P		Pn	20 19 39.8	+1.9
IRIF				eS		Sn	20 20 19.4	+3.7
JKRS	Kuro-shima	3.41	76	P		Pn	20 19 43.2	+2.2
JKRS				eS		Sn	20 20 24.2	+3.0
XPSS	Dashiqiu	3.45	357	eP		Pn	20 19 40.6	-0.9
	baz=357							
JIJ	Ishigaki jima	3.56	75	P		Pn	20 19 43.7	+0.6
JISG	Ishigakijimahi	3.77	72	P		Pn	20 19 46.9	+1.0

DSN ***22*** *20:43:36.4±4.2, 34°.80N±45°.19E, h10km, Error ellipse: s-maj=57.1km s-min=25.7km az=176.0*
IDC ***22*** *20:43:45.4±1.4, 34°.10N±45°.49E, h0km, mb3.5/14, mb1 3.7/16, mb1mx3.6/43, mbtmp3.6/16, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/52, Error ellipse: s-maj=28.3km s-min=16.8km az=169.0*
ISN ***22*** *20:43:45.3±0.9, 34°.30N±45°.57E, h6km±6km, ML3.7*
NEIC ***22*** *20:43:46.2±2.4, 34°.01N±0°.10±45°.7E±0°.1, h10km±4km, mb4.1/12, mb_Lg3.8(TEH)*
THR ***22*** *20:43:46.7, 34°.22N±45°.43E, h15km, ML3.6*
TEH ***22*** *20:43:47.6, 34°.28N±45°.63E, h10km, ML3.8*
OMAN ***22*** *20:43:53.3±2.7, 33°.55N±45°.46E, h50km±41km, Error ellipse: s-maj=59.0km s-min=26.8km az=35.0*
ISC 22 20:43:47.2±1.2, 34°.20N±0°.03±45°.57E±0°.03, h14km±8km, n117, σ1§83/121, mb3.6/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	0.83	81	eSg	Sn	20 44 16.1	-0.9
IGHG				ePg	Pb	20 44 03.1	-0.5
IGHG				IAMB	IAmb	20 44 20.2	
	comp=Z,51μm,0.5s						
IDHR	Dehrash	0.84	53	eSg	Sg	20 44 12.6	-1.9
IDHR				ePg	Pg	20 44 02.4	-1.0
IDHR				IAMB	IAmb	20 44 20.5	
	comp=Z,0.0nm,0.5s						
IBDR	Badra	1.13	165	ePg	Pb	20 44 09.0	+0.5
IBDR				AML	AML	20 44 13.2	
	comp=Z,1μm,0.7s						
IBDR				eSg	Sg	20 44 26.0	+2.4
KCHF	Cheshme Sefid,	1.22	86	ePg	Pn	20 44 10.3	+0.3
KCHF				eSg	Sn	20 44 26.5	+0.1
KCHF				IAMB	IAmb	20 44 31.2	
	comp=Z,0.0nm,0.6s						
KER	Kermanshah	1.30	81	ePg	Pg	20 44 12.3	0.0
KER				eSg	Sn	20 44 30.5	+2.0
ILIN	Lien	1.35	58	IAMB	IAmb		
	comp=Z,0.0nm,0.0s						
ILIN				ePg	Pb	20 44 11.8	-0.7
BHD	Baghdad	1.36	227	ePg	Pn	20 44 12.0	+0.2
BHD				eSg	Sn	20 44 32.0	+2.4
IKRK	Kirkuk	1.57	320	ePn	Pn	20 44 14.0	-0.7
IKRK				AML	AML	20 44 17.2	
	comp=Z,1μm,0.5s						
IKRK				eSn	Sb	20 44 36.0	+0.2
IKOM	Komasi	1.60	90	ePn	Pb	20 44 16.7	0.0
IKOM				IAMB	IAmb	20 44 43.2	
	comp=Z,0.0nm,0.5s						
IBZA	Bozab	1.91	81	ePn	Pb	20 44 22.3	+0.3
IBZA				IAMB	IAmb	20 44 51.4	
	comp=Z,0.0nm,0.4s						
IKFM	Kafar-mosalman	2.01	109	ePn	Pb	20 44 23.4	-0.1
IKFM				IAMB	IAmb	20 44 58.9	
	comp=Z,0.0nm,0.4s						
IDOB	Doab	2.20	100	ePn	Pb	20 44 25.9	-1.1
IKMR	Kamar-syah	2.43	105	ePn	Pb	20 44 29.2	-1.5
IKMR				IAMB	IAmb	20 45 10.5	
	comp=Z,0.0nm,0.4s						
HSAM	Samen	2.51	89	ePn	Pn	20 44 29.9	+2.0
HSAM				IAMB	IAmb	20 45 17.5	
	comp=Z,0.0nm,0.8s						
MAHB	Mahabad	2.56	2	ePn	Pb	20 44 31.1	-2.0
MAHB				IAMB	IAmb	20 45 15.3	
	comp=Z,0.0nm,0.5s						
BDRS	Dareh Seyedi	2.76	94	ePn	Pn	20 44 33.4	+2.1
BDRS				IAMB	IAmb	20 45 17.9	
	comp=Z,0.0nm,0.6s						
MSL	Mosul	2.98	318	ePn	Pn	20 44 34.0	-0.1
MSL				AML	AML	20 44 48.1	
	comp=Z,1μm,0.7s						
MSL				eSn	Sn	20 45 10.0	+0.4
HAGD	Aghdareh	3.01	77	ePn	Pn	20 44 37.2	+2.5
HAGD				IAMB	IAmb	20 45 28.5	
	comp=Z,0.0nm,0.8s						
SHGR	Shooshtar-Gavs	3.42	127	ePn	Pn	20 44 43.0	+2.9
SHGR	Shooshtar-Gavs	3.42	127	ePn	Pn	20 44 43.0	+2.9
SHGR	Shooshtar-Gavs	3.42	127	eAML	AML	20 45 55.5	
	comp=N,106nm,0.6s						
SHGR	Shooshtar-Gavs	3.42	127	eAML	AML	20 46 02.7	
	comp=E,125nm,0.7s						
ZNJK	Zanjan	3.54	45	ePn	Pn	20 44 44.3	+2.3
ZNJK	Zanjan	3.54	45	ePn	Pn	20 44 44.3	+2.3
QABG	Abgarm-Qazvin	3.62	64	ePn	Pn	20 44 45.7	+2.6
KHMZ	Khomeyn	3.67	96	ePn	Pn	20 44 46.7	+2.8
KHMZ	Khomeyn	3.67	96	ePn	Pn	20 44 46.6	+2.8
ASAO	Ashtian	3.70	83	ePn	Pn	20 44 47.5	+3.3
ASAO	Ashtian	3.70	83	ePn	Pn	20 44 47.5	+3.3
IRAZ	Razeghan	3.78	70	ePn	Pn	20 44 47.8	+2.5
IRAZ				IAMB	IAmb	20 45 04.3	
	comp=Z,1μm,0.5s						
ITBZ	Tabriz	4.05	6	ePn	Pn	20 44 50.1	+1.1
ITBZ				IAMB	IAmb	20 46 02.9	
	comp=Z,922nm,0.6s						
RTB	Rutbah	4.55	257	ePn	Pn	20 44 57.0	+1.3
RTB				AML	AML	20 45 23.0	
	comp=Z,427nm,0.9s						
RTB				eSn	Sn	20 45 50.0	+1.6
IQOM	Qom	4.58	80	ePn	Pn	20 44 58.5	+2.1
IQOM				IAMB	IAmb	20 46 31.2	
	comp=Z,0.0nm,0.9s						
IPIR	Pirpir	4.70	107	ePn	Pn	20 44 59.3	+1.3
IPIR				IAMB	IAmb	20 45 59.6	
	comp=Z,1μm,0.7s						
JHBN	Jahan bin	4.70	113	ePn	Pn	20 44 59.2	+1.2
JHBN				IAMB	IAmb	20 45 59.2	
	comp=Z,0.0nm,0.6s						
ZNGN	Zangian	4.89	114	ePn	Pn	20 45 01.7	+1.0
ZNGN				IAMB	IAmb	20 45 26.7	
	comp=Z,0.0nm,0.7s						
QAM	Ghamsar	4.89	94	ePn	Pn	20 45 02.6	+2.0
ROKH	ROKH	4.93	111	ePn	Pn	20 45 03.6	+2.4
ROKH				IAMB	IAmb	20 46 07.7	
	comp=Z,0.0nm,0.5s						
GRMI	Germi	4.96	21	ePn	Pn	20 45 03.4	+1.9
GRMI	Germi	4.96	21	ePn	Pn	20 45 03.4	+1.9
IKLH	Kolahrood	5.08	98	ePn	Pn	20 45 05.0	+1.8
IKLH				IAMB	IAmb	20 46 14.6	
	comp=Z,605nm,0.8s						
IVRN	Varamin	5.14	79	ePn	Pn	20 45 05.6	+1.8
KRSH	Karshahi	5.45	91	ePn	Pn	20 45 10.3	+2.1
IDMV	Damavand	5.48	74	ePn	Pn	20 45 10.3	+1.5
IGAR	Gharneh	5.70	107	ePn	Pn	20 45 13.5	+1.7
IGAR				IAMB	IAmb	20 45 15.9	
	comp=Z,393nm,0.3s						
IZEF	Zefreh	5.79	101	ePn	Pn	20 45 14.4	+1.4
GNI	Garni	5.97	354	LR	LR	20 47 40.7	
	comp=Z,45nm,21.5s,baz=172,slow=39						
GNI	Garni	5.97	354	Pn	Pn	20 45 15.6	+0.2
IRAM	Ramesheh	6.20	111	ePn	Pn	20 45 18.9	+0.4
KIV	Kislovodsk	10.00	348	Pn	Pn	20 46 15.6	+5.1
SHME	Shamm	12.23	129	P	Pn	20 46 39.3	-1.7
BANOM	Banah	12.42	129	iP	Pn	20 46 42.3	-1.3
	SNR=35						
BANOM	Banah	12.42	129	P	Pn	20 46 43.0	-0.6
	SNR=35						
BANOM				S	Sn	20 48 53.3	-8.6
MSFE	Esma-Masafi	12.72	131	iP	Pn	20 46 47.0	-0.8
	SNR=6.1						
ASUD	Al Ashush, Dub	12.77	136	P	Pn	20 46 47.6	-0.9
MDH	Madha	12.86	131	P	Pn	20 46 47.9	-1.7
MDH	Madha	12.86	131	P	Pn	20 46 49.1	-0.5
MDH				S	Sn	20 49 02.4	-10
UOSS	Minazif	13.05	132	P	Pn	20 46 50.8	-1.5
UOSS	Minazif	13.05	132	P	Pn	20 46 51.5	-0.8
	SNR=8.5						
UOSS	Minazif	13.05	132	Pn	Pn	20 46 50.5	-1.8
HATD	Hatta, Dubai	13.10	133	P	Pn	20 46 51.4	-1.5
HATD	Hatta, Dubai	13.10	133	P	Pn	20 46 52.5	-0.5
HATD				S	Sn	20 49 11.7	-6.8
ASHO	Ashiyiah	13.16	133	P	Pn	20 46 51.4	-2.3
ASHO	Ashiyiah	13.16	133	P	Pn	20 46 52.6	-1.1
ASHO				S	Sn	20 49 12.2	-7.8
ALNE	Al Ain	13.45	136	iP	Pn	20 46 57.0	-0.8
	SNR=10						
ARQ	Araqi	14.46	136	P	Pn	20 47 10.0	-1.5
	SNR=6.1						
ARQ				S	Sn	20 49 46.2	-5.4
HOQ	Hoqain	14.74	133	P	Pn	20 47 14.8	-0.5
BSY	Bisya	15.31	135	P	Pn	20 47 21.7	-1.3
SMDO	Samad	15.58	132	P	Pn	20 47 26.0	-0.6
	SNR=7.5						
WSAR	Wadi Sarin	15.81	130	P	Pn	20 47 27.4	-2.1
WSAR	Wadi Sarin	15.81	130	Pn	Pn	20 47 27.6	-1.9
	comp=Z,0.9nm,0.3s,baz=351,slow=11,SNR=12						
WSAR				Sn	Sn	20 50 13.8	-11
	comp=Z,0.2nm,0.3s,baz=241,slow=4.2,SNR=2.9						
JMDO	Jabal Madar	16.13	134	P	Pn	20 47 32.4	-1.2
WBK	Wadi Bani Khal	16.48	131	P	Pn	20 47 37.6	-0.5
ALN	Alexandroupoli	16.85	299	P	P	20 47 46.2	+1.4
WHFO	Wadi Hawf	17.79	154	P	Pn	20 47 51.3	-3.3
	SNR=26						
ABTO	Aybut	18.15	156	P	Pn	20 47 55.3	-3.6
	SNR=8.8						
ABTO				S	Sn	20 51 09.8	-12
RBK	Rabkut	18.34	153	P	Pn	20 47 58.4	-2.9
	SNR=7.9						
ABKAR	Akbulak array	18.43	31	P	P	20 48 02.3	+0.2
ABKAR	Akbulak array	18.43	31	P	Pn	20 48 01.3	-0.8
ABKAR				IAmb	IAmb	20 48 07.0	
	comp=Z,2.9nm,1.1s						
DMTO	DMTO	18.43	151	P	P	20 47 59.8	-2.5
	SNR=15						
DMTO				S	Sn	20 51 15.9	-12
SHAO	Shalim	18.45	148	iP	P	20 48 00.1	-2.4
	SNR=11						
SHAO	Shalim	18.45	148	P	P	20 48 00.3	-2.2
	SNR=12						
AKTO	Aktyubinsk	18.61	26	P	Pn	20 48 05.7	+1.4
	comp=Z,0.2nm,0.3s,baz=212,slow=14,SNR=4.4						
CHGR	Chuyangaron	19.48	70	P	P	20 48 14.5	+0.7
CHGR				IAmb	IAmb	20 48 25.5	
	comp=Z,4.9nm,0.9s						
FNA	Florina	20.26	296	P	P	20 48 23.3	+1.0
FNA				IAmb	IAmb	20 48 32.3	
	comp=Z,16nm,1.4s						
BURAR	Bucovina Array	20.32	317	P	P	20 48 24.2	+1.3
BUR08	Bucovina Ar. S	20.35	317	P	Pn	20 48 25.1	-0.2
BUR08				IAmb	IAmb	20 48 37.1	
	comp=Z,6.1nm,1.2s						
AKASG	Malin Array Be	20.36	329	P	P	20 48 24.4	+1.2
	comp=Z,1.2nm,0.4s,baz=138,slow=11,SNR=3.9						
AKASG	Malin Array Be	20.36	329	P	Pn	20 48 26.7	+1.5
KKAR	Karatay Array	21.35	58	P	P	20 48 36.5	+2.5
SOCY	Socotra	23.22	159	P	P	20 48 50.3	-3.8
SOCY				IAmb	IAmb	20 49 07.9	
	comp=Z,21nm,1.2s						
ARU	Arti	23.95	18	P	P	20 49 02.3	+1.5
	comp=Z,0.2nm,0.3s,baz=235,slow=12,SNR=2.0						
BVAR	Borovoye Array	25.80	36	P	P	20 49 19.0	+1.3
	comp=Z,0.9nm,0.7s,baz=231,slow=8.9,SNR=2.9						
GERES	GERESS Array B	27.75	311	P	P	20 49 36.0	+0.6
	comp=Z,0.2nm,0.4s,baz=97,slow=8.0,SNR=2.9						
GERES	GERESS Array B	27.75	311	P	P	20 49 36.2	+0.8
KURBB	Kurchatov Arra	29.04	46	P	P	20 49 48.3	+1.5
	comp=Z,0.4nm,0.6s,baz=248,slow=8.9,SNR=2.8						
CLL	Collm	29.08	316	eP	P	20 49 47.0	-0.1
KURK	Kurchatov	29.12	45	P	P	20 49 49.1	+1.6
KURK				IAmb	IAmb	20 50 06.6	
	comp=Z,3.3nm,1.4s						
FINES	FINESS Array B	29.99	341	P	P	20 49 56.1	+1.1
	comp=Z,1.8nm,1.0s,baz=153,slow=12,SNR=7.0						
FINES	FINESS Array B	29.99	341	P	P	20 49 56.6	+1.5
FIA1	FINESS Array S	29.99	341	P	P	20 49 55.7	+0.7
FIA1				IAmb	IAmb	20 49 56.9	
	comp=Z,3.5nm,1.1s						
MKAR	Makanchi Array	30.34	54	P	P	20 49 59.6	+1.2
	comp=Z,0.2nm,0.5s,baz=256,slow=11,SNR=3.3						
MKAR	Makanchi Array	30.34	54	P	P	20 49 58.4	0.0
BNI	Bardonecchia	31.58	302	P	P	20 50 10.1	+0.6
HFS	Hagfors	33.21	331	P	P	20 50 23.8	+0.4
	comp=Z,1.5nm,0.4s,baz=128,slow=9.6,SNR=13						
ZALV	Zalesovo Beam	33.83	42	P	P	20 50 31.3	+2.5
	comp=Z,0.4nm,0.4s,baz=260,slow=8.6,SNR=2.9						
ZALV	Zalesovo Beam	33.83	42	P	P	20 50 28.1	-0.8
NB201	NORSAR Array S	34.71	331	P	P	20 50 37.5	+1.1
NOA	NORSAR Array B	34.74	331	P	P	20 50 36.8	+0.1
	comp=Z,0.7nm,0.9s,baz=120,slow=6.8,SNR=2.6						
ARCES	ARCESS Array B	37.10	348	P	P	20 50 57.2	+0.3
	comp=Z,3.2nm,0.9s,baz=170,slow=10,SNR=4.2						
ARCES	ARCESS Array B	37.10	348	P	P	20 50 56.6	-0.2
EKA	Eskdalemuir Ar	39.51	318	P	P	20 51 17.6	+0.3
	comp=Z,0.6nm,0.6s,baz=98,slow=10,SNR=3.8						
ESDC	Sonseca Array	39.56	293	P	P	20 51 19.0	+1.0
	comp=Z,0.2nm,0.4s,baz=78,slow=8.4,SNR=3.0						
TOA0	Torodi Ar. Sit	44.89	253	P	P	20 52 01.3	-0.3
TOA0				IAmb	IAmb	20 52 10.9	
	comp=Z,8.4nm,1.6s						
TORD	Torodi Ar. Bea	44.89	253	P	P	20 52 01.1	-0.5
	comp=Z,0.4nm,0.9s,baz=48,slow=7.0,SNR=5.8						
SPITS	Spitsbergen Ar	45.84	352	P	P	20 52 09.1	+0.7
	comp=Z,9.4nm,0.8s,baz=129,slow=11,SNR=4.4						
WRA	Warramunga Arr	99.96	107	LR	LR	21 46 12.8	
	comp=Z,36nm,20.9s,baz=55,slow=38						

IDC ***22*** *21:02:31.4±0.6, 34°.22N±45°.57E, h0km, mb4.3/23, mb1 4.3/33, mb1mx4.1/66, mbtmp4.2/33, ML3.9/7, MS3.3/10, Ms1 3.3/10, ms1mx3.0/42, Error ellipse: s-maj=12.7km s-min=10.2km az=170.0*
ISN ***22*** *21:02:31.7±1.2, 34°.25N±45°.51E, h4km±14km, ML4.4*
ISK ***22*** *21:02:32.4, 34°.15N±45°.19E, h5km, ML4.6/11*
ISCJB ***22*** *21:02:32.1±0.5, 34°.06N±0°.02±45°.52E±0°.01, h21km±4km, mb4.4/38, MS3.1/2, Error ellipse: s-maj=3.1km s-min=1.8km az=15.8*
THR ***22*** *21:02:32.9, 34°.21N±45°.50E, h15km, ML4.4*
NEIC ***22*** *21:02:33.0±1.7, 34°.19N±0°.07±45°.59E±0°.07, h10km±2km, mb4.4/53, mb_Lg4.5(TEH)*
TEH ***22*** *21:02:33.7, 34°.26N±45°.61E, h14km, ML4.5*
DSN ***22*** *21:02:34.3±0.4, 33°.95N±45°.66E, h10km, mb5.7/1, Error ellipse: s-maj=9.6km s-min=5.0km az=39.0*
GII ***22*** *21:02:34.6±0.3, 34°.27N±45°.64E, h40km, mb4.7/1, MD4.7/1*
OMAN ***22*** *21:02:44.9±2.0, 33°.37N±45°.84E, h84km±23km, Error ellipse: s-maj=34.4km s-min=18.3km az=31.0*
ISC 22 21:02:32.2±1.3, 34°.20N±0°.04±45°.53E±0°.03, h7km±8km, n351, σ1§66/324, mb4.4/57, 12C-10D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.87	55	ePg	Pg	21 02 48.3	-0.5
IDHR				eSg	Sg	21 02 59.8	-0.3
IDHR				IAMB	IAmb	21 03 04.0	
	comp=Z,0.0nm,0.4s						
IGHG	Ghaleghazi	0.87	81	ePg	Pg	21 02 49.2	+0.3
IGHG				eSg	Sg	21 03 01.8	+1.5
IGHG				IAMB	IAmb	21 03 04.7	
	comp=Z,7μm,0.3s						
IBDR	Badra	1.14	163	ePg	Pn	21 02 56.5	+1.9
IBDR				AML	AML	21 03 04.0	
	comp=Z,3μm,0.4s						
IBDR				eSg	Sn	21 03 13.5	+3.0
KCHF	Cheshme Sefid,	1.26	86	ePg	Pn	21 02 56.2	-0.2
KCHF				eSg	Sn	21 03 13.3	-0.3
KCHF				IAMB	IAmb	21 03 20.7	
	comp=Z,0.0nm,0.4s						
BHD	Baghdad	1.33	226	ePn	Pn	21 02 59.0	+1.8
BHD				AML	AML	21 03 06.8	
	comp=Z,104μm,0.4s						
BHD				eSn	Sn	21 03 19.5	+4.2
KER	Kermanshah	1.34	82	ePg	Pn	21 02 57.9	+0.4
KER				eSg	Sn	21 03 14.8	-0.9
ILIN	Lien	1.38	59	ePg	Pn	21 02 58.1	-0.1
ILIN				IAMB	IAmb	21 03 21.9	
	comp=Z,80μm,0.6s						
IKRK	Kirkuk	1.54	321	ePn	Pg	21 03 02.0	+0.2
IKRK				AML	AML	21 03 05.9	
	comp=Z,2μm,0.5s						
IKRK				eSn	Sg	21 03 22.5	+0.7
IKOM	Komasi	1.64	90	IAMB	IAmb	21 03 29.4	
	comp=Z,0.0nm,0.5s						
IKOM				ePn	Pn	21 03 03.0	+1.3
IBZA	Bozab	1.95	82	IAMB	IAmb	21 03 09.9	
	comp=Z,0.0nm,0.4s						
IBZA				ePn	Pn	21 03 07.7	+1.7
IKFM	Kafar-mosalman	2.05	109	IAMB	IAmb	21 03 47.5	
	comp=Z,0.0nm,0.4s						
IKFM				ePn	Pn	21 03 09.2	+2.2
IDOB	Doab	2.24	100	ePn	Pn	21 03 11.7	+1.8
IDOB				IAMB	IAmb	21 03 54.8	
	comp=Z,0.0nm,0.8s						
IKMR	Kamar-syah	2.47	105	ePn	Pn	21 03 15.0	+2.1
IKMR				IAMB	IAmb	21 03 54.8	
	comp=Z,0.0nm,0.5s						
HSAM	Samen	2.55	89	ePn	Pn	21 03 15.7	+1.5
HSAM				IAMB	IAmb	21 03 20.9	
	comp=Z,0.0nm,0.6s						
MAHB	Mahabad	2.56	3	ePn	Pn	21 03 17.1	+2.8
MAHB				IAMB	IAmb	21 03 59.2	
	comp=Z,0.0nm,0.4s						
BDRS	Dareh Seyedi	2.79	94	ePn	Pn	21 03 19.1	+1.5
BDRS				IAMB	IAmb	21 04 05.0	
	comp=Z,0.0nm,0.6s						
MSL	Mosul	2.95	319	ePn	Pb	21 03 21.0	-4.1
MSL				AML	AML	21 03 36.0	
	comp=Z,2μm,0.8s						
MSL				eSn	Sb	21 03 56.6	-4.8
HAGD	Aghdareh	3.05	77	ePn	Pn	21 03 23.0	+2.0
HAGD				IAMB	IAmb	21 03 29.3	
	comp=Z,0.0nm,0.6s						
CUKT	Cukurca	3.42	333	PN	Pn	21 03 27.8	+1.8
CUKT				SN	Sn	21 04 08.4	+1.5
SHGR	Shooshtar-Gavs	3.45	126	ePn	Pn	21 03 28.4	+2.0
SHGR	Sh

IHSB Hasanabad 4.89 74 *e*Pn **Pn 21 03 47.5 +1.3**
CHTH Charan 4.90 68 *e*Pn **Pn 21 03 48.6 +2.1**
CHTH Charan 4.90 68 *e*Pn **Pn 21 03 48.6 +2.1**
ZNGN Zangian 4.93 113 *e*Pn **Pn 21 03 47.7 +0.7**
ZNGN IAMB IAmb 21 04 53.5
comp=Z,0.0nm,0.5s
QAM Ghamsar 4.93 93 *e*Pn **Pn 21 03 48.0 +1.1**
QAM IAMB IAmb 21 04 52.7
comp=Z,2μm,0.4s
ROKH ROKH 4.97 110 *e*Pn **Pn 21 03 48.1 +0.6**
ROKH IAMB IAmb 21 04 58.2
comp=Z,0.0nm,0.5s
GRMI Germi 4.97 22 *e*Pn **Pn 21 03 49.3 +1.9**
GRMI Germi 4.97 22 *e*Pn **Pn 21 03 49.3 +1.9**
CLDR Caldiran 5.10 346 PN **Pn 21 03 52.3 +3.1**
IKLH Kolahrood 5.12 98 *e*Pn **Pn 21 03 50.7 +1.2**
IKLH IAMB IAmb 21 05 02.4
comp=Z,3μm,0.6s
IVRN Varamin 5.17 79 *e*Pn **Pn 21 03 51.2 +1.1**
MAZI Mazidag 5.25 310 PN **Pn 21 03 52.3 +1.1**
SVAN Silvan-Diyarba 5.27 320 PN **Pn 21 03 53.3 +1.9**
IBRJ Brojen 5.33 114 *e*Pn **Pn 21 03 53.1 +0.6**
KRSH Karshahi 5.49 91 *e*Pn **Pn 21 03 55.7 +1.1**
IDMV Damavand 5.52 74 *e*Pn **Pn 21 03 55.2 +0.1**
IGAR Gharneh 5.74 106 *e*Pn **Pn 21 03 59.0 +0.9**
IGAR IAMB IAmb 21 05 07.6
comp=Z,3μm,0.3s
DYBB Diyarbakir 5.75 312 PN **Pn 21 03 59.6 +1.6**
IZEF Zefreh 5.83 101 *e*Pn **Pn 21 03 59.4 +0.1**
IZEF IAMB IAmb 21 04 25.9
comp=Z,2μm,0.6s
TASB TASBURUN-IGDIR 5.86 350 PN **Pn 21 04 03.8 +4.2**
VRTB Varto-Mus 5.93 328 PN **Pn 21 04 03.2 +2.6**
IPRN Peran 5.93 68 *e*Pn **Pn 21 04 03.6 +3.0**
GNI Garni 5.97 354 *e*Pn **Pn 21 04 03.0 +1.9**
GNI Garni 5.97 354 Pn **Pn 21 04 04.3 +3.2**
comp=Z,0.7nm,0.3s,baz=40,slow=7.3,SNR=5.1
GNI Lg Lg 21 05 37.9
comp=Z,0.9nm,0.3s,baz=22,slow=23,SNR=2.2
GNI LR LR 21 06 46.3
comp=Z,194nm,18.2s,baz=180,slow=43
GNI Garni 5.97 354 PN **Pn 21 04 05.6 +4.5**
GNI Garni 5.97 354 **Pn 21 04 04.0 +2.8**
IFIR Firoozkooh 6.11 74 *e*Pn **Pn 21 04 04.3 +1.2**
BNGB Bingl 6.17 322 PN **Pn 21 04 06.2 +2.4**
ILAS Lasjerd 6.23 77 *e*Pn **Pn 21 04 05.6 +0.8**
IRAM Ramesheh 6.23 111 *e*Pn **Pn 21 04 04.4 -0.4**
IALA Alasht 6.25 70 *e*Pn **Pn 21 04 08.2 +3.0**
URFA Urfa 6.33 303 PN **Pn 21 04 07.4 +1.3**
SVRC Sivrice-ELAZID 6.53 311 PN **Pn 21 04 10.8 +2.0**
ISHM Shahmirzad 6.57 74 *e*Pn **Pn 21 04 10.8 +1.3**
SENK Senkaya-Erzuru 6.83 339 PN **Pn 21 04 16.5 +3.5**
ANAR Anarak 6.91 96 *e*Pn **Pn 21 04 14.3 +0.2**
IKIA Kiasar 6.97 71 *e*Pn **Pn 21 04 15.4 +0.4**
IANJ Anjilo 7.01 77 *e*Pn **Pn 21 04 16.1 +0.6**
MALT Malatya 7.05 308 PN **Pn 21 04 17.6 +1.7**
IGLO Ghaloghah 7.16 69 *e*Pn **Pn 21 04 20.5 +2.9**
ISAD Sadrabad 7.22 106 *e*Pn **Pn 21 04 17.7 -0.7**
AKH Akhalkalaki 7.37 348 **Pn 21 04 22.0 +1.6**
SHI Shiraz 7.48 126 *e*Pn **Pn 21 04 22.6 +0.7**
ASF Jabal al Asfar 7.51 257 Pn Pn 21 04 24.0 +1.7
comp=Z,1.4nm,0.3s,baz=8.3,slow=10,SNR=15
ASF Pg Pg 21 04 58.5 +2.4
comp=Z,2.8nm,0.3s,baz=21,slow=8.0,SNR=8.6
ASF Sn **Sn 21 05 49.7 +1.9**
comp=Z,1.7nm,0.3s,baz=40,slow=3.5,SNR=1.6
ASF Lg Lg 21 06 32.5
comp=Z,4.1nm,0.3s,baz=18,slow=23,SNR=5.9
ASF Jabal al Asfar 7.51 257 P Pn 21 04 24.2 +1.9
comp=Z,15nm,0.8s
BAYT Aydıntepe-Bayb 7.52 327 PN **Pn 21 04 25.0 +2.5**
TBLG Delisi 7.54 355 Pn **Pn 21 04 24.1 +1.5**
KEMA Kemaliye 7.58 314 *e*Pn **Pn 21 04 25.3 +2.1**
KMRS Kahramanmaras 7.74 298 PN **Pn 21 04 26.6 +1.3**
DARE Darende-Malaty 7.81 306 PN **Pn 21 04 27.8 +1.4**
IMEH Mehriz 8.15 108 *e*Pn **Pn 21 04 30.5 -0.6**
KSHT Keshet 8.20 264 Pn Pn 21 04 33.7 +2.0
BHL Bhannes 8.20 271 *e*P Pn 21 04 34.3 +2.6
NATI Neve Ativ 8.21 266 Pn Pn 21 04 33.3 +1.6
QRWL Qaraoun 8.21 268 *e*P Pn 21 04 34.1 +2.2
GEM Giv'at Ha'Em 8.28 266 Pn **Pn 21 04 34.0 +1.3**
KSDI Kefar Szold 8.29 266 Pn **Pn 21 04 34.0 +1.2**
KSDI Sn **Sn 21 06 08.2 +1.6**
DQRL Deir Qamar 8.29 269 *e*P Pn 21 04 35.5 +2.5
SHMJ Saham 8.29 262 P Pn 21 04 35.3 +2.4
CEYT Ceyhan 8.44 292 PN **Pn 21 04 35.8 +0.9**
YURE YUREGIR 8.48 291 PN **Pn 21 04 36.2 +0.7**
MMA0B Mount Meron ar 8.53 265 Pn Pn 21 04 38.1 +1.9
MMA0B Sn **Sn 21 06 15.0 +2.3**
MMAI Mount Meron Ar 8.53 265 Pn **Pn 21 04 37.2 +1.0**
comp=Z,3.8nm,0.3s,baz=65,slow=14,SNR=36
MMAI Pg Pg 21 05 20.4 +4.9
comp=Z,3.4nm,0.3s,baz=88,slow=16,SNR=8.6
MMAI Lg Lg 21 06 58.4
comp=Z,3.5nm,0.3s,baz=84,slow=28,SNR=4.5
MMAI LR LR 21 08 41.1
comp=Z,191nm,20.4s,baz=65,slow=43
WALJ Wala 8.59 255 P Pn 21 04 38.8 +1.9
HMDT Nahal Hemdat 8.60 260 Pn Pn 21 04 38.6 +1.5
KRTS Karatas 8.62 289 PN **Pn 21 04 37.9 +0.5**
MMLI Mount Malkishu 8.64 261 PN **Pn 21 04 37.8 +0.1**
HNTI Hanita 8.71 266 Pn Pn 21 04 40.0 +1.4
IBAF Bafgh 8.84 104 *e*Pn Pn 21 04 39.6 -0.9
SVSK Karacayir 8.88 312 PN **Pn 21 04 42.7 +1.7**
DSI Dead Sea 8.93 256 Pn **Pn 21 04 42.7 +1.1**
LISJ El Lisan 8.99 258 P Pn 21 04 43.8 +1.8
SLTI Sal'it 9.00 260 Pn **Pn 21 04 43.9 +1.3**
BNN Bunyan 9.07 304 PN **Pn 21 04 44.5 +0.9**
YTIR Yattir 9.21 255 Pn Pn 21 04 47.3 +1.7
MERS Mersin 9.35 290 PN **Pn 21 04 47.8 +0.3**
TPRV Parvadeh(Tabas 9.38 94 *e*Pn **Pn 21 04 48.8 +0.9**
EREN Erenkoy 9.43 281 PN **Pn 21 04 48.5 +0.1**
KIZK Mersin 9.57 287 PN **Pn 21 04 50.8 +0.4**
PRNI Paran 9.70 250 Pn **Pn 21 04 53.5 +1.3**
KBZ Khabaz 9.73 349 Pn **Pn 21 04 54.4 +1.9**
comp=Z,0.1nm,0.3s,baz=161,slow=8.8,SNR=8.2
HRFI Mount Harif 9.82 248 *e*Pn Pn 21 04 58.2 +4.4
HRFI Mount Harif 9.82 248 Pn **Pn 21 04 54.9 +1.1**
HRFI Mount Harif 9.82 248 PN **Pn 21 04 53.6 -0.2**
KEBE Keben-Mersin 9.91 286 PN **Pn 21 04 55.0 -0.1**
KZIT Kziot 9.95 254 Pn **Pn 21 04 57.0 +1.4**
KZIT Kziot 9.95 254 PN **Pn 21 04 55.3 -0.3**
AQBJ Aqaba 9.95 246 P **Pn 21 04 53.0 -2.7**
KVAR Kislovodsk Arr 9.98 348 LR LR 21 08 38.8
comp=Z,230nm,18.5s,baz=308,slow=37
KIV Kislovodsk 9.98 348 *i* P Pn 21 05 01.9 +5.8
SNR=6.5
KIV Kislovodsk 9.98 348 **Pn 21 04 58.9 +2.8**
EIL Elat 10.06 246 Pn **Pn 21 04 57.5 +0.5**
EIL Elat 10.06 246 Pn **Pn 21 04 57.6 +0.5**
comp=Z,1.3nm,0.3s,baz=123,slow=5.2,SNR=14
EIL Pg 21 05 46.9
comp=Z,1.4nm,0.3s,baz=59,slow=7.8,SNR=4.9
EIL Lg Lg 21 07 58.5
comp=Z,0.8nm,0.3s,baz=83,slow=22,SNR=1.6
EIL LR LR 21 09 40.5
comp=Z,205nm,18.7s,baz=21,slow=42
EIL Elat 10.06 246 P **Pn 21 04 57.6 +0.5**
SBZV Sabzevar 10.12 74 *e*Pn **Pn 21 05 00.5 +2.4**
NGRK Negar Kerman 10.55 112 *e*Pn **Pn 21 05 04.2 0.0**
GEYT Alibeck 10.85 66 Pn **Pn 21 05 07.7 -0.2**
comp=Z,0.2nm,0.3s,baz=263,slow=8.7,SNR=4.7
GEYT LR LR 21 10 16.0
comp=Z,120nm,20.2s,baz=330,slow=43
GEYT Alibeck 10.85 66 **Pn 21 05 08.3 +0.4**
GYA0B ALIBECK ARRAY 10.85 66 Pn **Pn 21 05 08.0 +0.1**
BR131 Keskin Array S 10.99 304 **Pn 21 05 10.7 +0.7**
BRTR Keskin Array B 10.99 304 Pn Pn 21 05 14.6 +4.7
comp=Z,0.1nm,0.3s,baz=117,slow=13,SNR=11
BRTR LR LR 21 09 50.6
comp=Z,135nm,19.8s,baz=100,slow=40
BRTR Keskin Array B 10.99 304 **Pn 21 05 08.9 -1.1**
IAKL Akhelmad 11.06 74 *e*Pn **Pn 21 05 12.8 +1.7**
ITEG Tejag 11.11 93 *e*Pn **Pn 21 05 11.8 +0.1**
IEMG Emamgholi 11.13 70 *e*Pn **Pn 21 05 14.5 +2.5**
GENO Geno 11.38 124 *e*Pn Pn 21 05 13.1 -2.4
IKOO Kooshah 11.41 95 *e*Pn **Pn 21 05 16.5 +0.6**
ILGA Ilgaz 11.59 310 Pn **Pn 21 05 19.6 +1.4**
ANTO Ankara 11.64 303 Pn **Pn 21 05 20.1 +1.3**
BR231 Keskin MP Arra 11.64 303 Pn **Pn 21 05 20.5 +1.7**
NIAN Nian 11.75 121 *e*Pn Pn 21 05 18.7 -1.6
SHME Shamm 12.26 129 P Pn 21 05 25.1 -2.2

BANOM Banah 12.45 129 *i* P Pn 21 05 27.3 -2.6
SNR=64
BANOM Banah 12.45 129 P Pn 21 05 28.1 -1.8
SNR=64
BANOM S Sn 21 07 38.5 -10
SNR=14
AJN Ajban 12.65 137 P **Pn 21 05 32.3 -0.3**
ISP Isparta 12.67 291 Pn **Pn 21 05 33.2 +0.2**
MSFE Esma-Masafi 12.76 131 *i* P **Pn 21 05 32.8 -1.3**
SNR=11
ASUD Al Ashush, Dub 12.80 136 *i* P **Pn 21 05 33.9 -0.8**
SNR=17
ASUD Al Ashush, Dub 12.80 136 P **Pn 21 05 34.2 -0.5**
SNR=17
ASUD S Sn 21 07 49.1 -8.4
SNR=5.8
MDH Madha 12.89 131 P **Pn 21 05 34.7 -1.2**
MDH Madha 12.89 131 P **Pn 21 05 34.1 -1.7**
SNR=10
MDH S Sn 21 07 48.7 -11
UOSS Minazif 13.09 132 *i* P **Pn 21 05 37.2 -1.3**
SNR=13
UOSS Minazif 13.09 132 P **Pn 21 05 37.3 -1.3**
SNR=12
UOSS Minazif 13.09 132 **Pn 21 05 37.5 -1.1**
HATD Hatta, Dubai 13.13 133 P **Pn 21 05 38.0 -1.1**
HATD S Sn 21 07 55.3 -10
ASHO Ashiyiah 13.19 133 *i* P **Pn 21 05 38.2 -1.8**
SNR=36
ASHO Ashiyiah 13.19 133 P **Pn 21 05 38.6 -1.4**
SNR=36
ASHO S Sn 21 07 55.4 -12
SNR=7.1
ALNE Al Ain 13.48 136 *i* P **Pn 21 05 42.9 -1.1**
SNR=17
HRA Herat 13.83 85 Pn 21 05 47.2 -1.6
MANT Manisa 14.33 292 Pn **Pn 21 05 54.6 -1.1**
ARQ Araqi 14.48 136 P **Pn 21 05 55.7 -2.0**
SNR=21
HOQ Hoqain 14.77 133 P **Pn 21 05 60.0 -1.6**
SNR=15
HOQ S Sn 21 08 35.0 -11
BALB Balikesir 15.12 296 Pn **Pn 21 06 05.4 -0.7**
BIDO Bidbid 15.32 131 P **Pn 21 06 07.0 -1.9**
BIDO S Sn 21 08 46.5 -12
BSY Bisya 15.34 135 P **Pn 21 06 07.0 -2.2**
BSY S Sn 21 08 49.1 -10
SMDO Samad 15.61 132 P **Pn 21 06 10.3 -2.6**
SNR=27
SMDO S Sn 21 08 56.1 -10
WSAR Wadi Sarin 15.84 130 P **Pn 21 06 12.8 -3.0**
SNR=28
WSAR Wadi Sarin 15.84 130 Pn **Pn 21 06 13.5 -2.3**
comp=Z,3.2nm,0.3s,baz=315,slow=12,SNR=26
WSAR Sn Sn 21 08 57.5 -14
comp=Z,1.0nm,0.3s,baz=60,slow=19,SNR=4.1
WSAR LR LR 21 13 08.1
comp=Z,92nm,20.1s,baz=300,slow=40
JMDO Jabal Madar 16.16 134 P **Pn 21 06 18.2 -1.7**
JMDO S Sn 21 09 07.0 -12
WBK Wadi Bani Khal 16.51 131 P **Pn 21 06 20.8 -3.5**
SNR=15
WBK S Sn 21 09 18.4 -10
TIRR Tirgusor 16.71 313 **P 21 06 27.1 -1.9**
ALN Alexandroupoli 16.82 299 Pn **Pn 21 06 26.1 -2.0**
HARR Harsova 17.12 313 ⇑P **P 21 06 35.8 +2.2**
DQM DQM 17.77 140 P **Pn 21 06 37.2 -3.0**
DQM S Sn 21 09 42.4 -16
WHFO Wadi Hawf 17.81 153 P **Pn 21 06 37.1 -3.7**
SNR=17
WHFO P **Pn 21 06 37.1 -3.7**
SNR=56
WHFO S Sn 21 09 43.2 -16
BUC1 Bucharest 18.14 310 ⇑P P 21 07 00.8 +16
ABTO Aybut 18.17 156 P **Pn 21 06 40.9 -4.2**
SNR=7.3
ABTO S Sn 21 09 52.5 -16
RBK Rabkut 18.36 153 P **P 21 06 44.1 -3.4**
SNR=30
RBK S Sn 21 09 57.1 -16
ABKAR Akbulak array 18.44 31 P **P 21 06 47.8 -0.4**
ABKAR Akbulak array 18.44 31 P **P 21 06 48.4 +0.2**
ABKAR IAmb IAmb 21 06 58.2
comp=Z,8.6nm,0.8s
DMTO DMTO 18.46 150 P **P 21 06 45.1 -3.5**
SNR=22
SHAO Shalim 18.47 148 *i* P **P 21 06 46.7 -2.0**
SNR=9.9
SHAO Shalim 18.47 148 P **P 21 06 47.0 -1.7**
SNR=17
SHAO S Sn 21 10 01.1 -14
PLOR Plostina 18.50 315 ⇓P **P 21 06 51.6 +2.6**
AKTO Aktyubinsk 18.62 26 P **P 21 06 49.8 -0.3**
comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=6.1
PLVB Pleven 18.66 306 ⇑P **Pn 21 06 52.9 +2.0**
MLR Muntele Rosu 18.74 313 P **Pn 21 06 53.1 +1.1**
comp=Z,0.2nm,0.3s,baz=259,slow=23,SNR=7.4
MLR LR LR 21 15 40.1
comp=Z,88nm,18.4s,baz=122,slow=42
MLR Muntele Rosu 18.74 313 ⇓P **Pn 21 06 54.9 +2.8**
MLR Muntele Rosu 18.74 313 P **Pn 21 06 52.6 +0.6**
HUMR Humele 18.89 309 ⇑P **Pn 21 06 54.3 +0.6**
SORM Soroca 18.94 322 ⇓P **Pn 21 06 54.9 +0.7**
OZUR 19.14 314 ⇑P **Pn 21 06 57.2 +0.4**
AGG Agios Georgios 19.21 291 P **Pn 21 06 58.5 +0.8**
AGG IAmb IAmb 21 07 06.5
comp=Z,21nm,1.1s
LIT Litokhoron 19.26 294 P **Pn 21 06 58.5 +0.3**
VOIR 19.26 312 ⇓P **Pn 21 07 00.4 +2.1**
DOPR Dopca 19.32 313 ⇑P **Pn 21 06 59.9 +1.0**
ITM Ithomi 19.39 286 P **Pn 21 06 59.2 -0.6**
ITM IAmb IAmb 21 07 13.4
comp=Z,13nm,0.9s
KBL Kabul 19.41 82 P **P 21 06 58.8 -0.4**
BIZ Bicaz 19.42 317 ⇑P **Pn 21 07 00.3 +0.2**
ARR Arges 19.49 311 ⇓P **Pn 21 07 02.5 +1.5**
CHGR Chuyangaron 19.51 70 P **P 21 07 00.3 +0.2**
CHGR IAmb IAmb 21 07 08.1
comp=Z,24nm,0.7s
DAMY Dhamar 19.57 183 P **Pn 21 07 02.7 +0.3**
DAMY IAmb IAmb 21 07 05.6
comp=Z,13nm,0.6s
LOT Lotru 20.07 310 ⇓P **Pn 21 07 08.1 +0.1**
FNA Florina 20.22 296 P **Pn 21 07 08.7 -1.0**
FNA IAmb IAmb 21 07 16.4
comp=Z,17nm,1.0s
BURAR Bucovina Array 20.30 317 ⇓P Pn 21 07 10.0 -0.6
BURAR Bucovina Array 20.30 317 P Pn 21 07 09.3 -1.2
BUR08 Bucovina Ar. S 20.32 317 P Pn 21 07 10.1 -0.8
BUR08 IAmb IAmb 21 07 12.9
comp=Z,14nm,0.9s
AKASG Malin Array Be 20.33 329 P **P 21 07 08.9 +0.1**
comp=Z,9.4nm,0.8s,baz=131,slow=10.0,SNR=28
AKASG Malin Array Be 20.33 329 P **P 21 07 08.0 -0.8**
AKBB Malin Array Si 20.33 329 P **P 21 07 08.8 0.0**
AKBB IAmb IAmb 21 07 13.9
comp=Z,20nm,0.9s
GAR Garm 20.45 69 P **P 21 07 10.9 +0.6**
GZR Gura Zlata 20.67 309 ⇑P Pn 21 07 12.9 -2.1
HERR Herculane 20.70 308 ⇑P Pn 21 07 14.7 -0.5
CJR Cluj-Napoca 20.76 314 ⇑P Pn 21 07 15.6 -0.4
BTK Batken 20.96 66 P **P 21 07 17.0 +1.1**
BTK IAmb IAmb 21 07 29.9
comp=Z,11nm,0.8s
DRGR 21.34 313 ⇓P **P 21 07 21.5 +1.6**
KKAR Karatay Array 21.38 58 P **P 21 07 20.2 -0.1**
BZS Buzias 21.51 309 ⇑P **P 21 07 19.3 -2.4**
SIRR Siria 21.75 311 ⇑P **P 21 07 23.5 -0.7**
OBN Obninsk 21.82 346 P **P 21 07 24.2 -0.6**
comp=Z,3.2nm,0.4s,baz=159,slow=19,SNR=5.4
OBN Obninsk 21.82 346 ⇓P **P 21 07 24.0 -0.8**
OBN Obninsk 21.82 346 P **P 21 07 24.2 -0.6**
KOLS Kolonicke sedl 22.66 317 *e*P **P 21 07 36.0 +2.0**
ARSB Arslanbob 22.78 64 P **P 21 07 35.1 -0.3**
ARSB IAmb IAmb 21 07 47.7
comp=Z,8.4nm,0.8s
NIL Nilore 22.99 84 P **P 21 07 37.6 +0.1**
NIL IAmb IAmb 21 07 51.6
comp=Z,12nm,0.9s
SOCY Socotra 23.23 159 P **P 21 07 36.5 -3.7**
SNR=7.3
SOCY Socotra 23.23 159 P **P 21 07 35.3 -4.9**
KECS Kecovo 23.46 315 *e*P **P 21 07 44.0 +1.8**
PSZ Piszkesteto 23.55 313 P **P 21 07 43.7 +0.5**

PSZ IAmb IAmb 21 07 51.3
comp=Z,9.3nm,1.3s
ARU Arti 23.96 18 P **P 21 07 49.3 +2.3**
comp=Z,2.7nm,0.7s,baz=170,slow=9.4,SNR=5.5
ARU Arti 23.96 18 P **P 21 07 48.3 +1.3**
ARU IAmb IAmb 21 07 58.0
comp=Z,9.1nm,0.8s
AAK Ala-Archa 24.12 61 P **P 21 07 50.1 +1.4**
comp=Z,1.1nm,0.6s,baz=255,slow=16,SNR=2.1
AAK Ala-Archa 24.12 61 P **P 21 07 49.4 +0.6**
LANS Liptovska Anna 24.37 316 *e*P **P 21 07 52.2 +1.3**
LANS *e* 21 17 01.4
VYHS Vyhne 24.44 314 *e*P **P 21 07 52.1 +0.6**
NACGM Naroch 24.48 333 *e* **P 21 07 51.0 -0.8**
KIRV Kirov 24.53 5 P **P 21 07 52.0 -0.1**
comp=Z,15nm,0.6s,baz=227,slow=1.0,SNR=10
KIRV LR LR 21 18 57.6
comp=Z,125nm,18.3s,baz=262,slow=40
OJC Ojcow 24.71 318 IAmb IAmb 21 07 56.6
comp=Z,8.5nm,0.9s
IDID Didziasalis 24.82 334 *e*P **P 21 07 55.5 +0.8**
KSH Kashi 24.86 69 *e*P P 21 07 51.3 -4.3
IIGN Ignalina 25.03 334 *e*P **P 21 07 57.2 +0.4**
IIGN IAmb IAmb 21 07 59.3
comp=Z,19nm,0.7s
NRN Naryn 25.04 64 P **P 21 07 57.9 +0.5**
NRN IAmb IAmb 21 08 06.5
comp=Z,7.9nm,0.6s
ISAL Salakas 25.24 334 *e*P **P 21 07 58.6 +0.1**
ISAL IAmb IAmb 21 08 01.3
comp=Z,18nm,0.8s
SUW Suwalki 25.30 328 P **P 21 07 59.1 0.0**
JAVC Velka Javorina 25.30 314 *e*P **P 21 08 00.9 +1.6**
SMOL Smolenice 25.30 313 *e*P **P 21 08 00.5 +1.2**
SMOL *e* 21 17 09.2
IZAR Zarasai 25.33 334 *e*P **P 21 08 00.0 +0.6**
IZAR IAmb IAmb 21 08 02.3
comp=Z,16nm,0.8s
MODS Modra-Piesok 25.34 312 *e*P **P 21 07 59.9 +0.3**
MODS *e* 21 17 09.2
OKC Ostrava-Krasne 25.45 316 *e*P **P 21 08 01.3 +0.7**
MORC Moravsky Berou 25.77 316 ⇓P **P 21 08 04.0 +0.4**
MORC Moravsky Berou 25.77 316 *e*P **P 21 08 03.7 +0.1**
MORC Moravsky Berou 25.77 316 IAmb IAmb 21 08 06.9
comp=Z,15nm,1.3s
BRVK Borovoye 25.79 36 P **P 21 08 04.7 +1.1**
BRVK IAmb IAmb 21 08 18.5
comp=Z,11nm,1.5s
BRVK **PcP 21 11 33.8 +0.7**
BVAR Borovoye Array 25.82 36 P **P 21 08 03.7 -0.2**
comp=Z,2.0nm,0.7s,baz=226,slow=9.6,SNR=12
BVAR PcP **PcP 21 11 33.9 +0.7**
comp=Z,0.9nm,0.5s,baz=228,slow=3.5,SNR=5.1
PABE Paberze 26.01 332 *e*P **P 21 08 05.9 +0.3**
PABE IAmb IAmb 21 08 08.6
comp=Z,41nm,0.8s
PABE *e*S **S 21 12 30.3 -6.2**
ARSA Arzberg 26.03 309 *e*P **P 21 08 06.9 +1.0**
comp=Z,6.8nm,1.3s
CONA Conrad Observa 26.05 311 *e*P **P 21 08 06.5 +0.4**
comp=Z,7.2nm,0.9s
VRAC Vranov 26.13 314 P **P 21 08 07.1 +0.3**
comp=Z,5.5nm,0.9s,baz=112,slow=7.2,SNR=8.2
VRAC LR LR 21 18 34.3
comp=Z,34nm,21.8s,baz=216,slow=37
VRAC Vranov 26.13 314 *e*P **P 21 08 07.5 +0.7**
KRUC Moravsky 26.15 313 *e*P **P 21 08 07.5 +0.6**
KRLC Kraliky 26.35 316 *e*P **P 21 08 09.1 +0.3**
DPC Dobruska-Polom 26.73 316 *e*P **P 21 08 12.9 +0.6**
DPC *e*pP sP 21 08 24.8 +10
KLMR Klimovskoe 26.95 354 *e* **P 21 08 08.8 -5.2**
KLMR AMP 21 08 15.1
comp=Z,26nm,1.4s
UPC Upice 26.98 316 *e*P **P 21 08 15.0 +0.6**
CHVC Chvalec 26.99 316 *e*P **P 21 08 15.2 +0.6**
MOA Molln 27.03 310 *e*P **P 21 08 15.0 0.0**
comp=Z,12nm,1.2s
MYKA Terra Mystica 27.07 307 pP **P 21 08 17.9 +2.5**
comp=Z,14nm,1.7s
PRU Pruhonice 27.62 314 *e*P **P 21 08 22.6 +2.4**
GERES GERESS Array B 27.72 311 P **P 21 08 21.2 0.0**
comp=Z,1.0nm,0.8s,baz=118,slow=8.0,SNR=5.4
GERES PcP **PcP 21 11 37.3 -0.5**
comp=Z,0.3nm,0.6s,baz=134,slow=2.8,SNR=2.7
GERES GERESS Array B 27.72 311 P **P 21 08 21.0 -0.2**
KHC Kasperske Hory 27.89 312 *e*P **P 21 08 24.3 +1.6**
CTI Castel Tesino 28.27 305 P **P 21 08 26.5 +0.4**
CTI IAmb IAmb 21 08 27.3
comp=Z,5.3nm,0.8s
WATA Walderalm 28.62 308 *e*P **P 21 08 29.8 +0.5**
comp=Z,11nm,1.5s
SQTA Sankt Quirin 28.84 307 *e*P **P 21 08 31.3 0.0**
comp=Z,2.8nm,0.5s
MOTA Moosalm 28.93 307 *e*P **P 21 08 31.9 -0.3**
comp=Z,4.8nm,0.7s
CLL Collm 29.05 316 *i* P **P 21 08 33.7 +0.8**
comp=Z,9.0nm,1.3s
KURBB Kurchatov Arra 29.06 46 P **P 21 08 33.5 +0.5**
comp=Z,1.7nm,0.7s,baz=252,slow=9.0,SNR=5.9
KURBB PcP **PcP 21 11 42.0 +1.0**
comp=Z,0.4nm,0.2s,baz=235,slow=3.3,SNR=4.4
FETA Feichten 29.11 307 *e*P **P 21 08 34.4 +0.7**
comp=Z,4.8nm,0.8s
KURK Kurchatov 29.15 45 **PcP 21 11 42.0 +0.8**
KURK Kurchatov 29.15 45 P **P 21 08 34.3 +0.5**
DAVA Damuels 29.73 307 *e*P **P 21 08 39.5 +0.3**
comp=Z,4.7nm,0.6s
FINES FINESS Array B 29.98 341 P **P 21 08 40.7 -0.3**
comp=Z,2.8nm,0.7s,baz=151,slow=10,SNR=12
FINES FINESS Array B 29.98 341 P **P 21 08 42.0 +1.0**
MKAR Makanchi Array 30.37 54 P **P 21 08 45.2 +0.5**
comp=Z,1.3nm,0.7s,baz=254,slow=8.4,SNR=11
BNI Bardonecchia 31.55 302 P **P 21 08 55.3 +0.1**
DANN Dangsing 33.06 90 *e*P **P 21 09 09.1 +0.3**
comp=Z,33nm,0.7s
KOLN Koldanda 33.12 91 *e*P **P 21 09 08.9 -0.4**
comp=Z,14nm,0.8s
HFS Hagfors 33.19 331 P **P 21 09 09.3 0.0**
comp=Z,12nm,0.7s,baz=134,slow=8.5,SNR=28
ZAA0 Zalesovo Array 33.85 42 IAmb IAmb 21 09 28.3
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 33.85 42 P **P 21 09 14.8 -0.3**
comp=Z,1.8nm,0.6s,baz=236,slow=8.9,SNR=6.2
ZALV Zalesovo Beam 33.85 42 P **P 21 09 15.8 +0.7**
GKN Gorkha 33.90 90 *e*P **P 21 09 15.8 -0.3**
comp=Z,48nm,0.7s
DMN Daman 34.43 90 *e*P **P 21 09 20.5 -0.3**
comp=Z,30nm,0.7s
KKN Kakani 34.51 90 *e*P **P 21 09 21.3 -0.1**
comp=Z,21nm,0.5s
PKIN Phulchoki 34.68 90 *e*P **P 21 09 23.1 +0.1**
comp=Z,22nm,0.6s
PKI Pulchoki 34.70 90 *e*P **P 21 09 23.1 0.0**
comp=Z,34nm,0.6s
NB2 NORSAR Subarra 34.72 331 P **P 21 09 21.4 -1.2**
comp=Z,5.4nm,1.0s,baz=124,slow=9.3
NOA NORSAR Array B 34.72 331 P **P 21 09 21.9 -0.7**
comp=Z,2.3nm,0.8s,baz=125,slow=8.6,SNR=6.6
GUN Gumba 34.97 89 *e*P **P 21 09 25.4 -0.1**
comp=Z,66nm,0.9s
JIRN Jiri 35.31 89 *e*P **P 21 09 28.6 +0.1**
comp=Z,91nm,0.5s
RAMN Ramite 35.91 90 *e*P **P 21 09 32.9 -0.6**
comp=Z,76nm,0.6s
ODAN Odare 36.60 90 *e*P **P 21 09 39.7 +0.3**
comp=Z,20nm,0.6s
TAPN Taplejung 36.68 89 *e*P **P 21 09 40.4 +0.2**
comp=Z,66nm,0.6s
TAM Tamanrasset 36.74 263 P P 21 09 43.4 +3.0
TAM IAmb IAmb 21 09 44.6
comp=Z,8.1nm,1.1s
ARCES ARCESS Array B 37.09 348 P **P 21 09 42.5 -0.3**
comp=Z,3.5nm,0.6s,baz=153,slow=6.8,SNR=12
LSA Lhasa 38.73 84 P **P 21 09 57.8 +0.2**
ESDC Sonseca Array 39.53 293 P **P 21 10 04.2 +0.5**
comp=Z,0.7nm,0.6s,baz=73,slow=11,SNR=6.2
ESDC Sonseca Array 39.53 293 IAmb IAmb 21 10 05.2
comp=Z,2.8nm,1.3s
PALK Pallekele 42.06 121 P **P 21 10 24.9 0.0**
comp=Z,3.9nm,0.9s,baz=291,slow=6.7,SNR=2.0
PALK Pallekele 42.06 121 IAmb IAmb 21 10 27.1
comp=Z,9.3nm,1.1s
GTA Gaotai 43.23 67 *e*P **P 21 10 38.9 +4.6**
GTA pP sP 21 10 43.6 +6.3
GTA sP pP 21 10 46.0 +10
GTA pmax pmax

comp=Z,5.0nm,1.4s
TOA0 Torodi Ar. Sit 44.86 253 P P 21 10 48.3 +0.9
TOA0 IAmb IAmb 21 10 51.5
comp=Z,7.2nm,1.3s
TORD Torodi Ar. Bea 44.86 253 P P 21 10 47.9 +0.5
comp=Z,1.8nm,0.5s,baz=47,slow=5.8,SNR=32
TORD Torodi Ar. Bea 44.86 253 P P 21 10 47.8 +0.5
SPA0 Spitsbergen Ar 45.83 352 P P 21 10 55.6 +1.2
SPITS Spitsbergen Ar 45.83 352 P P 21 10 55.0 +0.6
comp=Z,22nm,0.9s,baz=139,slow=12,SNR=14
MHMT Maesarieng 49.14 95 P P 21 11 28.6 +7.7
CHTO Chiang Mai 49.66 94 P P 21 11 24.2 -0.6
CHTO IAmb IAmb 21 11 28.5
comp=Z,5.6nm,0.8s
CMMT Chiang Mai 49.67 94 P P 21 11 27.8 +2.9
comp=Z,5.0nm,1.8s
CMAR Chiang Mai Arr 49.84 94 P P 21 11 25.4 -0.8
comp=Z,2.8nm,0.8s,baz=294,slow=8.5,SNR=14
CMAR Chiang Mai Arr 49.84 94 P P 21 11 26.4 +0.2
PAYA Payao 50.17 93 P P 21 11 32.3 +3.6
comp=Z,15μm,0.7s
PHRA Phrae 50.88 93 P P 21 11 38.6 +4.5
comp=Z,1.0nm,1.7s
NANT Nan 51.12 93 P P 21 11 39.5 +3.6
comp=Z,95μm,0.9s
HHC Hu-ho-hao-te 51.69 62 *e*P **P 21 11 39.3 -0.7**
HHC pmax pmax
comp=Z,4.0nm,0.8s
HHC pmax pmax
comp=Z,10.0nm,6.0s
PBKT Sadao Pong 52.45 95 P P 21 11 46.4 +0.6
PBKT Sadao Pong 52.45 95 P P 21 11 45.4 -0.4
PBKT IAmb IAmb 21 11 53.5
comp=Z,8.6nm,1.1s
DBIC Dimbokro 53.88 251 P P 21 11 56.6 +0.3
comp=Z,4.0nm,0.8s,baz=12,slow=9.2,SNR=5.9
DBIC Dimbokro 53.88 251 IAmb IAmb 21 12 00.8
comp=Z,6.5nm,1.0s
RER Riviere de l'E 55.91 168 P P 21 12 11.2 +0.3
KSRS Korea Array 64.78 61 P P 21 13 10.5 -1.0
comp=Z,2.8nm,0.7s,baz=279,slow=6.8,SNR=5.2
BOSA Boshof 65.36 200 P P 21 13 15.5 +0.2
comp=Z,4.7nm,0.6s,baz=3.5,slow=6.8,SNR=13
BOSA Boshof 65.36 200 IAmb IAmb 21 13 19.3
comp=Z,18nm,1.4s
SEY Seymchan 67.19 28 P P 21 13 27.1 +0.5
comp=Z,3.8nm,0.6s,baz=302,slow=4.8,SNR=6.0
KKM Kota Kinabalu 70.66 96 P P 21 13 48.5 -0.6
CISI Cisompet, Garu 72.00 113 P P 21 13 55.2 -1.8
JHJ2 Mitsune 75.39 60 P P 21 14 16.5 -0.2
TOLK Toolik Lake Re 76.85 6 P P 21 14 25.3 +0.8
MLY Manley 80.27 7 P P 21 14 44.0 +0.6
MLY IAmb IAmb 21 14 46.8
comp=Z,6.3nm,1.0s

NIED ***22*** *21:05:00,41.°60N×138.°10E,h5km,Mw4.7 Best double couple: M₀1.42000×10¹⁶ NP1:φ₀0.00000°,δ38.00000°, λ48.00000°. NP2:φ₀229.00000°,δ63.00000°,λ118.00000°.*
BJI ***22*** *21:05:09.5±0.0,41.°83N×137.°98E,h15km,mb4.8/59, mB4.9/44,Ms4.7/71,Ms7 4.5/64*
IDC ***22*** *21:05:09.8±0.4,41.°61N×137.°81E,h0km,mb4.6/41, mb1 4.7/47,mb1mx4.7/61,mbtmp4.6/47,ML3.6/5,MS4.1/29, Ms1 4.1/29,ms1mx3.9/43,Error ellipse: s-maj=11.2km s-min=9.8km az=174.0*
MOS ***22*** *21:05:11.9±1.1,41.°60N×137.°81E,h23km,mb5.3/21, MS4.7/12,Error ellipse: s-maj=5.2km s-min=4.0km az=93.6*
ISCJB ***22*** *21:05:12.6±0.1,41.°48N±0.°02×137.°93E±0.°02,h28km, mb4.9/124,MS4.5/46,Error ellipse: s-maj=2.3km s-min=1.8km az=162.6*
JMA ***22*** *21:05:12.8±0.3,41.°71N×138.°08E,h30km±4km,M4.7*
JMA Felt I J1.
NEIC ***22*** *21:05:13.2±1.3,41.°66N±0.°05×137.°83E±0.°07,h19km±3km, mb5.3/340*
GCMT ***22*** *21:05:14.1±0.3,41.°74N±0.°02×137.°77E±0.°03,h20km±1km, MW5.0/76,Moment Tensor Solution. s35,c40; s76,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}2.61±.16; $M_{\theta\theta}$-0.34±.10; $M_{\phi\phi}$-2.27±.11; $M_{r\theta}$-1.65±.22; $M_{\theta\phi}$-1.06±.07; $M_{r\phi}$~1.60±.18; Best double couple: $M_0$3.52800×10¹⁶ NP1:φ₀218.00000°,δ66.00000°,λ102.00000°. NP2: φ₀10.00000°,δ27.00000°,λ65.00000°. Principal axes: T 3.5490, Plg67.0000°, Azm150.0000°; N -0.0450, Plg11.0000°, Azm33.0000°; P -3.5070, Plg20.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 21:05:13.8±0.4,41.°61N±0.°03×137.°94E±0.°03,h24km±2km, h24km:pP-P,n943,σ1§42/901,mb5.2/255,MS4.4/47, 32C-30D,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.24**	**67**	P	**Pn**	**21 05 32.4**	**-3.1**
JOSM				*e*S	**Sn**	**21 05 46.6**	**-4.9**
JOMM	**Oshimamatsumae**	**1.55**	**93**	P	**Pn**	**21 05 37.4**	**-2.5**
JOMM				*e*S	**Sn**	**21 05 55.6**	**-3.6**
JHST	**Hiyamasetana**	**1.65**	**60**	P	**Pn**	**21 05 38.5**	**-2.7**
JHST				*e*S	**Sn**	**21 05 57.2**	**-4.5**
JSR	**Shiriuchi**	**1.86**	**92**	P	**Pn**	**21 05 42.5**	**-1.6**
JSR				*e*S	**Sn**	**21 06 04.1**	**-2.7**
JIW	**Iwasaki**	**1.87**	**122**	P	**Pn**	**21 05 41.5**	**-2.7**
JIW				*e*S	**Sn**	**21 06 02.9**	**-4.1**
JSH	**Shimam**	**1.87**	**56**	P	**Pn**	**21 05 41.3**	**-3.0**
JSH				*e*S	**Sn**	**21 06 01.8**	**-5.3**
JYM2	**Yakumo 2**	**1.88**	**74**	P	**Pn**	**21 05 42.7**	**-1.7**
JYM2				*e*S	**Sn**	**21 06 04.0**	**-3.4**
JKB	**Kayabe**	**2.33**	**82**	P	**Pn**	**21 05 49.2**	**-1.3**
JKB				*e*S	**Sn**	**21 06 15.6**	**-2.8**
JOT	**Ohata**	**2.35**	**95**	P	**Pn**	**21 05 49.0**	**-1.8**
JNB	**Noboribetsu**	**2.46**	**69**	P	**Pn**	**21 05 50.9**	**-1.4**
JNB				*e*S	**Sn**	**21 06 18.2**	**-3.4**
JSK	**Shakotan**	**2.56**	**46**	P	**Pn**	**21 05 51.3**	**-2.3**
JSK				*e*S	**Sn**	**21 06 19.0**	**-4.9**
JEW	**Eniwo**	**2.88**	**64**	P	**Pn**	**21 05 57.5**	**-0.6**
JANG	**Nango**	**2.98**	**113**	P	**Pn**	**21 05 57.7**	**-1.8**
JYK	**Kaneyama**	**3.27**	**145**	P	**Pn**	**21 06 00.5**	**-3.0**
JYK				*e*S	**Sn**	**21 06 38.2**	**-3.4**
JAW	**Awa shima**	**3.31**	**162**	P	**Pn**	**21 06 00.4**	**-3.6**
JAW				*e*S	**Sn**	**21 06 38.3**	**-4.3**
JOM	**Ohasama**	**3.33**	**129**	P	**Pn**	**21 06 02.5**	**-1.8**
JOM				*e*S	**Sn**	**21 06 42.2**	**-0.9**
JHR	**Hokuryu**	**3.51**	**51**	P	Pb	21 06 09.7	-5.4
TEY	**Ternei**	**3.56**	**345**	↓*i*P	**Pn**	**21 06 04.7**	**-2.7**
TEY				*e*S	**Sn**	**21 06 43.8**	**-4.8**
TEY				pmax	pmax		
comp=N,110nm,0.2s							
TEY				pmax	pmax		
comp=E,40nm,0.2s							
TEY				pmax	pmax		
comp=Z,100nm,0.2s							
TEY				smax	smax		
comp=E,4μm,0.5s							
TEY				smax	smax		
comp=N,1μm,0.4s							
TEY				MLR	MLR		
comp=E,4μm,12.0s							
TEY				MLR	MLR		
comp=N,5μm,13.0s							
TEY				MLR	MLR		
comp=Z,5μm,14.0s							
JSD	**Sado**	**3.58**	**176**	P	**Pn**	**21 06 04.1**	**-3.7**
JSD				*e*S	**Sn**	**21 06 43.8**	**-5.5**
JNBK	**Urakawa-nobuka**	**3.65**	**78**	P	**Pn**	**21 06 08.6**	**-0.1**
JMK	**Ichinoseki**	**3.66**	**136**	P	**Pn**	**21 06 06.5**	**-2.3**
JMK				*e*S	**Sn**	**21 06 48.6**	**-2.5**
ERM	**Erimo**	**3.92**	**82**	*ce*P	**Pn**	**21 06 13.1**	**+0.7**
ERM				pmax	pmax		
comp=Z,86nm,0.8s							
ERM	**Erimo**	**3.92**	**82**		**Pn**	**21 06 12.8**	**+0.4**
ASAJ	**Asahikawa**	**4.24**	**52**	Pn	**Pn**	**21 06 16.6**	**-0.2**
comp=Z,8.5nm,0.3s,baz=247,slow=11,SNR=54							
ASAJ				Sn	**Sn**	**21 07 03.9**	**-1.6**
comp=Z,3.1nm,0.3s,baz=297,slow=28,SNR=4.1							
ASAJ				LR	LR	21 07 46.0	
comp=Z,551nm,21.4s,baz=241,slow=36							
JKA	**Kamikawa-asahi**	**4.24**	**52**		**Pn**	**21 06 16.6**	**-0.3**
JKA					**Sn**	**21 07 03.9**	**-1.6**
VLA	**Vladivostok**	**4.73**	**291**	*i* P	**Pn**	**21 06 21.9**	**-1.6**
MJB9	**Matsu-Tunnel**	**5.07**	**178**		**Pn**	**21 06 27.3**	**-0.9**
MAJO	**Matsushiro**	**5.07**	**178**	P	**Pn**	**21 06 25.2**	**-3.0**
MAJO	**Matsushiro**	**5.07**	**178**		**Pn**	**21 06 25.2**	**-3.0**
MAT	**Matsushiro**	**5.07**	**178**	P	**Pn**	**21 06 26.7**	**-1.5**
MAT				S	**Sn**	**21 07 23.5**	**-2.5**
MJAR	**Matsushiro Arr**	**5.07**	**178**	P	**Pn**	**21 06 28.4**	**+0.1**
MJAR						21 07 22.0	
MJAR	**Matsushiro Arr**	**5.07**	**178**	Pn	**Pn**	**21 06 26.9**	**-1.4**
comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=13							
MJAR				Sn	**Sn**	**21 07 22.0**	**-4.1**
comp=Z,3.8nm,0.3s,baz=358,slow=15,SNR=25							
MJAR				LR	LR	21 08 15.0	
comp=Z,2μm,18.5s,baz=0.0,slow=36							
MJAR	**Matsushiro Arr**	**5.07**	**178**		**Pn**	**21 06 28.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**5.08**	**303**	P	**Pn**	**21 06 26.0**	**-2.3**
USA0B	**Ussuriysk Arra**	**5.08**	**303**		**Pn**	**21 06 26.0**	**-2.3**
USRK	**Ussuriysk Ar.**	**5.08**	**303**	Pn	**Pn**	**21 06 25.9**	**-2.4**
baz=113,slow=14,SNR=130							
USRK				Sn	**Sn**	**21 07 20.4**	**-5.7**
baz=117,slow=29,SNR=5.2							
USRK				LR	LR	21 08 23.3	
comp=Z,3μm,19.3s,baz=76,slow=39							
USRK	**Ussuriysk Ar.**	**5.08**	**303**		**Pn**	**21 06 25.6**	**-2.7**
MSHR	**Mys Shultsa**	**5.14**	**283**	*i* P	**Pn**	**21 06 26.6**	**-2.5**
NMR	**Nemuro--Hokkai**	**6.02**	**70**	*c i*P	**Pn**	**21 06 40.9**	**-0.3**
NMR				*i* S	**Sn**	**21 07 48.6**	**-0.7**
GRPR	**Tuman**	**6.23**	**65**	*e*P	Pn	21 06 45.8	+1.7
GRPR				*i* S	**Sn**	**21 07 57.6**	**+3.0**
GRPR				pmax	pmax		
comp=Z,86nm,0.5s							
GRPR				pmax	pmax		
comp=E,34nm,0.1s							
GRPR				pmax	pmax		
comp=N,63nm,0.4s							
INU	**Inuyama**	**6.30**	**187**	Pn	**Pn**	**21 06 43.6**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**6.31**	**65**	P	Pn	21 06 47.4	+2.2
YUK				*i* S	**Sn**	**21 08 00.0**	**+3.6**
YUK				pmax	pmax		
comp=Z,120nm,0.6s							
YUK				pmax	pmax		
comp=N,45nm,0.4s							
YUK				pmax	pmax		
comp=E,66nm,0.3s							
YUK				MLR	MLR		
comp=Z,1μm,11.0s							
YUK				MLR	MLR		
comp=E,1μm,10.0s							
YSS	**Yuzh-Sakhalins**	**6.36**	**31**	*e*P	Pn	21 06 50.1	+4.2
YSS				*e*S	Sb	21 08 06.2	-13
YSS				MLR	MLR		
comp=Z,2μm,10.0s							
YSS				MLR	MLR		
comp=N,2μm,12.0s							
YSS				MLR	MLR		
comp=E,1μm,13.0s							
YSS	**Yuzh-Sakhalins**	**6.36**	**31**		**Pn**	**21 06 46.2**	**+0.3**
MDJ	**Mudanjiang**	**6.80**	**299**	Pn	**Pn**	**21 06 50.5**	**-1.5**
MDJ				Sn	**Sn**	**21 08 11.0**	**+2.3**
MDJ				LR	LR		
comp=E,3μm,7.5s							
MDJ				LR	LR		
comp=E,8μm,6.1s							
MDJ				LR	LR		
comp=E,8μm,10.7s							
MDJ	**Mudanjiang**	**6.80**	**299**		**Pn**	**21 06 50.6**	**-1.5**
UGL	**Uglegorsk**	**8.01**	**20**	*e*P	Pn	21 07 16.9	+8.4
UGL				S	Sn	21 08 47.1	+8.9
UGL				pmax	pmax		
comp=Z,66nm,0.7s							
UGL				MLR	MLR		
comp=Z,2μm,12.0s							
UGL				MLR	MLR		
comp=E,2μm,12.0s							
KUR	**Kuril'sk**	**8.08**	**60**	*e*P	Pn	21 07 12.9	+3.4
KUR				*e*S	Sn	21 08 47.4	+7.4
KUR				pmax	pmax		
comp=Z,133nm,0.8s							
KUR				pmax	pmax		
comp=E,42nm,0.9s							
KUR				MLR	MLR		
comp=Z,2μm,12.0s							
JHJ	**Hachijo jima 2**	**8.61**	**170**	LR	LR	21 10 30.0	
comp=Z,1μm,20.2s,baz=9.5,slow=37							
KLR	**Kul'dur**	**8.77**	**332**	Pn	**Pn**	**21 07 17.4**	**-1.5**
comp=Z,3.1nm,0.3s,baz=138,slow=14,SNR=72							
KLR				Sn	**Sn**	**21 08 49.0**	**-7.9**
comp=Z,0.7nm,0.3s,baz=335,slow=23,SNR=1.4							
KLR				Lg	Lg	21 09 35.3	
comp=Z,1.3nm,0.3s,baz=180,slow=20,SNR=2.6							
KLR				LR	LR	21 10 41.9	
comp=Z,1μm,21.4s,baz=153,slow=38							
KSRS	**Korea Array**	**8.78**	**245**	Pn	**Pn**	**21 07 19.8**	**+0.6**
comp=Z,3.5nm,0.3s,baz=62,slow=14,SNR=74							
KSRS				Sn	**Sn**	**21 08 55.6**	**-1.7**
comp=Z,4.9nm,0.3s,baz=54,slow=25,SNR=12							
KSRS				LR	LR	21 10 22.4	
comp=Z,992nm,19.8s,baz=54,slow=36							
KS19	**Wonju Array Si**	**8.80**	**245**		**Pn**	**21 07 19.0**	**-0.3**
KSAR	**Wonju Array Be**	**8.81**	**245**	P	**Pn**	**21 07 18.4**	**-1.2**
KSAR	**Wonju Array Be**	**8.81**	**245**		**Pn**	**21 07 18.4**	**-1.2**
GRNR	**Gornyy**	**9.22**	**354**	↓*i*P	**Pn**	**21 07 24.0**	**-1.1**
GRNR				*e*S	**Sn**	**21 09 02.0**	**-6.0**
GRNR				pmax	pmax		
comp=Z,60nm,0.5s							
GRNR				smax	smax		
comp=E,20nm,0.5s							
GRNR				MLR	MLR		
comp=Z,1μm,17.0s							
CN2	**Changchun**	**9.45**	**288**	*e*P	**Pn**	**21 07 28.1**	**-0.2**
CN2				*e*S	**Sn**	**21 09 17.8**	**+4.0**
CN2				pmax	pmax		
comp=Z,20nm,1.4s							
CN2				pmax	pmax		
comp=Z,200nm,7.0s							
CN2				LR	LR		
comp=Z,3μm,11.0s							
CN2				LR	LR		
comp=Z,2μm,11.0s							
CN2				LR	LR		
comp=Z,2μm,10.0s							
TJN	**Taejon**	**9.75**	**241**	*i* P	**Pn**	**21 07 32.9**	**+0.5**
TYV	**Tymovskoe**	**9.81**	**18**	*e*P	Pn	21 07 37.1	+3.9
TYV				*e*S	Sn	21 09 31.9	+10
TYV				pmax	pmax		
comp=Z,25nm,0.9s							
TYV				smax	smax		
comp=E,17nm,1.2s							
JNU	**Nakatsue**	**10.17**	**216**	Pn	**Pn**	**21 07 40.7**	**+2.5**
comp=E,0.3nm,0.3s,baz=24,slow=6.1,SNR=1.8							
JNU				Sn	**Sn**	**21 09 30.9**	**-0.5**
baz=191,slow=20,SNR=1.5							
JNU				LR	LR	21 11 15.6	
comp=E,522nm,19.8s,baz=43,slow=36							
JNU	**Nakatsue**	**10.17**	**216**		**Pn**	**21 07 36.3**	**-1.9**
SNY	**Shenyang**	**10.74**	**276**	↓P	**Pn**	**21 07 47.3**	**+1.3**
SNY				S	**Sn**	**21 09 44.3**	**-1.0**
SNY				pmax	pmax		
comp=E,49nm,1.6s							
SNY				pmax	pmax		
comp=E,350nm,6.1s							
SNY				LR	LR		
comp=E,3μm,10.4s							
SNY				LR	LR		
comp=E,1μm,9.8s							
SNY				LR	LR		
comp=E,3μm,13.5s							
DL2	**Dalian**	**12.75**	**263**	P	**Pn**	**21 08 14.8**	**+1.3**
DL2				S	**Sn**	**21 10 39.0**	**+4.4**
DL2				pmax	pmax		
comp=E,96nm,1.2s							
DL2				pmax	pmax		
comp=E,230nm,5.3s							
DL2				LR	LR		
comp=E,2μm,9.4s							
DL2				LR	LR		
comp=E,1μm,10.4s							
DL2				LR	LR		
comp=E,1μm,9.5s							
ZEA	**Zeya**	**14.08**	**333**	*e*P	**Pn**	**21 08 31.0**	**-0.6**
ZEA				pmax	pmax		
comp=E,26nm,0.8s							
ZEA				pmax	pmax		
comp=N,86nm,1.2s							
ZEA				pmax	pmax		
comp=Z,160nm,1.2s							
ZEA				MLR	MLR		
comp=N,2μm,10.0s							
ZEA				MLR	MLR		
comp=Z,3μm,10.0s							
ZEA				MLR	MLR		
comp=E,1μm,9.0s							
HIA	**Hailar**	**14.87**	**307**	P	**Pn**	**21 08 41.9**	**-0.4**
HIA	**Hailar**	**14.87**	**307**		**Pn**	**21 08 41.9**	**-0.4**
SKR	**Severo-Kuril's**	**15.49**	**48**	*i* P	**P**	**21 08 50.6**	**-4.0**
BJI	**Beijing**	**16.55**	**272**	P	**Pn**	**21 09 04.3**	**+0.2**
BJI				S	**Sn**	**21 12 12.8**	**+5.8**
BJI				pmax	pmax		
comp=E,25nm,1.0s							
BJI				LR	LR		
comp=E,1μm,12.0s							
BJI				LR	LR		
comp=E,2μm,14.5s							
BJI				LR	LR		
comp=E,920nm,19.0s							
BJT	**Baijiatuau**	**16.56**	**272**	P	**Pn**	**21 09 04.8**	**+0.6**
BJT				pmax	pmax		
comp=Z,28nm,0.9s							
BJT	**Baijiatuau**	**16.56**	**272**	P	**Pn**	**21 09 04.8**	**+0.6**
TIA	**Tai'an**	**17.06**	**258**	P	**P**	**21 09 11.6**	**-0.6**
TIA				S	**S**	**21 12 30.6**	**+1.7**
TIA				pmax	pmax		
comp=Z,23nm,1.1s							
TIA				pmax	pmax		
comp=Z,270nm,7.5s							
TIA				LR	LR		
comp=Z,530nm,12.3s							
TIA				LR	LR		
comp=Z,720nm,12.3s							
TIA				LR	LR		
comp=Z,1μm,13.3s							
SSE	**Sheshan**	**17.07**	**237**	P	**Pn**	**21 09 09.6**	**-1.1**
SSE				S	**Sn**	**21 12 19.0**	**-0.7**
SSE				pmax	pmax		
comp=Z,10.0nm,0.6s							
SSE				LR	LR		
comp=Z,590nm,13.6s							
SSE				LR	LR		
comp=Z,680nm,15.9s							
PEA0B	**Petropavlovsk-**	**17.58**	**42**	P	**P**	**21 09 16.9**	**-0.9**
PEA0B				pmax	pmax		
comp=Z,66nm,1.3s							
PEA0B	**Petropavlovsk-**	**17.58**	**42**	P	**P**	**21 09 16.9**	**-0.9**
PETK	**Petropavlovsk-**	**17.58**	**42**	P	**P**	**21 09 16.6**	**-1.2**
PETK	**Petropavlovsk-**	**17.58**	**42**	P	**P**	**21 09 15.0**	**-2.8**
comp=Z,0.5nm,0.3s,baz=221,slow=7.8,SNR=14							
PETK	**Petropavlovsk-**	**17.58**	**42**	P	**P**	**21 09 16.6**	**-1.2**
NJ2	**Nanjing**	**17.98**	**244**	*e*P	**P**	**21 09 25.3**	**+2.9**
NJ2				sP	**pwP**	**21 09 33.4**	**+0.5**
NJ2				PP	**PnPn**	**21 09 41.4**	**+8.4**
NJ2				S	**S**	**21 12 46.3**	**-1.3**
NJ2				sS	**sS**	**21 12 52.5**	**-4.0**
NJ2				pmax	pmax		
comp=Z,24nm,0.9s							
NJ2				pmax	pmax		
comp=Z,250nm,7.6s							
NJ2				LR	LR		
comp=Z,2μm,13.3s							
NJ2				LR	LR		
comp=Z,1μm,12.8s							
NJ2				LR	LR		
comp=Z,2μm,12.3s							
PET	**Petropavlovsk**	**18.02**	**44**	*i* P	**P**	**21 09 23.4**	**+0.7**
CIT	**Chita**	**19.58**	**310**	*e*P	**Pn**	**21 09 41.3**	**0.0**
CIT				pmax	pmax		
comp=Z,197nm,1.1s							
MA2	**Magadan**	**19.68**	**20**	*i* P	**Pn**	**21 09 40.4**	**-1.9**
MA2				pmax	pmax		
comp=Z,24nm,0.7s							
MA2	**Magadan**	**19.68**	**20**	P	**Pn**	**21 09 40.4**	**-1.9**
comp=Z,1.5nm,0.3s,baz=210,slow=7.5,SNR=7.6							
MA2				LR	LR	21 17 43.5	
comp=Z,242nm,19.2s,baz=194,slow=38							
MA2	**Magadan**	**19.68**	**20**	IAmb	IAmb	21 09 49.9	
comp=Z,70nm,0.9s							
HHC	**Hu-ho-hao-te**	**19.83**	**277**	*e*P	**P**	**21 09 42.4**	**-0.4**
HHC				pmax	pmax		
comp=Z,8.0nm,0.9s							
TIY	**Taiyuan**	**19.99**	**267**	*e*P	Pn	21 09 46.6	+0.3
TIY				S	**S**	**21 13 22.8**	**-5.4**
TIY				SS	Sn	21 13 52.8	+22
TIY				pmax	pmax		
comp=Z,97nm,1.7s							
TIY				pmax	pmax		
comp=Z,270nm,6.0s							
TIY				LR	LR		
comp=Z,400nm,13.1s							
TIY				LR	LR		
comp=Z,680nm,13.2s							
TIY				LR	LR		
comp=Z,780nm,15.0s							
BTO	**Baotou**	**21.03**	**277**	*e*P	**P**	**21 09 57.1**	**+1.3**
YAK	**Yakutsk**	**21.04**	**349**	*e*P	**P**	**21 09 53.0**	**-2.5**
YAK				*e**PP	**sP**	**21 10 01.9**	**-2.0**
YAK				*e*		21 10 12.6	
YAK				*e*S	**S**	**21 13 45.9**	**-2.5**
YAK				*e**SS	**sS**	**21 13 55.2**	**-2.3**
YAK				*e*		21 14 00.3	
YAK				*e*SSS	SSS	21 14 18.5	
YAK				*e*		21 21 15.6	
YAK				pmax	pmax		
comp=Z,17nm,0.8s							
YAK				pmax	pmax		
comp=E,2.0nm,1.0s							
YAK				pmax	pmax		
comp=N,10.0nm,1.1s							
YAK				pmax	pmax		
comp=Z,40nm,1.4s							
YAK				pmax	pmax		
comp=N,76nm,1.7s							
YAK				pmax	pmax		
comp=E,47nm,1.6s							
YAK				smax	smax		
comp=N,327nm,3.8s							
YAK				smax	smax		
comp=E,176nm,4.0s							
YAK				MLR	MLR		
comp=Z,886nm,14.0s							
YAK				MLR	MLR		
comp=N,694nm,14.0s							
YAK				MLR	MLR		
comp=E,177nm,14.0s							
YAK	**Yakutsk**	**21.04**	**349**	P	**P**	**21 09 54.1**	**-1.5**
comp=E,25nm,0.8s,baz=11,slow=1.2,SNR=17							
YAK	**Yakutsk**	**21.04**	**349**	P	**P**	**21 09 53.7**	**-1.8**
YAK				IAmb	IAmb	21 10 09.6	
comp=Z,67nm,0.8s							
WHN	**Wuhan**	**21.97**	**247**	P	**P**	**21 10 06.8**	**+1.1**
WHN				pP	**pP**	**21 10 13.5**	**+2.0**
WHN				S	**S**	**21 14 02.1**	**-4.9**
WHN				pmax	pmax		
comp=Z,22nm,0.9s							
WHN				LR	LR		
comp=Z,2μm,13.9s							
WHN				LR	LR		
comp=Z,730nm,8.6s							
WHN				LR	LR		
comp=Z,1μm,14.5s							
BOD	**Bodaibo**	**22.23**	**325**	*e*P	**P**	**21 10 05.6**	**-2.8**
BOD				pmax	pmax		
comp=Z,50nm,1.5s							
ULN	**Ulaanbaatar**	**22.71**	**296**	*ce*P	**P**	**21 10 13.3**	**-0.5**
ULN				pmax	pmax		
comp=Z,15nm,1.3s							
ULN	**Ulaanbaatar**	**22.71**	**296**	P	**P**	**21 10 12.9**	**-0.9**
ULN					**P**	**21 10 13.4**	**-0.5**
SEY	**Seymchan**	**23.00**	**17**	*i* P	**P**	**21 10 17.1**	**+0.7**
SEY	**Seymchan**	**23.00**	**17**	P	**P**	**21 10 14.7**	**-1.8**
comp=Z,6.3nm,0.8s,baz=197,slow=9.4,SNR=18							
QZH	**Quanzhou**	**23.11**	**230**	*e*P	**P**	**21 10 17.8**	**-0.1**
QZH				S	**S**	**21 14 27.3**	**-0.4**
QZH				LR	LR		
comp=Z,750nm,11.7s							
QZH				LR	LR		
comp=Z,600nm,11.8s							
QZH				LR	LR		
comp=Z,750nm,11.8s							
SONM	**Songino Array**	**23.15**	**296**	P	**P**	**21 10 16.6**	**-1.7**
SONM				pmax	pmax		
comp=Z,17nm,1.0s							
SONM	**Songino Array**	**23.15**	**296**	P	**P**	**21 10 17.4**	**-0.9**
comp=Z,3.2nm,0.8s,baz=108,slow=9.4,SNR=18							
SONM				LR	LR	21 19 49.1	
comp=Z,973nm,19.0s,baz=109,slow=38							

SONM	**Songino Array**	**23.15 296**	P	**P**	**21 10 16.6 -1.7**
XAN	**Xi'an**	**24.06 261**	P	**P**	**21 10 26.4 -0.6**
XAN			pP	pP	21 10 35.6 +2.4
XAN			sP	pwP	21 10 40.0 +2.0
XAN			PP	**PnPn**	**21 11 04.9 +8.6**
XAN			S	**S**	**21 14 46.3 +3.3**
XAN			pmax	pmax	
	comp=Z,9.0nm,0.9s				
XAN			pmax	pmax	
	comp=Z,170nm,5.7s				
XAN			LR	LR	
	comp=Z,430nm,11.4s				
XAN			LR	LR	
	comp=Z,750nm,12.5s				
XAN			LR	LR	
	comp=Z,540nm,11.9s				
XAN	**Xi'an**	**24.06 261**	P	**P**	**21 10 26.5 -0.6**
XAN			pmax	pmax	
	comp=Z,34nm,0.8s				
XAN	**Xi'an**	**24.06 261**	P	**P**	**21 10 26.5 -0.6**
IRK	**Irkutsk**	**25.11 307**	*e*P	**P**	**21 10 37.6 +1.1**
IRK			pmax	pmax	
	comp=Z,31nm,2.2s				
TLY	**Talaya**	**25.39 305**	*e*P	**P**	**21 10 39.0 0.0**
TLY			*e*S	**S**	**21 15 00.3 -3.7**
TLY			pmax	pmax	
	comp=Z,39nm,1.0s				
TLY			MLR	MLR	
	comp=Z,3μm,15.0s				
TLY	**Talaya**	**25.39 305**	P	**P**	**21 10 38.6 -0.4**
	comp=Z,6.4nm,0.6s,baz=119,slow=12,SNR=4.3				
TLY			LR	LR	21 21 20.0
	comp=Z,813nm,18.8s,baz=82,slow=38				
ZAK	**Zakamensk**	**25.43 302**	*e*P	**P**	**21 10 38.2 -1.3**
ZAK			pmax	pmax	
	comp=Z,18nm,1.2s				
ENH	**Enshi**	**25.55 253**	P	**P**	**21 10 39.4 -1.3**
LZH	**Lanzhou**	**27.01 269**	*e*P	**P**	**21 10 55.5 +1.5**
LZH			pP	sP	21 11 04.5 +1.9
LZH			pmax	pmax	
	comp=Z,38nm,1.0s				
LZH			pmax	pmax	
	comp=Z,170nm,4.3s				
LZH			LR	LR	
	comp=Z,910nm,13.6s				
LZH			LR	LR	
	comp=Z,1μm,12.5s				
LZH			LR	LR	
	comp=Z,2μm,13.9s				
MOY	**Mondy**	**27.02 305**	*e*P	**P**	**21 10 56.6 +2.7**
MOY			pmax	pmax	
	comp=Z,35nm,1.9s				
GUMO	**Guam**	**28.57 166**	LR	LR	21 22 00.2
	comp=Z,183nm,18.1s,baz=352,slow=35				
GTA	**Gaotai**	**28.92 278**	P	**P**	**21 11 10.3 -0.6**
GTA			pP	pP	21 11 15.6 -1.5
GTA			sP	sP	21 11 18.1 -1.5
GTA			S	**S**	**21 16 04.0 +3.9**
GTA			ScP	**SS**	**21 18 00.6 -2.1**
GTA			PcS	**PcS**	**21 18 03.1 +0.7**
GTA			ScS	**ScS**	**21 21 52.6 -0.6**
GTA			pmax	pmax	
	comp=Z,1μm,4.1s				
GTA			LR	LR	
	comp=Z,620nm,12.7s				
GTA			LR	LR	
	comp=Z,1μm,14.4s				
GTA			LR	LR	
	comp=Z,1μm,15.1s				
CD2	**Chengdu**	**29.39 260**	P	**P**	**21 11 15.6 +0.5**
CD2			S	**S**	**21 16 07.0 -0.4**
CD2			sS	pS	21 16 13.8 -0.6
CD2			pmax	pmax	
	comp=Z,30nm,0.5s				
CD2			pmax	pmax	
	comp=Z,160nm,6.1s				
CD2			LR	LR	
	comp=Z,1μm,11.4s				
CD2			LR	LR	
	comp=Z,780nm,12.6s				
CD2			LR	LR	
	comp=Z,1μm,12.9s				
GYA	**Guiyang**	**29.81 249⇑**	*i*P	**P**	**21 11 19.1 +0.2**
GYA			pP	pP	21 11 24.8 -0.3
GYA			PP	**PnPn**	**21 12 19.4 +4.4**
GYA			S	**S**	**21 16 18.3 +4.0**
GYA			pmax	pmax	
	comp=Z,20nm,0.8s				
GYA			pmax	pmax	
	comp=Z,160nm,5.2s				
GYA			LR	LR	
	comp=Z,340nm,11.3s				
GYA			LR	LR	
	comp=Z,400nm,11.6s				
GYA			LR	LR	
	comp=Z,540nm,11.3s				
TIXI	**Tiksi**	**30.45 354**	*i*P	**P**	**21 11 24.4 +0.4**
TIXI			pmax	pmax	
	comp=Z,3.0nm,1.2s				
TIXI	**Tiksi**	**30.45 354**	P	**P**	**21 11 21.3 -2.6**
	comp=Z,1.2nm,0.6s,baz=180,slow=24,SNR=6.4				
TIXI	**Tiksi**	**30.45 354**		**PcP**	**21 14 23.7 +0.9**
BILL	**Bilibino**	**30.54 21**	*e*P	**P**	**21 11 25.8 +1.0**
BILL			*i*		21 11 32.4
BILL			*i*		21 12 24.7
BILL			*e*		21 14 23.4
BILL			pmax	pmax	
	comp=Z,5.0nm,1.0s				
BILL			MLR	MLR	
	comp=Z,315nm,18.0s				
BILL	**Bilibino**	**30.54 21**	P	**P**	**21 11 24.4 -0.4**
ADK	**Adak**	**32.26 56**	P	**P**	**21 11 41.1 +1.0**
ADK			pmax	pmax	
	comp=Z,50nm,1.1s				
ADK	**Adak**	**32.26 56**	P	**P**	**21 11 41.1 +1.0**
ADK			IAmb	IAmb	21 11 41.1
	comp=Z,50nm,1.1s				
QIZ	**Qiongzhong**	**32.84 235**	P	**P**	**21 11 45.5 0.0**
QIZ			S	**S**	**21 17 04.0 +2.5**
QIZ			pmax	pmax	
	comp=Z,340nm,4.7s				
QIZ			LR	LR	
	comp=Z,730nm,16.2s				
QIZ			LR	LR	
	comp=Z,870nm,13.2s				
QIZ			LR	LR	
	comp=Z,750nm,13.2s				
KMI	**Kunming**	**33.41 252**	P	**P**	**21 11 52.5 +1.8**
KMI			sP	pP	21 11 58.3 +1.4
KMI			PP	**PP**	**21 13 05.0 -1.4**
KMI			S	**S**	**21 17 10.8 +0.1**
KMI			SS	**SnSn**	**21 19 17.8 +5.0**
KMI			pmax	pmax	
	comp=Z,9.0nm,1.0s				
KMI			pmax	pmax	
	comp=Z,180nm,4.2s				
KMI			LR	LR	
	comp=Z,530nm,11.0s				
KMI			LR	LR	
	comp=Z,280nm,11.8s				
KMI			LR	LR	
	comp=Z,450nm,12.6s				
DGZ	**Jazzator, Alta**	**35.63 301**	*i*P	**P**	**21 12 09.0 -0.6**
DAV	**Davao City (W)**	**36.11 201**	LR	LR	21 27 34.8
	comp=Z,136nm,18.3s,baz=12,slow=37				
KCP	**Kidapawan**	**36.30 202⇑**	*i*P	**P**	**21 12 15.7 +0.2**
ZALV	**Zalesovo Beam**	**36.90 308**	P	**P**	**21 12 18.4 -1.9**
	comp=Z,7.7nm,0.8s,baz=85,slow=7.7,SNR=26				
ZALV			PcP	**PcP**	**21 14 41.3 0.0**
	comp=Z,6.4nm,0.7s,baz=104,slow=2.3,SNR=13				
ZALV			ScP	**ScP**	**21 18 27.2 +0.7**
	comp=Z,0.5nm,0.5s,baz=96,slow=1.4,SNR=4.4				
ZALV			LR	LR	21 28 05.1
	comp=Z,463nm,21.2s,baz=98,slow=37				
ZALV	**Zalesovo Beam**	**36.90 308**	P	**P**	**21 12 18.1 -2.1**
ZALV				**ScP**	**21 18 26.2 -0.2**
LSA	**Lhasa**	**39.39 268**	P	P	21 12 50.8 +8.7
MKAR	**Makanchi Array**	**39.52 297**	*i*P	**P**	**21 12 41.2 -1.2**
MKAR			pmax	pmax	
	comp=Z,5.0nm,0.8s				
MKAR	**Makanchi Array**	**39.52 297**	P	**P**	**21 12 41.1 -1.4**
	comp=Z,5.4nm,0.8s,baz=82,slow=9.2,SNR=38				
MKAR			LR	LR	21 29 46.4
	comp=Z,555nm,18.3s,baz=65,slow=37				
MKAR	**Makanchi Array**	**39.52 297**	P	**P**	**21 12 41.0 -1.4**
LAMP	**Lampang**	**39.90 246**	P	P	21 12 55.7 +10
	comp=Z,56μm,1.0s				
CMMT	**Chiang Mai**	**40.17 248**	P	**P**	**21 12 48.0 -0.1**
	comp=Z,17nm,0.9s				
CHTO	**Chiang Mai**	**40.17 248**	P	**P**	**21 12 47.8 -0.3**
CHTO			pmax	pmax	
	comp=Z,26nm,0.9s				
CHTO	**Chiang Mai**	**40.17 248**	P	**P**	**21 12 47.8 -0.3**
KKM	**Kota Kinabalu**	**40.36 215**	P	**P**	**21 12 49.7 0.0**
CMAR	**Chiang Mai Arr**	**40.42 247**	*i*P	**P**	**21 12 49.9 -0.2**
CMAR			pmax	pmax	
	comp=Z,3.0nm,0.8s				
CMAR	**Chiang Mai Arr**	**40.42 247**	P	**P**	**21 12 49.3 -0.8**
	comp=Z,3.1nm,0.8s,baz=40,slow=7.2,SNR=14				
CMAR			PcP	**PcP**	**21 14 52.7 -0.2**
	comp=Z,0.4nm,0.4s,baz=28,slow=5.0,SNR=4.2				
CMAR			ScP	**ScP**	**21 18 41.9 +1.4**
	comp=Z,0.3nm,0.5s,baz=57,slow=3.5,SNR=3.5				
CMAR			LR	LR	21 30 52.1
	comp=Z,275nm,19.3s,baz=28,slow=38				
CMAR	**Chiang Mai Arr**	**40.42 247**	P	**P**	**21 12 49.5 -0.6**
CMAR				**PcP**	**21 14 53.5 +0.7**
SHL	**Shillong**	**41.07 262**	P	**P**	**21 12 56.4 +0.8**
SHL			pmax	pmax	
	comp=Z,15nm,0.9s				
SHL	**Shillong**	**41.07 262**	P	**P**	**21 12 56.4 +0.8**
KURK	**Kurchatov**	**41.07 304**	P	**P**	**21 12 53.5 -1.6**
KURK					21 14 54.3
KURK			pmax	pmax	
	comp=Z,26nm,0.8s				
KURK	**Kurchatov**	**41.07 304**	P	**P**	**21 12 53.5 -1.6**
KURBB	**Kurchatov Arra**	**41.14 304**	P	**P**	**21 12 54.0 -1.7**
	comp=Z,12nm,0.8s,baz=80,slow=8.7,SNR=40				
KURBB			PcP	**PcP**	**21 14 54.3 -0.4**
	comp=Z,1.8nm,0.7s,baz=81,slow=3.4,SNR=4.8				
SVW2	**Sparrevohn**	**43.64 40**	P	**P**	**21 13 16.4 +0.4**
TARG	**Taragay, Kyrgy**	**44.09 291**	P	**P**	**21 13 18.9 -1.4**
IMAR	**Indian Mountai**	**44.19 33**	P	**P**	**21 13 20.2 -0.1**
FAKI	**Fak Fak**	**44.62 188**	P	**P**	**21 13 24.6 +0.3**
LUWI	**Luwuk**	**44.63 202**	P	**P**	**21 13 22.5 -1.8**
LUWI			IAmb	IAmb	21 13 23.3
	comp=Z,42nm,1.2s				
SII	**Sitkinak Islan**	**44.98 47**	P	**P**	**21 13 27.5 +0.7**
RSO	**Redoubt South**	**45.09 41**	P	**P**	**21 13 28.3 +0.5**
SKT	**Skwentna**	**45.47 39**	P	**P**	**21 13 30.9 +0.3**
BPAW	**Bear Paw Mtn.**	**45.48 36**	P	**P**	**21 13 30.9 +0.3**
MLY	**Manley**	**45.49 34**	P	**P**	**21 13 31.9 +1.2**
MSAI	**Masohi**	**45.49 193**	P	**P**	**21 13 32.3 +1.1**
BVAR	**Borovoye Array**	**45.55 309**	P	**P**	**21 13 30.1 -1.3**
	comp=Z,1.5nm,0.6s,baz=60,slow=8.8,SNR=8.1				
BVAR			PcP	**PcP**	**21 15 09.7 +0.2**
	comp=Z,2.5nm,0.7s,baz=66,slow=1.7,SNR=6.6				
KTH	**Kantishna Hill**	**45.56 36**	P	**P**	**21 13 31.6 +0.2**
KTH			IAmb	IAmb	21 13 35.4
	comp=Z,42nm,1.0s				
BRVK	**Borovoye**	**45.61 309**	*ce*P	**P**	**21 13 31.3 -0.4**
BRVK			pmax	pmax	
	comp=Z,9.0nm,1.7s				
BRVK	**Borovoye**	**45.61 309**	P	**P**	**21 13 30.7 -1.1**
KDAK	**Kodiak Island**	**45.61 45**	P	**P**	**21 13 31.4 -0.3**
	comp=Z,30nm,0.8s,baz=279,slow=5.9,SNR=10				
KDAK			PcP	**PcP**	**21 15 10.4 +0.7**
	comp=Z,14nm,0.9s,baz=108,slow=3.2,SNR=3.8				
KDAK	**Kodiak Island**	**45.61 45**	IAmb	IAmb	21 13 32.7
	comp=Z,57nm,0.9s				
TOLK	**Toolik Lake Re**	**45.71 29**	P	**P**	**21 13 32.5 +0.1**
	baz=273,SNR=6.6				
TRF	**Thorofare Moun**	**45.86 36**	P	**P**	**21 13 33.9 +0.1**
SUA	**Susitna One**	**45.92 39**	P	**P**	**21 13 34.1 -0.1**
SUA			IAmb	IAmb	21 13 35.4
	comp=Z,25nm,0.7s				
AAK	**Ala-Archa**	**46.06 294**	P	**P**	**21 13 35.1 -0.6**
AAK	**Ala-Archa**	**46.06 294**	P	**P**	**21 13 34.8 -0.9**
AAK			pmax	pmax	
	comp=Z,6.0nm,0.8s				
AAK	**Ala-Archa**	**46.06 294**	P	**P**	**21 13 34.3 -1.4**
	comp=Z,2.5nm,0.7s,baz=131,slow=7.4,SNR=7.2				
AAK	**Ala-Archa**	**46.06 294**	P	**P**	**21 13 34.8 -0.9**
BWN	**Browne**	**46.13 35**	P	**P**	**21 13 37.1 +1.4**
KSH	**Kashi**	**46.22 289**	P	**P**	**21 13 39.9 +3.0**
KSH			ScP	**ScP**	**21 19 06.9 +3.0**
KSH			S	**S**	**21 20 25.9 +3.9**
KSH			sS	sS	21 20 34.1 +1.7
KSH			SS	**SS**	**21 23 43.1 -4.1**
KSH			pmax	pmax	
	comp=Z,330nm,4.9s				
KSH			LR	LR	
	comp=Z,2μm,16.6s				
KSH			LR	LR	
	comp=Z,2μm,13.2s				
KSH			LR	LR	
	comp=Z,2μm,14.5s				
NEA	**Nenana**	**46.25 35**	P	**P**	**21 13 35.7 -0.9**
NEA			IAmb	IAmb	21 13 36.0
	comp=Z,33nm,0.9s				
MCK	**McKinley**	**46.42 36**	IAmb	IAmb	21 13 51.3
	comp=Z,32nm,1.0s				
RC01	**Rabbit Creek A**	**46.46 40**	IAmb	IAmb	21 13 39.8
	comp=Z,41nm,1.0s				
RND	**Reader**	**46.50 36**	IAmb	IAmb	21 13 41.4
	comp=Z,24nm,0.8s				
MDM	**Murphy Dome**	**46.56 34**	P	**P**	**21 13 38.8 -0.3**
MDM			IAmb	IAmb	21 13 51.3
	comp=Z,21nm,1.0s				
PMR	**Palmer**	**46.66 39**	P	**P**	**21 13 40.1 +0.2**
PMR			pmax	pmax	
	comp=Z,34nm,0.9s				
PMR	**Palmer**	**46.66 39**	P	**P**	**21 13 40.1 +0.2**
PMR			IAmb	IAmb	21 13 50.7
	comp=Z,34nm,0.9s				
WRH	**Wood River Hil**	**46.69 35**	IAmb	IAmb	21 13 51.7
	comp=Z,18nm,0.9s				
GHO	**Glory Hole Cre**	**46.73 39**	P	**P**	**21 13 41.1 +0.6**
TCOL	**CIGÖ, UAF Yank**	**46.73 34**	P	**P**	**21 13 41.2 +0.8**
	baz=278,SNR=5.6				
SEW	**Seward**	**46.77 41**	P	**P**	**21 13 40.7 -0.1**
POKR	**Poker Plat Res**	**46.88 34**	P	**P**	**21 13 42.7 +1.1**
	baz=278,SNR=8.4				
KSM	**Kuching**	**47.08 219**	P	**P**	**21 13 43.0 -0.6**
KSM			IAmb	IAmb	21 13 45.0
	comp=Z,21nm,1.0s				
IL31		**47.16 34**	IAmb	IAmb	21 13 55.0
	comp=Z,31nm,0.9s				
ILAR	**Eielson Array**	**47.16 34**	P	**P**	**21 13 44.1 +0.4**
	comp=Z,20nm,0.8s,baz=282,slow=6.3,SNR=131				
ILAR	**Eielson Array**	**47.16 34**	P	**P**	**21 13 43.4 -0.3**
HDA	**Harding Lake**	**47.19 35**	P	**P**	**21 13 44.9 +0.9**
	baz=279,SNR=5.3				
HDA	**Harding Lake**	**47.19 35**	P	**P**	**21 13 44.4 +0.4**
HDA			IAmb	IAmb	21 13 45.7
	comp=Z,38nm,1.1s				
DHY	**Denali Highway**	**47.22 37**	P	**P**	**21 13 42.8 -1.6**
SCM	**Sheep Creek Mo**	**47.46 38**	P	**P**	**21 13 46.4 +0.1**
SCM			pmax	pmax	
	comp=Z,51nm,0.8s				
SCM	**Sheep Creek Mo**	**47.46 38**	P	**P**	**21 13 46.4 +0.1**
FYU	**Fort Yukon**	**47.57 32**	P	**P**	**21 13 47.7 +0.8**
FYU			IAmb	IAmb	21 14 04.9
	comp=Z,24nm,1.0s				
ARSB	**Arslanbob**	**47.60 292**	IAmb	IAmb	21 13 57.3
	comp=Z,30nm,0.9s				
PRP	**Porcupine Dome**	**47.61 33**	P	**P**	**21 13 48.3 +0.9**
BMAR	**Burnt Mountain**	**47.69 31**	P	**P**	**21 13 48.1 +0.1**
GLI	**Glacier Island**	**47.76 40**	P	**P**	**21 13 48.3 -0.2**
EYAK	**Cordova Ski Ar**	**48.48 40**	P	**P**	**21 13 54.5 +0.5**
SCRK	**Sand Creek**	**48.54 35**	P	**P**	**21 13 54.0 -0.6**
DOT	**Dot Lake**	**48.57 36**	IAmb	IAmb	21 13 56.7
	comp=Z,21nm,0.7s				
KKAR	**Karatay Array**	**48.60 296**	P	**P**	**21 13 53.5 -1.8**
KKAR	**Karatay Array**	**48.60 296**	P	**P**	**21 13 53.5 -1.8**
GLB	**Gilahina Butte**	**49.19 38**	P	**P**	**21 14 00.4 +0.8**
GLB			IAmb	IAmb	21 14 15.1
	comp=Z,49nm,1.2s				
KAPI	**Kappang**	**49.29 204**	P	**P**	**21 14 00.8 +0.1**
KAPI			pmax	pmax	
	comp=Z,42nm,1.2s				
KAPI	**Kappang**	**49.29 204**	P	**P**	**21 14 00.8 +0.1**
KAPI			IAmb	IAmb	21 14 01.6
	comp=Z,42nm,1.1s				
VRDI	**Verde Repeater**	**49.41 39**	P	**P**	**21 14 01.9 +0.5**
BCAR	**Beaver Creek A**	**49.71 36**	P	**P**	**21 14 04.5 +1.1**
TGL	**Tana Glacier**	**49.82 39**	P	**P**	**21 14 06.0 +1.6**
SVE	**Sverdlovsk**	**49.96 316**	*e*P	**P**	**21 14 05.3 -0.1**
SVE			pmax	pmax	
	comp=Z,44nm,1.0s				
SVE			MLR	MLR	
	comp=Z,910nm,15.0s				
BALM	**Baldy**	**49.98 39**	P	**P**	**21 14 05.8 +0.2**
BARN	**Barnard Glacie**	**50.29 39**	P	**P**	**21 14 08.5 +0.4**
BARN			IAmb	IAmb	21 14 15.5
	comp=Z,26nm,0.6s				
GAR	**Garm**	**50.42 291**	P	**P**	**21 14 09.1 -0.3**
CTGM	**Chitina Glacie**	**50.47 39**	P	**P**	**21 14 09.8 +0.4**
CTGM			IAmb	IAmb	21 14 12.4
	comp=Z,26nm,0.8s				
NIL	**Nilore**	**50.78 283**	P	**P**	**21 14 12.0 0.0**
NIL			pmax	pmax	
	comp=Z,16nm,1.0s				
NIL	**Nilore**	**50.78 283**	P	**P**	**21 14 12.0 0.0**
EPYK	**Eagle Plains**	**50.95 31**	P	**P**	**21 14 13.9 +1.1**
	baz=286,SNR=23				
ARU	**Arti**	**51.18 316**	*d*iP	**P**	**21 14 14.0 -0.6**
ARU					21 16 07.7
ARU			S	**S**	**21 21 34.6 +3.5**
ARU			SS	**SS**	**21 25 05.5 -0.5**
ARU			pmax	pmax	
	comp=Z,39nm,1.0s				
ARU			MLR	MLR	
	comp=Z,737nm,16.0s				
ARU	**Arti**	**51.18 316**	P	**P**	**21 14 14.0 -0.6**
	comp=Z,9.0nm,0.9s,baz=65,slow=4.0,SNR=25				
ARU	**Arti**	**51.18 316**	P	**P**	**21 14 13.9 -0.7**
JOHN	**Johnston Islan**	**51.22 103**	P	**P**	**21 14 15.7 +0.4**
CHGR	**Chuyangaron**	**51.39 291**	IAmb	IAmb	21 14 25.2
	comp=Z,34nm,0.9s				
INK	**Inuvik**	**51.59 28**	P	**P**	**21 14 18.1 +0.6**
	comp=Z,24nm,0.6s,baz=297,slow=7.2,SNR=3.6				
INK	**Inuvik**	**51.59 28**	IAmb	IAmb	21 14 28.7
	comp=Z,28nm,0.7s				
PSI	**Prapat**	**52.12 233**	P	**P**	**21 14 21.6 -0.7**
PSI			pmax	pmax	
	comp=Z,10.0nm,0.8s				
RPSI	**Rantau Prapat**	**52.20 233**	P	**P**	**21 14 21.6 -1.1**
HYT	**Haines Junctio**	**52.29 38**	P	**P**	**21 14 23.9 +0.9**
HYT			IAmb	IAmb	21 14 26.3
	comp=Z,50nm,1.1s				
SOEI	**Soe**	**52.64 197**	P	**P**	**21 14 24.9 -1.1**
ABKAR	**Akbulak array**	**52.99 307**	P	**P**	**21 14 26.9 -1.3**
ABKAR	**Akbulak array**	**52.99 307**	IAmb	IAmb	21 14 37.4
	comp=Z,39nm,1.4s				
KBL	**Kabul**	**53.40 286**	P	**P**	**21 14 30.5 -1.2**
KBL			pmax	pmax	
	comp=Z,10.0nm,1.1s				
KBL	**Kabul**	**53.40 286**	P	**P**	**21 14 30.5 -1.2**
WHY	**Whitehorse**	**53.56 38**	P	**P**	**21 14 33.1 +0.7**
AKTO	**Aktyubinsk**	**53.66 309**	P	**P**	**21 14 32.3 -0.8**
	comp=Z,3.5nm,0.8s,baz=71,slow=19,SNR=5.4				
GSI	**Gunungsitoli**	**54.12 233**	P	**P**	**21 14 36.7 -0.2**
C36M	**Paulatuk**	**54.44 26**	P	**P**	**21 14 38.7 +0.2**
	baz=294,SNR=5.7				
MTN	**Manton Dam**	**54.55 188**	P	**P**	**21 14 38.3 -1.5**
MTN			IAmb	IAmb	21 14 40.2
	comp=Z,30nm,0.8s				
KIRV	**Kirov**	**54.99 320**	P	**P**	**21 14 42.5 0.0**
	comp=Z,17nm,0.6s,baz=115,slow=0.6,SNR=12				
UGM	**Wanagama**	**55.33 214**	P	**P**	**21 14 44.6 -1.0**
PRGR	**Permogore**	**55.47 325**	*e*P	**P**	**21 14 41.4 -4.6**
PRGR			pmax	pmax	
	comp=Z,56nm,0.9s				
COEN	**Coen**	**55.50 174**	P	**P**	**21 14 47.0 +0.3**
MNAI	**Manna**	**55.76 224**	P	**P**	**21 14 48.4 -0.4**
CISI	**Cisompet, Garu**	**56.18 217**	P	**P**	**21 14 50.7 -1.0**
CISI			IAmb	IAmb	21 14 53.3
	comp=Z,28nm,1.4s				
APA	**Apatity**	**57.40 334⇑**	*i*P	**P**	**21 14 59.0 -0.7**
APA			pmax	pmax	
	comp=Z,15nm,0.9s				
APA			MLR	MLR	
	comp=Z,2μm,16.0s				
KNRA	**Kununurra**	**57.63 190**	P	**P**	**21 15 01.1 -0.7**
KNRA			IAmb	IAmb	21 15 02.8
	comp=Z,31nm,0.9s				
KLMR	**Klimovskoe**	**58.45 325**	*e*P	**P**	**21 15 05.4 -1.7**
KLMR			pmax	pmax	
	comp=Z,72nm,1.2s				
KLMR	**Klimovskoe**	**58.45 325**	*e*P	**P**	**21 15 05.5 -1.7**
KLMR			AMP		21 15 17.5
	comp=Z,72nm,1.2s				
KLMR			LQ	LQ	21 35 58.6
KLMR			LQ	LQ	21 35 58.6
KLMR			LR	LR	21 37 10.6
ARCES	**ARCESS Array B**	**58.75 338**	P	**P**	**21 15 09.3 +0.1**
	comp=Z,5.1nm,0.9s,baz=55,slow=7.8,SNR=3.8				
ARCES			LR	LR	21 43 51.6
	comp=Z,177nm,18.6s,baz=30,slow=40				
RES	**Resolute Bay**	**58.84 14**	P	**P**	**21 15 09.7 0.0**
	comp=Z,13nm,0.9s,baz=303,slow=7.4,SNR=16				
RES	**Resolute Bay**	**58.84 14**	IAmb	IAmb	21 15 19.7
	comp=Z,24nm,1.1s				
GEYT	**Alibeck**	**59.35 295**	P	**P**	**21 15 13.1 -0.7**
	comp=Z,2.4nm,0.7s,baz=48,slow=4.6,SNR=5.1				
GEYT	**Alibeck**	**59.35 295**	P	**P**	**21 15 13.1 -0.7**
GYA0B	**ALIBECK ARRAY**	**59.35 295**	P	**P**	**21 15 13.9 0.0**
FITZ	**Fitzroy Crossi**	**60.49 193**	P	**P**	**21 15 21.8 +0.2**
BBB	**Bella Bella**	**60.69 45**	P	**P**	**21 15 24.0 +1.3**
PALK	**Pallekele**	**60.94 253**	P	**P**	**21 15 24.4 -0.6**
PALK			pmax	pmax	
	comp=Z,24nm,1.3s				
PALK	**Pallekele**	**60.94 253**	P	**P**	**21 15 24.4 -0.6**
PALK			IAmb	IAmb	21 15 35.0
	comp=Z,24nm,1.3s				
WB0	**Warramunga Arr**	**61.16 184**	P	**P**	**21 15 25.0 -1.2**
WB0			IAmb	IAmb	21 15 26.3
	comp=Z,30nm,0.8s				
YKW3	**Yellowknife Ar**	**61.17 30**	IAmb	IAmb	21 15 36.5
	comp=Z,39nm,1.5s				
YKA	**Yellowknife Ar**	**61.21 30**	P	**P**	**21 15 26.3 +0.2**
	comp=Z,7.5nm,0.7s,baz=304,slow=6.5,SNR=34				
YKA			PcP	**PcP**	**21 16 09.2 +0.6**
	comp=Z,1.7nm,0.7s,baz=314,slow=3.5,SNR=4.5				
YKA	**Yellowknife Ar**	**61.21 30**	P	**P**	**21 15 25.7 -0.4**
WRAB	**Tennant Creek**	**61.32 184**	P	**P**	**21 15 25.7 -1.6**
WRAB			pmax	pmax	
	comp=Z,25nm,0.8s				
WRAB	**Tennant Creek**	**61.32 184**	P	**P**	**21 15 25.7 -1.6**
WRAB			IAmb	IAmb	21 15 27.4
	comp=Z,25nm,0.8s				
WB2	**Warramunga Arr**	**61.33 184**	P	**P**	**21 15 26.4 -1.0**
WB2			IAmb	IAmb	21 15 27.5
	comp=Z,24nm,0.8s				
WRA	**Warramunga Arr**	**61.33 184**	P	**P**	**21 15 25.5 -1.9**
WRA					21 16 09.6
WRA			pmax	pmax	
	comp=Z,2.0nm,0.8s				
WRA	**Warramunga Arr**	**61.33 184**	P	**P**	**21 15 26.3 -1.1**
	comp=Z,21nm,0.7s,baz=0.9,slow=7.4,SNR=102				
WRA			PcP	**PcP**	**21 16 09.6 0.0**
	comp=Z,4.3nm,1.0s,baz=358,slow=4.4,SNR=5.7				
WRA	**Warramunga Arr**	**61.33 184**	P	**P**	**21 15 25.5 -1.9**
WR0	**Warramunga Arr**	**61.34 184**	P	**P**	**21 15 26.3 -1.1**
WR0			IAmb	IAmb	21 15 27.5
	comp=Z,23nm,0.8s				
MOS	**Moscow**	**61.98 321**	*e*P	**P**	**21 15 30.9 -0.5**
MOS			*e*		21 15 40.1
MOS			pmax	pmax	
	comp=Z,33nm,0.8s				
MOS			MLR	MLR	
	comp=Z,800nm,20.0s				
VRH	**Novokhopyorsk**	**62.41 315**	*e*P	**P**	**21 15 36.3 +2.0**
VRH			pmax	pmax	
	comp=Z,20nm,0.8s				
OBN	**Obninsk**	**62.83 321**	*ce*P	**P**	**21 15 38.0 +0.9**
OBN			*i*		21 16 15.2
OBN			pmax	pmax	
	comp=Z,73nm,2.5s				
OBN			MLR	MLR	
	comp=Z,166nm,15.0s				
OBN	**Obninsk**	**62.83 321**	P	**P**	**21 15 36.5 -0.6**
	comp=Z,4.9nm,0.6s,baz=94,slow=21,SNR=4.1				
LPSR	**Galich'ya Gora**	**63.09 318**	*e*P	**P**	**21 15 39.5 +0.7**
LPSR			pmax	pmax	
	comp=Z,20nm,1.0s				
FINES	**FINESS Array B**	**63.51 330**	P	**P**	**21 15 41.1 -0.4**
	comp=Z,12nm,0.8s,baz=57,slow=7.0,SNR=13	

ASAR Alice Springs 65.06 184 P P 21 15 51.5 -0.6
comp=Z,13nm,0.9s,baz=5.7,slow=5.9,SNR=87
ASAR LR LR 21 42 33.1
comp=Z,108nm,21.6s,baz=328,slow=34
ASAR PKPPKP P'P'df 21 44 36.4 +7.9
comp=Z,2.0nm,1.2s,baz=163,slow=4.8,SNR=3.6
GOF Gofitskoye 65.08 309 ⇓*i*P **pP 21 16 00.9 +2.3**
GOF pmax pmax
comp=Z,54nm,1.3s
VSU Vasula 65.15 327 *i*P **P 21 15 52.4 +0.2**
VSU pmax pmax
comp=Z,32nm,1.0s
VSU Vasula 65.15 327 *e*P **P 21 15 53.1 +0.8**
VSU IAmb IAmb 21 16 02.5
comp=Z,115nm,0.5s
A04D Lummi Island 65.48 46 P **P 21 15 55.5 +1.0**
baz=306
NLWA Neilton Lookou 65.61 48 P **P 21 15 56.6 +1.0**
NLWA IAmb IAmb 21 15 58.2
comp=Z,24nm,0.9s
ZEI Tsey 65.86 306 *e*P **P 21 15 59.2 +1.8**
ZEI pmax pmax
comp=Z,14nm,1.4s
KIV Kislovodsk 65.92 308 *i*P **P 21 16 00.7 +3.0**
SNR=12
KIV Kislovodsk 65.92 308 *e*P **P 21 15 57.2 -0.4**
KIV pmax pmax
comp=Z,138nm,1.0s
KIV Kislovodsk 65.92 308 P **P 21 15 57.2 -0.4**
KBZ Khabaz 65.92 308 P **P 21 15 57.4 -0.1**
comp=Z,2.8nm,1.1s,baz=95,slow=7.7,SNR=4.2
KBZ LR LR 21 46 53.2
comp=Z,196nm,19.7s,baz=35,slow=38
D03D Eldon 65.96 47 P **P 21 15 59.0 +1.3**
baz=306
SHA1 Shidzhatmaz 66.06 308 *i*P **P 21 15 58.1 -0.6**
B05A Bryant 66.08 46 P **P 21 15 59.2 +0.8**
baz=306
SUMG Summit 66.08 359 *i*P **P 21 15 59.0 +0.4**
SUMG *i* 21 16 08.8
SUMG pmax pmax
comp=Z,32nm,0.8s
SUMG Summit 66.08 359 *i*P **P 21 15 59.0 +0.4**
comp=Z,32nm,0.8s
SUMG *i* 21 16 08.8
B06A Marblemount 66.25 46 IAmb IAmb 21 16 01.2
comp=Z,27nm,1.0s
E03A Lebam 66.28 48 P **P 21 16 00.0 +0.2**
D04E Lakebay 66.35 47 P **P 21 16 01.7 +1.5**
baz=306
D05A Enumclaw 66.77 47 P **P 21 16 03.4 +0.5**
E04D Cinebar 66.83 48 P **P 21 16 04.4 +1.1**
baz=307,SNR=6.2
F04D Rainier, OR 66.86 48 P **P 21 16 04.3 +0.8**
baz=307
GNI Garni 66.87 304 *ce*P **P 21 16 04.1 +0.2**
GNI pmax pmax
comp=Z,24nm,1.7s
AKH Akhalkalaki 66.91 305 ⇑P pP 21 16 13.9 +3.2
C06D Leavenworth 66.92 46 P **P 21 16 04.6 +0.6**
baz=307
IZAR Zarasai 67.11 325 IAmb IAmb 21 16 15.4
comp=Z,17nm,1.3s
LON Longmire 67.13 47 P **P 21 16 05.6 +0.3**
LON pmax pmax
comp=Z,19nm,1.5s
LON Longmire 67.13 47 P **P 21 16 05.6 +0.3**
IDID Didziasalis 67.18 325 *e*P **P 21 16 05.2 -0.1**
WSAR Wadi Sarin 67.20 281 P **P 21 16 06.1 0.0**
comp=Z,8.8nm,1.0s,baz=66,slow=9.1,SNR=2.2
MICGM Minsk 67.20 324 ⇓*e*P **pP 21 16 14.0 +1.9**
MICGM PM 21 16 15.0
comp=Z,0.1nm,2.0s
MNK Minsk 67.20 324 ⇓*e*P **pP 21 16 14.0 +1.9**
MNK pmax pmax
comp=Z,120nm,2.0s
G03D McMinnville, O 67.24 49 P **P 21 16 07.2 +1.3**
baz=307
SCO Scoresbysund 67.26 353 *i*P **pP 21 16 15.1 +2.9**
SCO pmax pmax
comp=Z,12nm,0.9s
SCO Scoresbysund 67.26 353 *i*P pP 21 16 15.1 +2.9
comp=Z,12nm,0.9s
ISAL Salakas 67.28 325 *e*P **P 21 16 05.6 -0.4**
ISAL IAmb IAmb 21 16 16.6
comp=Z,20nm,0.8s
F04A Amboy 67.28 48 P **P 21 16 06.9 +0.8**
SHME Shamm 67.34 285 P pP 21 16 15.7 +2.2
IIGN Ignalina 67.38 325 *e*P **P 21 16 06.5 -0.2**
IIGN IAmb IAmb 21 16 17.2
comp=Z,16nm,0.9s
NACGM Naroch 67.43 324 *e* **P 21 16 07.0 +0.1**
B08A Colville Reser 67.49 45 IAmb IAmb 21 16 09.1
comp=Z,16nm,1.1s
I02D Swisshome 67.56 50 P **P 21 16 09.3 +1.3**
baz=307
COR Corvallis 67.59 50 P **P 21 16 09.3 +1.2**
COR pmax pmax
comp=Z,64nm,1.0s
COR Corvallis 67.59 50 P **P 21 16 09.3 +1.2**
MSFE Esma-Masafi 67.74 285 P pP 21 16 18.9 +2.9
F05D White Salmon 67.84 48 P **P 21 16 10.9 +1.1**
baz=308
H04D Lebanon 67.95 50 P **P 21 16 11.7 +1.3**
baz=307
UOSS Minazif 67.95 284 P pP 21 16 19.6 +2.2
J01E Myrtle Point 68.08 51 P **P 21 16 12.7 +1.5**
baz=307
HATD Hatta, Dubai 68.08 284 *i*P pP 21 16 20.5 +2.4
SNR=6.1
I03D Drain, OR 68.09 51 P **P 21 16 12.7 +1.4**
baz=307,SNR=7.9
ASHO Ashiyiah 68.22 284 *i*P pP 21 16 21.0 +1.9
SNR=6.8
PABE Paberze 68.24 326 *e*P **P 21 16 11.8 -0.1**
PABE IAmb IAmb 21 16 22.1
comp=Z,38nm,0.8s
G05D Wamic, OR 68.32 48 P **P 21 16 13.8 +1.0**
baz=308,SNR=6.6
E07A Sunnyside 68.32 47 P **P 21 16 13.6 +0.8**
E07A IAmb IAmb 21 16 14.8
comp=Z,22nm,0.9s
ANN Anapa 68.45 311 *e*P P 21 16 17.7 +4.2
ANN pmax pmax
comp=Z,33nm,1.1s
ANN MLR MLR
comp=Z,279nm,14.0s
KBO Bosley Butte 68.47 52 P **P 21 16 14.6 +0.7**
K02D Willamette Mer 68.51 52 P **P 21 16 15.3 +1.2**
baz=307,SNR=8.9
HAWA Hanford 68.59 47 IAmb IAmb 21 16 16.4
comp=Z,22nm,0.8s
F07A Phinny Hill Vi 68.69 47 P **P 21 16 16.0 +1.0**
F07A IAmb IAmb 21 16 17.2
comp=Z,26nm,0.8s
NC405 NORSAR Array S 68.70 335 P **P 21 16 14.8 -0.1**
NEW Newport 68.71 44 P **P 21 16 15.7 +0.5**
baz=309,SNR=13
NEW Newport 68.71 44 P **P 21 16 15.6 +0.4**
comp=Z,19nm,0.9s,baz=312,slow=5.0,SNR=27
NEW Newport 68.71 44 IAmb IAmb 21 16 16.8
comp=Z,17nm,0.8s
PBUR Paburg 68.72 327 *e*P **P 21 16 14.5 -0.5**
NC303 NORSAR Array S 68.72 335 P **P 21 16 14.5 -0.5**
ASUD Al Ashush, Dub 68.78 284 P pP 21 16 24.7 +2.2
E08A Dider Farm, El 68.79 46 IAmb IAmb 21 16 17.5
comp=Z,24nm,0.8s
HFS Hagfors 68.80 334 P **P 21 16 14.7 -0.8**
comp=Z,6.0nm,1.0s,baz=95,slow=11,SNR=5.0
ALNE Al Ain 68.82 284 *i*P pP 21 16 24.9 +2.1
SNR=7.1
I05D Terrebonne, OR 68.86 49 P **P 21 16 17.2 +1.0**
baz=308,SNR=11
L02E Cave Junction 68.87 52 P **P 21 16 17.6 +1.3**
baz=308,SNR=5.0
NC204 NORSAR Array S 68.88 336 P **P 21 16 16.8 +0.8**
NB201 NORSAR Array S 68.88 335 P **P 21 16 16.7 +0.7**
NB2 NORSAR Subarra 68.92 335 P **P 21 16 16.0 -0.2**
comp=Z,51nm,1.1s,baz=40,slow=6.5
NB2 NORSAR Subarra 68.92 335 P **P 21 16 16.0 -0.2**
baz=40,slow=6.5
NOA NORSAR Array B 68.92 335 P **P 21 16 15.9 -0.4**
comp=Z,3.7nm,0.9s,baz=40,slow=6.3,SNR=6.6
NOA LR LR 21 51 34.2
comp=Z,166nm,18.1s,baz=45,slow=40
HUMO Hull Mountain 68.98 51 P **P 21 16 17.4 +0.4**

AKASG Malin Array Be 69.05 320 P **P 21 16 16.3 -0.9**
comp=Z,1.0nm,0.5s,baz=43,slow=6.8,SNR=7.3
AKASG LR LR 21 46 21.3
comp=Z,139nm,20.5s,baz=30,slow=36
AKBB Malin Array Si 69.05 320 P **P 21 16 18.3 +1.2**
AKBB pmax pmax
comp=Z,20nm,1.0s
AKBB Malin Array Si 69.05 320 P **P 21 16 18.3 +1.2**
AKBB IAmb IAmb 21 16 26.6
comp=Z,20nm,0.9s
NC602 NORSAR Array S 69.05 335 P **P 21 16 17.7 +0.8**
NBO00 NORSAR Array S 69.06 335 P **P 21 16 18.0 +0.9**
KRMB Red Mountain 69.08 53 P **P 21 16 18.0 +0.3**
KRMB IAmb IAmb 21 16 20.2
comp=Z,30nm,1.2s
J04D Umpqua Nationa 69.09 50 P **P 21 16 18.9 +1.0**
baz=308
NAO01 NORSAR Array S 69.17 335 P **P 21 16 18.6 +0.9**
NAO01 IAmb IAmb 21 16 37.5
comp=Z,17nm,0.9s
JCC Jacoby Creek, 69.43 53 P **P 21 16 19.9 +0.2**
J05D Fort Rock, OR 69.56 50 P **P 21 16 22.1 +1.3**
baz=308,SNR=23
L04D Klamath Falls 69.60 51 P **P 21 16 22.0 +1.1**
baz=308,SNR=16
YBH Yreka Blue Hor 69.66 52 P **P 21 16 22.0 +0.7**
YBH pmax pmax
comp=Z,28nm,1.2s
YBH Yreka Blue Hor 69.66 52 P **P 21 16 21.8 +0.5**
comp=Z,12nm,0.9s,baz=342,slow=3.8,SNR=24
YBH Yreka Blue Hor 69.66 52 P **P 21 16 22.0 +0.7**
YBH IAmb IAmb 21 16 23.8
comp=Z,28nm,1.2s
K04D Chiloquin, OR 69.67 51 P **P 21 16 22.5 +1.1**
baz=308
MSVF Nonsavu 69.74 139 P **P 21 16 23.6 +1.8**
MSVF pmax pmax
comp=Z,45nm,1.0s
MSVF Nonsavu 69.74 139 P **P 21 16 23.6 +1.8**
M02C Callahan 69.78 52 P **P 21 16 23.7 +1.7**
baz=308,SNR=13
WALA Waterton Lakes 69.84 42 P **P 21 16 22.7 +0.4**
WALA IAmb IAmb 21 16 24.0
comp=Z,18nm,0.9s
N02D Trinity Center 70.13 53 P **P 21 16 25.6 +1.5**
baz=308,SNR=8.2
M04C Macdoel 70.14 51 P **P 21 16 25.4 +1.1**
baz=308,SNR=19
SIM Simferopol' 70.21 313 *ce*P **pP 21 16 33.3 +2.3**
SIM *e**PP pwP 21 16 37.0 +1.1
SIM pmax pmax
comp=Z,15nm,0.8s
SIM MLR MLR
comp=N,160nm,16.8s
WDC Whiskeytown Da 70.47 53 P **P 21 16 26.7 +0.6**
WDC pmax pmax
comp=Z,29nm,1.3s
WDC Whiskeytown Da 70.47 53 P **P 21 16 26.7 +0.6**
WDC IAmb IAmb 21 16 28.3
comp=Z,29nm,1.2s
KONO Kongsberg 70.50 335 P **P 21 16 26.7 +0.8**
KONO pmax pmax
comp=Z,22nm,1.1s
KONO Kongsberg 70.50 335 P **P 21 16 26.7 +0.8**
KONO IAmb IAmb 21 16 35.8
comp=Z,22nm,1.1s
JTMT Jette 70.51 43 P **P 21 16 27.1 +0.7**
O02D Mt. Diablo Mer 70.57 53 P **P 21 16 28.2 +1.3**
baz=308,SNR=16
BMO Blue Mountains 70.78 47 IAmb IAmb 21 16 29.9
comp=Z,16nm,0.8s
MOD Modoc Plateau 70.96 51 P **P 21 16 30.0 +0.7**
MOD IAmb IAmb 21 16 31.1
comp=Z,17nm,0.7s
FCC Fort Churchill 71.08 26 P **P 21 16 29.1 -0.3**
FCC pmax pmax
comp=Z,32nm,1.2s
FCC Fort Churchill 71.08 26 P **P 21 16 29.1 -0.3**
FCC IAmb IAmb 21 16 39.3
comp=Z,32nm,1.1s
O03E Paynes Creek 71.09 53 P **P 21 16 30.5 +0.5**
baz=309,SNR=9.8
SORM Soroca 71.17 318 ⇓P pP 21 16 38.6 +1.8
SORM Soroca 71.17 318 ⇓P pP 21 16 38.6 +1.8
FFC Flin Flon 71.28 32 P **P 21 16 31.2 +0.4**
FFC pmax pmax
comp=Z,30nm,0.9s
FFC Flin Flon 71.28 32 P **P 21 16 31.2 +0.4**
FFC IAmb IAmb 21 16 32.2
comp=Z,30nm,0.9s
MSO Missoula 71.28 44 P **P 21 16 31.5 +0.4**
baz=311,SNR=12
MSO Missoula 71.28 44 IAmb IAmb 21 16 32.6
comp=Z,20nm,1.1s
PLID Pearl Lake 71.33 46 IAmb IAmb 21 16 36.1
comp=Z,12nm,0.8s
WVOR Wild Horse Val 71.58 49 IAmb IAmb 21 16 35.0
comp=Z,21nm,0.9s
ORV Oroville 71.73 53 IAmb IAmb 21 16 35.0
comp=Z,15nm,0.8s
MILM Milestii Mici 71.74 317 ⇓P pP 21 16 41.6 +1.3
LVV L'vov 72.11 322 *e*P pP 21 16 44.3 +1.8
BEKR Beckworth 72.22 52 IAmb IAmb 21 16 38.6
comp=Z,28nm,0.9s
AFDM Forest Hills D 72.44 53 IAmb IAmb 21 16 39.8
comp=Z,25nm,1.3s
MFID Camas Ranch 72.52 47 IAmb IAmb 21 16 40.6
comp=Z,33nm,1.2s
EGMT Eagleton 72.58 41 P **P 21 16 39.4 +0.6**
baz=314,SNR=14
LRM Limekiln Ridge 72.72 44 **P 21 16 40.7 +0.7**
PAHR Pah Rah Range 72.90 52 IAmb IAmb 21 16 42.8
comp=Z,34nm,0.9s
VCNR Virginia City 73.00 52 P **P 21 16 42.1 +0.4**
BURAR Bucovina Array 73.07 319 ⇓P **P 21 16 42.0 +0.3**
BURAR Bucovina Array 73.07 319 ⇓P **P 21 16 42.0 +0.3**
BURAR Bucovina Array 73.07 319 P **P 21 16 42.2 +0.4**
BIZ Bicaz 73.10 318 ⇑P pP 21 16 48.1 -0.3
TESR Tescani 73.11 318 ⇑P pP 21 16 50.5 +1.9
PNTR Pine Nut 73.17 53 P **P 21 16 43.3 +0.7**
PNTR IAmb IAmb 21 16 45.6
comp=Z,16nm,0.7s
RGN Rugen 73.17 330 P **P 21 16 41.9 -0.1**
STKA Stephens Creek 73.21 177 P **P 21 16 42.6 +0.3**
comp=Z,6.0nm,0.8s,baz=339,slow=9.2,SNR=8.5
STKA LR LR 21 46 26.2
comp=Z,65nm,21.9s,baz=16,slow=34
CFR Carcaliu 73.26 316 ⇓P pP 21 16 52.2 +2.8
CFR Carcaliu 73.26 316 ⇓P pP 21 16 52.2 +2.8
BOZ Bozeman (W) 73.30 43 P **P 21 16 43.9 +0.7**
baz=313,SNR=51
BOZ Bozeman (W) 73.30 43 IAmb IAmb 21 16 45.0
comp=Z,31nm,0.8s
CMB Columbia Colle 73.37 54 IAmb IAmb 21 16 45.5
comp=Z,30nm,1.1s
ODBI Odobesti 73.42 317 ⇑P pP 21 16 53.7 +3.4
YERR Yerington 73.45 52 P **P 21 16 45.0 +0.7**
YERR IAmb IAmb 21 16 46.3
comp=Z,41nm,1.0s
VRI Vrincioaia 73.52 317 ⇑P pP 21 16 54.3 +3.4
VRI Vrincioaia 73.52 317 ⇑P pP 21 16 54.3 +3.4
KOLS Kolonicke sedl 73.55 322 *e*P **P 21 16 45.4 +1.0**
KOLS Kolonicke sedl 73.55 322 *e*P **P 21 16 45.4 +1.0**
PLOR Plostina 73.57 317 ⇓P pP 21 16 50.6 -0.7
PLOR Plostina 73.57 317 ⇓P pP 21 16 50.6 -0.7
TIRR Tirgusor 73.60 315 ⇑P **P 21 16 47.6 +2.8**
TIRR Tirgusor 73.60 315 ⇑P **P 21 16 47.6 +2.8**
WAKR Walker 73.64 53 IAmb IAmb 21 16 47.7
comp=Z,30nm,1.3s
BMN Battle Mountai 73.69 50 IAmb IAmb 21 16 47.8
comp=Z,31nm,0.7s
TLB Topalu 73.71 316 ⇑P pP 21 16 55.3 +3.3
TLB Topalu 73.71 316 ⇑P pP 21 16 55.3 +3.3
GRER 73.72 317 ⇓P pP 21 16 55.6 +3.4
OJC Ojcow 73.75 324 *e*P **P 21 16 46.3 +0.7**
OJC Ojcow 73.75 324 *e*P **P 21 16 46.3 +0.7**
OJC *e*P **P 21 16 46.3 +0.7**
OJC Ojcow 73.75 324 IAmb IAmb 21 16 56.0
comp=Z,36nm,0.9s
UZH Uzhgorod 73.75 321 *e*P **P 21 16 44.7 -0.9**
UZH *e* 21 16 54.2
OZUR 73.84 318 ⇑P pP 21 16 55.7 +2.9
BRTR Keskin Array B 73.84 309 *i*P **P 21 16 47.7 +1.2**
BRTR Keskin Array B 73.84 309 P **P 21 16 45.9 -0.6**
comp=Z,1.0nm,0.8s,baz=60,slow=5.4,SNR=6.0

BRTR LR LR 21 52 55.7
comp=Z,133nm,18.2s,baz=54,slow=39
BRTR Keskin Array B 73.84 309 P **P 21 16 46.1 -0.3**
QLMT Earthquake Lak 73.93 44 P **P 21 16 47.1 +0.1**
TRPA Tarpa 73.99 321 ⇑P **P 21 16 47.8 +0.8**
KVN Kaiserville 74.08 52 IAmb IAmb 21 16 50.0
comp=Z,32nm,0.8s
NIE Niedzica 74.11 323 *e*P **P 21 16 48.6 +0.9**
NIE Niedzica 74.11 323 *e*P **P 21 16 48.6 +0.9**
NIE *e*P **P 21 16 48.6 +0.9**
RYN Ryan 74.11 52 IAmb IAmb 21 16 50.2
comp=Z,26nm,1.2s
ISR Istrita 74.12 317 ⇓P **P 21 16 50.0 +2.1**
ISR Istrita 74.12 317 ⇓P **P 21 16 50.0 +2.1**
DOPR Dopca 74.12 318 ⇓P **P 21 16 50.8 +3.0**
MLR Muntele Rosu 74.17 317 ⇑P **P 21 16 44.0 -4.3**
MLR Muntele Rosu 74.17 317 ⇑P **P 21 16 44.0 -4.3**
YMR Madison River 74.28 44 P **P 21 16 50.2 +1.1**
NVAR Mina Array Bea 74.37 52 P **P 21 16 50.4 +0.7**
comp=Z,18nm,0.9s,baz=297,slow=5.6,SNR=44
NVAR Mina Array Bea 74.37 52 P **P 21 16 50.5 +0.9**
YNR Norris Junctio 74.39 44 P **P 21 16 50.3 +0.5**
NV11 Mina Array Sit 74.45 52 IAmb IAmb 21 16 52.2
comp=Z,28nm,1.2s
OMMB Old Mammoth Mi 74.48 53 P **P 21 16 51.3 +0.8**
OMMB IAmb IAmb 21 16 52.7
comp=Z,27nm,1.4s
MLAC Mammoth, Mammo 74.57 53 P **P 21 16 52.1 +1.2**
baz=311
ELK Elko 74.61 49 P **P 21 16 52.1 +1.0**
comp=Z,12nm,0.8s,baz=307,slow=5.8,SNR=41
YPP Pitchstone Pla 74.64 44 P **P 21 16 52.1 +0.9**
LKWY Lake 74.64 44 P **P 21 16 53.2 +2.0**
LKWY pmax pmax
comp=Z,18nm,0.8s
LKWY Lake 74.64 44 P **P 21 16 53.2 +2.0**
LKWY IAmb IAmb 21 16 54.7
comp=Z,18nm,0.8s
VOIR 74.66 318 ⇓P pP 21 16 56.3 -1.4
VOIR 74.66 318 ⇓P pP 21 16 56.3 -1.4
H17A Grant Village 74.67 44 P P 21 16 53.9 +2.5
baz=314,SNR=31
H17A Grant Village 74.67 44 P **P 21 16 52.6 +1.2**
OKC Ostrava-Krasne 74.75 324 *e*P **P 21 16 53.4 +2.0**
OKC *e* 21 17 00.9
OKC Ostrava-Krasne 74.75 324 *e*P **P 21 16 53.4 +2.0**
OKC *e*pP **sP 21 17 00.9 +0.4**
KSP Ksiaz 74.80 326 *e*P **P 21 16 50.9 -0.8**
KSP Ksiaz 74.80 326 *e*P **P 21 16 50.9 -0.8**
KSP *e*P **P 21 16 50.9 -0.8**
FLWY Flagg Ranch 74.82 44 P **P 21 16 53.4 +1.2**
FLWY IAmb IAmb 21 16 55.2
comp=Z,23nm,1.1s
IMW Indian Meadow 74.82 44 P **P 21 16 53.5 +1.1**
IMW IAmb IAmb 21 16 54.9
comp=Z,25nm,0.8s
RLMT Red Lodge 74.83 43 P **P 21 16 53.2 +0.9**
baz=314,SNR=21
RLMT Red Lodge 74.83 43 IAmb IAmb 21 16 54.3
comp=Z,16nm,0.8s
DRGR 74.86 320 ⇑P **P 21 16 54.7 +2.5**
DRGR 74.86 320 ⇑P **P 21 16 54.7 +2.5**
DGMT Dagmar 74.89 38 P **P 21 16 52.6 +0.3**
baz=317,SNR=6.6
ARR Arges 74.92 318 ⇑P **P 21 16 54.3 +1.7**
FXWY Fox Creek 74.95 45 IAmb IAmb 21 16 55.5
comp=Z,19nm,0.8s
MOOW Moose Ponds 75.03 44 IAmb IAmb 21 16 56.0
comp=Z,31nm,1.1s
MORC Moravsky Berou 75.06 325 ⇓P **P 21 16 54.0 +0.7**
MORC Moravsky Berou 75.06 325 ⇓P **P 21 16 54.0 +0.7**
MORC Moravsky Berou 75.06 325 *e*P sP 21 17 02.7 +0.3
CHVC Chvalec 75.09 326 *e*P **P 21 16 55.1 +1.7**
CHVC *ex* x 21 17 03.4
TPAW Teton Pass 75.10 45 IAmb IAmb 21 16 56.4
comp=Z,18nm,0.9s
DPC Dobruska-Polom 75.16 326 *e*P **P 21 16 55.6 +1.8**
DPC *e* 21 17 03.7
DPC Dobruska-Polom 75.16 326 *e*P **P 21 16 55.6 +1.8**
DPC *ex* x 21 17 03.7
KRLC Kraliky 75.17 325 *e*P **P 21 16 54.5 +0.6**
KRLC *e* 21 17 03.1
KRLC Kraliky 75.17 325 *e*P **P 21 16 54.5 +0.6**
KRLC *e*pP **sP 21 17 03.1 +0.1**
UPC Upice 75.17 326 AMS AMS 21 53 40.0
comp=Z,500nm,16.0s
SNOW Snow King Moun 75.22 45 P **P 21 16 55.6 +1.0**
SNOW IAmb IAmb 21 16 57.1
comp=Z,18nm,0.8s
LAO LASA Array 75.23 40 P **P 21 16 55.1 +0.7**
baz=316,SNR=6.6
LAO LASA Array 75.23 40 P **P 21 16 55.0 +0.6**
LAO IAmb IAmb 21 16 56.2
comp=Z,35nm,0.9s
REDW Red Top Meadow 75.24 45 IAmb IAmb 21 16 57.0
comp=Z,23nm,0.9s
HVU Hansel Valley 75.29 47 P **P 21 16 55.6 +0.7**
HVU pmax pmax
comp=Z,19nm,0.8s
HVU Hansel Valley 75.29 47 P **P 21 16 55.6 +0.7**
LOT Lotru 75.30 318 ⇑P pP 21 17 03.4 +1.9
TIN Tinemaha, Big 75.31 53 P **P 21 16 56.1 +1.0**
baz=311
SMMC Simmler 75.37 56 P **P 21 16 56.4 +1.1**
baz=311
PSZ Piszkesteto 75.38 322 P **P 21 16 56.0 +0.8**
PSZ pmax pmax
comp=Z,18nm,1.1s
PSZ Piszkesteto 75.38 322 ⇓P P 21 16 58.6 +3.4
PSZ Piszkesteto 75.38 322 P **P 21 16 56.0 +0.8**
VYHS Vyhne 75.44 323 *e*P **P 21 16 56.5 +1.1**
VYHS *e* 21 17 05.1
VYHS Vyhne 75.44 323 *e*P **P 21 16 56.5 +1.1**
VYHS *e* 21 17 05.1
AHID Auburn Hatcher 75.52 45 IAmb IAmb 21 16 58.0
comp=Z,17nm,0.8s
VES Vestal, Richgr 75.59 55 P **P 21 16 56.6 +0.2**
baz=311,SNR=7.8
JAVC Velka Javorina 75.69 324 *e*P sP 21 17 07.3 +1.3
BGU Big Grassy Mou 75.73 48 P **P 21 16 57.9 +0.5**
BRG Berggiesshubel 75.75 327 *i*PKP sP 21 17 06.2 0.0
comp=Z,14nm,1.0s
BRG Berggiesshubel 75.75 327 *i*P **sP 21 17 06.2 0.0**
BRG pmax pmax
comp=Z,14nm,1.0s
PVCC Panska Ves 75.75 327 AMS AMS 21 53 20.0
comp=Z,500nm,16.5s
PKM Mcpherson Peak 75.76 56 P **P 21 16 58.7 +1.0**
baz=311,SNR=7.7
CLL Collm 75.79 328 *i*P **P 21 16 57.4 +0.1**
CLL pmax pmax
comp=Z,19nm,0.8s
CLL MLR MLR
comp=Z,500nm,15.2s
CLL Collm 75.79 328 *i*P **P 21 16 57.4 +0.1**
comp=Z,19nm,0.8s
CLL *i*sP **sP 21 17 06.6 +0.2**
CLL Collm 75.79 328 IAmb IAmb 21 17 07.3
comp=Z,16nm,0.7s
CWC Cottonwood Cre 75.81 54 P **P 21 16 58.7 +0.7**
baz=312
VRAC Vranov 75.82 325 P **P 21 16 58.2 +0.6**
comp=Z,1.0nm,0.3s,baz=45,slow=11,SNR=2.7
VRAC Vranov 75.82 325 ⇑P sP 21 17 07.7 +0.9
VRAC Vranov 75.82 325 *e*P sP 21 17 03.3 +0.6
GZR Gura Zlata 75.83 319 ⇓P **P 21 16 57.6 -0.2**
GZR Gura Zlata 75.83 319 ⇓P **P 21 16 57.6 -0.2**
GRAC Grapevine Rang 75.87 53 P **P 21 16 59.4 +1.2**
baz=312,SNR=6.3
ELND Elena 75.99 315 ⇓P sP 21 17 07.3 -0.5
R11A Troy Canyon, C 76.02 51 P **P 21 16 60.0 +0.8**
baz=312,SNR=18
ISA Isabella, Lake 76.08 55 P **P 21 16 59.1 -0.3**
baz=312,SNR=6.5
KRUC Moravsky 76.09 325 *e*P sP 21 17 08.7 +0.5
SBC Santa Barbara 76.11 56 P **P 21 17 00.7 +1.2**
baz=311
GOPC GO Pecny, Ondr 76.13 326 *e*P **P 21 17 00.1 +0.7**
GOPC *e* 21 17 08.3
GOPC MLR MLR
comp=Z,500nm,16.9s
GOPC GO Pecny, Ondr 76.13 326 *e*P **P 21 17 00.1 +0.7**
GOPC *e*pP **sP 21 17 08.3 -0.2**
GOPC AMS AMS 21 55 40.0

comp=Z,500nm,16.9s
PRU **Pruhonice** 76.18 326 *e*P P 21 17 01.2 +1.6
PRU *e* 21 17 09.3
PRU MLR MLR
comp=Z,400nm,17.0s
PRU **Pruhonice** 76.18 326 *e*P P 21 17 01.2 +1.6
PRU *ep*P sP 21 17 09.3 +0.6
PRU AMS AMS 21 56 40.0
comp=Z,400nm,17.0s
DAC **Darwin (Calif)** 76.21 54 P P 21 17 02.3 +2.0
DAC pmax pmax
comp=Z,14nm,0.8s
DAC **Darwin (Calif)** 76.21 54 P P 21 17 02.3 +2.0
DAC IAmb IAmb 21 17 04.2
comp=Z,14nm,0.8s
ARVC **Arvin** 76.21 55 P P 21 17 01.2 +1.1
baz=312
BZS **Buzias** 76.24 320 ⇑P P 21 16 59.1 -0.9
BZS **Buzias** 76.24 320 ⇑P P 21 16 59.1 -0.9
BW06 **Boulder Array** 76.33 44 P P 21 17 01.3 +0.4
baz=315,SNR=45
PD31 **Pinedale Array** 76.33 44 IAmb IAmb 21 17 02.4
comp=Z,36nm,0.8s
PDAR **Pinedale Array** 76.33 44 P P 21 17 01.4 +0.5
comp=Z,31nm,0.7s,baz=299,slow=1.5,SNR=252
PDAR LR LR 21 53 08.7
comp=Z,21nm,18.3s,baz=349,slow=38
PDAR **Pinedale Array** 76.33 44 P P 21 17 00.6 -0.3
DUG **Dugway, Tooele** 76.35 48 P P 21 17 02.1 +1.2
baz=313,SNR=25
DUG **Dugway, Tooele** 76.35 48 IAmb IAmb 21 17 03.1
comp=Z,32nm,0.8s
MPMC **Manual Prospec** 76.42 54 P P 21 17 02.1 +0.6
baz=312,SNR=16
FURC **Furnace Creek,** 76.52 53 P P 21 17 02.8 +1.0
baz=312,SNR=13
TPNV **Topopah Spring** 76.57 52 P P 21 17 02.9 +0.7
baz=312,SNR=13
BLG **Laguna Peak, P** 76.74 56 P P 21 17 03.3 +0.3
baz=312
JLU **Jordanelle** 76.82 47 P P 21 17 04.4 +0.6
NKC **Novy Kostel** 76.85 328 AMS AMS 21 54 00.0
comp=Z,600nm,17.2s
EDW2 **Edwards Air Fo** 76.89 55 P P 21 17 04.9 +0.9
baz=312,SNR=13
DECC **Green Verdugo** 77.10 56 P P 21 17 05.7 +0.6
baz=312
ULM **Lac du Bonnet** 77.11 32 P P 21 17 04.7 -0.2
comp=Z,27nm,0.7s,baz=326,slow=6.8,SNR=30
ULM **Lac du Bonnet** 77.11 32 IAmb IAmb 21 17 05.5
comp=Z,28nm,0.7s
MPU **Maple Canyon** 77.13 48 P P 21 17 06.4 +0.9
CONA **Conrad Observa** 77.18 324 *ep*P P 21 17 07.2 +1.7
comp=Z,11nm,0.9s
KHC **Kasperske Hory** 77.24 326 *e*P P 21 17 06.1 +0.4
KHC *e* 21 17 15.4
KHC MLR MLR
comp=Z,500nm,14.4s
KHC **Kasperske Hory** 77.24 326 *e*P P 21 17 06.1 +0.4
KHC *ep*P sP 21 17 15.4 +0.6
KHC AMS AMS 21 56 20.0
comp=Z,500nm,14.4s
SHOC **Shoshone, Teco** 77.25 53 P P 21 17 06.5 +0.6
baz=312
MWC **Mount Wilson** 77.29 56 IAmb IAmb 21 17 07.9
comp=Z,26nm,0.8s
GSC **Goldstone, Bar** 77.33 54 P P 21 17 07.2 +0.7
baz=312,SNR=16
GSC **Goldstone, Bar** 77.33 54 IAmb IAmb 21 17 08.3
comp=Z,26nm,0.9s
GEC2 **GERESS Array S** 77.41 326 P P 21 17 07.3 +0.6
GERES **GERESS Array B** 77.41 326 P P 21 17 06.8 +0.1
comp=Z,0.9nm,0.8s,baz=44,slow=5.9,SNR=6.5
GERES LR LR 21 53 26.6
comp=Z,159nm,18.3s,baz=16,slow=37
GERES **GERESS Array B** 77.41 326 P P 21 17 07.3 +0.6
MDND **Maddock** 77.41 36 P P 21 17 07.0 +0.4
baz=320
SHPR **Sheep Range** 77.51 52 IAmb IAmb 21 17 09.9
comp=Z,21nm,0.9s
BFSC **Mount Baldy Ra** 77.52 55 P P 21 17 08.0 +0.4
baz=312,SNR=6.4
VTS **Vitosha** 77.58 317 ⇓P P 21 17 08.1 +0.3
VTS **Vitosha** 77.58 317 ⇓P P 21 17 08.1 +0.3
VTS **Vitosha** 77.58 317 IAmb IAmb 21 17 18.5
comp=Z,24nm,1.2s
TUQ **Turquoise Moun** 77.78 53 P P 21 17 09.9 +0.8
baz=313
SCI2 **San Clemente I** 77.81 57 P P 21 17 10.0 +0.9
baz=312
ARSA **Arzberg** 77.85 324 *e*P P 21 17 10.0 +0.9
comp=Z,9.1nm,1.1s
HEC **Hector,Ludlow** 77.94 54 P P 21 17 10.8 +0.9
baz=313,SNR=22
MOA **Molln** 77.94 325 *e*P P 21 17 10.4 +0.8
comp=Z,6.0nm,1.0s
BBRC **Big Bear Solar** 77.96 55 P P 21 17 10.8 +0.6
baz=312
SZCU **Shurtz Canyon** 77.98 50 P P 21 17 10.7 +0.5
K22A **Casper** 77.99 43 P P 21 17 10.6 +0.4
baz=316
P17A **Butcher Ranch,** 78.00 47 P P 21 17 10.9 +0.7
Q16A **Castle Valley** 78.15 48 P P 21 17 11.8 +0.6
RSSD **Black Hills** 78.15 41 P P 21 17 11.3 +0.2
baz=318
RSSD **Black Hills** 78.15 41 P P 21 17 11.3 +0.2
RSSD pmax pmax
comp=Z,25nm,0.9s
RSSD **Black Hills** 78.15 41 P P 21 17 11.3 +0.2
RSSD IAmb IAmb 21 17 12.4
comp=Z,24nm,0.9s
MTPU **Mount Pierson** 78.19 49 P P 21 17 12.0 +0.4
MURC **Murrieta** 78.24 55 P P 21 17 11.9 +0.4
baz=312
LCMT **Little Creek M** 78.29 51 P P 21 17 12.7 +0.8
RWWY **Rawlins** 78.33 44 P P 21 17 12.3 +0.2
RWWY IAmb IAmb 21 17 13.6
comp=Z,34nm,0.8s
SRU **San Rafael Swe** 78.37 48 P P 21 17 12.9 +0.5
SRU pmax pmax
comp=Z,34nm,0.7s
SRU **San Rafael Swe** 78.37 48 P P 21 17 12.9 +0.5
GMRC **Granite Mounta** 78.38 54 P P 21 17 13.2 +0.8
baz=313,SNR=12
SOKA **Soboth** 78.50 324 *e*P P 21 17 13.9 +1.1
comp=Z,18nm,1.0s
KNB **Kanab** 78.53 50 P P 21 17 13.9 +0.7
KNB pmax pmax
comp=Z,15nm,1.0s
KNB **Kanab** 78.53 50 P P 21 17 13.9 +0.7
AGMN **Agassiz Nation** 78.65 33 P P 21 17 12.9 -0.5
baz=322
PFO **Pinyon Flats O** 78.68 55 P P 21 17 14.6 +0.6
baz=313,SNR=7.3
PFO **Pinyon Flats O** 78.68 55 P P 21 17 14.5 +0.4
PFO pmax pmax
comp=Z,25nm,1.1s
PFO **Pinyon Flats O** 78.68 55 P P 21 17 14.5 +0.4
PFO IAmb IAmb 21 17 15.7
comp=Z,25nm,1.1s
BELC **Belle Mtn. Jos** 78.70 54 P P 21 17 14.4 +0.3
baz=313
109C **Camp Elliot, M** 78.77 56 P P 21 17 15.0 +0.6
baz=313
O20A **White River Ci** 78.89 46 P P 21 17 15.7 +0.5
baz=316,SNR=12
O20A **White River Ci** 78.89 46 IAmb IAmb 21 17 16.7
comp=Z,25nm,1.1s
MEM **Membach** 79.01 331 PcP PcP 21 17 24.3 +0.5
NEE2 **Needles Airpor** 79.02 53 P P 21 17 16.3 +0.6
baz=313
IRM **Iron Mountain** 79.11 54 P P 21 17 17.2 +0.9
baz=313,SNR=9.9
MONP2 **Monument Peak** 79.19 56 P P 21 17 17.4 +0.4
baz=313
U15A **North Rim** 79.24 51 P P 21 17 18.2 +0.9
U15A IAmb IAmb 21 17 19.8
comp=Z,39nm,0.8s
BC3 **Big Chuckawall** 79.27 54 P P 21 17 18.0 +0.7
baz=313,SNR=8.8
WATA **Walderalm** 79.48 326 P P 21 17 17.6 -0.6
comp=Z,9.2nm,1.1s
WTTA **Wattenberg** 79.51 326 P P 21 17 18.2 -0.2
comp=Z,12nm,0.9s
SWSC **Sam W. Stewart** 79.54 55 P P 21 17 18.9 +0.3
baz=313

IKP **In-Ko-Pah, Jac** 79.55 56 P P 21 17 19.4 +0.6
baz=313
N23A **Red Feather La** 79.56 44 P P 21 17 19.6 +0.7
baz=317,SNR=7.2
N23A **Red Feather La** 79.56 44 P P 21 17 19.2 +0.3
PDMCI **Parker Dam,Lak** 79.62 53 P P 21 17 19.9 +0.9
baz=314,SNR=6.7
MOTA **Moosalm** 79.67 326 *e*P P 21 17 20.1 +0.9
comp=Z,16nm,0.9s
RETA **Reutte** 79.69 327 *ep*P P 21 17 20.5 +1.2
comp=Z,13nm,0.8s
SNF **Seneffe** 79.71 332 PcP PcP 21 17 28.0 +1.1
BMRD **Maredsous** 79.71 332 PcP PcP 21 17 28.3 +1.4
SQTA **Sankt Quirin** 79.72 326 pP pP 21 17 22.1 -4.1
comp=Z,13nm,1.6s
Y12C **Blythe** 79.77 54 P P 21 17 20.9 +1.0
baz=314,SNR=8.6
Y12C **Blythe** 79.77 54 IAmb IAmb 21 17 21.9
comp=Z,27nm,0.9s
PV04 **Paradox Valley** 79.78 47 P P 21 17 19.7 -0.3
PV04 IAmb IAmb 21 17 22.1
comp=Z,33nm,1.0s
PV20 **West Nyswonger** 79.78 47 P P 21 17 21.0 +0.9
PV20 IAmb IAmb 21 17 22.0
comp=Z,37nm,0.9s
PV19 **Morning Glory** 79.79 47 P P 21 17 20.8 +0.6
TRI **Trieste** 79.81 324 P P 21 17 19.2 -0.6
TRI pmax pmax
comp=Z,35nm,1.1s
TRI **Trieste** 79.81 324 P P 21 17 19.2 -0.6
TRI IAmb IAmb 21 17 28.2
comp=Z,35nm,1.1s
PV17 **East Wray Mesa** 79.83 47 P P 21 17 21.0 +0.6
PV16 **Nyswonger Mesa** 79.83 47 P P 21 17 21.0 +0.6
PV16 IAmb IAmb 21 17 22.3
comp=Z,36nm,1.1s
PV11 **David Mesa, Pa** 79.86 47 P P 21 17 21.1 +0.6
PV11 IAmb IAmb 21 17 22.5
comp=Z,49nm,1.2s
PV18 **Skein Mesa, Pa** 79.88 47 P P 21 17 21.1 +0.5
PV18 IAmb IAmb 21 17 22.5
comp=Z,26nm,0.9s
PV07 **Paradox Valley** 79.89 47 P P 21 17 21.2 +0.5
PV07 IAmb IAmb 21 17 31.6
comp=Z,23nm,1.0s
PV12 **Saucer Basin,** 79.89 47 P P 21 17 21.2 +0.5
PV03 **Paradox Valley** 79.91 47 IAmb IAmb 21 17 22.7
comp=Z,17nm,0.8s
PV13 **Radium Mtn., P** 79.99 47 IAmb IAmb 21 17 23.8
comp=Z,27nm,0.8s
BFO **Black Forest** 80.00 329 P P 21 17 21.6 +0.7
BFO pmax pmax
comp=Z,21nm,1.0s
BFO **Black Forest** 80.00 329 P P 21 17 21.6 +0.7
BFO IAmb IAmb 21 17 31.1
comp=Z,21nm,1.0s
PV02 **Paradox Valley** 80.00 47 P P 21 17 21.7 +0.4
GLA **Glamis** 80.06 55 P P 21 17 22.4 +0.9
baz=314
GLA **Glamis** 80.06 55 P P 21 17 22.2 +0.7
GLA pmax pmax
comp=Z,27nm,0.9s
GLA **Glamis** 80.06 55 P P 21 17 22.2 +0.7
GLA IAmb IAmb 21 17 23.5
comp=Z,27nm,0.9s
FETA **Feichten** 80.08 326 P P 21 17 22.4 +0.9
comp=Z,8.0nm,1.2s
PV01 **Paradox Valley** 80.14 47 P P 21 17 22.3 +0.2
PV01 IAmb IAmb 21 17 23.9
comp=Z,17nm,0.8s
DAVA **Damuels** 80.22 327 pP P 21 17 24.5 +2.2
comp=Z,15nm,0.8s
SMCO **Snowmass** 80.26 46 P P 21 17 23.2 +0.3
SMCO IAmb IAmb 21 17 24.7
comp=Z,18nm,0.8s
SUSD **Miller** 80.31 37 P P 21 17 22.8 +0.1
baz=321
WUAZ **Wupatki** 80.41 51 P P 21 17 24.7 +1.2
baz=315,SNR=16
WUAZ **Wupatki** 80.41 51 IAmb IAmb 21 17 25.9
comp=Z,25nm,0.9s
CTI **Castel Tesino** 80.46 325 P P 21 17 22.7 -0.8
CTI pmax pmax
comp=Z,8.0nm,0.8s
CTI **Castel Tesino** 80.46 325 P P 21 17 22.7 -0.8
ISCO **Idaho Springs** 80.53 44 P P 21 17 25.1 +0.9
baz=317,SNR=14
ECH **Echery** 80.54 329 P P 21 17 23.7 -0.1
ECH pmax pmax
comp=Z,16nm,0.9s
ECH **Echery** 80.54 329 P P 21 17 23.7 -0.1
Y14A **Wickenburg** 80.55 53 P P 21 17 25.1 +1.0
Y14A IAmb IAmb 21 17 26.1
comp=Z,21nm,1.1s
DAVOX **Davos/Dischmat** 80.62 327 P P 21 17 24.3 -0.2
comp=Z,2.7nm,0.8s,baz=27,slow=4.5,SNR=3.1
EYMN **Ely** 80.68 31 P P 21 17 24.2 -0.3
baz=325
EYMN **Ely** 80.68 31 P P 21 17 24.6 0.0
EYMN IAmb IAmb 21 17 28.6
comp=Z,21nm,0.8s
SANT **Santorini** 80.84 311 P P 21 17 24.9 -0.7
MVCO **Mesa Verde** 80.84 48 P P 21 17 26.7 +0.8
baz=316,SNR=11
MVCO **Mesa Verde** 80.84 48 P P 21 17 26.1 +0.2
MVCO IAmb IAmb 21 17 27.8
comp=Z,26nm,0.9s
X16A **Lo Mia Camp, P** 81.14 52 IAmb IAmb 21 17 29.9
comp=Z,19nm,0.8s
Q24A **Divide** 81.39 45 P P 21 17 29.2 +0.4
baz=318
Q24A **Divide** 81.39 45 P P 21 17 28.5 -0.3
OGNE **Ogallala** 81.51 42 P P 21 17 29.4 +0.2
baz=319
SCHQ **Schefferville** 81.62 14 LR LR 21 56 35.5
comp=Z,52nm,18.6s,baz=328,slow=38
W18A **Petrified Fore** 81.64 50 P P 21 17 31.2 +1.1
baz=316,SNR=5.7
ECSD **EROS Data Cent** 81.92 37 P P 21 17 31.0 -0.2
baz=322,SNR=12
ECSD **EROS Data Cent** 81.92 37 IAmb IAmb 21 17 32.1
comp=Z,22nm,0.9s
SENIN **Lac Senin/Sane** 82.00 328 P P 21 17 32.3 +0.4
214A **Organ Pipe Nat** 82.05 54 P P 21 17 32.8 +0.7
baz=315
214A **Organ Pipe Nat** 82.05 54 P P 21 17 32.1 0.0
SDCO **Great Sand Dun** 82.09 46 P P 21 17 32.6 0.0
baz=318
KSCO **Kaye Shedlock'** 82.66 43 P P 21 17 35.5 +0.2
baz=319
KSCO **Kaye Shedlock'** 82.66 43 IAmb IAmb 21 17 36.5
comp=Z,34nm,1.2s
TUC **Tucson** 83.02 53 P P 21 17 38.0 +0.8
baz=316
TUC **Tucson** 83.02 53 P P 21 17 38.1 +0.9
TUC pmax pmax
comp=Z,9.0nm,0.8s
TUC **Tucson** 83.02 53 P P 21 17 38.1 +0.9
BGNE **Belgrade** 83.03 39 P P 21 17 36.7 -0.4
baz=321
T25A **Trinidad** 83.13 45 P P 21 17 38.2 +0.4
baz=318,SNR=12
T25A **Trinidad** 83.13 45 IAmb IAmb 21 17 39.2
comp=Z,17nm,0.8s
G40A **Rib Lake** 83.39 32 P P 21 17 38.6 -0.2
baz=326,SNR=5.0
ANMO **Albuquerque** 83.62 48 P P 21 17 41.6 +1.2
baz=317
ANMO **Albuquerque** 83.62 48 *ce*P P 21 17 41.9 +1.5
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO **Albuquerque** 83.62 48 P P 21 17 42.0 +1.5
ANMO IAmb IAmb 21 17 42.8
comp=Z,18nm,1.1s
E43A **Lone Tree Farm** 83.69 29 P P 21 17 40.3 0.0
baz=328
LENM **Lemitar** 83.90 49 P P 21 17 42.3 +0.5
CBKS **Cedar Bluff** 84.27 42 P P 21 17 42.9 -0.6
baz=321
CBKS **Cedar Bluff** 84.27 42 P P 21 17 42.7 -0.8
CBKS pmax pmax
comp=Z,25nm,0.9s
CBKS **Cedar Bluff** 84.27 42 P P 21 17 42.7 -0.8
CBKS IAmb IAmb 21 17 43.9
comp=Z,25nm,0.9s
D47A **Chapleau** 84.48 27 P P 21 17 43.7 -0.7
baz=330
CHGQ **Chibougamau** 84.55 20 P P 21 17 44.2 -0.4
baz=336
319A **Douglas** 84.58 52 IAmb IAmb 21 17 47.2
comp=Z,24nm,0.8s
LSQQ **Lebel-sur-Quev** 84.61 22 P P 21 17 44.2 -0.8
baz=335
121A **Cookes Peak, D** 84.62 51 P P 21 17 46.4 +0.9
baz=317,SNR=12
121A **Cookes Peak, D** 84.62 51 P P 21 17 46.2 +0.6
E46A **Sault Ste Mari** 84.67 28 P P 21 17 44.5 -0.8
baz=330
E46A **Sault Ste Mari** 84.67 28 P P 21 17 44.7 -0.5
D48A **Paudash Townsh** 84.81 26 P P 21 17 45.4 -0.6
baz=331
D49A **Beulah Townshi** 84.87 26 P P 21 17 45.6 -0.7
baz=332
SCIA **State Center** 84.88 36 P P 21 17 46.3 -0.1
baz=324
SCIA **State Center** 84.88 36 P P 21 17 46.4 -0.1
E47A **Iron Bridge** 84.95 27 P P 21 17 46.1 -0.5
baz=330
H43A **Windswept, Lux** 85.01 31 P P 21 17 46.8 -0.2
baz=328
H43A **Windswept, Lux** 85.01 31 P P 21 17 47.0 0.0
I42A **Draeger Farm,** 85.05 32 P P 21 17 47.0 -0.2
baz=327
HSIG 85.25 55 P P 21 17 48.2 -0.3
HSIG IAmb IAmb 21 17 50.1
comp=Z,18nm,1.0s
E48A **Lockeyer** 85.30 27 P P 21 17 47.7 -0.7
baz=331
JFWS **Jewell Farm** 85.32 33 P P 21 17 48.5 -0.1
baz=326
G45A **Suttons Bay** 85.32 29 P P 21 17 48.3 -0.2
baz=329
VLDQ **Val d'Or** 85.33 23 IAmb IAmb 21 17 48.3
comp=Z,16nm,0.7s
G46A **Petoskey** 85.37 29 P P 21 17 48.7 -0.1
baz=329
D50A **G1974 Best Tow** 85.45 25 P P 21 17 48.3 -0.9
baz=333
KSU1 **Kansas State U** 85.57 39 P P 21 17 49.5 -0.5
baz=322
L40A **Anamosa** 85.61 34 P P 21 17 49.8 -0.3
baz=326
F48A **Evansville** 85.72 27 P P 21 17 49.7 -0.8
baz=331
G47A **Hillman** 85.86 28 P P 21 17 50.9 -0.3
baz=330
E51A **G1948 Merrick** 86.12 25 P P 21 17 52.0 -0.5
baz=333
D53A **Lac Vacive, Po** 86.19 24 P P 21 17 52.4 -0.4
D53A IAmb IAmb 21 17 53.3
comp=Z,12nm,0.8s
AMTX **Amarillo** 86.28 45 P P 21 17 54.0 +0.4
baz=320
AMTX **Amarillo** 86.28 45 IAmb IAmb 21 17 55.1
comp=Z,22nm,0.9s
MSTX **Muleshoe** 86.38 47 P P 21 17 54.0 -0.2
baz=319
D54A **Lac Fusel, La** 86.43 23 P P 21 17 53.0 -1.0
baz=335
F51A **Arnstein** 86.53 25 P P 21 17 54.0 -0.5
baz=333
MNTX **Cornudas Mount** 86.62 50 P P 21 17 55.6 +0.3
baz=318
I48A **Sherman Twp** 86.77 29 P P 21 17 55.2 -0.5
baz=330
GDL2 **Guadalupe Moun** 86.82 49 P P 21 17 56.8 +0.4
F52A **Sundridge** 86.83 25 P P 21 17 55.9 -0.2
baz=333
N41A **Harden Midland** 86.89 35 P P 21 17 56.5 +0.1
N41A IAmb IAmb 21 17 56.7
comp=Z,14nm,0.8s
D55A **Sainte-Anne-du** 86.89 22 P P 21 17 56.1 -0.2
baz=336
CLNB **Carlsbad** 87.05 48 P P 21 17 57.6 +0.1
D56A **ZEC Mazanza, M** 87.06 22 P P 21 17 57.1 0.0
baz=336
ALGO **Algonquin Park** 87.09 24 P P 21 17 57.3 0.0
baz=334
URZ **Urewera** 87.15 150 P P 21 17 57.6 +0.3
URZ IAmb IAmb 21 17 59.6
comp=Z,25nm,1.1s
J47A **Sunmer** 87.17 30 P P 21 17 58.0 +0.2
E55A **Montcerf-Lytto** 87.24 23 P P 21 17 57.7 -0.2
baz=335
LATQ **La Tuque** 87.29 20 P P 21 17 58.1 -0.1
baz=338
D57A **Chemin Vers le** 87.33 21 P P 21 17 58.2 -0.2
baz=337
E56A **St. Veronique** 87.45 22 P P 21 17 59.0 +0.1
baz=336
G54A **Lake Saint Pet** 87.58 25 P P 21 17 59.3 -0.4
baz=334
H52A **Wyevale** 87.68 26 P P 21 18 00.1 0.0
baz=333
E57A **Chemin Saint G** 87.81 22 P P 21 18 00.6 -0.2
baz=337
WMOK **Wichita Mounta** 87.91 44 P P 21 18 01.7 +0.2
baz=321,SNR=7.2
WMOK **Wichita Mounta** 87.91 44 P P 21 18 01.5 0.0
WMOK pmax pmax
comp=Z,12nm,1.0s
WMOK **Wichita Mounta** 87.91 44 P P 21 18 01.4 0.0
WMOK IAmb IAmb 21 18 02.8
comp=Z,12nm,1.0s
E58A **La Victoria** 88.09 21 P P 21 18 01.7 -0.4
baz=337
L47A **Sherwood** 88.12 31 P P 21 18 01.7 -0.6
baz=329
G55A **Calabogie** 88.13 24 P P 21 18 01.4 -0.8
baz=335
H53A **Bobcaygeon** 88.16 25 P P 21 18 02.2 -0.2
baz=334
D60A **Saint Jean D'O** 88.19 19 P P 21 18 02.0 -0.5
baz=339
P43A **Skaggs, Pawnee** 88.34 35 P P 21 18 02.9 -0.5
P43A IAmb IAmb 21 18 13.7
comp=Z,20nm,1.2s
K50A **Casco** 88.38 29 P P 21 18 03.6 +0.1
baz=331
L48A **N Adams** 88.44 30 P P 21 18 04.1 +0.3
baz=330
D62A **Allapoint, All** 88.49 18 P P 21 18 03.7 -0.2
baz=340
TUL1 **Leonard** 88.50 41 IAmb IAmb 21 18 06.4
comp=Z,13nm,0.8s
X34A **Smith Ranch, M** 88.51 43 P P 21 18 05.1 +0.8
L49A **Milan** 88.54 30 P P 21 18 04.3 +0.1
baz=330
H55A **Tweed** 88.62 24 P P 21 18 04.5 -0.1
baz=335
M48A **Edgerton** 88.72 31 P P 21 18 05.2 +0.1
baz=330
SFIN **Lafayette** 88.73 33 P P 21 18 04.8 -0.4
baz=328
E61A **Lac Etchemin** 88.75 19 P P 21 18 05.2 0.0
baz=339
I55A **Frankford** 88.77 25 P P 21 18 05.3 0.0
baz=334
G57A **Newington** 88.78 23 P P 21 18 04.9 -0.4
baz=335
E62A **Clayton Lake** 88.81 19 P P 21 18 05.4 -0.1
baz=340
F60A **Warwick** 88.81 20 P P 21 18 05.6 +0.1
baz=338
N47A **Urbana** 88.86 32 P P 21 18 05.9 +0.1
baz=329
H56A **Elgin** 88.86 24 P P 21 18 05.7 -0.1
baz=335
CCM **Cathedral Cave** 88.90 37 P P 21 18 06.0 0.0
baz=326
CCM **Cathedral Cave** 88.90 37 P P 21 18 06.3 +0.3
CCM pmax pmax
comp=Z,27nm,0.9s
CCM **Cathedral Cave** 88.90 37 P P 21 18 06.3 +0.3
G58A **Ormstown** 89.00 22 P P 21 18 05.9 -0.4
baz=337
M49A **Liberty Center** 89.01 30 P P 21 18 06.4 -0.1
baz=330
PPT **Papeete** 89.04 115 LR LR 21 50 39.2
comp=Z,94nm,21.8s,baz=356,slow=31
K52A **Tillsonburg** 89.05 27 P P 21 18 06.8 +0.1
baz=332
F61A **St Evariste** 89.05 20 P P 21 18 06.9 +0.3
baz=339

ABTX	Abilene, Hawle	89.10	45	P	P	21 18 07.2 +0.1
	baz=321					
N48A	Decatur	89.14	31	P	P	21 18 07.0 -0.1
	baz=329					
MGMO	Mountain Grove	89.17	38	IAmb	IAmb	21 18 08.2
	comp=Z,17nm,0.9s					
CMWZ	Cape Campbell	89.23	154	P	P	21 18 06.6 -0.5
H57A	Richville	89.24	23	P	P	21 18 07.5 0.0
	baz=336					
E63A	Oxbow	89.25	18	P	P	21 18 07.5 -0.1
	baz=341					
G59A	Clarenceville	89.31	21	P	P	21 18 08.1 +0.3
	baz=337					
J54A	Appleton	89.31	26	P	P	21 18 07.5 -0.3
	baz=334					
P46A	Rosedale	89.33	33	P	P	21 18 08.2 +0.2
	baz=328,SNR=7.5					
TXAR	Lajitas Array	89.36	50	P	P	21 18 08.8 +0.3
	comp=Z,6.6nm,0.7s,baz=295,slow=3.1,SNR=36					
F62A	Pittston Farm,	89.38	19	P	P	21 18 08.5 +0.3
	baz=340					
N49A	Columbus Grove	89.41	31	P	P	21 18 08.9 +0.5
	baz=330					
U40A	Yellville	89.55	39	P	P	21 18 09.1 0.0
	baz=325,SNR=16					
G61A	St-Isidore-de-	89.56	20	P	P	21 18 09.4 +0.3
	baz=338					
H59A	Cadyville	89.56	22	P	P	21 18 09.0 -0.1
	baz=337					
H58A	Gabriels	89.64	22	P	P	21 18 09.3 -0.1
	baz=337					
KEST	Kesra	89.77	321	LR	LR	22 03 08.0
	comp=Z,190nm,18.8s,baz=304,slow=39					
J56A	Wolcott	89.87	25	P	P	21 18 10.2 -0.2
	baz=335					
K54A	Basiliko Farm,	89.88	26	P	P	21 18 10.4 -0.2
	baz=334					
H60A	Morristown	89.92	21	P	P	21 18 11.3 +0.6
	baz=338					
N50A	Nevada	89.93	30	P	P	21 18 10.6 -0.3
	baz=331					
L53A	Girard	89.94	27	P	P	21 18 11.1 +0.2
	baz=333					
OXZ	Oxford	89.96	156	P	P	21 18 11.8 +1.3
OXZ				IAmb	IAmb	21 18 13.4
	comp=Z,13nm,0.9s					
HPIG		89.97	53	IAmb	IAmb	21 18 29.9
	comp=Z,11nm,0.5s					
K55A	Perry	89.98	26	P	P	21 18 10.7 -0.4
	baz=334					
O49A	Covington	89.99	31	P	P	21 18 11.1 0.0
	baz=330					
J57A	Williamstown	90.02	24	P	P	21 18 10.5 -0.7
	baz=335					
W39A	Magazine	90.05	40	P	P	21 18 11.5 0.0
	baz=324					
S44A	Carbondale	90.08	36	P	P	21 18 12.0 +0.5
	baz=327,SNR=8.5					
N51A	Ashland	90.09	29	P	P	21 18 11.9 +0.4
	baz=331					
N51A	Ashland	90.09	29	P	P	21 18 12.0 +0.4
H61A	Lyndonville	90.15	21	P	P	21 18 12.1 +0.3
	baz=338					
P48A	Milroy	90.18	32	P	P	21 18 11.9 -0.1
	baz=329					
P48A	Milroy	90.18	32	P	P	21 18 12.5 +0.4
P48A				IAmb	IAmb	21 18 13.2
	comp=Z,18nm,1.0s					
M53A	WI Miller and	90.25	28	P	P	21 18 11.5 -0.8
	baz=332					
K56A	Middlesex	90.25	25	P	P	21 18 12.3 0.0
	baz=334					
J58A	Remsen	90.28	24	P	P	21 18 12.5 +0.1
	baz=336					
J58A	Remsen	90.28	24	P	P	21 18 12.0 -0.4
J58A				IAmb	IAmb	21 18 13.3
	comp=Z,13nm,1.0s					
G64A	Maxfield	90.28	19	P	P	21 18 11.7 -0.6
	baz=340					
I59A	Olmsteadville	90.29	22	P	P	21 18 12.1 -0.4
	baz=337					
O50A	Cable	90.30	31	P	P	21 18 12.9 +0.4
	baz=330					
H62A	Milan	90.32	20	P	P	21 18 12.8 +0.2
	baz=339					
H62A	Milan	90.32	20	P	P	21 18 12.3 -0.2
H62A				IAmb	IAmb	21 18 14.1
	comp=Z,17nm,0.8s					
P49A	Miami Univ. Ec	90.40	32	P	P	21 18 12.9 -0.2
	baz=330					
I60A	Shoreham	90.41	22	P	P	21 18 13.1 +0.1
	baz=337					
J59A	Piesco	90.41	23	P	P	21 18 13.1 +0.1
	baz=336					
J59A	Piesco	90.41	23	P	P	21 18 12.9 -0.1
J59A				IAmb	IAmb	21 18 14.4
	comp=Z,15nm,1.1s					
N52A	McGinn's Farm,	90.44	29	P	P	21 18 13.4 +0.2
	baz=332					
ACSO	Alum Creek Sta	90.46	30	P	P	21 18 13.8 +0.4
	baz=331					
Q48A	North Vernon	90.52	33	P	P	21 18 13.7 +0.1
	baz=329					
M54A	Oil Creek Stat	90.54	27	P	P	21 18 13.7 0.0
	baz=333					
M54A	Oil Creek Stat	90.54	27	P	P	21 18 13.8 +0.1
LCAR	Lake Charles	90.57	38	P	P	21 18 14.3 +0.4
JCT	Junction City	90.66	47	IAmb	IAmb	21 18 24.9
	comp=Z,9.9nm,0.8s					
MIAR	Mount Ida	90.67	40	P	P	21 18 14.8 +0.5
	baz=324,SNR=8.8					
MIAR	Mount Ida	90.67	40	P	P	21 18 14.9 +0.5
MIAR				pmax	pmax	
	comp=Z,14nm,0.8s					
MIAR	Mount Ida	90.67	40	P	P	21 18 14.9 +0.5
MIAR				IAmb	IAmb	21 18 15.9
	comp=Z,14nm,0.8s					
L56A	Greenwood	90.68	26	P	P	21 18 14.3 0.0
	baz=334					
O51A	Pataskala	90.68	30	P	P	21 18 14.4 +0.1
	baz=331					
WHAR	Wooly Hollow	90.68	39	P	P	21 18 14.0 -0.4
WHAR				IAmb	IAmb	21 18 15.5
	comp=Z,16nm,0.8s					
P50A	Jamestown	90.69	31	P	P	21 18 14.4 -0.1
	baz=330					
K58A	Earlville	90.71	24	P	P	21 18 14.7 +0.3
	baz=336					
H64A	Troy	90.74	19	P	P	21 18 14.3 -0.2
	baz=340					
N53A	Lisbon	90.75	28	P	P	21 18 15.2 +0.6
	baz=332					
WHTX	Lake Whitney,	90.75	44	P	P	21 18 15.4 +0.7
	baz=322					
WHTX	Lake Whitney,	90.75	44	P	P	21 18 15.0 +0.2
Q49A	Aurora	90.78	32	P	P	21 18 15.3 +0.5
	baz=330					
W41B	Gary Mavity, V	90.80	39	P	P	21 18 15.5 +0.6
	baz=325					
W41B	Gary Mavity, V	90.80	39	IAmb	IAmb	21 18 25.2
	comp=Z,8.9nm,0.9s					
M55A	Ridgway	90.88	27	P	P	21 18 16.0 +0.7
	baz=334					
M55A	Ridgway	90.88	27	P	P	21 18 15.4 +0.1
M55A				IAmb	IAmb	21 18 16.2
	comp=Z,14nm,0.8s					
WCI	Wyandotte Cave	90.88	33	P	P	21 18 15.9 +0.6
	baz=329					
WCI	Wyandotte Cave	90.88	33	P	P	21 18 16.0 +0.7
WCI				pmax	pmax	
	comp=Z,11nm,0.9s					
WCI	Wyandotte Cave	90.88	33	P	P	21 18 16.0 +0.7
WCI				IAmb	IAmb	21 18 16.1
	comp=Z,11nm,0.8s					
N54A	Moraine State	90.91	28	P	P	21 18 16.2 +0.8
	baz=333					
K59A	Cooperstown	90.94	24	P	P	21 18 15.6 +0.1
	baz=336					
I63A	Otisfield	90.95	20	P	P	21 18 16.3 +0.8
	baz=339					
L57A	Andrews Acres	91.03	25	P	P	21 18 15.9 -0.1
	baz=335					
X40A	Basin Creek Fa	91.08	40	P	P	21 18 17.0 +0.8
	baz=325					
X40A	Basin Creek Fa	91.08	40	P	P	21 18 16.7 +0.4
X40A				IAmb	IAmb	21 18 17.8
	comp=Z,8.8nm,0.9s					
P51A	Williamsport	91.09	31	P	P	21 18 16.4 +0.2
	baz=331					
O53A	New Philadelph	91.10	29	P	P	21 18 17.1 +0.8
	baz=332					
BINY	Binghamton	91.12	25	P	P	21 18 16.5 +0.1
	baz=335					
Q50A	Georgetown	91.29	31	P	P	21 18 17.7 +0.5
	baz=330					
L58A	Harry Jones Me	91.30	24	P	P	21 18 17.6 +0.4
	baz=336					
Q51A	Peebles	91.37	31	P	P	21 18 18.0 +0.4
	baz=330					
Q51A	Peebles	91.37	31	P	P	21 18 17.2 -0.4
Q51A				IAmb	IAmb	21 18 19.0
	comp=Z,16nm,0.9s					
N55A	Marion Center	91.42	27	P	P	21 18 18.0 +0.3
	baz=333					
L59A	Walton	91.42	24	P	P	21 18 18.1 +0.3
	baz=328					
K61A	Williamstown	91.50	22	P	P	21 18 18.9 +0.8
	baz=337					
N56A	West Decatur	91.53	27	P	P	21 18 18.6 +0.3
	baz=334					
M57A	Sunshine Farm,	91.54	26	P	P	21 18 18.7 +0.4
	baz=335					
T47A	Sharon Grove	91.60	35	P	P	21 18 18.8 +0.2
	baz=328					
T47A	Sharon Grove	91.60	35	P	P	21 18 18.5 -0.1
R50A	Paris	91.63	32	P	P	21 18 18.8 +0.1
	baz=330					
S49A	Springfield	91.67	33	P	P	21 18 19.4 +0.5
	baz=329					
M58A	Price's Panora	91.72	25	P	P	21 18 19.5 +0.3
	baz=335					
L61A	Hillsdale 1, H	91.86	23	P	P	21 18 20.0 +0.3
	baz=337					
L61B	Northampton	91.87	22	P	P	21 18 20.1 +0.3
	baz=338					
M59A	Waymart	91.89	24	P	P	21 18 20.0 +0.1
	baz=336					
SSPA	Standing Stone	91.92	26	P	P	21 18 20.3 +0.2
	baz=334					
SSPA	Standing Stone	91.92	26	P	P	21 18 20.1 0.0
SSPA				IAmb	IAmb	21 18 30.8
	comp=Z,15nm,1.1s					
N57A	Milroy	91.92	26	P	P	21 18 20.4 +0.3
	baz=334					
ESDC	Sonseca Array	91.99	332	P	P	21 18 19.1 -1.4
	comp=Z,0.5nm,0.7s,baz=19,slow=4.6,SNR=3.0					
ESDC				LR	LR	22 03 22.8
	comp=Z,121nm,18.5s,baz=25,slow=38					
WVT	Waverly	92.01	35	P	P	21 18 20.9 +0.4
	baz=328					
WVT	Waverly	92.01	35	P	P	21 18 20.9 +0.4
WVT				pmax	pmax	
	comp=Z,6.0nm,0.9s					
WVT	Waverly	92.01	35	P	P	21 18 20.9 +0.4
O56A	Blue Knob Stat	92.02	27	P	P	21 18 20.7 +0.2
	baz=334					
O56A	Blue Knob Stat	92.02	27	P	P	21 18 20.6 0.0
O56A				IAmb	IAmb	21 18 31.9
	comp=Z,22nm,1.4s					
N58A	Sunbury	92.12	26	P	P	21 18 21.3 +0.3
	baz=335					
N58A	Sunbury	92.12	26	P	P	21 18 20.8 -0.2
S50A	Richmond	92.12	32	P	P	21 18 21.5 +0.4
	baz=330					
M60A	Port Jervis	92.33	24	P	P	21 18 22.6 +0.6
	baz=336					
N59A	State Game Lan	92.35	25	P	P	21 18 22.6 +0.5
	baz=336					
N59A	State Game Lan	92.35	25	P	P	21 18 22.0 -0.1
N59A				IAmb	IAmb	21 18 24.1
	comp=Z,15nm,1.1s					
Q54A	Coxs Mills	92.36	29	P	P	21 18 22.3 +0.2
	baz=332					
O57A	Amberson	92.38	26	P	P	21 18 22.1 -0.1
	baz=334					
S51A	Beattyville	92.48	32	P	P	21 18 22.6 -0.1
	baz=330					
833A	Chaparral WMA,	92.55	48	P	P	21 18 23.8 +0.6
	baz=321					
MTE	Manteigas	92.56	334	P	P	21 18 23.0 -0.2
Q55A	Buckhannon	92.62	29	P	P	21 18 23.6 +0.2
	baz=333					
S52A	Salyersville	92.65	31	P	P	21 18 23.9 +0.4
	baz=331					
V48A	Smith Brothers	92.77	35	P	P	21 18 24.6 +0.5
	baz=328					
T51A	Gray	92.92	32	P	P	21 18 24.8 0.0
	baz=330					
V49A	McMinnville	93.14	34	P	P	21 18 26.1 +0.3
	baz=329					
P60A	Greenville	93.40	25	P	P	21 18 26.7 -0.2
	baz=336					
U51A	La Follette	93.40	33	P	P	21 18 27.1 +0.1
	baz=330					
TZTN	Tazewell	93.44	32	P	P	21 18 27.4 +0.2
	baz=330					
T53A	Wise	93.47	31	P	P	21 18 27.5 +0.2
	baz=331					
W49A	Belvidere	93.54	35	P	P	21 18 27.8 +0.1
	baz=329					
V51A	Loudon	93.76	33	P	P	21 18 28.9 +0.3
	baz=330					
T54A	Tazewell	93.77	31	P	P	21 18 28.9 +0.1
	baz=332					
R57A	Stanardsville	93.79	28	P	P	21 18 28.9 +0.2
	baz=334					
U53A	Fall Branch	93.99	32	P	P	21 18 30.0 +0.3
	baz=331					
CPCT	Cooper Cave	93.99	34	P	P	21 18 29.9 +0.2
CPCT				IAmb	IAmb	21 18 30.8
	comp=Z,11nm,0.9s					
V52A	Sevierville	94.03	33	P	P	21 18 29.9 0.0
	baz=330					
Y49A	Blount Mountai	94.55	36	P	P	21 18 32.1 -0.2
	baz=328					
T57A	Hurt	94.69	29	P	P	21 18 32.9 0.0
	baz=333					
X52A	Dahlonega	94.98	34	P	P	21 18 34.3 -0.1
	baz=330					
LRAL	Lakeview Retre	94.98	37	P	P	21 18 34.4 +0.1
	baz=328					
Y51A	Rockmart	95.09	35	P	P	21 18 34.8 0.0
	baz=329					
W54A	Cherokee Point	95.26	32	P	P	21 18 35.4 -0.1
	baz=331					
Z50A	Ashland	95.27	36	P	P	21 18 35.7 +0.1
	baz=329					
V56A	Mocksville	95.28	30	P	P	21 18 35.4 -0.2
	baz=332					
X53A	Estanollee	95.31	33	P	P	21 18 36.5 +0.7
	baz=330					
S61A	Accomac	95.32	26	P	P	21 18 35.7 0.0
	baz=336					
V57A	Coltrane Farms	95.48	30	P	P	21 18 36.7 +0.2
	baz=333					
V58A	Windy Hill, Pi	95.81	30	P	P	21 18 37.6 -0.4
	baz=333					
Z52A	Williamson	95.98	35	P	P	21 18 38.3 -0.6
	baz=330					
W57A	Gilead	96.05	30	P	P	21 18 39.0 -0.1
	baz=333					
Y54A	Tignall	96.12	33	P	P	21 18 39.3 -0.2
	baz=331					
V59A	Middlesex	96.16	29	P	P	21 18 39.9 +0.3
	baz=334					
TORD	Torodi Ar. Bea	112.21	313	PKKPbc	PKKPbc	21 34 38.6 +1.7
	comp=Z,1.1nm,0.7s,baz=208,slow=2.4,SNR=5.3					
DBIC	Dimbokro	121.12	315	PKP	PKiKP	21 24 03.4 -1.6
	comp=Z,2.1nm,0.7s,baz=23,slow=5.0,SNR=4.5					
SDV	Santo Domingo	123.31	34		PKiKP	21 24 09.1 -0.4
QSPA	South Pole Qui	131.35	180		PKiKP	21 24 22.5 -1.3
SAML	Samuel	142.50	36	PKIKP	PKiKP	21 24 44.9 -3.1
SAML	Samuel	142.50	36		PKiKP	21 24 44.9 -3.1
SNAA	Sanae	144.24	200	PKPdf	PKPdf	21 24 44.5 -1.9
SNAA	Sanae	144.24	200	PKIKP	PKPdf	21 24 44.4 -1.9
SNAA	Sanae	144.24	200		PKPdf	21 24 44.4 -1.9
VNA2	Neumayer--Watz	145.85	199	PKPdf	PKPab	21 24 49.6 -0.6
	baz=98,slow=3.1					
VNA3	Neumayer Olymp	146.19	198	PKPdf	PKPab	21 24 50.5 -1.0
LPAZ	La Paz	146.23	49	PKPbc	PKiKP	21 24 53.1 -3.2
	comp=Z,19nm,1.0s,baz=356,slow=5.7,SNR=36					
VNA1	Neumayer--Stat	146.25	199	PKPdf	PKPab	21 24 51.2 -0.5
LVC	Limon Verde	150.59	58	PKIKP	PKiKP	21 25 05.1 +0.3
LVC	Limon Verde	150.59	58		PKiKP	21 25 05.1 +0.3
BDFB	Brasilia	153.61	13	PKPbc	PKiKP	21 25 09.7 -1.3
	comp=Z,3.0nm,0.6s,baz=212,slow=5.0,SNR=5.1					
CFA	Coronel Fontan	156.81	73	PKPab	PKPab	21 25 37.1 +0.4
	comp=Z,7.3nm,1.0s,baz=296,slow=5.6,SNR=3.7					
PLCA	Paso Flores	158.57	97	PKP2	PKPab	21 25 46.5 +2.4
PLCA	Paso Flores	158.57	97	PKPab	PKPab	21 25 45.1 +0.9
	comp=Z,5.9nm,1.2s,baz=294,slow=2.2,SNR=3.1					
PLCA	Paso Flores	158.57	97		PKPab	21 25 46.5 +2.4
CPUP	Villa Florida	160.23	44	PKPab	PKPab	21 25 51.3 -0.2
	comp=Z,4.6nm,1.0s,baz=354,slow=3.5,SNR=5.1					

*IDC **22** 21:07:59.9±1.4, 34°.40N×45°.87E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.5/59, mbtmp3.7/8, ML0.9/1, Error ellipse: s-maj=29.9km s-min=25.1km az=22.0*
*ISN **22** 21:08:01.1±1.0, 34°.18N×45°.60E, h14km±7km, ML3.5*
*THR **22** 21:08:02.8, 34°.38N×45°.55E, h15km, ML3.3*
*TEH **22** 21:08:02.6, 34°.31N×45°.63E, h12km, ML3.5*

ISC 22 21:08:02.2±1.3, 34°.22N±0°.03×45°.59E±0°.03, h15km±9km, n53, σ2s03/59, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.81	54	ePg	Pb	21 08 17.2	-1.0
IDHR				eSg	Sb	21 08 28.3	-0.7
IDHR				IAMB	IAmb	21 08 32.2	
	comp=Z,0.0nm,0.3s						
IGHG	Ghaleghazi	0.82	82	ePg	Pg	21 08 17.7	-0.5
IGHG				IAMB	IAmb	21 08 18.6	
	comp=Z,25μm,0.2s						
IBDR	Badra	1.15	165	ePg	Pn	21 08 22.2	-1.5
IBDR				eSg	Sb	21 08 36.0	-2.4
KCHF	Cheshme Sefid,	1.21	87	ePg	Pb	21 08 24.6	-0.2
KCHF				IAMB	IAmb	21 08 47.4	
	comp=Z,0.0nm,0.4s						
KER	Kermanshah	1.29	82	ePg	Pn	21 08 26.0	+0.2
KER				eSg	Sg	21 08 45.7	+1.8
ILIN	Lien	1.33	58	ePg	Pg	21 08 26.6	-1.2
ILIN				eSg	Sn	21 08 44.9	+0.9
ILIN				IAMB	IAmb	21 08 50.3	
	comp=Z,9μm,0.5s						
BHD	Baghdad	1.38	227	ePg	Pn	21 08 26.0	-0.9
BHD				AML	AML	21 08 33.8	
	comp=Z,10μm,0.6s						
BHD				eSg	Sn	21 08 44.0	-0.9
IKRK	Kirkuk	1.56	319	ePn	Pb	21 08 31.0	+0.3
IKRK				AML	AML	21 08 36.8	
	comp=Z,286nm,0.9s						
IKRK				eSn	Sg	21 08 53.0	+0.6
IKOM	Komasi	1.59	91	ePn	Pb	21 08 32.0	+0.6
IKOM				IAMB	IAmb	21 09 02.0	
	comp=Z,0.0nm,0.8s						
IBZA	Bozab	1.90	82	ePn	Pb	21 08 36.5	-0.2
IBZA				IAMB	IAmb	21 08 38.0	
	comp=Z,0.0nm,0.4s						
IKFM	Kafar-mosalman	2.01	110	ePn	Pb	21 08 38.0	-0.3
IKFM				IAMB	IAmb	21 09 15.6	
	comp=Z,0.0nm,0.5s						
IDOB	Doab	2.20	101	ePn	Pn	21 08 39.9	+1.6
IDOB				IAMB	IAmb	21 09 23.3	
	comp=Z,0.0nm,0.6s						
IKMR	Kamar-syah	2.43	106	ePn	Pn	21 08 43.4	+2.1
IKMR				IAMB	IAmb	21 09 23.2	
	comp=Z,0.0nm,0.4s						
HSAM	Samen	2.50	89	ePn	Pn	21 08 44.4	+1.9
HSAM				IAMB	IAmb	21 08 49.1	
	comp=Z,0.0nm,0.5s						
MAHB	Mahabad	2.54	2	ePn	Pb	21 08 45.5	-2.0
MAHB				IAMB	IAmb	21 09 30.2	
	comp=Z,0.0nm,0.4s						
BDRS	Dareh Seyedi	2.75	95	ePn	Pn	21 08 47.8	+1.8
BDRS				IAMB	IAmb	21 09 33.2	
	comp=Z,0.0nm,0.8s						
MSL	Mosul	2.97	318	ePn	Pn	21 08 50.0	+1.3
MSL				AML	AML	21 09 03.3	
	comp=Z,511nm,0.6s						
MSL				eSn	Sn	21 09 26.0	+1.9
HAGD	Aghdareh	2.99	78	ePn	Pn	21 08 51.6	+2.3
HAGD				IAMB	IAmb	21 09 42.4	
	comp=Z,0.0nm,0.8s						
SHGR	Shooshtar-Gavs	3.42	127	ePn	Pn	21 08 59.4	+4.4
SHGR	Shooshtar-Gavs	3.42	127	ePn	Pn	21 08 59.4	+4.4
ZNJK	Zanjan	3.52	45	ePn	Pn	21 08 57.8	+1.3
ZNJK	Zanjan	3.52	45	ePn	Pn	21 08 57.8	+1.3
QABG	Abgarm-Qazvin	3.60	65	ePn	Pn	21 09 00.1	+2.5
QABG				IAMB	IAmb	21 09 17.4	
	comp=Z,0.0nm,0.5s						
IBST	Bostanabad	3.63	17	ePn	Pn	21 08 59.7	+1.7
KHMZ	Khomeyn	3.67	96	ePn	Pn	21 09 01.7	+3.2
KHMZ	Khomeyn	3.67	96	ePn	Pn	21 09 01.7	+3.2
KHMZ	Khomeyn	3.67	96	eAML	AML	21 09 47.4	
	comp=N,53nm,0.8s						
ASAO	Ashtian	3.69	84	ePn	Pn	21 09 02.2	+3.4
ASAO	Ashtian	3.69	84	ePn	Pn	21 09 02.2	+3.4
IRAZ	Razeghan	3.76	71	IAMB	IAmb	21 09 15.3	
	comp=Z,844nm,0.6s						
IRAZ				ePn	Pn	21 09 02.6	+2.7
ITBZ	Tabriz	4.03	6	IAMB	IAmb	21 09 25.5	
	comp=Z,236nm,0.4s						
ITBZ				ePn	Pn	21 09 05.2	+1.7
RTB	Rutbah	4.56	256	ePn	Pn	21 09 12.0	+1.3
RTB				AML	AML	21 09 19.9	
	comp=Z,80nm,0.4s						
RTB				eSn	Sn	21 10 04.0	+0.5
IQOM	Qom	4.57	81	ePn	Pn	21 09 13.5	+2.5
IQOM				IAMB	IAmb	21 09 32.7	
	comp=Z,0.0nm,0.5s						
IPIR	Pirpir	4.69	108	ePn	Pn	21 09 13.3	+0.6
JHBN	Jahan bin	4.70	114	ePn	Pn	21 09 14.2	+1.4
JHBN				IAMB	IAmb	21 10 12.7	
	comp=Z,0.0nm,0.5s						
GHVR	GHOM	4.73	85	ePn	Pn	21 09 15.8	+2.7
GHVR	GHOM	4.73	85	ePn	Pn	21 09 15.8	+2.7
ZNGN	Zangian	4.89	114	ePn	Pn	21 09 15.8	+0.3
ZNGN				IAMB	IAmb	21 10 21.6	
	comp=Z,0.0nm,0.6s						
GRMI	Germi	4.94	21	ePn	Pn	21 09 17.0	+1.1
GRMI	Germi	4.94	21	ePn	Pn	21 09 17.0	+1.1
IKLH	Kolahrood	5.07	99	ePn	Pn	21 09 19.9	+2.0
IKLH				IAMB	IAmb	21 10 23.5	
	comp=Z,451nm,0.5s						
IBRJ	Brojen	5.29	114	ePn	Pn	21 09 23.3	+2.3
IZEF	Zefreh	5.78	101	ePn	Pn	21 09 29.8	+2.1
GNI	Garni	5.95	354	Pn	Pn	21 09 28.5	-1.4
	comp=Z,0.2nm,0.3s,baz=174,slow=19,SNR=1.0						
ASF	Jabal al Asfar	7.56	257	Lg	Lg	21 12 02.1	
	comp=Z,0.5nm,0.3s,baz=209,slow=19,SNR=3.2						
MMAI	Mount Meron Ar	8.58	265	Pn	Pn	21 10 09.7	+3.9
	baz=84,slow=15,SNR=1.0						
MMAI				Lg	Lg	21 12 34.0	
	comp=Z,1.0nm,0.3s,baz=83,slow=38,SNR=3.9						
WSAR	Wadi Sarin	15.82	130	Pn	Pn	21 11 42.7	-1.7
	comp=Z,0.4nm,0.3s,baz=348,slow=9.6,SNR=1.7						
AKTO	Aktyubinsk	18.58	26	P	Pn	21 12 19.3	+0.5
	comp=Z,0.1nm,0.3s,baz=231,slow=6.5,SNR=2.0						
AKASG	Malin Array Be	20.34	329	P	P	21 12 37.6	-0.1
	comp=Z,0.6nm,0.4s,baz=132,slow=10,SNR=2.9						
HFS	Hagfors	33.20	331	P	P	21 14 37.0	-1.1
	comp=Z,1.6nm,0.6s,baz=114,slow=10,SNR=2.5						
TORD	Torodi Ar. Bea	44.91	253	P	P	21 16 18.5	+2.0
	comp=Z,0.4nm,0.8s,baz=37,slow=6.5,SNR=2.8						
CMAR	Chiang Mai Arr	49.79	94	P	P	21 16 51.7	-2.8
	comp=Z,0.3nm,0.4s,baz=291,slow=10,SNR=1.9						
SEY	Seymchan	67.15	28	P	P	21 18 55.3	+0.3
	comp=Z,2.1nm,0.6s,baz=279,slow=5.6,SNR=5.6						

IDC 22 21:18:04.3±1.9, 28°.35N×102°.81E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/49, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=87.2km s-min=30.8km az=63.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.46	201	Pg	Pn	21 21 08.3	+33
	0.3nm,0.3s,baz=9.5,slow=17,SNR=4.6						
SONM	Songino Array	19.66	7	P	P	21 22 34.5	-0.3

mb3.4/5, Error ellipse: s-maj=13.7km s-min=7.2km az=17.2
*IDC **22** 21:19:42.3±1.5, 6°.74S×127°.03E, h411^{km}±21^{km}, mb3.1/5, mb1 3.1/9, mb1mx2.9/39, mbtmp3.9/9, Error ellipse: s-maj=29.8km s-min=15.4km az=84.0*
ISC 22 21:19:41.3±0.7, 6°.80S±0°.07×127°.2E±0°.1, h400^{km}, n10, σ2°01/14, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.83**	**225**	P	**Pn**	**21 21 03.0**	**+1.4**
	88nm,0.3s,baz=77,slow=1.7,SNR=79						
BATI				S	**S**	**21 22 04.4**	**-2.4**
	7.2nm,0.3s,baz=332,slow=23,SNR=4.1						
SIJI	**Sorong**	**7.19**	**35**	P	**P**	**21 21 28.6**	**+0.9**
	0.9nm,0.3s,baz=215,slow=22,SNR=6.2						
SIJI				S	**S**	**21 22 52.8**	**-0.8**
	0.6nm,0.3s,baz=263,slow=23,SNR=1.4						
FITZ	**Fitzroy Crossi**	**11.32**	**187**	P	**P**	**21 22 14.3**	**+0.8**
	0.2nm,0.3s,baz=13,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**14.81**	**153**	P	**P**	**21 22 53.2**	**+1.5**
	0.3nm,0.3s,baz=331,slow=9.5,SNR=36						
WRA				S	**S**	**21 25 24.7**	**-4.7**
	0.1nm,0.3s,baz=330,slow=20,SNR=3.0						
ASAR	**Alice Springs**	**17.98**	**160**	P	**P**	**21 23 27.4**	**+1.8**
	0.9nm,0.3s,baz=337,slow=9.5,SNR=27						
ASAR				S	**S**	**21 26 31.1**	**-0.3**
	0.0nm,0.3s,baz=346,slow=22,SNR=3.0						
STKA	**Stephens Creek**	**28.36**	**153**	P	**P**	**21 25 02.2**	**+1.5**
	1.6nm,0.6s,baz=329,slow=18,SNR=3.2						
MJAR	**Matsushiro Arr**	**44.35**	**13**	P	**P**	**21 27 13.9**	**0.0**
	1.4nm,0.7s,baz=192,slow=8.6,SNR=3.1						
USRK	**Ussuriysk Ar.**	**50.95**	**4**	P	**P**	**21 28 03.1**	**-0.7**
	1.0nm,0.7s,baz=188,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**66.54**	**328**	P	**P**	**21 29 50.1**	**+0.3**
	0.3nm,0.5s,baz=128,slow=7.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**70.18**	**335**	P	**P**	**21 30 09.8**	**-2.1**
	0.8nm,0.5s,baz=142,slow=6.0,SNR=3.6						

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*IDC **22** 21:23:08.3±1.8, 36°.93N×142°.09E, h0^{km}, mb3.3/3, mb1 3.6/6, mb1mx3.4/40, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=35.8km s-min=22.9km az=81.0*
*JMA **22** 21:23:11.9±0.2, 36°.91N×141°.94E, h49^{km}±5^{km}, M3.4*
ISC 22 21:23:09.3±2.1, 36°.92N±0°.05×142°.02E±0°.07, h10^{km}±11^{km}, n26, σ1°31/32, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.99**	**281**	P	**Pb**	**21 23 28.7**	**+0.1**
ONAJ				*e*S	**Sg**	**21 23 40.5**	**-0.8**
JFK	**Kawauchi**	**1.01**	**296**	P	**Pg**	**21 23 29.0**	**+0.2**
JFK				*e*S	**Sg**	**21 23 42.0**	**0.0**
JFFD	**Fukushimafurud**	**1.18**	**279**	P	**Pb**	**21 23 31.5**	**-0.3**
JFFD				*e*S	**Sb**	**21 23 46.4**	**-0.6**
JHO	**Hitachi**	**1.20**	**255**	P	**Pb**	**21 23 31.6**	**-0.6**
JHO				*e*S	**Sb**	**21 23 46.5**	**-1.3**
JMST	**Minamisoumatoc**	**1.20**	**312**	P	**Pn**	**21 23 32.1**	**-0.1**
JMST				S	**Sb**	**21 23 46.9**	**-0.9**
JMM	**Marumori**	**1.35**	**314**	P	**Pn**	**21 23 34.4**	**+0.1**
JFT	**Otama**	**1.47**	**294**	P	**Pb**	**21 23 36.7**	**0.0**
JIO	**Ouri**	**1.62**	**341**	P	**Pn**	**21 23 37.9**	**0.0**
JOU	**Okura**	**1.79**	**324**	P	**Pb**	**21 23 41.8**	**-0.5**
JOU				S	**Sn**	**21 24 03.6**	**+0.3**
JFY	**Yanaizu**	**1.91**	**285**	P	**Pn**	**21 23 42.7**	**+0.8**
JFY				*e*S	**Sn**	**21 24 05.0**	**-1.0**
JAG	**Ashikaga**	**2.12**	**257**	P	**Pn**	**21 23 45.1**	**+0.3**
JMK	**Ichinoseki**	**2.12**	**343**	P	**Pn**	**21 23 46.3**	**+1.5**
JKT	**Katashina**	**2.22**	**267**	P	**Pn**	**21 23 46.9**	**+0.5**
JKT				*e*S	**Sn**	**21 24 12.9**	**-1.0**
MJAR	**Matsushiro Arr**	**3.08**	**264**	Pn	**Pn**	**21 23 59.8**	**+1.8**
	0.9nm,0.3s,baz=86,slow=15,SNR=41						
MJAR				Sn	**Sn**	**21 24 37.8**	**+2.9**
	0.4nm,0.3s,baz=85,slow=28,SNR=3.1						
MAT	**Matsushiro**	**3.08**	**264**	P	**Pn**	**21 24 00.9**	**+2.8**
MAT				*e*S	**Sn**	**21 24 32.5**	**-2.5**
JHJ	**Hachijo jima 2**	**4.21**	**206**	Pn	**Pn**	**21 24 13.9**	**+0.3**
	8.5nm,0.3s,baz=324,slow=23,SNR=7.2						
JHJ				Sn	**Sn**	**21 24 60.0**	**-2.9**
	7.0nm,0.3s,baz=115,slow=9.0,SNR=1.5						
ASAJ	**Asahikawa**	**7.20**	**3**	Pn	**Pn**	**21 24 55.0**	**+0.4**
	0.7nm,0.3s,baz=207,slow=9.0,SNR=5.3						
ASAJ				Sn	**Sn**	**21 26 14.9**	**-1.5**
	0.2nm,0.3s,baz=67,slow=26,SNR=1.1						
H11N2	**WAKE ISLAND Hy**	**27.68**	**121**	T	T	21 58 05.3	
	baz=314,slow=75,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**27.69**	**121**	T	T	21 58 25.4	
	baz=314,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**27.70**	**121**	T	T	21 58 18.2	
	baz=314,slow=75,SNR=7.0						
SONM	**Songino Array**	**28.25**	**304**	P	**P**	**21 29 02.7**	**+0.1**
	0.7nm,0.7s,baz=114,slow=9.4,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	21 59 08.2	
	baz=316,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	21 58 55.7	
	baz=316,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	21 59 07.1	
	baz=316,slow=76,SNR=6.4						
MKAR	**Makanchi Array**	**44.59**	**302**	P	**P**	**21 31 22.1**	**+0.5**
	0.1nm,0.5s,baz=94,slow=7.5,SNR=2.3						
WRA	**Warramunga Arr**	**57.02**	**189**	P	**P**	**21 32 56.5**	**+1.1**
	0.7nm,1.1s,baz=7.1,slow=7.5,SNR=2.6						

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*IDC **22** 21:26:36.7±2.6, 38°.39N×142°.58E, h0^{km}, mb3.3/2, mb1 3.7/4, mb1mx3.3/47, mbtmp3.6/4, ML2.9/2, Error ellipse: s-maj=47.2km s-min=36.2km az=72.0*
*ISCJB **22** 21:26:45.1±0.9, 38°.28N±0°.04×141°.90E±0°.09, h58^{km}±7^{km}, mb3.3/2, Error ellipse: s-maj=12.9km s-min=5.6km az=16.4*
*JMA **22** 21:26:46.4, 38°.32N×141°.81E, h57^{km}±1^{km}, M3.2*
JMA Felt I J1.
ISC 22 21:26:45.0±1.4, 38°.25N±0°.04×141°.99E±0°.09, h50^{km}±11^{km}, n24, σ1°00/31, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.42**	**278**	P	**Pn**	**21 26 56.0**	**+0.7**
JIKH				S	**Sn**	**21 27 02.7**	**+0.1**
JIO	**Ouri**	**0.54**	**292**	P	**Pn**	**21 26 57.0**	**+0.3**
JIO				S	**Sn**	**21 27 04.4**	**-0.8**
JKMT	**Kesennumamotoy**	**0.69**	**324**	P	**Pn**	**21 26 58.9**	**+0.3**
JKMT				*i* S	**Sn**	**21 27 07.6**	**-0.8**
OFUJ	**Ofunato**	**0.86**	**343**	P	**Pn**	**21 27 01.3**	**+0.4**
OFUJ				S	**Sn**	**21 27 12.0**	**-0.5**
JOFO	**Osakifurukawao**	**0.92**	**293**	P	**Pn**	**21 27 01.5**	**-0.1**
JOFO				S	**Sn**	**21 27 13.2**	**-0.6**
JMK	**Ichinoseki**	**0.92**	**319**	P	**Pn**	**21 27 01.8**	**+0.1**
JMK				S	**Sn**	**21 27 12.7**	**-1.2**
JMM	**Marumori**	**1.02**	**248**	P	**Pn**	**21 27 02.9**	**-0.1**
JMM				S	**Sn**	**21 27 15.0**	**-1.2**
JOU	**Okura**	**1.05**	**277**	P	**Pn**	**21 27 03.2**	**-0.2**
JOU				S	**Sn**	**21 27 15.8**	**-1.2**
JFK	**Kawauchi**	**1.25**	**225**	P	**Pn**	**21 27 07.0**	**+0.9**
JFK				S	**Sn**	**21 27 22.2**	**+0.3**
JOM	**Ohasama**	**1.33**	**336**	P	**Pn**	**21 27 07.7**	**+0.5**
JOM				S	**Sn**	**21 27 23.1**	**-0.8**
JYK	**Kaneyama**	**1.44**	**298**	P	**Pn**	**21 27 08.4**	**-0.3**
JFT	**Otama**	**1.50**	**241**	P	**Pn**	**21 27 10.3**	**+0.8**
JFT				S	**Sn**	**21 27 27.7**	**-0.2**
JYS	**Shirataka**	**1.52**	**269**	P	**Pn**	**21 27 09.8**	**+0.1**
JYS				S	**Sn**	**21 27 27.4**	**-0.9**
JRG	**Rokugo**	**1.56**	**318**	P	**Pn**	**21 27 10.3**	**0.0**
MJAR	**Matsushiro Arr**	**3.46**	**242**	Pn	**Pn**	**21 27 38.3**	**+1.9**
	0.2nm,0.3s,baz=59,slow=12,SNR=4.5						
MJAR				Sn	Sn	21 28 25.3	+9.2
	0.1nm,0.3s,baz=56,slow=15,SNR=2.4						
JHJ	**Hachijo jima 2**	**5.43**	**200**	Pn	**Pn**	**21 28 03.4**	**0.0**
	4.2nm,0.3s,baz=60,slow=20,SNR=1.6						
JHJ				Sn	**Sn**	**21 29 01.1**	**-3.4**
	2.6nm,0.3s,baz=74,slow=21,SNR=1.3						
H11N2	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	22 02 56.1	
	baz=316,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	22 02 57.1	
	baz=316,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	22 02 56.7	
	baz=316,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	22 03 49.8	
	baz=318,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.17**	**126**	T	T	22 03 51.9	
	baz=318,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	22 03 52.1	
	baz=318,slow=76,SNR=16						
MKAR	**Makanchi Array**	**43.87**	**301**	P	**P**	**21 34 47.4**	**+1.1**
	0.1nm,0.4s,baz=84,slow=8.5,SNR=1.3						
WRA	**Warramunga Arr**	**58.33**	**188**	P	**P**	**21 36 34.6**	**-0.3**
	1.2nm,1.2s,baz=5.2,slow=7.0,SNR=5.3						

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*ISCJB **22** 21:37:41.7±0.7, 33°.97N±0°.06×25°.05E±0°.05, h20^{km}, mb3.8/9, Error ellipse: s-maj=8.6km s-min=6.1km az=7.0*
*IDC **22** 21:37:41.5±1.1, 34°.24N×25°.12E, h0^{km}, mb3.8/9, mb1 3.8/15, mb1mx3.6/43, mbtmp3.8/15, ML3.8/6, Error ellipse: s-maj=23.5km s-min=18.8km az=24.0*
*ISK **22** 21:37:47.2, 34°.35N×25°.04E, h75^{km}, ML3.5/13*
*HLW **22** 21:37:48.4, 33°.87N×25°.35E, h17^{km}±13^{km}, Md4.0, Ml4.0*
ISC 22 21:37:43.5±0.8, 34°.01N±0°.08×25°.13E±0°.05, h20^{km}, n39, σ2°13/43, mb3.8/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.19**	**314**	PG	**Pb**	**21 38 05.7**	**+0.3**
ZKR	**Zakros**	**1.42**	**39**	PN	**Pn**	**21 38 09.4**	**+1.2**
ZKR				SN	**Sn**	**21 38 26.2**	**-0.1**
KARP	**Karpathos**	**2.27**	**47**	PN	**Pn**	**21 38 22.1**	**+2.2**
KARP				SN	**Sn**	**21 38 46.8**	**-0.5**
SANT	**Santorini**	**2.37**	**6**	PN	**Pn**	**21 38 21.5**	**+0.3**
KTHA	**Kythira Island**	**2.81**	**324**	PN	**Pn**	**21 38 27.2**	**0.0**
KTHA				SN	**Sn**	**21 38 56.4**	**-4.1**
APE	**Apeiranthos**	**3.07**	**6**	PN	**Pn**	**21 38 30.9**	**0.0**
DAT	**Datca**	**3.37**	**36**	PN	**Pn**	**21 38 36.6**	**+1.5**
MLSB	**Milas**	**3.92**	**33**	PN	**Pn**	**21 38 43.6**	**+1.0**
DALY	**Dalyan (Mula)**	**4.02**	**45**	PN	**Pn**	**21 38 46.2**	**+2.4**
TURN	**Turunc**	**4.03**	**44**	PN	**Pn**	**21 38 41.9**	**-2.0**
YER	**Yerkesik**	**4.04**	**39**	PN	**Pn**	**21 38 45.8**	**+1.6**
GCAM	**G?zelcaml?**	**4.06**	**24**	PN	**Pn**	**21 38 45.7**	**+1.3**
ITM	**Ithomi**	**4.10**	**321**	PN	**Pn**	**21 38 45.3**	**+0.3**
FETY	**Fethiye**	**4.16**	**50**	PN	**Pn**	**21 38 48.2**	**+2.4**
AKAS	**Kas**	**4.29**	**58**	PN	**Pn**	**21 38 50.5**	**+2.8**
CHOS	**Chios island**	**4.43**	**9**	PN	**Pn**	**21 38 49.1**	**-0.5**
URLA	**Izmir**	**4.50**	**15**	PN	**Pn**	**21 38 50.9**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**4.52**	**29**	PN	**Pn**	**21 38 51.7**	**+0.8**
SWA2		**4.76**	**177**	AMP		21 39 00.0	
	baz=178						
ELL	**Elmali**	**4.76**	**54**	PN	**Pn**	**21 38 56.7**	**+2.4**
KORT	**Korkueli**	**5.20**	**54**	PN	**Pn**	**21 39 02.6**	**+2.4**
KULA	**Kula-Manisa**	**5.32**	**31**	PN	**Pn**	**21 39 02.8**	**+0.9**
AGG	**Agios Georgios**	**5.48**	**337**	PN	**Pn**	**21 39 03.3**	**-0.7**
MMAI	**Mount Meron Ar**	**8.64**	**94**	Pn	**Pn**	**21 39 48.8**	**+1.4**
	1.9nm,0.3s,baz=267,slow=12,SNR=14						
MMAI				Sn	**Sn**	**21 41 18.6**	**-5.6**
	3.3nm,0.3s,baz=257,slow=20,SNR=8.2						
EIL	**Elat**	**9.41**	**115**	Pn	**Pn**	**21 39 58.6**	**+0.7**
	1.7nm,0.3s,baz=280,slow=1.3,SNR=44						
EIL				Sn	**Sn**	**21 41 37.5**	**-5.6**
	1.2nm,0.3s,baz=325,slow=7.7,SNR=6.1						
ASF	**Jabal al Asfar**	**10.04**	**97**	Pn	**Pn**	**21 40 07.0**	**+0.3**
	0.1nm,0.3s,baz=255,slow=20,SNR=3.4						
ASF				Sn	Sn	21 41 52.3	-6.5
	0.2nm,0.3s,baz=114,slow=5.2,SNR=3.6						
VYHS	**Vyhne**	**15.21**	**344**	*e*P	**P**	**21 41 27.1**	**+5.2**
AKASG	**Malin Array Be**	**16.95**	**9**	Pn	**Pn**	**21 41 37.7**	**-1.5**
	0.7nm,0.3s,baz=201,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**17.09**	**334**	Pn	**Pn**	**21 41 41.0**	**-0.1**
	0.3nm,0.3s,baz=148,slow=12,SNR=10						
DAVOX	**Davos/Dischmat**	**17.21**	**322**	P	**Pn**	**21 41 41.2**	**-1.6**
	0.1nm,0.3s,baz=132,slow=19,SNR=2.1						
HFS	**Hagfors**	**27.19**	**347**	P	**P**	**21 43 24.5**	**-0.9**
	1.0nm,0.7s,baz=146,slow=8.7,SNR=4.9						
FINES	**FINESS Array B**	**27.45**	**1**	P	**P**	**21 43 25.7**	**-2.1**
	3.0nm,1.0s,baz=156,slow=9.6,SNR=5.4						
EKA	**Eskdalemuir Ar**	**28.97**	**326**	P	**P**	**21 43 41.4**	**0.0**
	0.9nm,0.7s,baz=122,slow=9.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**29.74**	**231**	P	**P**	**21 43 51.0**	**+2.4**
	0.4nm,0.3s,baz=32,slow=8.6,SNR=8.8						
ARCES	**ARCESS Array B**	**35.58**	**0**	P	**P**	**21 44 37.6**	**-1.5**
	2.1nm,0.8s,baz=173,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**44.44**	**56**	P	**P**	**21 45 53.6**	**+0.7**
	0.8nm,0.5s,baz=269,slow=7.4,SNR=22						
ZALV	**Zalesovo Beam**	**45.82**	**45**	P	**P**	**21 46 03.4**	**-0.4**
	1.2nm,0.4s,baz=263,slow=8.8,SNR=7.4						
SONM	**Songino Array**	**60.24**	**50**	P	**P**	**21 47 51.6**	**+1.3**
	0.3nm,0.5s,baz=302,slow=7.6,SNR=3.4						
USRK	**Ussuriysk Ar.**	**77.67**	**45**	P	**P**	**21 49 38.9**	**+0.3**
	0.4nm,0.4s,baz=287,slow=3.7,SNR=4.0						

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*ISCJB **22** 21:49:42.1±0.4, 24°.91N±0°.02×122°.32E±0°.02, h2^{km}±3^{km}, Error ellipse: s-maj=4.1km s-min=2.5km az=19.2*
*TAP **22** 21:49:43.1, 24°.93N×122°.24E, h13^{km}, ML3.2, D*
*JMA **22** 21:49:43.0±0.1, 24°.90N×122°.31E, h42^{km}±4^{km}, M2.5*
ISC 22 21:49:41.8±1.2, 24°.94N±0°.03×122°.29E±0°.02, h16^{km}±9^{km}, n72, σ0°77/119, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.28**	**285**	*i* P	**Pb**	**21 49 48.7**	**+0.3**
	baz=285						
TWB1				*i* S	**Sb**	**21 49 52.4**	**-0.4**
	baz=285						
EGS		**0.33**	**254**	*e*P	**Pb**	**21 49 50.1**	**+0.7**
	baz=254						
EGS				*e*S	**Sb**	**21 49 54.1**	**-0.3**
	baz=254						
EOS1	**EOS1**	**0.41**	**200**	P	**Pb**	**21 49 51.3**	**+0.7**
	baz=209						
EOS1				S	**Sb**	**21 49 57.5**	**+0.9**
	baz=209						
TIPB	**Shuangxi**	**0.42**	**275**	P	**Pb**	**21 49 51.6**	**+0.7**
	baz=277						
TIPB				*e*S	**Sb**	**21 49 56.7**	**-0.3**
	baz=277						
NTC	**Toucheng**	**0.42**	**259**	*e*P	**Pb**	**21 49 51.5**	**+0.6**
	baz=267						
NWF	**Wu-fen Shan**	**0.48**	**287**	*e*P	**Pb**	**21 49 53.0**	**+1.1**
	baz=289						
NWF				*e*S	**Sb**	**21 49 59.1**	**+0.4**
	baz=289						
WFSB	**Wu-fen Shan**	**0.48**	**287**	*e*P	**Pb**	**21 49 52.8**	**+1.1**
	baz=289						
WFSB				*e*S	**Sb**	**21 49 59.0**	**+0.4**
	baz=289						
TWC	**Suao**	**0.51**	**231**	*e*P	**Pg**	**21 49 52.3**	**+0.3**
	baz=219						
TWE	**Neicheng**	**0.60**	**249**	*e*P	**Pb**	**21 49 54.2**	**+0.4**
	baz=240						
TWE				*e*S	**Sb**	**21 50 01.8**	**-0.3**
	baz=240						
SLBB	**Yuanshan**	**0.62**	**253**	*e*P	**Pb**	**21 49 54.2**	**0.0**
	baz=243						
TWA	**Mucha**	**0.64**	**274**	P	**Pn**	**21 49 56.1**	**-0.1**
	baz=275						
TWA				*e*S	**Sn**	**21 50 05.0**	**-1.0**
	baz=275						
YM08	**YM08**	**0.68**	**292**	*e*P	**Pn**	**21 49 56.5**	**-0.3**
	baz=294						
YM08				*e*S	**Sb**	**21 50 04.8**	**+0.3**
	baz=294						
YM01	**YM01**	**0.68**	**288**	*e*P	**Pn**	**21 49 56.9**	**+0.1**
	baz=290						
YM01				*e*S	**Sn**	**21 50 06.3**	**-0.9**
	baz=290						
YM11	**YM11**	**0.68**	**290**	*e*P	**Pn**	**21 49 56.9**	**0.0**
	baz=291						
YM11				*e*S	**Sn**	**21 50 06.2**	**-1.0**
	baz=291						
NHDH	**Xindian Distri**	**0.69**	**272**	*e*P	**Pn**	**21 49 57.2**	**+0.3**
	baz=274						
NHDH				*e*S	**Sn**	**21 50 06.5**	**-0.8**
	baz=274						
YM05	**YM05**	**0.69**	**289**	*e*P	**Pn**	**21 49 56.9**	**-0.1**
	baz=291						
YM05				*e*S	**Sn**	**21 50 05.9**	**-1.5**
	baz=291						
YM10	**YM10**	**0.69**	**289**	*e*P	**Pn**	**21 49 57.0**	**+0.1**
	baz=290						
YM10				*e*S	**Sn**	**21 50 06.2**	**-1.3**
	baz=290						
TAP1	**Taipei**	**0.70**	**279**	*e*P	**Pn**	**21 49 57.2**	**+0.2**
	baz=292						
TAP1				*e*S	**Sn**	**21 50 07.1**	**-0.3**
	baz=292						
NANB	**Nanao**	**0.70**	**224**	*e*P	**Pg**	**21 49 55.8**	**+0.3**
	baz=214						
NANB				*e*S	**Sg**	**21 50 03.7**	**-1.1**
	baz=214						
ENA	**Nanau**	**0.71**	**225**	*e*P	**Pg**	**21 49 55.8**	**+0.2**
	baz=214						
ENA				*e*S	**Sg**	**21 50 04.2**	**-0.8**
	baz=214						
TWY	**Chenhua**	**0.71**	**299**	*e*P	**Pn**	**21 49 57.4**	**+0.3**
	baz=288						
TWY				*e*S	**Sn**	**21 50 07.4**	**-0.3**
	baz=288						
YM04	**YM04**	**0.71**	**288**	*e*P	**Pn**	**21 49 57.2**	**0.0**
	baz=289						
YM04				*e*S	**Sn**	**21 50 06.6**	**-1.3**
	baz=289						
TAP	**Taipei**	**0.71**	**278**	*e*S	**Sn**	**21 50 07.3**	**-0.5**
	baz=292						
ENTT	**Nioudou**	**0.72**	**246**	*e*P	**Pb**	**21 49 56.6**	**+0.7**
	baz=236						
PCYT	**Pengchaiyu**	**0.72**	**344**	*e*P	**Pb**	**21 49 57.2**	**+1.3**
	baz=347						
TATO	**Taipei**	**0.72**	**273**	*e*P	**Pn**	**21 49 57.4**	**+0.1**
	baz=275						
TATO				*e*S	**Sn**	**21 50 07.2**	**-0.9**
	baz=275						
NWLT	**Wulai**	**0.73**	**258**	*e*P	**Pn**	**21 49 57.6**	**+0.2**
	baz=258						
ANP	**Anpu**	**0.74**	**290**	*e*P	**Pn**	**21 49 57.7**	**+0.1**
	baz=291						
ANP				*e*S	**Sn**	**21 50 07.3**	**-1.2**
	baz=291						
JYNG	**Yonagunijimaku**	**0.77**	**129**	P	**Pb**	**21 49 57.0**	**+0.2**
JYNG				S	**Sb**	**21 50 07.5**	**+0.5**
NDT	**Datong Townshi**	**0.78**	**245**	*e*P	**Pn**	**21 49 57.9**	**-0.2**
	baz=245						
NDT				*e*S	**Sn**	**21 50 09.0**	**-0.4**
	baz=245						
NTST	**Danshui**	**0.79**	**287**	*e*P	**Pn**	**21 49 58.9**	**+0.6**
	baz=288						
NTST				*e*S	**Sn**	**21 50 09.9**	**+0.2**
	baz=288						
TWS1	**Kuangyinshan**	**0.80**	**282**	*e*P	**Pn**	**21 49 59.1**	**+0.7**
	baz=283						
TWS1				*e*S	**Sn**	**21 50 10.1**	**+0.1**
	baz=283						
YOJ	**Yonaguni jima**	**0.81**	**125**	P	**Pb**	**21 49 57.5**	**0.0**
YOJ				S	**Sb**	**21 50 08.7**	**+0.5**
YHNB	**Yeheng**	**0.87**	**252**	*e*P	**Pn**	**21 49 59.4**	**0.0**
	baz=270						
YHNB				*e*S	**Sn**	**21 50 10.2**	**-1.6**
	baz=270						
NSK	**Sanguang**	**0.88**	**253**	*e*P	**Pn**	**21 49 59.5**	**-0.1**
	baz=253						
NNSB	**Datong**	**0.96**	**239**	*e*P	**Pn**	**21 50 01.0**	**+0.2**
	baz=228						
NNSB				*e*S	**Sn**	**21 50 13.9**	**-0.3**
	baz=228						
NNS	**Nan Shan**	**0.96**	**239**	*e*P	**Pn**	**21 50 01.1**	**+0.3**
	baz=229						
NNS				*e*S	**Sn**	**21 50 13.8**	**-0.4**
	baz=229						
NACB	**Ninganchiao**	**0.98**	**220**	*e*P	**Pb**	**21 50 00.7**	**+0.3**
	baz=210						
NACB				*e*S	**Sg**	**21 50 13.0**	**-0.7**
	baz=210						
TWD	**Chiawan**	**1.06**	**217**	*e*P	**Pb**	**21 50 02.2**	**+0.5**
	baz=217						
TWD				*e*S	**Sn**	**21 50 16.0**	**-0.4**
	baz=217						
LIOB	**Emei**	**1.19**	**256**	*e*P	**Pg**	**21 50 04.7**	**-0.1**
	baz=270						
NSTT	**Nanjuang**	**1.21**	**256**	*e*P	**Pg**	**21 50 05.0**	**-0.1**
	baz=269						
WHF	**Hehuan Shan**	**1.22**	**230**	*e*P	**Pg**	**21 50 05.3**	**-0.1**
	baz=230						
WHF				*e*S	**Sg**	**21 50 20.7**	**-0.6**
	baz=230						
TDCB	**Techi**	**1.23**	**237**	*e*P	**Pg**	**21 50 05.7**	**+0.2**
	baz=227						
TDCB				*e*S	**Sg**	**21 50 21.9**	**+0.3**
	baz=227						
CHGB	**Renai**	**1.34**	**230**	*e*P	**Pg**	**21 50 07.7**	**+0.1**
	baz=230						
CHGB				*e*S	**Sg**	**21 50 24.3**	**-0.7**
	baz=230						
ESL	**Shilin**	**1.36**	**215**	*e*P	**Pn**	**21 50 06.8**	**+0.7**
	baz=223						
ESL				*e*S	**Sg**	**21 50 26.7**	**+1.0**
	baz=223						
WHP	**Taichung City**	**1.38**	**242**	*e*P	**Pg**	**21 50 08.9**	**+0.5**
	baz=243						
WHP				*e*S	**Sg**	**21 50 25.2**	**-1.3**
	baz=243						
IRIF	**Iriomote-Funau**	**1.44**	**114**	P	**Pn**	**21 50 06.6**	**-0.6**
EGFH	**Guangfu**	**1.48**	**212**	*e*P	**Pg**	**21 50 10.3**	**-0.1**
	baz=228						
EGFH				*e*S	**Sg**	**21 50 29.4**	**-0.2**
	baz=228						
DPDB	**Guoxing**	**1.53**	**234**	*e*P	**Pg**	**21 50 11.8**	**+0.5**
	baz=227						
DPDB				*e*S	**Sg**	**21 50 31.0**	**-0.2**
	baz=227						
VWDT	**VWDT**	**1.57**	**222**	*e*P	**Pb**	**21 50 11.0**	**+0.6**
	baz=230						
VWDT				*e*S	**Sg**	**21 50 31.6**	**-0.9**
	baz=

JSD	**Sado**	**1.00**	**27**	P	Pn	22 04 15.2	+0.1
JAG	**Ashikaga**	**1.58**	**116**	P	Pn	22 04 18.7	-0.4
JAG				S	S	22 04 49.2	-0.3
JYN	**Shimob**	**1.78**	**157**	P	Pn	22 04 21.0	+0.2
JOD2	**Odawara 2**	**2.19**	**148**	P	Pn	22 04 24.9	+0.5
JOD2				S	S	22 04 59.0	-0.1
JFK	**Kawauchi**	**2.55**	**84**	S	S	22 05 04.4	-1.1

ISCJB ***22*** *22:04:23.5±0.1, 44°.58N±0°.01×124°.08E±0°.02, h10km, mb5.3/162, MS5.2/79, Error ellipse: s-maj=2.0km s-min=1.7km az=154.2*

IDC ***22*** *22:04:23.2±0.4, 44°.57N×124°.11E, h0km, mb5.0/30, mb1 5.2/33, mb1mx5.1/35, mbtmp5.0/33, ML4.4/4, MS4.8/38, Ms1 4.8/38, ms1mx4.7/49, Error ellipse: s-maj=10.5km s-min=10.0km az=3.0*

MOS ***22*** *22:04:23.9±1.1, 44°.55N×124°.04E, h13km, mb5.6/54, MS5.4/49, Error ellipse: s-maj=5.2km s-min=3.5km az=119.6*

BJI ***22*** *22:04:23.8±0.0, 44°.60N×124°.10E, h9km, mb5.2/59, mB5.5/52, ML5.9/20, Ms5.8/78, Ms7 5.6/68*

GCMT ***22*** *22:04:25.3±0.1, 44°.65N±0°.01×124°.06E±0°.01, h12km, MW5.2/110, Moment Tensor Solution. s69,c109; s110,c189; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.54±.01; Mθθ0.42±.01; Mφφ-0.95±.01; Mrθ-0.38±.04; Mθφ-0.03±.01; Mφr-0.27±.03; Best double couple: M0 0.94800×10^17 NP1:φs213.00000°, δ65.00000°, λ132.00000°. NP2:φs328.00000°, δ47.00000°, λ34.00000°. Principal axes: T 0.8850, Plg51.0000°, Azm171.0000°; N 0.1250, Plg37.0000°, Azm13.0000°; P -1.0110, Plg11.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *22:04:25.4±1.8, 44°.60N±0°.06×124°.17E±0°.08, h10km±1km, mb5.5/422, Mwr5.3, Mwc5.3(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.43; Mθθ0.19; Mφφ-0.62; Mrθ-0.66; Mθφ-0.07; Mφr-0.82; Fault plane solution: M0 1.19000×10^17 NP1:φs335.47000°, δ20.89000°, λ32.38000°. NP2:φs214.82000°, δ78.99000°, λ107.86000°. Principal axes: T 1.1955, Plg53.0000°, Azm146.0000°; N -0.0087, Plg18.0000°, Azm31.0000°; P -1.1869, Plg32.0000°, Azm290.0000°;*

NEIC ***22*** *22:04:26, 44°.62N×124°.08E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr6.06; Mθθ4.27; Mφφ-10.30; Mrθ-1.43; Mθφ-0.32; Mφr-0.80; Fault plane solution: M0 9.13000×10^16 NP1:φs206.00000°, δ54.00000°, λ126.00000°. NP2:φs335.00000°, δ49.00000°, λ51.00000°. Principal axes: T 6.8594, Plg61.0000°, Azm176.0000°; N 3.5001, Plg28.0000°, Azm3.0000°; P -10.3595, Plg3.0000°, Azm272.0000°;*

ISC 22 22:04:25.3±0.6, 44°.61N±0°.03×124°.15E±0°.03, h10km±3km, n1310, σ1°24/1272, mb5.5/342, MS5.3/81, 71C-48D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.24**	**131**	*e*Pg	**Pn**	**22 04 47.6**	**-1.0**
CN2				*e*Sg	**Sn**	**22 05 06.1**	**+0.8**
CN2				smax	smax		
	comp=N,138μm,1.0s						
CN2				smax	smax		
	comp=E,92μm,1.0s						
SNY	**Shenyang**	**2.81**	**189**	Pn	**Pn**	**22 05 09.4**	**-0.8**
SNY				Pg	**Pb**	**22 05 16.8**	**+1.3**
SNY				Sn	**Sn**	**22 05 40.1**	**-4.1**
SNY				Sg	**Sg**	**22 05 53.3**	**-2.3**
MDJ	**Mudanjiang**	**3.89**	**88**	Pn	**Pn**	**22 05 24.8**	**-0.2**
MDJ				Sg	**Sg**	**22 06 35.6**	**+5.6**
MDJ				smax	smax		
	comp=N,19μm,1.0s						
MDJ				smax	smax		
	comp=E,13μm,0.9s						
MDJ	**Mudanjiang**	**3.89**	**88**		**Pn**	**22 05 24.1**	**-0.9**
MSHR	**Mys Shultsa**	**5.48**	**109**	*i* P	**Pn**	**22 05 49.3**	**+2.5**
HIA	**Hailar**	**5.55**	**329**	P	**Pn**	**22 05 46.2**	**-1.6**
HIA	**Hailar**	**5.55**	**329**		**Pn**	**22 05 46.2**	**-1.6**
I45RU	**USSURIYSK INFR**	**5.62**	**91**	Lg	Lg	22 07 27.5	
	baz=279,slow=20,SNR=4.8						
I45RU				*i*		22 39 30.0	
	baz=273,slow=322,SNR=3.1						
USA0B	**Ussuriysk Arra**	**5.63**	**91**	P	**Pn**	**22 05 48.8**	**-0.1**
USA0B	**Ussuriysk Arra**	**5.63**	**91**		**Pn**	**22 05 48.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**5.63**	**91**	Pn	**Pn**	**22 05 48.9**	**-0.1**
	baz=274,slow=12,SNR=49						
USRK				Pg	**Pg**	**22 06 09.2**	**-3.9**
	baz=280,slow=16,SNR=28						
USRK				Sn	**Sn**	**22 06 53.0**	**-0.7**
	baz=277,slow=23,SNR=4.9						
USRK				Lg	Lg	22 07 23.0	
	baz=283,slow=29,SNR=7.1						
VLA	**Vladivostok**	**5.79**	**102**	*i* P	**Pn**	**22 05 53.6**	**+2.5**
DL2	**Dalian**	**6.00**	**199**	⇑*i* Pn	**Pn**	**22 05 53.3**	**-0.8**
DL2				Sn	**Sn**	**22 07 02.1**	**-0.7**
DL2				smax	smax		
	comp=N,3μm,1.2s						
DL2				smax	smax		
	comp=E,5μm,1.0s						
DL2				LR	LR		
	comp=N,36μm,6.2s						
DL2				LR	LR		
	comp=E,21μm,6.4s						
DL2				LR	LR		
	comp=Z,26μm,5.9s						
KLR	**Kul'dur**	**6.96**	**46**	Pn	**Pn**	**22 06 06.9**	**-0.2**
	11nm,0.3s,baz=228,slow=11,SNR=116						
KLR				Pg	Pg	22 06 32.5	-5.9
	16nm,0.3s,baz=234,slow=16,SNR=11						
KLR				Lg	Lg	22 08 04.1	
	66nm,0.3s,baz=341,slow=18,SNR=5.9						
INCN	**Inchon**	**7.36**	**164**	P	**Pn**	**22 06 13.5**	**+0.7**
INCN	**Inchon**	**7.36**	**164**		**Pn**	**22 06 13.5**	**+0.7**
BJI	**Beijing**	**7.47**	**235**	Pn	**Pn**	**22 06 13.6**	**-0.6**
BJI				Sg	**Sg**	**22 08 23.3**	**-1.5**
BJI				smax	smax		
	comp=N,4μm,1.0s						
BJI				smax	smax		
	comp=E,3μm,1.0s						
BJT	**Baijiatuau**	**7.49**	**235**	P	**Pn**	**22 06 13.7**	**-0.7**
BJT	**Baijiatuau**	**7.49**	**235**		**Pn**	**22 06 13.7**	**-0.7**
KS19	**Wonju Array Si**	**7.64**	**157**		**Pn**	**22 06 18.1**	**+1.6**
KSAR	**Wonju Array Be**	**7.70**	**157**	P	**Pn**	**22 06 17.2**	**-0.1**
KSAR	**Wonju Array Be**	**7.70**	**157**	Pn	**Pn**	**22 06 17.2**	**-0.1**
KSRS	**Korea Array**	**7.70**	**157**	Pn	**Pn**	**22 06 18.1**	**+0.7**
	4.8nm,0.3s,baz=339,slow=14,SNR=71						
KSRS				Pg	Pg	22 06 47.6	-5.0
	13nm,0.3s,baz=331,slow=17,SNR=19						
KSRS				Lg	Lg	22 08 27.5	
	54nm,0.3s,baz=328,slow=28,SNR=11						
KSRS				LR	LR	22 09 15.0	
	comp=Z,2μm,21.9s,baz=35,slow=38						
TJN	**Taejon**	**8.58**	**162**	*ce*P	**Pn**	**22 06 30.3**	**+0.9**
TEY	**Ternei**	**8.86**	**83**	⇓*e*P	Pn	22 06 22.9	-10
TEY				pmax	pmax		
	comp=Z,20nm,1.9s						
TEY				MLR	MLR		
	comp=E,50μm,9.0s						
TEY				MLR	MLR		
	comp=N,18μm,5.0s						
TEY				MLR	MLR		
	comp=Z,67μm,9.0s						
ZEA	**Zeya**	**9.36**	**11**	*e*P	**Pn**	**22 06 38.2**	**-1.8**
ZEA				*e*S	Sn	22 08 37.5	+12
ZEA				pmax	pmax		
	comp=N,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,82nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,400nm,2.0s						
ZEA				MLR	MLR		
	comp=Z,54μm,9.0s						
ZEA				MLR	MLR		
	comp=N,44μm,8.0s						
TIA	**Tai'an**	**9.95**	**215**	P	**Pn**	**22 06 47.5**	**-0.7**
TIA				S	**Sn**	**22 08 42.4**	**+2.5**
TIA				pmax	pmax		
	comp=N,11nm,0.5s						
TIA				pmax	pmax		
	comp=N,630nm,6.1s						
TIA				LR	LR		
	comp=N,9μm,7.3s						
TIA				LR	LR		
	comp=N,17μm,10.4s						
TIA				LR	LR		
	comp=N,10μm,8.7s						
HHC	**Hu-ho-hao-te**	**9.99**	**252**	*e*P	**Pn**	**22 06 50.6**	**+1.7**
HHC				pP		22 06 54.0	
HHC				S	**Sn**	**22 08 42.0**	**+0.9**
CIT	**Chita**	**10.23**	**320**	*e*P	**Pn**	**22 06 53.3**	**+1.3**
CIT				*e*		22 08 44.7	
CIT				pmax	pmax		
	comp=Z,86nm,1.6s						
GRNR	**Gornyy**	**10.31**	**49**	*e*P	**Pn**	**22 06 52.3**	**-0.8**
GRNR				*e*		22 08 53.4	
GRNR				smax	smax		
	comp=E,70nm,1.0s						
BTO	**Baotou**	**11.15**	**254**	*e*P	**Pn**	**22 07 06.8**	**+2.0**
TIY	**Taiyuan**	**11.20**	**236**	*e*P	**Pn**	**22 07 09.1**	**+3.8**
TIY				S	**Sn**	**22 09 18.3**	**+7.8**
TIY				pmax	pmax		
	comp=E,69nm,1.1s						
TIY				pmax	pmax		
	comp=E,440nm,6.7s						
TIY				LR	LR		
	comp=E,30μm,8.3s						
TIY				LR	LR		
	comp=E,18μm,5.0s						
TIY				LR	LR		
	comp=E,29μm,10.4s						
ULN	**Ulaanbaatar**	**12.28**	**291**	P	Pn	22 07 15.3	-4.9
ULN	**Ulaanbaatar**	**12.28**	**291**		Pn	22 07 15.3	-4.9
JNU	**Nakatsue**	**12.61**	**153**	Pn	**Pn**	**22 07 28.4**	**+3.7**
	comp=E,0.5nm,0.3s,baz=83,slow=2.2,SNR=4.6						
JNU				Lg	Lg	22 11 03.5	
	comp=E,2.3nm,0.3s,baz=22,slow=11,SNR=7.9						
JNU				LR	LR	22 11 26.3	
	comp=E,1μm,18.6s,baz=342,slow=34						
JNU	**Nakatsue**	**12.61**	**153**		**Pn**	**22 07 25.5**	**+0.8**
SONM	**Songino Array**	**12.71**	**291**	P	**Pn**	**22 07 22.9**	**-3.2**
SONM	**Songino Array**	**12.71**	**291**	Pn	Pn	22 07 21.3	-4.8
	comp=E,0.9nm,0.3s,baz=96,slow=13,SNR=32						
SONM				Sn	Sn	22 09 37.2	-10
	comp=E,1.7nm,0.3s,baz=99,slow=23,SNR=7.0						
SONM				Lg	Lg	22 11 07.9	
	comp=E,6.7nm,0.3s,baz=90,slow=26,SNR=5.8						
SONM				LR	LR	22 12 45.5	
	comp=E,22μm,18.2s,baz=101,slow=40						
SONM	**Songino Array**	**12.71**	**291**		**Pn**	**22 07 22.9**	**-3.2**
UGL	**Uglegorsk**	**13.05**	**64**	*e*P	**Pn**	**22 07 34.8**	**+4.3**
UGL				S	**Sn**	**22 10 00.9**	**+5.4**
UGL				pmax	pmax		
	comp=Z,87nm,1.5s						
UGL				MLR	MLR		
	comp=Z,44μm,9.0s						
UGL				MLR	MLR		
	comp=E,45μm,13.0s						
YSS	**Yuzh-Sakhalins**	**13.20**	**73**	*e*P	**Pn**	**22 07 34.9**	**+2.4**
YSS				*e*S	**Sn**	**22 10 02.4**	**+3.2**
YSS				pmax	pmax		
	comp=Z,800nm,9.2s						
YSS				MLR	MLR		
	comp=Z,21μm,14.0s						
YSS				MLR	MLR		
	comp=N,6μm,11.0s						
YSS				MLR	MLR		
	comp=E,14μm,15.0s						
YSS	**Yuzh-Sakhalins**	**13.20**	**73**	Pn	**Pn**	**22 07 35.5**	**+2.9**
NJ2	**Nanjing**	**13.21**	**200**	⇓P	**Pn**	**22 07 34.4**	**+1.6**
NJ2				pP	P	22 07 37.9	-4.9
NJ2				PP	**PnPn**	**22 07 45.6**	**+5.0**
NJ2				S	**Sn**	**22 10 03.8**	**+4.2**
NJ2				pmax	pmax		
	comp=E,47nm,1.0s						
NJ2				pmax	pmax		
	comp=E,670nm,3.5s						
NJ2				LR	LR		
	comp=E,9μm,8.5s						
NJ2				LR	LR		
	comp=E,7μm,9.9s						
NJ2				LR	LR		
	comp=E,8μm,10.4s						
ASAJ	**Asahikawa**	**13.21**	**86**	Pn	**Pn**	**22 07 37.4**	**+4.6**
	comp=E,0.4nm,0.3s,baz=242,slow=16,SNR=4.3						
ASAJ				Lg	Lg	22 11 23.9	
	comp=E,0.2nm,0.3s,baz=310,slow=17,SNR=2.9						
ASAJ				LR	LR	22 12 48.8	
	comp=E,13μm,18.1s,baz=288,slow=38						
MJB9	**Matsu-Tunnel**	**13.37**	**122**		**P**	**22 07 40.6**	**-4.0**
MAJO	**Matsushiro**	**13.37**	**122**	P	**P**	**22 07 40.9**	**-3.7**
MAJO	**Matsushiro**	**13.37**	**122**		**P**	**22 07 40.9**	**-3.7**
MAT	**Matsushiro**	**13.37**	**122**	P	**Pn**	**22 07 35.9**	**+0.9**
MAT				S	**Sn**	**22 10 06.0**	**+2.4**
MJAR	**Matsushiro Arr**	**13.37**	**122**	P	**P**	**22 07 41.3**	**-3.4**
MJAR	**Matsushiro Arr**	**13.37**	**122**	Pn	**P**	**22 07 42.5**	**-2.1**
	comp=E,0.1nm,0.3s,baz=315,slow=12,SNR=12						
MJAR				LR	LR	22 12 16.5	
	comp=E,6μm,20.2s,baz=315,slow=35						
MJAR	**Matsushiro Arr**	**13.37**	**122**		**P**	**22 07 41.2**	**-3.4**
INU	**Inuyama**	**13.51**	**129**		**Pn**	**22 07 39.4**	**+2.5**
SSE	**Sheshan**	**13.69**	**191**	P	**Pn**	**22 07 39.6**	**+0.2**
SSE				S	**Sn**	**22 10 10.6**	**-0.9**
SSE				pmax	pmax		
	comp=E,15nm,0.6s						
SSE				pmax	pmax		
	comp=E,610nm,3.7s						
SSE				LR	LR		
	comp=E,5μm,12.7s						
SSE				LR	LR		
	comp=E,4μm,15.3s						
SSE	**Sheshan**	**13.69**	**191**		**Pn**	**22 07 39.8**	**+0.4**
NKL	**Nikolayevsk**	**13.80**	**46**	*e*P	**Pn**	**22 07 40.0**	**-0.8**
NKL				pmax	pmax		
	comp=N,9.0nm,0.7s						
NKL				pmax	pmax		
	comp=E,19nm,1.2s						
NKL				pmax	pmax		
	comp=Z,40nm,1.2s						
NKL				MLR	MLR		
	comp=E,12μm,9.0s						
NKL				MLR	MLR		
	comp=Z,16μm,9.0s						
TYV	**Tymovskoe**	**13.92**	**57**	*e*P	**P**	**22 07 48.0**	**-2.6**
TYV				*e*S	S	22 10 29.0	-10
TYV				pmax	pmax		
	comp=Z,27nm,1.1s						
TYV				smax	smax		
	comp=E,13nm,1.3s						
ERM	**Erimo**	**14.08**	**94**	P	**Pn**	**22 07 43.9**	**-0.7**
ERM	**Erimo**	**14.08**	**94**	Pn	**Pn**	**22 07 43.9**	**-0.7**
BOD	**Bodaibo**	**14.65**	**338**	*e*P	**Pn**	**22 07 48.7**	**-3.6**
BOD				pmax	pmax		
	comp=Z,70nm,1.4s						
OKH	**Okha**	**15.17**	**47**	*c i*P	**P**	**22 08 04.9**	**+0.4**
OKH				pmax	pmax		
	comp=Z,400nm,9.8s						
OKH				MLR	MLR		
	comp=Z,16μm,14.0s						
IRK	**Irkutsk**	**15.21**	**307**	*e*P	**Pn**	**22 08 00.3**	**+0.3**
ZAK	**Zakamensk**	**15.22**	**300**	*e*P	**Pn**	**22 07 59.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,78nm,1.1s						
TLY	**Talaya**	**15.38**	**305**	P	**P**	**22 08 08.2**	**+1.3**
	SNR=11						
TLY	**Talaya**	**15.38**	**305**	*e*P	**Pn**	**22 08 02.9**	**+0.8**
TLY				pmax	pmax		
	comp=Z,18nm,1.0s						
TLY				MLR	MLR		
	comp=Z,52μm,16.0s						
TLY	**Talaya**	**15.38**	**305**	Pn	**Pn**	**22 08 03.7**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=101,slow=11,SNR=4.8						
TLY				Lg	Lg	22 12 29.3	
	comp=Z,0.0nm,0.3s,baz=58,slow=2.0,SNR=6.9						
TLY				LR	LR	22 14 49.3	
	comp=Z,7μm,19.7s,baz=110,slow=41						
TLY	**Talaya**	**15.38**	**305**		**Pn**	**22 08 01.1**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**15.55**	**84**	*e*P	**Pn**	**22 08 05.8**	**+1.4**
YUK				*i* S	**Sn**	**22 10 59.2**	**+2.6**
YUK				pmax	pmax		
	comp=N,212nm,1.6s						
YUK				pmax	pmax		
	comp=E,197nm,1.6s						
YUK				pmax	pmax		
	comp=Z,445nm,1.6s						
YUK				MLR	MLR		
	comp=Z,8μm,14.0s						
YUK				MLR	MLR		
	comp=N,2μm,12.0s						
YUK				MLR	MLR		
	comp=E,9μm,13.0s						
XAN	**Xi'an**	**15.79**	**233**	P	**Pn**	**22 08 08.0**	**+0.3**
XAN				sP	P	22 08 13.0	+1.4
XAN				S	**Sn**	**22 11 10.3**	**+7.5**
XAN				sS	S	22 11 16.3	-1.2
XAN				pmax	pmax		
	comp=E,740nm,5.0s						
XAN				LR	LR		
	comp=E,17μm,10.8s						
XAN				LR	LR		
	comp=E,18μm,12.2s						
XAN				LR	LR		
	comp=E,15μm,13.0s						
XAN	**Xi'an**	**15.79**	**233**	P	**Pn**	**22 08 08.7**	**+1.0**
XAN				pmax	pmax		
	comp=Z,119nm,1.3s						
XAN	**Xi'an**	**15.79**	**233**		**Pn**	**22 08 08.7**	**+1.0**
WHN	**Wuhan**	**16.03**	**212**	P	**Pn**	**22 08 11.5**	**+0.8**
WHN				S	**Sn**	**22 11 14.6**	**+6.2**
WHN				pmax	pmax		
	comp=Z,110nm,1.2s						
WHN				pmax	pmax		
	comp=Z,3μm,4.6s						
WHN				LR	LR		
	comp=Z,16μm,8.7s						
WHN				LR	LR		
	comp=Z,18μm,8.4s						
WHN				LR	LR		
	comp=Z,23μm,8.4s						
JHJ	**Hachijo jima 2**	**16.70**	**128**	LR	LR	22 14 42.5	
	comp=Z,3μm,18.8s,baz=325,slow=37						
JHJ2	**Mitsune**	**16.72**	**128**		**P**	**22 08 20.8**	**-1.0**
JHJ2				IAmb	IAmb	22 08 35.5	
	comp=Z,383nm,1.2s						
KUR	**Kuril'sk**	**16.80**	**80**	*d i*P	**P**	**22 08 22.8**	**+0.2**
KUR				*e*S	**S**	**22 11 32.8**	**-5.0**
KUR				pmax	pmax		
	comp=Z,1μm,6.2s						
KUR				MLR	MLR		
	comp=E,8μm,12.0s						
KUR				MLR	MLR		
	comp=Z,10μm,12.0s						
KUR				MLR	MLR		
	comp=N,8μm,10.0s						
MOY	**Mondy**	**16.95**	**303**	*e*P	**Pn**	**22 08 23.2**	**+0.8**
MOY				pmax	pmax		
	comp=Z,157nm,2.5s						
LZH	**Lanzhou**	**17.63**	**248**	⇑P	**Pn**	**22 08 31.4**	**+0.3**
LZH				sP	sP	22 08 38.8	+2.5
LZH				pmax	pmax		
	comp=Z,200nm,1.2s						
LZH				pmax	pmax		
	comp=Z,2μm,5.4s						
LZH				LR	LR		
	comp=Z,17μm,13.6s						
LZH				LR	LR		
	comp=Z,19μm,13.0s						
LZH				LR	LR		
	comp=Z,20μm,15.2s						
YAK	**Yakutsk**	**17.75**	**9**	*d i*P	**Pn**	**22 08 31.9**	**-0.2**
YAK				*e*S	**Sn**	**22 11 51.0**	**+1.3**
YAK				pmax	pmax		
	comp=Z,53nm,1.2s						
YAK				pmax	pmax		
	comp=N,97nm,1.4s						
YAK				pmax	pmax		
	comp=E,42nm,1.4s						
YAK				smax	smax		
	comp=N,376nm,3.5s						
YAK				smax	smax		
	comp=E,332nm,3.3s						
YAK				MLR	MLR		
	comp=Z,3μm,14.0s						
YAK				MLR	MLR		
	comp=N,2μm,13.0s						
YAK	**Yakutsk**	**17.75**	**9**	P	**Pn**	**22 08 32.0**	**-0.1**
	comp=N,0.2nm,0.3s,baz=132,slow=4.1,SNR=25						
YAK	**Yakutsk**	**17.75**	**9**	P	**Pn**	**22 08 31.2**	**-0.9**
JOW	**Kunigami**	**18.05**	**168**	Pn	**Pn**	**22 08 32.8**	**-3.3**
GTA	**Gaotai**	**18.79**	**262**	⇑P	**P**	**22 08 44.9**	**+0.2**
GTA				pP	pP	22 08 48.0	+0.3
GTA				sP	sP	22 08 51.0	+2.0
GTA				S	**Sn**	**22 12 15.4**	**0.0**
GTA				sS	sS	22 12 23.5	+0.4
GTA				SS	S	22 12 37.0	+19
GTA				pmax	pmax		
	comp=N,36nm,1.7s						
GTA				pmax	pmax		
	comp=N,1μm,6.4s						
GTA				LR	LR		
	comp=N,12μm,9.8s						
GTA				LR	LR		
	comp=N,23μm,13.3s						
GTA				LR	LR		
	comp=N,26μm,12.7s						
TATO	**Taipei**	**19.71**	**187**	P	**P**	**22 08 55.2**	**+0.4**
TATO				IAmb	IAmb	22 09 12.4	
	comp=Z,264nm,1.2s						
YHNB	**Yeheng**	**20.02**	**187**	IAmb	IAmb	22 09 02.5	
	comp=Z,215nm,1.0s						
YOJ	**Yonaguni jima**	**20.12**	**183**	P	**P**	**22 08 58.9**	**-0.3**
YOJ				pmax	pmax		
	comp=Z,225nm,1.1s						
YOJ	**Yonaguni jima**	**20.12**	**183**	P	**P**	**22 08 58.9**	**-0.3**
YOJ				IAmb	IAmb	22 09 03.1	
	comp=Z,225nm,1.1s						
QZH	**Quanzhou**	**20.14**	**195**	⇑*i*P	Pn	22 09 02.6	+1.4
QZH				pmax	pmax		
	comp=Z,180nm,1.1s						
QZH				LR	LR		
	comp=Z,4μm,11.7s						
QZH				LR	LR		
	comp=Z,6μm,9.7s						
QZH				LR	LR		
	comp=Z,6μm,11.1s						
NACB	**Ninganchiao**	**20.50**	**187**	P	**P**	**22 09 02.5**	**-0.8**
KNMB	**Chin-men Tao**	**20.64**	**195**	P	**P**	**22 09 03.4**	**-1.5**
KNMB				IAmb	IAmb	22 09 10.7	
	comp=Z,204nm,1.1s						
SSLB	**Suanglung**	**20.94**	**188**	IAmb	IAmb	22 09 15.1	
	comp=Z,184nm,1.1s						
CD2	**Chengdu**	**21.07**	**236**	⇓*i*P	**P**	**22 09 09.3**	**-0.2**
CD2				sP	sP	22 09 15.6	+1.8
CD2				S	**S**	**22 13 01.3**	**-2.7**
CD2				sS	pS	22 13 12.8	+0.1
CD2				pmax	pmax		
	comp=Z,990nm,7.9s						
CD2				LR	LR		
	comp=Z,14μm,10.9s						
CD2				LR	LR		
	comp=Z,15μm,11.5s						
CD2				LR	LR		
	comp=Z,12μm,9.3s						
YULB	**Yu-li**	**21.30**	**187**	P	**P**	**22 09 12.9**	**+0.9**
TPUB	**Ta-pu**	**21.45**	**189**	IAmb	IAmb	22 09 17.6	
	comp=Z,222nm,1.2s						
TWG	**Pinlang**	**21.88**	**188**	P	**P**	**22 09 19.2**	**+1.0**
TWG				IAmb	IAmb	22 09 30.1	
	comp=Z,328nm,1.2s						
MA2	**Magadan**	**21.96**	**38**	*ce*P	**P**	**22 09 21.2**	**+2.4**
MA2				pmax	pmax		
	comp=Z,59nm,1.0s						
MA2	**Magadan**	**21.96**	**38**	P	**P**	**22 09 20.0**	**+1.2**
	comp=Z,39nm,1.0s,baz=268,slow=4.2,SNR=5.8						
MA2				LR	LR	22 17 18.4	
	comp=Z,977nm,18.4s,baz=244,slow=35						
MA2	**Magadan**	**21.96**	**38**	P	**P**	**22 09 18.8**	**0.0**
SKR	**Severo-Kuril's**	**22.26**	**63**	*e*P	**P**	**22 09 19.1**	**-3.0**
SKR				*e*S	**S**	**22 13 25.1**	**-1.7**
SKR				pmax	pmax		
	comp=Z,500nm,3.9s						
SKR				pmax	pmax		
	comp=Z,2μm,3.9s						
SKR				pmax	pmax		
	comp=Z,74nm,1.2s						
SKR				MLR	MLR		
	comp=Z,5μm,13.0s						
SKR				MLR	MLR		
	comp=Z,6μm,15.0s						
JCJ	**Chichijima**	**22.70**	**134**	LR	LR	22 17 54.9	
	comp=Z,3μm,18.1s,baz=330,slow=36						
GYA	**Guiyang**	**22.95**	**224**	⇓*i*P	**P**	**22 09 28.6**	**-1.2**
GYA				pP	sP	22 09 33.8	-0.3
GYA				sP	pP	22 09 37.9	+5.2

GYA PP **PnPn** **22 10 03.1 +8.8**
GYA S **S** **22 13 37.5 -2.5**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,570nm,5.0s
GYA LR LR
comp=Z,5μm,13.2s
GYA LR LR
comp=Z,4μm,9.3s
GYA LR LR
comp=Z,7μm,13.2s
GZH Guangzhou 23.23 206 P P 22 09 24.1 -8.4
GZH S S 22 13 32.8 -12
GZH LR LR
comp=Z,7μm,8.8s
GZH LR LR
comp=Z,12μm,11.8s
PEA0B Petropavlovsk- 23.47 57 P **P** **22 09 35.8 +1.1**
PEA0B Petropavlovsk- 23.47 57 P **P** **22 09 35.8 +1.1**
PETK Petropavlovsk- 23.47 57 P **P** **22 09 35.9 +1.2**
comp=Z,67nm,0.9s,baz=248,slow=6.0,SNR=39
PETK LR LR 22 19 48.3
comp=Z,4μm,18.1s,baz=258,slow=39
PETK Petropavlovsk- 23.47 57 P **P** **22 09 35.1 +0.3**
HKPS Hong Kong Po S 23.75 204 P **P** **22 09 36.5 -1.2**
HKPS IAmb IAmb 22 09 49.6
comp=Z,177nm,1.2s
PET Petropavlovsk 24.03 57 *e*P **P** **22 09 41.2 +1.2**
PET *e*S **S** **22 13 54.9 -2.0**
PET pmax pmax
comp=Z,112nm,1.6s
PET MLR MLR
comp=Z,10μm,13.0s
PET MLR MLR
comp=Z,11μm,12.0s
PET Petropavlovsk 24.03 57 P **P** **22 09 41.3 +1.2**
PET IAmb IAmb 22 09 43.2
comp=Z,253nm,1.5s
SEY Seymchan 24.46 32 P **P** **22 09 45.0 +1.0**
comp=Z,30nm,1.1s,baz=237,slow=9.0,SNR=16
SEY Lg Lg 22 17 22.5
comp=Z,4.1nm,1.0s,baz=180,slow=20,SNR=2.3
SEY LR LR 22 19 59.2
comp=Z,2μm,18.5s,baz=233,slow=38
DGZ Jazzator, Alta 25.31 295 *i* P **P** **22 09 53.2 +1.2**
WMQ Urumqi 26.01 281 P **P** **22 09 59.5 +1.2**
WMQ pmax pmax
comp=Z,94nm,1.2s
WMQ Urumqi 26.01 281 P **P** **22 09 59.5 +1.2**
WMQ IAmb IAmb 22 10 02.7
comp=Z,94nm,1.2s
KMI Kunming 26.07 229 P **P** **22 09 58.3 -0.8**
KMI sP sP 22 10 04.1 +0.6
KMI PP **PnPn** **22 10 42.3 +5.3**
KMI S **S** **22 14 32.9 +2.5**
KMI sS sS 22 14 40.5 +4.9
KMI pmax pmax
comp=Z,90nm,1.1s
KMI pmax pmax
comp=Z,500nm,4.4s
KMI LR LR
comp=Z,9μm,15.0s
KMI LR LR
comp=Z,9μm,13.6s
KMI LR LR
comp=Z,9μm,12.1s
KMI Kunming 26.07 229 IAmb IAmb 22 10 01.4
comp=Z,87nm,1.0s
ZAA0 Zalesovo Array 26.99 304 **PcP** **22 13 28.1 0.0**
ZALV Zalesovo Beam 26.99 304 P **P** **22 10 06.5 -0.4**
comp=Z,9.3nm,0.8s,baz=94,slow=6.5,SNR=24
ZALV PcP **PcP** **22 13 27.8 -0.3**
comp=Z,23nm,1.1s,baz=117,slow=2.0,SNR=13
ZALV Lg Lg 22 18 40.9
comp=Z,1.8nm,0.8s,baz=83,slow=26,SNR=5.9
ZALV LR LR 22 21 22.9
comp=Z,7μm,18.6s,baz=94,slow=38
ZALV Zalesovo Beam 26.99 304 P **P** **22 10 05.9 -1.0**
ZALV **PcP** **22 13 27.7 -0.5**
TIXI Tiksi 27.21 3 *ce*P **P** **22 10 07.9 -0.9**
TIXI pmax pmax
comp=Z,230nm,1.3s
TIXI Tiksi 27.21 3 P **P** **22 10 08.0 -0.7**
comp=Z,112nm,1.1s,baz=192,slow=6.6,SNR=60
TIXI Lg Lg 22 18 49.5
comp=Z,6.3nm,0.9s,baz=282,slow=20,SNR=1.9
TIXI LR LR 22 22 14.8
comp=Z,4μm,20.6s,baz=182,slow=39
TIXI Tiksi 27.21 3 P **P** **22 10 07.8 -0.9**
ZSN Zaisan 27.22 290 *e*P **P** **22 10 09.7 +0.5**
comp=Z,47nm,2.2s
ZSN *e*S S 22 15 01.1 +13
ZSN Zaisan 27.22 290 *e*P **P** **22 10 09.6 +0.5**
ZSN pmax pmax
comp=Z,47nm,2.2s
QIZ Qiongzhong 28.17 210 P **P** **22 10 17.6 -0.2**
QIZ sP **sP** **22 10 23.4 +1.2**
QIZ S **S** **22 15 03.4 +0.3**
QIZ LR LR
comp=Z,4μm,10.3s
QIZ LR LR
comp=Z,6μm,12.8s
QIZ LR LR
comp=Z,4μm,12.8s
SLVN Son La 28.61 222 P **P** **22 10 19.1 -2.7**
MKAR Makanchi Array 29.07 289 *ce*P **P** **22 10 25.3 -0.3**
MKAR pmax pmax
comp=Z,29nm,1.0s
MKAR Makanchi Array 29.07 289 P **P** **22 10 25.1 -0.5**
comp=Z,29nm,1.0s,baz=83,slow=9.9,SNR=56
MKAR PcP **PcP** **22 13 32.6 -0.9**
comp=Z,22nm,1.1s,baz=57,slow=4.5,SNR=7.4
MKAR Lg Lg 22 19 47.2
comp=Z,12nm,1.4s,baz=83,slow=20,SNR=6.6
MKAR LR LR 22 22 52.9
comp=Z,7μm,18.4s,baz=85,slow=38
MKAR Makanchi Array 29.07 289 P **P** **22 10 25.0 -0.6**
SEM Semipalatinsk 29.87 297 *e*P **P** **22 10 31.9 -1.1**
SEM *e*LR LR 22 22 16.8
comp=Z,3μm,12.1s
SEM Semipalatinsk 29.87 297 *e*P **P** **22 10 31.8 -1.1**
SEM MLR MLR
comp=Z,3μm,12.0s
LSA Lhasa 29.98 251 P **P** **22 10 35.4 +1.0**
LSA Lhasa 29.98 251 P **P** **22 10 35.9 +1.5**
LSA Lhasa 29.98 251 P **P** **22 10 34.0 -0.4**
LSA pmax pmax
comp=Z,20nm,1.0s
LSA Lhasa 29.98 251 P **P** **22 10 34.0 -0.4**
KURK Kurchatov 30.87 298 P **P** **22 10 41.4 -0.1**
SNR=29
KURK Kurchatov 30.87 298 *ce*P **P** **22 10 40.9 -0.5**
KURK pmax pmax
comp=Z,96nm,1.3s
KURK Kurchatov 30.87 298 P **P** **22 10 41.1 -0.4**
KURK IAmb IAmb 22 10 44.5
comp=Z,71nm,1.0s
NRIK Noril'sk 30.92 336 P **P** **22 10 41.4 -0.4**
comp=Z,84nm,1.2s,baz=119,slow=7.4,SNR=30
NRIK Lg Lg 22 20 46.1
comp=Z,8.1nm,1.0s,baz=184,slow=17,SNR=3.9
NRIK LR LR 22 24 46.9
comp=Z,818nm,21.3s,baz=130,slow=40
NONG Nongkai 31.79 220 P P 22 10 57.8 +8.0
BILL Bilibino 32.03 28 *ce*P **P** **22 10 53.2 +1.7**
BILL *i* 22 12 00.2
BILL *i* 22 13 40.9
BILL *e*S **S** **22 16 05.1 +2.2**
BILL *e*SS **SnSn** **22 17 56.8 +4.9**
BILL pmax pmax
comp=Z,56nm,2.5s
BILL MLR MLR
comp=Z,3μm,14.0s
BILL Bilibino 32.03 28 P **P** **22 10 52.1 +0.6**
BILL **PcP** **22 13 41.1 +0.3**
TDK Taldyqorghan 32.13 287 *e*P **P** **22 10 52.4 -0.3**
comp=Z,66nm,0.9s
TDK *e*S **S** **22 16 06.3 +1.4**
TDK *e*LR LR 22 25 30.9
comp=Z,7μm,16.4s
TDK Taldyqorghan 32.13 287 *e*P **P** **22 10 52.3 -0.3**
TDK *e*S **S** **22 16 06.3 +1.4**
TDK pmax pmax
comp=Z,66nm,0.9s
TDK MLR MLR
comp=Z,7μm,16.0s
SHL Shillong 32.23 245 P **P** **22 10 53.4 -0.5**
SNR=57
SHL Shillong 32.23 245 P **P** **22 10 53.0 -0.9**
SHL pmax pmax
comp=Z,195nm,1.3s
UZB Uzynbulak 32.25 284 *e*P **P** **22 10 53.6 -0.3**
comp=Z,64nm,1.2s
UZB *e*LR LR 22 24 28.4
comp=Z,3μm,17.1s
UZB Uzynbulak 32.25 284 *e*P **P** **22 10 53.5 -0.3**
UZB pmax pmax
comp=Z,64nm,1.2s
UZB MLR MLR
comp=Z,3μm,17.0s
PAYA Payao 32.29 227 P **P** **22 10 55.5 +1.2**
comp=Z,15μm,1.2s
KPKS Kokpek 32.38 284 *e*P **P** **22 10 54.7 -0.3**
comp=Z,136nm,3.3s
KPKS *e*LR LR 22 24 08.7
comp=Z,3μm,11.5s
KPKS Kokpek 32.38 284 *e*P **P** **22 10 54.7 -0.3**
KPKS pmax pmax
comp=Z,136nm,3.3s
KPKS MLR MLR
comp=Z,3μm,11.0s
SATY Saty 32.70 284 *e*P **P** **22 10 57.9 +0.1**
comp=Z,64nm,1.8s
SATY *e*LR LR 22 24 35.2
comp=Z,946nm,7.3s
SATY Saty 32.70 284 *e*P **P** **22 10 57.9 +0.1**
SATY pmax pmax
comp=Z,64nm,1.8s
SATY MLR MLR
comp=Z,946nm,7.0s
PRZ Przheval'sk 32.90 283 P **P** **22 11 00.0 +0.4**
PRZ pmax pmax
comp=Z,80nm,1.2s
PRZ Przheval'sk 32.90 283 P **P** **22 10 60.0 +0.4**
PRZ IAmb IAmb 22 11 04.3
comp=Z,80nm,1.1s
CMMT Chiang Mai 33.23 227 P **P** **22 11 01.4 -1.1**
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 33.23 227 P **P** **22 11 01.3 -1.2**
SNR=10
CHTO Chiang Mai 33.23 227 P **P** **22 11 01.3 -1.2**
CHTO pmax pmax
comp=Z,34nm,1.3s
CHTO Chiang Mai 33.23 227 P **P** **22 11 01.3 -1.2**
SMY Shemya 33.37 58 P **P** **22 11 03.3 -0.1**
SMY pmax pmax
comp=Z,231nm,1.1s
SMY Shemya 33.37 58 P **P** **22 11 03.3 -0.1**
CM31 Chiang Mai Arr 33.52 227 P **P** **22 11 04.4 -0.6**
SNR=5.5
CM31 Chiang Mai Arr 33.52 227 P **P** **22 11 04.2 -0.9**
CMAR Chiang Mai Arr 33.52 227 P **P** **22 11 03.5 -1.5**
comp=Z,15nm,1.2s,baz=27,slow=7.4,SNR=33
CMAR PcP **PcP** **22 13 45.2 -0.5**
comp=Z,5.9nm,1.1s,baz=326,slow=1.8,SNR=5.3
CMAR LR LR 22 26 50.1
comp=Z,2μm,18.1s,baz=44,slow=40
MDOK Medeo 33.61 284 *e*P **P** **22 11 06.1 +0.2**
MDOK *e*S **S** **22 16 25.0 -3.3**
MDOK *e*LR LR 22 24 51.3
comp=Z,6μm,15.3s
MDOK Medeo 33.61 284 *e*P **P** **22 11 06.0 +0.2**
MDOK *e*S **S** **22 16 25.0 -3.3**
MDOK MLR MLR
comp=Z,6μm,15.0s
AAA Alma-Ata 33.69 285 *e*P **P** **22 11 07.0 +0.6**
AAA *e*LR LR 22 25 02.1
comp=Z,4μm,11.8s
AAA Alma-Ata 33.69 285 *e*P **P** **22 11 06.9 +0.6**
AAA MLR MLR
comp=Z,4μm,12.0s
TNSS Tian-Shan 33.72 284 *e*P **P** **22 11 07.6 +0.5**
TNSS Tian-Shan 33.72 284 *e*P **P** **22 11 07.6 +0.5**
TAPN Taplejung 33.81 252 *e*P **P** **22 11 07.5 -0.3**
comp=Z,56nm,0.9s
KUU Kurty 33.87 286 ‖ *e*P **P** **22 11 07.2 -0.7**
comp=Z,128nm,1.6s
KUU *e*LR LR 22 24 48.8
comp=Z,3μm,12.9s
KUU Kurty 33.87 286 *ce*P **P** **22 11 07.1 -0.7**
KUU pmax pmax
comp=Z,128nm,1.6s
KUU MLR MLR
comp=Z,3μm,13.0s
KDJ Kajisay 33.87 283 P **P** **22 11 08.0 -0.1**
KDJ pmax pmax
comp=Z,65nm,0.9s
KDJ Kajisay 33.87 283 P **P** **22 11 08.0 -0.1**
KDJ IAmb IAmb 22 11 12.3
comp=Z,65nm,0.9s
PBKT Sadao Pong 34.10 222 P **P** **22 11 12.6 +2.6**
comp=Z,3.0nm,0.6s,comp=Z,1μm
CHAI Chaiyaphum 34.20 220 P **P** **22 11 11.9 +1.0**
comp=Z,14μm,0.6s
MHMT Maesarieng 34.29 228 P **P** **22 11 11.9 +0.2**
comp=Z,26nm,1.1s
ODAN Odare 34.34 251 *e*P **P** **22 11 11.9 -0.5**
comp=Z,86nm,1.1s
ULHL Ulahol 34.48 283 P **P** **22 11 13.9 +0.5**
SNR=7.5
BOOM Boomskoye usch 34.61 284 P **P** **22 11 14.0 -0.5**
BOOM Boomskoye usch 34.61 284 P **P** **22 11 14.0 -0.5**
JIRN Jiri 34.64 254 *e*P **P** **22 11 14.7 -0.4**
comp=Z,108nm,1.0s
TKM2 Tokmak 2 34.70 285 P **P** **22 11 16.6 +1.3**
SNR=24
GUN Gumba 34.70 254 *e*P **P** **22 11 14.9 -0.7**
comp=Z,100nm,0.9s
BRZS Berezniki 34.74 298 *e*P **P** **22 11 14.8 -0.5**
comp=Z,136nm,3.5s
BRZS *e*LR LR 22 25 09.4
comp=Z,2μm,9.3s
BRZS Berezniki 34.74 298 *e*P **P** **22 11 14.8 -0.5**
BRZS pmax pmax
comp=Z,136nm,3.5s
BRZS MLR MLR
comp=Z,2μm,9.0s
RAMN Ramite 34.82 252 *e*P **P** **22 11 15.9 -0.6**
comp=Z,158nm,1.0s
NRN Naryn 34.94 282 **PcP** **22 13 50.4 +0.4**
BTLS Baital 35.08 289 *e*P **P** **22 11 17.9 -0.4**
BTLS Baital 35.08 289 *e*P **P** **22 11 17.9 -0.4**
SGDS Sogindy 35.18 286 *e*LR LR 22 25 39.9
comp=Z,2μm,11.3s
KZA Kyzart 35.23 283 P **P** **22 11 21.5 +1.4**
SNR=30
KBK Karagaybulak 35.23 285 P **P** **22 11 20.6 +0.7**
SNR=110
PKI Pulchoki 35.24 254 *e*P **P** **22 11 19.2 -1.0**
comp=Z,91nm,1.2s
PKIN Phulchoki 35.24 254 *e*P **P** **22 11 19.3 -0.9**
comp=Z,54nm,1.1s
CHMS Chumysh 35.25 285 P **P** **22 11 20.5 +0.7**
SNR=47
USP Ospenovka 35.34 286 P **P** **22 11 21.7 +1.1**
SNR=11
DMN Daman 35.42 255 *e*P **P** **22 11 21.4 -0.3**
comp=Z,38nm,0.9s
UMPA Umpang Tak 35.45 225 P **P** **22 11 23.7 +1.9**
comp=Z,55μm,1.0s,comp=Z,405μm
GKN Gorkha 35.50 256 *e*P **P** **22 11 21.3 -1.0**
comp=Z,125nm,1.1s
AAK Ala-Archa 35.55 285 *i* P **P** **22 11 23.6 +1.0**
SNR=101
AAK Ala-Archa 35.55 285 P **P** **22 11 23.4 +0.7**
SNR=35
AAK Ala-Archa 35.55 285 *ce*P **P** **22 11 23.2 +0.5**
AAK pmax pmax
comp=Z,114nm,1.3s
AAK Ala-Archa 35.55 285 P **P** **22 11 23.3 +0.7**
SNR=66
AAK Ala-Archa 35.55 285 P **P** **22 11 23.1 +0.5**
AAK IAmb IAmb 22 11 26.8
comp=Z,83nm,1.0s
BRVK Borovoye 35.69 303 P **P** **22 11 23.7 +0.3**
SNR=14
BRVK Borovoye 35.69 303 *ce*P **P** **22 11 23.6 +0.2**
BRVK pmax pmax
comp=Z,48nm,1.3s
BRVK Borovoye 35.69 303 P **P** **22 11 23.3 -0.1**
UCH Uchtor 35.69 284 P **P** **22 11 25.6 +1.5**
SNR=33
KSH Kashi 35.71 279 P **P** **22 11 27.8 +3.9**
KSH pP sP 22 11 32.4 +4.0
KSH PcP **PcP** **22 13 54.8 +2.8**
KSH S **S** **22 17 05.1 +4.4**
KSH sS sS 22 17 12.8 +6.9
KSH ScP **ScP** **22 17 39.8 +1.9**
KSH SS **SnSn** **22 19 26.8 +4.8**
KSH pmax pmax
comp=Z,100nm,1.3s
KSH pmax pmax
comp=Z,390nm,5.4s
KSH LR LR
comp=Z,8μm,10.8s
KSH LR LR
comp=Z,9μm,11.3s
KSH LR LR
comp=Z,8μm,11.1s
UTHA Uthaitani 35.71 224 P **P** **22 11 24.0 0.0**
comp=Z,39μm,0.9s,comp=Z,315μm
SRAK Srakaew 35.84 219 P **P** **22 11 23.2 -1.8**
comp=Z,171μm,0.8s
DANN Dangsing 35.89 257 *e*P **P** **22 11 25.7 -0.1**
comp=Z,160nm,1.0s
EKS2 Erkin-Say 36.04 285 P **P** **22 11 26.8 +0.1**
SNR=21
AML Almayashu 36.29 284 P **P** **22 11 30.2 +1.0**
SNR=34
KOLN Koldanda 36.36 256 *e*P **P** **22 11 29.3 -0.4**
comp=Z,114nm,1.0s
ARSB Arslanbob 37.09 283 P **P** **22 11 36.5 +0.8**
ARSB IAmb IAmb 22 11 41.6
comp=Z,72nm,1.1s
KCP Kidapawan 37.47 178 ‖ *i*P **P** **22 11 38.8 -0.2**
KKAR Karatay Array 38.12 287 P **P** **22 11 43.9 -0.4**
KKAR Karatay Array 38.12 287 P **P** **22 11 43.9 -0.4**
KKAR Karatay Array 38.12 287 IAmb IAmb 22 11 46.2
comp=Z,42nm,1.3s
JBG Jabagly 38.35 286 *e*P **P** **22 11 47.3 +0.9**
JBG pmax pmax
comp=Z,57nm,1.2s
IUG Iuzhnay 38.81 286 *e*P **P** **22 11 50.6 +0.4**
IUG *e*LR LR 22 27 41.3
IUG Iuzhnay 38.81 286 *e*P **P** **22 11 50.6 +0.4**
BTK Batken 39.10 283 IAmb IAmb 22 11 56.1
comp=Z,114nm,1.0s
GAR Garm 39.91 281 IAmb IAmb 22 12 02.6
comp=Z,107nm,1.1s
NIL Nilore 40.38 272 P **P** **22 12 05.3 +2.0**
NIL Nilore 40.38 272 P **P** **22 12 04.1 +0.9**
NIL pmax pmax
comp=Z,50nm,1.1s
NIL Nilore 40.38 272 P **P** **22 12 04.1 +0.9**
SVE Sverdlovsk 40.56 311 *e*P **P** **22 12 04.7 +0.3**
SVE *e*S **S** **22 18 15.1 +1.8**
SVE pmax pmax
comp=Z,36nm,1.2s
SVE MLR MLR
comp=Z,2μm,11.0s
ARU Arti 41.76 311 *c i*P **P** **22 12 14.3 0.0**
ARU 22 14 08.3
ARU S **S** **22 18 32.3 +1.1**
ARU SS **SS** **22 21 32.5 -4.1**
ARU pmax pmax
comp=Z,36nm,1.1s
ARU MLR MLR
comp=Z,2μm,12.0s
ARU Arti 41.76 311 P **P** **22 12 14.3 0.0**
ABKAR Akbulak array 42.91 300 P **P** **22 12 23.1 -0.7**
ABKAR Akbulak array 42.91 300 IAmb IAmb 22 12 27.1
comp=Z,53nm,1.1s
KBL Kabul 42.92 276 P **P** **22 12 25.7 +1.4**
KBL Kabul 42.92 276 P **P** **22 12 22.9 -1.4**
KBL pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 42.92 276 P **P** **22 12 22.9 -1.4**
MPSI Mapaga 44.25 186 P **P** **22 12 34.5 -0.3**
KSM Kuching 44.67 200 IAmb IAmb 22 12 39.4
comp=Z,63nm,1.1s
IPM Ipoh 44.83 214 IAmb IAmb 22 12 40.3
comp=Z,88nm,1.3s
SMKI Samarinda 45.29 190 P **P** **22 12 43.9 +0.8**
LUWI Luwuk 45.47 182 P **P** **22 12 45.7 +1.2**
comp=Z,34nm,1.2s
SWI Sorong 45.72 170 P **P** **22 12 46.7 +0.2**
comp=Z,27nm,1.2s
MYKOM Kota Tinggi 46.27 209 IAmb IAmb 22 12 54.4
comp=Z,62nm,1.1s
SANI Sanana 46.48 177 P **P** **22 12 51.5 -1.0**
comp=Z,24nm,1.5s,comp=Z,704nm
HYB Hyderabad 46.74 249 *i* P **P** **22 12 52.0 -2.6**
TPRI Tanjung Pinang 46.86 207 P **P** **22 12 58.2 +2.7**
PRGR Permogore 46.94 320 *e*P **P** **22 12 54.8 -0.8**
PRGR pmax pmax
comp=Z,72nm,1.0s
TTA Tatalina 47.16 38 P **P** **22 12 58.3 +0.9**
TTA pmax pmax
comp=Z,21nm,1.3s
TTA Tatalina 47.16 38 P **P** **22 12 58.3 +0.9**
PSI Prapat 47.21 215 P **P** **22 12 57.5 -0.9**
PSI pmax pmax
comp=Z,26nm,1.1s
IMAR Indian Mountai 47.25 34 P **P** **22 12 56.9 -1.1**
RPSI Rantau Prapat 47.30 215 P **P** **22 12 57.5 -1.4**
SDPT Sand Point 47.35 49 P **P** **22 12 59.4 +0.5**
HRA Herat 47.81 280 P **P** **22 13 03.1 +0.1**
HRA IAmb IAmb 22 13 06.0
comp=Z,36nm,1.2s
FAKI Fak Fak 47.87 169 P **P** **22 13 04.9 +1.5**
comp=Z,24nm,0.9s
FAKI Fak Fak 47.87 169 P **P** **22 13 01.9 -1.4**
SVW2 Sparrevohn 47.90 40 P **P** **22 13 04.1 +0.9**
PATS Pohnpei 47.96 131 P **P** **22 13 03.8 -0.3**
CNBA Chernabura Isl 48.01 49 P **P** **22 13 03.4 -0.6**
TOLK Toolik Lake Re 48.07 29 P **P** **22 13 03.3 -1.1**
baz=287,SNR=9.5
SMPI Sarmi 48.18 160 P **P** **22 13 07.5 +1.7**
KBKI Kotabaru 48.23 191 P **P** **22 13 05.8 -0.3**
comp=Z,46nm,1.1s,comp=Z,732nm
BKNI Bangkinang 48.63 212 P **P** **22 13 10.5 +1.2**
BKNI Bangkinang 48.63 212 P **P** **22 13 09.3 0.0**
MLY Manley 48.73 34 P **P** **22 13 09.5 -0.1**
GEYT Alibeck 48.86 286 P **P** **22 13 11.1 +0.1**
comp=Z,16nm,0.9s,baz=112,slow=1.6,SNR=25
GEYT LR LR 22 35 44.3
comp=Z,4μm,18.6s,baz=70,slow=38
GEYT Alibeck 48.86 286 P **P** **22 13 11.3 +0.4**
GYA0B ALIBECK ARRAY 48.86 286 P **P** **22 13 10.6 -0.3**
BPAW Bear Paw Mtn. 48.94 35 P **P** **22 13 11.2 0.0**
KTH Kantishna Hill 49.15 36 P **P** **22 13 12.9 +0.1**
KTH IAmb IAmb 22 13 16.1
comp=Z,87nm,1.2s
POO Poona 49.16 255 *e*P **P** **22 13 18.0 +4.6**
JAY Jayapura 49.20 158 P **P** **22 13 15.2 +1.6**
TPI Tanjungpandan 49.41 202 P **P** **22 13 15.8 +0.6**
comp=Z,51nm,1.2s,comp=Z,578nm
RSO Redoubt South 49.42 40 P **P** **22 13 15.6 +0.5**
TMCR Tamitsa 49.43 325 *e*P **P** **22 13 14.0 -0.8**
TMCR *e*S **S** **22 20 21.7 +0.2**
TMCR pmax pmax
comp=Z,119nm,1.1s
TRF Thorofare Moun 49.45 36 P **P** **22 13 15.8 +0.5**
TRF IAmb IAmb 22 13 19.0
comp=Z,47nm,1.3s
BWN Browne 49.54 35 P **P** **22 13 16.9 +1.2**
NEA Nenana 49.56 34 P **P** **22 13 16.6 +0.7**
KAPI Kappang 49.56 186 P **P** **22 13 16.0 -0.3**
SNR=8.9
KAPI Kappang 49.56 186 P **P** **22 13 15.5 -0.8**
KAPI pmax pmax
comp=Z,72nm,1.1s
KAPI Kappang 49.56 186 P **P** **22 13 15.5 -0.8**
KAPI IAmb IAmb 22 13 18.9
comp=Z,72nm,1.1s
SDSI Sungai Dareh 49.65 210 P **P** **22 13 17.6 +0.5**
comp=Z,69nm,1.1s
MDM Murphy Dome 49.76 34 P **P** **22 13 17.6 +0.2**
MDM IAmb IAmb 22 13 20.4
comp=Z,45nm,1.2s
MCK McKinley 49.92 36 P **P** **22 13 18.7 +0.1**
MCK pmax pmax
comp=Z,51nm,1.2s
MCK McKinley 49.92 36 P **P** **22 13 18.6 +0.1**
MCK IAmb IAmb 22 13 21.3
comp=Z,51nm,1.2s

TCOL CIGO, UAF Yank 49.94 34 P **P** 22 13 18.1 -0.6
baz=291,SNR=6.0
COLA College 49.94 34 P **P** 22 13 19.4 +0.7
COLA pmax pmax
comp=Z,83nm,1.3s
COLA College 49.94 34 P **P** 22 13 19.4 +0.7
COLA IAmb IAmb 22 13 21.9
comp=Z,83nm,1.2s
KLMR Klimovskoe 49.98 320 *e*P **P** 22 13 17.4 -1.6
KLMR *e* 22 14 37.3
KLMR *e*SS **SS** 22 24 03.0 +1.5
KLMR pmax pmax
comp=Z,134nm,1.1s
KLMR MLR MLR
comp=Z,2μm,13.0s
KLMR Klimovskoe 49.98 320 *e*P **P** 22 13 17.5 -1.6
KLMR AMP 22 13 22.3
comp=Z,134nm,1.1s
KLMR *e*PcP **PcP** 22 14 37.4 -1.6
KLMR *e*SS **SS** 22 24 03.1 +1.5
KLMR *e*SS **SS** 22 24 03.1 +1.5
KLMR LQ LQ 22 30 27.0
KLMR LQ LQ 22 30 27.0
KLMR LR LR 22 32 15.1
KLMR AMP 22 36 38.5
comp=Z,2μm,13.4s
PDSI Padang 49.99 212 P **P** 22 13 18.3 -1.4
comp=Z,7.1nm,1.1s
APA Apatity 50.00 330⇑ *i*P **P** 22 13 18.5 -0.7
APA pmax pmax
comp=Z,59nm,1.2s
POKR Poker Plat Res 50.02 34 P **P** 22 13 19.0 -0.3
baz=291,SNR=9.2
CCB Clear Creek Bu 50.04 34 IAmb IAmb 22 13 22.3
comp=Z,50nm,1.2s
RND Reindeer 50.07 36 P **P** 22 13 20.3 +0.5
RND Reindeer 50.07 36 P **P** 22 13 20.4 +0.5
BMAR Burnt Mountain 50.24 30 P **P** 22 13 21.0 0.0
FYU Fort Yukon 50.33 31 P **P** 22 13 22.1 +0.4
ILAR Eielson Array 50.36 34 P **P** 22 13 21.1 -0.9
comp=Z,11nm,1.0s,baz=284,slow=7.6,SNR=39
ILAR LR LR 22 37 16.4
comp=Z,1000nm,18.1s,baz=308,slow=39
ILAR Eielson Array 50.36 34 P **P** 22 13 20.7 -1.2
OHAK Old Harbor 50.39 44 P **P** 22 13 22.3 +0.1
HDA Harding Lake 50.48 34 P **P** 22 13 22.0 -0.8
baz=292
HDA Harding Lake 50.48 34 IAmb IAmb 22 13 25.0
comp=Z,67nm,1.2s
KDAK Kodiak Island 50.52 44 P **P** 22 13 23.7 +0.5
KDAK pmax pmax
comp=Z,195nm,1.3s
KDAK Kodiak Island 50.52 44 P **P** 22 13 23.7 +0.5
RC01 Rabbit Creek A 50.56 39 P **P** 22 13 23.3 -0.2
RC01 IAmb IAmb 22 13 26.0
comp=Z,59nm,1.2s
PRP Porcupine Dome 50.61 33 IAmb IAmb 22 13 27.6
comp=Z,84nm,1.1s
PMR Palmer 50.64 38 P **P** 22 13 24.2 +0.2
PMR pmax pmax
comp=Z,67nm,1.1s
PMR Palmer 50.64 38 P **P** 22 13 24.2 +0.2
PMR IAmb IAmb 22 13 26.4
comp=Z,67nm,1.1s
GHO Glory Hole Cre 50.66 38 P **P** 22 13 25.1 +0.8
KRJI Kerinci 50.72 210 P **P** 22 13 26.3 +1.0
KNK Knik Glacier 51.00 38 P **P** 22 13 28.1 +1.2
KNK IAmb IAmb 22 13 29.7
comp=Z,60nm,1.2s
SEW Seward 51.08 40 IAmb IAmb 22 13 45.9
comp=Z,112nm,1.4s
SCM Sheep Creek Mo 51.33 37 P **P** 22 13 30.4 +1.0
SCM pmax pmax
comp=Z,112nm,1.2s
SCM Sheep Creek Mo 51.33 37 P **P** 22 13 30.4 +1.0
SCM IAmb IAmb 22 13 32.2
comp=Z,112nm,1.2s
KWAJ Kwajalein Atol 51.77 120 P **P** 22 13 32.1 -1.0
KWAJ pmax pmax
comp=Z,518nm,1.3s
KWAJ Kwajalein Atol 51.77 120 P **P** 22 13 32.1 -1.0
SCRK Sand Creek 51.84 34 P **P** 22 13 33.0 -0.2
ARCES ARCESS Array B 51.87 334 P **P** 22 13 32.7 -0.5
comp=Z,17nm,1.1s,baz=61,slow=9.2,SNR=10
ARCES PcP **PcP** 22 14 45.8 -0.1
comp=Z,25nm,1.1s,baz=272,slow=4.6,SNR=8.7
ARCES LR LR 22 39 29.1
comp=Z,630nm,19.8s,baz=50,slow=41
ARCES ARCESS Array B 51.87 334 P **P** 22 13 33.4 +0.1
DOT Dot Lake 51.95 35 P **P** 22 13 32.3 -1.6
MENT Mentasta 52.39 35 P **P** 22 13 37.5 +0.3
JOF Joensuu 52.69 325 P **P** 22 13 39.7 +0.3
SMRI Semarang 52.89 197 P **P** 22 13 41.1 -0.2
VRH Novokhopyorsk 52.90 309 *e*P **P** 22 13 39.7 -1.4
VRH pmax pmax
comp=Z,40nm,0.8s
VRH MLR MLR
comp=Z,4μm,14.0s
PALK Pallekele 52.95 239 *i*P **P** 22 13 42.1 +0.2
SNR=29
PALK Pallekele 52.95 239 P **P** 22 13 41.8 -0.1
PALK Pallekele 52.95 239 P **P** 22 13 40.9 -1.1
PALK pmax pmax
comp=Z,143nm,1.2s
PALK Pallekele 52.95 239 P **P** 22 13 40.9 -1.1
MOS Moscow 53.01 315 *e*P **P** 22 13 40.5 -1.3
MOS pmax pmax
comp=Z,84nm,1.1s
MOS MLR MLR
comp=Z,4μm,18.0s
MOS MLR MLR
comp=E,3μm,19.0s
MOS MLR MLR
comp=N,2μm,17.0s
GLB Gilahina Butte 53.02 37 P **P** 22 13 42.7 +0.8
BCAR Beaver Creek A 53.13 35 P **P** 22 13 42.4 -0.3
VRDI Verde Repeater 53.27 37 P **P** 22 13 44.0 +0.1
VRDI IAmb IAmb 22 13 47.9
comp=Z,67nm,1.3s
MCARA McCarthy VSAT 53.38 37 P **P** 22 13 45.1 +0.6
MAK Makhachkala 53.39 297 *e*P **P** 22 13 40.7 -4.1
MAK *e*S **S** 22 21 10.9 -5.8
MAK pmax pmax
comp=Z,345nm,1.7s
MAK MLR MLR
comp=Z,3μm,16.0s
EPYK Eagle Plains 53.50 30 P **P** 22 13 45.0 -0.4
baz=299
EPYK Eagle Plains 53.50 30 IAmb IAmb 22 13 48.2
comp=Z,59nm,1.1s
JAGI Jajag, Banyuwa 53.60 192 P **P** 22 13 45.9 -0.6
JAGI IAmb IAmb 22 13 48.3
comp=Z,52nm,1.3s
DAWY Dawson 53.61 33 P **P** 22 13 46.2 0.0
INK Inuvik 53.63 27 IAmb IAmb 22 13 49.4
comp=Z,78nm,1.1s
TGL Tana Glacier 53.76 37 P **P** 22 13 47.9 +0.5
TGL IAmb IAmb 22 13 50.5
comp=Z,97nm,1.3s
LPSR Galich'ya Gora 53.78 311 *e*P **P** 22 13 46.8 -0.7
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR MLR MLR
comp=Z,2μm,14.0s
OBN Obninsk 53.83 315 *ce*P **P** 22 13 47.9 +0.1
OBN *i* 22 14 54.3
OBN *i* 22 15 47.0
OBN *e*S **S** 22 21 20.8 -1.5
OBN *e*SS **SS** 22 25 04.3 +1.7
OBN pmax pmax
comp=Z,59nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 53.83 315 P **P** 22 13 47.2 -0.7
BALM Baldy 53.83 37 P **P** 22 13 48.3 +0.3
CISI Cisompet, Garu 53.98 200 IAmb IAmb 22 13 49.5
comp=Z,66nm,1.2s
SOEI Soe 54.11 180 IAmb IAmb 22 14 00.1
comp=Z,44nm,1.2s
CTGM Chitina Glacie 54.30 37 P **P** 22 13 51.1 -0.3
CTGM IAmb IAmb 22 13 55.5
comp=Z,70nm,1.3s
VSR Storozhevoye 54.31 310 *e*P **P** 22 13 50.4 -1.0
VSR pmax pmax
comp=Z,60nm,1.0s
VSR MLR MLR
comp=Z,3μm,13.0s
KRVT Keravat (AS076 54.73 145 LR LR 22 34 28.1
comp=Z,214nm,20.8s,baz=339,slow=33
SUF Sumiainen 54.88 326 P **P** 22 13 55.7 +0.4
SUF pmax pmax
comp=Z,96nm,1.1s
GOF Gofitskoye 55.11 301⇓ *i*P **P** 22 13 57.4 +0.1
GOF pmax pmax
comp=Z,82nm,0.9s
FINES FINESS Array B 55.55 325 P **P** 22 14 00.1 -0.2
comp=Z,92nm,1.0s,baz=61,slow=4.8,SNR=66
FINES PcP **PcP** 22 14 59.3 -0.6
comp=Z,16nm,0.9s,baz=57,slow=5.1,SNR=3.7
FINES LR LR 22 40 02.2
comp=Z,1μm,20.7s,baz=64,slow=38
FINES FINESS Array B 55.55 325 P **P** 22 13 59.5 -0.7
ZEI Tsey 55.75 299 *e*P **P** 22 14 00.5 -1.8
ZEI pmax pmax
comp=Z,11nm,1.5s
TBLG Delisi 55.78 297 P **P** 22 14 03.0 +0.7
TBLG pmax pmax
comp=Z,52nm,1.4s
TBLG Delisi 55.78 297 P **P** 22 14 03.0 +0.7
TBLG IAmb IAmb 22 14 06.2
comp=Z,52nm,1.4s
KBZ Khabaz 55.89 300 P **P** 22 14 03.1 +0.2
comp=Z,7.7nm,1.1s,baz=62,slow=7.6,SNR=5.4
KBZ LR LR 22 38 21.8
comp=Z,3μm,18.5s,baz=68,slow=36
KIV Kislovodsk 55.90 300 *i*P **P** 22 14 03.9 +0.8
SNR=26
KIV Kislovodsk 55.90 300 P **P** 22 14 03.7 +0.6
SNR=16
KIV Kislovodsk 55.90 300 *e*P **P** 22 14 03.9 +0.8
KIV *e* 22 14 58.5
KIV *e*S **S** 22 21 51.4 +0.7
KIV *e*SS **SS** 22 25 38.6 +2.7
KIV pmax pmax
comp=Z,124nm,4.1s
KIV pmax pmax
comp=Z,167nm,1.1s
KIV MLR MLR
comp=Z,5μm,17.0s
KIV Kislovodsk 55.90 300 P **P** 22 14 03.8 +0.6
KIV IAmb IAmb 22 14 06.9
comp=Z,63nm,1.1s
C36M Paulatuk 55.92 23 P **P** 22 14 02.0 -0.7
baz=307
HYT Haines Junctio 55.99 36 P **P** 22 14 04.5 +0.9
HYT IAmb IAmb 22 14 07.5
comp=Z,56nm,1.2s
GNI Garni 56.62 296 *i*P **P** 22 14 10.0 +1.5
SNR=21
GNI Garni 56.62 296 P **P** 22 14 10.0 +1.5
SNR=13
GNI Garni 56.62 296 *ce*P **P** 22 14 10.0 +1.5
GNI pmax pmax
comp=Z,171nm,1.3s
GNI Garni 56.62 296 P **P** 22 14 09.5 +1.0
GNI IAmb IAmb 22 14 17.9
comp=Z,67nm,1.2s
DAG Danmarks Havn 56.63 350 *e*P **P** 22 14 09.7 +2.0
DAG Danmarks Havn 56.63 350 *i*P **P** 22 14 09.7 +2.0
AKH Akhalkalaki 56.74 297 ⇑P **P** 22 14 10.2 +0.9
VSU Vasula 56.84 321 *e*P **P** 22 14 09.1 -0.4
VSU IAmb IAmb 22 14 12.6
comp=Z,239nm,1.0s
BANOM Banah 56.85 275 P **P** 22 14 10.2 0.0
WBK Wadi Bani Khal 57.00 270 P **P** 22 14 12.7 +1.5
SMDO Samad 57.38 271 P **P** 22 14 14.6 +0.6
UOSS Minazif 57.52 274 P **P** 22 14 13.5 -1.3
UOSS IAmb IAmb 22 14 17.9
comp=Z,40nm,1.1s
MTN Manton Dam 57.53 172 IAmb IAmb 22 14 14.9
comp=Z,37nm,0.9s
HOQ Hoqain 57.58 272 P **P** 22 14 14.8 -0.4
HATD Hatta, Dubai 57.65 274 *i*P **P** 22 14 16.1 +0.4
SNR=15
HATD Hatta, Dubai 57.65 274 P **P** 22 14 16.3 +0.6
SNR=6.8
SKAG Skagway 57.65 36 P **P** 22 14 15.1 0.0
SKAG IAmb IAmb 22 14 19.2
comp=Z,36nm,1.1s
PMG Port Moresby 57.65 153 *ce*P **P** 22 14 17.7 +2.0
PMG pmax pmax
comp=Z,94nm,1.3s
PMG Port Moresby 57.65 153 P **P** 22 14 14.9 -0.7
ASHO Ashiyiah 57.78 274 *i*P **P** 22 14 17.2 +0.5
SNR=27
ASHO Ashiyiah 57.78 274 P **P** 22 14 16.9 +0.2
SNR=7.1
SOC Sochi 57.92 301 *d i*P **P** 22 14 18.2 +0.9
SOC *e* 22 16 27.1
SOC *e*S **S** 22 22 16.7 -0.4
SOC *e*SS **SS** 22 26 01.8 -5.6
SOC pmax pmax
comp=Z,30nm,0.9s
SOC MLR MLR
comp=Z,2μm,14.0s
HMDM Hanimaadhoo 58.08 245 P **P** 22 14 18.8 0.0
SNR=7.9
HMDM Hanimaadhoo 58.08 245 P **P** 22 14 18.1 -0.7
RES Resolute Bay 58.17 11 IAmb IAmb 22 14 21.4
comp=Z,62nm,1.2s
ALNE Al Ain 58.39 274 *i*P **P** 22 14 20.8 -0.2
SNR=14
MICGM Minsk 58.46 317⇓ *e*P **P** 22 14 21.0 0.0
MICGM PM 22 14 23.0
comp=Z,0.4nm,1.0s
MICGM *e*LQ LQ 22 36 40.0
MICGM LQM 22 38 08.0
comp=E,6.3nm,16.0s
MICGM LQM 22 38 12.0
comp=N,4.7nm,16.0s
MICGM *e*LR LR 22 39 30.0
MICGM LRM MLR 22 42 14.0
comp=Z,5.6nm,16.0s
MNK Minsk 58.46 317⇓ *e*P **P** 22 14 21.0 0.0
MNK pmax pmax
comp=Z,380nm,1.0s
MNK MLR MLR
comp=Z,6μm,16.0s
IZAR Zarasai 58.55 319 *e*P **P** 22 14 21.6 +0.1
IZAR IAmb IAmb 22 14 25.4
comp=Z,54nm,1.0s
IDID Didziasalis 58.56 318 *e*P **P** 22 14 22.2 +0.6
ANN Anapa 58.63 304 *e*P **P** 22 14 20.9 -1.3
ANN *e**PP **pP** 22 14 24.5 -1.1
ANN *e*S **S** 22 22 28.3 +2.0
ANN pmax pmax
comp=Z,56nm,1.3s
ANN MLR MLR
comp=E,1μm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
ANN MLR MLR
comp=N,2μm,16.0s
ISAL Salakas 58.71 319 *e*P **P** 22 14 23.1 +0.5
ISAL IAmb IAmb 22 14 26.6
comp=Z,72nm,0.9s
NACGM Naroch 58.77 318 *e*P **P** 22 14 22.0 -1.1
NACGM PM 22 14 26.0
comp=Z,0.6nm,1.0s
NACGM *e*LQ LQ 22 35 12.0
NACGM *e*LR LR 22 37 34.0
IIGN Ignalina 58.78 319 *e*P **P** 22 14 23.4 +0.2
IIGN IAmb IAmb 22 14 27.1
comp=Z,71nm,1.0s
TULEG Thule 58.84 4 IAmb IAmb 22 14 26.0
comp=Z,68nm,1.4s
SLIT Slitere, Latvi 59.27 322 *e*P **P** 22 14 26.3 -0.2
SLIT IAmb IAmb 22 14 29.1
comp=Z,553nm,1.1s
PABE Paberze 59.75 320 *e*P **P** 22 14 29.7 -0.2
PABE IAmb IAmb 22 14 33.4
comp=Z,216nm,1.0s
AKASG Malin Array Be 59.92 313 P **P** 22 14 30.6 -0.5
comp=Z,82nm,1.0s,baz=48,slow=7.8,SNR=60
AKASG LR LR 22 42 35.5
comp=Z,2μm,18.5s,baz=70,slow=38
AKASG Malin Array Be 59.92 313 P **P** 22 14 30.6 -0.5
KNRA Kununurra 60.14 175 IAmb IAmb 22 14 33.6
comp=Z,37nm,0.8s
PBUR Paburg 60.38 321 *e*P **P** 22 14 32.5 -1.7
PBUR IAmb IAmb 22 14 37.6
comp=Z,154nm,1.0s
DLBC Dease Lake 60.47 36 P **P** 22 14 35.5 +0.6
DLBC IAmb IAmb 22 14 39.2
comp=Z,38nm,1.1s
SIM Simferopol' 60.49 305 *de*P **P** 22 14 35.5 +0.3
SIM S S 22 23 00.0 +10
SIM pmax pmax
comp=Z,41nm,1.0s
SIM MLR MLR
comp=Z,850nm,10.3s
SEVA Sevastopol 60.99 305 ⇓P P 22 14 49.6 +11
SUW Suwalki 61.00 319 *e*P **P** 22 14 38.9 +0.5
SUW Suwalki 61.00 319 *e*P **P** 22 14 38.9 +0.5
SUW *e*P **P** 22 14 38.9 +0.5
NB2 NORSAR Subarra 61.58 329 P **P** 22 14 40.9 -1.4
comp=Z,46nm,1.1s,baz=45,slow=6.5
NB2 NORSAR Subarra 61.58 329 P **P** 22 14 40.9 -1.4
baz=45,slow=6.5
NOA NORSAR Array B 61.58 329 P **P** 22 14 41.2 -1.2
comp=Z,21nm,1.0s,baz=46,slow=6.5,SNR=25
NOA LR LR 22 43 36.8
comp=Z,887nm,18.4s,baz=75,slow=38
JOHN Johnston Islan 61.63 94 P **P** 22 14 42.6 -0.5
NAO01 NORSAR Array S 61.83 329 P **P** 22 14 43.6 -0.3
SORM Soroca 61.88 311 ⇓P **P** 22 14 43.9 -0.6
SORM Soroca 61.88 311 ⇓P **P** 22 14 43.9 -0.6
KIS Kishinev 62.30 310 *e*P **P** 22 14 46.0 -1.3
comp=Z,180nm,1.2s
KIS LQM 22 39 18.0
comp=Z,5μm,15.0s
KIS LRM MLR 22 43 18.0
comp=Z,2μm,14.0s
KIS Kishinev 62.30 310 *e*P **P** 22 14 46.0 -1.3
KIS pmax pmax
comp=Z,180nm,1.2s
KIS MLR MLR
comp=Z,2μm,14.0s
MILM Milestii Mici 62.35 310 ⇓P **P** 22 14 46.8 -0.9
FITZ Fitzroy Crossi 62.42 178 IAmb IAmb 22 14 49.3
comp=Z,43nm,1.0s
SUMG Summit 62.48 354 *i*P **P** 22 14 50.0 +1.4
SUMG pmax pmax
comp=Z,70nm,1.1s
SUMG Summit 62.48 354 *i*P **P** 22 14 50.0 +1.4
comp=Z,70nm,1.1s
SUMG Summit 62.48 354 P **P** 22 14 48.5 -0.1
SUMG IAmb IAmb 22 14 51.8
comp=Z,28nm,1.1s
SCO Scoresbysund 62.62 348 P **P** 22 14 50.0 +0.9
SCO pmax pmax
comp=Z,16nm,1.4s
SCO Scoresbysund 62.62 348 P **P** 22 14 50.0 +0.9
DIB Dawson Inlet, 62.63 41 P **P** 22 14 49.7 +0.3
HNR Honiara 62.77 140 LR LR 22 39 37.2
comp=Z,278nm,20.8s,baz=329,slow=34
IAS Iasi 62.87 310 ⇑P **P** 22 14 51.4 +0.2
IAS Iasi 62.87 310 ⇑P **P** 22 14 51.4 +0.2
ILGA Ilgaz 63.01 302 IAmb IAmb 22 14 54.9
comp=Z,34nm,1.1s
VASR Vaslui 63.08 310 ⇑P **P** 22 14 52.4 -0.2
KONO Kongsberg 63.11 329 *ce*P **P** 22 14 53.6 +1.1
KONO pmax pmax
comp=Z,31nm,1.7s
KONO Kongsberg 63.11 329 P **P** 22 14 52.2 -0.3
KONO IAmb IAmb 22 14 54.0
comp=Z,30nm,1.3s
LVV L'vov 63.13 314 *e*P **P** 22 14 53.0 +0.2
LVV *e*S **S** 22 23 20.0 -3.7
LVV MLR MLR
comp=Z,2μm,14.0s
TLCR 63.39 308 ⇓P **P** 22 14 55.5 +0.9
TLCR 63.39 308 ⇓P **P** 22 14 55.5 +0.9
YKA Yellowknife Ar 63.39 26 P **P** 22 14 53.3 -1.0
comp=Z,14nm,1.0s,baz=320,slow=6.1,SNR=32
YKA PKPPKP P'P'df 22 43 51.3 -8.1
comp=Z,2.7nm,1.1s,baz=151,slow=2.4,SNR=4.6
YKA LR LR 22 46 16.7
comp=Z,63nm,18.4s,baz=313,slow=40
BEL Belsk 63.48 318 *e*P **P** 22 14 55.8 +0.7
BEL Belsk 63.48 318 *e*P **P** 22 14 55.8 +0.7
BEL *e*P **P** 22 14 55.8 +0.7
PRAR RASCA 63.49 311 ⇓P **P** 22 14 55.4 +0.1
JURR Jurilovca 63.61 308 ⇑P **P** 22 14 56.4 +0.4
GISR Galati 63.66 309 ⇑P P 22 15 09.3 +13
WHFO Wadi Hawf 63.74 270 P **P** 22 14 56.6 -0.8
SNR=5.4
CFR Carcaliu 63.78 308 ⇑P **P** 22 14 56.0 -1.2
CFR Carcaliu 63.78 308 ⇑P **P** 22 14 56.0 -1.2
TESR Tescani 63.78 310 ⇑P **P** 22 14 56.7 -0.5
BIZ Bicaz 63.82 311 ⇑P **P** 22 14 57.7 +0.3
TOPG Topolog 63.83 308 ⇓P **P** 22 14 57.1 -0.4
BR131 Keskin Array S 63.86 301 P **P** 22 14 58.6 +0.6
SNR=8.8
BRTR Keskin Array B 63.86 301 P **P** 22 14 57.2 -0.7
comp=Z,11nm,0.9s,baz=74,slow=5.3,SNR=26
BRTR LR LR 22 48 31.5
comp=Z,706nm,18.0s,baz=30,slow=42
BRTR Keskin Array B 63.86 301 P **P** 22 14 56.7 -1.3
BURAR Bucovina Array 63.87 312 ⇓P **P** 22 14 58.0 +0.1
BURAR Bucovina Array 63.87 312 ⇓P **P** 22 14 58.0 +0.1
BURAR Bucovina Array 63.87 312 P **P** 22 14 57.3 -0.7
KWP Kalwaria Pacla 63.92 315 *e*P **P** 22 14 58.4 +0.3
KWP Kalwaria Pacla 63.92 315 *e*P **P** 22 14 58.4 +0.3
KWP *e*P **P** 22 14 58.4 +0.3
PETR Petresti 63.95 309 ⇑P **P** 22 14 59.1 +0.8
ODBI Odobesti 64.02 309 ⇓P **P** 22 15 00.3 +1.6
BSD Bornholm Skovb 64.05 323 *e*P **P** 22 14 58.2 -0.5
BSD pmax pmax
comp=Z,52nm,1.0s
BSD Bornholm Skovb 64.05 323 *i*P **P** 22 14 58.2 -0.5
comp=Z,52nm,1.0s
TIRR Tirgusor 64.06 308 ⇑P **P** 22 14 59.1 0.0
TIRR Tirgusor 64.06 308 ⇑P **P** 22 14 59.1 0.0
VRI Vrincioaia 64.14 310 ⇓P **P** 22 15 00.6 +1.0
VRI Vrincioaia 64.14 310 ⇓P **P** 22 15 00.6 +1.0
PLOR Plostina 64.19 310 ⇑P **P** 22 15 00.4 +0.5
PLOR Plostina 64.19 310 ⇑P **P** 22 15 00.4 +0.5
HARR Harsova 64.19 308 ⇑P **P** 22 15 00.3 +0.4
HARR Harsova 64.19 308 ⇑P **P** 22 15 00.3 +0.4
TLB Topalu 64.19 308 ⇓P **P** 22 14 59.6 -0.3
TLB Topalu 64.19 308 ⇓P **P** 22 14 59.6 -0.3
GKP Gorka Klasztor 64.23 320 *e*P **P** 22 15 00.4 +0.4
GKP Gorka Klasztor 64.23 320 *e*P **P** 22 15 00.4 +0.4
GKP *e*P **P** 22 15 00.4 +0.4
MFTR Murfatlar 64.23 307 ⇑P **P** 22 14 59.5 -0.6
ANTO Ankara 64.29 301 P **P** 22 15 01.2 +0.5
SNR=6.9
ANTO Ankara 64.29 301 P **P** 22 15 01.2 +0.5
ANTO pmax pmax
comp=Z,30nm,1.0s
ANTO Ankara 64.29 301 ⇓P **P** 22 15 01.1 +0.3
ANTO Ankara 64.29 301 P **P** 22 15 01.2 +0.5
ANTO IAmb IAmb 22 15 03.6
comp=Z,30nm,1.0s
GRER 64.30 309 ⇓P **P** 22 15 02.8 +2.2
KOLS Kolonicke sedl 64.58 314 *e*P **P** 22 15 02.4 0.0
KOLS pmax pmax
comp=Z,39nm,1.2s
KOLS Kolonicke sedl 64.58 314 *e*P **P** 22 15 02.4 0.0
PGOR Pogoanele 64.59 309 ⇓P **P** 22 15 03.1 +0.6
ICOR Ion Corvin 64.62 308 ⇑P **P** 22 15 03.4 +0.7
ARCR ARCALIA 64.66 312 ⇑P **P** 22 15 04.4 +1.5
ISR Istrita 64.70 309 ⇑P **P** 22 15 04.7 +1.4
ISR Istrita 64.70 309 ⇑P **P** 22 15 04.7 +1.4
KALB Balgarevo 64.71 307 ⇑P **P** 22 15 05.9 +2.6
UZH Uzhgorod 64.76 314⇑ *e*P **P** 22 15 01.3 -2.3
UZH *i* 22 15 05.7
MLR Muntele Rosu 64.80 310 ⇑P **P** 22 15 04.5 +0.4
MLR Muntele Rosu 64.80 310 ⇑P **P** 22 15 04.5 +0.4
DOPR Dopca 64.81 310 ⇓P **P** 22 15 05.0 +1.0
WRAB Tennant Creek 64.90 169 *i*P **P** 22 15 03.6 -1.1
WRAB pmax pmax
comp=Z,69nm,1.1s
WRAB Tennant Creek 64.90 169 P **P** 22 15 03.6 -1.1
WRA Warramunga Arr 64.91 169 P **P** 22 15 02.9 -1.9
WRA pmax pmax
comp=Z,4.0nm,1.1s
WRA Warramunga Arr 64.91 169 P **P** 22 15 03.4 -1.4
comp=Z,35nm,0.9s,baz=349,slow=7.0,SNR=80
WRA Warramunga Arr 64.91 169 P **P** 22 15 02.9 -1.9
LEHL Lehliu 64.95 308 ⇑P **P** 22 15 05.9 +1.0
WR0 Warramunga Arr 64.95 169 P **P** 22 15 03.8 -1.3
TRPA Tarpa 64.95 314 ⇓P **P** 22 15 03.9 -0.9

OJC	Ojcow	65.00	317	eP	P	22 15 04.8	-0.3
OJC	Ojcow	65.00	317	eP	P	22 15 04.8	-0.3
OJC				eP	P	22 15 04.8	-0.3
SECR		65.02	309	⇑P	P	22 15 05.9	+0.6
RGN	Rugen	65.11	323	P	P	22 15 06.2	+0.5
SULR		65.14	309	⇓P	P	22 15 06.0	-0.1
NIE	Niedzica	65.27	316	eP	P	22 15 07.2	+0.3
NIE	Niedzica	65.27	316	eP	P	22 15 07.2	+0.3
NIE				eP	P	22 15 07.2	+0.3
CJR	Cluj-Napoca	65.30	312	⇑P	P	22 15 08.4	+1.2
CJR	Cluj-Napoca	65.30	312	⇑P	P	22 15 08.4	+1.2
VOIR		65.33	310	⇓P	P	22 15 07.5	+0.1
VOIR		65.33	310	⇓P	P	22 15 07.5	+0.1
PRD	Provadia	65.42	307	eP	P	22 15 08.0	+0.1
MTUR	Matau	65.45	310	⇓P	P	22 15 06.9	-1.4
MTUR	Matau	65.45	310	⇓P	P	22 15 06.9	-1.4
MUD	Monsted U'grnd	65.50	326	i P	P	22 15 07.0	-1.2
MUD				pmax	pmax		
	comp=Z,60nm,1.1s						
MUD	Monsted U'grnd	65.50	326	i P	P	22 15 07.0	-1.2
	comp=Z,60nm,1.1s						
SGRR	Singureni	65.58	309	⇑P	P	22 15 08.2	-0.7
ARR	Arges	65.60	310	⇑P	P	22 15 10.2	+1.0
RAZG	Razgrad	65.69	308	⇓P	P	22 15 10.3	+0.5
DRGR		65.72	312	⇑P	P	22 15 09.7	-0.2
DRGR		65.72	312	⇑P	P	22 15 09.7	-0.2
KECS	Kecovo	65.78	315	eP	P	22 15 10.4	+0.2
KECS				pmax	pmax		
	comp=Z,14nm,1.2s						
KECS	Kecovo	65.78	315	eP	P	22 15 10.4	+0.2
LANS	Liptovska Anna	65.86	316	eP	P	22 15 11.5	+0.8
LANS				pmax	pmax		
	comp=Z,27nm,1.1s						
LANS	Liptovska Anna	65.86	316	eP	P	22 15 11.5	+0.8
YLV	Yalova	65.92	304	⇑P	P	22 15 17.0	+5.7
YLV	Yalova	65.92	304	⇑P	P	22 15 17.0	+5.7
HUMR	Humele	65.94	309	⇓P	P	22 15 11.1	-0.2
PSAA1	Pilbara Seismi	65.98	184	P	P	22 15 10.0	-1.6
PSAA3	Pilbara Seismi	65.98	184	P	P	22 15 10.7	-1.0
PSAB3	Pilbara Seismi	66.00	184	P	P	22 15 10.5	-1.2
LOT	Lotru	66.01	311	⇑P	P	22 15 13.1	+1.2
PSAC3	Pilbara Seismi	66.03	184	P	P	22 15 10.7	-1.2
PSAD3	Pilbara Seismi	66.05	184	P	P	22 15 10.7	-1.4
OKC	Ostrava-Krasne	66.05	317	eP	P	22 15 12.2	+0.3
OKC				MLR	MLR		
	comp=Z,4μm,15.0s						
OKC	Ostrava-Krasne	66.05	317	eP	P	22 15 12.2	+0.3
OKC				AMS	AMS	22 46 40.0	
	comp=Z,4μm,15.0s						
COPA	Copaceanca	66.06	309	⇓P	P	22 15 13.9	+1.9
SZH	Strazhica	66.21	308	eP	P	22 15 11.5	-1.5
KSP	Ksiaz	66.27	319	eP	P	22 15 13.6	+0.3
KSP	Ksiaz	66.27	319	eP	P	22 15 13.6	+0.3
KSP				eP	P	22 15 13.6	+0.3
MORC	Moravsky Berou	66.39	317	⇑P	P	22 15 13.8	-0.3
MORC	Moravsky Berou	66.39	317	⇑P	P	22 15 13.8	-0.3
MORC	Moravsky Berou	66.39	317	eP	P	22 15 13.8	-0.3
MORC	Moravsky Berou	66.39	317	IAmb	IAmb	22 15 17.9	
	comp=Z,55nm,1.1s						
ASF	Jabal al Asfar	66.43	292	P	P	22 15 11.8	-2.9
	comp=Z,30nm,1.2s						
ILULI	Ilulissat	66.44	358	P	P	22 15 14.5	+0.4
ILULI				pmax	pmax		
	comp=Z,151nm,1.5s						
ILULI	Ilulissat	66.44	358	P	P	22 15 14.5	+0.4
PSZ	Piszkesteto	66.45	315	⇑P	P	22 15 16.0	+1.4
PSZ	Piszkesteto	66.45	315	⇑P	P	22 15 16.0	+1.4
ELND	Elena	66.45	308	⇑P	P	22 15 15.0	+0.4
KRLC	Kraliky	66.55	318	eP	P	22 15 15.4	+0.2
KRLC	Kraliky	66.55	318	eP	P	22 15 15.4	+0.2
CHVC	Chvalec	66.56	319	eP	P	22 15 15.4	+0.2
CHVC				AMS	AMS	22 47 20.0	
	comp=Z,3μm,18.7s						
GZR	Gura Zlata	66.58	311	⇓P	P	22 15 15.7	+0.2
GZR	Gura Zlata	66.58	311	⇓P	P	22 15 15.7	+0.2
DPC	Dobruska-Polom	66.59	318	eP	P	22 15 15.8	+0.4
DPC				MLR	MLR		
	comp=Z,2μm,13.6s						
DPC	Dobruska-Polom	66.59	318	eP	P	22 15 15.8	+0.4
DPC				AMS	AMS	22 47 30.0	
	comp=Z,2μm,13.6s						
VLAD	Vladila	66.59	309	⇑P	P	22 15 15.4	-0.1
VYHS	Vyhne	66.60	316	eP	P	22 15 15.7	+0.2
VYHS				pmax	pmax		
	comp=Z,78nm,1.6s						
VYHS	Vyhne	66.60	316	eP	P	22 15 15.7	+0.2
SIRR	Siria	66.61	312	⇓P	P	22 15 15.7	+0.1
UPC	Upice	66.63	319	eP	P	22 15 16.1	+0.5
UPC	Upice	66.63	319	eP	P	22 15 16.1	+0.5
PLVB	Pleven	66.87	309	⇑P	P	22 15 16.9	-0.3
JAVC	Velka Javorina	66.94	317	eP	P	22 15 18.5	+0.8
ISP	Isparta	66.95	301	P	P	22 15 17.6	-0.4
ISP				pmax	pmax		
	comp=Z,20nm,0.8s						
ISP	Isparta	66.95	301	P	P	22 15 17.6	-0.4
ISP				IAmb	IAmb	22 15 21.3	
	comp=Z,20nm,0.8s						
CSS	Mathiatis	66.99	297	P	P	22 15 18.0	-0.2
CSS				IAmb	IAmb	22 15 21.1	
	comp=Z,53nm,1.3s						
HERR	Herculane	67.11	311	⇓P	P	22 15 18.5	-0.2
VRAC	Vranov	67.16	317	⇓P	P	22 15 19.5	+0.5
VRAC	Vranov	67.16	317	⇓P	P	22 15 19.5	+0.5
VRAC	Vranov	67.16	317	eP	P	22 15 18.9	-0.1
PUNG	Punghina	67.22	310	⇑P	P	22 15 18.1	-1.4
SMOL	Smolenice	67.29	316	eP	P	22 15 20.8	+1.0
SMOL				pmax	pmax		
	comp=Z,31nm,1.1s						
SMOL	Smolenice	67.29	316	eP	P	22 15 20.8	+1.0
PVCC	Panska Ves	67.29	319	eP	P	22 15 20.3	+0.5
PVCC				MLR	MLR		
	comp=Z,2μm,12.9s						
PVCC	Panska Ves	67.29	319	eP	P	22 15 20.3	+0.5
PVCC				AMS	AMS	22 47 20.0	
	comp=Z,2μm,12.9s						
SRO	Srobarova	67.32	315	eP	P	22 15 21.8	+1.8
SRO				pmax	pmax		
	comp=Z,74nm,0.9s						
SRO	Srobarova	67.32	315	eP	P	22 15 21.8	+1.8
BRG	Berggiesshubel	67.34	320	eP	P	22 15 19.8	-0.4
	comp=Z,49nm,1.3s						
BRG				S	S	22 24 19.0	+3.7
	comp=N,20μm,12.7s						
	comp=E,2μm,13.6s						
	comp=Z,3μm,14.1s						
BRG	Berggiesshubel	67.34	320	eP	P	22 15 19.8	-0.4
BRG				S	S	22 24 19.0	+3.7
BRG				pmax	pmax		
	comp=Z,49nm,1.3s						
BRG				MLR	MLR		
	comp=E,2μm,13.6s						
BRG				MLR	MLR		
	comp=Z,3μm,14.1s						
KRUC	Moravsky	67.42	317	eP	P	22 15 20.6	-0.1
SOCY	Socotra	67.43	265	P	P	22 15 19.3	-2.0
	SNR=7.3						
MODS	Modra-Piesok	67.46	316	eP	P	22 15 20.9	0.0
MODS				pmax	pmax		
	comp=Z,65nm,1.4s						
MODS	Modra-Piesok	67.46	316	eP	P	22 15 20.9	0.0
CLL	Collm	67.47	321	i P	P	22 15 20.0	-0.9
CLL				eS	S	22 24 19.0	+2.2
CLL				pmax	pmax		
	comp=Z,49nm,1.1s						
CLL				MLR	MLR		
	comp=Z,2μm,16.8s						
CLL	Collm	67.47	321	i P	P	22 15 20.0	-0.9
	comp=Z,49nm,1.1s						
CLL				i		22 15 41.3	
	comp=Z,26nm,1.4s						
CLL				eS	S	22 24 19.0	+2.2
CLL				eSS	SS	22 28 30.0	-6.1
CLL				eSSS	SSS	22 31 48.0	
CLL	Collm	67.47	321	IAmb	IAmb	22 15 24.2	
	comp=Z,39nm,1.0s						
WALJ	Wala	67.53	293	P	P	22 15 21.1	-0.5
GOPC	GO Pecny, Ondr	67.61	319	eP	P	22 15 22.0	+0.1
GOPC				MLR	MLR		
	comp=Z,2μm,12.8s						
GOPC	GO Pecny, Ondr	67.61	319	eP	P	22 15 22.0	+0.1
GOPC				AMS	AMS	22 48 10.0	
	comp=Z,2μm,12.8s						
ALN	Alexandroupoli	67.66	306	P	P	22 15 22.4	+0.1
ALN				pmax	pmax		
	comp=Z,19nm,1.2s						
ALN	Alexandroupoli	67.66	306	P	P	22 15 22.4	+0.1
ZST	Bratislava	67.66	316	eP	P	22 15 23.1	+0.9
ZST	Bratislava	67.66	316	eP	P	22 15 23.1	+0.9
PRA	Prague	67.67	319	eP	P	22 15 24.3	+2.1
PRA				MLR	MLR		
	comp=Z,3μm,12.4s						
PRA	Prague	67.67	319	eP	P	22 15 24.3	+2.1
PRA				AMS	AMS	22 48 00.0	
	comp=Z,3μm,12.4s						
PRU	Pruhonice	67.67	319	eP	P	22 15 22.6	+0.3
PRU				MLR	MLR		
	comp=Z,3μm,12.8s						
PRU	Pruhonice	67.67	319	eP	P	22 15 22.6	+0.3
PRU				AMS	AMS	22 48 00.0	
	comp=Z,3μm,12.8s						
TREC	Trest	67.70	318	eP	P	22 15 22.7	+0.2
TREC				MLR	MLR		
	comp=Z,4μm,15.6s						
TREC	Trest	67.70	318	eP	P	22 15 22.7	+0.2
TREC				AMS	AMS	22 47 50.0	
	comp=Z,4μm,15.6s						
LISJ	El Lisan	67.95	292	P	P	22 15 26.0	+1.8
AMAZ	Amatzia	68.14	293	P	P	22 15 24.1	-1.4
AMAZ	Amatzia	68.14	293	P	P	22 15 24.1	-1.4
	comp=Z,119nm,1.2s						
VTS	Vitosha	68.14	309	eP	P	22 15 25.8	+0.3
VTS	Vitosha	68.14	309	⇑P	P	22 15 26.3	+0.8
VTS	Vitosha	68.14	309	⇑P	P	22 15 26.3	+0.8
PBCC	Pribram	68.14	319	eP	P	22 15 25.6	+0.4
FRGS	Fruska Gora	68.32	312	eP	P	22 15 26.2	-0.2
CONA	Conrad Observa	68.45	317	epP	P	22 15 28.2	+0.9
	comp=Z,51nm,1.1s,SNR=24						
NKC	Novy Kostel	68.48	320	eP	P	22 15 27.3	0.0
NKC				MLR	MLR		
	comp=Z,3μm,13.4s						
NKC	Novy Kostel	68.48	320	eP	P	22 15 27.3	0.0
NKC				AMS	AMS	22 48 30.0	
	comp=Z,3μm,13.4s						
ASAR	Alice Springs	68.53	170	P	P	22 15 26.9	-0.9
	comp=Z,25nm,1.1s,baz=359,slow=5.6,SNR=66						
ASAR				PKPPKP	P'P'df	22 43 44.8	+9.0
	comp=Z,3.6nm,1.1s,baz=168,slow=5.6,SNR=9.5						
ASAR				LR	LR	22 47 56.4	
	comp=Z,86nm,18.6s,baz=354,slow=38						
ASAR	Alice Springs	68.53	170	P	P	22 15 26.5	-1.3
MMB	Musomiste	68.54	308	eP	P	22 15 28.0	+0.1
SFJD	Kangerlussuaq	68.65	358	P	P	22 15 29.0	+1.0
SFJD				pmax	pmax		
	comp=Z,80nm,1.3s						
SFJD	Kangerlussuaq	68.65	358	i P	P	22 15 28.0	-0.1
SFJD	Kangerlussuaq	68.65	358	P	P	22 15 29.0	+1.0
KHC	Kasperske Hory	68.72	319	eP	P	22 15 28.9	0.0
KHC				MLR	MLR		
	comp=Z,3μm,13.9s						
KHC	Kasperske Hory	68.72	319	eP	P	22 15 28.9	0.0
KHC				ex	x	22 15 43.0	
KHC				AMS	AMS	22 48 50.0	
	comp=Z,3μm,13.9s						
KHC	Kasperske Hory	68.72	319	IAmb	IAmb	22 15 32.8	
	comp=Z,28nm,1.2s						
GEC2	GERESS Array S	68.86	318	IAmb	IAmb	22 15 32.7	
	comp=Z,27nm,1.1s						
GERES	GERESS Array B	68.86	318	P	P	22 15 29.7	-0.1
	comp=Z,17nm,1.1s,baz=40,slow=5.2,SNR=38						
GERES				LR	LR	22 49 00.9	
	comp=Z,2μm,18.5s,baz=52,slow=39						
GERES	GERESS Array B	68.86	318	P	P	22 15 29.1	-0.8
KZIT	Kziot	68.88	293	P	P	22 15 30.3	+0.2
KZIT	Kziot	68.88	293	P	P	22 15 32.7	+2.6
DIVS	Divibare	68.93	312	eP	P	22 15 29.8	-0.5
ARSA	Arzberg	69.09	316	epP	P	22 15 31.4	+0.3
	comp=Z,32nm,1.1s,SNR=14						
MOA	Molln	69.29	317	epP	P	22 15 33.0	+0.6
	comp=Z,15nm,1.0s						
STIP	Stip	69.33	308	i P	P	22 15 31.3	-1.5
VAY	Valandovo	69.37	308	i P	P	22 15 33.3	+0.4
BBLS	Lazići	69.40	312	eP	P	22 15 33.4	+0.2
GRA1	Grafenberg Arr	69.42	320	P	P	22 15 32.8	-0.4
GRF	Grafenberg Arr	69.42	320	P	P	22 15 32.8	-0.4
GRF				pmax	pmax		
	comp=Z,79nm,1.0s						
KHLU	Kahalu`u	69.47	82	P	P	22 15 31.5	-2.5
KHLU				IAmb	IAmb	22 15 32.6	
	comp=Z,46nm,1.0s						
HAPS	Han Pijesak,Bl	69.49	312	eP	P	22 15 33.0	-0.9
SKO	Skopje	69.56	309	i P	P	22 15 35.2	+1.0
SOKA	Soboth	69.73	316	epP	P	22 15 35.9	+0.7
	comp=Z,58nm,1.1s,SNR=19						
OBKA	Obir	70.08	316	epP	P	22 15 38.0	+0.5
	comp=Z,50nm,1.1s,SNR=9.1						
CRES	Cresnjev	70.11	315	eP	P	22 15 37.9	+0.4
A04D	Lummi Island	70.21	40	P	P	22 15 37.2	-0.8
	baz=316						
LIT	Litokhoron	70.22	307	P	P	22 15 37.3	-1.0
LIT				pmax	pmax		
	comp=Z,49nm,1.5s						
LIT	Litokhoron	70.22	307	P	P	22 15 37.3	-1.0
LIT				IAmb	IAmb	22 15 41.9	
	comp=Z,49nm,1.5s						
MGRS	Mrkonjic Grad	70.25	313	eP	P	22 15 39.1	+0.7
KBA	Koelnbreinsper	70.27	317	epP	P	22 15 39.5	+0.8
	comp=Z,86nm,1.2s,SNR=12						
LJU	Ljubljana	70.42	316	eP	P	22 15 39.1	-0.3
MYKA	Terra Mystica	70.44	317	epP	P	22 15 39.8	+0.2
	comp=Z,38nm,1.2s,SNR=9.2						
PDG	Podgorica	70.45	311	eP	P	22 15 39.0	-0.6
PDG	Podgorica	70.45	311	⇓P	P	22 15 33.6	-6.0
NLWA	Neilton Lookou	70.62	42	P	P	22 15 41.8	+1.2
NLWA				IAmb	IAmb	22 15 44.8	
	comp=Z,31nm,1.2s						
DRME	Dracevica, Mon	70.66	310	eP	P	22 15 41.8	+0.9
CEY	Cerknica	70.68	316	eP	P	22 15 40.5	-0.5
B05A	Bryant	70.82	40	P	P	22 15 41.3	-0.5
	baz=316,SNR=6.4						
D03D	Eldon	70.88	41	P	P	22 15 41.4	-0.8
	baz=316,SNR=6.3						
ABTA	Abfaltersbach	70.91	317	eP	P	22 15 42.2	-0.3
	comp=Z,23nm,1.1s						
B06A	Marblemount	70.92	40	IAmb	IAmb	22 15 45.7	
	comp=Z,69nm,1.2s						
WATA	Walderalm	70.94	318	epP	P	22 15 43.0	+0.3
	comp=Z,40nm,1.1s,SNR=11						
WTTA	Wattenberg	70.96	318	epP	P	22 15 43.0	+0.1
	comp=Z,30nm,1.2s,SNR=9.2						
STU	Stuttgart	71.00	321	IAmb	IAmb	22 15 46.3	
	comp=Z,53nm,1.1s						
AGG	Agios Georgios	71.04	306	P	P	22 15 43.6	+0.3
AGG				pmax	pmax		
	comp=Z,29nm,1.2s						
AGG	Agios Georgios	71.04	306	P	P	22 15 43.6	+0.3
MEM	Membach	71.05	324	P	P	22 15 42.5	-0.6
	comp=Z,24nm,1.1s						
MEM				PcP	PcP	22 16 04.2	+0.9
MOTA	Moosalm	71.16	319	epP	P	22 15 44.1	+0.1
	comp=Z,51nm,1.0s,SNR=17						
STAL	STALIGIAL	71.16	317	IAmb	IAmb	22 15 46.1	
	comp=Z,41nm,1.1s						
SQTA	Sankt Quirin	71.19	318	epP	P	22 15 44.2	0.0
	comp=Z,30nm,1.0s,SNR=7.9						
RETA	Reutte	71.21	319	epP	P	22 15 44.6	+0.3
	comp=Z,65nm,1.1s,SNR=22						
BHOU	Houvegnez	71.24	323	P	P	22 15 44.5	+0.2
E03A	Lebam	71.37	42	P	P	22 15 45.6	+0.5
E03A				IAmb	IAmb	22 15 50.4	
	comp=Z,54nm,1.1s						
BCLA	Clavier	71.49	324	P	P	22 15 45.4	-0.4
	comp=Z,17nm,1.3s						
FETA	Feichten	71.57	319	epP	P	22 15 46.4	-0.1
	comp=Z,16nm,1.0s						
C06D	Leavenworth	71.62	40	P	P	22 15 46.2	-0.5
	baz=317						
D05A	Enumclaw	71.65	41	P	P	22 15 47.2	+0.4
D05A				IAmb	IAmb	22 15 51.2	
	comp=Z,77nm,1.5s						
WLF	Walferdange	71.69	323	P	P	22 15 45.8	-1.2
WLF				pmax	pmax		
	comp=Z,25nm,1.3s						
WLF	Walferdange	71.69	323	P	P	22 15 45.8	-1.2
BFO	Black Forest	71.72	321	P	P	22 15 46.4	-0.9
BFO				pmax	pmax		
	comp=Z,78nm,1.1s						
BFO	Black Forest	71.72	321	P	P	22 15 46.4	-0.9
DAVA	Damuels	71.77	319	epP	P	22 15 47.9	+0.2
	comp=Z,86nm,1.2s,SNR=20						
BMRD	Maredsous	71.80	324	P	P	22 15 46.4	-1.2
	comp=Z,25nm,1.2s						
CTI	Castel Tesino	71.83	317	IAmb	IAmb	22 15 50.2	
	comp=Z,46nm,1.0s						
E04D	Cinebar	71.84	42	P	P	22 15 48.6	+0.7
	baz=316,SNR=7.9						
B08A	Colville Reser	72.01	39	P	P	22 15 49.4	+0.3
B08A				IAmb	IAmb	22 15 52.6	
	comp=Z,40nm,1.2s						
DOU	Dourbes	72.03	324	P	P	22 15 48.1	-1.0
FCC	Fort Churchill	72.24	20	P	P	22 15 50.0	-0.1
FCC				pmax	pmax		
	comp=Z,45nm,1.3s						
FCC	Fort Churchill	72.24	20	P	P	22 15 50.0	-0.1
FCC				IAmb	IAmb	22 15 54.0	
	comp=Z,45nm,1.3s						
TEOL	Teolo	72.31	317	IAmb	IAmb	22 15 53.5	
	comp=Z,32nm,1.0s						
ECH	Echery	72.33	321	IAmb	IAmb	22 15 54.3	
	comp=Z,43nm,1.2s						
F04A	Amboy	72.36	42	P	P	22 15 52.3	+1.2
F04A				IAmb	IAmb	22 15 54.8	
	comp=Z,33nm,1.2s						
G03D	McMinnville, O	72.47	43	P	P	22 15 51.1	-0.7
	baz=316						
TUE	Stuetta	72.62	319	IAmb	IAmb	22 15 56.4	
	comp=Z,48nm,1.1s						
DAMY	Dhamar	72.67	273	IAmb	IAmb	22 15 57.0	
	comp=Z,68nm,1.1s						
SALO	Salr	72.68	318	P	P	22 15 52.6	-0.4
SALO				IAmb	IAmb	22 16 01.5	
	comp=Z,45nm,1.1s						
SGRT	San Giovanni R	72.81	312	P	P	22 15 52.5	-1.4
SGRT				IAmb	IAmb	22 15 58.0	
	comp=Z,59nm,1.2s						
F05D	White Salmon	72.85	42	P	P	22 15 53.4	-0.6
	baz=317						
COR	Corvallis	72.91	44	P	P	22 15 55.6	+1.3
COR				pmax	pmax		
	comp=Z,84nm,1.2s						
COR	Corvallis	72.91	44	P	P	22 15 55.6	+1.3
NEW	Newport	73.06	38	P	P	22 15 55.9	+0.6
	baz=319,SNR=21						
NEW	Newport	73.06	38	IAmb	IAmb	22 15 59.0	
	comp=Z,43nm,1.2s						
E07A	Sunnyside	73.11	40	P	P	22 15 56.6	+1.0
E07A				IAmb	IAmb	22 15 59.5	
	comp=Z,51nm,1.2s						
H04D	Lebanon	73.23	43	P	P	22 15 56.2	-0.1
	baz=317						
HAWA	Hanford	73.38	40	IAmb	IAmb	22 16 01.0	
	comp=Z,46nm,1.2s						
ZCCA	Zocca	73.39	317	P	P	22 15 58.0	+0.7
ZCCA				IAmb	IAmb	22 16 01.5	
	comp=Z,66nm,1.2s						
G05D	Wamic, OR	73.39	42	P	P	22 15 57.2	-0.1
	baz=317						
PRMA	PARMA	73.41	317	P	P	22 15 57.7	+0.4
NRCA	Norcia	73.41	314	IAmb	IAmb	22 16 01.3	
	comp=Z,74nm,1.2s						
E08A	Dider Farm, El	73.53	40	P	P	22 15 59.3	+1.3
E08A				IAmb	IAmb	22 16 01.8	
	comp=Z,37nm,1.2s						
I03D	Drain, OR	73.53	44	P	P	22 15 58.3	+0.3
	baz=317,SNR=13						
FFC	Flin Flon	73.56	26	P	P	22 15 58.6	+0.6
FFC				pmax	pmax		
	comp=Z,27nm,1.5s						
FFC	Flin Flon	73.56	26	P	P	22 15 58.6	+0.6
F07A	Phinny Hill Vi	73.57	41	P	P	22 15 59.5	+1.2
F07A				IAmb	IAmb	22 16 02.3	
	comp=Z,42nm,1.1s						
INTR	Introdacqua	73.59	313	P	P	22 15 58.0	-0.6
INTR				IAmb	IAmb	22 16 02.5	
	comp=Z,65nm,1.1s						
AQU	L'Aquila	73.61	314	eP	P	22 15 58.7	+0.1
J01E	Myrtle Point	73.62	45	P	P	22 15 59.0	+0.4
	baz=316,SNR=6.4						
KEBM	Edson Butte	73.63	45	P	P	22 15 59.2	+0.4
KEBM				IAmb	IAmb	22 16 03.4	
	comp=Z,66nm,1.2s						
SENIN	Lac Senin/Sane	73.65	320	IAmb	IAmb	22 16 02.1	
	comp=Z,59nm,1.4s						
MORW	Morawa	73.70	187	IAmb	IAmb	22 16 00.1	
	comp=Z,66nm,1.2s						
DSB	Dublin	73.71	332	P	P	22 15 59.4	+0.4
VLC	Villacollemand	73.81	317	P	P	22 15 59.4	-0.4
VLC				IAmb	IAmb	22 16 03.9	
	comp=Z,50nm,1.1s						
OSSC	Osservatorio P	73.85	316	IAmb	IAmb	22 16 03.0	
	comp=Z,62nm,1.1s						
I05D	Terrebonne, OR	74.05	43	P	P	22 16 01.5	+0.4
	baz=318,SNR=8.7						
K02D	Willamette Mer	74.09	45	P	P	22 16 01.5	0.0
	baz=317,SNR=20						
KBO	Bosley Butte	74.16	46	P	P	22 16 02.9	+1.0
KBO				IAmb	IAmb	22 16 06.5	
	comp=Z,81nm,1.2s						
LATE	Laterza	74.24	315	P	P	22 16 01.9	-0.4
LATE				IAmb	IAmb	22 16 06.0	
	comp=Z,84nm,1.2s						
IVI	Ivigtut	74.35	356	P	P	22 16 03.2	+0.7
IVI				IAmb	IAmb	22 16 05.1	
	comp=Z,46nm,1.0s						
G08A	Pilot Rock	74.47	41	P	P	22 16 04.3	+0.6
L02E	Cave Junction	74.52	46	P	P	22 16 03.8	-0.1
	baz=317						
HUMO	Hull Mountain	74.52	45	P	P	22 16 05.2	+1.3
CLF	Chambon-Foret	74.61	324	IAmb	IAmb	22 16 05.7	
	comp=Z,78nm,1.4s						
PINE	Pine Mountain	74.64	43	IAmb	IAmb	22 16 09.2	
	comp=Z,71nm,1.2s						
JTMT	Jette	74.68	37	IAmb	IAmb	22 16 09.0	
	comp=Z,52nm,1.3s						
KRMB	Red Mountain	74.82	46	P	P	22 16 06.3	+0.5
KRMB				IAmb	IAmb	22 16 10.4	
	comp=Z,53nm,1.3s						
J05D	Fort Rock, OR	74.88	43	P	P	22 16 06.8	+0.7
	baz=318,SNR=24						
K04D	Chiloquin, OR	75.11	44	P	P	22 16 07.0	-0.4
	baz=318						
L04D	Klamath Falls	75.13	45	P	P	22 16 07.8	+0.2
	baz=317,SNR=25						
YBH	Yreka Blue Hor	75.28	45	P	P	22 16 09.5	+1.1
YBH				pmax	pmax		
	comp=Z,33nm,1.3s						
YBH	Yreka Blue Hor	75.28	45	P	P	22 16 09.4	+1.1
KHMM	Horse Mountain	75.39	47	P	P	22 16 09.9	+

comp=Z,33nm,1.2s
DZM Mont Dzumac 76.79 140 *e*LR LR 22 40 05.7
comp=Z,1µm,23.2s
DZM Mont Dzumac 76.79 140 P **P 22 16 17.2 +0.1**
O03E Paynes Creek 76.81 46 P **P 22 16 17.7 +0.6**
baz=318,SNR=14
LRM Limekiln Ridge 76.97 37 P **P 22 16 15.9 -2.3**
CAF Calviac 77.11 322 *e*P **P 22 16 19.7 +1.0**
CAF pmax pmax
comp=Z,33nm,1.2s
DLMT Dillon 77.28 37 IAmb IAmb 22 16 23.7
comp=Z,57nm,1.3s
MFID Camas Ranch 77.35 40 IAmb IAmb 22 16 24.1
comp=Z,52nm,1.2s
NWAO Narrogin (SRO) 77.43 186 P **P 22 16 20.0 -0.3**
NWAO pmax pmax
comp=Z,41nm,1.1s
NWAO Narrogin (SRO) 77.43 186 P **P 22 16 20.0 -0.3**
NWAO IAmb IAmb 22 16 21.3
comp=Z,41nm,1.1s
NWAO Narrogin (SRO) 77.43 186 P **P 22 16 19.5 -0.8**
NWAO IAmb IAmb 22 16 21.3
comp=Z,31nm,1.1s
BOZ Bozeman (W) 77.50 36 P **P 22 16 20.8 -0.2**
baz=323,SNR=22
LFF La Frestale 77.68 323 *e*P **P 22 16 23.8 +2.0**
LFF pmax pmax
comp=Z,27nm,1.2s
STKA Stephens Creek 77.77 165 P **P 22 16 21.6 -0.6**
comp=Z,7.0nm,0.9s,baz=345,slow=4.6,SNR=8.5
STKA LR LR 22 50 11.4
comp=Z,124nm,21.8s,baz=349,slow=35
BBOO Buckleboo 77.81 170 P **P 22 16 21.9 -0.6**
BBOO IAmb IAmb 22 16 23.6
comp=Z,51nm,1.3s
BEKR Beckworth 77.86 45 IAmb IAmb 22 16 26.9
comp=Z,46nm,1.2s
DGMT Dagmar 78.08 31 P **P 22 16 23.5 -0.6**
baz=327,SNR=9.5
PAHR Pah Rah Range 78.47 45 IAmb IAmb 22 16 30.5
comp=Z,54nm,1.2s
YNE Yellowstone No 78.66 36 P **P 22 16 28.1 +0.5**
ARMA Armidale 78.77 156 P **P 22 16 28.7 +0.7**
LAO LASA Array 78.81 33 P **P 22 16 28.1 0.0**
baz=326
LAO LASA Array 78.81 33 IAmb IAmb 22 16 31.4
comp=Z,41nm,1.4s
YMP Mirror Lake Pl 78.81 36 P **P 22 16 28.7 +0.2**
PNTR Pine Nut 78.83 45 IAmb IAmb 22 16 32.9
comp=Z,54nm,1.4s
LKWY Lake 78.85 36 P **P 22 16 29.2 +0.5**
LKWY pmax pmax
comp=Z,16nm,1.1s
LKWY Lake 78.85 36 P **P 22 16 29.2 +0.5**
RLMT Red Lodge 78.88 35 P **P 22 16 28.9 +0.1**
baz=324,SNR=21
RLMT Red Lodge 78.88 35 P **P 22 16 28.8 0.0**
RLMT IAmb IAmb 22 16 32.3
comp=Z,51nm,1.2s
H17A Grant Village 78.91 37 P **P 22 16 29.6 +0.6**
baz=324,SNR=18
H17A Grant Village 78.91 37 P **P 22 16 30.3 +1.3**
YPP Pitchstone Pla 78.92 37 P **P 22 16 29.4 +0.3**
YERR Yerington 79.09 45 IAmb IAmb 22 16 34.2
comp=Z,65nm,1.3s
MSVF Nonsavu 79.09 128 P **P 22 16 30.6 +0.7**
MSVF pmax pmax
comp=Z,23nm,1.3s
MSVF Nonsavu 79.09 128 P **P 22 16 30.6 +0.7**
FLWY Flagg Ranch 79.11 37 P **P 22 16 30.3 +0.3**
FLWY IAmb IAmb 22 16 34.6
comp=Z,44nm,1.3s
ULM Lac du Bonnet 79.31 25 P **P 22 16 28.8 -1.9**
comp=Z,28nm,1.1s,baz=355,slow=5.0,SNR=12
ULM LR LR 22 55 26.2
comp=Z,958nm,18.6s,baz=337,slow=39
ULM Lac du Bonnet 79.31 25 IAmb IAmb 22 16 32.4
comp=Z,50nm,1.2s
MOOW Moose Ponds 79.36 37 IAmb IAmb 22 16 35.5
comp=Z,38nm,1.2s
SNOW Snow King Moun 79.59 37 P **P 22 16 34.0 +1.3**
KVN Kaiserville 79.62 44 IAmb IAmb 22 16 37.1
comp=Z,51nm,1.2s
SAO San Andreas Ge 79.62 48 P **P 22 16 33.1 +0.4**
SAO pmax pmax
comp=Z,23nm,1.1s
SAO San Andreas Ge 79.62 48 P **P 22 16 33.1 +0.4**
RYN Ryan 79.73 45 P **P 22 16 33.1 -0.3**
RYN IAmb IAmb 22 16 37.8
comp=Z,45nm,1.2s
NVAR Mina Array Bea 79.99 45 P **P 22 16 35.4 +0.5**
comp=Z,28nm,1.1s,baz=291,slow=3.4,SNR=33
NVAR LR LR 22 52 08.7
comp=Z,469nm,19.7s,baz=303,slow=36
NVAR Mina Array Bea 79.99 45 P **P 22 16 34.8 -0.1**
HVU Hansel Valley 80.03 40 P **P 22 16 35.8 +0.7**
HVU pmax pmax
comp=Z,22nm,1.2s
HVU Hansel Valley 80.03 40 P **P 22 16 35.8 +0.7**
MDND Maddock 80.22 28 P **P 22 16 35.1 -0.6**
baz=330
MDND Maddock 80.22 28 P **P 22 16 35.8 +0.1**
MDND IAmb IAmb 22 16 54.4
comp=Z,31nm,0.9s
OMMB Old Mammoth Mi 80.26 46 P **P 22 16 37.6 +1.1**
MLAC Mammoth, Mammo 80.33 46 P **P 22 16 37.2 +0.4**
baz=320
SCHQ Schefferville 80.49 6 P **P 22 16 38.2 +1.1**
comp=Z,26nm,1.1s,baz=21,slow=6.8,SNR=6.6
SCHQ Schefferville 80.49 6 P **P 22 16 36.9 -0.1**
SCHQ IAmb IAmb 22 16 39.7
comp=Z,64nm,1.3s
BGU Big Grassy Mou 80.60 40 P **P 22 16 38.5 +0.4**
FURI Furi 80.60 273 P **P 22 16 39.6 +1.0**
FURI IAmb IAmb 22 16 42.7
comp=Z,99nm,1.4s
KEST Kesra 80.61 312 P **P 22 16 37.8 -0.4**
comp=Z,14nm,1.0s,baz=318,slow=4.4,SNR=4.9
KEST Kesra 80.61 312 IAmb IAmb 22 16 45.6
comp=Z,44nm,1.3s
BW06 Boulder Array 80.67 37 P **P 22 16 38.2 -0.3**
baz=324
BW06 Boulder Array 80.67 37 P **P 22 16 38.6 +0.1**
PD31 Pinedale Array 80.67 37 P **P 22 16 38.9 +0.4**
PDAR Pinedale Array 80.67 37 P **P 22 16 38.9 +0.4**
comp=Z,8.5nm,1.1s,baz=318,slow=1.2,SNR=14
PDAR LR LR 22 54 02.3
comp=Z,405nm,18.0s,baz=346,slow=37
PDAR Pinedale Array 80.67 37 P **P 22 16 38.6 +0.1**
PAGB Antelope Grade 81.03 48 P **P 22 16 40.8 +0.5**
PAGB IAmb IAmb 22 16 44.6
comp=Z,39nm,1.2s
AGMN Agassiz Nation 81.04 26 P **P 22 16 39.5 -0.6**
baz=332,SNR=12
AGMN Agassiz Nation 81.04 26 IAmb IAmb 22 16 42.1
comp=Z,69nm,1.2s
TIN Tinemaha, Big 81.08 46 P **P 22 16 41.0 +0.3**
baz=320
TCUT Toone Canyon 81.18 39 P **P 22 16 41.1 -0.2**
DUG Dugway, Tooele 81.28 41 P **P 22 16 42.2 +0.5**
baz=323,SNR=11
CTU Camp Tracy 81.37 40 P **P 22 16 42.2 0.0**
R11A Troy Canyon, C 81.41 43 P **P 22 16 42.5 0.0**
baz=322,SNR=18
R11A Troy Canyon, C 81.41 43 P **P 22 16 42.7 +0.2**
SMMC Simmler 81.49 48 P **P 22 16 42.8 +0.1**
baz=320,SNR=5.3
VES Vestal, Richgr 81.57 47 P **P 22 16 42.7 -0.4**
baz=320
JLU Jordanelle 81.58 39 P **P 22 16 43.5 0.0**
CWC Cottonwood Cre 81.63 46 P **P 22 16 43.4 -0.2**
baz=320
RSSD Black Hills 81.80 33 P **P 22 16 44.0 -0.5**
baz=328
NLU North Lily Min 81.81 40 P **P 22 16 45.2 +0.6**
PKM Mcpherson Peak 81.91 48 P **P 22 16 45.1 -0.1**
baz=320,SNR=6.1
MPU Maple Canyon 81.96 40 P **P 22 16 46.0 +0.6**
DAC Darwin (Calif) 82.00 46 P **P 22 16 46.4 +0.7**
DAC pmax pmax
comp=Z,22nm,1.2s
DAC Darwin (Calif) 82.00 46 P **P 22 16 46.4 +0.7**
ISA Isabella, Lake 82.02 47 P **P 22 16 45.9 +0.2**
baz=320
ISA Isabella, Lake 82.02 47 P **P 22 16 45.4 -0.2**
ISA pmax pmax
comp=Z,14nm,1.3s
ISA Isabella, Lake 82.02 47 P **P 22 16 45.4 -0.2**
K22A Casper 82.04 35 P **P 22 16 45.3 -0.4**
baz=326
TPNV Topopah Spring 82.17 45 P **P 22 16 46.7 +0.2**
baz=321
TPNV Topopah Spring 82.17 45 P **P 22 16 47.4 +0.9**
TPNV pmax pmax
comp=Z,17nm,1.1s
TPNV Topopah Spring 82.17 45 P **P 22 16 47.4 +0.9**
MPMC Manual Prospec 82.23 46 P **P 22 16 46.0 -0.8**
baz=321,SNR=6.2
FURC Furnace Creek, 82.23 45 P **P 22 16 47.0 +0.5**
baz=321
ARVC Arvin 82.25 47 P **P 22 16 46.6 -0.1**
baz=320
SBC Santa Barbara 82.30 48 P **P 22 16 46.6 -0.4**
baz=320
EYMN Ely 82.65 23 P **P 22 16 47.7 -0.9**
baz=335,SNR=6.6
SCZ2 Santa Cruz Isl 82.68 49 P **P 22 16 48.8 -0.2**
baz=320
OSI Osito Audit: C 82.69 48 P **P 22 16 48.8 -0.3**
baz=320
TMUT Trail Mountain 82.74 40 P **P 22 16 50.1 +0.5**
EDW2 Edwards Air Fo 82.87 47 P **P 22 16 49.5 -0.5**
baz=321,SNR=7.0
SHPR Sheep Range 83.06 44 IAmb IAmb 22 16 55.7
comp=Z,25nm,1.1s
GSC Goldstone, Bar 83.16 46 P **P 22 16 51.8 +0.2**
baz=321,SNR=6.0
MWC Mount Wilson 83.34 48 P **P 22 16 54.2 +1.5**
MWC pmax pmax
comp=Z,25nm,1.1s
MWC Mount Wilson 83.34 48 P **P 22 16 54.2 +1.5**
MWC IAmb IAmb 22 16 56.5
comp=Z,25nm,1.1s
PBRG Braganca 83.38 325 *e*P **P 22 16 52.5 -0.1**
comp=Z,34nm,1.3s
O20A White River Ci 83.38 38 P **P 22 16 52.5 -0.3**
baz=325
SUSD Miller 83.40 30 P **P 22 16 52.2 -0.4**
baz=331
BFSC Mount Baldy Ra 83.54 47 P **P 22 16 54.1 +0.5**
baz=321,SNR=5.3
PHWY Pilot Hill 83.60 35 IAmb IAmb 22 16 57.2
comp=Z,25nm,1.1s
FMP Fort Macarthur 83.61 48 P **P 22 16 53.6 -0.2**
baz=320
N23A Red Feather La 83.74 36 P **P 22 16 54.3 -0.4**
baz=327,SNR=13
N23A Red Feather La 83.74 36 IAmb IAmb 22 16 58.3
comp=Z,45nm,1.2s
HEC Hector,Ludlow 83.77 46 P **P 22 16 54.2 -0.5**
baz=321,SNR=14
CIS Catalina Islan 83.79 48 P **P 22 16 54.0 -0.7**
baz=320
KNB Kanab 83.80 42 P **P 22 16 56.0 +1.0**
KNB pmax pmax
comp=Z,64nm,1.2s
KNB Kanab 83.80 42 P **P 22 16 56.0 +1.0**
E38A The Farm, Brul 83.85 24 P **P 22 16 54.1 -0.7**
baz=335
PCAB Cabril 83.98 326 *e*P **P 22 16 56.9 +1.3**
ESBB Sonseca Array 83.98 322 P **P 22 16 55.8 +0.1**
ESBB IAmb IAmb 22 16 59.0
comp=Z,36nm,1.3s
ESDC Sonseca Array 83.98 322 P **P 22 16 55.7 0.0**
comp=Z,13nm,1.1s,baz=38,slow=4.6,SNR=22
ESDC LR LR 22 58 48.7
comp=Z,614nm,18.3s,baz=25,slow=39
ESDC Sonseca Array 83.98 322 P **P 22 16 55.0 -0.7**
MVO Moncorvo 84.04 325 *e*P **P 22 16 55.9 -0.1**
comp=Z,53nm,1.4s
MATQ Matagami 84.11 14 P **P 22 16 55.5 -0.6**
baz=345,SNR=6.5
GMRC Granite Mounta 84.15 46 P **P 22 16 56.4 -0.3**
baz=322,SNR=12
POLO Lamas de Olo 84.17 326 *e*P **P 22 16 56.7 0.0**
comp=Z,24nm,1.2s
PVRL Vila Real 84.22 326 *e*P **P 22 16 58.6 +1.7**
comp=Z,48nm,1.4s
PAB San Pablo 84.26 323 P **P 22 16 57.6 +0.5**
PAB pmax pmax
comp=Z,24nm,1.3s
PAB San Pablo 84.26 323 P **P 22 16 57.6 +0.5**
D41A Chassel 84.26 22 P **P 22 16 56.1 -0.8**
baz=337
MURC Murrieta 84.28 47 P **P 22 16 57.1 -0.2**
baz=321
CART Cartagena 84.35 319 P **P 22 16 58.1 +0.6**
PV14 Lion Creek, Pa 84.48 39 P **P 22 16 59.4 +0.9**
CHGQ Chibougamau 84.48 12 P **P 22 16 56.9 -1.1**
baz=347,SNR=7.2
PV20 West Nyswonger 84.53 39 P **P 22 16 60.0 +1.3**
PV20 IAmb IAmb 22 17 02.3
comp=Z,48nm,1.2s
PV16 Nyswonger Mesa 84.58 39 P **P 22 16 59.8 +0.9**
PV16 IAmb IAmb 22 17 02.6
comp=Z,34nm,1.3s
PV11 David Mesa, Pa 84.61 39 P **P 22 16 60.0 +0.9**
PV11 IAmb IAmb 22 17 02.7
comp=Z,44nm,1.2s
PFO Pinyon Flats O 84.66 47 P **P 22 16 59.0 -0.3**
baz=321,SNR=9.9
PFO Pinyon Flats O 84.66 47 P **P 22 16 59.8 +0.5**
PFO pmax pmax
comp=Z,35nm,1.1s
PFO Pinyon Flats O 84.66 47 P **P 22 16 59.8 +0.5**
PFO IAmb IAmb 22 17 03.2
comp=Z,35nm,1.1s
SMCO Snowmass 84.72 37 IAmb IAmb 22 17 03.5
comp=Z,51nm,1.2s
ISCO Idaho Springs 84.79 36 P **P 22 16 60.0 -0.1**
baz=327,SNR=8.3
ISCO Idaho Springs 84.79 36 P **P 22 17 00.8 +0.7**
ISCO pmax pmax
comp=Z,12nm,1.1s
ISCO Idaho Springs 84.79 36 P **P 22 17 00.8 +0.7**
W13A Hualapai Mount 84.80 44 IAmb IAmb 22 17 04.4
comp=Z,29nm,1.2s
ECSD EROS Data Cent 84.83 28 P **P 22 16 59.0 -0.9**
baz=332,SNR=24
109C Camp Elliot, M 84.88 48 P **P 22 17 00.3 0.0**
baz=321
LSQQ Lebel-sur-Quev 84.90 14 P **P 22 16 58.9 -1.1**
baz=345
IRM Iron Mountain 84.91 46 P **P 22 17 00.9 +0.5**
baz=322,SNR=19
BC3 Big Chuckawall 85.14 46 P **P 22 17 02.0 +0.3**
baz=322,SNR=10
MONP2 Monument Peak 85.24 47 P **P 22 17 02.4 0.0**
baz=322,SNR=6.6
BAR Barrett 85.27 48 P **P 22 17 03.3 +1.0**
BAR IAmb IAmb 22 17 06.1
comp=Z,32nm,1.2s
OGNE Ogallala 85.28 33 P **P 22 17 01.8 -0.5**
baz=329
OGNE Ogallala 85.28 33 P **P 22 17 02.2 0.0**
PDMCI Parker Dam,Lak 85.30 45 P **P 22 17 02.7 +0.3**
baz=322,SNR=6.7
E43A Lone Tree Farm 85.31 21 P **P 22 17 01.4 -0.7**
baz=338
E43A Lone Tree Farm 85.31 21 P **P 22 17 02.0 -0.2**
E43A IAmb IAmb 22 17 03.5
comp=Z,50nm,1.1s
PCBR Castelo Branco 85.34 325 *e*P **P 22 17 03.2 +0.8**
comp=Z,43nm,1.5s
COI Coimbra 85.41 326 P **P 22 17 02.2 -0.6**
COI pmax pmax
comp=Z,55nm,1.3s
COI Coimbra 85.41 326 P **P 22 17 02.2 -0.6**
COI IAmb IAmb 22 17 05.8
comp=Z,55nm,1.2s
G40A Rib Lake 85.46 24 P **P 22 17 01.9 -1.1**
baz=336,SNR=15
Y12C Blythe 85.55 46 P **P 22 17 04.0 +0.4**
baz=322,SNR=12
Y12C Blythe 85.55 46 IAmb IAmb 22 17 07.9
comp=Z,44nm,1.2s
D46A Sault St. Mari 85.55 19 P **P 22 17 01.9 -1.4**
baz=340
F42A Maple Grove Fa 85.58 22 P **P 22 17 02.7 -0.8**
baz=338
IKP In-Ko-Pah, Jac 85.59 47 P **P 22 17 04.5 +0.5**
baz=322,SNR=7.9
D47A Chapleau 85.61 18 P **P 22 17 02.5 -1.1**
baz=341
PMRV Marv??o 85.65 324 *e*P **P 22 17 04.5 +0.5**
comp=Z,53nm,1.7s
MVCO Mesa Verde 85.67 40 P **P 22 17 04.2 -0.2**
baz=325,SNR=22
MVCO Mesa Verde 85.67 40 IAmb IAmb 22 17 08.2
comp=Z,53nm,1.1s
Q24A Divide 85.69 36 P **P 22 17 04.1 -0.5**
baz=327
Q24A Divide 85.69 36 P **P 22 17 05.1 +0.5**
VLDQ Val d'Or 85.73 14 IAmb IAmb 22 17 05.6
comp=Z,44nm,1.1s
D48A Paudash Townsh 85.78 17 P **P 22 17 03.2 -1.4**
baz=342
D49A Beulah Townshi 85.78 17 P **P 22 17 03.2 -1.4**
baz=342
GLA Glamis 85.94 46 P **P 22 17 05.3 -0.3**
baz=322
GLA Glamis 85.94 46 P **P 22 17 06.8 +1.1**
GLA pmax pmax
comp=Z,24nm,1.1s
GLA Glamis 85.94 46 P **P 22 17 06.8 +1.1**
GLA IAmb IAmb 22 17 09.9
comp=Z,24nm,1.1s
S22A 4UR Ranch, Cre 85.97 38 P **P 22 17 05.6 -0.5**
baz=326,SNR=13
E46A Sault Ste Mari 85.98 19 P **P 22 17 04.4 -1.1**
baz=340
E46A Sault Ste Mari 85.98 19 P **P 22 17 05.3 -0.2**
E46A IAmb IAmb 22 17 10.6
comp=Z,38nm,1.2s
E47A Iron Bridge 86.14 19 P **P 22 17 05.1 -1.2**
baz=341
Y14A Wickenburg 86.16 44 IAmb IAmb 22 17 11.0
comp=Z,30nm,1.1s
D50A G1974 Best Tow 86.19 16 P **P 22 17 05.5 -1.0**
baz=343,SNR=6.1
PESTR Estremoz 86.20 324 P **P 22 17 06.2 -0.6**
PMTG Montargil 86.30 325 *e*P **P 22 17 08.3 +1.1**
F45A CMU Biological 86.33 20 P **P 22 17 06.0 -1.2**
baz=339
BGNE Belgrade 86.34 30 P **P 22 17 07.0 -0.4**
baz=331
D51A Lot 18 Range I 86.36 16 P **P 22 17 05.9 -1.5**
baz=343,SNR=6.6
E48A Lockeyer 86.36 18 P **P 22 17 06.3 -1.1**
baz=342
X16A Lo Mia Camp, P 86.55 43 IAmb IAmb 22 17 13.5
comp=Z,35nm,1.1s
SDCO Great Sand Dun 86.56 37 P **P 22 17 08.1 -0.8**
baz=327,SNR=8.7
SDCO Great Sand Dun 86.56 37 P **P 22 17 09.8 +0.9**
KSCO Kaye Shedlock' 86.69 35 P **P 22 17 08.4 -1.0**
baz=329,SNR=7.7
D54A Lac Fusel, La 86.80 14 P **P 22 17 08.9 -0.6**
baz=345,SNR=5.6
W18A Petrified Fore 86.81 42 P **P 22 17 10.7 +0.6**
baz=325,SNR=5.8
W18A Petrified Fore 86.81 42 P **P 22 17 11.1 +1.1**
G46A Petoskey 86.83 20 P **P 22 17 08.2 -1.5**
baz=340
E51A G1948 Merrick 86.87 16 P **P 22 17 08.4 -1.5**
baz=343,SNR=7.0
H43A Windswept, Lux 86.87 22 P **P 22 17 08.5 -1.4**
baz=338
F48A Evansville 86.88 18 P **P 22 17 08.8 -1.1**
baz=341
G45A Suttons Bay 86.89 21 P **P 22 17 08.9 -1.1**
baz=339
F49A Sandfield 87.07 18 P **P 22 17 10.2 -0.7**
baz=342
I42A Draeger Farm, 87.09 23 P **P 22 17 09.6 -1.4**
baz=337
I42A Draeger Farm, 87.09 23 IAmb IAmb 22 17 13.6
comp=Z,46nm,1.1s
D55A Sainte-Anne-du 87.13 13 P **P 22 17 10.0 -1.2**
baz=346,SNR=10
LATQ La Tuque 87.18 11 P **P 22 17 10.1 -1.3**
baz=348
G47A Hillman 87.21 19 P **P 22 17 10.1 -1.4**
baz=340
D56A ZEC Mazanza, M 87.21 13 P **P 22 17 11.1 -0.5**
baz=347,SNR=5.8
E52A Mattawa 87.27 16 P **P 22 17 10.5 -1.4**
baz=344
GLMI Grayling 87.35 20 P **P 22 17 10.5 -1.8**
baz=340
F51A Arnstein 87.36 17 P **P 22 17 10.4 -1.9**
baz=343
D57A Chemin Vers le 87.38 12 P **P 22 17 11.1 -1.3**
baz=347,SNR=8.6
D58A Chemin du LacG 87.45 12 P **P 22 17 11.5 -1.2**
baz=348
H46A Fife Lake 87.47 21 P **P 22 17 11.7 -1.2**
baz=340
T25A Trinidad 87.53 37 P **P 22 17 12.3 -1.3**
baz=328,SNR=6.6
T25A Trinidad 87.53 37 IAmb IAmb 22 17 16.7
comp=Z,36nm,1.3s
E55A Montcerf-Lytto 87.58 14 P **P 22 17 12.0 -1.3**
baz=346
SCIA State Center 87.59 27 P **P 22 17 12.2 -1.2**
baz=334
JFWS Jewell Farm 87.60 25 P **P 22 17 12.1 -1.4**
baz=336,SNR=8.0
F52A Sundridge 87.61 16 P **P 22 17 12.0 -1.5**
baz=344
E56A St. Veronique 87.66 13 P **P 22 17 12.4 -1.3**
baz=346,SNR=8.4
H47A Mio 87.67 20 P **P 22 17 13.0 -0.8**
baz=340
I45A Fountain 87.68 21 P **P 22 17 13.4 -0.5**
baz=339
ALGO Algonquin Park 87.70 15 P **P 22 17 12.4 -1.5**
baz=344,SNR=6.6
H48A Harrisville 87.78 19 P **P 22 17 13.3 -1.0**
baz=341
214A Organ Pipe Nat 87.84 45 P **P 22 17 15.4 +0.4**
baz=323
D60A Saint Jean D'O 87.89 10 P **P 22 17 13.8 -0.9**
baz=349
E57A Chemin Saint G 87.93 13 P **P 22 17 13.8 -1.2**
baz=347,SNR=5.4
D62A Allapoint, All 87.95 9 P **P 22 17 14.3 -0.7**
baz=351
D62A Allapoint, All 87.95 9 IAmb IAmb 22 17 17.9
comp=Z,41nm,1.2s
I46A Reed City 87.97 21 P **P 22 17 14.3 -1.0**
baz=339
CBKS Cedar Bluff 88.01 33 P **P 22 17 14.8 -0.8**
baz=330
CBKS Cedar Bluff 88.01 33 IAmb IAmb 22 17 18.5
comp=Z,21nm,0.9s
L40A Anamosa 88.08 26 P **P 22 17 14.8 -1.0**
baz=336,SNR=14
D63A Stockholm 88.10 8 P **P 22 17 15.1 -0.7**
baz=351
E58A La Victoria 88.10 12 P **P 22 17 14.4 -1.4**
baz=348,SNR=6.2
F55A Otter Lake 88.13 14 P **P 22 17 14.7 -1.3**
baz=346
G54A Lake Saint Pet 88.23 15 P **P 22 17 15.5 -1.0**
baz=344
K43A Burlington 88.35 23 P **P 22 17 16.3 -0.7**
baz=338
K43A Burlington 88.35 23 P **P 22 17 16.8 -0.3**
E62A Clayton Lake 88.35 9 P **P 22 17 16.4 -0.7**
baz=350
E62A Clayton Lake 88.35 9 P **P 22 17 17.5 +0.5**
E62A IAmb IAmb 22 17 19.4
comp=Z,26nm,1.2s
E60A Ste Agathe de 88.36 11 P **P 22 17 15.8 -1.2**
baz=349
G53A Haliburton 88.39 16 P **P 22 17 16.5 -0.7**
baz=344,SNR=7.2
ANMO Albuquerque 88.47 39 *ce*P **P 22 17 19.8 +1.8**
ANMO pmax pmax
comp=Z,33nm,1.3s
ANMO Albuquerque 88.47 39 P **P 22 17 19.5 +1.4**
ANMO IAmb IAmb 22 17 22.4
comp=Z,31nm,1.1s
PQI Presque Isle 88.47 8 IAmb IAmb 22 17 20.1
comp=Z,46nm,1.4s
KMBO Kilima Mbogo 88.57 267 *i*P **P 22 17 19.2 +0.4**
SNR=9.4
KMBO Kilima Mbogo 88.57 267 P **P 22 17 20.2 +1.4**
SNR=5.5
KMBO Kilima Mbogo 88.57 267 *ce*P **P 22 17 20.0 +1.2**

KMBO pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 88.57 267 P P 22 17 19.0 +0.2
comp=Z,9.0nm,1.2s,baz=21,slow=6.8,SNR=9.4
KMBO LR LR 23 01 17.4
comp=Z,420nm,18.1s,baz=50,slow=39
KMBO Kilima Mbogo 88.57 267 P P 22 17 18.9 +0.2
G55A Calabogie 88.62 15 P P 22 17 17.0 -1.3
baz=345
SADO Sadowa 88.63 16 LR LR 22 59 38.5
comp=Z,235nm,21.1s,baz=360,slow=37
SADO Sadowa 88.63 16 P P 22 17 18.6 +0.2
SADO IAmb IAmb 22 17 20.0
comp=Z,21nm,1.1s
E63A Oxbow 88.67 9 P P 22 17 18.1 -0.4
baz=351,SNR=5.4
F59A Saint Guilaume 88.68 12 P P 22 17 17.7 -0.8
baz=348
F60A Warwick 88.69 11 P P 22 17 17.6 -1.0
baz=349
E64A Bridgewater 88.74 8 P P 22 17 17.6 -1.2
baz=352
PLVO Plevna 88.77 15 P P 22 17 19.1 +0.1
PLVO IAmb IAmb 22 17 21.6
comp=Z,26nm,1.2s
J47A Sunmer 88.79 21 P P 22 17 20.0 +0.9
F61A St Evariste 88.81 10 P P 22 17 18.6 -0.5
baz=349,SNR=6.2
LENM Lemitar 88.88 40 P P 22 17 20.4 +0.4
H53A Bobcaygeon 88.93 16 P P 22 17 19.2 -0.6
baz=344
L44A Lake County Fo 88.95 23 P P 22 17 19.3 -0.6
baz=338
J48A Bridge Port 88.99 20 P P 22 17 19.3 -0.8
baz=340
F62A Pittston Farm, 89.01 10 P P 22 17 19.5 -0.7
baz=350
F62A Pittston Farm, 89.01 10 P P 22 17 21.0 +0.9
F62A IAmb IAmb 22 17 22.8
comp=Z,30nm,1.1s
BNM Barren Site 89.05 40 P P 22 17 22.1 +1.2
K46A Dorr 89.06 22 P P 22 17 19.8 -0.6
baz=339
G57A Newington 89.07 13 P P 22 17 19.6 -0.8
baz=346,SNR=12
J49A Marlette 89.09 20 P P 22 17 19.6 -0.9
baz=341
I51A Listowel 89.16 18 P P 22 17 19.7 -1.2
baz=342
DELO Deloro Mine 89.17 15 P P 22 17 21.3 +0.4
DELO IAmb IAmb 22 17 23.1
comp=Z,40nm,1.3s
G58A Ormstown 89.17 13 P P 22 17 20.4 -0.5
baz=347,SNR=6.7
H55A Tweed 89.22 15 P P 22 17 20.3 -0.8
baz=345
F64A Sherman 89.23 9 P P 22 17 19.9 -1.2
baz=351
F64A Sherman 89.23 9 IAmb IAmb 22 17 23.9
comp=Z,39nm,1.2s
K47A Vermontville 89.28 21 P P 22 17 21.0 -0.4
baz=340
F63A Nahmakanta, Br 89.31 9 P P 22 17 20.8 -0.7
baz=351
H56A Elgin 89.34 14 P P 22 17 21.1 -0.6
baz=346
G61A St-Isidore-de- 89.42 11 P P 22 17 21.5 -0.5
baz=349,SNR=6.4
I55A Frankford 89.45 16 P P 22 17 21.4 -0.8
baz=345
G60A Masonville 89.48 12 P P 22 17 21.4 -1.0
baz=348
LONY Lake Ozonia 89.61 13 P P 22 17 22.2 -0.8
baz=347
G62A West of Eustis 89.61 10 P P 22 17 22.2 -0.8
baz=350
H57A Richville 89.62 14 P P 22 17 22.5 -0.5
baz=346
PKME Peaks-Kenny Pk 89.72 9 P P 22 17 22.3 -1.1
baz=350
H59A Cadyville 89.72 13 P P 22 17 23.0 -0.5
baz=347,SNR=6.8
G64A Maxfield 89.79 9 P P 22 17 22.5 -1.2
baz=351
G63A Kingsbury 89.83 10 P P 22 17 22.8 -1.1
baz=350
121A Cookes Peak, D 89.85 42 P P 22 17 26.1 +1.6
H58A Gabriels 89.87 13 P P 22 17 23.6 -0.6
baz=347,SNR=11
MDT Midelt 89.94 319 P P 22 17 24.5 -0.4
comp=Z,13nm,1.1s,baz=114,slow=4.4,SNR=3.8
H60A Morristown 89.96 12 P P 22 17 23.8 -0.8
baz=348
G65A Princeton 89.97 8 P P 22 17 23.9 -0.6
baz=352
HDIL Hopedale 90.05 25 P P 22 17 24.4 -0.6
baz=337
K51A Iona Station 90.08 19 P P 22 17 24.7 -0.5
baz=342
I57A Carthage 90.09 14 P P 22 17 24.0 -1.2
baz=346
H61A Lyndonville 90.09 11 P P 22 17 24.0 -1.3
baz=349,SNR=5.5
L48A N Adams 90.11 21 P P 22 17 24.6 -0.7
baz=340
L49A Milan 90.12 20 P P 22 17 24.8 -0.5
baz=340
H62A Milan 90.16 11 P P 22 17 24.4 -1.1
baz=349
H62A Milan 90.16 11 P P 22 17 26.4 +0.8
H62A IAmb IAmb 22 17 28.3
comp=Z,33nm,1.1s
J54A Appleton 90.17 16 P P 22 17 24.6 -0.9
baz=344
K52A Tillsonburg 90.20 18 P P 22 17 25.0 -0.7
baz=343
H63A New Sharon 90.22 10 P P 22 17 25.5 -0.3
baz=350
NCB Newcomb 90.30 13 IAmb IAmb 22 17 28.9
comp=Z,40nm,1.3s
H64A Troy 90.34 10 P P 22 17 26.1 -0.2
baz=350
M47A Cromwell 90.34 22 P P 22 17 26.1 -0.3
baz=339
LBNH Lisbon 90.38 11 P P 22 17 26.1 -0.4
baz=349
H65A Eastbrook 90.40 9 P P 22 17 25.9 -0.7
baz=351
I58A Old Forge 90.44 14 P P 22 17 26.2 -0.7
baz=346
M48A Edgerton 90.46 21 P P 22 17 26.8 -0.2
baz=340
M48A Edgerton 90.46 21 P P 22 17 27.5 +0.5
J56A Wolcott 90.51 15 P P 22 17 26.9 -0.2
baz=345
J56A Wolcott 90.51 15 P P 22 17 27.0 -0.2
J56A IAmb IAmb 22 17 29.3
comp=Z,34nm,1.1s
I59A Olmsteadville 90.52 13 P P 22 17 26.8 -0.4
baz=347
J57A Williamstown 90.54 15 P P 22 17 26.8 -0.5
baz=346
J57A Williamstown 90.54 15 IAmb IAmb 22 17 29.7
comp=Z,34nm,1.1s
I60A Shoreham 90.57 13 P P 22 17 26.6 -0.8
baz=348,SNR=6.1
AMTX Amarillo 90.61 36 P P 22 17 28.4 +0.4
baz=329
AMTX Amarillo 90.61 36 IAmb IAmb 22 17 31.4
comp=Z,27nm,1.1s
I61A Oroboro, Fairl 90.64 12 P P 22 17 26.7 -1.1
baz=348
M49A Liberty Center 90.66 21 P P 22 17 27.5 -0.4
baz=340
O44A Mansfield 90.66 24 P P 22 17 28.8 +0.9
J58A Remsen 90.71 14 P P 22 17 27.7 -0.4
baz=346
J58A Remsen 90.71 14 P P 22 17 27.5 -0.6
J58A IAmb IAmb 22 17 30.5
comp=Z,19nm,1.1s
J59A Piesco 90.74 13 P P 22 17 27.4 -0.9
baz=347
J59A Piesco 90.74 13 P P 22 17 28.5 +0.2
J59A IAmb IAmb 22 17 30.9
comp=Z,27nm,1.2s
I63A Otisfield 90.75 11 P P 22 17 28.0 -0.3
baz=350
I63A Otisfield 90.75 11 IAmb IAmb 22 17 31.5
comp=Z,42nm,1.1s
N47A Urbana 90.77 22 P P 22 17 27.9 -0.5
baz=339
N47A Urbana 90.77 22 P P 22 17 28.5 +0.1
K54A Basiliko Farm, 90.79 17 P P 22 17 27.8 -0.8
baz=344
K55A Perry 90.80 16 P P 22 17 27.9 -0.6
baz=344,SNR=5.6
P43A Skaggs, Pawnee 90.82 25 P P 22 17 29.0 +0.3
I62A Tamworth 90.82 11 P P 22 17 28.3 -0.3
baz=349
I62A Tamworth 90.82 11 P P 22 17 29.6 +1.0
I62A IAmb IAmb 22 17 31.8
comp=Z,35nm,1.2s
SFIN Lafayette 90.85 23 P P 22 17 28.0 -0.7
baz=338
MSTX Muleshoe 90.92 37 P P 22 17 29.4 0.0
baz=329
ACCN Adirondack Com 90.96 13 P P 22 17 30.1 +0.9
ACCN IAmb IAmb 22 17 32.0
comp=Z,46nm,1.2s
M50A Fremont 90.96 20 P P 22 17 28.6 -0.7
baz=341
N48A Decatur 90.97 22 P P 22 17 28.5 -0.9
baz=340
K56A Middlesex 90.98 16 P P 22 17 28.7 -0.7
baz=345
WVNY West Valley, N 91.00 17 P P 22 17 29.6 +0.1
WVNY IAmb IAmb 22 17 30.7
comp=Z,48nm,1.3s
K57A Scipio Center 91.10 15 P P 22 17 29.5 -0.4
baz=345
N49A Columbus Grove 91.13 21 P P 22 17 29.6 -0.4
baz=340
J60A Lant Hill Farm 91.13 13 P P 22 17 28.8 -1.2
baz=348
J61A Chester 91.17 12 P P 22 17 30.1 -0.1
baz=348
K58A Earlville 91.23 14 P P 22 17 29.8 -0.8
baz=346
K58A Earlville 91.23 14 IAmb IAmb 22 17 32.6
comp=Z,24nm,1.1s
M52A Chesterland 91.23 19 P P 22 17 32.2 +1.6
M51A Elyria 91.24 20 P P 22 17 30.2 -0.3
baz=342
L55A Hinsdale 91.25 17 P P 22 17 29.9 -0.8
baz=344
K59A Cooperstown 91.35 14 P P 22 17 30.6 -0.6
baz=347,SNR=5.5
J62A Henniker 91.39 12 P P 22 17 30.9 -0.3
baz=349
L56A Greenwood 91.47 16 P P 22 17 30.7 -1.0
baz=345
L56A Greenwood 91.47 16 P P 22 17 32.2 +0.5
L56A IAmb IAmb 22 17 33.9
comp=Z,23nm,1.1s
M53A W1 Miller and 91.48 18 P P 22 17 31.0 -0.7
baz=343
P46A Rosedale 91.52 24 P P 22 17 31.3 -0.6
baz=338
N50A Nevada 91.53 20 P P 22 17 31.3 -0.7
baz=341
N51A Ashland 91.58 20 P P 22 17 31.3 -0.9
baz=341
N51A Ashland 91.58 20 P P 22 17 32.9 +0.7
M54A Oil Creek Stat 91.64 18 P P 22 17 31.5 -1.0
baz=343
K60A Five Rivers En 91.67 13 P P 22 17 31.5 -1.1
baz=347
MNTX Cornudas Mount 91.67 40 P P 22 17 32.9 +0.1
baz=327,SNR=5.5
BINY Binghamton 91.71 15 P P 22 17 31.6 -1.2
baz=346
BINY Binghamton 91.71 15 IAmb IAmb 22 17 35.2
comp=Z,30nm,1.2s
CCM Cathedral Cave 91.72 27 P P 22 17 32.4 -0.5
baz=336
CCM Cathedral Cave 91.72 27 P P 22 17 32.8 -0.1
CCM pmax pmax
comp=Z,28nm,1.2s
CCM Cathedral Cave 91.72 27 P P 22 17 32.8 -0.1
CCM IAmb IAmb 22 17 35.4
comp=Z,28nm,1.2s
K61A Williamstown 91.72 13 P P 22 17 31.6 -1.3
baz=348
L57A Andrews Acres 91.74 16 P P 22 17 31.8 -1.1
baz=345
O49A Covington 91.78 21 P P 22 17 32.7 -0.5
baz=340
O49A Covington 91.78 21 P P 22 17 33.2 +0.1
O49A IAmb IAmb 22 17 35.7
comp=Z,32nm,1.1s
N52A McGinn's Farm, 91.85 19 P P 22 17 32.8 -0.6
baz=342
M55A Ridgway 91.87 17 P P 22 17 32.9 -0.7
baz=344
M55A Ridgway 91.87 17 IAmb IAmb 22 17 36.6
comp=Z,33nm,1.4s
K62A Royalston 91.88 12 P P 22 17 32.9 -0.7
baz=348
L58A Harry Jones Me 91.89 15 P P 22 17 32.9 -0.7
baz=346
L59A Walton 91.89 14 P P 22 17 32.7 -0.9
baz=346,SNR=6.4
WMOK Wichita Mounta 91.93 34 P P 22 17 33.4 -0.6
baz=331,SNR=9.1
WMOK Wichita Mounta 91.93 34 IAmb IAmb 22 17 37.4
comp=Z,24nm,1.2s
K63A Dunstable 91.96 12 P P 22 17 33.2 -0.7
baz=349
M56A Emporium 91.98 17 P P 22 17 33.6 -0.4
baz=344
M56A Emporium 91.98 17 P P 22 17 34.1 +0.1
M56A IAmb IAmb 22 17 36.9
comp=Z,45nm,1.4s
O50A Cable 92.00 21 P P 22 17 33.7 -0.5
baz=341
L61B Northampton 92.02 12 P P 22 17 33.4 -0.8
baz=348
N53A Lisbon 92.05 19 P P 22 17 33.4 -1.0
baz=342,SNR=6.9
TUL1 Leonard 92.05 31 P P 22 17 34.1 -0.3
baz=333
TUL1 Leonard 92.05 31 P P 22 17 36.3 +1.8
TUL1 IAmb IAmb 22 17 37.8
comp=Z,42nm,1.4s
ACSO Alum Creek Sta 92.08 20 P P 22 17 33.6 -0.9
baz=341
ACSO Alum Creek Sta 92.08 20 IAmb IAmb 22 17 37.0
comp=Z,32nm,1.1s
N54A Moraine State 92.09 18 P P 22 17 33.4 -1.2
baz=343
HRV Adam Dziewonsk 92.14 12 P P 22 17 33.7 -1.0
baz=349
L61A Hillsdale 1, H 92.14 13 P P 22 17 33.8 -0.9
baz=348
P48A Milroy 92.17 22 P P 22 17 34.4 -0.6
baz=339,SNR=6.5
MGMO Mountain Grove 92.19 28 IAmb IAmb 22 17 37.8
comp=Z,26nm,1.2s
L60A Shokan 92.23 14 P P 22 17 34.1 -1.0
baz=347
O51A Pataskala 92.26 20 P P 22 17 34.4 -1.0
baz=341
P49A Miami Univ. Ec 92.29 22 P P 22 17 34.5 -1.0
baz=340
M57A Sunshine Farm, 92.33 16 P P 22 17 35.0 -0.7
baz=345,SNR=6.8
HHAR Hobbs 92.40 30 IAmb IAmb 22 17 38.8
comp=Z,16nm,1.2s
M58A Price's Panora 92.42 15 P P 22 17 35.2 -0.9
baz=346
M59A Waymart 92.45 15 P P 22 17 35.1 -1.1
baz=346
P50A Jamestown 92.46 21 P P 22 17 35.5 -0.8
baz=340
O52A Adamsville 92.47 20 P P 22 17 35.2 -1.2
baz=342,SNR=6.5
N55A Marion Center 92.48 17 P P 22 17 34.7 -1.7
baz=344,SNR=5.4
O53A New Philadelph 92.49 19 P P 22 17 35.4 -1.1
baz=342,SNR=5.7
N56A West Decatur 92.50 17 P P 22 17 34.8 -1.7
baz=344
Q48A North Vernon 92.58 23 P P 22 17 36.3 -0.6
baz=339,SNR=6.7
U40A Yellville 92.71 29 P P 22 17 36.8 -0.7
baz=335,SNR=7.8
Q49A Aurora 92.74 22 P P 22 17 37.1 -0.5
baz=340
O54A Avella 92.75 19 P P 22 17 36.5 -1.1
baz=343,SNR=7.3
L63A North Scituate 92.76 12 P P 22 17 37.1 -0.4
baz=349
M60A Port Jervis 92.80 14 P P 22 17 36.8 -1.0
baz=347
N57A Milroy 92.81 16 P P 22 17 37.2 -0.7
baz=345,SNR=5.6
SSPA Standing Stone 92.85 17 P P 22 17 36.7 -1.3
baz=344
P52A Corning 92.86 20 P P 22 17 37.1 -1.1
baz=342
N58A Sunbury 92.89 16 P P 22 17 37.4 -0.9
baz=345
M61A Granite Spring 92.96 13 P P 22 17 37.5 -1.0
baz=347
O55A Ligonier 92.97 18 P P 22 17 37.9 -0.8
baz=344
M62A Hamden 92.97 13 P P 22 17 37.5 -1.1
baz=348
N59A State Game Lan 92.99 15 P P 22 17 37.9 -0.8
baz=346
N59A State Game Lan 92.99 15 P P 22 17 38.7 -0.1
N59A **PcP 22 17 39.5 +0.1**
ODNJ Ogdensburg 93.04 14 P P 22 17 39.2 +0.3
ODNJ IAmb IAmb 22 17 41.2
comp=Z,33nm,1.3s
O56A Blue Knob Stat 93.07 17 P P 22 17 38.4 -0.7
baz=344,SNR=5.1
O56A Blue Knob Stat 93.07 17 IAmb IAmb 22 17 41.6
comp=Z,36nm,1.2s
M64A Tiverton 93.12 11 P P 22 17 37.9 -1.4
baz=349
Q51A Peebles 93.13 21 P P 22 17 38.3 -1.1
baz=341,SNR=5.3
Q51A Peebles 93.13 21 IAmb IAmb 22 17 41.9
comp=Z,34nm,1.1s
Q50A Georgetown 93.14 22 P P 22 17 38.8 -0.6
baz=340
N60A Cedar Hill Far 93.16 15 P P 22 17 39.0 -0.4
baz=346
P53A Whipple 93.18 20 P P 22 17 39.5 -0.1
baz=342
P53A Whipple 93.18 20 P P 22 17 40.0 +0.4
P53A IAmb IAmb 22 17 42.2
comp=Z,28nm,1.1s
PAL Palisades 93.24 14 P P 22 17 39.4 -0.4
baz=347
P54A Burton 93.28 19 P P 22 17 39.5 -0.6
baz=343,SNR=5.5
O57A Amberson 93.31 17 P P 22 17 39.9 -0.3
baz=345
MCWV Mont Chateau 93.37 18 P P 22 17 40.1 -0.4
baz=343
ABTX Abilene, Hawle 93.41 36 P P 22 17 40.9 0.0
baz=330
W39A Magazine 93.43 30 P P 22 17 40.9 +0.1
baz=334
O59A Robesonia 93.50 15 P P 22 17 40.9 -0.2
baz=346
P55A Reedsville 93.52 18 P P 22 17 40.4 -0.8
baz=343,SNR=8.9
O58A Lewisberry 93.54 16 P P 22 17 40.1 -1.1
baz=345
R50A Paris 93.57 22 P P 22 17 41.2 -0.3
baz=340
P56A Dayton Farm, R 93.74 18 P P 22 17 41.5 -0.7
baz=344
Q53A Leroy 93.74 20 P P 22 17 41.7 -0.5
baz=342
S49A Springfield 93.77 23 P P 22 17 42.0 -0.4
baz=340
Q54A Coxs Mills 93.79 19 P P 22 17 42.0 -0.4
baz=342
WHAR Wooly Hollow 93.87 29 P P 22 17 43.2 +0.4
P57A Homestead Farm 93.94 17 P P 22 17 42.8 -0.3
baz=344
Q55A Buckhannon 93.95 19 P P 22 17 42.7 -0.5
baz=343
P58A Pank, Wackersv 94.08 16 P P 22 17 43.4 -0.3
baz=345
MIAR Mount Ida 94.08 30 P P 22 17 43.7 -0.2
baz=334
P60A Greenville 94.09 15 P P 22 17 43.3 -0.4
baz=346
Q56A Snyder Ridge, 94.11 18 P P 22 17 43.2 -0.7
baz=344
S50A Richmond 94.12 22 P P 22 17 43.9 0.0
baz=340
P59A Jarrettsville 94.13 16 P P 22 17 43.5 -0.4
baz=346
R53A Hurricane 94.14 20 P P 22 17 43.7 -0.3
baz=342
Q57A Strasburg 94.28 17 P P 22 17 43.8 -0.9
baz=344
T49A Edmonton 94.34 23 P P 22 17 44.1 -0.8
baz=339,SNR=5.7
X40A Basin Creek Fa 94.40 30 P P 22 17 45.5 +0.2
baz=335
X40A Basin Creek Fa 94.40 30 P P 22 17 46.1 +0.8
TX31 Lajitas Ar. Si 94.45 40 P P 22 17 46.2 +0.5
TX32 Lajitas Array 94.45 40 P P 22 17 47.2 +1.4
TXAR Lajitas Array 94.45 40 P P 22 17 47.0 +1.2
TXAR Lajitas Array 94.45 40 P P 22 17 46.2 +0.5
comp=Z,4.2nm,1.0s,baz=307,slow=2.5,SNR=14
TXAR LR LR 23 04 07.1
comp=Z,240nm,18.2s,baz=0.0,slow=38
TXAR Lajitas Array 94.45 40 P P 22 17 47.0 +1.2
R54A Victor 94.51 20 P P 22 17 45.3 -0.5
baz=342
Q58A Fox Den Farm, 94.53 17 P P 22 17 45.6 -0.2
baz=345
WVT Waverly 94.57 25 P P 22 17 45.6 -0.5
baz=338
WVT Waverly 94.57 25 P P 22 17 47.8 +1.8
WVT pmax pmax
comp=Z,20nm,1.4s
WVT Waverly 94.57 25 P P 22 17 47.8 +1.8
WVT IAmb IAmb 22 17 48.0
comp=Z,20nm,1.4s
T50A Nancy 94.61 23 P P 22 17 46.1 -0.2
baz=340
R55A Marlinton 94.62 19 P P 22 17 45.8 -0.5
baz=343
S54A Dingess, Beckl 94.80 20 P P 22 17 46.6 -0.5
baz=342
Q59A Harwood 94.81 16 P P 22 17 46.6 -0.4
baz=345
U49A Red Boiling Sp 94.82 24 P P 22 17 46.5 -0.7
baz=339
T51A Gray 94.91 22 P P 22 17 47.3 -0.3
baz=340
R57A Stanardsville 94.97 18 P P 22 17 47.0 -0.8
baz=344
T52A Hallie 95.03 21 P P 22 17 48.0 -0.2
baz=341
U50A Jamestown 95.18 23 P P 22 17 48.3 -0.6
baz=340
JCT Junction City 95.20 37 P P 22 17 49.2 +0.1
baz=330
V48A Smith Brothers 95.23 25 P P 22 17 48.5 -0.6
baz=338
T53A Wise 95.27 21 P P 22 17 48.9 -0.4
baz=341
S57A Dark Hollow, R 95.39 18 P P 22 17 50.1 +0.3
baz=344
TZTN Tazewell 95.41 22 P P 22 17 50.2 +0.2
baz=341
R58B Mineral 95.43 17 P P 22 17 49.7 -0.2
baz=344
T54A Tazewell 95.44 20 P P 22 17 49.7 -0.4
baz=342
U51A La Follette 95.44 22 P P 22 17 49.6 -0.5
baz=340
V49A McMinnville 95.48 24 P P 22 17 49.6 -0.6
baz=339
T55A Pulaski 95.58 20 P P 22 17 50.4 -0.3
baz=342
U52A Thorn Hill 95.60 22 P P 22 17 50.9 +0.1
baz=341
V50A Pikevile 95.80 24 P P 22 17 51.2 -0.5
baz=340
V51A Loudon 95.89 23 P P 22 17 52.3 +0.3
baz=340
W49A Belvidere 95.97 25 P P 22 17 52.2 -0.3
baz=339

V52A	Sevierville	96.06	22	P		P	22 17 52.8	-0.1
	baz=340							
TKL	Tuckaleechee C	96.18	23	LR		LR	23 05 42.1	
	comp=Z,395nm,18.1s,baz=338,slow=38							
T58A	Grand View Acr	96.26	18	P		P	22 17 53.4	-0.4
	baz=344							
X48A	Hartselle	96.36	26	P		P	22 17 53.7	-0.5
	baz=338							
W51A	Cleveland	96.38	23	P		P	22 17 54.1	-0.2
	baz=340							
V55A	Taylorsville	96.67	21	P		P	22 17 55.3	-0.4
	baz=342							
U58A	Oxford	96.79	18	P		P	22 17 56.1	0.0
	baz=344							
W53A	Cullowhee	96.81	22	P		P	22 17 56.2	-0.3
	baz=341							
X53A	Estanollee	97.40	23	P		P	22 17 58.9	0.0
	baz=341							
V59A	Middlesex	97.46	18	P		P	22 17 58.7	-0.5
	baz=344							
W56A	Indian Trail	97.51	20	P		P	22 17 58.8	-0.6
	baz=342							
Z50A	Ashland	97.81	25	P		P	22 18 01.1	+0.2
	baz=339							
Z57A	Bowman	99.23	21	P		Pdif	22 18 06.9	-0.2
	baz=342							
PPT	Papeete	99.54	105	LR		LR	22 56 06.1	
	comp=Z,460nm,21.8s,baz=340,slow=31							
TAOE	Nuku Hiva Isla	100.20	92	eLR		LR	22 51 01.9	
	comp=Z,1μm,22.0s							
451A	Vernon	100.32	26	P		Pdif	22 18 11.6	-0.5
	baz=339							
TORD	Torodi Ar. Bea	102.43	303	PP		PP	22 22 23.6	-10
	comp=Z,1.5nm,1.1s,baz=4.7,slow=5.3,SNR=3.5							
TORD				PKKPbc		PKKPbc	22 34 20.9	+0.1
	comp=Z,1.3nm,1.0s,baz=201,slow=3.1,SNR=3.6							
TBI	Tubuai	103.56	109	eLR		LR	22 52 36.8	
	comp=Z,837nm,27.2s							
MAW	Mawson	120.99	203	PKIKP		PKiKP	22 23 17.0	+0.3
MAW	Mawson	120.99	203	PKP		PKPdf	22 23 16.3	-0.3
	comp=Z,8.9nm,0.8s,baz=345,slow=1.3,SNR=11							
MAW	Mawson	120.99	203			PKiKP	22 23 17.0	+0.3
SDV	Santo Domingo	125.10	18	eP		PKPdf	22 23 24.7	-1.8
SDV	Santo Domingo	125.10	18	eP		PKPdf	22 23 24.7	-1.8
SDV	Santo Domingo	125.10	18			PKPdf	22 23 25.4	-1.1
ROSC	El Rosal	128.05	24	PKP		PKPdf	22 23 32.1	-0.3
	comp=Z,7.3nm,0.4s,baz=326,slow=7.3,SNR=6.3							
ROSC	El Rosal	128.05	24	PKPdf		PKiKP	22 23 33.1	+0.1
SYO	Syowa Base	128.94	207	eX		PKPdf	22 23 30.0	-1.7
OTAV	Otavalo	131.03	31	PKIKP		PKPdf	22 23 38.5	+0.4
OTAV	Otavalo	131.03	31	PKPdf		PKPdf	22 23 38.5	+0.4
QSPA	South Pole Qui	134.35	180			PKPpre	22 23 30.2	
QSPA				PKPdf		PKPdf	22 23 42.5	+0.3
NNA	Nana	142.84	35	c iPKIKP		PKiKP	22 24 01.6	-0.8
SNAA	Sanae	143.12	205	PKPdf		PKPab	22 23 53.9	+0.2
SNAA	Sanae	143.12	205	PKIKP		PKPab	22 23 54.0	+0.4
SAML	Samuel	143.91	12	PKIKP		PKPab	22 23 57.8	-0.4
SAML	Samuel	143.91	12	eP		PKPab	22 23 58.2	0.0
SAML	Samuel	143.91	12	eP		PKPab	22 23 58.2	0.0
SAML	Samuel	143.91	12			PKPbc	22 23 57.8	-1.0
VNA2	Neumayer--Watz	144.76	205	PKPdf		PKPab	22 23 58.7	-1.2
	baz=84,slow=3.0							
VNA1	Neumayer--Stat	145.13	205	PKPdf		PKPbc	22 24 00.0	-1.0
VNA3	Neumayer Olymp	145.31	204	PKPdf		PKPbc	22 24 00.0	-1.7
LPAZ	La Paz	149.92	24	PKIKP		PKPdf	22 24 11.8	-0.1
LPAZ							22 24 16.1	
LPAZ	La Paz	149.92	24	PKPbc		PKPbc	22 24 15.8	-0.9
	comp=Z,24nm,1.2s,baz=340,slow=3.5,SNR=6.0							
LPAZ	La Paz	149.92	24			PKPdf	22 24 11.8	-0.1
LPAZ				PKPbc		PKPbc	22 24 16.1	-0.6
BDFB	Brasilia	150.37	345	PKIKP		PKPdf	22 24 12.7	+0.7
BDFB							22 24 17.0	
BDFB	Brasilia	150.37	345	PKP		PKPdf	22 24 11.6	-0.4
	comp=Z,12nm,1.1s,baz=257,slow=0.8,SNR=7.2							
BDFB				PKPbc		PKPbc	22 24 16.6	-0.6
	comp=Z,26nm,1.1s,baz=15,slow=4.8,SNR=15							
BDFB	Brasilia	150.37	345			PKPdf	22 24 12.7	+0.7
BDFB				PKPbc		PKPbc	22 24 16.9	-0.2
ARAG	Araguaiana, MT	150.99	352	eP		PKPdf	22 24 12.2	-0.6
ARAG	Araguaiana, MT	150.99	352	eP		PKPdf	22 24 12.2	-0.6
BSFB	Barra de Sao F	151.40	329	eP		PKPdf	22 24 10.2	-3.1
BSFB	Barra de Sao F	151.40	329	eP		PKPdf	22 24 10.2	-3.1
IPMB	Ipameri, GO	152.69	344	eP		PKPdf	22 24 14.1	-1.3
IPMB	Ipameri, GO	152.69	344	eP		PKPdf	22 24 14.1	-1.3
PMNB	Patos De Minas	152.84	340	eP		PKPdf	22 24 16.1	+0.4
PMNB	Patos De Minas	152.84	340	eP		PKPdf	22 24 16.1	+0.4
VAS01	Vassouras-RJ	155.50	331	eP		PKPab	22 24 44.4	-0.4
VAS01	Vassouras-RJ	155.50	331	eP		PKPab	22 24 44.4	-0.4
BB19B	Bebedouro	155.75	343	eP		PKPab	22 24 46.0	+0.1
BB19B	Bebedouro	155.75	343	eP		PKPab	22 24 46.0	+0.1
VAO	Valinhos	157.25	338	eP		PKPab	22 24 52.4	+0.1
VAO	Valinhos	157.25	338	eP		PKPab	22 24 52.4	+0.1
SPB	Sao Paulo	157.93	339	eP		PKPab	22 24 54.6	-0.5
SPB	Sao Paulo	157.93	339	eP		PKPab	22 24 54.6	-0.5
FRTB	Fartura	158.17	344	eP		PKPab	22 24 58.2	+2.0
FRTB	Fartura	158.17	344	eP		PKPab	22 24 58.2	+2.0
CPUP	Villa Florida	161.72	4	PKP		PKPdf	22 24 25.6	-0.8
	comp=Z,7.8nm,1.1s,baz=73,slow=3.0,SNR=4.6							
CPUP				PKPab		PKPab	22 25 10.9	-0.6
	comp=Z,8.8nm,1.1s,baz=315,slow=4.8,SNR=5.0							

IDC ***22*** *22:13:20.5±2.4, 36°.85N×141°.38E, h0km, mb3.9/2, mb1 3.9/3, mb1mx3.5/44, mbtmp3.7/3, ML2.2/1, Error ellipse: s-maj=51.8km s-min=31.6km az=38.0*
ISCJB ***22*** *22:13:22.7±1.2, 36°.77N±0°.04×141°.35E±0°.07, h23km±5km, mb3.9/2, Error ellipse: s-maj=10.2km s-min=5.7km az=14.7*
JMA ***22*** *22:13:24.2±0.1, 36°.79N×141°.25E, h37km±1km, M3.3*
ISC 22 22:13:23.0±1.9,**36°.78N**±0°.04×**141°.32E**±0°.09,**h17**km±9km,
n20,σ0**s**78/26,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.53	308	P	Pb	22 13 34.2	+0.3
ONAJ				S	Sg	22 13 41.3	+0.6
JHO	Hitachi	0.63	255	P	Pg	22 13 35.5	+0.1
JHO				S	Sg	22 13 44.0	+0.3
JFFD	Fukushimafurud	0.68	297	P	Pg	22 13 36.3	-0.1
JFFD				S	Sg	22 13 44.7	-0.8
JFK	Kawauchi	0.69	329	P	Pg	22 13 36.7	+0.2
JFK				S	Sg	22 13 45.6	0.0
JHYU	Hitachinakayam	0.73	234	P	Pb	22 13 37.6	+0.2
JHYU				eS	Sg	22 13 47.2	+0.1
JYT	Yasato	1.06	239	P	Pb	22 13 42.4	-0.5
JYT				S	Sb	22 13 55.2	-1.3
JFT	Otama	1.08	313	P	Pb	22 13 43.3	+0.1
JFT				S	Sb	22 13 56.7	-0.4
JMM	Marumori	1.16	339	P	Pn	22 13 43.9	-0.6
JMM				S	Sb	22 13 58.4	-1.1
JFY	Yanaizu	1.44	296	P	Pn	22 13 49.0	+0.7
JFY				S	Sn	22 14 06.7	-0.1
JAG	Ashikaga	1.54	257	P	Pn	22 13 49.3	-0.5
JAG				eS	Sn	22 14 08.2	-1.3
MJAR	Matsushiro Arr	2.51	266	Pn	Pn	22 14 03.1	0.0
	0.5nm,0.3s,baz=89,slow=15,SNR=28						
MJAR				Sn	Sn	22 14 35.6	+2.2
	0.7nm,0.3s,baz=29,slow=18,SNR=5.7						
MAT	Matsushiro	2.51	266	P	Pn	22 14 03.8	+0.6
MAT				S	Sn	22 14 33.8	+0.4
H11N2	WAKE ISLAND Hy	28.08	120	T	T	22 48 38.6	
	baz=313,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy	28.09	120	T	T	22 48 42.8	
	baz=313,slow=75,SNR=69						
H11N3	WAKE ISLAND Hy	28.10	120	T	T	22 48 39.9	
	baz=313,slow=75,SNR=39						
H11S1	WAKE ISLAND Hy	28.79	122	T	T	22 49 33.6	
	baz=315,slow=75,SNR=24						
H11S3	WAKE ISLAND Hy	28.79	122	T	T	22 49 34.4	
	baz=315,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	28.80	122	T	T	22 49 35.7	
	baz=315,slow=75,SNR=16						
MKAR	Makanchi Array	44.19	302	P	P	22 21 30.9	-0.1
	4.9nm,1.2s,baz=88,slow=9.9,SNR=3.5						
WRA	Warramunga Arr	56.80	188	P	P	22 23 07.0	+0.6
	0.4nm,0.5s,baz=5.1,slow=7.3,SNR=8.5						

IGIL ***22*** *22:18:14.7, 35°.24N×4°.15W, h0km, ML2.9*
SFS ***22*** *22:18:14.0, 35°.20N×4°.10W, ML2.9, TORRES DE ALCALA (MARRUECOS)*
MDD ***22*** *22:18:15.3±0.4, 35°.30N×4°.13W, h0km, mbLg2.8/22, Error ellipse: s-maj=4.2km s-min=2.9km az=140.0, PRXIMO*
ISCJB ***22*** *22:18:15.1±0.4, 35°.36N±0°.03×4°.22W±0°.02, h20km±5km, Error ellipse: s-maj=4.8km s-min=2.9km az=175.0*
LDG ***22*** *22:18:15.0±0.3, 35°.28N×4°.14W, h25km, ML2.6/2*
INMG ***22*** *22:18:16.3±1.4, 35°.28N×4°.14W, h12km±8km, ML2.8, Error ellipse: s-maj=4.7km s-min=3.3km az=154.0*
ISC 22 22:18:14.9±1.2,**35°.29N**±0°.03×**4°.17W**±0°.02,**h18**km±3km,
n96,σ1**s**49/170,**3C-1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	Peæn de	0.16	223	↑iP	Pb	22 18 18.6	+0.1
PVLZ				i S	Sg	22 18 22.0	-0.1
PVLZ	Peæn de	0.16	223	↑P	Pb	22 18 18.6	+0.1
PVLZ				S	Sg	22 18 22.0	-0.1
MELI	Melilla	1.01	89	↑eP	Pb	22 18 33.0	-0.9
MELI				eS	Sb	22 18 47.3	+0.5
MELI	Melilla	1.01	89	P	Pb	22 18 32.7	-1.1
	206nm,0.2s,SNR=7.9						
MELI				S	Sb	22 18 46.6	-0.2
	691nm,0.3s,SNR=7.9						
EALB	Alboran	1.13	55	P	Pn	22 18 34.9	-1.0
	137nm,0.3s,SNR=74						
EALB				S	Sb	22 18 50.1	-0.1
	232nm,0.2s,SNR=8.4						
CEU	Ceuta	1.16	302	↓eP	Pn	22 18 33.7	-2.4
CEU				eS	Sb	22 18 46.5	-4.4
ECEU	Ceuta	1.16	302	P	Pn	22 18 34.9	-1.3
	38nm,0.2s,SNR=7.9						
ECEU				S	Sb	22 18 49.9	-1.2
	99nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.36	339	P	Pn	22 18 38.1	-1.0
	44nm,0.5s,SNR=7.9						
EMIJ				S	Sn	22 18 57.6	+0.8
	40nm,0.1s,SNR=9.4						
ELGU	Los Guajares,	1.64	15	P	Pn	22 18 42.6	-0.3
	5.9nm,0.1s,SNR=7.9						
ELGU				S	Sn	22 19 02.7	-0.8
	85nm,0.2s,SNR=7.9						
EGOR	Sierra Gorda,	1.82	2	P	Pn	22 18 45.7	+0.3
	1.4nm,0.3s,SNR=7.9						
EGOR				S	Sb	22 19 11.0	+0.7
	56nm,0.4s,SNR=7.9						
LIJA	Lijar	1.90	329	eP	Pb	22 18 49.0	-0.1
LIJA	Lijar	1.90	329	P	Pb	22 18 49.0	-0.1
EBER	Berja	1.91	32	P	Pn	22 18 45.7	-1.0
	3.1nm,0.2s,SNR=46						
EBER				S	Sn	22 19 10.2	-0.2
	76nm,0.4s,SNR=5.8						
IFR	Ifrane	1.94	204	eP	Pn	22 18 48.1	+1.1
IFR				eS	Sn	22 19 11.7	+0.7
EQUE	Quentar	2.00	17	P	Pn	22 18 48.8	+0.8
	10.0nm,0.5s,SNR=39						
EQUE				S	Sn	22 19 12.8	+0.3
	32nm,0.3s,SNR=6.2						
ESPR	Espera	2.09	320	P	Pn	22 18 51.0	+2.0
	1.0nm,0.2s,SNR=8.9						
ESPR				S	Sn	22 19 16.4	+1.9
	22nm,0.3s						
ENIJ	Nijar	2.31	43	P	Pn	22 18 52.0	-0.1
	6.9nm,0.3s,SNR=7.9						
ENIJ				S	Sn	22 19 18.7	-1.4
	35nm,0.2s,SNR=7.9						
GORA	Gorafe	2.37	22	P	Pn	22 18 53.8	+0.9
	6.3nm,0.2s,SNR=7.9						
GORA				S	Sb	22 19 25.1	-0.9
	17nm,0.2s,SNR=7.9						
EQES	Quesada	2.66	19	P	Pn	22 18 59.2	+2.2
	8.6nm,0.4s,SNR=198						
EQES				S	Sn	22 19 32.2	+3.4
	28nm,0.3s						
EADA	Adamuz	2.89	354	P	Pn	22 19 01.5	+1.4
	1.9nm,0.2s,SNR=41						
EADA				S	Sn	22 19 36.3	+1.9
	7.5nm,0.2s						
ECAB	El Cabril	2.96	341	P	Pn	22 19 02.2	+1.2
	0.2nm,0.2s,SNR=25						
ECAB				S	Sn	22 19 37.0	+1.0
	6.9nm,0.2s,SNR=5.9						
SESP	Santiago Espad	3.11	24	P	Pn	22 19 05.2	+1.9
	9.2nm,0.6s,SNR=7.9						
SESP				S	Sn	22 19 43.0	+3.0
	29nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.19	322	P	Pn	22 19 05.0	+0.9
	2.4nm,0.5s,SNR=29						
EMIN				S	Sn	22 19 43.3	+1.5
	1.4nm,0.1s						
EMUR	La Murta	3.47	42	P	Pn	22 19 10.5	+2.4
	4.8nm,0.4s,SNR=6.0						
EMUR				S	Sn	22 19 47.5	-1.2
	22nm,0.4s,SNR=7.0						
EGRO	El Granado	3.49	311	P	Pn	22 19 08.8	+0.6
	8.5nm,0.4s,SNR=7.9						
EGRO				S	Sn	22 19 48.4	-0.6
	13nm,0.2s,SNR=7.9						
PVAQ	Vaqueiros	3.56	307	ePn	Pn	22 19 09.9	+0.7
PVAQ				eSn	Sn	22 19 51.0	+0.2
PVAQ				A	A	22 19 54.0	
	22nm,0.5s						
PVAQ	Vaqueiros	3.56	307	P	Pn	22 19 09.9	+0.7
PVAQ				S	Sn	22 19 51.0	+0.2
	22nm,0.5s						
PBDV	Barranco-do-Ve	3.61	304	ePn	Pn	22 19 11.2	+1.2
PBDV				eSn	Sn	22 19 52.6	+0.4
PBDV				A	A	22 19 59.7	
	16nm,0.2s						
PBDV	Barranco-do-Ve	3.61	304	P	Pn	22 19 11.2	+1.2
PBDV				S	Sn	22 19 52.6	+0.4
	16nm,0.2s						
PCVE	Castro Verde	3.90	308	ePn	Pn	22 19 15.8	+1.9
PCVE				eSn	Sn	22 19 58.8	-0.4
PCVE				A	A	22 20 04.3	
	14nm,0.2s						
PCVE	Castro Verde	3.90	308	P	Pn	22 19 15.8	+1.9
PCVE				S	Sn	22 19 58.8	-0.4
	14nm,0.2s						
ETOB	Tobarra	3.95	31	P	Pn	22 19 17.0	+2.3
	4.9nm,0.3s,SNR=21						
ETOB				S	Sn	22 20 01.6	+0.9
	3.0nm,0.3s						
OKGL	Djebel Kef Gue	3.99	78	P	Pn	22 19 16.2	+1.1
	3.5nm,0.2s,SNR=7.9						
OKGL				S	Sn	22 20 00.3	-1.2
	12nm,0.3s,SNR=7.9						
PBEJ	Beja	4.04	314	ePn	Pn	22 19 18.2	+2.4
PBEJ				eSn	Sn	22 20 03.2	+0.6
PBEJ				A	A	22 20 10.3	
	10nm,0.6s						
PBEJ	Beja	4.04	314	P	Pn	22 19 18.2	+2.4
PBEJ				S	Sn	22 20 03.2	+0.6
	5.2nm,0.6s						
MESJ	Messejana	4.14	309	eP	Pn	22 19 17.7	+0.6
MESJ				eS	Sn	22 20 03.8	-1.2
MESJ				AML	AML	22 20 08.7	
	comp=N,25nm,0.5s						
MESJ	Messejana	4.14	309	ePn	Pn	22 19 18.9	+1.7
MESJ				eSn	Sn	22 20 05.7	+0.6
MESJ				A	A	22 20 09.2	
	comp=N,14nm,0.5s						
MESJ	Messejana	4.14	309	P	Pn	22 19 18.9	+1.7
MESJ				S	Sn	22 20 05.7	+0.6
	comp=N,14nm,0.5s						
EBAD	Badajoz	4.14	328	P	Pn	22 19 17.8	+0.6
	comp=N,3.8nm,0.3s,SNR=20						
EBAD				S	Sn	22 20 05.5	+0.3
	comp=N,15nm,0.2s,SNR=4.5						
MORF	Marmelete	4.14	300	eP	Pn	22 19 17.8	+0.5
MORF				eS	Sn	22 20 04.1	-1.2
MORF				AML	AML	22 20 12.6	
	comp=N,27nm,0.3s						
MORF	Marmelete	4.14	300	ePn	Pn	22 19 18.4	+1.1
MORF				eSn	Sn	22 20 04.8	-0.5
MORF				A	A	22 20 12.6	
	comp=N,11nm,0.2s						
MORF	Marmelete	4.14	300	P	Pn	22 19 18.4	+1.1
MORF				S	Sn	22 20 04.8	-0.5
	comp=N,11nm,0.2s						
PFVI	Vila Bisbo	4.19	297	ePn	Pn	22 19 19.5	+1.6
PFVI				eSn	Sn	22 20 05.3	-1.1
PFVI				A	A	22 20 16.7	
	comp=N,15nm,0.6s						
PFVI	Vila Bisbo	4.19	297	P	Pn	22 19 19.3	+1.4
	comp=N,39nm,1.1s,SNR=8.1						
PFVI				S	Sn	22 20 05.0	-1.5
	comp=N,9.0nm,0.2s,SNR=7.9						
PAB	San Pablo	4.25	358	P	Pn	22 19 20.5	+1.6
	comp=N,1.4nm,0.2s,SNR=7.9						
PAB				S	Sn	22 20 08.5	+0.4
	comp=N,1.0nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	4.31	303	ePn	Pn	22 19 21.2	+1.7
PTEO				eSn	Sn	22 20 09.6	+0.3
PTEO				A	A	22 20 17.6	
	comp=N,14nm,0.6s						
PTEO	Sao Teotonio	4.31	303	P	Pn	22 19 21.2	+1.7
PTEO				S	Sn	22 20 09.6	+0.3
	comp=N,7.1nm,0.6s						
ESDC	Sonseca Array	4.38	2	P	Pn	22 19 22.3	+1.7
	comp=N,4.1nm,0.3s,baz=178,slow=12,SNR=71						
ESDC				S	Sn	22 20 11.4	+0.2
	SNR=7.9						
PNCL	Nicolau / Gran	4.50	310	ePn	Pn	22 19 23.0	+0.9
PNCL				eSn	Sn	22 20 14.5	+0.6
PNCL				A	A	22 20 15.8	
	comp=N,7.9nm,0.4s						
PNCL	Nicolau / Gran	4.50	310	P	Pn	22 19 23.0	+0.9
PNCL				S	Sn	22 20 14.5	+0.6
	comp=N,7.9nm,0.4s						
PESTR	Estremoz	4.50	324	eSn	Sn	22 20 14.5	+0.5
PESTR				A	A	22 20 37.0	
	comp=N,6.4nm,0.5s						
PMRV	Marv??o	4.87	329	ePn	Pn	22 19 28.5	+1.3
PMRV				eSn	Sn	22 20 21.7	-1.3
PMRV				A	A	22 20 27.1	
	comp=N,8.3nm,0.6s						
PMRV	Marv??o	4.87	329	P	Pn	22 19 28.5	+1.3
PMRV				S	Sn	22 20 21.7	-1.3
	comp=N,8.3nm,0.6s						
PMTG	Montargil	4.97	321	ePn	Pn	22 19 30.3	+1.7
PMTG				eSn	Sn	22 20 25.8	+0.1
PMTG				A	A	22 20 31.4	
	comp=N,8.0nm,0.5s						
PMTG	Montargil	4.97	321	P	Pn	22 19 30.3	+1.7
PMTG				S	Sn	22 20 25.8	+0.1
	comp=N,8.0nm,0.5s						
ECHE	Chera	4.99	30	P	Pn	22 19 30.2	+1.3
	comp=N,5.1nm,0.4s,SNR=7.9						
EPLA	Plasencia	5.00	343	P	Pn	22 19 30.4	+1.3
	comp=N,1.6nm,0.3s,SNR=16						
EPLA				S	Sn	22 20 24.8	-1.7
	comp=N,0.6nm,0.1s,SNR=7.9						
UCM	Universidad Co	5.07	8	eP	Pn	22 19 31.9	+1.9
UCM				eS	Sn	22 20 26.7	-1.3
PCBR	Castelo Branco	5.25	331	ePn	Pn	22 19 34.9	+2.5
PCBR				eSn	Sn	22 20 31.9	-0.6
PCBR				A	A	22 20 35.8	
	comp=N,8.8nm,0.6s						
PCBR	Castelo Branco	5.25	331	P	Pn	22 19 34.9	+2.5
PCBR				S	Sn	22 20 31.9	-0.6
	comp=N,4.4nm,0.6s						
GUD	Guadarrama	5.35	0	P	Pn	22 19 35.5	+1.6
	comp=N,5.1nm,0.4s,SNR=21						
GUD				S	Sn	22 20 34.3	-0.8
	comp=N,2.6nm,0.4s						
PTOM	Tomar	5.48	323	ePn	Pn	22 19 37.5	+1.9
PTOM				eSn	Sn	22 20 38.0	-0.2
PTOM				A	A	22 20 47.5	
	comp=N,8.3nm,0.6s						
PTOM	Tomar	5.48	323	P	Pn	22 19 37.5	+1.9
PTOM				S	Sn	22 20 38.0	-0.2
	comp=N,4.2nm,0.6s						
PMAFR	Mafra	5.49	313	ePn	Pn	22 19 38.2	+2.5
PMAFR				eSn	Sn	22 20 38.0	-0.3
PMAFR				A	A	22 20 45.8	
	comp=N,16nm,0.6s						
PMAFR	Mafra	5.49	313	P	Pn	22 19 38.1	+2.5
	comp=N,1.1nm,0.9s,SNR=7.9						
PMAFR				S	Sn	22 20 38.4	+0.1
	comp=N,6.7nm,0.2s,SNR=7.9						
MTE	Manteigas	5.76	333	eSn	Sn	22 20 45.1	-0.1
MTE				A	A	22 21 16.5	
	comp=N,9.5nm,0.6s						
MTE	Manteigas	5.76	333	S	Sn	22 20 45.1	-0.1
	comp=N,4.8nm,0.6s						
ETOR	Torete	5.77	16	P	Pn	22 19 41.4	+1.7
	comp=N,7.2nm,0.3s,SNR=13						
ETOR				S	Sn	22 20 42.1	-3.3
	comp=N,1.1nm,0.2s,SNR=7.9						
PCAS	Casmilo, Conde	5.87	325	ePn	Pn	22 19 42.9	+2.0
PCAS	Casmilo, Conde	5.87	325	P	Pn	22 19 42.9	+2.0
PVIS	Viseu	6.17	333	ePn	Pn	22 19 46.7	+1.6
PVIS				eSn	Sn	22 20 54.2	-0.9
PVIS				A	A	22 21 09.2	
	comp=N,6.3nm,0.9s						
PVIS	Viseu	6.17	333	P	Pn	22 19 46.7	+1.6
PVIS				S	Sn	22 20 54.2	-0.9
	comp=N,3.2nm,0.9s						
MVO	Moncorvo	6.28	340	ePn	Pn	22 19 48.3	+1.6
MVO				eSn	Sn	22 20 57.1	-1.0
MVO				A	A	22 21 03.8	
	comp=N,6.9nm,0.4s						
MVO	Moncorvo	6.28	340	P	Pn	22 19 48.2	+1.5
	comp=N,4.7nm,0.3s,SNR=9.5						
MVO				S	Sn	22 20 56.4	-1.7
	comp=N,2.5nm,0.2s,SNR=7.9						
PVRL	Vila Real	6.60	336	ePn	Pn	22 19 51.4	+0.4
PVRL				eSn	Sn	22 21 04.4	-1.3
PVRL				A	A	22 21 09.9	
	comp=N,8.4nm,0.5s						
PVRL	Vila Real	6.60	336	P	Pn	22 19 51.4	+0.4
PVRL				S	Sn	22 21 04.4	-1.3
	comp=N,4.2nm,0.5s						
POLO	Lamas de Olo	6.71	336	ePn	Pn	22 19 54.2	+1.6
POLO				eSn	Sn	22 21 07.0	-1.6
POLO				A	A	22 21 10.0	
	comp=N,2.3nm,0.8s						
POLO	Lamas de Olo	6.71	336	P	Pn	22 19 54.2	+1.6
POLO				S	Sn	22 21 07.0	-1.6
	comp=N,2.3nm,0.8s						
PBRG	Braganca	6.81	344	ePn	Pn	22 19 55.6	+1.6
PBRG				eSn	Sn	22 21 09.6	-1.4
PBRG				A	A	22 21 18

comp=Z,15μm,0.2s
PTAC Punta Ardita, 0.41 135 *i* P **Pb 22 30 23.2 +0.4**
PTAC *e*S **Sb 22 30 28.4 -0.8**
UPD2 Meteti 1.11 4 *e*P **Pb 22 30 34.7 -0.1**
UPD2 *e*P Pn 22 30 49.1 +14
UPD2 *i* 22 30 53.0
comp=Z,636nm,0.3s
UPD2 Meteti 1.11 4 *e*P **Pb 22 30 34.7 -0.1**
UPD2 *e*S **Sg 22 30 49.1 +0.1**
DBBC Dabeiba 1.92 102 *e*P **Pn 22 30 46.7 +0.2**
DBBC *i* 22 31 15.4
comp=Z,73nm,0.6s
DBBC Dabeiba 1.92 102 *e*P **Pn 22 30 46.7 +0.2**
CHPO Chepo, Panama 2.00 330 *e*P **Pn 22 30 47.9 +0.5**
CHPO *e*S **Sn 22 31 13.4 +0.6**
UPA Univ. de Panam 2.09 317 *e*P **Pn 22 30 49.7 +0.9**
UPA *e*S **Sn 22 31 16.9 +1.8**
UPA *i* 22 31 29.8
comp=Z,13nm,0.5s
UPA Univ. de Panam 2.09 317 *e*P **Pn 22 30 49.7 +0.9**
UPA *e*S **Sn 22 31 16.9 +1.8**
AZU Azuero 2.19 279 *e*P **Pn 22 30 50.4 +0.4**
AZU *e*S **Sn 22 31 16.4 -1.0**
AZU *i* 22 31 24.1
comp=Z,75nm,0.3s
AZU Azuero 2.19 279 *e*P **Pn 22 30 50.4 +0.4**
AZU *e*S **Sn 22 31 16.8 -0.6**
CHOR3 La Chorrera 2.20 312 *e*P **Pb 22 30 52.6 -0.8**
CHOR3 *e*S **Sb 22 31 20.0 -0.9**
LCBC Los crdobas, 2.22 50 *e*P **Pn 22 30 51.8 +1.2**
LCBC *e*S **Sb 22 31 20.0 -1.6**
BCIP Isla Barro Col 2.43 315 *e*P **Pn 22 30 53.4 -0.1**
BCIP *e*S **Sn 22 31 24.2 +0.7**
BCIP *i* 22 31 33.1
comp=Z,34nm,1.7s
BCIP Isla Barro Col 2.43 315 *e*P **Pn 22 30 53.4 -0.1**
BCIP *e*S **Sn 22 31 24.2 +0.7**
CBOC Ciudad Bolivar 2.59 127 *e*P **Pn 22 30 55.9 0.0**
CACAO El Cacao, Vera 2.74 268 *e*P **Pn 22 30 59.5 +1.8**
CACAO *e*S **Sn 22 31 29.2 -1.9**
HELC Santa Helena 2.83 116 *e*P **Pn 22 31 00.3 +0.9**
HELC *e*S **Sn 22 31 34.5 +0.5**
HELC *i* 22 31 35.6
comp=Z,13nm,0.3s
HELC Santa Helena 2.83 116 *e*P **Pn 22 31 00.3 +0.9**
HELC *e*S **Sn 22 31 34.5 +0.5**
GMAL Guarumal, Vera 3.12 276 *e*S **Sn 22 31 41.2 +0.6**
ZARC Zaragoza, Cauc 3.21 89 *e*P **Pn 22 31 04.6 +0.3**
ZARC *e*S **Sn 22 31 41.7 -1.2**
ZARC *i* 22 31 43.9
comp=Z,19nm,0.3s
GUY2C Guyana, Caldas 3.49 129 *e*P **Pn 22 31 08.8 +0.3**
GUY2C *e*S **Sn 22 31 50.5 +0.1**
GUY2C *i* 22 32 01.1
comp=Z,14nm,0.9s
NORC Norcasia 3.71 120 *e*P **Pn 22 31 12.4 +1.3**
NORC *i* 22 32 12.4
comp=Z,5.3nm,0.7s
PTBC PUERTO BERRIO, 3.72 104 *e*P **Pn 22 31 11.9 +0.6**
PTBC *e*S **Sn 22 31 55.0 -0.4**
PTBC *i* 22 32 16.2
comp=Z,7.7nm,0.8s

ISCJB ***22*** *22:32:29.1±0.1, 44°.57N±0°.02×124°.19E±0°.02, h7km, mb4.9/122, MS4.2/17, Error ellipse: s-maj=2.3km s-min=2.1km az=155.0*
IDC ***22*** *22:32:29.5±0.4, 44°.61N×124°.21E, h0km, mb4.7/33, mb1 4.7/37, mb1mx4.7/43, mbtmp4.7/37, ML4.6/3, MS4.0/18, Ms1 4.0/18, ms1mx3.8/39, Error ellipse: s-maj=11.0km s-min=9.9km az=4.0*
MOS ***22*** *22:32:30.1±0.9, 44°.59N×124°.21E, h15km, mb5.3/31, MS4.5/4, Error ellipse: s-maj=5.7km s-min=4.0km az=118.5*
BJI ***22*** *22:32:30.3±0.0, 44°.64N×124°.10E, h8km, mb4.8/52, mB5.1/38, ML5.2/23, Ms5.0/44, Ms7 4.7/51*
NEIC ***22*** *22:32:32±1.5, 44°.60N±0°.06×124°.15E±0°.08, h14km±3km, mb4.9/239*
ISC 22 22:32:30.9±0.7,**44°.64N**±0°.03×**124°.26E**±0°.03,**h8**km±4km, **n825**,σ1$**14**/828,**mb5.0**/213,**MS4.0**/18,**40C-44D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.19**	**134**	*e*Pg		**Pg**	**22 32 54.4**	**+0.6**
CN2				*e*Sg		**Sn**	**22 33 11.6**	**+1.3**
CN2				smax		smax		
	comp=N,16μm,1.0s							
CN2				smax		smax		
	comp=E,12μm,1.0s							
SNY	**Shenyang**	**2.85**	**190**	Pn		**Pn**	**22 33 16.1**	**-0.6**
SNY				⇑Pg		**Pb**	**22 33 23.8**	**+1.8**
SNY				Sn		**Sn**	**22 33 50.3**	**-0.8**
SNY				Sg		**Sb**	**22 33 59.3**	**+2.3**
SNY				smax		smax		
	comp=N,2μm,0.6s							
SNY				smax		smax		
	comp=E,2μm,1.0s							
MDJ	**Mudanjiang**	**3.81**	**88**	Pg		**Pg**	**22 33 43.9**	**+0.1**
MDJ				Sg		**Sg**	**22 34 36.0**	**+2.8**
MDJ				smax		smax		
	comp=N,7μm,1.0s							
MDJ				smax		smax		
	comp=E,5μm,1.0s							
MDJ	**Mudanjiang**	**3.81**	**88**	Pn		**Pn**	**22 33 30.3**	**+0.5**
MDJ				Pg		**Pg**	**22 33 44.8**	**+0.9**
MDJ				Sg		**Sg**	**22 34 37.3**	**+4.1**
MDJ				smax		smax		
	comp=E,3μm,1.1s							
MDJ				smax		smax		
	comp=E,5μm,1.0s							
MDJ	**Mudanjiang**	**3.81**	**88**			**Pn**	**22 33 30.3**	**+0.5**
MSHR	**Mys Shultsa**	**5.41**	**110**	*i* P		**Pn**	**22 33 51.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**5.55**	**92**	P		**Pn**	**22 33 54.9**	**+1.1**
USA0B	**Ussuriysk Arra**	**5.55**	**92**			**Pn**	**22 33 54.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**5.55**	**92**	Pn		**Pn**	**22 33 54.7**	**+0.9**
	baz=270,slow=13,SNR=20							
USRK				Pg		**Pg**	**22 34 14.9**	**-2.4**
	baz=282,slow=15,SNR=41							
USRK				Lg		Lg	22 35 27.7	
	baz=280,slow=26,SNR=3.8							
HIA	**Hailar**	**5.57**	**328**	P		**Pn**	**22 33 52.4**	**-1.7**
HIA	**Hailar**	**5.57**	**328**			**Pn**	**22 33 52.4**	**-1.7**
VLA	**Vladivostok**	**5.72**	**103**	*i* P		**Pn**	**22 33 56.8**	**+0.7**
DL2	**Dalian**	**6.05**	**200**	⇑Pn		**Pn**	**22 34 00.8**	**+0.1**
DL2				Sn		**Sn**	**22 35 08.1**	**-2.0**
DL2				smax		smax		
	comp=E,510nm,1.2s							
DL2				smax		smax		
	comp=E,590nm,1.1s							
DL2				LR		LR		
	comp=E,3μm,9.0s							
KLR	**Kul'dur**	**6.88**	**45**	Pn		**Pn**	**22 34 12.8**	**+0.8**
	comp=E,10nm,0.3s,baz=234,slow=13,SNR=63							
KLR				Lg		Lg	22 36 09.9	
	comp=E,30nm,0.3s,baz=339,slow=22,SNR=7.9							
BJI	**Beijing**	**7.54**	**235**	Pn		**Pn**	**22 34 19.9**	**-1.3**
BJI				Sg		**Sg**	**22 36 30.8**	**-2.2**
BJI				smax		smax		
	comp=E,680nm,1.0s							
BJI				smax		smax		
	comp=E,1μm,1.1s							
BJT	**Baijiatuau**	**7.56**	**235**	P		**Pn**	**22 34 21.5**	**0.0**
BJT	**Baijiatuau**	**7.56**	**235**			**Pn**	**22 34 21.4**	**0.0**
KS19	**Wonju Array Si**	**7.63**	**158**			**Pn**	**22 34 22.3**	**0.0**
KSRS	**Korea Array**	**7.69**	**158**	P		**Pn**	**22 34 24.0**	**+0.9**
KSRS	**Korea Array**	**7.69**	**158**	Pn		**Pn**	**22 34 24.0**	**+0.9**
	comp=E,1.8nm,0.3s,baz=343,slow=14,SNR=24							
KSRS				Pg		Pb	22 34 50.1	+5.6
	comp=E,1.0nm,0.3s,baz=342,slow=14,SNR=4.3							
KSRS				Lg		Lg	22 36 33.4	
	comp=E,8.1nm,0.3s,baz=335,slow=30,SNR=8.1							
KSAR	**Wonju Array Be**	**7.69**	**158**	P		**Pn**	**22 34 23.9**	**+0.7**
KSAR	**Wonju Array Be**	**7.69**	**158**	Pn		**Pn**	**22 34 23.9**	**+0.7**
TJN	**Taejon**	**8.58**	**163**	*i* P		**Pn**	**22 34 35.2**	**-0.2**
ZEA	**Zeya**	**9.32**	**11**	*e*P		**Pn**	**22 34 44.5**	**-0.9**
ZEA				*e*			22 36 37.8	
ZEA				pmax		pmax		
	comp=Z,24nm,0.6s							
ZEA				smax		smax		
	comp=N,190nm,1.0s							
TIA	**Tai'an**	**10.02**	**215**	P		**Pn**	**22 34 55.6**	**+0.5**
TIA				S		**Sn**	**22 36 55.5**	**+7.9**
TIA				pmax		pmax		
	comp=N,10.0nm,0.5s							
TIA				pmax		pmax		
	comp=N,400nm,7.6s							
TIA				LR		LR		
	comp=N,1μm,10.3s							
HHC	**Hu-ho-hao-te**	**10.07**	**252**	*e*P		**Pn**	**22 34 58.4**	**+2.4**
HHC				pP			22 35 02.1	
HHC				S		**Sn**	**22 36 50.0**	**+0.8**
HHC				SS		**SnSn**	**22 37 07.3**	**+6.7**
HHC				pmax		pmax		
	comp=N,8.0nm,1.0s							
GRNR	**Gornyy**	**10.23**	**49**	*e*P		**Pn**	**22 34 59.4**	**+1.4**
GRNR				*e*			22 36 58.3	
GRNR				pmax		pmax		
	comp=Z,30nm,0.6s							
GRNR				smax		smax		
	comp=E,280nm,1.1s							
GRNR				MLR		MLR		
	comp=Z,3μm,16.0s							
BTO	**Baotou**	**11.24**	**254**	*e*P		**Pn**	**22 35 13.1**	**+1.2**
BTO				S		**Sn**	**22 37 10.5**	**-7.2**
TIY	**Taiyuan**	**11.27**	**236**	*e*P		Pn	22 35 18.1	+5.8
TIY				S		Sn	22 37 28.1	+10
TIY				pmax		pmax		
	comp=Z,29nm,0.4s							
TIY				pmax		pmax		
	comp=Z,380nm,6.0s							
TIY				LR		LR		
	comp=Z,3μm,8.1s							
TIY				LR		LR		
	comp=Z,3μm,2.7s							
TIY				LR		LR		
	comp=Z,3μm,10.2s							
ULN	**Ulaanbaatar**	**12.34**	**291**	*i* P		**Pn**	**22 35 30.0**	**+3.0**
ULN	**Ulaanbaatar**	**12.34**	**291**	Pn		**Pn**	**22 35 23.2**	**-3.8**
JNU	**Nakatsue**	**12.59**	**154**	Lg		Lg	22 39 09.4	
	baz=292,slow=19,SNR=2.0							
JNU				LR		LR	22 40 29.0	
	comp=Z,408nm,18.5s,baz=5.0,slow=38							
JNU	**Nakatsue**	**12.59**	**154**	Pn		**Pn**	**22 35 29.8**	**-0.6**
SONM	**Songino Array**	**12.77**	**291**	P		**Pn**	**22 35 29.1**	**-3.8**
SONM	**Songino Array**	**12.77**	**291**	Pn		**Pn**	**22 35 29.2**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=98,slow=12,SNR=31							
SONM				Sn		Sn	22 37 43.0	-12
	comp=Z,0.6nm,0.3s,baz=95,slow=25,SNR=7.0							
SONM				Lg		Lg	22 39 16.0	
	comp=Z,3.3nm,0.3s,baz=96,slow=28,SNR=6.3							
SONM				LR		LR	22 40 52.0	
	comp=Z,2μm,18.6s,baz=94,slow=39							
SONM	**Songino Array**	**12.77**	**291**			**Pn**	**22 35 29.1**	**-3.8**
YSS	**Yuzh-Sakhalins**	**13.11**	**73**	*e*P		**Pn**	**22 35 36.7**	**-0.7**
YSS				*e*S		**Sn**	**22 38 00.9**	**-2.4**
YSS				MLR		MLR		
	comp=Z,2μm,9.0s							
YSS				MLR		MLR		
	comp=N,1μm,12.0s							
YSS				MLR		MLR		
	comp=E,2μm,12.0s							
ASAJ	**Asahikawa**	**13.13**	**86**	Pn		**Pn**	**22 35 40.1**	**+2.5**
	comp=E,0.8nm,0.3s,baz=281,slow=16,SNR=2.5							
ASAJ				LR		LR	22 40 35.2	
	comp=E,1μm,18.6s,baz=346,slow=37							
JKA	**Kamikawa-asahi**	**13.13**	**86**			**Pn**	**22 35 40.1**	**+2.5**
NJ2	**Nanjing**	**13.26**	**200**	⇓P		**Pn**	**22 35 38.4**	**-1.0**
NJ2				PP		**P**	**22 35 50.5**	**+1.2**
NJ2				S		**Sn**	**22 38 04.6**	**-2.3**
NJ2				pmax		pmax		
	comp=E,15nm,0.6s							
NJ2				LR		LR		
	comp=E,1μm,7.6s							
NJ2				LR		LR		
	comp=E,1μm,9.5s							
NJ2				LR		LR		
	comp=E,2μm,8.5s							
MJB9	**Matsu-Tunnel**	**13.31**	**123**	Pn		**Pn**	**22 35 41.7**	**+1.5**
MAJO	**Matsushiro**	**13.32**	**123**	P		**Pn**	**22 35 42.0**	**+1.8**
MAJO	**Matsushiro**	**13.32**	**123**	Pn		**Pn**	**22 35 42.0**	**+1.8**
MAT	**Matsushiro**	**13.32**	**123**	P		**Pn**	**22 35 41.3**	**+1.1**
MAT				S		**Sn**	**22 38 08.4**	**0.0**
MJAR	**Matsushiro Arr**	**13.32**	**123**	P		**Pn**	**22 35 41.8**	**+1.5**
MJAR	**Matsushiro Arr**	**13.32**	**123**	Pn		**P**	**22 35 47.8**	**-2.3**
	comp=E,0.1nm,0.3s,baz=307,slow=11,SNR=12							
MJAR				LR		LR	22 40 32.8	
	comp=E,489nm,20.3s,baz=5.0,slow=36							
MJAR	**Matsushiro Arr**	**13.32**	**123**	Pn		**Pn**	**22 35 41.8**	**+1.5**
INU	**Inuyama**	**13.46**	**129**			**Pn**	**22 35 43.4**	**+1.2**
TYV	**Tymovskoe**	**13.84**	**57**	*e*P		**Pn**	**22 35 50.3**	**+3.1**
TYV				pmax		pmax		
	comp=Z,700nm,6.9s							
TYV				pmax		pmax		
	comp=Z,17nm,1.0s							
ERM	**Erimo**	**14.00**	**94**	*i* P		**Pn**	**22 35 48.3**	**-1.2**
BOD	**Bodaibo**	**14.65**	**338**	*e*P		**Pn**	**22 35 55.5**	**-2.9**
BOD				pmax		pmax		
	comp=Z,22nm,1.1s							
IRK	**Irkutsk**	**15.26**	**307**	*e*P		**Pn**	**22 36 06.8**	**+0.3**
ZAK	**Zakamensk**	**15.28**	**300**	*e*P		**Pn**	**22 36 04.3**	**-2.5**
ZAK				pmax		pmax		
	comp=Z,32nm,1.2s							
TLY	**Talaya**	**15.43**	**304**	P		**P**	**22 36 16.5**	**+3.1**
	SNR=5.8							
TLY	**Talaya**	**15.43**	**304**	*e*P		**P**	**22 36 17.0**	**+3.6**
TLY				pmax		pmax		
	comp=Z,50nm,0.8s							
TLY				MLR		MLR		
	comp=Z,3μm,11.0s							
TLY	**Talaya**	**15.43**	**304**	Pn		**P**	**22 36 14.8**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=111,slow=11,SNR=6.2							
TLY				Lg		Lg	22 40 36.1	
	comp=Z,0.0nm,0.3s,baz=46,slow=23,SNR=5.0							
TLY				LR		LR	22 42 46.1	
	comp=Z,905nm,19.0s,baz=113,slow=40							
TLY	**Talaya**	**15.43**	**304**			**Pn**	**22 36 07.8**	**-1.0**
XAN	**Xi'an**	**15.87**	**233**	P		**P**	**22 36 18.3**	**-0.1**
XAN				sP		sP	22 36 22.8	+1.0
XAN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
XAN				LR		LR		
	comp=Z,2μm,11.9s							
XAN				LR		LR		
	comp=Z,1μm,11.7s							
XAN				LR		LR		
	comp=Z,2μm,12.7s							
XAN	**Xi'an**	**15.87**	**233**	P		**Pn**	**22 36 13.1**	**-1.5**
XAN				pmax		pmax		
	comp=Z,14nm,1.1s							
XAN	**Xi'an**	**15.87**	**233**	P		**Pn**	**22 36 13.1**	**-1.5**
JHJ	**Hachijo jima 2**	**16.65**	**128**	LR		LR	22 41 37.3	
	comp=Z,269nm,21.4s,baz=352,slow=33							
MOY	**Mondy**	**17.00**	**303**	*e*P		**P**	**22 36 33.4**	**+2.5**
MOY				pmax		pmax		
	comp=Z,106nm,2.2s							
LZH	**Lanzhou**	**17.71**	**248**	⇑P		**Pn**	**22 36 38.3**	**+0.2**
LZH				pP		pP	22 36 41.3	0.0
LZH				sP		sP	22 36 44.3	+2.0
LZH				pmax		pmax		
	comp=Z,58nm,1.0s							
LZH				pmax		pmax		
	comp=Z,630nm,5.9s							
LZH				LR		LR		
	comp=Z,3μm,12.5s							
LZH				LR		LR		
	comp=Z,2μm,11.9s							
LZH				LR		LR		
	comp=Z,3μm,12.9s							
YAK	**Yakutsk**	**17.71**	**8**	*e*P		**Pn**	**22 36 37.1**	**-0.6**
YAK				*e*S		**Sn**	**22 39 54.9**	**0.0**
YAK				pmax		pmax		
	comp=Z,25nm,1.2s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.2s							
YAK				pmax		pmax		
	comp=N,16nm,1.1s							
YAK				smax		smax		
	comp=E,151nm,4.0s							
YAK				MLR		MLR		
	comp=Z,181nm,12.0s							
YAK				MLR		MLR		
	comp=N,263nm,10.0s							
YAK				MLR		MLR		
	comp=E,236nm,15.0s							
YAK	**Yakutsk**	**17.71**	**8**	P		**Pn**	**22 36 37.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=160,slow=18,SNR=6.4							
YAK				Lg		Lg	22 41 47.2	
	comp=E,0.1nm,0.3s,baz=86,slow=23,SNR=5.2							
YAK	**Yakutsk**	**17.71**	**8**	P		**Pn**	**22 36 37.1**	**-0.6**
GTA	**Gaotai**	**18.87**	**262**	⇓P		**P**	**22 36 51.4**	**-0.2**
GTA				pP		sP	22 36 55.8	+0.8
GTA				sP		pP	22 36 58.4	+4.5
GTA				S		**Sn**	**22 40 23.6**	**+0.2**
GTA				pmax		pmax		
	comp=E,680nm,6.1s							
GTA				LR		LR		
	comp=E,1μm,7.6s							
GTA				LR		LR		
	comp=E,2μm,9.2s							
GTA				LR		LR		
	comp=E,3μm,11.1s							
YHNB	**Yeheng**	**20.06**	**188**	P		Pn	22 37 05.7	-0.7
NACB	**Ninganchiao**	**20.53**	**187**	P		Pn	22 37 11.3	-0.5
NACB				IAmb		IAmb	22 37 22.2	
	comp=Z,38nm,0.9s							
KNMB	**Chin-men Tao**	**20.68**	**195**	P		**P**	**22 37 10.4**	**-1.0**
KNMB				IAmb		IAmb	22 37 12.7	
	comp=Z,58nm,0.9s							
SSLB	**Suanglung**	**20.97**	**188**	P		**P**	**22 37 14.5**	**0.0**
CD2	**Chengdu**	**21.14**	**237**	⇓*i*P		**P**	**22 37 16.3**	**-0.1**
CD2				S		**S**	**22 41 11.0**	**-0.7**
CD2				pmax		pmax		
	comp=Z,90nm,1.1s							
CD2				pmax		pmax		
	comp=Z,390nm,6.7s							
CD2				LR		LR		
	comp=Z,1μm,9.6s							
CD2				LR		LR		
	comp=Z,2μm,11.6s							
CD2				LR		LR		
	comp=Z,1μm,9.6s							
TPUB	**Ta-pu**	**21.49**	**189**	P		**P**	**22 37 19.1**	**-0.9**
TPUB				IAmb		IAmb	22 37 23.4	
	comp=Z,81nm,1.2s							
MA2	**Magadan**	**21.89**	**38**	P		**P**	**22 37 24.3**	**+0.2**
	comp=Z,30nm,1.0s,baz=218,slow=8.0,SNR=4.1							
MA2				LR		LR	22 45 18.8	
	comp=Z,259nm,19.1s,baz=243,slow=35							
JCJ	**Chichijima**	**22.66**	**135**	LR		LR	22 44 46.2	
	comp=Z,185nm,21.3s,baz=290,slow=32							
GYA	**Guiyang**	**23.02**	**224**	⇑*i*P		**P**	**22 37 35.1**	**-1.4**
GYA				pP		sP	22 37 41.3	+1.4
GYA				sP		pP	22 37 45.0	+6.1
GYA				PP		**PnPn**	**22 38 06.3**	**+5.1**
GYA				S		**S**	**22 41 44.6**	**-2.8**
GYA				pmax		pmax		
	comp=Z,20nm,0.6s							
GYA				pmax		pmax		
	comp=Z,230nm,7.1s							
GYA				LR		LR		
	comp=Z,2μm,14.5s							
PEA0B	**Petropavlovsk-**	**23.39**	**57**	P		**P**	**22 37 40.6**	**+0.7**
PEA0B				pmax		pmax		
	comp=Z,34nm,0.9s							
PEA0B	**Petropavlovsk-**	**23.39**	**57**	P		**P**	**22 37 40.6**	**+0.7**
PEA0B				IAmb		IAmb	22 37 43.1	
	comp=Z,34nm,0.9s							
PETK	**Petropavlovsk-**	**23.39**	**57**	P		**P**	**22 37 40.2**	**+0.3**
	comp=Z,18nm,0.8s,baz=239,slow=4.8,SNR=23							
PETK				LR		LR	22 47 17.4	
	comp=Z,458nm,19.3s,baz=247,slow=38							
PETK	**Petropavlovsk-**	**23.39**	**57**	P		**P**	**22 37 40.0**	**+0.1**
SEY	**Seymchan**	**24.40**	**31**	P		**P**	**22 37 49.8**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=180,slow=6.7,SNR=7.7							
SEY				Lg		Lg	22 45 27.4	
	comp=Z,1.7nm,1.0s,baz=174,slow=18,SNR=1.5							
SEY				LR		LR	22 48 33.0	
	comp=Z,387nm,21.3s,baz=217,slow=39							
DGZ	**Jazzator, Alta**	**25.37**	**295**	*i* P		**P**	**22 38 00.3**	**+1.8**
KMI	**Kunming**	**26.14**	**229**	P		**P**	**22 38 06.6**	**+0.8**
KMI				pP		sP	22 38 10.0	+0.7
KMI				sP		pP	22 38 11.5	+3.2
KMI				S		**S**	**22 42 33.8**	**-3.9**
KMI				SS		**SnSn**	**22 43 35.8**	**0.0**
KMI				pmax		pmax		
	comp=Z,24nm,0.9s							
KMI				pmax		pmax		
	comp=Z,470nm,11.4s							
KMI				LR		LR		
	comp=Z,1μm,12.0s							
KMI				LR		LR		
	comp=Z,1μm,11.2s							
KMI				LR		LR		
	comp=Z,2μm,14.6s							
KMI	**Kunming**	**26.14**	**229**	P		**P**	**22 38 05.4**	**-0.4**
KMI				pmax		pmax		
	comp=Z,18nm,0.8s							
KMI	**Kunming**	**26.14**	**229**	P		**P**	**22 38 05.4**	**-0.4**
KMI				IAmb		IAmb	22 38 08.6	
	comp=Z,18nm,0.8s							
ZAA0	**Zalesovo Array**	**27.04**	**304**			**PcP**	**22 41 34.6**	**+0.3**
ZALV	**Zalesovo Beam**	**27.04**	**304**	P		**P**	**22 38 13.1**	**-0.3**
	comp=Z,7.2nm,0.6s,baz=104,slow=9.2,SNR=28							
ZALV				PcP		**PcP**	**22 41 33.8**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=180,slow=1.0,SNR=7.7							
ZALV				Lg		Lg	22 46 41.3	
	comp=Z,0.3nm,0.4s,baz=90,slow=17,SNR=3.8							
ZALV				LR		LR	22 49 29.4	
	comp=Z,491nm,18.6s,baz=90,slow=38							
ZALV	**Zalesovo Beam**	**27.04**	**304**	P		**P**	**22 38 12.7**	**-0.7**
ZALV						**PcP**	**22 41 34.0**	**-0.3**
TIXI	**Tiksi**	**27.18**	**3**	*ce*P		**P**	**22 38 14.4**	**-0.1**
TIXI				pmax		pmax		
	comp=Z,87nm,1.7s							
TIXI	**Tiksi**	**27.18**	**3**	P		**P**	**22 38 14.5**	**0.0**
	comp=Z,31nm,0.9s,baz=183,slow=4.4,SNR=69							
TIXI				Lg		Lg	22 46 54.8	
	comp=Z,2.5nm,0.3s,baz=0.0,slow=24,SNR=3.6							
TIXI				LR		LR	22 50 24.6	
	comp=Z,293nm,18.2s,baz=235,slow=40							
TIXI	**Tiksi**	**27.18**	**3**	P		**P**	**22 38 14.5**	**0.0**
TIXI				IAmb		IAmb	22 38 15.7	
	comp=Z,47nm,1.0s							
QIZ	**Qiongzhong**	**28.23**	**210**	P		**P**	**22 38 24.9**	**+0.6**
QIZ				S		**S**	**22 43 12.5**	**+2.2**
QIZ				pmax		pmax		
	comp=Z,950nm,9.4s							
QIZ				LR		LR		
	comp=Z,640nm,15.2s							
QIZ				LR		LR		
	comp=Z,740nm,14.2s							
QIZ				LR		LR		
	comp=Z,700nm,10.8s							
MKAR	**Makanchi Array**	**29.14**	**289**	P		**P**	**22 38 32.1**	**-0.1**
	comp=Z,9.3nm,0.7s,baz=88,slow=9.9,SNR=56							
MKAR				PcP		**PcP**	**22 41 39.1**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=100,slow=2.3,SNR=8.7							
MKAR				Lg		Lg	22 47 55.7	
	comp=Z,1.7nm,1.1s,baz=82,slow=21,SNR=7.9							
MKAR				LR		LR	22 50 41.5	
	comp=Z,504nm,18.9s,baz=88,slow=38							
MKAR	**Makanchi Array**	**29.14**	**289**	P		**P**	**22 38 31.8**	**-0.5**
MKAR						**PcP**	**22 41 39.1**	**-0.6**
LSA	**Lhasa**	**30.06**	**252**	P		**P**	**22 38 42.4**	**+1.4**
LSA	**Lhasa**	**30.06**	**252**	P		**P**	**22 38 40.8**	**-0.3**
LSA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
LSA	**Lhasa**	**30.06**	**252**	P		**P**	**22 38 40.8**	**-0.3**
KURK	**Kurchatov**	**30.93**	**298**	P		**P**	**22 38 47.8**	**-0.1**
	SNR=9.5							
KURK	**Kurchatov**	**30.93**	**298**	P		**P**	**22 38 47.5**	**-0.4**
KURK							22 41 43.9	
KURK				pmax		pmax		
	comp=Z,22nm,0.8s							
KURK	**Kurchatov**	**30.93**	**298**	P		**P**	**22 38 47.5**	**-0.4**
KURK				IAmb		IAmb	22 38 50.4	
	comp=Z,22nm,0.8s							
NRIK	**Noril'sk**	**30.93**	**336**	P		**P**	**22 38 47.8**	**-0.1**
	com

SHL	**Shillong**	**32.31 245**	P	**P**	**22 39 00.4**	**-0.2**
SHL			IAmb	IAmb	22 39 00.6	
comp=Z,16nm,1.2s						
CMMT	**Chiang Mai**	**33.30 228**	P	**P**	**22 39 09.6**	**+0.5**
comp=Z,3.0nm,1.1s						
CHTO	**Chiang Mai**	**33.30 228**	P	**P**	**22 39 08.9**	**-0.2**
CHTO			pmax	pmax		
comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**33.30 228**	P	**P**	**22 39 08.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**33.60 227**	*i* P	**P**	**22 39 09.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**33.60 227**	P	**P**	**22 39 10.7**	**-1.0**
comp=Z,2.0nm,0.9s,baz=22,slow=7.3,SNR=11						
CMAR			LR	LR	22 53 52.0	
comp=Z,194nm,19.1s,baz=52,slow=38						
CMAR	**Chiang Mai Arr**	**33.60 227**	P	**P**	**22 39 09.4**	**-2.3**
TAPN	**Taplejung**	**33.89 252**	*e*P	**P**	**22 39 15.7**	**+1.2**
comp=Z,18nm,0.7s						
KDJ	**Kajisay**	**33.94 283**	P	**P**	**22 39 14.9**	**+0.2**
KDJ			pmax	pmax		
comp=Z,36nm,0.9s						
KDJ	**Kajisay**	**33.94 283**	P	**P**	**22 39 14.9**	**+0.2**
BOOM	**Boomskoye usch**	**34.68 284**	P	**P**	**22 39 20.7**	**-0.4**
BOOM			pmax	pmax		
comp=Z,22nm,0.9s						
BOOM	**Boomskoye usch**	**34.68 284**	P	**P**	**22 39 20.7**	**-0.4**
BOOM			IAmb	IAmb	22 39 24.6	
comp=Z,22nm,0.9s						
JIRN	**Jiri**	**34.73 254**	*e*P	**P**	**22 39 22.5**	**+0.6**
comp=Z,44nm,0.7s						
TKM2	**Tokmak 2**	**34.77 285**	P	**P**	**22 39 22.6**	**+0.7**
SNR=21						
GUN	**Gumba**	**34.78 254**	*e*P	**P**	**22 39 22.8**	**+0.5**
comp=Z,18nm,0.5s						
RAMN	**Ramite**	**34.90 252**	*e*P	**P**	**22 39 22.3**	**-0.9**
comp=Z,56nm,0.8s						
NRN	**Naryn**	**35.01 282**	IAmb	IAmb	22 39 27.6	
comp=Z,15nm,0.9s						
NRN				**PcP**	**22 41 56.8**	**+0.6**
KKN	**Kakani**	**35.27 255**	*e*P	**P**	**22 39 26.8**	**+0.4**
comp=Z,21nm,0.6s						
KZA	**Kyzart**	**35.30 283**	P	**P**	**22 39 30.6**	**+3.8**
SNR=12						
KBK	**Karagaybulak**	**35.30 285**	P	**P**	**22 39 27.6**	**+1.1**
SNR=37						
PKI	**Pulchoki**	**35.32 254**	*e*P	**P**	**22 39 27.0**	**+0.1**
comp=Z,17nm,0.8s						
CHMS	**Chumysh**	**35.32 285**	P	**P**	**22 39 27.4**	**+0.9**
SNR=15						
PKIN	**Phulchoki**	**35.32 254**	*e*P	**P**	**22 39 26.9**	**0.0**
comp=Z,15nm,0.9s						
FRU1	**Bishkek**	**35.47 285**	P	**P**	**22 39 27.6**	**-0.2**
FRU1			pmax	pmax		
comp=Z,57nm,0.9s						
FRU1	**Bishkek**	**35.47 285**	P	**P**	**22 39 27.6**	**-0.2**
GKN	**Gorkha**	**35.58 256**	*e*P	**P**	**22 39 29.0**	**0.0**
comp=Z,30nm,0.9s						
AAK	**Ala-Archa**	**35.62 285**	*i* P	**P**	**22 39 29.9**	**+0.6**
SNR=30						
AAK	**Ala-Archa**	**35.62 285**	P	**P**	**22 39 30.0**	**+0.8**
SNR=12						
AAK	**Ala-Archa**	**35.62 285**	P	**P**	**22 39 29.8**	**+0.6**
AAK					22 41 58.0	
AAK			pmax	pmax		
comp=Z,34nm,0.9s						
AAK	**Ala-Archa**	**35.62 285**	P	**P**	**22 39 29.4**	**+0.2**
comp=Z,26nm,0.8s,baz=103,slow=5.3,SNR=39						
AAK	**Ala-Archa**	**35.62 285**	P	**P**	**22 39 29.9**	**+0.6**
SNR=23						
AAK	**Ala-Archa**	**35.62 285**	P	**P**	**22 39 29.8**	**+0.6**
AAK				**PcP**	**22 41 58.0**	**+0.2**
BVAR	**Borovoye Array**	**35.68 303**	P	**P**	**22 39 29.2**	**-0.2**
comp=Z,11nm,0.6s,baz=87,slow=9.1,SNR=47						
BVAR			PcP	**PcP**	**22 41 57.1**	**-0.4**
comp=Z,2.9nm,0.6s,baz=57,slow=2.9,SNR=7.3						
BRVK	**Borovoye**	**35.74 303**	P	**P**	**22 39 30.2**	**+0.3**
SNR=5.0						
BRVK	**Borovoye**	**35.74 303**	P	**P**	**22 39 30.1**	**+0.3**
BRVK					22 41 58.2	
BRVK			pmax	pmax		
comp=Z,14nm,0.8s						
BRVK	**Borovoye**	**35.74 303**	P	**P**	**22 39 30.1**	**+0.3**
BRVK			IAmb	IAmb	22 39 32.6	
comp=Z,14nm,0.8s						
BRVK				**PcP**	**22 41 58.2**	**+0.5**
UCH	**Uchtor**	**35.76 284**	P	**P**	**22 39 31.9**	**+1.2**
SNR=15						
KSH	**Kashi**	**35.78 279**	P	**P**	**22 39 34.9**	**+4.3**
KSH			sP	sP	22 39 41.6	+7.5
KSH			PcP	**PcP**	**22 42 01.9**	**+3.7**
KSH			S	**S**	**22 45 13.0**	**+5.0**
KSH			sS	sS	22 45 19.5	+7.3
KSH			SS	**SnSn**	**22 47 34.8**	**+4.9**
KSH			pmax	pmax		
comp=Z,22nm,1.1s						
KSH			pmax	pmax		
comp=Z,2μm,9.5s						
KSH			LR	LR		
comp=Z,1μm,10.7s						
KSH			LR	LR		
comp=Z,760nm,13.0s						
KSH			LR	LR		
comp=Z,800nm,12.3s						
UTHA	**Uthaitani**	**35.78 224**	P	**P**	**22 39 32.9**	**+2.3**
comp=Z,12μm,0.7s						
DANN	**Dangsing**	**35.98 257**	*e*P	**P**	**22 39 32.8**	**+0.3**
comp=Z,56nm,0.6s						
EKS2	**Erkin-Say**	**36.11 285**	P	**P**	**22 39 35.9**	**+2.6**
SNR=8.8						
AML	**Almayashu**	**36.36 284**	P	**P**	**22 39 36.6**	**+0.8**
SNR=12						
KOLN	**Koldanda**	**36.44 256**	*e*P	**P**	**22 39 35.7**	**-0.7**
comp=Z,38nm,0.9s						
ARSB	**Arslanbob**	**37.16 283**	IAmb	IAmb	22 39 48.1	
comp=Z,26nm,1.0s						
KKAR	**Karatay Array**	**38.19 287**	P	**P**	**22 39 50.6**	**-0.3**
KKAR	**Karatay Array**	**38.19 287**	P	**P**	**22 39 50.6**	**-0.3**
KKAR	**Karatay Array**	**38.19 287**	IAmb	IAmb	22 39 53.3	
comp=Z,8.0nm,0.8s						
KKM	**Kota Kinabalu**	**39.08 193**	P	**P**	**22 39 57.8**	**-0.8**
BTK	**Batken**	**39.17 283**	IAmb	IAmb	22 40 02.6	
comp=Z,42nm,0.9s						
GAR	**Garm**	**39.98 281**	IAmb	IAmb	22 40 08.6	
comp=Z,34nm,1.1s						
NIL	**Nilore**	**40.46 272**	P	**P**	**22 40 10.6**	**+0.7**
NIL			pmax	pmax		
comp=Z,21nm,1.1s						
NIL	**Nilore**	**40.46 272**	P	**P**	**22 40 10.6**	**+0.7**
NIL			IAmb	IAmb	22 40 14.0	
comp=Z,21nm,1.1s						
SVE	**Sverdlovsk**	**40.60 311**	*e*P	**P**	**22 40 11.1**	**+0.3**
SVE			pmax	pmax		
comp=Z,20nm,0.9s						
ARU	**Arti**	**41.80 311**	*c i*P	**P**	**22 40 20.8**	**+0.1**
ARU					22 41 53.9	
ARU					22 42 15.2	
ARU			S	**S**	**22 46 38.5**	**+0.4**
ARU			SS	**SS**	**22 49 41.4**	**-2.2**
ARU			pmax	pmax		
comp=Z,17nm,0.9s						
ARU	**Arti**	**41.80 311**	P	**P**	**22 40 20.5**	**-0.2**
comp=Z,3.7nm,0.6s,baz=50,slow=1.4,SNR=21						
ARU	**Arti**	**41.80 311**	P	**P**	**22 40 20.5**	**-0.2**
ABKAR	**Akbulak array**	**42.97 300**	P	**P**	**22 40 29.8**	**-0.5**
ABKAR	**Akbulak array**	**42.97 300**	IAmb	IAmb	22 40 33.0	
comp=Z,22nm,1.1s						
KBL	**Kabul**	**42.99 276**	P	**P**	**22 40 31.1**	**+0.2**
KBL	**Kabul**	**42.99 276**	P	**P**	**22 40 30.0**	**-0.9**
KBL			pmax	pmax		
comp=Z,7.0nm,0.7s						
KBL	**Kabul**	**42.99 276**	P	**P**	**22 40 30.0**	**-0.9**
SBUM	**Sibu**	**43.34 198**	P	**P**	**22 40 33.6**	**+0.1**
AKTO	**Aktyubinsk**	**43.76 302**	P	**P**	**22 40 36.4**	**-0.3**
comp=Z,7.1nm,0.8s,baz=68,slow=5.5,SNR=13						
MRSI	**Marisa**	**44.02 183**	P	**P**	**22 40 38.1**	**-0.9**
MPSI	**Mapaga**	**44.28 186**	P	**P**	**22 40 40.9**	**-0.2**
IPM	**Ipoh**	**44.90 214**	P	**P**	**22 40 45.4**	**-0.7**
KIRV	**Kirov**	**46.03 315**	P	**P**	**22 40 54.8**	**+0.2**
comp=Z,11nm,0.6s,baz=155,slow=1.0,SNR=6.5						
PRGR	**Permogore**	**46.97 320**	*e*P	**P**	**22 41 01.1**	**-0.8**
PRGR			pmax	pmax		
comp=Z,31nm,0.9s						
IMAR	**Indian Mountai**	**47.19 34**	P	**P**	**22 41 03.3**	**-0.2**
HRA	**Herat**	**47.88 280**	P	**P**	**22 41 08.9**	**-0.8**
HRA			IAmb	IAmb	22 41 13.0	
comp=Z,10nm,1.1s						
FAKI	**Fak Fak**	**47.88 169**	P	**P**	**22 41 06.3**	**-3.1**
FAKI			IAmb	IAmb	22 41 21.1	
comp=Z,9.1nm,1.0s						
TOLK	**Toolik Lake Re**	**48.01 29**	P	**P**	**22 41 10.0**	**0.0**
baz=287						
TOLK	**Toolik Lake Re**	**48.01 29**	P	**P**	**22 41 10.1**	**0.0**
TOLK			IAmb	IAmb	22 41 12.9	
comp=Z,9.0nm,1.0s						
COLD	**Coldfoot**	**48.20 31**	P	**P**	**22 41 12.3**	**+0.9**
GEYT	**Alibeck**	**48.93 286**	P	**P**	**22 41 17.7**	**+0.2**
comp=Z,8.3nm,0.8s,baz=57,slow=5.5,SNR=17						
GEYT	**Alibeck**	**48.93 286**	P	**P**	**22 41 18.1**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**48.93 286**	P	**P**	**22 41 17.2**	**-0.3**
GYA0B			IAmb	IAmb	22 41 20.7	
comp=Z,9.9nm,0.8s						
TMCR	**Tamitsa**	**49.46 325**	*e*P	**P**	**22 41 19.6**	**-1.4**
TMCR			pmax	pmax		
comp=Z,66nm,1.2s						
MDM	**Murphy Dome**	**49.70 34**	P	**P**	**22 41 23.3**	**+0.3**
MCK	**McKinley**	**49.85 36**	P	**P**	**22 41 25.0**	**+0.9**
MCK			pmax	pmax		
comp=Z,21nm,1.2s						
MCK	**McKinley**	**49.85 36**	P	**P**	**22 41 25.0**	**+0.9**
MCK			IAmb	IAmb	22 41 25.9	
comp=Z,21nm,1.2s						
TCOL	**CIGO, UAF Yank**	**49.88 34**	P	**P**	**22 41 24.5**	**+0.3**
baz=291						
WRH	**Wood River Hil**	**49.93 34**	IAmb	IAmb	22 41 31.8	
comp=Z,12nm,1.0s						
POKR	**Poker Plat Res**	**49.96 34**	P	**P**	**22 41 24.9**	**0.0**
baz=291						
CCB	**Clear Creek Bu**	**49.98 34**	IAmb	IAmb	22 41 26.3	
comp=Z,11nm,1.0s						
RND	**Reindeer**	**50.01 36**	P	**P**	**22 41 25.8**	**+0.4**
RND			pmax	pmax		
comp=Z,16nm,1.3s						
RND	**Reindeer**	**50.01 36**	P	**P**	**22 41 25.8**	**+0.4**
RND			IAmb	IAmb	22 41 26.5	
comp=Z,16nm,1.3s						
KLMR	**Klimovskoe**	**50.01 320**	*e*P	**P**	**22 41 24.5**	**-0.8**
KLMR			pmax	pmax		
comp=Z,46nm,1.0s						
KLMR	**Klimovskoe**	**50.01 320**	*e*P	**P**	**22 41 24.6**	**-0.8**
KLMR			AMP		22 41 28.3	
comp=Z,46nm,1.0s						
BMAR	**Burnt Mountain**	**50.18 30**	P	**P**	**22 41 27.7**	**+1.1**
SPITS	**Spitsbergen Ar**	**50.21 345**	P	**P**	**22 41 27.2**	**+0.5**
comp=Z,20nm,0.8s,baz=75,slow=9.6,SNR=5.0						
FYU	**Fort Yukon**	**50.27 31**	P	**P**	**22 41 28.4**	**+1.2**
ILAR	**Eielson Array**	**50.30 34**	P	**P**	**22 41 27.4**	**-0.1**
comp=Z,5.0nm,0.7s,baz=282,slow=7.1,SNR=47						
ILAR			LR	LR	23 05 43.7	
comp=Z,145nm,19.2s,baz=314,slow=40						
ILAR	**Eielson Array**	**50.30 34**	P	**P**	**22 41 27.2**	**-0.3**
OHAK	**Old Harbor**	**50.32 44**	P	**P**	**22 41 27.7**	**0.0**
OHAK			IAmb	IAmb	22 41 28.8	
comp=Z,25nm,1.0s						
HDA	**Harding Lake**	**50.41 34**	P	**P**	**22 41 28.3**	**-0.1**
baz=292						
KDAK	**Kodiak Island**	**50.44 44**	*ce*P	**P**	**22 41 29.1**	**+0.5**
RC01	**Rabbit Creek A**	**50.49 39**	P	**P**	**22 41 28.9**	**-0.2**
RC01			IAmb	IAmb	22 41 30.0	
comp=Z,20nm,1.0s						
PRP	**Porcupine Dome**	**50.55 33**	P	**P**	**22 41 29.5**	**-0.1**
PRP			IAmb	IAmb	22 41 31.6	
comp=Z,20nm,1.0s						
DOT	**Dot Lake**	**51.88 35**	P	**P**	**22 41 39.1**	**-0.4**
DOT			IAmb	IAmb	22 41 39.5	
comp=Z,16nm,1.0s						
ARCES	**ARCESS Array B**	**51.88 334**	P	**P**	**22 41 39.1**	**-0.3**
comp=Z,8.1nm,0.9s,baz=83,slow=12,SNR=7.4						
ARCES	**ARCESS Array B**	**51.88 334**	P	**P**	**22 41 38.6**	**-0.8**
KLSI		**52.14 205**	P	**P**	**22 41 41.0**	**-0.8**
MENT	**Mentasta**	**52.33 35**	P	**P**	**22 41 42.4**	**-0.3**
MENT			IAmb	IAmb	22 41 44.2	
comp=Z,26nm,1.4s						
MNAI	**Manna**	**52.38 207**	P	**P**	**22 41 42.6**	**-1.1**
EGAK	**Eagle**	**52.54 33**	IAmb	IAmb	22 41 45.8	
comp=Z,20nm,1.4s						
JOF	**Joensuu**	**52.72 325**	P	**P**	**22 41 46.2**	**+0.6**
JOF			pmax	pmax		
comp=Z,38nm,1.5s						
VRH	**Novokhopyorsk**	**52.94 309**	*e*P	**P**	**22 41 46.7**	**-0.7**
VRH			pmax	pmax		
comp=Z,30nm,0.6s						
PALK	**Pallekele**	**53.03 239**	*i* P	**P**	**22 41 48.6**	**+0.1**
SNR=8.7						
PALK	**Pallekele**	**53.03 239**	P	**P**	**22 41 48.2**	**-0.3**
PALK	**Pallekele**	**53.03 239**	P	**P**	**22 41 48.4**	**-0.2**
PALK			pmax	pmax		
comp=Z,32nm,1.0s						
PALK	**Pallekele**	**53.03 239**	P	**P**	**22 41 48.4**	**-0.2**
MOS	**Moscow**	**53.05 315**	*e*P	**P**	**22 41 47.4**	**-0.7**
BCAR	**Beaver Creek A**	**53.06 35**	P	**P**	**22 41 48.5**	**+0.3**
SRBI	**Singaraja**	**53.11 191**	P	**P**	**22 41 48.1**	**-0.8**
EPYK	**Eagle Plains**	**53.44 30**	P	**P**	**22 41 50.8**	**-0.1**
baz=299						
EPYK	**Eagle Plains**	**53.44 30**	IAmb	IAmb	22 41 52.2	
comp=Z,16nm,0.9s						
PLAI	**Plampang**	**53.53 188**	P	**P**	**22 41 50.2**	**-1.9**
INK	**Inuvik**	**53.57 27**	IAmb	IAmb	22 41 53.5	
comp=Z,20nm,0.8s						
LPSR	**Galich'ya Gora**	**53.82 311**	*e*P	**P**	**22 41 53.0**	**-0.8**
LPSR			pmax	pmax		
comp=Z,20nm,0.6s						
OBN	**Obninsk**	**53.87 315**	*ce*P	**P**	**22 41 53.0**	**-1.1**
OBN			pmax	pmax		
comp=Z,10.0nm,1.0s						
SOEI	**Soe**	**54.13 180**	P	**P**	**22 41 56.9**	**+0.3**
SOEI			IAmb	IAmb	22 42 00.3	
comp=Z,13nm,0.7s						
VSR	**Storozhevoye**	**54.35 310**	*e*P	**P**	**22 41 56.7**	**-1.1**
VSR			pmax	pmax		
comp=Z,30nm,1.0s						
SUF	**Sumiainen**	**54.90 326**	P	**P**	**22 42 02.2**	**+0.7**
SUF			pmax	pmax		
comp=Z,55nm,1.0s						
GOF	**Gofitskoye**	**55.16 301**	⇓*i*P	**P**	**22 42 04.3**	**+0.6**
GOF			pmax	pmax		
comp=Z,47nm,0.9s						
FIA1	**FINESS Array S**	**55.58 325**	P	**P**	**22 42 06.6**	**+0.1**
FINES	**FINESS Array B**	**55.58 325**	P	**P**	**22 42 06.5**	**0.0**
comp=Z,30nm,0.8s,baz=68,slow=7.0,SNR=56						
FINES			PcP	**PcP**	**22 43 05.0**	**-1.1**
comp=Z,3.8nm,0.7s,baz=46,slow=4.5,SNR=3.6						
FINES	**FINESS Array B**	**55.58 325**	P	**P**	**22 42 06.1**	**-0.4**
ZEI	**Tsey**	**55.81 299**	*e*P	**P**	**22 42 06.1**	**-2.6**
ZEI			pmax	pmax		
comp=Z,5.0nm,0.9s						
TBLG	**Delisi**	**55.84 297**	IAmb	IAmb	22 42 26.8	
comp=Z,9.0nm,0.9s						
C36M	**Paulatuk**	**55.87 23**	P	**P**	**22 42 08.2**	**-0.2**
baz=307						
KBZ	**Khabaz**	**55.94 300**	P	**P**	**22 42 11.6**	**+2.2**
comp=Z,4.6nm,0.8s,baz=18,slow=9.6,SNR=7.4						
KBZ			LR	LR	23 07 59.3	
comp=Z,359nm,18.0s,baz=51,slow=38						
KIV	**Kislovodsk**	**55.95 300**	*i* P	**P**	**22 42 10.4**	**+0.8**
SNR=12						
KIV	**Kislovodsk**	**55.95 300**	P	**P**	**22 42 10.7**	**+1.1**
SNR=7.2						
KIV	**Kislovodsk**	**55.95 300**	*e*P	**P**	**22 42 10.6**	**+1.1**
KIV			pmax	pmax		
comp=Z,68nm,1.1s						
KIV	**Kislovodsk**	**55.95 300**	P	**P**	**22 42 10.2**	**+0.7**
GNI	**Garni**	**56.68 296**	*i* P	**P**	**22 42 16.0**	**+1.1**
SNR=7.0						
GNI	**Garni**	**56.68 296**	P	**P**	**22 42 16.2**	**+1.3**
SNR=5.1						
GNI	**Garni**	**56.68 296**	*ce*P	**P**	**22 42 16.7**	**+1.8**
GNI			pmax	pmax		
comp=Z,73nm,1.3s						
GNI	**Garni**	**56.68 296**	P	**P**	**22 42 14.5**	**-0.5**
GNI			IAmb	IAmb	22 42 19.9	
comp=Z,31nm,1.4s						
VSU	**Vasula**	**56.87 322**	*e*P	**P**	**22 42 15.9**	**+0.2**
SHME	**Shamm**	**56.96 275**	P	**P**	**22 42 16.6**	**-0.3**
MSFE	**Esma-Masafi**	**57.37 275**	P	**P**	**22 42 21.9**	**+2.0**
XMIS	**Christmas Isla**	**57.39 202**	P	**P**	**22 42 19.4**	**-0.5**
UOSS	**Minazif**	**57.60 274**	P	**P**	**22 42 22.7**	**+1.3**
HATD	**Hatta, Dubai**	**57.72 274**	P	**P**	**22 42 22.8**	**+0.5**
ASHO	**Ashiyiah**	**57.86 274**	*i* P	**P**	**22 42 23.3**	**+0.1**
SNR=6.5						
ASHO	**Ashiyiah**	**57.86 274**	P	**P**	**22 42 23.4**	**+0.1**
SOC	**Sochi**	**57.97 301**	*e*P	**P**	**22 42 22.3**	**-1.4**
SOC			*e*PPP	PPP	22 45 59.4	
SOC			*e*S	**S**	**22 50 25.6**	**+1.6**
SOC			*e*SS	**SS**	**22 54 20.9**	**+6.4**
SOC			pmax	pmax		
comp=Z,25nm,0.9s						
SOC			MLR	MLR		
comp=Z,399nm,19.0s						
RES	**Resolute Bay**	**58.14 11**	IAmb	IAmb	22 42 27.2	
comp=Z,16nm,1.1s						
HMDM	**Hanimaadhoo**	**58.16 245**	P	**P**	**22 42 24.2**	**-1.2**
ALNE	**Al Ain**	**58.47 274**	*i* P	**P**	**22 42 28.9**	**+1.4**
SNR=12						
MICGM	**Minsk**	**58.50 317**	⇑*e*P	**P**	**22 42 27.0**	**-0.2**
MICGM			PM		22 42 28.0	
comp=Z,0.1nm,1.0s						
MNK	**Minsk**	**58.50 317**	⇑*e*P	**P**	**22 42 27.0**	**-0.2**
MNK			pmax	pmax		
comp=Z,80nm,1.0s						
IZAR	**Zarasai**	**58.58 319**	*e*P	**P**	**22 42 27.7**	**-0.1**
IZAR			IAmb	IAmb	22 42 31.8	
comp=Z,20nm,0.9s						
IZAR			*e*PP	**PP**	**22 44 36.6**	**-0.3**
IDID	**Didziasalis**	**58.59 318**	*e*P	**P**	**22 42 28.0**	**+0.1**
ISAL	**Salakas**	**58.74 319**	*e*P	**P**	**22 42 28.9**	**0.0**
ISAL			IAmb	IAmb	22 42 32.6	
comp=Z,23nm,0.8s						
NACGM	**Naroch**	**58.80 318**	*e*	**P**	**22 42 28.0**	**-1.4**
TULEG	**Thule**	**58.82 4**	IAmb	IAmb	22 42 30.8	
comp=Z,26nm,1.5s						
IIGN	**Ignalina**	**58.82 319**	*e*P	**P**	**22 42 29.6**	**+0.2**
IIGN			IAmb	IAmb	22 42 31.7	
comp=Z,24nm,1.0s						
IIGN			*e*PP	**PP**	**22 44 39.0**	**0.0**
SLIT	**Slitere, Latvi**	**59.30 322**	*e*P	**P**	**22 42 32.0**	**-0.7**
SLIT			IAmb	IAmb	22 42 35.0	
comp=Z,198nm,0.8s						
PABE	**Paberze**	**59.78 320**	*e*P	**P**	**22 42 36.2**	**+0.1**
PABE			IAmb	IAmb	22 42 39.3	
comp=Z,77nm,0.8s						
AKASG	**Malin Array Be**	**59.96 313**	P	**P**	**22 42 37.1**	**-0.4**
comp=Z,28nm,0.7s,baz=46,slow=8.3,SNR=46						
KNRA	**Kununurra**	**60.16 175**	P	**P**	**22 42 39.2**	**+0.1**
PBUR	**Paburg**	**60.41 321**	*e*P	**P**	**22 42 40.4**	**+0.1**
SIM	**Simferopol'**	**60.55 305**	*de*P	**P**	**22 42 41.2**	**-0.3**
SIM			pmax	pmax		
comp=Z,20nm,1.0s						
COEN	**Coen**	**60.80 159**	P	**P**	**22 42 43.1**	**-0.4**
SUW	**Suwalki**	**61.03 319**	P	**P**	**22 42 45.0**	**+0.3**
SUW			pmax	pmax		
comp=Z,31nm,0.9s						
SUW	**Suwalki**	**61.03 319**	*e*P	**P**	**22 42 46.0**	**+1.3**
SUW			*e*P	**P**	**22 42 46.0**	**+1.3**
SUW	**Suwalki**	**61.03 319**	P	**P**	**22 42 45.0**	**+0.3**
NC303	**NORSAR Array S**	**61.42 329**	P	**P**	**22 42 47.9**	**+0.7**
JOHN	**Johnston Islan**	**61.56 94**	P	**P**	**22 42 47.7**	**-1.0**
NB2	**NORSAR Subarra**	**61.60 329**	P	**P**	**22 42 47.7**	**-0.8**
comp=Z,8.1nm,0.7s,baz=44,slow=6.5						
NOA	**NORSAR Array B**	**61.60 329**	P	**P**	**22 42 47.9**	**-0.6**
comp=Z,4.4nm,0.9s,baz=58,slow=6.9,SNR=19						
NOA			PcP	**PcP**	**22 43 29.1**	**-1.0**
comp=Z,2.7nm,0.8s,baz=277,slow=3.1,SNR=4.4						
NC204	**NORSAR Array S**	**61.60 330**	P	**P**	**22 42 48.5**	**-0.1**
NC602	**NORSAR Array S**	**61.68 329**	P	**P**	**22 42 48.5**	**-0.5**
NBO00	**NORSAR Array S**	**61.76 330**	P	**P**	**22 42 49.3**	**-0.3**
SORM	**Soroca**	**61.92 311**	⇑P	**P**	**22 42 50.7**	**-0.1**
SORM	**Soroca**	**61.92 311**	⇑P	**P**	**22 42 50.7**	**-0.1**
KIS	**Kishinev**	**62.35 310**	*e*P	**P**	**22 42 53.0**	**-0.7**
KIS	**Kishinev**	**62.35 310**	*e*P	**P**	**22 42 53.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**62.44 179**	IAmb	IAmb	22 42 55.1	
comp=Z,18nm,1.1s						
SUMG	**Summit**	**62.47 354**	P	**P**	**22 42 54.0**	**-0.6**
SUMG			pmax	pmax		
comp=Z,12nm,1.2s						
SUMG	**Summit**	**62.47 354**	P	**P**	**22 42 54.0**	**-0.6**
SUMG			IAmb	IAmb	22 42 55.5	
comp=Z,12nm,1.2s						
IAS	**Iasi**	**62.91 310**	⇓P	**P**	**22 42 57.3**	**-0.2**
IAS	**Iasi**	**62.91 310**	⇓P	**P**	**22 42 57.3**	**-0.2**
KAAM	**Kaadhehdhoo**	**63.08 241**	P	**P**	**22 42 58.1**	**-0.8**
LVV	**L'vov**	**63.17 314**	*e*P	**P**	**22 42 59.5**	**+0.4**
YKA	**Yellowknife Ar**	**63.34 26**	P	**P**	**22 42 59.4**	**-0.5**
comp=Z,4.0nm,0.8s,baz=320,slow=6.3,SNR=16						
BIR	**Birlad**	**63.44 310**	⇑P	**P**	**22 43 02.3**	**+1.3**
BIR	**Birlad**	**63.44 310**	⇑P	**P**	**22 43 02.3**	**+1.3**
BEL	**Belsk**	**63.52 318**	*e*P	**P**	**22 43 01.7**	**+0.3**
BEL	**Belsk**	**63.52 318**	*e*P	**P**	**22 43 01.7**	**+0.3**
BEL			*e*P	**P**	**22 43 01.7**	**+0.3**
PRAR	**RASCA**	**63.53 311**	⇑P	**P**	**22 43 02.4**	**+0.8**
WHFO	**Wadi Hawf**	**63.82 270**	P	**P**	**22 43 02.7**	**-1.2**
CFR	**Carcaliu**	**63.82 308**	⇑P	**P**	**22 43 03.0**	**-0.5**
CFR	**Carcaliu**	**63.82 308**	⇑P	**P**	**22 43 03.0**	**-0.5**
TESR	**Tescani**	**63.83 310**	⇓P	**P**	**22 43 03.2**	**-0.3**
BIZ	**Bicaz**	**63.86 311**	⇓P	**P**	**22 43 04.2**	**+0.4**
TOPG	**Topolog**	**63.87 308**	⇓P	**P**	**22 43 03.7**	**-0.2**
BR131	**Keskin Array S**	**63.91 301**	IAmb	IAmb	22 43 08.4	
comp=Z,8.1nm,1.1s						
BRTR	**Keskin Array B**	**63.91 301**	P	**P**	**22 43 04.1**	**-0.3**
comp=Z,5.8nm,0.8s,baz=72,slow=5.0,SNR=24						
BRTR	**Keskin Array B**	**63.91 301**	P	**P**	**22 43 03.4**	**-0.9**
BURAR	**Bucovina Array**	**63.92 312**	⇑P	**P**	**22 43 04.3**	**+0.1**
BURAR	**Bucovina Array**	**63.92 312**	⇑P	**P**	**22 43 04.3**	**+0.1**
BURAR	**Bucovina Array**	**63.92 312**	P	**P**	**22 43 04.1**	**-0.1**
KWP	**Kalwaria Pacla**	**63.96 315**	*e*P	**P**	**22 43 05.1**	**+0.7**
KWP	**Kalwaria Pacla**	**63.96 315**	*e*P	**P**	**22 43 05.1**	**+0.7**
KWP			*e

ARR Arges 65.64 310 ⇓P P 22 43 16.6 +1.1
DRGR 65.76 312 ⇓P P 22 43 16.3 +0.1
DRGR 65.76 312 ⇓P P 22 43 16.3 +0.1
LANS Liptovska Anna 65.89 316 eP P 22 43 18.6 +1.6
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 65.89 316 eP P 22 43 18.6 +1.6
HUMR Humele 65.98 309 ⇑P P 22 43 18.1 +0.5
PSA00 Pilbara Seismi 66.01 184 P P 22 43 17.0 -0.8
PSA00 Pilbara Seismi 66.01 184 P P 22 43 15.3 -2.5
PSA00 IAmb IAmb 22 43 20.2
comp=Z,9.0nm,0.9s
OKC Ostrava-Krasne 66.09 317 eP P 22 43 18.3 +0.1
OKC e 22 43 21.0
OKC Ostrava-Krasne 66.09 317 eP P 22 43 18.3 +0.1
OKC epP pP 22 43 21.0 +0.1
COPA Copaceanca 66.10 309 ⇑P P 22 43 18.5 +0.2
KSP Ksiaz 66.31 319 eP P 22 43 20.2 +0.6
KSP Ksiaz 66.31 319 eP P 22 43 20.2 +0.6
KSP eP P 22 43 20.2 +0.6
MORC Moravsky Berou 66.42 317 P P 22 43 20.7 +0.3
MORC pmax pmax
comp=Z,16nm,0.9s
MORC Moravsky Berou 66.42 317 ⇑P P 22 43 20.9 +0.5
MORC Moravsky Berou 66.42 317 eP P 22 43 20.7 +0.3
MORC Moravsky Berou 66.42 317 P P 22 43 20.7 +0.3
PSZ Piszkesteto 66.49 315 P P 22 43 20.9 0.0
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 66.49 315 ⇓P P 22 43 21.8 +1.0
PSZ Piszkesteto 66.49 315 P P 22 43 20.9 0.0
PSZ IAmb IAmb 22 43 26.4
comp=Z,11nm,1.0s
ELND Elena 66.50 308 ⇑P P 22 43 21.7 +0.8
KRLC Kraliky 66.59 318 eP P 22 43 22.1 +0.7
KRLC e 22 43 24.2
KRLC Kraliky 66.59 318 eP P 22 43 22.1 +0.7
KRLC epP pP 22 43 24.2 +0.1
CHVC Chvalec 66.59 319 eP P 22 43 22.1 +0.7
DPC Dobruska-Polom 66.62 318 eP P 22 43 22.7 +1.0
DPC e 22 43 25.0
DPC Dobruska-Polom 66.62 318 eP P 22 43 22.7 +1.0
DPC epP pP 22 43 25.0 +0.7
GZR Gura Zlata 66.63 311 ⇓P P 22 43 22.4 +0.6
GZR Gura Zlata 66.63 311 ⇓P P 22 43 22.4 +0.6
VYHS Vyhne 66.64 316 eP P 22 43 22.5 +0.7
VYHS pmax pmax
comp=Z,29nm,1.5s
VYHS Vyhne 66.64 316 eP P 22 43 22.5 +0.7
VLAD Vladila 66.64 309 ⇑P P 22 43 22.0 +0.3
SIRR Siria 66.65 312 ⇓P P 22 43 22.7 +0.8
PLVB Pleven 66.91 309 ⇓P P 22 43 23.6 0.0
JAVC Velka Javorina 66.97 317 eP P 22 43 24.9 +1.0
BZS Buzias 67.10 312 ⇓P P 22 43 25.1 +0.4
BZS Buzias 67.10 312 ⇓P P 22 43 25.1 +0.4
HERR Herculane 67.16 311 ⇓P P 22 43 24.9 -0.1
VRAC Vranov 67.19 317 ⇓P P 22 43 25.9 +0.6
VRAC Vranov 67.19 317 ⇓P P 22 43 25.9 +0.6
VRAC Vranov 67.19 317 eP P 22 43 25.8 +0.5
PUNG Punghina 67.27 310 ⇑P P 22 43 26.2 +0.4
SMOL Smolenice 67.32 316 eP P 22 43 27.1 +1.0
SMOL pmax pmax
comp=Z,11nm,0.8s
SMOL Smolenice 67.32 316 eP P 22 43 27.1 +1.0
PVCC Panska Ves 67.33 319 eP P 22 43 26.9 +0.8
PVCC e 22 43 28.9
PVCC Panska Ves 67.33 319 eP P 22 43 26.9 +0.8
PVCC epP pP 22 43 28.9 +0.2
BRG Berggiesshubel 67.38 320 eP P 22 43 26.1 -0.3
comp=Z,20nm,1.5s
BRG Berggiesshubel 67.38 320 eP P 22 43 26.1 -0.3
BRG pmax pmax
comp=Z,20nm,1.5s
KRUC Moravsky 67.46 317 eP P 22 43 27.4 +0.5
MODS Modra-Piesok 67.49 316 eP P 22 43 27.0 -0.2
MODS pmax pmax
comp=Z,26nm,1.5s
MODS Modra-Piesok 67.49 316 eP P 22 43 27.0 -0.2
CLL Collm 67.50 321 i P P 22 43 26.7 -0.5
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 67.50 321 i P P 22 43 26.7 -0.5
comp=Z,17nm,1.0s
SOCY Socotra 67.51 265 P P 22 43 25.2 -2.6
GOPC GO Pecny, Ondr 67.64 319 eP P 22 43 28.3 +0.2
GOPC e 22 43 30.6
GOPC GO Pecny, Ondr 67.64 319 eP P 22 43 28.3 +0.2
GOPC epP pP 22 43 30.6 -0.2
ALN Alexandroupoli 67.71 306 P P 22 43 28.6 0.0
ALN pmax pmax
comp=Z,5.0nm,1.1s
ALN Alexandroupoli 67.71 306 P P 22 43 28.6 0.0
PRU Pruhonice 67.71 319 eP P 22 43 29.0 +0.5
PRU e 22 43 31.2
PRU Pruhonice 67.71 319 eP P 22 43 29.0 +0.5
PRU epP pP 22 43 31.2 0.0
PBCC Pribram 68.17 319 eP P 22 43 32.0 +0.6
VTS Vitosha 68.19 309 ⇓P P 22 43 31.8 0.0
VTS Vitosha 68.19 309 ⇓P P 22 43 31.8 0.0
CONA Conrad Observa 68.49 317 epP P 22 43 34.6 +1.1
comp=Z,20nm,0.9s,SNR=7.7
NKC Novy Kostel 68.51 320 eP P 22 43 33.8 +0.3
NKC Novy Kostel 68.51 320 eP P 22 43 33.8 +0.3
ASAR Alice Springs 68.54 170 P P 22 43 33.5 -0.3
comp=Z,4.3nm,0.8s,baz=355,slow=5.3,SNR=29
ASAR PKP2bc 23 11 49.4
comp=Z,2.6nm,1.3s,baz=138,slow=3.3,SNR=5.3
ASAR Alice Springs 68.54 170 P P 22 43 33.2 -0.7
MOX Moxa 68.60 321 P P 22 43 35.4 +1.3
MOX pmax pmax
comp=Z,13nm,1.3s
SFJD Kangerlussuaq 68.63 358 P P 22 43 34.7 +0.7
SFJD pmax pmax
comp=Z,13nm,1.1s
SFJD Kangerlussuaq 68.63 358 P P 22 43 34.7 +0.7
SFJD IAmb IAmb 22 43 34.9
comp=Z,13nm,1.1s
KHC Kasperske Hory 68.75 319 eP P 22 43 35.8 +0.7
KHC e 22 43 37.8
KHC Kasperske Hory 68.75 319 eP P 22 43 35.8 +0.7
KHC epP pP 22 43 37.8 0.0
KHC Kasperske Hory 68.75 319 P P 22 43 35.8 +0.7
KHC IAmb IAmb 22 43 38.7
comp=Z,6.1nm,0.8s
GEC2 GERESS Array S 68.90 318 P P 22 43 35.7 -0.3
GEC2 IAmb IAmb 22 43 37.3
comp=Z,14nm,1.2s
GERES GERESS Array B 68.90 318 P P 22 43 36.1 0.0
comp=Z,4.3nm,0.8s,baz=48,slow=6.0,SNR=20
GERES GERESS Array B 68.90 318 P P 22 43 34.9 -1.2
ARSA Arzberg 69.12 316 eP P 22 43 37.9 +0.5
comp=Z,10nm,0.9s
MOA Molln 69.32 317 epP P 22 43 39.8 +1.2
comp=Z,6.6nm,1.1s
GRA1 Grafenberg Arr 69.45 320 P P 22 43 39.2 -0.2
GRF Grafenberg Arr 69.45 320 P P 22 43 39.2 -0.2
GRF pmax pmax
comp=Z,30nm,0.8s
SOKA Soboth 69.76 316 eP P 22 43 41.6 +0.2
comp=Z,22nm,0.9s,SNR=6.8
OBKA Obir 70.12 316 eP P 22 43 43.8 +0.2
comp=Z,22nm,0.8s
A04D Lummi Island 70.14 40 P P 22 43 43.8 +0.2
baz=316
KBA Koelnbreinsper 70.31 317 epP P 22 43 45.5 +0.6
comp=Z,30nm,0.8s
MYKA Terra Mystica 70.48 317 eP P 22 43 45.9 0.0
comp=Z,21nm,1.0s
B05A Bryant 70.75 40 P P 22 43 47.7 +0.3
baz=316
D03D Eldon 70.81 41 P P 22 43 47.6 -0.2
baz=316
WATA Walderalm 70.97 318 i P P 22 43 49.1 +0.2
comp=Z,12nm,0.8s
WTTA Wattenberg 71.00 318 eP P 22 43 49.4 +0.3
comp=Z,15nm,0.7s,SNR=5.3
MEM Membach 71.07 324 P P 22 43 48.6 -0.7
comp=Z,14nm,1.1s
MOTA Moosalm 71.19 319 eP P 22 43 50.5 +0.2
comp=Z,21nm,0.9s
SQTA Sankt Quirin 71.23 319 i P P 22 43 50.8 +0.3
comp=Z,10nm,0.8s
RETA Reutte 71.25 319 eP P 22 43 50.4 -0.1
comp=Z,30nm,1.5s
FETA Feichten 71.60 319 eP P 22 43 52.8 0.0
comp=Z,7.0nm,0.9s
WLF Walferdange 71.72 323 P P 22 43 52.4 -0.8
WLF pmax pmax
comp=Z,14nm,1.1s
WLF Walferdange 71.72 323 P P 22 43 52.4 -0.8
WLF IAmb IAmb 22 44 10.2
comp=Z,14nm,1.1s
BFO Black Forest 71.75 321 P P 22 43 53.5 0.0
BFO pmax pmax
comp=Z,23nm,1.0s
BFO Black Forest 71.75 321 P P 22 43 53.5 0.0
E04D Cinebar 71.77 42 P P 22 43 54.1 +0.5
baz=316
DAVA Damuels 71.81 319 eP P 22 43 54.3 +0.3
comp=Z,16nm,0.8s,SNR=9.9
B08A Colville Reser 71.94 39 IAmb IAmb 22 43 56.6
comp=Z,10nm,1.2s
LON Longmire 71.98 41 P P 22 43 55.2 +0.3
LON pmax pmax
comp=Z,2.0nm,0.9s
LON Longmire 71.98 41 P P 22 43 55.2 +0.3
ECH Echery 72.36 321 IAmb IAmb 22 43 58.3
comp=Z,10nm,1.1s
ITM Ithomi 72.57 305 P P 22 43 58.2 -0.3
ITM IAmb IAmb 22 44 02.2
comp=Z,20nm,1.1s
TUE Stuetta 72.65 319 IAmb IAmb 22 44 02.3
comp=Z,18nm,0.9s
DAMY Dhamar 72.74 274 P P 22 44 00.8 +0.6
C09A Chrisman Ranch 72.83 39 IAmb IAmb 22 44 02.6
comp=Z,13nm,1.1s
NEW Newport 73.00 38 P P 22 44 01.2 +0.3
baz=319
E07A Sunnyside 73.04 40 P P 22 44 01.9 +0.7
HAWA Hanford 73.31 40 P P 22 44 03.4 +0.6
HAWA IAmb IAmb 22 44 05.1
comp=Z,19nm,1.3s
G05D Wamic, OR 73.32 42 P P 22 44 03.4 +0.5
baz=317
ACER Acerenza 73.42 311 P P 22 44 03.4 -0.2
I03D Drain, OR 73.45 44 P P 22 44 04.2 +0.6
baz=317
J01E Myrtle Point 73.55 45 P P 22 44 04.9 +0.7
baz=316
INTR Introdacqua 73.63 313 P P 22 44 04.2 -0.6
AQU L'Aquila 73.65 314 P P 22 44 05.0 +0.1
AQU pmax pmax
comp=Z,27nm,1.0s
AQU L'Aquila 73.65 314 P P 22 44 05.0 +0.1
SENIN Lac Senin/Sane 73.68 320 P P 22 44 04.2 -1.0
SENIN IAmb IAmb 22 44 08.0
comp=Z,17nm,1.1s
MORW Morawa 73.73 187 P P 22 44 04.9 -0.3
MORW IAmb IAmb 22 44 07.8
comp=Z,13nm,1.1s
VLC Villacollemand 73.85 317 P P 22 44 06.8 +0.8
VLC IAmb IAmb 22 44 09.8
comp=Z,14nm,0.8s
OSSC Osservatorio P 73.89 316 P P 22 44 06.5 +0.2
I05D Terrebonne, OR 73.98 43 P P 22 44 07.3 +0.6
baz=318
K02D Willamette Mer 74.02 45 P P 22 44 08.2 +1.1
baz=317,SNR=5.4
G08A Pilot Rock 74.40 41 P P 22 44 10.1 +0.7
J04D Umpqua Nationa 74.41 44 P P 22 44 10.1 +0.6
baz=317
L02E Cave Junction 74.44 46 P P 22 44 10.3 +0.8
baz=317
HUMO Hull Mountain 74.44 45 P P 22 44 10.2 +0.7
PINE Pine Mountain 74.57 43 P P 22 44 11.6 +1.2
PINE IAmb IAmb 22 44 13.9
comp=Z,16nm,1.0s
LPL La Plagne 74.58 320 eP P 22 44 10.2 -0.3
LPL pmax pmax
comp=Z,12nm,0.7s
JTMT Jette 74.62 37 P P 22 44 11.6 +1.0
JTMT IAmb IAmb 22 44 13.0
comp=Z,12nm,1.2s
J05D Fort Rock, OR 74.80 44 P P 22 44 12.8 +1.0
baz=318,SNR=8.5
SSF Saint Saulge 74.85 323 eP P 22 44 10.9 -0.8
SSF pmax pmax
comp=Z,34nm,1.7s
BNI Bardonecchia 74.95 319 P P 22 44 13.0 +0.4
BNI pmax pmax
comp=Z,7.0nm,0.9s
BNI Bardonecchia 74.95 319 P P 22 44 13.0 +0.4
L04D Klamath Falls 75.06 45 P P 22 44 13.0 -0.2
baz=317,SNR=9.6
YBH Yreka Blue Hor 75.21 45 P P 22 44 14.1 0.0
YBH pmax pmax
comp=Z,17nm,1.5s
YBH Yreka Blue Hor 75.21 45 P P 22 44 14.1 0.0
YBH IAmb IAmb 22 44 17.5
comp=Z,16nm,1.5s
M02C Callahan 75.39 46 P P 22 44 15.6 +0.6
baz=317
MSO Missoula 75.48 37 P P 22 44 15.3 -0.3
baz=321,SNR=7.4
MSO Missoula 75.48 37 IAmb IAmb 22 44 17.4
comp=Z,12nm,1.0s
BMO Blue Mountains 75.50 40 IAmb IAmb 22 44 18.5
comp=Z,9.9nm,1.1s
M04C Macdoel 75.61 45 P P 22 44 16.6 +0.2
baz=318,SNR=6.5
SSB Saint Sauveur 75.76 321 P P 22 44 16.9 -0.2
SSB pmax pmax
comp=Z,7.0nm,0.9s
SSB Saint Sauveur 75.76 321 P P 22 44 16.9 -0.2
N02D Trinity Center 75.77 46 P P 22 44 17.7 +0.5
baz=318
KMRM Mail Ridge 75.80 47 P P 22 44 18.2 +0.8
KMRM IAmb IAmb 22 44 20.4
comp=Z,16nm,1.0s
WDC Whiskeytown Da 76.14 46 P P 22 44 18.9 -0.4
WDC pmax pmax
comp=Z,13nm,1.4s
WDC Whiskeytown Da 76.14 46 P P 22 44 18.9 -0.4
WDC IAmb IAmb 22 44 22.9
comp=Z,13nm,1.4s
EGMT Eagleton 76.27 34 P P 22 44 20.2 +0.2
baz=324,SNR=6.8
EGMT Eagleton 76.27 34 IAmb IAmb 22 44 21.6
comp=Z,18nm,1.1s
MOD Modoc Plateau 76.29 44 P P 22 44 20.6 +0.3
MOD IAmb IAmb 22 44 22.2
comp=Z,7.4nm,0.8s
O02D Mt. Diablo Mer 76.31 47 P P 22 44 20.6 +0.2
baz=318,SNR=5.9
HRY Holter Researc 76.47 36 P P 22 44 21.6 +0.4
WVOR Wild Horse Val 76.71 43 IAmb IAmb 22 44 25.1
comp=Z,11nm,1.1s
O03E Paynes Creek 76.73 46 P P 22 44 23.1 +0.3
baz=318
LRM Limekiln Ridge 76.91 37 P P 22 44 20.3 -3.5
CAF Calviac 77.14 322 eP P 22 44 25.0 +0.1
CAF pmax pmax
comp=Z,17nm,1.1s
DLMT Dillon 77.21 37 P P 22 44 26.2 +0.8
DLMT IAmb IAmb 22 44 27.7
comp=Z,16nm,1.1s
MFID Camas Ranch 77.29 40 P P 22 44 26.4 +0.5
MFID IAmb IAmb 22 44 28.1
comp=Z,11nm,0.9s
GDXM Geysers 77.32 48 P P 22 44 27.8 +1.7
GDXM IAmb IAmb 22 44 29.7
comp=Z,24nm,1.2s
BOZ Bozeman (W) 77.44 37 P P 22 44 26.6 -0.1
baz=323,SNR=8.8
BOZ Bozeman (W) 77.44 37 P P 22 44 26.8 +0.1
BOZ pmax pmax
comp=Z,9.0nm,1.2s
BOZ Bozeman (W) 77.44 37 P P 22 44 26.8 +0.1
BOZ IAmb IAmb 22 44 28.6
comp=Z,9.5nm,1.1s
ORV Oroville 77.44 46 P P 22 44 26.4 -0.2
ORV pmax pmax
comp=Z,6.0nm,1.0s
ORV Oroville 77.44 46 P P 22 44 26.4 -0.2
NWAO Narrogin (SRO) 77.46 186 P P 22 44 27.1 +0.6
NWAO pmax pmax
comp=Z,19nm,1.1s
NWAO Narrogin (SRO) 77.46 186 P P 22 44 27.1 +0.6
NWAO IAmb IAmb 22 44 29.6
comp=Z,19nm,1.1s
MCMT McKenzie Canyo 77.52 38 P P 22 44 28.2 +0.9
DGMT Dagmar 78.02 31 P P 22 44 29.7 0.0
baz=327
DGMT Dagmar 78.02 31 P P 22 44 29.6 -0.2
QLMT Earthquake Lak 78.13 37 P P 22 44 31.8 +1.1
AFDM Forest Hills D 78.16 46 P P 22 44 31.1 +0.4
AFDM IAmb IAmb 22 44 32.9
comp=Z,11nm,1.1s
YHL Hebgen Lake 78.22 37 P P 22 44 31.1 -0.1
YHB Horse Butte 78.30 37 P P 22 44 32.1 +0.5
PAHR Pah Rah Range 78.40 45 P P 22 44 32.7 +0.5
PAHR IAmb IAmb 22 44 34.5
comp=Z,13nm,1.1s
YHH Holmes Hill 78.42 37 P P 22 44 32.1 -0.3
YMR Madison River 78.46 37 P P 22 44 34.1 +1.6
RLMT Red Lodge 78.81 35 P P 22 44 34.9 +0.5
baz=324,SNR=11
RLMT Red Lodge 78.81 35 IAmb IAmb 22 44 36.3
comp=Z,14nm,1.1s
H17A Grant Village 78.85 37 P P 22 44 35.0 +0.3
baz=324,SNR=7.7
H17A Grant Village 78.85 37 P P 22 44 35.8 +1.1
H17A IAmb IAmb 22 44 38.1
comp=Z,9.1nm,1.0s
YPP Pitchstone Pla 78.85 37 P P 22 44 36.4 +1.6
BMN Battle Mountai 78.92 43 P P 22 44 36.3 +1.2
BMN pmax pmax
comp=Z,12nm,0.9s
BMN Battle Mountai 78.92 43 P P 22 44 36.3 +1.2
BMN IAmb IAmb 22 44 37.8
comp=Z,12nm,0.9s
YERR Yerington 79.02 45 P P 22 44 36.7 +1.0
YERR IAmb IAmb 22 44 38.2
comp=Z,11nm,1.1s
FLWY Flagg Ranch 79.05 37 P P 22 44 36.5 +0.8
IMW Indian Meadow 79.09 37 P P 22 44 37.0 +1.0
IMW IAmb IAmb 22 44 38.7
comp=Z,12nm,1.1s
CMB Columbia Colle 79.15 47 P P 22 44 37.0 +0.8
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 79.15 47 P P 22 44 37.0 +0.8
ULM Lac du Bonnet 79.25 25 P P 22 44 35.6 -0.9
comp=Z,7.0nm,0.8s,baz=318,slow=4.2,SNR=5.9
ULM Lac du Bonnet 79.25 25 IAmb IAmb 22 44 36.2
comp=Z,16nm,1.0s
FXWY Fox Creek 79.26 37 P P 22 44 37.8 +0.9
WAKR Walker 79.28 46 P P 22 44 37.4 +0.3
MOOW Moose Ponds 79.30 37 IAmb IAmb 22 44 39.6
comp=Z,10nm,1.1s
TPAW Teton Pass 79.41 37 P P 22 44 38.5 +0.7
SNOW Snow King Moun 79.52 37 P P 22 44 38.5 +0.2
KVN Kaiserville 79.55 45 P P 22 44 39.3 +0.8
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 79.55 45 P P 22 44 39.3 +0.8
KVN IAmb IAmb 22 44 41.1
comp=Z,13nm,1.1s
REDW Red Top Meadow 79.56 37 P P 22 44 39.6 +1.0
REDW IAmb IAmb 22 44 42.8
comp=Z,14nm,1.3s
ELK Elko 79.63 42 P P 22 44 39.6 +0.6
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 79.63 42 P P 22 44 39.6 +0.6
RYN Ryan 79.66 45 P P 22 44 40.1 +1.1
RYN IAmb IAmb 22 44 41.8
comp=Z,12nm,1.1s
NVAR Mina Array Bea 79.92 45 P P 22 44 41.8 +1.2
comp=Z,4.5nm,0.8s,baz=299,slow=4.4,SNR=18
NVAR LR LR 23 20 14.8
comp=Z,46nm,18.6s,baz=330,slow=36
NVAR Mina Array Bea 79.92 45 P P 22 44 41.6 +1.0
AHID Auburn Hatcher 79.93 38 P P 22 44 40.9 +0.4
NV11 Mina Array Sit 79.99 45 P P 22 44 41.4 +0.5
SCHQ Schefferville 80.46 6 P P 22 44 43.0 0.0
comp=Z,7.7nm,0.8s,baz=321,slow=4.1,SNR=3.4
SCHQ Schefferville 80.46 6 IAmb IAmb 22 44 45.9
comp=Z,5.6nm,0.8s
BW06 Boulder Array 80.60 37 P P 22 44 43.5 -0.7
baz=324
BW06 Boulder Array 80.60 37 P P 22 44 44.1 -0.1
PDAR Pinedale Array 80.60 37 P P 22 44 44.1 -0.1
comp=Z,1.1nm,0.8s,baz=318,slow=2.0,SNR=7.9
PDAR Pinedale Array 80.60 37 P P 22 44 44.0 -0.2
HWUT Hardware Ranch 80.65 39 IAmb IAmb 22 44 46.6
comp=Z,15nm,0.9s
AGMN Agassiz Nation 80.99 26 P P 22 44 45.6 -0.3
baz=332
AGMN Agassiz Nation 80.99 26 IAmb IAmb 22 44 46.0
comp=Z,13nm,1.1s
TCUT Toone Canyon 81.11 39 P P 22 44 47.8 +0.8
DUG Dugway, Tooele 81.21 41 P P 22 44 48.1 +0.7
baz=323
DUG Dugway, Tooele 81.21 41 P P 22 44 47.9 +0.5
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 81.21 41 P P 22 44 47.9 +0.5
R11A Troy Canyon, C 81.33 43 P P 22 44 48.1 -0.1
baz=322
R11A Troy Canyon, C 81.33 43 P P 22 44 48.9 +0.7
VES Vestal, Richgr 81.49 47 P P 22 44 49.1 +0.4
baz=320
GRAC Grapevine Rang 81.49 45 P P 22 44 48.5 -0.3
baz=321
CWC Cottonwood Cre 81.56 46 P P 22 44 49.4 +0.1
baz=320
RSSD Black Hills 81.74 33 P P 22 44 50.1 -0.1
baz=328
RSSD Black Hills 81.74 33 P P 22 44 50.5 +0.3
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 81.74 33 P P 22 44 50.5 +0.3
RSSD IAmb IAmb 22 44 51.6
comp=Z,16nm,1.0s
PKM Mcpherson Peak 81.83 48 P P 22 44 51.2 +0.4
baz=320
PSUT Pine Spring 82.03 42 P P 22 44 52.8 +1.0
TPNV Topopah Spring 82.09 45 P P 22 44 52.3 +0.2
baz=321
MPMC Manual Prospec 82.16 46 P P 22 44 53.1 +0.6
baz=321
FURC Furnace Creek, 82.16 45 P P 22 44 52.8 +0.6
baz=321
RDMU Red Mountain 82.38 38 P P 22 44 54.0 +0.4
EDW2 Edwards Air Fo 82.80 47 P P 22 44 56.7 +0.9
baz=321
SHPR Sheep Range 82.99 44 P P 22 44 58.4 +1.6
SHPR IAmb IAmb 22 44 59.7
comp=Z,9.3nm,1.1s
CCUT Cedar City 83.05 43 P P 22 44 58.1 +0.9
GSC Goldstone, Bar 83.09 46 P P 22 44 58.3 +1.0
baz=321
SRU San Rafael Swe 83.13 40 P P 22 44 57.5 0.0
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 83.13 40 P P 22 44 57.5 0.0
SZCU Shurtz Canyon 83.14 42 P P 22 44 58.9 +1.2
MTPU Mount Pierson 83.22 42 P P 22 44 59.7 +1.4
O20A White River Ci 83.32 38 P P 22 44 58.7 +0.2
baz=325
SUSD Miller 83.34 30 P P 22 44 58.0 -0.3
baz=331
BFSC Mount Baldy Ra 83.47 47 P P 22 44 59.5 +0.2
baz=321
LCMT Little Creek M 83.53 43 P P 22 45 00.3 +0.7
PHWY Pilot Hill 83.53 35 IAmb IAmb 22 45 01.1
comp=Z,8.4nm,1.1s
N23A Red Feather La 83.67 36 P P 22 45 00.9 +0.5
baz=327
N23A Red Feather La 83.67 36 P P 22 45 00.6 +0.2
N23A IAmb IAmb 22 45 04.2
comp=Z,9.6nm,1.1s
HEC Hector,Ludlow 83.70 46 P P 22 45 01.2 +0.8
baz=321
KNB Kanab 83.73 43 P P 22 45 01.1 +0.4
KNB pmax pmax
comp=Z,17nm,0.9s
KNB Kanab 83.73 43 P P 22 45 01.1 +0.4
ESDC Sonseca Array 84.01 322 P P 22 45 01.7 -0.2
comp=Z,1.5nm,0.7s,baz=48,slow=5.0,SNR=8.4
ESDC Sonseca Array 84.01 322 P P 22 45 01.1 -0.7
MATQ Matagami 84.07 14 P P 22 45 01.8 0.0
baz=345

GMRC	Granite Mounta	84.08	46	P	P	22 45 02.7	+0.3
	baz=322						
POLO	Lamas de Olo	84.19	326	*e*P	P	22 45 02.6	-0.2
	comp=Z,17nm,2.0s						
MURC	Murrieta	84.21	47	P	P	22 45 02.8	-0.2
	baz=321						
PV09	Paradox Valley	84.26	39	P	P	22 45 03.9	+0.4
PV21	Cone Mtn., Par	84.28	39	P	P	22 45 04.3	+0.8
PV21				IAmb	IAmb	22 45 05.5	
	comp=Z,11nm,1.0s						
PV23	Carpenter Ridg	84.35	39	P	P	22 45 03.7	-0.2
PV22	Blue Mesa, Par	84.39	39	IAmb	IAmb	22 45 07.1	
	comp=Z,12nm,1.1s						
CHGQ	Chibougamau	84.44	12	P	P	22 45 02.7	-1.1
	baz=347						
PV04	Paradox Valley	84.45	39	IAmb	IAmb	22 45 07.7	
	comp=Z,10nm,1.2s						
PV20	West Nyswonger	84.46	39	IAmb	IAmb	22 45 07.0	
	comp=Z,12nm,0.9s						
PV17	East Wray Mesa	84.52	39	IAmb	IAmb	22 45 07.9	
	comp=Z,16nm,1.3s						
BELC	Belle Mtn. Jos	84.52	46	P	P	22 45 05.4	+0.7
	baz=322						
PV07	Paradox Valley	84.53	39	IAmb	IAmb	22 45 07.8	
	comp=Z,9.2nm,1.0s						
PV11	David Mesa, Pa	84.54	39	IAmb	IAmb	22 45 08.6	
	comp=Z,15nm,1.2s						
PV12	Saucer Basin,	84.56	39	IAmb	IAmb	22 45 06.4	
	comp=Z,8.5nm,1.1s						
PFO	Pinyon Flats O	84.58	47	P	P	22 45 05.0	+0.1
	baz=321						
PFO	Pinyon Flats O	84.58	47	P	P	22 45 06.4	+1.4
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PFO	Pinyon Flats O	84.58	47	P	P	22 45 06.4	+1.4
PFO				IAmb	IAmb	22 45 07.2	
	comp=Z,10nm,1.0s						
SMCO	Snowmass	84.66	37	IAmb	IAmb	22 45 07.5	
	comp=Z,9.7nm,0.8s						
SPMN	Marine on St.	84.68	25	P	P	22 45 05.0	-0.1
	baz=334						
PV13	Radium Mtn., P	84.68	39	IAmb	IAmb	22 45 09.3	
	comp=Z,7.5nm,1.0s						
ISCO	Idaho Springs	84.72	36	P	P	22 45 05.7	-0.1
	baz=327						
W13A	Hualapai Mount	84.73	44	IAmb	IAmb	22 45 08.4	
	comp=Z,8.8nm,1.1s						
ECSD	EROS Data Cent	84.78	28	P	P	22 45 05.3	-0.3
	baz=332						
PV01	Paradox Valley	84.81	39	IAmb	IAmb	22 45 08.2	
	comp=Z,12nm,1.0s						
IRM	Iron Mountain	84.84	46	P	P	22 45 07.1	+0.9
	baz=322						
LSQQ	Lebel-sur-Quev	84.86	14	P	P	22 45 05.4	-0.5
	baz=345						
BC3	Big Chuckawall	85.07	46	P	P	22 45 08.9	+1.5
	baz=322						
MONP2	Monument Peak	85.16	47	P	P	22 45 08.6	+0.6
	baz=322						
PDMCI	Parker Dam,Lak	85.23	45	P	P	22 45 08.5	+0.4
	baz=323						
PCBR	Castelo Branco	85.36	325	*e*P	P	22 45 10.0	+1.4
	comp=Z,35nm,1.8s						
G40A	Rib Lake	85.41	24	P	P	22 45 08.5	-0.2
	baz=336						
SWSC	Sam W. Stewart	85.45	47	P	P	22 45 09.9	+0.8
	baz=322						
Y12C	Blythe	85.47	46	P	P	22 45 09.9	+0.7
	baz=322						
Y12C	Blythe	85.47	46	IAmb	IAmb	22 45 11.9	
	comp=Z,15nm,1.1s						
D46A	Sault St. Mari	85.50	19	P	P	22 45 08.4	-0.8
	baz=340						
IKP	In-Ko-Pah, Jac	85.52	47	P	P	22 45 10.2	+0.6
	baz=322						
D47A	Chapleau	85.56	18	P	P	22 45 09.0	-0.5
	baz=341						
MVCO	Mesa Verde	85.60	40	P	P	22 45 10.2	0.0
	baz=325						
D48A	Paudash Townsh	85.73	17	P	P	22 45 10.1	-0.3
	baz=342						
D49A	Beulah Townshi	85.73	17	P	P	22 45 09.3	-1.1
	baz=342						
S22A	4UR Ranch, Cre	85.91	38	P	P	22 45 12.1	+0.4
	baz=326						
E47A	Iron Bridge	86.09	19	P	P	22 45 11.3	-0.8
	baz=341						
D50A	G1974 Best Tow	86.15	16	P	P	22 45 11.6	-0.7
	baz=343						
F45A	CMU Biological	86.28	20	P	P	22 45 11.9	-1.1
	baz=339						
BGNE	Belgrade	86.28	31	P	P	22 45 12.1	-1.1
	baz=331						
D51A	Lot 18 Range I	86.31	16	P	P	22 45 12.4	-0.7
	baz=343						
X16A	Lo Mia Camp, P	86.48	43	IAmb	IAmb	22 45 17.5	
	comp=Z,8.9nm,0.9s						
E50A	Wahnapitae	86.67	17	P	P	22 45 14.2	-0.7
	baz=342						
D54A	Lac Fusel, La	86.75	14	P	P	22 45 14.2	-1.2
	baz=345						
E51A	G1948 Merrick	86.82	16	P	P	22 45 14.8	-0.8
	baz=343						
I42A	Draeger Farm,	87.04	23	P	P	22 45 16.4	-0.4
	baz=337						
D55A	Sainte-Anne-du	87.08	13	P	P	22 45 15.9	-1.1
	baz=346						
LATQ	La Tuque	87.14	12	P	P	22 45 16.5	-0.7
	baz=348						
D56A	ZEC Mazanza, M	87.17	13	P	P	22 45 17.1	-0.3
	baz=347						
E52A	Mattawa	87.22	16	P	P	22 45 16.8	-0.8
	baz=344						
F51A	Arnstein	87.32	17	P	P	22 45 17.2	-0.9
	baz=343						
D57A	Chemin Vers le	87.34	12	P	P	22 45 17.5	-0.7
	baz=347						
D58A	Chemin du LacG	87.41	12	P	P	22 45 17.9	-0.7
	baz=348						
H46A	Fife Lake	87.42	21	P	P	22 45 18.1	-0.6
	baz=340						
T25A	Trinidad	87.47	37	P	P	22 45 19.2	-0.1
	baz=328						
E55A	Montcerf-Lytto	87.53	14	P	P	22 45 18.7	-0.4
	baz=346						
JFWS	Jewell Farm	87.55	25	P	P	22 45 18.6	-0.7
	baz=336						
E56A	St. Veronique	87.62	13	P	P	22 45 18.9	-0.6
	baz=346						
ALGO	Algonquin Park	87.66	15	P	P	22 45 18.9	-0.8
	baz=344						
214A	Organ Pipe Nat	87.77	46	P	P	22 45 20.6	0.0
	baz=323						
D60A	Saint Jean D'O	87.86	10	P	P	22 45 19.9	-0.7
	baz=349						
E57A	Chemin Saint G	87.89	13	P	P	22 45 20.3	-0.6
	baz=347						
D62A	Allapoint, All	87.92	9	P	P	22 45 20.6	-0.3
	baz=351						
CBKS	Cedar Bluff	87.94	33	P	P	22 45 20.8	-0.5
	baz=330						
L40A	Anamosa	88.03	26	P	P	22 45 21.4	-0.2
	baz=336						
E58A	La Victoria	88.06	12	P	P	22 45 21.2	-0.4
	baz=348						
D63A	Stockholm	88.06	8	P	P	22 45 21.2	-0.4
	baz=351						
G54A	Lake Saint Pet	88.19	16	P	P	22 45 21.8	-0.5
	baz=344						
E62A	Clayton Lake	88.32	9	P	P	22 45 22.3	-0.6
	baz=350						
ANMO	Albuquerque	88.40	40	P	P	22 45 23.5	-0.3
	baz=327						
ANMO	Albuquerque	88.40	40	P	P	22 45 25.7	+1.9
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ANMO	Albuquerque	88.40	40	P	P	22 45 25.7	+1.9
ANMO				IAmb	IAmb	22 45 26.5	
	comp=Z,8.5nm,1.1s						
E63A	Oxbow	88.64	9	P	P	22 45 23.8	-0.5
	baz=351						
KMBO	Kilima Mbogo	88.65	267	P	P	22 45 26.6	+1.4
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KMBO	Kilima Mbogo	88.65	267	P	P	22 45 24.9	-0.4
	comp=Z,1.1nm,0.7s,baz=42,slow=13,SNR=5.7						
KMBO	Kilima Mbogo	88.65	267	P	P	22 45 26.6	+1.4
E64A	Bridgewater	88.70	8	P	P	22 45 24.2	-0.4
	baz=352						
PLVO	Plevna	88.72	15	P	P	22 45 24.2	-0.6
PLVO				IAmb	IAmb	22 45 34.1	
	comp=Z,10.0nm,1.2s						
F61A	St Evariste	88.77	11	P	P	22 45 24.6	-0.4
	baz=349						
F62A	Pittston Farm,	88.98	10	P	P	22 45 25.9	-0.1
	baz=350						
G57A	Newington	89.03	14	P	P	22 45 26.3	+0.1
	baz=346						
G58A	Ormstown	89.13	13	P	P	22 45 26.6	-0.2
	baz=347						
H55A	Tweed	89.17	15	P	P	22 45 26.8	-0.2
	baz=345						
F64A	Sherman	89.20	9	P	P	22 45 26.7	-0.3
	baz=351						
K48A	Perry	89.33	20	P	P	22 45 27.6	-0.1
	baz=340						
G61A	St-Isidore-de-	89.38	11	P	P	22 45 27.3	-0.6
	baz=349						
I55A	Frankford	89.40	16	P	P	22 45 26.9	-1.1
	baz=345						
G62A	West of Eustis	89.57	10	P	P	22 45 27.8	-1.0
	baz=350						
H57A	Richville	89.58	14	P	P	22 45 28.3	-0.5
	baz=346						
PKME	Peaks-Kenny Pk	89.68	10	P	P	22 45 28.9	-0.4
	baz=350						
H59A	Cadyville	89.68	13	P	P	22 45 28.7	-0.7
	baz=347						
G64A	Maxfield	89.75	9	P	P	22 45 29.2	-0.4
	baz=351						
G63A	Kingsbury	89.79	10	P	P	22 45 29.5	-0.3
	baz=350						
H58A	Gabriels	89.83	13	P	P	22 45 29.7	-0.4
	baz=347						
I57A	Carthage	90.04	14	P	P	22 45 29.8	-1.2
	baz=346						
L48A	N Adams	90.05	21	P	P	22 45 30.8	-0.4
	baz=340						
H61A	Lyndonville	90.06	12	P	P	22 45 30.6	-0.5
	baz=349						
L49A	Milan	90.07	20	P	P	22 45 30.8	-0.4
	baz=340						
H62A	Milan	90.12	11	P	P	22 45 30.9	-0.5
	baz=349						
J55A	Hilton	90.29	16	P	P	22 45 31.1	-1.1
	baz=345						
H66A	Whiting	90.37	8	P	P	22 45 32.0	-0.5
	baz=352						
I59A	Olmsteadville	90.48	13	P	P	22 45 32.7	-0.3
	baz=347						
J57A	Williamstown	90.50	15	P	P	22 45 32.6	-0.5
	baz=346						
I60A	Shoreham	90.53	13	P	P	22 45 32.8	-0.4
	baz=348						
J58A	Remsen	90.67	14	P	P	22 45 33.6	-0.3
	baz=346						
J59A	Piesco	90.70	14	P	P	22 45 34.0	-0.1
	baz=347						
N47A	Urbana	90.72	22	P	P	22 45 34.0	-0.2
	baz=339						
K54A	Basiliko Farm,	90.75	17	P	P	22 45 34.1	-0.2
	baz=344						
K55A	Perry	90.76	16	P	P	22 45 34.3	-0.1
	baz=344						
I62A	Tamworth	90.78	11	P	P	22 45 34.3	-0.2
	baz=349						
N48A	Decatur	90.92	22	P	P	22 45 33.8	-1.4
	baz=340						
N49A	Columbus Grove	91.08	21	P	P	22 45 35.6	-0.3
	baz=340						
J60A	Lant Hill Farm	91.09	13	P	P	22 45 35.6	-0.3
	baz=348						
J61A	Chester	91.13	12	P	P	22 45 35.8	-0.2
	baz=348						
K58A	Earlville	91.18	15	P	P	22 45 36.1	-0.2
	baz=346						
J62A	Henniker	91.35	12	P	P	22 45 37.0	-0.1
	baz=349						
L56A	Greenwood	91.43	16	P	P	22 45 37.4	-0.2
	baz=345						
P46A	Rosedale	91.47	24	P	P	22 45 37.7	0.0
	baz=338						
N50A	Nevada	91.48	20	P	P	22 45 37.7	0.0
	baz=341						
MNTX	Cornudas Mount	91.60	41	IAmb	IAmb	22 45 41.0	
	comp=Z,3.2nm,0.8s						
CCM	Cathedral Cave	91.66	27	P	P	22 45 38.6	-0.1
	baz=336						
L57A	Andrews Acres	91.70	16	P	P	22 45 38.0	-0.8
	baz=345						
M55A	Ridgway	91.83	17	P	P	22 45 39.3	-0.1
	baz=344						
K62A	Royalston	91.84	12	P	P	22 45 39.3	-0.1
	baz=348						
L58A	Harry Jones Me	91.84	15	P	P	22 45 39.0	-0.5
	baz=346						
L59A	Walton	91.85	14	P	P	22 45 39.2	-0.3
	baz=346						
L59A	Walton	91.85	14	P	P	22 45 39.0	-0.5
WMOK	Wichita Mounta	91.86	34	P	P	22 45 39.1	-0.6
	baz=331						
WMOK	Wichita Mounta	91.86	34	P	P	22 45 40.2	+0.5
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WMOK	Wichita Mounta	91.86	34	P	P	22 45 40.2	+0.5
WMOK				IAmb	IAmb	22 45 42.1	
	comp=Z,8.8nm,1.1s						
M56A	Emporium	91.93	17	P	P	22 45 39.3	-0.6
	baz=344						
N53A	Lisbon	92.00	19	P	P	22 45 39.7	-0.5
	baz=342						
N54A	Moraine State	92.05	18	P	P	22 45 40.0	-0.4
	baz=343						
L61A	Hillsdale 1, H	92.10	13	P	P	22 45 39.9	-0.7
	baz=348						
P48A	Milroy	92.12	23	P	P	22 45 40.2	-0.5
	baz=339						
P49A	Miami Univ. Ec	92.24	22	P	P	22 45 40.8	-0.5
	baz=340						
M57A	Sunshine Farm,	92.28	16	P	P	22 45 40.9	-0.6
	baz=345						
M58A	Price's Panora	92.38	15	P	P	22 45 41.6	-0.4
	baz=346						
M59A	Waymart	92.41	15	P	P	22 45 41.6	-0.5
	baz=346						
P50A	Jamestown	92.41	21	P	P	22 45 41.7	-0.4
	baz=340						
O52A	Adamsville	92.42	20	P	P	22 45 41.7	-0.4
	baz=342						
N55A	Marion Center	92.44	17	P	P	22 45 41.8	-0.5
	baz=344						
O53A	New Philadelph	92.45	19	P	P	22 45 41.8	-0.4
	baz=342						
N56A	West Decatur	92.45	17	P	P	22 45 41.8	-0.5
	baz=344						
Q48A	North Vernon	92.53	23	P	P	22 45 42.2	-0.5
	baz=339						
U40A	Yellville	92.66	29	P	P	22 45 43.3	0.0
	baz=335						
U40A	Yellville	92.66	29	IAmb	IAmb	22 45 43.6	
	comp=Z,6.7nm,1.1s						
O54A	Avella	92.70	19	P	P	22 45 43.2	-0.2
	baz=343						
L63A	North Scituate	92.72	12	P	P	22 45 43.3	-0.1
	baz=349						
M60A	Port Jervis	92.76	14	P	P	22 45 42.9	-0.8
	baz=347						
N57A	Milroy	92.76	16	P	P	22 45 43.2	-0.5
	baz=345						
SSPA	Standing Stone	92.81	17	P	P	22 45 43.3	-0.6
	baz=344						
O55A	Ligonier	92.92	18	P	P	22 45 44.0	-0.5
	baz=344						
M62A	Hamden	92.94	13	P	P	22 45 44.4	0.0
	baz=348						
N59A	State Game Lan	92.95	15	P	P	22 45 44.2	-0.4
	baz=346						
O56A	Blue Knob Stat	93.02	17	P	P	22 45 44.1	-0.9
	baz=344						
PAL	Palisades	93.19	14	P	P	22 45 45.3	-0.3
	baz=347						
P54A	Burton	93.23	19	P	P	22 45 46.0	+0.1
	baz=343						
O57A	Amberson	93.27	17	P	P	22 45 46.1	+0.1
	baz=345						
MCWV	Mont Chateau	93.32	18	P	P	22 45 46.4	+0.1
	baz=343						
ABTX	Abilene, Hawle	93.35	36	P	P	22 45 47.1	+0.5
	baz=330						
ABTX	Abilene, Hawle	93.35	36	P	P	22 45 46.3	-0.3
ABTX				IAmb	IAmb	22 45 48.2	
	comp=Z,7.1nm,1.0s						
P55A	Reedsville	93.47	18	P	P	22 45 47.1	+0.1
	baz=343						
LCAR	Lake Charles	93.50	28	P	P	22 45 47.4	+0.3
Q53A	Leroy	93.69	20	P	P	22 45 47.7	-0.3
	baz=342						
P56A	Dayton Farm, R	93.69	18	P	P	22 45 48.1	+0.1
	baz=344						
S49A	Springfield	93.72	23	P	P	22 45 48.1	-0.1
	baz=340						
Q54A	Coxs Mills	93.74	19	P	P	22 45 48.0	-0.2
	baz=342						
W41B	Gary Mavity, V	93.93	29	P	P	22 45 49.4	+0.3
	baz=335						
P58A	Pank, Wackersv	94.03	17	P	P	22 45 49.5	0.0
	baz=345						
Q56A	Snyder Ridge,	94.06	18	P	P	22 45 49.7	0.0
	baz=344						
X40A	Basin Creek Fa	94.34	30	P	P	22 45 51.4	+0.4
	baz=335						
TX31	Lajitas Ar. Si	94.38	41	P	P	22 45 52.0	+0.5
TX32	Lajitas Array	94.38	41	P	P	22 45 51.8	+0.3
TXAR	Lajitas Array	94.39	41	P	P	22 45 52.3	+0.8
TXAR	Lajitas Array	94.39	41	P	P	22 45 51.7	+0.2
	comp=Z,1.2nm,0.8s,baz=306,slow=2.8,SNR=6.2						
TXAR	Lajitas Array	94.39	41	P	P	22 45 52.4	+0.8
T50A	Nancy	94.56	23	P	P	22 45 51.3	-0.8
	baz=340						
U49A	Red Boiling Sp	94.77	24	P	P	22 45 52.5	-0.5
	baz=339						
R58A	Rapidan	95.03	17	P	P	22 45 53.9	-0.3
	baz=344						
U50A	Jamestown	95.12	23	P	P	22 45 54.3	-0.4
	baz=340						
R58B	Mineral	95.38	17	P	P	22 45 54.9	-0.8
	baz=344						
U52A	Thorn Hill	95.55	22	P	P	22 45 56.3	-0.3
	baz=341						
V50A	Pikevile	95.75	24	P	P	22 45 57.3	-0.2
	baz=340						
U53A	Fall Branch	95.79	21	P	P	22 45 57.3	-0.4
	baz=341						
W49A	Belvidere	95.92	25	P	P	22 45 57.6	-0.7
	baz=339						
T59A	Double "B" Far	96.40	17	P	P	22 46 00.0	-0.4
	baz=345						
Z52A	Williamson	98.27	24	P	P	22 46 08.3	-0.7
	baz=340						
PPT	Papeete	99.47	105	LR	LR	23 24 33.9	
	comp=Z,48nm,21.7s,baz=356,slow=31						
357A	Townsend	100.75	22	P	Pdif	22 46 18.3	-1.7
	baz=342						
TORD	Torodi Ar. Bea	102.48	303	PP	PP	22 50 36.7	-3.6
	comp=Z,1.8nm,1.1s,baz=33,slow=6.5,SNR=4.5						
MAW	Mawson	121.05	203	PKIKP	PKiKP	22 51 24.0	+1.2
MAW	Mawson	121.05	203	PKP	PKiKP	22 51 24.0	+1.2
	comp=Z,1.7nm,0.8s,baz=39,slow=6.5,SNR=3.7						
QSPA	South Pole Qui	134.38	180		PKPdf	22 51 46.8	-1.4
SNAA	Sanae	143.18	205	PKPdf	PKPbc	22 52 00.9	-0.4
SNAA	Sanae	143.18	205	PKIKP	PKPbc	22 52 01.8	+0.5
SNAA	Sanae	143.18	205		PKPbc	22 52 01.8	+0.6
VNA2	Neumayer--Watz	144.81	205	PKPdf	PKPab	22 52 05.4	-0.6
	baz=83,slow=2.9						
VNA1	Neumayer--Stat	145.19	205	PKPdf	PKPbc	22 52 06.7	-0.6
VNA3	Neumayer Olymp	145.36	204	PKPdf	PKPbc	22 52 06.8	-1.2
LPAZ	La Paz	149.87	24	PKPbc	PKPbc	22 52 22.0	-0.7
	comp=Z,7.5nm,0.9s,baz=11,slow=5.2,SNR=13						
BDFB	Brasilia	150.37	345	PKIKP	PKPbc	22 52 23.2	0.0
BDFB	Brasilia	150.37	345	PKPbc	PKPbc	22 52 23.0	-0.2
	comp=Z,5.4nm,0.8s,baz=38,slow=3.1,SNR=5.8						
BDFB	Brasilia	150.37	345		PKPbc	22 52 23.2	0.0
MNMC	Minye Minye	152.06	29		PKiKP	22 52 27.8	+0.1
MNMC					PKPab	22 52 37.3	+0.6

ISN **22** *22:41:12.5±0.8, 34°.36N×45°.60E, h6km±5km, ML3.3*
TEH **22** *22:41:12.9, 34°.34N×45°.61E, h12km, ML3.4*
ISC 22 22:41:12.9±1.3, 34°.35N±0°.03×45°.62E±0°.03, h3km±11km,
n21, σ0.9=97/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.72	61	*e*Pg	Pg	22 41 26.8	0.0
IDHR				*e*Sg	Sb	22 41 38.4	-0.3
IDHR				IAMB	IAmb	22 41 41.3	
	comp=Z,0.0nm,0.4s						
IGHG	Ghaleghazi	0.79	91	*e*Pg	Pb	22 41 28.7	-0.7
IGHG				*e*Sg	Sn	22 41 41.5	-2.0
IGHG				IAMB	IAmb	22 41 45.1	
	comp=Z,10μm,0.5s						
KCHF	Cheshme Sefid,	1.18	93	*e*Pg	Pn	22 41 36.0	-0.5
KCHF				*e*Sg	Sn	22 41 52.7	-0.4
KCHF				IAMB	IAmb	22 41 56.7	
	comp=Z,0.0nm,0.7s						
ILIN	Lien	1.24	62	*e*Pg	Pg	22 41 37.0	+0.2
ILIN				IAMB	IAmb	22 41 57.3	
	comp=Z,9μm,0.6s						
KER	Kermanshah	1.25	88	*e*Pg	Pb	22 41 37.5	+0.6
KER				*e*Sg	Sn	22 41 55.5	+0.6
IBDR	Badra	1.26	168	*e*Pg	Pg	22 41 37.0	-0.1
IBDR				*e*Sg	Sn	22 41 55.0	+0.1
IKRK	Kirkuk	1.49	315	*e*Pn	Pg	22 41 41.0	-0.5
IKRK				AML	AML	22 41 45.5	
	comp=Z,270nm,0.4s						
IKRK				*e*Sn	Sg	22 42 02.0	+1.3
BHD	Baghdad	1.49	224	*e*Pg	Pg	22 41 41.0	-0.5
BHD				*e*Sg	Sg	22 42 01.0	+0.2
IKOM	Komasi	1.57	96	*e*Pn	Pb	22 41 42.2	-0.6
IKOM				IAMB	IAmb	22 42 13.9	
	comp=Z,0.0nm,0.6s						
IBZA	Bozab	1.86	86	*e*Pn	Pb	22 41 47.0	-0.7
IBZA				IAMB	IAmb	22 42 16.8	
	comp=Z,0.0nm,0.7s						
IKFM	Kafar-mosalman	2.02	113	*e*Pn	Pb	22 41 49.3	-1.1
IKFM				IAMB	IAmb	22 42 29.0	
	comp=Z,0.0nm,0.8s						
IDOB	Doab	2.19	104	*e*Pn	Pn	22 41 51.3	+0.8
IDOB				IAMB	IAmb	22 42 37.4	
	comp=Z,0.0nm,1.1s						
MAHB	Mahabad	2.42	2	*e*Pn	Pb	22 41 55.1	-2.0
MAHB				IAMB	IAmb	22 42 38.8	
	comp=Z,0.0nm,0.5s						
IKMR	Kamar-syah	2.44	109	*e*Pn	Pn	22 41 54.7	+1.1
IKMR				IAMB	IAmb	22 42 49.2	
	comp=Z,0.0nm,0.7s						
HSAM	Samen	2.47	92	*e*Pn	Pn	22 41 55.3	+0.9
HSAM				IAMB	IAmb	22 42 37.3	
	comp=Z,0.0nm,0.9s						
BDRS	Dareh Seyedi	2.73	97	*e*Pn	Pn	22 41 58.8	+0.8
BDRS				IAMB	IAmb	22 42 48.3	
	comp=Z,0.0nm,0.7s						
MSL	Mosul	2.90	316	*e*Pn	Pn	22 42 01.0	+1.0
MSL				AML	AML	22 42 13.4	
	comp=Z,469nm,0.8s						
MSL				*e*Sn	Sn	22 42 36.0	+0.7
HAGD	Aghdareh	2.94	80	*e*Pn	Pn	22 42 02.0	+1.2
HAGD				IAMB	IAmb	22 42 57.5	
	comp=Z,0.0nm,0.8s						
RTB	Rutbah	4.62	255	*e*Pn	Pn	22 42 25.0	+1.3
RTB				AML	AML	22 42 45.3	
	comp=Z,201nm,0.7s						
RTB				*e*Sn	Sn	22 43 18.0	+0.1
IKLH	Kolahrood	5.06	100	*e*Pn	Pn	22 42 31.6	+1.6
IKLH				IAMB	IAmb	22 42 32.6	
	comp=Z,291nm,0.5s						
IZEF	Zefreh	5.78	103	*e*Pn	Pn	22 42 40.2	+0.3
IZEF				IAMB	IAmb	22 44 30.3	
	comp=Z,100nm,0.8s						

ISN **22** *22:58:27.2±2.5, 34°.37N×45°.60E, h14km±14km, ML3.2*
TEH **22** *22:58:27.4, 34°.33N×45°.64E, h13km, ML3.4*
ISC 22 22:58:27.0±1.3, 34°.34N±0°.03×45°.61E±0°.03, h5km±11km,
n25, σ0.9=79/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.74	60	*e*Pg	Pg	22 58 40.6	-0.6
IDHR		

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
IGHG	**Ghaleghazi**	**0.80**	**90**	*e*Pg		**Pg**	**22 58 42.4**	**+0.1**
IGHG					IAMB	IAmb	22 58 58.9	
	comp=Z,12μm,0.5s							
KCHF	**Cheshme Sefid,**	**1.19**	**93**	*e*Pg		**Pg**	**22 58 49.4**	**-0.4**
KCHF				*e*Sg		**Sn**	**22 59 06.5**	**-0.7**
KCHF					IAMB	IAmb	22 59 10.4	
	comp=Z,0.0nm,0.7s							
IBDR	**Badra**	**1.25**	**168**	*e*Pg		**Pg**	**22 58 51.0**	**0.0**
IBDR					AML	AML	22 58 53.2	
	comp=Z,134nm,0.6s							
IBDR				*e*Sg		**Sn**	**22 59 09.0**	**+0.5**
ILIN	**Lien**	**1.26**	**62**	*e*Pg		**Pg**	**22 58 50.5**	**-0.7**
KER	**Kermanshah**	**1.26**	**87**	*e*Pg		**Pg**	**22 58 50.9**	**-0.3**
KER				*e*Sg		**Sn**	**22 59 08.3**	**-0.6**
BHD	**Baghdad**	**1.48**	**224**	*e*Pg		**Pn**	**22 58 54.6**	**+0.4**
BHD					AML	AML	22 58 56.5	
	comp=Z,5μm,0.5s							
BHD				*e*Sg		**Sg**	**22 59 15.0**	**+0.6**
IKRK	**Kirkuk**	**1.49**	**316**	*e*Pg		**Pn**	**22 58 54.2**	**-0.3**
IKRK					AML	AML	22 59 01.6	
	comp=Z,182nm,0.5s							
IKRK				*e*Sn		**Sg**	**22 59 16.0**	**+1.2**
IKOM	**Komasi**	**1.58**	**95**	*e*Pn		**Pb**	**22 58 56.6**	**-0.3**
IKOM					IAMB	IAmb	22 59 27.3	
	comp=Z,0.0nm,0.8s							
IBZA	**Bozab**	**1.87**	**85**	*e*Pn		**Pn**	**22 59 00.6**	**+0.7**
IKFM	**Kafar-mosalman**	**2.03**	**113**	*e*Pn		**Pn**	**22 59 02.7**	**+0.8**
IKFM					IAMB	IAmb	22 59 42.9	
	comp=Z,0.0nm,0.5s							
IDOB	**Doab**	**2.20**	**104**	*e*Pn		**Pn**	**22 59 04.9**	**+0.4**
IDOB					IAMB	IAmb	22 59 45.9	
	comp=Z,0.0nm,0.8s							
MAHB	**Mahabad**	**2.42**	**2**	*e*Pn		**Pb**	**22 59 10.5**	**-0.7**
MAHB					IAMB	IAmb	22 59 49.9	
	comp=Z,0.0nm,0.4s							
IKMR	**Kamar-syah**	**2.45**	**109**		IAMB	IAmb	22 59 09.1	
	comp=Z,0.0nm,0.4s							
IKMR				*e*Pn		**Pn**	**22 59 08.3**	**+0.7**
HSAM	**Samen**	**2.48**	**92**		IAMB	IAmb	22 59 51.5	
	comp=Z,0.0nm,0.5s							
HSAM				*e*Pn		**Pn**	**22 59 09.1**	**+0.7**
BDRS	**Dareh Seyedi**	**2.74**	**97**	*e*Pn		**Pn**	**22 59 12.3**	**+0.3**
BDRS					IAMB	IAmb	23 00 00.6	
	comp=Z,0.0nm,0.6s							
MSL	**Mosul**	**2.90**	**316**	*e*Pn		**Pn**	**22 59 14.0**	**+0.1**
MSL					AML	AML	22 59 21.7	
	comp=Z,250nm,0.4s							
MSL				*e*Sn		**Sn**	**22 59 50.0**	**+0.9**
HAGD	**Aghdareh**	**2.95**	**80**	*e*Pn		**Pn**	**22 59 15.7**	**+0.9**
HAGD					IAMB	IAmb	23 00 04.8	
	comp=Z,0.0nm,0.5s							
IBST	**Bostanabad**	**3.51**	**17**	*e*Pn		**Pn**	**22 59 23.1**	**+0.6**
ITBZ	**Tabriz**	**3.91**	**6**	*e*Pn		**Pn**	**22 59 28.8**	**+0.8**
RTB	**Rutbah**	**4.61**	**255**	*e*Pn		**Pn**	**22 59 36.0**	**-1.3**
RTB					AML	AML	22 59 54.0	
RTB				*e*Sn		**Sn**	**23 00 31.0**	**-0.3**
JHBN	**Jahan bin**	**4.73**	**115**	*e*Pn		**Pn**	**22 59 38.0**	**-1.3**
JHBN					IAMB	IAmb	23 00 44.5	
	comp=Z,0.0nm,0.7s							
QAM	**Ghamsar**	**4.88**	**95**	*e*Pn		**Pn**	**22 59 42.4**	**+1.2**
QAM					IAMB	IAmb	23 00 45.3	
	comp=Z,139nm,0.4s							
IKLH	**Kolahrood**	**5.07**	**100**	*e*Pn		**Pn**	**22 59 44.7**	**+0.7**
IKLH					IAMB	IAmb	22 59 46.1	
	comp=Z,547nm,0.5s							
KRSH	**Karshahi**	**5.42**	**92**	*e*Pn		**Pn**	**22 59 50.2**	**+1.4**

STR ***22*** *23:04:05.4±0.9, 45°N±2°×°±°, h9km±6km, MLv3.6/6*
ISCJB ***22*** *23:04:06.5±0.3, 44°.98N±0°.01×8°.98E±0°.01, h9km±2km, mb3.4/1, Error ellipse: s-maj=1.9km s-min=1.7km az=145.4*
IDC ***22*** *23:04:06.1±1.7, 45°.28N×8°.47E, h0km, mb3.5/1, mb1 3.5/5, mb1mx3.3/42, mbtmp3.4/5, ML3.8/4, Error ellipse: s-maj=45.1km s-min=14.3km az=125.0*
PRU ***22*** *23:04:07.8±0.0, 45°.00N×8°.98E, h11km*
LDG ***22*** *23:04:07.6±0.1, 44°.92N×9°.08E, h2km, Md3.3/3, Ml3.6/46, Error ellipse: s-maj=1.4km s-min=1.0km az=54.0*
BGR ***22*** *23:04:07.0±0.8, 44°.86N×8°.80E, h10km, ML3.5/9, Error ellipse: s-maj=16.7km s-min=12.2km az=84.0*
GEN ***22*** *23:04:07.2, 44°.93N×9°.04E, h6km±1km, Ml3.2*
ROM ***22*** *23:04:07.6±0.1, 44°.914N±0°.005×9°.018E±0°.008, h18km±1km, ML3.3/56, Error ellipse: s-maj=0.6km s-min=0.1km az=88.0*
ISC 22 23:04:06.9±1.0, **44°.94N**±0°.01×**8°.99E**±0°.01, **h9**km±8km, **n172**, σ1$**42**/261, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BOB	**Bobbio (Coli)**	**0.37**	**118**		P	**Pg**	**23 04 14.2**	**-0.1**
BOB					S	**Sg**	**23 04 19.5**	**+0.4**
BOB					AML	AML		
	comp=N,3955μm,1.0s							
BOB					AML	AML		
	comp=E,4305μm,1.3s							
BOB					AML	AML		
	comp=E,4050μm,1.3s							
BOB					AML	AML		
	comp=N,3925μm,1.6s							
BOB					AML	AML		
	comp=E,4055μm,1.3s							
BOB					AML	AML		
	comp=N,3950μm,1.0s							
GORR	**Gorreto**	**0.40**	**147**		P	**Pg**	**23 04 14.4**	**-0.3**
GORR					S	**Sg**	**23 04 19.8**	**-0.3**
GORR	**Gorreto**	**0.40**	**147**		P	**Pg**	**23 04 14.4**	**-0.3**
GORR					S	**Sg**	**23 04 20.5**	**+0.5**
GORR					AML	AML		
	comp=E,9720μm,1.4s							
GORR					AML	AML		
	comp=N,11685μm,0.5s							
MILN	**Milano**	**0.56**	**18**		P	**Pb**	**23 04 19.4**	**+0.4**
CTL8	**Castelleone**	**0.64**	**58**		P	**Pb**	**23 04 20.7**	**+0.4**
CTL8					AML	AML		
	comp=N,3370μm,0.8s							
CTL8					AML	AML		
	comp=N,1180μm,1.3s							
CTL8					AML	AML		
	comp=E,1485μm,0.6s							
CTL8					AML	AML		
	comp=E,4965μm,0.5s							
MSSA	**Maissana**	**0.73**	**149**		P	**Pg**	**23 04 20.2**	**-0.8**
MSSA					S	**Sg**	**23 04 31.0**	**+0.4**
MSSA					AML	AML		
	comp=E,1079μm,0.5s							
MSSA					AML	AML		
	comp=N,990μm,0.7s							
MSSA					AML	AML		
	comp=E,1078μm,0.5s							
MSSA					AML	AML		
	comp=N,990μm,0.7s							
MONC	**Moncucco Torin**	**0.76**	**280**		P	**Pn**	**23 04 24.2**	**+0.3**
MONC					AML	AML		
	comp=E,9400μm,0.7s							
MONC					AML	AML		
	comp=E,9405μm,0.7s							
MONC					AML	AML		
	comp=N,7715μm,0.4s							
QLNO	**Quiliano**	**0.77**	**217**		P	**Pg**	**23 04 21.9**	**+0.2**
QLNO					S	**Sb**	**23 04 33.0**	**-0.1**
QLNO					AML	AML		
	comp=E,1270μm,0.5s							
QLNO					AML	AML		
	comp=N,1225μm,0.2s							
MERA	**Merate**	**0.79**	**22**		P	**Pb**	**23 04 23.0**	**+0.2**
MERA					AML	AML		
	comp=E,5265μm,0.6s							
MERA					AML	AML		
	comp=N,4300μm,0.4s							
GRAM	**Graiana**	**0.89**	**120**		P	**Pg**	**23 04 23.3**	**-0.8**
GRAM					S	**Sg**	**23 04 34.8**	**-0.8**
GRAM	**Graiana**	**0.89**	**120**		P	**Pg**	**23 04 23.5**	**-0.6**
GRAM					S	**Sg**	**23 04 36.0**	**+0.4**
GRAM					AML	AML		
	comp=E,2680μm,0.4s							
GRAM					AML	AML		
	comp=N,3365μm,1.3s							
FINB	**Finale Ligure**	**0.90**	**212**		P	**Pg**	**23 04 24.4**	**+0.2**
FINB					S	**Sb**	**23 04 36.8**	**0.0**
FINB					AML	AML		
	comp=E,1325μm,1.1s							
FINB					AML	AML		
	comp=N,1450μm,0.3s							
VARE	**Varese**	**0.94**	**351**		P	**Pb**	**23 04 25.8**	**+0.4**
VARE					S	**Sn**	**23 04 39.3**	**-0.7**
VARE					AML	AML		
	comp=E,1285μm,1.1s							
VARE					AML	AML		
	comp=N,1705μm,0.9s							
VARE					AML	AML		
	comp=E,1295μm,0.6s							
VARE					AML	AML		
	comp=N,1710μm,0.9s							
MDI	**Monti di Nese**	**0.98**	**31**		P	**Pg**	**23 04 25.1**	**-0.6**
MDI					S	**Sn**	**23 04 40.7**	**-0.2**
MDI					AML	AML		
	comp=N,1100μm,1.1s							
MDI					AML	AML		
	comp=N,1036μm,1.6s							
MDI					AML	AML		
	comp=E,1140μm,1.2s							
MDI					AML	AML		
	comp=E,1135μm,1.2s							
MDI					AML	AML		
	comp=N,1100μm,1.1s							
MDI					AML	AML		
	comp=N,1032μm,1.6s							
MUGIO	**Muggio**	**0.98**	**2**		P	**Pg**	**23 04 25.7**	**0.0**
MUGIO					S	**Sn**	**23 04 40.9**	**-0.1**
MUGIO					AML	AML		
	comp=E,1264μm,0.8s							
MUGIO					AML	AML		
	comp=N,1260μm,0.4s							
TRAV	**Traversella**	**1.05**	**303**		P	**Pg**	**23 04 27.5**	**+0.5**
TRAV					S	**Sn**	**23 04 42.5**	**-0.1**
TRAV					AML	AML		
	comp=E,5325μm,0.8s							
TRAV					AML	AML		
	comp=N,6315μm,1.6s							
RORO	**Rocca Rossa**	**1.06**	**219**		P	**Pb**	**23 04 27.4**	**-0.1**
RORO					S	**Sg**	**23 04 41.9**	**+0.8**
RORO					AML	AML		
	comp=E,1770μm,0.5s							
RORO					AML	AML		
	comp=N,1095μm,0.6s							
PLMA	**Palmaria, Port**	**1.09**	**145**		P	**Pb**	**23 04 26.8**	**-1.1**
PLMA					S	**Sb**	**23 04 40.8**	**-1.3**
PLMA					AML	AML		
	comp=N,1425μm,1.5s							
PLMA					AML	AML		
	comp=E,1295μm,1.5s							
EQUI	**Equi**	**1.14**	**133**		P	**Pb**	**23 04 27.3**	**-1.5**
ERBM	**Eremo**	**1.14**	**117**		P	**Pn**	**23 04 29.0**	**-0.2**
ERBM					AML	AML		
	comp=E,710μm,1.3s							
ERBM					AML	AML		
	comp=N,1042μm,1.1s							
CIRO	**Champorcher**	**1.20**	**304**		P	**Pn**	**23 04 30.2**	**+0.1**
CIRO					S	**Sn**	**23 04 47.1**	**+0.4**
CIRO					AML	AML		
	comp=E,5970μm,0.3s							
CIRO					AML	AML		
	comp=N,10600μm,0.6s							
CIRO					AML	AML		
	comp=E,5965μm,0.3s							
SATI	**Passo dei Sala**	**1.22**	**320**		P	**Pn**	**23 04 30.0**	**-0.5**
SATI					S	**Sn**	**23 04 47.2**	**-0.1**
SATI					AML	AML		
	comp=E,1545μm,0.3s							
SATI					AML	AML		
	comp=N,1735μm,0.7s							
MGRO	**Montegrosso**	**1.23**	**224**		P	**Pn**	**23 04 30.4**	**-0.1**
MGRO					S	**Sb**	**23 04 46.6**	**0.0**
MGRO					AML	AML		
	comp=N,1145μm,0.4s							
MGRO					AML	AML		
	comp=E,1820μm,0.5s							
SARO	**Sassorosso**	**1.26**	**126**		P	**Pn**	**23 04 29.2**	**-1.6**
SARO					S	**Sb**	**23 04 47.1**	**-0.2**
SARO					AML	AML		
	comp=E,847μm,0.7s							
SARO					AML	AML		
	comp=N,1200μm,0.5s							
SALO	**Salr**	**1.28**	**58**		P	**Pg**	**23 04 31.5**	**+0.1**
SALO					AML	AML		
	comp=N,1655μm,0.9s							
SALO					AML	AML		
	comp=E,1075μm,0.8s							
IMI	**Imperia**	**1.30**	**218**		P	**Pn**	**23 04 31.0**	**-0.3**
IMI					S	**Sb**	**23 04 47.7**	**-0.6**
IMI					AML	AML		
	comp=N,1510μm,1.5s							
IMI					AML	AML		
	comp=E,1160μm,0.7s							
DOI	**San Damiano**	**1.32**	**251**		P	**Pn**	**23 04 31.3**	**-0.3**
DOI					AML	AML		
	comp=N,2710μm,0.5s							
DOI					AML	AML		
	comp=E,3655μm,0.5s							
MMK	**Mattmark**	**1.32**	**327**		P	**Pn**	**23 04 31.2**	**-0.6**
MMK					S	**Sn**	**23 04 49.5**	**-0.1**
MMK					AML	AML		
	comp=E,2100μm,0.4s							
MMK					AML	AML		
	comp=N,2050μm,0.4s							
MMK					AML	AML		
	comp=E,2100μm,0.4s							
MMK					AML	AML		
	comp=N,2050μm,0.4s							
STV	**Sant Anna di V**	**1.38**	**240**		P	**Pn**	**23 04 32.4**	**0.0**
STV					AML	AML		
	comp=E,832μm,0.3s							
STV					AML	AML		
	comp=N,927μm,0.4s							
STV					AML	AML		
	comp=E,833μm,0.3s							
SAOF	**Saorge**	**1.40**	**228**		P	**Pb**	**23 04 33.3**	**0.0**
SAOF	**Saorge**	**1.40**	**228**		P	**Pb**	**23 04 33.0**	**-0.3**
SAOF					AML	AML		
	comp=N,1380μm,0.7s							
SAOF					AML	AML		
	comp=E,1450μm,0.5s							
PZZ	**Stroppo**	**1.40**	**253**		P	**Pn**	**23 04 32.0**	**-0.8**
PZZ					AML	AML		
	comp=N,1455μm,0.6s							
PZZ					AML	AML		
	comp=E,1430μm,0.3s							
PZZ					AML	AML		
	comp=N,1450μm,0.6s							
CARD	**Cardoso**	**1.41**	**130**		P	**Pn**	**23 04 32.5**	**-0.3**
CARD					AML	AML		
	comp=N,1320μm,1.0s							
CARD					AML	AML		
	comp=E,1205μm,0.5s							
LSD	**Lago del Serru**	**1.41**	**292**		P	**Pn**	**23 04 32.1**	**-0.9**
LSD					AML	AML		
	comp=N,1106μm,0.3s							
LSD					AML	AML		
	comp=E,830μm,1.6s							
NEGI	**Seborga**	**1.43**	**221**		P	**Pn**	**23 04 33.1**	**0.0**
NEGI					AML	AML		
	comp=N,1048μm,0.4s							
NEGI					AML	AML		
	comp=N,1048μm,0.4s							
NEGI					AML	AML		
	comp=E,666μm,1.0s							
BALD	**Monte Baldo**	**1.49**	**60**	*e*Pg		**Pn**	**23 04 34.0**	**-0.1**
BALD				*e*Sg		**Sg**	**23 04 55.1**	**+0.4**
MAIM	**Mastiano**	**1.49**	**133**		P	**Pn**	**23 04 33.7**	**-0.1**
MAIM					S	**Sb**	**23 04 53.5**	**-0.2**
MAIM					AML	AML		
	comp=E,1155μm,0.9s							
MAIM					AML	AML		
	comp=N,916μm,0.6s							
TURF	**col de Turini**	**1.50**	**230**		P	**Pn**	**23 04 33.8**	**-0.3**
FUSIO	**Fusio**	**1.53**	**352**		P	**Pn**	**23 04 33.5**	**-1.1**
FUSIO					AML	AML		
	comp=E,577μm,0.5s							
FUSIO					AML	AML		
	comp=N,455μm,0.6s							
ZCCA	**Zocca**	**1.54**	**112**		AML	AML		
	comp=N,804μm,0.4s							
ZCCA					AML	AML		
	comp=N,865μm,1.4s							
ZCCA					AML	AML		
	comp=E,666μm,0.6s							
ZCCA					AML	AML		
	comp=E,692μm,0.6s							
MABI	**Malga Bissina**	**1.54**	**43**		P	**Pn**	**23 04 34.9**	**+0.1**
MABI					S	**Sb**	**23 04 56.2**	**+0.6**
MABI					AML	AML		
	comp=E,369μm,0.5s							
MABI					AML	AML		
	comp=N,346μm,0.4s							
TUE	**Stuetta**	**1.55**	**9**		P	**Pn**	**23 04 35.5**	**+0.6**
TUE					AML	AML		
	comp=E,373μm,0.7s							
TUE					AML	AML		
	comp=N,412μm,0.5s							
TUE					AML	AML		
	comp=E,492μm,0.7s							
TUE					AML	AML		
	comp=N,512μm,0.5s							
SBF	**Sospel**	**1.55**	**226**	*e*Pn		**Pb**	**23 04 35.3**	**-0.5**
SBF				*e*Sn		**Sn**	**23 04 54.6**	**-0.4**
	comp=N,1μm,0.5s							
POPM	**Popiglio**	**1.55**	**125**		AML	AML		
	comp=E,1950μm,0.4s							
POPM					AML	AML		
	comp=N,1950μm,0.5s							
RRL	**Rocca Remolon**	**1.56**	**270**		P	**Pn**	**23 04 35.0**	**-0.1**
RRL					AML	AML		
	comp=N,406μm,1.0s							
RRL					AML	AML		
	comp=E,502μm,0.7s							
REMY	**Saint-Rhmy-en**	**1.57**	**305**		P	**Pn**	**23 04 34.9**	**-0.3**
REMY					AML	AML		
	comp=N,2695μm,0.5s							
REMY					AML	AML		
	comp=E,1600μm,0.4s							
ISO	**Isola**	**1.58**	**242**		P	**Pn**	**23 04 35.3**	**+0.2**
DIX	**Grande Dixence**	**1.59**	**316**		P	**Pn**	**23 04 35.6**	**+0.1**
DIX					AML	AML		
	comp=E,978μm,0.3s							
DIX					AML	AML		
	comp=N,1505μm,0.7s							
DIX					AML	AML		
	comp=N,1505μm,0.7s							
DIX					AML	AML		
	comp=E,978μm,0.2s							
MRGE	**Morge**	**1.59**	**302**		P	**Pn**	**23 04 35.5**	**+0.1**
MRGE					AML	AML		
	comp=N,774μm,0.6s							
MRGE					AML	AML		
	comp=E,700μm,0.9s							
MBDF	**Montbardon**	**1.59**	**263**	*e*Pn		**Pn**	**23 04 34.9**	**-0.5**
MBDF				*e*Sn		**Sb**	**23 04 56.9**	**0.0**
	comp=E,312nm,0.3s							
SURF	**Saint Ours**	**1.62**	**254**		P	**Pn**	**23 04 36.3**	**+0.5**
ROVR	**Rover Verones**	**1.63**	**64**		P	**Pn**	**23 04 35.8**	**-0.1**
ROVR					AML	AML		
	comp=E,304μm,0.7s							
ROVR					AML	AML		
	comp=N,1106μm,0.2s							
ROVR					AML	AML		
	comp=E,798μm,0.7s							
ROVR					AML	AML		
	comp=N,456μm,0.2s							
BERNI	**Berninapass**	**1.64**	**26**		P	**Pn**	**23 04 36.3**	**+0.1**
BERNI					AML	AML		
	comp=E,318μm,0.7s							
BERNI					AML	AML		
	comp=N,273μm,0.8s							
BNI	**Bardonecchia**	**1.64**	**275**		P	**Pn**	**23 04 36.3**	**+0.2**
BNI					AML	AML		
	comp=E,207μm,1.6s							
BNI					AML	AML		
	comp=N,216μm,0.3s							
PII	**Pisa**	**1.65**	**137**		P	**Pn**	**23 04 36.3**	**+0.3**
PII					AML	AML		
	comp=N,648μm,0.6s							
PII					AML	AML		
	comp=E,806μm,0.5s							
MON	**Monaco**	**1.65**	**223**		P	**Pn**	**23 04 35.9**	**-0.2**
LPG	**La Plagne**	**1.68**	**290**	*e*Pn		**Pb**	**23 04 37.6**	**-0.5**
LPG				*e*Sn		**Sb**	**23 04 59.2**	**-0.2**
	comp=E,176nm,0.3s							
LPL	**La Plagne**	**1.69**	**291**	*e*Pn		**Pn**	**23 04 37.4**	**+0.5**
LPL				*e*Sn		**Sn**	**23 04 58.6**	**-0.2**
	comp=E,147nm,0.3s							
MARN	**Marana (Italy)**	**1.71**	**65**	*e*Pg		**Pn**	**23 04 36.8**	**-0.2**
MARN				*e*Sg		**Sb**	**23 05 01.2**	**+0.9**
GAGG	**Gaggia**	**1.79**	**50**	*e*Pn		**Pn**	**23 04 38.5**	**+0.3**
DOSS	**Dosso del Somm**	**1.81**	**58**	*e*Pn		**Pn**	**23 04 38.3**	**-0.1**
OGAG	**Argentiere**	**1.81**	**255**	P		**Pn**	**23 04 38.6**	**+0.2**
BRMO	**Bormio**	**1.81**	**32**	P		**Pb**	**23 04 39.7**	**-0.7**
BRMO					AML	AML		
	comp=E,194μm,0.8s							
BRMO					AML	AML		
	comp=N,122μm,0.7s							
RSL	**Roselend**	**1.83**	**295**	P		**Pb**	**23 04 40.2**	**-0.4**
CALF	**Calern**	**1.90**	**232**	P		**Pb**	**23 04 41.0**	**-0.9**
CALF				S		**Sb**	**23 05 06.4**	**+0.7**
DAVOX	**Davos/Dischmat**	**1.94**	**18**	P		**Pn**	**23 04 41.0**	**+0.8**
DAVOX					AML	AML		
	comp=E,247μm,0.4s							
DAVOX					AML	AML		
	comp=N,392μm,0.4s							
BNALP	**Bannalp**	**1.97**	**349**		AML	AML		
	comp=N,278μm,0.3s							
BNALP					AML	AML		
	comp=E,371μm,0.4s							
MOSI	**Grossmontoni**	**2.00**	**33**		AML	AML		
	comp=E,528μm,0.9s							
MOSI					AML	AML		
	comp=N,764μm,0.5s							
GDM	**Grand'Maison**	**2.05**	**278**	P		**Pb**	**23 04 43.9**	**-0.5**
OGDI	**Digne**	**2.10**	**248**	P		**Pb**	**23 04 44.7**	**-0.4**
PLONS	**Plons/SG**	**2.12**	**7**		AML	AML		
	comp=N,327μm,0.5s							
PLONS					AML	AML		
	comp=E,395μm,0.7s							
OSSC	**Osservatorio P**	**2.16**	**130**		AML	AML		
	comp=E,382μm,1.0s							
OSSC					AML	AML		
	comp=N,436μm,0.8s							
FRF	**La Foret Royal**	**2.18**	**231**	*e*Pn		**Pn**	**23 04 43.8**	**+0.5**
FRF				*e*Sn		**Sn**	**23 05 10.3**	**-0.1**
	comp=N,96nm,0.2s							
ORIF	**Oris-en-Rattie**	**2.21**	**270**	*e*Pn		**Pb**	**23 04 45.7**	**-1.4**
ORIF				*e*Sn		**Sn**	**23 05 11.8**	**+0.5**
	comp=N,178nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.21**	**270**	P		**Pb**	**23 04 45.6**	**-1.4**
KOSI	**Kohlern**	**2.26**	**47**		AML	AML		
	comp=N,250μm,0.9s							
KOSI					AML	AML		
	comp=E,282μm,1.2s							
OG02	**Monnetier-Morn**	**2.29**	**303**	P		**Pn**	**23 04 46.3**	**+1.4**
BLAF	**les Blancs**	**2.33**	**246**	P		**Pn**	**23 04 46.5**	**+1.0**
PGF	**Pioggiola**	**2.39**	**180**	*e*Pn		**Pn**	**23 04 45.3**	**-1.1**
PGF				*e*Sn		**Sn**	**23 05 13.7**	**-2.2**
PGF	**Pioggiola**	**2.39**	**180**	P		**Pn**	**23 04 45.0**	**-1.4**
PGF				S		**Sn**	**23 05 12.0**	**-3.9**
LMR	**La Mourre**	**2.40**	**229**	*e*Pn		**Pn**	**23 04 46.6**	**+0.2**
LMR				*e*Sn		**Sn**	**23 05 15.7**	**-0.2**
	comp=E,106nm,0.3s							
FETA	**Feichten**	**2.41**	**30**	Pn		**Pn**	**23 04 48.1**	**+1.4**
	comp=E,16nm,0.5s,SNR=7.6							
FETA				Sn		**Sb**	**23 05 19.8**	**-0.6**
	comp=E,20nm,0.4s							
OGSM	**Saint Maurice**	**2.42**	**287**	P		**Pn**	**23 04 47.8**	**+1.1**
DAVA	**Damuels**	**2.42**	**15**	*e*Pn		**Pn**	**23 04 48.4**	**+1.5**
DAVA				*e*Sn		**Sb**	**23 05 20.6**	**-0.2**
DAVA	**Damuels**	**2.42**	**15**	Pn		**Pn**	**23 04 48.4**	**+1.5**
	comp=E,34nm,0.3s,SNR=18							
DAVA				Sn		**Sb**	**23 05 20.7**	**-0.2**
	comp=E,69nm,0.4s							
MLYF	**Mely**	**2.50**	**249**	P		**Pn**	**23 04 49.0**	**+1.3**
BSTF	**la Bastide-des**	**2.62**	**247**	P		**Pn**	**23 04 50.6**	**+1.2**
OBER	**Oberstdorf**	**2.63**	**20**	*e*Pn		**Pn**	**23 04 50.9**	**+1.4**
CABF	**La Chapelle**	**2.63**	**310**	*e*Pn		**Pn**	**23 04 50.6**	**+1.0**
CABF				*e*Sn		**Sn**	**23 05 20.5**	**-1.1**
	comp=E,41nm,0.5s							
CABF				*e*Sg		**Sg**	**23 05 32.3**	**+1.0**
	comp=E,233nm,0.8s							
SMRF	**Simiane la Rot**	**2.63**	**250**	*e*Pn		**Pn**	**23 04 50.8**	**+1.2**
SMRF				*e*Sn		**Sn**	**23 05 21.2**	**-0.4**
	comp=E,78nm,0.5s							
SMRF				*e*Sg		**Sg**	**23 05 31.7**	**+0.4**
	comp=E,78nm,0.4s							
OG35	**Corcelles**	**2.64**	**296**	P		**Pn**	**23 04 50.6**	**+0.8**
OG35				S		**Sn**	**23 05 23.4**	**+1.4**
SQTA	**Sankt Quirin**	**2.75**	**33**	*e*Pn		**Pn**	**23 04 53.6**	**+2.3**
	comp=E,10nm,0.3s,SNR=12							
SQTA				Sn		**Sb**	**23 05 28.5**	**-1.7**

comp=E,30nm,0.4s
PE3 Peglio 2.81 115 AML AML
comp=E,478μm,0.6s
PE3 AML AML
comp=N,451μm,0.5s
MOTA Moosalm 2.82 31 *e*Pn **Pn 23 04 54.1 +1.9**
comp=N,5.8nm,0.3s
MOTA *e*Sn **Sb 23 05 29.7 -2.4**
comp=N,38nm,0.5s
CHMF Charmoille 2.82 326 P **Pn 23 04 52.9 +0.7**
CHMF S **Sn 23 05 25.3 -1.1**
RETA Reutte 2.83 25 *e*Pn **Pn 23 04 53.9 +1.5**
comp=N,9.9nm,0.4s
RETA *e*Sn **Sn 23 05 27.2 +0.7**
comp=N,21nm,0.4s
LOMF Lomont 2.84 329 P **Pn 23 04 53.4 +0.9**
UBR Ueberruh 2.85 15 *e*Pn **Pn 23 04 53.2 +0.6**
SMPL Sampolo 2.86 176 P **Pn 23 04 52.9 +0.3**
SMPL S **Sn 23 05 25.5 -1.7**
RISI Rein 2.94 46 AML AML
comp=E,204μm,0.4s
RISI AML AML
comp=N,346μm,0.4s
WTTA Wattenberg 2.96 37 *e*Pn **Pn 23 04 56.5 +2.1**
WTTA Wattenberg 2.96 37 AML AML
comp=N,113μm,0.9s
WTTA AML AML
comp=E,120μm,0.7s
WTTA Wattenberg 2.96 37 *e*Pn **Pn 23 04 56.4 +2.1**
comp=E,7.1nm,0.2s,SNR=5.4
WTTA Sn **Sb 23 05 33.8 -2.6**
comp=E,32nm,0.5s
WATA Walderalm 2.99 36 *i* Pn **Pn 23 04 56.5 +1.8**
comp=E,6.0nm,0.3s,SNR=8.4
WATA *e*Sn **Sb 23 05 34.6 -2.6**
comp=E,23nm,0.4s
MURB Monte Urbino 3.05 122 AML AML
comp=E,262μm,0.9s
MURB AML AML
comp=N,209μm,0.3s
ABTA Abfaltersbach 3.05 53 *e*Pn **Pn 23 04 57.1 +1.6**
comp=N,8.9nm,0.4s
ABTA *e*Sn **Sb 23 05 35.7 -3.1**
comp=N,18nm,0.5s
VIVF Saint-Julien-I 3.07 270 *e*Pn **Pn 23 04 55.9 +0.3**
VIVF *e*Sn **Sn 23 05 32.2 -0.2**
comp=N,8.9nm,0.2s
KIZ Kirchzarten 3.10 347 P **Pn 23 04 55.5 -0.6**
MOF Molkenrain 3.18 337 P **Pn 23 04 57.7 +0.5**
HINF Hinteralfeld 3.23 334 *e*Pn **Pn 23 04 57.8 -0.1**
HINF *e*Sn **Sn 23 05 35.5 -1.0**
comp=N,65nm,0.4s
HINF *e*Sg **Sg 23 05 50.5 -0.2**
comp=N,30nm,0.3s
BFO Black Forest 3.42 353 *e*Pn **Pn 23 04 59.5 -0.9**
BFO *e*Sn **Sn 23 05 39.1 -1.9**
ECH Echery 3.51 340 P **Pn 23 05 01.3 -0.3**
ECH S **Sn 23 05 42.2 -1.0**
HAU Haudompre 3.56 330 *e*Pn **Pn 23 05 02.7 +0.3**
HAU *e*Sn **Sn 23 05 43.8 -0.9**
comp=N,106nm,0.4s
HAU *e*Sg **Sg 23 06 00.5 -0.9**
comp=N,34nm,0.3s
FUR Furstenfeldbru 3.59 25 *e*Pn **Pn 23 05 03.2 +0.5**
FUR *e*Sn **Sn 23 05 44.7 -0.6**
CDF Champ du Feu 3.67 342 *e*Pn **Pn 23 05 03.6 -0.2**
CDF *e*Sn **Sn 23 05 45.6 -1.6**
comp=N,39nm,0.4s
CDF *e*Sg **Sg 23 06 04.3 -0.3**
comp=N,57nm,0.6s
MYKA Terra Mystica 3.67 61 *e*Pn **Pn 23 05 05.5 +1.7**
comp=N,2.2nm,0.3s
MYKA *e*Sn **Sn 23 05 50.2 +3.0**
comp=N,8.1nm,0.5s
TRBF Trabuc cave 3.69 259 P **Pn 23 05 04.3 +0.2**
LASF Ste Croix 3.77 259 *e*Pn **Pn 23 05 05.2 -0.1**
LASF *e*Sn **Sn 23 05 48.8 -1.0**
comp=N,17nm,0.3s
RJOB Jochberg 3.84 42 *e*Pn **Pn 23 05 07.7 +1.4**
NORI Noerdlinger Ri 3.94 16 *e*Sn **Sn 23 05 53.1 -0.9**
SMF Signal de Mont 3.98 297 *e*Pn **Pn 23 05 08.6 +0.5**
SMF *e*Sn **Sn 23 05 53.8 -1.1**
comp=N,25nm,0.3s
OBKA Obir 4.20 66 Pn **Pn 23 05 12.2 +1.0**
comp=N,1.7nm,0.2s
NVLJ Novalja 4.21 93 *i* Pn **Pn 23 05 10.7 -0.5**
NVLJ Sn **Sn 23 05 58.4 -2.0**
SFTF Sexfontaines 4.25 322 *e*Pn **Pn 23 05 12.7 +0.9**
baz=139
SFTF *e*Sn **Sn 23 06 00.1 -1.4**
comp=N,31nm,0.4s
SFTF *e*Sg **Sg 23 06 21.3 -2.0**
comp=N,38nm,0.4s
PAGF Fort de Pagny 4.25 329 *e*Pn **Pn 23 05 12.9 +1.1**
baz=147
PAGF *e*Sn **Sn 23 06 00.1 -1.5**
comp=N,47nm,0.4s
PAGF *e*Sg **Sg 23 06 22.7 -0.7**
comp=N,72nm,0.8s
LOR Lormes 4.26 305 *e*Pn **Pn 23 05 12.3 +0.4**
baz=126
LOR *e*Sn **Sn 23 06 00.2 -1.6**
comp=N,46nm,0.2s
LOR *e*Sg **Sg 23 06 23.2 -0.4**
comp=N,23nm,0.5s
AGO Saint Agoulin 4.26 287 P **Pn 23 05 13.2 +1.1**
AVF Avril sur Loir 4.35 297 *e*Pn **Pn 23 05 13.7 +0.6**
AVF *e*Sn **Sn 23 06 02.4 -1.5**
comp=N,9.4nm,0.4s
AVF *e*Sg **Sg 23 06 25.9 -0.6**
comp=N,20nm,0.5s
SSF Saint Saulge 4.37 301 *e*Pn **Pn 23 05 14.0 +0.6**
SSF *e*Sn **Sn 23 06 03.0 -1.4**
comp=N,14nm,0.4s
SSF *e*Sg **Sg 23 06 27.2 +0.1**
comp=N,29nm,0.6s
MEZF Maizieres J'vi 4.47 324 *e*Pn **Pn 23 05 16.2 +1.4**
baz=142
MEZF *e*Sn **Sn 23 06 05.1 -1.9**
comp=N,23nm,0.4s
MEZF *e*Sg **Sg 23 06 29.6 -0.8**
comp=N,43nm,0.5s
SOKA Soboth 4.57 66 *i* Pn **Pn 23 05 17.5 +1.3**
comp=N,1.1nm,0.3s
SOKA *e*Sn **Sn 23 06 09.8 +0.4**
comp=N,1.3nm,0.2s
SOKA Sg **Sg 23 06 36.6 +3.1**
comp=N,3.8nm,0.4s
BGF Bois d'Agland 4.59 293 *e*Pn **Pn 23 05 17.0 +0.5**
BGF *e*Sn **Sn 23 06 08.7 -1.3**
comp=N,53nm,0.4s
MOA Molln 4.67 50 *e*Pn **Pn 23 05 18.2 +0.7**
MOA Molln 4.67 50 *i* Pn **Pn 23 05 18.2 +0.7**
comp=N,2.7nm,0.4s
UDBI Udbina 4.85 93 *i* Pn **Pn 23 05 20.2 +0.2**
UDBI Sn **Sn 23 06 14.8 -1.5**
CAF Calviac 4.92 272 *e*Pn **Pn 23 05 21.8 +0.8**
CAF *e*Sn **Sn 23 06 16.3 -1.7**
comp=N,5.1nm,0.3s
CAF *e*Sg **Sg 23 06 42.3 -2.4**
comp=N,12nm,0.6s
MORI Morici 4.93 100 *i* Pn **Pn 23 05 21.6 +0.4**
MORI Sn **Sn 23 06 15.5 -2.8**
TCF Toulx Ste Croi 4.94 288 *e*Pn **Pn 23 05 21.8 +0.5**
TCF *e*Sn **Sn 23 06 17.0 -1.6**
comp=N,9.7nm,0.2s
TCF *e*Sg **Sg 23 06 45.2 -0.3**
comp=N,17nm,0.6s
WET Wettzell 4.97 31 *e*Pn **Pn 23 05 21.3 -0.4**
GRF Grafenberg Arr 4.99 17 *e*Sn **Sn 23 06 17.2 -2.5**
HYF Humbligny 4.99 300 *e*Pn **Pn 23 05 22.8 +0.8**
HYF *e*Sn **Sn 23 06 18.4 -1.4**
GEC2 GERESS Array S 5.07 38 *e*Pn **Pn 23 05 22.9 -0.2**
GEC2 *e*Sn **Sn 23 06 20.5 -1.3**
GERES GERESS Array B 5.07 38 Pn **Pn 23 05 22.9 -0.2**
comp=N,2.9nm,0.3s,baz=216,slow=14,SNR=88
GERES Sn **Sn 23 06 19.3 -2.5**
comp=N,2.1nm,0.3s,baz=230,slow=26,SNR=6.8
ARSA Arzberg 5.10 61 *e*Pn **Pn 23 05 24.6 +1.1**
ARSA Arzberg 5.10 61 *e*Pn **Pn 23 05 24.6 +1.1**
comp=N,1.0nm,0.2s
ARSA *e*Sg **Sg 23 06 52.3 +1.8**
comp=N,5.2nm,0.8s
MTLF Montolieu 5.13 254 *e*Pn **Pn 23 05 23.9 0.0**
MTLF *e*Sn **Sn 23 06 21.8 -1.4**
comp=N,14nm,0.4s
KHC Kasperske Hory 5.23 35 *e*PN **Pn 23 05 25.3 0.0**
KHC *e*PG **Pg 23 05 44.0 -3.1**
KHC *e*SN **Sn 23 06 22.7 -3.1**
KHC *e*SG **Sg 23 06 49.0 -5.8**
TNS Taunus Mts 5.29 356 *e*Pn **Pn 23 05 25.5 -0.7**
ROTZ Rotzenmuhle 5.30 23 *e*Pn **Pn 23 05 24.4 -1.8**
ROTZ *e*Sn **Sn 23 06 23.6 -3.7**
RJF Les Rejaudoux 5.30 277 *e*Pn **Pn 23 05 28.9 +2.7**
RJF *e*Sn **Sn 23 06 25.2 -2.2**
comp=N,8.8nm,0.5s
MANZ Manzenberg 5.47 22 *e*Sn **Sn 23 06 27.3 -4.3**
CONA Conrad Observa 5.61 55 *e*Pn **Pn 23 05 32.0 +1.5**
comp=N,1.1nm,0.3s
CONA *e*Sn **Sn 23 06 38.7 +3.5**
comp=N,1.4nm,0.3s
LFF La Frestale 5.86 273 *e*Sn **Sn 23 06 38.2 -2.9**
comp=N,6.2nm,0.5s
LFF *e*Sg **Sg 23 07 13.2 -1.6**
comp=N,10nm,0.4s
GIVF Givet 5.88 333 *e*Sg **Sg 23 07 13.0 -2.6**
comp=N,49nm,1.1s
MOX Moxa 5.97 16 *e*Sn **Sn 23 06 40.2 -3.8**
BAIF Baives 6.06 329 *e*Pn **Pn 23 05 36.5 -0.1**
BAIF *e*Sn **Sn 23 06 43.3 -2.7**
comp=N,12nm,0.7s
PRU Pruhonice 6.29 35 *e*PN **Pn 23 05 38.0 -1.9**
GOPC GO Pecny, Ondr 6.34 36 *e*Pn **Pn 23 05 39.8 -0.7**
GOPC *e*SN **Sn 23 06 49.2 -3.8**
EPF Esparros 6.53 256 *e*Pn **Pn 23 05 44.2 +1.1**
EPF *e*Sg **Sg 23 07 34.0 -2.3**
comp=N,2.8nm,0.4s
KRUC Moravsky 6.53 48 *e*PN **Pn 23 05 41.9 -1.2**
KRUC *e*SN **Sn 23 06 54.2 -3.4**
MFF Saint Martin d 6.60 288 *e*Pn **Pn 23 05 44.5 +0.4**
MODS Modra-Piesok 6.66 56 *e*PN **Pn 23 05 47.9 +3.0**
BRG Berggiesshubel 6.80 28 PN Pg 23 06 12.0 -5.1
BRG SG Sg 23 07 58.9 +14
comp=N,5.7nm,0.9s
SMOL Smolenice 6.81 55 *e*PN **Pn 23 05 48.6 +1.6**
CLL Collm 6.91 21 *e*Pn Pn 23 05 57.0 +8.7
CLL *e*Pg **Pg 23 06 23.0 +3.8**
CLL *e*Sg **Sg 23 07 50.0 +1.4**
KRLC Kraliky 7.36 43 *e*PN **Pn 23 05 53.3 -1.2**
SJPF Ste Jean 7.58 260 *e*Pn **Pn 23 05 58.4 +0.8**
VYHS Vyhne 7.64 59 *e*PN **Pn 23 05 57.6 -0.8**
KEST Kesra 9.21 178 Pn Pn 23 06 25.2 +5.3
comp=N,0.5nm,0.3s,baz=291,slow=8.6,SNR=7.1
ESDC Sonseca Array 10.94 246 Pn **Pn 23 06 42.7 -0.9**
comp=N,0.4nm,0.3s,baz=55,slow=13,SNR=6.3
BRTR Keskin Array B 18.92 97 P **Pn 23 08 33.9 +5.2**
comp=N,0.1nm,0.3s,baz=308,slow=7.1,SNR=2.3
TORD Torodi Ar. Bea 32.29 193 P **P 23 10 37.4 +1.3**
comp=N,0.6nm,1.0s,baz=8.8,slow=11,SNR=2.7

*SJA **22** 23:14:42.1±0.9, 21°.60S×68°.42W, h148km±5km, ML3.2, MW3.2*
*ISCJB **22** 23:14:43.1±0.7, 21°.58S±0°.03×68°.48W±0°.05, h144km±8km, Error ellipse: s-maj=7.9km s-min=4.3km az=177.2*
*GUC **22** 23:14:44.1±0.8, 21°.55S×68°.61W, h142km±5km, ML3.5*
ISC 22 23:14:43.0±1.5, 21°.58S±0°.03×68°.45W±0°.05, h147km±10km, n32, σ0°.81/63, 12C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.76**	**254**	⇑*i*P		**Pn**	**Sn**	**23 15 06.2**	**+0.4**
PB09				*e*S		**Sn**	**Sn**	**23 15 23.0**	**-0.1**
PB09	**IPOC Station P**	**0.76**	**254**	*i* P		**Pn**	**Sn**	**23 15 06.2**	**+0.4**
PB09				*i* S		**Sn**	**Sn**	**23 15 23.4**	**+0.3**
PB09				IAML				23 15 24.8	
comp=Z,209nm,0.3s									
PB01	**IPOC Station P**	**1.10**	**299**	⇑*i*P		**Pn**	**Sn**	**23 15 08.4**	**-0.1**
PB01				*e*S		**Sn**	**Sn**	**23 15 26.7**	**-1.2**
PB01				IAML				23 15 29.2	
comp=N,984nm,0.5s									
PB01	**IPOC Station P**	**1.10**	**299**	*i* P		**Pn**	**Sn**	**23 15 08.6**	**+0.1**
PB01				*i* S		**Sn**	**Sn**	**23 15 27.6**	**-0.3**
LVC	**Limon Verde**	**1.11**	**202**	⇑*i*P		**Pn**	**Sn**	**23 15 08.6**	**-0.2**
LVC				*i* S		**Sn**	**Sn**	**23 15 28.2**	**-0.3**
PB03	**IPOC Station P**	**1.29**	**249**	⇑*i*P		**Pn**	**Sn**	**23 15 10.7**	**+0.3**
PB03				*e*S		**Sn**	**Sn**	**23 15 30.8**	**-0.5**
PB03				IAML				23 15 31.8	
comp=E,802nm,0.3s									
PB03	**IPOC Station P**	**1.29**	**249**	*i* P		**Pn**	**Sn**	**23 15 10.8**	**+0.4**
PB03				*i* S		**Sn**	**Sn**	**23 15 31.1**	**-0.1**
PB07	**IPOC Station P**	**1.34**	**264**	⇑*i*P		**Pn**	**Sn**	**23 15 11.2**	**+0.3**
PB07				*e*S		**Sn**	**Sn**	**23 15 31.4**	**-0.7**
PB07				IAML				23 15 32.7	
comp=E,1μm,0.2s									
PB07	**IPOC Station P**	**1.34**	**264**	*i* P		**Pn**	**Sn**	**23 15 11.4**	**+0.6**
PB07				*i* S		**Sn**	**Sn**	**23 15 32.3**	**+0.2**
PB02	**IPOC Station P**	**1.37**	**281**	⇑*i*P		**Pn**	**Sn**	**23 15 11.4**	**+0.3**
PB02				*e*S		**Sn**	**Sn**	**23 15 30.8**	**-1.7**
PB02				IAML				23 15 33.7	
comp=N,2μm,0.3s									
PB02	**IPOC Station P**	**1.37**	**281**	*i* P		**Pn**	**Sn**	**23 15 11.4**	**+0.3**
PB02				*i* S		**Sn**	**Sn**	**23 15 32.5**	**0.0**
PB06	**IPOC Station P**	**1.52**	**223**	⇑*i*P		**Pn**	**Sn**	**23 15 13.2**	**+0.5**
PB06				*e*S		**Sn**	**Sn**	**23 15 35.6**	**+0.1**
PB06				IAML				23 15 36.9	
comp=N,387nm,0.4s									
PB06	**IPOC Station P**	**1.52**	**223**	*i* P		**Pn**	**Sn**	**23 15 13.3**	**+0.5**
PB06				*i* S		**Sn**	**Sn**	**23 15 35.9**	**+0.3**
PB06				IAML				23 15 38.0	
comp=Z,246nm,0.3s									
PB08	**IPOC Station P**	**1.58**	**335**	⇑*i*P		**Pn**	**Sn**	**23 15 14.3**	**+0.6**
PB08				*e*S		**Sn**	**Sn**	**23 15 37.2**	**+0.2**
PB08				IAML				23 15 39.3	
comp=E,282nm,0.2s									
PB08	**IPOC Station P**	**1.58**	**335**	*i* P		**Pn**	**Sn**	**23 15 14.2**	**+0.6**
PB08				*i* S		**Sn**	**Sn**	**23 15 37.5**	**+0.5**
PB04	**IPOC Station P**	**1.74**	**244**	⇑*i*P		**Pn**	**Sn**	**23 15 15.5**	**+0.4**
PB04				*e*S		**Sn**	**Sn**	**23 15 39.3**	**-0.5**
PB04				IAML				23 15 41.5	
comp=N,436nm,0.1s									
PB04	**IPOC Station P**	**1.74**	**244**	*i* P		**Pn**	**Sn**	**23 15 15.6**	**+0.4**
PB04				*i* S		**Sn**	**Sn**	**23 15 39.3**	**-0.5**
PB04				IAML				23 15 41.5	
comp=Z,353nm,0.4s									
PB15	**IPOC Station P**	**1.87**	**210**	⇑*i*P		**Pn**	**Sn**	**23 15 17.7**	**+1.1**
PB15				*e*S		**Sn**	**Sn**	**23 15 43.5**	**+1.0**
PB15				IAML				23 15 47.8	
comp=E,936nm,0.2s									
PB15	**IPOC Station P**	**1.87**	**210**	*i* P		**Pn**	**Sn**	**23 15 17.9**	**+1.2**
PB15				*i* S		**Sn**	**Sn**	**23 15 43.5**	**+1.0**
PB15				IAML				23 15 47.8	
comp=Z,731nm,0.1s									
TA01	**Diego Aracena**	**1.91**	**302**	⇑*i*P		**Pn**	**Sn**	**23 15 17.0**	**+0.1**
TA01				*e*S		**Sn**	**Sn**	**23 15 41.5**	**-1.3**
TA01				IAML				23 15 43.9	
comp=E,973nm,0.2s									
PB05	**IPOC Station P**	**2.06**	**232**	⇑*i*P		**Pn**	**Sn**	**23 15 19.4**	**+0.7**
PB05				*e*S		**Sn**	**Sn**	**23 15 45.6**	**-0.5**
PB05				IAML				23 15 48.9	
comp=E,174nm,0.2s									
PB05	**IPOC Station P**	**2.06**	**232**	*i* P		**Pn**	**Sn**	**23 15 19.1**	**+0.4**
PB05				*i* S		**Sn**	**Sn**	**23 15 45.6**	**-0.5**
PB11	**IPOC Station P**	**2.13**	**328**	⇑*i*P		**Pn**	**Sn**	**23 15 19.4**	**-0.4**
PB11				*e*S		**Sn**	**Sn**	**23 15 47.2**	**-0.7**
PB11				IAML				23 15 49.1	
comp=N,537nm,0.3s									
PB11	**IPOC Station P**	**2.13**	**328**	*i* P		**Pn**	**Sn**	**23 15 19.7**	**-0.1**
PB11				*i* S		**Sn**	**Sn**	**23 15 47.5**	**-0.4**
PSGCX	**Pisagua**	**2.52**	**321**	*i* P		**Pn**	**Sn**	**23 15 23.7**	**-0.7**
PSGCX				*i* S		**Sn**	**Sn**	**23 15 54.6**	**-1.6**
MNMCX	**Minye Minye**	**2.67**	**336**	*i* P		**Pn**	**Sn**	**23 15 26.7**	**+0.4**
MNMCX				*i* S		**Sn**	**Sn**	**23 16 00.1**	**+0.4**
PB10	**IPOC Station P**	**2.73**	**225**	*i* P		**Pn**	**Sn**	**23 15 27.7**	**+0.8**
PB10				*i* S		**Sn**	**Sn**	**23 15 59.1**	**-1.6**
PB10				IAML				23 16 06.8	
comp=Z,25nm,0.5s									
YJA	**Yavi**	**2.79**	**103**	*i* P		**Pn**	**Sn**	**23 15 27.7**	**-0.4**
YJA				IAML				23 15 31.8	
comp=Z,8.4nm,0.6s									
YJA				*i* S		**Sn**	**Sn**	**23 16 01.0**	**-1.7**
PB16	**IPOC Station P**	**3.38**	**343**	*i* P		**Pn**	**Sn**	**23 15 36.5**	**+0.8**
PB16				*i* S		**Sn**	**Sn**	**23 16 16.2**	**-0.2**
PB12	**IPOC Station P**	**3.44**	**329**	*i* P		**Pn**	**Sn**	**23 15 35.7**	**-0.3**
PB12				*i* S		**Sn**	**Sn**	**23 16 16.1**	**-1.0**
PB14	**IPOC Station P**	**3.52**	**210**	*i* P		**Pn**	**Sn**	**23 15 37.5**	**+0.3**
PB14				*i* S		**Sn**	**Sn**	**23 16 17.4**	**-1.9**
PB14				IAML				23 16 20.1	
comp=Z,32nm,0.4s									
LPAZ	**La Paz**	**5.28**	**3**	*i* P		**Pn**	**Sn**	**23 16 03.1**	**+2.4**
LPAZ				*i* S		Sn	Sn	23 16 42.6	-18

*IDC **22** 23:16:17.7±1.4, 55°.21N×111°.07E, h0km, mb3.3/4, mb1 3.4/8, mb1mx3.3/47, mbtmp3.3/8, ML2.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=30.2km s-min=17.6km az=138.0*
*MOS **22** 23:16:17.8±0.9, 55°.24N×110°.92E, h12km, mb3.6/1, Error ellipse: s-maj=12.3km s-min=7.0km az=73.6*
*BYKL **22** 23:16:19.0±0.2, 55°.23N×110°.94E, h8km±5km*
ISC 22 23:16:17.7±1.1, 55°.24N±0°.02×110°.93E±0°.02, h2km±8km, n60, σ2°.66/107, mb3.5/3, 9C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.39**	**160**	⇑*i*Pg		**Pg**	**Pg**	**23 16 26.7**	**+1.6**
YLYR				*i* Sg		**Sg**	**Sg**	**23 16 32.5**	**+2.4**
YLYR				Pmax					
1μm,0.2s									
YLYR				Smax					
7μm,0.3s									
YLYR	**Ulyunkhan**	**0.39**	**160**	⇑*i*PG		**Pg**	**Pg**	**23 16 26.7**	**+1.6**
YLYR				*e*				23 16 32.5	
YLYR				pmax		pmax			
comp=Z,1μm,0.2s									
YLYR				smax		smax			
comp=N,7μm,0.4s									
KMO	**Kumora**	**0.67**	**13**	⇑*i*Pg		**Pg**	**Pg**	**23 16 31.3**	**+0.7**
KMO				*e*				23 16 35.9	
KMO				*e*Sg		**Sg**	**Sg**	**23 16 40.6**	**+1.4**
KMO				max					
comp=N,449nm,0.4s									
KMO				Smax					
comp=N,1μm,1.1s									
KMO	**Kumora**	**0.67**	**13**	⇑*i*PG		**Pg**	**Pg**	**23 16 31.4**	**+0.8**
KMO				*e*				23 16 40.6	
KMO				pmax		pmax			
comp=Z,144nm,0.3s									
KMO				smax		smax			
comp=N,1μm,1.2s									
NIZ	**Nizh Angarsk**	**0.96**	**305**	⇑*i*Pg		**Pg**	**Pg**	**23 16 36.8**	**+0.7**
NIZ				*e*Pb		**Pn**	**Pn**	**23 16 39.5**	**+1.3**
NIZ				*e*				23 16 48.4	
NIZ				*e*Sg		**Sg**	**Sg**	**23 16 49.4**	**+0.9**
NIZ				Pmax					
comp=N,485nm,0.2s									
NIZ				Smax					
comp=N,641nm,0.2s									
NIZ	**Nizh Angarsk**	**0.96**	**305**	⇑*i*PG		**Pg**	**Pg**	**23 16 36.8**	**+0.7**
NIZ				*e*				23 16 49.4	
NIZ				pmax		pmax			
comp=Z,402nm,0.3s									
NIZ				smax		smax			
comp=E,556nm,0.3s									
YOA	**Uoyan**	**1.00**	**26**	⇓*i*Pg		**Pg**	**Pg**	**23 16 37.9**	**+0.9**
YOA				*e*Pb		**Pn**	**Pn**	**23 16 39.5**	**+0.7**
YOA				*e*Sg		**Sb**	**Sb**	**23 16 51.8**	**+0.3**
YOA				max					
comp=E,243nm,0.4s									
YOA				Smax					
comp=E,2μm,0.5s									
YOA	**Uoyan**	**1.00**	**26**	*e*PG		**Pg**	**Pg**	**23 16 37.9**	**+0.9**
YOA				*e*				23 16 52.1	
YOA				pmax		pmax			
comp=Z,188nm,0.1s									
YOA				smax		smax			
comp=E,2μm,0.4s									
UKT	**Uakit**	**1.56**	**80**	⇑*i*Pg		**Pn**	**Pn**	**23 16 46.9**	**+0.4**
UKT				*e*				23 16 50.7	
UKT				*i* Sg		**Sn**	**Sn**	**23 17 07.7**	**+0.4**
UKT				Pmax					
comp=E,223nm,0.4s									
UKT				Smax					
comp=E,1μm,1.1s									
UKT	**Uakit**	**1.56**	**80**	⇑*i*PN		**Pn**	**Pn**	**23 16 46.9**	**+0.4**
UKT				*e*				23 17 07.6	
UKT				pmax		pmax			
comp=Z,205nm,0.4s									
UKT				smax		smax			
comp=N,943nm,0.4s									
SYVR	**Suvo**	**1.67**	**199**	*e*Pg		**Pn**	**Pn**	**23 16 48.9**	**+0.9**
SYVR				*e*Sg		**Sb**	**Sb**	**23 17 11.6**	**+0.8**
SYVR				Pmax					
comp=N,145nm,0.5s									
SYVR				Smax					
comp=N,594nm,1.0s									
SYVR	**Suvo**	**1.67**	**199**	*e*PN		**Pn**	**Pn**	**23 16 48.8**	**+0.8**
SYVR				*e*				23 17 12.0	
SYVR				pmax		pmax			
comp=Z,141nm,0.6s									
SYVR				smax		smax			
comp=N,605nm,1.0s									
SVKR	**Severomuysk**	**1.73**	**58**	*e*Sg		**Sg**	**Sg**	**23 17 14.4**	**+1.2**
SVKR				Smax					
comp=N,4μm,0.4s									
MXMB	**Maximikha**	**2.36**	**214**	*e*Pn		**Pb**	**Pb**	**23 17 00.8**	**-0.1**
MXMB				*e*				23 17 06.4	
MXMB				*e*Sn		**Sn**	**Sn**	**23 17 28.0**	**+1.0**
MXMB				*e*Sg		**Sg**	**Sg**	**23 17 33.8**	**+0.4**
OGRR	**Ongureny**	**2.52**	**232**	*e*Pn		**Pn**	**Pn**	**23 17 02.3**	**+2.6**
OGRR				*e*Pg		**Pb**	**Pb**	**23 17 04.6**	**+0.9**
OGRR				*e*				23 17 10.3	
OGRR				*e*Sg		**Sb**	**Sb**	**23 17 37.6**	**+2.5**
OGRR				max					
comp=N,61nm,0.3s									
OGRR				Smax					
comp=N,298nm,0.4s									
OGRR	**Ongureny**	**2.52**	**232**	*e*PN		**Pb**	**Pb**	**23 17 02.4**	**-1.3**
OGRR				*e*				23 17 06.0	
OGRR				*e*				23 17 37.6	
OGRR				pmax		pmax			
comp=Z,63nm,0.8s									
OGRR				smax		smax			
comp=N,298nm,0.3s									
NLYR	**Nelyaty**	**2.97**	**63**	⇓*i*Pn		**Pn**	**Pn**	**23 17 06.7**	**+0.9**
NLYR				*e*Pg		**Pb**	**Pb**	**23 17 11.6**	**+0.3**
NLYR				*e*				23 17 38.2	
NLYR				*e*Sg		**Sg**	**Sg**	**23 17 51.4**	**-1.6**
NLYR				Pmax					
comp=N,29nm,0.8s									
NLYR				Smax					
comp=N,216nm,1.4s									
NLYR	**Nelyaty**	**2.97**	**63**	*e*PN		**Pn**	**Pn**	**23 17 06.3**	**+0.5**
NLYR				*e*				23 17 11.0	
NLYR				*e*				23 17 50.8	
NLYR				pmax		pmax			
comp=Z,28nm,0.6s									
NLYR				smax		smax			
comp=N,216nm,1.3s									
KELR	**Kotokel**	**3.00**	**215**	*e*Sg		**Sb**	**Sb**	**23 17 51.5**	**+2.6**
BOD	**Bodaibo**	**3.10**	**32**	*e*Pn		**Pn**	**Pn**	**23 17 07.7**	**+0.1**
BOD				*e*Pg		**Pb**	**Pb**	**23 17 13.3**	**-0.2**
BOD				*e*Sn		**Sn**	**Sn**	**23 17 44.7**	**-0.4**
BOD				*e*Sg		**Sb**	**Sb**	**23 17 53.7**	**+2.1**
BOD				Pmax					
comp=N,18nm,0.3s									
BOD				Smax					
comp=N,140nm,1.2s									
CIT	**Chita**	**3.58**	**153**	*e*Pg		**Pb**	**Pb**	**23 17 22.5**	**+0.8**
CIT				*e*Sg		**Sb**	**Sb**	**23 18 08.4**	**+2.8**
CIT				Pmax					
comp=N,101nm,0.5s									
CIT				Smax					
comp=N,336nm,0.4s									
CIT	**Chita**	**3.58**	**153**	*e*PN		**Pn**	**Pn**	**23 17 16.6**	**+2.3**
CIT				*e*				23 17 23.0	
CIT				*e*S		**Sn**	**Sn**	**23 17 55.4**	**-1.7**
CIT				*e*				23 18 07.1	
CIT				pmax		pmax			
comp=Z,100nm,0.5s									
CIT				smax		smax			
comp=E,344nm,0.5s									
TRTB	**Turuntaevo**	**3.59**	**214**	*e*Pn		**Pn**

TRG max
comp=E,21nm,0.8s
TRG Smax
comp=E,136nm,0.8s
VTMR Vitim 4.30 11 *e*Sn **Sn 23 18 14.5 -0.3**
VTMR *e*Sg **Sg 23 18 32.4 -3.5**
HRMR Khuramsha 4.33 215 *e*Pn **Pn 23 17 26.8 +2.3**
HRMR *e*Pg **Pb 23 17 36.1 +1.6**
HRMR *e*Sg **Sg 23 18 33.5 -3.2**
HRMR *e*Pg Pg
comp=E,63nm,0.5s
HRMR Smax Pg
comp=E,364nm,0.7s
CRS Chara 4.44 65 *e*Pg **Pb 23 17 36.7 +0.4**
CRS *e* 23 17 44.1
CRS *e* 23 18 24.9
CRS *e*Sg **Sb 23 18 35.8 +5.6**
CRS Chara 4.44 65 *e*PN **Pn 23 17 26.7 +0.7**
CRS *e* 23 17 37.7
CRS *e* 23 18 35.1
CRS pmax pmax
comp=Z,67nm,0.6s
CRS smax smax
comp=E,250nm,1.2s
BGT Bolshoye Golou 4.59 228 *e* **Sn 23 18 24.9 +3.0**
BGT *e*Sg **Sg 23 18 42.3 -2.6**
LSTR Listvyanka 4.96 230 *e*Sg **Sg 23 18 52.8 -4.2**
LSTR Smax
comp=E,95nm,1.5s
IRK Irkutsk 4.96 236 *e*Sg **Sg 23 18 52.2 -4.8**
IRK Smax
comp=E,331nm,0.5s
IRK Irkutsk 4.96 236 *e*PN **Pn 23 17 34.3 +1.1**
IRK *e* 23 17 47.5
IRK *e*S **Sn 23 18 30.6 -0.5**
IRK *e* 23 18 51.1
IRK pmax pmax
comp=Z,86nm,0.1s
IRK smax smax
comp=N,322nm,0.5s
IVK Ivanovka 5.19 231 *e*Pn **Pn 23 17 37.0 +0.6**
IVK *e*Pg **Pb 23 17 51.3 +2.1**
IVK *e*Sg **Sb 23 18 57.5 +5.5**
TUP Tupik 5.28 95 ⇑*e*Pn **Pn 23 17 37.7 +0.1**
TUP *e*Pg **Pb 23 17 52.5 +1.8**
TUP *e* 23 18 33.9
TUP *e*Sg **Sg 23 19 02.6 -4.5**
TUP Pmax
comp=N,19nm,0.9s
TUP Smax
comp=N,266nm,0.8s
TUP Tupik 5.28 95 *e*PN **Pn 23 17 37.6 0.0**
TUP *e* 23 17 53.5
TUP *e*S **Sn 23 18 38.1 -0.8**
TUP *e* 23 19 02.7
TUP pmax pmax
comp=Z,18nm,0.5s
TUP smax smax
comp=N,268nm,0.8s
KHNR Khani 5.34 68 *e* **Sn 23 18 43.8 +3.4**
KHNR *e*Sg **Sg 23 19 04.6 -4.5**
KPC Khapcheranga 5.61 170 *e*Pn **Pn 23 17 41.6 -0.6**
KPC *e*Pg **Pb 23 17 59.0 +2.6**
KPC *e*Sn **Sn 23 18 43.3 -4.0**
KPC *e*Sg **Sg 23 19 12.0 -5.9**
KPC Pmax
comp=N,10.0nm,0.9s
KPC Smax
comp=N,117nm,0.8s
KPC Khapcheranga 5.61 170 *e*PN **Pn 23 17 41.6 -0.6**
KPC *e* 23 17 58.9
KPC *e*S **Sn 23 18 43.9 -3.4**
KPC *e* 23 19 12.0
KPC pmax pmax
comp=Z,10.0nm,0.6s
KPC smax smax
comp=E,116nm,1.2s
TLY Talaya 5.62 234 *e* Pn 23 17 48.6 +6.3
TLY *e*Pg **Pb 23 17 59.2 +2.6**
TLY *e*Sg **Sb 23 19 11.4 +7.0**
TLY Pmax
comp=E,13nm,0.6s
TLY Smax
comp=E,54nm,0.8s
TLY Talaya 5.62 234 PN **Pn 23 17 43.7 +1.4**
TLY *e*PG **Pb 23 18 00.7 +4.1**
TLY *e*SG **Sg 23 19 12.2 -6.1**
TLY pmax pmax
comp=Z,21nm,0.4s
TLY Talaya 5.62 234 Pn **Pn 23 17 43.7 +1.4**
comp=Z,0.0nm,0.3s,baz=49,slow=16,SNR=3.4
TLY Pg **Pb 23 17 59.8 +3.2**
comp=Z,0.0nm,0.3s,baz=50,slow=16,SNR=10
TLY Lg Lg 23 19 12.8
comp=Z,0.1nm,0.3s,baz=265,slow=21,SNR=7.4
ARS Arshan 6.06 240 *e*Pn **Pn 23 17 48.8 +0.5**
ARS *e*Pg **Pb 23 18 06.9 +2.9**
ARS *e*Sg **Sg 23 19 25.8 -6.4**
ARS Pmax
comp=Z,27nm,0.5s
ARS Smax
comp=Z,282nm,0.7s
ARS Arshan 6.06 240 *e*PN **Pn 23 17 50.0 +1.7**
ARS *e* 23 18 08.1
ARS *e* 23 19 25.6
ARS pmax pmax
comp=Z,27nm,0.5s
ARS smax smax
comp=N,282nm,0.6s
YKLR Yuktali 6.18 73 *e* Pb 23 18 01.8 -4.2
YKLR *e*Sg **Sg 23 19 29.0 -7.0**
MOY Mondy 6.93 243 *e*Pn **Pn 23 18 01.8 +1.5**
MOY *e*Sn **Sn 23 19 16.1 -3.6**
MOY *e*Sg **Sg 23 19 52.5 -7.6**
MOY Smax
comp=N,115nm,1.3s
MOY Mondy 6.93 243 *e*PN **Pn 23 18 01.8 +1.5**
MOY *e* 23 18 23.5
MOY *e*S **Sn 23 19 16.7 -3.0**
MOY *e* 23 19 52.6
MOY pmax pmax
comp=Z,8.0nm,0.5s
MOY smax smax
comp=E,115nm,1.5s
ORL Orlik 7.11 252 *e*Pn **Pn 23 18 04.3 +1.5**
ORL *e*Sn **Sn 23 19 23.0 -1.1**
ORL *e*Sg Sb 23 19 56.9 +10
ORL max
comp=E,7.0nm,0.8s
ORL Smax
comp=E,64nm,2.2s
ORL Orlik 7.11 252 *e*PN **Pn 23 18 04.4 +1.6**
ORL *e* 23 18 26.9
ORL *e*S **Sn 23 19 22.6 -1.5**
ORL *e* 23 19 56.4
ORL pmax pmax
comp=Z,13nm,1.0s
ORL smax smax
comp=N,64nm,1.6s
SONM Songino Array 7.93 203 Pn **Pn 23 18 13.6 -0.5**
comp=N,0.3nm,0.3s,baz=20,slow=13,SNR=9.6
SONM Pg Pg 23 18 45.5 -4.1
comp=N,0.4nm,0.3s,baz=12,slow=16,SNR=3.1
SONM Lg Lg 23 20 31.9
comp=N,1.6nm,0.3s,baz=12,slow=30,SNR=7.1
CLNS Chul'man 7.98 73 *e*Sg Sg 23 20 25.8 -8.0
TDJR Todzha 9.22 258 *e*Pn **Pn 23 18 35.9 +4.2**
TDJR *e*Pg 23 19 04.3
TDJR *e* 23 20 26.6
TDJR *e*Sg Sn 23 21 03.7 +48
ZALV Zalesovo Beam 15.16 276 Pn **Pn 23 19 51.1 -1.6**
comp=N,0.1nm,0.3s,baz=74,slow=11,SNR=7.1
ZALV Lg Lg 23 24 13.3
comp=N,0.1nm,0.3s,baz=84,slow=28,SNR=2.9
TIXI Tiksi 18.17 18 Lg Lg 23 25 42.7
comp=N,0.1nm,0.3s,baz=360,slow=24,SNR=3.6
MKAR Makanchi Array 19.79 257 P **P 23 20 48.7 -0.4**
comp=N,0.0nm,0.3s,baz=49,slow=9.8,SNR=2.7
KURK Kurchatov 19.87 270 P **P 23 20 50.2 +0.4**
KURBB Kurchatov Arra 19.96 270 P **P 23 20 50.2 -0.7**
comp=N,0.5nm,0.6s,baz=70,slow=11,SNR=2.9
BVAR Borovoye Array 23.63 282 P **P 23 21 29.9 0.0**
comp=N,0.3nm,0.5s,baz=83,slow=15,SNR=1.7
JNU Nakatsue 26.15 139 LR LR 23 33 40.1
comp=N,124nm,19.2s,baz=335,slow=40
ILAR Eielson Array 46.46 35 P **P 23 24 45.5 -0.1**
comp=N,0.6nm,0.9s,baz=305,slow=8.5,SNR=4.8
WRA Warramunga Arr 77.49 157 P **P 23 28 11.8 -2.7**
comp=N,0.5nm,1.1s,baz=347,slow=6.7,SNR=1.5

ISCJB ***22*** *23:24:46.6±0.9, 19°.82N±0°.04×70°.84W±0°.03, h23km±7km, Error ellipse: s-maj=7.2km s-min=4.3km az=169.8*
NEIC ***22*** *23:24:47.9±1.3, 19°.72N±0°.04×70°.84W±0°.04, h16km±6km, Mwr4.1, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.91; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$1.17; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.35; $M_{r\phi}$0.67; Fault plane solution: $M_0$1.54000×10^{15} NP1: ϕ_s40.68000°, δ41.49000°, λ-35.93000°. NP2:ϕ_s159.17000°, δ67.12000°, λ-125.61000°. Principal axes: T 1.3675, Plg15.0000°, Azm274.0000°; N 0.3079, Plg32.0000°, Azm175.0000°; P -1.6754, Plg54.0000°, Azm25.0000°;*
OSPL ***22*** *23:24:49.4±2.7, 19°.74N×70°.82W, h10km±10km, MD3.9, ML4.0*

ISC 22 23:24:48.2±1.4, **19°.73N**±0°.05×**70°.87W**±0°.04, **h16**km±8km, **n62**, σ1°.**26**/70, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.33**	**156**	*i* P	**Pg**	**23 24 54.9**	**-0.2**
SC01				*e*S	**Sb**	**23 25 00.9**	**+0.2**
SC01				IAML		23 25 08.1	
	comp=Z,12μm,0.5s						
SC01	**Santiago de lo**	**0.33**	**156**		**Pg**	**23 24 54.8**	**-0.2**
SDDR	**Presa de Saban**	**0.84**	**208**	*i* P	**Pg**	**23 25 03.6**	**-0.9**
SDDR				*e*S	**Sg**	**23 25 16.2**	**+0.6**
SDDR				IAML		23 25 18.1	
	comp=Z,6μm,0.5s						
SDDR	**Presa de Saban**	**0.84**	**208**		**Pg**	**23 25 03.5**	**-1.0**
SDDR				Sg	**Sg**	**23 25 15.8**	**+0.1**
LONE1	**Neyba**	**1.34**	**203**	*i* P	**Pn**	**23 25 11.7**	**-0.6**
BANI	**BANI**	**1.41**	**160**		**Pn**	**23 25 12.7**	**-0.7**
SDD	**Santo Domingo**	**1.55**	**144**	*i* P	**Pn**	**23 25 13.2**	**-1.9**
SDD				*e*S	**Sn**	**23 25 33.6**	**-1.4**
SDD				IAML		23 25 47.8	
	comp=Z,446nm,0.6s						
SDD	**Santo Domingo**	**1.55**	**144**		**Pn**	**23 25 13.8**	**-1.4**
LOBA1	**Barahona**	**1.63**	**187**	*i* P	**Pn**	**23 25 16.8**	**+0.5**
LOBA1				*e*S	**Sn**	**23 25 38.1**	**+1.2**
LOBA1				IAML		23 25 42.1	
	comp=Z,2μm,0.8s						
DR12	**Loma Pena Alta**	**1.69**	**123**		**Pn**	**23 25 16.1**	**-1.0**
GRTK	**Grand Turk**	**1.79**	**352**	Pn	**Pn**	**23 25 18.3**	**-0.2**
LOPE2	**Hotel El Peder**	**1.88**	**206**	IAML		23 25 32.2	
	comp=Z,2μm,0.8s						
LGNH	**Logne**	**2.04**	**234**	*i* P	**Pn**	**23 25 23.8**	**+1.9**
LGNH				*e*S	**Sn**	**23 25 45.9**	**-1.1**
LGNH				IAML		23 25 58.6	
LGNH	**Logne**	**2.04**	**234**		**Pn**	**23 25 22.2**	**+0.3**
JAKH	**Jacmel**	**2.15**	**227**	*i* P	**Pn**	**23 25 26.0**	**+2.6**
JAKH				*e*S	**Sn**	**23 25 49.9**	**+0.1**
JAKH				IAML		23 26 12.0	
	comp=Z,312nm,0.6s						
JAKH	**Jacmel**	**2.15**	**227**	Pn	**Pn**	**23 25 23.9**	**+0.4**
PCDR	**Punta Cana, DR**	**2.64**	**117**	*i* P	**Pn**	**23 25 30.4**	**+0.3**
PCDR				IAML		23 26 22.4	
	comp=Z,596nm,0.7s						
PCDR	**Punta Cana, DR**	**2.64**	**117**		**Pn**	**23 25 30.5**	**+0.3**
AGPR	**Aguadilla, PR**	**3.77**	**109**	*e*P	**Pn**	**23 25 46.2**	**+0.5**
AGPR				IAML		23 26 52.9	
	comp=Z,146nm,0.5s						
AGPR	**Aguadilla, PR**	**3.77**	**109**	Pn	**Pn**	**23 25 45.0**	**-0.6**
CRPR	**Cabo Rojo, PR**	**3.95**	**115**		**Pn**	**23 25 49.2**	**+1.0**
CRPR					**Sb**	**23 26 46.0**	**+0.9**
GTBY	**Guantanamo Bay**	**4.00**	**274**	*i* P	**Pn**	**23 25 48.4**	**-0.5**
GTBY				*e*S	**Sn**	**23 26 34.7**	**-0.7**
GTBY				IAML		23 27 04.4	
	comp=Z,268nm,1.1s						
GTBY	**Guantanamo Bay**	**4.00**	**274**		**Pn**	**23 25 48.0**	**-0.9**
MLPR	**Magueyes Islan**	**4.02**	**115**		**Pn**	**23 25 49.6**	**+0.5**
AOPR	**Arecibo Observ**	**4.13**	**109**		**Pn**	**23 25 50.4**	**-0.3**
EMPR	**Esperanza - Ma**	**4.29**	**106**	Pn	**Pn**	**23 25 55.0**	**+2.2**
OBIP	**Obispado Ponce**	**4.37**	**112**		**Pn**	**23 25 54.2**	**+0.3**
GCPR	**Guaynabo City**	**4.74**	**107**	Pn	**Pn**	**23 25 57.9**	**-1.1**
SJG	**San Juan**	**4.75**	**109**	*e*P	Pn	23 26 04.8	+5.7
SJG	**San Juan**	**4.75**	**109**	*e*P	Pn	23 26 04.8	+5.7
SJG	**San Juan**	**4.75**	**109**	Pn	**Pn**	**23 25 58.7**	**-0.4**
PDPR	**Patillas Dam,**	**4.89**	**110**		**Pn**	**23 26 00.4**	**-0.7**
HUMP	**Col San Antoni**	**5.00**	**108**	Pn	**Pn**	**23 26 01.0**	**-1.6**
MTP	**Monte Pirata**	**5.29**	**107**		**Pn**	**23 26 05.3**	**-1.3**
CUPR	**Culebra, Puert**	**5.47**	**104**		**Pn**	**23 26 07.1**	**-2.0**
STVI	**Saint Thomas**	**5.76**	**103**	Pn	**Pn**	**23 26 12.0**	**-1.1**
ABVI	**Anegada Island**	**6.25**	**98**		**Pn**	**23 26 17.9**	**-1.9**
MTDJ	**Mount Denham**	**6.48**	**258**		**Pn**	**23 26 23.3**	**+0.2**
SKI	**Saint Kitts**	**8.07**	**106**	Pn	**Pn**	**23 26 44.2**	**-0.6**
CBCY	**The Bluff, Cay**	**8.37**	**272**	Pn	**Pn**	**23 26 48.8**	**-0.2**
ANWB	**Willy Bob**	**8.85**	**102**	Pn	**Pn**	**23 26 54.6**	**-0.8**
SDV	**Santo Domingo**	**10.78**	**179**	*e*P	**Pn**	**23 27 24.5**	**+2.3**
SDV	**Santo Domingo**	**10.78**	**179**	*e*P	**Pn**	**23 27 24.5**	**+2.3**
SDV	**Santo Domingo**	**10.78**	**179**	Pn	**Pn**	**23 27 21.9**	**-0.2**
SOCV	**Socops**	**11.38**	**180**	*e*P	**Pn**	**23 27 31.4**	**+1.2**
SOCV	**Socops**	**11.38**	**180**	*e*P	**Pn**	**23 27 31.4**	**+1.2**
CAPV	**Capacho**	**11.88**	**187**	*e*P	**Pn**	**23 27 38.3**	**+1.1**
CAPV	**Capacho**	**11.88**	**187**	*e*P	**Pn**	**23 27 38.3**	**+1.1**
BARC	**Barichara**	**13.25**	**190**	*e*P	**Pn**	**23 27 55.7**	**-0.3**
BARC	**Barichara**	**13.25**	**190**	*e*P	**Pn**	**23 27 55.7**	**-0.3**
PTBC	**PUERTO BERRIO,**	**13.56**	**195**	*e*P	**Pn**	**23 28 01.8**	**+1.6**
PTBC	**PUERTO BERRIO,**	**13.56**	**195**	*e*P	**Pn**	**23 28 01.8**	**+1.6**
GUY2C	**Guyana, Caldas**	**15.07**	**197**	*e*P	**Pn**	**23 28 23.3**	**+2.3**
GUY2C				*e*P	**P**	**23 28 25.1**	**-1.2**
GUY2C	**Guyana, Caldas**	**15.07**	**197**	*e*P	**Pn**	**23 28 23.3**	**+2.3**
GUY2C				*e*P	**P**	**23 28 25.1**	**-1.2**
CHIC	**Chingaza**	**15.26**	**191**	*e*P	**Pn**	**23 28 24.2**	**+0.6**
CHIC	**Chingaza**	**15.26**	**191**	*e*P	**Pn**	**23 28 24.2**	**+0.6**
RREF	**El Recreo**	**15.37**	**197**	*e*P	**Pn**	**23 28 27.3**	**+2.1**
RREF	**El Recreo**	**15.37**	**197**	*e*P	**Pn**	**23 28 27.3**	**+2.1**
ORTC	**Ortega, Tolima**	**16.29**	**196**	*e*P	**Pn**	**23 28 35.0**	**-1.6**
ORTC	**Ortega, Tolima**	**16.29**	**196**	*e*P	**Pn**	**23 28 35.0**	**-1.6**
TXAR	**Lajitas Array**	**31.25**	**294**	P	**P**	**23 31 06.4**	**-1.0**
NVAR	**Mina Array Bea**	**44.91**	**305**	P	**P**	**23 33 04.3**	**+1.7**

NIED ***22*** *23:27:00, 36°.10N×141°.50E, h17km, Mw3.9 Best double couple: $M_0$7.80000×10^{14} NP1:ϕ_s331.00000°, δ13.00000°, λ-128.00000°. NP2:ϕ_s189.00000°, δ80.00000°, λ-82.00000°.*
IDC ***22*** *23:27:29.4±0.7, 36°.01N×141°.50E, h0km, mb3.9/12, mb1 4.1/16, mb1mx3.9/38, mbtmp3.9/16, ML3.8/3, MS3.4/4, Ms1 3.4/4, ms1mx2.8/45, Error ellipse: s-maj=18.0km s-min=16.3km az=96.0*
ISCJB ***22*** *23:27:32.2±1.0, 36°.07N±0°.03×141°.53E±0°.04, h33km±7km, mb3.8/11, MS3.4/2, Error ellipse: s-maj=5.9km s-min=4.6km az=3.9*
JMA ***22*** *23:27:32.7±0.2, 36°.10N×141°.47E, h36km±3km, M3.9*
NEIC ***22*** *23:27:34.4±1.1, 35°.99N±0°.06×141°.5E±0°.1, h38km±8km, mb4.3/8*

ISC 22 23:27:33.5±1.6, **36°.07N**±0°.04×**141°.46E**±0°.06, **h27**km±11km, **n61**, σ0°.**96**/64, **mb4.0**/15, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.61**	**233**	P	**Pb**	**23 27 45.1**	**-0.5**
CHOJ				S	**Sb**	**23 27 53.9**	**+0.1**
JHYU	**Hitachinakayam**	**0.75**	**291**	P	**Pn**	**23 27 47.2**	**-1.2**
JIHU	**Itakohorinouch**	**0.76**	**262**	P	**Pn**	**23 27 47.8**	**-0.7**
JIHU				S	**Sn**	**23 27 58.8**	**-0.3**
JHO	**Hitachi**	**0.90**	**307**	P	**Pn**	**23 27 48.8**	**-1.6**
JSMT	**Sammumatsuo**	**0.92**	**243**	P	**Pn**	**23 27 50.6**	**-0.1**
JSMT				S	**Sn**	**23 28 03.8**	**+0.7**
JYT	**Yasato**	**1.03**	**279**	P	**Pn**	**23 27 50.8**	**-1.5**
JFK	**Kawauchi**	**1.38**	**340**	P	Pn	23 27 55.4	-1.6
BSO1	**Boso 1**	**1.47**	**196**	P	**Pn**	**23 27 58.1**	**+0.4**
BSO1				*e*S	**Sn**	**23 28 16.8**	**+1.1**
BSO3	**Boso 3**	**1.48**	**212**	P	**Pn**	**23 27 58.7**	**+0.5**
JAG	**Ashikaga**	**1.66**	**283**	P	**Pn**	**23 27 59.8**	**-1.1**
JFT	**Otama**	**1.70**	**328**	P	**Pn**	**23 28 01.5**	**0.0**
JFT				S	**Sn**	**23 28 22.1**	**-0.3**
JMM	**Marumori**	**1.87**	**344**	P	**Pn**	**23 28 02.9**	**-0.9**
JMM				S	**Sn**	**23 28 25.4**	**-1.1**
JKT	**Katashina**	**1.91**	**292**	P	**Pn**	**23 28 04.1**	**-0.3**
JKT				S	**Sn**	**23 28 27.0**	**-0.7**
JFY	**Yanaizu**	**1.94**	**314**	P	**Pn**	**23 28 04.6**	**-0.2**
JFY				S	**Sn**	**23 28 28.1**	**-0.2**
MJAR	**Matsushiro Arr**	**2.67**	**281**	Pn	**Pn**	**23 28 14.6**	**-0.1**
	2.4nm,0.3s,baz=82,slow=12,SNR=65						
MJAR				Sn	**Sn**	**23 28 48.0**	**+1.9**
	2.5nm,0.3s,baz=80,slow=22,SNR=6.0						
MJAR				LR	LR	23 29 37.1	
	comp=Z,295nm,18.3s,baz=135,slow=48						
MJAR	**Matsushiro Arr**	**2.67**	**281**		**Pn**	**23 28 15.1**	**+0.4**
MAJO	**Matsushiro**	**2.67**	**281**		**Pn**	**23 28 15.2**	**+0.5**
MAT	**Matsushiro**	**2.67**	**281**	P	**Pn**	**23 28 15.1**	**+0.3**
MAT				S	**Sn**	**23 28 45.0**	**-1.2**
MJB9	**Matsu-Tunnel**	**2.67**	**281**		**Pn**	**23 28 15.2**	**+0.5**
JHJ2	**Mitsune**	**3.25**	**205**	Pn	**Pn**	**23 28 21.2**	**-1.5**
JHJ	**Hachijo jima 2**	**3.25**	**206**	Pn	**Pn**	**23 28 23.1**	**+0.4**
	34nm,0.3s,baz=135,slow=22,SNR=14						
JHJ				Sn	**Sn**	**23 29 00.0**	**-0.5**
	45nm,0.3s,baz=49,slow=20,SNR=4.3						
INU	**Inuyama**	**3.69**	**260**		**Pn**	**23 28 29.1**	**+0.4**
ERM	**Erimo**	**6.08**	**12**	Pn	**Pn**	**23 29 02.0**	**+0.4**
JCJ	**Chichijima**	**8.97**	**176**	Pn	**Pn**	**23 29 38.9**	**-2.4**
	4.6nm,0.3s,baz=304,slow=22,SNR=2.3						
USRK	**Ussuriysk Ar.**	**10.88**	**321**	Pn	**Pn**	**23 30 10.9**	**+3.6**
	baz=135,slow=13,SNR=8.3						
USRK	**Ussuriysk Ar.**	**10.88**	**321**		**Pn**	**23 30 08.1**	**+0.7**
USA0B	**Ussuriysk Arra**	**10.88**	**321**	Pn	**Pn**	**23 30 08.8**	**+1.4**
KSRS	**Korea Array**	**10.95**	**281**	Pn	**Pn**	**23 30 10.1**	**+1.8**
	baz=92,slow=14,SNR=3.1						
KSRS				LR	LR	23 34 12.9	
	comp=Z,156nm,18.0s,baz=28,slow=37						
PEA0B	**Petropavlovsk-**	**20.51**	**29**	P	**P**	**23 32 09.7**	**+0.4**
PETK	**Petropavlovsk-**	**20.51**	**29**	P	**P**	**23 32 10.2**	**+0.8**
	3.0nm,0.8s,baz=233,slow=7.0,SNR=3.7						
PETK				LR	LR	23 39 11.3	
	comp=Z,66nm,21.1s,baz=244,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.64**	**119**	T	T	00 02 33.1	
	baz=311,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.64**	**119**	T	T	00 02 34.4	
	baz=311,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**27.65**	**119**	T	T	00 02 35.2	
	baz=311,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	00 03 26.6	
	baz=314,slow=76,SNR=98						
H11S3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	00 03 26.6	
	baz=314,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	00 03 27.8	
	baz=314,slow=76,SNR=57						
SONM	**Songino Array**	**28.36**	**305**	P	**P**	**23 33 26.0**	**+0.6**
	0.7nm,0.7s,baz=106,slow=11,SNR=3.3						
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**23 35 27.4**	**+0.4**
	0.7nm,0.4s,baz=97,slow=8.3,SNR=4.8						
ZALV				PcP	**PcP**	**23 37 19.0**	**+0.1**
	1.1nm,0.7s,baz=85,slow=2.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**23 35 27.8**	**+0.7**
MK31	**Makanchi Array**	**44.67**	**303**	P	**P**	**23 35 44.2**	**+0.3**
MKAR	**Makanchi Array**	**44.67**	**303**	P	**P**	**23 35 44.2**	**+0.3**
	0.8nm,0.7s,baz=91,slow=9.7,SNR=7.8						
KURK	**Kurchatov**	**46.56**	**309**	P	**P**	**23 35 58.9**	**+0.2**
KURK				IAmb	IAmb	23 36 10.9	
	comp=Z,3.9nm,0.8s						
RSO	**Redoubt South**	**47.64**	**38**	P	**P**	**23 36 06.6**	**-0.7**
TARG	**Taragay, Kyrgy**	**48.86**	**297**	P	**P**	**23 36 17.4**	**+0.1**
TARG				IAmb	IAmb	23 36 20.3	
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**50.29**	**32**	P	**P**	**23 36 27.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=264,slow=6.6,SNR=12						
CTA	**Charters Tower**	**56.04**	**175**	LR	LR	00 04 18.6	
	comp=Z,85nm,18.1s,baz=358,slow=40						
WB2	**Warramunga Arr**	**56.11**	**188**	P	**P**	**23 37 09.4**	**-1.2**
WB2				IAmb	IAmb	23 37 11.2	
	comp=Z,0.9nm,1.1s						
WRA	**Warramunga Arr**	**56.11**	**188**	P	**P**	**23 37 09.7**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=3.2,slow=7.4,SNR=41						
ABKAR	**Akbulak array**	**58.59**	**311**	P	**P**	**23 37 27.6**	**-0.1**
ABKAR	**Akbulak array**	**58.59**	**311**	P	**P**	**23 37 27.7**	**-0.1**
ABKAR				IAmb	IAmb	23 37 35.2	
	comp=Z,3.7nm,1.5s						
ASAR	**Alice Springs**	**59.84**	**188**	P	**P**	**23 37 35.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=4.8,slow=8.0,SNR=6.1						
FINES	**FINESS Array B**	**69.68**	**332**	P	**P**	**23 38 40.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=59,slow=8.3,SNR=4.3						
HRY	**Holter Researc**	**74.63**	**43**	P	**P**	**23 39 08.6**	**-1.9**
LRM	**Limekiln Ridge**	**74.81**	**44**	P	P	23 39 07.3	-4.4
AKASG	**Malin Array Be**	**75.08**	**322**	P	**P**	**23 39 12.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=43,slow=5.9,SNR=5.2						
NOA	**NORSAR Array B**	**75.09**	**337**	P	**P**	**23 39 13.0**	**+0.3**
	comp=Z,1.5nm,1.0s,baz=39,slow=5.8,SNR=3.8						
NVAR	**Mina Array Bea**	**75.54**	**53**	P	**P**	**23 39 16.5**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=260,slow=4.5,SNR=4.7						
NVAR	**Mina Array Bea**	**75.54**	**53**	P	**P**	**23 39 15.7**	**-0.3**
PDAR	**Pinedale Array**	**78.32**	**45**	P	**P**	**23 39 32.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=221,slow=1.9,SNR=6.2						
PDAR	**Pinedale Array**	**78.32**	**45**	P	**P**	**23 39 31.2**	**-0.3**
LPAZ	**La Paz**	**147.14**	**61**	PKPbc	**PKPbc**	**23 47 15.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=343,slow=11,SNR=2.6						

TEH ***22*** *23:32:45.3, 28°.36N×54°.05E, h6km, ML3.2*
ISCJB ***22*** *23:32:46.4±0.4, 28°.28N±0°.03×54°.01E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=3.5km az=150.5*
THR ***22*** *23:32:47.1, 28°.33N×54°.29E, h18km, ML3.0*
OMAN ***22*** *23:32:52.4±1.2, 28°.15N×54°.18E, h169km±20km, ml3.3/3, Error ellipse: s-maj=55.3km s-min=26.8km az=233.0*

ISC 22 23:32:45.8±0.8, **28°.37N**±0°.04×**54°.06E**±0°.05, **h10**km, **n31**, σ2°.**25**/36, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.44**	**288**	*e*Pg	**Pg**	**23 32 53.5**	**-1.1**
JHRM				*e*Sg	**Sb**	**23 33 00.9**	**-1.7**
JHRM				IAMB	IAmb	23 33 09.5	
	comp=Z,0.0nm,0.5s						
LMD1	**Lamerd**	**1.30**	**218**	*e*Pg	**Pg**	**23 33 11.4**	**+0.7**
LMD1				IAMB	IAmb	23 33 45.5	
	comp=Z,0.0nm,0.6s						
SHI	**Shiraz**	**1.85**	**313**	*e*Pn	**Pg**	**23 33 20.5**	**-0.9**
BNDS	**Bandar-Abbas**	**2.11**	**117**	*e*Pn	**Pn**	**23 33 20.6**	**-0.7**
BNDS	**Bandar-Abbas**	**2.11**	**117**	*e*AML	AML	23 34 07.1	
	comp=E,133nm,0.5s						
BNDS	**Bandar-Abbas**	**2.11**	**117**	*e*Pn	**Pn**	**23 33 20.6**	**-0.7**
BNDS				*e*Sg	**Sn**	**23 33 47.7**	**0.0**
GENO	**Geno**	**2.11**	**117**	*e*Pn	**Pb**	**23 33 22.6**	**-1.6**
GENO				IAMB	IAmb	23 34 02.7	
	comp=Z,0.0nm,0.6s						
NIAN	**Nian**	**2.59**	**108**	*e*Pn	**Pb**	**23 33 29.9**	**-2.4**
NIAN				IAMB	IAmb	23 34 19.7	
	comp=Z,0.0nm,0.5s						
NGRK	**Negar Kerman**	**2.66**	**61**	*e*Pn	**Pb**	**23 33 31.2**	**-2.6**
NGRK				IAMB	IAmb	23 34 24.7	
	comp=Z,0.0nm,0.5s						
KRBR	**Kerman**	**2.86**	**55**	*e*Sg	**Sb**	**23 34 12.3**	**0.0**
KRBR				*e*Pn	**Pn**	**23 33 32.4**	**+0.6**
**KRB

SMDO				S	Sn	23 35 34.0	+0.6
WSAR	**Wadi Sarin**	**6.56**	**140**	P	Pn	23 34 23.9	+1.4
WHFO	**Wadi Hawf**	**10.41**	**182**	P	Pn	23 35 15.1	-0.1
	SNR=28						

*ISCJB **22** 23:43:44.9±0.7, 34°.27N±0°.03×45°.55E±0°.03, h3km±5km, Error ellipse: s-maj=5.6km s-min=4.0km az=160.7*
*THR **22** 23:43:45.7, 34°.19N×45°.60E, h15km, ML3.2*
*ISN **22** 23:43:45.7±1.1, 34°.36N×45°.58E, h15km±7km, ML3.1*
*TEH **22** 23:43:46.4, 34°.26N×45°.62E, h13km, ML3.3*
ISC 22 23:43:45.7±1.5, 34°.28N±0°.04×45°.55E±0°.04, h6km±12km, n38, σ1§11/45, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.81**	**58**	*e*Pg	**Pg**	**23 44 01.0**	**-0.2**
IDHR				*e*Sg	**Sb**	**23 44 11.8**	**-1.7**
IDHR				IAMB	IAmb	23 44 14.6	
	comp=Z,0.0nm,0.4s						
IGHG	**Ghaleghazi**	**0.84**	**86**	*e*Pg	**Pg**	**23 44 01.7**	**-0.2**
IGHG				*e*Sg	**Sb**	**23 44 13.4**	**-1.2**
IGHG				IAMB	IAmb	23 44 18.3	
	comp=Z,15μm,0.3s						
IBDR	**Badra**	**1.21**	**165**	*e*Pg	**Pn**	**23 44 09.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**23 44 27.0**	**+2.4**
IBDR				AML	AML	23 44 31.3	
	comp=Z,176nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.23**	**90**	IAMB	IAmb	23 44 29.4	
	comp=Z,0.0nm,0.6s						
KCHF				*e*Pg	**Pg**	**23 44 08.7**	**-0.6**
KER	**Kermanshah**	**1.31**	**85**	*e*Pg	**Pb**	**23 44 10.0**	**-0.8**
KER				*e*Sg	**Sn**	**23 44 29.0**	**+0.4**
ILIN	**Lien**	**1.32**	**61**	*e*Pg	**Pg**	**23 44 10.5**	**-0.6**
ILIN				IAMB	IAmb	23 44 32.6	
	comp=Z,4μm,0.4s						
BHD	**Baghdad**	**1.40**	**224**	*e*Pg	**Pn**	**23 44 12.0**	**+0.2**
BHD				*e*Sg	**Sn**	**23 44 32.0**	**+1.3**
IKRK	**Kirkuk**	**1.50**	**319**	*e*Pn	**Pn**	**23 44 13.0**	**-0.2**
IKRK				AML	AML	23 44 20.0	
	comp=Z,170nm,1.2s						
IKRK				*e*Sn	**Sn**	**23 44 33.0**	**0.0**
IKOM	**Komasi**	**1.62**	**93**	*e*Pn	**Pb**	**23 44 16.0**	**-0.2**
IKOM				IAMB	IAmb	23 44 46.0	
	comp=Z,0.0nm,0.8s						
IBZA	**Bozab**	**1.92**	**84**	*e*Pn	**Pb**	**23 44 20.2**	**-1.1**
IBZA				IAMB	IAmb	23 44 50.5	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**2.05**	**111**	*e*Pn	**Pn**	**23 44 21.5**	**+0.8**
IKFM				IAMB	IAmb	23 44 56.5	
	comp=Z,0.0nm,0.6s						
IDOB	**Doab**	**2.23**	**102**	*e*Pn	**Pn**	**23 44 24.1**	**+0.6**
IDOB				IAMB	IAmb	23 45 08.6	
	comp=Z,0.0nm,0.7s						
IKMR	**Kamar-syah**	**2.47**	**107**	*e*Pn	**Pn**	**23 44 27.3**	**+0.8**
IKMR				IAMB	IAmb	23 45 07.4	
	comp=Z,0.0nm,0.5s						
MAHB	**Mahabad**	**2.48**	**3**	*e*Pn	**Pb**	**23 44 29.2**	**-1.6**
MAHB				IAMB	IAmb	23 45 11.3	
	comp=Z,0.0nm,0.5s						
HSAM	**Samen**	**2.53**	**91**	*e*Pn	**Pn**	**23 44 28.3**	**+0.8**
HSAM				IAMB	IAmb	23 44 34.0	
	comp=Z,0.0nm,0.5s						
BDRS	**Dareh Seyedi**	**2.78**	**96**	*e*Pn	**Pn**	**23 44 31.7**	**+0.7**
BDRS				IAMB	IAmb	23 45 17.3	
	comp=Z,0.0nm,1.0s						
MSL	**Mosul**	**2.91**	**317**	*e*Pn	**Pn**	**23 44 33.0**	**+0.4**
MSL				AML	AML	23 44 47.2	
	comp=Z,283nm,0.7s						
MSL				*e*Sn	**Sn**	**23 45 08.0**	**+0.2**
HAGD	**Aghdareh**	**3.01**	**79**	*e*Pn	**Pn**	**23 44 35.4**	**+1.2**
HAGD				IAMB	IAmb	23 45 24.9	
	comp=Z,0.0nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.48**	**128**	*e*AML	AML	23 45 55.2	
	comp=Z,46nm,0.5s						
ZNJK	**Zanjan**	**3.50**	**46**	*e*Pn	**Pn**	**23 44 42.4**	**+1.5**
ZNJK	**Zanjan**	**3.50**	**46**	*e*Pn	**Pn**	**23 44 42.4**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.60**	**66**	*e*Pn	**Pn**	**23 44 44.3**	**+2.0**
KHMZ	**Khomeyn**	**3.70**	**97**	*e*Pn	**Pn**	**23 44 44.0**	**+0.4**
KHMZ	**Khomeyn**	**3.70**	**97**	*e*Pn	**Pn**	**23 44 44.0**	**+0.4**
ASAO	**Ashtian**	**3.71**	**85**	*e*Pn	**Pn**	**23 44 44.4**	**+0.6**
ASAO	**Ashtian**	**3.71**	**85**	*e*Pn	**Pn**	**23 44 44.4**	**+0.6**
RTB	**Rutbah**	**4.55**	**256**	*e*Pn	**Pn**	**23 44 57.0**	**+1.8**
RTB				*e*Sn	**Sn**	**23 45 49.0**	**+0.6**
RTB				AML	AML	23 46 23.3	
	comp=N,433nm,1.1s						
QALM	**Alamut, Qazvin**	**4.68**	**61**	*e*Pn	**Pn**	**23 44 59.5**	**+2.3**
IPIR	**Pirpir**	**4.74**	**108**	*e*Pn	**Pn**	**23 44 57.8**	**-0.2**
IPIR				IAMB	IAmb	23 45 57.0	
	comp=Z,488nm,0.4s						
JHBN	**Jahan bin**	**4.75**	**114**	*e*Pn	**Pn**	**23 44 58.3**	**+0.2**
GRMI	**Germi**	**4.89**	**22**	*e*Pn	**Pn**	**23 45 02.0**	**+2.0**
GRMI	**Germi**	**4.89**	**22**	*e*Pn	**Pn**	**23 45 02.0**	**+2.0**
QAM	**Ghamsar**	**4.92**	**94**	*e*Pn	**Pn**	**23 45 00.9**	**+0.6**
ZNGN	**Zangian**	**4.94**	**114**	*e*Pn	**Pn**	**23 45 00.1**	**-0.7**
ZNGN				IAMB	IAmb	23 46 05.6	
	comp=Z,0.0nm,0.3s						
IKLH	**Kolahrood**	**5.11**	**99**	*e*Pn	**Pn**	**23 45 03.2**	**+0.2**
IKLH				IAMB	IAmb	23 46 07.9	
	comp=Z,239nm,0.6s						
KRSH	**Karshahi**	**5.47**	**91**	*e*Pn	**Pn**	**23 45 07.1**	**-0.8**
IGAR	**Gharneh**	**5.74**	**107**	*e*Pn	**Pn**	**23 45 11.8**	**+0.1**
IGAR				IAMB	IAmb	23 45 13.7	
	comp=Z,232nm,0.3s						
IZEF	**Zefreh**	**5.82**	**102**	*e*Pn	**Pn**	**23 45 12.9**	**+0.1**
IZEF				IAMB	IAmb	23 46 28.4	
	comp=Z,75nm,0.4s						

*ISCJB **22** 23:45:51.0±0.5, 11°.80N±0°.04×86°.71W±0°.04, h35km, Error ellipse: s-maj=7.6km s-min=4.2km az=41.1*
*UCR **22** 23:45:51.8±0.8, 11°.86N×86°.53W, h20km±10km, MW3.5*
*SNET **22** 23:45:52.5±1.2, 11°.91N×86°.77W, h28km±16km, ML3.7*
ISC 22 23:45:51.8±1.4, 11°.83N±0°.05×86°.68W±0°.05, h35km, n23, σ0§60/27, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAVN	**Gruta Xavier**	**0.47**	**47**	*e*P	**Pn**	**23 46 02.1**	**+0.1**
XAVN				*e*S	**Sn**	**23 46 10.0**	**+0.9**
MOMN	**Momotombo**	**0.59**	**13**	*e*P	**Pn**	**23 46 03.0**	**-0.8**
MOMN				*e*S	**Sn**	**23 46 12.1**	**-0.1**
CNGN	**Cerro Negro**	**0.67**	**358**	*e*P	**Pn**	**23 46 04.7**	**-0.1**
CRIN	**San Cristobal**	**0.94**	**337**	*e*P	**Pn**	**23 46 09.2**	**+0.7**
ESTN	**Estel**	**1.30**	**13**	*e*P	**Pn**	**23 46 13.7**	**+0.1**
MATN	**Matagalpa**	**1.31**	**34**	*e*P	**Pn**	**23 46 13.5**	**-0.3**
ACON	**Acoyapa**	**1.48**	**85**	*e*P	**Pn**	**23 46 15.2**	**-0.7**
GB1A	**Borinquen Arri**	**1.61**	**129**	*e*P	**Pn**	**23 46 16.7**	**-1.1**
BUEV	**Buena Vista**	**1.61**	**129**	*e*P	**Pn**	**23 46 17.8**	**-0.1**
RCON	**San Juan de Ri**	**1.72**	**17**	*e*P	**Pn**	**23 46 19.8**	**+0.4**
CNCH	**Conchagua**	**1.83**	**322**	*e*P	**Pn**	**23 46 20.7**	**-0.1**
CNCH				IAML		23 46 45.8	
	comp=Z,406nm,0.2s						
CUI	**Cuipilapa**	**1.89**	**128**	*e*P	**Pn**	**23 46 21.7**	**+0.1**
LCND	**La Caada**	**1.89**	**321**	*e*P	**Pn**	**23 46 21.5**	**-0.1**
LCND				*e*S	**Sn**	**23 46 43.3**	**-0.9**
LCY	**Lacayo**	**2.24**	**315**	*e*P	**Pn**	**23 46 27.0**	**+0.5**
JTS	**Las Juntas de**	**2.28**	**132**	*e*P	**Pn**	**23 46 27.0**	**0.0**
PACA	**Pacayal**	**2.29**	**316**	*e*P	**Pn**	**23 46 27.6**	**+0.4**
PACA				IAML		23 46 28.8	
	comp=Z,844nm,0.2s						
PACA				*e*S	**Sn**	**23 46 54.0**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.29**	**345**	*e*P	**Pn**	**23 46 27.8**	**+0.5**
FAGO	**Alcalda de S**	**2.32**	**323**	*e*P	**Pn**	**23 46 27.4**	**-0.1**
CEDE	**Laguna Cedeo**	**2.35**	**124**	*e*P	**Pn**	**23 46 27.9**	**-0.1**
ESPN	**Las Esperanzas**	**2.35**	**81**	*e*P	**Pn**	**23 46 27.9**	**-0.1**
ARE1	**Arenal 1**	**2.35**	**125**	*e*P	**Pn**	**23 46 29.7**	**+1.7**
TECA	**Tecapa**	**2.43**	**313**	*e*P	**Pn**	**23 46 28.9**	**-0.3**
IXG	**Ixpaco**	**4.34**	**303**	*e*P	**Pn**	**23 46 55.7**	**+0.1**

*DRS **22** 23:47:23.2±0.0, 42°.28N×46°.67E, h4km*
*NORS **22** 23:47:23.9±0.0, 42°.07N×46°.08E, h22km, MPVA3.0*
*TIF **22** 23:47:23.5, 42°.06N×46°.04E, h18km±4km*
ISC 22 23:47:23.2±1.1, 42°.02N±0°.03×46°.08E±0°.02, h11km±10km, n21, σ0§97/42, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.58**	**177**	P	**Pb**	**23 47 36.0**	**+0.6**
DDFL				S	**Sb**	**23 47 45.6**	**+2.0**
BTLR	**Botlikh**	**0.65**	**9**	*e*Pg	**Pb**	**23 47 36.8**	**+0.3**
BTLR				*e*Sg	**Sn**	**23 47 47.3**	**-1.4**
XNZR	**Khunzakh**	**0.69**	**42**	*e*Pg	**Pb**	**23 47 36.8**	**-0.6**
XNZR				*e*Sg	**Sb**	**23 47 47.5**	**+0.5**
GNBR	**Gunib**	**0.75**	**61**	*e*Pg	**Pb**	**23 47 37.9**	**-0.4**
GNBR				*e*Sg	**Sb**	**23 47 48.8**	**+0.2**
KMKR	**Kumukh**	**0.77**	**82**	*e*Pg	**Pg**	**23 47 37.5**	**-0.5**
KMKR				*e*Sg	**Sg**	**23 47 48.3**	**+0.2**
UNCR	**Uncukul**	**0.87**	**37**	*e*Pg	**Pb**	**23 47 40.5**	**+0.2**
UNCR				*e*Sg	**Sn**	**23 47 54.0**	**-0.1**
ARKR	**Arakani**	**0.89**	**49**	*i* Pg	**Pn**	**23 47 41.0**	**-0.7**
ARKR				*e*Sg	**Sn**	**23 47 53.5**	**-1.1**
BTNK	**Botanikuri**	**1.02**	**251**	P	**Pg**	**23 47 42.0**	**-0.7**
BTNK				S	**Sn**	**23 47 57.5**	**-0.2**
TBLG	**Delisi**	**1.04**	**254**	P	**Pg**	**23 47 42.3**	**-0.9**
TBLG				S	**Sb**	**23 47 57.6**	**+0.7**
BUJR	**Buynaksk**	**1.10**	**43**	*e*Pg	**Pn**	**23 47 44.3**	**-0.3**
BUJR				*e*Sg	**Sn**	**23 47 59.7**	**-0.1**
DBC	**Dubki**	**1.14**	**29**	*e*Pg	**Pn**	**23 47 45.2**	**+0.1**
DBC				*e*Sg	**Sn**	**23 48 02.2**	**+1.4**
URKR	**Urkarakh**	**1.17**	**82**	*e*Pg	**Pn**	**23 47 45.6**	**+0.1**
URKR				*e*Sg	**Sn**	**23 48 01.6**	**+0.1**
GUDG	**Gudauri**	**1.27**	**291**	P	**Pg**	**23 47 47.3**	**-0.3**
GUDG				S	**Sn**	**23 48 05.9**	**+1.7**
AKT	**Akhty**	**1.35**	**113**	*e*Pg	**Pn**	**23 47 47.7**	**-0.4**
AKT				*e*Sg	**Sb**	**23 48 05.2**	**-0.6**
KZRT	**Kazreti**	**1.41**	**244**	P	**Pn**	**23 47 47.5**	**-1.4**
KZRT				S	**Sn**	**23 48 06.4**	**-1.0**
LACR	**Lac**	**1.54**	**302**	*e*Pg	**Pg**	**23 47 53.1**	**+0.2**
LACR				*e*Sg	**Sg**	**23 48 13.4**	**+0.5**
DRN	**Derbent**	**1.68**	**89**	*e*Pg	**Pg**	**23 47 55.4**	**0.0**
DRN				*e*Sg	**Sg**	**23 48 18.0**	**+0.9**
ZEI	**Tsey**	**1.79**	**296**	*e*Pg	**Pg**	**23 47 56.8**	**-0.6**
ZEI				*e*Sg	**Sg**	**23 48 21.1**	**+0.5**
KORR	**Kora**	**1.83**	**306**	*e*Pg	**Pb**	**23 47 56.9**	**+0.2**
KORR				*e*Sg	**Sg**	**23 48 25.0**	**+3.1**
ONI	**Oni**	**2.03**	**287**	P	**Pb**	**23 47 59.6**	**-0.5**
ONI				S	**Sb**	**23 48 26.3**	**+1.0**
DIGR	**Digorskoe uzhe**	**2.05**	**296**	*e*Pg	**Pg**	**23 48 01.2**	**-1.2**
DIGR				*e*Sg	**Sg**	**23 48 27.6**	**-1.3**

*ISCJB **23** 00:00:13.3±0.9, 27°.96N±0°.05×51°.37E±0°.09, h16km, Error ellipse: s-maj=13.3km s-min=3.9km az=152.9*
*TEH **23** 00:00:16.9, 28°.30N×51°.44E, h15km, ML3.3*
*OMAN **23** 00:00:18.7±3.4, 28°.01N×51°.63E, h20km, ml3.6/5, Error ellipse: s-maj=77.3km s-min=29.8km az=38.0*
*DSN **23** 00:00:20.3±1.4, 27°.81N×51°.89E, h2km, ML3.9/4, Error ellipse: s-maj=29.9km s-min=7.6km az=10.0*
ISC 23 00:00:15.8±1.9, 28°.07N±0°.06×51°.5E±0°.1, h16km, n27, σ0§96/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.67**	**115**	*e*Pn	**Pg**	**00 00 49.3**	**+1.4**
LMD1				IAMB	IAmb	00 01 24.1	
	comp=Z,0.0nm,0.6s						
SHI	**Shiraz**	**1.81**	**30**	*e*Pn	**Pn**	**00 00 47.4**	**+0.8**
SHI				*e*Sg	**Sb**	**00 01 10.6**	**-0.8**
SHI				IAMB	IAmb	00 01 31.7	
	comp=Z,1μm,0.6s						
JHRM	**Jahrom**	**1.91**	**76**	*e*Pn	**Pb**	**00 00 49.8**	**-0.5**
JHRM				IAMB	IAmb	00 01 35.6	
	comp=Z,0.0nm,0.5s						
IRAM	**Ramesheh**	**3.81**	**12**	*e*Pn	**Pn**	**00 01 13.8**	**-0.3**
IBRJ	**Brojen**	**3.83**	**357**	*e*Pn	**Pn**	**00 01 14.6**	**+0.2**
ZNGN	**Zangian**	**4.07**	**353**	*e*Pn	**Pn**	**00 01 17.0**	**-0.7**
ZNGN				IAMB	IAmb	00 01 34.6	
	comp=Z,0.0nm,0.6s						
JHBN	**Jahan bin**	**4.21**	**351**	*e*Pn	**Pn**	**00 01 19.0**	**-0.6**
ROKH	**ROKH**	**4.28**	**355**	*e*Pn	**Pn**	**00 01 20.2**	**-0.3**
ISAD	**Sadrabad**	**4.29**	**26**	*e*Pn	**Pn**	**00 01 21.9**	**+1.2**
ISAD				IAMB	IAmb	00 01 23.2	
	comp=Z,197nm,0.1s						
IMEH	**Mehriz**	**4.29**	**39**	*e*Pn	**Pn**	**00 01 22.2**	**+1.5**
IMEH				IAMB	IAmb	00 01 23.7	
	comp=Z,441nm,0.4s						
IGAR	**Gharneh**	**4.35**	**6**	*e*Pn	**Pn**	**00 01 21.6**	**+0.1**
SHME	**Shamm**	**4.63**	**115**	*i* P	**Pn**	**00 01 25.0**	**-0.1**
	SNR=7.4						
SHME				S	**Sn**	**00 02 15.6**	**-2.9**
IPIR	**Pirpir**	**4.63**	**354**	*e*Pn	**Pn**	**00 01 24.9**	**-0.5**
IPIR				IAMB	IAmb	00 01 27.1	
	comp=Z,169nm,0.2s						
BANOM	**Banah**	**4.81**	**115**	*i* P	**Pn**	**00 01 27.8**	**+0.1**
	SNR=27						
BANOM	**Banah**	**4.81**	**115**	P	**Pn**	**00 01 28.0**	**+0.3**
	SNR=27						
BANOM				S	**Sn**	**00 02 23.0**	**-0.1**
IZEF	**Zefreh**	**4.87**	**9**	*e*Pn	**Pn**	**00 01 28.4**	**-0.2**
ASUD	**Al Ashush, Dub**	**4.87**	**134**	P	**Pn**	**00 01 30.1**	**+1.7**
	SNR=12						
ICHK	**Chekchek**	**4.88**	**31**	*e*Pn	**Pn**	**00 01 29.7**	**+1.0**
IBAF	**Bafgh**	**5.00**	**44**	*e*Pn	**Pn**	**00 01 31.7**	**+1.4**
UOSS	**Minazif**	**5.26**	**125**	*i* P	**Pn**	**00 01 33.7**	**-0.1**
	SNR=6.1						
UOSS	**Minazif**	**5.26**	**125**	P	**Pn**	**00 01 33.9**	**+0.1**
	SNR=9.4						
HATD	**Hatta, Dubai**	**5.28**	**127**	P	**Pn**	**00 01 33.5**	**-0.6**
HATD	**Hatta, Dubai**	**5.28**	**127**	P	**Pn**	**00 01 34.5**	**+0.4**
HATD				S	**Sn**	**00 02 34.2**	**-0.5**
ASHO	**Ashiyiah**	**5.32**	**128**	P	**Pn**	**00 01 35.1**	**+0.4**
ASHO	**Ashiyiah**	**5.32**	**128**	P	**Pn**	**00 01 35.2**	**+0.5**
ASHO				S	**Sn**	**00 02 35.1**	**-0.6**
ARQ	**Araqi**	**6.55**	**135**	P	**Pn**	**00 01 51.8**	**+0.2**
	SNR=17						
ARQ				S	**Sn**	**00 03 06.0**	**-0.1**
HOQ	**Hoqain**	**6.90**	**129**	P	**Pn**	**00 01 56.8**	**+0.4**
	SNR=16						
HOQ				S	**Sn**	**00 03 12.6**	**-2.0**

*ISCJB **23** 00:04:45.9±0.5, 50°.32N±0°.03×18°.74E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=2.3km az=18.4*
*VIE **23** 00:04:47.1±0.8, 50°.40N×18°.72E, h0km, mb2.1/2, ml2.5/4, Error ellipse: s-maj=8.4km s-min=5.9km az=112.0 25 km NW of Katowice Suspected Mining induced.*
*IPEC **23** 00:04:47.4±0.2, 50°.34N×18°.78E, h0km, ML2.0/3, Error ellipse: s-maj=3.2km s-min=0.7km az=162.0*
*PRU **23** 00:04:48.0±0.0, 50°.30N×18°.76E, h0km*
ISC 23 00:04:47.4±0.8, 50°.26N±0°.03×18°.75E±0°.02, h0km, n28, σ0§71/62, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**223**	*e*PG	**Pb**	**00 04 59.9**	**-0.4**
OKC				*e*SG	**Sb**	**00 05 08.2**	**-0.8**
	comp=Z,43nm,0.6s						
OJC	**Ojcow**	**0.67**	**93**	*e*Pg	**Pg**	**00 05 00.2**	**-0.1**
OJC				*e*Pg	**Pg**	**00 05 00.2**	**-0.1**
OJC				*e*Sg	**Sg**	**00 05 09.0**	**+0.1**
OJC				*e*Sg	**Sg**	**00 05 09.0**	**+0.1**
MORC	**Moravsky Berou**	**0.92**	**239**	*e*PG	**Pb**	**00 05 06.0**	**-0.2**
MORC				*e*SG	**Sb**	**00 05 18.2**	**-0.7**
MORC	**Moravsky Berou**	**0.92**	**239**	*e*Pg	**Pb**	**00 05 06.0**	**-0.2**
	baz=54						
MORC				*e*Sg	**Sb**	**00 05 18.1**	**-0.8**
	20nm,0.2s,baz=54						
LANS	**Liptovska Anna**	**1.20**	**157**	*e*PG	**Pb**	**00 05 11.1**	**+0.1**
LANS				*e*SG	**Sb**	**00 05 27.7**	**+0.6**
LANS				*e*LG	Lg	00 05 28.3	
KRLC	**Kraliky**	**1.28**	**263**	*e*PG	**Pg**	**00 05 11.6**	**-0.3**
KRLC				*e*SG	**Sb**	**00 05 29.3**	**-0.1**
	comp=Z,28nm,0.3s						
NIE	**Niedzica**	**1.31**	**129**	*e*Pg	**Pg**	**00 05 12.4**	**0.0**
NIE				*e*Pg	**Pg**	**00 05 12.4**	**0.0**
NIE				*e*Sg	**Sn**	**00 05 30.6**	**-0.5**
NIE				*e*Sg	**Sn**	**00 05 30.6**	**-0.5**
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	**Pn**	**00 05 16.8**	**+0.4**
DPC				*e*SG	**Sg**	**00 05 37.7**	**+0.2**
	comp=Z,17nm,0.4s						
JAVC	**Velka Javorina**	**1.57**	**207**	*e*PN	**Pg**	**00 05 17.4**	**0.0**
JAVC	**Velka Javorina**	**1.57**	**207**	*e*Pn	**Pb**	**00 05 17.3**	**0.0**
	baz=26						
KSP	**Ksiaz**	**1.67**	**291**	*e*Pb	**Pn**	**00 05 18.2**	**+0.2**
KSP				*e*Pb	**Pn**	**00 05 18.2**	**+0.2**
KSP				*i* Pg	**Pg**	**00 05 20.1**	**+0.6**
KSP				*i* Pg	**Pg**	**00 05 20.1**	**+0.6**
KSP				*e*Sg	**Sg**	**00 05 42.5**	**+1.3**
KSP				*e*Sg	**Sg**	**00 05 42.5**	**+1.3**
VRAC	**Vranov**	**1.69**	**237**	*e*PN	**Pb**	**00 05 19.1**	**-0.3**
VRAC				*e*SG	**Sg**	**00 05 42.2**	**+0.5**
VRAC	**Vranov**	**1.69**	**237**	*e*Pn	**Pb**	**00 05 19.0**	**-0.3**
	baz=53						
VRAC				*e*Sg	**Sg**	**00 05 42.2**	**+0.5**
	16nm,0.2s,baz=53						
CHVC	**Chvalec**	**1.76**	**282**	*e*PG	**Pn**	**00 05 19.5**	**+0.4**
CHVC				*e*SG	**Sb**	**00 05 43.3**	**+0.2**
	comp=Z,9.2nm,0.3s						
VYHS	**Vyhne**	**1.77**	**178**	*e*PN	**Pn**	**00 05 19.2**	**0.0**
VYHS				*e*SN	**Sn**	**00 05 41.8**	**-0.6**
UPC	**Upice**	**1.77**	**279**	*e*PG	**Pb**	**00 05 20.4**	**-0.3**
UPC				*e*SG	**Sg**	**00 05 45.2**	**+0.9**
KRUC	**Moravsky**	**1.94**	**233**	*e*PN	**Pn**	**00 05 22.5**	**+0.8**
KRUC				*e*SG	**Sg**	**00 05 50.2**	**+0.4**
KRUC	**Moravsky**	**1.94**	**233**	*e*Pn	**Pn**	**00 05 22.4**	**+0.8**
	baz=50						
KRUC				*e*Sg	**Sg**	**00 05 50.2**	**+0.4**
	9.5nm,0.2s,baz=50						
SMOL	**Smolenice**	**1.95**	**207**	*e*PN	**Pn**	**00 05 22.1**	**+0.4**
SMOL				*e*SN	**Sn**	**00 05 47.2**	**+0.3**
SMOL				*e*LG	Lg	00 05 48.5	
KECS	**Kecovo**	**2.11**	**147**	*e*SN	**Sn**	**00 05 49.0**	**-1.8**
KECS				*e*LG	Lg	00 05 49.5	
MODS	**Modra-Piesok**	**2.12**	**208**	*e*PN	**Pn**	**00 05 23.8**	**-0.3**
MODS				*e*SN	**Sn**	**00 05 49.7**	**-1.4**
KOLS	**Kolonicke sedl**	**2.65**	**119**	*e*PN	**Pn**	**00 05 31.0**	**-0.3**
KOLS				*e*PG	**Pg**	**00 05 40.2**	**+2.1**
KOLS				*e*SN	**Sn**	**00 06 03.4**	**-0.7**
PRU	**Pruhonice**	**2.72**	**266**	*e*SG	**Sg**	**00 06 14.4**	**-0.4**
CONA	**Conrad Observa**	**3.01**	**220**	*i* Pn	**Pn**	**00 05 37.2**	**+0.8**
	0.4nm,0.2s						
CONA				*e*Sn	**Sn**	**00 06 14.0**	**+0.9**
	2.5nm,0.3s						
BRG	**Berggiesshubel**	**3.13**	**283**	PG	**Pg**	**00 05 46.1**	**-1.2**
BRG				SG	**Sg**	**00 06 27.3**	**-0.5**
	7.5nm,0.4s						
KHC	**Kasperske Hory**	**3.54**	**253**	*e*PN	**Pn**	**00 05 44.0**	**+0.3**
KHC				*e*PG	**Pg**	**00 05 55.5**	**+0.2**
KHC				*ex*	x	00 06 27.0	
KHC				*e*SG	**Sg**	**00 06 39.9**	**-1.3**
	comp=Z,9.0nm,0.6s						
CLL	**Collm**	**3.80**	**288**	*i* Pg	**Pg**	**00 05 59.8**	**-0.3**
CLL				*i*		00 06 01.8	
CLL				*i* Sg	**Sg**	**00 06 48.7**	**-0.6**
	comp=Z,6.0nm,0.5s						
MOA	**Molln**	**3.81**	**232**	*e*Pn	**Pn**	**00 05 48.1**	**+0.8**
	comp=Z,1.0nm,0.4s						
MOA				*e*Sn	**Sn**	**00 06 34.1**	**+1.3**
	comp=Z,1.1nm,0.3s						

*ISCJB **23** 00:13:40.8±0.5, 29°.9N±0°.1×141°.3E±0°.4, h50km, mb3.6/3, Error ellipse: s-maj=57.8km s-min=4.4km az=164.3*
*JMA **23** 00:13:40.6±0.1, 29°.95N×141°.46E, h48km, M4.4*
*IDC **23** 00:13:42.5±1.5, 29°.80N×141°.33E, h48km±24km, mb3.3/4, mb1 3.6/7, mb1mx3.2/45, mbtmp3.7/7, ML3.6/3, MS2.1/1, Ms1 2.1/1, ms1mx2.0/18, Error ellipse: s-maj=138.9km s-min=11.5km az=75.0*
ISC 23 00:13:41.8±1.0, 29°.9N±0°.1×141°.2E±0°.4, h50km, n21, σ1§85/20, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.93**	**162**	P	**Pn**	**00 14 25.8**	**-0.1**
CBIJ				*e*S	**Sn**	**00 14 58.5**	**-1.3**
JCJ	**Chichijima**	**2.93**	**162**	P	**Pn**	**00 14 25.9**	**+0.1**
	23nm,0.3s,baz=296,slow=17,SNR=23						
JCJ				S	**Sn**	**00 14 57.5**	**-2.4**
	49nm,0.3s,baz=283,slow=22,SNR=7.0						
JHH2	**Haha-jima-NKT2**	**3.37**	**165**	P	**Pn**	**00 14 32.5**	**+0.6**
JHCJ	**Hachijojimakas**	**3.38**	**340**	P	**Pn**	**00 14 32.8**	**+0.7**
JHCJ				S	**Sn**	**00 15 08.3**	**-2.6**
JHJ2	**Mitsune**	**3.41**	**340**	P	**Pn**	**00 14 33.3**	**+0.8**
JHJ2				S	**Sn**	**00 15 09.2**	**-2.4**
JHJ	**Hachijo jima 2**	**3.43**	**340**	P	**Pn**	**00 14 33.4**	**+0.7**
	14nm,0.3s,baz=105,slow=22,SNR=15						
JHJ				S	**Sn**	**00 15 09.1**	**-3.0**
	28nm,0.3s,baz=72,slow=23,SNR=6.0						
BSO4	**Boso 4**	**5.13

DGS				⇑S	Sg	00 14 55.8	-1.8
FRU1	**Bishkek**	**0.87**	**297**	⇑*i*P	Pg	00 14 47.1	-0.3
	baz=98						
FRU1				⇑*i*S	Sg	00 14 58.7	0.0
	baz=98						
UCH	**Uchtor**	**0.88**	**258**	⇑*i*P	Pg	00 14 47.2	-0.5
	baz=58						
UCH				⇑*i*S	Sg	00 14 59.3	0.0
	baz=58						
UCH	**Uchtor**	**0.88**	**258**	⇑P	Pg	00 14 47.1	-0.7
	160nm,0.3s,SNR=281						
UCH				⇑S	Sg	00 14 59.0	-0.3
	398nm,0.2s						
CHMS	**Chumysh**	**0.90**	**311**	⇑*e*P	Pb	00 14 47.3	-1.2
	baz=11						
CHMS				⇑*i*S	Sg	00 14 59.5	-0.2
	baz=11						
CHMS	**Chumysh**	**0.90**	**311**	⇑P	Pb	00 14 47.5	-1.0
	105nm,0.3s,SNR=144						
CHMS				⇓S	Sg	00 14 59.5	-0.2
	399nm,0.2s						
AAK	**Ala-Archa**	**0.90**	**285**	⇑*e*P	Pg	00 14 47.4	-0.7
	baz=85						
AAK				⇑*i*S	Sg	00 14 59.7	-0.1
	baz=85						
AAK	**Ala-Archa**	**0.90**	**285**	P	Pg	00 14 47.7	-0.4
	332nm,0.2s,SNR=596						
AAK				⇑S	Sg	00 14 59.7	-0.1
	560nm,0.2s						
MTBS	**Maitube**	**0.91**	**38**	P	Pg	00 14 47.7	-0.5
	159nm,0.2s						
MTBS				S	Sb	00 15 00.0	-0.9
	2μm,0.3s						
MTBS	**Maitube**	**0.91**	**38**	⇓*i*P	Pg	00 14 47.7	-0.5
	baz=37						
MTBS				⇓*i*S	Sb	00 15 00.0	-0.9
	baz=37						
MTBS	**Maitube**	**0.91**	**38**	⇓*i*P	Pg	00 14 47.7	-0.5
	159nm,0.2s						
MTBS				⇓*i*S	Sb	00 15 00.0	-0.9
	2μm,0.3s						
IZV	**Izvestkoviy**	**0.93**	**48**	P	Pg	00 14 48.2	-0.4
	150nm,0.2s						
IZV				S	Sb	00 15 00.8	-0.8
	853nm,0.2s						
IZV	**Izvestkoviy**	**0.93**	**48**	⇑*i*P	Pg	00 14 48.2	-0.4
	baz=48						
IZV				⇑*i*S	Sb	00 15 00.9	-0.8
	baz=48						
IZV	**Izvestkoviy**	**0.93**	**48**	⇑*i*P	Pg	00 14 48.2	-0.4
	150nm,0.2s						
IZV				⇑*i*S	Sb	00 15 00.9	-0.8
	1μm,0.4s						
NRN	**Naryn**	**1.01**	**166**	⇑*i*P	Pb	00 14 49.7	-0.9
	baz=67						
NRN				⇑*i*S	Sb	00 15 03.5	-0.6
	baz=67						
TNSS	**Tian-Shan**	**1.12**	**56**	P	Pb	00 14 51.6	-1.0
	156nm,0.2s						
TNSS				S	Sg	00 15 07.0	0.0
	799nm,0.4s						
TNSS	**Tian-Shan**	**1.12**	**56**	⇑*i*P	Pb	00 14 51.6	-1.0
	baz=56						
TNSS				⇓*i*S	Sg	00 15 07.0	0.0
	baz=56						
TNSS	**Tian-Shan**	**1.12**	**56**	⇑*i*P	Pb	00 14 51.6	-1.0
	163nm,0.3s						
TNSS				⇓*i*S	Sg	00 15 07.0	0.0
	799nm,0.4s						
ARLS	**Aral**	**1.15**	**242**	⇓*i*P	Pb	00 14 51.9	-1.0
	baz=42						
ARLS				⇓*i*S	Sb	00 15 07.0	-0.9
	baz=42						
KDJ	**Kajisay**	**1.15**	**104**	⇓*e*P	Pb	00 14 51.6	-1.4
	baz=4.0						
KDJ				⇓*i*S	Sb	00 15 07.3	-0.8
	baz=4.0						
AAA	**Alma-Ata**	**1.21**	**49**	P	Pg	00 14 53.7	-0.3
	227nm,0.1s						
AAA				S	Sg	00 15 10.1	+0.4
	1μm,0.2s						
AAA	**Alma-Ata**	**1.21**	**49**	⇑*i*P	Pg	00 14 53.7	-0.3
	baz=48						
AAA				⇑*i*S	Sg	00 15 10.1	+0.4
	baz=48						
AAA	**Alma-Ata**	**1.21**	**49**	⇑*i*P	Pg	00 14 53.6	-0.3
	227nm,0.1s						
AAA				⇑*i*S	Sg	00 15 10.0	+0.4
	1μm,0.2s						
USP	**Ospenovka**	**1.21**	**315**	⇑*e*P	Pn	00 14 53.0	-1.0
	baz=15						
USP				⇑*i*S	Sb	00 15 08.9	-0.8
	baz=15						
USP	**Ospenovka**	**1.21**	**315**	⇑P	Pn	00 14 53.5	-0.5
	59nm,0.1s,SNR=14						
USP				⇑S	Sb	00 15 09.1	-0.6
	847nm,0.3s						
KNDC	**Almaty**	**1.24**	**49**	⇓P	Pb	00 14 54.0	-0.4
	64nm,0.2s						
KNDC				⇑S	Sg	00 15 10.8	+0.1
	625nm,0.3s						
MDOK	**Medeo**	**1.26**	**53**	⇓P	Pn	00 14 53.9	-0.7
	37nm,0.3s						
MDOK				⇓S	Sn	00 15 10.4	-1.3
	191nm,0.4s						
MDOK	**Medeo**	**1.26**	**53**	Pg	Pn	00 14 54.0	-0.7
	80nm,0.3s						
MDOK				Lg	Lg	00 15 10.8	
	377nm,0.4s						
MDOK	**Medeo**	**1.26**	**53**	⇓*i*P	Pn	00 14 54.0	-0.7
	baz=53						
MDOK				⇓*i*S	Sg	00 15 10.9	-0.4
	baz=53						
MDOK	**Medeo**	**1.26**	**53**	⇓*i*P	Pn	00 14 54.0	-0.7
	80nm,0.3s						
MDOK				⇓*i*S	Sg	00 15 10.8	-0.4
	454nm,0.7s						
SGDS	**Sogindy**	**1.29**	**324**	P	Pn	00 14 54.4	-0.6
	115nm,0.2s						
SGDS				S	Sb	00 15 11.2	-0.7
	321nm,0.3s						
KOTS	**Kotyrbulak**	**1.34**	**52**	P	Pb	00 14 55.7	-0.4
	287nm,0.3s						
KOTS				S	Sg	00 15 13.7	-0.1
	1μm,0.5s						
KOTS	**Kotyrbulak**	**1.34**	**52**	⇑*i*P	Pb	00 14 55.6	-0.4
	baz=52						
KOTS				⇑*i*S	Sg	00 15 13.6	-0.1
	baz=52						
KOTS	**Kotyrbulak**	**1.34**	**52**	⇑*i*P	Pb	00 14 55.6	-0.4
	287nm,0.3s						
KOTS				⇑*i*S	Sg	00 15 13.6	-0.1
	1μm,0.5s						
EKS2	**Erkin-Say**	**1.42**	**281**	⇑*i*P	Pn	00 14 57.1	+0.2
	baz=81						
EKS2				⇑*i*S	Sb	00 15 16.1	+0.3
	baz=81						
EKS2	**Erkin-Say**	**1.42**	**281**	⇑P	Pb	00 14 57.4	-0.1
	230nm,0.2s,SNR=1067						
EKS2				⇓S	Sg	00 15 17.7	+1.1
	189nm,0.2s						
KTBS	**Karatobe**	**1.49**	**29**	P	Pb	00 14 58.2	-0.5
	176nm,0.3s						
KTBS				S	Sg	00 15 18.2	-0.5
	2μm,0.3s						
KTBS	**Karatobe**	**1.49**	**29**	⇓*i*P	Pb	00 14 58.2	-0.5
	baz=24						
KTBS				⇓*i*S	Sg	00 15 18.2	-0.5
	baz=24						
KTBS	**Karatobe**	**1.49**	**29**	⇓*i*P	Pb	00 14 58.2	-0.5
	184nm,0.4s						
KTBS				⇓*i*S	Sg	00 15 18.2	-0.5
	2μm,0.3s						
AML	**Almayashu**	**1.50**	**260**	⇑*e*P	Pn	00 14 58.2	0.0
	baz=60						
AML				⇑*e*S	Sb	00 15 18.6	+0.4
	baz=60						
AML	**Almayashu**	**1.50**	**260**	P	Pn	00 14 58.4	+0.2
	46nm,0.1s,SNR=84						
AML				⇑S	Sg	00 15 19.2	+0.3
	256nm,0.2s						
ANVS	**Anan'yevo**	**1.52**	**75**	⇓*e*P	Pb	00 14 58.2	-1.0
	baz=75						
ANVS				⇓*i*S	Sb	00 15 18.0	-0.6
	baz=75						
KUU	**Kurty**	**1.56**	**18**	P	Pb	00 14 59.2	-0.5
	238nm,0.3s						
KUU				S	Sg	00 15 19.7	-1.1
	765nm,0.4s						
KUU	**Kurty**	**1.56**	**18**	⇓*i*P	Pb	00 14 59.2	-0.5
	baz=18						
KUU				⇑*i*S	Sg	00 15 19.7	-1.1
	baz=18						
KUU	**Kurty**	**1.56**	**18**	⇓*i*P	Pb	00 14 59.2	-0.5
	252nm,0.4s						
KUU				⇑*i*S	Sg	00 15 19.6	-1.1
	849nm,0.6s						
CHKK	**Chushkaly**	**1.73**	**33**	P	Pb	00 15 02.3	-0.4
	187nm,0.3s						
CHKK				S	Sg	00 15 25.2	-1.2
	1μm,0.1s						
CHKK	**Chushkaly**	**1.73**	**33**	⇓*i*P	Pb	00 15 02.3	-0.4
	baz=33						
CHKK				⇑*i*S	Sg	00 15 25.2	-1.2
	baz=33						
CHKK	**Chushkaly**	**1.73**	**33**	⇓*i*P	Pb	00 15 02.3	-0.4
	187nm,0.3s						
CHKK				⇑*i*S	Sg	00 15 25.1	-1.2
	1μm,0.2s						
MRKS	**Merke**	**1.84**	**281**	P	Pb	00 15 04.7	+0.1
	617nm,0.3s						
MRKS				S	Sg	00 15 29.7	-0.1
	665nm,0.3s						
MRKS	**Merke**	**1.84**	**281**	*e*P	Pb	00 15 04.7	+0.1
	baz=81						
MRKS				⇑*i*S	Sg	00 15 29.7	-0.1
	baz=81						
MRKS	**Merke**	**1.84**	**281**	*e*P	Pb	00 15 04.7	+0.1
	617nm,0.3s						
MRKS				⇑*i*S	Sg	00 15 29.7	-0.1
	665nm,0.3s						
PRZ	**Przheval'sk**	**2.02**	**87**	⇑*i*P	Pb	00 15 06.4	-1.3
	baz=87						
PRZ				⇑*i*S	Sb	00 15 32.5	-0.5
	baz=87						
SATY	**Saty**	**2.11**	**71**	Pg	Pb	00 15 08.8	-0.5
	460nm,0.2s						
SATY				Lg	Lg	00 15 37.1	
	1μm,0.3s						
SATY	**Saty**	**2.11**	**71**	*e*P	Pb	00 15 09.4	+0.1
	460nm,0.2s						
SATY				⇑*i*S	Sg	00 15 37.1	-1.5
	1μm,0.5s						
KURS	**Kuram**	**2.12**	**59**	Pg	Pb	00 15 09.6	+0.2
	115nm,0.4s						
KURS				Lg	Lg	00 15 37.7	
	190nm,0.4s						
KURS	**Kuram**	**2.12**	**59**	*e*P	Pb	00 15 09.6	+0.2
	baz=59						
KURS				*e*S	Sg	00 15 37.7	-1.2
	baz=59						
KURS	**Kuram**	**2.12**	**59**	*e*P	Pb	00 15 09.6	+0.2
	115nm,0.4s						
KURS				*e*S	Sg	00 15 37.7	-1.2
	190nm,0.4s						
ZHN	**Zhinishke**	**2.17**	**69**	Pg	Pb	00 15 09.6	-0.6
	120nm,0.2s						
ZHN				Lg	Lg	00 15 38.3	
	608nm,0.2s						
ZHN	**Zhinishke**	**2.17**	**69**	*e*P	Pb	00 15 10.0	-0.2
	baz=69						
ZHN				⇓*i*S	Sg	00 15 38.3	-2.0
	baz=69						
ZHN	**Zhinishke**	**2.17**	**69**	*e*P	Pb	00 15 10.0	-0.2
	124nm,0.2s						
ZHN				⇓*i*S	Sg	00 15 38.3	-2.0
	627nm,0.2s						
ARSB	**Arslanbob**	**2.29**	**242**	⇓*e*P	Pb	00 15 10.8	-1.5
	baz=43						
ARSB				⇓*i*S	Sb	00 15 39.4	-1.3
	baz=43						
ARXS	**Arharly**	**2.39**	**40**	Pg	Pb	00 15 13.3	-0.6
	81nm,0.2s						
ARXS				Lg	Lg	00 15 44.6	
	682nm,0.3s						
ARXS	**Arharly**	**2.39**	**40**	*e*P	Pb	00 15 14.6	+0.7
	87nm,0.3s						
ARXS				*e*S	Sg	00 15 45.5	-2.0
	622nm,0.5s						
KPKS	**Kokpek**	**2.45**	**64**	*e*P	Pb	00 15 15.4	+0.5
	baz=64						
KPKS				*e*S	Sg	00 15 47.7	-1.6
	baz=64						
KPKS	**Kokpek**	**2.45**	**64**	*e*P	Pb	00 15 15.4	+0.5
	245nm,0.3s						
KPKS				*e*S	Sg	00 15 47.7	-1.6
	747nm,0.4s						
UZB	**Uzynbulak**	**2.57**	**72**	Pg	Pb	00 15 16.5	-0.6
	170nm,0.2s						
UZB				Lg	Lg	00 15 49.9	
	286nm,0.3s						
UZB	**Uzynbulak**	**2.57**	**72**	*e*P	Pb	00 15 16.5	-0.6
	baz=72						
UZB				*e*S	Sb	00 15 49.8	+1.0
	baz=72						
UZB	**Uzynbulak**	**2.57**	**72**	*e*P	Pb	00 15 16.5	-0.6
	170nm,0.2s						
UZB				*e*S	Sb	00 15 49.9	+1.0
	322nm,0.3s						
MNBS	**Baschi**	**2.59**	**49**	Pg	Pb	00 15 17.7	+0.2
	135nm,0.2s						
MNBS				Lg	Lg	00 15 52.2	
	1μm,0.2s						
MNBS	**Baschi**	**2.59**	**49**	*e*P	Pg	00 15 18.7	-1.7
	baz=52						
MNBS				*e*S	Sg	00 15 53.0	-1.1
	baz=52						
MNBS	**Baschi**	**2.59**	**49**	*e*P	Pg	00 15 18.7	-1.7
	114nm,0.2s						
MNBS				*e*S	Sg	00 15 53.0	-1.1
	1μm,0.3s						
ARK	**Arkit**	**2.83**	**259**	⇑*i*P	Pn	00 15 17.7	+1.5
	baz=58						
ARK				⇑*i*S	Sn	00 15 52.0	+1.5
	baz=58						
BTLS	**Baital**	**2.88**	**336**	Pg	Pb	00 15 22.9	+0.7
	25nm,0.3s						
BTLS				Lg	Lg	00 15 59.6	
	195nm,0.3s						
BTLS	**Baital**	**2.88**	**336**	*e*P	Pb	00 15 22.9	+0.7
	baz=36						
BTLS				*e*S	Sb	00 15 59.7	+2.2
	baz=36						
BTLS	**Baital**	**2.88**	**336**	*e*P	Pb	00 15 22.9	+0.7
	26nm,0.3s						
BTLS				*e*S	Sb	00 15 59.7	+2.2
	245nm,0.4s						
SHLS	**Shalkode**	**2.88**	**74**	*e*P	Pg	00 15 28.5	+2.5
	baz=75						
SHLS				*e*S	Sg	00 16 10.0	+6.6
	baz=75						
SHLS	**Shalkode**	**2.88**	**74**	*e*P	Pg	00 15 28.5	+2.5
	95nm,0.5s						
SHLS				*e*S	Sg	00 16 09.9	+6.6
	442nm,0.4s						
PDGK	**Podgornoye**	**2.95**	**71**	Pg	Pb	00 15 22.7	-0.9
	28nm,0.3s						
PDGK				Lg	Lg	00 16 01.3	
	122nm,0.4s						
PDGK	**Podgornoye**	**2.95**	**71**	⇑Pg	Pb	00 15 20.4	-3.2
	26nm,0.4s						
PDGK				⇑Lg	Lg	00 16 01.2	
	358nm,0.8s						
DJR	**Jarkent**	**3.56**	**56**	Pg	Pb	00 15 35.5	+1.6
	61nm,0.3s						
DJR				Lg	Lg	00 16 19.9	
	104nm,0.2s						
DJR	**Jarkent**	**3.56**	**56**	*e*P	Pb	00 15 34.7	+0.8
	63nm,0.4s						
DJR				*e*S	Sb	00 16 19.9	+2.7
	104nm,0.4s						
KK31	**Karatay Array**	**3.86**	**282**	⇓Pg	Pb	00 15 40.9	+1.8
	20nm,0.4s,baz=104,slow=18,SNR=6.7						
KK31				⇑Lg	Lg	00 16 35.5	
	35nm,0.5s,baz=101,slow=29,SNR=9.0						
KAPS	**Kapalarasan**	**3.91**	**42**	Pg	Pb	00 15 42.2	+2.2
	22nm,0.3s						
KAPS				Lg	Lg	00 16 29.9	
	107nm,0.3s						
KAPS	**Kapalarasan**	**3.91**	**42**	*e*P	Pb	00 15 39.8	-0.2
	7.5nm,0.4s						
KAPS				*e*S	Sb	00 16 29.4	+2.0
	108nm,0.4s						
IUG	**Iuzhnay**	**4.20**	**268**	Pg	Pg	00 15 48.6	-2.5
	6.3nm,0.4s						
IUG				Lg	Lg	00 16 43.2	
	98nm,0.5s						
IUG	**Iuzhnay**	**4.20**	**268**	*e*P	Pb	00 15 48.2	+3.4
	baz=68						
IUG				*e*S	Sg	00 16 41.6	-3.8
	baz=68						
IUG	**Iuzhnay**	**4.20**	**268**	*e*P	Pb	00 15 48.2	+3.4
	6.3nm,0.4s						
IUG				*e*S	Sg	00 16 41.6	-3.8
	73nm,0.9s						
MK31	**Makanchi Array**	**6.44**	**45**	⇓Pn	Pn	00 16 07.5	+1.8
	8.0nm,0.4s						
MK31				⇓Sn	Sn	00 17 19.9	+0.6
	9.9nm,0.6s						
MK31				⇑Lg	Lg	00 17 53.9	
	4.6nm,0.4s						
KURBB	**Kurchatov Arra**	**8.44**	**12**	⇓Pn	Pn	00 16 33.1	0.0
	1.4nm,0.3s						
KURBB				⇑Lg	Lg	00 18 59.8	
	28nm,0.6s						

IDC 23 00:20:42.0±1.3, 13°.57N×144°.48E, h114km±63km, mb3.0/3, mb1 3.2/3, mb1mx2.9/33, mbtmp3.3/3, Error ellipse: s-maj=206.4km s-min=29.2km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.38**	**88**	P	Pn	00 21 00.1	+1.5
	89nm,0.3s,baz=270,slow=3.7,SNR=40						
GUMO				S	Sn	00 21 12.6	+1.6
	916nm,0.3s,baz=102,slow=20,SNR=115						
WRA	**Warramunga Arr**	**34.77**	**197**	P	P	00 27 22.4	+0.7
	0.7nm,0.6s,baz=18,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**38.43**	**196**	P	P	00 27 51.2	-1.6
	0.1nm,0.4s,baz=16,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**61.24**	**316**	P	P	00 30 44.6	-0.5
	0.1nm,0.3s,baz=108,slow=8.3,SNR=1.4						

TRN 23 00:35:23.6, 10°.91N×62°.11W, h12km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**1.11**	**112**	*e*P	Pg	00 35 45.5	+0.6
TBH				*e*S	Sn	00 36 01.1	+1.1
GRGR	**Grenville**	**1.30**	**20**	*e*P	Pn	00 35 47.5	0.0
GRGR				*e*S	Sg	00 36 05.2	-0.2
GRHS	**Sauteurs**	**1.39**	**19**	*e*P	Pb	00 35 49.7	+0.3
GRHS				*e*S	Sb	00 36 07.6	+0.5
GRSS	**Sisters**	**1.47**	**19**	*e*P	Pb	00 35 50.6	-0.2
GRSS				*e*S	Sb	00 36 09.9	+0.6
TOSP	**Speyside**	**1.59**	**76**	*e*P	Pn	00 35 51.6	+0.1
TOSP				*e*S	Sn	00 36 12.0	-0.1
FCV	**Fort Charlotte**	**2.39**	**21**	*e*P	Pn	00 36 03.2	+0.7
FCV				*e*S	Sn	00 36 32.2	+0.4
SVB	**Belmont**	**2.50**	**20**	*e*P	Pn	00 36 03.9	-0.1
SVB	**Belmont**	**2.50**	**20**	*e*	Pb	00 36 07.9	-0.5
SVB				*e*S	Sn	00 36 34.9	+0.5
SVCV	**St. Vincent, C**	**2.53**	**22**	*e*P	Pn	00 36 04.7	+0.2
SVCV	**St. Vincent, C**	**2.53**	**22**	*e*	Pb	00 36 07.7	-1.3
SVCV				*e*S	Sn	00 36 36.1	+0.8
SVV	**Soufriere Volc**	**2.55**	**20**	*e*P	Pn	00 36 06.2	+1.4
SVV	**Soufriere Volc**	**2.55**	**20**	*e*	Pb	00 36 08.4	-0.9
SVV				*e*S	Sn	00 36 36.1	+0.4
MCLT	**Moule a Chique**	**3.01**	**22**	*e*P	Pn	00 36 11.9	+0.8
MCLT				*e*S	Sn	00 36 45.4	-1.8
SLB	**Belfond**	**3.09**	**20**	*e*P	Pn	00 36 12.6	+0.4
SLB				*e*S	Sn	00 36 48.2	-0.8
SLBI	**Saint Lucia, B**	**3.29**	**20**	*e*P	Pn	00 36 15.5	+0.6
SLBI				*e*S	Sn	00 36 53.9	-0.1
MPOM	**Morne Pois Mar**	**3.72**	**19**	*e*P	Pn	00 36 21.5	+0.6
BIM	**Bigot**	**3.73**	**16**	*e*P	Pn	00 36 21.5	+0.5
TRMF	**Trois Ilets**	**3.75**	**16**	*e*P	Pn	00 36 21.4	+0.1
ZAM	**Aeronautique**	**3.79**	**16**	*e*P	Pn	00 36 22.5	+0.6
LPMF	**Morne Lapointe**	**3.81**	**17**	*e*P	Pn	00 36 22.8	+0.6
MVM	**Montagne Vaucl**	**3.81**	**18**	*e*P	Pn	00 36 23.1	+0.9
FDF	**Fort de France**	**3.92**	**14**	*e*P	Pn	00 36 24.8	+1.2
FDF				*e*S	Sn	00 37 09.4	-0.1
PML	**Morne Lenard**	**3.96**	**13**	*e*P	Pn	00 36 24.6	+0.5
GBMF	**Grand Be**	**3.98**	**13**	*e*P	Pn	00 36 24.8	+0.4
PCM	**Pelee Case Pet**	**3.98**	**13**	*e*P	Pn	00 36 24.6	+0.1
SVN	**Savane Anatole**	**4.02**	**13**	*e*P	Pn	00 36 25.3	+0.3
TDBA	**Terre de Bas,**	**4.94**	**5**	*e*P	Pn	00 36 38.6	+1.0
CBE	**Ff, Capester**	**5.16**	**5**	*e*P	Pn	00 36 41.2	+0.6
ABD	**La Joyeuse, An**	**5.57**	**6**	*e*P	Pn	00 36 47.7	+1.5
SKI	**Saint Kitts**	**6.42**	**355**	*e*P	Pn	00 36 59.0	+1.1
SKI	**Saint Kitts**	**6.42**	**355**	*e*S	Sn	00 38 09.1	-2.1

*HEL **23** 00:36:23.6±0.1, 67°.83N×20°.22E, h0km, ML1.8, ML2.4(UPP), Explosion*

UPP 23 00:36:23.1±0.1, 67°.83N×20°.19E, h0km, ML2.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 36 26.0	+0.2
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 36 28.2	+2.5
KUA	**Kurravaara**	**0.14**	**24**	*i* P	Pg	00 36 26.0	+0.2
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 36 27.6	+0.2
RATU				S	Sg	00 36 31.0	+0.7
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 36 29.9	+2.5
RATU	**Laukkuluspa**	**0.23**	**269**	*i* P	Pg	00 36 27.6	+0.2
RATU				*i* S	Sg	00 36 31.0	+0.7
KOVU	**Salmi**	**0.40**	**359**	P	Pb	00 36 33.0	0.0
LANU	**Lannavaara**	**0.72**	**71**	P	Pg	00 36 36.6	-0.1
LANU				S	Sg	00 36 46.2	+0.2
LANU	**Lannavaara**	**0.72**	**71**	P	Pn	00 36 40.5	+0.1
LANU	**Lannavaara**	**0.72**	**71**	*e*P	Pg	00 36 36.3	-0.5
LANU				*e*S	Sg	00 36 46.1	+0.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 36 36.7	-0.2
DUNU				S	Sg	00 36 46.4	+0.1
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	00 36 36.7	-0.2
DUNU				*i* S	Sg	00 36 46.4	+0.1
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*PB	Pg	00 36 46.4	+0.2
	baz=191						
KIF				MSG		00 37 02.1	
	comp=Z,12nm,0.2s						
KIF				*e*SB	Sb	00 37 02.8	0.0
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P	Pn	00 36 47.7	+0.5
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 36 48.3	-1.3
PAJU	**Pajala**	**1.39**	**124**	P	Pb	00 36 52.2	+2.3
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 36 48.3	-1.3
HEF	**Hetta**	**1.43**	**64**	*e*PG	Pn	00 36 49.2	-1.0
HEF				MSG		00 37 06.5	
	comp=Z,6.9nm,0.2s						
HEF				*e*SN	Sn	00 37 12.0	+2.3
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 36 49.5	-0.7
HARU	**Harads**	**1.70**	**169**	P	Pn	00 36 53.9	0.0
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 36 53.9	0.0
KALU	**Kalix**	**2.34**	**146**	P	Pn	00 37 03.7	+0.9
KALU	**Kalix**	**2.34**	**146**	*e*PB	Pn	00 37 03.7	+1.0
KALU				*e*SG	Sb	00 37 35.6	+0.2
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	00 37 04.8	+1.3
TOF				MSG		00 37 32.9	
	comp=Z,3.5nm,0.2s						
TOF				*e*SG	Sb	00 37 36.8	-0.2
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pn	00 37 06.2	+1.8
	baz=278						
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 37 07.8	+1.8
RNF				*e*SG	Sb	00 37 42.3	+0.1
ARE0	**ARCESS Array S**	**2.59**	**

KCP	Kidapawan	1.76	6	i P	Pn	00 52 20.2	0.0
KCP				i S	Sn	00 52 40.2	-1.5
DAV	Davao City (W)	1.93	20	Pn	Pn	00 52 23.9	+1.4
	97nm,0.3s,baz=252,slow=4.8,SNR=13						
DAV				Sn	Sn	00 52 46.2	+0.3
	179nm,0.3s,baz=86,slow=22,SNR=7.6						
CTBH	Cotabato--PC H	2.07 341		i P	Pn	00 52 25.1	+0.8
LQP	Lukban	9.42 340		eP	Pn	00 54 14.4	+8.9
LUBP	Lubang	9.61 332		eP	Pn	00 54 04.0	-3.9
LUBP				eS		00 54 11.9	
WRA	Warramunga Arr	26.69 160		P	P	00 57 28.1	-0.3
	0.4nm,0.5s,baz=333,slow=11,SNR=5.9						
ASAR	Alice Springs	30.04 163		P	P	00 57 56.1	-2.1
	0.2nm,0.4s,baz=349,slow=7.4,SNR=1.9						
MKAR	Makanchi Array	55.29 326		P	P	01 01 18.8	-3.6
	0.2nm,0.5s,baz=123,slow=8.8,SNR=4.1						

*KRSC **23** 00:52:54.1±1.0, 53.57N×160.81E, h56km±16km, ML4.5*
*ISCJB **23** 00:52:55.8±0.4, 53.56N±0.03×160.79E±0.07, h56km±5km, mb3.8/10, MS2.7/1, Error ellipse: s-maj=7.7km s-min=2.5km az=33.2*
*MOS **23** 00:52:55.6±0.7, 53.55N×160.84E, h48km, mb4.1/1, Error ellipse: s-maj=8.5km s-min=4.3km az=75.4*
*NEIC **23** 00:52:56.4±0.9, 53.7N±0.2×160.8E±0.1, h43km±6km, mb4.2/12*
*IDC **23** 00:52:58.9±2.5, 53.72N×160.60E, h63km±24km, mb3.5/10, mb1 3.8/10, mb1mx3.4/43, mbtmp3.8/10, MS2.8/2, Ms1 2.8/2, ms1mx2.4/41, Error ellipse: s-maj=29.0km s-min=16.4km az=141.0*
ISC 23 00:52:56.1±1.1, 53.55N±0.03×160.82E±0.04, h43km±10km, n125, σ1.9±0.5/166, mb3.9/13, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.66	227	i P	Pn	Pn	00 53 09.0	-0.1
SPN				eS	Sn	Sn	00 53 18.1	-0.3
SPN	Mys Shipunski	0.66	227	PN	Pn	Pn	00 53 09.0	-0.1
SPN				S	Sn	Sn	00 53 18.1	-0.3
KII	Karymskiy	0.95	301	i P	Pn	Pn	00 53 12.5	-0.5
KII				eS	Sn	Sn	00 53 24.4	-1.0
KII	Karymskiy	0.95	301	PN	Pn	Pn	00 53 12.5	-0.5
KII				S	Sn	Sn	00 53 24.4	-1.0
NLC	Nalytchevo	0.96	247	i P	Pn	Pn	00 53 12.9	-0.2
NLC				eS	Sn	Sn	00 53 25.4	-0.2
NLC	Nalytchevo	0.96	247	PN	Pn	Pn	00 53 12.9	-0.2
NLC				S	Sn	Sn	00 53 25.4	-0.2
SMAR	Somma	1.24	257	eP	Pn	Pn	00 53 17.0	-0.2
SMAR	Somma	1.24	257	PN	Pn	Pn	00 53 17.0	-0.2
UGLR	Uglovaya	1.24	255	eP	Pn	Pn	00 53 17.3	+0.2
UGLR				eS	Sn	Sn	00 53 32.5	-0.2
UGLR	Uglovaya	1.24	255	PN	Pn	Pn	00 53 17.3	+0.2
UGLR				S	Sn	Sn	00 53 32.5	-0.2
KRER	Koryakskii	1.26	259	eP	Pn	Pn	00 53 17.8	+0.3
KRER				eS	Sn	Sn	00 53 33.1	-0.3
KRER	Koryakskii	1.26	259	PN	Pn	Pn	00 53 17.8	+0.3
KRER				S	Sn	Sn	00 53 33.1	-0.3
AVH	Avacha	1.28	258	i P	Pn	Pn	00 53 18.0	+0.4
AVH				eS	Sn	Sn	00 53 33.9	+0.3
AVH	Avacha	1.28	258	PN	Pn	Pn	00 53 18.0	+0.4
AVH				S	Sn	Sn	00 53 33.9	+0.3
KRX	Arik	1.31	262	eP	Pn	Pn	00 53 18.2	+0.1
KRX				eS	Sn	Sn	00 53 34.5	0.0
KRX	Arik	1.31	262	PN	Pn	Pn	00 53 18.2	+0.1
KRX				S	Sn	Sn	00 53 34.5	0.0
KOK	Koryaka	1.33	260	eP	Pn	Pn	00 53 18.5	+0.2
KOK	Koryaka	1.33	260	PN	Pn	Pn	00 53 18.5	+0.2
DALK	Dalny	1.35	248	eP	Pn	Pn	00 53 18.4	0.0
DALK				eS	Sn	Sn	00 53 34.4	-0.6
DALK	Dalny	1.35	248	PN	Pn	Pn	00 53 18.4	0.0
DALK				S	Sn	Sn	00 53 34.4	-0.6
PET	Petropavlovsk	1.40	249	PN	Pn	Pn	00 53 19.3	+0.1
PET				S	Sn	Sn	00 53 35.9	-0.6
PET	Petropavlovsk	1.40	249		Pn	Pn	00 53 19.2	+0.1
KZV	Kizimen	1.59	349	eP	Pn	Pn	00 53 22.1	+0.1
KZV				eS	Sn	Sn	00 53 40.7	-0.7
KZV	Kizimen	1.59	349	PN	Pn	Pn	00 53 22.1	+0.1
KZV				S	Sn	Sn	00 53 40.7	-0.7
TUMD	Tumrok D	1.67	352	i P	Pn	Pn	00 53 22.8	-0.1
TUMD				eS	Sn	Sn	00 53 41.9	-1.3
GNL	Ganaly	1.72	276	eP	Pn	Pn	00 53 24.0	+0.4
GNL	Ganaly	1.72	276	PN	Pn	Pn	00 53 24.0	+0.4
KRMR	Karymshinskiy	1.77	247	eP	Pn	Pn	00 53 24.9	+0.7
KRMR				eS	Sn	Sn	00 53 45.5	0.0
KRMR	Karymshinskiy	1.77	247	PN	Pn	Pn	00 53 24.9	+0.7
KRMR				S	Sn	Sn	00 53 45.5	0.0
TUMR	Tumrok	1.78	347	i P	Pn	Pn	00 53 25.2	+0.7
TUMR				eS	Sn	Sn	00 53 46.2	+0.3
TUMR	Tumrok	1.78	347	PN	Pn	Pn	00 53 25.2	+0.7
TUMR				S	Sn	Sn	00 53 46.2	+0.3
RUS	Russkaya	1.79	232	eP	Pn	Pn	00 53 24.6	+0.1
RUS				eS	Sn	Sn	00 53 45.1	-0.8
RUS	Russkaya	1.79	232	PN	Pn	Pn	00 53 24.6	+0.1
RUS				S	Sn	Sn	00 53 45.1	-0.8
MTVR	Mutnovka	1.92	237	eP	Pn	Pn	00 53 26.9	+0.5
MTVR				eS	Sn	Sn	00 53 49.0	-0.4
MTVR	Mutnovka	1.92	237	PN	Pn	Pn	00 53 26.9	+0.5
MTVR				S	Sn	Sn	00 53 49.0	-0.4
PEA0B	Petropavlovsk-	1.92	258	PN	Pn	Pn	00 53 27.2	+0.9
PEA0B	Petropavlovsk-	1.92	258		Pn	Pn	00 53 27.2	+0.9
PETK	Petropavlovsk-	1.92	258	P	Pn	Pn	00 53 27.1	+0.8
	55nm,0.3s,baz=77,slow=19,SNR=696						
PETK				S	Sn	Sn	00 53 51.2	+1.9
	82nm,0.3s,baz=85,slow=37,SNR=6.2						
PETK	Petropavlovsk-	1.92	258		Pn	Pn	00 53 26.9	+0.6
GRL	Gorelyy	1.94	240	eP	Pn	Pn	00 53 27.5	+0.9
GRL	Gorelyy	1.94	240	PN	Pn	Pn	00 53 27.5	+0.9
ASAK	Asacha	2.12	238	i P	Pn	Pn	00 53 30.2	+1.1
ASAK				eS	Sn	Sn	00 53 54.9	+0.7
ASAK	Asacha	2.12	238	PN	Pn	Pn	00 53 30.2	+1.1
ASAK				S	Sn	Sn	00 53 54.9	+0.7
KMNR	Kamenistaya	2.23	352	eP	Pn	Pn	00 53 32.0	+1.3
KMNR				eS	Sn	Sn	00 53 57.6	+0.5
KMNR	Kamenistaya	2.23	352	PN	Pn	Pn	00 53 32.0	+1.3
KMNR				S	Sn	Sn	00 53 57.6	+0.5
APC	Apacha	2.29	256	eP	Pn	Pn	00 53 32.6	+1.3
APC				eS	Sn	Sn	00 53 59.0	+0.8
APC	Apacha	2.29	256	PN	Pn	Pn	00 53 32.6	+1.3
APC				S	Sn	Sn	00 53 59.0	+0.8
KIRR	Kirishev	2.42	354	eP	Pn	Pn	00 53 34.9	+1.6
KIRR				eS	Sn	Sn	00 54 02.8	+1.0
KIRR	Kirishev	2.42	354	PN	Pn	Pn	00 53 34.9	+1.6
KIRR				S	Sn	Sn	00 54 02.8	+1.0
BZWR	Bezymyannyi-We	2.42	356	eP	Pn	Pn	00 53 34.5	+1.1
BZWR	Bezymyannyi-We	2.42	356	PN	Pn	Pn	00 53 34.5	+1.1
KPT	Kopyto	2.44	352	eP	Pn	Pn	00 53 35.0	+1.4
KPT	Kopyto	2.44	352	PN	Pn	Pn	00 53 35.0	+1.4
ZLN	Zelenaya	2.47	360	eP	Pn	Pn	00 53 35.4	+1.5
ZLN	Zelenaya	2.47	360	PN	Pn	Pn	00 53 35.4	+1.5
LGNR	Loginova	2.54	358	eP	Pn	Pn	00 53 35.9	+0.9
LGNR	Loginova	2.54	358	PN	Pn	Pn	00 53 35.9	+0.9
CIRR	Tsirk	2.57	359	eP	Pn	Pn	00 53 36.1	+0.8
CIRR	Tsirk	2.57	359	PN	Pn	Pn	00 53 36.1	+0.8
KOZ	Kozyrevsk	2.57	348	eP	Pn	Pn	00 53 32.7	-2.5
KOZ	Kozyrevsk	2.57	348	PN	Pn	Pn	00 53 32.7	-2.5
KLY	Klyuchi	2.77	358	eP	Pn	Pn	00 53 39.2	+1.3
KLY				eS	Sn	Sn	00 54 10.8	+0.8
KLY	Klyuchi	2.77	358	PN	Pn	Pn	00 53 39.2	+1.3
KLY				S	Sn	Sn	00 54 10.8	+0.8
SRDR	Sredinnyy	2.84	348	eP	Pn	Pn	00 53 38.9	-0.1
SRDR	Sredinnyy	2.84	348	PN	Pn	Pn	00 53 38.9	-0.1
KBTR	Krutoberegovo	2.90	23	eP	Pn	Pn	00 53 40.9	+1.2
KBTR				eS	Sn	Sn	00 54 15.3	+2.0
KBTR	Krutoberegovo	2.90	23	PN	Pn	Pn	00 53 40.9	+1.2
KBTR				S	Sn	Sn	00 54 15.3	+2.0
KBG	Krutoberegovo	2.92	21	eP	Pn	Pn	00 53 41.4	+1.4
KBG				eS	Sn	Sn	00 54 14.5	+0.8
KBG	Krutoberegovo	2.92	21	PN	Pn	Pn	00 53 41.4	+1.4
KBG				S	Sn	Sn	00 54 14.5	+0.8
BDR	Baidarnaya	3.03	4	eP	Pn	Pn	00 53 44.0	+2.4
BDR				eS	Sn	Sn	00 54 18.2	+1.6
BDR	Baidarnaya	3.03	4	PN	Pn	Pn	00 53 44.0	+2.4
BDR				S	Sn	Sn	00 54 18.2	+1.6
SMKR	Semkarok	3.06	7	eP	Pn	Pn	00 53 43.2	+1.2
SMKR	Semkarok	3.06	7	PN	Pn	Pn	00 53 43.2	+1.2
SRKR	Sorokina	3.12	4	eP	Pn	Pn	00 53 44.1	+1.4
SRKR	Sorokina	3.12	4	PN	Pn	Pn	00 53 44.1	+1.4
PAU	Pauzhetka	3.22	231	eP	Pn	Pn	00 53 45.8	+1.7
PAU				eS	Sn	Sn	00 54 22.3	+1.2
PAU	Pauzhetka	3.22	231	PN	Pn	Pn	00 53 45.8	+1.7
PAU				S	Sn	Sn	00 54 22.3	+1.2
BKI	Bering	3.44	59	eP	Pn	Pn	00 53 47.7	+0.6
BKI				eS	Sn	Sn	00 54 24.2	-2.3
BKI	Bering	3.44	59	PN	Pn	Pn	00 53 47.7	+0.6
BKI				S	Sn	Sn	00 54 24.2	-2.3
SKR	Severo-Kuril's	4.08	227	eP	Pn	Pn	00 53 58.3	+2.4
SKR				eS	Sn	Sn	00 54 43.1	+0.7
SKR	Severo-Kuril's	4.08	227	PN	Pn	Pn	00 53 58.3	+2.4
SKR				S	Sn	Sn	00 54 43.1	+0.7
PALN	Palana	5.57	355	eP	Pn	Pn	00 54 17.7	+1.4
PALN	Palana	5.57	355	PN	Pn	Pn	00 54 17.7	+1.4
MA2	Magadan	8.20	321	LR	LR		00 58 03.6	
	comp=Z,42nm,18.4s,baz=150,slow=38							
ERM	Erimo	16.50	233	P	P		00 56 45.7	-0.7
ERM				pmax	pmax			
	comp=Z,36nm,1.0s							
ERM	Erimo	16.50	233	Pn	P		00 56 45.7	-0.7
ERM				IAmb	IAmb		00 56 50.4	
	comp=Z,36nm,1.0s							
USRK	Ussuriysk Ar.	21.02	255	P	P		00 57 35.7	-0.1
USRK	Ussuriysk Ar.	21.02	255	LR	LR		01 06 29.8	
	comp=Z,34nm,20.6s,baz=72,slow=39							
USRK	Ussuriysk Ar.	21.02	255	P	P		00 57 35.7	-0.1
MJB9	Matsu-Tunnel	23.17	232	P	P		00 58 00.1	+1.4
MJB9				IAmb	IAmb		00 58 06.0	
	comp=Z,9.7nm,0.8s							
MAJO	Matsushiro	23.17	232	P	P		00 58 00.4	+1.7
MAJO	Matsushiro	23.17	232	P	P		00 58 00.4	+1.7
MAJO				IAmb	IAmb		00 58 06.0	
	comp=Z,9.7nm,0.8s							
MJAR	Matsushiro Arr	23.17	232	P	P		00 58 00.4	+1.7
	comp=Z,2.9nm,0.6s,baz=8.1,slow=9.7,SNR=9.3							
MJAR	Matsushiro Arr	23.17	232	IAmb	IAmb		00 58 04.1	
	comp=Z,2.6nm,1.2s							
IMAR	Indian Mountai	25.37	43	P	P		00 58 18.2	-0.5
RC01	Rabbit Creek A	27.14	54	P	P		00 58 32.1	-2.7
ILAR	Eielson Array	28.18	46	P	P		00 58 44.1	+0.1
	comp=Z,0.9nm,0.7s,baz=259,slow=7.6,SNR=10							
INK	Inuvik	33.24	38	P	P		00 59 29.1	+0.6
	comp=Z,0.7nm,0.6s,baz=136,slow=31,SNR=4.5							
H11N2	WAKE ISLAND Hy	34.08	170	T	T		01 35 55.0	
	baz=354,slow=76,SNR=130							
H11N3	WAKE ISLAND Hy	34.10	170	T	T		01 36 07.7	
	baz=354,slow=76,SNR=159							
H11N1	WAKE ISLAND Hy	34.10	170	T	T		01 35 58.0	
	baz=354,slow=76,SNR=160							
BESE	Bessie Mountai	35.02	55		S		01 05 11.9	-1.0
H11S1	WAKE ISLAND Hy	35.27	170	T	T		01 37 23.9	
	baz=352,slow=76,SNR=9.0							
H11S3	WAKE ISLAND Hy	35.28	170	T	T		01 37 30.6	
	baz=352,slow=76,SNR=22							
H11S2	WAKE ISLAND Hy	35.29	170	T	T		01 37 36.7	
	baz=352,slow=76,SNR=7.1							
MKAR	Makanchi Array	48.35	296	P	P		01 01 32.2	-0.9
	comp=Z,0.2nm,0.4s,baz=59,slow=8.9,SNR=1.9							
MDPB	Devils Postpil	55.29	72	P	P		01 02 24.7	-0.6
PDAR	Pinedale Array	56.92	62	P	P		01 02 38.0	+1.3
	comp=Z,0.5nm,0.4s,baz=329,slow=1.7,SNR=5.1							
PDAR	Pinedale Array	56.92	62	P	P		01 02 36.5	-0.2
TCUT	Toone Canyon	57.10	64	P	P		01 02 35.7	-2.4
RSSD	Black Hills	58.79	57	P	P		01 02 50.0	+0.2
RSSD	Black Hills	58.79	57	P	P		01 02 50.0	+0.2
FINES	FINESS Array B	59.87	337	P	P		01 02 56.0	-0.7
FINES	FINESS Array B	59.87	337	P	P		01 02 56.0	-0.7
	comp=Z,1.0nm,0.5s,baz=32,slow=11,SNR=5.1							
NOA	NORSAR Array B	63.22	344	P	P		01 03 18.4	-1.0
	comp=Z,0.9nm,0.8s,baz=23,slow=6.7,SNR=2.7							
TX31	Lajitas Ar. Si	70.06	68	P	P		01 04 03.8	+0.2
TX32	Lajitas Array	70.06	68	P	P		01 04 04.2	+0.6
TX32				IAmb	IAmb		01 04 09.3	
	comp=Z,0.8nm,1.1s							
TXAR	Lajitas Array	70.06	68	P	P		01 04 05.0	+1.5
	comp=Z,0.9nm,0.5s,baz=302,slow=4.2,SNR=7.2							
TXAR	Lajitas Array	70.06	68	P	P		01 04 03.8	+0.2
J55A	Hilton	71.27	41	P	P		01 04 09.7	-0.8
M52A	Chesterland	71.27	45	P	P		01 04 10.2	-0.4
MOQ	Mont Orford	71.60	36	P	P		01 04 12.5	-0.1
J57A	Williamstown	71.85	40	P	P		01 04 13.7	-0.4
WRA	Warramunga Arr	76.68	206	P	P		01 04 42.6	+0.3
	comp=Z,0.2nm,0.4s,baz=354,slow=6.9,SNR=2.2							
ASAR	Alice Springs	80.36	205	P	P		01 05 03.5	+1.0
	comp=Z,0.6nm,0.7s,baz=12,slow=6.6,SNR=4.3							

*ISK **23** 01:08:16.6, 35.89N×32.35E, h19km, ML2.9/18*
*ISCJB **23** 01:08:17.8±0.5, 35.89N±0.02×32.36E±0.04, h29km±4km, Error ellipse: s-maj=5.5km s-min=3.8km az=169.2*
*NIC **23** 01:08:21.3±0.0, 35.73N×32.67E, h10km±38km, Ml2.5/2*
ISC 23 01:08:17.3±1.1, 35.92N±0.03×32.45E±0.03, h20km±5km, n37, σ1.9±1.7/48, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.33	340	PG	Pg	Pg	01 08 25.4	+0.8
GAZI				SG	Sg	Sg	01 08 29.9	+0.4
TEKE	Tekeli-Mersin	0.58	67	PG	Pn	Pn	01 08 31.1	+0.6
TEKE				SG	Sn	Sn	01 08 39.8	+0.4
ALAN	Alanya-ANTALYA	0.72	332	PG	Pg	Pg	01 08 30.9	-0.7
ALFC	Alefka	0.77	171	P	Pb	Pb	01 08 33.1	+1.0
ALFC				S	Sg	Sg	01 08 41.4	-1.4
ALFC				AML	AML		01 08 45.8	
	1.3nm,0.2s							
ALFC				AML	AML		01 08 45.8	
	1.3nm,0.2s							
ALFC				AML	AML		01 08 47.0	
	0.8nm,0.2s							
ALFC				AML	AML		01 08 47.0	
	0.8nm,0.2s							
YORU	Yoruktepe-Mers	0.81	73	PG	Pn	Pn	01 08 34.7	+1.1
YORU				SG	Sn	Sn	01 08 46.7	+1.6
OREN	Orenkoy-Mersin	0.86	70	PG	Pn	Pn	01 08 35.5	+1.1
LEF	Lefka	0.88	156	PG	Pb	Pb	01 08 34.3	+0.4
LEF				SG	Sb	Sb	01 08 45.8	+0.7
AKMS	Akamas	0.91	186	P	Pg	Pg	01 08 35.3	+0.3
AKMS				AML	AML		01 08 46.8	
	1.7nm,0.3s							
AKMS				AML	AML		01 08 46.8	
	1.7nm,0.3s							
AKMS				AML	AML		01 08 46.9	
	0.9nm,0.3s							
AKMS				AML	AML		01 08 46.9	
	0.9nm,0.3s							
AKMS				S	Sg	Sg	01 08 47.0	0.0
AKK1	Akkuyu-Mersin	0.91	76	PG	Pn	Pn	01 08 36.2	+1.2
AKK2	Akkuyu-Mersin	0.91	76	PG	Pn	Pn	01 08 36.2	+1.1
AKKU	Akkuyu-Mersin	0.92	75	PG	Pn	Pn	01 08 36.8	+1.6
TEPE	Tepekoy-Mersin	0.95	71	PG	Pn	Pn	01 08 36.9	+1.3
TEVE	Tevekalti-Mers	0.95	57	PG	Pn	Pn	01 08 36.9	+1.2
TEVE				SG	Sn	Sn	01 08 51.2	+2.5
YESI	Yesilovacik-Me	1.00	74	PN	Pn	Pn	01 08 37.6	+1.3
TISA	Tisan-Mersin	1.02	76	PN	Pn	Pn	01 08 37.6	+1.0
IKL	Isikli	1.05	72	PN	Pn	Pn	01 08 38.7	+1.8
KARG	Kargicak-Mersi	1.05	74	PN	Pn	Pn	01 08 38.2	+1.2
ATHAL	Athalassa	1.09	135	P	Pn	Pn	01 08 38.4	+0.8
ATHAL				S	Sb	Sb	01 08 50.2	-1.3
NATA	Nata	1.14	175	P	Pn	Pn	01 08 39.6	+1.3
KEBE	Keben-Mersin	1.15	62	PN	Pn	Pn	01 08 39.4	+1.0
CSS	Mathiatis	1.20	143	PN	Pb	Pn	01 08 39.1	-0.2
CSS	Mathiatis	1.20	143	P	Pb	Pn	01 08 39.2	-0.2
CSS				S	Sb	Sb	01 08 52.5	-1.9
MNVG	Manavgat-Antal	1.21	316	PN	Pn	Pn	01 08 38.5	-0.6
SILI	Silifke-Mersin	1.27	69	PN	Pg	Pn	01 08 41.2	-0.7
SLFK	Silifke-Mersin	1.30	68	PN	Pg	Pn	01 08 41.9	-0.5
ASGA	Asgata	1.30	150	P	Pb	Pn	01 08 41.5	+0.3
ASGA				S	Sb	Sb	01 08 56.8	-0.8
MVOU	Mavrovouni	1.32	133	P	Pn	Pn	01 08 40.8	+0.2
MVOU				S	Sb	Sb	01 08 56.0	-2.0
EREN	Erenkoy	1.45	105	PN	Pg	Pn	01 08 43.6	-1.7
KIZK	Mersin	1.48	67	PN	Pg	Pn	01 08 44.1	-1.7
MERS	Mersin	1.92	60	PN	Pb	Pn	01 08 50.4	-1.3
KORT	Korkueli	2.01	303	PN	Pn	Pn	01 08 49.7	-0.6
KONT	Konya--Tatoy	2.02	358	PN	Pn	Pn	01 08 51.2	+0.8
ELL	Elmali	2.21	293	PN	Pn	Pn	01 08 52.5	-0.6
LADK	Ladik-KONYA	2.28	358	PN	Pn	Pn	01 08 54.5	+0.6
KARA	Karaisali	2.48	57	PN	Pn	Pn	01 08 58.4	+1.7
CHBY	Cihanbeyli	2.68	7	PN	Pn	Pn	01 09 00.4	+0.9
KIZT	Kizilcal	2.99	351	PN	Pn	Pn	01 09 04.3	+0.5

*ISCJB **23** 01:27:16.8±0.6, 9.11S±0.07×111.24E±0.04, h58km, mb4.0/9, MS3.0/6, Error ellipse: s-maj=11.0km s-min=5.0km az=22.4*
*DJA **23** 01:27:18.6±0.5, 9.3S±9.3×111.1E±.7, h47km±50km, M4.5/11, mb4.5/2, mB5.3/1, MLv4.5/11, Mw(mB)4.7/1*
*NEIC **23** 01:27:19.5±2.1, 9.0S±0.1×111.20E±0.08, h69km±4km, mb4.3/6*
*IDC **23** 01:27:20.7±3.0, 8.65S×111.47E, h68km±32km, mb3.7/9, mb1 3.8/10, mb1mx3.6/48, mbtmp4.0/10, ML4.1/1, MS2.9/8, Ms1 2.9/8, ms1mx2.8/31, Error ellipse: s-maj=39.8km s-min=13.8km az=45.0*
ISC 23 01:27:19.2±0.7, 9.0S±0.1×111.28E±0.06, h58km, n43, σ2.9±2.5/40, mb4.1/9, MS2.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WOJI	Wonogiri, Jawa	1.22	343	P	Pn	Pn	01 27 39.0	-1.1
UGM	Wanagama	1.32	326	P	Pn	Pn	01 27 41.0	-0.5
UGM	Wanagama	1.32	326		Pn	Pn	01 27 41.0	-0.5
YOGI	Yogyakarta	1.54	321	P	Pn	Pn	01 27 44.0	-0.3
YOGI				S	Sn	Sn	01 28 03.0	-0.3
SMRI	Semarang	2.12	337	P	Pn	Pn	01 27 52.2	-0.1
SMRI	Semarang	2.12	337		Pn	Pn	01 27 53.1	+0.8
GRJI	Gresik	2.40	30	P	Pn	Pn	01 27 56.8	+0.7
JAGI	Jajag, Banyuwa	2.90	79	P	Pn	Pn	01 28 02.3	-0.6
JAGI	Jajag, Banyuwa	2.90	79		Pn	Pn	01 28 02.4	-0.5
CMJI	Cimerak	3.05	293	P	Pn	Pn	01 28 04.1	-0.9
CMJI				S	Sn	Sn	01 28 38.4	-2.0
CISI	Cisompet, Garu	3.72	293	P	Pn	Pn	01 28 13.7	-0.5
CISI	Cisompet, Garu	3.72	293		Pn	Pn	01 28 13.8	-0.4
SRBI	Singaraja	4.00	77	P	Pn	Pn	01 28 18.2	+0.2
LEM	Lembang	4.23	301	P	Pn	Pn	01 28 23.5	+2.3
	10nm,0.3s,baz=180,slow=23,SNR=4.2							
LEM				S	Sn	Sn	01 29 11.5	+2.1
	12nm,0.3s,baz=296,slow=6.4,SNR=5.2							
LEM				LR	LR		01 30 26.0	
	comp=Z,86nm,20.8s,baz=242,slow=44							
TWSI	Taliwang, Sumb	5.55	88	P	Pn		01 28 50.5	+11
XMIS	Christmas Isla	5.73	255		Pn	Pn	01 28 39.4	-2.3
PLAI	Plampang	6.43	89	P	Pn	Pn	01 28 51.7	+0.4
KAPI	Kappang	9.30	65	LR	LR		01 33 29.9	
	comp=Z,36nm,20.0s,baz=294,slow=41							
PCI	Palu	11.73	47	P	Pn		01 30 15.7	+12
FITZ	Fitzroy Crossi	16.62	124	LR	LR		01 37 46.5	
	comp=Z,43nm,20.9s,baz=322,slow=38							
MTN	Manton Dam	19.86	103	P	P		01 31 45.1	-0.7
MTN				IAmb	IAmb		01 32 02.3	
	comp=Z,14nm,1.1s							
NWAO	Narrogin (SRO)	24.43	168	LR	LR		01 43 09.1	
	comp=Z,28nm,20.1s,baz=86,slow=38							
WRA	Warramunga Arr	24.80	119	P	P		01 32 36.4	+0.4
	comp=Z,1.2nm,0.5s,baz=292,slow=12,SNR=10							
WRA				LR	LR		01 41 58.3	
	comp=Z,23nm,20.1s,baz=310,slow=35							
ASAR	Alice Springs	26.09	127	P	P		01 32 48.2	+0.6
	comp=Z,1.1nm,0.6s,baz=306,slow=8.9,SNR=14							
ASAR				PcP	PcP		01 36 14.9	+0.6
	comp=Z,0.7nm,0.7s,baz=244,slow=0.7,SNR=4.7							
ASAR				LR	LR		01 43 15.7	
	comp=Z,37nm,20.6s,baz=290,slow=36							
CMAR	Chiang Mai Arr	29.89	336	LR	LR		01 46 33.8	
	comp=Z,20nm,18.2s,baz=160,slow=39							
STKA	Stephens Creek	36.17	133	P	P		01 34 18.8	+2.6
	comp=Z,0.9nm,0.4s,baz=337,slow=11,SNR=3.1							
STKA				LR	LR		01 49 56.3	
	comp=Z,29nm,20.4s,baz=208,slow=37							
H08S2	Diego Garcia H	38.39	269	T	T		02 15 25.4

	SNR=7.7						
BANOM				S	Sn	01 36 28.1	-5.3
BANOM	**Banah**	**6.99 273**		P	Pn	01 35 13.9	-1.3
	SNR=7.7						
BANOM				S	Sn	01 36 30.1	-3.3
MDH	**Madha**	**7.02 268**		P	Pn	01 35 12.8	-2.8
MDH	**Madha**	**7.02 268**		P	Pn	01 35 12.9	-2.7
SHME	**Shamm**	**7.13 274**		P	Pn	01 35 16.4	-0.8
UOSS	**Minazif**	**7.14 265**	*i*	P	Pn	01 35 14.9	-2.4
	SNR=9.2						
UOSS	**Minazif**	**7.14 265**		P	Pn	01 35 14.9	-2.4
	SNR=15						
HATD	**Hatta, Dubai**	**7.22 264**		P	Pn	01 35 17.5	-0.9
ARQ	**Araqi**	**7.26 252**		P	Pn	01 35 21.0	+2.0
	SNR=83						
ARQ				S	Sn	01 36 42.0	+1.8
ASHO	**Ashiyiah**	**7.32 263**	*i*	P	Pn	01 35 19.6	-0.1
	SNR=56						
ASHO	**Ashiyiah**	**7.32 263**		P	Pn	01 35 19.1	-0.6
	SNR=56						
ALNE	**Al Ain**	**7.72 259**	*i*	P	Pn	01 35 26.0	+0.7
	SNR=12						
ASUD	**Al Ashush, Dub**	**7.98 264**	*i*	P	Pn	01 35 28.9	+0.2
	SNR=8.2						
ASUD	**Al Ashush, Dub**	**7.98 264**		P	Pn	01 35 31.0	+2.3
	SNR=8.3						

ATH 23 01:37:35.0, 34°.79N×24°.19E, h25km±3km, ML2.3/1, Error ellipse: s-maj=4.6km s-min=1.7km az=217.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.10**	**303**	P	Pb	01 37 39.7	0.0
GVD				S	Sb	01 37 43.1	+0.3
GVD				AML	AML	01 37 43.5	
	comp=E,1625μm,0.1s						
GVD				AML	AML	01 37 43.6	
	comp=N,2784μm,0.1s						
SIVA	**Sivas**	**0.56**	**66**	P	Pb	01 37 46.8	+0.6
SIVA				S	Sb	01 37 54.3	+0.4
VAM	**Vamos**	**0.62**	**1**	P	Pb	01 37 47.0	-0.3
VAM				S	Sn	01 37 56.9	-0.5
IMMV	**Iera Moni Meta**	**0.69**	**346**	P	Pb	01 37 48.4	-0.2
IMMV				S	Sn	01 37 58.6	-0.6

THE 23 01:37:52.8, 35°.36N×26°.04E, h12km±4km, ML2.1/5, Error ellipse: s-maj=5.3km s-min=0.9km az=177.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIA	**Sitia Lasithi**	**0.17**	**164**	P	Pg	01 37 57.0	+0.5
STIA				S	Sg	01 38 00.0	+0.8
ZKR	**Zakros**	**0.29**	**149**	P	Pg	01 37 58.8	+0.1
ZKR				S	Sg	01 38 03.0	+0.4
	692nm,0.2s						
NPS	**Neapolis**	**0.36**	**254**	P	Pb	01 38 00.7	-0.5
NPS				S	Sg	01 38 05.7	+0.8
	290nm,0.2s						
FRMA	**Ierapetra Chan**	**0.43**	**216**	P	Pg	01 38 00.1	-1.1
FRMA				S	Sg	01 38 05.8	-1.1
	238nm,0.2s						
HRKL	**Herakleio**	**0.77**	**267**	P	Pg	01 38 06.4	-1.2
HRKL				S	Sb	01 38 18.9	+0.4
	165nm,0.8s						
KARP	**Karpathos**	**0.94**	**78**	P	Pg	01 38 10.6	-0.3
ANAF	**Anafi Island**	**1.02**	**348**	P	Pb	01 38 12.2	-0.2
ANAF				S	Sg	01 38 25.0	-0.7
	258nm,0.2s						
SIVA	**Sivas**	**1.06**	**252**	P	Pg	01 38 13.2	0.0
THR6	**Thira Island,**	**1.12**	**333**	P	Pb	01 38 13.4	-0.7
SAP1	**Santorini-Akro**	**1.12**	**333**	P	Pb	01 38 13.7	-0.5
AMGA	**Amorgos Island**	**1.47**	**356**	P	Pn	01 38 17.0	-2.2
AMGA				S	Sn	01 38 36.3	-2.1

*IDC **23** 02:02:06.2±1.4, 11°.04N×143°.25E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/40, mbtmp3.8/8, MS2.4/1, Ms1 2.4/1, ms1mx2.2/25, Error ellipse: s-maj=48.0km s-min=24.9km az=89.0*
*ISCJB **23** 02:02:09.3±1.1, 11°.0N±0°.1×143°.2E±0°.3, h33km, mb3.8/8, MS2.4/1, Error ellipse: s-maj=38.4km s-min=18.7km az=178.6*

ISC 23 02:02:11.5±1.3, 11°.0N±0°.2×143°.3E±0°.3, h35km, n9, σ0.9 73/8, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.98**	**196**	P	P	02 08 34.6	+0.2
	0.2nm,0.5s,baz=19,slow=9.6,SNR=2.1						
ASAJ	**Asahikawa**	**33.00**	**359**	LR	LR	02 22 37.4	
	comp=Z,7.2nm,20.8s,baz=138,slow=37						
ASAR	**Alice Springs**	**35.65**	**195**	P	P	02 09 06.1	-0.2
	0.3nm,0.8s,baz=22,slow=10,SNR=2.4						
CMAR	**Chiang Mai Arr**	**43.39**	**285**	P	P	02 10 11.7	+0.6
	0.9nm,0.3s,baz=99,slow=5.8,SNR=1.3						
MKAR	**Makanchi Array**	**62.27**	**317**	P	P	02 12 30.3	+0.2
	0.4nm,0.6s,baz=99,slow=6.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**65.59**	**321**	P	P	02 12 51.4	-0.4
	0.5nm,0.4s,baz=108,slow=6.1,SNR=4.7						
BVAR	**Borovoye Array**	**70.98**	**322**	P	P	02 13 25.1	-0.4
	0.9nm,0.5s,baz=100,slow=8.1,SNR=6.7						
ILAR	**Eielson Array**	**71.57**	**25**	P	P	02 13 29.6	+0.8
	0.3nm,0.6s,baz=242,slow=6.4,SNR=3.3						
FINES	**FINESS Array B**	**92.82**	**335**	P	P	02 15 19.1	-1.1
	3.0nm,1.0s,baz=45,slow=14,SNR=1.2						

*IDC **23** 02:11:55.3±1.2, 56°.86S×25°.10W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.3/4, MS3.4/2, Ms1 3.3/2, ms1mx2.9/15, Error ellipse: s-maj=54.3km s-min=30.8km az=28.0*
*ISCJB **23** 02:11:57.1±0.7, 56°.8S±0°.1×25°.2W±0°.4, h22km, mb4.2/4, MS3.4/2, Error ellipse: s-maj=34.3km s-min=8.9km az=149.1*
*NEIC **23** 02:12:02.2±0.7, 56°.8S±0°.2×25°.2W±0°.4, h49km±7km, mb4.4/9*

ISC 23 02:11:58.7±0.7, 56°.8S±0°.1×25°.1W±0°.2, h22km, n23, σ0.9 39/19, mb4.5/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.65**	**159**	P	Pn	02 15 37.4	0.0
VNA3	**Neumayer Olymp**	**15.88**	**162**	P	Pn	02 15 39.9	-0.6
VNA2	**Neumayer--Watz**	**16.04**	**159**	P	Pn	02 15 42.5	0.0
SNAA	**Sanae**	**17.57**	**157**	P	P	02 16 02.9	+0.2
SNAA	**Sanae**	**17.57**	**157**		P	02 16 03.2	+0.5
PLCA	**Paso Flores**	**33.26**	**279**	LR	LR	02 30 39.5	
	comp=Z,56nm,21.8s,baz=166,slow=34						
QSPA	**South Pole Qui**	**33.42**	**180**	P	P	02 18 35.5	+0.1
QSPA				IAmb	IAmb	02 18 48.5	
	comp=Z,5.1nm,0.8s						
CPUP	**Villa Florida**	**38.19**	**309**	P	P	02 19 16.3	-0.1
	comp=Z,2.5nm,0.6s,baz=151,slow=6.6,SNR=8.9						
CPUP	**Villa Florida**	**38.19**	**309**	IAmb	IAmb	02 19 16.6	
	comp=Z,2.7nm,0.7s						
BOSA	**Boshof**	**45.08**	**73**	LR	LR	02 36 10.5	
	comp=Z,57nm,19.8s,baz=198,slow=32						
GO01	**Chusmiza**	**49.33**	**300**	P	P	02 20 46.8	+0.2
GO01				IAmb	IAmb	02 20 47.4	
	comp=Z,5.6nm,0.8s						
MNMC	**Minye Minye**	**49.98**	**300**	P	P	02 20 51.5	+0.1
LPAZ	**La Paz**	**51.76**	**304**	P	P	02 21 05.6	+0.5
	comp=Z,15nm,0.6s,baz=124,slow=5.3,SNR=78						
LPAZ	**La Paz**	**51.76**	**304**	P	P	02 21 05.7	+0.5
SAML	**Samuel**	**56.17**	**313**	P	P	02 21 36.4	-0.2
SAML				IAmb	IAmb	02 21 47.5	
	comp=Z,3.5nm,1.1s						
OTAV	**Otavalo**	**71.04**	**302**	P	P	02 23 15.4	+0.1
OTAV				IAmb	IAmb	02 23 29.1	
	comp=Z,4.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.20**	**27**	P	P	02 23 28.0	+0.4
	comp=Z,0.9nm,0.6s,baz=200,slow=6.0,SNR=6.2						
ASAR	**Alice Springs**	**97.89**	**161**	P	Pdif	02 25 32.5	-0.1
	comp=Z,0.2nm,0.6s,baz=176,slow=4.4,SNR=4.3						
FINES	**FINESS Array B**	**124.55**	**27**	PKP	PKPdf	02 30 54.0	-0.6
	comp=Z,1.8nm,1.0s,baz=195,slow=4.3,SNR=1.7						
FINES	**FINESS Array B**	**124.55**	**27**		PKPdf	02 30 54.0	-0.6
SONM	**Songino Array**	**149.64**	**86**	PKPbc	PKPbc	02 31 45.6	+0.1
	comp=Z,0.9nm,0.6s,baz=228,slow=2.5,SNR=7.6						
ILAR	**Eielson Array**	**151.49**	**310**	PKPbc	PKiKP	02 31 49.4	-0.3
	comp=Z,1.7nm,0.9s,baz=137,slow=2.2,SNR=13						
ILAR	**Eielson Array**	**151.49**	**310**		PKPbc	02 31 48.8	-0.5

*IDC **23** 03:02:49.7±0.9, 24°.00S×115°.69W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/29, mbtmp4.0/7, MS3.8/10, Ms1 3.8/10, ms1mx3.6/19, Error ellipse: s-maj=37.3km s-min=27.6km az=47.0*
*ISCJB **23** 03:02:50.3±0.6, 24°.2S±0°.1×115°.8W±0°.2, h10km, mb4.0/7, MS3.8/9, Error ellipse: s-maj=20.4km s-min=14.0km az=165.7*
*NEIC **23** 03:02:51.4±1.3, 24°.4S±0°.2×115°.9W±0°.2, h10km±2km, mb4.5/18*

ISC 23 03:02:51.6±0.7, 24°.2S±0°.2×115°.8W±0°.2, h10km, n55, σ1.9 00/39, mb4.2/12, MS3.7/9, 1C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.55**	**118**	LR	LR	03 06 23.0	
	comp=Z,2μm,18.0s,baz=286,slow=33						
PPT	**Papeete**	**32.15**	**275**	LR	LR	03 19 09.4	
	comp=Z,127nm,18.6s,baz=110,slow=30						
NNA	**Nana**	**38.88**	**79**	P	P	03 10 18.2	+0.6
PLCA	**Paso Flores**	**41.13**	**125**	P	P	03 10 36.7	+0.7
	1.2nm,0.7s,baz=301,slow=12,SNR=2.3						
PLCA				LR	LR	03 23 23.8	
	comp=Z,269nm,18.2s,baz=256,slow=30						
PLCA	**Paso Flores**	**41.13**	**125**	IAmb	IAmb	03 10 40.1	
	comp=Z,3.2nm,1.1s						
LPAZ	**La Paz**	**45.27**	**89**	P	P	03 11 08.4	-2.0
	comp=Z,1.8nm,0.6s,baz=262,slow=4.1,SNR=8.4						
LPAZ				LR	LR	03 25 34.1	
	comp=Z,69nm,18.2s,baz=244,slow=30						
LPAZ	**La Paz**	**45.27**	**89**	P	P	03 11 11.2	+0.8
ROSC	**El Rosal**	**49.68**	**60**	LR	LR	03 29 51.7	
	comp=Z,48nm,18.6s,baz=166,slow=33						
CPUP	**Villa Florida**	**52.56**	**105**	LR	LR	03 30 24.7	
	comp=Z,111nm,19.7s,baz=253,slow=32						
TXAR	**Lajitas Array**	**54.51**	**13**	LR	LR	03 30 27.3	
	comp=Z,26nm,19.8s,baz=0.0,slow=30						
JCT	**Junction City**	**56.51**	**17**	P	P	03 12 34.5	+0.5
LENM	**Lemitar**	**58.66**	**9**	P	P	03 12 50.3	+1.0
MSTX	**Muleshoe**	**59.18**	**13**	P	P	03 12 52.7	-0.1
SHPR	**Sheep Range**	**60.39**	**1**	P	P	03 13 02.7	+1.4
SHPR				IAmb	IAmb	03 13 10.2	
	comp=Z,2.8nm,0.9s						
WMOK	**Wichita Mounta**	**60.82**	**16**	P	P	03 13 05.1	+1.1
WMOK				IAmb	IAmb	03 13 12.3	
	comp=Z,5.5nm,1.1s						
CCUT	**Cedar City**	**61.47**	**2**	P	P	03 13 09.7	+1.0
NVAR	**Mina Array Bea**	**62.35**	**358**	P	P	03 13 13.5	-1.0
	comp=Z,0.5nm,0.5s,baz=194,slow=7.6,SNR=4.3						
NVAR	**Mina Array Bea**	**62.35**	**358**	P	P	03 13 15.3	+0.8
SDCO	**Great Sand Dun**	**62.39**	**9**	P	P	03 13 15.3	+0.5
SDCO				IAmb	IAmb	03 13 20.3	
	comp=Z,2.8nm,0.9s						
PSUT	**Pine Spring**	**62.44**	**2**	P	P	03 13 15.8	+0.7
MSU	**Marysvale**	**62.48**	**3**	P	P	03 13 16.4	+1.0
BDFB	**Brasilia**	**63.81**	**96**	LR	LR	03 39 24.3	
	comp=Z,51nm,18.3s,baz=160,slow=34						
DUG	**Dugway, Tooele**	**64.13**	**3**	P	P	03 13 27.0	+0.8
DUG				IAmb	IAmb	03 13 37.6	
	comp=Z,3.4nm,1.0s						
JLU	**Jordanelle**	**64.61**	**4**	P	P	03 13 30.3	+0.9
QSPA	**South Pole Qui**	**65.95**	**180**	LR	LR	03 38 22.1	
	comp=Z,62nm,18.0s,baz=90,slow=32						
PD31	**Pinedale Array**	**66.89**	**5**	P	P	03 13 44.0	-0.2
PD31				IAmb	IAmb	03 13 44.4	
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**66.89**	**5**	P	P	03 13 42.1	-2.0
	comp=Z,1.1nm,0.7s,baz=172,slow=6.1,SNR=12						
PDAR	**Pinedale Array**	**66.89**	**5**	P	P	03 13 42.7	-1.4
TPAW	**Teton Pass**	**67.51**	**4**	P	P	03 13 48.6	+0.5
TPAW				IAmb	IAmb	03 13 49.0	
	comp=Z,4.2nm,0.8s						
MOOW	**Moose Ponds**	**67.78**	**4**	P	P	03 13 49.4	-0.3
FLWY	**Flagg Ranch**	**68.12**	**4**	P	P	03 13 52.0	+0.2
YHH	**Holmes Hill**	**68.81**	**4**	P	P	03 13 57.1	+0.8
YHL	**Hebgen Lake**	**68.86**	**4**	P	P	03 13 57.4	+0.9
HRY	**Holter Researc**	**70.68**	**3**	P	P	03 14 08.4	+0.9
HNR	**Honiara**	**80.95**	**264**	LR	LR	03 47 06.5	
	comp=Z,150nm,18.3s,baz=142,slow=33						
SYO	**Syowa Base**	**85.34**	**171⇑**	*eP*	P	03 15 27.4	-1.2
SYO	**Syowa Base**	**85.34**	**171⇓**	*ep*P	P	03 15 29.8	+1.2
YKA	**Yellowknife Ar**	**86.41**	**1**	P	P	03 15 32.6	-1.0
	comp=Z,1.2nm,0.7s,baz=177,slow=5.5,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**86.58**	**292**	T	T	04 51 24.9	
	baz=117,slow=75,SNR=100						
H11S1	**WAKE ISLAND Hy**	**86.59**	**292**	T	T	04 51 25.5	
	baz=117,slow=75,SNR=91						
H11S3	**WAKE ISLAND Hy**	**86.60**	**292**	T	T	04 51 24.9	
	baz=117,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**86.96**	**293**	T	T	04 51 52.2	
	baz=127,slow=72,SNR=13						
H11N1	**WAKE ISLAND Hy**	**86.97**	**293**	T	T	04 51 55.1	
	baz=127,slow=72,SNR=12						
H11N2	**WAKE ISLAND Hy**	**86.97**	**293**	T	T	04 51 48.9	
	baz=127,slow=72,SNR=24						
ASAR	**Alice Springs**	**97.30**	**240**	P	P	03 16 25.8	+0.3
	comp=Z,0.3nm,0.7s,baz=128,slow=6.0,SNR=2.3						
WRA	**Warramunga Arr**	**98.80**	**244**	P	P	03 16 32.6	+0.3
	comp=Z,0.6nm,1.0s,baz=120,slow=5.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**120.22**	**88**	PKP	PKPdf	03 21 42.7	-1.0
	comp=Z,0.6nm,0.8s,baz=270,slow=2.9,SNR=3.1						
KMBO	**Kilima Mbogo**	**143.72**	**130**	PKP	PKPbc	03 22 26.9	+1.3
	comp=Z,0.5nm,0.5s,baz=225,slow=2.3,SNR=2.2						
ZAA0	**Zalesovo Array**	**146.50**	**338**	PKPbc	PKPdf	03 22 32.3	+0.9
ZALV	**Zalesovo Beam**	**146.50**	**338**	PKPbc	PKPdf	03 22 32.1	+0.8
	comp=Z,2.3nm,0.6s,baz=1.9,slow=3.3,SNR=8.5						
BR131	**Keskin Array S**	**150.02**	**52**		PKPbc	03 22 42.9	+0.2
BRTR	**Keskin Array B**	**150.02**	**52**	PKPbc	PKPbc	03 22 41.1	-1.6
	comp=Z,1.1nm,0.8s,baz=100,slow=0.9,SNR=8.0						
BRTR	**Keskin Array B**	**150.02**	**52**		PKPbc	03 22 42.2	-0.6
MK31	**Makanchi Array**	**153.19**	**332**		PKPbc	03 22 49.0	-0.6
MKAR	**Makanchi Array**	**153.19**	**332**	PKPbc	PKPbc	03 22 48.6	-1.0
	comp=Z,0.9nm,0.7s,baz=42,slow=2.2,SNR=10.0						

*ISCJB **23** 03:07:36.8±0.4, 42°.38N±0°.02×76°.15E±0°.02, h6km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=152.8*
*SOME **23** 03:07:36.3, 42°.35N×76°.13E, h5km*
*KRNET **23** 03:07:36.6±0.1, 42°.39N×76°.16E, h22km, mb2.1*
*NNC **23** 03:07:37.0±0.7, 42°.41N×76°.15E, h0km, mb2.7, mpv3.0, Error ellipse: s-maj=4.7km s-min=3.1km az=168.0*

ISC 23 03:07:37.0±0.8, 42°.38N±0°.02×76°.15E±0°.02, h13km±6km, n31, σ0.9 72/59, 29C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.15**	**152**	⇑*iP*	Pg	03 07 40.8	-0.1
	baz=55						
ULHL				⇑*iS*	Sg	03 07 43.7	+0.1
	baz=55						
BOOM	**Boomskoye usch**	**0.19**	**306**	⇓*iP*	Pg	03 07 41.3	-0.1
	baz=4.0						
BOOM				⇓*iS*	Sg	03 07 44.9	+0.4
	baz=4.0						
KST	**Kastek**	**0.68**	**349**	P	Pg	03 07 49.8	-0.4
	4.3nm,0.1s						
KST				S	Sg	03 07 59.4	+0.2
	29nm,0.3s						
KZA	**Kyzart**	**0.73**	**246**	⇑*iP*	Pg	03 07 50.7	-0.6
	baz=46						
KZA				⇑*iS*	Sg	03 08 00.9	-0.1
	baz=46						
IZV	**Izvestkoviy**	**0.74**	**28**	P	Pg	03 07 51.1	-0.4
	3.8nm,0.1s						
IZV				S	Sb	03 08 01.4	-0.6
	25nm,0.1s						
MTBS	**Maitube**	**0.78**	**15**	P	Pg	03 07 51.7	-0.5
	2.7nm,0.1s						
MTBS				S	Sg	03 08 02.3	-0.1
	23nm,0.2s						
KDJ	**Kajisay**	**0.81**	**108**	⇑*iP*	Pg	03 07 52.1	-0.6
	baz=8.0						
KDJ				⇑*iS*	Sg	03 08 03.4	+0.1
	baz=8.0						
TNSS	**Tian-Shan**	**0.88**	**42**	P	Pg	03 07 53.6	-0.6
	4.5nm,0.1s						
TNSS				S	Sg	03 08 05.8	0.0
	12nm,0.1s						
DGS	**Degeres**	**0.91**	**342**	P	Pg	03 07 53.9	-0.6
	2.8nm,0.1s						
DGS				S	Sg	03 08 06.2	-0.2
	15nm,0.1s						
DGS	**Degeres**	**0.91**	**342**	⇑*iP*	Pg	03 07 53.9	-0.6
	2.8nm,0.1s						
DGS				⇑*iS*	Sg	03 08 06.2	-0.2
	15nm,0.1s						
KBK	**Karagaybulak**	**0.93**	**288**	⇑*iP*	Pg	03 07 54.4	-0.6
	baz=87						
KBK				⇑*iS*	Sg	03 08 06.6	-0.5
	baz=87						
NRN	**Naryn**	**0.95**	**187**	⇑*iP*	Pg	03 07 54.9	-0.5
	baz=88						
NRN				⇑*iS*	Sg	03 08 07.7	-0.2
	baz=88						
MDOK	**Medeo**	**1.03**	**40**	⇓*P*	Pg	03 07 55.9	-1.0
	1.3nm,0.3s						
MDOK				S	Sg	03 08 09.5	-0.8
	6.0nm,0.5s						
MDOK	**Medeo**	**1.03**	**40**	Pg	Pg	03 07 55.7	-1.1
	3.0nm,0.2s						
MDOK				Lg	Lg	03 08 09.3	
	7.8nm,0.4s						
KNDC	**Almaty**	**1.03**	**36**	⇓*P*	Pg	03 07 56.5	-0.5
	28nm,0.3s						
KNDC				⇑*S*	Sb	03 08 10.7	+0.4
	13nm,0.2s						
KOTS	**Kotyrbulak**	**1.11**	**39**	P	Pg	03 07 57.8	-0.7
	4.4nm,0.2s						
KOTS				S	Sb	03 08 12.8	+0.1
	18nm,0.5s						
ANVS	**Anan'yevo**	**1.19**	**70**	⇑*iP*	Pg	03 07 58.6	-1.4
	baz=70						
ANVS				⇑*iS*	Sg	03 08 14.3	-1.3
	baz=70						
UCH	**Uchtor**	**1.22**	**263**	⇑*iP*	Pg	03 07 59.3	-1.3
	baz=63						
UCH				⇑*iS*	Sg	03 08 15.5	-1.0
	baz=63						
AAK	**Ala-Archa**	**1.25**	**282**	⇑*iP*	Pg	03 07 59.9	-1.2
	baz=82						
AAK				⇑*iS*	Sg	03 08 16.5	-0.8
	baz=82						
KTBS	**Karatobe**	**1.39**	**16**	P	Pn	03 08 02.6	+0.4
	4.6nm,0.2s						
KTBS				S	Sn	03 08 21.2	+0.8
	11nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.40**	**117**	⇑*iP*	Pn	03 08 02.5	-0.1
	baz=18						
TARG				⇑*iS*	Sg	03 08 21.3	-0.8
	baz=18						
ARLS	**Aral**	**1.45**	**250**	⇑*iP*	Pn	03 08 03.2	+0.1
	baz=50						
ARLS				⇑*iS*	Sb	03 08 22.7	+0.3
	baz=50						
KUU	**Kurty**	**1.52**	**5**	P	Pn	03 08 04.7	+0.8
	1.5nm,0.2s						
KUU				S	Sn	03 08 24.5	+0.9
	4.0nm,0.1s						
CHKK	**Chushkaly**	**1.60**	**22**	P	Pb	03 08 06.5	+0.1
	2.0nm,0.1s						
CHKK				S	Sg	03 08 27.5	-1.0
	6.2nm,0.2s						
PRZ	**Przheval'sk**	**1.67**	**86**	⇑*iP*	Pn	03 08 06.8	+0.6
	baz=86						
PRZ				⇑*iS*	Sn	03 08 28.8	+1.2
	baz=86						
EKS2	**Erkin-Say**	**1.77**	**280**	⇑*iP*	Pb	03 08 08.9	-0.5
	baz=80						
EKS2				⇑*iS*	Sb	03 08 32.2	+0.6
	baz=80						
SATY	**Saty**	**1.80**	**67**	P	Pb	03 08 10.3	+0.4
	1.5nm,0.1s						
SATY				S	Sg	03 08 34.3	-0.6
	7.9nm,0.2s						
AML	**Almayashu**	**1.84**	**263**	⇑*iP*	Pn	03 08 10.0	+1.4
	baz=63						
AML				⇑*iS*	Sb	03 08 33.9	+0.2
	baz=63						
MRKS	**Merke**	**2.19**	**281**	Pg	Pb	03 08 15.8	-0.7
	0.8nm,0.1s						
MRKS				Lg	Lg	03 08 44.2	
	4.4nm,0.3s						
ARXS	**Arharly**	**2.21**	**33**	Pg	Pb	03 08 16.7	-0.1
	3.1nm,0.2s						
ARXS				Lg	Lg	03 08 46.0	
	4.0nm,0.2s						
ARXS	**Arharly**	**2.21**	**33**	*e*P	Pb	03 08 17.5	+0.7
	2.1nm,0.2s						
ARXS				*e*S	Sg	03 08 46.5	-1.4
	4.0nm,0.2s						

IDC 23 03:27:10.8±3.1, 6°.26S×154°.24E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.5/33, mbtmp3.6/4, ML1.9/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/18, Error ellipse: s-maj=61.2km s-min=39.3km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.94**	**311**	Pn	Pn	03 27 59.0	+0.2
	8.7nm,0.3s,baz=283,slow=5.8,SNR=2.5						
KRVT				Sn	Sg	03 28 43.0	-2.3
	8.4nm,0.3s,baz=242,slow=22,SNR=2.3						
KRVT				LR	LR	03 29 28.4	
	comp=Z,123nm,19.0s,baz=131,slow=47						
HNR	**Honiara**	**6.47**	**119**	LR	LR	03 31 27.0	
	comp=Z,76nm,18.1s,baz=282,slow=40						
PMG	**Port Moresby**	**7.68**	**246**	Pn	Pn	03 29 06.2	+2.2
	0.9nm,0.3s,baz=36,slow=8.7,SNR=2.7						
WRA	**Warramunga Arr**	**23.63**	**233**	P	P	03 32 23.7	-0.3
	0.5nm,0.5s,baz=56,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**26.11**	**226**	P	P	03 32 46.2	-0.5
	0.4nm,0.7s,baz=56,slow=8.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**152.10**	**286**	PKPbc	PKPbc	03 47 09.3	-0.1
	0.3nm,0.9s,baz=92,slow=3.4,SNR=2.1						

*NEIC **23** 03:29:57.5±1.1, 32°.30S±0°.08×176°.6W±0°.1, h39km±5km, mb4.4/10*
*ISCJB **23** 03:30:00.7±0.7, 32°.21S±0°.04×177°.8W±0°.1, h10km, mb4.6/13, MS3.8/10, Error ellipse: s-maj=15.1km s-min=3.5km az=15.4*
*IDC **23** 03:30:02.5±0.7, 31°.87S×178°.01W, h0km, mb4.5/11, mb1 4.6/14, mb1mx4.4/31, mbtmp4.5/14, ML4.6/2, MS3.8/10, Ms1 3.8/10, ms1mx3.6/20, Error

RIGZ				S	Sn	03 33 15.8	-3.3
PRGZ	Paritu Road	7.71	205	P	Pn	03 31 52.7	-2.5
PRGZ				S	Sn	03 33 18.8	-3.8
OUZ	Omahuta	7.79	243	P	Pn	03 32 01.2	+5.0
OUZ	Omahuta	7.79	243		Pn	03 32 00.3	+4.1
MUGZ	Murupara	7.79	213	P	Pn	03 31 55.3	-1.0
MUGZ				S	Sn	03 33 20.5	-4.1
TOZ	Tahuroa Road	7.88	222	P	Pn	03 31 59.1	+1.7
BFZ	Birch Farm	9.86	207	Pn	Pn	03 32 20.9	-3.8
MSWZ	Moikau Station	10.88	208	Pn	Pn	03 32 34.8	-3.8
BHW	Baring Head	11.03	210	Pn	Pn	03 32 34.7	-5.9
NNZ	Nelson	11.56	215	Pn	Pn	03 32 46.0	-1.8
THZ	Tophouse	12.20	214		Pn	03 32 55.2	-1.5
OXZ	Oxford	13.82	212		Pn	03 33 14.3	-4.4
RPZ	Rata Peaks	14.57	214	Pn	Pn	03 33 25.3	-3.8
2.3nm,0.3s,baz=309,slow=2.7,SNR=4.9							
RPZ				Sn	Sn	03 35 52.4	-18
2.1nm,0.3s,baz=61,slow=19,SNR=8.4							
MSVF	Nonsavu	14.68	345		Pn	03 33 30.9	+0.3
DZM	Mont Dzumac	17.09	302	eP	P	03 34 03.0	-0.7
48nm,1.4s							
DZM				eLR	LR	03 38 07.8	
comp=Z,849nm,23.0s							
DZM	Mont Dzumac	17.09	302	Pn	P	03 34 02.4	-1.3
baz=190,slow=12,SNR=2.8							
AFI	Afiamalu	18.86	19	P	Pn	03 34 24.4	+0.6
1.4nm,0.3s,baz=198,slow=19,SNR=2.9							
RAR	Rarotonga	19.41	61	LR	LR	03 41 33.2	
comp=Z,154nm,19.6s,baz=238,slow=36							
TBI	Tubuai	26.55	78	eLQ	LQ	03 40 56.0	
332nm,25.5s							
TBI				eLR	LR	03 42 23.2	
comp=Z,288nm,29.8s,baz=242							
TBI	Tubuai	26.55	78	eT	T	04 03 00.0	
7.4nm,0.3s							
EIDS	Eidsvold	27.95	276	P	P	03 35 55.2	+1.7
PAE	Paea	29.28	68	eT	T	04 06 32.9	
2.2nm,0.3s							
PPT2	Papeete2	29.33	67	eT	T	04 06 36.7	
2.2nm,0.3s							
PPT	Papeete	29.34	67	LR	LR	03 44 33.5	
comp=Z,104nm,20.5s,baz=244,slow=30							
TVO	Taravao	29.48	68	eT	T	04 06 47.5	
0.8nm,0.2s							
VAH	Vaihoa	32.21	66	eT	T	04 10 13.2	
6.6nm,0.3s							
CTA	Charters Tower	34.18	281	P	P	03 36 49.5	+1.0
12nm,0.7s,baz=108,slow=11,SNR=14							
STKA	Stephens Creek	34.24	259	P	P	03 36 50.0	+1.2
8.1nm,0.9s,baz=88,slow=9.1,SNR=8.8							
STKA	Stephens Creek	34.24	259	P	P	03 36 49.4	+0.5
KRVT	Keravat (AS076	39.42	308	P	P	03 37 33.6	+0.5
80nm,0.7s,baz=297,slow=2.9,SNR=4.3							
COEN	Coen	39.82	288	P	P	03 37 38.1	+1.6
COEN				IAmb	IAmb	03 37 50.7	
comp=Z,7.0nm,0.7s							
AS31	Alice Springs	43.14	269	P	P	03 38 03.9	+0.1
AS31				IAmb	IAmb	03 38 10.9	
comp=Z,3.6nm,0.7s							
ASAR	Alice Springs	43.14	269	P	P	03 38 03.6	-0.1
comp=Z,5.3nm,0.5s,baz=106,slow=7.5,SNR=58							
ASAR	Alice Springs	43.14	269	P	P	03 38 03.2	-0.5
WB2	Warramunga Arr	44.26	274	P	P	03 38 12.7	-0.1
WRAB	Tennant Creek	44.27	274	P	P	03 38 12.7	-0.1
WRA	Warramunga Arr	44.27	274	P	P	03 38 12.6	-0.2
comp=Z,8.1nm,0.4s,baz=114,slow=7.6,SNR=72							
WRA	Warramunga Arr	44.27	274	P	P	03 38 12.5	-0.4
FITZ	Fitzroy Crossi	52.47	271	P	P	03 39 16.0	-0.1
comp=Z,3.6nm,0.7s,baz=85,slow=5.9,SNR=9.4							
FITZ	Fitzroy Crossi	52.47	271	IAmb	IAmb	03 39 16.6	
comp=Z,9.6nm,1.0s							
QSPA	South Pole Qui	58.11	180	P	P	03 39 58.9	+2.6
comp=Z,2.4nm,0.7s,baz=66,slow=2.8,SNR=12							
MAW	Mawson	70.84	201	P	P	03 41 21.7	+2.4
comp=Z,1.3nm,0.5s,baz=126,slow=8.4,SNR=5.2							
MAW				LR	LR	04 12 00.5	
comp=Z,69nm,18.7s,baz=58,slow=36							
SNAA	Sanae	76.55	178	P	P	03 41 54.7	+1.8
SNAA	Sanae	76.55	178	PcP	PcP	03 42 04.0	-0.5
SNAA	Sanae	76.55	178	P	P	03 41 41.7	-11
VNA3	Neumayer Olymp	76.70	176	P	P	03 41 55.4	+1.8
VNA3	Neumayer Olymp	76.70	176	PcP	PcP	03 42 05.2	+0.1
VNA2	Neumayer--Watz	77.14	177	P	P	03 41 58.2	+2.1
baz=173,slow=3.9							
VNA2	Neumayer--Watz	77.14	177	PcP	PcP	03 42 07.8	+0.9
baz=174,slow=4.0							
VNA1	Neumayer--Stat	77.37	176	P	P	03 41 59.3	+2.0
VNA1	Neumayer--Stat	77.37	176	PcP	PcP	03 42 09.1	+1.3
MJAR	Matsushiro Arr	79.61	325	P	P	03 42 10.2	0.0
comp=Z,1.2nm,0.8s,baz=116,slow=4.2,SNR=2.4							
PLCA	Paso Flores	81.35	133	LR	LR	04 13 19.2	
comp=Z,50nm,18.4s,baz=245,slow=32							
KSRS	Korea Array	85.63	320	P	P	03 42 42.4	+1.0
comp=Z,0.4nm,0.4s,baz=127,slow=5.2,SNR=1.4							
PETK	Petropavlovsk-	87.39	346	P	P	03 42 50.4	+0.6
comp=Z,6.4nm,0.9s,baz=107,slow=6.0,SNR=5.2							
PETK				LR	LR	04 18 28.5	
comp=Z,46nm,19.2s,baz=240,slow=33							
USRK	Ussuriysk Ar.	88.55	326	P	P	03 42 56.2	+0.8
comp=Z,4.1nm,1.0s,baz=98,slow=3.9,SNR=4.4							
NVAR	Mina Array Bea	89.35	43	LR	LR	04 18 35.0	
comp=Z,73nm,18.1s,baz=228,slow=33							
TXAR	Lajitas Array	93.17	57	LR	LR	04 19 03.3	
comp=Z,28nm,18.6s,baz=0.0,slow=32							
PDAR	Pinedale Array	97.23	44	LR	LR	04 23 29.2	
comp=Z,64nm,18.1s,baz=248,slow=33							
LPAZ	La Paz	97.40	114	LR	LR	04 18 04.2	
comp=Z,29nm,22.0s,baz=186,slow=30							
HHC	Hu-ho-hao-te	97.41	314	eP	Pdif	03 43 36.5	-0.2
HHC				pmax	pmax		
comp=Z,9.0nm,1.0s							
HHC				pmax	pmax		
comp=Z,13nm,5.3s							
CPUP	Villa Florida	98.92	129	LR	LR	04 26 24.3	
comp=Z,27nm,18.8s,baz=193,slow=34							
MKAR	Makanchi Array	118.87	309	PKP	PKiKP	03 48 51.5	+0.2
comp=Z,0.6nm,0.6s,baz=51,slow=0.8,SNR=6.2							
ZALV	Zalesovo Beam	119.28	318	PKP	PKiKP	03 48 53.4	+1.6
comp=Z,0.7nm,0.5s,baz=172,slow=2.2,SNR=3.1							
KMBO	Kilima Mbogo	133.18	232	PKP	PKiKP	03 49 21.4	+0.3
comp=Z,0.3nm,0.3s,baz=67,slow=7.7,SNR=2.7							
KMBO				SKPbc	SKPab	03 52 49.1	-0.7
comp=Z,0.8nm,0.5s,baz=74,slow=2.1,SNR=5.7							
ARCES	ARCESS Array B	140.17	347	PKhKP	PKPpre	03 49 27.8	
comp=Z,6.4nm,0.9s,baz=347,slow=3.7,SNR=4.4							
KBZ	Khabaz	146.06	302	PKPbc	PKPab	03 49 43.4	0.0
comp=Z,7.9nm,1.0s,baz=201,slow=2.2,SNR=8.6							
FINES	FINESS Array B	146.68	339	PKPbc	PKPab	03 49 44.9	-0.3
comp=Z,16nm,0.7s,baz=62,slow=3.7,SNR=71							
NB2	NORSAR Subarra	150.35	351	PKP	PKiKP	03 49 54.9	+0.4
comp=Z,4.3nm,0.8s,baz=17,slow=4.3							
NOA	NORSAR Array B	150.35	351	PKPbc	PKiKP	03 49 54.4	-0.1
comp=Z,0.7nm,0.6s,baz=49,slow=1.8,SNR=12							
NACGM	Naroch	151.22	330	e	PKiKP	03 49 56.0	-0.4
AKASG	Malin Array Be	152.62	321	PKPbc	PKiKP	03 49 59.7	+0.3
comp=Z,1.8nm,0.5s,baz=46,slow=3.4,SNR=10							
BRTR	Keskin Array B	153.41	296	PKPbc	PKiKP	03 50 02.0	+0.4
comp=Z,4.0nm,0.8s,baz=139,slow=3.7,SNR=22							
BRTR				PKPab	PKPab	03 50 12.0	-1.7
comp=Z,2.6nm,0.9s,baz=138,slow=4.5,SNR=6.7							
CLL	Collm	159.11	341	ePKPab	PKPab	03 50 31.0	-6.5
CLL				epPKPab	pPKPab	03 50 38.0	-1.0
BRG	Berggiesshubel	159.21	339	ePKP	PKPab	03 50 39.4	+1.4
comp=Z,11nm,1.5s							
GERES	GERESS Array B	161.04	336	PKPab	PKPab	03 50 45.6	-0.5
comp=Z,0.6nm,0.7s,baz=336,slow=2.9,SNR=4.4							
TORD	Torodi Ar. Bea	161.23	179	PKP	PKPdf	03 50 04.8	+0.5
comp=Z,0.1nm,0.3s,baz=128,slow=35,SNR=2.9							
TORD				PKPab	PKPab	03 50 48.5	+0.9
comp=Z,2.1nm,0.8s,baz=173,slow=3.8,SNR=7.3							

*GUC **23** 03:50:30.1±0.4, 26°.18S×69°.12W, h9km±6km, ML3.2*
*SJA **23** 03:50:33.7±0.3, 26°.06S×69°.89W, h96km±6km, ML2.4, MW2.9*
*ISCJB **23** 03:50:35.6±0.6, 26°.11S±0°.03×69°.6W±0°.1, h33km, Error ellipse: s-maj=13.8km s-min=5.0km az=2.3*
ISC 23 03:50:37.6±1.3, 26°.10S±0°.03×69°.68W±0°.09, h35km, n14, σ2.35/19, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.94	5	⇓iP	Pn	03 50 50.2	-4.4
GO02				i S	Sn	03 51 06.0	-1.0
GO03	Copiap	1.57	198	⇑iP	Pn	03 51 00.5	-2.6
GO03				i S	Sn	03 51 23.1	+0.9
GO03				IAML		03 51 28.6	
comp=N,294nm,0.2s							
GO03	Copiap	1.57	198	i P	Pn	03 51 01.6	-1.4
GO03				i Sg	Sn	03 51 22.3	+0.2
PB14	IPOC Station P	1.61	336	eP	Pn	03 51 04.2	+0.4
PB14				i S	Sn	03 51 29.9	+6.4
PB14				IAML		03 51 33.3	
comp=N,450nm,0.4s							
PB10	IPOC Station P	2.70	343	IAML		03 52 09.4	
comp=N,61nm,0.4s							
PB15	IPOC Station P	2.89	4	eP	Pn	03 51 19.8	-1.6
VCA	Vinchina	2.93	154	i P	Pn	03 51 21.8	-0.1
VCA				eP	Pn	03 51 21.8	-0.1
VCA				IAML		03 52 06.5	
comp=Z,10nm,0.5s							
AHML	Horco Molle	3.95	101	i P	Pn	03 51 36.3	+0.4
AROD	Rodeo	4.05	178	i P	Pn	03 51 36.5	-0.9
GO04	Tololo Observa	4.17	193	eP	Pn	03 51 37.1	-2.0
GO04				i S	Sn	03 52 28.8	+2.1
ACCO	Cerro Coronel	4.50	173	i P	Pn	03 51 43.1	-0.5
AMOG	MOGNA	4.93	168	i P	Pn	03 51 48.0	-1.3
RTLL	Cerro Villicun	5.31	169	i P	Pn	03 51 53.2	-1.4
CFA	Coronel Fontan	5.63	167	i P	Pn	03 51 57.5	-1.3

WEL 23 03:54:10.4±0.9, 31°.S±14°.×17°.9E±4°.4, h421km±25km, M4.3/15, mB4.4/5, MLv4.7/15, Mw(mB)3.6/5, Error ellipse: s-maj=0.1km s-min=0.0km az=105.4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	6.53	185	P	P	03 55 49.6	+0.1
WMGZ				S	S	03 57 09.1	-0.8
HAZ	Te Kaha	6.53	189	P	P	03 55 49.4	0.0
HAZ				S	S	03 57 10.1	+0.2
RUGZ	Raukumara Rang	6.75	189	P	P	03 55 51.5	-0.4
RUGZ				S	S	03 57 14.2	-0.3
TWGZ	Tauwhareparae	6.92	187	P	P	03 55 53.5	-0.2
TWGZ				S	S	03 57 18.5	+0.7
URZ	Urewera	7.13	193	P	P	03 55 54.7	-1.2
URZ				S	S	03 57 23.1	+1.1
MWZ	Matawai	7.13	190	P	P	03 55 55.6	-0.5
MWZ				S	S	03 57 22.6	+0.5
TKGZ	Te Karaka	7.19	188	P	P	03 55 56.9	+0.3
TKGZ				S	S	03 57 22.3	-0.9
RAGZ	Rawiri	7.31	190	P	P	03 55 57.9	-0.1
RAGZ				S	S	03 57 27.0	+1.3
RIGZ	Rimuhau	7.47	188	P	P	03 55 59.4	-0.3
RIGZ				S	S	03 57 29.2	+0.3
RTZ	Ruatahuna	7.50	193	P	P	03 56 00.3	+0.2
RTZ				S	S	03 57 29.4	-0.1
SNGZ	Shannon Statio	7.60	190	P	P	03 55 59.2	-2.0
SNGZ				S	S	03 57 32.5	+1.0
PRGZ	Paritu Road	7.67	187	P	P	03 56 02.4	+0.6
PRGZ				S	S	03 57 33.2	+0.3
MHGZ	Mahia Peninsul	7.89	187	P	P	03 56 04.7	+0.3
NMHZ	Naumai	8.00	193	P	P	03 56 05.9	+0.3
NMHZ				S	S	03 57 41.3	+1.5
ARHZ	Aropaoanui	8.12	191	P	P	03 56 07.4	+0.7
ARHZ				S	S	03 57 44.2	+1.9
MCHZ	McNeill Hill	8.35	193	P	P	03 56 09.5	+0.3
MCHZ				S	S	03 57 48.9	+1.9
KWHZ	Kaweka Forest	8.39	194	P	P	03 56 09.4	-0.4
KWHZ				S	S	03 57 48.4	+0.6
BHHZ	Black Hill Sta	8.53	196	P	P	03 56 11.2	-0.1
BHHZ				S	S	03 57 50.4	-0.3
KRHZ	Kereru	8.61	194	P	P	03 56 11.9	-0.3
KRHZ				S	S	03 57 52.1	-0.2
KAHZ	Kahuranaki	8.66	191	P	P	03 56 13.2	+0.5
KAHZ				S	S	03 57 55.3	+1.8
PNHZ	Pukenui	8.91	194	P	P	03 56 14.0	-1.4
PNHZ				S	S	03 57 57.9	-0.6
PRHZ	Porangahau	9.16	192	P	P	03 56 18.5	+0.3
PRHZ				S	S	03 58 04.3	+0.6
BFZ	Birch Farm	9.64	193	P	P	03 56 23.8	+0.4
BFZ				S	S	03 58 12.1	-1.2

*SOME **23** 03:55:47.4, 40°.22N×77°.40E, h5km*
*KRNET **23** 03:55:48.7±0.1, 40°.30N×77°.43E, h13km, mb3.1*
*NNC **23** 03:55:50.6±3.1, 40°.36N×77°.59E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=20.7km s-min=18.2km az=173.0*
ISC 23 03:55:48.5±2.5, 40°.30N±0°.10×77°.36E±0°.04, h15km±15km, n42, σ1.45/68, 25C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.47	13	⇑iP	Pg	03 56 16.4	-0.4
baz=11							
TARG				⇑iS	Sg	03 56 36.1	+0.1
baz=11							
NRN	Naryn	1.54	318	⇑iP	Pg	03 56 18.0	-0.1
baz=16							
NRN				⇑iS	Sg	03 56 40.1	+2.0
baz=16							
KDJ	Kajisay	1.84	356	⇓iP	Pg	03 56 23.1	-0.7
baz=55							
KDJ				⇓iS	Sg	03 56 48.1	+0.4
baz=55							
ULHL	Ulahol	2.12	337	⇓iP	Pg	03 56 28.1	-1.2
baz=36							
ULHL				⇓iS	Sg	03 56 56.3	-0.5
baz=36							
PRZ	Przheval'sk	2.32	19	⇑iP	Pb	03 56 29.8	-0.3
baz=18							
PRZ				⇑iS	Sb	03 56 59.7	+1.1
baz=18							
KZA	Kyzart	2.39	319	⇑iP	Pb	03 56 32.2	+0.8
baz=18							
KZA				⇑iS	Sb	03 57 03.5	+2.6
baz=18							
BOOM	Boomskoye usch	2.44	334	⇓iP	Pb	03 56 32.4	+0.3
baz=33							
BOOM				⇓iS	Sb	03 57 03.9	+1.8
baz=33							
ANVS	Anan'yevo	2.50	5	⇑iP	Pb	03 56 32.4	-0.7
baz=4.0							
ANVS				⇑iS	Sb	03 57 04.6	+0.9
baz=4.0							
TNSS	Tian-Shan	2.76	354	Pg	Pg	03 56 40.7	-0.6
25nm,0.5s							
TNSS				Lg	Lg	03 57 18.9	
31nm,0.3s							
TNSS	Tian-Shan	2.76	354	eP	Pg	03 56 40.7	-0.6
26nm,0.6s							
TNSS				⇓iS	Sg	03 57 18.9	+1.8
33nm,0.4s							
ARLS	Aral	2.78	305	⇑eP	Pb	03 56 37.2	-0.7
baz=5.0							
ARLS				⇑iS	Sb	03 57 13.0	+1.2
baz=5.0							
IZV	Izvestkoviy	2.80	349	Pg	Pg	03 56 41.2	-0.9
8.1nm,0.3s							
IZV				Lg	Lg	03 57 20.0	
52nm,0.5s							
IZV	Izvestkoviy	2.80	349	eP	Pg	03 56 41.2	-0.9
11nm,0.5s							
IZV				eS	Sg	03 57 20.0	+1.7
52nm,0.5s							
SATY	Saty	2.87	15	Pg	Pg	03 56 42.2	-1.3
10nm,0.4s							
SATY				Lg	Lg	03 57 21.8	
32nm,0.5s							
SATY	Saty	2.87	15	eP	Pg	03 56 42.2	-1.3
10nm,0.4s							
SATY				eS	Sg	03 57 21.8	+1.1
32nm,0.5s							
MDOK	Medeo	2.88	355	⇓Pg	Pb	03 56 39.7	+0.1
6.8nm,0.5s							
MDOK				Lg	Lg	03 57 18.4	
27nm,0.5s							
MDOK	Medeo	2.88	355	Pg	Pg	03 56 41.8	-1.8
10.0nm,0.2s							
MDOK				Lg	Lg	03 57 21.8	
34nm,0.4s							
MDOK	Medeo	2.88	355	eP	Pg	03 56 42.4	-1.2
10.0nm,0.2s							
MDOK				eS	Sg	03 57 21.8	+0.9
34nm,0.4s							
UCH	Uchtor	2.89	313	⇑iP	Pb	03 56 39.3	-0.6
baz=12							
UCH				⇑iS	Sb	03 57 15.8	+0.6
baz=12							
MTBS	Maitube	2.92	346	Pg	Pg	03 56 43.2	-1.2
5.2nm,0.2s							
MTBS				Lg	Lg	03 57 23.5	
23nm,0.4s							
MTBS	Maitube	2.92	346	eP	Pg	03 56 43.2	-1.2
5.2nm,0.2s							
MTBS				⇑iS	Sg	03 57 23.5	+1.3
24nm,0.5s							
KST	Kastek	2.94	340	Pg	Pg	03 56 43.7	-1.1
5.4nm,0.3s							
KST				Lg	Lg	03 57 24.1	
19nm,0.5s							
KST	Kastek	2.94	340	⇓iP	Pg	03 56 43.7	-1.1
6.0nm,0.3s							
KST				eS	Sg	03 57 24.4	+1.5
19nm,0.5s							
KOTS	Kotyrbulak	2.94	356	Pg	Pg	03 56 44.0	-0.9
23nm,0.3s							
KOTS				Lg	Lg	03 57 25.0	
153nm,0.4s							
KOTS	Kotyrbulak	2.94	356	eP	Pg	03 56 44.0	-0.9
24nm,0.5s							
KOTS				eS	Sg	03 57 25.0	+2.0
156nm,0.5s							
KBK	Karagaybulak	2.98	323	⇑iP	Pb	03 56 40.1	-1.2
baz=22							
KBK				⇑iS	Sb	03 57 17.2	-0.3
baz=22							
DGS	Degeres	3.18	339	Pg	Pg	03 56 47.9	-1.4
6.8nm,0.6s							
DGS				Lg	Lg	03 57 31.3	
26nm,0.6s							
DGS	Degeres	3.18	339	eP	Pg	03 56 47.9	-1.4
6.8nm,0.6s							
DGS				eS	Sg	03 57 31.6	+1.1
26nm,0.6s							
AAK	Ala-Archa	3.18	318	⇑iP	Pb	03 56 42.7	-2.1
baz=18							
AAK				⇑iS	Sb	03 57 22.5	-0.9
baz=18							
SHLS	Shalkode	3.26	28	Pg	Pg	03 56 51.5	+0.5
6.7nm,0.2s							
SHLS				Lg	Lg	03 57 39.2	
27nm,0.6s							
SHLS	Shalkode	3.26	28	eP	Pg	03 56 51.4	+0.5
4.6nm,0.1s							
SHLS				eS	Sg	03 57 37.5	+4.3
27nm,0.6s							
KPKS	Kokpek	3.32	17	eP	Pg	03 56 50.5	-1.6
8.8nm,0.3s							
KPKS				eS	Sg	03 57 35.6	+0.5
23nm,0.4s							
AML	Almayashu	3.32	305	⇑iP	Pb	03 56 45.1	-2.2
baz=4.0							
AML				⇑iS	Sb	03 57 26.2	-1.4
baz=4.0							
PDGK	Podgornoye	3.42	27	Pg	Pg	03 56 51.8	-2.3
1.3nm,0.3s							
PDGK				Lg	Lg	03 57 37.8	
8.5nm,0.5s							
PDGK	Podgornoye	3.42	27	⇑Pg	Pb	03 56 48.0	-0.9
2.2nm,0.6s							
PDGK				⇑Lg	Lg	03 57 34.3	
13nm,0.6s							
KTBS	Karatobe	3.45	352	Pg	Pg	03 56 52.4	-2.2
2.9nm,0.3s							
KTBS				Lg	Lg	03 57 39.2	
54nm,0.5s							
KTBS	Karatobe	3.45	352	eP	Pg	03 56 52.4	-2.2
3.3nm,0.5s							
KTBS				eS	Sg	03 57 39.5	+0.2
54nm,0.5s							
CHKK	Chushkaly	3.57	356	Pg	Pg	03 56 54.5	-2.2
5.0nm,0.5s							
CHKK				Lg	Lg	03 57 43.3	
35nm,0.4s							
CHKK	Chushkaly	3.57	356	eP	Pg	03 56 54.6	-2.2
5.0nm,0.5s							
CHKK				eS	Sg	03 57 43.3	+0.3
35nm,0.4s							
ARXS	Arharly	3.93	5	Pg	Pg	03 57 00.9	-2.9
1.4nm,0.3s							
ARXS				Lg	Lg	03 57 53.5	
13nm,0.5s							
ARXS	Arharly	3.93	5	eP	Pg	03 57 01.6	-2.1
3.6nm,0.8s							
ARXS				eS	Sg	03 57 55.2	+0.5
13nm,0.4s							
KK31	Karatay Array	5.85	301	⇑Pg	Pg	03 57 41.8	+1.4
0.6nm,0.5s,baz=9.3,slow=16,SNR=3.0							
KK31				⇑Lg	Lg	03 59 02.1	
0.3nm,0.3s,baz=106,slow=29,SNR=4.2							

IDC 23 03:59:44.9±63.0, 22°.37S×179°.26W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=1140.0km s-min=165.4km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.94	246	P	P	04 06 46.9	-0.4
1.3nm,0.9s,baz=103,slow=12,SNR=1.4							
ASAR	Alice Springs	42.98	259	P	P	04 07 45.5	-0.7
0.3nm,0.4s,baz=90,slow=9.1,SNR=5.4							
WRA	Warramunga Arr	43.22	264	P	P	04 07 48.6	+0.5
0.9nm,0.3s,baz=100,slow=8.4,SNR=13							

*JMA **23** 04:11:15.5±0.4, 43°.56N×147°.48E, h5km, M3.9*
*SKHL **23** 04:11:17.2±0.5, 43°.56N×147°.64E, h36km±6km, mb4.6/4*
*IDC **23** 04:11:19.4±10.0, 44°.77N×147°.08E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, Error ellipse: s-maj=255.6km s-min=33.8km az=166.0*
*MOS **23** 04:11:19.1±0.6, 43°.79N×147°.33E, h59km, mb4.5/1, Error ellipse: s-maj=18.7km s-min=15.5km az=163.8*
ISC 23 04:11:17.6±2.0, 43°.75N±0°.09×147°.53E±0°.08, h28km±13km, n25, σ0.76/38, mb3.5/5, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.24	284	d iPN	Pn	04 11 39.4	+0.3
YUK				i S	Sn	04 11 54.5	-0.4
YUK	Yuzh-Kuril'sk	1.24	284	i P	Pn	04 11 39.0	-0.1
YUK				AMB	AMB	04 11 40.0	
766nm,0.2s							
YUK				i S	Sn	04 11 55.0	+0.1
YUK				A	A	04 12 01.0	
2μm,0.4s							
YUK				A	A	04 12 01.0	
2μm,0.4s							
GRPR	Tuman	1.29	281	ePN	Pn	04 11 39.7	-0.1
GRPR				i S	Sn	04 11 56.0	-0.2
GRPR				pmax	pmax		
comp=Z,299nm,0.3s							
GRPR				pmax	pmax		
comp=

GLVR				smax	smax		
	comp=N,985nm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.2s						
GLVR	**Golovnino**	**1.46**	**270**	*e*P	**Pn**	**04 11 42.0**	**-0.1**
GLVR				AMB	AMB	04 11 43.0	
	comp=E,122nm,0.4s						
GLVR				*i* S	**Sn**	**04 12 00.3**	**+0.1**
GLVR				A	A	04 12 04.0	
	comp=E,985nm,0.2s						
GLVR				A	A	04 12 04.0	
	comp=E,2μm,0.2s						
KUR	**Kuril'sk**	**1.50**	**9**	*e*PN	**Pb**	**04 11 44.5**	**-0.3**
KUR				*i* S	**Sb**	**04 12 04.2**	**+0.7**
KUR				pmax	pmax		
	comp=Z,81nm,0.5s						
KUR				pmax	pmax		
	comp=N,48nm,0.2s						
KUR				pmax	pmax		
	comp=E,35nm,0.2s						
KUR	**Kuril'sk**	**1.50**	**9**	*e*P	**Pb**	**04 11 44.0**	**-0.8**
KUR				AMB	AMB	04 11 46.0	
	comp=E,59nm,0.3s						
KUR				*i* S	**Sb**	**04 12 04.0**	**+0.5**
KUR				A	A	04 12 05.0	
	comp=E,327nm,0.3s						
KUR				A	A	04 12 05.0	
	comp=E,446nm,0.3s						
JRA	**Rausu**	**1.75**	**277**	P	**Pn**	**04 11 47.0**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.83**	**272**	P	**Pn**	**04 11 48.1**	**+0.9**
JNK	**Nakash**	**2.05**	**266**	P	**Pn**	**04 11 50.3**	**+0.1**
JNK				*e*S	**Sn**	**04 12 16.0**	**+1.2**
JAK	**Akkeshi**	**2.20**	**251**	P	**Pn**	**04 11 52.2**	**-0.1**
JAK				*e*S	**Sn**	**04 12 20.3**	**+1.8**
JTKR	**Abashiri--Toko**	**2.63**	**276**	P	**Pn**	**04 11 59.3**	**+1.1**
JAR	**Ashorobuto**	**2.77**	**262**	P	**Pn**	**04 12 01.1**	**+0.9**
ERM	**Erimo**	**3.65**	**243**	*i* PN	**Pn**	**04 12 13.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.80**	**249**	P	**Pn**	**04 12 15.4**	**+1.1**
SONM	**Songino Array**	**28.73**	**293**	P	**P**	**04 17 11.9**	**-0.7**
	comp=E,0.2nm,0.5s,baz=92,slow=7.2,SNR=1.6						
ILAR	**Eielson Array**	**41.33**	**36**	P	**P**	**04 19 01.2**	**+0.7**
	comp=E,0.3nm,0.6s,baz=272,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**44.83**	**298**	P	**P**	**04 19 29.4**	**+0.3**
	comp=E,0.4nm,0.6s,baz=78,slow=7.6,SNR=3.8						
FINES	**FINESS Array B**	**65.00**	**333**	P	**P**	**04 21 53.8**	**-0.8**
	comp=E,1.0nm,0.7s,baz=30,slow=8.8,SNR=9.9						
NOA	**NORSAR Array B**	**69.70**	**339**	P	**P**	**04 22 24.0**	**-0.4**
NOA	**NORSAR Array B**	**69.70**	**339**	P	**P**	**04 22 24.0**	**-0.4**
	comp=E,0.8nm,1.0s,baz=31,slow=6.3,SNR=5.0						

*NEIC **23** 04:50:31.1±1.0, 58°.26N±0°.05×137°.00W±0°.05, h6km±8km*
AEIC 23 04:50:34.4±1.7, 58°.36N±0°.07×137°.01W±0°.07, h14km±7km, ML2.5, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHAK	**Deception Hill**	**0.97**	**320**		Pb	04 50 51.0	-1.9
DHAK					Sb	04 51 04.7	-1.0
BESE	**Bessie Mountai**	**1.16**	**78**		Pb	04 50 53.7	-2.5
BESE					Sb	04 51 09.0	-2.0
JIS	**Juneau Island**	**1.39**	**92**		Pn	04 50 57.2	-2.1
JIS					Sn	04 51 15.1	-2.3
SKAG	**Skagway**	**1.41**	**38**		Pn	04 50 57.5	-2.1
SKAG					Sn	04 51 15.8	-2.2
PNL	**Peninsula**	**1.81**	**318**		Pn	04 51 03.4	-1.7
PNL					Sn	04 51 26.8	-1.0
BCPM	**Bancas Point**	**2.10**	**321**		Pn	04 51 07.9	-1.2
YUK7	**Dusty Glacier**	**2.26**	**346**		Pn	04 51 10.5	-0.9
PCA	**Pinnacle**	**2.42**	**318**		Pn	04 51 13.6	0.0
HYT	**Haines Junctio**	**2.49**	**354**		Pn	04 51 15.0	+0.4
WHY	**Whitehorse**	**2.55**	**24**		Pn	04 51 15.7	+0.3
WHY					Sn	04 51 47.0	+0.6
SAMH	**Samovar Hills**	**2.63**	**314**		Pn	04 51 15.9	-0.6
GRNC	**Granite Creek**	**3.39**	**317**		Pn	04 51 25.5	-1.6

KRSC 23 04:52:40.9±1.4, 54°.67N×165°.83E, h16km±18km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.54**	**9**	*e*P	Pg	04 52 51.1	-0.5
BKI				*e*S	Sg	04 52 57.9	-1.0
KBTR	**Krutoberegovo**	**2.31**	**313**	*e*P	Pb	04 53 20.8	-1.2
KBTR				*e*S	Sb	04 53 49.6	-0.7
KZV	**Kizimen**	**3.23**	**280**	*e*P	Pb	04 53 34.5	-3.3
TUMR	**Tumrok**	**3.33**	**283**	*e*P	Pb	04 53 37.1	-2.5
SPN	**Mys Shipunski**	**3.78**	**248**	*e*P	Pn	04 53 41.5	+3.1
SPN				*e*S	Sn	04 54 25.2	+2.8
NLC	**Nalytchevo**	**4.12**	**251**	*e*S	Sn	04 54 34.1	+3.4
SDLR	**Sedlovina**	**4.33**	**254**	*e*P	Pn	04 53 50.8	+4.7
SMAR	**Somma**	**4.38**	**254**	*e*P	Pn	04 53 51.4	+4.5
SMAR				*e*S	Sn	04 54 42.3	+4.7
KRER	**Koryakskii**	**4.40**	**255**	*e*S	Sn	04 54 41.8	+3.8
AVH	**Avacha**	**4.42**	**254**	P	Pn	04 53 51.4	+4.2
KRX	**Arik**	**4.43**	**256**	*e*P	Pn	04 53 52.0	+4.5
KOK	**Koryaka**	**4.46**	**255**	*e*P	Pn	04 53 52.9	+5.0
GNL	**Ganaly**	**4.73**	**261**	*e*P	Pn	04 53 56.6	+5.0
KRMR	**Karymshinskiy**	**4.92**	**251**	*e*S	Sn	04 54 55.2	+4.5
ASAK	**Asacha**	**5.25**	**247**	*e*P	Pn	04 54 04.3	+5.6

*NIED **23** 04:55:00, 35°.70N×141°.00E, h20km, Mw3.6 Best double couple: M0=2.50000×10^14 NP1:φs=180.00000°, δ39.00000°, λ-85.00000°. NP2:φs=353.00000°, δ52.00000°, λ-94.00000°.*
*IDC **23** 04:55:20.0±6.1, 36°.24N×141°.59E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/36, mbtmp3.2/3, ML2.0/1, Error ellipse: s-maj=132.7km s-min=31.5km az=30.0*
*ISCJB **23** 04:55:26.7±1.0, 35°.73N±0°.04×141°.06E±0°.08, h21km±6km, mb3.4/2, Error ellipse: s-maj=10.8km s-min=6.3km az=165.7*
*JMA **23** 04:55:28.4±0.2, 35°.72N×140°.92E, h17km±1km, M3.5*
JMA Felt I J1.
ISC 23 04:55:26.6±1.3, 35°.77N±0°.04×141°.05E±0°.07, h18km±4km, n20, σ0s59/22, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**246**	⇓P	**Pg**	**04 55 31.5**	**+0.5**
CHOJ				*e*S	**Sb**	**04 55 33.6**	**+0.5**
JIHU	**Itakohorinouch**	**0.47**	**295**	⇑P	**Pb**	**04 55 37.1**	**+0.9**
JIHU				*e*S	**Sb**	**04 55 43.2**	**+0.4**
JSMT	**Sammumatsuo**	**0.50**	**255**	⇑P	**Pb**	**04 55 36.6**	**-0.2**
JSMT				*e*S	**Sg**	**04 55 43.1**	**-0.4**
JHYU	**Hitachinakayam**	**0.68**	**327**	P	**Pn**	**04 55 41.6**	**+0.4**
JHYU				*e*S	**Sn**	**04 55 50.5**	**-0.9**
JCN	**Nagara**	**0.77**	**243**	P	**Pg**	**04 55 41.8**	**+0.1**
JCN				*e*S	**Sb**	**04 55 51.6**	**0.0**
JYT	**Yasato**	**0.83**	**304**	P	**Pb**	**04 55 42.2**	**-0.2**
JYT				*e*S	**Sb**	**04 55 52.5**	**-0.7**
JHO	**Hitachi**	**0.92**	**335**	P	**Pn**	**04 55 44.8**	**+0.2**
BSO4	**Boso 4**	**0.97**	**217**	P	**Pg**	**04 55 45.4**	**0.0**
BSO3	**Boso 3**	**1.06**	**205**	P	**Pn**	**04 55 46.5**	**+0.2**
BSO1	**Boso 1**	**1.12**	**183**	P	**Pb**	**04 55 47.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.42**	**289**	Pn	**Pn**	**04 56 04.9**	**-0.4**
	0.3nm,0.3s,baz=96,slow=12,SNR=12						
MJAR				Sn	**Sb**	**04 56 39.7**	**+0.6**
	0.8nm,0.3s,baz=86,slow=20,SNR=6.2						
MAT	**Matsushiro**	**2.42**	**289**	P	**Pn**	**04 56 05.7**	**+0.4**
MAT				*e*S	**Sb**	**04 56 38.5**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	05 30 17.5	
	baz=310,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	05 30 18.4	
	baz=310,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	05 30 18.8	
	baz=310,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.45**	**120**	T	T	05 31 03.3	
	baz=312,slow=75,SNR=158						
H11S3	**WAKE ISLAND Hy**	**28.45**	**120**	T	T	05 31 04.1	
	baz=312,slow=75,SNR=110						
H11S2	**WAKE ISLAND Hy**	**28.47**	**120**	T	T	05 31 06.2	
	baz=312,slow=75,SNR=86						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**05 05 03.4**	**+1.0**
	0.3nm,0.7s,baz=3.8,slow=7.0,SNR=2.1						
ASAR	**Alice Springs**	**59.50**	**188**	P	**P**	**05 05 27.6**	**-1.0**
	0.3nm,0.8s,baz=19,slow=8.8,SNR=2.8						

DJA 23 05:03:31.7±0.4, 10°S±4°×12°4E±°, h37km±6km, M4.0/8, mb4.2/4, MLv3.9/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.16**	**253**	P	Pn	05 03 39.3	-3.1
SOEI	**Soe**	**0.60**	**48**	P	Pn	05 03 44.6	+0.7
SOEI				S	Sn	05 03 54.5	+2.1
PLAI	**Plampang**	**6.11**	**282**	P	Pn	05 04 59.8	+0.4
TWSI	**Taliwang, Sumb**	**6.99**	**281**	P	Pn	05 05 10.7	-0.9

*IDC **23** 05:16:50.5±1.4, 4°.46N×125°.79E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/44, mbtmp3.5/4, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/26, Error ellipse: s-maj=102.3km s-min=20.6km az=76.0*
*MAN **23** 05:16:54.5, 4°.67N×124°.93E, h28km, mb4.5, ML3.4, MS3.2*
*NEIC **23** 05:16:55.3±1.3, 4°.60N±0°.08×125°.5E±0°.3, h38km±15km, mb4.1/6*
ISC 23 05:16:51.7±3.7, 4°.67N±0°.04×125°.1E±0°.1, h5km±25km, n20, σ2s40/26, mb3.5/5, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.41**	**356**	⇑*i*p	**Pn**	**05 17 18.9**	**+0.8**
GSPH				*i* S	**Sn**	**05 17 37.3**	**+0.1**
DDMP	**Don Marcelino,**	**1.57**	**24**	*e*P	**Pn**	**05 17 21.2**	**+1.0**
DDMP				*e*S	**Sb**	**05 17 42.5**	**+1.2**
SKMP	**Bagumbayan, Su**	**1.91**	**344**	*e*P	**Pn**	**05 17 25.9**	**+0.9**
SKMP				*e*S	**Sn**	**05 17 48.4**	**-0.9**
KCP	**Kidapawan**	**2.32**	**1**	⇓*i*P	**Pb**	**05 17 33.5**	**-0.6**
KCP				*i* S	**Sb**	**05 18 02.3**	**-0.9**
DAV	**Davao City (W)**	**2.44**	**12**	Pn	**Pn**	**05 17 34.0**	**+1.8**
	59nm,0.3s,baz=289,slow=7.9,SNR=2.2						
DAV				Sn	**Sb**	**05 18 08.2**	**+1.7**
	39nm,0.3s,baz=157,slow=21,SNR=1.5						
DAV				LR	LR	05 18 44.1	
	comp=Z,110nm,20.2s,baz=284,slow=44						
DAV	**Davao City (W)**	**2.44**	**12**		**Pn**	**05 17 34.0**	**+1.8**
DAV					**Sn**	**05 18 02.2**	**-0.2**
CTBH	**Cotabato--PC H**	**2.66**	**342**	⇑*i*P	**Pn**	**05 17 37.3**	**+2.1**
PAGZ	**Pagadian**	**3.57**	**332**	*e*P	**Pn**	**05 17 48.0**	**+0.3**
PAGZ				*e*S	**Sn**	**05 18 27.5**	**-2.9**
LUWI	**Luwuk**	**6.12**	**202**		**Pn**	**05 18 23.2**	**+0.4**
LUWI					**Sn**	**05 19 36.6**	**+3.3**
KNRA	**Kununurra**	**20.55**	**170**		**P**	**05 21 28.8**	**-2.5**
KNRA				IAmb	IAmb	05 21 43.8	
	comp=Z,9.6nm,0.9s						
WB0	**Warramunga Arr**	**25.96**	**160**	P	**P**	**05 22 22.4**	**-3.0**
WB0				IAmb	IAmb	05 22 38.5	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**26.11**	**160**	P	**P**	**05 22 22.6**	**-4.1**
	comp=Z,0.5nm,0.5s,baz=341,slow=10,SNR=8.3						
WRA	**Warramunga Arr**	**26.11**	**160**	P	**P**	**05 22 23.6**	**-3.1**
WB2	**Warramunga Arr**	**26.11**	**160**	P	**P**	**05 22 24.2**	**-2.5**
WR0	**Warramunga Arr**	**26.19**	**159**	P	**P**	**05 22 24.4**	**-3.1**
ASAR	**Alice Springs**	**29.46**	**163**	P	**P**	**05 22 52.5**	**-4.2**
	comp=Z,0.2nm,0.4s,baz=347,slow=7.6,SNR=1.7						
USRK	**Ussuriysk Ar.**	**39.84**	**8**	P	**P**	**05 24 25.5**	**-0.5**
ARMA	**Armidale**	**43.17**	**146**	P	P	05 24 47.3	-6.4
ARMA				IAmb	IAmb	05 25 04.9	
	comp=Z,3.7nm,0.9s						
MKAR	**Makanchi Array**	**55.84**	**326**	P	**P**	**05 26 33.8**	**+3.6**
	comp=Z,0.2nm,0.7s,baz=125,slow=8.1,SNR=2.2						
AAK	**Ala-Archa**	**58.55**	**318**	LR	LR	05 55 17.7	
	comp=Z,219nm,19.6s,baz=64,slow=39						

*IDC **23** 05:33:54.5±2.8, 44°.08N×149°.53E, h0km, mb4.0/10, mb1 4.2/12, mb1mx3.8/60, mbtmp4.0/12, ML2.4/2, Error ellipse: s-maj=72.0km s-min=22.8km az=168.0*
*SKHL **23** 05:33:56.7±0.7, 43°.92N×149°.82E, h58km±9km, mb4.5/4*
*NEIC **23** 05:33:59.1±2.0, 44°.2N±0°.2×149°.6E±0°.2, h21km±9km, mb4.2/8*
*MOS **23** 05:33:59.1±1.2, 44°.26N×149°.54E, h38km, mb4.2/9, Error ellipse: s-maj=12.0km s-min=10.0km az=178.4*
ISC 23 05:33:56.8±3.6, 44°.07N±0°.08×149°.53E±0°.06, h11km±22km, n72, σ1s52/78, mb4.1/18, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**315**	*c i*PN	**Pn**	**05 34 26.0**	**+0.2**
KUR				*i* S	**Sb**	**05 34 48.1**	**-0.2**
KUR				pmax	pmax		
	comp=E,95nm,0.3s						
KUR				pmax	pmax		
	comp=Z,339nm,0.3s						
KUR				pmax	pmax		
	comp=N,113nm,0.4s						
KUR	**Kuril'sk**	**1.66**	**315**	*i* P	**Pb**	**05 34 26.3**	**-1.1**
KUR				AMB	AMB	05 34 28.0	
	comp=N,170nm,0.3s						
KUR				*i* S	**Sb**	**05 34 48.0**	**-0.2**
KUR				A	A	05 34 56.0	
	comp=N,500nm,0.4s						
KUR				A	A	05 34 56.0	
	comp=N,456nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**271**	*e*PN	**Pn**	**05 34 40.7**	**+1.4**
YUK				*i* S	**Sn**	**05 35 13.5**	**+2.2**
YUK				pmax	pmax		
	comp=Z,113nm,0.2s						
YUK				pmax	pmax		
	comp=N,43nm,0.1s						
YUK				pmax	pmax		
	comp=E,34nm,0.1s						
YUK				smax	smax		
	comp=E,175nm,0.3s						
YUK				smax	smax		
	comp=N,272nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**271**	*e*P	**Pn**	**05 34 40.0**	**+0.7**
YUK				AMB	AMB	05 34 43.0	
	comp=N,70nm,0.4s						
YUK				*i* S	**Sn**	**05 35 13.0**	**+1.7**
YUK				A	A	05 35 25.0	
	comp=N,362nm,0.4s						
YUK				A	A	05 35 25.0	
	comp=N,175nm,0.4s						
GRPR	**Tuman**	**2.71**	**270**	*e*PN	**Pn**	**05 34 42.1**	**+1.9**
GRPR				*i* S	**Sb**	**05 35 16.3**	**-2.1**
GRPR				pmax	pmax		
	comp=Z,135nm,0.4s						
GRPR				pmax	pmax		
	comp=N,130nm,0.3s						
GRPR				smax	smax		
	comp=E,149nm,0.4s						
GRPR				smax	smax		
	comp=N,152nm,0.3s						
GRPR	**Tuman**	**2.71**	**270**	*e*P	**Pn**	**05 34 41.3**	**+1.1**
GRPR				AMB	AMB	05 34 46.0	
	comp=N,68nm,0.4s						
GRPR				*i* S	**Sn**	**05 35 14.3**	**+1.4**
GRPR				A	A	05 35 19.0	
	comp=N,152nm,0.4s						
GRPR				A	A	05 35 19.0	
	comp=N,149nm,0.4s						
NEM2	**Nemuro 2**	**2.83**	**257**	P	**Pn**	**05 34 42.7**	**+0.8**
NEM2				*e*S	**Sn**	**05 35 14.2**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.84**	**257**	*d i*PN	**Pn**	**05 34 42.8**	**+0.8**
NMR				*i* S	**Sn**	**05 35 16.1**	**-0.1**
NMR	**Nemuro--Hokkai**	**2.84**	**257**	*i* P	**Pn**	**05 34 42.0**	**0.0**
NMR				*i* S	**Sn**	**05 35 16.0**	**-0.1**
GLVR	**Golovnino**	**2.91**	**265**	PN	**Pn**	**05 34 43.8**	**+0.8**
GLVR				S	**Sn**	**05 35 17.9**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,164nm,0.4s						
GLVR				pmax	pmax		
	comp=E,78nm,0.3s						
GLVR				pmax	pmax		
	comp=N,96nm,0.2s						
GLVR				smax	smax		
	comp=N,271nm,0.3s						
GLVR				smax	smax		
	comp=E,395nm,0.4s						
GLVR	**Golovnino**	**2.91**	**265**	*e*P	**Pn**	**05 34 43.0**	**0.0**
GLVR				AMB	AMB	05 34 47.0	
	comp=E,82nm,0.4s						
GLVR				*e*S	**Sn**	**05 35 18.3**	**+0.3**
GLVR				A	A	05 35 25.0	
	comp=E,271nm,0.4s						
GLVR				A	A	05 35 25.0	
	comp=E,395nm,0.4s						
JRA	**Rausu**	**3.18**	**269**	P	**Pn**	**05 34 48.5**	**+1.8**
JNSB	**Nemuroshibetsu**	**3.28**	**266**	P	**Pn**	**05 34 49.9**	**+1.9**
JKHN	**Kushirohamanak**	**3.32**	**254**	P	**Pn**	**05 34 50.0**	**+1.4**
JNK	**Nakash**	**3.51**	**264**	P	**Pn**	**05 34 52.7**	**+1.4**
JAK	**Akkeshi**	**3.67**	**255**	P	**Pn**	**05 34 54.6**	**+1.2**
JCH	**Churui**	**4.72**	**254**	P	**Pn**	**05 35 09.3**	**+1.4**
JCH				*e*S	**Sn**	**05 36 02.9**	**+0.3**
JKA	**Kamikawa-asahi**	**4.99**	**273**		**Pn**	**05 35 15.5**	**+4.0**
ASAJ	**Asahikawa**	**4.99**	**273**	Pn	**Pn**	**05 35 15.5**	**+3.9**
	comp=E,0.8nm,0.3s,baz=70,slow=28,SNR=1.3						
ERM	**Erimo**	**5.10**	**248**	*de*PN	**Pn**	**05 35 16.3**	**+3.3**
ERM	**Erimo**	**5.10**	**248**	Pn	**Pn**	**05 35 16.0**	**+2.9**
JNBK	**Urakawa-nobuka**	**5.27**	**252**	P	**Pn**	**05 35 16.6**	**+1.3**
JKB	**Kayabe**	**6.60**	**254**	P	**Pn**	**05 35 35.2**	**+1.6**
JKB				*e*S	**Sn**	**05 36 46.3**	**-2.5**
JOSM	**Okushiri--Mats**	**7.62**	**258**	P	**Pn**	**05 35 50.0**	**+2.3**
PEA0B	**Petropavlovsk-**	**10.54**	**28**	PN	**Pn**	**05 36 27.1**	**-0.5**
PEA0B	**Petropavlovsk-**	**10.54**	**28**	Pn	**Pn**	**05 36 27.1**	**-0.5**
PETK	**Petropavlovsk-**	**10.54**	**28**	Pn	**Pn**	**05 36 27.1**	**-0.5**
	comp=E,0.2nm,0.3s,baz=217,slow=8.4,SNR=3.3						
PETK	**Petropavlovsk-**	**10.54**	**28**		**Pn**	**05 36 26.7**	**-0.9**
USRK	**Ussuriysk Ar.**	**12.60**	**277**	PN	**Pn**	**05 36 57.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**12.60**	**277**	Pn	**Pn**	**05 36 57.0**	**+1.1**
	baz=80,slow=16,SNR=3.5						
USRK	**Ussuriysk Ar.**	**12.60**	**277**		**Pn**	**05 36 58.0**	**+2.1**
H11N2	**WAKE ISLAND Hy**	**28.28**	**144**	T	T	06 11 00.7	
	baz=334,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.29**	**144**	T	T	06 10 59.1	
	baz=334,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.29**	**144**	T	T	06 10 56.8	
	baz=334,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.28**	**145**	T	T	06 12 20.3	
	baz=335,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**29.29**	**145**	T	T	06 12 15.3	
	baz=335,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**29.30**	**145**	T	T	06 12 11.9	
	baz=335,slow=76,SNR=23						
ULN	**Ulaanbaatar**	**29.49**	**293**	⇑*e*P	**P**	**05 40 01.5**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**29.93**	**293**	P	**P**	**05 40 05.3**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**29.93**	**293**	P	**P**	**05 40 05.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=60,slow=8.0,SNR=5.0						
SONM	**Songino Array**	**29.93**	**293**	P	**P**	**05 40 05.3**	**+0.6**
TLY	**Talaya**	**31.26**	**301**	⇑*e*P	**P**	**05 40 12.0**	**-4.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
IMAR	**Indian Mountai**	**37.41**	**34**	P	**P**	**05 41 09.5**	**+0.1**
COLD	**Coldfoot**	**38.96**	**33**	P	**P**	**05 41 25.6**	**+3.2**
COLD				IAmb	IAmb	05 41 33.6	
	comp=Z,2.9nm,1.3s						
EYAK	**Cordova Ski Ar**	**41.01**	**43**	P	**P**	**05 41 41.1**	**+1.7**
INK	**Inuvik**	**45.26**	**31**	P	**P**	**05 42 14.6**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**45.26**	**31**	P	**P**	**05 42 13.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=257,slow=7.3,SNR=4.5						
INK	**Inuvik**	**45.26**	**31**	P	**P**	**05 42 14.6**	**+0.9**
MK31	**Makanchi Array**	**45.95**	**298**	P	**P**	**05 42 19.7**	**+0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**45.95**	**298**	P	**P**	**05 42 19.7**	**+0.2**
MK31				IAmb	IAmb	05 42 21.0	
	comp=Z,2.4nm,0.9s						
MKAR	**Makanchi Array**	**45.95**	**298**	P	**P**	**05 42 19.1**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=78,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**45.95**	**298**	P	**P**	**05 42 19.7**	**+0.2**
KURK	**Kurchatov**	**46.77**	**304**	P	**P**	**05 42 24.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**46.77**	**304**	P	**P**	**05 42 24.9**	**-1.0**
KURK				IAmb	IAmb	05 42 26.1	
	comp=Z,1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**46.86**	**304**	P	**P**	**05 42 25.8**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=71,slow=7.9,SNR=12						
BRVK	**Borovoye**	**50.67**	**310**	⇑*e*P	P	05 42 45.3	-10
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**52.76**	**296**	P	**P**	**05 43 09.5**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=23,slow=7.7,SNR=3.7						
KKAR	**Karatay Array**	**55.07**	**299**	P	**P**	**05 43 28.9**	**+0.4**
KKAR	**Karatay Array**	**55.07**	**299**	P	**P**	**05 43 28.9**	**+0.4**
ABKAR	**Abkulak array**	**58.19**	**310**	P	**P**	**05 43 50.8**	**+0.2**
ABKAR				IAmb	IAmb	05 43 51.3	
	comp=Z,2.5nm,0.8s						
FINES	**FINESS Array B**	**65.36**	**334**	P	**P**	**05 44 37.2**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=36,slow=7.8,SNR=27						
NB2	**NORSAR Subarra**	**69.91**	**340**	P	**P**	**05 45 06.3**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.91**	**340**	P	**P**	**05 45 06.4**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=32,slow=6.6,SNR=15						
KBZ	**Khabaz**	**70.86**	**313**	P	**P**	**05 45 14.1**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=262,slow=1.1,SNR=3.9						
CLL	**Collm**	**77.81**	**334**	P	**P**	**05 45 53.3**	**-0.5**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**77.81**	**334**	P	**P**	**05 45 53.3**	**-0.5**
CLL				IAmb	IAmb	05 46 11.7	
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**79.70**	**332**	P	**P**	**05 46 05.8**	**+1.4**
GERES	**GERESS Array B**	**79.70**	**332**	P	**P**	**05 46 04.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=277,slow=2.2,SNR=4.3						
GERES	**GERESS Array B**	**79.70**	**332**	P	**P**	**05 46 05.8**	**+1.4**
TXAR	**Lajitas Array**	**81.04**	**58**	P	**P**	**05 46 11.7**	**-0.2**
TXAR	**

PRZ			⇑iS		Sg	05 44 57.8 +0.6
	baz=46					
ULHL	**Ulahol**	**1.84 200**	⇓iP		**Pn**	**05 44 34.0 +0.5**
	baz=99					
ULHL			⇓iS		Sb	05 44 58.9 +0.2
	baz=99					
ULHL	**Ulahol**	**1.84 200**	P		**Pn**	**05 44 34.2 +0.7**
	SNR=6.2					
KDJ	**Kajisay**	**1.84 178**	⇑iP		**Pn**	**05 44 34.2 +0.6**
	baz=77					
KDJ			⇑iS		Sb	05 44 59.5 +0.7
	baz=77					
PDGK	**Podgornoye**	**1.85 109**	⇑Pn		**Pn**	**05 44 34.0 +0.4**
	23nm,0.6s					
PDGK			⇑Lg		Lg	05 44 59.9
	12nm,0.4s					
CHMS	**Chumysh**	**1.97 241**	⇑iP		**Pn**	**05 44 35.6 +0.4**
	baz=40					
CHMS			⇑iS		Sn	05 45 01.7 +1.1
	baz=40					
CHMS	**Chumysh**	**1.97 241**	P		**Pn**	**05 44 35.8 +0.6**
	SNR=18					
USP	**Ospenovka**	**2.02 250**	P		**Pn**	**05 44 37.1 +1.3**
	SNR=9.6					
KBK	**Karagaybulak**	**2.05 231**	⇓iP		**Pn**	**05 44 37.1 +0.7**
	baz=30					
KBK			⇓iS		Sb	05 45 04.7 -0.1
	baz=30					
KBK	**Karagaybulak**	**2.05 231**	P		**Pn**	**05 44 37.5 +1.1**
	SNR=25					
TARG	**Taragay, Kyrgy**	**2.30 167**	⇓iP		**Pn**	**05 44 41.2 +1.1**
	baz=66					
TARG			⇓iS		Sb	05 45 12.0 -0.2
	baz=66					
AAK	**Ala-Archa**	**2.32 236**	⇑iP		**Pn**	**05 44 40.8 +0.6**
	baz=35					
AAK			⇑iS		Sn	05 45 10.7 +1.2
	baz=35					
AAK	**Ala-Archa**	**2.32 236**	P		**Pn**	**05 44 41.4 +1.2**
	SNR=11					
KZA	**Kyzart**	**2.33 216**	⇑iP		**Pn**	**05 44 41.2 +0.7**
	baz=15					
KZA			⇑iS		Sb	05 45 12.0 -1.1
	baz=15					
KZA	**Kyzart**	**2.33 216**	P		**Pb**	**05 44 43.0 -0.6**
	SNR=15					
UCH	**Uchtor**	**2.58 228**	⇑iP		**Pn**	**05 44 44.4 +0.5**
	baz=27					
UCH			⇑iS		Sn	05 45 17.5 +1.4
	baz=27					
UCH	**Uchtor**	**2.58 228**	P		**Pb**	**05 44 46.7 -1.1**
	SNR=17					
NRN	**Naryn**	**2.66 198**	⇓iP		**Pn**	**05 44 46.4 +1.4**
	baz=97					
NRN			⇓iS		Sn	05 45 20.4 +2.3
	baz=97					
EKS2	**Erkin-Say**	**2.76 243**	⇑eP		**Pn**	**05 44 46.6 +0.5**
	baz=42					
EKS2			⇑iS		Sn	05 45 21.1 +0.9
	baz=42					
EKS2	**Erkin-Say**	**2.76 243**	P		**Pn**	**05 44 47.6 +1.5**
	SNR=6.1					
ARLS	**Aral**	**2.94 225**	⇑iP		**Pn**	**05 44 49.4 +0.8**
	baz=24					
ARLS			⇑iS		Sn	05 45 25.4 +0.8
	baz=24					
AML	**Almayashu**	**3.10 235**	⇑iP		**Pn**	**05 44 52.0 +0.9**
	baz=34					
AML			⇑iS		Sn	05 45 30.2 +1.1
	baz=34					
AML	**Almayashu**	**3.10 235**	P		**Pb**	**05 44 56.6 -0.2**
	SNR=7.9					
MK31	**Makanchi Array**	**4.62 51**	⇑Pn		**Pn**	**05 45 11.8 +0.3**
	0.5nm,0.2s,baz=229,slow=15,SNR=24					
MK31			⇓Sn		Sn	05 46 07.1 +1.2
	1.3nm,0.5s,baz=225,slow=26,SNR=6.3					
MK31			⇑Lg		Lg	05 46 27.2
	1.2nm,0.5s,baz=231,slow=27,SNR=4.3					
KK31	**Karatay Array**	**4.87 262**	⇓Pg		**Pb**	**05 45 26.0 -0.7**
	0.6nm,0.3s,baz=78,slow=17,SNR=11					
KK31			Lg		Lg	05 46 31.1
	3.0nm,0.5s,baz=82,slow=25,SNR=15					

*IDC **23** 05:44:09.1±0.5, 36°.98N×120°.19E, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.2/51, mbtmp4.2/27, ML2.8/3, MS3.7/20, Ms1 3.7/20, ms1mx3.5/52, Error ellipse: s-maj=14.9km s-min=11.9km az=30.0*

*ISCJB **23** 05:44:10.2±0.2, 37°.01N±0°.03×120°.14E±0°.03, h10km, mb4.4/45, MS3.8/16, Error ellipse: s-maj=3.7km s-min=3.0km az=158.2*

*BJI **23** 05:44:10.9±0.0, 37°.10N×120°.02E, h10km, mb4.5/33, mB4.6/26, ML4.7/23, Ms4.5/33, Ms7 4.3/26*

*MOS **23** 05:44:12.5±1.0, 37°.01N×120°.21E, h26km, mb4.8/17, Error ellipse: s-maj=7.8km s-min=6.7km az=119.0*

*NEIC **23** 05:44:14.7±2.4, 37°.08N±0°.06×120°.06E±0°.07, h25km±4km, mb4.6/49*

ISC 23 05:44:11.7±0.3, 37°.16N±0°.03×120°.03E±0°.03, h10km, n198, σ2S14/209, mb4.5/60, MS3.8/17, 10C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**2.15**	**35**	Pn	**Pn**	**05 44 47.6**	**0.0**
DL2				Pg	**Pb**	**05 44 51.0**	**+0.2**
DL2				Sn	**Sn**	**05 45 15.8**	**+1.4**
DL2				Sg	**Sb**	**05 45 19.9**	**+2.4**
DL2				smax	smax		
	comp=N,4μm,0.5s						
DL2				smax	smax		
	comp=E,4μm,0.7s						
TIA	**Tai'an**	**2.52**	**249**	Pn	**Pn**	**05 44 51.6**	**-1.1**
TIA				Pg	**Pb**	**05 44 56.3**	**-0.7**
TIA				Sn	**Sn**	**05 45 22.0**	**-1.5**
TIA				Sg	**Sb**	**05 45 28.4**	**+0.3**
TIA				smax	smax		
	comp=N,3μm,0.7s						
TIA				smax	smax		
	comp=E,3μm,0.4s						
BJT	**Baijiatuau**	**4.16**	**315**	P	**Pn**	**05 45 14.2**	**-1.0**
BJT						05 45 59.9	
BJT	**Baijiatuau**	**4.16**	**315**		**Pn**	**05 45 14.2**	**-1.0**
BJT				Sn	**Sn**	**05 45 59.9**	**-4.0**
BJI	**Beijing**	**4.17**	**315**	Pn	**Pn**	**05 45 14.3**	**-1.0**
BJI				smax	smax		
	comp=N,880nm,0.6s						
BJI				smax	smax		
	comp=E,810nm,0.7s						
NJ2	**Nanjing**	**5.19**	**191**	*e*Pn	**Pn**	**05 45 27.5**	**-1.9**
NJ2				Pg	**Pb**	**05 45 43.8**	**+1.3**
NJ2				Sn	**Sn**	**05 46 24.1**	**-5.2**
NJ2				Sg	**Sb**	**05 46 48.0**	**+3.1**
NJ2				smax	smax		
	comp=N,2μm,0.5s						
NJ2				smax	smax		
	comp=E,2μm,0.8s						
INCN	**Inchon**	**5.28**	**85**		**Pb**	**05 45 46.8**	**+2.7**
SNY	**Shenyang**	**5.41**	**29**	⇑Pg	**Pg**	**05 45 51.8**	**-3.5**
SNY				Sg	**Sg**	**05 47 00.9**	**-4.4**
SNY				smax	smax		
	comp=N,900nm,1.1s						
SNY				smax	smax		
	comp=E,840nm,1.1s						
TJN	**Taejon**	**5.94**	**95**	*ce*P	**Pn**	**05 45 39.0**	**-0.7**
TIY	**Taiyuan**	**6.07**	**278**	*e*Pn	**Pn**	**05 45 41.8**	**+0.3**
TIY				Pg	**Pg**	**05 46 03.5**	**-4.4**
TIY				Sg	**Sg**	**05 47 24.1**	**-2.4**
TIY				smax	smax		
	comp=N,400nm,0.9s						
TIY				smax	smax		
	comp=E,270nm,0.7s						
SSE	**Sheshan**	**6.13**	**171**	Pn	**Pn**	**05 45 41.4**	**-0.9**
SSE				Sn	**Sn**	**05 46 50.9**	**-1.5**
SSE				smax	smax		
	comp=N,150nm,0.7s						
SSE				smax	smax		
	comp=E,230nm,0.9s						
SSE	**Sheshan**	**6.13**	**171**	Pn	**Pn**	**05 45 41.0**	**-1.3**
SSE				Sn	**Sn**	**05 46 50.1**	**-2.3**
KS19	**Wonju Array Si**	**6.26**	**85**		**Pn**	**05 45 43.1**	**-1.0**
KS19				Sn	**Sn**	**05 46 54.7**	**-0.9**
KSAR	**Wonju Array Be**	**6.27**	**85**	P	**Pn**	**05 45 43.9**	**-0.3**
KSAR	**Wonju Array Be**	**6.27**	**85**		**Pn**	**05 45 43.9**	**-0.3**
KSRS	**Korea Array**	**6.30**	**85**	Pn	**Pn**	**05 45 43.2**	**-1.4**
	5.5nm,0.3s,baz=270,slow=14,SNR=60						
KSRS				Sn	**Sn**	**05 46 51.7**	**-5.0**
	14nm,0.3s,baz=270,slow=24,SNR=9.0						
KSRS				Lg	Lg	05 47 26.3	
	9.2nm,0.3s,baz=265,slow=27,SNR=4.3						
HHC	**Hu-ho-hao-te**	**7.55**	**302**	*e*Pn	**Pn**	**05 46 06.1**	**+4.2**
HHC				Pg	Pb	05 46 29.1	+6.3
HHC				Sg	**Sg**	**05 48 07.3**	**-6.6**
HHC				smax	smax		
	comp=N,100nm,0.7s						
HHC				smax	smax		
	comp=E,140nm,0.7s						
CN2	**Changchun**	**7.81**	**30**	*e*Pg	Pb	05 46 22.3	-4.9
CN2				*e*Sg	**Sg**	**05 48 16.0**	**-6.3**
CN2				smax	smax		
	comp=N,210nm,0.9s						
CN2				smax	smax		
	comp=E,360nm,0.9s						
WHN	**Wuhan**	**8.11**	**217**	P	**Pn**	**05 46 08.4**	**-1.2**
WHN				S	**Sn**	**05 47 37.6**	**-3.7**
WHN				LR	LR		
	comp=E,9μm,11.1s						
WHN				LR	LR		
	comp=E,9μm,7.9s						
WHN				LR	LR		
	comp=E,3μm,4.7s						
BTO	**Baotou**	**8.53**	**297**	*e*Pg	Pg	05 46 48.9	-6.0
XAN	**Xi'an**	**9.56**	**254**	P	**Pn**	**05 46 27.8**	**-1.7**
XAN				smax	smax		
	comp=E,130nm,1.1s						
XAN				smax	smax		
	comp=E,130nm,1.4s						
XAN				LR	LR		
	comp=E,620nm,11.1s						
XAN				LR	LR		
	comp=E,690nm,14.9s						
XAN	**Xi'an**	**9.56**	**254**	P	**Pn**	**05 46 27.5**	**-2.0**
XAN	**Xi'an**	**9.56**	**254**		**Pn**	**05 46 27.5**	**-2.0**
JNU	**Nakatsue**	**9.76**	**111**	Pn	**Pn**	**05 46 31.9**	**-0.2**
	comp=E,2.1nm,0.3s,baz=277,slow=4.5,SNR=12						
JNU				Sn	**Sn**	**05 48 18.6**	**-3.2**
	comp=E,1.0nm,0.3s,baz=324,slow=22,SNR=2.0						
JNU				Lg	Lg	05 49 15.3	
	comp=E,1.4nm,0.3s,baz=93,slow=20,SNR=7.3						
JNU	**Nakatsue**	**9.76**	**111**		**Pn**	**05 46 32.1**	**0.0**
USA0B	**Ussuriysk Arra**	**11.48**	**49**	P	**Pn**	**05 46 58.9**	**+3.3**
USA0B	**Ussuriysk Arra**	**11.48**	**49**	Pn	**Pn**	**05 46 58.9**	**+3.3**
USRK	**Ussuriysk Ar.**	**11.48**	**49**	P	**Pn**	**05 46 58.9**	**+3.3**
USRK	**Ussuriysk Ar.**	**11.48**	**49**	Pn	**Pn**	**05 46 56.1**	**+0.5**
	baz=234,slow=14,SNR=12						
USRK				Sn	**Sn**	**05 49 02.4**	**-1.4**
	baz=218,slow=23,SNR=2.5						
USRK				Lg	Lg	05 50 09.5	
	baz=238,slow=22,SNR=4.0						
USRK	**Ussuriysk Ar.**	**11.48**	**49**	Pn	**Pn**	**05 46 58.9**	**+3.3**
YHNB	**Yeheng**	**12.51**	**174**	Pn	**Pn**	**05 47 09.2**	**-0.6**
LZH	**Lanzhou**	**13.05**	**270**	*e*P	**Pn**	**05 47 20.6**	**+3.3**
LZH				pP	P	05 47 23.8	-3.9
LZH				S	**Sn**	**05 49 47.5**	**+4.9**
LZH				pmax	pmax		
	comp=E,22nm,1.0s						
LZH				pmax	pmax		
	comp=E,91nm,4.1s						
LZH				LR	LR		
	comp=E,1μm,11.4s						
LZH				LR	LR		
	comp=E,990nm,10.8s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
YULB	**Yu-li**	**13.77**	**175**	Pn	**Pn**	**05 47 26.9**	**-0.1**
TPUB	**Ta-pu**	**13.82**	**178**	Pn	**Pn**	**05 47 26.9**	**-0.9**
ULN	**Ulaanbaatar**	**14.33**	**322**	*ce*P	**Pn**	**05 47 36.5**	**+1.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**14.33**	**322**	P	P	05 47 46.8	+4.9
MJAR	**Matsushiro Arr**	**14.57**	**87**	Pn	**Pn**	**05 47 36.6**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=294,slow=13,SNR=2.3						
MJAR				LR	LR	05 52 51.2	
	comp=Z,183nm,18.6s,baz=295,slow=36						
MJAR	**Matsushiro Arr**	**14.57**	**87**	P	**P**	**05 47 41.2**	**-3.4**
SONM	**Songino Array**	**14.63**	**321**	P	**Pn**	**05 47 38.6**	**-0.3**
SONM	**Songino Array**	**14.63**	**321**	Lg	Lg	05 51 56.5	
	comp=Z,0.1nm,0.3s,baz=128,slow=28,SNR=6.5						
SONM				LR	LR	05 53 35.9	
	comp=Z,210nm,20.2s,baz=144,slow=38						
SONM	**Songino Array**	**14.63**	**321**	Pn	**Pn**	**05 47 38.6**	**-0.3**
KLR	**Kul'dur**	**14.76**	**32**	Pn	**Pn**	**05 47 42.1**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=236,slow=14,SNR=2.9						
KLR				Lg	Lg	05 51 55.2	
	comp=Z,0.3nm,0.3s,baz=305,slow=20,SNR=11						
KLR				LR	LR	05 54 08.9	
	comp=Z,99nm,18.3s,baz=222,slow=40						
CD2	**Chengdu**	**14.85**	**250**	⇓*i*P	**Pn**	**05 47 41.9**	**+0.1**
CD2				S	**Sn**	**05 50 27.6**	**+1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,110nm,3.5s						
CD2				LR	LR		
	comp=Z,840nm,8.6s						
CD2				LR	LR		
	comp=Z,730nm,7.7s						
CD2				LR	LR		
	comp=Z,730nm,6.5s						
GYA	**Guiyang**	**15.57**	**231**	P	P	05 48 01.8	+6.1
GYA				pP	sP	05 48 06.3	+6.4
GYA				PP	PnPn	05 48 15.6	+16
GYA				S	**S**	**05 51 01.9**	**+2.3**
GYA				SS	SbSb	05 51 26.9	-22
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,110nm,4.5s						
GYA				LR	LR		
	comp=N,370nm,10.9s						
GYA				LR	LR		
	comp=E,470nm,11.5s						
GYA				LR	LR		
	comp=Z,550nm,10.9s						
GTA	**Gaotai**	**16.03**	**284**	⇑P	**Pn**	**05 47 57.0**	**-0.3**
GTA				pP	P	05 48 01.0	+0.2
GTA				sP	sP	05 48 04.1	-0.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,87nm,4.9s						
GTA				LR	LR		
	comp=Z,730nm,16.2s						
GTA				LR	LR		
	comp=Z,600nm,15.1s						
GTA				LR	LR		
	comp=Z,750nm,14.8s						
JHJ	**Hachijo jima 2**	**16.65**	**98**	LR	LR	05 54 06.8	
	comp=Z,175nm,19.4s,baz=290,slow=36						
ZEA	**Zeya**	**17.32**	**15**	*e*P	**P**	**05 48 16.0**	**+1.2**
ZEA				MLR	MLR		
	comp=Z,600nm,8.0s						
ZEA				MLR	MLR		
	comp=N,500nm,7.0s						
ZAK	**Zakamensk**	**17.86**	**323**	*e*P	**P**	**05 48 23.7**	**+2.8**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ASAJ	**Asahikawa**	**18.45**	**61**	P	**Pn**	**05 48 29.0**	**+1.5**
ASAJ	**Asahikawa**	**18.45**	**61**	P	**Pn**	**05 48 29.0**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=319,slow=9.3,SNR=2.6						
ASAJ				LR	LR	05 55 21.7	
	comp=Z,198nm,19.1s,baz=116,slow=36						
JKA	**Kamikawa-asahi**	**18.45**	**61**	P	**Pn**	**05 48 29.0**	**+1.5**
TLY	**Talaya**	**18.58**	**327**	Lg	Lg	05 54 07.2	
	comp=Z,0.0nm,0.3s,baz=275,slow=18,SNR=3.9						
TLY				LR	LR	05 56 17.6	
	comp=Z,326nm,18.6s,baz=133,slow=39						
KMI	**Kunming**	**19.02**	**236**	P	**Pn**	**05 48 35.8**	**+1.1**
KMI				pP	sP	05 48 38.8	+0.7
KMI				sP	pP	05 48 40.1	+3.3
KMI				S	**Sn**	**05 51 58.6**	**-9.2**
KMI				sS	S	05 52 09.3	-0.7
KMI				pmax	pmax		
	comp=Z,33nm,1.3s						
KMI				pmax	pmax		
	comp=Z,66nm,3.1s						
KMI				LR	LR		
	comp=Z,920nm,14.3s						
KMI				LR	LR		
	comp=Z,680nm,13.5s						
KMI				LR	LR		
	comp=Z,410nm,10.4s						
QIZ	**Qiongzhong**	**20.15**	**209**	P	Pn	05 48 47.6	-0.4
QIZ				S	Sn	05 52 32.8	-2.0
QIZ				pmax	pmax		
	comp=Z,120nm,2.7s						
QIZ				LR	LR		
	comp=Z,840nm,12.7s						
QIZ				LR	LR		
	comp=Z,2μm,13.7s						
BOD	**Bodaibo**	**21.05**	**351**	*e*P	**P**	**05 48 58.7**	**+3.1**
BOD				pmax	pmax		
	comp=Z,13nm,2.0s						
SLVN	**Son La**	**21.08**	**226**	P	**P**	**05 48 59.6**	**+3.2**
LSA	**Lhasa**	**25.16**	**261**	P	**P**	**05 49 40.0**	**+2.3**
LSA				pmax	pmax		
	comp=Z,12nm,1.1s						
LSA	**Lhasa**	**25.16**	**261**	P	**P**	**05 49 40.0**	**+2.3**
LSA				IAmb	IAmb	05 49 43.3	
	comp=Z,12nm,1.1s						
WMQ	**Urumqi**	**25.36**	**295**	P	**P**	**05 49 41.2**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,23nm,1.2s						
WMQ	**Urumqi**	**25.36**	**295**	P	**P**	**05 49 41.2**	**+2.2**
WMQ				IAmb	IAmb	05 49 43.8	
	comp=Z,23nm,1.2s						
YAK	**Yakutsk**	**25.61**	**11**	P	**P**	**05 49 42.8**	**+1.9**
YAK				pmax	pmax		
	comp=Z,14nm,0.5s						
YAK	**Yakutsk**	**25.61**	**11**	P	**P**	**05 49 42.8**	**+1.9**
YAK				IAmb	IAmb	05 49 43.9	
	comp=Z,14nm,0.5s						
CMAR	**Chiang Mai Arr**	**26.26**	**231**	P	**P**	**05 49 49.7**	**+2.5**
CMAR	**Chiang Mai Arr**	**26.26**	**231**	P	**P**	**05 49 47.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=34,slow=8.4,SNR=7.4						
CMAR				LR	LR	06 00 28.9	
	comp=Z,118nm,21.1s,baz=15,slow=37						
CMAR	**Chiang Mai Arr**	**26.26**	**231**	P	**P**	**05 49 49.7**	**+2.5**
PBKT	**Sadao Pong**	**26.54**	**224**	P	**P**	**05 49 50.0**	**+0.3**
MK31	**Makanchi Array**	**29.41**	**301**	P	**P**	**05 50 15.9**	**+0.7**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**29.41**	**301**	P	**P**	**05 50 15.9**	**+0.7**
MKAR	**Makanchi Array**	**29.41**	**301**	P	**P**	**05 50 16.3**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=96,slow=10,SNR=14						
MKAR				LR	LR	06 02 49.3	
	comp=Z,75nm,19.0s,baz=92,slow=38						
MKAR	**Makanchi Array**	**29.41**	**301**	P	**P**	**05 50 16.1**	**+0.9**
ZAA0	**Zalesovo Array**	**29.43**	**316**	P	**P**	**05 50 17.2**	**+2.0**
ZALV	**Zalesovo Beam**	**29.43**	**316**	P	**P**	**05 50 16.7**	**+1.5**
ZALV	**Zalesovo Beam**	**29.43**	**316**	P	**P**	**05 50 17.0**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=101,slow=6.3,SNR=7.1						
ZALV				LR	LR	06 03 26.9	
	comp=Z,77nm,19.8s,baz=114,slow=39						
ZALV	**Zalesovo Beam**	**29.43**	**316**	P	**P**	**05 50 16.7**	**+1.5**
MA2	**Magadan**	**29.86**	**31**	LR	LR	06 01 44.6	
	comp=Z,71nm,18.3s,baz=232,slow=35						
PETK	**Petropavlovsk-**	**30.56**	**46**	LR	LR	06 02 23.8	
	comp=Z,107nm,19.3s,baz=242,slow=36						
KURK	**Kurchatov**	**32.31**	**308**	*ce*P	**P**	**05 50 43.2**	**+2.6**
KURK				pmax	pmax		
	comp=Z,20nm,0.8s						
KURK	**Kurchatov**	**32.31**	**308**	P	**P**	**05 50 42.4**	**+1.8**
KURBB	**Kurchatov Arra**	**32.35**	**308**	P	**P**	**05 50 42.2**	**+1.2**
	comp=Z,17nm,1.0s,baz=99,slow=9.3,SNR=47						
TARG	**Taragay, Kyrgy**	**32.68**	**291**	P	**P**	**05 50 46.6**	**+2.0**
TARG				IAmb	IAmb	05 50 50.0	
	comp=Z,8.3nm,0.9s						
KSH	**Kashi**	**34.38**	**288**	P	P	05 51 05.9	+6.8
KSH				PP	**PP**	**05 52 22.1**	**+5.3**
KSH				S	S	05 56 36.1	+9.2
KSH				sS	sS	05 56 45.1	+13
KSH				SS	**SS**	**05 58 50.3**	**-5.2**
KSH				pmax	pmax		
	comp=Z,94nm,1.5s						
KSH				pmax	pmax		
	comp=Z,480nm,5.8s						
KSH				LR	LR		
	comp=Z,630nm,18.2s						
KSH				LR	LR		
	comp=Z,280nm,9.9s						
KSH				LR	LR		
	comp=Z,200nm,12.3s						
TIXI	**Tiksi**	**34.86**	**5**	*ce*P	P	05 50 57.0	-5.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI	**Tiksi**	**34.86**	**5**	P	**P**	**05 51 02.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=0.0,slow=24,SNR=4.2						
TIXI	**Tiksi**	**34.86**	**5**	P	**P**	**05 51 03.0**	**+0.4**
AAK	**Ala-Archa**	**35.03**	**293**	*ce*P	**P**	**05 51 08.3**	**+3.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
AAK	**Ala-Archa**	**35.03**	**293**	LR	LR	06 06 46.8	
	comp=Z,146nm,18.6s,baz=65,slow=38						
AAK	**Ala-Archa**	**35.03**	**293**	P	**P**	**05 51 07.4**	**+2.8**
AAK				IAmb	IAmb	05 51 25.8	
	comp=Z,7.1nm,1.4s						
SBUM	**Sibu**	**35.28**	**194**	P	**P**	**05 51 07.0**	**+0.2**
SBUM				IAmb	IAmb	05 51 09.1	
	comp=Z,5.5nm,1.1s						
NRIK	**Noril'sk**	**36.72**	**341**	LR	LR	06 07 25.0	
	comp=Z,122nm,18.7s,baz=126,slow=38						
BVAR	**Borovoye Array**	**37.64**	**311**	P	**P**	**05 51 28.3**	**+1.6**
	comp=Z,4.5nm,0.9s,baz=97,slow=9.6,SNR=18						
BRVK	**Borovoye**	**37.71**	**311**	*ce*P	**P**	**05 51 30.1**	**+2.9**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
BRVK	**Borovoye**	**37.71**	**311**	P	**P**	**05 51 29.9**	**+2.7**
BRVK				IAmb	IAmb	05 51 31.0	
	comp=Z,24nm,1.4s						
KK31	**Karatay Array**	**37.87**	**295**	P	**P**	**05 51 31.4**	**+2.7**
KK31	**Karatay Array**	**37.87**	**295**	P	**P**	**05 51 31.4**	**+2.7**
KKAR	**Karatay Array**	**37.87**	**295**	P	**P**	**05 51 30.9**	**+2.1**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**37.87**	**295**	P	**P**	**05 51 28.7**	**-0.1**
KKAR	**Karatay Array**	**37.87**	**295**	P	**P**	**05 51 30.9**	**+2.1**
KKAR				IAmb	IAmb	05 51 33.1	
	comp=Z,8.2nm,1.1s						
NIL	**Nilore**	**37.99**	**279**	P	**P**	**05 51 32.1**	**+2.2**
NIL				pmax	pmax		
	comp=Z,22nm,1.2s						
NIL	**Nilore**	**37.99**	**279**	P	**P**	**05 51 32.1**	**+2.2**
CHGR	**Chuyangaron**	**39.74**	**288**	P	**P**	**05 51 46.5**	**+1.9**
CHGR				IAmb	IAmb	05 51 48.3	
	comp=Z,17nm,0.8s						
KBL	**Kabul**	**41.01**	**282**	P	**P**	**05 51 57.7**	**+2.4**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**41.01**	**282**	P	**P**	**05 51 57.7**	**+2.4**
ABKAR	**Akbulak array**	**44.32**	**306**	P	**P**	**05 52 22.5**	**+0.8**
ABKAR	**Akbulak array**	**44.32**	**306**	P	**P**	**05 52 22.7**	**+1.0**
ABKAR				IAmb	IAmb	05 52 26.0	
	comp=Z,5.6nm,0.8s						
ARU	**Arti**	**44.59**	**316**	*ce*P	**P**	**05 52 26.6**	**+2.8**
ARU				pmax	pmax		
	comp=Z,24nm,1.7s						
ARU	**Arti**	**44.59**	**316**	P	**P**	**05 52 24.5**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=106,slow=6.9,SNR=10.0						
ARU	**Arti**	**44.59**	**316**	P	**P**	**05 52 25.7**	**+2.0**
AKTO	**Aktyubinsk**	**45.40**	**308**	P	**P**	**05 52 32.4**	**+2.1**
	comp=Z,0.9nm,0.4s,baz=100,slow=15,SNR=3.8						
HRA	**Herat**	**46.34**	**285**	P	**P**	**05 52 40.9**	**+2.7**
HRA				IAmb	IAmb	05 52 42.3	
	comp=Z,9.1nm,1.1s						
GEYT	**Alibeck**	**48.27**	**291**	P	**P**	**05 52 54.8**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=37,slow=14,SNR=3.5						
GEYT				LR	LR	06 17 14.3	
	comp=Z,78nm,18.5s,baz=20,slow=41	

KIV pmax pmax
comp=Z,35nm,1.0s
KIV MLR MLR
comp=Z,305nm,17.0s
ARCES ARCESS Array B 57.26 335 LR LR 06 26 03.0
comp=Z,123nm,18.8s,baz=140,slow=44
TRF Thorofare Moun 57.36 32 P **P 05 54 03.0 +3.1**
TRF IAmb IAmb 05 54 10.1
comp=Z,5.7nm,1.3s
MDM Murphy Dome 57.73 30 P **P 05 54 04.6 +2.3**
MDM IAmb IAmb 05 54 05.3
comp=Z,9.7nm,1.4s
MCK McKinley 57.84 32 P **P 05 54 05.0 +1.8**
MCK pmax pmax
comp=Z,1.0nm,0.7s
MCK McKinley 57.84 32 P **P 05 54 05.0 +1.8**
WRH Wood River Hil 57.95 31 P **P 05 54 05.4 +1.6**
WRH IAmb IAmb 05 54 20.6
comp=Z,4.9nm,1.2s
RND Reindeer 57.99 32 P **P 05 54 05.3 +1.1**
RND pmax pmax
comp=Z,6.0nm,1.1s
RND Reindeer 57.99 32 P **P 05 54 05.3 +1.1**
RND IAmb IAmb 05 54 10.6
comp=Z,5.7nm,1.1s
CCB Clear Creek Bu 58.00 30 P **P 05 54 04.7 +0.5**
KDAK Kodiak Island 58.17 39 P **P 05 54 06.0 +0.5**
KDAK pmax pmax
comp=Z,48nm,1.5s
KDAK Kodiak Island 58.17 39 P **P 05 54 06.0 +0.5**
BMAR Burnt Mountain 58.27 27 P **P 05 54 08.1 +1.9**
IL31 58.33 30 P **P 05 54 07.0 +0.6**
ILAR Eielson Array 58.33 30 P **P 05 54 07.4 +0.9**
ILAR Eielson Array 58.33 30 P **P 05 54 06.2 -0.4**
comp=Z,0.7nm,0.7s,baz=292,slow=8.0,SNR=9.7
ILAR LR LR 06 19 44.5
comp=Z,87nm,18.2s,baz=324,slow=36
ILAR Eielson Array 58.33 30 P **P 05 54 07.4 +0.9**
WRA Warramunga Arr 58.38 164 P **P 05 54 04.7 -2.6**
comp=Z,3.5nm,0.9s,baz=349,slow=7.6,SNR=19
WB2 Warramunga Arr 58.38 164 P **P 05 54 06.3 -1.0**
WB2 IAmb IAmb 05 54 06.4
comp=Z,4.4nm,0.8s
PSA00 Pilbara Seismi 58.42 180 P **P 05 54 06.7 -0.9**
SCM Sheep Creek Mo 59.20 33 P **P 05 54 14.0 +1.3**
SCM pmax pmax
comp=Z,18nm,1.2s
SCM Sheep Creek Mo 59.20 33 P **P 05 54 14.0 +1.3**
FINES FINESS Array B 59.93 326 P **P 05 54 17.8 +0.2**
FINES FINESS Array B 59.93 326 P **P 05 54 17.5 -0.1**
comp=Z,1.9nm,0.4s,baz=59,slow=4.2,SNR=21
FINES FINESS Array B 59.93 326 P **P 05 54 17.8 +0.2**
EYAK Cordova Ski Ar 60.41 35 P **P 05 54 22.3 +1.4**
GLB Gilahina Butte 60.90 33 P **P 05 54 25.9 +1.5**
GLB IAmb IAmb 05 54 26.1
comp=Z,10nm,1.2s
MCARA McCarthy VSAT 61.27 33 P **P 05 54 28.5 +1.7**
EPYK Eagle Plains 61.53 27 P **P 05 54 28.9 +0.4**
EPYK IAmb IAmb 05 54 46.0
comp=Z,4.8nm,1.1s
TGL Tana Glacier 61.63 34 P **P 05 54 30.5 +1.2**
INK Inuvik 61.69 24 P **P 05 54 29.9 +0.5**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 61.69 24 P **P 05 54 29.9 +0.5**
INK IAmb IAmb 05 54 30.9
comp=Z,4.4nm,0.8s
ASAR Alice Springs 61.90 166 P **P 05 54 30.3 -1.1**
ASAR Alice Springs 61.90 166 P **P 05 54 29.3 -2.1**
comp=Z,3.1nm,0.8s,baz=350,slow=5.6,SNR=25
ASAR Alice Springs 61.90 166 P **P 05 54 30.3 -1.1**
CTGM Chitina Glacie 62.19 33 P **P 05 54 34.9 +1.7**
AKASG Malin Array Be 62.80 314 P **P 05 54 39.3 +2.1**
AKASG Malin Array Be 62.80 314 P **P 05 54 36.6 -0.6**
comp=Z,1.5nm,0.6s,baz=52,slow=6.3,SNR=9.8
AKASG LR LR 06 22 00.3
comp=Z,89nm,18.6s,baz=10.0,slow=36
AKASG Malin Array Be 62.80 314 P **P 05 54 39.3 +2.1**
AKBB Malin Array Si 62.80 314 P **P 05 54 38.9 +1.7**
AKBB pmax pmax
comp=Z,3.0nm,1.1s
AKBB Malin Array Si 62.80 314 P **P 05 54 38.9 +1.7**
HYT Haines Junctio 63.91 32 P **P 05 54 46.8 +2.2**
BR131 Keskin Array S 65.06 302 P **P 05 54 52.7 +0.2**
BR131 Keskin Array S 65.06 302 P **P 05 54 52.7 +0.2**
BRTR Keskin Array B 65.06 302 P **P 05 54 54.3 +1.8**
BRTR Keskin Array B 65.06 302 P **P 05 54 52.3 -0.2**
comp=Z,3.0nm,1.0s,baz=84,slow=5.6,SNR=11
BRTR Keskin Array B 65.06 302 P **P 05 54 54.3 +1.8**
NB201 NORSAR Array S 66.38 330 P **P 05 54 60.0 -0.5**
NB2 NORSAR Subarra 66.42 330 P **P 05 55 00.3 -0.5**
comp=Z,4.8nm,1.2s,baz=56,slow=6.5
NOA NORSAR Array B 66.42 330 P **P 05 55 00.0 -0.7**
comp=Z,4.0nm,1.1s,baz=56,slow=6.4,SNR=6.0
NOA LR LR 06 26 47.5
comp=Z,170nm,19.1s,baz=30,slow=38
KOLS Kolonicke sedl 67.60 315 *eP* **P 05 55 10.2 +1.8**
KOLS Kolonicke sedl 67.60 315 *eP* **P 05 55 10.2 +1.8**
OJC Ojcow 68.30 317 P **P 05 55 14.7 +1.9**
OJC pmax pmax
comp=Z,7.0nm,1.1s
OJC Ojcow 68.30 317 P **P 05 55 14.7 +1.9**
OJC IAmb IAmb 05 55 15.4
comp=Z,7.0nm,1.1s
VYHS Vyhne 69.76 316 *eP* **P 05 55 23.1 +1.2**
VYHS Vyhne 69.76 316 *eP* **P 05 55 23.1 +1.2**
VTS Vitosha 70.36 309 P **P 05 55 26.5 +0.6**
VTS pmax pmax
comp=Z,4.0nm,0.9s
VTS Vitosha 70.36 309 P **P 05 55 26.5 +0.6**
VTS IAmb IAmb 05 55 30.0
comp=Z,4.4nm,0.9s
CLL Collm 71.25 321 *eP* **P 05 55 31.0 +0.1**
comp=Z,13nm,1.2s
YKA Yellowknife Ar 71.46 24 P **P 05 55 32.3 +0.3**
YKA Yellowknife Ar 71.46 24 P **P 05 55 32.0 0.0**
comp=Z,1.8nm,0.7s,baz=315,slow=6.0,SNR=4.2
YKA Yellowknife Ar 71.46 24 P **P 05 55 32.3 +0.3**
STKA Stephens Creek 71.58 161 P **P 05 55 32.0 -1.0**
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 71.58 161 P **P 05 55 30.1 -2.9**
comp=Z,5.3nm,0.7s,baz=342,slow=8.8,SNR=9.0
STKA Stephens Creek 71.58 161 P **P 05 55 32.0 -1.0**
GERES GERESS Array B 72.35 318 P **P 05 55 38.3 +0.6**
comp=Z,2.0nm,1.1s,baz=76,slow=5.6,SNR=5.3
GERES GERESS Array B 72.35 318 P **P 05 55 37.7 0.0**
BFO Black Forest 75.47 320 *ceP* **P 05 55 58.6 +2.7**
CAN Canberra 76.98 156 P **P 05 56 04.5 +0.1**
CAN Canberra 76.98 156 P **P 05 56 04.5 +0.1**
TOO Toolangi 78.00 160 P **P 05 56 10.0 -0.1**
TOO pmax pmax
comp=Z,19nm,1.1s
TOO Toolangi 78.00 160 P **P 05 56 10.0 -0.1**
KMBO Kilima Mbogo 84.91 265 P **P 05 56 46.4 -1.2**
comp=Z,2.6nm,1.1s,baz=68,slow=5.4,SNR=3.3
KMBO Kilima Mbogo 84.91 265 P **P 05 56 46.2 -1.4**
NVAR Mina Array Bea 87.54 42 P **P 05 56 59.6 -0.7**
comp=Z,0.2nm,0.3s,baz=283,slow=4.5,SNR=3.1
NVAR Mina Array Bea 87.54 42 P **P 05 56 59.9 -0.4**
ESDC Sonseca Array 87.83 320 LR LR 06 39 09.6
comp=Z,40nm,20.9s,baz=90,slow=38
PDAR Pinedale Array 88.54 34 P **P 05 57 03.3 -1.6**
comp=Z,0.3nm,0.4s,baz=37,slow=7.9,SNR=2.6
PDAR Pinedale Array 88.54 34 P **P 05 57 04.2 -0.7**
SDV Santo Domingo 133.12 15 PKPdf **PKPdf 06 03 27.7 -0.7**

SOME ***23*** *06:18:04.0, 41.°77N×72.°05E, h10km*
KRNET ***23*** *06:18:04.8±0.1, 41.°75N×72.°07E, h21km, mb3.0*
NNC ***23*** *06:18:04.7±0.8, 41.°88N×72.°02E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=7.3km s-min=2.7km az=179.0
ISC 23 06:18:04.1±0.9,**41.°75N**±0.°04×**72.°08E**±0.°02,**h15**km±5km,
n39,σ**1**§**64**/**63**,**23C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.10**	**302**	⇑*iP*	**Pb**	**06 18 07.6**	**+0.1**
ARK	baz=94			⇑*iS*	**Sg**	**06 18 10.5**	**+0.7**
ARSB	**Arslanbob**	**0.80**	**121**	⇓*iP*	**Pg**	**06 18 19.4**	**-0.3**
ARSB	baz=22			⇓*iS*	**Sn**	**06 18 30.8**	**-2.0**
AML	**Almayashu**	**1.27**	**72**	⇑*iP*	**Pn**	**06 18 27.7**	**0.0**
AML	baz=72			⇑*iS*	**Sn**	**06 18 45.2**	**+0.5**
AML	**Almayashu**	**1.27**	**72**	P	**Pn**	**06 18 27.7**	**0.0**
MRKS	SNR=30 **Merke**	**1.31**	**40**	P	**Pn**	**06 18 28.2**	**+0.1**
MRKS	11nm,0.1s			S	**Sn**	**06 18 45.9**	**+0.4**
MRKS	82nm,0.3s **Merke**	**1.31**	**40**	*eP*	**Pn**	**06 18 28.2**	**+0.1**
MRKS	23nm,0.1s			⇓*iS*	**Sn**	**06 18 45.9**	**+0.4**
EKS2	72nm,0.3s **Erkin-Say**	**1.56**	**54**	⇑*iP*	**Pb**	**06 18 32.5**	**-0.3**
EKS2	baz=54			⇑*iS*	**Sb**	**06 18 53.5**	**+1.0**
EKS2	baz=54 **Erkin-Say**	**1.56**	**54**	P	**Pb**	**06 18 32.6**	**-0.2**
IUG	SNR=15 **Iuzhnay**	**1.58**	**285**	P	**Pb**	**06 18 32.5**	**-0.6**
IUG	2.5nm,0.1s			S	**Sb**	**06 18 53.6**	**+0.7**
IUG	114nm,0.2s **Iuzhnay**	**1.58**	**285**	*eP*	**Pb**	**06 18 32.5**	**-0.6**
IUG	2.8nm,0.2s			*eS*	**Sb**	**06 18 53.1**	**+0.2**
ARLS	114nm,0.2s **Aral**	**1.69**	**85**	⇑*iP*	**Pb**	**06 18 35.7**	**+0.7**
ARLS	baz=85			⇑*iS*	**Sg**	**06 18 58.0**	**-0.4**
KK31	baz=85 **Karatay Array**	**1.78**	**320**	⇑P	**Pn**	**06 18 34.9**	**+0.5**
KK31	4.5nm,0.3s,baz=138,slow=16,SNR=127			⇓S	**Sn**	**06 18 56.9**	**0.0**
UCH	11nm,0.2s,baz=143,slow=30,SNR=17 **Uchtor**	**1.88**	**74**	⇑*iP*	**Pb**	**06 18 38.6**	**+0.2**
UCH	baz=75			⇑*iS*	**Sg**	**06 19 03.8**	**-0.9**
UCH	baz=75 **Uchtor**	**1.88**	**74**	P	**Pb**	**06 18 38.7**	**+0.2**
BTK	SNR=15 **Batken**	**1.94**	**210**	⇑*iP*	**Pb**	**06 18 38.7**	**-0.5**
BTK	baz=10.0			⇑*iS*	**Sg**	**06 19 04.5**	**-2.0**
AAK	baz=10.0 **Ala-Archa**	**2.01**	**63**	⇑*iP*	**Pb**	**06 18 40.1**	**-0.3**
AAK	baz=63			⇑*iS*	**Sb**	**06 19 06.5**	**+1.2**
AAK	baz=63 **Ala-Archa**	**2.01**	**63**	P	**Pb**	**06 18 40.9**	**+0.5**
FRU1	SNR=13 **Bishkek**	**2.17**	**60**	⇑*iP*	**Pb**	**06 18 42.4**	**-0.8**
FRU1	baz=60			⇑*iS*	**Sb**	**06 19 09.5**	**-0.5**
KBK	baz=60 **Karagaybulak**	**2.32**	**66**	⇓*iP*	**Pb**	**06 18 44.3**	**-1.5**
KBK	baz=66			⇓*iS*	**Sb**	**06 19 14.1**	**-0.3**
KBK	baz=66 **Karagaybulak**	**2.32**	**66**	P	**Pb**	**06 18 45.4**	**-0.4**
CHMS	SNR=9.1 **Chumysh**	**2.34**	**57**	⇓*iP*	**Pb**	**06 18 44.5**	**-1.6**
CHMS	baz=57			⇓*iS*	**Sb**	**06 19 14.4**	**-0.5**
USP	baz=57 **Ospenovka**	**2.35**	**49**	P	**Pb**	**06 18 44.9**	**-1.4**
KZA	SNR=7.2 **Kyzart**	**2.39**	**81**	⇑*iP*	**Pb**	**06 18 45.7**	**-1.5**
KZA	baz=81			⇑*iS*	**Sb**	**06 19 16.4**	**-0.3**
KZA	baz=81 **Kyzart**	**2.39**	**81**	P	**Pb**	**06 18 46.3**	**-0.9**
NRN	SNR=8.7 **Naryn**	**2.96**	**95**	⇑*iP*	**Pn**	**06 18 53.2**	**+2.3**
NRN	baz=95			⇑*iS*	**Sn**	**06 19 28.7**	**+2.3**
BOOM	baz=95 **Boomskoye usch**	**2.97**	**74**	⇓*iP*	**Pn**	**06 18 53.5**	**+2.6**
BOOM	baz=74			⇓*iS*	**Sb**	**06 19 29.8**	**-3.3**
DGS	baz=74 **Degeres**	**3.12**	**60**	Pg	**Pb**	**06 19 00.8**	**+1.5**
DGS	4.0nm,0.2s			Lg	Lg	06 19 41.9	
DGS	26nm,0.5s **Degeres**	**3.12**	**60**	*eP*	**Pb**	**06 19 00.8**	**+1.5**
DGS	4.0nm,0.2s			*eS*	**Sg**	**06 19 41.9**	**-2.3**
ULHL	26nm,0.5s **Ulahol**	**3.15**	**79**	⇑*iP*	**Pn**	**06 18 56.0**	**+2.6**
ULHL	baz=80			⇑*iS*	**Sn**	**06 19 34.1**	**+3.3**
KST	baz=80 **Kastek**	**3.16**	**64**	Pg	**Pb**	**06 19 01.6**	**+1.5**
KST	3.6nm,0.3s			Lg	Lg	06 19 43.2	
KST	22nm,0.3s **Kastek**	**3.16**	**64**	*eP*	**Pb**	**06 19 01.6**	**+1.5**
KST	3.6nm,0.3s			*eS*	**Sg**	**06 19 43.2**	**-2.3**
BTLS	22nm,0.3s **Baital**	**3.59**	**23**	Pg	Pb	06 19 10.3	+3.0
BTLS	1.8nm,0.2s			Lg	Lg	06 19 56.6	
BTLS	7.0nm,0.3s **Baital**	**3.59**	**23**	*eP*	Pb	06 19 10.3	+3.0
BTLS	1.8nm,0.2s			*eS*	**Sg**	**06 19 58.2**	**-1.3**
IZV	7.0nm,0.3s **Izvestkoviy**	**3.60**	**68**	Pg	**Pb**	**06 19 09.8**	**+2.2**
IZV	1.9nm,0.2s			Lg	Lg	06 19 56.5	
IZV	7.3nm,0.4s **Izvestkoviy**	**3.60**	**68**	*eP*	**Pb**	**06 19 09.8**	**+2.2**
IZV	3.2nm,0.4s			*eS*	**Sg**	**06 19 56.7**	**-3.1**
KUU	9.8nm,0.5s **Kurty**	**3.80**	**54**	Pg	**Pb**	**06 19 12.7**	**+1.8**
KUU	3.8nm,0.4s			Lg	Lg	06 20 02.0	
KUU	11nm,0.4s **Kurty**	**3.80**	**54**	*eP*	**Pb**	**06 19 13.4**	**+2.5**
KUU	3.8nm,0.4s			*eS*	**Sg**	**06 20 03.2**	**-3.0**
CHKK	11nm,0.4s **Chushkaly**	**4.18**	**58**	*eP*	**Pb**	**06 19 20.1**	**+2.6**
CHKK	2.6nm,0.1s			*eS*	**Sg**	**06 20 15.6**	**-2.9**
ARXS	8.6nm,0.2s **Arharly**	**4.89**	**58**	*eP*	Pb	06 19 33.5	+4.0
ARXS	1.9nm,0.4s			*eS*	**Sg**	**06 20 37.5**	**-3.4**
	8.3nm,0.4s						

IDC ***23*** *06:20:25.5±1.6, 12.°13S×167.°39E, h0km, mb4.1/8,*
mb1 4.3/8, mb1mx4.0/40, mbtmp4.1/8, MS3.8/3, Ms1 3.8/3,
ms1mx3.0/25, Error ellipse: s-maj=68.7km s-min=22.2km
az=140.0
ISCJB ***23*** *06:20:42.7±0.7, 12.°19S±0.°10×167.°0E±0.°1, h150km,*
mb3.8/8, Error ellipse: s-maj=18.2km s-min=10.4km
az=36.6
NEIC ***23*** *06:20:42.6±1.1, 12.°1S±0.°1×167.°1E±0.°1, h144km±9km,*
mb4.2/10
ISC 23 06:20:43.7±0.9,**12.°1S**±0.°1×**167.°1E**±0.°1,**h150**km,**n30,**
σ**1**§**25**/**24**,**mb4.0**/**12**,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.51**	**290**	LR	LR	06 25 45.5	
HNR	comp=Z,121nm,18.4s,baz=131,slow=41 **Honiara**	**7.51**	**290**	Pn	**Pn**	**06 22 30.3**	**-0.4**
TARA	**Tarawa**	**14.60**	**24**	P	**P**	**06 24 04.7**	**-0.9**
EIDS	**Eidsvold**	**20.05**	**227**	P	**P**	**06 25 04.2**	**-1.1**
EIDS	comp=Z,5.2nm,1.0s			IAmb	IAmb	06 25 08.1	
PATS	**Pohnpei**	**20.77**	**335**	P	**P**	**06 25 11.1**	**-1.9**
CTA	**Charters Tower**	**21.51**	**246**	P	**P**	**06 25 21.0**	**0.0**
ARMA	comp=Z,4.1nm,0.7s,baz=84,slow=12,SNR=5.7 **Armidale**	**23.16**	**216**	P	**P**	**06 25 36.7**	**-0.5**
ARMA				IAmb	IAmb	06 25 56.0	
H11S2	comp=Z,14nm,1.1s **WAKE ISLAND Hy**	**30.43**	**359**	T	T	06 58 59.6	
H11S3	baz=183 **WAKE ISLAND Hy**	**30.43**	**359**	T	T	06 58 57.6	
H11S1	baz=183 **WAKE ISLAND Hy**	**30.45**	**359**	T	T	06 58 59.9	
STKA	baz=183 **Stephens Creek**	**30.60**	**226**	P	**P**	**06 26 43.3**	**-0.4**
STKA	comp=Z,3.3nm,0.9s,baz=29,slow=9.8,SNR=3.5 **Stephens Creek**	**30.60**	**226**	P	**P**	**06 26 43.5**	**-0.1**
WB0	**Warramunga Arr**	**32.30**	**252**	P	**P**	**06 26 58.3**	**-0.4**
WB2	**Warramunga Arr**	**32.37**	**252**	P	**P**	**06 26 56.6**	**-2.7**
WB2				IAmb	IAmb	06 26 59.1	
WRA	comp=Z,3.5nm,1.1s **Warramunga Arr**	**32.38**	**252**	P	**P**	**06 26 58.9**	**-0.5**
WRA	comp=Z,0.6nm,0.6s,baz=84,slow=8.3,SNR=8.8 **Warramunga Arr**	**32.38**	**252**	P	**P**	**06 26 58.9**	**-0.5**
AS31	**Alice Springs**	**33.51**	**245**	P	**P**	**06 27 08.9**	**-0.3**
ASAR	**Alice Springs**	**33.51**	**245**	P	**P**	**06 27 08.7**	**-0.6**
ASAR	comp=Z,1.5nm,0.7s,baz=72,slow=9.5,SNR=24 **Alice Springs**	**33.51**	**245**	P	**P**	**06 27 08.1**	**-1.1**
BBOO	**Buckleboo**	**35.09**	**229**	P	**P**	**06 27 22.7**	**+0.1**
KNRA	**Kununurra**	**37.34**	**260**	P	**P**	**06 27 42.5**	**+0.5**
KNRA				IAmb	IAmb	06 27 43.7	
CMAR	comp=Z,19nm,1.2s **Chiang Mai Arr**	**73.75**	**293**	P	**P**	**06 32 04.0**	**+2.0**
CMAR	comp=Z,1.1nm,0.3s,baz=129,slow=4.8,SNR=5.6 **Chiang Mai Arr**	**73.75**	**293**	P	**P**	**06 32 04.6**	**+2.6**
KDAK	**Kodiak Island**	**77.11**	**21**	LR	LR	06 59 49.7	
QSPA	comp=Z,66nm,19.1s,baz=102,slow=31 **South Pole Qui**	**77.88**	**180**	P	**P**	**06 32 24.5**	**-0.2**
QSPA				IAmb	IAmb	06 32 40.2	
ILAR	comp=Z,5.4nm,1.5s **Eielson Array**	**84.12**	**18**	P	**P**	**06 32 57.4**	**-0.1**
NVAR	comp=Z,1.0nm,0.8s,baz=236,slow=5.0,SNR=8.7 **Mina Array Bea**	**85.72**	**49**	P	**P**	**06 33 06.3**	**-0.1**
LPIG	comp=Z,0.6nm,0.7s,baz=228,slow=7.8,SNR=4.2 **La Paz**	**88.26**	**65**	LR	LR	07 02 01.0	
MKAR	comp=Z,276nm,21.3s,baz=113,slow=28 **Makanchi Array**	**95.21**	**317**	P	**P**	**06 33 52.1**	**+1.8**
MKAR	comp=Z,0.7nm,0.6s,baz=90,slow=6.2,SNR=8.7 **Makanchi Array**	**95.21**	**317**	P	**P**	**06 33 52.0**	**+1.7**

GCG ***23*** *06:30:59.1±1.3, 14.°02N×92.°71W, h91km±167km, MD4.3*
ISCJB ***23*** *06:31:07.3±0.5, 14.°14N±0.°05×92.°10W±0.°04, h72km±4km,*
mb3.5/5, Error ellipse: s-maj=9.3km s-min=3.7km az=34.0
NEIC ***23*** *06:31:08.2±2.8, 14.°14N±0.°06×92.°16W±0.°04, h35km±2km*
MEX ***23*** *06:31:09.5±0.7, 14.°12N×92.°11W, h19km±20km, MD4.2*
IDC ***23*** *06:31:10.1±2.5, 14.°19N×92.°00W, h78km±23km, mb3.3/5,*
mb1 3.6/8, mb1mx3.4/51, mbtmp3.7/8, MS2.5/2, Ms1 2.5/2,
ms1mx2.3/25, Error ellipse: s-maj=25.4km s-min=15.9km
az=30.0
SNET ***23*** *06:31:13.6±0.7, 14.°25N×91.°55W, h19km±7km, ML3.9*
ISC 23 06:31:09.0±1.1,**14.°22N**±0.°07×**92.°07W**±0.°04,**h61**km±9km,
n74,σ**1**§**43**/**85**,**mb3.8**/**12**,**1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.54**	**66**	*eP*	**Pn**	**06 31 21.7**	**+0.2**
STG3	**Santiaguito 3,**	**0.69**	**45**	⇓*iP*	**Pn**	**06 31 22.8**	**-0.6**
THIG		**0.71**	**345**	*iP*	**Pn**	**06 31 22.9**	**-0.6**
THIG				*eS*	**Sn**	**06 31 31.9**	**-2.0**
THIG		**0.71**	**345**		**Pn**	**06 31 22.9**	**-0.6**
THIG					**Sn**	**06 31 32.0**	**-1.9**
FUG	**Fuego 3**	**1.21**	**79**	*eP*	**Pn**	**06 31 29.6**	**-0.5**
IXG	**Ixpaco**	**1.58**	**92**	*eP*	**Pn**	**06 31 34.7**	**-0.3**
IXG	**Ixpaco**	**1.58**	**92**	*eP*	**Pn**	**06 31 33.2**	**-1.8**
NBG	**Las Nubes**	**1.71**	**78**	*eP*	**Pn**	**06 31 38.0**	**+1.1**
NBG				*eS*	**Sn**	**06 32 00.3**	**+2.4**
APG	**El Apazote**	**1.74**	**63**	P	**Pn**	**06 31 37.1**	**-0.1**
APG	121nm,0.3s,baz=197,slow=15,SNR=452			LR	LR	06 31 59.0	
APG	comp=Z,54nm,20.2s,baz=250,slow=29			S	**Sn**	**06 31 59.7**	**+1.2**
PCIG	208nm,0.3s,baz=320,slow=16,SNR=22	**1.84**	**323**	*eP*	**Pn**	**06 31 38.2**	**-0.2**
PCIG				*eS*	**Sn**	**06 32 00.0**	**-0.7**
PCIG		**1.84**	**323**		**Pn**	**06 31 38.2**	**-0.2**
PCIG					**Sn**	**06 32 00.0**	**-0.7**
CCIG	**Comitan**	**2.05**	**358**	*eP*	**Pn**	**06 31 42.0**	**+0.6**
CCIG				*i* S	**Sn**	**06 32 06.7**	**+0.8**
CCIG	**Comitan**	**2.05**	**358**		**Pn**	**06 31 43.3**	**+1.9**
CCIG				Sn	**Sn**	**06 32 07.9**	**+1.9**
CCIG	**Comitan**	**2.05**	**358**		**Pn**	**06 31 43.0**	**+1.6**
RTR	**El Retiro**	**2.38**	**97**	*eP*	**Pn**	**06 31 45.5**	**-0.4**
SBLS	**San Blas**	**2.41**	**99**	*eP*	**Pn**	**06 31 45.9**	**-0.4**
CEVE	**Cerro Verde**	**2.41**	**99**	*eP*	**Pn**	**06 31 46.1**	**-0.3**
CEVE				IAML		06 32 17.9	
SNJE	comp=Z,3μm,0.4s **San Jose**	**2.42**	**98**	*eP*	**Pn**	**06 31 45.7**	**-0.8**
MRL	**Marmol**	**2.46**	**69**	*eP*	**Pn**	**06 31 47.5**	**+0.4**
MRL	**Marmol**	**2.46**	**69**	*eP*	**Pn**	**06 31 46.5**	**-0.5**
TGIG		**2.74**	**338**	*eP*	**Pn**	**06 31 50.5**	**-0.1**
TGIG				*i* S	**Sn**	**06 32 23.9**	**+1.3**
TGIG		**2.74**	**338**		**Pn**	**06 31 50.5**	**-0.1**
UEES	**Universidad Ev**	**2.80**	**100**	*eP*	**Pn**	**06 31 51.1**	**-0.4**
SNET	**Serv Nac Est T**	**2.81**	**101**	*eP*	**Pn**	**06 31 50.7**	**-0.9**
SNET				IAML		06 32 25.9	
SNET	comp=Z,557nm,0.3s **Serv Nac Est T**	**2.81**	**101**		**Pn**	**06 31 51.1**	**-0.5**
OPAM	**Oficina de Pla**	**2.84**	**100**	*eP*	**Pn**	**06 31 51.4**	**-0.6**
OPAM				IAML		06 32 30.3	
LFU	comp=Z,633nm,0.3s **La Fuente**	**2.91**	**99**	*eP*	**Pn**	**06 31 52.3**	**-0.7**
PAVA	**Las Pavas**	**3.09**	**99**	*eP*	**Pn**	**06 31 54.9**	**-0.6**
PAVA				IAML		06 31 55.9	
COEG	comp=Z,230nm,0.5s **Centro de Oper**	**3.16**	**101**	*eP*	**Pn**	**06 31 55.9**	**-0.5**
COEB	**Comit de Eme**	**3.52**	**101**	*eP*	**Pn**	**06 32 00.8**	**-0.5**
ALJI	**Alcalda de J**	**3.52**	**104**	*eP*	**Pn**	**06 32 01.4**	**+0.1**
CMIG	**Matias Romero**	**3.93**	**317**	P	**Pn**	**06 32 07.6**	**+0.7**
CMIG	comp=Z,3.3nm,0.3s,baz=158,slow=14,SNR=44			S	**Sn**	**06 32 51.2**	**-0.7**
CMIG	comp=Z,13nm,0.3s,baz=106,slow=18,SNR=5.3			LR	LR	06 33 09.8	
CMIG	comp=Z,36nm,20.2s,baz=173,slow=30 **Matias Romero**	**3.93**	**317**	*eP*	**Pn**	**06 32 07.6**	**+0.7**
CMIG				*i* S	**Sn**	**06 32 53.3**	**+1.4**
LCND	**La Caada**	**4.16**	**102**	*eP*	**Pn**	**06 32 09.5**	**-0.6**
LCND				IAML		06 33 10.0	
HUIG	comp=Z,199nm,0.4s **Huatulco**	**4.19**	**292**	*eP*	**Pn**	**06 32 09.9**	**-0.6**
HUIG				*eS*	**Sn**	**06 32 57.3**	**-0.9**
HUIG	**Huatulco**	**4.19**	**292**		**Pn**	**06 32 09.9**	**-0.6**
CNCH	**Conchagua**	**4.22**	**102**	*eP*	**Pn**	**06 32 10.5**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.66**	**91**		**Pn**	**06 32 16.1**	**-0.9**
ESTN	**Estel**	**5.66**	**101**		**Pn**	**06 32 30.2**	**-0.5**
TEIG	**Tepich**	**6.99**	**31**	P	**Pn**	**06 32 48.0**	**-0.8**
TEIG	comp=Z,22nm,0.3s,baz=318,slow=0.3,SNR=112			S	**Sn**	**06 34 00.8**	**-6.1**
TEIG	baz=319,slow=19,SNR=3.1 **Tepich**	**6.99**	**31**		**Pn**	**06 32 48.2**	**-0.6**
TLIG	**Tlapa**	**7.08**	**299**		**Pn**	**06 32 52.4**	**+2.3**
ACON	**Acoyapa**	**7.08**	**108**		**Pn**	**06 32 50.4**	**+0.3**
ESPN	**Las Esperanzas**	**7.83**	**104**		**Pn**	**06 33 00.2**	**-0.2**
JTS	**Las Juntas de**	**7.98**	**119**	P	**Pn**	**06 33 03.5**	**+1.1**
JTS	comp=Z,1.1nm,0.3s,baz=349,slow=8.9,SNR=8.9 **Las Juntas de**	**7.98**	**119**		**Pn**	**06 33 04.0**	**+1.6**
MTDJ	**Mount Denham**	**14.52**	**72**	P	**P**	**06 34 39.7**	**+3.2**
TXAR	**Lajitas Array**	**18.47**	**326**	P	**Pn**	**06 35 21.8**	**+0.9**
TXAR	comp=Z,0.1nm,0.3s,baz=141,slow=8.1,SNR=4.5 **Lajitas Array**	**18.47**	**326**	P	**Pn**	**06 35 23.3**	**+2.4**
152A	**Waverly Hall**	**19.55**	**19**	P	**Pn**	**06 35 35.3**	**+1.7**
152A				IAmb	IAmb	06 35 36.3	
Z50A	comp=Z,5.1nm,0.8s **Ashland**	**19.76**	**15**	P	**Pn**	**06 35 37.0**	**+1.0**
Z50A				IAmb	IAmb	06 35 43.8	
ROSC	comp=Z,4.4nm,0.6s **El Rosal**	**19.82**	**116**	LR	LR	06 43 31.2	
OXF	comp=Z,29nm,19.6s,baz=88,slow=38 **Oxford**	**20.35**	**6**	P	Pn	06 35 41.7	-1.2
GOGA	**Godfrey**	**20.64**	**21**	P	**P**	**06 35 43.1**	**-0.6**
FPAL	**Fort Paine**	**21.06**	**15**	P	**P**	**06 35 48.2**	**0.0**
FPAL				IAmb	IAmb	06 35 54.1	
MNTX	comp=Z,4.5nm,1.1s **Cornudas Mount**	**21.24**	**327**	P	**P**	**06 35 51.5**	**+1.3**
SWET	**Sewanee**	**21.62**	**14**	P	**P**	**06 35 52.7**	**-1.5**
SWET				IAmb	IAmb	06 36 11.2	
SDV	comp=Z,5.8

AMTX					IAmb	IAmb	06 36 05.4	
	comp=Z,4.1nm,0.7s							
PBMO	**Poplar Bluff**	**22.51**	**3**	P	**P**	**06 36 01.1**	**-2.6**	
PBMO					IAmb	IAmb	06 36 01.7	
	comp=Z,4.4nm,0.6s							
TKL	**Tuckaleechee C**	**22.61**	**18**	P	**P**	**06 36 02.9**	**-1.9**	
	comp=Z,0.8nm,0.3s,baz=191,slow=10,SNR=3.8							
BIRD	**Birdtown, Kers**	**22.88**	**25**	P	**P**	**06 36 05.8**	**-1.8**	
BIRD					IAmb	IAmb	06 36 23.4	
	comp=Z,5.5nm,0.8s							
V53A	**Saluda**	**22.92**	**20**	P	**P**	**06 36 06.3**	**-1.7**	
V55A	**Taylorsville**	**23.64**	**22**	P	**P**	**06 36 12.6**	**-2.3**	
V55A					IAmb	IAmb	06 36 31.3	
	comp=Z,5.2nm,0.8s							
OLIL	**Olney**	**24.67**	**7**	P	**P**	**06 36 23.2**	**-0.9**	
K58A	**Earlville**	**31.77**	**23**	P	**P**	**06 37 25.1**	**-2.4**	
REDW	**Red Top Meadow**	**33.21**	**335**	P	**P**	**06 37 40.8**	**+0.4**	
NVAR	**Mina Array Bea**	**33.46**	**321**	P	**P**	**06 37 44.4**	**+1.8**	
	comp=Z,0.8nm,0.6s,baz=121,slow=8.7,SNR=5.0							
YNE	**Yellowstone No**	**34.25**	**337**	P	**P**	**06 37 49.0**	**-0.5**	
MCMT	**McKenzie Canyo**	**35.24**	**334**	P	**P**	**06 37 59.4**	**+1.4**	
SIV	**San Ignacio**	**42.89**	**133**	P	**P**	**06 39 00.5**	**-1.4**	
	comp=Z,0.6nm,0.7s,baz=327,slow=10,SNR=3.9							
ILAR	**Eielson Array**	**62.61**	**337**	P	**P**	**06 41 26.0**	**-0.7**	
	comp=Z,0.4nm,0.7s,baz=133,slow=7.9,SNR=4.4							

*SOF **23** 06:43:56.3, 42.°19N×23.°54E, h19km*
*BEO **23** 06:43:57.5±0.6, 42.°18N×23.°60E, h1km±2km, ML2.5/12*
*SKO **23** 06:43:58.3, 42.°19N×23.°52E, h3km, M2.7, ML3.0*
*THE **23** 06:43:58.1, 42.°18N×23.°49E, h2km±1km, ML2.8/10, Error ellipse: s-maj=1.5km s-min=0.7km az=295.0*

ISC 23 06:43:56.9±1.1,**42.°17N**±0.°01×**23.°52E**±0.°02,**h1**km±10km, **n59**,σ1°**31**/101,**20C-7D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.44**	**227**	*i* Pg	**Pg**	**06 44 06.1**	**+0.7**
KKB				*i* Sg	**Sg**	**06 44 13.3**	**+2.1**
KKB	**Krupnik**	**0.44**	**227**	*i* P	**Pg**	**06 44 06.1**	**+0.7**
VTS	**Vitosha**	**0.49**	**335**	*e*Pg	**Pg**	**06 44 06.7**	**+0.3**
VTS				*e*Sg	**Sg**	**06 44 13.8**	**+0.9**
VTS	**Vitosha**	**0.49**	**335**	P	**Pg**	**06 44 06.8**	**+0.3**
VTS				S	**Sg**	**06 44 13.7**	**+0.9**
VTS	**Vitosha**	**0.49**	**335**	*i* Pg	**Pg**	**06 44 06.8**	**+0.4**
VTS				*i* Sg	**Sg**	**06 44 13.6**	**+0.7**
VTS	**Vitosha**	**0.49**	**335**	*i* P	**Pg**	**06 44 06.5**	**+0.1**
VTS	**Vitosha**	**0.49**	**335**	⇑P	**Pg**	**06 44 06.8**	**+0.4**
VTS				⇑S	**Sg**	**06 44 13.9**	**+1.1**
VTS				AML	AML	06 44 16.1	
MMB	**Musomiste**	**0.60**	**165**	*i* Pg	**Pg**	**06 44 09.3**	**+0.9**
MMB				*i* Sg	**Sb**	**06 44 18.6**	**-0.7**
MMB	**Musomiste**	**0.60**	**165**	*i* P	**Pg**	**06 44 09.3**	**+0.9**
PGB	**Panagyurishte**	**0.61**	**51**	*i* P	**Pg**	**06 44 08.1**	**-0.6**
BOSS	**Bosilegrad**	**0.84**	**293**	*e*Pg	**Pg**	**06 44 13.7**	**+0.7**
BOSS				*e*Sg	**Sb**	**06 44 25.5**	**-0.6**
NVR	**Nevrokopi**	**0.86**	**162**	P	**Pg**	**06 44 13.6**	**+0.2**
NVR				S	**Sb**	**06 44 27.1**	**+0.4**
	468nm,0.1s						
PLD	**Plovdiv**	**0.88**	**94**	P	**Pg**	**06 44 13.4**	**-0.4**
RZN	**Rozhen**	**1.01**	**118**	P	**Pg**	**06 44 15.9**	**-0.5**
STIP	**Stip**	**1.10**	**245**	*i* Pg	**Pb**	**06 44 14.8**	**-4.0**
STIP				*i* Sg	**Sg**	**06 44 26.8**	**-5.5**
VAY	**Valandovo**	**1.11**	**220**	*e*Pg	**Pb**	**06 44 18.7**	**-0.1**
VAY				*e*Sg	**Sb**	**06 44 33.7**	**0.0**
VAY	**Valandovo**	**1.11**	**220**	*i* Pg	**Pb**	**06 44 18.7**	**-0.1**
VAY				*i* Sg	**Sn**	**06 44 35.0**	**-0.5**
VAY				*e*Lg	Lg	06 44 36.5	
	comp=E,207nm,0.4s						
VAY				*e*Lg	Lg	06 44 38.1	
	comp=N,264nm,0.6s						
KNT	**Kendrikon**	**1.11**	**205**	P	**Pb**	**06 44 18.3**	**-0.6**
KNT				S	**Sn**	**06 44 35.9**	**+0.3**
	comp=N,318nm,0.3s						
KNT	**Kendrikon**	**1.11**	**205**	*i* Pg	**Pb**	**06 44 18.3**	**-0.6**
ZAPS	**Zavoj**	**1.28**	**330**	*e*Pg	**Pg**	**06 44 22.1**	**+0.6**
ZAPS				*e*Sg	**Sn**	**06 44 39.1**	**-0.8**
SOH	**Sokhos**	**1.35**	**185**	P	**Pn**	**06 44 22.6**	**-0.4**
SOH				S	**Sg**	**06 44 42.3**	**+2.0**
	comp=N,485nm,0.5s						
SOH	**Sokhos**	**1.35**	**185**	*i* Pg	**Pn**	**06 44 22.7**	**-0.4**
KAVA	**Kavala**	**1.39**	**147**	P	**Pb**	**06 44 23.6**	**-0.1**
KAVA				S	**Sg**	**06 44 43.2**	**+1.7**
	comp=N,892nm,0.3s						
BARS	**Barje**	**1.42**	**298**	*e*Pg	**Pb**	**06 44 23.9**	**-0.3**
BARS	**Barje**	**1.42**	**298**	*e*Pn	Pg	06 44 36.6	+13
BARS				*e*Sg	**Sg**	**06 44 43.8**	**+1.4**
PLVB	**Pleven**	**1.46**	**33**	⇑P	**Pg**	**06 44 25.6**	**+0.6**
PLVB				⇑S	**Sg**	**06 44 46.2**	**+2.3**
PLVB				AML	AML	06 44 47.9	
GRG	**Griva**	**1.47**	**215**	P	**Pb**	**06 44 24.8**	**-0.3**
GRG				S	**Sg**	**06 44 44.7**	**+0.5**
	comp=N,135nm,0.5s						
KDZ	**Kurdzhali**	**1.51**	**109**	P	**Pn**	**06 44 23.5**	**-1.6**
BLKB	**Belogradchik**	**1.58**	**337**	⇓S	**Sg**	**06 44 48.6**	**+1.0**
BLKB				AML	AML	06 44 51.7	
THE	**Thessaloniki**	**1.59**	**195**	P	**Pb**	**06 44 27.1**	**0.0**
THE				S	**Sb**	**06 44 48.0**	**+0.3**
	comp=N,158nm,0.5s						
HORT	**Hortiatis**	**1.60**	**192**	P	**Pb**	**06 44 26.8**	**-0.6**
HORT				S	**Sg**	**06 44 48.9**	**+0.5**
PVL	**Pavlikeni**	**1.70**	**51**	P	**Pn**	**06 44 26.5**	**-1.2**
PLG	**Polygyros**	**1.79**	**182**	P	**Pn**	**06 44 29.5**	**+0.4**
PLG				S	**Sg**	**06 44 54.5**	**-0.1**
	comp=N,128nm,0.5s						
THAS	**Thassos island**	**1.80**	**150**	P	**Pb**	**06 44 30.3**	**-0.4**
THAS				S	**Sg**	**06 44 54.7**	**-0.2**
RDO	**Rodhopi**	**1.82**	**123**	P	**Pb**	**06 44 30.6**	**-0.5**
RDO				S	**Sg**	**06 44 55.5**	**-0.1**
	comp=N,550nm,0.3s						
ZAGS	**Zajecar**	**1.89**	**331**	*e*Pg	**Pb**	**06 44 31.9**	**-0.4**
ZAGS				*e*Sg	**Sg**	**06 44 58.3**	**+0.5**
ELND	**Elena**	**1.90**	**66**	⇑P	**Pn**	**06 44 30.8**	**+0.3**
ELND				⇑S	**Sg**	**06 44 57.2**	**-0.7**
ELND				AML	AML	06 44 57.9	
BOVS	**Bovan**	**1.98**	**318**	*e*Pn	**Pn**	**06 44 32.3**	**+0.7**
BOVS				*e*Sn	**Sb**	**06 44 58.7**	**-0.2**
SELS	**Selova**	**2.06**	**301**	*e*Pg	**Pb**	**06 44 34.5**	**-0.6**
SELS				*e*Sg	**Sg**	**06 45 03.9**	**+0.9**
SMTH	**Samothraki Isl**	**2.27**	**138**	P	**Pn**	**06 44 35.8**	**+0.2**
SMTH				S	**Sb**	**06 45 06.6**	**-0.8**
	comp=N,50nm,0.3s						
ALN	**Alexandroupoli**	**2.28**	**123**	P	**Pn**	**06 44 35.8**	**+0.1**
ALN				S	**Sb**	**06 45 06.2**	**-1.4**
	comp=N,252nm,0.8s						
COPA	**Copaceanca**	**2.32**	**32**	⇑S	**Sb**	**06 45 07.8**	**-1.0**
COPA				AML	AML	06 45 19.9	
KUBS	**Kucevo**	**2.62**	**330**	*e*Pn	**Pn**	**06 44 40.3**	**0.0**
KUBS				*e*Sn	**Sn**	**06 45 13.3**	**+0.6**
GRUS	**Gruza**	**2.68**	**311**	*e*Pn	**Pn**	**06 44 41.8**	**+0.6**
GRUS				*e*Sn	**Sb**	**06 45 16.5**	**-2.6**
HERR	**Herculane**	**2.83**	**344**	⇑P	**Pn**	**06 44 42.9**	**-0.3**
HERR				AML	AML	06 44 53.4	
IVAS	**Ivanjica**	**2.85**	**301**	*e*Pn	**Pn**	**06 44 43.7**	**+0.1**
IVAS				*e*Sn	**Sb**	**06 45 20.7**	**-3.2**
MDVR	**Moldovita**	**2.92**	**334**	⇓P	**Pn**	**06 44 44.8**	**+0.2**
MDVR				⇑S	**Sn**	**06 45 20.6**	**+0.2**
MDVR				AML	AML	06 45 35.4	
TRUS	**Trudelj**	**3.06**	**313**	*e*Pn	**Pn**	**06 44 47.7**	**+1.2**
TRUS				*e*Sn	**Sn**	**06 45 25.3**	**+1.5**
DIVS	**Divibare**	**3.22**	**308**	*e*Pn	**Pn**	**06 44 50.2**	**+1.4**
DIVS				*e*Sn	**Sn**	**06 45 29.4**	**+1.6**
GZR	**Gura Zlata**	**3.27**	**351**	⇓P	**Pn**	**06 44 49.0**	**-0.4**
GZR				⇑S	**Sn**	**06 45 30.5**	**+1.6**
GZR				AML	AML	06 45 42.9	
LOT	**Lotru**	**3.28**	**3**	⇓P	**Pn**	**06 44 50.1**	**+0.5**
LOT				⇓S	**Sn**	**06 45 31.3**	**+2.0**
LOT				AML	AML	06 45 32.4	
ARR	**Arges**	**3.30**	**14**	⇑P	**Pn**	**06 44 50.2**	**+0.4**
ARR				⇑S	**Sn**	**06 45 30.2**	**+0.6**
ARR				AML	AML	06 45 30.7	
VOIR		**3.45**	**18**	⇑P	**Pn**	**06 44 52.9**	**+1.1**
VOIR				⇑S	**Sn**	**06 45 34.5**	**+1.1**
VOIR				AML	AML	06 46 02.6	
BZS	**Buzias**	**3.71**	**339**	*e*Pn	**Pn**	**06 44 55.6**	**+0.2**
BZS				*e*Sn	**Sn**	**06 45 38.9**	**-0.8**
BZS	**Buzias**	**3.71**	**339**	⇑P	**Pn**	**06 44 54.7**	**-0.7**
BZS				⇑S	**Sg**	**06 45 54.1**	**-2.0**
BZS				AML	AML	06 45 58.4	
MLR	**Muntele Rosu**	**3.76**	**27**	⇑P	**Pn**	**06 44 57.3**	**+1.1**
MLR				⇑S	**Sn**	**06 45 43.3**	**+2.2**
MLR				AML	AML	06 46 21.9	
TLB	**Topalu**	**4.09**	**52**	⇓P	**Pn**	**06 45 01.1**	**+0.6**
TLB				⇓S	**Sb**	**06 46 02.5**	**+2.9**
TLB				AML	AML	06 46 09.9	
TOPG	**Topolog**	**4.45**	**51**	⇑S	**Sg**	**06 46 15.3**	**-4.5**
DRGR		**4.66**	**353**	⇑P	**Pn**	**06 45 08.0**	**-0.4**

*GCG **23** 06:49:04.3±1.7, 13.°58N×93.°48W, h95km±248km, MD4.8*
*MEX **23** 06:49:14.7±0.6, 13.°72N×92.°75W, h16km±19km, MD4.9*
*GCMT **23** 06:49:15.9±0.3, 13.°99N±0.°01×93.°07W±0.°02, h14km, MW5.0/82, Moment Tensor Solution. s54,c66; s82,c123; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.12±.14; $M_{\theta\theta}$-1.96±.09; $M_{\phi\phi}$-1.16±.09; $M_{r\theta}$1.55±.21; $M_{\theta\phi}$1.24±.06; $M_{\phi r}$-2.88±.27; Best double couple: M_0=4.41400×10^16 NP1:ϕ_s=144.00000°, δ=69.00000°, λ=101.00000°. NP2: ϕ_s=294.00000°, δ=24.00000°, λ=63.00000°. Principal axes: T 4.6790, Plg64.0000°, Azm72.0000°; N -0.5290, Plg11.0000°, Azm320.0000°; P -4.1500, Plg23.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 06:49:17.9±3.0, 14.°01N±0.°06×92.°63W±0.°06, h36km±4km, mb4.8/288, Md4.9(MEX)*
*MOS **23** 06:49:18.4±1.1, 14.°21N×92.°35W, h46km, mb5.0/21, Error ellipse: s-maj=13.9km s-min=6.1km az=111.4*
*SNET **23** 06:49:19.5±1.0, 14.°00N×92.°39W, h73km±23km, ML4.1*
*ISCJB **23** 06:49:20.3±0.4, 14.°24N±0.°02×92.°36W±0.°03, h63km±3km, mb4.7/38, Error ellipse: s-maj=5.2km s-min=2.8km az=140.3*
*IDC **23** 06:49:23.3±2.0, 14.°27N×92.°24W, h77km±17km, mb4.4/25, mb1 4.5/30, mb1mx4.4/47, mbtmp4.7/30, MS4.3/18, Ms1 4.3/18, ms1mx4.1/32, Error ellipse: s-maj=19.2km s-min=8.6km az=55.0*

ISC 23 06:49:21.4±1.0,**14.°11N**±0.°05×**92.°48W**±0.°06,**h63**km±8km, **n686**,σ1°**38**/574,**mb4.8**/143,**6C-1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.82**	**15**	*e*P	**Pn**	**06 49 34.4**	**-2.8**
THIG				*e*S	**Sn**	**06 49 49.1**	**+0.3**
THIG		**0.82**	**15**		**Pn**	**06 49 34.4**	**-2.8**
THIG					**Sn**	**06 49 49.1**	**+0.3**
ERG	**Entre ros, C**	**0.94**	**70**	⇑*e*P	**Pn**	**06 49 38.3**	**-0.4**
STG3	**Santiaguito 3,**	**1.06**	**56**	⇑*e*P	**Pn**	**06 49 39.1**	**-1.4**
FUG	**Fuego 3**	**1.62**	**78**	*e*P	**Pn**	**06 49 46.6**	**-1.3**
PCG	**Pacaya**	**1.83**	**81**	*e*P	**Pn**	**06 49 49.2**	**-1.6**
IXG	**Ixpaco**	**1.98**	**88**	*e*P	**Pn**	**06 49 50.9**	**-1.8**
IXG	**Ixpaco**	**1.98**	**88**	*e*P	**Pn**	**06 49 49.8**	**-2.9**
NBG	**Las Nubes**	**2.12**	**77**	*e*P	**Pn**	**06 49 55.4**	**+0.6**
NBG				*e*S	Sn	06 50 32.8	+13
APG	**El Apazote**	**2.14**	**65**	P	**Pn**	**06 49 55.0**	**0.0**
	54nm,0.3s,baz=230,slow=8.2,SNR=684						
APG				LR	LR	06 50 56.7	
	comp=Z,6μm,18.2s,baz=227,slow=50						
CCIG	**Comitan**	**2.18**	**9**	*e*P	**Pn**	**06 49 52.8**	**-2.7**
CCIG				*i* S	**Sn**	**06 50 23.3**	**+1.7**
CCIG	**Comitan**	**2.18**	**9**		**Pn**	**06 49 55.3**	**-0.3**
CCIG	**Comitan**	**2.18**	**9**		**Pn**	**06 49 52.8**	**-2.7**
CCIG					**Sn**	**06 50 23.3**	**+1.7**
RTR	**El Retiro**	**2.76**	**94**	*e*P	**Pn**	**06 50 01.5**	**-1.8**
CEVE	**Cerro Verde**	**2.78**	**95**	*e*P	**Pn**	**06 50 02.1**	**-1.7**
CEVE				*e*S	**Sn**	**06 50 34.4**	**-2.0**
CEVE				IAML		06 50 51.5	
	comp=Z,2μm,0.6s						
SBLS	**San Blas**	**2.78**	**95**	*e*P	**Pn**	**06 50 01.6**	**-2.2**
MRL	**Marmol**	**2.87**	**70**	*e*P	**Pn**	**06 50 08.9**	**+3.9**
MTO3	**Montecristo**	**3.04**	**84**	*e*P	**Pn**	**06 50 05.1**	**-2.1**
SNET	**Serv Nac Est T**	**3.18**	**97**		**Pn**	**06 50 07.0**	**-2.0**
LFU	**La Fuente**	**3.29**	**96**	*e*P	**Pn**	**06 50 08.1**	**-2.3**
PAVA	**Las Pavas**	**3.46**	**96**	*e*P	**Pn**	**06 50 10.8**	**-2.1**
COEG	**Centro de Oper**	**3.53**	**98**	*e*P	**Pn**	**06 50 12.1**	**-1.7**
CMIG	**Matias Romero**	**3.76**	**322**	P	Pn	06 50 12.1	-4.8
	comp=Z,6.5nm,0.3s,baz=139,slow=11,SNR=147						
CMIG				S	**Sn**	**06 51 03.4**	**+3.4**
	comp=Z,54nm,0.3s,baz=80,slow=13,SNR=6.1						
HUIG	**Huatulco**	**3.88**	**296**	*e*P	Pn	06 50 10.3	-8.2
HUIG				*i* S	Sn	06 50 54.2	-8.6
HUIG	**Huatulco**	**3.88**	**296**		Pn	06 50 10.3	-8.2
COEB	**Comit de Eme**	**3.88**	**99**	*e*P	**Pn**	**06 50 16.7**	**-2.0**
TECA	**Tecapa**	**3.91**	**99**	*e*P	**Pn**	**06 50 17.3**	**-1.9**
PACA	**Pacayal**	**4.09**	**98**	*e*P	**Pn**	**06 50 19.3**	**-2.2**
JUCU	**Jucuarˌn**	**4.20**	**101**	*e*P	**Pn**	**06 50 20.6**	**-2.4**
LCND	**La Caada**	**4.53**	**100**	*e*P	**Pn**	**06 50 25.3**	**-2.1**
TGUH	**Tegucigalpa,Un**	**5.05**	**90**	*e*P	**Pn**	**06 50 32.0**	**-2.7**
TGUH	**Tegucigalpa,Un**	**5.05**	**90**		**Pn**	**06 50 32.1**	**-2.6**
ESTN	**Estel**	**6.02**	**99**		**Pn**	**06 50 45.5**	**-2.5**
TLIG	**Tlapa**	**6.79**	**301**		Pn	06 50 53.9	-4.7
TEIG	**Tepich**	**7.29**	**33**	P	**Pn**	**06 51 04.6**	**-0.6**
	comp=Z,12nm,0.3s,baz=317,slow=0.1,SNR=41						
TEIG				S	**Sn**	**06 52 30.1**	**+3.6**
	baz=319,slow=18,SNR=1.9						
TEIG				LR	LR	06 54 23.6	
	comp=Z,7μm,19.7s,baz=229,slow=43						
TEIG	**Tepich**	**7.29**	**33**		**Pn**	**06 51 04.2**	**-1.0**
ACON	**Acoyapa**	**7.43**	**106**		**Pn**	**06 51 05.5**	**-1.7**
ESPN	**Las Esperanzas**	**8.19**	**102**	Pn	**Pn**	**06 51 15.8**	**-1.8**
JTS	**Las Juntas de**	**8.28**	**116**	P	**Pn**	**06 51 17.9**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=1.5,slow=13,SNR=12						
HDC	**Heredia**	**9.14**	**116**		**Pn**	**06 51 29.8**	**-0.9**
ZAIG	**Zacatecas**	**12.87**	**313**		**Pn**	**06 52 19.6**	**-2.2**
MTDJ	**Mount Denham**	**14.93**	**72**	P	**P**	**06 52 52.6**	**-0.6**
MTDJ				IAmb	IAmb	06 52 53.8	
	comp=Z,88nm,0.9s						
833A	**Chaparral WMA,**	**15.54**	**337**	P	**Pn**	**06 52 56.0**	**-0.6**
	baz=155						
833A	**Chaparral WMA,**	**15.54**	**337**	P	**Pn**	**06 52 57.1**	**+0.4**
HKT	**Hockley**	**16.07**	**349**	P	**Pn**	**06 53 02.3**	**-1.0**
HKT				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HKT	**Hockley**	**16.07**	**349**		**Pn**	**06 53 02.2**	**-1.0**
435B	**Jarrell**	**17.25**	**345**	P	**Pn**	**06 53 18.0**	**-0.1**
	baz=164,SNR=8.5						
435B	**Jarrell**	**17.25**	**345**	P	**Pn**	**06 53 17.2**	**-0.8**
DBBC	**Dabeiba**	**17.47**	**112**	*e*P	**P**	**06 53 23.3**	**+2.0**
DBBC	**Dabeiba**	**17.47**	**112**	*e*P	**P**	**06 53 23.3**	**+2.0**
JCT	**Junction City**	**17.63**	**339**	P	**P**	**06 53 23.4**	**+0.3**
	baz=157,SNR=12						
JCT	**Junction City**	**17.63**	**339**	P	**Pn**	**06 53 21.9**	**-1.0**
JCT				pmax	pmax		
	comp=Z,36nm,1.2s						
JCT	**Junction City**	**17.63**	**339**	P	**Pn**	**06 53 21.9**	**-1.0**
NATX	**Nacogdoches**	**17.68**	**354**	P	**Pn**	**06 53 22.3**	**-1.1**
	baz=174						
NATX	**Nacogdoches**	**17.68**	**354**	P	**Pn**	**06 53 20.8**	**-2.6**
BRAL	**Brewton**	**17.70**	**15**	P	**P**	**06 53 26.5**	**+2.8**
	baz=198						
BRAL	**Brewton**	**17.70**	**15**	P	**P**	**06 53 25.5**	**+1.9**
BRAL				IAmb	IAmb	06 53 31.1	
	comp=Z,115nm,1.1s						
HPIG		**17.74**	**318**	P	**P**	**06 53 22.7**	**-1.7**
656A	**Willston**	**17.76**	**30**	P	**P**	**06 53 27.2**	**+2.8**
	baz=213						
656A	**Willston**	**17.76**	**30**	P	**P**	**06 53 26.4**	**+2.1**
656A				IAmb	IAmb	06 53 43.2	
	comp=Z,99nm,1.0s						
VBMS	**Vicksburg**	**18.11**	**5**	P	**Pn**	**06 53 29.0**	**+0.4**
	baz=186						
VBMS	**Vicksburg**	**18.11**	**5**	P	**P**	**06 53 27.3**	**-0.9**
VBMS				IAmb	IAmb	06 53 32.5	
	comp=Z,57nm,1.0s						
CBOC	**Ciudad Bolivar**	**18.16**	**115**	*e*P	**P**	**06 53 28.6**	**-0.4**
CBOC	**Ciudad Bolivar**	**18.16**	**115**	*e*P	**P**	**06 53 28.6**	**-0.4**
453A	**Whigham**	**18.28**	**23**	P	**Pn**	**06 53 33.4**	**+2.8**
453A				IAmb	IAmb	06 53 38.9	
	comp=Z,71nm,1.0s						
TXAR	**Lajitas Array**	**18.35**	**327**	P	**P**	**06 53 31.0**	**0.0**
TXAR	**Lajitas Array**	**18.35**	**327**	P	**P**	**06 53 31.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=148,slow=10,SNR=39						
TXAR				LR	LR	07 00 33.6	
	comp=Z,242nm,19.9s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**18.35**	**327**	P	**P**	**06 53 31.1**	**0.0**
TX31	**Lajitas Ar. Si**	**18.35**	**327**	P	**P**	**06 53 31.5**	**+0.4**
TX32	**Lajitas Array**	**18.35**	**327**	P	**P**	**06 53 31.1**	**0.0**
WHTX	**Lake Whitney,**	**18.37**	**346**	P	**Pn**	**06 53 32.0**	**+0.3**
	baz=165						
HELC	**Santa Helena**	**18.43**	**114**	*e*P	**Pn**	**06 53 33.3**	**+0.3**
HELC	**Santa Helena**	**18.43**	**114**	*e*P	**Pn**	**06 53 33.3**	**+0.3**
352A	**Blakely**	**18.62**	**21**	P	**Pn**	**06 53 34.4**	**-0.4**
	baz=204						
352A	**Blakely**	**18.62**	**21**	IAmb	IAmb	06 53 44.3	
	comp=Z,80nm,1.2s						
250A	**Grady**	**18.67**	**17**	P	**Pn**	**06 53 38.4**	**+3.0**
	baz=199						
250A	**Grady**	**18.67**	**17**	P	**Pn**	**06 53 35.5**	**+0.1**
250A				IAmb	IAmb	06 53 41.5	
	comp=Z,72nm,1.1s						
353A	**Camilla**	**18.76**	**22**	P	**Pn**	**06 53 36.4**	**0.0**
	baz=206,SNR=6.0						
SMLC	**San Martn de**	**18.79**	**104**	*e*P	**Pn**	**06 53 37.3**	**+0.4**
SMLC	**San Martn de**	**18.79**	**104**	*e*P	**Pn**	**06 53 37.3**	**+0.4**
YOTC	**Yotoco, Valle**	**18.83**	**121**	*e*P	**Pn**	**06 53 37.3**	**-0.2**
YOTC	**Yotoco, Valle**	**18.83**	**121**	*e*P	**Pn**	**06 53 37.3**	**-0.2**
GUY2C	**Guyana, Caldas**	**19.03**	**116**	*e*P	**Pn**	**06 53 40.6**	**+0.4**
GUY2C	**Guyana, Caldas**	**19.03**	**116**	*e*P	**Pn**	**06 53 40.6**	**+0.4**
Z41A	**Richland Creek**	**19.06**	**359**	P	**Pn**	**06 53 39.6**	**-0.5**
	baz=180,SNR=5.4						
TIGA	**Tifton**	**19.08**	**24**	P	**Pn**	**06 53 39.7**	**-0.6**
	baz=208						
TIGA	**Tifton**	**19.08**	**24**	IAmb	IAmb	06 53 48.0	
	comp=Z,53nm,1.1s						
252A	**Lumpkin**	**19.16**	**20**	P	**Pn**	**06 53 40.6**	**-0.6**
	baz=204,SNR=9.7						
PTBC	**PUERTO BERRIO,**	**19.25**	**111**	*e*P	**P**	**06 53 39.9**	**-0.9**
PTBC	**PUERTO BERRIO,**	**19.25**	**111**	*e*P	**P**	**06 53 39.9**	**-0.9**
BBAC	**Balboa, Cauca**	**19.26**	**127**	*e*P	**P**	**06 53 39.9**	**-1.2**
BBAC	**Balboa, Cauca**	**19.26**	**127**	*e*P	**P**	**06 53 39.9**	**-1.2**
NORC	**Norcasia**	**19.30**	**114**	*e*P	**Pn**	**06 53 42.6**	**-0.5**
NORC	**Norcasia**	**19.30**	**114**	*e*P	**Pn**	**06 53 42.6**	**-0.5**
LRAL	**Lakeview Retre**	**19.49**	**14**	P	**P**	**06 53 42.8**	**-0.5**
	baz=196,SNR=9.7						
LRAL	**Lakeview Retre**	**19.49**	**14**	P	**P**	**06 53 43.1**	**-0.2**
LRAL				IAmb	IAmb	06 53 57.3	
	comp=Z,53nm,1.1s						
WLAR	**White Oak Lake**	**19.50**	**358**	P	**Pn**	**06 53 44.3**	**-0.8**
WLAR				IAmb	IAmb	06 53 58.2	
	comp=Z,101nm,1.1s						
LPIG	**La Paz**	**19.54**	**303**	P	**Pn**	**06 53 46.3**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=341,slow=9.0,SNR=6.6						
ABTX	**Abilene, Hawle**	**19.56**	**342**	P	**P**	**06 53 44.4**	**+0.3**
	baz=159,SNR=28						
ABTX	**Abilene, Hawle**	**19.56**	**342**	IAmb	IAmb	06 53 45.9	
	comp=Z,52nm,1.0s						
OTAV	**Otavalo**	**19.56**	**134**	P	**Pn**	**06 53 47.1**	**+0.5**
OTAV				pmax	pmax		
	comp=Z,11nm,1.2s						
OTAV	**Otavalo**	**19.56**	**134**	*e*P	**Pn**	**06 53 48.0**	**+1.4**
OTAV	**Otavalo**	**19.56**	**134**	*e*P	**Pn**	**06 53 48.0**	**+1.4**
OTAV	**Otavalo**	**19.56**	**134**		**Pn**	**06 53 47.1**	**+0.5**
254A	**Abbeville**	**19.64**	**24**	P	**P**	**06 53 44.6**	**-0.4**
	baz=208						
OCAC	**Ocana**	**19.67**	**105**	*e*P	**P**	**06 53 44.6**	**-1.1**
OCAC	**Ocana**	**19.67**	**105**	*e*P	**P**	**06 53 44.6**	**-1.1**
CCAR	**Cane Creek**	**19.73**	**2**	P	**Pn**	**06 53 46.9**	**-1.0**
CCAR				IAmb	IAmb	06 54 00.7	
	comp=Z,49nm,0.6s						
152A	**Waverly Hall**	**19.78**	**20**	P	**Pn**	**06 53 47.7**	**-0.9**
	baz=203,SNR=16						
152A	**Waverly Hall**	**19.78**	**20**	IAmb	IAmb	06 53 53.0	
	comp=Z,34nm,0.8s						
ORTC	**Ortega, Tolima**	**19.79**	**119**	*e*P	**P**	**06 53 47.9**	**+1.1**
ORTC	**Ortega, Tolima**	**19.79**	**119**	*e

baz=201,SNR=5.6
Y54A Tignall 21.58 23 P P 06 54 06.6 +0.8
baz=207,SNR=8.9
Z56A Williston 21.63 26 P P 06 54 07.8 +1.3
baz=211,SNR=6.1
W49A Belvidere 21.66 14 P P 06 54 06.0 -0.6
baz=197,SNR=9.6
SWET Sewanee 21.83 15 IAmb IAmb 06 54 23.1
comp=Z,52nm,1.3s
X52A Dahlonega 21.83 19 P P 06 54 07.6 -0.9
baz=203,SNR=14
MSTX Muleshoe 21.86 336 P P 06 54 07.5 -1.6
baz=153,SNR=26
MSTX Muleshoe 21.86 336 IAmb IAmb 06 54 14.8
comp=Z,48nm,0.9s
Z57A Bowman 21.90 27 P P 06 54 10.2 +0.9
baz=212
LCAR Lake Charles 21.90 3 IAmb IAmb 06 54 23.0
comp=Z,53nm,1.2s
TUL1 Leonard 21.91 353 P P 06 54 07.8 -1.6
baz=172,SNR=7.4
X53A Estanollee 21.93 21 P P 06 54 09.9 +0.3
baz=205,SNR=6.1
Y55A Saluda 21.96 24 P P 06 54 10.2 +0.2
baz=209,SNR=6.4
W50A Signal Mountai 21.97 16 P P 06 54 09.0 -1.1
baz=199,SNR=10
W50A Signal Mountai 21.97 16 IAmb IAmb 06 54 27.6
comp=Z,44nm,0.9s
SDV Santo Domingo 22.02 101 P P 06 54 08.1 -2.9
comp=Z,19nm,0.7s,baz=280,slow=6.7,SNR=21
SDV PcP **PcP 06 58 07.6 +0.2**
comp=Z,5.7nm,0.8s,baz=258,slow=9.3,SNR=2.6
SDV LR LR 07 04 33.4
comp=Z,614nm,18.2s,baz=314,slow=42
SDV Santo Domingo 22.02 101 *eP* **P 06 54 11.5 +0.5**
SDV Santo Domingo 22.02 101 *eP* **P 06 54 11.5 +0.5**
SDV Santo Domingo 22.02 101 P **P 06 54 10.0 -1.0**
Y56A Pelion 22.06 25 P P 06 54 11.5 +0.4
baz=210
HODGE Hodges 22.07 23 IAmb IAmb 06 54 24.3
comp=Z,28nm,1.0s
W51A Cleveland 22.09 17 P P 06 54 10.5 -0.8
baz=200,SNR=5.9
HHAR Hobbs 22.12 357 IAmb IAmb 06 54 13.0
comp=Z,27nm,0.8s
V48A Smith Brothers 22.13 12 P P 06 54 10.3 -1.4
baz=195,SNR=20
U40A Yellville 22.16 359 P P 06 54 11.3 -0.7
baz=179,SNR=19
U40A Yellville 22.16 359 IAmb IAmb 06 54 13.2
comp=Z,29nm,0.8s
W52A Murphy 22.27 19 P P 06 54 12.7 -0.6
baz=203
AMTX Amarillo 22.29 340 P P 06 54 13.1 -0.5
baz=156
X54A Belton 22.30 22 P P 06 54 13.6 0.0
baz=207,SNR=7.9
WVT Waverly 22.32 10 P P 06 54 12.6 -1.2
baz=192
WVT Waverly 22.32 10 P P 06 54 12.1 -1.7
WVT pmax pmax
comp=Z,19nm,0.9s
WVT Waverly 22.32 10 P P 06 54 12.1 -1.7
Z58A St. Stephen 22.34 29 P P 06 54 13.9 -0.1
baz=214
PTGC Puerto Gaitan, 22.35 114 *eP* **P 06 54 13.2 -1.1**
PTGC Puerto Gaitan, 22.35 114 *eP* **P 06 54 13.2 -1.1**
V49A McMinnville 22.36 14 P P 06 54 12.7 -1.6
baz=197,SNR=13
CPCT Cooper Cave 22.42 17 IAmb IAmb 06 54 16.6
comp=Z,21nm,0.8s
V50A Pikevile 22.47 16 P P 06 54 14.0 -1.5
baz=199,SNR=6.7
BG3 Lake Jocassee 22.51 21 IAmb IAmb 06 54 16.8
comp=Z,33nm,1.2s
X55A Gracelyn & Ava 22.52 24 P P 06 54 16.4 +0.5
baz=209
HICK Hickman 22.53 7 P P 06 54 14.7 -1.4
W53A Cullowhee 22.59 20 P P 06 54 16.9 +0.1
baz=204,SNR=7.0
Y57A Sumter 22.65 27 P P 06 54 16.4 -0.9
baz=212
Y57A Sumter 22.65 27 IAmb IAmb 06 54 34.4
comp=Z,46nm,0.9s
PBMO Poplar Bluff 22.65 4 IAmb IAmb 06 54 17.8
comp=Z,22nm,0.8s
PAULI Pauline 22.76 23 IAmb IAmb 06 54 34.5
comp=Z,51nm,1.2s
X56A White Oak 22.78 25 P P 06 54 18.2 -0.5
baz=210,SNR=7.2
V51A Loudon 22.80 17 P P 06 54 17.6 -1.4
baz=201,SNR=6.3
TKL Tuckaleechee C 22.84 19 P P 06 54 18.8 -0.5
comp=Z,38nm,1.1s,baz=198,slow=8.6,SNR=22
TKL LR LR 07 04 59.9
comp=Z,1μm,18.1s,baz=212,slow=41
W54A Cherokee Point 22.86 22 P P 06 54 19.4 -0.1
baz=207,SNR=15
Y58A Scranton 22.88 28 IAmb IAmb 06 54 33.2
comp=Z,40nm,0.9s
MGMO Mountain Grove 22.95 0 IAmb IAmb 06 54 20.9
comp=Z,26nm,1.1s
MGMO **PcP 06 58 11.7 +3.0**
121A Cookes Peak, D 23.05 325 P P 06 54 22.2 +0.5
baz=140,SNR=21
121A Cookes Peak, D 23.05 325 P P 06 54 21.6 -0.1
121A IAmb IAmb 06 54 25.4
comp=Z,43nm,0.9s
V52A Sevierville 23.06 19 P P 06 54 20.9 -0.7
baz=203,SNR=25
319A Douglas 23.09 321 IAmb IAmb 06 54 39.0
comp=Z,26nm,0.9s
U49A Red Boiling Sp 23.10 14 P P 06 54 19.9 -2.0
baz=197,SNR=10.0
BIRD Birdtown, Kers 23.15 26 IAmb IAmb 06 54 38.2
comp=Z,31nm,1.0s
X57A Johnson Farm, 23.16 27 P P 06 54 22.6 +0.2
baz=212
V53A Saluda 23.16 20 P P 06 54 22.1 -0.5
baz=205,SNR=7.8
V53A Saluda 23.16 20 IAmb IAmb 06 54 39.4
comp=Z,38nm,1.1s
KMSC Kings Mountain 23.23 24 P P 06 54 22.8 -0.4
baz=208,SNR=14
KMSC Kings Mountain 23.23 24 IAmb IAmb 06 54 23.5
comp=Z,47nm,1.0s
U50A Jamestown 23.24 16 P P 06 54 21.9 -1.4
baz=199,SNR=14
T47A Sharon Grove 23.28 11 P P 06 54 21.8 -1.9
baz=194,SNR=25
T47A Sharon Grove 23.28 11 P P 06 54 21.2 -2.4
U51A La Follette 23.43 17 P P 06 54 24.5 -0.6
baz=201,SNR=41
W56A Indian Trail 23.52 25 P P 06 54 24.7 -1.2
baz=210,SNR=11
V54A Nebo 23.56 22 P P 06 54 25.8 -0.5
baz=206,SNR=20
U52A Thorn Hill 23.64 19 P P 06 54 27.2 +0.1
baz=203,SNR=8.8
S44A Carbondale 23.66 6 P P 06 54 26.2 -0.9
baz=188,SNR=15
SIUC Southern Illin 23.69 6 P P 06 54 26.2 -1.1
T49A Edmonton 23.72 14 P P 06 54 26.3 -1.5
baz=197,SNR=12
T49A Edmonton 23.72 14 IAmb IAmb 06 54 28.4
comp=Z,20nm,0.9s
TZTN Tazewell 23.73 18 P P 06 54 28.1 +0.3
baz=202,SNR=13
TZTN Tazewell 23.73 18 IAmb IAmb 06 54 28.9
comp=Z,58nm,1.1s
W57A Gilead 23.78 26 P P 06 54 27.7 -0.6
baz=211,SNR=5.7
W57A Gilead 23.78 26 IAmb IAmb 06 54 28.2
comp=Z,22nm,0.9s
T50A Nancy 23.81 15 P P 06 54 27.2 -1.4
baz=199,SNR=20
U53A Fall Branch 23.87 20 P P 06 54 28.2 -0.9
baz=204,SNR=6.5
CCM Cathedral Cave 23.88 2 P P 06 54 26.6 -2.5
baz=183
CCM Cathedral Cave 23.88 2 P P 06 54 28.0 -1.1
CCM pmax pmax
comp=Z,21nm,0.9s
CCM Cathedral Cave 23.88 2 P P 06 54 27.9 -1.1
CCM IAmb IAmb 06 54 29.1
comp=Z,20nm,0.8s
LENM Lemitar 23.90 329 P P 06 54 29.6 0.0

V55A Taylorsville 23.90 23 P P 06 54 28.6 -0.7
baz=208,SNR=18
V55A Taylorsville 23.90 23 IAmb IAmb 06 54 29.9
comp=Z,46nm,0.9s
X59A McDuffie Farm, 23.92 29 P P 06 54 29.1 -0.5
baz=215
T51A Gray 24.00 17 P P 06 54 29.8 -0.4
baz=201,SNR=13
W58A Raeford 24.00 28 P P 06 54 29.2 -1.1
baz=213
V56A Mocksville 24.14 24 P P 06 54 30.5 -1.0
baz=210,SNR=10
USIN University of 24.14 9 IAmb IAmb 06 54 46.0
comp=Z,72nm,1.4s
U54A Nelsons Funny 24.27 21 P P 06 54 32.1 -0.7
baz=206,SNR=12
U54A Nelsons Funny 24.27 21 IAmb IAmb 06 54 33.3
comp=Z,40nm,0.9s
ANMO Albuquerque 24.28 331 P P 06 54 33.5 +0.5
baz=146
ANMO Albuquerque 24.28 331⇑ *eP* **P 06 54 33.1 +0.1**
ANMO pmax pmax
comp=Z,20nm,1.1s
ANMO Albuquerque 24.28 331 P P 06 54 33.2 +0.2
comp=Z,6.7nm,0.7s,baz=147,slow=12,SNR=18
ANMO Albuquerque 24.28 331 P P 06 54 32.7 -0.3
T52A Hallie 24.42 19 P P 06 54 32.6 -1.5
baz=203,SNR=13
T52A Hallie 24.42 19 IAmb IAmb 06 54 34.9
comp=Z,42nm,1.1s
S49A Springfield 24.43 14 P P 06 54 33.7 -0.4
baz=197,SNR=6.0
T53A Wise 24.45 20 P P 06 54 33.0 -1.3
baz=204
V57A Coltrane Farms 24.50 26 P P 06 54 33.8 -1.0
baz=211,SNR=12
SLM Saint Louis 24.51 4 IAmb IAmb 06 54 36.0
comp=Z,38nm,0.8s
U55A TA2, Sparta 24.54 23 P P 06 54 34.3 -0.9
baz=208,SNR=14
S50A Richmond 24.55 16 P P 06 54 34.7 -0.5
baz=199,SNR=6.6
WCI Wyandotte Cave 24.64 12 P P 06 54 34.7 -1.3
baz=195
WCI Wyandotte Cave 24.64 12 P P 06 54 34.2 -1.9
WCI pmax pmax
comp=Z,44nm,0.8s
WCI Wyandotte Cave 24.64 12 P P 06 54 34.2 -1.9
U56A King 24.65 24 P P 06 54 35.4 -0.8
baz=209,SNR=14
TUC Tucson 24.65 320 P P 06 54 36.9 +0.5
baz=134
TUC Tucson 24.65 320 P P 06 54 36.2 -0.2
TUC pmax pmax
comp=Z,29nm,1.2s
TUC Tucson 24.65 320 P P 06 54 36.2 -0.2
TUC IAmb IAmb 06 54 54.3
comp=Z,28nm,1.1s
V58A Windy Hill, Pi 24.70 27 P P 06 54 35.7 -1.0
baz=212,SNR=8.9
V58A Windy Hill, Pi 24.70 27 IAmb IAmb 06 54 37.2
comp=Z,23nm,0.9s
S51A Beattyville 24.73 17 P P 06 54 35.7 -1.2
baz=201,SNR=11
S51A Beattyville 24.73 17 IAmb IAmb 06 54 37.4
comp=Z,30nm,0.9s
CNNC Cliffs of the 24.81 29 IAmb IAmb 06 54 38.3
comp=Z,22nm,0.9s
T54A Tazewell 24.84 21 P P 06 54 37.0 -1.0
baz=206,SNR=6.8
R50A Paris 25.14 15 P P 06 54 39.8 -0.8
baz=199,SNR=9.0
R50A Paris 25.14 15 IAmb IAmb 06 54 41.0
comp=Z,31nm,1.1s
U57A Blanch 25.15 26 P P 06 54 39.9 -0.8
baz=211,SNR=9.8
KSU1 Kansas State U 25.16 352 P P 06 54 39.6 -1.1
baz=171
T55A Pulaski 25.18 22 P P 06 54 39.9 -1.1
baz=208
S53A Williamson 25.22 20 P P 06 54 40.2 -1.1
baz=204
T25A Trinidad 25.29 337 P P 06 54 43.2 +1.0
baz=152,SNR=51
ATAH Atahualpa 25.32 146 P P 06 54 43.6 +0.7
comp=Z,28nm,1.2s,baz=322,slow=5.2,SNR=12
ATAH LR LR 07 01 54.6
comp=Z,304nm,18.9s,baz=325,slow=30
R51A Hillsboro 25.35 17 P P 06 54 40.9 -1.6
baz=201,SNR=6.3
T56A Rocky Mt 25.39 24 P P 06 54 42.1 -0.8
baz=209,SNR=8.6
BLA Blacksburg 25.39 23 P P 06 54 42.2 -0.8
baz=208
BLA Blacksburg 25.39 23 pP 06 54 51.3 -6.8
CBKS Cedar Bluff 25.43 347 P P 06 54 42.6 -0.6
baz=164,SNR=32
Q48A North Vernon 25.43 12 P P 06 54 41.6 -1.6
baz=196,SNR=6.5
BLO Bloomington 25.51 11 IAmb IAmb 06 54 43.4
comp=Z,18nm,0.8s
SJG San Juan 25.59 78 LR LR 07 05 52.0
comp=Z,1μm,19.9s,baz=256,slow=39
S54A Dingess, Beckl 25.60 21 IAmb IAmb 06 54 44.3
comp=Z,18nm,0.7s
R52A Catlettsburg 25.66 18 P P 06 54 44.1 -1.2
baz=203
T57A Hurt 25.67 25 P P 06 54 44.8 -0.6
baz=211,SNR=5.2
T57A Hurt 25.67 25 P P 06 54 44.3 -1.2
Q49A Aurora 25.69 14 P P 06 54 44.4 -1.1
baz=197
Q50A Georgetown 25.76 15 P P 06 54 45.0 -1.2
baz=200
P46A Rosedale 25.83 9 P P 06 54 45.4 -1.4
baz=192,SNR=6.2
S55A Lewisburg 25.86 22 P P 06 54 46.2 -1.0
baz=208
R53A Hurricane 25.87 19 IAmb IAmb 06 54 49.9
comp=Z,22nm,1.1s
T58A Grand View Acr 25.93 26 P P 06 54 46.6 -1.2
baz=212
P48A Milroy 26.00 13 P P 06 54 45.9 -2.5
baz=196,SNR=6.0
P48A Milroy 26.00 13 IAmb IAmb 06 54 47.4
comp=Z,20nm,0.9s
W18A Petrified Fore 26.07 326 P P 06 54 50.3 +1.1
baz=140
W18A Petrified Fore 26.07 326 P P 06 54 50.0 +0.7
Q51A Peebles 26.09 16 P P 06 54 48.3 -1.0
baz=201,SNR=10
Q51A Peebles 26.09 16 IAmb IAmb 06 54 49.0
comp=Z,33nm,0.9s
U60A Pendleton 26.15 29 P P 06 54 48.5 -1.2
baz=216
SDCO Great Sand Dun 26.23 336 P P 06 54 51.7 +0.9
baz=151,SNR=8.3
Q52A Bidwell 26.35 18 P P 06 54 50.0 -1.5
baz=203
KSCO Kaye Shedlock' 26.37 342 P P 06 54 52.0 +0.1
baz=158,SNR=9.6
KSCO Kaye Shedlock' 26.37 342 IAmb IAmb 06 54 52.8
comp=Z,33nm,1.0s
T59A Double "B" Far 26.38 28 P P 06 54 50.9 -0.9
baz=214
S57A Dark Hollow, R 26.45 25 P P 06 54 56.2 +3.8
baz=211
R55A Marlinton 26.45 22 P P 06 54 51.5 -1.0
baz=208,SNR=8.9
R55A Marlinton 26.45 22 IAmb IAmb 06 54 52.6
comp=Z,29nm,0.9s
P50A Jamestown 26.52 15 P P 06 54 52.2 -0.9
baz=199
SFIN Lafayette 26.59 9 IAmb IAmb 06 54 52.9
comp=Z,15nm,0.8s
P51A Williamsport 26.60 16 P P 06 54 52.7 -1.1
baz=201
P51A Williamsport 26.60 16 IAmb IAmb 06 54 53.2
comp=Z,17nm,0.9s
S58A Poland Farm, P 26.70 26 P P 06 54 53.7 -1.0
baz=213
S58A Poland Farm, P 26.70 26 IAmb IAmb 06 54 54.5
comp=Z,28nm,1.1s
S22A 4UR Ranch, Cre 26.78 334 P P 06 54 56.3 +0.6
baz=148,SNR=30
S22A 4UR Ranch, Cre 26.78 334 IAmb IAmb 06 54 58.8
comp=Z,23nm,1.1s
Q54A Coxs Mills 26.82 20 P P 06 54 54.8 -1.1

baz=206,SNR=6.4
Q54A Coxs Mills 26.82 20 P P 06 54 54.6 -1.2
Q54A IAmb IAmb 06 54 55.6
comp=Z,23nm,0.9s
R56A Bull Pasture M 26.83 23 P P 06 54 55.3 -0.7
baz=209,SNR=5.2
P52A Corning 27.00 18 P P 06 54 56.0 -1.4
baz=203
R58B Mineral 27.06 26 IAmb IAmb 06 54 57.9
comp=Z,18nm,1.1s
MVCO Mesa Verde 27.08 331 P P 06 54 59.2 +0.7
baz=144,SNR=19
MVCO Mesa Verde 27.08 331 IAmb IAmb 06 55 03.9
comp=Z,41nm,1.1s
Q24A Divide 27.17 338 P P 06 54 58.0 -1.3
baz=153
Q24A Divide 27.17 338 P P 06 54 58.6 -0.6
WUAZ Wupatki 27.26 325 P P 06 55 00.7 +0.7
baz=137,SNR=8.4
R58A Rapidan 27.30 25 P P 06 54 59.1 -1.0
baz=212,SNR=6.8
ACSO Alum Creek Sta 27.32 16 P P 06 54 59.2 -1.1
baz=201
O51A Pataskala 27.34 17 P P 06 54 58.9 -1.6
baz=201
N48A Decatur 27.43 12 P P 06 54 59.5 -1.8
baz=196,SNR=6.9
Q56A Snyder Ridge, 27.46 23 P P 06 55 01.0 -0.6
baz=209,SNR=5.9
Q56A Snyder Ridge, 27.46 23 IAmb IAmb 06 55 01.4
comp=Z,20nm,0.9s
CBN Corbin Frederi 27.48 26 P P 06 55 01.3 -0.4
baz=213
CBN Corbin Frederi 27.48 26 P P 06 55 00.6 -1.1
CBN IAmb IAmb 06 55 02.0
comp=Z,29nm,0.9s
P54A Burton 27.50 20 P P 06 55 00.9 -1.0
baz=206,SNR=5.6
O52A Adamsville 27.54 18 P P 06 55 01.1 -1.1
baz=203
R59A King George, V 27.59 27 P P 06 55 01.8 -0.9
baz=214
Q57A Strasburg 27.76 24 P P 06 55 03.5 -0.7
baz=210
L40A Anamosa 27.87 2 P P 06 55 02.7 -2.4
baz=183
Y12C Blythe 27.97 318 P P 06 55 06.7 +0.6
baz=130
P56A Dayton Farm, R 28.00 23 P P 06 55 05.6 -0.8
baz=209
SMCO Snowmass 28.05 336 IAmb IAmb 06 55 19.5
comp=Z,18nm,1.1s
O54A Avella 28.06 20 P P 06 55 05.3 -1.5
baz=206
O54A Avella 28.06 20 IAmb IAmb 06 55 06.1
comp=Z,14nm,0.8s
ISCO Idaho Springs 28.07 338 P P 06 55 08.0 +0.6
baz=152,SNR=8.0
PDMCI Parker Dam,Lak 28.07 320 P P 06 55 07.7 +0.6
baz=131
PV07 Paradox Valley 28.14 332 P P 06 55 08.9 +1.0
N52A McGinn's Farm, 28.22 17 P P 06 55 06.7 -1.6
baz=203
P57A Homestead Farm 28.30 24 P P 06 55 08.7 -0.3
baz=211,SNR=14
SWSC Sam W. Stewart 28.32 315 P P 06 55 09.5 +0.1
baz=126
W13A Hualapai Mount 28.44 321 P P 06 55 11.1 +0.6
O55A Ligonier 28.45 21 P P 06 55 08.4 -2.0
baz=208
N53A Lisbon 28.47 19 P P 06 55 09.1 -1.4
baz=204
BC3 Big Chuckawall 28.52 317 P P 06 55 11.7 +0.5
baz=128,SNR=8.4
L48A N Adams 28.60 13 P P 06 55 10.0 -1.6
baz=197
IRM Iron Mountain 28.62 318 P P 06 55 12.5 +0.5
baz=129,SNR=6.9
O56A Blue Knob Stat 28.77 22 P P 06 55 12.2 -1.1
baz=209,SNR=5.6
O56A Blue Knob Stat 28.77 22 IAmb IAmb 06 55 12.9
comp=Z,21nm,0.9s
N54A Moraine State 28.89 20 P P 06 55 12.7 -1.5
baz=206,SNR=6.0
N54A Moraine State 28.89 20 IAmb IAmb 06 55 13.7
comp=Z,33nm,0.9s
P59A Jarrettsville 29.06 26 P P 06 55 15.0 -0.8
baz=214
N55A Marion Center 29.07 21 P P 06 55 14.4 -1.5
baz=208
O57A Amberson 29.07 24 P P 06 55 14.6 -1.3
baz=211
TPFO Pinon Flats 29.16 316 P P 06 55 17.4 +0.6
baz=126
N23A Red Feather La 29.16 339 P P 06 55 17.4 +0.5
baz=153
PFO Pinyon Flats O 29.16 316 P P 06 55 17.3 +0.3
baz=126
PFO Pinyon Flats O 29.16 316 P P 06 55 16.8 -0.1
PFO pmax pmax
comp=Z,12nm,1.3s
PFO Pinyon Flats O 29.16 316 P P 06 55 17.0 +0.1
comp=Z,3.4nm,0.8s,baz=75,slow=3.3,SNR=3.8
PFO LR LR 07 07 05.2
comp=Z,540nm,21.3s,baz=130,slow=36
PFO Pinyon Flats O 29.16 316 P P 06 55 16.8 -0.1
O58A Lewisberry 29.28 25 P P 06 55 15.8 -1.9
baz=212
SSPA Standing Stone 29.34 23 P P 06 55 17.2 -1.1
baz=210
SSPA Standing Stone 29.34 23 P P 06 55 16.9 -1.4
SSPA IAmb IAmb 06 55 17.9
comp=Z,16nm,0.8s
GMRC Granite Mounta 29.35 319 P P 06 55 19.0 +0.4
baz=129
O20A White River Ci 29.38 335 P P 06 55 19.9 +1.0
baz=148,SNR=8.2
LCMT Little Creek M 29.38 325 P P 06 55 19.5 +0.6
N56A West Decatur 29.44 22 P P 06 55 17.9 -1.3
baz=209
N57A Milroy 29.58 23 P P 06 55 19.0 -1.3
baz=210
Q16A Castle Valley 29.71 330 P P 06 55 22.4 +0.5
ECSD EROS Data Cent 29.73 354 P P 06 55 20.4 -1.3
baz=172
M55A Ridgway 29.75 21 P P 06 55 19.8 -2.1
baz=208
M55A Ridgway 29.75 21 IAmb IAmb 06 55 21.1
comp=Z,15nm,0.8s
HEC Hector,Ludlow 29.81 318 P P 06 55 23.3 +0.7
baz=128
M56A Emporium 29.97 22 P P 06 55 22.4 -1.4
baz=209
M56A Emporium 29.97 22 IAmb IAmb 06 55 23.5
comp=Z,19nm,0.9s
N58A Sunbury 29.98 24 P P 06 55 22.6 -1.2
baz=212,SNR=5.3
N58A Sunbury 29.98 24 IAmb IAmb 06 55 23.3
comp=Z,15nm,0.8s
NNA Nana 30.21 148 *i* P **P 06 55 29.6 +3.4**
M57A Sunshine Farm, 30.24 23 P P 06 55 25.2 -1.0
baz=211,SNR=5.5
M57A Sunshine Farm, 30.24 23 IAmb IAmb 06 55 25.9
comp=Z,23nm,0.8s
RWWY Rawlins 30.31 338 IAmb IAmb 06 55 29.2
comp=Z,30nm,1.0s
N59A State Game Lan 30.43 25 P P 06 55 26.3 -1.6
baz=214
M58A Price's Panora 30.53 24 P P 06 55 27.7 -1.0
baz=212,SNR=9.3
N60A Cedar Hill Far 30.67 26 P P 06 55 29.7 -0.3
baz=215
SUSD Miller 30.73 351 P P 06 55 29.4 -1.1
SUSD IAmb IAmb 06 55 30.2
comp=Z,22nm,0.7s
L56A Greenwood 30.77 22 P P 06 55 29.8 -1.1
baz=209
K54A Basiliko Farm, 30.79 20 P P 06 55 29.4 -1.7
baz=207
L57A Andrews Acres 30.91 23 P P 06 55 31.0 -1.2
baz=211,SNR=5.6
K22A Casper 30.92 340 P P 06 55 32.7 +0.3
baz=153,SNR=9.0
K22A Casper 30.92 340 IAmb IAmb 06 55 33.7
comp=Z,16nm,0.9s
KSPA Keystone Colle 30.96 25 IAmb IAmb 06 55 32.0
comp=Z,18nm,0.9s
SPMN Marine on St. 31.01 360 P P 06 55 32.4 -0.5

baz=180
SPMN Marine on St. 31.01 360 IAmb IAmb 06 55 34.9
comp=Z,18nm,0.8s
M59A Waymart 31.09 25 P **P** **06 55 32.7 -1.0**
baz=214
TPNV Topopah Spring 31.10 321 P **P** **06 55 35.4 +1.4**
baz=131
FURC Furnace Creek, 31.17 320 P **P** **06 55 34.7 +0.3**
baz=130
MPMC Manual Prospec 31.31 319 P **P** **06 55 36.5 +0.5**
baz=128
L58A Harry Jones Me 31.34 24 P **P** **06 55 34.8 -1.1**
baz=212,SNR=8.0
K56A Middlesex 31.34 22 P **P** **06 55 34.5 -1.5**
baz=209,SNR=6.1
CTU Camp Tracy 31.38 331 P **P** **06 55 37.3 +0.8**
BINY Binghamton 31.42 24 P **P** **06 55 35.0 -1.6**
baz=212,SNR=8.6
RSSD Black Hills 31.50 344 P **P** **06 55 37.7 +0.2**
baz=159
RSSD Black Hills 31.50 344 P **P** **06 55 37.3 -0.2**
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 31.50 344 P **P** **06 55 37.3 -0.2**
RSSD IAmb IAmb 06 55 38.4
comp=Z,12nm,0.8s
DUG Dugway, Tooele 31.51 329 P **P** **06 55 38.7 +1.1**
baz=140
DUG Dugway, Tooele 31.51 329 IAmb IAmb 06 55 50.7
comp=Z,17nm,1.4s
DAC Darwin (Calif) 31.51 319 P **P** **06 55 39.9 +2.2**
DAC pmax pmax
comp=Z,8.0nm,1.2s
DAC Darwin (Calif) 31.51 319 P **P** **06 55 39.9 +2.2**
TCUT Toone Canyon 31.56 332 P **P** **06 55 39.2 +1.0**
R11A Troy Canyon, C 31.64 324 P **P** **06 55 39.6 +0.8**
baz=134,SNR=8.1
WSPT Westport, CT 31.70 28 pP 06 55 49.9 -4.5
L59A Walton 31.79 25 P **P** **06 55 39.2 -0.7**
baz=214
J56A Wolcott 32.02 22 P **P** **06 55 40.4 -1.3**
baz=210
J56A Wolcott 32.02 22 P **P** **06 55 40.1 -1.6**
HWUT Hardware Ranch 32.02 332 IAmb IAmb 06 55 47.3
comp=Z,31nm,1.4s
K58A Earlville 32.03 24 P **P** **06 55 40.7 -1.3**
baz=212,SNR=9.5
BW06 Boulder Array 32.13 336 P **P** **06 55 43.4 +0.3**
baz=148,SNR=8.4
BW06 Boulder Array 32.13 336 IAmb IAmb 06 55 45.0
comp=Z,12nm,1.1s
PDAR Pinedale Array 32.13 336 P **P** **06 55 41.5 -1.6**
comp=Z,5.6nm,0.9s,baz=141,slow=9.6,SNR=21
PDAR PcP **PcP** **06 58 30.3 -0.8**
comp=Z,1.0nm,0.6s,baz=152,slow=4.1,SNR=4.8
PDAR LR LR 07 11 23.2
comp=Z,238nm,18.6s,baz=148,slow=41
PDAR Pinedale Array 32.13 336 P **P** **06 55 42.6 -0.5**
PDAR **PcP** **06 58 30.4 -0.6**
VES Vestal, Richgr 32.22 317 P **P** **06 55 44.6 +0.9**
baz=126,SNR=5.9
I55A Frankford 32.56 20 P **P** **06 55 44.5 -2.0**
baz=208
H53A Bobcaygeon 32.59 19 P **P** **06 55 45.2 -1.6**
baz=206,SNR=5.9
J58A Remsen 32.68 24 P **P** **06 55 46.0 -1.6**
baz=212,SNR=5.0
J58A Remsen 32.68 24 IAmb IAmb 06 55 46.8
comp=Z,18nm,0.8s
AHID Auburn Hatcher 32.76 334 IAmb IAmb 06 55 57.4
comp=Z,18nm,0.9s
TRY Troy 32.81 26 IAmb IAmb 06 55 49.0
comp=Z,23nm,1.0s
K61A Williamstown 32.93 27 P **P** **06 55 48.8 -1.1**
baz=216
J59A Piesco 33.07 24 P **P** **06 55 49.9 -1.2**
baz=213
J59A Piesco 33.07 24 IAmb IAmb 06 55 51.3
comp=Z,19nm,0.9s
G53A Haliburton 33.07 18 P **P** **06 55 49.2 -1.9**
baz=205
I58A Old Forge 33.08 24 P **P** **06 55 49.7 -1.4**
baz=212,SNR=11
NV11 Mina Array Sit 33.21 322 IAmb IAmb 06 55 54.3
comp=Z,16nm,0.9s
NVAR Mina Array Bea 33.30 321 P **P** **06 55 54.2 +0.9**
comp=Z,12nm,0.7s,baz=136,slow=8.5,SNR=68
NVAR PcP **PcP** **06 58 34.9 +0.6**
comp=Z,1.5nm,0.8s,baz=139,slow=4.7,SNR=5.3
NVAR LR LR 07 11 21.1
comp=Z,1μm,18.3s,baz=134,slow=40
J60A Lant Hill Farm 33.33 26 P **P** **06 55 52.5 -0.8**
baz=215
MOOW Moose Ponds 33.42 336 IAmb IAmb 06 55 56.1
comp=Z,21nm,1.1s
FXWY Fox Creek 33.45 335 IAmb IAmb 06 55 55.8
comp=Z,15nm,1.1s
L64A Middleborough 33.47 30 P **P** **06 55 54.1 -0.4**
baz=220
KVN Kaiserville 33.57 322 IAmb IAmb 06 55 57.1
comp=Z,12nm,1.0s
NCB Newcomb 33.61 24 IAmb IAmb 06 55 54.9
comp=Z,16nm,0.9s
IMW Indian Meadow 33.63 336 IAmb IAmb 06 55 58.7
comp=Z,15nm,0.8s
FLWY Flagg Ranch 33.69 336 P **P** **06 55 56.9 +0.3**
FLWY IAmb IAmb 06 55 58.0
comp=Z,16nm,0.9s
G55A Calabogie 33.80 20 P **P** **06 55 55.7 -1.6**
baz=208
I60A Shoreham 33.88 25 P **P** **06 55 57.2 -0.8**
baz=215
H17A Grant Village 33.90 336 P **P** **06 56 00.4 +1.8**
baz=148,SNR=7.3
H17A Grant Village 33.90 336 IAmb IAmb 06 56 06.6
comp=Z,14nm,1.1s
BMN Battle Mountai 33.99 325 IAmb IAmb 06 56 00.8
comp=Z,10nm,0.9s
ALGO Algonquin Park 34.00 18 P **P** **06 55 57.1 -1.9**
baz=206
H58A Gabriels 34.00 24 P **P** **06 55 57.4 -1.7**
baz=213
LONY Lake Ozonia 34.01 23 P **P** **06 55 57.7 -1.5**
baz=212,SNR=6.6
RLMT Red Lodge 34.03 339 P **P** **06 56 00.0 +0.4**
baz=150,SNR=7.4
RLMT Red Lodge 34.03 339 IAmb IAmb 06 56 00.5
comp=Z,10nm,0.9s
MDND Maddock 34.16 351 P **P** **06 55 59.8 -0.6**
baz=168,SNR=7.1
MDND Maddock 34.16 351 P **P** **06 55 59.5 -1.0**
AGMN Agassiz Nation 34.20 356 P **P** **06 55 59.9 -0.9**
baz=174
AGMN Agassiz Nation 34.20 356 IAmb IAmb 06 56 00.3
comp=Z,12nm,0.8s
YERR Yerington 34.22 321 IAmb IAmb 06 56 02.8
comp=Z,10nm,0.9s
G57A Newington 34.27 22 P **P** **06 55 59.7 -1.7**
baz=211,SNR=5.0
CMB Columbia Colle 34.34 319 P **P** **06 56 02.2 -0.1**
CMB pmax pmax
comp=Z,13nm,1.5s
CMB Columbia Colle 34.34 319 P **P** **06 56 02.2 -0.1**
F55A Otter Lake 34.43 20 P **P** **06 56 01.4 -1.4**
baz=209
PNTR Pine Nut 34.50 321 IAmb IAmb 06 56 05.4
comp=Z,14nm,0.9s
E54A Lac Daplat, Po 34.69 19 P **P** **06 56 03.2 -1.9**
baz=207
PAHR Pah Rah Range 34.76 322 IAmb IAmb 06 56 07.3
comp=Z,12nm,1.1s
D53A Lac Vacive, Po 35.12 18 P **P** **06 56 07.3 -1.4**
baz=206
BOZ Bozeman (W) 35.31 337 P **P** **06 56 11.4 +0.8**
baz=147,SNR=11
MFID Camas Ranch 35.41 330 IAmb IAmb 06 56 18.9
comp=Z,12nm,1.1s
BEKR Beckworth 35.44 322 **PcP** **06 58 38.5 -2.0**
E56A St. Veronique 35.49 21 P **P** **06 56 10.5 -1.4**
baz=210,SNR=7.4
D54A Lac Fusel, La 35.50 19 P **P** **06 56 10.2 -1.8**
baz=207
DLMT Dillon 35.50 335 P **P** **06 56 13.1 +0.8**
DGMT Dagmar 35.61 347 P **P** **06 56 13.0 0.0**
baz=161,SNR=8.5
E57A Chemin Saint G 35.70 22 P **P** **06 56 12.3 -1.4**
baz=212,SNR=6.6
D55A Sainte-Anne-du 35.76 20 P **P** **06 56 12.6 -1.6**
baz=209,SNR=7.2
E58A La Victoria 35.98 23 P **P** **06 56 14.6 -1.5**
baz=213
D56A ZEC Mazanza, M 36.03 21 P **P** **06 56 14.7 -1.8**
baz=210
WVOR Wild Horse Val 36.14 326 IAmb IAmb 06 56 33.9
comp=Z,15nm,1.1s
ULM Lac du Bonnet 36.15 356 P **P** **06 56 15.6 -1.9**
comp=Z,14nm,0.7s,baz=174,slow=8.1,SNR=18
ULM PcP **PcP** **06 58 41.8 -0.2**
comp=Z,6.7nm,0.8s,baz=272,slow=2.8,SNR=6.1
ULM LR LR 07 15 04.1
comp=Z,269nm,18.9s,baz=186,slow=43
ULM Lac du Bonnet 36.15 356 IAmb IAmb 06 56 17.0
comp=Z,18nm,0.8s
ULM **PcP** **06 58 42.8 +0.8**
F60A Warwick 36.16 24 P **P** **06 56 15.9 -1.8**
baz=215
D57A Chemin Vers le 36.30 22 P **P** **06 56 17.1 -1.8**
baz=212
EGMT Eagleton 36.73 341 P **P** **06 56 23.1 +0.5**
baz=152,SNR=9.7
D58A Chemin du LacG 36.74 23 P **P** **06 56 21.0 -1.5**
baz=213,SNR=5.2
PLID Pearl Lake 36.76 332 P **P** **06 56 23.2 +0.1**
PLID IAmb IAmb 06 56 24.4
comp=Z,28nm,1.1s
SAML Samuel 37.01 127 P **P** **06 56 23.0 -2.3**
SAML pmax pmax
comp=Z,11nm,0.9s
SAML Samuel 37.01 127 P **P** **06 56 22.9 -2.3**
SAML IAmb IAmb 06 56 28.2
comp=Z,11nm,0.9s
LATQ La Tuque 37.02 22 P **P** **06 56 23.5 -1.4**
baz=213,SNR=6.1
LATQ La Tuque 37.02 22 IAmb IAmb 06 56 24.2
comp=Z,9.7nm,0.8s
LSQQ Lebel-sur-Quev 37.11 17 P **P** **06 56 23.3 -2.4**
baz=206
MSO Missoula 37.24 335 P **P** **06 56 27.3 +0.3**
baz=144,SNR=19
MSO Missoula 37.24 335 IAmb IAmb 06 56 28.4
comp=Z,25nm,1.1s
MATQ Matagami 37.57 16 P **P** **06 56 27.4 -2.1**
baz=204
LPAZ La Paz 38.61 141 P **P** **06 56 37.8 -1.6**
LPAZ pmax pmax
comp=Z,12nm,1.1s
LPAZ La Paz 38.61 141 P **P** **06 56 38.0 -1.4**
comp=Z,7.7nm,0.9s,baz=331,slow=12,SNR=9.6
LPAZ La Paz 38.61 141 *eP* **P** **06 56 41.8 +2.4**
LPAZ La Paz 38.61 141 *eP* **P** **06 56 41.8 +2.4**
LPAZ La Paz 38.61 141 P **P** **06 56 37.8 -1.6**
G05D Wamic, OR 39.48 328 P **P** **06 56 47.2 +1.5**
baz=133
I03D Drain, OR 39.58 324 P **P** **06 56 46.8 +0.3**
baz=129
J01E Myrtle Point 39.58 323 P **P** **06 56 45.4 -1.2**
baz=128
KEBM Edson Butte 39.64 323 P **P** **06 56 47.5 +0.3**
NEW Newport 39.70 334 P **P** **06 56 47.0 -0.5**
baz=141
H04D Lebanon 39.76 326 P **P** **06 56 47.3 -0.7**
baz=130
C09A Chrisman Ranch 39.84 333 IAmb IAmb 06 57 00.7
comp=Z,19nm,1.0s
F05D White Salmon 39.99 328 P **P** **06 56 50.8 +0.9**
baz=133
MNMC Minye Minye 39.99 145 P **P** **06 56 52.9 +2.4**
PB11 IPOC Station P 40.46 146 P **P** **06 56 55.7 +1.5**
G03D McMinnville, O 40.49 326 P **P** **06 56 54.6 +0.6**
baz=130
GO01 Chusmiza 40.64 145 P **P** **06 56 58.6 +2.5**
GO01 IAmb IAmb 06 57 00.7
comp=Z,32nm,1.1s
B08A Colville Reser 40.73 332 P **P** **06 56 55.5 -0.6**
FFC Flin Flon 41.20 352 P **P** **06 56 59.0 -0.7**
FFC pmax pmax
comp=Z,9.0nm,0.7s
FFC Flin Flon 41.20 352 P **P** **06 56 59.0 -0.7**
B06A Marblemount 41.83 331 IAmb IAmb 06 57 17.8
comp=Z,21nm,0.9s
B05A Bryant 41.94 330 P **P** **06 57 05.4 -0.5**
baz=134
NLWA Neilton Lookou 42.23 328 P **P** **06 57 09.1 +0.7**
NLWA IAmb IAmb 06 57 21.1
comp=Z,41nm,1.3s
A04D Lummi Island 42.55 330 P **P** **06 57 11.2 +0.3**
baz=134
LVC Limon Verde 43.19 147 P **P** **06 57 19.0 +2.3**
LVC pmax pmax
comp=Z,13nm,1.2s
LVC Limon Verde 43.19 147 P **P** **06 57 18.2 +1.5**
comp=Z,7.9nm,0.9s,baz=244,slow=4.1,SNR=4.3
LVC Limon Verde 43.19 147 *eP* **P** **06 57 19.6 +2.9**
LVC Limon Verde 43.19 147 *eP* **P** **06 57 19.6 +2.9**
LVC Limon Verde 43.19 147 P **P** **06 57 19.0 +2.3**
GO02 Mina Guanaco 44.96 150 IAmb IAmb 06 57 34.2
comp=Z,22nm,1.1s
SCHQ Schefferville 45.28 21 P **P** **06 57 30.6 -2.1**
comp=Z,22nm,0.9s,baz=219,slow=6.3,SNR=13
SCHQ PcP **PcP** **06 59 11.5 0.0**
comp=Z,7.7nm,0.8s,baz=54,slow=2.6,SNR=4.0
SCHQ LR LR 07 17 36.8
comp=Z,1μm,19.3s,baz=229,slow=38
SCHQ Schefferville 45.28 21 P **P** **06 57 30.2 -2.4**
PP1B Ponte de Pedra 48.67 129 *eP* **P** **06 58 00.8 +1.2**
PP1B Ponte de Pedra 48.67 129 *eP* **P** **06 58 00.8 +1.2**
AQDB Aquidauana 49.88 133 *eP* **P** **06 58 10.6 +1.9**
AQDB Aquidauana 49.88 133 *eP* **P** **06 58 10.6 +1.9**
ARAG Araguaiana, MT 49.94 125 *eP* **P** **06 58 10.8 +1.5**
ARAG Araguaiana, MT 49.94 125 *eP* **P** **06 58 10.8 +1.5**
YKA Yellowknife Ar 50.81 347 P **P** **06 58 14.7 -0.5**
YKA Yellowknife Ar 50.81 347 P **P** **06 58 15.2 0.0**
comp=Z,42nm,0.8s,baz=150,slow=7.4,SNR=68
YKA Yellowknife Ar 50.81 347 P **P** **06 58 14.7 -0.5**
C2SB Chapadao do Su 50.92 129 *eP* **P** **06 58 20.2 +3.6**
C2SB Chapadao do Su 50.92 129 *eP* **P** **06 58 20.2 +3.6**
PEXB Peixe 50.94 119 *eP* **P** **06 58 19.1 +2.1**
PEXB Peixe 50.94 119 *eP* **P** **06 58 19.1 +2.1**
CPUP Villa Florida 52.77 140 P **P** **06 58 30.6 +0.4**
comp=Z,9.5nm,1.0s,baz=330,slow=8.3,SNR=9.2
CPUP LR LR 07 23 07.9
comp=Z,149nm,18.7s,baz=346,slow=38
CPUP Villa Florida 52.77 140 *eP* **P** **06 58 32.3 +2.1**
CPUP Villa Florida 52.77 140 *eP* **P** **06 58 32.3 +2.1**
CPUP Villa Florida 52.77 140 IAmb IAmb 06 58 32.9
comp=Z,15nm,1.1s
BDFB Brasilia 52.97 122 P **P** **06 58 31.3 -0.8**
comp=Z,14nm,1.2s,baz=282,slow=11,SNR=7.4
BDFB LR LR 07 23 33.0
comp=Z,209nm,19.2s,baz=302,slow=39
BDFB Brasilia 52.97 122 IAmb IAmb 06 58 36.4
comp=Z,9.7nm,1.0s
NBPS Pedro II - PI 53.85 106 *eP* **P** **06 58 41.5 +2.9**
NBPS Pedro II - PI 53.85 106 *eP* **P** **06 58 41.5 +2.9**
IPMB Ipameri, GO 54.06 125 *eP* **P** **06 58 42.4 +2.4**
IPMB Ipameri, GO 54.06 125 *eP* **P** **06 58 42.4 +2.4**
NBMO Morrinhos-CE 54.79 104 *eP* **P** **06 58 47.1 +1.8**
NBMO Morrinhos-CE 54.79 104 *eP* **P** **06 58 47.1 +1.8**
PMNB Patos De Minas 55.78 124 *eP* **P** **06 58 55.3 +2.9**
PMNB Patos De Minas 55.78 124 *eP* **P** **06 58 55.3 +2.9**
NBCL Cascavel-CE 56.74 105 *eP* **P** **06 59 00.6 +1.3**
NBCL Cascavel-CE 56.74 105 *eP* **P** **06 59 00.6 +1.3**
NBMA Muriti-CE 57.41 108 *eP* **P** **06 59 04.7 +0.7**
NBMA Muriti-CE 57.41 108 *eP* **P** **06 59 04.7 +0.7**
NBPN Ponto Novo - B 57.46 113 *eP* **P** **06 59 05.3 +0.9**
NBPN Ponto Novo - B 57.46 113 *eP* **P** **06 59 05.3 +0.9**
CPSB Cacapava Do Su 58.06 140 *eP* **P** **06 59 10.3 +2.1**
CPSB Cacapava Do Su 58.06 140 *eP* **P** **06 59 10.3 +2.1**
PLCA Paso Flores 58.23 161 P **P** **06 59 10.6 +1.3**
PLCA pmax pmax
comp=Z,13nm,1.2s
PLCA Paso Flores 58.23 161 P **P** **06 59 10.3 +0.9**
comp=Z,6.8nm,1.0s,baz=2.3,slow=7.1,SNR=8.2
PLCA LR LR 07 19 31.2
comp=Z,281nm,18.4s,baz=16,slow=31
PLCA Paso Flores 58.23 161 *eP* **P** **06 59 11.2 +1.9**
PLCA Paso Flores 58.23 161 *eP* **P** **06 59 11.2 +1.9**
PLCA Paso Flores 58.23 161 P **P** **06 59 10.6 +1.3**
PLCA IAmb IAmb 06 59 12.0
comp=Z,13nm,1.1s
DAWY Dawson 59.40 338 P **P** **06 59 16.9 -0.3**
DAWY IAmb IAmb 06 59 17.5
comp=Z,9.0nm,1.1s
BCAR Beaver Creek A 59.75 336 P **P** **06 59 20.2 +0.6**
EPYK Eagle Plains 59.88 341 P **P** **06 59 20.7 +0.4**
baz=129,SNR=6.4
EPYK Eagle Plains 59.88 341 IAmb IAmb 06 59 24.8
comp=Z,12nm,0.9s
INK Inuvik 60.20 344 P **P** **06 59 22.8 +0.3**
comp=Z,18nm,0.7s,baz=125,slow=7.0,SNR=80
BSFB Barra de Sao F 60.48 121 *eP* **P** **06 59 27.4 +2.2**
BSFB Barra de Sao F 60.48 121 *eP* **P** **06 59 27.4 +2.2**
SCRK Sand Creek 61.07 337 IAmb IAmb 06 59 31.3
comp=Z,6.3nm,1.0s
RIB01 Linhares ES 61.09 122 *eP* **P** **06 59 32.1 +2.8**
RIB01 Linhares ES 61.09 122 *eP* **P** **06 59 32.1 +2.8**
HDA Harding Lake 62.41 336 P **P** **06 59 37.7 +0.2**
baz=117,SNR=8.5
ILAR Eielson Array 62.56 337 P **P** **06 59 38.2 -0.2**
comp=Z,14nm,1.0s,baz=130,slow=3.7,SNR=44
ILAR LR LR 07 30 51.0
comp=Z,248nm,19.2s,baz=136,slow=40
ILAR Eielson Array 62.56 337 P **P** **06 59 37.7 -0.8**
CCB Clear Creek Bu 62.85 337 IAmb IAmb 06 59 42.1
comp=Z,5.0nm,0.9s
WRH Wood River Hil 62.88 336 IAmb IAmb 06 59 42.8
comp=Z,8.0nm,1.0s
POKR Poker Plat Res 62.92 337 P **P** **06 59 41.1 +0.2**
baz=117,SNR=6.3
COLA College 62.97 337⇑ *eP* **P** **06 59 41.9 +0.8**
COLA pmax pmax
comp=Z,23nm,1.5s
COLA College 62.97 337 P **P** **06 59 42.0 +0.8**
TCOL CIGO, UAF Yank 62.98 337 P **P** **06 59 43.2 +2.0**
baz=116
BMAR Burnt Mountain 63.03 340 P **P** **06 59 41.8 +0.2**
BPAW Bear Paw Mtn. 63.88 335 IAmb IAmb 06 59 50.0
comp=Z,13nm,0.9s
MLY Manley 64.15 336 P **P** **06 59 48.5 -0.5**
PPT Papeete 64.53 243 LR LR 07 19 25.2
comp=Z,139nm,21.9s,baz=48,slow=28
COLD Coldfoot 64.86 339 IAmb IAmb 06 59 56.8
comp=Z,8.6nm,1.0s
TOLK Toolik Lake Re 65.26 340 P **P** **06 59 57.1 +0.9**
baz=116,SNR=9.1
TOLK Toolik Lake Re 65.26 340 IAmb IAmb 06 59 57.4
comp=Z,11nm,0.8s
IMAR Indian Mountai 65.68 337 P **P** **06 59 58.3 -0.6**
ESK Eskdalemuir 78.12 36 P **P** **07 01 12.2 -1.4**
ESK pmax pmax
comp=Z,19nm,0.8s
ESK Eskdalemuir 78.12 36 P **P** **07 01 12.2 -1.4**
ESDC Sonseca Array 80.01 52 P **P** **07 01 22.7 -1.7**
comp=Z,3.9nm,0.8s,baz=287,slow=5.8,SNR=17
ESDC Sonseca Array 80.01 52 P **P** **07 01 22.4 -2.0**
BILL Bilibino 81.18 338 *c iP* **P** **07 01 30.4 +0.4**
BILL *i* 07 01 40.6
BILL *i* 07 04 36.1
BILL pmax pmax
comp=Z,19nm,0.9s
BILL Bilibino 81.18 338 P **P** **07 01 30.3 +0.3**
NB2 NORSAR Subarra 84.27 28 P **P** **07 01 45.4 -0.8**
comp=Z,0.9nm,0.7s,baz=292,slow=4.4
NB2 NORSAR Subarra 84.27 28 P **P** **07 01 45.4 -0.8**
baz=292,slow=4.4
NOA NORSAR Array B 84.27 28 P **P** **07 01 45.8 -0.4**
comp=Z,3.2nm,1.0s,baz=289,slow=5.2,SNR=5.0
NOA LR LR 07 38 17.2
comp=Z,111nm,21.2s,baz=280,slow=35
DBIC Dimbokro 86.10 84 P **P** **07 01 55.4 -0.8**
DBIC pmax pmax
comp=Z,13nm,1.2s
DBIC Dimbokro 86.10 84 P **P** **07 01 55.0 -1.2**
comp=Z,5.3nm,0.8s,baz=269,slow=6.6,SNR=5.1
DBIC Dimbokro 86.10 84 P **P** **07 01 55.4 -0.8**
ARCES ARCESS Array B 86.18 18 LR LR 07 40 53.9
comp=Z,243nm,18.2s,baz=288,slow=36
SEY Seymchan 88.46 336 P **P** **07 02 06.6 0.0**
comp=Z,6.8nm,1.0s,baz=122,slow=1.6,SNR=8.3
CLL Collm 88.51 37 *e*pP P 07 02 16.0 +8.9
GERES GERESS Array B 89.81 39 P **P** **07 02 11.9 -1.5**
GERES GERESS Array B 89.81 39 P **P** **07 02 12.6 -0.8**
comp=Z,0.4nm,0.7s,baz=288,slow=4.0,SNR=3.8
GERES GERESS Array B 89.81 39 P **P** **07 02 11.9 -1.5**
TIXI Tiksi 90.05 348 *deP* **P** **07 02 13.6 -0.3**
TIXI pmax pmax
comp=Z,23nm,2.5s
TIXI Tiksi 90.05 348 P **P** **07 02 13.2 -0.7**
TIXI IAmb IAmb 07 02 15.3
comp=Z,5.7nm,0.9s
PETK Petropavlovsk- 90.29 325 P **P** **07 02 15.7 +0.3**
PETK Petropavlovsk- 90.29 325 P **P** **07 02 15.6 +0.2**
comp=Z,1.8nm,0.8s,baz=49,slow=20,SNR=3.2
PETK Petropavlovsk- 90.29 325 P **P** **07 02 15.7 +0.3**
FINES FINESS Array B 90.59 25 P **P** **07 02 15.9 -0.7**
FINES FINESS Array B 90.59 25 P **P** **07 02 15.7 -0.9**
comp=Z,6.6nm,1.2s,baz=19,slow=4.7,SNR=5.7
FINES FINESS Array B 90.59 25 P **P** **07 02 15.9 -0.7**
TORD Torodi Ar. Bea 90.80 76 P **P** **07 02 16.9 -1.6**
comp=Z,1.2nm,0.7s,baz=298,slow=5.2,SNR=6.1
TORD Torodi Ar. Bea 90.80 76 P **P** **07 02 16.7 -1.8**
KURK Kurchatov 114.98 6 PKIKP **PKiKP** **07 07 51.9 -3.4**
SONM Songino Array 116.07 346 PKP **PKiKP** **07 07 57.4 -0.3**
comp=Z,0.9nm,0.7s,baz=45,slow=2.2,SNR=4.1
SONM Songino Array 116.07 346 **PKiKP** **07 07 56.9 -0.8**
BOSA Boshof 120.82 115 PKIKP **PKPdf** **07 08 07.3 +0.1**
BOSA Boshof 120.82 115 PKP **PKPdf** **07 08 06.7 -0.6**
comp=Z,1.8nm,0.6s,baz=252,slow=16,SNR=3.2
BOSA Boshof 120.82 115 **PKPdf** **07 08 07.3 +0.1**
GEYT Alibeck 121.34 27 PKP **PKPdf** **07 08 07.8 -0.2**
comp=Z,3.1nm,0.8s,baz=304,slow=10,SNR=4.1
GEYT Alibeck 121.34 27 **PKPdf** **07 08 07.2 -0.8**
AAK Ala-Archa 122.28 11 *i* PKIKP **PKPdf** **07 08 09.1 -0.7**
TARG Taragay, Kyrgy 123.72 9 PKPpre 07 08 06.2
NJ2 Nanjing 125.16 327 *e*PKP **PKPdf** **07 08 15.0 -0.4**
GTA Gaotai 125.54 348 *e*PKP **PKiKP** **07 08 19.5 +3.0**
GTA sPKP 07 08 28.3
KSH Kashi 125.58 11 PKP **PKPdf** **07 08 14.8 -1.4**
KSH PP **PP** **07 10 12.8 +6.1**
KSH PKS **PKSdf** **07 11 51.3 -1.6**
KSH SKKS 07 17 00.8
CD2 Chengdu 132.59 341 Pdif **Pdif** **07 05 22.8 -2.4**
WRAB Tennant Creek 134.96 256⇑ *i* PKIKP **PKPdf** **07 08 33.0 -1.2**
WRAB pmax pmax
comp=Z,16nm,2.5s
WRA Warramunga Arr 134.97 256 PKP **PKPdf** **07 08 33.1 -1.2**
comp=Z,2.9nm,1.1s,baz=82,slow=1.9,SNR=5.2
WRA Warramunga Arr 134.97 256 **PKPdf** **07 08 31.7 -2.6**
ASAR Alice Springs 135.26 251 PKP **PKPdf** **07 08 34.6 -0.2**
comp=Z,0.7nm,0.8s,baz=88,slow=2.5,SNR=4.5
PAYA Payao 144.59 340 P **PKPdf** **07 08 51.3 -0.5**
PHRA Phrae 145.26 339 P **PKPab** **07 08 52.8 0.0**
CHTO Chiang Mai 145.40 341 PKP2 **PKPbc** **07 08 52.0 -1.1**
CHTO Chiang Mai 145.40 341 **PKPbc** **07 08 52.0 -1.1**
CMMT Chiang Mai 145.40 341 P **PKPbc** **07 08 52.8 -0.3**
comp=Z,12nm,1.2s
CM31 Chiang Mai Arr 145.74 340 **PKPbc** **07 08 54.2 0.0**
CMAR Chiang Mai Arr 145.74 340 PKPbc **PKPbc** **07 08 54.1 -0.1**
comp=Z,21nm,0.8s,baz=340,slow=3.7,SNR=75
CMAR Chiang Mai Arr 145.74 340 **PKPdf** **07 08 53.8 0.0**
MHMT Maesarieng 146.32 342 P PKiKP 07 09 09.9 +11
comp=Z,31nm,1.0s
PBKT Sadao Pong 146.75 336 P **PKPbc** **07 08 57.7 +0.5**
PBKT Sadao Pong 146.75 336 **PKPbc** **07 08 56.8 -0.3**
KAPI Kappang 147.00 283 PKPbc **PKPab** **07 08 59.7 0.0**
comp=Z,7.6nm,0.8s,baz=101,slow=7.0,SNR=5.0
KAPI Kappang 147.00 283 **PKiKP** **07 09 00.4 -0.1**
UMPA Umpang Tak 147.86 339 P **PKPab** **07 09 04.7 +1.9**
UTHA Uthaitani 148.25 338 P **PKPbc** **07 09 01.8 +0.5**
comp=Z,102μm,0.9s,comp=Z,899μm
PSA00 Pilbara Seismi 148.40 252 **PKPbc** **07 09 00.3 -1.3**
RER Riviere de l'E 148.96 108 **PKPab** **07 09 06.9 -0.5**

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*IDC **23** 06:52:00.3±0.8, 34°.23N×45°.65E, h0km, mb3.9/17,*
mb1 4.0/25, mb1mx3.8/63, mbtmp3.9/25, ML4.1/6, MS2.8/4,
Ms1 2.8/4, ms1mx2.6/41, Error ellipse: s-maj=17.2km
s-min=12.3km az=163.0
*NEIC **23** 06:52:02.5±2.1, 34°.27N±0°.05×45°.56E±0°.03, h10km±5km,*
mb4.2/28, mb_Lg4.0(TEH), ML3.8(THR)
*THR **23** 06:52:02.4, 34°.26N×45°.58E, h15km, ML3.8*
*TEH **23** 06:52:03.1, 34°.30N×45°.64E, h16km, ML4.0*
*ISN **23** 06:52:04.1±1.4, 34°.34N×45°.61E, h18km±8km, ML4.1*
*OMAN **23** 06:52:12.7±4.3, 33°.26N×45°.72E, h44km±72km, ms2.8/3,*
Error ellipse: s-maj=69.8km s-min=26.0km az=64.0
ISC 23 06:52:02.9±1.0,**34°.30N**±0°.03×**45°.63E**±0°.02,**h16**km±7km,

n201,σ1°67/203,mb4.1/25,5C-3D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.74**	**57**	*e*Pg	**Pg**	**06 52 16.6**	**-0.9**
IDHR				*e*Sg	**Sg**	**06 52 27.6**	**+0.2**
IDHR				IAMB	IAmb	06 52 31.0	
	comp=Z,0.0nm,0.2s						
IDHR	**Dehrash**	**0.74**	**57**	Pg	**Pg**	**06 52 16.6**	**-0.9**
IDHR				Sg	**Sg**	**06 52 27.5**	**+0.2**
IGHG	**Ghaleghazi**	**0.77**	**87**	*e*Pg	**Pg**	**06 52 18.0**	**-0.1**
IGHG				*e*Sg	**Sb**	**06 52 30.9**	**+2.3**
IGHG				IAMB	IAmb	06 52 33.1	
	comp=Z,87μm,0.5s						
IGHG	**Ghaleghazi**	**0.77**	**87**	Pg	**Pg**	**06 52 17.9**	**-0.1**
IGHG				Sg	**Sb**	**06 52 30.8**	**+2.2**
KCHF	**Cheshme Sefid,**	**1.17**	**91**	*e*Pg	**Pn**	**06 52 25.1**	**+0.3**
KCHF				*e*Sg	**Sn**	**06 52 42.5**	**+2.0**
KCHF				IAMB	IAmb	06 52 45.9	
	comp=Z,0.0nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.17**	**91**		**Pn**	**06 52 25.1**	**+0.3**
KCHF				Sg	**Sn**	**06 52 42.4**	**+2.0**
IBDR	**Badra**	**1.21**	**168**	*e*Pg	**Pg**	**06 52 27.0**	**+0.7**
IBDR				AML	AML	06 52 27.9	
	comp=Z,401nm,0.6s						
IBDR				*e*Sg	**Sn**	**06 52 45.0**	**+3.8**
ILIN	**Lien**	**1.26**	**60**	*e*Pg	**Pn**	**06 52 26.4**	**+0.3**
ILIN				IAMB	IAmb	06 52 47.1	
	comp=Z,43μm,0.5s						
ILIN	**Lien**	**1.26**	**60**		**Pn**	**06 52 26.3**	**+0.2**
BHD	**Baghdad**	**1.46**	**226**	*e*Pn	**Pg**	**06 52 31.0**	**-0.1**
BHD				AML	AML	06 52 34.6	
	comp=Z,45μm,0.4s						
BHD				*e*Sn	**Sg**	**06 52 52.0**	**+1.9**
IKRK	**Kirkuk**	**1.53**	**316**	*e*Pg	**Pb**	**06 52 31.0**	**+0.1**
IKRK				*e*Sg	**Sg**	**06 52 52.0**	**-0.3**
IKOM	**Komasi**	**1.56**	**94**	*e*Pn	**Pb**	**06 52 31.9**	**+0.4**
IKOM				IAMB	IAmb	06 53 02.9	
	comp=Z,0.0nm,0.5s						
IKOM	**Komasi**	**1.56**	**94**	Pn	**Pb**	**06 52 31.9**	**+0.4**
IBZA	**Bozab**	**1.85**	**84**	*e*Pn	**Pb**	**06 52 36.5**	**-0.1**
IBZA				IAMB	IAmb	06 53 06.1	
	comp=Z,0.0nm,0.5s						
IBZA	**Bozab**	**1.85**	**84**	Pn	**Pb**	**06 52 36.4**	**-0.1**
IKFM	**Kafar-mosalman**	**2.00**	**112**	*e*Pn	**Pn**	**06 52 38.0**	**+2.0**
IKFM				IAMB	IAmb	06 53 13.8	
	comp=Z,0.0nm,0.7s						
IKFM	**Kafar-mosalman**	**2.00**	**112**	Pn	**Pn**	**06 52 38.0**	**+2.0**
IDOB	**Doab**	**2.17**	**103**	*e*Pn	**Pn**	**06 52 40.5**	**+1.8**
IDOB				IAMB	IAmb	06 53 25.8	
	comp=Z,0.0nm,0.5s						
IDOB	**Doab**	**2.17**	**103**	Pn	**Pn**	**06 52 40.4**	**+1.8**
IKMR	**Kamar-syah**	**2.41**	**108**	*e*Pn	**Pn**	**06 52 43.7**	**+2.0**
IKMR				IAMB	IAmb	06 53 25.9	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.41**	**108**	Pn	**Pn**	**06 52 43.6**	**+1.9**
HSAM	**Samen**	**2.46**	**91**	*e*Pn	**Pn**	**06 52 44.7**	**+2.1**
HSAM				IAMB	IAmb	06 53 29.7	
	comp=Z,0.0nm,0.6s						
HSAM	**Samen**	**2.46**	**91**	Pn	**Pn**	**06 52 44.7**	**+2.1**
MAHB	**Mahabad**	**2.46**	**1**	*e*Pn	**Pn**	**06 52 45.1**	**+2.5**
MAHB				IAMB	IAmb	06 53 19.9	
	comp=Z,0.0nm,0.4s						
MAHB	**Mahabad**	**2.46**	**1**	Pn	**Pn**	**06 52 45.1**	**+2.5**
BDRS	**Dareh Seyedi**	**2.71**	**96**	*e*Pn	**Pn**	**06 52 47.8**	**+1.6**
BDRS				IAMB	IAmb	06 53 39.3	
	comp=Z,0.0nm,0.6s						
BDRS	**Dareh Seyedi**	**2.71**	**96**	Pn	**Pn**	**06 52 47.7**	**+1.6**
HAGD	**Aghdareh**	**2.94**	**79**	*e*Pn	**Pn**	**06 52 51.7**	**+2.5**
HAGD				IAMB	IAmb	06 53 46.8	
	comp=Z,0.0nm,0.7s						
HAGD	**Aghdareh**	**2.94**	**79**	Pn	**Pn**	**06 52 51.7**	**+2.5**
MSL	**Mosul**	**2.94**	**316**	*e*Pn	**Pn**	**06 52 51.0**	**+2.0**
MSL				*e*Sn	**Sn**	**06 53 27.0**	**+3.0**
ZNJK	**Zanjan**	**3.44**	**46**	*e*Pn	**Pn**	**06 52 58.6**	**+2.5**
ZNJK	**Zanjan**	**3.44**	**46**	*e*Pn	**Pn**	**06 52 58.6**	**+2.5**
ZNJK	**Zanjan**	**3.44**	**46**	Pn	**Pn**	**06 52 58.6**	**+2.5**
SHGR	**Shooshtar-Gavs**	**3.44**	**129**	*e*AML	AML	06 54 16.1	
	comp=E,208nm,0.7s						
SHGR	**Shooshtar-Gavs**	**3.44**	**129**	*e*AML	AML	06 54 09.2	
	comp=N,179nm,0.8s						
SHGR				*e*Pn	**Pn**	**06 52 57.8**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.53**	**65**	*e*Pn	**Pn**	**06 52 59.7**	**+2.3**
QABG				IAMB	IAmb	06 53 17.3	
	comp=Z,0.0nm,0.8s						
QABG	**Abgarm-Qazvin**	**3.53**	**65**	Pn	**Pn**	**06 52 59.6**	**+2.2**
IBST	**Bostanabad**	**3.55**	**16**	*e*Pn	**Pn**	**06 52 59.0**	**+1.4**
IBST				IAMB	IAmb	06 54 03.8	
	comp=Z,2μm,0.4s						
IBST	**Bostanabad**	**3.55**	**16**	Pn	**Pn**	**06 52 58.9**	**+1.4**
HAKT	**HAKKARI**	**3.61**	**335**	*e*Pn	**Pn**	**06 53 01.7**	**+3.3**
HAKT	**HAKKARI**	**3.61**	**335**	Pn	**Pn**	**06 53 01.7**	**+3.3**
KHMZ	**Khomeyn**	**3.63**	**98**	*e*Pn	**Pn**	**06 53 00.8**	**+2.0**
KHMZ	**Khomeyn**	**3.63**	**98**	*e*Pn	**Pn**	**06 53 00.8**	**+2.0**
KHMZ				*e*AML	AML	06 54 15.6	
	comp=N,181nm,0.9s						
KHMZ	**Khomeyn**	**3.63**	**98**	Pn	**Pn**	**06 53 00.8**	**+2.0**
ASAO	**Ashtian**	**3.64**	**85**	*e*Pn	**Pn**	**06 53 01.3**	**+2.5**
ASAO	**Ashtian**	**3.64**	**85**	*e*Pn	**Pn**	**06 53 01.3**	**+2.5**
ASAO	**Ashtian**	**3.64**	**85**	Pn	**Pn**	**06 53 01.3**	**+2.5**
IRAZ	**Razeghan**	**3.70**	**71**	IAMB	IAmb	06 53 16.5	
	comp=Z,3μm,0.7s						
IRAZ				*e*Pn	**Pn**	**06 53 02.4**	**+2.7**
ITBZ	**Tabriz**	**3.95**	**6**	*e*Pn	**Pn**	**06 53 04.9**	**+1.8**
ITBZ				IAMB	IAmb	06 54 16.9	
	comp=Z,1μm,0.5s						
ITBZ	**Tabriz**	**3.95**	**6**	Pn	**Pn**	**06 53 04.9**	**+1.8**
IGZV	**Ghazvin**	**4.29**	**60**	IAMB	IAmb	06 54 36.0	
	comp=Z,1μm,0.7s						
IMHD	**Mahdasht**	**4.36**	**70**	*e*Pn	**Pn**	**06 53 09.7**	**+1.1**
IMHD	**Mahdasht**	**4.36**	**70**	Pn	**Pn**	**06 53 09.7**	**+1.1**
IQOM	**Qom**	**4.52**	**82**	*e*Pn	**Pn**	**06 53 12.3**	**+1.4**
IQOM				IAMB	IAmb	06 53 31.0	
	comp=Z,0.0nm,0.5s						
IQOM	**Qom**	**4.52**	**82**	Pn	**Pn**	**06 53 12.3**	**+1.4**
RTB	**Rutbah**	**4.62**	**256**	*e*Pn	**Pn**	**06 53 15.0**	**+2.9**
RTB				*e*Sn	**Sn**	**06 54 07.0**	**+1.6**
IPIR	**Pirpir**	**4.68**	**109**	*e*Pn	**Pn**	**06 53 14.3**	**+1.1**
IPIR				IAMB	IAmb	06 54 17.1	
	comp=Z,1μm,0.4s						
IPIR	**Pirpir**	**4.68**	**109**	Pn	**Pn**	**06 53 14.3**	**+1.1**
GHVR	**GHOM**	**4.69**	**86**	*e*Pn	**Pn**	**06 53 15.1**	**+2.0**
GHVR	**GHOM**	**4.69**	**86**	*e*AML	AML	06 54 45.9	
	comp=E,74nm,0.5s						
GHVR	**GHOM**	**4.69**	**86**	*e*Pn	**Pn**	**06 53 15.1**	**+2.0**
GHVR	**GHOM**	**4.69**	**86**	*e*AML	AML	06 54 42.0	
	comp=N,57nm,0.3s						
GHVR	**GHOM**	**4.69**	**86**	Pn	**Pn**	**06 53 15.0**	**+2.0**
JHBN	**Jahan bin**	**4.69**	**115**	*e*Pn	**Pn**	**06 53 14.2**	**+0.8**
JHBN				IAMB	IAmb	06 53 39.4	
	comp=Z,0.0nm,0.4s						
JHBN	**Jahan bin**	**4.69**	**115**	Pn	**Pn**	**06 53 14.1**	**+0.7**
QAM	**Ghamsar**	**4.85**	**95**	*e*Pn	**Pn**	**06 53 17.8**	**+2.3**
QAM				IAMB	IAmb	06 54 22.8	
	comp=Z,724nm,0.4s						
GRMI	**Germi**	**4.86**	**21**	*e*Pn	**Pn**	**06 53 17.8**	**+2.4**
GRMI	**Germi**	**4.86**	**21**	*e*Pn	**Pn**	**06 53 17.8**	**+2.4**
GRMI	**Germi**	**4.86**	**21**	Pn	**Pn**	**06 53 17.8**	**+2.4**
ROKH	**ROKH**	**4.92**	**112**	*e*Pn	**Pn**	**06 53 17.4**	**+0.9**
ROKH				IAMB	IAmb	06 54 23.1	
	comp=Z,0.0nm,0.5s						
ROKH	**ROKH**	**4.92**	**112**	Pn	**Pn**	**06 53 17.3**	**+0.8**
IKLH	**Kolahrood**	**5.04**	**99**	*e*Pn	**Pn**	**06 53 20.0**	**+1.8**
IKLH				IAMB	IAmb	06 53 21.7	
	comp=Z,2μm,0.5s						
IKLH	**Kolahrood**	**5.04**	**99**	Pn	**Pn**	**06 53 19.9**	**+1.8**
IVRN	**Varamin**	**5.07**	**80**	*e*Pn	**Pn**	**06 53 20.1**	**+1.7**
IVRN	**Varamin**	**5.07**	**80**	Pn	**Pn**	**06 53 20.1**	**+1.7**
IBRJ	**Brojen**	**5.29**	**115**	*e*Pn	**Pn**	**06 53 22.4**	**+0.9**
IBRJ	**Brojen**	**5.29**	**115**	Pn	**Pn**	**06 53 22.4**	**+0.9**
KRSH	**Karshahi**	**5.40**	**92**	*e*Pn	**Pn**	**06 53 24.6**	**+1.6**
KRSH	**Karshahi**	**5.40**	**92**	Pn	**Pn**	**06 53 24.6**	**+1.6**
IDMV	**Damavand**	**5.41**	**75**	*e*Pn	**Pn**	**06 53 24.5**	**+1.2**
IDMV	**Damavand**	**5.41**	**75**	Pn	**Pn**	**06 53 24.4**	**+1.2**
IGAR	**Gharneh**	**5.69**	**108**	*e*Pn	**Pn**	**06 53 27.7**	**+0.8**
IGAR				IAMB	IAmb	06 53 29.9	
	comp=Z,1μm,0.3s						
IGAR	**Gharneh**	**5.69**	**108**	Pn	**Pn**	**06 53 27.7**	**+0.8**
IZEF	**Zefreh**	**5.76**	**102**	*e*Pn	**Pn**	**06 53 28.8**	**+0.8**
IZEF				IAMB	IAmb	06 53 33.5	
	comp=Z,301nm,0.2s						
IZEF	**Zefreh**	**5.76**	**102**	Pn	**Pn**	**06 53 28.8**	**+0.8**
GNI	**Garni**	**5.88**	**353**	Lg	Lg	06 55 10.8	
	comp=Z,2.7nm,0.3s,baz=41,slow=20,SNR=2.5						
GNI				LR	LR	06 55 38.9	
	comp=Z,31nm,18.7s,baz=218,slow=37						
IFIR	**Firoozkooh**	**6.00**	**75**	*e*Pn	**Pn**	**06 53 32.7**	**+1.4**
IFIR	**Firoozkooh**	**6.00**	**75**	Pn	**Pn**	**06 53 32.6**	**+1.3**
IRAM	**Ramesheh**	**6.18**	**112**	*e*Pn	**Pn**	**06 53 34.3**	**+0.4**
IRAM	**Ramesheh**	**6.18**	**112**	Pn	**Pn**	**06 53 34.2**	**+0.4**
IANJ	**Anjilo**	**6.91**	**78**	*e*Pn	**Pn**	**06 53 43.8**	**0.0**
IANJ	**Anjilo**	**6.91**	**78**	Pn	**Pn**	**06 53 43.7**	**0.0**
IKAZ	**Kazeroun**	**6.93**	**129**	*e*Pn	**Pn**	**06 53 44.1**	**-0.1**
IKAZ	**Kazeroun**	**6.93**	**129**	Pn	**Pn**	**06 53 44.0**	**-0.1**
ISAD	**Sadrabad**	**7.16**	**107**	*e*Pn	**Pn**	**06 53 46.8**	**-0.5**
ISAD	**Sadrabad**	**7.16**	**107**	Pn	**Pn**	**06 53 46.8**	**-0.5**
ASF	**Jabal al Asfar**	**7.62**	**256**	Pn	**Pn**	**06 53 52.2**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=289,slow=2.9,SNR=7.8						
ASF				Lg	Lg	06 56 04.2	
	comp=Z,1.7nm,0.3s,baz=24,slow=21,SNR=7.3						
IMEH	**Mehriz**	**8.09**	**109**	*e*Pn	**Pn**	**06 54 00.2**	**+0.2**
IMEH	**Mehriz**	**8.09**	**109**	Pn	**Pn**	**06 54 00.1**	**+0.1**
MMAI	**Mount Meron Ar**	**8.62**	**264**	Pn	**Pn**	**06 54 06.8**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=57,slow=14,SNR=6.9						
MMAI				Lg	Lg	06 56 41.7	
	comp=Z,2.7nm,0.3s,baz=75,slow=27,SNR=4.7						
MMAI				LR	LR	06 58 11.2	
	comp=Z,90nm,18.9s,baz=65,slow=43						
KBZ	**Khabaz**	**9.65**	**348**	Pn	**Pn**	**06 54 23.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=344,slow=7.4,SNR=2.7						
KIV	**Kislovodsk**	**9.91**	**348**	Pn	**Pn**	**06 54 24.1**	**-0.6**
EIL	**Elat**	**10.18**	**246**	Pn	**Pn**	**06 54 27.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=108,slow=8.6,SNR=4.4						
EIL				Lg	Lg	06 57 34.6	
	comp=Z,1.2nm,0.3s,baz=340,slow=22,SNR=4.6						
EIL				LR	LR	06 58 37.1	
	comp=Z,43nm,21.6s,baz=114,slow=39						
GEYT	**Alibeck**	**10.73**	**67**	LR	LR	06 59 24.8	
	comp=Z,128nm,18.1s,baz=10.0,slow=41						
BRTR	**Keskin Array B**	**11.01**	**303**	Pn	**Pn**	**06 54 43.9**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=119,slow=13,SNR=4.3						
BRTR	**Keskin Array B**	**11.01**	**303**		**Pn**	**06 54 43.8**	**+3.9**
BANOM	**Banah**	**12.44**	**129**	P	**Pn**	**06 54 57.2**	**-2.2**
	SNR=24						
MDH	**Madha**	**12.88**	**131**	P	**Pn**	**06 55 03.7**	**-1.7**
MDH				S	Sn	06 57 18.1	-10
UOSS	**Minazif**	**13.08**	**133**	P	**Pn**	**06 55 06.3**	**-1.8**
UOSS	**Minazif**	**13.08**	**133**		**Pn**	**06 55 06.5**	**-1.6**
HATD	**Hatta, Dubai**	**13.13**	**133**	P	**Pn**	**06 55 07.1**	**-1.7**
HATD				S	Sn	06 57 26.5	-8.0
ASHO	**Ashiyiah**	**13.19**	**134**	P	**Pn**	**06 55 07.7**	**-1.9**
	SNR=8.6						
ASHO				S	Sn	06 57 25.7	-10
ARQ	**Araqi**	**14.49**	**136**	P	**Pn**	**06 55 24.8**	**-2.6**
ARQ				S	Sn	06 57 55.7	-12
HOQ	**Hoqain**	**14.77**	**133**	P	**Pn**	**06 55 29.5**	**-1.7**
BSY	**Bisya**	**15.34**	**136**	P	**Pn**	**06 55 35.3**	**-3.6**
BSY				S	Sn	06 58 15.9	-13
SMDO	**Samad**	**15.61**	**133**	P	**Pn**	**06 55 40.1**	**-2.3**
SMDO				S	Sn	06 58 25.4	-10
WSAR	**Wadi Sarin**	**15.83**	**131**	P	**Pn**	**06 55 42.2**	**-3.0**
WSAR				S	Sn	06 58 29.8	-11
WSAR	**Wadi Sarin**	**15.83**	**131**	Pn	**Pn**	**06 55 42.4**	**-2.9**
	comp=Z,2.0nm,0.3s,baz=338,slow=16,SNR=11						
JMDO	**Jabal Madar**	**16.16**	**134**	P	**Pn**	**06 55 47.1**	**-2.3**
TLB	**Topalu**	**17.00**	**312**	⇑P	**P**	**06 56 02.8**	**+1.0**
HARR	**Harsova**	**17.12**	**313**	⇑P	**P**	**06 56 04.3**	**+1.2**
WHFO	**Wadi Hawf**	**17.86**	**154**	P	**Pn**	**06 56 07.0**	**-3.9**
	SNR=16						
WHFO				S	Sn	06 59 12.5	-17
ABTO	**Aybut**	**18.21**	**156**	P	**Pn**	**06 56 10.6**	**-4.6**
ABTO				S	Sn	06 59 22.0	-16
ABKAR	**Akbulak array**	**18.32**	**31**	P	**Pn**	**06 56 16.5**	**+0.3**
ABKAR	**Akbulak array**	**18.32**	**31**	P	**Pn**	**06 56 16.2**	**0.0**
DMTO	**DMTO**	**18.50**	**151**	P	**P**	**06 56 15.1**	**-3.3**
	SNR=10						
DMTO				S	Sn	06 59 27.0	-18
AKTO	**Aktyubinsk**	**18.50**	**26**	P	**P**	**06 56 18.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=231,slow=7.4,SNR=7.1						
MLR	**Muntele Rosu**	**18.74**	**312**	P	**P**	**06 56 21.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=319,slow=20,SNR=2.0						
MLR	**Muntele Rosu**	**18.74**	**312**	P	**Pn**	**06 56 21.7**	**+0.1**
MLR				IAmb	IAmb	06 56 31.4	
	comp=Z,10nm,1.2s						
VOIR		**19.27**	**311**	⇑P	**Pn**	**06 56 27.5**	**-0.3**
DOPR	**Dopca**	**19.32**	**313**	⇓P	**Pn**	**06 56 28.5**	**+0.1**
VTS	**Vitosha**	**19.37**	**302**		**P**	**06 56 24.8**	**-3.2**
CHGR	**Chuyangaron**	**19.40**	**70**	P	**P**	**06 56 25.1**	**-3.2**
CHGR				IAmb	IAmb	06 56 38.0	
	comp=Z,17nm,0.8s						
ARR	**Arges**	**19.50**	**311**	⇑P	**Pn**	**06 56 30.0**	**-0.5**
FNA	**Florina**	**20.26**	**296**	P	**P**	**06 56 37.5**	**-0.2**
FNA				IAmb	IAmb	06 56 46.3	
	comp=Z,6.7nm,0.6s						
BURAR	**Bucovina Array**	**20.29**	**317**	⇑P	Pn	06 56 40.3	+0.4
AKASG	**Malin Array Be**	**20.30**	**329**	P	**P**	**06 56 38.7**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=136,slow=13,SNR=5.4						
AKASG	**Malin Array Be**	**20.30**	**329**	P	**P**	**06 56 38.4**	**+0.5**
AKBB	**Malin Array Si**	**20.30**	**329**	P	**P**	**06 56 38.0**	**+0.1**
AKBB				IAmb	IAmb	06 56 50.1	
	comp=Z,7.9nm,1.1s						
GAR	**Garm**	**20.33**	**69**	P	**P**	**06 56 38.2**	**-0.3**
GAR				IAmb	IAmb	06 56 47.6	
	comp=Z,12nm,0.9s						
GZR	**Gura Zlata**	**20.68**	**309**	⇓P	Pn	06 56 43.5	-1.1
KK31	**Karatay Array**	**21.25**	**58**	P	**P**	**06 56 50.5**	**+2.1**
KKAR	**Karatay Array**	**21.25**	**58**	P	**P**	**06 56 50.7**	**+2.3**
KKAR	**Karatay Array**	**21.25**	**58**	P	**P**	**06 56 49.1**	**+0.7**
DRGR		**21.34**	**313**	⇓P	**P**	**06 56 50.7**	**+1.4**
KOLS	**Kolonicke sedl**	**22.65**	**317**	*e*P	**P**	**06 57 08.1**	**+4.8**
SOCY	**Socotra**	**23.29**	**159**	P	**P**	**06 57 06.8**	**-3.4**
SOCY				IAmb	IAmb	06 57 17.0	
	comp=Z,10nm,0.9s						
ARU	**Arti**	**23.84**	**18**	P	**P**	**06 57 16.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=217,slow=20,SNR=2.4						
ARU	**Arti**	**23.84**	**18**	P	**P**	**06 57 15.7**	**+0.5**
ARU				IAmb	IAmb	06 57 28.6	
	comp=Z,13nm,1.0s						
NRN	**Naryn**	**24.92**	**64**	P	**P**	**06 57 24.9**	**-0.8**
NRN				IAmb	IAmb	06 57 33.7	
	comp=Z,3.8nm,0.8s						
BVAR	**Borovoye Array**	**25.69**	**36**	P	**P**	**06 57 33.2**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=243,slow=9.8,SNR=4.5						
GERES	**GERESS Array B**	**27.72**	**311**	P	**P**	**06 57 49.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=249,slow=36,SNR=3.5						
GERES	**GERESS Array B**	**27.72**	**311**	P	**P**	**06 57 50.6**	**+0.1**
KURBB	**Kurchatov Arra**	**28.93**	**46**	P	**P**	**06 58 02.2**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=251,slow=9.0,SNR=5.7						
FINES	**FINESS Array B**	**29.92**	**341**	P	**P**	**06 58 09.7**	**0.0**
	comp=Z,0.9nm,0.4s,baz=169,slow=8.5,SNR=9.2						
FINES	**FINESS Array B**	**29.92**	**341**	P	**P**	**06 58 09.5**	**-0.2**
MKAR	**Makanchi Array**	**30.25**	**55**	P	**P**	**06 58 13.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=253,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**30.25**	**55**	P	**P**	**06 58 13.4**	**+0.4**
SENIN	**Lac Senin/Sane**	**31.31**	**304**	P	**P**	**06 58 23.4**	**+0.8**
SENIN				IAmb	IAmb	06 58 26.0	
	comp=Z,3.2nm,0.8s						
BNI	**Bardonecchia**	**31.57**	**302**	P	**P**	**06 58 23.9**	**-0.9**
DANN	**Dangsing**	**32.97**	**90**	*e*P	**P**	**06 58 37.8**	**+0.4**
	comp=Z,21nm,0.7s						
KOLN	**Koldanda**	**33.04**	**91**	*e*P	**P**	**06 58 37.8**	**-0.1**
	comp=Z,6.5nm,0.5s						
ZAA0	**Zalesovo Array**	**33.72**	**42**	P	**P**	**06 58 43.7**	**+0.4**
ZAA0				IAmb	IAmb	06 58 44.4	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**33.72**	**42**	P	**P**	**06 58 43.8**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=267,slow=8.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**33.72**	**42**	P	**P**	**06 58 44.5**	**+1.2**
GKN	**Gorkha**	**33.81**	**90**	*e*P	**P**	**06 58 44.4**	**-0.2**
	comp=Z,21nm,0.6s						
DMN	**Daman**	**34.34**	**90**	*e*P	**P**	**06 58 48.9**	**-0.4**
	comp=Z,8.0nm,0.4s						
KKN	**Kakani**	**34.42**	**90**	*e*P	**P**	**06 58 49.8**	**-0.2**
	comp=Z,12nm,0.6s						
PKIN	**Phulchoki**	**34.59**	**90**	*e*P	**P**	**06 58 51.3**	**-0.2**
	comp=Z,10.0nm,0.5s						
PKI	**Pulchoki**	**34.61**	**90**	*e*P	**P**	**06 58 51.4**	**-0.3**
	comp=Z,13nm,0.5s						
NOA	**NORSAR Array B**	**34.68**	**331**	P	**P**	**06 58 51.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=125,slow=8.7,SNR=2.7						
GUN	**Gumba**	**34.88**	**89**	*e*P	**P**	**06 58 54.3**	**+0.3**
	comp=Z,13nm,0.4s						
JIRN	**Jiri**	**35.22**	**90**	*e*P	**P**	**06 58 57.3**	**+0.3**
	comp=Z,44nm,0.5s						
RAMN	**Ramite**	**35.82**	**90**	*e*P	**P**	**06 59 01.8**	**-0.3**
	comp=Z,33nm,0.6s						
KEV	**Kevo**	**36.98**	**349**	P	**P**	**06 59 10.6**	**-0.5**
ARCES	**ARCESS Array B**	**37.02**	**348**	P	**P**	**06 59 10.9**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=162,slow=7.9,SNR=5.5						
ESK	**Eskdalemuir**	**39.49**	**317**	P	**P**	**06 59 31.3**	**-1.2**
ESDC	**Sonseca Array**	**39.57**	**293**	P	**P**	**06 59 34.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=81,slow=9.2,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**44.97**	**253**	P	**P**	**07 00 17.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**44.97**	**253**	P	**P**	**07 00 16.9**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=70,slow=6.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**44.97**	**253**	P	**P**	**07 00 17.2**	**-0.4**
SPA0	**Spitsbergen Ar**	**45.75**	**352**	P	**P**	**07 00 23.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**49.76**	**94**	P	**P**	**07 00 54.4**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=298,slow=8.5,SNR=7.3						
XAN	**Xi'an**	**51.57**	**71**	P	P	07 01 04.1	-4.3
XAN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,62nm,4.1s						
USRK	**Ussuriysk Ar.**	**64.69**	**53**	P	**P**	**07 02 39.2**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=282,slow=6.0,SNR=4.2						
USRK	**Ussuriysk Ar.**	**64.69**	**53**	P	**P**	**07 02 39.6**	**-0.4**
BOSA	**Boshof**	**65.47**	**200**	P	**P**	**07 02 45.0**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=57,slow=5.5,SNR=4.8						
SEY	**Seymchan**	**67.07**	**28**	P	**P**	**07 02 55.9**	**+0.8**
	comp=Z,5.4nm,0.6s,baz=278,slow=8.3,SNR=9.8						
PETK	**Petropavlovsk-**	**74.93**	**35**	P	**P**	**07 03 41.8**	**-1.2**
TOLK	**Toolik Lake Re**	**76.75**	**6**	P	**P**	**07 03 53.8**	**+0.7**
TOLK				IAmb	IAmb	07 04 02.6	
	comp=Z,1.0nm,0.7s						
IMAR	**Indian Mountai**	**78.92**	**8**	P	**P**	**07 04 05.8**	**+0.5**
EPYK	**Eagle Plains**	**79.64**	**1**	P	**P**	**07 04 09.4**	**+0.2**
EPYK				IAmb	IAmb	07 04 14.9	
	comp=Z,4.3nm,1.0s						
MLY	**Manley**	**80.17**	**7**	P	**P**	**07 04 13.0**	**+0.9**
MLY				IAmb	IAmb	07 04 13.2	
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**80.77**	**5**	P	**P**	**07 04 14.7**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=312,slow=3.9,SNR=3.7						
ILAR	**Eielson Array**	**80.77**	**5**	P	**P**	**07 04 15.4**	**+0.2**
CCB	**Clear Creek Bu**	**80.82**	**6**	P	**P**	**07 04 15.7**	**+0.3**
KTH	**Kantishna Hill**	**81.59**	**7**	P	**P**	**07 04 20.8**	**+1.0**
SCRK	**Sand Creek**	**81.76**	**4**	P	**P**	**07 04 20.3**

0.2nm,0.3s,baz=153,slow=13,SNR=4.4
MJAR Matsushiro Arr 7.13 355 P **P 07 01 31.4 +0.6**
MAJO Matsushiro 7.13 355 P **P 07 01 31.6 +0.7**
MAT Matsushiro 7.13 355 P **P 07 01 31.7 +0.9**
MAT *e*S **S 07 02 52.7 -4.9**
MJB9 Matsu-Tunnel 7.14 355 P **P 07 01 31.5 +0.6**
JHO Hitachi 7.29 10 P **P 07 01 31.6 -0.9**
JHO *e*S **S 07 02 56.6 -4.0**
JHS Saijyo 7.48 320 P **P 07 01 37.3 +2.8**
JNU Nakatsue 7.88 300 P **P 07 01 40.8 +1.8**
2.2nm,0.3s,baz=137,slow=5.5,SNR=12
JNU Nakatsue 7.88 300 P **P 07 01 41.8 +2.9**
JOW Kunigami 9.83 257 P **P 07 02 01.6 +1.4**
0.8nm,0.3s,baz=105,slow=16,SNR=12
JOW Kunigami 9.83 257 P **P 07 02 04.0 +3.8**
KSRS Korea Array 12.24 314 P **P 07 02 27.5 +1.2**
0.8nm,0.3s,baz=128,slow=11,SNR=12
KSAR Wonju Array Be 12.26 314 P **P 07 02 27.9 +1.5**
USA0B Ussuriysk Arra 15.78 341 P **P 07 03 05.2 +1.0**
USA0B IAmb IAmb 07 03 06.0
comp=Z,8.8nm,1.0s
USRK Ussuriysk Ar. 15.78 341 P **P 07 03 05.2 +1.0**
baz=147,slow=9.0,SNR=28
USRK Ussuriysk Ar. 15.78 341 P **P 07 03 05.4 +1.2**
NACB Ninganchiao 16.40 256 P **P 07 03 08.8 -2.3**
YHNB Yeheng 16.41 257 P **P 07 03 09.9 -1.3**
YULB Yu-li 16.96 253 P **P 07 03 15.8 -1.2**
SSLB Suanglung 17.09 255 P **P 07 03 17.8 -0.7**
TPUB Ta-pu 17.56 254 P **P 07 03 23.6 +0.2**
KLR Kul'dur 20.55 346 P **P 07 03 52.3 +1.0**
comp=Z,2.8nm,0.7s,baz=154,slow=10,SNR=6.1
WHN Wuhan 21.39 279 P **P 07 03 59.4 +0.2**
BJI Beijing 21.50 306 P **P 07 03 59.8 -0.2**
BJI pmax pmax
comp=Z,9.0nm,0.8s
HHC Hu-ho-hao-te 25.08 304 *e*P **P 07 04 33.3 +1.0**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,14nm,6.9s
ENH Enshi 25.60 279 P **P 07 04 35.6 -1.4**
XAN Xi'an 25.96 288 P **P 07 04 39.9 -0.3**
XAN pmax pmax
comp=Z,32nm,0.7s
XAN pmax pmax
comp=Z,63nm,5.4s
XAN Xi'an 25.96 288 P **P 07 04 40.1 0.0**
PETK Petropavlovsk- 27.36 25 P **P 07 04 53.6 +1.4**
comp=Z,2.1nm,0.9s,baz=188,slow=8.7,SNR=2.5
PETK Petropavlovsk- 27.36 25 P **P 07 04 54.4 +2.2**
CD2 Chengdu 30.44 282 P **P 07 05 17.8 -1.8**
CD2 pmax pmax
comp=Z,60nm,0.5s
SONM Songino Array 31.10 315 P **P 07 05 24.9 -0.3**
comp=Z,1.4nm,0.7s,baz=119,slow=8.7,SNR=7.4
SONM Songino Array 31.10 315 P **P 07 05 25.5 +0.4**
SLVN Son La 32.63 264 P **P 07 05 39.0 +0.5**
SLVN IAmb IAmb 07 05 39.9
comp=Z,13nm,0.9s
GTA Gaotai 33.61 298 *e*P **P 07 05 46.8 0.0**
GTA pP pP 07 07 04.8 -0.6
GTA sP sP 07 08 00.6 +4.2
GTA pmax pmax
comp=Z,7.0nm,0.9s
SEY Seymchan 34.63 11 P **P 07 05 55.4 +0.6**
comp=Z,1.7nm,0.6s,baz=223,slow=19,SNR=4.0
PBKT Sadao Pong 37.12 258 P **P 07 06 16.9 +0.7**
PBKT IAmb IAmb 07 06 17.2
comp=Z,11nm,0.6s
CHTO Chiang Mai 37.90 263 P **P 07 06 23.0 +0.3**
CHTO IAmb IAmb 07 06 23.3
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 38.05 263 P **P 07 06 24.0 +0.1**
comp=Z,5.2nm,0.7s,baz=83,slow=4.1,SNR=8.8
SHL Shillong 41.77 276 P **P 07 06 54.3 +0.2**
BILL Bilibino 41.88 15 P **P 07 06 55.4 +1.3**
BILL IAmb IAmb 07 06 55.9
comp=Z,8.9nm,0.9s
TIXI Tiksi 42.65 355 P **P 07 07 00.1 0.0**
TIXI IAmb IAmb 07 07 00.8
comp=Z,4.3nm,0.8s
ODAN Odare 45.29 280 *e*P **P 07 07 21.8 0.0**
comp=Z,27nm,0.6s
ZALV Zalesovo Beam 45.90 318 P **P 07 07 24.4 -1.3**
comp=Z,0.7nm,0.5s,baz=99,slow=7.3,SNR=3.2
ZALV Zalesovo Beam 45.90 318 P **P 07 07 24.3 -1.5**
KNRA Kununurra 45.91 194 P **P 07 07 26.0 -0.2**
RAMN Ramite 45.95 280 *e*P **P 07 07 26.8 0.0**
comp=Z,28nm,0.7s
JIRN Jiri 46.11 281 *e*P **P 07 07 28.7 +0.5**
comp=Z,77nm,0.7s
GUN Gumba 46.31 282 *e*P **P 07 07 30.1 +0.4**
comp=Z,48nm,0.8s
PKI Pulchoki 46.80 281 *e*P **P 07 07 33.2 -0.2**
comp=Z,18nm,1.0s
PKIN Phulchoki 46.81 281 *e*P **P 07 07 33.3 -0.1**
comp=Z,7.7nm,0.6s
MK31 Makanchi Array 46.84 308 P **P 07 07 32.9 -0.3**
MKAR Makanchi Array 46.84 308 P **P 07 07 32.8 -0.3**
comp=Z,1.0nm,0.6s,baz=92,slow=9.7,SNR=12
MKAR ScP **ScP 07 12 05.8 -2.3**
comp=Z,0.9nm,0.7s,baz=77,slow=6.1,SNR=5.7
MKAR Makanchi Array 46.84 308 P **P 07 07 32.2 -0.9**
MKAR **ScP 07 12 05.2 -2.9**
KKN Kakani 46.85 282 *e*P **P 07 07 33.8 +0.1**
comp=Z,17nm,0.6s
DMN Daman 47.05 282 *e*P **P 07 07 35.2 -0.1**
comp=Z,14nm,0.7s
GKN Gorkha 47.35 282 *e*P **P 07 07 37.4 0.0**
comp=Z,12nm,0.4s
DANN Dangsing 48.00 283 *e*P **P 07 07 42.8 +0.3**
comp=Z,56nm,0.9s
KOLN Koldanda 48.29 282 *e*P **P 07 07 44.4 -0.2**
comp=Z,34nm,0.9s
FITZ Fitzroy Crossi 48.97 197 P **P 07 07 49.1 -0.2**
comp=Z,4.7nm,0.6s,baz=19,slow=7.5,SNR=11
FITZ Fitzroy Crossi 48.97 197 P **P 07 07 49.3 -0.1**
WRAB Tennant Creek 49.27 186 P **P 07 07 50.6 -1.0**
WB2 Warramunga Arr 49.28 186 P **P 07 07 50.9 -0.8**
WRA Warramunga Arr 49.28 186 P **P 07 07 50.8 -0.9**
comp=Z,2.6nm,0.4s,baz=0.7,slow=7.6,SNR=113
WRA ScP **ScP 07 12 17.2 -1.5**
comp=Z,0.8nm,0.8s,baz=359,slow=5.0,SNR=5.2
WRA Warramunga Arr 49.28 186 P **P 07 07 51.0 -0.6**
KURK Kurchatov 49.36 313 P **P 07 07 50.9 -1.0**
KURK IAmb IAmb 07 07 52.6
comp=Z,5.6nm,1.2s
KURBB Kurchatov Arra 49.42 313 P **P 07 07 51.9 -0.5**
comp=Z,2.9nm,0.6s,baz=91,slow=7.3,SNR=31
AS31 Alice Springs 53.01 186 P **P 07 08 18.4 -0.4**
ASAR Alice Springs 53.01 186 P **P 07 08 18.2 -0.7**
comp=Z,0.7nm,0.3s,baz=4.1,slow=6.8,SNR=34
PSA00 Pilbara Seismi 53.96 202 P **P 07 08 25.2 -0.4**
PSA00 IAmb IAmb 07 08 42.1
comp=Z,7.2nm,1.0s
IMAR Indian Mountai 54.26 28 P **P 07 08 28.3 +1.1**
BVAR Borovoye Array 54.44 316 P **P 07 08 28.4 -0.3**
comp=Z,1.7nm,0.5s,baz=96,slow=8.1,SNR=6.0
PPLA Purkeypile 54.62 32 P **P 07 08 32.0 +2.0**
PPLA IAmb IAmb 07 08 37.8
comp=Z,8.5nm,1.2s
MLY Manley 55.41 29 P **P 07 08 37.0 +1.5**
KKAR Karatay Array 55.47 304 P **P 07 08 35.9 -0.2**
EIDS Eidsvold 55.70 167 P **P 07 08 37.4 -0.4**
RC01 Rabbit Creek A 55.71 34 P **P 07 08 38.4 +0.9**
RC01 IAmb IAmb 07 08 55.4
comp=Z,9.5nm,1.0s
NEA Nenana 56.10 30 P **P 07 08 39.9 -0.2**
NEA IAmb IAmb 07 08 43.8
comp=Z,12nm,0.9s
RND Reindeer 56.16 31 P **P 07 08 41.1 +0.4**
RND IAmb IAmb 07 08 49.5
comp=Z,7.1nm,1.1s
WRH Wood River Hil 56.52 30 P **P 07 08 44.5 +1.4**
DHY Denali Highway 56.82 31 P **P 07 08 46.9 +1.5**
HDA Harding Lake 57.02 30 P **P 07 08 46.2 -0.3**
IL31 57.04 29 P **P 07 08 46.8 +0.1**
IL31 IAmb IAmb 07 08 48.4
comp=Z,9.7nm,1.3s
ILAR Eielson Array 57.04 29 P **P 07 08 46.3 -0.4**
comp=Z,2.1nm,0.9s,baz=252,slow=5.1,SNR=20
ILAR Eielson Array 57.04 29 P **P 07 08 46.2 -0.5**
CHGR Chuyangaron 57.37 299 P **P 07 08 49.2 -0.3**
DZM Mont Dzumac 57.61 150 P **P 07 08 51.4 +0.2**
comp=Z,2.5nm,0.6s,baz=14,slow=12

EYAK Cordova Ski Ar 57.67 34 P **P 07 08 52.0 +1.0**
EYAK IAmb IAmb 07 09 04.5
comp=Z,11nm,1.0s
BMAR Burnt Mountain 57.99 26 P **P 07 08 55.0 +1.7**
SCRK Sand Creek 58.32 30 P **P 07 08 56.0 +0.4**
SCRK IAmb IAmb 07 08 56.2
comp=Z,3.4nm,0.8s
MCARA McCarthy VSAT 58.94 33 P **P 07 09 01.2 +1.5**
MCARA IAmb IAmb 07 09 04.8
comp=Z,14nm,1.1s
HMH Humu'ula Sheep 59.73 83 P **P 07 09 08.4 +2.3**
STKA Stephens Creek 61.01 177 P **P 07 09 13.0 -0.8**
comp=Z,1.9nm,0.4s,baz=345,slow=7.8,SNR=3.0
STKA Stephens Creek 61.01 177 P **P 07 09 12.4 -1.5**
EPYK Eagle Plains 61.16 27 P **P 07 09 15.7 +1.2**
ABKAR Abkulak array 61.47 313 P **P 07 09 16.1 -0.6**
INK Inuvik 62.09 25 P **P 07 09 20.7 +0.2**
comp=Z,3.0nm,0.5s,baz=285,slow=7.1,SNR=28
INK Inuvik 62.09 25 P **P 07 09 20.9 +0.4**
INK IAmb IAmb 07 09 21.1
comp=Z,4.0nm,0.6s
MORW Morawa 62.16 203 P **P 07 09 20.8 -0.7**
MORW IAmb IAmb 07 09 28.8
comp=Z,6.5nm,1.1s
NWAO Narrogin (SRO) 65.36 200 P **P 07 09 41.6 -0.4**
comp=Z,5.9nm,0.6s,baz=28,slow=6.9,SNR=7.0
NWAO Narrogin (SRO) 65.36 200 P **P 07 09 41.9 -0.1**
NWAO Narrogin (SRO) 65.36 200 P **P 07 09 42.0 0.0**
NWAO IAmb IAmb 07 09 45.1
comp=Z,11nm,1.1s
ARCES ARCESS Array B 70.42 340 P **P 07 10 11.9 -0.7**
comp=Z,6.7nm,1.0s,baz=51,slow=7.1,SNR=4.0
YKA Yellowknife Ar 71.42 28 P **P 07 10 18.5 -0.1**
comp=Z,2.2nm,0.7s,baz=77,slow=6.7,SNR=5.0
YKA Yellowknife Ar 71.42 28 P **P 07 10 19.0 +0.4**
NLWA Neilton Lookou 73.43 45 P **P 07 10 32.4 +1.8**
NLWA IAmb IAmb 07 10 48.4
comp=Z,7.4nm,1.1s
KBZ Khabaz 74.38 312 P **P 07 10 35.9 -0.1**
comp=Z,2.7nm,0.9s,baz=335,slow=4.6,SNR=4.4
FINES FINESS Array B 74.62 333 P **P 07 10 36.5 -0.5**
comp=Z,2.1nm,0.9s,baz=75,slow=8.3,SNR=4.7
FINES FINESS Array B 74.62 333 P **P 07 10 35.9 -1.2**
LON Longmire 74.98 45 P **P 07 10 40.7 +1.3**
KEBM Edson Butte 75.11 49 P **P 07 10 41.5 +1.3**
B08A Colville Reser 75.72 42 P **P 07 10 44.4 +0.8**
B08A IAmb IAmb 07 10 45.1
comp=Z,4.3nm,0.8s
HUMO Hull Mountain 76.13 49 P **P 07 10 47.5 +1.5**
YBH Yreka Blue Hor 76.70 50 P **P 07 10 50.4 +1.3**
KMRM Mail Ridge 76.72 51 P **P 07 10 53.2 +3.9**
PINE Pine Mountain 76.89 47 P **P 07 10 51.7 +1.4**
G08A Pilot Rock 77.42 45 P **P 07 10 55.2 +2.1**
BMO Blue Mountains 78.65 45 P **P 07 11 00.9 +1.2**
BMO IAmb IAmb 07 11 01.4
comp=Z,2.8nm,1.1s
CMB Columbia Colle 80.03 52 P **P 07 11 08.1 +0.9**
CMB IAmb IAmb 07 11 08.5
comp=Z,3.9nm,1.0s
NC405 NORSAR Array S 80.18 337 P **P 07 11 07.0 -0.4**
YERR Yerington 80.34 51 P **P 07 11 09.9 +1.0**
YERR IAmb IAmb 07 11 10.4
comp=Z,4.0nm,1.1s
NB2 NORSAR Subarra 80.41 337 P **P 07 11 07.8 -0.9**
comp=Z,0.3nm,0.4s,baz=45,slow=5.1
NOA NORSAR Array B 80.41 337 P **P 07 11 07.7 -0.9**
comp=Z,0.4nm,0.7s,baz=60,slow=6.2,SNR=4.0
WAKR Walker 80.45 51 P **P 07 11 10.7 +1.2**
WAKR IAmb IAmb 07 11 11.1
comp=Z,2.0nm,0.7s
HRY Holter Researc 80.93 41 P **P 07 11 12.8 +1.0**
KVN Kaiserville 81.07 50 P **P 07 11 14.2 +1.4**
NVAR Mina Array Bea 81.25 51 P **P 07 11 14.8 +1.0**
comp=Z,2.5nm,0.6s,baz=288,slow=5.8,SNR=15
NVAR Mina Array Bea 81.25 51 P **P 07 11 15.3 +1.6**
BOZ Bozeman (W) 81.66 42 P **P 07 11 16.5 +0.8**
ELK Elko 82.08 48 P **P 07 11 19.0 +1.0**
ELK IAmb IAmb 07 11 19.8
comp=Z,3.6nm,1.1s
BRTR Keskin Array B 82.38 311 P **P 07 11 19.5 +0.1**
comp=Z,0.6nm,0.8s,baz=14,slow=1.8,SNR=3.4
BRTR Keskin Array B 82.38 311 P **P 07 11 20.2 +0.8**
R11A Troy Canyon, C 83.12 50 P **P 07 11 24.5 +1.3**
R11A IAmb IAmb 07 11 24.8
comp=Z,2.2nm,1.1s
RLMT Red Lodge 83.31 41 P **P 07 11 25.2 +1.1**
RLMT IAmb IAmb 07 11 25.9
comp=Z,3.6nm,0.7s
DUG Dugway, Tooele 83.93 47 P **P 07 11 28.4 +1.2**
DUG IAmb IAmb 07 11 28.5
comp=Z,2.0nm,0.7s
BW06 Boulder Array 84.50 44 P **P 07 11 29.3 -0.7**
BW06 IAmb IAmb 07 11 31.0
comp=Z,3.5nm,1.1s
PD31 Pinedale Array 84.50 44 P **P 07 11 31.6 +1.5**
PDAR Pinedale Array 84.50 44 P **P 07 11 30.3 +0.2**
comp=Z,2.2nm,1.0s,baz=276,slow=1.3,SNR=6.1
PDAR Pinedale Array 84.50 44 P **P 07 11 29.6 -0.5**
TXAR Lajitas Array 96.40 51 P **P 07 12 26.0 +0.5**
comp=Z,0.8nm,0.9s,baz=236,slow=2.3,SNR=4.3
TXAR Lajitas Array 96.40 51 P **P 07 12 26.3 +0.8**
LPAZ La Paz 151.86 68 PKPbc **PKPbc 07 18 49.7 -0.1**
comp=Z,1.1nm,0.8s,baz=276,slow=4.4,SNR=4.2
LPAZ La Paz 151.86 68 PKPbc **PKiKP 07 18 50.4 +0.4**
PB11 IPOC Station P 152.28 76 PKPab **PKPab 07 19 01.9 -0.2**

NNC 23 07:19:42.2±1.6, 50.°04N×78.°74E, h0km, mb3.6, mpv3.4, 4C-1D, Error ellipse: s-maj=13.9km s-min=6.6km az=55.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.60**	**347**	⇓P	Pg	07 19 53.8	+0.2
KURBB	38nm,0.3s						
				⇑S	Sg	07 20 02.3	+1.0
	81nm,0.5s						
SEM	**Semipalatinsk**	**1.03**	**69**	P	Pg	07 20 02.2	+0.2
SEM	9.8nm,0.2s						
				S	Sb	07 20 16.7	-0.6
	144nm,0.3s						
MK31	**Makanchi Array**	**4.02**	**143**	⇑Pn	Pn	07 20 45.5	+0.5
MK31	0.2nm,0.2s,baz=322,slow=10,SNR=12						
				⇑Pg	Pb	07 20 54.6	+0.7
	2.1nm,0.5s,baz=338,slow=16,SNR=17						
MK31				⇑Lg	Lg	07 21 48.7	
	9.7nm,0.5s,baz=335,slow=28,SNR=9.5						
DJR	**Jarkent**	**5.76**	**172**	Pg	Pb	07 21 22.4	-1.1
DJR	2.9nm,0.3s						
				Lg	Lg	07 22 35.7	
	4.4nm,0.5s						

IDC 23 07:42:15.3±2.3, 3.°90S×129.°94E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/33, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=112.7km s-min=27.7km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.72**	**196**	Pn	Pn	07 45 45.0	-0.1
	0.1nm,0.3s,baz=17,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**16.51**	**165**	Pn	Pn	07 46 07.5	-1.0
	baz=348,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**20.02**	**169**	P	P	07 46 50.4	+0.4
	0.7nm,0.4s,baz=347,slow=10,SNR=14						
MKAR	**Makanchi Array**	**65.62**	**326**	P	P	07 53 01.3	0.0
	0.4nm,0.5s,baz=112,slow=9.3,SNR=5.0						

ISCJB ***23*** *07:48:28.5±0.5, 17.°10S±0.°02×176.°60W±0.°02, h342km±5km, mb6.0/182, Error ellipse: s-maj=4.0km s-min=2.8km az=153.8*

NEIC ***23*** *07:48:32.1±1.7, 17.°12S±0.°07×176.°55W±0.°07, h371km±1km, mb6.0/473, Mwb6.5, Mwc6.5, Mww6.5, Mwc6.5(GCMT), Moment Tension Solution. Moment tensor: Scale 10^18^Nm; M_rr_2.51; M_θθ_-1.01; M_φφ_-1.50; M_rθ_-2.94; M_θφ_-0.21; M_φr_-6.45; Fault plane solution: M_0_7.42000×10^18^ NP1:φ_s_21.88000°, δ8.04000°, λ87.54000°. NP2:φ_s_204.36000°, δ81.97000°, λ90.35000°. Principal axes: T 7.8453, Plg53.0000°, Azm115.0000°; N -0.9397, Plg0.0000°, Azm24.0000°; P -6.9056, Plg37.0000°, Azm294.0000°;*

BJI ***23*** *07:48:32.4±0.0, 17.°10S×176.°60W, h370km, mb5.9/71, mB6.4/72*

MOS ***23*** *07:48:32.3±1.1, 16.°97S×176.°58W, h372km, mb6.0/38, Error ellipse: s-maj=8.2km s-min=6.6km az=122.3*

IDC ***23*** *07:48:33.1±0.3, 17.°17S×176.°63W, h374km±3km, mb5.4/40, mb1 5.5/43, mb1mx5.5/44, mbtmp6.1/43, Error ellipse: s-maj=8.2km s-min=6.3km az=1.0*

NEIC ***23*** *07:48:37, 17.°12S×176.°36W, h388km, Moment Tension Solution. Moment tensor: Scale 10^18^Nm; M_rr_2.48; M_θθ_-0.19; M_φφ_-2.29; M_rθ_-2.80; M_θφ_-0.52; M_φr_-5.84; Fault plane solution: M_0_6.92000×10^18^ NP1:φ_s_205.00000°, δ80.00000°, λ94.00000°. NP2:φ_s_3.00000°, δ11.00000°, λ69.00000°. Principal axes: T 7.0053, Plg55.0000°, Azm120.0000°; N -0.1678, Plg4.0000°, Azm24.0000°; P -6.8375, Plg35.0000°, Azm291.0000°;*

GCMT ***23*** *07:48:37.1±0.1, 17.°09S±0.°01×176.°38W±0.°01, h387km, MW6.5/146, Moment Tension Solution. s146,c377; s135,c248; Duration: 4s3 Moment tensor: Scale 10^18^Nm; M_rr_2.50±.02; M_θθ_-0.11±.04; M_φφ_-2.39±.04; M_rθ_-2.75±.03; M_θφ_-0.51±.03; M_φr_-5.90±.03; Best double couple: M_0_6.97200×10^18^ NP1:φ_s_204.00000°, δ80.00000°, λ94.00000°. NP2:φ_s_1.00000°, δ11.00000°, λ68.00000°. Principal axes: T 7.0280, Plg55.0000°, Azm119.0000°; N -0.1100, Plg4.0000°, Azm23.0000°; P -6.9160, Plg35.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

NEIC ***23*** *07:48:39, 17.°10S×176.°56W, h390km, Moment Tension Solution. Moment tensor: Scale 10^18^Nm; M_rr_2.44; M_θθ_-0.20; M_φφ_-2.24; M_rθ_-2.72; M_θφ_-0.19; M_φr_-5.59; Fault plane solution: M_0_6.65000×10^18^ NP1:φ_s_204.00000°, δ80.00000°, λ96.00000°. NP2:φ_s_354.00000°, δ11.00000°, λ60.00000°. Principal axes: T 6.8411, Plg55.0000°, Azm121.0000°; N -0.4098, Plg6.0000°, Azm23.0000°; P -6.4313, Plg35.0000°, Azm289.0000°;*

NEIC ***23*** *07:48:47.7, 17.°01S×176.°54W, h398km, Moment Tension Solution. Moment tensor: Scale 10^18^Nm; M_rr_2.48; M_θθ_0.43; M_φφ_-2.90; M_rθ_-2.63; M_θφ_0.05; M_φr_-6.26; Fault plane solution: M_0_7.32000×10^18^ NP1:φ_s_337.92000°, δ13.53000°, λ47.69000°. NP2:φ_s_201.04000°, δ80.04000°, λ99.20000°. Principal axes: T 7.3321, Plg54.0000°, Azm122.0000°; N -0.0335, Plg9.0000°, Azm19.0000°; P -7.2987, Plg34.0000°, Azm283.0000°;*

ISC 23 07:48:32.0±0.2, 17.°16S±0.°03×176.°52W±0.°03, h370km±1km, h371km:pP-P, n1931, σ1.°69/2022, mb6.0/374, 87C-130D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.21**	**263**	P	**Pn**	**07 49 58.0**	**+3.0**
MSVF	**Nonsavu**	**5.21**	**263**		**Pn**	**07 49 58.0**	**+3.0**
AFI	**Afiamalu**	**5.60**	**55**	P	**Pn**	**07 49 56.6**	**-2.7**
	2μm,0.3s,baz=102,slow=0.5,SNR=571						
AFI				S	**S**	**07 51 02.6**	**-7.4**
	506nm,0.3s,baz=18,slow=20,SNR=3.5						
NIUE	**Niue**	**6.55**	**108**		**Pn**	**07 50 09.4**	**-0.4**
FUNA	**Funafuti**	**9.54**	**334**	P	**Pn**	**07 50 44.3**	**-0.5**
RAO	**Raoul Island**	**12.10**	**186**	P	**P**	**07 51 12.5**	**-1.4**
RAO				S	**S**	**07 53 22.0**	**-5.9**
RAO	**Raoul Island**	**12.10**	**186**	P	**P**	**07 51 12.7**	**-1.2**
	338nm,0.3s,baz=69,slow=16,SNR=10						
RAO				S	**S**	**07 53 21.2**	**-6.7**
	2μm,0.3s,baz=90,slow=23,SNR=16						
RAO	**Raoul Island**	**12.10**	**186**	P	**P**	**07 51 12.5**	**-1.4**
RAO					**S**	**07 53 22.1**	**-5.9**
KNTN	**Kanton**	**15.05**	**19**	P	**P**	**07 51 45.4**	**-1.0**
RAR	**Rarotonga**	**16.32**	**107**	P	**P**	**07 52 01.4**	**+1.3**
RAR				pmax	pmax		
	comp=Z,8μm,1.7s						
RAR	**Rarotonga**	**16.32**	**107**	P	**P**	**07 52 00.9**	**+0.9**
	comp=Z,13nm,0.3s,baz=265,slow=6.3,SNR=131						
RAR	**Rarotonga**	**16.32**	**107**	P	**P**	**07 52 01.4**	**+1.3**
I22FR	**PORTLAGUERRE**	**16.44**	**250**	P	**P**	**07 52 01.9**	**+0.5**
	baz=78,slow=12,SNR=2.9						
DZM	**Mont Dzumac**	**16.77**	**250**	*e*P	**P**	**07 52 05.0**	**-0.1**
	comp=Z,4μm,1.7s						
DZM	**Mont Dzumac**	**16.77**	**250**	P	**P**	**07 52 04.6**	**-0.5**
	comp=Z,15nm,0.3s,baz=79,slow=15,SNR=112						
DZM				S	**S**	**07 55 04.0**	**+2.5**
	comp=Z,2.1nm,0.3s,baz=109,slow=19,SNR=1.7						
DZM				ScP	**ScP**	**07 59 32.8**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=68,slow=12,SNR=11						
DZM				ScS	**ScS**	**08 03 16.7**	**+5.6**
	comp=Z,0.1nm,0.3s,baz=146,slow=19,SNR=4.0						
DZM	**Mont Dzumac**	**16.77**	**250**	P	**P**	**07 52 04.7**	**-0.3**
DZM				ScP	**ScP**	**07 59 34.5**	**+3.5**
OUZ	**Omahuta**	**20.03**	**204**	P	**P**	**07 52 40.5**	**+1.7**
OUZ	**Omahuta**	**20.03**	**204**	P	**P**	**07 52 40.0**	**+1.3**
OUZ				IAmb	IAmb	07 52 41.9	
	comp=Z,934nm,1.3s						
OUZ				ScP	**ScP**	**07 59 40.1**	**+2.3**
GRZ	**Great Barrier**	**20.30**	**199**	P	**P**	**07 52 41.6**	**+0.4**
WCZ	**Waipu Caves**	**20.39**	**202**	P	**P**	**07 52 43.4**	**+1.3**
KUZ	**Kuaotunu**	**20.68**	**198**	P	**P**	**07 52 46.1**	**+1.4**
ABAZ	**Army Bay**	**20.82**	**200**	P	**P**	**07 52 48.0**	**+2.0**
MXZ	**Matakaoa Point**	**20.83**	**192**	P	**P**	**07 52 45.8**	**-0.2**
MXZ				S	S	07 56 27.9	+14
MXZ	**Matakaoa Point**	**20.83**	**192**	P	**P**	**07 52 45.7**	**-0.3**
WIAZ	**Waiheke Island**	**20.90**	**199**	P	**P**	**07 52 48.4**	**+1.7**
WMGZ	**Waiomatatini S**	**21.06**	**191**	P	**P**	**07 52 48.3**	**+0.2**
WMGZ				S	S	07 56 32.8	+16
HAZ	**Te Kaha**	**21.12**	**193**	P	**P**	**07 52 47.9**	**-0.8**
HAZ				S	S	07 56 33.4	+15
TARA	**Tarawa**	**21.14**	**329**	P	**P**	**07 52 48.3**	**-0.8**
RUGZ	**Raukumara Rang**	**21.34**	**193**	P	**P**	**07 52 49.5**	**-1.3**
RUGZ				S	S	07 56 37.8	+16
TGRZ	**Tauranga**	**21.45**	**196**	P	**P**	**07 52 53.0**	**+1.3**
OPRZ	**Ohinepanea**	**21.49**	**195**	P	**P**	**07 52 51.9**	**-0.1**
OPRZ				S	S	07 56 44.2	+20
TWGZ	**Tauwhareparae**	**21.49**	**192**	P	**P**	**07 52 52.4**	**+0.3**
TWGZ				S	S	07 56 43.2	+19
MARZ	**Manawahe**	**21.59**	**195**	P	**P**	**07 52 53.4**	**+0.5**
KMRZ	**Kaimai**	**21.65**	**196**	P	**P**	**07 52 54.5**	**+1.0**
TOZ	**Tahuroa Road**	**21.66**	**197**	P	**P**	**07 52 54.6**	**+1.1**
EDRZ	**Edgecumbe**	**21.69**	**195**	P	**P**	**07 52 53.8**	**-0.1**
EDRZ				S	S	07 56 50.7	+23
MWZ	**Matawai**	**21.73**	**193**	P	**P**	**07 52 53.0**	**-1.3**
MWZ				S	S	07 56 49.1	+21
CNGZ	**Carnagh Statio**	**21.74**	**191**	P	**P**	**07 52 54.7**	**+0.4**
CNGZ				S	S	07 56 47.5	+19
URZ	**Urewera**	**21.75**	**194**	P	**P**	**07 52 51.4**	**-3.0**
	comp=Z,128nm,0.3s,baz=276,slow=2.0,SNR=227						
URZ				S	**S**	**07 56 22.0**	**-6.3**
	comp=Z,70nm,0.5s,baz=209,slow=23,SNR=8.0						
URZ				ScS	**ScS**	**08 03 25.4**	**-1.4**
	comp=Z,25nm,0.9s,baz=338,slow=24,SNR=10.0						
URZ	**Urewera**	**21.75**	**194**	P	**P**	**07 52 51.7**	**-2.7**
URZ				S	S	07 56 46.7	+18
URZ	**Urewera**	**21.75**	**194**	P	**P**	**07 52 52.0**	**-2.3**
OMRZ	**Omania**	**21.78**	**195**	P	**P**	**07 52 55.4**	**+0.7**
TARZ	**Mount Tarawera**	**21.87**	**195**	P	**P**	**07 52 55.8**	**+0.2**
UTU	**Utuhina**	**21.89**	**196**	P	**P**	**07 52 57.0**	**+1.3**
RAGZ	**Rawiri**	**21.91**	**193**	P	**P**	**07 52 55.8**	**-0.2**
RAGZ				S	S	07 56 52.8	+22
HLRZ	**Highlands Stat**	**21.92**	**195**	P	**P**	**07 52 56.5**	**+0.5**
RIGZ	**Rimuhau**	**22.04**	**192**	P	**P**	**07 52 55.9**	**-1.2**
RIGZ				S	S	07 56 53.3	+20
HRRZ	**Handcock Road**	**22.07**	**195**	P	**P**	**07 52 57.3**	**-0.1**
GRRZ	**Galatos Road**	**22.08**	**196**	P	**P**	**07 52 58.1**	**+0.7**
PRRZ	**Plateau Road**	**22.15**	**195**	P	**P**	**07 52 57.9**	**-0.1**
SNGZ	**Shannon Statio**	**22.20**	**193**	P	**P**	**07 52 58.3**	**-0.2**
SNGZ				S	S	07 56 57.1	+21
ALRZ	**Allen Road**	**22.22**	**195**	P	**P**	**07 52 58.2**	**-0.4**
MRHZ	**Matea Rd**	**22.46**	**195**	P	**P**	**07 52 59.9**	**-1.0**
HIZ	**Hauiti**	**22.57**	**198**	P	**P**	**07 53 02.6**	**+0.7**
HIZ				IAmb	IAmb	07 53 05.1	
	comp=Z,1μm,1.2s						
HNR	**Honiara**	**24.14**	**286**	P	**P**	**07 53 17.3**	**+1.0**
HNR	**Honiara**	**24.14**	**286**	P	**P**	**07 53 17.7**	**+1.4**
	comp=Z,6μm,1.0s,baz=189,slow=3.9,SNR=244						
HNR	**Honiara**	**24.14**	**286**	*i*P	**P**	**07 53 18.5**	**+2.2**
HNR	**Honiara**	**24.14**	**

BHW PcP **PcP** 07 56 49.7 +1.7
PAE Paea 25.70 95⇑ *iP* **P** 07 53 30.7 +0.5
comp=Z,636nm,1.4s
PPT2 Papeete2 25.71 95⇑ *iP* **P** 07 53 31.0 +0.6
comp=Z,2μm,1.4s
PPT Papeete 25.71 95 P **P** 07 53 30.4 +0.1
PPT 07 56 51.8
PPT Papeete 25.71 95 P **P** 07 53 31.2 +0.8
comp=Z,708nm,0.8s,baz=339,slow=1.2,SNR=88
PPT ScP **ScP** 07 59 57.9 +4.7
comp=Z,110nm,1.0s,baz=286,slow=3.3,SNR=5.7
PPT Papeete 25.71 95 P **P** 07 53 30.4 +0.1
PPT PcP **PcP** 07 56 51.8 +2.4
PPTF Pamatai, Papee 25.72 95 P **P** 07 53 30.9 +0.4
PPTF PcP **PcP** 07 56 51.8 +2.3
TIAR Tiarei 25.93 95⇑ *iP* **P** 07 53 33.0 +0.7
comp=Z,246nm,0.9s
TVO Taravao 26.01 95⇑ *iP* **P** 07 53 33.7 +0.6
comp=Z,449nm,1.0s
TBI Tubuai 26.10 108⇑ *iP* **P** 07 53 35.2 +1.5
comp=Z,1μm,1.0s
LHI Lord Howe Isla 26.36 233 P **P** 07 53 36.2 +0.3
XMAS Kiritimati 26.80 46 P **P** 07 53 39.5 -0.5
XMAS IAmb IAmb 07 53 41.6
comp=Z,1μm,1.5s
MEH Mehetia 27.13 96⇑ *iP* **P** 07 53 43.5 +0.5
comp=Z,312nm,1.4s
PMOR Pomariorio Ree 27.58 90⇑ *iP* **P** 07 53 47.5 +0.6
comp=Z,4μm,1.4s
VAH Vaihoa 27.80 90⇑ *iP* **P** 07 53 49.1 +0.3
comp=Z,2μm,1.4s
OXZ Oxford 27.83 198 IAmb IAmb 07 53 49.8
comp=Z,1μm,1.7s
RPZ Rata Peaks 28.49 199 P **P** 07 53 53.1 -1.5
comp=Z,76nm,0.6s,baz=336,slow=2.3,SNR=28
WKZ Wanaka 30.14 201 ScP **ScP** 08 00 09.8 +3.3
KWAJ Kwajalein Atol 30.19 327 P **P** 07 54 09.8 -0.1
KWAJ pmax pmax
comp=Z,11μm,1.9s
KWAJ Kwajalein Atol 30.19 327 P **P** 07 54 09.8 -0.1
EIDS Eidsvold 31.22 249 P **P** 07 54 17.8 -1.0
EIDS IAmb IAmb 07 54 19.7
comp=Z,898nm,0.9s
DCZ Deep Cove 31.35 202 IAmb IAmb 07 54 21.1
comp=Z,524nm,1.0s
WHZ Wether Hill Ro 31.44 201 IAmb IAmb 07 54 22.8
comp=Z,907nm,0.7s
ARMA Armidale 31.87 240 P **P** 07 54 24.5 +0.1
ARMA IAmb IAmb 07 54 26.5
comp=Z,331nm,0.6s
KRVT Keravat (AS076 33.37 289 P **P** 07 54 35.6 -1.7
comp=Z,4μm,1.1s,baz=295,slow=0.9,SNR=112
JOHN Johnston Islan 34.38 12 P **P** 07 54 47.0 +1.2
PATS Pohnpei 34.46 312 P **P** 07 54 46.8 +0.2
CTA Charters Tower 35.35 259 P **P** 07 54 53.4 -0.8
comp=Z,268nm,0.7s,baz=90,slow=10,SNR=154
CTA ScP **ScP** 08 00 27.3 +2.2
comp=Z,109nm,1.0s,baz=18,slow=1.5,SNR=10
CAN Canberra 35.59 233 P **P** 07 54 56.1 +0.1
CAN pmax pmax
comp=Z,381nm,0.9s
PMG Port Moresby 36.13 278 *d iP* **P** 07 55 01.1 +0.3
PMG pmax pmax
comp=Z,7μm,1.7s
PMG Port Moresby 36.13 278 P **P** 07 55 01.3 +0.5
comp=Z,784nm,1.1s,baz=94,slow=6.8,SNR=248
PMG Port Moresby 36.13 278 P **P** 07 55 01.0 +0.2
PMG IAmb IAmb 07 55 04.0
comp=Z,2μm,1.4s
TAOE Nuku Hiva Isla 36.33 82⇑ *iP* **P** 07 55 03.2 +0.6
comp=Z,3μm,1.4s
TAOE Nuku Hiva Isla 36.33 82 P **P** 07 55 03.0 +0.4
COEN Coen 38.91 269 P **P** 07 55 23.3 -0.6
TOO Toolangi 39.04 231 IAmb IAmb 07 55 28.0
comp=Z,798nm,0.9s
WAKE Wake Island 39.81 335 P **P** 07 55 30.4 -0.7
TAU Tasmania Unive 40.00 222 P **P** 07 55 32.1 -0.2
TAU pmax pmax
comp=Z,182nm,1.0s
TAU Tasmania Unive 40.00 222 P **P** 07 55 32.1 -0.2
H11N3 WAKE ISLAND Hy 40.10 335 P **P** 07 55 33.0 -0.2
baz=175,slow=11,SNR=17
H11N1 WAKE ISLAND Hy 40.11 335 P **P** 07 55 32.9 -0.3
baz=175,slow=11,SNR=9.5
H11N2 WAKE ISLAND Hy 40.12 335 P **P** 07 55 33.1 -0.2
baz=175,slow=11,SNR=11
STKA Stephens Creek 40.57 241 P **P** 07 55 37.2 +0.1
STKA pmax pmax
comp=Z,258nm,1.0s
STKA Stephens Creek 40.57 241 P **P** 07 55 37.5 +0.3
comp=Z,724nm,0.8s,baz=91,slow=10,SNR=531
STKA ScP **ScP** 08 00 47.7 +2.9
comp=Z,39nm,0.9s,baz=86,slow=5.7,SNR=3.5
STKA PKPPKP P'P'df 08 27 39.8 -11
comp=Z,2.2nm,0.9s,baz=350,slow=3.4,SNR=3.9
STKA Stephens Creek 40.57 241 P **P** 07 55 37.2 +0.1
STKA IAmb IAmb 07 55 39.2
comp=Z,258nm,0.9s
STKA **ScP** 08 00 48.3 +3.5
KHU Kahuku 41.61 31 P **P** 07 55 45.6 -0.3
KHU pmax pmax
comp=Z,2μm,1.8s
KHU Kahuku 41.61 31 P **P** 07 55 45.6 -0.3
KHU IAmb IAmb 07 55 47.7
comp=Z,2μm,1.8s
KKH Kailua Kona 41.77 30 P **P** 07 55 47.0 +0.2
KKH Kailua Kona 41.77 30 P **P** 07 55 47.0 +0.2
KHLU Kahalu`u 41.77 30 P **P** 07 55 47.2 +0.2
AIN Ainahou 41.79 31 P **P** 07 55 47.5 +0.2
AIN IAmb IAmb 07 55 50.2
comp=Z,1μm,1.7s
MCQ Macquarie Isla 41.79 201 P **P** 07 55 47.5 +0.9
MCQ pmax pmax
comp=Z,286nm,1.1s
MCQ Macquarie Isla 41.79 201 P **P** 07 55 47.5 +0.9
HUH Hualalai 41.88 30 IAmb IAmb 07 55 49.8
comp=Z,2μm,1.7s
STCH Steam Cracks 41.97 31 IAmb IAmb 07 55 50.1
comp=Z,547nm,0.8s
HMH Humu'ula Sheep 41.98 30 IAmb IAmb 07 55 50.9
comp=Z,1μm,1.0s
POHA Pohakuloa 42.08 30 P **P** 07 55 49.7 +0.1
POHA IAmb IAmb 07 55 51.3
comp=Z,3μm,2.0s
HPAH Hawaii Prepara 42.24 30 IAmb IAmb 07 55 52.4
comp=Z,906nm,0.8s
HON Honolulu 42.34 26 IAmb IAmb 07 55 53.3
comp=Z,2μm,1.8s
KIP Kipapa 42.42 26 *c iP* **P** 07 55 52.1 +0.1
KIP pmax pmax
comp=Z,730nm,1.7s
KIP Kipapa 42.42 26 P **P** 07 55 52.3 +0.3
KIP IAmb IAmb 07 55 53.9
comp=Z,1μm,1.6s
KHLH Kahului Airpor 42.65 28 IAmb IAmb 07 55 56.3
comp=Z,2μm,1.7s
MMPI Merauke 42.82 276 P **P** 07 55 55.2 -0.2
PTCN Pitcairn Islan 43.84 108 P **P** 07 56 05.6 +2.2
JAY Jayapura 44.45 284 P **P** 07 56 08.4 +0.1
comp=Z,395nm,0.5s,baz=113,slow=5.6,SNR=143
JAY Jayapura 44.45 284 P **P** 07 56 08.4 +0.1
MIDW Midway 45.12 359 P **P** 07 56 12.7 -0.4
MIDW IAmb IAmb 07 56 14.7
comp=Z,2μm,1.9s
BBOO Buckleboo 45.34 241 P **P** 07 56 14.3 -0.7
SMPI Sarmi 46.49 284 P **P** 07 56 23.8 -0.3
comp=Z,1μm,2.2s,comp=Z,25μm
WB2 Warramunga Arr 46.53 259 P **P** 07 56 22.7 -1.6
WB2 IAmb IAmb 07 56 24.8
comp=Z,2μm,1.8s
WRAB Tennant Creek 46.53 259 *d iP* **P** 07 56 22.7 -1.7
WRAB *i* *PP **pP** 07 57 38.4 +0.1
WRAB pmax pmax
comp=Z,1μm,1.7s
WRAB Tennant Creek 46.53 259 P **P** 07 56 22.7 -1.7
WRAB IAmb IAmb 07 56 24.8
comp=Z,2μm,1.8s
WRA Warramunga Arr 46.54 259 P **P** 07 56 21.6 -2.8
WRA Warramunga Arr 46.54 259 P **P** 07 56 22.7 -1.7
comp=Z,64nm,0.3s,baz=96,slow=7.6,SNR=318
WRA PcP **PcP** 07 57 52.7 +0.8
comp=Z,53nm,0.9s,baz=88,slow=4.0,SNR=5.9
WRA ScP **ScP** 08 01 11.3 +1.9
comp=Z,58nm,1.0s,baz=87,slow=4.3,SNR=10
WRA S **S** 08 02 38.9 -5.8
comp=Z,7.0nm,0.8s,baz=100,slow=14,SNR=3.0
WRA ScS **ScS** 08 05 41.1 +2.1
comp=Z,23nm,1.0s,baz=95,slow=6.7,SNR=9.1
WRA Warramunga Arr 46.54 259 P **P** 07 56 21.6 -2.8
WRA **ScP** 08 01 11.0 +1.5
ASAR Alice Springs 46.73 253 P **P** 07 56 24.2 -1.7
ASAR 07 57 53.2
ASAR 08 05 41.2
ASAR Alice Springs 46.73 253 P **P** 07 56 24.9 -1.0
comp=Z,849nm,0.8s,baz=89,slow=8.1,SNR=3020
ASAR PcP **PcP** 07 57 53.4 +0.8
comp=Z,104nm,0.7s,baz=97,slow=5.2,SNR=6.6
ASAR ScP **ScP** 08 01 12.2 +2.0
comp=Z,77nm,1.2s,baz=93,slow=4.2,SNR=6.5
ASAR S **S** 08 02 44.0 -3.2
comp=Z,41nm,0.8s,baz=89,slow=16,SNR=17
ASAR ScS **ScS** 08 05 42.1 +1.9
comp=Z,26nm,1.1s,baz=97,slow=6.4,SNR=9.7
ASAR Alice Springs 46.73 253 P **P** 07 56 24.2 -1.7
ASAR PcP **PcP** 07 57 53.2 +0.7
ASAR **ScP** 08 01 11.8 +1.6
ASAR **ScS** 08 05 41.2 +1.0
SRPI Serui, Papua 48.84 283 P **P** 07 56 42.4 +0.5
comp=Z,1μm,1.0s,comp=Z,30μmcomp=Z,30μm
GUMO Guam 48.86 306 P **P** 07 56 42.2 +0.2
GUMO pmax pmax
comp=Z,9μm,1.6s
GUMO Guam 48.86 306 P **P** 07 56 42.4 +0.4
comp=Z,900nm,0.6s,baz=155,slow=3.9,SNR=38
GUMO Guam 48.86 306 P **P** 07 56 42.2 +0.2
BAKI Biak 49.20 284 P **P** 07 56 44.8 +0.1
ANA2 Anatahan 49.94 310 P **P** 07 56 50.1 +0.1
SARN Sarigan 50.12 310 P **P** 07 56 51.3 -0.1
MTN Manton Dam 50.63 267 P **P** 07 56 53.7 -1.5
MTN IAmb IAmb 07 58 17.0
comp=Z,1μm,1.7s
RKPI Ransiki, Papua 50.89 282 P **P** 07 56 57.5 +0.3
comp=Z,1μm,1.1s,comp=Z,21μm
SAUI Saumlaki 51.61 273 P **P** 07 57 04.0 +1.5
comp=Z,3μm,1.4s,comp=Z,39μm
FAKI Fak Fak 52.22 280 P **P** 07 57 06.4 -0.5
comp=Z,762nm,1.8s,comp=Z,21μmcomp=Z,30μm
KNRA Kununurra 52.36 263 IAmb IAmb 07 57 07.9
comp=Z,1μm,1.6s
SWI Sorong 53.84 282 P **P** 07 57 18.6 -0.1
comp=Z,4μm,1.3s,comp=Z,39μm
BNDI Bandanaira 53.92 277 P **P** 07 57 19.4 +0.2
FITZ Fitzroy Crossi 54.93 260 P **P** 07 57 25.8 -0.6
comp=Z,31nm,0.3s,baz=88,slow=5.2,SNR=148
MSAI Masohi 55.21 278 P **P** 07 57 29.8 +1.4
comp=Z,254nm,1.0s,comp=Z,3μm
AAI Ambon 55.80 277 P **P** 07 57 32.9 +0.3
comp=Z,1μm,1.5s,comp=Z,24μmcomp=Z,24μm
NLAI Namlea 56.98 277 P **P** 07 57 40.9 +0.1
LBMI Labuha 57.45 280 P **P** 07 57 46.1 +2.1
comp=Z,1μm,1.2s,comp=Z,25μm
SOEI Soe 57.88 269 P **P** 07 57 47.1 0.0
TNTI Ternate 58.06 282 P **P** 07 57 48.3 +0.1
comp=Z,2μm,1.7s,comp=Z,23μmcomp=Z,14μm
BATI Baumata 58.35 268 P **P** 07 57 50.4 +0.2
SANI Sanana 58.41 278 P **P** 07 57 49.3 -1.3
comp=Z,1μm,1.4s,comp=Z,23μmcomp=Z,24μm
JCJ Chichijima 59.51 317 P **P** 07 57 57.4 -0.4
comp=Z,432nm,0.7s,baz=157,slow=4.2,SNR=18
PSA00 Pilbara Seismi 59.84 255 P **P** 07 57 57.7 -2.6
MBWA Marble Bar 60.01 255 P **P** 07 58 00.4 -1.0
SNR=35
MBWA Marble Bar 60.01 255 P **P** 07 57 59.9 -1.5
MBWA IAmb IAmb 07 58 02.0
comp=Z,746nm,1.4s
SGSI Sangihe 60.82 284 P **P** 07 58 08.2 +1.3
comp=Z,774nm,0.9s
KDI Kendari 61.02 275 P **P** 07 58 08.1 -0.1
comp=Z,536nm,1.6s,comp=Z,12μm
NWAO Narrogin (SRO) 61.15 242 P **P** 07 58 08.1 -0.7
SNR=28
NWAO Narrogin (SRO) 61.15 242 P **P** 07 58 07.5 -1.3
NWAO pmax pmax
comp=Z,602nm,1.3s
NWAO Narrogin (SRO) 61.15 242 P **P** 07 58 08.1 -0.7
comp=Z,142nm,0.9s,baz=88,slow=7.2,SNR=46
NWAO Narrogin (SRO) 61.15 242 P **P** 07 58 07.5 -1.3
NWAO IAmb IAmb 07 58 09.8
comp=Z,602nm,1.3s
NWAO Narrogin (SRO) 61.15 242 IAmb IAmb 07 58 09.8
comp=Z,485nm,1.3s
SBA Scott Base 61.28 184 P **P** 07 58 11.3 +2.4
SBA pmax pmax
comp=Z,2μm,1.2s
SBA Scott Base 61.28 184 P **P** 07 58 11.3 +2.4
BASI Baing, Sumba 61.29 268 P **P** 07 58 11.3 +1.3
comp=Z,2μm,0.6s
MATI Mati 61.41 288 *eP* **P** 07 58 08.1 -2.7
DDMP Don Marcelino, 61.57 287 *eP* **P** 07 58 10.5 -1.4
LUWI Luwuk 61.77 278 P **P** 07 58 13.5 +0.3
LUWI Luwuk 61.77 278 P **P** 07 58 13.0 -0.3
DAV Davao City (W) 62.07 288 P **P** 07 58 16.3 +1.1
SNR=24
RPN Rapa Nui 62.39 112 P **P** 07 58 18.7 +1.6
RPN pmax pmax
comp=Z,844nm,1.1s
RPN Rapa Nui 62.39 112 P **P** 07 58 19.1 +2.0
comp=Z,334nm,0.9s,baz=294,slow=4.4,SNR=15
RPN Rapa Nui 62.39 112 P **P** 07 58 18.7 +1.6
RPN IAmb IAmb 07 58 20.1
comp=Z,844nm,1.1s
MORW Morawa 62.43 246 IAmb IAmb 07 58 17.3
comp=Z,749nm,1.8s
KCP Kidapawan 62.49 288 *‖iP* **P** 07 58 18.5 +0.4
WBSI Waikabubak, Su 62.57 268 P **P** 07 58 17.9 -0.6
comp=Z,584nm,1.0s,comp=Z,14μm
SKMP Bagumbayan, Su 62.80 287 *eP* **P** 07 58 19.0 -1.0
BUTP Butuan 62.80 290 *eP* **P** 07 58 20.2 +0.2
BUKP Musuan 62.87 288 *eP* **P** 07 58 20.1 -0.3
APSI Ampana 62.88 278 P **P** 07 58 21.4 +0.9
MRSI Marisa 63.05 280 P **P** 07 58 20.9 -0.7
comp=Z,392nm,1.2s,comp=Z,8μm
BNSI Bone 63.28 274 P **P** 07 58 22.8 -0.3
comp=Z,942nm,1.3s,comp=Z,16μmcomp=Z,18μm
CTBH Cotabato--PC H 63.35 287 *‖iP* **P** 07 58 23.7 +0.2
CGP Cagayan de Oro 63.43 289 *eP* **P** 07 58 25.5 +1.5
KAPI Kappang 63.45 273 P **P** 07 58 24.1 -0.1
SNR=97
KAPI Kappang 63.45 273 P **P** 07 58 23.8 -0.4
KAPI pmax pmax
comp=Z,659nm,1.4s
KAPI Kappang 63.45 273 P **P** 07 58 23.8 -0.4
KAPI IAmb IAmb 07 58 25.7
comp=Z,659nm,1.4s
H01W1 Cape Leeuwin H 63.61 239 P **P** 07 58 25.8 +1.2
baz=109,slow=7.0,SNR=23
H01W3 Cape Leeuwin H 63.63 239 P **P** 07 58 25.9 +1.1
baz=109,slow=7.0,SNR=23
H01W2 Cape Leeuwin H 63.63 239 P **P** 07 58 26.8 +2.1
baz=109,slow=7.0,SNR=18
MSLP Maasin 63.97 291 *eP* **P** 07 58 27.2 -0.3
BESP Borongan 64.07 292 *eP* **P** 07 58 28.8 +0.7
PLAI Plampang 64.31 268 P **P** 07 58 28.9 -0.9
comp=Z,1μm,1.0s,comp=Z,21μmcomp=Z,19μm
PAGZ Pagadian 64.38 288 *eP* **P** 07 58 30.1 -0.1
DCPH Dipolog City 64.70 288⇑ *eP* **P** 07 58 35.2 +3.0
LLP Lapu-Lapu 64.84 290⇑ *eP* **P** 07 58 33.0 -0.1
LLP *eS* **S** 08 06 44.9 +0.4
JHJ2 Mitsune 65.10 320 P **P** 07 58 34.2 -0.1
CNP Cataman 65.15 293 *eP* **P** 07 58 35.2 +0.1
TWSI Taliwang, Sumb 65.19 268 P **P** 07 58 34.4 -1.0
comp=Z,1μm,1.0s,comp=Z,17μm
PVCP Virac 66.06 294 *eP* **P** 07 58 40.8 0.0
GUIM Jordan 66.20 290 *eP* **P** 07 58 40.0 -1.8
RCP Roxas 66.45 291 *‖eP* **P** 07 58 43.0 -0.2
DNP Denpasar 66.80 268 P **P** 07 58 45.0 -0.6
comp=Z,766nm,0.8s,comp=Z,26μm
IGBI Denpasar 66.83 268 P **P** 07 58 45.5 -0.2
comp=Z,3μm,1.0s,comp=Z,38μm
SRBI Singaraja 66.95 268 P **P** 07 58 45.7 -0.8
comp=Z,550nm,1.9s,comp=Z,12μm
SMKI Samarinda 67.23 277 P **P** 07 58 48.5 +0.2
AUQP San Andres 67.25 293 *eP* **P** 07 58 49.7 +1.5
BKB Balikpapan 67.28 276 P **P** 07 58 51.3 +2.8
KBKI Kotabaru 67.36 274 P **P** 07 58 49.3 +0.2
OTRP Odiongan 67.42 292 *eP* **P** 07 58 48.4 -0.9
CASY Casey 67.57 205 P **P** 07 58 49.2 -0.1
JAGI Jajag, Banyuwa 67.87 268 P **P** 07 58 50.4 -1.8
comp=Z,907nm,1.0s,comp=Z,14μmcomp=Z,14μm
BOAC Boac 68.04 293 *eP* **P** 07 58 53.4 +0.3
MJAR Matsushiro Arr 68.41 322 P **P** 07 58 53.5 -1.6
MJAR pmax pmax
comp=Z,73nm,0.7s
MJAR Matsushiro Arr 68.41 322 P **P** 07 58 54.4 -0.6
comp=Z,201nm,0.8s,baz=150,slow=6.0,SNR=586
MJAR PKP2bc 08 27 08.5
comp=Z,14nm,1.1s,baz=317,slow=2.7,SNR=18
MJAR Matsushiro Arr 68.41 322 P **P** 07 58 53.5 -1.6
MAJO Matsushiro 68.41 322 *d iP* **P** 07 58 54.7 -0.3
MAJO pmax pmax
comp=Z,289nm,0.9s
MAJO Matsushiro 68.41 322 P **P** 07 58 54.1 -0.9
MAJO IAmb IAmb 07 58 57.2
comp=Z,327nm,0.9s
MAT Matsushiro 68.41 322 P **P** 07 58 54.5 -0.5
MAT S **S** 08 07 18.2 -7.9
MJB9 Matsu-Tunnel 68.42 322 IAmb IAmb 07 58 57.2
comp=Z,346nm,1.0s
KMMI Kalianget 68.42 269 P **P** 07 58 56.4 +0.8
comp=Z,542nm,1.7s,comp=Z,11μm
LQP Lukban 68.58 293 *‖eP* **P** 07 58 56.5 -0.2
KIWB Kanaga Island 68.72 360 P **P** 07 58 56.0 -0.5
ADK Adak 68.75 360 P **P** 07 58 56.6 -0.1
ADK pmax pmax
comp=Z,2μm,1.8s
ADK Adak 68.75 360 P **P** 07 58 56.6 -0.1
ATKA Atka Island 69.10 2 P **P** 07 58 58.6 -0.2
ATKA IAmb IAmb 07 59 00.6
comp=Z,588nm,1.0s
ENPP El Nido 69.28 289 *eP* **P** 07 59 00.9 +0.1
CAUP Cauayan 69.55 296 *eP* **P** 07 59 02.1 -0.2
LUBP Lubang 69.56 292 *eP* **P** 07 59 01.1 -1.3
ERM Erimo 69.66 329 *d iP* **P** 07 59 03.0 +0.5
ERM pmax pmax
comp=Z,231nm,0.8s
ERM Erimo 69.66 329 P **P** 07 59 02.7 +0.2
ERM IAmb IAmb 07 59 06.6
comp=Z,192nm,0.8s
BATP Bataraza 69.84 286 *eP* **P** 07 59 04.3 +0.1
CVP Callao Caves 69.88 297 *‖eP* **P** 07 59 04.5 +0.2
YUK Yuzh-Kuril'sk 69.94 332 *eP* **P** 07 59 03.8 -0.3
YUK *i* *PP **pwP** 08 00 27.1 -0.7
YUK *i* *SP **sP** 08 01 06.3 +2.1
YUK 08 01 40.8
YUK *i* S **S** 08 07 44.1 +0.7
YUK *i* 08 08 33.7
YUK SS **SS** 08 12 22.8 +1.1
YUK pmax pmax
comp=Z,641nm,1.4s
YUK pmax pmax
comp=E,459nm,1.1s
YUK pmax pmax
comp=N,332nm,1.3s
KUR Kuril'sk 70.02 334 *d iP* **P** 07 59 05.1 +0.5
KUR *i* *PP **pP** 08 00 25.6 0.0
KUR *e* 08 01 44.4
KUR *e*PPP PPP 08 03 28.5
KUR *i* S **S** 08 07 47.1 +2.7
KUR *i* 08 08 30.2
KUR *e*SS **SS** 08 12 24.9 +1.9
KUR pmax pmax
comp=Z,2μm,1.6s
KUR pmax pmax
comp=E,665nm,2.0s
KUR pmax pmax
comp=N,448nm,1.4s
KUR pmax pmax
comp=Z,8μm,5.1s
SMY Shemya 70.07 354 IAmb IAmb 07 59 06.6
comp=Z,447nm,0.9s
NIKH Nikolski High 70.16 5 P **P** 07 59 04.8 -0.4
SMPP San Manuel, Pa 70.19 295 *eP* **P** 07 59 05.7 -0.6
APYP Conner 70.44 297 *eP* **P** 07 59 07.7 0.0
JNU Nakatsue 70.87 315 P **P** 07 59 09.8 -0.1
comp=Z,360nm,0.7s,baz=87,slow=1.0,SNR=229
JNU pP **pwP** 08 00 33.5 -0.1
comp=Z,146nm,1.2s,baz=90,slow=4.7,SNR=3.9
JNU Nakatsue 70.87 315 P **P** 07 59 09.7 -0.3
JNU IAmb IAmb 07 59 12.0
comp=Z,466nm,0.8s
BOLP Bolinao 70.95 295 *eP* **P** 07 59 08.5 -2.3
WOJI Wonogiri, Jawa 71.12 267 P **P** 07 59 11.4 -0.5
comp=Z,826nm,1.6s,comp=Z,13μm
SIPP Brgy, Tapao 71.14 296⇑ *iP* **P** 07 59 11.6 -0.2
UGM Wanagama 71.48 267 P **P** 07 59 13.6 -0.5
comp=Z,819nm,0.6s,comp=Z,18μm
ASAJ Asahikawa 71.51 330 P **P** 07 59 15.0 +1.5
ASAJ Asahikawa 71.51 330 P **P** 07 59 14.9 +1.5
comp=Z,261nm,0.8s,baz=213,slow=6.7,SNR=55
SKR Severo-Kuril's 71.71 342 *eP* **P** 07 59 13.5 -1.0
SKR *e*PP **pP** 08 00 35.6 -0.3
SKR *e*S **S** 08 08 02.7 -0.7
SKR *e*SS **SS** 08 12 45.1 -3.4
SKR pmax pmax
comp=Z,2μm,5.0s
SKR pmax pmax
comp=Z,301nm,0.8s
SKR pmax pmax
comp=Z,1μm,7.8s
YOGI Yogyakarta 71.72 267 P **P** 07 59 15.5 0.0
comp=Z,2μm,1.6s,comp=Z,29μm
SMRI Semarang 71.79 268 P **P** 07 59 16.5 +0.6
comp=Z,1μm,1.9s,comp=Z,20μm
PBKI Pangkalan Bun 71.83 273 P **P** 07 59 17.8 +1.7
comp=Z,2μm,1.2s,comp=Z,22μm
STKI Sintang 72.84 276 P **P** 07 59 22.7 +0.7
comp=Z,1μm,1.6s,comp=Z,22μm
SBUM Sibu 72.88 278 IAmb IAmb 07 59 24.7
comp=Z,1μm,1.9s
QSPA South Pole Qui 72.89 180 P **P** 07 59 22.6 +1.1
YULB Yu-li 72.90 302 IAmb IAmb 08 00 54.5
comp=Z,374nm,1.5s
NACB Ninganchiao 73.02 303 IAmb IAmb 07 59 23.4
comp=Z,440nm,1.1s
PET Petropavlovsk 73.12 345 *‖iP* **P** 07 59 22.0 -0.7
PET *e*PP **pwP** 08 00 45.9 -1.5
PET *i* S **S** 08 08 18.4 -0.7
PET pmax pmax
comp=Z,4μm,7.1s
PET pmax pmax
comp=Z,270nm,1.5s
PET pmax pmax
comp=Z,2μm,13.7s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,14.0s
PET Petropavlovsk 73.12 345 P **P** 07 59 21.9 -0.7
PET IAmb IAmb 08 00 48.5
comp=Z,1μm,1.8s
SSLB Suanglung 73.36 302 IAmb IAmb 07 59 25.5
comp=Z,1μm,2.0s
TPUB Ta-pu 73.40 301 IAmb IAmb 07 59 25.5
comp=Z,382nm,0.7s
PETK Petropavlovsk- 73.44 344 P **P** 07 59 24.8 +0.2
comp=Z,134nm,0.7s,baz=124,slow=7.7,SNR=98
PETK pP **pwP** 08 00 47.9 -1.4
comp=Z,184nm,1.2s,baz=107,slow=9.5,SNR=5.7
PETK Petropavlovsk- 73.44 344 P **P** 07 59 24.1 -0.5
TATO Taipei 73.48 303 P **P** 07 59 25.8 +0.3
SNR=9.5
TATO Taipei 73.48 303 P **P** 07 59 25.1 -0.4
TATO IAmb IAmb 07 59 26.1
comp=Z,404nm,1.1s
CMJI Cimerak 73.49 267 P **P** 07 59 24.4 -1.4
comp=Z,585nm,1.6s,comp=Z,11μm
SDPT Sand Point 73.50 9 IAmb IAmb 07 59 26.4
comp=Z,187nm,0.8s
YSS Yuzh-Sakhalins 73.58 332 *‖iP* **P** 07 59 26.2 +0.7
YSS *e* 07 59 38.2
YSS *e*PP **pwP** 08 00 49.3 -1.3
YSS *e*S **S** 08 08 24.8 +0.3
YSS *e* 08 09 00.9
YSS *e*SS **SS** 08 13 16.0 -1.1
YSS pmax pmax
comp=Z,580nm,2.0s
YSS pmax pmax
comp=N,190nm,0.9s
YSS pmax pmax
comp=E,200nm,1.7s
YSS pmax pmax
comp=Z,7μm,3.5s
YSS pmax pmax
comp=N,3μm,3.7s
YSS pmax pmax
comp=E,1μm,2.0s

YSS				smax	smax		
	comp=N,14μm,8.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,12.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**73.58**	**332**	P	**P**	**07 59 25.9**	**+0.5**
SNCC	**San Nicolas Is**	**73.96**	**47**	P	**P**	**07 59 29.4**	**+1.4**
	baz=236						
SNCC	**San Nicolas Is**	**73.96**	**47**	IAmb	IAmb	07 59 30.2	
	comp=Z,518nm,1.3s						
CISI	**Cisompet, Garu**	**74.16**	**267**	P	**P**	**07 59 28.3**	**-1.4**
	comp=Z,931nm,1.7s,comp=Z,16μmcomp=Z,15μm						
SCZ2	**Santa Cruz Isl**	**74.29**	**46**	P	**P**	**07 59 31.2**	**+1.3**
	baz=236,SNR=11						
SBC	**Santa Barbara**	**74.48**	**46**	P	**P**	**07 59 32.4**	**+1.4**
	baz=236,SNR=7.6						
SCI2	**San Clemente I**	**74.50**	**48**	P	**P**	**07 59 32.2**	**+1.0**
	baz=237,SNR=20						
LEM	**Lembang**	**74.55**	**268**	pP	pP	08 00 57.5	+3.3
	comp=Z,163nm,1.0s,baz=101,slow=10,SNR=2.7						
SAO	**San Andreas Ge**	**74.64**	**43**	IAmb	IAmb	07 59 33.8	
	comp=Z,274nm,1.0s						
PKM	**Mcpherson Peak**	**74.67**	**45**	P	**P**	**07 59 33.5**	**+1.2**
	baz=236,SNR=26						
BLG	**Laguna Peak, P**	**74.75**	**46**	P	**P**	**07 59 33.3**	**+0.7**
	baz=237						
PMPB	**Monarch Peak**	**74.75**	**44**	IAmb	IAmb	07 59 34.8	
	comp=Z,328nm,1.1s						
SMMC	**Simmler**	**74.78**	**45**	P	**P**	**07 59 34.1**	**+1.4**
	baz=236,SNR=35						
CHIR	**Chirikof Islan**	**74.81**	**12**	IAmb	IAmb	07 59 33.4	
	comp=Z,206nm,0.9s						
CIS	**Catalina Islan**	**74.82**	**47**	P	**P**	**07 59 33.7**	**+0.8**
	baz=237,SNR=12						
HOPS	**Hopland Field**	**74.93**	**40**	IAmb	IAmb	07 59 35.4	
	comp=Z,349nm,1.1s						
FMP	**Fort Macarthur**	**75.07**	**47**	P	**P**	**07 59 35.3**	**+0.9**
	baz=237,SNR=6.4						
TJN	**Taejon**	**75.11**	**316***d*	*i*P	**P**	**07 59 34.2**	**-0.3**
TEY	**Ternei**	**75.13**	**328**⇓	*e*P	**P**	**07 59 35.0**	**+0.6**
TEY				*e*		08 00 58.8	
TEY				*e*S	**S**	**08 08 43.9**	**+2.2**
TEY				pmax	pmax		
	comp=N,1μm,5.6s						
TEY				pmax	pmax		
	comp=E,2μm,5.6s						
TEY				pmax	pmax		
	comp=Z,6μm,5.1s						
TEY				pmax	pmax		
	comp=N,80nm,2.0s						
TEY				pmax	pmax		
	comp=E,70nm,1.7s						
TEY				pmax	pmax		
	comp=Z,260nm,1.8s						
TEY				smax	smax		
	comp=E,70nm,3.1s						
OSI	**Osito Audit: C**	**75.26**	**46**	P	**P**	**07 59 36.5**	**+1.0**
	baz=237,SNR=14						
OSI	**Osito Audit: C**	**75.26**	**46**	IAmb	IAmb	07 59 37.4	
	comp=Z,478nm,1.4s						
DECC	**Green Verdugo**	**75.33**	**47**	P	**P**	**07 59 36.5**	**+0.6**
	baz=237,SNR=6.4						
KSRS	**Korea Array**	**75.36**	**317**	P	**P**	**07 59 36.8**	**+0.9**
	comp=Z,103nm,0.8s,baz=130,slow=6.6,SNR=326						
KSRS				pP	**pwP**	**08 01 01.9**	**+0.2**
	comp=Z,102nm,1.2s,baz=130,slow=5.3,SNR=7.4						
KSAR	**Wonju Array Be**	**75.38**	**317**	P	**P**	**07 59 36.0**	**0.0**
KSAR	**Wonju Array Be**	**75.38**	**317**	P	**P**	**07 59 36.0**	**0.0**
PASC	**Pasadena Art C**	**75.39**	**47**	IAmb	IAmb	07 59 37.7	
	comp=Z,217nm,1.0s						
ARVC	**Arvin**	**75.47**	**46**	P	**P**	**07 59 37.4**	**+0.8**
	baz=236,SNR=43						
109C	**Camp Elliot, M**	**75.47**	**48**	P	**P**	**07 59 37.3**	**+0.7**
	baz=238,SNR=26						
SKJI	**Sukabumi**	**75.51**	**267**	P	**P**	**07 59 37.2**	**-0.1**
	comp=Z,1μm,0.7s,comp=Z,14μm						
MWC	**Mount Wilson**	**75.51**	**47**	IAmb	IAmb	07 59 38.6	
	comp=Z,239nm,0.9s						
TNG	**Tangerang**	**75.65**	**268**	P	**P**	**07 59 40.8**	**+2.7**
TNG				P	**P**	**07 59 40.8**	**+2.7**
BAR	**Barrett**	**75.68**	**49**	IAmb	IAmb	07 59 40.6	
	comp=Z,298nm,1.3s						
KHMM	**Horse Mountain**	**75.68**	**39**	P	**P**	**07 59 38.9**	**+1.0**
KHMM				IAmb	IAmb	07 59 40.1	
	comp=Z,271nm,1.0s						
VES	**Vestal, Richgr**	**75.69**	**45**	P	**P**	**07 59 38.3**	**+0.6**
	baz=236,SNR=78						
VOG	**Valley Oaks Go**	**75.76**	**44**	P	**P**	**07 59 38.8**	**+0.6**
	baz=236,SNR=10						
MURC	**Murrieta**	**75.78**	**48**	P	**P**	**07 59 39.3**	**+0.9**
	baz=238,SNR=72						
SII	**Sitkinak Islan**	**75.80**	**13**	IAmb	IAmb	07 59 39.8	
	comp=Z,245nm,1.2s						
BFSC	**Mount Baldy Ra**	**75.80**	**47**	P	**P**	**07 59 39.1**	**+0.5**
	baz=238,SNR=48						
QZH	**Quanzhou**	**75.80**	**302**⇓	*i*P	**P**	**07 59 39.3**	**+0.7**
QZH				pP	**pP**	**08 01 02.5**	**+1.6**
QZH				sP	**sP**	**08 01 42.4**	**+2.6**
QZH				PP	**PP**	**08 02 35.9**	**+1.1**
QZH				S	**S**	**08 08 50.9**	**+1.1**
QZH				ScS	**ScS**	**08 09 17.5**	**-0.3**
QZH				pmax	pmax		
	comp=Z,420nm,1.8s						
QZH				pmax	pmax		
	comp=Z,9μm,7.3s						
QZH				LR	LR		
	comp=Z,3μm,17.0s						
O02D	**Mt. Diablo Mer**	**75.83**	**40**	P	**P**	**07 59 40.1**	**+1.5**
	baz=233,SNR=149						
EDW2	**Edwards Air Fo**	**75.91**	**46**	P	**P**	**07 59 40.2**	**+1.1**
	baz=237,SNR=124						
MONP2	**Monument Peak**	**75.97**	**49**	P	**P**	**07 59 40.7**	**+1.0**
	baz=239,SNR=127						
KRMB	**Red Mountain**	**75.98**	**38**	IAmb	IAmb	07 59 41.9	
	comp=Z,314nm,1.1s						
ISA	**Isabella, Lake**	**76.01**	**45**	P	**P**	**07 59 40.8**	**+1.2**
	baz=237,SNR=96						
ISA	**Isabella, Lake**	**76.01**	**45**	IAmb	IAmb	07 59 41.6	
	comp=Z,315nm,1.2s						
IKP	**In-Ko-Pah, Jac**	**76.07**	**49**	P	**P**	**07 59 41.4**	**+1.3**
	baz=239,SNR=67						
SBJI	**Serang**	**76.16**	**268**	P	**P**	**07 59 41.0**	**+0.1**
	comp=Z,1μm,1.6s,comp=Z,21μm						
WDC	**Whiskeytown Da**	**76.22**	**39**	IAmb	IAmb	07 59 42.6	
	comp=Z,267nm,1.1s						
INCN	**Inchon**	**76.22**	**317**	P	**P**	**07 59 42.4**	**+1.6**
	SNR=40						
INCN	**Inchon**	**76.22**	**317**	P	**P**	**07 59 41.0**	**+0.2**
INCN				pmax	pmax		
	comp=Z,369nm,1.0s						
INCN	**Inchon**	**76.22**	**317**	P	**P**	**07 59 41.0**	**+0.2**
INCN				IAmb	IAmb	07 59 42.7	
	comp=Z,369nm,0.9s						
AFDM	**Forest Hills D**	**76.22**	**41**	P	**P**	**07 59 41.1**	**+0.3**
KBO	**Bosley Butte**	**76.23**	**37**	IAmb	IAmb	07 59 43.1	
	comp=Z,400nm,1.3s						
PFO	**Pinyon Flats O**	**76.31**	**48**	P	**P**	**07 59 42.3**	**+0.8**
	baz=238,SNR=56						
PFO	**Pinyon Flats O**	**76.31**	**48**	P	**P**	**07 59 42.0**	**+0.5**
PFO				pmax	pmax		
	comp=Z,200nm,1.1s						
PFO	**Pinyon Flats O**	**76.31**	**48**	P	**P**	**07 59 42.3**	**+0.8**
	comp=Z,69nm,0.9s,baz=254,slow=3.9,SNR=103						
PFO	**Pinyon Flats O**	**76.31**	**48**	P	**P**	**07 59 42.0**	**+0.5**
BBRC	**Big Bear Solar**	**76.33**	**47**	P	**P**	**07 59 42.7**	**+1.0**
	baz=238,SNR=7.1						
N02D	**Trinity Center**	**76.36**	**39**	P	**P**	**07 59 42.8**	**+1.3**
	baz=232,SNR=105						
CGJI	**Cibinong**	**76.44**	**267**	P	**P**	**07 59 41.2**	**-1.3**
	comp=Z,1μm,0.6s,comp=Z,20μm						
SWSC	**Sam W. Stewart**	**76.44**	**49**	P	**P**	**07 59 42.9**	**+0.9**
	baz=239,SNR=37						
LRMC	**Laurel Mtn Rad**	**76.45**	**46**	P	**P**	**07 59 43.2**	**+1.0**
	baz=237,SNR=16						
MSHR	**Mys Shultsa**	**76.47**	**323***d*	*i*P	**P**	**07 59 43.1**	**+1.1**
O03E	**Paynes Creek**	**76.50**	**40**	P	**P**	**07 59 42.9**	**+0.6**
	baz=233,SNR=70						
LPIG	**La Paz**	**76.51**	**59**	P	**P**	**07 59 43.6**	**+1.1**
	comp=Z,143nm,0.9s,baz=198,slow=0.8,SNR=36						
LPIG				pP	**pwP**	**08 01 08.7**	**+0.4**
	comp=Z,156nm,1.2s,baz=135,slow=2.1,SNR=5.7						
M02C	**Callahan**	**76.52**	**39**	P	**P**	**07 59 43.9**	**+1.4**
	baz=232,SNR=94						
L02E	**Cave Junction**	**76.55**	**38**	P	**P**	**07 59 43.8**	**+1.3**
	baz=232,SNR=35						
KEBM	**Edson Butte**	**76.58**	**37**	IAmb	IAmb	07 59 44.8	
	comp=Z,283nm,1.2s						
RRX	**Edison Barstow**	**76.60**	**47**	P	**P**	**07 59 43.7**	**+0.8**
	baz=238,SNR=22						
TYV	**Tymovskoe**	**76.61**	**335**	*e*P	**P**	**07 59 43.1**	**+0.6**
TYV				*e*S	**S**	**08 08 52.1**	**-5.4**
TYV				pmax	pmax		
	comp=Z,384nm,1.5s						
TYV				pmax	pmax		
	comp=Z,5μm,3.4s						
TYV				smax	smax		
	comp=N,41nm,1.9s						
TYV				smax	smax		
	comp=N,11μm,8.1s						
SSE	**Sheshan**	**76.67**	**309**	P	**P**	**07 59 43.4**	**+0.1**
SSE				pP	**pwP**	**08 01 09.3**	**+0.4**
SSE				sP	**sP**	**08 01 43.1**	**-1.7**
SSE				S	**S**	**08 09 01.4**	**+2.4**
SSE				pmax	pmax		
	comp=N,2μm,5.1s						
SSE				LR	LR		
	comp=N,740nm,16.3s						
CWC	**Cottonwood Cre**	**76.70**	**45**	P	**P**	**07 59 44.5**	**+0.9**
	baz=237						
YBH	**Yreka Blue Hor**	**76.82**	**38**	IAmb	IAmb	07 59 46.3	
	comp=Z,215nm,1.0s						
BELC	**Belle Mtn. Jos**	**76.84**	**48**	P	**P**	**07 59 45.4**	**+1.0**
	baz=239,SNR=110						
MLAC	**Mammoth, Mammo**	**76.85**	**44**	P	**P**	**07 59 45.7**	**+1.2**
	baz=236,SNR=38						
K02D	**Willamette Mer**	**76.85**	**37**	P	**P**	**07 59 45.4**	**+1.1**
	baz=231,SNR=60						
MPMC	**Manual Prospec**	**76.89**	**46**	P	**P**	**07 59 45.6**	**+0.8**
	baz=237,SNR=122						
TIN	**Tinemaha, Big**	**76.93**	**44**	P	**P**	**07 59 45.8**	**+1.0**
	baz=236,SNR=13						
WAKR	**Walker**	**76.95**	**43**	IAmb	IAmb	07 59 47.0	
	comp=Z,266nm,1.1s						
GSC	**Goldstone, Bar**	**76.96**	**46**	P	**P**	**07 59 45.7**	**+0.7**
	baz=238,SNR=87						
GSC	**Goldstone, Bar**	**76.96**	**46**	IAmb	IAmb	07 59 46.7	
	comp=Z,258nm,1.1s						
J01E	**Myrtle Point**	**76.99**	**37**	P	**P**	**07 59 45.9**	**+1.0**
	baz=231,SNR=17						
USRK	**Ussuriysk Ar.**	**77.03**	**325**	P	**P**	**07 59 45.9**	**+0.9**
	comp=Z,46nm,0.9s,baz=124,slow=2.7,SNR=102						
USRK				pP	**pwP**	**08 01 11.2**	**+0.2**
	comp=Z,63nm,1.2s,baz=100,slow=7.5,SNR=3.5						
USRK	**Ussuriysk Ar.**	**77.03**	**325**	P	**P**	**07 59 44.7**	**-0.3**
HEC	**Hector,Ludlow**	**77.04**	**47**	P	**P**	**07 59 46.1**	**+0.7**
	baz=238,SNR=189						
BC3	**Big Chuckawall**	**77.05**	**49**	P	**P**	**07 59 46.9**	**+1.3**
	baz=239,SNR=107						
BEKR	**Beckworth**	**77.14**	**41**	IAmb	IAmb	07 59 47.7	
	comp=Z,211nm,1.1s						
PNTR	**Pine Nut**	**77.18**	**42**	IAmb	IAmb	07 59 48.2	
	comp=Z,311nm,1.0s						
GLA	**Glamis**	**77.20**	**49**	P	**P**	**07 59 47.7**	**+1.4**
	baz=240,SNR=52						
HUMO	**Hull Mountain**	**77.21**	**38**	IAmb	IAmb	07 59 50.4	
	comp=Z,296nm,1.2s						
BLSI	**Bandar Lampung**	**77.21**	**268**	P	**P**	**07 59 46.3**	**-0.5**
	comp=Z,528nm,1.5s,comp=Z,12μm						
KDAK	**Kodiak Island**	**77.26**	**13**	P	**P**	**07 59 46.4**	**+0.4**
KDAK				pmax	pmax		
	comp=Z,344nm,1.4s						
KDAK	**Kodiak Island**	**77.26**	**13**	P	**P**	**07 59 46.3**	**+0.3**
	comp=Z,118nm,0.9s,baz=206,slow=2.4,SNR=83						
KDAK				pP	**pwP**	**08 01 11.2**	**-0.3**
	comp=Z,49nm,1.1s,baz=196,slow=4.3,SNR=3.2						
KDAK	**Kodiak Island**	**77.26**	**13**	P	**P**	**07 59 46.4**	**+0.4**
KDAK				IAmb	IAmb	07 59 47.5	
	comp=Z,344nm,1.4s						
PPBI	**Pangkal Pinang**	**77.27**	**272**	P	**P**	**07 59 47.9**	**+0.8**
	comp=Z,376nm,1.8s,comp=Z,11μmcomp=Z,9μm						
YERR	**Yerington**	**77.35**	**42**	IAmb	IAmb	07 59 48.9	
	comp=Z,229nm,0.9s						
L04D	**Klamath Falls**	**77.35**	**38**	P	**P**	**07 59 47.8**	**+0.8**
	baz=233,SNR=56						
M04C	**Macdoel**	**77.37**	**39**	P	**P**	**07 59 48.2**	**+1.0**
	baz=233,SNR=69						
GRAC	**Grapevine Rang**	**77.48**	**45**	P	**P**	**07 59 49.0**	**+1.3**
	baz=237,SNR=81						
GMRC	**Granite Mounta**	**77.49**	**47**	P	**P**	**07 59 48.8**	**+0.8**
	baz=239,SNR=112						
IRM	**Iron Mountain**	**77.53**	**48**	P	**P**	**07 59 49.4**	**+1.3**
	baz=239,SNR=138						
FURC	**Furnace Creek,**	**77.54**	**45**	P	**P**	**07 59 49.0**	**+1.0**
	baz=238,SNR=76						
I02D	**Swisshome**	**77.63**	**36**	P	**P**	**07 59 49.6**	**+1.3**
	baz=231,SNR=7.9						
SHOC	**Shoshone, Teco**	**77.64**	**46**	P	**P**	**07 59 49.4**	**+0.7**
	baz=238,SNR=55						
TUQ	**Turquoise Moun**	**77.64**	**47**	P	**P**	**07 59 49.7**	**+0.9**
	baz=238,SNR=31						
NVAR	**Mina Array Bea**	**77.64**	**43**	P	**P**	**07 59 49.8**	**+1.0**
	comp=Z,142nm,0.8s,baz=227,slow=9.3,SNR=608						
NVAR				pP	**pwP**	**08 01 14.4**	**-0.3**
	comp=Z,29nm,1.0s,baz=224,slow=10,SNR=3.9						
NVAR				PKKP	**PKKPdf**	**08 18 38.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=57,slow=3.3,SNR=2.6						
NVAR				PKKPbc	**PKKPbc**	**08 18 50.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=93,slow=2.8,SNR=3.9						
NVAR				PKPPKP		08 26 45.6	
	comp=Z,0.8nm,0.9s,baz=83,slow=2.3,SNR=3.5						
NVAR	**Mina Array Bea**	**77.64**	**43**	P	**P**	**07 59 49.2**	**+0.4**
I03D	**Drain, OR**	**77.66**	**36**	P	**P**	**07 59 49.3**	**+0.9**
	baz=232						
PAHR	**Pah Rah Range**	**77.67**	**42**	IAmb	IAmb	07 59 50.6	
	comp=Z,226nm,1.1s						
NV11	**Mina Array Sit**	**77.74**	**43**	IAmb	IAmb	07 59 51.1	
	comp=Z,302nm,1.1s						
Y12C	**Blythe**	**77.77**	**49**	P	**P**	**07 59 50.5**	**+1.2**
	baz=240,SNR=126						
Y12C	**Blythe**	**77.77**	**49**	IAmb	IAmb	07 59 51.5	
	comp=Z,282nm,0.9s						
KASI	**Kota Agung**	**77.89**	**268**	P	**P**	**07 59 49.3**	**-1.1**
	comp=Z,934nm,1.4s,comp=Z,13μmcomp=Z,11μm						
KLSI		**77.89**	**269**	P	**P**	**07 59 49.2**	**-1.3**
	comp=Z,234nm,2.2s,comp=Z,7μm						
K04D	**Chiloquin, OR**	**77.92**	**38**	P	**P**	**07 59 51.0**	**+0.9**
	baz=233,SNR=9.4						
J04D	**Umpqua Nationa**	**78.09**	**37**	P	**P**	**07 59 52.3**	**+1.2**
	baz=233,SNR=15						
KVN	**Kaiserville**	**78.12**	**43**	IAmb	IAmb	07 59 53.0	
	comp=Z,219nm,1.0s						
214A	**Organ Pipe Nat**	**78.14**	**51**	P	**P**	**07 59 52.8**	**+1.4**
	baz=241						
HSIG		**78.18**	**55**	IAmb	IAmb	07 59 53.4	
	comp=Z,194nm,1.0s						
TPNV	**Topopah Spring**	**78.21**	**45**	P	**P**	**07 59 52.8**	**+0.9**
	baz=231,SNR=109						
TPNV	**Topopah Spring**	**78.21**	**45**	IAmb	IAmb	07 59 53.8	
	comp=Z,206nm,0.9s						
NEE2	**Needles Airpor**	**78.22**	**48**	P	**P**	**07 59 53.1**	**+1.3**
	baz=239,SNR=22						
COR	**Corvallis**	**78.23**	**36**	P	**P**	**07 59 52.5**	**+0.9**
COR				pmax	pmax		
	comp=Z,200nm,1.0s						
COR	**Corvallis**	**78.23**	**36**	P	**P**	**07 59 52.5**	**+0.9**
COR				IAmb	IAmb	07 59 53.7	
	comp=Z,200nm,1.0s						
PDMCI	**Parker Dam,Lak**	**78.32**	**49**	P	**P**	**07 59 53.6**	**+1.3**
	baz=240,SNR=79						
HKC	**Hong Kong Obse**	**78.33**	**298**	⇑P	**P**	**07 59 54.0**	**+1.4**
PMBI	**Palembang**	**78.36**	**271**	P	**P**	**07 59 55.0**	**+2.0**
	comp=Z,472nm,0.4s,comp=Z,22μm						
H04D	**Lebanon**	**78.51**	**36**	P	**P**	**07 59 54.1**	**+1.0**
	baz=232,SNR=45						
J05D	**Fort Rock, OR**	**78.62**	**38**	P	**P**	**07 59 55.1**	**+1.1**
	baz=233,SNR=188						
MDJ	**Mudanjiang**	**78.63**	**324**	P	**P**	**07 59 54.3**	**+0.5**
MDJ				S	**S**	**08 09 23.4**	**+4.1**
MDJ				ScS	**SKKSac**	**08 09 36.6**	**+2.2**
MDJ				SS	**SS**	**08 14 37.9**	**+4.7**
MDJ				pmax	pmax		
	comp=Z,380nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,8μm,7.2s						
MDJ				LR	LR		
	comp=Z,2μm,18.0s						
MDJ				LR	LR		
	comp=Z,2μm,17.2s						
MDJ				LR	LR		
	comp=Z,4μm,18.0s						
G03D	**McMinnville, O**	**78.65**	**35**	P	**P**	**07 59 54.8**	**+1.0**
	baz=231,SNR=38						
SHPR	**Sheep Range**	**78.72**	**46**	IAmb	IAmb	07 59 57.8	
	comp=Z,892nm,2.0s						
NJ2	**Nanjing**	**78.87**	**309**⇓	*i*P	**P**	**07 59 56.3**	**+0.9**
NJ2				pP	**pwP**	**08 01 22.4**	**+1.3**
NJ2				sP	**sP**	**08 01 56.3**	**-1.1**
NJ2				PP	**PP**	**08 03 01.9**	**+1.7**
NJ2				S	**S**	**08 09 25.8**	**+3.5**
NJ2				SS	**SS**	**08 14 40.5**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,180nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,6μm,6.5s						
NJ2				LR	LR		
	comp=Z,3μm,19.9s						
NJ2				LR	LR		
	comp=Z,3μm,19.9s						
NJ2				LR	LR		
	comp=Z,4μm,20.8s						
W13A	**Hualapai Mount**	**78.90**	**48**	IAmb	IAmb	07 59 57.8	
	comp=Z,210nm,1.1s						
Y14A	**Wickenburg**	**78.96**	**49**	IAmb	IAmb	07 59 58.0	
	comp=Z,201nm,0.9s						
PINE	**Pine Mountain**	**79.10**	**37**	IAmb	IAmb	07 59 59.3	
	comp=Z,330nm,1.0s						
NKL	**Nikolayevsk**	**79.14**	**335**	*e*P	**P**	**07 59 54.7**	**-1.6**
NKL				*e*		08 01 18.5	
NKL				*e*S	**S**	**08 09 22.1**	**-2.1**
NKL				pmax	pmax		
	comp=E,64nm,1.2s						
NKL				pmax	pmax		
	comp=Z,332nm,1.2s						
NKL				pmax	pmax		
	comp=N,7.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,343nm,2.1s						
NKL				smax	smax		
	comp=E,346nm,3.5s						
NKL				smax	smax		
	comp=N,15nm,2.8s						
I05D	**Terrebonne, OR**	**79.19**	**37**	P	**P**	**07 59 57.8**	**+0.9**
	baz=233,SNR=69						
DSRI	**Dabo**	**79.25**	**273**	P	**P**	**07 59 58.7**	**+0.8**
	comp=N,2μm,0.7s,comp=N,104μm						
E03A	**Lebam**	**79.32**	**34**	IAmb	IAmb	07 59 59.8	
	comp=Z,413nm,1.0s						
F04D	**Rainier, OR**	**79.33**	**35**	P	**P**	**07 59 58.8**	**+1.3**
	baz=231,SNR=11						
GZH	**Guangzhou**	**79.35**	**298**	P	**P**	**07 59 58.9**	**+0.8**
GZH				pP	**pP**	**08 01 22.8**	**+1.5**
GZH				sP	**sP**	**08 02 01.5**	**+1.6**
GZH				PP	**PP**	**08 03 03.1**	**-1.2**
GZH				S	**S**	**08 09 28.9**	**+1.2**
GZH				pmax	pmax		
	comp=Z,8μm,4.1s						
R11A	**Troy Canyon, C**	**79.40**	**44**	P	**P**	**07 59 58.8**	**+0.5**
	baz=238,SNR=141						
BRLK	**Bradley Lake**	**79.44**	**13**	P	**P**	**07 59 58.0**	**+0.2**
F04A	**Amboy**	**79.56**	**35**	IAmb	IAmb	08 00 01.0	
	comp=Z,533nm,1.4s						
WVOR	**Wild Horse Val**	**79.68**	**40**	IAmb	IAmb	08 00 01.4	
	comp=Z,234nm,1.1s						
MNAI	**Manna**	**79.68**	**269**	P	**P**	**08 00 00.4**	**+0.2**
	comp=Z,2μm,1.9s,comp=Z,34μmcomp=Z,19μm						
NLWA	**Neilton Lookou**	**79.69**	**33**	IAmb	IAmb	08 00 02.0	
	comp=Z,207nm,1.0s						
TPRI	**Tanjung Pinang**	**79.72**	**274**	P	**P**	**08 00 01.6**	**+1.3**
	comp=Z,712nm,0.7s,comp=Z,164μm						
G05D	**Wamic, OR**	**79.75**	**36**	P	**P**	**08 00 00.6**	**+0.8**
	baz=233						
TUC	**Tucson**	**79.82**	**52**	P	**P**	**08 00 02.2**	**+1.7**
	baz=242						
TUC	**Tucson**	**79.82**	**52**	P	**P**	**08 00 02.3**	**+1.7**
TUC				pmax	pmax		
	comp=Z,1μm,1.8s						
TUC	**Tucson**	**79.82**	**52**	P	**P**	**08 00 02.2**	**+1.7**
E04D	**Cinebar**	**79.86**	**35**	P	**P**	**08 00 01.4**	**+1.1**
	baz=232,SNR=72						
F05D	**White Salmon**	**80.06**	**36**	P	**P**	**08 00 02.1**	**+0.7**
	baz=233,SNR=56						
D04E	**Lakebay**	**80.14**	**34**	P	**P**	**08 00 03.4**	**+1.7**
	baz=231,SNR=32						
D03D	**Eldon**	**80.19**	**34**	P	**P**	**08 00 03.0**	**+1.0**
	baz=231,SNR=60						
DL2	**Dalian**	**80.30**	**316**⇓	*i*P	**P**	**08 00 03.5**	**+0.7**
DL2				pP	**pP**	**08 01 26.8**	**+0.5**
DL2				sP	**sP**	**08 02 07.4**	**+2.5**
DL2				PP	**PP**	**08 03 08.6**	**-3.3**
DL2				S	**S**	**08 09 40.1**	**+3.2**
DL2				sS	**sS**	**08 12 07.6**	**+1.5**
DL2				pmax	pmax		
	comp=Z,300nm,1.5s						
DL2				pmax	pmax		
	comp=Z,4μm,5.7s						
X16A	**Lo Mia Camp, P**	**80.33**	**50**	IAmb	IAmb	08 00 05.9	
	comp=Z,282nm,1.1s						
KLR	**Kul'dur**	**80.40**	**329***d*	*i*P	**P**	**08 00 03.5**	**+0.4**
KLR				pmax	pmax		
	comp=Z,66nm,1.0s						
319A	**Douglas**	**80.53**	**53**	IAmb	IAmb	08 00 07.1	
	comp=Z,354nm,1.0s						
CN2	**Changchun**	**80.55**	**321**	*e*P	**P**	**08 00 04.3**	**+0.3**
CN2				*e*pP	pP	08 01 25.0	-2.6
CN2				*e*S	**S**	**08 09 41.8**	**+2.5**
CN2				*e*SS	**SS**	**08 15 07.4**	**+5.7**
CN2				pmax	pmax		
	comp=Z,410nm,1.5s						
CN2				pmax	pmax		
	comp=Z,6μm,3.0s						
CN2				LR	LR		
	comp=Z,2μm,22.0s						
CN2				LR	LR		
	comp=Z,3μm,22.0s						
CN2				LR	LR		
	comp=Z,3μm,23.0s						
SNY	**Shenyang**	**80.59**	**319**	⇓P	**P**	**08 00 04.8**	**+0.5**
SNY				pP	**pwP**	**08 01 30.3**	**-0.8**
SNY				S	**S**	**08 09 39.8**	**+0.1**
SNY				pmax	pmax		
	comp=Z,450nm,2.1s						
SNY				pmax	pmax		
	comp=Z,7μm,2.8s						
SNY				LR	LR		
	comp=Z,930nm,19.1s						
SNY				LR	LR		
	comp=Z,1μm,14.7s						
SNY				LR	LR		
	comp=Z,2μm,15.1s						
U15A	**North Rim**	**80.69**

E07A	Sunnyside	81.36	36	IAmb	IAmb	08 00 10.6
	comp=Z,264nm,0.9s					
RGRI	Rengat	81.44	272	P	P	08 00 12.0 +2.6
HAWA	Hanford	81.44	36	IAmb	IAmb	08 00 11.0
	comp=Z,275nm,0.9s					
RAGM	Ragged Mountai	81.44	15	IAmb	IAmb	08 01 48.5
	comp=Z,336nm,1.6s					
KNK	Knik Glacier	81.45	13	IAmb	IAmb	08 01 46.0
	comp=Z,303nm,1.4s					
PMR	Palmer	81.47	13	IAmb	IAmb	08 01 45.9
	comp=Z,335nm,1.5s					
X18A	Snowflake	81.47	50	IAmb	IAmb	08 00 11.7
	comp=Z,288nm,1.1s					
HPIG		81.50	59	IAmb	IAmb	08 00 12.8
	comp=Z,530nm,1.8s					
C06D	Leavenworth	81.60	34	P	P	08 00 09.9 +0.4
	baz=233,SNR=16					
WHN	Wuhan	81.63	305	⇓P	P	08 00 10.3 +0.3
WHN				pP	pwP	08 01 35.3 -1.6
WHN				sP	sP	08 02 13.8 +1.5
WHN				S	S	08 09 48.3 -2.6
WHN				pmax	pmax	
	comp=Z,3μm,2.1s					
WHN				pmax	pmax	
	comp=Z,12μm,4.5s					
WHN				LR	LR	
	comp=Z,3μm,9.9s					
WHN				LR	LR	
	comp=Z,5μm,7.6s					
WHN				LR	LR	
	comp=Z,13μm,26.3s					
KRJI	Kerinci	81.76	270	P	P	08 00 11.7 +0.5
	comp=Z,342nm,1.4s,comp=Z,9μm					
SML	Sawmill	81.83	13	IAmb	IAmb	08 01 48.0
	comp=Z,304nm,1.5s					
BMO	Blue Mountains	81.84	38	IAmb	IAmb	08 00 12.3
	comp=Z,236nm,1.1s					
W18A	Petrified Fore	81.89	50	P	P	08 00 12.7 +1.3
	baz=242					
MFID	Camas Ranch	81.94	40	IAmb	IAmb	08 00 13.9
	comp=Z,635nm,1.7s					
TIA	Tai'an	82.09	312	P	P	08 00 12.8 +0.6
TIA				S	S	08 09 59.1 +3.8
TIA				pmax	pmax	
	comp=Z,200nm,1.2s					
TIA				pmax	pmax	
	comp=Z,4μm,4.3s					
TIA				LR	LR	
	comp=Z,990nm,18.5s					
TIA				LR	LR	
	comp=Z,1μm,16.4s					
TIA				LR	LR	
	comp=Z,2μm,8.5s					
SDSI	Sungai Dareh	82.13	271	P	P	08 00 12.7 -0.3
	comp=Z,355nm,1.9s,comp=Z,8μm					
DHAK	Deception Hill	82.18	19	IAmb	IAmb	08 01 44.9
	comp=Z,596nm,1.6s					
121A	Cookes Peak, D	82.19	53	P	P	08 00 15.0 +1.9
	baz=244					
121A	Cookes Peak, D	82.19	53	IAmb	IAmb	08 00 15.8
	comp=Z,351nm,1.0s					
DUG	Dugway, Tooele	82.19	44	P	P	08 00 13.5 +0.6
	baz=240					
YAH	Yahtse	82.19	17	IAmb	IAmb	08 00 14.2
	comp=Z,234nm,1.0s					
ZAIG	Zacatecas	82.47	63	IAmb	IAmb	08 00 17.8
	comp=Z,325nm,1.1s					
VRDI	Verde Repeater	82.47	15	P	P	08 00 13.4 -0.4
VRDI				IAmb	IAmb	08 00 15.2
	comp=Z,271nm,1.4s					
F10A	Beach Ranch, E	82.51	37	IAmb	IAmb	08 00 16.1
	comp=Z,341nm,0.9s					
GLB	Gilahina Butte	82.57	15	IAmb	IAmb	08 00 15.4
	comp=Z,286nm,1.5s					
BALM	Baldy	82.60	16	IAmb	IAmb	08 00 15.7
	comp=Z,244nm,1.3s					
BARN	Barnard Glacie	82.80	16	IAmb	IAmb	08 00 17.1
	comp=Z,366nm,1.3s					
BKNI	Bangkinang	82.87	273	P	P	08 00 17.4 +0.7
	comp=Z,1μm,1.7s,comp=Z,24μm					
BKNI	Bangkinang	82.87	273	P	P	08 00 17.2 +0.5
KTH	Kantishna Hill	82.89	11	IAmb	IAmb	08 01 50.7
	comp=Z,408nm,1.6s					
PPSI	Pulau Pagai	82.96	269	P	P	08 00 18.5 +1.3
	comp=Z,1μm,1.9s,comp=Z,27μm					
PDSI	Padang	83.06	271	P	P	08 00 16.3 -1.4
	comp=Z,229nm,1.6s,comp=Z,5μm					
RND	Reindeer	83.15	12	IAmb	IAmb	08 00 18.9
	comp=Z,321nm,1.1s					
SKAG	Skagway	83.38	20	IAmb	IAmb	08 01 51.7
	comp=Z,433nm,1.5s					
UBPT	Khong Chiam	83.41	288	P	P	08 00 20.3 +1.0
	comp=Z,156nm,2.1s,comp=Z,5μm					
MCK	McKinley	83.43	12	IAmb	IAmb	08 00 21.4
	comp=Z,294nm,1.0s					
SEY	Seymchan	83.47	346	*d iP*	P	08 00 18.3 -0.3
MNTX	Cornudas Mount	83.68	54	P	P	08 00 21.9 +1.5
	baz=246					
MNTX	Cornudas Mount	83.68	54	IAmb	IAmb	08 00 22.9
	comp=Z,390nm,1.1s					
MVCO	Mesa Verde	83.74	48	P	P	08 00 21.7 +0.8
	baz=243					
MVCO	Mesa Verde	83.74	48	IAmb	IAmb	08 01 56.0
	comp=Z,519nm,1.9s					
PMSA	Palmer Station	83.78	157	P	P	08 00 21.6 +1.4
	comp=Z,247nm,1.0s,baz=230,slow=4.0,SNR=20					
PMSA	Palmer Station	83.78	157	*eP*	P	08 00 22.1 +1.9
PMSA	Palmer Station	83.78	157	*eP*	P	08 00 22.1 +1.9
PMSA	Palmer Station	83.78	157	P	P	08 00 20.3 0.0
PMSA				IAmb	IAmb	08 00 22.6
	comp=Z,455nm,1.1s					
NEW	Newport	83.86	35	P	P	08 00 21.0 +0.1
	baz=236,SNR=71					
PV19	Morning Glory	83.90	47	IAmb	IAmb	08 00 23.9
	comp=Z,362nm,1.1s					
PV14	Lion Creek, Pa	83.90	47	IAmb	IAmb	08 00 23.9
	comp=Z,377nm,0.9s					
PV17	East Wray Mesa	83.90	47	IAmb	IAmb	08 00 23.3
	comp=Z,352nm,1.1s					
PV18	Skein Mesa, Pa	83.92	47	IAmb	IAmb	08 00 23.4
	comp=Z,332nm,1.2s					
PV20	West Nyswonger	83.92	47	IAmb	IAmb	08 00 24.0
	comp=Z,351nm,1.0s					
PV23	Carpenter Ridg	83.94	47	IAmb	IAmb	08 00 24.3
	comp=Z,367nm,0.9s					
PV16	Nyswonger Mesa	83.94	47	IAmb	IAmb	08 00 23.5
	comp=Z,341nm,1.3s					
PV03	Paradox Valley	83.97	47	IAmb	IAmb	08 00 24.3
	comp=Z,336nm,1.3s					
PV11	David Mesa, Pa	83.97	47	IAmb	IAmb	08 00 24.4
	comp=Z,521nm,1.3s					
PV04	Paradox Valley	83.99	47	IAmb	IAmb	08 00 23.9
	comp=Z,318nm,1.0s					
PV02	Paradox Valley	84.02	47	IAmb	IAmb	08 00 23.9
	comp=Z,309nm,1.2s					
PV12	Saucer Basin,	84.03	47	IAmb	IAmb	08 00 24.8
	comp=Z,584nm,1.3s					
TX31	Lajitas Ar. Si	84.08	57	IAmb	IAmb	08 00 26.4
	comp=Z,813nm,1.9s					
TXAR	Lajitas Array	84.08	57	P	P	08 00 24.6 +2.0
	comp=Z,159nm,0.9s,baz=224,slow=5.2,SNR=664					
TXAR				pP	pwP	08 01 49.8 +0.2
	comp=Z,33nm,1.1s,baz=232,slow=6.2,SNR=3.5					
TXAR				PKiKP	PKiKP	08 05 35.4 +0.4
	comp=Z,3.1nm,1.0s,baz=198,slow=2.6,SNR=3.7					
TXAR				PKPPKP	P'P'df	08 26 30.8 -9.5
	comp=Z,0.4nm,0.9s,baz=98,slow=4.0,SNR=2.6					
TXAR	Lajitas Array	84.08	57	P	P	08 00 23.1 +0.5
PV01	Paradox Valley	84.11	47	IAmb	IAmb	08 00 24.3
	comp=Z,241nm,1.1s					
TLIG	Tlapa	84.12	70	IAmb	IAmb	08 00 26.0
	comp=Z,335nm,1.1s					
IPM	Ipoh	84.12	276	P	P	08 00 23.1 +0.1
PV07	Paradox Valley	84.19	47	IAmb	IAmb	08 00 24.7
	comp=Z,241nm,1.2s					
ANMO	Albuquerque	84.23	51	P	P	08 00 24.4 +1.0
	baz=244					
ANMO	Albuquerque	84.23	51	*c iP*	P	08 00 24.3 +1.0
ANMO				pmax	pmax	
	comp=Z,274nm,1.3s					
ANMO	Albuquerque	84.23	51	P	P	08 00 24.0 +0.7
ANMO				IAmb	IAmb	08 00 25.3
	comp=Z,249nm,1.2s					
SISI	Saibi	84.25	270	P	P	08 00 24.6 +0.9
	comp=Z,336nm,1.7s,comp=Z,8μmcomp=Z,16μm					
RIDG	Independent Ri	84.30	14	IAmb	IAmb	08 00 24.1
	comp=Z,208nm,1.0s					
DOT	Dot Lake	84.40	14	IAmb	IAmb	08 00 24.6
	comp=Z,184nm,0.9s					
HDA	Harding Lake	84.44	12	P	P	08 00 23.1 -0.3
	baz=208					
HDA	Harding Lake	84.44	12	IAmb	IAmb	08 00 26.2
	comp=Z,278nm,1.0s					
BCAR	Beaver Creek A	84.45	15	P	P	08 00 23.4 -0.2
CCB	Clear Creek Bu	84.47	12	IAmb	IAmb	08 00 24.3
	comp=Z,281nm,0.9s					
BJI	Beijing	84.53	315	⇓*iP*	P	08 00 25.0 +0.6
BJI				pP	pwP	08 01 51.1 -0.6
BJI				PP	PP	08 03 43.9 -2.4
BJI				S	SKSac	08 10 12.3 0.0
BJI				sS	sS	08 12 51.0 +1.6
BJI				SS	SS	08 16 02.0 +1.4
BJI				pmax	pmax	
	comp=Z,310nm,1.8s					
BJI				LR	LR	
	comp=Z,1μm,35.8s					
BJI				LR	LR	
	comp=Z,1μm,31.4s					
BJI				LR	LR	
	comp=Z,5μm,28.0s					
AHID	Auburn Hatcher	84.58	42	IAmb	IAmb	08 00 26.5
	comp=Z,417nm,1.5s					
IMAR	Indian Mountai	84.65	9	P	P	08 00 24.3 -0.1
TCOL	CIGO, UAF Yank	84.66	12	P	P	08 00 24.2 -0.3
	baz=207					
COLA	College	84.67	12	*c iP*	P	08 00 23.9 -0.5
COLA				pmax	pmax	
	comp=Z,366nm,1.0s					
COLA	College	84.67	12	P	P	08 00 24.0 -0.5
COLA				IAmb	IAmb	08 00 25.3
	comp=Z,381nm,0.8s					
MDM	Murphy Dome	84.67	12	IAmb	IAmb	08 00 25.8
	comp=Z,290nm,1.1s					
IL31		84.77	12	IAmb	IAmb	08 00 26.5
	comp=Z,221nm,1.1s					
ILAR	Eielson Array	84.77	12	P	P	08 00 24.7 -0.3
	comp=Z,167nm,1.0s,baz=221,slow=5.0,SNR=360					
ILAR				pP	pwP	08 01 51.7 -0.8
	comp=Z,56nm,1.1s,baz=229,slow=5.0,SNR=5.3					
ILAR				PKiKP	PKiKP	08 05 34.4 -0.5
	comp=Z,3.2nm,0.7s,baz=264,slow=3.0,SNR=7.6					
ILAR				S	SKSac	08 10 11.5 -1.2
	comp=Z,4.6nm,1.2s,baz=228,slow=8.1,SNR=6.3					
ILAR				PKKPbc	PKKPdf	08 18 31.2 +4.2
	comp=Z,1.9nm,0.6s,baz=273,slow=2.0,SNR=18					
ILAR				PKPPKP		08 26 29.6
	comp=Z,1.0nm,0.9s,baz=356,slow=2.3,SNR=6.0					
ILAR	Eielson Array	84.77	12	P	P	08 00 24.0 -1.1
MSO	Missoula	84.89	38	P	P	08 00 26.1 -0.1
	baz=238					
MSO	Missoula	84.89	38	IAmb	IAmb	08 00 28.1
	comp=Z,642nm,1.9s					
DLMT	Dillon	84.93	39	IAmb	IAmb	08 00 28.4
	comp=Z,223nm,1.0s					
POKR	Poker Plat Res	84.97	12	P	P	08 00 25.5 -0.5
	baz=208					
TPAW	Teton Pass	85.03	42	IAmb	IAmb	08 02 03.1
	comp=Z,506nm,1.6s					
FXWY	Fox Creek	85.05	42	IAmb	IAmb	08 02 03.3
	comp=Z,389nm,1.5s					
MAW	Mawson	85.16	199	P	P	08 00 27.5 +0.4
MAW				pmax	pmax	
	comp=Z,120nm,1.6s					
MAW	Mawson	85.16	199	P	P	08 00 27.8 +0.7
	comp=Z,114nm,0.9s,baz=114,slow=6.1,SNR=90					
MAW	Mawson	85.16	199	P	P	08 00 27.6 +0.4
S22A	4UR Ranch, Cre	85.17	48	P	P	08 00 29.1 +1.1
	baz=244					
S22A	4UR Ranch, Cre	85.17	48	IAmb	IAmb	08 01 59.6
	comp=Z,535nm,1.4s					
IMW	Indian Meadow	85.23	41	IAmb	IAmb	08 02 05.0
	comp=Z,472nm,1.4s					
O20A	White River Ci	85.24	46	P	P	08 00 28.8 +0.5
	baz=243					
O20A	White River Ci	85.24	46	IAmb	IAmb	08 01 59.4
	comp=Z,595nm,1.6s					
MOOW	Moose Ponds	85.28	42	IAmb	IAmb	08 02 04.4
	comp=Z,295nm,1.5s					
SKLT	Songkhla	85.32	279	P	P	08 00 30.6 +1.7
	comp=Z,552nm,1.9s,comp=Z,9μm					
GO09	Cerro Castillo	85.35	142	IAmb	IAmb	08 00 31.2
	comp=Z,576nm,1.4s					
ZEA	Zeya	85.42	330	⇓*iP*	P	08 00 28.6 +0.1
ZEA				*e**PP	pwP	08 01 55.5 -0.6
ZEA				*e*		08 02 30.5
ZEA				*e*S	SKSac	08 10 18.0 +0.7
ZEA				pmax	pmax	
	comp=N,770nm,1.8s					
ZEA				pmax	pmax	
	comp=E,320nm,1.8s					
ZEA				pmax	pmax	
	comp=Z,2μm,1.8s					
ZEA				pmax	pmax	
	comp=Z,3μm,7.0s					
ZEA				pmax	pmax	
	comp=N,2μm,5.0s					
ZEA				smax	smax	
	comp=N,11μm,10.0s					
FLWY	Flagg Ranch	85.47	41	IAmb	IAmb	08 02 05.7
	comp=Z,608nm,1.6s					
BW06	Boulder Array	85.58	43	P	P	08 00 30.1 +0.2
	baz=242					
BW06	Boulder Array	85.58	43	IAmb	IAmb	08 02 04.4
	comp=Z,302nm,1.6s					
PD31	Pinedale Array	85.58	43	IAmb	IAmb	08 02 04.4
	comp=Z,273nm,1.6s					
PDAR	Pinedale Array	85.58	43	P	P	08 00 30.2 +0.3
	comp=Z,37nm,0.9s,baz=207,slow=3.0,SNR=210					
PDAR				pP	pwP	08 01 56.6 -0.7
	comp=Z,31nm,1.2s,baz=220,slow=3.7,SNR=4.4					
PDAR				PKKPbc	PKKPdf	08 18 28.6 +3.5
	comp=Z,1.8nm,0.7s,baz=98,slow=5.1,SNR=8.0					
PDAR				PKPPKP		08 26 31.4
	comp=Z,1.3nm,1.0s,baz=122,slow=1.9,SNR=4.2					
PDAR	Pinedale Array	85.58	43	P	P	08 00 28.7 -1.2
BOZ	Bozeman (W)	85.64	40	P	P	08 00 30.8 +0.8
	baz=240					
BOZ	Bozeman (W)	85.64	40	IAmb	IAmb	08 00 31.8
	comp=Z,312nm,1.2s					
SMCO	Snowmass	85.69	47	IAmb	IAmb	08 02 05.5
	comp=Z,407nm,1.4s					
H17A	Grant Village	85.70	41	P	P	08 00 32.3 +1.9
	baz=241					
BILL	Bilibino	85.88	354	*d iP*	P	08 00 30.5 +0.1
BILL				*i* *PP	pP	08 01 55.8 +0.6
BILL				*i* S	SKSac	08 10 15.3 -4.2
BILL				pmax	pmax	
	comp=Z,370nm,1.2s					
BILL	Bilibino	85.88	354	P	P	08 00 30.1 -0.3
BILL				IAmb	IAmb	08 00 32.9
	comp=Z,262nm,1.0s					
LKWY	Lake	85.89	41	IAmb	IAmb	08 00 35.1
	comp=Z,201nm,1.1s					
WALA	Waterton Lakes	86.07	36	IAmb	IAmb	08 00 33.3
	comp=Z,177nm,1.0s					
SDCO	Great Sand Dun	86.11	49	P	P	08 00 33.1 +0.5
	baz=245					
SDCO	Great Sand Dun	86.11	49	P	P	08 00 32.7 0.0
SDCO				IAmb	IAmb	08 02 03.8
	comp=Z,221nm,1.4s					
TIY	Taiyuan	86.12	311	*eP*	P	08 00 33.4 +1.0
TIY				pP	pwP	08 02 00.3 +0.6
TIY				sP	sP	08 02 37.6 +1.9
TIY				PP	PP	08 04 00.8 +1.6
TIY				SKS	SKSac	08 10 19.6 -2.9
TIY				S	S	08 10 35.3 +0.2
TIY				sS	sS	08 13 06.5 +0.9
TIY				pmax	pmax	
	comp=Z,380nm,0.7s					
TIY				pmax	pmax	
	comp=Z,4μm,3.7s					
USHA	Ushuaia	86.13	147	P	P	08 00 33.7 +1.6
	comp=Z,157nm,1.1s,baz=247,slow=4.8,SNR=37					
TSI	Tuntungan	86.17	275	P	P	08 00 35.0 +1.9
	comp=Z,2.4nm,0.8s,comp=Z,22nm					
PAYG	Puerto Ayora	86.20	90	P	P	08 00 35.0 +1.8
GYA	Guiyang	86.25	299	⇓*iP*	P	08 00 34.3 +1.0
GYA				pP	pwP	08 02 00.5 -0.8
GYA				sP	sP	08 02 40.8 +4.4
GYA				PP	PP	08 03 59.3 -1.2
GYA				LR	LR	
	comp=Z,2μm,19.6s					
GYA				LR	LR	
	comp=Z,2μm,16.9s					
GYA				LR	LR	
	comp=Z,2μm,19.8s					
TRTT	Trang	86.40	279	P	P	08 00 36.0 +1.8
	comp=Z,1μm,2.0s,comp=Z,18μm					
NONG	Nongkai	86.43	290	P	P	08 00 35.3 +1.1
	comp=Z,6.6nm,2.3s,comp=Z,196nm					
MSTX	Muleshoe	86.60	53	P	P	08 00 35.4 +0.5
	baz=247					
T25A	Trinidad	86.65	50	P	P	08 00 35.3 +0.1
	baz=246					
T25A	Trinidad	86.65	50	IAmb	IAmb	08 02 08.6
	comp=Z,384nm,1.7s					
CHAI	Chaiyaphum	86.78	288	P	P	08 00 36.7 +0.8
	comp=Z,107μm,1.3s					
SLVN	Son La	86.84	293	IAmb	IAmb	08 00 38.7
	comp=Z,299nm,1.4s					
PATY	Pattaya	86.87	284	P	P	08 00 38.7 +2.4
	comp=Z,267μm,0.9s					
RLMT	Red Lodge	86.87	41	P	P	08 00 37.1 +1.1
	baz=242					
RLMT	Red Lodge	86.87	41	P	P	08 00 36.2 +0.2
RLMT				IAmb	IAmb	08 00 38.6
	comp=Z,179nm,1.0s					
Q24A	Divide	86.88	48	P	P	08 00 37.0 +0.6
	baz=245					
Q24A	Divide	86.88	48	IAmb	IAmb	08 02 11.2
	comp=Z,319nm,1.4s					
ISCO	Idaho Springs	86.91	47	P	P	08 00 37.0 +0.6
	baz=245					
ISCO	Idaho Springs	86.91	47	IAmb	IAmb	08 02 08.0
	comp=Z,329nm,1.9s					
KCSI	Kotacane, Aceh	86.93	275	P	P	08 00 36.9 +0.1
	comp=Z,463nm,2.0s,comp=Z,11μm					
N23A	Red Feather La	87.15	46	P	P	08 00 38.2 +0.7
	baz=244					
N23A	Red Feather La	87.15	46	IAmb	IAmb	08 02 14.2
	comp=Z,217nm,1.4s					
833A	Chaparral WMA,	87.17	59	P	P	08 00 39.0 +1.4
	baz=249					
XAN	Xi'an	87.25	307	P	P	08 00 38.6 +0.8
XAN				pP	pwP	08 02 06.8 +1.2
XAN				sP	sP	08 02 45.3 +3.9
XAN				PP	PP	08 04 04.9 -3.4
XAN				pmax	pmax	
	comp=Z,480nm,1.3s					
XAN				pmax	pmax	
	comp=Z,5μm,5.7s					
TPTI		87.42	274	P	P	08 00 41.3 +2.3
	comp=Z,615nm,2.1s,comp=Z,10μm					
K22A	Casper	87.52	44	P	P	08 00 39.2 +0.2
	baz=244					
K22A	Casper	87.52	44	IAmb	IAmb	08 02 11.6
	comp=Z,480nm,1.9s					
BMAR	Burnt Mountain	87.56	12	P	P	08 00 38.1 -0.4
SURT	Suratani	87.59	280	P	P	08 00 41.8 +2.0
	comp=Z,580nm,2.0s,comp=Z,14μm					
JCT	Junction City	87.61	57	P	P	08 00 40.3 +0.7
	baz=249					
JCT	Junction City	87.61	57	IAmb	IAmb	08 00 41.2
	comp=Z,195nm,1.0s					
PHWY	Pilot Hill	87.65	46	IAmb	IAmb	08 02 13.8
	comp=Z,330nm,1.8s					
PKDT	Phuket	87.70	279	P	P	08 00 42.6 +2.3
	comp=Z,573nm,1.9s,comp=Z,14μm					
TOLK	Toolik Lake Re	87.75	10	P	P	08 00 39.6 +0.2
	baz=206					
AMTX	Amarillo	87.79	53	P	P	08 00 40.8 +0.3
	baz=247					
AMTX	Amarillo	87.79	53	IAmb	IAmb	08 00 41.6
	comp=Z,160nm,0.9s					
PBKT	Sadao Pong	87.92	288	P	P	08 00 42.8 +1.6
	comp=Z,124nm,2.4s,comp=Z,4μm					
PBKT	Sadao Pong	87.92	288	IAmb	IAmb	08 00 43.7
	comp=Z,501nm,1.7s					
EGMT	Eagleton	87.95	38	P	P	08 00 41.4 +0.5
	baz=242,SNR=31					
EGMT	Eagleton	87.95	38	IAmb	IAmb	08 02 17.8
	comp=Z,293nm,1.6s					
SNSI	Sinabang, Aceh	87.98	273	P	P	08 00 42.9 +1.2
	comp=Z,1μm,1.7s,comp=Z,23μm					
PHET	Kaeng Krachan	88.01	284	P	P	08 00 44.2 +2.5
	comp=Z,407μm,1.4s					
HHC	Hu-ho-hao-te	88.05	314	*eP*	P	08 00 43.9 +2.4
HHC				pP	pwP	08 02 11.4 +1.7
HHC				sP	sP	08 02 48.9 +3.9
HHC				PP	PP	08 04 12.0 -2.6
HHC				SKS	SKSac	08 10 37.5 +3.4
HHC				S	S	08 10 53.5 +0.2
HHC				sS	sS	08 13 21.3 -3.3
EPYK	Eagle Plains	88.41	15	P	P	08 00 42.9 +0.4
	baz=218					
EPYK	Eagle Plains	88.41	15	IAmb	IAmb	08 02 21.7
	comp=Z,447nm,1.7s					
MLSI	Meulaboh, Aceh	88.46	275	P	P	08 00 44.5 +0.6
	comp=Z,886nm,1.7s,comp=Z,15μm					
ABTX	Abilene, Hawle	88.52	55	P	P	08 00 44.7 +0.9
	baz=249					
ABTX	Abilene, Hawle	88.52	55	IAmb	IAmb	08 00 45.5
	comp=Z,271nm,0.9s					
KSCO	Kaye Shedlock'	88.69	48	P	P	08 00 45.1 +0.5
	baz=247					
SRDT	SRDT	88.92	285	P	P	08 00 48.0 +2.0
	comp=Z,194nm,2.0s,comp=Z,5μm					
UTHA	Uthaitani	88.99	287	P	P	08 00 48.1 +1.8
	comp=Z,205μm,1.6s					
BTO	Baotou	89.02	313	*eP*	P	08 00 47.4 +1.3
KMI	Kunming	89.11	297	P	P	08 00 48.8 +1.8
KMI				pP	pwP	08 02 16.4 +1.0
KMI				sP	sP	08 02 56.4 +5.9
KMI				PP	PP	08 04 22.3 -1.1
KMI				SKS	SKSac	08 10 40.3 -0.9
KMI				S	S	08 11 00.6 -3.4
KMI				pmax	pmax	
	comp=Z,5μm,7.0s					
KMI				LR	LR	
	comp=Z,2μm,19.4s					
KMI				LR	LR	
	comp=Z,4μm,26.3s					
KMI				LR	LR	
	comp=Z,5μm,37.7s					
PHRA	Phrae	89.19	290	P	P	08 00 48.5 +1.3
	comp=Z,28nm,2.0s					
LAO	LASA Array	89.47	40	P	P	08 00 49.6 +1.6
	baz=244,SNR=111					
435B	Jarrell	89.51	58	P	P	08 00 49.7 +1.3
	baz=250					
435B	Jarrell	89.51	58	IAmb	IAmb	08 00 51.3
	comp=Z,303nm,1.0s					
CCIG	Comitan	89.53	73	IAmb	IAmb	08 00 51.8
	comp=Z,249nm,1.0s					
YAK	Yakutsk	89.57	338	*d iP*	P	08 00 46.6 -1.3
YAK				*e**PP	pP	08 02 13.7 +0.2
YAK				*e*S	SKSac	08 10 38.3 -3.4
YAK				*e*		08 10 59.1
YAK				*e**SS	pS	08 12 17.6 -36
YAK				*e*SS	SS	08 17 09.8 -2.8
YAK				pmax	pmax	
	comp=Z,30nm,0.8s					
YAK				pmax	pmax	
	comp=N,8.0nm,1.0s					
YAK				pmax	pmax	
	comp=E,18nm,1.1s					
YAK				smax	smax	
	comp=E,851nm,2.8s					
YAK				smax	smax	
	comp=N,2μm,2.7s					
YAK	Yakutsk	89.57	338	P	P	08 00 46.6 -1.3
YAK				IAmb	IAmb	08 00 49.1
	comp=Z,114nm,0.7s					
UMPA	Umpang Tak	89.73	287	P	P	08 00 51.5 +1.7
	comp=Z,214μm,1.5s					
LAMP	Lampang	89.74	289	P	P	08 00 51.8 +2.1
	comp=Z,130μm,0.9s					
PAYA	Payao	89.78	290	P	P	08 00 51.4 +1.4
	comp=Z,233μm,1.6s					
RSSD	Black Hills	89.78	43	P	P	08 00 50.0 +0.3
	baz=246					
RSSD	Black Hills	89.78	43	P	P	08 00 49.5 -0.2
RSSD				pmax	pmax	
	comp=Z,230nm,1.1s					
RSSD	Black Hills	89.78	43	P	P	08 00 49.5 -0.2
RSSD				IAmb	IAmb	08 00 51.4
	comp=Z,230nm,1.1s					
OGNE	Ogallala	89.87	47	P	P	08 00 50.3 +0.4
	baz=247					
WMOK	Wichita Mounta	89.95	54	P	P	08 00 50.5 +0.1

baz=249
WHTX Lake Whitney, 90.03 57 P **P 08 00 51.7 +0.9**
baz=250
WHTX Lake Whitney, 90.03 57 IAmb IAmb 08 00 52.6
comp=Z,272nm,1.1s
CD2 Chengdu 90.19 302⇓ *i*P **P 08 00 52.8 +1.1**
CD2 pP pP 08 02 18.3 +1.2
CD2 sP sP 08 02 58.5 +3.2
CD2 SKS **SKSac 08 10 46.6 -0.3**
CD2 S **ScS 08 11 18.3 +2.2**
CD2 sS sS 08 13 48.1 +2.8
CD2 pmax pmax
comp=Z,150nm,1.4s
CD2 pmax pmax
comp=Z,5μm,5.6s
CD2 LR LR
comp=Z,3μm,16.5s
CD2 LR LR
comp=Z,4μm,17.1s
CD2 LR LR
comp=Z,10μm,28.8s
SYO Syowa Base 90.27 192⇓ *i*P **P 08 00 49.4 -1.8**
GO06 Curarrehue 90.33 132 IAmb IAmb 08 00 54.7
comp=Z,282nm,1.2s
CM31 Chiang Mai Arr 90.34 289 P **P 08 00 55.0 +2.4**
SNR=46
CMAR Chiang Mai Arr 90.34 289 *ce*P **P 08 00 54.0 +1.4**
CMAR pmax pmax
comp=Z,34nm,0.9s
CMAR Chiang Mai Arr 90.34 289 P **P 08 00 54.0 +1.4**
comp=Z,39nm,1.0s,baz=108,slow=2.5,SNR=156
CMAR pP **pwP 08 02 20.7 -0.4**
comp=Z,37nm,1.1s,baz=106,slow=3.3,SNR=6.9
CMAR PP **PP 08 04 36.3 +3.4**
comp=Z,14nm,0.9s,baz=105,slow=5.5,SNR=4.1
CMAR PKKPbc **PKKPbc 08 18 21.1 +1.7**
comp=Z,11nm,0.8s,baz=288,slow=4.5,SNR=14
CMAR PKPPKP **P'P'df 08 26 26.4 -2.6**
comp=Z,1.3nm,0.3s,baz=276,slow=3.8,SNR=5.6
CMAR Chiang Mai Arr 90.34 289 P **P 08 00 52.7 +0.2**
U32A Winter Ranch, 90.37 52 IAmb IAmb 08 00 55.8
comp=Z,349nm,1.2s
CMMT Chiang Mai 90.44 289 P **P 08 00 54.2 +1.2**
comp=Z,94nm,2.1s,comp=Z,3μm
CHTO Chiang Mai 90.45 289 P **P 08 00 54.9 +1.8**
SNR=63
CHTO Chiang Mai 90.45 289 P **P 08 00 53.8 +0.7**
CHTO pmax pmax
comp=Z,919nm,2.0s
CHTO Chiang Mai 90.45 289 P **P 08 00 53.8 +0.7**
PLCA Paso Flores 90.53 133 P **P 08 00 54.2 +1.0**
PLCA pmax pmax
comp=Z,234nm,1.0s
PLCA Paso Flores 90.53 133 P **P 08 00 54.7 +1.5**
comp=Z,156nm,0.9s,baz=273,slow=4.3,SNR=307
PLCA pP **pwP 08 02 21.1 -0.8**
comp=Z,93nm,1.3s,baz=276,slow=4.0,SNR=1.9
PLCA PKKPbc **PKKPbc 08 18 18.9 -0.5**
comp=Z,6.8nm,1.0s,baz=122,slow=4.3,SNR=9.3
PLCA PKPPKP **P'P'df 08 26 27.5 -4.0**
comp=Z,3.2nm,1.0s,baz=15,slow=5.4,SNR=3.5
PLCA Paso Flores 90.53 133 *eP* **P 08 00 54.3 +1.0**
PLCA Paso Flores 90.53 133 *eP* **P 08 00 54.3 +1.0**
PLCA Paso Flores 90.53 133 P **P 08 00 54.2 +1.0**
PLCA IAmb IAmb 08 00 56.3
comp=Z,234nm,0.9s
HKT Hockley 90.65 59 P **P 08 00 54.4 +0.8**
HKT pmax pmax
comp=Z,858nm,1.9s
HKT Hockley 90.65 59 P **P 08 00 54.4 +0.8**
INK Inuvik 90.70 15 P **P 08 00 51.9 -1.1**
INK pmax pmax
comp=Z,103nm,1.2s
INK Inuvik 90.70 15 P **P 08 00 52.5 -0.5**
comp=Z,87nm,1.0s,baz=212,slow=4.6,SNR=98
INK pP **pwP 08 02 21.1 -0.4**
comp=Z,11nm,1.0s,baz=68,slow=3.0,SNR=2.5
INK Inuvik 90.70 15 P **P 08 00 51.9 -1.1**
CBKS Cedar Bluff 90.70 50 P **P 08 00 54.2 +0.4**
baz=248
CBKS Cedar Bluff 90.70 50 IAmb IAmb 08 00 56.3
comp=Z,188nm,1.0s
MHMT Maesarieng 91.17 289 P **P 08 00 58.0 +1.6**
comp=Z,210nm,2.1s,comp=Z,13μmcomp=Z,9μm
SNAA Sanae 91.29 178 P **P 08 00 56.1 +0.1**
SNAA Sanae 91.29 178 PKKP **PKKPdf 08 18 15.8 +2.5**
SNAA SKS **SKSac 08 10 51.2 -0.6**
SNAA S **S 08 11 19.4 -2.4**
SNAA Sanae 91.29 178 pP pP 08 02 23.6 +2.1
SNAA Sanae 91.29 178 P **P 08 00 55.8 -0.2**
SNAA pmax pmax
comp=Z,427nm,1.3s
SNAA Sanae 91.29 178 P **P 08 00 55.8 -0.2**
SNAA IAmb IAmb 08 00 57.9
comp=Z,427nm,1.3s
VNA3 Neumayer Olymp 91.36 176 P **P 08 00 56.3 0.0**
VNA3 Neumayer Olymp 91.36 176 PKKP **PKKPdf 08 18 14.4 +1.3**
VNA3 SKS **SKSac 08 10 51.2 -1.0**
VNA3 S **S 08 11 20.0 -2.3**
VNA3 Neumayer Olymp 91.36 176 pP pP 08 02 24.1 +2.3
SNET Serv Nac Est T 91.43 76 IAmb IAmb 08 01 00.8
comp=Z,362nm,1.3s
DGMT Dagmar 91.47 39 P **P 08 00 58.2 +1.1**
baz=246,SNR=137
CIT Chita 91.59 325 *eP* **P 08 00 58.2 +0.6**
CIT pmax pmax
comp=Z,705nm,1.7s
GO05 Huala 91.73 127 IAmb IAmb 08 01 00.8
comp=Z,293nm,1.1s
VNA2 Neumayer--Watz 91.82 176 P **P 08 00 58.8 +0.4**
baz=191,slow=4.2
VNA2 Neumayer--Watz 91.82 176 PKKP **PKKPdf 08 18 12.6 +0.4**
VNA2 SKS **SKSac 08 10 55.1 +0.4**
VNA2 S **S 08 11 23.6 -2.8**
VNA2 Neumayer--Watz 91.82 176 pP pP 08 02 26.8 +2.9
baz=205,slow=4.0
LZH Lanzhou 91.87 307⇓ P **P 08 01 00.6 +1.1**
LZH pP pwP 08 02 27.8 -0.1
LZH sP sP 08 03 08.1 +4.9
LZH PP **PP 08 04 41.8 -3.0**
LZH SKS **SKSac 08 10 56.5 +0.1**
LZH S **ScS 08 11 31.1 +1.0**
LZH SS **SS 08 17 45.1 -2.1**
LZH pmax pmax
comp=Z,190nm,1.1s
LZH pmax pmax
comp=Z,3μm,4.3s
VNA1 Neumayer--Stat 92.03 176 P **P 08 00 59.8 +0.4**
VNA1 Neumayer--Stat 92.03 176 PKKP **PKKPdf 08 18 13.2 +1.4**
VNA1 S **S 08 11 32.4 +4.2**
VNA1 Neumayer--Stat 92.03 176 pP pP 08 02 28.2 +3.3
NATX Nacogdoches 92.19 58 P **P 08 01 02.4 +1.5**
baz=251
TUL1 Leonard 92.65 53 P **P 08 01 03.4 +0.6**
baz=251
TUL1 Leonard 92.65 53 IAmb IAmb 08 01 05.0
comp=Z,189nm,1.0s
BGNE Belgrade 92.77 48 P **P 08 01 04.1 +0.8**
baz=250
YKA Yellowknife Ar 92.91 24 P **P 08 01 03.4 0.0**
comp=Z,33nm,0.8s,baz=239,slow=4.3,SNR=36
YKA pP **pwP 08 02 31.3 -0.7**
comp=Z,6.3nm,1.1s,baz=240,slow=4.7,SNR=2.1
YKA PKiKP **PKiKP 08 05 49.7 +1.2**
comp=Z,2.0nm,0.8s,baz=257,slow=1.6,SNR=5.4
YKA PKKPbc **PKKPdf 08 18 11.6 -0.8**
comp=Z,1.5nm,0.6s,baz=47,slow=2.1,SNR=5.0
YKA Yellowknife Ar 92.91 24 P **P 08 01 02.7 -0.7**
KSU1 Kansas State U 93.09 50 P **P 08 01 05.6 +0.8**
baz=250
EFI East Falkland 93.11 147 *c i*P **P 08 01 05.9 +1.2**
EFI pmax pmax
comp=Z,139nm,1.0s
EFI East Falkland 93.11 147 P **P 08 01 05.7 +1.0**
SUSD Miller 93.28 44 P **P 08 01 05.5 -0.1**
baz=249
SUSD Miller 93.28 44 P **P 08 01 05.5 -0.1**
SUSD IAmb IAmb 08 01 07.0
comp=Z,201nm,0.9s
TGUH Tegucigalpa,Un 93.36 76 IAmb IAmb 08 01 08.4
comp=Z,160nm,1.1s
ULN Ulaanbaatar 93.77 319 P **P 08 01 08.0 +0.1**
SNR=40
ULN Ulaanbaatar 93.77 319 *d i*P **P 08 01 07.7 -0.2**
ULN pmax pmax
comp=Z,126nm,1.6s
C36M Paulatuk 93.87 16 P **P 08 01 07.1 -0.5**
baz=229
BOD Bodaibo 93.92 330⇑ *i*P **P 08 01 07.0 -1.1**
BOD *e*S **SKSac 08 11 04.0 -2.2**
BOD pmax pmax
comp=Z,116nm,1.8s
MIAR Mount Ida 93.93 55 P **P 08 01 09.5 +0.7**
baz=252
MIAR Mount Ida 93.93 55 IAmb IAmb 08 01 10.4
comp=Z,99nm,1.0s
W39A Magazine 93.97 55 P **P 08 01 09.8 +0.9**
baz=252
W39A Magazine 93.97 55 IAmb IAmb 08 01 10.7
comp=Z,186nm,1.2s
PBA Port Blair 94.07 281 *e*P P 08 01 08.4 -1.4
PBA *e*pP pwP 08 02 37.2 -0.8
PBA *e*S SKSac 08 11 09.2 +0.3
MDND Maddock 94.07 41 P **P 08 01 09.3 +0.2**
baz=249,SNR=11
Z41A Richland Creek 94.15 57 P **P 08 01 10.9 +1.1**
baz=252
Z41A Richland Creek 94.15 57 IAmb IAmb 08 01 11.8
comp=Z,190nm,1.1s
SONM Songino Array 94.17 319 P **P 08 01 08.3 -1.4**
SONM pmax pmax
comp=Z,82nm,1.5s
SONM Songino Array 94.17 319 P **P 08 01 09.7 0.0**
comp=Z,19nm,0.9s,baz=134,slow=4.5,SNR=64
SONM pP **pwP 08 02 37.4 -1.1**
comp=Z,22nm,1.2s,baz=159,slow=1.4,SNR=4.7
SONM PP **PP 08 04 58.4 -4.0**
comp=Z,24nm,1.1s,baz=126,slow=7.0,SNR=6.7
SONM PKKPbc **PKKPdf 08 18 09.5 -0.5**
comp=Z,3.3nm,0.8s,baz=293,slow=3.1,SNR=3.5
SONM PKPPKP **P'P'df 08 26 18.1 -3.2**
comp=Z,2.6nm,1.1s,baz=302,slow=2.8,SNR=7.2
SONM Songino Array 94.17 319 P **P 08 01 08.3 -1.4**
DGPR DIGLIPUR 94.32 282 *eP* **P 08 01 10.5 -0.4**
DGPR IAmb IAmb 08 01 19.8
comp=Z,306nm,1.4s
DGPR *i*pP **pP 08 02 37.8 +0.9**
DGPR *e*PP **PP 08 04 59.8 -4.2**
GO04 Tololo Observa 94.45 123 IAmb IAmb 08 02 46.6
comp=Z,286nm,1.3s
JTS Las Juntas de 94.46 81 *c i*P **P 08 01 12.6 +1.0**
JTS pmax pmax
comp=Z,119nm,1.8s
JTS Las Juntas de 94.46 81 P **P 08 01 12.8 +1.2**
X40A Basin Creek Fa 94.50 55 P **P 08 01 11.8 +0.4**
baz=252
ECSD EROS Data Cent 94.62 46 P **P 08 01 11.7 0.0**
baz=251
UALR University of 94.97 55 IAmb IAmb 08 01 15.5
comp=Z,130nm,1.0s
U40A Yellville 95.05 54 P **P 08 01 14.1 +0.3**
baz=252
U40A Yellville 95.05 54 IAmb IAmb 08 01 14.9
comp=Z,119nm,1.1s
W41B Gary Mavity, V 95.16 55 P **P 08 01 15.4 +1.1**
baz=253
W41B Gary Mavity, V 95.16 55 IAmb IAmb 08 01 18.3
comp=Z,140nm,0.9s
WHAR Wooly Hollow 95.17 55 IAmb IAmb 08 01 16.6
comp=Z,133nm,0.9s
FFC Flin Flon 95.22 34 P **P 08 01 13.2 -0.9**
FFC pmax pmax
comp=Z,125nm,1.7s
FFC Flin Flon 95.22 34 P **P 08 01 13.2 -0.9**
FCAR Ozark Folk Cen 95.47 54 IAmb IAmb 08 01 16.9
comp=Z,98nm,1.1s
NNA Nana 95.55 104 P **P 08 01 16.7 0.0**
NNA pmax pmax
comp=Z,312nm,1.8s
NNA Nana 95.55 104 P **P 08 01 17.8 +1.2**
comp=Z,6.4nm,0.5s,baz=262,slow=15,SNR=3.1
NNA pP **pwP 08 02 46.7 +1.2**
comp=Z,4.6nm,0.4s,baz=256,slow=7.4,SNR=3.3
NNA Nana 95.55 104 P **P 08 01 16.6 0.0**
NNA IAmb IAmb 08 02 50.4
comp=Z,312nm,1.8s
LKP Lekhapani 95.67 297 *i* P **P 08 01 17.1 +0.3**
LKP *i* x x 08 02 45.5
VBMS Vicksburg 95.69 58 P **P 08 01 18.7 +1.9**
baz=253
GO03 Copiap 95.90 121 IAmb IAmb 08 02 51.2
comp=Z,124nm,1.6s
TIXI Tiksi 95.90 345 *d i*P **P 08 01 15.9 -0.9**
TIXI pmax pmax
comp=Z,50nm,0.8s
TIXI Tiksi 95.90 345 P **P 08 01 16.0 -0.8**
CFA Coronel Fontan 95.91 125 P **P 08 01 18.7 +0.7**
comp=Z,70nm,0.8s,baz=246,slow=3.7,SNR=143
CFA pP **pwP 08 02 46.7 -0.2**
comp=Z,50nm,1.1s,baz=234,slow=3.9,SNR=5.3
CFA PP **PP 08 05 14.2 -1.3**
comp=Z,22nm,1.1s,baz=253,slow=7.4,SNR=9.6
GTA Gaotai 95.95 309⇓ P **P 08 01 18.1 +0.1**
GTA pP pwP 08 02 46.9 +0.5
GTA sP sP 08 03 26.3 +4.3
GTA SKS **SKSac 08 11 17.8 -0.4**
GTA S **S 08 12 02.1 -1.5**
GTA sS sS 08 14 36.1 -1.2
GTA pmax pmax
comp=Z,1μm,6.5s
GTA LR LR
comp=Z,980nm,18.9s
GTA LR LR
comp=Z,1μm,21.0s
GTA LR LR
comp=Z,2μm,23.7s
X43A Marvell 96.05 56 P **P 08 01 19.8 +1.4**
baz=253
X43A Marvell 96.05 56 IAmb IAmb 08 01 22.6
comp=Z,178nm,1.2s
LCAR Lake Charles 96.28 54 IAmb IAmb 08 01 20.5
comp=Z,76nm,1.0s
SCIA State Center 96.43 48 P **P 08 01 20.6 +0.7**
baz=253
DIBR DIBRUGARH 96.51 297 *eP* **P 08 01 21.7 +1.1**
DIBR IAmb IAmb 08 01 25.2
comp=Z,94nm,0.7s
AGMN Agassiz Nation 96.58 42 P **P 08 01 19.8 -0.7**
baz=252,SNR=14
AGMN Agassiz Nation 96.58 42 IAmb IAmb 08 02 56.2
comp=Z,165nm,1.5s
IMP Imphal 96.63 294⇓ *e*P **P 08 01 19.3 -2.0**
IMP *i* x x 08 02 46.6
IMP *ex* x 08 05 22.6
KOHI KOHIMA 96.73 295⇓ *i*P **P 08 01 18.0 -3.9**
KOHI IAmb IAmb 08 01 36.8
comp=Z,200nm,2.0s
KOHI *i*pP **pP 08 02 44.9 -2.7**
KOHI *e*PP **PP 08 05 20.7 -1.8**
CCM Cathedral Cave 96.77 52 P **P 08 01 21.2 -0.4**
baz=254
CCM Cathedral Cave 96.77 52 P **P 08 01 20.5 -1.0**
CCM pmax pmax
comp=Z,44nm,0.9s
CCM Cathedral Cave 96.77 52 P **P 08 01 20.6 -1.0**
SAIH SAIHA 96.84 291 *i* P **P 08 01 21.3 -1.1**
SAIH IAmb IAmb 08 01 37.9
comp=Z,13nm,0.8s
JORH JORHAT 96.88 296 *eP* **P 08 01 23.3 +1.0**
JORH IAmb IAmb 08 01 27.0
comp=Z,213nm,0.7s
ZAK Zakamensk 96.96 321 *eP* **P 08 01 21.2 -1.0**
ZAK pmax pmax
comp=Z,14nm,1.5s
IRK Irkutsk 96.96 323 *eP* **P 08 01 21.3 -0.8**
IRK *e*S **SKSac 08 11 23.5 +1.0**
IRK pmax pmax
comp=Z,81nm,3.3s
TLY Talaya 97.15 322 P Pdif 08 01 24.8 +1.8
SNR=6.7
TLY Talaya 97.15 322 *d i*P **P 08 01 22.0 -0.9**
TLY pmax pmax
comp=Z,26nm,1.6s
TLY Talaya 97.15 322 P **P 08 01 22.3 -0.7**
ULM Lac du Bonnet 97.19 40 P **P 08 01 22.6 -0.5**
comp=Z,16nm,0.9s,baz=243,slow=3.8,SNR=15
ULM pP **pwP 08 02 53.1 +1.4**
comp=Z,65nm,1.3s,baz=258,slow=5.8,SNR=5.9
ULM PP **PP 08 05 21.1 -4.2**
comp=Z,29nm,1.4s,baz=245,slow=8.9,SNR=4.5
ULM PKKP **PKKPdf 08 18 09.6 +5.3**
comp=Z,2.1nm,0.5s,baz=70,slow=4.9,SNR=4.1
ULM Lac du Bonnet 97.19 40 IAmb IAmb 08 02 58.6
comp=Z,204nm,1.6s
OXF Oxford 97.22 56 Pdiff Pdif 08 01 23.8 +0.1
baz=254
OXF Oxford 97.22 56 P Pdif 08 01 24.3 +0.7
OXF pmax pmax
comp=Z,183nm,1.4s
OXF Oxford 97.22 56 P Pdif 08 01 24.3 +0.7
OXF IAmb IAmb 08 02 57.7
comp=Z,183nm,1.4s
PEBM Pemiscott Bayo 97.29 55 IAmb IAmb 08 01 26.5
comp=Z,180nm,1.2s
GO02 Mina Guanaco 97.37 119 IAmb IAmb 08 03 00.9
comp=Z,207nm,1.9s
AZL Aizawl 97.44 292⇓ *i*P **P 08 01 23.8 -1.2**
AZL *i* x x 08 02 49.3
AZL *ex* x 08 05 26.5
ITAN ITANAGAR 97.44 296⇓ *i*P **P 08 01 23.5 -1.3**
ITAN *i* x x 08 02 53.5
ITAN *ex* x 08 05 24.7
TRQA Tornquist 97.67 134 P Pdif 08 01 26.9 +1.2
TRQA pmax pmax
comp=Z,119nm,1.6s
TRQA Tornquist 97.67 134 *e*P Pdif 08 01 27.3 +1.5
TRQA Tornquist 97.67 134 *e*P Pdif 08 01 27.3 +1.5
TRQA Tornquist 97.67 134 P Pdif 08 01 26.9 +1.1
TRQA IAmb IAmb 08 05 28.0
comp=Z,119nm,1.6s
SPMN Marine on St. 97.67 45 Pdiff **P 08 01 25.4 0.0**
baz=254
SPMN Marine on St. 97.67 45 IAmb IAmb 08 03 01.5
comp=Z,162nm,1.2s
OTAV Otavalo 97.78 92 P Pdif 08 01 27.5 +0.3
OTAV pmax pmax
comp=Z,76nm,1.9s
OTAV Otavalo 97.78 92 *e*P Pdif 08 01 29.4 +2.2
OTAV Otavalo 97.78 92 *e*P Pdif 08 01 29.4 +2.2
OTAV Otavalo 97.78 92 P Pdif 08 01 27.5 +0.3
L40A Anamosa 97.90 49 Pdiff Pdif 08 01 26.6 +0.1
baz=254
S44A Carbondale 98.18 53 Pdiff **P 08 01 28.4 +0.5**
baz=255
SIUC Southern Illin 98.22 53 IAmb IAmb 08 01 29.4
comp=Z,90nm,1.5s
BRAL Brewton 98.25 60 Pdiff **P 08 01 29.6 +1.3**
baz=255
BRAL Brewton 98.25 60 IAmb IAmb 08 01 33.2
comp=Z,62nm,1.0s
PLAL Pickwick Lake 98.40 56 P **P 08 01 28.9 0.0**
PLAL IAmb IAmb 08 03 02.2
comp=Z,153nm,1.9s
BELO BELONIA 98.41 292 *e*P **P 08 01 30.4 +1.1**
BELO *i* x x 08 02 56.9
BELO *ex* x 08 05 31.7
P43A Skaggs, Pawnee 98.49 51 **P 08 01 29.5 +0.3**
P43A IAmb IAmb 08 03 03.6
comp=Z,220nm,1.6s
SHL Shillong 98.62 294 P **P 08 01 32.5 +2.1**
SNR=16
SHL Shillong 98.62 294⇓ *i*P Pdif 08 01 29.0 -1.4
SHL *i* x x 08 02 56.4
SHL *ex* x 08 05 35.9
MOY Mondy 98.72 321 *e*P Pdif 08 01 29.9 -0.2
MOY *e* 08 02 58.1
MOY pmax pmax
comp=Z,65nm,2.5s
AGT Ágartala 98.75 292 *e*P **P 08 01 31.4 +0.7**
AGT *i* x x 08 02 58.6
AGT *ex* x 08 05 29.1
LRAL Lakeview Retre 98.77 58 Pdiff **P 08 01 30.6 0.0**
baz=255
JFWS Jewell Farm 98.82 48 Pdiff Pdif 08 01 30.5 -0.1
baz=255
WVT Waverly 98.88 55 Pdiff **P 08 01 31.1 0.0**
baz=255
E38A The Farm, Brul 98.89 44 Pdiff Pdif 08 01 29.8 -1.0
baz=255
HDIL Hopedale 98.90 50 Pdiff Pdif 08 01 30.7 -0.3
baz=255
LVC Limon Verde 98.93 117 P **P 08 01 34.5 +2.4**
comp=Z,16nm,0.9s,baz=230,slow=4.3,SNR=20
LVC pP **pwP 08 03 02.4 +1.3**
comp=Z,25nm,1.2s,baz=248,slow=3.6,SNR=6.1
LVC PP **PP 08 05 38.9 -0.2**
comp=Z,18nm,1.2s,baz=246,slow=7.4,SNR=7.1
LVC Limon Verde 98.93 117 *e*P **P 08 01 35.1 +3.0**
LVC Limon Verde 98.93 117 *e*P **P 08 01 35.1 +3.0**
LVC Limon Verde 98.93 117 **P 08 01 34.5 +2.4**
LVC IAmb IAmb 08 03 07.4
comp=Z,203nm,1.7s
GUWA GUWAHATI 98.95 295⇓ *i*P Pdif 08 01 30.3 -1.2
GUWA *i* x x 08 02 58.6
GUWA *ex* x 08 05 36.3
GUWA *e*S **SKSac 08 11 29.4 -4.2**
BCIP Isla Barro Col 98.99 83 *e*P **PP 08 05 38.2 -1.5**
BCIP Isla Barro Col 98.99 83 *e*P **PP 08 05 38.2 -1.5**
X48A Hartselle 99.08 57 Pdiff **Pdif 08 01 32.0 +0.1**
baz=256
250A Grady 99.10 59 Pdiff **Pdif 08 01 32.6 +0.5**
baz=256
451A Vernon 99.19 61 Pdiff **Pdif 08 01 33.4 +0.8**
baz=256
Y49A Blount Mountai 99.45 58 Pdiff **Pdif 08 01 34.0 +0.3**
baz=256
BBAC Balboa, Cauca 99.45 91 *e*P **PP 08 05 41.5 -1.9**
BBAC Balboa, Cauca 99.45 91 *e*P **PP 08 05 41.5 -1.9**
G40A Rib Lake 99.46 46 Pdiff **Pdif 08 01 33.3 -0.1**
baz=255
V48A Smith Brothers 99.58 56 Pdiff **Pdif 08 01 33.9 -0.2**
baz=256
T47A Sharon Grove 99.66 54 Pdiff **Pdif 08 01 34.9 +0.5**
baz=256
Z50A Ashland 99.69 58 Pdiff **Pdif 08 01 35.0 +0.2**
baz=256
W49A Belvidere 99.87 56 Pdiff **Pdif 08 01 35.5 0.0**
baz=256
I42A Draeger Farm, 100.00 47 Pdiff **Pdif 08 01 35.8 -0.1**
baz=256
CLTN Cedars of Leba 100.05 55 **Pdif 08 01 36.4 +0.2**
352A Blakely 100.08 60 Pdiff **Pdif 08 01 36.7 +0.2**
baz=256
K43A Burlington 100.13 48 Pdiff **Pdif 08 01 36.3 -0.1**
baz=256
P46A Rosedale 100.22 52 Pdiff **Pdif 08 01 38.3 +1.4**
baz=256
LSA Lhasa 100.28 298 *i* Pdiff **Pdif 08 01 39.3 +1.3**
SNR=9.6
L44A Lake County Fo 100.31 49 Pdiff **Pdif 08 01 37.5 +0.3**
baz=256
V49A McMinnville 100.31 56 Pdiff **Pdif 08 01 37.3 -0.1**
baz=256
Z51A Franklin 100.32 58 Pdiff **Pdif 08 01 37.7 +0.2**
baz=256
PCON Cinco Dias 100.35 91 *e*P **PP 08 05 50.2 -0.4**
PCON Cinco Dias 100.35 91 *e*P **PP 08 05 50.2 -0.4**
252A Lumpkin 100.36 60 Pdiff **Pdif 08 01 38.1 +0.4**
baz=256
PTAC Punta Ardita, 100.36 86 *e*P **PP 08 05 50.2 +0.1**
PTAC Punta Ardita, 100.36 86 *e*P **PP 08 05 50.2 +0.1**
DHUB DHUBRI 100.39 294 *e*P **Pdif 08 01 39.2 +1.2**
DHUB *i* x x 08 03 06.2
DHUB *ex* x 08 05 48.9
SFIN Lafayette 100.48 51 Pdiff **Pdif 08 01 38.1 +0.1**
baz=256
152A Waverly Hall 100.54 59 Pdiff **Pdif 08 01 39.0 +0.5**
baz=256
Y51A Rockmart 100.54 58 Pdiff **Pdif 08 01 38.0 -0.5**
baz=256
U49A Red Boiling Sp 100.58 55 Pdiff **Pdif 08 01 38.6 0.0**
baz=256
WCI Wyandotte Cave 100.58 53 Pdiff **Pdif 08 01 38.5 -0.1**
baz=257
353A Camilla 100.64 60 Pdiff **Pdif 08 01 41.9 +3.0**
baz=256
W50A Signal Mountai 100.65 56 Pdiff **Pdif 08 01 38.8 -0.1**
baz=256
FLOC Florencia 100.85 92 *e*P **PP 08 05 50.2 -3.5**
FLOC Florencia 100.85 92 *e*P **PP 08 05 50.2 -3.5**
X51A Calhoun 100.86 57 Pdiff **Pdif 08 01 39.0 -0.9**
baz=257
YOTC Yotoco, Valle 100.88 89 *e*P **PP 08 05 48.2 -5.9**
YOTC Yotoco, Valle 100.88 89 *e*P **PP 08 05 48.2 -5.9**
Z52A Williamson 100.90 59 Pdiff **Pdif 08 01 40.8 +0.7**
baz=257
T49A Edmonton 100.91 54 Pdiff **Pdif 08 01 39.9 -0.1**

	baz=257						
V50A	Pikevile	100.92	56	Pdiff	Pdif	08 01 39.3	-0.8
	baz=257						
W51A	Cleveland	101.08	57	Pdiff	Pdif	08 01 40.6	-0.3
	baz=257						
Q48A	North Vernon	101.17	53	Pdiff	Pdif	08 01 41.6	+0.4
	baz=257						
TIGA	Tifton	101.18	60	Pdiff	Pdif	08 01 42.3	+0.9
	baz=257						
PTLC	Puerto Leguiza	101.25	93	eP	PP	08 05 55.5	-1.2
PTLC	Puerto Leguiza	101.25	93	eP	PP	08 05 55.5	-1.2
S49A	Springfield	101.26	54	Pdiff	Pdif	08 01 41.8	+0.3
	baz=257						
153A	Fort Valley	101.26	59	Pdiff	Pdif	08 01 43.1	+1.4
	baz=257						
U50A	Jamestown	101.30	55	Pdiff	Pdif	08 01 41.9	+0.1
	baz=257						
Y52A	Lilburn	101.35	58	Pdiff	Pdif	08 01 43.1	+1.0
	baz=257						
T50A	Nancy	101.44	55	Pdiff	Pdif	08 01 42.5	+0.1
	baz=257						
P48A	Milroy	101.52	52	Pdiff	Pdif	08 01 42.4	-0.3
	baz=257						
254A	Abbeville	101.55	60	Pdiff	Pdif	08 01 44.2	+1.2
	baz=257						
V51A	Loudon	101.55	56	Pdiff	Pdif	08 01 42.4	-0.5
	baz=257						
Z53A	Monticello	101.62	59	Pdiff	Pdif	08 01 44.0	+0.8
	baz=257						
X52A	Dahlonega	101.65	57	Pdiff	Pdif	08 01 43.8	+0.4
	baz=257						
CBOC	Ciudad Bolivar	101.72	87	eP	PP	08 05 58.8	-1.6
CBOC	Ciudad Bolivar	101.72	87	eP	PP	08 05 58.8	-1.6
W52A	Murphy	101.73	57	Pdiff	Pdif	08 01 43.5	-0.3
	baz=257						
GOGA	Godfrey	101.73	59	Pdiff	Pdif	08 01 44.2	+0.4
	baz=257						
Y53A	Monroe	101.73	58	Pdiff	Pdif	08 01 46.5	+2.7
	baz=257						
Q49A	Aurora	101.83	53	Pdiff	Pdif	08 01 44.1	0.0
	baz=258						
GTK	Tadong	101.90	295	i x	Pdif	08 01 43.1	-1.8
GTK				ex	x	08 05 59.2	
ORTC	Ortega, Tolima	101.91	90	eP	PP	08 05 58.1	-3.5
ORTC	Ortega, Tolima	101.91	90	eP	PP	08 05 58.1	-3.5
S50A	Richmond	101.92	54	Pdiff	Pdif	08 01 44.5	0.0
	baz=258						
U51A	La Follette	101.94	55	Pdiff	Pdif	08 01 44.2	-0.4
	baz=258						
LPAZ	La Paz	102.00	111	P	Pdif	08 01 48.1	+2.0
	comp=Z,7.9nm,0.8s,baz=260,slow=3.6,SNR=18						
LPAZ				PP	PP	08 05 59.0	-3.6
	comp=Z,4.5nm,0.9s,baz=234,slow=5.6,SNR=5.1						
LPAZ				PKKPbc	PKKPbc	08 17 49.3	+0.6
	comp=Z,2.0nm,0.8s,baz=309,slow=2.9,SNR=5.0						
LPAZ	La Paz	102.00	111	eP	Pdif	08 01 47.7	+1.6
LPAZ	La Paz	102.00	111	eP	Pdif	08 01 47.7	+1.6
P49A	Miami Univ. Ec	102.07	52	Pdiff	Pdif	08 01 45.3	+0.1
	baz=258						
X53A	Estanollee	102.10	57	Pdiff	Pdif	08 01 45.3	-0.1
	baz=258						
R50A	Paris	102.11	54	Pdiff	Pdif	08 01 45.4	+0.1
	baz=258						
T51A	Gray	102.12	55	Pdiff	Pdif	08 01 47.0	+1.5
	baz=258						
V52A	Sevierville	102.16	56	Pdiff	Pdif	08 01 45.7	+0.1
	baz=258						
GUY2C	Guyana, Caldas	102.16	88	eP	PP	08 06 03.5	-0.6
GUY2C	Guyana, Caldas	102.16	88	eP	PP	08 06 03.5	-0.6
J46A	Howard City	102.19	48	Pdiff	Pdif	08 01 46.5	+0.9
	baz=258						
LCBC	Los crdobas,	102.20	84	eP	PP	08 06 03.5	-0.3
LCBC	Los crdobas,	102.20	84	eP	PP	08 06 03.5	-0.3
L47A	Sherwood	102.23	50	Pdiff	Pdif	08 01 46.1	+0.3
	baz=258						
HELC	Santa Helena	102.28	87	eP	PP	08 06 02.8	-2.0
HELC	Santa Helena	102.28	87	eP	PP	08 06 02.8	-2.0
TZTN	Tazewell	102.34	55	Pdiff	Pdif	08 01 47.9	+1.5
	baz=258						
W53A	Cullowhee	102.36	57	Pdiff	Pdif	08 01 46.7	0.0
	baz=258						
155A	Kite	102.38	60	Pdiff	Pdif	08 01 46.1	-0.5
	baz=258						
U52A	Thorn Hill	102.45	56	Pdiff	Pdif	08 01 46.9	-0.1
	baz=258						
I46A	Reed City	102.46	48	Pdiff	Pdif	08 01 46.8	+0.1
	baz=258						
Y54A	Tignall	102.46	58	Pdiff	Pdif	08 01 47.3	+0.3
	baz=258						
Q50A	Georgetown	102.49	53	Pdiff	Pdif	08 01 47.5	+0.5
	baz=258						
O49A	Covington	102.50	52	Pdiff	Pdif	08 01 47.3	+0.3
	baz=258						
K47A	Vermontville	102.52	49	Pdiff	Pdif	08 01 47.9	+0.8
	baz=258						
S51A	Beattyville	102.54	54	Pdiff	Pdif	08 01 49.7	+2.4
	baz=258						
R51A	Hillsboro	102.68	54	Pdiff	Pdif	08 01 49.1	+1.2
	baz=258						
NORC	Norcasia	102.73	88	eP	PKiKP	08 06 07.4	-0.1
NORC	Norcasia	102.73	88	eP	PKiKP	08 06 07.4	-0.1
MACC	Macarena, Meta	102.74	92	eP	PKiKP	08 06 07.4	-0.1
MACC	Macarena, Meta	102.74	92	eP	PKiKP	08 06 07.4	-0.1
J47A	Sunmer	102.76	49	Pdiff	Pdif	08 01 48.7	+0.6
	baz=258						
N49A	Columbus Grove	102.76	51	Pdiff	Pdif	08 01 49.3	+1.1
	baz=258						
BWNR	Bhubaneshwar	102.77	287	eP	Pdif	08 01 44.8	-3.9
BWNR				IAmb	IAmb	08 01 48.5	
	comp=Z,185nm,2.4s						
BWNR				i x	x	08 03 12.5	
P50A	Jamestown	102.78	52	Pdiff	Pdif	08 01 50.2	+1.8
	baz=258						
T52A	Hallie	102.90	55	Pdiff	Pdif	08 01 52.2	+3.3
	baz=258						
Q51A	Peebles	103.01	53	Pdiff	Pdif	08 01 51.6	+2.2
	baz=258						
O50A	Cable	103.03	52	Pdiff	Pdif	08 01 51.6	+2.2
	baz=258						
ROSC	El Rosal	103.06	89	Pdiff	Pdif	08 01 54.5	+3.9
	comp=Z,8.7nm,0.6s,baz=131,slow=18,SNR=4.7						
ROSC				PKiKP	PKiKP	08 06 08.4	-0.1
	comp=Z,6.8nm,0.7s,baz=72,slow=20,SNR=3.8						
U53A	Fall Branch	103.07	56	Pdiff	Pdif	08 01 50.7	+1.0
	baz=258						
W54A	Cherokee Point	103.12	57	Pdiff	Pdif	08 01 50.8	+0.9
	baz=258						
K48A	Perry	103.18	49	Pdiff	Pdif	08 01 49.8	-0.1
	baz=259						
T53A	Wise	103.23	55	Pdiff	Pdif	08 01 53.4	+3.0
	baz=258						
P51A	Williamsport	103.32	53	Pdiff	Pdif	08 01 51.2	+0.6
	baz=259						
PTBC	PUERTO BERRIO	103.40	87	eP	PKiKP	08 06 10.1	+1.4
PTBC	PUERTO BERRIO	103.40	87	eP	PKiKP	08 06 10.1	+1.4
R52A	Catlettsburg	103.41	54	Pdiff	Pdif	08 01 53.3	+2.2
	baz=259						
X55A	Gracelyn & Ava	103.44	58	Pdiff	Pdif	08 01 52.2	+0.8
	baz=258						
VILC	Villavicencio,	103.45	90	eP	PKiKP	08 06 10.8	+1.8
VILC	Villavicencio,	103.45	90	eP	PKiKP	08 06 10.8	+1.8
V54A	Nebo	103.45	56	Pdiff	Pdif	08 01 52.2	+0.8
	baz=258						
BOK	Bokaro	103.50	291	eP	Pdif	08 01 50.3	-1.5
BOK				i x	x	08 03 18.4	
BOK				ex	x	08 04 36.5	
SPBC	San Pablo de B	103.52	88	eP	PP	08 06 11.4	-2.2
SPBC	San Pablo de B	103.52	88	eP	PP	08 06 11.4	-2.2
ACSO	Alum Creek Sta	103.52	52	Pdiff	Pdif	08 01 53.5	+1.9
	baz=259						
CHIC	Chingaza	103.56	89	eP	PP	08 06 14.1	-0.2
CHIC	Chingaza	103.56	89	eP	PP	08 06 14.1	-0.2
SJCC	San Jacinto, C	103.61	84	eP	PP	08 06 10.8	-3.5
SJCC	San Jacinto, C	103.61	84	eP	PP	08 06 10.8	-3.5
K49A	Clarkson	103.66	49	Pdiff	Pdif	08 01 54.0	+1.9
	baz=259						
U54A	Nelsons Funny	103.70	56	Pdiff	Pdif	08 01 54.8	+2.2
	baz=259						
E46A	Sault Ste Mari	103.72	45	Pdiff	Pdif	08 01 52.9	+0.6
	baz=260						
O51A	Pataskala	103.79	52	Pdiff	Pdif	08 01 53.6	+0.8
	baz=259						
KMSC	Kings Mountain	103.82	57	Pdiff	Pdif	08 01 54.2	+1.2
	baz=259						
Q52A	Bidwell	103.82	53	Pdiff	Pdif	08 01 54.0	+1.1
	baz=259						
T54A	Tazewell	104.00	55	Pdiff	Pdif	08 01 57.4	+3.5
	baz=259						
P52A	Corning	104.05	53	Pdiff	Pdif	08 01 54.3	+0.3
	baz=259						
V55A	Taylorsville	104.05	56	Pdiff	Pdif	08 01 57.3	+3.3
	baz=259						
N51A	Ashland	104.11	51	Pdiff	Pdif	08 01 56.9	+2.7
	baz=260						
BRRC	Barranca, Sant	104.26	87	eP	PP	08 06 17.4	-1.6
BRRC	Barranca, Sant	104.26	87	eP	PP	08 06 17.4	-1.6
PALK	Pallekele	104.28	273	Pdiff	Pdif	08 01 55.8	+0.2
PALK	Pallekele	104.28	273	P	Pdif	08 01 56.7	+1.1
PALK	Pallekele	104.28	273	Pdiff	Pdif	08 01 57.5	+1.9
	comp=Z,3.0nm,0.6s,baz=114,slow=6.2,SNR=6.7						
PALK				PKiKP	PKiKP	08 06 12.7	+2.4
	comp=Z,13nm,0.8s,baz=115,slow=5.8,SNR=7.1						
PALK	Pallekele	104.28	273	Pdif	Pdif	08 01 56.7	+1.1
U55A	TA2, Sparta	104.31	56	Pdiff	Pdif	08 02 00.2	+4.9
	baz=259						
Q53A	Leroy	104.37	53	Pdiff	Pdif	08 01 56.1	+0.7
	baz=260						
SMLC	San Martn de	104.37	85	eP	PP	08 06 17.4	-2.4
SMLC	San Martn de	104.37	85	eP	PP	08 06 17.4	-2.4
E47A	Iron Bridge	104.43	45	Pdiff	Pdif	08 01 56.9	+1.4
	baz=260						
RUSC	La Rusia	104.53	88	eP	PP	08 06 19.4	-2.2
RUSC	La Rusia	104.53	88	eP	PP	08 06 19.4	-2.2
P53A	Whipple	104.59	53	Pdiff	Pdif	08 01 57.1	+0.8
	baz=260						
N52A	McGinn's Farm,	104.60	51	Pdiff	Pdif	08 01 56.8	+0.5
	baz=260						
V56A	Mocksville	104.62	57	Pdiff	Pdif	08 01 58.6	+2.0
	baz=259						
T55A	Pulaski	104.63	55	Pdiff	Pdif	08 02 00.2	+3.6
	baz=260						
R54A	Victor	104.66	54	Pdiff	Pdif	08 01 59.7	+3.0
	baz=260						
SMRC	Santa Marta, M	104.84	83	eP	PP	08 06 20.7	-2.6
SMRC	Santa Marta, M	104.84	83	eP	PP	08 06 20.7	-2.6
O53A	New Philadelph	104.86	52	Pdiff	Pdif	08 01 58.0	+0.5
	baz=260						
S55A	Lewisburg	104.97	55	Pdiff	Pdif	08 02 01.5	+3.4
	baz=260						
K51A	Iona Station	105.06	49	Pdiff	Pdif	08 02 00.4	+2.1
	baz=260						
T56A	Rocky Mt	105.21	55	Pdiff	Pdif	08 02 03.1	+4.0
	baz=260						
V57A	Coltrane Farms	105.21	57	Pdiff	Pdif	08 02 04.0	+4.8
	baz=260						
P54A	Burton	105.30	53	Pdiff	Pdif	08 02 00.9	+1.4
	baz=260						
O54A	Avella	105.48	52	Pdiff	Pdif	08 02 00.9	+0.7
	baz=260						
W58A	Raeford	105.49	58	Pdiff	Pdif	08 02 02.6	+2.1
	baz=260						
U57A	Blanch	105.65	56	Pdiff	Pdif	08 02 05.0	+3.8
	baz=260						
V58A	Windy Hill, Pi	105.72	57	Pdiff	Pdif	08 02 06.1	+4.7
	baz=260						
D49A	Beulah Townshi	105.86	45	Pdiff	Pdif	08 02 03.1	+1.3
	baz=262						
MDRS	Chennai	106.21	279	eP	Pdif	08 02 04.2	+0.2
U58A	Oxford	106.27	56	Pdiff	Pdif	08 02 06.7	+2.9
	baz=260						
O55A	Ligonier	106.29	52	Pdiff	Pdif	08 02 04.0	+0.1
	baz=261						
V59A	Middlesex	106.42	57	Pdiff	Pdif	08 02 08.8	+4.3
	baz=260						
CPUP	Villa Florida	106.80	125	P	Pdif	08 02 09.4	+2.8
CPUP	Villa Florida	106.80	125	Pdiff	Pdif	08 02 10.1	+3.6
	comp=Z,2.0nm,0.7s,baz=262,slow=3.0,SNR=5.7						
CPUP				PKiKP	PKiKP	08 06 13.9	-0.7
	comp=Z,2.0nm,0.8s,baz=224,slow=7.9,SNR=3.3						
CPUP				PKKPbc	PKKPbc	08 17 33.0	-0.9
	comp=Z,3.1nm,0.9s,baz=77,slow=4.3,SNR=4.6						
CPUP	Villa Florida	106.80	125		Pdif	08 02 09.4	+2.8
O56A	Blue Knob Stat	106.86	52	Pdiff	Pdif	08 02 08.2	+1.7
	baz=262						
D50A	G1974 Best Tow	106.87	45	Pdiff	Pdif	08 02 08.4	+2.1
	baz=263						
URIC	Uribia, Colomb	107.10	83	eP	PP	08 06 34.0	-5.7
URIC	Uribia, Colomb	107.10	83	eP	PP	08 06 34.0	-5.7
SSPA	Standing Stone	107.42	52	Pdiff	Pdif	08 02 14.4	+5.5
	baz=262						
SDV	Santo Domingo	107.67	86	PKKP	PKKPab	08 17 47.9	+1.1
	comp=Z,3.5nm,0.6s,baz=146,slow=2.3,SNR=4.7						
D52A	ZEK Kipawa Sen	107.82	45	PKiKP	PKiKP	08 06 15.4	-0.4
	baz=264						
L56A	Greenwood	107.86	51	PKiKP	PKiKP	08 06 16.4	+0.3
	baz=263						
ALGO	Algonquin Park	107.96	46	PKiKP	PKiKP	08 06 16.0	-0.2
	baz=264						
NRIK	Noril'sk	108.01	338	Pdiff	Pdif	08 02 10.8	-0.1
	comp=Z,4.3nm,0.7s,baz=113,slow=5.1,SNR=9.4						
NRIK				PKiKP	PKiKP	08 06 14.8	-0.7
	comp=Z,3.8nm,0.8s,baz=45,slow=3.2,SNR=4.2						
NRIK				PKKPbc	PKKPbc	08 17 29.7	-2.0
	comp=Z,4.8nm,0.6s,baz=218,slow=1.3,SNR=8.5						
M57A	Sunshine Farm,	108.08	51	PKiKP	PKiKP	08 06 17.1	+0.5
	baz=263						
ZSN	Zaisan	108.21	315	ePP	PP	08 06 37.8	-9.3
ZSN				i SKS	SKSac	08 12 15.8	+0.5
D53A	Lac Vacive, Po	108.32	45	PKiKP	PKiKP	08 06 16.0	-0.8
	baz=264						
N58A	Sunbury	108.33	52	PKiKP	PKiKP	08 06 16.8	-0.2
	baz=263						
SIV	San Ignacio	108.35	114	Pdiff	Pdif	08 02 14.9	+1.3
	comp=Z,2.4nm,0.8s,baz=255,slow=4.6,SNR=16						
SIV				PKiKP	PKiKP	08 06 17.9	0.0
	comp=Z,3.0nm,0.6s,baz=261,slow=4.3,SNR=13						
L57A	Andrews Acres	108.37	51	PKiKP	PKiKP	08 06 17.1	0.0
	baz=263						
E54A	Lac Daplat, Po	108.60	46	PKiKP	PKiKP	08 06 16.8	-0.5
	baz=264						
ZALV	Zalesovo Beam	108.76	322	P	Pdif	08 02 12.5	-2.0
ZALV	Zalesovo Beam	108.76	322	Pdiff	Pdif	08 02 13.6	-0.9
	comp=Z,1.8nm,0.7s,baz=108,slow=4.8,SNR=7.6						
ZALV				PKiKP	PKiKP	08 06 16.9	-0.5
	comp=Z,7.6nm,0.6s,baz=114,slow=1.3,SNR=12						
ZALV				PKKPbc	PKKPbc	08 17 27.6	-1.2
	comp=Z,4.5nm,0.6s,baz=268,slow=4.5,SNR=11						
ZALV	Zalesovo Beam	108.76	322		Pdif	08 02 12.5	-2.0
HYB	Hyderabad	108.81	283	i Pdif	Pdif	08 02 14.0	-1.6
HYB				epPdif	pPdif	08 03 42.0	+0.3
HYB				esPdif	sPdif	08 04 20.0	+0.3
HYB				e		08 05 17.0	
HYB				e		08 05 50.0	
HYB				ePP	PP	08 06 49.0	-3.2
HYB				e		08 07 06.0	
HYB				e		08 07 50.0	
HYB				eSKS	SKSac	08 12 18.0	-1.0
HYB				eSKKS	SKKSac	08 13 12.0	-4.5
HYB				eSdif	Sdif	08 13 52.0	+0.2
HYB				e		08 15 44.0	
HYB				ePKKP	PKKPbc	08 17 27.5	0.0
HYB				ePKKP	PKKPab	08 17 41.5	+0.3
HYB				e		08 19 18.5	
HYB				ePPP	PPP	08 25 21.0	
G55A	Calabogie	108.82	47	PKiKP	PKiKP	08 06 17.5	-0.3
	baz=264						
LSQQ	Lebel-sur-Quev	108.97	43	PKiKP	PKiKP	08 06 17.7	-0.3
	baz=266						
D54A	Lac Fusel, La	109.03	45	PKiKP	PKiKP	08 06 17.5	-0.7
	baz=265						
L58A	Harry Jones Me	109.12	51	PKiKP	PKiKP	08 06 18.3	-0.2
	baz=264						
M59A	Waymart	109.38	51	PKiKP	PKiKP	08 06 19.1	+0.1
	baz=264						
E55A	Montcerf-Lytto	109.38	46	PKiKP	PKiKP	08 06 18.5	-0.3
	baz=265						
D55A	Sainte-Anne-du	109.83	46	PKiKP	PKiKP	08 06 19.2	-0.4
	baz=266						
MKAR	Makanchi Array	109.91	314	P	Pdif	08 02 18.5	-1.3
MKAR	Makanchi Array	109.91	314	Pdiff	Pdif	08 02 20.3	+0.4
	comp=Z,3.0nm,0.7s,baz=90,slow=2.4,SNR=15						
MKAR				PKiKP	PKiKP	08 06 18.2	-1.7
	comp=Z,6.5nm,0.6s,baz=172,slow=0.6,SNR=19						
MKAR				PKKPbc	PKKPbc	08 17 24.4	-0.6
	comp=Z,18nm,0.7s,baz=277,slow=3.5,SNR=45						
MKAR	Makanchi Array	109.91	314		Pdif	08 02 18.6	-1.3
D56A	ZEC Mazanza, M	110.32	46	PKiKP	PKiKP	08 06 20.3	-0.3
	baz=266						
E57A	Chemin Saint G	110.70	46	PKiKP	PKiKP	08 06 21.4	+0.1
	baz=267						
CHGQ	Chibougamau	110.72	43	PKiKP	PKiKP	08 06 20.4	-0.8
	baz=268						
D57A	Chemin Vers le	110.91	46	PKiKP	PKiKP	08 06 21.5	-0.2
	baz=267						
BHPL	Bhopal	111.00	289	i x	SP	08 16 04.0	+3.0
J60A	Lant Hill Farm	111.01	50	PKiKP	PKiKP	08 06 22.2	+0.2
	baz=266						
I60A	Shoreham	111.14	49	PKiKP	PKiKP	08 06 22.5	+0.3
	baz=266						
E58A	La Victoria	111.30	46	PKiKP	PKiKP	08 06 22.1	-0.3
	baz=267						
L61B	Northampton	111.50	51	PKiKP	PKiKP	08 06 23.1	+0.2
	baz=266						
DDI	Dehra Dun	111.54	296	IAmb	IAmb	08 07 19.1	
	comp=Z,92nm,0.8s						
DDI				i x	SP	08 16 08.5	+2.8
D58A	Chemin du LacG	111.60	46	PKiKP	PKiKP	08 06 22.7	-0.3
	baz=268						
F59A	Saint Guilaume	111.62	47	Pdiff	Pdif	08 02 26.9	-0.5
	baz=267						
J61A	Chester	111.65	50	PKiKP	PKiKP	08 06 23.7	+0.5
	baz=267						
PDGK	Podgornoye	111.67	310	PKiKP	PKiKP	08 06 22.2	-1.2
PDGK				pmax	pmax		
	comp=Z,30nm,1.2s						
UZB	Uzynbulak	112.00	310	ePP	PP	08 07 06.5	-8.0
LBNH	Lisbon	112.15	49	PKiKP	PKiKP	08 06 24.5	+0.4
	baz=267						
J62A	Henniker	112.18	50	PKiKP	PKiKP	08 06 24.7	+0.5
	baz=267						
F60A	Warwick	112.20	47	PKiKP	PKiKP	08 06 24.2	0.0
	baz=268						
KPKS	Kokpek	112.26	310	i PP	PP	08 07 10.9	-5.4
K63A	Dunstable	112.36	50	PKiKP	PKiKP	08 06 24.9	+0.4
	baz=267						
ZHN	Zhinishke	112.43	310	ePP	PP	08 07 12.9	-4.5
SATY	Saty	112.44	310	i PP	PP	08 07 15.1	-2.5
SATY				eSKS	SKSac	08 12 33.3	+0.2
KURK	Kurchatov	112.47	318	P	PKiKP	08 06 24.1	-0.4
KURK	Kurchatov	112.47	318	d iPKIKP	PKiKP	08 06 24.1	-0.4
KURK				pmax	pmax		
	comp=Z,26nm,0.8s						
G61A	St-Isidore-de-	112.47	48	PKiKP	PKiKP	08 06 24.6	-0.1
	baz=268						
TDK	Taldyqorghan	112.53	312	ePP	PP	08 07 12.8	-5.2
H62A	Milan	112.71	48	PKiKP	PKiKP	08 06 26.1	+0.9
	baz=268						
GOA	Goa	112.82	280	ex	SP	08 16 25.9	+7.9
F61A	St Evariste	112.87	47	PKiKP	PKiKP	08 06 25.8	+0.4
	baz=269						
I63A	Otisfield	113.11	49	P	PKiKP	08 06 26.3	+0.4
	baz=268						
G62A	West of Eustis	113.18	48	P	PKiKP	08 06 26.3	+0.2
	baz=269						
E61A	Lac Etchemin	113.23	46	P	PKiKP	08 06 26.4	+0.3
	baz=269						
MDOK	Medeo	113.44	310	ePP	PP	08 07 22.0	-2.6
MDOK				eSKS	SKSac	08 12 35.9	-1.2
F62A	Pittston Farm,	113.58	47	P	PKiKP	08 06 27.1	+0.3
	baz=269						
I64A	Boothbay	113.79	49	P	PKiKP	08 06 27.9	+0.7
	baz=269						
G63A	Kingsbury	113.82	48	P	PKiKP	08 06 27.8	+0.5
	baz=269						
E62A	Clayton Lake	113.90	46	P	PKiKP	08 06 27.3	-0.1
	baz=270						
KUU	Kurty	113.97	311	ePP	PP	08 07 25.2	-3.0
KUU				eSKS	SKSac	08 12 37.9	-0.9
ULHL	Ulahol	114.00	309	P	PKiKP	08 06 28.6	+0.5
	SNR=9.2						
PKME	Peaks-Kenny Pk	114.05	48	P	PKiKP	08 06 28.0	+0.3
	baz=270						
H64A	Troy	114.10	48	P	PKiKP	08 06 27.9	+0.1
	baz=269						
KSH	Kashi	114.10	306	PKP	PKPdf	08 06 28.0	-0.2
KSH				PP	PP	08 07 37.8	+8.4
KSH				PKS		08 10 06.6	
KSH				SKS	SKSdf	08 13 07.5	+2.9
KSH				SS	SS	08 22 59.9	+9.0
KSH				AMB	AMB		
	comp=Z,3μm,4.7s						
KSH				LR	LR		
	comp=Z,1μm,14.8s						
KSH				LR	LR		
	comp=Z,3μm,18.5s						
KSH				LR	LR		
	comp=Z,1μm,15.8s						
F63A	Nahmakanta, Br	114.19	47	P	PKiKP	08 06 28.3	+0.4
	baz=270						
D62A	Allapoint, All	114.22	46	P	PKPdf	08 06 27.8	-0.2
	baz=271						
G64A	Maxfield	114.43	48	P	PKiKP	08 06 28.9	+0.4
	baz=270						
E63A	Oxbow	114.66	46	P	PKPdf	08 06 28.3	-0.5
	baz=271						
F64A	Sherman	114.71	47	P	PKPdf	08 06 28.9	-0.1
	baz=271						
KZA	Kyzart	114.74	309	P	PKiKP	08 06 31.3	+1.6
	SNR=5.2						
D63A	Stockholm	114.86	46	P	PKPdf	08 06 28.7	-0.5
	baz=271						
PQI	Presque Isle	114.93	46		PKPdf	08 06 28.1	-1.2
KBK	Karagaybulak	114.97	310	P	PKiKP	08 06 30.3	+0.5
	SNR=14						
E64A	Bridgewater	115.07	46	P	PKPdf	08 06 29.4	-0.3
	baz=271						
CHMS	Chumysh	115.12	310	P	PKPdf	08 06 29.8	-0.1
	SNR=6.8						
SCHQ	Schefferville	115.18	37	PKP	PKPdf	08 06 29.3	-0.3
	comp=Z,9.6nm,0.8s,baz=344,slow=4.8,SNR=5.1						
SGDS	Sogindy	115.21	310	ePP	PP	08 07 33.4	-3.5
G65A	Princeton	115.28	48	P	PKiKP	08 06 30.2	+0.2
	baz=271						
G65A	Princeton	115.28	48		PKPdf	08 06 29.6	-0.5
UCH	Uchtor	115.29	309	P	PKiKP	08 06 31.1	+0.3
	SNR=9.1						
AAK	Ala-Archa	115.31	309	PKiKP	PKiKP	08 06 31.0	+0.5
AAK	Ala-Archa	115.31	309	P	P

IUG				*e*PP	**PP**	**08 07 59.3**	**-1.2**
IUG				*e*SKS	**SKSac**	**08 12 57.1**	**+0.9**
IUG	**Iuzhnay**	**118.62**	**309**	*e*PKIKP	**PKPdf**	**08 06 36.8**	**0.0**
IUG				*e*		08 07 59.3	
IUG				*e*		08 12 57.1	
SPA0	**Spitsbergen Ar**	**118.63**	**357**	*e*PKPdf	**PKPdf**	**08 06 35.7**	**0.0**
SPA0				*e*SKSac	**SKSac**	**08 12 52.9**	**-1.7**
SPA0				*e*SS	**SS**	**08 23 49.6**	**+2.7**
SPITS	**Spitsbergen Ar**	**118.63**	**357**	PKKPbc	PKKPbc	08 16 53.5	-2.7
	comp=Z,19nm,1.0s,baz=55,slow=8.0,SNR=4.6						
DAG	**Danmarks Havn**	**119.30**	**6**	*i* PKIKP	**PKPdf**	**08 06 35.6**	**-1.3**
DAG				pmax	pmax		
	comp=Z,20nm,1.0s						
DAG	**Danmarks Havn**	**119.30**	**6**	*i* P	**PKPdf**	**08 06 35.6**	**-1.3**
	comp=Z,20nm,1.0s						
SFJD	**Kangerlussuaq**	**119.34**	**21**	*i* PKIKP	**PKPdf**	**08 06 36.3**	**-0.9**
SFJD	**Kangerlussuaq**	**119.34**	**21**	*i* P	**PKPdf**	**08 06 36.3**	**-0.9**
SFJD	**Kangerlussuaq**	**119.34**	**21**		**PKPdf**	**08 06 36.6**	**-0.6**
KBL	**Kabul**	**119.47**	**300**	PKIKP	**PKPdf**	**08 06 38.7**	**-0.1**
KBL	**Kabul**	**119.47**	**300**		**PKPdf**	**08 06 38.6**	**-0.1**
SUMG	**Summit**	**119.60**	**13⇑**	*i* PKIKP	**PKiKP**	**08 06 38.3**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,110nm,0.9s						
SUMG	**Summit**	**119.60**	**13⇑**	*i* P	**PKiKP**	**08 06 38.3**	**+0.1**
	comp=Z,107nm,0.9s						
BDFB	**Brasilia**	**119.66**	**120**	PKIKP	**PKPdf**	**08 06 39.3**	**-0.2**
BDFB	**Brasilia**	**119.66**	**120**	PKP	**PKiKP**	**08 06 39.7**	**+0.1**
	comp=Z,30nm,0.8s,baz=249,slow=1.8,SNR=36						
BDFB				PKKPbc	**PKKPbc**	**08 16 51.2**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=30,slow=3.2,SNR=6.7						
BDFB	**Brasilia**	**119.66**	**120**		**PKPdf**	**08 06 39.3**	**-0.2**
HSPB	**Hornsund (broa**	**119.82**	**357**	*e*PP	PP	08 08 06.9	-0.4
HSPB				*e*SKSac	**SKSac**	**08 13 01.4**	**+2.7**
HSPB				*e*SP	**SP**	**08 17 20.2**	**+2.5**
HSPB				*e*SS	**SKKSdf**	**08 24 00.5**	**+1.0**
DUB01	**Friburgo-RJ**	**120.53**	**129**	*e*P	**PKPdf**	**08 06 40.4**	**-0.6**
DUB01	**Friburgo-RJ**	**120.53**	**129**	*e*P	**PKPdf**	**08 06 40.4**	**-0.6**
PEXB	**Peixe**	**121.16**	**116**	*e*P	**PKiKP**	**08 06 43.2**	**+0.7**
PEXB	**Peixe**	**121.16**	**116**	*e*P	**PKiKP**	**08 06 43.2**	**+0.7**
CAM01	**Campos-RJ**	**121.21**	**130**	*e*P	**PKiKP**	**08 06 44.3**	**+1.9**
CAM01	**Campos-RJ**	**121.21**	**130**	*e*P	**PKiKP**	**08 06 44.3**	**+1.9**
SVE	**Sverdlovsk**	**122.01**	**327**	*e*PKIKP	**PKiKP**	**08 06 43.1**	**+0.2**
SVE				pmax	pmax		
	comp=Z,74nm,1.1s						
ALF01	**Guarapari-ES**	**122.64**	**129**	*e*P	**PKiKP**	**08 06 47.6**	**+2.4**
ALF01	**Guarapari-ES**	**122.64**	**129**	*e*P	**PKiKP**	**08 06 47.6**	**+2.4**
ARU	**Arti**	**123.22**	**327**	*i* PKIKP	**PKiKP**	**08 06 45.2**	**-0.1**
ARU						08 08 30.6	
ARU				PPP	PPP	08 11 11.6	
ARU						08 13 11.8	
ARU				SP	SP	08 17 46.7	-2.2
ARU	**Arti**	**123.22**	**327**		**PKPdf**	**08 06 44.5**	**-0.5**
SJMB	**Sao Joao De Ma**	**123.44**	**127**	*e*P	**PKPdf**	**08 06 46.5**	**-0.1**
SJMB	**Sao Joao De Ma**	**123.44**	**127**	*e*P	**PKPdf**	**08 06 46.5**	**-0.1**
BSFB	**Barra de Sao F**	**123.62**	**127**	*e*P	**PKPdf**	**08 06 46.5**	**-0.5**
BSFB	**Barra de Sao F**	**123.62**	**127**	*e*P	**PKPdf**	**08 06 46.5**	**-0.5**
RIB01	**Linhares ES**	**123.67**	**128**	*e*P	**PKiKP**	**08 06 47.7**	**+0.3**
RIB01	**Linhares ES**	**123.67**	**128**	*e*P	**PKiKP**	**08 06 47.7**	**+0.3**
ABPO	**Ambohimpanom**	**123.95**	**232**	PKIKP	**PKiKP**	**08 06 48.4**	**+0.3**
ABPO	**Ambohimpanom**	**123.95**	**232**		**PKiKP**	**08 06 48.4**	**+0.3**
NRS	**Narsarsuaq**	**124.14**	**26**	*i* PKIKP	**PKPdf**	**08 06 45.9**	**-0.7**
NRS				pmax	pmax		
	comp=Z,120nm,1.0s						
NRS	**Narsarsuaq**	**124.14**	**26**	*i* P	**PKPdf**	**08 06 45.9**	**-0.7**
	comp=Z,115nm,1.0s						
MSEY	**Mahe Island**	**124.26**	**252**	PKIKP	**PKPdf**	**08 06 48.2**	**-0.2**
SCO	**Scoresbysund**	**124.50**	**10**	*i* PKIKP	**PKPdf**	**08 06 47.2**	**+0.2**
SCO				pmax	pmax		
	comp=Z,58nm,0.9s						
SCO	**Scoresbysund**	**124.50**	**10**	*i* P	**PKPdf**	**08 06 47.2**	**+0.2**
	comp=Z,58nm,0.9s						
SCO	**Scoresbysund**	**124.50**	**10**		**PKPdf**	**08 06 47.2**	**+0.2**
AB31	**Akbulak array**	**124.58**	**318**	*i* PKIKP	**PKPdf**	**08 06 47.7**	**-0.1**
AB31				pmax	pmax		
	comp=Z,51nm,1.2s						
ABKAR	**Akbulak array**	**124.58**	**318**		**PKPdf**	**08 06 47.7**	**-0.2**
HRA	**Herat**	**125.09**	**300**		PKPpre	08 06 36.5	
HRA				PKPdf	**PKPdf**	**08 06 48.9**	**-0.7**
HAMF	**Hammerfest**	**125.14**	**352**	*e*PKPdf	**PKiKP**	**08 06 48.7**	**0.0**
HAMF				*e*SKSac	**SKSac**	**08 13 17.3**	**+0.9**
HAMF				*e*SS	**SS**	**08 25 06.4**	**-2.7**
KEV	**Kevo**	**125.45**	**350**	PKIKP	**PKPdf**	**08 06 48.5**	**-0.4**
KEV	**Kevo**	**125.45**	**350**		**PKPdf**	**08 06 48.5**	**-0.4**
LVZ	**Lovozero**	**125.52**	**346⇑**	*i* PKIKP	**PKiKP**	**08 06 49.5**	**-0.1**
LVZ				pmax	pmax		
	comp=Z,106nm,1.7s						
LVZ	**Lovozero**	**125.52**	**346**		**PKPdf**	**08 06 49.2**	**0.0**
ARCES	**ARCESS Array B**	**125.89**	**351**	PKIKP	**PKPdf**	**08 06 49.5**	**-0.3**
ARCES	**ARCESS Array B**	**125.89**	**351**	PKP	**PKPdf**	**08 06 49.9**	**+0.1**
	comp=Z,75nm,0.9s,baz=349,slow=1.2,SNR=41						
ARCES				PKKPbc	**PKKPab**	**08 16 26.4**	**+1.7**
	comp=Z,13nm,1.0s,baz=218,slow=3.3,SNR=13						
ARCES				PKKP	**PKKPdf**	**08 17 08.1**	**-2.4**
	comp=Z,2.8nm,0.6s,baz=205,slow=2.6,SNR=4.7						
ARCES	**ARCESS Array B**	**125.89**	**351**		**PKPdf**	**08 06 49.5**	**-0.3**
ARE0	**ARCESS Array S**	**125.89**	**351**	*e*PKPdf	**PKPdf**	**08 06 49.8**	**0.0**
ARE0				*e*PP	**PP**	**08 08 51.5**	**+3.5**
ARE0				*e*SP	SP	08 18 10.8	-0.6
ARE0				*e*SS	**SS**	**08 25 19.7**	**+1.2**
APA	**Apatity**	**126.07**	**346⇓**	*i* PKIKP	**PKPdf**	**08 06 49.4**	**-0.7**
APA				pmax	pmax		
	comp=Z,59nm,1.1s						
PRGR	**Permogore**	**126.59**	**336⇓**	*i* PKIKP	**PKPdf**	**08 06 51.2**	**-0.1**
PRGR				pmax	pmax		
	comp=Z,126nm,1.1s						
TRO	**Tromso**	**126.68**	**353**	*e*PKPdf	**PKPdf**	**08 06 50.8**	**-0.4**
TRO				*e*PKPdf	**PKPdf**	**08 06 50.8**	**-0.4**
TRO				*e*SS	SS	08 25 30.1	+2.0
KTK1	**Kautokeino**	**126.71**	**351**	*e*PKPdf	**PKPdf**	**08 06 51.5**	**+0.1**
NBIT	**Itapeh - BA**	**126.99**	**124**	*e*P	**PKiKP**	**08 06 54.6**	**+0.6**
NBIT	**Itapeh - BA**	**126.99**	**124**	*e*P	**PKiKP**	**08 06 54.6**	**+0.6**
TMCR	**Tamitsa**	**127.49**	**342**	*e*PKIKP	**PKPdf**	**08 06 52.7**	**-0.2**
TMCR				pmax	pmax		
	comp=Z,65nm,1.2s						
SUR	**Sutherland**	**128.02**	**199**		**PKPdf**	**08 06 55.4**	**+0.1**
GEYT	**Alibeck**	**128.10**	**305**	PKhKP	PKPpre	08 06 42.7	
	comp=Z,8.6nm,0.7s,baz=277,slow=2.5,SNR=12						
GEYT				PKP	**PKiKP**	**08 06 56.1**	**+0.4**
	comp=Z,51nm,1.0s,baz=259,slow=1.5,SNR=31						
GEYT				pPKP	pPKPdf	08 08 28.0	+2.4
	comp=Z,14nm,1.1s,baz=31,slow=3.5,SNR=4.3						
GEYT				PP	sPKPdf	08 09 01.9	-0.7
	comp=Z,39nm,1.2s,baz=104,slow=6.1,SNR=8.2						
GEYT	**Alibeck**	**128.10**	**305**		PKPpre	08 06 42.6	
GEYT				PKPdf	**PKPdf**	**08 06 55.3**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**128.10**	**305**		PKPpre	08 06 41.8	
GYA0B				PKP	**PKiKP**	**08 06 55.4**	**-0.2**
JMDO	**Jabal Madar**	**128.56**	**285**	P	**PKPdf**	**08 06 56.0**	**-0.3**
NBPN	**Ponto Novo - B**	**128.64**	**120**	*e*P	**PKiKP**	**08 06 57.6**	**+0.2**
NBPN	**Ponto Novo - B**	**128.64**	**120**	*e*P	**PKiKP**	**08 06 57.6**	**+0.2**
LOF	**Lofoten**	**128.65**	**355**	*ep*PKPdf	pPKPdf	08 08 26.6	+1.3
SMDO	**Samad**	**128.66**	**286**	P	**PKiKP**	**08 06 57.8**	**+0.6**
STEI	**Steigen**	**128.70**	**354**	*e*PKPdf	**PKPdf**	**08 06 55.4**	**+0.2**
DQM	**DQM**	**128.85**	**282**	P	**PKiKP**	**08 06 58.2**	**+0.7**
KLMR	**Klimovskoe**	**129.36**	**338**	*e*PKIKP	**PKPdf**	**08 06 55.8**	**-0.8**
KLMR				*e*		08 08 28.8	
KLMR				*e*		08 09 05.7	
KLMR				*e*		08 19 27.8	
KLMR				*e*SS	SS	08 25 57.1	-4.4
KLMR				pmax	pmax		
	comp=Z,151nm,1.2s						
KLMR	**Klimovskoe**	**129.36**	**338**	*e*PKPdf	**PKPdf**	**08 06 55.8**	**-0.8**
KLMR				AMP		08 06 58.7	
	comp=Z,151nm,1.2s						
KLMR				*ep*PKPdf	**pPKPdf**	**08 08 28.8**	**+2.0**
KLMR				*e*PP	**sPKPdf**	**08 09 05.7**	**+2.0**
KLMR				*e*SKP		08 09 43.6	
KLMR				*e*PPP	PPP	08 11 56.3	
KLMR				*e*SKKPbc	SKKPbc	08 19 27.9	-4.2
KLMR				*e*SS	**SS**	**08 25 57.1**	**-4.4**
KLMR				*e*SS	**SS**	**08 25 57.1**	**-4.4**
BSY	**Bisya**	**129.42**	**286**	P	**PKPdf**	**08 06 58.2**	**+0.3**
BORG	**Borgarnes**	**129.58**	**14**	*i* PKIKP	**PKiKP**	**08 07 00.1**	**+2.4**
BOSA	**Boshof**	**129.86**	**205**	PKhKP	PKPpre	08 06 48.3	
	comp=Z,3.9nm,0.9s,baz=137,slow=6.4,SNR=3.8						
BOSA				PKP	**PKiKP**	**08 07 00.0**	**+0.4**
	comp=Z,24nm,0.8s,baz=155,slow=2.2,SNR=24						
BOSA				SKPbc	SKPbc	08 09 47.4	+1.5
	comp=Z,7.8nm,0.8s,baz=170,slow=3.5,SNR=5.7						
BOSA				PKKP	**PKKPdf**	**08 17 00.2**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=125,slow=1.0,SNR=5.2						
KONS	**Konsvik**	**130.29**	**355**	*e*PKPdf	**PKPdf**	**08 06 58.4**	**+0.2**
MDH	**Madha**	**130.36**	**289**	*i* PKiKP	**PKPdf**	**08 06 59.6**	**0.0**
	SNR=6.1						
MDH	**Madha**	**130.36**	**289**	P	**PKPdf**	**08 06 59.7**	**+0.1**
BANOM	**Banah**	**130.38**	**290**	P	**PKiKP**	**08 07 01.0**	**+0.4**
UOSS	**Minazif**	**130.44**	**288**	*i* PKiKP	**PKPdf**	**08 06 59.9**	**+0.1**
	SNR=6.6						
UOSS	**Minazif**	**130.44**	**288**		**PKPdf**	**08 06 59.2**	**-0.6**
MOR8	**Moi Rana**	**130.49**	**354**	*e*PKPdf	**PKPdf**	**08 06 58.4**	**-0.2**
MOR8				*e*SKPdf	**SKPab**	**08 09 52.8**	**+5.7**
MOR8				*e*SP	**SP**	**08 18 50.3**	**-0.9**
MOR8				*e*SS	**SS**	**08 26 15.2**	**+0.4**
MSFE	**Esma-Masafi**	**130.49**	**289**	*i* PKiKP	**PKPdf**	**08 07 00.1**	**+0.2**
	SNR=5.7						
HATD	**Hatta, Dubai**	**130.50**	**288**	*i* PKiKP	**PKPdf**	**08 06 59.9**	**0.0**
	SNR=11						
HATD	**Hatta, Dubai**	**130.50**	**288**	P	**PKPdf**	**08 07 00.0**	**+0.1**
	SNR=5.3						
NBLA	**Lagarto - SE**	**130.54**	**122**	*e*P	**PKPdf**	**08 06 60.0**	**-0.3**
NBLA	**Lagarto - SE**	**130.54**	**122**	*e*P	**PKPdf**	**08 06 60.0**	**-0.3**
ASHO	**Ashiyiah**	**130.56**	**288**	*i* PKiKP	**PKPdf**	**08 07 00.3**	**+0.2**
	SNR=7.2						
NBPS	**Pedro II - PI**	**130.74**	**112**	*e*P	**PKiKP**	**08 07 01.7**	**0.0**
NBPS	**Pedro II - PI**	**130.74**	**112**	*e*P	**PKiKP**	**08 07 01.7**	**0.0**
ALNE	**Al Ain**	**130.82**	**287**	*i* PKiKP	**PKPdf**	**08 07 00.9**	**+0.4**
	SNR=5.6						
SOCY	**Socotra**	**131.00**	**271**		**PKPdf**	**08 07 00.9**	**-0.3**
ASUD	**Al Ashush, Dub**	**131.22**	**288**	PKiKP	**PKiKP**	**08 07 02.2**	**0.0**
NBTA	**Tacaratu-PE**	**131.33**	**119**	*e*P	**PKiKP**	**08 07 02.6**	**-0.2**
NBTA	**Tacaratu-PE**	**131.33**	**119**	*e*P	**PKiKP**	**08 07 02.6**	**-0.2**
NBMA	**Muriti-CE**	**131.65**	**117**	*e*P	**PKiKP**	**08 07 03.8**	**+0.3**
NBMA	**Muriti-CE**	**131.65**	**117**	*e*P	**PKiKP**	**08 07 03.8**	**+0.3**
NBPB	**Pedra_Branca-C**	**131.84**	**114**	*e*P	**PKiKP**	**08 07 03.8**	**0.0**
NBPB	**Pedra_Branca-C**	**131.84**	**114**	*e*P	**PKiKP**	**08 07 03.8**	**0.0**
WHFO	**Wadi Hawf**	**132.16**	**279**	P	**PKiKP**	**08 07 04.0**	**-0.4**
	SNR=5.4						
NSS	**Namsos**	**132.32**	**355**	*e*PKPdf	**PKPdf**	**08 07 01.8**	**-0.3**
NSS				*e*SKPdf	**SKPab**	**08 09 57.5**	**+2.6**
NSS				*e*SS	**SS**	**08 26 39.6**	**+2.7**
NBMO	**Morrinhos-CE**	**132.47**	**111**	*e*P	**PKiKP**	**08 07 06.2**	**+1.1**
NBMO	**Morrinhos-CE**	**132.47**	**111**	*e*P	**PKiKP**	**08 07 06.2**	**+1.1**
NBAN	**Anadia - AL**	**132.51**	**121**	*e*P	**PKPdf**	**08 07 04.4**	**+0.4**
NBAN	**Anadia - AL**	**132.51**	**121**	*e*P	**PKPdf**	**08 07 04.4**	**+0.4**
FINES	**FINESS Array B**	**132.94**	**345**	PKIKP	**PKPdf**	**08 07 03.3**	**-0.1**
FINES	**FINESS Array B**	**132.94**	**345**	PKhKP	PKPpre	08 06 51.6	
	comp=Z,3.6nm,0.6s,baz=90,slow=3.8,SNR=6.9						
FINES				PKP	**PKPdf**	**08 07 03.8**	**+0.5**
	comp=Z,54nm,1.0s,baz=31,slow=3.6,SNR=29						
FINES				SKPbc	**SKPab**	**08 09 58.0**	**+0.2**
	comp=Z,46nm,0.9s,baz=46,slow=5.5,SNR=13						
FINES	**FINESS Array B**	**132.94**	**345**	PKPdf	**PKPdf**	**08 07 03.3**	**-0.1**
NBLI	**Livramento-PB**	**133.19**	**118**	*e*P	**PKiKP**	**08 07 06.5**	**-0.1**
NBLI	**Livramento-PB**	**133.19**	**118**	*e*P	**PKiKP**	**08 07 06.5**	**-0.1**
PUL	**Pulkovo**	**133.20**	**342⇑**	*i* PKIKP	**PKiKP**	**08 07 05.0**	**-0.1**
MOS	**Moscow**	**133.58**	**334**	*i* PKIKP	**PKiKP**	**08 07 05.6**	**-0.4**
MOS				*e*		08 08 35.6	
MOS				pmax	pmax		
	comp=Z,78nm,1.3s						
NBCL	**Cascavel-CE**	**133.60**	**113**	*e*P	**PKiKP**	**08 07 07.4**	**0.0**
NBCL	**Cascavel-CE**	**133.60**	**113**	*e*P	**PKiKP**	**08 07 07.4**	**0.0**
TBLU	**Trondheim**	**133.72**	**356**	*e*PKPdf	**PKPdf**	**08 07 03.9**	**-0.8**
TBLU				*e*SKPdf	**SKPab**	**08 10 02.2**	**+1.1**
TBLU				*e*SS	**SS**	**08 26 52.3**	**-1.4**
NBRF	**Rio Formoso -**	**134.00**	**121**	*e*P	**PKiKP**	**08 07 08.9**	**+0.8**
NBRF	**Rio Formoso -**	**134.00**	**121**	*e*P	**PKiKP**	**08 07 08.9**	**+0.8**
OBN	**Obninsk**	**134.44**	**334**	*i* PKIKP	**PKPdf**	**08 07 06.8**	**+0.5**
OBN				*i*		08 08 38.9	
OBN				pmax	pmax		
	comp=Z,117nm,1.3s						
OBN	**Obninsk**	**134.44**	**334**		**PKiKP**	**08 07 08.3**	**+0.5**
VRH	**Novokhopyorsk**	**134.46**	**327**	*e*PKIKP	**PKPdf**	**08 07 06.4**	**-0.1**
VRH				pmax	pmax		
	comp=Z,60nm,0.9s						
MOL	**Molde**	**134.55**	**357**	*e*PKPdf	**PKPdf**	**08 07 06.3**	**0.0**
MOL				*e*SKPdf	**SKPab**	**08 10 04.4**	**-0.3**
MOL				*e*SP	SKKPbc	08 19 25.2	+12
MOL				*e*SS	**SS**	**08 27 05.7**	**+2.1**
MAK	**Makhachkala**	**134.73**	**314**	*e*P	**Pdif**	**08 04 08.9**	**-1.4**
MAK				*i*		08 07 08.1	
MAK				*e*		08 08 41.6	
MAK				*e*		08 09 46.0	
MAK				*e*PPP	PPP	08 12 43.7	
MAK				*e*		08 13 44.3	
MAK				*e*SS	SS	08 27 05.4	-2.4
MAK				pmax	pmax		
	comp=Z,310nm,1.1s						
RCBR	**Riachuelo**	**134.88**	**117**	PKIKP	**PKPdf**	**08 07 08.9**	**+0.4**
RCBR	**Riachuelo**	**134.88**	**117**		**PKPdf**	**08 07 08.9**	**+0.4**
AKN	**Aaknes**	**134.97**	**358**	*e*PKPdf	**PKPdf**	**08 07 07.0**	**-0.1**
AKN				*e*SKPdf	**SKPab**	**08 10 05.1**	**-1.5**
AKN				*e*SKSdf	**SKSdf**	**08 13 40.9**	**-1.2**
AKN				*e*SS	**SS**	**08 27 12.1**	**+3.5**
DOMB	**Dombas**	**135.00**	**356**	*e*PKPdf	**PKPdf**	**08 07 07.2**	**0.0**
DOMB				*e*SKPdf	**SKPbc**	**08 10 04.0**	**+1.7**
DOMB				*e*SS	**SS**	**08 27 10.5**	**+1.4**
LPSR	**Galich'ya Gora**	**135.03**	**330**	*e*PKIKP	**PKiKP**	**08 07 08.4**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,50nm,1.1s						
AKT	**Akhty**	**135.08**	**312**	*i* PKIKP	**PKiKP**	**08 07 09.6**	**-0.1**
AKT				*e*		08 08 42.3	
AKT				*e*		08 09 46.9	
AKT				pmax	pmax		
	comp=Z,74nm,1.0s						
VSU	**Vasula**	**135.33**	**343**	*e*P	PKPdf	08 06 59.8	-8.1
VSU				IAmb	IAmb	08 07 10.5	
	comp=Z,165nm,1.0s						
VSU				*e*PP	PP	08 10 04.2	+16
FOO	**Floro**	**135.60**	**359**	*e*PKPdf	**PKPdf**	**08 07 08.6**	**+0.3**
FOO				*e*SKPdf	**SKPab**	**08 10 07.2**	**-2.2**
FOO				*e*SS	**SS**	**08 27 17.9**	**+1.9**
VSR	**Storozhevoye**	**135.76**	**328**	*e*PKIKP	**PKPdf**	**08 07 08.3**	**-0.6**
VSR				pmax	pmax		
	comp=Z,100nm,1.4s						
GROC	**Groznyy**	**135.81**	**315**	*e*PKIKP	**PKiKP**	**08 07 10.4**	**-0.6**
GROC				*e*		08 08 41.7	
GROC				*e*		08 09 54.0	
GROC				*e*		08 13 47.3	
GROC				pmax	pmax		
	comp=Z,42nm,0.6s						
NB2	**NORSAR Subarra**	**135.83**	**355**	PKP	PKPpre	08 06 57.6	
	comp=Z,25nm,1.2s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**135.83**	**355**	*e*SKPdf	**SKPdf**	**08 10 07.1**	**-1.0**
	baz=10,slow=3.2						
NOA	**NORSAR Array B**	**135.83**	**355**	PKhKP	PKPpre	08 06 57.8	
	comp=Z,6.1nm,0.9s,baz=15,slow=4.2,SNR=17						
NOA				PKP	**PKPdf**	**08 07 08.9**	**0.0**
	comp=Z,16nm,1.0s,baz=15,slow=3.6,SNR=13						
NOA				SKP		08 10 07.0	
	comp=Z,43nm,1.0s,baz=7.2,slow=2.3,SNR=26						
HYA	**Hoyanger**	**136.01**	**358**	*e*PKPdf	**PKPdf**	**08 07 09.1**	**+0.1**
HYA				*e*SKPdf	**SKPdf**	**08 10 07.9**	**-0.3**
HYA				*e*SKSdf	**SKSdf**	**08 13 43.3**	**-0.5**
HYA				*e*SS	**SS**	**08 27 20.9**	**0.0**
NC602	**NORSAR Array S**	**136.10**	**354**	*e*PKPdf	**PKPdf**	**08 07 08.5**	**-0.8**
NC602				*e*SKPdf	**SKPdf**	**08 10 07.5**	**-1.0**
NC602				*e*SS	**SS**	**08 27 22.8**	**+0.7**
SUE	**Sulen**	**136.15**	**359**	*e*SKPdf	**SKPbc**	**08 10 08.0**	**+2.2**
SUE				*e*SS	**SS**	**08 27 27.1**	**+4.6**
SKAR	**Skarslia**	**136.40**	**357**	*e*PKPdf	**PKPdf**	**08 07 09.6**	**-0.4**
SKAR				*e*SKPdf	**SKiKP**	**08 10 11.6**	**-0.4**
SKAR				*e*SS	**SS**	**08 27 27.9**	**+2.2**
ASK	**Askoy**	**136.72**	**359**	*e*PKPdf	**PKPdf**	**08 07 10.2**	**-0.2**
ASK				*e*SKPdf	**SKPbc**	**08 10 08.5**	**+0.9**
ASK				*e*SKPdf	**SKiKP**	**08 10 08.8**	**-3.7**
BER	**Bergen**	**136.81**	**359**	*ep*PKPdf	**pPKPdf**	**08 08 38.8**	**-2.2**
BER				*e*SKPdf	**SKiKP**	**08 10 10.7**	**-2.0**
BER				*e*SP	**SP**	**08 19 44.2**	**-0.6**
BER				*e*SS	**SS**	**08 27 31.7**	**+1.3**
GOF	**Gofitskoye**	**136.82**	**319⇑**	*e*PKIKP	**PKiKP**	**08 07 14.5**	**+1.5**
GOF				pmax	pmax		
	comp=Z,53nm,0.8s						
ODD1	**Odda**	**137.25**	**358**	*e*PKPdf	**PKPdf**	**08 07 09.7**	**-1.8**
ODD1				*e*SKPdf	**SKPdf**	**08 10 11.1**	**+0.5**
ODD1				*e*SP	**SP**	**08 19 48.8**	**+0.3**
KONO	**Kongsberg**	**137.34**	**355**	PKHKP	PKPpre	08 06 59.9	
KONO	**Kongsberg**	**137.34**	**355**	*e*PKPdf	**PKPdf**	**08 07 11.4**	**-0.2**
KONO				*ep*PKPdf	**pPKPdf**	**08 08 42.1**	**+0.1**
KONO				*e*SKPdf	**SKPbc**	**08 10 10.5**	**+1.0**
KONO				*e*SS	**SS**	**08 27 40.0**	**+3.3**
KONO	**Kongsberg**	**137.34**	**355**		PKPpre	08 06 59.9	
KBZ	**Khabaz**	**137.51**	**317**	PKhKP	PKPpre	08 07 04.6	
	comp=Z,5.7nm,0.9s,baz=265,slow=0.3,SNR=7.2						
KBZ				PKP	**PKiKP**	**08 07 13.8**	**-0.6**
	comp=Z,18nm,0.9s,baz=112,slow=2.4,SNR=7.8						
KBZ				SKP		08 10 12.2	
	comp=Z,44nm,1.0s,baz=200,slow=3.2,SNR=8.5						
KIV	**Kislovodsk**	**137.55**	**317**	P	**PKiKP**	**08 07 14.6**	**0.0**
	SNR=6.0						
KIV	**Kislovodsk**	**137.55**	**317**	*i* PKIKP	**PKPdf**	**08 07 13.5**	**+0.9**
KIV				*e**PP	**pPKPdf**	**08 08 42.7**	**-0.5**
KIV				*e*		08 10 07.9	
KIV				*e*PPP	PPP	08 13 03.6	
KIV				*e*		08 13 45.7	
KIV				*e*SS	SS	08 27 39.0	-2.2
KIV				pmax	pmax		
	comp=Z,86nm,1.1s						
GNI	**Garni**	**137.66**	**311**	P	**PKiKP**	**08 07 16.1**	**+1.0**
	SNR=7.8						
GNI	**Garni**	**137.66**	**311⇑**	*e*PKIKP	**PKiKP**	**08 07 14.8**	**-0.3**
BLS5	**Blasjo**	**137.74**	**358**	*e*PKPdf	**PKPdf**	**08 07 12.1**	**-0.3**
BLS5				*e*SKPdf	**SKPbc**	**08 10 11.2**	**+0.6**
BLS5				*e*SS	**SS**	**08 27 45.7**	**+4.2**
IZAR	**Zarasai**	**137.76**	**341**	IAmb	IAmb	08 07 17.4	
	comp=Z,26nm,1.0s						
IZAR				*e*PP	PP	08 10 12.6	+9.0
ISAL	**Salakas**	**137.94**	**341**	*e*P	**PKPdf**	**08 07 05.8**	**-7.0**
ISAL				IAmb	IAmb	08 07 17.7	
	comp=Z,18nm,0.9s						
ISAL				*e*PP	PP	08 10 14.3	+9.5
IDID	**Didziasalis**	**137.96**	**340**	*e*P	**PKPdf**	**08 07 06.9**	**-6.0**
IDID				*e*PP	PP	08 10 14.6	+10
KMY	**Karmoy**	**137.99**	**359**	*ep*PKPdf	**pPKPdf**	**08 08 44.0**	**+0.8**
KMY				*e*SKPdf	**SKPbc**	**08 10 11.7**	**+0.4**
IIGN	**Ignalina**	**138.10**	**341**	*e*P	**PKPdf**	**08 07 07.4**	**-5.7**
IIGN				IAmb	IAmb	08 07 18.1	
	comp=Z,30nm,0.7s						
IIGN				*e*PP	PP	08 10 14.6	+8.8
MICGM	**Minsk**	**138.25**	**339**	*e*PKP	**PKPdf**	**08 07 07.0**	**-6.4**
MICGM				*ep*PKP	**pPKPdf**	**08 08 41.0**	**-2.7**
MICGM				*e*PP	PP	08 10 15.0	+8.3
MICGM				*e*SKKS		08 16 22.0	
NACGM	**Naroch**	**138.29**	**340**	*e*PKP	PKPdf	08 07 04.0	-9.5
NACGM				PKPM

WME	**Myndd Eilian**	**143.33**	**8**	*e*P	PKPab	08 07 19.3	-0.5
WLF1	**Llynfaes**	**143.42**	**8**	*e*P	PKPab	08 07 19.0	-1.1
YRC	**Rhoscolyn**	**143.44**	**8**	*e*P	PKPab	08 07 18.9	-1.2
DIKM	**Dikmen**	**143.44 319**		⇑P	PKPbc	08 07 21.7	+0.3
DIKM	**Dikmen**	**143.44 319**		*e*P	PKPbc	08 07 21.1	-0.3
LVV	**L'vov**	**143.44 338**		*e*PKHKP	PKPab	08 07 16.0	-4.4
DARE	**Darende-Malaty**	**143.45 313**		*i* P	PKPbc	08 07 21.7	0.0
YLL	**Llanberis**	**143.60**	**8**	*e*P	PKPab	08 07 20.7	-0.2
LBWR	**Ladybower, Pea**	**143.61**	**5**	*e*P	PKPbc	08 07 21.2	-0.3
KIS	**Kishinev**	**143.63 330**		⇑/PKP	PKPbc	08 07 22.0	+0.2
	comp=Z,1μm,3.0s						
KIS				*i* pPKP	pPKPdf	08 08 46.0	-8.0
KIS	**Kishinev**	**143.63 330**		*e*PP	**pPKPdf**	**08 08 48.0**	**-6.0**
KIS				*i* SKP		08 10 36.0	
KIS	**Kishinev**	**143.63 330**		⇑/PKIKP	PKPbc	08 07 22.0	+0.2
KIS				*e*		08 08 48.0	
KIS				*e*		08 09 28.0	
KIS				*i*		08 10 36.0	
KIS				*e*		08 23 24.0	
KIS				pmax	pmax		
	comp=Z,1μm,3.0s						
KIS				pmax	pmax		
	comp=Z,2μm,12.0s						
MILM	**Milestii Mici**	**143.69 330**		⇓P	**PKPdf**	**08 07 22.8**	**-0.7**
RUE	**Ruedersdorf**	**143.83 349**		*e*P	PKPbc	08 07 22.3	+0.2
STNC	**Stoke**	**143.87**	**6**	*e*P	PKPbc	08 07 22.1	-0.2
IWEX	**Carrickbyrne,**	**143.94**	**11**	*e*P	PKPab	08 07 21.4	-0.8
LLW	**Llanuwychllyn**	**143.95**	**7**	*e*P	PKPab	08 07 21.4	-0.8
FOEL	**Foel Wylfa**	**143.96**	**7**	*e*P	PKPab	08 07 22.0	-0.3
IAS	**Iasi**	**144.07 332**		⇑PKIKP	**PKPdf**	**08 07 24.6**	**+0.5**
IAS	**Iasi**	**144.07 332**		⇑P	**PKPdf**	**08 07 24.6**	**+0.5**
KWP	**Kalwaria Pacla**	**144.07 339**		*e*PKIKP	PKPbc	08 07 23.3	+0.3
KWP				*e*		08 08 55.3	
KWP	**Kalwaria Pacla**	**144.07 339**		*e*PKP	PKPbc	08 07 23.3	+0.3
KWP				*e*PKP	PKPbc	08 07 23.3	+0.3
KWP				*ep*PKP	pPKPdf	08 08 55.3	+0.8
KWP				*ep*PKP	pPKPdf	08 08 55.3	+0.8
CWF	**Charnwood Fore**	**144.30**	**5**	*e*P	**PKPab**	**08 07 23.0**	**-0.5**
HLM1	**Long Mynd**	**144.37**	**7**	*e*P	**PKPab**	**08 07 23.7**	**-0.1**
VASR	**Vaslui**	**144.37 331**		⇑P	**PKPdf**	**08 07 25.4**	**+0.7**
YOZ	**Yozgat**	**144.44 316**		*e*P	PKPbc	08 07 24.6	-0.1
WACR	**West Acre**	**144.44**	**3**	*e*P	PKPbc	08 07 23.1	-0.9
BNN	**Bunyan**	**144.46 314**		*i* P	**PKPdf**	**08 07 25.1**	**-0.1**
OJC	**Ojcow**	**144.50 342**		*e*PKIKP	**PKPab**	**08 07 24.5**	**+0.1**
OJC				*e*SS	SS	08 28 55.4	-4.5
OJC	**Ojcow**	**144.50 342**		*e*PKP	**PKPab**	**08 07 24.4**	**+0.1**
OJC				*e*PKP	**PKPab**	**08 07 24.4**	**+0.1**
OJC				*e*PP	**SKPbc**	**08 10 30.7**	**+2.4**
OJC				*e*PP	**SKPbc**	**08 10 30.7**	**+2.4**
OJC				*e*SS	**SS**	**08 28 55.4**	**-4.5**
OJC				*e*SS	**SS**	**08 28 55.4**	**-4.5**
OJC				*e*		08 31 36.7	
OJC				*e*		08 31 36.7	
PRAR	**RASCA**	**144.53 333**		⇑P	**PKPdf**	**08 07 25.2**	**+0.3**
RSBS	**Rosebush, Pemb**	**144.68**	**9**	*e*P	PKPbc	08 07 24.2	-0.6
PCED	**Cedros**	**144.69**	**46**	*e*PKP	**PKPab**	**08 07 26.4**	**+0.9**
CALA	**Caldeira**	**144.72**	**46**	*e*PKP	**PKPab**	**08 07 26.8**	**+1.1**
AAE	**Adis Abeba**	**144.74 261**		*i* P	**PKPab**	**08 07 28.3**	**+1.5**
BURAR	**Bucovina Array**	**144.76 334**		⇓PKIKP	**PKPab**	**08 07 25.8**	**+0.2**
BURAR	**Bucovina Array**	**144.76 334**		⇓P	**PKPab**	**08 07 25.8**	**+0.2**
BURAR	**Bucovina Array**	**144.76 334**			**PKPab**	**08 07 25.6**	**0.0**
FURI	**Furi**	**144.79 261**		*i* P	**PKiKP**	**08 07 29.2**	**-1.4**
HOR	**Horta**	**144.79**	**46**	*e*PKP	PKPbc	08 07 25.2	-0.4
KOLS	**Kolonicke sedl**	**144.82 338**		*e*PKIKP	**PKPab**	**08 07 26.5**	**+0.9**
KOLS	**Kolonicke sedl**	**144.82 338**		*e*PKP	**PKPab**	**08 07 26.5**	**+0.9**
MCH1	**Michaelchurch**	**144.87**	**7**	*e*P	**PKPdf**	**08 07 24.9**	**-0.4**
KSP	**Ksiaz**	**144.87 346**		*e*PKIKP	**PKPab**	**08 07 26.6**	**+0.9**
KSP				*e*		08 08 55.0	
KSP				*e*SS	SS	08 29 03.2	-0.7
KSP	**Ksiaz**	**144.87 346**		*e*PKP	**PKPab**	**08 07 26.6**	**+0.9**
KSP				*e*PKP	**PKPab**	**08 07 26.6**	**+0.9**
KSP				*ep*PKP	**pPKPdf**	**08 08 55.0**	**-0.8**
KSP				*ep*PKP	**pPKPdf**	**08 08 55.0**	**-0.8**
KSP				*e*PP	**SKPbc**	**08 10 32.1**	**+3.0**
KSP				*e*PP	**SKPbc**	**08 10 32.1**	**+3.0**
KSP				*e*SS	**SS**	**08 29 03.2**	**-0.7**
KSP				*e*SS	**SS**	**08 29 03.2**	**-0.7**
KSP				*e*		08 31 37.1	
KSP				*e*		08 31 37.1	
KURC	**Kurucasile-Bar**	**144.89 321**		P	**PKPdf**	**08 07 25.7**	**0.0**
BIZ	**Bicaz**	**144.91 333**		⇓P	**PKPab**	**08 07 26.9**	**+0.8**
PCAN	**Candelaria**	**144.92**	**46**	*e*PKP	**PKPab**	**08 07 26.6**	**+0.2**
TLCR		**144.93 328**		⇓PKIKP	**PKPab**	**08 07 26.8**	**+0.7**
TLCR		**144.93 328**		⇓P	**PKPab**	**08 07 26.8**	**+0.7**
PICO	**Pico**	**144.94**	**46**	*e*PKP	**PKPab**	**08 07 27.0**	**+0.4**
ROSA	**Rosais**	**144.97**	**46**	*e*PKP	**PKPab**	**08 07 27.2**	**+0.6**
PGRA	**Graciosa**	**144.99**	**45**	*e*PKP	**PKPab**	**08 07 26.5**	**-0.1**
TESR	**Tescani**	**145.00 332**		⇑P	PKPbc	08 07 25.9	-0.1
MONM	**Monmouth**	**145.04**	**7**	*e*P	**PKPbc**	**08 07 25.8**	**-0.1**
CANT	**Cankiri**	**145.05 318**		*e*P	**PKPab**	**08 07 26.9**	**0.0**
NIE	**Niedzica**	**145.06 341**		*e*PKIKP	**PKPab**	**08 07 26.7**	**+0.1**
NIE				*e*		08 08 56.2	
NIE				*e*		08 09 40.5	
NIE				*e*SS	SS	08 29 12.1	+5.8
NIE	**Niedzica**	**145.06 341**		*e*PKP	**PKPab**	**08 07 26.7**	**+0.1**
NIE				*e*PKP	**PKPab**	**08 07 26.7**	**+0.1**
NIE				*ep*PKP	**pPKPdf**	**08 08 56.2**	**-0.1**
NIE				*ep*PKP	**pPKPdf**	**08 08 56.2**	**-0.1**
NIE				*es*PKP		08 09 40.5	
NIE				*es*PKP		08 09 40.5	
NIE				*e*SS	**SS**	**08 29 12.1**	**+5.8**
NIE				*e*SS	**SS**	**08 29 12.1**	**+5.8**
NIE				*e*		08 31 45.1	
NIE				*e*		08 31 45.1	
UZH	**Uzhgorod**	**145.06 338**		*e*PKHKP	**PKPdf**	**08 07 21.2**	**-4.5**
UZH				*e*		08 07 26.5	
RAC	**Raciborz**	**145.08 343**		*e*PKIKP	**PKPab**	**08 07 26.8**	**+0.2**
RAC				*e*		08 08 57.6	
CLL	**Collm**	**145.10 350**		*e*PKIKP	**PKPab**	**08 07 27.0**	**+0.4**
CLL				*i*		08 08 56.4	
CLL				pmax	pmax		
	comp=Z,827nm,1.0s						
CLL	**Collm**	**145.10 350**		*e*PKPbc	**PKPab**	**08 07 27.0**	**+0.4**
	comp=Z,827nm,1.0s						
CLL				*i* pPKPdf	**pPKPdf**	**08 08 56.4**	**+0.2**
CLL				*i*		08 09 11.8	
	comp=Z,254nm,1.5s						
CLL				*e*PP	PP	08 10 36.0	-12
CLL				*ep*PP		08 12 11.0	
CLL				*e*SKKSac	SKKSac	08 17 08.0	+5.4
CLL				*e*SS	**SS**	**08 29 00.0**	**-6.3**
CLL				*es*SS		08 31 36.0	
CLL				*e*SSS	SSS	08 34 42.0	
CLL	**Collm**	**145.10 350**			**PKPab**	**08 07 26.6**	**0.0**
PMAN	**Manadas**	**145.11**	**46**	*e*PKP	**PKPdf**	**08 07 26.1**	**-0.1**
CHVC	**Chvalec**	**145.16 346**		*e*PKP	**PKPbc**	**08 07 26.6**	**+0.2**
CHVC				*ep*PKP	**pPKPdf**	**08 08 57.1**	**+0.8**
STRD	**Stroud**	**145.17**	**6**	*e*P	**PKPbc**	**08 07 26.4**	**+0.1**
WTSB	**Winterswijk**	**145.17 356**		*e*PKP	**PKPab**	**08 07 26.8**	**-0.1**
WTSB				*ep*PKP	**pPKPdf**	**08 08 56.4**	**+0.1**
JURR	**Jurilovca**	**145.19 328**		⇑P	**PKPab**	**08 07 27.6**	**+0.4**
UPC	**Upice**	**145.25 346**		*e*PKP2	**PKPab**	**08 07 27.2**	**0.0**
UPC				*e*SS	SS	08 29 05.7	-2.5
UPC	**Upice**	**145.25 346**		*e*PKP	**PKPab**	**08 07 27.2**	**0.0**
UPC				*ep*PKP	**pPKPdf**	**08 08 56.5**	**0.0**
UPC				*e*SS	SS	08 29 05.7	-2.5
OLDB	**Oldbury-Upon-S**	**145.25**	**7**	*e*P	**PKPdf**	**08 07 26.2**	**+0.2**
CFR	**Carcaliu**	**145.27 329**		⇓PKP2	**PKPab**	**08 07 27.3**	**-0.1**
CFR	**Carcaliu**	**145.27 329**		⇓P	**PKPab**	**08 07 27.3**	**-0.1**
PETR	**Petresti**	**145.31 330**		⇓P	**PKPab**	**08 07 28.5**	**+0.9**
DPC	**Dobruska-Polom**	**145.32 346**		*e*PKP2	**PKPbc**	**08 07 27.1**	**+0.2**
DPC				*e*SS	SS	08 29 07.8	-1.3
DPC	**Dobruska-Polom**	**145.32 346**		*e*PKP	**PKPbc**	**08 07 27.1**	**+0.2**
DPC				*ep*PKP	pPKPbc	08 08 55.8	+0.1
DPC				*e*SKKS		08 17 03.1	
DPC				*e*SS	**SS**	**08 29 07.8**	**-1.3**
OKC	**Ostrava-Krasne**	**145.32 343**		*e*PKP2	**PKPab**	**08 07 27.7**	**+0.2**
OKC	**Ostrava-Krasne**	**145.32 343**		*e*PKP	**PKPab**	**08 07 27.7**	**+0.2**
OKC				*ep*PKP	**pPKPdf**	**08 08 56.7**	**+0.1**
BRG	**Berggiesshubel**	**145.34 348**		⇓/PKP	**PKPbc**	**08 07 27.1**	**+0.3**
	comp=Z,611nm,1.1s						
BRG	**Berggiesshubel**	**145.34 348**		*i* PKP	**PKiKP**	**08 07 33.6**	**+3.3**
	comp=Z,182nm,1.1s						
BRG				pPKP	pPKPab	08 08 55.0	-0.1
BRG				SS	SS	08 29 03.0	-6.1
	comp=N,917nm,18.9s						
	comp=E,590nm,16.7s						
	comp=Z,666nm,14.0s						
BRG	**Berggiesshubel**	**145.34 348**		⇓/PKP2	**PKPbc**	**08 07 27.1**	**+0.3**
BRG				SS	SS	08 29 03.0	-6.1
BRG				pmax	pmax		
	comp=Z,611nm,1.2s						
BRG				MLR	MLR		
	comp=N,917nm,18.9s						
BRG				MLR	MLR		
	comp=E,590nm,16.7s						
BRG				MLR	MLR		
	comp=Z,666nm,14.0s						
TOPG	**Topolog**	**145.36 328**		⇓P	**PKPab**	**08 07 27.8**	**0.0**
TOPG	**Topolog**	**145.36 328**		⇑P	pPKPdf	08 08 58.7	+1.7
ODBI	**Odobesti**	**145.37 330**		⇑P	**PKiKP**	**08 07 29.7**	**-0.8**
CEYT	**Ceyhan**	**145.37 311**		*i* P	**PKPab**	**08 07 28.4**	**+0.3**
TRPA	**Tarpa**	**145.40 337**		⇓P	**PKPab**	**08 07 28.0**	**+0.2**
TRPA	**Tarpa**	**145.40 337**		⇓P	pPKPdf	08 08 58.1	+1.3
BMR	**Baia Mare**	**145.41 336**		⇓PKP2	**PKPab**	**08 07 28.1**	**+0.2**
BMR	**Baia Mare**	**145.41 336**		⇓P	**PKPab**	**08 07 28.1**	**+0.2**
VRI	**Vrincioaia**	**145.44 331**		⇑PKP2	**PKPbc**	**08 07 27.5**	**+0.1**
VRI	**Vrincioaia**	**145.44 331**		⇑P	**PKPbc**	**08 07 27.5**	**+0.1**
VRI	**Vrincioaia**	**145.44 331**		⇑P	pPKPdf	08 08 57.8	+0.8
VRI	**Vrincioaia**	**145.44 331**		*e*P	**PKPab**	**08 07 27.9**	**-0.3**
KRLC	**Kraliky**	**145.46 345**		*e*PKP2	**PKPbc**	**08 07 27.2**	**-0.1**
KRLC				*e*SS	SS	08 29 07.9	-2.8
KRLC	**Kraliky**	**145.46 345**		*e*PKP	**PKPbc**	**08 07 27.2**	**-0.1**
KRLC				*ep*PKP	**pPKPdf**	**08 08 57.2**	**+0.3**
KRLC				*e*SS	SS	08 29 07.9	-2.8
SWN1	**Swindon**	**145.47**	**6**	*e*P	**PKPbc**	**08 07 27.1**	**-0.1**
PLOR	**Plostina**	**145.49 331**		⇓PKP2	**PKPbc**	**08 07 27.9**	**+0.3**
PLOR	**Plostina**	**145.49 331**		⇓P	**PKPbc**	**08 07 27.9**	**+0.3**
BR131	**Keskin Array S**	**145.51 317**		P	**PKPdf**	**08 07 27.4**	**+0.3**
	SNR=204						
BRTR	**Keskin Array B**	**145.51 317**		PKIKP	**PKPdf**	**08 07 26.8**	**-0.2**
BRTR	**Keskin Array B**	**145.51 317**		PKPbc	**PKPab**	**08 07 28.5**	**-0.2**
	comp=Z,348nm,1.1s,baz=140,slow=3.4,SNR=111						
BRTR				pPKPbc	**pPKPdf**	**08 08 57.6**	**0.0**
	comp=Z,84nm,1.0s,baz=109,slow=1.7,SNR=8.8						
BRTR	**Keskin Array B**	**145.51 317**		*i* P	**PKPbc**	**08 07 28.3**	**+0.4**
BRTR	**Keskin Array B**	**145.51 317**			**PKPdf**	**08 07 26.8**	**-0.2**
MORC	**Moravsky Berou**	**145.54 344**		⇑PKP2	**PKPbc**	**08 07 27.6**	**+0.1**
MORC	**Moravsky Berou**	**145.54 344**		⇑P	**PKPbc**	**08 07 27.6**	**+0.1**
MORC	**Moravsky Berou**	**145.54 344**		*e*PKP	**PKPdf**	**08 07 25.9**	**-0.7**
MORC				*e*		08 08 57.8	
ARCR	**ARCALIA**	**145.54 335**		⇓P	**PKPab**	**08 07 28.8**	**+0.3**
PVCC	**Panska Ves**	**145.54 347**		*e*PKP2	**PKPbc**	**08 07 27.7**	**+0.2**
PVCC				*e*SS	SS	08 29 09.4	-2.0
PVCC	**Panska Ves**	**145.54 347**		*e*PKP	**PKPbc**	**08 07 27.7**	**+0.2**
PVCC				*ep*PKP	pPKPab	08 08 54.8	-1.0
PVCC				*e*SS	SS	08 29 09.4	-2.0
LANS	**Liptovska Anna**	**145.55 341**		*e*PKP2	**PKPab**	**08 07 29.4**	**+0.9**
LANS	**Liptovska Anna**	**145.55 341**		*e*PKP	**PKPab**	**08 07 29.4**	**+0.9**
LANS				*e*		08 08 59.1	
TIRR	**Tirgusor**	**145.64 328**		⇑PKP2	**PKPbc**	**08 07 27.9**	**0.0**
TIRR	**Tirgusor**	**145.64 328**		⇑P	**PKPbc**	**08 07 27.9**	**0.0**
TIRR	**Tirgusor**	**145.64 328**		⇑P	**PKPbc**	**08 07 27.9**	**0.0**
TIRR	**Tirgusor**	**145.64 328**		⇑P	pPKPdf	08 08 59.0	+1.5
HTL	**Hartland**	**145.65**	**9**	*e*P	**PKPdf**	**08 07 26.1**	**-0.5**
ADH	**Angra Heroismo**	**145.69**	**45**	*e*PKP	**PKPbc**	**08 07 28.4**	**+0.1**
GRER		**145.69 330**		⇓P	**PKiKP**	**08 07 31.1**	**-0.1**
OZUR		**145.70 332**		⇑P	**PKPab**	**08 07 29.4**	**+0.2**
OZUR		**145.70 332**		⇓P	pPKPdf	08 09 00.4	+3.0
HARR	**Harsova**	**145.72 328**		⇓PKP2	**PKPbc**	**08 07 28.5**	**+0.3**
HARR	**Harsova**	**145.72 328**		⇓P	**PKPbc**	**08 07 28.5**	**+0.3**
WOL	**Wolverton**	**145.72**	**5**	*e*P	**PKPbc**	**08 07 27.4**	**-0.5**
TLB	**Topalu**	**145.74 328**		⇓PKP2	**PKPab**	**08 07 29.4**	**+0.1**
TLB	**Topalu**	**145.74 328**		⇓P	**PKPab**	**08 07 29.4**	**+0.1**
TLB	**Topalu**	**145.74 328**		⇑P	pPKPdf	08 08 59.6	+2.0
KARA	**Karaisali**	**145.76 312**		*i* P	**PKPab**	**08 07 29.4**	**-0.3**
EFOR	**EFORIE**	**145.79 327**		⇑P	**PKiKP**	**08 07 31.3**	**-0.1**
EFOR	**EFORIE**	**145.79 327**		⇓P	pPKPdf	08 09 00.8	+3.1
YAYX	**Yaylak**	**145.80 316**		*e*P	**PKPbc**	**08 07 28.4**	**-0.4**
KECS	**Kecovo**	**145.81 340**		*e*PKP2	**PKPab**	**08 07 29.9**	**+0.4**
KECS	**Kecovo**	**145.81 340**		*e*PKP	**PKPab**	**08 07 29.9**	**+0.4**
KECS				*e*		08 08 59.4	
KRTS	**Karatas**	**145.83 311**		*i* P	**PKPab**	**08 07 29.9**	**0.0**
SHEL	**Horse Pasture**	**145.85 164**		PKIKP	**PKPbc**	**08 07 29.0**	**-0.4**
SHEL	**Horse Pasture**	**145.85 164**			**PKPbc**	**08 07 29.0**	**-0.4**
LODK	**Lodwar**	**145.87 250**		P	**PKPbc**	**08 07 29.9**	**+0.3**
	SNR=64						
SERE	**Sereflikochisa**	**145.96 316**		*i* P	**PKPbc**	**08 07 29.7**	**+0.4**
DOPR	**Dopca**	**145.98 332**		⇓P	**PKPab**	**08 07 30.4**	**+0.2**
DOPR	**Dopca**	**145.98 332**		⇑P	pPKPdf	08 09 00.9	+3.0
ANTO	**Ankara**	**145.98 318**		P	**PKPdf**	**08 07 28.4**	**+0.7**
	SNR=130						
ANTO	**Ankara**	**145.98 318**		⇓PKIKP	**PKPbc**	**08 07 28.7**	**-0.5**
ANTO	**Ankara**	**145.98 318**		⇓P	**PKPbc**	**08 07 28.7**	**-0.5**
ANTO	**Ankara**	**145.98 318**			**PKPdf**	**08 07 28.0**	**+0.3**
LOD	**Lodumlu**	**145.99 318**		*i* P	**PKPbc**	**08 07 29.3**	**+0.1**
KDZE	**Karadeniz Ereo**	**145.99 321**		⇑P	**PKPab**	**08 07 30.2**	**-0.3**
MANR	**Mangalia**	**146.00 327**		⇓P	**PKPbc**	**08 07 29.3**	**+0.3**
MANR	**Mangalia**	**146.00 327**		⇑P	pPKPdf	08 09 00.9	+2.8
PRA	**Prague**	**146.00 347**		*e*PKP2	**PKPbc**	**08 07 29.1**	**+0.3**
PRA	**Prague**	**146.00 347**		*e*PKP	**PKPbc**	**08 07 29.1**	**+0.3**
PRA				*ep*PKP	pPKPab	08 08 57.0	-0.5
ELSH	**Elham, Standar**	**146.04**	**3**	*e*P	**PKPbc**	**08 07 28.6**	**-0.3**
PRU	**Pruhonice**	**146.06 347**		*e*PKIKP	**PKPdf**	**08 07 28.2**	**+0.8**
PRU				*e*		08 08 57.5	
PRU				*e*SS	SS	08 29 15.7	-1.6
PRU	**Pruhonice**	**146.06 347**		*e*PKP	**PKPdf**	**08 07 28.2**	**+0.8**
PRU				*ep*PKP	pPKPab	08 08 57.5	-0.2
PRU				*e*SKKS		08 17 09.4	
PRU				*e*SS	**SS**	**08 29 15.7**	**-1.6**
AMRR	**Amara**	**146.07 329**		⇑PKP2	**PKiKP**	**08 07 34.7**	**+2.8**
AMRR	**Amara**	**146.07 329**		⇑P	**PKiKP**	**08 07 34.7**	**+2.8**
AMRR	**Amara**	**146.07 329**		⇑P	pPKPdf	08 09 05.6	+7.4
GOPC	**GO Pecny, Ondr**	**146.08 347**		*e*PKIKP	**PKPdf**	**08 07 28.0**	**+0.5**
GOPC				*e*		08 08 56.9	
GOPC	**GO Pecny, Ondr**	**146.08 347**		*e*PKP	**PKPdf**	**08 07 28.0**	**+0.5**
GOPC				*ep*PKP	pPKPab	08 08 56.9	-0.9
GOPC				*e*SKKS		08 17 08.3	
ISR	**Istrita**	**146.09 330**		⇑PKP2	**PKPab**	**08 07 30.7**	**0.0**
ISR	**Istrita**	**146.09 330**		⇑P	**PKPab**	**08 07 30.7**	**0.0**
ISR	**Istrita**	**146.09 330**		⇑P	pPKPdf	08 09 00.5	+2.4
MLR	**Muntele Rosu**	**146.09 331**		⇓PKIKP	**PKPdf**	**08 07 28.1**	**+0.3**
MLR	**Muntele Rosu**	**146.09 331**		⇓P	**PKPdf**	**08 07 28.1**	**+0.3**
MLR	**Muntele Rosu**	**146.09 331**		⇓P	pPKPdf	08 08 59.9	+1.7
CJR	**Cluj-Napoca**	**146.15 335**		⇑PKP2	**PKPbc**	**08 07 30.1**	**+0.7**
CJR	**Cluj-Napoca**	**146.15 335**		⇑P	**PKPbc**	**08 07 30.1**	**+0.7**
CJR	**Cluj-Napoca**	**146.15 335**		⇓P	pPKPdf	08 08 59.0	+0.7
ICOR	**Ion Corvin**	**146.19 328**		⇓P	**PKPbc**	**08 07 30.2**	**+0.7**
ICOR	**Ion Corvin**	**146.19 328**		⇓P	pPKPdf	08 09 01.4	+3.0
VRAC	**Vranov**	**146.22 345**		⇓PKIKP	**PKPbc**	**08 07 28.9**	**-0.6**
VRAC	**Vranov**	**146.22 345**		⇓P	**PKPbc**	**08 07 28.9**	**-0.6**
VRAC	**Vranov**	**146.22 345**		*e*PKP	**PKPdf**	**08 07 28.5**	**+0.8**
VRAC				*e*		08 09 00.1	
NKC	**Novy Kostel**	**146.23 350**		*e*PKIKP	**PKPdf**	**08 07 28.4**	**+0.7**
NKC				*e*		08 08 57.5	
NKC				*e*SS	SS	08 29 13.4	-5.8
NKC	**Novy Kostel**	**146.23 350**		*e*PKP	**PKPdf**	**08 07 28.4**	**+0.7**
NKC				*ep*PKP	**pPKPdf**	**08 08 57.5**	**-0.7**
NKC				*e*SS	SS	08 29 13.4	-5.8
HMNX	**Herstmonceux**	**146.28**	**4**	*e*P	**PKPbc**	**08 07 30.2**	**+0.7**
KULU	**Kulu**	**146.29 316**		*e*P	**PKPbc**	**08 07 29.8**	**-0.4**
PSN	**Preselentsi**	**146.30 327**		P	**PKPbc**	**08 07 30.0**	**+0.1**
MERS	**Mersin**	**146.31 312**		*e*P	**PKPbc**	**08 07 30.0**	**-0.3**
CCA1	**Carnmenellis**	**146.32**	**10**	*e*P	**PKPbc**	**08 07 29.4**	**-0.3**
ASF	**Jabal al Asfar**	**146.32 303**		PP	PP	08 10 57.6	+0.9
	comp=Z,19nm,1.1s,baz=54,slow=2.8,SNR=4.2						
VYHS	**Vyhne**	**146.33 341**		*e*PKIKP	**PKPdf**	**08 07 28.2**	**+0.2**
VYHS				*e*		08 07 31.4	
VYHS				*e*		08 09 00.5	
VYHS	**Vyhne**	**146.33 341**		*e*PKP	**PKPdf**	**08 07 28.2**	**+0.2**
VYHS				*e*		08 07 31.3	
VYHS				*e*		08 09 00.5	
JAVC	**Velka Javorina**	**146.34 343**		*e*PKP	**PKPbc**	**08 07 29.8**	**-0.1**
JAVC				*e*		08 09 01.9	
HWQ	**Hawqa**	**146.34 307**		*e*P	**PKPbc**	**08 07 30.8**	**+0.3**
KALB	**Balgarevo**	**146.37 326**		⇓P	**PKiKP**	**08 07 32.2**	**-0.4**
KALB	**Balgarevo**	**146.37 326**		⇑P	pPKPdf	08 09 02.0	+3.3
SECR		**146.37 331**		⇓P	**PKPbc**	**08 07 30.8**	**+0.7**
KOLL	**Kolacno**	**146.38 342**		*e*PKP	**PKPbc**	**08 07 29.4**	**-0.6**
KOLL				*e*		08 07 32.3	
KOLL				*e*		08 09 01.8	
YUVA	**Yuva-Kibriscik**	**146.39 319**		*i* P	**PKPdf**	**08 07 29.3**	**+0.9**
HGN	**Heimansgroeve**	**146.42 357**		*e*PKP	**PKPdf**	**08 07 27.6**	**-0.3**
HGN				*ep*PKP	pPKPab	08 08 59.4	+0.1
HGN				*e*PP	PP	08 12 19.1	+84
LEHL	**Lehliu**	**146.43 329**		⇓P	**PKPab**	**08 07 32.3**	**+0.3**
DRGR		**146.44 336**		⇑PKP2	**PKPbc**	**08 07 30.5**	**+0.2**
DRGR		**146.44 336**		⇑P	**PKPbc**	**08 07 30.5**	**+0.2**
DRGR		**146.44 336**		⇑P	pPKPdf	08 09 01.6	+2.8
PBCC	**Pribram**	**146.46 348**		*e*PKP	**PKPdf**	**08 07 28.8**	**+0.7**
PBCC				*ep*PKP	pPKPbc	08 09 00.0	+0.8
KRUC	**Moravsky**	**146.49 345**		*e*PKP	**PKPdf**	**08 07 28.9**	**+0.7**
KRUC				*e*		08 09 00.5	
PSZ	**Piszkesteto**	**146.50 340**		⇓PKP2	**PKPbc**	**08 07 31.1**	**+0.7**
PSZ	**Piszkesteto**	**146.50 340**		⇓P	**PKPbc**	**08 07 31.1**	**+0.7**
TREC	**Trest**	**146.50 346**		*e*PKIKP	**PKPdf**	**08 07 28.9**	**+0.7**
TREC				*e*		08 09 00.5	
TREC				*e*SS	SS	08 29 16.6	-5.7
TREC	**Trest**	**146.50 346**		*e*PKP	**PKPdf**	**08 07 28.9**	**+0.7**
TREC				*ep*PKP	pPKPbc	08 09 00.5	+1.1
TREC				*e*SS	SS	08 29 16.6	-5.7
VOIR		**146.54 332**		⇑PKIKP	**PKPbc**	**08 07 29.7**	**-0.9**
VOIR		**146.54 332**		⇑P	**PKPbc**	**08 07 29.7**	**-0.9**
VOIR		**146.54 332**		⇓P	pPKPdf	08 09 02.7	+3.7
SULR		**146.55 330**		⇓P	**PKPbc**	**08 07 31.2**	**+0.7**
SULR		**146.55 330**		⇓P	pPKPdf	08 09 01.5	+2.7
CHBY	**Cihanbeyli**	**146.60 316**		*e*P	**PKPbc**	**08 07 30.2**	**-0.9**
MTUR	**Matau**	**146.69 332**		⇑PKP2	**PKPbc**	**08 07 32.1**	**+1.1**
MTUR	**Matau**	**146.69 332**		⇑P	**PKPbc**	**08 07 32.1**	**+1.1**
BHL	**Bhannes**	**146.71 306**		*e*P	**PKPbc**	**08 07 31.7**	**+0.2**
SMOL	**Smolenice**	**146.72 343**		*e*PKP2	**P

KCTX	Karacabey (Bur	148.48 322	*i* P	PKPbc	08 07 36.1	+0.3
MDVR	Moldovita	148.49 335	⇓P	PKPdf	08 07 31.9	+0.2
ISP	Isparta	148.58 316	P	PKPbc	08 07 35.1	-1.2
ISP	Isparta	148.58 316	⇓P	PKPbc	08 07 34.7	-1.6
ISP	Isparta	148.58 316	*i* P	PKPbc	08 07 36.5	+0.2
GEDZ	Gediz	148.60 319	*e*P	PKiKP	08 07 37.3	-0.2
EIL	Elat	148.66 299	P	PKiKP	08 07 37.6	-0.2
BFO	Black Forest	148.66 354		PKPdf	08 07 31.9	0.0
BFO			PKPbc	PKPbc	08 07 36.5	+0.5
MRMT	Marmara Adasi	148.71 323	*i* P	PKPbc	08 07 36.9	+0.5
EDC	Edincik	148.72 323	*e*P	PKiKP	08 07 37.0	-0.6
KZIT	Kziot	148.75 302	*e*P	PKiKP	08 07 38.0	+0.1
DIM	Dimitrovgrad	148.83 327	P	PKiKP	08 07 37.5	-0.2
SIMA	Simav-Kutahya	148.84 320	*e*P	PKPbc	08 07 36.6	-0.3
RKY	Sarkoy-Tekirda	148.89 324	*e*P	PKPab	08 07 40.9	-1.2
UKOP	Uzunkopru-Edir	148.89 325	*e*P	PKiKP	08 07 37.7	-0.2
FRGS	Fruska Gora	148.91 337	*e*P	PKPdf	08 07 32.2	-0.1
KOGS	Kog	148.93 343	*i* PKPbc	PKPbc	08 07 36.8	0.0
KRBG	Karabiga-Canak	149.01 323	*e*P	PKPab	08 07 41.7	-0.9
SOKA	Soboth	149.05 344	*i* PKPdf	PKPdf	08 07 32.5	-0.1
	comp=Z,27nm,1.2s,SNR=42					
SOKA			*i* PKiKP	PKPbc	08 07 37.1	0.0
	comp=Z,233nm,1.2s					
SOKA			*i* pPKiKP	pPKiKP	08 09 07.9	-0.4
	comp=Z,303nm,1.5s					
PERS	Pernice	149.07 344	*e*PKPdf	PKPdf	08 07 32.2	-0.4
PERS			*i* PKPbc	PKPbc	08 07 37.1	-0.1
PERS			*ep*PKPbc	pPKPbc	08 09 06.2	-0.6
PERS			*e*		08 09 59.1	
KBA	Koelnbreinsper	149.07 347	*i* PKPdf	PKPdf	08 07 32.2	-0.5
	comp=Z,25nm,1.1s,SNR=20					
KBA			*i* PKiKP	PKPbc	08 07 37.1	-0.2
	comp=Z,121nm,0.7s					
KBA			*ep*PKiKP	pPKiKP	08 09 07.9	-0.5
	comp=Z,188nm,1.6s					
KORT	Korkueli	149.15 315	*e*P	PKPbc	08 07 37.7	0.0
KALN	Kalnik	149.16 342	*i* P	PKPbc	08 07 37.7	+0.4
BALB	Balikesir	149.16 322	*e*P	PKiKP	08 07 38.2	-0.3
RETA	Reutte	149.17 350	*i* PKPdf	PKPdf	08 07 32.9	+0.1
	comp=Z,13nm,1.0s,SNR=33					
RETA			*i* PKiKP	PKPbc	08 07 37.8	+0.4
	comp=Z,156nm,0.8s					
RETA			*i* pPKiKP	pPKiKP	08 09 08.4	-0.1
	comp=Z,128nm,1.6s					
WATA	Walderalm	149.18 349	*i* PKPdf	PKPdf	08 07 32.8	0.0
	comp=Z,28nm,0.9s,SNR=46					
WATA			*i* PKiKP	PKPbc	08 07 37.8	+0.3
	comp=Z,399nm,1.3s					
WATA			*i* pPKiKP	pPKiKP	08 09 08.4	-0.2
	comp=Z,265nm,1.4s,SNR=6.2					
KDZ	Kurdzhali	149.18 327	P	PKPbc	08 07 37.5	0.0
KDZ	Kurdzhali	149.18 327	*e*P	PKPbc	08 07 38.0	+0.5
WTTA	Wattenberg	149.24 349	*i* PKPdf	PKPdf	08 07 33.1	+0.2
	comp=Z,29nm,0.8s,SNR=78					
WTTA			*i* PKiKP	PKiKP	08 07 38.2	-0.5
	comp=Z,230nm,0.6s					
WTTA			*i* pPKiKP	pPKiKP	08 09 08.6	-0.2
	comp=Z,395nm,1.5s					
MOTA	Moosalm	149.25 350	*i* PKPdf	PKPdf	08 07 32.9	0.0
	comp=Z,35nm,1.0s,SNR=61					
MOTA			*i* PKiKP	PKPbc	08 07 37.8	+0.1
	comp=Z,347nm,1.1s					
MOTA			*i* pPKiKP	pPKiKP	08 09 08.7	0.0
	comp=Z,210nm,1.4s					
ERIK	Erikli-Kesan	149.27 324	*e*P	PKPbc	08 07 36.5	-1.2
OBKA	Obir	149.33 345	*i* PKPdf	PKPdf	08 07 32.3	-0.7
	comp=Z,16nm,1.1s,SNR=9.4					
OBKA			*i* PKiKP	PKPbc	08 07 37.6	-0.2
	comp=Z,127nm,1.2s					
OBKA			*ep*PKiKP	pPKiKP	08 09 08.7	-0.1
	comp=Z,130nm,1.5s					
LPK	Lapseki	149.33 324	*i* P	PKPbc	08 07 37.4	-0.5
SQTA	Sankt Quirin	149.35 350	*i* PKPdf	PKPdf	08 07 33.2	+0.1
	comp=Z,37nm,0.9s,SNR=46					
SQTA			*i* PKiKP	PKiKP	08 07 38.4	-0.5
	comp=Z,280nm,1.1s					
SQTA			*i* pPKiKP	pPKiKP	08 09 08.9	0.0
	comp=Z,244nm,1.4s					
ALN	Alexandroupoli	149.37 325	*e*P	PKPbc	08 07 38.2	+0.2
KULA	Kula-Manisa	149.38 319	P	PKPbc	08 07 38.0	-0.2
KULA	Kula-Manisa	149.38 319	*e*P	PKPbc	08 07 38.4	+0.2
MYKA	Terra Mystica	149.43 346	*i* PKPdf	PKPdf	08 07 32.8	-0.4
	comp=Z,15nm,1.0s,SNR=23					
MYKA			*i* PKiKP	PKPbc	08 07 37.8	-0.2
	comp=Z,244nm,1.0s					
MYKA			*i* pPKPbc	pPKPbc	08 09 08.1	+0.4
	comp=Z,397nm,1.8s					
ASCN	Ascension	149.46 143		PKPbc	08 07 38.4	-0.5
RDO	Rodhopi	149.47 326	P	PKPdf	08 07 33.7	+0.4
RDO	Rodhopi	149.47 326	P	PKPdf	08 07 35.0	+1.7
GELI	Tayfur-Gelibol	149.48 324	*e*P	PKPbc	08 07 37.2	-1.0
DAVA	Damuels	149.50 351	*i* PKPdf	PKPdf	08 07 33.7	+0.3
	comp=Z,30nm,1.6s,SNR=52					
DAVA			*i* PKiKP	PKPbc	08 07 38.7	+0.4
	comp=Z,411nm,0.9s					
DAVA			*i* pPKiKP	pPKiKP	08 09 09.6	+0.3
	comp=Z,508nm,1.6s,SNR=8.9					
PTJ	Puntijarka	149.51 343	*i* P	PKiKP	08 07 39.0	-0.1
TEKS	Tekeris	149.54 337	*e*P	PKPbc	08 07 37.2	-1.1
VTS	Vitosha	149.54 331	P	PKPbc	08 07 38.5	0.0
VTS	Vitosha	149.54 331	⇓P	PKPdf	08 07 34.2	+0.7
VTS	Vitosha	149.54 331	⇑P	pPKPdf	08 09 10.6	+6.5
ABTA	Abfaltersbach	149.56 348	*i* PKPdf	PKPdf	08 07 33.1	-0.3
	comp=Z,79nm,1.0s,SNR=60					
ABTA			*i* PKiKP	PKPbc	08 07 38.1	-0.3
	comp=Z,475nm,1.1s					
ABTA			*i* pPKPbc	pPKPbc	08 09 08.4	+0.4
	comp=Z,370nm,1.4s,SNR=12					
ZAG	Zagreb	149.57 343	*i* P	PKiKP	08 07 39.5	+0.3
ZAG	Zagreb	149.57 343	*e*P	PKPbc	08 07 37.7	-0.6
ELL	Elmali	149.58 315	*e*P	PKiKP	08 07 41.1	+1.5
FETA	Feichten	149.63 350	*i* PKPdf	PKPdf	08 07 33.8	+0.2
	comp=Z,80nm,1.0s,SNR=62					
FETA			*i* PKiKP	PKiKP	08 07 39.2	-0.3
	comp=Z,402nm,1.0s					
FETA			*i* pPKiKP	pPKiKP	08 09 09.8	+0.2
	comp=Z,318nm,1.4s					
CRES	Cresnjev	149.72 343	*e*P	PKPdf	08 07 33.2	-0.4
DIVS	Divibare	149.74 336	*e*P	PKPdf	08 07 34.6	+0.8
LJU	Ljubljana	149.77 345	*e*PKPdf	PKPdf	08 07 34.3	+0.7
LJU			*i* PKPbc	PKiKP	08 07 39.2	-0.4
LJU			*ep*PKPbc	pPKPbc	08 09 07.6	-0.9
LJU	Ljubljana	149.77 345	*e*P	PKPdf	08 07 33.4	-0.2
DOB	Doboj	149.89 339	*e*P	PKPbc	08 07 38.5	-0.6
GADA	Gvkgeada	149.94 324	P	PKPbc	08 07 38.8	-0.6
GADA	Gvkgeada	149.94 324	*e*P	PKPbc	08 07 39.2	-0.2
EZN	Ezine	149.95 323	P	PKPbc	08 07 39.1	-0.3
EZN	Ezine	149.95 323	*e*P	PKiKP	08 07 40.0	-0.1
SMTH	Samothraki Isl	149.95 325	P	PKPbc	08 07 38.5	-0.9
DAVOX	Davos/Dischmat	149.99 351	PKPbc	PKiKP	08 07 40.2	0.0
	comp=Z,470nm,0.9s,baz=256,slow=8.3,SNR=186					
AKAS	Kas	150.06 314	*e*P	PKiKP	08 07 40.4	-0.3
CEY	Cerknica	150.08 345	*e*P	PKPdf	08 07 35.2	+1.0
MMB	Musomiste	150.09 329	P	PKPbc	08 07 39.5	-0.2
BOZC	Bozcaada	150.09 324	*e*P	PKPbc	08 07 39.9	+0.2
DKL	Dikili	150.11 322	*e*P	PKiKP	08 07 40.2	-0.2
KAVA	Kavala	150.12 327	P	PKPbc	08 07 39.4	-0.4
HAPS	Han Pijesak,BI	150.15 337	*e*P	PKPbc	08 07 39.7	-0.2
BBLS	Lazići	150.16 336	*e*P	PKPdf	08 07 34.6	+0.2
BLY	Banja Luka	150.18 340	*e*P	PKPdf	08 07 36.7	+2.4
BLY	Banja Luka	150.18 340	⇑P	PKiKP	08 07 40.2	-0.3
SSF	Saint Saulge	150.18 360	*e*PKHKP	PKPdf	08 07 34.9	+0.7
SSF			pmax	pmax		
	comp=Z,318nm,1.0s					
FETY	Fethiye	150.20 316	P	PKPbc	08 07 40.0	-0.1
FETY	Fethiye	150.20 316	*i* P	PKPbc	08 07 39.8	-0.3
NVR	Nevrokopi	150.20 328	P	PKPbc	08 07 38.8	-1.2
THAS	Thassos island	150.29 326	P	PKPdf	08 07 33.5	-1.1
PRK	Paraskevi	150.37 323	P	PKiKP	08 07 41.4	+0.4
DALY	Dalyan (Mula)	150.38 316	*e*P	PKPbc	08 07 40.6	+0.1
TURN	Turunc	150.38 316	*e*P	PKPbc	08 07 40.3	-0.2
RUDO	Rudo	150.39 336	*e*P	PKPbc	08 07 40.1	-0.2
YER	Yerkesik	150.44 317	P	PKiKP	08 07 41.1	-0.2
YER	Yerkesik	150.44 317	*e*P	PKPdf	08 07 33.0	-2.0
RIY	Rijeka	150.45 344	*i* P	PKPbc	08 07 40.5	+0.1
RIY	Rijeka	150.45 344	*e*P	PKPbc	08 07 40.4	+0.1
MFF	Saint Martin d	150.49 5	*e*PKIKP	PKPdf	08 07 35.4	+0.7
MFF			pmax	pmax		
	comp=Z,318nm,1.0s					
MGRS	Mrkonjic Grad	150.51 340	*e*P	PKiKP	08 07 41.4	+0.2
PLE	Pljevlja	150.62 336	⇓*i*PKP	PKiKP	08 07 41.8	+0.2
SIGR	SIGRI	150.63 323	P	PKPbc	08 07 40.0	-1.0
SIGR	SIGRI	150.63 323	*e*P	PKPbc	08 07 39.7	-1.3
MLSB	Milas	150.67 318	*e*P	PKiKP	08 07 42.2	+0.4
URLA	Izmir	150.75 321	*e*P	PKPbc	08 07 40.6	-0.8
STIP	Stip	150.75 331	*e*PKP	PKPdf	08 07 36.0	+0.7
STIP			*i* PKP	PKPbc	08 07 41.4	+0.2
STIP			*i* PKP	pPKPbc	08 09 11.9	+0.9
GCAM	G?zelcaml?	150.77 319	*e*P	PKiKP	08 07 42.1	+0.2
IVA	Berane	150.81 335	⇓*i*PKP	PKiKP	08 07 42.1	+0.2
UDBI	Udbina	150.82 342	*i* P	PKiKP	08 07 41.7	-0.2
SOH	Sokhos	150.84 328	P	PKPbc	08 07 39.1	-2.4
VAY	Valandovo	150.86 330	*e*PKP	PKPdf	08 07 35.7	+0.3
VAY			*i* PKP	PKiKP	08 07 41.8	-0.1
VAY			*i* PKP	pPKPbc	08 09 11.2	0.0
SKO	Skopje	150.88 332	*e*PKP	PKPdf	08 07 36.4	+0.9
SKO			*i* PKP	PKiKP	08 07 42.2	+0.2
SKO			*i* PKP	pPKPbc	08 09 13.0	+1.7
UPM	Unac-Piva	150.92 336	*e*P	PKPbc	08 07 41.3	-0.5
UPM	Unac-Piva	150.92 336	⇓*i*PKP	PKiKP	08 07 42.2	-0.1
KOME	Kolasin	150.98 335	⇓*i*PKP	PKiKP	08 07 42.4	+0.1
PVY	Plav	151.01 334	⇓*i*PKP	PKiKP	08 07 42.2	-0.2
SMG	Samos	151.01 320	P	PKPbc	08 07 40.5	-1.5
NVLJ	Novalja	151.05 343	*i* P	PKPbc	08 07 41.9	+0.1
CHOS	Chios island	151.06 321	P	PKPbc	08 07 41.9	-0.2
CHOS	Chios island	151.06 321	*e*P	PKPbc	08 07 41.4	-0.7
BODT	Bodrum	151.11 318	P	PKPbc	08 07 41.4	-0.8
BODT	Bodrum	151.11 318	*e*P	PKPbc	08 07 41.9	-0.3
PLG	Polygyros	151.13 327	P	PKPbc	08 07 40.5	-1.7
DAT	Datca	151.13 317	*e*P	PKPbc	08 07 41.8	-0.6
HORT	Hortiatis	151.14 328	P	PKPbc	08 07 40.5	-1.8
NKY	Niksic	151.22 336	⇓*i*PKP	PKiKP	08 07 42.7	-0.1
NKME	Niksic	151.27 336	⇓*i*PKP	PKiKP	08 07 42.8	0.0
BRY	Bratogost	151.32 337	*e*P	PKPbc	08 07 42.4	-0.3
BRY	Bratogost	151.32 337	⇓*i*PKP	PKPbc	08 07 42.6	-0.1
PAIG	Paliouri	151.33 326	P	PKPbc	08 07 40.8	-1.8
PDG	Podgorica	151.44 335	*e*P	PKiKP	08 07 43.0	-0.1
PDG	Podgorica	151.44 335	⇓P	PKPbc	08 07 42.3	-0.4
TTG	Podgorica	151.44 335	⇓*i*PKP	PKiKP	08 07 43.3	+0.2
MORI	Morici	151.44 341	*i* P	PKPbc	08 07 42.6	-0.1
CEME	Cevo	151.47 336	⇓*i*PKP	PKiKP	08 07 43.8	+0.5
DUGI	Dugi Otok	151.52 342	*i* P	PKPbc	08 07 42.3	-0.6
MAKA	Makarska	151.53 339	*i* P	PKPbc	08 07 42.8	-0.1
TREB	Trebinje	151.55 337	*e*P	PKPbc	08 07 42.0	-1.0
PHP	Peshkopia	151.55 333	P	PKPdf	08 07 36.6	0.0
ZIRJ	Zirje	151.65 341	*i* P	PKPbc	08 07 42.6	-0.5
STON	Ston	151.65 338	*i* P	PKPbc	08 07 42.6	-0.6
STON	Ston	151.65 338	*e*P	PKPdf	08 07 39.5	+2.9
DBRK	Dubrovnik	151.66 337	*i* P	PKPbc	08 07 43.0	-0.2
DRME	Dracevica, Mon	151.67 335	*e*P	PKPbc	08 07 43.1	-0.2
DRME	Dracevica, Mon	151.67 335	⇓*i*PKP	PKiKP	08 07 43.9	+0.3
BUM	Brajici-Budva	151.69 335	⇓*i*PKP	PKiKP	08 07 43.7	0.0
HCY	Herceg Novi	151.72 336	*e*P	PKPbc	08 07 42.8	-0.6
AOS	Alonnisos	151.77 325	P	PKPdf	08 07 36.9	0.0
LIT	Litokhoron	151.82 328	P	PKPbc	08 07 42.2	-1.5
ULC	Ulcinj	151.83 335	⇓*i*PKP	PKPbc	08 07 43.8	+0.1
FNA	Florina	151.84 330	P	PKPbc	08 07 42.5	-1.3
OHR	Ohrid	151.85 332	*e*PKP	PKPdf	08 07 37.8	+0.8
OHR			*i* PKP	PKiKP	08 07 44.9	+0.8
OHR			*i* PKP	pPKPbc	08 09 14.7	+0.9
SKIA	Skiathos	152.00 326	P	PKPbc	08 07 40.8	-3.3
XOR	Xorichti	152.00 326	P	PKPbc	08 07 42.5	-1.7
TIR	Tirane	152.08 333	⇓PKIKP	PKiKP	08 07 44.9	+0.4
TIR	Tirane	152.08 333	⇓P	PKiKP	08 07 44.9	+0.4
KARP	Karpathos	152.09 316	P	PKPbc	08 07 44.2	-0.3
KARP	Karpathos	152.09 316	*e*P	PKPbc	08 07 43.3	-1.2
APE	Apeiranthos	152.22 320	P	PKPdf	08 07 36.6	-1.1
APE	Apeiranthos	152.22 320	⇑PKIKP	PKPdf	08 07 36.0	-1.7
APE	Apeiranthos	152.22 320	⇑P	PKPdf	08 07 36.0	-1.7
APE	Apeiranthos	152.22 320	*e*P	PKPbc	08 07 44.3	-0.5
MRKA	Markates	152.26 325	P	PKPbc	08 07 43.4	-1.4
CAF	Calviac	152.29 2	*e*PKIKP	PKPdf	08 07 38.5	+0.9
CAF			pmax	pmax		
	comp=Z,92nm,1.0s					
PENT	Pentalofos	152.41 330	P	PKPbc	08 07 43.6	-1.6
ANAF	Anafi Island	152.52 318	P	PKPdf	08 07 37.7	-0.4
PTL	Penteli	152.56 323	P	PKPdf	08 07 37.7	-0.5
LKR	Lokris	152.62 325	P	PKPdf	08 07 36.3	-1.9
ATHU	Athens Univers	152.66 323	P	PKPbc	08 07 44.5	-1.2
SANT	Santorini	152.71 319	⇓P	PKPdf	08 07 38.0	-0.4
SANT	Santorini	152.71 319	⇓P	pPKPdf	08 09 15.9	+6.6
SANT	Santorini	152.71 319		PKPdf	08 07 37.3	-1.1
SANT			PKPbc	PKPbc	08 07 45.5	-0.3
SANT			PKPab	PKPab	08 07 57.4	-0.9
THR3	Thira Island,	152.72 319	P	PKPdf	08 07 38.8	+0.4
VLY	Voula,Athens	152.74 323	P	PKPbc	08 07 44.2	-1.6
VILL	Villia	152.79 324	P	PKPbc	08 07 43.0	-0.5
SERI	Serifos	152.80 321	P	PKPdf	08 07 38.3	-0.2
MAKR	Makrakomi, Fth	152.82 327	P	PKPdf	08 07 38.5	0.0
PROD	Prodromos	152.96 325	P	PKPbc	08 07 44.8	-1.5
ZKR	Zakros	152.97 316	P	PKPbc	08 07 42.8	-3.6
STIA	Sitia Lasithi	153.01 316	P	PKiKP	08 07 47.3	+0.7
LTK	Loutraki	153.09 324	P	PKPbc	08 07 44.2	-2.4
LOUT	Loutraki	153.11 324	P	PKPbc	08 07 45.3	-1.3
KALE	Kalithea	153.27 326	P	PKPdf	08 07 38.3	-0.9
NPS	Neapolis	153.29 317	P	PKiKP	08 07 47.6	+0.4
DID	Didima	153.30 323	P	PKPdf	08 07 37.4	-1.8
SERG	Sergoula	153.30 326	P	PKPdf	08 07 39.4	+0.2
EFP	Efpalio	153.37 326	P	PKPdf	08 07 38.5	-0.7
PVO	Paravola	153.43 327	P	PKiKP	08 07 48.5	+1.2
LAKA	Lakka	153.47 326	P	PKPdf	08 07 40.2	+0.7
AQU	L'Aquila	153.50 343	*e*P	PKPbc	08 07 44.7	-2.7
KLV	Kalavryta, Ach	153.52 325	P	PKPdf	08 07 39.4	-0.2
PCAB	Cabril	153.61 20	*e*PKPdf	PKPdf	08 07 40.9	+1.3
PCAB	Cabril	153.61 20	*e*PKPbc	PKPbc	08 07 47.6	0.0
PCAB	Cabril	153.61 20	*e*PKPab	PKPab	08 08 02.1	+0.3
PCAB	Cabril	153.61 20	*e*PP	PP	08 11 40.3	+3.4
PDO	Prodromos	153.62 328	P	PKPdf	08 07 40.0	+0.4
DRO	Drossia	153.82 326	P	PKPdf	08 07 39.7	-0.3
EVGI	Lefkada island	153.87 328	P	PKiKP	08 07 48.5	+0.2
RLS	Riolos of Patr	153.88 326	P	PKPdf	08 07 37.7	-2.3
VLX	Vlachokerasia	153.88 324	P	PKPbc	08 07 48.2	-0.2
SACV	Santiago Islan	153.88 91		PKPdf	08 07 40.8	+0.2
SACV			PKPbc	PKPbc	08 07 48.5	-0.4
SACV				PKPab	08 08 04.7	+0.8
PBRG	Braganca	153.92 18	*e*PKPdf	PKPdf	08 07 40.6	+0.6
PBRG	Braganca	153.92 18	*e*PKPbc	PKiKP	08 07 48.5	+0.2
PBRG	Braganca	153.92 18	*e*PKPab	PKPab	08 08 04.0	+0.9
SIVA	Sivas	153.96 317	P	PKPbc	08 07 48.5	0.0
POLO	Lamas de Olo	153.99 20	*e*PKPdf	PKPdf	08 07 40.6	+0.4
POLO	Lamas de Olo	153.99 20	*e*PKPbc	PKPbc	08 07 48.4	-0.1
POLO	Lamas de Olo	153.99 20	*e*PKPab	PKPab	08 08 04.7	+1.5
PVRL	Vila Real	154.11 20	*e*PKPdf	PKPdf	08 07 40.9	+0.6
PVRL	Vila Real	154.11 20	*e*PKPbc	PKiKP	08 07 49.5	+0.8
PVRL	Vila Real	154.11 20	*e*PKPab	PKPab	08 08 05.3	+1.3
CHAN	Chania	154.14 319	P	PKiKP	08 07 50.4	+1.5
IMMV	Iera Moni Meta	154.21 319	P	PKPbc	08 07 48.7	-0.4
ITM	Ithomi	154.26 324	P	PKiKP	08 07 49.3	+0.1
RODP	Rodopos	154.29 319	P	PKPdf	08 07 44.8	+4.1
DYR	Agios Nikonas	154.33 323	P	PKPbc	08 07 45.1	-4.2
MVO	Moncorvo	154.42 19	*e*PKPdf	PKPdf	08 07 41.6	+0.8
MVO	Moncorvo	154.42 19	*e*PKPbc	PKiKP	08 07 50.0	+0.6
MVO	Moncorvo	154.42 19	*e*PKPab	PKPab	08 08 06.1	+0.8
PVIS	Viseu	154.55 20	*e*PKPdf	PKPdf	08 07 41.6	+0.7
PVIS	Viseu	154.55 20	*e*PKPbc	PKPbc	08 07 50.0	+0.3
PVIS	Viseu	154.55 20	*e*PKPab	PKPab	08 08 06.2	+0.3
COI	Coimbra	154.83 22	*e*PKPdf	PKPdf	08 07 42.5	+1.3
COI	Coimbra	154.83 22	*e*PKPbc	PKPbc	08 07 50.9	+0.7
COI	Coimbra	154.83 22	*e*PKPab	PKPab	08 08 07.6	+0.6
PCAS	Casmilo, Conde	154.93 22	*e*PKPdf	PKPdf	08 07 42.8	-0.6
PCAS	Casmilo, Conde	154.93 22	*e*PKPab	PKPab	08 08 06.9	-0.6
PCAS	Casmilo, Conde	154.93 22	*e*PP	PP	08 11 45.2	+1.0
MTE	Manteigas	154.95 20	*e*PKPdf	PKPdf	08 07 42.4	+0.9
TIP	Timpagrande	155.19 335	⇓P	PKPdf	08 07 42.4	+0.6
PTOM	Tomar	155.35 22	*e*PKPdf	PKPdf	08 07 42.6	+0.6
PTOM	Tomar	155.35 22	*e*PKPab	PKPab	08 08 09.6	+0.3
PCBR	Castelo Branco	155.48 21	*e*PKPdf	PKPdf	08 07 42.8	+0.7
PCBR	Castelo Branco	155.48 21	*e*PKPab	PKPab	08 08 10.1	+0.3
PMAFR	Mafra	155.59 25	*e*PKPdf	PKPdf	08 07 42.9	+0.6
PMAFR	Mafra	155.59 25	*e*PKPab	PKPab	08 08 10.9	+0.6
PMAFR	Mafra	155.59 25	*e*PP	PP	08 11 51.4	+3.5
PMOZ	Porto Moniz, M	155.69 46	*e*PKPdf	PKPdf	08 07 44.0	+1.2
PMOZ	Porto Moniz, M	155.69 46	*e*PKPab	PKPab	08 08 12.4	+1.2
LIS	Lisbon	155.85 25	*e*PKPdf	PKPdf	08 07 41.6	-1.0
LIS			*e*PP	PP	08 11 49.7	+0.4
LIS			*e*SS	SS	08 31 06.4	+1.2
LIS	Lisbon	155.85 25	*e*PKPdf	PKPdf	08 07 44.9	+2.3
LIS	Lisbon	155.85 25	*e*PKPab	PKPab	08 08 11.3	-0.1
LIS	Lisbon	155.85 25	*e*PP	PP	08 11 52.3	+3.0
PMRV	Marv??o	155.88 21	*e*PKPdf	PKPdf	08 07 43.0	+0.3
PMRV	Marv??o	155.88 21	*e*PKPab	PKPab	08 08 10.4	-1.2
PMTG	Montargil	155.90 23	*e*PKPdf	PKPdf	08 07 42.4	-0.3
PMTG	Montargil	155.90 23	*e*PKPab	PKPab	08 08 11.1	-0.5
PMTG	Montargil	155.90 23	*e*PP	PP	08 11 50.4	+0.8
PMAR	Madeira	155.94 46	*e*PKPdf	PKPdf	08 07 45.5	+2.3
PMAR	Madeira	155.94 46	*e*PKPab	PKPab	08 08 13.4	+1.0
PMAR	Madeira	155.94 46	*e*PP	PP	08 11 51.5	+0.6
FUL	Funchal	156.00 46	*e*PKPdf	PKPdf	08 07 44.9	+1.9
FUL	Funchal	156.00 46	*e*PKPab	PKPab	08 08 13.4	+1.1
PMPST	Porto Santo, M	156.13 45	*e*PKPdf	PKPdf	08 07 44.1	+0.9
PMPST	Porto Santo, M	156.13 45	*e*PKPab	PKPab	08 08 12.7	-0.2
PMPST	Porto Santo, M	156.13 45	*e*PP	PP	08 11 52.0	+0.3
PMPS	Porto Santo	156.14 45	*e*PKPdf	PKPdf	08 07 44.3	+1.1
PMPS	Porto Santo	156.14 45	*e*PKPab	PKPab	08 08 13.5	+0.6
PMPS	Porto Santo	156.14 45	*e*PP	PP	08 12 00.1	+8.4
UCM	Universidad Co	156.21 13	PKP	PKPdf	08 07 44.3	+1.2
UCM			SS	SS	08 31 10.1	+1.4
PNCL	Nicolau / Gran	156.62 24	*e*PKPdf	PKPdf	08 07 44.7	+1.1
PNCL	Nicolau / Gran	156.62 24	*e*PKPab	PKPab	08 08 15.0	+0.2
PNCL	Nicolau / Gran	156.62 24	*e*PP	PP	08 11 54.7	+1.2
ESDC	Sonseca Array	156.65 15	PKP	PKPdf	08 07 44.8	+1.1
	comp=Z,16nm,0.9s,baz=349,slow=2.6,SNR=60					
ESDC			PKPab	PKPab	08 08 14.9	0.0
	comp=Z,13nm,0.9s,baz=348,slow=3.9,SNR=6.6					
ESDC			pPKPab	pPKPab	08 09 44.6	+3.2
	comp=Z,5.6nm,1.0s,baz=340,slow=4.5,SNR=2.8					
ESDC	Sonseca Array	156.65 15		PKPdf	08 07 43.7	-0.1
ESDC			PKPab	PKPab	08 08 14.3	-0.6
PAB	San Pablo	156.68 15	PKiKP	PKPdf	08 07 42.5	-1.3
PAB	San Pablo	156.68 15		PKPdf	08 07 42.5	-1.3
PBEJ	Beja	156.95 23	*e*PKPdf	PKPdf	08 07 45.3	+1.2
PBEJ	Beja	156.95 23	*e*PKPab	PKPab	08 08 16.6	+0.4
MESJ	Messejana	156.97 24	*e*PKPdf	PKPdf	08 07 43.0	-1.2
MESJ			*e*PP	PP	08 11 55.9	+0.4
MESJ			*e*SS	SS	08 31 18.4	+1.2
MESJ	Messejana	156.97 24	*e*PKPdf	PKPdf	08 07 45.4	+1.3
MESJ	Messejana	156.97 24	*e*PKPab	PKPab	08 08 16.9	+0.6
MESJ	Messejana	156.97 24	*e*PP	PP	08 11 56.3	+0.8
PTEO	Sao Teotonio	157.02 26	*e*PKPdf	PKPdf	08 07 45.5	+1.3
PTEO	Sao Teotonio	157.02 26	*e*PKPab	PKPab	08 08 17.2	+0.7
P

ANVS	**Anan'yevo**	**1.40 283**	⇑*iP*	**Pg**	**07 56 49.6**	**+0.1**
	baz=82					
ANVS			⇑*iS*	**Sg**	**07 57 09.2**	**+1.5**
	baz=82					
KURS	**Kuram**	**1.41 316**	⇑*iP*	**Pg**	**07 56 49.4**	**-0.4**
	baz=14					
KURS			⇑*eS*	**Sg**	**07 57 08.0**	**-0.1**
	baz=14					
KURS	**Kuram**	**1.41 316**	⇑*iP*	**Pg**	**07 56 49.4**	**-0.4**
	6.1nm,0.1s					
KURS			*eS*	**Sg**	**07 57 07.9**	**-0.1**
	72nm,0.6s					
TARG	**Taragay, Kyrgy**	**1.48 240**	⇑*iP*	**Pb**	**07 56 50.4**	**-0.1**
	baz=41					
TARG			⇑*iS*	**Sg**	**07 57 11.4**	**+1.1**
	baz=41					
KDJ	**Kajisay**	**1.77 259**	⇓*iP*	**Pg**	**07 56 55.9**	**-0.7**
	baz=59					
KDJ			⇓*iS*	**Sg**	**07 57 20.6**	**+1.0**
	baz=59					
MNBS	**Baschi**	**1.80 333**	*eP*	**Pb**	**07 56 55.4**	**-0.3**
	31nm,0.2s					
MNBS			*eS*	**Sg**	**07 57 19.3**	**-1.0**
	399nm,0.2s					
DJR	**Jarkent**	**1.86 6**	*eP*	**Pb**	**07 56 56.0**	**-0.8**
	54nm,0.3s					
DJR			*eS*	**Sb**	**07 57 20.1**	**0.0**
	46nm,0.3s					
KOTS	**Kotyrbulak**	**1.93 294**	*eP*	**Pg**	**07 56 58.7**	**-0.8**
	baz=93					
KOTS			*eS*	**Sg**	**07 57 25.2**	**+0.7**
	baz=93					
KOTS	**Kotyrbulak**	**1.93 294**	*eP*	**Pg**	**07 56 58.7**	**-0.8**
	83nm,0.2s					
KOTS			*eS*	**Sg**	**07 57 25.2**	**+0.7**
	476nm,0.6s					
MDOK	**Medeo**	**1.94 291**	⇑Pg	**Pb**	**07 56 58.6**	**+0.4**
	10nm,0.5s					
MDOK			⇑Lg	Lg	07 57 24.5	
	98nm,0.6s					
MDOK	**Medeo**	**1.94 291**	*eP*	**Pg**	**07 56 58.8**	**-1.1**
	baz=91					
MDOK			⇓*iS*	**Sg**	**07 57 25.0**	**-0.1**
	baz=91					
MDOK	**Medeo**	**1.94 291**	*eP*	**Pg**	**07 56 58.8**	**-1.1**
	25nm,0.2s					
MDOK			⇓*iS*	**Sg**	**07 57 25.0**	**-0.1**
	121nm,0.6s					
TNSS	**Tian-Shan**	**1.98 287**	⇑*iP*	**Pb**	**07 56 59.3**	**+0.4**
	baz=86					
TNSS			⇑*eS*	**Sg**	**07 57 26.0**	**-0.2**
	baz=86					
TNSS	**Tian-Shan**	**1.98 287**	⇑*iP*	**Pb**	**07 56 59.3**	**+0.4**
	24nm,0.2s					
TNSS			*eS*	**Sg**	**07 57 26.1**	**-0.2**
	73nm,0.1s					
KNDC	**Almaty**	**2.02 292**	⇑Pg	**Pg**	**07 57 00.9**	**-0.4**
	19nm,0.3s					
KNDC			⇑Lg	Lg	07 57 29.0	
	134nm,0.6s					
ARXS	**Arharly**	**2.13 325**	*eP*	**Pb**	**07 57 00.9**	**-0.4**
	13nm,0.4s					
ARXS			*eS*	**Sb**	**07 57 29.1**	**+1.3**
	118nm,0.3s					
IZV	**Izvestkoviy**	**2.21 286**	*eP*	**Pb**	**07 57 03.3**	**+0.5**
	baz=85					
IZV			*eS*	**Sg**	**07 57 33.5**	**-0.3**
	baz=85					
IZV	**Izvestkoviy**	**2.21 286**	*eP*	**Pb**	**07 57 03.3**	**+0.5**
	39nm,0.2s					
IZV			*eS*	**Sg**	**07 57 33.5**	**-0.3**
	143nm,0.2s					
CHKK	**Chushkaly**	**2.31 307**	*eP*	**Pb**	**07 57 04.6**	**+0.3**
	baz=7.0					
CHKK			*eS*	**Sg**	**07 57 35.2**	**-1.5**
	baz=7.0					
CHKK	**Chushkaly**	**2.31 307**	*eP*	**Pb**	**07 57 04.6**	**+0.3**
	6.4nm,0.2s					
CHKK			*eS*	**Sg**	**07 57 35.2**	**-1.5**
	136nm,0.3s					
MTBS	**Maitube**	**2.37 287**	⇑*iP*	**Pb**	**07 57 06.0**	**+0.6**
	17nm,0.2s					
MTBS			*eS*	**Sg**	**07 57 37.6**	**-1.0**
	106nm,0.3s					
KTBS	**Karatobe**	**2.42 302**	*eP*	**Pb**	**07 57 06.7**	**+0.5**
	baz=0.0					
KTBS			*eS*	**Sg**	**07 57 38.3**	**-2.0**
	baz=0.0					
KTBS	**Karatobe**	**2.42 302**	*eP*	**Pb**	**07 57 06.7**	**+0.5**
	14nm,0.2s					
KTBS			*eS*	**Sg**	**07 57 38.3**	**-2.0**
	480nm,0.3s					
ULHL	**Ulahol**	**2.44 266**	⇓*iP*	**Pb**	**07 57 06.3**	**-0.4**
	baz=65					
ULHL			⇓*iS*	**Sb**	**07 57 38.3**	**+1.3**
	baz=65					
BOOM	**Boomskoye usch**	**2.65 271**	⇑*iP*	**Pb**	**07 57 08.5**	**-1.7**
	baz=71					
BOOM			⇑*iS*	**Sb**	**07 57 41.1**	**-1.8**
	baz=71					
KST	**Kastek**	**2.68 283**	⇓*iP*	**Pb**	**07 57 11.2**	**+0.4**
	24nm,0.2s					
KST			*eS*	**Sb**	**07 57 46.2**	**+2.5**
	76nm,0.6s					
KAPS	**Kapalarasan**	**2.81 358**	*eP*	**Pb**	**07 57 12.3**	**-0.6**
	6.2nm,0.4s					
KAPS			*eS*	**Sb**	**07 57 48.4**	**+1.1**
	26nm,0.4s					
NRN	**Naryn**	**2.83 249**	⇓*iP*	**Pb**	**07 57 10.7**	**-2.7**
	baz=50					
NRN			⇓*iS*	**Sb**	**07 57 46.0**	**-2.2**
	baz=50					
DGS	**Degeres**	**2.86 287**	*eP*	**Pb**	**07 57 14.3**	**+0.5**
	21nm,0.3s					
DGS			*eS*	**Sg**	**07 57 51.9**	**-2.6**
	205nm,0.6s					
KZA	**Kyzart**	**3.20 264**	⇓*iP*	**Pb**	**07 57 16.8**	**-2.9**
	baz=64					
KZA			⇓*iS*	**Sb**	**07 57 56.7**	**-2.2**
	baz=64					
KBK	**Karagaybulak**	**3.38 275**	⇑*iP*	**Pb**	**07 57 20.1**	**-2.7**
	baz=74					
KBK			⇑*iS*	**Sb**	**07 58 02.2**	**-1.8**
	baz=74					
CHMS	**Chumysh**	**3.55 280**	⇑*iP*	**Pb**	**07 57 22.9**	**-2.6**
	baz=80					
CHMS			⇑*iS*	**Sb**	**07 58 06.9**	**-1.8**
	baz=80					
UCH	**Uchtor**	**3.72 268**	⇑*iP*	**Pb**	**07 57 24.3**	**-4.4**
	baz=68					
UCH			⇑*iS*	**Sb**	**07 58 09.7**	**-4.3**
	baz=68					
ARLS	**Aral**	**3.91 263**	⇑*eP*	**Pn**	**07 57 25.0**	**+2.1**
	baz=63					
ARLS			⇑*iS*	**Sn**	**07 58 11.6**	**+2.6**
	baz=63					
KSH	**Kashi**	**4.00 223**	⇓*iP*	**Pn**	**07 57 26.7**	**+2.7**
	baz=24					
KSH			⇓*iS*	**Sn**	**07 58 14.1**	**+3.1**
	baz=24					
MK31	**Makanchi Array**	**4.74 24**	⇓Pn	**Pn**	**07 57 35.6**	**+1.4**
	0.2nm,0.2s,baz=207,slow=12,SNR=34					
MK31			⇑Sn	**Sn**	**07 58 30.0**	**+0.8**
	0.5nm,0.3s,baz=204,slow=25,SNR=4.1					
MK31			⇑Lg	Lg	07 58 48.4	
	0.7nm,0.3s,baz=200,slow=29,SNR=5.2					
KK31	**Karatay Array**	**6.66 278**	⇑Pg	**Pg**	**07 58 26.4**	**-3.7**
	0.4nm,0.3s,baz=98,slow=14,SNR=5.8					
KK31			⇑Lg	Lg	07 59 55.1	
	2.1nm,0.5s,baz=90,slow=27,SNR=7.2					

IDC 23 08:04:49.6±2.7, 21°.95S×179°.58W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/36, mbtmp4.1/3, Error ellipse: s-maj=77.0km s-min=37.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.27 299**		P	P	08 10 00.3	+1.3
	100nm,0.5s,baz=192,slow=8.0,SNR=6.1						
ASAR	**Alice Springs**	**42.77 258**		P	P	08 12 50.3	+1.1
	4.1nm,0.5s,baz=87,slow=8.6,SNR=71						
WRA	**Warramunga Arr**	**42.96 264**		P	P	08 12 48.7	-2.1
	0.7nm,0.4s,baz=96,slow=6.9,SNR=17						
ILAR	**Eielson Array**	**90.05 13**		P	P	08 17 50.8	0.0
	1.1nm,1.1s,baz=225,slow=3.7,SNR=3.8						

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IDC 23 08:09:19.9±8.3, 5°.89S×146°.68E, h41km±65km, mb3.5/3, mb1 3.7/5, mb1mx3.4/41, mbtmp3.7/5, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.8/33, Error ellipse: s-maj=81.9km s-min=44.9km az=57.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52 172**		P	Pn	08 10 11.8	-0.4
	7.3nm,0.3s,baz=342,slow=3.2,SNR=13						
PMG				S	Sn	08 10 53.5	+0.8
	10nm,0.3s,baz=350,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**18.41 220**		P	P	08 13 31.5	-0.4
	0.2nm,0.3s,baz=42,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**21.53 214**		P	P	08 14 05.1	-0.6
	0.9nm,0.4s,baz=53,slow=8.9,SNR=19						
FITZ	**Fitzroy Crossi**	**23.85 238**		P	P	08 14 29.8	+0.2
	3.7nm,0.9s,baz=71,slow=8.3,SNR=6.8						
DZM	**Mont Dzumac**	**24.98 132**		LR	LR	08 21 40.1	
	comp=Z,424nm,22.0s,baz=20,slow=30						
STKA	**Stephens Creek**	**26.29 190**		P	P	08 14 51.9	+0.3
	1.1nm,0.7s,baz=22,slow=11,SNR=2.9						

*SFS **23** 08:09:22.0, 35°.17N×4°.17W, ML3.0, TORRES DE ALCALA (MARRUECOS)*
*ISCJB **23** 08:09:24.0±0.4, 35°.30N±0°.03×4°.24W±0°.02, h19km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=172.0*
*MDD **23** 08:09:24.3±0.4, 35°.30N×4°.15W, h0km, mbLg3.0/24, Error ellipse: s-maj=4.3km s-min=3.0km az=138.0, PRXIMO*
*IGIL **23** 08:09:24.3, 35°.17N×4°.18W, h2km, ML3.0*
*INMG **23** 08:09:25.2±1.3, 35°.10N×4°.17W, h31km, ML2.9, Error ellipse: s-maj=4.3km s-min=3.1km az=9.0*

ISC 23 08:09:23.5±1.1, 35°.27N±0°.03×4°.16W±0°.02, h17km±7km, n73, σ1°.45/135, 4C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.15 229**		⇑*iP*	**Pb**	**08 09 27.8**	**-0.1**
PVLZ				*eS*	**Sg**	**08 09 30.4**	**+0.1**
PVLZ	**Peæn de**	**0.15 229**		⇑P	**Pb**	**08 09 27.8**	**-0.1**
PVLZ				S	**Sg**	**08 09 30.4**	**+0.1**
MELI	**Melilla**	**1.00 88**		⇓*iP*	**Pb**	**08 09 42.2**	**-0.2**
MELI				*eS*	**Sb**	**08 09 53.7**	**-1.7**
MELI	**Melilla**	**1.00 88**		P	**Pb**	**08 09 42.0**	**-0.4**
	220nm,0.3s,SNR=7.9						
MELI				S	**Sb**	**08 09 55.7**	**+0.4**
	950nm,0.4s,SNR=7.9						
EALB	**Alboran**	**1.13 54**		P	**Pn**	**08 09 43.7**	**-0.9**
	214nm,0.3s,SNR=99						
EALB				S	**Sn**	**08 09 59.9**	**+0.1**
	324nm,0.2s,SNR=11						
CEU	**Ceuta**	**1.17 303**		⇑*iP*	**Pn**	**08 09 43.0**	**-2.0**
CEU				*eS*	**Sb**	**08 09 58.3**	**-1.8**
CEU	**Ceuta**	**1.17 303**		⇑P	**Pn**	**08 09 43.0**	**-2.0**
CEU				S	**Sb**	**08 09 58.3**	**-1.8**
ECEU	**Ceuta**	**1.17 303**		P	**Pn**	**08 09 44.0**	**-1.1**
	51nm,0.2s,SNR=67						
ECEU				S	**Sb**	**08 10 00.1**	**-0.2**
	50nm,0.1s,SNR=8.8						
EMIJ	**Mijas**	**1.38 339**		P	**Pn**	**08 09 47.3**	**-0.8**
	22nm,0.5s,SNR=34						
EMIJ				S	**Sb**	**08 10 06.4**	**+0.1**
	59nm,0.3s,SNR=12						
ELGU	**Los Guajares,**	**1.65 15**		P	**Pn**	**08 09 51.8**	**0.0**
	8.7nm,0.2s,SNR=7.9						
ELGU				S	**Sb**	**08 10 14.4**	**+0.3**
	611nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.83 1**		P	**Pn**	**08 09 55.1**	**+0.7**
	6.0nm,0.3s,SNR=7.9						
EGOR				S	**Sb**	**08 10 19.9**	**+0.5**
	88nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.92 32**		P	**Pn**	**08 09 54.8**	**-0.8**
	6.7nm,0.3s,SNR=24						
EBER				S	**Sb**	**08 10 22.5**	**+0.5**
	182nm,0.6s,SNR=7.3						
IFR	**Ifrane**	**1.92 205**		*eP*	**Pb**	**08 09 57.3**	**-0.9**
IFR				*eS*	**Sn**	**08 10 20.4**	**+0.9**
EQUE	**Quentar**	**2.02 17**		P	**Pn**	**08 09 58.0**	**+1.1**
	11nm,0.3s,SNR=20						
EQUE				S	**Sb**	**08 10 24.3**	**-0.4**
	61nm,0.4s,SNR=6.4						
ESPR	**Espera**	**2.10 320**		P	**Pb**	**08 10 00.3**	**-0.9**
	2.2nm,0.2s,SNR=4.0						
ESPR				S	**Sb**	**08 10 26.9**	**-0.2**
	23nm,0.3s,SNR=4.0						
ENIJ	**Nijar**	**2.32 42**		P	**Pn**	**08 10 01.0**	**+0.1**
	8.5nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**08 10 27.7**	**-1.4**
	134nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**2.38 22**		S	**Sn**	**08 10 32.3**	**+1.5**
	40nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.67 19**		P	**Pb**	**08 10 08.8**	**-2.2**
	21nm,0.2s,SNR=34						
EQES				S	**Sb**	**08 10 41.5**	**-2.0**
	52nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.91 354**		P	**Pn**	**08 10 11.0**	**+1.9**
	7.5nm,0.3s,SNR=26						
EADA				S	**Sn**	**08 10 45.7**	**+2.0**
	13nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.98 341**		P	**Pn**	**08 10 11.4**	**+1.5**
	2.6nm,0.2s,SNR=20						
ECAB				S	**Sn**	**08 10 47.6**	**+2.3**
	11nm,0.3s,SNR=6.8						
SESP	**Santiago Espad**	**3.12 24**		P	**Pn**	**08 10 14.2**	**+2.0**
	6.9nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**08 10 51.9**	**+2.7**
	27nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.21 322**		P	**Pn**	**08 10 13.9**	**+0.7**
	1.4nm,0.1s,SNR=19						
EMIN				S	**Sn**	**08 10 53.0**	**+1.9**
	3.6nm,0.2s,SNR=7.9						
CART	**Cartagena**	**3.44 47**		*eP*	**Pn**	**08 10 17.5**	**+1.2**
CART				*i* S	**Sn**	**08 10 54.2**	**-2.4**
CART	**Cartagena**	**3.44 47**		P	**Pn**	**08 10 17.5**	**+1.2**
CART				S	**Sn**	**08 10 54.2**	**-2.4**
EMUR	**La Murta**	**3.48 42**		S	**Sn**	**08 10 56.2**	**-1.5**
	39nm,0.4s,SNR=39						
EGRO	**El Granado**	**3.50 311**		P	**Pn**	**08 10 18.1**	**+0.9**
	3.4nm,0.2s,SNR=16						
EGRO				S	**Sn**	**08 10 58.9**	**+0.6**
	13nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.57 308**		*eP*n	**Pn**	**08 10 19.2**	**+1.0**
PVAQ				*eS*n	**Sn**	**08 10 59.0**	**-1.0**
PVAQ				A	A	08 11 08.3	
	25nm,0.4s						
PVAQ	**Vaqueiros**	**3.57 308**		P	**Pn**	**08 10 19.2**	**+1.0**
PVAQ				S	**Sn**	**08 10 59.0**	**-1.0**
	25nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.63 304**		*eP*n	**Pn**	**08 10 19.9**	**+1.0**
PBDV				*eS*n	**Sn**	**08 11 01.3**	**-0.1**
PBDV				A	A	08 11 09.0	
	14nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.63 304**		P	**Pn**	**08 10 19.9**	**+1.0**
PBDV				S	**Sn**	**08 11 01.3**	**-0.1**
	14nm,0.4s						
PCVE	**Castro Verde**	**3.91 308**		*eP*n	**Pn**	**08 10 24.1**	**+1.2**
PCVE				*eS*n	**Sn**	**08 11 07.7**	**-0.7**
PCVE				A	A	08 11 12.8	
	18nm,0.4s						
PCVE	**Castro Verde**	**3.91 308**		P	**Pn**	**08 10 24.1**	**+1.2**
PCVE				S	**Sn**	**08 11 07.7**	**-0.7**
	18nm,0.4s						
ETOB	**Tobarra**	**3.96 31**		P	**Pn**	**08 10 27.0**	**+3.4**
	7.1nm,0.3s,SNR=21						
ETOB				S	**Sn**	**08 11 11.6**	**+1.9**
	6.2nm,0.3s,SNR=7.9						
MESJ	**Messejana**	**4.15 309**		*eP*	**Pn**	**08 10 27.6**	**+1.5**
MESJ				*eS*	**Sn**	**08 11 13.9**	**-0.4**
MESJ				AML	AML	08 11 20.0	
	comp=N,33nm,0.5s						
MESJ	**Messejana**	**4.15 309**		*eP*n	**Pn**	**08 10 28.0**	**+1.9**
MESJ				*eS*n	**Sn**	**08 11 12.4**	**-1.9**
MESJ				A	A	08 11 17.9	
	comp=N,10nm,0.3s						
MESJ	**Messejana**	**4.15 309**		P	**Pn**	**08 10 28.0**	**+1.9**
MESJ				S	**Sn**	**08 11 12.4**	**-1.9**
	comp=N,10nm,0.3s						
MORF	**Marmelete**	**4.16 301**		*eS*	**Sn**	**08 11 13.4**	**-1.1**
MORF				AML	AML	08 11 20.9	
	comp=N,29nm,0.3s						
MORF	**Marmelete**	**4.16 301**		*eP*n	**Pn**	**08 10 29.0**	**+2.8**
MORF				*eS*n	**Sn**	**08 11 15.0**	**+0.5**
MORF				A	A	08 11 25.6	
	comp=N,13nm,0.6s						
MORF	**Marmelete**	**4.16 301**		P	**Pn**	**08 10 29.0**	**+2.8**
MORF				S	**Sn**	**08 11 15.0**	**+0.5**
	comp=N,13nm,0.6s						
EBAD	**Badajoz**	**4.16 328**		P	**Pn**	**08 10 27.5**	**+1.3**
	comp=N,3.1nm,0.2s,SNR=11						
EBAD				S	**Sn**	**08 11 15.4**	**+1.0**
	comp=N,14nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.21 298**		*eS*n	**Sn**	**08 11 15.2**	**-0.4**
PFVI				A	A	08 11 27.7	
	comp=N,19nm,0.5s						
PFVI	**Vila Bisbo**	**4.21 298**		S	**Sn**	**08 11 15.5**	**-0.1**
	comp=N,9.7nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**4.27 358**		P	**Pn**	**08 10 29.9**	**+2.1**
	comp=N,2.1nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**08 11 15.3**	**-2.0**
	comp=N,2.3nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.32 303**		*eP*n	**Pn**	**08 10 29.9**	**+1.4**
PTEO				*eS*n	**Sn**	**08 11 19.1**	**+0.6**
PTEO				A	A	08 11 27.0	
	comp=N,23nm,0.5s						
PTEO	**Sao Teotonio**	**4.32 303**		P	**Pn**	**08 10 29.9**	**+1.4**
PTEO				S	**Sn**	**08 11 19.1**	**+0.6**
	comp=N,11nm,0.5s						
ESDC	**Sonseca Array**	**4.40 2**		P	**Pn**	**08 10 31.5**	**+2.0**
	comp=N,4.5nm,0.3s,baz=181,slow=14,SNR=92						
ESDC				S	**Sn**	**08 11 20.3**	**-0.1**
	baz=181,slow=24,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.51 310**		*eP*n	**Pn**	**08 10 32.4**	**+1.4**
PNCL				*eS*n	**Sn**	**08 11 22.9**	**-0.2**
PNCL				A	A	08 11 34.6	
	comp=N,10nm,0.5s						
PNCL	**Nicolau / Gran**	**4.51 310**		P	**Pn**	**08 10 32.4**	**+1.4**
PNCL				S	**Sn**	**08 11 22.9**	**-0.2**
	comp=N,10nm,0.5s						
PESTR	**Estremoz**	**4.52 324**		*eP*n	**Pn**	**08 10 33.1**	**+2.0**
PESTR				*eS*n	**Sn**	**08 11 22.9**	**-0.4**
PESTR				A	A	08 11 35.5	
	comp=N,11nm,0.5s						
PMRV	**Marv??o**	**4.88 329**		*eP*n	**Pn**	**08 10 37.8**	**+1.6**
PMRV				*eS*n	**Sn**	**08 11 31.8**	**-0.5**
PMRV				A	A	08 11 54.5	
	comp=N,8.0nm,0.6s						
PMRV	**Marv??o**	**4.88 329**		P	**Pn**	**08 10 37.8**	**+1.6**
PMRV				S	**Sn**	**08 11 31.8**	**-0.5**
	comp=N,8.0nm,0.6s						
PMTG	**Montargil**	**4.99 321**		*eP*n	**Pn**	**08 10 39.8**	**+2.2**
PMTG				*eS*n	**Sn**	**08 11 34.8**	**-0.1**
PMTG				A	A	08 11 53.5	
	comp=N,8.9nm,0.7s						
PMTG	**Montargil**	**4.99 321**		P	**Pn**	**08 10 39.8**	**+2.2**
PMTG				S	**Sn**	**08 11 34.8**	**-0.1**
	comp=N,8.9nm,0.7s						
EPLA	**Plasencia**	**5.02 343**		P	**Pn**	**08 10 39.7**	**+1.6**
	comp=N,9.6nm,0.4s,SNR=13						
EPLA				S	**Sn**	**08 11 33.3**	**-2.4**
	comp=N,5.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.27 331**		*eP*n	**Pn**	**08 10 42.9**	**+1.5**
PCBR				*eS*n	**Sn**	**08 11 41.6**	**-0.1**
PCBR				A	A	08 11 44.9	
	comp=N,10nm,0.6s						
PCBR	**Castelo Branco**	**5.27 331**		P	**Pn**	**08 10 42.9**	**+1.5**
PCBR				S	**Sn**	**08 11 41.6**	**-0.1**
	comp=N,5.2nm,0.6s						
GUD	**Guadarrama**	**5.36 0**		P	**Pn**	**08 10 44.8**	**+1.9**
	comp=N,0.1nm,0.6s,SNR=10						
PTOM	**Tomar**	**5.50 323**		*eP*n	**Pn**	**08 10 46.9**	**+2.3**
PTOM	**Tomar**	**5.50 323**		P	**Pn**	**08 10 46.9**	**+2.3**
MTE	**Manteigas**	**5.78 333**		*eP*n	**Pn**	**08 10 50.1**	**+1.6**
MTE				*eS*n	**Sn**	**08 11 54.0**	**-0.4**
MTE				A	A	08 12 20.9	
	comp=N,13nm,0.5s						
MTE	**Manteigas**	**5.78 333**		P	**Pn**	**08 10 50.1**	**+1.6**
MTE				S	**Sn**	**08 11 54.0**	**-0.4**
	comp=N,6.4nm,0.5s						
ETOR	**Torete**	**5.78 16**		P	**Pn**	**08 10 50.6**	**+2.0**
	comp=N,15nm,0.5s,SNR=8.2						
PVIS	**Viseu**	**6.18 333**		*eP*n	**Pn**	**08 10 56.6**	**+2.5**
PVIS	**Viseu**	**6.18 333**		P	**Pn**	**08 10 56.6**	**+2.5**
MVO	**Moncorvo**	**6.30 340**		*eP*n	**Pn**	**08 10 57.4**	**+1.7**
MVO				*eS*n	**Sn**	**08 12 06.5**	**-0.8**
MVO				A	A	08 12 26.3	
	comp=N,9.8nm,0.4s						
MVO	**Moncorvo**	**6.30 340**		P	**Pn**	**08 10 57.3**	**+1.6**
	comp=N,2.9nm,0.3s,SNR=14						
MVO				S	**Sn**	**08 12 05.3**	**-2.0**
	comp=N,2.8nm,0.4s,SNR=7.9						
PVRL	**Vila Real**	**6.61 336**		*eP*n	**Pn**	**08 11 01.6**	**+1.6**
PVRL				*eS*n	**Sn**	**08 12 15.0**	**0.0**
PVRL				A	A	08 12 19.1	
	comp=N,12nm,0.6s						
PVRL	**Vila Real**	**6.61 336**		P	**Pn**	**08 11 01.6**	**+1.6**
PVRL				S	**Sn**	**08 12 15.0**	**0.0**
	comp=N,5.8nm,0.6s						
POLO	**Lamas de Olo**	**6.73 336**		*eP*n	**Pn**	**08 11 03.4**	**+1.8**
POLO				*eS*n	**Sn**	**08 12 17.4**	**-0.5**
POLO				A	A	08 12 22.5	
	comp=N,3.6nm,0.5s						
POLO	**Lamas de Olo**	**6.73 336**		P	**Pn**	**08 11 03.4**	**+1.8**
POLO				S	**Sn**	**08 12 17.4**	**-0.5**
	comp=N,3.6nm,0.5s						
PBRG	**Braganca**	**6.83 344**		*eP*n	**Pn**	**08 11 05.0**	**+2.1**
PBRG				*eS*n	**Sn**	**08 12 20.2**	**-0.1**
PBRG				A	A	08 12 23.6	
	comp=N,5.7nm,0.8s						
PBRG	**Braganca**	**6.83 344**		P	**Pn**	**08 11 05.0**	**+2.1**
PBRG				S	**Sn**	**08 12 20.2**	**-0.1**
	comp=N,2.8nm,0.8s						
ECAL	**Calabor**	**6.96 344**		P	**Pn**	**08 11 06.7**	**+1.9**
	comp=N,3.4nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**08 12 23.5**	**0.0**
	comp=N,4.9nm,0.3s,SNR=7.9						

*BJI **23** 08:14:32.0±0.0, 10°.90S×113°.80E, h10km, mb5.0/11, mB5.3/5, Ms7 5.3/1*
*ISCJB **23** 08:14:35.2±0.3, 10°.79S±0°.03×113°.74E±0°.03, h33km, mb4.3/16, MS5.3/1, Error ellipse: s-maj=5.1km s-min=3.6km az=27.0*
*DJA **23** 08:14:35.4±0.6, 11°.5S±3°×11°.4E±°, h38km±9km, M4.9/13, mB5.6/3, mb4.9/12, MLv4.9/13, Mw(mB)5.2/3*
*NEIC **23** 08:14:36.8±2.3, 10°.86S±0°.05×113°.78E±0°.06, h35km±6km, mb4.5/22*
*IDC **23** 08:14:39.0±0.7, 10°.61S×113°.96E, h44km±4km, mb4.0/15, mb1 4.2/18, mb1mx4.0/47, mbtmp4.3/18, ML4.4/3, Error ellipse: s-maj=21.3km s-min=11.6km az=44.0*

**ISC 23 08:14:36.4±0.4, 10°.89S±0°.05×113°.

BNSI	Bone	8.97	44	P	Pn	08 16 43.8	+0.3	
CGJI	Cibinong	9.08	297	P	Pn	08 16 44.6	-0.5	
	85nm,0.5s							
BATI	Baumata	9.71	87	P	Pn	08 16 54.6	+0.9	
	5.1nm,0.3s,baz=288,slow=9.6,SNR=2.9							
BATI				S	Sn	08 18 35.5	-6.1	
	7.1nm,0.3s,baz=306,slow=17,SNR=4.6							
BATI	Baumata	9.71	87	P	Pn	08 16 53.3	-0.4	
TTSI	Tana Toraja	9.81	38	P	Pn	08 17 10.0	+15	
SOEI	Soe	10.35	85		Pn	08 17 05.9	+3.4	
GIRL	Giralia	11.69	178	Pn	Pn	08 17 18.7	-2.1	
PSA00	Pilbara Seismi	12.09	152	Pn	Pn	08 17 22.8	-3.5	
FITZ	Fitzroy Crossi	13.50	123	P	Pn	08 17 44.8	-0.7	
	0.3nm,0.3s,baz=313,slow=12,SNR=6.7							
FITZ				S	Sn	08 20 05.1	-9.3	
	0.8nm,0.3s,baz=18,slow=20,SNR=6.7							
FITZ	Fitzroy Crossi	13.50	123		Pn	08 17 44.4	-1.1	
SANI	Sanana	14.94	55	P	Pn	08 18 05.9	+0.8	
PDSI	Padang	16.56	306	P	Pn	08 18 25.3	-0.8	
MTN	Manton Dam	17.06	98	P	P	08 18 34.7	+0.9	
MTN				IAmb	IAmb	08 18 47.6		
	comp=Z,32nm,1.4s							
MORW	Morawa	18.20	174	P	P	08 18 44.1	-2.2	
FAKI	Fak Fak	19.93	68	P	P	08 19 04.7	-0.7	
FAKI	Fak Fak	19.93	68	P	P	08 19 04.3	-1.1	
FAKI				IAmb	IAmb	08 19 06.4		
	comp=Z,29nm,0.9s							
SWI	Sorong	19.99	61	P	P	08 19 05.9	-0.2	
SIJI	Sorong	20.00	61	P	P	08 19 05.0	-1.2	
	comp=Z,2.4nm,0.3s,baz=269,slow=4.0,SNR=7.1							
WB0	Warramunga Arr	21.70	116	P	P	08 19 26.9	+2.4	
WB0				IAmb	IAmb	08 19 40.9		
	comp=Z,7.4nm,0.7s							
WRA	Warramunga Arr	21.71	117	P	P	08 19 26.1	+1.4	
	comp=Z,5.1nm,0.5s,baz=290,slow=11,SNR=42							
WRA				pP	pwP	08 19 39.1	-1.1	
	comp=Z,12nm,0.7s,baz=289,slow=12,SNR=18							
WRA				S	S	08 23 16.6	-6.7	
	comp=Z,1.1nm,0.6s,baz=285,slow=25,SNR=3.6							
WRA	Warramunga Arr	21.71	117	P	P	08 19 28.2	+3.5	
WRAB	Tennant Creek	21.72	117	P	P	08 19 28.4	+3.6	
WRAB				IAmb	IAmb	08 19 41.2		
	comp=Z,14nm,0.7s							
WB2	Warramunga Arr	21.73	117	P	P	08 19 28.4	+3.6	
WB2				IAmb	IAmb	08 19 41.1		
	comp=Z,11nm,0.7s							
NWAO	Narrogin (SRO)	22.15	172	P	P	08 19 30.9	+1.7	
NWAO				IAmb	IAmb	08 19 37.0		
	comp=Z,27nm,1.4s							
NWAO	Narrogin (SRO)	22.15	172	P	P	08 19 31.2	+1.9	
NWAO				IAmb	IAmb	08 19 37.0		
	comp=Z,20nm,1.4s							
AS31	Alice Springs	22.97	126	P	P	08 19 39.9	+1.8	
ASAR	Alice Springs	22.97	126	P	P	08 19 39.9	+1.8	
	comp=Z,3.1nm,0.6s,baz=300,slow=8.7,SNR=44							
ASAR				pP	pwP	08 19 52.5	-1.2	
	comp=Z,6.4nm,0.6s,baz=301,slow=9.6,SNR=20							
ASAR				S	S	08 23 52.2	+6.1	
	comp=Z,1.3nm,0.8s,baz=311,slow=26,SNR=4.6							
ASAR	Alice Springs	22.97	126	P	P	08 19 39.1	+1.0	
BBOO	Buckleboo	29.91	140	P	P	08 20 42.1	+1.0	
BBOO				IAmb	IAmb	08 20 50.0		
	comp=Z,15nm,1.2s							
CMAR	Chiang Mai Arr	32.65	333	P	P	08 21 06.2	+0.9	
	comp=Z,5.2nm,0.9s,baz=164,slow=8.6,SNR=14							
CMAR				S	S	08 26 07.7	-11	
	comp=Z,1.2nm,0.4s,baz=196,slow=22,SNR=6.4							
CMAR	Chiang Mai Arr	32.65	333	P	P	08 21 06.0	+0.8	
STKA	Stephens Creek	33.07	133	P	P	08 21 10.5	+1.6	
	comp=Z,2.9nm,0.7s,baz=319,slow=9.6,SNR=8.9							
STKA	Stephens Creek	33.07	133	P	P	08 21 10.9	+2.0	
H08S2	Diego Garcia H	40.89	271	T	T	09 06 10.8		
	baz=96,slow=75,SNR=26							
H08S3	Diego Garcia H	40.90	271	T	T	09 06 11.6		
	baz=96,slow=75,SNR=30							
H08S1	Diego Garcia H	40.91	271	T	T	09 06 00.2		
	baz=96,slow=75,SNR=26							
SHL	Shillong	42.07	330	P	P	08 22 21.2	-4.0	
XAN	Xi'an	44.92	354	P	P	08 22 46.5	-1.4	
XAN				pP	sP	08 22 58.8	-1.8	
XAN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KSAR	Wonju Array Be	49.86	15	P	P	08 23 25.4	-0.8	
KSRS	Korea Array	49.88	15	P	P	08 23 26.4	+0.1	
	comp=Z,3.9nm,0.7s,baz=198,slow=7.2,SNR=12							
MJAR	Matsushiro Arr	52.48	25	P	P	08 23 43.8	-2.1	
	comp=Z,3.1nm,0.8s,baz=209,slow=8.3,SNR=11							
MJAR	Matsushiro Arr	52.48	25	P	P	08 23 44.1	-1.8	
MJB9	Matsu-Tunnel	52.48	25	P	P	08 23 46.0	0.0	
USA0B	Ussuriysk Arra	57.26	15	P	P	08 24 20.0	-0.4	
USRK	Ussuriysk Ar.	57.26	15	P	P	08 24 19.9	-0.5	
	comp=Z,11nm,0.7s,baz=194,slow=7.0,SNR=23							
USRK				pP	sP	08 24 32.0	-0.7	
	comp=Z,6.3nm,0.6s,baz=182,slow=7.0,SNR=10							
USRK	Ussuriysk Ar.	57.26	15	P	P	08 24 20.1	-0.2	
SONM	Songino Array	58.84	354	P	P	08 24 31.5	0.0	
	comp=Z,3.2nm,0.7s,baz=173,slow=8.2,SNR=12							
SONM				pP	sP	08 24 43.6	-0.1	
	comp=Z,2.9nm,0.6s,baz=173,slow=8.4,SNR=5.8							
SONM	Songino Array	58.84	354	P	P	08 24 31.6	+0.1	
KSH	Kashi	61.25	327	P	P	08 24 52.3	+4.1	
KSH				PcP	PcP	08 25 35.0	+4.4	
KSH				S	S	08 33 10.9	+4.9	
KSH				sS	pS	08 33 17.0	-0.7	
KSH				SS	SS	08 37 12.6	+5.6	
KSH				LR	LR			
	comp=Z,1μm,13.9s							
MK31	Makanchi Array	63.97	336	P	P	08 25 06.7	+0.6	
MK31				IAmb	IAmb	08 25 19.5		
	comp=Z,6.1nm,1.2s							
MKAR	Makanchi Array	63.97	336	P	P	08 25 06.4	+0.3	
	comp=Z,1.0nm,0.6s,baz=156,slow=7.9,SNR=7.1							
MKAR				pP	sP	08 25 19.0	+0.5	
	comp=Z,1.8nm,0.5s,baz=149,slow=7.4,SNR=10							
MKAR	Makanchi Array	63.97	336	P	P	08 25 06.8	+0.6	
AAK	Ala-Archa	64.28	329	P	P	08 25 09.4	+1.0	
	comp=Z,1.9nm,0.7s,baz=141,slow=8.5,SNR=4.0							
HRA	Herat	66.46	315	P	P	08 25 20.4	-2.4	
KKAR	Karatay Array	66.69	327	P	P	08 25 24.5	+0.6	
KURBB	Kurchatov Arra	68.53	337	P	P	08 25 35.6	+0.4	
	comp=Z,1.5nm,0.8s,baz=151,slow=5.2,SNR=7.8							
KURBB				pP	sP	08 25 48.3	+0.6	
	comp=Z,1.7nm,0.5s,baz=152,slow=5.9,SNR=8.4							
KURK	Kurchatov	68.57	337	P	P	08 25 35.8	+0.4	
KURK				IAmb	IAmb	08 25 48.9		
	comp=Z,4.6nm,0.8s							
ZALV	Zalesovo Beam	69.12	342	P	P	08 25 38.4	-0.4	
	comp=Z,1.6nm,0.5s,baz=154,slow=5.4,SNR=5.1							
ZALV				pP	sP	08 25 50.8	-0.5	
	comp=Z,4.2nm,0.6s,baz=151,slow=4.1,SNR=6.3							
BVAR	Borovoye Array	73.66	334	P	P	08 26 06.8	+0.5	
	comp=Z,1.1nm,0.8s,baz=109,slow=13,SNR=3.1							
PETK	Petropavlovsk-	73.92	26	P	P	08 26 08.2	+0.5	
	comp=Z,4.5nm,1.0s,baz=226,slow=12,SNR=5.1							
PETK	Petropavlovsk-	73.92	26	P	P	08 26 07.9	+0.1	
SYO	Syowa Base	74.25	201⇑	*e*pP	pP	08 26 19.0	+0.6	
ABKAR	Akbulak array	76.25	327	P	P	08 26 22.3	+0.9	
KMBO	Kilima Mbogo	76.59	271	P	P	08 26 26.8	+2.4	
	comp=Z,0.5nm,0.3s,baz=74,slow=7.4,SNR=3.1							
KMBO				pP	pwP	08 26 40.6	-1.0	
	comp=Z,2.0nm,0.9s,baz=70,slow=15,SNR=2.5							
QSPA	South Pole Qui	79.12	180	P	P	08 26 38.6	+1.4	
QSPA				IAmb	IAmb	08 26 46.2		
	comp=Z,7.7nm,1.1s							
SNAA	Sanae	87.78	196	P	P	08 27 23.9	+2.3	
SNAA	Sanae	87.78	196	P	P	08 27 23.6	+2.0	
VNA2	Neumayer--Watz	89.43	196	P	P	08 27 31.7	+2.4	
	baz=94,slow=3.9							
BRTR	Keskin Array B	89.44	311	pP	pP	08 27 44.2	+5.1	
	comp=Z,1.1nm,0.8s,baz=142,slow=6.3,SNR=4.5							
VNA1	Neumayer--Stat	89.82	196	P	P	08 27 33.6	+2.5	
VNA3	Neumayer Olymp	89.86	196	P	P	08 27 33.7	+2.3	

*ISCJB **23** 08:24:11.5±0.8, 27°.42S±0°.03×71°.15W±0°.09, h32km, Error ellipse: s-maj=11.4km s-min=4.4km az=3.8*
*GUC **23** 08:24:12.1±0.6, 27°.45S×70°.96W, h76km±5km, ML3.9*
*SJA **23** 08:24:13.9±0.5, 27°.76S×71°.26W, h32km±5km, ML3.0, MW3.2*

ISC 23 08:24:13.3±1.3, 27°.40S±0°.03×71°.03W±0°.08, h32km, n14, σ2°35/24, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	Copiap	0.73	106⇑	*i* P	Pn	08 24 27.4	0.0
GO03				⇓*i* S	Sb	08 24 37.8	+0.4
GO03				IAML		08 24 39.1	
	comp=N,4μm,0.2s						
GO02	Mina Guanaco	2.57	30⇑	*i* P	Pn	08 24 53.8	+0.8
GO02				*i* S	Sn	08 25 24.2	+0.8
GO02				IAML		08 25 26.7	
	comp=E,514nm,0.2s						
GO04	Tololo Observa	2.77	176⇑	*i* P	Pn	08 24 55.4	-0.4
GO04				*e*S	Sn	08 25 26.7	-1.6
GO04				IAML		08 25 32.0	
	comp=N,644nm,0.6s						
PB14	IPOC Station P	2.81	12	*i* P	Pn	08 24 57.2	+0.7
PB14				*i* S	Sn	08 25 29.9	+0.5
PB14				IAML		08 25 31.6	
	comp=E,196nm,0.4s						
AGUA	GUANDACOL	3.05	134	*i* P	Pn	08 25 01.8	+2.3
ACCO	Cerro Coronel	3.61	152	*i* P	Pn	08 25 09.0	+1.6
ACCO				*i* S	Sn	08 25 53.6	+4.5
CO02	Combarbal	3.79	180	*e*P	Pn	08 25 08.5	-1.2
CO02				*i* S	Sn	08 25 50.0	-3.3
CO02				IAML		08 26 07.5	
	comp=N,243nm,0.2s						
AMOG	MOGNA	4.17	148	*i* P	Pn	08 25 15.9	+1.2
PB05	IPOC Station P	4.58	10⇓	*i* P	Pn	08 25 20.1	-0.5
PB05				*i* S	Sn	08 26 11.2	-1.6
RTLS	Leoncito	4.64	161	*i* P	Pn	08 25 22.1	+0.6
RTLS				*i* Sg	Sb	08 26 33.8	+4.1
RTLS				IAML		08 26 42.8	
	comp=Z,17nm,0.7s						
CFA	Coronel Fontan	4.85	151	*i* P	Pn	08 25 24.2	+0.1
CFA				*i* S	Sn	08 26 17.2	-1.9
APLL	PUNTA DE LOS L	4.95	128	*i* P	Pn	08 25 25.8	+0.3
ASAL	Salagasta	5.51	160	*i* P	Pn	08 25 34.0	+0.7
TCA	Tanti	6.85	127	*i* P	Pn	08 25 50.8	-0.9
TCA				*i* S	Sn	08 27 01.8	-6.7

IDC 23 08:31:49.7±1.9, 50°.92N×149°.54E, h524km±29km, mb2.9/5, mb1 3.0/7, mb1mx2.7/44, mbtmp3.7/7, Error ellipse: s-maj=27.7km s-min=18.3km az=128.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.50	63	P	P	08 33 22.9	+0.6
	0.1nm,0.3s,baz=249,slow=12,SNR=4.6						
MJAR	Matsushiro Arr	16.51	214	P	P	08 35 14.3	-0.7
	0.0nm,0.3s,baz=13,slow=8.7,SNR=4.8						
ILAR	Eielson Array	34.89	42	P	P	08 37 56.0	-0.7
	0.3nm,0.6s,baz=263,slow=7.4,SNR=6.8						
MKAR	Makanchi Array	43.05	292	P	P	08 39 00.7	-2.1
	0.1nm,0.4s,baz=65,slow=6.8,SNR=2.7						
CMAR	Chiang Mai Arr	51.32	250	P	P	08 40 06.4	+1.1
	2.0nm,0.4s,baz=51,slow=7.1,SNR=3.6						
FINES	FINESS Array B	59.25	332	P	P	08 41 00.9	+1.0
	8.5nm,1.2s,baz=41,slow=7.4,SNR=10						
ASAR	Alice Springs	75.53	195	P	P	08 42 39.7	-0.5
	0.2nm,0.6s,baz=2.9,slow=6.2,SNR=4.1						

*IDC **23** 08:38:02.0±1.5, 56°.91S×24°.93W, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.1/23, mbtmp4.4/5, Error ellipse: s-maj=52.3km s-min=29.8km az=175.0*
*ISCJB **23** 08:38:04.6±0.6, 56°.84S±0°.09×25°.1W±0°.2, h22km, mb4.4/5, Error ellipse: s-maj=17.7km s-min=7.7km az=142.0*
*NEIC **23** 08:38:09.9±1.0, 57°.05±0°.2×25°.3W±0°.2, h50km±7km, mb4.6/13*

ISC 23 08:38:06.0±0.6, 57°.05±0°.1×25°.1W±0°.1, h22km, n31, σ2°06/33, mb4.7/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.02	288	Pn	Pn	08 39 48.4	+1.1
VNA1	Neumayer--Stat	15.46	159	P	Pn	08 41 45.0	+2.6
VNA3	Neumayer Olymp	15.70	161	P	Pn	08 41 47.7	+2.3
VNA3				S	Sn	08 44 33.5	-5.0
VNA2	Neumayer--Watz	15.86	159	P	Pn	08 41 49.5	+2.0
	baz=325,slow=14						
VNA2				S	Sn	08 44 35.2	-7.1
	baz=313,slow=12						
SNAA	Sanae	17.38	156	P	P	08 42 11.0	+2.9
SNAA	Sanae	17.38	156	P	P	08 42 09.6	+1.6
USHA	Ushuaia	24.10	257	P	P	08 43 19.6	0.0
	5.7nm,0.8s,baz=110,slow=12,SNR=4.5						
GO09	Cerro Castillo	27.81	262		P	08 43 51.6	-1.6
GO09				IAmb	IAmb	08 44 09.8	
	comp=Z,17nm,1.1s						
QSPA	South Pole Qui	33.24	180	P	P	08 44 43.4	+2.2
QSPA				IAmb	IAmb	08 44 56.3	
	comp=Z,12nm,1.1s						
MAW	Mawson	38.67	142	P	P	08 45 29.2	+1.9
LVC	Limon Verde	46.80	299	P	P	08 46 34.1	-0.1
	comp=Z,5.0nm,0.5s,baz=157,slow=7.0,SNR=7.8						
LVC	Limon Verde	46.80	299	P	P	08 46 33.9	-0.3
LVC				IAmb	IAmb	08 46 36.1	
	comp=Z,7.4nm,0.6s						
SIV	San Ignacio	49.10	312	P	P	08 46 50.6	-1.0
	comp=Z,1.8nm,0.8s,baz=158,slow=5.4,SNR=6.7						
GO01	Chusmiza	49.45	300	P	P	08 46 54.1	-0.8
GO01				IAmb	IAmb	08 46 54.8	
	comp=Z,8.4nm,0.9s						
PB11	IPOC Station P	49.59	300	P	P	08 46 55.7	+0.1
MNMC	Minye Minye	50.10	300	P	P	08 46 58.8	-0.9
LPAZ	La Paz	51.89	304	P	P	08 47 12.5	-1.0
	comp=Z,18nm,0.5s,baz=150,slow=5.1,SNR=135						
LPAZ	La Paz	51.89	304	P	P	08 47 13.1	-0.3
SAML	Samuel	56.32	313	P	P	08 47 44.0	-1.0
SAML				IAmb	IAmb	08 47 54.4	
	comp=Z,3.2nm,0.8s						
OTAV	Otavalo	71.17	302	P	P	08 49 23.3	-0.1
OTAV				IAmb	IAmb	08 49 36.0	
	comp=Z,8.2nm,1.1s						
TOA0	Torodi Ar. Sit	73.34	27	P	P	08 49 35.9	+0.1
TORD	Torodi Ar. Bea	73.34	27	P	P	08 49 34.5	-1.3
	comp=Z,1.0nm,0.8s,baz=195,slow=6.8,SNR=4.5						
TORD	Torodi Ar. Bea	73.34	27	P	P	08 49 36.6	+0.8
BCAR	Beaver Creek A	149.01	308		PKPab	08 57 53.2	-1.9
SONM	Songino Array	149.61	87	PKPbc	PKPbc	08 57 52.0	-0.9
	comp=Z,1.0nm,0.6s,baz=222,slow=2.8,SNR=5.8						
SONM	Songino Array	149.61	87		PKiKP	08 57 53.0	-0.8
TLY	Talaya	150.23	78		PKPdf	08 57 48.4	-0.5
IL31		151.64	310		PKiKP	08 57 56.9	-0.4
ILAR	Eielson Array	151.64	310	PKPbc	PKPbc	08 57 56.4	-0.6
	comp=Z,2.3nm,0.9s,baz=122,slow=2.0,SNR=17						
ILAR	Eielson Array	151.64	310		PKPbc	08 57 56.5	-0.5
TOLK	Toolik Lake Re	153.18	318		PKiKP	08 58 00.1	-0.4

SJA 23 08:40:20.6±0.6, 28°.46S×66°.51W, h10km±3km, ML3.6, MW3.7, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	Choya	0.62	88	*i* P	Pg	08 40 33.0	+0.3
CYA				IAML		08 40 33.8	
	comp=Z,2μm,0.3s						
ACLC	CERRO LA CRUZ	1.03	202	*i* P	Pg	08 40 40.4	-0.2
VCA	Vinchina	1.52	259	*i* P	Pb	08 40 49.2	+0.3
VCA				*i* Sg	Sg	08 41 10.3	+0.9
VCA				IAML		08 41 17.5	
	comp=Z,2μm,0.2s						
APLL	PUNTA DE LOS L	1.93	180	*i* P	Pb	08 40 55.9	0.0
APLL				*e*P	Pb	08 40 55.9	0.0
APLL				*e*S	Sb	08 41 21.2	+1.3
ACDV	Cuesta del Vie	2.84	233	*i* P	Pb	08 41 09.5	-2.1
ACDV				*i* Sg	Sg	08 41 52.2	+0.2
ACCO	Cerro Coronel	3.07	226	*i* P	Pb	08 41 13.2	-2.4
ACCO				*i* Sg	Sg	08 41 59.6	+0.3
AROD	Rodeo	3.10	236	*i* P	Pn	08 41 12.8	+3.0
RTLL	Cerro Villicun	3.33	210	*i* P	Pn	08 41 15.6	+2.8
CFA	Coronel Fontan	3.47	205	*i* P	Pn	08 41 17.4	+2.6
RTCV	Cerro Valdivia	3.82	207	*i* P	Pn	08 41 22.6	+3.1
SLA	San Lorenzo	3.83	14	*i* P	Pn	08 41 23.1	+3.2
RTLS	Leoncito	4.11	215	*i* P	Pn	08 41 27.4	+3.7
AZAP	Zapla	4.42	17	*i* P	Pn	08 41 31.5	+3.6
AAGR	Agrelo	5.02	203	*i* P	Pn	08 41 39.8	+3.7
HJA	Humahuaca	5.33	11	*i* P	Pn	08 41 44.7	+4.1

*IDC **23** 08:51:40.1±0.8, 16°.28S×173°.26W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.1/41, mbtmp4.2/11, Error ellipse: s-maj=30.8km s-min=13.7km az=115.0*
*ISCJB **23** 08:51:42.5±0.3, 16°.42S±0°.05×172°.88W±0°.06, h26km, mb4.4/14, Error ellipse: s-maj=9.2km s-min=6.5km az=36.8*
*NEIC **23** 08:51:43.5±2.7, 16°.23S±0°.07×172°.81W±0°.08, h19km±4km, mb4.6/37*

ISC 23 08:51:43.2±0.4, 16°.27S±0°.05×172°.78W±0°.08, h26km, n77, σ2°06/75, mb4.6/31, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.54	23	Pn	Pn	08 52 21.4	-1.4
	25nm,0.3s,baz=221,slow=0.6,SNR=21						
AFI				Sn	Sn	08 52 50.2	-2.7
	69nm,0.3s,baz=348,slow=19,SNR=5.1						
AFI	Afiamalu	2.54	23		Pn	08 52 21.5	-1.3
AFI				Sn	Sn	08 52 47.8	-5.1
NIUE	Niue	3.90	136		Pn	08 52 40.6	-0.9
NIUE				Sn	Sn	08 53 21.7	-4.7
MSVF	Nonsavu	8.89	259		Pn	08 53 52.8	+2.6
RAR	Rarotonga	13.27	114	Pn	Pn	08 54 50.5	+0.6
	1.0nm,0.3s,baz=299,slow=13,SNR=3.3						
RAR	Rarotonga	13.27	114	Pn	Pn	08 54 50.6	+0.7
DZM	Mont Dzumac	20.45	250	P	Pn	08 56 17.9	-3.3
	13nm,0.9s,baz=125,slow=16,SNR=8.5						
DZM	Mont Dzumac	20.45	250	P	Pn	08 56 20.5	-0.7
DZM				IAmb	IAmb	08 56 25.2	
	comp=Z,17nm,0.8s						
OUZ	Omahuta	22.46	210		P	08 56 41.7	+1.2
OUZ				IAmb	IAmb	08 56 52.3	
	comp=Z,16nm,1.0s						
URZ	Urewera	23.64	200	P	P	08 56 50.7	-1.7
	comp=Z,7.8nm,0.6s,baz=347,slow=18,SNR=9.8						
URZ				S	S	09 01 08.0	+2.4
	comp=Z,11nm,1.0s,baz=120,slow=23,SNR=2.8						
URZ	Urewera	23.64	200	P	P	08 56 51.7	-0.8
URZ				IAmb	IAmb	08 57 07.5	
	comp=Z,47nm,1.3s						
BKZ	Black Stump Fm	24.67	200	P	P	08 57 02.1	+0.1
QRZ	Quartz Range	27.58	205	P	P	08 57 28.9	+0.7
NNZ	Nelson	27.59	203	P	P	08 57 29.8	+1.6
LTZ	Lake Taylor	29.36	203	P	P	08 57 41.9	-2.1
LTZ				IAmb	IAmb	08 57 48.7	
	comp=Z,11nm,1.0s						
OXZ	Oxford	29.91	203	P	P	08 57 46.6	-2.4
RPZ	Rata Peaks	30.61	203	P	P	08 57 54.4	-0.8
	comp=Z,1.5nm,0.5s,baz=53,slow=5.1,SNR=1.7						
ARMA	Armidale	35.42	240	P	P	08 58 36.1	-1.3
PMG	Port Moresby	39.60	275	P	P	08 59 13.7	+0.9
PMG				IAmb	IAmb	08 59 16.1	
	comp=Z,11nm,0.9s						
H11N3	WAKE ISLAND Hy	40.96	330	T	T	09 42 56.2	
	baz=150,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	40.96	330	T	T	09 42 57.5	
	baz=150,slow=76,SNR=7.2						
H11N2	WAKE ISLAND Hy	40.97	330	T	T	09 42 59.9	
	baz=150,slow=76,SNR=13						
TOO	Toolangi	42.39	232	P	P	08 59 33.8	-1.9
TOO				IAmb	IAmb	08 59 37.5	
	comp=Z,6.2nm,0.7s						
COEN	Coen	42.52	267	P	P	08 59 36.0	-1.0
STKA	Stephens Creek	44.13	241	P	P	08 59 46.4	-3.3
	comp=Z,3.5nm,0.6s,baz=89,slow=10.0,SNR=10.0						
STKA	Stephens Creek	44.13	241	P	P	08 59 49.6	-0.2
BBOO	Buckleboo	48.90	241	P	P	09 00 27.5	+0.3
WB2	Warramunga Arr	50.22	257	P	P	09 00 37.0	-0.5
WRA	Warramunga Arr	50.23	257	P	P	09 00 33.5	-4.0
	comp=Z,0.7nm,0.5s,baz=94,slow=6.7,SNR=8.9						
WRA				PcP	PcP	09 01 58.1	+1.6
	comp=Z,0.5nm,0.6s,baz=92,slow=3.4,SNR=2.8						
WRA	Warramunga Arr	50.23	257	P	P	09 00 38.2	+0.7
AS31	Alice Springs	50.41	253	P	P	09 00 35.5	-3.4
AS31				IAmb	IAmb	09 00 39.5	
	comp=Z,3.8nm,0.6s						
ASAR	Alice Springs	50.41	253	P	P	09 00 35.0	-3.9
	comp=Z,13nm,0.6s,baz=90,slow=8.2,SNR=74						
ASAR				PcP	PcP	09 01 59.2	+2.1
	comp=Z,0.7nm,0.7s,baz=92,slow=6.5,SNR=2.0						
ASAR	Alice Springs	50.41	253	P	P	09 00 34.3	-4.5
MTN	Manton Dam	54.26	266	P	P	09 01 06.3	-1.1
KNRA	Kununurra	56.03	262	P	P	09 01 20.8	+0.6
KNRA				IAmb	IAmb	09 01 27.3	
	comp=Z,8.3nm,1.0s						
MJAR	Matsushiro Arr	69.98	320	P	P	09 02 51.6	-1.0
	comp=Z,0.9nm,0.8s,baz=137,slow=6.0,SNR=4.1						
MJAR	Matsushiro Arr	69.98	320	P	P	09 02 51.4	-1.2
KRMB	Red Mountain	73.11	36	P	P	09 03 14.4	+2.9
KRMB				IAmb	IAmb	09 03 29.9	
	comp=Z,10nm,1.1s						
PETK	Petropavlovsk-	73.63	342	P	P	09 03 15.9	+1.7
	comp=Z,3.5nm,0.9s,baz=123,slow=5.5,SNR=4.0						
PETK	Petropavlovsk-	73.63	342	P	P	09 03 15.8	+1.6
QSPA	South Pole Qui	73.78	180	P	P	09 03 16.3	+1.2

*IDC **23** 09:00:57.2±75.0, 23°.52N×123°.44E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.3/58, mbtmp3.8/3, Error ellipse: s-maj=1337.0km s-min=173.2km az=133.0*
*ISCJB **23** 09:01:11.9±0.3, 24°.15N±0°.01×121°.96E±0°.02, h25km±2km, mb3.5/3, Error ellipse: s-maj=2.7km s-min=1.8km az=32.9*
*JMA **23** 09:01:11.2±0.1, 24°.09N×121°.91E, h29km±2km, M3.1*
*NEIC **23** 09:01:11.3±1.4, 24°.20N±0°.04×121°.97E±0°.03, h27km±5km, mb4.4/7, ML4.4(TAP)*
*TAP **23** 09:01:11.8, 24°.18N×121°.90E, h25km, ML4.0, B*
ISC 23 09:01:11.3±0.9, 24°.16N±0°.02×121°.96E±0°.02, h26km±6km, n147, σ0.86/217, mb4.0/8, 14C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.33**	**324**	⇓*i*P			**Pb**	**09 01 18.8**	**-0.1**
NANB	baz=331			*e*S			**Sb**	**09 01 23.9**	**-0.1**
ENA	**Nanau**	**0.33**	**323**	P			**Pb**	**09 01 18.9**	**-0.1**
ENA	baz=331			S			**Sb**	**09 01 24.3**	**+0.2**
NACB	**Ninganchiao**	**0.34**	**272**	⇓P			**Pb**	**09 01 18.7**	**-0.3**
NACB	baz=263			S			**Sb**	**09 01 24.1**	**-0.2**
NACB	**Ninganchiao**	**0.34**	**272**				**Pb**	**09 01 18.6**	**-0.4**
TWD	**Chiawan**	**0.34**	**256**	⇓P			**Pb**	**09 01 19.0**	**-0.1**
TWD	baz=248			S			**Sb**	**09 01 24.5**	**+0.1**
HWA	**Hwalien**	**0.38**	**241**	*e*P			**Pb**	**09 01 20.3**	**+0.7**
HWA	baz=229			*e*S			**Sb**	**09 01 26.6**	**+1.4**
EOS1	**EOS1**	**0.41**	**21**	P			**Pn**	**09 01 21.8**	**+0.2**
EOS1	baz=40			*e*S			**Sn**	**09 01 29.5**	**+1.0**
ENLB	**Shoufeng**	**0.42**	**232**	P			**Pb**	**09 01 20.1**	**-0.2**
ENLB	baz=222			S			**Sb**	**09 01 27.5**	**+1.2**
ETLH	**Xiulin Townshi**	**0.44**	**276**	⇓P			**Pb**	**09 01 20.4**	**-0.3**
ETLH	baz=271			*e*S			**Sb**	**09 01 26.7**	**-0.4**
TWC	**Suao**	**0.46**	**347**	P			**Pn**	**09 01 21.3**	**-0.9**
TWC	baz=359			S			**Sn**	**09 01 28.1**	**-1.5**
NNSB	**Datong**	**0.59**	**297**	⇓P			**Pb**	**09 01 23.0**	**-0.3**
NNSB	baz=289			S			**Sb**	**09 01 30.8**	**-0.6**
ESL	**Shilin**	**0.60**	**235**	P			**Pb**	**09 01 23.1**	**-0.1**
ENTT	baz=236 **Nioudou**	**0.60**	**323**	⇑P			**Pb**	**09 01 23.3**	**0.0**
ENTT	baz=321			S			**Sb**	**09 01 31.8**	**+0.4**
NDT	**Datong Townshi**	**0.60**	**317**	*e*P			**Pb**	**09 01 23.3**	**0.0**
NDT	baz=314			*e*S			**Sb**	**09 01 31.3**	**-0.1**
NNS	**Nan Shan**	**0.61**	**297**	P			**Pb**	**09 01 23.3**	**-0.1**
NNS	baz=290			*i*S			**Sb**	**09 01 31.5**	**-0.2**
TWE	**Neicheng**	**0.62**	**334**	⇑*i*P			**Pn**	**09 01 23.9**	**-0.6**
TWE	baz=340			S			**Sn**	**09 01 32.8**	**-0.7**
ILA	**Ilan**	**0.63**	**342**	*e*P			**Pn**	**09 01 24.2**	**-0.5**
ILA	baz=348			S			**Sn**	**09 01 33.6**	**-0.3**
WHF	**Hehuan Shan**	**0.64**	**269**	P			**Pb**	**09 01 23.8**	**-0.4**
WHF	baz=264			S			**Sb**	**09 01 32.9**	**-0.1**
SLBB	**Yuanshan**	**0.66**	**333**	P			**Pb**	**09 01 23.7**	**-0.6**
SLBB	baz=337			*e*S			**Sb**	**09 01 33.3**	**+0.1**
EGS		**0.68**	**358**	⇑*i*P			**Pn**	**09 01 25.6**	**+0.3**
EGS	baz=2.0			S			**Sn**	**09 01 35.1**	**0.0**
EGFH	**Guangfu**	**0.69**	**225**	*e*P			**Pb**	**09 01 25.2**	**+0.4**
NTC	baz=219 **Toucheng**	**0.70**	**350**	⇑P			**Pn**	**09 01 25.6**	**+0.1**
NTC	baz=355			*e*S			**Sn**	**09 01 35.7**	**+0.2**
TWT	**Tachien**	**0.72**	**277**	P			**Pb**	**09 01 25.6**	**+0.1**
TWT	baz=275			*e*S			**Sb**	**09 01 34.9**	**-0.2**
CHGB	**Renai**	**0.73**	**262**	P			**Pb**	**09 01 25.3**	**-0.3**
CHGB	baz=249			S			**Sb**	**09 01 35.1**	**-0.1**
YHNB	**Yeheng**	**0.74**	**313**	⇑P			**Pb**	**09 01 25.5**	**-0.2**
YHNB	baz=307			S			**Sb**	**09 01 35.2**	**-0.1**
YHNB	**Yeheng**	**0.74**	**313**				**Pb**	**09 01 25.3**	**-0.3**
TDCB	**Techi**	**0.74**	**277**	*e*P			**Pb**	**09 01 25.7**	**0.0**
TDCB	baz=275			S			**Sb**	**09 01 35.3**	**-0.2**
NWLT	**Wulai**	**0.74**	**326**	*e*P			**Pn**	**09 01 25.8**	**-0.4**
OWD	**Renai**	**0.75**	**254**	*e*P			**Pb**	**09 01 25.8**	**-0.1**
NSK	**Sanguang**	**0.75**	**313**	⇑P			**Pb**	**09 01 25.7**	**-0.2**
NSK	baz=307			S			**Sb**	**09 01 35.4**	**-0.4**
TIPB	**Shuangxi**	**0.82**	**351**	⇑*i*P			**Pn**	**09 01 27.7**	**+0.5**
TIPB	baz=3.0			S			**Sn**	**09 01 38.7**	**+0.2**
HGSD	**Ruisui**	**0.83**	**217**	*e*P			**Pb**	**09 01 27.3**	**+0.1**
TWB1	**Santiao Chiao**	**0.84**	**2**	⇑P			**Pn**	**09 01 28.2**	**+0.6**
TWB1	baz=7.0			*e*S			**Sn**	**09 01 39.6**	**+0.5**
VWDT	**VWDT**	**0.85**	**242**	⇑P			**Pn**	**09 01 27.5**	**-0.2**
VWDT	baz=227			S			**Sb**	**09 01 38.7**	**+0.1**
EHY	**Hungye**	**0.88**	**222**	*e*P			**Pn**	**09 01 28.3**	**+0.2**
TWA	**Mucha**	**0.89**	**337**	*e*P			**Pb**	**09 01 28.7**	**+0.6**
TWA	baz=325			S			**Sn**	**09 01 41.3**	**+1.1**
NHDH	**Xindian Distri**	**0.89**	**334**	*e*P			**Pb**	**09 01 29.1**	**+0.9**
NHDH	baz=322			*e*S			**Sn**	**09 01 41.1**	**+0.8**
TATO	**Taipei**	**0.92**	**332**	⇑P			**Pb**	**09 01 29.2**	**+0.6**
TATO	baz=321			S			**Sn**	**09 01 41.5**	**+0.5**
TATO	**Taipei**	**0.92**	**332**				**Pb**	**09 01 28.6**	**0.0**
NWF	**Wu-fen Shan**	**0.92**	**350**	⇑*i*P			**Pb**	**09 01 29.7**	**+1.0**
NWF	baz=347			S			**Sn**	**09 01 42.7**	**+1.5**
WFSB	**Wu-fen Shan**	**0.92**	**350**	⇑P			**Pb**	**09 01 29.7**	**+1.0**
WFSB	baz=349			S			**Sn**	**09 01 42.7**	**+1.7**
WHP	**Taichung City**	**0.94**	**277**	*e*P			**Pb**	**09 01 29.1**	**+0.2**
WHP	baz=274			*e*S			**Sb**	**09 01 41.4**	**+0.3**
JYNG	**Yonagunijimaku**	**0.94**	**72**	P			**Pb**	**09 01 29.9**	**+0.9**
WLTB	**Daxi**	**0.94**	**317**	⇑P			**Pb**	**09 01 29.7**	**+0.6**
WLTB	baz=318			*e*S			**Sn**	**09 01 42.2**	**+0.6**
DPDB	**Guoxing**	**0.96**	**263**	P			**Pn**	**09 01 29.1**	**-0.1**
DPDB	baz=249			*e*S			**Sb**	**09 01 41.3**	**-0.3**
TAP	**Taipei**	**0.97**	**335**	*e*P			**Pb**	**09 01 30.2**	**+0.7**
YULB	baz=323 **Yu-li**	**0.98**	**219**	*e*P			**Pn**	**09 01 28.7**	**-0.7**
YULB	baz=225 **Yu-li**	**0.98**	**219**				**Pn**	**09 01 29.4**	**0.0**
LIOB	**Emei**	**0.99**	**299**	*e*P			**Pb**	**09 01 30.2**	**+0.3**
LIOB	baz=292			S			**Sn**	**09 01 43.1**	**+0.4**
NSTT	**Nanjuang**	**0.99**	**298**	P			**Pb**	**09 01 30.1**	**+0.2**
NSTT	baz=290			S			**Sn**	**09 01 43.0**	**+0.1**
SSLB	**Suanglung**	**1.00**	**248**	⇑P			**Pn**	**09 01 29.6**	**-0.1**
SSLB	baz=242			*e*S			**Sn**	**09 01 41.5**	**-1.4**
SSLB	**Suanglung**	**1.00**	**248**				**Pn**	**09 01 29.8**	**+0.1**
YOJ	**Yonaguni jima**	**1.00**	**72**	⇓P			**Pb**	**09 01 30.6**	**+0.6**
YOJ	baz=75 **Yonaguni jima**	**1.00**	**72**	P			**Pb**	**09 01 30.6**	**+0.6**
YOJ				S			**Sn**	**09 01 45.1**	**+2.1**
YOJ	**Yonaguni jima**	**1.00**	**72**				**Pb**	**09 01 30.1**	**+0.1**
SMLT	**Sun Moon Lake**	**1.01**	**254**	P			**Pn**	**09 01 30.1**	**+0.1**
SMLT	baz=241			*e*S			**Sn**	**09 01 43.3**	**-0.1**
TYC	**Yuchr**	**1.04**	**256**	*e*P			**Pn**	**09 01 30.6**	**+0.3**
YM01	baz=251 **YM01**	**1.04**	**340**	*e*P			**Pb**	**09 01 30.9**	**+0.1**
YM01	baz=329			*e*S			**Sb**	**09 01 45.2**	**+1.1**
YM10	**YM10**	**1.05**	**340**	*e*P			**Pb**	**09 01 31.6**	**+0.5**
YM10	baz=329			*e*S			**Sb**	**09 01 45.8**	**+1.3**
TWS1	**Kuangyinshan**	**1.06**	**332**	*e*P			**Pb**	**09 01 31.6**	**+0.5**
TWS1	baz=335			*e*S			**Sb**	**09 01 46.1**	**+1.6**
YM04	**YM04**	**1.06**	**339**	*e*P			**Pb**	**09 01 31.1**	**0.0**
YM04	baz=329			*e*S			**Sb**	**09 01 46.0**	**+1.4**
YM11	**YM11**	**1.06**	**341**	*e*P			**Pb**	**09 01 31.6**	**+0.5**
YM05	**YM05**	**1.06**	**340**	*e*P			**Pb**	**09 01 31.2**	**+0.1**
YM05	baz=329			S			**Sb**	**09 01 46.0**	**+1.3**
NCU	**National Centr**	**1.07**	**319**	*e*P			**Pb**	**09 01 31.5**	**+0.2**
NCU	baz=320			S			**Sb**	**09 01 46.6**	**+1.8**
NCUH	**Zhongli**	**1.07**	**319**	*e*P			**Pb**	**09 01 31.8**	**+0.5**
NCUH	baz=320			*e*S			**Sb**	**09 01 47.2**	**+2.4**
YM08	**YM08**	**1.08**	**342**	*e*P			**Pb**	**09 01 31.6**	**+0.2**
YM08	baz=331			*e*S			**Sb**	**09 01 45.0**	**0.0**
SBCB	**Hsinchu**	**1.09**	**305**	*e*P			**Pb**	**09 01 32.5**	**+0.9**
SBCB	baz=306			*e*S			**Sb**	**09 01 47.1**	**+1.7**
ANP	**Anpu**	**1.10**	**339**	*e*P			**Pb**	**09 01 32.3**	**+0.6**
TWQ1	baz=341 **Liyutan**	**1.10**	**280**	⇓P			**Pb**	**09 01 32.6**	**+0.8**
TWQ1	baz=277			*e*S			**Sb**	**09 01 47.0**	**+1.3**
NTST	**Danshui**	**1.10**	**335**	*e*P			**Pb**	**09 01 32.6**	**+0.8**
NTST	baz=337			*e*S			**Sb**	**09 01 47.6**	**+1.9**
HSN	**Hsinchu**	**1.11**	**305**	*e*P			**Pb**	**09 01 31.8**	**0.0**
HSN	baz=308			*e*S			**Sb**	**09 01 46.9**	**+1.0**
WHYT	**Xinyi Township**	**1.12**	**246**	⇓*e*P			**Pb**	**09 01 32.1**	**+0.1**
WHYT	baz=240			*e*S			**Sb**	**09 01 47.1**	**+0.9**
NSY	**Sanyi**	**1.13**	**283**	*e*P			**Pb**	**09 01 33.5**	**+1.3**
NSY	baz=281			*e*S			**Sb**	**09 01 48.0**	**+1.6**
NMLH	**Miaoli**	**1.13**	**290**	*e*P			**Pb**	**09 01 33.0**	**+0.7**
NMLH	baz=289			*e*S			**Sb**	**09 01 48.0**	**+1.4**
FULB	**Fuli**	**1.14**	**213**	*e*P			**Pn**	**09 01 31.8**	**+0.2**
YUS	baz=195 **Yu-Shan**	**1.14**	**234**	*e*P			**Pn**	**09 01 32.6**	**+0.5**
TWY	baz=229 **Chenhua**	**1.16**	**343**	*e*P			**Pb**	**09 01 33.2**	**+0.5**
TWY	baz=346			*e*S			**Sb**	**09 01 49.0**	**+1.7**
TCU	**Taichung**	**1.18**	**270**	*e*P			**Pb**	**09 01 34.2**	**+1.2**
TCU	baz=264			*e*S			**Sb**	**09 01 49.9**	**+2.0**
WJS	**Zhushan**	**1.18**	**254**	*e*P			**Pb**	**09 01 33.8**	**+0.7**
PTSB	baz=239 **Yuanli**	**1.18**	**284**	*e*P			**Pb**	**09 01 33.6**	**+0.5**
WNT	baz=283 **Mingjian**	**1.20**	**257**	*e*P			**Pb**	**09 01 34.1**	**+0.6**
WDJ	baz=238 **Dajia District**	**1.22**	**279**	*e*P			**Pb**	**09 01 34.1**	**+0.3**
WCHH	baz=277 **Zhanghua**	**1.29**	**267**	*e*P			**Pb**	**09 01 35.1**	**+0.3**
WCHH	baz=261			*e*S			**Sb**	**09 01 52.7**	**+1.7**
ELDTW	**Lidau**	**1.30**	**222**	*e*P			**Pn**	**09 01 33.7**	**-0.3**
CHN5	baz=261 **Tsauling**	**1.30**	**245**	*e*P			**Pb**	**09 01 35.1**	**-0.1**
CHN5	baz=239			*e*S			**Sb**	**09 01 52.4**	**+0.8**
WGK	**Gukeng**	**1.37**	**250**	*e*P			**Pb**	**09 01 36.4**	**+0.2**
PCYT	baz=245 **Pengchaiyu**	**1.47**	**4**	⇓P			**Pb**	**09 01 37.4**	**-0.6**
PCYT	baz=7.0			*e*S			**Sb**	**09 01 56.9**	**+0.7**
STYT	**Tauyuan**	**1.49**	**228**	*e*P			**Pb**	**09 01 37.8**	**-0.6**
RLNB	baz=212 **Erlin**	**1.49**	**260**	*e*P			**Pb**	**09 01 38.0**	**-0.3**
RLNB	baz=255			*e*S			**Sb**	**09 01 58.0**	**+1.1**
CHN4	**Tsaushan**	**1.49**	**238**	P			**Pb**	**09 01 38.7**	**+0.3**
CHN4	baz=220			*e*S			**Sb**	**09 01 58.7**	**+1.7**
TPUB	**Ta-pu**	**1.49**	**235**	P			**Pb**	**09 01 38.7**	**+0.3**
TPUB	baz=219			*e*S			**Sn**	**09 01 56.5**	**+1.3**
TPUB	**Ta-pu**	**1.49**	**235**				**Pb**	**09 01 38.4**	**0.0**
CHN2	**Minshiung**	**1.50**	**246**	*e*P			**Pb**	**09 01 38.3**	**-0.2**
CHN2	baz=240			*e*S			**Sb**	**09 01 59.5**	**+2.3**
WTP	**Ta-pu**	**1.54**	**234**	P			**Pb**	**09 01 39.0**	**-0.1**
CHY	baz=218 **Chiayi**	**1.56**	**245**	*e*P			**Pb**	**09 01 39.5**	**0.0**
TWGBT	baz=240 **Beinan**	**1.56**	**211**	*e*P			**Pn**	**09 01 37.4**	**-0.1**
TWG	baz=196 **Pinlang**	**1.57**	**212**	*e*P			**Pn**	**09 01 37.6**	**+0.1**
TWG	baz=207 **Pinlang**	**1.57**	**212**				**Pn**	**09 01 37.5**	**+0.1**
TWK	**Hsinying**	**1.62**	**237**	*e*P			**Pb**	**09 01 40.3**	**-0.3**
IRIF	baz=231 **Iriomote-Funau**	**1.62**	**84**	P			**Pb**	**09 01 39.4**	**-1.2**
CHN1	**Nanshi**	**1.64**	**234**	*e*P			**Pb**	**09 01 40.6**	**-0.2**
CHN1	baz=228			*e*S			**Sb**	**09 02 01.7**	**+0.6**
SNST	**Tainan City**	**1.64**	**235**	*e*P			**Pb**	**09 01 40.3**	**-0.6**
SGST	baz=230 **Jiashian**	**1.66**	**230**	*e*P			**Pn**	**09 01 40.2**	**+1.4**
SLGT	baz=215 **Liugui**	**1.68**	**226**	*e*P			**Pb**	**09 01 41.4**	**-0.2**
WSF	baz=212 **Szhu**	**1.68**	**252**	*e*P			**Pn**	**09 01 39.2**	**+0.2**
WSF	baz=247			*e*S			**Sb**	**09 02 03.5**	**+1.3**
HATJ	**Hateruma jima**	**1.69**	**93**	P			**Pb**	**09 01 40.8**	**-0.9**
CHN8	**Yiju**	**1.80**	**244**	*e*P			**Pn**	**09 01 41.2**	**+0.5**
ECL	baz=239 **Taimali**	**1.81**	**211**	*e*P			**Pn**	**09 01 42.1**	**+1.2**
SSD	baz=206 **Sandimen**	**1.87**	**221**	*e*P			**Pn**	**09 01 43.3**	**+1.7**
JKRS	baz=216 **Kuro-shima**	**1.87**	**87**	P			**Pb**	**09 01 43.3**	**-1.5**
MASBT	**Mashibuluo**	**1.97**	**219**	*e*P			**Pb**	**09 01 45.1**	**-1.4**
JIJ	baz=213 **Ishigaki jima**	**2.00**	**84**	P			**Pn**	**09 01 44.6**	**+1.1**
EAST	**Anshuo**	**2.05**	**210**	*e*P			**Pn**	**09 01 45.9**	**+1.7**
LAY	baz=196 **Lan-yu**	**2.15**	**190**	*e*P			**Pn**	**09 01 46.5**	**+1.0**
SCZT	baz=187 **Fangliau**	**2.17**	**215**	*e*P			**Pn**	**09 01 47.6**	**+1.8**
JISG	baz=199 **Ishigakijimahi**	**2.18**	**78**	P			**Pn**	**09 01 47.4**	**+1.4**
JISG				*e*S			**Sb**	**09 02 15.1**	**-1.7**
PHUB	**P'eng-hu**	**2.28**	**254**	*e*P			**Pn**	**09 01 47.9**	**+0.6**
PHUB	baz=249			*e*S			**Sn**	**09 02 15.2**	**+0.6**
PNG	**Penghu**	**2.28**	**255**	*e*P			**Pn**	**09 01 48.1**	**+0.8**
PNG	baz=250			*e*S			**Sn**	**09 02 16.2**	**+1.5**
WDGT	**Dungji**	**2.29**	**247**	*e*P			**Pn**	**09 01 48.9**	**+1.4**
PTTC	baz=243 **Pingtan**	**2.40**	**304**	*e*P			**Pn**	**09 01 48.7**	**-0.2**
VWUC	baz=303 **VWUC**	**2.43**	**290**	*e*P			**Pn**	**09 01 49.5**	**+0.1**
TWKBT	baz=289 **Hengchun**	**2.45**	**206**	*e*P			**Pn**	**09 01 50.1**	**+0.5**
VCHM	baz=192 **Qimei**	**2.51**	**248**	*e*P			**Pn**	**09 01 51.3**	**+0.8**
JTJ	baz=230 **Tarama**	**2.54**	**79**	P			**Pn**	**09 01 52.5**	**+1.6**
MATB	**Ma-tsu**	**2.70**	**318**	*e*P			**Pn**	**09 01 53.1**	**+0.1**
PTMZ	baz=316 **Houxiangcun**	**2.73**	**289**	*e*P			**Pn**	**09 01 53.7**	**+0.2**
JMJ	baz=288 **Miyako jima 2**	**3.10**	**77**	*e*P			**Pn**	**09 01 59.7**	**+1.1**
LYJJ	baz=82 **Jianjiangzhen**	**3.10**	**320**	*e*P			**Pn**	**09 01 58.6**	**0.0**
KNM	baz=319 **Kinmen**	**3.23**	**275**	*e*P			**Pn**	**09 02 02.6**	**+2.2**
KNMB	baz=270 **Chin-men Tao**	**3.27**	**276**	*e*P			**Pn**	**09 02 01.4**	**+0.4**
KNMB	baz=271 **Chin-men Tao**	**3.27**	**276**	Pn			**Pn**	**09 02 01.6**	**+0.6**
KNMB				Sn			**Sn**	**09 02 39.6**	**+0.4**
MHZQ	**Yeshan**	**3.29**	**307**	*e*P			**Pn**	**09 02 01.1**	**-0.1**
AXDP	baz=306 **Jialang**	**3.71**	**282**	*e*P			**Pn**	**09 02 07.1**	**+0.1**
ZPLA	baz=277 **Ao Xicun**	**3.86**	**267**	*e*P			**Pn**	**09 02 09.2**	**+0.2**
SONM	baz=261 **Songino Array**	**26.67**	**336**	P			**P**	**09 06 48.3**	**0.0**
	0.8nm,0.8s,baz=134,slow=8.2,SNR=4.6								
MANU	**Manus Island**	**35.89**	**133**	P			**P**	**09 08 09.7**	**+0.2**
MK31	**Makanchi Array**	**38.85**	**316**	P			**P**	**09 08 34.1**	**-0.2**
MKAR	**Makanchi Array**	**38.85**	**316**	P			**P**	**09 08 35.7**	**+1.3**
	0.7nm,0.5s,baz=106,slow=9.2,SNR=7.1								
MKAR	**Makanchi Array**	**38.85**	**316**	P			**P**	**09 08 34.0**	**-0.3**
PET	**Petropavlovsk**	**39.93**	**34**	P			**P**	**09 08 42.9**	**-0.3**
PET				IAmb			IAmb	09 08 53.8	
	comp=Z,48nm,1.3s								
ZALV	**Zalesovo Beam**	**40.65**	**327**	P			**P**	**09 08 49.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=104,slow=9.1,SNR=3.8								
ZALV	**Zalesovo Beam**	**40.65**	**327**	P			**P**	**09 08 48.8**	**-0.4**
PMG	**Port Moresby**	**41.46**	**141**	P			**P**	**09 08 53.5**	**-2.7**
PMG				IAmb			IAmb	09 08 56.6	
	comp=Z,4.5nm,0.6s								
NRN	**Naryn**	**41.78**	**306**	P			**P**	**09 08 57.8**	**-1.3**
NRN				IAmb			IAmb	09 09 02.1	
	comp=Z,4.6nm,1.3s								
PSA00	**Pilbara Seismi**	**45.51**	**183**	P			**P**	**09 09 29.9**	**+1.2**
PSA00				IAmb			IAmb	09 09 34.5	
	comp=Z,21nm,1.3s								
ABKAR	**Akbulak array**	**53.97**	**314**	P			**P**	**09 10 32.1**	**-0.8**
ABKAR	**Akbulak array**	**53.97**	**314**	P			**P**	**09 10 32.4**	**-0.5**
ABKAR				IAmb			IAmb	09 10 35.2	
	comp=Z,1.1nm,0.9s								

*ISCJB **23** 09:04:28.0±0.5, 18°.21S±0°.06×168°.80E±0°.08, h201km, mb3.8/12, Error ellipse: s-maj=10.7km s-min=8.3km az=26.1*
*NEIC **23** 09:04:30.2±1.4, 18°.34S±0°.09×168°.8E±0°.1, h216km±10km, mb4.6/11*
*IDC **23** 09:04:30.2±2.2, 18°.40S×168°.98E, h212km±21km, mb3.5/12, mb1 3.8/14, mb1mx3.6/39, mbtmp4.2/14, Error ellipse: s-maj=18.6km s-min=16.7km az=17.0*
ISC 23 09:04:29.3±0.6, 18°.28S±0°.08×168°.91E±0°.09, h201km, n35, σ1.15/37, mb4.1/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.43**	**211**	P			**Pn**	**09 05 36.4**	**-0.1**
	11nm,0.3s,baz=51,slow=18,SNR=172								
DZM				S			**S**	**09 06 29.9**	**+0.9**
	2.7nm,0.3s,baz=58,slow=16,SNR=3.7								
DZM	**Mont Dzumac**	**4.43**	**211**				**Pn**	**09 05 36.6**	**0.0**
DZM							**S**	**09 06 29.2**	**+0.2**
MSVF	**Nonsavu**	**8.72**	**88**				**Pn**	**09 06 33.5**	**+1.5**
HNR	**Honiara**	**12.36**	**314**	P			**Pn**	**09 07 20.2**	**+1.4**
	24nm,0.3s,baz=196,slow=12,SNR=5.2								
HNR	**Honiara**	**12.36**	**314**				**Pn**	**09 07 19.2**	**+0.4**
URZ	**Urewera**	**21.16**	**162**	P			**P**	**09 08 58.2**	**-0.6**
	3.8nm,0.6s,baz=300,slow=20,SNR=2.9								
URZ	**Urewera**	**21.16**	**162**	P			**P**	**09 08 58.8**	**0.0**
CTA	**Charters Tower**	**21.47**	**262**	P			**P**	**09 09 03.9**	**+1.7**
	2.4nm,0.7s,baz=87,slow=2.6,SNR=2.6								
BKZ	**Black Stump Fm**	**21.84**	**164**	P			**P**	**09 09 04.5**	**-1.3**
BKZ				IAmb			IAmb	09 09 22.6	
	comp=Z,20nm,1.3s								
WB0	**Warramunga Arr**	**32.63**	**262**	P			**P**	**09 10 41.8**	**-0.6**
WRAB	**Tennant Creek**	**32.66**	**261**	P			**P**	**09 10 41.0**	**-1.7**
WRAB				IAmb			IAmb	09 10 43.5	
	comp=Z,16nm,0.5s								
WRA	**Warramunga Arr**	**32.67**	**261**	P			**P**	**09 10 42.3**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=82,slow=6.6,SNR=6.6								
AS31	**Alice Springs**	**33.06**	**255**	P			**P**	**09 10 44.8**	**-1.4**
AS31				IAmb			IAmb	09 10 46.5	
	comp=Z,3.1nm,0.4s								
ASAR	**Alice Springs**	**33.06**	**255**	P			**P**	**09 10 46.0**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=83,slow=8.8,SNR=85								
ASAR				PcP			**PcP**	**09 13 24.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=103,slow=2.1,SNR=2.7								
ASAR	**Alice Springs**	**33.06**	**255**	P			**P**	**09 10 45.5**	**-0.7**
MTN	**Manton Dam**	**36.74**	**273**	P			**P**	**09 11 17.2**	**-0.5**
MTN				IAmb			IAmb	09 11 34.3	
	comp=Z,37nm,1.5s								
FITZ	**Fitzroy Crossi**	**41.03**	**263**	P			**P**	**09 11 52.6**	**-0.6**
	comp=Z,3.3nm,1.0s,baz=50,slow=11,SNR=3.1								
FITZ	**Fitzroy Crossi**	**41.03**	**263**	P			**P**	**09 11 52.3**	**-0.9**
YOJ	**Yonaguni jima**	**61.69**	**312**	P			**P**	**09 14 24.6**	**-1.7**
MJAR	**Matsushiro Arr**	**61.76**	**332**	P			**P**	**09 14 27.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=134,slow=5.2,SNR=3.3								
MJAR	**Matsushiro Arr**	**61.76**	**332**	P			**P**	**09 14 24.2**	**-2.4**
MAJO	**Matsushiro**	**61.76**	**332**	P			**P**	**09 14 25.3**	**-1.3**
MAJO				IAmb			IAmb	09 14 32.0	
	comp=Z,10nm,1.4s								
USRK	**Ussuriysk Ar.**	**70.74**	**333**	P			**P**	**09 15 24.8**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=113,slow=22,SNR=2.3								
PET	**Petropavlovsk**	**71.55**	**353**	P			**P**	**09 15 28.6**	**+0.5**
PETK	**Petropavlovsk-**	**71.75**	**353**	P			**P**	**09 15 29.8**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=120,slow=5.9,SNR=8.1								
PETK	**Petropavlovsk-**	**71.75**	**353**	P			**P**	**09 15 29.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**77.82**	**294**	P			**P**	**09 16 06.9**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=179,slow=7.8,SNR=3.6								
SONM	**Songino Array**	**86.26**	**323**	P			**P**	**09 16 48.8**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=154,slow=4.8,SNR=5.5								
NVAR	**Mina Array Bea**	**88.40**	**49**	P			**P**	**09 16 59.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=225,slow=8.7,SNR=1.6								

NVAR	Mina Array Bea	88.40	49	P	P	09 16 58.8	-0.1
ILAR	Eielson Array	89.41	17	P	P	09 17 00.9	-1.7
	comp=Z,0.8nm,0.7s,baz=238,slow=4.9,SNR=12						
ILAR	Eielson Array	89.41	17	P	P	09 17 01.0	-1.7
ARCES	ARCESS Array B	124.06	345	PKP	PKPdf	09 23 01.3	-1.8
	comp=Z,4.1nm,0.9s,baz=352,slow=5.1,SNR=4.9						
GERES	GERESS Array B	143.50	332	PKP	PKPab	09 23 36.9	+0.1
	comp=Z,0.6nm,0.6s,baz=141,slow=6.3,SNR=3.1						
DAVOX	Davos/Dischmat	146.74	333	PKPbc	PKPbc	09 23 47.6	-0.1
	comp=Z,2.3nm,0.5s,baz=343,slow=17,SNR=6.3						

IDC ***23*** *09:07:28.4±0.6, 0°.00S×26°.37E, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.1/37, mbtmp4.3/13, ML4.9/2, Error ellipse: s-maj=20.5km s-min=13.7km az=91.0*
NEIC ***23*** *09:07:29.0±0.9, 0°.07S±0°.09×26°.36E±0°.08, h10km±1km, mb4.5/13*
ISC 23 09:07:29.5±0.5, 0°.23S±0°.06×26°.45E±0°.06, h10km, n45, σ2s 47/51, mb4.3/16, 3C, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	4.30	95	Pn	Pn	09 08 36.4	+1.2
	294nm,0.3s,baz=278,slow=2.0,SNR=235						
MBAR				Sn	Sn	09 09 25.5	-0.1
	770nm,0.3s,baz=243,slow=6.8,SNR=6.7						
MBAR				Lg	Lg	09 09 38.4	
	1μm,0.3s,baz=201,slow=22,SNR=11						
MBAR	Mbarara	4.30	95		Pn	09 08 37.6	+2.3
MBAR					Sn	09 09 25.3	-0.3
LODK	Lodwar	9.62	68	*i* P	Pn	09 10 12.0	+24
LODK				*i* S	Sn	09 11 39.5	+3.1
LODK				*i* S		09 11 49.4	
KMBO	Kilima Mbogo	10.84	95	Pn	Pn	09 10 05.0	-0.1
	1.7nm,0.3s,baz=284,slow=13,SNR=14						
KMBO				Sn	Sn	09 12 03.8	-2.9
	1.4nm,0.3s,baz=247,slow=19,SNR=5.1						
KMBO				Lg	Lg	09 13 00.3	
	2.9nm,0.3s,baz=359,slow=20,SNR=6.6						
KMBO	Kilima Mbogo	10.84	95	*i* P	Pn	09 10 04.4	-0.7
KMBO				*i* S	Sn	09 12 25.0	+18
KMBO	Kilima Mbogo	10.84	95		Pn	09 10 05.4	+0.3
KMBO					Sn	09 12 02.2	-4.4
KIBK	Kibwezi	11.78	100	*i* P	Pn	09 10 17.6	-0.3
KIBK				*i* S		09 13 36.0	
KIBK				*i* S		09 13 36.4	
LSZ	Lusaka	15.05	174	Pn	Pn	09 11 02.9	+0.3
	1.7nm,0.3s,baz=2.5,slow=10,SNR=12						
LSZ				Sn	Sn	09 13 44.3	-5.3
	1.2nm,0.3s,baz=309,slow=6.5,SNR=5.2						
LSZ				Lg	Lg	09 15 19.2	
	baz=42,slow=9.8,SNR=4.8						
LSZ	Lusaka	15.05	174		Pn	09 11 04.3	+1.7
LSZ				IAmb	IAmb	09 11 05.0	
	comp=Z,7.6nm,0.7s						
LSZ					Sn	09 13 45.2	-4.4
TSUM	Tsumeb	20.77	204	P	P	09 12 13.3	+2.3
	comp=Z,9.4nm,0.8s,baz=29,slow=10,SNR=9.9						
TSUM				S	S	09 15 56.8	-6.2
	comp=Z,3.5nm,0.6s,baz=297,slow=18,SNR=3.2						
TSUM				Lg	Lg	09 18 17.5	
	comp=Z,5.5nm,0.7s,baz=282,slow=20,SNR=2.3						
LBTB	Lobatse	24.66	182	P	P	09 12 52.4	+1.7
	comp=Z,22nm,0.5s,baz=356,slow=9.6,SNR=63						
LBTB	Lobatse	24.66	182	P	P	09 12 53.2	+2.5
TOA0	Torodi Ar. Sit	27.91	299	P	P	09 13 18.3	-1.8
TORD	Torodi Ar. Bea	27.91	299	P	P	09 13 17.5	-2.5
	comp=Z,1.8nm,0.6s,baz=108,slow=8.1,SNR=9.7						
TORD				Lg	Lg	09 21 56.6	
	comp=Z,1.5nm,1.1s,baz=134,slow=8.5,SNR=3.7						
TORD	Torodi Ar. Bea	27.91	299	P	P	09 13 18.3	-1.8
BOSA	Boshof	28.25	182	P	P	09 13 25.0	+1.9
	comp=Z,12nm,0.7s,baz=357,slow=7.9,SNR=21						
BOSA	Boshof	28.25	182	P	P	09 13 23.2	+0.1
BOSA				IAmb	IAmb	09 13 25.9	
	comp=Z,18nm,0.9s						
KIC	Kosan Boka	31.81	282	*e*PKP1	P	09 13 56.6	+1.9
	comp=Z,2.0nm,0.4s						
DBIC	Dimbokro	31.98	283	P	P	09 13 54.8	-1.4
	comp=Z,2.9nm,0.6s,baz=90,slow=7.1,SNR=4.3						
DBIC	Dimbokro	31.98	283	P	P	09 13 54.6	-1.5
DBIC				IAmb	IAmb	09 14 03.1	
	comp=Z,17nm,1.4s						
LIC	Lamto	32.06	282	*e*PKP1	P	09 13 56.8	-0.1
	comp=Z,6.8nm,0.4s						
TIC	Toumodi	32.13	283	*e*PKP1	P	09 13 55.9	-1.7
SUR	Sutherland	32.42	189	P	P	09 14 02.4	+2.4
	comp=Z,16nm,0.7s,baz=8.9,slow=7.7,SNR=28						
SUR	Sutherland	32.42	189	P	P	09 14 01.0	+0.9
SANT	Santorini	36.42	359	P	P	09 14 32.3	-2.1
BRTR	Keskin Array B	40.30	9	P	P	09 15 06.7	-0.5
	comp=Z,1.3nm,0.7s,baz=178,slow=9.5,SNR=7.4						
GERES	GERESS Array B	50.11	349	P	P	09 16 24.4	-0.5
	comp=Z,0.4nm,0.6s,baz=163,slow=7.0,SNR=2.6						
ABKAR	Akbulak array	57.08	26	P	P	09 17 14.7	-1.2
ABKAR	Akbulak array	57.08	26	P	P	09 17 14.6	-1.3
KK31	Karatay Array	58.42	37	P	P	09 17 24.6	-1.0
KK31				IAmb	IAmb	09 17 40.2	
	comp=Z,1.9nm,1.0s						
KKAR	Karatay Array	58.42	37	P	P	09 17 24.3	-1.3
NOA	NORSAR Array B	62.21	352	P	P	09 17 51.9	+0.7
	comp=Z,0.6nm,0.7s,baz=168,slow=7.0,SNR=3.0						
MK31	Makanchi Array	67.48	38	⇑Pg	P	09 18 29.7	+3.9
	comp=Z,0.1nm,0.2s,baz=104,slow=16,SNR=24						
MK31				⇑Lg	Lg	09 18 56.5	
	comp=Z,0.3nm,0.3s,baz=105,slow=28,SNR=8.8						
MK31	Makanchi Array	67.48	38	P	P	09 18 25.0	-0.8
MK31				IAmb	IAmb	09 18 26.7	
	comp=Z,3.4nm,1.5s						
MKAR	Makanchi Array	67.48	38	P	P	09 18 24.6	-1.2
	comp=Z,0.5nm,0.5s,baz=246,slow=4.8,SNR=5.5						
MKAR	Makanchi Array	67.48	38	P	P	09 18 24.1	-1.7
SYO	Syowa Base	69.23	175	⇑*ep*P	pP	09 18 39.0	-0.7
MAW	Mawson	71.82	166	P	P	09 18 55.8	+3.8
	comp=Z,4.2nm,0.8s,baz=327,slow=5.3,SNR=11						
ZALV	Zalesovo Beam	72.13	32	P	P	09 18 52.3	-1.9
	comp=Z,0.4nm,0.4s,baz=246,slow=7.2,SNR=2.3						
ZALV	Zalesovo Beam	72.13	32	P	P	09 18 51.0	-3.2
SNAA	Sanae	73.76	189	P	P	09 19 07.3	+3.6
VNA1	Neumayer--Stat	73.88	191	P	P	09 19 08.1	+3.9
VNA2	Neumayer--Watz	73.93	191	P	P	09 19 07.9	+3.3
	baz=17,slow=6.6						
VNA3	Neumayer Olymp	74.63	191	P	P	09 19 12.0	+3.3
XAN	Xi'an	83.88	56	P	P	09 20 00.9	+0.9
XAN				IAmb	IAmb	09 20 02.1	
	comp=Z,7.2nm,1.3s						

ISCJB ***23*** *09:14:00.9±0.3, 24°.15N±0°.01×121°.97E±0°.02, h23km±2km, Error ellipse: s-maj=3.3km s-min=2.1km az=31.2*
JMA ***23*** *09:14:00.2±0.2, 24°.11N×121°.94E, h21km±4km, M2.5*
TAP ***23*** *09:14:01.1, 24°.19N×121°.89E, h24km, ML3.5, B*
ISC 23 09:14:01.0±1.0, 24°.16N±0°.02×121°.94E±0°.02, h18km±3km, n108, σ0s62/161, 7C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.31	273	⇓P	Pg	09 14 07.9	+0.2
	baz=261						
NACB				S	Sb	09 14 13.2	+0.3
	baz=261						
NANB	Nanao	0.32	328	⇓*i*P	Pg	09 14 08.0	+0.2
	baz=332						
NANB				S	Sg	09 14 12.9	+0.5
	baz=332						
TWD	Chiawan	0.32	256	⇓*i*P	Pg	09 14 08.1	+0.3
	baz=247						
TWD				S	Sb	09 14 13.6	+0.6
	baz=247						
ENA	Nanau	0.32	327	⇓P	Pg	09 14 08.0	+0.1
	baz=332						
ENA				S	Sb	09 14 13.2	+0.1
	baz=332						
HWA	Hwalien	0.35	239	*e*P	Pb	09 14 09.4	+0.7
	baz=240						
ENLB	Shoufeng	0.40	230	*e*P	Pg	09 14 09.3	+0.1
	baz=221						
ENLB				S	Sb	09 14 16.7	+1.4
	baz=221						
ETLH	Xiulin Townshi	0.42	277	⇓P	Pg	09 14 09.5	-0.1
	baz=272						
ETLH				S	Sg	09 14 15.7	+0.3
	baz=272						
EOS1	EOS1	0.43	24	P	Pb	09 14 10.9	+0.9
	baz=41						
EOS1				*e*S	Sn	09 14 18.9	-0.7
	baz=41						
TWC	Suao	0.46	350	⇓*i*P	Pg	09 14 10.3	+0.1
TWC				S	Sg	09 14 16.9	+0.5
NNSB	Datong	0.57	298	⇓P	Pb	09 14 12.1	-0.4
	baz=289						
NNSB				S	Sb	09 14 20.1	-0.3
	baz=289						
ESL	Shilin	0.57	233	*e*P	Pb	09 14 12.2	-0.3
	baz=226						
ESL				*e*S	Sg	09 14 21.4	+1.3
	baz=226						
NNS	Nan Shan	0.58	299	*e*P	Pb	09 14 12.3	-0.5
	baz=290						
NNS				S	Sb	09 14 20.4	-0.4
	baz=290						
ENTT	Nioudou	0.58	325	P	Pb	09 14 12.4	-0.3
	baz=322						
ENTT				*e*S	Sb	09 14 20.5	-0.2
	baz=322						
NDT	Datong Townshi	0.58	319	⇑*e*P	Pb	09 14 12.4	-0.4
	baz=315						
NDT				S	Sb	09 14 20.5	-0.3
	baz=315						
TWE	Neicheng	0.61	336	P	Pb	09 14 13.0	-0.2
	baz=341						
TWE				S	Sb	09 14 21.4	0.0
	baz=341						
WHF	Hehuan Shan	0.61	269	*i* P	Pb	09 14 13.1	-0.3
	baz=264						
WHF				*e*S	Sb	09 14 21.8	-0.1
	baz=264						
ILA	Ilan	0.63	344	*e*P	Pb	09 14 13.5	+0.1
	baz=348						
ILA				S	Sg	09 14 22.8	+1.0
	baz=348						
SLBB	Yuanshan	0.65	335	*e*P	Pb	09 14 12.8	-1.1
	baz=338						
SLBB				*e*S	Sb	09 14 22.5	-0.2
	baz=338						
EGS		0.68	360	P	Pg	09 14 14.8	+0.4
	baz=3.0						
EGS				*e*S	Sg	09 14 24.2	+0.6
	baz=3.0						
NTC	Toucheng	0.70	352	*e*P	Pb	09 14 14.9	+0.2
	baz=356						
NTC				*e*S	Sg	09 14 24.7	+0.6
	baz=356						
CHGB	Renai	0.70	262	⇑P	Pb	09 14 14.5	-0.4
	baz=249						
CHGB				S	Sb	09 14 24.4	+0.1
	baz=249						
TDCB	Techi	0.71	278	P	Pb	09 14 14.8	-0.2
	baz=275						
TDCB				*e*S	Sb	09 14 24.1	-0.5
	baz=275						
YHNB	Yeheng	0.72	315	⇑P	Pb	09 14 14.6	-0.4
	baz=307						
YHNB				S	Sb	09 14 24.4	-0.3
	baz=307						
OWD	Renai	0.72	254	*e*P	Pb	09 14 15.0	-0.1
	baz=249						
NWLT	Wulai	0.73	327	*e*P	Pb	09 14 14.7	-0.5
	baz=327						
NWLT				*e*S	Sb	09 14 24.8	-0.1
	baz=327						
NSK	Sanguang	0.73	314	⇑*i*P	Pb	09 14 14.8	-0.5
	baz=307						
NSK				S	Sb	09 14 24.4	-0.7
	baz=307						
HGSD	Ruisui	0.81	215	*e*P	Pb	09 14 16.4	-0.1
	baz=199						
TIPB	Shuangxi	0.81	353	⇑*i*P	Pb	09 14 16.8	+0.1
	baz=4.0						
TIPB				*e*S	Sb	09 14 27.4	+0.1
	baz=4.0						
VWDT	VWDT	0.83	241	*e*P	Pb	09 14 16.5	-0.4
	baz=227						
VWDT				*e*S	Sb	09 14 27.8	0.0
	baz=227						
TWB1	Santiao Chiao	0.85	3	*e*P	Pb	09 14 17.6	+0.4
EHY	Hungye	0.86	221	*e*P	Pb	09 14 16.6	-0.8
	baz=216						
TWA	Mucha	0.88	339	*e*P	Pb	09 14 17.6	-0.2
	baz=334						
TWA				*e*S	Sb	09 14 29.2	0.0
	baz=334						
NHDH	Xindian Distri	0.88	335	*e*P	Pb	09 14 17.7	-0.1
	baz=322						
TATO	Taipei	0.91	333	⇑P	Pb	09 14 18.4	+0.1
	baz=321						
TATO				S	Sb	09 14 30.3	+0.3
	baz=321						
WHP	Taichung City	0.91	278	*e*P	Pb	09 14 18.5	+0.2
	baz=275						
WHP				*e*S	Sb	09 14 30.1	-0.1
	baz=275						
NWF	Wu-fen Shan	0.92	351	P	Pb	09 14 18.8	+0.4
	baz=347						
NWF				*e*S	Sg	09 14 31.4	+0.4
	baz=347						
WFSB	Wu-fen Shan	0.92	351	⇑P	Pb	09 14 18.7	+0.2
	baz=347						
WFSB				S	Sg	09 14 31.3	+0.3
	baz=347						
WLTB	Daxi	0.93	318	*e*P	Pb	09 14 18.8	+0.2
	baz=318						
WLTB				*e*S	Sb	09 14 30.9	+0.3
	baz=318						
DPDB	Guoxing	0.93	262	*e*P	Pb	09 14 18.2	-0.5
	baz=259						
YULB	Yu-li	0.96	218	*e*P	Pb	09 14 17.8	-1.4
	baz=225						
JYNG	Yonagunijimaku	0.97	72	P	Pb	09 14 18.9	-0.3
LIOB	Emei	0.97	300	*e*P	Pb	09 14 19.2	-0.1
	baz=291						
LIOB				*e*S	Sb	09 14 32.1	+0.4
	baz=291						
SSLB	Suanglung	0.97	248	*e*P	Pb	09 14 18.4	-0.9
	baz=244						
NSTT	Nanjuang	0.97	299	*e*P	Pb	09 14 19.2	-0.1
	baz=298						
SMLT	Sun Moon Lake	0.98	254	*e*P	Pb	09 14 19.2	-0.4
	baz=241						
SMLT				*e*S	Sb	09 14 31.7	-0.6
	baz=241						
TWF1	Yuli	0.99	216	*e*P	Pb	09 14 18.3	-1.4
	baz=226						
TYC	Yuchr	1.02	256	*e*P	Pb	09 14 19.9	-0.2
	baz=252						
YOJ	Yonaguni jima	1.03	73	*e*P	Pb	09 14 19.7	-0.6
	baz=76						
YOJ	Yonaguni jima	1.03	73	P	Pb	09 14 19.8	-0.5
YM01	YM01	1.04	341	*e*P	Pb	09 14 20.5	0.0
	baz=329						
YM01				*e*S	Sn	09 14 35.0	+0.1
	baz=329						
YM10	YM10	1.05	341	*e*P	Pb	09 14 20.8	+0.1
	baz=328						
TWS1	Kuangyinshan	1.05	333	*e*P	Pb	09 14 20.4	-0.2
	baz=335						
TWS1				*e*S	Sg	09 14 35.3	+0.2
	baz=335						
YM11	YM11	1.05	342	*e*P	Pb	09 14 20.6	-0.2
	baz=330						
YM11				*e*S	Sb	09 14 34.8	+0.5
	baz=330						
NCUH	Zhongli	1.05	320	*e*P	Pb	09 14 20.8	0.0
	baz=320						
NCUH				*e*S	Sg	09 14 35.8	+0.5
	baz=320						
NCU	National Centr	1.06	320	*e*P	Pb	09 14 20.5	-0.3
	baz=320						
NCU				*e*S	Sg	09 14 36.5	+1.2
	baz=320						
SBCB	Hsinchu	1.07	306	*e*P	Pb	09 14 21.1	+0.1
	baz=306						
SBCB				*e*S	Sg	09 14 37.5	+1.7
	baz=306						
YM08	YM08	1.07	343	*e*P	Pb	09 14 20.9	-0.2
	baz=330						
TWQ1	Liyutan	1.08	280	*e*P	Pn	09 14 21.7	+0.5
	baz=286						
TWQ1				*e*S	Sg	09 14 36.2	+0.2
	baz=286						
HSN	Hsinchu	1.09	306	*e*P	Pb	09 14 20.2	-1.1
	baz=308						
HSN				*e*S	Sg	09 14 36.7	+0.4
	baz=308						
WHYT	Xinyi Township	1.09	245	*e*P	Pb	09 14 21.3	-0.1
	baz=240						
WHYT				*e*S	Sn	09 14 36.5	+0.4
	baz=240						
NSY	Sanyi	1.10	284	*e*P	Pg	09 14 22.3	-0.1
	baz=282						
NSY				*e*S	Sg	09 14 37.2	+0.4
	baz=282						
NMLH	Miaoli	1.11	290	*e*P	Pn	09 14 21.0	-0.7
	baz=289						
YUS	Yu-Shan	1.12	234	*e*P	Pb	09 14 21.6	-0.5
	baz=229						
FULB	Fuli	1.12	212	*e*P	Pn	09 14 21.0	-0.9
	baz=221						
TCU	Taichung	1.15	270	*e*P	Pn	09 14 22.1	-0.1
	baz=266						
TCU				*e*S	Sg	09 14 40.2	+1.9
	baz=266						
TWY	Chenhua	1.15	345	*e*P	Pn	09 14 22.4	+0.1
	baz=331						
WJS	Zhushan	1.15	253	*e*P	Pn	09 14 22.6	+0.3
	baz=246						
WJS				*e*S	Sg	09 14 39.0	+0.6
	baz=246						
PTSB	Yuanli	1.16	285	*e*P	Pb	09 14 23.1	+0.6
	baz=283						
WNT	Mingjian	1.18	256	*e*P	Pb	09 14 23.0	+0.2
	baz=238						
WDJ	Dajia District	1.20	279	*e*P	Pn	09 14 22.9	0.0
	baz=278						
WCHH	Zhanghua	1.26	267	*e*P	Pn	09 14 24.0	+0.2
	baz=263						
CHN5	Tsauling	1.28	244	*e*P	Pb	09 14 24.6	0.0
	baz=238						
CHN5				*e*S	Sg	09 14 42.3	-0.1
	baz=238						
ELDTW	Lidau	1.28	221	*e*P	Pn	09 14 23.2	-0.9
	baz=205						
RLNB	Erlin	1.47	260	*e*P	Pn	09 14 27.1	+0.6
	baz=254						
RLNB				*e*S	Sb	09 14 47.4	+1.3
	baz=254						
STYT	Tauyuan	1.47	228	*e*P	Pb	09 14 27.6	-0.2
	baz=211						
CHN4	Tsaushan	1.47	237	*e*P	Pb	09 14 27.6	-0.2
	baz=220						
CHN4				*e*S	Sg	09 14 48.0	-0.5
	baz=220						
TPUB	Ta-pu	1.47	235	*e*P	Pn	09 14 27.5	+0.8
	baz=219						
TPUB				*e*S	Sb	09 14 46.7	+0.4
	baz=219						
WTP	Ta-pu	1.51	233	*e*P	Pn	09 14 28.0	+0.7
	baz=217						
CHY	Chiayi	1.53	245	*e*P	Pn	09 14 27.5	0.0
	baz=240						
TWGBT	Beinan	1.55	211	*e*P	Pn	09 14 25.9	-1.8
	baz=195						
TWG	Pinlang	1.55	211	*e*P	Pn	09 14 26.3	-1.5
	baz=195						
TWK	Hsinying	1.60	236	*e*P	Pn	09 14 29.2	+0.7
	baz=218						
TWK				*e*S	Sb	09 14 49.8	-0.1
	baz=218						
CHN1	Nanshi	1.61	233	*e*P	Pn	09 14 29.7	+1.0
	baz=228						
CHN1				*e*S	Sb	09 14 51.4	+1.0
	baz=228						
SNST	Tainan City	1.62	235	*e*P	Pn	09 14 27.9	-0.8
	baz=230						
SGST	Jiashian	1.64	229	*e*P	Pn	09 14 29.1	+0.1
	baz=214						
IRIF	Iriomote-Funau	1.65	84	P	Pn	09 14 28.3	-0.8
SLGT	Liugui	1.66	226	*e*P	Pn	09 14 30.2	+1.0
	baz=221						
HATJ	Hateruma jima	1.71	93	P	Pn	09 14 30.2	+0.3
SSD	Sandimen	1.85	221	*e*P	Pn	09 14 31.8	0.0
	baz=215						
JKRS	Kuro-shima	1.90	87	P	Pn	09 14 32.6	+0.1
MASBT	Mashibuluo	1.95	218	*e*P	Pn	09 14 33.7	+0.5
	baz=213						
JIJ	Ishigaki jima	2.03	84	P	Pn	09 14 33.7	-0.6
SCZT	Fangliau	2.15	214	*e*P	Pn	09 14 37.2	+1.2
	baz=198						
JISG	Ishigakijimahi	2.21	78	P	Pn	09 14 36.3	-0.5
PHUB	P'eng-hu	2.26	254	*e*P	Pn	09 14 37.0	-0.4
	baz=249						
PNG	Penghu	2.26	255	*e*P	Pn	09 14 36.8	-0.6
	baz=251						
WDGT	Dungji	2.27	247	*e*P	Pn	09 14 37.3	-0.3
	baz=242						
PTTC	Pingtan	2.38	305	*e*P	Pn	09 14 37.7	-1.4
	baz=304						
VWUC	VWUC	2.41	291	*e*P	Pn	09 14 38.2	-1.3
	baz=290						
VCHM	Qimei	2.48	248	*e*P	Pn	09 14 40.2	-0.4
	baz=230						
VCHM				*e*S	Sn	09 15 10.7	+0.3
	baz=230						
JTJ	Tarama	2.57	79	P	Pn	09 14 42.5	+0.8
MATB	Ma-tsu	2.68	318	*e*P	Pn	09 14 42.4	-0.9
	baz=317						
PTMZ	Houxiangcun	2.71	289	*e*P	Pn	09 14 42.6	-1.0
	baz=288						
LYJJ	Jianjiangzhen	3.09	321	*e*P	Pn	09 14 48.4	-0.5
	baz=320						
KNMB	Chin-men Tao	3.25	276	*e*P	Pn	09 14 50.6	-0.5
	baz=271						
MHZQ	Yeshan	3.27	307	*e*P	Pn	09 14 50.2	-1.1
	baz=306						
AXDP	Jialang	3.69	282	*e*P	Pn	09 14 56.4	-0.7
	baz=280						
ZPLA	Ao Xicun	3.83	267	*e*P	Pn	09 14 58.7	-0.5
	baz=263						

DJA 23 09:14:49.3±0.8, 9°.5S±3°.×12°.4E±°, h15km±13km, M3.6/7, mb3.8/2, mB5.1/1, MLv3.5/7, Mw(mB)4.4/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.76	171	P	Pb	09 15 04.6	+0.2
SOEI				S	Sn	09 15 16.1	-0.8
BATI	Baumata	1.29	201	P	Pn	09 15 11.6	-1.2
BATI				S	Sn	09 15 30.2	+0.4
BKSI	Bulukumba	5.41	312	P	Pn	09 16 10.1	+0.6

WEL ***23*** *09:36:46.5±0.8, 35°.5S±7°.×17°.9W±1°.2, h33km, M5.1/30, mB4.9/2, ML5.4/24, MLv5.1/30, Mw(mB)4.2/2, Error ellipse: s-maj=0.0km s-min=0.0km az=116.1*
BJI ***23*** *09:36:46.8±0.0, 35°.55S×178°.93W, h15km, mb5.4/10, mB5.7/7, Ms5.2/3, Ms7 4.9/3*
NEIC ***23*** *09:36:47.0±2.5, 35°.42S±0°.07×178°.9W±0°.1, h10km±2km, mb4.8/26*
ISCJB ***23*** *09:36:50.9±0.4, 35°.61S±0°.03×179°.01W±0°.06, h47km, mb4.7/16, MS4.3/5, Error ellipse: s-maj=7.9km s-min=3.3km az=30.6*
IDC ***23*** *09:36:53.6±0.5, 35°.21S×179°.10W, h49km±3km, mb4.4/13, mb1 4.4/15, mb1mx4.3/37, mbtmp4.6/15, MS4.1/4, Ms1 4.0/4, ms1mx3.6/24, Error ellipse: s-maj=13.3km s-min=10.6km az=140.0*
ISC 23 09:36:52.4±0.4, 35°.40S±0°.05×178°.88W±0°.07, h47km, n165, σ2s 26/207, mb4.8/24, MS4.1/5, 2C-1D, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.13	226	P	Pn	09 37 38.8	-0.5
MXZ				S	Sn	09 38 17.1	+1.7
MXZ	Matakaoa Point	3.13	226		Pn	09 37 38.7	-0.5
WMGZ	Waiomatatini S	3.25	221	P	Pn	09 37 41.6	+0.7
WMGZ				S	Sn	09 38 22.2	+3.9
PKGZ	Pakihiroa	3.49	224	P	Pn	09 37 44.7	+0.5
PKGZ				S	Sn	09 38 26.5	+2.3
PUZ	Puketiti	3.52	220	P	Pn	09 37 44.5	-0.1
PUZ				S	Sn	09 38 26.7	+1.7
HAZ	Te Kaha	3.57	228	P	Pn	09 37 46.5	+1.2
HAZ		

TKGZ	Te Karaka	4.01	220	P	Pn	09 37 51.4 +0.2
MWZ	Matawai	4.11	223	P	Pn	09 37 52.7 0.0
RIGZ	Rimuhau	4.25	218	P	Pn	09 37 54.5 -0.2
RAGZ	Rawiri	4.28	223	P	Pn	09 37 55.1 0.0
URZ	Urewera	4.30	227	P	Pn	09 37 54.7 -0.6
	64nm,0.3s,baz=38,slow=6.8,SNR=222					
URZ				S	Sn	09 38 45.2 +1.1
	90nm,0.3s,baz=174,slow=18,SNR=17					
URZ	Urewera	4.30	227	P	Pn	09 37 55.5 +0.2
URZ	Urewera	4.30	227		Pn	09 37 55.1 -0.2
URZ				Sn	Sn	09 38 45.6 +1.5
KNZ	Kokohu	4.54	216	P	Pn	09 37 57.7 -0.9
KUZ	Kuaotunu	4.57	251	P	Pn	09 37 59.4 +0.4
RTZ	Ruatahuna	4.61	225	P	Pn	09 38 00.1 +0.5
TOZ	Tahuroa Road	5.08	241	P	Pn	09 38 06.0 0.0
BKZ	Black Stump Fm	5.27	223	P	Pn	09 38 08.4 -0.2
BKZ	Black Stump Fm	5.27	223		Pn	09 38 08.0 -0.6
TLZ	Tolley Road	5.34	235	P	Pn	09 38 09.6 0.0
WCZ	Waipu Caves	5.54	262	P	Pn	09 38 12.8 +0.5
PXZ	Pawanui	5.72	215	P	Pn	09 38 12.5 -2.3
NGZ	Ngauruhoe	5.79	228	P	Pn	09 38 15.6 -0.4
HIZ	Hauiti	5.90	236	P	Pn	09 38 17.5 +0.2
HIZ	Hauiti	5.90	236		Pn	09 38 17.2 -0.1
OUZ	Omahuta	6.15	269		Pn	09 38 20.4 -0.3
GLKZ	Green Lake	6.17	8	P	Pn	09 38 10.5 -11
GLKZ				S	Sn	09 39 17.8 -12
RAO	Raoul Island	6.18	8	P	Pn	09 38 10.2 -11
	60nm,0.3s,baz=114,slow=18,SNR=4.3					
RAO				S	Sn	09 39 19.3 -11
	171nm,0.3s,baz=143,slow=20,SNR=4.2					
RAO	Raoul Island	6.18	8		Pn	09 38 18.3 -2.8
RAO					Sn	09 39 20.8 -10
TSZ	Takapari Road	6.19	220	P	Pn	09 38 19.0 -2.3
VRZ	Vera Road	6.29	232	P	Pn	09 38 22.5 0.0
BFZ	Birch Farm	6.53	215	P	Pn	09 38 22.4 -3.5
BFZ	Birch Farm	6.53	215		Pn	09 38 23.2 -2.6
BFZ				Sn	Sn	09 39 36.4 -2.6
WAZ	Wanganui	6.53	226	P	Pn	09 38 25.3 -0.6
NEZ	North Egmont	6.80	233	P	Pn	09 38 31.6 +1.9
MRZ	Mangatainoka R	6.83	218	P	Pn	09 38 27.4 -2.6
MSWZ	Moikau Station	7.57	216		Pn	09 38 36.2 -4.0
MSWZ				Sn	Sn	09 40 00.3 -4.3
PLWZ	Palliser	7.69	215	Pn	Pn	09 38 37.7 -4.0
PLWZ					Sn	09 40 02.3 -5.2
BHW	Baring Head	7.75	217	Pn	Pn	09 38 38.6 -4.0
BHW					Sn	09 40 04.5 -4.4
SNZO	South Karori	7.76	219	Pn	Pn	09 38 39.3 -3.4
SNZO					Sn	09 40 04.5 -4.6
DUWZ	D'Urville Isla	7.83	224	P	Pn	09 38 40.2 -3.5
TCW	Tory Channel	7.91	221	P	Pn	09 38 41.2 -3.6
TUWZ	Tuamarina	8.24	221	P	Pn	09 38 45.7 -3.6
TUWZ	Tuamarina	8.24	221		Pn	09 38 46.4 -2.9
TUWZ				Sn	Sn	09 40 16.8 -4.2
CMWZ	Cape Campbell	8.33	218		Sn	09 40 19.8 -3.4
NNZ	Nelson	8.41	224	P	Pn	09 38 47.4 -4.2
NNZ	Nelson	8.41	224	Pn	Pn	09 38 49.0 -2.6
NNZ					Sn	09 40 21.4 -3.7
BSWZ	Blackbirch Sta	8.48	220	P	Pn	09 38 49.0 -3.6
BSWZ	Blackbirch Sta	8.48	220	Pn	Pn	09 38 49.5 -3.1
BSWZ					Sn	09 40 22.8 -4.1
QRZ	Quartz Range	8.67	229	P	Pn	09 38 51.2 -4.0
QRZ	Quartz Range	8.67	229	Pn	Pn	09 38 51.2 -4.0
QRZ					Sn	09 40 27.5 -4.1
THZ	Tophouse	9.04	223	P	Pn	09 38 56.3 -4.0
THZ	Tophouse	9.04	223		Pn	09 38 58.1 -2.1
THZ				Sn	Sn	09 40 37.4 -3.2
KHZ	Kahutara	9.16	218	P	Pn	09 38 58.0 -3.8
KHZ	Kahutara	9.16	218		Pn	09 38 58.8 -3.1
KHZ				Sn	Sn	09 40 39.3 -4.3
DSZ	Denniston Nort	9.66	226	P	Pn	09 39 04.3 -4.5
GVZ	Greta Valley S	9.82	217	P	Pn	09 39 06.7 -4.2
LTZ	Lake Taylor	10.08	220	P	Pn	09 39 09.6 -4.9
LTZ	Lake Taylor	10.08	220		Pn	09 39 11.4 -3.1
AMCZ	Amberley	10.16	218	P	Pn	09 39 12.9 -2.7
CRLZ	Canterbury Las	10.47	216	Pn	Pn	09 39 18.5 -1.3
CRLZ					Sn	09 41 12.8 -2.8
INZ	Inchbonnie	10.49	223	P	Pn	09 39 15.9 -4.1
MQZ	McQueen's Vall	10.55	216	P	Pn	09 39 16.3 -4.7
MQZ	McQueen's Vall	10.55	216	Pn	Pn	09 39 16.8 -4.2
OXZ	Oxford	10.58	219	P	Pn	09 39 16.5 -4.8
OXZ	Oxford	10.58	219		Pn	09 39 19.6 -1.7
WVZ	Waitaha Valley	11.11	223	P	Pn	09 39 27.4 -1.1
RPZ	Rata Peaks	11.36	220	P	Pn	09 39 27.1 -4.9
	1.6nm,0.3s,baz=72,slow=3.4,SNR=11					
RPZ				S	Sn	09 41 26.9 -11
	5.8nm,0.3s,baz=47,slow=19,SNR=16					
RPZ	Rata Peaks	11.36	220	P	Pn	09 39 28.2 -3.9
RPZ	Rata Peaks	11.36	220		Pn	09 39 28.2 -3.9
FOZ	Fox Glacier	11.92	224	Pn	Pn	09 39 36.5 -3.1
LBZ	Lake Benmore	12.28	220	Pn	Pn	09 39 40.6 -3.9
ODZ	Otahua Downs	12.51	216	Pn	Pn	09 39 44.8 -2.9
WKZ	Wanaka	13.19	221	Pn	Pn	09 39 54.2 -2.9
MLZ	Mavora Lakes	14.03	221	Pn	Pn	09 40 06.2 -2.2
WHZ	Wether Hill Ro	14.47	220	Pn	Pn	09 40 11.2 -3.0
DCZ	Deep Cove	14.61	222	Pn	Pn	09 40 14.4 -1.8
MSVF	Nonsavu	17.80	350	P	Pn	09 40 53.1 -3.8
DZM	Mont Dzumac	18.46	312	P	P	09 41 02.9 -1.5
	0.5nm,0.3s,baz=159,slow=8.3,SNR=9.0					
DZM	Mont Dzumac	18.46	312	P	P	09 41 04.7 +0.3
AFI	Afiamalu	22.33	18	P	P	09 41 45.5 -0.9
	97nm,0.9s,baz=249,slow=9.7,SNR=3.9					
AFI	Afiamalu	22.33	18	P	P	09 41 45.6 -0.8
EIDS	Eidsvold	27.68	283	P	P	09 42 37.7 +1.6
EIDS				IAmb	IAmb	09 42 51.6
	comp=Z,6.6nm,0.6s					
TOO	Toolangi	28.62	255	P	P	09 42 45.0 +0.5
PPT	Papeete	31.50	63	LR	LR	09 54 14.0
	comp=Z,259nm,19.7s,baz=221,slow=33					
STKA	Stephens Creek	32.94	265	P	P	09 43 21.0 -1.6
	comp=Z,3.0nm,1.0s,baz=109,slow=18,SNR=2.3					
STKA				LR	LR	09 56 04.6
	comp=Z,297nm,21.9s,baz=65,slow=35					
CTA	Charters Tower	34.21	287	P	P	09 43 33.7 0.0
	comp=Z,16nm,1.0s,baz=120,slow=10,SNR=8.4					
COEN	Coen	40.21	292	P	P	09 44 24.7 +0.2
COEN				IAmb	IAmb	09 44 28.6
	comp=Z,19nm,0.9s					
PMG	Port Moresby	40.34	302	P	P	09 44 24.3 -1.2
	comp=Z,4.3nm,0.5s,baz=142,slow=0.8,SNR=3.4					
PMG	Port Moresby	40.34	302	P	P	09 44 24.0 -1.5
AS31	Alice Springs	42.35	273	P	P	09 44 42.0 -0.1
ASAR	Alice Springs	42.35	273	P	P	09 44 41.9 -0.2
	comp=Z,20nm,0.8s,baz=114,slow=6.9,SNR=46					
ASAR				pP	pP	09 44 55.3 +2.1
	comp=Z,22nm,0.9s,baz=115,slow=7.4,SNR=16					
ASAR				S	S	09 50 58.4 -1.9
	comp=Z,0.8nm,0.8s,baz=115,slow=14,SNR=5.2					
ASAR				LR	LR	10 02 57.6
	comp=Z,245nm,18.0s,baz=205,slow=37					
ASAR	Alice Springs	42.35	273	P	P	09 44 41.7 -0.5
WR0	Warramunga Arr	43.62	278	P	P	09 44 52.6 +0.2
WR0				IAmb	IAmb	09 44 56.5
	comp=Z,11nm,0.9s					
WB2	Warramunga Arr	43.78	278	P	P	09 44 53.6 -0.1
WRAB	Tennant Creek	43.79	278	P	P	09 44 50.7 -3.0
WRA	Warramunga Arr	43.79	278	P	P	09 44 53.7 0.0
	comp=Z,8.6nm,0.6s,baz=120,slow=7.7,SNR=46					
WRA				pP	pP	09 45 06.0 +1.2
	comp=Z,11nm,0.5s,baz=117,slow=7.7,SNR=16					
WRA				PcP	PcP	09 46 40.3 +0.5
	comp=Z,1.5nm,0.6s,baz=120,slow=3.2,SNR=4.3					
WRA				S	S	09 51 18.7 -2.6
	comp=Z,1.7nm,1.0s,baz=121,slow=13,SNR=4.2					
WRA	Warramunga Arr	43.79	278	P	P	09 44 53.1 -0.6
WB0	Warramunga Arr	43.84	278	P	P	09 44 53.1 -1.0
MTN	Manton Dam	50.23	284	P	P	09 45 43.0 -1.0
KNRA	Kununurra	50.54	279	P	P	09 45 46.1 -0.3
QSPA	South Pole Qui	54.73	180	P	P	09 46 19.7 +2.9
	comp=Z,5.7nm,0.7s,baz=16,slow=2.8,SNR=24					
QSPA				pP	sP	09 46 32.8 +0.8
	comp=Z,6.7nm,0.9s,baz=344,slow=3.9,SNR=6.1					
QSPA	South Pole Qui	54.73	180	P	P	09 46 19.7 +2.9
QSPA				IAmb	IAmb	09 46 20.8
	comp=Z,9.6nm,0.9s					
MAW	Mawson	67.39	201	P	P	09 47 45.7 +3.3
	comp=Z,2.7nm,1.0s,baz=143,slow=10,SNR=3.0					
SYO	Syowa Base	72.09	194‖	*e*P	P	09 48 11.0 -0.3
SYO	Syowa Base	72.09	194‖	*es*P	P	09 48 15.0 +3.7
SYO	Syowa Base	72.09	194‖	*e*PcP	PcP	09 48 28.9 -0.6
SNAA	Sanae	73.19	179	P	P	09 48 19.5 +1.6
SNAA	Sanae	73.19	179	PcP	PcP	09 48 32.8 -1.5
SNAA	Sanae	73.19	179	P	P	09 48 19.1 +1.2
SNAA				IAmb	IAmb	09 48 20.5
	comp=Z,15nm,1.4s					
VNA3	Neumayer Olymp	73.38	176	P	P	09 48 19.9 +1.0
VNA3	Neumayer Olymp	73.38	176	PcP	PcP	09 48 31.9 -3.1
VNA2	Neumayer--Watz	73.80	177	P	P	09 48 22.8 +1.4
	baz=178,slow=7.1					
VNA2	Neumayer--Watz	73.80	177	PcP	PcP	09 48 36.5 -0.3
	baz=181,slow=5.7					
VNA1	Neumayer--Stat	74.04	177	P	P	09 48 24.0 +1.3
VNA1	Neumayer--Stat	74.04	177	PcP	PcP	09 48 37.2 -0.6
PLCA	Paso Flores	79.65	133	P	P	09 48 55.7 +0.6
	comp=Z,1.8nm,1.0s,baz=216,slow=8.7,SNR=3.4					
PLCA	Paso Flores	79.65	133	P	P	09 48 55.5 +0.4
PLCA				IAmb	IAmb	09 49 12.2
	comp=Z,7.4nm,1.2s					
GO06	Curarrehue	79.80	131	P	P	09 48 55.5 -0.4
GO06				IAmb	IAmb	09 48 58.4
	comp=Z,13nm,1.4s					
MJAR	Matsushiro Arr	81.95	326	P	P	09 49 05.2 -1.8
	comp=Z,1.0nm,0.7s,baz=155,slow=7.7,SNR=4.0					
KSRS	Korea Array	87.69	320	P	P	09 49 35.9 +0.1
	comp=Z,1.7nm,0.8s,baz=154,slow=5.5,SNR=5.4					
KSAR	Wonju Array Be	87.70	320	P	P	09 49 36.3 +0.4
NJ2	Nanjing	88.95	311	*e*P	P	09 49 45.3 +3.4
NJ2				pmax	pmax	
	comp=Z,13nm,0.5s					
ISA	Isabella, Lake	90.36	45	P	P	09 49 48.4 -0.1
PETK	Petropavlovsk-	90.47	346	P	P	09 49 49.1 +0.6
	comp=Z,20nm,0.8s,baz=137,slow=6.5,SNR=19					
PETK				pP	sP	09 50 03.0 -2.0
	comp=Z,11nm,0.6s,baz=118,slow=6.0,SNR=7.0					
USRK	Ussuriysk Ar.	90.92	327	LR	LR	10 25 26.0
	comp=Z,101nm,20.4s,baz=341,slow=32					
CMB	Columbia Colle	90.96	42	P	P	09 49 51.8 +0.6
CMB				IAmb	IAmb	09 49 53.2
	comp=Z,7.9nm,1.2s					
GSC	Goldstone, Bar	91.08	46	P	P	09 49 51.7 -0.2
GSC				IAmb	IAmb	09 49 54.6
	comp=Z,6.8nm,1.1s					
NVAR	Mina Array Bea	92.39	43	P	P	09 49 58.7 +0.6
	comp=Z,0.9nm,0.8s,baz=229,slow=8.3,SNR=6.6					
NVAR	Mina Array Bea	92.39	43	P	P	09 49 58.0 -0.1
PINE	Pine Mountain	94.80	38	P	P	09 50 08.8 -0.2
G08A	Pilot Rock	96.86	38	P	P	09 50 17.9 -0.3
G08A				IAmb	IAmb	09 50 19.4
	comp=Z,3.5nm,1.1s					
CD2	Chengdu	98.11	302	P	Pdif	09 50 24.4 +0.2
CD2				pmax	pmax	
	comp=Z,20nm,0.5s					
HHC	Hu-ho-hao-te	99.16	314	*e*P	Pdif	09 50 30.4 +1.7
HHC				pmax	pmax	
	comp=Z,7.0nm,1.2s					
KSH	Kashi	122.04	298	PKP	PKiKP	09 55 44.6 +2.7
KSH				PKS	PKSdf	09 59 20.4 +2.0
KSH				SKS	SKSdf	10 02 54.8 +4.9
KSH				LR	LR	
	comp=Z,410nm,13.7s					
KSH				LR	LR	
	comp=Z,360nm,10.4s					
KSH				LR	LR	
	comp=Z,280nm,10.2s					
KURBB	Kurchatov Arra	123.92	311	PKP	PKPdf	09 55 44.9 +0.2
	comp=Z,3.2nm,0.8s,baz=120,slow=2.1,SNR=2.7					
BVAR	Borovoye Array	129.37	313	PKP	PKiKP	09 55 55.8 -0.1
	comp=Z,2.0nm,0.7s,baz=116,slow=6.6,SNR=2.4					
BVAR				pPKP	pPKPdf	09 56 09.7 +2.2
	comp=Z,1.4nm,0.7s,baz=66,slow=1.7,SNR=1.3					
ARCES	ARCESS Array B	143.28	346	PKP	PKPdf	09 56 19.5 -0.9
	comp=Z,6.5nm,0.9s,baz=48,slow=1.8,SNR=5.7					
TBLG	Delisi	145.60	294		PKPdf	09 56 23.2 -2.1
OBN	Obninsk	148.69	320	PKPbc	PKPbc	09 56 34.5 +0.8
	comp=Z,6.6nm,0.7s,baz=162,slow=6.4,SNR=4.4					
OBN	Obninsk	148.69	320	PKPbc	PKPdf	09 56 29.8 -0.1
FIA1	FINESS Array S	149.50	336		PKPbc	09 56 36.0 +0.5
FINES	FINESS Array B	149.50	336	PKPbc	PKPbc	09 56 35.9 +0.3
	comp=Z,26nm,0.8s,baz=82,slow=2.9,SNR=24					
FINES				PKPab	PKPab	09 56 40.1 -0.5
	comp=Z,26nm,0.9s,baz=40,slow=2.6,SNR=19					
FINES				pPKPbc	pPKPbc	09 56 49.4 +1.9
	comp=Z,6.6nm,0.4s,baz=40,slow=4.8,SNR=6.3					
FINES				pPKPab	pPKPab	09 56 53.4 +0.6
	comp=Z,6.5nm,0.4s,baz=75,slow=2.6,SNR=3.4					
FINES	FINESS Array B	149.50	336		PKPdf	09 56 29.6 -1.4
ASF	Jabal al Asfar	150.19	274	PKPbc	PKPbc	09 56 38.5 +0.2
	comp=Z,3.1nm,0.8s,baz=83,slow=8.0,SNR=4.4					
DBIC	Dimbokro	150.89	168	PKPbc	PKiKP	09 56 41.1 +0.1
	comp=Z,10nm,1.0s,baz=199,slow=0.5,SNR=5.2					
DBIC	Dimbokro	150.89	168	PKPbc	PKiKP	09 56 41.7 +0.7
EIL	Elat	151.00	268	PKPbc	PKPbc	09 56 40.1 -0.2
	comp=Z,7.7nm,0.8s,baz=131,slow=9.3,SNR=8.4					
MMAI	Mount Meron Ar	151.63	275	PKPbc	PKiKP	09 56 42.6 +0.5
	comp=Z,5.3nm,0.7s,baz=90,slow=8.3,SNR=7.9					
MMAI				PKPab	PKPab	09 56 51.9 +1.4
	comp=Z,1.7nm,0.5s,baz=79,slow=4.3,SNR=4.1					
MICGM	Minsk	153.36	324	*e*	PKPdf	09 56 39.0 +1.9
NB2	NORSAR Subarra	153.54	349	PKP	PKPbc	09 56 45.0 0.0
	comp=Z,3.4nm,0.8s,baz=17,slow=2.6					
NOA	NORSAR Array B	153.54	349	PKPbc	PKiKP	09 56 45.4 +0.2
	comp=Z,2.6nm,0.8s,baz=13,slow=4.1,SNR=6.1					
NOA				PKPab	PKPab	09 56 54.8 -2.8
	comp=Z,2.7nm,0.8s,baz=18,slow=2.9,SNR=6.2					
HFS	Hagfors	153.94	346	PKPbc	PKPbc	09 56 45.6 -0.2
	comp=Z,5.5nm,0.8s,baz=20,slow=1.7,SNR=4.9					
HFS				PKPab	PKPab	09 56 58.3 -1.0
	comp=Z,2.9nm,0.6s,baz=46,slow=4.3,SNR=4.6					
HFS				pPKPbc	sPKPbc	09 57 01.8 -0.3
	comp=Z,2.9nm,0.6s,baz=77,slow=6.4,SNR=2.7					
HFS				pPKPab	pPKPab	09 57 12.4 +1.4
	comp=Z,2.2nm,0.5s,baz=74,slow=5.3,SNR=2.0					
BR131	Keskin Array S	153.94	289	PKPdf	PKPdf	09 56 38.0 -0.6
BR131					PKPbc	09 56 46.5 -0.2
BRTR	Keskin Array B	153.94	289	PKPbc	PKPbc	09 56 46.6 -0.1
	comp=Z,1.6nm,0.8s,baz=127,slow=3.3,SNR=5.8					
BRTR				pPKP	sPKPdf	09 56 54.5 -1.1
	comp=Z,1.7nm,0.5s,baz=145,slow=3.7,SNR=5.4					
BRTR				pPKPbc	PKPab	09 57 01.4 +1.2
	comp=Z,3.1nm,0.8s,baz=104,slow=6.1,SNR=5.5					
BRTR	Keskin Array B	153.94	289	PKPdf	PKPdf	09 56 38.7 0.0
BRTR					PKPbc	09 56 46.8 +0.1
AKASG	Malin Array Be	154.60	316	PKPbc	PKiKP	09 56 47.7 +0.1
	comp=Z,0.3nm,0.3s,baz=54,slow=2.2,SNR=4.1					
AKASG				PKPab	PKPab	09 57 01.4 -1.0
	comp=Z,4.3nm,0.8s,baz=51,slow=4.3,SNR=5.9					
AKASG				pPKPab	pPKPab	09 57 15.1 +0.7
	comp=Z,0.8nm,0.3s,baz=26,slow=4.0,SNR=3.4					
TORD	Torodi Ar. Bea	157.84	181	PKPab	PKPab	09 57 17.2 +0.2
	comp=Z,2.7nm,0.9s,baz=167,slow=3.1,SNR=6.0					
TORD				pPKPab	sPKPab	09 57 34.0 +1.0
	comp=Z,1.2nm,0.5s,baz=165,slow=5.2,SNR=3.0					
BUR08	Bucovina Ar. S	158.31	312	PKPdf	PKPdf	09 56 43.4 -0.7
BUR08					PKPab	09 57 19.1 +0.5
KWP	Kalwaria Pacla	158.76	319	PKPdf	PKPdf	09 56 44.5 0.0
KWP					PKPab	09 57 20.3 0.0
CLL	Collm	161.94	335	*i* pPKPdf	pPKPdf	09 56 54.9 -5.1
	comp=Z,6.0nm,1.2s					
CLL				*i* PKPab	PKPab	09 57 33.4 -0.7
	comp=Z,7.0nm,1.0s					
BRG	Berggiesshubel	161.97	333	*e*PKP	PKPab	09 57 33.8 -0.4
	comp=Z,5.7nm,1.2s					

IDC ***23*** *09:42:06.0±0.4, 42°.42N×75°.69E, h0km, mb4.5/39, mb1 4.6/44, mb1mx4.5/75, mbtmp4.5/44, ML4.5/5, MS4.2/13, Ms1 4.2/13, ms1mx3.8/45, Error ellipse: s-maj=8.0km s-min=5.8km az=168.0*

ISCJB ***23*** *09:42:06.6±0.3, 42°.39N±0°.01×75°.70E±0°.01, h8km±2km, mb4.7/101, MS4.3/24, Error ellipse: s-maj=2.3km s-min=1.7km az=171.8*

MOS ***23*** *09:42:06.7±1.3, 42°.46N×75°.76E, h10km, mb5.1/54, MS4.3/10, Error ellipse: s-maj=4.8km s-min=4.2km az=29.0*

KNET ***23*** *09:42:06.5±0.5, 42°.42N×75°.65E, h0km, ml5.0, Error ellipse: s-maj=3.4km s-min=2.8km az=36.0*

KRNET ***23*** *09:42:07.0±0.1, 42°.42N×75°.68E, h16km, mb5.7*

NNC ***23*** *09:42:07.6±0.5, 42°.45N×75°.71E, h0km, mb5.9, mpv5.8, Error ellipse: s-maj=4.1km s-min=2.1km az=164.0*

SOME ***23*** *09:42:07.1, 42°.42N×75°.70E, h15km, MS4.7*

NEIC ***23*** *09:42:07.8±2.0, 42°.53N±0°.03×75°.71E±0°.04, h10km±2km, mb4.9/51*

BJI ***23*** *09:42:08.9±0.0, 42°.51N×76°.02E, h14km, mb4.8/47, mB4.8/30, ML5.3/8, Ms4.7/35, Ms7 4.5/34*

ISC 23 09:42:07.7±0.5, 42°.44N±0°.02×75°.68E±0°.01, h7km±2km,

h7km:pP-P,n458,σ1s97/567,mb4.8/119,MS4.3/24,
96C-49D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.20**	**75**	⇑*iP*	**Pg**	**09 42 11.5**	**-0.3**
	baz=68						
BOOM				⇑*iS*	**Sg**	**09 42 14.5**	**-0.1**
	baz=68						
BOOM	**Boomskoye usch**	**0.20**	**75**	PG	**Pg**	**09 42 11.5**	**-0.3**
BOOM						09 42 14.7	
BOOM	**Boomskoye usch**	**0.20**	**75**		**Pg**	**09 42 11.5**	**-0.3**
BOOM				Sg	**Sg**	**09 42 14.7**	**+0.1**
ULHL	**Ulahol**	**0.46**	**114**	⇑*iP*	**Pg**	**09 42 15.5**	**-1.2**
	baz=12						
ULHL				⇑*iS*	**Sg**	**09 42 21.8**	**-0.8**
	baz=12						
ULHL	**Ulahol**	**0.46**	**114**	P	**Pg**	**09 42 15.4**	**-1.2**
	23μm,0.4s						
ULHL				⇑S	**Sg**	**09 42 21.9**	**-0.8**
	37μm,0.2s						
KZA	**Kyzart**	**0.48**	**222**	⇓*iP*	**Pg**	**09 42 16.4**	**-0.6**
	baz=24						
KZA				⇓*iS*	**Sg**	**09 42 23.0**	**-0.3**
	baz=24						
KZA	**Kyzart**	**0.48**	**222**	P	**Pg**	**09 42 16.3**	**-0.7**
	7μm,0.2s,SNR=9045						
KZA				⇑S	**Sg**	**09 42 23.0**	**-0.3**
	62μm,0.6s						
TKM2	**Tokmak 2**	**0.49**	**353**	⇑*iP*	**Pg**	**09 42 16.8**	**-0.3**
	baz=53						
TKM2				⇑*iS*	**Sg**	**09 42 23.9**	**+0.3**
	baz=53						
TKM2	**Tokmak 2**	**0.49**	**353**	P	**Pg**	**09 42 16.9**	**-0.3**
	41μm,0.2s,SNR=8875						
TKM2				⇑S	**Sg**	**09 42 23.6**	**0.0**
	79μm,0.2s						
KBK	**Karagaybulak**	**0.58**	**292**	⇑*iP*	**Pg**	**09 42 18.8**	**-0.1**
	baz=94						
KBK				⇑*iS*	**Sg**	**09 42 27.1**	**+0.6**
	baz=94						
KBK	**Karagaybulak**	**0.58**	**292**	P	**Pg**	**09 42 18.7**	**-0.2**
	15μm,0.1s						
KBK				⇓S	**Sg**	**09 42 27.1**	**+0.6**
	73μm,0.5s						
KST	**Kastek**	**0.64**	**19**	P	**Pg**	**09 42 19.7**	**-0.3**
	30μm,0.5s						
KST				S	**Sg**	**09 42 28.9**	**+0.4**
	90μm,0.9s						
KST	**Kastek**	**0.64**	**19**	⇓*iP*	**Pg**	**09 42 19.6**	**-0.5**
	baz=18						
KST				⇑*iS*	**Sg**	**09 42 28.5**	**+0.1**
	baz=18						
KST	**Kastek**	**0.64**	**19**	⇓*iP*	**Pg**	**09 42 19.6**	**-0.5**
	30μm,0.3s						
KST				⇑*iS*	**Sg**	**09 42 28.6**	**+0.1**
	90μm,0.7s						
DGS	**Degeres**	**0.81**	**5**	P	**Pg**	**09 42 22.8**	**-0.4**
	6μm,0.2s						
DGS				S	**Sb**	**09 42 34.6**	**-0.7**
	19μm,0.3s						
DGS	**Degeres**	**0.81**	**5**	⇑*iP*	**Pg**	**09 42 22.8**	**-0.4**
	baz=5.0						
DGS				⇑*iS*	**Sb**	**09 42 34.6**	**-0.7**
	baz=5.0						
DGS	**Degeres**	**0.81**	**5**	⇑*iP*	**Pg**	**09 42 22.8**	**-0.4**
	13μm,0.7s						
DGS				⇑*iS*	**Sb**	**09 42 34.6**	**-0.7**
	19μm,0.3s						
FRU1	**Bishkek**	**0.86**	**296**	⇑*iP*	**Pg**	**09 42 23.7**	**-0.5**
	baz=97						
FRU1				⇑*iS*	**Sg**	**09 42 35.3**	**0.0**
	baz=97						
FRU1	**Bishkek**	**0.86**	**296**	PG	**Pg**	**09 42 24.0**	**-0.1**
FRU1						09 42 35.9	
FRU1	**Bishkek**	**0.86**	**296**		**Pg**	**09 42 24.1**	**-0.1**
FRU1				Sg	**Sg**	**09 42 35.9**	**+0.6**
CHMS	**Chumysh**	**0.88**	**310**	⇓*iP*	**Pg**	**09 42 23.7**	**-1.0**
	baz=11						
CHMS				⇓*iS*	**Sg**	**09 42 35.8**	**-0.3**
	baz=11						
CHMS	**Chumysh**	**0.88**	**310**	⇑P	**Pg**	**09 42 23.7**	**-1.0**
	2μm,0.3s,SNR=1021						
CHMS				⇑S	**Sg**	**09 42 35.8**	**-0.3**
	24μm,0.5s						
MTBS	**Maitube**	**0.89**	**38**	⇓*iP*	**Pg**	**09 42 24.3**	**-0.5**
	baz=37						
MTBS				⇑*iS*	**Sg**	**09 42 36.2**	**-0.1**
	baz=37

USP	**Ospenovka**	**1.20**	**314**	P		**Pg**	**09 42 29.3 -1.4**
	comp=N,2μm,0.2s,SNR=2108						
USP				⇓S		**Sg**	**09 42 45.7 -0.6**
	comp=N,28μm,0.4s						
KNDC	**Almaty**	**1.23**	**50**	⇑P		**Pb**	**09 42 30.5 -0.8**
	comp=N,5μm,0.5s						
KNDC				⇑S		**Sg**	**09 42 46.9 -0.3**
	comp=N,86μm,0.8s						
MDOK	**Medeo**	**1.24**	**54**	⇓P		**Pg**	**09 42 30.3 -1.2**
	comp=N,3μm,0.6s						
MDOK				⇑S		**Sg**	**09 42 47.1 -0.6**
	comp=N,40μm,0.9s						
MDOK	**Medeo**	**1.24**	**54**	⇓*i*P		**Pg**	**09 42 30.3 -1.2**
	baz=53						
MDOK				⇓*i*S		**Sg**	**09 42 46.9 -0.8**
	baz=53						
MDOK	**Medeo**	**1.24**	**54**	⇓*i*P		**Pg**	**09 42 30.3 -1.2**
	comp=N,3μm,0.6s						
MDOK				⇓*i*S		**Sg**	**09 42 46.9 -0.8**
	comp=N,29μm,0.9s						
KOTS	**Kotyrbulak**	**1.32**	**52**	P		**Pn**	**09 42 32.3 -0.4**
	comp=N,7μm,0.7s						
KOTS				S		**Sg**	**09 42 50.1 0.0**
	comp=N,87μm,1.3s						
KOTS	**Kotyrbulak**	**1.32**	**52**	⇑*i*P		**Pn**	**09 42 32.1 -0.7**
	baz=52						
KOTS				⇑*i*S		**Sg**	**09 42 50.2 0.0**
	baz=52						
KOTS	**Kotyrbulak**	**1.32**	**52**	⇑*i*P		**Pn**	**09 42 32.1 -0.7**
	comp=N,7μm,0.5s						
KOTS				⇑*i*S		**Sg**	**09 42 50.2 0.0**
	comp=N,89μm,0.8s						
EKS2	**Erkin-Say**	**1.42**	**280**	⇑*i*P		**Pn**	**09 42 33.7 -0.4**
	baz=81						
EKS2				⇑*i*S		**Sb**	**09 42 52.2 -0.8**
	baz=81						
EKS2	**Erkin-Say**	**1.42**	**280**	P		**Pn**	**09 42 33.6 -0.5**
	comp=N,4μm,0.2s						
EKS2				⇓S		**Sn**	**09 42 53.4 +0.3**
	comp=N,7μm,0.5s						
KTBS	**Karatobe**	**1.47**	**30**	P		**Pn**	**09 42 34.9 +0.1**
	comp=N,8μm,0.4s						
KTBS				S		**Sb**	**09 42 54.5 +0.1**
	comp=N,99μm,0.4s						
KTBS	**Karatobe**	**1.47**	**30**	⇓*i*P		**Pn**	**09 42 34.8 +0.1**
	comp=N,9μm,0.4s						
KTBS				⇑*i*S		**Sb**	**09 42 54.4 0.0**
	comp=N,99μm,0.5s						
AML	**Almayashu**	**1.50**	**259**	⇑*i*P		**Pn**	**09 42 34.7 -0.8**
	baz=60						
AML				⇑*i*S		**Sn**	**09 42 55.3 -0.2**
	baz=60						
AML	**Almayashu**	**1.50**	**259**	P		**Pn**	**09 42 34.6 -0.8**
	comp=N,2μm,0.3s,SNR=1982						
ANVS	**Anan'yevo**	**1.51**	**76**	⇓*e*P		**Pn**	**09 42 34.7 -0.6**
	baz=75						
ANVS				⇓*i*S		**Sn**	**09 42 55.0 -0.4**
	baz=75						
KUU	**Kurty**	**1.53**	**18**	⇓*i*P		**Pn**	**09 42 35.6 +0.1**
	baz=18						
KUU				⇑*i*S		**Sb**	**09 42 55.9 -0.2**
	baz=18						
KUU	**Kurty**	**1.53**	**18**	⇓*i*P		**Pn**	**09 42 35.6 +0.1**
	comp=N,12μm,0.4s						
KUU				⇑*i*S		**Sb**	**09 42 55.9 -0.2**
	comp=N,55μm,0.6s						
CHKK	**Chushkaly**	**1.71**	**34**	P		**Pb**	**09 42 39.0 -0.5**
	comp=N,11μm,0.6s						
CHKK				S		**Sb**	**09 43 01.7 +0.4**
	comp=N,31μm,0.3s						
CHKK	**Chushkaly**	**1.71**	**34**	⇓*i*P		**Pb**	**09 42 38.7 -0.8**
	baz=33						
CHKK				⇑*i*S		**Sb**	**09 43 01.6 +0.4**
	baz=33						
CHKK	**Chushkaly**	**1.71**	**34**	⇓*i*P		**Pb**	**09 42 38.7 -0.8**
	comp=N,11μm,0.4s						
CHKK				⇑*i*S		**Sb**	**09 43 01.5 +0.3**
	comp=N,31μm,0.2s						
TARG	**Taragay, Kyrgy**	**1.73**	**113**			**Pn**	**09 42 38.8 +0.2**
TARG					Sn	**Sn**	**09 43 01.2 0.0**
MRKS	**Merke**	**1.84**	**280**	P		**Pb**	**09 42 41.4 -0.3**
	comp=N,16μm,0.5s						
MRKS				S		**Sb**	**09 43 05.6 +0.8**
	comp=N,15μm,0.7s						
MRKS	**Merke**	**1.84**	**280**	⇑*i*P		**Pb**	**09 42 41.1 -0.5**
	baz=81						
MRKS				⇓*i*S		**Sb**	**09 43 05.7 +0.8**
	baz=81						
MRKS	**Merke**	**1.84**	**280**	⇑*i*P		**Pb**	**09 42 41.1 -0.5**
	comp=N,16μm,0.4s						
MRKS				⇓*i*S		**Sb**	**09 43 05.7 +0.8**
	comp=N,18μm,0.6s						
PRZ	**Przheval'sk**	**2.02**	**88**	⇑*e*P		**Pn**	**09 42 43.2 +0.9**
	baz=87						
PRZ				⇑*i*S		**Sb**	**09 43 08.9 -1.2**
	baz=87						
PRZ	**Przheval'sk**	**2.02**	**88**	PN		**Pb**	**09 42 44.0 -0.8**
PRZ							09 43 12.1
PRZ	**Przheval'sk**	**2.02**	**88**			**Pb**	**09 42 44.0 -0.8**
PRZ					Sn	**Sg**	**09 43 12.1 -0.4**
SATY	**Saty**	**2.10**	**72**	Pg		**Pb**	**09 42 46.0 -0.2**
	comp=N,13μm,0.6s						
SATY				Lg		Lg	09 43 13.5
	comp=N,50μm,0.6s						
SATY	**Saty**	**2.10**	**72**	*e*P		**Pb**	**09 42 46.1 -0.2**
	comp=N,13μm,0.6s						
SATY				*e*S		**Sb**	**09 43 13.5 +0.8**
	comp=N,49μm,0.6s						
KURS	**Kuram**	**2.11**	**59**	*e*P		**Pb**	**09 42 45.6 -0.7**
	comp=N,6μm,0.5s						
KURS				*e*S		**Sg**	**09 43 14.2 -1.3**
	comp=N,15μm,0.8s						
ZHN	**Zhinishke**	**2.16**	**69**	*e*P		**Pb**	**09 42 46.0 -1.2**
	comp=N,6μm,0.7s						
ZHN				*e*S		**Sb**	**09 43 14.2 +0.1**
	comp=N,8μm,0.3s						
ARSB	**Arslanbob**	**2.30**	**242**	⇑*i*P		**Pn**	**09 42 46.7 +0.6**
	baz=42						
ARSB				⇑*i*S		**Sn**	**09 43 15.7 +0.9**
	baz=42						
ARSB	**Arslanbob**	**2.30**	**242**			**Pb**	**09 42 49.7 +0.1**
ARSB					Sn	**Sb**	**09 43 18.8 +0.6**
ARXS	**Arharly**	**2.37**	**41**	Pg		**Pb**	**09 42 49.9 -0.8**
	comp=N,5μm,0.5s						
ARXS				Lg		Lg	09 43 21.2
	comp=N,30μm,0.6s						
ARXS	**Arharly**	**2.37**	**41**	*e*P		**Pb**	**09 42 49.9 -0.8**
	comp=N,5μm,0.4s						
ARXS				*e*S		**Sb**	**09 43 21.2 +1.0**
	comp=N,48μm,0.4s						
KPKS	**Kokpek**	**2.44**	**64**	*e*P		**Pb**	**09 42 51.1 -0.8**
	comp=N,14μm,0.8s						
KPKS				*e*S		**Sb**	**09 43 23.7 +1.5**
	comp=N,70μm,0.7s						
UZB	**Uzynbulak**	**2.56**	**73**	Pg		**Pb**	**09 42 53.7 -0.4**
	comp=N,3μm,0.4s						
UZB				Lg		Lg	09 43 26.8
	comp=N,14μm,0.6s						
UZB	**Uzynbulak**	**2.56**	**73**	*e*P		**Pb**	**09 42 53.5 -0.6**
	comp=N,4μm,0.5s						
UZB				*e*S		**Sb**	**09 43 26.6 +0.7**
	comp=N,14μm,0.4s						
ARK	**Arkit**	**2.83**	**258**	⇑*i*P		**Pn**	**09 42 54.2 +0.7**
	baz=58						
ARK				⇑*i*S		**Sn**	**09 43 28.3 +0.3**
	baz=58						
BTLS	**Baital**	**2.86**	**336**	*e*P		**Pb**	**09 42 59.5 +0.5**
	comp=N,1μm,0.5s						
BTLS				*e*S		**Sg**	**09 43 37.1 -2.4**
	comp=N,10μm,0.4s						
SHLS	**Shalkode**	**2.88**	**74**	*e*P		**Pg**	**09 43 04.3 +1.5**
	comp=N,2μm,0.5s						
SHLS				*e*S		**Sg**	**09 43 45.7 +5.6**
	comp=N,11μm,0.6s						
KSH	**Kashi**	**2.93**	**176**	Pn		**Pg**	**09 43 02.8 -0.9**
KSH				Sn		Sg	09 43 51.4 +10
KSH				smax		smax	
	comp=N,15μm,0.9s						
KSH				smax		smax	
	comp=N,24μm,1.1s						
PDGK	**Podgornoye**	**2.94**	**71**	Pg		**Pb**	**09 42 60.0 -0.5**
	comp=N,1μm,0.8s						
PDGK				Lg		Lg	09 43 37.6
	comp=N,10μm,0.8s						
PDGK	**Podgornoye**	**2.94**	**71**	⇑Pn		**Pn**	**09 42 56.7 +1.7**
	comp=N,2μm,0.6s						
PDGK				⇑Lg		Lg	09 43 40.6
	comp=N,9μm,0.8s						
PDGK	**Podgornoye**	**2.94**	**71**	PN		**Pn**	**09 42 56.7 +1.7**
PDGK				LG		Lg	09 43 40.6
DZA	**Taraz**	**3.24**	**280**	*e*P		**Pb**	**09 43 06.6 +1.1**
	comp=N,6μm,0.5s						
DZA				*e*S		**Sg**	**09 43 48.6 -3.0**
	comp=N,6μm,0.8s						
TDK	**Taldyqorghan**	**3.24**	**37**	*e*P		**Pb**	**09 43 06.0 +0.5**
	comp=N,7μm,0.5s						
TDK				*e*S		**Sb**	**09 43 47.3 +2.1**
	comp=N,32μm,0.7s						
DJR	**Jarkent**	**3.55**	**56**	Pg		**Pb**	**09 43 11.5 +0.7**
	comp=N,780nm,0.5s						
DJR				Lg		Lg	09 43 56.8
	comp=N,6μm,0.4s						
DJR	**Jarkent**	**3.55**	**56**	*e*P		**Pb**	**09 43 10.8 0.0**
	comp=N,4μm,0.7s						
DJR				*e*S		**Sb**	**09 43 56.2 +2.1**
	comp=N,6μm,0.4s						
KK31	**Karatay Array**	**3.86**	**282**	⇓Pn		**Pn**	**09 43 08.8 +1.3**
	comp=N,225nm,0.9s,baz=94,slow=13						
KK31				⇑Pg		**Pb**	**09 43 17.4 +1.3**
	comp=N,2μm,0.5s,baz=90,slow=15,SNR=6.2						
KK31				⇑Lg		Lg	09 44 07.3
	comp=N,3μm,0.7s,baz=105,slow=29,SNR=8.2						
KK31	**Karatay Array**	**3.86**	**282**	PN		**Pn**	**09 43 08.5 +1.0**
KK31	**Karatay Array**	**3.86**	**282**			**Pn**	**09 43 08.6 +1.0**
KKAR	**Karatay Array**	**3.86**	**282**	PN		**Pn**	**09 43 07.5 0.0**
KKAR	**Karatay Array**	**3.86**	**282**			**Pn**	**09 43 07.5 0.0**
KKAR	**Karatay Array**	**3.86**	**282**			**Pn**	**09 43 08.8 +1.3**
KAPS	**Kapalarasan**	**3.90**	**42**	*e*P		**Pb**	**09 43 16.2 -0.5**
	comp=N,1μm,0.4s						
KAPS				*e*S		**Sb**	**09 44 06.3 +2.2**
	comp=N,7μm,0.7s						
IUG	**Iuzhnay**	**4.20**	**268**	*e*P		**Pb**	**09 43 23.3 +1.4**
	comp=N,281nm,0.7s						
IUG				*e*S		**Sg**	**09 44 18.9 -3.6**
	comp=N,4μm,0.8s						
BTK	**Batken**	**4.37**	**239**	PN		**Pn**	**09 43 16.3 +1.8**
BTK	**Batken**	**4.37**	**239**			**Pn**	**09 43 16.3 +1.8**
CHM	**Chimkent**	**4.50**	**271**	*e*P		**Pb**	**09 43 29.6 +2.6**
	comp=N,974nm,0.7s						
CHM				*e*S		**Sg**	**09 44 28.6 -3.6**
	comp=N,5μm,1.1s						
TAS	**Tashkent**	**4.90**	**259**	PN		**Pn**	**09 43 22.7 +1.0**
GAR	**Garm**	**5.33**	**232**			**Pn**	**09 43 32.3 +4.6**
CHGR	**Chuyangaron**	**6.24**	**235**			**Pn**	**09 43 45.0 +4.8**
MK31	**Makanchi Array**	**6.42**	**45**	⇓Pn		**Pn**	**09 43 44.6 +2.0**
	comp=N,767nm,0.5s,baz=222,slow=13,SNR=8829						
MK31				⇑Sn		**Sn**	**09 44 56.7 +0.4**
	comp=N,462nm,0.7s,baz=220,slow=24,SNR=9.0						
MK31				⇓Lg		Lg	09 45 29.0
	comp=N,2μm,1.1s,baz=224,slow=30,SNR=5.4						
MK31	**Makanchi Array**	**6.42**	**45**	PN		**Pn**	**09 43 44.7 +2.0**
MK31							09 44 55.8
MK31	**Makanchi Array**	**6.42**	**45**			**Pn**	**09 43 44.7 +2.0**
MK31					Sn	**Sn**	**09 44 55.8 -0.4**
MKAR	**Makanchi Array**	**6.42**	**45**	PN		**Pn**	**09 43 44.4 +1.7**
MKAR							09 44 53.9
MKAR	**Makanchi Array**	**6.42**	**45**	Pn		**Pn**	**09 43 44.6 +2.0**
	comp=N,298nm,0.3s,baz=221,slow=15,SNR=8112						
MKAR					Sn	**Sn**	**09 44 57.0 +0.8**
	comp=N,119nm,0.3s,baz=220,slow=24,SNR=14						
MKAR				Lg		Lg	09 45 27.2
	comp=N,51nm,0.3s,baz=216,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**6.42**	**45**			**Pn**	**09 43 44.4 +1.7**
MKAR						**Sn**	**09 44 53.9 -2.3**
KURBB	**Kurchatov Arra**	**8.42**	**13**	⇓Pn		**Pn**	**09 44 10.1 0.0**
	comp=N,110nm,0.7s						
KURBB				⇑Lg		Lg	09 46 29.6
	comp=N,2μm,0.6s						
KURBB	**Kurchatov Arra**	**8.42**	**13**	Pn		**Pn**	**09 44 09.1 -1.0**
	comp=N,4.6nm,0.3s,baz=200,slow=12,SNR=85						
KURBB					Sn	**Sn**	**09 45 44.4 -0.9**
	comp=N,5.3nm,0.3s,baz=206,slow=22,SNR=6.0						
KURBB				Lg		Lg	09 46 30.3
	comp=N,18nm,0.3s,baz=198,slow=28,SNR=10						
KURK	**Kurchatov**	**8.53**	**13**	P		**Pn**	**09 44 10.6 -0.9**
	SNR=24						
KURK	**Kurchatov**	**8.53**	**13**	P		**Pn**	**09 44 10.4 -1.1**
KURK							09 45 43.5
KURK	**Kurchatov**	**8.53**	**13**			**Pn**	**09 44 10.4 -1.1**
KURK						**Sn**	**09 45 43.5 -4.4**
WMQ	**Urumqi**	**8.90**	**77**	P		**Pn**	**09 44 16.5 -0.2**
WMQ	**Urumqi**	**8.90**	**77**			**Pn**	**09 44 16.5 -0.2**
CHCP	**Chirah Chowk**	**8.97**	**193**	P		**Pn**	**09 44 19.6 +2.0**
NIL	**Nilore**	**8.98**	**193**	P		**Pn**	**09 44 19.8 +2.0**
NIL	**Nilore**	**8.98**	**193**	P		**Pn**	**09 44 19.6 +1.8**
NIL	**Nilore**	**8.98**	**193**			**Pn**	**09 44 19.6 +1.8**
CEP	**Cherat**	**9.10**	**200**	P		**Pn**	**09 44 20.2 +0.7**
KBL	**Kabul**	**9.44**	**216**	P		**Pn**	**09 44 28.0 +3.7**
KBL				S		**Sn**	**09 46 12.6 +1.8**
KBL	**Kabul**	**9.44**	**216**	P		**Pn**	**09 44 27.2 +2.9**
KBL	**Kabul**	**9.44**	**216**			**Pn**	**09 44 27.2 +2.9**
JMU	**Jammu**	**9.72**	**184**	*e*P		**Pn**	**09 44 28.5 +0.6**
THW	**Thamme Wali**	**10.12**	**199**	P		**Pn**	**09 44 35.0 +1.6**
DGZ	**Jazzator, Alta**	**10.92**	**44**	*d*iP		**Pn**	**09 44 46.0 +1.6**
BVAR	**Borovoye Array**	**11.17**	**343**	Pn		**Pn**	**09 44 45.6 -2.1**
	comp=N,13nm,0.3s,baz=156,slow=13,SNR=63						
BVAR					Sn	**Sn**	**09 46 47.4 -5.4**
	comp=N,14nm,0.3s,baz=153,slow=26,SNR=6.1						
BVAR				Lg		Lg	09 47 59.0
	comp=N,19nm,0.3s,baz=157,slow=24,SNR=5.2						
BRVK	**Borovoye**	**11.23**	**343**	P		**Pn**	**09 44 46.6 -1.9**
	SNR=25						
BRVK	**Borovoye**	**11.23**	**343**	*d*iP		**Pn**	**09 44 46.2 -2.2**
BRVK				pmax		pmax	
	comp=Z,61nm,0.8s						
BRVK	**Borovoye**	**11.23**	**343**			**Pn**	**09 44 47.0 -1.4**
AB31	**Akbulak array**	**12.90**	**307**	⇑Pn		**Pn**	**09 45 09.9 -1.5**
	comp=Z,36nm,0.6s,baz=119,slow=12,SNR=469						
AB31					Sn	**Sn**	**09 47 34.1 -1.0**
	comp=Z,125nm,1.1s,baz=282,slow=12,SNR=5.3						
AB31				⇓Lg		Lg	09 48 53.0
	comp=Z,171nm,0.8s						
AB31	**Akbulak array**	**12.90**	**307**	P		**Pn**	**09 45 09.9 -1.5**
AB31					SN	**Sn**	**09 47 34.1 -1.0**
ABKAR	**Akbulak array**	**12.90**	**307**			**Pn**	**09 45 09.8 -1.6**
ZAA0	**Zalesovo Array**	**13.02**	**25**			**Pn**	**09 45 12.4 -0.5**
ZALV	**Zalesovo Beam**	**13.02**	**25**	P		**Pn**	**09 45 12.0 -0.9**
ZALV	**Zalesovo Beam**	**13.02**	**25**	Pn		**Pn**	**09 45 11.2 -1.8**
	comp=Z,9.1nm,0.3s,baz=212,slow=13,SNR=61						
ZALV					Sn	**Sn**	**09 47 31.8 -6.1**
	comp=Z,2.3nm,0.3s,baz=218,slow=24,SNR=5.1						
ZALV				Lg		Lg	09 49 01.5
	comp=Z,5.1nm,0.3s,baz=205,slow=28,SNR=3.6						
ZALV	**Zalesovo Beam**	**13.02**	**25**			**Pn**	**09 45 12.0 -0.9**
HRA	**Herat**	**13.24**	**237**			**Pn**	**09 45 15.9 -0.3**
NDI	**New Delhi**	**13.78**	**174**	*e*P		**Pn**	**09 45 21.0 -2.5**
GEYT	**Alibeck**	**14.15**	**257**	Pn		**Pn**	**09 45 26.8 -1.7**
	comp=Z,0.9nm,0.3s,baz=69,slow=8.1,SNR=13						
GEYT					Sn	**Sn**	**09 48 03.0 -2.9**
	comp=Z,1.0nm,0.3s,baz=61,slow=15,SNR=2.6						
GEYT				LR		LR	09 51 34.9
	comp=Z,441nm,19.9s,baz=25,slow=40						
GEYT	**Alibeck**	**14.15**	**257**			**Pn**	**09 45 29.6 +1.0**
GYA0B	**ALIBECK ARRAY**	**14.15**	**257**			**Pn**	**09 45 27.0 -1.6**
AKTO	**Aktyubinsk**	**14.54**	**309**	⇓Pn		**Pn**	**09 45 32.0 -1.8**
	comp=Z,67nm,0.8s						
AKTO				⇓Sn		**Sn**	**09 48 14.9 -0.3**
	comp=Z,136nm,0.8s						
AKTO				⇑Lg		Lg	09 49 45.9
	comp=Z,410nm,1.2s						
AKTO	**Aktyubinsk**	**14.54**	**309**	P		**Pn**	**09 45 32.3 -1.5**
AKTO					SN	**Sn**	**09 48 14.9 -0.3**
AKTO	**Aktyubinsk**	**14.54**	**309**	Pn		**Pn**	**09 45 30.2 -3.5**
	comp=Z,1.8nm,0.3s,baz=112,slow=12,SNR=29						
AKTO					Sn	**Sn**	**09 48 09.6 -5.6**
	comp=Z,1.3nm,0.3s,baz=43,slow=19,SNR=3.8						
AKTO				Lg		Lg	09 49 45.5
	comp=Z,1.5nm,0.3s,baz=41,slow=18,SNR=2.5						
AKTO				LR		LR	09 51 29.3
	comp=Z,1μm,19.2s,baz=148,slow=39						
DANN	**Dangsing**	**15.51**	**152**	*e*P		**Pn**	**09 45 43.6 -3.5**
	comp=Z,235nm,0.9s						
KOLN	**Koldanda**	**15.99**	**154**	*e*P		**Pn**	**09 45 50.1 -3.2**
	comp=Z,213nm,1.1s						
DMN	**Daman**	**16.67**	**150**	*e*P		**Pn**	**09 46 00.0 -2.0**
	comp=Z,60nm,0.8s						
GUN	**Gumba**	**16.70**	**147**	*e*P		**Pn**	**09 46 00.3 -2.2**
	comp=Z,226nm,1.1s						
PKIN	**Phulchoki**	**16.81**	**149**	*e*P		**Pn**	**09 46 01.8 -2.0**
	comp=Z,45nm,0.7s						
PKI	**Pulchoki**	**16.82**	**149**	*e*P		**Pn**	**09 46 01.8 -2.2**
	comp=Z,69nm,0.8s						
JIRN	**Jiri**	**17.05**	**146**	*e*P		**Pn**	**09 46 04.9 -2.0**
	comp=Z,421nm,1.1s						
SVE	**Sverdlovsk**	**17.33**	**331**	⇓*e*P		**Pn**	**09 46 06.7 -3.1**
SVE				*e*S		**S**	**09 49 30.2 -1.4**
SVE				pmax		pmax	
	comp=Z,83nm,1.4s						
LSA	**Lhasa**	**17.80**	**131**	P		**Pn**	**09 46 13.6 -2.7**
LSA				pmax		pmax	
	comp=Z,19nm,1.1s						
LSA	**Lhasa**	**17.80**	**131**	P		**Pn**	**09 46 13.6 -2.7**
ARU	**Arti**	**17.81**	**328**	*c iP*		**Pn**	**09 46 13.6 -2.3**
ARU				S		**Sn**	**09 49 30.7 -3.8**
ARU				pmax		pmax	
	comp=Z,35nm,0.9s						
ARU	**Arti**	**17.81**	**328**	P		**Pn**	**09 46 12.9 -3.0**
	comp=Z,0.0nm,0.3s,baz=147,slow=6.8,SNR=27						
ARU				S		Sn	09 49 23.4 -11
	comp=Z,0.0nm,0.3s,baz=139,slow=19,SNR=2.8						
ARU				Lg		Lg	09 51 27.6
	comp=Z,0.0nm,0.3s,baz=131,slow=20,SNR=5.3						
ARU				LR		LR	09 53 58.9
	comp=Z,297nm,18.3s,baz=138,slow=40						
ARU	**Arti**	**17.81**	**328**	P		**Pn**	**09 46 13.1 -2.8**
ARU				IAmb		IAmb	09 46 27.9
	comp=Z,56nm,0.8s						
RAMN	**Ramite**	**17.84**	**146**	*e*P		**Pn**	**09 46 14.2 -2.5**
	comp=Z,99nm,0.7s						
TAPN	**Taplejung**	**17.97**	**143**	*e*P		**Pn**	**09 46 16.6 -1.7**
	comp=Z,87nm,0.9s						
ODAN	**Odare**	**18.25**	**145**	*e*P		**Pn**	**09 46 20.6 -1.1**
	comp=Z,116nm,0.8s						
GTA	**Gaotai**	**18.48**	**91**	P		**P**	**09 46 22.4 -1.8**
GTA				pP		sP	09 46 34.9 +6.8
GTA				S		**Sn**	**09 49 52.6 +1.7**
GTA				pmax		pmax	
	comp=Z,10.0nm,1.2s						
GTA				pmax		pmax	
	comp=Z,140nm,3.9s						
GTA				LR		LR	
	comp=Z,970nm,13.1s						
GTA				LR		LR	
	comp=Z,1μm,13.7s						
GTA				LR		LR	
	comp=Z,1μm,15.5s						
MOY	**Mondy**	**19.48**	**53**	*e*P		**Pn**	**09 46 36.6 +0.3**
MOY				pmax		pmax	
	comp=Z,44nm,2.9s						
ZAK	**Zakamensk**	**20.54**	**58**	*e*P		Pn	09 46 47.7 -1.1
ZAK				pmax		pmax	
	comp=Z,35nm,1.0s						
MAK	**Makhachkala**	**20.68**	**281**	*e*P		**P**	**09 46 45.4 -2.7**
MAK				*e*S		**S**	**09 50 35.6 -3.6**
MAK				pmax		pmax	
	comp=Z,215nm,1.0s						
MAK				MLR		MLR	
	comp=Z,507nm,13.0s						
LKRN	**Lenkeran, Azer**	**20.73**	**269**	P		Pn	09 46 52.0 +0.9
AKT	**Akhty**	**20.77**	**277**	*e*P		Pn	09 46 52.1 +0.4
AKT				*e*			09 47 11.2
AKT				pmax		pmax	
	comp=Z,145nm,1.1s						
TLY	**Talaya**	**21.07**	**54**	P		**P**	**09 46 53.5 +1.3**
	SNR=6.1						
TLY	**Talaya**	**21.07**	**54**	*e*P		**P**	**09 46 53.6 +1.3**
TLY				pmax		pmax	
	comp=Z,45nm,0.9s						
TLY				MLR		MLR	
	comp=Z,973nm,8.0s						
TLY	**Talaya**	**21.07**	**54**	P		**P**	**09 46 53.0 +0.8**
	comp=Z,13nm,0.8s,baz=231,slow=4.2,SNR=14						
TLY				Lg		Lg	09 53 15.0
	comp=Z,5.0nm,0.9s,baz=280,slow=18,SNR=3.7						
TLY				LR		LR	09 54 28.3
	comp=Z,379nm,19.0s,baz=275,slow=35						
TLY	**Talaya**	**21.07**	**54**	P		**P**	**09 46 50.8 -1.5**
SEKA	**Sheki**	**21.22**	**276**	P		**P**	**09 46 56.2 +2.1**
MNGR	**Mingechevir, A**	**21.41**	**275**	P		**P**	**09 46 59.0 +3.1**
SHL	**Shillong**	**21.47**	**136**	P		P	09 47 04.5 +7.5
	SNR=5.0						
SHL	**Shillong**	**21.47**	**136**	P		**P**	**09 46 55.9 -1.1**
SHL	**Shillong**	**21.47**	**136**	P		**P**	**09 46 55.9 -1.1**
ZKTA	**Zakatala**	**21.55**	**278**	P		**P**	**09 47 00.4 +2.8**
IRK	**Irkutsk**	**21.59**	**53**	*e*P		**P**	**09 46 57.8 0.0**
GROC	**Groznyy**	**21.88**	**282**	*e*P		**P**	**09 47 02.9 +1.8**
GROC				*e*			09 47 25.2
GROC				*e*S		**S**	**09 51 06.0 +3.0**
GROC				pmax		pmax	
	comp=Z,176nm,1.4s						
GANJ	**Ganja**	**22.00**	**275**	P		**P**	**09 47 05.3 +2.9**
SONM	**Songino Array**	**22.24**	**65**	P		**P**	**09 47 05.3 +0.2**
SONM				pmax		pmax	
	comp=Z,27nm,1.0s						
SONM	**Songino Array**	**22.24**	**65**	P		**P**	**09 47 04.5 -0.6**
	comp=Z,12nm,1.0s,baz=268,slow=9.8,SNR=40						
SONM				Lg		Lg	09 53 55.7
	comp=Z,5.5nm,1.1s,baz=260,slow=22,SNR=4.2						
SONM	**Songino Array**	**22.24**	**65**	P		**P**	**09 47 05.3 +0.2**
LZH	**Lanzhou**	**22.65**	**97**	*e*P		**P**	**09 47 10.0 +0.5**
LZH				sP		sP	09 47 18.3 +4.8
LZH				pmax		pmax	
	comp=Z,48nm,1.0s						
LZH				pmax		pmax	
	comp=Z,180nm,4.3s						
LZH				LR		LR	
	comp=Z,2μm,12.5s						
LZH				LR		LR	
	comp=Z,990nm,10.8s						
LZH				LR		L

comp=Z,102nm,1.0s
KIV MLR MLR
comp=Z,1μm,15.0s
KIV Kislovodsk 24.01 285 P **P** **09 47 23.2 +0.1**
KIV IAmb IAmb 09 47 34.0
comp=Z,32nm,0.9s
SMDO Samad 24.27 223 P **P** **09 47 32.6 +7.0**
SMDO P **P** **09 47 32.6 +7.0**
ASUD Al Ashush, Dub 24.46 230 P **P** **09 47 33.2 +6.0**
VRH Novokhopyorsk 24.65 303 *e*P **P** **09 47 32.6 +3.9**
VRH pmax pmax
comp=Z,50nm,0.7s
HYB Hyderabad 25.06 174 *i* P **P** **09 47 32.0 -0.7**
CD2 Chengdu 25.18 108 P **P** **09 47 33.3 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
BTO Baotou 25.68 82 *e*P **P** **09 47 38.8 +0.5**
SOC Sochi 26.20 285 *e*P **P** **09 47 43.5 +0.7**
SOC *e* 09 48 21.8
SOC *e*S **S** **09 52 16.6 +1.6**
SOC *e*SS **SnSn** **09 53 19.1 +5.7**
SOC *e*SSS SSS 09 53 36.3
SOC pmax pmax
comp=Z,17nm,0.6s
SOC MLR MLR
comp=Z,631nm,16.0s
VSR Storozhevoye 26.25 302 *e*P **P** **09 47 45.7 +2.5**
VSR pmax pmax
comp=Z,40nm,1.1s
PRGR Permogore 26.27 327 *e*P **P** **09 47 37.0 -6.3**
PRGR *e*S **S** **09 52 13.0 -2.9**
PRGR pmax pmax
comp=Z,22nm,0.6s
LPSR Galich'ya Gora 26.55 305 *e*P **P** **09 47 49.4 +3.5**
LPSR pmax pmax
comp=Z,50nm,1.0s
HHC Hu-ho-hao-te 26.75 81 *e*P **P** **09 47 48.3 +0.3**
HHC pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 27.29 97 P **P** **09 47 52.3 -0.5**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,76nm,6.0s
XAN LR LR
comp=Z,710nm,13.0s
XAN LR LR
comp=Z,750nm,10.3s
XAN LR LR
comp=Z,730nm,15.2s
XAN Xi'an 27.29 97 P **P** **09 47 52.1 -0.7**
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN Xi'an 27.29 97 P **P** **09 47 52.1 -0.7**
ANN Anapa 27.62 288 *e*P **P** **09 47 57.8 +2.2**
ANN *e*S **S** **09 52 40.1 +2.7**
ANN pmax pmax
comp=Z,63nm,1.1s
ANN MLR MLR
comp=E,721nm,15.0s
ANN MLR MLR
comp=Z,1μm,15.0s
NRIK Noril'sk 27.67 9 P **P** **09 47 55.9 0.0**
comp=Z,7.0nm,0.9s,baz=193,slow=7.1,SNR=7.3
NRIK LR LR 10 01 11.2
comp=Z,117nm,18.2s,baz=256,slow=41
MOS Moscow 27.85 312 *e*P **P** **09 48 02.1 +4.5**
MOS *e* 09 48 52.4
MOS *e*SS SS 09 54 08.2 -30
MOS pmax pmax
comp=Z,32nm,0.9s
MOS MLR MLR
comp=Z,200nm,7.0s
KMI Kunming 28.18 119 P **P** **09 48 01.3 +0.2**
KMI pmax pmax
comp=Z,27nm,1.0s
KMI LR LR
comp=Z,390nm,14.9s
KMI LR LR
comp=Z,450nm,16.0s
KMI LR LR
comp=Z,560nm,18.5s
OBN Obninsk 28.32 310 *i* P **P** **09 48 05.3 +3.5**
OBN *i* 09 48 48.7
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,405nm,18.0s
KLMR Klimovskoe 28.50 323 *e*P **P** **09 48 02.7 -0.5**
KLMR *e* 09 48 52.8
KLMR *e* 09 51 14.8
KLMR *e*SS SS 09 54 10.7 -40
KLMR pmax pmax
comp=Z,43nm,1.3s
KLMR Klimovskoe 28.50 323 *e*P **P** **09 48 02.8 -0.5**
KLMR AMP 09 48 10.2
comp=Z,43nm,1.3s
KLMR *e*PP **PnPn** **09 48 52.8 +0.4**
KLMR *e*PcP **PcP** **09 51 14.9 +0.2**
KLMR *e*SS SS 09 54 10.8 -40
KLMR *e*SS SS 09 54 10.8 -40
KLMR LQ LQ 09 56 34.6
KLMR LQ LQ 09 56 34.6
KLMR LR LR 09 58 44.3
BOD Bodaibo 28.51 44 *e*P **P** **09 48 03.2 -0.3**
BOD pmax pmax
comp=Z,16nm,0.9s
ENH Enshi 29.62 103 P **P** **09 48 12.7 -1.0**
GYA Guiyang 29.91 112⇑ *i*P **P** **09 48 15.8 -0.5**
GYA PP **PnPn** **09 49 09.6 -2.6**
GYA S **S** **09 53 15.6 +1.6**
GYA pmax pmax
comp=Z,30nm,0.5s
GYA pmax pmax
comp=Z,80nm,4.8s
GYA LR LR
comp=Z,370nm,16.1s
GYA LR LR
comp=Z,320nm,16.8s
GYA LR LR
comp=Z,350nm,16.4s
TMCR Tamitsa 30.55 328 *e*P **P** **09 48 21.7 +0.3**
TMCR pmax pmax
comp=Z,51nm,1.0s
WHFO Wadi Hawf 30.74 224 P **P** **09 48 26.0 +2.4**
CMAR Chiang Mai Arr 31.01 133 *i* P **P** **09 48 28.8 +2.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 31.01 133 P **P** **09 48 24.8 -1.2**
comp=Z,0.8nm,0.3s,baz=287,slow=32,SNR=2.5
CMAR Chiang Mai Arr 31.01 133 P **P** **09 48 25.4 -0.6**
HIA Hailar 31.08 62 P **P** **09 48 26.8 +0.4**
HIA pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 31.08 62 P **P** **09 48 26.8 +0.4**
ILGA Ilgaz 31.11 282 P **P** **09 48 26.4 -0.5**
ABTO Aybut 31.45 224 P P 09 48 35.2 +5.3
BR131 Keskin Array S 31.57 279 P **P** **09 48 32.3 +1.4**
BR131 P **sP** **09 48 35.0 -0.2**
SNR=14
BR131 Keskin Array S 31.57 279 P **P** **09 48 32.0 +1.1**
BR131 pmax pmax
comp=Z,18nm,0.8s
BR131 Keskin Array S 31.57 279 P **P** **09 48 32.0 +1.1**
BRTR Keskin Array B 31.57 279 *ce*P P 09 48 35.7 +4.8
BRTR pmax pmax
comp=Z,16nm,0.8s
BRTR Keskin Array B 31.57 279 P **P** **09 48 31.2 +0.3**
comp=Z,15nm,0.7s,baz=95,slow=7.2,SNR=16
BRTR Keskin Array B 31.57 279 P **P** **09 48 32.3 +1.4**
PHRA Phrae 31.68 131 P P 09 48 37.0 +5.2
comp=Z,2.2nm,1.2s
ANTO Ankara 32.14 280 P **P** **09 48 35.9 +0.1**
ANTO pmax pmax
comp=Z,13nm,0.9s
ANTO Ankara 32.14 280 P **P** **09 48 35.9 +0.1**
ANTO IAmb IAmb 09 48 41.5
comp=Z,13nm,0.8s
ASF Jabal al Asfar 32.26 264 P **P** **09 48 38.0 +1.0**
ASF Jabal al Asfar 32.26 264 P **P** **09 48 38.0 +1.0**
comp=Z,3.6nm,0.8s,baz=73,slow=12,SNR=4.6
AKASG Malin Array Be 32.52 301 P **P** **09 48 38.3 -0.6**
AKASG pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 32.52 301 P **P** **09 48 38.5 -0.4**
comp=Z,8.6nm,0.8s,baz=75,slow=8.5,SNR=17
AKASG LR LR 10 04 30.7
comp=Z,562nm,18.6s,baz=70,slow=41
AKASG Malin Array Be 32.52 301 P **P** **09 48 38.3 -0.6**
AKBB Malin Array Si 32.52 301 P **P** **09 48 38.4 -0.5**
AKBB pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si 32.52 301 P **P** **09 48 38.4 -0.5**
AKBB IAmb IAmb 09 48 44.8
comp=Z,16nm,0.9s
JOF Joensuu 32.86 324 P **P** **09 48 42.0 +0.2**
MMAI Mount Meron Ar 32.95 267 P **P** **09 48 41.6 -1.4**
comp=Z,0.3nm,0.4s,baz=142,slow=26,SNR=2.4
LVZ Lovozero 33.52 333⇑ *e*P **P** **09 48 47.2 -0.3**
LVZ pmax pmax
comp=Z,33nm,1.0s
LVZ Lovozero 33.52 333 P **P** **09 48 47.2 -0.3**
JURR Jurilovca 33.61 290 ⇑P P 09 48 53.6 +5.1
JURR mb 09 48 55.9
PBKT Sadao Pong 33.65 132 P P 09 48 55.2 +6.1
comp=Z,7.4nm,2.2s
PBKT Sadao Pong 33.65 132 P **P** **09 48 49.2 +0.1**
PBKT IAmb IAmb 09 48 55.4
comp=Z,16nm,1.2s
NONG Nongkai 33.69 128 P **P** **09 48 50.7 +1.3**
comp=Z,0.5nm,1.4s
APA Apatity 33.79 332⇓ *i*P **P** **09 48 52.8 +3.0**
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,2μm,16.0s
NACGM Naroch 33.91 309 *e* **P** **09 48 50.0 -1.0**
TIRR Tirgusor 34.00 290 P **P** **09 48 51.8 -0.1**
TIRR pmax pmax
comp=Z,24nm,0.9s
TIRR Tirgusor 34.00 290 P **P** **09 48 51.8 -0.1**
CFR Carcaliu 34.03 291 ⇑P **P** **09 48 55.8 +3.7**
VSU Vasula 34.16 315⇑ *e*P **P** **09 48 57.0 +3.9**
VSU pmax pmax
comp=Z,124nm,1.3s
TLB Topalu 34.23 290 ⇑P **P** **09 48 58.4 +4.5**
HARR Harsova 34.28 290 ⇑P **P** **09 48 57.6 +3.3**
HARR mb 09 49 01.4
ICOR Ion Corvin 34.51 289 ⇑P **P** **09 48 59.7 +3.4**
ISP Isparta 34.52 278 P **P** **09 48 56.7 +0.1**
ISP pmax pmax
comp=Z,24nm,0.7s
ISP Isparta 34.52 278 P **P** **09 48 56.7 +0.1**
CHAI Chaiyaphum 34.76 132 P P 09 49 04.1 +5.4
comp=Z,15μm,0.8s
TESR Tescani 34.77 294 ⇑P **P** **09 49 02.9 +4.3**
FINES FINESS Array B 34.90 320 P **P** **09 48 59.4 -0.1**
comp=Z,10nm,0.7s,baz=109,slow=12,SNR=9.5
FINES LR LR 10 03 35.5
comp=Z,807nm,18.3s,baz=104,slow=37
BIZ Bicaz 35.05 295 ⇑P **P** **09 49 05.1 +4.1**
ISR Istrita 35.14 292 ⇑P P 09 49 06.8 +5.0
PALK Pallekele 35.30 171 LR LR 10 03 05.4
comp=Z,339nm,20.0s,baz=357,slow=36
MLR Muntele Rosu 35.47 292 P **P** **09 49 05.0 +0.2**
MLR pmax pmax
comp=Z,19nm,0.9s
MLR Muntele Rosu 35.47 292 P **P** **09 49 05.1 +0.4**
comp=Z,4.7nm,0.8s,baz=187,slow=8.1,SNR=2.8
MLR Muntele Rosu 35.47 292 P **P** **09 49 05.0 +0.2**
MLR IAmb IAmb 09 49 13.0
comp=Z,19nm,0.9s
ZEA Zeya 35.50 53 *e*P **P** **09 49 03.6 -1.1**
ZEA pmax pmax
comp=Z,9.0nm,1.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
BURAR Bucovina Array 35.52 296 ⇑P **P** **09 49 09.4 +4.2**
BURAR mb 09 49 13.4
BURAR Bucovina Array 35.52 296 P **P** **09 49 04.9 -0.2**
BUR08 Bucovina Ar. S 35.52 296 P **P** **09 49 04.8 -0.4**
BUR08 IAmb IAmb 09 49 14.3
comp=Z,13nm,1.1s
NJ2 Nanjing 35.56 92 *e*P **P** **09 49 06.8 +1.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
DOPR Dopca 35.74 293 ⇓P P 09 49 12.1 +5.1
SUW Suwalki 36.03 307 P **P** **09 49 09.6 +0.3**
SUW pmax pmax
comp=Z,39nm,0.6s
SUW Suwalki 36.03 307 *e*P **P** **09 49 10.0 +0.7**
SUW *e*P **P** **09 49 10.0 +0.7**
SUW Suwalki 36.03 307 P **P** **09 49 09.6 +0.3**
ARCR ARCALIA 36.20 295 ⇑P P 09 49 15.8 +4.9
KWP Kalwaria Pacla 36.81 300 P **P** **09 49 15.5 -0.5**
KWP Kalwaria Pacla 36.81 300 *e*P **P** **09 49 16.9 +0.9**
KWP *e*P **P** **09 49 16.9 +0.9**
KWP Kalwaria Pacla 36.81 300 P **P** **09 49 15.6 -0.5**
YAK Yakutsk 37.06 39 *e*P **P** **09 49 18.7 +0.7**
YAK *e* 09 51 34.4
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK MLR MLR
comp=Z,240nm,17.0s
YAK MLR MLR
comp=N,194nm,13.0s
YAK MLR MLR
comp=E,149nm,13.0s
YAK Yakutsk 37.06 39 P **P** **09 49 15.1 -2.9**
YAK IAmb IAmb 09 49 25.2
comp=Z,17nm,0.7s
QIZ Qiongzhong 37.12 118 P **P** **09 49 21.0 +2.0**
QIZ S **S** **09 55 08.1 +2.5**
QIZ pmax pmax
comp=Z,280nm,3.1s
QIZ LR LR
comp=Z,560nm,22.1s
QIZ LR LR
comp=Z,590nm,18.1s
QIZ LR LR
comp=Z,560nm,22.1s
KOLS Kolonicke sedl 37.21 299 *e*P **P** **09 49 20.8 +1.4**
KOLS Kolonicke sedl 37.21 299 *e*P **P** **09 49 20.8 +1.4**
ARCES ARCESS Array B 37.24 333 P **P** **09 49 19.7 +0.3**
comp=Z,14nm,0.7s,baz=107,slow=9.1,SNR=11
ARCES ARCESS Array B 37.24 333 P **P** **09 49 19.4 0.0**
UBPT Khong Chiam 37.24 128 P **P** **09 49 20.2 +0.2**
comp=Z,19nm,2.0s
UZH Uzhgorod 37.25 298 *e*P **P** **09 49 23.8 +4.0**
UZH *i* 09 49 25.5
GZR Gura Zlata 37.66 293 ⇓P **P** **09 49 27.9 +4.6**
HERR Herculane 38.04 292 ⇑P **P** **09 49 31.1 +4.6**
VTS Vitosha 38.13 289 P **P** **09 49 27.7 +0.2**
VTS pmax pmax
comp=Z,16nm,0.9s
VTS Vitosha 38.13 289 ⇑P **P** **09 49 30.9 +3.4**
VTS mb 09 49 35.0
VTS Vitosha 38.13 289 P **P** **09 49 27.7 +0.2**
VTS IAmb IAmb 09 49 35.0
comp=Z,16nm,0.9s
BZS Buzias 38.38 294 ⇑P **P** **09 49 33.8 +4.4**
NIE Niedzica 38.39 300 *e*P **P** **09 49 30.3 +0.9**
NIE Niedzica 38.39 300 *e*P **P** **09 49 30.3 +0.9**
NIE *e*P **P** **09 49 30.3 +0.9**
APE Apeiranthos 38.47 279 *d i*P **P** **09 49 34.0 +3.7**
APE pmax pmax
comp=Z,29nm,0.9s
APE Apeiranthos 38.47 279 ⇑P **P** **09 49 34.0 +3.7**
APE mb 09 49 36.9
MDVR Moldovita 38.55 292 ⇑P P 09 49 35.6 +4.8
OJC Ojcow 38.56 301 P **P** **09 49 29.5 -1.3**
OJC pmax pmax
comp=Z,22nm,0.8s
OJC Ojcow 38.56 301 *e*P **P** **09 49 31.1 +0.3**
OJC *e*P **P** **09 49 31.1 +0.3**
OJC Ojcow 38.56 301 P **P** **09 49 29.5 -1.3**
OJC IAmb IAmb 09 49 37.7
comp=Z,22nm,0.8s
KLR Kul'dur 38.87 60 *ce*P **P** **09 49 33.8 +0.3**
KLR pmax pmax
comp=Z,11nm,1.1s
KLR Kul'dur 38.87 60 P **P** **09 49 33.5 0.0**
comp=Z,4.0nm,0.6s,baz=302,slow=9.2,SNR=12
TIXI Tiksi 38.91 24⇑ *i*P **P** **09 49 33.5 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 38.91 24 P **P** **09 49 33.3 -0.2**
comp=Z,6.7nm,0.6s,baz=285,slow=6.1,SNR=28
TIXI Tiksi 38.91 24 P **P** **09 49 33.1 -0.3**
TIXI IAmb IAmb 09 49 41.2
comp=Z,27nm,1.1s
PSZ Piszkesteto 38.97 298 P **P** **09 49 33.2 -1.2**
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 38.97 298 ⇓P P 09 49 39.2 +4.8
PSZ mb 09 49 41.9
PSZ Piszkesteto 38.97 298 P **P** **09 49 33.2 -1.2**
VYHS Vyhne 39.53 299 *e*P **P** **09 49 39.8 +0.8**
VYHS pmax pmax
comp=Z,17nm,1.3s
VYHS Vyhne 39.53 299 *e*P **P** **09 49 39.8 +0.8**
KSRS Korea Array 39.84 79 P **P** **09 49 41.0 -0.6**
comp=Z,1.7nm,0.8s,baz=290,slow=7.9,SNR=6.5
MORC Moravsky Berou 40.07 301 P **P** **09 49 44.3 +0.8**
MORC pmax pmax
comp=Z,21nm,1.1s
MORC Moravsky Berou 40.07 301 ⇓P **P** **09 49 47.9 +4.4**
MORC mb 09 49 48.6
MORC Moravsky Berou 40.07 301 *e*P **P** **09 49 44.1 +0.6**
MORC *e*pP **P** **09 49 47.9 +4.4**
MORC Moravsky Berou 40.07 301 P **P** **09 49 44.3 +0.8**
MORC IAmb IAmb 09 49 50.7
comp=Z,21nm,1.1s
JAVC Velka Javorina 40.19 300 *e*P **P** **09 49 46.3 +1.7**
JAVC *e*pP **sP** **09 49 50.0 +1.1**
USA0B Ussuriysk Arra 40.32 68 P **P** **09 49 45.1 -0.5**
USA0B pmax pmax
comp=Z,21nm,1.5s
USA0B Ussuriysk Arra 40.32 68 P **P** **09 49 45.1 -0.5**
USRK Ussuriysk Ar. 40.32 68 P **P** **09 49 44.8 -0.8**
comp=Z,3.9nm,0.7s,baz=296,slow=10,SNR=13
USRK LR LR 10 08 18.7
comp=Z,344nm,19.5s,baz=291,slow=39
USRK Ussuriysk Ar. 40.32 68 P **P** **09 49 44.7 -0.9**
SMOL Smolenice 40.43 299 *e*P P 09 49 51.2 +4.7
SMOL Smolenice 40.43 299 *e* P 09 49 51.2 +4.7
KRLC Kraliky 40.49 302 *e*P **P** **09 49 47.6 +0.7**
KRLC *e* 09 49 51.1
KRLC Kraliky 40.49 302 *e*P **P** **09 49 47.6 +0.7**
KRLC *e*pP **sP** **09 49 51.1 -0.2**
MODS Modra-Piesok 40.56 299 *e*P **P** **09 49 51.5 +3.9**
MODS Modra-Piesok 40.56 299 *e* **P** **09 49 51.5 +3.9**
KSP Ksiaz 40.63 303 *e*P **P** **09 49 52.5 +4.4**
KSP Ksiaz 40.63 303 *e*P **P** **09 49 52.5 +4.4**
KSP *e*P **P** **09 49 52.5 +4.4**
DPC Dobruska-Polom 40.72 302 *e*P **P** **09 49 49.5 +0.7**
DPC *e* 09 49 53.5
DPC Dobruska-Polom 40.72 302 *e*P **P** **09 49 49.5 +0.7**
DPC *e*pP **sP** **09 49 53.5 +0.3**
VRAC Vranov 40.78 301 P **P** **09 49 50.1 +0.8**
comp=Z,6.2nm,1.0s,baz=78,slow=8.1,SNR=6.0
VRAC Vranov 40.78 301 ⇑P **P** **09 49 54.0 +4.7**
VRAC mb 09 49 56.9
VRAC Vranov 40.78 301 *e*P **P** **09 49 51.1 +1.8**
VRAC *e*pP **sP** **09 49 53.9 +0.2**
CHVC Chvalec 40.83 303 *e*P **P** **09 49 51.1 +1.3**
UPC Upice 40.88 303 *e*P **P** **09 49 51.1 +1.0**
UPC Upice 40.88 303 *e*P **P** **09 49 51.1 +1.0**
HFS Hagfors 40.88 318 LR LR 10 07 30.2
comp=Z,511nm,19.3s,baz=86,slow=37
KRUC Moravsky 40.96 300 *e*P **P** **09 49 51.7 +0.9**
KRUC *e*pP **sP** **09 49 55.6 +0.4**
PDG Podgorica 40.97 290 ⇑P **P** **09 49 55.5 +4.6**
CONA Conrad Observa 41.59 299 *e*pP **P** **09 50 00.3 +4.2**
comp=Z,23nm,0.9s
GOPC GO Pecny, Ondr 41.78 302 *e*P **P** **09 50 01.8 +4.3**
GOPC GO Pecny, Ondr 41.78 302 *e*P **P** **09 50 01.8 +4.3**
NC405 NORSAR Array S 41.80 319 P **P** **09 49 56.4 -1.1**
PRU Pruhonice 41.91 302 *e*P **P** **09 50 00.6 +2.0**
PRU *e* 09 50 03.3
PRU Pruhonice 41.91 302 *e*P **P** **09 50 00.6 +2.0**
PRU *e*pP **sP** **09 50 03.3 +0.3**
NACB Ninganchiao 41.91 101 P **P** **09 49 58.3 -0.6**
NACB IAmb IAmb 09 50 00.4
comp=Z,24nm,0.9s
NC303 NORSAR Array S 41.96 319 P **P** **09 49 58.0 -0.9**
ARSA Arzberg 42.00 298 *e*pP **P** **09 50 03.3 +3.9**
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 42.04 319 P **P** **09 49 59.2 -0.4**
comp=Z.5.1nm,0.6s,baz=86,slow=8.6
NOA NORSAR Array B 42.04 319 P **P** **09 49 59.4 -0.2**
comp=Z,16nm,0.8s,baz=87,slow=8.2,SNR=25
NOA LR LR 10 07 55.9
comp=Z,646nm,18.6s,baz=95,slow=37
BRG Berggiesshubel 42.08 304 *e*P **P** **09 50 00.5 +0.6**
comp=Z,8.9nm,1.6s
BRG *i* 09 50 04.0
comp=Z,10nm,1.0s
BRG Berggiesshubel 42.08 304 *e*P **P** **09 50 00.5 +0.6**
BRG *i* 09 50 04.0
BRG pmax pmax
comp=Z,9.0nm,1.6s
NC204 NORSAR Array S 42.24 319 P **P** **09 50 01.6 +0.3**
SOKA Soboth 42.49 297 *e*pP **P** **09 50 07.5 +4.0**
comp=Z,27nm,1.3s
CLL Collm 42.55 304 *i* P **P** **09 50 04.4 +0.6**
CLL *i* 09 50 07.6
CLL pmax pmax
comp=Z,17nm,1.0s
CLL MLR MLR
comp=Z,400nm,18.1s
CLL Collm 42.55 304 *i* P **P** **09 50 04.4 +0.6**
comp=Z,17nm,1.0s
CLL *i* pP **pP** **09 50 07.6 +0.7**
CLL LmH 10 05 00.0
comp=N,500nm,20.5s
CLL LmH 10 05 00.0
comp=E,300nm,18.2s
CLL LmV 10 11 00.0
comp=Z,400nm,18.1s
CLL Collm 42.55 304 P **P** **09 50 03.4 -0.4**
CLL IAmb IAmb 09 50 10.5
comp=Z,20nm,1.1s
GERES GERESS Array B 42.73 301 P **P** **09 50 04.9 -0.6**
comp=Z,6.9nm,0.8s,baz=58,slow=10,SNR=18
GERES LR LR 10 09 10.7
comp=Z,304nm,18.9s,baz=90,slow=38
KHC Kasperske Hory 42.74 301⇓ *e*P **P** **09 50 08.0 +2.6**
KHC pmax pmax
comp=Z,12nm,1.0s
KHC Kasperske Hory 42.74 301 *e*P **P** **09 50 06.0 +0.6**
KHC *e*pP **sP** **09 50 09.5 -0.3**
OBKA Obir 42.86 297 *e*pP **P** **09 50 10.8 +4.3**
comp=Z,22nm,1.1s
MYKA Terra Mystica 43.41 298 *e*pP **P** **09 50 15.3 +4.4**
comp=Z,7.6nm,1.1s
KBA Koelnbreinsper 43.47 298 *e*pP **P** **09 50 15.3 +3.8**
comp=Z,16nm,1.0s
ABTA Abfaltersbach 44.12 298 *e*pP **P** **09 50 19.8 +3.2**
comp=Z,9.2nm,1.0s
WTTA Wattenberg 44.52 299 *e*pP **P** **09 50 22.8 +2.9**
comp=Z,24nm,1.2s
WATA Walderalm 44.54 299 *e*pP **P** **09 50 23.7 +3.6**
comp=Z,22nm,1.1s
SQTA Sankt Quirin 44.81 299 *e*pP **P** **09 50 25.6 +3.4**
comp=Z,12nm,1.0s
MOTA Moosalm 44.84 299 *e*pP **P** **09 50 26.0 +3.5**
comp=Z,30nm,1.1s
RETA Reutte 45.02 300 *e*pP **P** **09 50 27.7 +3.9**
comp=Z,25nm,0.8s
FETA Feichten 45.19 299 *e*pP **P** **09 50 28.6 +3.3**
comp=Z,16nm,1.0s
DAVA Damuels 45.65 300 *e*pP **P** **09 50 32.9 +4.1**
comp=Z,45nm,0.8s,SNR=5.4
DAVOX Davos/Dischmat 45.82 299 P **P** **09 50 29.3 -1.0**
comp=Z,13nm,0.7s,baz=68,slow=7.4,SNR=16
BFO Black Forest 46.29 302 *i* P **P** **09 50 38.2 +4.4**
WLF Walferdange 47.21 304 P **P** **09 50 40.2 -0.7**
WLF pmax pmax
comp=Z,26nm,1.2s
WLF Walferdange 47.21 304 P **P** **09 50 40.2 -0.7**
MAJO Matsushiro 47.66 75 P **P** **09 50 43.8 -0.8**
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 47.66 75 P **P** **09 50 43.8 -0.8**
MAJO IAmb IAmb 09 50 44.4
comp=Z,13nm,1.0s
MAT Matsushiro 47.66 75 P **P** **09 50 43.5 -1.1**
MJAR Matsushiro Arr 47.66 75 P **P** **09 50 43.3 -1.4**
comp=Z,6.8nm,0.9s,baz=291,slow=9.5,SNR=17

SSF	**Saint Saulge**	**49.79 302**	*e*P		**P**	**09 51 05.4**	**+4.6**
SSF			pmax	pmax			
comp=Z,10.0nm,1.0s							
DAG	**Danmarks Havn**	**50.11 343**	*i* P		**P**	**09 51 06.0**	**+3.2**
DAG			pmax	pmax			
comp=Z,9.0nm,0.9s							
DAG	**Danmarks Havn**	**50.11 343**	*i* P		**P**	**09 51 06.0**	**+3.2**
comp=Z,10nm,0.9s							
EKA	**Eskdalemuir Ar**	**50.68 314**	P		**P**	**09 51 06.5**	**-0.9**
comp=Z,3.5nm,0.7s,baz=70,slow=8.1,SNR=2.3							
BILL	**Bilibino**	**51.68 29**	*i* P		**P**	**09 51 16.6**	**+1.8**
BILL			*i*			09 52 27.6	
BILL			pmax	pmax			
comp=Z,3.0nm,0.8s							
MFF	**Saint Martin d**	**52.27 302**	*e*P		**P**	**09 51 23.0**	**+3.5**
MFF			pmax	pmax			
comp=Z,19nm,1.1s							
LFF	**La Frestale**	**52.42 300**	*e*P		P	09 51 25.9	+5.3
LFF			pmax	pmax			
comp=Z,13nm,0.9s							
PETK	**Petropavlovsk-**	**53.25 48**	LR		LR	10 16 52.4	
comp=Z,199nm,19.4s,baz=262,slow=39							
KMBO	**Kilima Mbogo**	**55.48 229**	P		**P**	**09 51 42.8**	**-0.7**
KMBO			pmax	pmax			
comp=Z,4.0nm,1.0s							
KMBO	**Kilima Mbogo**	**55.48 229**	P		**P**	**09 51 43.8**	**+0.3**
comp=Z,0.8nm,0.5s,baz=37,slow=20,SNR=2.4							
KMBO	**Kilima Mbogo**	**55.48 229**	P		**P**	**09 51 42.9**	**-0.7**
SUMG	**Summit**	**56.64 341**	*i* P		**P**	**09 51 51.6**	**+0.2**
SUMG			pmax	pmax			
comp=Z,44nm,1.0s							
SUMG	**Summit**	**56.64 341**	*i* P		**P**	**09 51 51.6**	**+0.2**
comp=Z,44nm,1.0s							
SUMG	**Summit**	**56.64 341**	P		**P**	**09 51 50.9**	**-0.5**
ESDC	**Sonseca Array**	**57.98 296**	P		**P**	**09 52 01.0**	**+0.1**
comp=Z,1.6nm,0.6s,baz=52,slow=7.3,SNR=12							
ESDC	**Sonseca Array**	**57.98 296**	P		**P**	**09 52 00.1**	**-0.8**
SFJD	**Kangerlussuaq**	**63.52 339**	P		**P**	**09 52 37.1**	**-1.0**
comp=Z,12nm,1.0s,baz=16,slow=7.4,SNR=2.3							
TOLK	**Toolik Lake Re**	**64.24 17**	P		**P**	**09 52 42.3**	**-0.6**
TOLK			IAmb	IAmb		09 52 44.9	
comp=Z,8.7nm,1.0s							
IMAR	**Indian Mountai**	**65.40 20**	P		**P**	**09 52 49.2**	**-1.2**
BMAR	**Burnt Mountain**	**66.29 16**	P		**P**	**09 52 55.9**	**-0.3**
INK	**Inuvik**	**67.43 11**	P		**P**	**09 53 02.9**	**-0.4**
INK			pmax	pmax			
comp=Z,16nm,1.2s							
INK	**Inuvik**	**67.43 11**	P		**P**	**09 53 02.3**	**-1.1**
comp=Z,6.1nm,0.9s,baz=346,slow=7.7,SNR=28							
INK	**Inuvik**	**67.43 11**	P		**P**	**09 53 02.9**	**-0.4**
ILAR	**Eielson Array**	**68.05 18**	P		**P**	**09 53 06.3**	**-1.0**
comp=Z,2.2nm,0.8s,baz=322,slow=5.0,SNR=23							
TOA0	**Torodi Ar. Sit**	**69.45 269**	P		**P**	**09 53 16.7**	**-0.2**
TOA0	**Torodi Ar. Sit**	**69.45 269**	P		**P**	**09 53 16.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**69.45 269**	P		**P**	**09 53 16.1**	**-0.8**
comp=Z,6.4nm,0.8s,baz=46,slow=5.7,SNR=32							
BCAR	**Beaver Creek A**	**70.67 17**	P		**P**	**09 53 23.8**	**+0.1**
KDAK	**Kodiak Island**	**72.32 25**	*i* P		P	09 53 40.2	+6.6
YKA	**Yellowknife Ar**	**75.09 5**	P		**P**	**09 53 49.0**	**-0.8**
YKA	**Yellowknife Ar**	**75.09 5**	P		**P**	**09 53 49.0**	**-0.8**
comp=Z,1.3nm,0.6s,baz=350,slow=5.9,SNR=3.2							
DBIC	**Dimbokro**	**78.55 269**	P		**P**	**09 54 08.8**	**-1.3**
comp=Z,4.0nm,0.7s,baz=18,slow=9.6,SNR=2.2							
KIC	**Kosan Boka**	**78.67 268**	*e*PKP2		**P**	**09 54 09.8**	**-1.0**
comp=Z,1.1nm,0.8s							
TIC	**Toumodi**	**78.69 269**	*e*PKP2		**P**	**09 54 09.9**	**-1.0**
LIC	**Lamto**	**78.97 268**	*e*PKP2		**P**	**09 54 11.0**	**-1.4**
comp=Z,3.8nm,0.5s							
WRA	**Warramunga Arr**	**82.28 126**	P		**P**	**09 54 28.5**	**-1.4**
comp=Z,4.5nm,0.7s,baz=319,slow=5.3,SNR=50							
WRA	**Warramunga Arr**	**82.28 126**	P		**P**	**09 54 28.6**	**-1.4**
WRAB	**Tennant Creek**	**82.28 126**	P		**P**	**09 54 28.9**	**-1.1**
WRAB			pmax	pmax			
comp=Z,6.0nm,0.7s							
WRAB	**Tennant Creek**	**82.28 126**	P		**P**	**09 54 28.9**	**-1.1**
WRAB			IAmb	IAmb		09 54 29.2	
comp=Z,6.4nm,0.7s							
WB2	**Warramunga Arr**	**82.29 126**	P		**P**	**09 54 28.3**	**-1.7**
PMG	**Port Moresby**	**82.94 109**	P		**P**	**09 54 33.1**	**-0.4**
PMG			pmax	pmax			
comp=Z,7.0nm,0.9s							
PMG	**Port Moresby**	**82.94 109**	P		**P**	**09 54 31.7**	**-1.8**
comp=Z,5.1nm,0.7s,baz=331,slow=1.7,SNR=4.2							
PMG	**Port Moresby**	**82.94 109**	P		**P**	**09 54 33.1**	**-0.4**
PMG			IAmb	IAmb		09 54 35.4	
comp=Z,7.3nm,0.9s							
COEN	**Coen**	**83.46 115**	P		**P**	**09 54 35.3**	**-0.9**
COEN			IAmb	IAmb		09 54 46.2	
comp=Z,6.4nm,0.9s							
BOSA	**Boshof**	**84.58 223**	P		**P**	**09 54 41.4**	**-0.4**
BOSA			pmax	pmax			
comp=Z,18nm,1.5s							
BOSA	**Boshof**	**84.58 223**	P		**P**	**09 54 40.6**	**-1.1**
comp=Z,2.7nm,0.9s,baz=39,slow=6.5,SNR=2.1							
BOSA	**Boshof**	**84.58 223**	P		**P**	**09 54 41.4**	**-0.4**
AS31	**Alice Springs**	**84.89 128**	P		**P**	**09 54 41.6**	**-1.8**
ASAR	**Alice Springs**	**84.89 129**	P		**P**	**09 54 41.7**	**-1.6**
ASAR	**Alice Springs**	**84.89 129**	P		**P**	**09 54 41.4**	**-1.9**
comp=Z,4.5nm,1.0s,baz=320,slow=4.7,SNR=27							
ASAR	**Alice Springs**	**84.89 129**	P		**P**	**09 54 41.7**	**-1.6**
CTA	**Charters Tower**	**89.90 118**	P		**P**	**09 55 06.4**	**-1.2**
comp=Z,3.7nm,0.7s,baz=350,slow=11,SNR=4.3							
PDAR	**Pinedale Array**	**95.05 4**	P		**P**	**09 55 29.6**	**-1.9**
comp=Z,0.3nm,0.5s,baz=62,slow=38,SNR=3.2							
PDAR	**Pinedale Array**	**95.05 4**	P		**P**	**09 55 30.1**	**-1.4**

IDC 23 09:46:19.0±470.0, 38°.11N×16°.43E, h0km, Error ellipse: s-maj=201.5km s-min=112.8km az=69.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**6.14**	**250**	*i*		10 54 40.0	
baz=70,slow=319,SNR=0.8							
I26DE	**FREYUNG INFRAS**	**10.91**	**350**	*i*		10 50 30.0	
baz=171,slow=318,SNR=1.1							
I43RU	**DUBNA INFRASON**	**23.17**	**30**	*i*		12 12 40.0	
baz=224,slow=317,SNR=1.5							
I31KZ	**AKTYUBINSK INF**	**31.82**	**54**	*i*		12 59 00.0	
baz=262,slow=331,SNR=1.9							
I32KE	**NAIROBI INFRAS**	**43.45**	**150**	*i*		14 17 30.0	
baz=336,slow=323,SNR=2.3							

*SJA **23** 10:08:02.9±0.8, 27°.17S×70°.98W, h65km±12km, ML3.0, MW3.2*
*GUC **23** 10:08:03.6±0.8, 27°.27S×70°.89W, h73km±4km, ML3.6*
ISC 23 10:08:01.5±2.2, 27°.22S±0°.03×71°.18W±0°.09, h14km±13km, n27, σ2s05/45, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.92**	**114**	*i* P	**Pg**	**10 08 19.2**	**-0.1**
GO03				*i* S	**Sg**	**10 08 29.3**	**-2.1**
GO02	**Mina Guanaco**	**2.50**	**35**	⇑*i* P	**Pn**	**10 08 42.4**	**+0.3**
GO02				*i* S	**Sn**	**10 09 11.1**	**-1.5**
GO02				IAML		10 09 13.6	
comp=N,302nm,0.2s							
PB14	**IPOC Station P**	**2.68**	**15**	*i* P	**Pn**	**10 08 44.9**	**+0.4**
PB14				*i* S	**Sn**	**10 09 15.8**	**-1.2**
PB14				IAML		10 09 16.5	
comp=E,255nm,0.1s							
PB14	**IPOC Station P**	**2.68**	**15**	*i* P	**Pn**	**10 08 45.0**	**+0.4**
PB14				*i* S	**Sn**	**10 09 15.6**	**-1.4**
PB14				IAML		10 09 16.6	
comp=Z,119nm,0.2s							
GO04	**Tololo Observa**	**2.96**	**174**	⇓*i* P	**Pn**	**10 08 49.1**	**+0.8**
GO04				*i* S	**Sn**	**10 09 23.0**	**-0.7**
GO04				IAML		10 09 42.2	
comp=N,332nm,0.4s							
GO04	**Tololo Observa**	**2.96**	**174**	*i* P	**Pn**	**10 08 49.0**	**+0.8**
GO04				*i* S	**Sn**	**10 09 22.9**	**-0.9**
VCA	**Vinchina**	**3.03**	**120**	*i* P	**Pn**	**10 08 51.4**	**+2.1**
VCA				*i* S	Sn	10 09 09.5	-16
AGUA	**GUANDACOL**	**3.27**	**134**	*i* P	**Pn**	**10 08 54.8**	**+2.3**
AGUA				*i* S	Sn	10 09 14.8	-17
AGUA				IAML		10 09 35.8	
comp=Z,14nm,0.2s							
AROD	**Rodeo**	**3.29**	**153**	*i* P	**Pn**	**10 08 55.6**	**+2.6**
ACDV	**Cuesta del Vie**	**3.45**	**149**	*i* P	**Pn**	**10 08 57.4**	**+2.4**
ACDV				*i* S	Sn	10 09 19.8	-16
ACDV				IAML		10 09 20.1	
comp=Z,17nm,0.6s							
PB10	**IPOC Station P**	**3.74**	**9**	*i* P	**Pn**	**10 08 58.7**	**-0.1**
ACCO	**Cerro Coronel**	**3.83**	**152**	*i* P	**Pn**	**10 09 02.6**	**+2.2**
ACCO				*i* S	**Sn**	**10 09 45.3**	**-0.1**
CO02	**Combarbal**	**3.97**	**178**	⇑*i* P	**Pn**	**10 09 02.1**	**+0.1**
CO02				*i* S	**Sn**	**10 09 45.5**	**-3.0**
PB15	**IPOC Station P**	**4.29**	**22**	*i* P	**Pn**	**10 09 07.0**	**+0.4**
PB15				*i* S	**Sn**	**10 09 55.5**	**-1.0**
ACLC	**CERRO LA CRUZ**	**4.33**	**121**	*i* P	**Pn**	**10 09 07.3**	**+0.3**
ACLC				*i* S	Sn	10 09 33.0	-24
AMOG	**MOGNA**	**4.39**	**148**	*i* P	**Pn**	**10 09 09.2**	**+1.4**
AMOG				*i* S	**Sn**	**10 09 57.5**	**-1.3**
PB05	**IPOC Station P**	**4.44**	**12**	*i* P	**Pn**	**10 09 07.8**	**-0.8**
PB05				*i* S	**Sn**	**10 09 56.9**	**-3.3**
RTLL	**Cerro Villicun**	**4.73**	**151**	*i* P	**Pn**	**10 09 13.6**	**+1.2**
RTLL				IAML		10 09 14.0	
comp=Z,17nm,0.2s							
RTLL				*i* S	**Sn**	**10 10 04.0**	**-3.1**
RTLS	**Leoncito**	**4.85**	**161**	*i* P	**Pn**	**10 09 16.7**	**+2.4**
RTLS				*i* S	**Sn**	**10 10 10.0**	**-0.4**
RTLS				IAML		10 10 14.1	
comp=Z,12nm,0.5s							
CYA	**Choya**	**4.92**	**106**	*i* P	**Pn**	**10 09 14.2**	**-0.8**
CYA				IAML		10 09 16.7	
comp=Z,6.4nm,0.2s							
PB04	**IPOC Station P**	**4.96**	**11**	*i* P	**Pn**	**10 09 14.7**	**-1.1**
PB04				*i* S	**Sn**	**10 10 09.3**	**-3.7**
PB04				IAML		10 10 10.7	
comp=Z,33nm,0.1s							
LVC	**Limon Verde**	**5.04**	**25**	*i* P	**Pn**	**10 09 16.9**	**-0.1**
LVC				*i* S	**Sb**	**10 10 33.1**	**+2.8**
CFA	**Coronel Fontan**	**5.07**	**150**	*i* P	**Pn**	**10 09 18.1**	**+1.1**
CFA				*i* S	**Sn**	**10 10 11.5**	**-3.9**
APLL	**PUNTA DE LOS L**	**5.16**	**129**	*i* P	**Pn**	**10 09 18.2**	**-0.2**
APLL				IAML		10 09 19.5	
comp=Z,4.1nm,0.3s							
RTCV	**Cerro Valdivia**	**5.16**	**154**	*i* P	**Pn**	**10 09 19.7**	**+1.3**
PB09	**IPOC Station P**	**5.69**	**19**	*i* P	**Pn**	**10 09 25.7**	**0.0**
PB09				*i* S	**Sb**	**10 10 55.0**	**+6.2**
PB09				IAML		10 11 13.4	
comp=Z,14nm,0.4s							
ROC1	**El Roble**	**5.74**	**179**	*i* P	**Pn**	**10 09 26.0**	**-0.5**
ROC1				*i* S	**Sn**	**10 10 29.2**	**-3.0**

*ISK **23** 10:22:22.9, 40°.58N×25°.67E, h4km, ML2.6/15*
*ISCJB **23** 10:22:23.3±0.4, 40°.59N±0°.02×25°.63E±0°.02, h8km±3km, Error ellipse: s-maj=3.5km s-min=3.0km az=25.3*
*THE **23** 10:22:23.5, 40°.58N×25°.65E, h14km±1km, ML2.2/7, Error ellipse: s-maj=1.1km s-min=0.7km az=58.0*
*DDA **23** 10:22:24.1, 40°.55N×25°.75E, h16km±1km, ML2.6*
ISC 23 10:22:23.4±0.8, 40°.57N±0°.02×25°.65E±0°.02, h16km±6km, n36, σ0s45/53, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.14**	**223**	P	**Pg**	**10 22 27.1**	**-0.1**
SMTH				S	**Sg**	**10 22 29.7**	**-0.1**
GADA	**Gvkgeada**	**0.42**	**154**	P	**Pg**	**10 22 32.3**	**+0.4**
GADA				S	**Sb**	**10 22 38.6**	**+0.1**
GADA	**Gvkgeada**	**0.42**	**154**	PG	**Pg**	**10 22 32.1**	**+0.2**
GADA				SG	**Sb**	**10 22 38.6**	**+0.1**
ALN	**Alexandroupoli**	**0.44**	**42**	P	**Pg**	**10 22 32.2**	**-0.1**
ALN				S	**Sg**	**10 22 38.2**	**-0.1**
ALN	**Alexandroupoli**	**0.44**	**42**	PG	**Pg**	**10 22 32.1**	**-0.2**
ALN				SG	**Sb**	**10 22 38.6**	**-0.6**
RDO	**Rodhopi**	**0.58**	**351**	P	**Pg**	**10 22 34.8**	**-0.1**
RDO				S	**Sg**	**10 22 42.8**	**+0.1**
188nm,0.2s							
RDO	**Rodhopi**	**0.58**	**351**	PG	**Pg**	**10 22 34.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.65**	**105**	PG	**Pg**	**10 22 35.9**	**-0.2**
ERIK	**Erikli-Kesan**	**0.66**	**81**	PG	**Pg**	**10 22 36.1**	**-0.2**
ERIK				SG	**Sb**	**10 22 45.7**	**+0.2**
THAS	**Thassos island**	**0.71**	**273**	P	**Pg**	**10 22 37.2**	**-0.1**
THAS				S	**Sg**	**10 22 46.7**	**0.0**
250nm,0.2s							
BOZC	**Bozcaada**	**0.79**	**157**	*i* PA		10 22 38.8	
BOZC				IAML		10 22 49.0	
comp=E,332nm,0.7s							
BOZC				*i* S	**Sg**	**10 22 49.2**	**+0.1**
BOZC				IAML		10 22 51.0	
comp=N,227nm,0.3s							
BOZC	**Bozcaada**	**0.79**	**157**	PG	**Pg**	**10 22 38.7**	**0.0**
LPK	**Lapseki**	**0.87**	**103**	PG	**Pb**	**10 22 40.6**	**+0.6**
EZN	**Ezine**	**0.90**	**145**	P	**Pb**	**10 22 40.9**	**+0.3**
EZN				S	**Sb**	**10 22 53.3**	**+0.9**
comp=N,170nm,0.2s							
EZN	**Ezine**	**0.90**	**145**	PG	**Pn**	**10 22 41.5**	**+0.1**
UKOP	**Uzunkopru-Edir**	**0.93**	**53**	PG	**Pg**	**10 22 41.2**	**-0.2**
UKOP				SG	**Sn**	**10 22 54.9**	**+0.2**
KAVA	**Kavala**	**0.96**	**297**	P	**Pb**	**10 22 42.0**	**+0.3**
KAVA				S	**Sg**	**10 22 55.3**	**+0.6**
comp=N,168nm,0.5s							
BAYC	**CANAKKALE_Bayr**	**1.07**	**140**	*i* PA		10 22 43.9	
BAYC				*i* S	**Sg**	**10 22 58.3**	**+0.1**
BAYC				IAML		10 22 59.0	
comp=E,170nm,0.6s							
BAYC				IAML		10 23 00.0	
comp=N,249nm,0.8s							
KDZ	**Kurdzhali**	**1.09**	**351**	PG	**Pb**	**10 22 43.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.17**	**84**	PN	**Pb**	**10 22 44.9**	**-0.2**
SART	**Tekirdag**	**1.17**	**84**	*i* P	**Pb**	**10 22 45.2**	**0.0**
SART				*i* S	**Sn**	**10 23 01.0**	**+0.2**
SART				IAML		10 23 02.0	
comp=N,29nm,0.4s							
SART				IAML		10 23 02.0	
comp=E,76nm,0.3s							
KRBG	**Karabiga-Canak**	**1.27**	**97**	PN	**Pn**	**10 22 46.7**	**+0.3**
SIGR	**SIGRI**	**1.37**	**173**	P	**Pn**	**10 22 46.7**	**-1.0**
SIGR				S	**Sn**	**10 23 05.2**	**-0.3**
comp=E,248nm,0.7s							
SIGR	**SIGRI**	**1.37**	**173**	PN	**Pb**	**10 22 49.2**	**+0.7**
MRMT	**Marmara Adasi**	**1.48**	**88**	PN	**Pn**	**10 22 49.1**	**-0.3**
TKR	**Tekirdag**	**1.49**	**73**	PN	**Pb**	**10 22 51.1**	**+0.5**
EDRB	**Edirne**	**1.52**	**32**	PN	**Pb**	**10 22 51.5**	**+0.4**
NVR	**Nevrokopi**	**1.56**	**300**	P	**Pn**	**10 22 50.6**	**+0.1**
NVR				S	**Sn**	**10 23 10.1**	**-0.4**
comp=E,62nm,0.4s							
GONE	**Gonen-Balikesi**	**1.64**	**108**	PN	**Pb**	**10 22 53.8**	**+0.6**
PAIG	**Paliouri**	**1.64**	**248**	P	**Pn**	**10 22 50.8**	**-0.7**
PAIG				S	**Sb**	**10 23 13.9**	**+0.3**
comp=E,48nm,0.5s							
EDC	**Edincik**	**1.70**	**97**	PN	**Pb**	**10 22 54.0**	**-0.2**
BALY	**Balya**	**1.72**	**118**	*i* P	**Pb**	**10 22 54.1**	**-0.5**
BALY				*i* S	**Sb**	**10 23 17.1**	**+1.2**
DKL	**Dikili**	**1.78**	**147**	PN	**Pb**	**10 22 55.1**	**-0.5**
ZEDA	**zmir-Bergama**	**1.94**	**145**	*i* P	**Pb**	**10 22 58.9**	**+0.5**
ZEDA				*i* S	**Sg**	**10 23 24.6**	**-1.2**
ZEDA				IAML		10 23 25.0	
comp=N,42nm,0.7s							
ZEDA				IAML		10 23 26.0	
comp=E,43nm,0.8s							
BALB	**Balikesir**	**1.94**	**118**	PN	**Pb**	**10 22 58.4**	**0.0**
STEP	**BALIKESIR_Sava**	**1.98**	**126**	*i* P	**Pb**	**10 22 58.6**	**-0.5**

*OTT **23** 10:25:26.4±0.2, 71°.84N×75°.15W, h18km, MN3.7/5, 136km southeast from Pond Inlet, Nu Baffin Island Seismic Zone, Nt.*
ISC 23 10:25:22.4±0.9, 71°.84N±0°.05×75°.23W±0°.05, h10km, n13, σ2s94/20, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**2.56**	**119**	PN	**Pn**	**10 26 06.3**	**+2.6**
CLRN				SG	**Sg**	**10 26 45.1**	**+0.7**
CLRN				Trac		10 26 47.5	
comp=Z,55nm,0.1s							
ILON	**Igloolik, Nuna**	**3.32**	**225**	PN	**Pn**	**10 26 17.6**	**+3.3**
ILON				SN	**Sn**	**10 26 55.5**	**+1.8**
ILON				Trac		10 27 11.0	
comp=Z,257nm,0.3s							
TULEG	**Thule**	**5.03**	**17**	PN	**Pn**	**10 26 39.7**	**+1.9**
TULEG				SN	**Sn**	**10 27 35.1**	**-0.7**
TULEG				Trac		10 27 37.5	
comp=Z,24nm,0.2s							
KULLO	**Kullorsuaq**	**5.88**	**54**	*i* P	**Pn**	**10 26 52.3**	**+2.9**
KULLO				*e*S	**Sn**	**10 27 56.0**	**-0.7**
KULLO	**Kullorsuaq**	**5.88**	**54**	PN	**Pn**	**10 26 52.0**	**+2.6**
KULLO				SN	**Sn**	**10 27 56.1**	**-0.6**
RES	**Resolute Bay**	**6.34**	**306**	PN	**Pn**	**10 26 57.3**	**+1.7**
RES				SN	**Sn**	**10 28 03.0**	**-4.9**
RES				LG	Lg	10 28 42.0	
RES				Trac		10 28 54.0	
comp=Z,39nm,0.5s							
ILULI	**Ilulissat**	**8.44**	**96**	PN	Pn	10 27 30.8	+6.3
FRB	**Frobisher Bay**	**8.51**	**160**	PN	**Pn**	**10 27 27.5**	**+2.1**
FRB				SN	**Sn**	**10 28 57.5**	**-3.8**
FRB				LG	Lg	10 29 47.0	
FRB				Trac		10 29 57.2	
comp=Z,63nm,0.6s							
EUNU	**Eureka**	**8.66**	**347**	PN	**Pn**	**10 27 30.5**	**+2.9**
EUNU				SN	**Sn**	**10 29 02.8**	**-2.3**
CB02	**Cambridge Bay**	**10.27**	**270**	PN	**Pn**	**10 27 48.1**	**-1.3**
CB02				SN	Sn	10 29 31.8	-13
CB02				LG	Lg	10 30 35.5	
KNGQ	**Kangiqsujuaq**	**10.38**	**171**	SN	**Sn**	**10 29 42.4**	**-4.9**
SUMG	**Summit**	**11.15**	**69**	*i* P	**Pn**	**10 28 04.2**	**+2.3**
SUMG				*i* S	**Sn**	**10 30 02.8**	**-3.8**
KAJQ	**Kangiqsualujju**	**13.73**	**159**	SN	Sn	10 30 57.4	-12
KAJQ				LG	Lg	10 32 25.5	

*BEO **23** 10:27:14.4±0.7, 39°.45N×27°.95E, h0km, ML4.2/10*
*ISCJB **23** 10:27:42.9±0.3, 40°.58N±0°.01×25°.65E±0°.02, h22km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=139.4*
*ISK **23** 10:27:42.6, 40°.58N×25°.70E, h15km, ML3.7/14*
*ATH **23** 10:27:42.1, 40°.53N×25°.70E, h20km±3km, ML3.2/5, Error ellipse: s-maj=3.3km s-min=1.2km az=207.0*
*DDA **23** 10:27:43.0, 40°.54N×25°.74E, h27km, ML3.5*
*SOF **23** 10:27:43.7, 40°.69N×25°.74E, h15km*
*THE **23** 10:27:43.0, 40°.58N×25°.67E, h15km, ML3.2/15, Error ellipse: s-maj=0.8km s-min=0.6km az=46.0*
ISC 23 10:27:42.8±0.8, 40°.58N±0°.01×25°.68E±0°.01, h16km±5km, n130, σ1s35/190, 19C-15D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.16**	**226**	P	**Pg**	**10 27 46.6**	**-0.3**
SMTH				S	**Sg**	**10 27 49.2**	**-0.4**
50μm,0.1s							
SMTH	**Samothraki Isl**	**0.16**	**226**	P	**Pg**	**10 27 46.8**	**-0.1**
SMTH				S	**Sg**	**10 27 49.4**	**-0.2**
ALN	**Alexandroupoli**	**0.42**	**41**	P	**Pb**	**10 27 51.7**	**-0.2**
ALN				S	**Sg**	**10 27 57.2**	**0.0**
2μm,0.5s							
ALN	**Alexandroupoli**	**0.42**	**41**	P	**Pb**	**10 27 51.7**	**-0.2**
ALN				S	**Sb**	**10 27 57.7**	**-0.3**
ALN				AML	AML	10 28 04.3	
comp=E,3663μm,0.3s							
ALN				AML	AML	10 28 04.3	
comp=N,3810μm,0.4s							
ALN	**Alexandroupoli**	**0.42**	**41**	PG	**Pb**	**10 27 51.6**	**-0.3**
ALN				SG	**Sb**	**10 27 57.7**	**-0.3**
GADA	**Gvkgeada**	**0.42**	**156**	P	**Pb**	**10 27 51.7**	**-0.2**
GADA				S	**Sb**	**10 27 57.9**	**-0.1**
GADA	**Gvkgeada**	**0.42**	**156**	PG	**Pb**	**10 27 51.9**	**0.0**
GADA				SG	**Sb**	**10 27 57.9**	**-0.1**
RDO	**Rodhopi**	**0.58**	**349**	P	**Pb**	**10 27 54.2**	**-0.2**
RDO				S	**Sb**	**10 28 02.9**	**+0.5**
comp=N,2μm,0.2s							
RDO	**Rodhopi**	**0.58**	**349**	P	**Pb**	**10 27 54.4**	**-0.2**
RDO				S	**Sb**	**10 28 02.6**	**+0.2**
RDO				AML	AML	10 28 06.0	
comp=E,4312μm,0.4s							
RDO				AML	AML	10 28 06.7	
comp=N,4281μm,0.2s							
RDO	**Rodhopi**	**0.58**	**349**	PG	**Pb**	**10 27 54.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.64**	**106**	PG	**Pg**	**10 27 55.2**	**0.0**
GELI				SG	**Sb**	**10 28 04.3**	**+0.2**
ERIK	**Erikli-Kesan**	**0.64**	**82**	PG	**Pg**	**10 27 55.4**	**0.0**
ERIK				SG	**Sb**	**10 28 04.4**	**+0.1**
THAS	**Thassos island**	**0.73**	**272**	P	**Pg**	**10 27 56.9**	**-0.1**
THAS				S	**Sb**	**10 28 07.8**	**+1.0**
comp=N,1μm,0.3s							
THAS	**Thassos island**	**0.73**	**272**	P	**Pg**	**10 27 56.5**	**-0.5**
THAS				S	**Sb**	**10 28 07.8**	**+1.0**
THAS				AML	AML	10 28 08.7	
comp=N,2549μm,0.2s							
THAS				AML	AML	10 28 09.4	
comp=E,3281μm,0.3s							
BOZC	**Bozcaada**	**0.79**	**159**	*i* P	**Pb**	**10 27 58.1**	**0.0**
BOZC				*i* S	**Sb**	**10 28 08.5**	**-0.1**
BOZC				IAML		10 28 11.0	
comp=N,3μm,0.3s							
BOZC	**Bozcaada**	**0.79**	**159**	PG	**Pb**	**10 27 58.1**	**0.0**
BOZC				SG	**Sg**	**10 28 08.8**	**+0.2**
LPK	**Lapseki**	**0.85**	**104**	PG	**Pg**	**10 27 59.6**	**+0.3**
EZN	**Ezine**	**0.90**	**146**	P	**Pb**	**10 27 59.6**	**-0.4**
EZN				S	**Sb**	**10 28 11.8**	**0.0**
comp=N,2μm,0.2s							
EZN	**Ezine**	**0.90**	**146**	⇑P	**Pn**	**10 28 02.0**	**+1.2**
EZN				⇑S	**Sg**	**10 28 12.5**	**+0.3**
EZN				AML	AML	10 28 15.3	
EZN	**Ezine**	**0.90**	**146**	PG	**Pb**	**10 28 00.0**	**0.0**
UKOP	**Uzunkopru-Edir**	**0.91**	**53**	PG	**Pg**	**10 28 00.4**	**0.0**
KAVA	**Kavala**	**0.98**	**296**	P	**Pg**	**10 28

comp=N,392nm,0.4s
DKL Dikili 1.78 147 PN **Pn 10 28 13.5 +0.7**
BALB Balikesir 1.93 118 PN **Pn 10 28 15.4 +0.5**
ZEDA zmir-Bergama 1.94 146 *i* P **Pn 10 28 16.0 +0.9**
ZEDA *i* S **Sb 10 28 42.2 +0.6**
ZEDA IAML 10 28 45.0
comp=N,641nm,0.6s
ZEDA IAML 10 28 45.0
comp=E,588nm,0.3s
AOS Alonnisos 1.97 225 P **Pn 10 28 15.7 +0.2**
AOS S **Sn 10 28 39.4 -0.5**
comp=E,332nm,0.6s
STEP BALIKESIR_Sava 1.98 127 *i* P **Pn 10 28 16.9 +1.3**
STEP *i* S **Sg 10 28 45.6 -0.7**
STEP IAML 10 28 46.0
comp=E,605nm,0.5s
STEP IAML 10 28 51.0
comp=N,618nm,0.8s
ELBA Catalca 2.16 74 *i* P **Pn 10 28 17.9 -0.3**
CHOS Chios island 2.21 172 P **Pn 10 28 18.7 -0.1**
CHOS S **Sn 10 28 45.0 -0.8**
comp=N,672nm,0.6s
SKIA Skiathos 2.21 231 P **Pn 10 28 17.9 -0.9**
SKIA S **Sn 10 28 47.1 +1.3**
comp=N,545nm,0.8s
XOR Xorichti 2.26 238 P **Pn 10 28 18.4 -1.1**
XOR S **Sn 10 28 46.4 -0.7**
comp=N,118nm,0.5s
NEO Neokhori 2.27 237 P **Pn 10 28 18.8 -0.9**
URLA Izmir 2.33 162 *i* P **Pn 10 28 20.5 +0.1**
ELND Elena 2.35 4 ⇓P **Pn 10 28 22.1 +1.3**
ELND ⇑S **Sb 10 28 53.4 -0.2**
ELND AML AML 10 29 01.4
DURS Dursunbey 2.36 114 *i* P **Pn 10 28 21.5 +0.6**
DURS *i* S **Sb 10 28 55.8 +2.0**
DURS IAML 10 28 59.0
comp=N,595nm,0.4s
AKHS Akhisar 2.37 135 *i* P **Pn 10 28 21.6 +0.7**
AKHS *i* S **Sg 10 28 57.1 -1.7**
AKHS IAML 10 29 01.0
comp=E,139nm,0.4s
ZEY zmir 2.42 164 *i* P **Pn 10 28 21.6 0.0**
VAY Valandovo 2.47 288 *e*Pn **Pn 10 28 23.5 +1.2**
VAY *e*Sn Sg 10 29 16.1 +14
VAY Valandovo 2.47 288 *i* Pn **Pn 10 28 22.3 0.0**
VAY *e*Sn **Sb 10 28 54.3 -2.5**
ISK Istanbul-Kandi 2.61 78 P **Pn 10 28 24.3 0.0**
BUY Buyukada 2.63 83 *i* P **Pg 10 28 32.6 -0.6**
BUY *i* S **Sg 10 29 05.6 -1.7**
KLYT Kilyos 2.64 74 ⇑P **Pn 10 28 26.8 +2.2**
KLYT ⇓S **Sb 10 29 02.0 +0.3**
KLYT AML AML 10 29 11.5
PVL Pavlikeni 2.65 355 P **Pn 10 28 25.2 +0.4**
DGB zmir 2.69 159 *i* P **Pn 10 28 25.3 -0.1**
DGB *i* S **Sb 10 29 05.8 +2.5**
DGB IAML 10 29 13.0
comp=N,111nm,0.7s
SZH Strazhica 2.69 4 P **Pn 10 28 26.2 +0.8**
IGD Bursa 2.71 96 *i* P **Pn 10 28 25.1 -0.5**
VTS Vitosha 2.74 319 *e*Pn **Pn 10 28 27.3 +1.1**
VTS *e*Sn Sg 10 29 21.1 +10
VTS Vitosha 2.74 319 ⇑P **Pn 10 28 27.1 +0.9**
VTS AML AML 10 29 15.4
DEMI Demirci 2.80 122 *i* P **Pn 10 28 28.4 +1.4**
DEMI *i* S **Sg 10 29 09.9 -2.8**
DEMI IAML 10 29 12.0
comp=N,248nm,0.5s
YLV Yalova 2.81 89 ⇓P **Pn 10 28 29.0 +1.8**
YLV AML AML 10 29 15.2
STIP Stip 2.86 294 *i* Pn **Pn 10 28 26.3 -1.4**
STIP *e*Sn **Sn 10 28 57.7 -4.1**
PLVB Pleven 2.91 345 ⇓P **Pn 10 28 29.7 +1.3**
PLVB AML AML 10 29 19.8
SMG Samos 3.01 162 P **Pn 10 28 29.8 +0.1**
SMG S **Sn 10 29 05.2 -0.2**
comp=N,292nm,0.7s
RAZG Razgrad 3.05 11 ⇓P **Pn 10 28 31.2 +0.9**
RAZG AML AML 10 29 27.1
MANT Manisa 3.05 132 *i* S **Pg 10 28 41.3 +0.1**
SILT Sile 3.06 78 ⇑P **Pn 10 28 31.2 +0.7**
SILT AML AML 10 29 24.8
BOSS Bosilegrad 3.07 310 *e*Pn **Pn 10 28 32.7 +2.1**
BOSS *e*Sn Sg 10 29 30.2 +8.8
KULA Kula-Manisa 3.10 131 P **Pn 10 28 31.1 +0.1**
KULA S **Sn 10 29 08.8 +1.1**
USAK Uak-Merkez 3.18 125 *i* P **Pg 10 28 46.6 +2.8**
FNA Florina 3.28 275 *e*Pn **Pn 10 28 33.1 -0.4**
GDZ Gediz 3.29 116 *i* P **Pn 10 28 34.9 +1.2**
GDZ *i* S **Sg 10 29 25.4 -3.0**
GDZ IAML 10 29 28.0
comp=E,63nm,0.4s
GDZ IAML 10 29 30.0
comp=N,52nm,0.7s
AYDN Tasoluk 3.38 149 *i* P **Pn 10 28 35.3 +0.4**
AYDN *i* S **Sg 10 29 29.5 -1.9**
AYDN IAML 10 29 32.0
comp=E,40nm,0.4s
AYDN IAML 10 29 35.0
comp=N,49nm,0.8s
KAND Kocaeli-Kandir 3.46 80 *i* P **Pn 10 28 36.3 +0.3**
KAND *i* S **Sg 10 29 30.7 -3.3**
KAND IAML 10 29 35.0
comp=N,119nm,0.9s
KALB Balgarevo 3.48 35 ⇑P **Pb 10 28 45.1 +1.0**
APE Apeiranthos 3.51 182 ⇑P **Pn 10 28 35.5 -1.1**
APE ⇑S **Sn 10 29 15.3 -2.6**
ZAPS Zavoj 3.52 321 *e*Pn **Pn 10 28 37.8 +1.0**
ZAPS *e*Sn **Sg 10 29 40.0 +4.2**
BARS Barje 3.65 309 *e*Pn **Pn 10 28 40.0 +1.4**
BARS Barje 3.65 309 *e*Pn **Pb 10 28 48.5 +1.5**
BARS *e*Sn **Sg 10 29 43.9 +3.8**
KHAL Karahalli 3.69 126 *i* P **Pn 10 28 40.1 +0.9**
BORA Eskisehir 3.72 99 *i* P **Pn 10 28 40.7 +1.0**
SRCK Saricakaya, Es 3.82 96 *i* P **Pn 10 28 42.1 +1.1**
ICOR Ion Corvin 3.87 23 ⇓P **Pn 10 28 42.6 +1.1**
ICOR AML AML 10 30 09.6
ZAGS Zajecar 4.12 323 *e*Pn **Pn 10 28 45.5 +0.5**
ZAGS *e*Sn **Sg 10 29 53.5 -1.5**
DAT Datca 4.12 158 *i* P **Pn 10 28 45.5 +0.3**
BOVS Bovan 4.25 317 *e*Pn **Pn 10 28 48.3 +1.5**
BOVS *e*Sn **Sg 10 29 57.4 -1.7**
SELS Selova 4.30 309 *e*Pn **Pn 10 28 48.2 +0.6**
SELS *e*Sn **Sg 10 29 58.7 -2.2**
TLB Topalu 4.37 23 ⇓P **Pn 10 28 50.9 +2.5**
TLB AML AML 10 30 17.8
TIRR Tirgusor 4.37 27 ⇑P **Pn 10 28 49.5 +1.0**
TIRR AML AML 10 30 13.0
HARR Harsova 4.43 21 ⇑P **Pn 10 28 51.7 +2.4**
AUMIH MIHALICIK 4.50 97 *i* P **Pn 10 28 51.5 +1.1**
TOPG Topolog 4.73 24 ⇓P **Pg 10 29 10.8 -2.5**
KUBS Kucevo 4.84 324 *e*Pn **Pn 10 28 53.9 -1.0**
VOIR 4.88 355 ⇓P **Pn 10 28 56.5 +1.0**
VOIR AML AML 10 29 29.4
MLR Muntele Rosu 4.91 2 ⇑P **Pn 10 28 58.5 +2.5**
MLR AML AML 10 30 38.2
HERR Herculane 4.92 332 ⇑P **Pn 10 28 56.2 +0.1**
HERR AML AML 10 30 28.3
CFR Carcaliu 4.94 21 ⇓P **Pn 10 28 57.2 +1.0**
CFR AML AML 10 30 31.8
GRUS Gruza 4.95 314 *e*Pn **Pn 10 28 57.0 +0.6**
GRUS *e*Sn **Sg 10 30 15.3 -6.3**
LOT Lotru 5.06 345 ⇓P **Pn 10 28 58.0 -0.1**
LOT AML AML 10 30 58.8
IVAS Ivanjica 5.08 308 *e*Pn **Pn 10 28 58.7 +0.4**
IVAS *e*Sn **Sb 10 30 18.7 +6.5**
MDVR Moldovita 5.12 326 ⇓P **Pn 10 28 59.5 +0.8**
MDVR AML AML 10 30 34.6
GZR Gura Zlata 5.26 337 ⇑P **Pn 10 29 01.5 +0.7**
GZR AML AML 10 30 02.4
PLOR Plostina 5.32 7 ⇓P **Pn 10 29 04.0 +2.5**
TRUS Trudelj 5.34 315 *e*Pn **Pn 10 29 01.9 +0.2**
VRI Vrincioaia 5.34 8 ⇑P **Pn 10 29 04.3 +2.5**
DOPR Dopca 5.39 358 ⇓P **Pn 10 29 04.3 +1.8**
DIVS Divibare 5.49 312 *e*Pn **Pn 10 29 04.6 +0.7**
BBLS Lazići 5.70 307 *e*Pn **Pn 10 29 07.3 +0.5**
BZS Buzias 5.84 331 *e*Pn **Pn 10 29 07.7 -1.0**
BZS Buzias 5.84 331 ⇑P **Pn 10 29 09.2 +0.5**
BZS ⇑S **Sn 10 30 17.4 +2.0**
TESR Tescani 5.97 6 ⇓P **Pn 10 29 12.2 +1.7**
SIRR Siria 6.39 334 ⇑P **Pn 10 29 17.5 +1.3**
BURAR Bucovina Array 7.04 357 ⇑P **Pn 10 29 27.1 +1.9**

*UPA **23** 10:31:44.2±0.7, 8°.87N×83°.48W, h19km±40km, MW3.4*
*UCR **23** 10:31:44.9±1.2, 8°.69N×83°.42W, h1km±4km, MW3.5*
*ISCJB **23** 10:31:45.5±1.2, 8°.69N±0°.06×83°.45W±0°.04, h11km±5km,*
Error ellipse: s-maj=10.8km s-min=3.2km az=28.9
ISC 23 10:31:44.4±1.4, 8°.68N±0°.06×83°.48W±0°.04, h18km±6km,
n20,σ1§41/34, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.29**	**5**	*e*P	**Pg**	**10 31 51.2**	**+0.5**
EDPN				*e*S	**Sg**	**10 31 56.1**	**+1.1**
EDSV	**San Vito**	**0.53**	**74**	*e*P	**Pb**	**10 31 54.7**	**-0.4**
EDSV				*e*S	**Sb**	**10 32 02.8**	**+0.4**
EDBA	**Buenos Aires**	**0.53**	**23**	*e*P	**Pb**	**10 31 54.7**	**-0.4**
EDBA				*e*S	**Sb**	**10 32 03.5**	**+1.0**
MLIR3	**Monte Lirio, C**	**0.66**	**80**	⇓*i*P	**Pb**	**10 31 57.2**	**-0.3**
MLIR3				*e*S	**Sb**	**10 32 06.7**	**+0.4**
SBAR3	**San Bartolo, C**	**0.69**	**121**	*e*S	**Sb**	**10 32 10.3**	**+3.2**
BRU2	**Volcan**	**0.79**	**81**	⇓*i*P	**Pg**	**10 31 58.8**	**-1.1**
BRU2				*e*S	**Sb**	**10 32 10.6**	**+0.4**
BCO2	**Palmira**	**0.94**	**87**	*e*P	**Pg**	**10 32 01.1**	**-1.7**
BCO2				*e*S	**Sb**	**10 32 14.7**	**+0.1**
DVD	**David**	**1.05**	**103**	*e*P	**Pg**	**10 32 04.5**	**-0.2**
DVD				*e*S	**Sg**	**10 32 18.1**	**-0.4**
LOCO3	**Loma Colorada,**	**1.08**	**104**	*e*S	**Sb**	**10 32 19.8**	**+1.3**
PEDE3	**Pedregal, Chir**	**1.09**	**105**	*e*S	**Sg**	**10 32 19.3**	**-0.5**
LCR2	**La Lucha 2**	**1.18**	**334**	*e*P	**Pn**	**10 32 06.6**	**+0.4**
LCR2				*e*S	**Sn**	**10 32 22.1**	**+0.1**
CHGR2	**Aguacate**	**1.35**	**79**	*e*P	**Pn**	**10 32 06.7**	**-1.7**
CHGR2				*e*S	**Sb**	**10 32 25.3**	**-0.8**
CVTR	**Volcan Turrial**	**1.36**	**348**	*e*P	**Pg**	**10 32 09.9**	**-0.9**
HDC	**Heredia**	**1.46**	**335**	*e*P	**Pg**	**10 32 12.2**	**-0.4**
HDC				*e*S	**Sg**	**10 32 31.4**	**-0.2**
ARE1	**Arenal 1**	**2.15**	**326**	*e*P	**Pb**	**10 32 22.5**	**-0.4**
ARE1				*e*S	**Sg**	**10 32 54.3**	**+0.5**
JTS	**Las Juntas de**	**2.16**	**318**	*e*P	**Pb**	**10 32 22.5**	**-0.6**
JTS				*e*S	**Sb**	**10 32 47.9**	**-1.8**
CEDE	**Laguna Cedeo**	**2.17**	**326**	*e*P	**Pb**	**10 32 22.8**	**-0.3**
CEDE				*e*S	**Sg**	**10 32 52.4**	**-1.9**
CUI	**Cuipilapa**	**2.58**	**320**	*e*P	**Pb**	**10 32 28.9**	**-1.2**
CUI				*e*S	**Sb**	**10 32 59.2**	**-2.3**
ESPN	**Las Esperanzas**	**3.59**	**347**	*e*P	**Pn**	**10 32 42.5**	**+3.3**
ACON	**Acoyapa**	**3.67**	**333**	*e*P	**Pn**	**10 32 43.6**	**+3.3**

*TEH **23** 10:54:01.4, 34°.27N×45°.66E, h13km, ML3.0*
*ISN **23** 10:54:01.7±1.3, 34°.21N×45°.53E, h30km±8km, ML3.2*
ISC 23 10:54:00.4±1.6, 34°.24N±0°.04×45°.61E±0°.04, h9km±13km,
n19,σ1§07/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.79**	**54**	*e*Pg	**Pg**	**10 54 15.3**	**-0.3**
IDHR				IAMB	IAmb	10 54 30.8	
comp=Z,0.0nm,0.3s							
IGHG	**Ghaleghazi**	**0.80**	**83**	*e*Pg	**Pg**	**10 54 16.1**	**+0.3**
IGHG				IAMB	IAmb	10 54 17.2	
comp=Z,11μm,0.2s							
IGHG				*e*Sg	**Sb**	**10 54 27.4**	**-0.1**
IBDR	**Badra**	**1.16**	**167**	*e*Pg	**Pn**	**10 54 23.0**	**+0.3**
IBDR				AML	AML	10 54 23.7	
comp=Z,71nm,0.2s							
IBDR				*e*Sg	**Sb**	**10 54 38.0**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.18**	**88**	*e*Pg	**Pb**	**10 54 22.9**	**-0.2**
KCHF				IAMB	IAmb	10 54 45.9	
comp=Z,0.0nm,0.4s							
ILIN	**Lien**	**1.30**	**58**	*e*Pg	**Pb**	**10 54 25.0**	**-0.2**
ILIN				IAMB	IAmb	10 54 30.4	
comp=Z,3μm,0.2s							
ILIN				*e*Sg	**Sg**	**10 54 43.1**	**+0.7**
BHD	**Baghdad**	**1.41**	**227**	*e*Pn	**Pn**	**10 54 27.0**	**+0.8**
BHD				AML	AML	10 54 27.8	
comp=Z,6μm,0.4s							
BHD				*e*Sn	**Sn**	**10 54 44.0**	**-0.9**
IKRK	**Kirkuk**	**1.56**	**318**	*e*Pn	**Pb**	**10 54 30.0**	**+0.6**
IKRK				*e*Sn	**Sn**	**10 54 49.0**	**+0.4**
IKOM	**Komasi**	**1.57**	**92**	*e*Pn	**Pg**	**10 54 30.6**	**0.0**
IKOM				IAMB	IAmb	10 55 00.5	
comp=Z,0.0nm,0.7s							
IBZA	**Bozab**	**1.88**	**82**	*e*Pn	**Pg**	**10 54 35.9**	**-0.4**
IBZA				IAMB	IAmb	10 55 04.9	
comp=Z,0.0nm,0.4s							
IKFM	**Kafar-mosalman**	**1.99**	**110**	*e*Pn	**Pb**	**10 54 36.3**	**-0.5**
IKFM				IAMB	IAmb	10 55 22.4	
comp=Z,0.0nm,0.5s							
IDOB	**Doab**	**2.18**	**101**	*e*Pn	**Pn**	**10 54 38.5**	**+1.5**
IDOB				IAMB	IAmb	10 55 18.9	
comp=Z,0.0nm,0.4s							
HSRG	**Sareghieh**	**2.41**	**65**	*e*Pn	**Pb**	**10 54 42.8**	**-1.3**
HSRG				IAMB	IAmb	10 55 23.5	
comp=Z,0.0nm,0.8s							
IKMR	**Kamar-syah**	**2.41**	**107**	*e*Pn	**Pn**	**10 54 41.0**	**+1.0**
IKMR				IAMB	IAmb	10 55 21.8	
comp=Z,0.0nm,0.4s							
HSAM	**Samen**	**2.48**	**90**	*e*Pn	**Pn**	**10 54 42.8**	**+1.6**
HSAM				IAMB	IAmb	10 54 47.6	
comp=Z,0.0nm,0.6s							
MAHB	**Mahabad**	**2.52**	**2**	*e*Pn	**Pb**	**10 54 44.0**	**-1.9**
MAHB				IAMB	IAmb	10 55 26.7	
comp=Z,0.0nm,0.4s							
BDRS	**Dareh Seyedi**	**2.73**	**95**	*e*Pn	**Pn**	**10 54 46.2**	**+1.6**
BDRS				IAMB	IAmb	10 55 31.7	
comp=Z,0.0nm,0.8s							
HAGD	**Aghdareh**	**2.97**	**78**	*e*Pn	**Pb**	**10 54 50.9**	**-2.7**
HAGD				IAMB	IAmb	10 55 41.0	
comp=Z,0.0nm,0.7s							
MSL	**Mosul**	**2.97**	**317**	*e*Pn	**Pn**	**10 54 48.0**	**+0.3**
MSL				*e*Sn	**Sn**	**10 55 23.0**	**-0.4**
NSR	**Nassriya**	**3.25**	**172**	*e*Pn	**Pn**	**10 54 52.0**	**+0.5**
NSR				*e*Sn	**Sn**	**10 55 30.0**	**-0.4**

*SOME **23** 10:57:07.5, 40°.95N×79°.93E, h5km*
*NNC **23** 10:57:07.5±1.6, 40°.90N×79°.89E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=11.2km s-min=8.9km az=165.0
ISC 23 10:57:09.7±2.7, 41°.0N±0°.1×79°.77E±0°.08, h10km, n15,
σ1§23/23, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.21**	**354**	Pg	**Pb**	**10 57 48.5**	**-1.2**
SHLS				Lg	Lg	10 58 20.0	
SHLS	**Shalkode**	**2.21**	**354**	*e*P	**Pb**	**10 57 50.0**	**+0.2**
26nm,0.5s							
SHLS				*e*S	**Sg**	**10 58 20.8**	**+0.2**
40nm,0.3s							
UZB	**Uzynbulak**	**2.25**	**346**	Pg	**Pb**	**10 57 50.0**	**-0.6**
11nm,0.4s							
UZB				Lg	Lg	10 58 21.9	
9.4nm,0.6s							
UZB	**Uzynbulak**	**2.25**	**346**	*e*P	**Pb**	**10 57 50.8**	**+0.2**
11nm,0.3s							
UZB				*e*S	**Sg**	**10 58 22.2**	**+0.1**
9.4nm,0.6s							
SATY	**Saty**	**2.33**	**335**	Pg	**Pg**	**10 57 52.8**	**-1.5**
18nm,0.4s							
SATY				Lg	Lg	10 58 26.5	
24nm,0.3s							
SATY	**Saty**	**2.33**	**335**	*e*P	**Pg**	**10 57 52.8**	**-1.5**
18nm,0.4s							
SATY				*e*S	**Sg**	**10 58 25.7**	**+1.2**
24nm,0.3s							
PDGK	**Podgornoye**	**2.38**	**355**	Pg	**Pb**	**10 57 51.3**	**-1.3**
2.5nm,0.3s							
PDGK				Lg	Lg	10 58 24.7	
7.5nm,0.5s							
PDGK	**Podgornoye**	**2.38**	**355**	⇓Pg	**Pb**	**10 57 51.4**	**-1.3**
2.9nm,0.4s							
PDGK				⇑Lg	Lg	10 58 24.8	
18nm,0.9s							
KPKS	**Kokpek**	**2.63**	**343**	*e*P	**Pb**	**10 57 57.6**	**+0.6**
30nm,0.3s							
KPKS				*e*S	**Sg**	**10 58 33.7**	**-0.5**
41nm,0.5s							
TNSS	**Tian-Shan**	**2.95**	**316**	Pg	**Pb**	**10 58 03.6**	**+0.9**
9.2nm,0.4s							
TNSS				Lg	Lg	10 58 45.7	
5.0nm,0.7s							
TNSS	**Tian-Shan**	**2.95**	**316**	*e*P	**Pb**	**10 58 03.6**	**+0.9**
9.2nm,0.5s							
TNSS				*e*S	**Sg**	**10 58 43.6**	**-0.9**
7.4nm,0.4s							
MDOK	**Medeo**	**2.99**	**318**	⇑Pg	**Pb**	**10 58 03.7**	**+0.6**
3.5nm,0.4s							
MDOK				Lg	Lg	10 58 45.4	
6.7nm,0.6s							
MDOK	**Medeo**	**2.99**	**318**	*e*P	**Pg**	**10 58 05.5**	**-1.5**
6.1nm,0.3s							
MDOK				*e*S	**Sg**	**10 58 46.9**	**+1.2**
6.7nm,0.5s							
KST	**Kastek**	**3.52**	**308**	*e*P	**Pg**	**10 58 14.9**	**-2.1**
3.9nm,0.4s							
KST				*e*S	**Sg**	**10 59 02.8**	**+0.2**
8.0nm,0.8s							
MK31	**Makanchi Array**	**6.11**	**17**	⇑Pn	**Pn**	**10 58 41.0**	**+1.0**
0.2nm,0.2s,baz=198,slow=12,SNR=23							
MK31				⇑Sn	**Sn**	**10 59 52.4**	**+2.4**
0.4nm,0.4s,baz=201,slow=25,SNR=4.5							
MK31				⇓Lg	Lg	11 00 20.1	
0.9nm,0.7s							

*SJA **23** 11:06:01.3±1.9, 23°.08S×68°.95W, h92km±9km, ML2.9, MW3.2*
*GUC **23** 11:06:01.3±0.7, 23°.06S×68°.92W, h92km±3km, ML3.2*
*ISCJB **23** 11:06:02.4±0.7, 23°.09S±0°.03×68°.96W±0°.05, h92km±7km,*
Error ellipse: s-maj=8.2km s-min=5.2km az=11.5
ISC 23 11:06:04.0±1.4, 23°.07S±0°.03×68°.98W±0°.05, h80km±8km,
n28,σ1§56/50, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.46**	**8**	*i* P	**Pn**	**11 06 16.7**	**-1.1**
LVC				*e*S	**Sn**	**11 06 27.6**	**-0.3**
LVC	**Limon Verde**	**0.46**	**8**	*i* P	**Pn**	**11 06 16.6**	**-1.1**
LVC				*i* S	**Sn**	**11 06 28.3**	**+0.4**
PB15	**IPOC Station P**	**0.48**	**253**	⇑*i*P	**Pn**	**11 06 17.4**	**-0.3**
PB15				*i* S	**Sn**	**11 06 29.5**	**+1.6**
PB15	**IPOC Station P**	**0.48**	**253**	*i* P	**Pn**	**11 06 17.5**	**-0.3**
PB15				*i* S	**Sn**	**11 06 29.5**	**+1.6**
PB06	**IPOC Station P**	**0.66**	**303**	⇑*i*P	**Pn**	**11 06 18.8**	**-0.5**
PB06				*i* S	**Sn**	**11 06 31.8**	**+1.0**
PB06				IAML		11 06 32.4	
comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**0.66**	**303**	*i* P	**Pn**	**11 06 18.8**	**-0.5**
PB06				*i* S	**Sn**	**11 06 31.7**	**+1.0**
PB06				IAML		11 06 32.4	
comp=Z,1μm,0.3s							
PB05	**IPOC Station P**	**1.15**	**280**	*i* P	**Pn**	**11 06 24.0**	**-0.9**
PB05				*i* S	**Sn**	**11 06 41.1**	**+0.4**
PB03	**IPOC Station P**	**1.24**	**325**	*i* P	**Pn**	**11 06 25.1**	**-1.1**
PB03				*i* S	**Sn**	**11 06 42.8**	**+0.1**
PB03				IAML		11 06 46.4	
comp=N,325nm,0.2s							
PB03	**IPOC Station P**	**1.24**	**325**	*i* P	**Pn**	**11 06 25.1**	**-1.1**
PB03				*i* S	**Sn**	**11 06 43.0**	**+0.3**
PB09	**IPOC Station P**	**1.29**	**349**	*i* P	**Pn**	**11 06 26.1**	**-0.6**
PB09				*i* S	**Sn**	**11 06 44.8**	**+1.0**
PB09				IAML		11 06 49.3	
comp=Z,163nm,0.5s							
PB04	**IPOC Station P**	**1.31**	**304**	⇑*i*P	**Pn**	**11 06 26.1**	**-0.9**
PB04				*i* S	**Sn**	**11 06 44.4**	**+0.2**
PB04				IAML		11 06 48.4	
comp=N,374nm,0.6s							
PB04	**IPOC Station P**	**1.31**	**304**	*i* P	**Pn**	**11 06 26.3**	**-0.7**
PB04				IAML		11 06 50.5	
comp=Z,314nm,0.5s							
PB10	**IPOC Station P**	**1.52**	**253**	⇓*e*P	**Pn**	**11 06 29.1**	**-0.4**
PB10				*i* S	**Sn**	**11 06 48.7**	**-0.1**
PB10	**IPOC Station P**	**1.52**	**253**	*i* P	**Pn**	**11 06 29.2**	**-0.2**
PB10				IAML		11 06 55.2	
comp=Z,78nm,0.3s							
PB07	**IPOC Station P**	**1.58**	**328**	*i* P	**Pn**	**11 06 29.4**	**-1.1**
PB07				*i* S	**Sn**	**11 06 50.4**	**-0.1**
PB07				IAML		11 06 53.5	
comp=E,308nm,0.2s							
PB07	**IPOC Station P**	**1.58**	**328**	*i* P	**Pn**	**11 06 29.4**	**-1.1**
PB07				*i* S	**Sn**	**11 06 50.4**	**-0.1**
PB02	**IPOC Station P**	**1.94**	**334**	*i* P	**Pn**	**11 06 33.8**	**-1.3**
PB02				*i* S	**Sn**	**11 06 58.7**	**-0.1**
PB02				IAML		11 07 01.7	
comp=E,341nm,0.3s							
PB02	**IPOC Station P**	**1.94**	**334**	*i* P	**Pn**	**11 06 33.9**	**-1.3**
PB02				*i* S	**Sn**	**11 07 00.2**	**+1.4**
PB14	**IPOC Station P**	**2.03**	**220**	⇑*i*P	**Pn**	**11 06 35.9**	**-0.6**
PB14				*i* S	**Sn**	**11 07 01.8**	**+0.5**
PB14				IAML		11 07 09.1	
comp=N,202nm,0.6s							
PB14	**IPOC Station P**	**2.03**	**220**	*i* P	**Pn**	**11 06 36.0**	**-0.6**
PB14				*i* S	**Sn**	**11 07 01.9**	**+0.5**
PB01	**IPOC Station P**	**2.07**	**347**	⇑*i*P	**Pn**	**11 06 35.5**	**-1.3**
PB01				*i* S	**Sn**	**11 07 01.7**	**-0.2**
PB01				IAML		11 07 04.4	
comp=N,188nm,0.2s							
GO02	**Mina Guanaco**	**2.16**	**195**	⇑*i*P	**Pn**	**11 06 37.1**	**-1.2**
PB08	**IPOC Station P**	**2.92**	**357**	*i* P	**Pn**	**11 06 47.1**	**-1.5**
PB08				*i* S	**Sn**	**11 07 24.3**	**+1.6**
HJA	**Humahuaca**	**3.29**	**93**	*i* P	**Pn**	**11 06 53.0**	**-0.5**
HJA				IAML		11 06 53.6	
comp=Z,18nm,0.6s							
YJA	**Yavi**	**3.32**	**75**	*i* P	Pn	11 06 54.0	0.0
YJA				IAML		11 06 54.4	
comp=Z,5.1nm,0.7s							
PB11	**IPOC Station P**	**3.35**	**349**	*i* P	**Pn**	**11 06 52.8**	**-1.4**
PB11				*i* S	**Sn**	**11 07 35.1**	**+2.1**
GO01	**Chusmiza**	**3.39**	**357**	⇑*i*P	**Pn**	**11 06 54.2**	**-0.8**
GO01				*i* S	**Sn**	**11 07 37.0**	**+2.7**
PSGCX	**Pisagua**	**3.61**	**343**	*i* P	**Pn**	**11 06 54.4**	**-3.4**
PSGCX				*i* S	**Sn**	**11 07 46.6**	**+7.3**

*ISCJB **23** 11:13:11.2±1.0, 40°.11N±0°.05×31°.80E±0°.08, h15km±12km,*
Error ellipse: s-maj=12.5km s-min=6.0km az=38.1
*ISK **23** 11:13:11.6, 40°.13N×31°.76E, h17km, ML2.5/5*
ISC 23 11:13:11.1±1.3, 40°.13N±0°.05×31°.78E±0°.06, h11km±11km,
n9,σ0§70/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUVA	**Yuva-Kibriscik**	**0.27**	**344**	PG	**Pb**	**11 13 18.1**	**0.0**
YUVA				SG	**Sb**	**11 13 22.4**	**-0.4**
KIBS	**BOLU**	**0.29**	**10**	*i* P	**Pg**	**11 13 17.1**	**-0.1**
AUMIH	**MIHALICIK**	**0.35**	**222**	*i* P	**Pb**	**11 13 19.4**	**0.0**
AUMIH				*i* S	**Sg**	**11 13 22.1**	**-0.6**
AUMIH				IAML		11 13 25.0	
comp=E,26nm,0.3s							
AUMIH				IAML		11 13 26.0	
comp=N,22nm,0.4s							
AUMIH	**MIHALICIK**	**0.35**	**222**	PG	**Pb**	**11 13 19.1**	**-0.3**
AUMIH				SG	**Sb**	**11 13 24.8**	**-0.2**
CMDR	**Camlidere-ANKA**	**0.64**	**55**	*i* P	**Pg**	**11 13 24.3**	**+0.7**
SRCK	**Saricakaya, Es**	**0.89**	**265**	PG	**Pb**	**11 13 28.4**	**-0.2**
SRCK				SG	**Sn**	**11 13 41.4**	**-1.1**
ESKT	**Eskisehir**	**0.94**	**230**	PG	**Pg**	**11 13 29.5**	**+0.2**
GULT	**Gulveren**	**1.02**	**288**	PG	**Pg**	**11 13 31.5**	**+0.8**
BORA	**Eskisehir**	**1.05**	**257**	PG	**Pg**	**11 13 32.1**

CUKAN	kangal_SIVAS	1.08	245	*i* P	Pb	11 14 51.0	-0.1
BAYB	BAYBURT	1.27	67	*i* P	Pb	11 14 54.4	+0.1
ELZG	Elazig	1.29	171	*i* P	Pg	11 14 55.2	+0.1
KOPT	Kop Dagi	1.38	79	*i* P	Pg	11 14 58.2	+1.4

*IDC **23** 11:27:12.2±1.3, 2°.80S×129°.87E, h0km, mb3.8/2, mb1 4.2/5, mb1mx3.7/39, mbtmp4.0/5, ML3.7/3, Error ellipse: s-maj=38.2km s-min=20.8km az=96.0*
*ISCJB **23** 11:27:14.9±0.5, 2°.86S±0°.06×129°.94E±0°.05, h25km, mb3.8/2, Error ellipse: s-maj=10.0km s-min=5.0km az=135.6*
*DJA **23** 11:27:17.0±1.5, 3°S±5°×13°0E±°, h31km±23km, M3.6/8, MLv3.6/8*

ISC 23 11:27:15.9±0.9, 2°.81S±0°.06×129°.90E±0°.06, h25km, n12, σ0s93/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.10	241	P	Pn	11 27 36.7	+0.9
MSAI				S	Sn	11 27 51.1	+0.9
BNDI	Bandanaira	1.70	180	P	Pn	11 27 44.6	+0.6
AAI	Ambon	1.91	243	P	Pn	11 27 47.5	+0.6
FAKI	Fak Fak	2.35	93	P	Pn	11 27 52.5	-0.4
SIJI	Sorong	2.37	35	Pn	Pn	11 27 53.5	+0.4
	37nm,0.3s,baz=213,slow=23,SNR=580						
SIJI				Sn	Sn	11 28 21.7	+0.3
	18nm,0.3s,baz=169,slow=23,SNR=4.4						
SWI	Sorong	2.37	35	P	Pn	11 27 53.9	+0.8
SWI				S	Sn	11 28 22.7	+1.3
NLAI	Namlea	2.83	261	P	Pn	11 27 59.5	0.0
SANI	Sanana	3.98	281	P	Pn	11 28 14.2	-1.1
FITZ	Fitzroy Crossi	15.76	195	Pn	Pn	11 30 55.1	-1.1
	0.1nm,0.3s,baz=12,slow=9.3,SNR=2.4						
WRA	Warramunga Arr	17.57	166	P	Pn	11 31 17.6	-1.7
	0.3nm,0.3s,baz=350,slow=12,SNR=26						
ASAR	Alice Springs	21.09	170	P	P	11 31 59.1	+0.5
	5.5nm,0.7s,baz=353,slow=11,SNR=60						
ASAR				PcP	PcP	11 36 05.4	+0.6
	0.4nm,0.6s,baz=343,slow=1.9,SNR=6.0						
MKAR	Makanchi Array	64.70	326	P	P	11 37 51.5	-0.4
	0.4nm,0.7s,baz=110,slow=7.9,SNR=4.6						

*ISK **23** 11:36:13.5, 37°.96N×26°.27E, h17km, ML2.5/10*
*ISCJB **23** 11:36:15.0±0.5, 37°.99N±0°.03×26°.25E±0°.04, h21km±6km, Error ellipse: s-maj=5.7km s-min=4.4km az=169.4*
*DDA **23** 11:36:14.3, 37°.98N×26°.24E, h7km±2km, ML1.9*
*ATH **23** 11:36:14.6, 37°.98N×26°.24E, h15km±6km, ML2.1/2, Error ellipse: s-maj=6.6km s-min=1.2km az=29.0*

ISC 23 11:36:14.1±1.0, 37°.96N±0°.03×26°.24E±0°.03, h15km±8km, n19, σ0s51/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	zmir	0.35	36	*i* P	Pg	11 36 21.0	-0.2
ZEY				IAML	S	11 36 26.0	-0.1
	comp=N,151nm,0.3s						
ZEY				*i* S	S	11 36 26.0	-0.1
ZEY				IAML		11 36 29.0	
	comp=E,157nm,0.1s						
CHOS	Chios island	0.45	341	P	Pg	11 36 23.2	0.0
CHOS				S	Sg	11 36 29.7	+0.4
CHOS				AML	AML	11 36 31.6	
	comp=E,343μm,0.2s						
CHOS				AML	AML	11 36 33.0	
	comp=N,261μm,0.2s						
CHOS	Chios island	0.45	341	PG	Pg	11 36 23.3	+0.1
CHOS				SG	Sb	11 36 30.1	-0.4
URLA	Izmir	0.49	35	*i* P	Pg	11 36 23.6	-0.2
URLA				*i* S	Sg	11 36 30.9	+0.5
URLA				IAML		11 36 31.0	
	comp=N,94nm,0.4s						
URLA				IAML		11 36 32.0	
	comp=E,84nm,0.5s						
URLA	Izmir	0.49	35	PG	Pg	11 36 23.9	+0.1
URLA				SG	Sg	11 36 30.3	-0.1
DGB	zmir	0.51	79	*i* P	Pg	11 36 24.1	-0.1
DGB				*i* S	Sb	11 36 32.0	-0.2
DGB				IAML		11 36 32.0	
	comp=E,66nm,0.2s						
DGB				IAML		11 36 33.0	
	comp=N,49nm,0.2s						
SMG	Samos	0.53	118	P	Pb	11 36 25.5	+0.3
SMG				S	Sb	11 36 32.8	+0.1
SMG				AML	AML	11 36 35.3	
	comp=N,1027μm,0.3s						
SMG				AML	AML	11 36 35.6	
	comp=E,845μm,0.2s						
KRBN	Karaburun	0.68	21	PG	Pg	11 36 27.2	-0.2
KRBN				SG	Sb	11 36 36.9	0.0
GCAM	G?zelcaml?	0.83	108	PG	Pg	11 36 29.2	-1.0
GCAM				SG	Sb	11 36 41.8	+0.6
FOCM	Foa	0.84	27	PG	Pg	11 36 29.8	-0.7
FOCM				SG	Sb	11 36 41.9	+0.2
APE	Apeiranthos	1.05	213	P	Pg	11 36 34.3	-0.2
APE				S	Sn	11 36 49.9	+1.0
APE	Apeiranthos	1.05	213	PG	Pg	11 36 33.9	-0.6
ZEDA	zmir-Bergama	1.20	33	*i* P	Pb	11 36 36.4	-0.2
ZEDA				*i* S	Sn	11 36 53.1	+0.7
ZEDA				IAML		11 36 55.0	
	comp=E,29nm,0.4s						
ZEDA				IAML		11 36 55.0	
	comp=N,40nm,0.4s						
DKL	Dikili	1.23	25	PN	Pn	11 36 36.3	-0.5
BODT	Bodrum	1.23	136	PN	Pn	11 36 36.2	-0.7
BODT				SN	Sb	11 36 53.2	+0.3
SIGR	SIGRI	1.29	346	PN	Pn	11 36 37.4	-0.2
AYDB	Zeytinkoy-Aydi	1.30	90	PN	Pn	11 36 36.9	-1.1
AYDN	Tasoluk	1.33	102	*i* P	Pg	11 36 40.0	+0.3
AYDN				IAML		11 36 58.0	
	comp=N,30nm,0.4s						
AYDN				*i* S	Sg	11 36 58.1	+1.0
AYDN				IAML		11 36 59.0	
	comp=E,14nm,0.4s						
ANAF	Anafi Island	1.64	193	P	Pg	11 36 45.5	-0.2

*IDC **23** 11:38:02.4±1.9, 59°.99N×152°.86W, h62km±32km, mb3.9/4, mb1 4.2/9, mb1mx3.5/52, mbtmp4.2/9, ML4.1/5, Error ellipse: s-maj=33.8km s-min=9.4km az=109.0*
*ISCJB **23** 11:38:03.3±0.2, 59°.93N±0°.02×152°.59W±0°.04, h103km±2km, mb4.1/4, Error ellipse: s-maj=3.6km s-min=2.7km az=40.8*
*NEIC **23** 11:38:04.5±1.0, 59°.92N±0°.03×152°.65W±0°.06, h94km±4km*
*AEIC **23** 11:38:05±1.4, 59°.93N±0°.03×152°.70W±0°.06, h90km±4km, ML3.6*

ISC 23 11:38:04.7±0.7, 59°.92N±0°.03×152°.60W±0°.03, h95km±6km, n139, σ0s81/165, mb4.2/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	Iliamna Volcan	0.23	296		Pn	11 38 18.0	-0.5
IVE					Sn	11 38 28.2	-0.7
ILS	Iliamna Low So	0.24	280		Pn	11 38 18.0	-0.5
ILIM	Iliamna	0.24	312		Pn	11 38 18.1	-0.4
ILW	Iliamna West	0.30	298		Pn	11 38 18.4	-0.5
HOM	Homer	0.55	118		Pn	11 38 20.6	+0.3
HOM				Sn	Sn	11 38 32.5	+0.5
RSO	Redoubt South	0.55	352		Pn	11 38 20.2	-0.4
RDWB	Redoubt West	0.58	348		Pn	11 38 20.3	-0.5
RDWB					Sn	11 38 31.8	-1.1
AU22	Augustine Moun	0.67	215		Pn	11 38 21.1	-0.2
AU22					Sn	11 38 33.7	-0.1
AUL	Augustine Lava	0.68	218		Pn	11 38 21.2	-0.2
AUP	Augustine Pinn	0.69	217		Pn	11 38 21.4	-0.2
AUQ	Augustine Qik'	0.70	216		Pn	11 38 21.6	-0.1
AUH	Augustine H	0.70	218		Pn	11 38 21.5	-0.2
AUJK	Augustine Jueg	0.70	216		Pn	11 38 21.5	-0.1
AUW	Augustine West	0.70	219		Pn	11 38 21.5	-0.2
AUI	Augustine Isla	0.72	216		Pn	11 38 21.5	-0.3
AUI					Sn	11 38 33.9	-0.8
CNPM	China Poot	0.80	119		Pn	11 38 22.8	+0.2
CNPM				Sn	Sn	11 38 36.1	0.0
BRLK	Bradley Lake	0.88	99		Pn	11 38 23.4	0.0
BRLK				Sn	Sn	11 38 37.6	+0.1
BRSE	Bradley Lake S	0.96	100		Pn	11 38 24.4	+0.2
BRSE					Sn	11 38 39.9	+0.9
FOSS	Fourpeaked Sta	1.25	207		Pn	11 38 27.3	-0.4
CKL	Chakachamna La	1.29	6		Pn	11 38 28.1	-0.1
SPCR	Spurr Chakacha	1.30	8		Pn	11 38 28.1	-0.1
SPCR					Sn	11 38 45.5	-0.6
SLKM	Skilak Lake	1.33	63		Pn	11 38 28.4	-0.2
SLKM					Sn	11 38 46.3	-0.3
SPBG	Spurr Blockage	1.35	5		Pn	11 38 28.9	+0.1
SPCP	Crater Peak Br	1.37	9		Pn	11 38 29.4	+0.2
SPCP					Sn	11 38 47.7	-0.1
SPCG	Spurr Capps Gl	1.41	12		Pn	11 38 29.8	+0.2
SPCG					Sn	11 38 48.1	-0.3
SPNN	North Nagishla	1.45	358		Pn	11 38 30.3	+0.1
SEW	Seward	1.59	82		Pn	11 38 31.9	+0.1
SEW				Sn	Sn	11 38 52.1	-0.3
FIS	Fire Island	1.70	43		Pn	11 38 34.8	+1.7
KAHG	Katmai Hook Gl	1.74	216		Pn	11 38 33.8	0.0
KAHC	Katmai Hardscr	1.77	225		Pn	11 38 34.0	-0.2
SUA	Susitna One	1.80	30	Pn	Pn	11 38 34.9	+0.4
SUA				Sn	Sn	11 38 57.9	+0.6
RC01	Rabbit Creek A	1.84	49		Pn	11 38 35.4	+0.4
RC01				Sn	Sn	11 38 57.9	-0.2
SVW2	Sparrevohn	1.89	310		Pn	11 38 34.8	-0.7
SVW2				Sn	Sn	11 38 57.4	-1.7
KAKN	Katmai Knife C	2.06	219		Pn	11 38 37.8	-0.1
KCG	Knife Ck. Glac	2.07	220		Pn	11 38 38.0	+0.1
SKT	Skwentna	2.13	14		Pn	11 38 38.6	-0.2
KDAK	Kodiak Island	2.14	180	P	Pn	11 38 37.4	-1.4
	62nm,0.3s,baz=49,slow=11,SNR=1275						
KDAK				S	Sn	11 39 03.5	-1.4
	55nm,0.3s,baz=28,slow=21,SNR=18						
KDAK	Kodiak Island	2.14	180		Pn	11 38 38.0	-0.8
KDAK					Sn	11 39 04.0	-0.9
KABU	Katmai Buttres	2.15	221		Pn	11 38 39.4	+0.3
KELA	Mount Kelaz	2.19	229		Pn	11 38 39.5	-0.1
PWL	Port Wells	2.32	64		Pn	11 38 40.9	-0.3
PMR	Palmer	2.39	44		Pn	11 38 41.6	-0.5
PMR					Sn	11 39 08.7	-2.2
KNK	Knik Glacier	2.53	52		Pn	11 38 43.6	-0.4
GHO	Glory Hole Cre	2.59	42		Pn	11 38 44.5	-0.3
OHAK	Old Harbor	2.73	188		Pn	11 38 45.4	-1.2
SML	Sawmill	2.82	46		Pn	11 38 47.6	-0.2
GLI	Glacier Island	2.90	68		Pn	11 38 47.8	-1.1
PLK2	Peulik 2	2.90	223		Pn	11 38 49.7	+0.8
PLK3	Peulik 3	2.94	222		Pn	11 38 50.2	+0.8
PLK1	Peulik 1	2.97	226		Pn	11 38 49.8	0.0
PPLA	Purkeypile	3.00	4		Pn	11 38 51.0	+0.7
HIN	Hinchinbrook I	3.09	78	Pn	Pn	11 38 50.5	-0.9
FID	Port Fidalgo	3.16	72		Pn	11 38 50.5	-1.8
JPK	Jack Peak	3.18	66		Pn	11 38 51.9	-0.9
SCM	Sheep Creek Mo	3.22	51		Pn	11 38 52.9	-0.3
HUR	Hurricane	3.38	24		Pn	11 38 56.0	+0.7
SII	Sitkinak Islan	3.47	195		Pn	11 38 55.5	-1.1
EYAK	Cordova Ski Ar	3.48	77	Pn	Pn	11 38 55.5	-1.1
WAT1	Susitna Watana	3.51	32		Pn	11 38 57.3	+0.2
WAT6	Susitna Watana	3.56	39		Pn	11 38 57.9	0.0
WAT2	Susitna Watana	3.61	31		Pn	11 38 59.0	+0.4
TRF	Thorofare Moun	3.71	16		Pn	11 38 59.4	-0.5
KTH	Kantishna Hill	3.73	12		Pn	11 39 00.2	+0.1
RND	Reindeer	3.93	25		Pn	11 39 03.1	+0.3
CHUM	Lake Minchumin	3.98	2		Pn	11 39 03.8	+0.4
GOAT	Goat Mountain	3.98	77		Pn	11 39 03.7	+0.2
PS12	TAPS Pump St12	3.99	64		Pn	11 39 03.6	+0.1
RAGM	Ragged Mountai	3.99	80		Sn	11 39 48.1	-1.2
DHY	Denali Highway	4.04	36		Pn	11 39 04.6	+0.3
PS11	TAPS Pump St11	4.09	55		Pn	11 39 05.2	+0.2
MCK	McKinley	4.20	23		Pn	11 39 07.3	+0.8
BPAW	Bear Paw Mtn.	4.27	10		Pn	11 39 06.7	-0.5
CHIR	Chirikof Islan	4.41	203	Pn	Pn	11 39 08.0	-1.2
BERG	Berg Lake	4.47	80		Pn	11 39 09.6	-0.5
BWN	Browne	4.52	18		Pn	11 39 11.0	+0.3
GLB	Gilahina Butte	4.59	67		Pn	11 39 10.9	-0.8
PAX	Paxson	4.59	45		Pn	11 39 11.6	-0.2
VRDI	Verde Repeater	4.70	70		Pn	11 39 12.6	-0.7
VRDI					Sn	11 40 03.8	-2.9
CRQM	Cirque	4.78	76		Pn	11 39 14.8	+0.4
PS10	TAPS Pump St10	4.79	40		Pn	11 39 15.0	+0.6
TGL	Tana Glacier	4.93	76		Pn	11 39 16.4	0.0
TGL					Sn	11 40 09.2	-3.0
NEA	Nenana	4.96	18		Pn	11 39 16.6	0.0
WRH	Wood River Hil	5.03	23		Pn	11 39 17.3	-0.3
PTPK	Patty Peak	5.16	71		Pn	11 39 20.2	+0.6
KIAG	Kiagna River	5.18	74		Pn	11 39 19.9	+0.1
BALM	Baldy	5.20	73		Pn	11 39 20.0	0.0
MLY	Manley	5.20	9		Pn	11 39 19.7	-0.3
HDA	Harding Lake	5.23	28		Pn	11 39 20.2	0.0
MENT	Mentasta	5.23	51		Pn	11 39 21.0	+0.6
CCB	Clear Creek Bu	5.25	23		Pn	11 39 19.8	-0.7
RIDG	Independent Ri	5.31	40		Pn	11 39 21.7	+0.3
RIDG				Sn	Sn	11 40 21.8	+0.5
PS08	TAPS Pump Stn8	5.37	28		Pn	11 39 22.0	-0.2
TCOL	CIGO, UAF Yank	5.44	22		Pn	11 39 23.2	+0.1
COLA	College	5.44	22		Pn	11 39 23.0	-0.1
MDM	Murphy Dome	5.45	20		Pn	11 39 23.3	0.0
GRNC	Granite Creek	5.45	77		Pn	11 39 24.0	+0.4
DOT	Dot Lake	5.51	44		Pn	11 39 24.4	+0.2
IL31		5.55	26		Pn	11 39 24.0	-0.5
ILAR	Eielson Array	5.55	26	P	Pn	11 39 23.4	-1.2
	6.6nm,0.3s,baz=211,slow=14,SNR=288						
ILAR				S	Sn	11 40 24.4	-2.6
	3.6nm,0.3s,baz=209,slow=18,SNR=3.8						
ILAR	Eielson Array	5.55	26		Pn	11 39 23.8	-0.8
ILAR					Sn	11 40 25.9	-1.1
CTGM	Chitina Glacie	5.68	74		Pn	11 39 27.1	+0.5
POKR	Poker Plat Res	5.74	22		Pn	11 39 27.1	-0.1
SCRK	Sand Creek	5.75	41		Pn	11 39 26.8	-0.8
PS07	TAPS Pump Stn7	5.77	18		Pn	11 39 27.5	-0.1
YUK2	White River	6.05	67		Pn	11 39 31.4	-0.1
BCAR	Beaver Creek A	6.07	54		Pn	11 39 30.9	-0.8
PS06	TAPS Pump Stn6	6.10	11		Pn	11 39 32.7	+0.6
IM03		6.11	356		Pn	11 39 32.0	-0.2
IMAR	Indian Mountai	6.11	356		Pn	11 39 32.0	-0.2
BVCY	Beaver Creek	6.21	61		Pn	11 39 34.0	+0.4
YUK3	Moose Creek	6.22	67		Pn	11 39 34.1	+0.2
PRP	Porcupine Dome	6.49	27		Pn	11 39 37.3	-0.2
BCPM	Bancas Point	6.52	84		Pn	11 39 38.8	+1.0
PNL	Peninsula	6.67	86		Pn	11 39 40.1	+0.1
EGAK	Eagle	7.21	43		Pn	11 39 46.6	-0.6
YUK5	Granite Creek	7.38	74		Pn	11 39 49.6	-0.1
COLD	Coldfoot	7.42	7		Pn	11 39 50.7	+0.7
FYU	Fort Yukon	7.45	23		Pn	11 39 49.9	-0.5
DAWY	Dawson	7.48	51		Pn	11 39 50.6	-0.3
ANM	Nome	7.56	313	Pn	Pn	11 39 52.4	+0.5
BM03	Burnt Mountain	8.32	22		Pn	11 40 00.9	-1.3
BMAR	Burnt Mountain	8.33	22		Pn	11 40 01.1	-1.4
SKAG	Skagway	8.75	86		Pn	11 40 08.8	+0.6
WHY	Whitehorse	8.83	78		Pn	11 40 09.1	-0.3
TOLK	Toolik Lake Re	8.86	7		Pn	11 40 10.0	+0.4
JIS	Juneau Island	9.52	92		Pn	11 40 19.6	+1.0
CRAG	Craig	11.32	105	Pn	Pn	11 40 43.2	+0.2
DLBC	Dease Lake	11.66	87	P	Pn	11 40 49.4	+1.6
	3.4nm,0.3s,baz=277,slow=0.5,SNR=22						
DLBC				S	Sn	11 42 55.6	-0.2
	0.6nm,0.3s,baz=212,slow=9.5,SNR=4.5						
INK	Inuvik	11.78	37	P	Pn	11 40 46.8	-2.4
	0.2nm,0.3s,baz=236,slow=13,SNR=22						
INK				S	Sn	11 42 55.3	-3.2
	0.0nm,0.3s,baz=221,slow=9.3,SNR=2.9						
INK	Inuvik	11.78	37		Pn	11 40 48.5	-0.7
YKA	Yellowknife Ar	18.30	66	P	P	11 42 11.6	+0.8
	0.4nm,0.3s,baz=277,slow=9.8,SNR=9.2						
YKA	Yellowknife Ar	18.30	66	P	P	11 42 11.7	+0.9
PETK	Petropavlovsk-	27.67	278	P	P	11 43 42.5	-0.7
	2.8nm,0.9s,baz=68,slow=14,SNR=11						
PETK	Petropavlovsk-	27.67	278	P	P	11 43 43.0	-0.2
KSRS	Korea Array	53.39	283	P	P	11 47 14.9	+0.9
	1.5nm,0.5s,baz=39,slow=7.0,SNR=8.8						
SONM	Songino Array	55.00	306	P	P	11 47 26.7	+0.8
	2.6nm,0.7s,baz=43,slow=6.8,SNR=10						
SONM	Songino Array	55.00	306	P	P	11 47 26.8	+1.0
ZALV	Zalesovo Beam	57.56	324	P	P	11 47 43.3	-0.4
	0.7nm,0.4s,baz=36,slow=7.0,SNR=3.6						
ZALV	Zalesovo Beam	57.56	324	P	P	11 47 43.6	-0.1

*IDC **23** 11:39:43.3±5.8, 0°.26N×16°.91W, h0km, mb3.7/1, mb1 4.0/2, mb1mx3.5/39, mbtmp4.1/2, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/37, Error ellipse: s-maj=281.0km s-min=45.1km az=133.0*

ISC 23 11:39:42.9±3.6, 0°.5N±0°.8×17°.0W±0°.7, h10km, n11, σ3s46/8, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	8.64	163	T	T	11 50 51.9	
	baz=342,slow=74						
H10N3	ASCENSION HYDR	8.65	163	T	T	11 50 47.4	
	baz=342,slow=74						
H10N1	ASCENSION HYDR	8.66	163	T	T	11 50 45.8	
	baz=342,slow=74						
LIC	Lamto	13.21	64	*e*PKIKP	P	11 42 57.1	-3.6
	5.9nm,0.3s						
TIC	Toumodi	13.40	63	*e*PKIKP	Pn	11 42 57.1	+3.8
KIC	Kosan Boka	13.52	64	*e*PKIKP	Pn	11 42 57.0	+2.0
	3.5nm,0.4s						
DBIC	Dimbokro	13.55	63	Pn	Pn	11 42 56.8	+1.4
	1.2nm,0.3s,baz=234,slow=13,SNR=14						
DBIC				Sn	Sn	11 45 17.7	-8.5
	0.7nm,0.3s,baz=124,slow=15,SNR=3.7						
TORD	Torodi Ar. Bea	22.36	55	P	P	11 44 44.5	+3.1
	2.3nm,0.7s,baz=235,slow=12,SNR=7.0						
TORD				S	S	11 48 43.6	-3.8
	1.0nm,1.0s,baz=222,slow=22,SNR=2.2						
MDP	Montagnes des	35.90	278	LR	LR	11 58 12.5	
	comp=Z,56nm,19.8s,baz=67,slow=31						
ASAR	Alice Springs	143.56	131	PKP	PKPdf	11 59 17.7	-1.3
	0.5nm,0.5s,baz=224,slow=2.7,SNR=12						
WRA	Warramunga Arr	145.92	126	PKPbc	PKPab	11 59 24.9	+0.8
	0.6nm,0.9s,baz=242,slow=2.3,SNR=8.7						

*MDD **23** 12:04:45.4±0.5, 34°.24N×14°.70W, h90km, mb3.9/9, Error ellipse: s-maj=15.4km s-min=4.2km az=137.0, PRXIMO*
*IGIL **23** 12:04:46.2, 34°.31N×14°.71W, h21km, ML2.7*
*INMG **23** 12:04:48.9±1.6, 34°.30N×14°.71W, h10km, ML3.0, Error ellipse: s-maj=6.3km s-min=1.8km az=133.0*

ISC 23 12:04:39.3±0.9, 34°.26N±0°.07×14°.62W±0°.06, h10km, n57, σ3s35/87, 2C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	Porto Santo, M	1.85	231↑	*e*Pn	Pb	12 05 14.4	+1.1
PMPST				*e*Sn	Sn	12 05 33.8	-0.8
PMPST				A	A	12 05 35.2	
	173nm,0.1s						
PMPS	Porto Santo	1.87	230↑	*e*Pn	Pb	12 05 14.5	+0.9
PMPS				*e*Sn	Sn	12 05 33.7	-1.2
PMPS				A	A	12 05 35.5	
	137nm,0.5s						
PMPS	Porto Santo	1.87	230	P	Pb	12 05 14.4	+0.9
PMPS				S	Sn	12 05 33.8	-1.2
	86nm,0.1s						
PMAR	Madeira	2.45	232	*e*Pn	Pb	12 05 22.6	-1.1
PMAR				*e*Sn	Sn	12 05 48.6	-1.2
PMAR				A	A	12 05 53.5	
	171nm,0.2s						
PMAR	Madeira	2.45	232	P	Pb	12 05 22.6	-1.1
PMAR				S	Sn	12 05 48.6	-1.2
	85nm,0.2s						
FUL	Funchal	2.49	230	*e*Pn	Pb	12 05 23.2	-0.9
FUL				*e*Sn	Sn	12 05 49.6	-0.7
FUL				A	A	12 05 53.1	
	160nm,0.2s						
FUL	Funchal	2.49	230	P	Pb	12 05 23.2	-0.9
FUL				S	Sn	12 05 49.6	-0.7
	80nm,0.2s						
PMOZ	Porto Moniz, M	2.58	237	*e*Pn	Pb	12 05 24.5	-1.4
PMOZ				*e*Sn	Sn	12 05 51.4	-1.5
PMOZ				A	A	12 05 54.5	
	84nm,0.3s						
PMOZ	Porto Moniz, M	2.58	237	P	Pb	12 05 24.5	-1.4
	25nm,0.2s,SNR=7.9						
PMOZ				S	Sn	12 05 52.9	+0.1
	156nm,0.4s,SNR=7.9						
PFVI	Vila Bisbo	5.52	57	*e*Pn	Pn	12 06 05.3	+3.8
PFVI				*e*Sn	Sn	12 07 02.3	-2.7
PFVI				A	A	12 07 09.9	
	14nm,0.7s						
PFVI	Vila Bisbo	5.52	57	P	Pn	12 06 05.3	+3.8
	4.2nm,0.1s,SNR=5.7						
PFVI				S	Sn	12 07 02.4	-2.7
	20nm,0.1s,SNR=7.9						
CFUE	Fuerteventura	5.63	174	P	Pn	12 06 06.3	+3.1
	0.9nm,0.1s,SNR=7.9						
CFUE				S	Sn	12 07 04.0	-3.9
	11nm,0.1s,SNR=7.9						
MORF	Marmelete	5.72	56	*e*P	Pn	12 06 08.5	+4.1
MORF				*e*S	Sn	12 07 08.7	-1.6
MORF				AML	AML	12 07 11.8	
	comp=E,16nm,0.3s						
MORF	Marmelete	5.72	56	*e*Pn	Pn	12 06 08.5	+4.1
MORF				A	A	12 07 10.8	
	comp=E,9.9nm,0.1s						
MORF	Marmelete	5.72	56	P	Pn	12 06 08.5	+4.1
MORF				S	Sn	12 07 08.7	-1.6
	comp=E,16nm,0.3s						
PTEO	Sao Teotonio	5.80	54	*e*Sn	Sn	12 07 07.7	-4.3
PTEO				A	A	12 07 12.4	
	comp=E,7.9nm,0.4s						
PTEO	Sao Teotonio	5.80	54	S	Sn	12 07 07.7	-4.3
	comp=E,4.0nm,0.4s						
CFTV	Fuerteventura	5.85	175	P	Pn	12 06 10.3	+4.1
	comp=E,0.2nm,0.2s,SNR=7.9						
CFTV				S	Sn	12 07 08.4	-4.9
	comp=E,1.1nm,0.2s,SNR=7.9						
EBAJ	Bajamar	5.89	195	S	Sn	12 07 10.2	-4.2
	comp=E,1.5nm,0.3s,SNR=7.9						
PBDV	Barranco-do-Ve	6.20	59	*e*Pn	Pn	12 06 15.0	+4.0
PBDV				*e*Sn	S

PMTG	**Montargil**	**7.03**	**45**	*e*Pn	**Pn**	**12 06 25.3**	**+3.0**
PMTG				*e*Sn	**Sn**	**12 07 37.8**	**-4.5**
PMTG				A	A	12 07 52.6	
	comp=N,3.7nm,0.5s						
PMTG	**Montargil**	**7.03**	**45**	P	**Pn**	**12 06 25.3**	**+3.0**
PMTG				S	**Sn**	**12 07 37.8**	**-4.5**
	comp=N,3.7nm,0.5s						
CTIG	**El Hierro**	**7.05**	**205**	P	**Pn**	**12 06 24.8**	**+2.2**
	comp=N,1.4nm,0.1s,SNR=7.9						
CTIG				S	**Sn**	**12 07 38.9**	**-3.9**
	comp=N,5.5nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**7.29**	**49**	*e*Sn	**Sn**	**12 07 44.7**	**-4.0**
EMIN	**Mina Concepcio**	**7.33**	**59**	P	**Pn**	**12 06 30.4**	**+3.9**
	comp=N,2.1nm,0.2s,SNR=16						
EMIN				S	Sn	12 07 44.6	-5.1
	comp=N,0.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.59**	**52**	P	**Pn**	**12 06 33.9**	**+3.8**
	comp=N,0.8nm,0.1s,SNR=9.0						
EBAD				S	Sn	12 07 50.4	-5.7
	comp=N,2.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**7.60**	**68**	P	**Pn**	**12 06 34.7**	**+4.5**
	comp=N,2.1nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**12 07 53.4**	**-3.0**
	comp=N,6.3nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**7.75**	**46**	*e*Pn	**Pn**	**12 06 35.7**	**+3.4**
PMRV	**Marv??o**	**7.75**	**46**	P	**Pn**	**12 06 35.7**	**+3.4**
ECAB	**El Cabril**	**8.36**	**60**	P	**Pn**	**12 06 44.7**	**+4.1**
	comp=N,1.0nm,0.2s,SNR=14						
ECAB				S	Sn	12 08 10.6	-4.5
	comp=N,1.5nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**8.92**	**35**	*e*Sn	Sn	12 08 21.0	-7.8
POLO	**Lamas de Olo**	**8.92**	**35**	S	Sn	12 08 21.0	-7.8
EPLA	**Plasencia**	**8.94**	**47**	P	**Pn**	**12 06 52.2**	**+3.6**
	comp=N,0.7nm,0.3s,SNR=7.9						
EPLA				S	Sn	12 08 23.5	-5.9
	comp=N,1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.00**	**61**	P	**Pn**	**12 06 53.5**	**+4.0**
	comp=N,1.2nm,0.2s,SNR=11						
EADA				S	**Sn**	**12 08 27.3**	**-3.6**
	comp=N,2.2nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**9.14**	**39**	*e*Pn	**Pn**	**12 06 54.5**	**+3.1**
MVO				*e*Sn	Sn	12 08 26.6	-7.8
MVO	**Moncorvo**	**9.14**	**39**	P	**Pn**	**12 06 54.1**	**+2.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
MVO				S	Sn	12 08 24.8	-10
	comp=N,1.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**9.18**	**32**	P	**Pn**	**12 06 55.4**	**+3.5**
	comp=N,1.1nm,0.2s,SNR=7.9						
ELOB				S	Sn	12 08 27.1	-8.3
	comp=N,0.8nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**9.77**	**54**	P	**Pn**	**12 07 03.8**	**+3.8**
	comp=N,0.5nm,0.2s,SNR=7.9						
PAB				S	Sn	12 08 44.2	-5.6
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**9.86**	**37**	S	Sn	12 08 45.6	-6.5
	comp=N,2.1nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**9.94**	**29**	P	**Pn**	**12 07 04.0**	**+1.8**
	comp=N,0.6nm,0.1s,SNR=7.9						
EAGO				S	Sn	12 08 42.4	-11
	comp=N,1.5nm,0.1s,SNR=7.9						

*NNC **23** 12:19:47.6±4.9, 40°.17N×77°.01E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=33.8km s-min=24.6km az=163.0*
*SOME **23** 12:19:50.1, 40°.33N×77°.13E, h10km*
*KRNET **23** 12:19:51.8±0.1, 40°.44N×77°.10E, h16km, mb3.3*
ISC 23 12:19:51.9±1.9, 40°.42N±0°.08×77°.07E±0°.04, h10km, n43, σ1§45/63, 19C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=19	**1.30**	**322**	⇓*i*P	**Pn**	**12 20 16.4**	**-0.1**
NRN	baz=19			⇓*i*S	**Sn**	**12 20 34.9**	**+0.8**
TARG	**Taragay, Kyrgy** baz=22	**1.43**	**23**	⇓*i*P	**Pb**	**12 20 18.2**	**-0.6**
KDJ	**Kajisay** baz=2.0	**1.71**	**3**	⇑*e*P	**Pb**	**12 20 23.6**	**0.0**
KDJ	baz=2.0			⇑*i*S	**Sg**	**12 20 46.8**	**-0.3**
ULHL	**Ulahol** baz=41	**1.93**	**341**	⇓*i*P	**Pb**	**12 20 27.6**	**+0.2**
ULHL	baz=41			⇓*i*S	**Sg**	**12 20 53.8**	**-0.3**
ULHL	**Ulahol** SNR=10	**1.93**	**341**	P	**Pg**	**12 20 28.2**	**-0.8**
KZA	**Kyzart** baz=20	**2.16**	**321**	⇑*i*P	**Pb**	**12 20 31.8**	**+0.5**
KZA	baz=20			⇑*i*S	**Sg**	**12 21 00.2**	**-1.0**
KZA	**Kyzart** SNR=37	**2.16**	**321**	P	**Pb**	**12 20 31.8**	**+0.5**
BOOM	**Boomskoye usch** baz=37	**2.24**	**338**	⇑*i*P	**Pb**	**12 20 32.2**	**-0.4**
BOOM	baz=37			⇑*i*S	**Sb**	**12 21 01.7**	**+1.2**
PRZ	**Przheval'sk** baz=25	**2.29**	**25**	⇑*e*P	**Pb**	**12 20 32.8**	**-0.7**
PRZ	baz=25			⇑*i*S	**Sb**	**12 21 02.6**	**+0.6**
ANVS	**Anan'yevo** baz=10.0	**2.41**	**10**	⇑*i*P	**Pb**	**12 20 34.4**	**-1.0**
ANVS	baz=10.0			⇑*i*S	**Sb**	**12 21 05.3**	**0.0**
ARLS	**Aral** baz=5.0	**2.53**	**306**	⇑*i*P	**Pb**	**12 20 36.1**	**-1.4**
ARLS	baz=5.0			⇑*i*S	**Sb**	**12 21 08.5**	**-0.2**
TNSS	**Tian-Shan** 43nm,0.7s	**2.62**	**358**	*e*P	**Pg**	**12 20 40.8**	**-1.3**
TNSS	34nm,0.6s			*e*S	**Sg**	**12 21 17.2**	**+1.1**
IZV	**Izvestkoviy** 16nm,0.6s	**2.64**	**353**	Pg	**Pg**	**12 20 40.6**	**-1.9**
IZV	33nm,0.4s			Lg	Lg	12 21 17.7	
IZV	**Izvestkoviy** 25nm,1.0s	**2.64**	**353**	*e*P	**Pg**	**12 20 40.6**	**-1.9**
IZV	33nm,0.4s			*e*S	**Sg**	**12 21 17.7**	**+0.9**
UCH	**Uchtor** baz=13	**2.64**	**314**	⇓*i*P	**Pb**	**12 20 38.3**	**-1.3**
UCH	baz=13			⇓*i*S	**Sb**	**12 21 11.8**	**-0.5**
UCH	**Uchtor** SNR=31	**2.64**	**314**	P	**Pb**	**12 20 39.1**	**-0.5**
TKM2	**Tokmak 2** 14nm,0.8s	**2.74**	**337**	⇓Pg	**Pb**	**12 20 42.0**	**+0.9**
TKM2	41nm,0.8s			⇑Lg	Lg	12 21 21.0	
TKM2	**Tokmak 2** SNR=8.7	**2.74**	**337**	P	**Pg**	**12 20 43.1**	**-1.2**
MDOK	**Medeo** 53nm,1.1s	**2.75**	**360**	⇑Pg	**Pb**	**12 20 41.8**	**+0.6**
MDOK	58nm,0.8s			Lg	Lg	12 21 22.9	
MDOK	**Medeo** 28nm,1.1s	**2.75**	**360**	*e*P	**Pg**	**12 20 42.5**	**-2.0**
MDOK	44nm,0.8s			*e*S	**Sg**	**12 21 20.0**	**-0.1**
KBK	**Karagaybulak** SNR=28	**2.75**	**325**	P	**Pg**	**12 20 43.1**	**-1.5**
KST	**Kastek** 17nm,0.7s	**2.75**	**343**	Pg	**Pg**	**12 20 42.8**	**-1.9**
KST	20nm,0.9s			Lg	Lg	12 21 21.6	
KST	**Kastek** 17nm,0.7s	**2.75**	**343**	*e*P	**Pg**	**12 20 42.8**	**-1.9**
KST	27nm,0.9s			*e*S	**Sg**	**12 21 20.7**	**+0.3**
MTBS	**Maitube** 18nm,0.7s	**2.75**	**350**	*e*P	**Pg**	**12 20 43.2**	**-1.5**
MTBS	19nm,0.4s			*e*S	**Sg**	**12 21 20.9**	**+0.5**
KOTS	**Kotyrbulak** 35nm,0.3s	**2.82**	**1**	Pg	**Pg**	**12 20 43.8**	**-2.1**
KOTS	66nm,0.6s			Lg	Lg	12 21 22.8	
KOTS	**Kotyrbulak** 35nm,0.3s	**2.82**	**1**	*e*P	**Pg**	**12 20 44.2**	**-1.7**
KOTS	177nm,0.5s			*e*S	**Sg**	**12 21 22.8**	**+0.4**
SATY	**Saty** 25nm,0.6s	**2.82**	**20**	Pg	**Pg**	**12 20 44.1**	**-2.0**
SATY	70nm,1.1s			Lg	Lg	12 21 22.9	
SATY	**Saty** 25nm,0.6s	**2.82**	**20**	*e*P	**Pg**	**12 20 44.4**	**-1.6**
SATY	70nm,1.1s			*e*S	**Sg**	**12 21 22.9**	**+0.3**
AAK	**Ala-Archa** 21nm,0.9s	**2.95**	**320**	⇓Pg	**Pb**	**12 20 45.8**	**+1.2**
AAK	94nm,1.1s			Lg	Lg	12 21 26.5	
AAK	**Ala-Archa** SNR=13	**2.95**	**320**	P	**Pb**	**12 20 45.0**	**+0.4**
AML	**Almayashu** SNR=16	**3.07**	**305**	P	**Pb**	**12 20 45.5**	**-1.4**
KURS	**Kuram** 12nm,0.9s	**3.18**	**15**	Pg	**Pb**	**12 20 50.1**	**+1.6**
KURS	13nm,1.0s			Lg	Lg	12 21 33.3	
KURS	**Kuram** 32nm,1.4s	**3.18**	**15**	*e*P	**Pb**	**12 20 50.1**	**+1.6**
KURS	26nm,0.8s			*e*S	**Sg**	**12 21 33.3**	**-0.6**
ARSB	**Arslanbob** baz=87	**3.23**	**288**	⇑*i*P	**Pn**	**12 20 46.3**	**+3.5**
ARSB	baz=87			⇑*i*S	**Sb**	**12 21 26.1**	**-2.8**
KPKS	**Kokpek** 16nm,0.7s	**3.28**	**21**	*e*P	**Pb**	**12 20 51.7**	**+1.5**
KPKS	129nm,1.0s			*e*S	**Sg**	**12 21 36.1**	**-1.1**
EKS2	**Erkin-Say** SNR=6.8	**3.34**	**313**	P	**Pb**	**12 20 49.6**	**-1.7**
PDGK	**Podgornoye** 3.2nm,0.7s	**3.43**	**31**	Pg	**Pb**	**12 20 53.7**	**+0.9**
PDGK	16nm,0.7s			Lg	Lg	12 21 39.4	
PDGK	**Podgornoye** 18nm,0.9s	**3.43**	**31**	⇑Pg	**Pb**	**12 20 54.2**	**+1.4**
PDGK	28nm,0.6s			⇑Lg	Lg	12 21 43.6	
USP	**Ospenovka** SNR=11	**3.44**	**327**	P	**Pb**	**12 20 54.8**	**+1.9**
KUU	**Kurty**	**3.52**	**351**	Pg	**Pb**	**12 20 56.2**	**+1.9**
KUU				Lg	Lg	12 21 43.8	
KUU	**Kurty** 3.2nm,0.1s	**3.52**	**351**	*e*P	**Pb**	**12 20 56.1**	**+1.9**
KUU	21nm,0.7s			*e*S	**Sg**	**12 21 43.7**	**-1.1**
KAPS	**Kapalarasan** 2.3nm,0.7s	**5.15**	**18**	Pg	**Pg**	**12 21 27.4**	**-3.1**
KAPS	6.2nm,1.4s			Lg	Lg	12 22 37.4	
KK31	**Karatay Array** 1.2nm,0.6s,baz=131,slow=17,SNR=12	**5.59**	**301**	⇑Pg	**Pb**	**12 21 32.8**	**+3.2**
KK31	5.6nm,0.8s,baz=136,slow=27,SNR=6.2			⇓Lg	Lg	12 22 47.3	

KRNET 23 12:20:10.8±0.1, 40°.37N×77°.12E, h15km, mb3.1, 18C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=21	**1.35**	**322**	⇑*i*P	Pb	12 20 36.0	-0.1
NRN	baz=21			⇑*i*S	Sg	12 20 54.4	-0.3
TARG	**Taragay, Kyrgy** baz=21	**1.45**	**21**	⇑*i*P	Pb	12 20 37.8	0.0
TARG	baz=21			⇑*i*S	Sg	12 20 57.4	-0.3
KDJ	**Kajisay** baz=2.0	**1.75**	**2**	⇑*e*P	Pb	12 20 43.2	+0.3
KDJ	baz=2.0			⇑*i*S	Sg	12 21 06.7	-0.7
ULHL	**Ulahol** baz=41	**1.98**	**341**	⇑*i*P	Pb	12 20 46.9	+0.1
ULHL	baz=41			⇑*i*S	Sg	12 21 13.7	-1.0
KZA	**Kyzart** baz=21	**2.21**	**321**	⇑*i*P	Pb	12 20 50.4	-0.3
KZA	baz=21			⇑*i*S	Sb	12 21 18.8	+0.7
BOOM	**Boomskoye usch** baz=38	**2.29**	**338**	⇑*e*P	Pb	12 20 51.4	-0.6
BOOM	baz=38			⇑*i*S	Sb	12 21 20.9	+0.7
PRZ	**Przheval'sk** baz=24	**2.32**	**24**	⇓*i*P	Pb	12 20 51.4	-1.1
PRZ	baz=24			⇓*i*S	Sb	12 21 21.0	0.0
ANVS	**Anan'yevo** baz=10.0	**2.44**	**10**	⇑*i*P	Pb	12 20 53.4	-1.2
ANVS	baz=10.0			⇑*e*S	Sb	12 21 23.8	-0.8
ARLS	**Aral** baz=6.0	**2.58**	**306**	⇑*e*P	Pb	12 20 55.2	-1.7
ARLS	baz=6.0			⇑*i*S	Sb	12 21 27.1	-1.4
ARSB	**Arslanbob** baz=88	**3.28**	**288**	⇑*i*P	Pn	12 21 04.7	+2.9
ARSB	baz=88			⇑*i*S	Sn	12 21 44.2	+3.6

TAP 23 12:42:44.5, 24°.37N×121°.50E, h9km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong** baz=298	**0.12**	**298**	*i* P	Pg	12 42 47.8	+0.3
NNSB	baz=298			*i* S	Sg	12 42 49.8	+0.2
NNS	**Nan Shan** baz=301	**0.14**	**300**	P	Pg	12 42 48.0	+0.3
NNS	baz=301			S	Sg	12 42 50.3	+0.3
NACB	**Ninganchiao** baz=157	**0.21**	**157**	*e*P	Pg	12 42 49.0	0.0
NACB	baz=157			*e*S	Sg	12 42 51.9	0.0
ENTT	**Nioudou** baz=10.0	**0.27**	**12**	*e*P	Pg	12 42 50.9	+0.8
ENTT	baz=10.0			*e*S	Sb	12 42 55.6	-0.8
TWE	**Neicheng** baz=36	**0.38**	**23**	*e*P	Pb	12 42 52.9	-0.5
TWC	**Suao** baz=47	**0.40**	**53**	*e*S	Sg	12 42 57.7	+0.2

TAP 23 12:42:47.3, 24°.82N×121°.95E, h7km±1km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=351	**0.03**	**330**	*e*P	Pg	12 42 49.0	+0.3
EGS	baz=351			*e*S	Sg	12 42 50.1	+0.5
NTC	**Toucheng** baz=287	**0.11**	**287**	P	Pg	12 42 51.0	+1.2
NTC	baz=287			*e*S	Sg	12 42 52.5	+1.0
TIPB	**Shuangxi** baz=323	**0.19**	**324**	*i* P	Pg	12 42 52.3	+1.2
TIPB	baz=323			*i* S	Sg	12 42 55.3	+1.6
TWC	**Suao** baz=200	**0.23**	**203**	*e*P	Pg	12 42 52.8	+0.9
TWC	baz=200			*e*S	Sg	12 42 56.1	+1.1
TWC	**Suao** baz=47	**0.23**	**203**	P	Pg	12 42 52.8	+1.0
TWE	**Neicheng** baz=246	**0.27**	**249**	P	Pb	12 42 53.8	-0.8
TWE	baz=246			S	Sb	12 42 58.2	-1.3
TWE	**Neicheng** baz=36	**0.27**	**249**	S	Sb	12 42 58.1	-1.3
WFSB	**Wu-fen Shan** baz=328	**0.29**	**329**	*e*P	Pb	12 42 54.5	-0.4
WFSB	baz=328			*e*S	Sb	12 42 59.0	-1.0

IDC 23 13:38:28.3±37.0, 28°.86S×172°.39W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/27, mbtmp3.9/3, Error ellipse: s-maj=719.0km s-min=200.4km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.6nm,0.3s,baz=108,slow=9.6,SNR=2.8	**39.59**	**254**	P	P	13 46 01.4	-0.1
ASAR	**Alice Springs** 0.8nm,0.5s,baz=102,slow=6.5,SNR=26	**48.11**	**263**	P	P	13 47 09.9	-0.3
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=109,slow=8.0,SNR=13	**48.98**	**268**	P	P	13 47 16.9	0.0

*ISCJB **23** 14:19:08.8±0.8, 17°.92N±0°.07×146°.0E±0°.3, h100km, mb3.8/3, Error ellipse: s-maj=40.6km s-min=7.4km az=8.8*
*NEIC **23** 14:19:10.4±2.1, 17°.8N±0°.1×146°.0E±0°.2, h113km±11km, Md3.4/2*
*IDC **23** 14:19:11.2±4.4, 17°.78N×146°.01E, h117km±54km, mb3.6/3, mb1 3.6/5, mb1mx3.2/40, mbtmp3.8/5, MS3.4/1, Ms1 3.6/1, ms1mx2.3/33, Error ellipse: s-maj=63.6km s-min=29.9km az=78.0*
ISC 23 14:19:09.9±0.9, 17°.9N±0°.1×146°.1E±0°.3, h100km, n10, σ0§84/12, mb3.8/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.20**	**196**		**Pn**	**14 19 33.4**	**+0.7**
SARN				Sn	**Sn**	**14 19 50.8**	**+0.9**
SARN				DMd			
ANA2	**Anatahan**	**1.56**	**195**		**Pn**	**14 19 35.6**	**-1.4**
ANA2					**Sn**	**14 19 57.1**	**-0.4**
ANA2				DMd			
GUMO	**Guam** 8.4nm,0.3s,baz=16,slow=19,SNR=7.0	**4.42**	**196**	P	**Pn**	**14 20 15.6**	**+0.9**
GUMO	13nm,0.3s,baz=322,slow=19,SNR=7.9			S	**Sn**	**14 21 04.6**	**-0.5**
GUMO	**Guam**	**4.42**	**196**		**Sn**	**14 21 05.0**	**-0.1**
MJAR	**Matsushiro Arr** 0.0nm,0.3s,baz=164,slow=8.7,SNR=3.1	**19.88**	**341**	P	**P**	**14 23 33.7**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,45nm,21.6s,baz=185,slow=33	**44.74**	**278**	LR	LR	14 43 56.7	
ILAR	**Eielson Array** 0.3nm,0.5s,baz=246,slow=5.9,SNR=8.2	**64.21**	**26**	P	**P**	**14 29 33.4**	**-0.5**
ILAR	**Eielson Array**	**64.21**	**26**	P	**P**	**14 29 33.1**	**-0.8**
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=265,slow=6.8,SNR=5.8	**83.33**	**52**	P	**P**	**14 31 27.1**	**+0.8**
FINES	**FINESS Array B** 3.1nm,0.9s,baz=60,slow=6.6,SNR=3.6	**87.81**	**335**	P	**P**	**14 31 47.3**	**-0.4**

*THR **23** 14:22:41.8, 34°.45N×45°.51E, h15km, ML3.7*
*ISCJB **23** 14:22:42.3±1.2, 34°.34N±0°.06×45°.51E±0°.10, h18km, Error ellipse: s-maj=11.5km s-min=8.1km az=1.4*
*TEH **23** 14:22:42.4, 34°.37N×45°.59E, h20km, ML3.7*
ISC 23 14:22:43.7±2.1, 34°.40N±0°.06×45°.6E±0°.1, h18km, n32, σ1§08/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.70**	**64**	*e*Pg	**Pb**	**14 22 56.2**	**-1.4**
IDHR				*e*Sg	**Sb**	**14 23 07.1**	**+0.1**
IDHR				IAMB	IAmb	14 23 09.9	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.79**	**95**	*e*Pg	**Pb**	**14 22 58.5**	**-0.6**
IGHG				IAMB	IAmb	14 22 59.6	
	comp=Z,42μm,0.2s						
KCHF	**Cheshme Sefid,** comp=Z,0.0nm,0.2s	**1.18**	**95**	IAMB	IAmb	14 23 07.0	
KCHF				*e*Pg	**Pn**	**14 23 05.3**	**-0.3**
ILIN	**Lien**	**1.23**	**64**	*e*Sg	**Sg**	**14 23 24.0**	**+0.5**
ILIN				*e*Pg	**Pb**	**14 23 06.3**	**-0.2**
ILIN				IAMB	IAmb	14 23 26.7	
	comp=Z,16μm,0.7s						
KER	**Kermanshah**	**1.25**	**90**	*e*Pg	**Pb**	**14 23 07.0**	**+0.1**
IKOM	**Komasi**	**1.58**	**98**	*e*Pn	**Pb**	**14 23 12.2**	**-0.4**
IKOM				IAMB	IAmb	14 23 14.6	
	comp=Z,0.0nm,0.5s						
IBZA	**Bozab**	**1.85**	**87**	*e*Pn	**Pn**	**14 23 15.9**	**+1.0**
IBZA				IAMB	IAmb	14 23 19.9	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**2.05**	**115**	*e*Pn	**Pn**	**14 23 18.1**	**+0.8**
IKFM				IAMB	IAmb	14 23 23.9	
	comp=Z,0.0nm,0.3s						
IDOB	**Doab**	**2.21**	**105**	*e*Pn	**Pn**	**14 23 20.4**	**+0.7**
IDOB				IAMB	IAmb	14 23 26.8	
	comp=Z,0.0nm,0.3s						
HSRG	**Sareghieh**	**2.35**	**68**	*e*Pn	**Pb**	**14 23 23.3**	**-2.4**
HSRG				IAMB	IAmb	14 24 07.6	
	comp=Z,0.0nm,0.6s						
MAHB	**Mahabad**	**2.37**	**2**	*e*Pn	**Pn**	**14 23 22.6**	**+0.8**
MAHB				IAMB	IAmb	14 23 59.4	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.46**	**110**	*e*Pn	**Pn**	**14 23 23.9**	**+1.0**
IKMR				IAMB	IAmb	14 23 24.4	
	comp=Z,0.0nm,0.3s						
HSAM	**Samen**	**2.48**	**93**	*e*Pn	**Pn**	**14 23 24.2**	**+0.7**
HSAM				IAMB	IAmb	14 23 32.5	
	comp=Z,0.0nm,0.4s						
BDRS	**Dareh Seyedi**	**2.74**	**98**	*e*Pn	**Pn**	**14 23 27.8**	**+0.7**
BDRS				IAMB	IAmb	14 23 34.9	
	comp=Z,0.0nm,0.3s						
HAGD	**Aghdareh**	**2.94**	**81**	*e*Pn	**Pn**	**14 23 31.2**	**+1.5**
HAGD				IAMB	IAmb	14 23 37.9	
	comp=Z,0.0nm,0.6s						
ZNJK	**Zanjan**	**3.38**	**47**	*e*Pn	**Pn**	**14 23 36.9**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.51**	**67**	*e*Pn	**Pn**	**14 23 39.7**	**+2.1**
SHGR	**Shooshtar-Gavs** comp=E,131nm,0.5s	**3.51**	**130**	*e*AML	AML	14 24 46.6	
SHGR	**Shooshtar-Gavs**	**3.51**	**130**	*e*Pn	**Pn**	**14 23 39.3**	**+1.9**
KHMZ	**Khomeyn**	**3.66**	**99**	*e*Pn	**Pn**	**14 23 41.5**	**+1.7**
IRAZ	**Razeghan**	**3.68**	**73**	*e*Pn	**Pn**	**14 23 41.3**	**+1.3**
IRAZ				IAMB	IAmb	14 24 51.0	
	comp=Z,1μm,0.8s						
IGZV	**Ghazvin** comp=Z,378nm,0.6s	**4.25**	**61**	IAMB	IAmb	14 25 15.7	
GRMI	**Germi**	**4.77**	**22**	*e*Pn	**Pn**	**14 23 55.1**	**+0.3**
QAM	**Ghamsar**	**4.87**	**96**	*e*Pn	**Pn**	**14 23 57.3**	**+1.0**
QAM				IAMB	IAmb	14 25 01.4	
	comp=Z,259nm,0.4s						
ZNGN	**Zangian**	**4.94**	**116**	*e*Pn	**Pn**	**14 23 56.7**	**-0.7**
ZNGN				IAMB	IAmb	14 24 19.7	
	comp=Z,0.0nm,0.5s						
IVRN	**Varamin**	**5.07**	**82**	*e*Pn	**Pn**	**14 23 59.4**	**+0.5**
IKLH	**Kolahrood**	**5.08**	**101**	*e*Pn	**Pn**	**14 24 00.2**	**+1.0**
IKLH				IAMB	IAmb	14 24 01.4	
	comp=Z,467nm,0.2s						
IDMV	**Damavand**	**5.40**	**76**	*e*Pn	**Pn**	**14 24 03.7**	**+0.1**
KRSH	**Karshahi**	**5.42**	**93**	*e*Pn	**Pn**	**14 24 04.6**	**+0.8**
IGAR	**Gharneh** comp=Z,530nm,0.3s	**5.73**	**109**	IAMB	IAmb	14 24 09.0	
IGAR				*e*Pn	**Pn**	**14 24 07.7**	**-0.4**
IZEF	**Zefreh** comp=Z,156nm,0.4s	**5.79**	**103**	IAMB	IAmb	14 24 30.9	
IZEF				*e*Pn	**Pn**	**14 24 09.3**	**+0.2**
IRAM	**Ramesheh**	**6.24**	**113**	*e*Pn	**Pn**	**14 24 14.0**	**-1.1**

*ISCJB **23** 14:27:55.5±0.9, 12°.18N±0°.09×87°.28W±0°.07, h35km, Error ellipse: s-maj=14.9km s-min=5.7km az=35.8*
*SNET **23** 14:27:55.3±1.3, 12°.30N×87°.16W, h36km±999km, ML4.2*
*UCR **23** 14:28:00.6±1.1, 12°.36N×86°.98W, h29km±7km, MW3.8*
ISC 23 14:27:55.8±1.6, 12°.19N±0°.08×87°.25W±0°.07, h35km, n14, σ1§21/15, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.55**	**21**	*e*P	**Pn**	**14 28 08.6**	**+1.4**
CNGN	**Cerro Negro**	**0.62**	**60**	*e*P	**Pn**	**14 28 08.2**	**0.0**
COPN	**Copaltepe**	**0.64**	**91**	*e*P	**Pn**	**14 28 06.5**	**-1.9**
MOMN	**Momotombo**	**0.73**	**72**	*e*P	**Pn**	**14 28 07.4**	**-2.2**
CNCH	**Conchagua**	**1.22**	**332**	*e*P	**Pn**	**14 28 16.0**	**-0.5**
CNCH				*e*S	**Sn**	**14 28 31.7**	**-0.2**
CNCH				IAML		14 28 35.6	
	comp=Z,3μm,0.2s						
ESTN	**Estel**	**1.25**	**43**	*e*P	**Pn**	**14 28 18.0**	**+1.2**
MATN	**Matagalpa**	**1.49**	**60**	*e*P	**Pn**	**14 28 21.2**	**+1.1**
VSM	**San Miguel**	**1.59**	**321**	*e*P	**Pn**	**14 28 21.8**	**+0.1**
LCY	**Lacayo**	**1.60**	**320**	*e*P	**Pn**	**14 28 21.4**	**-0.2**
PACA	**Pacayal**	**1.65**	**321**	*e*P	**Pn**	**14 28 22.1**	**-0.3**
PACA				*e*S	**Sn**	**14 28 41.6**	**-0.8**
PACA				IAML		14 28 45.4	
	comp=Z,4μm,0.2s						
TECA	**Tecapa**	**1.78**	**317**	*e*P	**Pn**	**14 28 24.6**	**+0.4**
GB1A	**Borinquen Arri**	**2.27**	**127**	*e*P	**Pn**	**14 28 31.6**	**+0.7**
CUI	**Cuipilapa**	**2.55**	**126**	*e*P	**Pn**	**14 28 36.4**	**+1.7**
JTS	**Las Juntas de**	**2.94**	**130**	*e*P	Pn	14 28 44.9	+4.9

NEIC 23 16:01:29.4±1.5, 37°78N±0°04×121°93W±0°04, h10km±5km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRHM	Round Hill Res	0.09	328		Pg	16 01 31.9	0.0
CDOM	Doolan Road	0.09	124		Pg	16 01 32.0	+0.1
CMOB	Morgan Territo	0.11	74		Pg	16 01 32.1	0.0
BGC	Bolinger Road	0.11	289		Pg	16 01 31.8	-0.4
CLCB	Lake Chabot	0.11	247		Pg	16 01 31.9	-0.3
CRPB	Russellman Par	0.13	9		Pg	16 01 32.2	-0.3
SMCB	Saint Mary's C	0.15	292		Pg	16 01 32.6	-0.2
CVLM	Vallecito	0.17	154		Pg	16 01 33.8	+0.6
CNIC	Niles Canyon	0.17	188		Pg	16 01 33.2	+0.1
CNIC					Sg	16 01 36.8	+1.0
BDM	Black Diamond	0.18	17		Pg	16 01 33.6	+0.3
CMCM	Mills College	0.19	270		Pg	16 01 33.4	-0.1
WENL	Wente Vineyard	0.21	139		Pg	16 01 34.6	+0.8
BRIB	Briones	0.22	308		Pg	16 01 34.4	+0.4
CBSNC	Byron Hot Spri	0.23	81		Pg	16 01 35.1	+1.0
CVPM	Vollmer Peak	0.25	294		Pg	16 01 34.9	+0.4
CYD1	Coyote D'meter	0.25	211		Pg	16 01 34.5	-0.1
BKS	Berkeley--Byer	0.26	292		Pg	16 01 34.9	+0.3
BKS					Sb	16 01 39.5	-1.2
CMJM	Mission San Jo	0.27	170		Pg	16 01 35.2	+0.4
VAK	Adit at Lawren	0.27	291		Pg	16 01 35.1	+0.2
VAK					Sb	16 01 40.0	-1.1
BL67	Building 67, L	0.27	290		Pg	16 01 35.0	0.0
BL67					Sg	16 01 39.8	+1.1
BL88	Building 88, L	0.27	291		Pg	16 01 35.2	+0.2
BRK	Berkeley--Havi	0.28	290		Pg	16 01 35.1	+0.1
BRK					Sg	16 01 39.9	+1.2
CPIM	Pinole Ridge	0.30	313		Pb	16 01 36.3	-0.7
CYBM	Yerba Buena Is	0.34	275		Pg	16 01 36.2	+0.1
CALM	Calaveras Res.	0.35	162		Pg	16 01 36.8	+0.5
CSPM	San Pablo Ridg	0.35	300		Pg	16 01 36.9	+0.5
RFSB	Richmond Field	0.35	293		Pg	16 01 36.4	+0.1
HERB	Hercules	0.35	312		Pg	16 01 36.7	+0.4
JCPM	Coyote Point	0.36	238		Pg	16 01 36.8	+0.2
CMLM	Mount Lewis	0.38	144		Pg	16 01 37.5	+0.6
NLHM	Lake Herman	0.38	333		Pg	16 01 37.1	+0.2
JSBM	San Bruno Moun	0.38	255		Pg	16 01 36.7	-0.2
HMR	Hamilton Ranch	0.39	16		Pb	16 01 38.3	-0.1
CPMM	Point Molate	0.41	294		Pg	16 01 37.6	+0.1
JSFB	Stanford Teles	0.42	207		Pg	16 01 38.0	+0.3
JPRM	Presidio of Sa	0.43	272		Pg	16 01 37.9	+0.1
SAC	San Andreas	0.43	243		Pg	16 01 37.9	0.0
SAC					Sg	16 01 44.7	+1.1
JCHM	Cahill Ridge	0.44	233		Pg	16 01 38.1	0.0
JHPM	Huddart Park	0.45	221		Pg	16 01 38.5	+0.3
JRSC	Jasper Ridge	0.45	213		Pg	16 01 38.2	0.0
JMGM	Milagra Ridge	0.45	252		Pg	16 01 38.1	-0.2
JFP	Foothills Park	0.47	206		Pg	16 01 38.8	+0.2
CMMM	Mount Mocho	0.48	133		Pb	16 01 39.4	-0.6
OXMT	Ox Mountain	0.48	234		Pg	16 01 38.7	-0.1
JRM	Joaquin Road	0.49	206		Pg	16 01 39.2	+0.3
JBMM	Black Mountain	0.49	201		Pg	16 01 39.3	+0.2
MHC	Mount Hamilton	0.50	152		Pg	16 01 39.7	+0.6
JSGM	Saratoga Golf	0.51	191		Pb	16 01 39.9	-0.5
ARN	Arnold Ranch	0.54	144		Pg	16 01 40.3	+0.4
BGH	Bear Gulch	0.55	216		Pg	16 01 40.3	+0.3
JPC	Peters Creek,	0.56	204		Pg	16 01 40.5	+0.3
CCOB	Coe Ranch Numb	0.56	158		Pb	16 01 41.9	+0.6
JJOM	Saint Joseph's	0.57	184		Pg	16 01 40.8	+0.2
JHUM	Huhtala Lane,	0.60	199		Pg	16 01 41.5	+0.5
JUMM	Mount Umunhum	0.62	177		Pg	16 01 41.8	+0.3
JLAB	Laurel Hill	0.65	166		Pb	16 01 42.5	-0.3
CADM	Anderson Res.	0.66	158		Pb	16 01 43.1	+0.1
JPSM		0.67	210		Pg	16 01 42.6	+0.2
JBNB	Ben Lomond Mou	0.68	195		Pg	16 01 42.5	0.0
CVS	Carmenet Viney	0.70	324		Pg	16 01 42.9	-0.1
NAPC	Atlas Peak	0.70	339		Pg	16 01 42.8	-0.3
NOLM	Olema	0.73	291		Pg	16 01 43.3	-0.2
MCCM	Marconi Confer	0.83	296		Pg	16 01 45.1	-0.3
CDC	Canada Road	0.83	155		Pb	16 01 46.0	0.0
NTYM	Taylor	0.84	317		Pg	16 01 45.3	-0.2
CSR	Chase Ranch	0.87	161		Pg	16 01 46.2	0.0
NPRM	Point Reyes	0.88	284		Pg	16 01 46.0	-0.5
HPCM	Pacheco Lake	0.89	144		Pg	16 01 46.6	0.0
HFEM	San Felipe	0.90	152		Pg	16 01 46.4	-0.4
SLD	San Luis Dam	0.91	141		Pg	16 01 46.9	+0.1
NBPM	Berryessa Peak	0.91	347		Pg	16 01 46.5	-0.5
NSHM	Saint Helena R	0.91	324		Pg	16 01 46.5	-0.4
HCOM	Corn Cob Canyo	0.91	169		Pb	16 01 47.3	0.0
AASM	Arroyo Seco	0.92	45		Pg	16 01 46.1	-1.0
PACP	Pacheco Peak	0.93	146		Pg	16 01 47.3	0.0
ANZ	Anzar Road	0.94	163		Pn	16 01 48.3	-0.4
SFJWR	San Luis Fatjo	0.95	140		Pg	16 01 47.7	0.0
MNHB	New Hogan Dam	0.96	67		Pg	16 01 46.5	-1.3
HTUM	Tustin Road	0.98	166		Pg	16 01 48.1	-0.1
MCUB	Copperopolis B	1.06	79		Pg	16 01 48.1	-1.6
FRP	Fremont Peak	1.08	161		Pg	16 01 48.8	-1.5
SAO	San Andreas Ge	1.09	159		Pg	16 01 49.6	-0.7
NMTM	Middletown	1.10	339		Pg	16 01 50.0	-0.5
MOBB	Monterey Bay O	1.10	190		Pb	16 01 50.3	-0.2
BVYM	Vineyard	1.11	158		Pg	16 01 49.7	-1.0
NMCNC	Mill Creek, So	1.12	317		Pb	16 01 49.5	-1.3
GAXM	Alexander Vall	1.13	325		Pb	16 01 50.6	-0.5
MNRC	McLaughlin Min	1.17	340		Pb	16 01 51.3	-0.4
BCGM	Cienega Road	1.17	156		Pn	16 01 52.9	+1.0
FTR	Fort Ross	1.22	308		Pn	16 01 50.7	-1.9
CMB	Columbia Colle	1.25	78		Pn	16 01 51.8	-1.2
MYLM	Yosemite Lake	1.27	108		Pn	16 01 51.5	-1.7
BEHM	Elkhorn Ranch	1.27	151		Pg	16 01 55.0	+1.2
GHCM	House Creek	1.29	310		Pn	16 01 51.9	-1.7
BAVM	Antelope Valle	1.34	147		Pn	16 01 52.9	-1.4
AFDM	Forest Hills D	1.39	33		Pn	16 01 53.4	-1.5
AFDM				Sn	Sb	16 02 11.3	-2.0
BBGB	Big Mountain B	1.40	149		Pg	16 01 56.8	+0.5
HAST	Hastings Reser	1.42	168		Pn	16 01 54.2	-1.2
BMSM	Mercy Hot Spri	1.44	141		Pn	16 01 54.9	-0.8
GSNM	Snow Mountain	1.52	320		Pg	16 01 58.4	-0.2
OHCM	Honcut	1.59	13		Pn	16 01 55.9	-1.8
BAPM	Anderson Peak	1.62	172		Pn	16 01 57.4	-0.8
MHDM	Hidden Dam	1.75	112		Pn	16 01 58.9	-0.9
MMIM	Miami Mountain	1.77	101		Pn	16 01 59.8	-0.5
ORV	Oroville	1.80	11		Pn	16 02 00.1	-0.5
PMPB	Monarch Peak	1.81	150		Pn	16 02 00.0	-0.7
EMB	Emerald Bay	1.87	50		Pn	16 02 02.6	+0.9
WAKR	Walker	2.10	69		Pb	16 02 06.5	-1.2
KCC	Kaiser Creek	2.13	102		Pn	16 02 05.1	0.0
BFC	Buffalo Canyon	2.14	58		Pn	16 02 06.8	+1.4
PNTR	Pine Nut	2.25	54		Pb	16 02 09.8	-0.5
MINS	Minaret Summit	2.28	92		Pn	16 02 08.3	+0.8
OMMB	Old Mammoth Mi	2.33	93		Pn	16 02 08.5	+0.4
BEKR	Beckworth	2.42	30		Pn	16 02 07.2	-2.0
MCMM	Convict Lake	2.43	93		Pb	16 02 11.7	-1.7
YERR	Yerington	2.43	60		Pn	16 02 07.4	-2.0
PAGB	Antelope Grade	2.45	146		Pn	16 02 06.2	-3.4
MCVM	Convict Lake	2.47	93		Pn	16 02 11.8	+1.7
RCCR	Rock Creek Can	2.56	96		Pn	16 02 12.6	+1.2
SCHCA	Scheelite	2.61	98		Pn	16 02 13.3	+1.4
HCK	Huntoon Valley	2.66	83		Pb	16 02 15.8	-1.3
PAHR	Pah Rah Range	2.77	45		Pn	16 02 12.3	-1.7
RYN	Ryan	2.82	71		Pn	16 02 13.9	-0.8
NVAR	Mina Array Bea	2.94	76		Pg	16 02 24.9	-0.8
NV11	Mina Array Sit	3.05	77		Pg	16 02 26.0	-1.9
KVN	Kaiserville	3.27	66		Pb	16 02 28.8	+1.1
ISA	Isabella, Lake	3.49	126	Pn	Pn	16 02 23.2	-0.6
KBO	Bosley Butte	4.76	339	Pn	Pn	16 02 41.5	+0.1
SNCC	San Nicolas Is	4.93	156	Pn	Pn	16 02 39.7	-3.9

*ISCJB **23** 16:03:21.1±1.1, 36°24N±0°06×142°21E±0°10, h35km, mb3.4/4, MS3.6/2, Error ellipse: s-maj=11.8km s-min=7.3km az=27.1*
*JMA **23** 16:03:21.6±0.2, 36°25N×142°11E, h64km, M3.2*
*IDC **23** 16:03:25.0±2.5, 36°21N×141°39E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/44, mbtmp3.5/6, ML3.0/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=61.9km s-min=23.8km az=62.0*

ISC 23 16:03:22.0±1.5, 36°22N±0°06×142°3E±0°1, h35km, n31, σ1°83/25, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.27	246	P	Pn	16 03 42.0	-1.3
CHOJ				eS	Sn	16 03 57.5	-1.6
JHYU	Hitachinakayam	1.38	275	P	Pn	16 03 43.1	-1.6
JHO	Hitachi	1.44	286	P	Pn	16 03 43.5	-2.1
JIHU	Itakohorinouch	1.45	260	P	Pn	16 03 44.7	-1.0
JIHU				eS	Sn	16 04 02.4	-1.1
ONAJ	Iwakimizuishiy	1.49	307	P	Pn	16 03 44.5	-1.8
JFK	Kawauchi	1.61	316	P	Pn	16 03 47.0	-1.0
BSO1	Boso 1	1.90	215	P	Pn	16 03 51.5	+0.1
JFT	Otama	2.03	310	P	Pn	16 03 53.0	-0.7
JMM	Marumori	2.03	324	P	Pn	16 03 52.8	-0.9
JAG	Ashikaga	2.30	276	P	Pn	16 03 55.7	-1.7
JFY	Yanaizu	2.39	300	P	Pn	16 03 58.4	-0.2
JRY	Ryogami san	2.75	267	P	Pn	16 04 02.3	-1.3
JOD2	Odawara 2	2.78	251	P	Pn	16 04 03.0	-1.0
JYN	Shimob	3.13	258	P	Pn	16 04 08.6	-0.3
MJAR	Matsushiro Arr	3.31	277	Pn	Pn	16 04 09.2	-2.0
	0.7nm,0.3s,baz=96,slow=9.9,SNR=90						
MAT	Matsushiro	3.31	277	P	Pn	16 04 11.1	-0.2
MAT				eS	Sn	16 04 48.6	-0.9
JHJ	Hachijo jima 2	3.72	214	Pn	Pn	16 04 16.9	0.0
	16nm,0.3s,baz=316,slow=20,SNR=12						
JHJ				Sn	Sn	16 04 56.3	-3.3
	27nm,0.3s,baz=53,slow=20,SNR=9.3						
ASAJ	Asahikawa	7.89	2	Pn	Pn	16 05 14.9	+0.8
	0.2nm,0.3s,baz=102,slow=19,SNR=1.8						
ASAJ				Sn	Sn	16 06 37.8	-4.3
	0.1nm,0.3s,baz=216,slow=19,SNR=2.3						
ASAJ				LR	LR	16 09 02.3	
	comp=Z,69nm,19.6s,baz=149,slow=42						
KSRS	Korea Array	11.58	280	LR	LR	16 10 30.7	
	comp=Z,26nm,19.0s,baz=215,slow=39						
H11N2	WAKE ISLAND Hy 27.13	121		T	T	16 37 36.3	
	baz=312,slow=75,SNR=5.2						
H11N1	WAKE ISLAND Hy 27.14	121		T	T	16 37 38.0	
	baz=312,slow=75,SNR=3.9						
H11N3	WAKE ISLAND Hy 27.15	121		T	T	16 37 33.7	
	baz=312,slow=75,SNR=4.8						
H11S1	WAKE ISLAND Hy 27.83	123		T	T	16 38 32.0	
	baz=301,slow=74,SNR=4.3						
H11S3	WAKE ISLAND Hy 27.83	123		T	T	16 38 32.1	
	baz=301,slow=74,SNR=4.3						
H11S2	WAKE ISLAND Hy 27.84	123		T	T	16 38 32.7	
	baz=301						
SONM	Songino Array	28.82	305	P	P	16 09 19.0	+2.1
	0.4nm,0.4s,baz=116,slow=9.4,SNR=3.1						
MKAR	Makanchi Array	45.15	303	P	P	16 11 38.2	+3.1
	0.4nm,0.6s,baz=81,slow=9.4,SNR=5.7						
WRA	Warramunga Arr	56.37	189	P	P	16 13 07.3	+7.6
	0.2nm,0.4s,baz=1.6,slow=7.4,SNR=8.1						
ASAR	Alice Springs	60.09	189	P	P	16 13 33.6	+7.9
	0.2nm,0.7s,baz=21,slow=12,SNR=3.2						
SPITS	Spitsbergen Arr	61.45	349	LR	LR	16 41 00.4	
	comp=Z,41nm,18.5s,baz=205,slow=37						
KVAR	Kislovodsk Arr	71.96	312	LR	LR	16 46 37.0	
	comp=Z,33nm,18.5s,baz=59,slow=36						

*ISCJB **23** 16:07:03.0±0.2, 36°27N±0°02×29°48E±0°02, h68km±4km, Error ellipse: s-maj=3.1km s-min=2.3km az=23.1*
*ISK **23** 16:07:03.3, 36°36N×29°45E, h52km±1km, ML3.9/23*
*DDA **23** 16:07:04.0, 36°39N×29°42E, h41km, MW3.8*
*HLW **23** 16:07:04.5, 36°11N×29°43E, h12km±13km, Md4.0, Ml4.1*
*NIC **23** 16:07:04.7±0.0, 36°32N×29°50E, h50km±1km, Ml3.7/4*
*GII **23** 16:07:07.2±0.3, 36°05N×29°73E, h40km, MD3.0/5*
*THE **23** 16:07:07.0, 36°36N×29°35E, h20km±1km, ML3.5/5, Error ellipse: s-maj=2.1km s-min=1.0km az=84.0*

ISC 23 16:07:03.7±1.1, 36°25N±0°03×29°48E±0°02, h52km±6km, n162, σ1°81/216, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.10	99	i PA	Pn	16 07 12.2	+0.3
AKAS				i S	Sn	16 07 18.1	+0.3
AKAS				IAML		16 07 19.0	
	comp=E,5μm,0.3s						
AKAS				IAML		16 07 20.0	
	comp=N,8μm,0.5s						
AKAS	Kas	0.10	99	PG	Pn	16 07 12.2	+0.3
AKAS				SG	Sn	16 07 18.7	+0.9
KSL	Kastellorizon	0.13	140	P	Pn	16 07 12.6	+0.8
KSL				S	Sn	16 07 19.5	+1.9
	comp=N,10μm,0.4s						
KSL	Kastellorizon	0.13	140	⇓P	Pn	16 07 12.7	+0.9
KSL				S	Sn	16 07 19.6	+1.9
FETY	Fethiye	0.50	320	P	Pn	16 07 13.8	-1.4
FETY				S	Sn	16 07 20.8	-2.5
FETY	Fethiye	0.50	320	i P	Pn	16 07 13.8	-1.4
FETY				i S	Sn	16 07 20.5	-2.9
FETY				IAML		16 07 21.0	
	comp=E,4μm,1.1s						
FETY				IAML		16 07 22.0	
	comp=N,2μm,0.5s						
FETY	Fethiye	0.50	320	PG	Pn	16 07 13.7	-1.4
FETY				SG	Sn	16 07 21.3	-2.0
ELL	Elmali	0.60	34	PG	Pn	16 07 15.9	-0.6
ELL				SG	Sn	16 07 24.8	-0.9
ELL	Elmali	0.60	34	P	Pn	16 07 16.2	-0.3
ELL				S	Sn	16 07 25.9	+0.2
AKUM	Antalya-Kumluc	0.70	84	i P	Pn	16 07 18.8	+1.3
AKUM				i S	Sn	16 07 30.3	+2.8
AKUM				IAML		16 07 32.0	
	comp=E,4μm,0.3s						
AKUM				IAML		16 07 33.0	
	comp=N,4μm,0.3s						
DALY	Dalyan (Mula)	0.88	311	i PA	Pn	16 07 19.2	-0.6
DALY				i S	Sn	16 07 29.4	-2.1
DALY				IAML		16 07 31.0	
	comp=E,3μm,0.4s						
DALY				IAML		16 07 32.0	
	comp=N,5μm,0.3s						
DALY	Dalyan (Mula)	0.88	311	PG	Pn	16 07 19.0	-0.8
DALY				SG	Sn	16 07 30.0	-1.6
KEMT	Kemer-ANTALYA	0.94	67	PG	Pn	16 07 21.3	+0.7
TURN	Turunc	0.94	312	i P	Pn	16 07 23.6	+3.0
TURN				i S	Sn	16 07 38.3	+5.2
TURN				IAML		16 07 39.0	
	comp=N,2μm,0.8s						
TURN				IAML		16 07 40.0	
	comp=E,2μm,0.2s						
TURN	Turunc	0.94	312	PG	Pn	16 07 22.9	+2.2
TURN				SG	Sn	16 07 36.8	+3.6
GOLH	Golhisar	0.99	4	i P	Pn	16 07 21.0	-0.4
GOLH				i S	Sn	16 07 34.0	-0.5
GOLH				IAML		16 07 36.0	
	comp=N,3μm,0.9s						
GOLH				IAML		16 07 36.0	
	comp=E,432nm,0.5s						
KORT	Korkueli	1.02	43	i PA	Pn	16 07 23.1	+1.1
KORT				i S	Sn	16 07 36.4	+1.1
KORT				IAML		16 07 38.0	
	comp=N,2μm,0.6s						
KORT				IAML		16 07 40.0	
	comp=E,1μm,0.6s						
KORT	Korkueli	1.02	43	PG	Pn	16 07 22.4	+0.5
MRSB	Marmaris-Mugla	1.14	295	PG	Pn	16 07 23.3	0.0
YER	Yerkesik	1.31	313	P	Pn	16 07 26.3	+0.6
YER				S	Sn	16 07 43.0	+0.9
YER	Yerkesik	1.31	313	PN	Pn	16 07 25.6	-0.1
YER				SN	Sn	16 07 41.1	-1.0
BCK	Bucak	1.50	36	PN	Pn	16 07 28.3	0.0
BRDR	BURDUR-Merkez	1.52	18	i PA	Pn	16 07 29.0	+0.4
BRDR				i S	Sn	16 07 47.7	+0.5
BRDR				IAML		16 07 50.0	
	comp=E,1μm,0.8s						
BRDR				IAML		16 07 50.0	
	comp=N,645nm,0.6s						
DENT	Denizli	1.54	347	PN	Pn	16 07 28.0	-0.9
DAT	Datca	1.61	288	i P	Pn	16 07 31.0	+1.3
DAT				i S	Sn	16 07 50.8	+1.4
DAT				IAML		16 07 56.0	
	comp=E,569nm,0.5s						
DAT	Datca	1.61	288	PN	Pn	16 07 30.2	+0.4
MNVG	Manavgat-Antal	1.65	70	PN	Pn	16 07 31.1	+0.9
MLSB	Milas	1.72	308	PN	Pn	16 07 31.5	+0.2
ISP	Isparta	1.78	28	P	Pn	16 07 32.8	+0.7
ISP				S	Sn	16 07 56.6	+3.0
ISP	Isparta	1.78	28	Pn	Pn	16 07 32.4	+0.3
ISP				Sn	Sn	16 07 56.6	+3.0
ISP	Isparta	1.78	28	PN	Pn	16 07 31.7	-0.4
KEPZ	Antalya-Kepez	1.83	68	i PA	Pn	16 07 35.5	+2.8
KEPZ				IAML		16 08 05.0	
	comp=N,198nm,0.7s						
KEPZ				IAML		16 08 07.0	
	comp=E,245nm,0.8s						
BDRM	Kayabasi	1.83	297	i P	Pn	16 07 34.1	+1.4
AYDN	Tasoluk	1.91	318	i P	Pn	16 07 35.4	+1.5
BODT	Bodrum	1.93	296	P	Pn	16 07 34.6	+0.6
BODT				S	Sn	16 07 56.8	-0.3
BODT	Bodrum	1.93	296	PN	Pn	16 07 34.2	+0.2
YKAV	Yalikavak-Bodr	1.97	297	PN	Pn	16 07 34.5	-0.2
KARP	Karpathos	2.01	250	P	Pn	16 07 37.1	+1.9
KARP				S	Sn	16 08 00.8	+1.6
	comp=E,505nm,0.2s						
KARP	Karpathos	2.01	250	PN	Pn	16 07 36.6	+1.4
KARP	Karpathos	2.01	250	⇑P	Pn	16 07 37.0	+1.8
KARP				S	Sn	16 08 02.5	+3.3
KARP				AML	AML	16 08 17.5	
	comp=E,0.9nm,0.4s						
KARP				AML	AML	16 08 17.5	
	comp=E,0.9nm,0.4s						
KARP				AML	AML	16 08 25.5	
	comp=E,0.9nm,0.8s						
KARP				AML	AML	16 08 25.5	
	comp=E,0.9nm,0.8s						
BAGO	Egridir - ISPA	2.03	31	i P	Pn	16 07 37.4	+1.9
KHL	Karahalli	2.07	1	PN	Pn	16 07 35.6	-0.5
ALAN	Alanya-ANTALYA	2.08	81	PN	Pn	16 07 37.6	+1.5
KHAL	Karahalli	2.12	0	i P	Pn	16 07 35.9	-0.9
AYDB	Zeytinkoy-Aydi	2.12	324	PN	Pn	16 07 35.9	-0.9
DIDI	Didim-Aydin	2.12	303	PN	Pn	16 07 36.7	0.0
GAZI	Gazipasa	2.29	90	i P	Pn	16 07 40.3	+1.3
GAZI	Gazipasa	2.29	90	PN	Pn	16 07 40.1	+1.1
GCAM	G?zelcaml?	2.31	309	i PA	Pn	16 07 39.1	-0.2
GCAM	G?zelcaml?	2.31	309	PN	Pn	16 07 39.1	-0.2
KULA	Kula-Manisa	2.35	344	PN	Pn	16 07 38.5	-1.5
MANT	Manisa	2.36	342	i P	Pn	16 07 38.9	-1.2
SHUT	Suhut-Afyon	2.45	20	PN	Pn	16 07 41.1	-0.2
USAK	Uak-Merkez	2.49	352	i P	Pn	16 07 40.8	-1.0
DOGA	KONYA_Doganhis	2.55	43	i P	Pn	16 07 44.1	+1.4
SMG	Samos	2.57	305	P	Pn	16 07 44.9	+2.1
SMG				S	Sn	16 08 14.6	+1.7
	comp=E,1μm,0.5s						
AKMS	Akamas	2.63	117	P	Pn	16 07 45.3	+1.7
AKMS				AML	AML	16 08 16.4	
	comp=E,2.1nm,0.3s						
AKMS				AML	AML	16 08 16.4	
	comp=E,1.9nm,0.4s						
BOLV	Bolvadin	2.73	25	i P	Pn	16 07 45.4	+0.3
DGB	zmir	2.75	312	i PA	Pn	16 07 44.6	-0.6
ALFC	Alefka	2.76	112	⇑P	Pn	16 07 46.8	+1.3
ALFC				AML	AML	16 08 22.6	
	comp=E,0.9nm,0.2s						
ALFC				AML	AML	16 08 22.8	
	comp=E,1.3nm,0.3s						
KMER	Konya-Meram	2.76	56	i P	Pn	16 07 48.3	+2.7
SHAP	Saphane-Kutahy	2.78	356	PN	Pn	16 07 44.8	-1.0
GEDZ	Gediz	2.79	359	PN	Pn	16 07 45.5	-0.4
ERMK	Ermenek	2.79	81	i P	Pn	16 07 50.4	+4.3
GDZ	Gediz	2.83	360	i P	Pn	16 07 45.7	-0.9
DEMI	Demirci	2.85	348	i P	Pn	16 07 45.5	-1.3
KONT	Konya--Tatoy	2.86	53	i P	Pn	16 07 48.8	+2.0
KONT	Konya--Tatoy	2.86	53	PN	Pn	16 07 47.5	+0.7
SIMA	Simav-Kutahya	2.86	352	PN	Pn	16 07 45.5	-1.4
ZKR	Zakros	2.89	248	P	Pn	16 07 49.4	+2.2
ZKR	Zakros	2.89	248	PN	Pn	16 07 48.7	+1.5
ZKR	Zakros	2.89	248	⇑P	Pn	16 07 49.4	+2.2
ZKR				AML	AML	16 08 24.0	
	comp=E,0.4nm,0.7s						
ZKR				AML	AML	16 08 24.0	
	comp=E,0.4nm,0.7s						
ZKR				S	Sn	16 08 24.4	+3.7
ZKR				AML	AML	16 08 26.8	
	comp=E,0.4nm,0.6s						
ZKR				AML	AML	16 08 26.8	
	comp=E,0.4nm,0.6s						
NATA	Nata	2.92	119	P	Pn	16 07 49.3	+1.7
NATA				S	Sn	16 08 24.6	+3.2
TEKE	Tekeli-Mersin	2.94	91	PN	Pn	16 07 49.5	+1.6
AKHS	Akhisar	2.94	334	i PA	Pn	16 07 46.4	-1.5
AKS	Akhisar	2.94	334	PN	Pn	16 07 46.7	-1.2
STIA	Sitia Lasithi	2.95	250	P	Pn	16 07 50.6	+2.6
STIA				S	Sn	16 08 23.9	+1.7
AKDN	Akdeniz- Kıbrı	2.99	107	PN	Pn	16 07 50.6	+2.0
LEF	Lefka	3.00	111	i P	Pn	16 07 49.8	+1.2
LEF	Lefka	3.00	111	PN	Pn	16 07 49.8	+1.2
ANAF	Anafi Island	3.00	273	P	Pn	16 07 49.6	+0.9
ANAF				S	Sn	16 08 23.2	-0.2
	comp=E,425nm,0.3s						
LADK	Ladik-KONYA	3.02	49	PN	Pn	16 07 49.7	+0.7
KDHN	Kadinhani	3.09	42	i PA	Pn	16 07 50.0	0.0
ZEY	zmir	3.10	311	i P	Pn	16 07 49.0	-1.1
URLA	Izmir	3.12

MMLI Sn **Sn** **16 09 40.1 -2.4**
SHMJ Saham 6.26 122 P **Pn** **16 08 35.4 +1.9**
comp=E,135nm,0.7s,comp=E,0.5nmcomp=E,0.8nm
HMDT Nahal Hemdat 6.40 127 Pn **Pn** **16 08 34.9 -0.4**
HMDT Sn **Sn** **16 09 44.3 -2.7**
AMAZ Amatzia 6.52 135 Pn **Pn** **16 08 37.4 +0.3**
AMAZ Sn **Sn** **16 09 48.2 -1.9**
KOT Kottamia 6.60 162 P **Pn** **16 08 40.2 +1.9**
baz=161
HHAG Hagoal 6.65 160 P **Pn** **16 08 40.7 +1.9**
baz=159
HHAG S **Sn** **16 09 47.5 -5.8**
baz=159
KZIT Kziot 6.72 141 Pn **Pn** **16 08 41.0 +1.2**
KZIT Sn **Sn** **16 09 52.4 -2.6**
KZIT Kziot 6.72 141 P **Pn** **16 08 41.3 +1.5**
comp=E,33nm,0.8s,comp=E,0.2nm
YTIR Yattir 6.76 134 Pn **Pn** **16 08 40.9 +0.5**
YTIR Sn **Sn** **16 09 53.8 -2.3**
DSI Dead Sea 6.77 132 Pn **Pn** **16 08 40.0 -0.4**
DSI Sn **Sn** **16 09 53.5 -2.6**
MZDA Masada 6.94 134 Pn **Pn** **16 08 42.1 -0.7**
MZDA Sn **Sn** **16 09 58.3 -2.1**
SUZ Suez 6.98 155 P **Pn** **16 08 45.1 +1.7**
baz=154
LISJ El Lisan 7.06 133 P **Pn** **16 08 46.5 +2.1**
comp=E,11nm,0.5s,comp=E,0.1nmcomp=E,0.1nm
ASF Jabal al Asfar 7.37 121 P **Pn** **16 08 50.3 +1.6**
PRNI Paran 7.48 140 Pn **Pn** **16 08 50.1 -0.1**
HRFI Mount Harif 7.75 141 Pn **Pn** **16 08 54.6 +0.7**
HRFI Sn **Sn** **16 10 18.0 -2.3**
NBNS Bani Suef 7.76 168 P **Pn** **16 08 55.4 +1.4**
baz=167
NBNS S **Sn** **16 10 17.0 -3.4**
baz=167
SWA2 7.76 207 P **Pn** **16 08 55.8 +1.8**
baz=208
SWA2 AMP 16 10 00.0
baz=208
SWA2 S **Sn** **16 10 16.8 -3.8**
baz=208
MBRI Mt Berech 7.89 143 Pn **Pn** **16 08 56.0 +0.2**
MBRI Sn **Sn** **16 10 21.5 -2.2**
EIL Elat 8.01 143 Pn **Pn** **16 08 58.1 +0.7**
GRB Gharib 8.43 160 P **Pn** **16 09 04.5 +1.2**
baz=159
HFRF Wahat Farafira 9.13 187 P **Pn** **16 09 13.7 +1.0**
baz=187
HFRF AMP 16 10 00.0
baz=187
HFRF S **Sn** **16 10 48.0 -6.1**
baz=187

NIED ***23*** *16:26:00, 42°.30N×142°.50E, h50km, Mw4.3 Best double couple: M₀3.40000×10¹⁵ NP1:φ₁₁170.00000°, δ65.00000°, λ169.00000°. NP2:φ₁₂265.00000°, δ80.00000°, λ25.00000°.*
ISCJB ***23*** *16:26:40.3±0.2, 42°.30N±0°.02×142°.46E±0°.03, h54km±2km, mb4.3/48, MS3.3/12, Error ellipse: s-maj=4.1km s-min=2.7km az=146.6*
JMA ***23*** *16:26:40.9±0.2, 42°.32N×142°.51E, h45km±2km, M4.4*
JMA Felt II J1.
MOS ***23*** *16:26:40.8±1.1, 42°.33N×142°.47E, h59km, mb4.5/5, Error ellipse: s-maj=7.4km s-min=5.1km az=73.2*
BJI ***23*** *16:26:40.1±0.0, 42°.41N×142°.58E, h54km, mb4.2/26, mB4.9/21, Ms4.2/6, Ms7 4.1/5*
SKHL ***23*** *16:26:41.4±1.0, 42°.22N×142°.46E, h66km±5km, mb5.6/4*
IDC ***23*** *16:26:42.0±1.5, 42°.37N×142°.49E, h55km±12km, mb3.9/29, mb1 4.1/36, mb1mx3.9/64, mbtmp4.2/36, MS3.2/15, Ms1 3.3/15, ms1mx3.0/49, Error ellipse: s-maj=14.1km s-min=8.7km az=120.0*
NEIC ***23*** *16:26:41.7±2.9, 42°.26N±0°.06×142°.7E±0°.1, h52km±6km, mb4.6/68*
ISC 23 16:26:41.5±0.6, **42°.29N**±0°.03×**142°.51E**±0°.03, **h49**km±5km, **n243**, σ1**s56**/258, **mb4.5**/70, **MS3.3**/13, **15C-13D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.13**	**345**	⇑P	**Pn**	**16 26 47.7**	**-1.5**
JSHD				*e*S	**Sn**	**16 26 53.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**0.18**	**92**	⇓P	**Pn**	**16 26 48.4**	**-1.1**
JNBK				*e*S	**Sn**	**16 26 54.6**	**-0.6**
JBT2	**Biratori 2**	**0.50**	**348**	⇑P	**Pn**	**16 26 51.0**	**-1.7**
JIAM	**Iburiatsuma**	**0.55**	**308**	⇑P	**Pn**	**16 26 52.7**	**-0.5**
JEM	**Erimo**	**0.55**	**119**	P	**Pn**	**16 26 53.2**	**0.0**
ERM	**Erimo**	**0.55**	**119**	*c i*PN	**Pn**	**16 26 53.8**	**+0.5**
ERM	**Erimo**	**0.55**	**119**		**Pn**	**16 26 53.7**	**+0.5**
JTHR	**Tokachihiroo**	**0.58**	**89**	⇓P	**Pn**	**16 26 53.5**	**-0.1**
JTHR				*e*S	**Sn**	**16 27 03.5**	**+1.1**
JCH	**Churui**	**0.71**	**62**	⇓P	**Pn**	**16 26 55.0**	**-0.3**
JCH				*e*S	**Sn**	**16 27 06.1**	**+0.8**
JFR	**Furan**	**0.88**	**4**	⇓P	**Pn**	**16 26 56.2**	**-1.3**
JEW	**Eniwo**	**0.96**	**306**	⇑P	**Pn**	**16 26 57.6**	**-1.0**
JNB	**Noboribetsu**	**1.11**	**280**	⇑P	**Pn**	**16 26 58.5**	**-2.1**
JNB				*e*S	**Sn**	**16 27 12.1**	**-2.6**
JOB	**Onbets**	**1.16**	**57**	⇓P	**Pn**	**16 27 01.6**	**+0.4**
JOB				*e*S	**Sn**	**16 27 17.1**	**+1.2**
JKB	**Kayabe**	**1.17**	**251**	⇓P	**Pn**	**16 27 00.1**	**-1.3**
JKB				*e*S	**Sn**	**16 27 14.7**	**-1.6**
JAB	**Ashibetsu**	**1.23**	**350**	⇓P	**Pn**	**16 27 01.5**	**-0.8**
JISS	**Ishikarishitsu**	**1.27**	**321**	⇑P	**Pn**	**16 27 01.9**	**-0.9**
JISS				*e*S	**Sn**	**16 27 17.9**	**-0.9**
JAR	**Ashorobuto**	**1.37**	**42**	⇓P	**Pn**	**16 27 03.6**	**-0.6**
JKA	**Kamikawa-asahi**	**1.83**	**2**		**Pn**	**16 27 10.2**	**-0.2**
JKA					**Sn**	**16 27 31.6**	**-0.8**
ASAJ	**Asahikawa**	**1.83**	**2**	P	**Pn**	**16 27 10.2**	**-0.2**
	59nm,0.3s,baz=209,slow=15,SNR=518						
ASAJ				S	**Sn**	**16 27 31.6**	**-0.8**
	81nm,0.3s,baz=126,slow=19,SNR=9.2						
ASAJ				LR	LR	16 28 10.3	
	comp=Z,776nm,19.9s,baz=194,slow=50						
NMR	**Nemuro--Hokkai**	**2.60**	**64**	*c i*PN	**Pn**	**16 27 20.4**	**-0.6**
NMR				*i* S	**Sn**	**16 27 50.1**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.60**	**64**	*i* P	**Pn**	**16 27 20.0**	**-1.0**
GLVR	**Golovnino**	**2.64**	**56**	*c i*PN	**Pn**	**16 27 22.4**	**+0.9**
GLVR				*i* S	**Sn**	**16 27 53.7**	**+1.4**
GLVR				pmax	pmax		
	comp=N,320nm,0.1s						
GLVR				pmax	pmax		
	comp=E,146nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.1s						
GLVR				smax	smax		
	comp=N,4μm,0.4s						
GLVR				smax	smax		
	comp=E,2μm,0.4s						
GLVR	**Golovnino**	**2.64**	**56**	*i* P	**Pn**	**16 27 22.0**	**+0.5**
GLVR				AMB	AMB	16 27 23.0	
	comp=E,2μm,0.4s						
GLVR				*i* S	**Sn**	**16 27 53.0**	**+0.7**
GLVR				A	A	16 27 54.0	
	comp=E,4μm,0.4s						
GLVR				A	A	16 27 54.0	
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**2.93**	**53**	⇑*i*PN	**Pn**	**16 27 26.6**	**+1.1**
GRPR				*i* S	**Sn**	**16 28 00.5**	**+1.0**
GRPR				pmax	pmax		
	comp=Z,756nm,0.3s						
GRPR				pmax	pmax		
	comp=N,227nm,0.1s						
GRPR				pmax	pmax		
	comp=E,713nm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
GRPR	**Tuman**	**2.93**	**53**	*i* P	**Pn**	**16 27 26.0**	**+0.5**
GRPR				AMB	AMB	16 27 28.0	
	comp=E,756nm,0.4s						
GRPR				*i* S	**Sn**	**16 28 00.0**	**+0.5**
GRPR				A	A	16 28 02.0	
	comp=E,2μm,0.4s						
GRPR				A	A	16 28 02.0	
	comp=E,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.01**	**53**	⇓*i*PN	**Pn**	**16 27 28.2**	**+1.6**
YUK				*i* S	**Sn**	**16 28 02.9**	**+1.5**
YUK				pmax	pmax		
	comp=E,214nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,318nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,4μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.01**	**53**	*i* P	**Pn**	**16 27 28.0**	**+1.4**
YUK				AMB	AMB	16 27 29.0	
	comp=E,1μm,0.4s						
YUK				*i* S	**Sn**	**16 28 02.0**	**+0.6**
YUK				A	A	16 28 04.0	
	comp=E,2μm,0.4s						
YUK				A	A	16 28 04.0	
	comp=E,4μm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.67**	**2**	*e*PN	**Pn**	**16 27 50.7**	**+1.4**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,700nm,13.0s						
YSS	**Yuzh-Sakhalins**	**4.67**	**2**	*e*P	**Pn**	**16 27 50.7**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.67**	**2**		**Pn**	**16 27 49.9**	**+0.5**
KUR	**Kuril'sk**	**4.87**	**51**	⇓*i*PN	**Pn**	**16 27 55.8**	**+3.7**
KUR				*i* S	**Sn**	**16 28 51.6**	**+4.5**
KUR				pmax	pmax		
	comp=Z,165nm,0.3s						
KUR				pmax	pmax		
	comp=N,64nm,0.2s						
KUR				pmax	pmax		
	comp=E,95nm,0.2s						
KUR				smax	smax		
	comp=N,211nm,0.2s						
KUR				smax	smax		
	comp=E,51nm,0.2s						
KUR	**Kuril'sk**	**4.87**	**51**	*i* P	**Pn**	**16 27 55.0**	**+2.9**
KUR				AMB	AMB	16 27 57.0	
	comp=E,165nm,0.3s						
KUR				*i* S	**Sn**	**16 28 50.0**	**+2.9**
KUR				A	A	16 28 55.0	
	comp=E,211nm,0.3s						
KUR				A	A	16 28 55.0	
	comp=E,510nm,0.3s						
TEY	**Ternei**	**5.09**	**305**	⇑*e*PN	**Pn**	**16 27 53.6**	**-1.5**
TEY				pmax	pmax		
	comp=N,20nm,0.7s						
TEY				pmax	pmax		
	comp=E,30nm,0.7s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
TEY	**Ternei**	**5.09**	**305**	*e*P	**Pn**	**16 27 55.0**	**-0.1**
MJB9	**Matsu-Tunnel**	**6.63**	**212**		**Pn**	**16 28 18.0**	**+1.6**
MJB9				Sn	**Sn**	**16 29 27.9**	**-2.7**
MAJO	**Matsushiro**	**6.63**	**212**	*d i*PN	**Pn**	**16 28 17.8**	**+1.4**
MAJO	**Matsushiro**	**6.63**	**212**		**Pn**	**16 28 17.6**	**+1.3**
MAT	**Matsushiro**	**6.63**	**212**	P	**Pn**	**16 28 17.8**	**+1.4**
MAT				*e*S	**Sn**	**16 29 32.1**	**+1.5**
MJAR	**Matsushiro Arr**	**6.63**	**212**	P	**Pn**	**16 28 18.0**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=27,slow=17,SNR=186						
MJAR				LR	LR	16 31 21.4	
	comp=Z,157nm,18.9s,baz=70,slow=42						
MJAR	**Matsushiro Arr**	**6.63**	**212**		**Pn**	**16 28 17.5**	**+1.1**
USA0B	**Ussuriysk Arra**	**7.92**	**288**	PN	**Pn**	**16 28 35.8**	**+1.9**
USA0B	**Ussuriysk Arra**	**7.92**	**288**		**Pn**	**16 28 35.8**	**+1.9**
USRK	**Ussuriysk Ar.**	**7.92**	**288**	PN	**Pn**	**16 28 35.4**	**+1.5**
USRK	**Ussuriysk Ar.**	**7.92**	**288**	P	**Pn**	**16 28 33.2**	**-0.7**
	baz=86,slow=15,SNR=8.8						
USRK				LR	LR	16 31 41.6	
	comp=Z,120nm,18.9s,baz=68,slow=38						
USRK	**Ussuriysk Ar.**	**7.92**	**288**		**Pn**	**16 28 35.4**	**+1.5**
INU	**Inuyama**	**8.15**	**214**		**Pn**	**16 28 38.5**	**+1.4**
INU				Sn	**Sn**	**16 30 05.9**	**-1.8**
MSHR	**Mys Shultsa**	**8.40**	**276**	*i* PN	**Pn**	**16 28 41.2**	**+0.6**
TYV	**Tymovskoe**	**8.58**	**1**	*e*PN	Pn	16 28 48.6	+5.7
TYV				pmax	pmax		
	comp=Z,17nm,1.4s						
TYV	**Tymovskoe**	**8.58**	**1**	*e*P	**Pn**	**16 28 45.6**	**+2.7**
TYV				AMB	AMB	16 28 49.5	
	comp=Z,17nm,1.4s						
TYV				*e*S	**Sn**	**16 30 18.3**	**+0.1**
TYV				A	A	16 30 19.1	
	comp=Z,23nm,1.7s						
JHJ	**Hachijo jima 2**	**9.40**	**194**	P	**Pn**	**16 28 51.3**	**-3.0**
	comp=Z,69nm,0.3s,baz=293,slow=15,SNR=27						
JHJ				S	**Sn**	**16 30 30.6**	**-8.1**
	comp=Z,29nm,0.3s,baz=72,slow=19,SNR=5.8						
JHJ2	**Mitsune**	**9.40**	**194**	Pn	**Pn**	**16 28 52.3**	**-2.0**
KLR	**Kul'dur**	**10.23**	**316**	⇑*i*PN	**Pn**	**16 29 07.5**	**+2.0**
KLR	**Kul'dur**	**10.23**	**316**	P	**Pn**	**16 29 06.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=119,slow=16,SNR=7.2						
KLR	**Kul'dur**	**10.23**	**316**	*e*P	**Pn**	**16 29 07.5**	**+2.0**
KSRS	**Korea Array**	**12.20**	**252**	P	**Pn**	**16 29 35.1**	**+2.7**
	comp=Z,1.9nm,0.3s,baz=62,slow=14,SNR=55						
KSRS				S	**Sn**	**16 31 51.4**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=66,slow=22,SNR=2.2						
KS19	**Wonju Array Si**	**12.22**	**252**		Pn	16 29 37.2	+4.5
KSAR	**Wonju Array Be**	**12.23**	**252**	PN	Pn	16 29 37.4	+4.5
KSAR						16 31 53.5	
KSAR	**Wonju Array Be**	**12.23**	**252**		Pn	16 29 37.4	+4.5
KSAR					**Sn**	**16 31 53.5**	**+5.7**
SKR	**Severo-Kuril's**	**12.57**	**43**	*e*PN	**Pn**	**16 29 39.0**	**+1.6**
SKR				pmax	pmax		
	comp=Z,400nm,5.5s						
SKR	**Severo-Kuril's**	**12.57**	**43**	*e*P	**Pn**	**16 29 37.5**	**+0.1**
JNU	**Nakatsue**	**12.97**	**229**	P	**Pn**	**16 29 42.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=353,slow=9.4,SNR=6.1						
TJN	**Taejon**	**13.12**	**248**	*i* PN	**Pn**	**16 29 48.4**	**+3.4**
PEA0B	**Petropavlovsk-**	**14.86**	**38**	P	**Pn**	**16 30 07.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**14.86**	**38**	Pn	**Pn**	**16 30 07.3**	**-1.0**
PETK	**Petropavlovsk-**	**14.86**	**38**	P	**Pn**	**16 30 07.4**	**-0.9**
PETK	**Petropavlovsk-**	**14.86**	**38**	P	**Pn**	**16 30 06.1**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=216,slow=7.8,SNR=19						
PETK	**Petropavlovsk-**	**14.86**	**38**		**Pn**	**16 30 07.4**	**-0.9**
JCJ	**Chichijima**	**15.16**	**181**	P	**Pn**	**16 30 06.6**	**-5.8**
	comp=Z,11nm,0.3s,baz=285,slow=22,SNR=4.6						
JCJ				LR	LR	16 38 37.2	
	comp=Z,21nm,20.0s,baz=25,slow=47						
PET	**Petropavlovsk**	**15.25**	**40**	*e*P	**Pn**	**16 30 12.7**	**-0.6**
PET	**Petropavlovsk**	**15.25**	**40**	*e*P	**Pn**	**16 30 12.0**	**-1.3**
ZEA	**Zeya**	**15.31**	**324**	*e*P	P	16 30 26.4	+8.3
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,14.0s						
MA2	**Magadan**	**18.05**	**14**	⇓*e*P	**P**	**16 30 49.6**	**+1.2**
MA2	**Magadan**	**18.05**	**14**	P	**Pn**	**16 30 46.6**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=208,slow=12,SNR=8.1						
MA2				LR	LR	16 38 36.4	
	comp=Z,37nm,18.3s,baz=195,slow=40						
MA2	**Magadan**	**18.05**	**14**	IAmb	IAmb	16 30 53.0	
	comp=Z,16nm,0.8s						
JOW	**Kunigami**	**19.33**	**222**	P	Pn	16 31 11.8	+7.8
YAK	**Yakutsk**	**21.20**	**343**	*e*P	**P**	**16 31 21.6**	**-1.1**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YAK	**Yakutsk**	**21.20**	**343**	P	**P**	**16 31 20.3**	**-2.4**
	comp=Z,3.2nm,0.4s,baz=200,slow=15,SNR=3.1						
YAK				LR	LR	16 39 46.3	
	comp=Z,91nm,19.4s,baz=160,slow=37						
NJ2	**Nanjing**	**21.38**	**249**	*e*P	**P**	**16 31 26.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
SEY	**Seymchan**	**21.48**	**12**	P	**P**	**16 31 23.7**	**-1.9**
	comp=Z,5.0nm,0.5s,baz=197,slow=7.7,SNR=21						
HHC	**Hu-ho-hao-te**	**23.14**	**277**	*e*P	**P**	**16 31 48.1**	**+4.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YOJ	**Yonaguni jima**	**24.01**	**228**	P	**P**	**16 31 51.7**	**0.0**
YOJ	**Yonaguni jima**	**24.01**	**228**	P	**P**	**16 31 51.7**	**0.0**
ULN	**Ulaanbaatar**	**25.50**	**295**	⇓*e*P	**P**	**16 32 06.8**	**+1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YULB	**Yu-li**	**25.82**	**230**	P	**P**	**16 32 08.2**	**+0.1**
SONM	**Songino Array**	**25.94**	**295**	P	**P**	**16 32 09.5**	**+0.3**
SONM	**Songino Array**	**25.94**	**295**	P	**P**	**16 32 07.7**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=88,slow=8.0,SNR=6.5						
SONM				LR	LR	16 43 36.7	
	comp=Z,83nm,19.3s,baz=92,slow=39						
SONM	**Songino Array**	**25.94**	**295**	P	**P**	**16 32 09.5**	**+0.3**
TPUB	**Ta-pu**	**26.27**	**231**	P	**P**	**16 32 12.7**	**+0.4**
TPUB				IAmb	IAmb	16 32 14.5	
	comp=Z,34nm,1.3s						
XAN	**Xi'an**	**27.53**	**264**	P	**P**	**16 32 24.8**	**+1.3**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,100nm,4.3s						
TLY	**Talaya**	**27.84**	**303**	LR	LR	16 43 56.8	
	comp=Z,52nm,20.4s,baz=88,slow=37						
GUMO	**Guam**	**28.67**	**175**	LR	LR	16 43 39.5	
	comp=Z,46nm,20.5s,baz=192,slow=35						
BILL	**Bilibino**	**28.77**	**18**	*i* P	**P**	**16 32 36.1**	**+2.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**28.77**	**18**	*e*P	**P**	**16 32 36.1**	**+2.0**
BILL	**Bilibino**	**28.77**	**18**	P	**P**	**16 32 32.6**	**-1.5**
TIXI	**Tiksi**	**30.20**	**351**	P	**P**	**16 32 45.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=93,slow=4.4,SNR=2.6						
TIXI				LR	LR	16 46 51.7	
	comp=Z,55nm,19.0s,baz=191,slow=40						
TIXI	**Tiksi**	**30.20**	**351**	IAmb	IAmb	16 32 50.9	
	comp=Z,1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**30.50**	**130**	T	T	17 04 29.6	
	baz=324,slow=75,SNR=301						
H11N1	**WAKE ISLAND Hy**	**30.51**	**130**	T	T	17 04 22.5	
	baz=324,slow=75,SNR=360						
H11N3	**WAKE ISLAND Hy**	**30.52**	**130**	T	T	17 04 29.9	
	baz=324,slow=75,SNR=262						
H11S1	**WAKE ISLAND Hy**	**31.37**	**132**	T	T	17 05 37.5	
	baz=326,slow=76,SNR=726						
H11S3	**WAKE ISLAND Hy**	**31.38**	**132**	T	T	17 05 33.4	
	baz=326,slow=76,SNR=474						
H11S2	**WAKE ISLAND Hy**	**31.39**	**132**	T	T	17 05 38.2	
	baz=326,slow=76,SNR=527						
GTA	**Gaotai**	**32.18**	**279**	P	**P**	**16 33 09.0**	**+4.3**
GTA				pP	sP	16 33 21.1	-1.9
GTA				sP	pP	16 33 26.3	+9.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,55nm,5.9s						
GTA				LR	LR		
	comp=Z,85nm,15.1s						
GTA				LR	LR		
	comp=Z,120nm,15.1s						
GTA				LR	LR		
	comp=Z,87nm,16.8s						
CD2	**Chengdu**	**32.86**	**263**	P	**P**	**16 33 10.1**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DGZ	**Jazzator, Alta**	**38.22**	**301**	⇑*e*P	**P**	**16 33 56.5**	**-0.1**
NRIK	**Noril'sk**	**38.93**	**332**	LR	LR	16 50 41.4	
	comp=Z,110nm,19.1s,baz=58,slow=37						
ZAA0	**Zalesovo Array**	**39.18**	**308**	P	**P**	**16 34 04.8**	**+0.4**
ZALV	**Zalesovo Beam**	**39.18**	**308**	P	**P**	**16 34 04.6**	**+0.2**
ZALV						16 36 14.1	
ZALV	**Zalesovo Beam**	**39.18**	**308**	P	**P**	**16 34 03.9**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=86,slow=8.1,SNR=7.5						
ZALV				PcP	**PcP**	**16 36 14.1**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=101,slow=4.6,SNR=3.1						
ZALV				LR	LR	16 49 37.9	
	comp=Z,68nm,18.1s,baz=92,slow=35						
ZALV	**Zalesovo Beam**	**39.18**	**308**	P	**P**	**16 34 04.6**	**+0.2**
IMAR	**Indian Mountai**	**41.75**	**33**	P	**P**	**16 34 25.6**	**+0.1**
IMAR				PcP	**PcP**	**16 36 22.4**	**+1.5**
MK31	**Makanchi Array**	**42.24**	**297**	P	**P**	**16 34 29.2**	**-0.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**42.24**	**297**	P	**P**	**16 34 29.2**	**-0.6**
MKAR	**Makanchi Array**	**42.24**	**297**	P	**P**	**16 34 29.1**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=83,slow=11,SNR=11						
MKAR				PcP	**PcP**	**16 36 22.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=46,slow=2.1,SNR=3.4						
MKAR	**Makanchi Array**	**42.24**	**297**	P	**P**	**16 34 29.4**	**-0.4**
PPLA	**Purkeypile**	**42.44**	**38**	P	**P**	**16 34 31.6**	**+0.3**
PPLA				IAmb	IAmb	16 34 32.5	
	comp=Z,14nm,1.2s						
CAST	**Castle Rocks**	**42.47**	**37**	PcP	**PcP**	**16 36 22.1**	**-1.3**
KDAK	**Kodiak Island**	**42.72**	**46**	P	**P**	**16 34 34.1**	**+0.7**
KDAK				pmax	pmax		
	comp=Z,40nm,1.5s						
KDAK	**Kodiak Island**	**42.72**	**46**	P	**P**	**16 34 32.3**	**-1.1**
	comp=Z,4.5nm,0.8s,baz=322,slow=3.8,SNR=8.5						
KDAK	**Kodiak Island**	**42.72**	**46**	P	**P**	**16 34 34.1**	**+0.7**
BPAW	**Bear Paw Mtn.**	**42.93**	**36**	P	**P**	**16 34 36.2**	**+1.1**
KTH	**Kantishna Hill**	**42.98**	**37**	P	**P**	**16 34 36.7**	**+1.1**
KTH				IAmb	IAmb	16 34 38.0	
	comp=Z,10nm,0.8s						
MLY	**Manley**	**43.00**	**35**	P	**P**	**16 34 37.9**	**+2.2**
CNPM	**China Poot**	**43.19**	**43**	P	**P**	**16 34 38.6**	**+1.3**
TOLK	**Toolik Lake Re**	**43.45**	**30**	P	**P**	**16 34 39.8**	**+0.5**
TOLK				IAmb	IAmb	16 34 44.5	
	comp=Z,4.7nm,0.6s						
KURK	**Kurchatov**	**43.52**	**304**	P	**P**	**16 34 39.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KURK	**Kurchatov**	**43.52**	**304**	*e*P	**P**	**16 34 39.4**	**-0.5**
KURK	**Kurchatov**	**43.52**	**304**	P	**P**	**16 34 39.5**	**-0.5**
KURK				IAmb	IAmb	16 34 39.9	
	comp=Z,7.8nm,0.6s						
NEA	**Nenana**	**43.73**	**35**	P	**P**	**16 34 41.5**	**0.0**
NEA				IAmb	IAmb	16 34 43.0	
	comp=Z,9.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.84**	**251**	P	**P**	**16 34 42.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=37,slow=6.8,SNR=4.6						
CMAR				LR	LR	16 55 30.7	
	comp=Z,9.8nm,18.4s,baz=155,slow=39						
MCK	**McKinley**	**43.86**	**37**	P	**P**	**16 34 43.4**	**+0.9**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MCK	**McKinley**	**43.86**	**37**	P	**P**	**16 34 43.4**	**+0.9**
MCK				IAmb	IAmb	16 34 43.9	
	comp=Z,7.3nm,0.8s						
RND	**Reindeer**	**43.92**	**37**	P	**P**	**16 34 43.6**	**+0.5**
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RND	**Reindeer**	**43.92**	**37**	P	**P**	**16 34 43.6**	**+0.5**
GHO	**Glory Hole Cre**	**44.05**	**40**	P	**P**	**16 34 44.8**	**+0.6**
GHO				IAmb	IAmb	16 34 45.9	
	comp=Z,8.5nm,0.7s						
WRH	**Wood River Hil**	**44.17**	**36**	P	**P**	**16 34 45.9**	**+0.9**
WRH				PcP	**PcP**	**16 36 29.9**	**+0.9**
COLA	**College**	**44.24**	**35**	*ce*P	**P**	**16 34 46.0**	**+0.5**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	**College**	**44.24**	**35**	P	**P**	**16 34 46.0**	**+0.5**
COLA				IAmb

EGAK	**Eagle**	**47.09**	**35**	P	**P**	**16 35 08.1 +0.1**
EGAK				IAmb	IAmb	16 35 12.7
comp=Z,5.6nm,0.8s						
TGL	**Tana Glacier**	**47.13**	**40**	P	**P**	**16 35 05.6 -2.9**
BCAR	**Beaver Creek A**	**47.13**	**37**	P	**P**	**16 35 09.7 +1.2**
JIRN	**Jiri**	**47.58**	**271**	*e*P	**P**	**16 35 12.9 +0.1**
comp=Z,9.2nm,0.3s						
RAMN	**Ramite**	**47.67**	**270**	*e*P	**P**	**16 35 13.1 -0.2**
comp=Z,9.9nm,0.5s						
GUN	**Gumba**	**47.67**	**271**	*e*P	**P**	**16 35 13.5 0.0**
comp=Z,24nm,0.3s						
CTGM	**Chitina Glacie**	**47.79**	**40**	P	**P**	**16 35 14.8 +1.0**
BRVK	**Borovoye**	**47.84**	**309**	P	**P**	**16 35 14.4 +0.3**
BRVK						16 36 42.4
BRVK				pmax	pmax	
comp=Z,6.0nm,0.5s						
BRVK	**Borovoye**	**47.84**	**309**	*e*P	**P**	**16 35 14.0 0.0**
BRVK	**Borovoye**	**47.84**	**309**	P	**P**	**16 35 14.4 +0.3**
BRVK				IAmb	IAmb	16 35 14.6
comp=Z,6.1nm,0.5s						
BRVK				PcP	**PcP**	**16 36 42.4 +0.3**
KKN	**Kakani**	**48.19**	**272**	*e*P	**P**	**16 35 17.7 +0.4**
comp=Z,7.2nm,0.5s						
PKI	**Pulchoki**	**48.21**	**271**	*e*P	**P**	**16 35 17.3 -0.3**
comp=Z,7.5nm,0.5s						
PKIN	**Phulchoki**	**48.22**	**271**	*e*P	**P**	**16 35 17.3 -0.3**
comp=Z,4.6nm,0.4s						
DMN	**Daman**	**48.41**	**272**	*e*P	**P**	**16 35 19.4 +0.3**
comp=Z,5.6nm,0.4s						
GKN	**Gorkha**	**48.55**	**272**	*e*P	**P**	**16 35 20.1 +0.1**
comp=Z,7.6nm,0.2s						
EPYK	**Eagle Plains**	**48.59**	**32**	P	**P**	**16 35 20.8 +1.1**
EPYK				IAmb	IAmb	16 35 24.5
comp=Z,5.8nm,0.6s						
AAK	**Ala-Archa**	**48.90**	**295**	P	**P**	**16 35 20.5 -2.0**
AAK				pmax	pmax	
comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**48.90**	**295**	*e*P	**P**	**16 35 21.8 -0.8**
AAK	**Ala-Archa**	**48.90**	**295**	P	**P**	**16 35 20.5 -2.0**
DANN	**Dangsing**	**49.01**	**273**	*e*P	**P**	**16 35 24.4 +0.7**
comp=Z,44nm,0.5s						
KSH	**Kashi**	**49.20**	**290**	P	**P**	**16 35 29.5 +4.6**
KSH				PcP	**PcP**	**16 36 50.4 +3.0**
KSH				ScP	**ScP**	**16 40 40.1 +1.6**
KSH				S	**S**	**16 42 32.0 +4.9**
KSH				sS	sS	16 42 58.1 +8.8
KSH				ScS	**ScS**	**16 45 12.8 +0.1**
KSH				LR	LR	
comp=Z,310nm,9.7s						
KSH				LR	LR	
comp=Z,580nm,11.2s						
KSH				LR	LR	
comp=Z,200nm,9.5s						
INK	**Inuvik**	**49.36**	**29**	P	**P**	**16 35 25.4 0.0**
INK				pmax	pmax	
comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**49.36**	**29**	P	**P**	**16 35 25.5 0.0**
comp=Z,3.5nm,0.4s,baz=304,slow=6.1,SNR=32						
INK	**Inuvik**	**49.36**	**29**	P	**P**	**16 35 25.4 0.0**
INK				IAmb	IAmb	16 35 26.5
comp=Z,3.5nm,0.6s						
KOLN	**Koldanda**	**49.44**	**273**	*e*P	**P**	**16 35 26.5 -0.4**
comp=Z,5.9nm,0.3s						
ARSB	**Arslanbob**	**50.47**	**294**	IAmb	IAmb	16 35 49.0
comp=Z,5.4nm,0.8s						
KKAR	**Karatay Array**	**51.36**	**297**	P	**P**	**16 35 40.1 -0.9**
KKAR	**Karatay Array**	**51.36**	**297**	P	**P**	**16 35 40.1 -0.9**
KULM	**Kulim**	**52.29**	**237**	P	**P**	**16 35 48.5 +0.3**
ARU	**Arti**	**53.07**	**316**	P	**P**	**16 35 52.5 -0.9**
comp=Z,0.9nm,0.5s,baz=133,slow=4.4,SNR=5.3						
ARU	**Arti**	**53.07**	**316**	IAmb	IAmb	16 35 53.9
comp=Z,3.0nm,0.8s						
GAR	**Garm**	**53.35**	**292**	P	**P**	**16 35 55.1 -0.8**
GAR				IAmb	IAmb	16 36 08.6
comp=Z,3.3nm,0.6s						
CHGR	**Chuyangaron**	**54.30**	**293**	P	**P**	**16 36 02.6 -0.3**
MOBC	**Moresby Island**	**55.25**	**47**	P	**P**	**16 36 08.1 -1.3**
MOBC				PcP	**PcP**	**16 37 07.8 -2.0**
ABKAR	**Akbulak array**	**55.30**	**308**	P	**P**	**16 36 09.7 0.0**
ABKAR				IAmb	IAmb	16 36 11.1
comp=Z,2.7nm,0.6s						
ABKAR	**Akbulak array**	**55.30**	**308**	P	**P**	**16 36 09.8 +0.1**
SPITS	**Spitsbergen Ar**	**55.55**	**348**	P	**P**	**16 36 11.0 -0.2**
comp=Z,56nm,1.3s,baz=49,slow=14,SNR=3.7						
MTN	**Manton Dam**	**55.85**	**193**	P	**P**	**16 36 14.2 +0.2**
MTN				IAmb	IAmb	16 36 24.0
comp=Z,11nm,0.9s						
AKTO	**Aktyubinsk**	**55.88**	**310**	P	**P**	**16 36 13.8 -0.2**
comp=Z,2.2nm,0.7s,baz=48,slow=8.6,SNR=6.8						
COEN	**Coen**	**55.97**	**179**	P	**P**	**16 36 15.1 +0.2**
COEN				IAmb	IAmb	16 36 16.4
comp=Z,4.5nm,1.0s						
KIRV	**Kirov**	**56.63**	**321**	P	**P**	**16 36 18.3 -0.8**
comp=Z,3.9nm,0.4s,baz=18,slow=3.2,SNR=3.3						
GSI	**Gunungsitoli**	**57.30**	**237**	P	**P**	**16 36 23.0 -1.4**
RES	**Resolute Bay**	**57.31**	**15**	P	**P**	**16 36 23.4 -0.3**
RES						16 37 16.7
RES				pmax	pmax	
comp=Z,6.0nm,0.7s						
RES	**Resolute Bay**	**57.31**	**15**	P	**P**	**16 36 22.9 -0.8**
comp=Z,4.9nm,0.5s,baz=309,slow=6.0,SNR=19						
RES	**Resolute Bay**	**57.31**	**15**	P	**P**	**16 36 23.4 -0.3**
RES				IAmb	IAmb	16 36 27.2
comp=Z,5.7nm,0.7s						
RES				PcP	**PcP**	**16 37 16.6 -0.7**
YKA	**Yellowknife Ar**	**58.87**	**32**	P	**P**	**16 36 35.0 +0.2**
comp=Z,1.5nm,0.7s,baz=304,slow=6.8,SNR=3.1						
KNRA	**Kununurra**	**59.05**	**195**		**P**	**16 36 36.8 +0.3**
ARCES	**ARCESS Array B**	**59.40**	**339**	P	**P**	**16 36 36.1 -2.3**
comp=Z,4.3nm,0.8s,baz=40,slow=10.0,SNR=3.3						
TULEG	**Thule**	**59.79**	**8**	P	**P**	**16 36 39.7 -1.2**
TULEG				IAmb	IAmb	16 36 47.6
comp=Z,4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**62.07**	**198**	P	**P**	**16 36 56.2 -0.8**
GEYT	**Alibeck**	**62.12**	**297**	P	**P**	**16 36 55.6 -1.8**
comp=Z,1.1nm,0.5s,baz=29,slow=3.4,SNR=4.1						
GEYT	**Alibeck**	**62.12**	**297**	IAmb	IAmb	16 37 00.4
comp=Z,1.4nm,0.6s						
WB0	**Warramunga Arr**	**62.20**	**189**	P	**P**	**16 36 58.1 +0.2**
WRAB	**Tennant Creek**	**62.37**	**189**	P	**P**	**16 36 59.2 +0.2**
WRAB				pmax	pmax	
comp=Z,7.0nm,1.2s						
WRAB	**Tennant Creek**	**62.37**	**189**	P	**P**	**16 36 59.2 +0.2**
WRAB				IAmb	IAmb	16 37 18.3
comp=Z,6.8nm,1.2s						
WR0	**Warramunga Arr**	**62.37**	**188**	P	**P**	**16 36 59.0 -0.1**
WR0				IAmb	IAmb	16 37 00.1
comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**62.37**	**189**	P	**P**	**16 36 59.0 -0.1**
WB2				IAmb	IAmb	16 36 59.1
comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**62.38**	**189**	P	**P**	**16 36 58.7 -0.4**
comp=Z,1.9nm,0.6s,baz=6.3,slow=6.8,SNR=40						
WRA	**Warramunga Arr**	**62.38**	**189**	P	**P**	**16 36 58.8 -0.2**
FIA1	**FINESS Array S**	**64.58**	**332**	P	**P**	**16 37 11.8 -1.4**
FINES	**FINESS Array B**	**64.58**	**332**	P	**P**	**16 37 12.2 -1.0**
comp=Z,4.0nm,0.5s,baz=52,slow=7.6,SNR=29						
FINES				LR	LR	17 10 21.1
comp=Z,146nm,20.9s,baz=326,slow=41						
FINES	**FINESS Array B**	**64.58**	**332**	PcP	**PcP**	**16 37 45.5 -1.4**
SUMG	**Summit**	**65.44**	**0**	P	**P**	**16 37 19.5 +0.4**
SUMG				pmax	pmax	
comp=Z,16nm,1.5s						
SUMG	**Summit**	**65.44**	**0**	*i* P	**P**	**16 37 19.0 -0.1**
comp=Z,11nm,0.6s						
SUMG	**Summit**	**65.44**	**0**	P	**P**	**16 37 19.5 +0.4**
SUMG				IAmb	IAmb	16 37 26.3
comp=Z,16nm,1.5s						
VSR	**Storozhevoye**	**65.58**	**318⇑**	*e*P	**P**	**16 37 17.7 -2.1**
VSR				pmax	pmax	
comp=Z,4.0nm,0.9s						
AS31	**Alice Springs**	**66.10**	**189**	P	**P**	**16 37 23.9 +0.5**
ASAR	**Alice Springs**	**66.10**	**189**	P	**P**	**16 37 23.9 +0.4**
comp=Z,1.2nm,0.7s,baz=6.3,slow=7.4,SNR=22						
EIDS	**Eidsvold**	**67.78**	**172**	P	**P**	**16 37 32.7 -1.3**
KBZ	**Khabaz**	**68.17**	**310**	P	**P**	**16 37 37.3 +0.9**
comp=Z,1.0nm,0.5s,baz=45,slow=9.1,SNR=4.7						
FFC	**Flin Flon**	**68.86**	**34**	P	**P**	**16 37 41.4 +0.8**
HFS	**Hagfors**	**69.66**	**335**	P	**P**	**16 37 45.0 -0.4**
comp=Z,3.3nm,0.4s,baz=55,slow=6.2,SNR=20						
NB2	**NORSAR Subarra**	**69.68**	**337**	P	**P**	**16 37 44.8 -0.8**
comp=Z,1.0nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.68**	**337**	P	**P**	**16 37 44.8 -0.8**
comp=Z,1.4nm,0.6s,baz=35,slow=6.2,SNR=6.4						
AKASG	**Malin Array Be**	**70.68**	**322**	P	**P**	**16 37 51.0 -0.8**
comp=Z,0.8nm,0.4s,baz=45,slow=5.9,SNR=5.1						
NVAR	**Mina Array Bea**	**71.22**	**55**	P	**P**	**16 37 55.0 -0.7**
comp=Z,0.2nm,0.4s,baz=297,slow=6.9,SNR=2.5						
PDAR	**Pinedale Array**	**73.42**	**47**	P	**P**	**16 38 07.7 -1.0**
comp=Z,0.5nm,0.6s,baz=238,slow=2.2,SNR=5.2						
CLL	**Collm**	**76.97**	**330**	*e*pP	pP	16 38 45.0 +2.3
EKA	**Eskdalemuir Ar**	**78.46**	**341**	P	**P**	**16 38 37.0 +0.1**
EKA	**Eskdalemuir Ar**	**78.46**	**341**	P	**P**	**16 38 37.0 +0.1**
comp=Z,0.5nm,0.5s,baz=28,slow=4.8,SNR=3.4						
TXAR	**Lajitas Array**	**86.27**	**53**	P	**P**	**16 39 19.2 +1.0**
comp=Z,0.5nm,0.5s,baz=296,slow=3.9,SNR=5.4						
SNAA	**Sanae**	**146.00**	**199**	PKPdf	**PKPbc**	**16 46 15.1 +0.5**
VNA2	**Neumayer--Watz**	**147.58**	**198**	PKPbc	**PKPbc**	**16 46 19.2 +0.1**
VNA3	**Neumayer Olymp**	**147.85**	**196**	PKPbc	**PKPbc**	**16 46 20.2 +0.4**
VNA1	**Neumayer--Stat**	**147.98**	**198**	PKPab	**PKPab**	**16 46 23.6 +0.7**

*ISCJB **23** 16:31:21.6±1.0, 36°.16N±0°.08×142°.4E±0°.1, h35km, mb3.6/4, Error ellipse: s-maj=11.8km s-min=11.4km az=164.2*
*IDC **23** 16:31:21.3±1.9, 35°.86N×141°.77E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/53, mbtmp3.6/6, ML2.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/39, Error ellipse: s-maj=39.8km s-min=20.2km az=60.0*
*JMA **23** 16:31:24.6±0.2, 36°.27N×142°.11E, h56km, M3.3*

ISC 23 16:31:22.8±1.3, 36°.12N±0°.07×142°.3E±0°.1, h35km, n23, σ2.57/20, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.26**	**251**	P	**Pn**	**16 31 44.9**	**+1.0**
JHYU	**Hitachinakayam**	**1.42**	**279**	P	**Pn**	**16 31 46.0**	**-0.1**
JIHU	**Itakohorinouch**	**1.47**	**264**	P	**Pn**	**16 31 47.6**	**+0.9**
JHO	**Hitachi**	**1.50**	**289**	P	**Pn**	**16 31 46.5**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.57**	**309**	P	**Pn**	**16 31 47.3**	**-0.9**
JFK	**Kawauchi**	**1.70**	**317**	P	**Pn**	**16 31 49.6**	**-0.4**
JMM	**Marumori**	**2.13**	**325**	P	**Pn**	**16 31 56.0**	**+0.2**
JAG	**Ashikaga**	**2.34**	**278**	P	**Pn**	**16 31 59.1**	**+0.4**
JRY	**Ryogami san**	**2.78**	**269**	P	**Pn**	**16 32 05.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.35**	**278**	Pn	**Pn**	**16 32 08.3**	**-4.3**
1.0nm,0.3s,baz=98,slow=11,SNR=7.0							
MJAR				Pg		16 32 13.6	
1.0nm,0.3s,baz=98,slow=10,SNR=40							
MAT	**Matsushiro**	**3.35**	**278**	P	**Pn**	**16 32 13.8**	**+1.1**
MAT				*e*S	**Sn**	**16 32 50.6**	**-0.7**
JHJ	**Hachijo jima 2**	**3.66**	**216**	Pn	**Pn**	**16 32 14.2**	**-2.6**
3.0nm,0.3s,baz=143,slow=20,SNR=2.4							
JHJ				Sn	**Sn**	**16 32 52.5**	**-6.3**
14nm,0.3s,baz=55,slow=12,SNR=3.1							
ASAJ	**Asahikawa**	**7.99**	**1**	Pn	**Pn**	**16 33 15.5**	**-0.7**
0.7nm,0.3s,baz=236,slow=14,SNR=5.2							
ASAJ				Sn	**Sn**	**16 34 40.1**	**-5.2**
0.2nm,0.3s,baz=114,slow=20,SNR=1.8							
ASAJ				LR	LR	16 37 14.3	
comp=Z,61nm,19.3s,baz=162,slow=43							
H11N2	**WAKE ISLAND Hy**	**27.05**	**121**	T	T	17 05 35.1	
baz=322,slow=76,SNR=4.2							
H11N1	**WAKE ISLAND Hy**	**27.06**	**121**	T	T	17 05 36.2	
baz=322,slow=76,SNR=2.1							
H11N3	**WAKE ISLAND Hy**	**27.07**	**121**	T	T	17 05 37.3	
baz=322,slow=76,SNR=4.0							
H11S1	**WAKE ISLAND Hy**	**27.75**	**123**	T	T	17 06 39.2	
baz=322,slow=76,SNR=4.0							
H11S3	**WAKE ISLAND Hy**	**27.75**	**123**	T	T	17 06 36.4	
baz=322,slow=76,SNR=2.6							
H11S2	**WAKE ISLAND Hy**	**27.77**	**123**	T	T	17 06 36.4	
baz=322,slow=76,SNR=2.1							
SONM	**Songino Array**	**28.91**	**305**	P	**P**	**16 37 20.6**	**+2.2**
0.9nm,0.6s,baz=112,slow=9.0,SNR=6.1							
MKAR	**Makanchi Array**	**45.23**	**303**	P	**P**	**16 39 38.9**	**+2.4**
1.3nm,0.7s,baz=77,slow=9.7,SNR=6.3							
WRA	**Warramunga Arr**	**56.27**	**189**	P	**P**	**16 41 01.7**	**+2.0**
0.4nm,0.8s,baz=1.7,slow=8.0,SNR=3.2							
ASAR	**Alice Springs**	**60.00**	**189**	P	**P**	**16 41 26.1**	**+0.2**
0.2nm,0.6s,baz=21,slow=8.2,SNR=4.3							

*ISCJB **23** 16:33:20.8±0.4, 51°.35N±0°.02×16°.16E±0°.02, h0km, Error ellipse: s-maj=3.3km s-min=1.9km az=13.9*
*IPEC **23** 16:33:20.8±0.3, 51°.48N×16°.33E, h0km, ML2.2/3, Error ellipse: s-maj=3.1km s-min=1.8km az=64.0*
*IDC **23** 16:33:21.4±0.7, 51°.45N×16°.12E, h0km, mb1 3.5/8, mb1mx3.3/58, mbtmp3.4/8, ML2.8/8, Error ellipse: s-maj=13.5km s-min=7.1km az=102.0*
*BGR **23** 16:33:22.8±0.4, 51°.40N×16°.20E, h1km, ML3.0/15, Error ellipse: s-maj=4.4km s-min=2.2km az=19.0*
*VIE **23** 16:33:25.7±1.2, 51°.17N×15°.93E, h0km, mb2.4/5, ml2.9/6, Error ellipse: s-maj=9.1km s-min=6.5km az=10.0 72 km NE of Liberec Suspected Mining induced.*

ISC 23 16:33:19.9±0.7, 51°.50N±0°.03×16°.19E±0°.02, h0km, n62, σ1.9/30/128, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**174**	*e*Pg	**Pg**	**16 33 33.2**	**+0.6**
KSP				*e*Sg	**Sg**	**16 33 40.6**	**-0.5**
KSP	**Ksiaz**	**0.66**	**174**	*i* Pg	**Pg**	**16 33 33.2**	**+0.6**
KSP				*i* Pg	**Pg**	**16 33 33.2**	**+0.6**
KSP				*i* Sg	**Sg**	**16 33 41.1**	**0.0**
KSP				*i* Sg	**Sg**	**16 33 41.1**	**0.0**
CHVC	**Chvalec**	**0.92**	**185**	*e*PG	**Pg**	**16 33 38.2**	**+0.8**
CHVC				*e*SG	**Sg**	**16 33 49.2**	**-0.1**
comp=Z,73nm,0.7s							
UPC	**Upice**	**1.00**	**186**	*e*PG	**Pg**	**16 33 39.4**	**+0.4**
UPC				*e*SG	**Sg**	**16 33 51.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*Pg	**Pg**	**16 33 42.1**	**+0.1**
DPC				*e*Sg	**Sg**	**16 33 57.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG	**Pg**	**16 33 42.0**	**+0.1**
DPC				*e*SG	**Sg**	**16 33 56.6**	**-0.3**
comp=Z,88nm,0.5s							
PVCC	**Panska Ves**	**1.41**	**227**	*e*PG	**Pn**	**16 33 47.5**	**+0.7**
PVCC				*e*SG	**Sg**	**16 34 06.0**	**+0.8**
comp=Z,231nm,0.3s							
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pn**	**16 33 47.6**	**-0.2**
KRLC				*e*SG	**Sg**	**16 34 06.4**	**-0.8**
comp=Z,55nm,0.5s							
BRG	**Berggiesshubel**	**1.55**	**247**	PN	**Pn**	**16 33 48.9**	**+0.2**
BRG				PG	**Pg**	**16 33 50.6**	**+1.1**
BRG				SG	**Sg**	**16 34 10.6**	**+1.0**
58nm,0.7s							
BRG	**Berggiesshubel**	**1.55**	**247**	*e*Pn	**Pn**	**16 33 48.8**	**+0.2**
BRG				*e*Sg	**Sg**	**16 34 11.0**	**+1.5**
PRA	**Prague**	**1.81**	**219**	*e*PG	**Pn**	**16 33 53.3**	**+0.9**
PRA				*e*SG	**Sb**	**16 34 17.4**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	*e*PN	**Pn**	**16 33 52.3**	**-0.2**
GOPC				*e*PG	**Pb**	**16 33 54.2**	**+0.1**
GOPC				*e*SG	**Sn**	**16 34 17.2**	**+1.0**
PRU	**Pruhonice**	**1.84**	**215**	*e*PN	**Pn**	**16 33 52.9**	**+0.2**
PRU				*e*PG	**Pb**	**16 33 54.8**	**+0.4**
PRU				*e*SG	**Sn**	**16 34 17.8**	**+1.1**
comp=Z,67nm,0.5s							
FBE	**Freiberg**	**1.88**	**253**	*e*Sg	**Sg**	**16 34 21.5**	**+1.4**
RAC	**Raciborz**	**1.91**	**137**	*e*Pg	**Pg**	**16 33 56.6**	**+0.2**
RAC				*e*Pg	**Pg**	**16 33 56.6**	**+0.2**
RAC				*e*Sg	**Sb**	**16 34 19.9**	**+0.1**
RAC				*e*Sg	**Sb**	**16 34 19.9**	**+0.1**
RAC				*e*Sg	**Sb**	**16 34 19.9**	**+0.1**
RAC				*e*Sg	**Sb**	**16 34 19.9**	**+0.1**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*Pn	**Pn**	**16 33 54.0**	**0.0**
MORC				*e*Sg	**Sb**	**16 34 20.5**	**-0.1**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*PN	**Pn**	**16 33 53.8**	**-0.2**
MORC				*e*SG	**Sn**	**16 34 19.4**	**+0.5**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*Pn	**Pn**	**16 33 53.7**	**-0.2**
baz=336							
MORC				*e*Sg	**Sn**	**16 34 19.4**	**+0.5**
21nm,0.3s,baz=336							
CLL	**Collm**	**2.00**	**266**	*i* Pn	**Pn**	**16 33 55.3**	**+0.3**
comp=Z,4.0nm,0.6s							
CLL				*i* Pg	**Pb**	**16 33 58.4**	**+1.2**
CLL				*i*		16 33 59.9	
CLL				*e*Sg	**Sg**	**16 34 26.0**	**+1.7**
comp=Z,27nm,0.4s							
CLL	**Collm**	**2.00**	**266**	*e*Pn	**Pn**	**16 33 55.3**	**+0.3**
CLL				*e*Sg	**Sg**	**16 34 26.4**	**+2.1**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*Sg	**Sb**	**16 34 25.5**	**+0.7**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pb**	**16 33 59.2**	**+0.7**
OKC				*e*SG	**Sb**	**16 34 24.6**	**-0.2**
comp=Z,55nm,0.6s							
VRAC	**Vranov**	**2.21**	**173**	Pn	**Pn**	**16 33 57.8**	**0.0**
comp=Z,1.8nm,0.3s,baz=345,slow=17,SNR=5.6							
VRAC				Sn	**Sn**	**16 34 26.9**	**+1.1**
comp=Z,6.4nm,0.3s,baz=81,slow=19,SNR=12							
VRAC	**Vranov**	**2.21**	**173**	*e*PN	**Pn**	**16 33 58.5**	**+0.7**
VRAC				*e*SG	**Sb**	**16 34 29.2**	**+0.6**
VRAC	**Vranov**	**2.21**	**173**	*e*Pn	**Pn**	**16 33 58.5**	**+0.7**
baz=356							
VRAC				*e*Sg	**Sb**	**16 34 29.2**	**+0.6**
comp=Z,13nm,0.2s,baz=356							
TREC	**Trest**	**2.25**	**192**	*e*SG	**Sb**	**16 34 30.6**	**+0.8**
PBCC	**Pribram**	**2.29**	**218**	*e*PN	**Pn**	**16 33 58.9**	**0.0**
PBCC				*e*PG	**Pb**	**16 34 03.2**	**+1.1**
PBCC				*e*SG	**Sb**	**16 34 31.9**	**+0.9**
KRUC	**Moravsky**	**2.44**	**177**	*e*PN	**Pn**	**16 34 01.9**	**+0.9**
KRUC				*e*SG	**Sb**	**16 34 36.6**	**+1.3**
KRUC	**Moravsky**	**2.44**	**177**	*e*Pn	**Pn**	**16 34 01.8**	**+0.8**
baz=359							
KRUC				*e*Sg	**Sb**	**16 34 36.6**	**+1.3**
comp=Z,8.8nm,0.2s,baz=359							
TANN	**Tannenbergstha**	**2.59**	**247**	*e*Pn	**Pn**	**16 34 04.3**	**+1.1**
TANN				*e*Sg	**Sg**	**16 34 45.0**	**+1.8**
OJC	**Ojcow**	**2.62**	**118**	*e*Pn	**Pn**	**16 34 04.4**	**+0.9**
OJC				*e*Sg	**Sg**	**16 34 45.5**	**+1.4**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**16 34 10.5**	**+0.4**
OJC				*e*Pg	**Pg**	**16 34 10.5**	**+0.4**
OJC				*e*Sg	**Sg**	**16 34 45.5**	**+1.4**
OJC				*e*Sg	**Sg**	**16 34 45.5**	**+1.4**
NKC	**Novy Kostel**	**2.69**	**243**	*e*PN	**Pn**	**16 34 05.0**	**+0.6**
NKC				*e*PG	**Pg**	**16 34 11.0**	**-0.4**
NKC				*e*SG	**Sg**	**16 34 46.5**	**+0.3**
comp=Z,37nm,0.3s							
JAVC	**Velka Javorina**	**2.81**	**160**	*e*PN	**Pn**	**16 34 06.4**	**+0.3**
JAVC	**Velka Javorina**	**2.81**	**160**	*e*Pn	**Pn**	**16 34 06.4**	**+0.3**
baz=342							
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**16 34 07.8**	**+0.4**
KHC				*e*PG	**Pb**	**16 34 13.9**	**+1.4**
KHC				*e*SN	**Sn**	**16 34 40.5**	**-2.5**
KHC				*e*SG	**Sb**	**16 34 51.2**	**+2.6**
comp=Z,18nm,0.4s							
MANZ	**Manzenberg**	**3.00**	**241**	*e*Pn	**Pn**	**16 34 10.0**	**+1.3**
MOX	**Moxa**	**3.01**	**255**	*e*Pn	**Pn**	**16 34 09.8**	**+1.0**
MOX				*e*Sg	**Sg**	**16 34 58.6**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.07**	**237**	*e*Pn	**Pn**	**16 34 10.9**	**+1.2**
ROTZ				*e*Sg	**Sg**	**16 34 57.9**	**-0.6**
SMOL	**Smolenice**	**3.09**	**165**	*e*PG	**Pg**	**16 34 20.2**	**+1.0**
SMOL				*e*SG	**Sg**	**16 34 58.6**	**-0.6**
SMOL				*e*LG	Lg	16 35 04.9	
GEC2	**GERESS Array S**	**3.10**	**212**	*e*Pn	**Pn**	**16 34 11.5**	**+1.3**
GEC2				*e*Sg	**Sg**	**16 34 58.0**	**-1.5**
GERES	**GERESS Array B**	**3.10**	**212**	Pn	**Pn**	**16 34 10.9**	**+0.8**
comp=Z,0.7nm,0.3s,baz=33,slow=13,SNR=21							
GERES				Pg	**Pb**	**16 34 16.9**	**+0.9**
comp=Z,7.3nm,0.3s,baz=33,slow=17,SNR=84							
GERES				Lg	Lg	16 34 55.7	
comp=Z,6.9nm,0.3s,baz=32,slow=29,SNR=14							
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PN	**Pn**	**16 34 12.4**	**+1.6**
LANS				*e*PG	**Pg**	**16 34 20.3**	**0.0**
LANS				*e*SG	**Sg**	**16 35 01.3**	**+0.2**
LANS				*e*LG	Lg	16 35 08.2	
WET	**Wettzell**	**3.17**	**223**	*e*Pn	**Pn**	**16 34 11.9**	**+0.9**
MODS	**Modra-Piesok**	**3.21**	**167**	*e*PG	**Pg**	**16 34 20.6**	**-0.7**
MODS				*e*SG	**Sg**	**16 35 02.6**	**-0.3**
MODS				*e*LG	Lg	16 35 08.0	
KOLL	**Kolacno**	**3.25**	**153**	*e*PG	**Pg**	**16 34 21.8**	**-0.4**
KOLL				*e*SG	**Sg**	**16 35 02.0**	**-2.3**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN	**Pn**	**16 34 16.3**	**+1.3**
VYHS				*e*PG	**Pg**	**16 34 27.4**	**+1.2**
VYHS				*e*SG	**Sg**	**16 35 10.8**	**-0.2**
CONA	**Conrad Observa**	**3.58**	**184**	*i* Pn	**Pn**	**16 34 18.1**	**+1.3**
comp=Z,0.4nm,0.1s							
CONA				Sg	**Sg**	**16 35 13.8**	**-1.0**
comp=Z,22nm,0.4s							
CLZ	**Clausthal**	**3.64**	**278**	*e*Pn	**Pn**	**16 34 19.4**	**+2.0**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**16 34 18.8**

CGP			*i* S	Sb	16 44 27.5	+0.1
BUKP	**Musuan**	**1.66 201**	*e*P	Pb	16 44 14.6	-0.7
LLP	**Lapu-Lapu**	**1.89 298**	*i*P	Pn	16 44 16.6	+0.3
LLP			*e*S	Sn	16 44 39.8	+0.3
BESP	**Borongan**	**2.17 354**	*e*P	Pn	16 44 20.8	+0.7
BESP			*e*S	Sb	16 44 54.1	+3.7
DCPH	**Dipolog City**	**2.44 250**	*e*P	Pn	16 44 21.7	-2.2
DCPH			*e*S	Sn	16 44 55.0	+2.0
CTBH	**Cotabato--PC H**	**2.61 213**	*i*P	Pb	16 44 30.3	-1.1
PAGZ	**Pagadian**	**2.76 235**	*e*P	Pn	16 44 29.0	+0.8
CNP	**Catarman**	**3.21 342**	*e*P	Pb	16 44 39.7	-2.0

IDC 23 16:43:56.1±2.2, 3°.39N×127°.09E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/41, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=174.7km s-min=26.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.26**	**163**	P	P	16 49 15.7	+0.5
	0.5nm,0.6s,baz=343,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**27.70**	**166**	P	P	16 49 45.9	-0.5
	0.2nm,0.4s,baz=353,slow=7.9,SNR=8.4						
PSI	**Prapat**	**28.13**	**270**	LR	LR	17 01 14.1	
	comp=Z,119nm,20.4s,baz=276,slow=37						
MKAR	**Makanchi Array**	**58.04**	**325**	P	P	16 53 51.0	0.0
	0.3nm,0.5s,baz=118,slow=8.1,SNR=4.9						

NIED ***23*** *17:07:00, 23°.90N×122°.40E, h35km, Mw3.9 Best double couple: M0:8.20000×10^14 NP1:φs=311.00000°, δ=19.00000°, λ=159.00000°. NP2:φs=61.00000°, δ=83.00000°, λ=72.00000°.*
IDC ***23*** *17:07:20.7±1.0, 24°.09N×122°.34E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/46, mbtmp3.8/8, ML2.2/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/39, Error ellipse: s-maj=40.9km s-min=18.3km az=62.0*
ISCJB ***23*** *17:07:22.8±0.5, 23°.89N±0°.01×122°.45E±0°.01, h6km±3km, mb3.7/8, Error ellipse: s-maj=2.2km s-min=1.8km az=153.8*
JMA ***23*** *17:07:24.2±0.3, 23°.93N×122°.41E, h17km±4km, M3.5*
NEIC ***23*** *17:07:24.6±2.0, 23°.91N±0°.05×122°.49E±0°.05, h32km±7km, mb4.2/10*
TAP ***23*** *17:07:24.3, 23°.96N×122°.45E, h25km, ML4.1, D*
ISC 23 17:07:23.1±0.9, 23°.92N±0°.02×122°.45E±0°.01, h18km±3km, n147, σ0°76/238, mb3.9/12, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.69**	**335**	P	**Pn**	**17 07 37.4**	**-0.5**
	baz=325						
EOS1				S	**Sn**	**17 07 47.9**	**-0.3**
	baz=325						
JYNG	**Yonagunijimaku**	**0.70**	**41**	P	**Pn**	**17 07 37.7**	**-0.3**
JYNG				S	**Sb**	**17 07 46.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.75**	**43**	P	**Pn**	**17 07 38.6**	**-0.1**
YOJ				S	**Sb**	**17 07 47.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.75**	**43**	Pn	**Pg**	**17 07 38.1**	**+0.3**
HWA	**Hwalien**	**0.77**	**275**	P	**Pn**	**17 07 39.1**	**+0.1**
	baz=259						
HWA				S	**Sg**	**17 07 49.5**	**+1.0**
	baz=259						
ENLB	**Shoufeng**	**0.77**	**269**	P	**Pb**	**17 07 38.3**	**+0.3**
	baz=254						
ENLB				S	**Sg**	**17 07 49.4**	**+0.9**
	baz=254						
TWD	**Chiawan**	**0.79**	**282**	P	**Pb**	**17 07 38.7**	**+0.4**
	baz=265						
TWD				S	**Sg**	**17 07 49.6**	**+0.4**
	baz=265						
NANB	**Nanao**	**0.81**	**309**	P	**Pg**	**17 07 39.0**	**0.0**
	baz=315						
NANB				S	**Sn**	**17 07 51.6**	**+0.4**
	baz=315						
NACB	**Ninganchiao**	**0.82**	**288**	P	**Pb**	**17 07 39.1**	**+0.3**
	baz=285						
NACB	**Ninganchiao**	**0.82**	**288**		**Pb**	**17 07 39.1**	**+0.3**
ENA	**Nanau**	**0.82**	**308**	*i* P	**Pg**	**17 07 39.1**	**0.0**
	baz=315						
ENA				S	**Sn**	**17 07 51.9**	**+0.5**
	baz=315						
TWC	**Suao**	**0.88**	**322**	*i* P	**Pb**	**17 07 39.8**	**0.0**
	baz=320						
TWC				S	**Sb**	**17 07 51.2**	**+0.1**
	baz=320						
ETLH	**Xiulin Townshi**	**0.93**	**288**	P	**Pb**	**17 07 40.8**	**+0.2**
	baz=273						
ETLH				S	**Sg**	**17 07 53.5**	**0.0**
	baz=273						
ESL	**Shilin**	**0.93**	**264**	P	**Pb**	**17 07 40.6**	**-0.1**
	baz=261						
ESL				S	**Sb**	**17 07 53.2**	**+0.4**
	baz=261						
EGFH	**Guangfu**	**0.97**	**255**	*i* P	**Pb**	**17 07 41.6**	**+0.4**
	baz=253						
EGFH				S	**Sb**	**17 07 54.8**	**+1.1**
	baz=253						
HGSD	**Ruisui**	**1.03**	**246**	P	**Pb**	**17 07 42.5**	**+0.1**
	baz=243						
ILA	**Ilan**	**1.06**	**323**	*i* P	**Pg**	**17 07 43.7**	**0.0**
	baz=322						
ILA				S	**Sn**	**17 07 58.0**	**+0.8**
	baz=322						
TWE	**Neicheng**	**1.07**	**319**	*i* P	**Pg**	**17 07 43.6**	**-0.3**
	baz=317						
TWE				S	**Sn**	**17 07 58.0**	**+0.5**
	baz=317						
ENTT	**Nioudou**	**1.08**	**312**	*i* P	**Pg**	**17 07 44.2**	**+0.2**
	baz=295						
ENTT				S	**Sn**	**17 07 58.9**	**+1.1**
	baz=295						
NTC	**Toucheng**	**1.09**	**329**	P	**Pg**	**17 07 44.0**	**-0.2**
	baz=328						
NTC				S	**Sg**	**17 07 58.8**	**+0.3**
	baz=328						
NDT	**Datong Townshi**	**1.09**	**309**	*i* P	**Pg**	**17 07 44.0**	**-0.2**
	baz=307						
NDT				S	**Sg**	**17 07 59.1**	**+0.6**
	baz=307						
NNSB	**Datong**	**1.10**	**298**	P	**Pn**	**17 07 44.0**	**+0.4**
	baz=282						
NNSB				*e*S	**Sn**	**17 07 59.0**	**+0.7**
	baz=282						
WHF	**Hehuan Shan**	**1.10**	**282**	*i* P	**Pb**	**17 07 43.8**	**-0.1**
	baz=267						
WHF				S	**Sb**	**17 07 58.4**	**+0.3**
	baz=267						
EHY	**Hungye**	**1.11**	**249**	P	**Pb**	**17 07 43.9**	**+0.2**
	baz=246						
EHY				S	**Sb**	**17 07 58.4**	**+0.6**
	baz=246						
NNS	**Nan Shan**	**1.11**	**298**	*i* P	**Pn**	**17 07 44.1**	**+0.3**
	baz=283						
NNS				S	**Sg**	**17 07 59.2**	**0.0**
	baz=283						
SLBB	**Yuanshan**	**1.11**	**319**	P	**Pb**	**17 07 43.9**	**+0.1**
	baz=317						
SLBB				S	**Sg**	**17 07 59.5**	**+0.2**
	baz=317						
OWD	**Renai**	**1.16**	**272**	*e*P	**Pn**	**17 07 45.0**	**+0.4**
	baz=270						
OWD				*e*S	**Sb**	**17 07 59.3**	**-0.2**
	baz=270						
TWB1	**Santiao Chiao**	**1.16**	**339**	*i* P	**Pb**	**17 07 44.8**	**+0.2**
	baz=356						
TWB1				S	**Sg**	**17 08 01.5**	**+0.6**
	baz=356						
CHGB	**Renai**	**1.17**	**277**	P	**Pn**	**17 07 45.0**	**+0.3**
	baz=264						
CHGB				S	**Sb**	**17 07 60.0**	**+0.1**
	baz=264						
YULB	**Yu-li**	**1.18**	**244**	P	**Pn**	**17 07 45.0**	**+0.4**
	baz=242						
YULB				S	**Sb**	**17 08 00.2**	**+0.4**
	baz=242						
YULB	**Yu-li**	**1.18**	**244**		**Pn**	**17 07 44.6**	**0.0**
TIPB	**Shuangxi**	**1.19**	**332**	P	**Pb**	**17 07 45.4**	**+0.2**
	baz=331						
TIPB				S	**Sg**	**17 08 01.2**	**-0.6**
	baz=331						
TWF1	**Yuli**	**1.20**	**242**	*i* P	**Pn**	**17 07 45.4**	**+0.5**
	baz=240						
TWF1				S	**Sn**	**17 08 01.6**	**+0.9**
	baz=240						
VWDT	**VWDT**	**1.21**	**262**	P	**Pn**	**17 07 45.5**	**+0.5**
	baz=260						
VWDT				S	**Sb**	**17 08 00.8**	**+0.2**
	baz=260						
TWT	**Tachien**	**1.21**	**286**	*e*P	**Pg**	**17 07 46.3**	**-0.2**
	baz=272						
TWT				*e*S	**Sg**	**17 08 02.7**	**+0.4**
	baz=272						
NWLT	**Wulai**	**1.21**	**315**	P	**Pg**	**17 07 46.3**	**-0.3**
	baz=313						
NWLT				*e*S	**Sg**	**17 08 02.5**	**0.0**
	baz=313						
TDCB	**Techi**	**1.22**	**286**	P	**Pn**	**17 07 45.8**	**+0.4**
	baz=272						
TDCB				S	**Sb**	**17 08 01.5**	**+0.2**
	baz=272						
YHNB	**Yeheng**	**1.23**	**308**	P	**Pb**	**17 07 46.0**	**+0.2**
	baz=306						
YHNB				*e*S	**Sg**	**17 08 02.9**	**-0.2**
	baz=306						
YHNB	**Yeheng**	**1.23**	**308**	Pn	**Pg**	**17 07 46.5**	**-0.5**
IRIF	**Iriomote-Funau**	**1.24**	**70**	P	**Pg**	**17 07 47.8**	**+0.7**
IRIF				*e*S	**Sg**	**17 08 03.9**	**+0.5**
NSK	**Sanguang**	**1.25**	**307**	P	**Pb**	**17 07 46.5**	**+0.3**
	baz=305						
NSK				*e*S	**Sg**	**17 08 03.3**	**-0.3**
	baz=305						
HATJ	**Hateruma jima**	**1.25**	**83**	P	**Pg**	**17 07 47.4**	**+0.1**
HATJ				S	**Sg**	**17 08 04.2**	**+0.6**
FULB	**Fuli**	**1.28**	**236**	P	**Pn**	**17 07 46.1**	**0.0**
	baz=222						
FULB				S	**Sb**	**17 08 02.2**	**-0.5**
	baz=222						
CHKT	**Chengkung**	**1.28**	**231**	P	**Pn**	**17 07 46.5**	**+0.4**
	baz=229						
CHKT				S	**Sn**	**17 08 01.2**	**-1.6**
	baz=229						
NWF	**Wu-fen Shan**	**1.30**	**332**	P	**Pb**	**17 07 46.9**	**-0.1**
	baz=331						
NWF				S	**Sg**	**17 08 04.5**	**-0.7**
	baz=331						
WFSB	**Wu-fen Shan**	**1.30**	**332**	P	**Pb**	**17 07 47.0**	**0.0**
	baz=331						
WFSB				*e*S	**Sg**	**17 08 04.5**	**-0.6**
	baz=331						
NHDH	**Xindian Distri**	**1.34**	**321**	P	**Pg**	**17 07 48.4**	**-0.6**
	baz=320						
NHDH				*e*S	**Sg**	**17 08 06.4**	**0.0**
	baz=320						
TATO	**Taipei**	**1.37**	**321**	Pn	**Pb**	**17 07 48.1**	**0.0**
SSLB	**Suanglung**	**1.37**	**265**	P	**Pb**	**17 07 48.3**	**+0.1**
	baz=262						
SSLB				S	**Sn**	**17 08 05.2**	**+0.1**
	baz=262						
SSLB	**Suanglung**	**1.37**	**265**		**Pn**	**17 07 47.6**	**+0.2**
DPDB	**Guoxing**	**1.40**	**275**	P	**Pb**	**17 07 48.7**	**0.0**
	baz=264						
DPDB				*e*S	**Sn**	**17 08 06.1**	**+0.4**
	baz=264						
TAP1	**Taipei**	**1.40**	**323**	*e*P	**Pg**	**17 07 50.0**	**-0.1**
	baz=321						
TAP1				S	**Sg**	**17 08 08.1**	**-0.2**
	baz=321						
TAP	**Taipei**	**1.41**	**323**	P	**Pg**	**17 07 49.8**	**-0.5**
	baz=321						
TAP				S	**Sg**	**17 08 08.6**	**-0.1**
	baz=321						
SMLT	**Sun Moon Lake**	**1.42**	**269**	P	**Pn**	**17 07 48.9**	**+0.9**
	baz=266						
SMLT				S	**Sn**	**17 08 05.8**	**-0.4**
	baz=266						
WHP	**Taichung City**	**1.42**	**285**	P	**Pb**	**17 07 49.9**	**+0.8**
	baz=271						
WHP				*e*S	**Sb**	**17 08 07.9**	**+1.1**
	baz=271						
WLTB	**Daxi**	**1.43**	**311**	P	**Pb**	**17 07 49.9**	**+0.6**
	baz=309						
YUS	**Yu-Shan**	**1.44**	**253**	P	**Pn**	**17 07 49.6**	**+1.0**
	baz=251						
YUS				S	**Sn**	**17 08 06.9**	**-0.3**
	baz=251						
TYC	**Yuchr**	**1.46**	**270**	P	**Pn**	**17 07 49.5**	**+1.1**
	baz=267						
TYC				S	**Sn**	**17 08 07.5**	**+0.4**
	baz=267						
YM01	**YM01**	**1.46**	**327**	P	**Pb**	**17 07 50.2**	**+0.4**
	baz=326						
YM01				S	**Sg**	**17 08 09.1**	**-1.3**
	baz=326						
JKRS	**Kuro-shima**	**1.46**	**77**	P	**Pg**	**17 07 51.3**	**0.0**
JKRS				*e*S	**Sg**	**17 08 10.6**	**+0.2**
YM10	**YM10**	**1.47**	**327**	P	**Pb**	**17 07 49.6**	**-0.3**
	baz=326						
YM10				S	**Sb**	**17 08 09.2**	**+0.9**
	baz=326						
YM11	**YM11**	**1.48**	**328**	P	**Pb**	**17 07 50.2**	**+0.2**
	baz=326						
YM11				*e*S	**Sb**	**17 08 09.2**	**+0.8**
	baz=326						
WHYT	**Xinyi Township**	**1.48**	**262**	*e*P	**Pb**	**17 07 50.2**	**+0.2**
	baz=248						
WHYT				*e*S	**Sb**	**17 08 09.3**	**+0.8**
	baz=248						
YM08	**YM08**	**1.49**	**328**	P	**Pb**	**17 07 50.0**	**-0.2**
	baz=327						
YM08				*e*S	**Sb**	**17 08 09.3**	**+0.6**
	baz=327						
LIOB	**Emei**	**1.49**	**299**	P	**Pb**	**17 07 51.0**	**+0.7**
	baz=284						
LIOB				S	**Sg**	**17 08 10.2**	**-1.2**
	baz=284						
NSTT	**Nanjuang**	**1.50**	**299**	*i* P	**Pb**	**17 07 50.9**	**+0.6**
	baz=283						
NSTT				S	**Sb**	**17 08 09.6**	**+0.6**
	baz=283						
ELDTW	**Lidau**	**1.50**	**241**	P	**Pn**	**17 07 49.5**	**+0.4**
	baz=239						
ELDTW				S	**Sn**	**17 08 07.3**	**-1.0**
	baz=239						
TWS1	**Kuangyinshan**	**1.50**	**322**	*i* P	**Pb**	**17 07 50.7**	**+0.2**
	baz=320						
TWS1				*e*S	**Sg**	**17 08 11.6**	**-0.2**
	baz=320						
ANP	**Anpu**	**1.52**	**326**	*i* P	**Pb**	**17 07 50.8**	**+0.1**
	baz=325						
NTST	**Danshui**	**1.54**	**324**	P	**Pb**	**17 07 51.0**	**0.0**
	baz=339						
NCU	**National Centr**	**1.55**	**313**	P	**Pb**	**17 07 51.4**	**+0.1**
	baz=311						
NCUH	**Zhongli**	**1.55**	**313**	P	**Pb**	**17 07 51.4**	**+0.1**
	baz=310						
TWY	**Chenhua**	**1.56**	**330**	P	**Pb**	**17 07 51.6**	**+0.2**
	baz=329						
ALS	**Alishan**	**1.56**	**255**	P	**Pb**	**17 07 51.6**	**+0.1**
	baz=253						
ALS				S	**Sn**	**17 08 11.1**	**+1.1**
	baz=253						
WJS	**Zhushan**	**1.58**	**267**	P	**Pb**	**17 07 52.5**	**+0.8**
	baz=265						
WJS				S	**Sg**	**17 08 13.2**	**-0.8**
	baz=265						
TWQ1	**Liyutan**	**1.59**	**286**	P	**Pb**	**17 07 52.5**	**+0.6**
	baz=283						
TWQ1				S	**Sg**	**17 08 13.2**	**-1.2**
	baz=283						
SBCB	**Hsinchu**	**1.59**	**303**	*e*P	**Pb**	**17 07 52.1**	**+0.2**
	baz=301						
HSN	**Hsinchu**	**1.61**	**303**	*e*P	**Pb**	**17 07 51.9**	**-0.3**
	baz=303						
JIJ	**Ishigaki jima**	**1.61**	**74**	P	**Pb**	**17 07 52.1**	**-0.2**
JIJ				S	**Sb**	**17 08 13.6**	**+1.3**
WNT	**Mingjian**	**1.61**	**269**	P	**Pb**	**17 07 53.3**	**+0.9**
	baz=267						
WNT				S	**Sb**	**17 08 13.8**	**+1.4**
	baz=267						
NSY	**Sanyi**	**1.62**	**288**	P	**Pb**	**17 07 52.9**	**+0.5**
	baz=286						
NSY				S	**Sg**	**17 08 14.8**	**-0.6**
	baz=286						
NMLH	**Miaoli**	**1.63**	**293**	P	**Pb**	**17 07 53.3**	**+0.7**
	baz=290						
NMLH				*e*S	**Sg**	**17 08 14.7**	**-1.2**
	baz=290						
TCU	**Taichung**	**1.64**	**278**	*i* P	**Pb**	**17 07 53.4**	**+0.7**
	baz=276						
TCU				S	**Sg**	**17 08 15.0**	**-0.8**
	baz=276						
CHN5	**Tsauling**	**1.65**	**259**	P	**Pb**	**17 07 52.8**	**-0.2**
	baz=246						
CHN5				S	**Sb**	**17 08 14.6**	**+1.1**
	baz=246						
TWGBT	**Beinan**	**1.67**	**229**	P	**Pn**	**17 07 52.0**	**+0.6**
	baz=241						
TWGBT				S	**Sn**	**17 08 11.9**	**-0.4**
	baz=241						
TWG	**Pinlang**	**1.67**	**229**	*i* P	**Pn**	**17 07 51.9**	**+0.5**
	baz=241						
TWG				S	**Sn**	**17 08 11.8**	**-0.6**
	baz=241						
TWG	**Pinlang**	**1.67**	**229**		**Pn**	**17 07 51.0**	**-0.4**
PTSB	**Yuanli**	**1.68**	**289**	P	**Pb**	**17 07 53.7**	**+0.3**
	baz=286						
PTSB				S	**Sb**	**17 08 15.6**	**+1.4**
	baz=286						
WDJ	**Dajia District**	**1.71**	**285**	P	**Pb**	**17 07 54.1**	**+0.2**
	baz=282						
WDJ				S	**Sb**	**17 08 15.9**	**+1.0**
	baz=282						
STYT	**Tauyuan**	**1.72**	**244**	P	**Pn**	**17 07 53.7**	**+1.5**
	baz=233						
STYT				S	**Sn**	**17 08 14.6**	**+0.8**
	baz=233						
WCHH	**Zhanghua**	**1.73**	**276**	P	**Pb**	**17 07 54.8**	**+0.4**
	baz=273						
WCHH				S	**Sb**	**17 08 16.9**	**+1.1**
	baz=273						
PCYT	**Pengchaiyu**	**1.74**	**349**	P	**Pn**	**17 07 53.3**	**+0.9**
	baz=348						
WGK	**Gukeng**	**1.74**	**263**	P	**Pb**	**17 07 54.9**	**+0.4**
	baz=260						
WGK				S	**Sb**	**17 08 17.7**	**+1.7**
	baz=260						
TPUB	**Ta-pu**	**1.78**	**250**	P	**Pb**	**17 07 55.5**	**+0.4**
	baz=237						
TPUB				S	**Sb**	**17 08 17.6**	**+0.5**
	baz=237						
TPUB	**Ta-pu**	**1.78**	**250**		**Pb**	**17 07 54.9**	**-0.2**
CHN4	**Tsaushan**	**1.79**	**252**	P	**Pb**	**17 07 56.1**	**+0.7**
	baz=250						
CHN4				S	**Sb**	**17 08 18.5**	**+1.0**
	baz=250						
WTP	**Ta-pu**	**1.81**	**249**	*i* P	**Pb**	**17 07 55.6**	**-0.1**
	baz=236						
WTP				S	**Sb**	**17 08 18.5**	**+0.5**
	baz=236						
JISG	**Ishigakijimahi**	**1.83**	**68**	P	**Pb**	**17 07 55.2**	**-0.8**
JISG				S	**Sb**	**17 08 18.9**	**+0.4**
CHN2	**Minshiung**	**1.85**	**258**	P	**Pb**	**17 07 57.0**	**+0.7**
	baz=256						
CHN2				S	**Sb**	**17 08 20.4**	**+1.3**
	baz=256						
SLGT	**Liugui**	**1.89**	**241**	P	**Pb**	**17 07 57.5**	**+0.4**
	baz=231						
SLGT				S	**Sn**	**17 08 19.9**	**+2.1**
	baz=231						
CHY	**Chiayi**	**1.90**	**258**	P	**Pb**	**17 07 57.1**	**-0.1**
	baz=255						
CHY				S	**Sb**	**17 08 21.2**	**+0.6**
	baz=255						
ECL	**Taimali**	**1.90**	**227**	*i* P	**Pn**	**17 07 54.8**	**+0.2**
	baz=225						
ECL				S	**Sn**	**17 08 17.3**	**-0.8**
	baz=225						
SGST	**Jiashian**	**1.90**	**244**	*i* P	**Pb**	**17 07 56.8**	**-0.4**
	baz=242						
SGST				S	**Sb**	**17 08 20.9**	**+0.2**
	baz=242						
CHN1	**Nanshi**	**1.91**	**248**	*i* P	**Pb**	**17 07 57.6**	**+0.3**
	baz=246						
CHN1				S	**Sb**	**17 08 21.8**	**+1.0**
	baz=246						
RLNB	**Erlin**	**1.91**	**270**	P	**Pb**	**17 07 57.3**	**-0.1**
	baz=267						
RLNB				S	**Sb**	**17 08 22.1**	**+1.2**
	baz=267						
TWK	**Hsinying**	**1.91**	**251**	P	**Pb**	**17 07 57.5**	**+0.1**
	baz=248						
TWK				S	**Sb**	**17 08 22.0**	**+1.0**
	baz=248						
SNST	**Tainan City**	**1.92**	**249**	P	**Pb**	**17 07 57.8**	**+0.2**
	baz=247						
SNST				S	**Sb**	**17 08 22.1**	**+0.9**
	baz=247						
WTCT	**Ta-ch'eng**	**1.98**	**269**	*i* P	**Pb**	**17 07 58.2**	**-0.4**
	baz=266						
WTCT				S	**Sb**	**17 08 23.5**	**+0.5**
	baz=266						
WLGB	**Puzi**	**2.02**	**258**	P	**Pn**	**17 07 58.0**	**+1.8**
	baz=256						
WLGB				S	**Sb**	**17 08 24.8**	**+0.9**
	baz=256						
SSD	**Sandimen**	**2.04**	**235**	P	**Pn**	**17 07 58.4**	**+1.9**
	baz=227						
SSD				S	**Sn**	**17 08 22.2**	**+0.8**
	baz=227						
WMLT	**Mailiao**	**2.04**	**267**	*e*S	**Sb**	**17 08 25.9**	**+1.3**
	baz=265						
LAY	**Lan-yu**	**2.04**	**204**	P	**Pn**	**17 07 56.9**	**+0.4**
	baz=203						
LAY				*e*S	**Sn**	**17 08 20.9**	**-0.8**
	baz=203						
WSF	**Szhu**	**2.06**	**263**	*i* P	**Pb**	**17 07 59.2**	**-0.7**
	baz=260						
WSF				S	**Sb**	**17 08 25.2**	**+0.1**
	baz=260						
CHN3	**Shinhua**	**2.09**	**247**	*e*P	**Pb**	**17 07 59.7**	**-0.7**
	baz=245						
CHN3				S	**Sb**	**17 08 28.3**	**+2.3**
	baz=245						
JTJ	**Tarama**	**2.18**	**70**	P	**Pb**	**17 08 01.7**	**-0.3**
JTJ				*e*S	**Sb**	**17 08 28.2**	**-0.5**
JIRB	**Irabujima**	**2.65**	**69**	*e*S	**Sn**	**17 08 38.6**	**+2.2**
KNMB	**Chin-men Tao**	**3.75**	**279**	Pn	**Pn**	**17 08 20.5**	**+0.6**
JOW	**Kunigami**	**6.02**	**60**	Pn	**Pn**	**17 08 51.9**	**+0.7**
	0.1nm,0.3s,baz=330,slow=16,SNR=3.6						
JOW	**Kunigami**	**6.02**	**60**		**Pn**	**17 08 52.4**	**+1.2**
JNU	**Nakatsue**	**11.79**	**37**	LR	LR	17 14 49.5	
	comp=Z,35nm,18.9s,baz=198,slow=38						
KSRS	**Korea Array**	**14.29**	**18**	Pn	**Pn**	**17 10 46.2**	**+1.8**
	0.0nm,0.3s,baz=195,slow=11,SNR=2.9						
KSRS				LR	LR	17 16 25.4	
	comp=Z,32nm,19.0s,baz=192,slow=39						
SONM	**Songino Array**	**27.07**	**336**	P	**P**	**17 13 02.2**	**-2.4**
	1.1nm,0.6s,baz=154,slow=8.3,SNR=8.7						
SONM	**Songino Array**	**27.07**	**336**	P	**P**	**17 13 04.5**	**-0.1**
MK31	**Makanchi Array**	**39.33**	**316**	P	**P**	**17 14 51.5**	**+0.3**
MK31				IAmb	IAmb	17 15 05.2	
	comp=Z,6.0nm,1.4s						
MKAR	**Makanchi Array**	**39.33**	**316**	P	**P**	**17 14 50.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=101,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**39.33**	**316**	P	**P**	**17 14 51.0**	**-0.2**
KNRA	**Kununurra**	**39.83**	**170**	P	**P**	**17 14 56.4**	**+0.9**
KNRA				IAmb	IAmb	17 14 57.5	
	comp=Z,19nm,1.2s						
ZAA0	**Zalesovo Array**	**41.10**	**327**	P	**P**	**17 15 04.3**	**-1.4**
ZAA0				IAmb	IAmb	17 15 05.0	
	comp=Z,1.9nm,0.6s						
ZALV	**Zalesovo Beam**	**41.10**	**327**	P	**P**	**17 15 03.6**	**-2.0**
	comp=Z,1.9nm,0.6s,baz=115,slow=7.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**41.10**	**327**	P	**P**	**17 15 04.1**	**-1.5**
KURK	**Kurchatov**	**43.04**	**320**	P	**P**	**17 15 21.4**	**-0.1**
KURK				IAmb	IAmb	17 15 31.7	
	comp=Z,4.7nm,1.6s						
KURBB	**Kurchatov Arra**	**43.05**	**320**	P	**P**	**17 15 20.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=109,slow=7.5,SNR=6.6						
WB0	**Warramunga Arr**	**44.95**	**164**	P	P	17 15 56.7	+19
WRA	**Warramunga Arr**	**45.11**	**164**	P	**P**	**17 15 39.6**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=345,slow=9.0,SNR=5.2						
WRA	**Warramunga Arr**	**45.11**	**164**	P	**P**	**17 15 37.1**	**-1.3**
KKAR	**Karatay Array**	**46.55**	**307**	P	**P**	**17 15 51.0**	**+1.3**
AS31	**Alice Springs**	**48.59**	**166**		P	17 15 57.0	-8.6
ASAR	**Alice Springs**	**48.59**	**166**	P	**P**	**17 16 08.0**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=339,slow=7.1,SNR=8.7						
ASAR	**Alice Springs**	**48.59**	**166**		P	17 15 56.5	-9.2
ABKAR	**Akbulak array**	**54.45**	**314**	P	**P**	**17 16 49.8**	**+0.5**
ABKAR	**Akbulak array**	**54.45**	**314**		**P**	**17 16 49.9**	**+0.6**
ABKAR				IAmb	IAmb	17 16 57.3

comp=Z,0.6nm,0.8s,baz=111,slow=7.0,SNR=4.5
BRTR Keskin Array B 74.26 307 P P 17 18 57.6 -1.9

*MDD **23** 17:22:03.2±2.4, 37°.24N×13°.19W, h0km, mb3.6/7, Error ellipse: s-maj=22.0km s-min=15.6km az=27.0, PRXIMO*
*INMG **23** 17:22:05.3±1.2, 37°.01N×13°.53W, h10km, ML2.3, Error ellipse: s-maj=10.5km s-min=8.5km az=19.0*

ISC 23 17:22:02.1±3.8, 37°.3N±0°.1×13°.2W±0°.2, h10km, n38, σ1§58/56, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.49**	**91**	*e*Sn	**Sn**	**17 23 36.4**	**-1.4**
PFVI				A	A	17 23 40.0	
	10nm,0.8s						
PFVI	**Vila Bisbo**	**3.49**	**91**	P	**Pn**	**17 22 56.2**	**-0.3**
	46nm,1.0s,SNR=7.9						
PFVI				S	**Sn**	**17 23 36.8**	**-1.0**
	13nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.52**	**60**	*e*Pn	**Pn**	**17 22 59.1**	**+2.2**
PMAFR				*e*Sn	**Sn**	**17 23 39.5**	**+0.8**
PMAFR				A	A	17 23 47.4	
	14nm,0.6s						
PMAFR	**Mafra**	**3.52**	**60**	P	**Pn**	**17 22 58.4**	**+1.5**
	1.8nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**17 23 39.3**	**+0.6**
	14nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.57**	**84**	*e*Sn	**Sn**	**17 23 38.9**	**-1.0**
PTEO				A	A	17 23 39.9	
	7.4nm,0.9s						
PTEO	**Sao Teotonio**	**3.57**	**84**	S	**Sn**	**17 23 38.9**	**-1.0**
	3.7nm,0.9s						
MORF	**Marmelete**	**3.62**	**88**	*e*Sn	**Sn**	**17 23 40.0**	**-1.3**
MORF				A	A	17 23 48.9	
	4.7nm,1.0s						
MORF	**Marmelete**	**3.62**	**88**	S	**Sn**	**17 23 40.0**	**-1.3**
	4.7nm,1.0s						
PNCL	**Nicolau / Gran**	**3.80**	**76**	*e*Pn	**Pn**	**17 23 02.5**	**+1.8**
PNCL				*e*Sn	**Sn**	**17 23 44.9**	**-0.6**
PNCL				A	A	17 23 50.1	
	3.7nm,0.5s						
PNCL	**Nicolau / Gran**	**3.80**	**76**	P	**Pn**	**17 23 02.5**	**+1.8**
PNCL				S	**Sn**	**17 23 44.9**	**-0.6**
	3.7nm,0.5s						
MESJ	**Messejana**	**4.00**	**80**	*e*Sn	**Sn**	**17 23 49.5**	**-0.8**
MESJ				A	A	17 23 52.5	
	2.7nm,0.7s						
MESJ	**Messejana**	**4.00**	**80**	S	**Sn**	**17 23 49.5**	**-0.8**
	2.7nm,0.7s						
PCVE	**Castro Verde**	**4.12**	**83**	*e*Sn	**Sn**	**17 23 51.7**	**-1.7**
PCVE				A	A	17 23 59.5	
	2.5nm,0.7s						
PCVE	**Castro Verde**	**4.12**	**83**	S	**Sn**	**17 23 51.7**	**-1.7**
	2.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.20**	**89**	*e*Sn	**Sn**	**17 23 54.1**	**-1.3**
PBDV				A	A	17 24 01.3	
	4.7nm,0.9s						
PBDV	**Barranco-do-Ve**	**4.20**	**89**	S	**Sn**	**17 23 54.1**	**-1.3**
	4.7nm,0.9s						
EVO	**Evora**	**4.29**	**71**	*e*Sn	**Sn**	**17 23 56.9**	**-0.8**
EVO				A	A	17 24 03.1	
	3.3nm,0.3s						
EVO	**Evora**	**4.29**	**71**	S	**Sn**	**17 23 56.9**	**-0.8**
	3.3nm,0.3s						
PBEJ	**Beja**	**4.30**	**78**	*e*Sn	**Sn**	**17 23 56.6**	**-1.2**
PBEJ	**Beja**	**4.30**	**78**	S	**Sn**	**17 23 56.6**	**-1.2**
PMTG	**Montargil**	**4.32**	**64**	*e*Pn	**Pn**	**17 23 09.4**	**+1.6**
PMTG				*e*Sn	**Sn**	**17 23 57.8**	**-0.4**
PMTG				A	A	17 24 01.8	
	1.3nm,0.1s						
PMTG	**Montargil**	**4.32**	**64**	P	**Pn**	**17 23 09.4**	**+1.6**
PMTG				S	**Sn**	**17 23 57.8**	**-0.4**
	1.3nm,0.1s						
PVAQ	**Vaqueiros**	**4.37**	**86**	*e*Pn	**Pn**	**17 23 11.4**	**+2.8**
PVAQ				*e*Sn	**Sn**	**17 23 58.0**	**-1.5**
PVAQ				A	A	17 24 04.4	
	2.5nm,0.1s						
PVAQ	**Vaqueiros**	**4.37**	**86**	P	**Pn**	**17 23 11.4**	**+2.8**
PVAQ				S	**Sn**	**17 23 58.0**	**-1.5**
	2.5nm,0.1s						
EGRO	**El Granado**	**4.56**	**85**	P	**Pn**	**17 23 11.9**	**+0.8**
	0.1nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**17 24 02.9**	**-1.2**
	2.1nm,0.5s,SNR=4.7						
PCAS	**Casmilo, Conde**	**4.62**	**51**	*e*Pn	**Pn**	**17 23 13.6**	**+1.6**
PCAS				*e*Sn	**Sn**	**17 24 07.1**	**+1.4**
PCAS				A	A	17 24 08.0	
	1.7nm,0.8s						
PCAS	**Casmilo, Conde**	**4.62**	**51**	P	**Pn**	**17 23 13.6**	**+1.6**
PCAS				S	**Sn**	**17 24 07.1**	**+1.4**
	1.7nm,0.8s						
PESTR	**Estremoz**	**4.71**	**68**	*e*Sn	**Sn**	**17 24 07.9**	**0.0**
PESTR				A	A	17 24 12.4	
	2.1nm,0.4s						
PMRV	**Marv??o**	**5.05**	**63**	*e*Pn	**Pn**	**17 23 20.1**	**+2.1**
PMRV				*e*Sn	**Sn**	**17 24 15.6**	**-0.8**
PMRV				A	A	17 24 19.1	
	1.8nm,0.3s						
PMRV	**Marv??o**	**5.05**	**63**	P	**Pn**	**17 23 20.1**	**+2.1**
PMRV				S	**Sn**	**17 24 15.6**	**-0.8**
	1.8nm,0.3s						
EBAD	**Badajoz**	**5.11**	**71**	S	**Sn**	**17 24 15.9**	**-1.9**
	0.8nm,0.3s,SNR=5.5						
EMIN	**Mina Concepcio**	**5.21**	**82**	S	**Sn**	**17 24 18.4**	**-1.9**
	6.2nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**6.08**	**39**	P	**Pn**	**17 23 32.1**	**-0.1**
	0.3nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**17 24 39.2**	**-2.6**
	12nm,0.7s,SNR=7.9						
MVO	**Moncorvo**	**6.18**	**49**	*e*Sn	**Sn**	**17 24 44.7**	**+0.5**
MVO	**Moncorvo**	**6.18**	**49**	P	**Pn**	**17 23 33.8**	**+0.3**
	0.7nm,0.2s,SNR=4.0						
MVO				S	**Sn**	**17 24 41.8**	**-2.4**
	2.2nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**6.22**	**80**	P	**Pn**	**17 23 34.7**	**+0.7**
	0.1nm,0.2s,SNR=4.0						
ECAB				S	**Sn**	**17 24 43.2**	**-2.1**
	1.1nm,0.4s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.79**	**34**	P	**Pn**	**17 23 41.8**	**0.0**
	0.3nm,0.1s,SNR=4.0						
EAGO				S	**Sn**	**17 24 55.1**	**-4.0**
	3.7nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.89**	**80**	S	**Sn**	**17 24 59.3**	**-2.5**
	2.7nm,0.5s,SNR=7.9						

*TAP **23** 17:28:17.8, 24°.91N×122°.98E, h132km, ML3.0, D*
*ISCJB **23** 17:28:18.7±0.5, 24°.79N±0°.04×123°.01E±0°.02, h119km±4km, Error ellipse: s-maj=6.6km s-min=2.8km az=173.0*
*JMA **23** 17:28:18.1±0.2, 24°.74N×123°.01E, h129km±2km, M2.3*

ISC 23 17:28:19.1±1.6, 24°.80N±0°.06×123°.01E±0°.03, h120km±9km, n63, σ0§84/113, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.34**	**180**	P	**Pn**	**17 28 36.3**	**+0.1**
YOJ				*e*S	**Sn**	**17 28 49.6**	**+0.6**
JYNG	**Yonagunijimaku**	**0.35**	**190**	P	**Pn**	**17 28 36.3**	**+0.1**
JYNG				*e*S	**Sn**	**17 28 49.7**	**+0.6**
IRIF	**Iriomote-Funau**	**0.80**	**125**	P	**Pn**	**17 28 39.2**	**0.0**
IRIF				S	**Sn**	**17 28 54.6**	**+0.2**
EOS1	**EOS1**	**0.84**	**253**	P	**Pn**	**17 28 39.6**	**+0.1**
	baz=245						
EOS1				S	**Sn**	**17 28 56.1**	**+1.2**
	baz=245						
HATJ	**Hateruma jima**	**1.04**	**135**	S	**Sn**	**17 28 58.9**	**+0.6**
JKRS	**Kuro-shima**	**1.07**	**121**	P	**Pn**	**17 28 42.1**	**+0.3**
JKRS				S	**Sn**	**17 28 59.3**	**+0.4**
TWC	**Suao**	**1.07**	**260**	*e*P	**Pn**	**17 28 41.3**	**-0.4**
	baz=253						
TWC				*e*S	**Sn**	**17 28 57.9**	**-1.1**
	baz=253						
TIPB	**Shuangxi**	**1.09**	**279**	P	**Pn**	**17 28 42.2**	**+0.2**
	baz=267						
TIPB				S	**Sn**	**17 28 59.1**	**-0.2**
	baz=267						
JIJ	**Ishigaki jima**	**1.12**	**113**	P	**Pn**	**17 28 42.0**	**-0.3**
JIJ				S	**Sn**	**17 28 59.1**	**-0.7**
JISG	**Ishigakijimahi**	**1.20**	**100**	P	**Pn**	**17 28 42.7**	**-0.4**
JISG				*e*S	**Sn**	**17 29 00.8**	**-0.6**
NANB	**Nanao**	**1.21**	**252**	P	**Pn**	**17 28 43.1**	**-0.1**
	baz=241						
NANB				S	**Sn**	**17 29 02.2**	**+0.7**
	baz=241						
ENA	**Nanau**	**1.21**	**252**	P	**Pn**	**17 28 43.2**	**-0.1**
	baz=241						
ENA				S	**Sn**	**17 29 01.9**	**+0.3**
	baz=241						
TWE	**Neicheng**	**1.22**	**267**	P	**Pn**	**17 28 43.3**	**-0.1**
	baz=257						
ENTT	**Nioudou**	**1.32**	**263**	P	**Pn**	**17 28 44.8**	**+0.3**
	baz=264						
YM01	**YM01**	**1.35**	**285**	*e*P	**Pn**	**17 28 44.9**	**+0.1**
	baz=280						
YM01				*e*S	**Sn**	**17 29 04.9**	**+0.5**
	baz=280						
NDT	**Datong Townshi**	**1.38**	**262**	P	**Pn**	**17 28 45.4**	**+0.3**
	baz=263						
NACB	**Ninganchiao**	**1.43**	**244**	P	**Pn**	**17 28 44.9**	**-0.8**
	baz=239						
NACB				*e*S	**Sn**	**17 29 05.1**	**-0.9**
	baz=239						
TWD	**Chiawan**	**1.48**	**241**	*e*P	**Pn**	**17 28 45.4**	**-0.8**
	baz=236						
YHNB	**Yeheng**	**1.49**	**265**	P	**Pn**	**17 28 46.6**	**+0.1**
	baz=260						
YHNB				S	**Sn**	**17 29 07.0**	**-0.3**
	baz=260						
NSK	**Sanguang**	**1.51**	**266**	P	**Pn**	**17 28 46.6**	**0.0**
	baz=260						
NSK				S	**Sn**	**17 29 07.2**	**-0.4**
	baz=260						
ETLH	**Xiulin Townshi**	**1.51**	**247**	P	**Pn**	**17 28 46.0**	**-0.7**
	baz=238						
ETLH				S	**Sn**	**17 29 07.2**	**-0.5**
	baz=238						
NNSB	**Datong**	**1.53**	**256**	P	**Pn**	**17 28 46.7**	**-0.2**
	baz=246						
NNSB				S	**Sn**	**17 29 08.3**	**+0.3**
	baz=246						
NNS	**Nan Shan**	**1.53**	**257**	P	**Pn**	**17 28 46.7**	**-0.3**
	baz=245						
NNS				S	**Sn**	**17 29 07.6**	**-0.6**
	baz=245						
JTJ	**Tarama**	**1.55**	**96**	P	**Pn**	**17 28 46.8**	**-0.2**
JTJ				*e*S	**Sn**	**17 29 08.6**	**+0.3**
WHF	**Hehuan Shan**	**1.72**	**248**	P	**Pn**	**17 28 48.6**	**-0.9**
	baz=239						
WHF				S	**Sn**	**17 29 11.7**	**-0.9**
	baz=239						
ESL	**Shilin**	**1.74**	**236**	P	**Pn**	**17 28 48.4**	**-1.0**
	baz=231						
ESL				S	**Sn**	**17 29 11.2**	**-1.2**
	baz=231						
TWT	**Tachien**	**1.76**	**252**	P	**Pn**	**17 28 50.1**	**+0.4**
	baz=242						
TWT				S	**Sn**	**17 29 13.2**	**+0.1**
	baz=242						
TDCB	**Techi**	**1.77**	**252**	P	**Pn**	**17 28 50.0**	**+0.1**
	baz=242						
TDCB				*e*S	**Sn**	**17 29 12.7**	**-0.7**
	baz=242						
LIOB	**Emei**	**1.82**	**266**	P	**Pn**	**17 28 50.1**	**-0.2**
	baz=261						
LIOB				S	**Sn**	**17 29 13.7**	**-0.5**
	baz=261						
CHGB	**Renai**	**1.83**	**247**	P	**Pn**	**17 28 50.5**	**-0.2**
	baz=238						
CHGB				S	**Sn**	**17 29 13.8**	**-0.9**
	baz=238						
EGFH	**Guangfu**	**1.83**	**232**	*e*P	**Pn**	**17 28 49.8**	**-0.7**
	baz=228						
EGFH				*e*S	**Sn**	**17 29 13.9**	**-0.5**
	baz=228						
NSTT	**Nanjuang**	**1.83**	**265**	P	**Pn**	**17 28 50.2**	**-0.3**
	baz=261						
NSTT				S	**Sn**	**17 29 13.7**	**-0.7**
	baz=261						
HSN	**Hsinchu**	**1.85**	**270**	*e*P	**Pn**	**17 28 50.5**	**-0.2**
	baz=267						
HGSD	**Ruisui**	**1.95**	**228**	P	**Pn**	**17 28 51.2**	**-0.6**
	baz=224						
HGSD				*e*S	**Sn**	**17 29 17.3**	**+0.4**
	baz=224						
WHP	**Taichung City**	**1.95**	**255**	P	**Pn**	**17 28 52.5**	**+0.5**
	baz=248						
WHP				S	**Sn**	**17 29 17.4**	**+0.3**
	baz=248						
JIRB	**Irabujima**	**1.97**	**89**	*e*S	**Sn**	**17 29 16.8**	**-0.5**
VWDT	**VWDT**	**2.00**	**239**	P	**Pn**	**17 28 52.4**	**-0.1**
	baz=235						
VWDT				*e*S	**Sn**	**17 29 17.1**	**-0.9**
	baz=235						
EHY	**Hungye**	**2.01**	**230**	P	**Pn**	**17 28 51.6**	**-1.1**
	baz=227						
EHY				*e*S	**Sn**	**17 29 16.7**	**-1.6**
	baz=227						
NMLH	**Miaoli**	**2.04**	**263**	*e*P	**Pn**	**17 28 52.7**	**-0.3**
	baz=259						
NMLH				*e*S	**Sn**	**17 29 18.3**	**-0.6**
	baz=259						
DPDB	**Guoxing**	**2.05**	**249**	P	**Pn**	**17 28 53.7**	**+0.5**
	baz=244						
DPDB				S	**Sn**	**17 29 19.5**	**+0.3**
	baz=244						
YULB	**Yu-li**	**2.10**	**229**	P	**Pn**	**17 28 52.8**	**-1.0**
	baz=231						
YULB				*e*S	**Sn**	**17 29 18.6**	**-1.8**
	baz=231						
JMJ2	**Miyako jima3**	**2.11**	**91**	S	**Sn**	**17 29 20.6**	**+0.1**
TWF1	**Yuli**	**2.13**	**228**	P	**Pn**	**17 28 53.3**	**-0.9**
	baz=231						
SSLB	**Suanglung**	**2.13**	**242**	P	**Pn**	**17 28 54.0**	**-0.2**
	baz=236						
SSLB				S	**Sn**	**17 29 20.6**	**-0.4**
	baz=236						
TYC	**Yuchr**	**2.16**	**246**	P	**Pn**	**17 28 55.3**	**+0.8**
	baz=245						
TYC				S	**Sn**	**17 29 22.8**	**+1.3**
	baz=245						
WDJ	**Dajia District**	**2.20**	**259**	*e*S	**Sn**	**17 29 22.3**	**-0.3**
	baz=255						
FULB	**Fuli**	**2.24**	**225**	P	**Pn**	**17 28 55.0**	**-0.6**
	baz=216						
FULB				S	**Sn**	**17 29 24.5**	**+1.0**
	baz=216						
WHYT	**Xinyi Township**	**2.25**	**241**	P	**Pn**	**17 28 56.4**	**+0.6**
	baz=234						
WHYT				S	**Sn**	**17 29 24.9**	**+1.0**
	baz=234						
WJS	**Zhushan**	**2.30**	**245**	*e*P	**Pn**	**17 28 56.7**	**+0.4**
	baz=251						
WJS				S	**Sn**	**17 29 25.8**	**+1.0**
	baz=251						
WNT	**Mingjian**	**2.31**	**247**	P	**Pn**	**17 28 57.3**	**+0.9**
	baz=244						
WNT				S	**Sn**	**17 29 26.3**	**+1.2**
	baz=244						
ELDTW	**Lidau**	**2.43**	**229**	P	**Pn**	**17 28 57.3**	**-0.8**
	baz=224						
ELDTW				S	**Sn**	**17 29 26.5**	**-1.4**
	baz=224						
CHN5	**Tsauling**	**2.44**	**241**	P	**Pn**	**17 28 58.8**	**+0.5**
	baz=247						
CHN5				S	**Sn**	**17 29 29.7**	**+1.5**
	baz=247						
STYT	**Tauyuan**	**2.63**	**232**	*e*P	**Pn**	**17 29 01.9**	**+1.4**
	baz=236						
CHN4	**Tsaushan**	**2.64**	**237**	P	**Pn**	**17 29 01.6**	**+0.9**
	baz=234						
CHN4				S	**Sn**	**17 29 33.8**	**+1.1**
	baz=234						
TPUB	**Ta-pu**	**2.64**	**236**	P	**Pn**	**17 29 01.5**	**+0.8**
	baz=233						
TPUB				S	**Sn**	**17 29 34.1**	**+1.4**
	baz=233						
TWGBT	**Beinan**	**2.65**	**222**	*e*P	**Pn**	**17 28 59.7**	**-1.1**
	baz=219						
TWGBT				*e*S	**Sn**	**17 29 32.1**	**-0.8**
	baz=219						
TWG	**Pinlang**	**2.65**	**222**	*e*S	**Sn**	**17 29 32.0**	**-1.0**
	baz=219						
WTP	**Ta-pu**	**2.68**	**235**	P	**Pn**	**17 29 01.7**	**+0.4**
	baz=232						
WTP				*e*S	**Sn**	**17 29 33.9**	**+0.1**
	baz=232						
TWK	**Hsinying**	**2.77**	**237**	*e*P	**Pn**	**17 29 03.4**	**+1.1**
	baz=234						
TWK				*e*S	**Sn**	**17 29 35.7**	**0.0**
	baz=234						
CHN1	**Nanshi**	**2.78**	**235**	*e*P	**Pn**	**17 29 03.6**	**+1.1**
	baz=232						
CHN1				*e*S	**Sn**	**17 29 36.2**	**+0.2**
	baz=232						
SLGT	**Liugui**	**2.81**	**231**	P	**Pn**	**17 29 04.4**	**+1.4**
	baz=236						
SLGT				S	**Sn**	**17 29 38.0**	**+1.3**
	baz=236						
MASBT	**Mashibuluo**	**3.08**	**225**	*e*P	**Pn**	**17 29 07.9**	**+1.4**
	baz=223						
MASBT				*e*S	**Sn**	**17 29 44.7**	**+1.7**
	baz=223						
PHUB	**P'eng-hu**	**3.39**	**249**	*e*S	**Sn**	**17 29 46.7**	**-3.6**
	baz=246						

IDC 23 17:37:22.3±2.8, 5°.37S×145°.13E, h60km±26km, mb2.9/2, mb1 3.2/5, mb1mx3.1/28, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=53.6km s-min=11.5km az=51.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.48**	**153**	P	Pn	17 38 27.4	-0.3
	1.1nm,0.3s,baz=323,slow=5.1,SNR=3.8						
PMG				S	Sn	17 39 19.3	+0.7
	4.3nm,0.3s,baz=311,slow=19,SNR=12						
JAY	**Jayapura**	**5.25**	**303**	P	Pn	17 38 37.7	-0.6
	0.6nm,0.3s,baz=114,slow=20,SNR=4.1						
JAY				S	Sn	17 39 38.5	+1.0
	0.8nm,0.3s,baz=124,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**17.89**	**215**	P	P	17 41 27.0	0.0
	0.0nm,0.3s,baz=38,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**21.16**	**210**	P	P	17 42 02.9	+0.3
	0.4nm,0.9s,baz=37,slow=12,SNR=3.5						
CMAR	**Chiang Mai Arr**	**51.32**	**299**	P	P	17 46 20.6	-0.3
	0.6nm,0.7s,baz=126,slow=5.9,SNR=5.2						

IDC 23 18:09:23.6±2.5, 30°.25S×177°.70W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/28, mbtmp3.6/2, MS3.5/3, Ms1 3.5/3, ms1mx2.8/34, Error ellipse: s-maj=59.7km s-min=22.8km az=100.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02**	**349**	Pn	Pb	18 09 44.6	+0.5
	145nm,0.3s,baz=92,slow=10,SNR=8.2						
RAO				Sn	Sn	18 10 02.2	+2.1
	282nm,0.3s,baz=99,slow=22,SNR=7.7						
RAO				LR	LR	18 10 10.6	
	comp=Z,146nm,20.1s,baz=96,slow=46						
DZM	**Mont Dzumac**	**16.39**	**296**	LR	LR	18 18 37.6	
	comp=Z,122nm,18.4s,baz=192,slow=34						
ASAR	**Alice Springs**	**43.38**	**267**	P	P	18 17 29.0	+1.0
	0.6nm,0.6s,baz=94,slow=7.1,SNR=13						
ASAR				PcP	PcP	18 19 13.9	-2.9
	0.5nm,0.8s,baz=107,slow=4.2,SNR=3.8						
WRA	**Warramunga Arr**	**44.35**	**272**	P	P	18 17 35.0	-0.9
	1.2nm,1.1s,baz=110,slow=7.9,SNR=5.8						
SIJI	**Sorong**	**56.52**	**291**	LR	LR	18 43 15.2	
	comp=Z,24nm,21.1s,baz=106,slow=36						
MJAR	**Matsushiro Arr**	**78.27**	**325**	LR	LR	18 48 09.1	
	comp=Z,62nm,21.6s,baz=25,slow=30						
AKASG	**Malin Array Be**	**151.34**	**323**	PKPbc	PKiKP	18 29 20.5	+1.2
	0.7nm,0.5s,baz=45,slow=2.5,SNR=5.2						

ANF 23 18:15:30.9±0.3, 37°.39N×83°.36W, ML2.1/4, ML1.9/8, Error ellipse: s-maj=2.8km s-min=2.2km az=119.0, Kentucky

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S51A	**Beattyville**	**0.31**	**323**	P	Pg	18 15 37.3	+0.4
	baz=143						
S52A	**Salyersville**	**0.36**	**38**	P	Pg	18 15 38.3	+0.4
	baz=218						
T51A	**Gray**	**0.63**	**228**	S	Sg	18 15 51.8	+0.6
	baz=48						
T53A	**Wise**	**0.77**	**122**	P	Pg	18 15 45.3	-0.4
	baz=302						
TZTN	**Tazewell**	**0.86**	**190**	P	Pg	18 15 47.8	+0.4
	baz=10						
R51A	**Hillsboro**	**0.93**	**349**	P	Pg	18 15 48.1	-0.6
	baz=169						
S49A	**Springfield**	**1.58**	**285**	P	Pn	18 16 00.1	-0.1
	baz=104						
Q52A	**Bidwell**	**1.79**	**28**	P	Pn	18 16 02.7	-0.3
	baz=209						
Q52A				S	Sb	18 16 27.6	0.0
	baz=209						
R54A	**Victor**	**2.04**	**66**	S	Sb	18 16 34.1	-0.5
	baz=248						

ANF 23 18:16:29.2±0.2, 37°.76N×82°.15W, Error ellipse: s-maj=2.4km s-min=2.1km az=149.0, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S53A	**Williamson**	**0.08**	**167**	P	Pg	18 16 30.7	+0.1
	baz=347						
S51A	**Beattyville**	**1.15**	**265**	P	Pg	18 16 51.1	-0.2
	baz=84						
Q53A	**Leroy**	**1.20**	**24**	S	Sb	18 17 08.6	-0.4
	baz=204						
S55A	**Lewisburg**	**1.30**	**89**	P	Pg	18 16 54.0	-0.2
	baz=270						
Q54A	**Coxs Mills**	**1.60**	**40**	P	Pn	18 16 59.2	+0.4
	baz=220						
T51A	**Gray**	**1.64**	**242**	P	Pn	18 16 59.2	-0.1
	baz=60						
TZTN	**Tazewell**	**1.65**	**223**	P	Pn	18 16 59.6	+0.2
	baz=42						
Q50A	**Georgetown**	**1.80**	**308**	P	Pn	18 17 01.6	+0.1
	baz=126						

*NNC **23** 18:25:15.3±0.7, 43°.23N×79°.91E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=4.6km s-min=3.5km az=40.0*
*KRNET **23** 18:25:15.1±0.1, 43°.04N×79°.89E, h15km, mb2.8*
*SOME **23** 18:25:15.0, 43°.22N×79°.95E, h15km*
*ISCJB **23** 18:25:16.9±0.9, 43°.22N±0°.04×79°.85E±0°.06, h10km, Error ellipse: s-maj=7.4km s-min=4.5km az=29.8*

ISC 23 18:25:13.2±1.4, 43°.13N±0°.04×79°.90E±0°.06, h10km, n37, σ1§44/67, 9C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.32**	**275**	P	**Pg**	**18 25 17.3**	**-2.4**
	11nm,0.1s						
SHLS				S	**Sg**	**18 25 19.2**	**-4.8**
	826nm,0.1s						
SHLS	**Shalkode**	**0.32**	**275**	⇓*e*P	**Pg**	**18 25 17.3**	**-2.4**
	baz=58						
SHLS				⇓*i*S	**Sg**	**18 25 19.2**	**-4.8**
	baz=58						
SHLS	**Shalkode**	**0.32**	**275**	⇓*e*P	**Pg**	**18 25 17.3**	**-2.4**
	14nm,0.1s						
SHLS				⇓*i*S	**Sg**	**18 25 19.2**	**-4.8**
	826nm,0.1s						
PDGK	**Podgornoye**	**0.36**	**303**	P	**Pb**	**18 25 22.0**	**+0.2**
	1.4nm,0.1s						
PDGK				S	**Sb**	**18 25 26.8**	**-0.7**
	13nm,0.1s						
PDGK	**Podgornoye**	**0.36**	**303**	⇓P	**Pb**	**18 25 21.6**	**-0.2**
	1.1nm,0.6s						
PDGK				⇓S	**Sb**	**18 25 26.4**	**-1.1**
	4.4nm,0.3s						
UZB	**Uzynbulak**	**0.64**	**272**	P	**Pn**	**18 25 27.7**	**-0.8**
	1.2nm,0.1s						
UZB				S	**Sb**	**18 25 36.7**	**+0.9**
	3.9nm,0.1s						
UZB	**Uzynbulak**	**0.64**	**272**	*e*P	**Pn**	**18 25 27.7**	**-0.8**
	baz=80						
UZB				*e*S	**Sb**	**18 25 36.8**	**+1.1**
	baz=80						
UZB	**Uzynbulak**	**0.64**	**272**	*e*P	**Pn**	**18 25 27.7**	**-0.8**
	1.2nm,0.1s						
UZB				*e*S	**Sb**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZHN				⇑iS			Sn	18 25 50.1	+0.6
	baz=77								
ZHN	**Zhinishke**	**1.07**	**272**	*e*P			**Pn**	**18 25 35.5**	**+1.1**
	2.1nm,0.1s								
ZHN				⇑iS			Sn	18 25 50.0	+0.6
	4.3nm,0.2s								
SATY	**Saty**	**1.10**	**267**	P			**Pn**	**18 25 35.9**	**+1.1**
	0.8nm,0.2s								
SATY				S			Sn	18 25 51.1	+1.1
	12nm,0.1s								
SATY	**Saty**	**1.10**	**267**	*e*P			**Pn**	**18 25 36.0**	**+1.2**
	1.7nm,0.1s								
SATY				⇓iS			Sn	18 25 51.1	+1.1
	12nm,0.1s								
DJR	**Jarkent**	**1.20**	**356**	P			**Pb**	**18 25 36.2**	**+0.1**
	1.4nm,0.1s								
DJR				S			Sb	18 25 51.5	-0.2
	8.6nm,0.2s								
DJR	**Jarkent**	**1.20**	**356**	*e*P			**Pb**	**18 25 36.0**	**-0.1**
	1.9nm,0.1s								
DJR				*e*S			Sb	18 25 51.3	-0.4
	8.6nm,0.2s								
MNBS	**Baschi**	**1.45**	**312**	P			**Pg**	**18 25 40.7**	**-0.1**
MNBS				S			Sg	18 25 59.7	+0.1
MNBS	**Baschi**	**1.45**	**312**	*e*P			**Pg**	**18 25 40.8**	**-0.1**
	baz=13								
MNBS				*e*S			Sg	18 25 59.8	+0.1
	baz=13								
MNBS	**Baschi**	**1.45**	**312**	*e*P			**Pg**	**18 25 40.8**	**-0.1**
	13nm,0.1s								
MNBS				*e*S			Sg	18 25 59.8	+0.1
	10nm,0.2s								
ANVS	**Anan'yevo**	**1.68**	**259**	⇓iP			**Pg**	**18 25 46.1**	**+0.7**
	baz=62								
ANVS				⇓iS			Sg	18 26 08.1	+1.0
	baz=62								
ARXS	**Arharly**	**1.85**	**306**	P			**Pg**	**18 25 48.4**	**-0.4**
ARXS				S			Sg	18 26 12.4	-0.4
ARXS	**Arharly**	**1.85**	**306**	*e*P			**Pg**	**18 25 48.4**	**-0.4**
	0.7nm,0.1s								
ARXS				*e*S			Sg	18 26 12.4	-0.4
	6.9nm,0.5s								
KOTS	**Kotyrbulak**	**2.04**	**274**	Pg			**Pg**	**18 25 53.0**	**+0.6**
	3.7nm,0.2s								
KOTS				Lg			Lg	18 26 20.3	
	12nm,0.3s								
KOTS	**Kotyrbulak**	**2.04**	**274**	*e*P			**Pg**	**18 25 52.9**	**+0.6**
	baz=76								
KOTS				*e*S			Sg	18 26 20.3	+1.4
	baz=76								
KOTS	**Kotyrbulak**	**2.04**	**274**	*e*P			**Pg**	**18 25 52.9**	**+0.5**
	3.7nm,0.2s								
KOTS				*e*S			Sg	18 26 20.3	+1.4
	12nm,0.3s								
MDOK	**Medeo**	**2.09**	**272**	Pg			**Pb**	**18 25 51.1**	**-0.1**
	3.4nm,1.0s								
MDOK				Lg			Lg	18 26 21.0	
	1.2nm,0.4s								
TARG	**Taragay, Kyrgy**	**2.09**	**229**	⇑iP			**Pg**	**18 25 53.1**	**-0.2**
	baz=30								
TARG				⇑iS			Sg	18 26 19.4	-1.0
	baz=30								
TNSS	**Tian-Shan**	**2.17**	**269**	Pg			**Pg**	**18 25 55.1**	**+0.4**
	0.4nm,0.1s								
TNSS				Lg			Lg	18 26 23.9	
	2.5nm,0.4s								
TNSS	**Tian-Shan**	**2.17**	**269**	*e*P			**Pg**	**18 25 55.2**	**+0.4**
	baz=71								
TNSS				*e*S			Sg	18 26 23.9	+1.1
	baz=71								
TNSS	**Tian-Shan**	**2.17**	**269**	*e*P			**Pg**	**18 25 55.2**	**+0.4**
	0.4nm,0.1s								
TNSS				*e*S			Sg	18 26 23.9	+1.1
	2.7nm,0.4s								
KAPS	**Kapalarasan**	**2.19**	**350**	Pg			**Pb**	**18 25 53.3**	**+0.4**
	0.8nm,0.2s								
KAPS				Lg			Lg	18 26 21.5	
	3.0nm,0.2s								
KAPS	**Kapalarasan**	**2.19**	**350**	*e*P			**Pb**	**18 25 53.3**	**+0.4**
	0.9nm,0.3s								
KAPS				*e*S			Sb	18 26 21.5	+1.4
	3.0nm,0.2s								
KDJ	**Kajisay**	**2.24**	**244**	⇑iP			**Pg**	**18 25 55.2**	**-1.0**
	baz=46								
KDJ				⇑iS			Sg	18 26 23.5	-1.8
	baz=46								
IZV	**Izvestkoviy**	**2.41**	**269**	Pg			**Pg**	**18 26 00.7**	**+1.2**
	1.0nm,0.1s								
IZV				Lg			Lg	18 26 33.4	
	5.0nm,0.5s								
IZV	**Izvestkoviy**	**2.41**	**269**	*e*P			**Pg**	**18 26 00.6**	**+1.2**
	1.0nm,0.1s								
IZV				*e*S			Sg	18 26 33.5	+2.8
	5.5nm,0.5s								
KTBS	**Karatobe**	**2.42**	**285**	Pg			**Pg**	**18 25 58.7**	**-0.8**
	0.8nm,0.4s								
KTBS				Lg			Lg	18 26 30.0	
	3.2nm,0.4s								
KTBS	**Karatobe**	**2.42**	**285**	*e*P			**Pg**	**18 25 58.8**	**-0.7**
	0.8nm,0.4s								
KTBS				*e*S			Sg	18 26 30.1	-0.7
	4.0nm,0.6s								
TKM2	**Tokmak 2**	**3.16**	**268**	⇓Pg			**Pg**	**18 26 13.3**	**-0.5**
	4.5nm,1.5s								
TKM2				⇑Lg			Lg	18 26 54.4	
	1.3nm,0.7s								

NIED ***23*** *18:42:00, 42.°60N×143.°90E, h74km, Mw4.6 Best double couple: M0:8.84000×10^15 NP1:φs:95.00000°, δ17.00000°, λ-80.00000°. NP2:φs:265.00000°, δ73.00000°, λ-93.00000°.*

ISCJB ***23*** *18:42:09.3±0.2, 42.°57N±0.°02×143.°88E±0.°02, h80km±1km, mb4.7/80, Error ellipse: s-maj=3.8km s-min=2.5km az=143.3*

SKHL ***23*** *18:42:09.9±0.4, 42.°52N×143.°86E, h80km±10km, mb5.9/4, msh6.5/4*

MOS ***23*** *18:42:09.4±0.9, 42.°58N×143.°85E, h80km, mb5.1/21, Error ellipse: s-maj=7.0km s-min=4.8km az=97.4*

BJI ***23*** *18:42:10.0±0.0, 42.°74N×143.°91E, h91km, mb4.6/52, mB4.9/35*

JMA ***23*** *18:42:10.4±0.1, 42.°60N×143.°83E, h77km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs:268.00000°, δ73.00000°, λ-101.00000°. NP2: φs:121.00000°, δ20.00000°, λ-59.00000°. Principal axes: T Plg27.0000°, Azm7.0000°; N Plg11.0000°, Azm272.0000°; P Plg61.0000°, Azm162.0000°;*

JMA Felt III J1.

NEIC ***23*** *18:42:10.6±1.6, 42.°58N±0.°06×143.°9E±0.°1, h77km±5km, mb4.7/91*

IDC ***23*** *18:42:11.2±1.3, 42.°64N×143.°82E, h82km±10km, mb4.3/27, mb1 4.4/32, mb1mx4.2/53, mbtmp4.5/32, MS3.4/16, Ms1 3.4/16, ms1mx3.2/44, Error ellipse: s-maj=12.8km s-min=8.2km az=95.0*

ISC 23 18:42:09.9±0.5, 42.°61N±0.°03×143.°94E±0.°03, h74km±4km, n367, σ1§47/402, mb4.6/115, 32C-32D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.31**	**346**	⇓P			**Pn**	**18 42 22.8**	**+1.3**
JOB				*e*S			**Sn**	**18 42 31.6**	**+1.5**
JCH	**Churui**	**0.42**	**271**	⇓P			**Pn**	**18 42 22.8**	**+0.4**
JCH				*e*S			**Sn**	**18 42 31.4**	**-0.2**
JTHR	**Tokachihiroo**	**0.57**	**237**	⇑P			**Pn**	**18 42 24.2**	**+0.5**
JTHR				*e*S			**Sn**	**18 42 33.8**	**0.0**
JAK	**Akkeshi**	**0.68**	**55**	⇓P			**Pn**	**18 42 26.1**	**+1.2**
JAK				*e*S			**Sn**	**18 42 37.7**	**+1.8**
JAR	**Ashorobuto**	**0.70**	**350**	⇓P			**Pn**	**18 42 26.0**	**+0.9**
JAR				*e*S			**Sn**	**18 42 37.1**	**+0.7**
ERM	**Erimo**	**0.82**	**225**	*i* PN			**Pn**	**18 42 28.1**	**+1.6**
ERM	**Erimo**	**0.82**	**225**				**Pn**	**18 42 26.8**	**+0.3**
JEM	**Erimo**	**0.82**	**225**	⇑P			**Pn**	**18 42 26.5**	**0.0**
JNBK	**Urakawa-nobuka**	**0.93**	**250**	⇑P			**Pn**	**18 42 27.8**	**0.0**
JNBK				*e*S			**Sn**	**18 42 40.3**	**-0.8**
JKHN	**Kushirohamanak**	**1.02**	**62**	⇓P			**Pn**	**18 42 30.2**	**+1.4**
JKHN				*e*S			**Sn**	**18 42 44.7**	**+1.8**
JFR	**Furan**	**1.13**	**300**	⇓P			**Pn**	**18 42 30.1**	**-0.2**
JFR				*e*S			**Sn**	**18 42 45.1**	**-0.4**
JNK	**Nakash**	**1.14**	**30**	⇓P			**Pn**	**18 42 31.1**	**+0.8**
JNK				*e*S			**Sn**	**18 42 46.2**	**+0.7**
JBT2	**Biratori 2**	**1.17**	**279**	⇓P			**Pn**	**18 42 30.5**	**-0.2**
JTKR	**Abashiri--Toko**	**1.36**	**359**	⇑P			**Pn**	**18 42 34.4**	**+1.2**
JTKR				*e*S			**Sn**	**18 42 52.2**	**+1.5**
JMP	**Maruseppu**	**1.46**	**343**	⇓P			**Pn**	**18 42 35.2**	**+0.7**
JMP				*e*S			**Sn**	**18 42 53.1**	**0.0**
JIAM	**Iburiatsuma**	**1.49**	**271**	⇓P			**Pn**	**18 42 36.9**	**+2.1**
NMR	**Nemuro--Hokkai**	**1.52**	**59**	*c* iPN			**Pn**	**18 42 35.8**	**+0.6**
NMR				*i* S			**Sn**	**18 42 54.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.52**	**59**	*i* P			**Pn**	**18 42 35.0**	**-0.2**
NMR				*i* S			**Sn**	**18 42 54.0**	**-0.4**
NEM2	**Nemuro 2**	**1.53**	**60**	P			**Pn**	**18 42 35.8**	**+0.5**
NEM2				*e*S			**Sn**	**18 42 54.6**	**+0.1**
JKK2	**Kamakawa 2**	**1.54**	**326**	P			**Pn**	**18 42 36.1**	**+0.6**
JAB	**Ashibetsu**	**1.54**	**306**	⇓P			**Pn**	**18 42 36.5**	**+0.9**
JAB				*e*S			**Sn**	**18 42 55.8**	**+0.9**
JRA	**Rausu**	**1.59**	**33**	⇑P			**Pn**	**18 42 37.5**	**+1.4**
JRA				*e*S			**Sn**	**18 42 58.4**	**+2.4**
GLVR	**Golovnino**	**1.62**	**45**	⇑*i* PN			**Pn**	**18 42 38.1**	**+1.5**
GLVR				*i* S			**Sn**	**18 42 57.8**	**+1.1**
GLVR				pmax			pmax		
	comp=N,165nm,0.1s								
GLVR				pmax			pmax		
	comp=E,142nm,0.1s								
GLVR				pmax			pmax		
	comp=Z,2μm,0.1s								
GLVR				smax			smax		
	comp=E,10μm,0.4s								
GLVR				smax			smax		
	comp=N,12μm,0.3s								
GLVR	**Golovnino**	**1.62**	**45**	*i* P			**Pn**	**18 42 38.0**	**+1.5**
GLVR				AMB			AMB	18 42 39.0	
	comp=N,2μm,0.4s								
GLVR				*i* S			**Sn**	**18 42 58.2**	**+1.5**
GLVR				A			A	18 43 00.0	
	comp=N,12μm,0.4s								
GLVR				A			A	18 43 00.0	
	comp=N,10μm,0.4s								
JKA	**Kamikawa-asahi**	**1.80**	**328**				**Pn**	**18 42 40.1**	**+1.2**
JKA							**Sn**	**18 43 01.1**	**+0.2**
ASAJ	**Asahikawa**	**1.80**	**328**	P			**Pn**	**18 42 40.1**	**+1.2**
	comp=N,128nm,0.3s,baz=179,slow=13,SNR=1076								
ASAJ				S			**Sn**	**18 43 01.1**	**+0.2**
	comp=N,196nm,0.3s,baz=128,slow=19,SNR=28								
GRPR	**Tuman**	**1.93**	**43**	*c* iPN			**Pn**	**18 42 42.1**	**+1.4**
GRPR				*i* S			**Sn**	**18 43 04.9**	**+0.8**
GRPR				pmax			pmax		
	comp=Z,3μm,0.2s								
GRPR				pmax			pmax		
	comp=N,324nm,0.1s								
GRPR				pmax			pmax		
	comp=E,364nm,0.1s								
GRPR				smax			smax		
	comp=E,7μm,0.2s								
GRPR				smax			smax		
	comp=N,3μm,0.1s								
GRPR	**Tuman**	**1.93**	**43**	*i* P			**Pn**	**18 42 42.0**	**+1.4**
GRPR				AMB			AMB	18 42 43.0	
	comp=N,3μm,0.4s								
GRPR				*i* S			**Sn**	**18 43 05.7**	**+1.6**
GRPR				A			A	18 43 07.0	
	comp=N,3μm,0.4s								
GRPR				A			A	18 43 07.0	
	comp=N,7μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**2.00**	**44**	*d* iPN			**Pn**	**18 42 43.6**	**+1.9**
YUK				*i* S			**Sn**	**18 43 07.6**	**+1.8**
YUK				pmax			pmax		
	comp=N,764nm,0.2s								
YUK				pmax			pmax		
	comp=E,612nm,0.2s								
YUK				pmax			pmax		
	comp=Z,7μm,0.2s								
YUK				smax			smax		
	comp=N,16μm,0.5s								
YUK				smax			smax		
	comp=E,2μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.00**	**44**	*i* P			**Pn**	**18 42 43.0**	**+1.3**
YUK				AMB			AMB	18 42 44.0	
	comp=E,5μm,0.5s								
YUK				*i* S			**Sn**	**18 43 07.0**	**+1.2**
YUK				A			A	18 43 08.0	
	comp=E,11μm,0.5s								
YUK				A			A	18 43 08.0	
	comp=E,2μm,0.5s								
KUR	**Kuril'sk**	**3.87**	**46**	*c* iPN			**Pn**	**18 43 09.3**	**+2.4**
KUR				*i* S			**Sn**	**18 43 53.5**	**+2.4**
KUR				pmax			pmax		
	comp=Z,266nm,0.7s								
KUR				pmax			pmax		
	comp=N,127nm,0.4s								
KUR				smax			smax		
	comp=N,682nm,0.7s								
KUR				smax			smax		
	comp=E,566nm,0.6s								
KUR	**Kuril'sk**	**3.87**	**46**	*e*P			**Pn**	**18 43 09.0**	**+2.1**
KUR				AMB			AMB	18 43 11.0	
	comp=E,239nm,0.3s								
KUR				*i* S			**Sn**	**18 43 52.3**	**+1.2**
KUR				A			A	18 44 00.0	
	comp=E,676nm,0.4s								
KUR				A			A	18 44 00.0	
	comp=E,368nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.43**	**349**	⇑*e*PN			**Pn**	**18 43 15.3**	**+0.7**
YSS				*e*S			**Sn**	**18 44 05.1**	**+0.3**
YSS				pmax			pmax		
	comp=Z,90nm,0.7s								
YSS				smax			smax		
	comp=E,170nm,0.4s								
YSS				MLR			MLR		
	comp=Z,600nm,12.0s								
YSS	**Yuzh-Sakhalins**	**4.43**	**349**	*e*P			**Pn**	**18 43 15.3**	**+0.7**
YSS				AMB			AMB	18 43 17.4	
	comp=Z,90nm,0.4s								
YSS				*e*S			**Sn**	**18 44 05.1**	**+0.3**
YSS				A			A	18 44 05.5	
	comp=Z,170nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.43**	**349**				**Pn**	**18 43 15.2**	**+0.6**
TEY	**Ternei**	**5.83**	**297**	*e*PN			**Pn**	**18 43 35.2**	**+1.4**
TEY	**Ternei**	**5.83**	**297**	*e*P			**Pn**	**18 43 35.2**	**+1.4**
MJB9	**Matsu-Tunnel**	**7.50**	**218**				**Pn**	**18 43 56.0**	**-0.6**
MAJO	**Matsushiro**	**7.50**	**218**	PN			**Pn**	**18 43 56.1**	**-0.5**
MAJO	**Matsushiro**	**7.50**	**218**				**Pn**	**18 43 56.1**	**-0.5**
MAT	**Matsushiro**	**7.50**	**218**	P			**Pn**	**18 43 56.3**	**-0.3**
MAT				*e*S			**Sn**	**18 45 18.6**	**-1.5**
MJAR	**Matsushiro Arr**	**7.50**	**218**	PN			**Pn**	**18 43 58.2**	**+1.6**
MJAR	**Matsushiro Arr**	**7.50**	**218**	P			**Pn**	**18 43 56.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=33,slow=15,SNR=46								
MJAR				S			**Sn**	**18 45 17.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=281,slow=25,SNR=3.2								
MJAR	**Matsushiro Arr**	**7.50**	**218**				**Pn**	**18 43 58.2**	**+1.6**
TYV	**Tymovskoe**	**8.31**	**354**	*e*PN			**Pn**	**18 44 10.3**	**+2.8**
TYV				*e*S			**Sn**	**18 45 41.5**	**+1.8**
TYV				pmax			pmax		
	comp=Z,61nm,0.9s								
TYV				pmax			pmax		
	comp=Z,500nm,4.5s								
TYV				smax			smax		
	comp=N,18nm,1.3s								
TYV	**Tymovskoe**	**8.31**	**354**	*e*P			**Pn**	**18 44 10.3**	**+2.8**
TYV				AMB			AMB	18 44 11.0	
	comp=N,61nm,0.9s								
TYV				AMB			AMB	18 44 11.0	
	comp=N,500nm,4.5s								
TYV				*e*S			**Sn**	**18 45 39.0**	**-0.7**
TYV				A			A	18 45 42.0	
	comp=N,18nm,1.3s								
USRK	**Ussuriysk Ar.**	**8.84**	**284**	P			**Pn**	**18 44 15.7**	**+0.9**
	baz=96,slow=15,SNR=5.1								
USRK				LR			LR	18 47 45.8	
	comp=N,81nm,18.8s,baz=87,slow=38								
USRK	**Ussuriysk Ar.**	**8.84**	**284**				**Pn**	**18 44 14.5**	**-0.4**
INU	**Inuyama**	**9.03**	**219**				**Pn**	**18 44 17.0**	**-0.4**
INU					Sn		**Sn**	**18 45 52.3**	**-5.1**
MSHR	**Mys Shultsa**	**9.43**	**274**	⇑*e*PN			**Pn**	**18 44 24.0**	**+1.2**
GRNR	**Gornyy**	**9.66**	**330**	⇑*i* PN			**Pn**	**18 44 27.6**	**+1.7**
GRNR				*e*S			**Sn**	**18 46 17.5**	**+4.9**
GRNR				pmax			pmax		
	comp=Z,30nm,0.8s								
GRNR				smax			smax		
	comp=N,3.0nm,0.9s								
GRNR				MLR			MLR		
	comp=Z,260nm,17.0s								
JHJ2	**Mitsune**	**10.02**	**200**	Pn			**Pn**	**18 44 28.3**	**-2.7**
JHJ	**Hachijo jima 2**	**10.02**	**200**	P			**Pn**	**18 44 28.1**	**-3.0**
	comp=Z,18nm,0.3s,baz=333,slow=14,SNR=24								
JHJ				S			Sn	18 46 12.2	-10
	comp=Z,56nm,0.3s,baz=60,slow=23,SNR=10								
JHJ				LR			LR	18 48 55.6	
	comp=Z,230nm,21.2s,baz=42,slow=40								
KLR	**Kul'dur**	**10.76**	**312**	P			**Pn**	**18 44 41.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=119,slow=16,SNR=9.7								
KLR				LR			LR	18 49 30.0	
	comp=Z,92nm,18.2s,baz=182,slow=41								
KLR	**Kul'dur**	**10.76**	**312**	*e*P			**Pn**	**18 44 41.6**	**+0.6**
KSRS	**Korea Array**	**13.30**	**253**	P			**Pn**	**18 45 15.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=64,slow=14,SNR=2.7								
KSRS				S			**Sn**	**18 47 48.2**	**+6.7**
	comp=Z,0.4nm,0.3s,baz=65,slow=24,SNR=7.0								
KSRS				LR			LR	18 50 02.1	
	comp=Z,92nm,19.3s,baz=62,slow=36								
CN2	**Changchun**	**13.54**	**281**	*e*P			**Pn**	**18 45 18.9**	**+0.2**
CN2				*e*PP			**PnPn**	**18 45 31.8**	**+4.8**
CN2				*e*S			**Sn**	**18 47 48.6**	**+1.2**
CN2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
CN2				LR			LR		
	comp=Z,200nm,12.0s								
CN2				LR			LR		
	comp=Z,180nm,12.0s								
CN2				LR			LR		
	comp=Z,150nm,14.0s								
PEA0B	**Petropavlovsk-**	**13.96**	**36**	P			**Pn**	**18 45 22.2**	**-2.0**
PEA0B	**Petropavlovsk-**	**13.96**	**36**				**Pn**	**18 45 22.2**	**-2.0**
PETK	**Petropavlovsk-**	**13.96**	**36**	P			**Pn**	**18 45 21.4**	**-2.8**
PETK	**Petropavlovsk-**	**13.96**	**36**	P			**Pn**	**18 45 21.7**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=221,slow=7.8,SNR=46								
PETK	**Petropavlovsk-**	**13.96**	**36**				**Pn**	**18 45 21.4**	**-2.8**
JNU	**Nakatsue**	**13.98**	**232**	P			**Pn**	**18 45 23.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=21,slow=8.6,SNR=3.7								
JNU				LR			LR	18 50 42.7	
	comp=Z,118nm,20.6s,baz=44,slow=37								
JNU	**Nakatsue**	**13.98**	**232**				**Pn**	**18 45 22.7**	**-1.9**
TJN	**Taejon**	**14.22**	**250**	⇑*e*P			**Pn**	**18 45 26.8**	**-0.8**
JCJ	**Chichijima**	**15.14**	**186**	P			**Pn**	**18 45 43.4**	**-1.2**
	comp=Z,9.7nm,0.3s,baz=278,slow=19,SNR=8.0								
JCJ				S			Sn	18 48 23.3	-13
	comp=Z,11nm,0.3s,baz=66,slow=20,SNR=4.4								
JCJ				LR			LR	18 57 19.6	
	comp=Z,22nm,18.0s,baz=26,slow=58								
ZEA	**Zeya**	**15.70**	**321**	*e*P			**Pn**	**18 45 47.2**	**+0.7**
ZEA				pmax			pmax		
	comp=N,31nm,0.8s								
ZEA				pmax			pmax		
	comp=Z,36nm,0.8s								
MA2	**Magadan**	**17.51**	**12**	⇓*e*P			**Pn**	**18 46 07.9**	**-1.0**
MA2	**Magadan**	**17.51**	**12**	P			**Pn**	**18 46 08.5**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=199,slow=9.6,SNR=16								
MA2	**Magadan**	**17.51**	**12**	P			**Pn**	**18 46 07.6**	**-1.3**
MA2				IAmb			IAmb	18 46 10.1	
	comp=Z,40nm,0.8s								
SEY	**Seymchan**	**20.96**	**11**	P			**P**	**18 46 44.6**	**-1.9**
	comp=Z,122nm,0.9s,baz=195,slow=9.6,SNR=154								
BJI	**Beijing**	**20.97**	**272**	P			**P**	**18 46 46.3**	**-0.6**
BJI				pmax			pmax		
	comp=Z,7.0nm,0.8s								
YAK	**Yakutsk**	**21.22**	**341**	*e*P			**P**	**18 46 45.7**	**-3.7**
YAK				*e*S			**S**	**18 50 35.7**	**-5.3**
YAK				*e**SS			**sS**	**18 51 07.4**	**+1.5**
YAK				pmax			pmax		
	comp=Z,32nm,0.9s								
YAK				pmax			pmax		
	comp=N,8.0nm,1.0s								
YAK				pmax			pmax		
	comp=E,6.0nm,0.9s								
YAK				smax			smax		
	comp=E,60nm,1.0s								
YAK				smax			smax		
	comp=N,169nm,1.4s								
YAK	**Yakutsk**	**21.22**	**341**	P			**P**	**18 46 45.8**	**-3.7**
	comp=N,20nm,0.2s,baz=66,slow=3.9,SNR=56								
YAK	**Yakutsk**	**21.22**	**341**	P			**P**	**18 46 45.8**	**-3.6**
YAK				IAmb			IAmb	18 46 50.3	
	comp=Z,44nm,0.8s								
NJ2	**Nanjing**	**22.48**	**250**	*e*P			**P**	**18 47 03.0**	**-0.1**
NJ2				pmax			pmax		
	comp=Z,9.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**24.15**	**277**	*e*P			**P**	**18 47 24.1**	**+5.0**
HHC				pmax			pmax		
	comp=Z,6.0nm,1.0s								
HHC				pmax			pmax		
	comp=Z,8.0nm,6.3s								
BOD	**Bodaibo**	**24.19**	**319**	*e*P			**P**	**18 47 15.7**	**-3.5**
BOD				pmax			pmax		
	comp=Z,9.0nm,1.0s								
ULN	**Ulaanbaatar**	**26.32**	**294**	*ce*P			**P**	**18 47 38.7**	**-0.1**
ULN				pmax			pmax		
	comp=Z,18nm,2.5s								
ULN	**Ulaanbaatar**	**26.32**	**294**	*e*P			**P**	**18 47 38.7**	**-0.1**
ULN	**Ulaanbaatar**	**26.32**	**294**	P			**P**	**18 47 38.8**	**-0.1**
WHN	**Wuhan**	**26.50**	**253**	⇑P			**P**	**18 47 41.4**	**+1.1**
WHN				pmax			pmax		
	comp=Z,38nm,0.7s								
SONM	**Songino Array**	**26.77**	**294**	P			**P**	**18 47 43.0**	**+0.2**
SONM				pmax			pmax		
	comp=Z,14nm,0.9s								
SONM	**Songino Array**	**26.77**	**294**	P			**P**	**18 47 42.9**	**0.0**
	comp=Z,18nm,0.9s,baz=82,slow=8.2,SNR=92								
SONM	**Songino Array**	**26.77**	**294**	P			**P**	**18 47 43.0**	**+0.2**
BILL	**Bilibino**	**28.14**	**18**	*d* iP			**P**	**18 47 52.2**	**-2.4**
BILL				*i*				18 48 48.8	
BILL				pmax			pmax		
	comp=Z,5.0nm,1.0s								
BILL				MLR			MLR		
	comp=Z,101nm,20.0s								
BILL	**Bilibino**	**28.14**	**18**	P			**P**	**18 47 52.5**	**-2.2**
TLY	**Talaya**	**28.55**	**303**	⇓*e*P			**P**	**18 47 59.0**	**+0.5**
TLY				pmax			pmax		
	comp=Z,7.0nm,0.8s								
TLY	**Talaya**	**28.55**	**303**	*e*P			**P**	**18 47 59.0**	**+0.5**
XAN	**Xi'an**	**28.61**	**264**	P			**P**	**18 47 59.8**	**+0.6**

NRIK LR LR 19 07 02.7
comp=Z,101nm,19.3s,baz=78,slow=38
KCP Kidapawan 39.16 211⇑ *i* P **P 18 49 32.5 +1.8**
SLVN Son La 39.56 250 P **P 18 49 35.0 +1.1**
SLVN IAmb IAmb 18 49 36.2
comp=Z,8.4nm,0.9s
ZAA0 Zalesovo Array 39.82 308 P **P 18 49 35.2 -0.4**
ZALV Zalesovo Beam 39.82 308 *i* P **P 18 49 35.7 0.0**
ZALV pmax pmax
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 39.82 308 P **P 18 49 35.0 -0.7**
comp=Z,23nm,0.8s,baz=86,slow=7.7,SNR=74
ZALV ScP **ScP 18 55 22.6 0.0**
comp=Z,2.5nm,0.8s,baz=90,slow=4.3,SNR=8.4
ZALV LR LR 19 05 49.4
comp=Z,44nm,18.4s,baz=80,slow=36
SVW2 Sparrevohn 39.98 41 P **P 18 49 40.1 +3.2**
IMAR Indian Mountai 40.91 34 P **P 18 49 45.1 +0.6**
KDAK Kodiak Island 41.74 46 *i* P **P 18 49 53.4 +2.0**
BPAW Bear Paw Mtn. 42.05 36 P **P 18 49 54.9 +1.0**
BPAW IAmb IAmb 18 49 58.4
comp=Z,5.4nm,0.7s
KTH Kantishna Hill 42.09 37 P **P 18 49 55.4 +1.1**
KTH IAmb IAmb 18 49 56.8
comp=Z,19nm,1.1s
NONG Nongkai 42.30 247 P **P 18 49 58.1 +1.7**
comp=Z,0.5nm,0.9s
COLD Coldfoot 42.37 32 P **P 18 49 57.7 +1.3**
TOLK Toolik Lake Re 42.65 30 P **P 18 49 58.8 0.0**
BWN Browne 42.71 36 P **P 18 50 01.2 +1.9**
UBPT Khong Chiam 42.73 242 P **P 18 50 02.1 +2.2**
comp=Z,11nm,1.0s
MCK McKinley 42.97 37 P **P 18 50 02.4 +1.0**
MCK pmax pmax
comp=Z,23nm,1.4s
MCK McKinley 42.97 37 P **P 18 50 02.4 +1.0**
MCK IAmb IAmb 18 50 18.7
comp=Z,23nm,1.4s
MK31 Makanchi Array 43.03 298 P **P 18 50 01.7 -0.4**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 43.03 298 P **P 18 50 01.7 -0.4**
MKAR Makanchi Array 43.03 298 *i* P **P 18 50 02.9 +0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 43.03 298 P **P 18 50 01.7 -0.4**
comp=Z,4.7nm,0.7s,baz=80,slow=8.1,SNR=19
MKAR LR LR 19 07 25.2
comp=Z,43nm,18.6s,baz=68,slow=35
MKAR Makanchi Array 43.03 298 *e*P **P 18 50 02.9 +0.8**
GHO Glory Hole Cre 43.14 40 P **P 18 50 04.7 +1.9**
GHO IAmb IAmb 18 50 06.9
comp=Z,20nm,0.9s
MDM Murphy Dome 43.21 35 P **P 18 50 04.0 +0.7**
MDM IAmb IAmb 18 50 06.5
comp=Z,11nm,0.7s
WRH Wood River Hil 43.29 36 P **P 18 50 06.1 +2.1**
WRH IAmb IAmb 18 50 08.8
comp=Z,7.4nm,0.8s
COLA College 43.37 35 P **P 18 50 05.3 +0.8**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 43.37 35 P **P 18 50 05.3 +0.8**
CCB Clear Creek Bu 43.41 36 P **P 18 50 05.3 +0.5**
SML Sawmill 43.41 40 P **P 18 50 06.2 +1.2**
SML IAmb IAmb 18 50 08.7
comp=Z,22nm,1.0s
PAYA Payao 43.69 252 P **P 18 50 09.6 +1.9**
comp=Z,19μm,0.9s,comp=Z,472μm
DHY Denali Highway 43.72 38 P **P 18 50 08.7 +1.1**
DHY IAmb IAmb 18 50 11.5
comp=Z,13nm,0.7s
IL31 43.79 35 P **P 18 50 07.1 -0.8**
ILAR Eielson Array 43.79 35 P **P 18 50 08.4 +0.5**
comp=Z,11nm,0.7s,baz=260,slow=5.8,SNR=49
ILAR Eielson Array 43.79 35 P **P 18 50 07.9 0.0**
HDA Harding Lake 43.79 36 P **P 18 50 08.0 +0.1**
HDA IAmb IAmb 18 50 09.6
comp=Z,8.3nm,1.0s
KURK Kurchatov 44.22 304 *c i* P **P 18 50 11.2 -0.3**
KURK pmax pmax
comp=Z,26nm,1.3s
KURK Kurchatov 44.22 304 *e*P **P 18 50 11.2 -0.3**
KURK Kurchatov 44.22 304 P **P 18 50 11.3 -0.2**
KURK IAmb IAmb 18 50 13.1
comp=Z,19nm,1.1s
PRP Porcupine Dome 44.31 34 P **P 18 50 13.3 +1.1**
FYU Fort Yukon 44.35 33 P **P 18 50 13.7 +1.4**
BMAR Burnt Mountain 44.55 31 P **P 18 50 15.2 +1.3**
CHAI Chaiyaphum 44.60 246 P **P 18 50 16.3 +1.4**
comp=Z,27μm,0.9s,comp=Z,292μm
CMMT Chiang Mai 44.70 252 P **P 18 50 16.9 +1.2**
comp=Z,8.2nm,0.9s
CHTO Chiang Mai 44.70 252 P **P 18 50 16.4 +0.7**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 44.70 252 P **P 18 50 16.4 +0.7**
CHTO IAmb IAmb 18 50 17.7
comp=Z,12nm,0.8s
SIJI Sorong 44.76 198 P **P 18 50 17.1 +0.9**
comp=Z,15nm,0.6s,baz=31,slow=8.4,SNR=9.6
RIDG Independent Ri 44.78 37 P **P 18 50 16.9 +1.0**
RIDG IAmb IAmb 18 50 20.8
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 44.94 252 P **P 18 50 18.8 +1.2**
comp=Z,4.0nm,0.8s,baz=46,slow=7.0,SNR=35
CMAR LR LR 19 09 04.0
comp=Z,28nm,19.1s,baz=325,slow=36
CMAR Chiang Mai Arr 44.94 252 P **P 18 50 18.1 +0.4**
CMAR **PcP 18 51 58.1 +0.3**
JAY Jayapura 45.01 185 P **P 18 50 18.6 +0.5**
comp=Z,25nm,0.9s,baz=29,slow=4.4,SNR=8.2
SCRK Sand Creek 45.13 36 P **P 18 50 18.9 +0.2**
SCRK IAmb IAmb 18 50 20.0
comp=Z,10nm,0.9s
DOT Dot Lake 45.14 37 P **P 18 50 19.7 +1.0**
DOT IAmb IAmb 18 50 23.3
comp=Z,6.3nm,0.7s
MHMT Maesarieng 45.84 252 P **P 18 50 26.5 +1.8**
EGAK Eagle 46.23 35 P **P 18 50 27.3 +0.1**
EGAK IAmb IAmb 18 50 28.8
comp=Z,7.8nm,0.9s
BCAR Beaver Creek A 46.24 37 P **P 18 50 28.8 +1.4**
EPYK Eagle Plains 47.76 32 P **P 18 50 40.3 +1.1**
BRVK Borovoye 48.46 309 *ce*P **P 18 50 44.7 0.0**
BRVK pmax pmax
comp=Z,16nm,0.8s
BRVK Borovoye 48.46 309 *e*P **P 18 50 44.7 0.0**
BRVK Borovoye 48.46 309 P **P 18 50 45.0 +0.3**
INK Inuvik 48.56 29 P **P 18 50 45.4 +0.2**
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 48.56 29 P **P 18 50 45.9 +0.6**
comp=Z,18nm,0.6s,baz=298,slow=7.2,SNR=64
INK Inuvik 48.56 29 P **P 18 50 45.4 +0.2**
JIRN Jiri 48.63 272 *e*P **P 18 50 47.2 +0.4**
comp=Z,4.3nm,0.3s
GUN Gumba 48.72 272 *e*P **P 18 50 47.4 -0.1**
comp=Z,10nm,0.4s
RAMN Ramite 48.72 271 *e*P **P 18 50 47.3 -0.1**
HYT Haines Junctio 48.72 40 P **P 18 50 49.0 +2.2**
KKN Kakani 49.23 272 *e*P **P 18 50 51.3 +0.1**
comp=Z,9.6nm,0.7s
PKI Pulchoki 49.25 272 *e*P **P 18 50 51.3 -0.2**
PKIN Pulchoki 49.26 272 *e*P **P 18 50 51.2 -0.3**
GKN Gorkha 49.58 273 *e*P **P 18 50 53.9 +0.1**
comp=Z,7.0nm,0.3s
AAK Ala-Archa 49.72 295⇓ *e*P **P 18 50 53.8 -0.9**
AAK pmax pmax
comp=Z,5.0nm,2.5s
AAK Ala-Archa 49.72 295 *e*P **P 18 50 53.8 -0.9**
DANN Dangsing 50.04 274 *e*P **P 18 50 58.4 +0.9**
comp=Z,32nm,0.6s
KSH Kashi 50.08 291 *e*P **P 18 51 00.9 +3.5**
KSH LR LR
comp=Z,350nm,8.7s
KSH LR LR
comp=Z,310nm,9.4s
KOLN Koldanda 50.48 273 *e*P **P 18 51 01.0 +0.3**
ARSB Arslanbob 51.31 294 P **P 18 51 06.9 +0.3**
ARSB IAmb IAmb 18 51 10.5
comp=Z,7.8nm,0.9s
PMG Port Moresby 51.84 176 P **P 18 51 11.5 +1.0**
PMG pmax pmax
comp=Z,6.0nm,0.9s
PMG Port Moresby 51.84 176 P **P 18 51 11.6 +1.0**
comp=Z,5.2nm,0.7s,baz=4.2,slow=8.4,SNR=5.1
PMG Port Moresby 51.84 176 P **P 18 51 11.5 +1.0**
PMG IAmb IAmb 18 51 12.1
comp=Z,5.8nm,0.8s
KK31 Karatay Array 52.16 297 P **P 18 51 12.3 -0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 52.16 297 P **P 18 51 12.3 -0.5**
KKAR Karatay Array 52.16 297 P **P 18 51 11.9 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 52.16 297 P **P 18 51 11.9 -0.9**
SVE Sverdlovsk 52.35 316⇓ *e*P **P 18 51 14.0 0.0**
SVE pmax pmax
comp=Z,28nm,0.8s
ARU Arti 53.57 317 *d i* P **P 18 51 22.9 0.0**
ARU *PP **pP 18 51 41.6 0.0**
ARU 18 53 21.7
ARU S **S 18 58 52.6 +2.3**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU Arti 53.57 317 *e*P **P 18 51 22.9 0.0**
ARU Arti 53.57 317 P **P 18 51 22.2 -0.7**
GAR Garm 54.20 293 P **P 18 51 29.2 +1.2**
GAR IAmb IAmb 18 51 33.7
comp=Z,5.8nm,0.9s
CHGR Chuyangaron 55.15 293 P **P 18 51 34.0 -0.8**
ABKAR Akbulak array 55.93 308 P **P 18 51 40.0 -0.2**
ABKAR IAmb IAmb 18 52 00.5
comp=Z,12nm,1.3s
COEN Coen 56.28 181 P **P 18 51 43.5 +0.6**
MTN Manton Dam 56.41 195 P **P 18 51 44.0 +0.2**
RES Resolute Bay 56.72 16 P **P 18 51 45.1 -0.3**
RES pmax pmax
comp=Z,62nm,0.7s
RES Resolute Bay 56.72 16 P **P 18 51 45.4 +0.1**
comp=Z,56nm,0.7s,baz=305,slow=7.2,SNR=129
RES Resolute Bay 56.72 16 P **P 18 51 45.1 -0.3**
PRGR Permogore 57.20 326 *e*P **P 18 51 45.1 -3.8**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 57.35 289 P **P 18 51 49.5 -1.2**
KBL pmax pmax
comp=Z,4.0nm,0.9s
KBL Kabul 57.35 289 P **P 18 51 49.5 -1.2**
KBL IAmb IAmb 18 52 11.8
comp=Z,4.2nm,0.9s
YKA Yellowknife Ar 58.04 32 P **P 18 51 55.8 +1.0**
comp=Z,6.1nm,0.7s,baz=305,slow=6.8,SNR=8.2
YKA Yellowknife Ar 58.04 32 P **P 18 51 54.8 0.0**
LEM Lembang 59.27 223 P **P 18 52 03.8 -0.3**
comp=Z,25nm,0.9s,baz=24,slow=7.0,SNR=6.8
TULEG Thule 59.32 8 P **P 18 52 02.6 -0.8**
ARCES ARCESS Array B 59.48 339 P **P 18 52 04.4 -0.3**
ARCES ARCESS Array B 59.48 339 P **P 18 52 03.6 -1.2**
comp=Z,7.2nm,0.9s,baz=64,slow=7.5,SNR=8.9
ARCES LR LR 19 21 19.9
comp=Z,71nm,19.5s,baz=157,slow=40
ARCES ARCESS Array B 59.48 339 P **P 18 52 04.4 -0.3**
KLMR Klimovskoe 60.12 327 *e*P **P 18 52 07.5 -1.6**
KLMR *e**PP **pP 18 52 26.8 -1.4**
KLMR pmax pmax
comp=Z,21nm,1.0s
KLMR Klimovskoe 60.12 327 *e*P **P 18 52 07.6 -1.6**
KLMR AMP 18 52 10.4
comp=Z,21nm,1.0s
KLMR *e*pP **pP 18 52 26.8 -1.4**
DAG Danmarks Havn 60.39 355 *i* P **P 18 52 10.0 -0.8**
DAG pmax pmax
comp=Z,23nm,1.0s
DAG Danmarks Havn 60.39 355 *i* P **P 18 52 10.0 -0.8**
comp=Z,23nm,1.0s
CTA Charters Tower 62.41 178 P **P 18 52 25.2 +0.1**
comp=Z,3.7nm,0.9s,baz=343,slow=9.3,SNR=4.4
WRAB Tennant Creek 62.85 190⇑ *e*P **P 18 52 27.8 -0.2**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 62.85 190 P **P 18 52 27.3 -0.7**
WRAB IAmb IAmb 18 52 31.4
comp=Z,10.0nm,0.8s
WB2 Warramunga Arr 62.86 190 P **P 18 52 27.8 -0.3**
WB2 IAmb IAmb 18 52 31.4
comp=Z,10nm,0.8s
WRA Warramunga Arr 62.86 190 P **P 18 52 27.6 -0.4**
comp=Z,9.2nm,0.8s,baz=6.9,slow=6.8,SNR=36
WRA Warramunga Arr 62.86 190 P **P 18 52 26.6 -1.5**
GEYT Alibeck 62.91 298 P **P 18 52 28.3 -0.1**
comp=Z,1.1nm,0.6s,baz=10,slow=8.8,SNR=3.3
GEYT LR LR 19 21 46.6
comp=Z,76nm,18.2s,baz=330,slow=38
GEYT Alibeck 62.91 298 P **P 18 52 27.8 -0.6**
VRH Novokhopyorsk 64.79 317 *e*P **P 18 52 38.5 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.7s
FIA1 FINESS Array S 64.80 332 P **P 18 52 39.5 -0.9**
FINES FINESS Array B 64.80 332 P **P 18 52 39.9 -0.5**
comp=Z,18nm,0.6s,baz=44,slow=7.1,SNR=114
FINES LR LR 19 26 39.4
comp=Z,142nm,20.2s,baz=45,slow=41
FINES FINESS Array B 64.80 332 P **P 18 52 39.2 -1.2**
OBN Obninsk 64.82 323 *i* P **P 18 52 40.3 -0.3**
OBN *i* 18 53 10.7
OBN pmax pmax
comp=Z,23nm,1.1s
OBN Obninsk 64.82 323 *e*P **P 18 52 40.3 -0.3**
NEW Newport 64.84 47 P **P 18 52 42.0 +1.0**
NEW pmax pmax
comp=Z,4.0nm,0.6s
NEW Newport 64.84 47 P **P 18 52 42.0 +1.0**
NEW IAmb IAmb 18 52 49.5
comp=Z,4.2nm,0.6s
SUMG Summit 65.11 1 *i* P **P 18 52 43.0 +0.3**
SUMG pmax pmax
comp=Z,78nm,1.1s
SUMG Summit 65.11 1 *i* P **P 18 52 43.0 +0.3**
comp=Z,78nm,1.1s
SUMG Summit 65.11 1 P **P 18 52 43.0 +0.3**
LPSR Galich'ya Gora 65.30 320 *e*P **P 18 52 43.3 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.8s
PINE Pine Mountain 65.33 53 P **P 18 52 45.9 +1.5**
PINE IAmb IAmb 18 53 15.3
comp=Z,6.3nm,0.8s
VSR Storozhevoye 66.05 318 *e*P **P 18 52 47.7 -0.9**
VSR pmax pmax
comp=Z,20nm,0.9s
AS31 Alice Springs 66.58 190 P **P 18 52 52.8 +0.6**
ASAR Alice Springs 66.59 190 P **P 18 52 53.0 +0.7**
ASAR Alice Springs 66.59 190 P **P 18 52 52.9 +0.6**
comp=Z,3.4nm,0.7s,baz=10,slow=4.9,SNR=41
ASAR Alice Springs 66.59 190 P **P 18 52 53.0 +0.7**
VSU Vasula 66.65 329⇑ *e*P **P 18 52 52.8 +0.5**
VSU pmax pmax
comp=Z,50nm,0.9s
SCO Scoresbysund 66.76 355 *e*P **P 18 52 52.4 -0.4**
SCO Scoresbysund 66.76 355 *i* P **P 18 52 52.4 -0.4**
PLID Pearl Lake 67.38 49 P **P 18 52 58.6 +1.1**
GOF Gofitskoye 67.86 311⇑ *e*P **P 18 53 04.1 +3.9**
FFC Flin Flon 68.00 35 *i* P **P 18 53 02.4 +1.5**
FFC Flin Flon 68.00 35 P **P 18 53 01.7 +0.7**
KIV Kislovodsk 68.75 311 *e*P **P 18 53 07.1 +1.2**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 68.75 311 *e*P **P 18 53 07.1 +1.2**
KIV Kislovodsk 68.75 311 P **P 18 53 07.0 +1.2**
KIV IAmb IAmb 18 53 11.9
comp=Z,10nm,0.8s
KBZ Khabaz 68.77 310 P **P 18 53 06.5 +0.6**
comp=Z,4.3nm,0.8s,baz=29,slow=5.1,SNR=11
EGMT Eagleton 68.86 44 P **P 18 53 07.2 +0.7**
EGMT IAmb IAmb 18 53 13.7
comp=Z,15nm,1.2s
DLMT Dillon 69.08 47 P **P 18 53 09.5 +1.5**
NACGM Naroch 69.14 327 *e* **P 18 53 07.0 -1.0**
BOZ Bozeman (W) 69.45 47 P **P 18 53 11.3 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,0.7s
BOZ Bozeman (W) 69.45 47 P **P 18 53 11.2 +1.0**
BOZ IAmb IAmb 18 53 31.2
comp=Z,4.4nm,0.7s
NB2 NORSAR Subarra 69.79 338 P **P 18 53 11.2 -0.8**
comp=Z,4.8nm,0.7s,baz=35,slow=6.2
NOA NORSAR Array B 69.79 338 P **P 18 53 11.5 -0.5**
comp=Z,0.3nm,0.3s,baz=34,slow=6.3,SNR=22
NOA LR LR 19 27 29.0
comp=Z,27nm,18.8s,baz=345,slow=39
KVN Kaiserville 69.91 55 P **P 18 53 15.2 +1.9**
KVN pmax pmax
comp=Z,3.0nm,0.8s
KVN Kaiserville 69.91 55 P **P 18 53 15.2 +1.9**
NVAR Mina Array Bea 70.17 56 P **P 18 53 16.5 +1.6**
comp=Z,2.9nm,0.7s,baz=296,slow=5.4,SNR=12
NVAR Mina Array Bea 70.17 56 P **P 18 53 16.0 +1.1**
H17A Grant Village 70.80 47 P **P 18 53 19.4 +0.7**
IMW Indian Meadow 70.93 48 P **P 18 53 19.9 +0.4**
FXWY Fox Creek 71.05 48 P **P 18 53 21.0 +0.8**
AKASG Malin Array Be 71.08 322 *i* P **P 18 53 19.3 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.08 322 P **P 18 53 19.4 -0.5**
comp=Z,1.1nm,0.3s,baz=40,slow=6.3,SNR=12
AKASG Malin Array Be 71.08 322 P **P 18 53 18.9 -1.0**
AKBB Malin Array Si 71.08 322 P **P 18 53 19.3 -0.6**
AKBB pmax pmax
comp=Z,8.0nm,1.1s
AKBB Malin Array Si 71.08 322 P **P 18 53 19.4 -0.6**
AKBB IAmb IAmb 18 53 23.6
comp=Z,7.6nm,1.1s
MOOW Moose Ponds 71.13 48 P **P 18 53 22.1 +1.4**
TPAW Teton Pass 71.19 48 P **P 18 53 21.9 +0.8**
TPAW IAmb IAmb 18 53 43.3
comp=Z,6.5nm,0.9s
TPNV Topopah Spring 72.37 56 P **P 18 53 29.1 +1.0**
TPNV pmax pmax
comp=Z,11nm,1.3s
TPNV Topopah Spring 72.37 56 P **P 18 53 29.1 +1.0**
TPNV IAmb IAmb 18 53 53.4
comp=Z,11nm,1.2s
BW06 Boulder Array 72.43 48 P **P 18 53 29.2 +0.7**
PD31 Pinedale Array 72.43 48 P **P 18 53 29.4 +0.9**
PDAR Pinedale Array 72.43 48 P **P 18 53 29.2 +0.7**
comp=Z,0.5nm,0.4s,baz=288,slow=1.6,SNR=8.9
PDAR Pinedale Array 72.43 48 P **P 18 53 28.5 0.0**
SORM Soroca 73.31 321⇑ P **P 18 53 33.2 0.0**
SORM Soroca 73.31 321⇑ P **P 18 53 33.2 0.0**
ULM Lac du Bonnet 73.81 35 P **P 18 53 36.0 -0.2**
ULM pmax pmax
comp=Z,11nm,1.3s
ULM Lac du Bonnet 73.81 35 P **P 18 53 36.5 +0.3**
comp=Z,2.3nm,0.6s,baz=296,slow=6.8,SNR=3.1
ULM Lac du Bonnet 73.81 35 P **P 18 53 36.0 -0.2**
ULM IAmb IAmb 18 53 43.9
comp=Z,11nm,1.3s
STKA Stephens Creek 74.15 182 P **P 18 53 39.0 +0.8**
STKA pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 74.15 182 P **P 18 53 39.3 +1.2**
comp=Z,4.8nm,0.9s,baz=3.5,slow=8.7,SNR=5.9
STKA Stephens Creek 74.15 182 P **P 18 53 39.0 +0.8**
U15A North Rim 75.11 54 P **P 18 53 44.8 +0.5**
U15A IAmb IAmb 18 54 10.1
comp=Z,6.9nm,1.1s
BUR08 Bucovina Ar. S 75.11 322 P **P 18 53 43.6 -0.4**
BUR08 IAmb IAmb 18 53 48.8
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 75.13 322 ⇓P **P 18 53 44.4 +0.4**
BURAR Bucovina Array 75.13 322 ⇓P **P 18 53 44.4 +0.4**
BURAR Bucovina Array 75.13 322 P **P 18 53 44.2 +0.2**
BIZ Bicaz 75.22 321 ⇑P **P 18 53 45.6 +1.1**
TESR Tescani 75.28 321 ⇓P **P 18 53 45.1 +0.3**
KOLS Kolonicke sedl 75.44 325 *e*P **P 18 53 49.4 +3.8**
KOLS Kolonicke sedl 75.44 325 *e*P **P 18 53 49.4 +3.8**
OJC Ojcow 75.48 327 P **P 18 53 46.9 +1.1**
OJC Ojcow 75.48 327 *e*P **P 18 53 46.9 +1.1**
OJC IAmb IAmb 18 53 48.0
comp=Z,9.4nm,0.9s
PV21 Cone Mtn., Par 75.60 51 P **P 18 53 48.1 +1.0**
PV21 IAmb IAmb 18 54 12.2
comp=Z,6.2nm,1.0s
UZH Uzhgorod 75.66 324 *e*P **P 18 53 48.0 +1.1**
UZH *e* 18 54 00.7
PHWY Pilot Hill 75.66 47 P **P 18 53 44.0 -3.4**
PHWY IAmb IAmb 18 53 45.3
comp=Z,22nm,1.4s
PV14 Lion Creek, Pa 75.71 51 P **P 18 53 48.2 +0.6**
PV14 IAmb IAmb 18 54 09.8
comp=Z,8.6nm,1.1s
VRI Vrincioaia 75.72 320 ⇓P **P 18 53 48.8 +1.5**
VRI Vrincioaia 75.72 320 ⇓P **P 18 53 48.8 +1.5**
PV17 East Wray Mesa 75.81 51 P **P 18 53 48.8 +0.6**
PV17 IAmb IAmb 18 54 10.4
comp=Z,7.8nm,0.9s
TRPA Tarpa 75.93 324 ⇑P **P 18 53 49.7 +1.3**
TLB Topalu 76.03 319 ⇓P **P 18 53 49.4 +0.4**
TLB Topalu 76.03 319 ⇓P **P 18 53 49.4 +0.4**
ISR Istrita 76.36 320 ⇓P **P 18 53 52.1 +1.1**
ISR Istrita 76.36 320 ⇓P **P 18 53 52.1 +1.1**
BR131 Keskin Array S 76.59 312 P **P 18 53 52.8 +0.2**
BR131 pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 76.59 312 P **P 18 53 52.8 +0.2**
BRTR Keskin Array B 76.59 312 *i* P **P 18 53 53.0 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 76.59 312 P **P 18 53 52.5 0.0**
comp=Z,0.9nm,0.7s,baz=86,slow=4.0,SNR=7.4
CHVC Chvalec 76.66 329 *e*P **P 18 53 56.6 +4.0**
MORC Moravsky Berou 76.73 328 P **P 18 53 52.8 -0.2**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 76.73 328 ⇓P **P 18 53 53.5 +0.5**
MORC Moravsky Berou 76.73 328 *e*P **P 18 53 54.1 +1.1**
MORC Moravsky Berou 76.73 328 P **P 18 53 52.8 -0.2**
MORC IAmb IAmb 18 53 57.9
comp=Z,5.4nm,0.8s
DPC Dobruska-Polom 76.75 329 *e*P **P 18 53 55.4 +2.3**
DPC Dobruska-Polom 76.75 329 *e*P **P 18 53 55.4 +2.3**
KRLC Kraliky 76.79 328 *e*P **P 18 53 55.2 +1.8**
KRLC Kraliky 76.79 328 *e*P **P 18 53 55.2 +1.8**
KRLC *ex* x 18 53 57.2
VOIR 76.83 321 ⇑P **P 18 53 54.8 +1.1**
VOIR 76.83 321 ⇑P **P 18 53 54.8 +1.1**
DRGR 76.87 323 ⇑P **P 18 53 55.2 +1.3**
DRGR 76.87 323 ⇑P **P 18 53 55.2 +1.3**
ARR Arges 77.08 321 ⇓P P 18 53 47.6 -7.5
CLL Collm 77.21 331 *i* P **P 18 53 56.3 +0.7**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 77.21 331 *i* P **P 18 53 56.3 +0.7**
comp=Z,8.0nm,0.7s
CLL *i* pP **pP 18 54 15.6 +0.3**
CLL Collm 77.21 331 P **P 18 53 56.2 +0.6**
CLL IAmb IAmb 18 53 59.3
comp=Z,7.9nm,0.8s
PSZ Piszkesteto 77.23 325 ⇑P P 18 53 46.9 -9.0
PSZ Piszkesteto 77.23 325 ⇑P P 18 53 46.9 -9.0
JAVC Velka Javorina 77.41 327 *e*P **P 18 53 58.9 +2.1**
VRAC Vranov 77.48 328 *e*P **P 18 53 58.4 +1.2**
GOPC GO Pecny, Ondr 77.69 329 *e*P **P 18 53 58.8 +0.5**
GOPC GO Pecny, Ondr 77.69 329 *e*P **P 18 53 58.8 +0.5**
PRU Pruhonice 77.72 329 *e*P **P 18 53 58.3 -0.2**
PRU Pruhonice 77.72 329 *e*P **P 18 53 58.3 -0.2**
KRUC Moravsky 77.75 328 *e*P **P 18 53 59.7 +1.0**
SDCO Great Sand Dun 78.14 49 P **P 18 54 01.5 +0.1**
SDCO IAmb IAmb 18 54 24.1
comp=Z,5.3nm,0.8s
HERR Herculane 78.47 322 ⇑P **P 18 54 03.7 +1.0**
KHC Kasperske Hory 78.78 329⇓ *e*P **P 18 54 04.9 +0.5**
KHC pmax pmax
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 78.78 329 *e*P **P 18 54 04.7 +0.3**
KHC Kasperske Hory 78.78 329 P **P 18 54 04.2 -0.2**
GERES GERESS Array B 78.97 329 P **P 18 54 05.4 -0.1**
GERES GERESS Array B 78.97 329 P **P 18 54 05.0 -0.6**
comp=Z,0.7nm,0.4s,baz=50,slow=6.5,SNR=4.3
GERES GERESS Array B 78.97 329 P **P 18 54 05.4 -0.1**
SOKA Soboth 80.22 327 *e*PcP **P 18 54 14.9 +2.6**
comp=Z,5.1nm,0.9s
WTTA Wattenberg 81.06 329 *i* PcP **P 18 54 19.6 +2.7**
comp=Z,6.2nm,1.0s
MOTA Moosalm 81.19 330 *e*PcP **P 18 54 20.2 +2.6**
comp=Z,7.6nm,1.0s
SQTA Sankt Quirin 81.25 330 PcP **P 18 54 20.5 +2.6**
comp=Z,6.4nm,0.9s
FETA Feichten 81.60 330 *e*PcP P 18 54 24.7 +4.9
comp=Z,4.4nm,0.9s
DAVA Damuels 81.69 330 *e*PcP **P 18 54 23.9 +3.7**
comp=Z,7.7nm,1.1s

PPT	Papeete	85.49	119	LR	LR	19 23 52.9
	comp=Z,22nm,20.8s,baz=344,slow=29					
QSPA	South Pole Qui	132.34	180		PKPdf	19 01 14.7 +0.3
SNAA	Sanae	146.64	198	PKPbc	PKPab	19 01 42.5 -0.7
SNAA	Sanae	146.64	198	PKP2	PKPbc	19 01 42.1 +0.2
SNAA	Sanae	146.64	198		PKPbc	19 01 42.1 +0.2
VNA2	Neumayer--Watz	148.21	197	PKPbc	PKiKP	19 01 47.1 -0.7
VNA3	Neumayer Olymp	148.45	196	PKPbc	PKPbc	19 01 47.4 +0.6
VNA1	Neumayer--Stat	148.60	197	PKPbc	PKiKP	19 01 48.0 -0.5

IDC 23 18:49:53.4±3.5, 20°22S×169°19E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.6/4, ML2.9/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/27, Error ellipse: s-maj=137.3km s-min=31.4km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.16	234	Pn	Pn	18 50 44.6	+0.1
	1.4nm,0.3s,baz=111,slow=11,SNR=63						
DZM				Sn	Sn	18 51 19.3	-3.7
	10nm,0.3s,baz=166,slow=22,SNR=17						
DZM				LR	LR	18 51 49.7	
	comp=Z,43nm,19.8s,baz=31,slow=37						
WRA	Warramunga Arr	32.70	264	P	P	18 56 27.4	-0.5
	0.2nm,0.5s,baz=95,slow=8.9,SNR=5.6						
ASAR	Alice Springs	32.86	257	P	P	18 56 29.6	+0.2
	1.3nm,0.8s,baz=89,slow=8.7,SNR=10						
ILAR	Eielson Array	91.18	17	P	P	19 02 59.9	0.0
	0.4nm,0.8s,baz=207,slow=5.8,SNR=3.0						

IDC 23 18:54:02.9±1.0, 34°80N×138°07E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/57, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=33.8km s-min=15.6km az=71.0
ISCJB 23 18:54:03.3±0.5, 35°52N±0°03×140°12E±0°05, h75km±4km, mb3.5/4, Error ellipse: s-maj=6.8km s-min=5.0km az=141.8
JMA 23 18:54:03.2±0.2, 35°58N×140°14E, h71km±2km, M3.1
JMA Felt I J1.
ISC 23 18:54:04.5±0.9, 35°53N±0°04×140°10E±0°05, h69km±6km, n21, σ0°81/35, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.14	143	P	Pn	18 54 14.3	-0.4
JCN				eS	Sn	18 54 22.9	+0.8
JSMT	Sammumatsuo	0.30	68	P	Pn	18 54 14.9	-0.6
JSMT				S	Sn	18 54 24.0	+0.4
TOK	Tokyo	0.32	300	P	Pn	18 54 15.4	-0.2
TOK				S	Sn	18 54 25.1	+1.3
JKUC	kamogawauchiur	0.38	168	P	Pn	18 54 15.5	-0.6
JKUC				S	Sn	18 54 24.2	-0.4
BSO3	Boso 3	0.80	155	P	Pn	18 54 19.7	-0.5
JOD2	Odawara 2	0.87	253	P	Pn	18 54 20.7	-0.6
JOD2				eS	Sn	18 54 33.0	-0.8
JIM2	Oshima 3	0.98	214	P	Pn	18 54 21.7	-1.0
JIM2				S	Sn	18 54 36.0	-0.2
JAG	Ashikaga	1.04	330	P	Pn	18 54 22.3	-1.1
JAG				S	Sn	18 54 36.0	-1.5
JRY	Ryogami san	1.09	297	P	Pn	18 54 23.8	-0.3
BSO1	Boso 1	1.13	140	P	Pn	18 54 23.2	-0.8
BSO1				S	Sn	18 54 38.8	+0.1
JFNN	Fujinakano	1.21	254	P	Pn	18 54 25.3	-0.2
JFNN				S	Sn	18 54 41.3	+0.1
JYN	Shimob	1.27	269	P	Pn	18 54 26.1	-0.3
JYN				eS	Sn	18 54 42.6	-0.3
JIZS	Izushimoda	1.29	231	P	Pn	18 54 26.1	-0.5
JIZS				S	Sn	18 54 42.5	-0.7
JKT	Katashina	1.42	331	P	Pn	18 54 27.2	-1.2
MJAR	Matsushiro Arr	1.84	304	Pn	Pn	18 54 33.9	0.0
	1.9nm,0.3s,baz=142,slow=14,SNR=213						
MJAR				Sn	Sn	18 54 57.6	+1.3
	2.0nm,0.3s,baz=218,slow=26,SNR=9.4						
MAT	Matsushiro	1.84	304	P	Pn	18 54 34.0	+0.1
MAT				eS	Sn	18 54 55.9	-0.4
JHJ	Hachijo jima 2	2.42	186	Pn	Pn	18 54 41.8	0.0
	12nm,0.3s,baz=96,slow=22,SNR=16						
JHJ				Sn	Sn	18 55 09.7	-0.6
	45nm,0.3s,baz=244,slow=23,SNR=8.2						
MKAR	Makanchi Array	44.04	303	P	P	19 02 05.4	+0.2
	0.4nm,0.7s,baz=86,slow=8.4,SNR=3.6						
KURBB	Kurchatov Arra	46.11	309	P	P	19 02 21.2	-0.3
	0.5nm,0.5s,baz=86,slow=7.6,SNR=8.2						
WRA	Warramunga Arr	55.44	187	P	P	19 03 31.1	-0.8
	1.0nm,0.9s,baz=0.7,slow=7.6,SNR=16						
ASAR	Alice Springs	59.16	187	P	P	19 04 00.5	+2.3
	0.1nm,0.4s,baz=14,slow=9.6,SNR=7.3						

IDC 23 18:53:58.7±21.0, 77°43N×14°04W, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.2/58, mbtmp3.7/4, ML3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/39, Error ellipse: s-maj=280.9km s-min=88.1km az=137.0
ISCJB 23 18:55:19.8±0.9, 72°89N±0°04×5°4E±0°4, h10km, MS3.2/2, Error ellipse: s-maj=15.8km s-min=6.1km az=0.4
NAO 23 18:55:22.2±2.0, 72°87N×5°82E, ML2.9
BER 23 18:55:24.6±2.0, 72°93N×5°52E, h10km, ML2.2, ML2.9(NAO), Confirmed Earthquake
ISC 23 18:55:22.6±1.4, 72°84N±0°08×5°9E±0°1, h10km, n35, σ1°71/36, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	Bjornoya	4.05	60	Pn	Pn	18 56 25.5	+1.0
BJO1	Bjornoya	4.05	60	Pn	Pn	18 56 25.5	+1.0
HSPB	Hornsund (broa	4.87	26	Pn	Pn	18 56 34.5	-1.2
HSPB	Hornsund (broa	4.87	26	eP	Pn	18 56 34.5	-1.2
HSPB				IAML		18 57 27.6	
	comp=Z,5.2nm,0.8s						
TRO	Tromso	5.29	121	eP	Pn	18 56 42.9	+1.5
TRO				IAML		18 57 46.2	
	comp=Z,5.2nm,0.7s						
LOF	Lofoten	5.38	148	eP	Pn	18 56 44.8	+2.1
LOF				IAML		18 57 52.3	
	comp=Z,9.0nm,0.7s						
BRBB	Barentsburg B	5.67	18	Pn	Pn	18 56 47.4	+0.7
BRBB	Barentsburg B	5.67	18	Pn	Pn	18 56 47.4	+0.7
STEI	Steigen	5.84	143	eP	Pn	18 56 50.7	+1.6
STEI				IAML		18 58 07.5	
	comp=Z,5.0nm,0.9s						
SPA0	Spitsbergen Ar	5.96	21	Pn	Pn	18 56 50.5	-0.2
	baz=212,slow=16						
SPA0	Spitsbergen Ar	5.96	21	Pn	Pn	18 56 50.5	-0.2
	baz=212,slow=16						
KIF	Kilpisjarvi	6.21	121	eP	Pn	18 56 56.2	+2.1
KBS	Kingsbay	6.29	11	eP	Pn	18 56 54.0	-1.2
KTK1	Kautokeino	6.84	116	eP	Pn	18 57 05.4	+2.7
KTK1				IAML		18 58 25.8	
	comp=Z,2.3nm,0.7s						
KONS	Konsvik	6.84	155	eP	Pn	18 57 03.7	+0.9
KONS				eS	Sn	18 58 15.9	-4.7
KONS				IAML		18 58 24.8	
	comp=Z,5.9nm,0.6s						
ARA0	ARCESS Array S	7.13	108	Pn	Pn	18 57 08.7	+2.0
	baz=321,slow=12						
ARA0				Sn	Sn	18 58 26.7	-1.0
	baz=311,slow=22						
ARA0	ARCESS Array S	7.13	108	Pn	Pn	18 57 08.7	+2.0
	baz=321,slow=12						
ARA0				Sn	Sn	18 58 26.7	-1.0
	baz=311,slow=22						
ARCES	ARCESS Array B	7.13	108	Pn	Pn	18 57 08.5	+1.7
	comp=Z,0.4nm,0.3s,baz=330,slow=10,SNR=11						
MOR8	Moi Rana	7.33	152	eP	Pn	18 57 10.9	+1.4
NSS	Namsos	8.63	162	eP	Pn	18 57 29.2	+1.9
NSS				IAML		18 59 06.3	
	comp=Z,6.4nm,0.7s						
AKN	Aaknes	10.72	177	Pn	Pn	18 57 59.0	+3.0
AKN	Aaknes	10.72	177	Pn	Pn	18 57 59.0	+3.0
NB2	NORSAR Subarra	12.03	168	Pn	Pn	18 58 14.6	+0.8
	baz=345,slow=14						
NB2	NORSAR Subarra	12.03	168	Pn	Pn	18 58 14.6	+0.8
	baz=345,slow=14						
NOA	NORSAR Array B	12.03	168	P	Pn	18 58 14.3	+0.5
	comp=Z,0.0nm,0.3s,baz=332,slow=12,SNR=3.3						
NRA0	NORESS Array S	12.35	167	Pn	Pn	18 58 18.7	+0.5
	baz=354,slow=14						
NRA0	NORESS Array S	12.35	167	Pn	Pn	18 58 18.7	+0.5
	baz=354,slow=14						
HFS	Hagfors	13.12	163	Pn	Pn	18 58 29.3	+0.7
	baz=350,slow=14						
HFS	Hagfors	13.12	163	P	Pn	18 58 29.5	+0.9
	comp=Z,0.4nm,0.3s,baz=353,slow=11,SNR=12						
HFS	Hagfors	13.12	163	Pn	Pn	18 58 29.3	+0.7
	baz=350,slow=14						
FIA0	FINESS Array S	13.75	136	Pn	Pn	18 58 38.6	+1.4
	baz=326,slow=12						
FIA0	FINESS Array S	13.75	136	Pn	Pn	18 58 38.6	+1.4
	baz=326,slow=12						
FINES	FINESS Array B	13.75	136	P	Pn	18 58 38.3	+1.1
	comp=Z,2.1nm,0.7s,baz=331,slow=12,SNR=8.3						
KEST	Kesra	37.22	175	LR	LR	19 20 16.7	
	comp=Z,22nm,21.2s,baz=279,slow=37						
KMBO	Kilima Mbogo	76.42	148	LR	LR	19 46 09.0	
	comp=Z,20nm,19.7s,baz=91,slow=38						

MEX 23 19:04:13.2±0.5, 13°67N×92°89W, h29km±32km, MD4.1
ISCJB 23 19:04:14.4±1.1, 13°87N±0°07×92°78W±0°06, h37km, Error ellipse: s-maj=10.3km s-min=7.6km az=36.0
NEIC 23 19:04:15.3±2.1, 13°9N±0°1×92°68W±0°08, h20km±10km
ISC 23 19:04:15.6±1.9, 13°8N±0°1×92°79W±0°07, h37km, n16, σ1°65/21, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.19	25	iP	Pn	19 04 33.7	-1.9
THIG				eS	Sn	19 04 50.4	-0.1
THIG		1.19	25		Pn	19 04 33.3	-2.4
PCIG		1.91	347	eP	Pn	19 04 44.1	-1.5
PCIG				iS	Sn	19 05 07.0	-1.3
PCIG		1.91	347		Pn	19 04 44.6	-1.0
CCIG	Comitan	2.52	14	iP	Pn	19 04 53.3	-0.8
CCIG				iS	Sn	19 05 23.1	-0.5
CCIG	Comitan	2.52	14		Pn	19 04 56.5	+2.4
CCIG	Comitan	2.52	14	Pn	Pn	19 04 56.6	+2.5
TGIG		2.95	354	iP	Pn	19 04 58.5	-1.5
TGIG				iS	Sn	19 05 32.8	-1.3
SNET	Serv Nac Est T	3.46	92	Pn	Pn	19 05 06.7	-0.4
CMIG	Matias Romero	3.82	328	eP	Pn	19 05 09.7	-2.2
CMIG				iS	Sn	19 05 53.6	-2.0
CMIG	Matias Romero	3.82	328		Pn	19 05 12.3	+0.4
TGUH	Tegucigalpa,Un	5.36	87	Pn	Pn	19 05 33.4	+0.2
TLIG	Tlapa	6.69	304	Pn	Pn	19 05 53.3	+1.9
TEIG	Tepich	7.69	34	Pn	Pn	19 06 05.4	+0.4
HPIG		17.75	319		P	19 08 21.7	+1.1
TXAR	Lajitas Array	18.43	329		Pn	19 08 30.3	+2.0

ISCJB 23 19:06:20.7±0.5, 36°33N±0°04×29°42E±0°03, h45km±7km, Error ellipse: s-maj=6.5km s-min=3.9km az=5.9
DDA 23 19:06:20.1, 36°39N×29°40E, h39km±1km, MW3.5
ISK 23 19:06:20.1, 36°37N×29°42E, h44km±1km, ML3.2/17
ISC 23 19:06:21.3±0.9, 36°41N±0°04×29°44E±0°02, h33km±8km, n41, σ1°18/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.22	142	iPA		19 06 28.2	
AKAS				iS	Sb	19 06 33.6	+0.5
AKAS				IAML		19 06 35.0	
	comp=Z,330nm,0.4s						
AKAS				IAML		19 06 35.0	
	comp=E,562nm,0.3s						
AKAS				IAML		19 06 36.0	
	comp=N,796nm,0.5s						
AKAS	Kas	0.22	142	PG	Pn	19 06 28.1	+0.2
AKAS				SG	Sb	19 06 34.3	+1.2
FETY	Fethiye	0.36	309	iPA		19 06 29.5	
FETY				iS	Sn	19 06 36.3	+0.2
FETY				IAML		19 06 37.0	
	comp=Z,107nm,0.8s						
FETY				IAML		19 06 37.0	
	comp=E,402nm,0.2s						
FETY				IAML		19 06 38.0	
	comp=N,235nm,0.2s						
FETY	Fethiye	0.36	309	PG	Pb	19 06 29.5	-0.5
FETY				SG	Sn	19 06 36.8	+0.6
ELL	Elmali	0.51	48	PG	Pn	19 06 32.1	-0.3
ELL				SG	Sn	19 06 41.4	+1.3
AKUM	Antalya-Kumluc	0.74	96	iP	Pb	19 06 35.1	-0.7
AKUM				iS	Sn	19 06 46.8	+1.3
AKUM				IAML		19 06 48.0	
	comp=N,396nm,0.3s						
AKUM				IAML		19 06 48.0	
	comp=E,442nm,0.3s						
AKUM				IAML		19 06 49.0	
	comp=Z,149nm,0.2s						
DALY	Dalyan (Mula)	0.75	303	iP	Pb	19 06 34.8	-1.2
DALY				iS	Sb	19 06 45.5	-0.5
DALY				IAML		19 06 47.0	
	comp=N,562nm,0.3s						
DALY				IAML		19 06 47.0	
	comp=E,329nm,0.4s						
DALY				IAML		19 06 48.0	
	comp=Z,140nm,0.5s						
DALY	Dalyan (Mula)	0.75	303	PG	Pb	19 06 34.8	-1.2
DALY				SG	Sb	19 06 45.6	-0.4
TURN	Turunc	0.82	305	iP	Pn	19 06 39.7	+3.2
TURN				iS	Sn	19 06 51.0	+3.7
TURN				IAML		19 06 55.0	
	comp=Z,121nm,0.3s						
TURN				IAML		19 06 56.0	
	comp=N,209nm,0.5s						
TURN				IAML		19 06 58.0	
	comp=E,156nm,0.4s						
TURN	Turunc	0.82	305	PG	Pn	19 06 39.3	+2.8
GOLH	Golhisar	0.83	7	iP	Pn	19 06 37.2	+0.3
GOLH				iS	Sn	19 06 49.3	+1.3
GOLH				IAML		19 06 50.0	
	comp=E,34nm,0.4s						
GOLH				IAML		19 06 51.0	
	comp=Z,145nm,0.4s						
GOLH				IAML		19 06 51.0	
	comp=N,222nm,0.9s						
KEMT	Kemer-ANTALYA	0.92	77	PG	Pb	19 06 38.1	-0.8
KORT	Korkueli	0.94	51	iPA		19 06 38.9	
KORT				iS	Sn	19 06 53.4	+2.6
KORT				IAML		19 06 54.0	
	comp=N,181nm,0.6s						
KORT				IAML		19 06 56.0	
	comp=E,131nm,0.5s						
KORT				IAML		19 06 57.0	
	comp=Z,66nm,0.3s						
KORT	Korkueli	0.94	51	PG	Pn	19 06 38.8	+0.4
MRSB	Marmaris-Mugla	1.04	287	PG	Pn	19 06 39.3	-0.4
YER	Yerkesik	1.18	308	PN	Pn	19 06 41.2	-0.3
BRDR	BURDUR-Merkez	1.38	21	iP	Pn	19 06 44.7	+0.4
BRDR				iS	Sb	19 07 03.0	-0.9
BRDR				IAML		19 07 05.0	
	comp=E,117nm,0.8s						
BRDR				IAML		19 07 06.0	
	comp=N,63nm,0.6s						
BRDR				IAML		19 07 07.0	
	comp=Z,32nm,0.4s						
DENT	Denizli	1.38	347	PN	Pn	19 06 44.5	+0.2
BCK	Bucak	1.40	41	PN	Pn	19 06 44.5	-0.1
DAT	Datca	1.53	283	iP	Pn	19 06 46.0	-0.5
DAT				iS	Sn	19 07 06.5	+1.3
DAT				IAML		19 07 11.0	
	comp=E,58nm,0.5s						
DAT				IAML		19 07 12.0	
	comp=N,66nm,0.4s						
DAT				IAML		19 07 13.0	
	comp=Z,32nm,0.4s						
DAT	Datca	1.53	283	PN	Pn	19 06 46.1	-0.3
MLSB	Milas	1.60	304	PN	Pn	19 06 47.4	+0.1
ISP	Isparta	1.66	31	PN	Pn	19 06 48.1	-0.1
AYDN	Tasoluk	1.77	316	iP	Pb	19 06 51.8	-1.3
AYDN				iS	Sb	19 07 13.9	-1.0
AYDN				IAML		19 07 18.0	
	comp=N,64nm,0.2s						
AYDN				IAML		19 07 20.0	
	comp=Z,30nm,0.6s						
AYDN				IAML		19 07 21.0	
	comp=E,89nm,0.6s						
KEPZ	Antalya-Kepez	1.81	74	iP	Pn	19 06 51.3	+1.1
KEPZ				iS	Sb	19 07 14.7	-1.5
KEPZ				IAML		19 07 17.0	
	comp=N,24nm,0.5s						
KEPZ				IAML		19 07 20.0	
	comp=Z,15nm,0.6s						
KEPZ				IAML		19 07 23.0	
	comp=E,28nm,0.8s						
BODT	Bodrum	1.83	292	PN	Pn	19 06 50.4	0.0
KHAL	Karahalli	1.96	1	iP	Pb	19 06 54.6	-1.8
KHAL				iS	Sn	19 07 17.8	+2.0
KHAL				IAML		19 07 21.0	
	comp=Z,20nm,0.6s						
KHAL				IAML		19 07 21.0	
	comp=N,23nm,0.5s						
KHAL				IAML		19 07 22.0	
	comp=E,22nm,0.4s						
AYDB	Zeytinkoy-Aydi	1.97	322	PN	Pn	19 06 52.5	0.0
KARP	Karpathos	2.04	246	PN	Pn	19 06 52.9	-0.4
ALAN	Alanya-ANTALYA	2.10	85	PN	Pn	19 06 54.0	-0.1
GCAM	G?zelcaml?	2.18	307	iP	Pn	19 06 55.5	+0.2
GCAM				IAML		19 07 25.0	
	comp=N,68nm,0.3s						
GCAM				IAML		19 07 34.0	
	comp=Z,28nm,0.6s						
GCAM				IAML		19 07 34.0	
	comp=E,60nm,0.3s						
GCAM	G?zelcaml?	2.18	307	PN	Pn	19 06 55.2	-0.1
KULA	Kula-Manisa	2.19	344	PN	Pn	19 06 54.9	-0.6
SHUT	Suhut-Afyon	2.32	22	PN	Pn	19 06 57.1	-0.2
GAZI	Gazipasa	2.33	93	PN	Pn	19 06 56.7	-0.7
SIMA	Simav-Kutahya	2.69	352	PN	Pn	19 07 02.9	+0.5
KONT	Konya--Tatoy	2.79	56	PN	Pn	19 07 04.4	+0.7
ZKR	Zakros	2.92	245	PN	Pn	19 07 05.1	-0.3
LADK	Ladik-KONYA	2.94	52	PN	Pn	19 07 06.0	+0.2
TEKE	Tekeli-Mersin	2.98	94	PN	Pn	19 07 06.3	0.0
TEVE	Tevekalti-Mers	3.23	88	PN	Pn	19 07 09.7	-0.1

NEIC 23 19:19:51.2±1.0, 13°48N±0°06×92°9W±0°2, h44km±23km
MEX 23 19:19:51.8±0.3, 13°60N×92°66W, h15km, MD4.1
ISC 23 19:19:52.4±2.6, 13°6N±0°1×92°81W±0°09, h35km, n10, σ1°43/15, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		2.10	349	iP	Pn	19 20 23.8	-1.3
PCIG				eS	Sn	19 20 49.1	-0.8
CCIG	Comitan	2.71	14	eP	Pn	19 20 32.4	-1.3
CCIG				eS	Sn	19 21 03.1	-2.3
CCIG	Comitan	2.71	14		Pn	19 20 35.1	+1.3
CCIG				Sn	Sn	19 21 08.1	+2.7
CCIG	Comitan	2.71	14		Pn	19 20 35.0	+1.3
TGIG		3.14	355	iP	Pn	19 20 39.3	-0.2
TGIG				eS	Sn	19 21 15.8	0.0
TGIG		3.14	355		Pn	19 20 40.1	+0.6
CMIG	Matias Romero	3.98	330	eP	Pn	19 20 50.7	-0.3
CMIG				eS	Sn	19 21 38.1	+1.7
CMIG	Matias Romero	3.98	330		Pn	19 20 50.7	-0.3
TGUH	Tegucigalpa,Un	5.40	85	Pn	Pn	19 21 10.5	0.0
TEIG	Tepich	7.86	33	Pn	Pn	19 21 43.5	-0.8

IDC 23 19:23:51.1±1.2, 42°75N×80°40E, h0km, mb3.6/4, mb1 3.6/11, mb1mx3.5/52, mbtmp3.5/11, ML3.2/7, MS2.6/3, Ms1 2.6/3, ms1mx2.5/37, Error ellipse: s-maj=19.4km s-min=16.8km az=131.0
BJI 23 19:23:52.9±0.0, 43°07N×80°15E, h5km, ML3.6/8
SOME 23 19:23:54.0, 42°93N×80°43E, h30km, MS3.2
NNC 23 19:23:54.4±0.7, 42°98N×80°33E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=5.1km s-min=3.8km az=173.0
KRNET 23 19:23:55.6±0.1, 42°88N×80°24E, h12km, mb4.1
ISC 23 19:23:52.4±1.5, 42°92N±0°04×80°35E±0°04, h4km±9km, n78, σ2°13/122, mb3.7/4, 35C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	0.69	290	⇑iP	Pg	19 24 03.6	-2.1
	baz=17						
SHLS				⇓iS	Sg	19 24 09.4	-5.2
	baz=17						
SHLS	Shalkode	0.69	290	⇑iP	Pg	19 24 03.6	-2.1
	511nm,0.1s						
SHLS				⇓iS	Sg	19 24 09.4	-5.2
	13μm,0.3s						
PDGK	Podgornoye	0.75	303	P	Pn	19 24 08.8	-1.1
	232nm,0.3s						
PDGK				S	Sb	19 24 18.5	-0.1
	1μm,0.3s						
PDGK	Podgornoye	0.75	303	⇑P	Pb	19 24 08.6	+0.6
	197nm,0.4s						
PDGK				⇑S	Sb	19 24 18.4	-0.3
	1μm,0.5s						
UZB	Uzynbulak	1.00	284	P	Pn	19 24 13.0	-0.2
	78nm,0.2s						
UZB				S	Sb	19 24 26.3	+0.4
	2μm,0.2s						
UZB	Uzynbulak	1.00	284	⇓eP	Pn	19 24 13.1	-0.2
	baz=87						
UZB				⇓iS	Sb	19 24 26.2	+0.4
	baz=87						
UZB	Uzynbulak	1.00	284	⇓eP	Pn	19 24 13.1	-0.2
	88nm,0.3s						
UZB				⇓iS	Sb	19 24 26.2	+0.4
	2μm,0.3s						
KPKS	Kokpek	1.33	295	eP	Pg	19 24 19.0	+1.1
	baz=97						
KPKS				eS	Sg	19 24 36.7	+1.5
	baz=97						
KPKS	Kokpek	1.33	295	eP	Pg	19 24 19.0	+1.1
	1μm,0.2s						
KPKS				eS	Sg	19 24 36.7	+1.5
	5μm,0.4s						
SATY	Saty	1.43	276	P	Pg	19 24 21.0	+1.2
	528nm,0.3s						
SATY				S	Sg	19 24 40.2	+1.9
	3μm,0.2s						
SATY	Saty	1.43	276	⇑iP	Pg	19 24 20.9	+1.1
	574nm,0.3s						
SATY				⇑iS	Sg	19 24 40.2	+1.9
	3μm,0.1s						
DJR	Jarkent	1.47	344	P	Pg	19 24 21.0	+0.5
	101nm,0.4s						
DJR				S	Sg	19 24 40.4	+0.8
	452nm,0.3s						
DJR	Jarkent	1.47	344	⇓iP	Pg	19 24 21.0	+0.5
	238nm,0.3s						
DJR				⇓iS	Sg	19 24 40.4	+0.8
	2μm,0.3s						
PRZ	Przheval'sk	1.50	254	⇑iP	Pg	19 24 23.1	+2.0
	baz=54						
PRZ				⇑iS	Sg	19 24 42.2	+1.6
	baz=54						
KURS	Kuram	1.69	290	⇑iP	Pg	19 24 25.7	+0.9
	baz=93						
KURS				⇓iS	Sg	19 24 48.3	+1.6
	baz=93						
KURS	Kuram	1.69	290	⇑iP	Pg	19 24 25.7	+0.9
	160nm,0.6s						
KURS				⇓iS	Sg	19 24 48.3	+1.6
	1μm,0.6s						
MNBS	Baschi	1.83	310	eP	Pb	19 24 26.9	+0.4
	baz=11						
MNBS				⇓iS	Sg	19 24 51.1	0.0
	baz=11						
MNBS	Baschi	1.83	310	eP	Pb	19 24 26.9	+0.4
	506nm,0.4s						
MNBS				⇓iS	Sg	19 24 51.1	0.0
	948nm,0.3s						
ANVS	Anan'yevo	1.97	267	⇑eP	Pb	19 24 29.8	+0.8
	baz=68						
ANVS				⇑iS	Sg	19 24 56.6	+0.8
	baz=68						
ARXS	Arharly	2.24	306	eP	Pb	19 24 33.0	-0.4
	23nm,0.3s						
ARXS				eS	Sb	19 25 01.1	-0.5
	907nm,0.4s						
KOTS	Kotyrbulak	2.39	279	Pg	Pb	19 24 37.4	+1.3
	152nm,0.2s						
KOTS				Lg	Lg	19 25 08.3

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV				Sn	Sn	19 28 36.0	-8.2
	0.4nm,0.3s,baz=211,slow=19,SNR=4.1						
ZALV				LR	LR	19 31 47.6	
	comp=Z,20nm,18.2s,baz=184,slow=41						
BVAR	**Borovoye Array**	**12.10**	**330**	Pn	Pn	19 26 46.4	+1.0
	0.2nm,0.3s,baz=148,slow=11,SNR=3.7						
BVAR				Sn	Sn	19 28 52.9	-7.8
	0.3nm,0.3s,baz=134,slow=22,SNR=3.6						
BRVK	**Borovoye**	**12.16**	**330**	⇑Sn	Sn	19 29 05.4	+3.1
	2.9nm,0.6s						
BRVK				⇓Lg	Lg	19 30 19.9	
	27nm,1.2s						
AB31	**Akbulak array**	**15.49**	**301**	⇓Pn	Pn	19 27 31.1	-0.3
	0.8nm,0.5s,baz=107,slow=12,SNR=7.1						
AKTO	**Aktyubinsk**	**17.02**	**304**	P	P	19 27 52.5	-0.5
	0.2nm,0.3s,baz=91,slow=10,SNR=4.2						
SONM	**Songino Array**	**18.91**	**66**	P	Pn	19 28 14.9	+0.3
	0.1nm,0.3s,baz=274,slow=11,SNR=5.0						
NOA	**NORSAR Array B**	**43.94**	**319**	P	P	19 32 00.1	0.0
	0.6nm,0.6s,baz=82,slow=7.8,SNR=3.6						
ESDC	**Sonseca Array**	**60.81**	**298**	P	P	19 34 05.1	-0.5
	0.3nm,0.5s,baz=55,slow=6.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**72.89**	**272**	P	P	19 35 21.4	-1.4
	0.6nm,0.5s,baz=39,slow=5.6,SNR=5.1						
ASAR	**Alice Springs**	**82.57**	**132**	P	P	19 36 15.8	-0.8
	0.4nm,0.8s,baz=323,slow=5.6,SNR=3.0						

*PRE **23** 20:07:42.1±0.8, 21°.56S×33°.69E, $h5^{km}$, ML2.8*
*EAF **23** 20:07:43.0±3.9, 21°.11S×33°.81E, $h10^{km}$, MD4.1*
ISC 23 20:07:43.8±1.4, **21°.31S**±0°.07×**33°.43E**±0°.08, **$h10^{km}$, n14, σ3$33/25, 1C, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.33**	**251**	*eP*	**Pn**	**20 08 38.4**	**+2.4**
MSNA				*eS*	**Sn**	**20 09 19.1**	**+3.4**
MSNA				AML	AML	20 09 29.9	
	comp=Z,87nm,0.2s						
BLWY	**Bulawayo**	**4.66**	**284**	*i* P	**Pb**	**20 09 03.5**	**-2.2**
BLWY				*i* S	**Sb**	**20 10 03.6**	**+1.5**
BLWY	**Bulawayo**	**4.66**	**284**	*i* P	**Pn**	**20 08 57.2**	**+2.8**
BLWY				*i* S	**Sn**	**20 09 54.2**	**+5.5**
ZOMB	**Zomba**	**6.17**	**17**	*i* P	**Pn**	**20 09 15.6**	**+0.5**
ZOMB				S	**Sn**	**20 10 22.6**	**-3.2**
LSZ	**Lusaka**	**7.79**	**319**	*i* P	**Pn**	**20 09 37.5**	**+0.1**
LSZ				*i* S	**Sn**	**20 11 01.4**	**-4.5**
LSZ	**Lusaka**	**7.79**	**319**	*i* P	**Pn**	**20 09 34.9**	**-2.6**
LSZ				*i* S	**Sn**	**20 11 01.0**	**-4.9**
PRYS	**Parys**	**7.88**	**224**	*eP*	**Pn**	**20 09 38.5**	**-0.1**
PRYS				*eS*	**Sn**	**20 11 03.8**	**-4.1**
PRYS				AML	AML	20 11 34.4	
	comp=Z,3.7nm,0.5s						
LBTB	**Lobatse**	**8.10**	**241**	*eP*	**Pn**	**20 09 42.7**	**+1.1**
LBTB				*eS*	**Sn**	**20 11 10.5**	**-2.8**
LBTB				AML	AML	20 12 02.0	
	comp=Z,15nm,0.6s						
SWZ	**Schweizer**	**9.42**	**230**	*eP*	**Pn**	**20 09 60.0**	**+0.2**
SWZ				*eS*	**Sn**	**20 11 40.9**	**-5.0**
SWZ				AML	AML	20 11 51.5	
	comp=Z,3.0nm,0.4s						
vwzmw	**Thunduwike**	**10.07**	**1**	*i* P	**Pn**	**20 10 07.0**	**-1.7**
vwzmw				S	Sn	20 11 51.8	-10
BOSA	**Boshof**	**10.39**	**224**	*i* P	**Pn**	**20 10 15.6**	**+2.6**
BOSA				*i* S	**Sn**	**20 12 06.8**	**-2.8**
BOSA	**Boshof**	**10.39**	**224**	*i* P	**Pn**	**20 10 15.6**	**+2.6**
BOSA				*i* S	**Sn**	**20 12 06.8**	**-2.8**
TSUM	**Tsumeb**	**15.02**	**275**	*i* P	Pn	20 11 03.9	-12
TSUM				*i* S	Sn	20 13 47.9	-15
TSUM	**Tsumeb**	**15.02**	**275**	*i* P	**Pn**	**20 11 18.7**	**+2.4**
TSUM				⇑*i* S	**Sn**	**20 14 08.6**	**+5.6**

*IDC **23** 20:49:04.0±1.1, 29°.29S×178°.67W, $h269^{km}$±12^{km}, mb3.2/3, mb1 3.6/4, mb1mx3.2/40, mbtmp4.0/4, Error ellipse: s-maj=45.3km s-min=21.8km az=155.0*
*WEL **23** 20:49:06.2±1.0, 30°.5S×17°.8W±2°.3, $h237^{km}$±7^{km}, M3.5/4, mB4.2/4, MLv3.6/2, Mw(mB)3.3/4, Error ellipse: s-maj=0.0km s-min=0.0km az=108.4*
ISC 23 20:48:59.3±1.1, **29°.45S**±0°.09×**177°.9W**±0°.2, **$h297^{km}$**±7^{km}, **n41, σ1$67/53, mb3.2/3, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.19**	**352**	P	**Pn**	**20 49 38.5**	**+1.4**
GLKZ				S	**S**	**20 50 02.6**	**-4.5**
RAO	**Raoul Island**	**0.20**	**353**	P	**Pn**	**20 49 39.8**	**+2.7**
	96nm,0.3s,baz=95,slow=8.5,SNR=4.1						
RAO				S	**S**	**20 50 05.7**	**-1.5**
	215nm,0.3s,baz=190,slow=20,SNR=5.4						
RIZ	**Raoul Island**	**0.20**	**351**	P	**Pn**	**20 49 39.0**	**+1.8**
RIZ				S	**S**	**20 50 05.7**	**-1.5**
WMGZ	**Waiomatatini S**	**8.90**	**199**	P	**Pn**	**20 51 05.2**	**+1.4**
WMGZ				S	**S**	**20 52 45.1**	**+0.2**
HAZ	**Te Kaha**	**9.04**	**202**	P	**Pn**	**20 51 07.2**	**+1.7**
HAZ				S	**S**	**20 52 49.4**	**+1.3**
PUZ	**Puketiti**	**9.18**	**199**	S	**S**	**20 52 50.2**	**-1.2**
WCZ	**Waipu Caves**	**9.20**	**223**	P	**P**	**20 51 12.4**	**+0.2**
OUZ	**Omahuta**	**9.21**	**229**	P	**P**	**20 51 12.6**	**+0.2**
RUGZ	**Raukumara Rang**	**9.26**	**202**	P	**Pn**	**20 51 10.7**	**+2.3**
RUGZ				S	**S**	**20 52 52.4**	**-1.0**
URZ	**Urewera**	**9.72**	**204**	P	**P**	**20 51 17.2**	**-0.7**
	2.9nm,0.3s,baz=262,slow=1.6,SNR=18						
URZ				S	**S**	**20 53 01.1**	**-2.5**
	3.8nm,0.3s,baz=0.8,slow=18,SNR=9.0						
MTHZ	**Maungataniwha**	**10.34**	**204**	P	**P**	**20 51 25.6**	**+0.7**
MTHZ				S	**S**	**20 53 15.9**	**-2.0**
NMHZ	**Naumai**	**10.57**	**203**	P	**P**	**20 51 27.6**	**+0.1**
NMHZ				S	**S**	**20 53 20.1**	**-3.0**
BKZ	**Black Stump Fm**	**10.74**	**204**	P	**P**	**20 51 29.9**	**+0.5**
BKZ				S	**S**	**20 53 25.6**	**-1.4**
HIZ	**Hauiti**	**10.86**	**212**	P	**P**	**20 51 32.0**	**+1.4**
MCHZ	**McNeill Hill**	**10.92**	**203**	P	**P**	**20 51 33.2**	**+1.9**
MCHZ				S	**S**	**20 53 29.9**	**-1.1**
KWHZ	**Kaweka Forest**	**11.00**	**204**	P	**P**	**20 51 33.6**	**+1.4**
KWHZ				S	**S**	**20 53 31.4**	**-1.3**
FWVZ	**Far West T-bar**	**11.18**	**207**	P	**P**	**20 51 34.7**	**+0.3**
KAHZ	**Kahuranaki**	**11.18**	**201**	P	**P**	**20 51 35.4**	**+1.1**
BHHZ	**Black Hill Sta**	**11.19**	**205**	P	**P**	**20 51 34.1**	**-0.2**
BHHZ				S	**S**	**20 53 35.3**	**-1.7**
KRHZ	**Kereru**	**11.21**	**203**	P	**P**	**20 51 35.0**	**+0.5**
PXZ	**Pawanui**	**11.40**	**201**	P	**P**	**20 51 37.3**	**+0.7**
PNHZ	**Pukenui**	**11.51**	**203**	P	**P**	**20 51 38.2**	**+0.3**
PRHZ	**Porangahau**	**11.69**	**201**	P	**P**	**20 51 40.4**	**+0.6**
TSZ	**Takapari Road**	**11.73**	**204**	P	**P**	**20 51 39.7**	**-0.5**
PKE	**Pukeiti**	**11.81**	**212**	P	**P**	**20 51 44.8**	**+3.6**
DVHZ	**Dannevirke**	**11.87**	**203**	P	**P**	**20 51 43.0**	**+1.1**
BFZ	**Birch Farm**	**12.19**	**202**	P	**P**	**20 51 45.8**	**+0.4**
MRZ	**Mangatainoka R**	**12.39**	**204**	P	**Pn**	**20 51 45.6**	**-0.9**
HOWZ	**Holdsworth Sta**	**12.63**	**203**	P	**P**	**20 51 50.3**	**+0.1**
OGWZ	**Otaki Gorge**	**12.68**	**205**	P	**P**	**20 51 51.3**	**+0.5**
TMWZ	**Te Maipa**	**12.69**	**202**	P	**P**	**20 51 52.0**	**+1.1**
CAW	**Cannon Point**	**12.97**	**204**	P	**Pn**	**20 51 53.7**	**+0.2**
DUWZ	**D'Urville Isla**	**13.15**	**208**	P	**Pn**	**20 51 55.6**	**-0.1**
TUWZ	**Tuamarina**	**13.67**	**207**	P	**Pn**	**20 52 02.3**	**+0.4**
NNZ	**Nelson**	**13.72**	**209**	P	**P**	**20 52 02.1**	**-0.2**
ASAR	**Alice Springs**	**43.26**	**266**	P	**P**	**20 56 35.0**	**+2.7**
	0.4nm,0.3s,baz=105,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**44.16**	**271**	P	**P**	**20 56 40.5**	**+1.0**
	0.5nm,0.4s,baz=108,slow=7.9,SNR=21						
NVAR	**Mina Array Bea**	**87.48**	**43**	P	P	21 01 23.7	+10
	0.9nm,0.8s,baz=224,slow=6.3,SNR=6.4						
FINES	**FINESS Array B**	**144.28**	**340**	PKP	**PKiKP**	**21 08 04.0**	**+1.0**
	2.1nm,0.6s,baz=48,slow=3.8,SNR=18						
AKASG	**Malin Array Be**	**150.59**	**324**	PKPbc	**PKPab**	**21 08 21.8**	**-2.0**
	0.7nm,0.4s,baz=46,slow=2.6,SNR=4.3						
BRTR	**Keskin Array B**	**152.22**	**300**	PKPbc	**PKPab**	**21 08 27.3**	**-3.9**
	0.4nm,0.8s,baz=49,slow=2.9,SNR=2.3						

*IDC **23** 20:50:04.5±1.0, 0°.98S×77°.42W, $h0^{km}$, mb3.7/6, mb1 4.1/8, mb1mx3.8/41, mbtmp3.8/8, ML4.1/2, Error ellipse: s-maj=43.7km s-min=20.0km az=56.0*
*ISCJB **23** 20:50:18.2±0.4, 1°.89S±0°.03×77°.97W±0°.06, $h150^{km}$, mb3.5/6, Error ellipse: s-maj=8.6km s-min=4.7km az=174.2*
*NEIC **23** 20:50:18.9±1.3, 1°.87S±0°.06×77°.9W±0°.1, $h144^{km}$±8^{km}, mb4.0/13*
ISC 23 20:50:19.3±0.6, **1°.84S**±0°.05×**77°.96W**±0°.06, **$h150^{km}$, n57, σ1$56/63, mb3.5/8, Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**2.12**	**347**	*eP*	**Pn**	**20 50 56.2**	**-0.1**
OTAV				*eS*	**Sn**	**20 51 23.2**	**-1.4**
OTAV	**Otavalo**	**2.12**	**347**	*eP*	**Pn**	**20 50 56.2**	**-0.1**
OTAV				*eS*	**Sn**	**20 51 23.2**	**-1.4**
OTAV	**Otavalo**	**2.12**	**347**		**Pn**	**20 50 56.0**	**-0.3**
OTAV				Sn	**Sn**	**20 51 25.1**	**+0.4**
GCUF	**Volcan Galeras**	**3.10**	**11**	*eP*	**Pn**	**20 51 10.1**	**+1.6**
GCUF	**Volcan Galeras**	**3.10**	**11**	*eP*	**Pn**	**20 51 10.1**	**+1.6**
CRUC	**La Cruz**	**3.53**	**17**	*eP*	**Pn**	**20 51 13.0**	**-0.7**
CRUC	**La Cruz**	**3.53**	**17**	*eP*	**Pn**	**20 51 13.0**	**-0.7**
TUMC	**Tumaco**	**3.71**	**348**	*eS*	**Sn**	**20 51 54.7**	**-5.1**
TUMC	**Tumaco**	**3.71**	**348**	*eS*	**Sn**	**20 51 54.7**	**-5.1**
PTLC	**Puerto Leguiza**	**3.74**	**58**	*eP*	**Pn**	**20 51 15.3**	**-0.8**
PTLC				*eS*	**Sn**	**20 51 58.0**	**-2.3**
PTLC	**Puerto Leguiza**	**3.74**	**58**	*eP*	**Pn**	**20 51 15.3**	**-0.8**
PTLC				*eS*	**Sn**	**20 51 58.0**	**-2.3**
BBAC	**Balboa, Cauca**	**3.90**	**11**	*eP*	**Pn**	**20 51 18.8**	**+0.4**
BBAC	**Balboa, Cauca**	**3.90**	**11**	*eP*	**Pn**	**20 51 18.8**	**+0.4**
FLOC	**Florencia**	**4.10**	**34**	*eP*	**Pn**	**20 51 23.3**	**+2.4**
FLOC	**Florencia**	**4.10**	**34**	*eP*	**Pn**	**20 51 23.3**	**+2.4**
SOTA	**Rioblanco**	**4.17**	**19**	*eP*	**Pn**	**20 51 24.3**	**+2.0**
SOTA	**Rioblanco**	**4.17**	**19**	*eP*	**Pn**	**20 51 24.3**	**+2.0**
PCON	**Cinco Dias**	**4.42**	**21**	*eP*	**Pn**	**20 51 27.8**	**+2.2**
PCON	**Cinco Dias**	**4.42**	**21**	*eP*	**Pn**	**20 51 27.8**	**+2.2**
POPC	**Popayan, Colom**	**4.53**	**16**	*eP*	**Pn**	**20 51 28.2**	**+1.5**
POPC	**Popayan, Colom**	**4.53**	**16**	*eP*	**Pn**	**20 51 28.2**	**+1.5**
GRGC	**Isla de Gorgon**	**4.81**	**358**	*eP*	**Pn**	**20 51 30.5**	**+0.3**
GRGC	**Isla de Gorgon**	**4.81**	**358**	*eP*	**Pn**	**20 51 30.5**	**+0.3**
ATAH	**Atahualpa**	**5.28**	**185**	Pn	**Pn**	**20 51 36.4**	**-0.5**
	4.1nm,0.3s,baz=9.9,slow=9.8,SNR=11						
ATAH				Sn	**Sn**	**20 52 35.4**	**-2.0**
	10nm,0.3s,baz=39,slow=21,SNR=11						
ROSC	**El Rosal**	**7.56**	**29**	Pn	**Pn**	**20 52 07.3**	**0.0**
NNA	**Nana**	**10.15**	**174**	Pn	**Pn**	**20 52 41.4**	**+0.1**
HDC	**Heredia**	**13.26**	**333**	Pn	**Pn**	**20 53 22.5**	**+0.5**
JTS	**Las Juntas de**	**13.91**	**330**	Pn	**Pn**	**20 53 31.6**	**+1.4**
ESPN	**Las Esperanzas**	**15.30**	**336**	Pn	**Pn**	**20 53 46.6**	**-0.9**
ESPN				IAmb	IAmb	20 53 50.0	
	comp=Z,12nm,1.0s						
SAML	**Samuel**	**16.31**	**116**	P	**Pn**	**20 53 59.2**	**-0.8**
SAML				IAmb	IAmb	20 54 04.3	
	comp=Z,6.0nm,0.7s						
LPAZ	**La Paz**	**17.32**	**147**	P	**Pn**	**20 54 15.5**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=333,slow=11,SNR=9.9						
LPAZ	**La Paz**	**17.32**	**147**	P	**P**	**20 54 10.9**	**-0.9**
MNMC	**Minye Minye**	**19.04**	**155**	P	**Pn**	**20 54 32.2**	**-0.5**
MNMC				IAmb	IAmb	20 54 38.2	
	comp=Z,8.1nm,1.1s						
PB11	**IPOC Station P**	**19.58**	**156**	P	**P**	**20 54 33.2**	**-2.7**
PB11				IAmb	IAmb	20 54 36.9	
	comp=Z,6.8nm,1.0s						
GO01	**Chusmiza**	**19.69**	**155**	P	**P**	**20 54 35.6**	**-1.9**
GO01				IAmb	IAmb	20 54 44.4	
	comp=Z,4.1nm,0.7s						
SIV	**San Ignacio**	**21.79**	**131**	P	**P**	**20 55 01.2**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=307,slow=13,SNR=8.1						
SDCO	**Great Sand Dun**	**46.91**	**330**	P	**P**	**20 58 36.0**	**+0.9**
SDCO				IAmb	IAmb	20 58 37.1	
	comp=Z,2.5nm,0.7s						
PV13	**Radium Mtn., P**	**48.95**	**328**	P	**P**	**20 58 51.1**	**+0.4**
GBN	**Guysborough**	**49.26**	**15**	P	**P**	**20 58 52.7**	**+0.2**
D62A	**Allapoint, All**	**49.34**	**8**	P	**P**	**20 58 54.5**	**+1.3**
BATG	**Bathurst New B**	**50.01**	**11**	P	**P**	**20 58 59.3**	**+1.0**
PDAR	**Pinedale Array**	**52.74**	**331**	P	**P**	**20 59 19.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=110,slow=9.7,SNR=4.9						
PDAR	**Pinedale Array**	**52.74**	**331**	P	**P**	**20 59 19.6**	**+0.5**
FXWY	**Fox Creek**	**54.11**	**331**	P	**P**	**20 59 28.9**	**-0.1**
NVAR	**Mina Array Bea**	**54.65**	**321**	P	**P**	**20 59 34.1**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=114,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**54.65**	**321**	P	**P**	**20 59 33.5**	**+0.6**
GCMT	**Greycliff**	**55.10**	**333**	P	**P**	**20 59 36.0**	**+0.1**
G08A	**Pilot Rock**	**59.34**	**327**	P	**P**	**21 00 06.3**	**+0.6**
G08A				IAmb	IAmb	21 00 07.8	
	comp=Z,3.5nm,1.2s						
INK	**Inuvik**	**79.60**	**342**	P	**P**	**21 02 09.9**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=66,slow=7.3,SNR=6.5						
INK	**Inuvik**	**79.60**	**342**	P	**P**	**21 02 10.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**80.35**	**76**	P	**P**	**21 02 14.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=283,slow=5.7,SNR=15						
TORD	**Torodi Ar. Bea**	**80.35**	**76**	P	**P**	**21 02 14.6**	**0.0**
ILAR	**Eielson Array**	**82.80**	**336**	P	**P**	**21 02 26.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=150,slow=6.1,SNR=7.9						
ILAR	**Eielson Array**	**82.80**	**336**	P	**P**	**21 02 26.6**	**+0.2**
BMAR	**Burnt Mountain**	**82.89**	**339**	P	**P**	**21 02 27.7**	**+0.8**
MKAR	**Makanchi Array**	**132.02**	**18**	PKP	**PKiKP**	**21 09 16.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=293,slow=2.3,SNR=3.9						
MKAR	**Makanchi Array**	**132.02**	**18**	PKPdf	**PKiKP**	**21 09 16.1**	**-0.3**

*IDC **23** 20:55:05.3±1.9, 23°.42S×70°.58W, $h0^{km}$, mb3.9/1, mb1 3.6/3, mb1mx3.4/38, mbtmp3.5/3, ML3.2/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/24, Error ellipse: s-maj=67.0km s-min=20.4km az=153.0*
*ISCJB **23** 20:55:09.5±0.6, 23°.05S±0°.03×70°.73W±0°.06, $h43^{km}$±7^{km}, mb3.8/1, Error ellipse: s-maj=9.9km s-min=4.2km az=12.5*
*NEIC **23** 20:55:09.7±1.4, 23°.00S±0°.02×70°.79W±0°.09, $h35^{km}$±2^{km}*
*GUC **23** 20:55:10.2±2.1, 23°.01S×70°.62W, $h34^{km}$±7^{km}, ML3.5*
*SJA **23** 20:55:10.0±0.9, 23°.02S×70°.55W, $h25^{km}$±2^{km}, ML4.0, MW4.0*
ISC 23 20:55:10.1±1.0, **23°.01S**±0°.02×**70°.61W**±0°.05, **$h34^{km}$**±3^{km}, **n43, σ1$18/71, mb4.0/4, 4C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB05	**IPOC Station P**	**0.41**	**68**	⇓*i* P	**Pn**	**20 55 19.6**	**-0.2**
PB05				⇓*i* P	Pb	20 55 26.2	+6.7
PB05				IAML		20 55 27.0	
	comp=E,7μm,0.2s						
PB05	**IPOC Station P**	**0.41**	**68**	*i* P	**Pn**	**20 55 19.6**	**-0.2**
PB05				*i* S	**Sb**	**20 55 26.3**	**+0.3**
PB10	**IPOC Station P**	**0.51**	**174**	⇑*i* P	**Pb**	**20 55 20.7**	**-0.2**
PB10				*i* S	**Sb**	**20 55 27.7**	**-0.7**
PB10				IAML		20 55 28.7	
	comp=E,5μm,0.4s						
PB10	**IPOC Station P**	**0.51**	**174**	*i* P	**Pb**	**20 55 20.7**	**-0.2**
PB10				*i* S	**Sb**	**20 55 28.1**	**-0.3**
PB10	**IPOC Station P**	**0.51**	**174**		**Pb**	**20 55 20.8**	**-0.2**
PB10				Sn	**Sn**	**20 55 28.2**	**-0.3**
PB04	**IPOC Station P**	**0.79**	**33**	⇑*i* P	**Pb**	**20 55 25.4**	**-0.4**
PB04				*i* S	**Sb**	**20 55 36.6**	**+0.3**
PB04				IAML		20 55 39.9	
	comp=N,4μm,0.2s						
PB04	**IPOC Station P**	**0.79**	**33**	*i* P	**Pb**	**20 55 25.5**	**-0.1**
PB04				*i* S	**Sb**	**20 55 37.2**	**+0.9**
PB04	**IPOC Station P**	**0.79**	**33**	Pn	**Pb**	**20 55 25.6**	**-0.1**
PB04				Sn	**Sb**	**20 55 37.3**	**+1.1**
PB06	**IPOC Station P**	**1.00**	**73**	⇓*i* P	**Pb**	**20 55 28.6**	**-0.6**
PB06				*i* S	**Sb**	**20 55 42.2**	**0.0**
PB06	**IPOC Station P**	**1.00**	**73**	*i* P	**Pb**	**20 55 28.6**	**-0.6**
PB06				*i* S	**Sb**	**20 55 42.3**	**0.0**
PB06				IAML		20 55 44.5	
	comp=Z,4μm,0.4s						
PB15	**IPOC Station P**	**1.07**	**101**	⇓*i* P	**Pb**	**20 55 29.8**	**-0.5**
PB15				*i* S	**Sb**	**20 55 44.5**	**+0.3**
PB15	**IPOC Station P**	**1.07**	**101**	*i* P	**Pb**	**20 55 29.8**	**-0.5**
PB15				*i* S	**Sb**	**20 55 44.3**	**+0.1**
PB15				IAML		20 55 49.1	
	comp=Z,5μm,0.5s						
PB03	**IPOC Station P**	**1.24**	**40**	⇑*i* P	**Pb**	**20 55 32.0**	**-1.1**
PB03				*i* S	**Sb**	**20 55 48.8**	**-0.2**
PB03				IAML		20 55 49.9	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**1.24**	**40**	*i* P	**Pb**	**20 55 32.2**	**-1.0**
PB03				*i* S	**Sb**	**20 55 48.2**	**-0.7**
PB07	**IPOC Station P**	**1.44**	**28**	*i* P	**Pb**	**20 55 35.3**	**-1.2**
PB07				*i* S	**Sb**	**20 55 54.4**	**-0.3**
PB07				IAML		20 55 56.8	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**1.44**	**28**	*i* P	**Pb**	**20 55 35.3**	**-1.2**
PB07				*i* S	**Sb**	**20 55 54.6**	**-0.1**
LVC	**Limon Verde**	**1.62**	**76**	Pn	**Pb**	**20 55 38.9**	**-0.8**
	comp=N,50nm,0.3s,baz=257,slow=9.0,SNR=32						
LVC				Lg	Lg	20 55 59.6	
	comp=N,263nm,0.3s,baz=282,slow=8.2,SNR=8.1						
LVC				LR	LR	20 56 08.6	
	comp=N,95nm,22.0s,baz=258,slow=36						
LVC	**Limon Verde**	**1.62**	**76**	*i* P	**Pb**	**20 55 38.9**	**-0.8**
LVC				*i* P	**Pb**	**20 55 38.9**	**-0.8**

LVC				*i* P	**Pb**	**20 55 38.9**	**-0.8**
LVC				*i* S	**Sb**	**20 55 59.9**	**+0.1**
LVC				*i* S	**Sb**	**20 56 00.0**	**+0.1**
LVC				*i* S	**Sb**	**20 56 00.0**	**+0.1**
PB14	**IPOC Station P**	**1.62**	**173**	⇑*i* P	**Pn**	**20 55 36.7**	**+0.1**
PB14				*e*S	**Sn**	**20 55 55.4**	**-1.1**
PB14				IAML		20 56 02.1	
	comp=E,574nm,0.6s						
PB09	**IPOC Station P**	**1.75**	**47**	*i* P	**Pb**	**20 55 40.8**	**-0.9**
PB09				*i* S	**Sb**	**20 56 03.7**	**+0.3**
PB09	**IPOC Station P**	**1.75**	**47**	*i* P	**Pb**	**20 55 41.6**	**-0.2**
PB09				*i* S	**Sb**	**20 56 04.7**	**+1.3**
PB09				IAML		20 56 07.0	
	comp=Z,1μm,0.8s						
PB02	**IPOC Station P**	**1.81**	**22**	*i* P	**Pb**	**20 55 40.6**	**-2.1**
PB02				*i* S	**Sb**	**20 56 04.4**	**-0.6**
PB02	**IPOC Station P**	**1.81**	**22**	*i* P	**Pb**	**20 55 40.7**	**-2.0**
PB02				*i* S	**Sb**	**20 56 05.8**	**+0.9**
PB01	**IPOC Station P**	**2.21**	**28**	*i* P	**Pn**	**20 55 46.5**	**+2.0**
PB01				*i* S	**Sb**	**20 56 16.9**	**+0.2**
PB01	**IPOC Station P**	**2.21**	**28**	Pn	**Pn**	**20 55 45.2**	**+0.6**
GO02	**Mina Guanaco**	**2.34**	**157**	Pn	**Pn**	**20 55 48.2**	**+1.7**
PB08	**IPOC Station P**	**3.16**	**26**	*i* P	**Pb**	**20 56 02.2**	**-3.6**
PB08				*i* S	**Sb**	**20 56 47.1**	**+3.0**
PB11	**IPOC Station P**	**3.35**	**16**	*i* P	**Pn**	**20 56 01.9**	**+1.6**
PB11				*i* S	**Sb**	**20 56 52.4**	**+3.0**
PB11	**IPOC Station P**	**3.35**	**16**		**Pn**	**20 56 01.0**	**+0.8**
GO01	**Chusmiza**	**3.57**	**22**		**Pn**	**20 56 03.4**	**-0.2**
MNMC	**Minye Minye**	**3.97**	**14**		**Pn**	**20 56 07.4**	**-1.4**
GO03	**Copiap**	**4.58**	**176**	Pn	**Pn**	**20 56 16.1**	**-0.9**
GO03					**Sn**	**20 57 09.3**	**+0.2**
LPAZ	**La Paz**	**7.08**	**20**	Pn	**Pn**	**20 56 55.7**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=186,slow=10,SNR=3.6						
LPAZ				LR	LR	20 59 51.6	
	comp=Z,59nm,20.0s,baz=202,slow=38						
LPAZ	**La Paz**	**7.08**	**20**		**Pn**	**20 56 52.4**	**+0.5**
CFA	**Coronel Fontan**	**8.82**	**167**	LR	LR	21 00 14.2	
	comp=Z,38nm,18.2s,baz=264,slow=37						
SIV	**San Ignacio**	**11.38**	**54**	Pn	**Pn**	**20 57 52.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=249,slow=14,SNR=4.4						
ZAIG	**Zacatecas**	**55.11**	**323**	P	**P**	**21 04 38.1**	**-1.3**
ZAIG				IAmb	IAmb	21 04 40.8	
	comp=Z,3.3nm,1.0s						
SNAA	**Sanae**	**61.38**	**161**	P	**P**	**21 05 23.1**	**+0.6**
QSPA	**South Pole Qui**	**67.19**	**180**	P	**P**	**21 06 01.6**	**+1.0**
QSPA				IAmb	IAmb	21 06 07.5	
	comp=Z,1.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**79.34**	**71**	P	**P**	**21 07 13.3**	**+0.4**
TOA0				IAmb	IAmb	21 07 15.9	
	comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**79.34**	**71**	P	**P**	**21 07 13.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=239,slow=5.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**79.34**	**71**	P	**P**	**21 07 13.0**	**+0.1**
MKAR	**Makanchi Array**	**147.77**	**36**	PKPbc	**PKiKP**	**21 14 52.4**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=317,slow=1.5,SNR=4.4						

IDC 23 21:03:49.3±53.0, 17°.15S×179°.07E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/33, mbtmp4.2/3, Error ellipse: s-maj=950.8km s-min=145.5km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.91**	**240**	P	P	21 10 60.0	-0.1
	1.8nm,0.5s,baz=60,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**42.41**	**259**	P	P	21 11 46.2	+0.1
	0.6nm,0.3s,baz=93,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**42.69**	**254**	P	P	21 11 47.9	-0.4
	3.5nm,0.5s,baz=86,slow=8.9,SNR=44						

*ISCJB **23** 21:05:18.1±0.3, 20°.05S±0°.06×173°.36W±0°.06, h25km, mb4.1/10, MS3.1/1, Error ellipse: s-maj=9.1km s-min=6.9km az=43.6*
*IDC **23** 21:05:18.1±1.1, 20°.08S×173°.66W, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/33, mbtmp4.1/12, ML4.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/38, Error ellipse: s-maj=37.6km s-min=18.9km az=141.0*
*NEIC **23** 21:05:20.6±1.1, 20°.10S±0°.07×173°.33W±0°.07, h31km±5km, mb4.6/18*

ISC 23 21:05:20.1±0.5, 20°.04S±0°.08×173°.34W±0°.07, h25km, n49, σ1§32/44, mb4.2/15, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.36**	**74**	Pn	**Pn**	**21 06 11.2**	**+0.2**
AFI	**Afiamalu**	**6.28**	**14**	Pn	**Pn**	**21 06 52.4**	**+1.1**
	2.7nm,0.3s,baz=73,slow=3.9,SNR=4.3						
AFI				Sn	**Sn**	**21 07 59.1**	**-3.2**
	1.9nm,0.3s,baz=336,slow=19,SNR=2.0						
MSVF	**Nonsavu**	**8.47**	**284**	Pn	**Pn**	**21 07 21.3**	**-0.1**
RAR	**Rarotonga**	**12.76**	**98**	Pn	**Pn**	**21 08 19.7**	**-0.3**
	1.7nm,0.3s,baz=3.5,slow=19,SNR=5.9						
DZM	**Mont Dzumac**	**18.98**	**260**	LR	LR	21 15 25.1	
	comp=Z,88nm,20.7s,baz=184,slow=32						
URZ	**Urewera**	**19.95**	**203**	P	**P**	**21 09 49.9**	**-0.4**
	1.4nm,0.3s,baz=358,slow=12,SNR=7.8						
URZ	**Urewera**	**19.95**	**203**	IAmb	IAmb	21 10 06.5	
	comp=Z,18nm,1.0s						
PPT	**Papeete**	**22.62**	**88**	LR	LR	21 17 46.1	
	comp=Z,66nm,18.0s,baz=250,slow=33						
BHW	**Baring Head**	**23.54**	**203**	P	**P**	**21 10 26.8**	**-1.6**
PLWZ	**Palliser**	**23.54**	**202**	P	**P**	**21 10 27.7**	**-0.8**
TUWZ	**Tuamarina**	**23.90**	**204**	P	**P**	**21 10 31.0**	**-0.9**
NNZ	**Nelson**	**23.94**	**205**	P	**P**	**21 10 31.5**	**-0.8**
NNZ				IAmb	IAmb	21 10 40.4	
	comp=Z,7.9nm,0.9s						
QRZ	**Quartz Range**	**23.97**	**207**	P	**P**	**21 10 32.6**	**0.0**
QRZ				IAmb	IAmb	21 10 48.9	
	comp=Z,23nm,1.3s						
CMWZ	**Cape Campbell**	**24.08**	**203**	P	**P**	**21 10 32.7**	**-0.8**
BSWZ	**Blackbirch Sta**	**24.18**	**204**	P	**P**	**21 10 34.0**	**-0.4**
JOHN	**Johnston Islan**	**36.74**	**6**	P	**P**	**21 12 25.3**	**-0.2**
PMG	**Port Moresby**	**39.54**	**280**	P	**P**	**21 12 49.3**	**-0.1**
	comp=Z,9.0nm,0.9s,baz=101,slow=5.2,SNR=5.3						
PMG	**Port Moresby**	**39.54**	**280**	P	**P**	**21 12 49.3**	**-0.1**
PMG				IAmb	IAmb	21 12 51.1	
	comp=Z,12nm,1.0s						
TOO	**Toolangi**	**39.72**	**235**	P	**P**	**21 12 50.2**	**-0.5**
TOO				IAmb	IAmb	21 13 01.6	
	comp=Z,50nm,1.4s						
PTCN	**Pitcairn Islan**	**40.12**	**105**	P	**P**	**21 12 53.8**	**-0.3**
STKA	**Stephens Creek**	**41.93**	**244**	P	**P**	**21 13 08.4**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=136,slow=12,SNR=3.5						
COEN	**Coen**	**41.93**	**271**	P	**P**	**21 13 09.2**	**0.0**
COEN				IAmb	IAmb	21 13 15.0	
	comp=Z,11nm,1.4s						
PUH	**Pauahi**	**43.01**	**25**	P	**P**	**21 13 17.8**	**-0.1**
KKO	**Keanakako`i**	**43.01**	**25**	P	**P**	**21 13 16.3**	**-1.6**
KKO				IAmb	IAmb	21 13 18.0	
	comp=Z,68nm,1.0s						
JAY	**Jayapura**	**48.10**	**285**	P	**P**	**21 13 58.7**	**+0.4**
	comp=Z,15nm,0.8s,baz=80,slow=4.0,SNR=5.6						
ASAR	**Alice Springs**	**48.88**	**256**	P	**P**	**21 14 02.9**	**-1.3**
	comp=Z,1.4nm,1.0s,baz=93,slow=7.9,SNR=8.0						
WB2	**Warramunga Arr**	**48.98**	**261**	P	**P**	**21 14 04.0**	**-0.9**
WRA	**Warramunga Arr**	**48.99**	**261**	P	**P**	**21 14 03.9**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=94,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**48.99**	**261**	IAmb	IAmb	21 14 05.2	
	comp=Z,0.2nm,0.8s						
GUMO	**Guam**	**52.98**	**306**	P	**P**	**21 14 34.2**	**-0.8**
MJAR	**Matsushiro Arr**	**72.53**	**321**	P	**P**	**21 16 45.0**	**0.0**
	comp=Z,1.5nm,0.9s,baz=149,slow=6.0,SNR=4.8						
ERM	**Erimo**	**73.68**	**328**	P	**P**	**21 16 52.1**	**+0.5**
YOJ	**Yonaguni jima**	**76.11**	**303**	P	**P**	**21 17 05.6**	**-0.4**
NVAR	**Mina Array Bea**	**77.75**	**41**	P	**P**	**21 17 19.2**	**+4.0**
	comp=Z,1.5nm,1.1s,baz=225,slow=6.2,SNR=6.4						
NVAR	**Mina Array Bea**	**77.75**	**41**	P	**P**	**21 17 15.6**	**+0.3**
KSAR	**Wonju Array Be**	**79.53**	**316**	P	**P**	**21 17 25.6**	**+0.7**
PDAR	**Pinedale Array**	**85.68**	**41**	P	**P**	**21 18 00.0**	**+2.9**
	comp=Z,0.6nm,0.9s,baz=197,slow=4.0,SNR=4.3						
PDAR	**Pinedale Array**	**85.68**	**41**	P	**P**	**21 17 56.7**	**-0.3**
ILAR	**Eielson Array**	**86.97**	**11**	P	**P**	**21 18 05.5**	**+2.9**
	comp=Z,0.4nm,1.0s,baz=225,slow=6.2,SNR=3.4						
ILAR	**Eielson Array**	**86.97**	**11**	P	**P**	**21 18 03.2**	**+0.7**
SYO	**Syowa Base**	**88.08**	**191**‖	*e*PcP	**P**	**21 18 10.0**	**+1.9**
SYO	**Syowa Base**	**88.08**	**191**‖	*e*pP	pP	21 18 17.0	+2.9
ROC1	**El Roble**	**89.09**	**125**	P	**P**	**21 18 12.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**94.11**	**288**	P	**P**	**21 18 39.2**	**+2.1**
	comp=Z,1.5nm,1.0s,baz=124,slow=2.9,SNR=8.1						
CMAR	**Chiang Mai Arr**	**94.11**	**288**	P	**P**	**21 18 36.1**	**-1.0**
MDND	**Maddock**	**94.27**	**40**	P	**P**	**21 18 37.0**	**-0.2**
AKASG	**Malin Array Be**	**144.59**	**335**	PKP	PKPbc	21 24 55.4	+2.4
	comp=Z,0.4nm,0.3s,baz=28,slow=3.5,SNR=5.7						
BRTR	**Keskin Array B**	**149.66**	**316**	PKPbc	**PKPbc**	**21 25 08.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=68,slow=3.8,SNR=3.4						
DOU	**Dourbes**	**149.97**	**3**	PKPdf	**PKPdf**	**21 25 03.2**	**0.0**
DOU				x	x	21 25 09.8	

ISC 23 21:12:09.9±1.1, 49°.36N±0°.03×19°.83E±0°.04, h10km, n5, σ1§27/14, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.31**	**78**	*e*Pg	**Pg**	**21 12 15.6**	**-0.5**
NIE				*e*Pg	**Pg**	**21 12 15.6**	**-0.5**
NIE				*e*Sg	**Sg**	**21 12 20.6**	**+0.3**
NIE				*e*Sg	**Sg**	**21 12 20.6**	**+0.3**
LANS	**Liptovska Anna**	**0.32**	**230**	*e*PG	**Pg**	**21 12 15.3**	**-0.9**
LANS				*e*SG	**Sg**	**21 12 20.0**	**-0.4**
LANS				*e*LG	Lg	21 12 20.6	
OJC	**Ojcow**	**0.86**	**359**	*e*Pg	**Pg**	**21 12 25.6**	**-0.9**
OJC				*e*Pg	**Pg**	**21 12 25.6**	**-0.9**
OJC				*e*Sg	**Sg**	**21 12 37.4**	**-0.4**
OJC				*e*Sg	**Sg**	**21 12 37.4**	**-0.4**
KECS	**Kecovo**	**0.97**	**154**	*e*PG	**Pg**	**21 12 27.5**	**-1.1**
KECS				*e*SG	**Sg**	**21 12 39.6**	**-1.6**
KECS				*e*LG	Lg	21 12 40.0	
VYHS	**Vyhne**	**1.08**	**218**	*e*PG	**Pn**	**21 12 31.3**	**+0.2**
VYHS				*e*SG	**Sn**	**21 12 49.4**	**+3.2**

DJA 23 21:17:48.3±0.4, 8°S±3°×107°E±°, h10km, M3.8/8, mb4.5/1, mB5.0/1, MLv3.5/8, Mw(mB)4.3/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.08**	**13**	P	Pb	21 18 07.7	-1.4
CISI	**Cisompet, Garu**	**1.23**	**49**	P	Pn	21 18 10.9	-0.7
SKJI	**Sukabumi**	**1.39**	**347**	P	Pn	21 18 13.4	-0.4
SKJI				S	Sb	21 18 32.7	+0.4
CMJI	**Cimerak**	**1.66**	**70**	P	Pn	21 18 17.7	+0.2
CMJI				S	Sn	21 18 38.7	-0.1
LEM	**Lembang**	**1.70**	**26**	P	Pn	21 18 18.8	+0.6
CGJI	**Cibinong**	**2.10**	**326**	P	Pn	21 18 23.7	+0.1
CGJI				S	Sn	21 18 50.3	+0.4
KPJI	**Karang Pucung**	**2.28**	**63**	P	Pn	21 18 26.2	+0.2
KASI	**Kota Agung**	**3.69**	**320**	P	Pn	21 18 45.5	+0.1
PCJI	**Pacitan**	**4.26**	**88**	P	Pn	21 18 53.2	0.0

*IDC **23** 21:24:53.0±4.0, 14°.09N×92°.06W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/38, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=207.9km s-min=77.1km az=58.0*
*MEX **23** 21:24:54.6±0.5, 13°.63N×92°.44W, h20km±22km, MD4.1*
*ISCJB **23** 21:24:58.1±0.9, 13°.97N±0°.07×92°.51W±0°.07, h54km, mb3.9/3, Error ellipse: s-maj=11.2km s-min=8.6km az=34.0*
*NEIC **23** 21:25:06.8±3.0, 14°.7N±0°.1×92°.10W±0°.10, h83km±7km*

ISC 23 21:25:01.3±0.8, 14°.14N±0°.09×92°.52W±0°.07, h54km, n31, σ2§18/31, mb4.1/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.80**	**18**	*e*P	**Pn**	**21 25 14.8**	**-1.7**
THIG				*i* S	**Sn**	**21 25 29.3**	**+1.7**
PCIG		**1.69**	**337**	*i* P	**Pn**	**21 25 26.6**	**-1.8**
PCIG				*e*S	**Sn**	**21 25 53.4**	**+4.3**
CCIG	**Comitan**	**2.16**	**10**	*i* P	**Pn**	**21 25 34.4**	**-0.6**
CCIG				*e*S	**Sn**	**21 26 05.0**	**+4.3**
CCIG	**Comitan**	**2.16**	**10**	Pn	**Pn**	**21 25 36.0**	**+1.0**
TGIG		**2.68**	**348**	*e*P	**Pn**	**21 25 41.5**	**-0.6**
CMIG	**Matias Romero**	**3.71**	**322**	*e*P	**Pn**	**21 25 54.5**	**-1.7**
CMIG				*i* S	**Sn**	**21 26 42.6**	**+4.0**
TEIG	**Tepich**	**7.28**	**33**		**Pn**	**21 26 44.6**	**-0.5**
CBCY	**The Bluff, Cay**	**13.41**	**64**	Pn	**Pn**	**21 28 05.9**	**-3.1**
061Z	**Ochoppi**	**15.96**	**41**	Pn	**Pn**	**21 28 41.5**	**-0.9**
GTBY	**Guantanamo Bay**	**17.61**	**69**	P	**P**	**21 29 03.4**	**+0.1**
GTBY				IAmb	IAmb	21 29 12.7	
	comp=Z,44nm,1.1s						
TXAR	**Lajitas Array**	**18.30**	**327**	P	**P**	**21 29 11.0**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=149,slow=13,SNR=2.9						
WHTX	**Lake Whitney,**	**18.33**	**347**	P	**P**	**21 29 09.3**	**-1.9**
WHTX				IAmb	IAmb	21 29 11.9	
	comp=Z,16nm,1.1s						
AMTX	**Amarillo**	**22.24**	**340**	P	**P**	**21 29 53.7**	**0.0**
AMTX				IAmb	IAmb	21 29 55.2	
	comp=Z,6.6nm,0.7s						
CCUT	**Cedar City**	**29.78**	**325**		**PcP**	**21 34 07.0**	**+1.1**
K22A	**Casper**	**30.87**	**340**	P	**P**	**21 31 09.2**	**-3.5**
PAGB	**Antelope Grade**	**32.88**	**316**		**S**	**21 36 40.6**	**-3.6**
MDPB	**Devils Postpil**	**33.22**	**320**		**S**	**21 36 49.0**	**-1.0**
NVAR	**Mina Array Bea**	**33.24**	**321**	P	**P**	**21 31 35.1**	**+1.4**
YNE	**Yellowstone No**	**34.16**	**338**		pwP	21 31 60.0	+4.7
YNR	**Norris Junctio**	**34.16**	**337**		pwP	21 31 57.5	+2.1
BOZ	**Bozeman (W)**	**35.27**	**337**		pwP	21 32 08.3	+3.5
MNMC	**Minye Minye**	**40.04**	**145**		**P**	**21 32 35.7**	**+4.0**
YKA	**Yellowknife Ar**	**50.77**	**347**	P	**P**	**21 33 55.9**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=147,slow=8.2,SNR=4.5						
INK	**Inuvik**	**60.16**	**344**	P	**P**	**21 35 02.9**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=129,slow=7.2,SNR=4.8						
INK	**Inuvik**	**60.16**	**344**	IAmb	IAmb	21 35 08.6	
	comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**62.51**	**337**	P	**P**	**21 35 20.6**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=121,slow=5.5,SNR=4.5						
NAO01	**NORSAR Array S**	**84.17**	**29**	P	**P**	**21 37 25.5**	**-1.1**
SHEL	**Horse Pasture**	**90.79**	**106**	P	**P**	**21 37 59.4**	**0.0**
SUW	**Suwalki**	**93.00**	**32**	P	**P**	**21 38 08.8**	**0.0**
CMAR	**Chiang Mai Arr**	**145.69**	**340**	PKPbc	**PKPdf**	**21 44 34.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=342,slow=3.9,SNR=8.1						
CMAR	**Chiang Mai Arr**	**145.69**	**340**		**PKPdf**	**21 44 33.1**	**-1.5**

*MDD **23** 21:25:43.9±1.0, 34°.62N×4°.85W, h58km±16km, mb3.9/20, Error ellipse: s-maj=10.5km s-min=5.6km az=11.0, PRXIMO*
*SFS **23** 21:25:43.0, 34°.56N×4°.80W, h74km, ML3.1, RHAJSAI (MARRUECOS)*
*INMG **23** 21:25:44.2±1.2, 34°.67N×4°.88W, h31km, ML2.5, Error ellipse: s-maj=2.5km s-min=2.2km az=88.0*
*IGIL **23** 21:25:44.2, 34°.66N×4°.99W, h19km, ML2.6*

ISC 23 21:25:41.0±1.0, 34°.68N±0°.04×4°.92W±0°.03, h10km, n72, σ2§37/137, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.71**	**46**	*e*P	**Pb**	**21 25 58.2**	**+2.7**
PVLZ				*e*S	**Sb**	**21 26 07.4**	**+2.1**
PVLZ	**Peæn de**	**0.71**	**46**	P	**Pb**	**21 25 58.2**	**+2.7**
PVLZ				S	**Sb**	**21 26 07.4**	**+2.1**
IFR	**Ifrane**	**1.17**	**188**	*e*P	**Pb**	**21 26 03.3**	**-0.1**
IFR				*e*S	**Sb**	**21 26 21.6**	**+3.0**
ECEU	**Ceuta**	**1.27**	**343**	P	**Pn**	**21 26 07.5**	**+2.6**
	15nm,0.2s,SNR=7.9						
ECEU				S	**Sb**	**21 26 22.7**	**+1.1**
	21nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.74**	**69**	*e*P	**Pn**	**21 26 11.0**	**-0.3**
MELI				*e*S	**Sn**	**21 26 31.3**	**-2.3**
MELI	**Melilla**	**1.74**	**69**	P	**Pn**	**21 26 11.0**	**-0.3**
	77nm,0.1s,SNR=7.9						
MELI				S	**Sn**	**21 26 30.8**	**-2.7**
	53nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.89**	**4**	P	**Pn**	**21 26 12.5**	**-0.9**
	2.6nm,0.1s,SNR=42						
EMIJ				S	**Sn**	**21 26 34.4**	**-2.9**
	38nm,0.2s,SNR=16						
EALB	**Alboran**	**1.99**	**50**	P	**Pn**	**21 26 13.9**	**-0.8**
	13nm,0.1s,SNR=14						
EALB				S	**Sn**	**21 26 36.3**	**-3.4**
	44nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.32**	**341**	P	**Pn**	**21 26 20.1**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**21 26 47.2**	**-0.5**
	4.4nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**2.43**	**25**	P	**Pn**	**21 26 20.4**	**-0.4**
	7.5nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**21 26 47.7**	**-2.9**
	32nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.52**	**15**	P	**Pn**	**21 26 22.1**	**0.0**
	1.9nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**21 26 51.4**	**-1.5**
	5.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.77**	**36**	P	**Pn**	**21 26 25.2**	**-0.3**
	1.9nm,0.1s,SNR=13						
EBER				S	**Sn**	**21 26 56.1**	**-3.0**
	27nm,0.3s,SNR=11						
EQUE	**Quentar**	**2.80**	**25**	P	**Pn**	**21 26 26.3**	**+0.5**
	3.7nm,0.3s,SNR=9.2						
EQUE				S	**Sn**	**21 26 58.0**	**-1.7**
	5.4nm,0.2s,SNR=6.3						
ENIJ	**Nijar**	**3.18**	**43**	P	**Pn**	**21 26 30.4**	**-0.6**
	1.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**21 27 04.4**	**-4.7**
	25nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.40**	**336**	P	**Pn**	**21 26 34.1**	**+0.1**
	1.1nm,0.1s,SNR=24						
EMIN				S	**Sn**	**21 27 12.1**	**-2.2**
	1.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.42**	**353**	P	**Pn**	**21 26 35.3**	**+1.0**
	0.7nm,0.1s,SNR=17						
ECAB				S	**Sn**	**21 27 12.2**	**-2.7**
	5.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.46**	**25**	P	**Pn**	**21 26 35.9**	**+0.8**
	1.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**21 27 17.1**	**+0.9**
	10nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.50**	**4**	P	**Pn**	**21 26 35.8**	**+0.4**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 27 15.1**	**-1.7**
	2.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.53**	**325**	P	**Pn**	**21 26 36.2**	**+0.4**
	7.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 27 15.4**	**-2.2**
	6.4nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.54**	**317**	*e*Pn	**Pn**	**21 26 36.4**	**+0.4**
PBDV				*e*Sn	**Sn**	**21 27 15.3**	**-2.6**
PBDV				A	A	21 27 21.3	
	6.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.54**	**317**	P	**Pn**	**21 26 36.4**	**+0.4**
PBDV				S	**Sn**	**21 27 15.3**	**-2.6**
	6.3nm,0.2s						
PVAQ	**Vaqueiros**	**3.54**	**321**	*e*Pn	**Pn**	**21 26 36.3**	**+0.3**
PVAQ				*e*Sn	**Sn**	**21 27 15.8**	**-2.2**
PVAQ				A	A	21 27 20.6	
	13nm,0.6s						
PVAQ	**Vaqueiros**	**3.54**	**321**	P	**Pn**	**21 26 36.3**	**+0.3**
PVAQ				S	**Sn**	**21 27 15.8**	**-2.2**
	13nm,0.6s						
PCVE	**Castro Verde**	**3.88**	**320**	*e*Pn	**Pn**	**21 26 41.7**	**+1.0**
PCVE				*e*Sn	**Sn**	**21 27 25.0**	**-1.3**
PCVE				A	A	21 27 26.7	
	4.5nm,0.2s						
PCVE	**Castro Verde**	**3.88**	**320**	P	**Pn**	**21 26 41.7**	**+1.0**
PCVE				S	**Sn**	**21 27 25.0**	**-1.3**
	4.5nm,0.2s						
PBAR	**Barrancos**	**3.89**	**335**	*e*Sn	**Sn**	**21 27 24.4**	**-2.1**
PBAR	**Barrancos**	**3.89**	**335**	S	**Sn**	**21 27 24.4**	**-2.1**
SESP	**Santiago Espad**	**3.94**	**28**	P	**Pn**	**21 26 44.3**	**+2.7**
	1.6nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 27 27.4**	**-0.5**
	8.2nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**4.00**	**312**	*e*P	**Pn**	**21 26 42.2**	**-0.2**
MORF				*e*S	**Sn**	**21 27 25.4**	**-4.0**
MORF				AML	AML	21 27 32.3	
	comp=N,16nm,0.3s						
MORF	**Marmelete**	**4.00**	**312**	*e*Pn	**Pn**	**21 26 43.5**	**+1.1**
MORF				*e*Sn	**Sn**	**21 27 28.0**	**-1.4**
MORF				A	A	21 27 32.2	
	comp=N,6.9nm,0.1s						
MORF	**Marmelete**	**4.00**	**312**	P	**Pn**	**21 26 42.2**	**-0.2**
MORF				S	**Sn**	**21 27 25.4**	**-4.0**
	comp=N,16nm,0.3s						
PFVI	**Vila Bisbo**	**4.01**	**309**	*e*Pn	**Pn**	**21 26 44.0**	**+1.6**
PFVI				*e*Sn	**Sn**	**21 27 27.8**	**-1.6**
PFVI				A	A	21 27 29.7	
	comp=N,5.3nm,0.1s						
PFVI	**Vila Bisbo**	**4.01**	**309**	P	**Pn**	**21 26 42.8**	**+0.4**
	comp=N,3.1nm,0.1s,SNR=6.4						
PFVI				S	**Sn**	**21 27 26.0**	**-3.4**
	comp=N,12nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**4.10**	**325**	*e*Pn	**Pn**	**21 26 44.8**	**+1.1**
PBEJ				*e*Sn	**Sn**	**21 27 29.3**	**-2.5**
PBEJ				A	A	21 27 32.5	
	comp=N,3.

PTOM	**Tomar**	**5.67**	**332**	*e*Pn	**Pn**	**21 27 06.5**	**+1.3**
PTOM	**Tomar**	**5.67**	**332**	P	**Pn**	**21 27 06.5**	**+1.3**
GUD	**Guadarrama**	**5.99**	**6**	P	**Pn**	**21 27 10.4**	**+0.6**
	comp=E,0.2nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**21 28 13.2**	**-5.3**
	comp=E,1.7nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**6.47**	**340**	*e*Pn	**Pn**	**21 27 17.0**	**+0.6**
PVIS				*e*Sn	**Sn**	**21 28 27.1**	**-3.2**
PVIS				A	A	21 28 38.2	
	comp=E,2.9nm,0.2s						
PVIS	**Viseu**	**6.47**	**340**	P	**Pn**	**21 27 17.0**	**+0.6**
PVIS				S	**Sn**	**21 28 27.1**	**-3.2**
	comp=E,1.4nm,0.2s						
ETOR	**Torete**	**6.54**	**19**	P	**Pn**	**21 27 17.7**	**+0.4**
	comp=E,1.7nm,0.2s,SNR=7.9						
ETOR				S	Sn	21 28 26.0	-6.0
	comp=E,1.8nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**6.69**	**346**	*e*Pn	**Pn**	**21 27 20.1**	**+0.8**
MVO	**Moncorvo**	**6.69**	**346**	P	**Pn**	**21 27 20.5**	**+1.2**
	comp=E,2.0nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 28 30.8**	**-4.8**
	comp=E,2.8nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**6.95**	**342**	*e*Pn	**Pn**	**21 27 23.7**	**+0.8**
PVRL				*e*Sn	**Sn**	**21 28 37.6**	**-4.4**
PVRL				A	A	21 28 40.1	
	comp=E,7.2nm,0.1s						
PVRL	**Vila Real**	**6.95**	**342**	P	**Pn**	**21 27 23.7**	**+0.8**
PVRL				S	**Sn**	**21 28 37.6**	**-4.4**
	comp=E,3.6nm,0.1s						
POLO	**Lamas de Olo**	**7.06**	**342**	*e*Pn	**Pn**	**21 27 25.5**	**+1.0**
POLO				*e*Sn	**Sn**	**21 28 40.6**	**-4.2**
POLO				A	A	21 28 46.9	
	comp=E,0.9nm,0.8s						
POLO	**Lamas de Olo**	**7.06**	**342**	P	**Pn**	**21 27 25.5**	**+1.0**
POLO				S	**Sn**	**21 28 40.6**	**-4.2**
	comp=E,0.9nm,0.8s						
ECAL	**Calabor**	**7.39**	**349**	P	**Pn**	**21 27 30.1**	**+1.1**
	comp=E,0.7nm,0.2s,SNR=4.0						
ECAL				S	**Sn**	**21 28 48.1**	**-4.8**
	comp=E,1.8nm,0.3s,SNR=4.0						
ELOB	**Lobios**	**7.59**	**342**	P	**Pn**	**21 27 32.4**	**+0.7**
	comp=E,0.6nm,0.2s,SNR=4.0						
ELOB				S	**Sn**	**21 28 53.1**	**-4.7**
	comp=E,0.8nm,0.3s,SNR=4.0						

*ISCJB **23** 21:32:21.9±0.6, 2°.65S±0°.09×138°.24E±0°.05, h32km, mb3.6/6, Error ellipse: s-maj=12.9km s-min=7.0km az=4.5*
*IDC **23** 21:32:26.7±1.8, 2°.69S×138°.43E, h69km±22km, mb3.4/6, mb1 3.6/9, mb1mx3.4/32, mbtmp3.7/9, Error ellipse: s-maj=22.0km s-min=13.8km az=153.0*

ISC 23 21:32:22.8±0.7,**2°.6S**±0°.1×**138°.45E**±0°.06,**h32**km,**n11,**
σ1§35/13,mb3.7/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.25**	**88**	P	**Pb**	**21 33 02.8**	**0.0**
	22nm,0.3s,baz=237,slow=10,SNR=96						
JAY				S	**Sb**	**21 33 29.9**	**-0.4**
	22nm,0.3s,baz=84,slow=12,SNR=7.5						
SIJI	**Sorong**	**7.39**	**283**	P	**Pn**	**21 34 10.0**	**+1.5**
	6.7nm,0.3s,baz=252,slow=21,SNR=69						
SIJI				S	**Sn**	**21 35 28.1**	**-3.1**
	1.8nm,0.3s,baz=276,slow=20,SNR=4.5						
BATI	**Baumata**	**16.51**	**242**	P	**P**	**21 36 14.8**	**+0.2**
	3.3nm,0.3s,baz=84,slow=3.8,SNR=4.0						
WRA	**Warramunga Arr**	**17.69**	**193**	P	**Pn**	**21 36 25.9**	**-1.0**
	0.3nm,0.3s,baz=14,slow=12,SNR=22						
WRA				S	Sn	21 39 30.5	-13
	0.3nm,0.3s,baz=11,slow=22,SNR=5.7						
FITZ	**Fitzroy Crossi**	**19.87**	**218**	P	**P**	**21 36 52.2**	**+0.8**
	0.2nm,0.3s,baz=54,slow=7.1,SNR=3.3						
ASAR	**Alice Springs**	**21.39**	**191**	P	**P**	**21 37 08.3**	**+0.3**
	1.1nm,0.5s,baz=18,slow=12,SNR=22						
CMAR	**Chiang Mai Arr**	**44.16**	**300**	P	**P**	**21 40 29.2**	**+0.3**
	0.4nm,0.5s,baz=116,slow=8.1,SNR=3.5						
SONM	**Songino Array**	**57.52**	**335**	P	**P**	**21 42 10.2**	**+1.0**
	0.4nm,0.6s,baz=152,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**69.55**	**322**	P	**P**	**21 43 29.6**	**+1.0**
	0.8nm,0.6s,baz=108,slow=8.4,SNR=13						
ZALV	**Zalesovo Beam**	**71.72**	**330**	P	**P**	**21 43 41.3**	**-0.3**
	0.5nm,0.5s,baz=130,slow=5.8,SNR=2.7						
ILAR	**Eielson Array**	**85.85**	**24**	P	**P**	**21 44 57.6**	**-1.4**
	0.6nm,1.1s,baz=285,slow=4.6,SNR=3.6						

*IDC **23** 21:58:34.6±0.5, 60°.38S×45°.20W, h0km, mb4.6/13, mb1 4.6/14, mb1mx4.5/18, mbtmp4.6/14, ML4.1/1, MS3.7/12, Ms1 3.6/12, ms1mx3.6/16, Error ellipse: s-maj=22.4km s-min=14.0km az=52.0*
*ISCJB **23** 21:58:35.4±0.3, 60°.23S±0°.04×44°.96W±0°.09, h10km, mb4.7/13, MS3.8/13, Error ellipse: s-maj=7.4km s-min=5.0km az=142.1*
*NEIC **23** 21:58:38.4±1.7, 60°.17S±0°.08×44°.9W±0°.2, h18km±2km, mb4.9/42*

ISC 23 21:58:36.5±0.3,**60°.35S**±0°.06×**45°.06W**±0°.06,**h10**km,**n163,**
σ1§24/164,mb4.9/27,MS3.7/13,2C,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.64**	**41**		**Pn**	**22 00 25.8**	**-1.9**
PMSA	**Palmer Station**	**9.80**	**235**	Pn	**Pn**	**22 00 57.0**	**-0.3**
	1.6nm,0.3s,baz=69,slow=10,SNR=9.0						
PMSA				Sn	**Sn**	**22 02 41.0**	**-6.2**
	0.4nm,0.3s,baz=81,slow=19,SNR=1.5						
PMSA	**Palmer Station**	**9.80**	**235**	*e*P	Pn	22 01 08.5	+11
PMSA	**Palmer Station**	**9.80**	**235**	*e*P	Pn	22 01 08.5	+11
PMSA	**Palmer Station**	**9.80**	**235**		**Pn**	**22 00 58.8**	**+1.5**
EFI	**East Falkland**	**11.31**	**314**	Pn	**Pn**	**22 01 19.1**	**+1.1**
USHA	**Ushuaia**	**13.65**	**284**	Pn	**Pn**	**22 01 51.5**	**+1.6**
	0.3nm,0.3s,baz=131,slow=11,SNR=2.8						
USHA				LR	LR	22 05 59.7	
	comp=Z,424nm,19.1s,baz=128,slow=33						
GO10	**Punta Arenas**	**15.89**	**285**	Pn	**Pn**	**22 02 20.9**	**+1.0**
GO09	**Cerro Castillo**	**17.70**	**289**		**P**	**22 02 44.3**	**+0.7**
VNA3	**Neumayer Olymp**	**17.81**	**142**	P	**P**	**22 02 45.5**	**+0.8**
VNA1	**Neumayer--Stat**	**18.06**	**140**	P	**P**	**22 02 50.4**	**+2.9**
VNA2	**Neumayer--Watz**	**18.42**	**141**	P	**Pn**	**22 02 52.7**	**+1.2**
	baz=291,slow=14						
SNAA	**Sanae**	**20.02**	**142**	P	Pn	22 03 12.0	+1.2
SNAA	**Sanae**	**20.02**	**142**	P	Pn	22 03 10.7	-0.1
	7.4nm,0.9s,baz=289,slow=8.1,SNR=18						
SNAA				S	**S**	**22 06 48.9**	**-4.9**
	0.7nm,0.7s,baz=304,slow=18,SNR=2.7						
SNAA				PcP	**PcP**	**22 07 24.0**	**-0.2**
	1.6nm,0.7s,baz=40,slow=2.3,SNR=6.6						
SNAA	**Sanae**	**20.02**	**142**	P	Pn	22 03 11.5	+0.7
TRQA	**Tornquist**	**24.75**	**327**	*e*P	**P**	**22 03 59.0**	**+1.1**
TRQA	**Tornquist**	**24.75**	**327**	*e*P	**P**	**22 03 59.0**	**+1.1**
TRQA	**Tornquist**	**24.75**	**327**	P	**P**	**22 03 58.4**	**+0.4**
TRQA				IAmb	IAmb	22 04 01.3	
	comp=Z,50nm,0.9s						
PLCA	**Paso Flores**	**25.17**	**310**	P	**P**	**22 04 01.9**	**+0.1**
	comp=Z,8.1nm,0.9s,baz=181,slow=9.0,SNR=14						
PLCA				LR	LR	22 13 52.8	
	comp=Z,173nm,18.9s,baz=182,slow=36						
PLCA	**Paso Flores**	**25.17**	**310**	*e*P	**P**	**22 04 02.6**	**+0.8**
PLCA	**Paso Flores**	**25.17**	**310**	*e*P	**P**	**22 04 02.6**	**+0.8**
PLCA	**Paso Flores**	**25.17**	**310**	P	**P**	**22 04 02.5**	**+0.7**
PLCA				IAmb	IAmb	22 04 15.8	
	comp=Z,26nm,0.8s						
GO06	**Curarrehue**	**26.52**	**310**	P	**P**	**22 04 13.4**	**-0.7**
QSPA	**South Pole Qui**	**29.89**	**180**	P	**P**	**22 04 46.2**	**+2.3**
QSPA				IAmb	IAmb	22 04 49.4	
	comp=Z,14nm,1.1s						
CPSB	**Cacapava Do Su**	**30.47**	**346**	*e*P	**P**	**22 04 48.6**	**-0.5**
CPSB	**Cacapava Do Su**	**30.47**	**346**	*e*P	**P**	**22 04 48.6**	**-0.5**
GO05	**Huala**	**30.73**	**313**	P	**P**	**22 04 51.5**	**0.0**
GO05				IAmb	IAmb	22 04 52.7	
	comp=Z,18nm,1.1s						
PEL	**Peldehue**	**31.98**	**317**	P	**P**	**22 05 02.3**	**-0.2**
ROC1	**El Roble**	**32.24**	**316**	P	**P**	**22 05 04.2**	**-0.9**
CFA	**Coronel Fontan**	**32.60**	**321**	P	**P**	**22 05 06.7**	**-1.2**
	comp=Z,8.1nm,0.7s,baz=169,slow=7.9,SNR=18						
CFA				PcP	**PcP**	**22 07 53.6**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=164,slow=0.9,SNR=4.9						
SYO	**Syowa Base**	**34.31**	**140⇑**	*e*P	**P**	**22 05 18.4**	**-4.0**
GO04	**Tololo Observa**	**34.74**	**319**	P	**P**	**22 05 26.4**	**-0.4**
CPUP	**Villa Florida**	**35.03**	**341**	P	**P**	**22 05 28.6**	**-0.5**
	comp=Z,5.6nm,1.0s,baz=171,slow=7.3,SNR=6.3						
CPUP				PcP	**PcP**	**22 08 01.1**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=117,slow=1.4,SNR=3.1						
CPUP				LR	LR	22 18 27.3	
	comp=Z,73nm,21.7s,baz=172,slow=34						
CPUP	**Villa Florida**	**35.03**	**341**	*e*P	**P**	**22 05 29.0**	**-0.1**
CPUP	**Villa Florida**	**35.03**	**341**	*e*P	**P**	**22 05 29.0**	**-0.1**
CPUP	**Villa Florida**	**35.03**	**341**	P	**P**	**22 05 28.6**	**-0.5**
PTGB	**Pitanga**	**35.94**	**349**	*e*P	**P**	**22 05 36.6**	**-0.4**
PTGB	**Pitanga**	**35.94**	**349**	*e*P	**P**	**22 05 36.6**	**-0.4**
SPB	**Sao Paulo**	**36.77**	**356**	*e*P	**P**	**22 05 43.7**	**-0.3**
SPB	**Sao Paulo**	**36.77**	**356**	*e*P	**P**	**22 05 43.7**	**-0.3**
GO03	**Copiap**	**36.95**	**321**	P	**P**	**22 05 45.4**	**-0.2**
TRCB	**Terra Rica**	**37.90**	**349**	*e*P	**P**	**22 05 53.4**	**-0.3**
TRCB	**Terra Rica**	**37.90**	**349**	*e*P	**P**	**22 05 53.4**	**-0.3**
GO02	**Mina Guanaco**	**39.03**	**323**	P	**P**	**22 06 03.3**	**-0.1**
AQDB	**Aquidauana**	**40.55**	**345**	*e*P	**P**	**22 06 15.7**	**0.0**
AQDB	**Aquidauana**	**40.55**	**345**	*e*P	**P**	**22 06 15.7**	**0.0**
ITRB	**Iturama**	**40.78**	**352**	*e*P	**P**	**22 06 17.6**	**-0.1**
ITRB	**Iturama**	**40.78**	**352**	*e*P	**P**	**22 06 17.6**	**-0.1**
PB10	**IPOC Station P**	**40.87**	**323**	P	**P**	**22 06 18.1**	**-0.3**
LVC	**Limon Verde**	**41.24**	**325**	*e*P	**P**	**22 06 22.3**	**+0.4**
LVC	**Limon Verde**	**41.24**	**325**	*e*P	**P**	**22 06 22.3**	**+0.4**
LVC	**Limon Verde**	**41.24**	**325**	P	**P**	**22 06 21.8**	**-0.1**
PB04	**IPOC Station P**	**41.86**	**324**	P	**P**	**22 06 26.7**	**0.0**
MAW	**Mawson**	**42.04**	**147**	P	**P**	**22 06 27.5**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=226,slow=5.7,SNR=4.9						
MAW				LR	LR	22 23 26.8	
	comp=Z,174nm,18.1s,baz=240,slow=36						
MAW	**Mawson**	**42.04**	**147**	P	**P**	**22 06 29.3**	**+1.9**
IPMB	**Ipameri, GO**	**42.37**	**356**	*e*P	**P**	**22 06 30.8**	**0.0**
IPMB	**Ipameri, GO**	**42.37**	**356**	*e*P	**P**	**22 06 30.8**	**0.0**
PB01	**IPOC Station P**	**42.89**	**325**	P	**P**	**22 06 35.5**	**+0.5**
PP1B	**Ponte de Pedra**	**43.28**	**346**	*e*P	**P**	**22 06 38.4**	**+0.3**
PP1B	**Ponte de Pedra**	**43.28**	**346**	*e*P	**P**	**22 06 38.4**	**+0.3**
GO01	**Chusmiza**	**44.12**	**326**	P	**P**	**22 06 45.6**	**+0.3**
GO01				IAmb	IAmb	22 06 47.1	
	comp=Z,38nm,1.1s						
PB11	**IPOC Station P**	**44.16**	**326**	P	**P**	**22 06 45.3**	**0.0**
PB11				IAmb	IAmb	22 06 54.1	
	comp=Z,29nm,1.0s						
BDFB	**Brasilia**	**44.69**	**356**	P	**P**	**22 06 49.7**	**+0.2**
	comp=Z,6.6nm,0.7s,baz=157,slow=2.8,SNR=8.9						
BDFB				LR	LR	22 22 24.9	
	comp=Z,70nm,20.2s,baz=176,slow=32						
BDFB	**Brasilia**	**44.69**	**356**	P	**P**	**22 06 49.0**	**-0.6**
BDFB				IAmb	IAmb	22 06 50.5	
	comp=Z,9.2nm,0.9s						
MNMC	**Minye Minye**	**44.74**	**326**	P	**P**	**22 06 50.1**	**0.0**
ARAG	**Araguaiana, MT**	**44.85**	**351**	*e*P	**P**	**22 06 50.9**	**+0.2**
ARAG	**Araguaiana, MT**	**44.85**	**351**	*e*P	**P**	**22 06 50.9**	**+0.2**
NBIT	**Itapeh - BA**	**45.53**	**8**	*e*P	**P**	**22 06 56.4**	**+0.3**
NBIT	**Itapeh - BA**	**45.53**	**8**	*e*P	**P**	**22 06 56.4**	**+0.3**
LPAZ	**La Paz**	**47.06**	**329**	P	**P**	**22 07 08.9**	**+0.1**
	comp=Z,5.9nm,0.7s,baz=158,slow=4.3,SNR=28						
LPAZ				PcP	**PcP**	**22 08 41.4**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=180,slow=2.0,SNR=3.1						
LPAZ				LR	LR	22 28 25.2	
	comp=Z,52nm,19.0s,baz=150,slow=38						
LPAZ	**La Paz**	**47.06**	**329**	*e*P	**P**	**22 07 09.4**	**+0.6**
LPAZ	**La Paz**	**47.06**	**329**	*e*P	**P**	**22 07 09.4**	**+0.6**
LPAZ	**La Paz**	**47.06**	**329**	P	**P**	**22 07 08.2**	**-0.6**
LPAZ				IAmb	IAmb	22 07 10.9	
	comp=Z,8.8nm,1.0s						
PEXB	**Peixe**	**48.22**	**356**	*e*P	**P**	**22 07 18.0**	**+0.9**
PEXB	**Peixe**	**48.22**	**356**	*e*P	**P**	**22 07 18.0**	**+0.9**
NBPN	**Ponto Novo - B**	**49.54**	**6**	*e*P	**P**	**22 07 27.1**	**-0.2**
NBPN	**Ponto Novo - B**	**49.54**	**6**	*e*P	**P**	**22 07 27.1**	**-0.2**
CLDB	**Colider**	**50.02**	**346**	*e*P	**P**	**22 07 29.9**	**-1.1**
CLDB	**Colider**	**50.02**	**346**	*e*P	**P**	**22 07 29.9**	**-1.1**
SUR	**Sutherland**	**50.63**	**87**	P	**P**	**22 07 36.3**	**+0.7**
	comp=Z,6.8nm,0.7s,baz=205,slow=9.7,SNR=6.7						
SUR	**Sutherland**	**50.63**	**87**	IAmb	IAmb	22 07 42.5	
	comp=Z,7.2nm,0.9s						
NBAN	**Anadia - AL**	**51.00**	**11**	*e*P	**P**	**22 07 38.9**	**+0.5**
NBAN	**Anadia - AL**	**51.00**	**11**	*e*P	**P**	**22 07 38.9**	**+0.5**
NBTA	**Tacaratu-PE**	**51.39**	**9**	*e*P	**P**	**22 07 41.7**	**+0.5**
NBTA	**Tacaratu-PE**	**51.39**	**9**	*e*P	**P**	**22 07 41.7**	**+0.5**
SHEL	**Horse Pasture**	**52.62**	**50**	P	**P**	**22 07 49.4**	**-1.1**
SAML	**Samuel**	**53.06**	**337**	*e*P	**P**	**22 07 53.9**	**+0.3**
SAML	**Samuel**	**53.06**	**337**	*e*P	**P**	**22 07 53.9**	**+0.3**
SAML	**Samuel**	**53.06**	**337**	P	**P**	**22 07 53.3**	**-0.3**
SAML					**P**	**22 07 53.7**	**0.0**
NBMA	**Muriti-CE**	**53.08**	**8**	*e*P	**P**	**22 07 54.5**	**+0.7**
NBMA	**Muriti-CE**	**53.08**	**8**	*e*P	**P**	**22 07 54.5**	**+0.7**
NBPA	**Parau_RN**	**54.80**	**10**	*e*P	**P**	**22 08 07.3**	**+0.9**
NBPA	**Parau_RN**	**54.80**	**10**	*e*P	**P**	**22 08 07.3**	**+0.9**
NBPB	**Pedra_Branca-C**	**54.84**	**7**	*e*P	**P**	**22 08 07.5**	**+0.8**
NBPB	**Pedra_Branca-C**	**54.84**	**7**	*e*P	**P**	**22 08 07.5**	**+0.8**
NBPS	**Pedro II - PI**	**55.89**	**4**	*e*P	**P**	**22 08 14.8**	**+0.6**
NBPS	**Pedro II - PI**	**55.89**	**4**	*e*P	**P**	**22 08 14.8**	**+0.6**
BOSA	**Boshof**	**55.90**	**89**	P	**P**	**22 08 14.6**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=230,slow=7.2,SNR=7.2						
BOSA				LR	LR	22 29 07.8	
	comp=Z,37nm,18.1s,baz=168,slow=33						
BOSA	**Boshof**	**55.90**	**89**	P	**P**	**22 08 14.8**	**+0.4**
BOSA				IAmb	IAmb	22 08 21.7	
	comp=Z,9.5nm,0.8s						
LBTB	**Lobatse**	**59.05**	**87**	P	**P**	**22 08 36.8**	**+0.2**
LBTB				IAmb	IAmb	22 08 38.0	
	comp=Z,11nm,0.8s						
MCQ	**Macquarie Isla**	**63.91**	**195**	P	**P**	**22 09 09.6**	**+0.8**
OTAV	**Otavalo**	**65.70**	**323**	*e*P	**P**	**22 09 22.8**	**+1.2**
OTAV	**Otavalo**	**65.70**	**323**	*e*P	**P**	**22 09 22.8**	**+1.2**
OTAV	**Otavalo**	**65.70**	**323**	P	**P**	**22 09 21.9**	**+0.4**
OTAV				IAmb	IAmb	22 09 31.5	
	comp=Z,9.6nm,1.0s						
PTCN	**Pitcairn Islan**	**66.13**	**261**	P	**P**	**22 09 24.9**	**+1.1**
LSZ	**Lusaka**	**68.56**	**83**	P	**P**	**22 09 39.7**	**+0.3**
LSZ				IAmb	IAmb	22 09 41.4	
	comp=Z,13nm,0.9s						
PAYG	**Puerto Ayora**	**68.88**	**310**	P	**P**	**22 09 40.1**	**-1.1**
ROSC	**El Rosal**	**68.93**	**329**	LR	LR	22 42 14.4	
	comp=Z,39nm,18.1s,baz=208,slow=38						
ROSC	**El Rosal**	**68.93**	**329**	P	**P**	**22 09 41.0**	**-0.9**
ROSC				IAmb	IAmb	22 09 44.4	
	comp=Z,3.7nm,0.6s						
MLZ	**Mavora Lakes**	**71.22**	**204**	P	**P**	**22 09 57.8**	**+2.5**
MLZ				IAmb	IAmb	22 10 04.8	
	comp=Z,12nm,1.2s						
LBZ	**Lake Benmore**	**71.72**	**206**	P	**P**	**22 10 00.6**	**+2.4**
LBZ				IAmb	IAmb	22 10 10.1	
	comp=Z,8.1nm,1.1s						
MQZ	**McQueen's Vall**	**71.81**	**208**	P	**P**	**22 10 00.9**	**+2.1**
MQZ				IAmb	IAmb	22 10 04.8	
	comp=Z,10.0nm,0.9s						
LIC	**Lamto**	**73.44**	**42**	*e*P	**P**	**22 10 09.7**	**+1.0**
	comp=Z,45nm,0.8s						
BHW	**Baring Head**	**73.45**	**210**	P	**P**	**22 10 10.3**	**+1.8**
KIC	**Kosan Boka**	**73.66**	**42**	*e*P	**P**	**22 10 11.0**	**+0.9**
	comp=Z,38nm,1.1s						
TIC	**Toumodi**	**73.83**	**42**	*e*P	**P**	**22 10 11.9**	**+0.8**
DBIC	**Dimbokro**	**73.91**	**42**	P	**P**	**22 10 12.5**	**+1.0**
	comp=Z,11nm,1.0s,baz=179,slow=8.1,SNR=9.0						
DBIC				LR	LR	22 36 31.3	
	comp=Z,41nm,18.2s,baz=136,slow=31						
DBIC	**Dimbokro**	**73.91**	**42**	P	**P**	**22 10 12.0**	**+0.5**
DBIC				IAmb	IAmb	22 10 13.5	
	comp=Z,12nm,0.9s						
SACV	**Santiago Islan**	**77.02**	**21**	P	**P**	**22 10 27.8**	**-1.5**
PPT	**Papeete**	**81.87**	**249**	LR	LR	22 40 56.0	
	comp=Z,15nm,19.4s,baz=194,slow=31						
TOA0	**Torodi Ar. Sit**	**82.20**	**46**	P	**P**	**22 10 57.8**	**+0.3**
TOA0				IAmb	IAmb	22 10 59.8	
	comp=Z,19nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.20**	**46**	P	**P**	**22 10 58.3**	**+0.9**
	comp=Z,11nm,0.9s,baz=209,slow=5.6,SNR=40						
TORD				LR	LR	22 40 54.8	
	comp=Z,34nm,19.1s,baz=130,slow=31						
TORD	**Torodi Ar. Bea**	**82.20**	**46**	P	**P**	**22 10 56.5**	**-0.9**
TEIG	**Tepich**	**87.59**	**320**	P	**P**	**22 11 23.9**	**-0.5**
TEIG				IAmb	IAmb	22 11 36.5	
	comp=Z,9.5nm,0.9s						
STKA	**Stephens Creek**	**87.95**	**186**	LR	LR	22 50 19.3	
	comp=Z,79nm,19.4s,baz=17,slow=35						
ASAR	**Alice Springs**	**96.29**	**179**	P	**P**	**22 12 03.5**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=173,slow=3.6,SNR=8.4						
ASAR	**Alice Springs**	**96.29**	**179**	P	**P**	**22 12 03.9**	**-1.2**
WRA	**Warramunga Arr**	**100.00**	**179**	P	**Pdif**	**22 12 20.1**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=184,slow=4.5,SNR=3.9						
BRTR	**Keskin Array B**	**118.50**	**59**	PKP	**PKPdf**	**22 17 22.6**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=193,slow=5.1,SNR=4.9						
VYHS	**Vyhne**	**120.15**	**44**	*e*PKP	**PKPdf**	**22 17 25.1**	**-1.2**
AKASG	**Malin Array Be**	**125.73**	**49**	PKP	**PKPdf**	**22 17 34.5**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=238,slow=1.4,SNR=6.1						
AKASG	**Malin Array Be**	**125.73**	**49**		**PKPdf**	**22 17 35.7**	**-1.2**
HRA	**Herat**	**127.60**	**85**		**PKPdf**	**22 17 41.1**	**-0.3**
HFS	**Hagfors**	**128.47**	**33**	PKP	**PKPdf**	**22 17 39.3**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=147,slow=6.3,SNR=7.8						
CMAR	**Chiang Mai Arr**	**130.91**	**132**	PKP	**PKPdf**	**22 17 47.4**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=222,slow=3.7,SNR=6.8						
CMAR	**Chiang Mai Arr**	**130.91**	**132**		**PKPdf**	**22 17 47.0**	**-0.8**
FINES	**FINESS Array B**	**133.13**	**39**	PKP	**PKPdf**	**22 17 49.2**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=59,slow=1.1,SNR=6.9						
YKA	**Yellowknife Ar**	**133.45**	**323**	PKP	**PKPdf**	**22 17 51.1**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=138,slow=1.8,SNR=4.1						
KSH	**Kashi**	**138.43**	**93**	PKP	**PKiKP**	**22 18 04.8**	**+1.3**
KSH				PP	**PP**	**22 20 56.8**	**+4.7**
KSH				PKS	**PKSdf**	**22 21 40.4**	**+2.8**
KSH				LR	LR		
	comp=Z,450nm,15.8s						
KSH				LR	LR		
	comp=Z,420nm,9.9s						
KSH				LR	LR		
	comp=Z,110nm,11.6s						
BCAR	**Beaver Creek A**	**143.03**	**311**		**PKPdf**	**22 18 07.1**	**-1.8**
INK	**Inuvik**	**143.18**	**322**	PKPdf	**PKPdf**	**22 18 07.9**	**-0.9**
CD2	**Chengdu**	**144.01**	**131**	PKP	**PKPdf**	**22 18 12.5**	**+0.9**
BRVK	**Borovoye**	**145.11**	**72**		**PKPbc**	**22 18 12.3**	**0.0**
ENH	**Enshi**	**145.45**	**139**		**PKPbc**	**22 18 12.9**	**-1.2**
ILAR	**Eielson Array**	**145.85**	**312**	PKPbc	**PKPdf**	**22 18 13.9**	**+0.3**
	comp=Z,18nm,0.8s,baz=154,slow=3.2,SNR=121						
ILAR	**Eielson Array**	**145.85**	**312**		**PKPdf**	**22 18 13.7**	**0.0**
COLA	**College**	**146.26**	**311**		**PKPbc**	**22 18 15.3**	**-0.2**
BMAR	**Burnt Mountain**	**146.32**	**317**		**PKPbc**	**22 18 15.9**	**+0.2**
MKAR	**Makanchi Array**	**146.90**	**90**	PKPbc	**PKPbc**	**22 18 17.5**	**-0.5**
	comp=Z,8.2nm,0.7s,baz=237,slow=2.7,SNR=50						
WHN	**Wuhan**	**147.17**	**146**	PKPbc	**PKPbc**	**22 18 18.6**	**-0.6**
KURK	**Kurchatov**	**147.68**	**82**		**PKPdf**	**22 18 16.6**	**-0.5**
KURK				PKPbc	**PKPbc**	**22 18 19.9**	**0.0**
XAN	**Xi'an**	**148.70**	**135**	PKPbc	**PKPbc**	**22 18 22.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,140nm,6.8s						
XAN	**Xi'an**	**148.70**	**135**		**PKPbc**	**22 18 22.7**	**-0.6**
IMAR	**Indian Mountai**	**148.96**	**311**		**PKPbc**	**22 18 22.2**	**-0.6**
GTA	**Gaotai**	**149.73**	**118**	⇑PKPbc	**PKPbc**	**22 18 25.5**	**-0.3**
GTA				LR	LR		
	comp=Z,84nm,21.0s						
GTA				LR	LR		
	comp=Z,89nm,19.2s						
NJ2	**Nanjing**	**149.76**	**152**	*e*PKPbc	**PKPdf**	**22 18 23.3**	**+2.2**
ZALV	**Zalesovo Beam**	**152.66**	**81**	PKPbc	**PKPbc**	**22 18 30.3**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=250,slow=3.6,SNR=9.0						
ZALV	**Zalesovo Beam**	**152.66**	**81**		**PKPbc**	**22 18 29.9**	**-2.0**
SONM	**Songino Array**	**159.30**	**114**	PKP

TIR			*i* SG	**Sg**	**22 28 04.3**	**+0.4**
TIR	**Tirane**	**0.42 278**	P	**Pg**	**22 27 58.0**	**-0.4**
TIR			S	**Sg**	**22 28 04.3**	**+0.4**
TIR			AML	AML	22 28 05.9	
	comp=N,2158μm,0.1s					
TIR			AML	AML	22 28 06.0	
	comp=E,2552μm,0.2s					
PUK	**Puka**	**0.85 333**	*i* PG	**Pg**	**22 28 05.8**	**-0.7**
PUK			*i* SG	**Sb**	**22 28 18.7**	**-0.1**
FNA	**Florina**	**0.88 124**	P	**Pg**	**22 28 06.2**	**-0.9**
FNA			S	**Sb**	**22 28 19.7**	**-0.1**
	comp=E,685nm,0.5s					
FNA	**Florina**	**0.88 124**	*i* Pg	**Pg**	**22 28 06.3**	**-0.9**
FNA			*i* Sg	**Sb**	**22 28 19.8**	**0.0**
FNA	**Florina**	**0.88 124**	*i* PG	**Pg**	**22 28 06.4**	**-0.8**
FNA			*i* SG	**Sb**	**22 28 19.4**	**-0.4**
FNA	**Florina**	**0.88 124**	P	**Pg**	**22 28 06.3**	**-0.9**
FNA			S	**Sb**	**22 28 19.4**	**-0.4**
FNA			AML	AML	22 28 23.8	
	comp=N,1433μm,0.6s					
FNA			AML	AML	22 28 25.3	
	comp=E,1309μm,0.5s					
NEST	**Nestorio**	**1.00 151**	P	**Pg**	**22 28 08.7**	**-0.6**
NEST			S	**Sb**	**22 28 23.1**	**0.0**
	comp=E,122nm,0.4s					
NEST	**Nestorio**	**1.00 151**	P	**Pg**	**22 28 08.5**	**-0.8**
NEST			S	**Sn**	**22 28 23.7**	**-1.1**
NEST			AML	AML	22 28 25.3	
	comp=E,274μm,0.3s					
NEST			AML	AML	22 28 29.4	
	comp=N,252μm,0.3s					
SKO	**Skopje**	**1.03 48**	*i* Pg	**Pg**	**22 28 09.2**	**-0.7**
SKO			*e*Sg	**Sn**	**22 28 24.5**	**-1.0**
ULC	**Ulcinj**	**1.11 308**	*e*Pg	**Pg**	**22 28 09.9**	**-1.6**
ULC	**Ulcinj**	**1.11 308**	⇓*i*Pg	**Pg**	**22 28 10.4**	**-1.1**
ULC			*i* Sg	**Sn**	**22 28 27.4**	**-0.1**
BCI	**Bajram Curri**	**1.11 346**	*i* PN	**Pg**	**22 28 10.6**	**-0.8**
BCI			*i* SN	**Sn**	**22 28 27.0**	**-0.6**
PENT	**Pentalofos**	**1.22 153**	P	**Pg**	**22 28 13.8**	**+0.2**
DRME	**Dracevica, Mon**	**1.29 315**	*e*Pn	**Pn**	**22 28 12.8**	**-1.7**
DRME	**Dracevica, Mon**	**1.29 315**	⇓*i*Pg	**Pn**	**22 28 13.4**	**-1.1**
DRME			*i* Sg	**Sn**	**22 28 33.2**	**+1.3**
PVY	**Plav**	**1.35 345**	⇓*i*Pg	**Pn**	**22 28 14.8**	**-0.7**
PVY			*i* Sg	**Sg**	**22 28 35.2**	**+1.6**
STIP	**Stip**	**1.39 72**	*e*Pn	**Pg**	**22 28 18.8**	**+2.0**
STIP			*e*Sg	**Sg**	**22 28 41.8**	**+6.9**
KZN	**Kozani**	**1.42 133**	P	**Pn**	**22 28 15.9**	**-0.5**
KZN	**Kozani**	**1.42 133**	P	**Pn**	**22 28 16.1**	**-0.2**
PDG	**Podgorica**	**1.43 323**	*e*Pg	**Pn**	**22 28 16.4**	**-0.1**
PDG			*e*Sn	**Sg**	**22 28 39.4**	**+3.1**
PDG	**Podgorica**	**1.43 323**	*e*Pn	**Pn**	**22 28 16.0**	**-0.5**
TTG	**Podgorica**	**1.43 323**	⇓*i*Pg	**Pn**	**22 28 16.2**	**-0.3**
TTG			*i* Sg	**Sg**	**22 28 38.1**	**+1.8**
KPRO	**Kipourio**	**1.51 151**	P	**Pb**	**22 28 18.3**	**-0.3**
KPRO	**Kipourio**	**1.51 151**	P	**Pb**	**22 28 18.5**	**-0.1**
BUM	**Brajici-Budva**	**1.52 312**	⇓*i*Pg	**Pn**	**22 28 17.9**	**+0.1**
BUM			*i* Sg	**Sg**	**22 28 41.5**	**+2.3**
GRG	**Griva**	**1.54 102**	P	**Pn**	**22 28 17.9**	**0.0**
GRG			S	**Sb**	**22 28 38.5**	**0.0**
	comp=N,108nm,0.4s					
GRG	**Griva**	**1.54 102**	*e*Pn	**Pn**	**22 28 18.2**	**+0.2**
GRG			*e*Sg	**Sg**	**22 28 39.6**	**+0.1**
GRG	**Griva**	**1.54 102**	P	**Pn**	**22 28 17.9**	**0.0**
VAY	**Valandovo**	**1.62 88**	*e*Pg	**Pb**	**22 28 19.9**	**-0.5**
VAY			*e*Sn	**Sg**	**22 28 41.9**	**-0.4**
VAY	**Valandovo**	**1.62 88**	*e*Pn	**Pb**	**22 28 19.9**	**-0.5**
VAY			*e*Sg	**Sg**	**22 28 41.6**	**-0.7**
IVA	**Berane**	**1.63 346**	⇑*i*Pn	**Pg**	**22 28 21.7**	**+0.3**
IVA			*i* Sn	**Sg**	**22 28 44.3**	**+1.7**
KEK	**Kerkira**	**1.64 197**	P	**Pb**	**22 28 20.8**	**+0.1**
CEME	**Cevo**	**1.68 319**	⇓*i*Pn	**Pn**	**22 28 20.5**	**+0.5**
CEME			*i* Sn	**Sg**	**22 28 45.7**	**+1.4**
KOME	**Kolasin**	**1.70 337**	⇓*i*Pn	**Pb**	**22 28 21.1**	**-0.6**
KOME			*i* Sn	**Sg**	**22 28 46.1**	**+1.3**
IGT	**Igoumenitsa**	**1.75 182**	*i* PN	**Pb**	**22 28 22.5**	**-0.1**
IGT			*i* SN	**Sg**	**22 28 46.5**	**-0.1**
NKME	**Niksic**	**1.84 324**	⇓*i*Pn	**Pb**	**22 28 22.9**	**-1.2**
NKME			*i* Sn	**Sg**	**22 28 49.2**	**0.0**
HCY	**Herceg Novi**	**1.84 310**	*e*Pn	**Pb**	**22 28 23.1**	**-1.1**
HCY	**Herceg Novi**	**1.84 310**	⇓*i*Pn	**Pb**	**22 28 23.2**	**-1.0**
HCY			*i* Sn	**Sg**	**22 28 49.7**	**+0.2**
BARS	**Barje**	**1.85 34**	*e*Pn	**Pb**	**22 28 23.4**	**-0.8**
BARS			*e*Sn	**Sg**	**22 28 49.4**	**-0.2**
NKY	**Niksic**	**1.86 326**	⇑*i*Pn	**Pb**	**22 28 23.6**	**-0.8**
NKY			*i* Sn	**Sg**	**22 28 49.8**	**0.0**
KNT	**Kendrikon**	**1.88 93**	P	**Pn**	**22 28 22.9**	**+0.3**
KNT			S	**Sn**	**22 28 47.0**	**+0.5**
KNT	**Kendrikon**	**1.88 93**	*e*Pn	**Pn**	**22 28 23.0**	**+0.4**
KNT	**Kendrikon**	**1.88 93**	P	**Pn**	**22 28 23.0**	**+0.4**
BOSS	**Bosilegrad**	**1.96 51**	*e*Pn	**Pn**	**22 28 24.2**	**+0.5**
BOSS			*e*Sn	**Sg**	**22 28 51.8**	**-1.3**
LIT	**Litokhoron**	**1.97 126**	P	**Pn**	**22 28 24.6**	**+0.7**
SELS	**Selova**	**2.00 15**	*e*Pn	**Pb**	**22 28 27.2**	**+0.4**
SELS			*e*Sn	**Sg**	**22 28 53.6**	**-0.8**
SJES	**Sjenica**	**2.00 351**	*e*Pn	**Pb**	**22 28 26.9**	**0.0**
SJES			*e*Sn	**Sg**	**22 28 53.9**	**-0.5**
KKB	**Krupnik**	**2.08 73**	*e*Pn	**Pn**	**22 28 26.5**	**+1.0**
TREB	**Trebinje**	**2.10 314**	*e*Pn	**Pb**	**22 28 28.0**	**-0.5**
TREB			*e*Sn	**Sb**	**22 28 55.2**	**+0.4**
TREB	**Trebinje**	**2.10 314**	*e*Pn	**Pb**	**22 28 27.6**	**-0.9**
BRY	**Bratogost**	**2.13 320**	*e*Pn	**Pb**	**22 28 28.0**	**-1.2**
BRY	**Bratogost**	**2.13 320**	⇑*i*Pn	**Pn**	**22 28 27.5**	**+1.2**
BRY			*i* Sn	**Sb**	**22 28 56.7**	**+0.8**
DBRK	**Dubrovnik**	**2.18 310**	*e*Pn	**Pb**	**22 28 29.3**	**-0.6**
DBRK			Sn	**Sg**	**22 29 01.9**	**+1.6**
UPM	**Unac-Piva**	**2.22 330**	*e*Pn	**Pb**	**22 28 29.9**	**-0.8**
UPM	**Unac-Piva**	**2.22 330**	⇓*i*Pn	**Pn**	**22 28 28.7**	**+1.2**
UPM			*i* Sn	**Sb**	**22 28 58.6**	**+0.2**
IVAS	**Ivanjica**	**2.29 355**	*e*Pn	**Pb**	**22 28 30.5**	**-1.4**
IVAS			*e*Sn	**Sb**	**22 29 01.8**	**+1.4**
RUDO	**Rudo**	**2.45 342**	*e*Pn	**Pn**	**22 28 31.6**	**+1.1**
VTS	**Vitosha**	**2.49 57**	*e*Pn	**Pn**	**22 28 32.0**	**+0.8**
VTS			*e*Sn	**Sn**	**22 29 02.6**	**+0.9**
VTS	**Vitosha**	**2.49 57**	*i* Pn	**Pn**	**22 28 31.9**	**+0.8**
BOVS	**Bovan**	**2.53 22**	*e*Pn	**Pb**	**22 28 34.8**	**-1.1**
BOVS			*e*Sn	**Sb**	**22 29 06.0**	**-1.2**
STON	**Ston**	**2.57 309**	*e*Pn	**Pn**	**22 28 33.9**	**+1.8**
STON			*e*Sn	**Sb**	**22 29 05.9**	**-2.3**
STON	**Ston**	**2.57 309**	*e*Pn	**Pb**	**22 28 37.3**	**+0.8**
ZAPS	**Zavoj**	**2.58 39**	*e*Pn	**Pn**	**22 28 33.6**	**+1.3**
ZAPS			*e*Sn	**Sb**	**22 29 06.4**	**-2.1**
GRUS	**Gruza**	**2.61 5**	*e*Pn	**Pn**	**22 28 34.5**	**+1.9**
BBLS	**Lazići**	**2.68 344**	*e*Pn	**Pn**	**22 28 35.8**	**+2.1**
BBLS	**Lazići**	**2.68 344**	*e*Pn	**Pb**	**22 28 36.5**	**-2.0**
DIVS	**Divibare**	**2.83 354**	*e*Pn	**Pb**	**22 28 38.6**	**-2.3**
DIVS			*e*Sn	**Sb**	**22 29 14.4**	**-1.3**
DIVS	**Divibare**	**2.83 354**	*e*Pn	**Pn**	**22 28 34.1**	**-1.6**
ZAGS	**Zajecar**	**2.86 27**	*e*Pn	**Pb**	**22 28 39.1**	**-2.3**
TRUS	**Trudelj**	**2.93 360**	*e*Pn	**Pn**	**22 28 39.2**	**+2.1**
HAPS	**Han Pijesak,BI**	**3.00 339**	*e*Pn	**Pn**	**22 28 40.3**	**+2.2**
HAPS			*e*Sn	**Sb**	**22 29 18.3**	**-2.4**
HAPS	**Han Pijesak,BI**	**3.00 339**	*e*Pn	**Pn**	**22 28 39.4**	**+1.3**
MAKA	**Makarska**	**3.22 310**	*e*Pn	**Pn**	**22 28 42.6**	**+1.6**
MAKA			Sn	**Sn**	**22 29 21.4**	**+1.9**
KUBS	**Kucevo**	**3.26 16**	*e*Pn	**Pn**	**22 28 43.1**	**+1.5**

ATH ***23*** *22:53:14.8, 41.°38N×20.°46E, h12km±3km, ML2.7/3, Error ellipse: s-maj=3.3km s-min=1.2km az=207.0*
TIR ***23*** *22:53:14.6, 41.°28N×20.°42E, h6km, Md3.0/7*
BEO ***23*** *22:53:15.0±0.5, 41.°15N×20.°44E, h2km±2km, ML2.7/16*
THE ***23*** *22:53:15.8, 41.°29N×20.°42E, h2km±2km, ML2.6/4, Error ellipse: s-maj=2.2km s-min=0.7km az=245.0*
SKO ***23*** *22:53:15.1, 41.°26N×20.°38E, h15km, M2.5, ML2.8*
PDG ***23*** *22:53:16.6±0.6, 41.°31N×20.°37E, h4km±1km, ML3.0/11, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*

ISC 23 22:53:15.6±1.0,**41.°26N**±0.°02×**20.°40E**±0.°02,**h5**km±9km, **n91**,σ1§**20**/146,**11C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.34 116**		*i* Pg	**Pg**	**22 53 22.5**	**+0.3**
OHR				*i* Sg	**Sb**	**22 53 28.4**	**-1.4**
OHR				*e*Lg	Lg	22 53 28.6	
	comp=N,1μm,0.4s						
OHR				*e*Lg	Lg	22 53 29.6	
	comp=E,2μm,0.5s						
TIR	**Tirane**	**0.41 282**		*e*Pg	**Pg**	**22 53 23.3**	**-0.3**
TIR				*e*Sg	**Sg**	**22 53 30.4**	**+1.4**
TIR	**Tirane**	**0.41 282**		P	**Pg**	**22 53 23.4**	**-0.2**
TIR				S	**Sg**	**22 53 29.9**	**+0.9**
TIR	**Tirane**	**0.41 282**		*i* Pg	**Pg**	**22 53 23.6**	**0.0**
TIR	**Tirane**	**0.41 282**		*i* PG	**Pg**	**22 53 23.5**	**0.0**
TIR				*i* SG	**Sg**	**22 53 29.4**	**+0.4**
TIR	**Tirane**	**0.41 282**		P	**Pg**	**22 53 23.6**	**0.0**
TIR				S	**Sg**	**22 53 30.2**	**+1.1**
TIR				AML	AML	22 53 31.8	
	comp=E,2514μm,0.2s						
TIR				AML	AML	22 53 34.2	
	comp=N,2105μm,0.4s						
PHP	**Peshkopia**	**0.42 4**		P	**Pg**	**22 53 23.3**	**-0.5**
PHP				S	**Sg**	**22 53 29.3**	**-0.1**
PHP	**Peshkopia**	**0.42 4**		*i* PG	**Pg**	**22 53 23.4**	**-0.5**
PHP				*i* SG	**Sg**	**22 53 29.5**	**+0.1**
PUK	**Puka**	**0.87 334**		*i* PG	**Pg**	**22 53 31.6**	**-0.7**
PUK				*i* SG	**Sb**	**22 53 44.6**	**-0.6**
FNA	**Florina**	**0.88 123**		P	**Pg**	**22 53 31.9**	**-0.6**
FNA				S	**Sb**	**22 53 45.4**	**-0.1**
	comp=N,1μm,0.5s						
FNA	**Florina**	**0.88 123**		*i* Pg	**Pg**	**22 53 32.0**	**-0.6**
FNA				*i* Sg	**Sb**	**22 53 45.5**	**+0.1**
FNA	**Florina**	**0.88 123**		*i* PG	**Pg**	**22 53 31.9**	**-0.6**
FNA				*i* SG	**Sb**	**22 53 45.3**	**-0.1**
FNA	**Florina**	**0.88 123**		P	**Pg**	**22 53 31.8**	**-0.6**
FNA				S	**Sb**	**22 53 45.2**	**-0.3**
FNA				AML	AML	22 53 49.5	
	comp=N,2117μm,0.5s						
FNA				AML	AML	22 53 51.0	
	comp=E,1909μm,0.4s						
NEST	**Nestorio**	**0.98 150**		P	**Pg**	**22 53 34.4**	**0.0**
NEST				S	**Sn**	**22 53 49.7**	**-0.7**
	comp=E,210nm,0.4s						
NEST	**Nestorio**	**0.98 150**		P	**Pg**	**22 53 34.2**	**-0.2**
NEST				S	**Sn**	**22 53 49.8**	**-0.6**
NEST				AML	AML	22 53 51.1	
	comp=E,478μm,0.3s						
NEST				AML	AML	22 53 55.2	
	comp=N,428μm,0.3s						
TPE	**Tepelena**	**1.01 197**		P	**Pg**	**22 53 34.8**	**-0.2**
TPE	**Tepelena**	**1.01 197**		*i* PG	**Pg**	**22 53 34.9**	**-0.2**
TPE				*i* SG	**Sn**	**22 53 50.2**	**-0.8**
SKO	**Skopje**	**1.05 47**		*e*Pg	**Pg**	**22 53 35.6**	**-0.3**
SKO				*e*Sg	**Sb**	**22 53 49.9**	**-0.6**
SKO	**Skopje**	**1.05 47**		*e*Pg	**Pg**	**22 53 34.9**	**-1.0**
SKO				*i* Sg	**Sb**	**22 53 50.3**	**-0.1**
ULC	**Ulcinj**	**1.11 309**		*i* Pg	**Pb**	**22 53 35.5**	**-1.9**
ULC	**Ulcinj**	**1.11 309**		⇑*i*Pg	**Pb**	**22 53 35.4**	**-2.0**
ULC				*i* Sg	**Sn**	**22 53 52.8**	**-0.9**
BCI	**Bajram Curri**	**1.13 347**		*i* PN	**Pb**	**22 53 36.6**	**-1.1**
BCI				*i* SN	**Sn**	**22 53 52.9**	**-1.2**
PENT	**Pentalofos**	**1.20 152**		P	**Pg**	**22 53 38.8**	**+0.1**
PENT	**Pentalofos**	**1.20 152**		P	**Pg**	**22 53 39.1**	**+0.3**
DRME	**Dracevica, Mon**	**1.30 316**		*e*Pn	**Pn**	**22 53 38.7**	**-1.7**
DRME	**Dracevica, Mon**	**1.30 316**		⇓*i*Pg	**Pn**	**22 53 39.1**	**-1.3**
DRME				*i* Sg	**Sg**	**22 53 58.7**	**+1.4**
PVY	**Plav**	**1.37 346**		⇑*i*Pg	**Pn**	**22 53 40.7**	**-0.9**
PVY				*i* Sg	**Sg**	**22 54 01.3**	**+1.6**
STIP	**Stip**	**1.41 72**		*e*Pn	**Pg**	**22 53 44.6**	**+2.0**
KZN	**Kozani**	**1.41 132**		P	**Pb**	**22 53 41.8**	**-0.7**
KZN				S	**Sg**	**22 54 03.0**	**+2.0**
	comp=N,168nm,0.5s						
KZN	**Kozani**	**1.41 132**		P	**Pb**	**22 53 41.9**	**-0.6**
PDG	**Podgorica**	**1.45 324**		*e*Pg	**Pn**	**22 53 42.2**	**-0.3**
PDG				*e*Sg	**Sg**	**22 54 04.1**	**+1.9**
PDG	**Podgorica**	**1.45 324**		*e*Pn	**Pn**	**22 53 41.2**	**-1.3**
TTG	**Podgorica**	**1.45 324**		⇑*i*Pg	**Pn**	**22 53 42.0**	**-0.5**
TTG				*i* Sg	**Sg**	**22 54 03.9**	**+1.7**
KPRO	**Kipourio**	**1.50 150**		P	**Pb**	**22 53 43.7**	**-0.3**
KPRO	**Kipourio**	**1.50 150**		P	**Pg**	**22 53 44.0**	**-0.3**
BUM	**Brajici-Budva**	**1.53 313**		⇑*i*Pg	**Pn**	**22 53 43.7**	**0.0**
BUM				*i* Sg	**Sg**	**22 54 07.0**	**+2.1**
GRG	**Griva**	**1.54 101**		P	**Pn**	**22 53 43.6**	**-0.2**
GRG				S	**Sb**	**22 54 03.8**	**-0.7**
	comp=N,175nm,0.5s						
GRG	**Griva**	**1.54 101**		*e*Pn	**Pb**	**22 53 43.7**	**-1.0**
GRG				*i* Sg	**Sg**	**22 54 05.3**	**+0.1**
GRG	**Griva**	**1.54 101**		P	**Pn**	**22 53 43.6**	**-0.2**
KEK	**Kerkira**	**1.61 197**		P	**Pg**	**22 53 47.2**	**+0.6**
VAY	**Valandovo**	**1.64 87**		*e*Pg	**Pn**	**22 53 44.5**	**-0.6**
VAY				*e*Sg	**Sb**	**22 54 06.5**	**-0.7**
VAY	**Valandovo**	**1.64 87**		*e*Pn	**Pb**	**22 53 45.7**	**-0.6**
VAY				*i* Sg	**Sg**	**22 54 07.5**	**-0.7**
VAY				*e*Lg	Lg	22 54 08.0	
	comp=N,112nm,0.8s						
VAY				*e*Lg	Lg	22 54 08.4	
	comp=E,79nm,0.8s						
IVA	**Berane**	**1.65 347**		⇑*i*Pn	**Pg**	**22 53 47.3**	**0.0**
IVA				*i* Sn	**Sg**	**22 54 10.4**	**+1.7**
CEME	**Cevo**	**1.69 320**		⇓*i*Pn	**Pb**	**22 53 46.7**	**-0.6**
CEME				*i* Sn	**Sg**	**22 54 12.4**	**+2.3**
KOME	**Kolasin**	**1.72 338**		⇑*i*Pn	**Pb**	**22 53 47.2**	**-0.6**
KOME				*i* Sn	**Sg**	**22 54 12.9**	**+2.0**
IGT	**Igoumenitsa**	**1.73 182**		*i* PN	**Pg**	**22 53 48.3**	**-0.5**
IGT	**Igoumenitsa**	**1.73 182**		P	**Pg**	**22 53 48.4**	**-0.3**
NKME	**Niksic**	**1.85 325**		⇓*i*Pn	**Pn**	**22 53 48.6**	**+0.5**
NKME				*i* Sn	**Sg**	**22 54 16.1**	**+1.0**
HCY	**Herceg Novi**	**1.85 310**		*e*Pn	**Pn**	**22 53 48.5**	**+0.4**
HCY	**Herceg Novi**	**1.85 310**		⇑*i*Pn	**Pb**	**22 53 48.9**	**-1.1**
HCY				*i* Sn	**Sg**	**22 54 16.2**	**+1.0**
NKY	**Niksic**	**1.87 326**		⇑*i*Pn	**Pb**	**22 53 49.9**	**-0.5**
NKY				*i* Sn	**Sg**	**22 54 16.5**	**+0.7**
BARS	**Barje**	**1.88 34**		*e*Pg	**Pg**	**22 53 50.8**	**-0.8**
BARS				*e*Sg	**Sg**	**22 54 17.7**	**+1.7**
KNT	**Kendrikon**	**1.89 92**		P	**Pn**	**22 53 48.7**	**+0.2**
KNT				S	**Sb**	**22 54 13.3**	**-1.1**
KNT	**Kendrikon**	**1.89 92**		*e*Pn	**Pn**	**22 53 48.7**	**+0.2**
LIT	**Litokhoron**	**1.97 125**		P	**Pn**	**22 53 49.8**	**+0.2**
LIT	**Litokhoron**	**1.97 125**		P	**Pn**	**22 53 50.1**	**+0.5**
BOSS	**Bosilegrad**	**1.98 51**		*e*Pn	**Pn**	**22 53 50.0**	**+0.1**
BOSS				*e*Sn	**Sn**	**22 54 15.1**	**0.0**
SJES	**Sjenica**	**2.02 351**		*e*Pn	**Pb**	**22 53 52.0**	**-1.0**
SJES				*e*Sn	**Sb**	**22 54 19.0**	**+0.5**
SELS	**Selova**	**2.03 15**		*e*Pn	**Pb**	**22 53 52.5**	**-0.5**
SELS				*e*Sn	**Sb**	**22 54 19.0**	**+0.5**
KKB	**Krupnik**	**2.10 72**		*i* Pn	**Pn**	**22 53 52.2**	**+0.7**
TREB	**Trebinje**	**2.11 314**		*e*Pn	**Pb**	**22 53 53.7**	**-0.7**
TREB				*e*Sn	**Sb**	**22 54 20.9**	**+0.1**
TREB	**Trebinje**	**2.11 314**		*e*Pn	**Pb**	**22 53 53.3**	**-1.1**
BRY	**Bratogost**	**2.15 320**		*e*Pn	**Pb**	**22 53 53.8**	**-1.3**
BRY	**Bratogost**	**2.15 320**		⇑*i*Pn	**Pb**	**22 53 53.9**	**-1.2**
BRY				*i* Sn	**Sb**	**22 54 23.1**	**+1.1**
DBRK	**Dubrovnik**	**2.19 311**		*i* Pn	**Pb**	**22 53 55.1**	**-0.7**
DBRK				Sn	**Sg**	**22 54 24.9**	**-1.1**
PLE	**Pljevlja**	**2.20 340**		⇑*i*Pn	**Pb**	**22 53 54.3**	**-1.7**
PLE				*i* Sn	**Sb**	**22 54 24.3**	**+0.8**
UPM	**Unac-Piva**	**2.23 331**		*e*Pn	**Pb**	**22 53 55.5**	**-1.2**
UPM	**Unac-Piva**	**2.23 331**		⇑*i*Pn	**Pb**	**22 53 55.4**	**-1.2**
UPM				*i* Sn	**Sb**	**22 54 25.2**	**+0.6**
SOH	**Sokhos**	**2.28 100**		*i* Pn	**Pn**	**22 53 54.7**	**+0.8**
IVAS	**Ivanjica**	**2.32 356**		*e*Pn	**Pb**	**22 53 56.1**	**-1.9**
IVAS				*e*Sn	**Sb**	**22 54 27.2**	**+0.2**
RUDO	**Rudo**	**2.48 342**		*e*Pn	**Pb**	**22 53 59.3**	**-1.3**
PLG	**Polygyros**	**2.48 110**		P	**Pn**	**22 53 57.7**	**+1.0**
VTS	**Vitosha**	**2.51 56**		*e*Pn	**Pn**	**22 53 57.6**	**+0.4**
VTS				*e*Sn	**Sn**	**22 54 28.1**	**-0.2**
VTS	**Vitosha**	**2.51 56**		⇓*i*Pn	**Pn**	**22 53 57.6**	**+0.4**
BOVS	**Bovan**	**2.56 22**		*e*Pn	**Pn**	**22 53 58.7**	**+0.9**
BOVS				*e*Sn	**Sb**	**22 54 32.1**	**-1.7**
STON	**Ston**	**2.58 310**		*e*Pn	**Pn**	**22 53 58.9**	**+1.0**
STON				*e*Sn	**Sb**	**22 54 31.6**	**-2.6**
STON	**Ston**	**2.58 310**		*e*Pn	**Pb**	**22 54 01.0**	**-1.3**
ZAPS	**Zavoj**	**2.60 39**		*e*Pn	**Pn**	**22 53 59.4**	**+1.0**
ZAPS				*e*Sn	**Sb**	**22 54 32.0**	**-3.2**
GRUS	**Gruza**	**2.63 5**		*e*Pn	**Pn**	**22 53 59.5**	**+0.7**
BBLS	**Lazići**	**2.70 345**		*e*Pn	**Pn**	**22 54 01.3**	**+1.5**
BBLS				*e*Sn	**Sb**	**22 54 35.4**	**-2.6**
BBLS	**Lazići**	**2.70 345**		*e*Pn	**Pb**	**22 54 02.0**	**-2.5**
DIVS	**Divibare**	**2.85 354**		*e*Pn	**Pn**	**22 54 02.6**	**+0.7**
DIVS				*e*Sn	**Sn**	**22 54 38.5**	**+1.9**
DIVS	**Divibare**	**2.85 354**		*e*Pn	**Pn**	**22 54 01.3**	**-0.6**
ZAGS	**Zajecar**	**2.89 27**		*e*Pn	**Pn**	**22 54 02.0**	**-0.3**
ZAGS				*e*Sn	**Sn**	**22 54 39.1**	**+1.8**
TRUS	**Trudelj**	**2.96 0**		*e*Pn	**Pn**	**22 54 04.1**	**+0.8**
HAPS	**Han Pijesak,BI**	**3.02 340**		*e*Pn	**Pn**	**22 54 05.0**	**+0.8**
HAPS				*e*Sn	**Sb**	**22 54 43.4**	**-3.7**
HAPS	**Han Pijesak,BI**	**3.02 340**		*e*Pn	**Pn**	**22 54 04.7**	**+0.5**
MAKA	**Makarska**	**3.22 310**		*i* Pn	**Pn**	**22 54 08.3**	**+1.5**
MAKA				Sn	**Sn**	**22 54 47.4**	**+1.8**
FRGS	**Fruska Gora**	**3.92 354**		*e*Pn	**Pn**	**22 54 15.5**	**-1.0**
NVLJ	**Novalja**	**5.23 311**		*i* Pn	**Pn**	**22 54 34.6**	**+0.1**
VYHS	**Vyhne**	**7.32 352**		*e*SN	**Sn**	**22 56 32.1**	**+5.6**

ISC 23 23:03:40.1±1.5,**51.°43N**±0.°07×**16.°10E**±0.°04,**h0**km,**n16**, σ0§**78**/37,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60 169**		*e*Pg	**Pg**	**23 03 52.5**	**+0.8**
KSP				*e*Pg	**Pg**	**23 03 52.5**	**+0.8**
KSP				*e*Sg	**Sb**	**23 04 01.2**	**-1.4**
KSP				*e*Sg	**Sb**	**23 04 01.2**	**-1.4**
CHVC	**Chvalec**	**0.85 182**		*e*PG	**Pb**	**23 03 57.2**	**-0.5**
CHVC				*e*SG	**Sb**	**23 04 09.0**	**-0.6**
	comp=Z,16nm,0.3s						
UPC	**Upice**	**0.93 184**		*e*PG	**Pb**	**23 03 58.4**	**-0.6**
UPC				*e*SG	**Sb**	**23 04 11.3**	**-0.6**
	comp=Z,36nm,0.5s						
DPC	**Dobruska-Polom**	**1.09 173**		*e*PG	**Pg**	**23 04 01.3**	**+0.3**
DPC				*e*SG	**Sb**	**23 04 15.9**	**-0.8**
	comp=Z,8.6nm,0.3s						
PVCC	**Panska Ves**	**1.33 228**		*e*PG	**Pg**	**23 04 05.7**	**+0.2**
PVCC				*e*SG	**Sn**	**23 04 24.3**	**+0.1**
	comp=Z,49nm,0.2s						
KRLC	**Kraliky**	**1.43 162**		*e*PG	**Pg**	**23 04 07.6**	**+0.2**
BRG	**Berggiesshubel**	**1.47 248**		PG	**Pn**	**23 04 08.2**	**+0.4**
BRG				SG	**Sn**	**23 04 28.3**	**+0.5**
	21nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.74 209**		*e*PG	**Pg**	**23 04 13.1**	**-0.2**
GOPC				*e*SG	**Sg**	**23 04 36.6**	**+0.8**
PRU	**Pruhonice**	**1.75 215**		*e*PN	**Pn**	**23 04 11.1**	**-0.6**
PRU				*e*PG	**Pb**	**23 04 13.1**	**0.0**
PRU				*e*SG	**Sg**	**23 04 36.8**	**+0.4**
	comp=Z,9.4nm,0.3s						
MORC	**Moravsky Berou**	**1.90 151**		*e*PN	**Pn**	**23 04 13.8**	**+0.1**
MORC				*e*SG	**Sb**	**23 04 38.9**	**-0.9**
CLL	**Collm**	**1.95 268**		*i* Pn	**Pn**	**23 04 13.0**	**-1.4**
CLL				*i* Pg	**Pb**	**23 04 15.9**	**-0.5**
CLL				*i* Sg	**Sb**	**23 04 42.7**	**+1.5**
	comp=Z,9.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.06 140**		*e*PG	**Pb**	**23 04 18.5**	**+0.2**
OKC				*e*SG	**Sg**	**23 04 45.8**	**-0.4**
VRAC	**Vranov**	**2.15 171**		*e*PN	**Pn**	**23 04 18.0**	**+0.8**
VRAC				*e*SG	**Sg**	**23 04 49.4**	**+0.3**
KRUC	**Moravsky**	**2.38 175**		*e*PN	**

VRAC Vranov 2.26 172 *e*Pn **Pn 23 15 59.0 +0.8**
baz=355
VRAC *e*Sg **Sb 23 16 31.4 +1.7**
comp=Z,103nm,0.3s,baz=355
TREC Trest 2.29 190⇓*e*PN **Pn 23 15 59.8 +1.2**
TREC *e*PG **Pb 23 16 03.0 +1.2**
PBCC Pribram 2.30 217⇓*e*PN **Pn 23 15 59.5 +0.7**
PBCC *e*PG **Pg 23 16 03.7 0.0**
KRUC Moravsky 2.49 176 *e*Pn **Pn 23 16 02.2 +0.8**
KRUC *e*SG **Sg 23 16 38.9 -0.7**
KRUC Moravsky 2.49 176 *e*Pn **Pn 23 16 02.2 +0.8**
baz=358
KRUC *e*Sg **Sg 23 16 38.9 -0.7**
comp=Z,108nm,0.6s,baz=358
TANN Tannenbergstha 2.57 245 *e*Pn **Pn 23 16 04.1 +1.5**
TANN *e*Sg **Sg 23 16 44.3 +2.0**
NKC Novy Kostel 2.67 242⇓*e*PN **Pn 23 16 05.0 +1.1**
NKC *e*PG **Pg 23 16 12.0 +1.2**
NKC *e*SG **Sg 23 16 48.4 +3.0**
comp=Z,502nm,0.5s
OJC Ojcow 2.68 118 *e*Pn **Pn 23 16 03.2 -0.8**
OJC *e*Sg **Sg 23 16 46.9 +1.2**
OJC Ojcow 2.68 118 *e*Pn **Pn 23 16 03.4 -0.6**
OJC *e*Pn **Pn 23 16 03.4 -0.6**
OJC *e*Pg **Pg 23 16 11.1 +0.1**
OJC *e*Pg **Pg 23 16 11.1 +0.1**
OJC *e*Sn **Sn 23 16 34.2 -3.0**
OJC *e*Sn **Sn 23 16 34.2 -3.0**
OJC *e*Sg **Sg 23 16 46.5 +0.8**
OJC *e*Sg **Sg 23 16 46.5 +0.8**
JAVC Velka Javorina 2.87 159 *e*PN **Pn 23 16 07.9 +1.3**
KHC Kasperske Hory 2.91 215⇓*e*PN **Pn 23 16 08.0 +0.7**
KHC *e*PG **Pg 23 16 14.7 -0.7**
KHC *e*SN **Sn 23 16 43.5 +0.5**
KHC *e*SG **Sg 23 16 53.8 +0.6**
comp=Z,121nm,0.6s
BEL Belsk 2.92 82 *e*Pn **Pn 23 16 09.1 +1.8**
BEL *e*Pn **Pn 23 16 09.1 +1.8**
BEL *e*Pg Pg 23 16 20.8 +5.2
BEL *e*Pg Pg 23 16 20.8 +5.2
BEL *e*Sn **Sg 23 16 57.2 +3.8**
BEL *e*Sn **Sg 23 16 57.2 +3.8**
BEL *e*Sg Sb 23 17 12.8 +24
BEL *e*Sg Sb 23 17 12.8 +24
MOX Moxa 2.98 254 *e*Pn **Pn 23 16 09.2 +1.1**
MOX *e*Sg **Sg 23 16 58.1 +2.8**
MANZ Manzenberg 2.99 240 *e*Pn **Pn 23 16 09.8 +1.5**
ROTZ Rotzenmuhle 3.06 236 *e*Pn **Pn 23 16 10.4 +1.1**
ROTZ *e*Sg **Sg 23 16 57.2 -0.7**
GEC2 GERESS Array S 3.12 211 *e*Pn **Pn 23 16 11.2 +1.1**
GERES GERESS Array B 3.12 211 Pn **Pn 23 16 11.1 +1.0**
comp=Z,7.3nm,0.3s,baz=33,slow=12,SNR=100
GERES Pg **Pb 23 16 18.0 +2.0**
comp=Z,13nm,0.3s,baz=27,slow=15,SNR=57
GERES Sn **Sn 23 16 46.0 -2.0**
comp=Z,10nm,0.3s,baz=38,slow=18,SNR=5.8
GERES Lg Lg 23 16 57.4
comp=Z,14nm,0.3s,baz=35,slow=28,SNR=5.2
SMOL Smolenice 3.15 164 *e*PN **Pn 23 16 12.0 +1.6**
SMOL *e*PG **Pg 23 16 20.3 +0.4**
SMOL *e*SG **Sg 23 17 02.5 +1.8**
SMOL *e*LG Lg 23 17 09.1
WET Wettzell 3.17 222 *e*Pn **Pn 23 16 11.9 +1.0**
LANS Liptovska Anna 3.21 137 *e*PN **Pn 23 16 12.5 +1.1**
LANS *e*PG **Pg 23 16 21.8 +0.6**
LANS *e*SG **Sg 23 17 03.6 +0.8**
LANS *e*LG Lg 23 17 12.4
MODS Modra-Piesok 3.26 166 *e*PN **Pn 23 16 12.8 +0.8**
MODS *e*PG **Pg 23 16 21.7 -0.4**
MODS *e*SG **Sg 23 17 05.6 +1.3**
MODS *e*LG Lg 23 17 10.4
NIE Niedzica 3.41 127 *e*Pn **Pn 23 16 15.5 +1.4**
NIE *e*Pn **Pn 23 16 15.5 +1.4**
NIE *e*Pg **Pg 23 16 25.0 0.0**
NIE *e*Pg **Pg 23 16 25.0 0.0**
NIE *e*Sg **Sg 23 17 09.5 +0.3**
NIE *e*Sg **Sg 23 17 09.5 +0.3**
VYHS Vyhne 3.52 149 *e*PN **Pn 23 16 16.2 +0.7**
VYHS *e*PG **Pg 23 16 27.6 +0.6**
VYHS *e*SG **Sg 23 17 14.0 +1.4**
CLZ Clausthal 3.59 277 *e*Pn **Pn 23 16 18.6 +2.0**
CONA Conrad Observa 3.62 183 *e*Pn **Pn 23 16 18.5 +1.4**
comp=Z,18nm,0.5s,SNR=14
CONA *e*Sg **Sg 23 17 17.9 +1.9**
comp=Z,113nm,0.6s
GRF Grafenberg Arr 3.63 241 *e*Pn **Pn 23 16 18.8 +1.8**
GRF *e*Sg **Sg 23 17 16.2 +0.1**
BSD Bornholm Skovb 3.65 349 *i*P **Pn 23 16 18.2 +0.9**
BSD *i*S **Sn 23 17 00.3 -0.7**
MOA Molln 3.89 199 *e*Pn **Pn 23 16 22.1 +1.5**
comp=Z,27nm,0.4s,SNR=19
MOA Sg **Sg 23 17 25.0 +0.5**
comp=Z,85nm,0.6s
KECS Kecovo 4.16 136 *e*PN **Pn 23 16 25.4 +1.1**
KECS *e*PG **Pg 23 16 40.9 +1.6**
KECS *e*SG **Sg 23 17 33.1 -0.1**
KECS *e*LG Lg 23 17 51.4
ARSA Arzberg 4.31 185 *e*Pn **Pn 23 16 28.5 +2.0**
comp=Z,8.6nm,0.3s
ARSA Sg **Sg 23 17 38.6 +0.4**
comp=Z,101nm,0.7s
PSZ Piszkesteto 4.38 145 ⇑P **Pn 23 16 28.8 +1.4**
PSZ AML AML 23 18 05.5
LUNU Lund 4.40 340 P **Pn 23 16 28.0 +0.4**
KWP Kalwaria Pacla 4.61 112 *e*Pn **Pn 23 16 30.9 +0.3**
KWP *e*Pn **Pn 23 16 30.9 +0.3**
KWP *e*Pg **Pg 23 16 46.1 -1.9**
KWP *e*Pg **Pg 23 16 46.1 -1.9**
KWP *e*Sn **Sb 23 17 36.1 -1.4**
KWP *e*Sn **Sb 23 17 36.1 -1.4**
KWP *e*Sg Sg 23 17 56.8 +9.1
KWP *e*Sg Sg 23 17 56.8 +9.1
KOLS Kolonicke sedl 4.73 121 *e*PN **Pn 23 16 33.0 +0.8**
KOLS *e*PG **Pg 23 16 50.2 -0.1**
KOLS *e*SG **Sg 23 17 50.0 -1.6**
KBA Koelnbreinsper 4.82 203 *i*Pn **Pn 23 16 35.4 +1.8**
comp=Z,19nm,0.4s,SNR=6.8
KBA Sg **Sg 23 17 57.8 +3.3**
comp=Z,122nm,0.7s
SOKA Soboth 4.92 189 *e*Pn **Pn 23 16 37.2 +2.3**
comp=Z,3.0nm,0.4s
SOKA Sg **Sg 23 17 55.3 -2.4**
comp=Z,30nm,0.7s
OBKA Obir 5.14 192 *e*Pn **Pn 23 16 39.5 +1.5**
comp=Z,3.1nm,0.3s
OBKA Sg **Sg 23 18 04.9 +0.1**
comp=Z,21nm,0.6s
WATA Walderalm 5.15 217 *i*Pn **Pn 23 16 40.0 +2.0**
comp=Z,26nm,0.6s,SNR=14
WATA Sg **Sg 23 18 06.5 +1.6**
comp=Z,36nm,0.7s
MYKA Terra Mystica 5.18 199 *e*Pn **Pn 23 16 39.7 +1.3**
comp=Z,2.1nm,0.3s
MYKA Sg **Sg 23 18 07.2 +1.3**
comp=Z,98nm,1.3s
WTTA Wattenberg 5.19 216 *e*Pn **Pn 23 16 41.1 +2.4**
comp=Z,17nm,0.5s,SNR=8.6
WTTA Sg **Sg 23 18 08.3 +2.1**
comp=Z,79nm,0.7s
MOTA Moosalm 5.33 220 *e*Pn **Pn 23 16 41.3 +0.8**
comp=Z,15nm,0.7s,SNR=6.8
MOTA *i*Sn **Sn 23 17 43.3 +0.7**
comp=Z,12nm,0.4s
MOTA Sg **Sg 23 18 12.8 +2.1**
comp=Z,55nm,0.8s
ABTA Abfaltersbach 5.35 208 *i*Pn **Pn 23 16 42.7 +1.9**
comp=Z,17nm,0.7s,SNR=8.6
ABTA Sg **Sg 23 18 12.1 +0.6**
comp=Z,59nm,0.6s
RETA Reutte 5.35 223 *i*Pn **Pn 23 16 41.6 +0.8**
comp=Z,12nm,0.5s,SNR=6.6
RETA Sg **Sg 23 18 12.5 +1.0**
comp=Z,45nm,0.9s
TRPA Tarpa 5.38 127 ⇑P **Pn 23 16 41.5 +0.5**
TRPA ⇓S **Sg 23 18 16.9 +4.7**
SQTA Sankt Quirin 5.38 218 *e*Pn **Pn 23 16 43.2 +1.9**
comp=Z,20nm,0.5s,SNR=9.4
SQTA Sg **Sg 23 18 13.0 +0.5**
comp=Z,36nm,0.5s
KOE Koeppel 5.42 261 *e*Pn **Pn 23 16 43.3 +1.7**
PBUR Paburg 5.66 35 *e*P **Pg 23 17 03.8 -4.1**
OSKU Oskarshamn 5.66 360 P **Pn 23 16 46.2 +1.3**
OSKU S **Sn 23 17 48.0 -2.6**

BGG Burgeitz 5.72 260 *e*Pn **Pn 23 16 47.3 +1.5**
BGG *e*Sn **Sn 23 17 51.2 -0.9**
comp=Z,20nm,0.7s
FETA Feichten 5.74 220 *e*Pn **Pn 23 16 47.8 +1.6**
comp=Z,2.4nm,0.3s
FETA Sg **Sg 23 18 27.6 +3.7**
comp=Z,30nm,0.8s
LAUG Laupendahl 5.74 272 *e*Pn **Pn 23 16 47.7 +1.6**
BYXU Byxelkrok 5.78 5 P **Pn 23 16 48.4 +1.8**
DAVA Damuels 5.89 226 *e*Pn **Pn 23 16 49.1 +0.8**
comp=Z,4.4nm,0.3s
DAVA Sg **Sg 23 18 34.6 +5.8**
comp=Z,49nm,0.6s
ASPU Aespoe 5.89 3 P **Pn 23 16 49.9 +1.7**
ASPU S **Sn 23 17 54.5 -1.8**
STB Steinbach 5.93 264 *e*Pn **Pn 23 16 50.2 +1.6**
EKSU Eksjoe 6.06 356 P **Pn 23 16 51.5 +1.0**
HILG Hillesheim 6.10 262 *e*Pn **Pn 23 16 53.3 +2.3**
PABE Paberze 6.13 47 *e*P **Pn 23 16 52.7 +1.3**
VSTU Vaestervik 6.14 2 P **Pn 23 16 52.3 +0.9**
KLL Kalltalsperre 6.25 266 *e*Pn **Pn 23 16 54.5 +1.5**
DAVOX Davos/Dischmat 6.28 223 Pn **Pn 23 16 54.7 +1.1**
comp=Z,1.7nm,0.3s,baz=17,slow=15,SNR=30
DAVOX Sn **Sn 23 18 05.1 -1.1**
comp=Z,1.0nm,0.3s,baz=342,slow=20,SNR=1.8
DAVOX Lg Lg 23 18 37.7
comp=Z,1.6nm,0.3s,baz=331,slow=12,SNR=4.6
SIRR Siria 6.42 143 ⇑P **Pn 23 16 56.8 +1.4**
DRGR 6.42 135 ⇑P **Pn 23 16 56.4 +0.9**
CDF Champ du Feu 6.51 245 *e*Pn **Pn 23 16 55.9 -0.8**
CDF Champ du Feu 6.51 245 *e*Pg **Pg 23 17 22.4 -1.9**
CDF *e*Sg **Sg 23 18 44.8 -3.8**
comp=Z,147nm,1.0s
LNKU Linkoeping 6.71 357 P **Pn 23 16 59.8 +0.6**
CJR Cluj-Napoca 6.88 132 ⇓P **Pn 23 17 03.3 +1.5**
BZS Buzias 6.96 146 ⇓P **Pn 23 17 04.5 +1.8**
SLIT Slitere, Latvi 7.07 28 *e*P **Pn 23 17 05.0 +0.8**
HINF Hinteralfeld 7.08 242 *e*Pn **Pn 23 17 03.8 -0.6**
HINF Hinteralfeld 7.08 242 *e*Pg **Pg 23 17 37.1 +2.0**
HINF *e*Sg **Sg 23 19 02.9 -3.8**
comp=Z,92nm,0.8s
BURAR Bucovina Array 7.10 120 ⇑P **Pn 23 17 05.8 +1.0**
IIGN Ignalina 7.13 54 *e*P **Pn 23 17 08.2 +3.1**
IIGN *e*S **Pg 23 17 37.0 +0.8**
ISAL Salakas 7.20 52 *e*P **Pn 23 17 09.7 +3.7**
ISAL *e*S **Pg 23 17 37.3 -0.1**
DEV Deva 7.22 139 ⇑P **Pn 23 17 07.0 +0.6**
NACGM Naroch 7.23 58 *e* **Pn 23 17 07.0 +0.5**
HAU Haudompre 7.25 245 *e*Pn **Pn 23 17 06.6 -0.2**
HAU Haudompre 7.25 245 *e*Pg **Pg 23 17 36.9 -1.6**
HAU *e*Sg **Sg 23 19 08.0 -4.3**
comp=Z,100nm,1.0s
GIVF Givet 7.30 263 *e*Pn **Pn 23 17 07.4 -0.1**
GIVF *e*Sg **Sg 23 19 12.1 -1.9**
comp=Z,93nm,1.0s
PAGF Fort de Pagny 7.33 250 *e*Pn **Pn 23 17 07.6 -0.3**
PAGF Fort de Pagny 7.33 250 *e*Pg **Pg 23 17 39.5 -0.5**
PAGF *e*Sg **Sg 23 19 09.6 -5.3**
comp=Z,214nm,1.2s
IDID Didziasalis 7.38 55 *e*P **Pn 23 17 11.1 +2.6**
GZR Gura Zlata 7.58 142 ⇓P **Pn 23 17 13.1 +1.8**
BAIF Baives 7.70 264 *e*Pn **Pn 23 17 13.7 +0.8**
BAIF *e*Sg **Sg 23 19 22.6 -4.0**
comp=Z,78nm,1.1s
MDVR Moldovita 7.73 149 ⇑P **Pn 23 17 14.4 +1.1**
MEZF Maizieres J'vi 7.75 251 *e*Pn **Pn 23 17 13.7 +0.1**
MEZF *e*Sg **Sg 23 19 23.4 -5.0**
comp=Z,136nm,1.2s
SFTF Sexfontaines 7.90 249 *e*Pn **Pn 23 17 13.7 -2.0**
SFTF Sexfontaines 7.90 249 *e*Pg **Pg 23 17 48.6 -2.3**
SFTF *e*Sg **Sg 23 19 29.0 -4.2**
comp=Z,92nm,1.1s
LOT Lotru 7.93 137 ⇑P Pn 23 17 26.2 +10
CABF La Chapelle 8.23 237 *e*Pg **Pg 23 17 55.1 -2.1**
CABF *e*Sg **Sg 23 19 38.2 -5.5**
comp=Z,185nm,1.3s
AKASG Malin Array Be 8.29 91 Pn **Pn 23 17 20.5 -0.5**
comp=Z,6.2nm,0.3s,baz=279,slow=12,SNR=30
AKASG Sn **Sn 23 18 50.3 -5.0**
comp=Z,3.1nm,0.3s,baz=267,slow=24,SNR=5.8
AKASG Lg Lg 23 19 44.9
baz=273,slow=30,SNR=2.8
LPL La Plagne 8.67 230 *e*P **Pn 23 17 28.3 +1.9**
LPL *e*Sg **Sg 23 19 51.3 -6.5**
comp=Z,70nm,1.5s
LPG La Plagne 8.67 229 *e*Pn **Pn 23 17 27.8 +1.3**
LPG *e*Sg **Sg 23 19 51.9 -6.0**
comp=Z,100nm,1.4s
HFS Hagfors 8.72 352 Pn **Pn 23 17 27.5 +0.6**
comp=Z,0.5nm,0.3s,baz=168,slow=15,SNR=10
HFS Sn **Sn 23 18 59.6 -6.1**
comp=Z,0.1nm,0.3s,baz=184,slow=8.1,SNR=2.0
HFS Lg Lg 23 19 57.3
comp=Z,0.4nm,0.3s,baz=183,slow=27,SNR=2.3
LOR Lormes 9.06 247 *e*Pn **Pn 23 17 29.2 -2.5**
baz=70
LOR Lormes 9.06 247 *e*Pg Pn 23 18 09.3 +38
LOR *e*Sg Sn 23 20 05.4 +51
comp=Z,71nm,1.3s
VSU Vasula 9.22 37 *e*P **Pn 23 17 35.2 +1.4**
MBDF Montbardon 9.25 226 *e*Pn **Pn 23 17 34.6 +0.3**
SSF Saint Saulge 9.38 246 *e*Pn **Pn 23 17 33.8 -2.2**
SSF Saint Saulge 9.38 246 *e*Pg Pn 23 18 15.0 +39
SSF *e*Sg Sn 23 20 17.0 +55
comp=Z,48nm,1.1s
SMF Signal de Mont 9.43 243 *e*Sg Sn 23 20 15.6 +52
comp=Z,109nm,1.3s
ORIF Oris-en-Rattie 9.51 230 *e*Pn **Pn 23 17 37.2 -0.7**
ORIF *e*Sg Sn 23 20 18.1 +53
comp=Z,97nm,1.5s
AVF Avril sur Loir 9.62 245 *e*Pn **Pn 23 17 38.6 -0.6**
AVF *e*Sg Sn 23 20 21.4 +53
comp=Z,44nm,1.0s
SBF Sospel 9.65 221 *e*Pn **Pn 23 17 37.7 -2.1**
NB2 NORSAR Subarra 9.90 346 P **Pn 23 17 41.4 -1.7**
comp=Z,0.5nm,0.5s,baz=151,slow=11
NOA NORSAR Array B 9.90 346 Pn **Pn 23 17 41.1 -2.0**
comp=Z,0.1nm,0.3s,baz=161,slow=11,SNR=7.2
NOA Sn **Sn 23 19 26.6 -8.2**
comp=Z,0.0nm,0.3s,baz=50,slow=14,SNR=2.5
NOA Lg Lg 23 20 36.0
comp=Z,0.0nm,0.3s,baz=349,slow=7.3,SNR=5.2
BGF Bois d'Agland 10.04 245 *e*Sg Sn 23 20 35.4 +57
comp=Z,31nm,0.9s
FRF La Foret Royal 10.23 222 *e*Pn **Pn 23 17 47.9 +0.3**
SMRF Simiane la Rot 10.37 227 *e*Pn **Pn 23 17 48.3 -1.3**
LMR La Mourre 10.47 222 *e*Pn **Pn 23 17 50.7 -0.2**
TCF Toulx Ste Croi 10.55 246 *e*Pg Pn 23 18 34.2 +42
TCF *e*Sg 23 20 53.2
comp=Z,49nm,1.4s
FINES FINESS Array B 11.33 25 Pn **Pn 23 18 01.5 -1.1**
comp=Z,0.9nm,0.3s,baz=209,slow=11,SNR=32
FINES Sn Sn 23 19 59.4 -10
comp=Z,0.4nm,0.3s,baz=210,slow=19,SNR=2.6
FINES Lg Lg 23 21 16.5
baz=217,slow=23,SNR=2.2
EKA Eskdalemuir Ar 12.10 296 Pn **Pn 23 18 10.5 -2.6**
baz=106,slow=14,SNR=11
KLMR Klimovskoe 15.93 45 *e*Pn **Pn 23 19 03.6 -1.2**
KLMR AMP 23 19 12.0
comp=Z,28nm,1.5s
KLMR *e*Sn **Sn 23 21 58.6 -3.2**
KLMR *e*Sn **Sn 23 21 58.6 -3.2**
KLMR ⇓Lg Lg 23 23 47.3
KLMR ⇓Lg Lg 23 23 47.3
ARCES ARCESS Array B 18.59 10 P **P 23 19 35.6 -2.3**
comp=Z,0.8nm,0.3s,baz=190,slow=12,SNR=16
GNI Garni 22.81 109 P **P 23 20 26.6 +2.6**
comp=Z,0.8nm,0.3s,baz=304,slow=3.9,SNR=3.1
ARU Arti 25.12 62 P **P 23 20 46.6 +0.7**
comp=Z,1.7nm,0.5s,baz=283,slow=9.0,SNR=9.6
AKTO Aktyubinsk 26.14 76 P **P 23 20 56.7 +1.5**
comp=Z,2.8nm,0.6s,baz=282,slow=13,SNR=6.3
TORD Torodi Ar. Bea 40.03 202 P **P 23 22 57.2 +0.9**
comp=Z,1.4nm,0.8s,baz=10,slow=7.4,SNR=7.4
ZALV Zalesovo Beam 40.17 59 P **P 23 22 58.8 +1.7**
comp=Z,0.6nm,0.6s,baz=293,slow=7.4,SNR=3.9
MKAR Makanchi Array 42.20 69 P **P 23 23 15.8 +1.9**
comp=Z,0.7nm,0.6s,baz=303,slow=7.4,SNR=7.5
SONM Songino Array 54.89 55 P **P 23 24 53.9 +2.1**
comp=Z,0.4nm,0.5s,baz=295,slow=9.3,SNR=6.9
YKA Yellowknife Ar 59.83 336 P **P 23 25 28.4 +2.2**
comp=Z,2.5nm,0.8s,baz=35,slow=6.9,SNR=3.6
CMAR Chiang Mai Arr 71.34 84 P **P 23 26 43.3 +2.0**
comp=Z,0.6nm,0.3s,baz=316,slow=8.1,SNR=4.9

PDAR Pinedale Array 74.92 322 P **P 23 27 03.2 +0.7**
comp=Z,0.4nm,0.4s,baz=70,slow=5.2,SNR=3.5

TIR ***23*** *23:22:21.2, 41°.28N×20°.44E, h10km, Md2.8/7*
ATH ***23*** *23:22:21.3, 41°.37N×20°.45E, h13km±2km, ML2.5/4, Error ellipse: s-maj=3.5km s-min=0.9km az=208.0*
BEO ***23*** *23:22:21.6±0.5, 41°.15N×20°.50E, h1km±2km, ML2.5/12*
SKO ***23*** *23:22:21.3, 41°.31N×20°.42E, h11km, M2.3, ML2.8*
PDG ***23*** *23:22:21.9±0.1, 41°.30N×20°.40E, h3km, ML2.8/12, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0*
THE ***23*** *23:22:22.1, 41°.29N×20°.41E, h0km±1km, ML2.5/5, Error ellipse: s-maj=1.5km s-min=0.5km az=267.0*
ISC 23 23:22:22.6±1.0, 41°.28N±0°.02×20°.40E±0°.02, h6km±9km, n88, σ1.18/140, 7C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.34**	**119**	*i* Pg	**Pg**	**23 22 28.9**	**-0.4**
OHR				*i* Sg	**Sg**	**23 22 34.5**	**+0.6**
OHR				*e*Lg	Lg	23 22 35.1	
	comp=N,982nm,0.4s						
OHR				*e*Lg	Lg	23 22 36.1	
	comp=E,888nm,0.5s						
PHP	**Peshkopia**	**0.40**	**4**	P	**Pg**	**23 22 29.7**	**-0.8**
PHP				S	**Sg**	**23 22 35.8**	**0.0**
PHP	**Peshkopia**	**0.40**	**4**	*i* PG	**Pg**	**23 22 29.7**	**-0.8**
PHP				*i* SG	**Sg**	**23 22 36.0**	**+0.3**
TIR	**Tirane**	**0.41**	**280**	*e*Pg	**Pg**	**23 22 29.9**	**-0.6**
TIR				*e*Sg	**Sb**	**23 22 38.9**	**+0.1**
TIR	**Tirane**	**0.41**	**280**	P	**Pg**	**23 22 29.9**	**-0.6**
TIR				S	**Sg**	**23 22 36.4**	**+0.5**
TIR	**Tirane**	**0.41**	**280**	*i* Pg	**Pg**	**23 22 29.9**	**-0.6**
TIR	**Tirane**	**0.41**	**280**	*i* PG	**Pg**	**23 22 30.0**	**-0.6**
TIR				*i* SG	**Sg**	**23 22 37.0**	**+1.1**
TIR	**Tirane**	**0.41**	**280**	P	**Pg**	**23 22 30.0**	**-0.5**
TIR				S	**Sg**	**23 22 36.5**	**+0.6**
TIR				AML	AML	23 22 38.1	
	comp=E,1492μm,0.6s						
TIR				AML	AML	23 22 43.6	
	comp=N,1549μm,0.7s						
PUK	**Puka**	**0.85**	**334**	*i* PG	**Pg**	**23 22 38.0**	**-1.0**
PUK				*i* SG	**Sb**	**23 22 51.1**	**-0.4**
FNA	**Florina**	**0.89**	**124**	P	**Pg**	**23 22 38.5**	**-1.2**
FNA				S	**Sg**	**23 22 51.8**	**+0.6**
	comp=N,728nm,0.5s						
FNA	**Florina**	**0.89**	**124**	*i* Pg	**Pg**	**23 22 38.4**	**-1.3**
FNA				*i* Sg	**Sg**	**23 22 52.1**	**+0.9**
FNA	**Florina**	**0.89**	**124**	*i* PG	**Pg**	**23 22 38.4**	**-1.3**
FNA				*i* SG	**Sg**	**23 22 51.6**	**+0.4**
FNA	**Florina**	**0.89**	**124**	P	**Pg**	**23 22 38.3**	**-1.3**
FNA				S	**Sg**	**23 22 51.5**	**+0.3**
FNA				AML	AML	23 22 56.0	
	comp=N,1354μm,0.5s						
FNA				AML	AML	23 22 56.1	
	comp=E,1233μm,0.5s						
NEST	**Nestorio**	**0.99**	**150**	P	**Pg**	**23 22 40.7**	**-1.0**
NEST				S	**Sb**	**23 22 56.0**	**+0.3**
	comp=E,160nm,0.4s						
NEST	**Nestorio**	**0.99**	**150**	P	**Pg**	**23 22 40.7**	**-1.0**
NEST				S	**Sb**	**23 22 56.1**	**+0.4**
NEST				AML	AML	23 22 57.5	
	comp=E,327μm,0.4s						
NEST				AML	AML	23 23 01.6	
	comp=N,309μm,0.4s						
TPE	**Tepelena**	**1.03**	**197**	P	**Pg**	**23 22 41.2**	**-1.1**
TPE	**Tepelena**	**1.03**	**197**	*i* PG	**Pg**	**23 22 41.6**	**-0.7**
TPE				*i* SG	**Sb**	**23 22 57.3**	**+0.7**
SKO	**Skopje**	**1.04**	**48**	*e*Pg	**Pg**	**23 22 41.1**	**-1.5**
SKO				*e*Sg	**Sb**	**23 22 56.6**	**-0.4**
SKO	**Skopje**	**1.04**	**48**	*i* Pg	**Pg**	**23 22 40.9**	**-1.7**
SKO				*i* Sg	**Sg**	**23 22 56.1**	**+0.1**
ULC	**Ulcinj**	**1.10**	**309**	*i* Pg	**Pg**	**23 22 42.3**	**-1.5**
ULC	**Ulcinj**	**1.10**	**309**⇓	*i*Pg	**Pg**	**23 22 41.9**	**-1.9**
ULC				*i* Sg	**Sb**	**23 22 59.3**	**+0.5**
BCI	**Bajram Curri**	**1.11**	**347**	*i* PN	**Pg**	**23 22 42.9**	**-1.1**
BCI				*i* SN	**Sn**	**23 22 59.6**	**-0.9**
PENT	**Pentalofos**	**1.22**	**152**	P	**Pn**	**23 22 45.4**	**-1.0**
DRME	**Dracevica, Mon**	**1.28**	**315**	*e*Pn	**Pn**	**23 22 44.5**	**-2.6**
DRME	**Dracevica, Mon**	**1.28**	**315**⇑	*i*Pg	**Pn**	**23 22 45.4**	**-1.7**
DRME				*i* Sg	**Sn**	**23 23 05.5**	**+0.8**
PVY	**Plav**	**1.35**	**346**⇑	*i*Pg	**Pn**	**23 22 46.7**	**-1.5**
PVY				*i* Sg	**Sg**	**23 23 07.7**	**+1.6**
STIP	**Stip**	**1.40**	**72**	*i* Pg	**Pg**	**23 22 50.8**	**+1.3**
STIP				*i* Sg	**Sg**	**23 23 13.2**	**+5.5**
KZN	**Kozani**	**1.43**	**133**	P	**Pn**	**23 22 48.5**	**-0.6**
KZN				S	**Sg**	**23 23 09.4**	**+1.0**
	comp=N,142nm,0.6s						
KZN	**Kozani**	**1.43**	**133**	P	**Pn**	**23 22 48.9**	**-0.2**
KZN				S	**Sg**	**23 23 09.6**	**+1.2**
KZN				AML	AML	23 23 15.1	
	comp=E,232μm,0.5s						
KZN				AML	AML	23 23 15.9	
	comp=N,228μm,0.7s						
PDG	**Podgorica**	**1.43**	**324**	*e*Pg	**Pn**	**23 22 49.5**	**+0.4**
PDG				*e*Sg	**Sg**	**23 23 11.2**	**+2.6**
PDG	**Podgorica**	**1.43**	**324**	*e*Pn	**Pn**	**23 22 47.7**	**-1.4**
TTG	**Podgorica**	**1.43**	**324**⇑	*i*Pg	**Pn**	**23 22 47.8**	**-1.4**
TTG				*i* Sg	**Sg**	**23 23 10.5**	**+1.9**
KPRO	**Kipourio**	**1.51**	**151**	P	**Pn**	**23 22 50.0**	**-0.3**
KPRO				S	**Sb**	**23 23 10.8**	**+0.2**
	comp=N,92nm,0.5s						
BUM	**Brajici-Budva**	**1.52**	**313**⇑	*i*Pg	**Pn**	**23 22 49.9**	**-0.5**
BUM				*e*Sg	**Sg**	**23 23 13.4**	**+2.0**
GRG	**Griva**	**1.55**	**101**	P	**Pn**	**23 22 50.1**	**-0.7**
GRG				S	**Sb**	**23 23 11.4**	**-0.1**
	comp=N,138nm,0.6s						
GRG	**Griva**	**1.55**	**101**	*i* Pg	**Pn**	**23 22 50.1**	**-0.7**
GRG				*i* Sg	**Sb**	**23 23 11.7**	**+0.1**
GRG	**Griva**	**1.55**	**101**	P	**Pn**	**23 22 50.0**	**-0.7**
IVA	**Berane**	**1.63**	**347**⇓	*i*Pn	**Pn**	**23 22 52.2**	**+0.2**
IVA				*i* Sn	**Sg**	**23 23 16.8**	**+1.7**
VAY	**Valandovo**	**1.64**	**88**	*e*Pg	**Pn**	**23 22 50.3**	**-1.6**
VAY				*e*Sg	**Sn**	**23 23 11.2**	**-2.1**
VAY	**Valandovo**	**1.64**	**88**	*i* Pg	**Pn**	**23 22 52.0**	**0.0**
VAY				*i* Sg	**Sb**	**23 23 13.9**	**-0.2**
VAY				*e*Lg	Lg	23 23 14.4	
	comp=N,69nm,0.6s						
VAY				*e*Lg	Lg	23 23 16.9	
	comp=Z,44nm,0.6s						
CEME	**Cevo**	**1.68**	**319**⇓	*i*Pn	**Pn**	**23 22 52.6**	**0.0**
CEME				*e*Sn	**Sg**	**23 23 17.8**	**+1.2**
KOME	**Kolasin**	**1.70**	**337**⇓	*i*Pn	**Pn**	**23 22 53.0**	**+0.1**
KOME				*e*Sn	**Sg**	**23 23 18.3**	**+1.0**
IGT	**Igoumenitsa**	**1.75**	**182**	*i* PN	**Pn**	**23 22 53.9**	**+0.4**
IGT				*i* SN	**Sg**	**23 23 19.6**	**+0.8**
IGT	**Igoumenitsa**	**1.75**	**182**	P	**Pn**	**23 22 54.8**	**+1.3**
NKME	**Niksic**	**1.83**	**324**⇓	*i*Pn	**Pn**	**23 22 55.0**	**+0.3**
NKME				*i* Sn	**Sg**	**23 23 21.9**	**+0.3**
HCY	**Herceg Novi**	**1.84**	**310**	*e*Pn	**Pn**	**23 22 55.1**	**+0.3**
HCY	**Herceg Novi**	**1.84**	**310**⇑	*i*Pn	**Pn**	**23 22 55.4**	**+0.6**
HCY				*e*Sn	**Sg**	**23 23 21.5**	**-0.2**
NKY	**Niksic**	**1.85**	**326**⇑	*i*Pn	**Pn**	**23 22 55.7**	**+0.6**
NKY				*i* Sn	**Sg**	**23 23 22.4**	**+0.2**
BARS	**Barje**	**1.86**	**34**	*e*Pn	**Pn**	**23 22 56.0**	**+0.9**
BARS				*e*Sn	**Sb**	**23 23 21.3**	**+0.7**
KNT	**Kendrikon**	**1.89**	**93**	*e*Pn	**Pn**	**23 22 55.3**	**-0.1**
KNT	**Kendrikon**	**1.89**	**93**	P	**Pn**	**23 22 54.8**	**-0.6**
BOSS	**Bosilegrad**	**1.97**	**51**	*e*Pn	**Pn**	**23 22 56.2**	**-0.4**
BOSS				*e*Sn	**Sn**	**23 23 22.0**	**+0.4**
LIT	**Litokhoron**	**1.98**	**126**	P	**Pn**	**23 22 57.0**	**+0.3**
SJES	**Sjenica**	**2.00**	**351**	*e*Pn	**Pn**	**23 22 58.4**	**+1.3**
SJES				*e*Sn	**Sb**	**23 23 25.2**	**+0.4**
SELS	**Selova**	**2.01**	**15**	*e*Pn	**Pn**	**23

PLG	Polygyros	2.48	110	P	Pn	23 23 04.2 +0.6
VTS	Vitosha	2.50	57	*e*Pn	Pn	23 23 04.0 0.0
VTS				*e*Sn	Sn	23 23 34.2 -0.7
VTS	Vitosha	2.50	57	‖ *i*Pn	Pn	23 23 04.0 0.0
BOVS	Bovan	2.54	22	*e*Pn	Pn	23 23 05.7 +1.3
STON	Ston	2.56	309	*i* Pn	Pn	23 23 06.1 +1.4
STON	Ston	2.56	309	*e*Pn	Pn	23 23 06.8 +2.1
ZAPS	Zavoj	2.59	39	*e*Pn	Pn	23 23 06.0 +0.9
NVR	Nevrokopi	2.61	87	P	Pn	23 23 05.5 +0.2
GRUS	Gruza	2.62	5	*e*Pn	Pn	23 23 06.3 +0.9
BBLS	Lazići	2.69	344	*e*Pn	Pn	23 23 08.9 +2.4
BBLS	Lazići	2.69	344	*e*Pn	Pb	23 23 11.2 +0.1
AGG	Agios Georgios	2.70	146	P	Pn	23 23 06.6 0.0
DIVS	Divibare	2.83	354	*e*Pn	Pn	23 23 10.7 +2.2
DIVS				*e*Sn	Sb	23 23 46.4 -2.2
DIVS	Divibare	2.83	354	*e*Pn	Pn	23 23 08.0 -0.5
ZAGS	Zajecar	2.87	28	*e*Pn	Pn	23 23 08.7 -0.2
ZAGS				*e*Sn	Sn	23 23 45.4 +1.6
TRUS	Trudelj	2.94	0	*e*Pn	Pn	23 23 10.2 +0.3
HAPS	Han Pijesak,BI	3.00	340	*e*Pn	Pn	23 23 12.1 +1.3
HAPS				*e*Sn	Sb	23 23 50.3 -3.2
HAPS	Han Pijesak,BI	3.00	340	*e*Pn	Pn	23 23 11.1 +0.3
MAKA	Makarska	3.21	310	*i* Pn	Pn	23 23 16.6 +3.1
FRGS	Fruska Gora	3.90	354	*e*Pn	Pn	23 23 24.6 +1.5
FRGS	Fruska Gora	3.90	354	*e*Pn	Pn	23 23 22.6 -0.5
UDBI	Udbina	4.70	315	*e*Pn	Pn	23 23 34.9 +0.7

BJI ***23*** *23:26:19.0±0.0,33.°72N×45.°13E,h53km,mb5.3/26, mB5.6/14,Ms5.8/7,Ms7 5.6/6*
MOS ***23*** *23:26:19.8±1.2,34.°18N×45.°59E,h19km,mb5.2/38,Error ellipse: s-maj=4.8km s-min=2.9km az=105.4*
TEH ***23*** *23:26:20.2,34.°24N×45.°56E,h10km,ML5.1*
ISK ***23*** *23:26:20.2,34.°28N×45.°36E,h5km±1km,ML4.9/1*
ISCJB ***23*** *23:26:20.1±0.4,34.°07N±0.°01×45.°56E±0.°01,h23km±3km, mb5.1/147,MS5.0/1,Error ellipse: s-maj=2.4km s-min=1.6km az=16.5*
DSN ***23*** *23:26:20.3±0.9,33.°94N×45.°45E,h10km,mb5.4/3,Error ellipse: s-maj=22.7km s-min=4.8km az=65.0*
THR ***23*** *23:26:20.5,34.°24N×45.°49E,h15km,ML5.2*
NEIC ***23*** *23:26:20.6±1.6,34.°23N±0.°06×45.°66E±0.°07,h10km±1km, mb5.2/208,mb_Lg5.1(TEH)*
GII ***23*** *23:26:21.5±0.0,34.°09N×45.°56E,h10km*
IDC ***23*** *23:26:22.6±2.9,34.°27N×45.°60E,h23km±19km,mb4.7/39, mb1 4.7/49,mb1mx4.7/52,mbtmp4.8/49,ML4.3/8,MS4.0/6, Ms1 3.9/6,ms1mx3.7/37,Error ellipse: s-maj=10.2km s-min=8.0km az=145.0*
ISN ***23*** *23:26:23.0±1.2,34.°24N×45.°41E,h29km±7km,ML5.1*
OMAN ***23*** *23:26:26.1±0.2,33.°99N×45.°94E,h35km,mb5.6/6,ms6.1/3, Error ellipse: s-maj=5.5km s-min=3.8km az=116.0*
DDA ***23*** *23:26:42.9,35.°74N×44.°33E,h6km±4km,MW5.0*
ISC 23 23:26:20.5±0.6,34.°22N±0.°02×45.°58E±0.°02,h12km±3km, n969,σ1§86/975,mb5.1/231,53C-28D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.82	54	*e*Pg	Pg	23 26 36.0	-0.4
IDHR				*e*Sg	Sb	23 26 47.9	-0.1
IDHR				IAMB	IAmb	23 26 50.3	
	comp=Z,0.0nm,0.3s						
IGHG	Ghaleghazi	0.83	82	*e*Pg	Pb	23 26 37.1	+0.1
IGHG				*e*Sg	Sn	23 26 50.0	-0.5
IGHG				IAMB	IAmb	23 26 54.1	
	comp=Z,92μm,0.3s						
IBDR	Badra	1.15	165	*e*Pg	Pg	23 26 45.1	+2.5
IBDR				*e*Sg	Sn	23 27 01.2	+3.2
IBDR				AML	AML	23 27 06.7	
	comp=Z,14μm,0.0s						
KCHF	Cheshme Sefid,	1.21	87	*e*Pg	Pg	23 26 43.9	+0.1
KCHF				*e*Sg	Sn	23 27 01.2	+1.3
KCHF				IAMB	IAmb	23 27 05.3	
	comp=Z,0.0nm,0.7s						
KER	Kermanshah	1.30	82	*e*Pg	Pb	23 26 45.0	+0.1
ILIN	Lien	1.34	58	*e*Pg	Pn	23 26 45.3	0.0
ILIN				IAMB	IAmb	23 27 09.0	
	comp=Z,98μm,0.5s						
BHD	Baghdad	1.38	227	*e*Pn	Pg	23 26 48.0	+1.0
BHD				*e*Sn	Sg	23 27 04.5	-0.4
BHD				AML	AML	23 27 15.6	
	comp=Z,548μm,0.5s						
IKRK	Kirkuk	1.56	319	*e*Pn	Pg	23 26 49.6	-0.8
IKRK				*e*Sn	Sg	23 27 09.0	-1.6
IKRK				AML	AML	23 27 19.8	
	comp=Z,14μm,1.3s						
IKOM	Komasi	1.60	91	*e*Pn	Pg	23 26 51.2	-0.1
IKOM				IAMB	IAmb	23 27 22.0	
	comp=Z,0.0nm,0.8s						
IBZA	Bozab	1.90	82	*e*Pn	Pb	23 26 55.3	-0.1
IBZA				IAMB	IAmb	23 27 26.3	
	comp=Z,0.0nm,0.6s						
IKFM	Kafar-mosalman	2.01	110	*e*Pn	Pb	23 26 57.2	+0.2
IKFM				IAMB	IAmb	23 27 32.4	
	comp=Z,0.0nm,0.7s						
IDOB	Doab	2.20	101	*e*Pn	Pn	23 26 58.8	+1.7
IDOB				IAMB	IAmb	23 27 44.4	
	comp=Z,0.0nm,0.8s						
IKMR	Kamar-syah	2.43	106	*e*Pn	Pn	23 27 02.1	+2.0
IKMR				IAMB	IAmb	23 27 46.6	
	comp=Z,0.0nm,0.6s						
HSAM	Samen	2.50	89	IAMB	IAmb	23 27 08.9	
	comp=Z,0.0nm,0.5s						
HSAM				*e*Pn	Pn	23 27 03.6	+2.3
MAHB	Mahabad	2.54	2	IAMB	IAmb	23 27 05.8	
	comp=Z,0.0nm,0.4s						
MAHB				*e*Pn	Pb	23 27 04.2	-2.0
BDRS	Dareh Seyedi	2.75	95	IAMB	IAmb	23 27 54.1	
	comp=Z,0.0nm,0.8s						
BDRS				*e*Pn	Pn	23 27 07.0	+2.2
MSL	Mosul	2.97	318	*e*Pn	Pn	23 27 08.8	+1.3
MSL				*e*Sn	Sn	23 27 42.5	-0.5
MSL				AML	AML	23 28 10.5	
	comp=Z,22μm,0.4s						
HAGD	Aghdareh	3.00	77	*e*Pn	Pn	23 27 10.4	+2.3
HAGD				IAMB	IAmb	23 28 03.5	
	comp=Z,0.0nm,0.6s						
NSR	Nassriya	3.24	171	*e*Pn	Pn	23 27 14.4	+3.3
NSR				*e*Sn	Sn	23 27 52.0	+2.4
CUKT	Cukurca	3.42	333	*i* PA	Pn	23 27 14.6	+0.8
CUKT				*i* S	Sg	23 28 11.3	+1.0
CUKT				IAML		23 28 17.0	
	comp=N,5μm,0.8s						
CUKT				IAML		23 28 17.0	
	comp=E,6μm,0.6s						
CUKT	Cukurca	3.42	333	*e*Pn	Pn	23 27 15.1	+1.3
CUKT	Cukurca	3.42	333	PN	Pn	23 27 14.6	+0.8
SHGR	Shooshtar-Gavs	3.43	127	*e*Pn	Pn	23 27 16.3	+2.5
SHGR	Shooshtar-Gavs	3.43	127	*e*Pn	Pn	23 27 16.3	+2.5
SHGR				*e*AML	AML	23 28 20.4	
	comp=N,7μm,0.9s						
SHGR				*e*AML	AML	23 28 31.0	
	comp=E,3μm,0.8s						
YOVA	Hakkari_Yksek	3.52	343	*i* PA	Pn	23 27 16.7	+1.5
YOVA				*i* S	Sb	23 28 03.0	-2.6
YOVA				IAML		23 28 27.0	
	comp=N,1μm,0.7s						
YOVA				IAML		23 28 30.0	
	comp=E,2μm,1.2s						
YOVA	Hakkari_Yksek	3.52	343	*e*Pn	Pn	23 27 16.7	+1.5
ZNJK	Zanjan	3.52	45	*e*Pn	Pn	23 27 17.6	+2.3
ZNJK	Zanjan	3.52	45	*e*Pn	Pn	23 27 17.6	+2.3
QABG	Abgarm-Qazvin	3.61	65	*e*Pn	Pn	23 27 18.5	+2.0
QABG				IAMB	IAmb	23 28 32.2	
	comp=Z,0.0nm,0.9s						
IBST	Bostanabad	3.63	17	*e*Pn	Pn	23 27 18.0	+1.2
HAKT	HAKKARI	3.66	336	*i* PA	Pn	23 27 16.9	-0.3
HAKT				*i* S	Sg	23 28 20.9	+2.8
HAKT				IAML		23 28 27.0	
	comp=E,2μm,0.6s						
HAKT				IAML		23 28 36.0	
	comp=N,3μm,0.9s						
HAKT	HAKKARI	3.66	336	*e*Pn	Pn	23 27 18.4	+1.2
KHMZ	Khomeyn	3.67	96	*e*Pn	Pn	23 27 20.1	+2.8
KHMZ	Khomeyn	3.67	96	*e*Pn	Pn	23 27 20.1	+2.8
ITBZ	Tabriz	4.03	6	*e*Pn	Pn	23 27 23.7	+1.5
ITBZ				IAMB	IAmb	23 27 38.3	
	comp=Z,12μm,0.4s						
SIRT	Sirnak	4.15	323	*e*Pn	Pn	23 27 25.2	+1.4
SIRT	Sirnak	4.15	323	PN	Pn	23 27 24.7	+0.9
SIRN	Sırnak	4.16	323	*i* PA	Pn	23 27 24.7	+0.8
SIRN				*i* S	Sg	23 28 30.3	-3.7
SIRN				IAML		23 28 49.0	
	comp=N,2μm,0.6s						
SIRN				IAML		23 28 57.0	
	comp=E,3μm,0.9s						
SIRN	Sırnak	4.16	323	*e*Pn	Pn	23 27 24.9	+1.0
IMHD	Mahdasht	4.43	69	*e*Pn	Pn	23 27 29.4	+1.8
IMHD				IAMB	IAmb	23 27 47.9	
	comp=Z,12μm,0.6s						
RTB	Rutbah	4.56	256	*e*Pn	Pn	23 27 29.5	+0.2
GEVA	Gevas	4.56	334	*i* PA	Pn	23 27 31.7	+2.2
GEVA				*i* S	Sg	23 28 43.4	-3.6
GEVA				IAML		23 29 04.0	
	comp=N,347nm,0.9s						
GEVA				IAML		23 29 14.0	
	comp=E,466nm,0.9s						
AKDM	Akdamar-Van	4.61	334	*e*Pn	Pn	23 27 32.2	+2.1
AKDM	Akdamar-Van	4.61	334	PN	Pn	23 27 31.5	+1.4
TVAN	Van	4.64	338	*i* PA	Pn	23 27 33.2	+2.5
TVAN				*i* S	Sg	23 28 45.5	-4.0
TVAN				IAML		23 29 06.0	
	comp=N,581nm,0.8s						
TVAN				IAML		23 29 31.0	
	comp=E,654nm,1.3s						
TVAN	Van	4.64	338	*e*Pn	Pn	23 27 33.8	+3.1
QALM	Alamut, Qazvin	4.69	61	*e*Pn	Pn	23 27 32.6	+1.2
QALM				IAMB	IAmb	23 28 59.5	
	comp=Z,0.0nm,0.9s						
IPIR	Pirpir	4.70	108	*e*Pn	Pn	23 27 33.1	+1.6
IPIR				IAMB	IAmb	23 28 32.7	
	comp=Z,27μm,0.7s						
VANB	Van	4.71	339	*e*Pn	Pn	23 27 32.8	+1.3
VANB	Van	4.71	339	PN	Pn	23 27 32.1	+0.6
ORD	Ordubad	4.71	4	*e*Pn	Pn	23 27 34.6	+3.1
GHVR	GHOM	4.74	85	*e*Pn	Pn	23 27 34.2	+2.3
SRTM	Siirt_Merkez	4.79	323	*i* PA	Pn	23 27 33.8	+1.3
SRTM				*i* S	Sg	23 28 52.6	-1.6
SRTM				IAML		23 29 07.0	
	comp=N,2μm,0.8s						
SRTM				IAML		23 29 10.0	
	comp=E,1μm,0.8s						
SRTM	Siirt_Merkez	4.79	323	*e*Pn	Pn	23 27 33.9	+1.3
IHSB	Hasanabad	4.84	74	*e*Pn	Pn	23 27 35.1	+1.8
CHTH	Charan	4.85	68	*e*Pn	Pn	23 27 35.8	+2.2
CHTH	Charan	4.85	68	*e*Pn	Pn	23 27 35.8	+2.2
QAM	Ghamsar	4.89	94	*e*Pn	Pn	23 27 36.0	+1.9
QAM				IAMB	IAmb	23 28 38.0	
	comp=Z,8μm,0.5s						
ZNGN	Zangian	4.90	114	*e*Pn	Pn	23 27 35.2	+0.9
ZNGN				IAMB	IAmb	23 28 01.2	
	comp=Z,0.0nm,0.8s						
ROKH	ROKH	4.94	111	*e*Pn	Pn	23 27 35.8	+1.0
ROKH				IAMB	IAmb	23 28 44.9	
	comp=Z,0.0nm,0.8s						
GRMI	Germi	4.94	21	*e*Pn	Pn	23 27 36.6	+1.9
GRMI	Germi	4.94	21	*e*Pn	Pn	23 27 36.6	+1.9
LRK	Lerik	4.94	26	*e*Pn	Pn	23 27 36.9	+2.2
NAX	Nakhchivan	4.94	359	P	Pn	23 27 37.6	+2.9
NAX	Nakhchivan	4.94	359	*e*Pn	Pn	23 27 37.6	+2.9
MARD	Mardin	4.97	310	*i* PA	Pn	23 27 36.3	+1.1
MARD				*i* S	Sg	23 28 58.6	-1.6
MARD				IAML		23 29 09.0	
	comp=N,4μm,0.7s						
MARD				IAML		23 29 10.0	
	comp=E,3μm,0.8s						
BLIS	Bitlis-Merkez	5.03	327	*i* PA	Pn	23 27 37.2	+1.2
BLIS				*i* S	Sg	23 28 58.0	-4.0
BLIS				IAML		23 29 20.0	
	comp=N,588nm,1.5s						
BLIS				IAML		23 29 40.0	
	comp=E,422nm,1.9s						
BLIS	Bitlis-Merkez	5.03	327	*e*Pn	Pn	23 27 37.4	+1.4
ASTR	Astara	5.04	30	*e*Pn	Pn	23 27 37.8	+1.8
BTMN	Batman	5.06	318	*i* P	Pn	23 27 37.6	+1.3
BTMN				*i* S	Sg	23 28 57.5	-5.4
BTMN				IAML		23 29 14.0	
	comp=N,2μm,1.7s						
BTMN				IAML		23 29 17.0	
	comp=E,3μm,1.7s						
BTMN	Batman	5.06	318	*e*Pn	Pn	23 27 38.3	+2.0
IKLH	Kolahrood	5.08	99	*e*Pn	Pn	23 27 38.1	+1.4
IKLH				IAMB	IAmb	23 28 50.5	
	comp=Z,15μm,0.7s						
CLDR	Caldiran	5.09	345	*i* PA	Pn	23 27 39.3	+2.5
CLDR				*i* S	Sg	23 28 57.5	-6.4
CLDR				IAML		23 29 43.0	
	comp=N,276nm,1.1s						
CLDR				IAML		23 29 54.0	
	comp=E,226nm,1.2s						
CLDR	Caldiran	5.09	345	*e*Pn	Pn	23 27 39.6	+2.8
CLDR	Caldiran	5.09	345	PN	Pn	23 27 38.9	+2.1
SBZ	Shahbuz	5.17	360	*e*Pn	Pn	23 27 40.7	+2.9
LKRN	Lenkeran, Azer	5.17	29	P	Pn	23 27 39.7	+2.0
LKRN	Lenkeran, Azer	5.17	29	*e*Pn	Pn	23 27 39.7	+2.0
GURO	Guroymak-BITLI	5.18	328	PN	Pn	23 27 39.3	+1.3
MAZI	Mazidag	5.27	309	*e*Pn	Pn	23 27 39.9	+0.6
MAZI	Mazidag	5.27	309	PN	Pn	23 27 39.9	+0.6
SVAN	Silvan-Diyarba	5.28	319	*i* P	Pn	23 27 40.8	+1.4
SVAN				*i* S	Sg	23 29 02.9	-7.2
SVAN				IAML		23 29 22.0	
	comp=E,491nm,1.2s						
SVAN				IAML		23 29 36.0	
	comp=N,537nm,1.5s						
KRSH	Karshahi	5.45	91	*e*Pn	Pn	23 27 43.2	+1.5
MLAZ	Malazgirt-MUS	5.48	335	*e*Pn	Pn	23 27 44.0	+1.9
MLAZ	Malazgirt-MUS	5.48	335	PN	Pn	23 27 44.2	+2.1
GLBA	Cilabad	5.50	23	*e*Pn	Pn	23 27 44.8	+2.6
HYR	Heyderabad	5.52	354	*e*Pn	Pn	23 27 45.0	+2.4
DYDN	Diyadin	5.52	345	*i* P	Pn	23 27 44.8	+2.0
DYDN				*i* S	Sg	23 29 18.7	+0.9
DYDN				IAML		23 30 09.0	
	comp=N,250nm,2.5s						
DYDN				IAML		23 30 23.0	
	comp=E,332nm,2.6s						
MUSM	Mu-Merkez	5.56	325	*i* PA	Pn	23 27 43.9	+0.7
MUSM				*i* S	Sg	23 29 13.3	-5.7
MUSM				IAML		23 29 49.0	
	comp=N,262nm,1.4s						
MUSM				IAML		23 29 51.0	
	comp=E,268nm,1.0s						
MUSM	Mu-Merkez	5.56	325	*e*Pn	Pn	23 27 44.1	+0.9
TUTA	Tutak	5.63	338	*i* PA	Pn	23 27 46.2	+2.0
TUTA				*i* S	Sg	23 29 21.4	+0.3
TUTA				IAML		23 29 45.0	
	comp=N,248nm,1.8s						
TUTA				IAML		23 31 28.0	
	comp=E,0.2nm,0.5s						
TUTA	Tutak	5.63	338	*e*Pn	Pn	23 27 46.5	+2.3
IGAR	Gharneh	5.71	107	*e*Pn	Pn	23 27 45.9	+0.6
IGAR				IAMB	IAmb	23 28 55.3	
	comp=Z,11μm,0.2s						
IGDI	IGDIR	5.76	348	*i* P	Pn	23 27 48.1	+2.2
IGDI				*i* S	Sg	23 29 32.3	+6.8
IGDI				IAML		23 30 01.0	
	comp=N,125nm,2.0s						
IGDI				IAML		23 30 08.0	
	comp=E,168nm,1.5s						
DYBB	Diyarbakir	5.77	312	PN	Pn	23 27 47.7	+1.7
IZEF	Zefreh	5.79	101	*e*Pn	Pn	23 27 47.5	+1.0
IZEF				IAMB	IAmb	23 29 02.9	
	comp=Z,5μm,0.7s						
TASB	TASBURUN-IGDIR	5.85	350	*e*Pn	Pn	23 27 49.5	+2.4
TASB	TASBURUN-IGDIR	5.85	350	PN	Pn	23 27 49.8	+2.7
IPRN	Peran	5.89	68	*e*Pn	Pn	23 27 50.7	+3.0
BNGL	BINGOL	5.91	324	*i* PA	Pn	23 27 50.0	+1.8
BNGL				*i* S	Sg	23 29 26.8	-3.5
HANI	Diyarbakir_Han	5.92	317	*i* PA	Pn	23 27 48.5	+0.5
HANI				*i* S	Sg	23 29 26.3	-4.1
HANI				IAML		23 29 52.0	
	comp=E,716nm,1.3s						
HANI				IAML		23 29 56.0	
	comp=N,705nm,2.0s						
VRTB	Varto-Mus	5.94	327	*i* PA	Pn	23 27 51.3	+2.9
VRTB				*i* S	Sg	23 29 28.5	-2.6
VRTB				IAML		23 30 11.0	
	comp=E,1μm,1.5s						
VRTB				IAML		23 30 23.0	
	comp=N,800nm,1.8s						
VRTB	Varto-Mus	5.94	327	PN	Pn	23 27 50.8	+2.4
GNI	Garni	5.95	354	*i* P	Pn	23 27 51.6	+3.0
	SNR=37						
GNI	Garni	5.95	354	P	Pn	23 27 52.5	+3.8
	SNR=37						
GNI	Garni	5.95	354	P	Pn	23 27 51.0	+2.3
GNI	Garni	5.95	354	*e*Pn	Pn	23 27 51.7	+3.0
GNI	Garni	5.95	354	Pn	Pn	23 27 51.2	+2.6
	comp=N,4.6nm,0.3s,baz=230,slow=1.5,SNR=51						
GNI				Lg	Lg	23 29 30.2	
	baz=248,slow=19,SNR=1.9						
GNI				LR	LR	23 30 37.2	
	comp=N,2μm,19.6s,baz=168,slow=43						
GNI	Garni	5.95	354	PN	Pn	23 27 51.7	+3.0
GNI	Garni	5.95	354			23 27 51.0	+2.3
IFIR	Firoozkooh	6.06	74	*e*Pn	Pn	23 27 51.8	+1.6
SAAT	Saatly	6.07	21	*e*Pn	Pn	23 27 53.6	+3.5
EATA	Eleskirt	6.15	337	*i* P	Pb	23 28 00.7	-7.0
EATA				*i* S	Sg	23 29 36.6	-1.2
EATA				IAML		23 30 07.0	
	comp=E,137nm,1.9s						
EATA				IAML		23 30 56.0	
	comp=N,123nm,1.7s						
EATA	Eleskirt	6.15	337	*e*Pn	Pn	23 27 54.3	+2.9
BRDA	Brd	6.16	11	*e*Pn	Pn	23 27 55.5	+4.2
BNGB	Bingl	6.18	322	PN	Pn	23 27 52.8	+1.1
BGOL	Bingol	6.18	322	*i* PA	Pn	23 27 53.5	+1.8
BGOL				*i* S	Sg	23 29 38.8	-0.1
BGOL				IAML		23 30 08.0	
	comp=N,343nm,1.8s						
BGOL				IAML		23 30 13.0	
	comp=E,244nm,0.9s						
BINT	Bingol	6.19	320	P	Pn	23 27 53.2	+1.3
IRAM	Ramesheh	6.20	111	*e*Pn	Pn	23 27 51.8	-0.3
IRAM				IAMB	IAmb	23 29 21.5	
	comp=Z,5μm,0.7s						
KARO	Karliova-Bingo	6.24	326	PN	Pn	23 27 54.8	+2.1
ZRD	Zardab	6.28	15	*e*Pn	Pn	23 27 55.6	+2.7
ALIB	Äli-Bayra	6.35	25	*e*Pn	Pn	23 27 56.6	+2.7
URFA	Urfa	6.36	302	PN	Pn	23 27 55.5	+1.4
GANJ	Ganja	6.44	5	P	Pn	23 27 58.7	+3.5
GANJ	Ganja	6.44	5	*e*Pn	Pn	23 27 58.7	+3.5
KOPR	Koprukoy-ERZUR	6.48	334	PN	Pn	23 27 59.1	+3.2
KDMR	Kurdemir	6.48	18	*e*Pn	Pn	23 27 59.2	+3.5
GDB	GEDABAY	6.49	1	*e*Pn	Pn	23 27 59.3	+3.3
HOMI	Horasan	6.51	334	*i* P	Pn	23 28 02.6	+6.3
HOMI				*i* S	Sg	23 29 52.4	+2.9
HOMI				IAML		23 30 35.0	
	comp=N,325nm,2.1s						
HOMI				IAML		23 31 05.0	
	comp=E,355nm,2.0s						
SVRC	Sivrice-ELAZID	6.55	311	PN	Pn	23 27 58.2	+1.4
EAK	Akyaka	6.64	347	*i* PA	Pn	23 28 02.7	+4.6
EAK				*i* S	Sg	23 29 55.6	+2.0
EAK				IAML		23 30 31.0	
	comp=N,203nm,2.9s						
EAK				IAML		23 31 06.0	
	comp=E,202nm,2.1s						
EAK	Akyaka	6.64	347	*e*Pn	Pn	23 28 02.9	+4.8
MNGR	Mingechevir, A	6.65	10	P	Pn	23 28 01.6	+3.6
MNGR	Mingechevir, A	6.65	10	*e*Pn	Pn	23 28 01.6	+3.6
KARS	Kars	6.70	343	P	Pn	23 28 02.2	+3.4
KARS	Kars	6.70	343	PN	Pn	23 28 01.6	+2.8
AKDA	Akdag	6.77	331	*i* P	Pb	23 28 12.2	-6.0
AKDA				IAML		23 30 34.0	
	comp=N,0.1nm,0.8s						
AKDA				IAML		23 30 34.0	
	comp=E,0.1nm,0.7s						
QZX	Qazax, Azerbai	6.83	359	*e*Pn	Pn	23 28 04.0	+3.5
SENK	Senkaya-Erzuru	6.83	339	*e*Pn	Pn	23 28 04.0	+3.2
SENK	Senkaya-Erzuru	6.83	339	PN	Pn	23 28 03.9	+3.2
GBS	Qobustan	6.85	22	*e*Pn	Pn	23 28 04.0	+3.2
IML	Ismayilli	6.88	17	*e*Pn	Pn	23 28 04.1	+2.9
TNCL	Tunceli-Merkez	6.88	317	*i* PA	Pn	23 28 03.3	+2.0
TNCL				IAML		23 30 20.0	
	comp=E,524nm,0.8s						
TNCL				IAML		23 30 23.0	
	comp=N,370nm,0.8s						
QBL	Gabala	6.95	14	*e*Pn	Pn	23 28 04.9	+2.7
PQL	Pirkuli	6.98	19	*e*Pn	Pn	23 28 06.0	+3.3
GOBA	Gobu	7.00	27	*e*Pn	Pn	23 28 04.9	+2.1
MALT	Malatya	7.07	307	PN	Pn	23 28 06.1	+2.1
SEKA	Sheki	7.09	10	P	Pn	23 28 07.4	+3.2
SEKA	Sheki	7.09	10	*e*Pn	Pn	23 28 07.4	+3.2
ERZN	Erzincan	7.12	320	PN	Pn	23 28 06.9	+2.3
KRIK	Erzurum-spir	7.14	330	*i* P	Pn	23 28 10.2	+5.2
KRIK				*i* S	Sg	23 30 15.2	+5.5
KRIK				IAML		23 30 59.0	
	comp=N,9.7nm,1.7s						
KRIK				IAML		23 31 17.0	
	comp=E,16nm,3.4s						
ATGJ	Altiaghaj	7.14	21	*e*Pn	Pn	23 28 08.4	+3.5
GALA	Gala	7.17	29	*e*Pn	Pn	23 28 06.8	+1.6
ISAD	Sadrabad	7.18	106	*e*Pn	Pn	23 28 05.6	-0.1
KZRT	Kazreti	7.21	353	P	Pn	23 28 11.4	+5.6
DGRG	David-gareji	7.22	359	P	Pn	23 28 10.7	+4.8
DGRG	David-gareji	7.22	359	P	Pn	23 28 10.0	+4.1
XNQ	Khinaliq	7.23	16	*e*Pn	Pn	23 28 09.7	+3.5
NDR	Nardaran	7.25	28	*e*Pn	Pn	23 28 08.1	+1.8
SIZA	Siyzn	7.33	20	*e*Pn	Pn	23 28 10.7	+3.2
AKH	Akhalkalaki	7.36	348	P	Pn	23 28 12.2	+4.2
AKH	Akhalkalaki	7.36	348	P	Pn	23 28 08.2	+0.2
AKH	Akhalkalaki	7.36	348		Pn	23 28 08.2	+0.2
AKT	Akhty	7.44	13	*e*P	Pn	23 28 12.5	+3.5
AKT				*e*S	Sn	23 29 38.8	+5.4
AKT				pmax	pmax		
	comp=Z,30nm,0.8s						

MMA0B **Mount Meron ar** 8.57 265 Pn **Pn** **23 28 25.4 +0.9**
MMAI **Mount Meron Ar** 8.57 265 Pn **Pn** **23 28 25.0 +0.5**
comp=E,6.0nm,0.3s,baz=62,slow=12,SNR=61
MMAI Pg Pg 23 28 58.9 -5.7
comp=E,7.9nm,0.3s,baz=75,slow=17,SNR=9.3
MMAI Sn **Sn** **23 30 00.5 -0.7**
comp=E,7.0nm,0.3s,baz=96,slow=15,SNR=2.4
MMAI Lg Lg 23 30 49.6
comp=E,24nm,0.3s,baz=70,slow=42,SNR=4.6
MMAI LR LR 23 32 32.5
comp=E,1μm,19.1s,baz=80,slow=43
WALJ Wala 8.63 255 P Pg 23 29 10.4 +4.7
WALJ Wala 8.63 255 P **Pn** **23 28 26.0 +0.8**
WALJ Wala 8.63 255 P Pg 23 29 16.6 +11
HMDT Nahal Hemdat 8.65 260 Pn **Pn** **23 28 26.5 +1.0**
ZEI Tsey 8.65 352 *e*P **Pn** **23 28 29.9 +4.2**
ZEI pmax pmax
comp=Z,50nm,0.7s
KRTS Karatas 8.65 289 PN **Pn** **23 28 27.3 +1.7**
MMLI Mount Malkishu 8.68 261 Pn **Pn** **23 28 27.3 +1.3**
MMLI Mount Malkishu 8.68 261 PN **Pn** **23 28 27.3 +1.3**
MMLI Mount Malkishu 8.68 261 P Sg 23 31 11.7 +13
comp=Z,849nm,1.3s
HNTI Hanita 8.75 265 Pn **Pn** **23 28 28.2 +1.3**
BLGI Bet Lehem HaGe 8.80 263 Pn **Pn** **23 28 28.3 +0.7**
MAK Makhachkala 8.86 9 *e*P **Pn** **23 28 26.5 -1.8**
MAK *e*S **Sn** **23 30 06.7 -1.2**
MAK pmax pmax
comp=Z,169nm,1.0s
MAK MLR MLR
comp=Z,847nm,15.0s
SVSK Karacayir 8.90 312 PN **Pn** **23 28 30.3 +1.4**
KARJ 8.92 252 P Pg 23 28 57.2 -14
KARJ 8.92 252 P Pg 23 29 17.8 +6.6
GROC Groznyy 8.97 1 *e*P **Pn** **23 28 33.2 +3.4**
GROC *e*S **Sn** **23 30 13.5 +2.7**
GROC pmax pmax
comp=Z,98nm,1.2s
GROC smax smax
comp=E,138nm,1.8s
OFRI `Ofer 9.00 263 Pn **Pn** **23 28 31.3 +1.0**
LISJ El Lisan 9.01 254 P 23 29 15.8
LISJ El Lisan 9.01 254 P 23 29 15.8
LISJ El Lisan 9.01 254 P 23 29 22.4
SLTI Sal'it 9.05 260 Pn **Pn** **23 28 32.2 +1.2**
KARA Karaisali 9.08 293 PN **Pn** **23 28 32.6 +1.2**
MZDA Masada 9.08 254 Pn **Pn** **23 28 31.8 +0.5**
BNN Bunyan 9.09 303 PN **Pn** **23 28 32.8 +1.1**
TNSJ Nastanj 9.15 89 *e*Pn **Pn** **23 28 34.1 +1.6**
YTIR Yattir 9.26 255 Pn **Pn** **23 28 34.8 +0.9**
HSNJ Maan 9.26 247 P Pn 23 29 20.8 +47
HSNJ Maan 9.26 247 P Pn 23 29 01.9 +28
HSNJ Maan 9.26 247 P Pn 23 29 23.0 +49
TPRV Parvadeh(Tabas 9.34 94 *e*Pn **Pn** **23 28 36.1 +1.0**
AMAZ Amatzia 9.36 256 Pn **Pn** **23 28 36.3 +1.0**
TOKT Tokat 9.43 313 PN **Pn** **23 28 37.7 +1.5**
EREN Erenkoy 9.46 281 PN **Pn** **23 28 37.8 +1.1**
ZFRI Zfri 9.52 250 Pn **Pn** **23 28 38.9 +1.4**
KIZK Mersin 9.61 287 PN **Pn** **23 28 40.0 +1.4**
KBZ Khabaz 9.72 348 Pn Pn 23 28 45.1 +5.0
comp=E,0.6nm,0.3s,baz=173,slow=9.3,SNR=76
KBZ LR LR 23 32 59.3
comp=E,708nm,21.4s,baz=144,slow=41
PRNI Paran 9.75 250 Pn **Pn** **23 28 40.9 +0.3**
YOZ Yozgat 9.83 306 PN **Pn** **23 28 42.9 +1.1**
HRFI Mount Harif 9.86 248 *e*Pn **Pn** **23 28 43.7 +1.5**
HRFI Mount Harif 9.86 248 Pn **Pn** **23 28 42.8 +0.6**
HRFI Mount Harif 9.86 248 PN **Pn** **23 28 43.9 +1.7**
IKL Isikli 9.94 285 PN **Pn** **23 28 44.2 +1.1**
KEBE Keben-Mersin 9.95 286 PN **Pn** **23 28 44.4 +1.1**
KVAR Kislovodsk Arr 9.97 348 Pn Pn 23 28 48.5 +4.8
baz=86,slow=19,SNR=36
KVAR LR LR 23 32 28.1
comp=E,863nm,18.3s,baz=21,slow=37
KIV Kislovodsk 9.97 348 *i*P Pn 23 28 48.7 +4.9
SNR=44
KIV Kislovodsk 9.97 348 P Pn 23 28 49.3 +5.6
SNR=42
KIV Kislovodsk 9.97 348 *e*P **Pn** **23 28 43.7 0.0**
KIV pmax pmax
comp=Z,309nm,1.1s
KIV MLR MLR
comp=Z,590nm,11.0s
KIV Kislovodsk 9.97 348 PN **Pn** **23 28 45.6 +1.9**
KIV Kislovodsk 9.97 348 **Pn** **23 28 47.5 +3.8**
KZIT Kziot 10.00 254 **Pn** **23 28 44.8 +0.8**
KZIT Kziot 10.00 254 PN **Pn** **23 28 45.6 +1.6**
AQBJ Aqaba 10.00 246 P Pn 23 29 02.9 +19
AQBJ Aqaba 10.00 246 P Pn 23 29 09.6 +26
AQBJ Aqaba 10.00 246 P Pn 23 29 31.0 +47
AKKU Akkuyu-Mersin 10.03 285 PN **Pn** **23 28 45.3 +0.9**
KRMI Paran Flat 10.07 249 Pn **Pn** **23 28 45.2 +0.2**
SBZV Sabzevar 10.07 74 *e*Pn **Pn** **23 28 48.5 +3.3**
MBRI Mt Berech 10.07 247 Pn **Pn** **23 28 45.9 +0.8**
EIL Elat 10.10 246 Pn **Pn** **23 28 45.6 +0.2**
EIL Elat 10.10 246 Pn **Pn** **23 28 46.2 +0.7**
comp=Z,2.9nm,0.3s,baz=174,slow=13,SNR=21
EIL Pg 23 29 28.9
comp=Z,5.8nm,0.3s,baz=63,slow=14,SNR=5.2
EIL Lg Lg 23 31 48.5
comp=Z,6.6nm,0.3s,baz=30,slow=20,SNR=2.8
EIL LR LR 23 33 42.0
comp=Z,1μm,18.8s,baz=58,slow=43
EIL Elat 10.10 246 P Pn 23 29 09.8 +24
EIL Elat 10.10 246 P Pn 23 29 32.1 +47
CSS Mathiatis 10.12 278 PN **Pn** **23 28 46.9 +1.1**
CSS Mathiatis 10.12 278 Pn **Pn** **23 28 47.4 +1.7**
TEVE Tevekalti-Mers 10.16 286 PN **Pn** **23 28 46.8 +0.5**
KVT Kavak 10.19 315 PN **Pn** **23 28 48.2 +1.5**
TVBK TV Kerman 10.38 111 *e*Pn **Pn** **23 28 49.0 -0.6**
TEKE Tekeli-Mersin 10.38 284 PN **Pn** **23 28 49.8 +0.6**
SOC Sochi 10.40 336 *e*P **Pn** **23 28 49.9 +0.5**
SOC *e* 23 30 44.6
SOC pmax pmax
comp=Z,64nm,0.9s
SOC MLR MLR
comp=Z,1μm,11.0s
NGRK Negar Kerman 10.51 113 *e*Pn **Pn** **23 28 51.8 +0.4**
YAYX Yaylak 10.57 300 PN **Pn** **23 28 52.8 +0.9**
GEYT Alibeck 10.80 66 Pn **Pn** **23 28 56.0 +1.1**
comp=Z,0.9nm,0.3s,baz=246,slow=18,SNR=5.9
GYA0B ALIBECK ARRAY 10.80 66 **Pn** **23 28 55.1 +0.1**
GOF Gofitskoye 11.00 351⇑*i*P **Pn** **23 29 01.9 +4.3**
GOF pmax pmax
comp=Z,157nm,1.2s
DIKM Dikmen 11.01 315 PN **Pn** **23 28 59.5 +1.7**
BR131 Keskin Array S 11.01 303 P Pn 23 29 04.4 +6.4
SNR=6.2
BR131 Keskin Array S 11.01 303 P **Pn** **23 28 59.0 +1.0**
BR131 Keskin Array S 11.01 303 **Pn** **23 28 59.0 +1.0**
BRTR Keskin Array B 11.01 303 Pn **Pn** **23 29 00.2 +2.1**
comp=Z,0.1nm,0.3s,baz=134,slow=9.9,SNR=19
BRTR LR LR 23 34 37.9
comp=Z,351nm,21.2s,baz=100,slow=45
BRTR Keskin Array B 11.01 303 PN **Pn** **23 28 58.8 +0.8**
BRTR Keskin Array B 11.01 303 **Pn** **23 28 59.7 +1.7**
ITEG Tejag 11.07 93 *e*Pn **Pn** **23 28 59.6 +0.8**
CHBY Cihanbeyli 11.11 297 PN **Pn** **23 29 00.1 +0.8**
IPAY Payeh 11.18 75 *e*Pn **Pn** **23 29 03.3 +2.9**
KULU Kulu 11.19 299 PN **Pn** **23 29 01.4 +1.0**
AFSR Afar-Bala (An 11.29 301 PN **Pn** **23 29 02.6 +0.8**
KONT Konya--Tatoy 11.32 293 PN **Pn** **23 29 03.1 +1.0**
LADK Ladik-KONYA 11.39 294 PN **Pn** **23 29 03.8 +0.7**
ILGA Ilgaz 11.61 309 Pn Pn 23 29 10.9 +4.7
ANTO Ankara 11.66 303 P Pn 23 29 16.6 +10
SNR=9.7
ANTO Ankara 11.66 303 P **Pn** **23 29 07.7 +0.8**
ANTO Ankara 11.66 303 **Pn** **23 29 07.7 +0.8**
BR231 Keskin MP Arra 11.66 302 Pn **Pn** **23 29 08.1 +1.2**
BZK Bozkurt 11.94 314 PN **Pn** **23 29 11.7 +1.1**
IMYA Miami 12.06 76 *e*Pn **Pn** **23 29 15.6 +3.3**
SHME Shamm 12.24 129 *i*P **Pn** **23 29 12.9 -1.8**
SNR=46
ANN Anapa 12.29 332 *e*P **Pn** **23 29 13.8 -1.4**
ANN pmax pmax
comp=Z,37nm,1.6s
UMQ Umm Al-Quwin 12.31 132 *i*P **Pn** **23 29 15.3 -0.3**
SNR=7.4
UMQ Umm Al-Quwin 12.31 132 P **Pn** **23 29 14.9 -0.7**
SNR=7.4
UMQ S **Sn** **23 31 28.1 -4.7**
BANOM Banah 12.43 129 *i*P **Pn** **23 29 15.7 -1.6**
SNR=542
BANOM S **Sn** **23 31 27.7 -8.0**
SNR=8.1
ISP Isparta 12.71 291 P **Pn** **23 29 24.2 +3.0**
ISP Isparta 12.71 291 Pn **Pn** **23 29 24.2 +3.0**
MSFE Esma-Masafi 12.74 131 *i*P **Pn** **23 29 20.2 -1.3**
SNR=118
ASUD Al Ashush, Dub 12.78 136 *i*P **Pn** **23 29 21.3 -0.9**
SNR=182
ASUD Al Ashush, Dub 12.78 136 P **Pn** **23 29 21.6 -0.5**
SNR=181
ASUD S **Sn** **23 31 38.8 -5.7**
FAQ Al Faqa, Dubai 12.85 135 *i*P **Pn** **23 29 22.2 -0.8**
SNR=9.9
FAQ Al Faqa, Dubai 12.85 135 P **Pn** **23 29 22.6 -0.4**
SNR=9.9
FAQ S **Sn** **23 31 39.9 -6.1**
SNR=6.2
MDH Madha 12.87 131 *i*P **Pn** **23 29 22.0 -1.3**
SNR=72
MDH Madha 12.87 131 P **Pn** **23 29 21.6 -1.7**
SNR=26
MDH S **Sn** **23 31 38.3 -8.1**
SNR=6.5
ELL Elmali 13.02 286 P **Pn** **23 29 27.5 +2.1**
ELL Elmali 13.02 286 **Pn** **23 29 27.5 +2.1**
UOSS Minazif 13.06 132 *i*P **Pn** **23 29 23.9 -2.0**
SNR=46
UOSS Minazif 13.06 132 P **Pn** **23 29 24.0 -2.0**
SNR=73
UOSS Minazif 13.06 132 **Pn** **23 29 24.0 -2.0**
HATD Hatta, Dubai 13.11 133 *i*P **Pn** **23 29 25.1 -1.6**
SNR=121
HATD Hatta, Dubai 13.11 133 P **Pn** **23 29 25.1 -1.6**
SNR=120
HATD S **Sn** **23 31 44.7 -7.8**
SNR=7.7
ASHO Ashiyiah 13.17 133 *i*P **Pn** **23 29 26.0 -1.5**
SNR=116
ASHO Ashiyiah 13.17 133 P **Pn** **23 29 25.3 -2.1**
SNR=116
ASHO S **Sn** **23 31 45.7 -8.3**
SNR=13
ALNE Al Ain 13.47 136 *i*P **Pn** **23 29 30.5 -1.0**
SNR=126
HRA Herat 13.78 85 **Pn** **23 29 36.5 +0.6**
SIM Simferopol' 13.87 324 *e*P **P** **23 29 46.0 +0.8**
SIM pmax pmax
comp=Z,23nm,1.0s
MANT Manisa 14.36 292 **Pn** **23 29 45.2 +1.4**
ARQ Araqi 14.47 136 P **Pn** **23 29 43.2 -2.0**
SNR=36
ARQ S **Sn** **23 32 18.4 -7.2**
HOQ Hoqain 14.75 133 P **Pn** **23 29 46.7 -2.3**
SNR=55
HOQ S Sn 23 32 23.1 -9.4
KARP Karpathos 15.18 280 P **P** **23 29 57.0 -2.8**
KARP IAmb IAmb 23 30 08.0
comp=Z,132nm,0.9s
BIDO Bidbid 15.30 131 P **Pn** **23 29 53.4 -2.9**
BIDO S **Sn** **23 32 35.8 -10**
BSY Bisya 15.32 135 P **Pn** **23 29 54.0 -2.6**
SNR=225
BSY S **Sn** **23 32 38.5 -7.8**
SMDO Samad 15.59 132 P **Pn** **23 29 58.1 -2.2**
SNR=39
SMDO S Sn 23 32 42.3 -11
WSAR Wadi Sarin 15.82 130 P **Pn** **23 30 00.3 -2.8**
SNR=129
WSAR S Sn 23 32 45.3 -13
WSAR Wadi Sarin 15.82 130 Pn **Pn** **23 30 00.5 -2.7**
comp=Z,11nm,0.3s,baz=320,slow=10,SNR=86
WSAR Sn Sn 23 32 44.2 -14
comp=Z,1.3nm,0.3s,baz=302,slow=19,SNR=3.0
JMDO Jabal Madar 16.14 134 P **Pn** **23 30 04.0 -3.3**
SNR=71
KALB Balgarevo 16.19 310 ⇓P **P** **23 30 12.6 +1.7**
PSN Preselentsi 16.48 310 P **P** **23 30 14.9 +0.8**
WBK Wadi Bani Khal 16.49 131 P **Pn** **23 30 08.9 -2.9**
SNR=118
WBK S **Sn** **23 33 05.2 -10**
SANT Santorini 16.57 283 Pn **Pn** **23 30 13.6 +0.8**
MFTR Murfatlar 16.57 312 ⇓P **P** **23 30 16.3 +1.1**
JURR Jurilovca 16.61 314 ⇓P **P** **23 30 16.3 +0.7**
TIRR Tirgusor 16.73 313 P **P** **23 30 16.0 -0.9**
TIRR pmax pmax
comp=Z,72nm,0.7s
TIRR Tirgusor 16.73 313 ⇓P **P** **23 30 17.5 +0.6**
TIRR Tirgusor 16.73 313 Pn **P** **23 30 15.9 -0.9**
PRD Provadia 16.76 308 P **P** **23 30 16.8 -0.4**
ALN Alexandroupoli 16.84 299 P **P** **23 30 17.1 -1.1**
ALN pmax pmax
comp=Z,13nm,0.8s
ALN Alexandroupoli 16.84 299 Pn **P** **23 30 17.1 -1.1**
TLCR 16.89 315 ⇓P **P** **23 30 19.7 +1.1**
ICOR Ion Corvin 16.93 311 ⇓P **P** **23 30 20.6 +1.5**
TOPG Topolog 16.97 314 ⇑P **P** **23 30 20.1 +0.5**
TLB Topalu 17.02 313 ⇑P **P** **23 30 21.5 +1.4**
JLN Jalan Bani Buh 17.10 131 P **Pn** **23 30 16.6 -2.9**
SNR=27
JLN S Sn 23 33 16.2 -13
HARR Harsova 17.14 313 ⇓P **P** **23 30 23.2 +1.7**
VRH Novokhopyorsk 17.20 352 *e*P **Pn** **23 30 19.2 -1.3**
VRH pmax pmax
comp=Z,70nm,0.7s
CFR Carcaliu 17.28 314 ⇓P **Pn** **23 30 21.4 -0.1**
RAZG Razgrad 17.50 308 ⇑P **P** **23 30 26.5 +1.0**
VSR Storozhevoye 17.61 347 *e*P **Pn** **23 30 25.4 -0.3**
VSR pmax pmax
comp=Z,150nm,1.3s
ELND Elena 17.66 305 ⇑P **P** **23 30 30.1 +2.9**
LEHL Lehliu 17.72 311 ⇓P **P** **23 30 30.1 +2.3**
SZH Strazhica 17.75 306 P **P** **23 30 29.9 +1.6**
DQM DQM 17.76 140 P **Pn** **23 30 24.7 -2.9**
SNR=18
DQM S Sn 23 33 30.0 -16
WHFO Wadi Hawf 17.81 154 P **Pn** **23 30 24.9 -3.4**
SNR=232
WHFO S Sn 23 33 30.3 -17
MILM Milestii Mici 17.93 320 ⇑P **Pn** **23 30 29.2 -0.4**
LEOM Leova 17.96 318 P **P** **23 30 30.1 -0.3**
LEOM Leova 17.96 318 ⇑P **P** **23 30 30.2 -0.3**
KIS Kishinev 17.97 320 *e*P **Pn** **23 30 30.0 -0.1**
KIS *e*L L 23 48 24.0
KIS LRM MLR 23 59 36.0
comp=Z,9μm,14.0s
KIS Kishinev 17.97 320 *e*P **Pn** **23 30 30.0 -0.1**
ABTO Aybut 18.17 156 P **Pn** **23 30 29.0 -3.8**
SNR=135
ABTO S Sn 23 33 38.9 -17
BIR Birlad 18.19 317 ⇑P **P** **23 30 33.9 +0.9**
RBK Rabkut 18.35 153 P **Pn** **23 30 32.0 -3.1**
SNR=28
RBK P **Pn** **23 30 32.0 -3.1**
SNR=23
RBK S Sn 23 33 45.8 -14
SNR=6.4
AB31 Akbulak array 18.40 31 *i*P **P** **23 30 35.2 -0.2**
AB31 pmax pmax
comp=Z,35nm,0.8s
ABKAR Akbulak array 18.40 31 P **P** **23 30 34.5 -0.9**
ABKAR Akbulak array 18.40 31 P **P** **23 30 35.0 -0.4**
ABKAR IAmb IAmb 23 30 38.1
comp=Z,47nm,1.0s
DMTO DMTO 18.45 151 P **P** **23 30 32.4 -3.7**
SNR=24
DMTO S Sn 23 33 48.8 -14
SNR=15
SHAO Shalim 18.46 148 *i*P **P** **23 30 33.0 -3.2**
SNR=119
SHAO Shalim 18.46 148 P **P** **23 30 32.4 -3.8**
SNR=116
SHAO S Sn 23 33 50.6 -12
VRI Vrincioaia 18.48 315 ⇓P **Pn** **23 30 37.7 +1.3**
PLOR Plostina 18.52 314 ⇑P **Pn** **23 30 38.9 +1.9**
AKTO Aktyubinsk 18.59 26 P **Pn** **23 30 37.8 +0.2**
comp=Z,2.4nm,0.3s,baz=207,slow=10,SNR=112
PLVB Pleven 18.68 306 ⇑P **Pn** **23 30 40.7 +1.8**
MLR Muntele Rosu 18.76 313 P **Pn** **23 30 40.9 +1.0**
MLR pmax pmax
comp=Z,24nm,0.7s
MLR Muntele Rosu 18.76 313 P **Pn** **23 30 40.2 +0.3**
comp=Z,0.5nm,0.3s,baz=61,slow=10,SNR=4.6
MLR Muntele Rosu 18.76 313 ⇑P **Pn** **23 30 42.1 +2.2**
MLR Muntele Rosu 18.76 313 P **Pn** **23 30 40.9 +1.0**
TESR Tescani 18.88 316 ⇑P **Pn** **23 30 41.2 0.0**
HUMR Humele 18.91 309 ⇓P **Pn** **23 30 43.7 +2.1**
SORM Soroca 18.95 322 ⇑P **P** **23 30 41.3 0.0**
LPSR Galich'ya Gora 18.98 347 *e*P **P** **23 30 40.9 -0.8**
LPSR pmax pmax
comp=Z,470nm,0.9s
GOLR 19.06 310 ⇑P **Pn** **23 30 44.5 +1.1**
AGG Agios Georgios 19.25 291 P **Pn** **23 30 46.3 +0.5**
AGG pmax pmax
comp=Z,48nm,1.2s
AGG Agios Georgios 19.25 291 P **Pn** **23 30 46.3 +0.5**
VOIR 19.28 312 ⇑P **Pn** **23 30 47.3 +1.1**
LIT Litokhoron 19.29 294 P **Pn** **23 30 47.2 +0.9**
LIT pmax pmax
comp=Z,31nm,0.9s
LIT Litokhoron 19.29 294 P **Pn** **23 30 47.1 +0.9**
DOPR Dopca 19.34 313 ⇑P **Pn** **23 30 47.3 +0.6**
KBL Kabul 19.37 82 P **Pn** **23 30 48.4 +0.9**
KBL Kabul 19.37 82 P **P** **23 30 46.9 +0.6**
KBL pmax pmax
comp=Z,70nm,1.0s
KBL Kabul 19.37 82 P **P** **23 30 46.9 +0.6**
VTS Vitosha 19.37 302 ⇑P **Pn** **23 30 48.5 +1.2**
BIZ Bicaz 19.43 317 ⇑P **Pn** **23 30 47.9 0.0**
CHGR Chuyangaron 19.46 70 P **P** **23 30 47.8 +0.6**
CHGR IAmb IAmb 23 30 56.1
comp=Z,186nm,0.8s
ARR Arges 19.51 311 ⇓P **Pn** **23 30 49.5 +0.6**
DAMY Dhamar 19.59 183 **Pn** **23 30 51.0 +0.7**
DAMY IAmb IAmb 23 31 02.7
comp=Z,91nm,1.2s
PRAR RASCA 19.60 318 ⇑P **P** **23 30 48.6 0.0**
STIP Stip 19.86 299 *i*P **P** **23 30 50.4 -1.0**
TAS Tashkent 20.00 62 P Pn 23 30 54.3 -0.4
TAS pmax pmax
comp=Z,94nm,1.0s
TAS Tashkent 20.00 62 Pn 23 30 54.3 -0.5
TAS IAmb IAmb 23 31 02.0
comp=Z,94nm,1.0s
MDB Medias 20.03 313 ⇑P Pn 23 30 54.9 -0.1
MDB mb 23 31 00.9
LOT Lotru 20.09 310 ⇑P Pn 23 30 55.4 -0.5
PUNG Punghina 20.15 307 ⇑P Pn 23 30 56.6 +0.2
FNA Florina 20.25 296 IAmb IAmb 23 31 05.4
comp=Z,55nm,0.6s
BURAR Bucovina Array 20.31 317 ⇑P Pn 23 30 57.2 -1.2
BURAR mb 23 31 07.5
BURAR Bucovina Array 20.31 317 P **P** **23 30 56.9 +0.5**
AKASG Malin Array Be 20.34 329 P **P** **23 30 55.5 -1.0**
AKASG 23 35 09.1
AKASG pmax pmax
comp=Z,15nm,0.6s
AKASG Malin Array Be 20.34 329 P **P** **23 30 56.1 -0.4**
comp=Z,33nm,0.7s,baz=132,slow=10,SNR=83
AKASG S Sn 23 34 50.0 +2.5
comp=Z,4.4nm,0.8s,baz=133,slow=16,SNR=4.3
AKASG PcP **PcP** **23 35 09.1 -0.1**
comp=Z,1.7nm,0.6s,baz=102,slow=1.6,SNR=5.9
AKASG Malin Array Be 20.34 329 P **P** **23 30 55.5 -1.0**
AKBB Malin Array Si 20.34 329 P **P** **23 30 56.5 0.0**
AKBB pmax pmax
comp=Z,119nm,1.1s
AKBB Malin Array Si 20.34 329 **P** **23 30 56.5 0.0**
AKBB IAmb IAmb 23 30 59.2
comp=Z,119nm,1.1s
GAR Garm 20.40 69 P **P** **23 30 58.5 +1.1**
SKO Skopje 20.47 299 *i*P Pn 23 31 02.9 +2.7
ARCR ARCALIA 20.52 315 ⇑P Pn 23 31 00.1 -0.7
GZR Gura Zlata 20.70 309 ⇑P **P** **23 31 01.0 +0.4**
HERR Herculane 20.72 308 ⇓P Pn 23 31 02.3 -0.8
OHR Ohrid 20.75 297 *i*P Pn 23 31 05.9 +2.4
CJR Cluj-Napoca 20.78 313 ⇑P Pn 23 31 02.9 -1.0
DEV Deva 20.83 311 ⇑P Pn 23 31 02.9 -1.5
BTK Batken 20.91 66 P **P** **23 31 03.7 +0.7**
BTK pmax pmax
comp=Z,41nm,0.9s
BTK Batken 20.91 66 P **P** **23 31 03.7 +0.7**
MDVR Moldovita 21.15 307 ⇓P **P** **23 31 06.2 +0.8**
BMR Baia Mare 21.32 316 ⇑P **P** **23 31 08.6 +1.3**
KK31 Karatay Array 21.33 58 *e*P **P** **23 31 07.7 +0.3**
KK31 pmax pmax
comp=Z,16nm,0.6s
KKAR Karatay Array 21.33 58 P **P** **23 31 07.5 +0.1**
KKAR Karatay Array 21.33 58 P **P** **23 31 07.5 +0.1**
DRGR 21.36 313 P **P** **23 31 08.4 +0.7**
DRGR pmax pmax
comp=Z,59nm,0.9s
DRGR 21.36 313 ⇑P **P** **23 31 08.6 +0.9**
TIR Tirane 21.48 297 P **P** **23 31 10.4 +1.4**
TIR pmax pmax
comp=Z,52nm,0.8s
TIR Tirane 21.48 297 P **P** **23 31 10.4 +1.4**
TIR IAmb IAmb 23 31 15.3
comp=Z,52nm,0.8s
BZS Buzias 21.53 309 ⇓P **P** **23 31 09.7 +0.2**
BANR Banloc 21.75 308 ⇓P **P** **23 31 13.6 +1.8**
SIRR Siria 21.77 311 ⇑P **P** **23 31 13.2 +1.1**
OBN Obninsk 21.81 346*c* *i*P **P** **23 31 10.7 -1.7**
OBN *i* 23 31 14.0
OBN pmax pmax
comp=Z,72nm,0.9s
OBN MLR MLR
comp=Z,473nm,19.0s
OBN Obninsk 21.81 346 P **P** **23 31 11.4 -1.0**
comp=Z,15nm,0.4s,baz=162,slow=21,SNR=25
OBN S **S** **23 35 07.5 -5.7**
comp=Z,10nm,0.9s,baz=220,slow=22,SNR=7.5
OBN Obninsk 21.81 346 P **P** **23 31 11.2 -1.2**
DIVS Divibare 22.08 304 *e*P **P** **23 31 16.5 +1.0**
DRME Dracevica, Mon 22.15 299 *e*P **P** **23 31 18.5 +2.3**
PDG Podgorica 22.15 299 *e*P **P** **23 31 18.0 +1.8**
PDG Podgorica 22.15 299 P **P** **23 31 17.7 +1.5**
MOS Moscow 22.21 348 *e*P **P** **23 31 13.9 -2.7**
MOS *e*PPP PPP 23 31 44.6
MOS *e*S **S** **23 35 14.6 -6.2**
MOS pmax pmax
comp=Z,141nm,0.9s
MOS pmax pmax
comp=N,116nm,0.9s
LVV L'vov 22.22 321 *e*P **P** **23 31 18.8 +1.9**
SCTE Santa Cesarea 22.34 293 P **P** **23 31 19.2 +1.0**
SCTE IAmb IAmb 23 31 22.1
comp=Z,86nm,1.2s
RUDO Rudo 22.37 303 *e*P **P** **23 31 18.0 -0.5**
BBLS Lazići 22.41 303 *e*P **P** **23 31 18.8 -0.2**
UZH Uzhgorod 22.51 317⇓*i*P **P** **23 31 21.6 +1.7**
UZH *i* 23 31 24.3
UZH *e* 23 31 28.1
UZH *e* 23 31 44.7
UZH *e*S **S** **23 35 25.6 -1.0**
UZH MLR MLR
comp=N,130nm,18.0s
UZH MLR MLR
comp=E,150nm,18.0s
UZH MLR MLR
comp=Z,80nm,18.0s
FRGS Fruska Gora 22.54 307 *e*P **P** **23 31 20.9 +0.5**
KOLS Kolonicke sedl 22.68 317 *e*P **P** **23 31 22.9 +1.2**
KOLS pmax pmax
comp=Z,39nm,1.2s
KOLS Kolonicke sedl 22.68 317 *e*P **P** **23 31 22.9 +1.2**
HCY Herceg Novi 22.71 299 *e*P **P** **23 31 21.6 -0.5**
ATD Arta Tunnel 22.73 187 P **P** **23 31 27.2 +4.7**
SNR=8.6
ATD Arta Tunnel 22.73 187 P **P** **23 31 23.3 +0.8**
comp=Z,22nm,1.0s,baz=354,slow=9.3,SNR=6.7
ARSB Arslanbob 22.73 64 P **P** **23 31 22.9 +0.4**
ARSB IAmb IAmb 23 31 35.1
comp=Z,58nm,0.9s
BRY Bratogost 22.78 300 *e*P **P** **23 31 23.5 +0.5**
HAPS Han Pljesak,Bl 22.79 304 *e*P **P** **23 31 23.1 0.0**
KWP Kalwaria Pacla 22.82 319 *e*P **P** **23 31 23.2 0.0**
KWP Kalwaria Pacla 22.82 319 *e*P **P** **23 31 23.2 0.0**
KWP *e*P **P** **23 31 23.2 0.0**
KWP Kalwaria Pacla 22.82 319 P **P** **23 31 23.2 0.0**
TREB Trebinje 22.87 300 *e*P **P** **23 31 22.4 -1.4**
NIL Nilore 22.94 84 P **P** **23 31 24.9 +0.2**
NIL pmax pmax
comp=Z,62nm,0.9s
NIL Nilore 22.94 84 P **P** **23 31 24.9 +0.2**
NIL IAmb IAmb 23 31 33.5
comp=Z,62nm,0.8s

SOCY Socotra 23.23 159 P **P 23 31 23.8 -4.0**
SNR=8.8
SOCY Socotra 23.23 159 P **P 23 31 24.0 -3.8**
SOCY IAmb IAmb 23 31 25.9
comp=Z,59nm,0.9s
STON Ston 23.37 300 *i* P **P 23 31 28.3 -0.5**
STON Ston 23.37 300 *eP* **P 23 31 31.3 +2.4**
AML Almayashu 23.39 62 P **P 23 31 31.0 +1.4**
SNR=52
KECS Kecovo 23.48 315 *eP* **P 23 31 31.9 +1.9**
KECS pmax pmax
comp=Z,23nm,0.8s
KECS Kecovo 23.48 315 *eP* **P 23 31 31.9 +1.9**
EKS2 Erkin-Say 23.56 61 P **P 23 31 32.4 +1.5**
SNR=33
TIP Timpagrande 23.58 291 P **P 23 31 31.7 +0.6**
MICGM Minsk 23.77 334⇓*eP* **P 23 31 34.0 +1.3**
MICGM PM 23 31 35.0
comp=Z,0.8nm,1.0s
MNK Minsk 23.77 334⇓*eP* **P 23 31 34.0 +1.3**
ARU Arti 23.93 18*c i*P **P 23 31 34.6 +0.4**
ARU 23 32 01.9
ARU S **S 23 35 54.2 +3.9**
ARU SS **SnSn 23 36 37.2 +7.3**
ARU pmax pmax
comp=Z,56nm,1.8s
ARU Arti 23.93 18 P **P 23 31 34.2 0.0**
comp=Z,3.7nm,0.6s,baz=218,slow=7.3,SNR=15
ARU Arti 23.93 18 P **P 23 31 34.2 0.0**
ARU IAmb IAmb 23 31 48.4
comp=Z,72nm,0.9s
UCH Uchtor 24.01 62 P **P 23 31 36.7 +1.0**
SNR=9.4
NIE Niedzica 24.04 317 *eP* **P 23 31 36.2 +0.8**
NIE Niedzica 24.04 317 *eP* **P 23 31 36.2 +0.8**
NIE *eP* **P 23 31 36.2 +0.8**
AAK Ala-Archa 24.07 61 *i* P **P 23 31 38.1 +2.2**
SNR=12
AAK Ala-Archa 24.07 61 P **P 23 31 37.4 +1.5**
SNR=12
AAK P **P 23 31 37.4 +1.5**
SNR=12
AAK Ala-Archa 24.07 61⇑*eP* **P 23 31 35.9 0.0**
AAK pmax pmax
comp=Z,16nm,1.8s
AAK Ala-Archa 24.07 61 P **P 23 31 36.7 +0.8**
comp=Z,4.6nm,0.5s,baz=213,slow=4.3,SNR=22
AAK Ala-Archa 24.07 61 P **P 23 31 37.7 +1.8**
SNR=6.5
AAK Ala-Archa 24.07 61 P **P 23 31 36.2 +0.3**
MGRS Mrkonjic Grad 24.17 303 *eP* **P 23 31 36.7 0.0**
BLY Banja Luka 24.19 304 P **P 23 31 37.4 +0.6**
USP Ospenovka 24.20 60 P **P 23 31 38.2 +1.2**
SNR=26
FRU1 Bishkek 24.20 61 P **P 23 31 38.3 +1.3**
FRU1 pmax pmax
comp=Z,16nm,0.7s
FRU1 Bishkek 24.20 61 P **P 23 31 38.3 +1.3**
CHMS Chumysh 24.33 60 P **P 23 31 39.5 +1.4**
SNR=29
ACER Acerenza 24.33 294 P **P 23 31 40.4 +2.2**
ACER IAmb IAmb 23 31 40.8
comp=Z,69nm,1.4s
LANS Liptovska Anna 24.39 316 *eP* **P 23 31 39.6 +1.0**
LANS pmax pmax
comp=Z,12nm,0.9s
LANS Liptovska Anna 24.39 316 *eP* **P 23 31 39.6 +1.0**
KBK Karagaybulak 24.40 61 P **P 23 31 40.8 +1.8**
SNR=30
VYHS Vyhne 24.46 314 *eP* **P 23 31 39.7 +0.4**
VYHS pmax pmax
comp=Z,16nm,0.9s
VYHS Vyhne 24.46 314 *eP* **P 23 31 39.7 +0.4**
NACGM Naroch 24.49 333 *eP* **P 23 31 38.0 -1.4**
NACGM PM 23 31 39.0
comp=Z,0.6nm,1.0s
SRO Srobarova 24.50 312 *eP* **P 23 31 40.5 +1.0**
SRO pmax pmax
comp=Z,32nm,0.7s
SRO Srobarova 24.50 312 *eP* **P 23 31 40.5 +1.0**
KIRV Kirov 24.50 5 P **P 23 31 39.3 -0.2**
comp=Z,114nm,0.6s,baz=189,slow=1.2,SNR=65
KZA Kyzart 24.53 63 P **P 23 31 42.3 +1.9**
SNR=7.9
SGRT San Giovanni R 24.60 297 P **P 23 31 41.7 +1.0**
SGRT IAmb IAmb 23 31 44.4
comp=Z,81nm,1.5s
OJC Ojcow 24.72 318 *eP* **P 23 31 41.3 -0.3**
OJC Ojcow 24.72 318 *eP* **P 23 31 41.3 -0.3**
OJC *eP* **P 23 31 41.3 -0.3**
KOLL Kolacno 24.76 314 *eP* **P 23 31 42.6 +0.7**
KSH Kashi 24.82 69 P **P 23 31 41.9 -0.8**
KSH PP **PnPn 23 32 16.4 +1.5**
KSH S **S 23 35 59.6 -5.6**
KSH SS **SnSn 23 36 52.4 +0.3**
KSH pmax pmax
comp=Z,53nm,0.6s
KSH LR LR
comp=Z,26µm,10.0s
KSH LR LR
comp=Z,20µm,11.4s
IDID Didziasalis 24.82 334 *eP* **P 23 31 43.0 +0.7**
SVE Sverdlovsk 24.84 20⇑*eP* **P 23 31 43.5 +1.0**
SVE pmax pmax
comp=Z,62nm,0.9s
TKM2 Tokmak 2 24.92 61 P **P 23 31 44.5 +0.8**
SNR=41
NRN Naryn 25.00 64 P **P 23 31 46.0 +1.5**
NRN pmax pmax
comp=Z,51nm,0.8s
NRN Naryn 25.00 64 P **P 23 31 46.0 +1.5**
NRN IAmb IAmb 23 31 47.4
comp=Z,51nm,0.8s
IIGN Ignalina 25.04 333 *eP* **P 23 31 44.9 +0.5**
IIGN IAmb IAmb 23 31 46.9
comp=Z,82nm,0.9s
KALN Kalnik 25.09 307 *i* P **P 23 31 45.5 +0.6**
ISAL Salakas 25.24 334 *eP* **P 23 31 46.7 +0.5**
ISAL IAmb IAmb 23 31 48.8
comp=Z,66nm,0.8s
JAVC Velka Javorina 25.32 314 *eP* **P 23 31 48.3 +1.3**
KOGS Kog 25.32 308 *i* P **P 23 31 47.7 +0.7**
SMOL Smolenice 25.32 313 *eP* **P 23 31 48.0 +1.0**
SMOL pmax pmax
comp=Z,38nm,0.7s
SMOL Smolenice 25.32 313 *eP* **P 23 31 48.0 +1.0**
IZAR Zarasai 25.34 334 *eP* **P 23 31 47.6 +0.6**
IZAR IAmb IAmb 23 31 49.8
comp=Z,58nm,0.8s
MODS Modra-Piesok 25.36 312 *eP* **P 23 31 47.3 0.0**
MODS pmax pmax
comp=Z,57nm,1.4s
MODS Modra-Piesok 25.36 312 *eP* **P 23 31 47.3 0.0**
VAE Valguarnera 25.41 286 P **P 23 31 50.1 +2.1**
comp=Z,17nm,0.9s,baz=199,slow=2.5,SNR=3.5
WDD Wied Dalam 25.43 283 P **P 23 31 50.4 +2.4**
RAFF Raffo Rosso 25.46 286 P **P 23 31 50.8 +2.4**
OKC Ostrava-Krasne 25.47 316 *eP* **P 23 31 48.7 +0.4**
OKC MLR MLR
comp=Z,9µm,17.4s
OKC Ostrava-Krasne 25.47 316 *eP* **P 23 31 48.7 +0.4**
CRES Cresnjev 25.66 306 *eP* **P 23 31 50.5 +0.4**
BRVK Borovoye 25.75 35 P **P 23 31 51.6 +0.8**
SNR=35
BRVK P **P 23 31 51.6 +0.8**
SNR=35
BRVK Borovoye 25.75 35*c i*P **P 23 31 51.3 +0.5**
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 25.75 35 P **P 23 31 51.5 +0.6**
BRVK IAmb IAmb 23 31 53.2
comp=Z,31nm,1.0s
BVAR Borovoye Array 25.78 36 P **P 23 31 51.7 +0.6**
comp=Z,25nm,0.8s,baz=224,slow=8.3,SNR=95
MORC Moravsky Berou 25.79 316⇑P **P 23 31 49.6 -1.7**
MORC mb 23 31 56.3
MORC Moravsky Berou 25.79 316 *eP* **P 23 31 51.4 +0.1**
FURI Furi 25.99 196 P **P 23 31 54.5 +0.8**
FURI IAmb IAmb 23 32 09.8
comp=Z,31nm,0.9s
INTR Introdacqua 26.00 297 P **P 23 31 54.7 +1.4**
INTR IAmb IAmb 23 31 59.0
comp=Z,25nm,0.8s
PABE Paberze 26.02 331 *eP* **P 23 31 53.4 +0.3**
ARSA Arzberg 26.05 309 *eP* **P 23 31 54.5 +0.8**
comp=Z,12nm,0.7s,SNR=5.1
CONA Conrad Observa 26.07 311 *eP* **P 23 31 54.7 +0.8**
comp=Z,28nm,1.0s
CONA *e*PcP **PcP 23 35 22.9 +1.5**
comp=Z,8.2nm,1.3s
VRAC Vranov 26.15 314 P **P 23 31 55.2 +0.7**
comp=Z,26nm,0.9s,baz=114,slow=8.3,SNR=28
VRAC Vranov 26.15 314⇓P **P 23 31 54.3 -0.2**
VRAC mb 23 31 59.9
VRAC Vranov 26.15 314 *eP* **P 23 31 55.1 +0.6**
KRUC Moravsky 26.17 313 *eP* **P 23 31 54.7 0.0**
SOKA Soboth 26.19 308 *eP* **P 23 31 56.0 +1.0**
comp=Z,17nm,1.0s
SOKA *e*PcP **PcP 23 35 22.2 +0.4**
comp=Z,6.3nm,0.8s
CORL Corleone 26.28 287 P **P 23 31 58.1 +2.3**
CORL IAmb IAmb 23 32 06.8
comp=Z,77nm,1.2s
CEY Cerknica 26.33 305 *eP* **P 23 31 56.9 +0.7**
LJU Ljubljana 26.35 306 *eP* **P 23 31 56.3 0.0**
CLTB Caltabellotta 26.36 287 P **P 23 31 58.1 +1.4**
CLTB IAmb IAmb 23 32 08.3
comp=Z,49nm,0.7s
KRLC Kraliky 26.36 316 *eP* **P 23 31 56.7 +0.2**
KRLC *e* 23 32 00.7
KRLC Kraliky 26.36 316 *eP* **P 23 31 56.7 +0.2**
KRLC *e*pP **sP 23 32 00.7 -1.0**
AQU L'Aquila 26.41 297 P **P 23 31 58.3 +1.3**
AQU pmax pmax
comp=Z,27nm,0.9s
AQU L'Aquila 26.41 297 *eP* **P 23 31 57.7 +0.7**
AQU L'Aquila 26.41 297 P **P 23 31 58.3 +1.3**
AQU IAmb IAmb 23 32 02.7
comp=Z,27nm,0.9s
OBKA Obir 26.46 307 *eP* **P 23 31 58.3 +0.9**
comp=Z,29nm,1.2s
CRNS Crni Vrh 26.53 306 *i* P **P 23 31 58.7 +0.6**
NRCA Norcia 26.68 298 IAmb IAmb 23 32 05.4
comp=Z,48nm,1.1s
DPC Dobruska-Polom 26.75 316 *eP* **P 23 32 00.3 +0.3**
DPC *e* 23 32 04.5
DPC Dobruska-Polom 26.75 316 *eP* **P 23 32 00.3 +0.3**
DPC *e*pP **sP 23 32 04.5 -0.7**
TREC Trest 26.81 313 *eP* **P 23 32 01.1 +0.6**
TREC Trest 26.81 313 *eP* **P 23 32 01.1 +0.6**
KLMR Klimovskoe 26.93 353 *eP* **P 23 31 59.4 -2.0**
KLMR *e* 23 32 42.5
KLMR pmax pmax
comp=Z,107nm,1.3s
KLMR Klimovskoe 26.93 353 *eP* **P 23 31 59.4 -2.0**
KLMR AMP 23 32 03.8
comp=Z,107nm,1.3s
KLMR *e*PP **PnPn 23 32 42.5 -1.0**
KSP Ksiaz 26.98 317 *eP* **P 23 32 02.7 +0.7**
KSP Ksiaz 26.98 317 *eP* **P 23 32 02.7 +0.7**
KSP *eP* **P 23 32 02.7 +0.7**
UPC Upice 27.00 316 *eP* **P 23 32 02.7 +0.5**
UPC *e* 23 32 06.4
UPC Upice 27.00 316 *eP* **P 23 32 02.7 +0.5**
UPC *e*pP **sP 23 32 06.4 -0.9**
CHVC Chvalec 27.01 316 *eP* **P 23 32 02.9 +0.6**
CHVC *ex* x 23 32 07.2
MOA Molln 27.05 310 *eP* **P 23 32 03.2 +0.5**
comp=Z,25nm,1.0s,SNR=22
MYKA Terra Mystica 27.09 307 *e*pP **P 23 32 05.4 +2.2**
comp=Z,7.2nm,0.7s
MURB Monte Urbino 27.17 299 P **P 23 32 05.2 +1.4**
MURB IAmb IAmb 23 32 10.3
comp=Z,42nm,0.7s
PBUR Paburg 27.20 330 *eP* **P 23 32 03.9 0.0**
VSU Vasula 27.32 338*ceP* **P 23 32 04.5 -0.4**
VSU pmax pmax
comp=Z,212nm,1.7s
VSU Vasula 27.32 338 *eP* **P 23 32 04.5 -0.4**
KBA Koelnbreinsper 27.41 308 *eP* **P 23 32 06.6 +0.5**
comp=Z,21nm,0.8s
PRGR Permogore 27.43 0⇓*iP* **P 23 32 05.1 -0.8**
PRGR pmax pmax
comp=Z,66nm,0.6s
PUL Pulkovo 27.46 343⇑*eP* **P 23 32 06.8 +0.7**
PUL pmax pmax
comp=Z,37nm,1.1s
GOPC GO Pecny, Ondr 27.47 314 *eP* **P 23 32 06.2 -0.2**
GOPC GO Pecny, Ondr 27.47 314 *eP* **P 23 32 06.2 -0.2**
LATE Laterza 27.61 298 P **P 23 32 08.2 +0.3**
LATE IAmb IAmb 23 32 12.9
comp=Z,70nm,1.1s
PRU Pruhonice 27.64 314 *eP* **P 23 32 08.1 +0.2**
PRU *e* 23 32 13.2
PRU Pruhonice 27.64 314 *eP* **P 23 32 08.1 +0.2**
PRU *e*pP **sP 23 32 13.2 +0.1**
GERES GERESS Array B 27.74 311 P **P 23 32 08.2 -0.8**
comp=Z,3.0nm,0.6s,baz=90,slow=11,SNR=8.8
GERES PcP **PcP 23 35 25.8 +0.4**
comp=Z,1.5nm,0.6s,baz=90,slow=1.0,SNR=4.9
PVCC Panska Ves 27.84 315 *eP* **P 23 32 10.5 +0.8**
PVCC Panska Ves 27.84 315 *eP* **P 23 32 10.5 +0.8**
PBCC Pribram 27.86 313 *eP* **P 23 32 10.1 +0.2**
PBCC *ex* x 23 32 13.5
ABTA Abfaltersbach 27.88 307 *eP* **P 23 32 09.9 -0.2**
comp=Z,13nm,0.9s
ABTA *e*PcP **PcP 23 35 27.2 +1.5**
comp=Z,12nm,1.5s
KHC Kasperske Hory 27.91 312⇓*eP* **P 23 32 10.6 +0.2**
KHC pmax pmax
comp=Z,8.0nm,1.3s
KHC Kasperske Hory 27.91 312 *eP* **P 23 32 10.8 +0.4**
KHC *e*pP **sP 23 32 14.8 -0.8**
OSSC Osservatorio P 28.13 300 P **P 23 32 14.7 +2.3**
TEOL Teolo 28.13 303 P **P 23 32 14.2 +1.9**
TEOL IAmb IAmb 23 32 20.2
comp=Z,33nm,1.2s
CTI Castel Tesino 28.29 305 IAmb IAmb 23 32 19.0
comp=Z,19nm,0.7s
BRG Berggiesshubel 28.35 316 *eP* **P 23 32 14.0 -0.2**
comp=Z,8.3nm,0.9s
BRG *e* 23 32 33.1
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 28.35 316 *eP* **P 23 32 14.0 -0.2**
BRG pmax pmax
comp=Z,8.0nm,1.0s
WTTA Wattenberg 28.59 307 *eP* **P 23 32 16.3 -0.3**
comp=Z,13nm,0.6s,SNR=11
WTTA *i* PcP **PcP 23 35 28.7 +1.1**
comp=Z,4.7nm,0.6s
WATA Walderalm 28.64 307 *eP* **P 23 32 16.6 -0.5**
comp=Z,23nm,1.3s,SNR=7.5
WATA *e*PcP **PcP 23 35 28.5 +0.8**
comp=Z,8.5nm,0.9s
VLC Villacollemand 28.83 301 P **P 23 32 20.8 +2.2**
VLC IAmb IAmb 23 32 39.1
comp=Z,43nm,1.1s
SQTA Sankt Quirin 28.86 307 *eP* **P 23 32 18.6 -0.4**
comp=Z,17nm,0.5s,SNR=11
SQTA *i* PcP **PcP 23 35 29.2 +1.0**
comp=Z,6.8nm,0.6s
MOTA Moosalm 28.96 307 *eP* **P 23 32 19.6 -0.3**
comp=Z,22nm,0.6s,SNR=12
MOTA *e*PcP **PcP 23 35 29.3 +0.8**
comp=Z,9.7nm,1.3s
PRMA PARMA 28.97 302 P **P 23 32 20.0 +0.1**
PRMA IAmb IAmb 23 32 29.6
comp=Z,78nm,1.5s
KURBB Kurchatov Arra 29.02 46 P **P 23 32 21.6 +1.5**
comp=Z,25nm,0.7s,baz=252,slow=8.9,SNR=118
CLL Collm 29.06 316 *i* P **P 23 32 20.3 -0.3**
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 29.06 316 *i* P **P 23 32 20.3 -0.3**
comp=Z,12nm,1.2s
KURK Kurchatov 29.11 45 P **P 23 32 22.3 +1.3**
SNR=45
KURK Kurchatov 29.11 45*c i*P **P 23 32 22.3 +1.3**
KURK pmax pmax
comp=Z,52nm,1.3s
KURK Kurchatov 29.11 45 P **P 23 32 22.2 +1.3**
KURK IAmb IAmb 23 32 23.4
comp=Z,36nm,0.9s
FETA Feichten 29.13 307 *eP* **P 23 32 21.1 -0.3**
comp=Z,11nm,0.7s,SNR=9.2
FETA *e*PcP **PcP 23 35 30.1 +1.2**
comp=Z,9.1nm,1.0s
RETA Reutte 29.22 308 *eP* **P 23 32 22.0 -0.1**
comp=Z,7.1nm,0.5s,SNR=6.7
RETA *i* PcP **PcP 23 35 29.7 +0.6**
comp=Z,3.3nm,0.8s
GRA1 Grafenberg Arr 29.55 312 IAmb IAmb 23 32 30.1
comp=Z,25nm,0.7s
KEST Kesra 29.62 283 P **P 23 32 27.1 +1.3**
comp=Z,5.1nm,1.0s,baz=10,slow=11,SNR=3.8
KEST PcP **PcP 23 35 32.3 +2.0**
comp=Z,4.5nm,0.8s,baz=101,slow=5.2,SNR=3.0
KEST Kesra 29.62 283 IAmb IAmb 23 32 33.4
comp=Z,25nm,1.1s
DAVOX Davos/Dischmat 29.64 306 P **P 23 32 25.8 -0.2**
comp=Z,6.3nm,0.8s,baz=120,slow=13,SNR=9.2
DAVA Damuels 29.75 307 *eP* **P 23 32 26.5 -0.5**
comp=Z,27nm,0.6s,SNR=28
DAVA *e*PcP **PcP 23 35 31.4 +0.9**
comp=Z,2.5nm,0.5s
BSD Bornholm Skovb 29.81 324 *i* P **P 23 32 25.9 -1.2**
BSD pmax pmax
comp=Z,18nm,0.9s
BSD Bornholm Skovb 29.81 324 *i* P **P 23 32 25.9 -1.2**
comp=Z,18nm,0.9s
TUE Stuetta 29.94 305 P **P 23 32 29.5 +0.8**
FINES FINESS Array B 29.97 341 P **P 23 32 28.1 -0.4**
comp=Z,14nm,0.6s,baz=145,slow=10,SNR=76
FIA1 FINESS Array S 29.97 341 IAmb IAmb 23 32 28.5
comp=Z,22nm,0.8s
MKAR Makanchi Array 30.33 54 P **P 23 32 32.9 +1.0**
comp=Z,7.8nm,0.6s,baz=252,slow=10.0,SNR=50
TMCR Tamitsa 30.33 353 *eP* **P 23 32 31.0 -0.6**
TMCR pmax pmax
comp=Z,64nm,0.7s
STU Stuttgart 30.56 309 P **P 23 32 34.2 +0.4**
STU pmax pmax
comp=Z,7.0nm,0.8s
STU Stuttgart 30.56 309 P **P 23 32 34.2 +0.4**
BFO Black Forest 31.01 308 P **P 23 32 38.9 +1.0**
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 31.01 308 P **P 23 32 38.9 +1.0**
LPL La Plagne 31.59 303 *eP* **P 23 32 42.4 -0.8**
LPL pmax pmax
comp=Z,32nm,0.8s
LODK Lodwar 32.09 199 P **P 23 32 50.5 +2.8**
SNR=6.5
WLF Walferdange 32.71 310⇓P **P 23 32 52.6 -0.1**
comp=Z,29nm,1.0s
WLF Walferdange 32.71 310 IAmb IAmb 23 32 57.2
comp=Z,32nm,0.9s
MEM Membach 33.02 312 P **P 23 32 55.6 +0.1**
SSB Saint Sauveur 33.10 302 P **P 23 32 57.1 +0.8**
SSB pmax pmax
comp=Z,19nm,1.0s
SSB Saint Sauveur 33.10 302 P **P 23 32 57.1 +0.8**
SSB IAmb IAmb 23 33 04.8
comp=Z,19nm,1.0s
DOU Dourbes 33.79 311 P **P 23 33 02.2 +0.1**
ZAA0 Zalesovo Array 33.81 42 IAmb IAmb 23 33 03.7
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 33.81 42 P **P 23 33 02.7 +0.4**
comp=Z,22nm,0.7s,baz=262,slow=9.4,SNR=91
ZALV Zalesovo Beam 33.81 42 P **P 23 33 02.5 +0.3**
HYB Hyderabad 33.88 111 *i* P **P 23 33 02.0 -1.3**
SSF Saint Saulge 34.00 305 *eP* **P 23 33 03.0 -1.0**
SSF pmax pmax
comp=Z,18nm,0.9s
APA Apatity 34.13 352⇓*iP* **P 23 33 01.9 -3.0**
APA pmax pmax
comp=Z,46nm,0.8s
APA MLR MLR
comp=Z,2µm,14.0s
DGZ Jazzator, Alta 34.26 50*c iP* **P 23 33 07.4 +0.9**
LVZ Lovozero 34.30 353⇑*eP* **P 23 33 06.2 -0.3**
LVZ pmax pmax
comp=Z,22nm,0.8s
LVZ Lovozero 34.30 353 P **P 23 33 06.1 -0.4**
LVZ IAmb IAmb 23 33 21.1
comp=Z,58nm,1.2s
OSL Oslo 34.31 329 *eP* **P 23 33 06.4 -0.1**
NC602 NORSAR Array S 34.41 331 P **P 23 33 06.3 -1.1**
NC405 NORSAR Array S 34.56 332 P **P 23 33 08.3 -0.5**
NC405 IAmb IAmb 23 33 08.7
comp=Z,47nm,1.0s
KONO Kongsberg 34.64 328⇓*eP* **P 23 33 09.1 -0.3**
KONO pmax pmax
comp=Z,24nm,0.8s
KONO Kongsberg 34.64 328 *eP* **P 23 33 08.9 -0.5**
KONO Kongsberg 34.64 328 P **P 23 33 09.1 -0.3**
KONO IAmb IAmb 23 33 12.4
comp=Z,22nm,0.8s
NB201 NORSAR Array S 34.70 331 P **P 23 33 09.9 0.0**
NB201 IAmb IAmb 23 33 29.1
comp=Z,59nm,1.4s
NB2 NORSAR Subarra 34.72 331 P **P 23 33 09.2 -1.0**
comp=Z,9.4nm,0.8s,baz=125,slow=9.3
NB2 NORSAR Subarra 34.72 331 P **P 23 33 09.2 -1.0**
baz=125,slow=9.3
NOA NORSAR Array B 34.72 331 P **P 23 33 09.2 -1.0**
comp=Z,7.7nm,0.8s,baz=125,slow=8.7,SNR=23
NAO01 NORSAR Array S 34.74 331 IAmb IAmb 23 33 14.0
comp=Z,40nm,1.1s
NC303 NORSAR Array S 34.77 332 P **P 23 33 11.0 +0.4**
NBO00 NORSAR Array S 34.89 331 *eP* **P 23 33 11.6 -0.1**
NBO00 NORSAR Array S 34.89 331 P **P 23 33 11.5 -0.1**
NBO00 IAmb IAmb 23 33 14.3
comp=Z,36nm,1.3s
NC204 NORSAR Array S 35.04 331 P **P 23 33 13.6 +0.7**
SKAR Skarslia 35.72 329 *eP* **P 23 33 19.8 +1.0**
LFF La Frestale 35.77 301 *eP* **P 23 33 19.6 +0.3**
LFF pmax pmax
comp=Z,10.0nm,0.6s
BLS5 Blasjo 35.93 327 *eP* **P 23 33 21.3 +0.7**
KMBO Kilima Mbogo 36.02 194 P **P 23 33 22.4 +0.4**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 36.02 194 P **P 23 33 23.2 +1.2**
comp=Z,4.0nm,0.9s,baz=23,slow=10,SNR=6.9
KMBO Kilima Mbogo 36.02 194 P **P 23 33 22.4 +0.4**
ODD1 Odda 36.08 327 *eP* **P 23 33 22.9 +1.1**
DOMB Dombas 36.14 332 *eP* **P 23 33 23.5 +1.2**
MFF Saint Martin d 36.46 304 *eP* **P 23 33 23.7 -1.5**
MFF pmax pmax
comp=Z,22nm,0.8s
NSS Namsos 36.57 336 *eP* **P 23 33 26.2 +0.3**
TAM Tamanrasset 36.78 263 P **P 23 33 31.2 +2.8**
TAM pmax pmax
comp=Z,21nm,1.0s
TAM Tamanrasset 36.78 263 P **P 23 33 31.2 +2.8**
HYA Hoyanger 36.86 329 *eP* **P 23 33 28.9 +0.4**
BER Bergen 36.87 328 *eP* **P 23 33 29.1 +0.7**
MOR8 Moi Rana 36.90 340 *eP* **P 23 33 28.9 +0.1**
ASK Askoy 36.97 328 *eP* **P 23 33 30.1 +0.7**
KTK1 Kautokeino 37.03 347 *eP* **P 23 33 29.8 0.0**
AKN Aaknes 37.03 331 *eP* **P 23 33 31.3 +1.4**
KEV Kevo 37.04 349 P **P 23 33 30.3 +0.5**
KEV pmax pmax
comp=Z,24nm,0.5s
KEV Kevo 37.04 349 P **P 23 33 30.3 +0.5**
KEV IAmb IAmb 23 33 30.5
comp=Z,24nm,0.5s
KIBK Kibwezi 37.05 193 P **P 23 33 33.2 +2.6**
SNR=12
ARCES ARCESS Array B 37.08 348 P **P 23 33 30.1 -0.2**
comp=Z,14nm,0.6s,baz=146,slow=8.8,SNR=85
ARCES PcP **PcP 23 35 51.0 +0.5**
comp=Z,6.8nm,0.8s,baz=132,slow=3.4,SNR=3.8
ARE0 ARCESS Array S 37.08 348 *eP* **P 23 33 30.4 +0.1**
ARE0 ARCESS Array S 37.08 348 P **P 23 33 30.4 +0.1**
MBAR Mbarara 37.34 205 P **P 23 33 33.3 +0.1**
MBAR pmax pmax
comp=Z,13nm,1.3s
MBAR Mbarara 37.34 205 P **P 23 33 33.2 +0.1**
HMDM Hanimaadhoo 37.36 131 P **P 23 33 32.5 -0.6**
HMDM IAmb IAmb 23 33 35.9
comp=Z,39nm,0.8s
KONS Konsvik 37.51 339 *eP* **P 23 33 34.0 +0.1**
FOO Floro 37.55 329 *eP* **P 23 33 34.9 +0.7**
WOL Wolverton 37.64 311 *eP* **P 23 33 35.4 +0.1**
CWF Charnwood Fore 37.93 314 *eP* **P 23 33 37.0 -0.5**
CWF IAmb IAmb 23 33 37.2
comp=Z,22nm,1.0s
STEI Steigen 37.95 342 *eP* **P 23 33 37.5 -0.1**
STRD Stroud 38.29 312 *eP* **P 23 33 40.4 -0.3**
STRD IAmb IAmb 23 33 45.2
comp=Z,220nm,1.8s
LBWR Ladybower, Pea 38.30 315 *eP* **P 23 33 40.9 +0.2**
LBWR IAmb IAmb 23 33 41.5

comp=Z,34nm,1.1s
HPK Haverah Park 38.34 316 *e*P **P 23 33 40.8 -0.3**
HAMF Hammerfest 38.36 348 *e*P **P 23 33 41.0 0.0**
TRO Tromso 38.40 345 *e*P **P 23 33 41.3 -0.1**
MONM Monmouth 38.70 312 *e*P **P 23 33 43.1 -1.0**
EDMD Edmundbyers 38.72 317 *e*P **P 23 33 44.0 -0.3**
EDMD IAmb IAmb 23 33 44.9
comp=Z,47nm,1.2s
MCH1 Michaelchurch 38.84 312 *e*P **P 23 33 44.6 -0.6**
MCH1 IAmb IAmb 23 33 49.4
comp=Z,20nm,0.8s
HLM1 Long Mynd 38.84 313 *e*P **P 23 33 44.8 -0.5**
HLM1 IAmb IAmb 23 33 45.3
comp=Z,14nm,0.8s
FOEL Foel Wylfa 39.09 314 *e*P **P 23 33 47.5 +0.1**
FOEL IAmb IAmb 23 33 48.2
comp=Z,26nm,0.8s
ESY Stoneypath 39.32 319⇑ *e*P **P 23 33 49.1 -0.1**
KESW Keswick, Cumbr 39.32 316 *e*P **P 23 33 49.3 +0.1**
LLW Llanuwychllyn 39.36 314 *e*P **P 23 33 49.4 -0.2**
DRUM Mains of Drumt 39.48 320 *e*P **P 23 33 49.6 -1.0**
DRUM IAmb IAmb 23 33 51.2
comp=Z,36nm,0.7s
ESK Eskdalemuir 39.52 317 *e*P **P 23 33 50.5 -0.4**
ESK Eskdalemuir 39.52 317 P **P 23 33 50.8 -0.1**
ESK pmax pmax
comp=Z,17nm,0.8s
ESK Eskdalemuir 39.52 317 P **P 23 33 50.8 -0.1**
EBL Broad Law 39.52 318⇑ *e*P **P 23 33 51.1 +0.1**
ESBB Sonseca Array 39.56 293 P **P 23 33 52.8 +1.3**
ESDC Sonseca Array 39.56 293 P **P 23 33 50.1 -1.4**
comp=Z,1.0nm,0.5s,baz=74,slow=8.4,SNR=13
ESDC PcP **PcP 23 35 59.9 +1.1**
comp=Z,2.2nm,0.7s,baz=49,slow=3.8,SNR=6.4
ESDC Sonseca Array 39.56 293 P **P 23 33 51.9 +0.3**
EDI Edinburgh 39.63 318 *e*P **P 23 33 51.7 -0.2**
EDI IAmb IAmb 23 33 53.4
comp=Z,32nm,0.6s
SAN1 Sandwick 39.75 325 *e*P **P 23 33 53.0 +0.2**
LRW Lerwick 39.76 325 *e*P **P 23 33 52.5 -0.3**
MSEY Mahe Island 39.80 164 P **P 23 33 54.1 +0.4**
MSEY pmax pmax
comp=Z,18nm,1.0s
MSEY Mahe Island 39.80 164 P **P 23 33 54.1 +0.4**
PAB San Pablo 39.87 293 P **P 23 33 55.0 +0.8**
PAB pmax pmax
comp=Z,20nm,1.4s
PAB San Pablo 39.87 293 P **P 23 33 55.0 +0.8**
MCD Coleburn Disti 40.05 321 *e*P **P 23 33 54.1 -1.3**
INVG Invergeldie, C 40.21 319 *e*P **P 23 33 55.7 -1.0**
INVG IAmb IAmb 23 33 57.1
comp=Z,30nm,0.8s
EAB Aberfoyle 40.32 319⇑ *e*P **P 23 33 57.0 -0.5**
PGBU Glenifferbraes 40.33 318 *e*P **P 23 33 57.6 0.0**
PGBU IAmb IAmb 23 33 58.4
comp=Z,17nm,0.7s
LAWE Loch Awe, Argy 40.92 319 *e*P **P 23 34 01.5 -0.9**
KAC Achnashellach 41.11 320 *e*P **P 23 34 03.6 -0.5**
MVO Moncorvo 41.67 296 *e*P **P 23 34 09.7 +0.7**
IDGL Inch Island, C 41.91 316 *e*P **P 23 34 10.4 -0.3**
PALK Pallekele 42.03 122 P **P 23 34 11.4 -0.8**
PALK 23 36 07.9
PALK pmax pmax
comp=Z,12nm,0.9s
PALK Pallekele 42.03 122 P **P 23 34 12.5 +0.4**
comp=Z,8.2nm,0.7s,baz=297,slow=10.0,SNR=7.6
PALK PcP **PcP 23 36 07.9 +0.7**
comp=Z,5.4nm,0.7s,baz=37,slow=0.5,SNR=4.4
PALK Pallekele 42.03 122 P **P 23 34 11.4 -0.8**
NRIK Noril'sk 42.10 21 P **P 23 34 12.7 +0.7**
comp=Z,30nm,0.9s,baz=228,slow=5.2,SNR=44
PVRL Vila Real 42.17 296 *e*P **P 23 34 13.9 +0.9**
comp=Z,30nm,1.8s
MTE Manteigas 42.17 294 *e*P **P 23 34 14.2 +1.1**
comp=Z,49nm,1.8s
PCBR Castelo Branco 42.21 294 *e*P **P 23 34 14.4 +1.1**
comp=Z,37nm,1.0s
PCBR Castelo Branco 42.21 294 *e*P **P 23 34 14.4 +1.1**
comp=Z,37nm,1.0s
POLO Lamas de Olo 42.21 296 *e*P **P 23 34 14.2 +0.8**
comp=Z,20nm,2.0s
PMRV Marv??o 42.22 293 *e*P **P 23 34 14.2 +0.8**
comp=Z,25nm,1.4s
PVIS Viseu 42.38 295 *e*P **P 23 34 16.3 +1.5**
IGLA Glengowla, Co 42.84 314 *e*P **P 23 34 17.3 -1.0**
PBEJ Beja 42.85 291 *e*P **P 23 34 19.6 +1.1**
comp=Z,51nm,1.6s
COI Coimbra 42.86 294 *e*P P 23 34 23.8 +5.2
PCAS Casmilo, Conde 42.95 294 *e*P **P 23 34 22.4 +3.1**
comp=Z,70nm,2.0s
ZAK Zakamensk 44.48 51 *e*P **P 23 34 31.4 -0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
TOA0 Torodi Ar. Sit 44.90 253 P **P 23 34 35.3 0.0**
SNR=11
TOA0 Torodi Ar. Sit 44.90 253 IAmb IAmb 23 34 41.0
comp=Z,29nm,1.2s
TORD Torodi Ar. Bea 44.90 253 P **P 23 34 36.0 +0.6**
comp=Z,20nm,1.1s,baz=73,slow=5.0,SNR=50
TORD PcP **PcP 23 36 17.9 +1.0**
comp=Z,1.5nm,0.5s,baz=29,slow=3.0,SNR=4.0
TORD Torodi Ar. Bea 44.90 253 P **P 23 34 35.8 +0.4**
SPA0 Spitsbergen Ar 45.82 352 *e*P **P 23 34 42.6 +0.8**
SPITS Spitsbergen Ar 45.82 352 P **P 23 34 42.5 +0.7**
comp=Z,33nm,0.5s,baz=128,slow=11,SNR=86
SONM Songino Array 46.69 54 P **P 23 34 49.8 +0.6**
comp=Z,2.2nm,0.5s,baz=280,slow=8.9,SNR=32
KBS Kingsbay 46.95 352‖ *e*P **P 23 34 50.7 0.0**
KBS pmax pmax
comp=Z,152nm,0.9s
KBS Kingsbay 46.95 352 *e*P **P 23 34 51.2 +0.5**
KBS Kingsbay 46.95 352 P **P 23 34 51.2 +0.5**
ULN Ulaanbaatar 47.13 54 P **P 23 34 53.6 +1.0**
SNR=23
ULN Ulaanbaatar 47.13 54 *c i*P **P 23 34 53.4 +0.7**
ULN pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 47.13 54 P **P 23 34 53.0 +0.3**
CD2 Chengdu 48.57 77 P **P 23 35 01.8 -2.2**
CD2 pmax pmax
comp=Z,50nm,0.9s
DGAR Diego Garcia 48.60 143 P **P 23 35 03.8 -0.4**
DGAR pmax pmax
comp=Z,89nm,0.9s
DGAR Diego Garcia 48.60 143 P **P 23 35 03.8 -0.4**
MHMT Maesarieng 49.10 95 P **P 23 35 07.9 -0.2**
comp=Z,213nm,1.0s,comp=Z,3μm
CHTO Chiang Mai 49.62 94 P **P 23 35 11.4 -0.7**
SNR=29
CHTO P **P 23 35 11.7 -0.4**
SNR=9.7
CHTO Chiang Mai 49.62 94 P **P 23 35 11.2 -0.9**
CHTO pmax pmax
comp=Z,35nm,0.7s
CHTO Chiang Mai 49.62 94 P **P 23 35 11.2 -0.9**
CMMT Chiang Mai 49.63 94 P **P 23 35 11.3 -0.8**
comp=Z,26nm,1.0s,comp=Z,434nm
CM31 Chiang Mai Arr 49.80 94 P **P 23 35 13.3 -0.1**
SNR=12
CM31 Chiang Mai Arr 49.80 94 IAmb IAmb 23 35 13.7
comp=Z,37nm,0.8s
CMAR Chiang Mai Arr 49.80 94 P **P 23 35 12.6 -0.8**
comp=Z,25nm,0.7s,baz=296,slow=8.4,SNR=130
CMAR Chiang Mai Arr 49.80 94 P **P 23 35 12.4 -1.0**
PAYA Payao 50.12 93 P **P 23 35 15.5 -0.4**
comp=Z,317μm,1.0s
LAMP Lampang 50.33 94 P **P 23 35 17.7 +0.2**
comp=Z,172μm,1.1s
SCO Scoresbysund 50.68 336 P **P 23 35 20.6 +1.3**
SCO pmax pmax
comp=Z,11nm,1.4s
SCO Scoresbysund 50.68 336 *i* P **P 23 35 19.8 +0.5**
SCO Scoresbysund 50.68 336 P **P 23 35 20.6 +1.3**
PHRA Phrae 50.84 93 P **P 23 35 21.0 -0.3**
comp=Z,17nm,2.1s,comp=Z,707nm
UMPA Umpang Tak 50.86 97 P **P 23 35 21.6 +0.1**
comp=Z,65μm,0.7s,comp=Z,989μm
NANT Nan 51.08 93 P **P 23 35 22.7 -0.4**
DAG Danmarks Havn 51.12 345 *i* P **P 23 35 22.7 +0.1**
DAG pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 51.12 345 *i* P **P 23 35 22.7 +0.1**
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 51.64 62 *e*P **P 23 35 24.1 -3.1**
UTHA Uthaitani 51.67 97 P **P 23 35 26.7 -0.9**

comp=Z,60μm,0.7s,comp=Z,742μm
LSZ Lusaka 51.93 201 P **P 23 35 31.7 +2.2**
LSZ Lusaka 51.93 201 P **P 23 35 30.4 +0.9**
LSZ pmax pmax
comp=Z,17nm,1.1s
LSZ Lusaka 51.93 201 P **P 23 35 30.4 +0.9**
PBKT Sadao Pong 52.41 95 P **P 23 35 32.5 -0.5**
comp=Z,30nm,0.9s,comp=Z,1μm
PBKT Sadao Pong 52.41 95 IAmb IAmb 23 35 33.6
comp=Z,36nm,0.8s
SLVN Son La 52.55 88 P **P 23 35 31.6 -2.6**
MACI Morro de la Ar 52.71 282 P **P 23 35 35.6 +0.2**
MACI IAmb IAmb 23 35 52.3
comp=Z,63nm,1.2s
ABPO Ambohimpanom 52.97 178 P **P 23 35 38.1 +0.9**
ABPO pmax pmax
comp=Z,27nm,1.5s
ABPO Ambohimpanom 52.97 178 P **P 23 35 38.1 +0.9**
ABPO IAmb IAmb 23 35 44.2
comp=Z,27nm,1.4s
TIY Taiyuan 53.18 66 *e*P **P 23 35 40.5 +1.9**
TIY pmax pmax
comp=Z,58nm,1.2s
PHET Kaeng Krachan 53.23 100 P **P 23 35 38.8 -0.3**
comp=Z,69μm,0.7s
NONG Nongkai 53.47 92 P **P 23 35 39.9 -0.9**
comp=Z,1.9nm,1.3s
CHAI Chaiyaphum 53.59 95 P **P 23 35 41.0 -0.8**
comp=Z,117μm,1.1s
DBIC Dimbokro 53.92 251 P **P 23 35 44.0 -0.2**
DBIC Dimbokro 53.92 251 P **P 23 35 44.0 -0.2**
comp=Z,4.4nm,0.7s,baz=33,slow=8.1,SNR=11
KIC Kosan Boka 54.02 251 *e*P **P 23 35 45.3 +0.3**
comp=Z,19nm,0.9s
TIC Toumodi 54.07 251 *e*P **P 23 35 45.5 +0.2**
LIC Lamto 54.33 251 *e*P **P 23 35 47.4 +0.2**
comp=Z,30nm,0.7s
HIA Hailar 55.17 50 P **P 23 35 53.3 +0.4**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 55.17 50 P **P 23 35 53.3 +0.4**
HIA IAmb IAmb 23 35 54.7
comp=Z,16nm,0.8s
TIXI Tiksi 55.83 22 *c i*P **P 23 35 57.2 0.0**
TIXI pmax pmax
comp=Z,45nm,1.3s
TIXI Tiksi 55.83 22 P **P 23 35 57.3 0.0**
comp=Z,19nm,0.6s,baz=180,slow=24,SNR=41
TIXI Tiksi 55.83 22 P **P 23 35 57.4 +0.1**
TIXI IAmb IAmb 23 35 58.5
comp=Z,25nm,0.7s
RER Riviere de l'E 55.92 169 P **P 23 35 59.5 +1.0**
RER Riviere de l'E 55.92 169 P **P 23 35 59.0 +0.5**
SUMG Summit 55.96 339 *i* P **P 23 35 58.9 +0.2**
SUMG pmax pmax
comp=Z,36nm,0.8s
SUMG Summit 55.96 339 *i* P **P 23 35 58.9 +0.2**
comp=Z,36nm,0.8s
SUMG Summit 55.96 339 IAmb IAmb 23 36 01.7
comp=Z,27nm,1.2s
UBPT Khong Chiam 56.78 94 P **P 23 36 03.3 -1.6**
UBPT IAmb IAmb 23 36 03.6
comp=Z,21nm,1.1s
YAK Yakutsk 57.73 34 *e*P **P 23 36 09.7 -1.2**
YAK *e* 23 37 02.9
YAK *e* 23 38 18.2
YAK *e*S **S 23 44 05.9 -3.4**
YAK *e**SS sS 23 44 28.3 +13
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=Z,104nm,2.3s
YAK pmax pmax
comp=N,123nm,2.6s
YAK pmax pmax
comp=E,65nm,2.1s
YAK smax smax
comp=N,96nm,2.1s
YAK smax smax
comp=E,38nm,1.7s
YAK Yakutsk 57.73 34 P **P 23 36 10.6 -0.3**
comp=E,15nm,0.5s,baz=250,slow=0.9,SNR=16
YAK Yakutsk 57.73 34 P **P 23 36 10.5 -0.3**
GSI Gunungsitoli 58.49 112 P **P 23 36 16.1 -0.7**
QIZ Qiongzhong 58.55 87 P **P 23 36 16.5 -0.8**
QIZ Qiongzhong 58.55 87 P **P 23 36 16.5 -0.8**
ZEA Zeya 58.56 44 *e*P **P 23 36 17.4 +0.6**
ZEA pmax pmax
comp=Z,29nm,1.0s
RPSI Rantau Prapat 58.65 110 IAmb IAmb 23 36 17.6
comp=Z,9.4nm,0.8s
TSUM Tsumeb 59.44 211 P **P 23 36 24.2 +0.8**
TSUM IAmb IAmb 23 36 31.9
comp=Z,14nm,0.9s
DL2 Dalian 59.60 61 P **P 23 36 24.1 -0.2**
DL2 pmax pmax
comp=Z,89nm,0.8s
CN2 Changchun 60.55 55 *e*P **P 23 36 29.9 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NRS Narsarsuaq 61.14 326 P **P 23 36 34.5 +0.1**
NRS pmax pmax
comp=Z,146nm,1.5s
NRS Narsarsuaq 61.14 326 P **P 23 36 34.5 +0.1**
SFJD Kangerlussuaq 61.34 334 P **P 23 36 35.8 +0.1**
SFJD pmax pmax
comp=Z,23nm,1.3s
SFJD Kangerlussuaq 61.34 334 P **P 23 36 35.8 +0.1**
SFJD IAmb IAmb 23 36 40.1
comp=Z,23nm,1.2s
LBTB Lobatse 61.89 201 P **P 23 36 42.1 +2.1**
LBTB pmax pmax
comp=Z,28nm,1.1s
LBTB Lobatse 61.89 201 P **P 23 36 42.1 +2.1**
LBTB IAmb IAmb 23 36 47.9
comp=Z,28nm,1.1s
TULEG Thule 62.35 346 IAmb IAmb 23 36 43.1
comp=Z,27nm,1.3s
KLR Kul'dur 62.68 47 *c i*P **P 23 36 44.5 -0.5**
KLR pmax pmax
comp=Z,13nm,1.0s
SACV Santiago Islan 64.64 271 P **P 23 36 59.6 +1.1**
KS19 Wonju Array Si 64.67 61 P **P 23 36 57.8 -0.6**
KS19 IAmb IAmb 23 36 59.0
comp=Z,19nm,0.8s
KS19 Wonju Array Si 64.67 61 P **P 23 36 57.8 -0.6**
KS19 IAmb IAmb 23 36 59.0
comp=Z,19nm,0.8s
KSAR Wonju Array Be 64.71 61 P **P 23 36 57.7 -0.9**
KSAR Wonju Array Be 64.71 61 P **P 23 36 57.7 -0.9**
KSRS Korea Array 64.73 61 P **P 23 36 58.3 -0.4**
comp=Z,14nm,0.7s,baz=285,slow=6.8,SNR=56
USA0B Ussuriysk Arra 64.77 53 IAmb IAmb 23 36 59.0
comp=Z,43nm,1.4s
USRK Ussuriysk Ar. 64.77 53 P **P 23 36 57.7 -1.2**
comp=Z,7.7nm,0.5s,baz=284,slow=6.2,SNR=29
USRK Ussuriysk Ar. 64.77 53 P **P 23 36 57.5 -1.4**
TJN Taejon 64.78 62‖ *e*P **P 23 36 57.9 -1.1**
GRNR Gornyy 64.87 45 *e*P **P 23 36 55.1 -4.3**
GRNR pmax pmax
comp=Z,5.0nm,1.7s
MSHR Mys Shultsa 64.88 54‖ *i*P **P 23 36 59.1 -0.5**
YHNB Yeheng 65.33 76 P **P 23 37 02.1 -0.8**
TPUB Ta-pu 65.37 78 P **P 23 37 03.2 +0.1**
BOSA Boshof 65.39 200 P **P 23 37 04.3 +1.3**
BOSA pmax pmax
comp=Z,16nm,0.8s
BOSA Boshof 65.39 200 P **P 23 37 04.4 +1.3**
comp=Z,20nm,0.9s,baz=17,slow=6.4,SNR=30
BOSA Boshof 65.39 200 P **P 23 37 04.3 +1.3**
BOSA IAmb IAmb 23 37 11.3
comp=Z,16nm,0.8s
SSLB Suanglung 65.41 77 P **P 23 37 02.4 -1.0**
SSLB IAmb IAmb 23 37 05.8
comp=Z,34nm,1.3s
NACB Ninganchiao 65.74 76 P **P 23 37 04.8 -0.7**
NACB IAmb IAmb 23 37 24.0
comp=Z,30nm,1.1s
YULB Yu-li 65.87 77 P **P 23 37 05.8 -0.6**
YULB IAmb IAmb 23 37 08.6
comp=Z,37nm,1.3s

SEY Seymchan 67.16 28 *c i*P **P 23 37 15.2 +1.3**
MA2 Magadan 68.20 32 *c e*P **P 23 37 21.0 +0.5**
MA2 pmax pmax
comp=Z,25nm,0.7s
MA2 Magadan 68.20 32 P **P 23 37 21.5 +1.0**
TYV Tymovskoe 68.39 43 *e*P **P 23 37 22.8 +1.0**
TYV *e*S **S 23 46 26.2 +3.3**
TYV pmax pmax
comp=Z,47nm,1.0s
TYV smax smax
comp=N,700nm,9.0s
KSM Kuching 68.41 104 IAmb IAmb 23 37 22.6
comp=Z,24nm,0.9s
JNU Nakatsue 68.81 64 P **P 23 37 24.1 -0.8**
JNU IAmb IAmb 23 37 31.7
comp=Z,15nm,1.0s
BILL Bilibino 68.92 20 *c i*P **P 23 37 25.8 +0.9**
BILL *i* 23 37 32.9
BILL *i* 23 37 49.3
BILL pmax pmax
comp=Z,45nm,1.0s
BILL Bilibino 68.92 20 P **P 23 37 25.2 +0.2**
YSS Yuzh-Sakhalins 70.31 46 *e*P **P 23 37 33.7 -0.1**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 70.31 46 P **P 23 37 33.3 -0.6**
ASCN Ascension 70.46 245 P **P 23 37 35.9 +0.7**
KKM Kota Kinabalu 70.62 96 IAmb IAmb 23 37 36.8
comp=Z,30nm,1.0s
MAJO Matsushiro 72.47 58⇑ *e*P **P 23 37 46.6 -0.5**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 72.47 58 P **P 23 37 45.8 -1.3**
comp=Z,2.6nm,0.8s,baz=295,slow=6.3,SNR=6.7
MJAR Matsushiro Arr 72.47 58 IAmb IAmb 23 37 53.2
comp=Z,1.2nm,0.8s
YUK Yuzh-Kuril'sk 73.67 48 *e*P **P 23 37 52.2 -1.8**
YUK *e* 23 38 08.0
YUK *e* 23 40 37.3
YUK *e*PPP PPP 23 42 22.1
YUK *e*S **SKiKP 23 47 23.5 -0.2**
YUK *e* 23 47 59.4
YUK *e*SS **SS 23 52 07.7 +0.7**
YUK *e*SSS SSS 23 55 27.2
YUK pmax pmax
comp=Z,261nm,1.5s
YUK pmax pmax
comp=Z,396nm,1.7s
YUK MLR MLR
comp=N,1μm,18.0s
SCHQ Schefferville 74.11 326 P **P 23 37 56.0 -0.5**
comp=N,7.9nm,0.5s,baz=37,slow=5.1,SNR=18
SCHQ Schefferville 74.11 326 IAmb IAmb 23 38 02.5
comp=Z,19nm,1.1s
PEA0B Petropavlovsk- 75.02 35 P **P 23 38 00.1 -1.6**
PEA0B pmax pmax
comp=Z,39nm,1.1s
PEA0B Petropavlovsk- 75.02 35 P **P 23 38 00.1 -1.6**
PEA0B IAmb IAmb 23 38 01.3
comp=Z,39nm,1.1s
PETK Petropavlovsk- 75.02 35 P **P 23 38 00.2 -1.6**
comp=Z,21nm,0.9s,baz=348,slow=1.5,SNR=19
RDOG Red Dog Mine 75.82 11 P **P 23 38 06.5 +0.4**
RDOG IAmb IAmb 23 38 07.7
comp=Z,20nm,0.8s
C36M Paulatuk 76.45 356 P **P 23 38 09.4 -0.2**
baz=8.7
TOLK Toolik Lake Re 76.83 6 P **P 23 38 13.0 +1.2**
baz=347
INK Inuvik 77.78 360 IAmb IAmb 23 38 18.0
comp=Z,21nm,1.1s
COLD Coldfoot 78.16 6 P **P 23 38 19.6 +0.4**
COLD IAmb IAmb 23 38 21.8
comp=Z,20nm,0.8s
BMAR Burnt Mountain 78.37 4 P **P 23 38 21.0 +0.5**
LMN Caledonia Moun 78.54 318 P **P 23 38 22.0 +0.3**
LMN IAmb IAmb 23 38 23.2
comp=Z,32nm,1.1s
HAL Halifax 78.59 317 P **P 23 38 23.1 +1.0**
HAL pmax pmax
comp=Z,54nm,1.2s
HAL Halifax 78.59 317 P **P 23 38 23.1 +1.0**
IMAR Indian Mountai 79.00 8 P **P 23 38 24.6 +0.7**
FYU Fort Yukon 79.19 4 P **P 23 38 25.2 +0.3**
FYU IAmb IAmb 23 38 26.8
comp=Z,16nm,0.7s
EPYK Eagle Plains 79.71 1 P **P 23 38 28.0 +0.1**
baz=358
MLY Manley 80.25 7 P **P 23 38 31.6 +0.7**
MLY IAmb IAmb 23 38 32.9
comp=Z,25nm,0.8s
POKR Poker Plat Res 80.46 6 P **P 23 38 33.2 +1.3**
baz=349
COLA College 80.67 6 *c i*P **P 23 38 33.6 +0.7**
COLA pmax pmax
comp=Z,45nm,0.9s
COLA College 80.67 6 P **P 23 38 33.9 +1.0**
TCOL CIGO, UAF Yank 80.67 6 P **P 23 38 33.8 +0.9**
baz=349
CHGQ Chibougamau 80.82 325 P **P 23 38 34.4 +0.3**
baz=46
IL31 80.85 5 IAmb IAmb 23 38 35.2
comp=Z,12nm,0.8s
ILAR Eielson Array 80.85 5 P **P 23 38 34.0 +0.1**
comp=Z,11nm,0.8s,baz=324,slow=3.9,SNR=95
ILAR Eielson Array 80.85 5 P **P 23 38 34.0 +0.1**
CCB Clear Creek Bu 80.90 6 IAmb IAmb 23 38 34.9
comp=Z,14nm,0.6s
WRH Wood River Hil 81.05 6 IAmb IAmb 23 38 37.4
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 81.13 7 IAmb IAmb 23 38 37.2
comp=Z,36nm,1.0s
EGAK Eagle 81.19 3 IAmb IAmb 23 38 37.3
comp=Z,22nm,0.8s
HDA Harding Lake 81.20 5 P **P 23 38 35.6 -0.2**
baz=350
HDA Harding Lake 81.20 5 IAmb IAmb 23 38 36.6
comp=Z,19nm,0.8s
TTA Tatalina 81.65 10 IAmb IAmb 23 38 39.9
comp=Z,10nm,0.8s
CAST Castle Rocks 81.68 8 P **P 23 38 39.1 +0.7**
CAST IAmb IAmb 23 38 40.2
comp=Z,15nm,0.7s
MCK McKinley 81.70 6 IAmb IAmb 23 38 39.7
comp=Z,29nm,1.0s
TRF Thorofare Moun 81.84 7 P **P 23 38 40.0 +0.6**
TRF IAmb IAmb 23 38 47.2
comp=Z,12nm,1.0s
RND Reindeer 82.03 7 IAmb IAmb 23 38 40.5
comp=Z,16nm,0.6s
DOT Dot Lake 82.16 4 P **P 23 38 41.2 +0.2**
DOT IAmb IAmb 23 38 42.9
comp=Z,23nm,0.7s
PPLA Purkeypile 82.17 8 IAmb IAmb 23 38 57.2
comp=Z,18nm,0.9s
YKA Yellowknife Ar 82.31 351 P **P 23 38 41.4 -0.2**
comp=Z,2.2nm,0.6s,baz=15,slow=5.0,SNR=10
DHY Denali Highway 82.48 6 IAmb IAmb 23 38 43.8
comp=Z,16nm,0.7s
PAX Paxson 82.74 5 IAmb IAmb 23 38 44.9
comp=Z,25nm,1.5s
BCAR Beaver Creek A 82.87 3 P **P 23 38 45.7 +1.0**
SVW2 Sparrevohn 83.46 10 IAmb IAmb 23 38 50.0
comp=Z,15nm,1.0s
SUA Susitna One 83.73 8 P **P 23 38 49.0 -0.2**
GLB Gilahina Butte 84.37 5 P **P 23 38 53.0 +0.6**
GLB IAmb IAmb 23 39 02.2
comp=Z,23nm,1.5s
VRDI Verde Repeater 84.61 4 P **P 23 38 53.9 +0.1**
VRDI IAmb IAmb 23 38 55.0
comp=Z,13nm,0.8s
CTGM Chitina Glacie 84.99 3 P **P 23 38 56.7 +1.1**
CTGM IAmb IAmb 23 38 57.3
comp=Z,15nm,0.7s
EYAK Cordova Ski Ar 85.11 6 P **P 23 38 57.2 +1.1**
SEW Seward 85.20 7 P **P 23 38 57.1 +0.6**
HYT Haines Junctio 85.26 2 P **P 23 38 58.0 +1.0**
BRLK Bradley Lake 85.37 8 P **P 23 38 57.7 +0.3**
BRLK IAmb IAmb 23 38 58.9
comp=Z,24nm,0.8s
CNPM China Poot 85.56 9 P **P 23 38 58.5 +0.1**
KDAK Kodiak Island 87.08 10 P **P 23 39 07.2 +1.4**
KDAK pmax pmax
comp=Z,93nm,0.9s
KDAK Kodiak Island 87.08 10 P **P 23 39 07.2 +1.4**

OHAK	Old Harbor	87.52	10	P	P	23 39 08.6	+0.7
ULM	Lac du Bonnet	89.25	336	P	P	23 39 15.4	-0.9
	comp=Z,4.3nm,0.9s,baz=38,slow=6.9,SNR=3.9						
ULM	Lac du Bonnet	89.25	336	IAmb	IAmb	23 39 24.9	
	comp=Z,17nm,1.5s						
PSA00	Pilbara Seismi	89.74	116	P	P	23 39 18.6	-0.4
PSA00				IAmb	IAmb	23 39 19.4	
	comp=Z,24nm,1.1s						
PSAB2	Pilbara Seismi	89.74	116	P	P	23 39 18.9	-0.1
PSAB2				IAmb	IAmb	23 39 19.3	
	comp=Z,18nm,1.0s						
PSAB3	Pilbara Seismi	89.76	116	P	P	23 39 18.4	-0.7
PSAB3				IAmb	IAmb	23 39 25.8	
	comp=Z,26nm,1.1s						
PSAD2	Pilbara Seismi	89.86	116	P	P	23 39 18.7	-0.8
PSAD2				IAmb	IAmb	23 39 20.0	
	comp=Z,27nm,1.0s						
P53A	Whipple	91.78	322	P	P	23 39 28.8	+0.5
	baz=41						
O51A	Pataskala	91.90	323	P	P	23 39 29.3	+0.4
	baz=40						
P52A	Corning	92.05	322	P	P	23 39 29.8	+0.2
	baz=41						
Q52A	Bidwell	92.62	322	P	P	23 39 32.5	+0.2
	baz=41						
O49A	Covington	92.72	324	P	P	23 39 32.8	+0.1
	baz=39						
Q51A	Peebles	93.12	323	P	P	23 39 34.4	-0.2
	baz=40						
Q50A	Georgetown	93.58	323	P	P	23 39 36.8	+0.1
	baz=40						
T54A	Tazewell	93.69	320	P	P	23 39 38.0	+0.7
	baz=41						
R51A	Hillsboro	93.80	322	P	P	23 39 37.6	0.0
	baz=40						
P48A	Milroy	93.81	324	P	P	23 39 37.4	-0.4
	baz=39						
Q49A	Aurora	93.91	324	P	P	23 39 38.1	0.0
	baz=39						
S52A	Salyersville	94.01	322	P	P	23 39 39.4	+0.7
	baz=40						
R50A	Paris	94.19	323	P	P	23 39 39.9	+0.5
	baz=39						
S51A	Beattyville	94.31	322	P	P	23 39 40.3	+0.3
	baz=40						
Q48A	North Vernon	94.38	324	P	P	23 39 39.8	-0.5
	baz=38						
T52A	Hallie	94.40	321	P	P	23 39 41.5	+1.1
	baz=40						
R49A	Shelbyville	94.60	323	P	P	23 39 41.4	0.0
	baz=39						
T51A	Gray	95.00	322	P	P	23 39 43.9	+0.7
	baz=40						
S49A	Springfield	95.05	323	P	P	23 39 43.0	-0.4
	baz=39						
V52A	Sevierville	95.68	321	P	P	23 39 46.7	+0.4
	baz=40						
T49A	Edmonton	95.70	323	P	P	23 39 45.9	-0.5
	baz=39						
U49A	Red Boiling Sp	96.28	323	P	P	23 39 48.8	-0.3
	baz=38						
NEW	Newport	96.44	348	P	P	23 39 50.7	+1.1
	baz=14						
V50A	Pikeville	96.59	322	P	P	23 39 50.4	-0.1
	baz=39						
Y54A	Tignall	96.69	319	P	P	23 39 51.5	+0.6
	baz=41						
W51A	Cleveland	96.81	321	P	P	23 39 51.8	+0.3
	baz=39						
WRA	Warramunga Arr	99.96	107	*i* P	Pdif	23 40 03.4	-2.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	99.96	107	P	Pdif	23 40 03.8	-2.0
	comp=Z,0.5nm,0.6s,baz=317,slow=3.9,SNR=18						
ASAR	Alice Springs	101.61	111	P	Pdif	23 40 11.3	-1.7
	comp=Z,0.7nm,0.7s,baz=309,slow=5.2,SNR=6.4						
SYO	Syowa Base	103.02	182	⇑Pdiff	Pdif	23 40 20.6	+2.5
VNA2	Neumayer--Watz	111.39	196	PKiKP	PKiKP	23 44 56.5	+3.1
	baz=65,slow=1.5						
VNA3	Neumayer Olymp	112.14	197	PKiKP	PKiKP	23 44 55.2	+0.3
LPAZ	La Paz	118.43	269	PKP	PKPdf	23 45 09.2	-0.1
	comp=Z,1.1nm,0.7s,baz=185,slow=3.6,SNR=6.0						
LVC	Limon Verde	122.10	263	PKP	PKPdf	23 45 15.5	-0.5
	comp=Z,3.4nm,0.8s,baz=184,slow=5.3,SNR=2.5						
QSPA	South Pole Qui	124.06	180		PKiKP	23 45 18.5	+0.2
CFA	Coronel Fontan	125.27	253	PKP	PKiKP	23 45 21.9	+0.1
	comp=Z,2.0nm,0.6s,baz=344,slow=3.4,SNR=7.2						
PLCA	Paso Flores	129.88	243	PKP	PKiKP	23 45 30.8	+0.1
	comp=Z,2.9nm,0.9s,baz=153,slow=2.3,SNR=3.9						

NNC ***23*** *23:29:34.2±3.8, 32°.20N×89°.93E, h0km, mb5.9, Error ellipse: s-maj=59.8km s-min=30.0km az=51.0*

ISCJB ***23*** *23:30:41.3±0.1, 36°.60N±0°.02×86°.80E±0°.02, h10km, mb5.1/132, MS5.6/76, Error ellipse: s-maj=2.6km s-min=2.0km az=26.7*

MOS ***23*** *23:30:41.7±0.9, 36°.65N×86°.82E, h11km, mb5.4/50, MS5.7/28, Error ellipse: s-maj=5.2km s-min=3.4km az=128.6*

IDC ***23*** *23:30:41.1±0.4, 36°.56N×86°.84E, h0km, mb4.7/31, mb1 4.8/37, mb1mx4.8/42, mbtmp4.7/37, ML3.7/6, MS5.3/35, Ms1 5.3/35, ms1mx5.3/37, Error ellipse: s-maj=9.2km s-min=7.7km az=50.0*

BJI ***23*** *23:30:42.5±0.0, 36°.81N×86°.73E, h10km, mb5.0/66, mB5.4/50, ML5.6/4, Ms5.7/76, Ms7 5.7/72*

NEIC ***23*** *23:30:42.5±1.5, 36°.58N±0°.07×86°.85E±0°.09, h7km±3km, mb5.2/200, Mwb5.4, Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.13; Mθθ-1.00; Mφφ 1.13; Mrθ-0.18; Mθφ 1.15; Mφr0.10; Fault plane solution: Mo1.59000×10^17^ NP1:φs68.35000°, δ83.73000°, λ-5.58000°. NP2:φs158.96000°, δ84.46000°, λ-173.70000°. Principal axes: T 1.6373, Plg1.0000°, Azm294.0000°; N -0.1023, Plg82.0000°, Azm200.0000°; P -1.5350, Plg8.0000°, Azm24.0000°;*

GCMT ***23*** *23:30:45.5±0.1, 36°.75N±0°.01×86°.80E±0°.01, h17km, MW5.7/129, Moment Tensor Solution. s111,c195; s129,c264; Duration: 1ŝ7 Moment tensor: Scale 10^17^ Nm; Mrr-0.48±.04; Mθθ-1.93±.05; Mφφ2.41±.04; Mrθ0.32±.11; Mθφ3.22±.04; MφrO.67±.11; Best double couple: Mo3.94200×10^17^ NP1:φs343.00000°, δ84.00000°, λ173.00000°. NP2:φs73.00000°, δ83.00000°, λ6.00000°. Principal axes: T 4.2400, Plg9.0000°, Azm298.0000°; N -0.5980, Plg81.0000°, Azm123.0000°; P -3.6430, Plg1.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***23*** *23:30:48, 36°.78N×86°.82E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.37; Mθθ-2.05; Mφφ2.42; Mrθ-0.07; Mθφ3.65; Mφr-0.13; Fault plane solution: Mo4.29000×10^17^ NP1:φs164.00000°, δ89.00000°, λ179.00000°. NP2:φs254.00000°, δ89.00000°, λ1.00000°. Principal axes: T 4.4688, Plg2.0000°, Azm119.0000°; N -0.3728, Plg88.0000°, Azm300.0000°; P -4.0959, Plg0.0000°, Azm209.0000°;*

ISC 23 23:30:43.3±0.2, 36°.61N±0°.03×86°.81E±0°.02, h10km, n616, σ1ŝ94/664, mb5.2/203, MS5.6/83, 49C-38D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	7.24	5	P	Pn	23 32 29.9	+0.7
WMQ	Urumqi	7.24	5		Pn	23 32 29.9	+0.7
LSA	Lhasa	7.79	151	P	Pn	23 32 44.9	+7.8
LSA				S	Sn	23 34 15.3	+10
LSA				LR	LR		
	comp=Z,243μm,10.0s						
LSA	Lhasa	7.79	151	P	Pn	23 32 41.3	+4.2
LSA	Lhasa	7.79	151		Pn	23 32 42.0	+4.9
DANN	Dangsing	8.63	198	*eP*	Pn	23 32 49.6	+1.1
	360nm,0.9s						
TARG	Taragay, Kyrgy	8.66	309	Pn	Pn	23 32 49.3	+0.3
GUN	Gumba	8.71	185	*eP*	Pn	23 32 51.1	+1.5
	315nm,1.1s						
PRZ	Przheval'sk	8.75	315	P	Pn	23 32 51.0	+1.0
PRZ	Przheval'sk	8.75	315		Pn	23 32 51.0	+1.0
PDGK	Podgornoye	8.75	322	⇑P	Pn	23 32 49.5	-0.5
	295nm,1.1s						
PDGK				⇓S	Sg	23 35 27.3	+3.2
	2μm,1.0s						
GKN	Gorkha	8.77	193	*eP*	Pn	23 32 51.7	+1.3
	372nm,1.0s						
KKN	Kakani	8.89	189	*eP*	Pn	23 32 53.6	+1.6
	198nm,1.1s						
JIRN	Jiri	8.94	184	*eP*	Pn	23 32 54.7	+1.9
	139nm,0.9s						
PKIN	Phulchoki	9.08	188	*eP*	Pn	23 32 55.9	+1.2
	174nm,1.1s						
DMN	Daman	9.09	190	*eP*	Pn	23 32 56.7	+2.0
	97nm,0.7s						
PKI	Pulchoki	9.09	188	*eP*	Pn	23 32 56.1	+1.3
	378nm,1.2s						
KOLN	Koldanda	9.22	198	*eP*	Pn	23 32 56.8	+0.3
	1μm,1.6s						
TAPN	Taplejung	9.26	175	*eP*	Pn	23 32 59.0	+1.8
	257nm,1.1s						
KDJ	Kajisay	9.27	309	P	Pn	23 32 57.7	+0.5
KDJ	Kajisay	9.27	309		Pn	23 32 57.6	+0.5
DDI	Dehra Dun	9.63	232	*eP*	Pn	23 33 02.4	+0.4
RAMN	Ramite	9.63	181	*eP*	Pn	23 33 03.3	+1.1
	146nm,1.1s						
NRN	Naryn	9.69	303	P	Pn	23 33 03.9	+0.9
NRN	Naryn	9.69	303	Pn	Pn	23 33 03.9	+0.9
SMLA	Simla	9.70	238	*eP*	Pn	23 33 01.6	-1.3
DHRM	DHARAMSHALA	9.71	246	*eP*	Pn	23 33 03.4	+0.2
DHRM				*i* x	x	23 36 06.0	
DHRM				IAMs_20	IAMs_20	23 36 59.2	
	comp=Z,150μm,5.0s						
ODAN	Odare	9.73	177	*eP*	Pn	23 33 04.7	+1.2
	comp=Z,286nm,1.1s						
ULHL	Ulahol	9.92	308	P	Pn	23 33 06.6	+0.5
	SNR=16						
MDOK	Medeo	9.95	314	⇑P	Pn	23 33 05.6	-0.9
	comp=Z,469nm,1.4s						
MDOK				S	Sn	23 35 54.3	+56
	comp=Z,1μm,1.3s						
KNDC	Almaty	10.03	314	⇑P	Pn	23 33 07.7	+0.3
	comp=Z,600nm,1.1s						
KNDC				⇓S	Sn	23 35 56.3	+56
	comp=Z,883nm,1.1s						
JMU	Jammu	10.55	252	*eP*	Pn	23 33 14.0	-0.5
GTA	Gaotai	10.64	71	⇓P	Pn	23 33 15.8	0.0
GTA				pP		23 33 20.1	
GTA				sP		23 33 22.9	
GTA				S	Sn	23 35 13.0	-2.0
GTA				SS	SnSn	23 35 26.8	+0.1
GTA				pmax	pmax		
	comp=Z,98nm,1.7s						
GTA				pmax	pmax		
	comp=Z,880nm,4.6s						
GTA				LR	LR		
	comp=Z,115μm,13.4s						
GTA				LR	LR		
	comp=Z,45μm,13.4s						
GTA				LR	LR		
	comp=Z,58μm,12.4s						
TKM2	Tokmak 2	10.68	310	⇑P	Pn	23 33 15.8	-0.7
	comp=Z,279nm,1.3s						
TKM2				⇓S	Sn	23 36 09.4	+53
	comp=Z,408nm,1.5s						
MK31	Makanchi Array	10.72	343	⇑P	Pn	23 33 17.1	+0.3
	comp=Z,65nm,0.8s,baz=160,slow=13						
MK31				⇑S	Sn	23 36 12.1	+55
	comp=Z,571nm,1.1s,baz=151,slow=27,SNR=3.5						
MK31	Makanchi Array	10.72	343	P	Pn	23 33 16.9	0.0
MK31	Makanchi Array	10.72	343	Pn	Pn	23 33 16.9	0.0
MKAR	Makanchi Array	10.72	343	Pn	Pn	23 33 15.6	-1.2
	comp=Z,4.6nm,0.3s,baz=153,slow=12,SNR=27						
MKAR				Sn	Sn	23 35 13.5	-3.4
	comp=Z,0.9nm,0.3s,baz=157,slow=34,SNR=2.6						
MKAR				Lg	Lg	23 36 22.6	
	comp=Z,1.6nm,0.3s,baz=140,slow=27,SNR=2.8						
MKAR				LR	LR	23 38 05.3	
	comp=Z,11μm,18.4s,baz=158,slow=41						
MKAR	Makanchi Array	10.72	343	Pn	Pn	23 33 17.0	+0.1
ZIRO	ZIRO	10.84	145	*eP*	Pn	23 33 18.4	-0.3
FRU1	Bishkek	11.24	307	P	Pn	23 33 24.8	+0.9
FRU1	Bishkek	11.24	307	Pn	Pn	23 33 24.9	+0.9
AAK	Ala-Archa	11.24	306	⇑P	Pn	23 33 24.0	-0.1
	comp=Z,175nm,1.4s						
AAK				⇑S	Sn	23 36 22.8	+53
	comp=Z,541nm,1.4s						
AAK	Ala-Archa	11.24	306	P	Pn	23 33 24.8	+0.7
AAK	Ala-Archa	11.24	306	Pn	Pn	23 33 24.2	+0.1
	comp=Z,0.8nm,0.3s,baz=117,slow=15,SNR=14						
AAK				Lg	Lg	23 36 38.8	
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=2.3						
AAK				LR	LR	23 38 42.3	
	comp=Z,32μm,20.6s,baz=98,slow=43						
AAK	Ala-Archa	11.24	306	Pn	Pn	23 33 24.8	+0.7
CHCP	Chirah Chowk	11.47	259	P	Pn	23 33 28.0	+0.8
NIL	Nilore	11.49	259	P	Pn	23 33 27.8	+0.4
NIL	Nilore	11.49	259	Pn	Pn	23 33 27.8	+0.4
ARSB	Arslanbob	11.75	298	Pn	Pn	23 33 30.0	-1.0
SHL	Shillong	11.83	157	P	Pn	23 33 31.4	-0.8
SHL	Shillong	11.83	157		Pn	23 33 31.4	-0.8
CEP	Cherat	12.50	262	P	Pn	23 33 37.7	-3.6
CEP				S		23 37 04.0	
BOK	Bokaro	12.79	184	*eP*	Pn	23 33 44.0	-1.3
THW	Thamme Wali	12.97	257	P	Pn	23 33 45.9	-1.7
BTK	Batken	13.02	290	P	Pn	23 33 45.6	-2.7
BTK	Batken	13.02	290	Pn	Pn	23 33 45.6	-2.7
DGZ	Jazzator, Alta	13.10	2*d*	*iP*	Pn	23 33 47.7	-1.7
GAR	Garm	13.26	285	Pn	Pn	23 33 48.3	-3.4
LZH	Lanzhou	13.74	87	*eP*	Pn	23 33 56.9	-1.4
LZH				sP	P	23 34 04.6	-2.4
LZH				S	Sn	23 36 29.8	-1.3
LZH				sS	S	23 36 42.6	-11
LZH				SS	SnSn	23 36 54.8	+11
LZH				pmax	pmax		
	comp=Z,53nm,1.2s						
LZH				pmax	pmax		
	comp=Z,300nm,4.1s						
LZH				LR	LR		
	comp=Z,20μm,11.9s						
LZH				LR	LR		
	comp=Z,22μm,11.9s						
KK31	Karatay Array	14.09	302	P	Pn	23 34 02.5	-0.4
KK31	Karatay Array	14.09	302	Pn	Pn	23 34 02.5	-0.4
KKAR	Karatay Array	14.09	302	P	Pn	23 34 01.2	-1.7
KKAR	Karatay Array	14.09	302	Pn	Pn	23 34 01.2	-1.7
KKAR	Karatay Array	14.09	302	Pn	Pn	23 34 02.1	-0.8
CHGR	Chuyangaron	14.14	284		Pn	23 34 01.9	-1.8
KBL	Kabul	14.61	267	P	Pn	23 34 09.3	-0.9
KBL	Kabul	14.61	267		Pn	23 34 09.3	-0.9
CD2	Chengdu	15.19	107	⇑*iP*	Pn	23 34 18.5	+0.5
CD2				sP	pP	23 34 26.8	-0.5
CD2				PP	sP	23 34 30.3	+1.1
CD2				S	Sn	23 37 10.8	+4.5
CD2				SS	S	23 37 32.1	+8.7
CD2				PcP	PcP	23 39 25.3	+1.0
CD2				pmax	pmax		
	comp=Z,100nm,0.9s						
CD2				pmax	pmax		
	comp=Z,2μm,6.0s						
CD2				LR	LR		
	comp=Z,35μm,9.6s						
CD2				LR	LR		
	comp=Z,32μm,9.8s						
KURBB	Kurchatov Arra	15.22	340	Pn	Pn	23 34 14.3	-3.9
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=8.4						
KURBB				Sn	Sn	23 36 59.7	-7.1
	comp=Z,0.5nm,0.3s,baz=142,slow=26,SNR=7.8						
KURBB				Lg	Lg	23 38 47.2	
	baz=145,slow=32,SNR=4.7						
KURK	Kurchatov	15.28	340	P	Pn	23 34 14.3	-4.6
KURK						23 36 59.7	
KURK	Kurchatov	15.28	340	Pn	Pn	23 34 15.8	-3.2
KURK				IAmb	IAmb	23 34 33.3	
	comp=Z,107nm,1.2s						
BHPL	Bhopal	15.60	214	*eP*	Pn	23 34 21.1	-2.2
BWNR	Bhubaneshwar	16.28	183	IAmb	IAmb	23 34 29.0	
	comp=Z,193nm,1.8s						
BWNR				*eP*	P	23 34 34.5	-0.5
NGP	Nagpur	16.82	206	*eP*	Pn	23 34 38.6	-0.3
NGP				IAmb	IAmb	23 34 48.7	
	comp=Z,147nm,1.4s						
ZAA0	Zalesovo Array	17.40	356	Pn	Pn	23 34 42.6	-3.4
ZALV	Zalesovo Beam	17.40	356	P	Pn	23 34 44.9	-1.1
	comp=Z,0.6nm,0.3s,baz=181,slow=12,SNR=12						
ZALV				S	Sn	23 37 50.5	-9.0
	comp=Z,0.0nm,0.3s,baz=168,slow=16,SNR=4.4						
ZALV				Lg	Lg	23 39 55.5	
	comp=Z,0.1nm,0.3s,baz=170,slow=26,SNR=2.3						
ZALV				LR	LR	23 42 04.5	
	comp=Z,17μm,20.0s,baz=179,slow=39						
ZALV	Zalesovo Beam	17.40	356	Pn	Pn	23 34 43.2	-2.7
KMI	Kunming	17.81	126	P	P	23 34 51.3	-0.9
KMI				pP	pP	23 34 54.5	-2.0
KMI				S	Sn	23 38 08.8	-1.3
KMI				sS	sS	23 38 20.5	-3.2
KMI				pmax	pmax		
	comp=Z,17nm,1.0s						
KMI				pmax	pmax		
	comp=Z,2μm,9.8s						
KMI				LR	LR		
	comp=Z,19μm,12.4s						
KMI				LR	LR		
	comp=Z,18μm,13.8s						
KMI				LR	LR		
	comp=Z,15μm,9.6s						
KMI	Kunming	17.81	126	P	P	23 34 50.9	-1.3
KMI				pmax	pmax		
	comp=Z,42nm,0.9s						
KMI	Kunming	17.81	126	P	P	23 34 50.9	-1.3
MOY	Mondy	18.12	29	*eP*	Pn	23 34 53.8	-1.3
MOY				pmax	pmax		
	comp=Z,384nm,1.9s						
ZAK	Zakamensk	18.17	36	*eP*	Pn	23 34 54.9	-0.8
ZAK				pmax	pmax		
	comp=Z,103nm,1.5s						
XAN	Xi'an	18.22	92	P	P	23 34 55.4	-1.2
XAN				pP	pP	23 34 58.4	-2.4
XAN				sP	sP	23 35 01.8	-0.9
XAN				S	S	23 38 23.0	-2.1
XAN				sS	sS	23 38 28.8	-3.0
XAN				pmax	pmax		
	comp=Z,53nm,1.4s						
XAN				pmax	pmax		
	comp=Z,2μm,7.6s						
XAN				LR	LR		
	comp=Z,13μm,10.0s						
XAN				LR	LR		
	comp=Z,18μm,10.6s						
XAN				LR	LR		
	comp=Z,16μm,11.1s						
XAN	Xi'an	18.22	92	P	P	23 34 56.0	-0.6
XAN				pmax	pmax		
	comp=Z,161nm,1.2s						
XAN	Xi'an	18.22	92	P	P	23 34 56.0	-0.6
I34MN	SONGINO INFRAS	18.27	46	*i*		01 21 20.0	
	baz=232,slow=333,SNR=0.5						
SONM	Songino Array	18.28	46	P	Pn	23 34 55.7	-1.4
SONM				pmax	pmax		
	comp=Z,171nm,1.4s						
SONM	Songino Array	18.28	46	P	P	23 34 56.8	-0.4
	comp=Z,0.6nm,0.3s,baz=238,slow=13,SNR=202						
SONM				Lg	Lg	23 40 23.4	
	comp=Z,0.3nm,0.3s,baz=221,slow=27,SNR=6.0						
SONM	Songino Array	18.28	46	P	Pn	23 34 55.7	-1.4
BTO	Baotou	18.56	71	*eP*	Pn	23 34 59.6	-0.9
ULN	Ulaanbaatar	18.68	47	P	P	23 35 00.8	-0.8
ULN				pmax	pmax		
	comp=Z,196nm,1.4s						
ULN	Ulaanbaatar	18.68	47	P	P	23 35 00.8	-0.8
ULN				IAmb	IAmb	23 35 03.6	
	comp=Z,196nm,1.4s						
TLY	Talaya	19.24	33*d*	*iP*	Pn	23 35 08.0	-0.6
TLY				pmax	pmax		
	comp=Z,107nm,1.4s						
TLY				MLR	MLR		
	comp=Z,24μm,10.0s						
TLY	Talaya	19.24	33	P	Pn	23 35 07.5	-1.1
	comp=Z,0.0nm,0.3s,baz=225,slow=14,SNR=6.0						
TLY				S	S	23 38 45.1	-0.3
	comp=Z,0.0nm,0.3s,baz=159,slow=8.6,SNR=2.4						
TLY				Lg	Lg	23 40 51.7	
	comp=Z,0.0nm,0.3s,baz=217,slow=3.6,SNR=4.1						
TLY				LR	LR	23 42 55.4	
	comp=Z,12μm,21.7s,baz=220,slow=38						
TLY	Talaya	19.24	33	P	P	23 35 07.0	-0.6
GYA	Guiyang	19.68	115	⇓*iP*	Pn	23 35 12.9	-1.2
GYA				pP	sP	23 35 17.4	-1.6
GYA				sP	pP	23 35 20.5	+3.5
GYA				PP	P	23 35 32.3	+20
GYA				S	Sn	23 38 57.4	+2.1
GYA				SS	SnSn	23 39 20.6	+11
GYA				pmax	pmax		
	comp=Z,70nm,1.0s						
GYA				pmax	pmax		
	comp=Z,380nm,4.8s						
GYA				LR	LR		
	comp=Z,9μm,10.6s						
GYA				LR	LR		
	comp=Z,9μm,11.4s						
GYA				LR	LR		
	comp=Z,10μm,10.3s						
HHC	Hu-ho-hao-te	19.75	70	*eP*	Pn	23 35 15.6	+0.8
HHC				PP	PnPn	23 35 34.6	+6.1
HHC				*eS*	S	23 38 54.8	-1.2
HHC				sS	sS	23 39 01.8	-0.9
HHC				SS	SnSn	23 39 17.3	+6.4
HHC				pmax	pmax		
	comp=Z,23nm,1.4s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
BHUJ	Bhuj	19.91	233	*eP*	Pn	23 35 15.6	-1.1
IRK	Irkutsk	19.91	33	*eP*	Pn	23 35 15.7	-0.9
ENH	Enshi	19.93	102	IAmb	IAmb	23 35 27.3	
	comp=Z,206nm,1.3s						
BVAR	Borovoye Array	20.05	330	P	P	23 35 16.5	+0.1
	comp=Z,46nm,0.7s,baz=132,slow=11,SNR=28						
HRA	Herat	20.11	271	P	P	23 35 16.9	-0.6
HRA				IAmb	IAmb	23 35 22.1	
	comp=Z,227nm,1.4s						
BRVK	Borovoye	20.11	330*c*	*iP*	P	23 35 17.0	-0.1
BRVK				pmax	pmax		
	comp=Z,182nm,1.1s						
BRVK	Borovoye	20.11	330	P	P	23 35 17.0	-0.1
BRVK				IAmb	IAmb	23 35 27.0	
	comp=Z,194nm,1.1s						
TIY	Taiyuan	20.44	79	*eP*	P	23 35 20.8	0.0
TIY				PP	PnPn	23 35 44.3	+6.4
TIY				S	S	23 39 05.6	-4.1
TIY				pmax	pmax		
	comp=Z,110nm,1.1s						
TIY				pmax	pmax		
	comp=Z,1μm,4.0s						
TIY				LR	LR		
	comp=Z,66μm,13.0s						
TIY				LR	LR		
	comp=Z,10μm,10.2s						
TIY				LR	LR		
	comp=Z,19μm,14.6s						
HYB	Hyderabad	20.46	203	*i* P	P	23 35 18.0	-3.2
	comp=Z,400nm,1.5s						
HYB				*e*S	Sn	23 39 12.0	-2.0
CMAR	Chiang Mai Arr	21.00	146	P	P	23 35 26.3	-0.7
	comp=Z,19nm,0.8s,baz=322,slow=10,SNR=15						
CMAR				S	S	23 39 20.7	-0.3
	comp=Z,0.9nm,0.3s,baz=329,slow=16,SNR=5.3						
CMAR				LR	LR	23 43 31.6	
	comp=Z,5μm,21.6s,baz=329,slow=37						
SLVN	Son La	21.29	131	P	P	23 35 30.5	+0.4
SLVN				IAmb	IAmb	23 35 35.4	
	comp=Z,190nm,1.4s						
BOM	Bombay	21.51	219	*ex*	P	23 35 37.4	+4.9
BOM				IAmb	IAmb	23 35 42.0	
	comp=Z,1μm,2.7s						
KAD	Karad	22.23	213	*eP*	P	23 35 38.8	-1.4
ASHT	Ashkhabad	22.63	282	P	P	23 35 44.7	+0.4
ASHT				pmax	pmax		
	comp=Z,134nm,0.6s						
ASHT	Ashkhabad	22.63	282	P	P	23 35 44.7	+0.4
GEYT	Alibeck	22.84	282	P	P	23 35 47.3	+0.7
	comp=Z,12nm,0.5s,baz=58,slow=11,SNR=15						
GEYT				S	S	23 39 57.8	+1.8
	comp=Z,2.2nm,0.5s,baz=87,slow=30,SNR=2.0						
GEYT				LR	LR	23 46 14.5	
	comp

BJT IAmb IAmb 23 35 59.4
comp=Z,58nm,1.1s
ABKAR Akbulak array 23.24 311 P P 23 35 50.9 +0.3
ABKAR IAmb IAmb 23 36 01.0
comp=Z,79nm,1.1s
BJI Beijing 23.24 73 P P 23 35 51.3 +0.7
BJI S S **23 40 08.1 +5.4**
BJI pmax pmax
comp=Z,48nm,1.2s
BJI LR LR
comp=Z,11μm,13.2s
BJI LR LR
comp=Z,12μm,30.9s
WHN Wuhan 23.68 97 ⇑P **P 23 35 55.8 +0.7**
WHN S S **23 40 08.6 -1.4**
WHN pmax pmax
comp=Z,180nm,1.4s
WHN LR LR
comp=Z,26μm,9.7s
WHN LR LR
comp=Z,30μm,8.6s
WHN LR LR
comp=Z,49μm,10.2s
DGPR DIGLIPUR 23.97 165 *e*P **P 23 35 56.5 -1.4**
TIA Tai'an 24.36 82 P **P 23 36 01.3 -0.1**
TIA pP **sP 23 36 11.9 +4.0**
TIA S **S 23 40 26.8 +6.1**
TIA pmax pmax
comp=Z,310nm,1.5s
TIA LR LR
comp=Z,14μm,17.8s
TIA LR LR
comp=Z,5μm,9.3s
CHAI Chaiyaphum 24.64 143 P **P 23 36 05.6 +1.5**
comp=Z,117μm,1.1s
SRDT SRDT 24.75 150 P P 23 36 22.6 +18
AKTO Aktyubinsk 24.85 313 P **P 23 36 04.8 -1.0**
comp=Z,15nm,0.8s,baz=112,slow=6.7,SNR=9.1
AKTO LR LR 23 47 04.9
comp=Z,27μm,18.9s,baz=118,slow=40
PBA Port Blair 25.41 166 P P 23 36 12.2 +1.2
PHET Kaeng Krachan 26.26 151 P P 23 36 25.5 +6.8
comp=Z,76μm,0.9s
GZH Guangzhou 26.57 113 *e*P **P 23 36 22.9 +1.4**
GZH S **S 23 40 57.8 +1.8**
GZH LR LR
comp=Z,7μm,9.1s
QIZ Qiongzhong 26.75 125 P **P 23 36 24.6 +1.4**
QIZ S **S 23 41 02.5 +3.5**
QIZ pmax pmax
comp=Z,36nm,1.3s
QIZ pmax pmax
comp=Z,460nm,5.3s
QIZ LR LR
comp=Z,10μm,13.7s
QIZ LR LR
comp=Z,10μm,18.1s
QIZ LR LR
comp=Z,11μm,11.8s
SVE Sverdlovsk 26.75 327⇑*e*P **P 23 36 23.8 +0.9**
SVE *e*S **S 23 41 03.4 +5.0**
SVE pmax pmax
comp=Z,173nm,2.0s
SVE MLR MLR
comp=Z,9μm,11.0s
NJ2 Nanjing 26.78 90 *e*P **P 23 36 25.3 +1.9**
NJ2 S **S 23 41 03.3 +4.0**
NJ2 sS **sS 23 41 09.8 +3.0**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,4.5s
NJ2 LR LR
comp=Z,12μm,13.9s
NJ2 LR LR
comp=Z,8μm,21.4s
NJ2 LR LR
comp=Z,9μm,22.2s
UBPT Khong Chiam 26.97 137 P **P 23 36 25.4 +0.2**
comp=Z,22nm,1.1s
UBPT Khong Chiam 26.97 137 P **P 23 36 23.0 -2.2**
UBPT IAmb IAmb 23 36 30.7
comp=Z,86nm,1.4s
HIA Hailar 27.00 52*de*P **P 23 36 25.5 +0.3**
HIA pmax pmax
comp=Z,41nm,0.9s
HIA Hailar 27.00 52 P **P 23 36 25.2 0.0**
ARU Arti 27.44 325*c i*P **P 23 36 29.5 +0.4**
ARU PPP PPP 23 37 21.0
ARU S **S 23 41 12.7 +3.4**
ARU SS **SnSn 23 42 26.1 +7.4**
ARU pmax pmax
comp=Z,73nm,2.0s
ARU MLR MLR
comp=Z,22μm,17.0s
ARU Arti 27.44 325 P **P 23 36 28.7 -0.4**
comp=Z,2.9nm,0.7s,baz=156,slow=11,SNR=4.9
ARU S **S 23 41 11.0 +1.6**
comp=Z,1.4nm,0.9s,baz=196,slow=19,SNR=1.8
ARU LR LR 23 48 15.6
comp=Z,9μm,20.5s,baz=120,slow=38
ARU Arti 27.44 325 P **P 23 36 28.4 -0.7**
DL2 Dalian 27.53 75 ⇓P **P 23 36 30.4 +0.4**
DL2 S **S 23 41 15.8 +4.8**
DL2 pmax pmax
comp=Z,62nm,0.8s
DL2 pmax pmax
comp=Z,400nm,4.6s
DL2 LR LR
comp=Z,23μm,19.3s
DL2 LR LR
comp=Z,4μm,15.7s
DL2 LR LR
comp=Z,12μm,10.7s
WSAR Wadi Sarin 27.70 249 LR LR 23 50 10.6
comp=Z,2μm,20.0s,baz=62,slow=42
UOSS Minazif 28.63 255 P **P 23 36 40.6 +0.6**
SNY Shenyang 28.81 68 ⇓P **P 23 36 41.0 -0.4**
SNY S **S 23 41 29.4 -1.7**
SNY pmax pmax
comp=Z,20nm,1.7s
SNY LR LR
comp=Z,4μm,12.1s
SNY LR LR
comp=Z,11μm,16.0s
SNY LR LR
comp=Z,20μm,17.7s
SSE Sheshan 28.97 91 P **P 23 36 44.8 +1.8**
SSE S **S 23 41 38.1 +4.2**
SSE pmax pmax
comp=Z,28nm,1.2s
SSE LR LR
comp=Z,3μm,13.4s
SSE LR LR
comp=Z,2μm,19.8s
SSE Sheshan 28.97 91 P **P 23 36 41.9 -1.1**
SSE IAmb IAmb 23 36 53.6
comp=Z,60nm,0.8s
SSE Sheshan 28.97 91 P **P 23 36 41.9 -1.1**
QZH Quanzhou 29.55 104 P **P 23 36 49.6 +1.5**
QZH S **S 23 41 45.3 +2.3**
QZH LR LR
comp=Z,17μm,13.5s
QZH LR LR
comp=Z,10μm,13.1s
QZH LR LR
comp=Z,10μm,11.4s
PALK Pallekele 29.73 192 P **P 23 36 49.6 -0.2**
PALK pmax pmax
comp=Z,43nm,1.1s
PALK Pallekele 29.73 192 P **P 23 36 48.4 -1.4**
comp=Z,18nm,0.9s,baz=296,slow=2.3,SNR=7.9
PALK LR LR 23 49 21.2
comp=Z,5μm,19.7s,baz=298,slow=38
PALK Pallekele 29.73 192 P **P 23 36 49.6 -0.2**
PALK IAmb IAmb 23 36 53.3
comp=Z,43nm,1.1s
LKRN Lenkeran, Azer 30.04 286 P **P 23 36 53.5 +1.1**
CN2 Changchun 30.16 64 *e*P **P 23 36 52.6 -0.8**
CN2 *e*pP sP 23 37 04.4 +4.5
CN2 *e*PP **PP 23 37 52.4 -9.0**
CN2 *e*S **S 23 41 48.9 -3.5**
CN2 *e*SS **ScP 23 43 30.5 -6.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,8μm,12.0s
CN2 LR LR
comp=Z,9μm,12.0s
CN2 LR LR
comp=Z,12μm,12.0s
AKT Akhty 30.56 291 *e*P **P 23 36 57.5 +0.4**
AKT *e* 23 37 56.7
AKT pmax pmax
comp=Z,45nm,1.2s
MAK Makhachkala 30.66 294 *e*P **P 23 36 57.3 -0.5**
MAK *e*S **S 23 42 03.5 +3.4**
MAK pmax pmax
comp=Z,130nm,1.1s
MAK MLR MLR
comp=Z,13μm,17.0s
MNCI Minicoy 30.85 207 P **P 23 36 58.8 -0.9**
SEKA Sheki 30.98 291 P **P 23 37 01.1 +0.4**
GNBR Gunib 31.07 293*de*P **P 23 37 03.2 +1.6**
ZKTA Zakatala 31.38 292 P **P 23 37 05.2 +1.0**
INCN Inchon 31.64 76 P **P 23 37 06.3 -0.3**
INCN pmax pmax
comp=Z,106nm,1.3s
INCN Inchon 31.64 76 P **P 23 37 06.2 -0.3**
GANJ Ganja 31.69 290 P **P 23 37 08.0 +1.0**
GROC Groznyy 31.90 295 *e*P **P 23 37 09.2 +0.5**
GROC *e* 23 38 14.6
GROC *e*S **S 23 42 18.8 -0.8**
GROC pmax pmax
comp=Z,65nm,1.0s
HMDM Hanimaadhoo 32.20 206 P **P 23 37 11.1 -0.5**
HMDM IAmb IAmb 23 37 26.1
comp=Z,38nm,0.9s
NACB Ninganchiao 32.29 103 P **P 23 37 12.7 +0.4**
NACB IAmb IAmb 23 37 25.5
comp=Z,20nm,0.8s
TJN Taejon 32.43 78⇓*e*P **P 23 37 13.4 -0.1**
YULB Yu-li 32.46 104 P **P 23 37 13.4 -0.4**
YULB IAmb IAmb 23 37 29.1
comp=Z,27nm,1.1s
NAX Nakhchivan 32.51 287 P **P 23 37 15.2 +1.0**
LHMI Lhok Sumawe 32.59 161 P **P 23 37 14.5 -0.5**
TWG Pinlang 32.59 105 P **P 23 37 15.3 +0.3**
KSRS Korea Array 32.65 76 P **P 23 37 14.4 -1.0**
comp=Z,13nm,1.0s,baz=272,slow=8.6,SNR=10
KSRS LR LR 23 50 34.0
comp=Z,3μm,19.4s,baz=283,slow=37
ZEA Zeya 32.71 45 *e*P **P 23 37 15.8 +0.1**
ZEA *e*S **S 23 42 39.0 +7.1**
ZEA *e*SS **SnSn 23 44 35.0 +8.1**
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA pmax pmax
comp=Z,300nm,8.0s
ZEA smax smax
comp=E,2μm,16.0s
ZEA MLR MLR
comp=E,14μm,14.0s
ZEA MLR MLR
comp=Z,16μm,14.0s
ZEA MLR MLR
comp=N,4μm,9.0s
NRIK Noril'sk 32.79 0 P **P 23 37 16.6 +0.3**
comp=N,19nm,0.7s,baz=173,slow=7.1,SNR=13
NRIK LR LR 23 51 52.3
comp=N,26μm,19.6s,baz=186,slow=39
GNI Garni 32.95 289*c i*P **P 23 37 19.5 +1.3**
GNI pmax pmax
comp=Z,31nm,0.7s
GNI Garni 32.95 289 P **P 23 37 19.7 +1.5**
GNI IAmb IAmb 23 37 23.9
comp=Z,46nm,1.1s
MDJ Mudanjiang 33.14 63 P **P 23 37 19.2 -0.3**
MDJ IAmb IAmb 23 37 29.0
comp=Z,37nm,1.4s
ZEI Tsey 33.31 294 *e*P **P 23 37 22.1 +0.7**
ZEI pmax pmax
comp=Z,30nm,1.8s
KULM Kulim 33.66 155 P **P 23 37 23.9 -0.4**
KULM IAmb IAmb 23 37 26.6
comp=Z,24nm,0.9s
AKH Akhalkalaki 33.74 292 P **P 23 37 26.9 +1.9**
AKH pmax pmax
comp=Z,51nm,1.3s
AKH Akhalkalaki 33.74 292 P **P 23 37 26.9 +1.9**
AKH IAmb IAmb 23 37 32.9
comp=Z,51nm,1.3s
GOF Gofitskoye 33.83 298⇓*i*P **P 23 37 26.8 +1.2**
GOF pmax pmax
comp=Z,44nm,1.0s
KBZ Khabaz 33.98 296 P **P 23 37 26.7 -0.2**
comp=Z,3.2nm,0.8s,baz=76,slow=7.1,SNR=7.7
KBZ LR LR 23 54 34.5
comp=Z,8μm,18.0s,baz=80,slow=42
KIV Kislovodsk 34.12 296 *e*P **P 23 37 28.4 +0.1**
KIV *e*S **S 23 42 55.3 +1.0**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,17μm,16.0s
KIV Kislovodsk 34.12 296 P **P 23 37 28.3 0.0**
MSHR Mys Shultsa 34.38 66⇓*e*P **P 23 37 31.3 +0.9**
IPM Ipoh 34.54 154 P **P 23 37 31.8 -0.2**
IPM IAmb IAmb 23 37 39.9
comp=Z,54nm,1.5s
KLR Kul'dur 34.74 54*de*P **P 23 37 33.1 -0.3**
KLR pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 34.74 54 LR LR 23 52 36.2
comp=Z,23μm,18.6s,baz=264,slow=38
USRK Ussuriysk Ar. 34.87 63 LR LR 23 53 22.3
comp=Z,4μm,20.8s,baz=270,slow=39
VRH Novokhopyorsk 35.02 309 *e*P **P 23 37 35.1 -0.7**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,13μm,15.0s
PSI Prapat 35.45 159 P **P 23 37 38.4 -1.6**
PSI pmax pmax
comp=Z,35nm,1.5s
RPSI Rantau Prapat 35.55 159 P **P 23 37 38.4 -2.3**
JNU Nakatsue 36.09 82 IAmb IAmb 23 37 51.8
comp=Z,76nm,1.5s
SOC Sochi 36.30 296 *e*P **P 23 37 45.7 -1.2**
SOC *e* 23 39 04.2
SOC *e*S **S 23 43 28.9 +1.4**
SOC *e*SS **SnSn 23 45 57.4 +3.3**
SOC pmax pmax
comp=Z,12nm,0.5s
SOC MLR MLR
comp=Z,7μm,17.0s
GSI Gunungsitoli 36.51 162 P **P 23 37 48.8 -0.1**
GSI IAmb IAmb 23 38 08.1
comp=Z,54nm,1.2s
VSR Storozhevoye 36.62 309 *e*P **P 23 37 48.4 -1.2**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR MLR MLR
comp=Z,16μm,17.0s
YAK Yakutsk 36.71 32 *e*P **P 23 37 49.8 -0.4**
YAK *e* 23 39 15.4
YAK *e*S **S 23 43 31.1 -2.3**
YAK *e*SS **SnSn 23 46 00.5 -3.2**
YAK *e*SSS SSS 23 46 24.5
YAK pmax pmax
comp=Z,50nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,29nm,1.3s
YAK pmax pmax
comp=Z,49nm,1.9s
YAK pmax pmax
comp=E,119nm,1.6s
YAK pmax pmax
comp=N,46nm,2.2s
YAK smax smax
comp=N,409nm,4.1s
YAK smax smax
comp=E,386nm,4.4s
YAK MLR MLR
comp=Z,5μm,16.0s
YAK MLR MLR
comp=N,3μm,16.0s
YAK Yakutsk 36.71 32 P **P 23 37 49.5 -0.7**
comp=N,13nm,0.6s,baz=295,slow=2.9,SNR=5.6
YAK Yakutsk 36.71 32 P **P 23 37 49.8 -0.4**
YAK IAmb IAmb 23 37 54.9
comp=Z,36nm,0.8s
LPSR Galich'ya Gora 36.90 311 *e*P **P 23 37 51.6 -0.3**
LPSR pmax pmax
comp=Z,40nm,1.0s
LPSR MLR MLR
comp=Z,15μm,19.0s
ANN Anapa 37.82 298 *e*P **P 23 37 59.3 -0.5**
ANN *e*S **S 23 43 51.4 +0.7**
ANN pmax pmax
comp=Z,63nm,2.0s
ANN MLR MLR
comp=N,5μm,15.0s
ANN MLR MLR
comp=Z,6μm,16.0s
ANN MLR MLR
comp=E,4μm,16.0s
GRNR Gornyy 37.84 52⇓*i*P **P 23 38 00.0 +0.1**
GRNR *i* 23 38 00.9
GRNR *e*S **S 23 43 50.3 -0.6**
GRNR pmax pmax
comp=Z,20nm,1.1s
MOS Moscow 38.08 316 *e*P **P 23 38 00.8 -1.1**
MOS *e* 23 40 14.9
MOS *e*S **S 23 43 56.5 +2.1**
MOS pmax pmax
comp=Z,85nm,1.7s
MOS MLR MLR
comp=Z,13μm,16.0s
MOS MLR MLR
comp=E,12μm,17.0s
KAAM Kaadhehdhoo 38.15 203 P **P 23 38 02.7 -0.1**
KLMR Klimovskoe 38.29 325 *e*P **P 23 38 02.4 -1.1**
KLMR *e*S **S 23 43 57.7 +0.3**
KLMR *e*SS **SnSn 23 46 42.7 +1.0**
KLMR pmax pmax
comp=Z,73nm,1.2s
KLMR MLR MLR
comp=Z,13μm,12.0s
KLMR Klimovskoe 38.29 325 *e*P **P 23 38 02.4 -1.1**
KLMR AMP 23 38 08.4
comp=Z,73nm,1.2s
KLMR *e*S **S 23 43 57.7 +0.3**
KLMR *e*S **S 23 43 57.7 +0.3**
KLMR *e*SS **SnSn 23 46 42.8 +1.0**
KLMR *e*SS **SnSn 23 46 42.8 +1.0**
KLMR LQ LQ 23 50 34.2
KLMR LQ LQ 23 50 34.2
KLMR LR LR 23 53 56.0
KLMR AMP 23 55 47.4
comp=Z,13μm,12.1s
BKNI Bangkinang 38.44 157 P **P 23 38 03.3 -1.9**
BKNI IAmb IAmb 23 38 07.2
comp=Z,67nm,1.1s
OBN Obninsk 38.59 315 *i* P **P 23 38 05.9 -0.2**
OBN pmax pmax
comp=Z,63nm,1.6s
OBN MLR MLR
comp=Z,12μm,17.0s
PDSI Padang 39.43 158 P **P 23 38 12.1 -1.5**
TMCR Tamitsa 40.00 329 *e*P **P 23 38 19.6 +1.8**
TMCR pmax pmax
comp=Z,78nm,1.0s
SIM Simferopol' 40.15 299 *e*P **P 23 38 16.9 -2.4**
SIM *e*S **S 23 44 26.0 +0.2**
SIM pmax pmax
comp=Z,17nm,0.9s
SIM pmax pmax
comp=Z,100nm,7.4s
SIM MLR MLR
comp=E,3μm,14.0s
NKL Nikolayevsk 40.56 48 *e*P **P 23 38 21.1 -1.5**
NKL *e* 23 39 58.4
NKL *e* 23 40 27.9
NKL pmax pmax
comp=E,10.0nm,1.1s
NKL pmax pmax
comp=Z,32nm,1.1s
NKL pmax pmax
comp=N,5.0nm,0.8s
NKL pmax pmax
comp=Z,101nm,2.7s
KKM Kota Kinabalu 40.60 131 P **P 23 38 23.4 0.0**
KKM IAmb IAmb 23 38 27.6
comp=Z,64nm,1.3s
BZK Bozkurt 40.69 294 ⇑P **P 23 38 22.7 -1.1**
MJB9 Matsu-Tunnel 40.86 74 P **P 23 38 24.7 -0.6**
MAJO Matsushiro 40.86 74⇓*e*P **P 23 38 24.8 -0.6**
MAJO pmax pmax
comp=Z,14nm,1.1s
MAJO Matsushiro 40.86 74 P **P 23 38 25.0 -0.4**
MAT Matsushiro 40.86 74 P **P 23 38 24.1 -1.3**
MAT S **S 23 44 36.6 -0.1**
MJAR Matsushiro Arr 40.86 74 P **P 23 38 24.8 -0.6**
MJAR pmax pmax
comp=Z,5.0nm,1.2s
MJAR Matsushiro Arr 40.86 74 P **P 23 38 24.3 -1.0**
comp=Z,11nm,1.1s,baz=291,slow=7.8,SNR=9.9
MJAR LR LR 23 55 45.8
comp=Z,3μm,19.8s,baz=300,slow=37
MJAR Matsushiro Arr 40.86 74 P **P 23 38 24.8 -0.6**
ILGA Ilgaz 41.07 293 P **P 23 38 28.0 +0.7**
ILGA IAmb IAmb 23 38 30.6
comp=Z,43nm,1.0s
KSM Kuching 41.16 143 P **P 23 38 27.8 -0.2**
KSM IAmb IAmb 23 38 32.4
comp=Z,45nm,1.2s
TIXI Tiksi 41.20 19⇓*e*P **P 23 38 25.9 -1.7**
TIXI pmax pmax
comp=Z,31nm,2.2s
TIXI Tiksi 41.20 19 P **P 23 38 26.7 -1.0**
comp=Z,4.5nm,0.9s,baz=180,slow=24,SNR=6.3
TIXI PP **PP 23 40 02.3 -0.2**
comp=Z,10nm,1.0s,baz=180,slow=24,SNR=5.8
TIXI Tiksi 41.20 19 P **P 23 38 26.9 -0.8**
SBUM Sibu 41.29 139 P **P 23 38 29.3 +0.3**
BRTR Keskin Array B 41.41 291 P **P 23 38 30.2 +0.2**
comp=Z,13nm,0.8s,baz=98,slow=7.5,SNR=53
BRTR LR LR 23 59 53.0
comp=Z,1μm,18.0s,baz=76,slow=42
BRTR Keskin Array B 41.41 291 P **P 23 38 29.8 -0.2**
ANTO Ankara 42.02 291 P **P 23 38 35.4 +0.6**
ANTO pmax pmax
comp=Z,32nm,0.9s
ANTO Ankara 42.02 291 ⇑P **P 23 38 36.4 +1.5**
ANTO Ankara 42.02 291 P **P 23 38 35.4 +0.6**
ANTO IAmb IAmb 23 38 41.4
comp=Z,32nm,0.8s
BR231 Keskin MP Arra 42.03 291 IAmb IAmb 23 38 42.3
comp=Z,62nm,1.3s
YSS Yuzh-Sakhalins 42.16 58⇓*e*P **P 23 38 35.2 -0.7**
YSS *e*PPP PPP 23 40 45.9
YSS *e*S **S 23 44 56.4 +0.8**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=N,4μm,14.0s
YSS MLR MLR
comp=Z,8μm,14.0s
YSS MLR MLR
comp=E,6μm,13.0s
YSS Yuzh-Sakhalins 42.16 58 P **P 23 38 35.0 -0.8**
ASAJ Asahikawa 42.46 62 P **P 23 38 38.5 +0.1**
comp=E,8.2nm,0.6s,baz=338,slow=5.1,SNR=3.8
JOF Joensuu 42.56 326 P **P 23 38 40.0 +1.1**
JOF pmax pmax
comp=Z,32nm,0.9s
LVZ Lovozero 42.58 334⇑*e*P **P 23 38 39.1 +0.1**
LVZ pmax pmax
comp=Z,48nm,1.1s
LVZ Lovozero 42.58 334 P **P 23 38 40.0 +1.1**
LVZ IAmb IAmb 23 38 45.9
comp=Z,70nm,1.2s
AKASG Malin Array Be 42.90 308 P **P 23 38 41.7 -0.1**
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 42.90 308 P **P 23 38 41.6 -0.2**
comp=Z,2.5nm,0.7s,baz=75,slow=6.4,SNR=14
AKASG PP **PP 23 40 18.4 -2.8**
comp=Z,1.8nm,0.6s,baz=79,slow=7.0,SNR=5.8
AKASG LR LR 23 58 24.6
comp=Z,11μm,19.3s,baz=85,slow=39

AKASG	**Malin Array Be**	42.90	308	P	**P**	**23 38 41.7 -0.1**
MILM	**Milestii Mici**	43.56	302	⇑P	**P**	**23 38 44.6 -2.6**
MICGM	**Minsk**	43.57	314	*e*P	**P**	**23 38 46.0 -1.2**
MICGM				*e*PP	**PP**	**23 40 30.0 +1.7**
MICGM				*e*S	**S**	**23 45 16.0 -0.1**
MICGM				*e*SS	SS	23 48 18.0 -12
MICGM				*e*SSS	SSS	23 48 50.0
MICGM				*e*LR	LR	23 55 20.0
MICGM				LRM	MLR	23 58 06.0
	comp=E,7.5nm,18.0s					
MICGM				LRM	MLR	23 58 08.0
	comp=Z,20nm,20.0s					
MICGM				LRM	MLR	23 58 10.0
	comp=Z,17nm,16.0s					
MNK	**Minsk**	43.57	314	*e*P	**P**	**23 38 46.0 -1.2**
MNK				*e*		23 40 30.0
MNK				*e*S	**S**	**23 45 16.0 -0.1**
MNK				*e*		23 48 18.0
MNK				*e*		23 48 50.0
MNK				MLR	MLR	
	comp=E,7μm,18.0s					
MNK				MLR	MLR	
	comp=Z,20μm,20.0s					
MNK				MLR	MLR	
	comp=Z,17μm,16.0s					
SORM	**Soroca**	43.71	304	⇑P	**P**	**23 38 47.0 -1.4**
SORM	**Soroca**	43.71	304	⇑P	**P**	**23 38 47.0 -1.4**
TOPG	**Topolog**	44.19	300	⇑P	**P**	**23 38 50.4 -1.9**
TIRR	**Tirgusor**	44.24	299	P	**P**	**23 38 53.3 +0.6**
TIRR				pmax	pmax	
	comp=Z,36nm,1.4s					
TIRR	**Tirgusor**	44.24	299	P	**P**	**23 38 53.3 +0.6**
ISP	**Isparta**	44.26	289	P	**P**	**23 38 53.1 0.0**
ISP				pmax	pmax	
	comp=Z,34nm,1.0s					
ISP	**Isparta**	44.26	289	P	**P**	**23 38 53.1 0.0**
ISP				IAmb	IAmb	23 38 54.5
	comp=Z,34nm,1.0s					
VSU	**Vasula**	44.27	319	⇑*e*P	**P**	**23 38 53.1 +0.4**
VSU				pmax	pmax	
	comp=Z,50nm,1.1s					
CFR	**Carcaliu**	44.30	300	⇑P	**P**	**23 38 51.5 -1.7**
CFR	**Carcaliu**	44.30	300	⇑P	**P**	**23 38 51.5 -1.7**
IZAR	**Zarasai**	44.49	315	*e*ScP	**P**	**23 38 56.4 +1.8**
IIGN	**Ignalina**	44.52	315	*e*ScP	**P**	**23 38 55.5 +0.8**
HARR	**Harsova**	44.54	299	⇑P	**P**	**23 38 55.1 +0.1**
HARR	**Harsova**	44.54	299	⇑P	**P**	**23 38 55.1 +0.1**
ISAL	**Salakas**	44.57	315	*e*ScP	**P**	**23 38 56.0 +0.9**
ICOR	**Ion Corvin**	44.74	299	⇑P	**P**	**23 38 57.4 +0.7**
FIA1	**FINESS Array S**	44.79	323	P	**P**	**23 38 57.0 +0.2**
FIA1				IAmb	IAmb	23 39 04.4
	comp=Z,61nm,1.5s					
FINES	**FINESS Array B**	44.79	323	P	**P**	**23 38 58.1 +1.3**
	comp=Z,8.7nm,0.9s,baz=88,slow=14,SNR=6.6					
FINES				PP	**PP**	**23 40 38.3 -2.8**
	comp=Z,5.5nm,0.8s,baz=116,slow=5.4,SNR=2.7					
FINES				LR	LR	23 58 44.3
	comp=Z,5μm,20.1s,baz=92,slow=38					
FINES	**FINESS Array B**	44.79	323	P	**P**	**23 38 56.2 -0.6**
YUK	**Yuzh-Kuril'sk**	44.79	61	*e*P	**P**	**23 38 58.2 +1.2**
YUK				*e*PPP	PPP	23 41 17.7
YUK				*e*S	**S**	**23 45 33.0 -1.1**
YUK				*e*SS	**SS**	**23 48 52.5 -2.1**
YUK				*e*SSS	SSS	23 49 41.3
YUK				pmax	pmax	
	comp=Z,316nm,1.1s					
YUK				pmax	pmax	
	comp=Z,508nm,1.5s					
YUK				MLR	MLR	
	comp=Z,6μm,14.0s					
SUF	**Sumiainen**	44.88	325	P	**P**	**23 38 57.5 0.0**
SUF				pmax	pmax	
	comp=Z,67nm,1.4s					
TESR	**Tescani**	45.10	302	⇑P	**P**	**23 38 58.7 -0.8**
VRI	**Vrincioaia**	45.16	301	⇑P	**P**	**23 38 59.7 -0.3**
VRI	**Vrincioaia**	45.16	301	⇑P	**P**	**23 38 59.7 -0.3**
PLOR	**Plostina**	45.21	301	⇓P	**P**	**23 39 00.1 -0.4**
PLOR	**Plostina**	45.21	301	⇓P	**P**	**23 39 00.1 -0.4**
BIZ	**Bicaz**	45.39	303	⇓	**P**	**23 39 03.5 +1.6**
MLR	**Muntele Rosu**	45.77	301	⇑P	**P**	**23 39 05.2 +0.2**
MLR	**Muntele Rosu**	45.77	301	⇑P	**P**	**23 39 05.2 +0.2**
BURAR	**Bucovina Array**	45.88	304	⇑P	**P**	**23 39 05.3 -0.5**
BURAR	**Bucovina Array**	45.88	304	⇑P	**P**	**23 39 05.3 -0.5**
BURAR	**Bucovina Array**	45.88	304	P	**P**	**23 39 05.5 -0.3**
BUR08	**Bucovina Ar. S**	45.88	304	P	**P**	**23 39 05.9 +0.1**
DOPR	**Dopca**	46.06	302	⇑P	**P**	**23 39 08.0 +0.8**
ARCES	**ARCESS Array B**	46.23	335	P	**P**	**23 39 08.4 +0.2**
	comp=Z,23nm,1.0s,baz=87,slow=8.2,SNR=11					
ARCES				LR	LR	00 00 32.4
	comp=Z,4μm,18.5s,baz=103,slow=39					
ARCES	**ARCESS Array B**	46.23	335	P	**P**	**23 39 08.5 +0.3**
ARE0	**ARCESS Array S**	46.23	335	P	**P**	**23 39 08.4 +0.2**
MA2	**Magadan**	46.30	39	*de*P	**P**	**23 39 09.0 +0.2**
MA2				pmax	pmax	
	comp=Z,19nm,1.1s					
MA2	**Magadan**	46.30	39	P	**P**	**23 39 09.1 +0.2**
MA2				IAmb	IAmb	23 39 16.9
	comp=Z,34nm,1.2s					
LVV	**L'vov**	46.31	307	*e*P	**P**	**23 39 06.8 -2.2**
LVV				MLR	MLR	
	comp=N,2μm,17.0s					
LVV				MLR	MLR	
	comp=E,5μm,17.0s					
LVV				MLR	MLR	
	comp=Z,5μm,17.0s					
VOIR		46.39	301	⇑P	**P**	**23 39 10.5 +0.6**
VOIR		46.39	301	⇑P	**P**	**23 39 10.5 +0.6**
ARCR	**ARCALIA**	46.55	303	⇓P	**P**	**23 39 11.2 +0.2**
GOLR		46.58	300	⇑P	**P**	**23 39 11.1 -0.1**
ARR	**Arges**	46.70	301	⇓P	**P**	**23 39 13.2 +0.9**
ALN	**Alexandroupoli**	46.75	295	P	**P**	**23 39 13.2 +0.6**
ALN				pmax	pmax	
	comp=Z,21nm,1.4s					
ALN	**Alexandroupoli**	46.75	295	P	**P**	**23 39 13.2 +0.6**
CJR	**Cluj-Napoca**	47.13	303	⇓P	**P**	**23 39 16.8 +1.2**
CJR	**Cluj-Napoca**	47.13	303	⇓P	**P**	**23 39 16.8 +1.2**
SEY	**Seymchan**	47.14	35	⇑*e*P	**P**	**23 39 15.9 +0.6**
KWP	**Kalwaria Pacla**	47.19	307	*e*S	**P**	**23 39 16.1 +0.1**
KWP				*e*S	**P**	**23 39 16.1 +0.1**
LOT	**Lotru**	47.27	301	⇓P	**P**	**23 39 17.4 +0.6**
TRPA	**Tarpa**	47.56	305	⇑P	**P**	**23 39 19.3 +0.4**
KOLS	**Kolonicke sedl**	47.59	306	*e*P	**P**	**23 39 17.5 -1.6**
KOLS	**Kolonicke sedl**	47.59	306	*e*P	**P**	**23 39 17.5 -1.6**
UZH	**Uzhgorod**	47.63	306	*e*P	**P**	**23 39 19.8 +0.5**
UZH				*e*		23 39 27.5
UZH				*i* S	**S**	**23 46 10.5 -4.3**
UZH				*i*		23 46 20.1
UZH				*i*		23 49 35.1
UZH				MLR	MLR	
	comp=N,2μm,18.0s					
UZH				MLR	MLR	
	comp=E,2μm,18.0s					
UZH				MLR	MLR	
	comp=Z,2μm,18.0s					
DRGR		47.71	303	⇓P	**P**	**23 39 20.9 +0.8**
DRGR		47.71	303	⇓P	**P**	**23 39 20.9 +0.8**
GZR	**Gura Zlata**	47.97	301	⇓P	**P**	**23 39 22.8 +0.7**
GZR	**Gura Zlata**	47.97	301	⇓P	**P**	**23 39 22.8 +0.7**
VTS	**Vitosha**	48.33	298	P	**P**	**23 39 25.2 +0.1**
VTS				pmax	pmax	
	comp=Z,30nm,1.3s					
VTS	**Vitosha**	48.33	298	⇓P	**P**	**23 39 26.1 +1.1**
VTS	**Vitosha**	48.33	298	P	**P**	**23 39 25.2 +0.1**
VTS				IAmb	IAmb	23 39 29.6
	comp=Z,30nm,1.3s					
HERR	**Herculane**	48.33	301	⇑P	**P**	**23 39 23.5 -1.4**
SIRR	**Siria**	48.53	303	⇓P	**P**	**23 39 27.5 +1.1**
SANT	**Santorini**	48.55	289	P	**P**	**23 39 25.9 -0.8**
BZS	**Buzias**	48.71	302	⇓P	**P**	**23 39 28.3 +0.5**
BZS	**Buzias**	48.71	302	⇓P	**P**	**23 39 28.3 +0.5**
NIE	**Niedzica**	48.77	307	*e*S	**P**	**23 39 28.9 +0.7**
NIE				*e*S	**P**	**23 39 28.9 +0.7**
KECS	**Kecovo**	48.83	306	*e*P	**P**	**23 39 28.9 +0.2**
KECS	**Kecovo**	48.83	306	*e*P	**P**	**23 39 28.9 +0.2**
MDVR	**Moldovita**	48.84	301	⇑P	**P**	**23 39 29.5 +0.7**
OJC	**Ojcow**	48.94	308	P	**P**	**23 39 30.4 +0.9**
OJC				pmax	pmax	
	comp=Z,34nm,2.0s					
OJC	**Ojcow**	48.94	308	IAmb	IAmb	23 39 33.0
	comp=Z,24nm,1.1s					
OJC	**Ojcow**	48.94	308	*e*S	**P**	**23 39 29.3 -0.2**
OJC				*e*S	**P**	**23 39 29.3 -0.2**
PSZ	**Piszkesteto**	49.34	305	P	**P**	**23 39 31.8 -0.9**
PSZ				pmax	pmax	
	comp=Z,26nm,1.4s					
PSZ	**Piszkesteto**	49.34	305	P	**P**	**23 39 31.8 -0.9**
VYHS	**Vyhne**	49.90	306	*e*P	**P**	**23 39 37.0 +0.1**
VYHS				pmax	pmax	
	comp=Z,117nm,2.1s					
VYHS	**Vyhne**	49.90	306	*e*P	**P**	**23 39 37.0 +0.1**
VYHS				*e*PP	**PP**	**23 41 35.4 +3.9**
AGG	**Agios Georgios**	50.03	293	P	**P**	**23 39 36.9 -1.1**
AGG				pmax	pmax	
	comp=Z,25nm,1.2s					
AGG	**Agios Georgios**	50.03	293	P	**P**	**23 39 36.9 -1.1**
OKC	**Ostrava-Krasne**	50.05	308	AMS	AMS	00 02 20.0
	comp=Z,9μm,17.4s					
XMIS	**Christmas Isla**	50.08	156	P	**P**	**23 39 37.8 -0.7**
XMIS				IAmb	IAmb	23 39 40.1
	comp=Z,37nm,1.0s					
KOLL	**Kolacno**	50.17	306	*e*P	**P**	**23 39 39.7 +0.9**
SRO	**Srobarova**	50.40	306	*e*P	**P**	**23 39 41.8 +1.2**
SRO				pmax	pmax	
	comp=Z,29nm,1.2s					
SRO	**Srobarova**	50.40	306	*e*P	**P**	**23 39 41.8 +1.2**
MSEY	**Mahe Island**	50.43	222	P	**P**	**23 39 39.0 -2.2**
MSEY				pmax	pmax	
	comp=Z,39nm,1.3s					
MSEY	**Mahe Island**	50.43	222	P	**P**	**23 39 39.0 -2.2**
MSEY				IAmb	IAmb	23 39 43.4
	comp=Z,39nm,1.3s					
MORC	**Moravsky Berou**	50.45	308	⇑P	**P**	**23 39 39.6 -1.5**
MORC	**Moravsky Berou**	50.45	308	⇑P	**P**	**23 39 39.6 -1.5**
MORC	**Moravsky Berou**	50.45	308	*e*P	**P**	**23 39 41.1 0.0**
MORC	**Moravsky Berou**	50.45	308	IAmb	IAmb	23 39 47.0
	comp=Z,44nm,1.5s					
SPA0	**Spitsbergen Ar**	50.47	345	P	**P**	**23 39 42.0 +1.3**
JAVC	**Velka Javorina**	50.57	307	*e*P	**P**	**23 39 43.1 +1.1**
PEA0B	**Petropavlovsk-**	50.76	47	P	**P**	**23 39 42.0 -1.3**
PEA0B				pmax	pmax	
	comp=Z,58nm,1.5s					
PEA0B	**Petropavlovsk-**	50.76	47	P	**P**	**23 39 42.0 -1.3**
PEA0B				IAmb	IAmb	23 39 43.9
	comp=Z,58nm,1.4s					
PETK	**Petropavlovsk-**	50.76	47	P	**P**	**23 39 42.9 -0.4**
	comp=Z,7.8nm,1.0s,baz=242,slow=3.2,SNR=5.2					
PETK				LR	LR	00 02 47.9
	comp=Z,10μm,18.2s,baz=279,slow=38					
PETK	**Petropavlovsk-**	50.76	47	P	**P**	**23 39 43.0 -0.4**
SMOL	**Smolenice**	50.81	307	*e*P	**P**	**23 39 45.0 +1.3**
SMOL				pmax	pmax	
	comp=Z,50nm,2.5s					
SMOL	**Smolenice**	50.81	307	*e*P	**P**	**23 39 45.0 +1.3**
KRLC	**Kraliky**	50.87	309	*e*P	**P**	**23 39 44.5 +0.3**
KRLC				AMS	AMS	00 02 50.0
	comp=Z,10μm,15.7s					
MODS	**Modra-Piesok**	50.94	306	*e*P	**P**	**23 39 46.7 +2.0**
MODS				pmax	pmax	
	comp=Z,135nm,2.5s					
MODS	**Modra-Piesok**	50.94	306	*e*P	**P**	**23 39 46.7 +2.0**
KSP	**Ksiaz**	51.00	310	*e*S	**P**	**23 39 45.3 +0.2**
KSP				*e*S	**P**	**23 39 45.3 +0.2**
DPC	**Dobruska-Polom**	51.09	309	*e*P	**P**	**23 39 46.6 +0.7**
DPC				*e*S	S	23 47 16.5 +13
DPC				MLR	MLR	
	comp=Z,10μm,15.2s					
DPC	**Dobruska-Polom**	51.09	309	*e*P	**P**	**23 39 46.6 +0.7**
DPC				*e*x	x	23 39 59.4
DPC				*e*x	x	23 47 16.5
DPC				AMS	AMS	00 03 00.0
	comp=Z,10μm,15.2s					
VRAC	**Vranov**	51.16	308	⇑P	**P**	**23 39 47.5 +1.1**
VRAC	**Vranov**	51.16	308	⇑P	**P**	**23 39 47.5 +1.1**
VRAC	**Vranov**	51.16	308	*e*P	**P**	**23 39 46.2 -0.2**
CHVC	**Chvalec**	51.20	309	*e*P	**P**	**23 39 46.6 -0.1**
CHVC				AMS	AMS	00 03 00.0
	comp=Z,11μm,15.7s					
UPC	**Upice**	51.25	309	*e*P	**P**	**23 39 47.4 +0.4**
UPC				*e*S	S	23 47 18.7 +13
UPC				MLR	MLR	
	comp=Z,11μm,15.3s					
UPC	**Upice**	51.25	309	*e*P	**P**	**23 39 47.4 +0.4**
UPC				*e*x	x	23 40 00.9
UPC				*e*x	x	23 47 18.7
UPC				AMS	AMS	00 03 10.0
	comp=Z,11μm,15.3s					
KRUC	**Moravsky**	51.34	307	*e*P	**P**	**23 39 47.8 +0.1**
PET	**Petropavlovsk**	51.34	47	*e*P	**P**	**23 39 48.9 +1.3**
PET				*e*		23 41 48.2
PET				*e*S	**S**	**23 47 05.2 -1.5**
PET				*e*SS	**SS**	**23 50 38.7 -3.2**
NC405	**NORSAR Array S**	51.72	323	P	**P**	**23 39 50.7 +0.3**
TNTI	**Ternate**	51.74	124	P	**P**	**23 39 51.2 +0.1**
NC602	**NORSAR Array S**	51.85	323	P	**P**	**23 39 51.3 0.0**
TREC	**Trest**	51.87	308	AMS	AMS	00 03 30.0
	comp=Z,8μm,15.3s					
NC303	**NORSAR Array S**	51.87	323	P	**P**	**23 39 52.0 +0.6**
NB201	**NORSAR Array S**	51.93	323	P	**P**	**23 39 52.4 +0.5**
NB2	**NORSAR Subarra**	51.97	323	P	**P**	**23 39 51.3 -1.0**
	comp=Z,3.9nm,0.6s,baz=82,slow=7.9					
NOA	**NORSAR Array B**	51.97	323	P	**P**	**23 39 51.7 -0.6**
	comp=Z,17nm,1.0s,baz=82,slow=7.4,SNR=19					
NOA				LR	LR	00 02 55.2
	comp=Z,4μm,20.5s,baz=80,slow=37					
CONA	**Conrad Observa**	51.97	306	*e*pP	**P**	**23 39 52.7 +0.2**
	comp=Z,15nm,0.9s,SNR=8.9					
PVCC	**Panska Ves**	52.14	310	*e*P	**P**	**23 39 54.5 +0.9**
PVCC				MLR	MLR	
	comp=Z,9μm,17.5s					
PVCC	**Panska Ves**	52.14	310	*e*P	**P**	**23 39 54.5 +0.9**
PVCC				AMS	AMS	00 03 30.0
	comp=Z,9μm,17.5s					
NC204	**NORSAR Array S**	52.15	324	P	**P**	**23 39 53.7 +0.1**
GOPC	**GO Pecny, Ondr**	52.15	309	*e*P	**P**	**23 39 53.7 -0.1**
GOPC				*e*S	**S**	**23 47 21.7 +3.7**
GOPC				MLR	MLR	
	comp=Z,10μm,15.0s					
GOPC	**GO Pecny, Ondr**	52.15	309	*e*P	**P**	**23 39 53.7 -0.1**
GOPC				*e*S	**S**	**23 47 21.7 +3.7**
GOPC				AMS	AMS	00 03 30.0
	comp=Z,10μm,15.0s					
NAO01	**NORSAR Array S**	52.16	323	P	**P**	**23 39 52.9 -0.8**
NBO00	**NORSAR Array S**	52.18	323	P	**P**	**23 39 53.3 -0.5**
PRU	**Pruhonice**	52.29	309	*e*P	**P**	**23 39 55.3 +0.5**
PRU				*e*S	**S**	**23 47 23.0 +3.2**
PRU				MLR	MLR	
	comp=Z,12μm,15.5s					
PRU	**Pruhonice**	52.29	309	*e*P	**P**	**23 39 55.3 +0.5**
PRU				*e*x	x	23 40 08.2
PRU				*e*S	**S**	**23 47 23.0 +3.2**
PRU				AMS	AMS	00 03 40.0
	comp=Z,12μm,15.5s					
PRA	**Prague**	52.34	309	AMS	AMS	00 03 40.0
	comp=Z,12μm,14.1s					
ARSA	**Arzberg**	52.37	305	*e*pP	**P**	**23 39 55.8 +0.4**
	comp=Z,15nm,1.1s					
BRG	**Berggiesshubel**	52.44	310	*e*P	**P**	**23 39 55.9 0.0**
	comp=Z,65nm,1.8s					
BRG				S	**S**	**23 47 25.0 +3.1**
BRG				SS	**SS**	**23 51 00.0 +0.6**
BRG	**Berggiesshubel**	52.44	310	*e*P	**P**	**23 39 55.9 0.0**
BRG				S	**S**	**23 47 25.0 +3.1**
BRG				SS	**SS**	**23 51 00.0 +0.6**
BRG				pmax	pmax	
	comp=Z,65nm,1.8s					
SCTE	**Santa Cesarea**	52.51	296	P	**P**	**23 39 56.4 -0.2**
PBCC	**Pribram**	52.71	309	*e*P	**P**	**23 39 58.6 +0.7**
BILL	**Bilibino**	52.73	28	*i* P	**P**	**23 39 58.5 +0.7**
BILL				*i*		23 41 07.8
BILL				*i*		23 41 57.0
BILL				*i* S	S	23 47 15.4 -10
BILL				*i* SS	**SS**	**23 50 56.1 -7.3**
BILL				pmax	pmax	
	comp=Z,11nm,1.0s					
BILL				MLR	MLR	
	comp=Z,10μm,18.0s					
BILL	**Bilibino**	52.73	28	P	**P**	**23 39 58.2 +0.4**
BILL				IAmb	IAmb	23 40 07.9
	comp=Z,32nm,1.2s					
SOKA	**Soboth**	52.85	305	*e*P	**P**	**23 39 58.4 -0.8**
	comp=Z,22nm,1.0s,SNR=8.6					
CLL	**Collm**	52.91	311	*i* P	**P**	**23 39 58.9 -0.4**
CLL				*e*S	**S**	**23 47 34.0 +5.7**
CLL				pmax	pmax	
	comp=Z,176nm,2.4s					
CLL				MLR	MLR	
	comp=Z,5μm,20.3s					
CLL	**Collm**	52.91	311	*i* P	**P**	**23 39 58.9 -0.4**
	comp=Z,176nm,2.4s					
CLL				*i*		23 40 23.4
CLL				*e*S	**S**	**23 47 34.0 +5.7**
CLL				*e*SS	**SKiKP**	**23 51 18.0 -0.7**
CLL				LmH		00 04 00.0
	comp=N,8μm,19.1s					
CLL				LmH		00 04 00.0
	comp=E,1μm,20.6s					
CLL				LmV		00 05 00.0
	comp=Z,5μm,20.3s					
CLL	**Collm**	52.91	311	IAmb	IAmb	23 40 01.6
	comp=Z,25nm,1.1s					
SANI	**Sanana**	52.97	128	P	**P**	**23 39 59.7 -0.5**
KONO	**Kongsberg**	52.99	322	⇓*e*P	**P**	**23 40 01.3 +1.5**
KONO				pmax	pmax	
	comp=Z,27nm,1.2s					
MOA	**Molln**	53.03	306	*e*P	**P**	**23 39 58.3 -2.0**
	comp=Z,8.8nm,0.9s					
GEC2	**GERESS Array S**	53.12	308	IAmb	IAmb	23 40 07.0
	comp=Z,62nm,1.4s					
GERES	**GERESS Array B**	53.12	308	P	**P**	**23 40 01.2 +0.2**
GERES	**GERESS Array B**	53.12	308	P	**P**	**23 40 01.6 +0.6**
	comp=Z,8.5nm,0.8s,baz=77,slow=5.9,SNR=27					
GERES				PP	**PP**	**23 41 59.0 -1.6**
	comp=Z,1.3nm,0.9s,baz=93,slow=4.0,SNR=2.2					
GERES				LR	LR	00 05 18.1
	comp=Z,8μm,18.8s,baz=78,slow=39					
GERES	**GERESS Array B**	53.12	308	P	**P**	**23 40 01.2 +0.2**
KHC	**Kasperske Hory**	53.12	308	*e*P	**P**	**23 40 01.4 +0.4**
KHC				*e*		23 40 10.0
KHC				*e*S	**S**	**23 47 36.3 +5.0**
KHC				MLR	MLR	
	comp=Z,8μm,14.9s					
KHC	**Kasperske Hory**	53.12	308	*e*P	**P**	**23 40 01.4 +0.4**
KHC				*e*x	x	23 40 10.0
KHC				*e*S	**S**	**23 47 36.3 +5.0**
KHC				AMS	AMS	00 04 20.0
	comp=Z,8μm,14.9s					
OBKA	**Obir**	53.22	305	*e*P	**P**	**23 40 00.3 -1.6**
	comp=Z,18nm,1.7s					
NKC	**Novy Kostel**	53.53	310	AMS	AMS	00 04 20.0
	comp=Z,11μm,16.6s					
MUD	**Monsted U'grnd**	53.88	318	*e*P	**P**	**23 40 06.5 +0.2**
MUD	**Monsted U'grnd**	53.88	318	*i* P	**P**	**23 40 06.5 +0.2**
MOX	**Moxa**	53.93	310	P	**P**	**23 40 06.4 -0.5**
MOX				pmax	pmax	
	comp=Z,17nm,2.2s					
TRI	**Trieste**	53.98	304	P	**P**	**23 40 06.8 -0.5**
TRI				pmax	pmax	
	comp=Z,57nm,1.1s					
TRI	**Trieste**	53.98	304	P	**P**	**23 40 06.8 -0.5**
TIP	**Timpagrande**	54.06	296	P	**P**	**23 40 07.3 -0.8**
ACER	**Acerenza**	54.08	298	P	**P**	**23 40 07.7 -0.4**
GRA1	**Grafenberg Arr**	54.44	309	IAmb	IAmb	23 40 13.8
	comp=Z,47nm,1.2s					
WTTA	**Wattenberg**	54.90	306	pP	**P**	**23 40 13.7 -0.5**
	comp=Z,42nm,1.3s,SNR=8.7					
WATA	**Walderalm**	54.92	307	*e*pP	**P**	**23 40 13.5 -0.8**
	comp=Z,41nm,2.1s					
SQTA	**Sankt Quirin**	55.19	306	*e*P	**P**	**23 40 15.4 -0.8**
	comp=Z,15nm,1.0s					
MOTA	**Moosalm**	55.22	307	*e*pP	**P**	**23 40 16.2 -0.3**
	comp=Z,18nm,1.0s,SNR=8.0					
CTI	**Castel Tesino**	55.28	305	IAmb	IAmb	23 40 19.4
	comp=Z,28nm,1.4s					
NRCA	**Norcia**	55.36	301	IAmb	IAmb	23 40 35.6
	comp=Z,50nm,1.3s					
RETA	**Reutte**	55.40	307	*i* pP	**P**	**23 40 17.1 -0.5**
	SNR=8.2					
TEOL	**Teolo**	55.49	304	IAmb	IAmb	23 40 21.3
	comp=Z,47nm,1.2s					
FETA	**Feichten**	55.57	306	*e*pP	**P**	**23 40 18.6 -0.3**
	comp=Z,19nm,1.2s					
MURB	**Monte Urbino**	55.62	302	P	**P**	**23 40 19.7 +0.4**
MSAI	**Masohi**	55.84	126	P	**P**	**23 40 21.7 +0.6**
STU	**Stuttgart**	55.98	309	IAmb	IAmb	23 40 25.5
	comp=Z,51nm,1.4s					
DAVA	**Damuels**	56.03	307	*e*P	**P**	**23 40 21.4 -0.8**
	comp=Z,16nm,1.2s					
TUE	**Stuetta**	56.64	306	P	**P**	**23 40 27.2 +0.4**
BFO	**Black Forest**	56.67	309	P	**P**	**23 40 26.9 +0.2**
BFO				pmax	pmax	
	comp=Z,14nm,1.1s					
BFO	**Black Forest**	56.67	309	P	**P**	**23 40 26.9 +0.2**
MSSA	**Maissana**	57.29	304	P	**P**	**23 40 30.4 -0.8**
MSSA				IAmb	IAmb	23 40 45.5
	comp=Z,46nm,1.2s					
WLF	**Walferdange**	57.58	311	P	**P**	**23 40 33.4 +0.4**
WLF				pmax	pmax	
	comp=Z,36nm,1.2s					
WLF	**Walferdange**	57.58	311	P	**P**	**23 40 33.4 +0.4**
WLF				IAmb	IAmb	23 40 37.3
	comp=Z,36nm,1.2s					
SOEI	**Soe**	58.02	135	P	**P**	**23 40 35.7 -0.9**
RKPI	**Ransiki, Papua**	58.05	120	P	**P**	**23 40 38.1 +1.4**
DAG	**Danmarks Havn**	58.10	345	*i* P	**P**	**23 40 36.2 -0.1**
DAG	**Danmarks Havn**	58.10	345	*i* P	**P**	**23 40 36.2 -0.1**
LPL	**La Plagne**	58.69	306	*e*P	**P**	**23 40 41.5 +0.3**
LPL				pmax	pmax	
	comp=Z,61nm,1.1s					
BNI	**Bardonecchia**	58.90	305	P	**P**	**23 40 41.8 -0.7**
BNI				pmax	pmax	
	comp=Z,28nm,1.3s					
BNI	**Bardonecchia**	58.90	305	P	**P**	**23 40 41.8 -0.7**
BNI				IAmb	IAmb	23 40 59.3
	comp=Z,28nm,1.3s					
KMBO	**Kilima Mbogo**	59.32	242	P	**P**	**23 40 45.7 -0.2**
KMBO				pmax	pmax	
	comp=Z,13nm,1.1s					
KMBO	**Kilima Mbogo**	59.32	242	P	**P**	**23 40 45.1 -0.8**
	comp=Z,5.8nm

comp=Z,20nm,1.1s
KNRA Kununurra 65.36 135 P P 23 41 26.1 +0.2
FITZ Fitzroy Crossi 65.61 139 P P 23 41 27.8 +0.3
FITZ IAmb IAmb 23 41 32.5
comp=Z,13nm,0.9s
PSA00 Pilbara Seismi 65.74 146 P P 23 41 27.8 -0.5
PSA00 Pilbara Seismi 65.74 146 P P 23 41 27.4 -0.9
PSA00 IAmb IAmb 23 41 37.7
comp=Z,19nm,0.9s
TULEG Thule 66.08 354 IAmb IAmb 23 41 40.3
comp=Z,16nm,1.1s
ATKA Atka Island 67.01 41 P P 23 41 35.9 -0.3
TOLK Toolik Lake Re 67.09 19 P P 23 41 36.2 -0.3
baz=313
IMAR Indian Mountai 67.67 23 P P 23 41 39.7 -0.5
COLD Coldfoot 67.89 21 IAmb IAmb 23 41 47.8
comp=Z,14nm,1.0s
ESBB Sonseca Array 68.33 304 IAmb IAmb 23 41 59.9
comp=Z,22nm,1.4s
ESDC Sonseca Array 68.33 304 P P 23 41 44.2 -0.6
comp=Z,4.8nm,0.8s,baz=52,slow=6.6,SNR=27
ESDC LR LR 00 14 49.4
comp=Z,3μm,19.8s,baz=65,slow=39
ESDC Sonseca Array 68.33 304 P P 23 41 44.1 -0.7
TTA Tatalina 68.91 26 P P 23 41 47.2 -0.9
TTA pmax pmax
comp=Z,26nm,1.4s
TTA Tatalina 68.91 26 P P 23 41 47.2 -0.9
TTA IAmb IAmb 23 41 49.9
comp=Z,26nm,1.4s
PBRG Braganca 69.08 307 *e*P **P 23 41 49.7 +0.2**
comp=Z,34nm,1.6s
MLY Manley 69.25 23 P P 23 41 49.8 -0.2
MLY IAmb IAmb 23 41 51.4
comp=Z,37nm,1.4s
BMAR Burnt Mountain 69.28 19 P P 23 41 49.5 -0.7
ANGG Ammassalik, Gr 69.44 339 P P 23 41 51.9 +0.7
MVO Moncorvo 69.59 307 *e*P **P 23 41 52.9 +0.2**
comp=Z,40nm,1.8s
MVO Moncorvo 69.59 307 *e*LR LR 00 11 46.3
comp=Z,3μm,20.0s
FYU Fort Yukon 69.74 20 IAmb IAmb 23 42 10.0
comp=Z,31nm,1.2s
BPAW Bear Paw Mtn. 69.81 23 IAmb IAmb 23 42 09.9
comp=Z,24nm,1.4s
MDM Murphy Dome 70.06 22 P P 23 41 55.4 +0.3
MDM IAmb IAmb 23 42 02.8
comp=Z,16nm,1.1s
POKR Poker Plat Res 70.18 21 P P 23 41 55.6 -0.2
baz=316
KTH Kantishna Hill 70.21 24 P P 23 41 55.6 -0.4
KTH IAmb IAmb 23 42 12.1
comp=Z,28nm,1.2s
TCOL CIGO, UAF Yank 70.23 22 P P 23 41 56.0 -0.1
baz=316
COLA College 70.23 22 *e*P **P 23 41 56.1 +0.1**
COLA pmax pmax
comp=Z,17nm,1.1s
SVW2 Sparrevohn 70.26 27 P P 23 41 56.3 0.0
SVW2 IAmb IAmb 23 42 15.4
comp=Z,26nm,1.2s
MTE Manteigas 70.33 306 *e*S **S 23 51 15.6 +6.1**
MTE Manteigas 70.33 306 *e*LR LR 00 11 56.4
comp=Z,3μm,18.0s
MTE Manteigas 70.33 306 P P 23 41 56.1 -1.0
MTE IAmb IAmb 23 41 57.4
comp=Z,32nm,1.4s
PRP Porcupine Dome 70.44 20 P P 23 41 57.6 +0.1
WRH Wood River Hil 70.45 22 P P 23 41 57.9 +0.5
TRF Thorofare Moun 70.49 24 P P 23 41 57.5 -0.4
ILAR Eielson Array 70.59 21 P P 23 41 57.5 -0.8
comp=Z,4.6nm,0.9s,baz=309,slow=5.2,SNR=13
ILAR PP **PP 23 44 32.1 -1.9**
comp=Z,3.8nm,1.1s,baz=312,slow=8.7,SNR=6.0
ILAR Eielson Array 70.59 21 P P 23 41 56.9 -1.4
PMRV Marv??o 70.74 305 *e*P **P 23 42 00.0 +0.4**
comp=Z,38nm,2.2s
PMRV Marv??o 70.74 305 *e*LR LR 00 05 47.6
comp=Z,2μm,18.0s
COI Coimbra 70.99 306 *e*P **P 23 42 02.0 +0.9**
comp=Z,83nm,2.0s
PCAS Casmilo, Conde 71.13 306 *e*S **S 23 51 27.1 +8.4**
PCAS *e*SS SS 23 56 04.2 +13
INK Inuvik 71.15 15 IAmb IAmb 23 42 09.4
comp=Z,17nm,1.1s
PESTR Estremoz 71.16 305 *e*S **S 23 51 23.5 +4.3**
EVO Evora 71.62 305 *e*P **P 23 42 06.2 +1.2**
comp=Z,42nm,2.1s
RSO Redoubt South 71.72 27 P P 23 42 06.0 +0.6
SUA Susitna One 71.73 25 P P 23 42 05.4 0.0
SFJD Kangerlussuaq 71.76 344 P P 23 42 05.2 -0.1
SFJD pmax pmax
comp=Z,68nm,1.5s
SFJD Kangerlussuaq 71.76 344 P P 23 42 05.2 -0.1
C36M Paulatuk 71.93 11 P P 23 42 05.6 -0.7
baz=334
WRAB Tennant Creek 71.95 133 *de*P **P 23 42 06.4 -0.7**
WRAB pmax pmax
comp=Z,19nm,1.0s
WRAB Tennant Creek 71.95 133 P P 23 42 06.6 -0.4
WRAB IAmb IAmb 23 42 10.1
comp=Z,23nm,1.0s
WRA Warramunga Arr 71.95 133 P P 23 42 06.5 -0.6
WRA Warramunga Arr 71.95 133 P P 23 42 06.3 -0.8
comp=Z,11nm,0.8s,baz=330,slow=5.9,SNR=32
WRA LR LR 00 16 08.2
comp=Z,519nm,21.4s,baz=305,slow=38
WRA Warramunga Arr 71.95 133 P P 23 42 06.5 -0.6
RIDG Independent Ri 71.96 22 IAmb IAmb 23 42 12.2
comp=Z,26nm,1.0s
PVAQ Vaqueiros 72.03 303 *e*S **S 23 51 33.6 +4.5**
PVAQ *e*SS **SS 23 56 13.3 +7.9**
PVAQ Vaqueiros 72.03 303 *e*LR LR 00 13 43.1
comp=Z,2μm,18.0s
PVAQ Vaqueiros 72.03 303 P P 23 42 06.3 -1.1
SCRK Sand Creek 72.03 21 IAmb IAmb 23 42 12.7
comp=Z,22nm,1.0s
EPYK Eagle Plains 72.05 17 P P 23 42 06.7 -0.4
baz=324
EPYK Eagle Plains 72.05 17 IAmb IAmb 23 42 20.2
comp=Z,38nm,1.4s
MESJ Messejana 72.13 304 *e*P **P 23 42 08.1 0.0**
MESJ *e*S **S 23 51 31.6 +1.3**
MESJ AMS AMS 00 19 37.2
comp=Z,3μm,18.8s
MESJ Messejana 72.13 304 *e*P **P 23 42 08.4 +0.4**
comp=Z,44nm,2.1s
MESJ Messejana 72.13 304 *e*P **P 23 42 08.0 0.0**
MESJ *e*S **S 23 51 31.6 +1.3**
EGAK Eagle 72.20 20 IAmb IAmb 23 42 23.4
comp=Z,28nm,1.2s
PMAFR Mafra 72.23 305 *e*S **S 23 51 37.5 +6.1**
PMAFR *e*SS **SS 23 56 14.2 +5.8**
DOT Dot Lake 72.26 21 P P 23 42 07.7 -0.8
PBDV Barranco-do-Ve 72.26 303 *e*P **P 23 42 09.7 +0.8**
comp=Z,103nm,2.0s
PBDV *e*S **S 23 51 32.6 +0.7**
LIS Lisbon 72.27 305 *e*P **P 23 42 08.9 0.0**
LIS AMS AMS 00 19 28.9
comp=N,3μm,12.3s
LIS Lisbon 72.27 305 *e*P **P 23 42 08.9 0.0**
SML Sawmill 72.30 24 P P 23 42 09.1 +0.4
PAX Paxson 72.35 22 P P 23 42 10.3 +1.2
PAX pmax pmax
comp=Z,17nm,1.4s
PAX Paxson 72.35 22 P P 23 42 10.3 +1.2
KNK Knik Glacier 72.54 24 IAmb IAmb 23 42 14.8
comp=Z,43nm,1.3s
MORF Marmelete 72.71 304 *e*S **S 23 51 38.1 +1.1**
MORF AMS AMS 00 21 36.3
comp=Z,3μm,16.1s
MORF Marmelete 72.71 304 *e*S **SKiKP 23 51 43.4 -2.3**
MORF *e*SS **SS 23 56 24.2 +8.3**
PMG Port Moresby 72.76 116 *c i*P **P 23 42 13.6 +1.6**
PMG pmax pmax
comp=Z,33nm,1.0s
PFVI Vila Bisbo 72.92 304 *e*S **SKiKP 23 51 45.0 -1.0**
PFVI *e*SS SS 23 56 35.3 +16
COEN Coen 73.12 122 P P 23 42 12.5 -1.7
SEW Seward 73.14 26 P P 23 42 13.4 -0.2
BCAR Beaver Creek A 73.37 21 P P 23 42 15.0 0.0
GLI Glacier Island 73.38 24 P P 23 42 16.1 +1.0
GLI IAmb IAmb 23 42 33.0
comp=Z,32nm,1.1s
KDAK Kodiak Island 73.63 29 P P 23 42 14.2 -2.3
KDAK pmax pmax
comp=Z,24nm,1.1s
KDAK Kodiak Island 73.63 29 P P 23 42 14.2 -2.3
KDAK IAmb IAmb 23 42 16.8
comp=Z,24nm,1.1s
GLB Gilahina Butte 74.02 23 P P 23 42 17.9 -1.0
VRDI Verde Repeater 74.29 23 P P 23 42 21.2 +0.6
VRDI IAmb IAmb 23 42 36.1
comp=Z,40nm,1.4s
MCARA McCarthy VSAT 74.30 22 P P 23 42 20.8 +0.3
RAGM Ragged Mountai 74.55 24 P P 23 42 21.6 -0.4
ASAR Alice Springs 74.62 136 P P 23 42 22.4 -0.3
comp=Z,10.0nm,0.8s,baz=326,slow=6.0,SNR=40
ASAR LR LR 00 18 57.8
comp=Z,466nm,19.4s,baz=314,slow=39
ASAR Alice Springs 74.62 136 P P 23 42 22.2 -0.6
BALM Baldy 74.78 22 P P 23 42 24.2 +0.8
BALM IAmb IAmb 23 42 29.0
comp=Z,34nm,1.2s
CTGM Chitina Glacie 75.14 22 P P 23 42 25.3 -0.3
CTGM IAmb IAmb 23 42 32.2
comp=Z,29nm,1.2s
LSZ Lusaka 75.59 238 P P 23 42 28.5 -0.1
LSZ pmax pmax
comp=Z,6.0nm,1.0s
LSZ Lusaka 75.59 238 P P 23 42 28.5 -0.1
HYT Haines Junctio 76.38 21 IAmb IAmb 23 42 38.9
comp=Z,18nm,1.0s
SKAG Skagway 78.12 20 P P 23 42 41.9 -0.3
SKAG IAmb IAmb 23 42 49.1
comp=Z,23nm,0.9s
TOA0 Torodi Ar. Sit 78.41 278 IAmb IAmb 23 42 48.2
comp=Z,20nm,1.1s
TORD Torodi Ar. Bea 78.41 278 P P 23 42 42.8 -1.7
comp=Z,11nm,0.8s,baz=48,slow=4.9,SNR=30
TORD LR LR 00 21 28.7
comp=Z,477nm,20.7s,baz=10.0,slow=39
TORD Torodi Ar. Bea 78.41 278 P P 23 42 42.2 -2.3
JIS Juneau Island 79.39 21 P P 23 42 49.5 +0.3
JIS IAmb IAmb 23 42 54.7
comp=Z,30nm,1.1s
CTA Charters Tower 79.53 125 P P 23 42 51.6 +1.2
CTA pmax pmax
comp=Z,18nm,1.2s
YKW3 Yellowknife Ar 79.68 10 P P 23 42 49.6 -1.0
YKW3 IAmb IAmb 23 42 53.9
comp=Z,28nm,1.3s
YKA Yellowknife Ar 79.74 10 P P 23 42 50.4 -0.6
YKA Yellowknife Ar 79.74 10 P P 23 42 49.8 -1.2
comp=Z,3.6nm,0.9s,baz=335,slow=5.7,SNR=4.8
YKA LR LR 00 20 34.9
comp=Z,184nm,21.7s,baz=352,slow=38
YKA Yellowknife Ar 79.74 10 P P 23 42 50.4 -0.6
BBOO Buckleboo 82.98 140 P P 23 43 08.7 +0.2
BBOO IAmb IAmb 23 43 10.2
comp=Z,13nm,0.8s
CMLA Cha da Macela 83.12 312 P P 23 43 09.2 -0.2
CMLA pmax pmax
comp=Z,63nm,0.9s
CMLA Cha da Macela 83.12 312 P P 23 43 09.2 -0.2
LBTB Lobatse 84.15 233 P P 23 43 14.5 -0.4
LBTB pmax pmax
comp=Z,15nm,1.3s
LBTB Lobatse 84.15 233 P P 23 43 14.5 -0.4
LBTB IAmb IAmb 23 43 23.9
comp=Z,15nm,1.2s
STKA Stephens Creek 85.25 136 P P 23 43 19.4 -0.7
comp=Z,1.1nm,0.3s,baz=301,slow=3.1,SNR=7.0
STKA LR LR 00 26 08.9
comp=Z,735nm,21.6s,baz=314,slow=39
TSUM Tsumeb 85.67 242 P P 23 43 21.7 -0.9
SCHQ Schefferville 86.15 345 LR LR 00 26 27.0
comp=Z,2μm,19.1s,baz=22,slow=39
EIDS Eidsvold 86.39 125 IAmb IAmb 23 43 29.0
comp=Z,26nm,1.2s
BOSA Boshof 86.90 231 P P 23 43 28.1 -0.4
BOSA pmax pmax
comp=Z,10.0nm,1.0s
BOSA Boshof 86.90 231 P P 23 43 27.1 -1.3
comp=Z,4.7nm,0.8s,baz=60,slow=5.8,SNR=6.1
BOSA LR LR 00 22 19.9
comp=Z,787nm,18.9s,baz=38,slow=36
BOSA Boshof 86.90 231 P P 23 43 28.1 -0.4
DBIC Dimbokro 87.41 276 P P 23 43 30.0 -1.2
comp=Z,22nm,0.8s,baz=30,slow=5.0,SNR=22
DBIC LR LR 00 27 13.8
comp=Z,2μm,18.6s,baz=40,slow=39
KIC Kosan Boka 87.50 276 *e*PKP2 **P 23 43 30.9 -0.8**
comp=Z,49nm,0.9s
TIC Toumodi 87.55 276 *e*PKP2 **P 23 43 31.0 -0.9**
LIC Lamto 87.81 276 *e*PKP2 **P 23 43 32.2 -0.9**
comp=Z,21nm,0.8s
FFC Flin Flon 88.72 5 *ce*P **P 23 43 37.0 +0.2**
FFC pmax pmax
comp=Z,142nm,2.5s
FFC Flin Flon 88.72 5 P P 23 43 36.5 -0.3
FFC IAmb IAmb 23 43 41.3
comp=Z,14nm,1.1s
PGC Sidney 90.94 20 P P 23 43 47.3 0.0
PGC IAmb IAmb 23 43 52.9
comp=Z,22nm,1.2s
B06A Marblemount 91.58 18 P P 23 43 50.0 -0.2
B06A IAmb IAmb 23 43 54.8
comp=Z,15nm,1.1s
D03D Eldon 92.06 20 P P 23 43 54.1 +1.6
baz=336
D05A Enumclaw 92.68 19 P P 23 43 56.1 +0.8
NEW Newport 92.85 16 P P 23 43 56.5 +0.3
baz=341
NEW Newport 92.85 16 IAmb IAmb 23 44 01.0
comp=Z,11nm,1.2s
LTY Liberty 92.95 18 IAmb IAmb 23 44 05.7
comp=Z,7.2nm,0.9s
LON Longmire 93.13 19 P P 23 43 57.3 -0.2
LON pmax pmax
comp=Z,5.0nm,1.0s
LON Longmire 93.13 19 P P 23 43 57.3 -0.2
ULM Lac du Bonnet 93.48 2 LR LR 00 27 42.3
comp=Z,2μm,21.7s,baz=2.5,slow=37
E07A Sunnyside 93.81 18 IAmb IAmb 23 44 08.2
comp=Z,8.2nm,1.0s
JTMT Jette 93.93 14 IAmb IAmb 23 44 09.6
comp=Z,15nm,1.0s
F10A Beach Ranch, E 94.99 17 IAmb IAmb 23 44 14.2
comp=Z,7.1nm,0.9s
DZM Mont Dzumac 95.02 114 *e*LR LR 00 14 51.0
comp=Z,2μm,28.9s
PDAR Pinedale Array 99.60 12 LR LR 00 35 20.3
comp=Z,1μm,18.2s,baz=356,slow=39
SNAA Sanae 124.17 202 PKPdf **PKPdf 23 49 40.4 -0.6**
SNAA Sanae 124.17 202 PKP **PKPdf 23 49 40.4 -0.6**
comp=Z,1.4nm,0.9s,baz=292,slow=3.9,SNR=5.1
VNA2 Neumayer--Watz 125.46 204 PKPdf **PKiKP 23 49 43.5 -0.3**
baz=90,slow=2.8
VNA3 Neumayer Olymp 126.24 203 PKPdf **PKPdf 23 49 44.1 -0.9**
TAOE Nuku Hiva Isla 129.31 69 *e*LR LR 00 30 42.5
comp=Z,1μm,27.7s
SDV Santo Domingo 130.03 330 PKP **PKPdf 23 49 53.8 -0.3**
comp=Z,3.9nm,0.9s,baz=85,slow=5.3,SNR=4.6
SDV Santo Domingo 130.03 330 PKiKP 23 49 55.2 +0.2
TBI Tubuai 130.14 91 *e*LQ LQ 00 25 35.8
comp=Z,1μm,36.8s
TBI *e*LR LR 00 30 55.0
comp=Z,1μm,26.0s
SAML Samuel 141.28 308 PKIKP **PKiKP 23 50 16.7 -0.8**
SAML Samuel 141.28 308 PKiKP 23 50 16.7 -0.8
SIV San Ignacio 144.89 297 PKP **PKPab 23 50 18.6 -1.6**
comp=Z,2.0nm,0.5s,baz=85,slow=5.2,SNR=15
ATAH Atahualpa 147.70 332 PKPbc **PKPbc 23 50 27.7 -1.5**
comp=Z,6.4nm,0.5s,baz=313,slow=1.5,SNR=7.5
CPUP Villa Florida 147.91 278 PKP2 **PKPbc 23 50 28.7 -0.2**
CPUP Villa Florida 147.91 278 PKPbc **PKPbc 23 50 27.7 -1.2**
comp=Z,14nm,1.1s,baz=34,slow=1.5,SNR=12
CPUP Villa Florida 147.91 278 PKPbc 23 50 28.7 -0.2
LPAZ La Paz 149.94 306 PKP **PKPdf 23 50 30.4 +0.2**
comp=Z,9.7nm,1.1s,baz=28,slow=3.8,SNR=8.6
LPAZ PKPbc **PKiKP 23 50 35.9 -0.1**
comp=Z,6.5nm,0.9s,baz=15,slow=5.1,SNR=16
MNMC Minye Minye 152.95 304 PKPbc 23 50 40.6 -0.9
GO01 Chusmiza 153.05 302 PKPbc 23 50 39.1 -2.9
LVC Limon Verde 154.79 297 PKP **PKPdf 23 50 37.8 +0.9**
comp=Z,0.8nm,0.5s,baz=256,slow=7.1,SNR=1.9
CFA Coronel Fontan 158.77 276 PKP **PKPdf 23 50 41.4 -0.1**
comp=Z,1.0nm,0.3s,baz=89,slow=3.6,SNR=3.3
CFA PKPab **PKPab 23 51 15.4 -1.8**
comp=Z,3.7nm,0.8s,baz=40,slow=3.3,SNR=5.6

*ISN **23** 23:44:03.8±1.0, 34°.26N±45°.54E, h14km±8km, ML3.2*
*TEH **23** 23:44:05.2, 34°.26N±45°.62E, h10km, ML3.3*
ISC 23 23:44:04.4±1.4, 34°.26N±0°.03×45°.53E±0°.03, h5km±12km, n29, σ0s97/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.83**	**58**	*e*Pg	**Pg**	**23 44 19.9**	**-0.5**
IDHR				*e*Sg	**Sg**	**23 44 31.4**	**+0.3**
IDHR				IAMB	IAmb	23 44 32.9	
	comp=Z,0.0nm,0.2s						
IGHG	**Ghaleghazi**	**0.86**	**85**	*e*Pg	**Pg**	**23 44 20.8**	**-0.2**
IGHG				IAMB	IAmb	23 44 21.9	
	comp=Z,23μm,0.2s						
IGHG				*e*Sg	**Sb**	**23 44 33.3**	**-0.6**
IBDR	**Badra**	**1.20**	**164**	*e*Pn	**Pn**	**23 44 28.0**	**+0.2**
IBDR				AML	AML	23 44 30.7	
	comp=Z,1μm,0.2s						
IBDR				*e*Sn	**Sn**	**23 44 46.0**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.25**	**89**	*e*Pg	**Pn**	**23 44 27.8**	**-0.9**
KCHF				IAMB	IAmb	23 44 30.7	
	comp=Z,0.0nm,0.3s						
KER	**Kermanshah**	**1.33**	**84**	*e*Pg	**Pn**	**23 44 29.5**	**-0.3**
ILIN	**Lien**	**1.35**	**61**	*e*Pg	**Pn**	**23 44 29.7**	**-0.5**
ILIN				IAMB	IAmb	23 44 32.3	
	comp=Z,9μm,0.1s						
ILIN				*e*Sg	**Sg**	**23 44 48.8**	**+1.0**
BHD	**Baghdad**	**1.38**	**224**	*e*Pn	**Pn**	**23 44 30.0**	**-0.4**
BHD				*e*Sn	**Sg**	**23 44 50.0**	**+1.2**
IKRK	**Kirkuk**	**1.50**	**319**	*e*Pn	**Pn**	**23 44 32.0**	**0.0**
IKRK				AML	AML	23 44 36.5	
	comp=Z,920nm,0.2s						
IKRK				*e*Sn	**Sg**	**23 44 53.0**	**+0.4**
IKOM	**Komasi**	**1.64**	**93**	*e*Pn	**Pb**	**23 44 35.3**	**0.0**
IKOM				IAMB	IAmb	23 44 37.0	
	comp=Z,0.0nm,0.2s						
IBZA	**Bozab**	**1.94**	**83**	*e*Pn	**Pb**	**23 44 39.4**	**-1.0**
IBZA				IAMB	IAmb	23 44 41.2	
	comp=Z,0.0nm,0.6s						
IKFM	**Kafar-mosalman**	**2.06**	**110**	*e*Pn	**Pn**	**23 44 40.8**	**+1.1**
IKFM				IAMB	IAmb	23 45 14.7	
	comp=Z,0.0nm,0.3s						
IDOB	**Doab**	**2.25**	**101**	*e*Pn	**Pn**	**23 44 43.1**	**+0.6**
IDOB				IAMB	IAmb	23 45 24.8	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.48**	**107**	*e*Pn	**Pn**	**23 44 46.6**	**+1.1**
IKMR				IAMB	IAmb	23 45 28.1	
	comp=Z,0.0nm,0.5s						
MAHB	**Mahabad**	**2.50**	**3**	*e*Pn	**Pb**	**23 44 48.5**	**-1.4**
MAHB				IAMB	IAmb	23 44 49.3	
	comp=Z,0.0nm,0.3s						
HSAM	**Samen**	**2.54**	**90**	*e*Pn	**Pn**	**23 44 47.4**	**+0.8**
HSAM				IAMB	IAmb	23 44 52.2	
	comp=Z,0.0nm,0.6s						
BDRS	**Dareh Seyedi**	**2.79**	**95**	*e*Pn	**Pn**	**23 44 50.7**	**+0.6**
BDRS				IAMB	IAmb	23 44 57.2	
	comp=Z,0.0nm,0.4s						
MSL	**Mosul**	**2.91**	**318**	*e*Pn	**Pn**	**23 44 52.0**	**+0.6**
MSL				AML	AML	23 45 00.0	
	comp=Z,136nm,0.3s						
MSL				*e*Sn	**Sn**	**23 45 27.0**	**+0.2**
HAGD	**Aghdareh**	**3.03**	**78**	*e*Pn	**Pn**	**23 44 54.5**	**+1.2**
HAGD				IAMB	IAmb	23 45 00.6	
	comp=Z,0.0nm,0.6s						
NSR	**Nassriya**	**3.29**	**171**	*e*Pn	**Pn**	**23 44 57.0**	**+0.5**
NSR				AML	AML	23 44 59.3	
	comp=Z,117nm,0.3s						
NSR				*e*Sn	**Sn**	**23 45 34.5**	**-1.5**
QABG	**Abgarm-Qazvin**	**3.62**	**65**	IAMB	IAmb	23 45 17.5	
	comp=Z,0.0nm,0.6s						
ITBZ	**Tabriz**	**3.99**	**7**	*e*Pn	**Pn**	**23 45 09.1**	**+2.6**
QALM	**Alamut, Qazvin**	**4.71**	**61**	*e*Pn	**Pn**	**23 45 16.7**	**+0.4**
QALM				IAMB	IAmb	23 45 39.7	
	comp=Z,0.0nm,0.5s						
IPIR	**Pirpir**	**4.75**	**108**	*e*Pn	**Pn**	**23 45 16.5**	**-0.5**
IPIR				IAMB	IAmb	23 46 16.2	
	comp=Z,374nm,0.4s						
QAM	**Ghamsar**	**4.93**	**94**	*e*Pn	**Pn**	**23 45 20.4**	**+1.0**
QAM				IAMB	IAmb	23 46 21.4	
	comp=Z,79nm,0.4s						
ZNGN	**Zangian**	**4.95**	**114**	*e*Pn	**Pn**	**23 45 21.1**	**+1.4**
IKLH	**Kolahrood**	**5.12**	**99**	*e*Pn	**Pn**	**23 45 22.4**	**+0.3**
IKLH				IAMB	IAmb	23 45 24.0	
	comp=Z,139nm,0.2s						
KRSH	**Karshahi**	**5.48**	**91**	*e*Pn	**Pn**	**23 45 27.4**	**+0.4**
IZEF	**Zefreh**	**5.83**	**102**	*e*Pn	**Pn**	**23 45 33.1**	**+1.2**
IRAM	**Ramesheh**	**6.25**	**111**	*e*Pn	**Pn**	**23 45 37.2**	**-0.3**

ISC 23 23:48:25.8±1.7, 51°.29N±0°.08×16°.01E±0°.05, h0km, n13, σ0s70/26, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.48**	**158**	*e*Pg	**Pg**	**23 48 35.1**	**+0.1**
KSP				*e*Pg	**Pg**	**23 48 35.1**	**+0.1**
KSP				*e*Sg	**Sb**	**23 48 43.7**	**-1.1**
KSP				*e*Sg	**Sb**	**23 48 43.7**	**-1.1**
CHVC	**Chvalec**	**0.70**	**178**	*e*PG	**Pg**	**23 48 39.9**	**+0.7**
CHVC				*e*SG	**Sb**	**23 48 50.6**	**-0.5**
UPC	**Upice**	**0.78**	**180**	*e*PG	**Pg**	**23 48 41.3**	**+0.5**
UPC				*e*SG	**Sb**	**23 48 53.4**	**0.0**
DPC	**Dobruska-Polom**	**0.96**	**168**	*e*PG	**Pg**	**23 48 44.4**	**+0.2**
DPC				*e*SG	**Sb**	**23 48 58.5**	**-0.1**
PVCC	**Panska Ves**	**1.19**	**231**	*e*PG	**Pg**	**23 48 48.6**	**+0.1**
PVCC				*e*SG	**Sn**	**23 49 07.0**	**+0.5**
	comp=Z,12nm,0.2s						
KRLC	**Kraliky**	**1.31**	**158**	*e*PG	**Pg**	**23 48 50.4**	**-0.5**
KRLC				*e*SG	**Sg**	**23 49 08.7**	**+0.8**
BRG	**Berggiesshubel**	**1.37**	**253**	PG	**Pg**	**23 48 51.5**	**-0.5**
BRG				SG	**Sn**	**23 49 10.6**	**-0.3**
	4.1nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.58**	**210**	*e*PG	**Pb**	**23 48 55.8**	**-0.1**
PRU	**Pruhonice**	**1.60**	**216**	*e*SG	**Sg**	**23 49 18.1**	**+0.9**
CLL	**Collm**	**1.89**	**272**	*e*Pg	**Pn**	**23 49 00.0**	**+0.8**
CLL				*i* Sg	**Sg**	**23 49 26.8**	**+0.5**
OKC	**Ostrava-Krasne**	**1.99**	**136**	*e*SG	**Sb**	**23 49 29.0**	**+0.8**
NKC	**Novy Kostel**	**2.50**	**246**	*e*SG	**Sg**	**23 49 46.3**	**+0.4**
KHC	**Kasperske Hory**	**2.67**	**217**	*e*PN	**Pn**	**23 49 08.9**	**-1.1**
KHC				*e*PG	**Pb**	**23 49 14.2**	**-0.2**
KHC				*e*SN	**Sn**	**23 49 42.0**	**-1.0**
KHC				*e*SG	**Sg**	**23 49 52.7**	**+1.3**

*ISCJB **23** 23:52:32.8±0.6, 41°.29N±0°.04×20°.43E±0°.04, h3km±8km,*
Error ellipse: s-maj=7.0km s-min=4.0km az=38.8
*SKO **23** 23:52:32.6, 41°.30N×20°.41E, h15km, M1.5, ML2.0*
*TIR **23** 23:52:32.3, 41°.27N×20°.42E, h6km, Md2.5/5*
ISC 23 23:52:33.3±1.0, 41°.25N±0°.04×20°.35E±0°.03, h14km±10km, n14, σ1s36/23, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.36**	**112**	*i* Pg	**Pg**	**23 52 40.1**	**-0.6**
OHR				*i* Sg	**Sg**	**23 52 45.8**	**+0.1**
OHR				*e*Lg	Lg	23 52 46.2	
	comp=N,158nm,0.4s						
OHR				*e*Lg	Lg	23 52 47.1	
	comp=E,182nm,0.5s						
TIR	**Tirane**	**0.38**	**285**	*i* Pg	**Pg**	**23 52 41.1**	**+0.1**
TIR	**Tirane**	**0.38**	**285**	*i* PG	**Pg**	**23 52 41.3**	**+0.3**
TIR				*i* SG	**Sg**	**23 52 47.1**	**+0.9**
PHP	**Peshkopia**	**0.44**	**9**	*i* PG	**Pg**	**23 52 40.8**	**-1.3**
PHP				*i* SG	**Sg**	**23 52 47.0**	**-1.1**
PUK	**Puka**	**0.87**	**337**	*i* PG	**Pb**	**23 52 49.1**	**-1.1**
PUK				*i* SG	**Sg**	**23 53 02.4**	**+1.0**
FNA	**Florina**	**0.90**	**121**	*i* Pg	**Pb**	**23 52 49.6**	**-1.2**
FNA				*i* Sg	**Sb**	**23 53 03.0**	**+0.2**
FNA	**Florina**	**0.90**	**121**	*i* PG	**Pb**	**23 52 49.1**	**-1.7**
FNA				*i* SG	**Sb**	**23 53 02.7**	**0.0**
SKO	**Skopje**	**1.09**	**48**	*e*Pg	**Pn**	**23 52 52.6**	**-1.6**
BCI	**Bajram Curri**	**1.14**	**349**	*i* PN	**Pb**	**23 52 54.8**	**0.0**
BCI				*i* SN	**Sg**	**23 53 11.3**	**+1.2**
SRN	**Sarande**	**1.39**	**191**	*i* PN	**Pg**	**23 53 00.3**	**+0.2**
STIP	**Stip**	**1.45**	**71**	*i* Pg	**Pg**	**23 53 02.1**	**+0.9**
STIP				*i* Sg	**Sg**	**23 53 24.4**	**+4.4**
GRG	**Griva**	**1.57**	**100**	*e*Pg	**Pn**	**23 53 00.9**	**0.0**
BEY	**Berane**	**1.66**	**348**	*e*Pg	**Pn**	**23 53 02.8**	**+0.7**
VAY	**Valandovo**	**1.67**	**87**	*e*Pg	**Pb**	**23 53 03.9**	**0.0**
VAY				*i* Sg	**Sb**	**23 53 25.0**	**+0.2**
VAY				*e*Lg	Lg	23 53 26.0	
	comp=E,5.3nm,0.4s						

VAY eLg Lg 23 53 27.0
comp=N,14nm,0.8s

*KRNET **24** 00:01:53.9±0.1, 43°.40N×69°.91E, mb2.9*
*SOME **24** 00:01:53.8, 43°.43N×70°.23E*
*ISCJB **24** 00:01:54.9±1.1, 43°.41N±0°.05×70°.27E±0°.06, h0km, Error ellipse: s-maj=7.6km s-min=5.8km az=39.0*
*NNC **24** 00:01:54.5±0.3, 43°.38N×70°.21E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=1.6km s-min=1.4km az=39.0, Suspected Mining explosion.*

ISC 24 00:01:53.5±1.3, 43°.52N±0°.05×70°.37E±0°.04, h0km, n39, σ1§19/64, 34C-14D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.41**	**166**	⇓P	**Pg**	**00 02 01.1**	**-0.2**
KK09				⇑S	**Sg**	**00 02 05.8**	**-0.7**
KK05	**Karatay Array**	**0.42**	**164**	⇓P	**Pg**	**00 02 01.4**	**-0.1**
KK05				⇑S	**Sg**	**00 02 06.3**	**-0.5**
KK04	**Karatay Array**	**0.42**	**166**	⇑P	**Pg**	**00 02 01.3**	**-0.2**
KK04				⇓S	**Sg**	**00 02 06.1**	**-0.9**
KK08	**Karatay Array**	**0.42**	**168**	⇑P	**Pg**	**00 02 01.3**	**-0.2**
KK08				⇑S	**Sg**	**00 02 06.1**	**-0.9**
KK01	**Karatay Array**	**0.43**	**166**	⇑P	**Pg**	**00 02 01.4**	**-0.2**
KK01				⇑S	**Sg**	**00 02 06.2**	**-0.9**
KK03	**Karatay Array**	**0.43**	**167**	⇑P	**Pg**	**00 02 01.4**	**-0.2**
KK03				⇑S	**Sg**	**00 02 06.3**	**-0.9**
KK02	**Karatay Array**	**0.43**	**166**	⇓P	**Pg**	**00 02 01.5**	**-0.2**
KK02				⇑S	**Sg**	**00 02 06.4**	**-0.8**
KK31	**Karatay Array**	**0.43**	**166**	⇑P	**Pg**	**00 02 01.3**	**-0.4**
	2.9nm,0.2s,baz=296,slow=17,SNR=3827						
KK31				⇑S	**Sg**	**00 02 06.4**	**-0.8**
	180nm,0.5s,baz=319,slow=38,SNR=5.5						
KK06	**Karatay Array**	**0.44**	**165**	⇑P	**Pg**	**00 02 01.7**	**-0.2**
KK06				⇑S	**Sg**	**00 02 06.7**	**-0.8**
KK07	**Karatay Array**	**0.44**	**167**	⇓P	**Pg**	**00 02 01.7**	**-0.2**
KK07				⇑S	**Sg**	**00 02 06.6**	**-1.0**
BRLS	**Borolday**	**0.62**	**219**	P	**Pb**	**00 02 07.8**	**+0.5**
	11nm,0.1s						
BRLS				S	**Sb**	**00 02 18.1**	**+1.5**
	5.8nm,0.5s						
DZA	**Taraz**	**0.94**	**131**	P	**Pn**	**00 02 13.3**	**-0.7**
	28nm,0.2s						
DZA				S	**Sn**	**00 02 27.6**	**-0.6**
	91nm,0.3s						
IUG	**Iuzhnay**	**1.39**	**190**	P	**Pg**	**00 02 18.5**	**-1.7**
	2.1nm,0.2s						
IUG				S	**Sg**	**00 02 36.2**	**-2.0**
	107nm,0.5s						
ARK	**Arkit**	**2.08**	**145**	⇑*iP*	**Pg**	**00 02 34.1**	**+0.7**
	baz=36						
ARK				⇑*iS*	**Sg**	**00 03 03.7**	**+3.3**
	baz=36						
MRKS	**Merke**	**2.23**	**109**	Pg	**Pg**	**00 02 36.7**	**+0.5**
	8.8nm,0.2s						
MRKS				Lg	Lg	00 03 08.4	
	20nm,0.4s						
TAS	**Tashkent**	**2.33**	**200**	⇑*iP*	**Pn**	**00 02 32.8**	**-0.3**
	baz=93						
TAS				⇑*iS*	**Sn**	**00 03 01.0**	**-1.4**
	baz=93						
EKS2	**Erkin-Say**	**2.64**	**108**	⇓*iP*	**Pg**	**00 02 44.1**	**0.0**
	baz=3.0						
EKS2				⇓*iS*	**Sg**	**00 03 20.6**	**+2.3**
	baz=3.0						
AML	**Almayashu**	**2.81**	**118**	⇑*iP*	**Pg**	**00 02 46.2**	**-1.2**
	baz=13						
AML				⇑*iS*	**Sg**	**00 03 23.3**	**-0.6**
	baz=13						
ARSB	**Arslanbob**	**2.93**	**138**	⇑*iP*	**Pb**	**00 02 46.1**	**-0.5**
	baz=31						
ARSB				⇑*eS*	**Sb**	**00 03 23.8**	**+0.8**
	baz=31						
USP	**Ospenovka**	**3.02**	**93**	⇑*iP*	**Pb**	**00 02 49.2**	**+1.0**
	baz=91						
USP				⇑*iS*	**Sg**	**00 03 29.8**	**-0.8**
	baz=91						
BTLS	**Baital**	**3.05**	**59**	Pg	**Pg**	**00 02 52.7**	**+0.8**
	4.5nm,0.4s						
BTLS				Lg	Lg	00 03 35.0	
	3.6nm,0.6s						
AAK	**Ala-Archa**	**3.15**	**105**	⇑Pg	**Pg**	**00 02 53.7**	**-0.1**
	1.8nm,0.3s						
AAK				⇓Lg	Lg	00 03 35.3	
	5.8nm,0.5s						
AAK	**Ala-Archa**	**3.15**	**105**	⇓*iP*	**Pb**	**00 02 51.4**	**+1.0**
	baz=1.0						
AAK				⇓*iS*	**Sg**	**00 03 32.7**	**-1.9**
	baz=1.0						
FRU1	**Bishkek**	**3.20**	**101**	⇑*iP*	**Pb**	**00 02 51.9**	**+0.7**
	baz=98						
FRU1				⇑*iS*	**Sg**	**00 03 33.6**	**-2.6**
	baz=98						
UCH	**Uchtor**	**3.31**	**112**	⇑*iP*	**Pb**	**00 02 53.8**	**+0.5**
	baz=7.0						
UCH				⇑*iS*	**Sb**	**00 03 36.5**	**+2.2**
	baz=7.0						
ARLS	**Aral**	**3.35**	**118**	⇓*iP*	**Pb**	**00 02 53.2**	**-0.7**
	baz=14						
ARLS				⇓*iS*	**Sb**	**00 03 36.4**	**+1.1**
	baz=14						
BTK	**Batken**	**3.48**	**174**	⇑*iP*	**Pn**	**00 02 51.5**	**+2.6**
	baz=68						
BTK				⇑*iS*	**Sn**	**00 03 32.5**	**+1.7**
	baz=68						
TKM2	**Tokmak 2**	**3.87**	**97**	⇓Pg	**Pg**	**00 03 07.5**	**-0.2**
	2.1nm,0.4s						
TKM2				⇓Lg	Lg	00 03 59.3	
	10nm,0.6s						
DGS	**Degeres**	**3.95**	**92**	Pg	**Pg**	**00 03 09.5**	**+0.4**
	3.5nm,0.4s						
DGS				Lg	Lg	00 04 04.2	
	18nm,0.3s						
KST	**Kastek**	**4.11**	**95**	Pg	**Pg**	**00 03 11.4**	**-0.9**
	4.3nm,0.7s						
KST				Lg	Lg	00 04 07.9	
	12nm,0.5s						
BOOM	**Boomskoye usch**	**4.21**	**102**	⇑*iP*	**Pb**	**00 03 05.5**	**-3.1**
	baz=99						
BOOM				⇑*iS*	**Sb**	**00 03 58.4**	**-1.7**
	baz=99						
KUU	**Kurty**	**4.35**	**83**	Pg	**Pg**	**00 03 15.7**	**-1.1**
	2.5nm,0.5s						
KUU				Lg	Lg	00 04 15.1	
	9.9nm,0.4s						
IZV	**Izvestkoviy**	**4.59**	**94**	Pg	**Pg**	**00 03 20.9**	**-0.5**
	2.6nm,0.3s						
IZV				Lg	Lg	00 04 23.3	
	13nm,0.6s						
KTBS	**Karatobe**	**4.59**	**85**	Pg	**Pg**	**00 03 21.1**	**-0.3**
	1.6nm,0.3s						
KTBS				Lg	Lg	00 04 23.8	
	11nm,0.6s						
CHKK	**Chushkaly**	**4.81**	**84**	Pg	**Pg**	**00 03 25.2**	**-0.5**
	3.0nm,0.1s						
CHKK				Lg	Lg	00 04 30.8	
	8.2nm,0.3s						
TNSS	**Tian-Shan**	**4.83**	**93**	Pg	**Pg**	**00 03 25.1**	**-0.9**
	1.9nm,0.3s						
TNSS				Lg	Lg	00 04 31.0	
	6.4nm,0.6s						
MDOK	**Medeo**	**4.89**	**92**	Pg	**Pg**	**00 03 26.5**	**-0.6**
	1.4nm,0.3s						
MDOK				Lg	Lg	00 04 33.0	
	5.2nm,0.6s						
KOTS	**Kotyrbulak**	**4.93**	**91**	Pg	**Pg**	**00 03 27.6**	**-0.2**
	4.9nm,0.4s						
KOTS				Lg	Lg	00 04 35.2	
	15nm,0.6s						
ARXS	**Arharly**	**5.44**	**80**	Pg	**Pg**	**00 03 37.2**	**-0.5**
	1.1nm,0.2s						
ARXS				Lg	Lg	00 04 51.6	
	8.3nm,0.5s						

*SOME **24** 00:20:45.7, 40°.28N×72°.12E, h10km*
*KRNET **24** 00:20:45.0±0.1, 40°.28N×72°.08E, h4km, mb2.3*
*ISCJB **24** 00:20:46.5±0.9, 40°.24N±0°.07×72°.06E±0°.06, h10km, Error ellipse: s-maj=10.6km s-min=4.8km az=152.5*
*NNC **24** 00:20:47.5±1.3, 40°.41N×72°.10E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=9.6km s-min=3.9km az=178.0*

ISC 24 00:20:46.0±1.1, 40°.32N±0°.06×72°.10E±0°.04, h10km, n19, σ1§44/30, 18C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.01**	**255**	⇑*iP*	**Pg**	**00 21 03.6**	**-1.9**
	baz=58						
BTK				⇑*iS*	**Sg**	**00 21 17.8**	**-0.9**
	baz=58						
ARSB	**Arslanbob**	**1.21**	**34**	⇑*iP*	**Pb**	**00 21 08.8**	**-0.3**
	baz=33						
ARSB				⇑*iS*	**Sn**	**00 21 25.7**	**0.0**
	baz=33						
ARK	**Arkit**	**1.48**	**356**	⇓*iP*	**Pb**	**00 21 13.5**	**-0.2**
	baz=57						
ARK				⇓*iS*	**Sg**	**00 21 33.2**	**-0.5**
	baz=57						
AML	**Almayashu**	**2.17**	**33**	⇑*iP*	**Pb**	**00 21 24.8**	**-0.9**
	baz=33						
AML				⇑*iS*	**Sb**	**00 21 53.8**	**+0.9**
	baz=33						
ARLS	**Aral**	**2.28**	**47**	⇑*eP*	**Pb**	**00 21 26.0**	**-1.4**
	baz=46						
ARLS				⇑*iS*	**Sb**	**00 21 55.9**	**+0.2**
	baz=46						
IUG	**Iuzhnay**	**2.40**	**320**	Pg	**Pb**	**00 21 29.9**	**+0.5**
	0.5nm,0.1s						
IUG				Lg	Lg	00 22 01.9	
	9.3nm,0.4s						
IUG	**Iuzhnay**	**2.40**	**320**	*e*P	**Pb**	**00 21 29.9**	**+0.5**
	0.5nm,0.1s						
IUG				*e*S	**Sg**	**00 22 01.9**	**-1.2**
	9.3nm,0.4s						
MRKS	**Merke**	**2.57**	**19**	Pg	**Pb**	**00 21 32.9**	**+0.7**
	3.4nm,0.4s						
MRKS				Lg	Lg	00 22 07.3	
	5.1nm,0.4s						
MRKS	**Merke**	**2.57**	**19**	⇑*iP*	**Pb**	**00 21 32.9**	**+0.7**
	1.3nm,0.2s						
MRKS				⇑*iS*	**Sg**	**00 22 07.3**	**-1.2**
	5.1nm,0.3s						
UCH	**Uchtor**	**2.64**	**43**	⇑*iP*	**Pn**	**00 21 30.8**	**+1.7**
	baz=42						
UCH				⇑*iS*	**Sb**	**00 22 04.8**	**-1.4**
	baz=42						
EKS2	**Erkin-Say**	**2.66**	**28**	⇑*iP*	**Pn**	**00 21 31.3**	**+2.2**
	baz=28						
EKS2				⇑*iS*	**Sb**	**00 22 05.2**	**-1.4**
	baz=28						
AAK	**Ala-Archa**	**2.93**	**37**	⇓Pg	**Pg**	**00 21 40.6**	**-1.6**
	0.8nm,0.5s						
AAK				⇑Lg	Lg	00 22 18.2	
	2.1nm,0.5s						
KK31	**Karatay Array**	**3.02**	**337**	⇓Pg	**Pb**	**00 21 41.1**	**+1.1**
	0.2nm,0°.2s,baz=158,slow=16,SNR=4.0						
KK31				⇓Lg	Lg	00 22 20.6	
	1.0nm,0.5s,baz=152,slow=30,SNR=4.9						
NRN	**Naryn**	**3.16**	**68**	⇑*eP*	**Pn**	**00 21 37.7**	**+1.5**
	baz=68						
NRN				⇑*iS*	**Sn**	**00 22 16.3**	**+2.2**
	baz=68						
BRLS	**Borolday**	**3.19**	**329**	Pg	**Pb**	**00 21 42.3**	**-0.5**
BRLS				Lg	Lg	00 22 23.5	
	0.9nm,0.3s						
BRLS	**Borolday**	**3.19**	**329**	*e*P	**Pb**	**00 21 42.4**	**-0.5**
	0.7nm,0.2s						
BRLS				*e*S	**Sb**	**00 22 23.4**	**+1.6**
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**3.69**	**44**	⇑Lg	Lg	00 22 43.2	
	1.2nm,0.5s						
DGS	**Degeres**	**4.01**	**42**	Pg	**Pb**	**00 21 58.9**	**+2.0**
	1.3nm,0.5s						
DGS				Lg	Lg	00 22 51.8	
	1.8nm,0.5s						
DGS	**Degeres**	**4.01**	**42**	*e*P	**Pb**	**00 21 58.9**	**+2.0**
	0.7nm,0.5s						
DGS				*e*S	**Sg**	**00 22 51.8**	**-3.0**
	1.8nm,0.5s						

*UPA **24** 00:22:01.7±0.8, 8°.79N×77°.33W, h18km±10km, MW3.7*
*RSNC **24** 00:22:02.4±2.3, 8°.79N×77°.38W, h64km±23km, ML2.8*

ISC 24 00:22:01.7±1.4, 8°.77N±0°.05×77°.32W±0°.03, h25km±14km, n19, σ1§17/37, 1C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.72**	**252**	*e*P	**Pb**	**00 22 15.2**	**-0.3**
UPD2				*e*S	**Sb**	**00 22 25.4**	**+0.4**
UPD2	**Meteti**	**0.72**	**252**	⇑*iP*	**Pb**	**00 22 15.3**	**-0.3**
UPD2				*e*S	**Sb**	**00 22 25.5**	**+0.4**
LCBC	**Los crdobas,**	**0.95**	**84**	*e*P	**Pn**	**00 22 20.7**	**+1.3**
LCBC				*i*		00 22 32.9	
	comp=Z,3μm,0.0s						
LCBC				*e*S	**Sn**	**00 22 36.0**	**+3.9**
PTAC	**Punta Ardita,**	**1.68**	**197**	*e*P	**Pn**	**00 22 29.2**	**-0.3**
PTAC				*e*S	**Sn**	**00 22 51.0**	**+0.7**
CHPO	**Chepo, Panama**	**1.82**	**283**	*e*P	**Pn**	**00 22 30.8**	**-0.6**
CHPO				*e*S	**Sn**	**00 22 53.8**	**+0.2**
UPA	**Univ. de Panam**	**2.20**	**276**	*e*P	**Pn**	**00 22 36.5**	**-0.1**
UPA				*e*S	**Sn**	**00 23 02.9**	**-0.1**
SJCC	**San Jacinto, C**	**2.39**	**62**	*e*P	**Pn**	**00 22 39.7**	**+0.3**
SJCC				*e*S	**Sn**	**00 23 07.0**	**-0.9**
SJCC				*i*		00 23 10.4	
	comp=Z,13nm,0.4s						
SJCC	**San Jacinto, C**	**2.39**	**62**	*e*P	**Pn**	**00 22 40.1**	**+0.7**
SJCC				*e*S	**Sn**	**00 23 08.2**	**+0.2**
CHOR3	**La Chorrera**	**2.42**	**273**	*e*P	**Pn**	**00 22 40.4**	**+0.7**
CHOR3				*e*S	**Sn**	**00 23 09.4**	**+0.9**
BCIP	**Isla Barro Col**	**2.52**	**279**	*e*P	**Pn**	**00 22 40.6**	**-0.4**
BCIP				*e*S	**Sn**	**00 23 10.1**	**-0.8**
ZANG	**Zanguenga, Cho**	**2.52**	**274**	*e*P	**Pn**	**00 22 40.6**	**-0.5**
ZANG				*e*S	**Sn**	**00 23 12.6**	**+1.5**
ZARC	**Zaragoza, Cauc**	**2.75**	**117**	*e*P	**Pn**	**00 22 44.5**	**+0.3**
ZARC				*e*S	**Sn**	**00 23 15.2**	**-1.4**
ZARC				*i*		00 23 18.3	
	comp=Z,50nm,0.2s						
AZU	**Azuero**	**3.08**	**252**	*e*P	**Pn**	**00 22 48.6**	**-0.2**
AZU				*e*S	**Sn**	**00 23 25.0**	**+0.3**
HELC	**Santa Helena**	**3.12**	**145**	*e*P	**Pn**	**00 22 50.0**	**+0.4**
HELC				*e*S	**Sn**	**00 23 23.6**	**-2.6**
CBOC	**Ciudad Bolivar**	**3.16**	**156**	*e*P	**Pn**	**00 22 52.2**	**+2.1**
CBOC				*e*S	**Sn**	**00 23 27.6**	**+0.5**
CBOC				*i*		00 23 38.5	
	comp=Z,4.4nm,0.6s						
SMLC	**San Martn de**	**3.21**	**89**	*e*P	**Pn**	**00 22 49.6**	**-1.0**
SMLC				*e*S	**Sn**	**00 23 26.6**	**-1.5**
SMLC				*i*		00 23 28.9	
	comp=Z,24nm,0.1s						
PTBC	**PUERTO BERRIO,**	**3.60**	**128**	*e*P	**Pn**	**00 22 55.7**	**-0.3**
PTBC				*e*S	**Sn**	**00 23 37.0**	**-0.7**
PTBC				*i*		00 23 38.8	
	comp=Z,12nm,0.2s						
OCAC	**Ocana**	**3.99**	**97**	*e*P	**Pn**	**00 23 01.9**	**+0.4**
OCAC				*i*		00 23 49.8	
	comp=Z,24nm,0.3s						
CODC	**Agustn Codazz**	**4.00**	**73**	*e*P	**Pn**	**00 23 01.2**	**-0.2**
CODC				*e*S	**Sn**	**00 23 46.1**	**-1.4**
CODC				*i*		00 23 48.8	
	comp=Z,5.2nm,0.3s						

*ISCJB **24** 00:33:00.2±0.9, 16°.13N±0°.07×95°.71W±0°.04, h69km±13km, Error ellipse: s-maj=11.6km s-min=6.5km az=3.6*
*NEIC **24** 00:33:01.6±0.9, 16°.18N±0°.05×95°.72W±0°.03, h59km±18km*
*MEX **24** 00:33:02.3±0.7, 16°.11N×95°.70W, h67km±7km, MD4.1*

ISC 24 00:33:00.0±1.4, 16°.14N±0°.07×95°.73W±0°.04, h75km±14km, n12, σ1§62/21, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**225**	*e*P	**Pn**	**00 33 13.3**	**-0.2**
HUIG				*e*S	**Sn**	**00 33 23.1**	**-0.4**
HUIG	**Huatulco**	**0.52**	**225**		**Pn**	**00 33 13.3**	**-0.2**
HUIG					**Sn**	**00 33 23.1**	**-0.4**
CMIG	**Matias Romero**	**1.25**	**40**	*e*P	**Pn**	**00 33 22.4**	**+0.4**
CMIG				*e*S	**Sn**	**00 33 37.9**	**-0.5**
CMIG	**Matias Romero**	**1.25**	**40**		**Pn**	**00 33 22.4**	**+0.4**
CMIG					**Sn**	**00 33 37.9**	**-0.5**
VHO	**Vista Hermosa**	**1.34**	**314**	*e*P	**Pn**	**00 33 24.7**	**+1.3**
VHO				*e*S	**Sn**	**00 33 41.2**	**+0.4**
PNIG	**Pinotepa**	**2.32**	**277**	*e*P	**Pn**	**00 33 37.2**	**+1.1**
PNIG				*e*S	**Sn**	**00 34 04.2**	**+0.4**
PNIG	**Pinotepa**	**2.32**	**277**		**Pn**	**00 33 37.2**	**+1.1**
PNIG					**Sn**	**00 34 02.4**	**-1.4**
PCIG		**2.45**	**100**	*e*P	**Pn**	**00 33 38.9**	**+1.0**
PCIG				*i* S	**Sn**	**00 34 06.4**	**-0.5**
PCIG		**2.45**	**100**		**Pn**	**00 33 40.4**	**+2.6**
TLIG	**Tlapa**	**3.07**	**298**	Pn	**Pn**	**00 33 48.7**	**+2.3**
CCIG	**Comitan**	**3.45**	**87**	Pn	**Pn**	**00 33 52.9**	**+1.2**
TEIG	**Tepich**	**8.16**	**59**	Pn	**Pn**	**00 34 57.3**	**+1.5**
TEIG				Sn	**Sn**	**00 36 22.1**	**-4.5**

*HEL **24** 00:36:55.1, 67°.84N×20°.32E, h0km, ML1.8, Explosion*

UPP 24 00:36:53.6±0.0, 67°.82N×20°.19E, h0km, ML2.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	00 36 56.7	+0.3
KUA				S	Sg	00 36 58.7	+0.5
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	00 36 58.8	+2.4
KUA				S	Sg	00 37 00.7	+2.4
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	00 36 58.8	+2.4
KUA				*i* S	Sg	00 37 00.7	+2.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 36 58.2	+0.3
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 37 00.4	+2.4
RATU	**Laukkuluspa**	**0.23**	**271**	*i* P	Pg	00 37 00.4	+2.4
KOVU	**Salmi**	**0.41**	**358**	P	Pg	00 37 01.5	+0.1
KOVU				S	Sg	00 37 07.0	+0.4
KOVU	**Salmi**	**0.41**	**358**	P	Pb	00 37 03.5	-0.2
KOVU				S	Sb	00 37 09.4	-1.0
KOVU	**Salmi**	**0.41**	**358**	*i* P	Pb	00 37 03.5	-0.2
KOVU				*i* S	Sb	00 37 09.4	-1.0
LANU	**Lannavaara**	**0.72**	**70**	P	Pg	00 37 07.0	-0.3
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 37 07.1	-0.2
DUNU	**Dundret**	**0.72**	**168**	P	Pb	00 37 09.6	+0.6
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pb	00 37 09.6	+0.6
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 37 08.5	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pb	00 37 17.2	-0.1
	baz=181						
KIF				MSG		00 37 32.2	
	comp=Z,13nm,0.2s						
KIF				*e*S	Sb	00 37 33.0	-0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pb	00 37 17.2	-0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 37 18.9	-1.2
PAJU	**Pajala**	**1.38**	**124**	P	Pb	00 37 21.1	+0.8
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pb	00 37 21.1	+0.8
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 37 19.8	-0.9
HEF				MSG		00 37 36.6	
	comp=Z,5.4nm,0.2s						
HEF				*e*SN	Sn	00 37 43.2	+3.0
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 37 20.0	-0.8
HARU	**Harads**	**1.69**	**169**	P	Pn	00 37 24.4	+0.1
KALU	**Kalix**	**2.33**	**146**	*e*P	Pn	00 37 34.7	+1.5
	baz=326						
KALU				*e*SG	Sb	00 38 06.7	+1.0
TOF	**Tornio**	**2.39**	**135**	*e*P	Pn	00 37 35.3	+1.5
	baz=322						
TOF				MSG		00 38 05.1	
	comp=Z,4.4nm,0.2s						
TOF				*e*SG	Sb	00 38 07.5	+0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 37 36.9	-1.6
	baz=284						
RNF	**Rovaniemi**	**2.57**	**116**	*e*P	Pn	00 37 38.4	+1.9
	baz=311						
RNF				*e*SG	Sb	00 38 12.6	0.0
ARE0	**ARCESS Array S**	**2.60**	**46**	*e*P	Pn	00 37 38.0	+1.2
	baz=229						
ARE0				*e*SB	Sb	00 38 11.9	-1.4
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	00 38 11.4	+2.8

*ISCJB **24** 00:56:59.9±0.5, 35°.31N±0°.04×77°.17E±0°.08, h10km, mb3.6/7, Error ellipse: s-maj=10.2km s-min=4.9km az=159.7*
*IDC **24** 00:57:00.6±1.1, 35°.29N×77°.06E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.5/43, mbtmp3.6/12, ML3.2/4, Error ellipse: s-maj=23.5km s-min=19.8km az=50.0*
*NNC **24** 00:57:02.1±2.0, 35°.45N×76°.84E, h4km±9km, mb3.9, mpv3.8, Error ellipse: s-maj=15.4km s-min=10.3km az=132.0*
*BJI **24** 00:57:02.8±0.0, 35°.44N×77°.17E, h7km, ML3.7/2*

ISC 24 00:57:02.0±0.8, 35°.36N±0°.07×77°.03E±0°.09, h10km, n30, σ1§68/30, mb3.7/7, 6C-8D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.54**	**346**	⇓Pg	Pb	00 59 18.4	+5.6
	2.4nm,0.6s						
AAK				⇑Lg	Lg	01 00 57.5	
	14nm,0.9s						
AAK	**Ala-Archa**	**7.54**	**346**	Pn	Pn	00 58 58.0	+5.9
	0.1nm,0.3s,baz=180,slow=9.1,SNR=3.6						
AAK				Lg	Lg	01 00 58.1	
	0.2nm,0.3s,baz=229,slow=18,SNR=4.6						
TKM2	**Tokmak 2**	**7.64**	**352**	⇑Pg	Pb	00 59 19.2	+4.6
	5.0nm,1.1s						
TKM2				⇑Lg	Lg	01 01 00.6	
	12nm,1.1s						
MDOK	**Medeo**	**7.80**	**0**	⇑Pn	**Pn**	**00 58 53.9**	**-1.8**
	10nm,0.9s						
MDOK				Lg	Lg	01 01 07.0	
	29nm,1.1s						
KNDC	**Almaty**	**7.85**	**360**	⇓Lg	Lg	01 01 10.6	
PDGK	**Podgornoye**	**8.19**	**13**	⇓Pn	**Pn**	**00 59 01.8**	**+0.8**
	4.9nm,0.7s						
PDGK				⇓Sn	**Sn**	**01 00 35.3**	**+1.7**
	8.8nm,0.9s						
PDGK				⇑Lg	Lg	01 01 18.9	
	19nm,1.1s						
DANN	**Dangsing**	**9.03**	**139**	*e*P	**Pn**	**00 59 12.3**	**-0.4**
	12nm,0.4s						
KK31	**Karatay Array**	**9.24**	**329**	⇓Pn	**Pn**	**00 59 12.9**	**-2.4**
	1.7nm,0.8s,baz=140,slow=13,SNR=8.9						
KK31				⇓Sn	**Sn**	**01 00 58.3**	**-1.0**
	3.0nm,0.9s,baz=153,slow=16,SNR=4.4						
KOLN	**Koldanda**	**9.41**	**142**	*e*P	**Pn**	**00 59 18.7**	**+0.9**
	5.9nm,0.4s						
DMN	**Daman**	**10.35**	**136**	*e*P	**Pn**	**00 59 29.7**	**-1.0**
	13nm,0.7s						
PKIN	**Phulchoki**	**10.54**	**135**	*e*P	**Pn**	**00 59 32.2**	**-1.1**
	5.0nm,0.4s						
PKI	**Pulchoki**	**10.55**	**135**	*e*P	**Pn**	**00 59 32.5**	**-1.1**
	6.7nm,0.5s						
GUN	**Gumba**	**10.58**	**132**	*e*P	**Pn**	**00 59 32.0**	**-1.9**
	11nm,0.5s						
JIRN	**Jiri**	**10.95**	**132**	*e*P	**Pn**	**00 59 37.1**	**-1.9**
	16nm,0.5s						
MK31	**Makanchi Array**	**12.09**	**17**	⇑Pn	**Pn**	**00 59 55.5**	**+1.2**
	6.1nm,1.1s,baz=183,slow=13,SNR=5.1						
MK31				⇓Sn	**Sn**	**01 02 10.4**	**+1.2**
	8.3

*TEH **24** 00:58:06.0,28.26N×51.38E,h11km,ML3.0*
*DSN **24** 00:58:09.5±0.9,27.94N×51.75E,h10km,ML3.4/3,Error ellipse: s-maj=19.0km s-min=6.8km az=25.0*
ISC 24 00:58:04.8±1.9,28.02N±0.08×51.3E±0.1,h16km,n19,σ1§23/20,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.76**	**112**	*e*Pn	**Pg**	**00 58 39.8**	**+1.2**
LMD1				IAMB	IAmb	00 59 13.5	
	comp=Z,0.0nm,0.3s						
IKAZ	**Kazeroun**	**1.81**	**14**	*e*Pg	**Pn**	**00 58 36.1**	**+0.5**
IKAZ				IAMB	IAmb	00 59 09.7	
	comp=Z,1μm,0.4s						
JHRM	**Jahrom**	**2.03**	**76**	*e*Pn	**Pb**	**00 58 40.5**	**-1.0**
JHRM				IAMB	IAmb	00 59 26.1	
	comp=Z,0.0nm,0.6s						
KLNJ	**Kolanjah**	**2.99**	**4**	*e*Pn	**Pn**	**00 58 52.7**	**+0.8**
IRAM	**Ramesheh**	**3.88**	**13**	*e*Pn	**Pn**	**00 59 03.9**	**-0.2**
ZNGN	**Zangian**	**4.11**	**354**	*e*Pn	**Pn**	**00 59 07.4**	**+0.2**
JHBN	**Jahan bin**	**4.24**	**352**	*e*Pn	**Pn**	**00 59 09.2**	**+0.2**
ROKH	**ROKH**	**4.32**	**357**	*e*Pn	**Pn**	**00 59 10.5**	**+0.4**
ISAD	**Sadrabad**	**4.38**	**27**	*e*Pn	**Pn**	**00 59 12.1**	**+1.1**
IMEH	**Mehriz**	**4.40**	**40**	*e*Pn	**Pn**	**00 59 13.3**	**+2.1**
BANOM	**Banah**	**4.89**	**114**	*i* P	**Pn**	**00 59 18.1**	**+0.2**
	SNR=11						
BANOM				S	**Sn**	**01 00 12.1**	**-2.1**
ASUD	**Al Ashush, Dub**	**4.92**	**132**	*i* P	**Pn**	**00 59 20.2**	**+2.0**
	SNR=11						
MSFE	**Esma-Masafi**	**5.06**	**120**	P	**Pn**	**00 59 20.5**	**+0.4**
KHGB	**Koh Gabri**	**5.07**	**61**	*e*Pn	**Pn**	**00 59 21.8**	**+1.4**
IBAF	**Bafgh**	**5.12**	**45**	*e*Pn	**Pn**	**00 59 22.2**	**+1.3**
UOSS	**Minazif**	**5.33**	**124**	P	**Pn**	**00 59 24.0**	**+0.2**
HATD	**Hatta, Dubai**	**5.35**	**125**	S	**Sn**	**01 00 03.4**	**-1.9**
ASHO	**Ashiyiah**	**5.38**	**127**	*i* P	**Pn**	**00 59 25.2**	**+0.7**
	SNR=7.4						
CHMN	**Cheshme madani**	**5.74**	**70**	*e*Pn	**Pn**	**00 59 29.7**	**0.0**

*ISK **24** 01:19:24.1,36.49N×28.25E,h5km,ML2.5/12*
*ISCJB **24** 01:19:25.7±0.7,36.52N±0.04×28.23E±0.03,h5km±6km, Error ellipse: s-maj=6.3km s-min=4.0km az=14.9*
*THE **24** 01:19:25.8,36.55N×28.24E,h1km±2km,ML2.2/3,Error ellipse: s-maj=2.3km s-min=1.1km az=76.0*
ISC 24 01:19:25.3±1.2,36.57N±0.03×28.25E±0.02,h7km±10km, n24,σ0§85/35,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.16**	**343**	PG	**Pg**	**01 19 29.2**	**+0.6**
DALY	**Dalyan (Mula)**	**0.41**	**52**	PG	**Pb**	**01 19 34.4**	**-0.5**
DALY				SG	**Sb**	**01 19 41.2**	**-0.1**
TURN	**Turunc**	**0.42**	**42**	PG	**Pg**	**01 19 30.5**	**-2.9**
DAT	**Datca**	**0.57**	**287**	PG	**Pg**	**01 19 36.7**	**+0.4**
YER	**Yerkesik**	**0.57**	**2**	P	**Pb**	**01 19 37.6**	**-0.1**
YER				S	**Sn**	**01 19 48.1**	**-1.5**
YER	**Yerkesik**	**0.57**	**2**	PG	**Pg**	**01 19 37.4**	**+1.1**
YER				SG	**Sn**	**01 19 48.6**	**-1.0**
FETY	**Fethiye**	**0.67**	**84**	P	**Pg**	**01 19 38.5**	**+0.3**
FETY				S	**Sb**	**01 19 49.0**	**+0.1**
FETY	**Fethiye**	**0.67**	**84**	PG	**Pg**	**01 19 38.8**	**+0.6**
FETY				SG	**Sb**	**01 19 49.2**	**+0.3**
MLSB	**Milas**	**0.82**	**332**	PG	**Pb**	**01 19 42.4**	**+0.4**
MLSB				SG	**Sn**	**01 19 56.6**	**+0.8**
BODT	**Bodrum**	**0.91**	**304**	P	**Pb**	**01 19 43.6**	**+0.2**
BODT				S	**Sn**	**01 19 57.0**	**-0.8**
BODT	**Bodrum**	**0.91**	**304**	PG	**Pn**	**01 19 43.9**	**-0.6**
NISR	**Nisiros**	**0.91**	**273**	P	**Pn**	**01 19 43.7**	**-0.8**
NISR				S	**Sb**	**01 19 56.2**	**+0.6**
	142nm,0.5s						
AKAS	**Kas**	**1.14**	**107**	PN	**Pn**	**01 19 48.1**	**+0.3**
KSL	**Kastellorizon**	**1.15**	**111**	P	**Pg**	**01 19 48.0**	**+0.6**
KSL				S	**Sn**	**01 20 05.3**	**+1.5**
ELL	**Elmali**	**1.34**	**82**	PN	**Pg**	**01 19 51.7**	**+0.6**
KARP	**Karpathos**	**1.35**	**221**	P	**Pb**	**01 19 50.2**	**-0.7**
KARP				S	**Sg**	**01 20 08.6**	**0.0**
	98nm,0.2s						
KARP	**Karpathos**	**1.35**	**221**	PN	**Pb**	**01 19 50.2**	**-0.7**
GCAM	**G?zelcaml?**	**1.40**	**325**	PN	**Pn**	**01 19 51.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**348**	PN	**Pn**	**01 19 51.7**	**+0.2**
SMG	**Samos**	**1.61**	**316**	P	**Pn**	**01 19 54.2**	**+0.1**
SMG				S	**Sn**	**01 20 15.5**	**+0.4**
	90nm,1.1s						
KORT	**Korkueli**	**1.74**	**75**	PN	**Pb**	**01 19 57.2**	**-0.4**
KULA	**Kula-Manisa**	**1.97**	**9**	PN	**Pn**	**01 20 00.0**	**+0.8**
ZKR	**Zakros**	**2.20**	**229**	P	**Pn**	**01 20 01.9**	**-0.3**
APE	**Apeiranthos**	**2.24**	**284**	P	**Pn**	**01 20 02.4**	**-0.5**

*SJA **24** 01:22:18.8±0.3,24.01S×66.90W,h193km±8km,ML2.9, MW2.7*
*ISCJB **24** 01:22:19.8±0.6,23.97S±0.05×66.95W±0.05,h181km, Error ellipse: s-maj=7.4km s-min=5.2km az=37.8*
*GUC **24** 01:22:20.0±0.6,23.88S×67.40W,h237km±12km,ML3.9*
ISC 24 01:22:19.7±1.3,23.99S±0.05×66.92W±0.06,h181km,n17, σ1§44/29,8C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.59**	**61**	*i* P	**Pn**	**01 22 54.1**	**+1.1**
AZAP	**Zapla**	**1.71**	**98**	*i* P	**Pn**	**01 22 54.7**	**+0.6**
AZAP				IAML		01 22 55.6	
	comp=Z,166nm,0.6s						
YJA	**Yavi**	**2.22**	**36**	*i* P	**Pn**	**01 23 00.9**	**+1.2**
YJA				IAML		01 23 01.2	
	comp=Z,17nm,0.3s						
PB15	**IPOC Station P**	**2.46**	**288⇑**	*i* P	**Pn**	**01 23 03.7**	**+1.5**
PB15				*i* S	**Sn**	**01 23 36.7**	**+1.4**
PB15	**IPOC Station P**	**2.46**	**288**	*i* P	**Pn**	**01 23 03.1**	**+0.9**
PB15				*i* Sg	**Sn**	**01 23 35.7**	**+0.4**
GO02	**Mina Guanaco**	**2.70**	**244⇓**	*i* P	**Pn**	**01 23 06.9**	**+1.9**
GO02				*i* S	**Sn**	**01 23 43.3**	**+2.9**
GO02				IAML		01 23 44.8	
	comp=E,330nm,0.5s						
PB06	**IPOC Station P**	**2.75**	**297⇑**	*i* P	**Pn**	**01 23 06.6**	**+1.1**
PB06				*i* S	**Sn**	**01 23 41.3**	**+0.1**
PB06				IAML		01 23 42.9	
	comp=N,360nm,0.3s						
PB05	**IPOC Station P**	**3.22**	**290⇑**	*i* P	**Pn**	**01 23 11.3**	**+0.1**
PB05				*i* S	**Sn**	**01 23 50.0**	**-1.3**
PB05				IAML		01 23 54.9	
	comp=N,115nm,0.4s						
PB14	**IPOC Station P**	**3.24**	**258⇑**	*i* P	**Pn**	**01 23 12.8**	**+1.1**
PB14				*i* S	**Sn**	**01 23 52.2**	**+0.1**
PB14				IAML		01 23 54.9	
	comp=E,207nm,0.4s						
PB03	**IPOC Station P**	**3.25**	**306⇑**	*i* P	**Pn**	**01 23 11.8**	**+0.3**
PB03				*i* S	**Sn**	**01 23 50.6**	**-1.4**
PB03				IAML		01 23 53.9	
	comp=E,146nm,0.2s						
PB10	**IPOC Station P**	**3.36**	**277**	*i* P	**Pn**	**01 23 13.1**	**+0.2**
PB10				*i* S	**Sn**	**01 23 53.3**	**-1.0**
PB04	**IPOC Station P**	**3.40**	**298⇑**	*i* P	**Pn**	**01 23 13.6**	**+0.2**
PB04				*i* S	**Sn**	**01 23 54.1**	**-1.2**
PB01	**IPOC Station P**	**3.77**	**320⇑**	*i* P	**Pn**	**01 23 17.6**	**-0.4**
PB01				*i* S	**Sn**	**01 24 01.6**	**-2.0**
PB08	**IPOC Station P**	**4.35**	**331⇑**	*i* P	**Pn**	**01 23 25.3**	**-0.4**
PB08				*i* S	**Sn**	**01 24 16.5**	**-0.9**
CYA	**Choya**	**4.55**	**168**	*i* P	**Pn**	**01 23 27.8**	**-0.1**
ACLC	**CERRO LA CRUZ**	**5.42**	**180**	*i* P	**Pn**	**01 23 38.7**	**-0.5**
APLL	**PUNTA DE LOS L**	**6.39**	**177**	*i* P	**Pn**	**01 23 51.5**	**-0.3**
APLL				*i* Sg	**Sn**	**01 25 00.2**	**-4.4**

*ATH **24** 01:24:21.6,41.37N×20.46E,h11km±3km,ML2.4/2,Error ellipse: s-maj=4.6km s-min=0.9km az=208.0*
*SKO **24** 01:24:21.6,41.31N×20.43E,h12km,M2.0,ML2.5*
*TIR **24** 01:24:21.2,41.30N×20.44E,h11km,Md2.7/7*
*THE **24** 01:24:22.4,41.29N×20.42E,h0km±1km,ML2.0/5,Error ellipse: s-maj=1.9km s-min=0.6km az=279.0*
*PDG **24** 01:24:22.2±0.3,41.29N×20.42E,h7km,ML2.7/10,Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*BEO **24** 01:24:23.2±0.5,41.21N×20.45E,h0km±2km,ML2.3/9*
ISC 24 01:24:22.5±0.9,41.30N±0.02×20.42E±0.02,h12km±8km, n65,σ1§26/112,6C-7D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.34**	**123**	*i* Pg	**Pg**	**01 24 29.1**	**-0.2**
OHR				*i* Sg	**Sb**	**01 24 35.0**	**-0.9**
OHR				*e*Lg	Lg	01 24 35.3	
	comp=N,475nm,0.4s						
OHR				*e*Lg	Lg	01 24 36.5	
	comp=E,554nm,0.5s						
PHP	**Peshkopia**	**0.39**	**2**	P	**Pg**	**01 24 30.0**	**-0.2**
PHP				S	**Sb**	**01 24 36.2**	**-1.1**
PHP	**Peshkopia**	**0.39**	**2**	*i* PG	**Pg**	**01 24 30.1**	**-0.2**
PHP				*i* SG	**Sg**	**01 24 35.4**	**0.0**
TIR	**Tirane**	**0.42**	**277**	*e*Pg	**Pg**	**01 24 30.4**	**-0.5**
TIR				*e*Sg	**Sb**	**01 24 38.1**	**-0.1**
TIR	**Tirane**	**0.42**	**277**	P	**Pg**	**01 24 30.2**	**-0.6**
TIR				S	**Sg**	**01 24 36.7**	**+0.3**
	comp=E,145nm,0.3s						
TIR	**Tirane**	**0.42**	**277**	*i* Pg	**Pg**	**01 24 30.2**	**-0.6**
TIR	**Tirane**	**0.42**	**277**	*i* PG	**Pg**	**01 24 30.2**	**-0.6**
TIR				*i* SG	**Sg**	**01 24 37.0**	**+0.6**
TIR	**Tirane**	**0.42**	**277**	P	**Pg**	**01 24 30.3**	**-0.5**
TIR				S	**Sg**	**01 24 36.8**	**+0.3**
TIR				AML	AML	01 24 38.5	
	comp=E,745μm,0.2s						
TIR				AML	AML	01 24 40.9	
	comp=N,737μm,0.4s						
PUK	**Puka**	**0.84**	**332**	*i* PG	**Pg**	**01 24 38.0**	**-0.8**
PUK				*i* SG	**Sb**	**01 24 51.0**	**+0.5**
FNA	**Florina**	**0.89**	**125**	P	**Pg**	**01 24 38.6**	**-0.9**
FNA				S	**Sb**	**01 24 51.9**	**+0.3**
	comp=N,372nm,0.5s						
FNA	**Florina**	**0.89**	**125**	*i* Pg	**Pg**	**01 24 38.7**	**-0.9**
FNA				*i* Sg	**Sn**	**01 24 52.3**	**-1.4**
FNA	**Florina**	**0.89**	**125**	*i* PG	**Pg**	**01 24 38.7**	**-0.9**
FNA				*i* SG	**Sb**	**01 24 51.9**	**+0.3**
FNA	**Florina**	**0.89**	**125**	P	**Pg**	**01 24 38.6**	**-0.9**
FNA				S	**Sb**	**01 24 52.0**	**+0.4**
FNA				AML	AML	01 24 56.2	
	comp=N,726μm,0.5s						
FNA				AML	AML	01 24 57.6	
	comp=E,766μm,0.5s						
NEST	**Nestorio**	**1.00**	**151**	P	**Pg**	**01 24 41.0**	**-0.8**
NEST				S	**Sn**	**01 24 56.1**	**-0.4**
	comp=E,75nm,0.4s						
NEST	**Nestorio**	**1.00**	**151**	P	**Pg**	**01 24 40.9**	**-0.8**
NEST				S	**Sn**	**01 24 55.9**	**-0.6**
SKO	**Skopje**	**1.02**	**48**	*e*Pg	**Pb**	**01 24 41.7**	**-0.4**
SKO				*e*Sg	**Sn**	**01 24 56.2**	**-0.7**
SKO	**Skopje**	**1.02**	**48**	*i* Pg	**Pg**	**01 24 41.2**	**-0.9**
SKO				*i* Sg	**Sn**	**01 24 57.0**	**+0.2**
TPE	**Tepelena**	**1.05**	**197**	P	**Pb**	**01 24 41.7**	**-0.8**
TPE	**Tepelena**	**1.05**	**197**	*i* PN	**Pb**	**01 24 41.9**	**-0.6**
TPE				*i* SN	**Sn**	**01 24 57.7**	**+0.2**
BCI	**Bajram Curri**	**1.10**	**346**	*i* PN	**Pb**	**01 24 42.5**	**-1.0**
BCI				*i* SN	**Sn**	**01 24 59.2**	**+0.3**
ULC	**Ulcinj**	**1.11**	**307⇑**	*i*Pg	**Pb**	**01 24 42.5**	**-1.1**
ULC				*i* Sg	**Sn**	**01 25 00.0**	**+1.0**
PENT	**Pentalofos**	**1.23**	**153**	P	**Pn**	**01 24 45.2**	**-0.4**
PENT				S	**Sn**	**01 25 03.5**	**+1.4**
	comp=E,50nm,0.5s						
PENT	**Pentalofos**	**1.23**	**153**	P	**Pg**	**01 24 45.9**	**-0.2**
DRME	**Dracevica, Mon**	**1.28**	**314⇓**	*i*Pg	**Pn**	**01 24 45.8**	**-0.5**
DRME				*i* Sg	**Sg**	**01 25 06.3**	**+2.4**
PVY	**Plav**	**1.34**	**345⇓**	*i*Pg	**Pn**	**01 24 46.9**	**-0.3**
PVY				*i* Sg	**Sg**	**01 25 08.0**	**+2.2**
STIP	**Stip**	**1.38**	**73**	*i* Pg	**Pg**	**01 24 51.3**	**+2.2**
STIP				*i* Sg	**Sg**	**01 25 13.0**	**+6.0**
KZN	**Kozani**	**1.42**	**134**	P	**Pb**	**01 24 48.9**	**-0.1**
KZN				S	**Sg**	**01 25 09.2**	**+0.9**
	comp=E,65nm,0.5s						
KZN	**Kozani**	**1.42**	**134**	P	**Pb**	**01 24 48.9**	**-0.1**
PDG	**Podgorica**	**1.43**	**323**	*e*Pg	**Pg**	**01 24 50.9**	**+1.0**
PDG				*e*Sg	**Sg**	**01 25 11.1**	**+2.6**
TTG	**Podgorica**	**1.43**	**323⇓**	*i*Pg	**Pn**	**01 24 48.4**	**+0.2**
TTG				*i* Sg	**Sg**	**01 25 11.0**	**+2.6**
SRN	**Sarande**	**1.45**	**193**	*i* PN	**Pb**	**01 24 49.0**	**-0.4**
SRN				*i* SN	**Sg**	**01 25 10.0**	**+0.9**
KPRO	**Kipourio**	**1.52**	**152**	P	**Pg**	**01 24 50.9**	**-0.8**
KPRO				S	**Sg**	**01 25 10.9**	**-0.5**
KPRO	**Kipourio**	**1.52**	**152**	P	**Pg**	**01 24 50.9**	**-0.8**
BUM	**Brajici-Budva**	**1.52**	**312⇓**	*i*Pg	**Pn**	**01 24 50.0**	**+0.4**
BUM				*i* Sg	**Sg**	**01 25 13.8**	**+2.4**
GRG	**Griva**	**1.53**	**102**	*i* Pg	**Pb**	**01 24 50.4**	**-0.5**
GRG	**Griva**	**1.53**	**102**	P	**Pb**	**01 24 50.3**	**-0.5**
VAY	**Valandovo**	**1.62**	**88**	*e*Pg	**Pb**	**01 24 52.2**	**-0.1**
VAY				*e*Sg	**Sg**	**01 25 15.0**	**+0.5**
VAY	**Valandovo**	**1.62**	**88**	*i* Pg	**Pb**	**01 24 52.2**	**-0.1**
VAY				*i* Sg	**Sg**	**01 25 14.0**	**-0.5**
VAY				*e*Lg	Lg	01 25 14.5	
	comp=N,42nm,0.8s						
VAY				*e*Lg	Lg	01 25 15.1	
	comp=E,29nm,0.7s						
IVA	**Berane**	**1.62**	**346⇓**	*i*Pn	**Pg**	**01 24 53.0**	**-0.6**
IVA				*i* Sn	**Sg**	**01 25 16.1**	**+1.4**
CEME	**Cevo**	**1.68**	**319⇑**	*i*Pn	**Pb**	**01 24 52.7**	**-0.7**
CEME				*i* Sn	**Sg**	**01 25 17.3**	**+0.8**
KOME	**Kolasin**	**1.69**	**337⇑**	*i*Pn	**Pb**	**01 24 53.4**	**-0.2**
KOME				*i* Sn	**Sg**	**01 25 17.9**	**+0.9**
NKME	**Niksic**	**1.83**	**324⇑**	*i*Pn	**Pb**	**01 24 55.1**	**-0.9**
NKME				*i* Sn	**Sg**	**01 25 21.4**	**0.0**
BARS	**Barje**	**1.84**	**34**	*e*Pn	**Pg**	**01 24 57.0**	**-0.8**
BARS				*e*Sn	**Sg**	**01 25 21.2**	**-0.4**
HCY	**Herceg Novi**	**1.84**	**309⇓**	*i*Pn	**Pb**	**01 24 55.2**	**-0.9**
HCY				*i* Sn	**Sg**	**01 25 21.6**	**-0.1**
NKY	**Niksic**	**1.85**	**325⇓**	*i*Pn	**Pb**	**01 24 55.8**	**-0.5**
NKY				*i* Sn	**Sg**	**01 25 21.5**	**-0.5**
KNT	**Kendrikon**	**1.87**	**93**	*i* Pn	**Pb**	**01 24 55.7**	**-1.0**
KNT	**Kendrikon**	**1.87**	**93**	P	**Pb**	**01 24 55.4**	**-1.2**
BOSS	**Bosilegrad**	**1.95**	**51**	*e*Pn	**Pb**	**01 24 56.6**	**-1.3**
LIT	**Litokhoron**	**1.98**	**127**	P	**Pb**	**01 24 57.5**	**-0.9**
SELS	**Selova**	**1.99**	**15**	*e*Pn	**Pg**	**01 24 59.5**	**-1.2**
SELS				*e*Sn	**Sg**	**01 25 26.4**	**-0.1**
SJES	**Sjenica**	**1.99**	**351**	*e*Pn	**Pg**	**01 24 59.8**	**-0.9**
SJES				*e*Sn	**Sg**	**01 25 25.8**	**-0.7**
KKB	**Krupnik**	**2.08**	**73**	*i* Pn	**Pb**	**01 24 58.9**	**-1.2**
TREB	**Trebinje**	**2.10**	**313**	*e*Pn	**Pb**	**01 25 00.9**	**+0.4**
TREB				*e*Sn	**Sb**	**01 25 27.9**	**+1.4**
BRY	**Bratogost**	**2.13**	**319⇑**	*i*Pn	**Pb**	**01 24 59.5**	**-1.6**
BRY				*i* Sn	**Sb**	**01 25 28.6**	**+1.1**
UPM	**Unac-Piva**	**2.21**	**330⇑**	*i*Pn	**Pn**	**01 25 00.7**	**+1.5**
UPM				*i* Sn	**Sb**	**01 25 29.9**	**-0.1**
IVAS	**Ivanjica**	**2.29**	**355**	*e*Pn	**Pb**	**01 25 04.0**	**+0.3**
IVAS				*e*Sn	**Sb**	**01 25 33.6**	**+1.6**
PLG	**Polygyros**	**2.47**	**111**	P	**Pn**	**01 25 04.2**	**+1.6**
VTS	**Vitosha**	**2.48**	**57**	*i* Pn	**Pn**	**01 25 04.3**	**+1.4**
ZAPS	**Zavoj**	**2.57**	**39**	*e*Pn	**Pb**	**01 25 05.9**	**-2.6**
GRUS	**Gruza**	**2.60**	**5**	*e*Pn	**Pb**	**01 25 06.8**	**-2.2**
BBLS	**Lazići**	**2.68**	**344**	*e*Pn	**Pb**	**01 25 09.7**	**-0.7**
BBLS				*e*Sn	**Sb**	**01 25 42.5**	**-0.7**
DIVS	**Divibare**	**2.82**	**354**	*e*Pn	**Pb**	**01 25 10.8**	**-2.0**
ZAGS	**Zajecar**	**2.85**	**27**	*e*Pn	**Pb**	**01 25 11.0**	**-2.2**
ZAGS				*e*Sn	**Sb**	**01 25 46.3**	**-1.8**
TRUS	**Trudelj**	**2.93**	**360**	*e*Pn	**Pn**	**01 25 11.3**	**+2.5**
HAPS	**Han Pijesak,BI**	**2.99**	**339**	*e*Pn	**Pb**	**01 25 13.4**	**-2.4**
HAPS				*e*Sn	**Sb**	**01 25 49.5**	**-2.8**

*ISCJB **24** 01:49:45.4±0.2,67.56N±0.03×142.91E±0.07,h10km, mb4.1/35,MS3.9/2,Error ellipse: s-maj=4.2km s-min=3.6km az=137.5*
*YARS **24** 01:49:45.0,67.52N×142.87E,h8km*
*IDC **24** 01:49:45.9±0.5,67.64N×142.73E,h0km,mb3.9/18, mb1 4.1/23,mb1mx4.0/54,mbtmp3.9/23,ML3.8/3,MS3.3/1, Ms1 3.3/1,ms1mx2.5/47,Error ellipse: s-maj=12.5km s-min=11.0km az=160.0*
*MOS **24** 01:49:46.7±1.3,67.69N×142.93E,h17km,mb4.4/15,Error ellipse: s-maj=16.5km s-min=7.8km az=92.4*
*NEIC **24** 01:49:48.8±1.2,67.70N±0.08×142.9E±0.2,h16km±4km, mb4.3/27*
*NERS **24** 01:49:51.1±0.0,67.28N×143.88E,h0km*
ISC 24 01:49:46.8±0.4,67.55N±0.03×142.92E±0.03,h10km,n107, σ2§06/130,mb4.2/40,8C-6D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBGR	**Belaya Gora**	**1.58**	**50**	*i* Pg	**Pn**	**01 50 14.2**	**-0.6**
	136nm,0.2s						
YBGR				*e*Sg	**Sb**	**01 50 35.1**	**-0.9**
	723nm,0.2s						
DEPR	**Deputatskiy**	**2.16**	**330**	*e*Pn	**Pn**	**01 50 21.8**	**-1.0**
DEPR				*e*Pg	**Pb**	**01 50 24.2**	**-1.7**
	76nm,0.4s						
DEPR				*e*Sn	**Sn**	**01 50 49.3**	**-0.3**
DEPR				*e*Sn	**Sn**	**01 50 49.3**	**-0.3**
DEPR				*e*Sg	**Sb**	**01 50 53.0**	**+0.1**
	694nm,0.3s						
UNR	**Ust'-Nera**	**2.99**	**177**	*e*Pn	**Pn**	**01 50 32.9**	**-1.3**
UNR				*i* Pg	**Pb**	**01 50 38.6**	**-1.5**
	30nm,1.2s						
UNR				*e*Sn	**Sn**	**01 51 08.8**	**-1.2**
UNR				*e*Sn	**Sn**	**01 51 08.8**	**-1.2**
UNR				*e*Sg	**Sg**	**01 51 17.9**	**-4.8**
	216nm,1.3s						
BTGS	**Batagay**	**3.17**	**276**	*e*Pn	**Pn**	**01 50 35.7**	**-1.0**
BTGS				*i* Pg	**Pb**	**01 50 41.9**	**-1.2**
	20nm,0.2s						
BTGS				*e*Sn	**Sn**	**01 51 13.4**	**-1.0**
BTGS				*e*Sn	**Sn**	**01 51 13.4**	**-1.0**
BTGS				*e*Sg	**Sg**	**01 51 23.7**	**-4.8**
	474nm,0.3s						
ATKR	**Artyk**	**3.50**	**164**	*e*Pn	**Pn**	**01 50 40.2**	**-1.0**
ATKR				*e*Pg	**Pb**	**01 50 48.0**	**-0.8**
	17nm,0.1s						
ATKR				*e*Sn	**Sn**	**01 51 21.4**	**-1.2**
ATKR				*e*Sn	**Sn**	**01 51 21.4**	**-1.2**
ATKR				*e*Sg	**Sg**	**01 51 34.0**	**-5.0**
	326nm,0.3s						
SUUS	**Susuman**	**5.27**	**153**	*e*P	**Pn**	**01 51 07.1**	**+1.6**
SUUS				*e*S	**Sn**	**01 52 04.6**	**-1.6**
SUUS				*e*Sg	**Sg**	**01 52 31.5**	**-4.3**
SUUS				Sgmax		01 52 40.1	
	340nm,0.6s						
SEY	**Seymchan**	**6.10**	**135**	*e*P	**Pn**	**01 51 17.4**	**+0.6**
SEY				*e*Sg	**Sg**	**01 52 56.2**	**-6.0**
SEY				Sgmax		01 53 07.3	
	80nm,0.6s						
SEY	**Seymchan**	**6.10**	**135⇓**	*e*P	**Pn**	**01 51 17.2**	**+0.4**
SEY	**Seymchan**	**6.10**	**135**	Pn	**Pn**	**01 51 17.6**	**+0.8**
	0.7nm,0.3s,baz=321,slow=11,SNR=10						
SEY				Lg	Lg	01 52 59.8	
	3.9nm,0.3s,baz=6.4,slow=13,SNR=9.6						
OCHR	**Omchak**	**6.27**	**158**	*e*P	**Pn**	**01 51 20.9**	**+1.6**
OCHR				*e*Sg	**Sg**	**01 53 03.0**	**-4.9**
OCHR				Sgmax		01 53 17.4	
	110nm,0.7s						
SNGR	**Sinegor'e**	**6.36**	**146**	*e*P	**Pn**	**01 51 22.8**	**+2.4**
SNGR				*e*Sg	**Sg**	**01 53 05.2**	**-5.4**
SNGR				Sgmax		01 53 23.1	
	80nm,0.5s						
TIXI	**Tiksi**	**6.40**	**316**	*e*Pn	**Pn**	**01 51 20.7**	**-0.2**
TIXI				*e*Pg	**Pb**	**01 51 40.5**	**+2.5**
TIXI				*e*Sn	**Sn**	**01 52 32.9**	**-1.0**
TIXI				*e*Sn	**Sn**	**01 52 32.9**	**-1.0**
TIXI				*e*Sg	**Sg**	**01 53 05.2**	**-6.7**
TIXI				*e*Sg	**Sg**	**01 53 05.2**	**-6.7**
TIXI	**Tiksi**	**6.40**	**316**	P	**Pn**	**01 51 21.1**	**+0.2**
TIXI						01 52 31.4	
TIXI	**Tiksi**	**6.40**	**316**	Pn	**Pn**	**01 51 19.7**	**-1.2**
	6.0nm,0.3s,baz=360,slow=24,SNR=35						
TIXI				Sn	**Sn**	**01 52 31.4**	**-2.5**
	6.0nm,0.3s,baz=93,slow=17,SNR=3.5						
TIXI				Lg	Lg	01 53 00.8	
	9.2nm,0.3s,baz=4.4,slow=23,SNR=7.5						
TIXI	**Tiksi**	**6.40**	**316**		**Pn**	**01 51 21.1**	**+0.2**
TLAR	**Talaya**	**7.63**	**143**	*e*Sg	**Sg**	**01 53 47.0**	**-4.4**
TLAR				Sgmax		01 53 57.8	
	20nm,0.2s						
YAK	**Yakutsk**	**7.89**	**232**	*e*P	Pn	01 51 46.1	+4.7
YAK				*e*		01 53 22.7	
YAK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
YAK				smax	smax		
	comp=N,37nm,0.8s						
YAK				smax	smax		
	comp=E,21nm,0.6s						
YAK	**Yakutsk**	**7.89**	**232**	Pn	**Pn**	**01 51 41.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=145,slow=1.5,SNR=4.0						
YAK				Sn	**Sn**	**01 53 09.4**	**-1.3**
	comp=E,0.5nm,0.3s,baz=317,slow=23,SNR=6.2						
YAK				Lg	Lg	01 53 57.5	
	comp=E,0.2nm,0.3s,baz=165,slow=20,SNR=2.5						
YAK	**Yakutsk**	**7.89**	**232**	Pn	**Pn**	**01 51 43.8**	**+2.4**
MA2	**Magadan**	**8.72**	**153**	*e*P	**Pn**	**01 51 54.6**	**+1.8**
MA2				*e*Sg	**Sg**	**01 54 21.3**	**-5.0**
MA2				Sgmax		01 54 35.6	
	comp=E,20nm,0.5s						
**MA

LZH				sP	pP	01 57 17.3	+5.5
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				pmax	pmax		
	comp=Z,52nm,5.2s						
ABKAR	**Akbulak array**	43.26	288	P	**P**	**01 57 48.1**	**+0.2**
ABKAR				IAmb	IAmb	01 57 50.4	
	comp=Z,9.0nm,1.6s						
AAK	**Ala-Archa**	**43.34**	**271**	P	**P**	**01 57 50.1**	**+1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**43.34**	**271**	P	**P**	**01 57 50.1**	**+1.4**
AAK				IAmb	IAmb	01 57 54.8	
	comp=Z,2.8nm,0.6s						
FINES	**FINESS Array B**	**43.42**	**321**	P	**P**	**01 57 48.9**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=40,slow=10,SNR=10						
PUL	**Pulkovo**	**43.81**	**318⇑**	*e*P	**P**	**01 57 51.9**	**-0.2**
PUL				pmax	pmax		
	comp=Z,28nm,0.9s						
KK31	**Karatay Array**	**44.47**	**275**	P	**P**	**01 57 59.1**	**+1.5**
KK31				pmax	pmax		
	comp=Z,10.0nm,2.0s						
KK31	**Karatay Array**	**44.47**	**275**	P	**P**	**01 57 59.1**	**+1.5**
KK31				IAmb	IAmb	01 58 48.5	
	comp=Z,9.6nm,2.0s						
KKAR	**Karatay Array**	**44.47**	**275**	P	**P**	**01 57 58.8**	**+1.1**
KKAR	**Karatay Array**	**44.47**	**275**	P	**P**	**01 57 58.8**	**+1.1**
KSH	**Kashi**	**45.45**	**267**	*e*P	P	01 58 11.8	+6.1
KSH				LR	LR		
	comp=N,450nm,12.1s						
KSH				LR	LR		
	comp=E,270nm,14.0s						
VSU	**Vasula**	**45.87**	**319⇑**	*e*P	**P**	**01 58 05.6**	**-2.9**
OBN	**Obninsk**	**46.09**	**310**	*e*P	**P**	**01 58 10.7**	**+0.4**
OBN				*e*		01 59 59.5	
OBN				*e*PPP	PPP	02 00 39.3	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,102nm,9.0s						
NOA	**NORSAR Array B**	**46.99**	**330**	P	**P**	**01 58 16.2**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=24,slow=7.7,SNR=3.4						
VSR	**Storozhevoye**	**48.67**	**306⇓**	*e*P	**P**	**01 58 30.3**	**-0.2**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	**52.09**	**312**	P	**P**	**01 58 55.8**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=28,slow=8.3,SNR=5.1						
AKASG	**Malin Array Be**	**52.09**	**312**	IAmb	IAmb	01 58 56.5	
	comp=Z,0.7nm,0.7s						
KIV	**Kislovodsk**	**53.89**	**298**	*e*P	**P**	**01 59 10.9**	**+1.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
NCK	**Nalchik**	**53.99**	**297⇓**	*e*P	**P**	**01 59 11.3**	**+0.8**
NCK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**54.02**	**298**	P	**P**	**01 59 11.7**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=318,slow=3.6,SNR=6.3						
SHA1	**Shidzhatmaz**	**54.09**	**298⇑**	*e*P	**P**	**01 59 11.5**	**0.0**
NEY	**Neytrino**	**54.50**	**298⇑**	*e*P	**P**	**01 59 12.7**	**-1.7**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LKWY	**Lake**	**55.47**	**56**	IAmb	IAmb	01 59 25.6	
	comp=Z,4.1nm,0.9s						
CLL	**Collm**	**55.67**	**324**	*e*P	**P**	**01 59 22.0**	**-0.4**
BURAR	**Bucovina Array**	**56.01**	**314**	P	**P**	**01 59 25.4**	**+0.2**
PD31	**Pinedale Array**	**57.35**	**57**	P	**P**	**01 59 35.6**	**+0.7**
PDAR	**Pinedale Array**	**57.35**	**57**	P	**P**	**01 59 35.8**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=6.6,slow=2.8,SNR=7.9						
PDAR	**Pinedale Array**	**57.35**	**57**	P	**P**	**01 59 35.3**	**+0.5**
GERES	**GERESS Array B**	**57.81**	**323**	P	**P**	**01 59 38.1**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=92,slow=4.0,SNR=4.1						
GERES	**GERESS Array B**	**57.81**	**323**	P	**P**	**01 59 37.8**	**-0.1**
KVN	**Kaiserville**	**57.82**	**65**	P	**P**	**01 59 39.3**	**+1.2**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KVN	**Kaiserville**	**57.82**	**65**	P	**P**	**01 59 39.3**	**+1.2**
KVN				IAmb	IAmb	01 59 40.4	
	comp=Z,2.8nm,0.9s						
NVAR	**Mina Array Bea**	**58.30**	**66**	P	**P**	**01 59 42.7**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=310,slow=5.4,SNR=8.2						
MSU	**Marysvale**	**60.33**	**61**	P	**P**	**01 59 56.9**	**+1.3**
MSU	**Marysvale**	**60.33**	**61**	P	**P**	**01 59 56.9**	**+1.3**
SRU	**San Rafael Swe**	**60.34**	**59**	P	**P**	**01 59 56.8**	**+1.2**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SRU	**San Rafael Swe**	**60.34**	**59**	P	**P**	**01 59 56.8**	**+1.2**
BRTR	**Keskin Array B**	**60.67**	**303**	*i* P	**P**	**01 59 57.2**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**60.67**	**303**	P	**P**	**01 59 58.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=45,slow=3.7,SNR=4.0						
PV14	**Lion Creek, Pa**	**61.50**	**58**	P	**P**	**02 00 04.5**	**+1.0**
PV17	**East Wray Mesa**	**61.60**	**58**	P	**P**	**02 00 04.9**	**+0.7**
WMOK	**Wichita Mounta**	**68.06**	**51**	P	**P**	**02 00 47.5**	**+1.4**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMOK	**Wichita Mounta**	**68.06**	**51**	P	**P**	**02 00 47.5**	**+1.4**
ESDC	**Sonseca Array**	**70.20**	**333**	P	**P**	**02 00 59.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=6.0,slow=6.6,SNR=8.0						
ESDC	**Sonseca Array**	**70.20**	**333**	P	**P**	**02 00 59.3**	**-0.1**
TXAR	**Lajitas Array**	**71.54**	**58**	P	**P**	**02 01 07.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=340,slow=3.5,SNR=5.6						
WRA	**Warramunga Arr**	**87.46**	**188**	P	**P**	**02 02 35.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=2.5,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**94.77**	**322**	P	**P**	**02 03 07.2**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=358,slow=5.7,SNR=3.1						
MAW	**Mawson**	**145.83**	**222**	PKPbc	**PKPab**	**02 09 24.4**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=44,slow=7.3,SNR=3.7						
PLCA	**Paso Flores**	**147.53**	**51**	PKPbc	**PKiKP**	**02 09 29.8**	**-2.5**
	comp=Z,1.5nm,0.6s,baz=35,slow=8.2,SNR=3.4						

*ISCJB **24** 02:00:34.8±0.9, 31°.89S±0°.03×70°.46W±0°.06, h112km±10km, Error ellipse: s-maj=8.1km s-min=5.0km az=7.9*
*SJA **24** 02:00:34.9±0.8, 31°.86S×70°.41W, h102km±7km, ML3.1, MW3.4*
*GUC **24** 02:00:35.9±0.6, 31°.97S×70°.72W, h98km±7km, ML3.0*

ISC 24 02:00:35.8±1.9, 31°.89S±0°.03×70°.46W±0°.05, h102km±17km, n24, σ0°53/34, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.82**	**326⇑**	*i* P	**Pn**	**02 00 54.8**	**0.0**
CO02				*i* S	**Sn**	**02 01 09.8**	**+0.9**
RTLS	**Leoncito**	**0.99**	**85**	*i* P	**Pn**	**02 00 56.4**	**-0.3**
RTLS				*i* Sg	**Sn**	**02 01 12.2**	**-0.1**
RTLS				IAML		02 01 12.7	
	comp=Z,440nm,0.3s						
ROCH	**El Roble**	**1.18**	**203⇑**	*i* P	**Pn**	**02 00 57.8**	**-0.9**
ROCH				*i* S	**Sn**	**02 01 14.8**	**-1.1**
ROCH				IAML		02 01 17.5	
	comp=E,516nm,0.3s						
PEL	**Peldehue**	**1.27**	**189⇓**	*i* P	**Pn**	**02 00 59.0**	**-0.5**
PEL				*i* S	**Sn**	**02 01 16.6**	**-0.8**
PEL	**Peldehue**	**1.27**	**189**	*i* P	**Pn**	**02 00 59.6**	**0.0**
FCH	**Farellones**	**1.45**	**174⇑**	*i* P	**Pn**	**02 01 02.3**	**+0.4**
FCH				*i* S	**Sn**	**02 01 22.3**	**+0.7**
FCH				IAML		02 01 24.0	
	comp=E,289nm,0.3s						
CLCH	**Cerro Calan**	**1.51**	**183**	*i* P	**Pn**	**02 01 02.5**	**+0.1**
CLCH				*i* S	**Sn**	**02 01 22.4**	**-0.2**
ASAL	**Salagasta**	**1.54**	**118**	*i* P	**Pn**	**02 01 03.2**	**+0.4**
ASAL				*i* Sg	**Sn**	**02 01 23.7**	**+0.3**
ZON	**Zonda**	**1.55**	**78**	*i* P	**Pn**	**02 01 03.0**	**+0.1**
ARCO	**CERRO ARCO**	**1.60**	**127**	*i* P	**Pn**	**02 01 03.7**	**0.0**
ARCO				IAML		02 01 28.6	
	comp=Z,138nm,0.2s						
RTCV	**Cerro Valdivia**	**1.63**	**90**	*i* P	**Pn**	**02 01 03.7**	**-0.2**
GO04	**Tololo Observa**	**1.73**	**350⇑**	*i* P	**Pn**	**02 01 05.3**	**-0.1**
GO04				*i* S	**Sn**	**02 01 27.7**	**-0.1**
GO04	**Tololo Observa**	**1.73**	**350**	*i* P	**Pn**	**02 01 05.6**	**+0.2**
ACCO	**Cerro Coronel**	**1.76**	**43**	*i* P	**Pn**	**02 01 05.9**	**+0.1**
ACCO				*i* Sg	**Sn**	**02 01 28.8**	**+0.3**
RTLL	**Cerro Villicun**	**1.78**	**72⇑**	*i* P	**Pn**	**02 01 05.4**	**-0.4**
AAGR	**Agrelo**	**1.82**	**131**	*i* P	**Pn**	**02 01 06.6**	**+0.2**
AROD	**Rodeo**	**1.91**	**26**	*i* P	**Pn**	**02 01 07.8**	**+0.1**
CFA	**Coronel Fontan**	**1.91**	**82**	*i* P	**Pn**	**02 01 07.0**	**-0.4**
AMOG	**MOGNA**	**1.93**	**61**	*i* P	**Pn**	**02 01 07.5**	**-0.1**
LMEL	**Las Melosas**	**1.97**	**174**	*i* P	**Pn**	**02 01 08.9**	**+0.7**
LMEL				*i* S	**Sn**	**02 01 34.3**	**+1.3**
LMEL				IAML		02 01 38.6	
	comp=N,140nm,0.2s						
ACAN	**Cantantal**	**2.80**	**99**	*i* P	**Pn**	**02 01 18.5**	**-0.6**
AGUA	**GUANDACOL**	**2.93**	**36**	*i* P	**Pn**	**02 01 20.7**	**-0.1**
APLL	**PUNTA DE LOS L**	**3.68**	**67**	*i* P	**Pn**	**02 01 30.0**	**-0.8**
ACLC	**CERRO LA CRUZ**	**3.89**	**52**	*i* P	**Pn**	**02 01 33.5**	**-0.3**

IDC 24 02:07:00.8±4.7, 23°.13S×13°.14W, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/21, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx3.0/19, Error ellipse: s-maj=150.6km s-min=93.3km az=91.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**14.17**	**354**	T	T	02 24 29.8	
	baz=174,slow=74,SNR=88						
H10S3	**ASCENSION HYDR**	**14.17**	**354**	T	T	02 24 45.3	
	baz=46,slow=74,SNR=62						
DBIC	**Dimbokro**	**30.70**	**16**	P	P	02 13 18.4	+0.9
	2.0nm,0.8s,baz=217,slow=11,SNR=2.2						
BDFB	**Brasilia**	**33.67**	**276**	LR	LR	02 26 22.1	
	comp=Z,51nm,18.3s,baz=126,slow=34						
TORD	**Torodi Ar. Bea**	**38.87**	**23**	P	P	02 14 27.2	-0.8
	2.1nm,0.9s,baz=200,slow=8.3,SNR=8.6						
TORD				LR	LR	02 27 02.4	
	comp=Z,74nm,20.0s,baz=330,slow=31						
ESDC	**Sonseca Array**	**63.06**	**8**	P	P	02 17 29.5	-0.3
	0.1nm,0.3s,baz=170,slow=5.5,SNR=3.3						
GERES	**GERESS Array B**	**75.56**	**18**	P	P	02 18 47.1	-0.1
	0.2nm,0.4s,baz=188,slow=6.7,SNR=2.5						
BRTR	**Keskin Array B**	**76.26**	**35**	P	P	02 18 51.5	+0.1
	0.6nm,0.8s,baz=157,slow=6.7,SNR=5.3						
AKASG	**Malin Array Be**	**82.47**	**26**	P	P	02 19 25.2	+0.3
	0.4nm,0.4s,baz=216,slow=4.6,SNR=3.2						

*THR **24** 02:11:41.8, 32°.10N×56°.45E, h15km, ML3.3*
*TEH **24** 02:11:41.3, 32°.14N×56°.42E, h11km, ML3.5*
*ISCJB **24** 02:11:42.3±0.4, 32°.20N±0°.04×56°.37E±0°.05, h10km, Error ellipse: s-maj=6.4km s-min=5.5km az=162.5*

ISC 24 02:11:41.6±1.0, 32°.12N±0°.04×56°.42E±0°.03, h10km, n26, σ1§21/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**0.90**	**234**	*e*Pg	**Pg**	**02 11 58.0**	**-0.9**
TPRV	**Parvadeh(Tabas**	**0.93**	**14**	*e*Pg	**Pb**	**02 11 59.7**	**-0.2**
TPRV				IAMB	IAmb	02 12 24.3	
	comp=Z,0.0nm,0.5s						
YZKH	**Yazd**	**1.57**	**280**	*e*Pg	**Pg**	**02 12 11.4**	**-0.4**
YZKH	**Yazd**	**1.57**	**280**	*e*AML	AML	02 12 34.3	
	comp=Z,304nm,0.3s						
YZKH				*e*AML	AML	02 12 38.8	
	comp=Z,224nm,0.5s						
YZKH	**Yazd**	**1.57**	**280**	*e*Pg	**Pg**	**02 12 11.3**	**-0.4**
TABS	**Tabas**	**1.63**	**21**	*e*Pg	**Pg**	**02 12 12.0**	**-0.9**
TABS	**Tabas**	**1.63**	**21**	*e*Pg	**Pg**	**02 12 12.0**	**-0.9**
IMEH	**Mehriz**	**1.70**	**245**	*e*Pn	**Pb**	**02 12 13.4**	**+0.3**
IMEH				IAMB	IAmb	02 12 38.3	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**1.71**	**275**	*e*Pn	**Pn**	**02 12 12.1**	**+0.4**
ICHK				IAMB	IAmb	02 12 16.9	
	comp=Z,4μm,0.4s						
KHGB	**Koh Gabri**	**1.74**	**178**	*e*Pn	**Pb**	**02 12 13.6**	**-0.2**
KHGB				IAMB	IAmb	02 12 38.4	
	comp=Z,0.0nm,0.2s						
TNSJ	**Nastanj**	**1.84**	**5**	*e*Pn	**Pb**	**02 12 14.6**	**-0.9**
TNSJ				IAMB	IAmb	02 12 46.6	
	comp=Z,0.0nm,0.6s						
ITEG	**Tejag**	**2.11**	**68**	*e*Pn	**Pb**	**02 12 18.8**	**-1.3**
ITEG				IAMB	IAmb	02 12 53.3	
	comp=Z,5μm,0.2s						
TVBK	**TV Kerman**	**2.15**	**172**	*e*Pn	**Pb**	**02 12 19.5**	**-1.3**
TVBK				IAMB	IAmb	02 12 51.8	
	comp=Z,0.0nm,0.2s						
KRBR	**Kerman**	**2.15**	**172**	*e*AML	AML	02 12 47.6	
	comp=Z,277nm,0.2s						
KRBR				*e*AML	AML	02 12 48.3	
	comp=Z,340nm,0.2s						
IKOO	**Kooshah**	**2.21**	**81**	*e*Pn	**Pn**	**02 12 19.8**	**+1.2**
IKOO				IAMB	IAmb	02 12 56.9	
	comp=Z,8μm,0.2s						
BSRN	**Basiran**	**2.30**	**93**	*e*Pn	**Pn**	**02 12 21.0**	**+1.2**
BSRN	**Basiran**	**2.30**	**93**	*e*Pn	**Pn**	**02 12 20.9**	**+1.2**
ISAD	**Sadrabad**	**2.33**	**266**	*e*Pn	**Pn**	**02 12 21.8**	**+1.5**
ISAD				IAMB	IAmb	02 12 57.1	
	comp=Z,873nm,0.4s						
CHMN	**Cheshme madani**	**2.45**	**157**	*e*Pn	**Pb**	**02 12 25.1**	**-0.8**
CHMN				IAMB	IAmb	02 13 00.1	
	comp=Z,0.0nm,0.5s						
NGRK	**Negar Kerman**	**2.48**	**174**	*e*Pn	**Pb**	**02 12 25.5**	**-1.0**
NGRK				IAMB	IAmb	02 13 01.9	
	comp=Z,0.0nm,0.3s						
ANAR	**Anarak**	**2.51**	**296**	*e*Pn	**Pn**	**02 12 22.8**	**+0.3**
AFRZ	**Afriz**	**2.54**	**59**	IAMB	IAmb	02 13 10.3	
	comp=Z,0.0nm,0.6s						
IMON	**Monand**	**2.94**	**68**	*e*Pn	**Pn**	**02 12 30.6**	**+2.0**
IDAH	**Dahanechah**	**2.98**	**77**	*e*Pn	**Pn**	**02 12 31.5**	**+2.3**
IDAH				IAMB	IAmb	02 12 41.4	
	comp=Z,1μm,0.4s						
NHDN	**Nehbandan**	**3.18**	**102**	*e*Pn	**Pn**	**02 12 33.2**	**+1.5**
NHDN				IAMB	IAmb	02 13 28.3	
	comp=Z,0.0nm,0.3s						
IANJ	**Anjilo**	**3.94**	**329**	*e*Pn	**Pn**	**02 12 43.5**	**+1.2**

IDC 24 02:40:16.2±0.9, 56°.84S×150°.87W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/23, mbtmp4.0/5, MS3.5/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=41.7km s-min=24.1km az=10.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**33.31**	**180**	P	P	02 46 55.4	+0.1
	1.8nm,1.0s,baz=90,slow=6.1,SNR=2.8						
PPT	**Papeete**	**39.22**	**2**	LR	LR	02 59 00.5	
	comp=Z,48nm,20.1s,baz=173,slow=29						
MAW	**Mawson**	**53.38**	**195**	LR	LR	03 09 48.1	
	comp=Z,54nm,19.0s,baz=59,slow=33						
ASAR	**Alice Springs**	**62.49**	**268**	P	P	02 50 41.0	-0.4
	1.5nm,0.8s,baz=141,slow=6.0,SNR=12						
H01W1	**Cape Leeuwin H**	**64.12**	**246**	T	T	04 01 02.1	
	baz=142,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**64.12**	**246**	T	T	04 00 58.5	
	baz=142,slow=76,SNR=9.2						
H01W3	**Cape Leeuwin H**	**64.13**	**246**	T	T	04 01 00.6	
	baz=142,slow=76,SNR=11						
WRA	**Warramunga Arr**	**65.24**	**271**	P	P	02 51 00.0	+0.6
	0.8nm,0.9s,baz=146,slow=6.0,SNR=3.9						
CPUP	**Villa Florida**	**70.24**	**108**	P	P	02 51 30.2	-0.7
	2.1nm,0.9s,baz=182,slow=3.4,SNR=3.6						
LPAZ	**La Paz**	**72.57**	**93**	P	P	02 51 46.5	+0.7
	1.2nm,0.8s,baz=184,slow=6.3,SNR=5.8						
H10S3	**ASCENSION HYDR**	**105.23**	**135**	T	T	04 52 39.9	
	baz=204,slow=74,SNR=20						
H10S2	**ASCENSION HYDR**	**105.23**	**135**	T	T	04 52 47.0	
	baz=16,slow=74,SNR=20						
H10N3	**ASCENSION HYDR**	**106.31**	**135**	T	T	04 54 09.0	
	baz=203,slow=75,SNR=15						
H10N1	**ASCENSION HYDR**	**106.31**	**135**	T	T	04 54 12.5	
	baz=203,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**106.33**	**135**	T	T	04 54 08.3	
	baz=203,slow=75,SNR=16						
ILAR	**Eielson Array**	**121.32**	**2**	PKP	PKPdf	02 59 09.6	0.0
	0.7nm,0.6s,baz=240,slow=2.1,SNR=6.9						
MKAR	**Makanchi Array**	**146.46**	**276**	PKPbc	PKPbc	02 59 58.1	-0.1
	1.2nm,0.8s,baz=140,slow=4.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**148.98**	**289**	PKPbc	PKPbc	03 00 02.9	-1.8
	0.7nm,0.6s,baz=150,slow=3.2,SNR=3.8						

*UCR **24** 02:54:37.7±2.1, 8°.62N×83°.00W, h4km, MW3.4*
*ISCJB **24** 02:54:38.4±0.7, 8°.62N±0°.04×82°.97W±0°.04, h19km±7km, Error ellipse: s-maj=8.3km s-min=4.3km az=42.3*
*UPA **24** 02:54:38.9±0.9, 8°.63N×82°.90W, h10km±6km, MW3.5*

ISC 24 02:54:38.4±1.0, 8°.64N±0°.04×82°.96W±0°.04, h17km±9km, n19, σ0°54/29, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDSV	**San Vito**	**0.18**	**355⇑**	*i* P	**Pb**	**02 54 43.5**	**+0.1**
EDSV				*e*S	**Sb**	**02 54 47.9**	**+1.3**
LESP3	**La Esperanza,**	**0.28**	**145**	*e*S	**Sg**	**02 54 48.5**	**-0.4**
BRU2	**Volcan**	**0.30**	**60⇓**	*i* P	**Pg**	**02 54 45.1**	**+0.1**
BRU2				*e*S	**Sb**	**02 54 50.4**	**+0.2**
BRU2	**Volcan**	**0.30**	**60⇓**	*i* P	**Pg**	**02 54 45.1**	**+0.1**
BRU2				*e*S	**Sb**	**02 54 50.4**	**+0.2**
SBAR3	**San Bartolo, C**	**0.33**	**168**	*e*P	**Pg**	**02 54 45.5**	**+0.1**
BCO2	**Palmira**	**0.43**	**80⇓**	*i* P	**Pg**	**02 54 47.1**	**-0.1**
BCO2				*e*S	**Sg**	**02 54 53.2**	**0.0**
BAGA3	**Bagala, Chiriq**	**0.46**	**112**	*e*P	**Pg**	**02 54 47.8**	**0.0**
BAGA3				*e*S	**Sg**	**02 54 54.4**	**+0.5**
PTAR3	**Potrerillos Ar**	**0.46**	**84⇑**	*i* P	**Pg**	**02 54 47.8**	**+0.1**
PTAR3				*e*S	**Sg**	**02 54 54.4**	**+0.4**
DVD	**David**	**0.54**	**112**	*e*S	**Sg**	**02 54 56.9**	**+0.4**
LOCO3	**Loma Colorada,**	**0.58**	**113**	*e*S	**Sg**	**02 54 57.4**	**-0.3**
PEDE3	**Pedregal, Chir**	**0.59**	**116**	*e*P	**Pg**	**02 54 49.4**	**-0.7**
PEDE3				*e*S	**Sg**	**02 54 57.3**	**-0.7**
LOMA3	**Las Lomas, Chi**	**0.60**	**111**	*e*S	**Sg**	**02 54 58.0**	**-0.2**
DRK0	**Durika**	**0.68**	**335⇑**	*e*P	**Pg**	**02 54 51.3**	**-0.6**
CHGR2	**Aguacate**	**0.85**	**70**	*e*P	**Pg**	**02 54 54.5**	**-0.5**
CHGR2				*e*S	**Sg**	**02 55 05.3**	**-1.1**
REME3	**Remedios, Chir**	**1.19**	**110**	*e*S	**Sb**	**02 55 16.5**	**+1.0**
NANC3	**Nancito, Chiri**	**1.27**	**108**	*e*S	**Sb**	**02 55 17.7**	**-0.4**
LCR2	**La Lucha 2**	**1.51**	**317**	*e*P	**Pn**	**02 55 04.2**	**-0.6**
LCR2				*e*S	**Sn**	**02 55 24.0**	**-0.1**
CVTR	**Volcan Turrial**	**1.58**	**330**	*e*P	**Pn**	**02 55 06.3**	**+0.3**
CVTR				*e*S	**Sb**	**02 55 27.5**	**+0.2**
ARE1	**Arenal 1**	**2.51**	**316**	*e*P	**Pn**	**02 55 18.9**	**+0.4**

*ISK **24** 03:20:26.9, 35°.92N×45°.39E, h8km, ML4.4/15*
*DDA **24** 03:20:26.8, 36°.01N×45°.25E, h1km±2km, MW4.3*
*ISN **24** 03:20:27.2±1.2, 36°.29N×45°.41E, h7km±5km, ML4.2*
*IDC **24** 03:20:27.9±0.7, 36°.12N×45°.55E, h0km, mb4.0/13, mb1 4.0/24, mb1mx3.8/45, mbtmp3.9/24, ML3.2/8, MS3.3/8, Ms1 3.3/8, ms1mx3.0/48, Error ellipse: s-maj=13.5km s-min=10.5km az=138.0*
*TEH **24** 03:20:28.4, 36°.23N×45°.48E, h10km, ML4.2*
*AZER **24** 03:20:28.6±0.9, 36°.05N×45°.49E, h2km, ml4.3/23, Error ellipse: s-maj=9.5km s-min=6.5km az=115.0*
*MOS **24** 03:20:28.5±1.1, 36°.00N×45°.49E, h19km, mb4.0/5, Error ellipse: s-maj=8.5km s-min=5.9km az=106.2*
*THR **24** 03:20:29.5, 36°.15N×45°.46E, h15km, ML4.1*
*GII **24** 03:20:30.0±0.0, 36°.13N×45°.37E, h2km*
*NEIC **24** 03:20:30.6±2.8, 36°.15N±0°.05×45°.49E±0°.07, h11km±1km, mb4.3/19, mb_Lg4.2(TEH), ML4.1(THR)*

ISC 24 03:20:29.5±1.6, 36°.11N±0°.03×45°.44E±0°.03, h4km±10km, n271, σ1§65/310, mb4.1/27, 6C-5D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAHB	**Mahabad**	**0.69**	**18**	*e*Pg	Pg	03 20 37.8	-5.0
MAHB				IAMB	IAmb	03 20 51.0	
	comp=Z,0.0nm,0.7s						
MAHB	**Mahabad**	**0.69**	**18**		Pg	03 20 37.8	-5.0
IKRK	**Kirkuk**	**1.14**	**232**	*e*Pg	**Pb**	**03 20 51.0**	**-0.7**
IKRK				*e*Sg	**Sb**	**03 21 08.0**	**+1.2**
IDHR	**Dehrash**	**1.61**	**151**	*e*Pn	**Pn**	**03 20 58.5**	**-0.3**
IDHR				IAMB	IAmb	03 21 02.1	
	comp=Z,0.0nm,0.2s						
IDHR	**Dehrash**	**1.61**	**151**	Pn	**Pn**	**03 20 58.4**	**-0.3**
ILIN	**Lien**	**1.72**	**133**	*e*Pn	**Pn**	**03 20 59.8**	**-0.6**
ILIN				IAMB	IAmb	03 21 32.0	
	comp=Z,24μm,0.4s						
ILIN	**Lien**	**1.72**	**133**	Pn	**Pn**	**03 20 59.8**	**-0.6**
YOVA	**Hakkari_Yksek**	**1.74**	**328**	*i* PA		03 20 60.0	
YOVA				*i* S	**Sb**	**03 21 24.2**	**-0.1**
YOVA				IAML		03 21 28.0	
	comp=E,2μm,0.8s						
YOVA				IAML		03 21 29.0	
	comp=N,3μm,0.7s						
CUKT	**Cukurca**	**1.86**	**308**	*i* PA		03 21 01.7	
CUKT				*i* S	**Sb**	**03 21 27.8**	**+0.1**
CUKT				IAML		03 21 38.0	
	comp=N,7μm,0.6s						
CUKT				IAML		03 21 43.0	
	comp=E,8μm,1.0s						
CUKT	**Cukurca**	**1.86**	**308**	*e*Pn	**Pn**	**03 21 01.7**	**-0.5**
CUKT	**Cukurca**	**1.86**	**308**	PN	**Pn**	**03 21 01.3**	**-0.9**
CUKT				SN	**Sn**	**03 21 26.3**	**+0.1**
MSL	**Mosul**	**1.90**	**279**	*e*Pn	**Pn**	**03 21 02.0**	**-0.7**
MSL				*e*Sn	**Sn**	**03 21 26.0**	**-1.1**
IBST	**Bostanabad**	**1.97**	**36**	IAMB	IAmb	03 21 31

MAKU Maku 3.29 350 *e*Pn Pn 03 21 22.3 +0.3
MAKU Maku 3.29 350 *e*Pn Pn 03 21 22.3 +0.3
GRMI Germi 3.33 35 *e*Pn Pn 03 21 22.7 +0.3
GRMI Germi 3.33 35 *e*Pn Pn 03 21 22.7 +0.3
SRTM Siirt_Merkez 3.38 305 *i* P Pb 03 21 30.8 +0.8
SRTM *i* S Sg 03 22 16.7 -1.4
SRTM IAML 03 22 29.0
comp=N,777nm,0.7s
SRTM IAML 03 22 35.0
comp=E,780nm,1.4s
QABG Abgarm-Qazvin 3.39 96 *e*Pn Pn 03 21 24.2 +0.9
QABG IAMB IAmb 03 21 34.2
comp=Z,0.0nm,0.7s
LRK Lerik 3.43 42 P Pn 03 21 23.2 -0.6
SNR=19
LRK S Sn 03 22 06.5 +1.6
BLIS Bitlis-Merkez 3.51 312 *i* P Pb 03 21 31.4 -0.8
BLIS *i* S Sg 03 22 21.4 -0.8
BLIS IAML 03 22 35.0
comp=N,206nm,1.2s
BLIS IAML 03 22 35.0
comp=E,217nm,1.1s
IKMR Kamar-syah 3.54 136 *e*Pn Pn 03 21 26.2 +1.0
IKMR IAMB IAmb 03 22 39.0
comp=Z,0.0nm,0.9s
BDRS Dareh Seyedi 3.55 126 *e*Pn Pn 03 21 26.7 +1.1
BDRS IAMB IAmb 03 22 40.9
comp=Z,0.0nm,1.1s
YRD Yardimli 3.58 38 P Pn 03 21 25.5 -0.4
SNR=26
YRD S Sn 03 22 10.6 +1.9
ASTR Astara 3.62 47 P Pn 03 21 26.2 -0.1
SNR=6.3
ASTR S Sn 03 22 10.3 +0.8
HYR Heyderabad 3.63 353 P Pn 03 21 27.2 +0.7
SNR=26
HYR S Sn 03 22 13.5 +3.6
GURO Guroymak-BITLI 3.65 313 *e*Pn Pn 03 21 26.8 0.0
GURO Guroymak-BITLI 3.65 313 PN Pn 03 21 26.6 -0.2
QRD Qoradiz 3.66 23 P Pn 03 21 27.0 +0.2
SNR=34
QRD S Sn 03 22 12.1 +1.5
LKRN Lenkeran, Azer 3.72 45 P Pn 03 21 27.0 -0.5
SNR=23
LKRN S Sn 03 22 13.3 +1.5
BTMN Batman 3.78 299 *i* P Pb 03 21 38.3 +1.5
BTMN *i* S Sg 03 22 28.5 -2.4
MLAZ Malazgirt-MUS 3.80 324 *e*Pn Pn 03 21 29.2 +0.3
MLAZ Malazgirt-MUS 3.80 324 PN Pn 03 21 29.2 +0.3
IGZV Ghazvin 3.88 85 *e*Pn Pn 03 21 29.6 -0.4
IGZV IAMB IAmb 03 21 41.6
comp=Z,2μm,0.6s
TUTA Tutak 3.89 328 *i* P Pn 03 21 33.6 +3.4
TUTA *i* S Sg 03 22 32.2 -2.1
TUTA IAML 03 22 45.0
comp=N,284nm,1.9s
TUTA IAML 03 23 18.0
comp=E,0.3nm,1.1s
IGDI IGDIR 3.90 344 *i* P Pb 03 21 41.5 +2.6
IGDI *i* S Sg 03 22 36.3 +1.5
GLBA Clilabad 3.91 36 P Pn 03 21 29.5 -0.7
SNR=12
GLBA S Sn 03 22 18.6 +2.0
MARD Mardin 3.93 289 *i* P Pn 03 21 30.1 -0.6
MARD *i* S Sn 03 22 17.3 0.0
SVAN Silvan-Diyarba 3.95 302 *i* P Pb 03 21 40.3 +0.6
SVAN *i* S Sg 03 22 35.1 -1.3
SVAN Silvan-Diyarba 3.95 302 *e*Pn Pn 03 21 29.8 -1.1
SVAN Silvan-Diyarba 3.95 302 PN Pn 03 21 30.7 -0.2
BLQ Beylaqan 3.98 24 P Pn 03 21 30.9 -0.3
SNR=16
BLQ S Sn 03 22 20.7 +2.4
TASB TASBURUN-IGDIR 3.98 347 *e*Pn Pn 03 21 31.8 +0.5
TASB TASBURUN-IGDIR 3.98 347 PN Pn 03 21 32.9 +1.6
ASAO Ashtian 4.06 111 *e*Pn Pn 03 21 33.6 +1.0
ASAO Ashtian 4.06 111 *e*Pn Pn 03 21 33.6 +1.0
GNI Garni 4.07 352 P Pn 03 21 33.0 +0.4
GNI Garni 4.07 352 Pn Pn 03 21 33.9 +1.3
comp=E,2.8nm,0.3s,baz=312,slow=2.2,SNR=10
GNI Lg Lg 03 22 38.2
comp=E,3.4nm,0.3s,baz=125,slow=19,SNR=4.0
GNI LR LR 03 22 50.9
comp=E,69nm,21.0s,baz=176,slow=35
GNI Garni 4.07 352 PN Pn 03 21 33.9 +1.3
GNI Garni 4.07 352 Pn 03 21 33.0 +0.4
MUSM Mu-Merkez 4.07 311 *i* P Pb 03 21 41.2 -0.6
MUSM *i* S Sg 03 22 38.4 -1.9
AGDM Agdam 4.21 18 P Pn 03 21 34.2 -0.1
SNR=9.0
AGDM S Sn 03 22 27.1 +3.2
QALM Alamut, Qazvin 4.22 84 *e*Pn Pn 03 21 34.1 -0.7
MAZI Mazidag 4.23 290 *e*Pn Pn 03 21 33.7 -1.0
MAZI Mazidag 4.23 290 PN Pn 03 21 34.0 -0.7
IMHD Mahdasht 4.27 94 *e*Pn Pn 03 21 34.7 -0.6
IMHD IAMB IAmb 03 21 51.5
comp=Z,753nm,0.6s
BRDA Brd 4.37 18 P Pn 03 21 36.3 -0.2
SNR=11
BRDA S Sn 03 22 30.0 +2.2
VRTB Varto-Mus 4.39 315 *i* P Pb 03 21 49.4 +2.2
VRTB *i* S Sg 03 22 57.7 +7.3
VRTB Varto-Mus 4.39 315 *e*Pn Pn 03 21 36.8 -0.2
VRTB Varto-Mus 4.39 315 PN Pn 03 21 37.4 +0.4
KHMZ Khomeyn 4.40 121 *e*Pn Pn 03 21 38.2 +0.9
KHMZ Khomeyn 4.40 121 *e*Pn Pn 03 21 38.2 +0.9
EATA Eleskirt 4.41 329 *i* P Pb 03 21 49.8 +2.1
EATA *i* S Sg 03 22 51.2 +0.1
SAAT Saatly 4.43 31 P Pn 03 21 37.0 -0.3
SNR=7.7
SAAT S Sn 03 22 31.5 +2.3
BNGL BINGOL 4.43 311 *i* P Pb 03 21 49.1 +1.1
BNGL *i* S Sg 03 22 48.6 -3.3
ZRD Zardab 4.52 22 P Pn 03 21 37.9 -0.8
SNR=8.4
ZRD S Sn 03 22 33.3 +1.6
GANJ Ganja 4.58 8 P Pn 03 21 39.9 +0.3
SNR=12
GANJ S Sn 03 22 35.4 +2.1
GDB GEDABAY 4.61 3 P Pn 03 21 40.6 +0.5
SNR=9.7
GDB S Sn 03 22 36.2 +2.1
DYBB Diyarbakir 4.62 295 PN Pn 03 21 40.1 0.0
HANI Diyarbakir_Han 4.63 301 *i* P Pb 03 21 53.6 +2.4
HANI *i* S Sg 03 22 55.4 -2.8
KARO Karliova-Bingo 4.72 314 PN Pn 03 21 42.2 +0.6
BNGB Bingl 4.75 309 PN Pn 03 21 42.1 +0.2
BGOL Bingol 4.75 309 *i* P Pb 03 21 54.8 +1.4
BGOL *i* S Sg 03 23 01.0 -1.2
EAK Akyaka 4.79 343 *i* P Pn 03 21 46.0 +3.5
EAK *i* S Sg 03 23 01.0 -2.4
EAK IAML 03 23 34.0
comp=N,65nm,1.7s
EAK IAML 03 23 54.0
comp=E,90nm,3.3s
KOPR Koprukoy-ERZUR 4.80 325 PN Pn 03 21 43.7 +1.1
BINT Bingol 4.81 307 P Pn 03 21 41.8 -0.9
BINT Bingol 4.81 307 *e*Pn Pn 03 21 41.8 -0.9
HOMI Horasan 4.82 326 *i* P Pb 03 21 53.1 -1.4
HOMI *i* S Sg 03 23 09.1 +5.0
SHGR Shooshtar-Gavs 4.87 144 *e*Pn Pn 03 21 44.6 +1.1
SHGR Shooshtar-Gavs 4.87 144 *e*AML AML 03 22 58.6
comp=N,62nm,0.5s
SHGR Shooshtar-Gavs 4.87 144 *e*Pn Pn 03 21 44.6 +1.1
QZX Qazax, Azerbai 4.94 359 P Pn 03 21 45.5 +1.1
SNR=3.5
QZX S Sn 03 22 44.3 +2.2
ECAT Cat-ERZURUM 4.96 316 *i* P Pb 03 21 58.4 +1.3
ECAT *i* S Sg 03 23 10.8 +1.8
SENK Senkaya-Erzuru 5.06 332 *e*Pn Pn 03 21 46.5 +0.2
SENK Senkaya-Erzuru 5.06 332 PN Pn 03 21 47.5 +1.2
NSR Nassriya 5.12 173 *e*Pn Pn 03 21 49.0 +2.1
NSR *e*Sn Sn 03 22 49.0 +2.6
IML Ismayilli 5.15 24 P Pn 03 21 47.3 -0.1
SNR=4.3
IML S Sn 03 22 49.3 +2.1
QBL Gabala 5.18 21 P Pn 03 21 47.7 -0.1
SNR=8.7
QBL S Sn 03 22 50.3 +2.3
GBS Qobustan 5.21 31 P Pn 03 21 47.7 -0.4
SNR=3.7
GBS S Sn 03 22 50.5 +1.8
RTB Rutbah 5.23 235 *e*Pn Pn 03 21 49.0 +0.6
RTB *e*Sn Sn 03 22 49.0 -0.2

SEKA Sheki 5.28 15 P Pn 03 21 49.3 +0.2
SNR=3.9
SEKA S Sn 03 22 52.5 +2.1
PQL Pirkuli 5.29 27 P Pn 03 21 48.5 -0.8
SNR=5.8
PQL S Sn 03 22 52.4 +1.6
IDMV Damavand 5.38 94 *e*Pn Pn 03 21 50.6 -0.2
SVRC Sivrice-ELAZID 5.39 297 PN Pn 03 21 49.4 -1.4
URFA Urfa 5.47 286 PN Pn 03 21 51.5 -0.3
XNQ Khinaliq 5.48 22 P Pn 03 21 51.9 -0.2
XNQ S Sn 03 22 57.4 +1.8
ATGJ Altiaghaj 5.48 29 P Pn 03 21 51.4 -0.5
SNR=5.0
ATGJ S Sn 03 22 57.2 +1.7
AKH Akhalkalaki 5.51 345 P Pn 03 21 53.8 +1.4
AKH Akhalkalaki 5.51 345 Pn 03 21 53.8 +1.4
ZKTA Zakatala 5.60 9 P Pn 03 21 54.3 +0.8
SNR=3.2
ZKTA S Sn 03 22 59.9 +1.6
SIZA Siyzn 5.65 28 P Pn 03 21 53.8 -0.5
SNR=4.1
SIZA S Sn 03 23 01.5 +1.8
IPIR Pirpir 5.66 126 *e*Pn Pn 03 21 55.5 +0.9
IPIR IAMB IAmb 03 23 56.5
comp=Z,1μm,1.0s
IPIR Pirpir 5.66 126 Pn Pn 03 21 55.5 +0.9
IKLH Kolahrood 5.77 117 *e*Pn Pn 03 21 56.2 +0.1
IKLH Kolahrood 5.77 117 Pn Pn 03 21 56.2 +0.1
QSAR Qusar 5.83 21 P Pn 03 21 56.4 -0.3
SNR=5.3
QSAR S Sn 03 23 06.2 +2.1
BAYT Aydıntepe-Bayb 5.97 317 PN Pn 03 22 00.1 +1.4
ISHM Shahmirzad 6.38 90 *e*Pn Pn 03 22 05.5 +1.0
IZEF Zefreh 6.53 117 *e*Pn Pn 03 22 07.8 +1.3
IZEF IAMB IAmb 03 24 27.6
comp=Z,711nm,1.8s
ONI Oni 6.65 347 PN Pn 03 22 10.0 +2.0
ZEI Tsey 6.78 350 *e*P Pn 03 22 11.1 +1.3
ZEI pmax pmax
comp=Z,9.0nm,0.6s
GROC Groznyy 7.09 2 *e*P Pn 03 22 14.9 +1.0
GROC *e*S Sn 03 23 37.4 +2.5
GROC pmax pmax
comp=Z,14nm,1.2s
GROC smax smax
comp=E,29nm,1.4s
GROC smax smax
comp=N,25nm,1.9s
GROC smax smax
comp=E,10.0nm,0.6s
ANAR Anarak 7.43 111 *e*Pn Pn 03 22 19.6 +0.9
KBZ Khabaz 7.86 346 Pn Pn 03 22 28.0 +3.6
comp=E,0.1nm,0.3s,baz=164,slow=11,SNR=15
KBZ LR LR 03 25 55.3
comp=E,80nm,20.4s,baz=146,slow=42
ASF Jabal al Asfar 8.09 243 Pn Pn 03 22 27.3 -0.5
comp=E,0.5nm,0.3s,baz=288,slow=16,SNR=5.1
ASF Lg Lg 03 24 48.2
comp=E,1.3nm,0.3s,baz=17,slow=19,SNR=3.2
ASF Jabal al Asfar 8.09 243 P Pn 03 22 27.8 0.0
comp=E,9.1nm,0.9s
KVAR Kislovodsk Arr 8.11 346 Pn Pn 03 22 29.6 +1.5
baz=257,slow=19,SNR=2.1
KIV Kislovodsk 8.12 346 *e*P Pn 03 22 30.1 +2.0
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 8.12 346 Pn 03 22 29.5 +1.4
BHL Bhannes 8.32 258 *e*P Pn 03 22 34.4 +3.4
QRWL Qaraoun 8.42 255 *e*P Pn 03 22 33.8 +1.5
DQRL Deir Qamar 8.45 256 *e*P Pn 03 22 34.4 +1.7
NATI Neve Ativ 8.48 253 Pn Pn 03 22 33.9 +0.9
KSHT Keshet 8.53 251 Pn Pn 03 22 34.7 +0.9
GEM Giv'at Ha'Em 8.55 253 Pn Pn 03 22 35.5 +1.4
KSDI Kefar Szold 8.56 253 Pn Pn 03 22 34.1 -0.1
KSDI Kefar Szold 8.56 253 P Pn 03 22 36.6 +2.4
comp=Z,32nm,0.7s
HSUJ Al Zarqa 8.64 245 P Pn 03 22 43.8 +8.5
comp=Z,29nm,0.8s
SHMJ Saham 8.67 250 P Pn 03 22 42.9 +7.2
comp=Z,81nm,0.7s
MMA0B Mount Meron ar 8.83 252 Pn Pn 03 22 38.4 +0.5
MMAI Mount Meron Ar 8.83 252 Pn Pn 03 22 39.0 +1.1
comp=Z,3.2nm,0.3s,baz=69,slow=16,SNR=23
MMAI Lg Lg 03 25 11.7
comp=Z,1.6nm,0.3s,baz=102,slow=40,SNR=3.6
MMAI LR LR 03 26 44.0
comp=Z,193nm,18.5s,baz=55,slow=42
HNTI Hanita 8.98 253 Pn Pn 03 22 40.5 +0.6
MMLI Mount Malkishu 9.06 249 Pn Pn 03 22 41.9 +0.9
MMLI Mount Malkishu 9.06 249 P Pn 03 22 42.3 +1.3
comp=Z,26nm,0.7s
WALJ Wala 9.20 243 P Pn 03 23 00.3 +17
comp=Z,35nm,0.8s
SLTI Sal'it 9.44 249 Pn Pn 03 22 46.1 -0.1
AMAZ Amatzia 9.87 245 P Pn 03 23 20.7 +29
comp=Z,43nm,1.5s
CSS Mathiatis 9.93 267 P Pn 03 23 15.1 +22
comp=Z,4.5nm,1.3s
BR131 Keskin Array S 9.99 295 P Pn 03 22 57.1 +3.2
BR131 Keskin Array S 9.99 295 Pn Pn 03 22 57.1 +3.2
BRTR Keskin Array B 9.99 295 Pn Pn 03 22 55.2 +1.3
comp=Z,0.1nm,0.3s,baz=124,slow=11,SNR=18
BRTR LR LR 03 27 32.6
comp=Z,246nm,18.8s,baz=98,slow=42
BRTR Keskin Array B 9.99 295 Pn 03 22 57.2 +3.3
HSNJ Maan 10.04 237 P Pn 03 23 09.8 +15
comp=Z,33nm,0.7s
GEYT Alibeck 10.30 76 Pn Pn 03 22 55.5 -2.5
comp=Z,0.1nm,0.3s,baz=297,slow=10,SNR=2.6
GEYT Alibeck 10.30 76 Pn 03 22 59.6 +1.6
GYA0B ALIBECK ARRAY 10.30 76 Pn Pn 03 22 57.6 -0.4
ILGA Ilgaz 10.41 302 Pn Pn 03 23 02.3 +2.6
HRFI Mount Harif 10.62 238 P Pn 03 23 06.4 +4.0
comp=Z,14nm,0.9s
ANTO Ankara 10.66 294 P Pn 03 23 06.7 +3.7
ANTO Ankara 10.66 294 Pn Pn 03 23 06.7 +3.7
BR231 Keskin MP Arra 10.66 294 Pn Pn 03 23 05.0 +1.9
AQBJ Aqaba 10.80 237 P Pn 03 23 24.0 +19
EIL Elat 10.90 237 Pn Pn 03 23 06.7 +0.5
comp=Z,0.1nm,0.3s,baz=37,slow=13,SNR=1.8
EIL Lg Lg 03 26 18.8
comp=Z,0.5nm,0.3s,baz=41,slow=16,SNR=3.2
EIL LR LR 03 28 10.3
comp=Z,184nm,18.6s,baz=58,slow=42
ELL Elmali 12.53 278 P Pn 03 23 27.1 -1.5
ELL Elmali 12.53 278 Pn 03 23 27.1 -1.5
MANT Manisa 13.65 285 Pn Pn 03 23 47.4 +3.4
HRA Herat 13.85 92 Pn Pn 03 23 47.9 +1.2
VRH Novokhopyorsk 15.32 351 *e*P Pn 03 24 07.2 +0.8
VRH pmax pmax
comp=Z,10.0nm,1.6s
VSR Storozhevoye 15.76 345 *e*P P 03 24 14.4 -1.7
VSR pmax pmax
comp=Z,20nm,1.0s
MILM Milestii Mici 16.45 316 ⇑P Pn 03 24 22.2 +1.3
ABKAR Akbulak array 16.88 34 Pn Pn 03 24 24.6 -1.8
AKTO Aktyubinsk 16.96 29 Pn Pn 03 24 25.9 -1.6
comp=Z,0.1nm,0.3s,baz=209,slow=15,SNR=3.3
WSAR Wadi Sarin 17.18 135 P Pn 03 24 28.4 -2.0
comp=Z,0.8nm,0.3s,baz=8.8,slow=9.8,SNR=4.7
WSAR LR LR 03 32 47.0
comp=Z,75nm,18.1s,baz=336,slow=43
SORM Soroca 17.42 319 ⇑P Pn 03 24 32.0 -1.2
MLR Muntele Rosu 17.45 308 ⇓P P 03 24 35.5 +0.5
VOIR 17.99 307 ⇓P P 03 24 41.3 +0.3
DOPR Dopca 18.00 309 ⇑P Pn 03 24 40.9 +0.4
BIZ Bicaz 18.02 313 ⇓P P 03 24 41.6 +0.4
AKASG Malin Array Be 18.69 326 P P 03 24 48.4 -0.1
comp=Z,0.4nm,0.3s,baz=137,slow=12,SNR=5.9
AKASG Malin Array Be 18.69 326 IAmb IAmb 03 24 51.6
comp=Z,1.7nm,0.9s
BURAR Bucovina Array 18.89 314 ⇑P P 03 24 50.5 -0.3
BURAR Bucovina Array 18.89 314 P P 03 24 51.1 +0.2
BUR08 Bucovina Ar. S 18.91 314 P Pn 03 24 51.8 +0.1
BUR08 IAmb IAmb 03 24 55.8
comp=Z,7.9nm,1.1s
CHGR Chuyangaron 19.01 75 P Pn 03 24 53.0 +0.1
CHGR IAmb IAmb 03 24 56.3
comp=Z,11nm,1.0s
TAS Tashkent 19.30 67 P Pn 03 24 55.8 -0.5
TAS pmax pmax
comp=Z,47nm,0.3s
TAS Tashkent 19.30 67 P Pn 03 24 55.8 -0.5
KBL Kabul 19.32 88 P P 03 24 56.0 +0.2

KBL pmax pmax
comp=Z,3.0nm,0.5s
KBL Kabul 19.32 88 P P 03 24 56.0 +0.2
FNA Florina 19.39 291 P P 03 24 56.6 +0.2
FNA pmax pmax
comp=Z,25nm,1.1s
FNA Florina 19.39 291 P P 03 24 56.6 +0.2
FNA IAmb IAmb 03 24 57.8
comp=Z,24nm,1.1s
GZR Gura Zlata 19.46 305 ⇑P P 03 24 56.4 -0.7
GAR Garm 19.92 74 P P 03 25 01.8 -0.4
GAR IAmb IAmb 03 25 06.5
comp=Z,24nm,1.5s
MDVR Moldovita 19.97 303 ⇓P P 03 25 02.3 -0.3
DRGR 20.03 309 ⇓P P 03 25 03.0 -0.3
KK31 Karatay Array 20.50 62 P P 03 25 08.7 +0.3
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 20.50 62 P P 03 25 08.7 +0.3
KKAR Karatay Array 20.50 62 P P 03 25 08.0 -0.4
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 20.50 62 P P 03 25 08.9 +0.5
KKAR Karatay Array 20.50 62 P P 03 25 08.0 -0.4
KKAR IAmb IAmb 03 25 22.8
comp=Z,4.2nm,0.8s
TRPA Tarpa 20.71 313 ⇑P P 03 25 10.4 -0.3
TRPA mb 03 25 19.5
UZH Uzhgorod 21.09 314 *e*P P 03 25 14.9 +0.2
UZH *e* 03 25 20.7
KOLS Kolonicke sedl 21.25 314 *e*P P 03 25 16.5 +0.1
KOLS Kolonicke sedl 21.25 314 *e*PN P 03 25 16.5 +0.1
DAMY Dhamar 21.47 183 P P 03 25 20.6 +1.3
DAMY IAmb IAmb 03 25 29.5
comp=Z,24nm,1.3s
ARU Arti 22.18 20 P P 03 25 25.3 -1.1
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 22.18 20 P P 03 25 25.2 -1.2
comp=Z,2.4nm,0.8s,baz=193,slow=6.2,SNR=8.8
ARU Arti 22.18 20 P P 03 25 25.3 -1.1
ARU IAmb IAmb 03 25 29.0
comp=Z,7.5nm,0.9s
PSZ Piszkesteto 22.24 310 P P 03 25 27.8 +0.7
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 22.24 310 P P 03 25 27.8 +0.7
PSZ IAmb IAmb 03 25 42.7
comp=Z,5.4nm,0.9s
LANS Liptovska Anna 22.99 313 *e*P P 03 25 38.5 +3.4
LANS Liptovska Anna 22.99 313 *e*PN P 03 25 38.5 +3.4
VYHS Vyhne 23.11 311 *e*P P 03 25 42.5 +6.2
VYHS *e*S S 03 29 48.9 +0.8
VYHS Vyhne 23.11 311 *e*PN P 03 25 42.5 +6.2
AAK Ala-Archa 23.32 65 P P 03 25 40.5 +1.8
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 23.32 65 P P 03 25 40.5 +1.8
comp=Z,1.1nm,0.6s,baz=360,slow=19,SNR=2.9
AAK Ala-Archa 23.32 65 IAmb IAmb 03 25 46.7
comp=Z,2.7nm,0.8s
BRVK Borovoye 24.31 38 P P 03 25 45.5 -2.4
BRVK pmax pmax
comp=Z,19nm,2.0s
BRVK Borovoye 24.31 38 P P 03 25 45.5 -2.4
BRVK IAmb IAmb 03 26 20.6
comp=Z,19nm,2.0s
BVAR Borovoye Array 24.34 38 P P 03 25 47.0 -1.2
BVAR Borovoye Array 24.34 38 P P 03 25 47.0 -1.2
comp=Z,1.6nm,0.8s,baz=236,slow=6.4,SNR=7.8
CONA Conrad Observa 24.79 308 *e*P P 03 25 51.9 -0.5
comp=Z,7.4nm,1.2s
ARSA Arzberg 24.81 306 P P 03 25 53.0 +0.4
comp=Z,4.7nm,1.1s
VAE Valguarnera 24.83 282 LR LR 03 38 10.4
comp=Z,239nm,19.0s,baz=301,slow=43
MOA Molln 25.79 307 P P 03 26 00.8 -0.7
comp=Z,4.3nm,1.0s
GERES GERESS Array B 26.43 309 P P 03 26 05.0 -2.2
comp=Z,0.5nm,0.7s,baz=141,slow=13,SNR=3.4
ABTA Abfaltersbach 26.70 304 *i* P P 03 26 10.2 +0.6
WATA Walderalm 27.44 305 P P 03 26 14.7 -1.8
comp=Z,4.9nm,1.4s
SQTA Sankt Quirin 27.66 304 P P 03 26 18.7 +0.3
comp=Z,1.5nm,0.5s
KURBB Kurchatov Arra 27.82 48 P P 03 26 18.2 -1.4
comp=Z,1.3nm,0.7s,baz=259,slow=9.8,SNR=7.1
KURK Kurchatov 27.90 48 P P 03 26 18.2 -2.1
KURK Kurchatov 27.90 48 P P 03 26 18.2 -2.1
KURK Kurchatov 27.90 48 IAmb IAmb 03 26 23.2
comp=Z,8.6nm,0.2s
FETA Feichten 27.95 304 P P 03 26 19.0 -2.0
comp=Z,5.5nm,1.0s
RETA Reutte 28.01 305 P P 03 26 19.3 -2.2
comp=Z,3.2nm,1.0s
FINES FINESS Array B 28.16 340 P P 03 26 21.8 -0.6
comp=Z,3.6nm,0.9s,baz=168,slow=14,SNR=3.1
DAVOX Davos/Dischmat 28.48 303 P P 03 26 25.7 -0.1
comp=Z,1.5nm,0.7s,baz=111,slow=14,SNR=3.6
DAVA Damuels 28.57 304 P P 03 26 24.0 -2.5
comp=Z,8.2nm,1.1s
KEST Kesra 29.13 280 P P 03 26 31.1 -0.4
comp=Z,13nm,1.2s,baz=63,slow=6.8,SNR=3.7
MKAR Makanchi Array 29.36 57 P P 03 26 31.1 -2.4
comp=Z,0.9nm,0.8s,baz=264,slow=6.4,SNR=3.5
ARCES ARCESS Array B 35.22 348 P P 03 27 24.5 +0.1
comp=Z,2.0nm,0.7s,baz=148,slow=9.5,SNR=4.3
TORD Torodi Ar. Bea 45.37 251 P P 03 28 49.4 +0.2
comp=Z,0.7nm,1.0s,baz=51,slow=9.2,SNR=2.8
LZH Lanzhou 46.55 72 *e*P P 03 28 58.6 +0.2
LZH pP sP 03 29 10.8 +10
LZH sP pP 03 29 14.5 +14
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,43nm,5.5s
CMAR Chiang Mai Arr 50.08 96 P P 03 29 23.4 -2.2
comp=Z,1.3nm,0.4s,baz=299,slow=8.3,SNR=9.6
HHC Hu-ho-hao-te 50.88 63 *e*P P 03 29 32.3 +0.7
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,7.0nm,5.4s
DBIC Dimbokro 54.44 250 P P 03 29 58.8 +0.7
comp=Z,1.5nm,0.6s,baz=35,slow=12,SNR=3.0
DBIC Dimbokro 54.44 250 IAmb IAmb 03 31 27.8
comp=Z,31nm,1.7s
BOSA Boshof 67.12 199 P P 03 31 23.9 -0.5
comp=Z,1.5nm,0.6s,baz=348,slow=9.6,SNR=4.3
BOSA Boshof 67.12 199 IAmb IAmb 03 31 31.1
comp=Z,34nm,1.7s
ASAJ Asahikawa 70.47 49 LR LR 04 04 59.6
comp=Z,46nm,18.5s,baz=20,slow=38

NEIC ***24*** *03:28:29.3±0.5, 20°.06N±0°.04×105°.1W±0°.1, h15km±9km*
MEX ***24*** *03:28:31.4±0.7, 20°.09N×105°.31W, h27km±14km, MD4.1*
ISC 24 03:28:28.9±2.6, 20°.08N±0°.03×105°.08W±0°.09, h5km±18km, n10, σ0°51/18, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	0.58	177	*e*P	**Pb**	03 28 41.9	+0.4
CJM				*e*S	**Sb**	03 28 50.1	0.0
ANIG	**Ahuacatlan**	1.10	28	*e*P	**Pn**	03 28 50.7	-0.3
ANIG				*i* S	**Sb**	03 29 05.1	+0.1
ANIG	**Ahuacatlan**	1.10	28		**Pn**	03 28 50.7	-0.3
ANIG					**Sb**	03 29 05.1	+0.1
R15V		1.38	131	*e*P	**Pn**	03 28 54.2	-0.6
R15V				*i* S	**Sg**	03 29 12.7	-0.4
R15V		1.38	131		**Pn**	03 28 54.2	-0.6
EZ5V		1.52	113	*e*P	**Pb**	03 28 57.8	+0.2
EZ5V				*e*S	**Sb**	03 29 18.4	+1.2
EZ5V		1.52	113		**Pb**	03 28 57.8	+0.2
MMIG	**Aquila**	2.42	137	*e*P	**Pn**	03 29 09.6	+0.5
MMIG				*e*S	**Sn**	03 29 38.7	-0.5
MMIG	**Aquila**	2.42	137		**Pn**	03 29 09.6	+0.5
MMIG					**Sb**	03 29 42.6	-0.5
ZAIG	**Zacatecas**	3.55	41	Pn	**Pn**	03 29 25.2	+0.2
ZAIG					**Sg**	03 30 22.9	-0.1

HLW ***24*** *03:28:42.6, 33°.98N×25°.60E, h10km±14km, MI4.6*
ISCJB ***24*** *03:28:44.4±0.5, 33°.80N±0°.02×25°.66E±0°.01, h15km±3km,*

mb4.7/100, MS4.0/19, Error ellipse: s-maj=3.0km s-min=1.8km az=25.8

IDC ***24*** *03:28:44.4±0.5, 33°.92N×25°.64E, h0km, mb4.6/38, mb1 4.7/50, mb1mx4.6/71, mbtmp4.6/50, ML4.4/10, MS3.9/22, Ms1 3.9/22, ms1mx3.7/45, Error ellipse: s-maj=10.8km s-min=9.8km az=171.0*

NEIC ***24*** *03:28:45.9±1.5, 33°.84N±0°.07×25°.65E±0°.07, h10km±4km, mb4.8/109*

MOS ***24*** *03:28:45.5±1.0, 33°.94N×25°.53E, h18km, mb5.1/37, Error ellipse: s-maj=5.4km s-min=2.8km az=88.2*

ISK ***24*** *03:28:45.3, 33°.79N×25°.74E, h20km, ML4.4/17*

ATH ***24*** *03:28:47.8, 33°.95N×25°.60E, h30km±7km, ML4.1/10, Error ellipse: s-maj=7.8km s-min=1.9km az=182.0*

THE ***24*** *03:28:47.5, 33°.71N×25°.77E, h17km±7km, ML3.9/8, Error ellipse: s-maj=9.8km s-min=1.3km az=165.0*

NIC ***24*** *03:28:48.6±0.0, 33°.87N×25°.69E, h71km±10km, Ml5.0/6*

BJI ***24*** *03:28:49.3±0.0, 34°.28N×25°.55E, h39km, mb4.6/34, mB5.0/23, Ms4.8/7, Ms7 4.5/7*

GII ***24*** *03:28:50.6±0.0, 33°.84N×26°.22E, h10km±1km, mb4.4/6, MD4.3/6*

DDA ***24*** *03:28:50.1, 34°.27N×26°.02E, h4km±5km, MW4.3*

MED_RC ***24*** *03:28:50.0±0.4, 33°.99N×25°.66E, h40km, MW4.6/14, Moment Tensor Solution. Mantle waves: s14,c22; Duration: 1#1 Moment tensor: Scale 10^16Nm; Mrr-0.37±.18; Mθθ-0.74±.10; Mφφ1.12±.10; Mrθ0.19±.06; Mrφ-0.30±.18; Mθφ0.19±.06; Best double couple: M0 1.04000×10^16 NP1:φs213.00000°, δ78.00000°, λ-21.00000°. NP2:φs308.00000°, δ69.00000°, λ-167.00000°. Principal axes: T 1.1800, Plg6.0000°, Azm262.0000°; N -0.2900, Plg66.0000°, Azm5.0000°; P -0.8900, Plg24.0000°, Azm169.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 24 03:28:48.3±0.6, 33°.86N±0°.03×25°.66E±0°.03, h28km±4km, n820, σ1#91/882, mb4.8/142, MS4.0/19, 44C-25D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.16**	**3**	P	**Pn**	**03 29 08.3**	**-0.3**
FRMA				S	**Sb**	**03 29 27.4**	**+3.1**
	2μm,0.7s						
ZKR	**Zakros**	**1.33**	**20**	P	**Pb**	**03 29 12.5**	**-0.2**
ZKR				S	**Sb**	**03 29 29.5**	**0.0**
	4μm,0.7s						
ZKR	**Zakros**	**1.33**	**20**	P	**Pb**	**03 29 12.0**	**-0.7**
ZKR				AML	AML	03 29 36.8	
	comp=N,4215μm,0.7s						
ZKR				AML	AML	03 29 46.3	
	comp=E,11438μm,0.6s						
ZKR	**Zakros**	**1.33**	**20**	PN	**Pn**	**03 29 11.0**	**-0.1**
ZKR	**Zakros**	**1.33**	**20**	⇑P	**Pn**	**03 29 11.7**	**+0.6**
ZKR				S	**Sb**	**03 29 29.5**	**0.0**
ZKR				AML	AML	03 29 33.9	
	comp=E,11nm,0.7s						
ZKR				AML	AML	03 29 33.9	
	comp=E,11nm,0.7s						
SIVA	**Sivas**	**1.35**	**329**	P	**Pn**	**03 29 11.5**	**+0.2**
SIVA				S	**Sb**	**03 29 33.0**	**+3.0**
SIVA	**Sivas**	**1.35**	**329**	P	**Pn**	**03 29 11.9**	**+0.5**
SIVA				S	**Sn**	**03 29 28.1**	**-0.3**
SIVA				AML	AML	03 29 33.8	
	comp=N,25849μm,0.6s						
SIVA				AML	AML	03 29 35.1	
	comp=E,37680μm,0.7s						
STIA	**Sitia Lasithi**	**1.39**	**15**	P	**Pb**	**03 29 13.0**	**-0.6**
STIA				S	**Sb**	**03 29 30.5**	**-0.4**
NPS	**Neapolis**	**1.40**	**358**	P	**Pn**	**03 29 12.2**	**+0.1**
NPS				S	**Sb**	**03 29 32.8**	**+1.4**
	comp=E,5μm,1.0s						
NPS	**Neapolis**	**1.40**	**358**	P	**Pn**	**03 29 12.1**	**+0.1**
NPS				AML	AML	03 29 44.9	
	comp=E,11193μm,0.9s						
NPS				AML	AML	03 29 45.4	
	comp=N,9184μm,1.0s						
TMBK	**Timbaki Herakl**	**1.42**	**329**	P	**Pn**	**03 29 13.0**	**+0.8**
TMBK				S	**Sb**	**03 29 34.6**	**+2.7**
	comp=N,4μm,1.1s						
HRKL	**Herakleio**	**1.52**	**342**	P	**Pb**	**03 29 15.0**	**-0.9**
IACM	**Heraklion**	**1.52**	**341**	P	**Pb**	**03 29 16.4**	**+0.5**
GVD	**Gavdhos**	**1.63**	**307**	P	**Pn**	**03 29 16.1**	**+0.9**
GVD				S	**Sb**	**03 29 38.2**	**+0.3**
GVD	**Gavdhos**	**1.63**	**307**	P	**Pn**	**03 29 16.0**	**+0.9**
GVD				AML	AML	03 29 51.7	
	comp=E,10966μm,0.7s						
GVD				AML	AML	03 29 52.0	
	comp=N,10868μm,0.8s						
GVD	**Gavdhos**	**1.63**	**307**	PN	**Pn**	**03 29 15.8**	**+0.7**
GVD				SN	**Sn**	**03 29 36.5**	**+1.3**
GVDS	**Gavdos**	**1.63**	**308**	P	**Pn**	**03 29 16.4**	**+1.3**
GVDS				S	**Sb**	**03 29 38.0**	**+0.1**
	comp=N,3μm,0.8s						
PRNS	**Prines Rethymn**	**1.78**	**328**	P	**Pb**	**03 29 18.8**	**-1.5**
PRNS				S	**Sb**	**03 29 42.0**	**-0.3**
VAM	**Vamos**	**1.96**	**322**	P	**Pn**	**03 29 20.8**	**+1.1**
VAM	**Vamos**	**1.96**	**322**	P	**Pn**	**03 29 20.5**	**+0.8**
VAM				AML	AML	03 30 04.8	
	comp=E,7592μm,0.8s						
VAM				AML	AML	03 30 07.8	
	comp=N,6792μm,0.6s						
KARP	**Karpathos**	**2.09**	**36**	P	**Pn**	**03 29 23.5**	**+2.0**
KARP				S	**Sn**	**03 29 47.0**	**+0.4**
	comp=N,3μm,0.9s						
KARP	**Karpathos**	**2.09**	**36**	P	**Pn**	**03 29 23.2**	**+1.7**
KARP				S	**Sn**	**03 29 48.4**	**+1.8**
KARP				AML	AML	03 29 52.6	
	comp=N,4407μm,1.1s						
KARP				AML	AML	03 29 53.5	
	comp=E,5729μm,0.5s						
KARP	**Karpathos**	**2.09**	**36**	PN	**Pn**	**03 29 21.3**	**-0.2**
KARP				SN	**Sn**	**03 29 46.7**	**+0.2**
KARP	**Karpathos**	**2.09**	**36**	⇑P	**Pn**	**03 29 21.8**	**+0.3**
KARP				S	**Sn**	**03 29 46.8**	**+0.2**
KARP				AML	AML	03 29 53.1	
	comp=E,5.7nm,0.5s						
KARP				AML	AML	03 29 53.1	
	comp=E,5.7nm,0.5s						
KARP				AML	AML	03 30 20.7	
	comp=E,5.0nm,1.0s						
KARP				AML	AML	03 30 20.7	
	comp=E,5.0nm,1.0s						
KARP	**Karpathos**	**2.09**	**36**		**Pn**	**03 29 22.9**	**+1.4**
IMMV	**Iera Moni Meta**	**2.12**	**320**	P	**Pn**	**03 29 22.7**	**+0.9**
IMMV	**Iera Moni Meta**	**2.12**	**320**	P	**Pn**	**03 29 23.1**	**+1.3**
IMMV				AML	AML	03 30 06.9	
	comp=E,6792μm,0.9s						
IMMV				AML	AML	03 30 13.0	
	comp=N,6449μm,1.1s						
IMMV	**Iera Moni Meta**	**2.12**	**320**	PN	**Pn**	**03 29 22.6**	**+0.8**
CHAN	**Chania**	**2.13**	**322**	P	**Pn**	**03 29 23.1**	**+1.1**
KNDR	**Palaiochora Ch**	**2.13**	**311**	P	**Pn**	**03 29 23.4**	**+1.4**
KNDR				S	**Sb**	**03 29 52.3**	**0.0**
	comp=N,1μm,0.8s						
RODP	**Rodopos**	**2.31**	**318**	P	**Pn**	**03 29 26.4**	**+1.9**
RODP				S	**Sb**	**03 29 56.5**	**-1.0**
	comp=N,442nm,0.8s						
THR6	**Thira Island,**	**2.50**	**355**	P	**Pn**	**03 29 27.5**	**+0.4**
THR6	**Thira Island,**	**2.50**	**355**	P	**Pn**	**03 29 27.7**	**+0.6**
SAP1	**Santorini-Akro**	**2.50**	**355**	P	**Pn**	**03 29 27.9**	**+0.7**
SANT	**Santorini**	**2.51**	**356**	P	**Pn**	**03 29 28.2**	**+0.9**
SANT	**Santorini**	**2.51**	**356**	P	**Pn**	**03 29 27.4**	**+0.1**
SANT	**Santorini**	**2.51**	**356**	PN	**Pn**	**03 29 27.3**	**0.0**
SANT	**Santorini**	**2.51**	**356**		**Pn**	**03 29 27.2**	**-0.1**
THR8	**Santorini-Mono**	**2.55**	**357**	P	**Pn**	**03 29 27.8**	**+0.1**
THR8	**Santorini-Mono**	**2.55**	**357**	P	**Pn**	**03 29 28.1**	**+0.3**
SAP2K	**Karterados**	**2.55**	**356**	P	**Pn**	**03 29 28.5**	**+0.7**
THR3	**Thira Island,**	**2.56**	**355**	P	**Pn**	**03 29 28.2**	**+0.4**
THR3	**Thira Island,**	**2.56**	**355**	P	**Pn**	**03 29 28.0**	**+0.2**
SFIR	**Foira Santorin**	**2.57**	**356**	P	**Pn**	**03 29 29.2**	**+1.2**
THR7	**Fira-Santorini**	**2.57**	**356**	P	**Pn**	**03 29 29.6**	**+1.6**
THR7	**Fira-Santorini**	**2.57**	**356**	P	**Pn**	**03 29 29.5**	**+1.4**
THR5	**Thira Island,**	**2.57**	**354**	P	**Pn**	**03 29 28.8**	**+0.8**
THR5	**Thira Island,**	**2.57**	**354**	P	**Pn**	**03 29 27.1**	**-0.9**
THT2	**Imerovigli**	**2.58**	**356**	P	**Pn**	**03 29 28.3**	**+0.1**
CMBO	**Columbo, Santo**	**2.62**	**355**	P	**Pn**	**03 29 29.6**	**+0.9**
CMBO	**Columbo, Santo**	**2.62**	**355**	P	**Pn**	**03 29 28.8**	**+0.2**
ANKY	**Antikythira Is**	**2.79**	**317**	P	**Pn**	**03 29 32.6**	**+1.5**
ANKY	**Antikythira Is**	**2.79**	**317**	P	**Pn**	**03 29 32.3**	**+1.2**
ANKY				AML	AML	03 30 18.4	
	comp=E,2946μm,1.0s						
ANKY				AML	AML	03 30 44.1	
	comp=N,2215μm,0.8s						
AMGA	**Amorgos Island**	**2.97**	**4**	P	**Pn**	**03 29 33.5**	**-0.2**
AMGA	**Amorgos Island**	**2.97**	**4**	P	**Pn**	**03 29 33.4**	**-0.2**
NISR	**Nisiros**	**3.00**	**23**	P	**Pn**	**03 29 34.3**	**+0.3**
NISR	**Nisiros**	**3.00**	**23**	P	**Pn**	**03 29 34.2**	**+0.3**
MHLO	**Agia Marina, M**	**3.01**	**340**	P	**Pn**	**03 29 34.5**	**+0.4**
MHLO	**Agia Marina, M**	**3.01**	**340**	P	**Pn**	**03 29 34.4**	**+0.3**
MHLA	**Plaka, Milos I**	**3.05**	**341**	P	**Pn**	**03 29 35.5**	**+0.8**
APE	**Apeiranthos**	**3.21**	**358**	P	**Pn**	**03 29 37.4**	**+0.6**
APE	**Apeiranthos**	**3.21**	**358**	*d* P	**Pn**	**03 29 36.4**	**-0.5**
APE	**Apeiranthos**	**3.21**	**358**	P	**Pn**	**03 29 37.7**	**+0.8**
APE	**Apeiranthos**	**3.21**	**358**	⇓P	**Pn**	**03 29 37.3**	**+0.4**
APE	**Apeiranthos**	**3.21**	**358**	PN	**Pn**	**03 29 36.4**	**-0.5**
APE	**Apeiranthos**	**3.21**	**358**	⇑P	**Pn**	**03 29 37.4**	**+0.6**
APE				S	**Sn**	**03 30 14.8**	**+0.6**
APE				AML	AML	03 30 59.2	
	comp=N,1.0nm,1.7s						
APE				AML	AML	03 30 59.2	
	comp=N,1.0nm,1.7s						
APE				AML	AML	03 31 00.4	
	comp=N,0.8nm,1.4s						
APE				AML	AML	03 31 00.4	
	comp=N,0.8nm,1.4s						
KTHA	**Kythira Island**	**3.21**	**319**	P	**Pn**	**03 29 37.9**	**+1.1**
KTHA	**Kythira Island**	**3.21**	**319**	P	**Pn**	**03 29 37.5**	**+0.6**
KTHA				AML	AML	03 30 17.6	
	comp=E,3508μm,0.6s						
KTHA				AML	AML	03 30 19.9	
	comp=N,1740μm,0.6s						
KTHA	**Kythira Island**	**3.21**	**319**	PN	**Pn**	**03 29 37.7**	**+0.9**
KTHR	**Kythira**	**3.24**	**318**	P	**Pn**	**03 29 38.1**	**+0.8**
DAT	**Datca**	**3.27**	**28**	*i* PA	**Pn**	**03 29 38.0**	**+0.2**
DAT				*i* S	**Sn**	**03 30 14.7**	**-1.0**
DAT				IAML		03 30 23.0	
	comp=N,88nm,0.5s						
DAT				IAML		03 30 26.0	
	comp=E,91nm,0.7s						
DAT	**Datca**	**3.27**	**28**	PN	**Pn**	**03 29 37.7**	**0.0**
SERI	**Serifos**	**3.43**	**344**	P	**Pn**	**03 29 40.0**	**0.0**
SERI	**Serifos**	**3.43**	**344**	P	**Pn**	**03 29 39.9**	**-0.1**
BODT	**Bodrum**	**3.47**	**22**	P	**Pn**	**03 29 40.9**	**+0.5**
BODT	**Bodrum**	**3.47**	**22**	PN	**Pn**	**03 29 40.4**	**0.0**
MRSB	**Marmaris-Mugla**	**3.53**	**35**	PN	**Pn**	**03 29 41.4**	**+0.2**
VLI	**Veliai**	**3.62**	**323**	P	**Pn**	**03 29 43.3**	**+0.8**
VLI	**Veliai**	**3.62**	**323**	P	**Pn**	**03 29 41.9**	**-0.7**
DALY	**Dalyan (Mula)**	**3.83**	**39**	*i* PA	**Pn**	**03 29 46.7**	**+1.3**
DALY				*i* S	**Sn**	**03 30 29.1**	**-0.4**
DALY				IAML		03 30 31.0	
	comp=E,181nm,1.1s						
DALY				IAML		03 30 33.0	
	comp=N,179nm,0.5s						
DALY	**Dalyan (Mula)**	**3.83**	**39**	PN	**Pn**	**03 29 45.5**	**+0.1**
MLSB	**Milas**	**3.84**	**26**	PN	**Pn**	**03 29 46.1**	**+0.6**
TURN	**Turunc**	**3.85**	**38**	*i* P	**Pn**	**03 29 43.6**	**-2.0**
TURN				IAML		03 30 21.0	
	comp=E,311nm,1.1s						
TURN				*i* S	**Sn**	**03 30 22.6**	**-7.3**
TURN				IAML		03 30 29.0	
	comp=N,214nm,0.6s						
TURN	**Turunc**	**3.85**	**38**	PN	**Pn**	**03 29 42.2**	**-3.4**
YER	**Yerkesik**	**3.91**	**32**	P	**Pn**	**03 29 47.5**	**+1.0**
YER	**Yerkesik**	**3.91**	**32**	PN	**Pn**	**03 29 46.9**	**+0.4**
FETY	**Fethiye**	**3.94**	**44**	P	**Pn**	**03 29 47.3**	**+0.4**
FETY	**Fethiye**	**3.94**	**44**	*i* P	**Pn**	**03 29 47.7**	**+0.8**
FETY				*i* S	**Sn**	**03 30 29.2**	**-3.0**
FETY				IAML		03 30 34.0	
	comp=E,110nm,0.4s						
FETY				IAML		03 30 40.0	
	comp=N,181nm,1.1s						
FETY	**Fethiye**	**3.94**	**44**	PN	**Pn**	**03 29 46.9**	**0.0**
KSL	**Kastellorizon**	**3.95**	**53**	P	**Pn**	**03 29 47.8**	**+0.8**
KSL	**Kastellorizon**	**3.95**	**53**	P	**Pn**	**03 29 47.9**	**+0.8**
KSL				AML	AML	03 30 39.8	
	comp=N,690μm,0.4s						
KSL				AML	AML	03 30 40.8	
	comp=E,1582μm,0.7s						
KSL	**Kastellorizon**	**3.95**	**53**	⇑P	**Pn**	**03 29 47.8**	**+0.8**
KSL				S	**Sn**	**03 30 33.7**	**+1.4**
SMG	**Samos**	**3.96**	**14**	P	**Pn**	**03 29 47.0**	**-0.2**
SMG	**Samos**	**3.96**	**14**	P	**Pn**	**03 29 47.1**	**0.0**
AKAS	**Kas**	**4.01**	**53**	*i* P	**Pn**	**03 29 49.0**	**+1.0**
AKAS				*i* S	**Sn**	**03 30 32.1**	**-2.0**
AKAS				IAML		03 30 40.0	
	comp=N,580nm,0.6s						
AKAS				IAML		03 30 43.0	
	comp=E,311nm,0.5s						
AKAS	**Kas**	**4.01**	**53**	PN	**Pn**	**03 29 48.2**	**+0.2**
GCAM	**G?zelcaml?**	**4.04**	**18**	*i* P	**Pn**	**03 29 48.1**	**-0.2**
GCAM				*i* S	Sn	03 30 25.3	-9.3
GCAM				IAML		03 31 27.0	
	comp=N,113nm,1.2s						
GCAM				IAML		03 31 38.0	
	comp=E,118nm,1.6s						
GCAM	**G?zelcaml?**	**4.04**	**18**	PN	**Pn**	**03 29 48.7**	**+0.4**
DID	**Didima**	**4.14**	**332**	P	**Pn**	**03 29 49.5**	**-0.2**
DID	**Didima**	**4.14**	**332**	P	**Pn**	**03 29 49.5**	**-0.2**
AYDN	**Tasoluk**	**4.20**	**25**	*i* PA	**Pn**	**03 29 51.8**	**+1.2**
AYDN				*i* S	**Sn**	**03 30 38.0**	**-0.8**
AYDN				IAML		03 30 42.0	
	comp=N,133nm,0.8s						
AYDN				IAML		03 30 43.0	
	comp=E,133nm,0.7s						
VLY	**Voula,Athens**	**4.26**	**340**	P	**Pn**	**03 29 52.5**	**+1.1**
VLY	**Voula,Athens**	**4.26**	**340**	P	**Pn**	**03 29 52.3**	**+0.9**
KARY	**Karystos**	**4.28**	**347**	P	**Pn**	**03 29 52.2**	**+0.6**
DGB	**zmir**	**4.30**	**13**	*i* P	**Pn**	**03 29 51.6**	**-0.2**
DGB				*i* S	**Sn**	**03 30 36.6**	**-4.5**
DGB				IAML		03 31 48.0	
	comp=N,74nm,2.3s						
DGB				IAML		03 31 54.0	
	comp=E,62nm,1.9s						
ATHU	**Athens Univers**	**4.37**	**340**	P	**Pn**	**03 29 53.3**	**+0.4**
ATH	**Athens Observa**	**4.40**	**340**	P	**Pn**	**03 29 53.4**	**+0.2**
ATH	**Athens Observa**	**4.40**	**340**	P	**Pn**	**03 29 53.6**	**+0.4**
VLX	**Vlachokerasia**	**4.41**	**324**	P	**Pn**	**03 29 56.0**	**+2.6**
VLX	**Vlachokerasia**	**4.41**	**324**	P	**Pn**	**03 29 53.8**	**+0.4**
PTL	**Penteli**	**4.43**	**341**	P	**Pn**	**03 29 54.0**	**+0.3**
PTL	**Penteli**	**4.43**	**341**	P	**Pn**	**03 29 54.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**4.46**	**23**	PN	**Pn**	**03 29 54.7**	**+0.5**
ITM	**Ithomi**	**4.50**	**318**	P	**Pn**	**03 29 54.7**	**+0.1**
ITM	**Ithomi**	**4.50**	**318**	P	**Pn**	**03 29 54.6**	**-0.1**
ITM	**Ithomi**	**4.50**	**318**	PN	**Pn**	**03 29 55.4**	**+0.8**
ITM	**Ithomi**	**4.50**	**318**		**Pn**	**03 29 54.9**	**+0.3**
ELL	**Elmali**	**4.51**	**49**	P	**Pn**	**03 29 56.2**	**+1.3**
ELL	**Elmali**	**4.51**	**49**	PN	**Pn**	**03 29 55.7**	**+0.8**
ELL	**Elmali**	**4.51**	**49**	P	**Pn**	**03 29 56.0**	**+1.1**
ELL	**Elmali**	**4.51**	**49**		**Pn**	**03 29 56.2**	**+1.3**
CHOS	**Chios island**	**4.53**	**4**	P	**Pn**	**03 29 54.8**	**-0.3**
CHOS	**Chios island**	**4.53**	**4**	PN	**Pn**	**03 29 55.6**	**+0.5**
URLA	**Izmir**	**4.56**	**9**	*i* P	**Pn**	**03 29 55.4**	**0.0**
URLA				*i* S	Sb	03 31 29.4	+27
URLA				IAML		03 31 43.0	
	comp=N,91nm,1.1s						
URLA				IAML		03 32 00.0	
	comp=E,68nm,1.4s						
URLA	**Izmir**	**4.56**	**9**	PN	**Pn**	**03 29 55.3**	**-0.1**
AKUM	**Antalya-Kumluc**	**4.56**	**56**	*i* P	**Pn**	**03 29 56.0**	**+0.6**
AKUM				*i* S	**Sn**	**03 30 44.3**	**-3.0**
AKUM				IAML		03 30 51.0	
	comp=E,279nm,0.4s						
AKUM				IAML		03 30 57.0	
	comp=N,207nm,1.0s						
GOLH	**Golhisar**	**4.63**	**42**	*i* PA	**Pn**	**03 29 58.3**	**+1.8**
GOLH				*i* S	**Sn**	**03 30 47.1**	**-2.4**
GOLH				IAML		03 30 56.0	
	comp=N,254nm,0.6s						
GOLH				IAML		03 31 04.0	
	comp=E,46nm,1.0s						
LOUT	**Loutraki**	**4.66**	**333**	P	**Pn**	**03 29 57.0**	**+0.2**
LTK	**Loutraki**	**4.70**	**333**	P	**Pn**	**03 29 57.0**	**-0.3**
LTK	**Loutraki**	**4.70**	**333**	P	**Pn**	**03 29 56.9**	**-0.5**
VILL	**Villia**	**4.70**	**337**	P	**Pn**	**03 29 57.6**	**+0.2**
VIL2	**Platees**	**4.76**	**337**	P	**Pn**	**03 29 57.2**	**-0.9**
EREA	**Eretria**	**4.76**	**343**	P	**Pn**	**03 29 58.9**	**+0.7**
EREA	**Eretria**	**4.76**	**343**	P	**Pn**	**03 29 58.7**	**+0.5**
HBRG	**Burj al `Arab**	**4.82**	**132**	P	**Pn**	**03 29 59.8**	**+0.8**
	baz=132						
HBRG				S	**Sn**	**03 30 51.1**	**-2.9**
	baz=132						
AMT	**Artemida-Makis**	**4.88**	**320**	P	**Pn**	**03 30 01.2**	**+1.4**
AMT	**Artemida-Makis**	**4.88**	**320**	P	**Pn**	**03 30 00.8**	**+1.0**
PROD	**Prodromos**	**4.93**	**334**	P	**Pn**	**03 30 01.0**	**+0.5**
PROD	**Prodromos**	**4.93**	**334**	P	**Pn**	**03 30 01.1**	**+0.6**
KORT	**Korkueli**	**4.95**	**49**	*i* PA	**Pn**	**03 30 03.2**	**+2.3**
KORT				*i* S	**Sn**	**03 30 54.7**	**-2.6**
KORT				IAML		03 31 04.0	
	comp=E,353nm,0.5s						
KORT				IAML		03 31 06.0	
	comp=N,236nm,0.5s						
KORT	**Korkueli**	**4.95**	**49**	PN	**Pn**	**03 30 02.6**	**+1.7**
KLV	**Kalavryta, Ach**	**5.06**	**327**	P	**Pn**	**03 30 02.4**	**+0.1**
MRKA	**Markates**	**5.12**	**341**	P	**Pn**	**03 30 03.2**	**+0.1**
MRKA	**Markates**	**5.12**	**341**	P	**Pn**	**03 30 03.3**	**+0.1**
MANT	**Manisa**	**5.18**	**26**		**Pn**	**03 30 04.4**	**+0.2**
DRO	**Drossia**	**5.19**	**323**	P	**Pn**	**03 30 05.2**	**+1.0**
DRO	**Drossia**	**5.19**	**323**	P	**Pn**	**03 30 04.6**	**+0.4**
ZEDA	**zmir-Bergama**	**5.22**	**12**	*i* PA	**Pn**	**03 30 05.5**	**+1.0**
ZEDA				*i* S	Sb	03 31 44.1	+23
ZEDA				IAML		03 32 22.0	
	comp=E,71nm,3.0s						
ZEDA				IAML		03 32 46.0	
	comp=N,51nm,2.9s						
BRDR	**BURDUR-Merkez**	**5.24**	**42**	*i* P	**Pn**	**03 30 06.8**	**+2.0**
BRDR				IAML		03 31 08.0	
	comp=E,136nm,0.5s						
BRDR				IAML		03 31 11.0	
	comp=N,76nm,0.5s						
BRDR				*i* S	Sb	03 31 50.1	+28
KULA	**Kula-Manisa**	**5.24**	**27**	P	**Pn**	**03 30 05.5**	**+0.6**
KULA	**Kula-Manisa**	**5.24**	**27**	PN	**Pn**	**03 30 05.1**	**+0.2**
LKR	**Lokris**	**5.25**	**337**	P	**Pn**	**03 30 06.0**	**+1.2**
LKR	**Lokris**	**5.25**	**337**	P	**Pn**	**03 30 05.4**	**+0.6**
LAKA	**Lakka**	**5.29**	**327**	P	**Pn**	**03 30 05.5**	**0.0**
LAKA	**Lakka**	**5.29**	**327**	P	**Pn**	**03 30 05.7**	**+0.1**
DKL	**Dikili**	**5.30**	**11**	PN	**Pn**	**03 30 06.4**	**+0.9**
AKHS	**Akhisar**	**5.30**	**18**	*i* PA	**Pn**	**03 30 06.5**	**+0.9**
AKHS				*i* S	Sb	03 31 33.8	+10
AKHS				IAML		03 32 08.0	
	comp=N,0.2nm,0.5s						
AKHS				IAML		03 32 26.0	
	comp=E,30nm,2.6s						
SIGR	**SIGRI**	**5.35**	**2**	PN	**Pn**	**03 30 06.8**	**+0.6**
KALE	**Kalithea**	**5.35**	**329**	P	**Pn**	**03 30 08.0**	**+1.7**
KALE	**Kalithea**	**5.35**	**329**	P	**Pn**	**03 30 07.5**	**+1.2**
TRIZ	**Trizonia**	**5.36**	**328**	P	**Pn**	**03 30 06.6**	**+0.3**
BCK	**Bucak**	**5.39**	**47**	PN	**Pn**	**03 30 07.2**	**+0.4**
RLS	**Riolos of Patr**	**5.40**	**322**	P	**Pn**	**03 30 07.2**	**+0.3**
RLS	**Riolos of Patr**	**5.40**	**322**	P	**Pn**	**03 30 07.6**	**+0.6**
PRK	**Paraskevi**	**5.40**	**5**	P	**Pn**	**03 30 08.1**	**+1.2**
PRK	**Paraskevi**	**5.40**	**5**	P	**Pn**	**03 30 07.0**	**+0.1**
SERG	**Sergoula**	**5.40**	**328**	P	**Pn**	**03 30 07.4**	**+0.4**
SERG	**Sergoula**	**5.40**	**328**	P	**Pn**	**03 30 07.3**	**+0.4**
AXAR	**Agios Charalam**	**5.47**	**335**	P	**Pn**	**03 30 08.2**	**+0.3**
KHAL	**Karahalli**	**5.47**	**33**	*i* P	**Pn**	**03 30 08.5**	**+0.5**
KHAL				*i* S	Sn	03 30 59.6	-10
KHAL				IAML		03 31 12.0	
	comp=N,27nm,0.4s						
KHAL				IAML		03 31 14.0	
	comp=E,71nm,0.5s						
EFP	**Efpalio**	**5.48**	**327**	P	**Pn**	**03 30 12.1**	**+4.1**
AOS	**Alonnisos**	**5.49**	**345**	P	**Pn**	**03 30 08.1**	**-0.1**
USAK	**Uak-Merkez**	**5.55**	**28**	*i* PA	**Pn**	**03 30 09.1**	**0.0**
USAK				IAML		03 31 43.0	
	comp=E,33nm,1.6s						
USAK				*i* S	Sb	03 31 53.4	+23
USAK				IAML		03 32 36.0	
	comp=N,40nm,2.3s						
SKIA	**Skiathos**	**5.59**	**342**	P	**Pn**	**03 30 09.9**	**+0.4**
SKIA	**Skiathos**	**5.59**	**342**	P	**Pn**	**03 30 09.9**	**+0.4**
ISP	**Isparta**	**5.59**	**44**	P	**Pn**	**03 30 11.0**	**+1.3**
ISP	**Isparta**	**5.59**	**44**	P	**Pn**	**03 30 11.0**	**+1.3**
ISP	**Isparta**	**5.59**	**44**	PN	**Pn**	**03 30 10.0**	**+0.4**
ISP	**Isparta**	**5.59**	**44**		**Pn**	**03 30 11.0**	**+1.3**
AKMS	**Akamas**	**5.63**	**76**	P	**Pn**	**03 30 11.2**	**+1.0**
AKMS				AML	AML	03 31 12.9	
	comp=N,2.2nm,0.5s						
AKMS				AML	AML	03 31 18.1	
	comp=N,2.8nm,0.5s						
KEPZ	**Antalya-Kepez**	**5.72**	**56**	*i* PA	**Pn**	**03 30 11.8**	**+0.3**
KEPZ				*i* S	**Sn**	**03 31 09.9**	**-6.4**
KEPZ				IAML		03 31 20.0	
	comp=N,130nm,0.9s						
KEPZ				IAML		03 31 23.0	
	comp=E,122nm,0.6s						
DEMI	**Demirci**	**5.73**	**25**	*i* PA	**Pn**	**03 30 12.1**	**+0.6**
DEMI				IAML		03 31 35.0	
	comp=N,30nm,1.1s						
DEMI				*i* S	Sb	03 31 59.3	+24
DEMI				IAML		03 32 20.0	
	comp=E,40nm,2.9s						
STEP	**B

KOT	Kottamia	6.54	125	P	Pn	03 30 20.9	-1.8
	baz=125						
KOT				AMP		03 31 00.0	
	baz=125						
KOT				S	Sn	03 31 32.1	-4.3
	baz=125						
GELI	Tayfur-Gelibol	6.56	5	PN	Pn	03 30 23.9	+1.0
LPK	Lapseki	6.56	7	PN	Pn	03 30 23.9	+1.0
KRBG	Karabiga-Canak	6.65	11	PN	Pn	03 30 24.4	+0.3
MVOU	Mavrovouni	6.69	78	⇑P	Pn	03 30 25.6	+1.0
EDC	Edincik	6.71	15	PN	Pn	03 30 25.1	+0.1
HHAG	Hagoal	6.71	124	P	Pn	03 30 26.0	+0.9
	baz=124						
HHAG				AMP		03 31 00.0	
	baz=124						
HHAG				S	Sn	03 31 36.3	-4.4
	baz=124						
LIT	Litokhoron	6.73	339	P	Pn	03 30 25.3	+0.1
LIT	Litokhoron	6.73	339	P	Pn	03 30 23.8	-1.4
LIT	Litokhoron	6.73	339		Pn	03 30 23.9	-1.4
PLG	Polygyros	6.74	345	P	Pn	03 30 25.3	-0.1
KCTX	Karacabey (Bur	6.75	18	PN	Pn	03 30 26.2	+0.7
KONT	Konya--Tatoy	6.79	51	PN	Pn	03 30 27.7	+1.5
AKKU	Akkuyu-Mersin	6.87	68	PN	Pn	03 30 27.0	-0.1
TEVE	Tevekalti-Mers	6.87	66	PN	Pn	03 30 27.6	+0.3
MEV	Metsovon	6.90	330	P	Pn	03 30 29.8	+2.1
LADK	Ladik-KONYA	6.95	49	PN	Pn	03 30 29.2	+0.9
JAN	Janina	6.96	328	P	Pn	03 30 28.8	+0.4
IKL	Isikli	7.00	68	PN	Pn	03 30 28.7	-0.2
PARAL	Paralimni	7.01	78	P	Pn	03 30 31.0	+1.8
HORT	Hortiatis	7.03	344	P	Pn	03 30 30.0	+0.6
HFRF	Wahat Farafira	7.07	160	P	Pn	03 30 22.3	-7.6
	baz=160						
HFRF				S	Sn	03 31 45.2	-4.0
	baz=160						
HFRF				AMP		03 32 00.0	
	baz=160						
KEBE	Keben-Mersin	7.08	66	PN	Pn	03 30 31.4	+1.3
IGT	Igoumenitsa	7.10	324	P	Pn	03 30 30.5	+0.2
KTI	Kastanea	7.11	338	P	Pn	03 30 31.8	+1.2
KZN	Kozani	7.15	335	P	Pn	03 30 32.1	+1.1
SOH	Sokhos	7.19	346	P	Pn	03 30 31.6	0.0
EREN	Erenkoy	7.20	74	PN	Pn	03 30 31.6	-0.1
SILI	Silifke-Mersin	7.22	67	PN	Pn	03 30 32.1	+0.2
RDO	Rodhopi	7.28	359	P	Pn	03 30 33.8	+1.1
PENT	Pentalofos	7.29	332	P	Pn	03 30 33.9	+0.9
KIZK	Mersin	7.42	67	PN	Pn	03 30 35.6	+0.9
NEST	Nestorio	7.51	332	P	Pn	03 30 36.6	+0.6
GRG	Griva	7.55	341	P	Pn	03 30 37.0	+0.6
NVR	Nevrokopi	7.61	350	P	Pn	03 30 37.5	+0.1
FNA	Florina	7.71	335	P	Pn	03 30 39.5	+0.8
FNA	Florina	7.71	335	P	Pn	03 30 38.9	+0.2
FNA	Florina	7.71	335		Pn	03 30 38.9	+0.2
KDZ	Kurdzhali	7.78	359	P	Pn	03 30 40.7	+1.0
VAY	Valandovo	7.84	343	*i* Pn	Pn	03 30 41.7	+1.2
RZN	Rozhen	7.85	355	P	Pn	03 30 41.3	+0.5
MMB	Musomiste	7.87	349	P	Pn	03 30 41.2	+0.3
OFRI	`Ofer	7.91	96	Pn	Pn	03 30 39.2	-2.2
OFRI				Sn	Sn	03 32 04.1	-5.9
KZIT	Kziot	7.95	109	PN	Pn	03 30 40.8	-1.2
HNTI	Hanita	7.99	93	Pn	Pn	03 30 40.9	-1.6
HNTI				Sn	Sn	03 32 06.2	-5.7
SLTI	Sal'it	8.04	99	Pn	Pn	03 30 41.2	-2.0
SLTI				Sn	Sn	03 32 07.5	-5.6
AMAZ	Amatzia	8.14	104	Pn	Pn	03 30 43.3	-1.3
AMAZ				Sn	Sn	03 32 09.4	-6.2
AMAZ	Amatzia	8.14	104	P	Pn	03 30 44.5	-0.1
	comp=N,232nm,0.6s,comp=N,1.5nm						
DIM	Dimitrovgrad	8.18	358	P	Pn	03 30 46.6	+1.5
MMA0B	Mount Meron ar	8.19	93	Pn	Pn	03 30 43.8	-1.5
MMAI	Mount Meron Ar	8.19	93	Pn	Pn	03 30 43.5	-1.8
	comp=N,9.3nm,0.3s,baz=279,slow=12,SNR=56						
MMAI				Sn	Sn	03 32 12.3	-4.5
	comp=N,14nm,0.3s,baz=278,slow=12,SNR=9.4						
BR231	Keskin MP Arra	8.26	42		Pn	03 30 46.3	0.0
GRB	Gharib	8.27	130	P	Pn	03 30 45.5	-0.8
	baz=130						
PLD	Plovdiv	8.27	355	P	Pn	03 30 48.2	+1.9
ANTO	Ankara	8.28	42	P	Pn	03 30 47.4	+0.8
ANTO	Ankara	8.28	42		Pn	03 30 47.4	+0.8
STIP	Stip	8.29	342	*i* Pn	Pn	03 30 47.6	+0.9
MMLI	Mount Malkishu	8.30	97	Pn	Pn	03 30 45.0	-2.0
MMLI				Sn	Sn	03 32 13.6	-6.2
MMLI	Mount Malkishu	8.30	97	PN	Pn	03 30 44.9	-2.0
YTIR	Yattir	8.35	105	Pn	Pn	03 30 46.0	-1.6
YTIR				Sn	Sn	03 32 15.1	-5.9
KARA	Karaisali	8.37	63	PN	Pn	03 30 46.9	-0.9
KSDI	Kefar Szold	8.37	92	Pn	Pn	03 30 45.9	-1.9
KSDI				Sn	Sn	03 32 16.3	-5.1
GEM	Giv'at Ha'Em	8.38	92	Pn	Pn	03 30 46.0	-1.8
GEM				Sn	Sn	03 32 16.1	-5.3
KRTS	Karatas	8.40	68	PN	Pn	03 30 47.6	-0.5
NATI	Neve Ativ	8.43	91	Pn	Pn	03 30 46.0	-2.5
NATI				Sn	Sn	03 32 17.4	-5.3
HMDT	Nahal Hemdat	8.43	98	Pn	Pn	03 30 45.6	-3.0
HMDT				Sn	Sn	03 32 17.8	-5.1
SCTE	Santa Cesarea	8.46	319		Pn	03 30 47.9	-1.1
DSI	Dead Sea	8.50	103	Pn	Pn	03 30 48.1	-1.4
DSI				Sn	Sn	03 32 19.5	-5.0
SHMJ	Saham	8.53	95	P	Pn	03 30 49.0	-1.0
	comp=N,237nm,0.7s,comp=N,0.8nm						
KRMI	Paran Flat	8.55	113	Pn	Pn	03 30 49.4	-0.9
KRMI				Sn	Sn	03 32 20.3	-5.5
MZDA	Masada	8.57	105	Pn	Pn	03 30 48.7	-1.8
MZDA				Sn	Sn	03 32 20.2	-6.0
PRNI	Paran	8.66	111	Pn	Pn	03 30 49.9	-1.9
YURE	YUREGIR	8.67	67	PN	Pn	03 30 50.8	-1.0
BRTR	Keskin Array B	8.67	45	Pn	Pn	03 30 52.2	+0.3
	comp=N,0.6nm,0.3s,baz=222,slow=14,SNR=26						
BRTR				Sn	Sn	03 32 28.2	-0.7
	comp=N,0.8nm,0.3s,baz=128,slow=22,SNR=8.0						
BRTR	Keskin Array B	8.67	45		Pn	03 30 52.0	0.0
BR131	Keskin Array S	8.67	45	P	Pn	03 30 52.7	+0.7
BR131	Keskin Array S	8.67	45		Pn	03 30 52.7	+0.7
LISJ	El Lisan	8.69	105	P	Pn	03 30 51.3	-0.8
	comp=N,89nm,0.8s,comp=N,0.3nm						
ZFRI	Zfri	8.71	110	Pn	Pn	03 30 50.8	-1.6
ZFRI				Sn	Sn	03 32 24.5	-5.1
SKO	Skopje	8.76	339	*i* Pn	Pn	03 30 52.8	-0.3
TIR	Tirane	8.78	330	P	Pn	03 30 53.4	+0.1
TIR	Tirane	8.78	330		Pn	03 30 53.4	+0.1
CEYT	Ceyhan	8.81	66	PN	Pn	03 30 53.2	-0.6
HRFI	Mount Harif	8.83	113	Pn	Pn	03 30 53.2	-0.9
HRFI				Sn	Sn	03 32 27.9	-4.7
HRFI	Mount Harif	8.83	113	PN	Pn	03 30 53.1	-0.9
HRFI	Mount Harif	8.83	113	P	Pn	03 30 54.0	-0.1
	comp=N,198nm,0.7s						
MBRI	Mt Berech	8.85	115	Pn	Pn	03 30 53.4	-1.0
MBRI				Sn	Sn	03 32 28.9	-4.4
WALJ	Wala	8.85	102	P	Pn	03 30 53.5	-0.9
	comp=N,255nm,0.6s						
TIP	Timpagrande	8.92	309	⇓P	Pn	03 30 53.8	-1.5
TIP	Timpagrande	8.92	309		Pn	03 30 53.8	-1.5
EIL	Elat	8.94	115	Pn	Pn	03 30 54.2	-1.4
EIL				Sn	Sn	03 32 30.6	-4.8
EIL	Elat	8.94	115	Pn	Pn	03 30 54.2	-1.4
	comp=N,6.5nm,0.3s,baz=241,slow=2.1,SNR=56						
EIL				Sn	Sn	03 32 33.2	-2.1
	comp=N,3.6nm,0.3s,baz=273,slow=17,SNR=3.9						
VTS	Vitosha	8.95	348	P	Pn	03 30 54.7	-1.1
VTS	Vitosha	8.95	348	P	Pn	03 30 55.4	-0.4
VTS	Vitosha	8.95	348	⇑P	Pn	03 30 55.5	-0.3
VTS	Vitosha	8.95	348		Pn	03 30 55.4	-0.4
AQBJ	Aqaba	8.99	115	P	Pn	03 30 55.5	-0.7
	comp=N,226nm,0.6s						
HSUJ	Al Zarqa	9.02	98	P	Pn	03 30 57.0	+0.3
	comp=N,89nm,0.7s						
ELND	Elena	9.06	1	⇓P	Pn	03 30 58.5	+1.3
HSNJ	Maan	9.23	110	P	Pn	03 30 58.9	-0.8
TAR1	Taranto	9.43	317	*eP*	Pn	03 30 58.8	-3.4
TAR1				S	Sn	03 32 40.8	-6.4
HHRG	Al Ghardaqah	9.50	132	P	Pn	03 31 04.0	+0.8
	baz=133						
PLVB	Pleven	9.55	355	⇑P	Pn	03 31 04.0	+0.1
MASS	Massafra	9.58	317	*eP*	Pn	03 31 01.6	-2.7
ASF	Jabal al Asfar	9.58	97	Pn	Pn	03 31 02.8	-1.7
	comp=N,2.1nm,0.3s,baz=237,slow=11,SNR=24						
ASF				Sn	Sn	03 32 47.8	-3.4
	comp=N,1.1nm,0.3s,baz=308,slow=19,SNR=2.6						
ILGA	Ilgaz	9.62	39	Pn	Pn	03 31 05.0	0.0
DRME	Dracevica, Mon	9.76	330	⇓*i* Pn	Pn	03 31 03.3	-3.4
RAFF	Raffo Rosso	9.80	293		Pn	03 31 06.0	-1.4
VAE	Valguarnera	9.84	295	Pn	Pn	03 31 07.5	-0.5
	comp=N,3.3nm,0.3s,baz=6.4,slow=20,SNR=12						
VAE				Sn	Sn	03 32 49.0	-8.5
	comp=N,4.1nm,0.3s,baz=178,slow=13,SNR=4.8						
PDG	Podgorica	9.93	331	⇓*i* Pn	Pn	03 31 06.3	-2.8
PDG	Podgorica	9.93	331	⇑P	Pn	03 31 06.7	-2.4
PDG	Podgorica	9.93	331		Pn	03 31 08.3	-0.8
SG1	Sgolgore (BA)	9.98	317	*i* P	Pn	03 31 07.1	-2.7
SG1				S	Sn	03 32 49.0	-12
BAI	Bari	10.05	319	⇑*i* P	Pn	03 31 07.8	-2.9
BAI				S	Sn	03 32 52.5	-1.0
HCY	Herceg Novi	10.26	329	*e*Pn	Pn	03 31 10.9	-2.7
ACER	Acerenza	10.37	315		Pn	03 31 13.8	-1.5
TREB	Trebinje	10.54	329	*e*Pn	Pn	03 31 13.5	-4.0
DBRK	Dubrovnik	10.59	328	*e*Pn	Pn	03 31 14.3	-3.8
DBRK				Sn	Sn	03 33 05.6	-10
BRY	Bratogost	10.62	330	*e*Pn	Pn	03 31 16.2	-2.4
UPM	Unac-Piva	10.72	332	*e*Pn	Pn	03 31 16.9	-3.2
CORL	Corleone	10.80	295		Pn	03 31 20.5	-0.6
RUDO	Rudo	10.91	335	*e*Pn	Pn	03 31 18.1	-4.4
STON	Ston	10.95	328	*e*Pn	Pn	03 31 19.4	-3.6
STON	Ston	10.95	328	*e*Pn	Pn	03 31 19.6	-3.4
BBLS	Lazići	11.12	336	⇓*i* Pn	Pn	03 31 21.9	-3.5
DIVS	Divibare	11.13	338	⇓*i* Pn	Pn	03 31 23.9	-1.7
HERR	Herculane	11.29	348	⇑P	Pn	03 31 27.3	-0.4
MDVR	Moldovita	11.33	346	⇑P	Pn	03 31 27.3	-1.0
PAOL	Paolisi	11.35	312		Pn	03 31 28.4	-0.2
HAPS	Han Pijesak,Bl	11.47	335	*e*Pn	Pn	03 31 24.2	-6.0
ARR	Arges	11.52	356	⇑P	Pn	03 31 30.7	-0.3
MAKA	Makarska	11.59	327	*e*Pn	Pn	03 31 28.2	-3.5
MAKA				Sn	Sn	03 33 29.1	-11
MLR	Muntele Rosu	11.62	1	P	Pn	03 31 32.1	-0.3
MLR	Muntele Rosu	11.62	1	Pn	Pn	03 31 33.4	+1.1
	comp=N,0.3nm,0.3s,baz=196,slow=8.2,SNR=8.6						
MLR				LR	LR	03 36 37.9	
	comp=N,590nm,20.2s,baz=136,slow=41						
MLR	Muntele Rosu	11.62	1	⇑P	Pn	03 31 32.6	+0.3
MLR	Muntele Rosu	11.62	1		Pn	03 31 32.1	-0.3
LOT	Lotru	11.67	353	⇓P	Pn	03 31 32.2	-0.7
TEKS	Tekeris	11.68	338	*e*Pn	Pn	03 31 29.3	-3.8
GZR	Gura Zlata	11.73	350	⇑P	Pn	03 31 32.9	-0.9
PLOR	Plostina	12.00	3	⇑P	Pn	03 31 38.4	+1.0
BANR	Banloc	12.02	345	⇑P	Pn	03 31 36.0	-1.7
DOPR	Dopca	12.10	359	⇓P	Pn	03 31 38.4	-0.3
BZS	Buzias	12.15	346	⇓P	Pn	03 31 38.0	-1.4
FRGS	Fruska Gora	12.15	340	⇓*i* Pn	Pn	03 31 35.5	-4.0
DEV	Deva	12.20	351	⇑P	Pn	03 31 40.1	0.0
DOB	Doboj	12.33	334	*e*Pn	Pn	03 31 36.5	-5.4
MGRS	Mrkonjic Grad	12.46	330	*e*Pn	Pn	03 31 39.5	-4.2
ZIRJ	Zirje	12.51	324	*e*Pn	Pn	03 31 41.9	-2.5
BLY	Banja Luka	12.70	331	⇓*i* Pn	Pn	03 31 42.9	-4.0
BLY	Banja Luka	12.70	331	⇑P	Pn	03 31 43.8	-3.1
BLY	Banja Luka	12.70	331	Pn	Pn	03 31 44.6	-2.3
AQU	L'Aquila	12.84	315	*e*Pn	Pn	03 31 50.6	+1.6
SIM	Simferopol'	12.85	28	*eP*	Pn	03 31 53.8	+4.8
SIM				pmax	pmax		
	comp=Z,11nm,1.0s						
SIM				MLR	MLR		
	comp=Z,290nm,14.6s						
CJR	Cluj-Napoca	12.94	354	⇓P	Pn	03 31 50.9	+0.6
DUGI	Dugi Otok	13.05	324	*e*Pn	Pn	03 31 48.8	-2.9
BIZ	Bicaz	13.07	1	⇑P	Pn	03 31 52.4	+0.4
DRGR		13.11	351	⇑P	Pn	03 31 51.3	-1.4
UDBI	Udbina	13.12	327	*e*Pn	Pn	03 31 50.9	-1.9
MILM	Milestii Mici	13.26	9	⇑P	Pn	03 31 56.1	+1.4
NRCA	Norcia	13.30	316		Pn	03 31 54.3	-1.0
KIS	Kishinev	13.34	9	*eP*	Pn	03 31 57.0	+1.3
KIS				LRM	MLR	03 36 44.0	
	comp=Z,1µm,12.0s						
KIS	Kishinev	13.34	9	*eP*	Pn	03 31 57.0	+1.3
KIS				MLR	MLR		
	comp=Z,1µm,12.0s						
KEST	Kesra	13.54	283	Pn	Pn	03 31 57.7	-0.9
	comp=Z,0.1nm,0.3s,baz=284,slow=12,SNR=2.5						
KEST				Sn	Sn	03 34 22.2	-6.0
	comp=Z,0.2nm,0.3s,baz=274,slow=16,SNR=2.5						
KEST	Kesra	13.54	283	Pn	Pn	03 31 57.3	-1.3
NVLJ	Novalja	13.56	325	*e*Pn	Pn	03 31 55.4	-3.3
BURAR	Bucovina Array	13.75	359	⇑P	Pn	03 32 02.7	+1.3
BURAR	Bucovina Array	13.75	359		Pn	03 32 01.5	+0.2
BUR08	Bucovina Ar. S	13.78	359		Pn	03 32 01.4	-0.3
ZAG	Zagreb	14.06	331	*i* Pn	Pn	03 32 01.8	-3.7
ZAG	Zagreb	14.06	331	*e*Pn	Pn	03 32 01.2	-4.3
BOJS	Bojanci	14.11	329	*i* Pn	Pn	03 32 02.5	-3.8
KALN	Kalnik	14.13	333	*i* Pn	Pn	03 32 02.0	-4.5
PTJ	Puntijarka	14.13	331	*e*Pn	Pn	03 32 01.8	-4.8
CRES	Cresnjev	14.28	330	*e*Pn	Pn	03 32 02.8	-5.7
RIY	Rijeka	14.32	326	*e*Pn	Pn	03 32 05.9	-3.1
SORM	Soroca	14.41	7	⇑P	Pn	03 32 12.1	+1.9
SOC	Sochi	14.63	44	*eP*	Pn	03 32 12.8	-0.5
SOC				*e*		03 34 57.4	
SOC				pmax	pmax		
	comp=Z,17nm,1.0s						
SOC				MLR	MLR		
	comp=Z,325nm,9.0s						
CEY	Cerknica	14.66	327	⇑*i* Pn	Pn	03 32 09.2	-4.5
PDKS	Podkum	14.66	329	*i* Pn	Pn	03 32 09.7	-4.1
PDKS				*eP*	P	03 32 20.0	+0.3
PSZ	Piszkesteto	14.70	345	P	Pn	03 32 14.0	-0.3
PSZ	Piszkesteto	14.70	345		Pn	03 32 14.0	-0.3
LJU	Ljubljana	14.85	328	*i* Pn	Pn	03 32 12.3	-4.0
LJU	Ljubljana	14.85	328	*e*Pn	Pn	03 32 11.8	-4.5
JAVS	Javornik	14.94	327	*i* Pn	Pn	03 32 14.0	-3.6
JAVS				*i* P	P	03 32 22.6	-0.2
UZH	Uzhgorod	14.97	351	*eP*	Pn	03 32 16.4	-1.5
SRO	Srobarova	15.00	341	*eP*	Pn	03 32 17.3	-0.9
SRO				pmax	pmax		
	comp=Z,28nm,1.1s						
SRO	Srobarova	15.00	341	*eP*	Pn	03 32 17.3	-0.9
SOKA	Soboth	15.14	331	*e*Pn	Pn	03 32 15.7	-4.5
	comp=Z,15nm,0.6s						
SOKA				Sn	Sn	03 34 57.8	-9.1
	comp=Z,1.7nm,0.5s						
OBKA	Obir	15.20	329	*e*Pn	Pn	03 32 17.0	-4.1
	comp=Z,29nm,0.6s						
OBKA				Sn	Sn	03 35 01.1	-7.4
	comp=Z,3.1nm,0.3s						
KOLS	Kolonicke sedl	15.27	351	*eP*	Pn	03 32 21.6	-0.3
KOLS				pmax	pmax		
	comp=Z,26nm,1.1s						
KOLS	Kolonicke sedl	15.27	351	*eP*	Pn	03 32 21.6	-0.3
ARSA	Arzberg	15.42	333	*e*Pn	Pn	03 32 20.0	-3.8
	comp=Z,12nm,0.6s						
VYHS	Vyhne	15.49	343	*eP*	Pn	03 32 23.5	-1.2
VYHS	Vyhne	15.49	343	*eP*	Pn	03 32 23.5	-1.2
MYKA	Terra Mystica	15.69	328	*e*Pn	Pn	03 32 25.0	-2.4
	comp=Z,10nm,0.7s						
TEOL	Teolo	15.73	321		Pn	03 32 27.5	-0.3
TEOL				IAmb	IAmb	03 32 39.6	
	comp=Z,52nm,0.8s						
MODS	Modra-Piesok	15.80	339	*eP*	Pn	03 32 27.1	-1.7
MODS				pmax	pmax		
	comp=Z,32nm,0.8s						
MODS	Modra-Piesok	15.80	339	*eP*	Pn	03 32 27.1	-1.7
STAL	STALIGIAL	15.84	325		Pn	03 32 27.7	-1.6
STAL				IAmb	IAmb	03 32 45.6	
	comp=Z,72nm,1.0s						
CONA	Conrad Observa	15.87	335	*e*Pn	Pn	03 32 28.0	-1.7
	comp=Z,4.8nm,0.7s,SNR=6.9						
SMOL	Smolenice	15.88	340	*eP*	Pn	03 32 29.8	0.0
SMOL				pmax	pmax		
	comp=Z,16nm,0.8s						
SMOL	Smolenice	15.88	340	*eP*	Pn	03 32 29.8	0.0
KWP	Kalwaria Pacla	15.91	353	*eP*	Pn	03 32 30.0	-0.1
KWP	Kalwaria Pacla	15.91	353	*eP*	Pn	03 32 30.0	-0.1
KWP				*eP*	Pn	03 32 30.0	-0.1
LANS	Liptovska Anna	15.96	345	*eP*	Pn	03 32 30.9	+0.1
LANS				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LANS	Liptovska Anna	15.96	345	*eP*	Pn	03 32 30.9	+0.1
AKH	Akhalkalaki	15.99	57	P	Pn	03 32 31.6	+0.2
AKH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKH	Akhalkalaki	15.99	57	Pn	Pn	03 32 31.6	+0.2
LVV	L'vov	15.99	356	*eP*	Pn	03 32 31.9	+0.7
LVV				MLR	MLR		
	comp=E,700nm,8.0s						
LVV				MLR	MLR		
	comp=N,1µm,9.0s						
LVV				MLR	MLR		
	comp=Z,1µm,9.0s						
NIE	Niedzica	16.05	347	*eP*	Pn	03 32 31.7	-0.2
NIE	Niedzica	16.05	347	*eP*	Pn	03 32 31.7	-0.2
NIE				*eP*	Pn	03 32 31.7	-0.2
JAVC	Velka Javorina	16.13	341	*e*PN	Pn	03 32 30.5	-2.5
KBA	Koelnbreinsper	16.17	328	*e*Pn	Pn	03 32 30.8	-2.8
	comp=Z,30nm,0.6s						
NEY	Neytrino	16.28	50	*cE*P	P	03 32 37.3	-0.6
ABTA	Abfaltersbach	16.29	326	*e*Pn	Pn	03 32 32.3	-2.8
	comp=Z,6.9nm,0.4s,SNR=9.7						
ABTA				Sn	Sn	03 35 27.2	-7.7
	comp=Z,9.5nm,0.9s						
MOA	Molln	16.40	332	*e*Pn	Pn	03 32 33.9	-2.4
	comp=Z,7.6nm,0.9s,SNR=29						
GNI	Garni	16.47	62	*de*P	P	03 32 39.2	-0.8
GNI				pmax	pmax		
	comp=Z,70nm,1.7s						
GNI	Garni	16.47	62	Pn	Pn	03 32 37.1	-0.4
	comp=Z,0.4nm,0.3s,baz=342,slow=20,SNR=3.3						
GNI				LR	LR	03 40 36.9	
	comp=Z,645nm,18.2s,baz=264,slow=43						
GNI	Garni	16.47	62	Pn	Pn	03 32 36.3	-1.2
SHA1	Shidzhatmaz	16.49	48	*d*/P	P	03 32 40.3	+0.1
KIV	Kislovodsk	16.62	48	*eP*	P	03 32 40.5	-1.0
KIV				*eS*	Sn	03 35 45.7	+2.7
KIV				pmax	pmax		
	comp=Z,310nm,1.1s						
KIV				MLR	MLR		
	comp=Z,279nm,13.0s						
KIV	Kislovodsk	16.62	48		Pn	03 32 40.3	+1.0
KIV				IAmb	IAmb	03 32 45.1	
	comp=Z,109nm,1.1s						
KVAR	Kislovodsk Arr	16.63	48	Pn	P	03 32 40.9	-0.8
	baz=261,slow=19,SNR=24						
KBZ	Khabaz	16.63	49	P	P	03 32 41.0	-0.6
KBZ	Khabaz	16.63	49	Pn	P	03 32 41.0	-0.6
	comp=Z,0.6nm,0.3s,baz=260,slow=8.7,SNR=40						
KRUC	Moravsky	16.68	338	*e*PN	Pn	03 32 37.4	-2.5
KRUC	Moravsky	16.68	338	*eP*	P	03 32 41.7	-0.4
SET	Setif	16.76	284	P	P	03 32 47.0	+3.9
ZEI	Tsey	16.84	53	*eP*	Pn	03 32 42.7	+0.6
ZEI				pmax	pmax		
	comp=Z,69nm,1.0s						
VRAC	Vranov	16.84	339	Pn	Pn	03 32 41.1	-0.9
	comp=Z,2.1nm,0.3s,baz=158,slow=11,SNR=16						
VRAC				LR	LR	03 40 17.5	
	comp=Z,254nm,18.7s,baz=163,slow=41						
VRAC	Vranov	16.84	339	⇓P	Pn	03 32 41.5	-0.5
VRAC	Vranov	16.84	339	*e*PN	Pn	03 32 39.9	-2.1
OKC	Ostrava-Krasne	16.91	343	*eP*	Pn	03 32 40.7	-2.0
OKC	Ostrava-Krasne	16.91	343	*eP*	Pn	03 32 40.7	-2.0
OJC	Ojcow	16.91	347	*eP*	Pn	03 32 40.7	-2.1
OJC	Ojcow	16.91	347	*eP*	Pn	03 32 40.7	-2.1
OJC				*eP*	Pn	03 32 40.7	-2.1
OJC	Ojcow	16.91	347		Pn	03 32 40.6	-2.2
NCK	Nalchik	16.96	50	⇑*eP*	P	03 32 45.7	+0.5
MORC	Moravsky Berou	17.00	342	P	Pn	03 32 42.0	-2.0
MORC				pmax	pmax		
	comp=Z,51nm,1.1s						
MORC	Moravsky Berou	17.00	342	⇑P	Pn	03 32 42.3	-1.6
MORC	Moravsky Berou	17.00	342	*e*PN	Pn	03 32 41.9	-2.0
MORC	Moravsky Berou	17.00	342		Pn	03 32 42.0	-2.0
MORC				IAmb	IAmb	03 32 44.1	
	comp=Z,50nm,1.1s						
AKASG	Malin Array Be	17.03	8	P	Pn	03 32 43.6	-0.7
AKASG						03 35 54.2	
AKASG				pmax	pmax		
	comp=Z,19nm,0.7s						
AKASG	Malin Array Be	17.03	8	Pn	Pn	03 32 42.2	-2.1
	comp=Z,14nm,0.3s,baz=197,slow=10,SNR=70						
AKASG				Sn	Sn	03 35 54.2	+1.5
	comp=Z,0.2nm,0.3s,baz=334,slow=19,SNR=5.2						
AKASG	Malin Array Be	17.03	8		Pn

AKT pmax pmax
comp=Z,4.0nm,0.4s
NKC Novy Kostel 19.03 333 *eP* **P 03 33 07.4 -0.6**
NKC Novy Kostel 19.03 333 *eP* **P 03 33 07.4 -0.6**
BRG Berggiesshubel 19.04 337 *eP* **P 03 33 06.9 -1.2**
comp=Z,13nm,0.8s
BRG S **S 03 36 48.0 +5.7**
BRG Berggiesshubel 19.04 337 *eP* **P 03 33 06.9 -1.2**
BRG pmax pmax
comp=Z,13nm,0.8s
STU Stuttgart 19.30 325 IAmb IAmb 03 33 17.9
comp=Z,52nm,0.8s
BFO Black Forest 19.42 323 *i* P **Pn 03 33 13.3 -0.2**
BFO Black Forest 19.42 323 P **P 03 33 11.8 -0.5**
BFO IAmb IAmb 03 33 19.0
comp=Z,43nm,0.9s
CLL Collm 19.72 336 *i* P **P 03 33 14.8 -0.7**
CLL pmax pmax
comp=Z,83nm,1.2s
CLL Collm 19.72 336 *i* P **P 03 33 14.8 -0.7**
comp=Z,83nm,1.2s
CLL Collm 19.72 336 IAmb IAmb 03 33 17.3
comp=Z,41nm,0.8s
EBNR Beni Rached 19.89 284 P **P 03 33 18.3 +0.8**
ECH Echery 19.94 322 IAmb IAmb 03 33 24.8
comp=Z,40nm,1.0s
VSR Storozhevoye 19.94 26 *eP* **P 03 33 17.6 -0.3**
VSR pmax pmax
comp=Z,40nm,0.7s
ECHA Ech Chlef 20.02 283 P **P 03 33 16.5 -2.4**
ETRT Tiaret 20.10 281 P Pn 03 33 21.2 -0.6
EANR 'Ain N'Sour 20.24 283 P Pn 03 33 25.0 +1.6
GKP Gorka Klasztor 20.32 345 *eP* **P 03 33 21.4 -0.5**
GKP Gorka Klasztor 20.32 345 *eP* **P 03 33 21.4 -0.5**
GKP *eP* **P 03 33 21.4 -0.5**
RUE Ruedersdorf 20.48 339 *eP* **P 03 33 23.3 -0.4**
MICGM Minsk 20.70 4 *e* **P 03 33 23.0 -3.1**
MNK Minsk 20.70 4 *eP* **P 03 33 23.0 -3.1**
TAM Tamanrasset 20.84 243 P **P 03 33 28.1 +0.1**
TAM pmax pmax
comp=Z,12nm,0.9s
TAM Tamanrasset 20.84 243 P **P 03 33 28.1 +0.1**
OJBR Djebel Berber 20.87 282 P **P 03 33 27.0 -1.2**
VRH Novokhopyorsk 20.91 29 *eP* **P 03 33 28.1 -0.2**
VRH pmax pmax
comp=Z,100nm,0.6s
LPSR Galich'ya Gora 21.02 23 *eP* **P 03 33 28.5 -1.0**
LPSR pmax pmax
comp=Z,130nm,1.2s
NACGM Naroch 21.06 2 *e* **P 03 33 28.0 -1.9**
KLNR Kaliningrad 21.09 351 *c i* P **P 03 33 29.6 -0.7**
KLNR pmax pmax
comp=Z,112nm,1.0s
ODJA Bouhanifia 21.29 281 P **P 03 33 34.0 +1.4**
WLF Walferdange 21.38 323 P **P 03 33 33.7 +0.3**
WLF pmax pmax
comp=Z,136nm,1.1s
WLF Walferdange 21.38 323 P **P 03 33 36.8 +3.4**
comp=Z,109nm,1.3s
WLF Walferdange 21.38 323 P **P 03 33 33.7 +0.3**
IDID Didziasalis 21.47 2 *eP* **P 03 33 32.9 -1.4**
IIGN Ignalina 21.49 1 *eP* **P 03 33 33.0 -1.6**
IIGN IAmb IAmb 03 33 37.9
comp=Z,55nm,0.7s
IIGN *eS* **S 03 37 32.3 +1.0**
USTO Oran 21.59 282 P **P 03 33 39.0 +3.2**
PABE Paberze 21.68 357 *eP* **P 03 33 34.3 -2.2**
PABE *eS* **S 03 37 35.4 +0.5**
ISAL Salakas 21.71 1 *eP* **P 03 33 35.4 -1.5**
ISAL IAmb IAmb 03 33 40.4
comp=Z,64nm,0.9s
ISAL *eS* **S 03 37 36.3 +0.7**
IZAR Zarasai 21.89 1 *eP* **P 03 33 37.3 -1.6**
IZAR IAmb IAmb 03 33 42.2
comp=Z,84nm,1.0s
BHOU Houvegnez 21.90 325 ⇑P **P 03 33 39.2 +0.1**
comp=Z,37nm,1.0s
CART Cartagena 21.94 287 P **P 03 33 39.4 -0.2**
CART IAmb IAmb 03 33 47.7
comp=Z,56nm,1.0s
MEM Membach 22.07 325 P **P 03 33 40.8 0.0**
comp=Z,49nm,1.0s
HGN Heimansgroeve 22.21 325 *eP* **P 03 33 42.9 +0.6**
BSTI Sart Tilman 22.26 325 ⇑P **P 03 33 43.6 +0.7**
BCLA Clavier 22.29 324 P **P 03 33 43.4 +0.2**
PBUR Paburg 22.32 354 *eP* **P 03 33 42.3 -1.1**
BEBN Eben Emael 22.35 325 P **P 03 33 44.5 +0.7**
DOU Dourbes 22.43 323 ⇑P **P 03 33 44.4 -0.3**
comp=Z,32nm,1.2s
DOU PnPn **PnPn 03 34 07.7 -0.4**
BMRD Maredsous 22.47 323 ⇓P **P 03 33 45.1 0.0**
comp=Z,36nm,1.3s
CLF Chambon-Foret 22.53 316 P **P 03 33 45.6 -0.2**
CLF IAmb IAmb 03 33 57.5
comp=Z,30nm,1.0s
BSD Bornholm Skovb 22.54 344 *i* P **P 03 33 44.3 -1.5**
BSD pmax pmax
comp=Z,4.0nm,0.4s
BSD Bornholm Skovb 22.54 344 *i* P **P 03 33 44.3 -1.5**
comp=Z,3.7nm,0.4s
OBN Obninsk 22.58 16 *eP* **P 03 33 44.4 -1.8**
OBN *e* 03 34 08.3
OBN pmax pmax
comp=Z,124nm,1.3s
OBN MLR MLR
comp=Z,421nm,18.0s
OBN Obninsk 22.58 16 P **P 03 33 44.6 -1.6**
comp=Z,11nm,0.4s,baz=164,slow=9.2,SNR=14
OBN LR LR 03 43 30.5
comp=Z,109nm,18.2s,baz=172,slow=39
OBN Obninsk 22.58 16 P **P 03 33 45.0 -1.2**
WTSB Winterswijk 22.65 329 *eP* **P 03 33 45.3 -1.7**
SNF Seneffe 22.84 323 P **P 03 33 49.9 +0.9**
UCC Uccle 22.99 324 P **P 03 33 50.3 -0.2**
UCC pmax pmax
comp=Z,59nm,1.0s
UCC Uccle 22.99 324 ⇓P **P 03 33 51.1 +0.5**
comp=Z,43nm,1.0s
UCC Uccle 22.99 324 P **P 03 33 50.4 -0.2**
MOS Moscow 23.40 17 *eP* **P 03 33 52.8 -1.8**
MOS *e* 03 34 19.7
MOS *eS* **S 03 38 04.6 -1.2**
MOS pmax pmax
comp=Z,74nm,1.3s
ESBB Sonseca Array 24.37 292 P **P 03 34 03.4 -0.6**
ESBB IAmb IAmb 03 34 13.0
comp=Z,32nm,1.1s
ESDC Sonseca Array 24.37 292 P **P 03 34 04.5 +0.5**
comp=Z,6.6nm,0.8s,baz=84,slow=9.7,SNR=32
ESDC Sonseca Array 24.37 292 P **P 03 34 03.2 -0.9**
VSU Vasula 24.62 1 *deP* **P 03 34 06.4 +0.4**
VSU pmax pmax
comp=Z,79nm,0.7s
VSU Vasula 24.62 1 *eP* **P 03 34 04.8 -1.2**
PAB San Pablo 24.66 292 P **P 03 34 06.6 -0.1**
PAB pmax pmax
comp=Z,44nm,1.2s
PAB San Pablo 24.66 292 P **P 03 34 06.6 -0.1**
MDT Midelt 25.27 276 P **P 03 34 12.6 +0.3**
comp=Z,5.7nm,1.1s,baz=90,slow=12,SNR=4.2
MUD Monsted U'grnd 25.28 338 *eP* **P 03 34 12.6 +0.6**
MUD Monsted U'grnd 25.28 338 *i* P **P 03 34 12.6 +0.6**
DAMY Dhamar 25.62 134 P **P 03 34 18.2 +2.5**
DAMY IAmb IAmb 03 34 22.4
comp=Z,18nm,0.9s
JSA Saint Aubin 25.67 315 *eP* **P 03 34 15.5 -0.1**
JSA IAmb IAmb 03 34 16.9
comp=Z,68nm,0.9s
PUL Pulkovo 26.11 5 ⇓*eP* **P 03 34 19.2 -0.2**
PUL pmax pmax
comp=Z,74nm,0.5s
WOL Wolverton 26.16 320 *eP* **P 03 34 19.6 -0.5**
WOL IAmb IAmb 03 34 21.0
comp=Z,69nm,0.8s
GEYT Alibeck 26.53 72 P **P 03 34 24.1 +0.5**
comp=Z,6.7nm,0.6s,baz=247,slow=39,SNR=2.8
GYA0B ALIBECK ARRAY 26.53 72 P **P 03 34 23.7 +0.1**
SWN1 Swindon 26.57 320 *eP* **P 03 34 23.9 +0.2**
SWN1 IAmb IAmb 03 34 24.4
comp=Z,408nm,1.4s
PBRG Braganca 26.68 297 *eP* **P 03 34 27.3 +2.4**
comp=Z,58nm,1.6s
MVO Moncorvo 26.83 295 *eP* **P 03 34 26.9 +0.6**
comp=Z,42nm,1.0s
STRD Stroud 26.91 320 *eP* **P 03 34 26.5 -0.3**
CWF Charnwood Fore 26.97 323 *eP* **P 03 34 26.6 -0.7**
CWF IAmb IAmb 03 34 28.2
comp=Z,20nm,0.7s
PMRV Marv??o 27.00 292 *eP* **P 03 34 28.3 +0.5**
comp=Z,46nm,1.4s
OLDB Oldbury-Upon-S 27.05 320 *eP* **P 03 34 27.4 -0.7**
OLDB IAmb IAmb 03 34 31.0
comp=Z,56nm,1.3s
PCBR Castelo Branco 27.08 292 *eP* **P 03 34 32.9 +4.4**
comp=Z,44nm,1.6s
MONM Monmouth 27.28 320 *eP* **P 03 34 29.9 -0.2**
MONM IAmb IAmb 03 34 31.0
comp=Z,30nm,0.9s
PBEJ Beja 27.38 288 *eP* **P 03 34 36.6 +5.4**
comp=Z,35nm,2.0s
HFS Hagfors 27.43 347 P **P 03 34 30.1 -1.3**
comp=Z,18nm,0.7s,baz=143,slow=11,SNR=25
HFS LR LR 03 47 45.6
comp=Z,392nm,18.1s,baz=228,slow=42
SNART Snartemo 27.44 339 *eP* **P 03 34 32.4 +0.9**
PBDV Barranco-do-Ve 27.46 287 *eP* **P 03 34 32.5 +0.6**
comp=Z,75nm,1.2s
MCH1 Michaelchurch 27.46 320 *eP* **P 03 34 31.1 -0.6**
MCH1 IAmb IAmb 03 34 32.5
comp=Z,27nm,1.2s
EVO Evora 27.48 290 *eP* **P 03 34 36.7 +4.6**
comp=Z,44nm,1.4s
LBWR Ladybower, Pea 27.55 323 *eP* **P 03 34 31.9 -0.7**
LBWR IAmb IAmb 03 34 34.0
comp=Z,80nm,1.4s
FURI Furi 27.58 151 P **P 03 34 35.1 +1.6**
FINES FINESS Array B 27.60 0 P **P 03 34 31.4 -1.6**
comp=Z,13nm,0.6s,baz=165,slow=11,SNR=44
FINES LR LR 03 47 02.4
comp=Z,322nm,18.5s,baz=180,slow=40
FIA1 FINESS Array S 27.60 0 P **P 03 34 32.2 -0.7**
PCAB Cabril 27.62 296 *eP* **P 03 34 34.5 +1.1**
comp=Z,39nm,2.0s
STNC Stoke 27.62 323 *eP* **P 03 34 33.2 0.0**
HLM1 Long Mynd 27.67 321 *eP* **P 03 34 32.9 -0.7**
HLM1 IAmb IAmb 03 34 34.5
comp=Z,23nm,0.9s
PTOM Tomar 27.80 292 *eP* **P 03 34 37.5 +2.6**
HPK Haverah Park 27.82 325 *eP* **P 03 34 34.0 -1.0**
KONO Kongsberg 27.89 343 ⇓*eP* **P 03 34 34.7 -0.9**
KONO pmax pmax
comp=Z,50nm,1.2s
KONO Kongsberg 27.89 343 *eP* **P 03 34 34.6 -0.9**
PNCL Nicolau / Gran 27.89 289 *eP* **P 03 34 41.7 +5.9**
comp=Z,47nm,1.7s
UOSS Minazif 27.97 100 P **P 03 34 37.8 +1.2**
UOSS IAmb IAmb 03 34 55.2
comp=Z,9.3nm,0.9s
FOEL Foel Wylfa 28.03 322 *eP* **P 03 34 36.7 -0.1**
FOEL IAmb IAmb 03 34 38.0
comp=Z,38nm,0.8s
LLW Llanuwchllyn 28.25 321 *eP* **P 03 34 37.9 -0.9**
NC602 NORSAR Array S 28.42 345 IAmb IAmb 03 34 52.4
comp=Z,8.4nm,0.8s
KLMR Klimovskoe 28.47 14 *eP* **P 03 34 38.7 -1.9**
KLMR pmax pmax
comp=Z,90nm,1.0s
KLMR Klimovskoe 28.47 14 *eP* **P 03 34 38.7 -1.9**
KLMR AMP 03 34 40.9
comp=Z,90nm,1.0s
KLMR LQ LQ 03 43 50.6
KLMR LQ LQ 03 43 50.6
KLMR LR LR 03 45 31.5
EDMD Edmundbyers 28.49 326 *eP* **P 03 34 40.4 -0.6**
BLS5 Blasjo 28.56 339 *eP* **P 03 34 41.6 +0.1**
NAO01 NORSAR Array S 28.66 345 *eP* **P 03 34 41.7 -0.6**
NAO01 NORSAR Array S 28.66 345 P **P 03 34 41.4 -0.9**
NB2 NORSAR Subarra 28.76 345 P **P 03 34 41.9 -1.4**
comp=Z,8.3nm,0.7s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.76 345 P **P 03 34 41.9 -1.4**
baz=156,slow=9.3
NOA NORSAR Array B 28.76 345 P **P 03 34 41.9 -1.4**
comp=Z,2.7nm,0.5s,baz=147,slow=8.7,SNR=17
NOA LR LR 03 46 49.8
comp=Z,129nm,19.6s,baz=160,slow=38
AKTO Aktyubinsk 28.85 45 P **P 03 34 44.1 -0.1**
AKTO pmax pmax
comp=Z,27nm,1.2s
AKTO Aktyubinsk 28.85 45 P **P 03 34 44.5 +0.3**
comp=Z,10nm,0.8s,baz=247,slow=7.3,SNR=18
KESW Keswick, Cumbr 28.90 325 *eP* **P 03 34 44.2 -0.3**
KESW IAmb IAmb 03 34 45.0
comp=Z,66nm,1.4s
ODD1 Odda 28.91 340 *eP* **P 03 34 45.0 +0.3**
SKAR Skarslia 29.11 342 *eP* **P 03 34 47.4 +0.9**
EKA Eskdalemuir Ar 29.34 326 P **P 03 34 48.1 -0.4**
comp=Z,13nm,0.7s,baz=124,slow=8.9,SNR=30
ESK Eskdalemuir 29.36 326 *eP* **P 03 34 48.5 0.0**
ESK IAmb IAmb 03 34 49.6
comp=Z,53nm,1.2s
ESK Eskdalemuir 29.36 326 P **P 03 34 48.6 0.0**
ESK pmax pmax
comp=Z,29nm,0.9s
ESK Eskdalemuir 29.36 326 P **P 03 34 48.6 0.0**
KIRV Kirov 29.39 25 P **P 03 34 47.5 -1.3**
comp=Z,7.5nm,0.5s,baz=46,slow=7.4,SNR=3.7
WIM Isle of Man 29.43 323 *eP* **P 03 34 49.3 +0.1**
AB31 Akbulak array 29.61 48 *i* P **P 03 34 51.1 +0.2**
AB31 pmax pmax
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 29.61 48 P **P 03 34 51.5 +0.7**
GAL1 Galloway 29.83 324 *eP* **P 03 34 52.5 -0.2**
GAL1 IAmb IAmb 03 34 53.9
comp=Z,26nm,0.9s
TOA0 Torodi Ar. Sit 30.00 232 P **P 03 34 55.4 +0.8**
TOA0 IAmb IAmb 03 35 03.2
comp=Z,8.9nm,0.8s
TORD Torodi Ar. Bea 30.00 232 P **P 03 34 55.0 +0.4**
comp=Z,7.0nm,0.9s,baz=31,slow=9.1,SNR=24
TORD Torodi Ar. Bea 30.00 232 P **P 03 34 55.0 +0.4**
DOMB Dombas 30.12 344 *eP* **P 03 34 56.4 +1.0**
HRA Herat 30.19 79 P **P 03 34 57.6 +1.2**
EAB Aberfoyle 30.38 326 *eP* **P 03 34 57.4 -0.3**
PRGR Permogore 30.60 19 *eP* **P 03 34 56.2 -3.3**
PRGR *eSP* **pP 03 35 06.5 -0.5**
PRGR *eS* S 03 39 50.3 -9.2
PRGR pmax pmax
comp=Z,44nm,0.9s
CLGH Cloghs, Cushen 30.63 324 *eP* **P 03 35 00.0 +0.2**
CLGH IAmb IAmb 03 35 00.5
comp=Z,75nm,1.4s
WSAR Wadi Sarin 30.71 101 P **P 03 35 00.7 -0.2**
comp=Z,1.5nm,0.3s,baz=259,slow=5.2,SNR=2.6
AKN Aaknes 30.73 343 *eP* **P 03 34 59.8 -0.8**
FOO Floro 30.75 341 *eP* **P 03 35 00.4 -0.3**
TMCR Tamitsa 31.28 10 *eP* **P 03 35 04.0 -1.4**
TMCR *eS* **S 03 40 07.9 -2.2**
TMCR pmax pmax
comp=Z,37nm,1.3s
IDGL Inch Island, C 31.32 323 *eP* **P 03 35 05.5 -0.5**
ARU Arti 31.87 35 *c i* P **P 03 35 11.0 +0.3**
ARU 03 36 11.1
ARU S **S 03 40 22.0 +2.5**
ARU SS **SnSn 03 42 05.3 -3.3**
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 31.87 35 P **P 03 35 10.3 -0.5**
comp=Z,1.3nm,0.4s,baz=215,slow=11,SNR=6.5
ARU Arti 31.87 35 P **P 03 35 11.1 +0.3**
ARU IAmb IAmb 03 35 11.9
comp=Z,11nm,1.1s
MOR8 Moi Rana 33.03 352 *eP* **P 03 35 20.4 -0.4**
SVE Sverdlovsk 33.06 35 ⇓*eP* **P 03 35 21.6 +0.4**
SVE pmax pmax
comp=Z,22nm,1.4s
LVZ Lovozero 34.48 6 ⇑*eP* **P 03 35 33.4 0.0**
LVZ pmax pmax
comp=Z,36nm,1.2s
MBAR Mbarara 34.61 171 P **P 03 35 35.5 +0.3**
comp=Z,2.7nm,0.2s,baz=345,slow=6.7,SNR=4.2
MBAR Mbarara 34.61 171 IAmb IAmb 03 35 37.4
comp=Z,5.7nm,0.9s
STEI Steigen 34.64 353 *eP* **P 03 35 34.0 -0.7**
CHGR Chuyangaron 35.15 69 P **P 03 35 40.4 +0.7**
CHGR IAmb IAmb 03 35 49.5
comp=Z,8.2nm,0.8s
KTK1 Kautokeino 35.23 358 *eP* **P 03 35 38.7 -1.1**
KBL Kabul 35.68 76 P **P 03 35 44.3 -0.1**
KBL pmax pmax
comp=Z,3.0nm,0.9s
KBL Kabul 35.68 76 P **P 03 35 44.3 -0.1**
ARCES ARCESS Array B 35.73 360 P **P 03 35 43.4 -0.8**
ARCES ARCESS Array B 35.73 360 P **P 03 35 42.8 -1.4**
comp=Z,5.2nm,0.5s,baz=173,slow=8.7,SNR=43
ARCES ARCESS Array B 35.73 360 P **P 03 35 43.4 -0.8**
ARE0 ARCESS Array S 35.73 360 *eP* **P 03 35 42.8 -1.4**
KK31 Karatay Array 35.94 62 P **P 03 35 47.0 +0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 35.94 62 P **P 03 35 47.0 +0.7**
KKAR Karatay Array 35.94 62 P **P 03 35 47.0 +0.7**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 35.94 62 P **P 03 35 47.0 +0.7**
KKAR Karatay Array 35.94 62 P **P 03 35 47.0 +0.7**
KKAR IAmb IAmb 03 35 55.1
comp=Z,4.6nm,0.8s
KMBO Kilima Mbogo 36.47 160 LR LR 03 51 11.4
comp=Z,247nm,21.0s,baz=286,slow=37
BRVK Borovoye 36.90 45 ⇑*eP* **P 03 35 55.4 +1.0**
BRVK pmax pmax
comp=Z,20nm,1.1s
BRVK Borovoye 36.90 45 P **P 03 35 54.9 +0.5**
BRVK IAmb IAmb 03 35 56.8
comp=Z,19nm,1.1s
BVAR Borovoye Array 36.96 45 P **P 03 35 55.9 +1.1**
comp=Z,13nm,1.0s,baz=243,slow=6.5,SNR=34
AAK Ala-Archa 38.88 62 P **P 03 36 12.1 +0.7**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 38.88 62 P **P 03 36 11.5 +0.1**
comp=Z,1.1nm,0.4s,baz=150,slow=4.0,SNR=5.1
AAK Ala-Archa 38.88 62 P **P 03 36 12.1 +0.7**
DBIC Dimbokro 39.10 233 P **P 03 36 12.7 -0.5**
comp=Z,6.1nm,1.0s,baz=26,slow=8.7,SNR=5.8
TIC Toumodi 39.23 233 *eP* **P 03 36 14.7 +0.3**
KIC Kosan Boka 39.25 233 *eP* **P 03 36 14.2 -0.4**
comp=Z,5.5nm,0.6s
NIL Nilore 39.28 77 P **P 03 36 16.7 +2.0**
NIL pmax pmax
comp=Z,9.0nm,0.6s
NIL Nilore 39.28 77 P **P 03 36 16.7 +2.0**
NIL IAmb IAmb 03 36 20.1
comp=Z,9.0nm,0.6s
LIC Lamto 39.54 233 *eP* **P 03 36 16.5 -0.5**
comp=Z,7.1nm,0.8s
KSH Kashi 40.31 67 P **P 03 36 23.5 +0.2**
KSH pP pP 03 36 29.1 -1.8
KSH PP **PnPn 03 38 00.5 +0.5**
KSH S **S 03 42 28.0 -1.3**
KSH SS **SS 03 45 18.8 -9.4**
KSH LR LR
comp=Z,470nm,9.1s
KSH LR LR
comp=Z,340nm,8.6s
KSH LR LR
comp=Z,470nm,8.2s
KURBB Kurchatov Arra 41.63 50 P **P 03 36 35.0 +1.2**
comp=Z,8.5nm,0.8s,baz=277,slow=8.7,SNR=57
KURK Kurchatov 41.69 50 P **P 03 36 34.9 +0.6**
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 41.69 50 P **P 03 36 35.4 +1.1**
KURK IAmb IAmb 03 36 43.1
comp=Z,10nm,0.8s
MK31 Makanchi Array 44.16 55 *eP* **P 03 36 55.1 +0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 44.16 55 P **P 03 36 55.7 +1.2**
MK31 IAmb IAmb 03 37 02.9
comp=Z,7.9nm,0.7s
MKAR Makanchi Array 44.16 55 P **P 03 36 54.5 +0.1**
MKAR Makanchi Array 44.16 55 P **P 03 36 55.4 +1.0**
comp=Z,7.5nm,0.6s,baz=272,slow=7.0,SNR=27
MKAR Makanchi Array 44.16 55 P **P 03 36 54.5 +0.1**
SPA0 Spitsbergen Ar 44.60 357 *eP* **P 03 36 57.2 -0.4**
SCO Scoresbysund 44.70 339 *i* P **P 03 36 59.6 +1.3**
SCO pmax pmax
comp=Z,26nm,1.1s
SCO Scoresbysund 44.70 339 *i* P **P 03 36 59.6 +1.3**
comp=Z,26nm,1.1s
SCO Scoresbysund 44.70 339 P **P 03 36 59.3 +1.0**
ZAA0 Zalesovo Array 45.61 45 P **P 03 37 06.4 +0.5**
ZAA0 IAmb IAmb 03 37 07.5
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 45.61 45 P **P 03 37 06.2 +0.3**
comp=Z,8.5nm,0.6s,baz=266,slow=9.6,SNR=37
ZALV LR LR 04 00 34.5
comp=Z,118nm,18.1s,baz=264,slow=42
ZALV Zalesovo Beam 45.61 45 P **P 03 37 05.9 +0.1**
DGZ Jazzator, Alta 47.36 51 ⇑*eP* **P 03 37 21.0 +1.1**
DAG Danmarks Havn 47.41 347 *i* P **P 03 37 19.6 0.0**
DAG pmax pmax
comp=Z,20nm,1.0s
DAG Danmarks Havn 47.41 347 *i* P **P 03 37 19.6 0.0**
comp=Z,20nm,1.0s
NRIK Noril'sk 48.88 25 P **P 03 37 31.3 +0.2**
comp=Z,12nm,0.8s,baz=243,slow=5.4,SNR=9.6
LSZ Lusaka 48.92 177 P **P 03 37 32.5 +0.4**
comp=Z,1.7nm,0.7s,baz=19,slow=8.2,SNR=5.0
LSZ Lusaka 48.92 177 IAmb IAmb 03 37 34.2
comp=Z,2.8nm,0.9s
DANN Dangsing 49.49 80 *eP* **P 03 37 38.2 +1.5**
comp=Z,88nm,0.8s
KOLN Koldanda 49.58 81 *eP* **P 03 37 38.2 +0.9**
SUMG Summit 50.34 339 *i* P **P 03 37 43.6 +1.0**
SUMG pmax pmax
comp=Z,120nm,1.2s
SUMG Summit 50.34 339 *i* P **P 03 37 43.6 +1.0**
comp=Z,116nm,1.2s
SUMG Summit 50.34 339 P **P 03 37 43.1 +0.5**
DMN Daman 50.87 80 *eP* **P 03 37 47.9 +0.8**
comp=Z,34nm,0.9s
PKIN Phulchoki 51.12 80 *eP* **P 03 37 49.8 +0.8**
comp=Z,55nm,1.3s
PKI Pulchoki 51.13 80 *eP* **P 03 37 49.7 +0.5**
comp=Z,24nm,0.8s
GUN Gumba 51.39 79 *eP* **P 03 37 52.0 +0.9**
comp=Z,40nm,0.8s
JIRN Jiri 51.74 80 *eP* **P 03 37 54.5 +0.7**
comp=Z,68nm,1.0s
ODAN Odare 53.03 80 *eP* **P 03 38 03.6 +0.3**
TAPN Taplejung 53.10 79 *eP* **P 03 38 04.2 +0.4**
comp=Z,49nm,1.1s
ZAK Zakamensk 57.30 48 *eP* **P 03 38 35.0 +1.5**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
GTA Gaotai 58.22 61 P **P 03 38 41.4 +1.2**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=Z,140nm,19.6s
GTA LR LR
comp=Z,270nm,20.3s
GTA LR LR
comp=Z,84nm,19.9s
TULEG Thule 58.41 344 P **P 03 38 40.9 +0.2**
SONM Songino Array 59.99 50 P **P 03 38 53.5 +1.2**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 59.99 50 P **P 03 38 53.7 +1.4**
comp=Z,2.6nm,0.7s,baz=282,slow=8.9,SNR=13
SONM LR LR 04 09 09.1
comp=Z,82nm,18.1s,baz=200,slow=40
SONM Songino Array 59.99 50 P **P 03 38 53.5 +1.2**
ULN Ulaanbaatar 60.41 50 P **P 03 38 56.5 +1.3**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 60.41 50 P **P 03 38 56.5 +1.3**
ULN IAmb IAmb 03 39 15.8
comp=Z,4.8nm,0.8s
BOD Bodaibo 61.23 38 *eP* **P 03 39 00.6 +0.2**
BOD pmax pmax
comp=Z,15nm,1.0s
BOSA Boshof 62.13 180 P **P 03 39 08.1 +1.2**
comp=Z,5.5nm,0.8s,baz=6.1,slow=4.6,SNR=6.2
BOSA LR LR 04 08 15.9
comp=Z,207nm,18.7s,baz=19,slow=38
BOSA Boshof 62.13 180 IAmb IAmb 03 39 09.8
comp=Z,10nm,1.1s
TIXI Tiksi 62.24 20 ⇑*eP* **P 03 39 07.1 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s

TIXI	**Tiksi**	**62.24**	**20**	LR	LR	04 09 40.5	
	comp=Z,138nm,19.4s,baz=355,slow=40						
TIXI	**Tiksi**	**62.24**	**20**	P	**P**	**03 39 06.8**	**-0.2**
SCHQ	**Schefferville**	**64.45**	**320**	P	**P**	**03 39 22.2**	**+0.3**
	comp=Z,7.9nm,0.4s,baz=76,slow=4.3,SNR=27						
CD2	**Chengdu**	**64.47**	**69**	P	**P**	**03 39 22.3**	**-0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
RES	**Resolute Bay**	**65.03**	**345**	P	**P**	**03 39 25.9**	**+0.6**
RES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RES	**Resolute Bay**	**65.03**	**345**	P	**P**	**03 39 25.9**	**+0.6**
RES				IAmb	IAmb	03 39 27.6	
	comp=Z,10nm,0.9s						
HHC	**Hu-ho-hao-te**	**66.02**	**56**	*e*P	**P**	**03 39 33.9**	**+1.4**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**66.14**	**83**	P	**P**	**03 39 34.0**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**66.14**	**83**	P	**P**	**03 39 34.0**	**+0.5**
CHTO				IAmb	IAmb	03 39 45.1	
	comp=Z,5.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**66.31**	**83**	P	**P**	**03 39 34.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.31**	**83**	P	**P**	**03 39 34.5**	**0.0**
	comp=Z,1.6nm,0.3s,baz=297,slow=7.9,SNR=11						
CMAR				LR	LR	04 13 03.5	
	comp=Z,61nm,20.8s,baz=216,slow=40						
CMAR	**Chiang Mai Arr**	**66.31**	**83**	P	**P**	**03 39 34.9**	**+0.4**
YAK	**Yakutsk**	**66.80**	**30**	*e*P	**P**	**03 39 37.4**	**+0.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**66.80**	**30**	P	**P**	**03 39 37.2**	**+0.3**
XAN	**Xi'an**	**67.04**	**64**	P	**P**	**03 39 37.6**	**-1.4**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA	**Guiyang**	**68.75**	**72**	P	**P**	**03 39 52.8**	**+2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PBKT	**Sadao Pong**	**68.93**	**84**	P	**P**	**03 39 51.2**	**+0.2**
PBKT				IAmb	IAmb	03 40 04.2	
	comp=Z,7.3nm,1.1s						
BJI	**Beijing**	**69.53**	**55**	*e*P	**P**	**03 39 53.5**	**-1.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BILL	**Bilibino**	**74.22**	**14**	*e*P	**P**	**03 40 22.6**	**+0.5**
BILL				*e**PP	**pwP**	**03 40 34.8**	**+1.0**
BILL				*e*		03 40 39.2	
BILL				*e*		03 43 10.3	
BILL				*e*PPP	PPP	03 44 53.9	
BILL				pmax	pmax		
	comp=Z,17nm,1.4s						
BILL				MLR	MLR		
	comp=Z,105nm,20.0s						
BILL	**Bilibino**	**74.22**	**14**	P	**P**	**03 40 23.1**	**+1.0**
BILL				IAmb	IAmb	03 40 27.7	
	comp=Z,9.1nm,1.0s						
KLR	**Kul'dur**	**74.48**	**41⇓**	*e*P	**P**	**03 40 25.5**	**+1.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR	**Kul'dur**	**74.48**	**41**	P	**P**	**03 40 24.6**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=351,slow=19,SNR=6.3						
PSI	**Prapat**	**74.56**	**97**	P	**P**	**03 40 25.2**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=305,slow=7.0,SNR=5.6						
SEY	**Seymchan**	**74.60**	**22⇑**	*i*P	**P**	**03 40 25.7**	**+1.3**
RPSI	**Rantau Prapat**	**74.61**	**97**	P	**P**	**03 40 25.2**	**0.0**
RPSI	**Rantau Prapat**	**74.61**	**97**	P	**P**	**03 40 26.2**	**+0.9**
RPSI				IAmb	IAmb	03 40 26.4	
	comp=Z,10nm,0.8s						
NJ2	**Nanjing**	**75.31**	**61**	*e*P	**P**	**03 40 29.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**76.48**	**25**	*ce*P	**P**	**03 40 36.6**	**+1.4**
MA2				pmax	pmax		
	comp=Z,25nm,1.3s						
MA2	**Magadan**	**76.48**	**25**	P	**P**	**03 40 35.8**	**+0.6**
INK	**Inuvik**	**76.96**	**352**	IAmb	IAmb	03 40 48.4	
	comp=Z,8.4nm,1.1s						
USA0B	**Ussuriysk Arra**	**77.47**	**45**	IAmb	IAmb	03 40 49.5	
	comp=Z,8.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**77.47**	**45**	P	**P**	**03 40 41.7**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=298,slow=4.7,SNR=10						
USRK	**Ussuriysk Ar.**	**77.47**	**45**	P	**P**	**03 40 41.6**	**+0.5**
RDOG	**Red Dog Mine**	**78.20**	**3**	IAmb	IAmb	03 40 46.2	
	comp=Z,9.2nm,1.0s						
KSAR	**Wonju Array Be**	**78.73**	**52**	P	**P**	**03 40 49.1**	**+0.9**
KSAR	**Wonju Array Be**	**78.73**	**52**	P	**P**	**03 40 49.1**	**+0.9**
KSRS	**Korea Array**	**78.75**	**52**	P	**P**	**03 40 49.2**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=305,slow=5.5,SNR=8.8						
KSRS				LR	LR	04 18 54.3	
	comp=Z,59nm,20.1s,baz=308,slow=38						
BMAR	**Burnt Mountain**	**78.76**	**356**	P	**P**	**03 40 49.0**	**+1.2**
YKA	**Yellowknife Ar**	**78.81**	**342**	P	**P**	**03 40 49.0**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=32,slow=5.3,SNR=10						
EPYK	**Eagle Plains**	**79.17**	**353**	IAmb	IAmb	03 41 07.3	
	comp=Z,7.5nm,0.8s						
IMAR	**Indian Mountai**	**80.48**	**360**	P	**P**	**03 40 58.3**	**+1.1**
EGAK	**Eagle**	**81.15**	**354**	IAmb	IAmb	03 41 03.7	
	comp=Z,8.2nm,1.1s						
MDM	**Murphy Dome**	**81.39**	**357**	P	**P**	**03 41 03.0**	**+0.9**
MDM				IAmb	IAmb	03 41 04.8	
	comp=Z,10.0nm,0.7s						
COLA	**College**	**81.46**	**357⇑**	*e*P	**P**	**03 41 03.7**	**+1.3**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ILAR	**Eielson Array**	**81.52**	**357**	P	**P**	**03 41 03.5**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=357,slow=4.1,SNR=23						
ILAR				LR	LR	04 20 34.2	
	comp=Z,36nm,19.8s,baz=6.5,slow=38						
ILAR	**Eielson Array**	**81.52**	**357**	P	**P**	**03 41 02.9**	**+0.1**
ULM	**Lac du Bonnet**	**81.62**	**326**	P	**P**	**03 41 03.6**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=58,slow=7.6,SNR=4.1						
ULM				LR	LR	04 17 59.7	
	comp=Z,90nm,20.0s,baz=26,slow=36						
CCB	**Clear Creek Bu**	**81.69**	**357**	IAmb	IAmb	03 41 05.2	
	comp=Z,12nm,1.1s						
HDA	**Harding Lake**	**81.89**	**357**	P	**P**	**03 41 04.9**	**+0.2**
SCRK	**Sand Creek**	**82.15**	**355**	IAmb	IAmb	03 41 09.3	
	comp=Z,15nm,1.2s						
BPAW	**Bear Paw Mtn.**	**82.34**	**359**	IAmb	IAmb	03 41 08.9	
	comp=Z,8.2nm,0.9s						
RIDG	**Independent Ri**	**82.44**	**356**	IAmb	IAmb	03 41 10.3	
	comp=Z,8.9nm,1.0s						
DOT	**Dot Lake**	**82.48**	**355**	IAmb	IAmb	03 41 10.3	
	comp=Z,11nm,1.1s						
BCAR	**Beaver Creek A**	**82.89**	**354**	P	**P**	**03 41 10.7**	**+0.6**
JNU	**Nakatsue**	**83.20**	**55**	P	**P**	**03 41 13.4**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=141,slow=6.5,SNR=2.7						
JNU	**Nakatsue**	**83.20**	**55**	IAmb	IAmb	03 41 27.1	
	comp=Z,7.6nm,1.1s						
PETK	**Petropavlovsk-**	**83.89**	**27**	LR	LR	04 24 40.7	
	comp=Z,64nm,18.3s,baz=241,slow=40						
JOW	**Kunigami**	**85.03**	**61**	P	**P**	**03 41 21.5**	**-0.1**
BDFB	**Brasília**	**85.60**	**248**	LR	LR	04 20 51.8	
	comp=Z,130nm,18.9s,baz=100,slow=36						
SBUM	**Sibu**	**85.79**	**90**	P	**P**	**03 41 26.8**	**+1.3**
SBUM				IAmb	IAmb	03 41 36.2	
	comp=Z,4.5nm,1.1s						
MJAR	**Matsushiro Arr**	**85.88**	**48**	P	**P**	**03 41 25.0**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MJAR	**Matsushiro Arr**	**85.88**	**48**	P	**P**	**03 41 26.9**	**+1.2**
	comp=Z,4.8nm,1.1s,baz=308,slow=6.2,SNR=6.3						
MJAR	**Matsushiro Arr**	**85.88**	**48**	P	**P**	**03 41 25.1**	**-0.6**
ECSD	**EROS Data Cent**	**86.57**	**322**	IAmb	IAmb	03 41 30.5	
	comp=Z,9.5nm,1.1s						
CCM	**Cathedral Cave**	**87.53**	**315**	P	**P**	**03 41 34.6**	**+1.0**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CCM	**Cathedral Cave**	**87.53**	**315**	P	**P**	**03 41 34.6**	**+1.0**
LRAL	**Lakeview Retre**	**88.19**	**309**	P	**P**	**03 41 37.5**	**+0.6**
RSSD	**Black Hills**	**89.89**	**326**	P	**P**	**03 41 45.6**	**+0.6**
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
RSSD	**Black Hills**	**89.89**	**326**	P	**P**	**03 41 45.6**	**+0.6**
RSSD				IAmb	IAmb	03 41 47.4	
	comp=Z,5.4nm,1.0s						
JTMT	**Jette**	**91.18**	**334**	IAmb	IAmb	03 41 53.5	
	comp=Z,8.2nm,1.2s						
NEW	**Newport**	**91.73**	**336**	P	**P**	**03 41 54.7**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=28,slow=6.6,SNR=7.1						
NEW	**Newport**	**91.73**	**336**	IAmb	IAmb	03 42 07.4	
	comp=Z,3.8nm,0.8s						
PD31	**Pinedale Array**	**93.43**	**329**	P	**P**	**03 42 00.2**	**-1.2**
PDAR	**Pinedale Array**	**93.43**	**329**	P	**P**	**03 42 02.4**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=56,slow=5.6,SNR=5.3						
PDAR				LR	LR	04 25 42.9	
	comp=Z,70nm,19.4s,baz=34,slow=37						
PDAR	**Pinedale Array**	**93.43**	**329**	P	**P**	**03 42 01.2**	**-0.2**
SAML	**Samuel**	**93.96**	**262**	P	**P**	**03 42 04.9**	**+0.9**
SAML				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SAML	**Samuel**	**93.96**	**262**	P	**P**	**03 42 04.9**	**+0.9**
SAML				IAmb	IAmb	03 42 07.7	
	comp=Z,3.3nm,1.1s						
HWUT	**Hardware Ranch**	**95.23**	**329**	IAmb	IAmb	03 42 11.8	
	comp=Z,3.2nm,0.8s						
CPUP	**Villa Florida**	**98.83**	**244**	LR	LR	04 29 22.3	
	comp=Z,46nm,18.5s,baz=58,slow=37						
WRA	**Warramunga Arr**	**116.02**	**97**	PKP	**PKiKP**	**03 47 29.3**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=316,slow=1.8,SNR=5.4						
ASAR	**Alice Springs**	**117.40**	**101**	PKP	**PKiKP**	**03 47 31.9**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=303,slow=1.4,SNR=10						

IDC 24 03:41:50.0±1.8, 35°.34N×77°.03E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/41, mbtmp3.7/4, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/37, Error ellipse: s-maj=43.8km s-min=29.1km az=76.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.11**	**17**	Pn	Pn	03 44 45.5	+1.7
	0.1nm,0.3s,baz=203,slow=12,SNR=4.6						
MKAR				Sn	Sn	03 46 55.7	-3.8
	0.1nm,0.3s,baz=206,slow=26,SNR=3.2						
SONM	**Songino Array**	**25.10**	**51**	P	P	03 47 17.5	+1.0
	0.6nm,0.8s,baz=246,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**41.19**	**325**	P	P	03 49 36.0	0.0
	5.5nm,1.1s,baz=104,slow=12,SNR=4.0						
MA2	**Magadan**	**52.25**	**38**	LR	LR	04 15 58.9	
	comp=Z,59nm,18.3s,baz=300,slow=39						
WRA	**Warramunga Arr**	**77.28**	**126**	P	P	03 53 46.1	-0.3
	0.5nm,0.9s,baz=326,slow=7.1,SNR=2.5						

*ISCJB **24** 03:42:06.2±0.3, 24°.32N×0°.02×122°.27E±0°.02, h28km±3km, Error ellipse: s-maj=3.9km s-min=2.4km az=166.7*
*JMA **24** 03:42:06.1±0.1, 24°.24N×122°.24E, h49km±2km, M2.3*
*TAP **24** 03:42:06.3, 24°.34N×122°.21E, h38km±1km, ML3.0, B*
ISC 24 03:42:04.2±1.2, 24°.29N±0°.02×122°.25E±0°.02, h11km±10km, n58, σ0s85/101, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.28**	**336**	P	**Pn**	**03 42 14.4**	**+0.2**
	baz=340						
EOS1				S	**Sb**	**03 42 20.8**	**+4.7**
	baz=340						
NANB	**Nanao**	**0.48**	**287**	P	**Pn**	**03 42 16.5**	**-0.5**
	baz=282						
NANB				S	**Sb**	**03 42 23.3**	**+1.6**
	baz=282						
ENA	**Nanau**	**0.49**	**287**	P	**Pn**	**03 42 16.6**	**-0.5**
	baz=282						
ENA				S	**Sb**	**03 42 23.8**	**+1.9**
	baz=282						
TWC	**Suao**	**0.49**	**311**	P	**Pn**	**03 42 16.4**	**-0.7**
	baz=310						
TWC				S	**Sb**	**03 42 23.1**	**+1.1**
	baz=310						
NACB	**Ninganchiao**	**0.61**	**259**	P	**Pn**	**03 42 18.5**	**-0.3**
	baz=253						
NACB				S	**Sn**	**03 42 27.5**	**-1.1**
	baz=253						
EGS		**0.63**	**332**	*e*P	**Pn**	**03 42 19.0**	**-0.1**
	baz=334						
EGS				*e*S	**Sb**	**03 42 26.9**	**+0.9**
	baz=334						
TWD	**Chiawan**	**0.64**	**251**	P	**Pn**	**03 42 19.0**	**-0.1**
	baz=245						
TWD				S	**Sn**	**03 42 28.4**	**-0.8**
	baz=245						
JYNG	**Yonaguni jima**	**0.65**	**75**	P	**Pn**	**03 42 19.6**	**+0.3**
JYNG				S	**Sn**	**03 42 29.0**	**-0.6**
ILA	**Ilan**	**0.66**	**316**	*e*S	**Sn**	**03 42 29.4**	**-0.4**
	baz=315						
NTC	**Toucheng**	**0.68**	**326**	*e*P	**Pn**	**03 42 18.8**	**-0.9**
	baz=326						
NTC				*e*S	**Sb**	**03 42 28.7**	**+1.1**
	baz=326						
TWE	**Neicheng**	**0.69**	**309**	P	**Pn**	**03 42 19.3**	**-0.5**
	baz=308						
TWE				*e*S	**Sb**	**03 42 28.5**	**+0.8**
	baz=308						
ENLB	**Shoufeng**	**0.71**	**237**	*e*P	**Pb**	**03 42 18.6**	**+0.1**
	baz=232						
ENLB				*e*S	**Sb**	**03 42 30.1**	**+1.8**
	baz=232						
ETLH	**Xiulin Townshi**	**0.71**	**264**	P	**Pn**	**03 42 20.0**	**-0.3**
	baz=259						
ETLH				S	**Sb**	**03 42 29.9**	**+1.5**
	baz=259						
YOJ	**Yonaguni jima**	**0.71**	**76**	*e*P	**Pn**	**03 42 20.6**	**+0.4**
	baz=79						
YOJ				*e*S	**Sn**	**03 42 30.4**	**-0.7**
	baz=79						
YOJ	**Yonaguni jima**	**0.71**	**76**	P	**Pn**	**03 42 20.5**	**+0.4**
YOJ				*e*S	**Sb**	**03 42 30.2**	**+1.8**
ENTT	**Nioudou**	**0.72**	**299**	*i*P	**Pn**	**03 42 20.4**	**+0.1**
	baz=297						
ENTT				S	**Sn**	**03 42 30.1**	**-1.2**
	baz=297						
NDT	**Datong Townshi**	**0.74**	**295**	*e*P	**Pn**	**03 42 20.9**	**+0.2**
	baz=292						
NDT				*e*S	**Sn**	**03 42 31.0**	**-1.0**
	baz=292						
TWB1	**Santiao Chiao**	**0.76**	**341**	*e*P	**Pb**	**03 42 19.8**	**+0.4**
	baz=343						
TWB1				*e*S	**Sb**	**03 42 29.0**	**-0.7**
	baz=343						
TIPB	**Shuangxi**	**0.78**	**330**	*e*P	**Pn**	**03 42 20.5**	**-0.8**
	baz=331						
TIPB				*e*S	**Sb**	**03 42 30.4**	**-0.1**
	baz=331						
NNSB	**Datong**	**0.81**	**280**	*e*P	**Pn**	**03 42 21.5**	**-0.1**
	baz=276						
NNSB				*e*S	**Sb**	**03 42 32.1**	**+0.9**
	baz=276						
NNS	**Nan Shan**	**0.82**	**281**	*e*P	**Pn**	**03 42 22.0**	**+0.3**
	baz=277						
NNS				*e*S	**Sb**	**03 42 32.4**	**+0.9**
	baz=277						
YHNB	**Yeheng**	**0.89**	**296**	P	**Pn**	**03 42 22.8**	**+0.1**
	baz=293						
YHNB				*e*S	**Sb**	**03 42 34.1**	**+0.6**
	baz=293						
ESL	**Shilin**	**0.89**	**238**	*e*P	**Pb**	**03 42 22.1**	**+0.5**
	baz=233						
NWF	**Wu-fen Shan**	**0.89**	**331**	P	**Pb**	**03 42 22.0**	**+0.3**
	baz=331						
NWF				S	**Sb**	**03 42 32.9**	**-0.7**
	baz=331						
WFSB	**Wu-fen Shan**	**0.89**	**331**	*e*P	**Pb**	**03 42 21.8**	**+0.1**
	baz=331						
WFSB				*e*S	**Sb**	**03 42 33.1**	**-0.5**
	baz=331						
NSK	**Sanguang**	**0.90**	**296**	*i*P	**Pn**	**03 42 22.9**	**0.0**
	baz=293						
NSK				S	**Sb**	**03 42 34.7**	**+0.7**
	baz=293						
WHF	**Hehuan Shan**	**0.91**	**261**	P	**Pn**	**03 42 23.5**	**+0.2**
	baz=257						
WHF				S	**Sb**	**03 42 35.1**	**+0.5**
	baz=257						
TWA	**Mucha**	**0.92**	**319**	*e*P	**Pn**	**03 42 22.6**	**-0.5**
	baz=318						
TWA				*e*S	**Sb**	**03 42 34.0**	**-0.4**
	baz=318						
TDCB	**Techi**	**1.00**	**268**	*e*P	**Pn**	**03 42 24.9**	**+0.6**
	baz=265						
TDCB				*e*S	**Sb**	**03 42 36.8**	**0.0**
	baz=265						
CHGB	**Renai**	**1.01**	**257**	*e*P	**Pn**	**03 42 24.5**	**0.0**
	baz=253						
CHGB				*e*S	**Sb**	**03 42 37.5**	**+0.3**
	baz=253						
YM01	**YM01**	**1.06**	**324**	*e*P	**Pg**	**03 42 24.2**	**-0.4**
	baz=324						
YM01				*e*S	**Sg**	**03 42 37.3**	**-1.1**
	baz=324						
HGSD	**Ruisui**	**1.10**	**224**	*e*P	**Pg**	**03 42 25.0**	**-0.3**
	baz=220						
VWDT	**VWDT**	**1.15**	**243**	*e*P	**Pn**	**03 42 26.5**	**+0.4**
	baz=239						
VWDT				*e*S	**Sg**	**03 42 40.5**	**-0.7**
	baz=239						
LIOB	**Emei**	**1.18**	**288**	*e*P	**Pn**	**03 42 27.6**	**+0.9**
	baz=285						
LIOB				*e*S	**Sn**	**03 42 43.0**	**+0.3**
	baz=285						
NSTT	**Nanjuang**	**1.19**	**287**	*e*P	**Pn**	**03 42 27.5**	**+0.7**
	baz=284						
NSTT				*e*S	**Sg**	**03 42 42.4**	**-0.2**
	baz=284						
WHP	**Taichung City**	**1.19**	**270**	*e*P	**Pn**	**03 42 28.2**	**+1.3**
	baz=267						
YULB	**Yu-li**	**1.25**	**225**	*e*P	**Pn**	**03 42 27.1**	**-0.5**
	baz=221						
TWF1	**Yuli**	**1.28**	**223**	*e*P	**Pn**	**03 42 27.6**	**-0.4**
	baz=220						
SSLB	**Suanglung**	**1.29**	**248**	*e*P	**Pb**	**03 42 28.7**	**+0.2**
	baz=244						
TYC	**Yuchr**	**1.33**	**254**	*e*P	**Pg**	**03 42 30.5**	**+0.7**
	baz=250						
IRIF	**Iriomote-Funau**	**1.35**	**88**	P	**Pn**	**03 42 29.1**	**+0.2**
IRIF				*e*S	**Sb**	**03 42 46.0**	**-0.7**
TWQ1	**Liyutan**	**1.35**	**273**	*e*P	**Pg**	**03 42 30.6**	**+0.4**
	baz=270						
TWQ1				*e*S	**Sg**	**03 42 48.0**	**+0.3**
	baz=270						
FULB	**Fuli**	**1.40**	**219**	*e*P	**Pn**	**03 42 29.6**	**0.0**
	baz=216						
WHYT	**Xinyi Township**	**1.41**	**246**	*e*P	**Pg**	**03 42 31.3**	**0.0**
	baz=242						
WJS	**Zhushan**	**1.47**	**252**	*e*P	**Pg**	**03 42 32.5**	**+0.1**
	baz=249						
WJS				*e*S	**Sg**	**03 42 51.8**	**+0.3**
	baz=249						
WNT	**Mingjian**	**1.49**	**254**	*e*P	**Pg**	**03 42 32.7**	**-0.1**
	baz=251						
WNT				*e*S	**Sg**	**03 42 52.0**	**-0.2**
	baz=251						
ALS	**Alishan**	**1.54**	**240**	*e*P	**Pb**	**03 42 32.9**	**+0.1**
	baz=237						
ELDTW	**Lidau**	**1.57**	**226**	*e*P	**Pn**	**03 42 32.1**	**-0.1**
	baz=223						
CHN5	**Tsauling**	**1.60**	**245**	*e*P	**Pn**	**03 42 33.3**	**+0.9**
	baz=242						
CHN5				*e*S	**Sb**	**03 42 54.4**	**+0.4**
	baz=242						
JKRS	**Kuro-shima**	**1.60**	**91**	P	**Pn**	**03 42 33.5**	**+1.1**
JKRS				S	**Sn**	**03 42 53.3**	**+0.2**
JIJ	**Ishigaki jima**	**1.73**	**87**	P	**Pn**	**03 42 34.5**	**+0.4**
JIJ				S	**Sn**	**03 42 54.8**	**-1.3**
TPUB	**Ta-pu**	**1.78**	**237**	*e*P	**Pb**	**03 42 36.6**	**-0.3**
	baz=234						
TPUB				*e*S	**Sb**	**03 42 59.5**	**+0.2**
	baz=234						
CHN4	**Tsaushan**	**1.78**	**239**	*e*P	**Pb**	**03 42 37.3**	**+0.4**
	baz=236						
TWG	**Pinlang**	**1.82**	**217**	*e*P	**Pn**	**03 42 35.7**	**+0.3**
	baz=214						
WTP	**Ta-pu**	**1.82**	**236**	*e*P	**Pb**	**03 42 37.4**	**-0.3**
	baz=233						
WTP				*e*S	**Sb**	**03 43 00.2**	**-0.3**
	baz=233						
JISG	**Ishigakijimahi**	**1.90**	**81**	P	**Pn**	**03 42 36.6**	**+0.1**
JISG				S	**Sn**	**03 42 59.0**	**-1.4**
TWK	**Hsinying**	**1.91**	**238**	*e*P	**Pb**	**03 42 38.6**	**-0.5**
	baz=235						
TWK				*e*S	**Sb**	**03 43 02.9**	**0.0**
	baz=235						
CHN1	**Nanshi**	**1.93**	**236**	*e*P	**Pb**	**03 42 38.9**	**-0.5**
	baz=233						

KRSC 24 04:02:06.9±1.4, 48°.58N×155°.98E, h73km±30km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.11**	**2**	*e*P	Pn	04 02 41.3	+1.3
SKR				*e*S	Sn	04 03 07.2	+1.9
PAU	**Pauzhetka**	**2.94**	**10**	*e*P	Pn	04 02 54.0	+2.7
PAU				*e*S	Sn	04 03 28.7	+3.2
ASAK	**Asacha**	**4.00**	**17**	*e*P	Pn	04 03 09.0	+3.2
MTVR	**Mutnovka**	**4.16**	**19**	*e*P	Pn	04 03 11.6	+3.6
MTVR				*e*S	Sn	04 03 59.0	+3.7
RUS	**Russkaya**	**4.19**	**22**	*e*P	Pn	04 03 11.0	+2.8
RUS				*e*S	Sn	04 03 58.0	+2.2
KRMR	**Karymshinskiy**	**4.47**	**17**	P	Pn	04 03 16.1	+4.0
KRMR				*e*S	Sn	04 04 07.4	+4.6
DALK	**Dalny**	**4.79**	**20**	*e*P	Pn	04 03 19.6	+3.1
DALK				*e*S	Sn	04 04 12.5	+1.8
UGLR	**Uglovaya**	**4.98**	**20**	*e*P	Pn	04 03 22.7	+3.6
AVH	**Avacha**	**5.01**	**19**	*e*P	Pn	04 03 23.5	+4.0
KOK	**Koryaka**	**5.01**	**19**	*e*P	Pn	04 03 23.3	+3.7
SMAR	**Somma**	**5.02**	**20**	*e*P	Pn	04 03 23.2	+3.4
KRER	**Koryakskii**	**5.05**	**19**	*e*P	Pn	04 03 23.6	+3.4
SDLR	**Sedlovina**	**5.05**	**20**	*e*P	Pn	04 03 23.0	+2.8
KRX	**Arik**	**5.08**	**18**	*e*P	Pn	04 03 24.1	+3.6
SPN	**Mys Shipunski**	**5.20**	**28**	*e*P	Pn	04 03 25.8	+3.7
SPN				*e*S	Sn	04 04 24.2	+3.5
GNI	**Ganaly**	**5.27**	**13**	*e*P	Pn	04 03 25.6	+2.5
TUMD	**Tumrok D**	**7.18**	**21**	*e*P	Pn	04 03 52.7	+3.6
TUMR	**Tumrok**	**7.19**	**19**	*e*P	Pn	04 03 52.3	+2.9
KBTR	**Krutoberegovo**	**8.71**	**26**	*e*P	Pn	04 04 11.6	+1.7

*IDC **24** 04:10:26.7±4.5, 44°.17N×81°.03E, h0km, mb1 3.4/3, mb1mx3.1/36, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=49.9km s-min=35.4km az=75.0*
*SOME **24** 04:10:30.7, 44°.23N×80°.95E, h25km*
*NNC **24** 04:10:31.1±0.7, 44°.32N×80°.97E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=6.4km s-min=3.2km az=126.0*
ISC 24 04:10:29.8±1.5, 44°.25N±0°.04×81°.09E±0°.04, h8km±12km, n57, σ1s78/86, 7C-11D, Northern Xinjiang

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

TDK			Lg	Lg	04 11 34.0	
	332nm,0.7s					
TDK	**Taldyqorghan**	**2.06 292**	*eP*	**Pb**	**04 11 06.4**	**-1.0**
	291nm,0.9s					
TDK			*e*S	**Sb**	**04 11 32.7**	**-0.5**
	332nm,0.7s					
ZHN	**Zhinishke**	**2.21 242**	Pg	**Pb**	**04 11 10.8**	**+0.8**
	59nm,0.3s					
ZHN			Lg	Lg	04 11 39.6	
	74nm,0.4s					
ZHN	**Zhinishke**	**2.21 242**	*eP*	**Pb**	**04 11 10.8**	**+0.8**
	59nm,0.3s					
ZHN			*e*S	**Sb**	**04 11 39.6**	**+2.1**
	74nm,0.4s					
KURS	**Kuram**	**2.24 251**	Pg	**Pb**	**04 11 11.1**	**+0.5**
	31nm,0.6s					
KURS			Lg	Lg	04 11 40.4	
	71nm,0.8s					
KURS	**Kuram**	**2.24 251**	*eP*	**Pb**	**04 11 11.1**	**+0.5**
	31nm,0.6s					
KURS			*e*S	**Sb**	**04 11 40.4**	**+1.9**
	70nm,0.8s					
SATY	**Saty**	**2.28 240**	Pg	**Pb**	**04 11 12.3**	**+1.0**
	98nm,0.2s					
SATY			Lg	Lg	04 11 42.4	
	172nm,0.2s					
SATY	**Saty**	**2.28 240**	*eP*	**Pb**	**04 11 12.3**	**+1.0**
	98nm,0.2s					
SATY			*e*S	**Sg**	**04 11 42.5**	**-0.6**
	160nm,0.3s					
ARXS	**Arharly**	**2.34 270**	Pg	**Pb**	**04 11 12.1**	**-0.2**
	32nm,0.6s					
ARXS			Lg	Lg	04 11 41.7	
	192nm,0.6s					
ARXS	**Arharly**	**2.34 270**	*eP*	**Pb**	**04 11 12.1**	**-0.2**
	32nm,0.6s					
ARXS			*e*S	**Sb**	**04 11 41.7**	**+0.3**
	192nm,0.6s					
MK31	**Makanchi Array**	**2.68 18**	⇓Pn	**Pn**	**04 11 14.7**	**+1.4**
	1.3nm,0.2s,baz=199,slow=13,SNR=222					
MK31			⇓Sn	**Sn**	**04 11 47.2**	**+1.2**
	78nm,0.8s,baz=200,slow=32,SNR=6.8					
MKAR	**Makanchi Array**	**2.68 18**	Pn	**Pn**	**04 11 14.6**	**+1.3**
	3.7nm,0.3s,baz=200,slow=14,SNR=111					
MKAR			Sn	**Sb**	**04 11 48.7**	**-2.5**
	17nm,0.3s,baz=200,slow=29,SNR=36					
CHKK	**Chushkaly**	**2.98 264**	Pg	**Pb**	**04 11 23.3**	**+0.2**
	16nm,0.3s					
CHKK			Lg	Lg	04 12 01.2	
	76nm,0.4s					
CHKK	**Chushkaly**	**2.98 264**	*eP*	**Pb**	**04 11 23.3**	**+0.2**
	16nm,0.3s					
CHKK			*e*S	**Sb**	**04 12 01.2**	**+1.5**
	76nm,0.4s					
KOTS	**Kotyrbulak**	**3.05 252**	Pg	**Pb**	**04 11 25.4**	**+1.0**
	63nm,0.3s					
KOTS			Lg	Lg	04 12 04.5	
	62nm,0.4s					
KOTS	**Kotyrbulak**	**3.05 252**	*eP*	**Pb**	**04 11 25.4**	**+1.0**
	63nm,0.3s					
KOTS			*e*S	**Sb**	**04 12 04.5**	**+2.5**
	201nm,0.8s					
MDOK	**Medeo**	**3.12 251**	⇑Pn	**Pn**	**04 11 21.5**	**+2.0**
	30nm,0.7s					
MDOK			⇓Lg	Lg	04 12 08.6	
	47nm,0.8s					
MDOK	**Medeo**	**3.12 251**	Pg	**Pb**	**04 11 26.6**	**+0.9**
	29nm,0.4s					
MDOK			Lg	Lg	04 12 06.2	
	27nm,1.4s					
MDOK	**Medeo**	**3.12 251**	*eP*	**Pb**	**04 11 26.6**	**+0.9**
	29nm,0.4s					
MDOK			⇓*i*S	**Sb**	**04 12 06.2**	**+2.2**
	36nm,0.7s					
AAA	**Alma-Ata**	**3.20 253**	Pg	**Pb**	**04 11 29.1**	**+2.2**
	31nm,0.2s					
AAA			Lg	Lg	04 12 10.5	
	37nm,0.3s					
KTBS	**Karatobe**	**3.23 262**	Pg	**Pb**	**04 11 28.0**	**+0.7**
	19nm,0.5s					
KTBS			Lg	Lg	04 12 08.9	
	104nm,0.8s					
KTBS	**Karatobe**	**3.23 262**	*eP*	**Pb**	**04 11 28.0**	**+0.7**
	19nm,0.5s					
KTBS			*e*S	**Sb**	**04 12 08.9**	**+2.1**
	104nm,0.8s					
TNSS	**Tian-Shan**	**3.24 250**	Pg	**Pb**	**04 11 29.3**	**+1.5**
	30nm,0.6s					
TNSS			Lg	Lg	04 12 11.0	
	42nm,0.7s					
TNSS	**Tian-Shan**	**3.24 250**	*eP*	**Pb**	**04 11 29.3**	**+1.5**
	30nm,0.6s					
TNSS			⇓*i*S	**Sb**	**04 12 11.0**	**+3.4**
	42nm,0.7s					
KUU	**Kurty**	**3.44 266**	Pg	**Pb**	**04 11 31.3**	**+0.3**
	19nm,0.6s					
KUU			Lg	Lg	04 12 14.2	
	37nm,0.4s					
KUU	**Kurty**	**3.44 266**	*eP*	**Pb**	**04 11 31.3**	**+0.3**
	11nm,0.5s					
KUU			*e*S	**Sb**	**04 12 14.2**	**+1.3**
	30nm,0.5s					
IZV	**Izvestkoviy**	**3.47 251**	Pg	**Pb**	**04 11 33.5**	**+2.0**
	20nm,0.5s					
IZV			Lg	Lg	04 12 18.2	
	76nm,1.0s					
IZV	**Izvestkoviy**	**3.47 251**	*eP*	**Pb**	**04 11 33.5**	**+2.0**
	20nm,0.5s					
IZV			*e*S	**Sg**	**04 12 18.2**	**-2.9**
	76nm,1.0s					
MTBS	**Maitube**	**3.56 253**	Pg	**Pb**	**04 11 34.9**	**+1.8**
	27nm,0.2s					
MTBS			Lg	Lg	04 12 19.6	
	38nm,0.5s					
MTBS	**Maitube**	**3.56 253**	*eP*	**Pb**	**04 11 34.9**	**+1.8**
	24nm,0.3s					
MTBS			*e*S	**Sb**	**04 12 20.4**	**+4.0**
	38nm,0.5s					
KST	**Kastek**	**3.91 254**	Pg	**Pb**	**04 11 41.7**	**+2.7**
	32nm,0.6s					
KST			Lg	Lg	04 12 32.2	
	28nm,0.7s					
KST	**Kastek**	**3.91 254**	*eP*	**Pb**	**04 11 41.7**	**+2.7**
	32nm,0.6s					
KST			*e*S	**Sg**	**04 12 32.2**	**-3.1**
	20nm,0.7s					
DGS	**Degeres**	**3.98 257**	Pg	**Pb**	**04 11 40.8**	**+0.5**
	22nm,0.4s					
DGS			Lg	Lg	04 12 30.6	
	46nm,0.8s					
DGS	**Degeres**	**3.98 257**	*eP*	**Pb**	**04 11 40.8**	**+0.5**
	22nm,0.4s					
DGS			*e*S	**Sb**	**04 12 30.6**	**+2.0**
	46nm,0.8s					
ZSN	**Zaisan**	**4.15 38**	Pg	**Pb**	**04 11 44.7**	**+1.6**
	5.0nm,0.9s					
ZSN			Lg	Lg	04 12 37.1	
	12nm,0.6s					
ZSN	**Zaisan**	**4.15 38**	*eP*	**Pb**	**04 11 43.1**	**0.0**
	12nm,0.5s					
ZSN			*e*S	**Sb**	**04 12 34.8**	**+1.4**
	19nm,0.6s					
TKM2	**Tokmak 2**	**4.20 254**	Pn	**Pn**	**04 11 37.5**	**+3.2**
TKM2			⇑Pg	**Pb**	**04 11 45.7**	**+1.6**
	14nm,0.6s					
TKM2			⇑Lg	Lg	04 12 43.6	
	28nm,0.7s					
AAK	**Ala-Archa**	**5.06 254**	⇑Pg	**Pb**	**04 12 00.8**	**+2.0**
	5.0nm,0.7s					
AAK			⇑Lg	Lg	04 13 08.8	
	14nm,0.7s					
BTLS	**Baital**	**5.09 281**	Pg	**Pb**	**04 12 03.2**	**+4.1**
	3.9nm,0.4s					
BTLS			Lg	Lg	04 13 08.8	
	8.2nm,0.7s					
MRKS	**Merke**	**5.91 258**	Pg	Pb	04 12 17.7	+4.5
	6.4nm,0.7s					
MRKS			Lg	Lg	04 13 33.9	
	7.6nm,0.7s					
SEM	**Semipalatinsk**	**6.19 355**	Pg	**Pg**	**04 12 27.2**	**-1.1**
	6.3nm,0.1s					
SEM			Lg	Lg	04 13 50.7	
	14nm,0.2s					
KURBB	**Kurchatov Arra**	**6.61 346**	⇑Pn	**Pn**	**04 12 06.1**	**-1.1**
	3.7nm,0.8s					
KURBB			⇑Pg	**Pb**	**04 12 28.8**	**+3.9**
	4.5nm,0.8s					
KURBB			⇓Lg	Lg	04 13 55.9	
	32nm,0.7s					
KK31	**Karatay Array**	**7.75 265**	⇓Pg	Pb	04 12 50.4	+6.0
	0.8nm,0.6s,baz=73,slow=16,SNR=4.6					
KK31			⇓Lg	Lg	04 14 34.6	
	2.7nm,0.5s					
ZALV	**Zalesovo Beam**	**10.01 13**	Pn	**Pn**	**04 12 52.4**	**-1.4**
	0.4nm,0.3s,baz=195,slow=14,SNR=5.1					
ZALV			Lg	Lg	04 15 41.2	
	0.2nm,0.3s,baz=199,slow=26,SNR=3.2					
AB31	**Akbulak array**	**15.32 297**	⇓Pn	**Pn**	**04 14 05.1**	**-1.0**
	0.4nm,0.6s,baz=114,slow=10.0,SNR=4.6					
SONM	**Songino Array**	**17.90 70**	P	**Pn**	**04 14 37.2**	**-2.0**
	0.1nm,0.3s,baz=273,slow=11,SNR=2.5					

ISCJB ***24*** *04:21:17.1±0.8, 56°.8S±0°.2×151°.0W±0°.2, h10km, mb4.0/5, MS3.4/5, Error ellipse: s-maj=25.8km s-min=17.1km az=18.7*
IDC ***24*** *04:21:17.1±0.8, 56°.69S×150°.88W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/24, mbtmp4.0/5, MS3.4/5, Ms1 3.4/5, ms1mx3.2/17, Error ellipse: s-maj=41.3km s-min=23.4km az=9.0*
NEIC ***24*** *04:21:18.9±0.8, 56°.63S±0°.09×150°.9W±0°.3, h10km±2km, mb4.4/6*
ISC 24 04:21:18.5±0.8,**56°.7S**±0°.2×**150°.9W**±0°.2,**h10**km,**n34, σ0°69**/22,**mb4.3**/5,**MS3.4**/5,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.22**	**282**	LR	LR	04 35 35.9	
	comp=Z,59nm,19.4s,baz=196,slow=32						
URZ	**Urewera**	**28.05**	**297**	LR	LR	04 36 12.9	
	comp=Z,81nm,19.6s,baz=149,slow=32						
QSPA	**South Pole Qui**	**33.42**	**180**	P	**P**	**04 27 57.7**	**+0.7**
	3.2nm,1.0s,baz=50,slow=5.9,SNR=7.5						
QSPA	**South Pole Qui**	**33.42**	**180**	P	**P**	**04 27 58.3**	**+1.2**
QSPA				IAmb	IAmb	04 27 59.0	
	comp=Z,5.1nm,1.1s						
PPT	**Papeete**	**39.10**	**2**	LR	LR	04 40 09.2	
	comp=Z,62nm,21.7s,baz=156,slow=29						
VNA3	**Neumayer Olymp**	**49.42**	**165**	P	**P**	**04 30 07.2**	**-0.7**
SNAA	**Sanae**	**49.95**	**167**	P	**P**	**04 30 10.8**	**-1.2**
VNA2	**Neumayer--Watz**	**50.03**	**165**	P	**P**	**04 30 11.7**	**-0.8**
	baz=206,slow=7.8						
AS31	**Alice Springs**	**62.48**	**268**	P	**P**	**04 31 42.7**	**+0.7**
ASAR	**Alice Springs**	**62.48**	**268**	P	**P**	**04 31 42.2**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=139,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**62.48**	**268**	P	**P**	**04 31 42.5**	**+0.5**
H01W1	**Cape Leeuwin H**	**64.15**	**246**	T	T	05 42 02.4	
	baz=142,slow=76,SNR=9.9						
H01W2	**Cape Leeuwin H**	**64.16**	**245**	T	T	05 41 58.4	
	baz=142,slow=76,SNR=9.0						
H01W3	**Cape Leeuwin H**	**64.17**	**245**	T	T	05 42 00.7	
	baz=142,slow=76,SNR=9.3						
WRA	**Warramunga Arr**	**65.22**	**271**	P	**P**	**04 32 00.1**	**0.0**
	comp=Z,0.6nm,0.9s,baz=150,slow=5.2,SNR=4.0						
MNMC	**Minye Minye**	**69.47**	**94**	P	**P**	**04 32 28.0**	**+0.6**
CPUP	**Villa Florida**	**70.28**	**108**	P	**P**	**04 32 31.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=206,slow=7.0,SNR=4.1						
CPUP	**Villa Florida**	**70.28**	**108**	IAmb	IAmb	04 32 39.1	
	comp=Z,7.4nm,1.4s						
LPAZ	**La Paz**	**72.58**	**93**	P	**P**	**04 32 47.5**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=236,slow=6.6,SNR=8.5						
LPAZ	**La Paz**	**72.58**	**93**	P	**P**	**04 32 47.2**	**+0.5**
LPAZ				IAmb	IAmb	04 32 48.7	
	comp=Z,4.0nm,1.1s						
APG	**El Apazote**	**87.23**	**57**	LR	LR	05 02 26.3	
	comp=Z,20nm,18.9s,baz=288,slow=28						
BOSA	**Boshof**	**94.94**	**177**	LR	LR	05 13 48.8	
	comp=Z,30nm,19.0s,baz=73,slow=33						
H10N3	**ASCENSION HYDR**	**106.40**	**135**	T	T	06 35 15.4	
	baz=203,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**106.40**	**135**	T	T	06 35 15.7	
	baz=203,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**106.42**	**135**	T	T	06 35 19.5	
	baz=203,slow=75,SNR=10						
ILAR	**Eielson Array**	**121.21**	**2**	PKP	**PKiKP**	**04 40 10.2**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=215,slow=1.7,SNR=12						
ILAR	**Eielson Array**	**121.21**	**2**		**PKiKP**	**04 40 10.3**	**+0.2**
MKAR	**Makanchi Array**	**146.43**	**276**	PKPbc	**PKPab**	**04 40 59.4**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=120,slow=4.9,SNR=12						
MKAR	**Makanchi Array**	**146.43**	**276**		**PKPbc**	**04 40 59.0**	**+0.2**
NRN	**Naryn**	**146.44**	**263**		**PKPab**	**04 41 00.1**	**-0.2**
ZALV	**Zalesovo Beam**	**148.93**	**289**	PKPbc	**PKPbc**	**04 41 04.5**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=102,slow=2.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**148.93**	**289**		**PKPbc**	**04 41 05.3**	**0.0**
KK31	**Karatay Array**	**150.56**	**260**		**PKiKP**	**04 41 10.3**	**-0.1**
ESDC	**Sonseca Array**	**152.50**	**114**	PKPbc	**PKPbc**	**04 41 13.1**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=254,slow=1.7,SNR=4.8						

NEIC ***24*** *04:55:58.0±1.3, 13°.1N±0°.1×91°.67W±0°.08, h10km±3km*
GCG ***24*** *04:56:00.5±0.8, 13°.39N×91°.55W, h10km±45km, MD4.0*
SNET ***24*** *04:56:03.3±0.7, 13°.59N×91°.41W, h14km±4km, ML3.6*
MEX ***24*** *04:56:05.1±0.4, 13°.61N×91°.34W, h19km±14km, MD4.3*
ISC 24 04:56:02.1±3.3,**13°.6N**±0°.1×**91°.47W**±0°.06,**h14**km±18km, **n24,** σ1°**17**/31,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.07**	**34**	*e*P	**Pn**	**04 56 23.8**	**+0.8**
STG3	**Santiaguito 3,**	**1.15**	**355**	*e*P	**Pb**	**04 56 24.3**	**+0.4**
IXG	**Ixpaco**	**1.17**	**58**	*e*P	**Pb**	**04 56 24.3**	**0.0**
IXG	**Ixpaco**	**1.17**	**58**	*e*P	**Pb**	**04 56 23.4**	**-0.9**
NBG	**Las Nubes**	**1.50**	**47**	*e*P	**Pb**	**04 56 30.4**	**+0.6**
NBG				*e*S	**Sg**	**04 56 49.7**	**-0.6**
THIG		**1.55**	**330**	*e*P	**Pn**	**04 56 29.2**	**-0.1**
THIG				*i* S	**Sn**	**04 56 47.3**	**-1.9**
THIG		**1.55**	**330**		**Pn**	**04 56 29.2**	**-0.1**
CEVE	**Cerro Verde**	**1.81**	**81**	*e*P	**Pn**	**04 56 33.5**	**+0.3**
CEVE				*e*S	**Sb**	**04 56 57.6**	**-0.4**
CEVE				IAML		04 56 59.6	
	comp=Z,995nm,0.3s						
SBLS	**San Blas**	**1.82**	**81**	*e*P	**Pn**	**04 56 33.4**	**+0.2**
SNJE	**San Jose**	**1.84**	**80**	*e*P	**Pn**	**04 56 33.5**	**0.0**
UNIC	**Universidad Ca**	**1.91**	**77**	*e*P	**Pn**	**04 56 34.9**	**+0.5**
UEES	**Universidad Ev**	**2.17**	**86**	IAML		04 57 08.6	
	comp=Z,366nm,0.2s						
SNET	**Serv Nac Est T**	**2.18**	**86**	Pn	**Pn**	**04 56 38.1**	**0.0**
SNET					**Sb**	**04 57 07.6**	**-0.8**
MTO3	**Montecristo**	**2.21**	**68**	*e*P	**Pn**	**04 56 39.6**	**+1.0**
MTO3				*e*S	**Sn**	**04 57 07.0**	**+1.1**
PAVA	**Las Pavas**	**2.47**	**86**	*e*P	**Pn**	**04 56 42.4**	**+0.3**
COEG	**Centro de Oper**	**2.52**	**88**	*e*S	**Sn**	**04 57 14.1**	**+0.8**
COEG				IAML		04 57 23.8	
	comp=Z,227nm,0.5s						
PCIG		**2.73**	**322**	*e*P	**Pn**	**04 56 45.6**	**+0.1**
PCIG				*i* S	**Sn**	**04 57 17.2**	**-1.1**
PCIG		**2.73**	**322**		**Pn**	**04 56 45.6**	**+0.1**
CCIG	**Comitan**	**2.79**	**347**	*e*P	**Pn**	**04 56 46.3**	**-0.2**
CCIG				*i* S	**Sn**	**04 57 18.0**	**-2.1**
CCIG	**Comitan**	**2.79**	**347**		**Pn**	**04 56 49.5**	**+3.0**
CCIG	**Comitan**	**2.79**	**347**	Pn	**Pn**	**04 56 49.0**	**+2.5**
TGUH	**Tegucigalpa,Un**	**4.11**	**83**	Pn	**Pn**	**04 57 04.9**	**+0.2**
CMIG	**Matias Romero**	**4.82**	**317**	*e*P	**Pn**	**04 57 16.0**	**+1.7**
CMIG				*i* S	**Sn**	**04 58 10.2**	**+0.2**
CMIG	**Matias Romero**	**4.82**	**317**		**Pn**	**04 57 16.0**	**+1.7**

ISK ***24*** *04:56:38.9, 35°.22N×27°.70E, h6km, ML3.7/31*
IDC ***24*** *04:56:39.1±0.9, 35°.48N×27°.56E, h0km, mb3.9/15, mb1 4.0/19, mb1mx3.8/52, mbtmp3.8/19, ML3.2/3, MS3.3/4, Ms1 3.2/4, ms1mx2.8/38, Error ellipse: s-maj=20.9km s-min=15.5km az=172.0*
NIC ***24*** *04:56:39.0±0.0, 35°.22N×27°.68E, h0km±1km, Ml3.8/4*
DDA ***24*** *04:56:40.6, 35°.24N×27°.54E, h38km±4km, MW3.9*
ATH ***24*** *04:56:40.7, 35°.33N×27°.68E, h19km±1km, ML3.5/5, Error ellipse: s-maj=3.3km s-min=1.5km az=315.0*
ISCJB ***24*** *04:56:41.6±0.6, 35°.23N±0°.02×27°.72E±0°.02, h24km±5km, mb3.8/15, MS3.9/3, Error ellipse: s-maj=3.3km s-min=2.3km az=0.4*
NEIC ***24*** *04:56:42.1±2.6, 35°.24N±0°.06×27°.57E±0°.05, h11km±2km*
HLW ***24*** *04:56:42.6, 35°.25N×27°.84E, h22km±13km, Ml3.9*
THE ***24*** *04:56:42.9, 35°.33N×27°.62E, h4km±2km, ML3.6/4, Error ellipse: s-maj=2.7km s-min=1.3km az=345.0*
ISC 24 04:56:41.7±0.8,**35°.24N**±0°.03×**27°.64E**±0°.02,**h19**km±3km, **n216,** σ1°**84**/266,**mb3.9**/18,**MS3.7**/3,**16C-4D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.49**	**308**	P	**Pg**	**04 56 50.1**	**-1.6**
KARP				S	**Sb**	**04 56 58.9**	**+0.3**
	8μm,0.3s						
KARP	**Karpathos**	**0.49**	**308**	P	**Pg**	**04 56 50.1**	**-1.6**
KARP				S	**Sg**	**04 56 57.6**	**-0.9**
KARP				AML	AML	04 56 59.8	
	comp=N,15805μm,0.4s						
KARP				AML	AML	04 57 02.4	
	comp=E,16444μm,0.3s						
KARP	**Karpathos**	**0.49**	**308**	PG	**Pg**	**04 56 49.3**	**-2.4**
KARP				SG	**Sb**	**04 56 58.7**	**+0.1**
KARP	**Karpathos**	**0.49**	**308**	⇑P	**Pg**	**04 56 50.1**	**-1.6**
KARP				S	**Sb**	**04 56 58.9**	**+0.3**
KARP				AML	AML	04 56 59.2	
	comp=E,16nm,0.4s						
KARP				AML	AML	04 56 59.2	
	comp=E,16nm,0.4s						
KARP				AML	AML	04 57 01.8	
	comp=E,16nm,0.3s						
KARP				AML	AML	04 57 01.8	
	comp=E,16nm,0.3s						
KARP	**Karpathos**	**0.49**	**308**		**Pg**	**04 56 50.1**	**-1.6**
ZKR	**Zakros**	**1.17**	**264**	P	**Pb**	**04 57 03.3**	**+0.1**
ZKR				S	**Sg**	**04 57 22.1**	**+2.4**
ZKR	**Zakros**	**1.17**	**264**	P	**Pn**	**04 57 03.1**	**+0.1**
ZKR				S	**Sg**	**04 57 21.1**	**+1.5**
ZKR				AML	AML	04 57 28.5	
	comp=N,2766μm,0.5s						
ZKR				AML	AML	04 57 32.5	
	comp=E,4957μm,0.8s						
ZKR	**Zakros**	**1.17**	**264**	PN	**Pn**	**04 57 03.1**	**+0.1**
ZKR				SN	**Sg**	**04 57 20.1**	**+0.4**
ZKR	**Zakros**	**1.17**	**264**	⇑P	**Pn**	**04 57 03.1**	**+0.1**
ZKR				AML	AML	04 57 32.5	
	comp=E,5.1nm,0.8s						
STIA	**Sitia Lasithi**	**1.27**	**269**	P	**Pb**	**04 57 04.9**	**+0.1**
STIA				S	**Sg**	**04 57 22.6**	**-0.1**
NISR	**Nisiros**	**1.43**	**343**	P	**Pb**	**04 57 07.1**	**-0.5**
NISR				S	**Sb**	**04 57 25.3**	**-0.2**
NISR	**Nisiros**	**1.43**	**343**	P	**Pn**	**04 57 06.8**	**+0.3**
NISR				S	**Sb**	**04 57 25.2**	**-0.2**
NISR				AML	AML	04 57 37.7	
	comp=N,2626μm,0.7s						
NISR				AML	AML	04 57 44.2	
	comp=E,3268μm,0.9s						
DAT	**Datca**	**1.49**	**358**	*i* PA	**Pn**	**04 57 06.9**	**-0.5**
DAT				*i* S	**Sn**	**04 57 26.6**	**+0.3**
DAT				IAML		04 57 30.0	
	comp=E,408nm,0.5s						
DAT				IAML		04 57 31.0	
	comp=N,301nm,0.6s						
DAT	**Datca**	**1.49**	**358**	PN	**Pn**	**04 57 06.9**	**-0.5**
DAT				SN	**Sb**	**04 57 27.4**	**+0.2**
MRSB	**Marmaris-Mugla**	**1.54**	**17**	PN	**Pn**	**04 57 08.0**	**-0.1**
FRMA	**Ierapetra Chan**	**1.57**	**262**	P	**Pn**	**04 57 09.2**	**+0.7**
KOSK	**Kos Island**	**1.60**	**341**	P	**Pb**	**04 57 10.5**	**0.0**
NPS	**Neapolis**	**1.66**	**271**	P	**Pb**	**04 57 12.2**	**+0.7**
NPS				S	**Sb**	**04 57 31.6**	**-0.4**
	comp=N,2μm,0.9s						
NPS	**Neapolis**	**1.66**	**271**	P	**Pb**	**04 57 12.2**	**+0.7**
NPS				AML	AML	04 57 46.1	
	comp=N,3031μm,0.8s						
NPS				AML	AML	04 57 50.8	
	comp=E,3149μm,0.8s						
DALY	**Dalyan (Mula)**	**1.78**	**27**	*i* P	**Pb**	**04 57 12.6**	**-1.0**
DALY				*i* S	**Sg**	**04 57 37.8**	**-1.2**
DALY				IAML		04 57 49.0	
	comp=N,510nm,0.8s						
DALY				IAML		04 57 49.0	
	comp=E,379nm,0.8s						
DALY	**Dalyan (Mula)**	**1.78**	**27**	PN	**Pn**	**04 57 11.6**	**+0.3**
TURN	**Turunc**	**1.81**	**25**	*i* PA	**Pn**	**04 57 11.4**	**-0.3**
TURN				*i* S	**Sn**	**04 57 31.6**	**-2.4**
TURN				IAML		04 57 34.0	
	comp=N,494nm,1.0s						
TURN				IAML		04 58 14.0	
	comp=E,1μm,2.2s						
TURN	**Turunc**	**1.81**	**25**	PN	**Pn**	**04 57 08.9**	**-2.8**
TURN				SN	**Sn**	**04 57 30.9**	**-3.2**
FETY	**Fethiye**	**1.82**	**40**	P	**Pn**	**04 57 12.2**	**+0.3**
FETY	**Fethiye**	**1.82**	**40**	*i* PA	**Pn**	**04 57 12.4**	**+0.5**
FETY				*i* S	**Sg**	**04 57 43.7**	**+3.2**
FETY				IAML		04 57 50.0	
	comp=N,127nm,0.9s						
FETY				IAML		04 57 50.0	
	comp=E,151nm,0.7s						
FETY	**Fethiye**	**1.82**	**40**	PN	**Pn**	**04 57 10.9**	**-1.0**
KSL	**Kastellorizon**	**1.83**	**60**	P	**Pn**	**04 57 12.5**	**+0.5**
KSL	**Kastellorizon**	**1.83**	**60**	P	**Pn**	**04 57 12.5**	**+0.5**
KSL				AML	AML	04 57 53.3	
	comp=E,749μm,1.1s						
KSL				AML	AML	04 58 04.7	
	comp=N,620μm,1.1s						
KSL	**Kastellorizon**	**1.83**	**60**	⇑P	**Pn**	**04 57 12.4**	**+0.4**
KSL				S	**Sb**	**04 57 36.6**	**-0.3**
BODT	**Bodrum**	**1.84**	**352**	P	**Pn**	**04 57 12.3**	**+0.2**
BODT	**Bodrum**	**1.84**	**352**	PN	**Pn**	**04 57 11.9**	**-0.2**
AKAS	**Kas**	**1.88**	**58**	*i* PA	**Pn**	**04 57 13.8**	**+0.9**
AKAS				*i* S	**Sb**	**04 57 38.0**	**-0.7**
AKAS				IAML		04 58 06.0	
	comp=N,235nm,0.7s						
AKAS				IAML		04 58 08.0	
	comp=E,134nm,1.1s						
AKAS	**Kas**	**1.88**	**58**	PN	**Pn**	**04 57 13.0**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.90**	**351**	PN	**Pn**	**04 57 13.1**	**+0.1**
YER	**Yerkesik**	**1.96**	**15**	P	**Pn**	**04 57 15.1**	**+1.2**
YER				S	**Sn**	**04 57 37.0**	**-1.0**
YER	**Yerkesik**	**1.96**	**15**	PN	**Pb**	**04 57 15.4**	**-1.4**
MLSB	**Milas**	**2.05**	**3**	PN	**Pn**	**04 57 15.1**	**0.0**
HRKL	**Herakleio**	**2.07**	**273**	P	**Pb**	**04 57 17.6**	**-1.0**
HRKL				S	**Sn**	**04 57 42.4**	**+1.8**
	comp=E,2μm,0.8s						
SANT	**Santorini**	**2.10**	**303**	P	**Pn**	**04 57 17.0**	**+1.2**
SANT	**Santorini**	**2.10**	**303**	P	**Pn**	**04 57 16.7**	**+1.0**
SANT	**Santorini**	**2.10**	**303**	⇓P	**Pn**	**04 57 16.9**	**+1.1**
SANT				AML	AML	04 57 23.3	
SANT				⇓S	**Sn**	**04 57 43.2**	**+1.8**
SANT	**Santorini**	**2.10**	**303**

APE				AML	AML	04 57 59.8	
APE	**Apeiranthos**	**2.50**	**318**	PN	**Pn**	**04 57 21.3**	**0.0**
APE	**Apeiranthos**	**2.50**	**318**	P	**Pn**	**04 57 21.2**	**0.0**
APE				S	**Sb**	**04 57 55.9**	**-0.3**
GOLH	**Golhisar**	**2.53**	**37**	*i* PA	**Pn**	**04 57 23.4**	**+1.7**
GOLH				*i* S	**Sb**	**04 57 57.5**	**+0.3**
GOLH				IAML		04 58 16.0	
	comp=N,328nm,0.8s						
GOLH				IAML		04 58 55.0	
	comp=E,107nm,2.9s						
SMG	**Samos**	**2.55**	**346**	P	**Pn**	**04 57 22.1**	**+0.3**
SMG	**Samos**	**2.55**	**346**	P	**Pn**	**04 57 22.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**4**	PN	**Pn**	**04 57 24.5**	**+0.3**
KORT	**Korkueli**	**2.81**	**51**	*i* PA	**Pn**	**04 57 27.4**	**+1.7**
KORT				*i* S	**Sn**	**04 58 02.1**	**+3.0**
KORT				IAML		04 58 06.0	
	comp=E,140nm,1.0s						
KORT				IAML		04 58 46.0	
	comp=N,105nm,0.9s						
KORT	**Korkueli**	**2.81**	**51**	PN	**Pn**	**04 57 25.3**	**-0.4**
VAM	**Vamos**	**2.81**	**274**	P	**Pn**	**04 57 27.9**	**+2.3**
VAM	**Vamos**	**2.81**	**274**	P	**Pb**	**04 57 28.5**	**-2.8**
DGB	**zmir**	**2.87**	**348**	*i* P	**Pn**	**04 57 26.5**	**+0.2**
DGB				*i* S	**Sn**	**04 58 00.1**	**-0.2**
DGB				IAML		04 58 24.0	
	comp=N,47nm,0.8s						
DGB				IAML		04 58 32.0	
	comp=E,64nm,1.4s						
GVD	**Gavdhos**	**2.94**	**263**	P	**Pn**	**04 57 30.0**	**+2.7**
GVD	**Gavdhos**	**2.94**	**263**	P	**Pb**	**04 57 30.6**	**-2.8**
GVD	**Gavdhos**	**2.94**	**263**	PN	**Pn**	**04 57 29.5**	**+2.2**
IMMV	**Iera Moni Meta**	**3.00**	**275**	P	**Pn**	**04 57 30.6**	**+2.6**
IMMV	**Iera Moni Meta**	**3.00**	**275**	P	**Pn**	**04 57 31.0**	**+3.0**
IMMV	**Iera Moni Meta**	**3.00**	**275**	PN	**Pn**	**04 57 28.6**	**+0.6**
RODP	**Rodopos**	**3.18**	**277**	P	**Pn**	**04 57 33.6**	**+2.9**
URLA	**Izmir**	**3.22**	**345**	*e*P	**Pn**	**04 57 32.1**	**+0.8**
URLA				IAML		04 58 34.0	
	comp=E,43nm,1.1s						
URLA				IAML		04 58 46.0	
	comp=N,52nm,1.0s						
URLA	**Izmir**	**3.22**	**345**	PN	**Pn**	**04 57 31.5**	**+0.3**
BCK	**Bucak**	**3.25**	**46**	PN	**Pn**	**04 57 32.9**	**+1.2**
MANT	**Manisa**	**3.33**	**13**		**Pn**	**04 57 34.8**	**+2.0**
KULA	**Kula-Manisa**	**3.37**	**14**	P	**Pn**	**04 57 34.0**	**+0.7**
KULA	**Kula-Manisa**	**3.37**	**14**	PN	**Pn**	**04 57 33.3**	**0.0**
CHOS	**Chios island**	**3.39**	**338**	PN	**Pn**	**04 57 34.4**	**+0.9**
KHAL	**Karahalli**	**3.46**	**25**	*i* P	**Pn**	**04 57 34.8**	**+0.3**
KHAL				IAML		04 58 38.0	
	comp=N,56nm,1.8s						
KHAL				IAML		04 58 39.0	
	comp=E,28nm,0.6s						
ISP	**Isparta**	**3.47**	**41**	P	**Pn**	**04 57 36.0**	**+1.3**
ISP	**Isparta**	**3.47**	**41**	⇑P	**Pn**	**04 57 35.7**	**+1.0**
ISP	**Isparta**	**3.47**	**41**		**Pn**	**04 57 37.7**	**+3.0**
KEPZ	**Antalya-Kepez**	**3.62**	**62**	*i* P	**Pn**	**04 57 37.9**	**+1.3**
KEPZ				*i* S	**Sn**	**04 58 19.0**	**+0.2**
KEPZ				IAML		04 58 26.0	
	comp=E,43nm,0.7s						
KEPZ				IAML		04 58 36.0	
	comp=N,55nm,0.6s						
AKHS	**Akhisar**	**3.63**	**2**	*i* P	**Pn**	**04 57 36.9**	**0.0**
AKHS				*i* S	**Sn**	**04 58 19.3**	**+0.1**
AKHS				IAML		04 58 33.0	
	comp=N,0.2nm,0.7s						
AKHS				IAML		04 58 47.0	
	comp=E,36nm,1.1s						
USAK	**Uak-Merkez**	**3.64**	**17**	*i* P	**Pn**	**04 57 37.0**	**+0.1**
USAK				IAML		04 58 48.0	
	comp=E,39nm,1.3s						
USAK				IAML		04 59 48.0	
	comp=N,25nm,2.5s						
KTHA	**Kythira Island**	**3.85**	**287**	P	**Pn**	**04 57 42.0**	**+2.1**
KTHA	**Kythira Island**	**3.85**	**287**	PN	**Pn**	**04 57 41.1**	**+1.2**
AKMS	**Akamas**	**3.86**	**92**	P	**Pn**	**04 57 39.0**	**-0.9**
AKMS				S	**Sn**	**04 58 27.3**	**+2.6**
AKMS				AML	AML	04 58 37.1	
	comp=N,0.6nm,0.6s						
AKMS				AML	AML	04 58 37.1	
	comp=N,0.6nm,0.6s						
DKL	**Dikili**	**3.87**	**352**	PN	**Pn**	**04 57 40.9**	**+0.9**
DEMI	**Demirci**	**3.89**	**12**	*i* P	**Pn**	**04 57 40.2**	**-0.2**
DEMI				*i* S	**Sn**	**04 58 24.9**	**-0.8**
DEMI				IAML		04 58 31.0	
	comp=E,55nm,0.9s						
DEMI				IAML		04 58 32.0	
	comp=N,38nm,0.7s						
KTHR	**Kythira**	**3.90**	**286**	P	**Pn**	**04 57 43.1**	**+2.6**
GAZI	**Gazipasa**	**3.93**	**74**	*i* PA	**Pn**	**04 57 40.9**	**-0.1**
GAZI				*i* S	**Sn**	**04 58 22.2**	**-4.4**
GAZI				IAML		04 58 33.0	
	comp=E,66nm,0.7s						
GAZI				IAML		04 58 36.0	
	comp=N,53nm,0.6s						
GAZI	**Gazipasa**	**3.93**	**74**	PN	**Pn**	**04 57 40.8**	**-0.2**
SIMA	**Simav-Kutahya**	**3.98**	**15**	PN	**Pn**	**04 57 41.6**	**-0.1**
SHUT	**Suhut-Afyon**	**4.05**	**34**	PN	**Pn**	**04 57 43.3**	**+0.7**
GEDZ	**Gediz**	**4.05**	**20**	PN	**Pn**	**04 57 43.1**	**+0.4**
ALFC	**Alefka**	**4.07**	**90**	⇑P	**Pn**	**04 57 41.9**	**-0.9**
ALFC				S	**Sn**	**04 58 31.8**	**+1.9**
ALFC				AML	AML	04 58 38.6	
	comp=N,0.5nm,0.6s						
ALFC				AML	AML	04 58 38.6	
	comp=N,0.5nm,0.6s						
ALFC				AML	AML	04 58 41.8	
	comp=N,0.6nm,0.5s						
ALFC				AML	AML	04 58 41.8	
	comp=N,0.6nm,0.5s						
NATA	**Nata**	**4.08**	**95**	P	**Pn**	**04 57 42.5**	**-0.4**
SIGR	**SIGRI**	**4.21**	**341**	PN	**Pn**	**04 57 46.2**	**+1.5**
SLUM	**Salum**	**4.25**	**209**	P	**Pn**	**04 57 47.1**	**+1.8**
	baz=212						
SLUM				S	**Sn**	**04 58 31.0**	**-3.4**
	baz=212						
LEF	**Lefka**	**4.31**	**90**	⇑P	**Pn**	**04 57 47.9**	**+1.8**
LEF				AML	AML	04 58 13.7	
LEF	**Lefka**	**4.31**	**90**	PN	**Pn**	**04 57 44.9**	**-1.2**
SZAC	**Souni**	**4.33**	**95**	P	**Pn**	**04 57 46.6**	**+0.1**
SZAC				S	**Sn**	**04 58 39.0**	**+2.5**
BALB	**Balikesir**	**4.40**	**2**	PN	**Pn**	**04 57 48.4**	**+1.1**
TEKE	**Tekeli-Mersin**	**4.55**	**77**	PN	**Pn**	**04 57 49.6**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**4.58**	**349**	*i* P	**Pn**	**04 57 50.2**	**+0.4**
BAYC				*i* S	**Sn**	**04 58 41.5**	**-0.8**
BAYC				IAML		04 58 54.0	
	comp=N,13nm,0.6s						
BAYC				IAML		04 59 30.0	
	comp=E,13nm,2.4s						
ASGA	**Asgata**	**4.63**	**94**	P	**Pn**	**04 57 49.8**	**-0.7**
KONT	**Konya--Tatoy**	**4.66**	**53**	PN	**Pn**	**04 57 52.0**	**+1.0**
CSS	**Mathiatis**	**4.68**	**92**	PN	**Pn**	**04 57 50.5**	**-0.7**
CSS	**Mathiatis**	**4.68**	**92**	⇑P	**Pn**	**04 57 50.9**	**-0.3**
CSS				S	**Sn**	**04 58 48.1**	**+3.2**
CSS	**Mathiatis**	**4.68**	**92**		**Pn**	**04 57 54.4**	**+3.2**
LADK	**Ladik-KONYA**	**4.81**	**51**	PN	**Pn**	**04 57 54.3**	**+1.2**
TEVE	**Tevekalti-Mers**	**4.87**	**74**	PN	**Pn**	**04 57 53.9**	**+0.1**
AKKU	**Akkuyu-Mersin**	**4.90**	**78**	PN	**Pn**	**04 57 54.9**	**+0.7**
ITM	**Ithomi**	**5.00**	**294**	PN	**Pn**	**04 57 57.7**	**+2.0**
ITM	**Ithomi**	**5.00**	**294**		**Pn**	**04 57 57.0**	**+1.3**
IKL	**Isikli**	**5.02**	**77**	PN	**Pn**	**04 57 56.5**	**+0.6**
KEBE	**Keben-Mersin**	**5.08**	**75**	PN	**Pn**	**04 57 57.8**	**+1.0**
AGG	**Agios Georgios**	**5.67**	**313**		**Pn**	**04 58 07.4**	**+2.5**
HNAT	**Natroun**	**6.13**	**155**	P	**Pn**	**04 58 11.8**	**+0.6**
	baz=156						
HNAT				AMP		04 59 00.0	
	baz=156						
HNAT				S	**Sn**	**04 59 15.2**	**-5.6**
	baz=156						
BR231	**Keskin MP Arra**	**6.14**	**40**	Pn	**Pn**	**04 58 14.5**	**+3.0**
ANTO	**Ankara**	**6.17**	**40**	Pn	**Pn**	**04 58 13.3**	**+1.5**
SWA2		**6.26**	**198**	P	**Pn**	**04 58 14.6**	**+1.7**
	baz=200						
SWA2				S	**Sn**	**04 59 21.8**	**-2.0**
	baz=200						
LIT	**Litokhoron**	**6.34**	**321**	Pn	**Pn**	**04 58 16.0**	**+2.0**
BR131	**Keskin Array S**	**6.54**	**45**		**Pn**	**04 58 18.4**	**+1.5**
BRTR	**Keskin Array B**	**6.54**	**45**	Pn	**Pn**	**04 58 16.9**	**0.0**
	comp=E,0.4nm,0.3s,baz=217,slow=15,SNR=25						
BRTR				Sn	**Sn**	**04 59 31.4**	**+0.4**
	comp=E,0.1nm,0.3s,baz=220,slow=22,SNR=12						
BRTR	**Keskin Array B**	**6.54**	**45**	Pn	**Pn**	**04 58 18.1**	**+1.2**
MMAI	**Mount Meron Ar**	**6.81**	**107**	Pn	**Pn**	**04 58 20.2**	**-0.3**
	baz=310,slow=11,SNR=2.5						
MMAI				Sn	**Sn**	**04 59 35.8**	**-1.8**
	comp=E,1.2nm,0.3s,baz=297,slow=27,SNR=2.4						
NBNS	**Bani Suef**	**7.29**	**154**	P	**Pn**	**04 58 28.5**	**+1.4**
	baz=155						
NBNS				S	**Sn**	**04 59 46.7**	**-2.7**
	baz=155						
NBNS				AMP		05 00 00.0	
	baz=155						
FNA	**Florina**	**7.42**	**320**		**Pn**	**04 58 30.6**	**+1.7**
HFRF	**Wahat Farafira**	**8.09**	**176**	P	**Pn**	**04 58 38.8**	**+0.7**
	baz=177						
HFRF				AMP		05 00 00.0	
	baz=177						
HFRF				S	**Sn**	**05 00 03.1**	**-5.8**
	baz=177						
VTS	**Vitosha**	**8.12**	**336**	⇑P	**Pn**	**04 58 41.6**	**+3.0**
VTS	**Vitosha**	**8.12**	**336**		**Pn**	**04 58 40.5**	**+1.9**
EIL	**Elat**	**8.31**	**130**	Pn	**Pn**	**04 58 42.3**	**+1.2**
	comp=E,0.9nm,0.3s,baz=290,slow=4.3,SNR=9.4						
EIL				Sn	**Sn**	**05 00 09.9**	**-4.5**
	comp=E,1.2nm,0.3s,baz=49,slow=19,SNR=3.7						
EIL				LR	LR	05 03 09.1	
	comp=E,34nm,18.0s,baz=307,slow=46						
TIRR	**Tirgusor**	**9.22**	**3**	Pn	**Pn**	**04 58 55.1**	**+1.6**
MLR	**Muntele Rosu**	**10.32**	**353**	Pn	**Pn**	**04 59 12.4**	**+3.7**
	comp=E,0.1nm,0.3s,baz=178,slow=8.4,SNR=4.7						
MLR	**Muntele Rosu**	**10.32**	**353**	⇑P	**Pn**	**04 59 12.1**	**+3.4**
MLR	**Muntele Rosu**	**10.32**	**353**		**Pn**	**04 59 11.2**	**+2.5**
VOIR		**10.37**	**350**	⇑P	**Pn**	**04 59 13.3**	**+3.9**
HERR	**Herculane**	**10.42**	**339**	⇓P	**Pn**	**04 59 13.4**	**+3.4**
PLOR	**Plostina**	**10.63**	**356**	⇓P	**Pn**	**04 59 17.3**	**+4.5**
VRI	**Vrincioaia**	**10.64**	**357**	⇑P	**Pn**	**04 59 17.3**	**+4.4**
GZR	**Gura Zlata**	**10.79**	**341**	⇑P	**Pn**	**04 59 19.1**	**+4.0**
TESR	**Tescani**	**11.29**	**357**	⇑P	**Pn**	**04 59 25.6**	**+3.9**
BZS	**Buzias**	**11.33**	**338**	⇑P	**Pn**	**04 59 24.4**	**+2.1**
KOLS	**Kolonicke sedl**	**14.24**	**345**	*e*PN	**P**	**05 00 11.1**	**+1.7**
GNI	**Garni**	**14.40**	**65**	Pn	**Pn**	**05 00 06.5**	**+2.0**
KIV	**Kislovodsk**	**14.49**	**49**	Pn	**Pn**	**05 00 07.0**	**+1.3**
KBZ	**Khabaz**	**14.50**	**50**	Pn	**P**	**05 00 13.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=227,slow=6.4,SNR=22						
VYHS	**Vyhne**	**14.76**	**336**	*e*PN	**P**	**05 00 14.0**	**-1.1**
SOKA	**Soboth**	**14.85**	**324**	*e*P	**P**	**05 00 17.8**	**+1.6**
	comp=E,5.7nm,1.0s						
KEST	**Kesra**	**14.91**	**277**	Pn	**P**	**05 00 16.7**	**-0.2**
	comp=E,0.2nm,0.3s,baz=66,slow=1.3,SNR=4.7						
AKASG	**Malin Array Be**	**15.50**	**4**	Pn	**P**	**05 00 21.6**	**-1.7**
	comp=E,0.8nm,0.3s,baz=194,slow=11,SNR=4.6						
OJC	**Ojcow**	**16.02**	**341**	P	**P**	**05 00 31.3**	**+2.1**
OJC				IAmb	IAmb	05 00 37.8	
	comp=Z,10nm,1.1s						
ABTA	**Abfaltersbach**	**16.17**	**320**	P	**P**	**05 00 30.3**	**-0.6**
	comp=Z,4.0nm,0.7s						
CTI	**Castel Tesino**	**16.21**	**317**	P	**P**	**05 00 34.4**	**+3.0**
CTI				IAmb	IAmb	05 00 36.7	
	comp=Z,11nm,1.0s						
VRAC	**Vranoy**	**16.23**	**333**	Pn	**P**	**05 00 30.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=160,slow=9.8,SNR=5.1						
WTTA	**Wattenberg**	**16.96**	**320**	pP	**P**	**05 00 43.5**	**+3.8**
	comp=Z,8.6nm,1.0s						
WATA	**Walderalm**	**17.04**	**320**	P	**P**	**05 00 42.0**	**+1.5**
	comp=Z,8.4nm,0.9s						
GEC2	**GERESS Array S**	**17.05**	**327**	P	**P**	**05 00 43.0**	**+2.4**
GERES	**GERESS Array B**	**17.05**	**327**	Pn	**Pn**	**05 00 37.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=140,slow=12,SNR=2.7						
GERES				LR	LR	05 07 35.1	
	comp=Z,116nm,18.3s,baz=33,slow=39						
GERES	**GERESS Array B**	**17.05**	**327**	P	**P**	**05 00 43.2**	**+2.6**
SQTA	**Sankt Quirin**	**17.16**	**319**	pP	**P**	**05 00 46.6**	**+4.7**
	comp=Z,3.9nm,0.6s						
DPC	**Dobruska-Polom**	**17.20**	**335**	*e*P	**P**	**05 00 44.4**	**+2.2**
MOTA	**Moosalm**	**17.29**	**319**	pP	**P**	**05 00 46.4**	**+3.0**
	comp=Z,4.1nm,0.9s						
FETA	**Feichten**	**17.30**	**318**	Pn	**P**	**05 00 44.7**	**+1.2**
	comp=Z,5.5nm,0.8s						
KHC	**Kasperske Hory**	**17.31**	**328**	*e*P	**Pn**	**05 00 42.0**	**-0.1**
KHC				epP	**pP**	**05 00 46.1**	**-2.5**
GOPC	**GO Pecny, Ondr**	**17.41**	**331**	*e*P	**P**	**05 00 46.8**	**+2.3**
PBCC	**Pribram**	**17.55**	**329**	*e*P	**P**	**05 00 48.3**	**+2.2**
PRU	**Pruhonice**	**17.57**	**331**	*e*P	**P**	**05 00 47.9**	**+1.7**
PRU				epP	**pP**	**05 00 51.2**	**-0.1**
DAVOX	**Davos/Dischmat**	**17.63**	**316**	P	**P**	**05 00 48.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=132,slow=14,SNR=3.1						
DAVA	**Damuels**	**17.92**	**318**	Pn	**P**	**05 00 53.0**	**+2.7**
	comp=Z,7.3nm,1.1s						
BRG	**Berggiesshubel**	**18.50**	**332**	*e*P	**Pn**	**05 01 00.3**	**+3.6**
	comp=Z,23nm,1.7s						
SENIN	**Lac Senin/Sane**	**18.93**	**312**	P	**Pn**	**05 01 02.6**	**+0.5**
SENIN				IAmb	IAmb	05 01 29.1	
	comp=Z,15nm,1.4s						
CLL	**Collm**	**19.21**	**331**	*e*(P)	**Pn**	**05 01 08.0**	**+2.7**
ESDC	**Sonseca Array**	**25.40**	**289**	P	**P**	**05 02 07.7**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=82,slow=9.9,SNR=13						
ESDC	**Sonseca Array**	**25.40**	**289**	IAmb	IAmb	05 02 08.8	
	comp=Z,2.7nm,1.4s						
FINES	**FINESS Array B**	**26.24**	**358**	P	**P**	**05 02 13.4**	**-1.7**
	comp=Z,3.2nm,0.9s,baz=179,slow=9.5,SNR=4.6						
HFS	**Hagfors**	**26.50**	**344**	P	**P**	**05 02 15.6**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=137,slow=13,SNR=4.3						
AKTO	**Aktyubinsk**	**26.72**	**46**	P	**P**	**05 02 18.6**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=252,slow=7.6,SNR=6.1						
AKTO				LR	LR	05 17 16.3	
	comp=Z,94nm,20.1s,baz=330,slow=46						
ABKAR	**Akbulak array**	**27.47**	**49**	P	**P**	**05 02 29.5**	**+3.2**
NOA	**NORSAR Array B**	**27.88**	**343**	P	**P**	**05 02 27.3**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=144,slow=9.2,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**32.13**	**233**	P	**P**	**05 03 09.9**	**+2.0**
TOA0				IAmb	IAmb	05 03 42.3	
	comp=Z,19nm,1.9s						
TORD	**Torodi Ar. Bea**	**32.13**	**233**	P	**P**	**05 03 09.6**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=35,slow=8.4,SNR=10						
KK31	**Karatay Array**	**33.85**	**63**	P	**P**	**05 03 22.9**	**+0.1**
KK31				IAmb	IAmb	05 03 33.4	
	comp=Z,6.9nm,1.9s						
KKAR	**Karatay Array**	**33.85**	**63**	P	**P**	**05 03 23.7**	**+0.9**
ARCES	**ARCESS Array B**	**34.37**	**359**	P	**P**	**05 03 25.2**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=167,slow=8.3,SNR=3.0						
KSH	**Kashi**	**38.28**	**69**	P	**P**	**05 04 01.4**	**+0.5**
KSH				sP	sP	05 04 08.4	-0.4
KSH				PP	**PnPn**	**05 05 31.0**	**+0.9**
KSH				S	**S**	**05 09 53.0**	**-1.1**
KSH				sS	pS	05 10 00.1	-0.5
KSH				SS	**SnSn**	**05 12 29.4**	**-10**
KSH				pmax	pmax		
	comp=Z,550nm,4.8s						
KSH				LR	LR		
	comp=N,430nm,13.6s						
KSH				LR	LR		
	comp=E,300nm,11.0s						
KSH				LR	LR		
	comp=Z,110nm,8.1s						
KURBB	**Kurchatov Arra**	**39.49**	**51**	P	**P**	**05 04 10.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=277,slow=8.9,SNR=2.7						
KURK	**Kurchatov**	**39.56**	**51**	P	**P**	**05 04 10.6**	**-0.6**
KURK	**Kurchatov**	**39.56**	**51**	IAmb	IAmb	05 04 38.1	
	comp=Z,2.5nm,1.0s						
MKAR	**Makanchi Array**	**42.04**	**57**	P	**P**	**05 04 32.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=270,slow=8.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**43.48**	**46**	P	**P**	**05 04 42.7**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=235,slow=6.8,SNR=3.1						
SONM	**Songino Array**	**57.86**	**51**	P	**P**	**05 06 33.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=284,slow=7.4,SNR=2.5						
SCHQ	**Schefferville**	**64.43**	**320**	P	**P**	**05 07 14.9**	**-1.5**
	comp=Z,3.9nm,0.6s,baz=59,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**77.98**	**343**	P	**P**	**05 08 36.6**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=27,slow=5.0,SNR=3.0						
ILAR	**Eielson Array**	**80.22**	**358**	P	**P**	**05 08 49.0**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=351,slow=4.1,SNR=3.6						
ULM	**Lac du Bonnet**	**81.36**	**327**	P	**P**	**05 08 55.5**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=54,slow=14,SNR=2.5						
BDFB	**Brasilia**	**87.62**	**249**	LR	LR	05 48 35.4	
	comp=Z,27nm,19.0s,baz=195,slow=36						
ASAR	**Alice Springs**	**116.07**	**102**	PKP	**PKiKP**	**05 15 25.6**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=286,slow=2.0,SNR=2.1						

*ISCJB **24** 05:10:11.8±0.6, 35°.22N±0°.05×77°.0E±0°.1, h10km, mb3.7/8, Error ellipse: s-maj=14.1km s-min=5.2km az=157.8*
*IDC **24** 05:10:11.6±1.1, 35°.15N×77°.06E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.6/43, mbtmp3.7/12, ML3.3/4, Error ellipse: s-maj=25.0km s-min=21.2km az=40.0*
*NNC **24** 05:10:16.5±3.3, 35°.79N×75°.06E, h5km±16km, mb4.2, mpv3.9, Error ellipse: s-maj=54.8km s-min=19.9km az=107.0*
*BJI **24** 05:10:18.4±0.0, 35°.49N×77°.21E, h7km, mb4.2/2, ML3.8/3, Ms3.5/1, Ms7 3.5/1*
ISC 24 05:10:13.8±0.8, 35°.22N±0°.07×77°.1E±0°.1, h10km, n29, σ2°53/29, mb3.9/8, 5C-5D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.38**	**349**	Pg	**Pn**	**05 11 24.4**	**+3.8**
KSH				Sn	**Sn**	**05 12 11.6**	**-0.2**
KSH				smax	smax		
	comp=N,340nm,0.8s						
KSH				smax	smax		
	comp=E,280nm,1.0s						
AAK	**Ala-Archa**	**7.68**	**346**	⇑Pg	Pb	05 12 21.6	-5.6
	3.8nm,0.6s						
AAK				⇓Lg	Lg	05 13 55.4	
	17nm,1.1s						
AAK	**Ala-Archa**	**7.68**	**346**	Pn	Pn	05 12 11.6	+5.7
	0.3nm,0.3s,baz=162,slow=15,SNR=3.1						
AAK				Pg	**Pb**	**05 12 28.7**	**+1.5**
	1.0nm,0.3s,baz=176,slow=6.4,SNR=7.9						
AAK				Lg	Lg	05 14 08.6	
	0.5nm,0.3s,baz=34,slow=14,SNR=4.0						
TKM2	**Tokmak 2**	**7.78**	**352**	⇓Pg	**Pb**	**05 12 26.8**	**-2.1**
	2.2nm,0.5s						
TKM2				⇑Lg	Lg	05 14 02.7	
	12nm,1.1s						
MDOK	**Medeo**	**7.94**	**360**	⇑Pn	**Pn**	**05 12 06.8**	**-2.6**
	5.0nm,0.8s						
MDOK				⇓Pg	**Pb**	**05 12 32.5**	**+1.0**
	11nm,0.8s						
MDOK				⇑Lg	Lg	05 14 17.6	
	37nm,1.2s						
PDGK	**Podgornoye**	**8.31**	**12**	⇓Sn	**Sn**	**05 13 51.4**	**+2.8**
	8.8nm,1.1s						
PDGK				⇑Lg	Lg	05 14 39.6	
	17nm,0.9s						
DANN	**Dangsing**	**8.89**	**139**	*e*P	**Pn**	**05 12 25.8**	**+3.2**
	14nm,0.3s						
KOLN	**Koldanda**	**9.27**	**141**	*e*P	Pn	05 12 32.8	+5.0
	8.9nm,0.4s						
KK31	**Karatay Array**	**9.38**	**329**	P	Pn	05 12 19.7	-9.4
	0.6nm,0.2s,baz=199,slow=15,SNR=27						
KK31				⇓S	Sn	05 13 35.6	-39
	1.1nm,0.4s,baz=198,slow=24,SNR=4.0						
DMN	**Daman**	**10.21**	**136**	*e*P	**Pn**	**05 12 42.4**	**+1.7**
	11nm,0.4s						
PKI	**Pulchoki**	**10.42**	**135**	*e*P	**Pn**	**05 12 46.3**	**+2.7**
	5.1nm,0.3s						
GUN	**Gumba**	**10.45**	**132**	*e*P	**Pn**	**05 12 45.1**	**+1.1**
	6.9nm,0.4s						
JIRN	**Jiri**	**10.82**	**132**	*e*P	**Pn**	**05 12 50.8**	**+1.7**
	19nm,0.4s						
RAMN	**Ramite**	**11.58**	**133**	*e*P	**Pn**	**05 13 01.1**	**+1.6**
	9.5nm,0.5s						
TAPN	**Taplejung**	**11.99**	**128**	*e*P	**Pn**	**05 13 05.5**	**+0.4**
	12nm,0.6s						
MK31	**Makanchi Array**	**12.21**	**17**	Pn	Pn	05 13 12.9	+5.1
MK31				Sn	**Sn**	**05 15 31.6**	**+7.6**
	4.5nm,0.9s,baz=202,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	**12.21**	**17**	Pn	**Pn**	**05 13 09.1**	**+1.3**
	0.3nm,0.3s,baz=199,slow=14,SNR=8.6						
MKAR				Sn	**Sn**	**05 15 18.9**	**-5.1**
	0.2nm,0.3s,baz=199,slow=21,SNR=4.1						
KURBB	**Kurchatov Arra**	**15.44**	**3**	Pn	**P**	**05 13 56.7**	**+0.6**
	0.1nm,0.3s,baz=194,slow=11,SNR=5.2						
BVAR	**Borovoye Array**	**18.43**	**347**	P	**Pn**	**05 14 29.9**	**+0.7**
	0.2nm,0.3s,baz=165,slow=12,SNR=6.2						
GTA	**Gaotai**	**18.54**	**70**	*e*P	**P**	**05 14 27.6**	**-3.1**
GTA				pP	Pn	05 14 31.0	+0.1
GTA				sP	pP	05 14 33.6	-1.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**19.50**	**14**	P	**Pn**	**05 14 41.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=209,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**25.14**	**51**	P	**P**	**05 15 39.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=245,slow=10,SNR=7.6						
FINES	**FINESS Array B**	**41.33**	**326**	P	**P**	**05 17 59.1**	**-0.2**
	comp=Z,1.0nm,0.4s,ba

comp=E,808μm,0.3s
NEST AML AML 05 18 32.5
comp=N,715μm,0.4s
ULC Ulcinj 1.09 305 *i* Pg **Pb 05 18 12.7 -1.1**
ULC Ulcinj 1.09 305 ⇓*i*Pg **Pg 05 18 12.8 -0.6**
ULC *i* Sg **Sn 05 18 30.2 +0.3**
TPE Tepelena 1.10 198 P **Pb 05 18 12.7 -1.2**
TPE S **Sn 05 18 30.2 +0.2**
VLO Vlora 1.14 220 P **Pb 05 18 13.8 -0.7**
VLO S **Sn 05 18 30.7 -0.2**
PENT Pentalofos 1.26 155 P **Pb 05 18 16.3 -0.4**
PENT S **Sg 05 18 35.2 +2.3**
comp=N,240nm,0.5s
PENT Pentalofos 1.26 155 P **Pb 05 18 16.2 -0.5**
DRME Dracevica, Mon 1.27 312 ⇓*i*Pn **Pg 05 18 16.2 -0.4**
DRME Dracevica, Mon 1.27 312 ⇓*i*Pg **Pg 05 18 16.4 -0.2**
DRME *i* Sg **Sg 05 18 36.4 +3.3**
PVY Plav 1.30 344 ⇓*i*Pg **Pg 05 18 17.5 +0.2**
PVY *i* Sg **Sg 05 18 38.1 +3.9**
STIP Stip 1.35 74 *e*Pn **Pg 05 18 21.6 +3.4**
STIP *i* Sg **Sg 05 18 43.6 +7.9**
PDG Podgorica 1.40 321 *e*Pg **Pg 05 18 19.5 +0.2**
PDG *e*Sg **Sg 05 18 42.8 +5.3**
PDG Podgorica 1.40 321 ⇓*i*Pn **Pg 05 18 18.7 -0.6**
PDG Podgorica 1.40 321 ⇓P **Pg 05 18 18.9 -0.4**
PDG ⇓S **Sg 05 18 38.5 +1.0**
PDG AML AML 05 18 46.0
TTG Podgorica 1.40 321 ⇑*i*Pg **Pg 05 18 19.1 -0.2**
TTG *i* Sg **Sg 05 18 41.2 +3.7**
KZN Kozani 1.44 136 P **Pg 05 18 19.5 -0.6**
KZN S **Sg 05 18 40.3 +1.6**
comp=N,332nm,0.6s
KZN Kozani 1.44 136 P **Pg 05 18 19.4 -0.6**
SRN Sarande 1.50 193 P **Pg 05 18 21.0 -0.2**
SRN S **Sg 05 18 41.5 +0.9**
BUM Brajici-Budva 1.50 310 ⇑*i*Pg **Pg 05 18 20.9 -0.3**
BUM *i* Sg **Sg 05 18 44.3 +3.6**
GRG Griva 1.52 104 P **Pg 05 18 20.9 -0.7**
GRG S **Sg 05 18 42.2 +0.8**
comp=N,350nm,0.6s
GRG Griva 1.52 104 *i* Pn **Pg 05 18 21.4 -0.2**
GRG *e*Sg **Sg 05 18 42.5 +1.2**
GRG Griva 1.52 104 P **Pg 05 18 20.8 -0.8**
GRG S **Sg 05 18 42.2 +0.8**
GRG AML AML 05 18 46.3
comp=E,489μm,0.6s
GRG AML AML 05 18 47.6
comp=N,807μm,0.6s
KPRO Kipourio 1.55 153 P **Pb 05 18 20.8 -0.9**
KPRO S **Sb 05 18 41.2 -0.4**
comp=N,242nm,0.6s
KPRO Kipourio 1.55 153 P **Pb 05 18 20.7 -1.0**
IVA Berane 1.58 345 ⇓*i*Pn **Pg 05 18 23.0 +0.3**
IVA *i* Sn **Sg 05 18 47.7 +4.5**
KTI Kastanea 1.58 126 P **Pg 05 18 22.4 -0.3**
VAY Valandovo 1.60 90 *e*Pg **Pb 05 18 21.6 -0.8**
VAY *e*Sg **Sg 05 18 44.5 +0.8**
VAY Valandovo 1.60 90 *i* Pn **Pg 05 18 23.1 +0.1**
VAY *i* Sg **Sg 05 18 44.8 +1.1**
VAY *e*Lg Lg 05 18 46.5
comp=E,143nm,0.7s
VAY *e*Lg Lg 05 18 49.1
comp=N,338nm,0.9s
CEME Cevo 1.66 317 ⇓*i*Pn **Pg 05 18 23.1 -1.0**
CEME *i* Sn **Sg 05 18 49.3 +3.7**
KOME Kolasin 1.66 336 ⇓*i*Pn **Pg 05 18 24.1 0.0**
KOME *i* Sn **Sg 05 18 49.5 +3.9**
KEK Kerkira 1.70 197 P **Pb 05 18 23.5 -0.7**
KEK S **Sg 05 18 47.8 +0.7**
comp=N,282nm,0.9s
KEK Kerkira 1.70 197 P **Pb 05 18 23.4 -0.8**
KEK S **Sg 05 18 48.2 +1.1**
KEK AML AML 05 18 54.2
comp=N,654μm,0.8s
KEK AML AML 05 18 57.5
comp=E,495μm,0.6s
JAN Janina 1.71 170 P **Pb 05 18 23.8 -0.6**
JAN S **Sb 05 18 46.5 +0.3**
comp=E,340nm,0.8s
JAN Janina 1.71 170 P **Pg 05 18 24.6 -0.6**
BARS Barje 1.79 34 *e*Pn **Pg 05 18 26.4 -0.2**
NKME Niksic 1.81 322 ⇑*i*Pn **Pg 05 18 26.0 -1.0**
NKME *i* Sn **Sg 05 18 52.8 +2.4**
IGT Igoumenitsa 1.81 183 P **Pb 05 18 25.7 -0.4**
IGT S **Sn 05 18 47.3 -0.3**
comp=E,215nm,0.6s
IGT Igoumenitsa 1.81 183 P **Pb 05 18 25.7 -0.4**
IGT S **Sg 05 18 50.0 -0.6**
IGT AML AML 05 18 56.0
comp=N,428μm,0.6s
IGT AML AML 05 18 59.9
comp=E,403μm,0.5s
NKY Niksic 1.82 324 ⇑*i*Pn **Pg 05 18 26.5 -0.8**
NKY *i* Sn **Sg 05 18 53.3 +2.3**
HCY Herceg Novi 1.83 308 *e*Pn **Pg 05 18 26.2 -1.2**
HCY Herceg Novi 1.83 308 ⇑*i*Pn **Pg 05 18 26.3 -1.2**
HCY *i* Sn **Sg 05 18 52.2 +1.1**
KNT Kendrikon 1.86 95 P **Pb 05 18 25.9 -0.9**
KNT S **Sb 05 18 50.1 -0.2**
comp=E,128nm,0.7s
KNT Kendrikon 1.86 95 *i* Pg **Pb 05 18 26.3 -0.5**
KNT Kendrikon 1.86 95 P **Pb 05 18 25.8 -0.9**
BOSS Bosilegrad 1.90 52 *e*Pn **Pb 05 18 27.0 -0.6**
BOSS *e*Sn **Sg 05 18 54.8 +1.3**
SELS Selova 1.94 15 *e*Pn **Pg 05 18 29.9 +0.4**
SELS *e*Sn **Sg 05 18 56.7 +2.1**
SJES Sjenica 1.95 350 *e*Pn **Pg 05 18 29.5 -0.2**
SJES *e*Sn **Sg 05 18 57.5 +2.6**
LIT Litokhoron 1.99 128 P **Pb 05 18 27.4 -1.6**
LIT S **Sb 05 18 54.4 +0.3**
comp=E,148nm,0.6s
LIT Litokhoron 1.99 128 P **Pb 05 18 27.5 -1.5**
KKB Krupnik 2.04 74 *i* Pn **Pb 05 18 29.5 -0.5**
TREB Trebinje 2.08 312 *e*Pn **Pg 05 18 30.7 -1.5**
TREB *e*Sn **Sg 05 18 57.2 -2.0**
TREB Trebinje 2.08 312 *e*Pn **Pb 05 18 29.2 -1.4**
BRY Bratogost 2.11 318 *e*Pn **Pb 05 18 30.7 -0.4**
BRY Bratogost 2.11 318 ⇓*i*Pn **Pb 05 18 30.9 -0.2**
BRY *i* Sn **Sg 05 18 59.9 -0.2**
PLE Pljevlja 2.13 339 ⇓*i*Pn **Pb 05 18 31.0 -0.6**
PLE *i* Sn **Sg 05 19 02.5 -0.4**
HORT Hortiatis 2.14 110 P **Pb 05 18 29.2 +0.3**
DBRK Dubrovnik 2.17 308 *e*Pn **Pb 05 18 31.8 -0.3**
DBRK Sn **Sg 05 19 05.1 +3.1**
UPM Unac-Piva 2.18 329 ⇓*i*Pn **Pg 05 18 33.4 -0.8**
UPM Unac-Piva 2.18 329 ⇑*i*Pn **Pg 05 18 33.4 -0.8**
UPM *i* Sn **Sg 05 19 02.1 -0.4**
IVAS Ivanjica 2.24 354 *e*Pn **Pg 05 18 33.7 -1.6**
IVAS *e*Sn **Sg 05 19 04.2 -0.2**
SOH Sokhos 2.26 102 *i* Pn **Pb 05 18 31.8 -1.9**
RUDO Rudo 2.41 341 *e*Pn **Pb 05 18 35.7 -0.5**
VTS Vitosha 2.44 58 *e*Pn **Pb 05 18 34.8 -2.0**
VTS *e*Sn **Sb 05 19 06.6 -0.5**
VTS Vitosha 2.44 58 *i* Pn **Pb 05 18 34.8 -2.0**
VTS Vitosha 2.44 58 ⇑P **Pb 05 18 34.6 -2.2**
VTS AML AML 05 18 35.2
VTS ⇑S **Sb 05 19 05.4 -1.7**
BOVS Bovan 2.47 22 *e*Pn **Pb 05 18 36.1 -1.1**
BOVS *e*Sn **Sg 05 19 09.5 -2.2**
PLG Polygyros 2.47 112 P **Pb 05 18 35.0 -2.3**
ZAPS Zavoj 2.52 39 *e*Pn **Pb 05 18 36.3 -1.8**
GRUS Gruza 2.55 4 *e*Pn **Pb 05 18 36.9 -1.7**
GRUS *e*Sn **Sg 05 19 12.6 -1.7**
STON Ston 2.55 308 *e*Pn **Pb 05 18 36.9 -1.7**
STON *e*Sn **Sb 05 19 09.4 -0.9**
STON Ston 2.55 308 *e*Pn **Pb 05 18 38.7 +0.1**
STON Sn **Sb 05 19 10.5 +0.2**
STON Ston 2.55 308 *e*Pn **Pb 05 18 35.6 -3.0**
LKD2 Lefkada island 2.56 176 P **Pn 05 18 35.4 +0.9**
NVR Nevrokopi 2.57 89 P **Pb 05 18 36.0 -2.9**
NVR S **Sb 05 19 07.6 -3.3**
comp=E,58nm,1.0s
NVR Nevrokopi 2.57 89 P **Pb 05 18 36.1 -2.9**
BBLS Lazići 2.63 343 *e*Pn **Pb 05 18 39.4 -0.7**
BBLS *e*Sn **Sg 05 19 13.6 -3.4**
BBLS Lazići 2.63 343 *e*Pn **Pb 05 18 39.2 -0.9**
MAKR Makrakomi, Fth 2.66 150 P **Pn 05 18 36.7 +0.7**
EVGI Lefkada island 2.73 177 P **Pn 05 18 38.1 +1.3**
EVGI S **Sb 05 19 12.8 -2.5**
DIVS Divibare 2.77 353 *e*Pn **Pb 05 18 41.6 -0.9**
DIVS *e*Sn **Sb 05 19 17.2 +0.4**

DIVS Divibare 2.77 353 *e*Pn **Pb 05 18 38.7 -3.8**
ZAGS Zajecar 2.80 28 *e*Pn **Pb 05 18 39.4 -3.4**
ZAGS *e*Sn **Sg 05 19 18.3 -3.9**
BLKB Belogradchik 2.81 35 ⇑S **Sb 05 19 15.4 -2.4**
BLKB AML AML 05 19 23.2
TRUS Trudelj 2.88 359 *e*Pn **Pb 05 18 41.2 -3.0**
HAPS Han Pijesak,BI 2.95 339 *e*Pn **Pb 05 18 42.5 -3.1**
HAPS *e*Sn **Sb 05 19 21.3 -0.7**
HAPS Han Pijesak,BI 2.95 339 *e*Pn **Pb 05 18 41.9 -3.7**
KUBS Kucevo 3.19 16 *e*Pn **Pb 05 18 46.9 -2.7**
MAKA Makarska 3.20 308 *e*Pn **Pb 05 18 45.7 -3.9**
TEKS Tekeris 3.27 348 *e*Pn **Pn 05 18 45.4 +1.0**
MDVR Moldovita 3.56 15 ⇑P **Pn 05 18 50.3 +2.0**
MDVR ⇑S **Sb 05 19 34.9 -4.4**
MDVR AML AML 05 19 51.6
HERR Herculane 3.82 22 ⇑P **Pn 05 18 53.9 +2.1**
FRGS Fruska Gora 3.84 353 *e*Pn Pb 05 18 55.3 -5.3
FRGS Fruska Gora 3.84 353 *e*Pn **Pn 05 18 54.4 +2.3**
SRE Strehaia 3.88 30 ⇑P **Pn 05 18 53.6 +0.9**
MGRS Mrkonjic Grad 3.94 322 *e*Pn **Pn 05 18 52.5 -1.1**
BLY Banja Luka 4.16 326 *e*Pn Pb 05 19 00.0 -6.0
BLY Banja Luka 4.16 326 *e*Pn **Pb 05 19 02.4 -3.6**
BLY Banja Luka 4.16 326 ⇑P **Pn 05 18 55.8 -0.7**
BLY AML AML 05 20 19.1
ZIRJ Zirje 4.24 305 *e*Pn **Pn 05 18 58.5 +0.9**
ELND Elena 4.33 67 ⇓P **Pn 05 19 01.0 +2.0**
ELND AML AML 05 20 21.6
BZS Buzias 4.35 11 *e*Pn **Pn 05 19 01.7 +2.5**
BZS *e*Sn **Sb 05 19 54.8 -7.4**
BZS Buzias 4.35 11 ⇑P **Pn 05 19 00.4 +1.3**
BZS AML AML 05 19 47.3
BZS ⇑S **Sn 05 19 50.8 +0.5**
GZR Gura Zlata 4.39 22 ⇑P **Pn 05 19 01.6 +1.9**
GZR ⇓S **Sn 05 19 54.3 +3.1**
GZR AML AML 05 20 05.1
UDBI Udbina 4.68 314 *i* Pn **Pn 05 19 06.3 +2.5**
DUGI Dugi Otok 4.77 305 *e*Pn **Pn 05 19 06.5 +1.5**
NVLJ Novalja 5.21 310 *e*Pn **Pn 05 19 12.0 +1.2**
VOIR 5.29 38 ⇑P **Pn 05 19 13.8 +1.7**
DRGR 5.68 16 ⇓P **Pn 05 19 19.0 +1.5**
DRGR ⇑S **Sn 05 20 24.5 +1.3**
CRES Cresnjev 5.76 323 *e*Pn **Pn 05 19 20.4 +1.9**
CEY Cerknica 6.20 317 *e*Pn **Pn 05 19 25.4 +0.8**
LJU Ljubljana 6.36 320 *e*Pn **Pn 05 19 24.2 -2.6**
PSZ Piszkesteto 6.58 357 ⇑P **Pn 05 19 29.9 0.0**
SOKA Soboth 6.61 326 Pn **Pn 05 19 32.7 +2.5**
comp=E,1.7nm,0.5s
VYHS Vyhne 7.24 351 *e*PN **Pn 05 19 41.6 +2.8**
VYHS *e*SN **Sn 05 21 03.2 +1.8**
MODS Modra-Piesok 7.38 343 *e*SN Sn 05 21 11.8 +7.0
KOLS Kolonicke sedl 7.70 9 *e*PN Pb 05 19 55.1 -11
MOA Molln 7.86 328 *e*Pn Pn 05 19 51.6 +4.3
comp=E,0.4nm,0.3s
MOA Sn **Sn 05 21 22.4 +5.8**
comp=E,1.2nm,0.4s
WTTA Wattenberg 8.65 316 *e*Pn **Pn 05 20 01.0 +2.6**
comp=E,0.5nm,0.2s
WTTA Sn **Sn 05 21 37.7 +1.3**
comp=E,2.2nm,0.5s
WATA Walderalm 8.73 316 *e*Pn **Pn 05 20 02.5 +3.1**
comp=E,2.2nm,0.4s
MOTA Moosalm 8.98 315 *e*Pn **Pn 05 20 05.6 +2.7**
comp=E,0.7nm,0.3s
MOTA Sn **Sn 05 21 46.3 +1.8**
comp=E,2.0nm,0.7s

IDC 24 05:19:41.4±3.4, 5°34S×104°33W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/23, mbtmp3.6/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/21, Error ellipse: s-maj=120.8km s-min=26.9km az=48.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**24.16**	**23**	LR	LR	05 32 08.3	
	comp=Z,35nm,18.2s,baz=188,slow=31						
APG	**El Apazote**	**24.44**	**34**	LR	LR	05 31 41.8	
	comp=Z,79nm,19.7s,baz=214,slow=30						
LPIG	**La Paz**	**29.84**	**349**	LR	LR	05 34 05.0	
	comp=Z,52nm,18.6s,baz=54,slow=29						
TXAR	**Lajitas Array**	**34.48**	**1**	P	P	05 26 31.6	+0.3
	0.5nm,0.7s,baz=177,slow=11,SNR=7.8						
TXAR				LR	LR	05 39 17.0	
	comp=Z,26nm,18.2s,baz=0.0,slow=34						
LPAZ	**La Paz**	**37.11**	**110**	P	P	05 26 54.6	-0.1
	0.5nm,0.3s,baz=269,slow=11,SNR=9.4						
NVAR	**Mina Array Bea**	**45.44**	**345**	P	P	05 28 02.1	-0.3
	0.2nm,0.6s,baz=178,slow=8.8,SNR=2.2						
NVAR				LR	LR	05 43 26.4	
	comp=Z,38nm,19.6s,baz=41,slow=31						
PDAR	**Pinedale Array**	**48.12**	**355**	P	P	05 28 23.0	-0.4
	0.5nm,0.5s,baz=161,slow=8.6,SNR=4.4						
ILAR	**Eielson Array**	**76.66**	**343**	P	P	05 31 34.0	+0.1
	0.5nm,0.6s,baz=149,slow=4.7,SNR=11						

*IDC **24** 05:51:26.8±0.8, 51°53N×177°27W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/52, mbtmp3.7/9, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/41, Error ellipse: s-maj=44.2km s-min=16.8km az=152.0*
*ISCJB **24** 05:51:33.4±0.7, 51°6N±0°1×177°15W±0°06, h62km±3km, mb3.7/7, Error ellipse: s-maj=17.0km s-min=5.1km az=169.1*
*AEIC **24** 05:51:34.0±1.8, 51°54N±0°09×177°10W±0°02, h46km±5km, ML3.6, mb3.9/15(NEIC)*
ISC 24 05:51:33.3±1.5, 51°5N±0°1×177°11W±0°04, h47km±12km, n62, σ0°96/57, mb3.7/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.31**	**346**		**Pn**	**05 51 42.3**	**+0.1**
KIMD					**Sn**	**05 51 49.1**	**+0.5**
KIWB	**Kanaga Island**	**0.39**	**356**		**Pn**	**05 51 43.4**	**+0.3**
KIKV	**Kanaga Island**	**0.42**	**355**		**Pn**	**05 51 43.8**	**+0.4**
KICM	**Kanaga Island**	**0.46**	**354**		**Pn**	**05 51 44.5**	**+0.6**
KINC	**Kanaga Island**	**0.47**	**359**		**Pn**	**05 51 44.4**	**+0.4**
ADK	**Adak**	**0.50**	**32**		**Pn**	**05 51 44.1**	**-0.2**
ADK					**Sn**	**05 51 52.8**	**+0.6**
TAPA	**Tanaga Point A**	**0.56**	**309**		**Pn**	**05 51 45.5**	**+0.4**
ADAG	**Mount Adagdak**	**0.61**	**31**		**Pn**	**05 51 46.3**	**+0.6**
TASE	**Tanaga Southea**	**0.69**	**303**		**Pn**	**05 51 47.4**	**+0.6**
TAFP	**Tanaga Falls P**	**0.70**	**309**		**Pn**	**05 51 47.4**	**+0.5**
TAFP					**Sn**	**05 51 57.8**	**+1.1**
GSCK	**Great Sitkin C**	**0.81**	**47**		**Sn**	**05 52 00.5**	**+1.2**
GSTD	**Great Sitkin T**	**0.85**	**45**		**Pn**	**05 51 49.3**	**+0.4**
GSTD					**Sn**	**05 52 01.0**	**+0.6**
GSMY	**Great Sitkin M**	**0.88**	**48**		**Pn**	**05 51 49.7**	**+0.4**
GSIG	**Igitkin Island**	**0.91**	**54**		**Pn**	**05 51 49.8**	**+0.2**
GSIG					**Sn**	**05 52 02.6**	**+0.9**
GSTR	**Great Sitkin T**	**0.91**	**45**		**Pn**	**05 51 50.3**	**+0.6**
GAEA	**Gareloi East**	**1.07**	**288**		**Pn**	**05 51 52.9**	**+1.1**
ATKA	**Atka Island**	**1.96**	**67**		**Pn**	**05 52 04.2**	**+0.3**
ATKA	**Atka Island**	**1.96**	**67**		**Sn**	**05 52 29.0**	**+1.8**
KOWE	**Korovin West**	**1.99**	**62**		**Pn**	**05 52 05.8**	**+1.3**
KOKL	**Mount Kliuchef**	**2.00**	**63**		**Pn**	**05 52 06.1**	**+1.5**
KOFP	**Korovin Flat P**	**2.04**	**65**		**Pn**	**05 52 06.3**	**+1.2**
KOSE	**Korovin Southe**	**2.09**	**64**		**Pn**	**05 52 06.8**	**+1.0**
SMY	**Shemya**	**5.56**	**287**	Pn	**Pn**	**05 52 53.9**	**+0.5**
OHAK	**Old Harbor**	**15.00**	**58**	Pn	**Pn**	**05 55 01.4**	**-0.5**
PETK	**Petropavlovsk-**	**15.48**	**286**	LR	LR	06 00 56.7	
	comp=Z,37nm,19.3s,baz=63,slow=37						
KDAK	**Kodiak Island**	**15.50**	**56**	Pn	**Pn**	**05 55 05.9**	**-2.4**
	0.2nm,0.3s,baz=223,slow=1.4,SNR=12						
KDAK				Sn	**Sn**	**05 57 55.8**	**-2.9**
	0.1nm,0.3s,baz=293,slow=15,SNR=6.0						
KDAK	**Kodiak Island**	**15.50**	**56**	Pn	**Pn**	**05 55 06.1**	**-2.3**
BRLK	**Bradley Lake**	**16.89**	**50**	P	**Pn**	**05 55 26.2**	**+0.2**
SEW	**Seward**	**17.68**	**50**	P	**Pn**	**05 55 35.6**	**-0.1**
KTH	**Kantishna Hill**	**18.39**	**39**	P	**Pn**	**05 55 44.7**	**+0.3**
GHO	**Glory Hole Cre**	**18.47**	**45**	P	**Pn**	**05 55 45.9**	**+0.5**
GHO				IAmb	IAmb	05 56 01.3	
	comp=Z,20nm,1.5s						
BPAW	**Bear Paw Mtn.**	**18.64**	**37**	P	**Pn**	**05 55 49.1**	**+1.7**
BPAW				IAmb	IAmb	05 56 00.9	
	comp=Z,13nm,1.4s						
IMAR	**Indian Mountai**	**18.76**	**30**	P	**Pn**	**05 55 49.5**	**+0.6**
RND	**Reindeer**	**19.15**	**41**	P	**P**	**05 55 52.6**	**+0.3**
MLY	**Manley**	**19.22**	**35**	P	**Pn**	**05 55 54.7**	**+0.4**
MLY				IAmb	IAmb	05 56 10.6	
	comp=Z,8.0nm,1.4s						
MCK	**McKinley**	**19.26**	**40**	P	**Pn**	**05 55 55.0**	**+0.1**
MCK				IAmb	IAmb	05 56 13.5	
	comp=Z,14nm,1.4s						
DHY	**Denali Highway**	**19.63**	**42**	P	**Pn**	**05 55 58.4**	**-0.9**
DHY				IAmb	IAmb	05 56 11.3	
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**20.52**	**38**	P	**P**	**05 56 06.5**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=236,slow=11,SNR=4.6						
DOT	**Dot Lake**	**21.23**	**42**	P	**P**	**05 56 15.3**	**+0.5**
SCRK	**Sand Creek**	**21.37**	**41**	P	**P**	**05 56 15.8**	**-0.7**
SCRK				IAmb	IAmb	05 56 24.8	
	comp=Z,3.9nm,1.2s						
EGAK	**Eagle**	**22.80**	**40**	P	**P**	**05 56 31.4**	**-0.1**
EGAK				IAmb	IAmb	05 56 34.0	
	comp=Z,2.9nm,1.1s						
INK	**Inuvik**	**26.79**	**35**	P	**P**	**05 57 07.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=236,slow=11,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**34.07**	**208**	T	T	06 34 42.6	
	baz=18,slow=76,SNR=613						
H11N3	**WAKE ISLAND Hy**	**34.08**	**208**	T	T	06 34 31.3	
	baz=18,slow=76,SNR=459						
H11N1	**WAKE ISLAND Hy**	**34.09**	**208**	T	T	06 34 41.5	
	baz=18,slow=76,SNR=412						
USRK	**Ussuriysk Ar.**	**34.33**	**278**	P	**P**	**05 58 14.3**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=68,slow=11,SNR=4.0						
USRK	**Ussuriysk Ar.**	**34.33**	**278**	P	**P**	**05 58 15.0**	**-0.1**
H11S1	**WAKE ISLAND Hy**	**35.29**	**207**	T	T	06 36 08.4	
	baz=18,slow=76,SNR=179						
H11S2	**WAKE ISLAND Hy**	**35.30**	**207**	T	T	06 36 11.7	
	baz=18,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**35.30**	**207**	T	T	06 36 16.9	
	baz=18,slow=76,SNR=84						
NEW	**Newport**	**37.86**	**71**	P	**P**	**05 58 46.2**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=295,slow=11,SNR=4.0						
NEW	**Newport**	**37.86**	**71**	IAmb	IAmb	05 59 02.2	
	comp=Z,3.4nm,1.1s						
HOPS	**Hopland Field**	**39.18**	**87**		pP	05 59 11.4	+2.8
YHB	**Horse Butte**	**43.17**	**72**		pP	05 59 43.1	+1.1
PDAR	**Pinedale Array**	**45.27**	**73**	P	**P**	**05 59 47.5**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=306,slow=4.7,SNR=7.3						
TXAR	**Lajitas Array**	**57.60**	**82**	P	**P**	**06 01 17.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=302,slow=7.3,SNR=2.4						
WRA	**Warramunga Arr**	**82.81**	**225**	P	**P**	**06 03 52.0**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=34,slow=6.2,SNR=5.0						
WRA	**Warramunga Arr**	**82.81**	**225**	IAmb	IAmb	06 03 60.0	
	comp=Z,0.2nm,1.4s						
ASAR	**Alice Springs**	**86.27**	**224**	P	**P**	**06 04 10.1**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=19,slow=5.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**115.66**	**1**	PKP	**PKiKP**	**06 10 09.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=19,slow=2.9,SNR=3.1						
MAW	**Mawson**	**147.19**	**218**	PKPbc	**PKPab**	**06 11 11.0**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=45,slow=2.9,SNR=2.7						
BOSA	**Boshof**	**151.68**	**315**	PKPbc	**PKiKP**	**06 11 22.6**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=336,slow=5.5,SNR=4.0						

*ISCJB **24** 06:08:08.9±0.4, 5°62S±0°06×151°06E±0°07, h100km, mb3.8/8, Error ellipse: s-maj=11.2km s-min=5.7km az=35.3*
*IDC **24** 06:08:09.9±0.9, 5°51S×150°94E, h88km±10km, mb3.7/8, mb1 3.9/9, mb1mx3.4/48, mbtmp4.1/9, Error ellipse: s-maj=26.5km s-min=8.8km az=129.0*
*NEIC **24** 06:08:10.1±1.4, 5°65S±0°08×151°1E±0°1, h91km±6km, mb4.0/19*
ISC 24 06:08:10.4±0.6, 5°58S±0°06×151°06E±0°07, h100km, n34, σ1°12/37, mb3.9/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.59**	**37**	P	**Pn**	**06 08 36.9**	**-1.0**
	74nm,0.3s,baz=177,slow=1.1,SNR=30						
KRVT				S	**Sn**	**06 08 57.6**	**-1.0**
	84nm,0.3s,baz=266,slow=20,SNR=12						
KRVT				LR	LR	06 09 03.6	
	comp=Z,64nm,21.7s,baz=197,slow=33						
MANU	**Manus Island**	**5.09**	**313**		**Pn**	**06 09 24.4**	**0.0**
PMG	**Port Moresby**	**5.42**	**225**	P	**Pn**	**06 09 29.4**	**+0.5**
	9.6nm,0.3s,baz=44,slow=7.2,SNR=20						
PMG				S	**Sn**	**06 10 28.3**	**-1.8**
	11nm,0.3s,baz=168,slow=20,SNR=12						
PMG	**Port Moresby**	**5.42**	**225**		**Pn**	**06 09 29.4**	**+0.5**
PMG					**Sn**	**06 10 29.7**	**-0.3**
CTAO	**Charters Tower**	**15.16**	**198**	Pn	**Pn**	**06 11 36.8**	**-2.5**
CTAO				IAmb	IAmb	06 11 52.7	
	comp=Z,15nm,0.9s						
FAKI	**Fak Fak**	**18.94**	**277**	P	**P**	**06 12 22.5**	**-1.3**
EIDS	**Eidsvold**	**19.68**	**180**	P	**P**	**06 12 31.5**	**-0.2**
EIDS				IAmb	IAmb	06 12 35.4	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**21.49**	**227**	P	**P**	**06 12 50.3**	**-1.0**
WR0	**Warramunga Arr**	**21.50**	**227**	P	**P**	**06 12 51.6**	**+0.2**
WR0				IAmb	IAmb	06 12 55.1	
	comp=Z,7.2nm,1.2s						
WRAB	**Tennant Creek**	**21.63**	**227**	P	**P**	**06 12 51.6**	**-1.1**
WRAB				IAmb	IAmb	06 12 55.8	
	comp=Z,4.5nm,0.8s						
WB2	**Warramunga Arr**	**21.63**	**227**	P	**P**	**06 12 52.4**	**-0.3**
WB2				IAmb	IAmb	06 12 56.3	
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**21.64**	**227**	P	**P**	**06 12 53.0**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=51,slow=10,SNR=20						
WRA	**Warramunga Arr**	**21.64**	**227**	P	**P**	**06 12 52.8**	**-0.1**
DZM	**Mont Dzumac**	**22.14**	**139**	P	**P**	**06 13 00.5**	**+2.2**
	comp=Z,4.5nm,0.5s,baz=266,slow=9.0,SNR=31						
DZM	**Mont Dzumac**	**22.14**	**139**	IAmb	IAmb	06 13 01.0	
	comp=Z,4.5nm,0.6s						
DZM				P	**P**	**06 13 01.0**	**+2.8**
AS31	**Alice Springs**	**24.42**	**221**	P	**P**	**06 13 21.2**	**+1.3**
AS31				IAmb	IAmb	06 13 22.9	
	comp=Z,2.1nm,0.4s						
ASAR	**Alice Springs**	**24.42**	**221**	P	**P**	**06 13 21.2**	**+1.3**
	comp=Z,2.9nm,0.4s,baz=55,slow=9.2,SNR=141						
ASAR	**Alice Springs**	**24.42**	**221**	P	**P**	**06 13 20.1**	**+0.2**
LHI	**Lord Howe Isla**	**26.88**	**165**	P	**P**	**06 13 39.9**	**-2.0**
STKA	**Stephens Creek**	**27.62**	**198**	P	**P**	**06 13 49.5**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=38,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**27.62**	**198**	P	**P**	**06 13 49.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	**P**	**06 13 49.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=72,slow=7.2,SNR=13						
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	**P**	**06 13 50.2**	**+0.1**
FITZ				IAmb	IAmb	06 14 05.7	
	comp=Z,17nm,1.5s						
RAO	**Raoul Island**	**37.60**	**132**	P	**P**	**06 15 14.3**	**-1.2**
URZ	**Urewera**	**40.23**	**148**	P	**P**	**06 15 37.6**	**+0.3**
PETK

GO01 Chusmiza 1.95 311⇑ *i*P Pn 06 10 33.2 +0.5
GO01 IAML 06 11 07.8
comp=N,201nm,0.1s
PB02 IPOC Station P 2.14 260 *e*P Pn 06 10 34.8 +0.4
PB02 *i* S Sn 06 11 03.5 -1.5
PB02 IAML 06 11 04.0
comp=N,383nm,0.5s
PB07 IPOC Station P 2.23 250⇑ *i*P Pn 06 10 35.8 +0.4
PB07 *i* S Sn 06 11 05.5 -1.4
PB07 IAML 06 11 05.9
comp=N,245nm,0.3s
PB11 IPOC Station P 2.24 302⇑ *i*P Pn 06 10 35.6 +0.1
PB11 *i* S Sn 06 11 05.9 -1.2
PB11 IAML 06 11 08.8
comp=N,411nm,0.3s
PB03 IPOC Station P 2.25 241 *e*P Pn 06 10 36.1 +0.5
PB03 *i* S Sn 06 11 06.0 -1.3
PB03 IAML 06 11 06.7
comp=E,233nm,0.4s
YJA Yavi 2.31 122 *i* P Pn 06 10 37.5 +0.9
YJA *e*S Sn 06 11 08.1 -0.9
PB06 IPOC Station P 2.50 226⇑ *i*P Pn 06 10 39.5 +1.1
PB06 *i* S Sn 06 11 11.9 -0.4
PB06 IAML 06 11 12.6
comp=E,66nm,0.1s
PB06 IPOC Station P 2.50 226 *i* P Pn 06 10 39.7 +1.3
MNMC Minye Minye 2.59 314⇑ *i*P Pn 06 10 40.3 +0.6
MNMC *i* S Sn 06 11 14.1 -0.2
MNMC IAML 06 11 18.7
comp=E,245nm,0.2s
PSGC Pisagua 2.70 300⇑ *i*P Pn 06 10 40.2 -0.5
PSGC *i* S Sn 06 11 14.3 -2.0
PSGC IAML 06 11 15.9
comp=E,124nm,0.5s
PB04 IPOC Station P 2.71 239⇑ *i*P Pn 06 10 41.3 +0.5
PB04 *i* S Sn 06 11 14.5 -2.1
PB04 IAML 06 11 19.3
comp=E,69nm,0.3s
PB04 IPOC Station P 2.71 239 *i* P Pn 06 10 41.5 +0.6
PB15 IPOC Station P 2.81 217 *e*P Pn 06 10 43.5 +1.4
PB15 *i* S Sn 06 11 19.4 +0.5
PB15 IPOC Station P 2.81 217 *i* P Pn 06 10 43.8 +1.7
PB15 *e*S Sn 06 11 18.8 -0.1
PB05 IPOC Station P 3.04 231⇑ *i*P Pn 06 10 45.2 +0.6
HJA Humahuaca 3.04 138 *i* P Pn 06 10 46.0 +1.0
HJA *e*S Sn 06 11 23.1 -1.0
HJA IAML 06 11 28.4
comp=Z,22nm,0.5s
PB16 IPOC Station P 3.15 326⇑ *i*P Pn 06 10 47.9 +1.3
PB16 *i* S Sn 06 11 27.6 +0.8
PB16 IAML 06 11 29.2
comp=E,40nm,0.4s
AZAP Zapla 4.02 144 *i* P Pn 06 10 57.2 +0.3
AZAP *e*S Sn 06 11 43.1 -2.4
AZAP IAML 06 11 44.5
comp=Z,8.0nm,0.5s

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*IDC **24** 06:13:15.5±2.4, 19°.56S×175°.80W, h196km±21km, mb3.9/17, mb1 4.1/19, mb1mx3.9/44, mbtmp4.4/19, Error ellipse: s-maj=17.8km s-min=10.4km az=134.0*
*ISCJB **24** 06:13:17.0±0.2, 19°.60S±0°.03×175°.89W±0°.05, h219km, mb4.0/18, Error ellipse: s-maj=7.1km s-min=3.4km az=19.0*
*NEIC **24** 06:13:16.2±1.9, 19°.5S±0°.1×175°.9W±0°.1, h200km±6km, mb4.3/53*
ISC 24 06:13:17.2±0.3, 19°.70S±0°.05×175°.74W±0°.06, h219km, n152, σ1§81/178, mb4.2/38, 17C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.52**	**84**		**Pn**	**06 14 38.5**	**-0.2**
NIUE				Sn	**S**	**06 15 40.7**	**-2.4**
MSVF	**Nonsavu**	**6.20**	**287**		Pn	06 14 52.7	+5.2
AFI	**Afiamalu**	**6.90**	**34**	P	**Pn**	**06 14 52.6**	**-3.8**
	7.9nm,0.3s,baz=212,slow=3.0,SNR=14						
AFI				S	S	06 16 02.2	-13
	42nm,0.3s,baz=283,slow=7.1,SNR=15						
AFI	**Afiamalu**	**6.90**	**34**	Pn	**Pn**	**06 14 52.7**	**-3.8**
AFI					S	06 16 06.0	-9.4
GLKZ	**Green Lake**	**9.72**	**191**	P	**Pn**	**06 15 32.4**	**-0.2**
GLKZ				S	**S**	**06 17 18.5**	**-3.2**
RAR	**Rarotonga**	**15.04**	**98**		**Pn**	**06 16 39.6**	**+0.5**
DZM	**Mont Dzumac**	**16.82**	**259**	P	**Pn**	**06 17 01.9**	**+1.4**
	2.2nm,0.3s,baz=94,slow=14,SNR=57						
DZM	**Mont Dzumac**	**16.82**	**259**	P	**P**	**06 16 58.9**	**-0.2**
OUZ	**Omahuta**	**18.10**	**209**	P	**P**	**06 17 15.3**	**+2.4**
MXZ	**Matakaoa Point**	**18.54**	**195**	P	**P**	**06 17 20.4**	**+2.9**
MXZ	**Matakaoa Point**	**18.54**	**195**	P	**P**	**06 17 18.5**	**+1.0**
WMGZ	**Waiomatatini S**	**18.76**	**195**	P	**P**	**06 17 22.9**	**+3.0**
WMGZ				S	**S**	**06 20 37.8**	**-3.7**
HAZ	**Te Kaha**	**18.85**	**196**	P	**Pn**	**06 17 24.4**	**+0.2**
HAZ				S	**S**	**06 20 40.8**	**-2.6**
PKGZ	**Pakihiroa**	**18.90**	**195**	P	**Pn**	**06 17 25.5**	**+0.6**
PKGZ				S	**S**	**06 20 39.3**	**-5.3**
PUZ	**Puketiti**	**19.03**	**195**	P	**Pn**	**06 17 27.8**	**+1.4**
PUZ				S	**S**	**06 20 40.8**	**-6.2**
MKAZ	**Moumakai**	**19.08**	**203**	P	**P**	**06 17 24.9**	**+1.5**
MKAZ				S	S	06 20 37.0	-11
RUGZ	**Raukumara Rang**	**19.08**	**196**	P	**P**	**06 17 26.2**	**+2.7**
RUGZ				S	**S**	**06 20 43.5**	**-4.6**
MWZ	**Matawai**	**19.46**	**196**	P	**P**	**06 17 30.3**	**+2.7**
MWZ				S	**S**	**06 20 52.7**	**-2.9**
URZ	**Urewera**	**19.51**	**197**	P	**P**	**06 17 28.9**	**+1.0**
	6.2nm,0.3s,baz=338,slow=2.7,SNR=37						
URZ				S	**S**	**06 20 52.3**	**-4.0**
	0.6nm,0.3s,baz=49,slow=21,SNR=5.8						
URZ	**Urewera**	**19.51**	**197**	P	**P**	**06 17 29.0**	**+1.1**
URZ				S	**S**	**06 20 52.3**	**-4.0**
URZ	**Urewera**	**19.51**	**197**	P	**P**	**06 17 29.2**	**+1.3**
TOZ	**Tahuroa Road**	**19.52**	**201**	P	**P**	**06 17 30.2**	**+2.2**
RAGZ	**Rawiri**	**19.65**	**196**	P	**P**	**06 17 31.3**	**+1.8**
RIGZ	**Rimuhau**	**19.76**	**195**	P	**P**	**06 17 34.2**	**+3.5**
RIGZ				S	**S**	**06 20 58.0**	**-3.3**
KNZ	**Kokohu**	**20.08**	**195**	P	**P**	**06 17 37.7**	**+3.7**
RAHZ	**Arahi**	**20.13**	**196**	P	**P**	**06 17 37.7**	**+3.0**
RAHZ				S	**S**	**06 21 03.7**	**-4.7**
NMHZ	**Naumai**	**20.37**	**197**	P	**P**	**06 17 40.3**	**+3.0**
NMHZ				S	**S**	**06 21 12.1**	**-1.0**
BKZ	**Black Stump Fm**	**20.52**	**197**	P	**P**	**06 17 40.3**	**+1.4**
BKZ				IAmb	IAmb	06 17 49.2
	comp=Z,20nm,1.4s						
KWHZ	**Kaweka Forest**	**20.79**	**197**	P	**P**	**06 17 43.1**	**+1.4**
KWHZ				S	**S**	**06 21 17.8**	**-2.8**
BHHZ	**Black Hill Sta**	**20.95**	**198**	P	**P**	**06 17 44.0**	**+0.6**
BHHZ				S	**S**	**06 21 24.3**	**+0.8**
KRHZ	**Kereru**	**21.00**	**197**	P	**P**	**06 17 45.4**	**+1.4**
KRHZ				S	**S**	**06 21 20.9**	**-3.5**
KAHZ	**Kahuranaki**	**21.01**	**196**	P	**P**	**06 17 46.5**	**+2.6**
KAHZ				S	**S**	**06 21 26.6**	**+2.1**
TSZ	**Takapari Road**	**21.50**	**198**	P	**P**	**06 17 50.6**	**+1.6**
TSZ				S	**S**	**06 21 32.7**	**+0.1**
BFZ	**Birch Farm**	**22.01**	**196**	P	**P**	**06 17 55.9**	**+2.1**
PLWZ	**Palliser**	**23.11**	**197**	P	**P**	**06 18 05.4**	**+1.6**
QRZ	**Quartz Range**	**23.32**	**203**	P	**P**	**06 18 07.3**	**+1.6**
THZ	**Tophouse**	**24.01**	**201**	P	**P**	**06 18 13.8**	**+1.7**
THZ				IAmb	IAmb	06 18 20.5
	comp=Z,13nm,1.1s						
KHZ	**Kahutara**	**24.39**	**199**	P	**P**	**06 18 17.6**	**+2.2**
RPZ	**Rata Peaks**	**26.38**	**202**	P	**P**	**06 18 35.7**	**+2.4**
	comp=Z,7.2nm,0.5s,baz=26,slow=4.1,SNR=7.6						
EIDS	**Eidsvold**	**31.11**	**253**	P	**P**	**06 19 16.5**	**+1.1**
EIDS				IAmb	IAmb	06 19 17.8
	comp=Z,3.1nm,0.7s						
ARMA	**Armidale**	**31.32**	**244**	P	**P**	**06 19 19.4**	**+2.0**
CAN	**Canberra**	**34.72**	**236**	P	**P**	**06 19 46.3**	**-0.3**
CAN				IAmb	IAmb	06 19 50.0
	comp=Z,9.6nm,1.2s						
CTA	**Charters Tower**	**35.69**	**263**	P	**P**	**06 19 55.9**	**+0.8**
	comp=Z,12nm,0.4s,baz=88,slow=10,SNR=45						
PATS	**Pohnpei**	**36.72**	**313**	P	**P**	**06 20 01.4**	**-2.3**
JOHN	**Johnston Islan**	**36.72**	**10**	P	**P**	**06 20 01.4**	**-2.2**
TOO	**Toolangi**	**38.08**	**234**	P	**P**	**06 20 16.3**	**+1.3**
TOO				IAmb	IAmb	06 20 17.3
	comp=Z,17nm,1.1s						
COEN	**Coen**	**39.67**	**272**	P	**P**	**06 20 27.4**	**-0.9**
COEN				IAmb	IAmb	06 20 33.6
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**40.05**	**244**	P	**P**	**06 20 31.7**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=88,slow=9.6,SNR=7.0						
STKA				PcP	**PcP**	**06 22 32.7**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=79,slow=8.2,SNR=3.4						
STKA	**Stephens Creek**	**40.05**	**244**	P	**P**	**06 20 32.0**	**+0.7**
KHLU	**Kahalu`u**	**43.63**	**28**	P	**P**	**06 20 58.4**	**-2.0**
BBOO	**Buckleboo**	**44.80**	**243**	P	**P**	**06 21 09.9**	**+0.4**
BBOO				IAmb	IAmb	06 21 23.1
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**46.63**	**261**	P	**P**	**06 21 23.5**	**-0.5**
WR0				IAmb	IAmb	06 21 25.2
	comp=Z,3.8nm,0.3s						
AS31	**Alice Springs**	**46.77**	**256**	P	**P**	**06 21 25.9**	**+0.8**
ASAR	**Alice Springs**	**46.77**	**256**	P	**P**	**06 21 25.4**	**+0.2**
	comp=Z,4.0nm,0.4s,baz=97,slow=8.7,SNR=83						
ASAR				PcP	**PcP**	**06 22 54.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=107,slow=4.0,SNR=5.6						
ASAR				S	**S**	**06 27 56.5**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=95,slow=16,SNR=10						
ASAR	**Alice Springs**	**46.77**	**256**	P	**P**	**06 21 25.5**	**+0.3**
WB0	**Warramunga Arr**	**46.80**	**261**	P	**P**	**06 21 24.9**	**-0.4**
WB0				IAmb	IAmb	06 21 27.3
	comp=Z,6.6nm,0.5s						
WB2	**Warramunga Arr**	**46.81**	**261**	P	**P**	**06 21 25.0**	**-0.4**
WB2				IAmb	IAmb	06 21 27.1
	comp=Z,6.0nm,0.4s						
WRAB	**Tennant Creek**	**46.81**	**261**	P	**P**	**06 21 25.0**	**-0.4**
WRA	**Warramunga Arr**	**46.82**	**261**	P	**P**	**06 21 25.2**	**-0.3**
	comp=Z,3.6nm,0.4s,baz=98,slow=6.7,SNR=88						
WRA				PcP	**PcP**	**06 22 54.1**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.0,SNR=2.0						
WRA				S	**S**	**06 27 53.2**	**-6.0**
	comp=Z,1.1nm,0.9s,baz=99,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**46.82**	**261**	P	**P**	**06 21 25.1**	**-0.5**
SARN	**Sarigan**	**52.33**	**311**	P	**P**	**06 22 05.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**55.24**	**261**	P	**P**	**06 22 28.2**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=56,slow=7.3,SNR=6.3						
FITZ	**Fitzroy Crossi**	**55.24**	**261**	P	**P**	**06 22 28.9**	**+0.8**
FITZ				IAmb	IAmb	06 22 33.5
	comp=Z,17nm,1.4s						
PSA00	**Pilbara Seismi**	**59.92**	**256**	P	**P**	**06 23 00.0**	**-0.7**
MJAR	**Matsushiro Arr**	**70.86**	**322**	P	**P**	**06 24 10.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=139,slow=5.5,SNR=7.5						
PEA0B	**Petropavlovsk-**	**76.07**	**344**	P	**P**	**06 24 40.8**	**+0.4**
PETK	**Petropavlovsk-**	**76.07**	**344**	P	**P**	**06 24 40.3**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=106,slow=9.3,SNR=5.2						
PETK	**Petropavlovsk-**	**76.07**	**344**	P	**P**	**06 24 40.6**	**+0.3**
KMRM	**Mail Ridge**	**76.81**	**38**	P	**P**	**06 24 47.1**	**+2.3**
NVAR	**Mina Array Bea**	**79.00**	**42**	P	**P**	**06 24 58.5**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=226,slow=7.8,SNR=21						
NVAR	**Mina Array Bea**	**79.00**	**42**	P	**P**	**06 24 58.9**	**+1.7**
NV11	**Mina Array Sit**	**79.09**	**42**	P	**P**	**06 24 59.3**	**+1.7**
TPNV	**Topopah Spring**	**79.48**	**45**	P	**P**	**06 25 01.5**	**+1.8**
TPNV				IAmb	IAmb	06 25 02.1
	comp=Z,2.9nm,0.8s						
KVN	**Kaiserville**	**79.49**	**42**	P	**P**	**06 25 01.2**	**+1.4**
MOD	**Modoc Plateau**	**79.86**	**39**	P	**P**	**06 25 03.0**	**+1.4**
MOD				IAmb	IAmb	06 25 03.3
	comp=Z,2.4nm,0.8s						
PMSA	**Palmer Station**	**81.17**	**156**	P	**P**	**06 25 06.8**	**-1.3**
MAW	**Mawson**	**83.02**	**199**	P	**P**	**06 25 19.1**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=151,slow=9.5,SNR=6.1						
MAW	**Mawson**	**83.02**	**199**	P	**P**	**06 25 19.3**	**+1.7**
MSU	**Marysvale**	**83.03**	**45**	P	**P**	**06 25 21.1**	**+2.7**
BMO	**Blue Mountains**	**83.38**	**38**	P	**P**	**06 25 21.8**	**+1.9**
GHO	**Glory Hole Cre**	**83.98**	**12**	P	**P**	**06 25 23.0**	**+0.5**
GHO				IAmb	IAmb	06 25 23.2
	comp=Z,6.4nm,0.8s						
F10A	**Beach Ranch, E**	**84.09**	**37**	P	**P**	**06 25 24.4**	**+0.9**
F10A				IAmb	IAmb	06 25 25.1
	comp=Z,5.9nm,0.9s						
PLID	**Pearl Lake**	**84.27**	**38**	P	**P**	**06 25 25.8**	**+1.2**
PLID				IAmb	IAmb	06 25 37.9
	comp=Z,10nm,1.4s						
SCM	**Sheep Creek Mo**	**84.36**	**13**	P	**P**	**06 25 25.1**	**+0.6**
GLB	**Gilahina Butte**	**84.82**	**15**	P	**P**	**06 25 27.2**	**+0.5**
GLB				IAmb	IAmb	06 25 28.7
	comp=Z,12nm,1.4s						
TXAR	**Lajitas Array**	**84.84**	**57**	P	**P**	**06 25 28.6**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=208,slow=9.0,SNR=9.1						
KTH	**Kantishna Hill**	**85.22**	**11**	P	**P**	**06 25 28.3**	**-0.4**
KTH				IAmb	IAmb	06 25 28.4
	comp=Z,7.9nm,1.1s						
DHY	**Denali Highway**	**85.47**	**13**	P	**P**	**06 25 30.4**	**+0.4**
DHY				IAmb	IAmb	06 25 31.6
	comp=Z,8.4nm,1.4s						
RND	**Reindeer**	**85.47**	**12**	P	**P**	**06 25 30.9**	**+0.9**
MCK	**McKinley**	**85.75**	**12**	P	**P**	**06 25 31.6**	**+0.3**
MCK				IAmb	IAmb	06 25 32.3
	comp=Z,11nm,1.0s						
MCMT	**McKenzie Canyo**	**85.98**	**39**	P	**P**	**06 25 35.0**	**+1.9**
SEY	**Seymchan**	**86.10**	**346**	P	**P**	**06 25 33.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=360,slow=23,SNR=8.9						
MLY	**Manley**	**86.62**	**10**	P	**P**	**06 25 35.5**	**+0.1**
DOT	**Dot Lake**	**86.68**	**14**	P	**P**	**06 25 36.7**	**+0.9**
DOT				IAmb	IAmb	06 25 37.0
	comp=Z,2.5nm,0.7s						
BCAR	**Beaver Creek A**	**86.70**	**15**	P	**P**	**06 25 37.1**	**+1.1**
SMCO	**Snowmass**	**86.88**	**47**	P	**P**	**06 25 39.2**	**+1.4**
PDAR	**Pinedale Array**	**86.94**	**42**	P	**P**	**06 25 38.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=220,slow=3.0,SNR=4.9						
SCRK	**Sand Creek**	**86.98**	**13**	P	**P**	**06 25 38.4**	**+1.1**
IMAR	**Indian Mountai**	**87.03**	**9**	P	**P**	**06 25 37.9**	**+0.6**
IL31		**87.08**	**12**	P	**P**	**06 25 37.5**	**-0.1**
IL31				IAmb	IAmb	06 25 39.8
	comp=Z,5.1nm,1.3s						
ILAR	**Eielson Array**	**87.08**	**12**	P	**P**	**06 25 37.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=212,slow=5.2,SNR=26						
ILAR	**Eielson Array**	**87.08**	**12**	P	**P**	**06 25 37.2**	**-0.4**
SNAA	**Sanae**	**88.73**	**178**	P	**P**	**06 25 46.7**	**+1.0**
SNAA	**Sanae**	**88.73**	**178**	P	**P**	**06 25 46.4**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=172,slow=20,SNR=4.9						
SNAA	**Sanae**	**88.73**	**178**	P	**P**	**06 25 46.2**	**+0.6**
SNAA				IAmb	IAmb	06 25 47.3
	comp=Z,2.8nm,0.9s						
VNA3	**Neumayer Olymp**	**88.78**	**176**	P	**P**	**06 25 46.7**	**+0.8**
VNA2	**Neumayer--Watz**	**89.25**	**176**	P	**P**	**06 25 49.3**	**+1.4**
	baz=172,slow=3.4						
VNA1	**Neumayer--Stat**	**89.46**	**176**	P	**P**	**06 25 50.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**91.86**	**289**	P	**P**	**06 26 01.9**	**+0.8**
	comp=Z,0.6nm,0.2s,baz=106,slow=2.7,SNR=5.5						
LZH	**Lanzhou**	**93.98**	**307**	⇑P	**P**	**06 26 12.5**	**+1.8**
LZH				pP	pP	06 27 00.3	-3.4
LZH				sP	sP	06 27 20.1	-6.2
LZH				PP	**PP**	**06 30 04.6**	**+4.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
LZH				pmax	pmax		
	comp=Z,68nm,5.3s						
YKA	**Yellowknife Ar**	**94.91**	**24**	P	**P**	**06 26 13.5**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=229,slow=4.5,SNR=3.3						
KSH	**Kashi**	**116.17**	**305**	SS	SS	06 48 39.6	+10
KSH				AMB	AMB		
	comp=Z,340nm,5.8s						
KSH				LR	LR		
	comp=N,690nm,11.1s						
KSH				LR	LR		
	comp=E,550nm,9.5s						
KSH				LR	LR		
	comp=Z,460nm,10.0s						
ARCES	**ARCESS Array B**	**128.50**	**351**	PKP	**PKPdf**	**06 31 57.2**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=55,slow=3.4,SNR=4.3						
FINES	**FINESS Array B**	**135.58**	**345**	PKP	**PKPdf**	**06 32 11.6**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=126,slow=2.6,SNR=3.8						
BURAR	**Bucovina Array**	**147.36**	**333**	⇑P	**PKPbc**	**06 32 36.1**	**+1.0**
BIZ	**Bicaz**	**147.49**	**332**	⇑P	**PKPbc**	**06 32 36.3**	**+0.9**
CLL	**Collm**	**147.72**	**350**	*i* PKPbc	**PKPbc**	**06 32 36.2**	**+0.4**
	comp=Z,5.0nm,1.0s						
CLL				*e*PKPab	**PKiKP**	**06 32 38.0**	**+0.4**
	comp=Z,6.0nm,1.0s						
CLL				*e*pPKPbc	**pPKPdf**	**06 33 25.0**	**-3.4**
CFR	**Carcaliu**	**147.81**	**327**	⇑P	**PKPbc**	**06 32 36.1**	**-0.1**
BRTR	**Keskin Array B**	**147.84**	**315**	PKPbc	**PKPbc**	**06 32 36.9**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=145,slow=4.8,SNR=12						
BRTR	**Keskin Array B**	**147.84**	**315**	PKPdf	**PKPdf**	**06 32 33.5**	**0.0**
BRTR					**PKPbc**	**06 32 36.8**	**0.0**
BRTR				PKPab	**PKPab**	**06 32 40.9**	**+1.0**
DPC	**Dobruska-Polom**	**147.95**	**345**	*e*PKPAB	**PKPab**	**06 32 40.9**	**+1.1**
BRG	**Berggiesshubel**	**147.97**	**348**	*e*PKP	**PKPbc**	**06 32 36.5**	**0.0**
	comp=Z,3.8nm,0.9s						
VRI	**Vrincioaia**	**148.01**	**330**	⇑P	**PKPbc**	**06 32 36.7**	**-0.1**
TRPA	**Tarpa**	**148.01**	**337**	⇑P	**PKPbc**	**06 32 37.2**	**+0.5**
TLB	**Topalu**	**148.27**	**327**	⇑P	**PKPbc**	**06 32 38.3**	**+0.9**
MLR	**Muntele Rosu**	**148.66**	**330**	⇑P	**PKPbc**	**06 32 39.4**	**+0.7**
DRGR		**149.05**	**335**	⇑P	**PKPbc**	**06 32 40.3**	**+0.8**
VOIR		**149.11**	**331**	⇑P	**PKPbc**	**06 32 40.3**	**+0.6**
ARR	**Arges**	**149.35**	**331**	⇑P	**PKPbc**	**06 32 41.4**	**+1.1**
KHC	**Kasperske Hory**	**149.70**	**348**	⇑*e*PKP	**PKPbc**	**06 32 40.5**	**-0.5**
SIRR	**Siria**	**149.89**	**336**	⇑P	**PKPbc**	**06 32 42.2**	**+0.7**
GERES	**GERESS Array B**	**149.95**	**348**	PKPbc	**PKPbc**	**06 32 42.2**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=28,slow=3.8,SNR=5.4						
GZR	**Gura Zlata**	**150.15**	**333**	⇓P	**PKPbc**	**06 32 42.3**	**+0.1**
CONA	**Conrad Observa**	**150.31**	**344**	*e*PKiKP	**PKPbc**	**06 32 43.2**	**+0.7**
	comp=Z,1.9nm,0.6s						
BZS	**Buzias**	**150.44**	**335**	⇑P	**PKPbc**	**06 32 43.1**	**+0.3**
HERR	**Herculane**	**150.71**	**333**	⇑P	**PKPbc**	**06 32 43.8**	**+0.3**
MOA	**Molin**	**150.77**	**346**	*e*PKPbc	**PKPbc**	**06 32 43.8**	**+0.3**
	comp=Z,1.0nm,0.3s						
MDVR	**Moldovita**	**151.09**	**334**	⇑P	**PKPbc**	**06 32 44.9**	**+0.5**
KBA	**Koelnbreinsper**	**151.70**	**347**	*e*PKPbc	**PKPbc**	**06 32 45.9**	**0.0**
	comp=Z,3.0nm,0.5s						
RETA	**Reutte**	**151.78**	**351**	*i* PKiKP	**PKPbc**	**06 32 46.7**	**+0.8**
	comp=Z,0.7nm,0.4s						
WATA	**Walderalm**	**151.80**	**349**	*e*PKPbc	**PKPbc**	**06 32 46.1**	**+0.1**
	comp=Z,3.9nm,0.6s						
WTTA	**Wattenberg**	**151.86**	**349**	*e*PKiKP	**PKPbc**	**06 32 46.5**	**+0.3**
	comp=Z,5.7nm,0.5s						
MOTA	**Moosalm**	**151.87**	**350**	*e*PKPbc	**PKPbc**	**06 32 46.3**	**+0.1**
	comp=Z,0.8nm,0.4s						
SQTA	**Sankt Quirin**	**151.97**	**350**	*e*PKiKP	**PKPbc**	**06 32 46.7**	**+0.3**
	comp=Z,2.8nm,0.6s						
MYKA	**Terra Mystica**	**152.06**	**346**	*e*PKPbc	**PKPbc**	**06 32 46.0**	**-0.6**
	comp=Z,2.3nm,0.5s						
VTS	**Vitosha**	**152.10**	**329**	⇑P	**PKiKP**	**06 32 47.8**	**+0.7**
DAVA	**Damuels**	**152.11**	**352**	*e*PKiKP	**PKiKP**	**06 32 47.8**	**+0.7**
	comp=Z,3.9nm,0.6s						
ABTA	**Abfaltersbach**	**152.19**	**348**	*e*PKPbc	**PKPbc**	**06 32 46.6**	**-0.3**
	comp=Z,5.9nm,0.6s						
FETA	**Feichten**	**152.24**	**350**	*e*PKiKP	**PKPbc**	**06 32 47.5**	**+0.4**
	comp=Z,4.3nm,1.0s						
ESDC	**Sonseca Array**	**158.87**	**18**	PKPab	**PKPab**	**06 33 26.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=313,slow=4.1,SNR=5.5						
ESDC	**Sonseca Array**	**158.87**	**18**		**PKPab**	**06 33 26.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**173.03**	**159**	PKPab	**PKPab**	**06 34 29.3**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=184,slow=5.8,SNR=2.5						

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*ISCJB **24** 06:30:48.3±0.8, 23°.90N±0°.02×122°.42E±0°.02, h9km±5km, Error ellipse: s-maj=3.0km s-min=2.2km az=154.5*
*JMA **24** 06:30:49.2±0.2, 23°.96N×122°.41E, h15km, M2.4*
*TAP **24** 06:30:49.5, 23°.97N×122°.42E, h27km, ML3.0, D*
ISC 24 06:30:49.2±1.2, 23°.93N±0°.02×122°.42E±0°.02, h20km±5km, n72, σ0§80/121, Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.67**	**337**	*e*P	**Pb**	**06 31 02.0**	**-0.2**
	baz=328						
EOS1				*e*S	**Sn**	**06 31 12.8**	**-0.5**
	baz=328						
JYNG	**Yonagunijimaku**	**0.71**	**43**	P	**Pb**	**06 31 02.5**	**-0.4**
JYNG				S	**Sb**	**06 31 11.0**	**-1.2**
YOJ	**Yonaguni jima**	**0.76**	**46**	*e*P	**Pb**	**06 31 03.5**	**-0.2**
	baz=53						
YOJ				*e*S	**Sb**	**06 31 12.4**	**-1.1**
	baz=53						
YOJ	**Yonaguni jima**	**0.76**	**46**	P	**Pb**	**06 31 03.4**	**-0.2**
YOJ				*e*S	**Sb**	**06 31 12.4**	**-1.1**
TWD	**Chiawan**	**0.77**	**281**	*e*P	**Pb**	**06 31 03.5**	**-0.3**
	baz=278						
TWD				*e*S	**Sb**	**06 31 14.3**	**+0.5**
	baz=278						
NANB	**Nanao**	**0.79**	**309**	P	**Pb**	**06 31 03.3**	**-0.8**
	baz=307						
NACB	**Ninganchiao**	**0.79**	**288**	P	**Pb**	**06 31 03.8**	**-0.4**
	baz=272						
NACB				*e*S	**Sn**	**06 31 16.0**	**-0.3**
	baz=272						
TWC	**Suao**	**0.85**	**323**	*e*P	**Pb**	**06 31 04.3**	**-1.0**
	baz=321						
TWC				*e*S	**Sb**	**06 31 16.1**	**-0.2**
	baz=321						
ETLH	**Xiulin Townshi**	**0.90**	**288**	*e*P	**Pb**	**06 31 05.8**	**-0.4**
	baz=274						
ETLH				*e*S	**Sb**	**06 31 18.2**	**+0.5**
	baz=274						
ESL	**Shilin**	**0.91**	**263**	*e*P	**Pb**	**06 31 05.3**	**-0.9**
	baz=260						
ESL				*e*S	**Sb**	**06 31 17.5**	**-0.4**
	baz=260						
HGSD	**Ruisui**	**1.01**	**245**	*e*S	**Sb**	**06 31 20.1**	**-0.6**

TWA				*e*S	**Sb**	**06 31 29.6 +0.6**
	baz=322					
SSLB	**Suanglung**	**1.35 264**		*e*P	**Pn**	**06 31 12.8 0.0**
	baz=262					
SSLB				*e*S	**Sn**	**06 31 29.2 -0.9**
	baz=262					
WHP	**Taichung City**	**1.39 285**		*e*P	**Pb**	**06 31 15.4 +1.0**
	baz=272					
WHP				*e*S	**Sb**	**06 31 33.2 +1.4**
	baz=272					
TYC	**Yuchr**	**1.43 269**		*e*P	**Pn**	**06 31 14.0 +0.1**
	baz=267					
TYC				*e*S	**Sb**	**06 31 32.6 -0.2**
	baz=267					
WHYT	**Xinyi Township**	**1.45 261**		*e*P	**Pb**	**06 31 15.8 +0.3**
	baz=247					
WHYT				*e*S	**Sn**	**06 31 32.4 -0.4**
	baz=247					
LIOB	**Emei**	**1.46 299**		*e*P	**Pb**	**06 31 15.8 0.0**
	baz=297					
ELDTW	**Lidau**	**1.48 240**		*e*S	**Sn**	**06 31 31.6 -2.0**
	baz=239					
JKRS	**Kuro-shima**	**1.49 78**	P		**Pb**	**06 31 17.0 +0.9**
JKRS				*e*S	**Sb**	**06 31 35.5 +1.0**
WJS	**Zhushan**	**1.55 266**		*e*P	**Pb**	**06 31 17.1 -0.1**
	baz=264					
WJS				*e*S	**Sb**	**06 31 37.4 +1.0**
	baz=264					
TWQ1	**Liyutan**	**1.56 286**		*e*P	**Pb**	**06 31 18.0 +0.6**
	baz=283					
TWQ1				*e*S	**Sb**	**06 31 37.4 +0.8**
	baz=283					
WNT	**Mingjian**	**1.59 268**		*e*S	**Sb**	**06 31 38.0 +0.6**
	baz=266					
TCU	**Taichung**	**1.61 278**		*e*S	**Sb**	**06 31 39.5 +1.5**
	baz=276					
CHN5	**Tsauling**	**1.63 259**		*e*P	**Pb**	**06 31 18.6 +0.1**
	baz=247					
CHN5				*e*S	**Sn**	**06 31 38.1 +0.9**
	baz=247					
JIJ	**Ishigaki jima**	**1.63 74**	P		**Pn**	**06 31 17.6 +0.8**
JIJ				*e*S	**Sb**	**06 31 38.2 -0.6**
TWGBT	**Beinan**	**1.65 228**		*e*S	**Sn**	**06 31 36.4 -1.3**
	baz=240					
TWG	**Pinlang**	**1.66 228**		*e*S	**Sn**	**06 31 37.0 -0.8**
	baz=240					
STYT	**Tauyuan**	**1.70 244**		*e*S	**Sn**	**06 31 39.9 +0.9**
	baz=234					
TPUB	**Ta-pu**	**1.75 249**		*e*P	**Pn**	**06 31 19.5 +1.1**
	baz=248					
TPUB				*e*S	**Sb**	**06 31 42.7 +0.4**
	baz=248					
CHN4	**Tsaushan**	**1.77 251**		*e*P	**Pb**	**06 31 21.1 +0.1**
	baz=250					
CHN4				*e*S	**Sb**	**06 31 43.2 +0.5**
	baz=250					
WTP	**Ta-pu**	**1.79 248**		*e*P	**Pb**	**06 31 21.0 -0.3**
	baz=237					
WTP				*e*S	**Sb**	**06 31 44.0 +0.7**
	baz=237					
JISG	**Ishigakijimahi**	**1.85 69**	P		**Pn**	**06 31 20.9 +1.2**
JISG				*e*S	**Sb**	**06 31 43.6 -1.3**
SLGT	**Liugui**	**1.88 241**		*e*S	**Sb**	**06 31 45.9 +0.1**
	baz=231					
CHY	**Chiayi**	**1.88 257**		*e*S	**Sb**	**06 31 46.4 +0.6**
	baz=255					
RLNB	**Erlin**	**1.88 269**		*e*S	**Sb**	**06 31 46.5 +0.6**
	baz=267					
SGST	**Jiashian**	**1.88 244**		*e*S	**Sb**	**06 31 45.3 -0.7**
	baz=234					
CHN1	**Nanshi**	**1.89 247**		*e*P	**Pb**	**06 31 22.8 -0.1**
	baz=246					
CHN1				*e*S	**Sb**	**06 31 47.2 +1.1**
	baz=246					
SNST	**Tainan City**	**1.90 248**		*e*P	**Pb**	**06 31 22.7 -0.4**
	baz=247					
SNST				*e*S	**Sb**	**06 31 46.0 -0.4**
	baz=247					
SSD	**Sandimen**	**2.02 235**		*e*S	**Sn**	**06 31 48.0 +1.2**
	baz=228					
WSF	**Szhu**	**2.03 262**		*e*S	**Sb**	**06 31 50.1 -0.1**
	baz=260					
LAY	**Lan-yu**	**2.04 203**		*e*P	**Pn**	**06 31 22.3 -0.2**
	baz=203					
LAY				*e*S	**Sn**	**06 31 44.2 -3.2**
	baz=203					
MASBT	**Mashibuluo**	**2.10 232**		*e*P	**Pn**	**06 31 24.1 +0.9**
	baz=226					
MASBT				*e*S	**Sn**	**06 31 50.4 +1.7**
	baz=226					
EAST	**Anshuo**	**2.11 223**		*e*P	**Pn**	**06 31 23.8 +0.4**
	baz=222					
TSEB	**Hengchuen, Pin**	**2.46 215**		*e*S	**Sn**	**06 31 56.7 -0.8**
	baz=224					
WDGT	**Dungji**	**2.62 256**		*e*P	**Pn**	**06 31 31.1 +0.9**
	baz=254					
WDGT				*e*S	**Sn**	**06 32 01.9 +0.5**
	baz=254					
PHUB	**P'eng-hu**	**2.64 262**		*e*P	**Pn**	**06 31 31.7 +1.1**
	baz=260					
PHUB				*e*S	**Sn**	**06 32 02.6 +0.6**
	baz=260					
PNG	**Penghu**	**2.65 263**		*e*S	**Sn**	**06 32 03.2 +1.0**
	baz=261					
VWUC	**VWUC**	**2.90 292**		*e*P	**Pn**	**06 31 33.7 -0.5**
	baz=288					
VWUC				*e*S	**Sn**	**06 32 06.5 -2.1**
	baz=288					
PTMZ	**Houxiangcun**	**3.20 291**		*e*P	**Pn**	**06 31 37.9 -0.4**
	baz=289					

*IDC **24** 06:43:28.5±0.7, 35°.18N×77°.08E, h0km, mb3.8/13, mb1 3.9/18, mb1mx3.7/42, mbtmp3.7/18, ML3.3/5, MS3.4/2, Ms1 3.4/2, ms1mx2.7/51, Error ellipse: s-maj=19.7km s-min=15.0km az=57.0*
*ISCJB **24** 06:43:29.6±0.3, 35°.29N±0°.03×77°.24E±0°.05, h10km, mb3.8/13, MS3.3/2, Error ellipse: s-maj=5.9km s-min=3.4km az=153.5*
*BJI **24** 06:43:33.6±0.0, 35°.41N×77°.18E, h5km, ML3.9/4*
*NEIC **24** 06:43:38.3±2.2, 35°.36N±0°.09×77°.03E±0°.09, h80km±8km, mb4.0/10*
*NNC **24** 06:43:47.4±2.8, 36°.30N×77°.30E, h7km±11km, mb4.2, mpv3.9, Error ellipse: s-maj=16.9km s-min=15.4km az=65.0*

ISC 24 06:43:29.6±0.4, 35°.17N±0°.03×77°.19E±0°.04, h10km, n86, σ2.67/80, mb3.8/14, 8C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**3.00 195**		*e*P	**Pg**	**06 44 26.8**	**-0.4**
DHRM				*e*S	**Sg**	**06 45 12.6**	**+6.5**
DHRM				IAML		06 45 21.1	
	comp=E,142nm,1.2s						
DHRM				IAML		06 45 21.3	
	comp=N,121nm,0.0s						
JMU	**Jammu**	**3.10 219**		*ex*	**Sb**	**06 45 00.0**	**-2.6**
NIL	**Nilore**	**3.59 246**			**Pb**	**06 44 31.5**	**-1.7**
NIL				Sn	**Sb**	**06 45 13.8**	**-3.1**
SMLA	**Simla**	**4.03 180**		*e*P	**Pb**	**06 44 39.0**	**-1.6**
SMLA				*e*S	**Sg**	**06 45 35.1**	**-3.9**
SMLA				IAML		06 45 43.5	
	comp=E,83nm,0.4s						
SMLA				IAML		06 45 44.4	
	comp=N,90nm,0.0s						
KSH	**Kashi**	**4.45 348**		Pn	**Pn**	**06 44 39.6**	**+2.4**
KSH				Sn	**Sn**	**06 45 27.1**	**-2.0**
KSH				smax	smax		
	comp=N,420nm,0.8s						
KSH				smax	smax		
	comp=N,290nm,0.7s						
JOSI	**Joshimath**	**5.01 156**		*e*P	**Pb**	**06 44 53.3**	**-4.3**
JOSI				*e*S	**Sb**	**06 45 53.2**	**-4.7**
JOSI				IAML		06 45 58.1	
	comp=N,104nm,0.5s						
JOSI				IAML		06 45 58.3	
	comp=E,123nm,0.6s						
NRN	**Naryn**	**6.33 352**			**Pn**	**06 45 06.9**	**+3.7**
NRN				Sn	**Sn**	**06 46 17.2**	**+1.6**
TARG	**Taragay, Kyrgy**	**6.57 4**			Pn	06 45 11.3	+4.7
GAR	**Garm**	**6.70 307**			**Pn**	**06 45 10.0**	**+1.9**
KBL	**Kabul**	**6.73 267**		Pn	**Pn**	**06 45 12.4**	**+3.7**
KDJ	**Kajisay**	**6.95 360**			**Pn**	**06 45 16.1**	**+4.5**
ARSB	**Arslanbob**	**6.98 333**		Pn	**Pn**	**06 45 15.8**	**+3.8**
ARSB				Sn	**Sn**	**06 46 30.6**	**-0.9**
KUDL	**Kundal**	**7.03 185**		*e*P	Pn	06 45 17.8	+5.3
KUDL				*e*S	Sn	06 46 42.6	+10
BTK	**Batken**	**7.03 316**			**Pn**	**06 45 13.7**	**+1.1**
BTK				Sn	**Sn**	**06 46 30.9**	**-1.8**
CHGR	**Chuyangaron**	**7.32 301**		Pn	Pn	06 45 21.5	+4.9
CHGR				Sn	**Sn**	**06 46 38.8**	**-1.0**
BOOM	**Boomskoye usch**	**7.38 353**			**Pn**	**06 45 20.5**	**+3.1**
AAK	**Ala-Archa**	**7.75 345**		⇓Pn	**Pn**	**06 45 27.0**	**+4.4**
	comp=E,3.0nm,0.8s						
AAK				Pg	Pb	06 45 49.9	+5.8
	comp=E,3.7nm,0.6s						
AAK				⇑Lg	Lg	06 47 20.7	
	comp=E,18nm,0.8s						
AAK	**Ala-Archa**	**7.75 345**		Pn	Pn	06 45 28.1	+5.5
	comp=E,0.4nm,0.3s,baz=192,slow=1.1,SNR=6.2						
AAK				Pg	**Pb**	**06 45 45.3**	**+1.3**
	comp=E,0.3nm,0.3s,baz=186,slow=15,SNR=5.5						
AAK				Lg	Lg	06 47 26.1	
	comp=E,0.6nm,0.3s,baz=56,slow=23,SNR=4.9						
AAK	**Ala-Archa**	**7.75 345**			**Pn**	**06 45 24.7**	**+2.1**
TKM2	**Tokmak 2**	**7.84 351**		⇑Pn	**Pn**	**06 45 27.6**	**+3.7**
TKM2				⇓Pg	Pb	06 45 50.8	+5.1
TKM2				⇑Lg	Lg	06 47 23.2	
	comp=E,20nm,1.4s						
TNSS	**Tian-Shan**	**7.86 359**		Pg	Pn	06 45 29.5	+5.2
	comp=E,7.5nm,0.6s						
TNSS				Lg	Lg	06 47 20.8	
	comp=E,16nm,1.1s						
IZV	**Izvestkoviy**	**7.87 357**		Pg	Pn	06 45 30.1	+5.9
IZV				Lg	Lg	06 47 21.7	
	comp=E,13nm,0.8s						
KST	**Kastek**	**7.92 353**		Pg	Pn	06 45 32.0	+7.1
	comp=E,4.1nm,0.6s						
KST				Lg	Lg	06 47 25.0	
	comp=E,18nm,1.4s						
SATY	**Saty**	**7.94 6**		Pg	**Pn**	**06 45 28.1**	**+3.0**
	comp=E,15nm,0.4s						
SATY				Lg	Lg	06 47 18.0	
	comp=E,28nm,0.8s						
MDOK	**Medeo**	**7.99 359**		Pn	**Pn**	**06 45 29.1**	**+3.4**
	comp=E,6.8nm,1.0s						
MDOK				⇓Pg	Pb	06 45 52.9	+4.8
	comp=E,7.7nm,0.8s						
MDOK				Lg	Lg	06 47 27.2	
	comp=E,26nm,0.9s						
MDOK	**Medeo**	**7.99 359**		Pg	Pn	06 45 31.2	+5.4
	comp=E,7.1nm,0.7s						
MDOK				Lg	Lg	06 47 23.4	
	comp=E,18nm,1.4s						
KOTS	**Kotyrbulak**	**8.05 360**		Pg	Pn	06 45 32.2	+5.4
	comp=E,9.6nm,0.3s						
KOTS				Lg	Lg	06 47 25.4	
	comp=E,60nm,0.7s						
DGS	**Degeres**	**8.14 353**		Pg	Pn	06 45 36.1	+8.3
	comp=E,4.1nm,0.8s						
DGS				Lg	Lg	06 47 32.3	
	comp=E,12nm,1.1s						
MRKS	**Merke**	**8.17 339**		Pg	Pb	06 45 41.6	-10
	comp=E,4.1nm,0.4s						
MRKS				Lg	Lg	06 47 42.2	
	comp=E,4.1nm,0.4s						
PDGK	**Podgornoye**	**8.34 12**		⇑Pn	**Pn**	**06 45 33.2**	**+2.5**
	comp=E,5.5nm,0.6s						
PDGK				⇓Lg	Lg	06 47 38.5	
	comp=E,20nm,0.9s						
KURS	**Kuram**	**8.34 5**		Pg	Pn	06 45 35.6	+5.0
	comp=E,9.0nm,1.1s						
KURS				Lg	Lg	06 47 31.5	
	comp=E,16nm,1.1s						
KTBS	**Karatobe**	**8.54 358**		Pg	Pn	06 45 41.9	+8.6
	comp=E,5.4nm,0.8s						
KTBS				Lg	Lg	06 47 42.7	
	comp=E,14nm,1.0s						
CHKK	**Chushkaly**	**8.68 359**		Pg	Pn	06 45 43.6	+8.5
	comp=E,1.0nm,0.1s						
CHKK				Lg	Lg	06 47 45.7	
	comp=E,10.0nm,0.7s						
KUU	**Kurty**	**8.74 356**		Pg	Pn	06 45 46.5	+10
	comp=E,2.6nm,0.8s						
KUU				Lg	Lg	06 47 50.8	
	comp=E,14nm,0.6s						
DANN	**Dangsing**	**8.80 139**		*e*P	**Pn**	**06 45 41.4**	**+4.3**
	comp=E,18nm,0.3s						
KOLN	**Koldanda**	**9.18 142**		*e*P	**Pn**	**06 45 47.0**	**+4.7**
	comp=E,10nm,0.3s						
KK31	**Karatay Array**	**9.47 329**		⇑Pn	**Pn**	**06 45 49.7**	**+3.7**
	comp=E,0.8nm,0.3s,baz=188,slow=10,SNR=12						
KK31				⇑Sn	**Sn**	**06 47 29.5**	**-3.0**
	comp=E,1.3nm,0.5s,baz=136,slow=9.4,SNR=3.9						
KK31	**Karatay Array**	**9.47 329**		Pn	**Pn**	**06 45 47.5**	**+1.5**
KKAR	**Karatay Array**	**9.47 329**			**Pn**	**06 45 47.7**	**+1.7**
KKAR	**Karatay Array**	**9.47 329**		Pn	**Pn**	**06 45 48.6**	**+2.6**
GKN	**Gorkha**	**9.55 136**		*e*P	**Pn**	**06 45 51.1**	**+3.8**
	comp=E,15nm,0.3s						
DMN	**Daman**	**10.12 136**		*e*P	**Pn**	**06 45 59.0**	**+3.8**
	comp=E,12nm,0.4s						
KAPS	**Kapalarasan**	**10.24 9**		Pg	Pn	06 46 09.4	+13
	comp=E,1.7nm,0.9s						
KAPS				Lg	Lg	06 48 31.7	
	comp=E,3.6nm,0.6s						
PKI	**Pulchoki**	**10.32 135**		*e*P	**Pn**	**06 46 01.6**	**+3.5**
	comp=E,11nm,0.5s						
GUN	**Gumba**	**10.35 132**		*e*P	**Pn**	**06 46 01.8**	**+3.3**
	comp=E,15nm,0.4s						
JIRN	**Jiri**	**10.72 132**		*e*P	**Pn**	**06 46 07.0**	**+3.4**
	comp=E,25nm,0.4s						
RAMN	**Ramite**	**11.49 133**		*e*P	**Pn**	**06 46 16.6**	**+2.7**
	comp=E,11nm,0.4s						
TAPN	**Taplejung**	**11.90 128**		*e*P	**Pn**	**06 46 21.7**	**+2.1**
	comp=E,14nm,0.3s						
MK31	**Makanchi Array**	**12.23 17**		⇑Pn	**Pn**	**06 46 26.7**	**+2.9**
	comp=E,0.9nm,0.5s,baz=196,slow=12,SNR=16						
MK31				⇑Sn	**Sn**	**06 48 34.7**	**-5.5**
	comp=E,3.0nm,0.8s,baz=194,slow=19,SNR=4.0						
MK31	**Makanchi Array**	**12.23 17**			**Pn**	**06 46 27.6**	**+3.8**
MKAR	**Makanchi Array**	**12.23 17**		Pn	**Pn**	**06 46 24.9**	**+1.0**
	comp=E,0.5nm,0.3s,baz=200,slow=13,SNR=12						
MKAR				Sn	**Sn**	**06 48 34.6**	**-5.6**
	comp=E,0.2nm,0.3s,baz=197,slow=19,SNR=4.3						
MKAR	**Makanchi Array**	**12.23 17**		Pn	**Pn**	**06 46 25.4**	**+1.6**
KURBB	**Kurchatov Arra**	**15.48 3**		Pn	**Pn**	**06 47 08.7**	**+0.8**
	comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=2.5						
KURK	**Kurchatov**	**15.57 3**		Pn	**Pn**	**06 47 09.6**	**+0.5**
KURK				IAmb	IAmb	06 47 23.3	
	comp=Z,2.9nm,0.9s						
GEYT	**Alibeck**	**15.58 286**		Pn	**Pn**	**06 47 10.6**	**+1.4**
GTA	**Gaotai**	**18.48 70**		*e*P	Pn	06 47 53.8	+8.0
GTA				pP	sP	06 47 57.3	+5.3
GTA				sP	pP	06 48 00.0	+10
BVAR	**Borovoye Array**	**18.49 347**		P	**P**	**06 47 45.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=7.0						
BRVK	**Borovoye**	**18.54 347**		P	**Pn**	**06 47 46.7**	**+0.3**
BRVK				IAmb	IAmb	06 47 53.0	
	comp=Z,4.7nm,0.8s						
ABKAR	**Akbulak array**	**18.95 323**		P	**P**	**06 47 50.2**	**-0.5**
ABKAR	**Akbulak array**	**18.95 323**		P	**Pn**	**06 47 51.8**	**+0.5**
ZALV	**Zalesovo Beam**	**19.53 14**		P	**Pn**	**06 47 58.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=3.1						
ZALV	**Zalesovo Beam**	**19.53 14**		P	**Pn**	**06 47 58.0**	**-0.3**
AKTO	**Aktyubinsk**	**20.66 323**		P	**P**	**06 48 09.4**	**0.0**
	comp=Z,1.7nm,0.6s,baz=108,slow=14,SNR=4.2						
SONM	**Songino Array**	**25.10 51**		P	**P**	**06 48 55.7**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=249,slow=7.8,SNR=7.3						
SONM	**Songino Array**	**25.10 51**		P	**P**	**06 48 55.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**25.48 125**		P	**P**	**06 49 00.6**	**+2.6**
	comp=Z,1.1nm,0.4s,baz=316,slow=10,SNR=4.4						
GNI	**Garni**	**26.08 291**		LR	LR	07 01 55.9	
	comp=Z,98nm,18.4s,baz=344,slow=43						
BRTR	**Keskin Array B**	**34.62 291**		P	**P**	**06 50 19.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=99,slow=8.9,SNR=2.6						
BRTR	**Keskin Array B**	**34.62 291**		P	**P**	**06 50 18.7**	**-0.4**
FINES	**FINESS Array B**	**41.41 326**		P	**P**	**06 51 15.8**	**0.0**
	comp=Z,4.6nm,0.9s,baz=119,slow=7.5,SNR=12						
JNU	**Nakatsue**	**44.03 77**		LR	LR	07 10 37.6	
	comp=Z,29nm,18.1s,baz=24,slow=37						
ARCES	**ARCESS Array B**	**44.32 337**		P	**P**	**06 51 39.0**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=116,slow=8.3,SNR=4.9						
CLL	**Collm**	**47.91 310**		*e*P	**P**	**06 52 05.0**	**-2.8**
NOA	**NORSAR Array B**	**48.45 324**		P	**P**	**06 52 11.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.2,SNR=2.6						
STU	**Stuttgart**	**50.73 308**		P	**P**	**06 52 29.1**	**-0.3**
KMBO	**Kilima Mbogo**	**51.91 235**		P	**P**	**06 52 38.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=30,slow=8.1,SNR=4.0						
KMBO	**Kilima Mbogo**	**51.91 235**		P	**P**	**06 52 38.5**	**-0.4**
KMBO				IAmb	IAmb	06 52 42.4	
	comp=Z,2.0nm,0.5s						
MBAR	**Mbarara**	**56.05 241**		P	**P**	**06 53 06.7**	**-2.4**
MBAR				IAmb	IAmb	06 53 11.8	
	comp=Z,5.8nm,1.2s						
ESDC	**Sonseca Array**	**62.49 301**		P	**P**	**06 53 53.8**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=59,slow=6.7,SNR=4.3						
ESDC	**Sonseca Array**	**62.49 301**		P	**P**	**06 53 52.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**70.77 273**		P	**P**	**06 54 46.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=45,slow=6.5,SNR=7.6						
TORD	**Torodi Ar. Bea**	**70.77 273**		P	**P**	**06 54 45.5**	**-0.9**
INK	**Inuvik**	**74.31 11**		P	**P**	**06 55 06.6**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=9.0,slow=5.7,SNR=3.2						
WRA	**Warramunga Arr**	**77.07 126**		P	**P**	**06 55 24.1**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=304,slow=4.7,SNR=8.5						
ASAR	**Alice Springs**	**79.43 129**		P	**P**	**06 55 37.3**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=323,slow=5.1,SNR=5.5						
YKA	**Yellowknife Ar**	**82.21 5**		P	**P**	**06 55 49.7**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=339,slow=5.4,SNR=2.7						

*ISCJB **24** 06:49:21.5±0.6, 23°.90N±0°.01×122°.43E±0°.01, h7km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=144.4*
*TAP **24** 06:49:21.9, 23°.93N×122°.37E, h9km±1km, ML3.1, D*
*JMA **24** 06:49:22.5±0.2, 23°.94N×122°.41E, h18km±4km, M2.5*

ISC 24 06:49:21.8±1.1, 23°.93N±0°.02×122°.40E±0°.02, h11km±9km, n75, σ0.49/141, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.67 338**		P	**Pb**	**06 49 35.4**	**0.0**
	baz=340						
EOS1				S	**Sb**	**06 49 45.5**	**+0.8**
	baz=340						
JYNG	**Yonagunijimaku**	**0.72 43**		P	**Pg**	**06 49 36.0**	**+0.3**
JYNG				*e*S	**Sg**	**06 49 44.5**	**-0.7**
HWA	**Hwalien**	**0.73 274**		*e*P	**Pg**	**06 49 36.2**	**+0.2**
	baz=273						
HWA				*e*S	**Sb**	**06 49 47.2**	**+0.7**
	baz=273						
ENLB	**Shoufeng**	**0.73 268**		*e*P	**Pg**	**06 49 35.8**	**-0.2**
	baz=267						
ENLB				S	**Sb**	**06 49 47.0**	**+0.4**
	baz=267						
TWD	**Chiawan**	**0.75 282**		*i* P	**Pb**	**06 49 37.1**	**+0.2**
	baz=282						
TWD				*i* S	**Sb**	**06 49 47.4**	**+0.3**
	baz=282						
YOJ	**Yonaguni jima**	**0.77 46**		P	**Pg**	**06 49 36.9**	**+0.2**
	baz=47						
YOJ	**Yonaguni jima**	**0.77 46**		P	**Pg**	**06 49 36.9**	**+0.2**
YOJ				*e*S	**Sg**	**06 49 46.1**	**-0.7**
NANB	**Nanao**	**0.78 310**		*i* P	**Pb**	**06 49 37.3**	**0.0**
	baz=310						
NANB				S	**Sb**	**06 49 48.1**	**+0.2**
	baz=310						
NACB	**Ninganchiao**	**0.78 289**		P	**Pb**	**06 49 37.4**	**+0.1**
	baz=288						
NACB				*e*S	**Sn**	**06 49 49.4**	**-1.0**
	baz=288						
ENA	**Nanau**	**0.78 310**		*i* P	**Pb**	**06 49 37.5**	**+0.1**
	baz=310						
ENA				S	**Sb**	**06 49 48.3**	**+0.3**
	baz=310						
TWC	**Suao**	**0.85 323**		*i* P	**Pg**	**06 49 37.9**	**-0.3**
	baz=325						
TWC				S	**Sg**	**06 49 48.9**	**-0.3**
	baz=325						
ETLH	**Xiulin Townshi**	**0.89 289**		*e*P	**Pg**	**06 49 39.1**	**+0.2**
	baz=288						
ETLH				*e*S	**Sb**	**06 49 51.2**	**+0.1**
	baz=288						
ESL	**Shilin**	**0.89 263**		*e*P	**Pg**	**06 49 38.6**	**-0.4**
	baz=262						
ESL				S	**Sb**	**06 49 51.1**	**-0.1**
	baz=262						
HGSD	**Ruisui**	**1.00 244**		*e*P	**Pb**	**06 49 41.2**	**+0.2**
	baz=243						
EGS		**1.01 335**		P	**Pg**	**06 49 41.5**	**+0.2**
	baz=336						
EGS				S	**Sn**	**06 49 55.4**	**-0.7**
	baz=336						
TWE	**Neicheng**	**1.04 320**		*i* P	**Pg**	**06 49 42.0**	**+0.2**
	baz=321						
TWE				*i* S	**Sg**	**06 49 55.5**	**+0.2**
	baz=321						
ENTT	**Nioudou**	**1.04 313**		P	**Pg**	**06 49 42.1**	**+0.2**
	baz=313						
ENTT				*i* S	**Sn**	**06 49 56.5**	**-0.4**
	baz=313						
NDT	**Datong Townshi**	**1.05 310**		*e*P	**Pg**	**06 49 42.2**	**+0.1**
	baz=310						
NDT				S	**Sn**	**06 49 56.7**	**-0.5**
	baz=310						
NNSB	**Datong**	**1.06 298**		P	**Pb**	**06 49 42.2**	**+0.1**
	baz=298						
NNSB				S	**Sg**	**06 49 56.2**	**+0.3**
	baz=298						
NTC	**Toucheng**	**1.06 331**		P	**Pb**	**06 49 42.1**	**0.0**
	baz=331						
NTC				*e*S	**Sn**	**06 49 57.1**	**-0.2**
	baz=331						
WHF	**Hehuan Shan**	**1.06 282**		*i* P	**Pb**	**06 49 42.3**	**-0.2**
	baz=281						
WHF				S	**Sb**	**06 49 56.1**	**-0.4**
	baz=281						
NNS	**Nan Shan**	**1.07 299**		*i* P	**Pb**	**06 49 42.1**	**-0.2**
	baz=299						
NNS				*i* S	**Sn**	**06 49 57.3**	**-0.4**
	baz=299						
EHY	**Hungye**	**1.07 247**		P	**Pb**	**06 49 42.2**	**-0.2**
	baz=246						
EHY				S	**Sb**	**06 49 56.6**	**+0.1**
	baz=246						
SLBB	**Yuanshan**	**1.08 320**		*i* P	**Pb**	**06 49 42.0**	**-0.5**
	baz=320						
CHGB	**Renai**	**1.13 277**		P	**Pb**	**06 49 43.2**	**-0.2**
	baz=276						
CHGB				S	**Sg**	**06 49 58.8**	**+0.5**
	baz=276						
TWB1	**Santiao Chiao**	**1.14 341**		P	**Pg**	**06 49 44.1**	**+0.4**
	baz=342						
TWB1				S	**Sn**	**06 49 59.0**	**-0.3**
	baz=342						
YULB	**Yu-li**	**1.14 243**		⇓P	**Pb**	**06 49 43.3**	**-0.3**
	baz=241						
YULB				S	**Sb**	**06 49 58.1**	**-0.4**
	baz=241						
TWF1	**Yuli**	**1.16 241**		⇓*i* P	**Pb**	**06 49 43.8**	**-0.1**
	baz=239						
TWF1				*i* S	**Sb**	**06 49 59.0**	**0.0**
	baz=239						
TIPB	**Shuangxi**

TWA	**Mucha**	**1.29 325**	P		**Pb**	**06 49 46.3**	**+0.3**
	baz=325						
TWA			S		**Sg**	**06 50 04.2**	**+0.9**
	baz=325						
HATJ	**Hateruma jima**	**1.29 84**	*e*S		**Sb**	**06 50 02.2**	**-0.4**
NHDH	**Xindian Distri**	**1.30 322**	*e*P		**Pg**	**06 49 46.8**	**-0.1**
	baz=323						
NHDH			*e*S		**Sg**	**06 50 04.4**	**+0.5**
	baz=323						
SSLB	**Suanglung**	**1.33 264**	*e*P		**Pn**	**06 49 46.6**	**+0.2**
	baz=263						
SSLB			S		**Sb**	**06 50 02.9**	**-1.0**
	baz=263						
TATO	**Taipei**	**1.33 322**	*e*P		**Pb**	**06 49 46.8**	**0.0**
	baz=322						
TATO			*e*S		**Sg**	**06 50 04.6**	**-0.2**
	baz=322						
DPDB	**Guoxing**	**1.35 275**	*e*P		**Pn**	**06 49 46.8**	**+0.2**
	baz=274						
DPDB			*e*S		**Sg**	**06 50 05.2**	**-0.3**
	baz=274						
SMLT	**Sun Moon Lake**	**1.38 268**	P		**Pn**	**06 49 46.8**	**-0.2**
	baz=267						
SMLT			S		**Sb**	**06 50 05.1**	**-0.1**
	baz=267						
WHP	**Taichung City**	**1.38 285**	P		**Pg**	**06 49 48.8**	**+0.5**
	baz=284						
WHP			S		**Sg**	**06 50 05.9**	**-0.2**
	baz=284						
TYC	**Yuchr**	**1.41 269**	P		**Pn**	**06 49 47.5**	**+0.1**
	baz=268						
TYC			S		**Sg**	**06 50 06.8**	**-0.5**
	baz=268						
YM01	**YM01**	**1.43 328**	*e*P		**Pb**	**06 49 48.5**	**0.0**
	baz=328						
YM01			*e*S		**Sg**	**06 50 07.8**	**-0.1**
	baz=328						
WHYT	**Xinyi Township**	**1.44 261**	*e*P		**Pn**	**06 49 48.2**	**+0.4**
	baz=260						
WHYT			*e*S		**Sb**	**06 50 06.8**	**-0.1**
	baz=260						
YM10	**YM10**	**1.44 328**	*e*P		**Pn**	**06 49 48.3**	**+0.4**
	baz=328						
YM10			*e*S		**Sg**	**06 50 07.8**	**-0.5**
	baz=328						
LIOB	**Emei**	**1.45 300**	*i* P		**Pb**	**06 49 49.0**	**+0.2**
	baz=299						
LIOB			S		**Sg**	**06 50 08.0**	**-0.6**
	baz=299						
YM04	**YM04**	**1.45 327**	*e*P		**Pn**	**06 49 48.0**	**0.0**
	baz=327						
YM04			*e*S		**Sg**	**06 50 08.8**	**+0.1**
	baz=327						
ELDTW	**Lidau**	**1.47 240**	*i* P		**Pn**	**06 49 48.0**	**-0.2**
	baz=239						
ELDTW			S		**Sn**	**06 50 06.2**	**-1.4**
	baz=239						
JKRS	**Kuro-shima**	**1.50 78**	S		**Sb**	**06 50 08.8**	**+0.1**
TWY	**Chenhua**	**1.53 332**	*e*P		**Pb**	**06 49 50.0**	**-0.1**
	baz=332						
TWY			*e*S		**Sg**	**06 50 10.5**	**-0.5**
	baz=332						
WJS	**Zhushan**	**1.54 266**	*e*P		**Pb**	**06 49 50.5**	**+0.2**
	baz=265						
WJS			S		**Sb**	**06 50 10.0**	**+0.3**
	baz=265						
TWQ1	**Liyutan**	**1.55 286**	*i* P		**Pb**	**06 49 50.5**	**0.0**
	baz=285						
TWQ1			S		**Sb**	**06 50 10.5**	**+0.5**
	baz=285						
WNT	**Mingjian**	**1.57 269**	P		**Pn**	**06 49 50.1**	**+0.5**
	baz=267						
WNT			S		**Sb**	**06 50 10.6**	**-0.2**
	baz=267						
TWG	**Pinlang**	**1.65 228**	*e*P		**Pn**	**06 49 50.0**	**-0.6**
	baz=226						
TWG			S		**Sn**	**06 50 10.8**	**-0.9**
	baz=226						
JIJ	**Ishigaki jima**	**1.65 74**	P		**Pn**	**06 49 51.3**	**+0.6**
JIJ			*e*S		**Sn**	**06 50 11.4**	**-0.4**
STYT	**Tauyuan**	**1.69 244**	P		**Pn**	**06 49 51.5**	**+0.2**
	baz=242						
STYT			*e*S		**Sn**	**06 50 13.2**	**+0.2**
	baz=242						
TPUB	**Ta-pu**	**1.74 249**	*e*P		**Pb**	**06 49 53.2**	**-0.6**
	baz=248						
TPUB			*e*S		**Sb**	**06 50 15.6**	**-0.1**
	baz=248						
CHN4	**Tsaushan**	**1.75 251**	P		**Pb**	**06 49 54.4**	**+0.4**
	baz=250						
CHN4			S		**Sb**	**06 50 16.8**	**+0.8**
	baz=250						
WTP	**Ta-pu**	**1.77 248**	*e*P		**Pb**	**06 49 53.7**	**-0.7**
	baz=246						
WTP			S		**Sb**	**06 50 16.3**	**-0.3**
	baz=246						
SLGT	**Liugui**	**1.86 240**	*e*S		**Sb**	**06 50 18.8**	**-0.3**
	baz=239						
JISG	**Ishigakijimahi**	**1.86 69**	*e*S		**Sn**	**06 50 17.2**	**+0.1**
SGST	**Jiashian**	**1.87 244**	*e*P		**Pn**	**06 49 54.6**	**+0.9**
	baz=242						
SGST			S		**Sn**	**06 50 17.8**	**+0.5**
	baz=242						
TWK	**Hsinying**	**1.88 250**	P		**Pb**	**06 49 55.1**	**-0.9**
	baz=248						
TWK			*e*S		**Sb**	**06 50 18.8**	**-0.8**
	baz=248						
SNST	**Tainan City**	**1.88 248**	*e*P		**Pb**	**06 49 56.1**	**-0.1**
	baz=247						
MASBT	**Mashibuluo**	**2.09 232**	*e*P		**Pn**	**06 49 57.3**	**+0.6**
	baz=230						
MASBT			*e*S		**Sn**	**06 50 24.1**	**+1.4**
	baz=230						
EAST	**Anshuo**	**2.10 223**	*e*P		**Pn**	**06 49 56.8**	**-0.1**
	baz=222						
SCZT	**Fangliau**	**2.25 227**	*e*P		**Pb**	**06 50 01.4**	**-1.1**
	baz=225						
SCZT			*e*S		**Sn**	**06 50 28.5**	**+1.7**
	baz=225						
WDGT	**Dungji**	**2.60 256**	*e*P		**Pn**	**06 50 04.6**	**+0.9**
	baz=254						
WDGT			*e*S		**Sn**	**06 50 35.9**	**+0.5**
	baz=254						
PHUB	**P'eng-hu**	**2.63 262**	*e*P		**Pn**	**06 50 04.6**	**+0.5**
	baz=260						
PHUB			*e*S		**Sn**	**06 50 36.6**	**+0.6**
	baz=260						
PTMZ	**Houxiangcun**	**3.19 291**	*e*P		**Pn**	**06 50 11.5**	**-0.4**
	baz=290						
PTMZ			*e*S		**Sn**	**06 50 48.8**	**-1.1**
	baz=290						

DDA ***24*** *06:56:47.6, 38°.08N×48°.70E, h5km±31km, MW4.2*
IDC ***24*** *06:56:54.4±0.7, 34°.15N×45°.57E, h0km, mb4.0/23, mb1 4.1/28, mb1mx4.0/53, mbtmp4.0/28, ML3.5/6, MS3.1/4, Ms1 3.1/4, ms1mx2.7/45, Error ellipse: s-maj=15.9km s-min=11.1km az=169.0*
ISN ***24*** *06:56:55.7±1.4, 34°.24N×45°.73E, h0km±6km, ML4.0*
NEIC ***24*** *06:56:56.2±1.3, 34°.14N±0°.08×45°.58E±0°.09, h10km±2km*
TEH ***24*** *06:56:56.3, 34°.25N×45°.58E, h10km, ML4.3*
MOS ***24*** *06:56:56.5±1.2, 34°.25N×45°.54E, h23km, mb4.2/19, Error ellipse: s-maj=7.9km s-min=4.8km az=102.0*
ISCJB ***24*** *06:56:57.4±0.3, 34°.02N±0°.02×45°.52E±0°.02, h36km±3km, mb4.0/44, MS3.5/1, Error ellipse: s-maj=4.1km s-min=2.3km az=35.3*
AZER ***24*** *06:56:58.6±3.0, 34°.06N×46°.14E, h3km, ml4.1/7, Error ellipse: s-maj=33.4km s-min=25.1km az=57.0*
OMAN ***24*** *06:57:07.9±2.1, 33°.06N×45°.56E, h40km±18km, ms2.8/1, Error ellipse: s-maj=43.7km s-min=14.9km az=52.0*
GII ***24*** *06:57:44.4±0.0, 34°.08N×45°.52E, h2km*
ISC 24 06:56:57.2±0.8, 34°.15N±0°.02×45°.66E±0°.02, h17km±5km, n287, σ2°10/292, mb4.1/45, 13C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.78**	**76**	*e*Pg	**Pb**	**06 57 13.0**	**+0.6**
IGHG				IAMB	IAmb	06 57 14.1	
	comp=Z,33μm,0.2s						
IGHG				*e*Sg	**Sn**	**06 57 25.0**	**0.0**
IDHR	**Dehrash**	**0.82**	**48**	*e*Pg	**Pb**	**06 57 12.2**	**-0.9**
IDHR				*e*Sg	**Sg**	**06 57 23.1**	**-0.9**
IDHR				IAMB	IAmb	06 57 25.6	
	comp=Z,0.0nm,0.2s						
IBDR	**Badra**	**1.06 168**		*e*Pg	**Pg**	**06 57 21.0**	**+3.2**
IBDR				AML	AML	06 57 21.8	
	comp=Z,11μm,0.4s						
IBDR				*e*Sg	**Sn**	**06 57 38.0**	**+6.3**
KCHF	**Cheshme Sefid,**	**1.15 83**		*e*Pg	**Pg**	**06 57 19.4**	**-0.2**
KCHF				*e*Sg	**Sg**	**06 57 37.1**	**+2.4**
KCHF				IAMB	IAmb	06 57 42.9	
	comp=Z,0.0nm,0.4s						
KER	**Kermanshah**	**1.24 79**		*e*Pg	**Pg**	**06 57 21.1**	**-0.2**
KER				*e*Sg	**Sg**	**06 57 40.2**	**+2.7**
ILIN	**Lien**	**1.32 54**		*e*Pg	**Pb**	**06 57 21.6**	**-0.1**
ILIN				*e*Sg	**Sg**	**06 57 39.8**	**-0.3**
ILIN				IAMB	IAmb	06 57 45.7	
	comp=Z,54μm,0.4s						
BHD	**Baghdad**	**1.38 231**		*e*Pn	**Pg**	**06 57 24.0**	**+0.2**
BHD				*e*Sn	**Sg**	**06 57 44.0**	**+2.2**
IKOM	**Komasi**	**1.54 89**		*e*Pn	**Pg**	**06 57 26.6**	**-0.2**
IKOM				IAMB	IAmb	06 57 56.6	
	comp=Z,0.0nm,0.8s						
IKRK	**Kirkuk**	**1.65 319**		*e*Pn	**Pn**	**06 57 26.0**	**+0.5**
IKRK				AML	AML	06 57 27.5	
	comp=Z,12μm,0.4s						
IKRK				*e*Sn	**Sb**	**06 57 48.0**	**+0.2**
IBZA	**Bozab**	**1.85 79**		*e*Pn	**Pb**	**06 57 31.4**	**+0.6**
IBZA				IAMB	IAmb	06 57 33.6	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**1.93 108**		*e*Pn	**Pb**	**06 57 32.8**	**+0.9**
IKFM				IAMB	IAmb	06 58 07.7	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.13 99**		*e*Pn	**Pb**	**06 57 35.2**	**-0.2**
IDOB				IAMB	IAmb	06 58 18.4	
	comp=Z,0.0nm,1.0s						
IKMR	**Kamar-syah**	**2.35 105**		*e*Pn	**Pb**	**06 57 38.7**	**-0.4**
IKMR				IAMB	IAmb	06 58 18.6	
	comp=Z,0.0nm,0.4s						
HSRG	**Sareghieh**	**2.42 63**		*e*Pn	**Pb**	**06 57 39.0**	**-1.5**
HSRG				IAMB	IAmb	06 58 21.0	
	comp=Z,0.0nm,0.5s						
HSAM	**Samen**	**2.44 88**		*e*Pn	**Pb**	**06 57 39.5**	**-1.3**
HSAM				IAMB	IAmb	06 57 44.6	
	comp=Z,0.0nm,0.5s						
MAHB	**Mahabad**	**2.61 1**		*e*Pn	**Pn**	**06 57 40.9**	**+2.1**
MAHB				IAMB	IAmb	06 58 25.6	
	comp=Z,0.0nm,0.4s						
BMDN	**Meydan**	**2.68 99**		*e*Pn	**Pb**	**06 57 43.1**	**-1.7**
BMDN				IAMB	IAmb	06 58 35.8	
	comp=Z,0.0nm,0.9s						
BDRS	**Dareh Seyedi**	**2.68 93**		*e*Pn	**Pb**	**06 57 42.7**	**-2.3**
BDRS				IAMB	IAmb	06 58 30.1	
	comp=Z,0.0nm,0.8s						
HAGD	**Aghdareh**	**2.95 76**		*e*Pn	**Pb**	**06 57 46.7**	**-2.8**
HAGD				IAMB	IAmb	06 57 53.0	
	comp=Z,0.0nm,0.6s						
MSL	**Mosul**	**3.06 318**		*e*Pn	**Pn**	**06 57 46.0**	**+1.2**
MSL				AML	AML	06 57 48.9	
	comp=Z,421nm,0.2s						
MSL				*e*Sn	**Sn**	**06 58 22.0**	**+0.9**
NSR	**Nassriya**	**3.16 172**		*e*Pn	**Pb**	**06 57 50.0**	**-2.9**
NSR				AML	AML	06 57 51.4	
	comp=Z,1μm,0.2s						
NSR				*e*Sn	**Sn**	**06 58 27.0**	**+3.6**
CUKT	**Cukurca**	**3.51 332**		*i* PA		06 57 52.1	
CUKT				*i* S	**Sb**	**06 58 45.0**	**+3.6**
CUKT				IAML		06 59 01.0	
	comp=N,542nm,0.6s						
CUKT				IAML		06 59 13.0	
	comp=E,610nm,0.7s						
CUKT	**Cukurca**	**3.51 332**		*e*Pn	**Pn**	**06 57 51.5**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.58 63**		*e*Pn	**Pn**	**06 57 54.6**	**+2.4**
YOVA	**Hakkari_Yksek**	**3.60 342**		*i* P	**Pn**	**06 57 54.2**	**+1.7**
YOVA				*i* S	**Sn**	**06 58 37.9**	**+3.1**
YOVA				IAML		06 59 04.0	
	comp=N,135nm,0.9s						
YOVA				IAML		06 59 17.0	
	comp=E,131nm,0.6s						
YOVA	**Hakkari_Yksek**	**3.60 342**		*e*Pn	**Pn**	**06 57 53.7**	**+1.2**
IRAZ	**Razeghan**	**3.73 69**		*e*Pn	**Pn**	**06 57 57.9**	**+3.7**
IRAZ				IAMB	IAmb	06 58 10.8	
	comp=Z,5μm,0.5s						
HAKT	**HAKKARI**	**3.75 336**		*i* PA		06 57 45.2	
HAKT				*i* S	**Sn**	**06 58 36.0**	**-2.4**
HAKT				IAML		06 59 14.0	
	comp=E,331nm,0.6s						
HAKT				IAML		06 59 23.0	
	comp=N,270nm,0.8s						
HAKT	**HAKKARI**	**3.75 336**		*e*Pn	**Pn**	**06 57 54.2**	**-0.3**
SIRT	**Sirnak**	**4.24 323**		*e*Pn	**Pn**	**06 58 03.8**	**+2.6**
SIRN	**Sırnak**	**4.25 323**		*i* P	**Pn**	**06 58 01.4**	**+0.1**
SIRN				*i* S	**Sb**	**06 59 04.8**	**+2.1**
SIRN				IAML		06 59 26.0	
	comp=N,415nm,0.7s						
SIRN				IAML		06 59 26.0	
	comp=E,320nm,0.9s						
SIRN	**Sırnak**	**4.25 323**		*e*Pn	**Pn**	**06 58 01.4**	**+0.1**
IGZV	**Ghazvin**	**4.35 58**		IAMB	IAmb	06 58 21.1	
	comp=Z,2μm,0.6s						
IGZV				*e*Pn	**Pn**	**06 58 04.2**	**+1.5**
IMHD	**Mahdasht**	**4.39 68**		*e*Pn	**Pn**	**06 58 06.1**	**+2.9**
IMHD				IAMB	IAmb	06 59 27.8	
	comp=Z,3μm,1.0s						
IQOM	**Qom**	**4.52 80**		IAMB	IAmb	06 58 27.1	
	comp=Z,0.0nm,0.5s						
IQOM				*e*Pn	**Pn**	**06 58 08.0**	**+2.8**
RTB	**Rutbah**	**4.60 257**		*e*Pn	**Pn**	**06 58 09.0**	**+3.0**
RTB				AML	AML	06 58 10.4	
	comp=Z,99nm,0.6s						
RTB				*e*Sn	**Sn**	**06 59 02.0**	**+2.9**
IPIR	**Pirpir**	**4.62 107**		*e*Pn	**Pn**	**06 58 08.7**	**+2.2**
IPIR				IAMB	IAmb	06 59 08.6	
	comp=Z,4μm,0.4s						
QALM	**Alamut, Qazvin**	**4.67 59**		*e*Pn	**Pn**	**06 58 09.9**	**+2.7**
AKDM	**Akdamar-Van**	**4.70 333**		*e*Pn	**Pn**	**06 58 08.9**	**+1.4**
TVAN	**Van**	**4.73 338**		*e*Pn	**Pn**	**06 58 10.3**	**+2.3**
ORD	**Ordubad**	**4.78 3**		P	**Pn**	**06 58 11.8**	**+3.4**
ORD				S	**Sn**	**06 59 09.9**	**+6.4**
VANB	**Van**	**4.80 338**		*e*Pn	**Pn**	**06 58 08.6**	**-0.2**
QAM	**Ghamsar**	**4.82 93**		*e*Pn	**Pn**	**06 58 12.1**	**+2.9**
QAM				IAMB	IAmb	06 59 12.3	
	comp=Z,2μm,0.5s						
ROKH	**ROKH**	**4.85 110**		*e*Pn	**Pn**	**06 58 12.2**	**+2.5**
ROKH				IAMB	IAmb	06 59 13.4	
	comp=Z,0.0nm,0.7s						
SRTM	**Siirt_Merkez**	**4.88 323**		*i* PA		06 58 10.2	
SRTM				*i* S	**Sn**	**06 59 09.2**	**+3.0**
SRTM				IAML		06 59 44.0	
	comp=E,112nm,0.8s						
SRTM				IAML		06 59 48.0	
	comp=N,277nm,0.8s						
SRTM	**Siirt_Merkez**	**4.88 323**		*e*Pn	**Pn**	**06 58 10.3**	**+0.4**
LRK	**Lerik**	**4.98 25**		P	**Pn**	**06 58 13.1**	**+1.7**
	SNR=15						
LRK				S	**Sn**	**06 59 10.5**	**+1.9**
IKLH	**Kolahrood**	**5.00 98**		*e*Pn	**Pn**	**06 58 14.6**	**+2.8**
IKLH				IAMB	IAmb	06 59 25.0	
	comp=Z,2μm,0.4s						
NAX	**Nakhchivan**	**5.02 359**		P	Pn	06 58 17.0	+5.3
NAX				S	**Sn**	**06 59 16.3**	**+7.0**
MARD	**Mardin**	**5.07 310**		*i* P	**Pn**	**06 58 12.4**	**-0.2**
MARD				*i* S	**Sn**	**06 59 08.8**	**-2.0**
ASTR	**Astara**	**5.08 29**		P	**Pn**	**06 58 14.2**	**+1.7**
	SNR=10						
ASTR				S	**Sn**	**06 59 14.8**	**+4.1**
IVRN	**Varamin**	**5.08 79**		*e*Pn	**Pn**	**06 58 15.1**	**+2.5**
CLDR	**Caldiran**	**5.18 345**		*e*Pn	**Pn**	**06 58 15.0**	**+0.9**
YRD	**Yardimli**	**5.19 23**		P	**Pn**	**06 58 16.8**	**+2.5**
	SNR=15						
YRD				S	**Sn**	**06 59 18.5**	**+4.7**
LKRN	**Lenkeran, Azer**	**5.20 28**		P	**Pn**	**06 58 16.1**	**+1.9**
	SNR=12						
IBRJ	**Brojen**	**5.21 114**		*e*Pn	**Pn**	**06 58 16.7**	**+2.1**
IBRJ				IAMB	IAmb	06 59 27.1	
	comp=Z,1μm,0.4s						
SBZ	**Shahbuz**	**5.24 359**		P	Pn	06 58 20.3	+5.5
SBZ				S	**Sb**	**06 59 24.0**	**-7.0**
GURO	**Guroymak-BITLI**	**5.28 327**		*e*Pn	**Pn**	**06 58 16.3**	**+0.9**
MAZI	**Mazidag**	**5.37 309**		*e*Pn	**Pn**	**06 58 16.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**5.38 319**		*e*Pn	**Pn**	**06 58 17.0**	**+0.3**
KRSH	**Karshahi**	**5.38 90**		*e*Pn	**Pn**	**06 58 19.4**	**+2.5**
IDMV	**Damavand**	**5.43 73**		*e*Pn	**Pn**	**06 58 19.6**	**+1.9**
IGAR	**Gharneh**	**5.62 106**		*e*Pn	**Pn**	**06 58 22.5**	**+2.2**
MUSM	**Mu-Merkez**	**5.66 325**		*i* P	**Pn**	**06 58 20.4**	**-0.2**
MUSM				*i* S	**Sn**	**06 59 23.0**	**-2.2**
MUSM				IAML		07 00 15.0	
	comp=E,29nm,1.1s						
MUSM				IAML		07 00 39.0	
	comp=N,22nm,1.7s						
MUSM	**Mu-Merkez**	**5.66 325**		*e*Pn	**Pn**	**06 58 19.8**	**-0.8**
IZEF	**Zefreh**	**5.71 101**		*e*Pn	**Pn**	**06 58 23.7**	**+2.2**
IZEF				IAMB	IAmb	06 58 49.6	
	comp=Z,731nm,0.6s						
IPRN	**Peran**	**5.86 67**		*e*Pn	**Pn**	**06 58 26.1**	**+2.8**
BNGL	**BINGOL**	**6.01 324**		*i* PA		06 58 26.7	
BNGL				*i* S	**Sn**	**06 59 35.0**	**+1.0**
BNGL	**BINGOL**	**6.01 324**		*e*Pn	**Pn**	**06 58 26.6**	**+1.1**
IFIR	**Firoozkooh**	**6.02 74**		*e*Pn	**Pn**	**06 58 28.1**	**+2.4**
GNI	**Garni**	**6.03 353**		*i* P	**Pn**	**06 58 24.7**	**-1.1**
GNI	**Garni**	**6.03 353**		Pn	Pb	06 58 34.5	-7.5
	comp=Z,2.4nm,0.3s,baz=107,slow=17,SNR=2.2						
GNI				Lg	Lg	07 00 03.2	
	comp=Z,3.2nm,0.3s,baz=270,slow=20,SNR=2.5						
GNI	**Garni**	**6.03 353**		Pn	**Pn**	**06 58 25.4**	**-0.4**
IRAM	**Ramesheh**	**6.11 111**		*e*Pn	**Pn**	**06 58 29.4**	**+2.4**
ISHM	**Shahmirzad**	**6.48 73**		*e*Pn	**Pn**	**06 58 33.7**	**+1.6**
ANAR	**Anarak**	**6.80 96**		*e*Pn	**Pn**	**06 58 38.0**	**+1.7**
IKAZ	**Kazeroun**	**6.82 128**		*e*Pn	**Pn**	**06 58 39.8**	**+2.9**
IANJ	**Anjilo**	**6.92 77**		*e*Pn	**Pn**	**06 58 40.2**	**+2.2**
ISAD	**Sadrabad**	**7.10 106**		*e*Pn	**Pn**	**06 58 43.3**	**+2.7**
AKH	**Akhalkalaki**	**7.45 347**		P	**Pn**	**06 58 46.6**	**+1.4**
AKH	**Akhalkalaki**	**7.45 347**		Pn	**Pn**	**06 58 46.6**	**+1.4**
ASF	**Jabal al Asfar**	**7.61 257**		Pn	**Pn**	**06 58 47.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=21,slow=5.8,SNR=6.5						
ASF				Lg	Lg	07 00 55.2	
	comp=Z,0.9nm,0.3s,baz=218,slow=19,SNR=3.8						
KEMA	**Kemaliye**	**7.69 314**		*e*Pn	**Pn**	**06 58 49.2**	**+0.7**
IMEH	**Mehriz**	**8.03 108**		*e*Pn	**Pn**	**06 58 55.2**	**+1.9**
GNBR	**Gunib**	**8.29 7**		*i* P	**Pn**	**06 58 57.1**	**+0.4**
NATI	**Neve Ativ**	**8.31 267**		Pn	Pb	06 59 45.1	+24
GEM	**Giv'at Ha'Em**	**8.38 266**		Pn	Pb	06 59 45.3	+23
MMAI	**Mount Meron Ar**	**8.63 265**		Pn	**Pn**	**06 59 01.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=64,slow=16,SNR=2.7						
MMAI				Lg	Lg	07 01 26.1	
	comp=Z,3.9nm,0.3s,baz=72,slow=33,SNR=4.5						
HMDT	**Nahal Hemdat**	**8.70 260**		Pn	Pn	06 59 47.0	+45
IBAF	**Bafgh**	**8.72 104**		*e*Pn	**Pn**	**06 59 03.9**	**+1.2**
ZEI	**Tsey**	**8.73 351**		*e*P	Pn	06 59 08.1	+5.2
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TPRV	**Parvadeh(Tabas**	**9.27 94**		*e*Pn	**Pn**	**06 59 12.3**	**+2.1**
YTIR	**Yattir**	**9.30 256**		Pn	Pn	07 00 00.2	+50
NEY	**Neytrino**	**9.37 347**		*i* P	**Pn**	**06 59 11.2**	**-0.4**
NCK	**Nalchik**	**9.47 351**		*i* P	**Pn**	**06 59 10.3**	**-2.5**
ZFRI	**Zfri**	**9.56 251**		Pn	Pn	07 00 02.3	+48
PRNI	**Paran**	**9.78 250**		Pn	Pn	07 00 06.1	+49
KBZ	**Khabaz**	**9.80 348**		Pn	**Pn**	**06 59 21.2**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=167,slow=8.4,SNR=8.4						
SHA1	**Shidzhatmaz**	**9.85 347**		*i* P	**Pn**	**06 59 17.3**	**-1.0**
HRFI	**Mount Harif**	**9.90 248**		Pn	Pn	07 00 06.4	+48
KVAR	**Kislovodsk Arr**	**10.06 348**		LR	LR	07 03 37.6	
	comp=Z,117nm,21.9s,baz=313,slow=40						
KIV	**Kislovodsk**	**10.06 348**		*e*P	**Pn**	**06 59 20.6**	**-0.3**
KIV				pmax	pmax		
	comp=Z,30nm,1.1s						
KIV	**Kislovodsk**	**10.06 348**		Pn	**Pn**	**06 59 18.5**	**-2.5**
KRMI	**Paran Flat**	**10.10 250**		Pn	Pn	07 00 08.9	+47
EIL	**Elat**	**10.13 247**		Pn	Pn	07 00 09.3	+47
EIL	**Elat**	**10.13 247**		LR	LR	07 04 12.3	
	comp=Z,66nm,18.8s,baz=110,slow=44						
SOC	**Sochi**	**10.49 336**		*e*P	Pn	06 59 20.5	-6.3
SOC				*e*		07 01 14.5	
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,185nm,6.0s						
GEYT	**Alibeck**	**10.77 66**		LR	LR	07 04 58.0	
	comp=Z,50nm,21.0s,baz=345,slow=45						
GYA0B	**ALIBECK ARRAY**	**10.77 66**		Pn	**Pn**	**06 59 31.2**	**+0.6**
BR131	**Keskin Array S**	**11.11 304**		P	**Pn**	**06 59 32.6**	**-2.7**
BR131	**Keskin Array S**	**11.11 304**		Pn	**Pn**	**06 59 32.6**	**-2.7**
BRTR	**Keskin Array B**	**11.11 304**		Pn	**Pn**	**06 59 35.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=2.2						
BRTR	**Keskin Array B**	**11.11 304**			**Pn**	**06 59 35.3**	**0.0**
ILGA	**Ilgaz**	**11.70 310**		Pn	**Pn**	**06 59 39.7**	**-3.9**
ANTO	**Ankara**	**11.76 303**		P	**Pn**	**06 59 41.8**	**-2.4**
ANTO	**Ankara**	**11.76 303**		Pn	**Pn**	**06 59 41.8**	**-2.4**
SHME	**Shamm**	**12.14 129**		Pn	**Pn**	**06 59 49.8**	**+0.3**
SHME				Sn	**Sn**	**07 01 57.6**	**-6.8**
BANOM	**Banah**	**12.33 129**		*i* Pn	**Pn**	**06 59 51.4**	**-0.7**
	SNR=9.8						
BANOM	**Banah**	**12.33 129**		P	**Pn**	**06 59 52.5**	**+0.5**
	SNR=9.8						
BANOM				S	**Sn**	**07 02 03.1**	**-6.0**
MSFE	**Esma-Masafi**	**12.64 131**		*i* Pn	**Pn**	**06 59 56.5**	**+0.3**
	SNR=10						
ASUD	**Al Ashush, Dub**	**12.69 136**		*i* Pn	**Pn**	**06 59 57.8**	**+0.9**
	SNR=14						
ASUD				Sn	Sn	07 02 08.5	-9.2
ASUD	**Al Ashush, Dub**	**12.69 136**		P	**Pn**	**06 59 57.5**	**+0.6**
	SNR=13						
ASUD				S	**Sn**	**07 02 13.4**	**-4.4**
MDH	**Madha**	**12.77 131**		*i* Pn	**Pn**	**06 59 58.4**	**+0.4**
	SNR=11						
MDH	**Madha**	**12.77 131**		P	**Pn**	**06 59 58.6**	**+0.6**
	SNR=11						
MDH				S	**Sn**	**07 02 13.4**	**-6.

LPSR	Galich'ya Gora	19.07	347	eP	P	07 01 17.2	-1.3
LPSR				pmax	pmax		
comp=Z,40nm,0.9s							
KBL	Kabul	19.31	82	P	Pn	07 01 22.4	-0.3
KBL				pmax	pmax		
comp=Z,7.0nm,0.7s							
KBL	Kabul	19.31	82	P	Pn	07 01 22.4	-0.3
KBL				IAmb	IAmb	07 01 31.3	
comp=Z,6.6nm,0.7s							
VOIR		19.38	312	⇑P	Pn	07 01 23.6	+0.3
CHGR	Chuyangaron	19.43	70	P	P	07 01 23.4	+0.6
DOPR	Dopca	19.43	313	⇑P	Pn	07 01 23.8	-0.1
BIZ	Bicaz	19.53	317	⇑P	P	07 01 23.9	+0.2
ARR	Arges	19.61	311	⇑P	Pn	07 01 26.1	+0.1
LOT	Lotru	20.18	310	⇓P	P	07 01 32.0	+1.0
GAR	Garm	20.36	69	P	Pn	07 01 36.1	+0.9
BURAR	Bucovina Array	20.41	317	⇑P	P	07 01 34.5	+1.1
BURAR				mb		07 01 36.8	
BURAR	Bucovina Array	20.41	317	P	P	07 01 33.1	-0.3
BUR08	Bucovina Ar. S	20.43	317	P	P	07 01 33.2	-0.4
AKASG	Malin Array Be	20.43	329	P	P	07 01 31.2	-2.3
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	Malin Array Be	20.43	329	P	P	07 01 32.1	-1.4
comp=Z,1.7nm,0.4s,baz=129,slow=9.9,SNR=13							
AKASG	Malin Array Be	20.43	329	P	P	07 01 31.2	-2.3
AKBB	Malin Array Si	20.43	329	P	P	07 01 32.5	-1.0
AKBB				pmax	pmax		
comp=Z,9.0nm,0.8s							
AKBB	Malin Array Si	20.43	329	P	P	07 01 32.5	-1.0
AKBB				IAmb	IAmb	07 01 42.9	
comp=Z,9.2nm,0.8s							
GZR	Gura Zlata	20.79	309	⇑P	P	07 01 37.8	+0.2
BTK	Batken	20.88	66	P	P	07 01 39.2	+0.6
BTK				pmax	pmax		
comp=Z,7.0nm,0.8s							
BTK	Batken	20.88	66	P	P	07 01 39.2	+0.6
BTK				IAmb	IAmb	07 01 57.8	
comp=Z,6.6nm,0.8s							
MDVR	Moldovita	21.24	307	⇑P	P	07 01 42.5	+0.1
KK31	Karatay Array	21.32	58	P	P	07 01 44.0	+0.9
KK31				pmax	pmax		
comp=Z,6.0nm,1.0s							
KK31	Karatay Array	21.32	58	P	P	07 01 44.0	+0.9
KKAR	Karatay Array	21.32	58	P	P	07 01 44.2	+1.0
KKAR				pmax	pmax		
comp=Z,6.0nm,1.0s							
KKAR	Karatay Array	21.32	58	P	P	07 01 43.8	+0.6
KKAR	Karatay Array	21.32	58	P	P	07 01 44.2	+1.0
KKAR				IAmb	IAmb	07 01 57.0	
comp=Z,5.6nm,0.9s							
DRGR		21.45	313	P	P	07 01 44.9	+0.3
DRGR		21.45	313	⇑P	P	07 01 44.9	+0.3
SIRR	Siria	21.87	311	⇓P	P	07 01 48.9	-0.1
OBN	Obninsk	21.90	346	eP	P	07 01 47.8	-1.4
OBN				ePPP	PPP	07 02 16.4	
OBN				pmax	pmax		
comp=Z,8.0nm,0.8s							
TRPA	Tarpa	22.21	316	⇑P	P	07 01 52.5	-0.1
TRPA				mb		07 01 55.3	
KOLS	Kolonicke sedl	22.77	317	eP	P	07 01 59.8	+1.1
KOLS	Kolonicke sedl	22.77	317	eP	P	07 01 59.8	+1.1
NIL	Nilore	22.89	83	P	P	07 02 00.5	+0.5
NIL				pmax	pmax		
comp=Z,12nm,1.2s							
NIL	Nilore	22.89	83	P	P	07 02 00.5	+0.5
NIL				IAmb	IAmb	07 02 17.6	
comp=Z,12nm,1.1s							
KECS	Kecovo	23.58	315	eP	P	07 02 07.1	+0.3
KECS				pmax	pmax		
comp=Z,5.0nm,1.1s							
KECS	Kecovo	23.58	315	eP	P	07 02 07.1	+0.3
ARU	Arti	23.98	18	P	P	07 02 18.9	+8.3
ARU	Arti	23.98	18	P	P	07 02 10.4	-0.2
comp=Z,0.6nm,0.2s,baz=214,slow=15,SNR=2.5							
ARU	Arti	23.98	18	P	P	07 02 10.4	-0.2
ARU				IAmb	IAmb	07 02 22.2	
comp=Z,8.5nm,0.9s							
AAK	Ala-Archa	24.05	61	iP	P	07 02 15.4	+3.8
AAK				pmax	pmax		
comp=Z,9.0nm,2.2s							
AAK	Ala-Archa	24.05	61	P	P	07 02 12.7	+1.1
comp=Z,0.9nm,0.6s,baz=213,slow=7.9,SNR=3.8							
AAK	Ala-Archa	24.05	61	P	P	07 02 11.8	+0.2
LANS	Liptovska Anna	24.48	316	eP	P	07 02 16.1	+0.7
LANS				pmax	pmax		
comp=Z,2.0nm,0.9s							
LANS	Liptovska Anna	24.48	316	eP	P	07 02 16.1	+0.7
VYHS	Vyhne	24.56	314	eP	P	07 02 17.7	+1.7
VYHS	Vyhne	24.56	314	eP	P	07 02 17.7	+1.7
KIRV	Kirov	24.57	5	P	P	07 02 15.1	-0.9
comp=Z,13nm,0.5s,baz=181,slow=7.3,SNR=4.5							
KSH	Kashi	24.78	69	P	P	07 02 18.0	-0.3
KSH				S	S	07 06 37.0	-3.0
KSH				SS	SnSn	07 07 29.8	+2.9
KSH				ScP	ScP	07 09 38.1	+5.4
KSH				pmax	pmax		
comp=Z,320nm,5.6s							
KSH				LR	LR		
comp=N,400nm,9.7s							
KSH				LR	LR		
comp=E,310nm,9.9s							
KSH				LR	LR		
comp=Z,700nm,7.8s							
NRN	Naryn	24.97	64	P	P	07 02 22.0	+1.8
NRN				pmax	pmax		
comp=Z,6.0nm,0.8s							
NRN	Naryn	24.97	64	P	P	07 02 22.0	+1.8
NRN				IAmb	IAmb	07 02 29.2	
comp=Z,6.3nm,0.8s							
SMOL	Smolenice	25.42	313	eP	P	07 02 24.5	+0.7
SMOL	Smolenice	25.42	313	eP	P	07 02 24.5	+0.7
BRVK	Borovoye	25.77	35	iP	P	07 02 27.1	+0.2
BRVK				pmax	pmax		
comp=Z,9.0nm,2.3s							
BVAR	Borovoye Array	25.80	35	P	P	07 02 27.3	0.0
comp=Z,1.2nm,0.6s,baz=232,slow=7.1,SNR=5.3							
CONA	Conrad Observa	26.16	311	P	P	07 02 32.4	+1.7
comp=Z,5.0nm,1.4s							
VRAC	Vranov	26.25	314	P	P	07 02 31.0	-0.3
VRAC	Vranov	26.25	314	P	P	07 02 31.0	-0.3
comp=Z,3.3nm,0.9s,baz=124,slow=10,SNR=4.6							
VRAC	Vranov	26.25	314	⇑P	P	07 02 30.4	-0.9
VRAC				mb		07 02 32.5	
DPC	Dobruska-Polom	26.85	316	eP	P	07 02 36.8	0.0
DPC				e		07 02 40.6	
DPC	Dobruska-Polom	26.85	316	eP	P	07 02 36.8	0.0
DPC				epP	pP	07 02 40.6	-1.5
KLMR	Klimovskoe	27.01	353	eP	P	07 02 36.4	-1.6
KLMR				pmax	pmax		
comp=Z,29nm,1.4s							
KLMR	Klimovskoe	27.01	353	eP	P	07 02 36.4	-1.6
KLMR				AMP		07 02 44.7	
comp=Z,29nm,1.4s							
CHVC	Chvalec	27.10	316	eP	P	07 02 38.6	-0.4
CHVC				ex	x	07 02 42.9	
MOA	Molln	27.15	310	P	P	07 02 39.5	+0.1
comp=Z,7.5nm,0.9s							
GERES	GERESS Array B	27.83	312	P	P	07 02 45.9	+0.3
comp=Z,0.5nm,0.7s,baz=134,slow=8.4,SNR=2.2							
KHC	Kasperske Hory	28.01	312	eP	P	07 02 47.1	-0.1
KHC	Kasperske Hory	28.01	312	eP	P	07 02 47.1	-0.1
WTTA	Wattenberg	28.68	307	pP	P	07 02 54.6	+1.2
comp=Z,6.1nm,1.1s							
KURBB	Kurchatov Arra	29.02	45	P	P	07 02 57.5	+1.4
comp=Z,1.1nm,0.6s,baz=252,slow=9.0,SNR=8.3							
KURK	Kurchatov	29.11	45	ceP	P	07 02 58.1	+1.2
KURK				pmax	pmax		
comp=Z,2.0nm,1.1s							
KURK	Kurchatov	29.11	45	P	P	07 02 58.1	+1.2
RETA	Reutte	29.31	308	P	P	07 02 56.8	-2.0
comp=Z,3.9nm,1.0s							
DAVA	Damuels	29.85	307	P	P	07 03 02.5	-1.1
comp=Z,2.5nm,0.6s							
FINES	FINESS Array B	30.06	341	P	P	07 03 04.2	-0.9
comp=Z,1.5nm,0.5s,baz=144,slow=9.6,SNR=8.2							
MK31	Makanchi Array	30.32	54	P	P	07 03 09.6	+1.9
MK31				pmax	pmax		
comp=Z,3.0nm,1.2s							
MK31	Makanchi Array	30.32	54	P	P	07 03 09.6	+1.9
MK31				IAmb	IAmb	07 03 18.2	
comp=Z,2.9nm,1.1s							
MKAR	Makanchi Array	30.32	54	iP	P	07 03 11.1	+3.4
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	Makanchi Array	30.32	54	P	P	07 03 08.6	+1.0
comp=Z,0.8nm,0.7s,baz=254,slow=5.3,SNR=6.0							
BNI	Bardonecchia	31.66	302	P	P	07 03 19.3	-0.4
BNI				pmax	pmax		
comp=Z,13nm,1.0s							
BNI	Bardonecchia	31.66	302	P	P	07 03 19.3	-0.4
DANN	Dangsing	32.95	90	eP	P	07 03 32.6	+1.3
comp=Z,33nm,0.8s							
KOLN	Koldanda	33.02	91	eP	P	07 03 32.6	+0.8
comp=Z,14nm,0.7s							
GKN	Gorkha	33.80	90	eP	P	07 03 39.5	+0.9
comp=Z,26nm,0.6s							
ZALV	Zalesovo Beam	33.82	42	iP	P	07 03 39.5	+1.2
ZALV				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZALV	Zalesovo Beam	33.82	42	P	P	07 03 38.4	+0.1
comp=Z,0.7nm,0.4s,baz=264,slow=10,SNR=5.0							
ZALV	Zalesovo Beam	33.82	42	P	P	07 03 39.1	+0.9
DGZ	Jazzator, Alta	34.25	50	iP	P	07 03 44.7	+2.4
PKIN	Phulchoki	34.58	90	eP	P	07 03 46.3	+0.8
comp=Z,13nm,0.6s							
PKI	Pulchoki	34.59	90	eP	P	07 03 46.5	+0.9
comp=Z,26nm,0.7s							
NOA	NORSAR Array B	34.81	331	P	P	07 03 45.4	-1.5
comp=Z,1.1nm,0.8s,baz=126,slow=8.8,SNR=2.7							
GUN	Gumba	34.86	89	eP	P	07 03 49.1	+1.1
comp=Z,44nm,0.8s							
JIRN	Jiri	35.20	89	eP	P	07 03 52.3	+1.3
comp=Z,44nm,0.6s							
RAMN	Ramite	35.80	90	eP	P	07 03 56.9	+0.9
comp=Z,56nm,0.6s							
ODAN	Odare	36.49	90	eP	P	07 04 03.0	+1.1
comp=Z,16nm,0.7s							
TAPN	Taplejung	36.58	89	eP	P	07 04 03.9	+1.2
comp=Z,44nm,0.7s							
ARCES	ARCESS Array B	37.16	348	P	P	07 04 06.2	-0.6
comp=Z,5.5nm,1.0s,baz=141,slow=7.8,SNR=9.6							
ESDC	Sonseca Array	39.65	293	P	P	07 04 26.5	-1.7
comp=Z,0.1nm,0.4s,baz=87,slow=7.2,SNR=2.8							
ESDC	Sonseca Array	39.65	293	IAmb	IAmb	07 04 33.3	
comp=Z,1.2nm,1.2s							
SHL	Shillong	40.71	89	P	P	07 04 44.6	+7.3
SNR=6.7							
GTA	Gaotai	43.15	67	eP	P	07 05 03.3	+6.3
GTA				pP	sP	07 05 06.9	+2.1
GTA				sP	pP	07 05 09.3	+6.7
GTA				pmax	pmax		
comp=Z,4.0nm,1.1s							
TORD	Torodi Ar. Bea	44.95	253	P	P	07 05 10.8	-0.7
comp=Z,1.1nm,0.6s,baz=47,slow=6.3,SNR=6.1							
TORD	Torodi Ar. Bea	44.95	253	IAmb	IAmb	07 05 12.7	
comp=Z,1.7nm,1.4s							
SONM	Songino Array	46.68	54	P	P	07 05 25.7	+0.7
comp=Z,0.2nm,0.5s,baz=279,slow=7.2,SNR=2.1							
SONM	Songino Array	46.68	54	IAmb	IAmb	07 05 33.5	
comp=Z,1.1nm,1.2s							
CMAR	Chiang Mai Arr	49.73	94	P	P	07 05 48.6	-0.1
comp=Z,2.5nm,0.6s,baz=299,slow=8.3,SNR=9.3							
HHC	Hu-ho-hao-te	51.62	62	eP	P	07 06 03.9	+1.0
HHC				pmax	pmax		
comp=Z,6.0nm,1.2s							
HHC				pmax	pmax		
comp=Z,9.0nm,5.5s							
TIXI	Tiksi	55.87	22	P	P	07 06 34.4	+1.0
TIXI				pmax	pmax		
comp=Z,3.0nm,0.8s							
TIXI	Tiksi	55.87	22	P	P	07 06 34.4	+1.0
TIXI				IAmb	IAmb	07 06 38.9	
comp=Z,2.6nm,0.8s							
KSRS	Korea Array	64.71	61	LR	LR	07 38 07.4	
comp=Z,27nm,18.1s,baz=330,slow=38							
USRK	Ussuriysk Ar.	64.76	53	P	P	07 07 34.9	+0.2
comp=Z,0.7nm,0.5s,baz=283,slow=8.5,SNR=3.2							
BOSA	Boshof	65.34	200	P	P	07 07 38.6	0.0
comp=Z,2.9nm,0.7s,baz=0.7,slow=5.4,SNR=8.1							
BOSA	Boshof	65.34	200	IAmb	IAmb	07 07 47.7	
comp=Z,15nm,1.4s							
SEY	Senchan	67.19	28	P	P	07 07 51.2	+1.3
comp=Z,5.7nm,0.6s,baz=281,slow=6.5,SNR=26							
BILL	Bilibino	68.97	20	eP	P	07 08 01.8	+0.8
BILL				e		07 08 08.7	
BILL				e		07 08 20.3	
BILL				e		07 10 34.4	
BILL				ePPP	PPP	07 12 09.0	
BILL				pmax	pmax		
comp=Z,2.0nm,0.9s							
TOLK	Toolik Lake Re	76.89	6	P	P	07 08 48.9	+0.9
INK	Inuvik	77.85	360	P	P	07 08 52.8	-0.5
INK				pmax	pmax		
comp=Z,4.0nm,1.2s							
INK	Inuvik	77.85	360	P	P	07 08 52.9	-0.5
comp=Z,1.4nm,0.6s,baz=1.4,slow=7.1,SNR=4.9							
INK	Inuvik	77.85	360	IAmb	IAmb	07 09 05.7	
comp=Z,3.5nm,1.2s							
COLD	Coldfoot	78.22	6	P	P	07 08 56.7	+1.2
COLD				IAmb	IAmb	07 08 59.1	
comp=Z,4.9nm,1.2s							
BMAR	Burnt Mountain	78.44	4	P	P	07 08 58.2	+1.6
IMAR	Indian Mountai	79.06	8	P	P	07 09 00.5	+0.4
ILAR	Eielson Array	80.91	5	P	P	07 09 11.0	+0.8
ILAR	Eielson Array	80.91	5	P	P	07 09 09.5	-0.6
comp=Z,1.1nm,0.8s,baz=321,slow=3.9,SNR=12							
ILAR	Eielson Array	80.91	5	P	P	07 09 10.9	+0.8
SCRK	Sand Creek	81.91	4	P	P	07 09 16.5	+0.9
SCRK				IAmb	IAmb	07 09 17.4	
comp=Z,3.1nm,0.7s							
BCAR	Beaver Creek A	82.94	3	P	P	07 09 22.0	+1.1
KDAK	Kodiak Island	87.14	10	P	P	07 09 42.2	+0.2
comp=Z,10.0nm,0.8s,baz=8.4,slow=4.8,SNR=4.1							
KDAK	Kodiak Island	87.14	10	IAmb	IAmb	07 09 44.0	
comp=Z,1.1nm,0.8s							
WRA	Warramunga Arr	99.88	107	P	Pdif	07 10 40.0	-1.2
comp=Z,0.5nm,1.0s,baz=320,slow=3.9,SNR=2.6							

NIED ***24*** *07:04:00,37°.90N×144°.40E,h5km,Mw3.7 Best double couple: M0=4.30000×10^14 NP1:φs=3.00000°,δ26.00000°, λ-102.00000°. NP2:φs=196.00000°,δ65.00000°, λ-84.00000°.*
IDC ***24*** *07:04:20.8±1.0,37°.65N×144°.56E,h0km,mb3.5/6, mb1 3.8/9,mb1mx3.6/41,mbtmp3.7/9,ML3.4/3,MS2.9/5, Ms1 2.9/5,ms1mx2.5/47,Error ellipse: s-maj=25.3km s-min=20.2km az=113.0*
NEIC ***24*** *07:04:21.7±1.8,37°.81N±0°.05×144°.8E±0°.1,h10km±2km, mb4.2/5*
ISCJB ***24*** *07:04:23.6±0.8,37°.87N±0°.03×144°.47E±0°.05,h34km±9km, mb3.6/6,MS3.2/2,Error ellipse: s-maj=7.1km s-min=5.0km az=18.5*
JMA ***24*** *07:04:24.9±0.1,37°.87N×144°.37E,h40km,M4.1*
ISC 24 07:04:24.9±3.8,37°.87N±0°.05×144°.46E±0°.07,h27km±27km, n45,σ1s82/59,mb3.7/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakikobu	2.41	281	P	Pn	07 05 02.0	-0.5
JIKH				S	Sn	07 05 29.4	-1.7
OFUJ	Ofunato	2.50	300	P	Pn	07 05 03.9	0.0
OFUJ				S	Sn	07 05 32.6	-0.9
JIO	Ouri	2.52	284	P	Pn	07 05 03.8	-0.3
JIO				S	Sn	07 05 32.5	-1.5
JKMT	Kesennumamotoy	2.53	293	P	Pn	07 05 03.7	-0.5
JKMT				S	Sn	07 05 33.0	-1.2
JMK	Ichinoseki	2.77	294	P	Pn	07 05 07.1	-0.4
JMK				eS	Sn	07 05 38.6	-1.4
JOM	Ohasama	2.95	304	P	Pn	07 05 10.5	+0.4
JOM				S	Sn	07 05 44.4	-0.2
JFT	Otama	3.29	265	P	Pn	07 05 15.6	+0.9
JFT				S	Sn	07 05 52.1	-0.9
JYK	Kaneyama	3.39	289	P	Pn	07 05 16.9	+0.8
JYK				S	Sn	07 05 55.8	+0.4
JANG	Nango	3.39	318	P	Pn	07 05 16.4	+0.3
JANG				eS	Sn	07 05 54.3	-1.1
ERM	Erimo	4.26	347	Pn	Pn	07 05 28.9	+0.9
ERM				Sn	Sn	07 06 15.1	-1.7
BSO1	Boso 1	4.27	222	P	Pn	07 05 25.8	-1.9
BSO1				eS	Sn	07 06 13.0	-3.3
JOT	Ohata	4.39	324	eS	Sn	07 06 17.4	-2.5
JKB	Kayabe	4.80	328	eS	Sn	07 06 27.1	-3.0
JCH	Churui	4.81	350	P	Pn	07 05 35.0	-0.6
JCH				eS	Sn	07 06 26.1	-4.3
JRY	Ryogami san	4.82	249	P	Pn	07 05 35.3	-0.5
JRY				S	Sn	07 06 26.9	-3.9
JOD2	Odawara 2	5.05	241	P	Pn	07 05 38.5	-0.4
JOD2				eS	Sn	07 06 31.4	-4.9
MJAR	Matsushiro Arr	5.17	257	P	Pn	07 05 41.6	+1.1
0.2nm,0.3s,baz=80,slow=14,SNR=17							
MJAR				Sn	Sn	07 06 38.7	-0.5
0.2nm,0.3s,baz=96,slow=22,SNR=7.4							
MJAR				LR	LR	07 07 48.3	
comp=Z,65nm,21.9s,baz=40,slow=40							
MJAR	Matsushiro Arr	5.17	257		Pn	07 05 42.4	+1.9
MJAR					Sn	07 06 39.5	+0.3
MAJO	Matsushiro	5.17	257		Pn	07 05 42.7	+2.2
MAT	Matsushiro	5.17	257	P	Pn	07 05 42.1	+1.6
MAT				S	Sn	07 06 39.1	-0.1
MJB9	Matsu-Tunnel	5.17	257		Pn	07 05 42.7	+2.1
NEM2	Nemuro 2	5.57	10	P	Pn	07 05 43.1	-2.9
NEM2				eS	Sn	07 06 42.5	-6.7
JOSM	Okushiri--Mats	5.69	319	P	Pn	07 05 47.7	+0.1
JOSM				eS	Sn	07 06 51.0	-1.0
JHJ2	Mitsune	6.07	220	eS	Sn	07 06 56.2	-5.4
JHJ2	Mitsune	6.07	220	Pn	Pn	07 05 51.1	-1.8
JHJ	Hachijo jima 2	6.09	220	Pn	Pn	07 05 50.3	-2.8
4.8nm,0.3s,baz=72,slow=20,SNR=4.0							
JHJ				Sn	Sn	07 06 56.0	-5.8
11nm,0.3s,baz=108,slow=20,SNR=4.1							
JTKR	Abashiri--Toko	6.11	356	P	Pn	07 05 52.7	-0.7
JTKR				eS	Sn	07 06 57.0	-5.3
JKA	Kamikawa-asahi	6.40	348		Pn	07 05 58.1	+0.7
JKA					Sn	07 07 10.3	+0.9
ASAJ	Asahikawa	6.40	348	Pn	Pn	07 05 58.1	+0.7
1.2nm,0.3s,baz=203,slow=15,SNR=10							
ASAJ				Sn	Sn	07 07 10.3	+0.8
0.7nm,0.3s,baz=347,slow=25,SNR=4.3							
KSRS	Korea Array	13.12	273	LR	LR	07 11 51.2	
comp=Z,26nm,18.7s,baz=348,slow=34							
KLR	Kul'dur	14.60	325	LR	LR	07 12 57.3	
comp=Z,36nm,18.5s,baz=132,slow=35							
TLY	Talaya	31.65	309	LR	LR	07 23 26.4	
comp=Z,41nm,20.0s,baz=316,slow=36							
ZAA0	Zalesovo Array	43.16	312	P	P	07 12 23.3	+0.3
MKAR	Makanchi Array	45.73	302	P	P	07 12 45.1	+1.4
0.5nm,0.8s,baz=79,slow=7.5,SNR=2.7							
MKAR	Makanchi Array	45.73	302	P	P	07 12 43.9	+0.1
KURK	Kurchatov	47.33	308	P	P	07 12 57.6	+1.5
KURK				IAmb	IAmb	07 13 09.0	
comp=Z,1.4nm,0.7s							
KURBB	Kurchatov Arra	47.40	308	P	P	07 12 58.0	+1.3
comp=Z,1.1nm,0.6s,baz=81,slow=8.0,SNR=10							
ILAR	Eielson Array	47.48	33	P	P	07 12 57.7	+0.6
comp=Z,0.3nm,0.8s,baz=273,slow=6.0,SNR=2.5							
AAK	Ala-Archa	52.22	299	LR	LR	07 34 09.2	
comp=Z,36nm,21.2s,baz=257,slow=34							
WB0	Warramunga Arr	58.11	191	P	P	07 14 14.6	-1.5
WB0				IAmb	IAmb	07 14 30.0	
comp=Z,3.8nm,1.1s							
WB2	Warramunga Arr	58.29	191	P	P	07 14 17.1	-0.2
WRA	Warramunga Arr	58.29	191	P	P	07 14 15.8	-1.5
comp=Z,0.9nm,0.8s,baz=9.8,slow=7.0,SNR=10							
WRA	Warramunga Arr	58.29	191	P	P	07 14 16.2	-1.0
ASAR	Alice Springs	62.01	191	P	P	07 14 40.8	-2.0
comp=Z,0.2nm,0.5s,baz=10,slow=7.6,SNR=5.0							
NVAR	Mina Array Bea	72.53	55	P	P	07 15 51.1	+1.4
comp=Z,0.3nm,0.7s,baz=281,slow=5.7,SNR=3.8							

ISCJB ***24*** *07:12:41.2±0.7,13°.03N±0°.08×89°.15W±0°.04,h60km±13km, Error ellipse: s-maj=15.0km s-min=4.6km az=22.8*
SNET ***24*** *07:12:41.8±0.9,13°.09N×89°.18W,h53km±8km,ML4.0*
NEIC ***24*** *07:12:41.1±0.8,13°.1N±0°.2×89°.2W±0°.1,h65km±18km*
GCG ***24*** *07:12:41.0±0.8,12°.71N×89°.51W,h24km±999km,MD4.2*
ISC 24 07:12:43.0±1.4,13°.07N±0°.09×89°.13W±0°.05,h43km±27km, n29,σ1s17/43,1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEG	Centro de Oper	0.59	24	iP	Pn	07 12 54.5	-0.8
COEG				eS	Sn	07 13 04.4	+0.5
COEG				IAML		07 13 05.9	
comp=Z,7μm,0.3s							
ALJI	Alcalda de J	0.60	65	eP	Pn	07 12 55.0	-0.2
ALJI				eS	Sn	07 13 05.8	+1.8
SNET	Serv Nac Est T	0.62	351	eP	Pn	07 12 54.6	-0.9
SNET				eS	Sn	07 13 04.4	-0.1
SNET				IAML		07 13 07.1	
comp=Z,4μm,0.3s							
SNET	Serv Nac Est T	0.62	351		Pn	07 12 54.7	-0.9
OPAM	Oficina de Pla	0.64	354	eP	Pn	07 12 55.0	-0.8
OPAM				eS	Sn	07 13 05.3	+0.3
UDBS	Universidad Do	0.64	358	⇓iP	Pn	07 12 55.2	-0.7
UDBS				IAML		07 13 06.4	
comp=Z,5μm,0.2s							
UESS	Universidad de	0.65	354	eP	Pn	07 12 55.2	-0.8
UESV	Universidad de	0.65	31	iP	Pn	07 12 55.2	-0.7
PAVA	Las Pavas	0.66	16	iP	Pn	07 12 55.5	-0.7
PAVA				eS	Sn	07 13 06.3	+0.7
PAVA				IAML		07 13 07.8	
comp=Z,5μm,0.3s							
COEB	Comit de Eme	0.72	54	iP	Pn	07 12 56.5	-0.5
COEB				eS	Sn	07 13 08.0	+1.0
TECA	Tecapa	0.74	56	eP	Pn	07 12 56.8	-0.5
PACA	Pacayal	0.88	63	eP	Pn	07 12 58.9	-0.2
PACA				eS	Sn	07 13 12.0	+1.2
LCY	Lacayo	0.89	67	eP	Pn	07 12 59.0	-0.2
CEVE	Cerro Verde	0.89	327	eP	Pn	07 12 58.3	-1.1
CEVE				eS	Sn	07 13 11.2	-0.1
CEVE				IAML		07 13 12.5	
comp=Z,19μm,0.2s							
SNJE	San Jose	0.92	330	eP	Pn	07 12 58.6	-1.1
UNIC	Universidad Ca	0.99	336	eP	Pn	07 12 59.6	-0.9
UNIC				IAML		07 13 14.3	
comp=Z,1μm,0.3s							
VICT	Victoria	1.00	28	eP	Pn	07 13 00.0	-0.8

mb1 3.7/12, mb1mx3.4/64, mbtmp3.8/12, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/35, Error ellipse: s-maj=33.9km s-min=15.0km az=4.0

NEIC ***24*** *07:49:10.8±1.9, 51°.7N±0°.1×176°.81W±0°.05, h64km±3km*

ISC 24 07:49:10.5±0.8, 51°.8N±0°.1×176°.88W±0°.04, h68km±5km, n55, σ1§48/52, mb3.9/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.17**	**43**		**Pn**	**07 49 20.1**	**-0.6**
ADK				Sg	**Sn**	**07 49 27.6**	**-0.5**
KIWB	**Kanaga Island**	**0.20**	**299**		**Pn**	**07 49 20.8**	**0.0**
KIWB				Sg	**Sn**	**07 49 28.4**	**+0.1**
KIKV	**Kanaga Island**	**0.22**	**304**		**Pn**	**07 49 21.1**	**+0.1**
KIKV					**Sn**	**07 49 29.9**	**+1.3**
KIMD	**Kanaga Island**	**0.22**	**271**		**Pn**	**07 49 20.4**	**-0.5**
KICM	**Kanaga Island**	**0.26**	**309**		**Pn**	**07 49 21.5**	**+0.4**
ADAG	**Mount Adagdak**	**0.28**	**37**		**Pn**	**07 49 21.6**	**+0.3**
GSTD	**Great Sitkin T**	**0.54**	**56**		**Pn**	**07 49 23.5**	**0.0**
GSTD					**Sn**	**07 49 33.9**	**+0.7**
GSMY	**Great Sitkin M**	**0.58**	**60**		**Pn**	**07 49 23.9**	**-0.1**
TAPA	**Tanaga Point A**	**0.58**	**276**		**Pn**	**07 49 24.3**	**+0.3**
GSTR	**Great Sitkin T**	**0.61**	**56**		**Pn**	**07 49 24.6**	**+0.4**
TAFP	**Tanaga Falls P**	**0.70**	**282**		**Pn**	**07 49 25.9**	**+0.7**
TAFP					**Sn**	**07 49 40.8**	**+4.7**
TASE	**Tanaga Southea**	**0.72**	**277**		**Pn**	**07 49 26.3**	**+0.8**
GAEA	**Gareloi East**	**1.16**	**272**		**Pn**	**07 49 31.8**	**+0.9**
ATKA	**Atka Island**	**1.72**	**74**		**Pn**	**07 49 38.3**	**+0.1**
ATKA	**Atka Island**	**1.72**	**74**		**Sn**	**07 49 59.6**	**+0.4**
ATKA	**Atka Island**	**1.72**	**74**		**Sn**	**07 49 59.8**	**+0.7**
KOKL	**Mount Kliuchef**	**1.75**	**70**		**Pn**	**07 49 39.4**	**+0.8**
KOFP	**Korovin Flat P**	**1.79**	**72**		**Pn**	**07 49 40.3**	**+1.0**
KOSE	**Korovin Southe**	**1.84**	**70**		**Pn**	**07 49 41.1**	**+1.2**
SMY	**Shemya**	**5.63**	**283**	Pn	**Pn**	**07 50 31.8**	**+0.3**
UNV	**Unalaska Valle**	**6.63**	**68**	Pn	**Pn**	**07 50 48.2**	**+3.2**
SPIA	**Saint Paul Isl**	**6.66**	**33**	Pn	**Pn**	**07 50 47.8**	**+2.3**
KDAK	**Kodiak Island**	**15.21**	**57**	P	**Pn**	**07 52 38.9**	**-2.0**
	0.5nm,0.3s,baz=190,slow=6.6,SNR=12						
KDAK				S	**Sn**	**07 55 28.4**	**+0.2**
	0.2nm,0.3s,baz=133,slow=19,SNR=3.5						
KDAK	**Kodiak Island**	**15.21**	**57**	Pn	**Pn**	**07 52 39.0**	**-2.0**
KDAK				IAmb	IAmb	07 52 57.7	
	comp=Z,22nm,1.2s						
PETK	**Petropavlovsk-**	**15.54**	**285**	LR	LR	07 57 42.2	
	comp=Z,44nm,18.5s,baz=61,slow=33						
BRLK	**Bradley Lake**	**16.59**	**51**	Pn	**P**	**07 53 00.1**	**+0.3**
SKT	**Skwentna**	**17.10**	**43**	P	**P**	**07 53 08.3**	**+2.9**
SKT				IAmb	IAmb	07 53 10.8	
	comp=Z,7.4nm,1.1s						
PPLA	**Purkeypile**	**17.25**	**40**	P	**P**	**07 53 11.9**	**+4.7**
PPLA				IAmb	IAmb	07 53 19.0	
	comp=Z,11nm,1.2s						
SEY	**Seymchan**	**19.78**	**316**	P	**P**	**07 53 32.4**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=71,slow=6.8,SNR=2.5						
ILAR	**Eielson Array**	**20.20**	**38**	P	**P**	**07 53 39.4**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=240,slow=10,SNR=3.9						
INK	**Inuvik**	**26.46**	**35**	P	**P**	**07 54 40.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=232,slow=7.1,SNR=3.1						
KLR	**Kul'dur**	**32.23**	**286**	P	**P**	**07 55 32.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=70,slow=11,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**34.40**	**208**	T	T	08 32 18.3	
	baz=18,slow=76,SNR=422						
H11N3	**WAKE ISLAND Hy**	**34.41**	**208**	T	T	08 32 19.0	
	baz=18,slow=76,SNR=418						
H11N1	**WAKE ISLAND Hy**	**34.42**	**208**	T	T	08 32 19.7	
	baz=18,slow=76,SNR=387						
H11S1	**WAKE ISLAND Hy**	**35.62**	**207**	T	T	08 33 55.0	
	baz=18,slow=76,SNR=122						
H11S2	**WAKE ISLAND Hy**	**35.63**	**207**	T	T	08 33 49.9	
	baz=18,slow=76,SNR=99						
H11S3	**WAKE ISLAND Hy**	**35.63**	**207**	T	T	08 33 51.7	
	baz=18,slow=76,SNR=60						
NVAR	**Mina Array Bea**	**42.32**	**85**	P	**P**	**07 56 58.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=302,slow=8.0,SNR=4.3						
YHL	**Hebgen Lake**	**42.90**	**72**		**PcP**	**07 58 53.0**	**+1.0**
PD31	**Pinedale Array**	**45.05**	**74**	P	**P**	**07 57 20.6**	**+1.1**
PD31				IAmb	IAmb	07 57 22.2	
	comp=Z,2.5nm,1.1s						
PDAR	**Pinedale Array**	**45.05**	**74**	P	**P**	**07 57 20.2**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=303,slow=3.7,SNR=12						
PDAR	**Pinedale Array**	**45.05**	**74**	P	**P**	**07 57 19.9**	**+0.4**
TXAR	**Lajitas Array**	**57.41**	**83**	P	**P**	**07 58 52.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=308,slow=5.9,SNR=7.5						
KURK	**Kurchatov**	**59.62**	**314**	P	**P**	**07 59 07.1**	**+0.2**
KURK	**Kurchatov**	**59.62**	**314**	IAmb	IAmb	07 59 23.9	
	comp=Z,3.3nm,1.4s						
KURBB	**Kurchatov Arra**	**59.73**	**314**	P	**P**	**07 59 07.1**	**-0.5**
	comp=Z,0.9nm,0.2s,baz=43,slow=5.6,SNR=4.2						
BVAR	**Borovoye Array**	**61.37**	**321**	P	**P**	**07 59 16.0**	**-2.8**
	comp=Z,0.9nm,0.6s,baz=27,slow=9.3,SNR=5.1						
AKTO	**Aktyubinsk**	**68.06**	**326**	P	**P**	**08 00 02.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=352,slow=6.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**72.16**	**277**	P	**P**	**08 00 28.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=30,slow=8.1,SNR=6.3						
WRA	**Warramunga Arr**	**83.13**	**225**	P	**P**	**08 01 28.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=38,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**83.13**	**225**	IAmb	IAmb	08 01 34.3	
	comp=Z,0.3nm,1.5s						
TORD	**Torodi Ar. Bea**	**115.36**	**2**	PKP	**PKiKP**	**08 07 43.0**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=26,slow=2.4,SNR=2.3						
BOSA	**Boshof**	**151.57**	**316**	PKPbc	**PKPbc**	**08 08 56.6**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=32,slow=2.0,SNR=12						
BOSA	**Boshof**	**151.57**	**316**		**PKiKP**	**08 08 57.0**	**-0.1**

ISCJB ***24*** *08:22:41.3±0.6, 7°.15N±0°.06×77°.86W±0°.03, h24km±4km, Error ellipse: s-maj=10.3km s-min=4.4km az=22.8*

RSNC ***24*** *08:22:42.2±0.9, 7°.17N×77°.84W, h20km±2km, ML2.6*

UPA ***24*** *08:22:43.0±1.5, 7°.17N×77°.88W, h23km±20km, MW3.5*

ISC 24 08:22:41.6±1.1, 7°.23N±0°.05×77°.82W±0°.03, h18km±7km, n19, σ1§47/31, 1C-1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.09**	**170**	⇑*iP*	**Pg**	**08 22 45.5**	**+0.3**
PTAC				*eS*	**Sg**	**08 22 48.0**	**+0.4**
PTAC				*i*		08 22 49.0	
	comp=Z,21μm,0.2s						
UPD2	**Meteti**	**1.32**	**352**	*eP*	**Pn**	**08 23 05.1**	**-0.1**
UPD2				*eS*	**Sg**	**08 23 23.5**	**-0.9**
UPD2	**Meteti**	**1.32**	**352**	⇓*iP*	**Pn**	**08 23 05.1**	**-0.1**
UPD2				*eS*	**Sg**	**08 23 23.5**	**-0.9**
DBBC	**Dabeiba**	**1.62**	**98**	*eP*	**Pn**	**08 23 08.5**	**-0.8**
DBBC				*i*		08 23 34.8	
	comp=Z,43nm,0.6s						
CBOC	**Ciudad Bolivar**	**2.26**	**127**	*eP*	**Pn**	**08 23 17.9**	**-0.4**
CBOC				*i*		08 23 52.3	
	comp=Z,13nm,0.7s						
CHPO	**Chepo, Panama**	**2.31**	**326**	*eP*	**Pn**	**08 23 19.7**	**+0.9**
CHPO				*eS*	**Sn**	**08 23 47.4**	**+0.6**
UPA	**Univ. de Panam**	**2.43**	**316**	*eS*	**Sn**	**08 23 49.9**	**+0.2**
AZU	**Azuero**	**2.49**	**283**	*eP*	**Pn**	**08 23 21.1**	**-0.2**
AZU				*eS*	**Sn**	**08 23 50.2**	**-1.1**
AZU				*i*		08 24 04.1	
	comp=Z,56nm,2.3s						
AZU	**Azuero**	**2.49**	**283**	*eP*	**Pn**	**08 23 22.2**	**+0.9**
AZU				*eS*	**Sn**	**08 23 49.4**	**-1.9**
HELC	**Santa Helena**	**2.50**	**114**	*eP*	**Pn**	**08 23 22.2**	**+0.4**
HELC				*eS*	**Sn**	**08 23 50.9**	**-1.1**
HELC				*i*		08 24 02.2	
	comp=Z,8.6nm,1.3s						
HELC	**Santa Helena**	**2.50**	**114**	*eP*	**Pn**	**08 23 23.1**	**+1.3**
HELC				*eS*	**Sn**	**08 23 53.0**	**+0.9**
CHOR3	**La Chorrera**	**2.54**	**311**	*eP*	**Pn**	**08 23 22.8**	**+0.9**
CHOR3				*eS*	**Sn**	**08 23 52.9**	**+0.5**
VTON	**El Valle, Cocl**	**2.65**	**301**	*eP*	**Pn**	**08 23 23.5**	**0.0**
VTON				*eS*	**Sn**	**08 23 56.8**	**+1.5**
ZANG	**Zanguenga, Cho**	**2.65**	**310**	*eP*	**Pb**	**08 23 26.2**	**-2.4**
ZANG				*eS*	**Sb**	**08 23 58.8**	**-2.0**
BCIP	**Isla Barro Col**	**2.77**	**314**	*eP*	**Pn**	**08 23 25.5**	**+0.4**
ZARC	**Zaragoza, Cauc**	**2.95**	**85**	*eP*	**Pn**	**08 23 28.2**	**+0.6**
ZARC				*eS*	**Sn**	**08 24 02.5**	**-0.2**
ZARC				*i*		08 24 04.8	
	comp=Z,7.1nm,0.3s						
CACAO	**El Cacao, Vera**	**3.02**	**272**	*eS*	**Sn**	**08 24 01.4**	**-2.8**
GMAL	**Guarumal, Vera**	**3.42**	**279**	*eS*	**Sn**	**08 24 14.0**	**-0.3**
SJCC	**San Jacinto, C**	**3.72**	**44**	*eS*	**Sn**	**08 24 16.9**	**-4.8**

ISN ***24*** *08:22:44.1±0.6, 34°.38N×45°.54E, h6km±4km, ML3.5*

TEH ***24*** *08:22:45.9, 34°.35N×45°.56E, h13km, ML3.4*

ISC 24 08:22:45.8±1.3, 34°.39N±0°.04×45°.54E±0°.03, h8km±11km, n22, σ1§02/29, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.76**	**66**	*eP*g	**Pg**	**08 23 00.5**	**-0.1**
IDHR				IAMB	IAmb	08 23 12.7	
	comp=Z,0.0nm,0.2s						
IGHG	**Ghaleghazi**	**0.85**	**94**	*e*Sg	**Sb**	**08 23 14.7**	**-0.1**
IGHG				*eP*g	**Pg**	**08 23 02.2**	**-0.1**
IGHG				IAMB	IAmb	08 23 20.2	
	comp=Z,10μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.25**	**95**	IAMB	IAmb	08 23 10.9	
	comp=Z,0.0nm,0.2s						
KCHF				*eP*g	**Pn**	**08 23 08.6**	**-1.2**
KCHF				*e*Sg	**Sn**	**08 23 26.6**	**-0.3**
ILIN	**Lien**	**1.29**	**65**	IAMB	IAmb	08 23 33.1	
	comp=Z,6μm,0.2s						
ILIN				*eP*g	**Pn**	**08 23 09.9**	**-0.4**
KER	**Kermanshah**	**1.32**	**90**	*eP*g	**Pb**	**08 23 10.5**	**-0.4**
IBDR	**Badra**	**1.32**	**166**	*eP*n	**Pg**	**08 23 10.5**	**-0.6**
IBDR				AML	AML	08 23 14.1	
	comp=Z,2μm,0.4s						
IBDR				*e*Sn	**Sg**	**08 23 30.0**	**+1.7**
IKRK	**Kirkuk**	**1.41**	**316**	*eP*n	**Pg**	**08 23 12.0**	**-0.9**
IKRK				AML	AML	08 23 14.3	
	comp=Z,1μm,0.3s						
IKRK				*e*Sn	**Sg**	**08 23 32.5**	**+1.3**
IKOM	**Komasi**	**1.65**	**97**	*eP*n	**Pb**	**08 23 16.2**	**-0.3**
IKOM				IAMB	IAmb	08 23 42.1	
	comp=Z,0.0nm,0.3s						
IBZA	**Bozab**	**1.92**	**87**	*eP*n	**Pb**	**08 23 20.2**	**-1.1**
IBZA				IAMB	IAmb	08 23 49.3	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**2.10**	**114**	*eP*n	**Pb**	**08 23 22.3**	**-1.9**
IKFM				IAMB	IAmb	08 24 04.0	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.27**	**105**	*eP*n	**Pn**	**08 23 24.5**	**+0.6**
IDOB				IAMB	IAmb	08 23 32.7	
	comp=Z,0.0nm,0.5s						
MAHB	**Mahabad**	**2.37**	**3**	*eP*n	**Pb**	**08 23 27.3**	**-1.6**
MAHB				IAMB	IAmb	08 24 02.0	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.52**	**109**	*eP*n	**Pn**	**08 23 27.9**	**+0.9**
IKMR				IAMB	IAmb	08 24 11.2	
	comp=Z,0.0nm,0.4s						
HSAM	**Samen**	**2.54**	**93**	*eP*n	**Pn**	**08 23 28.4**	**+0.8**
HSAM				IAMB	IAmb	08 23 33.4	
	comp=Z,0.0nm,1.1s						
BDRS	**Dareh Seyedi**	**2.81**	**98**	*eP*n	**Pn**	**08 23 31.7**	**+0.4**
BDRS				IAMB	IAmb	08 24 19.1	
	comp=Z,0.0nm,0.4s						
MSL	**Mosul**	**2.82**	**316**	*eP*n	**Pn**	**08 23 32.0**	**+0.8**
MSL				AML	AML	08 23 33.6	
	comp=Z,176nm,0.3s						
MSL				*e*Sn	**Sn**	**08 24 07.0**	**+1.6**
BMDN	**Meydan**	**2.82**	**104**	*eP*n	**Pn**	**08 23 32.1**	**+0.7**
BMDN				IAMB	IAmb	08 23 32.7	
	comp=Z,0.0nm,0.5s						
HAGD	**Aghdareh**	**3.00**	**81**	*eP*n	**Pn**	**08 23 34.9**	**+1.0**
HAGD				IAMB	IAmb	08 23 41.2	
	comp=Z,0.0nm,0.4s						
NSR	**Nassriya**	**3.41**	**171**	*eP*n	**Pn**	**08 23 39.5**	**+0.2**
NSR				AML	AML	08 23 40.4	
	comp=Z,4μm,0.2s						
NSR				*e*Sn	**Sn**	**08 24 20.0**	**+0.1**
RTB	**Rutbah**	**4.57**	**254**	*eP*n	**Pn**	**08 23 56.0**	**+0.7**
RTB				AML	AML	08 23 58.0	
	comp=Z,26nm,0.2s						
RTB				*e*Sn	**Sn**	**08 24 48.0**	**-0.6**
IKLH	**Kolahrood**	**5.14**	**100**	*eP*n	**Pn**	**08 24 04.6**	**+1.3**
IKLH				IAMB	IAmb	08 25 10.2	
	comp=Z,268nm,0.4s						
KRSH	**Karshahi**	**5.48**	**93**	*eP*n	**Pn**	**08 24 09.3**	**+1.3**

NEIC ***24*** *08:44:14.4±2.5, 24°.29S±0°.07×179°.3E±0°.1, h521km±9km, mb4.3/19*

ISCJB ***24*** *08:44:15.3±0.4, 24°.25S±0°.05×179°.33E±0°.08, h550km, mb3.7/13, Error ellipse: s-maj=9.8km s-min=7.0km az=10.5*

IDC ***24*** *08:44:18.7±3.3, 24°.39S×179°.11E, h552km±35km, mb3.3/14, mb1 3.5/15, mb1mx3.3/39, mbtmp4.3/15, Error ellipse: s-maj=23.8km s-min=15.8km az=65.0*

ISC 24 08:44:16.6±0.5, 24°.33S±0°.07×179°.34E±0°.09, h550km, n53, σ1§62/54, mb4.0/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.67**	**349**	P	**P**	**08 46 00.3**	**-1.3**
NIUE	**Niue**	**11.26**	**64**	P	**P**	**08 46 47.6**	**0.0**
OUZ	**Omahuta**	**11.94**	**203**	P	**P**	**08 46 54.6**	**+0.3**
DZM	**Mont Dzumac**	**12.07**	**278**	P	**P**	**08 46 56.1**	**+0.1**
	0.4nm,0.3s,baz=83,slow=17,SNR=15						
DZM	**Mont Dzumac**	**12.07**	**278**	P	**P**	**08 46 56.5**	**+0.5**
AFI	**Afiamalu**	**13.33**	**41**	P	**P**	**08 47 05.7**	**-3.4**
	4.9nm,0.3s,baz=314,slow=3.3,SNR=10						
AFI	**Afiamalu**	**13.33**	**41**	P	**P**	**08 47 06.2**	**-2.9**
URZ	**Urewera**	**14.02**	**187**	P	**P**	**08 47 13.4**	**-2.3**
	1.9nm,0.3s,baz=13,slow=5.5,SNR=24						
URZ				S	**S**	**08 49 39.5**	**-3.7**
	0.2nm,0.3s,baz=102,slow=20,SNR=4.5						
BKZ	**Black Stump Fm**	**14.99**	**189**	P	**P**	**08 47 23.9**	**-1.9**
BFZ	**Birch Farm**	**16.51**	**188**	P	**P**	**08 47 40.4**	**-0.3**
QRZ	**Quartz Range**	**17.41**	**197**	P	**P**	**08 47 50.4**	**+1.5**
LTZ	**Lake Taylor**	**19.31**	**196**	P	**P**	**08 48 07.2**	**+0.9**
RPZ	**Rata Peaks**	**20.50**	**197**	P	**P**	**08 48 18.4**	**+1.4**
	8.1nm,0.7s,baz=35,slow=3.0,SNR=4.2						
CTA	**Charters Tower**	**30.88**	**271**	P	**P**	**08 49 49.0**	**+0.2**
	8.9nm,0.8s,baz=104,slow=9.7,SNR=13						
MCQ	**Macquarie Isla**	**33.74**	**201**	P	**P**	**08 50 11.9**	**-0.5**
STKA	**Stephens Creek**	**34.00**	**249**	P	**P**	**08 50 15.3**	**+0.2**
	1.7nm,1.0s,baz=111,slow=17,SNR=3.3						
STKA	**Stephens Creek**	**34.00**	**249**	P	**P**	**08 50 13.2**	**-1.9**
PMG	**Port Moresby**	**34.07**	**290**	P	**P**	**08 50 16.0**	**+0.2**
	9.0nm,0.7s,baz=135,slow=1.4,SNR=3.8						
PMG	**Port Moresby**	**34.07**	**290**	P	**P**	**08 50 12.5**	**-3.3**
PMG				IAmb	IAmb	08 50 16.8	
	comp=Z,8.8nm,0.8s						
XMAS	**Kiritimati**	**34.58**	**44**	P	**P**	**08 50 17.8**	**-2.3**
COEN	**Coen**	**35.59**	**280**	P	**P**	**08 50 27.4**	**-1.1**
AS31	**Alice Springs**	**41.37**	**261**	P	**P**	**08 51 14.8**	**-0.5**
ASAR	**Alice Springs**	**41.37**	**261**	P	**P**	**08 51 15.1**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=90,slow=8.6,SNR=34						
ASAR				PcP	**PcP**	**08 53 01.6**	**+1.1**
	comp=Z,0.9nm,1.1s,baz=86,slow=4.1,SNR=5.1						
ASAR	**Alice Springs**	**41.37**	**261**	P	**P**	**08 51 14.8**	**-0.5**
WB2	**Warramunga Arr**	**41.76**	**267**	P	**P**	**08 51 18.0**	**-0.4**
WB2				IAmb	IAmb	08 51 18.9	
	comp=Z,9.8nm,0.8s						
WRAB	**Tennant Creek**	**41.77**	**267**	P	**P**	**08 51 17.6**	**-0.8**
WRAB				IAmb	IAmb	08 51 18.9	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**41.77**	**267**	P	**P**	**08 51 17.8**	**-0.6**
WRA	**Warramunga Arr**	**41.77**	**267**	P	**P**	**08 51 17.9**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=108,slow=6.3,SNR=57						
WRA	**Warramunga Arr**	**41.77**	**267**	P	**P**	**08 51 18.1**	**-0.5**
JOHN	**Johnston Islan**	**42.23**	**16**	P	**P**	**08 51 19.9**	**-2.1**
FITZ	**Fitzroy Crossi**	**50.19**	**266**	P	**P**	**08 52 23.3**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=150,slow=8.1,SNR=5.1						
FITZ	**Fitzroy Crossi**	**50.19**	**266**	P	**P**	**08 52 22.2**	**-0.2**
FITZ				IAmb	IAmb	08 52 28.3	
	comp=Z,14nm,1.5s						
TNTI	**Ternate**	**56.19**	**289**	P	**P**	**08 53 04.0**	**-1.0**
QSPA	**South Pole Qui**	**65.75**	**180**	P	**P**	**08 54 08.3**	**+1.2**
	comp=Z,3.0nm,0.9s,baz=327,slow=0.8,SNR=15						
QSPA	**South Pole Qui**	**65.75**	**180**	P	**P**	**08 54 09.4**	**+2.2**
QSPA				IAmb	IAmb	08 54 10.4	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**71.91**	**326**	P	**P**	**08 54 45.0**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=141,slow=5.1,SNR=6.7						
MJAR	**Matsushiro Arr**	**71.91**	**326**	IAmb	IAmb	08 54 51.8	
	comp=Z,1.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**80.80**	**328**	P	**P**	**08 55 34.3**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=132,slow=2.8,SNR=5.6						
USRK	**Ussuriysk Ar.**	**80.80**	**328**	P	**P**	**08 55 34.0**	**+1.0**
KLR	**Kul'dur**	**84.61**	**331**	P	**P**	**08 55 55.4**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=91,slow=5.0,SNR=3.6						
NVAR	**Mina Array Bea**	**85.48**	**44**	P	**P**	**08 55 59.8**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=219,slow=7.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**89.11**	**291**	P	**P**	**08 56 16.8**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=139,slow=3.7,SNR=4.6						
TXAR	**Lajitas Array**	**91.17**	**58**	P	**P**	**08 56 26.6**	**+3.1**
	comp=Z,0.4nm,0.7s,baz=208,slow=7.1,SNR=5.5						
KURK	**Kurchatov**	**115.09**	**316**		**PKPdf**	**09 01 54.7**	**-0.5**
KURBB	**Kurchatov Arra**	**115.14**	**316**	PKP	**PKiKP**	**09 01 55.3**	**0.0**
	comp=Z,0.5nm,0.7s,baz=98,slow=1.8,SNR=6.1						
AKASG	**Malin Array Be**	**145.00**	**326**	PKP	**PKPab**	**09 02 52.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=44,slow=4.5,SNR=14						
AKASG	**Malin Array Be**	**145.00**	**326**		**PKPdf**	**09 02 51.1**	**-0.1**
BR131	**Keskin Array S**	**147.35**	**306**		**PKiKP**	**09 03 00.1**	**-0.6**
BRTR	**Keskin Array B**	**147.35**	**306**	PKPbc	**PKiKP**	**09 02 60.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=132,slow=3.5,SNR=9.2						
BRTR	**Keskin Array B**	**147.35**	**306**		**PKiKP**	**09 03 00.5**	**-0.2**
CLL	**Collm**	**151.08**	**342**	*i* PKPbc	**PKiKP**	**09 03 09.2**	**+1.4**
	comp=Z,9.0nm,1.0s						
CLL	**Collm**	**151.08**	**342**		**PKiKP**	**09 03 09.1**	**+1.3**
TORD	**Torodi Ar. Bea**	**168.66**	**192**	PKPab	**PKPab**	**09 04 35.8**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=180,slow=4.2,SNR=6.0						

NEIC ***24*** *08:47:49.3±1.8, 24°.42S±0°.06×179°.26E±0°.09, h531km±5km, mb5.3/122*

MOS ***24*** *08:47:49.3±2.8, 24°.16S×178°.97E, h502km, mb5.3/27, Error ellipse: s-maj=8.9km s-min=7.7km az=120.0*

BJI ***24*** *08:47:49.7±0.0, 24°.30S×179°.30E, h508km, mb5.1/51, mB5.4/38*

ISCJB ***24*** *08:47:50.1±0.4, 24°.41S±0°.03×178°.77E±0°.03, h518km±5km, mb5.0/83, Error ellipse: s-maj=4.2km s-min=3.7km az=135.9*

IDC ***24*** *08:47:50.0±1.0, 24°.33S×179°.17E, h530km±11km, mb4.3/38, mb1 4.3/41, mb1mx4.3/47, mbtmp5.2/41, Error ellipse: s-maj=9.5km s-min=8.1km az=10.0*

GCMT ***24*** *08:47:57.3±0.1, 24°.30S±0°.01×179°.18E±0°.01, h535km±1km, MW5.7/126, Moment Tensor Solution. s126,c220; Duration: 1§6 Moment tensor: Scale 10^17^Nm; M_{rr}-3.62±.04; $M_{\theta\theta}$2.21±.08; $M_{\phi\phi}$1.41±.08; $M_{r\theta}$-0.50±.08; $M_{\theta\phi}$-1.88±.07; $M_{\phi r}$-1.11±.08; Best double couple: $M_0$3.86800×10^17^ NP1φs325.00000°, δ50.00000°, λ-68.00000°. NP2:φs113.00000°, δ45.00000°, λ-114.00000°. Principal axes: T 3.7460, Plg3.0000°, Azm40.0000°; N 0.2450, Plg17.0000°, Azm131.0000°; P -3.9900, Plg73.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 24 08:47:50.1±0.3, 24°.40S±0°.04×179°.15E±0°.04, h520km±2km, h520km: pP-P, n890, σ2§56/1027, mb5.2/121, 48C-58D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.48**	**152**	P	**P**	**08 49 25.1**	**+2.7**
RIZ				S	**S**	**08 50 43.4**	**+5.5**
RAO	**Raoul Island**	**5.49**	**152**	P	**P**	**08 49 22.9**	**+0.4**
RAO				S	**S**	**08 50 40.2**	**+2.1**
RAO	**Raoul Island**	**5.49**	**152**	P	**P**	**08 49 24.6**	**+2.2**
	189nm,0.3s,baz=270,slow=20,SNR=15						
RAO				S	**S**	**08 50 40.2**	**+2.1**
	142nm,0.3s,baz=52,slow=19,SNR=2.7						
RAO	**Raoul Island**	**5.49**	**152**	P	**P**	**08 49 22.9**	**+0.4**
GLKZ	**Green Lake**	**5.50**	**152**	P	**P**	**08 49 24.9**	**+2.4**
GLKZ				S	**S**	**08 50 43.4**	**+5.2**
MSVF	**Nonsavu**	**6.71**	**351**	*i* P	**P**	**08 49 32.5**	**-1.9**
MSVF	**Nonsavu**	**6.71**	**351**	P	**P**	**08 49 35.0**	**+0.6**
NFK	**Norfolk Island**	**11.03**	**243**	P	**P**	**08 50 18.1**	**-0.3**
	baz=11,SNR=8.3						
NIUE	**Niue**	**11.45**	**65**	P	**P**	**08 50 21.0**	**-1.9**
	baz=11,SNR=16						
NIUE	**Niue**	**11.45**	**65**	P	**P**	**08 50 21.2**	**-1.7**
OUZ	**Omahuta**	**11.81**	**203**	P	**P**	**08 50

TIWZ	Tintock	16.55 189	P	P	08 51 19.4	+3.6
CPWZ	Castlepoint	16.64 188	P	P	08 51 20.5	+3.9
OGWZ	Otaki Gorge	16.70 191	P	S	08 54 08.7	+2.0
TMWZ	Te Maipa	16.88 189	P	S	08 54 11.0	+1.2
MTW	Mount Morrison	16.98 189	P	S	08 54 07.9	-3.5
CAW	Cannon Point	17.00 191	P	S	08 54 13.3	+1.5
TRWZ	Traveller	17.19 189	P	S	08 54 13.8	-1.1
PAWZ	Paruwai Farm	17.21 190	P	S	08 54 14.7	-0.6
WEL	Wellington	17.23 191	P	S	08 54 19.2	+3.8
SNZO	South Karori	17.27 191	P	P	08 51 20.8	-1.7
MSWZ	Moikau Station	17.28 190	P	S	08 54 13.2	-3.0
MSWZ	Moikau Station	17.28 190	P	P	08 51 20.9	-1.8
QRZ	Quartz Range	17.29 197	P	P	08 51 23.0	+0.2
BHW	Baring Head	17.33 191	P	P	08 51 21.2	-2.0
PLWZ	Palliser	17.43 190	P	S	08 54 18.3	-0.4
PLWZ	Palliser	17.43 190	P	P	08 51 22.1	-2.0
NNZ	Nelson	17.45 195	P	P	08 51 24.1	-0.2
TUWZ	Tuamarina	17.53 193	P	P	08 51 22.0	-2.9
CMWZ	Cape Campbell	17.78 192	P	P	08 51 26.7	-0.6
BSWZ	Blackbirch Sta	17.82 193	P	P	08 51 27.1	-0.5
THZ	Tophouse	18.08 195	P	P	08 51 29.4	-0.6
KHZ	Kahutara	18.56 193	P	P	08 51 33.0	-1.4
LHI	Lord Howe Isla	19.09 244	P	P	08 51 40.1	+0.7
	baz=19,SNR=6.0					
LHI	Lord Howe Isla	19.09 244	P	P	08 51 40.1	+0.7
LTZ	Lake Taylor	19.19 196	P	P	08 51 39.8	-0.4
RAR	Rarotonga	19.69 85	P	P	08 51 43.0	-2.0
RAR			pmax	pmax		
	comp=Z,141nm,1.1s					
RAR	Rarotonga	19.69 85	P	P	08 51 43.5	-1.4
	comp=Z,1.2nm,0.3s,baz=270,slow=5.7,SNR=14					
RAR	Rarotonga	19.69 85	P	P	08 51 43.0	-2.0
RAR			IAmb	IAmb	08 51 49.2	
	comp=Z,141nm,1.1s					
OXZ	Oxford	19.76 195	P	P	08 51 43.7	-1.7
CRLZ	Canterbury Las	19.86 194	P	P	08 51 45.5	-0.7
CRLZ			IAmb	IAmb	08 51 53.0	
	comp=Z,104nm,0.7s					
MQZ	McQueen's Vall	19.98 194	P	P	08 51 45.6	-1.6
MQZ			IAmb	IAmb	08 51 54.5	
	comp=Z,109nm,0.7s					
RPZ	Rata Peaks	20.38 197	P	P	08 51 49.9	-1.1
	comp=Z,18nm,0.4s,baz=27,slow=5.8,SNR=24					
RPZ	Rata Peaks	20.38 197	P	P	08 51 49.7	-1.2
FOZ	Fox Glacier	20.57 200	P	P	08 51 51.7	-0.9
LBZ	Lake Benmore	21.24 198	P	P	08 51 56.2	-2.5
LBZ			IAmb	IAmb	08 52 07.6	
	comp=Z,60nm,1.1s					
ODZ	Otahua Downs	21.72 196	P	P	08 52 01.4	-1.7
WKZ	Wanaka	21.98 200	P	P	08 52 03.5	-2.0
WKZ			IAmb	IAmb	08 52 11.2	
	comp=Z,50nm,1.0s					
MLZ	Mavora Lakes	22.75 200	P	P	08 52 11.0	-1.3
MLZ			IAmb	IAmb	08 52 21.6	
	comp=Z,54nm,0.6s					
KNTN	Kanton	23.24 24	P	P	08 52 14.5	-2.5
WHZ	Wether Hill Ro	23.27 200	P	P	08 52 16.5	-0.4
WHZ			IAmb	IAmb	08 52 24.8	
	comp=Z,135nm,1.0s					
HNR	Honiara	23.60 306	P	P	08 52 18.8	-1.5
HNR			pmax	pmax		
	comp=Z,435nm,0.7s					
HNR	Honiara	23.60 306	P	P	08 52 18.7	-1.5
	comp=Z,239nm,0.9s,baz=174,slow=10,SNR=8.6					
HNR	Honiara	23.60 306	P	P	08 52 18.0	-2.2
HNR	Honiara	23.60 306	P	P	08 52 18.8	-1.5
ARMA	Armidale	25.12 250	P	P	08 52 35.6	+1.9
	baz=25,SNR=15					
ARMA	Armidale	25.12 250	P	P	08 52 34.6	+0.9
EIDS	Eidsvold	25.46 262	P	P	08 52 37.3	+0.6
	baz=26,SNR=34					
EIDS	Eidsvold	25.46 262	P	P	08 52 37.4	+0.6
EIDS			IAmb	IAmb	08 52 43.3	
	comp=Z,57nm,0.9s					
MGCD	Mangrove Creek	26.03 244	P	P	08 52 43.4	+1.9
	baz=26,SNR=5.5					
TARA	Tarawa	26.31 346	P	P	08 52 43.0	-1.3
RMQ	Roma	27.49 259	P	P	08 52 55.7	+1.1
	baz=28,SNR=34					
CNB	Canberra Magne	27.93 240	P	P	08 52 59.5	+1.2
	baz=28,SNR=18					
CAN	Canberra	28.22 240	P	P	08 53 01.2	+0.4
CAN			pmax	pmax		
	comp=Z,37nm,0.8s					
CAN	Canberra	28.22 240	P	P	08 53 01.2	+0.4
CAN			IAmb	IAmb	08 53 07.6	
	comp=Z,37nm,0.8s					
YNG	Young	28.47 243	P	P	08 53 04.6	+1.6
	baz=29,SNR=13					
MILA	Mila	28.57 237	P	P	08 53 06.0	+2.0
	baz=29,SNR=7.2					
PAE	Paea	29.90 83	eP	P	08 53 18.0	+2.4
	comp=Z,14nm,1.0s					
PPT2	Papeete2	29.93 83	eP	P	08 53 18.7	+2.8
	comp=Z,99nm,1.2s					
PPT	Papeete	29.93 83	P	P	08 53 13.6	-2.3
PPT	Papeete	29.93 83	P	P	08 53 15.2	-0.7
	comp=Z,59nm,0.8s,baz=307,slow=4.3,SNR=5.4					
PPT	Papeete	29.93 83	P	P	08 53 13.6	-2.3
PPTF	Pamatai, Papee	29.94 83	P	P	08 53 12.5	-3.5
PPTF			IAmb	IAmb	08 53 20.8	
	comp=Z,99nm,1.0s					
TIAR	Tiarei	30.15 83	eP	P	08 53 20.5	+2.7
	comp=Z,52nm,1.0s					
TVO	Taravao	30.16 84	eP	P	08 53 20.4	+2.5
	comp=Z,23nm,0.9s					
CMSA	Cobar Meteorol	30.31 249	P	P	08 53 19.3	+0.3
	baz=30,SNR=82					
CTA	Charters Tower	30.71 271	P	P	08 53 22.6	0.0
	comp=Z,62nm,0.5s,baz=97,slow=11,SNR=187					
CTA			S	S	08 57 47.1	-1.6
	comp=Z,14nm,1.0s,baz=189,slow=19,SNR=11					
MEH	Mehetia	31.21 84	eP	P	08 53 29.3	+2.4
	comp=Z,36nm,1.3s					
TOO	Toolangi	31.52 237	P	P	08 53 30.2	+0.8
	baz=32,SNR=8.1					
TOO	Toolangi	31.52 237	P	P	08 53 28.1	-1.3
TOO			pmax	pmax		
	comp=Z,38nm,0.7s					
TOO	Toolangi	31.52 237	P	P	08 53 28.1	-1.3
TOO			IAmb	IAmb	08 53 35.7	
	comp=Z,38nm,0.7s					
QLP	Quilpie	31.54 259	P	P	08 53 29.8	+0.2
	baz=32,SNR=8.3					
TAU	Tasmania Unive	32.02 227	P	P	08 53 31.8	-1.7
TAU			pmax	pmax		
	comp=Z,50nm,1.1s					
TAU	Tasmania Unive	32.02 227	P	P	08 53 31.8	-1.7
TAU			IAmb	IAmb	08 53 48.3	
	comp=Z,50nm,1.1s					
PMOR	Pomariorio Ree	32.33 79	eP	P	08 53 39.0	+2.5
	comp=Z,245nm,1.1s					
VAH	Vaihoa	32.49 80	eP	P	08 53 40.0	+2.2
	comp=Z,126nm,1.0s					
KRVT	Keravat (AS076	32.88 303	P	P	08 53 38.8	-2.4
	comp=Z,127nm,0.6s,baz=78,slow=1.2,SNR=6.9					
MTSU	Mount Surprise	32.99 274	P	P	08 53 42.6	+0.5
	baz=33,SNR=131					
STKA	Stephens Creek	33.82 249	P	P	08 53 49.2	+0.3
	baz=34,SNR=17					
STKA	Stephens Creek	33.82 249	P	P	08 53 48.4	-0.5
STKA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
STKA	Stephens Creek	33.82 249	P	P	08 53 49.2	+0.3
	comp=Z,22nm,0.4s,baz=97,slow=11,SNR=23					
STKA			S	S	08 58 33.6	-2.3
	comp=Z,3.7nm,0.7s,baz=72,slow=19,SNR=3.3					
STKA	Stephens Creek	33.82 249	P	P	08 53 48.4	-0.5
PMG	Port Moresby	33.93 291	i P	P	08 53 49.3	-0.8
PMG			pmax	pmax		
	comp=Z,186nm,0.8s					
PMG	Port Moresby	33.93 291	P	P	08 53 49.5	-0.6
	comp=Z,124nm,0.9s,baz=74,slow=5.7,SNR=31					
PMG	Port Moresby	33.93 291	P	P	08 53 49.4	-0.6
ARPS	Mount Arapiles	34.20 240	P	P	08 53 52.4	+0.4
	baz=34,SNR=18					
XMAS	Kiritimati	34.75 44	P	P	08 53 55.7	-1.2
COEN	Coen	35.43 280	P	P	08 54 02.7	+0.1
	baz=35,SNR=41					
COEN	Coen	35.43 280	P	P	08 54 02.7	+0.1
HTT	Hallett	36.16 246	P	P	08 54 08.2	-0.3
	baz=36,SNR=61					
QIS	Mount Isa	36.66 268	P	P	08 54 12.0	-0.7
	baz=37,SNR=6.8					
MANU	Manus Island	37.90 301	P	P	08 54 21.5	-1.5
BBOO	Buckleboo	38.53 247	P	P	08 54 27.2	-0.7
	baz=39,SNR=38					
BBOO	Buckleboo	38.53 247	P	P	08 54 27.0	-0.9
BBOO			IAmb	IAmb	08 54 32.6	
	comp=Z,70nm,0.8s					
MMPI	Merauke	40.24 287	P	P	08 54 45.9	+4.0
AS31	Alice Springs	41.19 261	P	P	08 54 48.6	-0.8
ASAR	Alice Springs	41.19 261	P	P	08 54 48.5	-0.9
ASAR	Alice Springs	41.19 261	P	P	08 54 48.9	-0.6
	comp=Z,95nm,1.1s,baz=94,slow=7.2,SNR=179					
ASAR			PP	PP	08 56 39.3	+0.5
	comp=Z,18nm,0.9s,baz=89,slow=7.6,SNR=7.4					
ASAR			ScP	ScP	08 59 35.7	-1.0
	comp=Z,2.8nm,0.8s,baz=105,slow=4.5,SNR=2.6					
ASAR			S	S	09 00 22.2	-3.2
	comp=Z,7.7nm,0.8s,baz=93,slow=15,SNR=7.1					
ASAR	Alice Springs	41.19 261	P	P	08 54 48.5	-0.9
WR0	Warramunga Arr	41.41 267	P	P	08 54 50.3	-0.9
WR0			IAmb	IAmb	08 54 56.1	
	comp=Z,112nm,0.8s					
WB2	Warramunga Arr	41.59 267	P	P	08 54 51.5	-1.1
WRAB	Tennant Creek	41.59 267	P	P	08 54 51.3	-1.3
WRAB			pmax	pmax		
	comp=Z,197nm,0.9s					
WRAB	Tennant Creek	41.59 267	P	P	08 54 51.3	-1.3
WB0	Warramunga Arr	41.60 267	P	P	08 54 51.6	-1.1
WRA	Warramunga Arr	41.60 267	P	P	08 54 51.5	-1.2
WRA			pmax	pmax		
	comp=Z,12nm,0.8s					
WRA	Warramunga Arr	41.60 267	P	P	08 54 51.6	-1.2
	comp=Z,71nm,1.0s,baz=98,slow=8.3,SNR=340					
WRA			ScP	ScP	08 59 37.5	-0.8
	comp=Z,4.6nm,0.8s,baz=102,slow=3.7,SNR=5.3					
WRA			S	S	09 00 26.4	-5.0
	comp=Z,15nm,1.0s,baz=104,slow=14,SNR=13					
WRA	Warramunga Arr	41.60 267	P	P	08 54 51.5	-1.2
TAOE	Nuku Hiva Isla	41.77 75	eP	P	08 54 56.1	+2.0
	comp=Z,257nm,1.0s					
JOHN	Johnston Islan	42.35 16	P	P	08 54 54.5	-3.9
JOHN			IAmb	IAmb	08 55 03.5	
	comp=Z,197nm,1.1s					
JAY	Jayapura	43.01 294	P	P	08 55 02.6	-1.2
	comp=Z,70nm,1.0s,baz=198,slow=1.1,SNR=16					
JAY	Jayapura	43.01 294	P	P	08 55 02.6	-1.2
SMPI	Sarmi	44.96 293	P	P	08 55 18.6	-0.3
KDU	Kakadu	45.56 276	P	P	08 55 22.2	-1.3
	baz=46,SNR=8.6					
PTCN	Pitcairn Islan	45.88 102	P	P	08 55 23.0	-2.8
WRKA	Warakurna	45.97 258	P	P	08 55 25.6	-1.0
	baz=46,SNR=417					
MTN	Manton Dam	46.72 275	P	P	08 55 31.0	-1.3
	baz=47,SNR=20					
MTN	Manton Dam	46.72 275	P	P	08 55 31.1	-1.2
MTN			IAmb	IAmb	08 55 36.5	
	comp=Z,42nm,0.7s					
SRPI	Serui, Papua	47.10 292	P	P	08 55 34.5	-0.7
BAKI	Biak	47.57 292	P	P	08 55 38.3	-0.5
KNRA	Kununurra	47.91 271	P	P	08 55 40.6	-0.7
	baz=48,SNR=9.4					
KNRA	Kununurra	47.91 271	P	P	08 55 40.6	-0.7
SAUI	Saumlaki	48.50 281	P	P	08 55 51.0	+5.3
FAKI	Fak Fak	49.99 288	P	P	08 56 01.4	+4.6
FAKI	Fak Fak	49.99 288	IAmb	IAmb	08 56 00.6	
	comp=Z,92nm,0.9s					
FITZ	Fitzroy Crossi	50.02 266	P	P	08 55 56.2	-0.7
	baz=50,SNR=98					
FITZ	Fitzroy Crossi	50.02 266	P	P	08 55 56.1	-0.7
	comp=Z,12nm,0.5s,baz=120,slow=5.2,SNR=45					
FITZ	Fitzroy Crossi	50.02 266	P	P	08 55 55.7	-1.2
FITZ			IAmb	IAmb	08 56 02.5	
	comp=Z,128nm,0.9s					
SDHHI	Sand Hill	50.15 32	P	P	08 55 55.9	-2.0
SDHHI			IAmb	IAmb	08 56 02.4	
	comp=Z,107nm,0.9s					
UWE	Uwekahuna	50.17 32	P	P	08 55 55.0	-3.1
UWE			IAmb	IAmb	08 56 02.5	
	comp=Z,130nm,1.2s					
GUMO	Guam	50.46 315	P	P	08 55 59.0	-1.1
GUMO			pmax	pmax		
	comp=Z,424nm,1.5s					
GUMO	Guam	50.46 315	P	P	08 55 58.0	-2.1
	comp=Z,54nm,0.7s,baz=168,slow=19,SNR=3.0					
GUMO	Guam	50.46 315	P	P	08 55 59.0	-1.1
HON	Honolulu	50.59 28	P	P	08 55 58.5	-2.4
HON			pmax	pmax		
	comp=Z,167nm,0.9s					
HON	Honolulu	50.59 28	P	P	08 55 58.5	-2.4
HON			IAmb	IAmb	08 56 10.4	
	comp=Z,166nm,0.9s					
SIJI	Sorong	51.86 289	P	P	08 56 09.2	-1.2
	comp=Z,123nm,0.9s,baz=88,slow=6.4,SNR=21					
SWI	Sorong	51.87 289	P	P	08 56 09.3	-1.1
MSAI	Masohi	52.69 285	P	P	08 56 19.7	+3.4
AAI	Ambon	53.17 284	P	P	08 56 18.5	-1.3
PALU	Palau	53.78 300	P	P	08 56 24.0	-0.1
	baz=54,SNR=9.5					
KLBR	Kellerberrin	54.08 248	P	P	08 56 24.7	-1.3
	baz=54,SNR=12					
SOEI	Soe	54.12 276	P	P	08 56 27.4	+0.8
SOEI	Soe	54.12 276	P	P	08 56 27.3	+0.8
MEEK	Meekatharra	54.23 254	P	P	08 56 25.3	-1.8
	baz=54,SNR=7.8					
PSAB3	Pilbara Seismi	54.30 260	P	P	08 56 26.2	-1.4
PSAB2	Pilbara Seismi	54.30 260	P	P	08 56 27.0	-0.7
PSA00	Pilbara Seismi	54.31 260	P	P	08 56 25.9	-1.9
RKGY	Rocky Gully	54.31 244	P	P	08 56 26.7	-0.8
	baz=54,SNR=13					
NWAO	Narrogin (SRO)	54.32 246	P	P	08 56 26.8	-0.9
	baz=54,SNR=5.6					
NWAO	Narrogin (SRO)	54.32 246	P	P	08 56 26.1	-1.6
NWAO			pmax	pmax		
	comp=Z,59nm,1.3s					
NWAO	Narrogin (SRO)	54.32 246	P	P	08 56 26.4	-1.3
	comp=Z,27nm,0.9s,baz=114,slow=12,SNR=4.8					
NWAO	Narrogin (SRO)	54.32 246	P	P	08 56 26.1	-1.6
NLAI	Namlea	54.35 284	P	P	08 56 27.3	-0.8
PSAD1	Pilbara Seismi	54.36 260	P	P	08 56 27.3	-0.8
BATI	Baumata	54.49 275	P	P	08 56 30.4	+1.3
	comp=Z,34nm,0.5s,baz=198,slow=1.4,SNR=6.0					
BATI	Baumata	54.49 275	P	P	08 56 29.3	+0.2
MBWA	Marble Bar	54.52 261	P	P	08 56 32.9	+3.7
	SNR=5.3					
MBWA	Marble Bar	54.52 261	P	P	08 56 27.6	-1.6
MBWA			IAmb	IAmb	08 56 33.8	
	comp=Z,168nm,1.2s					
MUN	Mundaring	55.32 247	P	P	08 56 33.6	-1.0
	baz=55,SNR=6.8					
SANI	Sanana	55.88 285	P	P	08 56 37.8	-1.0
MORW	Morawa	55.97 250	P	P	08 56 38.5	-0.8
	baz=56,SNR=8.5					
MORW	Morawa	55.97 250	P	P	08 56 38.1	-1.1
MORW			IAmb	IAmb	08 56 44.1	
	comp=Z,115nm,1.3s					
TNTI	Ternate	56.05 289	P	P	08 56 38.8	-1.2
TNTI	Ternate	56.05 289	P	P	08 56 38.5	-1.5
TNTI			IAmb	IAmb	08 56 44.6	
	comp=Z,240nm,1.1s					
WBSI	Waikabubak, Su	58.59 274	P	P	08 56 56.6	-0.8
GIRL	Giralia	59.05 257	P	P	08 57 02.1	+1.8
	baz=59,SNR=3.8					
LUWI	Luwuk	59.19 284	P	P	08 57 05.5	+4.1
LUWI	Luwuk	59.19 284	P	P	08 56 59.5	-1.9
CASY	Casey	59.32 206	P	P	08 56 59.2	-2.1
KAPI	Kappang	60.13 279	P	P	08 57 11.2	+3.5
	SNR=14					
KAPI	Kappang	60.13 279	P	P	08 57 06.6	-1.1
KAPI			pmax	pmax		
	comp=Z,183nm,1.5s					
KAPI	Kappang	60.13 279	P	P	08 57 06.6	-1.1
	comp=Z,14nm,0.4s,baz=151,slow=1.1,SNR=16					
KAPI	Kappang	60.13 279	IAmb	IAmb	08 57 12.8	
	comp=Z,183nm,1.5s					
PLAI	Plampang	60.38 274	P	P	08 57 07.9	-1.4
TWSI	Taliwang, Sumb	61.22 273	P	P	08 57 13.5	-1.4
IGBI	Denpasar	62.77 273	P	P	08 57 23.9	-1.0
JAGI	Jajag, Banyuwa	63.81 272	P	P	08 57 34.3	+2.7
JAGI	Jajag, Banyuwa	63.81 272	P	P	08 57 29.2	-2.4
JAGI			IAmb	IAmb	08 57 35.3	
	comp=Z,165nm,1.1s					
KBKI	Kotabaru	64.09 279	P	P	08 57 37.7	+4.3
SMKI	Samarinda	64.41 282	P	P	08 57 42.4	+7.0
KMMI	Kalianget	64.54 274	P	P	08 57 35.5	-0.7
QSPA	South Pole Qui	65.68 180	P	P	08 57 42.6	-0.1
	comp=Z,41nm,1.1s,baz=337,slow=0.7,SNR=60					
QSPA	South Pole Qui	65.68 180	P	P	08 57 42.6	-0.1
QSPA			IAmb	IAmb	08 57 48.8	
	comp=Z,102nm,1.1s					
GRJI	Gresik	65.95 273	P	P	08 57 43.5	-1.6
PWJI	Pagerwojo	66.13 272	P	P	08 57 44.8	-1.4
UGM	Wanagama	67.34 271	P	P	08 57 52.6	-1.1
UGM	Wanagama	67.34 271	P	P	08 57 51.9	-1.9
UGM			IAmb	IAmb	08 57 58.3	
	comp=Z,146nm,1.2s					
SMRI	Semarang	67.75 272	P	P	08 57 55.3	-1.0
SMRI			IAmb	IAmb	08 58 00.8	
	comp=Z,69nm,0.8s					
KKM	Kota Kinabalu	68.31 288	P	P	08 57 58.0	-1.7
KKM			IAmb	IAmb	08 58 04.0	
	comp=Z,83nm,0.9s					
JHJ	Hachijo jima 2	68.40 325	P	P	08 57 58.4	-1.4
	comp=Z,84nm,0.7s,baz=156,slow=10,SNR=4.0					
KPJI	Karang Pucung	69.01 271	P	P	08 58 02.3	-1.6
CISI	Cisompet, Garu	69.94 271	P	P	08 58 07.2	-2.3
CISI			IAmb	IAmb	08 58 12.7	
	comp=Z,106nm,1.0s					
SBUM	Sibu	70.15 282	P	P	08 58 09.8	-0.9
LEM	Lembang	70.41 271	P	P	08 58 11.4	-1.0
	comp=Z,100nm,1.0s,baz=98,slow=6.8,SNR=6.8					
JOW	Kunigami	70.76 313	P	P	08 58 13.1	-0.9
	comp=Z,7.6nm,0.8s,baz=167,slow=13,SNR=5.0					
JOW	Kunigami	70.76 313	IAmb	IAmb	08 58 18.8	
	comp=Z,54nm,0.9s					
XMIS	Christmas Isla	70.80 267	P	P	08 58 13.4	-1.1
XMIS			IAmb	IAmb	08 58 18.7	
	comp=Z,80nm,0.8s					
KSM	Kuching	71.43 280	P	P	08 58 16.2	-2.0
KSM			IAmb	IAmb	08 58 23.0	
	comp=Z,126nm,1.0s					
INU	Inuyama	71.58 325	P	P	08 58 17.0	-1.6
INU			IAmb	IAmb	08 58 23.4	
	comp=Z,154nm,1.3s					
MJAR	Matsushiro Arr	71.88 326	P	P	08 58 19.1	-1.3
MJAR			pmax	pmax		
	comp=Z,23nm,0.9s					
MJAR	Matsushiro Arr	71.88 326	P	P	08 58 18.5	-1.9
	comp=Z,29nm,1.0s,baz=143,slow=5.7,SNR=36					
MJAR			pP	pP	09 00 09.2	+1.2
	comp=Z,2.5nm,0.8s,baz=139,slow=5.1,SNR=2.0					
MJAR	Matsushiro Arr	71.88 326	P	P	08 58 19.1	-1.3
MAJO	Matsushiro	71.88 326	i P	P	08 58 18.6	-1.8
MAJO			pmax	pmax		
	comp=Z,106nm,1.0s					
MAJO	Matsushiro	71.88 326	P	P	08 58 19.0	-1.3
MAJO			IAmb	IAmb	08 58 24.8	
	comp=Z,115nm,0.9s					
MAT	Matsushiro	71.88 326	P	P	08 58 18.5	-1.9
MAT			S	SKiKP	09 07 04.0	+1.6
MJB9	Matsu-Tunnel	71.88 326	P	P	08 58 19.1	-1.3
MJB9			IAmb	IAmb	08 58 24.8	
	comp=Z,121nm,1.0s					
JNU	Nakatsue	73.39 319	P	P	08 58 27.1	-2.1
	comp=Z,16nm,0.9s,baz=66,slow=4.4,SNR=21					
JNU	Nakatsue	73.39 319	P	P	08 58 27.8	-1.4
JNU			IAmb	IAmb	08 58 33.1	
	comp=Z,65nm,0.9s					
TPUB	Ta-pu	73.97 305	P	P	08 58 33.8	+1.1
TPUB			IAmb	IAmb	08 58 35.5	
	comp=Z,46nm,0.8s					
ERM	Erimo	74.00 333	i P	P	08 58 32.4	+0.1
SSLB	Suanglung	74.02 306	P	P	08 58 31.1	-1.9
YUK	Yuzh-Kuril'sk	74.63 336	eP	P	08 58 35.3	-0.6
YUK			e		08 58 48.2	
YUK			e		09 01 33.3	
YUK			ePPP	PPP	09 03 22.3	
YUK			eS	S	09 07 29.2	-0.2
YUK			e		09 07 55.1	
YUK			eSS	SS	09 12 33.5	+2.0
YUK			pmax	pmax		
	comp=Z,276nm,1.6s					
YUK			pmax	pmax		
	comp=Z,290nm,1.2s					
YUK			pmax	pmax		
	comp=N,246nm,1.3s					
YUK			pmax	pmax		
	comp=E,178nm,1.1s					
JKA	Kamikawa-asahi	75.97 334	P	P	08 58 43.5	+0.1
ASAJ	Asahikawa	75.97 334	P	P	08 58 43.5	+0.1
	comp=E,15nm,0.9s,baz=193,slow=5.2,SNR=9.7					
KIWB	Kanaga Island	75.99 2	P	P	08 58 41.2	-2.1
MAW	Mawson	77.01 201	P	P	08 58 48.3	-0.5
	baz=77,SNR=9.0					
MAW	Mawson	77.01 201	P	P	08 58 46.9	-1.9
MAW			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MAW	Mawson	77.01 201	P	P	08 58 48.1	-0.7
	comp=Z,7.1nm,0.9s,baz=136,slow=8.3,SNR=31					
MAW	Mawson	77.01 201	P	P	08 58 46.9	-1.9
MYKOM	Kota Tinggi	77.38 278	P	P	08 58 50.0	-1.8
KSRS	Korea Array	78.14 321	P	P	08 58 54.5	-0.8
	comp=Z,21nm,0.8s,baz=135,slow=5.0,SNR=21					
KSAR	Wonju Array Be	78.15 321	P	P	08 58 54.4	-1.0
KSAR	Wonju Array Be	78.15 321	P	P	08 58 54.4	-1.0
YSS	Yuzh-Sakhalins	78.26 335	eP	P	08 58 55.4	-0.4
YSS			e		08 59 00.2	
YSS			eS	S	09 08 12.1	+4.1
YSS			e		09 08 33.0	
YSS			eSSS	SSS	09 16 55.0	
YSS			pmax	pmax		
	comp=Z,40nm,1.0s					
YSS			smax	smax		
	comp=E,300nm,4.4s					
YSS			smax	smax		
	comp=N,800nm,5.7s					
YSS			MLR	MLR		
	comp=Z,100nm,17.0s					
YSS	Yuzh-Sakhalins	78.26 335	P	P	08 58 55.0	-0.8
YSS			IAmb	IAmb	08 59 01.2	
	comp=Z,118nm,0.8s					
PET	Petropavlovsk	79.14 348	eP	P	08 58 59.9	-0.4
PET			eS	S	09 08 16.0	-0.9
PET			eSSS	SSS	09 17 11.3	
PET			pmax	pmax		
	comp=Z,53nm,0.9s					
PET			MLR	MLR		
	comp=Z,300nm,17.0s					
TEY	Ternei	79.25 331⇓	eP	P	08 59 05.2	+4.1
TEY			pmax	pmax		
	comp=Z,100nm,4.0s					
PEA0B	Petropavlovsk-	79.41 347	P	P	08 59 00.5	-1.3
PEA0B			pmax	pmax		
	comp=Z,288nm,1.3s					
PEA0B	Petropavlovsk-	79.41 347	P	P	08 59 00.5	-1.3
PEA0B			IAmb	IAmb	08 59 06.6	
	comp=Z,288nm,1.3s					
PETK	Petropavlovsk-	79.41 347	P	P	08 59 00.4	-1.4
	comp=Z,44nm,1.2s,baz=115,slow=6.2,SNR=18					
PETK			pP	pwP	09 00 57.0	-0.6
	comp=Z,6.5nm,1.0s,baz=101,slow=7.5,SNR=3.6					
MSHR	Mys Shultsa	80.00 326	d iP	P	08 59 05.1	0.0
VLA	Vladivostok	80.03 327	i P	P	08 59 04.8	-0.4
VLA			pmax	pmax		

MDJ	Mudanjiang	82.25	327	P	P	08 59 15.4	-1.3
MDJ				IAmb	IAmb	08 59 22.3	
comp=Z,126nm,1.1s							
PSI	Prapat	82.26	277	P	P	08 59 14.8	-2.8
PSI				pmax	pmax		
comp=Z,55nm,0.9s							
PSI	Prapat	82.26	277	P	P	08 59 15.0	-2.6
comp=Z,19nm,1.0s,baz=190,slow=6.1,SNR=4.3							
SYO	Syowa Base	82.34	194⇓	eP	P	08 59 13.6	-3.2
SYO	Syowa Base	82.34	194⇑	PcP	PcP	08 59 18.6	-2.0
PKM	Mcpherson Peak	82.59	46	P	P	08 59 23.6	+4.7
baz=233							
SKLT	Songkhla	82.59	281	P	P	08 59 23.7	+4.6
MCCM	Marconi Confer	82.61	42	P	P	08 59 15.8	-2.9
WHN	Wuhan	82.69	308	⇓P	P	08 59 23.0	+3.8
WHN				pmax	pmax		
comp=Z,94nm,0.8s							
SMMC	Simmler	82.72	46	P	P	08 59 23.9	+4.6
baz=233							
CHIR	Chirikof Islan	82.75	14	P	P	08 59 16.4	-2.4
DL2	Dalian	82.82	318	⇓P	P	08 59 24.0	+4.3
DL2				S	S	09 08 59.6	+4.8
DL2				pmax	pmax		
comp=Z,100nm,1.4s							
DL2				pmax	pmax		
comp=Z,660nm,4.8s							
GSI	Gunungsitoli	82.86	275	P	P	08 59 19.3	-1.2
GSI				IAmb	IAmb	08 59 25.2	
comp=Z,76nm,0.9s							
OSI	Osito Audit: C	83.15	47	P	P	08 59 26.3	+4.7
baz=234							
DECC	Green Verdugo	83.20	48	P	P	08 59 25.7	+3.9
baz=234							
109C	Camp Elliot, M	83.26	49	P	P	08 59 26.0	+4.0
baz=235,SNR=5.7							
ARVC	Arvin	83.38	47	P	P	08 59 26.6	+4.0
baz=234,SNR=8.1							
SNY	Shenyang	83.55	322	⇓P	P	08 59 26.8	+3.5
SNY				S	S	09 08 54.8	-7.1
SNY				pmax	pmax		
comp=Z,54nm,1.1s							
SNY				pmax	pmax		
comp=Z,540nm,2.7s							
MURC	Murrieta	83.61	49	P	P	08 59 27.8	+4.0
baz=235,SNR=7.5							
VES	Vestal, Richgr	83.63	46	P	P	08 59 27.7	+3.9
baz=234,SNR=13							
BFSC	Mount Baldy Ra	83.65	48	P	P	08 59 28.0	+3.9
baz=235,SNR=11							
TRTT	Trang	83.71	281	P	P	08 59 29.4	+4.7
VOG	Valley Oaks Go	83.72	46	P	P	08 59 27.9	+3.6
baz=233							
MONP2	Monument Peak	83.74	50	P	P	08 59 29.1	+4.4
baz=236,SNR=20							
EDW2	Edwards Air Fo	83.80	47	P	P	08 59 28.9	+4.1
baz=234,SNR=15							
GRNR	Gornyy	83.81	334	⇓iP	P	08 59 24.2	-0.2
IKP	In-Ko-Pah, Jac	83.82	50	P	P	08 59 29.4	+4.5
baz=236,SNR=14							
CN2	Changchun	83.83	324	eP	P	08 59 24.6	0.0
CN2				eS	S	09 09 08.0	+3.4
CN2				pmax	pmax		
comp=Z,30nm,1.3s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
ISA	Isabella, Lake	83.93	47	P	P	08 59 29.6	+4.2
baz=234,SNR=20							
O02D	Mt. Diablo Mer	83.94	41	P	P	08 59 30.3	+4.9
baz=231,SNR=15							
PFO	Pinyon Flats O	84.12	49	P	P	08 59 30.4	+4.0
baz=236,SNR=9.8							
KRMB	Red Mountain	84.14	39	P	P	08 59 26.6	+0.2
BBRC	Big Bear Solar	84.17	48	P	P	08 59 30.9	+4.1
baz=235							
SNAA	Sanae	84.18	179	P	P	08 59 24.1	-1.9
SNAA	Sanae	84.18	179	P	P	08 59 24.4	-1.7
SNAA				pmax	pmax		
comp=Z,21nm,1.1s							
SNAA	Sanae	84.18	179	P	P	08 59 24.4	-1.7
SWSC	Sam W. Stewart	84.20	50	P	P	08 59 31.1	+4.3
baz=236,SNR=14							
LRMC	Laurel Mtn Rad	84.35	47	P	P	08 59 31.6	+4.0
baz=235,SNR=14							
VNA3	Neumayer Olymp	84.42	177	P	P	08 59 25.5	-1.7
RRX	Edison Barstow	84.46	48	P	P	08 59 31.9	+3.9
baz=235							
N02D	Trinity Center	84.49	40	P	P	08 59 32.8	+4.7
baz=231,SNR=14							
KLR	Kul'dur	84.59	331	iP	P	08 59 26.7	-1.5
KLR				pmax	pmax		
comp=Z,12nm,1.5s							
KLR	Kul'dur	84.59	331	P	P	08 59 27.7	-0.5
comp=Z,4.4nm,0.6s,baz=139,slow=6.1,SNR=20							
O03E	Paynes Creek	84.61	41	P	P	08 59 32.4	+3.7
baz=232							
CWC	Cottonwood Cre	84.64	46	P	P	08 59 32.8	+3.7
baz=234							
BELC	Belle Mtn. Jos	84.65	49	P	P	08 59 33.4	+4.3
baz=236,SNR=16							
M02C	Callahan	84.67	40	P	P	08 59 33.7	+4.8
baz=231,SNR=16							
MPMC	Manual Prospec	84.81	47	P	P	08 59 33.9	+4.0
baz=235,SNR=12							
VNA2	Neumayer--Watz	84.82	178	P	P	08 59 27.6	-1.6
baz=190,slow=3.8							
GSC	Goldstone, Bar	84.83	48	P	P	08 59 33.9	+4.0
baz=235,SNR=13							
BC3	Big Chuckawall	84.84	50	P	P	08 59 34.6	+4.6
baz=236,SNR=14							
MLAC	Mammoth, Mammo	84.84	45	P	P	08 59 34.3	+4.3
baz=234							
PATY	Pattaya	84.88	287	P	P	08 59 35.9	+5.5
HEC	Hector,Ludlow	84.89	48	P	P	08 59 34.1	+3.9
baz=236,SNR=14							
TIN	Tinemaha, Big	84.90	45	P	P	08 59 34.4	+4.2
baz=234							
GLA	Glamis	84.94	50	P	P	08 59 35.3	+4.8
baz=236,SNR=9.1							
SURT	Suratani	84.99	282	P	P	08 59 36.7	+5.7
K02D	Willamette Mer	85.03	38	P	P	08 59 35.1	+4.4
baz=230,SNR=6.4							
VNA1	Neumayer--Stat	85.07	178	P	P	08 59 28.8	-1.6
J01E	Myrtle Point	85.18	38	P	P	08 59 35.7	+4.5
baz=230							
KDAK	Kodiak Island	85.23	15	iP	P	08 59 30.9	-0.2
NONG	Nongkai	85.23	292	P	P	08 59 32.3	+0.2
CHAI	Chaiyaphum	85.24	290	P	P	08 59 36.3	+4.2
comp=Z,48μm,1.0s,comp=Z,607μm							
GMRC	Granite Mounta	85.32	49	P	P	08 59 36.5	+4.1
baz=236							
IRM	Iron Mountain	85.33	49	P	P	08 59 36.7	+4.5
baz=236,SNR=18							
GRAC	Grapevine Rang	85.43	46	P	P	08 59 36.7	+4.0
baz=235,SNR=9.2							
FURC	Furnace Creek,	85.46	47	P	P	08 59 36.8	+4.0
baz=235,SNR=7.9							
TUQ	Turquoise Moun	85.50	48	P	P	08 59 37.3	+4.1
baz=236,SNR=15							
L04D	Klamath Falls	85.51	39	P	P	08 59 37.2	+4.1
baz=231,SNR=8.6							
M04C	Macdoel	85.51	40	P	P	08 59 37.9	+4.8
baz=231,SNR=9.1							
SHOC	Shoshone, Teco	85.53	47	P	P	08 59 37.0	+3.8
baz=235,SNR=9.2							
Y12C	Blythe	85.54	50	P	P	08 59 37.7	+4.5
baz=237,SNR=10							
NVAR	Mina Array Bea	85.65	44	P	P	08 59 32.6	-1.4
comp=Z,2.2nm,1.1s,baz=230,slow=7.4,SNR=45							
NVAR				pP	pP	09 01 24.0	-3.2
comp=Z,1.6nm,0.8s,baz=224,slow=8.7,SNR=3.0							
NVAR				PKKPbc	PKKPbc	09 17 34.9	+1.0
comp=Z,0.4nm,0.7s,baz=97,slow=3.6,SNR=4.1							
NVAR				PKPPKP		09 25 42.0	
comp=Z,1.3nm,1.0s,baz=106,slow=2.9,SNR=8.3							
214A	Organ Pipe Nat	85.79	52	P	P	08 59 39.2	+4.7
baz=238							
I03D	Drain, OR	85.84	38	P	P	08 59 39.3	+4.9
baz=230							
PHET	Kaeng Krachan	85.96	286	P	P	08 59 37.9	+2.3
NEE2	Needles Airpor	86.03	49	P	P	08 59 40.1	+4.5
baz=236							
K04D	Chiloquin, OR	86.08	39	P	P	08 59 40.0	+4.3
baz=231							
TPNV	Topopah Spring	86.14	46	P	P	08 59 40.3	+4.1
baz=235,SNR=13							
TPNV	Topopah Spring	86.14	46	P	P	08 59 35.7	-0.6
TPNV				pmax	pmax		
comp=Z,21nm,1.1s							
TPNV	Topopah Spring	86.14	46	P	P	08 59 35.6	-0.6
KVN	Kaiserville	86.14	44	P	P	08 59 35.4	-0.8
KVN				pmax	pmax		
comp=Z,17nm,1.1s							
KVN	Kaiserville	86.14	44	P	P	08 59 35.4	-0.8
J04D	Umpqua Nationa	86.26	39	P	P	08 59 41.1	+4.4
baz=231,SNR=11							
GYA	Guiyang	86.34	301	⇓iP	P	08 59 40.8	+3.4
GYA				PP	PP	09 03 14.5	+6.2
GYA				S	S	09 09 32.5	+2.8
GYA				pmax	pmax		
comp=Z,20nm,0.9s							
GYA				pmax	pmax		
comp=Z,220nm,6.7s							
PBKT	Sadao Pong	86.41	290	P	P	08 59 38.7	+1.0
PBKT	Sadao Pong	86.41	290	P	P	08 59 38.0	+0.3
PBKT				IAmb	IAmb	08 59 43.2	
comp=Z,39nm,0.9s							
MOD	Modoc Plateau	86.49	41	P	P	08 59 37.7	0.0
H04D	Lebanon	86.71	37	P	P	08 59 42.9	+4.3
baz=231,SNR=13							
J05D	Fort Rock, OR	86.79	39	P	P	08 59 43.6	+4.4
baz=232,SNR=19							
G03D	McMinnville, O	86.86	37	P	P	08 59 43.5	+4.3
baz=230,SNR=7.4							
BJI	Beijing	86.86	317⇑	iP	P	08 59 39.0	-0.3
BJI				S	S	09 09 34.6	+0.9
BJI				pmax	pmax		
comp=Z,46nm,1.8s							
MA2	Magadan	86.87	346	iP	P	08 59 37.8	-1.1
MA2				pmax	pmax		
comp=Z,13nm,0.9s							
MA2	Magadan	86.87	346	P	P	08 59 36.9	-2.0
comp=Z,54nm,0.9s,baz=143,slow=4.9,SNR=6.4							
MA2	Magadan	86.87	346	P	P	08 59 38.0	-1.0
MA2				IAmb	IAmb	08 59 43.2	
comp=Z,90nm,1.0s							
SRDT	SRDT	87.03	287	P	P	08 59 45.9	+5.2
CNPM	China Poot	87.11	15	P	P	08 59 38.6	-1.5
CNPM				IAmb	IAmb	08 59 43.9	
comp=Z,44nm,0.9s							
UTHA	Uthaitani	87.28	288	P	P	08 59 43.2	+1.4
R11A	Troy Canyon, C	87.36	46	P	P	08 59 45.5	+3.5
baz=236,SNR=8.0							
I05D	Terrebonne, OR	87.38	38	P	P	08 59 45.8	+4.0
baz=232,SNR=14							
TUC	Tucson	87.44	53	P	P	08 59 47.2	+4.8
baz=239							
F04D	Rainier, OR	87.55	36	P	P	08 59 47.1	+4.7
baz=230							
NANT	Nan	87.63	292	P	P	08 59 49.1	+5.6
WVOR	Wild Horse Val	87.80	41	P	P	08 59 43.5	-0.4
WVOR				pmax	pmax		
comp=Z,54nm,1.2s							
WVOR	Wild Horse Val	87.80	41	P	P	08 59 43.5	-0.4
WVOR				IAmb	IAmb	08 59 49.4	
comp=Z,54nm,1.2s							
PHRA	Phrae	87.90	291	P	P	08 59 49.3	+4.6
NLWA	Neilton Lookou	87.93	35	IAmb	IAmb	08 59 50.0	
comp=Z,38nm,1.1s							
G05D	Wamic, OR	87.95	38	P	P	08 59 48.4	+4.0
baz=232,SNR=7.8							
TIY	Taiyuan	87.96	313	eP	P	08 59 49.4	+4.7
TIY				pP	pwP	09 01 43.3	-0.2
TIY				PP	PP	09 03 24.6	+3.7
TIY				SKS	SKSac	09 09 21.9	-1.5
TIY				S	S	09 09 43.1	-1.2
TIY				pmax	pmax		
comp=Z,220nm,1.3s							
UMPA	Umpang Tak	88.06	289	P	P	08 59 50.2	+4.7
319A	Douglas	88.07	54	IAmb	IAmb	08 59 51.7	
comp=Z,35nm,0.9s							
E04D	Cinebar	88.09	36	P	P	08 59 49.4	+4.5
baz=231,SNR=11							
F05D	White Salmon	88.27	37	P	P	08 59 49.9	+4.1
baz=232							
D04E	Lakebay	88.37	35	P	P	08 59 51.6	+5.4
baz=230							
LAMP	Lampang	88.42	291	P	P	08 59 52.7	+5.6
D03D	Eldon	88.43	35	P	P	08 59 50.8	+4.3
baz=230,SNR=16							
XAN	Xi'an	88.44	309	P	P	08 59 46.4	-0.6
XAN				pP	pwP	09 01 45.8	-0.2
XAN				SKS	SKSac	09 09 22.9	-3.5
XAN				S	S	09 09 44.4	-4.5
XAN				sS	sS	09 13 15.8	+3.9
XAN				pmax	pmax		
comp=Z,17nm,1.3s							
XAN				pmax	pmax		
comp=Z,490nm,4.1s							
PLCA	Paso Flores	88.47	135	P	P	08 59 46.9	-0.3
comp=Z,8.6nm,1.0s,baz=283,slow=10.0,SNR=3.5							
PAYA	Payao	88.58	292	P	P	08 59 52.6	+4.7
WUAZ	Wupatki	88.67	50	P	P	08 59 52.0	+3.8
baz=238							
KMI	Kunming	88.81	298	P	P	08 59 53.8	+4.7
KMI				pmax	pmax		
comp=Z,42nm,1.4s							
CM31	Chiang Mai Arr	88.97	291	P	P	08 59 55.3	+5.6
SNR=13							
CMAR	Chiang Mai Arr	88.97	291	P	P	08 59 49.5	-0.3
comp=Z,21nm,1.0s,baz=133,slow=3.0,SNR=19							
CMAR				pP	pwP	09 01 50.2	+1.3
comp=Z,2.2nm,0.9s,baz=138,slow=3.3,SNR=4.7							
CMAR				PP	PP	09 03 33.2	+4.2
comp=Z,5.1nm,0.9s,baz=129,slow=6.1,SNR=7.5							
CMAR				PKKPbc	PKKPbc	09 17 27.0	+2.3
comp=Z,1.4nm,0.3s,baz=292,slow=3.7,SNR=5.6							
CMMT	Chiang Mai	89.12	291	P	P	08 59 51.3	+0.8
CHTO	Chiang Mai	89.13	291	P	P	08 59 55.3	+4.8
SNR=12							
G08A	Pilot Rock	89.30	39	P	P	08 59 48.7	-2.1
G08A				IAmb	IAmb	08 59 56.1	
comp=Z,68nm,1.5s							
A04D	Lummi Island	89.38	34	P	P	08 59 55.6	+4.8
baz=231							
B05A	Bryant	89.41	35	P	P	08 59 55.2	+4.2
baz=231,SNR=14							
SEY	Seymchan	89.60	348	iP	P	08 59 50.8	-0.7
SEY	Seymchan	89.60	348	P	P	08 59 49.7	-1.8
comp=Z,16nm,1.2s,baz=158,slow=5.3,SNR=13							
SEY				pP	pwP	09 01 49.0	-1.3
comp=Z,8.5nm,1.1s,baz=167,slow=5.6,SNR=3.9							
W18A	Petrified Fore	89.62	51	P	P	08 59 56.8	+4.2
baz=239							
MHMT	Maesarieng	89.72	290	P	P	08 59 58.9	+5.7
121A	Cookes Peak, D	89.75	54	P	P	08 59 57.8	+4.5
baz=240							
ZEA	Zeya	89.79	332	eP	P	08 59 51.6	-1.1
ZEA				eS	S	09 10 08.5	+8.4
ZEA				e		09 11 12.0	
ZEA				pmax	pmax		
comp=N,47nm,1.0s							
ZEA				pmax	pmax		
comp=Z,70nm,1.0s							
ZEA				smax	smax		
comp=E,500nm,9.0s							
C06D	Leavenworth	89.83	36	P	P	08 59 56.8	+3.8
baz=232							
SCM	Sheep Creek Mo	90.06	15	P	P	08 59 52.9	-0.9
SCM				pmax	pmax		
comp=Z,36nm,0.8s							
SCM	Sheep Creek Mo	90.06	15	P	P	08 59 52.9	-0.9
SCM				IAmb	IAmb	08 59 58.0	
comp=Z,36nm,0.8s							
DUG	Dugway, Tooele	90.17	45	P	P	08 59 58.6	+3.7
baz=238							
DUG	Dugway, Tooele	90.17	45	P	P	08 59 54.3	-0.7
DUG				pmax	pmax		
comp=Z,11nm,1.1s							
DUG	Dugway, Tooele	90.17	45	P	P	08 59 54.3	-0.7
HHC	Hu-ho-hao-te	90.23	315	eP	P	08 59 55.0	-0.2
CD2	Chengdu	90.71	304	⇓iP	P	08 59 57.3	-0.3
CD2				S	S	09 10 01.9	-7.6
CD2				pmax	pmax		
comp=Z,110nm,0.9s							
CD2				pmax	pmax		
comp=Z,410nm,5.8s							
RND	Reindeer	91.08	14	P	P	08 59 56.9	-1.6
RND				pmax	pmax		
comp=Z,63nm,1.3s							
RND	Reindeer	91.08	14	P	P	08 59 56.9	-1.6
RND				IAmb	IAmb	09 00 02.3	
comp=Z,63nm,1.3s							
BTO	Baotou	91.09	315	eP	P	08 59 59.8	+0.6
MNTX	Cornudas Mount	91.14	56	P	P	09 00 03.7	+4.2
baz=242							
TX31	Lajitas Ar. Si	91.35	58	P	P	08 59 59.0	-1.7
TX32	Lajitas Array	91.35	58	P	P	08 59 59.2	-1.5
TXAR	Lajitas Array	91.36	58	P	P	08 59 59.1	-1.6
TXAR	Lajitas Array	91.36	58	P	P	08 59 60.0	-0.7
comp=Z,3.2nm,1.1s,baz=212,slow=7.7,SNR=8.7							
TXAR				pP	pP	09 01 54.2	-1.1
comp=Z,1.5nm,0.9s,baz=220,slow=5.5,SNR=3.2							
TXAR				PKKPbc	PKKPbc	09 17 18.2	-1.2
comp=Z,1.6nm,1.1s,baz=104,slow=4.0,SNR=5.2							
TXAR	Lajitas Array	91.36	58	P	P	08 59 59.1	-1.6
ANMO	Albuquerque	91.88	52	P	P	09 00 07.0	+3.9
baz=241							
ANMO	Albuquerque	91.88	52	iP	P	09 00 00.7	-2.4
ANMO				pmax	pmax		
comp=Z,6.0nm,1.0s							
WRH	Wood River Hil	92.18	14	IAmb	IAmb	09 00 06.4	
comp=Z,17nm,1.0s							
HDA	Harding Lake	92.38	14	P	P	09 00 06.9	+2.5
baz=210							
HDA	Harding Lake	92.38	14	P	P	09 00 02.6	-1.7
HDA				IAmb	IAmb	09 00 08.3	
comp=Z,12nm,0.8s							
CCB	Clear Creek Bu	92.39	14	P	P	09 00 02.0	-2.4
IMAR	Indian Mountai	92.45	11	P	P	09 00 02.7	-1.9
MDM	Murphy Dome	92.58	13	IAmb	IAmb	09 00 08.4	
comp=Z,14nm,0.9s							
TCOL	CIGO, UAF Yank	92.58	13	P	P	09 00 07.4	+2.1
baz=210							
COLA	College	92.58	13	iP	P	09 00 05.8	+0.5
COLA				pmax	pmax		
comp=Z,12nm,1.0s							
BILL	Bilibino	92.66	355	eP	P	09 00 04.9	-0.7
BILL				e*PP	pP	09 01 55.3	-4.4
BILL				e*SP	sP	09 02 48.4	-3.2
BILL				e		09 03 52.6	
BILL				pmax	pmax		
comp=Z,24nm,1.1s							
BILL	Bilibino	92.66	355	P	P	09 00 03.2	-2.4
BILL				IAmb	IAmb	09 00 10.3	
comp=Z,47nm,1.3s							
IL31		92.70	14	P	P	09 00 02.5	-3.3
ILAR	Eielson Array	92.70	14	P	P	09 00 03.0	-2.9
comp=Z,0.9nm,0.8s,baz=241,slow=6.2,SNR=12							
ILAR				pP	pwP	09 02 04.2	-0.5
comp=Z,18nm,1.1s,baz=231,slow=5.7,SNR=9.8							
ILAR				PKiKP	PKiKP	09 04 47.5	-2.8
comp=Z,0.2nm,0.3s,baz=284,slow=2.7,SNR=2.5							
ILAR				PKKP	PKKPdf	09 17 14.2	-1.1
comp=Z,0.2nm,0.4s,baz=349,slow=2.3,SNR=5.5							
S22A	4UR Ranch, Cre	92.95	50	P	P	09 00 12.4	+4.3
baz=241							
LZH	Lanzhou	93.07	308	⇓P	P	09 00 13.0	+4.5
LZH				S	S	09 10 33.3	+3.0
LZH				sS	sS	09 13 57.9	+2.1
LZH				pmax	pmax		
comp=Z,53nm,1.4s							
LZH				pmax	pmax		
comp=Z,350nm,6.8s							
IMW	Indian Meadow	93.30	43	P	P	09 00 09.7	+0.3
BW06	Boulder Array	93.59	44	P	P	09 00 14.2	+3.4
baz=240							
PDAR	Pinedale Array	93.59	44	P	P	09 00 09.2	-1.6
comp=Z,1.3nm,0.8s,baz=197,slow=2.8,SNR=2.4							
PDAR				pP	pwP	09 02 11.5	+3.4
comp=Z,7.4nm,1.1s,baz=207,slow=3.0,SNR=14							
PDAR				PKKPbc	PKKPdf	09 17 12.2	-0.9
comp=Z,0.3nm,0.5s,baz=77,slow=3.2,SNR=3.6							
PDAR				PKPPKP		09 25 26.2	
comp=Z,0.1nm,0.3s,baz=66,slow=5.0,SNR=4.1							
PDAR	Pinedale Array	93.59	44	P	P	09 00 07.1	-3.7
BOZ	Bozeman (W)	93.75	41	P	P	09 00 15.4	+4.1
baz=238							
SDCO	Great Sand Dun	93.88	50	P	P	09 00 16.2	+3.9
baz=242							
EGAK	Eagle	94.05	16	P	P	09 00 10.7	-1.3
EGAK				IAmb	IAmb	09 00 16.1	
comp=Z,15nm,0.9s							
MSTX	Muleshoe	94.13	55	P	P	09 00 16.7	+3.5
baz=243							
Q24A	Divide	94.69	49	P	P	09 00 19.9	+4.0
baz=242							
YAK	Yakutsk	94.76	339	eP	P	09 00 17.7	+2.4
YAK				e*PP	pwP	09 02 15.0	+0.3
YAK				e		09 04 08.0	
YAK				eS	SKSac	09 10 08.7	+8.7
YAK				e		09 10 44.5	
YAK				pmax	pmax		
comp=Z,18nm,0.8s							
YAK				pmax	pmax		
comp=N,9.0nm,1.2s							
YAK				pmax	pmax		
comp=Z,79nm,2.5s							
YAK				pmax	pmax		
comp=N,72nm,3.0s							
YAK				pmax	pmax		
comp=E,71nm,2.8s							
YAK				smax	smax		
comp=N,68nm,2.8s							
YAK				smax	smax		
comp=E,49nm,2.9s							
BMAR	Burnt Mountain	95.47	13	P	P	09 00 17.7	-0.8
KSCO	Kaye Shedlock'	96.47	50	Pdiff	P	09 00 27.4	+3.6
baz=244							
ULN	Ulaanbaatar	96.61	320	P	P	09 00 27.7	+3.5
SNR=12							
ULN	Ulaanbaatar	96.61	320	P	P	09 00 22.6	-1.6
ULN				pmax	pmax		
comp=Z,51nm,1.5s							
ULN	Ulaanbaatar	96.61	320	P	P	09 00 22.6	-1.6
ULN				IAmb	IAmb	09 00 28.8	
comp=Z,51nm,1.5s							
SONM	Songino Array	96.98	320	P	P	09 00 24.1	-1.7
SONM				pmax	pmax		
comp=Z,24nm,1.4s							
SONM	Songino Array	96.98	320	P	P	09 00 25.2	-0.6
comp=Z,11nm,1.2s,baz=141,slow=2.0,SNR=26							
SONM				pP	pwP	09 02 23.2	-2.5
comp=Z,0.5nm,0.4s,baz=116,slow=5.1,SNR=3.6							
SONM				PP	PP	09 04 29.5	-0.9
comp=Z,2.0nm,0.9s,baz=117,slow=6.9,SNR=5.1							
SONM				PKKP	PKKPdf	09 17 06.6	-0.4
comp=Z,1.5nm,0.9s,baz=256,slow=3.8,SNR=5.7							
SONM	Songino Array	96.98	320	P	P	09 00 24.1	-1.7
GTA	Gaotai	97.42	310	eP	Pdif	09 00 27.3	-0.7
GTA				pP	P	09 00 31.8	+3.8
GTA				sP	PcP	09 00 34.3	+6.3
GTA				pmax	pmax		
comp=Z,4.0nm,1.4s							
GTA	Gaotai	97.42	310	P	P	09 00 31.8	+3.8
GTA				pmax	pmax		
comp=Z,18nm,1.5s							
GTA				pmax	pmax		
comp=Z,160nm,6.2s							
INK	Inuvik	98.72	16	P	Pdif	09 00 30.7	-2.2
comp=Z,4.2nm,1.1s,baz=217,slow=3.4,SNR=14							
YKA	Yellowknife Ar	101.15	26	PKiKP	PKiKP	09 05 03.7	-1.6
comp=Z,1.0nm,0.9s,baz=259,slow=1.5,SNR=3.0							
ZALV	Zalesovo Beam	111.84	321	PKiKP	PKiKP	09 05 22.6	-2.8
comp=Z,1.6nm,0.4s,baz=125,slow=2.5,SNR=2.8							
MK31	Makanchi Array	111.92	313	iPKIKP	PKiKP	09 05 23.0	-2.9
MK31				pmax	pmax		
comp=Z,2.0nm,0.5s							
MKAR	Makanchi Array	111.92	313	Pdiff	Pdif	09 01 31.8	-0.4

KURBB PP **PP** **09 06 35.6 -5.7**
comp=Z,1.1nm,0.8s,baz=95,slow=6.1,SNR=5.8
KURBB PKKPbc **PKKPbc** **09 16 07.5 -2.5**
comp=Z,1.6nm,0.8s,baz=260,slow=4.7,SNR=4.6
TKM2 Tokmak 2 115.83 307 PKIKP **PKPdf** **09 05 31.1 -2.7**
TKM2 pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 116.58 307 PKIKP **PKiKP** **09 05 37.6 +2.4**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 116.58 307 PKP **PKPdf** **09 05 33.0 -2.2**
comp=Z,1.8nm,0.5s,baz=153,slow=2.3,SNR=2.6
AAK PKKPab **PKKPab** **09 16 07.8 -1.2**
comp=Z,3.9nm,0.7s,baz=270,slow=6.1,SNR=12
AAK Ala-Archa 116.58 307 **PKPdf** **09 05 33.0 -2.2**
DR12 Loma Pena Alta 116.59 80 **PKPdf** **09 05 32.3 -3.4**
GAR Garm 119.13 302 **PKPdf** **09 05 38.6 -1.5**
BDFB Brasilia 119.15 126 PKKPab PKKPab 09 15 59.6 -1.2
comp=Z,5.2nm,0.8s,baz=89,slow=7.2,SNR=7.6
KBL Kabul 119.38 297 P **PKiKP** **09 05 43.9 +3.0**
KBL Kabul 119.38 297 PKIKP **PKPdf** **09 05 39.4 -1.5**
KBL Kabul 119.38 297 **PKPdf** **09 05 39.4 -1.5**
KK31 Karatay Array 119.55 307 *i* PKIKP **PKPdf** **09 05 37.9 -2.8**
KK31 pmax pmax
comp=Z,19nm,1.0s
KK31 Karatay Array 119.55 307 **PKPdf** **09 05 38.6 -2.0**
KKAR Karatay Array 119.55 307 PKIKP **PKPdf** **09 05 38.7 -2.0**
KKAR Karatay Array 119.55 307 **PKPdf** **09 05 38.2 -2.5**
KKAR Karatay Array 119.55 307 **PKPdf** **09 05 38.6 -2.0**
SUR Sutherland 119.87 201 P **PKiKP** **09 05 44.6 +2.5**
CHGR Chuyangaron 119.97 302 **PKPdf** **09 05 39.5 -2.2**
BVAR Borovoye Array 120.30 319 PKKPab PKKPab 09 15 54.9 +2.7
comp=Z,0.4nm,0.5s,baz=318,slow=2.0,SNR=4.4
BRVK Borovoye 120.37 319 P **PKiKP** **09 05 44.1 +2.1**
SNR=8.3
BRVK Borovoye 120.37 319 PKIKP **PKPdf** **09 05 40.2 -1.7**
BRVK pmax pmax
comp=Z,18nm,0.9s
BRVK Borovoye 120.37 319 **PKPdf** **09 05 40.0 -1.9**
BOSA Boshof 121.61 207 PKP **PKPdf** **09 05 43.8 -1.5**
comp=Z,4.6nm,0.8s,baz=103,slow=1.9,SNR=4.9
BOSA PKKPab **PKKPab** **09 15 49.3 -1.5**
comp=Z,3.1nm,0.8s,baz=320,slow=1.9,SNR=4.8
KULLO Kullorsuaq 122.07 15 ⇓*i* PKIKP **PKiKP** **09 05 46.5 +1.8**
KULLO pmax pmax
comp=Z,22nm,0.9s
KULLO Kullorsuaq 122.07 15 ⇓*i* P **PKiKP** **09 05 46.5 +1.8**
comp=Z,22nm,0.9s
SCHQ Schefferville 123.35 39 PKP **PKPdf** **09 05 47.8 +0.2**
comp=Z,10nm,0.9s,baz=307,slow=5.1,SNR=8.5
JLN Jalan Bani Buh 124.98 281 P **PKiKP** **09 05 56.1 +4.0**
SNR=6.1
SVE Sverdlovsk 125.62 324 *e*PKIKP **PKiKP** **09 05 54.3 +2.0**
SVE pmax pmax
comp=Z,48nm,1.4s
WSAR Wadi Sarin 125.95 282 P **PKiKP** **09 05 57.4 +3.4**
JMDO Jabal Madar 126.21 281 P **PKiKP** **09 05 57.1 +2.6**
SMDO Samad 126.42 281 P **PKiKP** **09 05 58.2 +3.1**
SNR=7.2
ARU Arti 126.82 323 *i* PKIKP **PKPdf** **09 05 52.0 -2.2**
ARU 09 07 59.9
ARU 09 12 14.8
ARU SP SP 09 17 14.7 +2.6
ARU SS **SS** **09 24 26.8 +0.7**
ARU Arti 126.82 323 PKP **PKPdf** **09 05 52.3 -1.8**
comp=Z,2.1nm,0.4s,baz=116,slow=3.3,SNR=6.3
ARU PP **PP** **09 08 00.8 +0.8**
comp=Z,1.1nm,0.7s,baz=57,slow=12,SNR=3.6
ARU Arti 126.82 323 **PKPdf** **09 05 51.9 -2.2**
DAG Danmarks Havn 126.85 5 *i* PKIKP **PKiKP** **09 05 55.5 +1.3**
DAG Danmarks Havn 126.85 5 *i* P **PKiKP** **09 05 55.5 +1.3**
AB31 Akbulak array 127.00 314 *i* PKIKP **PKPdf** **09 05 52.9 -1.8**
AB31 pmax pmax
comp=Z,21nm,1.1s
ABKAR Akbulak array 127.00 314 **PKPdf** **09 05 51.8 -3.0**
ABKAR Akbulak array 127.00 314 **PKPdf** **09 05 53.0 -1.7**
BSY Bisya 127.11 281 P **PKiKP** **09 05 59.1 +2.8**
SNR=6.0
SUMG Summit 127.54 13 *i* PKIKP **PKiKP** **09 05 58.5 +2.3**
SUMG pmax pmax
comp=Z,140nm,1.2s
SUMG Summit 127.54 13 *i* P **PKiKP** **09 05 58.5 +2.3**
comp=Z,140nm,1.2s
ARQ Araqi 127.86 281 P **PKiKP** **09 06 01.0 +3.2**
SNR=7.2
AKTO Aktyubinsk 128.12 316 PKIKP **PKiKP** **09 05 59.2 +1.7**
AKTO pmax pmax
comp=Z,29nm,1.1s
AKTO Aktyubinsk 128.12 316 PKP **PKPdf** **09 05 55.4 -1.4**
comp=Z,12nm,1.0s,baz=78,slow=7.1,SNR=8.0
UOSS Minazif 128.49 283 **PKPdf** **09 05 55.5 -2.9**
HATD Hatta, Dubai 128.53 283 P **PKiKP** **09 06 02.0 +2.8**
SNR=9.1
GEYT Alibeck 128.55 300 PKP **PKPdf** **09 05 56.9 -1.2**
comp=Z,1.5nm,0.3s,baz=156,slow=3.5,SNR=3.0
GEYT Alibeck 128.55 300 **PKPdf** **09 05 55.7 -2.4**
ASHO Ashiyiah 128.57 283 P **PKiKP** **09 06 02.0 +2.7**
SNR=9.7
KIRV Kirov 130.94 328 SKPbc **SKPbc** **09 08 35.2 -2.5**
comp=Z,12nm,0.5s,baz=112,slow=2.0,SNR=5.0
PRGR Permogore 131.36 333 *e*PKIKP **PKPdf** **09 05 58.6 -4.0**
PRGR pmax pmax
comp=Z,27nm,1.1s
LSZ Lusaka 131.43 219 P **PKiKP** **09 06 08.8 +3.4**
ARCES ARCESS Array B 132.22 348 PKIKP **PKPdf** **09 06 02.4 -1.6**
ARCES ARCESS Array B 132.22 348 PKhKP PKPpre 09 05 52.5
comp=Z,2.4nm,0.8s,baz=320,slow=1.0,SNR=8.3
ARCES PKP **PKPdf** **09 06 01.9 -2.2**
comp=Z,2.9nm,0.5s,baz=97,slow=1.5,SNR=19
ARCES PP **PP** **09 08 37.9 +3.9**
comp=Z,9.1nm,0.9s,baz=44,slow=5.4,SNR=4.4
ARCES ARCESS Array B 132.22 348 **PKPdf** **09 06 02.4 -1.6**
SCO Scoresbysund 132.28 9 *i* PKIKP **PKiKP** **09 06 06.8 +1.5**
SCO pmax pmax
comp=Z,21nm,1.2s
SCO Scoresbysund 132.28 9 *i* P **PKiKP** **09 06 06.8 +1.5**
comp=Z,21nm,1.2s
KIBK Kibwezi 133.81 240 P **PKiKP** **09 06 13.2 +2.9**
SNR=6.1
KLMR Klimovskoe 134.29 334 *e*PKIKP **PKPdf** **09 06 06.2 -1.9**
KLMR *e* 09 08 44.9
KLMR pmax pmax
comp=Z,48nm,1.4s
KLMR Klimovskoe 134.29 334 *e*PKPdf **PKPdf** **09 06 06.3 -1.9**
KLMR AMP 09 06 13.2
comp=Z,48nm,1.4s
KLMR *e*PP **PP** **09 08 44.9 -2.5**
KMBO Kilima Mbogo 135.18 241 PP PP 09 08 53.6 -0.5
comp=Z,2.8nm,0.9s,baz=85,slow=6.5,SNR=4.0
AKT Akhty 136.41 305 *i* PKIKP **PKPdf** **09 06 12.3 -0.6**
AKT *e* 09 08 55.6
AKT *e* 09 09 00.5
AKT pmax pmax
comp=Z,30nm,0.9s
GROC Groznyy 137.56 308 *e*PKIKP **PKiKP** **09 06 18.2 +1.4**
GROC *e* 09 09 08.1
GROC *e* 09 09 11.0
GROC *e* 09 12 42.4
GROC pmax pmax
comp=Z,21nm,0.5s
VRH Novokhopyorsk 137.88 321 *e*PKIKP **PKPdf** **09 06 14.7 -0.4**
VRH pmax pmax
comp=Z,30nm,1.0s
MOS Moscow 137.94 328 *e*PKIKP **PKiKP** **09 06 16.8 -0.4**
MOS *e* 09 09 10.7
MOS pmax pmax
comp=Z,34nm,1.2s
FINES FINESS Array B 138.67 341 PKhKP PKPpre 09 06 04.5
comp=Z,1.8nm,0.3s,baz=28,slow=1.8,SNR=8.8
FINES PKP **PKPdf** **09 06 12.7 -3.5**
comp=Z,3.2nm,0.3s,baz=56,slow=2.4,SNR=22
FINES SKPbc **SKPbc** **09 08 59.1 -2.9**
comp=Z,8.9nm,0.7s,baz=64,slow=4.4,SNR=9.3
OBN Obninsk 138.79 328 *e*PKIKP **PKPdf** **09 06 14.7 -1.9**
OBN *e* 09 08 13.5
OBN *e* 09 09 15.2
OBN pmax pmax
comp=Z,26nm,1.0s
GNI Garni 138.84 304 *i* PKIKP **PKPdf** **09 06 13.4 -4.0**
LPSR Galich'ya Gora 138.85 324 *e*PKIKP **PKiKP** **09 06 18.1 -1.0**
LPSR pmax pmax
comp=Z,20nm,1.2s
ZEI Tsey 139.00 308 *i* PKHKP PKPpre 09 06 11.7
ZEI pmax pmax
comp=Z,16nm,1.0s
VSR Storozhevoye 139.34 322 *e*PKHKP PKPpre 09 06 12.4
VSR pmax pmax
comp=Z,20nm,0.8s
KBZ Khabaz 139.50 309 PKP **PKPdf** **09 06 15.6 -2.7**
comp=Z,2.5nm,0.8s,baz=50,slow=2.0,SNR=6.5
AKH Akhalkalaki 139.57 306 PKIKP **PKPdf** **09 06 15.4 -3.3**
AKH Akhalkalaki 139.57 306 **PKPdf** **09 06 15.4 -3.3**
KIV Kislovodsk 139.60 310 P **PKPdf** **09 06 19.8 +1.2**
SNR=8.5
KIV Kislovodsk 139.60 310 *e*PKIKP **PKPdf** **09 06 18.8 +0.2**
KIV pmax pmax
comp=Z,41nm,1.1s
NEY Neytrino 139.74 309 *i* PKIKP **PKPdf** **09 06 17.0 -2.0**
MBAR Mbarara 140.56 236 PKIKP **PKPdf** **09 06 20.3 -1.0**
MBAR Mbarara 140.56 236 **PKPdf** **09 06 20.3 -1.0**
VSU Vasula 140.74 337 *i* PKIKP **PKPdf** **09 06 17.9 -2.1**
VSU Vasula 140.74 337 *e*P **PKPdf** **09 06 17.2 -2.8**
SOC Sochi 141.77 310 *e*PKIKP **PKPdf** **09 06 20.0 -2.4**
SOC *e* 09 09 32.7
SOC *e*PPP PPP 09 12 44.2
SOC *e* 09 12 52.0
SOC *e*SSS SSS 09 32 54.1
NC204 NORSAR Array S 142.29 351 **PKPdf** **09 06 21.9 -0.9**
NC405 NORSAR Array S 142.30 350 **PKPdf** **09 06 22.0 -0.8**
NB201 NORSAR Array S 142.43 350 **PKPdf** **09 06 21.5 -1.5**
NB2 NORSAR Subarra 142.45 350 PKP **PKPdf** **09 06 17.5 -5.6**
comp=Z,103nm,1.1s,baz=20,slow=3.8
NB2 NORSAR Subarra 142.45 350 PKPab **PKPdf** **09 06 17.5 -5.6**
baz=20,slow=3.8
NOA NORSAR Array B 142.45 350 PKhKP **PKPdf** **09 06 17.4 -5.7**
comp=Z,14nm,1.0s,baz=16,slow=4.8,SNR=11
NOA SKPbc **SKPbc** **09 09 09.4 -2.4**
comp=Z,1.8nm,0.7s,baz=16,slow=4.1,SNR=4.1
NBO00 NORSAR Array S 142.52 351 **PKPdf** **09 06 22.5 -0.7**
NAO01 NORSAR Array S 142.69 351 *e*PKPdf **PKPdf** **09 06 23.0 -0.5**
NAO01 NORSAR Array S 142.69 351 **PKPdf** **09 06 23.2 -0.3**
NC602 NORSAR Array S 142.69 350 **PKPdf** **09 06 22.7 -0.8**
IZAR Zarasai 142.92 335 *e*P **PKPdf** **09 06 19.9 -4.1**
IZAR IAmb IAmb 09 06 27.1
comp=Z,25nm,0.7s
ANN Anapa 142.94 313 *i* PKIKP **PKPdf** **09 06 24.8 +0.4**
ANN pmax pmax
comp=Z,284nm,1.4s
IDID Didziasalis 143.04 334 *e*P PKPab 09 06 20.6 -1.1
ISAL Salakas 143.09 335 *e*P PKPab 09 06 20.8 -1.1
SUE Sulen 143.16 355 *e*PKPdf **PKPdf** **09 06 24.4 +0.2**
SKAR Skarslia 143.19 352 *e*PKPbc PKPab 09 06 20.1 -2.1
IIGN Ignalina 143.22 334 *e*P PKPab 09 06 21.0 -1.3
IIGN IAmb IAmb 09 06 27.4
comp=Z,60nm,1.0s
NACGM Naroch 143.31 333 *e*P PKPab 09 06 20.0 -2.7
NACGM PM 09 06 26.0
comp=Z,1.2nm,1.0s
OSL Oslo 143.58 350 *e*PKPab PKPab 09 06 21.6 -1.9
ASK Askoy 143.70 355 *e*PKPab PKPab 09 06 22.1 -1.9
BER Bergen 143.78 355 *e*PKPab PKPbc 09 06 22.7 -1.7
PABE Paberze 143.97 336 *e*P PKPbc 09 06 23.4 -1.6
KONO Kongsberg 144.02 351 *e*PKPbc PKPbc 09 06 22.9 -2.2
ODD1 Odda 144.13 354 *e*PKPab PKPbc 09 06 23.7 -1.8
PBUR Paburg 144.28 338 *e*P PKPbc 09 06 24.3 -1.7
PBUR IAmb IAmb 09 06 30.5
comp=Z,588nm,0.9s
BLS5 Blasjo 144.63 354 *e*PKPbc **PKPdf** **09 06 25.2 -1.7**
KMY Karmoy 144.95 355 *e*PKPab **PKiKP** **09 06 30.9 -0.5**
AKASG Malin Array Be 144.96 326 PKP **PKPdf** **09 06 25.9 -1.8**
comp=Z,20nm,0.9s,baz=44,slow=4.3,SNR=48
AKASG pPKP **pPKPdf** **09 08 32.0 +2.9**
comp=Z,2.8nm,0.6s,baz=46,slow=4.5,SNR=4.1
AKASG Malin Array Be 144.96 326 **PKPdf** **09 06 25.8 -1.9**
AKBB Malin Array Si 144.96 326 **PKPdf** **09 06 26.0 -1.7**
SIM Simferopol' 145.07 315 *d* PKIKP **PKiKP** **09 06 32.6 +0.4**
SIM pmax pmax
comp=Z,107nm,0.7s
SNART Snartemo 145.61 352 *e*PKPbc **PKPdf** **09 06 28.0 -0.6**
BZK Bozkurt 146.27 310 ⇓P **PKPbc** **09 06 31.3 -1.0**
ILGA Ilgaz 146.78 308 **PKPdf** **09 06 30.2 -1.3**
BHL Bhannes 146.89 295 *e*P **PKPab** **09 06 38.3 +0.8**
SORM Soroca 146.94 323 ⇓PKIKP **PKPdf** **09 06 32.5 +1.4**
SORM Soroca 146.94 323 ⇓P **PKPdf** **09 06 32.5 +1.4**
MUD Monsted U'grnd 147.16 350 ⇓*i* PKP2 **PKiKP** **09 06 36.9 +0.8**
MUD pmax pmax
comp=Z,110nm,1.1s
MUD Monsted U'grnd 147.16 350 ⇓*i* P **PKiKP** **09 06 36.9 +0.8**
comp=Z,107nm,1.1s
BSD Bornholm Skovb 147.18 343 ⇓*i* PKP2 **PKiKP** **09 06 37.0 +0.8**
BSD pmax pmax
comp=Z,160nm,1.0s
BSD Bornholm Skovb 147.18 343 ⇓*i* P **PKiKP** **09 06 37.0 +0.8**
comp=Z,155nm,1.0s
BSD *i* 09 06 37.6
BR131 Keskin Array S 147.25 306 P **PKPdf** **09 06 33.7 +1.6**
SNR=56
BR131 Keskin Array S 147.25 306 **PKPdf** **09 06 30.0 -2.1**
BR131 PKPbc **PKPdf** **09 06 33.7 +1.6**
BR131 PKPab **PKPab** **09 06 38.4 -0.5**
BRTR Keskin Array B 147.25 306 PKHKP **PKPdf** **09 06 29.2 -2.9**
BRTR 09 06 33.7
BRTR 09 06 38.7
BRTR Keskin Array B 147.25 306 PKPbc **PKPdf** **09 06 33.4 +1.3**
comp=Z,11nm,0.7s,baz=144,slow=4.2,SNR=36
BRTR pPKPbc **pPKPab** **09 08 40.5 +5.3**
comp=Z,5.6nm,1.1s,baz=135,slow=5.0,SNR=3.6
BRTR Keskin Array B 147.25 306 **PKPdf** **09 06 29.2 -2.9**
BRTR PKPbc **PKPdf** **09 06 33.7 +1.6**
BRTR PKPab **PKPab** **09 06 38.7 -0.2**
COP Copenhagen 147.26 346 ⇓*i* PKP2 **PKPab** **09 06 37.6 -0.4**
COP pmax pmax
comp=Z,96nm,1.0s
COP Copenhagen 147.26 346 ⇓*i* P **PKPab** **09 06 37.6 -0.4**
comp=Z,96nm,1.0s
KIS Kishinev 147.33 321 *e*PKP **PKPdf** **09 06 33.0 +1.2**
KIS Kishinev 147.33 321 *e*PKIKP **PKPdf** **09 06 33.0 +1.2**
KIS *i* 09 06 38.0
MILM Milestii Mici 147.37 321 ⇑P **PKPdf** **09 06 32.6 +0.7**
ANTO Ankara 147.83 307 P **PKPbc** **09 06 37.3 +0.6**
SNR=32
ANTO Ankara 147.83 307 **PKPdf** **09 06 31.1 -1.9**
ANTO PKPbc **PKPbc** **09 06 35.6 -1.1**
ANTO PKPab **PKPab** **09 06 40.4 -0.7**
BR231 Keskin MP Arra 147.85 307 PKPdf **PKPdf** **09 06 31.4 -1.6**
BR231 **PKPab** **09 06 40.6 -0.6**
LEOM Leova 147.94 321 ⇑PKP2 **PKPab** **09 06 40.3 -0.9**
LEOM Leova 147.94 321 ⇑P **PKPab** **09 06 40.3 -0.9**
BEL Belsk 148.00 334 *e*PKIKP **PKPbc** **09 06 35.2 -1.4**
BEL Belsk 148.00 334 *e*PKPdf **PKPbc** **09 06 35.2 -1.4**
BEL *e*PKPdf **PKPbc** **09 06 35.2 -1.4**
BEL *e*PKPab **PKPab** **09 06 40.0 -1.2**
BEL *e*PKPab **PKPab** **09 06 40.0 -1.2**
LVV L'vov 148.07 329 *c* PKP2 **PKPab** **09 06 40.1 -1.5**
GKP Gorka Klasztor 148.11 339 *e*PKIKP **PKPbc** **09 06 35.3 -1.6**
GKP Gorka Klasztor 148.11 339 *e*PKPdf **PKPbc** **09 06 35.3 -1.6**
GKP *e*PKPdf **PKPbc** **09 06 35.3 -1.6**
GKP *e*PKP **PKiKP** **09 06 39.9 +1.8**
GKP *e*PKP **PKiKP** **09 06 39.9 +1.8**
TLCR 148.29 318 ⇓P **PKPbc** **09 06 36.0 -1.6**
PRAR RASCA 148.56 324 ⇑P **PKiKP** **09 06 41.3 +2.0**
CSS Mathiatis 148.63 298 **PKPbc** **09 06 36.8 -2.0**
CSS PKPab **PKiKP** **09 06 42.1 +2.3**
CFR Carcaliu 148.71 319 ⇑PKHKP **PKPdf** **09 06 36.9 +2.8**
CFR Carcaliu 148.71 319 ⇑P **PKPdf** **09 06 36.9 +2.8**
TOPG Topolog 148.72 318 ⇑P **PKPbc** **09 06 37.7 -1.0**
KWP Kalwaria Pacla 148.82 330 PKIKP **PKPdf** **09 06 32.3 -1.9**
KWP 09 06 42.4
KWP Kalwaria Pacla 148.82 330 *e*PKP **PKiKP** **09 06 41.7 +2.0**
KWP *e*PKP **PKiKP** **09 06 41.7 +2.0**
KWP Kalwaria Pacla 148.82 330 **PKPdf** **09 06 32.3 -1.9**
KWP PKPab **PKPab** **09 06 42.4 -2.3**
TESR Tescani 148.83 322 ⇑P **PKPbc** **09 06 37.6 -1.3**
BIZ Bicaz 148.88 323 ⇑P **PKPbc** **09 06 38.4 -0.7**
TIRR Tirgusor 148.91 317 ⇓PKP2 **PKiKP** **09 06 42.6 +2.5**
TIRR Tirgusor 148.91 317 ⇓P **PKiKP** **09 06 42.6 +2.5**
TIRR Tirgusor 148.91 317 **PKPbc** **09 06 38.0 -1.1**
TIRR PKPab **PKiKP** **09 06 42.5 +2.5**
BUR08 Bucovina Ar. S 148.93 325 **PKPdf** **09 06 32.3 -2.2**
BUR08 PKPbc **PKPbc** **09 06 38.6 -0.6**
BUR08 PKPab **PKPab** **09 06 43.9 -1.4**
BURAR Bucovina Array 148.94 325 ⇓P **PKPbc** **09 06 39.0 -0.3**
BURAR Bucovina Array 148.94 325 **PKPdf** **09 06 33.6 -1.0**
BURAR PKPbc **PKPbc** **09 06 38.4 -0.9**
BURAR PKPab **PKPab** **09 06 43.7 -1.7**
ODBI Odobesti 149.03 320 ⇑P **PKPab** **09 06 43.2 -2.4**
MFTR Murfatlar 149.04 317 ⇓P **PKPbc** **09 06 38.1 -1.4**
EKA Eskdalemuir Ar 149.06 3 PKPbc **PKPdf** **09 06 36.8 +2.4**
comp=Z,12nm,0.6s,baz=352,slow=3.0,SNR=63
EKA pPKPbc **pPKPab** **09 08 45.6 +3.9**
comp=Z,21nm,1.1s,baz=335,slow=3.1,SNR=3.9
TLB Topalu 149.07 318 ⇓P **PKPbc** **09 06 38.1 -1.4**
HARR Harsova 149.08 318 ⇓P **PKPbc** **09 06 37.7 -1.8**
MANR Mangalia 149.12 316 ⇑P **PKPab** **09 06 43.4 -2.7**
VRI Vrincioaia 149.16 321 ⇑P **PKPbc** **09 06 38.4 -1.3**
CVDA Cernavoda 149.20 317 ⇓P **PKPbc** **09 06 38.5 -1.3**
PLOR Plostina 149.21 321 ⇓PKP2 **PKiKP** **09 06 42.8 +2.0**
PLOR Plostina 149.21 321 ⇓P **PKiKP** **09 06 42.8 +2.0**
PSN Preselentsi 149.44 316 *e*P **PKiKP** **09 06 44.3 +3.1**
ICOR Ion Corvin 149.46 317 ⇓P **PKPdf** **09 06 36.2 +0.9**
KOLS Kolonicke sedl 149.52 329 *e*PKP **PKPbc** **09 06 39.0 -1.5**
KOLS *e* 09 06 44.4
OZUR 149.56 322 ⇑P **PKPbc** **09 06 40.0 -0.7**
OJC Ojcow 149.65 333 PKHKP **PKPbc** **09 06 38.6 -2.1**
OJC 09 06 44.0
OJC Ojcow 149.65 333 *e*PKPdf **PKPbc** **09 06 39.2 -1.5**
OJC *e*PKPdf **PKPbc** **09 06 39.2 -1.5**
OJC *e*PKPab **PKiKP** **09 06 44.1 +2.6**
OJC *e*PKPab **PKiKP** **09 06 44.1 +2.6**
OJC Ojcow 149.65 333 **PKPbc** **09 06 38.6 -2.1**
OJC PKPab **PKiKP** **09 06 44.0 +2.5**
ISR Istrita 149.69 320 ⇓P **PKPbc** **09 06 39.8 -1.2**
UZH Uzhgorod 149.72 329 ⇑*i* PKHKP **PKPdf** **09 06 37.9 +2.3**
UZH *e* 09 06 49.6
ARCR ARCALIA 149.73 325 ⇓P **PKPbc** **09 06 39.6 -1.4**
BMR Baia Mare 149.79 326 ⇓PKP2 **PKiKP** **09 06 44.1 +2.3**
BMR Baia Mare 149.79 326 ⇓P **PKiKP** **09 06 44.1 +2.3**
MLR Muntele Rosu 149.82 321 ⇑PKHKP **PKPdf** **09 06 38.6 +2.6**
MLR Muntele Rosu 149.82 321 PKPbc **PKPbc** **09 06 39.0 -2.4**
comp=Z,5.1nm,0.6s,baz=287,slow=5.6,SNR=11
MLR Muntele Rosu 149.82 321 ⇑P **PKPdf** **09 06 38.6 +2.6**
MLR Muntele Rosu 149.82 321 **PKiKP** **09 06 44.7 +2.6**
DOPR Dopca 149.86 322 ⇓P **PKPbc** **09 06 39.2 -2.2**
TRPA Tarpa 149.95 328 ⇓P **PKPbc** **09 06 39.2 -2.3**
SECR 150.01 320 ⇑P **PKPbc** **09 06 40.5 -1.3**
NIE Niedzica 150.05 332 *e*PKP2 **PKiKP** **09 06 45.7 +3.3**
NIE Niedzica 150.05 332 *e*PKPab **PKiKP** **09 06 45.7 +3.3**
NIE *e*PKPab **PKiKP** **09 06 45.7 +3.3**
ISP Isparta 150.15 304 ⇓P **PKPbc** **09 06 40.0 -2.5**
PRD Provadia 150.17 316 *e*P **PKiKP** **09 06 45.6 +2.9**
VOIR 150.37 322 ⇓PKIKP **PKPbc** **09 06 40.6 -2.1**
VOIR 150.37 322 ⇓P **PKPbc** **09 06 40.6 -2.1**
CJR Cluj-Napoca 150.37 325 ⇓PKIKP **PKPbc** **09 06 40.9 -1.7**
CJR Cluj-Napoca 150.37 325 ⇓P **PKPbc** **09 06 40.9 -1.7**
KSP Ksiaz 150.47 338 *e*PKIKP **PKPbc** **09 06 41.4 -1.2**
KSP Ksiaz 150.47 338 *e*PKPdf **PKPbc** **09 06 41.4 -1.2**
KSP *e*PKPdf **PKPbc** **09 06 41.4 -1.2**
KSP *e*PKPab **PKiKP** **09 06 46.2 +3.1**
KSP *e*PKPab **PKiKP** **09 06 46.2 +3.1**
RAZG Razgrad 150.54 317 ⇑P **PKPbc** **09 06 41.1 -2.0**
LANS Liptovska Anna 150.60 332 *e*PKIKP **PKPbc** **09 06 41.5 -1.6**
LANS *e* 09 06 47.5
LANS Liptovska Anna 150.60 332 *e*PKP **PKPbc** **09 06 41.5 -1.6**
LANS *e* 09 06 47.5
OKC Ostrava-Krasne 150.61 335 *e*PKIKP **PKPdf** **09 06 39.8 +2.9**
OKC *e* 09 06 55.7
OKC Ostrava-Krasne 150.61 335 ⇑*e*PKP **PKPdf** **09 06 39.8 +2.9**
OKC *ex* x 09 06 46.3
OKC *ex* x 09 06 55.7
OKC *ep*PKP **pPKPab** **09 08 55.2 +7.3**
ARR Arges 150.64 322 ⇓P **PKPdf** **09 06 36.0 -1.3**
KECS Kecovo 150.66 330 *e*PKIKP **PKiKP** **09 06 47.1 +3.5**
KECS Kecovo 150.66 330 *e*PKP **PKiKP** **09 06 47.1 +3.5**
CHVC Chvalec 150.76 338 ⇑*e*PKP **PKPbc** **09 06 41.9 -1.5**
CHVC *ex* x 09 06 46.9
CHVC *ep*PKP **pPKPab** **09 08 49.8 +1.2**
DRGR 150.78 326 ⇓PKIKP **PKPdf** **09 06 39.8 +2.4**
DRGR 150.78 326 ⇓P **PKPdf** **09 06 39.8 +2.4**
UPC Upice 150.84 338 *e*PKIKP **PKPbc** **09 06 40.8 -2.7**
UPC *e* 09 06 56.7
UPC Upice 150.84 338 ⇑*e*PKP **PKPbc** **09 06 40.8 -2.7**
UPC *ex* x 09 06 46.9
UPC *ex* x 09 06 56.7
UPC *ep*PKP **pPKPab** **09 08 49.8 +0.9**
DPC Dobruska-Polom 150.87 337 *e*PKIKP **PKPbc** **09 06 40.9 -2.7**
DPC *e* 09 06 47.3
DPC Dobruska-Polom 150.87 337 ⇑*e*PKP **PKPbc** **09 06 40.9 -2.7**
DPC *ex* x 09 06 47.3
DPC *ex* x 09 06 57.2
DPC *ep*PKP **pPKPab** **09 08 49.8 +0.8**
MORC Moravsky Berou 150.89 335 PKIKP **PKPbc** **09 06 41.0 -2.7**
MORC 09 06 47.6
MORC Moravsky Berou 150.89 335 ⇑P **PKPbc** **09 06 41.1 -2.7**
MORC Moravsky Berou 150.89 335 *e*PKP **PKPbc** **09 06 40.7 -3.0**
MORC *e* 09 06 47.1
MORC *e* 09 06 57.0
MORC *e* 09 08 51.1
MORC *e* 09 08 55.9
MORC Moravsky Berou 150.89 335 **PKPbc** **09 06 41.0 -2.7**
MORC PKPab **PKiKP** **09 06 47.6 +3.5**
ELL Elmali 150.93 302 PKIKP **PKPbc** **09 06 42.8 -1.5**
ELL Elmali 150.93 302 **PKPbc** **09 06 42.8 -1.5**
KRLC Kraliky 150.93 336 *e*PKIKP **PKPdf** **09 06 40.6 +3.1**
KRLC *e* 09 06 57.2
KRLC Kraliky 150.93 336 ⇑*e*PKP **PKPdf** **09 06 40.6 +3.1**
KRLC *ex* x 09 06 46.7
KRLC *ex* x 09 06 57.2
KRLC *ep*PKP **pPKPab** **09 08 50.3 +1.0**
HUMR Humele 150.94 320 ⇑P **PKPbc** **09 06 41.3 -2.6**
JMB Yambol 151.06 315 *e*P **PKiKP** **09 06 47.7 +3.1**
SZH Strazhica 151.06 317 *e*P **PKiKP** **09 06 47.7 +3.1**
LOT Lotru 151.07 323 ⇓P **PKPdf** **09 06 40.8 +2.8**
CLL Collm 151.10 342 ⇓*i* PKIKP **PKPdf** **09 06 39.7 +2.1**
CLL *i* 09 06 57.5
CLL pmax pmax
comp=Z,31nm,1.5s
CLL pmax pmax
comp=Z,971nm,1.0s
CLL Collm 151.10 342 *i* PKPdf **PKPdf** **09 06 39.7 +2.1**
comp=Z,31nm,1.5s
CLL ⇓*i* PKPbc **PKiKP** **09 06 47.3 +2.9**
comp=Z,137nm,0.9s
CLL *i* PKPab **PKPab** **09 06 57.5 +3.4**
comp=Z,97nm,1.0s
CLL *i* pPKPbc **pPKPab** **09 08 50.3 +0.5**
comp=Z,58nm,1.1s
CLL *i* pPKPab pPKPbc 09 08 56.3 +12
comp=Z,130nm,1.2s
CLL Collm 151.10 342 **PKPdf** **09 06 40.9 +3.3**
CLL PKPab **PKiKP** **09 06 47.6 +3.2**
BRG Berggiesshubel 151.21 340 *i* PKP **PKPdf** **09 06 41.1 +3.3**
comp=Z,28nm,1.4s
BRG Berggiesshubel 151.21 340 *i* PKP **PKiKP** **09 06 47.8 +3.1**
comp=Z,108nm,1.0s
BRG Berggiesshubel 151.21 340 *i* PKP **PKPab** **09 06 58.0 +3.4**
comp=Z,63nm,1.0s
BRG *i* 09 08 51.0
comp=Z,236nm,1.7s
BRG Berggiesshubel 151.21 340 *i* PKIKP **PKPdf** **09 06 41.1 +3.3**
BRG *i* 09 06 58.0
BRG pmax pmax
comp=Z,28nm,1.4s
BRG pmax pmax
comp=Z,63nm,1.0s
DEV Deva 151.27 324 ⇑PKIKP **PKPbc** **09 06 42.1 -2.5**
DEV Deva 151.27 324 ⇑P **PKPbc** **09 06 42.1 -2.5**
ELND Elena 151.27 317 ⇓P **PKPdf** **09 06 40.0 +1.8**
PVCC Panska Ves 151.31 339 *e*PKIKP **PKiKP** **09 06 47.4 +2.5**
PVCC *e* 09 06 59.1
PVCC Panska Ves 151.31 339 ⇑*e*PKP **PKiKP** **09 06 47.4 +2.5**
PVCC *ex* x 09 06 59.1
PVCC *ep*PKP **pPKPab** **09 08 51.7 +0.9**
PSZ Piszkesteto 151.34 330 ⇑PKIKP **PKPdf** **09 06 41.1 +2.9**
PSZ Piszkesteto 151.34 330 ⇑P **PKPdf** **09 06 41.1 +2.9**
PSZ Piszkesteto 151.34 330 **PKPdf** **09 06 41.4 +3.2**
VYHS Vyhne 151.38 332 *e*PKIKP **PKPbc** **09 06 42.9 -1.9**
VYHS *e* 09 06 59.4
VYHS Vyhne 151.38 332 *e*PKP **PKPbc** **09 06 42.9 -1.9**
VYHS *e* 09 06 47.9
VYHS *e* 09 06 59.3
MANT Manisa 151.39 306 **PKPdf** **09 06 41.1 +2.3**
MANT PKPbc **PKiKP** **09 06 48.7 +3.0**
MANT PKPab **PKPab** **09 07 00.1 +3.9**
PVL Pavlikeni 151.46 318 *e*P **PKiKP** **09 06 49.5 +4.1**
JAVC Velka Javorina 151.57 334 *e*PKP **PKPbc** **09 06 42.8 -2.5**
JAVC *e* 09 06 49.6
JAVC *e* 09 07 01.2
JAVC *e* 09 08 53.9

JAVC				*e*		09 08 58.8	
VLAD	**Vladila**	**151.58 320**	⇓P		**PKiKP**	**09 06 48.9**	**+3.3**
VRAC	**Vranov**	**151.63 336**	⇑PKIKP		**PKPdf**	**09 06 41.9**	**+3.4**
VRAC	**Vranov**	**151.63 336**	PKPbc		**PKPbc**	**09 06 43.6**	**-1.7**
	comp=Z,2.6nm,0.7s,baz=323,slow=1.7,SNR=6.4						
VRAC				pPKPbc	**pPKPab**	**09 08 52.2**	**0.0**
	comp=Z,11nm,0.9s,baz=341,slow=1.4,SNR=5.9						
VRAC	**Vranov**	**151.63 336**	⇑P		**PKPdf**	**09 06 41.9**	**+3.4**
VRAC	**Vranov**	**151.63 336**	*e*PKIP		**PKPdf**	**09 06 41.5**	**+3.0**
VRAC			*e*			09 06 48.5	
VRAC			*e*			09 07 00.4	
VRAC			*e*			09 08 52.8	
VRAC			*e*			09 08 57.4	
GZR	**Gura Zlata**	**151.65 324**	⇓PKIKP		**PKPdf**	**09 06 40.5**	**+1.7**
GZR	**Gura Zlata**	**151.65 324**	⇓P		**PKPdf**	**09 06 40.5**	**+1.7**
SIRR	**Siria**	**151.66 326**	⇑P		**PKPbc**	**09 06 42.6**	**-2.9**
PRA	**Prague**	**151.75 339**	*e*PKIKP		**PKiKP**	**09 06 48.8**	**+3.0**
PRA			*e*			09 07 00.8	
PRA	**Prague**	**151.75 339**	⇑*e*PKP		**PKiKP**	**09 06 48.8**	**+3.0**
PRA			*ex*		x	09 07 00.8	
PRA			*e*pPKP		**pPKPab**	**09 08 53.1**	**+0.5**
PRA			*ex*		x	09 08 59.2	
GOPC	**GO Pecny, Ondr**	**151.77 338**	*e*PKIKP		**PKPbc**	**09 06 43.6**	**-2.0**
GOPC			*e*			09 07 00.4	
GOPC	**GO Pecny, Ondr**	**151.77 338**	⇑*e*PKP		**PKPbc**	**09 06 43.6**	**-2.0**
GOPC			*ex*		x	09 06 48.5	
GOPC			*ex*		x	09 07 00.4	
GOPC			*e*pPKP		**pPKPab**	**09 08 51.8**	**-0.9**
PRU	**Pruhonice**	**151.78 339**	*e*PKIKP		**PKPbc**	**09 06 43.7**	**-1.9**
PRU			*e*			09 06 48.1	
PRU			*e*			09 07 00.6	
PRU	**Pruhonice**	**151.78 339**	⇑*e*PKP		**PKPbc**	**09 06 43.7**	**-1.9**
PRU			*ex*		x	09 06 48.1	
PRU			*ex*		x	09 07 00.6	
PRU			*e*pPKP		**pPKPab**	**09 08 52.5**	**-0.2**
PLVB	**Pleven**	**151.80 318**	⇑P		**PKPbc**	**09 06 44.6**	**-1.3**
WTSB	**Winterswijk**	**151.86 350**	*e*PKPdf		**PKPbc**	**09 06 43.9**	**-1.8**
WTSB			*e*PKPbc		**PKiKP**	**09 06 48.5**	**+2.6**
WTSB			*e*PKPab		**PKPab**	**09 06 59.4**	**+2.2**
WTSB			*e*pPKP		**pPKPab**	**09 08 52.1**	**-0.9**
KRUC	**Moravsky**	**151.91 336**	*e*PKP		**PKPdf**	**09 06 41.9**	**+3.0**
KRUC			*e*			09 06 48.9	
KRUC			*e*			09 07 00.4	
KRUC			*e*			09 08 52.4	
KRUC			*e*			09 08 58.4	
SMOL	**Smolenice**	**151.94 334**	*e*PKIKP		**PKiKP**	**09 06 50.2**	**+3.9**
SMOL	**Smolenice**	**151.94 334**	*e*PKP		**PKiKP**	**09 06 50.2**	**+3.9**
SMOL			*e*			09 07 02.4	
MOX	**Moxa**	**152.08 343**	PKIKP		**PKPdf**	**09 06 42.3**	**+3.1**
MODS	**Modra-Piesok**	**152.12 334**	*e*PKIKP		**PKPbc**	**09 06 43.0**	**-3.5**
MODS			*e*			09 07 02.2	
MODS	**Modra-Piesok**	**152.12 334**	*e*PKP		**PKPbc**	**09 06 43.0**	**-3.5**
MODS			*e*			09 06 49.1	
MODS			*e*			09 07 02.2	
BZS	**Buzias**	**152.12 325**	⇓PKIKP		**PKPdf**	**09 06 41.8**	**+2.4**
BZS	**Buzias**	**152.12 325**	⇓P		**PKPdf**	**09 06 41.8**	**+2.4**
HERR	**Herculane**	**152.18 323**	⇓P		**PKPdf**	**09 06 42.9**	**+3.5**
KDZ	**Kurdzhali**	**152.22 315**	*e*P		**PKPbc**	**09 06 46.7**	**-0.2**
NKC	**Novy Kostel**	**152.22 342**	*e*PKIKP		**PKPdf**	**09 06 41.8**	**+2.4**
NKC			*e*			09 07 02.3	
NKC	**Novy Kostel**	**152.22 342**	⇑*e*PKP		**PKPdf**	**09 06 41.8**	**+2.4**
NKC			*ex*		x	09 06 49.7	
NKC			*ex*		x	09 07 02.3	
NKC			*e*pPKP		**pPKPab**	**09 08 53.5**	**-1.0**
PBCC	**Pribram**	**152.22 339**	⇑*e*PKP		**PKPbc**	**09 06 45.4**	**-1.2**
PBCC			*ex*		x	09 06 49.9	
PBCC			*ex*		x	09 07 02.6	
PBCC			*e*pPKP		**pPKPab**	**09 08 53.7**	**-0.9**
MDVR	**Moldovita**	**152.62 324**	⇑P		**PKPdf**	**09 06 42.9**	**+2.7**
RZN	**Rozhen**	**152.65 315**	*e*P		**PKiKP**	**09 06 51.0**	**+2.8**
KHC	**Kasperske Hory**	**152.84 339**	PKIKP		**PKPdf**	**09 06 39.1**	**-1.3**
KHC						09 07 05.4	
KHC	**Kasperske Hory**	**152.84 339**	⇑*e*PKP		**PKPdf**	**09 06 43.4**	**+3.0**
KHC			*ex*		x	09 06 51.1	
KHC			*ex*		x	09 07 05.3	
KHC			*e*pPKP		**pPKPab**	**09 08 55.2**	**-2.0**
KHC			*ex*		x	09 09 00.0	
KHC	**Kasperske Hory**	**152.84 339**			**PKPdf**	**09 06 39.1**	**-1.3**
KHC			PKPbc		**PKiKP**	**09 06 51.8**	**+3.6**
KHC			PKPab		**PKPab**	**09 07 05.4**	**+3.8**
CONA	**Conrad Observa**	**153.04 335**	*e*PKPdf		**PKPdf**	**09 06 43.8**	**+3.0**
	comp=Z,15nm,1.2s,SNR=7.1						
CONA			*e*PKiKP		**PKiKP**	**09 06 52.2**	**+3.6**
	comp=Z,27nm,1.0s						
CONA			*e*PKPab		**PKPab**	**09 07 06.9**	**+4.3**
	comp=Z,34nm,0.9s						
CONA			*e*pPKiKP		**pPKPab**	**09 08 54.3**	**-3.8**
	comp=Z,60nm,1.4s,SNR=7.7						
GEC2	**GERESS Array S**	**153.05 339**			**PKPdf**	**09 06 40.1**	**-0.6**
GEC2			PKPbc		**PKiKP**	**09 06 52.2**	**+3.5**
GEC2			PKPab		**PKPab**	**09 07 06.1**	**+3.5**
GERES	**GERESS Array B**	**153.05 339**	PKIKP		**PKPdf**	**09 06 42.8**	**+2.1**
GERES						09 06 51.3	
GERES						09 07 05.1	
GERES	**GERESS Array B**	**153.05 339**	PKP		**PKPdf**	**09 06 38.4**	**-2.3**
	comp=Z,1.1nm,0.8s,baz=0.0,slow=2.0,SNR=4.8						
GERES			PKPbc		**PKPbc**	**09 06 46.5**	**-2.1**
	comp=Z,3.8nm,1.0s,baz=2.9,slow=2.0,SNR=5.6						
GERES			pPKPbc		**pPKPab**	**09 08 54.0**	**-4.2**
	comp=Z,10nm,1.0s,baz=48,slow=2.0,SNR=10						
GERES	**GERESS Array B**	**153.05 339**			**PKPdf**	**09 06 42.8**	**+2.1**
GERES			PKPbc		**PKiKP**	**09 06 51.3**	**+2.6**
GERES			PKPab		**PKPab**	**09 07 05.1**	**+2.5**
GRA1	**Grafenberg Arr**	**153.05 343**			**PKPab**	**09 07 06.5**	**+4.1**
GRF	**Grafenberg Arr**	**153.05 343**	PKP2		**PKPab**	**09 07 06.5**	**+4.1**
VTS	**Vitosha**	**153.07 318**	*e*P		**PKPab**	**09 07 07.8**	**+4.8**
VTS	**Vitosha**	**153.07 318**	⇑PKIKP		**PKiKP**	**09 06 52.5**	**+3.5**
VTS	**Vitosha**	**153.07 318**	⇑P		**PKiKP**	**09 06 52.5**	**+3.5**
VTS	**Vitosha**	**153.07 318**			**PKiKP**	**09 06 52.7**	**+3.7**
VTS			PKPab		**PKPab**	**09 07 07.8**	**+4.8**
HGN	**Heimansgroeve**	**153.16 350**	*e*PKP		**PKPab**	**09 07 03.5**	**+0.7**
HGN			*e*pPKP		**pPKPab**	**09 08 56.9**	**-1.5**
BEBN	**Eben Emael**	**153.17 351**	PKPdf		**PKPdf**	**09 06 44.0**	**+3.3**
BEBN			PKPbc		**PKiKP**	**09 06 51.5**	**+2.8**
BEBN			PKPab		**PKPab**	**09 07 05.4**	**+2.6**
MEM	**Membach**	**153.30 350**	PKPdf		**PKPdf**	**09 06 44.0**	**+3.1**
MEM			PKPbc		**PKiKP**	**09 06 51.7**	**+2.7**
MEM			PKPab		**PKPab**	**09 07 07.3**	**+3.9**
UCC	**Uccle**	**153.34 353**	PKPbc		**PKiKP**	**09 06 52.4**	**+3.4**
UCC			PKPab		**PKPab**	**09 07 06.6**	**+3.1**
BSTI	**Sart Tilman**	**153.39 351**	PKPdf		**PKPdf**	**09 06 44.5**	**+3.5**
BSTI			PKPbc		**PKiKP**	**09 06 52.3**	**+3.1**
BSTI			PKPab		**PKPab**	**09 07 05.9**	**+2.1**
BHOU	**Houvegnez**	**153.55 350**	PKPdf		**PKPdf**	**09 06 42.7**	**+1.4**
BHOU			PKPbc		**PKiKP**	**09 06 52.5**	**+3.0**
BHOU			PKPab		**PKPab**	**09 07 08.0**	**+3.4**
KKB	**Krupnik**	**153.59 317**	*e*P		**PKPab**	**09 07 08.3**	**+3.2**
BCLA	**Clavier**	**153.59 351**	PKPab		**PKPab**	**09 07 07.6**	**+2.9**
SNF	**Seneffe**	**153.64 353**	PKPab		**PKPab**	**09 07 08.0**	**+3.2**
MOA	**Molln**	**153.70 337**	*e*PKPdf		**PKPdf**	**09 06 44.2**	**+2.6**
	comp=Z,8.8nm,1.2s						
MOA			*i* PKPab		**PKPab**	**09 07 09.4**	**+4.1**
	comp=Z,20nm,0.9s						
MOA			pPKiKP		**pPKPab**	**09 08 56.0**	**-4.8**
	comp=Z,20nm,1.4s						
ARSA	**Arzberg**	**153.72 334**	*e*PKPdf		**PKPdf**	**09 06 44.3**	**+2.6**
	comp=Z,9.2nm,1.2s						
ARSA			*e*PKPab		**PKPab**	**09 07 09.2**	**+3.8**
	comp=Z,17nm,1.0s						
ARSA			*e*pPKiKP		**pPKiKP**	**09 08 55.9**	**+4.9**
	comp=Z,22nm,1.4s						
DOU	**Dourbes**	**154.00 352**	PKPdf		**PKPdf**	**09 06 45.3**	**+3.4**
DOU			PKPbc		**PKiKP**	**09 06 53.8**	**+3.3**
DOU			PKPab		**PKPab**	**09 07 09.4**	**+2.9**
WLF	**Walferdange**	**154.20 350**	PKIKP		**PKPdf**	**09 06 46.2**	**+4.0**
WLF	**Walferdange**	**154.20 350**	PKPdf		**PKPdf**	**09 06 45.8**	**+3.7**
WLF			PKPbc		**PKiKP**	**09 06 54.4**	**+3.5**
WLF			PKPab		**PKPab**	**09 07 10.9**	**+3.6**
WLF	**Walferdange**	**154.20 350**			**PKPdf**	**09 06 46.2**	**+4.0**
VAY	**Valandovo**	**154.21 317**	*i* PKP		**PKPab**	**09 07 07.1**	**-0.6**
VAY			*e*PKP		**PKPab**	**09 07 11.5**	**+3.8**
STIP	**Stip**	**154.24 318**	*i* PKP		**PKPab**	**09 07 06.8**	**-1.1**
STIP			*e*PKP		**PKPab**	**09 07 10.7**	**+2.8**
SOKA	**Soboth**	**154.39 334**	*e*PKPdf		**PKPdf**	**09 06 45.2**	**+2.6**
	comp=Z,17nm,1.1s						
SOKA			*e*PKiKP		**PKPbc**	**09 06 54.4**	**+3.0**
	comp=Z,18nm,1.2s						
SOKA			*e*PKPab		**PKPab**	**09 07 11.9**	**+3.6**
	comp=Z,49nm,1.3s,SNR=5.7						
SOKA			pPKiKP		**pPKiKP**	**09 08 57.1**	**+4.6**
	comp=Z,12nm,1.1s,SNR=5.4						
SKO	**Skopje**	**154.53 319**	*i* PKP		**PKPab**	**09 07 09.7**	**+0.6**
SKO			*e*PKP		**PKPab**	**09 07 13.7**	**+4.6**
KBA	**Koelnbreinsper**	**154.69 337**	*e*PKPdf		**PKPdf**	**09 06 45.4**	**+2.2**
	comp=Z,16nm,1.4s						
KBA			*e*PKPbc		**PKPbc**	**09 06 54.7**	**+2.5**
	comp=Z,19nm,1.2s						
KBA			*e*PKPab		**PKPab**	**09 07 13.7**	**+3.9**
	comp=Z,15nm,0.8s						
OBKA	**Obir**	**154.72 335**	*e*PKPab		**PKPab**	**09 07 13.0**	**+3.2**
	comp=Z,15nm,0.9s						
LIT	**Litokhoron**	**154.92 314**	PKP2		**PKPab**	**09 07 10.3**	**-0.5**
LIT	**Litokhoron**	**154.92 314**			**PKPab**	**09 07 10.3**	**-0.5**
MYKA	**Terra Mystica**	**154.96 336**	*e*PKPab		**PKPab**	**09 07 13.7**	**+2.9**
	comp=Z,35nm,0.9s,SNR=5.1						
WATA	**Walderalm**	**155.06 340**	*e*PKPdf		**PKPdf**	**09 06 46.2**	**+2.6**
	comp=Z,19nm,1.5s,SNR=5.2						
WATA			*e*PKPab		**PKPab**	**09 07 15.1**	**+3.8**
	comp=Z,33nm,1.0s,SNR=5.3						
WATA			*e*pPKPab		**pPKPab**	**09 09 05.6**	**-1.0**
	comp=Z,11nm,1.3s						
WTTA	**Wattenberg**	**155.10 340**	*e*PKPdf		**PKPdf**	**09 06 46.4**	**+2.7**
	comp=Z,24nm,1.2s,SNR=8.7						
WTTA			*e*PKPab		**PKPab**	**09 07 15.3**	**+3.8**
	comp=Z,35nm,0.8s						
WTTA			*e*pPKiKP		pPKiKP	09 08 57.1	+2.9
	comp=Z,13nm,1.5s						
LJU	**Ljubljana**	**155.11 334**	*e*PKPab		**PKPab**	**09 07 14.2**	**+2.8**
LJU			*e*pPKPab		**pPKPab**	**09 09 05.8**	**-0.9**
RETA	**Reutte**	**155.18 341**	*e*PKPab		**PKPab**	**09 07 15.6**	**+3.9**
	comp=Z,42nm,0.9s,SNR=7.0						
MOTA	**Moosalm**	**155.20 340**	*e*PKPdf		**PKPdf**	**09 06 46.5**	**+2.6**
	comp=Z,20nm,1.1s,SNR=5.1						
MOTA			*e*PKPab		**PKPab**	**09 07 15.7**	**+3.8**
	comp=Z,38nm,1.0s,SNR=6.6						
MOTA			pPKiKP		pPKiKP	09 08 57.7	+3.5
	comp=Z,11nm,1.1s						
ABTA	**Abfaltersbach**	**155.27 338**	*e*PKPdf		**PKPdf**	**09 06 46.2**	**+2.3**
	comp=Z,25nm,1.1s						
ABTA			*e*PKPab		**PKPab**	**09 07 15.1**	**+2.9**
	comp=Z,25nm,0.9s						
ABTA			pPKPbc		pPKPbc	09 08 55.7	+1.4
	comp=Z,7.1nm,1.1s						
SQTA	**Sankt Quirin**	**155.28 340**	*i* PKPdf		**PKPdf**	**09 06 46.6**	**+2.7**
	comp=Z,17nm,1.1s,SNR=6.0						
SQTA			PKPab		**PKPab**	**09 07 16.1**	**+3.9**
	comp=Z,32nm,0.9s,SNR=5.4						
SQTA			pPKPbc		pPKPbc	09 08 54.6	+0.3
	comp=Z,11nm,1.2s						
CEY	**Cerknica**	**155.40 334**	*e*PKPdf		**PKPdf**	**09 06 51.2**	**+7.2**
CEY			*e*PKPab		**PKPab**	**09 07 15.7**	**+3.0**
PDG	**Podgorica**	**155.51 322**	⇓P		**PKPab**	**09 07 12.1**	**-1.1**
FETA	**Feichten**	**155.60 341**	*e*PKPdf		**PKPdf**	**09 06 47.5**	**+3.1**
	comp=Z,21nm,1.0s,SNR=7.5						
FETA			*e*PKPab		**PKPab**	**09 07 17.5**	**+3.8**
	comp=Z,47nm,1.2s						
FETA			*e*pPKiKP		pPKiKP	09 08 58.2	+3.1
	comp=Z,9.3nm,1.0s						
DAVA	**Damuels**	**155.61 342**	*e*PKPdf		**PKPdf**	**09 06 47.2**	**+2.8**
	comp=Z,13nm,1.1s						
DAVA			*e*PKPab		**PKPab**	**09 07 17.5**	**+3.8**
	comp=Z,31nm,0.8s,SNR=7.1						
DAVOX	**Davos/Dischmat**	**156.07 342**	PKPab		**PKPab**	**09 07 13.3**	**-2.4**
	comp=Z,5.3nm,0.6s,baz=346,slow=7.8,SNR=2.9						
MATE	**Matera**	**158.12 322**	⇑P		**PKPab**	**09 07 24.5**	**-0.1**
LIC	**Lamto**	**161.49 167**	*e*PKIKP		**PKPdf**	**09 06 54.2**	**+2.1**
	comp=Z,82nm,1.3s						
LIC	**Lamto**	**161.49 167**	*e*P		**PKPab**	**09 07 43.6**	**+3.8**
	comp=Z,99nm,1.2s						
KIC	**Kosan Boka**	**161.68 168**	*e*PKIKP		**PKPdf**	**09 06 54.3**	**+2.0**
	comp=Z,50nm,1.1s						
KIC	**Kosan Boka**	**161.68 168**	*e*P		**PKPab**	**09 07 44.5**	**+3.9**
	comp=Z,89nm,1.2s						
PCAB	**Cabril**	**161.74 17**	*e*PKPdf		**PKPdf**	**09 06 50.9**	**-0.7**
PCAB	**Cabril**	**161.74 17**	*e*PKPab		**PKPab**	**09 07 43.3**	**+2.9**
TIC	**Toumodi**	**161.90 167**	*e*PKIKP		**PKPdf**	**09 06 54.8**	**+2.3**
	comp=Z,8.8nm,0.4s						
TIC	**Toumodi**	**161.90 167**	*e*P		**PKPab**	**09 07 45.5**	**+3.9**
PBRG	**Braganca**	**161.97 14**	*e*PKPdf		**PKPdf**	**09 06 51.2**	**-0.6**
PBRG	**Braganca**	**161.97 14**	*e*PKPab		**PKPab**	**09 07 44.4**	**+3.0**
POLO	**Lamas de Olo**	**162.11 17**	*e*PKPab		**PKPab**	**09 07 45.5**	**+3.4**
PVRL	**Vila Real**	**162.22 17**	*e*PKPab		**PKPab**	**09 07 46.1**	**+3.6**
MVO	**Moncorvo**	**162.50 16**	*e*PKPdf		**PKPdf**	**09 06 56.2**	**+3.8**
MVO	**Moncorvo**	**162.50 16**	*e*PKPab		**PKPab**	**09 07 47.8**	**+4.0**
PVIS	**Viseu**	**162.69 18**	*e*PKPab		**PKPab**	**09 07 47.5**	**+2.9**
PTOM	**Tomar**	**163.54 21**	*e*PKPab		**PKPab**	**09 07 51.3**	**+3.0**
PCBR	**Castelo Branco**	**163.62 18**	*e*PKPdf		**PKPdf**	**09 06 56.9**	**+3.5**
PMRV	**Marv??o**	**164.03 19**	*e*PKPdf		**PKPdf**	**09 06 56.5**	**+2.7**
ESDC	**Sonseca Array**	**164.55 9**	PKPab		**PKPab**	**09 07 50.5**	**-2.3**
	comp=Z,12nm,0.9s,baz=352,slow=5.1,SNR=7.5						
ESDC			pPKPab		**pPKPab**	**09 09 52.9**	**+5.0**
	comp=Z,2.6nm,0.8s,baz=345,slow=3.6,SNR=5.8						
ESDC	**Sonseca Array**	**164.55 9**	PKPab		**PKPab**	**09 07 55.8**	**+3.0**
EVO	**Evora**	**164.66 22**	*e*PKPdf		**PKPdf**	**09 06 55.9**	**+1.6**
EVO	**Evora**	**164.66 22**	*e*PKPab		**PKPab**	**09 07 52.3**	**-1.0**
PNCL	**Nicolau / Gran**	**164.85 24**	*e*PKPdf		**PKPdf**	**09 06 58.5**	**+4.0**
MESJ	**Messejana**	**165.20 23**	*e*PKPdf		**PKPdf**	**09 06 53.4**	**-1.4**
MESJ	**Messejana**	**165.20 23**	*e*PKPdf		**PKPdf**	**09 06 58.8**	**+4.0**
PCVE	**Castro Verde**	**165.45 23**	*e*PKPdf		**PKPdf**	**09 06 58.8**	**+3.8**
MORF	**Marmelete**	**165.51 26**	*e*PKPdf		**PKPdf**	**09 06 53.7**	**-1.5**
MORF	**Marmelete**	**165.51 26**	*e*PKPdf		**PKPdf**	**09 06 59.0**	**+3.8**
KEST	**Kesra**	**165.68 324**	PKPab		**PKPab**	**09 07 57.0**	**-1.0**
	comp=Z,6.3nm,0.8s,baz=359,slow=4.8,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**168.55 193**	P		**PKPdf**	**09 07 00.8**	**+2.8**
	SNR=5.3						
TOA0	**Torodi Ar. Sit**	**168.55 193**			**PKPdf**	**09 06 56.2**	**-1.8**
TOA0			PKPab		**PKPab**	**09 08 14.7**	**+3.8**
TORD	**Torodi Ar. Bea**	**168.55 193**	PKP		**PKPdf**	**09 06 55.1**	**-2.8**
	comp=Z,4.2nm,1.1s,baz=188,slow=0.7,SNR=7.2						
TORD			PKPab		**PKPab**	**09 08 09.8**	**-1.1**
	comp=Z,24nm,1.1s,baz=163,slow=4.7,SNR=8.7						
TORD			pPKPab		**pPKPab**	**09 10 06.7**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=174,slow=5.4,SNR=2.0						
TORD			PP		**PP**	**09 12 00.8**	**+1.1**
	comp=Z,5.1nm,1.1s,baz=168,slow=5.2,SNR=5.7						
MDT	**Midelt**	**170.99 21**	PKPab		**PKPab**	**09 08 22.1**	**+0.5**
	comp=Z,21nm,1.0s,baz=270,slow=2.4,SNR=15						

IDC 24 08:48:55.8±9.1, 24°.10S×179°.30E, h505km±114km, mb4.2/5, mb1 4.3/6, mb1mx3.6/46, mbtmp5.2/6, Error ellipse: s-maj=82.4km s-min=62.6km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.24**	**187**	P	P	08 51 57.4	-0.4
	5.7nm,0.3s,baz=9.5,slow=12,SNR=2.0						
CTA	**Charters Tower**	**30.84**	**271**	P	P	08 54 31.1	+0.8
	16nm,0.3s,baz=98,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**34.05**	**248**	P	P	08 54 58.0	+0.4
	7.4nm,0.5s,baz=65,slow=7.2,SNR=3.4						
ASAR	**Alice Springs**	**41.37**	**261**	P	P	08 55 57.0	-0.6
	16nm,0.6s,baz=98,slow=7.3,SNR=4.5						
WRA	**Warramunga Arr**	**41.76**	**267**	P	P	08 55 59.7	-0.9
	29nm,0.7s,baz=103,slow=8.3,SNR=6.0						
SIJI	**Sorong**	**51.89**	**289**	P	P	08 57 17.2	-0.2
	30nm,0.7s,baz=91,slow=6.1,SNR=2.3						
FINES	**FINESS Array B**	**138.43**	**341**	PKP	PKPdf	09 07 24.0	+1.0
	1.5nm,0.4s,baz=50,slow=2.2,SNR=3.5						

*ISN **24** 09:04:27.4±0.8, 34°.32N×45°.50E, h13km±6km, ML3.3*
*ISCJB **24** 09:04:32.6±0.7, 34°.31N±0°.06×45°.13E±0°.04, h10km, Error ellipse: s-maj=9.0km s-min=4.6km az=7.1*
*TEH **24** 09:04:40.8, 34°.33N×45°.56E, h18km, ML3.1*
ISC 24 09:04:30.8±1.0, 34°.22N±0°.04×45°.31E±0°.05, h10km, n18,
σ1§68/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.01**	**62**	*e*Pg	Pn	09 04 55.2	+4.0
IDHR				*e*Sg	**Sn**	**09 05 07.2**	**+1.5**
IDHR				IAMB	IAmb	09 05 09.6	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**1.05**	**84**	*e*Pg	Pn	09 04 56.7	+4.9
IGHG				IAMB	IAmb	09 04 59.4	
	comp=Z,21μm,0.2s						
IGHG				*e*Sg	**Sn**	**09 05 09.1**	**+2.5**
IBDR	**Badra**	**1.22**	**155**	*e*Pn	**Pn**	**09 04 52.0**	**-1.9**
IBDR				AML	AML	09 04 54.2	
	comp=Z,561nm,0.4s						
IBDR				*e*Sn	**Sn**	**09 05 11.0**	**+0.5**
IKRK	**Kirkuk**	**1.42**	**326**	*e*Pn	**Pn**	**09 04 55.0**	**-1.7**
IKRK				AML	AML	09 04 56.1	
	comp=Z,399nm,0.2s						
IKRK				*e*Sn	**Sg**	**09 05 15.0**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.44**	**87**	IAMB	IAmb	09 05 25.1	
	comp=Z,0.0nm,0.5s						
KCHF				*e*Pg	Pg	09 05 04.6	+6.2
KER	**Kermanshah**	**1.52**	**83**	*e*Pg	Pg	09 05 06.0	+6.0
ILIN	**Lien**	**1.54**	**63**	IAMB	IAmb	09 05 07.9	
	comp=Z,4μm,0.2s						
ILIN				*e*Pg	Pg	09 05 05.8	+5.6
IKOM	**Komasi**	**1.83**	**91**	*e*Pn	Pg	09 05 10.9	+5.1
IKOM				IAMB	IAmb	09 05 38.3	
	comp=Z,0.0nm,0.4s						
IBZA	**Bozab**	**2.13**	**83**	*e*Pn	Pg	09 05 15.0	+3.4
IKFM	**Kafar-mosalman**	**2.23**	**107**	*e*Pn	**Pg**	**09 05 16.5**	**+3.1**
IKFM				IAMB	IAmb	09 05 52.2	
	comp=Z,0.0nm,0.3s						
IDOB	**Doab**	**2.42**	**99**	*e*Pn	**Pg**	**09 05 18.7**	**+1.4**
IDOB				IAMB	IAmb	09 05 27.6	
	comp=Z,0.0nm,0.4s						
MAHB	**Mahabad**	**2.56**	**7**	*e*Pn	**Pg**	**09 05 21.5**	**+1.6**
MAHB				IAMB	IAmb	09 05 57.3	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.65**	**104**	*e*Pn	**Pg**	**09 05 22.1**	**+0.5**
IKMR				IAMB	IAmb	09 05 26.6	
	comp=Z,0.0nm,0.3s						
MSL	**Mosul**	**2.82**	**321**	*e*Pn	**Pn**	**09 05 15.0**	**-0.9**
MSL				AML	AML	09 05 24.6	
	comp=Z,108nm,0.1s						
MSL				*e*Sn	**Sn**	**09 05 49.0**	**-1.0**
BMDN	**Meydan**	**2.98**	**100**	*e*Pn	**Pg**	**09 05 26.5**	**-1.3**
BMDN				IAMB	IAmb	09 05 27.4	
	comp=Z,0.0nm,0.6s						
BDRS	**Dareh Seyedi**	**2.98**	**94**	*e*Pn	**Pg**	**09 05 26.3**	**-1.6**
BDRS				IAMB	IAmb	09 05 34.2	
	comp=Z,0.0nm,0.3s						
NSR	**Nassriya**	**3.28**	**167**	*e*Pn	**Pn**	**09 05 21.0**	**-1.2**
NSR				AML	AML	09 05 22.8	
	comp=Z,977nm,0.3s						
NSR				*e*Sn	**Sn**	**09 06 01.0**	**-0.2**
RTB	**Rutbah**	**4.33**	**255**	*e*Pn	**Pn**	**09 05 38.0**	**+1.2**
RTB				*e*Sn	**Sn**	**09 06 28.7**	**+1.3**

*SOME **24** 09:20:56.9, 40°.82N×79°.93E, h5km*
*NNC **24** 09:20:59.8±1.0, 40°.92N×79°.85E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=6.6km s-min=5.8km az=168.0*
*KRNET **24** 09:21:00.7±0.1, 40°.99N×79°.93E, mb2.9*
ISC 24 09:21:03.4±2.2, 41°.06N±0°.10×79°.83E±0°.06, h10km, n29,
σ1§32/47, 8C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.67**	**294**	⇑*i*P	**Pb**	**09 21 33.8**	**-0.6**
	baz=95						
TARG				⇑*i*S	**Sg**	**09 21 57.5**	**+0.5**
	baz=95						
PRZ	**Przheval'sk**	**1.78**	**324**	⇑*i*P	**Pb**	**09 21 35.3**	**-0.9**

*ISCJB **24** 09:24:54.0±0.8, 19°.07N±0°.06×145°.6E±0°.2, h214km, mb3.4/6, Error ellipse: s-maj=28.1km s-min=7.9km az=175.3*
*IDC **24** 09:24:58.0±2.2, 19°.03N×145°.54E, h242km±22km, mb3.2/6, mb1 3.5/8, mb1mx3.1/55, mbtmp4.0/8, Error ellipse: s-maj=33.7km s-min=14.2km az=93.0*
ISC 24 09:24:55.7±0.9, 19°.10N±0°.07×145°.6E±0°.2, h214km, n8, σ1§92/10, mb3.4/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.52**	**187**	P	**Pn**	**09 26 19.5**	**+2.4**
	4.7nm,0.3s,baz=59,slow=18,SNR=2.5						
GUMO				S	**S**	**09 27 20.2**	**-1.3**
	7.5nm,0.3s,baz=8.9,slow=19,SNR=3.1						
JCJ	**Chichijima**	**8.54**	**339**	P	**Pn**	**09 26 58.2**	**+2.4**
	1.8nm,0.3s,baz=120,slow=18,SNR=2.3						
JCJ				S	**S**	**09 28 30.7**	**-1.4**
	7.8nm,0.3s,baz=287,slow=19,SNR=5.6						
WRA	**Warramunga Arr**	**40.33**	**196**	P	**P**	**09 32 11.5**	**-1.1**
	1.2nm,0.5s,baz=18,slow=8.8,SNR=25						
ASAR	**Alice Springs**	**44.00**	**195**	P	**P**	**09 32 41.0**	**-1.2**
	0.5nm,0.4s,baz=14,slow=6.0,SNR=13						
MKAR	**Makanchi Array**	**58.08**	**314**	P	**P**	**09 34 27.4**	**+0.7**
	0.2nm,0.5s,baz=90,slow=6.3,SNR=2.3						
ILAR	**Eielson Array**	**63.34**	**26**	P	**P**	**09 35 00.9**	**-0.9**
	0.4nm,0.7s,baz=264,slow=4.5,SNR=4.5						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	**P**	**09 36 58.4**	**+0.9**
	0.6nm,0.7s,baz=271,slow=5.3,SNR=6.5						
FINES	**FINESS Array B**	**86.46**	**335**	P	**P**	**09 37 11.5**	**-2.5**
	5.4nm,1.1s,baz=62,slow=3.3,SNR=5.6						

IDC 24 09:24:57.4±5.3, 56°.69S×151°.25W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/27, mbtmp3.6/2, Error ellipse: s-maj=565.3km s-min=115.3km az=174.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**62.28**	**269**	P	P	09 35 21.2	0.0
	0.6nm,0.5s,baz=139,slow=6.7,SNR=12						
H01W1	**Cape Leeuwin H**	**63.99**	**246**	T	T	10 45 48.5	
	baz=142						
H01W2	**Cape Leeuwin H**	**63.99**	**246**	T	T	10 45 55.5	
	baz=142						
H01W3	**Cape Leeuwin H**	**64.00**	**246**	T	T	10 45 55.9	
	baz=142						
WRA	**Warramunga Arr**	**65.02**	**272**	P	P	09 35 39.2	-0.1
	0.3nm,0.7s,baz=147,slow=5.7,SNR=3.7						
H10N3	**ASCENSION HYDR**	**106.56**	**135**	T	T	11 38 48.9	
	baz=203,slow=75,SNR=5.8						
H10N1	**ASCENSION HYDR**	**106.57**	**135**	T	T	11 38 51.0	
	baz=203,slow=75,SNR=4.2						
H10N2	**ASCENSION HYDR**	**106.58**	**135**	T	T	11 38 53.6	
	baz=203,slow=75,SNR=5.8						
MKAR	**Makanchi Array**	**146.23**	**276**	PKPbc	PKPdf	09 44 38.0	+0.4
	0.6nm,0.6s,baz=138,slow=3.5,SNR=5.9						

*IDC **24** 09:44:49.8±1.0, 7°.46S×105°.56E, h0km, mb3.9/8, mb1 4.2/10, mb1mx3.8/52, mbtmp4.1/10, ML4.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/45, Error ellipse: s-maj=32.6km s-min=16.1km az=40.0*
*ISCJB **24** 09:44:50.3±0.4, 7°.61S±0°.04×105°.65E±0°.04, h10km, mb3.9/8, MS3.6/3, Error ellipse: s-maj=5.9km s-min=5.3km az=37.5*
*NEIC **24** 09:44:51.7±2.3, 7°.60S±0°.06×105°.61E±0°.06, h9km±3km, mb4.5/17*
*DJA **24** 09:44:51.9±0.4, 8°.5S±3°×10°.6E±°, h10km, M4.6/12, mb4.9/2, MLv4.5/12*
ISC 24 09:44:51.6±0.5, 7°.57S±0°.05×105°.64E±0°.05, h10km, n69, σ1§24/69, mb4.4/15, MS3.1/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.95**	**3**	P	**Pg**	**09 45 09.1**	**-0.8**
SKJI	**Sukabumi**	**1.07**	**58**	P	**Pb**	**09 45 10.4**	**-1.7**
SKJI				S	**Sg**	**09 45 24.5**	**-1.5**
TNG	**Tangerang**	**1.71**	**36**	P	**Pn**	**09 45 22.7**	**+1.3**
TNG				P	**Pn**	**09 45 22.7**	**+1.3**
TNG				S	**Sn**	**09 45 42.5**	**-0.9**
LEM	**Lembang**	**2.09**	**69**	Pn	**Pn**	**09 45 27.4**	**+0.5**
	198nm,0.3s,baz=291,slow=2.4,SNR=112						
LEM				Sn	**Sn**	**09 45 55.5**	**+2.4**
	176nm,0.3s,baz=250,slow=18,SNR=11						
LEM				LR	LR	09 46 27.7	
	comp=Z,316nm,20.0s,baz=5.5,slow=46						
LEM	**Lembang**	**2.09**	**69**	P	**Pn**	**09 45 27.0**	**+0.1**
LEM				S	**Sn**	**09 45 51.5**	**-1.6**
CISI	**Cisompet, Garu**	**2.15**	**90**	P	**Pn**	**09 45 25.8**	**-1.8**
CISI	**Cisompet, Garu**	**2.15**	**90**		**Pn**	**09 45 25.9**	**-1.8**
BLSI	**Bandar Lampung**	**2.22**	**350**	P	**Pb**	**09 45 31.8**	**-0.1**
KASI	**Kota Agung**	**2.33**	**331**	P	**Pn**	**09 45 32.0**	**+2.0**
CMJI	**Cimerak**	**2.79**	**95**	P	**Pn**	**09 45 34.3**	**-2.0**
XMIS	**Christmas Isla**	**2.89**	**180**		**Pn**	**09 45 35.8**	**-2.0**
KLSI		**3.00**	**342**	P	**Pn**	**09 45 41.9**	**+2.7**
KPJI	**Karang Pucung**	**3.27**	**86**	P	**Pn**	**09 45 42.9**	**0.0**
MNAI	**Manna**	**4.16**	**320**	P	**Pn**	**09 45 56.5**	**+1.4**
MNAI	**Manna**	**4.16**	**320**	Pn	**Pn**	**09 45 56.6**	**+1.4**
SMRI	**Semarang**	**4.79**	**84**	Pn	**Pn**	**09 46 05.3**	**+1.4**
UGM	**Wanagama**	**4.85**	**94**	P	**Pn**	**09 46 03.9**	**-0.8**
UGM	**Wanagama**	**4.85**	**94**		**Pn**	**09 46 03.9**	**-0.8**
TPI	**Tanjungpandan**	**5.18**	**23**	P	**Pn**	**09 46 06.8**	**-2.5**
WOJI	**Wonogiri, Jawa**	**5.24**	**93**	P	Pn	09 46 16.3	+6.3
PWJI	**Pagerwojo**	**6.12**	**95**	P	**Pn**	**09 46 21.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**8.47**	**97**	P	**Pn**	**09 46 56.0**	**+1.5**
JAGI	**Jajag, Banyuwa**	**8.47**	**97**		**Pn**	**09 46 56.4**	**+1.9**
BATI	**Baumata**	**18.00**	**100**	P	**P**	**09 49 03.3**	**+0.7**
	7.4nm,0.3s,baz=313,slow=2.3,SNR=5.0						
SOEI	**Soe**	**18.54**	**98**	P	**Pn**	**09 49 09.7**	**+0.9**
SOEI				IAmb	IAmb	09 49 12.9	
	comp=Z,32nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.10**	**120**	P	**P**	**09 49 48.4**	**+1.2**
	comp=Z,3.6nm,0.7s,baz=306,slow=9.1,SNR=7.1						
FITZ				LR	LR	09 58 44.8	
	comp=Z,66nm,20.5s,baz=335,slow=38						
FITZ	**Fitzroy Crossi**	**22.10**	**120**	P	**P**	**09 49 47.8**	**+0.5**
FITZ				IAmb	IAmb	09 49 50.6	
	comp=Z,20nm,1.3s						
KNRA	**Kununurra**	**24.02**	**112**	P	**P**	**09 50 06.9**	**+0.1**
MTN	**Manton Dam**	**25.62**	**104**	P	**P**	**09 50 22.2**	**+0.7**
SIJI	**Sorong**	**26.39**	**77**	LR	LR	10 02 04.4	
	comp=Z,57nm,21.9s,baz=66,slow=39						
H01W3	**Cape Leeuwin H**	**28.28**	**165**	T	T	10 21 17.6	
	baz=345,slow=76,SNR=5.1						
H01W1	**Cape Leeuwin H**	**28.30**	**165**	T	T	10 21 19.3	
	baz=345,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**28.30**	**165**	T	T	10 21 18.9	
	baz=345,slow=76,SNR=18						
WB0	**Warramunga Arr**	**30.39**	**116**	P	**P**	**09 51 04.7**	**+0.5**
WB0				IAmb	IAmb	09 51 18.7	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**30.40**	**117**	P	**P**	**09 51 04.3**	**0.0**
	comp=Z,0.8nm,0.5s,baz=290,slow=11,SNR=12						
WRA	**Warramunga Arr**	**30.40**	**117**	P	**P**	**09 51 04.4**	**+0.1**
WRAB	**Tennant Creek**	**30.41**	**117**	P	**P**	**09 51 04.8**	**+0.5**
WRAB				IAmb	IAmb	09 51 20.0	
	comp=Z,6.7nm,1.1s						
WB2	**Warramunga Arr**	**30.41**	**117**	P	**P**	**09 51 04.6**	**+0.2**
WB2				IAmb	IAmb	09 51 08.5	
	comp=Z,8.1nm,1.3s						
WR0	**Warramunga Arr**	**30.59**	**117**	P	**P**	**09 51 06.5**	**+0.6**
WR0				IAmb	IAmb	09 51 14.1	
	comp=Z,17nm,1.5s						
ASAR	**Alice Springs**	**31.47**	**124**	P	**P**	**09 51 13.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=304,slow=8.7,SNR=28						
ASAR				PcP	**PcP**	**09 54 07.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=296,slow=2.6,SNR=3.7						
ASAR	**Alice Springs**	**31.47**	**124**	P	**P**	**09 51 14.9**	**+1.2**
AS31	**Alice Springs**	**31.48**	**124**	P	**P**	**09 51 14.8**	**+1.0**
H08S2	**Diego Garcia H**	**32.85**	**268**	T	T	10 26 02.1	
	baz=91,slow=75,SNR=77						
H08S3	**Diego Garcia H**	**32.86**	**268**	T	T	10 26 05.4	
	baz=91,slow=75,SNR=75						
H08S1	**Diego Carcia H**	**32.87**	**268**	T	T	10 26 03.2	
	baz=91,slow=75,SNR=62						
COEN	**Coen**	**37.38**	**103**	P	**P**	**09 52 05.2**	**+0.3**
COEN				IAmb	IAmb	09 52 10.2	
	comp=Z,9.5nm,1.4s						
STKA	**Stephens Creek**	**41.27**	**131**	P	**P**	**09 52 38.9**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=335,slow=6.2,SNR=9.5						
STKA	**Stephens Creek**	**41.27**	**131**	P	**P**	**09 52 39.1**	**+1.8**
KSH	**Kashi**	**54.31**	**332**	P	**P**	**09 54 19.8**	**+1.4**
KSH				pP	pwP	09 54 24.3	+0.6
KSH				PcP	**PcP**	**09 55 23.8**	**+1.4**
KSH				S	**S**	**10 01 56.8**	**+0.4**
KSH				sS	sS	10 02 04.1	+3.5
KSH	**Kashi**	**54.31**	**332**	SS	**SS**	**10 05 37.8**	**-1.0**
KSH				pmax	pmax		
	comp=Z,870nm,5.0s						
KSH				LR	LR		
	comp=N,550nm,10.9s						
KSH				LR	LR		
	comp=E,500nm,11.2s						
KSH				LR	LR		
	comp=Z,350nm,11.8s						
SONM	**Songino Array**	**55.17**	**1**	P	**P**	**09 54 23.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=180,slow=8.5,SNR=3.9						
SONM	**Songino Array**	**55.17**	**1**	P	**P**	**09 54 23.6**	**-0.8**
KDJ	**Kajisay**	**55.88**	**335**	P	**P**	**09 54 29.8**	**0.0**
KDJ				IAmb	IAmb	09 54 38.3	
	comp=Z,6.0nm,1.1s						
MKAR	**Makanchi Array**	**57.98**	**341**	P	**P**	**09 54 43.2**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=153,slow=8.2,SNR=4.6						
MKAR	**Makanchi Array**	**57.98**	**341**	P	**P**	**09 54 42.6**	**-1.7**
KURK	**Kurchatov**	**62.59**	**341**	P	**P**	**09 55 15.2**	**-0.6**
ZALV	**Zalesovo Beam**	**63.76**	**346**	P	**P**	**09 55 21.9**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=162,slow=6.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**63.76**	**346**	P	**P**	**09 55 22.3**	**-1.2**
ABKAR	**Akbulak array**	**69.22**	**330**	P	**P**	**09 55 57.9**	**-0.7**
BKZ	**Black Stump Fm**	**70.42**	**129**	P	**P**	**09 56 07.8**	**+1.5**
BRTR	**Keskin Array B**	**81.20**	**312**	P	**P**	**09 57 07.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=108,slow=4.7,SNR=3.2						
BRTR	**Keskin Array B**	**81.20**	**312**	P	**P**	**09 57 07.9**	**-0.2**
QSPA	**South Pole Qui**	**82.42**	**180**	P	**P**	**09 57 14.8**	**+0.8**
QSPA				IAmb	IAmb	09 57 30.1	
	comp=Z,4.3nm,1.4s						
Q24A	**Divide**	**138.24**	**37**		**PKPdf**	**10 04 15.4**	**-2.6**
TXAR	**Lajitas Array**	**144.95**	**48**	PKP	**PKPab**	**10 04 28.8**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=231,slow=1.8,SNR=3.5						
TXAR	**Lajitas Array**	**144.95**	**48**		**PKPdf**	**10 04 30.2**	**+0.2**
U40A	**Yellville**	**146.74**	**28**	PKPbc	**PKPab**	**10 04 35.9**	**+0.5**
WVT	**Waverly**	**149.02**	**21**		**PKPbc**	**10 04 40.3**	**-0.1**
V52A	**Sevierville**	**150.62**	**15**		**PKPbc**	**10 04 44.3**	**-0.1**

*SOME **24** 09:59:24.2, 44°.30N×83°.22E, h15km*
*NNC **24** 09:59:26.2±1.7, 44°.29N×82°.97E, h0km, mb3.7, mpv3.0, Error ellipse: s-maj=14.8km s-min=6.5km az=123.0*
ISC 24 09:59:26.3±2.5, 44°.21N±0°.08×83°.3E±0°.1, h24km, n16, σ1§11/22, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.49**	**274**	Pg	**Pb**	**10 00 09.3**	**-1.0**
	12nm,0.4s						
DJR				Lg	Lg	10 00 40.3	
	5.6nm,0.4s						
DJR	**Jarkent**	**2.49**	**274**	*e*P	**Pb**	**10 00 09.1**	**-1.2**
	9.7nm,0.3s						
DJR				*e*S	**Sb**	**10 00 39.9**	**-0.6**
	5.6nm,0.4s						
MK31	**Makanchi Array**	**2.67**	**346**	⇓Pg	**Pb**	**10 00 12.5**	**-0.8**
	0.1nm,0.1s,baz=155,slow=14,SNR=58						
MK31				⇑Lg	Lg	10 00 45.2	
	1.9nm,0.2s,baz=167,slow=28,SNR=16						
PDGK	**Podgornoye**	**2.86**	**253**	Pg	**Pb**	**10 00 15.4**	**-1.3**
	1.1nm,0.2s						
PDGK				Lg	Lg	10 00 50.9	
	5.8nm,0.5s						
PDGK	**Podgornoye**	**2.86**	**253**	⇑Pg	**Pb**	**10 00 14.9**	**-1.8**
	1.1nm,0.4s						
PDGK				⇓Lg	Lg	10 00 50.8	
	8.5nm,0.5s						
SHLS	**Shalkode**	**2.94**	**250**	Pg	**Pn**	**10 00 12.9**	**+1.2**
	22nm,0.2s						
SHLS				Lg	Lg	10 00 46.3	
	25nm,0.3s						
SHLS	**Shalkode**	**2.94**	**250**	*e*P	**Pn**	**10 00 12.9**	**+1.2**
	22nm,0.2s						
SHLS				*e*S	**Sn**	**10 00 46.3**	**+0.1**
	25nm,0.3s						
KAPS	**Kapalarasan**	**2.97**	**293**	Pg	**Pb**	**10 00 17.4**	**-1.2**
	1.5nm,0.2s						
KAPS				Lg	Lg	10 00 54.1	
	5.2nm,0.2s						
KAPS	**Kapalarasan**	**2.97**	**293**	*e*P	**Pb**	**10 00 17.4**	**-1.2**
	1.5nm,0.2s						
KAPS				*e*S	**Sb**	**10 00 54.1**	**-0.4**
	5.2nm,0.2s						
UZB	**Uzynbulak**	**3.25**	**252**	Pg	**Pb**	**10 00 22.2**	**-1.1**
	0.9nm,0.2s						
UZB				Lg	Lg	10 01 02.2	
	6.7nm,0.2s						
UZB	**Uzynbulak**	**3.25**	**252**	*e*P	**Pb**	**10 00 22.2**	**-1.1**
	0.9nm,0.2s						
UZB				*e*S	**Sb**	**10 01 02.2**	**-0.2**
	6.7nm,0.2s						
MNBS	**Baschi**	**3.49**	**270**	Pg	**Pb**	**10 00 26.5**	**-1.0**
MNBS				Lg	Lg	10 01 09.7	
MNBS	**Baschi**	**3.49**	**270**	*e*P	**Pb**	**10 00 26.5**	**-1.0**
MNBS				*e*S	**Sb**	**10 01 09.7**	**+0.3**
SATY	**Saty**	**3.70**	**254**	Pg	**Pb**	**10 00 29.8**	**-1.2**
	1.8nm,0.1s						
SATY				Lg	Lg	10 01 15.4	
	6.6nm,0.3s						
ARXS	**Arharly**	**3.90**	**272**	Pg	**Pb**	**10 00 34.2**	**-0.1**
	1.0nm,0.1s						
ARXS				Lg	Lg	10 01 22.8	
	5.3nm,0.3s						
ARXS	**Arharly**	**3.90**	**272**	*e*P	**Pb**	**10 00 34.2**	**-0.1**
	1.0nm,0.1s						
ARXS				*e*S	**Sb**	**10 01 22.9**	**+1.8**
	5.3nm,0.3s						

*NEIC **24** 10:03:47.2±2.6, 6°.2S±0°.1×154°.80E±0°.09, h39km±4km, mb4.2/17*
*ISCJB **24** 10:03:51.8±0.4, 6°.31S±0°.05×154°.72E±0°.05, h100km, mb4.0/12, Error ellipse: s-maj=8.1km s-min=6.1km az=24.7*
*IDC **24** 10:03:51.2±2.1, 6°.35S×154°.82E, h81km±19km, mb3.8/12, mb1 4.0/17, mb1mx3.9/33, mbtmp4.2/17, MS3.1/2, Ms1 3.1/2, ms1mx2.7/34, Error ellipse: s-maj=17.4km s-min=14.3km az=70.0*
ISC 24 10:03:52.2±0.6, 6°.29S±0°.08×154°.75E±0°.07, h100km, n45, σ1§49/41, mb4.1/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.35**	**306**	P	**Pn**	**10 04 43.0**	**+0.3**
	5.0nm,0.3s,baz=121,slow=4.0,SNR=7.8						
KRVT				S	**Sn**	**10 05 19.8**	**-1.9**
	21nm,0.3s,baz=41,slow=17,SNR=4.0						
KRVT				LR	LR	10 06 23.6	
	comp=Z,234nm,19.0s,baz=98,slow=44						
HNR	**Honiara**	**6.02**	**122**	P	**Pn**	**10 05 16.3**	**-2.5**
	7.5nm,0.3s,baz=265,slow=4.6,SNR=5.5						
HNR				S	**Sn**	**10 06 27.2**	**+0.8**
	10nm,0.3s,baz=315,slow=19,SNR=2.6						
HNR	**Honiara**	**6.02**	**122**	P	**Pn**	**10 05 18.0**	**-0.8**
HNR	**Honiara**	**6.02**	**122**		**Pn**	**10 05 16.7**	**-2.1**
PMG	**Port Moresby**	**8.13**	**247**	P	**Pn**	**10 05 46.7**	**-0.8**
	4.9nm,0.3s,baz=45,slow=11,SNR=25						
PMG				S	**Sn**	**10 07 16.8**	**-0.9**
	1.9nm,0.3s,baz=342,slow=20,SNR=2.6						
PMG	**Port Moresby**	**8.13**	**247**		**Pn**	**10 05 46.8**	**-0.6**
CTA	**Charters Tower**	**16.00**	**210**	P	**P**	**10 07 32.5**	**-0.6**
	0.2nm,0.3s,baz=71,slow=9.8,SNR=3.9						
EIDS	**Eidsvold**	**19.29**	**190**	P	**Pn**	**10 08 10.6**	**-0.7**
EIDS				IAmb	IAmb	10 08 21.1	
	comp=Z,20nm,1.4s						
DZM	**Mont Dzumac**	**19.34**	**145**	P	**P**	**10 08 09.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=340,slow=13,SNR=14						
DZM	**Mont Dzumac**	**19.34**	**145**	P	**Pn**	**10 08 10.5**	**-1.5**
DZM				IAmb	IAmb	10 08 11.2	
	comp=Z,6.8nm,0.8s						
WR0	**Warramunga Arr**	**23.87**	**233**	P	**P**	**10 08 58.5**	**+1.8**
WR0				IAmb	IAmb	10 08 59.7	
	comp=Z,7.0nm,0.9s						
WB0	**Warramunga Arr**	**23.89**	**234**	P	**P**	**10 08 58.7**	**+1.9**
WB0				IAmb	IAmb	10 09 14.5	
	comp=Z,7.3nm,1.0s						
WRAB	**Tennant Creek**	**24.01**	**234**	P	**P**	**10 08 59.5**	**+1.6**
WRAB				IAmb	IAmb	10 09 11.4	
	comp=Z,9.7nm,1.2s						
WB2	**Warramunga Arr**	**24.01**	**234**	P	**P**	**10 08 59.8**	**+1.9**
WB2				IAmb	IAmb	10 09 15.4	
	comp=Z,5.5nm,0.8s						
WRA	**Warramunga Arr**	**24.02**	**234**	P	**P**	**10 08 59.0**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=56,slow=9.6,SNR=28						
WRA				PcP	**PcP**	**10 12 39.0**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=58,slow=2.6,SNR=5.7						
WRA				LR	LR	10 18 33.6	
	comp=Z,45nm,21.7s,baz=225,slow=37						
WRA	**Warramunga Arr**	**24.02**	**234**	P	**P**	**10 08 59.4**	**+1.4**
ARMA	**Armidale**	**24.18**	**187**	P	**P**	**10 09 01.1**	**+1.7**
ARMA				IAmb	IAmb	10 09 13.4	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**26.46**	**227**	P	**P**	**10 09 20.1**	**0.0**
ASAR	**Alice Springs**	**26.46**	**227**	P	**P**	**10 09 20.6**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=60,slow=8.7,SNR=19						
ASAR				PcP	**PcP**	**10 12 44.8**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=63,slow=2.5,SNR=7.7						
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**10 09 35.9**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=359,slow=9.6,SNR=4.4						
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**10 09 36.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**30.72**	**245**	P	**P**	**10 09 58.7**	**+0.7**
FITZ				IAmb	IAmb	10 10 02.9	
	comp=Z,11nm,1.4s						
URZ	**Urewera**	**37.74**	**151**	P	**P**	**10 10 58.6**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=352,slow=14,SNR=3.8						
URZ	**Urewera**	**37.74**	**151**	P	**P**	**10 10 58.6**	**+0.3**
BKZ	**Black Stump Fm**	**38.16**	**152**	P	**P**	**10 11 03.7**	**+1.7**
PETK	**Petropavlovsk-**	**59.23**	**2**	P	P	10 13 44.6	+1.8
	comp=Z,3.7nm,0.8s,baz=141,slow=6.4,SNR=6.2						
PETK	**Petropavlovsk-**	**59.23**	**2**	P	P	10 13 44.7	+1.9
CMAR	**Chiang Mai Arr**	**60.26**	**295**	P	P	10 13 53.2	+2.7
	comp=Z,5.9nm,0.8s,baz=122,slow=5.3,SNR=28						
CMAR	**Chiang Mai Arr**	**60.26**	**295**	P	P	10 13 53.7	+3.1
SONM	**Songino Array**	**68.61**	**327**	P	P	10 14 46.3	+1.6
	comp=Z,0.6nm,0.5s,baz=136,slow=6.6,SNR=5.0						
SONM	**Songino Array**	**68.61**	**327**	P	P	10 14 46.4	+1.8
MLY	**Manley**	**81.58**	**20**	P	P	10 16 00.3	+1.6
MLY				IAmb	IAmb	10 16 15.9	
	comp=Z,4.2nm,1.4s						
MKAR	**Makanchi Array**	**82.72**	**319**	P	P	10 16 06.7	+1.7
	comp=Z,2.0nm,0.8s,baz=104,slow=5.1,SNR=10.0						
MKAR	**Makanchi Array**	**82.72**	**319**	P	P	10 16 07.5	+2.5
ILAR	**Eielson Array**	**82.81**	**22**	P	P	10 16 05.5	+0.5
	comp=Z,0.3nm,0.4s,baz=240,slow=4.8,SNR=8.0						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**10 16 05.0**	**0.0**
ZALV	**Zalesovo Beam**	**83.46**	**326**	P	**P**	**10 16 08.8**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=104,slow=6.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**83.46**	**326**	P	**P**	**10 16 09.2**	**+0.6**
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**10 16 10.9**	**+1.2**
MAW	**Mawson**	**84.95**	**203**	P	**P**	**10 16 17.1**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=102,slow=7.8,SNR=10						
MAW	**Mawson**	**84.95**	**203**	P	**P**	**10 16 17.3**	**+1.4**
NVAR	**Mina Array Bea**	**91.48**	**52**	P	P	10 16 49.6	+1.7
	comp=Z,1.0nm,0.8s,baz=246,slow=6.6,SNR=8.8						
NVAR	**Mina Array Bea**	**91.48**	**52**	P	P	10 16 49.3	+1.4
TORD	**Torodi Ar. Bea**	**152.60**	**286**	PKPbc	**PKiKP**	**10 23 38.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=82,slow=3.1,SNR=3.4						
TORD				PKPab	**PKPab**	**10 23 50.1**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=75,slow=2.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**152.60**	**286**	PKPdf	**PKPbc**	**10 23 32.9**	**-5.2**
TORD					**PKiKP**	**10 23 38.2**	**-0.2**
TORD					**PKPab**	**10 23 50.1**	**+1.1**

*ISCJB **24** 10:08:46.8±0.8, 42°.91N±0°.04×80°.38E±0°.06, h10km, Error ellipse: s-maj=6.9km s-min=4.1km az=40.7*
*SOME **24** 10:08:46.4, 42°.95N×80°.27E, h20km*
*NNC **24** 10:08:46.1±0.8, 42°.95N×80°.28E, h2km±3km, mb3.5, mpv3.5, Error ellipse: s-maj=5.1km s-min=3.9km az=157.0*
*KRNET **24** 10:08:46.6±0.1, 42°.83N×80°.22E, h12km, mb3.2*
ISC 24 10:08:44.3±1.2, 42°.95N±0°.04×80°.31E±0°.04, h10km, n66, σ2§12/108, 15C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.66**	**289**	P	**Pg**	**10 08 54.8**	**-2.3**
	111nm,0.1s						
SHLS				S	**Sg**	**10 09 00.8**	**-4.9**
	645nm,0.2s						
SHLS	**Shalkode**	**0.66**	**289**	*e*P	**Pg**	**10 08 54.8**	**-2.3**
	baz=23						
SHLS				*e*S	**Sg**	**10 09 00.8**	**-4.9**
	baz=23						
SHLS	**Shalkode**	**0.66**	**289**	*e*P	**Pg**	**10 08 54.8**	**-2.3**
	111nm,0.1s						
SHLS				*e*S	**Sg**	**10 09 00.8**	**-4.9**
	645nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**303**	P	**Pn**	**10 09 00.0**	**-0.6**
	7.7nm,0.1s						
PDGK				S	**Sb**	**10 09 09.8**	**+0.9**
	45nm,0.1s						
PDGK	**Podgornoye**	**0.71**	**303**

ANVS ⇓iS **Sg** **10 09 47.9 +0.8**
baz=69
ARXS Arharly 2.21 306 Pg **Pg** **10 09 25.6 -1.0**
2.2nm,0.2s
ARXS Lg Lg 10 09 54.1
65nm,0.4s
ARXS Arharly 2.21 306 *e*P **Pg** **10 09 25.6 -1.0**
2.2nm,0.2s
ARXS *e*S **Sg** **10 09 54.1 -1.1**
65nm,0.4s
TARG Taragay, Kyrgy 2.22 238 ⇓*i*P **Pb** **10 09 23.9 -0.9**
baz=39
TARG ⇓*i*S **Sb** **10 09 53.0 +0.4**
baz=39
KOTS Kotyrbulak 2.36 278 Pg **Pg** **10 09 28.6 -1.0**
19nm,0.2s
KOTS Lg Lg 10 09 58.9
98nm,0.4s
KOTS Kotyrbulak 2.36 278 *e*P **Pg** **10 09 28.6 -1.0**
19nm,0.2s
KOTS *e*S **Sg** **10 09 58.9 -1.3**
98nm,0.4s
MDOK Medeo 2.40 276 ⇓Pg **Pb** **10 09 28.7 +1.0**
4.7nm,0.7s
MDOK ⇑Lg Lg 10 10 00.5
37nm,0.9s
MDOK Medeo 2.40 276 Pg **Pg** **10 09 29.8 -0.5**
5.8nm,0.2s
MDOK Lg Lg 10 10 00.9
31nm,0.3s
MDOK Medeo 2.40 276 *e*P **Pg** **10 09 29.9 -0.5**
5.8nm,0.2s
MDOK *e*S **Sg** **10 10 00.9 -0.6**
31nm,0.3s
KAPS Kapalarasan 2.44 344 Pg **Pg** **10 09 29.6 -1.4**
3.8nm,0.2s
KAPS Lg Lg 10 10 00.8
63nm,0.3s
KAPS Kapalarasan 2.44 344 *e*P **Pg** **10 09 29.6 -1.4**
3.8nm,0.2s
KAPS *e*S **Sg** **10 10 00.8 -1.8**
63nm,0.3s
KDJ Kajisay 2.46 252 ⇑*i*P **Pb** **10 09 27.4 -1.2**
baz=54
KDJ ⇑*i*S **Sb** **10 09 58.9 -0.1**
baz=54
KNDC Almaty 2.47 277 ⇑Lg Lg 10 10 02.7
29nm,0.5s
TDK Taldyqorghan 2.47 327 Pg **Pg** **10 09 30.5 -1.2**
33nm,0.2s
TDK Lg Lg 10 10 02.1
189nm,0.4s
TDK Taldyqorghan 2.47 327 *e*P **Pg** **10 09 30.5 -1.2**
33nm,0.2s
TDK *e*S **Sg** **10 10 02.1 -1.6**
189nm,0.4s
TNSS Tian-Shan 2.47 273 Pg **Pg** **10 09 30.6 -1.1**
8.9nm,0.2s
TNSS Lg Lg 10 10 02.9
65nm,0.3s
TNSS Tian-Shan 2.47 273 ⇑*i*P **Pg** **10 09 30.6 -1.1**
8.9nm,0.2s
TNSS *e*S **Sg** **10 10 02.9 -0.9**
65nm,0.3s
CHKK Chushkaly 2.59 292 Pg **Pg** **10 09 32.6 -1.3**
1.0nm,0.1s
CHKK Lg Lg 10 10 05.7
41nm,0.2s
CHKK Chushkaly 2.59 292 *e*P **Pg** **10 09 32.6 -1.3**
1.0nm,0.1s
CHKK *e*S **Sg** **10 10 05.7 -1.7**
41nm,0.2s
IZV Izvestkoviy 2.72 273 Pg **Pg** **10 09 35.5 -0.9**
6.8nm,0.1s
IZV Lg Lg 10 10 10.7
51nm,0.5s
IZV Izvestkoviy 2.72 273 *e*P **Pg** **10 09 35.5 -0.9**
6.8nm,0.1s
IZV *e*S **Sg** **10 10 10.7 -0.9**
51nm,0.5s
KTBS Karatobe 2.76 287 Pg **Pg** **10 09 35.5 -1.6**
3.7nm,0.4s
KTBS Lg Lg 10 10 10.9
56nm,0.4s
KTBS Karatobe 2.76 287 *e*P **Pg** **10 09 35.5 -1.6**
3.7nm,0.4s
KTBS *e*S **Sg** **10 10 10.9 -2.0**
56nm,0.4s
MTBS Maitube 2.85 275 Pg **Pb** **10 09 37.1 +1.8**
5.6nm,0.2s
MTBS Lg Lg 10 10 14.0
33nm,0.5s
MTBS Maitube 2.85 275 *e*P **Pb** **10 09 37.1 +1.8**
5.6nm,0.2s
MTBS *e*S **Sg** **10 10 14.0 -2.0**
33nm,0.5s
KUU Kurty 3.05 289 Pg **Pb** **10 09 40.2 +1.6**
1.0nm,0.2s
KUU Lg Lg 10 10 18.9
18nm,0.3s
KUU Kurty 3.05 289 *e*P **Pb** **10 09 40.2 +1.6**
1.0nm,0.2s
KUU *e*S **Sb** **10 10 18.9 +3.0**
18nm,0.3s
KST Kastek 3.19 273 Pg **Pb** **10 09 43.4 +2.2**
8.8nm,0.3s
KST Lg Lg 10 10 24.2
14nm,0.2s
KST Kastek 3.19 273 *e*P **Pb** **10 09 43.4 +2.2**
8.8nm,0.3s
KST *e*S **Sg** **10 10 24.2 -2.6**
14nm,0.2s
BOOM Boomskoye usch 3.25 263 ⇑*i*P **Pn** **10 09 38.9 +3.3**
baz=65
BOOM ⇑*i*S **Sb** **10 10 18.7 -3.3**
baz=65
DGS Degeres 3.34 277 Pg **Pb** **10 09 45.6 +1.9**
3.6nm,0.4s
DGS Lg Lg 10 10 28.3
35nm,0.5s
DGS Degeres 3.34 277 *e*P **Pb** **10 09 45.6 +1.9**
3.6nm,0.4s
DGS *e*S **Sb** **10 10 27.7 +3.3**
35nm,0.5s
TKM2 Tokmak 2 3.46 271 ⇓Pg **Pb** **10 09 48.2 +2.4**
1.5nm,0.5s
TKM2 ⇑Lg Lg 10 10 35.3
6.2nm,0.4s
TKM2 Tokmak 2 3.46 271 ⇑*i*P **Pn** **10 09 42.0 +3.5**
baz=73
TKM2 ⇑*i*S **Sb** **10 10 24.5 -3.6**
baz=73
MK31 Makanchi Array 4.09 19 ⇑Pn **Pn** **10 09 50.5 +3.6**
0.4nm,0.3s,baz=213,slow=5.4,SNR=32
MK31 ⇓Pg **Pg** **10 10 00.3 -2.4**
0.1nm,0.2s,baz=201,slow=13,SNR=6.9
MK31 ⇓Sn **Sn** **10 10 37.7 +2.8**
1.3nm,0.5s,baz=203,slow=26,SNR=3.7
MK31 ⇓Lg Lg 10 10 54.8
0.3nm,0.2s,baz=200,slow=27,SNR=6.5
AAK Ala-Archa 4.29 268 ⇓Pg **Pb** **10 10 02.6 +2.6**
2.5nm,0.8s
AAK Lg Lg 10 11 00.5
5.3nm,0.7s
BTLS Baital 4.98 297 Pg **Pg** **10 10 15.9 -3.8**
0.7nm,0.1s
BTLS Lg Lg 10 11 20.0
1.4nm,0.2s
BTLS Baital 4.98 297 *e*P **Pg** **10 10 15.9 -3.8**
0.7nm,0.1s
BTLS *e*S **Sg** **10 11 19.9 -4.2**
1.4nm,0.2s
MRKS Merke 5.21 270 Pg **Pg** **10 10 20.9 -3.3**
1.0nm,0.2s
MRKS Lg Lg 10 11 28.4
4.2nm,0.6s
MRKS Merke 5.21 270 *e*P **Pg** **10 10 20.9 -3.3**
1.0nm,0.2s
MRKS *e*S **Sg** **10 11 28.4 -3.3**
4.2nm,0.6s
ZSN Zaisan 5.53 34 Pg **Pg** **10 10 25.5 -4.7**
2.2nm,0.1s
ZSN Lg Lg 10 11 36.4
2.5nm,0.3s
ZSN Zaisan 5.53 34 *e*P **Pg** **10 10 25.5 -4.7**
2.2nm,0.1s
ZSN *e*S **Sg** **10 11 36.4 -5.4**
2.5nm,0.3s

KK31 Karatay Array 7.19 275 ⇑Lg Lg 10 12 31.1
0.7nm,0.5s,baz=87,slow=29,SNR=5.7
KURBB Kurchatov Arra 7.77 352 ⇓Lg Lg 10 12 53.4
5.1nm,0.6s

NEIC ***24*** *10:09:45.3±1.0,57.°59N±0.°06×143.°1W±0.°1, h39km±51km*
AEIC 24 10:09:46.2±1.2, 57.°5N±0.°1×143.°2W±0.°1, h8km±8km, ML2.8,
Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**2.78**	**22**		Pn	10 10 26.7	-4.3
SAMH	**Samovar Hills**	**2.91**	**25**		Pn	10 10 28.5	-4.3
SAMH					Sn	10 11 00.2	-7.8
PNL	**Peninsula**	**2.95**	**41**		Pn	10 10 28.0	-5.2
PNL					Sn	10 10 59.7	-9.0
YAH	**Yahtse**	**2.96**	**14**		Pn	10 10 28.9	-4.6
PCA	**Pinnacle**	**3.01**	**30**		Pn	10 10 29.3	-4.9
BCPM	**Bancas Point**	**3.08**	**36**		Pn	10 10 32.8	-2.3
DHAK	**Deception Hill**	**3.08**	**57**		Sn	10 11 03.4	-8.7
CRQM	**Cirque**	**3.25**	**1**		Pn	10 10 32.6	-5.0
TGL	**Tana Glacier**	**3.25**	**3**		Pn	10 10 33.1	-4.4
TGL	**Tana Glacier**	**3.25**	**3**		Sn	10 11 08.3	-8.1
GRNC	**Granite Creek**	**3.31**	**13**		Pn	10 10 34.0	-4.4
GRNC					Sn	10 11 09.5	-8.5
KIAG	**Kiagna River**	**3.45**	**7**		Pn	10 10 35.6	-4.6
BALM	**Baldy**	**3.56**	**7**		Pn	10 10 37.3	-4.4
CTGM	**Chitina Glacie**	**3.59**	**15**		Pn	10 10 37.6	-4.6
VRDI	**Verde Repeater**	**3.72**	**358**		Pn	10 10 39.5	-4.5
GLB	**Gilahina Butte**	**3.95**	**356**		Pn	10 10 42.2	-4.8
YUK7	**Dusty Glacier**	**4.01**	**39**		Pn	10 10 43.5	-4.5
SEW	**Seward**	**4.14**	**311**		Sn	10 11 31.3	-6.8
YUK6	**Outpost Mounta**	**4.25**	**34**		Pn	10 10 47.2	-4.1
HYT	**Haines Junctio**	**4.44**	**39**		Pn	10 10 49.6	-4.2
BRSE	**Bradley Lake S**	**4.51**	**303**		Pn	10 10 50.9	-3.9
SKAG	**Skagway**	**4.58**	**62**		Pn	10 10 50.8	-4.8
BRLK	**Bradley Lake**	**4.59**	**303**		Pn	10 10 52.3	-3.4
CNPM	**China Poot**	**4.65**	**299**		Pn	10 10 53.7	-2.9
SLKM	**Skilak Lake**	**4.69**	**313**		Pn	10 10 52.7	-4.5
JIS	**Juneau Island**	**4.78**	**77**		Pn	10 10 53.6	-4.8
WHY	**Whitehorse**	**5.33**	**50**		Pn	10 11 01.3	-4.7
OHAK	**Old Harbor**	**5.45**	**271**		Pn	10 11 04.9	-2.6

ISN ***24*** *10:15:00.9±1.4,34.°20N×45.°61E, h6km±8km, ML3.2*
TEH ***24*** *10:15:03.5,34.°29N×45.°65E, h18km, ML3.0*
ISC 24 10:15:02.2±1.3, 34.°22N±0.°03×45.°62E±0.°03, h3km±12km,
n17, σ0.°94/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.79**	**53**	*e*Pg	**Pb**	**10 15 17.5**	**-1.2**
IDHR				IAMB	IAmb	10 15 18.9	
comp=Z,0.0nm,0.2s							
IGHG	**Ghaleghazi**	**0.79**	**82**	*e*Pg	**Pb**	**10 15 18.6**	**-0.2**
IGHG				IAMB	IAmb	10 15 19.0	
comp=Z,20μm,0.1s							
IBDR	**Badra**	**1.14**	**167**	*e*Pn	**Pg**	**10 15 25.0**	**+1.0**
IBDR				AML	AML	10 15 28.0	
comp=Z,359nm,0.4s							
IBDR				*e*Sn	**Sn**	**10 15 42.0**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.18**	**87**	*e*Pg	**Pg**	**10 15 25.0**	**+0.2**
KCHF				*e*Sg	**Sn**	**10 15 42.0**	**-0.4**
KCHF				IAMB	IAmb	10 15 47.8	
comp=Z,0.0nm,0.3s							
ILIN	**Lien**	**1.31**	**58**	*e*Pg	**Pg**	**10 15 27.8**	**+0.5**
ILIN				IAMB	IAmb	10 15 30.5	
comp=Z,3μm,0.3s							
BHD	**Baghdad**	**1.40**	**228**	*e*Pn	**Pn**	**10 15 28.0**	**-0.7**
BHD				*e*Sn	**Sg**	**10 15 47.5**	**+0.2**
IKOM	**Komasi**	**1.57**	**91**	*e*Pn	**Pg**	**10 15 32.4**	**+0.2**
IKOM				IAMB	IAmb	10 16 02.1	
comp=Z,0.0nm,0.4s							
IKRK	**Kirkuk**	**1.58**	**318**	*e*Pn	**Pb**	**10 15 31.0**	**-1.0**
IKRK				AML	AML	10 15 35.6	
comp=Z,894nm,0.4s							
IKRK				*e*Sn	**Sg**	**10 15 53.0**	**+0.1**
IKFM	**Kafar-mosalman**	**1.98**	**110**	*e*Pn	**Pb**	**10 15 38.5**	**-0.3**
IKFM				IAMB	IAmb	10 16 12.6	
comp=Z,0.0nm,0.4s							
IDOB	**Doab**	**2.17**	**101**	*e*Pn	**Pb**	**10 15 40.6**	**-1.6**
IKMR	**Kamar-syah**	**2.40**	**106**	*e*Pn	**Pb**	**10 15 43.6**	**-2.4**
IKMR				IAMB	IAmb	10 16 23.5	
comp=Z,0.0nm,0.4s							
MAHB	**Mahabad**	**2.54**	**2**	*e*Pn	**Pn**	**10 15 44.7**	**+0.3**
MAHB				IAMB	IAmb	10 16 30.7	
comp=Z,0.0nm,0.6s							
BDRS	**Dareh Seyedi**	**2.72**	**95**	*e*Pn	**Pn**	**10 15 48.1**	**+1.1**
BDRS				IAMB	IAmb	10 16 34.9	
comp=Z,0.0nm,0.8s							
BMDN	**Meydan**	**2.72**	**101**	*e*Pn	**Pn**	**10 15 47.7**	**+0.8**
BMDN				IAMB	IAmb	10 16 40.7	
comp=Z,0.0nm,0.6s							
MSL	**Mosul**	**2.99**	**317**	*e*Pn	**Pn**	**10 15 51.0**	**+0.5**
MSL				AML	AML	10 15 54.2	
comp=Z,82nm,0.2s							
MSL				*e*Sn	**Sn**	**10 16 28.0**	**+1.2**
NSR	**Nassriya**	**3.23**	**172**	*e*Pn	**Pn**	**10 15 54.0**	**+0.2**
NSR				AML	AML	10 15 54.9	
comp=Z,2μm,0.2s							
NSR				*e*Sn	**Sn**	**10 16 33.0**	**+0.2**
RTB	**Rutbah**	**4.59**	**256**	*e*Pn	**Pn**	**10 16 13.0**	**+0.5**
RTB				AML	AML	10 16 14.8	
comp=Z,27nm,0.1s							
RTB				*e*Sn	**Sn**	**10 17 06.0**	**-0.4**

NIED ***24*** *10:17:00,32.°40N×141.°90E, h5km, Mw4.4 Best double couple: M0=4.97000×10^15 NP1:φ=140.00000°, δ=25.00000°, λ=32.00000°. NP2:φ=21.00000°, δ=77.00000°, λ=112.00000°.*
BJI ***24*** *10:17:36.0±0.0,32.°40N×141.°90E, h10km, mb4.5/33, mB4.9/28, Ms5.1/11, Ms7 4.8/4*
IDC ***24*** *10:17:37.5±0.5,32.°37N×141.°74E, h0km, mb4.3/19, mb1 4.4/22, mb1mx4.3/47, mbtmp4.2/22, ML2.5/2, MS3.9/4, Ms1 3.9/4, ms1mx3.2/46, Error ellipse: s-maj=17.7km s-min=13.1km az=75.0*
MOS ***24*** *10:17:38.7±0.9,32.°35N×141.°58E, h17km, mb4.7/21, Error ellipse: s-maj=13.9km s-min=6.3km az=116.0*
NEIC ***24*** *10:17:40.6±1.9,32.°35N±0.°06×141.°79E±0.°08, h19km±3km, mb4.5/44*
JMA ***24*** *10:17:40.0±0.5,32.°44N×141.°87E, h76km, M4.0*
ISCJB ***24*** *10:17:41.7±0.2,32.°39N±0.°03×141.°66E±0.°04, h39km, mb4.4/46, MS4.2/5, Error ellipse: s-maj=5.3km s-min=4.0km az=136.3*
ISC 24 10:17:42.6±0.4, 32.°39N±0.°05×141.°86E±0.°05, h39km, n185,
σ19.°73/197, mb4.5/56, MS4.2/5, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.77**	**273**	P	**Pn**	**10 18 09.4**	**-1.4**
JHJ2	**Mitsune**	**1.87**	**293**	P	**Pn**	**10 18 10.3**	**-1.8**
JHJ2				*e*S	**Sn**	**10 18 33.1**	**-1.3**
JHJ2	**Mitsune**	**1.87**	**293**		**Pn**	**10 18 10.4**	**-1.6**
JHCJ	**Hachijojimakas**	**1.87**	**292**	P	**Pn**	**10 18 10.1**	**-2.0**
JHJ	**Hachijo jima 2**	**1.90**	**293**	Pn	**Pn**	**10 18 10.5**	**-1.9**
174nm,0.3s,baz=126,slow=21,SNR=179							
JHJ				Sn	**Sn**	**10 18 33.2**	**-1.9**
155nm,0.3s,baz=193,slow=20,SNR=4.8							
BSO1	**Boso 1**	**2.38**	**342**	P	**Pn**	**10 18 17.2**	**-1.4**
JMKN	**Mikurajimanish**	**2.42**	**309**	P	**Pn**	**10 18 18.6**	**-1.1**
BSO3	**Boso 3**	**2.66**	**335**	P	**Pn**	**10 18 21.2**	**-1.5**
JOD2	**Odawara 2**	**3.68**	**322**	P	**Pn**	**10 18 34.9**	**-2.1**
JRY	**Ryogami san**	**4.37**	**327**	P	**Pn**	**10 18 45.4**	**-1.1**
JAG	**Ashikaga**	**4.49**	**334**	P	**Pn**	**10 18 46.8**	**-1.3**
JAG				*e*S	**Sn**	**10 19 37.4**	**-1.7**
JIE	**Ise**	**4.75**	**296**	P	**Pn**	**10 18 50.8**	**-0.9**
INU	**Inuyama**	**5.00**	**308**		**Pn**	**10 18 55.2**	**+0.1**
MJAR	**Matsushiro Arr**	**5.12**	**325**	Pn	**Pn**	**10 18 55.5**	**-1.4**
0.6nm,0.3s,baz=144,slow=11,SNR=50							
MJAR				Sn	**Sn**	**10 19 51.4**	**-3.4**
0.2nm,0.3s,baz=136,slow=25,SNR=5.3							
MJAR	**Matsushiro Arr**	**5.12**	**325**		**Pn**	**10 18 55.0**	**-1.8**
MAJO	**Matsushiro**	**5.13**	**325**	*i* P	**Pn**	**10 18 55.0**	**-1.9**
MAJO	**Matsushiro**	**5.13**	**325**		**Pn**	**10 18 56.2**	**-0.7**
MAT	**Matsushiro**	**5.13**	**325**	P	**Pn**	**10 18 56.0**	**-0.9**
MAT				S	**Sn**	**10 19 54.2**	**-0.6**
MAT	**Matsushiro**	**5.13**	**325**	P	**Pn**	**10 18 56.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.13**	**325**		**Pn**	**10 18 56.2**	**-0.8**
JFT	**Otama**	**5.27**	**347**	P	**Pn**	**10 18 56.9**	**-1.9**
JFT				S	**Sn**	**10 19 54.6**	**-3.7**

CBIJ Chichi jima 5.28 177 P **Pn** **10 18 57.5 -1.5**
CBIJ *e*S **Sn** **10 19 54.4 -4.2**
JCJ Chichijima 5.28 177 Pn **Pn** **10 18 57.6 -1.5**
22nm,0.3s,baz=358,slow=21,SNR=26
JCJ Sn **Sn** **10 19 53.4 -5.3**
12nm,0.3s,baz=270,slow=20,SNR=4.0
JTNC Tanabenakahech 5.43 287 P **Pn** **10 19 00.8 -0.3**
JNS Sasagawa 5.80 340 P **Pn** **10 19 04.9 -1.3**
JMK Ichinoseki 6.57 356 P **Pn** **10 19 14.2 -2.4**
JMK *e*S **Sn** **10 20 23.3 -7.0**
JNU Nakatsue 9.28 277 Pn **Pn** **10 19 55.2 +1.3**
0.5nm,0.3s,baz=84,slow=6.6,SNR=8.4
JNU LR LR 10 23 39.5
comp=Z,374nm,18.5s,baz=110,slow=39
JNU Nakatsue 9.28 277 **Pn** **10 19 55.8 +1.9**
ERM Erimo 9.66 6 P **Pn** **10 19 57.2 -1.9**
ERM Erimo 9.66 6 Pn **Pn** **10 19 55.8 -3.3**
NMR Nemuro--Hokkai 11.38 14 P Pn 10 20 17.0 -5.5
ASAJ Asahikawa 11.72 3 Pn **Pn** **10 20 23.5 -3.8**
1.3nm,0.3s,baz=223,slow=9.3,SNR=16
JKA Kamikawa-asahi 11.72 3 **Pn** **10 20 23.5 -3.8**
KSRS Korea Array 12.50 298 Pn **Pn** **10 20 41.5 +3.6**
0.2nm,0.3s,baz=109,slow=13,SNR=6.1
VLA Vladivostok 13.29 327 *i* P **Pn** **10 20 47.4 -1.3**
USRK Ussuriysk Ar. 14.10 330 Pn **Pn** **10 20 58.2 -1.5**
baz=161,slow=13,SNR=4.8
USRK Ussuriysk Ar. 14.10 330 **Pn** **10 20 57.4 -2.2**
YSS Yuzh-Sakhalins 14.56 2 *i* P Pn 10 20 59.8 -6.1
KLR Kul'dur 18.45 339 *i* P **P** **10 21 51.0 -3.8**
KLR pmax pmax
comp=Z,6.0nm,0.9s
KLR Kul'dur 18.45 339 P **P** **10 21 51.4 -3.4**
comp=Z,0.8nm,0.3s,baz=141,slow=9.8,SNR=20
NJ2 Nanjing 19.47 275 *e*P **P** **10 22 06.0 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
YULB Yu-li 20.24 249 P **P** **10 22 13.0 -1.5**
SSLB Suanglung 20.31 250 P **P** **10 22 14.8 -0.6**
SSLB IAmb IAmb 10 22 29.2
comp=Z,16nm,0.9s
WHN Wuhan 23.52 273 P **P** **10 22 50.3 +1.2**
HIA Hailar 23.62 322 *i* P **P** **10 22 47.9 -2.1**
HIA pmax pmax
comp=Z,26nm,0.7s
PET Petropavlovsk 23.92 25 P **P** **10 22 53.7 +1.0**
PET pmax pmax
comp=Z,42nm,0.8s
TIY Taiyuan 24.61 291 *e*P **P** **10 22 58.0 -1.3**
TIY S **S** **10 27 15.6 -2.4**
TIY sS **sS** **10 27 29.1 -3.4**
TIY SS **SnSn** **10 28 11.8 +6.3**
TIY pmax pmax
comp=Z,17nm,0.9s
TIY pmax pmax
comp=Z,170nm,4.5s
TIY LR LR
comp=Z,1μm,9.8s
TIY LR LR
comp=Z,1μm,8.3s
TIY LR LR
comp=Z,3μm,9.8s
HHC Hu-ho-hao-te 25.64 298 *e*P **P** **10 23 08.9 +0.2**
XAN Xi'an 27.55 282 P **P** **10 23 23.5 -2.3**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,150nm,4.6s
DAV Davao City (W) 29.40 215 LR LR 10 34 53.2
comp=Z,115nm,19.2s,baz=88,slow=35
ULN Ulaanbaatar 30.47 311 *i* P **P** **10 23 52.1 +0.3**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 30.47 311 P **P** **10 23 52.5 +0.7**
ULN IAmb IAmb 10 23 55.1
comp=Z,9.4nm,0.9s
SONM Songino Array 30.89 310 P **P** **10 23 55.5 +0.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 30.89 310 P **P** **10 23 56.2 +0.8**
comp=Z,7.0nm,0.9s,baz=111,slow=8.7,SNR=28
SONM Songino Array 30.89 310 P **P** **10 23 55.5 +0.1**
LZH Lanzhou 31.51 287 *e*P **P** **10 24 00.5 -0.6**
LZH pP pP 10 24 09.3 -0.9
LZH sP sP 10 24 12.6 -2.7
LZH *e*PP **PnPn** **10 25 03.8 -1.3**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.2s
LZH LR LR
comp=Z,220nm,12.9s
LZH LR LR
comp=Z,240nm,13.0s
BOD Bodaibo 31.72 332 *e*P **P** **10 24 01.8 -0.7**
BOD pmax pmax
comp=Z,29nm,2.0s
CD2 Chengdu 32.36 278 P **P** **10 24 06.6 -1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ZAK Zakamensk 33.60 314 *e*P **P** **10 24 18.5 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 33.80 316 *i* P **P** **10 24 19.9 -0.8**
TLY pmax pmax
comp=Z,8.0nm,1.0s
TLY Talaya 33.80 316 P **P** **10 24 22.3 +1.6**
TLY IAmb IAmb 10 24 25.1
comp=Z,10nm,1.1s
GTA Gaotai 34.53 294 P **P** **10 24 25.9 -1.5**
GTA pP pP 10 24 35.3 -1.2
GTA sP sP 10 24 39.1 -2.3
PBKT Sadao Pong 40.14 257 P **P** **10 25 13.5 -1.5**
PBKT IAmb IAmb 10 25 14.1
comp=Z,6.6nm,1.1s
DGZ Jazzator, Alta 43.53 310 *i* P **P** **10 25 42.8 +0.3**
ZAA0 Zalesovo Array 45.41 316 P **P** **10 25 56.3 -0.9**
ZAA0 IAmb IAmb 10 25 57.7
comp=Z,5.1nm,1.0s
ZALV Zalesovo Beam 45.41 316 P **P** **10 25 56.9 -0.4**
comp=Z,2.1nm,0.5s,baz=104,slow=6.3,SNR=8.5
MTN Manton Dam 46.13 195 P **P** **10 26 03.7 +0.4**
MK31 Makanchi Array 47.02 306 P **P** **10 26 10.4 +0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 47.02 306 P **P** **10 26 10.4 +0.3**
MK31 IAmb IAmb 10 26 12.8
comp=Z,5.4nm,0.8s
MKAR Makanchi Array 47.02 306 *i* P **P** **10 26 10.5 +0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 47.02 306 P **P** **10 26 10.2 +0.1**
comp=Z,5.6nm,0.7s,baz=89,slow=9.0,SNR=33
MKAR Makanchi Array 47.02 306 P **P** **10 26 10.4 +0.4**
KURK Kurchatov 49.18 311 *i* P **P** **10 26 25.7 -0.9**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 49.18 311 P **P** **10 26 26.2 -0.5**
KURK IAmb IAmb 10 26 29.8
comp=Z,6.1nm,0.9s
KURBB Kurchatov Arra 49.24 311 P **P** **10 26 26.6 -0.6**
comp=Z,2.7nm,0.5s,baz=88,slow=7.3,SNR=18
KNRA Kununurra 49.41 197 P **P** **10 26 28.6 -0.1**
IMAR Indian Mountai 50.50 29 P **P** **10 26 37.7 +1.3**
TARG Taragay, Kyrgy 50.91 300 P **P** **10 26 40.8 +0.4**
WRAB Tennant Creek 52.52 189 P **P** **10 26 52.1 +0.1**
WRAB pmax pmax
comp=Z,26nm,0.9s
WRAB Tennant Creek 52.52 189 P **P** **10 26 52.1 +0.1**
WB2 Warramunga Arr 52.53 189 P **P** **10 26 52.2 +0.2**
WB2 IAmb IAmb 10 27 06.4
comp=Z,3.6nm,0.8s
WRA Warramunga Arr 52.53 189 P **P** **10 26 51.4 -0.7**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 52.53 189 P **P** **10 26 52.0 -0.1**
comp=Z,10nm,0.6s,baz=5.6,slow=7.6,SNR=115
WRA Warramunga Arr 52.53 189 P **P** **10 26 51.4 -0.7**
FITZ Fitzroy Crossi 52.55 200 P **P** **10 26 52.3 +0.1**
comp=Z,4.1nm,0.8s,baz=13,slow=5.7,SNR=6.8
FITZ Fitzroy Crossi 52.55 200 P **P** **10 26 52.6 +0.4**
FITZ IAmb IAmb 10 27 07.1
comp=Z,7.9nm,1.0s
KSH Kashi 52.76 298 P **P** **10 26 56.6 +2.7**
KSH pP sP 10 27 06.5 -1.6
KSH PP **PP** **10 28 57.1 +3.9**

KSH			S	**S**	**10 34 21.1 +1.7**
KSH			sS	sS	10 34 37.6 +0.6
KSH			SS	**SS**	**10 37 59.8 +1.7**
KSH			pmax	pmax	
comp=Z,380nm,6.2s					
KSH			LR	LR	
comp=Z,700nm,11.8s					
KSH			LR	LR	
comp=Z,570nm,11.1s					
KSH			LR	LR	
comp=Z,410nm,10.7s					
AAK	**Ala-Archa**	**53.13 302**	*i* P	**P**	**10 26 56.1 -0.5**
AAK			pmax	pmax	
comp=Z,1.0nm,0.9s					
ILAR	**Eielson Array**	**53.26 30**	P	**P**	**10 26 58.1 +1.1**
ILAR	**Eielson Array**	**53.26 30**	P	**P**	**10 26 57.8 +0.7**
comp=Z,1.3nm,0.9s,baz=264,slow=6.1,SNR=12					
ILAR	**Eielson Array**	**53.26 30**	P	**P**	**10 26 58.1 +1.1**
BRVK	**Borovoye**	**54.10 315**	P	**P**	**10 27 04.1 +0.8**
BRVK			pmax	pmax	
comp=Z,4.0nm,0.6s					
BRVK	**Borovoye**	**54.10 315**	P	**P**	**10 27 04.1 +0.8**
BRVK			IAmb	IAmb	10 27 07.8
comp=Z,4.0nm,0.6s					
SCRK	**Sand Creek**	**54.53 31**	P	**P**	**10 27 08.2 +1.7**
SCRK			IAmb	IAmb	10 27 21.6
comp=Z,3.4nm,1.1s					
ARSB	**Arslanbob**	**54.53 300**	P	**P**	**10 27 06.1 -0.7**
ARSB			IAmb	IAmb	10 27 20.6
comp=Z,8.0nm,1.1s					
KK31	**Karatay Array**	**55.87 303**	P	**P**	**10 27 16.8 +0.5**
KK31			pmax	pmax	
comp=Z,12nm,1.1s					
KK31	**Karatay Array**	**55.87 303**	P	**P**	**10 27 16.8 +0.5**
KKAR	**Karatay Array**	**55.87 303**	P	**P**	**10 27 17.1 +0.8**
KKAR			pmax	pmax	
comp=Z,12nm,1.1s					
KKAR	**Karatay Array**	**55.87 303**	P	**P**	**10 27 16.1 -0.2**
KKAR	**Karatay Array**	**55.87 303**	P	**P**	**10 27 17.1 +0.8**
KKAR			IAmb	IAmb	10 27 17.2
comp=Z,12nm,1.1s					
AS31	**Alice Springs**	**56.25 189**	P	**P**	**10 27 19.8 +0.6**
ASAR	**Alice Springs**	**56.26 189**	P	**P**	**10 27 19.7 +0.5**
ASAR	**Alice Springs**	**56.26 189**	P	**P**	**10 27 19.4 +0.3**
comp=Z,1.2nm,0.6s,baz=19,slow=11,SNR=26					
ASAR	**Alice Springs**	**56.26 189**	P	**P**	**10 27 19.7 +0.5**
NIL	**Nilore**	**56.53 291**	P	**P**	**10 27 20.9 -0.3**
NIL			pmax	pmax	
comp=Z,9.0nm,0.8s					
NIL	**Nilore**	**56.53 291**	P	**P**	**10 27 20.9 -0.3**
NIL			IAmb	IAmb	10 27 22.3
comp=Z,8.6nm,0.8s					
HMH	**Humu'ula Sheep**	**57.03 86**	P	**P**	**10 27 27.1 +1.9**
GAR	**Garm**	**57.12 298**	P	**P**	**10 27 26.5 +1.1**
EPYK	**Eagle Plains**	**57.40 28**	P	**P**	**10 27 29.6 +2.8**
EPYK			IAmb	IAmb	10 27 30.0
comp=Z,9.1nm,1.1s					
CHGR	**Chuyangaron**	**58.09 298**	P	**P**	**10 27 32.3 +0.1**
INK	**Inuvik**	**58.37 26**	P	**P**	**10 27 34.9 +1.3**
comp=Z,1.4nm,0.6s,baz=291,slow=4.6,SNR=11					
INK	**Inuvik**	**58.37 26**	P	**P**	**10 27 34.8 +1.3**
SVE	**Sverdlovsk**	**58.92 321**	*eP*	**P**	**10 27 37.6 +0.1**
ARU	**Arti**	**60.13 320**	*d iP*	**P**	**10 27 45.3 -0.6**
ARU					10 29 54.5
ARU			S	**S**	**10 35 55.7 -0.5**
ARU			pmax	pmax	
comp=Z,15nm,1.1s					
ARU	**Arti**	**60.13 320**	P	**P**	**10 27 45.2 -0.7**
ABKAR	**Akbulak array**	**61.27 312**	P	**P**	**10 27 53.9 +0.1**
ABKAR	**Akbulak array**	**61.27 312**	P	**P**	**10 27 54.2 +0.4**
ABKAR			IAmb	IAmb	10 27 54.7
comp=Z,3.3nm,0.9s					
STKA	**Stephens Creek**	**63.92 180**	P	**P**	**10 28 12.6 +1.1**
STKA			pmax	pmax	
comp=Z,1.0nm,1.2s					
STKA	**Stephens Creek**	**63.92 180**	P	**P**	**10 28 12.5 +1.0**
comp=Z,1.9nm,0.7s,baz=15,slow=5.9,SNR=3.9					
STKA	**Stephens Creek**	**63.92 180**	P	**P**	**10 28 12.6 +1.1**
RES	**Resolute Bay**	**67.00 14**	P	**P**	**10 28 32.3 +1.4**
RES			pmax	pmax	
comp=Z,5.0nm,1.1s					
RES	**Resolute Bay**	**67.00 14**	P	**P**	**10 28 32.3 +1.4**
RES			IAmb	IAmb	10 28 34.3
comp=Z,5.1nm,1.1s					
YKA	**Yellowknife Ar**	**67.65 29**	P	**P**	**10 28 36.1 +0.9**
comp=Z,0.4nm,0.5s,baz=304,slow=6.3,SNR=4.2					
OBN	**Obninsk**	**72.05 324**	*eP*	**P**	**10 29 00.0 -2.4**
OBN			pmax	pmax	
comp=Z,7.0nm,0.8s					
PINE	**Pine Mountain**	**73.09 49**	P	**P**	**10 29 11.0 +1.9**
PINE			IAmb	IAmb	10 29 15.2
comp=Z,5.9nm,1.1s					
FINES	**FINESS Array B**	**73.10 333**	P	**P**	**10 29 08.9 +0.4**
FINES	**FINESS Array B**	**73.10 333**	P	**P**	**10 29 08.6 +0.1**
comp=Z,9.3nm,1.2s,baz=36,slow=7.1,SNR=8.3					
FINES	**FINESS Array B**	**73.10 333**	P	**P**	**10 29 08.9 +0.4**
KBZ	**Khabaz**	**74.24 312**	P	**P**	**10 29 16.2 +0.7**
comp=Z,3.5nm,0.8s,baz=53,slow=6.7,SNR=8.6					
KIV	**Kislovodsk**	**74.26 312**	*i* P	**P**	**10 29 15.5 -0.3**
KIV			pmax	pmax	
comp=Z,23nm,1.1s					
GNI	**Garni**	**74.81 308**	*i* P	**P**	**10 29 18.3 -0.9**
GNI			pmax	pmax	
comp=Z,30nm,1.5s					
YERR	**Yerington**	**76.58 52**	P	**P**	**10 29 31.4 +2.0**
SCO	**Scoresbysund**	**76.76 354**	P	**P**	**10 29 31.6 +2.1**
SCO			pmax	pmax	
comp=Z,3.0nm,1.1s					
SCO	**Scoresbysund**	**76.76 354**	P	**P**	**10 29 31.6 +2.1**
DLMT	**Dillon**	**77.39 44**	P	**P**	**10 29 36.1 +2.4**
DLMT			IAmb	IAmb	10 29 36.7
comp=Z,2.6nm,0.9s					
NVAR	**Mina Array Bea**	**77.50 52**	P	**P**	**10 29 36.5 +2.0**
comp=Z,0.6nm,0.7s,baz=269,slow=4.7,SNR=4.3					
NVAR	**Mina Array Bea**	**77.50 52**	P	**P**	**10 29 36.2 +1.6**
BOZ	**Bozeman (W)**	**77.83 44**	P	**P**	**10 29 38.4 +2.2**
BOZ			pmax	pmax	
comp=Z,2.0nm,1.1s					
BOZ	**Bozeman (W)**	**77.83 44**	P	**P**	**10 29 38.4 +2.2**
AKASG	**Malin Array Be**	**78.21 323**	P	**P**	**10 29 37.7 -0.2**
AKASG			pmax	pmax	
comp=Z,3.0nm,1.5s					
AKASG	**Malin Array Be**	**78.21 323**	P	**P**	**10 29 37.5 -0.4**
comp=Z,1.2nm,0.5s,baz=54,slow=5.3,SNR=5.6					
AKASG	**Malin Array Be**	**78.21 323**	P	**P**	**10 29 37.7 -0.2**
NB2	**NORSAR Subarra**	**78.61 338**	P	**P**	**10 29 40.1 0.0**
comp=Z,4.7nm,0.9s,baz=42,slow=5.9					
NOA	**NORSAR Array B**	**78.61 338**	P	**P**	**10 29 40.3 +0.3**
comp=Z,2.3nm,0.8s,baz=38,slow=5.4,SNR=5.0					
HVU	**Hansel Valley**	**79.27 47**	P	**P**	**10 29 47.1 +2.9**
HVU			pmax	pmax	
comp=Z,3.0nm,0.7s					
HVU	**Hansel Valley**	**79.27 47**	P	**P**	**10 29 47.1 +2.9**
TPAW	**Teton Pass**	**79.42 45**	P	**P**	**10 29 48.5 +3.3**
DUG	**Dugway, Tooele**	**80.13 49**	P	**P**	**10 29 50.9 +2.0**
DUG			pmax	pmax	
comp=Z,4.0nm,1.0s					
DUG	**Dugway, Tooele**	**80.13 49**	P	**P**	**10 29 50.9 +2.0**
DUG			IAmb	IAmb	10 29 52.4
comp=Z,3.6nm,1.0s					
PDAR	**Pinedale Array**	**80.67 45**	P	**P**	**10 29 53.5 +1.6**
comp=Z,0.5nm,0.6s,baz=305,slow=5.2,SNR=4.2					
PDAR	**Pinedale Array**	**80.67 45**	P	**P**	**10 29 53.1 +1.2**
MSU	**Marysvale**	**81.49 50**	P	**P**	**10 29 59.0 +2.7**
MSU	**Marysvale**	**81.49 50**	P	**P**	**10 29 59.0 +2.7**
Q16A	**Castle Valley**	**81.90 49**	P	**P**	**10 30 01.4 +3.0**
BURAR	**Bucovina Array**	**82.19 322**	P	**P**	**10 30 00.4 +0.8**
SRU	**San Rafael Swe**	**82.20 48**	P	**P**	**10 30 02.3 +2.3**
SRU			pmax	pmax	
comp=Z,5.0nm,0.6s					
SRU	**San Rafael Swe**	**82.20 48**	P	**P**	**10 30 02.3 +2.3**
BRTR	**Keskin Array B**	**82.22 312**	P	**P**	**10 30 01.3 +1.3**
BRTR	**Keskin Array B**	**82.22 312**	P	**P**	**10 30 00.2 +0.2**
comp=Z,1.8nm,0.8s,baz=116,slow=3.3,SNR=10					
BRTR	**Keskin Array B**	**82.22 312**	P	**P**	**10 30 01.3 +1.3**
KOLS	**Kolonicke sedl**	**82.80 325**	*eP*	**P**	**10 30 03.7 +1.0**
KOLS	**Kolonicke sedl**	**82.80 325**	*eP*	**P**	**10 30 03.7 +1.0**
PV21	**Cone Mtn., Par**	**83.50 48**	P	**P**	**10 30 08.5 +1.7**
PV21			IAmb	IAmb	10 30 13.0
comp=Z,5.2nm,0.7s					
KRLC	**Kraliky**	**84.58 328**	*eP*	**P**	**10 30 12.2 +0.4**
KRLC	**Kraliky**	**84.58 328**	*eP*	**P**	**10 30 12.2 +0.4**
DPC	**Dobruska-Polom**	**84.59 328**	*eP*	**P**	**10 30 12.6 +0.8**
DPC	**Dobruska-Polom**	**84.59 328**	*eP*	**P**	**10 30 12.6 +0.8**
VYHS	**Vyhne**	**84.76 326**	*eP*	**P**	**10 30 13.8 +1.1**
VYHS	**Vyhne**	**84.76 326**	*eP*	**P**	**10 30 13.8 +1.1**
MMAI	**Mount Meron Ar**	**84.97 306**	LR	LR	11 09 53.3
comp=Z,99nm,19.3s,baz=20,slow=37					
CLL	**Collm**	**85.31 331**	*i* P	**P**	**10 30 15.3 0.0**
CLL			pmax	pmax	
comp=Z,8.0nm,1.0s					
CLL	**Collm**	**85.31 331**	*i* P	**P**	**10 30 15.3 0.0**
comp=Z,8.0nm,1.0s					
SMOL	**Smolenice**	**85.41 327**	*eP*	**P**	**10 30 16.3 +0.4**
SMOL	**Smolenice**	**85.41 327**	*eP*	**P**	**10 30 16.3 +0.4**
ATD	**Arta Tunnel**	**91.38 284**	LR	LR	11 14 34.8
comp=Z,108nm,19.1s,baz=40,slow=37					
TXAR	**Lajitas Array**	**92.65 53**	P	**P**	**10 30 52.4 +1.6**
comp=Z,1.0nm,0.8s,baz=304,slow=3.3,SNR=9.2					
TXAR	**Lajitas Array**	**92.65 53**	P	**P**	**10 30 52.0 +1.3**
TORD	**Torodi Ar. Bea**	**120.82 313**	PKP	**PKPdf**	**10 36 31.3 0.0**
comp=Z,0.4nm,0.4s,baz=32,slow=2.6,SNR=3.3					
TORD	**Torodi Ar. Bea**	**120.82 313**	PKPdf	**PKiKP**	**10 36 31.6 +0.2**
ABVI	**Anegada Island**	**123.32 30**	PKPdf	**PKPdf**	**10 36 33.9 -2.1**
LPAZ	**La Paz**	**148.47 67**	PKP2	**PKiKP**	**10 37 28.4 +0.4**
LPAZ	**La Paz**	**148.47 67**	PKPbc	**PKiKP**	**10 37 27.4 -0.6**
comp=Z,2.4nm,0.8s,baz=5.0,slow=4.9,SNR=8.6					
LPAZ	**La Paz**	**148.47 67**		**PKiKP**	**10 37 28.4 +0.4**
PB11	**IPOC Station P**	**149.15 74**	PKPbc	**PKiKP**	**10 37 29.2 +0.5**
GO01	**Chusmiza**	**149.47 73**	PKPbc	**PKiKP**	**10 37 30.8 +1.0**

SKHL ***24*** *10:20:24.1±0.3, 52°.12N×142°.41E, h10km, mb5.1/19, Ms5.0/4*
SKHL Felt (II-III) at Mgachi, Nysh, Argi-Pagi. Felt (II-III) at Nikolayevsk-na-Amure, Aleksandrovsk-Sakhalinsky, Nogliki, Tymovskoye.
BJI ***24*** *10:20:26.6±0.0, 52°.29N×142°.40E, h23km, mb4.7/58, mB5.1/47, Ms5.1/57, Ms7 4.9/52*
MOS ***24*** *10:20:26.9±0.9, 52°.08N×142°.28E, h17km, mb5.1/58, MS4.3/7, Error ellipse: s-maj=7.2km s-min=3.9km az=89.6*
MOS Felt (II-III) at Nogliki, Nysh, Argi-Pagi, Tymovskoye, Aleksandrovsk-Sakhalinskiy, Mgachi, Nikolayevsk-na-Amure.
IDC ***24*** *10:20:26.3±0.3, 52°.12N×142°.26E, h0km, mb4.8/34, mb1 4.9/41, mb1mx4.7/58, mbtmp4.7/41, ML3.8/5, MS3.9/21, Ms1 3.9/21, ms1mx3.7/42, Error ellipse: s-maj=11.2km s-min=8.3km az=128.0*
ISCJB ***24*** *10:20:27.2±0.7, 52°.07N±0°.02×142°.21E±0°.03, h15km±5km, mb5.0/111, MS4.3/29, Error ellipse: s-maj=3.7km s-min=2.5km az=154.3*
NEIC ***24*** *10:20:28.4±1.5, 52°.09N±0°.05×142°.2E±0°.1, h12km±3km, mb5.0/284*
GCMT ***24*** *10:20:29.4±0.3, 52°.02N±0°.03×142°.10E±0°.03, h20km, MW4.9/82, Moment Tensor Solution. s35,c38; s82,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.43±.15; $M_{\theta\theta}$0.27±.11; $M_{\phi\phi}$-2.70±.10; $M_{r\theta}$0.56±.23; $M_{\phi\phi}$0.83±.06; $M_{\phi r}$-0.29±.17; Best double couple: $M_0$2.75800×10^{16} NP1:ϕ_s153.00000°, δ51.00000°, λ74.00000°. NP2: ϕ_s358.00000°, δ42.00000°, λ109.00000°. Principal axes: T 2.5680, Plg77.0000°, Azm4.0000°; N 0.3810, Plg13.0000°, Azm164.0000°; P -2.9490, Plg4.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 10:20:28.5±0.6, 52°.13N±0°.02×142°.27E±0°.03, h13km±3km, n696, σ1$26/660, mb5.0/234, MS4.3/30, 28C-18D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.29**	**169**	*e*PN	**Pn**	**10 20 50.6**	**-1.7**
TYV				*e*S	**Sb**	**10 21 05.2**	**-4.0**
TYV				pmax	pmax		
comp=Z,3μm,0.5s							
TYV				smax	smax		
comp=N,9μm,1.1s							
TYV				smax	smax		
comp=N,32μm,2.7s							
TYV	**Tymovskoe**	**1.29**	**169**	*e*Pg	**Pn**	**10 20 50.4**	**-1.9**
TYV				AMB	AMB	10 20 51.4	
comp=N,3μm,0.5s							
TYV				*e*Sg	**Sb**	**10 21 08.8**	**-0.4**
TYV				A	A	10 21 09.0	
comp=N,12μm,0.5s							
TYV				AMS	AMS	10 21 31.1	
comp=N,46μm,8.0s							
TYV				AMS	AMS	10 21 31.1	
comp=N,47μm,8.0s							
TYV				AMS	AMS	10 21 31.1	
comp=N,42μm,8.0s							
NKL	**Nikolayevsk**	**1.41**	**317**	*c iP*N	**Pn**	**10 20 53.5**	**-0.3**
NKL				*e*S	**Sg**	**10 21 14.2**	**+0.4**
NKL				pmax	pmax		
comp=Z,3μm,0.5s							
NKL				pmax	pmax		
comp=N,283nm,0.3s							
NKL				pmax	pmax		
comp=E,2μm,0.4s							
NKL				smax	smax		
comp=N,13μm,0.3s							
NKL				smax	smax		
comp=E,13μm,0.4s							
NKL	**Nikolayevsk**	**1.41**	**317**	*i* Pg	**Pn**	**10 20 53.6**	**-0.3**
NKL				AMB	AMB	10 20 57.8	
comp=E,81μm,0.5s							
NKL				*e*Sg	**Sg**	**10 21 14.5**	**+0.7**
NKL				A	A	10 21 14.9	
comp=E,8μm,0.4s							
NKL				A	A	10 21 14.9	
comp=E,20μm,0.4s							
OKH	**Okha**	**1.48**	**16⇑**	*i*PN	**Pb**	**10 20 56.4**	**+0.6**
OKH				*i* S	**Sg**	**10 21 17.6**	**+1.6**
OKH				pmax	pmax		
comp=Z,6μm,0.4s							
OKH				smax	smax		
comp=N,26μm,0.8s							
OKH				smax	smax		
comp=E,59μm,0.8s							
OKH	**Okha**	**1.48**	**16**	*i* Pg	**Pb**	**10 20 56.4**	**+0.6**
OKH				AMB	AMB	10 20 56.9	
comp=E,6μm,0.6s							
OKH				*i* Sg	**Sg**	**10 21 18.8**	**+2.8**
OKH				A	A	10 21 19.9	
comp=E,26μm,0.8s							
OKH				A	A	10 21 19.9	
comp=E,59μm,0.8s							
OKH				AMS	AMS	10 22 19.3	
comp=E,64μm,6.0s							
OKH				AMS	AMS	10 22 19.3	
comp=E,85μm,6.0s							
OKH				AMS	AMS	10 22 19.3	
comp=E,49μm,6.0s							
UGL	**Uglegorsk**	**3.06**	**183**	*e*PN	**Pn**	**10 21 15.6**	**-0.9**
UGL				*e*S	**Sn**	**10 21 49.5**	**-3.5**
UGL				pmax	pmax		
comp=Z,85nm,0.5s							
UGL				smax	smax		
comp=N,2μm,1.1s							
UGL				smax	smax		
comp=N,3μm,2.0s							
UGL				MLR	MLR		
comp=Z,9μm,8.0s							
UGL				MLR	MLR		
comp=N,10μm,11.0s							
UGL	**Uglegorsk**	**3.06**	**183**	*e*P	**Pn**	**10 21 15.0**	**-1.6**
UGL				AMB	AMB	10 21 17.0	
comp=N,104nm,0.9s							
UGL				*e*Pg	**Pb**	**10 21 24.3**	**+1.5**
UGL				AMB	AMB	10 21 25.8	
comp=N,508nm,0.8s							
UGL				*e*S	**Sn**	**10 21 50.9**	**-2.1**
UGL				A	A	10 21 52.9	
comp=N,1μm,0.6s							
UGL				A	A	10 21 52.9	
comp=N,2μm,0.6s							
UGL				*e*Sg	**Sg**	**10 22 09.5**	**+2.8**
UGL				A	A	10 22 11.9	
comp=N,4μm,0.8s							
UGL				AMS	AMS	10 23 01.7	
comp=N,11μm,13.0s							
UGL				AMS	AMS	10 23 01.7	
comp=N,16μm,13.0s							
UGL				AMS	AMS	10 23 01.7	
comp=N,7μm,13.0s							
GRNR	**Gornyy**	**3.91**	**252**	*e*PN	Pn	10 21 15.0	-13
GRNR				*e*		10 22 23.8	
GRNR				smax	smax		
comp=E,800nm,0.6s							
GRNR				MLR	MLR		
comp=Z,12μm,12.0s							
GRNR	**Gornyy**	**3.91**	**252**	*e*P	**Pn**	**10 21 26.5**	**-1.7**
GRNR				AMB	AMB	10 21 28.0	
comp=Z,24nm,0.4s							
GRNR				*e*Pg	**Pb**	**10 21 38.5**	**+1.3**
GRNR				AMB	AMB	10 22 38.7	
comp=Z,160nm,0.5s							
YSS	**Yuzh-Sakhalins**	**5.19**	**176**	*e*PN	**Pn**	**10 21 45.9**	**0.0**
YSS				*e*		10 22 54.0	
YSS				pmax	pmax		
comp=Z,130nm,0.8s							
YSS				MLR	MLR		
comp=Z,5μm,11.0s							
YSS	**Yuzh-Sakhalins**	**5.19**	**176**	*e*P	**Pn**	**10 21 44.9**	**-1.0**
YSS				AMB	AMB	10 21 46.8	
comp=Z,136nm,0.9s							
YSS				*e*Pg	**Pg**	**10 22 06.6**	**-1.3**
YSS				AMB	AMB	10 22 07.0	
comp=Z,186nm,0.6s							
YSS				*e*Sg	**Sg**	**10 23 17.3**	**+2.2**
YSS				A	A	10 23 22.0	
comp=Z,164nm,0.7s							
YSS				AMS	AMS	10 24 15.0	
comp=Z,3μm,10.0s							
YSS				AMS	AMS	10 24 15.0	
comp=Z,3μm,10.0s							
YSS				AMS	AMS	10 24 15.0	
comp=Z,5μm,10.0s							
YSS	**Yuzh-Sakhalins**	**5.19**	**176**		**Pn**	**10 21 45.5**	**-0.3**
EKMR	**Ekimchan**	**5.76**	**283**	*e*P	**Pn**	**10 21 52.8**	**-0.9**
EKMR				AMB	AMB	10 21 53.6	
comp=Z,21nm,0.8s							
EKMR				*e*Pg	**Pg**	**10 22 14.0**	**-4.7**
EKMR				AMB	AMB	10 22 17.8	
comp=Z,300nm,0.6s							
EKMR				*e*S	**Sn**	**10 23 00.0**	**+0.4**
EKMR				*e*Sg	**Sg**	**10 23 29.5**	**-3.7**
EKMR				A	A	10 23 30.2	
comp=Z,1μm,0.9s							
EKMR				A	A	10 23 30.2	
comp=Z,320nm,0.9s							
KLR	**Kul'dur**	**7.29**	**251**	*i* PN	**Pn**	**10 22 14.3**	**-0.3**
KLR	**Kul'dur**	**7.29**	**251**	Pn	**Pn**	**10 22 14.0**	**-0.7**
comp=Z,1.8nm,0.3s,baz=69,slow=12,SNR=12							
KLR				Pg	**Pb**	**10 22 38.9**	**+4.1**
comp=Z,6.1nm,0.3s,baz=65,slow=18,SNR=13							
KLR				Lg	Lg	10 24 11.8	
comp=Z,17nm,0.3s,baz=143,slow=20,SNR=4.9							
ASAJ	**Asahikawa**	**8.02**	**178**	Pn	**Pn**	**10 22 25.4**	**+0.7**
comp=Z,1.4nm,0.3s,baz=48,slow=16,SNR=6.1							
ASAJ				Sn	**Sn**	**10 23 52.3**	**-3.0**
baz=288,slow=20,SNR=1.9							
ASAJ				LR	LR	10 26 05.0	
comp=Z,2μm,18.1s,baz=26,slow=42							
JKA	**Kamikawa-asahi**	**8.03**	**178**		**Pn**	**10 22 25.4**	**+0.7**
JKA					**Sn**	**10 23 52.3**	**-3.0**
TEY	**Ternei**	**8.03**	**210⇓**	*e*PN	**Pn**	**10 22 24.1**	**-0.7**
TEY				pmax	pmax		
comp=E,30nm,0.5s							
TEY				pmax	pmax		
comp=Z,50nm,0.5s							
TEY				pmax	pmax		
comp=N,40nm,0.6s							
TEY				MLR	MLR		
comp=E,3μm,3.0s							
TEY				MLR	MLR		
comp=N,4μm,11.0s							
TEY				MLR	MLR		
comp=Z,7μm,9.0s							
TEY	**Ternei**	**8.03**	**210**	*e*P	**Pn**	**10 22 23.8**	**-1.0**
TEY				AMB	AMB	10 22 24.8	
comp=Z,50nm,0.5s							
TEY				*e*Sg	**Sg**	**10 24 49.5**	**+3.5**
TEY				A	A	10 24 50.3	
comp=Z,518nm,0.8s							
BMKR	**Bomnak**	**8.43**	**293**	*e*P	**Pn**	**10 22 32.6**	**+2.4**
BMKR				AMB	AMB	10 22 46.0	
comp=Z,37nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**8.45**	**162**	*i* PN	**Pn**	**10 22 29.3**	**-1.2**
MA2	**Magadan**	**8.85**	**29**	*c e*PN	**Pn**	**10 22 36.6**	**+0.6**
MA2				pmax	pmax		
comp=Z,21nm,1.0s							
MA2	**Magadan**	**8.85**	**29**	Pn	**Pn**	**10 22 36.8**	**+0.8**
comp=Z,1.5nm,0.3s,baz=218,slow=13,SNR=8.0							
MA2				Sn	**Sn**	**10 24 11.0**	**-4.5**
comp=Z,0.9nm,0.3s,baz=252,slow=20,SNR=2.1							
MA2	**Magadan**	**8.85**	**29**		**Pn**	**10 22 36.6**	**+0.6**
MA2					**Sn**	**10 24 14.6**	**-0.9**
ZEA	**Zeya**	**9.22**	**286**	*e*PN	**Pn**	**10 22 42.8**	**+1.8**
ZEA				pmax	pmax		
comp=E,29nm,0.6s							
ZEA				pmax	pmax		
comp=Z,97nm,0.8s							
ZEA				MLR	MLR		
comp=Z,3μm,9.0s							
ZEA	**Zeya**	**9.22**	**286**	*e*P	**Pn**	**10 22 43.3**	**+2.3**
ZEA				AMB	AMB	10 22 44.1	
comp=Z,3.0nm,0.6s							
ZEA				*e*Sg	Sn	10 25 19.4	+55
ZEA				A	A	10 25 45.0	
comp=Z,2μm,1.0s							
PEA0B	**Petropavlovsk-**	**9.44**	**78**	PN	**Pn**	**10 22 44.1**	**0.0**
PEA0B	**Petropavlovsk-**	**9.44**	**78**		**Pn**	**10 22 44.1**	**0.0**
PETK	**Petropavlovsk-**	**9.44**	**78**	PN	**Pn**	**10 22 43.8**	**-0.3**
PETK	**Petropavlovsk-**	**9.44**	**78**	Pn	**Pn**	**10 22 43.6**	**-0.4**
comp=Z,1.3nm,0.3s,baz=275,slow=6.9,SNR=29							
PETK				Sn	**Sn**	**10 24 26.5**	**-3.5**
comp=Z,0.7nm,0.3s,baz=268,slow=22,SNR=2.9							
PETK	**Petropavlovsk-**	**9.44**	**78**		**Pn**	**10 22 43.8**	**-0.3**
PETK					**Sn**	**10 24 27.0**	**-3.0**
KROS	**Kirovskiy**	**9.45**	**290**	*e*P	**Pn**	**10 22 46.8**	**+2.5**
KROS				AMB	AMB	10 22 56.3	
comp=Z,71nm,0.4s							
KROS				*e*Sg	Sn	10 25 25.0	+55
PET	**Petropavlovsk**	**10.02**	**78**	*e*PN	**Pn**	**10 22 52.6**	**+0.7**
PET				pmax	pmax		
comp=Z,28nm,0.4s							
PET				MLR	MLR		
comp=Z,2μm,13.0s							
PET				MLR	MLR		
comp=Z,2μm,13.0s							
PET	**Petropavlovsk**	**10.02**	**78**	*e*P	**Pn**	**10 22 52.6**	**+0.7**
PET				AMB	AMB	10 23 00.0	
comp=Z,32nm,1.0s							
PET				*e*S	**Sn**	**10 24 47.2**	**+3.1**
PET				A	A	10 24 50.3	
comp=Z,67nm,0.9s							
PET	**Petropavlovsk**	**10.02**	**78**		**Pn**	**10 22 54.8**	**+2.9**
ERM	**Erimo**	**10.14**	**176**	*i* PN	**Pn**	**10 22 52.5**	**-1.2**
USA0B	**Ussuriysk Arra**	**10.49**	**225**	PN	**Pn**	**10 22 59.2**	**+0.8**
USA0B	**Ussuriysk Arra**	**10.49**	**225**		**Pn**	**10 22 59.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.49**	**225**	PN	**Pn**	**10 22 59.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.49**	**225**	Pn	**Pn**	**10 22 57.5**	**-1.0**
baz=31,slow=15,SNR=15							
USRK				Lg	Lg	10 25 57.5	
baz=32,slow=30,SNR=11							
USRK				LR	LR	10 27 26.6	
comp=Z,1μm,20.2s,baz

YAK				MLR	MLR	
	comp=Z,580nm,14.0s					
YAK				MLR	MLR	
	comp=E,371nm,13.0s					
YAK				MLR	MLR	
	comp=N,411nm,14.0s					
YAK	**Yakutsk**	**12.03**	**330**		**Pn**	**10 23 18.8 -0.7**
SEY	**Seymchan**	**12.09**	**23⇑**	*e*PN	**Pn**	**10 23 21.5 +1.2**
SEY	**Seymchan**	**12.09**	**23**	Pn	**Pn**	**10 23 21.8 +1.5**
	comp=N,1.4nm,0.3s,baz=201,slow=10.0,SNR=28					
SEY				Sn	**Sn**	**10 25 31.1 -3.8**
	comp=N,0.8nm,0.3s,baz=311,slow=19,SNR=5.9					
MSHR	**Mys Shultsa**	**12.15**	**223**	*i* PN	**Pn**	**10 23 21.8 +0.5**
CN2	**Changchun**	**13.99**	**240**	*e*P	**Pn**	**10 23 49.5 +3.2**
CN2				*e*S	**Sn**	**10 26 23.9 +2.5**
CN2				pmax	pmax	
	comp=N,10.0nm,1.0s					
CN2				pmax	pmax	
	comp=N,200nm,4.0s					
CN2				LR	LR	
	comp=N,2μm,10.0s					
CN2				LR	LR	
	comp=N,2μm,10.0s					
CN2				LR	LR	
	comp=N,3μm,10.0s					
HIA	**Hailar**	**14.55**	**268**	P	**P**	**10 23 57.8 -2.7**
HIA	**Hailar**	**14.55**	**268**	P	**P**	**10 23 57.8 -2.7**
MAJO	**Matsushiro**	**15.85**	**192**	*i* P	**Pn**	**10 24 10.7 -0.6**
MAJO				pmax	pmax	
	comp=Z,19nm,0.9s					
MJAR	**Matsushiro Arr**	**15.85**	**192**	P	**P**	**10 24 13.2 -1.8**
MJAR				pmax	pmax	
	comp=Z,4.0nm,0.9s					
MJAR	**Matsushiro Arr**	**15.85**	**192**	Pn	**P**	**10 24 15.1 0.0**
	comp=Z,0.1nm,0.3s,baz=14,slow=15,SNR=8.0					
MJAR				LR	LR	10 29 36.9
	comp=Z,236nm,21.6s,baz=0.0,slow=35					
MJAR	**Matsushiro Arr**	**15.85**	**192**	P	**P**	**10 24 13.2 -1.8**
SNY	**Shenyang**	**16.35**	**238**	⇑P	**P**	**10 24 25.5 +5.0**
SNY				S	**S**	**10 27 32.5 +1.2**
SNY				pmax	pmax	
	comp=Z,38nm,1.6s					
SNY				pmax	pmax	
	comp=Z,410nm,5.3s					
SNY				LR	LR	
	comp=N,3μm,7.7s					
SNY				LR	LR	
	comp=E,4μm,8.2s					
SNY				LR	LR	
	comp=Z,6μm,8.5s					
INU	**Inuyama**	**17.19**	**195**		**Pn**	**10 24 27.8 -0.6**
KSRS	**Korea Array**	**17.81**	**220**	P	**P**	**10 24 36.4 -0.3**
	comp=Z,0.3nm,0.3s,baz=29,slow=10.0,SNR=22					
KSRS				LR	LR	10 30 49.8
	comp=Z,460nm,18.3s,baz=41,slow=35					
KSAR	**Wonju Array Be**	**17.84**	**220**	P	**Pn**	**10 24 33.8 -2.5**
KSAR	**Wonju Array Be**	**17.84**	**220**	P	**Pn**	**10 24 33.9 -2.5**
INCN	**Inchon**	**18.32**	**223**	P	**Pn**	**10 24 38.6 -3.6**
INCN				pmax	pmax	
	comp=Z,21nm,0.8s					
INCN	**Inchon**	**18.32**	**223**	P	**Pn**	**10 24 38.6 -3.6**
TJN	**Taejon**	**18.97**	**220**	*i* P	**P**	**10 24 49.5 +0.1**
JHJ	**Hachijo jima 2**	**19.09**	**186**	LR	LR	10 34 01.1
	comp=Z,244nm,19.4s,baz=28,slow=43					
DL2	**Dalian**	**19.51**	**235**	*e*P	**Pn**	**10 24 56.8 +0.2**
DL2				S	**S**	**10 28 38.6 +3.3**
DL2				pmax	pmax	
	comp=Z,60nm,1.5s					
DL2				LR	LR	
	comp=Z,4μm,8.3s					
DL2				LR	LR	
	comp=Z,3μm,7.6s					
DL2				LR	LR	
	comp=Z,4μm,8.4s					
BILL	**Bilibino**	**19.71**	**27***c*	*i*P	**Pn**	**10 24 58.4 -0.4**
BILL				*e*S	**Sn**	**10 28 40.1 +0.4**
BILL				pmax	pmax	
	comp=Z,48nm,1.1s					
BILL				MLR	MLR	
	comp=Z,1μm,15.0s					
BILL	**Bilibino**	**19.71**	**27**	P	**Pn**	**10 24 59.4 +0.7**
TIXI	**Tiksi**	**20.48**	**348***c*	*i*P	**P**	**10 25 06.1 +0.5**
TIXI				pmax	pmax	
	comp=Z,42nm,0.8s					
TIXI	**Tiksi**	**20.48**	**348**	P	**P**	**10 25 05.8 +0.2**
	comp=Z,18nm,0.5s,baz=158,slow=11,SNR=60					
TIXI				Lg	Lg	10 31 10.8
	comp=Z,2.6nm,0.3s,baz=180,slow=24,SNR=4.1					
TIXI				LR	LR	10 32 29.9
	comp=Z,95nm,20.5s,baz=146,slow=35					
TIXI	**Tiksi**	**20.48**	**348**	P	**P**	**10 25 06.3 +0.7**
JNU	**Nakatsue**	**20.72**	**208**	P	**P**	**10 25 08.4 -0.2**
	comp=Z,9.2nm,0.7s,baz=34,slow=15,SNR=4.2					
JNU				LR	LR	10 33 03.1
	comp=Z,497nm,18.4s,baz=28,slow=36					
JNU	**Nakatsue**	**20.72**	**208**	P	**P**	**10 25 07.3 -1.3**
BJI	**Beijing**	**21.63**	**246**	⇑*i*P	**P**	**10 25 17.6 -0.7**
BJI				S	**S**	**10 29 17.4 -0.1**
BJI				pmax	pmax	
	comp=Z,14nm,1.3s					
BJI				LR	LR	
	comp=Z,1μm,9.0s					
BJI				LR	LR	
	comp=Z,1μm,7.7s					
BJI				LR	LR	
	comp=Z,380nm,12.0s					
BJT	**Baijiatuau**	**21.65**	**246**	P	**P**	**10 25 17.3 -1.2**
BJT				pmax	pmax	
	comp=Z,34nm,0.8s					
BJT	**Baijiatuau**	**21.65**	**246**	P	**P**	**10 25 17.3 -1.2**
ULN	**Ulaanbaatar**	**22.89**	**273**	P	**P**	**10 25 33.0 +1.1**
	SNR=14					
ULN	**Ulaanbaatar**	**22.89**	**273***c*	*i*P	**P**	**10 25 32.8 +0.9**
ULN				pmax	pmax	
	comp=Z,35nm,1.1s					
ULN	**Ulaanbaatar**	**22.89**	**273**	P	**P**	**10 25 32.8 +0.9**
ULN				IAmb	IAmb	10 25 38.0
	comp=Z,39nm,0.9s					
IRK	**Irkutsk**	**23.13**	**285**	*e*P	**P**	**10 25 41.0 +6.9**
SONM	**Songino Array**	**23.31**	**274**	P	**P**	**10 25 35.2 -0.9**
SONM						10 29 22.7
SONM				pmax	pmax	
	comp=Z,7.0nm,1.0s					
SONM	**Songino Array**	**23.31**	**274**	P	**P**	**10 25 35.3 -0.9**
	comp=Z,7.7nm,0.8s,baz=64,slow=8.5,SNR=15					
SONM				PcP	**PcP**	**10 29 22.8 -0.2**
	comp=Z,2.9nm,0.8s,baz=82,slow=2.3,SNR=6.3					
SONM				Lg	Lg	10 32 38.2
	comp=Z,4.4nm,1.1s,baz=76,slow=24,SNR=3.6					
SONM	**Songino Array**	**23.31**	**274**	P	**P**	**10 25 35.2 -0.9**
SONM					**PcP**	**10 29 22.7 -0.2**
TLY	**Talaya**	**23.65**	**284**	P	**P**	**10 25 40.5 +1.1**
	SNR=18					
TLY	**Talaya**	**23.65**	**284***c*	*i*P	**P**	**10 25 40.0 +0.6**
TLY				*e*SS	Sn	10 30 50.8 +36
TLY				pmax	pmax	
	comp=Z,159nm,1.4s					
TLY				MLR	MLR	
	comp=Z,3μm,11.0s					
TLY	**Talaya**	**23.65**	**284**	P	**P**	**10 25 40.2 +0.8**
	comp=Z,37nm,1.2s,baz=50,slow=6.6,SNR=17					
TLY				Lg	Lg	10 32 49.5
	comp=Z,1.8nm,0.7s,baz=127,slow=20,SNR=1.9					
TLY	**Talaya**	**23.65**	**284**	P	**P**	**10 25 39.9 +0.6**
TLY				IAmb	IAmb	10 25 41.6
	comp=Z,73nm,1.3s					
HHC	**Hu-ho-hao-te**	**23.78**	**254**	*e*P	**P**	**10 25 39.4 -1.4**
HHC				S	**S**	**10 29 49.3 -6.7**
ZAK	**Zakamensk**	**24.27**	**281**	*e*P	**P**	**10 25 45.4 +0.1**
ZAK				pmax	pmax	
	comp=Z,34nm,1.2s					
BTO	**Baotou**	**24.85**	**255**	*e*P	**P**	**10 25 50.3 -0.3**
JCJ	**Chichijima**	**25.01**	**180**	LR	LR	10 35 52.5
	comp=Z,117nm,21.6s,baz=68,slow=37					
MOY	**Mondy**	**25.23**	**285**	*e*P	**P**	**10 25 54.6 +0.6**
MOY				pmax	pmax	
	comp=Z,11nm,1.3s					
NJ2	**Nanjing**	**26.34**	**230**	*e*P	**P**	**10 26 04.8 +0.8**
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
NJ2				LR	LR	
	comp=Z,2μm,10.4s					
NJ2				LR	LR	
	comp=Z,1μm,10.9s					
NJ2				LR	LR	
	comp=Z,2μm,9.0s					
XAN	**Xi'an**	**29.97**	**246**	P	P	10 26 28.8 -7.7
XAN				pP	pP	10 26 38.3 -2.1
XAN				S	S	10 32 04.1 +30
XAN				sS	sS	10 32 20.1 +40
XAN				pmax	pmax	
	comp=Z,5.0nm,0.8s					
XAN				pmax	pmax	
	comp=Z,100nm,3.5s					
XAN				LR	LR	
	comp=N,1μm,8.7s					
XAN				LR	LR	
	comp=E,980nm,9.5s					
XAN				LR	LR	
	comp=Z,1μm,11.1s					
RDOG	**Red Dog Mine**	**30.33**	**37**	P	**P**	**10 26 39.7 +0.4**
NRIK	**Noril'sk**	**30.40**	**325**	LR	LR	10 38 43.5
	comp=Z,80nm,18.6s,baz=91,slow=36					
LZH	**Lanzhou**	**31.47**	**255**	⇑P	**P**	**10 26 50.1 +0.2**
LZH				pP	sP	10 26 55.5 +0.1
LZH				S	**S**	**10 31 55.6 -2.0**
LZH				SS	**SnSn**	**10 33 42.4 +0.5**
LZH				pmax	pmax	
	comp=Z,27nm,1.1s					
LZH				pmax	pmax	
	comp=Z,150nm,5.2s					
LZH				LR	LR	
	comp=Z,2μm,10.8s					
LZH				LR	LR	
	comp=Z,1μm,10.3s					
LZH				LR	LR	
	comp=Z,2μm,12.4s					
GTA	**Gaotai**	**31.76**	**263**	P	**P**	**10 26 52.5 +0.1**
GTA				pP	pP	10 26 55.9 -0.4
GTA				sP	sP	10 26 58.8 +0.9
GTA				PcP	**PcP**	**10 29 44.3 +0.8**
GTA				ScP	**ScP**	**10 33 27.9 +1.6**
GTA				pmax	pmax	
	comp=Z,7.0nm,1.0s					
GTA				pmax	pmax	
	comp=Z,120nm,6.0s					
GTA				LR	LR	
	comp=Z,980nm,11.3s					
GTA				LR	LR	
	comp=Z,2μm,9.3s					
GTA				LR	LR	
	comp=Z,2μm,9.3s					
ENH	**Enshi**	**32.51**	**241**	IAmb	IAmb	10 27 04.5
	comp=Z,26nm,0.9s					
ZALV	**Zalesovo Beam**	**33.78**	**296**	P	**P**	**10 27 10.5 +0.8**
ZALV						10 29 48.9
ZALV	**Zalesovo Beam**	**33.78**	**296**	P	**P**	**10 27 09.4 -0.3**
	comp=Z,4.6nm,0.7s,baz=54,slow=6.1,SNR=3.6					
ZALV				PcP	**PcP**	**10 29 48.2 -0.4**
	comp=Z,8.1nm,0.7s,baz=71,slow=1.6,SNR=14					
ZALV				LR	LR	10 39 58.3
	comp=Z,180nm,19.2s,baz=59,slow=35					
ZALV	**Zalesovo Beam**	**33.78**	**296**	P	**P**	**10 27 10.5 +0.8**
ZALV					**PcP**	**10 29 48.9 +0.3**
DGZ	**Jazzator, Alta**	**33.97**	**288**	*i* P	**P**	**10 27 11.7 +0.1**
IMAR	**Indian Mountai**	**33.99**	**41**	P	**P**	**10 27 12.6 +1.2**
IMAR					**PcP**	**10 29 49.7 +0.7**
SVW2	**Sparrevohn**	**34.09**	**50**	P	**P**	**10 27 14.2 +1.8**
SVW2				IAmb	IAmb	10 27 15.1
	comp=Z,16nm,1.0s					
CD2	**Chengdu**	**35.21**	**248**	P	**P**	**10 27 21.5 -0.9**
CD2				S	**S**	**10 32 53.1 -2.3**
CD2				pmax	pmax	
	comp=Z,20nm,0.6s					
CD2				pmax	pmax	
	comp=Z,140nm,4.3s					
CD2				LR	LR	
	comp=Z,660nm,10.7s					
CD2				LR	LR	
	comp=Z,970nm,9.8s					
CD2				LR	LR	
	comp=Z,1μm,11.9s					
COLD	**Coldfoot**	**35.21**	**39**	P	**P**	**10 27 23.2 +1.2**
PPLA	**Purkeypile**	**35.23**	**46**	P	**P**	**10 27 24.1 +1.8**
TOLK	**Toolik Lake Re**	**35.24**	**36**	P	**P**	**10 27 23.5 +1.2**
	baz=278,SNR=5.3					
TOLK	**Toolik Lake Re**	**35.24**	**36**	P	**P**	**10 27 23.6 +1.3**
TOLK					**PcP**	**10 29 53.8 +1.1**
MLY	**Manley**	**35.39**	**42**	P	**P**	**10 27 25.1 +1.5**
KTH	**Kantishna Hill**	**35.63**	**45**	P	**P**	**10 27 26.4 +0.7**
TRF	**Thorofare Moun**	**35.93**	**45**	IAmb	IAmb	10 27 30.7
	comp=Z,24nm,0.9s					
MCK	**McKinley**	**36.45**	**44**	IAmb	IAmb	10 27 35.4
	comp=Z,33nm,0.9s					
KDAK	**Kodiak Island**	**36.52**	**55**	P	**P**	**10 27 33.9 +0.7**
KDAK				pmax	pmax	
	comp=Z,29nm,1.0s					
KDAK	**Kodiak Island**	**36.52**	**55**	P	**P**	**10 27 33.2 0.0**
	comp=Z,14nm,0.8s,baz=265,slow=6.6,SNR=5.3					
KDAK	**Kodiak Island**	**36.52**	**55**	P	**P**	**10 27 33.9 +0.7**
KDAK				IAmb	IAmb	10 27 34.1
	comp=Z,29nm,1.0s					
TCOL	**CIGO, UAF Yank**	**36.62**	**42**	P	**P**	**10 27 35.5 +1.5**
	baz=284					
COLA	**College**	**36.62**	**42**	*i* P	**P**	**10 27 34.8 +0.8**
COLA				pmax	pmax	
	comp=Z,13nm,0.9s					
COLA	**College**	**36.62**	**42**	P	**P**	**10 27 35.1 +1.1**
CCB	**Clear Creek Bu**	**36.70**	**43**	IAmb	IAmb	10 27 36.7
	comp=Z,19nm,0.9s					
POKR	**Poker Plat Res**	**36.73**	**42**	P	**P**	**10 27 36.6 +1.6**
	baz=284,SNR=6.5					
GYA	**Guiyang**	**37.04**	**240**	⇑*i*P	**P**	**10 27 37.4 -0.8**
GYA				pP	pP	10 27 42.6 +0.5
GYA				sP	sP	10 27 45.3 +1.6
GYA				PP	**PP**	**10 29 05.3 +2.8**
GYA				S	**S**	**10 33 20.4 -3.2**
GYA				pmax	pmax	
	comp=Z,30nm,0.8s					
GYA				pmax	pmax	
	comp=Z,60nm,5.8s					
GYA				LR	LR	
	comp=Z,280nm,17.3s					
GYA				LR	LR	
	comp=Z,490nm,17.3s					
GYA				LR	LR	
	comp=Z,480nm,17.1s					
IL31		**37.05**	**42**	IAmb	IAmb	10 27 39.8
	comp=Z,21nm,0.9s					
ILAR	**Eielson Array**	**37.05**	**42**	P	**P**	**10 27 37.7 0.0**
ILAR						10 29 56.0
ILAR	**Eielson Array**	**37.05**	**42**	P	**P**	**10 27 38.4 +0.7**
	comp=Z,13nm,0.8s,baz=294,slow=7.9,SNR=60					
ILAR				PcP	**PcP**	**10 29 56.6 -1.4**
	comp=Z,1.2nm,0.7s,baz=285,slow=2.9,SNR=5.6					
ILAR				LR	LR	10 44 27.0
	comp=Z,154nm,18.4s,baz=306,slow=39					
ILAR	**Eielson Array**	**37.05**	**42**	P	**P**	**10 27 37.7 0.0**
ILAR					**PcP**	**10 29 56.0 -2.0**
HDA	**Harding Lake**	**37.12**	**43**	P	**P**	**10 27 39.2 +0.9**
	baz=285,SNR=18					
HDA	**Harding Lake**	**37.12**	**43**	IAmb	IAmb	10 27 40.4
	comp=Z,26nm,0.9s					
SML	**Sawmill**	**37.25**	**47**	IAmb	IAmb	10 27 41.4
	comp=Z,38nm,0.9s					
FYU	**Fort Yukon**	**37.26**	**39**	IAmb	IAmb	10 27 42.0
	comp=Z,30nm,0.8s					
DHY	**Denali Highway**	**37.30**	**45**	IAmb	IAmb	10 27 41.6
	comp=Z,22nm,1.0s					
BMAR	**Burnt Mountain**	**37.31**	**38**	P	**P**	**10 27 41.1 +1.2**
KNK	**Knik Glacier**	**37.32**	**48**	IAmb	IAmb	10 27 41.9
	comp=Z,32nm,0.9s					
PRP	**Porcupine Dome**	**37.41**	**41**	IAmb	IAmb	10 27 43.6
	comp=Z,34nm,1.1s					
SCM	**Sheep Creek Mo**	**37.70**	**47**	IAmb	IAmb	10 27 45.2
	comp=Z,26nm,0.8s					
RIDG	**Independent Ri**	**38.19**	**43**	IAmb	IAmb	10 27 48.4
	comp=Z,37nm,0.8s					
MK31	**Makanchi Array**	**38.37**	**287**	P	**P**	**10 27 48.8 -0.3**
MK31				pmax	pmax	
	comp=Z,20nm,1.2s					
MK31	**Makanchi Array**	**38.37**	**287**	P	**P**	**10 27 48.8 -0.3**
MKAR	**Makanchi Array**	**38.37**	**287**	*i* P	**P**	**10 27 49.0 -0.2**
MKAR				pmax	pmax	
	comp=Z,8.0nm,0.7s					
MKAR	**Makanchi Array**	**38.37**	**287**	P	**P**	**10 27 49.0 -0.2**
	comp=Z,7.7nm,0.7s,baz=64,slow=8.2,SNR=15					
MKAR				PcP	**PcP**	**10 30 01.8 -0.7**
	comp=Z,4.0nm,0.9s,baz=54,slow=4.3,SNR=5.4					
MKAR				LR	LR	10 44 31.0
	comp=Z,285nm,19.5s,baz=48,slow=38					
MKAR	**Makanchi Array**	**38.37**	**287**	P	**P**	**10 27 48.2 -0.9**
MKAR					**PcP**	**10 30 01.4 -1.0**
GUMO	**Guam**	**38.50**	**176**	LR	LR	10 41 54.6
	comp=Z,98nm,20.1s,baz=72,slow=34					
KURK	**Kurchatov**	**38.58**	**294**	P	**P**	**10 27 50.7 0.0**
	SNR=12					
KURK	**Kurchatov**	**38.58**	**294**	*i* P	**P**	**10 27 49.9 -0.9**
KURK				pmax	pmax	
	comp=Z,17nm,1.1s					
KURK	**Kurchatov**	**38.58**	**294**	P	**P**	**10 27 49.9 -0.9**
KURK					**PcP**	**10 30 02.3 -0.6**
KURBB	**Kurchatov Arra**	**38.67**	**294**	P	**P**	**10 27 51.5 -0.1**
	comp=Z,10nm,0.7s,baz=69,slow=9.0,SNR=19					
KURBB				PcP	**PcP**	**10 30 02.7 -0.6**
	comp=Z,6.1nm,0.7s,baz=66,slow=3.2,SNR=9.6					
EGAK	**Eagle**	**39.39**	**41**	IAmb	IAmb	10 27 58.9
	comp=Z,26nm,0.8s					
BCAR	**Beaver Creek A**	**39.72**	**44**	P	**P**	**10 28 01.1 +0.9**
CRQM	**Cirque**	**39.97**	**47**	IAmb	IAmb	10 28 08.9
	comp=Z,34nm,1.0s					
KMI	**Kunming**	**40.23**	**243**	P	**P**	**10 28 05.0 -0.1**
KMI				pP	sP	10 28 11.3 +0.7
KMI				sP	pP	10 28 14.9 +5.8
KMI				S	**S**	**10 34 12.4 +0.4**
KMI				pmax	pmax	
	comp=Z,17nm,1.3s					
KMI				pmax	pmax	
	comp=Z,140nm,4.2s					
KMI				LR	LR	
	comp=Z,500nm,12.5s					
KMI				LR	LR	
	comp=Z,400nm,9.9s					
KMI				LR	LR	
	comp=Z,730nm,10.7s					
EPYK	**Eagle Plains**	**40.58**	**38**	P	**P**	**10 28 08.6 +1.2**
	baz=291					
INK	**Inuvik**	**41.05**	**34**	P	**P**	**10 28 11.7 +0.6**
INK				pmax	pmax	
	comp=Z,39nm,1.5s					
INK	**Inuvik**	**41.05**	**34**	P	**P**	**10 28 12.2 +1.1**
	comp=Z,8.7nm,0.5s,baz=308,slow=6.5,SNR=26					
INK				PcP	**PcP**	**10 30 10.6 +0.1**
	comp=Z,4.6nm,1.0s,baz=275,slow=4.2,SNR=3.4					
INK	**Inuvik**	**41.05**	**34**	P	**P**	**10 28 11.7 +0.6**
INK				IAmb	IAmb	10 28 13.4
	comp=Z,39nm,1.4s					
QIZ	**Qiongzhong**	**41.63**	**230**	P	**P**	**10 28 16.5 +0.1**
QIZ				S	**S**	**10 34 34.0 +1.5**
QIZ				SS	**SS**	**10 37 34.5 -3.1**
QIZ				pmax	pmax	
	comp=Z,13nm,1.3s					
QIZ				pmax	pmax	
	comp=Z,210nm,4.3s					
QIZ				LR	LR	
	comp=Z,650nm,13.2s					
QIZ				LR	LR	
	comp=Z,760nm,17.7s					
QIZ				LR	LR	
	comp=Z,520nm,11.3s					
BRVK	**Borovoye**	**42.02**	**301**	P	**P**	**10 28 19.5 +0.2**
	SNR=5.1					
BRVK	**Borovoye**	**42.02**	**301**	P	**P**	**10 28 19.1 -0.2**
BRVK				pmax	pmax	
	comp=Z,12nm,1.0s					
BRVK	**Borovoye**	**42.02**	**301**	P	**P**	**10 28 19.1 -0.2**
HYT	**Haines Junctio**	**42.46**	**46**	P	**P**	**10 28 24.9 +2.0**
LSA	**Lhasa**	**43.55**	**259**	P	**P**	**10 28 33.0 +0.6**
LSA	**Lhasa**	**43.55**	**259**	IAmb	IAmb	10 28 38.3
	comp=Z,24nm,0.7s					
C36M	**Paulatuk**	**43.76**	**31**	P	**P**	**10 28 34.0 +0.9**
	baz=297,SNR=24					
KDJ	**Kajisay**	**44.00**	**284**	IAmb	IAmb	10 28 41.5
	comp=Z,25nm,1.1s					
SKAG	**Skagway**	**44.06**	**47**	P	**P**	**10 28 37.2 +1.6**
SKAG				IAmb	IAmb	10 28 43.4
	comp=Z,17nm,1.0s					
TKM2	**Tokmak 2**	**44.47**	**286**	P	**P**	**10 28 39.9 +0.5**
	SNR=7.7					
ULHL	**Ulahol**	**44.49**	**284**	P	**P**	**10 28 40.2 +0.6**
	SNR=12					
USP	**Ospenovka**	**44.92**	**287**	P	**P**	**10 28 43.4 +0.5**
	SNR=14					
SVE	**Sverdlovsk**	**45.00**	**310**⇓	*e*P	**P**	**10 28 43.9 +0.7**
SVE				pmax	pmax	
	comp=Z,56nm,0.9s					
KBK	**Karagaybulak**	**45.02**	**286**	P	**P**	**10 28 44.4 +0.6**
	SNR=9.2					
KZA	**Kyzart**	**45.18**	**285**	P	**P**	**10 28 46.2 +0.8**
	SNR=16					
AAK	**Ala-Archa**	**45.30**	**286**	*i* P	**P**	**10 28 46.2 +0.3**
	SNR=14					
AAK	**Ala-Archa**	**45.30**	**286**	P	**P**	**10 28 46.0 0.0**
	SNR=6.9					
AAK	**Ala-Archa**	**45.30**	**286***ce*	P	**P**	**10 28 45.4 -0.5**
AAK				pmax	pmax	
	comp=Z,18nm,1.0s					
AAK	**Ala-Archa**	**45.30**	**286**	P	**P**	**10 28 46.4 +0.5**
	SNR=7.9					
AAK	**Ala-Archa**	**45.30**	**286**	P	**P**	**10 28 45.5 -0.5**
AAK				IAmb	IAmb	10 28 51.2
	comp=Z,11nm,0.7s					
EKS2	**Erkin-Say**	**45.70**	**286**	P	**P**	**10 28 49.5 +0.4**
	SNR=8.9					
ARU	**Arti**	**46.19**	**310***d*	*i*P	**P**	**10 28 52.2 -0.4**
ARU						10 30 25.1
ARU						10 30 38.9
ARU				S	**S**	**10 35 38.6 +0.4**
ARU				SS	**ScS**	**10 38 50.2 +2.9**
ARU				pmax	pmax	
	comp=Z,63nm,0.8s					
ARU	**Arti**	**46.19**	**310**	P	**P**	**10 28 52.5 -0.1**
KSH	**Kashi**	**46.31**	**282**	P	P	10 28 59.1 +5.1
KSH				pP	sP	10 29 05.0 +5.5
KSH				PP	**PP**	**10 30 49.1 +6.6**
KSH				S	**S**	**10 35 47.6 +6.9**
KSH				sS	sS	10 35 57.4 +10
KSH				ScS	**ScS**	**10 38 51.6 +2.6**
KSH				pmax	pmax	
	comp=Z,120nm,1.9s					
KSH				pmax	pmax	
	comp=Z,250nm,4.7s					
KSH				LR	LR	
	comp=Z,700nm,11.8s					
KSH				LR	LR	
	comp=Z,570nm,11.1s					
KSH				LR	LR	
	comp=Z,410nm,10.7s					
PAYA	**Payao**	**46.43**	**241**	P	**P**	**10 28 59.3 +4.4**
	comp=Z,24μm,0.9s					
PHRA	**Phrae**	**46.94**	**240**	P	**P**	**10 28 59.7 +0.8**
	comp=Z,4.0nm,1.2s					
KCP	**Kidapawan**	**47.16**	**204**⇓	*i*P	**P**	**10 29 01.2 +0.6**
TAPN	**Taplejung**	**47.33**	**260**	*e*P	**P**	**10 29 01.8 -0.5**
	comp=Z,48nm,0.7s					
KK31	**Karatay Array**	**47.36**	**289**	IAmb	IAmb	10 29 06.7
	comp=Z,12nm,1.1s					
KKAR	**Karatay Array**	**47.36**	**289**	P	**P**	**10 29 01.6 -0.3**
KKAR	**Karatay Array**	**47.36**	**289**	P	**P**	**10 29 01.6 -0.3**
KKAR	**Karatay Array**	**47.36**	**289**	IAmb	IAmb	10 29 06.7
	comp=Z,12nm,1.1s					
CMMT	**Chiang Mai**	**47.38**	**242**	P	**P**	**10 29 02.0 -0.3**
	comp=Z,11nm,0.9s					
CHTO	**Chiang Mai**	**47.38**	**242**	P	**P**	**10 29 01.9 -0.4**
CHTO	**Chiang Mai**	**47.38**	**242**	P	**P**	**10 29 01.9 -0.4**
CHTO				pmax	pmax	
	comp=Z,15nm,0.9s					
CHTO	**Chiang Mai**	**47.38**	**242**	P	**P**	**10 29 01.9 -0.4**
CHTO				IAmb	IAmb	10 29 07.5
	comp=Z,15nm,0.9s					
CMAR	**Chiang Mai Arr**	**47.67**	**242**	P	**P**	**10 29 04.2 -0.4**
	comp=Z,11nm,1.1s,baz=20,slow=7.4,SNR=22					
CMAR				LR	LR	10 48 48.6
	comp=Z,135nm,19.0s,baz=20,slow=36					
CMAR	**Chiang Mai Arr**	**47.67**	**242**	P	**P**	**10 29 04.0 -0.6**
ODAN	**Odare**	**47.88**	**260**	*e*P	**P**	**10 29 05.6 -0.9**
	comp=Z,33nm,0.5s					
RES	**Resolute Bay**	**47.91**	**18**	P	**P**	**10 29 06.2 +0.4**
RES				pmax	pmax	
	comp=Z,10.0nm,0.9s					
RES	**Resolute Bay**	**47.91**	**18**	P	**P**	**10 29 06.2 +0.4**
RES				IAmb	IAmb	10 29 07.2
	comp=Z,10.0nm,0.9s					
JIRN	**Jiri**	**48.03**	**262**	*e*P	**P**	**10 29 07.4 -0.4**
	comp=Z,125nm,0.8s					
GUN	**

comp=Z,6.1nm,1.7s
PBKT Sadao Pong 48.14 238 P P 10 29 08.2 0.0
CHAI Chaiyaphum 48.17 237 P P 10 29 09.1 +0.6
comp=Z,22µm,0.8s,comp=Z,472µm
RAMN Ramite 48.30 261 *eP* **P 10 29 09.1 -0.6**
comp=Z,104nm,0.7s
MHMT Maesarieng 48.45 243 P P 10 29 14.3 +3.7
comp=Z,36nm,0.8s,comp=Z,2µm
PKI Pulchoki 48.57 262 *eP* **P 10 29 11.2 -0.7**
comp=Z,37nm,0.9s
PKIN Phulchoki 48.58 262 *eP* **P 10 29 11.3 -0.6**
comp=Z,17nm,0.7s
DMN Daman 48.73 263 *eP* **P 10 29 12.8 -0.3**
comp=Z,41nm,0.7s
GKN Gorkha 48.73 264 *eP* **P 10 29 12.6 -0.4**
comp=Z,68nm,0.7s
PRGR Permogore 48.87 321 *eP* **P 10 29 12.7 -0.6**
PRGR pmax pmax
comp=Z,30nm,0.8s
DANN Dangsing 49.02 265 *eP* **P 10 29 15.6 +0.3**
comp=Z,120nm,0.7s
BTK Batken 49.06 286 IAmb IAmb 10 29 20.8
comp=Z,17nm,0.8s
APA Apatity 49.41 331⇑ *iP* **P 10 29 13.3 -4.1**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,2µm,17.0s
KOLN Koldanda 49.54 264 *eP* **P 10 29 19.0 -0.2**
comp=Z,78nm,0.9s
ABKAR Akbulak array 49.55 301 P P 10 29 18.5 -0.2
ABKAR Akbulak array 49.55 301 IAmb IAmb 10 29 19.6
comp=Z,20nm,0.9s
UMPA Umpang Tak 49.56 240 P P 10 29 22.0 +2.8
comp=Z,26µm,0.9s
TULEG Thule 50.07 9 P P 10 29 22.1 -0.2
TULEG IAmb IAmb 10 29 27.1
comp=Z,14nm,0.9s
TMCR Tamitsa 50.10 326 *eP* **P 10 29 20.0 -2.7**
TMCR pmax pmax
comp=Z,28nm,0.9s
YKA Yellowknife Ar 50.77 36 P P 10 29 28.3 +0.5
comp=Z,7.5nm,0.7s,baz=308,slow=7.7,SNR=23
DAG Danmarks Havn 50.80 354 *eP* **P 10 29 26.7 -1.1**
DAG Danmarks Havn 50.80 354 *i P* **P 10 29 26.7 -1.1**
KLMR Klimovskoe 51.68 323 *eP* **P 10 29 33.8 -0.8**
KLMR *e* 10 31 31.7
KLMR pmax pmax
comp=Z,67nm,1.5s
KLMR Klimovskoe 51.68 323 *eP* **P 10 29 33.8 -0.8**
KLMR AMP 10 29 36.6
comp=Z,67nm,1.5s
KLMR *e*PP **PP 10 31 31.7 -0.1**
KLMR LR LR 10 52 44.0
NIL Nilore 51.80 278 P P 10 29 36.4 +0.4
NIL Nilore 51.80 278 P P 10 29 36.5 +0.5
NIL pmax pmax
comp=Z,60nm,0.9s
NIL Nilore 51.80 278 P P 10 29 36.5 +0.5
JOF Joensuu 53.19 328 P P 10 29 46.8 +1.0
JOF pmax pmax
comp=Z,25nm,2.2s
KBL Kabul 53.75 281 P P 10 29 49.1 -1.5
KBL pmax pmax
comp=Z,26nm,1.4s
KBL Kabul 53.75 281 P P 10 29 49.1 -1.5
KBL IAmb IAmb 10 29 55.1
comp=Z,26nm,1.4s
SUF Sumiainen 54.98 330 P P 10 29 59.9 +1.0
SUF pmax pmax
comp=Z,46nm,1.2s
SBUM Sibu 55.49 217 P P 10 30 03.3 +0.2
SBUM IAmb IAmb 10 30 05.0
comp=Z,13nm,1.0s
SUMG Summit 55.59 0 *i P* **P 10 30 04.2 +0.6**
SUMG Summit 55.59 0 *i P* **P 10 30 04.2 +0.6**
MOS Moscow 55.86 319 *eP* **P 10 30 03.2 -2.1**
MOS pmax pmax
comp=Z,48nm,0.9s
FIA1 FINESS Array S 55.95 329 P P 10 30 06.1 +0.2
FINES FINESS Array B 55.96 329 P P 10 30 06.0 +0.1
FINES 10 31 03.1
FINES FINESS Array B 55.96 329 P P 10 30 05.7 -0.2
comp=Z,39nm,0.8s,baz=48,slow=8.5,SNR=46
FINES PcP **PcP 10 31 03.3 -0.9**
comp=Z,12nm,0.9s,baz=35,slow=3.4,SNR=4.1
FINES FINESS Array B 55.96 329 P P 10 30 06.0 +0.1
FINES **PcP 10 31 03.1 -1.1**
OBN Obninsk 56.73 319 *eP* **P 10 30 10.2 -1.2**
OBN *e* 10 31 05.2
OBN *e* 10 32 16.7
OBN *e*PPP PPP 10 33 32.7
OBN pmax pmax
comp=Z,34nm,1.2s
OBN MLR MLR
comp=Z,271nm,10.0s
OBN Obninsk 56.73 319 P P 10 30 11.1 -0.3
OBN IAmb IAmb 10 30 13.0
comp=Z,17nm,0.9s
KRVT Keravat (AS076 56.83 168 P P 10 30 12.3 -0.3
comp=Z,51nm,0.9s,baz=270,slow=9.1,SNR=5.8
B05A Bryant 56.95 52 P P 10 30 14.2 +1.0
baz=313,SNR=5.4
D03D Eldon 56.95 54 P P 10 30 14.6 +1.3
baz=313,SNR=6.2
B06A Marblemount 57.07 52 IAmb IAmb 10 30 15.5
comp=Z,14nm,0.9s
KSM Kuching 57.12 219 P P 10 30 14.7 -0.1
KSM IAmb IAmb 10 30 16.1
comp=Z,18nm,1.2s
SCO Scoresbysund 57.16 354 *i P* **P 10 30 14.8 +0.5**
SCO Scoresbysund 57.16 354 *i P* **P 10 30 14.8 +0.5**
VRH Novokhopyorsk 57.24 313 *eP* **P 10 30 14.1 -1.1**
VRH pmax pmax
comp=Z,40nm,0.8s
LPSR Galich'ya Gora 57.51 315 *eP* **P 10 30 16.2 -0.8**
LPSR pmax pmax
comp=Z,40nm,1.0s
C06D Leavenworth 57.77 52 P P 10 30 20.1 +1.1
baz=314
E04D Cinebar 57.88 54 P P 10 30 21.2 +1.4
baz=314
GEYT Alibeck 57.88 292 P P 10 30 19.8 -0.2
comp=Z,4.4nm,0.4s,baz=29,slow=7.9,SNR=3.7
GEYT LR LR 10 56 45.7
comp=Z,123nm,18.1s,baz=350,slow=38
GYA0B ALIBECK ARRAY 57.88 292 P P 10 30 19.8 -0.2
HRA Herat 57.93 286 P P 10 30 20.6 0.0
VSU Vasula 57.98 326 *i P* **P 10 30 20.3 +0.1**
VSU pmax pmax
comp=Z,88nm,0.9s
B08A Colville Reser 58.22 51 IAmb IAmb 10 30 23.7
comp=Z,14nm,1.1s
VSR Storozhevoye 58.38 314 *i P* **P 10 30 22.5 -0.7**
VSR pmax pmax
comp=Z,36nm,1.1s
C09A Chrisman Ranch 59.12 51 IAmb IAmb 10 30 29.8
comp=Z,15nm,1.2s
E07A Sunnyside 59.23 53 IAmb IAmb 10 30 30.9
comp=Z,12nm,1.0s
NEW Newport 59.33 50 P P 10 30 30.6 +0.7
baz=315
NEW Newport 59.33 50 P P 10 30 29.8 -0.1
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 59.33 50 P P 10 30 29.8 -0.1
HAWA Hanford 59.50 53 IAmb IAmb 10 30 32.7
comp=Z,9.2nm,0.9s
F07A Phinny Hill Vi 59.66 53 IAmb IAmb 10 30 34.1
comp=Z,12nm,0.9s
I05D Terrebonne, OR 60.05 55 P P 10 30 36.2 +1.3
baz=315,SNR=5.1
KAPI Kappang 60.07 206 P P 10 30 34.5 -0.7
KAPI pmax pmax
comp=Z,33nm,1.3s
KAPI Kappang 60.07 206 P P 10 30 34.4 -0.9
comp=Z,9.6nm,0.7s,baz=111,slow=5.6,SNR=4.6
KAPI Kappang 60.07 206 *i P* **P 10 30 34.5 -0.7**
HYB Hyderabad 60.34 260 *i P* P 10 30 29.0 -8.2
J04D Umpqua Nationa 60.44 57 P P 10 30 39.5 +1.7
baz=315,SNR=7.5
HUMO Hull Mountain 60.45 58 IAmb IAmb 10 30 40.4
comp=Z,15nm,1.4s
NB2 NORSAR Subarra 60.60 335 P P 10 30 38.6 +0.1
comp=Z,24nm,0.7s,baz=32,slow=6.9
NB2 NORSAR Subarra 60.60 335 P **P 10 30 38.6 +0.1**
baz=32,slow=6.9
NOA NORSAR Array B 60.60 335 P **P 10 30 38.5 +0.1**
comp=Z,16nm,0.7s,baz=32,slow=6.7,SNR=30
NACGM Naroch 60.68 323 *e* **P 10 30 39.0 0.0**
NBO00 NORSAR Array S 60.73 335 IAmb IAmb 10 30 51.4
comp=Z,14nm,0.9s
SFJD Kangerlussuaq 60.80 6 *eP* **P 10 30 38.8 -0.8**
SFJD Kangerlussuaq 60.80 6 *i P* **P 10 30 38.8 -0.8**
J05D Fort Rock, OR 60.85 56 P P 10 30 42.3 +1.7
baz=316,SNR=14
FFC Flin Flon 60.92 37 P P 10 30 41.0 +0.4
FFC pmax pmax
comp=Z,37nm,0.9s
FFC Flin Flon 60.92 37 P P 10 30 41.0 +0.4
F10A Beach Ranch, E 60.92 52 IAmb IAmb 10 30 42.7
comp=Z,9.9nm,0.8s
JTMT Jette 61.03 49 IAmb IAmb 10 30 43.6
comp=Z,14nm,0.8s
L04D Klamath Falls 61.06 58 P P 10 30 43.0 +1.0
baz=316,SNR=5.4
M02C Callahan 61.36 59 P P 10 30 46.1 +2.2
baz=316
PMG Port Moresby 61.43 175 *eP* **P 10 30 43.0 -1.5**
PMG pmax pmax
comp=Z,39nm,0.9s
PMG Port Moresby 61.43 175 P P 10 30 43.4 -1.0
comp=Z,7.3nm,0.7s,baz=267,slow=17,SNR=3.8
PMG Port Moresby 61.43 175 P P 10 30 42.4 -2.1
PMG IAmb IAmb 10 30 44.8
comp=Z,12nm,0.9s
M04C Macdoel 61.61 58 P P 10 30 47.1 +1.4
baz=316,SNR=9.0
BMO Blue Mountains 61.70 53 IAmb IAmb 10 30 48.2
comp=Z,15nm,1.4s
N02D Trinity Center 61.74 59 P P 10 30 47.9 +1.4
baz=316,SNR=9.0
NCK Nalchik 61.81 305 *i P* **P 10 30 46.0 -0.9**
NCK pmax pmax
comp=Z,20nm,1.0s
MSO Missoula 61.86 49 P P 10 30 48.0 +0.8
baz=317,SNR=8.7
KIV Kislovodsk 61.93 306 *i P* **P 10 30 49.1 +1.3**
SNR=9.0
KIV Kislovodsk 61.93 306 P P 10 30 48.7 +0.9
SNR=11
KIV Kislovodsk 61.93 306 *eP* **P 10 30 47.5 -0.3**
KIV pmax pmax
comp=Z,118nm,1.1s
KIV MLR MLR
comp=Z,765nm,17.0s
KIV Kislovodsk 61.93 306⇑P **P 10 30 49.1 +1.3**
KIV mb 10 30 49.5
KIV Kislovodsk 61.93 306 P P 10 30 48.4 +0.6
KBZ Khabaz 61.99 306 P P 10 30 48.1 +0.1
comp=Z,5.6nm,0.9s,baz=45,slow=4.6,SNR=6.6
KBZ LR LR 11 00 43.1
comp=Z,308nm,18.5s,baz=42,slow=39
WDC Whiskeytown Da 62.11 59 P P 10 30 49.5 +0.6
WDC pmax pmax
comp=Z,11nm,1.2s
WDC Whiskeytown Da 62.11 59 P P 10 30 49.5 +0.6
WDC IAmb IAmb 10 30 55.3
comp=Z,11nm,1.2s
O02D Mt. Diablo Mer 62.27 60 P P 10 30 52.1 +2.0
baz=316,SNR=7.3
MOD Modoc Plateau 62.32 57 IAmb IAmb 10 30 52.6
comp=Z,10nm,1.1s
NEY Neytrino 62.43 306 *i P* **P 10 30 50.6 -0.6**
NEY pmax pmax
comp=Z,2.0nm,0.9s
O03E Paynes Creek 62.70 59 P P 10 30 53.4 +0.4
baz=316,SNR=10.0
WVOR Wild Horse Val 62.79 55 IAmb IAmb 10 30 55.8
comp=Z,12nm,1.0s
EGMT Eagleton 62.88 46 P P 10 30 54.6 +0.6
baz=319,SNR=12
AKASG Malin Array Be 62.98 319 P P 10 30 53.9 -0.7
AKASG pmax pmax
comp=Z,10.0nm,1.5s
AKASG Malin Array Be 62.98 319 P P 10 30 53.6 -0.9
comp=Z,6.1nm,0.8s,baz=36,slow=7.3,SNR=20
AKASG Malin Array Be 62.98 319 P P 10 30 53.9 -0.7
AKBB Malin Array Si 62.98 319 IAmb IAmb 10 30 54.4
comp=Z,10nm,1.1s
GDXM Geysers 63.25 61 IAmb IAmb 10 30 59.2
comp=Z,12nm,1.0s
MFID Camas Ranch 63.47 53 IAmb IAmb 10 31 00.0
comp=Z,8.3nm,0.9s
GNI Garni 63.65 302 *i P* **P 10 30 59.9 +0.5**
GNI pmax pmax
comp=Z,29nm,1.3s
SOC Sochi 63.67 308*c iP* **P 10 30 58.2 -1.0**
SOC *e* 10 33 15.7
SOC *e*PPP PPP 10 34 48.4
SOC *e*S **S 10 39 32.3 -0.6**
SOC *e**SS sS 10 39 54.8 +15
SOC *e* 10 40 50.9
SOC *e*SS **SS 10 43 39.0 -0.7**
SOC pmax pmax
comp=Z,13nm,0.4s
BEKR Beckworth 63.77 58 IAmb IAmb 10 31 01.8
comp=Z,8.4nm,1.0s
BOZ Bozeman (W) 63.85 49 P P 10 31 01.6 +1.1
baz=319,SNR=24
MCMT McKenzie Canyo 63.86 50 P P 10 31 01.3 +0.5
AFDM Forest Hills D 64.12 59 P P 10 31 02.8 +0.5
AFDM IAmb IAmb 10 31 04.0
comp=Z,11nm,1.4s
BCA Borcka 64.31 305⇑P **P 10 31 03.2 -0.3**
BCA mb 10 31 04.5
PAHR Pah Rah Range 64.40 58 IAmb IAmb 10 31 06.0
comp=Z,13nm,0.9s
VCNR Virginia City 64.57 58 IAmb IAmb 10 31 07.3
comp=Z,8.2nm,0.8s
PNTR Pine Nut 64.75 58 IAmb IAmb 10 31 08.7
comp=Z,13nm,0.8s
DGMT Dagmar 64.92 42 P P 10 31 07.8 +0.4
baz=322,SNR=7.9
YERR Yerington 65.01 58 P P 10 31 09.0 +0.6
CMB Columbia Colle 65.11 60 IAmb IAmb 10 31 11.3
comp=Z,8.8nm,1.0s
LKWY Lake 65.20 49 IAmb IAmb 10 31 12.9
comp=Z,11nm,0.8s
H17A Grant Village 65.25 49 P P 10 31 12.4 +2.5
baz=320,SNR=14
WAKR Walker 65.26 59 P P 10 31 10.9 +0.9
WAKR IAmb IAmb 10 31 11.7
comp=Z,7.7nm,0.8s
SIM Simferopol' 65.29 312 *eP* **P 10 31 10.0 +0.2**
SIM pmax pmax
comp=Z,10.0nm,0.9s
RLMT Red Lodge 65.30 48 P P 10 31 11.5 +1.4
baz=320,SNR=30
LAO LASA Array 65.44 45 P P 10 31 11.6 +0.8
baz=321
IMW Indian Meadow 65.46 50 P P 10 31 12.8 +1.5
SAO San Andreas Ge 65.47 61 IAmb IAmb 10 31 17.0
comp=Z,10nm,1.2s
KVN Kaiserville 65.56 57 IAmb IAmb 10 31 13.8
comp=Z,13nm,0.8s
FXWY Fox Creek 65.61 50 IAmb IAmb 10 31 14.2
comp=Z,6.2nm,0.8s
RYN Ryan 65.65 58 IAmb IAmb 10 31 14.4
comp=Z,7.3nm,0.9s
MOOW Moose Ponds 65.66 50 P P 10 31 14.0 +1.5
MOOW IAmb IAmb 10 31 15.0
comp=Z,11nm,0.9s
ELK Elko 65.75 54 IAmb IAmb 10 31 15.3
comp=Z,9.0nm,0.8s
TPAW Teton Pass 65.76 50 IAmb IAmb 10 31 16.0
comp=Z,15nm,1.0s
COEN Coen 65.82 179 P P 10 31 13.4 +0.1
COEN IAmb IAmb 10 31 14.2
comp=Z,11nm,1.1s
REDW Red Top Meadow 65.91 50 IAmb IAmb 10 31 18.0
comp=Z,9.6nm,1.1s
NVAR Mina Array Bea 65.91 58 P P 10 31 15.1 +0.9
comp=Z,6.6nm,0.7s,baz=306,slow=5.9,SNR=32
NVAR Mina Array Bea 65.91 58 P P 10 31 14.7 +0.5
MDPB Devils Postpil 66.10 59 P P 10 31 16.1 +0.6
PMPB Monarch Peak 66.23 61 P P 10 31 17.5 +1.5
PMPB IAmb IAmb 10 31 23.5
comp=Z,12nm,1.0s
AHID Auburn Hatcher 66.25 50 IAmb IAmb 10 31 18.1
comp=Z,13nm,1.1s
ULM Lac du Bonnet 66.74 36 P P 10 31 18.4 -0.7
comp=Z,20nm,0.8s,baz=317,slow=6.3,SNR=20
ULM LR LR 11 04 24.6
comp=Z,133nm,18.7s,baz=358,slow=40
PAGB Antelope Grade 66.89 61 IAmb IAmb 10 31 22.2
comp=Z,13nm,0.8s
BW06 Boulder Array 66.97 49 P P 10 31 21.4 +0.5
baz=321,SNR=17
PDAR Pinedale Array 66.97 49 P P 10 31 21.4 +0.5
comp=Z,14nm,0.9s,baz=324,slow=2.0,SNR=50
PDAR Pinedale Array 66.97 49 P P 10 31 20.7 -0.2
TIN Tinemaha, Big 66.98 59 P P 10 31 22.7 +1.8
baz=319
OJC Ojcow 66.99 324 P P 10 31 20.0 -0.6
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 66.99 324 P P 10 31 20.0 -0.6
OJC IAmb IAmb 10 31 21.6
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 67.02 319 P P 10 31 20.9 -0.1
BURAR Bucovina Array 67.04 319⇓P **P 10 31 21.5 +0.4**
BURAR mb 10 31 30.1
BURAR Bucovina Array 67.04 319 P P 10 31 20.6 -0.5
KOLS Kolonicke sedl 67.13 322 *eP* **P 10 31 22.1 +0.6**
KOLS Kolonicke sedl 67.13 322 *eP* **P 10 31 22.1 +0.6**
BIZ Bicaz 67.22 318⇓P **P 10 31 22.5 +0.3**
MDND Maddock 67.28 40 P P 10 31 23.3 +0.8
baz=324
DIKM Dikmen 67.28 309⇓P **P 10 31 23.8 +1.1**
DIKM mb 10 31 28.4
TESR Tescani 67.33 318⇓P **P 10 31 23.1 +0.2**
SMMC Simmler 67.34 61 P P 10 31 24.3 +1.2
baz=319,SNR=6.5
DUG Dugway, Tooele 67.38 53 P P 10 31 24.4 +0.9
baz=320,SNR=9.3
DUG Dugway, Tooele 67.38 53 IAmb IAmb 10 31 25.5
comp=Z,12nm,1.0s
R11A Troy Canyon, C 67.38 56 P P 10 31 24.2 +0.7
baz=319
VES Vestal, Richgr 67.43 60 P P 10 31 23.6 0.0
baz=319,SNR=9.6
GRAC Grapevine Rang 67.48 58 P P 10 31 25.5 +1.5
baz=319,SNR=7.0
CWC Cottonwood Cre 67.52 59 P P 10 31 25.3 +0.8
baz=319
BANOM Banah 67.58 284 *i P* **P 10 31 24.2 -0.6**
SNR=6.1
BANOM Banah 67.58 284 P P 10 31 24.2 -0.6
SHME Shamm 67.58 284 P P 10 31 23.5 -1.3
TRPA Tarpa 67.68 321⇑P **P 10 31 25.7 +0.7**
TRPA mb 10 31 27.8
PKM Mcpherson Peak 67.75 62 P P 10 31 27.1 +1.2
baz=319,SNR=9.2
ISA Isabella, Lake 67.89 60 P P 10 31 26.7 0.0
baz=319,SNR=5.9
LANS Liptovska Anna 68.00 323 *eP* **P 10 31 28.6 +1.5**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 68.00 323 *eP* **P 10 31 28.6 +1.5**
MDH Madha 68.05 283 P P 10 31 27.3 -0.4
MSFE Esma-Masafi 68.09 283 P P 10 31 27.3 -0.7
TPNV Topopah Spring 68.10 58 P P 10 31 28.8 +0.7
baz=320,SNR=17
ARVC Arvin 68.11 61 P P 10 31 28.3 +0.4
baz=319
DPC Dobruska-Polom 68.11 326 *eP* **P 10 31 28.2 +0.4**
DPC *e* 10 31 35.0
DPC Dobruska-Polom 68.11 326 *eP* **P 10 31 28.2 +0.4**
DPC *e*pP **sP 10 31 35.0 +1.5**
MPMC Manual Prospec 68.12 59 P P 10 31 28.9 +0.6
baz=319,SNR=10
FURC Furnace Creek, 68.14 59 P P 10 31 29.1 +1.1
baz=319,SNR=12
MORC Moravsky Berou 68.17 325 P P 10 31 28.2 0.0
MORC pmax pmax
comp=Z,15nm,0.9s
MORC Moravsky Berou 68.17 325⇑P **P 10 31 28.7 +0.6**
MORC mb 10 31 29.4
MORC Moravsky Berou 68.17 325 *eP* **P 10 31 28.5 +0.4**
MORC Moravsky Berou 68.17 325 P P 10 31 28.1 0.0
MORC IAmb IAmb 10 31 29.3
comp=Z,15nm,0.9s
KECS Kecovo 68.17 322 *eP* **P 10 31 28.8 +0.7**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 68.17 322 *eP* **P 10 31 28.8 +0.7**
KRLC Kraliky 68.19 326 *eP* **P 10 31 28.7 +0.5**
KRLC *e* 10 31 33.9
KRLC Kraliky 68.19 326 *eP* **P 10 31 28.7 +0.5**
KRLC *e*pP **sP 10 31 33.9 0.0**
TLB Topalu 68.28 315⇓P **P 10 31 28.9 +0.1**
DOPR Dopca 68.29 318⇑P **P 10 31 29.6 +0.6**
AGMN Agassiz Nation 68.36 38 P P 10 31 29.1 -0.2
baz=326,SNR=5.3
AGMN Agassiz Nation 68.36 38 P P 10 31 28.6 -0.7
UOSS Minazif 68.37 283 P P 10 31 28.7 -1.1
UOSS Minazif 68.37 283 P P 10 31 28.6 -1.1
UOSS Minazif 68.37 283 P P 10 31 28.4 -1.3
UOSS IAmb IAmb 10 31 34.2
comp=Z,11nm,0.9s
CLL Collm 68.40 328⇑ *iP* **P 10 31 29.6 +0.1**
CLL pmax pmax
comp=Z,40nm,1.1s
CLL Collm 68.40 328⇑ *iP* **P 10 31 29.6 +0.1**
CLL *i* pP **pP 10 31 32.5 -1.1**
comp=Z,26nm,1.1s
RSSD Black Hills 68.41 45 P P 10 31 30.5 +0.5
baz=323
RSSD Black Hills 68.41 45 P P 10 31 29.7 -0.3
RSSD pmax pmax
comp=Z,16nm,0.8s
RSSD Black Hills 68.41 45 P P 10 31 29.7 -0.3
WBK Wadi Bani Khal 68.44 279 P P 10 31 30.7 +0.5
MLR Muntele Rosu 68.44 317⇑P **P 10 31 30.3 +0.2**
MLR Muntele Rosu 68.44 317 IAmb IAmb 10 31 31.8
comp=Z,14nm,1.1s
LRMC Laurel Mtn Rad 68.45 60 P P 10 31 30.8 +0.5
baz=319,SNR=10
K22A Casper 68.47 48 P P 10 31 30.7 +0.4
baz=322,SNR=6.6
BRG Berggiesshubel 68.47 328 *e*PKP **P 10 31 30.0 +0.1**
comp=Z,7.2nm,1.1s
BRG Berggiesshubel 68.47 328 *eP* **P 10 31 30.0 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.1s
ISR Istrita 68.49 317⇓P **P 10 31 31.4 +1.1**
HATD Hatta, Dubai 68.50 283 *i P* **P 10 31 30.1 -0.5**
SNR=7.9
HATD Hatta, Dubai 68.50 283 P P 10 31 30.4 -0.1
SNR=6.7
JLN Jalan Bani Buh 68.52 279 P P 10 31 31.4 +0.7
OSI Osito Audit: C 68.55 61 P P 10 31 31.7 +0.9
baz=319
ASHO Ashiyiah 68.65 283 P P 10 31 30.9 -0.6
ASHO Ashiyiah 68.65 283 P P 10 31 30.9 -0.6
SNR=5.8
DRGR 68.70 320 P P 10 31 32.1 +0.5
DRGR 68.70 320⇓P **P 10 31 32.2 +0.6**
HOQ Hoqain 68.72 281 P P 10 31 31.5 -0.4
EDW2 Edwards Air Fo 68.74 60 P P 10 31 32.5 +0.5
baz=319,SNR=17
VYHS Vyhne 68.78 323 *eP* **P 10 31 32.7 +0.8**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 68.78 323 *eP* **P 10 31 32.7 +0.8**
VOIR 68.86 318⇑P **P 10 31 33.2 +0.6**
PSZ Piszkesteto 68.86 322 IAmb IAmb 10 31 37.9
comp=Z,13nm,1.1s
SHOC Shoshone, Teco 68.88 59 P P 10 31 34.0 +1.2
baz=320
JAVC Velka Javorina 68.89 324 *eP* **P 10 31 34.1 +1.4**
VRAC Vranov 68.90 325⇑P **P 10 31 33.7 +1.1**
VRAC mb 10 31 34.9
VRAC Vranov 68.90 325 *eP* **P 10 31 33.3 +0.6**
RWWY Rawlins 68.91 49 IAmb IAmb 10 31 34.3
comp=Z,12nm,0.8s
SHPR Sheep Range 69.00 57 P P 10 31 34.4 +0.6
GOPC GO Pecny, Ondr 69.01 327 *eP* **P 10 31 32.9 -0.4**
GOPC GO Pecny, Ondr 69.01 327 *eP* **P 10 31 32.9 -0.4**
PRU Pruhonice 69.03 327 *eP* **P 10 31 34.1 +0.7**
PRU Pruhonice 69.03 327 *eP* **P 10 31 34.1 +0.7**
DECC Green Verdugo 69.03 61 P P 10 31 34.5 +0.7
baz=320
GSC Goldstone, Bar 69.06 59 P P 10 31 34.6 +0.7
baz=320,SNR=9.1

GSC **Goldstone, Bar** 69.06 59 IAmb IAmb 10 31 35.6
comp=Z,9.1nm,1.0s
ARR **Arges** 69.09 318 ⇓P P **10 31 35.3 +1.3**
ASUD **Al Ashush, Dub** 69.13 283 P P **10 31 33.9 -0.6**
KRUC **Moravsky** 69.18 325 *e*P P **10 31 34.9 +0.5**
SMOL **Smolenice** 69.27 324 *e*P P **10 31 36.4 +1.4**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SMOL **Smolenice** 69.27 324 *e*P P **10 31 36.4 +1.4**
BFSC **Mount Baldy Ra** 69.41 61 P P **10 31 36.7 +0.5**
baz=320,SNR=5.5
BSY **Bisya** 69.42 281 P P **10 31 36.1 -0.2**
TUQ **Turquoise Moun** 69.42 59 P P **10 31 37.0 +0.8**
baz=320,SNR=13
MOX **Moxa** 69.42 329 P P **10 31 37.6 +1.7**
MOX pmax pmax
comp=Z,15nm,1.3s
MODS **Modra-Piesok** 69.44 324 *e*P P **10 31 36.5 +0.4**
MODS pmax pmax
comp=Z,15nm,1.3s
MODS **Modra-Piesok** 69.44 324 *e*P P **10 31 36.5 +0.4**
NKC **Novy Kostel** 69.51 328 *e*P P **10 31 36.5 +0.1**
NKC **Novy Kostel** 69.51 328 *e*P P **10 31 36.5 +0.1**
SIRR **Siria** 69.55 320 ⇓P P **10 31 37.5 +0.7**
BRTR **Keskin Array B** 69.55 309 *i*P P **10 31 36.5 -0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR **Keskin Array B** 69.55 309 P P **10 31 37.1 +0.1**
comp=Z,5.0nm,0.8s,baz=68,slow=3.7,SNR=15
BRTR PP PP **10 34 12.2 +1.9**
comp=Z,4.0nm,1.1s,baz=64,slow=6.6,SNR=6.1
BRTR LR LR 11 08 59.0
comp=Z,82nm,18.4s,baz=58,slow=42
BRTR **Keskin Array B** 69.55 309 P P **10 31 36.5 -0.5**
O20A **White River Ci** 69.64 50 P P **10 31 38.4 +0.8**
baz=322,SNR=16
HEC **Hector,Ludlow** 69.66 59 P P **10 31 38.4 +0.7**
baz=320,SNR=15
BBRC **Big Bear Solar** 69.78 60 P P **10 31 39.6 +0.9**
baz=320,SNR=12
GZR **Gura Zlata** 69.83 319 ⇓P P **10 31 39.1 +0.6**
GMRC **Granite Mounta** 70.06 59 P P **10 31 41.2 +1.0**
baz=320
KHC **Kasperske Hory** 70.08 327 *i*P P **10 31 39.8 -0.2**
KHC pmax pmax
comp=Z,31nm,1.3s
KHC **Kasperske Hory** 70.08 327 *e*P P **10 31 40.1 +0.1**
KHC **Kasperske Hory** 70.08 327 P P **10 31 40.3 +0.3**
KHC IAmb IAmb 10 31 42.0
comp=Z,15nm,1.5s
BZS **Buzias** 70.10 320 ⇑P P **10 31 40.2 0.0**
N23A **Red Feather La** 70.12 48 P P **10 31 41.4 +0.8**
baz=323,SNR=7.4
N23A **Red Feather La** 70.12 48 IAmb IAmb 10 31 42.2
comp=Z,12nm,1.0s
MURC **Murrieta** 70.14 61 P P **10 31 41.0 +0.4**
baz=320
EYMN **Ely** 70.25 35 P P **10 31 40.3 -0.6**
baz=328
EYMN **Ely** 70.25 35 P P **10 31 40.4 -0.6**
EYMN IAmb IAmb 10 31 41.7
comp=Z,12nm,0.9s
GERES **GERESS Array B** 70.29 327 P P **10 31 41.5 +0.1**
comp=Z,2.5nm,0.7s,baz=55,slow=5.4,SNR=8.2
GERES LR LR 11 04 39.6
comp=Z,153nm,18.6s,baz=338,slow=38
GERES **GERESS Array B** 70.29 327 P P **10 31 41.0 -0.3**
SUSD **Miller** 70.31 42 P P **10 31 41.8 +0.3**
baz=325
CONA **Conrad Observa** 70.33 325 *e*pP P **10 31 42.6 +1.0**
comp=Z,10nm,1.0s
HERR **Herculane** 70.39 319 ⇓P P **10 31 42.0 +0.1**
BELC **Belle Mtn. Jos** 70.48 60 P P **10 31 43.2 +0.4**
baz=320,SNR=6.4
PV21 **Cone Mtn., Par** 70.52 52 IAmb IAmb 10 31 44.7
comp=Z,14nm,0.7s
PFO **Pinyon Flats O** 70.53 60 P P **10 31 43.4 +0.3**
baz=320,SNR=6.4
PFO **Pinyon Flats O** 70.53 60 P P **10 31 43.2 +0.1**
PFO pmax pmax
comp=Z,12nm,1.4s
PFO **Pinyon Flats O** 70.53 60 P P **10 31 43.2 +0.1**
PFO IAmb IAmb 10 31 44.4
comp=Z,12nm,1.4s
U15A **North Rim** 70.54 56 IAmb IAmb 10 31 45.3
comp=Z,12nm,0.8s
PV04 **Paradox Valley** 70.69 52 IAmb IAmb 10 31 45.7
comp=Z,18nm,1.0s
SCHQ **Schefferville** 70.69 17 P P **10 31 43.1 -0.5**
comp=Z,5.7nm,0.7s,baz=270,slow=7.1,SNR=3.4
SCHQ LR LR 11 06 14.2
comp=Z,111nm,18.2s,baz=297,slow=39
SCHQ **Schefferville** 70.69 17 P P **10 31 42.8 -0.8**
PV20 **West Nyswonger** 70.70 52 IAmb IAmb 10 31 45.6
comp=Z,13nm,0.8s
PLVB **Pleven** 70.71 317 ⇓P P **10 31 44.1 +0.2**
PV19 **Morning Glory** 70.71 52 IAmb IAmb 10 31 45.8
comp=Z,13nm,0.9s
W13A **Hualapai Mount** 70.74 57 P P **10 31 44.9 +0.4**
PV16 **Nyswonger Mesa** 70.75 52 IAmb IAmb 10 31 45.5
comp=Z,7.6nm,0.8s
MDVR **Moldovita** 70.76 319 ⇓P P **10 31 44.2 0.0**
PV07 **Paradox Valley** 70.78 52 IAmb IAmb 10 31 46.2
comp=Z,11nm,1.1s
PV11 **David Mesa, Pa** 70.78 52 IAmb IAmb 10 31 46.9
comp=Z,12nm,0.8s
PV18 **Skein Mesa, Pa** 70.80 52 IAmb IAmb 10 31 47.1
comp=Z,17nm,1.3s
IRM **Iron Mountain** 70.81 59 P P **10 31 45.7 +1.0**
baz=321,SNR=14
PV03 **Paradox Valley** 70.82 52 IAmb IAmb 10 31 46.5
comp=Z,22nm,1.5s
PV13 **Radium Mtn., P** 70.91 52 P P **10 31 46.2 +0.7**
PV13 IAmb IAmb 10 31 47.1
comp=Z,12nm,0.8s
PV02 **Paradox Valley** 70.91 52 IAmb IAmb 10 31 51.8
comp=Z,6.2nm,0.7s
SMCO **Snowmass** 71.00 50 IAmb IAmb 10 31 47.9
comp=Z,11nm,0.8s
BC3 **Big Chuckawall** 71.03 60 P P **10 31 46.8 +0.7**
baz=321,SNR=5.6
MONP2 **Monument Peak** 71.10 61 P P **10 31 47.0 +0.3**
baz=320,SNR=7.2
BAR **Barrett** 71.13 61 P P **10 31 46.8 +0.2**
BAR IAmb IAmb 10 31 48.1
comp=Z,11nm,0.9s
ISCO **Idaho Springs** 71.14 49 P P **10 31 47.8 +0.9**
baz=323,SNR=10
MEM **Membach** 71.15 332 P P **10 31 46.6 +0.2**
BSTI **Sart Tilman** 71.30 333 P P **10 31 48.1 +0.8**
E38A **The Farm, Brul** 71.37 36 P P **10 31 46.9 -1.0**
baz=328
SWSC **Sam W. Stewart** 71.39 60 P P **10 31 48.8 +0.6**
baz=321
FITZ **Fitzroy Crossi** 71.42 197 P P **10 31 48.1 -0.1**
comp=Z,3.8nm,0.4s,baz=0.0,slow=8.1,SNR=4.1
Y12C **Blythe** 71.45 59 P P **10 31 49.5 +0.9**
baz=321,SNR=11
Y12C **Blythe** 71.45 59 IAmb IAmb 10 31 50.4
comp=Z,14nm,1.0s
IKP **In-Ko-Pah, Jac** 71.45 61 P P **10 31 49.5 +0.8**
baz=321,SNR=12
BCLA **Clavier** 71.52 333 P P **10 31 48.9 +0.3**
comp=Z,12nm,1.1s
SOKA **Soboth** 71.69 325 *e*pP P **10 31 50.6 +0.7**
comp=Z,15nm,1.5s
WUAZ **Wupatki** 71.71 56 P P **10 31 51.4 +1.1**
baz=322,SNR=6.2
WUAZ **Wupatki** 71.71 56 IAmb IAmb 10 31 52.5
comp=Z,18nm,1.1s
BMRD **Maredsous** 71.78 333 P P **10 31 50.0 -0.2**
comp=Z,17nm,1.0s
MVCO **Mesa Verde** 71.82 53 P P **10 31 51.5 +0.5**
baz=322,SNR=8.5
MVCO **Mesa Verde** 71.82 53 IAmb IAmb 10 31 52.5
comp=Z,14nm,1.0s
GLA **Glamis** 71.83 59 P P **10 31 52.2 +1.3**
baz=321
GLA **Glamis** 71.83 59 P P **10 31 51.5 +0.6**
GLA pmax pmax
comp=Z,15nm,0.9s
GLA **Glamis** 71.83 59 P P **10 31 51.5 +0.6**
GLA IAmb IAmb 10 31 52.8
comp=Z,15nm,0.9s
OGNE **Ogallala** 71.84 46 P P **10 31 51.4 +0.5**
baz=324,SNR=12

ECSD **EROS Data Cent** 71.85 41 P P **10 31 50.6 -0.2**
baz=326,SNR=22
VTS **Vitosha** 71.92 317 ⇑P P **10 31 51.7 +0.3**
VTS mb 10 31 53.0
KBA **Koelnbreinsper** 71.93 326 *e*pP P **10 31 52.4 +1.0**
comp=Z,41nm,1.4s,SNR=8.4
WLF **Walferdange** 71.95 332 P P **10 31 51.8 +0.5**
CTA **Charters Tower** 71.99 176 P P **10 31 50.8 -0.9**
comp=Z,9.0nm,1.1s,baz=268,slow=7.4,SNR=6.9
OBKA **Obir** 72.00 325 *e*pP P **10 31 52.6 +0.8**
comp=Z,15nm,1.3s
DOU **Dourbes** 72.01 333 P P **10 31 51.6 0.0**
Q24A **Divide** 72.02 49 P P **10 31 52.7 +0.4**
baz=323,SNR=5.5
SPMN **Marine on St.** 72.08 38 P P **10 31 51.9 -0.2**
baz=328
SPMN **Marine on St.** 72.08 38 IAmb IAmb 10 31 52.7
comp=Z,15nm,0.9s
WRAB **Tennant Creek** 72.09 188 *i*P P **10 31 51.8 -0.5**
WRAB pmax pmax
comp=Z,15nm,1.2s
WR0 **Warramunga Arr** 72.10 188 P P **10 31 51.7 -0.7**
WR0 IAmb IAmb 10 31 52.2
comp=Z,10nm,0.9s
WRA **Warramunga Arr** 72.10 188 P P **10 31 51.2 -1.2**
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA **Warramunga Arr** 72.10 188 P P **10 31 51.4 -1.0**
comp=Z,10nm,0.9s,baz=7.8,slow=6.9,SNR=7.0
WRA **Warramunga Arr** 72.10 188 P P **10 31 51.1 -1.2**
Y14A **Wickenburg** 72.10 58 IAmb IAmb 10 31 54.4
comp=Z,9.1nm,0.8s
S22A **4UR Ranch, Cre** 72.20 51 P P **10 31 54.6 +1.2**
baz=323,SNR=12
S22A **4UR Ranch, Cre** 72.20 51 IAmb IAmb 10 31 55.5
comp=Z,11nm,1.1s
MYKA **Terra Mystica** 72.22 326 *e*P P **10 31 52.3 -0.7**
comp=Z,7.3nm,0.7s
WATA **Walderalm** 72.31 327 *e*pP P **10 31 54.4 +0.7**
comp=Z,22nm,1.0s,SNR=5.8
WTTA **Wattenberg** 72.35 327 *e*pP P **10 31 55.1 +1.2**
comp=Z,24nm,0.8s,SNR=7.7
MOTA **Moosalm** 72.46 328 *e*pP P **10 31 55.1 +0.6**
comp=Z,18nm,0.9s,SNR=7.0
BFO **Black Forest** 72.48 330 P P **10 31 53.9 -0.6**
BFO pmax pmax
comp=Z,15nm,1.0s
BFO **Black Forest** 72.48 330 P P **10 31 53.9 -0.6**
BFO IAmb IAmb 10 31 55.8
comp=Z,15nm,1.0s
ABTA **Abfaltersbach** 72.51 326 *e*pP P **10 31 55.0 +0.2**
comp=Z,6.3nm,0.9s
SQTA **Sankt Quirin** 72.53 327 *e*pP P **10 31 55.9 +1.0**
comp=Z,20nm,1.0s,SNR=7.6
X16A **Lo Mia Camp, P** 72.53 56 IAmb IAmb 10 31 57.5
comp=Z,15nm,0.8s
SDCO **Great Sand Dun** 72.83 50 P P **10 31 57.6 +0.5**
baz=324,SNR=14
SDCO **Great Sand Dun** 72.83 50 IAmb IAmb 10 31 58.7
comp=Z,11nm,1.1s
FETA **Feichten** 72.87 328 *e*pP P **10 31 57.9 +0.9**
comp=Z,14nm,1.1s
DAVA **Damuels** 72.91 328 *e*pP P **10 31 57.7 +0.4**
comp=Z,17nm,1.0s
ECH **Echery** 72.94 330 IAmb IAmb 10 31 58.3
comp=Z,18nm,1.0s
BGNE **Belgrade** 73.14 43 P P **10 31 58.9 +0.3**
baz=326
KSCO **Kaye Shedlock'** 73.15 47 P P **10 31 58.6 -0.2**
baz=324
X18A **Snowflake** 73.21 55 IAmb IAmb 10 32 01.4
comp=Z,10nm,0.8s
D46A **Sault St. Mari** 73.68 31 P P **10 32 00.7 -0.9**
baz=332
PDG **Podgorica** 73.70 320 ⇓P P **10 32 01.8 0.0**
214A **Organ Pipe Nat** 73.75 59 P P **10 32 02.9 +0.6**
baz=322
LSQQ **Lebel-sur-Quev** 73.79 26 P P **10 32 01.5 -0.8**
baz=336
TUE **Stuetta** 73.80 328 IAmb IAmb 10 32 06.6
comp=Z,10nm,0.8s
T25A **Trinidad** 73.84 50 P P **10 32 03.3 +0.3**
baz=324,SNR=6.1
T25A **Trinidad** 73.84 50 IAmb IAmb 10 32 04.2
comp=Z,20nm,1.1s
TUC **Tucson** 74.53 57 P P **10 32 07.7 +0.8**
baz=322
TUC **Tucson** 74.53 57 P P **10 32 07.4 +0.5**
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** 74.53 57 P P **10 32 07.4 +0.5**
CBKS **Cedar Bluff** 74.60 46 P P **10 32 06.9 -0.3**
baz=326
ANMO **Albuquerque** 74.61 53 P P **10 32 08.5 +1.0**
baz=324
ANMO **Albuquerque** 74.61 53 P P **10 32 08.0 +0.5**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO **Albuquerque** 74.61 53 P P **10 32 08.0 +0.5**
SCIA **State Center** 74.74 40 P P **10 32 07.7 -0.1**
baz=328
SSF **Saint Saulge** 75.06 332 *e*P P **10 32 08.8 -0.8**
SSF pmax pmax
comp=Z,6.0nm,0.8s
L40A **Anamosa** 75.37 38 P P **10 32 11.1 -0.4**
baz=329
D53A **Lac Vacive, Po** 75.41 27 P P **10 32 11.6 0.0**
baz=336
LPL **La Plagne** 75.49 329 *e*P P **10 32 12.4 0.0**
LPL pmax pmax
comp=Z,15nm,1.0s
KSU1 **Kansas State U** 75.72 43 P P **10 32 13.0 -0.5**
baz=327,SNR=9.7
ASAR **Alice Springs** 75.83 188 P P **10 32 14.1 -0.1**
comp=Z,10nm,0.7s,baz=7.2,slow=5.2,SNR=27
ASAR PKKPbc **PKKPbc** **10 51 30.5 -0.5**
comp=Z,0.3nm,0.5s,baz=174,slow=1.4,SNR=7.2
ASAR **Alice Springs** 75.83 188 P P **10 32 13.7 -0.5**
121A **Cookes Peak, D** 75.89 55 P P **10 32 16.5 +1.6**
baz=323,SNR=12
121A **Cookes Peak, D** 75.89 55 IAmb IAmb 10 32 17.2
comp=Z,18nm,0.9s
PSA00 **Pilbara Seismi** 75.97 201 P P **10 32 14.1 -0.8**
E54A **Lac Daplat, Po** 76.14 27 P P **10 32 15.4 -0.4**
baz=336
D56A **ZEC Mazanza, M** 76.23 25 P P **10 32 16.2 -0.1**
baz=338
D57A **Chemin Vers le** 76.48 25 P P **10 32 17.6 -0.2**
baz=338
MFF **Saint Martin d** 76.50 334 *e*P P **10 32 17.6 -0.2**
MFF pmax pmax
comp=Z,29nm,1.3s
EIL **Elat** 76.82 301 LR LR 11 12 03.8
comp=Z,66nm,18.9s,baz=336,slow=40
DZM **Mont Dzumac** 76.85 157 P P **10 32 20.5 +0.5**
DZM IAmb IAmb 10 32 22.2
comp=Z,8.1nm,0.7s
G53A **Haliburton** 76.92 28 P P **10 32 20.0 -0.3**
baz=336
AMTX **Amarillo** 76.95 49 P P **10 32 21.4 +0.6**
baz=326
E57A **Chemin Saint G** 76.98 25 P P **10 32 20.4 -0.2**
baz=338
MSTX **Muleshoe** 77.19 51 P P **10 32 22.2 +0.1**
baz=325
MNTX **Cornudas Mount** 77.76 54 P P **10 32 26.2 +1.0**
baz=324,SNR=15
MNTX **Cornudas Mount** 77.76 54 IAmb IAmb 10 32 27.2
comp=Z,18nm,1.1s
LFF **La Frestale** 77.79 333 *e*P P **10 32 25.1 0.0**
LFF pmax pmax
comp=Z,9.0nm,0.8s
WMOK **Wichita Mounta** 78.41 47 P P **10 32 29.1 +0.3**
baz=327,SNR=17
WMOK **Wichita Mounta** 78.41 47 IAmb IAmb 10 32 30.0
comp=Z,20nm,0.9s
TUL1 **Leonard** 78.75 45 P P **10 32 30.9 +0.3**
baz=328,SNR=8.5
TUL1 **Leonard** 78.75 45 IAmb IAmb 10 32 31.8
comp=Z,21nm,0.9s
CCM **Cathedral Cave** 78.81 40 P P **10 32 30.6 -0.3**
baz=330
CCM **Cathedral Cave** 78.81 40 P P **10 32 29.9 -1.0**
CCM pmax pmax
comp=Z,19nm,1.2s
CCM **Cathedral Cave** 78.81 40 P P **10 32 29.9 -1.0**
CCM IAmb IAmb 10 32 31.5
comp=Z,19nm,1.2s
H58A **Gabriels** 78.82 26 P P **10 32 30.8 -0.1**
baz=338
F64A **Sherman** 78.89 21 P P **10 32 30.8 -0.4**
baz=341
MGMO **Mountain Grove** 79.17 41 IAmb IAmb 10 32 33.4
comp=Z,32nm,1.4s
H61A **Lyndonville** 79.30 24 P P **10 32 34.0 +0.5**
baz=340
U40A **Yellville** 79.62 42 P P **10 32 35.0 -0.4**
baz=329,SNR=19
U40A **Yellville** 79.62 42 P P **10 32 34.7 -0.7**
ABTX **Abilene, Hawle** 79.77 49 P P **10 32 36.5 +0.3**
baz=327,SNR=6.2
W39A **Magazine** 80.22 44 P P **10 32 38.7 +0.1**
baz=329
P50A **Jamestown** 80.23 34 P P **10 32 38.4 -0.3**
baz=333
PBMO **Poplar Bluff** 80.24 40 IAmb IAmb 10 32 39.1
comp=Z,13nm,1.0s
FCAR **Ozark Folk Cen** 80.32 42 IAmb IAmb 10 32 39.6
comp=Z,18nm,1.1s
TX32 **Lajitas Array** 80.54 54 IAmb IAmb 10 32 42.6
comp=Z,22nm,1.0s
TXAR **Lajitas Array** 80.54 54 P P **10 32 41.4 +0.8**
comp=Z,12nm,0.8s,baz=296,slow=5.2,SNR=69
TXAR PKKPbc **PKKPbc** **10 51 19.6 +1.1**
comp=Z,0.5nm,0.9s,baz=141,slow=4.4,SNR=3.9
TXAR **Lajitas Array** 80.54 54 P P **10 32 41.2 +0.7**
LCAR **Lake Charles** 80.56 41 IAmb IAmb 10 32 42.0
comp=Z,16nm,1.1s
WCI **Wyandotte Cave** 80.56 37 P P **10 32 40.5 +0.1**
baz=332
L59A **Walton** 80.64 27 P P **10 32 40.7 -0.2**
baz=338
MIAR **Mount Ida** 80.86 44 P P **10 32 42.4 +0.3**
baz=329
MIAR **Mount Ida** 80.86 44 IAmb IAmb 10 32 43.3
comp=Z,14nm,1.1s
O54A **Avella** 80.87 32 P P **10 32 42.0 0.0**
baz=335
W41B **Gary Mavity, V** 80.88 43 P P **10 32 41.9 -0.2**
baz=330,SNR=6.0
W41B **Gary Mavity, V** 80.88 43 IAmb IAmb 10 32 43.7
comp=Z,13nm,0.9s
X40A **Basin Creek Fa** 81.22 43 P P **10 32 44.4 +0.4**
baz=329,SNR=6.7
X40A **Basin Creek Fa** 81.22 43 IAmb IAmb 10 32 45.2
comp=Z,16nm,1.1s
N57A **Milroy** 81.23 29 P P **10 32 43.2 -0.7**
baz=337
S49A **Springfield** 81.32 36 P P **10 32 44.3 -0.2**
baz=333
T47A **Sharon Grove** 81.35 38 P P **10 32 44.4 -0.2**
baz=332
JCT **Junction City** 81.48 50 P P **10 32 45.5 0.0**
baz=327,SNR=8.8
P55A **Reedsville** 81.66 32 P P **10 32 46.5 +0.2**
baz=335
S50A **Richmond** 81.74 36 P P **10 32 46.8 +0.1**
baz=333
Q54A **Coxs Mills** 81.80 33 P P **10 32 47.1 +0.1**
baz=335
WVT **Waverly** 81.83 39 P P **10 32 47.4 +0.2**
baz=332
WVT **Waverly** 81.83 39 P P **10 32 47.3 +0.2**
WVT pmax pmax
comp=Z,12nm,1.2s
WVT **Waverly** 81.83 39 P P **10 32 47.3 +0.2**
T49A **Edmonton** 81.84 37 P P **10 32 47.2 0.0**
baz=333
T50A **Nancy** 82.17 36 P P **10 32 48.9 0.0**
baz=333
S52A **Salyersville** 82.21 35 P P **10 32 49.4 +0.2**
baz=334
U49A **Red Boiling Sp** 82.27 37 P P **10 32 49.3 -0.1**
baz=333
P58A **Pank, Wackersv** 82.47 30 P P **10 32 49.0 -1.5**
baz=337
V48A **Smith Brothers** 82.56 38 P P **10 32 50.8 -0.2**
baz=332
T53A **Wise** 83.02 35 P P **10 32 53.6 +0.1**
baz=334
R57A **Stanardsville** 83.18 31 P P **10 32 54.6 +0.4**
baz=336,SNR=5.1
POLO **Lamas de Olo** 83.31 338 *e*P P **10 32 55.3 +0.3**
comp=Z,18nm,1.8s
PVRL **Vila Real** 83.39 338 *e*P P **10 32 55.7 +0.4**
833A **Chaparral WMA,** 83.47 51 IAmb IAmb 10 32 57.7
comp=Z,16nm,1.1s
STKA **Stephens Creek** 83.65 181 P P **10 32 55.6 -0.7**
STKA pmax pmax
comp=Z,5.0nm,1.5s
STKA **Stephens Creek** 83.65 181 P P **10 32 56.2 -0.2**
comp=Z,5.3nm,0.9s,baz=324,slow=10.0,SNR=6.8
STKA **Stephens Creek** 83.65 181 P P **10 32 55.6 -0.7**
V52A **Sevierville** 83.67 36 P P **10 32 56.7 0.0**
baz=334
ESDC **Sonseca Array** 83.96 334 P P **10 32 58.4 +0.1**
comp=Z,2.6nm,0.5s,baz=17,slow=3.7,SNR=18
ESDC **Sonseca Array** 83.96 334 P P **10 32 57.9 -0.4**
PVIS **Viseu** 83.96 338 *e*P P **10 32 58.5 +0.3**
PCBR **Castelo Branco** 84.69 337 *e*P P **10 33 02.3 +0.4**
comp=Z,28nm,1.6s
PCAS **Casmilo, Conde** 84.73 338 *e*P P **10 33 02.3 +0.2**
comp=Z,59nm,1.7s
V56A **Mocksville** 84.79 34 P P **10 33 02.7 +0.3**
baz=335
Y51A **Rockmart** 84.86 38 P P **10 33 02.4 -0.5**
baz=333
X53A **Estanollee** 84.97 36 P P **10 33 03.6 +0.2**
baz=334
Z50A **Ashland** 85.10 39 P P **10 33 03.9 -0.2**
baz=333,SNR=6.7
Y53A **Monroe** 85.45 37 P P **10 33 05.8 +0.1**
baz=334
W57A **Gilead** 85.55 34 P P **10 33 06.2 -0.1**
baz=336
Z52A **Williamson** 85.73 38 P P **10 33 07.3 +0.1**
baz=333
Y54A **Tignall** 85.77 36 P P **10 33 07.3 -0.1**
baz=334
Z53A **Monticello** 85.97 37 P P **10 33 08.3 -0.1**
baz=334
Y55A **Saluda** 86.00 35 P P **10 33 08.5 0.0**
baz=335
ZAIG **Zacatecas** 86.50 57 IAmb IAmb 10 33 13.9
comp=Z,7.4nm,1.0s
NWAO **Narrogin (SRO)** 87.50 201 P P **10 33 15.1 -0.3**
comp=Z,20nm,0.9s,baz=1.2,slow=4.6,SNR=5.9
TORD **Torodi Ar. Bea** 106.61 320 PP PKiKP 10 39 06.2 +13
comp=Z,1.2nm,0.9s,baz=353,slow=5.8,SNR=4.8
BOSA **Boshof** 128.41 272 PKIKP **PKPdf** **10 39 34.8 0.0**
BOSA **Boshof** 128.41 272 PKP **PKPdf** **10 39 34.5 -0.3**
comp=Z,2.3nm,0.7s,baz=2.9,slow=4.6,SNR=5.6
BOSA **Boshof** 128.41 272 **PKPdf** **10 39 34.8 0.0**
MAW **Mawson** 133.15 211 PKP **PKPdf** **10 39 42.5 +0.2**
comp=Z,3.0nm,0.9s,baz=71,slow=6.3,SNR=4.4
MAW **Mawson** 133.15 211 **PKPdf** **10 39 42.2 -0.1**
LPAZ **La Paz** 136.89 45 PKP **PKPdf** **10 39 51.3 -0.4**
comp=Z,1.9nm,0.8s,baz=9.3,slow=6.9,SNR=5.2
LPAZ **La Paz** 136.89 45 **PKPdf** **10 39 51.0 -0.7**
SYO **Syowa Base** 141.56 214⇑ *e*X **Pdif** **10 37 16.0 -0.9**
QSPA **South Pole Qui** 141.87 180 PKPpre 10 39 51.7
BDFB **Brasilia** 142.69 16 PKhKP PKPpre 10 39 56.5
comp=Z,2.2nm,0.6s,baz=324,slow=4.9,SNR=4.4
GO02 **Mina Guanaco** 143.84 54 PKPbc 10 40 01.2 -0.2
GO04 **Tololo Observa** 147.26 61 **PKPbc** **10 40 11.3 -0.3**
ROC1 **El Roble** 149.28 65 **PKPbc** **10 40 16.1 -0.7**
CPUP **Villa Florida** 150.29 37 PKPbc **PKPbc** **10 40 18.6 -0.6**
comp=Z,14nm,0.9s,baz=330,slow=2.6,SNR=3.2
CPUP PKPab **PKPab** **10 40 25.3 -0.1**
comp=Z,4.9nm,0.8s,baz=313,slow=2.9,SNR=5.0
CPUP **Villa Florida** 150.29 37 **PKPbc** **10 40 18.8 -0.4**
PLCA **Paso Flores** 154.89 76 PKPbc **PKPbc** **10 40 29.0 -0.1**
comp=Z,7.3nm,0.9s,baz=333,slow=1.8,SNR=12
PLCA PKPab **PKPab** **10 40 44.5 0.0**
comp=Z,1.8nm,0.8s,baz=342,slow=4.0,SNR=4.2
SNAA **Sanae** 155.09 205 PKPab **PKPab** **10 40 44.3 -0.2**
SNAA **Sanae** 155.09 205 PKP2 **PKPab** **10 40 43.6 -0.9**
SNAA **Sanae** 155.09 205 **PKPab** **10 40 43.6 -0.9**
VNA2 **Neumayer--Watz** 156.72 205 PKPab **PKPab** **10 40 50.3 -1.1**
baz=138,slow=5.6
VNA2 **Neumayer--Watz** 156.72 205 PKPdf PKPdf 10 40 29.8 +7.9
baz=157,slow=3.1
VNA3 **Neumayer Olymp** 157.08 203 PKPab **PKPab** **10 40 52.2 -0.8**
VNA3 **Neumayer Olymp** 157.08 203 PKPdf **PKPdf** **10 40 27.5 +5.2**

VNA1	Neumayer--Stat	157.11	205	PKPab	PKPab	10 40 53.0	-0.1
VNA1	Neumayer--Stat	157.11	205	PKPdf	PKPdf	10 40 21.6	-0.7

*NEIC **24** 10:21:57.5±1.4, 29°.59N±0°.07×141°.3E±0°.2, h11km±3km, mb4.3/23*
*JMA **24** 10:21:58.3±0.1, 29°.84N×142°.29E, h49km, M4.4*
*IDC **24** 10:22:01.9±2.0, 29°.58N×141°.30E, h46km±19km, mb3.7/16, mb1 4.0/19, mb1mx3.8/51, mbtmp4.0/19, ML3.6/3, Error ellipse: s-maj=21.9km s-min=14.6km az=76.0*
ISC 24 10:22:02.1±0.5, 29.70N±0°.06×141.5E±0°.1, h46km, n82, σ1°65/95, mb4.2/26, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.66**	**168**	P	**Pn**	**10 22 41.1**	**-1.3**
CBIJ				eS	**Sn**	**10 23 12.7**	**-0.7**
JCJ	**Chichijima**	**2.66**	**167**	P	**Pn**	**10 22 41.3**	**-1.2**
	11nm,0.3s,baz=295,slow=19,SNR=6.7						
JCJ				S	**Sn**	**10 23 09.3**	**-4.1**
	39nm,0.3s,baz=56,slow=22,SNR=5.4						
JHH2	**Haha-jima-NKT2**	**3.11**	**169**	eS	**Sn**	**10 23 25.0**	**+0.5**
JAOM	**Aogashimamukai**	**3.15**	**332**	eS	**Sn**	**10 23 28.7**	**+3.2**
JHCJ	**Hachijojimakas**	**3.68**	**337**	P	**Pn**	**10 22 56.6**	**+0.2**
JHCJ				eS	**Sn**	**10 23 38.8**	**+0.3**
JHJ2	**Mitsune**	**3.71**	**337**	P	**Pn**	**10 22 56.7**	**-0.1**
JHJ2				eS	**Sn**	**10 23 39.5**	**+0.3**
JHJ2	**Mitsune**	**3.71**	**337**	Pn	**Pn**	**10 22 57.3**	**+0.5**
JHJ	**Hachijo jima 2**	**3.72**	**337**	P	**Pn**	**10 22 57.0**	**-0.1**
	22nm,0.3s,baz=69,slow=22,SNR=31						
JHJ				S	**Sn**	**10 23 37.4**	**-2.3**
	50nm,0.3s,baz=248,slow=22,SNR=9.6						
JMKN	**Mikurajimanish**	**4.50**	**339**	P	**Pn**	**10 23 08.0**	**+0.3**
JMKN				eS	**Sn**	**10 23 58.3**	**-0.4**
BSO1	**Boso 1**	**4.96**	**355**	eS	**Sn**	**10 24 09.2**	**-0.2**
BSO4	**Boso 4**	**5.37**	**349**	P	**Pn**	**10 23 21.6**	**+2.0**
BSO4				eS	**Sn**	**10 24 22.9**	**+2.8**
JOD2	**Odawara 2**	**5.92**	**340**	P	**Pn**	**10 23 27.4**	**+0.2**
JOD2				eS	**Sn**	**10 24 38.7**	**+4.9**
JIE	**Ise**	**6.22**	**320**	P	Pn	10 23 36.4	+5.1
JHU	**Hanno**	**6.42**	**343**	P	**Pn**	**10 23 33.1**	**-1.0**
JHU				eS	**Sn**	**10 24 45.4**	**-0.7**
JNY	**Yasuok**	**6.44**	**332**	P	**Pn**	**10 23 38.9**	**+4.5**
JYT	**Yasato**	**6.61**	**350**	eS	**Sn**	**10 24 49.6**	**-1.0**
JRY	**Ryogami san**	**6.68**	**341**	P	**Pn**	**10 23 38.1**	**+0.5**
JRY				eS	**Sn**	**10 24 52.1**	**-0.3**
JAG	**Ashikaga**	**6.93**	**346**	P	**Pn**	**10 23 40.4**	**-0.7**
JAG				eS	**Sn**	**10 24 56.3**	**-2.3**
JHO	**Hitachi**	**6.94**	**354**	P	**Pn**	**10 23 38.7**	**-2.5**
JHO				S	**Sn**	**10 24 53.6**	**-5.2**
MJAR	**Matsushiro Arr**	**7.37**	**339**	P	**Pn**	**10 23 47.7**	**+0.5**
	0.6nm,0.3s,baz=134,slow=18,SNR=22						
MJAR				S	**Sn**	**10 25 09.3**	**-0.1**
	0.1nm,0.3s,baz=147,slow=23,SNR=3.0						
MJAR	**Matsushiro Arr**	**7.37**	**339**		**Pn**	**10 23 50.8**	**+3.7**
MAJO	**Matsushiro**	**7.37**	**339**		**Pn**	**10 23 47.7**	**+0.6**
MAT	**Matsushiro**	**7.37**	**339**	P	**Pn**	**10 23 48.2**	**+1.0**
MAT				S	**Sn**	**10 25 10.1**	**+0.6**
MJB9	**Matsu-Tunnel**	**7.38**	**339**		**Pn**	**10 23 47.8**	**+0.6**
JFK	**Kawauchi**	**7.67**	**356**	P	**Pn**	**10 23 49.3**	**-1.9**
JFK				eS	Sn	10 25 09.4	-7.3
JTO	**Tosashimizu**	**8.11**	**295**	S	Sn	10 25 44.9	+17
JMK	**Ichinoseki**	**9.23**	**358**	P	**Pn**	**10 24 10.6**	**-2.0**
JMK				eS	**Sn**	**10 25 52.8**	**-2.3**
JKA	**Kamikawa-asahi**	**14.41**	**3**		**Pn**	**10 25 21.8**	**-1.5**
ASAJ	**Asahikawa**	**14.41**	**3**	P	**Pn**	**10 25 21.8**	**-1.5**
	0.4nm,0.3s,baz=189,slow=13,SNR=5.0						
MDJ	**Mudanjiang**	**17.64**	**331**	P	**P**	**10 26 05.4**	**+0.5**
MDJ				IAmb	IAmb	10 26 06.4	
	comp=Z,31nm,0.9s						
SONM	**Songino Array**	**32.48**	**314**	P	**P**	**10 28 28.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=119,slow=8.9,SNR=2.4						
SONM	**Songino Array**	**32.48**	**314**	P	**P**	**10 28 25.9**	**-2.3**
ZALV	**Zalesovo Beam**	**47.17**	**318**	PcP	**PcP**	**10 32 00.7**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=98,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**48.41**	**308**	P	**P**	**10 30 37.9**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=94,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**48.41**	**308**	P	**P**	**10 30 37.6**	**-2.0**
WB0	**Warramunga Arr**	**49.66**	**189**	P	**P**	**10 30 48.1**	**-1.2**
WB0				IAmb	IAmb	10 30 50.1	
	comp=Z,6.2nm,1.1s						
WRAB	**Tennant Creek**	**49.83**	**189**	P	**P**	**10 30 50.5**	**-0.1**
WRAB				IAmb	IAmb	10 30 51.1	
	comp=Z,3.1nm,0.8s						
WR0	**Warramunga Arr**	**49.83**	**189**	P	**P**	**10 30 49.8**	**-0.8**
WR0				IAmb	IAmb	10 31 03.3	
	comp=Z,5.9nm,1.1s						
WB2	**Warramunga Arr**	**49.84**	**189**	P	**P**	**10 30 51.0**	**+0.3**
WB2				IAmb	IAmb	10 30 57.9	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**49.84**	**189**	P	**P**	**10 30 48.4**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=5.3,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**49.84**	**189**	P	**P**	**10 30 49.5**	**-1.2**
KURK	**Kurchatov**	**50.78**	**313**	P	**P**	**10 30 56.3**	**-1.2**
KURK				IAmb	IAmb	10 30 58.2	
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**50.84**	**313**	P	**P**	**10 30 56.4**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=90,slow=6.7,SNR=6.4						
IMAR	**Indian Mountai**	**52.99**	**28**	P	**P**	**10 31 15.3**	**+1.5**
ASAR	**Alice Springs**	**53.57**	**189**	P	**P**	**10 31 17.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=2.0,slow=4.5,SNR=7.9						
KTH	**Kantishna Hill**	**53.87**	**31**	P	**P**	**10 31 22.6**	**+2.3**
KTH				IAmb	IAmb	10 31 23.6	
	comp=Z,2.8nm,1.0s						
BPAW	**Bear Paw Mtn.**	**53.90**	**30**	P	**P**	**10 31 22.2**	**+1.7**
BPAW				IAmb	IAmb	10 31 22.4	
	comp=Z,3.9nm,1.2s						
MLY	**Manley**	**54.10**	**29**	P	**P**	**10 31 23.9**	**+1.9**
MLY				IAmb	IAmb	10 31 24.5	
	comp=Z,2.2nm,1.0s						
NEA	**Nenana**	**54.77**	**30**	P	**P**	**10 31 28.5**	**+1.7**
NEA				IAmb	IAmb	10 31 29.0	
	comp=Z,2.2nm,0.7s						
SCM	**Sheep Creek Mo**	**55.43**	**33**	P	**P**	**10 31 33.5**	**+1.8**
ARSB	**Arslanbob**	**55.68**	**302**	P	**P**	**10 31 33.5**	**-0.4**
ARSB				IAmb	IAmb	10 31 51.7	
	comp=Z,3.7nm,1.1s						
ILAR	**Eielson Array**	**55.72**	**29**	P	**P**	**10 31 34.0**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=254,slow=5.0,SNR=4.3						
ILAR	**Eielson Array**	**55.72**	**29**	P	**P**	**10 31 34.3**	**+0.7**
BMAR	**Burnt Mountain**	**56.77**	**26**	P	**P**	**10 31 43.6**	**+2.5**
SCRK	**Sand Creek**	**56.97**	**30**	P	**P**	**10 31 43.9**	**+1.2**
KKAR	**Karatay Array**	**57.12**	**304**	P	**P**	**10 31 42.8**	**-1.3**
INK	**Inuvik**	**60.91**	**25**	P	**P**	**10 32 10.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=284,slow=4.3,SNR=4.8						
ARU	**Arti**	**62.03**	**321**	P	**P**	**10 32 17.4**	**-0.1**
ABKAR	**Akbulak array**	**62.89**	**313**	P	**P**	**10 32 23.2**	**-0.2**
ARCES	**ARCESS Array B**	**70.90**	**340**	P	**P**	**10 33 14.1**	**0.0**
	comp=Z,3.8nm,0.7s,baz=65,slow=7.2,SNR=6.3						
ARCES	**ARCESS Array B**	**70.90**	**340**	P	**P**	**10 33 14.6**	**+0.5**
FINES	**FINESS Array B**	**75.37**	**333**	P	**P**	**10 33 40.3**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=72,slow=6.2,SNR=6.1						
KBZ	**Khabaz**	**75.83**	**312**	P	**P**	**10 33 43.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=107,slow=5.9,SNR=3.5						
BEKR	**Beckworth**	**77.27**	**51**	P	**P**	**10 33 53.3**	**+1.4**
NVAR	**Mina Array Bea**	**79.36**	**52**	P	**P**	**10 34 05.0**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=4.1						
NVAR	**Mina Array Bea**	**79.36**	**52**	P	**P**	**10 34 05.1**	**+1.6**
SCO	**Scoresbysund**	**79.40**	**354**	P	**P**	**10 34 03.9**	**+1.1**
AKASG	**Malin Array Be**	**80.19**	**323**	P	**P**	**10 34 06.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=50,slow=5.2,SNR=2.8						
AKASG	**Malin Array Be**	**80.19**	**323**	P	**P**	**10 34 06.8**	**-0.6**
NOA	**NORSAR Array B**	**80.99**	**338**	P	**P**	**10 34 11.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=44,slow=5.5,SNR=2.8						
HVU	**Hansel Valley**	**81.30**	**47**	P	**P**	**10 34 16.0**	**+2.2**
TPAW	**Teton Pass**	**81.52**	**45**	P	**P**	**10 34 17.2**	**+2.1**
PDAR	**Pinedale Array**	**82.76**	**45**	P	**P**	**10 34 22.8**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=290,slow=2.1,SNR=3.5						
PDAR	**Pinedale Array**	**82.76**	**45**	P	**P**	**10 34 22.9**	**+1.3**
BR131	**Keskin Array S**	**83.83**	**312**	P	**P**	**10 34 27.4**	**+0.4**
BRTR	**Keskin Array B**	**83.83**	**312**	P	**P**	**10 34 26.9**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=102,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**83.83**	**312**	P	**P**	**10 34 27.1**	**+0.1**
BURAR	**Bucovina Array**	**84.15**	**322**	P	**P**	**10 34 28.5**	**+0.1**
TXAR	**Lajitas Array**	**94.49**	**53**	P	**P**	**10 35 19.6**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=234,slow=1.6,SNR=3.9						
TXAR	**Lajitas Array**	**94.49**	**53**	P	**P**	**10 35 19.4**	**+1.5**
LPAZ	**La Paz**	**149.70**	**70**	PKPbc	**PKPbc**	**10 41 48.6**	**+0.4**
MNMC	**Minye Minye**	**149.85**	**77**	PKPbc	**PKPbc**	**10 41 48.7**	**+0.6**

*ISCJB **24** 10:28:03.1±0.5, 6°.54S±0°.04×129°.86E±0°.06, h200km, mb3.8/4, Error ellipse: s-maj=8.4km s-min=6.0km az=8.9*
*DJA **24** 10:28:03.5±0.3, 7°.5S±2°×13°.0E±°, h202km±6km, M4.4/10, mb4.2/6, mB5.0/6, MLv4.5/10, Mw(mB)4.4/6*
*IDC **24** 10:28:04.2±2.3, 6°.47S×129°.90E, h153km±22km, mb3.7/4, mb1 3.9/7, mb1mx3.4/33, mbtmp4.3/7, Error ellipse: s-maj=31.8km s-min=18.5km az=80.0*
ISC 24 10:28:04.1±0.8, 6°.49S±0°.05×129°.89E±0°.07, h200km, n17, σ2°62/21, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.95**	**0**	P	**Pn**	**10 28 42.8**	**+0.6**
SAUI	**Saumlaki**	**2.04**	**137**	P	**Pn**	**10 28 41.8**	**-1.3**
SAUI				S	**Sn**	**10 29 12.7**	**-0.7**
MSAI	**Masohi**	**3.27**	**343**	P	**Pn**	**10 28 57.9**	**+0.9**
MSAI				S	**Sn**	**10 29 38.7**	**+0.3**
FAKI	**Fak Fak**	**4.25**	**34**	P	**Pn**	**10 29 07.9**	**-1.2**
FAKI				S	**Sn**	**10 29 56.1**	**-4.2**
SIJI	**Sorong**	**5.75**	**14**	P	**Pn**	**10 29 27.5**	**-0.7**
	11nm,0.3s,baz=158,slow=19,SNR=69						
SIJI				S	**Sn**	**10 30 29.1**	**-5.7**
	4.6nm,0.3s,baz=288,slow=20,SNR=4.6						
SWI	**Sorong**	**5.75**	**14**	P	**Pn**	**10 29 27.1**	**-1.1**
SOEI	**Soe**	**6.45**	**239**	P	**Pn**	**10 29 36.7**	**-0.6**
RKPI	**Ransiki, Papua**	**6.54**	**41**	P	**Pn**	**10 29 39.8**	**+1.4**
BATI	**Baumata**	**7.18**	**239**	P	**Pn**	**10 29 46.5**	**-0.4**
	12nm,0.3s,baz=121,slow=5.6,SNR=11						
BATI				S	**Sn**	**10 31 04.3**	**-4.1**
	12nm,0.3s,baz=342,slow=20,SNR=9.6						
BATI	**Baumata**	**7.18**	**239**	P	**Pn**	**10 29 46.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.26**	**199**	P	**Pn**	**10 30 50.2**	**-2.1**
	1.1nm,0.3s,baz=21,slow=9.7,SNR=52						
FITZ				S	Sn	10 32 57.9	-11
	1.3nm,0.3s,baz=72,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**14.05**	**163**	P	**Pn**	**10 31 13.1**	**-1.8**
	0.9nm,0.3s,baz=333,slow=13,SNR=18						
WRA				S	S	10 33 40.2	-11
	2.9nm,0.3s,baz=335,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.51**	**168**	P	**Pn**	**10 31 58.5**	**+2.0**
	1.3nm,0.3s,baz=347,slow=9.5,SNR=90						
ASAR				S	**S**	**10 35 05.7**	**-0.7**
	1.1nm,0.3s,baz=344,slow=22,SNR=6.9						
STKA	**Stephens Creek**	**27.52**	**158**	P	**P**	**10 33 36.8**	**+4.5**
	1.6nm,0.6s,baz=349,slow=10,SNR=2.8						
CMAR	**Chiang Mai Arr**	**39.32**	**310**	P	P	10 35 19.0	+4.8
	1.0nm,0.5s,baz=142,slow=7.5,SNR=7.0						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	10 38 45.8	+5.6
	2.8nm,0.6s,baz=121,slow=8.0,SNR=24						
ZALV	**Zalesovo Beam**	**71.08**	**334**	P	**P**	**10 39 04.3**	**+3.9**
	0.8nm,0.5s,baz=133,slow=6.3,SNR=3.0						

IDC 24 10:36:04.7±30.0, 23°.59S×176°.10W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/22, mbtmp3.9/4, Error ellipse: s-maj=543.8km s-min=154.0km az=78.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.06**	**268**	P	P	10 43 00.4	+0.8
	0.9nm,0.3s,baz=104,slow=8.7,SNR=4.6						
STKA	**Stephens Creek**	**38.16**	**248**	P	P	10 43 26.8	+0.9
	0.8nm,0.6s,baz=111,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**45.61**	**259**	P	P	10 44 26.6	-0.5
	0.6nm,0.6s,baz=90,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**46.00**	**265**	P	P	10 44 29.0	-1.1
	1.0nm,0.7s,baz=105,slow=8.6,SNR=11						

*ISCJB **24** 10:57:00.5±0.2, 24°.281N±0°.009×121°.79E±0°.01, h10km±1km, Error ellipse: s-maj=2.0km s-min=1.4km az=26.6*
*JMA **24** 10:57:00.5, 24°.23N×121°.70E, h22km±1km, M3.4*
*TAP **24** 10:57:00.5, 24°.29N×121°.75E, h17km, ML3.9, B*
*ASIES **24** 10:57:00.2, 24°.30N×121°.76E, h17km, MW3.4*
ISC 24 10:57:00.5±0.8, 24°.29N±0°.01×121°.76E±0°.02, h15km±5km, n124, σ0°64/211, 4C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.14**	**357**	⇓*i*P	**Pg**	**10 57 04.5**	**+0.2**
	baz=357						
NANB				*i* S	**Sb**	**10 57 07.3**	**-0.6**
	baz=357						
ENA	**Nanau**	**0.14**	**353**	⇓*i*P	**Pg**	**10 57 04.5**	**+0.2**
	baz=357						
ENA				*i* S	**Sb**	**10 57 07.4**	**-0.5**
	baz=357						
NACB	**Ninganchiao**	**0.19**	**233**	⇓P	**Pg**	**10 57 04.9**	**0.0**
	baz=227						
NACB				S	**Sg**	**10 57 08.0**	**+0.1**
	baz=227						
TWD	**Chiawan**	**0.25**	**216**	⇓*i*P	**Pg**	**10 57 06.1**	**+0.1**
	baz=220						
TWD				*i* S	**Sb**	**10 57 10.3**	**-0.8**
	baz=220						
ETLH	**Xiulin Townshi**	**0.27**	**253**	⇓P	**Pg**	**10 57 06.4**	**+0.1**
	baz=252						
ETLH				S	**Sg**	**10 57 10.4**	**+0.2**
	baz=252						
TWC	**Suao**	**0.33**	**14**	⇓*i*P	**Pg**	**10 57 07.5**	**+0.1**
	baz=11						
TWC				S	**Sg**	**10 57 12.2**	**+0.1**
	baz=11						
HWA	**Hwalien**	**0.34**	**205**	P	**Pb**	**10 57 08.2**	**-0.1**
	baz=213						
HWA				S	**Sb**	**10 57 13.8**	**+0.3**
	baz=213						
NNSB	**Datong**	**0.37**	**293**	⇓P	**Pb**	**10 57 08.5**	**-0.4**
	baz=293						
NNSB				S	**Sg**	**10 57 13.6**	**+0.2**
	baz=293						
NNS	**Nan Shan**	**0.38**	**294**	⇓*i*P	**Pb**	**10 57 08.7**	**-0.5**
	baz=294						
NNS				S	**Sg**	**10 57 13.8**	**+0.1**
	baz=294						
NDT	**Datong Townshi**	**0.39**	**325**	⇓P	**Pb**	**10 57 08.6**	**-0.5**
	baz=324						
NDT				S	**Sb**	**10 57 14.4**	**-0.6**
	baz=324						
ENTT	**Nioudou**	**0.39**	**334**	⇓P	**Pg**	**10 57 08.7**	**+0.1**
	baz=334						
ENTT				S	**Sg**	**10 57 14.3**	**+0.4**
	baz=334						
ENLB	**Shoufeng**	**0.41**	**201**	*e*P	**Pb**	**10 57 09.0**	**-0.5**
	baz=210						
ENLB				S	**Sb**	**10 57 16.8**	**+1.3**
	baz=210						
EOS1	**EOS1**	**0.43**	**52**	P	**Pb**	**10 57 09.8**	**0.0**
	baz=43						
EOS1				*e*S	**Sb**	**10 57 16.7**	**+0.6**
	baz=43						
TWE	**Neicheng**	**0.44**	**349**	P	**Pg**	**10 57 09.5**	**+0.1**
	baz=350						
TWE				S	**Sg**	**10 57 15.0**	**-0.4**
	baz=350						
WHF	**Hehuan Shan**	**0.47**	**253**	⇓*i*P	**Pg**	**10 57 10.1**	**+0.1**
	baz=253						
WHF				S	**Sg**	**10 57 16.9**	**+0.3**
	baz=253						
ILA	**Ilan**	**0.48**	**359**	P	**Pb**	**10 57 10.5**	**-0.2**
	baz=353						
ILA				S	**Sb**	**10 57 17.4**	**-0.2**
	baz=353						
SLBB	**Yuanshan**	**0.48**	**346**	*e*P	**Pg**	**10 57 09.5**	**-0.6**
	baz=346						
SLBB				*e*S	**Sg**	**10 57 16.3**	**-0.3**
	baz=346						
YHNB	**Yeheng**	**0.52**	**318**	⇓P	**Pb**	**10 57 11.0**	**-0.5**
	baz=317						
YHNB				S	**Sg**	**10 57 17.9**	**+0.2**
	baz=317						
NSK	**Sanguang**	**0.53**	**317**	⇓*i*P	**Pg**	**10 57 11.1**	**0.0**
	baz=317						
NSK				S	**Sg**	**10 57 18.4**	**+0.1**
	baz=317						
TWT	**Tachien**	**0.53**	**267**	⇓P	**Pb**	**10 57 11.8**	**+0.1**
	baz=267						
TWT				S	**Sb**	**10 57 18.8**	**-0.5**
	baz=267						
NWLT	**Wulai**	**0.54**	**335**	*e*P	**Pb**	**10 57 11.4**	**-0.4**
	baz=339						
NWLT				*e*S	**Sb**	**10 57 18.8**	**-0.6**
	baz=339						
TDCB	**Techi**	**0.55**	**267**	⇓P	**Pb**	**10 57 11.9**	**-0.1**
	baz=267						
TDCB				S	**Sg**	**10 57 18.8**	**0.0**
	baz=267						
ESL	**Shilin**	**0.56**	**212**	P	**Pg**	**10 57 11.2**	**-0.3**
	baz=219						
ESL				S	**Sb**	**10 57 19.3**	**-0.5**
	baz=219						
NTC	**Toucheng**	**0.57**	**6**	*e*P	**Pg**	**10 57 11.8**	**0.0**
	baz=5.0						
NTC				*e*S	**Sg**	**10 57 19.2**	**-0.1**
	baz=5.0						
CHGB	**Renai**	**0.58**	**247**	⇓P	**Pb**	**10 57 12.2**	**-0.3**
	baz=248						
CHGB				S	**Sb**	**10 57 20.2**	**-0.5**
	baz=248						
EGS		**0.58**	**16**	⇓P	**Pb**	**10 57 12.2**	**-0.2**
	baz=21						
EGS				*e*S	**Sb**	**10 57 20.1**	**-0.4**
	baz=21						
EGFH	**Guangfu**	**0.69**	**206**	*e*P	**Pb**	**10 57 14.0**	**-0.2**
	baz=222						
EGFH				*e*S	**Sb**	**10 57 23.8**	**+0.2**
	baz=222						
TIPB	**Shuangxi**	**0.69**	**5**	⇓*i*P	**Pg**	**10 57 13.9**	**0.0**
	baz=3.0						
TIPB				S	**Sg**	**10 57 22.3**	**-0.8**
	baz=3.0						
NHDH	**Xindian Distri**	**0.71**	**343**	*e*P	**Pg**	**10 57 14.9**	**+0.5**
	baz=336						
TWA	**Mucha**	**0.71**	**347**	*e*P	**Pb**	**10 57 14.4**	**-0.2**
	baz=346						
TWA				S	**Sb**	**10 57 24.2**	**0.0**
	baz=346						
TATO	**Taipei**	**0.73**	**340**	P	**Pb**	**10 57 14.7**	**-0.3**
	baz=339						
TATO				S	**Sg**	**10 57 24.7**	**+0.3**
	baz=339						
WLTB	**Daxi**	**0.73**	**321**	*e*P	**Pn**	**10 57 15.5**	**-0.8**
	baz=320						
WLTB				*e*S	**Sg**	**10 57 24.8**	**+0.4**
	baz=320						
WHP	**Taichung City**	**0.74**	**270**	*e*P	**Pn**	**10 57 15.6**	**-1.1**
	baz=270						
WHP				S	**Sb**	**10 57 24.9**	**-0.3**
	baz=270						
TWB1	**Santiao Chiao**	**0.75**	**16**	⇓P	**Pb**	**10 57 15.0**	**-0.3**
	baz=15						
TWB1				*e*S	**Sb**	**10 57 24.1**	**-1.2**
	baz=15						
LIOB	**Emei**	**0.77**	**298**	⇓P	**Pn**	**10 57 16.0**	**-0.9**
	baz=298						
LIOB				S	**Sg**	**10 57 26.2**	**+0.7**
	baz=298						
NSTT	**Nanjuang**	**0.77**	**297**	⇓P	**Pg**	**10 57 15.8**	**+0.3**
	baz=297						
NSTT				S	**Sg**	**10 57 26.0**	**+0.3**
	baz=297						
VWDT	**VWDT**	**0.77**	**227**	⇓P	**Pb**	**10 57 15.4**	**-0.4**
	baz=228						
VWDT				*e*S	**Sg**	**10 57 26.3**	**+0.5**
	baz=228						
NWF	**Wu-fen Shan**	**0.78**	**1**	*e*P	**Pg**	**10 57 15.9**	**+0.1**
	baz=352						
NWF				*e*S	**Sg**	**10 57 26.8**	**+0.7**
	baz=352						
WFSB	**Wu-fen Shan**	**0.78**	**1**	*e*P	**Pg**	**10 57 15.9**	**+0.2**
	baz=352						
WFSB				S	**Sg**	**10 57 26.4**	**+0.3**
	baz=352						
TAP	**Taipei**	**0.79**	**343**	*e*P	**Pg**	**10 57 16.1**	**+0.3**
	baz=342						
TAP				S	**Sg**	**10 57 26.4**	**+0.2**
	baz=342						
DPDB	**Guoxing**	**0.80**	**252**	⇓P	**Pg**	**10 57 16.2**	**+0.1**
	baz=252						
DPDB				*e*S	**Sg**	**10 57 26.8**	**+0.2**
	baz=252						
HGSD	**Ruisui**	**0.85**	**201**	⇓P	**Pg**	**10 57 17.3**	**+0.3**
	baz=216						
HGSD				*e*S	**Sn**	**10 57 30.2**	**+0.1**
	baz=216						
NCU	**National Centr**	**0.86**	**323**	*e*P	**Pn**	**10 57 17.9**	**-0.2**
	baz=319						
NCU				*e*S	**Sn**	**10 57 29.8**	**-0.6**
	baz=319						
NCUH	**Zhongli**	**0.86**	**323**	*e*P	**Pn**	**10 57 17.9**	**-0.2**
	baz=318						
NCUH				*e*S	**Sn**	**10 57 30.7**	**+0.3**
	baz=318						
SBCB	**Hsinchu**	**0.87**	**306**	*e*P	**Pn**	**10 57 18.7**	**+0.4**
	baz=299						
SBCB				*e*S	**Sn**	**10 57 30.3**	**-0.3**
	baz=299						
TWS1	**Kuangyinshan**	**0.87**	**339**	*i* P	**Pn**	**10 57 18.1**	**-0.2**
	baz=339						
TWS1				S	**Sn**	**10 57 30.1**	**-0.6**
	baz=339						
EHY	**Hungye**	**0.87**	**207**	*e*P	**Pb**	**10 57 16.7**	**-0.7**
	baz=218						
YM01	**YM01**	**0.87**	**349**	⇑*i*P	**Pn**	**10 57 17.9**	**-0.5**
	baz=347						
YM01				S	**Sg**	**10 57 29.2**	**+0.2**
	baz=347						
YM10	**YM10**	**0.88**	**348**	⇑*i*P	**Pn**	**10 57 18.0**	**-0.5**
	baz=347						
YM10				S	**Sg**	**10 57 29.8**	**+0.5**
	baz=347						
SSLB	**Suanglung**	**0.89**	**236**	⇓P	**Pb**	**10 57 17.4**	**-0.3**
	baz=237						
SSLB		

YUS				eS	Sg	10 57 35.9	+0.1
	baz=214						
JYNG	**Yonagunijimaku**	**1.09**	**81**	P	**Pn**	**10 57 21.2**	**-0.2**
JYNG				S	**Sg**	**10 57 36.8**	**+0.8**
WCHH	**Zhanghua**	**1.11**	**260**	eP	**Pg**	**10 57 22.7**	**+0.6**
	baz=260						
WCHH				eS	Sg	10 57 39.8	+3.2
	baz=260						
YOJ	**Yonaguni jima**	**1.16**	**81**	P	**Pb**	**10 57 22.1**	**-0.2**
	baz=69						
YOJ				eS	Sn	10 57 37.6	-0.1
	baz=69						
YOJ	**Yonaguni jima**	**1.16**	**81**	P	**Pb**	**10 57 22.1**	**-0.2**
YOJ				S	**Sg**	**10 57 38.4**	**+0.5**
FULB	**Fuli**	**1.16**	**202**	eP	**Pn**	**10 57 21.5**	**-0.8**
	baz=215						
CHN5	**Tsauling**	**1.20**	**235**	eP	**Pg**	**10 57 23.7**	**-0.1**
	baz=237						
CHN5				eS	Sg	10 57 40.8	+1.3
	baz=237						
CHKT	**Chengkung**	**1.23**	**197**	eP	**Pg**	**10 57 24.2**	**-0.1**
	baz=183						
WGK	**Gukeng**	**1.25**	**242**	P	**Pg**	**10 57 24.7**	**+0.2**
	baz=242						
WGK				eS	Sg	10 57 42.4	+1.5
	baz=242						
ELDTW	**Lidau**	**1.29**	**212**	eP	**Pn**	**10 57 23.3**	**-0.8**
	baz=215						
ELDTW				eS	Sn	10 57 40.7	-0.5
	baz=215						
RLNB	**Erlin**	**1.34**	**253**	eP	**Pg**	**10 57 26.0**	**-0.3**
	baz=267						
RLNB				eS	Sg	10 57 44.6	+0.8
	baz=267						
PCYT	**Pengchaiyu**	**1.37**	**12**	eP	**Pb**	**10 57 25.4**	**-0.5**
	baz=9.0						
PCYT				eS	Sb	10 57 43.7	+0.5
	baz=9.0						
CHN2	**Minshiung**	**1.39**	**238**	eP	**Pg**	**10 57 27.3**	**0.0**
	baz=238						
WTCT	**Ta-ch'eng**	**1.41**	**253**	eP	**Pb**	**10 57 26.3**	**-0.3**
	baz=252						
CHN4	**Tsaushan**	**1.42**	**229**	eP	**Pg**	**10 57 27.3**	**-0.5**
	baz=230						
TPUB	**Ta-pu**	**1.43**	**227**	eP	**Pb**	**10 57 27.0**	**+0.2**
	baz=219						
TPUB				eS	Sb	10 57 45.1	+0.2
	baz=219						
STYT	**Tauyuan**	**1.45**	**220**	eP	**Pb**	**10 57 26.6**	**-0.6**
	baz=222						
STYT				eS	Sg	10 57 46.2	-1.0
	baz=222						
CHY	**Chiayi**	**1.45**	**238**	eP	**Pb**	**10 57 27.2**	**-0.1**
	baz=224						
WTP	**Ta-pu**	**1.47**	**226**	P	**Pb**	**10 57 27.9**	**+0.2**
	baz=227						
WTP				eS	Sg	10 57 47.9	-0.2
	baz=227						
TWK	**Hsinying**	**1.54**	**229**	eP	**Pb**	**10 57 28.7**	**-0.2**
	baz=229						
WSF	**Szhu**	**1.55**	**246**	eP	**Pb**	**10 57 28.7**	**-0.2**
	baz=255						
WSF				eS	Sg	10 57 50.3	-0.1
	baz=255						
WLGB	**Puzi**	**1.56**	**239**	eP	**Pb**	**10 57 29.2**	**0.0**
	baz=240						
WLGB				eS	Sg	10 57 50.8	0.0
	baz=240						
SNST	**Tainan City**	**1.57**	**228**	eP	**Pg**	**10 57 29.9**	**-0.8**
	baz=228						
CHN1	**Nanshi**	**1.57**	**226**	eP	**Pb**	**10 57 29.5**	**+0.1**
	baz=227						
TWG	**Pinlang**	**1.59**	**204**	eP	**Pn**	**10 57 27.2**	**-0.9**
	baz=207						
TWG				eS	Sn	10 57 48.5	0.0
	baz=207						
TWGBT	**Beinan**	**1.59**	**203**	eP	**Pn**	**10 57 27.1**	**-1.1**
	baz=190						
SGST	**Jiashian**	**1.61**	**222**	eP	**Pb**	**10 57 29.4**	**-0.6**
	baz=216						
SGST				eS	Sb	10 57 50.6	+0.3
	baz=216						
SLGT	**Liugui**	**1.64**	**219**	eP	**Pb**	**10 57 30.2**	**-0.4**
	baz=220						
CHN8	**Yiju**	**1.70**	**237**	eP	**Pb**	**10 57 30.4**	**-1.1**
	baz=223						
CHN8				eS	Sb	10 57 53.5	+0.8
	baz=223						
IRIF	**Iriomote-Funau**	**1.80**	**88**	P	**Pn**	**10 57 30.9**	**-0.2**
IRIF				eS	Sn	10 57 54.3	+0.6
ECL	**Taimali**	**1.84**	**204**	eP	**Pn**	**10 57 30.9**	**-0.7**
	baz=193						
SSD	**Sandimen**	**1.85**	**214**	eP	**Pb**	**10 57 33.0**	**-1.1**
	baz=227						
SSD				eS	Sb	10 57 57.1	+0.1
	baz=227						
TWM1	**Shoushan**	**1.90**	**220**	eP	**Pb**	**10 57 34.5**	**-0.5**
	baz=221						
MASBT	**Mashibuluo**	**1.96**	**212**	eP	**Pn**	**10 57 33.9**	**+0.6**
	baz=216						
MASBT				eS	Sb	10 57 59.4	-0.8
	baz=216						
JKRS	**Kuro-shima**	**2.06**	**91**	P	**Pn**	**10 57 35.3**	**+0.7**
JKRS				eS	Sb	10 58 01.5	-1.5
PNG	**Penghu**	**2.14**	**251**	eP	**Pn**	**10 57 35.9**	**+0.2**
	baz=249						
PHUB	**P'eng-hu**	**2.14**	**249**	eP	**Pn**	**10 57 35.6**	**-0.2**
	baz=249						
PHUB				eS	Sn	10 58 02.8	+0.6
	baz=249						
PTTC	**Pingtan**	**2.17**	**304**	eP	**Pn**	**10 57 35.5**	**-0.7**
	baz=302						
SCZT	**Fanglian**	**2.17**	**209**	eP	**Pn**	**10 57 37.5**	**+1.2**
	baz=195						
JIJ	**Ishigaki jima**	**2.18**	**87**	P	**Pn**	**10 57 36.2**	**-0.1**
JIJ				eS	Sn	10 58 03.1	+0.1
WDGT	**Dungji**	**2.18**	**242**	eP	**Pn**	**10 57 37.0**	**+0.7**
	baz=241						
VWUC	**VWUC**	**2.22**	**289**	eP	**Pn**	**10 57 36.4**	**-0.4**
	baz=287						
LAY	**Lan-yu**	**2.25**	**185**	eP	**Pn**	**10 57 37.4**	**+0.2**
	baz=187						
JISG	**Ishigakijimahi**	**2.34**	**82**	P	**Pn**	**10 57 38.8**	**+0.2**
JISG				S	**Sn**	**10 58 07.3**	**+0.1**
VCHM	**Qimei**	**2.39**	**244**	eP	**Pn**	**10 57 39.1**	**-0.1**
	baz=243						
VCHM				eS	Sn	10 58 08.7	+0.4
	baz=243						
MATB	**Ma-tsu**	**2.48**	**319**	eP	**Pn**	**10 57 40.2**	**-0.2**
	baz=316						
TWK1	**Hengchun**	**2.49**	**201**	eP	**Pn**	**10 57 41.3**	**+0.7**
	baz=193						
TWKBT	**Hengchun**	**2.49**	**201**	eP	**Pn**	**10 57 40.5**	**-0.1**
	baz=193						
PTMZ	**Houxiangcun**	**2.52**	**288**	eP	**Pn**	**10 57 40.8**	**-0.1**
	baz=286						
JTJ	**Tarama**	**2.71**	**82**	P	**Pn**	**10 57 44.8**	**+1.3**
JTJ				eS	Sn	10 58 18.1	+2.1
LYJJ	**Jianjiangzhen**	**2.89**	**322**	eP	**Pn**	**10 57 45.7**	**-0.4**
	baz=319						
XPSS	**Dashiqiu**	**2.99**	**332**	eP	**Pn**	**10 57 47.3**	**-0.1**
	baz=329						
KNM	**Kinmen**	**3.04**	**273**	eP	**Pn**	**10 57 49.7**	**+1.6**
	baz=271						
MHZQ	**Yeshan**	**3.06**	**307**	eP	**Pn**	**10 57 48.4**	**-0.1**
	baz=304						
KNMB	**Chin-men Tao**	**3.08**	**274**	eP	**Pn**	**10 57 48.5**	**-0.1**
	baz=272						
AXDP	**Jialang**	**3.50**	**281**	eP	**Pn**	**10 57 54.7**	**+0.2**
	baz=279						
ZPLA	**Ao Xicun**	**3.68**	**265**	eP	**Pn**	**10 57 57.0**	**0.0**
	baz=261						
ZZJH	**Jiuzhen**	**3.77**	**274**	eP	**Pn**	**10 57 57.8**	**-0.3**
	baz=271						

IDC ***24*** *10:59:47.0±1.0, 24°.09N×121°.69E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.3/77, mbtmp3.4/6, Error ellipse: s-maj=47.6km s-min=20.3km az=68.0*
TAP ***24*** *10:59:50.9, 24°.29N×121°.76E, h18km, ML3.9, B*
JMA ***24*** *10:59:50.9, 24°.26N×121°.76E, h13km±1km, M3.7*
ASIES ***24*** *10:59:50.2, 24°.30N×121°.74E, h27km, MW3.5*
ISCJB ***24*** *10:59:51.6±0.2, 24°.30N±0°.01×121°.79E±0°.01, h17km±2km, mb3.3/6, Error ellipse: s-maj=2.3km s-min=1.5km az=30.3*
ISC 24 10:59:50.8±0.8, 24°.29N±0°.01×121°.76E±0°.02, h18km±4km, n126, σ0$72/207, mb3.3/6, 2C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Time h m s	Res ISC
NANB	**Nanao**	**0.14**	**355**	⇓*i*P	**Pg**	**10 59 55.1**	**+0.2**
	baz=356						
NANB				*i* S	**Sg**	**10 59 57.9**	**+0.2**
	baz=356						
ENA	**Nanau**	**0.14**	**352**	⇓*i*P	**Pg**	**10 59 55.1**	**+0.2**
	baz=356						
ENA				*i* S	**Sg**	**10 59 58.0**	**+0.3**
	baz=356						
NACB	**Ninganchiao**	**0.19**	**233**	⇓P	**Pg**	**10 59 55.5**	**-0.1**
	baz=234						
NACB				S	**Sg**	**10 59 58.5**	**-0.4**
	baz=234						
TWD	**Chiawan**	**0.26**	**216**	⇓P	**Pg**	**10 59 56.7**	**+0.1**
	baz=220						
TWD				S	**Sb**	**11 00 01.0**	**-0.1**
	baz=220						
ETLH	**Xiulin Townshi**	**0.27**	**252**	⇓P	**Pg**	**10 59 57.0**	**+0.1**
	baz=252						
ETLH				S	**Sg**	**11 00 01.2**	**+0.1**
	baz=252						
TWC	**Suao**	**0.33**	**14**	⇓*i*P	**Pb**	**10 59 58.1**	**-0.1**
	baz=11						
TWC				S	**Sg**	**11 00 02.9**	**+0.3**
	baz=11						
HWA	**Hwalien**	**0.34**	**205**	P	**Pb**	**10 59 58.9**	**+0.4**
	baz=213						
HWA				eS	**Sb**	**11 00 04.3**	**+0.7**
	baz=213						
NNSB	**Datong**	**0.37**	**292**	⇓P	**Pb**	**10 59 59.1**	**+0.1**
	baz=292						
NNSB				S	**Sg**	**11 00 04.0**	**0.0**
	baz=292						
NDT	**Datong Townshi**	**0.39**	**324**	⇓P	**Pb**	**10 59 59.1**	**-0.1**
	baz=324						
NDT				S	**Sb**	**11 00 04.8**	**-0.1**
	baz=324						
NNS	**Nan Shan**	**0.39**	**293**	⇓*i*P	**Pb**	**10 59 59.3**	**0.0**
	baz=293						
NNS				S	**Sb**	**11 00 04.6**	**-0.4**
	baz=293						
ENTT	**Nioudou**	**0.39**	**333**	⇓*i*P	**Pb**	**10 59 59.2**	**-0.1**
	baz=333						
ENTT				S	**Sb**	**11 00 05.0**	**-0.1**
	baz=333						
ENLB	**Shoufeng**	**0.41**	**201**	eP	**Pg**	**10 59 59.5**	**+0.2**
	baz=210						
ENLB				eS	**Sb**	**11 00 07.1**	**+1.5**
	baz=210						
EOS1	**EOS1**	**0.42**	**52**	P	**Pb**	**11 00 00.3**	**+0.6**
	baz=44						
EOS1				S	**Sb**	**11 00 07.3**	**+1.5**
	baz=44						
TWE	**Neicheng**	**0.44**	**348**	⇓*i*P	**Pb**	**11 00 00.0**	**0.0**
	baz=349						
TWE				S	**Sg**	**11 00 05.7**	**-0.1**
	baz=349						
ILA	**Ilan**	**0.47**	**358**	P	**Pb**	**11 00 00.9**	**+0.2**
	baz=352						
ILA				S	**Sg**	**11 00 07.0**	**+0.1**
	baz=352						
SLBB	**Yuanshan**	**0.48**	**346**	P	**Pg**	**11 00 00.0**	**-0.5**
	baz=346						
WHF	**Hehuan Shan**	**0.48**	**253**	⇓*i*P	**Pg**	**11 00 00.8**	**+0.1**
	baz=261						
WHF				*i* S	**Sg**	**11 00 07.4**	**+0.2**
	baz=261						
YHNB	**Yeheng**	**0.52**	**317**	⇓P	**Pb**	**11 00 01.5**	**+0.1**
	baz=317						
YHNB				S	**Sb**	**11 00 08.5**	**-0.2**
	baz=317						
NSK	**Sanguang**	**0.53**	**316**	⇓*i*P	**Pb**	**11 00 01.7**	**0.0**
	baz=316						
NSK				*i* S	**Sb**	**11 00 09.0**	**-0.2**
	baz=316						
TWT	**Tachien**	**0.54**	**266**	⇓*i*P	**Pb**	**11 00 02.4**	**+0.5**
	baz=267						
TWT				S	**Sb**	**11 00 09.6**	**+0.3**
	baz=267						
NWLT	**Wulai**	**0.54**	**334**	P	**Pb**	**11 00 01.8**	**0.0**
	baz=333						
NWLT				S	**Sg**	**11 00 08.8**	**-0.1**
	baz=333						
TDCB	**Techi**	**0.55**	**266**	⇓P	**Pb**	**11 00 02.4**	**+0.3**
	baz=267						
TDCB				S	**Sb**	**11 00 09.5**	**-0.3**
	baz=267						
ESL	**Shilin**	**0.56**	**213**	⇓P	**Pg**	**11 00 01.8**	**-0.2**
	baz=218						
ESL				S	**Sg**	**11 00 09.6**	**+0.1**
	baz=218						
NTC	**Toucheng**	**0.56**	**6**	⇓P	**Pb**	**11 00 02.4**	**+0.2**
	baz=5.0						
NTC				S	**Sb**	**11 00 11.0**	**+1.0**
	baz=5.0						
EGS		**0.57**	**15**	⇓*i*P	**Pb**	**11 00 02.8**	**+0.4**
	baz=21						
EGS				S	**Sb**	**11 00 10.5**	**+0.3**
	baz=21						
CHGB	**Renai**	**0.58**	**247**	⇓P	**Pb**	**11 00 02.8**	**+0.1**
	baz=248						
CHGB				eS	**Sb**	**11 00 10.8**	**+0.1**
	baz=248						
TIPB	**Shuangxi**	**0.68**	**5**	⇓*i*P	**Pg**	**11 00 04.5**	**+0.2**
	baz=3.0						
TIPB				S	**Sg**	**11 00 13.0**	**-0.3**
	baz=3.0						
EGFH	**Guangfu**	**0.69**	**207**	eP	**Pg**	**11 00 04.4**	**0.0**
	baz=219						
NHDH	**Xindian Distri**	**0.70**	**342**	eP	**Pg**	**11 00 05.1**	**+0.4**
	baz=341						
NHDH				eS	**Sg**	**11 00 14.3**	**+0.2**
	baz=341						
TWA	**Mucha**	**0.71**	**347**	eP	**Pb**	**11 00 04.7**	**0.0**
	baz=346						
TWA				eS	**Sg**	**11 00 14.7**	**+0.6**
	baz=346						
TATO	**Taipei**	**0.73**	**340**	P	**Pg**	**11 00 05.3**	**+0.2**
	baz=339						
TATO				S	**Sg**	**11 00 15.0**	**+0.2**
	baz=339						
WLTB	**Daxi**	**0.73**	**320**	⇓P	**Pn**	**11 00 05.9**	**-0.4**
	baz=320						
WLTB				eS	**Sg**	**11 00 15.7**	**+0.9**
	baz=320						
TWB1	**Santiao Chiao**	**0.74**	**16**	⇓*i*P	**Pg**	**11 00 05.5**	**+0.1**
	baz=15						
TWB1				S	**Sb**	**11 00 15.0**	**-0.1**
	baz=15						
WHP	**Taichung City**	**0.75**	**269**	eP	**Pn**	**11 00 06.1**	**-0.5**
	baz=269						
WHP				eS	**Sg**	**11 00 15.8**	**+0.4**
	baz=269						
LIOB	**Emei**	**0.77**	**298**	⇓P	**Pn**	**11 00 06.5**	**-0.3**
	baz=298						
LIOB				S	**Sg**	**11 00 16.8**	**+0.7**
	baz=298						
NSTT	**Nanjuang**	**0.77**	**296**	P	**Pg**	**11 00 06.4**	**+0.4**
	baz=296						
NSTT				eS	**Sb**	**11 00 15.9**	**-0.1**
	baz=296						
NWF	**Wu-fen Shan**	**0.78**	**1**	⇓P	**Pg**	**11 00 06.4**	**+0.3**
	baz=352						
NWF				eS	**Sg**	**11 00 16.5**	**+0.1**
	baz=352						
WFSB	**Wu-fen Shan**	**0.78**	**1**	⇓P	**Pg**	**11 00 06.5**	**+0.4**
	baz=352						
WFSB				S	**Sg**	**11 00 16.9**	**+0.5**
	baz=352						
VWDT	**VWDT**	**0.78**	**227**	⇓P	**Pg**	**11 00 06.0**	**-0.1**
	baz=228						
VWDT				eS	**Sg**	**11 00 16.7**	**+0.3**
	baz=228						
TAP	**Taipei**	**0.78**	**343**	eP	**Pn**	**11 00 06.7**	**-0.4**
	baz=342						
TAP				eS	**Sb**	**11 00 16.4**	**+0.1**
	baz=342						
DPDB	**Guoxing**	**0.81**	**252**	P	**Pg**	**11 00 06.8**	**+0.2**
	baz=252						
DPDB				S	**Sg**	**11 00 17.5**	**+0.2**
	baz=252						
HGSD	**Ruisui**	**0.85**	**201**	⇓P	**Pg**	**11 00 07.8**	**+0.3**
	baz=221						
HGSD				S	**Sn**	**11 00 20.6**	**+0.5**
	baz=221						
NCUH	**Zhongli**	**0.86**	**322**	⇑eP	**Pn**	**11 00 08.7**	**+0.7**
	baz=321						
NCUH				eS	**Sn**	**11 00 20.5**	**+0.4**
	baz=321						
NCU	**National Centr**	**0.86**	**322**	eP	**Pn**	**11 00 08.2**	**+0.2**
	baz=321						
NCU				eS	**Sn**	**11 00 20.3**	**+0.1**
	baz=321						
TWS1	**Kuangyinshan**	**0.87**	**339**	eP	**Pn**	**11 00 08.6**	**+0.4**
	baz=338						
TWS1				S	**Sn**	**11 00 20.4**	**0.0**
	baz=338						
SBCB	**Hsinchu**	**0.87**	**305**	eP	**Pn**	**11 00 09.1**	**+0.9**
	baz=298						
SBCB				eS	**Sn**	**11 00 20.9**	**+0.5**
	baz=298						
YM01	**YM01**	**0.87**	**348**	⇑eP	**Pn**	**11 00 08.3**	**0.0**
	baz=332						
YM01				eS	**Sg**	**11 00 19.8**	**+0.4**
	baz=332						
EHY	**Hungye**	**0.88**	**207**	eP	**Pb**	**11 00 07.5**	**-0.1**
	baz=218						
YM10	**YM10**	**0.88**	**348**	P	**Pn**	**11 00 08.5**	**0.0**
	baz=332						
YM10				S	**Sn**	**11 00 20.9**	**0.0**
	baz=332						
YM11	**YM11**	**0.89**	**349**	P	**Pn**	**11 00 08.8**	**+0.2**
	baz=333						
YM11				eS	**Sn**	**11 00 20.8**	**-0.3**
	baz=333						
SSLB	**Suanglung**	**0.89**	**236**	P	**Pb**	**11 00 08.0**	**+0.2**
	baz=237						
SSLB				eS	**Sb**	**11 00 18.8**	**-0.7**
	baz=237						
TWQ1	**Liyutan**	**0.91**	**274**	P	**Pn**	**11 00 09.3**	**+0.5**
	baz=274						
TWQ1				eS	**Sn**	**11 00 21.4**	**0.0**
	baz=274						
YM08	**YM08**	**0.91**	**350**	eP	**Pg**	**11 00 08.7**	**+0.1**
	baz=334						
TYC	**Yuchr**	**0.91**	**245**	P	**Pg**	**11 00 08.6**	**0.0**
	baz=239						
TYC				eS	**Sg**	**11 00 20.5**	**-0.1**
	baz=239						
NTST	**Danshui**	**0.92**	**342**	eP	**Pn**	**11 00 09.2**	**+0.3**
	baz=347						
NTST				eS	**Sn**	**11 00 22.4**	**+0.7**
	baz=347						
ANP	**Anpu**	**0.92**	**346**	eP	**Pn**	**11 00 09.1**	**+0.1**
	baz=346						
NMLH	**Miaoli**	**0.92**	**286**	P	**Pn**	**11 00 09.8**	**+0.8**
	baz=292						
NMLH				eS	**Sn**	**11 00 21.8**	**+0.1**
	baz=292						
NSY	**Sanyi**	**0.92**	**278**	P	**Pn**	**11 00 09.8**	**+0.9**
	baz=278						
NSY				S	**Sn**	**11 00 22.3**	**+0.5**
	baz=278						
PTSB	**Yuanli**	**0.98**	**279**	eP	**Pg**	**11 00 11.4**	**+1.6**
	baz=279						
PTSB				eS	**Sn**	**11 00 24.5**	**+1.4**
	baz=279						
YULB	**Yu-li**	**0.99**	**206**	eP	**Pb**	**11 00 08.3**	**-1.2**
	baz=217						
YULB				eS	**Sb**	**11 00 22.6**	**+0.3**
	baz=217						
TCU	**Taichung**	**1.00**	**262**	P	**Pg**	**11 00 11.7**	**+1.4**
	baz=262						
TCU				S	**Sn**	**11 00 25.9**	**+2.1**
	baz=262						
WHYT	**Xinyi Township**	**1.02**	**235**	eP	**Pn**	**11 00 10.4**	**+0.1**
	baz=235						
TWF1	**Yuli**	**1.03**	**205**	eP	**Pb**	**11 00 09.8**	**-0.3**
	baz=215						
TWF1				eS	**Sg**	**11 00 24.2**	**0.0**
	baz=215						
WDJ	**Dajia District**	**1.03**	**273**	eP	**Pg**	**11 00 11.8**	**+1.0**
	baz=274						
WDJ				eS	**Sn**	**11 00 25.4**	**+1.0**
	baz=274						
WJS	**Zhushan**	**1.05**	**244**	eP	**Pg**	**11 00 12.1**	**+0.8**
	baz=242						
WJS				eS	**Sg**	**11 00 26.7**	**+1.6**
	baz=242						
WNT	**Mingjian**	**1.07**	**248**	eP	**Pg**	**11 00 12.2**	**+0.6**
	baz=239						
YUS	**Yu-Shan**	**1.09**	**223**	eP	**Pb**	**11 00 11.5**	**0.0**
	baz=213						
WCHH	**Zhanghua**	**1.12**	**259**	eP	**Pb**	**11 00 12.0**	**+0.3**
	baz=260						
WCHH				eS	**Sg**	**11 00 29.3**	**+2.1**
	baz=260						
YOJ	**Yonaguni jima**	**1.15**	**81**	⇓P	**Pb**	**11 00 12.6**	**+0.4**
	baz=70						
YOJ				eS	**Sn**	**11 00 28.0**	**+0.6**
	baz=70						
YOJ	**Yonaguni jima**	**1.15**	**81**	P	**Pb**	**11 00 12.6**	**+0.4**
YOJ				eS	**Sn**	**11 00 28.0**	**+0.6**
FULB	**Fuli**	**1.17**	**202**	eP	**Pn**	**11 00 12.3**	**0.0**
	baz=214						
CHN5	**Tsauling**	**1.21**	**235**	eP	**Pg**	**11 00 14.2**	**-0.1**
	baz=221						
CHN5				eS	**Sg**	**11 00 31.4**	**+1.4**
	baz=221						
WGK	**Gukeng**	**1.25**	**242**	eP	**Pg**	**11 00 15.0**	**-0.1**
	baz=241						
ELDTW	**Lidau**	**1.29**	**212**	eP	**Pn**	**11 00 14.4**	**+0.2**
	baz=203						
RLNB	**Erlin**	**1.34**	**253**	eP	**Pg**	**11 00 16.4**	**-0.3**
	baz=266						
RLNB				eS	**Sg**	**11 00 34.4**	**+0.1**
	baz=266						
PCYT	**Pengchaiyu**	**1.36**	**12**	eP	**Pb**	**11 00 15.6**	**-0.2**
	baz=9.0						
CHN2	**Minshiung**	**1.40**	**238**	eP	**Pg**	**11 00 17.8**	**-0.1**
	baz=225						
CHN2				eS	**Sg**	**11 00 36.8**	**+0.7**
	baz=225						
CHN4	**Tsaushan**	**1.42**	**229**	eP	**Pg**	**11 00 17.9**	**-0.3**
	baz=219						
CHN4				eS	**Sg**	**11 00 37.4**	**+0.6**
	baz=219						
TPUB	**Ta-pu**	**1.43**	**227**	eP	**Pb**	**11 00 17.6**	**+0.6**
	baz=219						
TPUB				eS	**Sg**	**11 00 36.5**	**-0.6**
	baz=219						
STYT	**Tauyuan**	**1.45**	**220**	eP	**Pb**	**11 00 17.8**	**+0.4**
	baz=220						
CHY	**Chiayi**	**1.46**	**238**	eP	**Pg**	**11 00 18.5**	**-0.5**
	baz=224						
WTP	**Ta-pu**	**1.48**	**226**	eP	**Pb**	**11 00 18.5**	**+0.7**
	baz=227						
WTP				eS	**Sg**	**11 00 38.5**	**-0.2**
	baz=227						
TWK	**Hsinying**	**1.55**	**229**	P	**Pb**	**11 00 19.7**	**+0.6**
	baz=217						
TWK				eS	**Sg**	**11 00 40.3**	**-0.6**
	baz=217						
WSF	**Szhu**	**1.55**	**246**	eP	**Pb**	**11 00 19.2**	**+0.2**
	baz=255						
WSF				eS	**Sg**	**11 00 40.8**	**-0.2**
	baz=255						
SNST	**Tainan City**	**1.57**	**228**	eP	**Pb**	**11 00 19.7**	**+0.3**
	baz=217						
SNST				eS	**Sg**	**11 00 41.9**	**+0.2**
	baz=217						
CHN1	**Nanshi**	**1.58**	**226**	eP	**Pb**	**11 00 20.2**	**+0.7**
	baz=227						
CHN1				eS	**Sg**	**11 00 41.5**	**-0.3**
	baz=227						
TWG	**Pinlang**	**1.59**	**204**	eP	**Pn**	**11 00 18.0**	**-0.2**
	baz=190						
TWGBT	**Beinan**	**1.59**	**203**	eP	**Pn**	**11 00 17.9**	**-0.3**
	baz=190						
SGST	**Jiashian**	**1.62**	**222**	eP	**Pb**	**11 00 19.9**	**-0.3**
	baz=214						
SGST				eS	**Sg**	**11 00 42.7**	**-0.4**
	baz=214						
SLGT	**Liugui**	**1.65**	**219**	eP	**Pb**	**11 00 20.8**	**+0.1**
	baz=221						
SLGT				eS	**Sg**	**11 00 42.6**	**-1.4**
	baz=221						
CHN8	**Yiju**	**1.70**	**237**	eP	**Pb**	**11 00 22.1**	**+0.4**
	baz=221						
IRIF	**Iriomote-Funau**	**1.79**	**88**	P	**Pn**	**11 00 21.4**	**+0.5**
IRIF				eS	**Sb**	**11 00 44.7**	**-0.7**
ECL	**Taimali**	**1.84**	**204**	eP	**Pn**	**11 00 22.3**	**+0.7**
	baz=193						
SSD	**Sandimen**	**1.85**	**214**	eP	**Pb**	**11 00 23.8**	**-0.5**
	baz=216						

HATJ	Hateruma jima	1.88	97	P	Pn	11 00 23.1 +1.0
HATJ				eS	Sn	11 00 46.7 +1.3
TWM1	Shoushan	1.91	220	eP	Pb	11 00 25.6 +0.4
	baz=221					
MASBT	Mashibuluo	1.97	212	eP	Pn	11 00 24.6 +1.3
	baz=214					
JKRS	Kuro-shima	2.05	91	P	Pn	11 00 26.0 +1.6
JKRS				S	Sb	11 00 51.7 -1.0
EAST	Anshuo	2.08	204	eP	Pn	11 00 26.4 +1.6
	baz=195					
PNG	Penghu	2.15	251	eP	Pn	11 00 26.7 +0.9
	baz=249					
PHUB	P'eng-hu	2.15	249	eP	Pn	11 00 26.5 +0.7
	baz=248					
JIJ	Ishigaki jima	2.17	88	P	Pn	11 00 26.4 +0.3
JIJ				S	Sn	11 00 53.6 +1.0
PTTC	Pingtan	2.17	304	eP	Pn	11 00 26.0 -0.2
	baz=302					
SCZT	Fangliau	2.18	209	eP	Pb	11 00 29.9 +0.1
	baz=194					
WDGT	Dungji	2.18	242	eP	Pn	11 00 27.5 +1.2
	baz=241					
VWUC	VWUC	2.22	289	eP	Pn	11 00 26.9 +0.2
	baz=287					
JISG	Ishigakijimahi	2.34	82	P	Pn	11 00 28.0 -0.4
JISG				eS	Sn	11 00 57.6 +0.8
VCHM	Qimei	2.39	244	eP	Pn	11 00 30.0 +0.8
	baz=243					
VCHM				eS	Sn	11 01 00.3 +2.2
	baz=243					
MATB	Ma-tsu	2.48	319	eP	Pn	11 00 30.4 +0.1
	baz=315					
PTMZ	Houxiangcun	2.52	288	eP	Pn	11 00 31.2 +0.3
	baz=285					
LYJJ	Jianjiangzhen	2.89	322	eP	Pn	11 00 36.3 +0.3
	baz=318					
QZH	Quanzhou	2.96	283	Pn	Pn	11 00 37.6 +0.7
QZH				Sn	Sn	11 01 11.5 -0.5
QZH				smax	smax	
	comp=N,96nm,1.1s					
QZH				smax	smax	
	comp=E,73nm,1.3s					
XPSS	Dashiqiu	2.99	332	eP	Pn	11 00 37.6 +0.2
	baz=329					
KNM	Kinmen	3.04	273	eP	Pn	11 00 40.4 +2.4
	baz=270					
MHZQ	Yeshan	3.06	307	eP	Pn	11 00 39.0 +0.6
	baz=303					
KNMB	Chin-men Tao	3.08	274	eP	Pn	11 00 39.1 +0.5
	baz=271					
JMJ	Miyako jima 2	3.26	80	eP	Pn	11 00 43.9 +2.9
	baz=83					
AXDP	Jialang	3.51	281	eP	Pn	11 00 45.1 +0.6
	baz=278					
ZPLA	Ao Xicun	3.69	265	eP	Pn	11 00 47.8 +0.8
	baz=260					
ZZJH	Jiuhuzhen	3.77	274	eP	Pn	11 00 49.0 +0.9
	baz=270					
SONM	Songino Array	26.48	336	P	P	11 05 26.8 -0.4
	comp=E,0.4nm,0.5s,baz=153,slow=9.7,SNR=2.9					
MKAR	Makanchi Array	38.63	316	P	P	11 07 13.3 +0.1
	comp=E,0.3nm,0.6s,baz=99,slow=9.2,SNR=3.5					
WRA	Warramunga Arr	45.64	163	P	P	11 08 07.1 -3.4
	comp=E,0.3nm,0.8s,baz=344,slow=8.5,SNR=3.7					
ASAR	Alice Springs	49.10	165	P	P	11 08 35.8 -1.7
	comp=E,0.2nm,0.6s,baz=335,slow=6.2,SNR=2.8					
ILAR	Eielson Array	68.88	27	P	P	11 10 54.8 +0.6
	comp=E,0.1nm,0.5s,baz=294,slow=7.1,SNR=4.2					
BRTR	Keskin Array B	73.53	307	P	P	11 11 22.6 -0.5
	comp=E,0.8nm,0.7s,baz=96,slow=5.8,SNR=4.1					

IDC ***24*** *11:06:02.9±0.8, 33°.93N×25°.65E, h0km, mb3.9/22, mb1 4.0/32, mb1mx3.9/68, mbtmp3.9/32, ML4.0/8, Error ellipse: s-maj=16.7km s-min=12.9km az=1.0*
ISK ***24*** *11:06:02.8, 33°.65N×25°.53E, h65km, ML3.7/11*
NIC ***24*** *11:06:05.4±0.0, 33°.72N×25°.64E, h92km±5km, Ml3.4/2*
HLW ***24*** *11:06:05.9, 33°.86N×25°.80E, h19km±23km, Md3.6, Ml4.0*
THE ***24*** *11:06:06.1, 33°.85N×25°.64E, h1km±6km, ML3.1/6, Error ellipse: s-maj=12.0km s-min=1.6km az=165.0*
DDA ***24*** *11:06:06.4, 34°.13N×25°.87E, h6km±5km, ML3.4*
ATH ***24*** *11:06:06.8, 33°.97N×25°.55E, h23km±4km, ML3.1/4, Error ellipse: s-maj=7.9km s-min=2.2km az=356.0*
GII ***24*** *11:06:10.9±0.7, 33°.64N×26°.00E, h60km, MD3.6/3*

ISC 24 11:06:05.4±1.5,**33°.75N**±0°.04×**25°.69E**±0°.04,**h23**km±11km, **n126,**σ1$56/162,**mb3.8**/22,**1C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	Ierapetra Chan	1.26	2	P	Pn	11 06 26.9	-0.7
FRMA				S	Sb	11 06 45.6	+1.3
	332nm,0.6s						
ZKR	Zakros	1.43	18	P	Pn	11 06 30.8	+0.8
ZKR				S	Sn	11 06 48.6	+0.5
	700nm,0.6s						
ZKR	Zakros	1.43	18	P	Pn	11 06 31.0	+1.1
ZKR				S	Sb	11 06 49.0	-0.1
ZKR				AML	AML	11 06 55.6	
	comp=E,1906μm,0.5s						
ZKR				AML	AML	11 07 01.7	
	comp=N,699μm,0.4s						
ZKR	Zakros	1.43	18	PN	Pn	11 06 29.7	-0.3
ZKR				SN	Sb	11 06 49.3	+0.1
ZKR	Zakros	1.43	18	P	Pn	11 06 30.9	+1.0
ZKR				S	Sb	11 06 51.6	+2.4
ZKR				AML	AML	11 07 03.6	
	comp=N,2.0nm,0.8s						
ZKR				AML	AML	11 07 03.6	
	comp=N,2.0nm,0.8s						
ZKR				AML	AML	11 07 04.9	
	comp=N,0.8nm,0.7s						
ZKR				AML	AML	11 07 04.9	
	comp=N,0.8nm,0.7s						
SIVA	Sivas	1.46	330	P	Pn	11 06 30.1	-0.2
SIVA				S	Sb	11 06 50.5	+0.6
	comp=N,2μm,0.6s						
SIVA	Sivas	1.46	330	P	Pn	11 06 30.1	-0.2
SIVA				S	Sn	11 06 46.3	-2.4
SIVA				AML	AML	11 07 04.7	
	comp=N,3088μm,0.6s						
SIVA				AML	AML	11 07 08.7	
	comp=E,3753μm,0.8s						
STIA	Sitia Lasithi	1.49	13	P	Pb	11 06 32.0	-0.3
STIA				S	Sb	11 06 51.5	+0.7
NPS	Neapolis	1.51	358	P	Pn	11 06 30.3	-0.8
NPS				S	Sn	11 06 50.6	+0.6
	comp=E,480nm,0.7s						
NPS	Neapolis	1.51	358	P	Pn	11 06 30.5	-0.6
NPS				AML	AML	11 07 03.0	
	comp=E,1145μm,0.7s						
NPS				AML	AML	11 07 08.9	
	comp=N,824μm,0.7s						
TMBK	Timbaki Herakl	1.52	330	P	Pn	11 06 31.3	+0.1
TMBK				S	Sn	11 06 50.7	+0.4
	comp=N,382nm,0.7s						
HRKL	Herakleio	1.63	343	P	Pn	11 06 33.8	+1.1
HRKL				S	Sn	11 06 53.0	0.0
	comp=N,1μm,0.6s						
GVD	Gavdhos	1.71	310	P	Pn	11 06 33.8	0.0
GVD	Gavdhos	1.71	310	P	Pn	11 06 34.6	+0.8
GVD				AML	AML	11 07 08.8	
	comp=E,1176μm,0.4s						
GVD				AML	AML	11 07 14.8	
	comp=N,1026μm,0.5s						
GVDS	Gavdos	1.71	310	P	Pn	11 06 34.7	+0.9
VAM	Vamos	2.06	324	P	Pn	11 06 38.8	+0.2
VAM	Vamos	2.06	324	P	Pn	11 06 39.0	+0.4
KARP	Karpathos	2.17	34	P	Pn	11 06 42.0	+1.9
KARP	Karpathos	2.17	34	PN	Pn	11 06 40.9	+0.8
KARP				SN	Sn	11 07 07.1	+0.8
KARP	Karpathos	2.17	34	P	Pn	11 06 41.9	+1.8
KARP				S	Sb	11 07 09.2	-1.2
KARP				AML	AML	11 07 09.4	
	comp=N,0.5nm,0.3s						
KARP				AML	AML	11 07 09.4	
	comp=N,0.5nm,0.3s						
IMMV	Iera Moni Meta	2.21	321	P	Pn	11 06 41.3	+0.6
IMMV	Iera Moni Meta	2.21	321	P	Pn	11 06 41.4	+0.8
RODP	Rodopos	2.41	319	P	Pn	11 06 44.0	+0.6
APE	Apeiranthos	3.31	358	PN	Pn	11 06 55.4	-0.5
APE	Apeiranthos	3.31	358	P	Pn	11 06 56.6	+0.7
DAT	Datca	3.35	27	i P	Pn	11 06 57.0	+0.5
DAT				i S	Sn	11 07 32.9	-2.7
DAT	Datca	3.35	27	PN	Pn	11 06 56.6	+0.1
VLI	Veliai	3.72	324	P	Pn	11 07 02.0	+0.6
DALY	Dalyan (Mula)	3.91	38	i P	Pn	11 07 05.5	+1.5
DALY				i S	Sn	11 07 48.3	-0.8
DALY				IAML		11 07 57.0	
	comp=N,41nm,0.4s						
DALY	Dalyan (Mula)	3.91	38	PN	Pn	11 07 04.9	+1.0
TURN	Turunc	3.92	37	PN	Pn	11 07 01.6	-2.6
MLSB	Milas	3.93	25	PN	Pn	11 07 04.7	+0.4
YER	Yerkesik	3.99	31	PN	Pn	11 07 05.9	+0.7
KSL	Kastellorizon	4.00	52	⇓P	Pn	11 07 06.2	+1.0
KSL				S	Sn	11 07 53.3	+2.0
FETY	Fethiye	4.00	43	i P	Pn	11 07 05.6	+0.3
FETY	Fethiye	4.00	43	PN	Pn	11 07 06.0	+0.7
AKAS	Kas	4.06	51	i P	Pn	11 07 07.4	+1.2
AKAS				i S	Sn	11 07 49.6	-3.5
AKAS				IAML		11 07 57.0	
	comp=Z,58nm,0.4s						
AKAS	Kas	4.06	51	PN	Pn	11 07 07.2	+1.0
AYDN	Tasoluk	4.29	24	i P	Pn	11 07 09.6	+0.3
SWA2		4.50	183	P	Pn	11 07 14.6	+2.5
	baz=184						
SWA2				AMP		11 08 00.0	
	baz=184						
SWA2				S	Sn	11 08 04.4	+0.7
	baz=184						
AYDB	Zeytinkoy-Aydi	4.55	23	PN	Pn	11 07 13.3	+0.3
ELL	Elmali	4.57	48	PN	Pn	11 07 14.1	+0.9
ELL	Elmali	4.57	48	P	Pn	11 07 14.2	+1.0
AKUM	Antalya-Kumluc	4.60	55	i P	Pn	11 07 14.0	+0.5
AKUM				IAML		11 07 56.0	
	comp=N,61nm,1.2s						
AKUM				i S	Sn	11 08 05.7	-0.6
AKUM				IAML		11 08 09.0	
	comp=E,55nm,0.4s						
GOLH	Golhisar	4.70	41	i P	Pn	11 07 16.3	+1.3
GOLH				i S	Sn	11 08 09.2	+0.3
GOLH				IAML		11 08 14.0	
	comp=N,66nm,0.6s						
HBRG	Burj al `Arab	4.74	131	P	Pn	11 07 16.2	+0.8
	baz=132						
HBRG				AMP		11 08 00.0	
	baz=132						
KORT	Korkueli	5.00	48	i P	Pn	11 07 23.3	+4.1
KORT				i S	Sn	11 08 16.5	+0.1
KORT				IAML		11 08 19.0	
	comp=E,49nm,0.5s						
KHAL	Karahalli	5.55	33	i P	Pn	11 07 27.0	+0.4
USAK	Uak-Merkez	5.64	28	i P	Pn	11 07 27.9	0.0
AKMS	Akamas	5.64	75	P	Pn	11 07 28.9	+1.0
KEPZ	Antalya-Kepez	5.77	55	i P	Pn	11 07 30.5	+0.9
HNAT	Natroun	5.87	133	P	Pn	11 07 32.6	+1.6
	baz=134						
ALFC	Alefka	5.88	74	P	Pn	11 07 31.6	+0.5
BAGO	Egridir - ISPA	5.92	43	i P	Pn	11 07 34.2	+2.4
SZAC	Souni	6.04	78	P	Pn	11 07 34.9	+1.5
ASGA	Asgata	6.35	79	⇑P	Pn	11 07 39.0	+1.5
CSS	Mathiatis	6.44	77	P	Pn	11 07 40.6	+1.8
MVOU	Mavrovouni	6.69	77	P	Pn	11 07 43.5	+1.3
HFRF	Wahat Farafira	6.96	160	P	Pn	11 07 47.3	+1.4
	baz=161						
NBNS	Bani Suef	7.01	135	P	Pn	11 07 48.2	+1.5
	baz=136						
OFRI	`Ofer	7.88	96	Pn	Pn	11 07 59.0	+0.4
KZIT	Kziot	7.90	109	Pn	Pn	11 07 59.4	+0.6
KZIT				Sn	Sn	11 09 25.1	-2.4
SLTI	Sal'it	8.00	98	Pn	Pn	11 08 01.4	+1.2
SLTI				Sn	Sn	11 09 28.1	-1.9
MMAI	Mount Meron Ar	8.16	92	Pn	Pn	11 08 02.3	-0.2
	comp=E,4.1nm,0.3s,baz=279,slow=12,SNR=3.8						
MMAI				Sn	Sn	11 09 33.2	-0.8
	comp=E,5.8nm,0.3s,baz=264,slow=30,SNR=5.6						
GRB	Gharib	8.18	130	P	Pn	11 08 03.8	+1.0
	baz=131						
MMLI	Mount Malkishu	8.27	96	Pn	Pn	11 08 05.2	+1.2
YTIR	Yattir	8.31	104	Pn	Pn	11 08 05.3	+0.8
YTIR				Sn	Sn	11 09 35.7	-2.0
GEM	Giv'at Ha'Em	8.35	91	Pn	Pn	11 08 05.6	+0.5
HMDT	Nahal Hemdat	8.40	98	Pn	Pn	11 08 06.6	+0.9
HMDT				Sn	Sn	11 09 37.0	-2.8
NATI	Neve Ativ	8.41	91	Pn	Pn	11 08 06.1	+0.3
NATI				Sn	Sn	11 09 38.5	-1.5
DSI	Dead Sea	8.46	102	Pn	Pn	11 08 07.4	+0.9
DSI				Sn	Sn	11 09 38.0	-3.3
KRMI	Paran Flat	8.49	113	Pn	Pn	11 08 08.0	+1.0
KRMI				Sn	Sn	11 09 38.5	-3.6
KSHT	Keshet	8.51	92	Pn	Pn	11 08 07.8	+0.6
MZDA	Masada	8.53	104	Pn	Pn	11 08 07.8	+0.4
MZDA				Sn	Sn	11 09 40.9	-1.9
PRNI	Paran	8.60	111	Pn	Pn	11 08 09.8	+1.3
PRNI				Sn	Sn	11 09 41.2	-3.7
LISJ	El Lisan	8.64	104	P	Pn	11 08 09.5	+0.5
BRTR	Keskin Array B	8.73	45	Pn	Pn	11 08 09.5	-0.9
	comp=E,0.1nm,0.3s,baz=230,slow=9.0,SNR=4.7						
BRTR				Sn	Sn	11 09 44.5	-3.6
	comp=E,0.2nm,0.3s,baz=220,slow=24,SNR=4.6						
HRFI	Mount Harif	8.77	112	Pn	Pn	11 08 11.9	+1.1
HRFI				Sn	Sn	11 09 46.1	-2.9
HRFI	Mount Harif	8.77	112	P	Pn	11 08 12.4	+1.6
	comp=E,54nm,0.4s,comp=E,0.3nm						
MBRI	Mt Berech	8.79	114	Pn	Pn	11 08 11.8	+0.7
MBRI				Sn	Sn	11 09 47.1	-2.4
WALJ	Wala	8.81	102	P	Pn	11 08 12.6	+1.3
	comp=E,71nm,0.5s,comp=E,0.3nm						
EIL	Elat	8.88	115	Pn	Pn	11 08 13.0	+0.7
EIL	Elat	8.88	115	Pn	Pn	11 08 13.4	+1.2
	comp=E,2.8nm,0.3s,baz=232,slow=2.6,SNR=15						
EIL				Sn	Sn	11 09 48.9	-2.7
	comp=E,2.0nm,0.3s,baz=129,slow=23,SNR=3.2						
AQBJ	Aqaba	8.92	114	P	Pn	11 08 14.7	+1.8
ASF	Jabal al Asfar	9.55	96	Pn	Pn	11 08 22.6	+1.0
	comp=E,0.7nm,0.3s,baz=231,slow=8.8,SNR=5.2						
ASF				Sn	Sn	11 10 05.7	-2.5
	comp=E,0.5nm,0.3s,baz=337,slow=5.4,SNR=3.3						
VAE	Valguarnera	9.90	295	Pn	Pn	11 08 26.8	+0.5
	comp=E,0.9nm,0.3s,baz=18,slow=10,SNR=2.1						
VAE				Sn	Sn	11 10 10.1	-6.7
	comp=E,1.3nm,0.3s,baz=204,slow=16,SNR=2.3						
SOKA	Soboth	15.24	331	Pn	Pn	11 09 35.4	-3.7
	comp=E,1.8nm,0.5s						
OBKA	Obir	15.31	330	Pn	Pn	11 09 40.3	+0.3
	comp=E,13nm,1.3s						
ARSA	Arzberg	15.52	333	Pn	Pn	11 09 39.8	-2.9
	comp=E,2.5nm,0.6s						
VYHS	Vyhne	15.60	343	eP	P	11 09 54.8	+7.0
ABTA	Abfaltersbach	16.39	326	Pn	Pn	11 09 52.8	-1.1
	comp=E,5.2nm,0.5s						
MOA	Molln	16.50	332	Pn	Pn	11 09 53.3	-2.0
	comp=E,3.2nm,0.7s						
KBZ	Khabaz	16.69	48	Pn	Pn	11 09 58.7	+1.0
	comp=E,0.1nm,0.3s,baz=288,slow=6.3,SNR=1.9						
VRAC	Vranov	16.95	339	Pn	Pn	11 10 01.1	+0.2
	comp=E,0.4nm,0.3s,baz=162,slow=7.7,SNR=4.7						
AKASG	Malin Array Be	17.14	8	Pn	Pn	11 10 02.1	-1.2
	comp=E,4.3nm,0.3s,baz=201,slow=10,SNR=15						
WTTA	Wattenberg	17.18	326	Pn	Pn	11 10 01.9	-2.1
	comp=E,5.6nm,0.6s						
WATA	Walderalm	17.26	326	Pn	Pn	11 10 01.2	-3.8
	comp=E,2.2nm,0.5s						
SQTA	Sankt Quirin	17.35	325	Pn	Pn	11 10 03.8	-2.2
	comp=E,4.4nm,0.8s						
FETA	Feichten	17.44	324	P	P	11 10 09.1	+0.8
	comp=E,9.5nm,1.4s						
MOTA	Moosalm	17.49	325	Pn	Pn	11 10 06.3	-1.5
	comp=E,11nm,2.0s						
GERES	GERESS Array B	17.53	333	P	Pn	11 10 07.1	-1.2
	comp=E,0.3nm,0.3s,baz=154,slow=13,SNR=11						
DAVOX	Davos/Dischmat	17.70	322	P	Pn	11 10 10.3	-0.1
DAVA	Damuels	18.04	323	Pn	Pn	11 10 14.6	-0.1
	comp=E,5.9nm,1.1s						
ESDC	Sonseca Array	24.43	293	P	P	11 11 22.9	+0.6
	comp=E,0.6nm,0.5s,baz=89,slow=10,SNR=5.5						
MDT	Midelt	25.30	276	P	P	11 11 30.5	+0.2
	comp=E,1.2nm,0.7s,baz=121,slow=11,SNR=2.0						
HFS	Hagfors	27.55	347	P	P	11 11 48.6	-1.6
	comp=E,3.1nm,0.7s,baz=116,slow=10,SNR=5.7						
FINES	FINESS Array B	27.71	0	P	P	11 11 50.0	-1.6
	comp=E,1.4nm,0.3s,baz=165,slow=11,SNR=24						
NB2	NORSAR Subarra	28.87	345	P	P	11 12 00.9	-1.1
	comp=Z,0.3nm,0.4s,baz=147,slow=11						
NOA	NORSAR Array B	28.87	345	P	P	11 12 00.8	-1.3
	comp=Z,0.6nm,0.5s,baz=269,slow=4.1,SNR=4.6						
AKTO	Aktyubinsk	28.91	45	P	P	11 12 02.9	+0.4
	comp=Z,0.8nm,0.4s,baz=236,slow=7.3,SNR=2.8						
EKA	Eskdalemuir Ar	29.44	326	P	P	11 12 06.8	-0.4
	comp=Z,1.5nm,0.6s,baz=139,slow=10,SNR=5.2						
TORD	Torodi Ar. Bea	29.95	233	P	P	11 12 13.0	+1.0
	comp=Z,0.8nm,0.5s,baz=30,slow=9.2,SNR=5.6						
ARCES	ARCESS Array B	35.84	360	P	P	11 13 01.1	-1.7
	comp=Z,3.9nm,0.8s,baz=177,slow=8.4,SNR=8.1						
BVAR	Borovoye Array	37.02	45	P	P	11 13 14.1	+1.0
	comp=Z,0.4nm,0.4s,baz=241,slow=3.0,SNR=2.8						
KURBB	Kurchatov Arra	41.68	50	P	P	11 13 52.8	+0.7
	comp=Z,0.5nm,0.4s,baz=277,slow=8.6,SNR=6.5						
MKAR	Makanchi Array	44.20	55	P	P	11 14 13.7	+1.1
	comp=Z,1.2nm,0.7s,baz=277,slow=6.3,SNR=9.6						
ZALV	Zalesovo Beam	45.68	45	P	P	11 14 24.4	+0.2
	comp=Z,0.9nm,0.4s,baz=266,slow=9.1,SNR=3.9						
SONM	Songino Array	60.05	50	P	P	11 16 11.6	+1.1
	comp=Z,0.3nm,0.4s,baz=280,slow=7.0,SNR=3.1						
BOSA	Boshof	62.03	180	P	P	11 16 25.9	+2.0
	comp=Z,2.1nm,0.8s,baz=352,slow=7.4,SNR=2.7						
TIXI	Tiksi	62.33	20	P	P	11 16 25.8	+0.4
	comp=Z,1.9nm,0.3s,baz=280,slow=6.1,SNR=8.6						
SCHQ	Schefferville	64.54	320	P	P	11 16 40.5	+0.1
	comp=Z,4.4nm,0.7s,baz=126,slow=5.9,SNR=3.8						
CMAR	Chiang Mai Arr	66.31	83	P	P	11 16 54.0	+1.7
	comp=Z,0.4nm,0.3s,baz=283,slow=8.2,SNR=2.9						
INK	Inuvik	77.07	352	P	P	11 17 57.1	+0.9
	comp=Z,0.8nm,0.8s,baz=18,slow=3.2,SNR=2.8						
USRK	Ussuriysk Ar.	77.53	45	P	P	11 17 59.3	+0.1
	comp=Z,0.9nm,0.6s,baz=320,slow=6.4,SNR=2.8						
YKA	Yellowknife Ar	78.92	342	P	P	11 18 07.3	+0.7
	comp=Z,0.5nm,0.7s,baz=33,slow=5.4,SNR=3.1						
ILAR	Eielson Array	81.63	357	P	P	11 18 22.2	+1.0
	comp=Z,0.2nm,0.7s,baz=12,slow=4.8,SNR=2.7						

ISCJB ***24*** *11:09:58.7±0.3, 21°.80S±0°.02×179°.46W±0°.02, h596km±4km, mb5.4/101, Error ellipse: s-maj=3.4km s-min=2.9km az=39.6*
BJI ***24*** *11:09:58.0±0.0, 21°.70S×179°.30W, h611km, mb5.5/67, mB5.2/35*
MOS ***24*** *11:09:58.9±0.9, 21°.68S×179°.41W, h595km, mb5.3/29, Error ellipse: s-maj=8.7km s-min=7.1km az=129.5*
NEIC ***24*** *11:09:59.3±1.7, 21°.68S±0°.08×179°.32W±0°.09, h596km±5km, mb5.1/335*
IDC ***24*** *11:09:59.4±0.5, 21°.69S×179°.42W, h589km±5km, mb4.9/42, mb1 4.9/47, mb1mx4.9/49, mbtmp5.8/47, Error ellipse: s-maj=6.7km s-min=5.3km az=14.0*
GCMT ***24*** *11:10:02.3±0.3, 21°.72S±0°.03×179°.54W±0°.02, h608km±1km, MW5.4/82, Moment Tensor Solution. s82,c108; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr-0.23±.03; Mθθ-0.31±.06; Mφφ0.54±.05; Mrθ-0.82±.05; Mθφ-0.16±.04; Mφr-1.46±.05; Best double couple: M0 1.75000×10^17^ NP1:φs28.00000°, δ86.00000°, λ-75.00000°. NP2:φs132.00000°, δ15.00000°, λ-165.00000°. Principal axes: T 1.7420, Plg39.0000°, Azm105.0000°; N 0.0160, Plg15.0000°, Azm207.0000°; P -1.7580, Plg47.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 24 11:09:59.3±0.3,**21°.71S**±0°.04×**179°.34W**±0°.03, **h596**km±2km,**h597**km;**pP-P,n1156,**σ1$**67**/1231,**mb5.2**/223, **117C-47D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.65	328	c i P	P	11 11 30.9	+1.5
MSVF	Nonsavu	4.65	328	P	P	11 11 31.0	+1.5
RIZ	Raoul Island	7.62	171	P	P	11 11 54.4	-0.3
RIZ				S	S	11 13 27.9	-1.4
RAO	Raoul Island	7.62	171	P	P	11 11 54.3	-0.5
	526nm,0.3s,baz=355,slow=2.5,SNR=28						
RAO				S	S	11 13 27.8	-1.6
	90nm,0.3s,baz=110,slow=22,SNR=10						
GLKZ	Green Lake	7.63	171	P	P	11 11 54.4	-0.4
GLKZ				S	S	11 13 28.1	-1.5
NIUE	Niue	9.21	75	P	P	11 12 09.9	-0.3
AFI	Afiamalu	10.58	44	P	P	11 12 22.3	-1.7
	4.3nm,0.3s,baz=48,slow=5.8,SNR=11						
AFI				S	S	11 14 15.3	-7.4
	5.7nm,0.3s,baz=15,slow=23,SNR=7.2						
AFI				ScP	ScP	11 20 05.8	+1.4
	1.6nm,0.3s,baz=229,slow=9.3,SNR=6.3						
AFI	Afiamalu	10.58	44	P	P	11 12 21.4	-2.5
AFI				S	S	11 14 15.7	-7.0
FUNA	Funafuti	13.18	354	P	P	11 12 49.1	-1.0
DZM	Mont Dzumac	13.20	266	eP	P	11 12 50.5	+0.2
	344nm,0.8s						
DZM	Mont Dzumac	13.20	266	P	P	11 12 50.2	-0.1
	18nm,0.3s,baz=82,slow=19,SNR=265						
DZM				S	S	11 15 11.4	+0.6
	0.4nm,0.3s,baz=350,slow=20,SNR=3.8						
DZM				ScP	ScP	11 20 10.8	+2.6
	1.6nm,0.3s,baz=215,slow=23,SNR=30						
DZM				ScS	ScS	11 23 48.9	+3.5
	0.0nm,0.3s,baz=330,slow=22,SNR=11						
DZM	Mont Dzumac	13.20	266	P	P	11 12 50.3	-0.1
DZM				S		11 15 11.4	+0.6
DZM					ScP	11 20 10.6	+2.3
DZM					ScS	11 23 52.5	+7.0
OUZ	Omahuta	14.82	203	P	P	11 13 07.7	+1.9
OUZ	Omahuta	14.82	203	P	P	11 13 07.3	+1.6
GRZ	Great Barrier	15.19	196	P	P	11 13 08.5	-0.6
WCZ	Waipu Caves	15.21	200	P	P	11 13 11.4	+2.0
KUZ	Kuaotunu	15.59	195	P	P	11 13 14.3	+1.5
MXZ	Matakaoa Point	15.93	187	P	P	11 13 16.0	+0.1
MXZ				S	S	11 15 49.8	-6.5
MXZ	Matakaoa Point	15.93	187	S	S	11 15 49.8	-6.5
MXZ	Matakaoa Point	15.93	187	P	P	11 13 15.4	-0.6

MUGZ S **S** **11 16 07.3 -7.2**
HRRZ Handcock Road 17.05 192 P **P** **11 13 26.4 +0.2**
RIGZ Rimuhau 17.13 188 P **P** **11 13 24.8 -2.1**
RIGZ P **S** **11 16 10.7 -5.1**
TLZ Tolley Road 17.14 194 P **P** **11 13 29.1 +1.9**
RTZ Ruatahuna 17.15 190 P **P** **11 13 25.6 -1.6**
RTZ S **S** **11 16 09.8 -6.5**
RTZ Ruatahuna 17.15 190 P **P** **11 13 25.2 -2.0**
RTZ P **S** **11 16 09.1 -7.2**
SNGZ Shannon Statio 17.26 189 P **P** **11 13 27.4 -0.7**
SNGZ Shannon Statio 17.26 189 P **P** **11 13 27.4 -0.7**
SNGZ S **S** **11 16 12.5 -5.5**
PRGZ Paritu Road 17.32 187 P **P** **11 13 29.7 +0.9**
PRGZ Paritu Road 17.32 187 P **P** **11 13 29.7 +0.9**
PRGZ S **S** **11 16 15.6 -3.5**
MTHZ Maungataniwha 17.40 190 P **P** **11 13 28.6 -0.9**
MTHZ Maungataniwha 17.40 190 P **P** **11 13 28.6 -0.9**
MTHZ S **S** **11 16 16.0 -4.3**
RAHZ Arahi 17.43 189 P **P** **11 13 28.5 -1.1**
RAHZ S **S** **11 16 14.9 -5.8**
RAHZ Arahi 17.43 189 P **P** **11 13 28.6 -1.1**
KNZ Kokohu 17.45 188 P **P** **11 13 29.2 -0.5**
KNZ S **S** **11 16 15.6 -5.4**
KNZ Kokohu 17.45 188 P **P** **11 13 29.3 -0.5**
WATZ Wairara 17.47 193 P **P** **11 13 30.4 +0.4**
HIZ Hauiti 17.48 195 P **P** **11 13 33.3 +3.1**
HIZ Hauiti 17.48 195 **P** **11 13 32.5 +2.4**
HIZ IAmb IAmb 11 13 33.9
comp=Z,71nm,1.2s
MHGZ Mahia Peninsul 17.55 187 P **P** **11 13 30.6 -0.2**
MHGZ S **S** **11 16 18.9 -3.7**
WHHZ Waihua 17.56 189 P **P** **11 13 30.5 -0.3**
WHHZ S **S** **11 16 17.6 -5.3**
WHHZ Waihua 17.56 189 P **P** **11 13 30.3 -0.6**
RATZ Rangitukua 17.61 193 P **P** **11 13 32.2 +0.8**
NMHZ Naumai 17.65 190 P **P** **11 13 31.1 -0.6**
NMHZ Naumai 17.65 190 P **P** **11 13 31.2 -0.6**
RITZ Rihia Road 17.70 192 P **P** **11 13 32.2 0.0**
BKZ Black Stump Fm 17.77 191 P **P** **11 13 30.8 -1.9**
BKZ Black Stump Fm 17.77 191 P **P** **11 13 31.4 -1.4**
BKZ Black Stump Fm 17.77 191 P **P** **11 13 30.3 -2.5**
BKZ IAmb IAmb 11 13 37.2
comp=Z,26nm,0.5s
ARHZ Aropaoanui 17.78 189 P **P** **11 13 32.5 -0.3**
ARHZ Aropaoanui 17.78 189 P **P** **11 13 32.3 -0.5**
KRVZ Karewarewa 17.86 193 P **P** **11 13 34.3 +0.6**
TWVZ Taurewa 17.88 193 P **P** **11 13 33.6 -0.3**
NGZ Ngauruhoe 17.94 193 P **P** **11 13 34.2 -0.4**
NGZ Ngauruhoe 17.94 193 P **P** **11 13 34.6 0.0**
MCHZ McNeill Hill 18.00 190 P **P** **11 13 34.3 -0.5**
MCHZ McNeill Hill 18.00 190 P **P** **11 13 34.4 -0.5**
TUVZ Tukino 18.02 193 P **P** **11 13 34.1 -1.1**
KWHZ Kaweka Forest 18.03 191 P **P** **11 13 34.1 -1.1**
KWHZ Kaweka Forest 18.03 191 P **P** **11 13 34.2 -1.1**
FWVZ Far West T-bar 18.03 193 P **P** **11 13 36.1 +0.7**
WHVZ Whangaehu Hut 18.05 193 P **P** **11 13 34.8 -0.8**
TRVZ Turoa 18.07 193 P **P** **11 13 34.8 -1.0**
VRZ Vera Road 18.08 195 P **P** **11 13 38.0 +2.4**
VRZ Vera Road 18.08 195 P **P** **11 13 37.8 +2.2**
PKVZ Pokaka 18.11 193 P **P** **11 13 35.4 -0.5**
MOVZ Moawhango 18.14 192 P **P** **11 13 35.8 -0.4**
CKHZ Cape Kidnapper 18.16 189 P **P** **11 13 36.0 -0.2**
CKHZ Cape Kidnapper 18.16 189 P **P** **11 13 36.3 0.0**
BHHZ Black Hill Sta 18.16 191 P **P** **11 13 34.7 -1.7**
RAR Rarotonga 18.23 92 P **P** **11 13 37.6 +0.4**
comp=Z,9.7nm,0.3s,baz=244,slow=6.5,SNR=36
RAR S **S** **11 16 33.4 -0.6**
comp=Z,1.3nm,0.3s,baz=127,slow=7.9,SNR=4.1
RAR Rarotonga 18.23 92 P **P** **11 13 37.2 0.0**
KRHZ Kereru 18.25 191 P **P** **11 13 36.0 -1.1**
KRHZ Kereru 18.25 191 P **P** **11 13 36.1 -1.1**
KAHZ Kahuranaki 18.32 189 P **P** **11 13 37.1 -0.7**
KAHZ Kahuranaki 18.32 189 P **P** **11 13 37.2 -0.6**
KHEZ Kahui Hut 18.43 196 P **P** **11 13 42.3 +3.4**
LREZ Lake Rotokare 18.49 195 P **P** **11 13 41.1 +1.8**
PNHZ Pukenui 18.54 191 P **P** **11 13 38.7 -1.1**
PNHZ Pukenui 18.54 191 P **P** **11 13 38.7 -1.1**
PXZ Pawanui 18.55 189 P **P** **11 13 38.9 -0.9**
PXZ Pawanui 18.55 189 P **P** **11 13 39.1 -0.8**
WAZ Wanganui 18.63 194 P **P** **11 13 40.3 -0.3**
TSZ Takapari Road 18.73 191 P **P** **11 13 41.2 -0.3**
PRHZ Porangahau 18.82 190 P **P** **11 13 41.7 -0.5**
PRHZ Porangahau 18.82 190 P **P** **11 13 41.9 -0.4**
DVHZ Dannevirke 18.93 191 P **P** **11 13 42.7 -0.6**
DVHZ Dannevirke 18.93 191 P **P** **11 13 43.0 -0.3**
ANWZ Angora Road 19.03 190 P **P** **11 13 43.9 -0.3**
ANWZ Angora Road 19.03 190 P **P** **11 13 43.6 -0.6**
POWZ Post Office Ro 19.09 191 P **P** **11 13 44.0 -0.8**
PRWZ Pori Road 19.21 191 P **P** **11 13 45.0 -0.8**
PRWZ Pori Road 19.21 191 P **P** **11 13 45.1 -0.7**
BFZ Birch Farm 19.28 190 P **P** **11 13 45.0 -1.5**
BFZ Birch Farm 19.28 190 P **P** **11 13 45.1 -1.4**
BFZ Birch Farm 19.28 190 **P** **11 13 45.1 -1.4**
BFZ IAmb IAmb 11 13 51.3
comp=Z,81nm,1.2s
BFZ **S** **11 16 47.9 -2.7**
MRZ Mangatainoka R 19.38 192 P **P** **11 13 45.9 -1.5**
HOWZ Holdsworth Sta 19.62 192 P **P** **11 13 49.3 -0.3**
CAW Cannon Point 19.91 192 P **P** **11 13 50.7 -1.5**
PAWZ Paruwai Farm 20.11 192 P **P** **11 13 52.4 -1.6**
MSWZ Moikau Station 20.18 192 P **P** **11 13 53.2 -1.3**
TCW Tory Channel 20.18 194 P **P** **11 13 54.7 +0.1**
SNZO South Karori 20.18 193 P **P** **11 13 52.8 -1.8**
SNZO IAmb IAmb 11 13 55.8
comp=Z,70nm,0.9s
KNTN Kanton 20.23 23 P **P** **11 13 55.0 -0.4**
KNTN IAmb IAmb 11 13 55.8
comp=Z,125nm,1.1s
BHW Baring Head 20.24 193 P **P** **11 13 53.9 -1.3**
QRZ Quartz Range 20.27 198 P **P** **11 13 55.6 +0.2**
QRZ IAmb IAmb 11 14 07.1
comp=Z,57nm,0.8s
PLWZ Palliser 20.32 192 P **P** **11 13 54.5 -1.4**
PLWZ Palliser 20.32 192 P **P** **11 13 54.6 -1.4**
NNZ Nelson 20.40 196 P **P** **11 13 55.8 -0.8**
NNZ IAmb IAmb 11 13 57.7
comp=Z,181nm,1.5s
TUWZ Tuamarina 20.47 195 P **P** **11 13 55.6 -1.5**
TUWZ Tuamarina 20.47 195 P **P** **11 13 55.7 -1.5**
BSWZ Blackbirch Sta 20.75 194 P **P** **11 13 59.7 0.0**
THZ Tophouse 21.04 196 P **P** **11 14 01.6 -0.8**
THZ IAmb IAmb 11 14 05.8
comp=Z,26nm,0.8s
KHZ Kahutara 21.50 194 P **P** **11 14 05.0 -1.4**
KHZ IAmb IAmb 11 14 08.3
comp=Z,83nm,1.4s
LTZ Lake Taylor 22.16 197 P **P** **11 14 10.2 -2.1**
LTZ IAmb IAmb 11 14 25.2
comp=Z,39nm,1.0s
OXZ Oxford 22.73 196 IAmb IAmb 11 14 33.1
comp=Z,33nm,0.7s
CRLZ Canterbury Las 22.81 195 P **P** **11 14 16.9 -1.2**
CRLZ IAmb IAmb 11 14 34.8
comp=Z,44nm,1.3s
HNR Honiara 23.35 298 P **P** **11 14 22.6 -0.7**
comp=Z,240nm,0.7s,baz=358,slow=2.8,SNR=14
HNR S **S** **11 17 53.4 -1.9**
comp=Z,69nm,0.5s,baz=24,slow=8.9,SNR=4.0
HNR Honiara 23.35 298 *e*P **P** **11 14 22.0 -1.3**
HNR Honiara 23.35 298 P **P** **11 14 22.6 -0.7**
RPZ Rata Peaks 23.35 198 P **P** **11 14 23.3 +0.4**
comp=Z,14nm,0.5s,baz=304,slow=1.1,SNR=18
RPZ S **S** **11 17 55.3 +0.6**
comp=Z,6.4nm,0.5s,baz=159,slow=21,SNR=2.2
RPZ ScP **ScP** **11 20 30.1 0.0**
comp=Z,9.7nm,0.4s,baz=5.5,slow=3.3,SNR=7.8
RPZ ScS **ScS** **11 24 17.2 -0.1**
comp=Z,10nm,0.9s,baz=168,slow=24,SNR=4.8
RPZ Rata Peaks 23.35 198 P **P** **11 14 23.1 +0.1**
RPZ IAmb IAmb 11 14 41.0
comp=Z,16nm,0.6s
TARA Tarawa 24.13 341 P **P** **11 14 30.3 +0.1**
WKZ Wanaka 24.98 200 P **P** **11 14 37.4 +0.1**
WKZ IAmb IAmb 11 14 56.1
comp=Z,101nm,1.5s
WHZ Wether Hill Ro 26.27 200 P **P** **11 14 49.7 +1.1**
WHZ IAmb IAmb 11 15 04.0
comp=Z,68nm,0.6s
EIDS Eidsvold 27.33 257 P **P** **11 14 58.6 +0.4**
ARMA Armidale 27.42 246 P **P** **11 15 00.8 +1.7**
TBI Tubuai 27.63 99⇑*i*P **P** **11 15 02.0 +1.2**
comp=Z,549nm,0.9s
PAE Paea 28.29 87⇑*i*P **P** **11 15 07.0 +0.4**
comp=Z,26nm,1.1s
PPT2 Papeete2 28.31 87⇑*i*P **P** **11 15 07.6 +0.7**
comp=Z,219nm,0.9s
PPT Papeete 28.31 87 P **P** **11 15 07.3 +0.5**
PPT Papeete 28.31 87 P **P** **11 15 07.6 +0.7**
comp=Z,215nm,0.7s,baz=65,slow=3.4,SNR=77
PPT ScP **ScP** **11 20 46.4 +1.1**
comp=Z,39nm,0.8s,baz=134,slow=5.2,SNR=6.2
PPT Papeete 28.31 87 P **P** **11 15 07.3 +0.5**
PPTF Pamatai, Papee 28.32 87 P **P** **11 15 07.2 +0.3**
TIAR Tiarei 28.53 87⇑*i*P **P** **11 15 09.5 +0.8**
comp=Z,63nm,0.8s
TVO Taravao 28.57 88⇑*i*P **P** **11 15 09.6 +0.5**
comp=Z,73nm,0.7s
MEH Mehetia 29.65 88⇑*i*P **P** **11 15 18.6 +0.2**
comp=Z,99nm,1.0s
PMOR Pomariorio Ree 30.55 83⇑*i*P **P** **11 15 26.7 +0.6**
comp=Z,770nm,1.2s
VAH Vaihoa 30.72 83⇑*i*P **P** **11 15 27.9 +0.3**
comp=Z,496nm,0.9s
CAN Canberra 30.80 237 P **P** **11 15 29.3 +1.2**
CAN pmax pmax
comp=Z,155nm,1.1s
CAN Canberra 30.80 237 P **P** **11 15 29.2 +1.2**
XMAS Kiritimati 31.87 45 P **P** **11 15 37.5 +0.2**
CTA Charters Tower 32.14 267 P **P** **11 15 40.5 +0.9**
comp=Z,208nm,0.4s,baz=91,slow=11,SNR=659
CTA PcP **PcP** **11 18 11.0 +0.8**
comp=Z,22nm,0.5s,baz=108,slow=4.9,SNR=4.0
CTA S **S** **11 20 10.2 -1.4**
comp=Z,13nm,1.0s,baz=306,slow=20,SNR=5.8
CTA ScP **ScP** **11 21 00.6 +2.6**
comp=Z,33nm,0.9s,baz=88,slow=2.2,SNR=9.1
CTA ScS **ScS** **11 25 01.1 +2.2**
comp=Z,3.0nm,0.8s,baz=329,slow=23,SNR=7.5
KRVT Keravat (AS076 32.71 298 P **P** **11 15 44.3 -0.2**
comp=Z,271nm,0.7s,baz=350,slow=1.0,SNR=28
KRVT S **S** **11 20 18.2 -2.1**
comp=Z,61nm,0.4s,baz=353,slow=19,SNR=8.1
KWAJ Kwajalein Atol 32.91 336 P **P** **11 15 46.3 +0.2**
KWAJ pmax pmax
comp=Z,337nm,0.7s
KWAJ Kwajalein Atol 32.91 336 P **P** **11 15 46.3 +0.2**
TOO Toolangi 34.18 235 P **P** **11 15 57.0 +0.5**
TOO pmax pmax
comp=Z,100nm,0.8s
TOO Toolangi 34.18 235 P **P** **11 15 57.0 +0.5**
TOO IAmb IAmb 11 15 58.6
comp=Z,100nm,0.8s
PMG Port Moresby 34.42 286 P **P** **11 15 59.3 +0.6**
comp=Z,492nm,0.7s,baz=76,slow=6.2,SNR=281
PMG S **S** **11 20 42.2 -3.9**
comp=Z,6.2nm,0.7s,baz=336,slow=20,SNR=4.3
PMG ScP **ScP** **11 21 08.5 +2.4**
comp=Z,31nm,0.8s,baz=58,slow=7.8,SNR=7.4
PMG Port Moresby 34.42 286 P **P** **11 15 58.9 +0.1**
PATS Pohnpei 35.84 320 P **P** **11 16 10.7 +0.1**
STKA Stephens Creek 36.14 245 P **P** **11 16 14.0 +1.2**
comp=Z,133nm,0.5s,baz=93,slow=10,SNR=385
STKA S **S** **11 21 08.7 -2.6**
comp=Z,5.6nm,0.7s,baz=339,slow=23,SNR=4.0
STKA ScP **ScP** **11 21 14.3 +2.1**
comp=Z,29nm,0.8s,baz=55,slow=7.2,SNR=9.5
STKA P3KPbc 11 46 36.1
comp=Z,3.8nm,1.0s,baz=334,slow=7.2,SNR=5.1
STKA Stephens Creek 36.14 245 P **P** **11 16 13.6 +0.8**
STKA IAmb IAmb 11 16 14.9
comp=Z,58nm,1.1s
COEN Coen 36.43 276 P **P** **11 16 16.2 +0.8**
COEN PcP **PcP** **11 18 23.3 +0.4**
MANU Manus Island 37.83 297 P **P** **11 16 27.0 +0.2**
TAOE Nuku Hiva Isla 39.78 77⇑*i*P **P** **11 16 43.3 +0.7**
comp=Z,899nm,0.9s
TAOE Nuku Hiva Isla 39.78 77 P **P** **11 16 43.1 +0.5**
BBOO Buckleboo 40.89 245 P **P** **11 16 51.3 +0.2**
MMPI Merauke 40.92 282 P **P** **11 16 51.6 +0.1**
H11S2 WAKE ISLAND Hy 42.22 340 P **P** **11 17 01.7 +0.4**
baz=304,slow=74,SNR=3.5
H11S1 WAKE ISLAND Hy 42.24 340 P **P** **11 17 02.0 +0.5**
baz=26,slow=74,SNR=2.6
WAKE Wake Island 42.98 340 P **P** **11 17 07.7 +0.2**
AS31 Alice Springs 43.03 258 IAmb IAmb 11 17 09.2
comp=Z,106nm,0.7s
ASAR Alice Springs 43.03 258 P **P** **11 17 08.3 +0.3**
comp=Z,338nm,0.6s,baz=97,slow=7.8,SNR=4329
ASAR PcP **PcP** **11 18 44.8 +0.4**
comp=Z,42nm,0.6s,baz=106,slow=3.7,SNR=8.8
ASAR ScP **ScP** **11 21 41.8 +2.4**
comp=Z,23nm,0.8s,baz=107,slow=4.2,SNR=15
ASAR S **S** **11 22 49.5 -2.3**
comp=Z,56nm,0.8s,baz=94,slow=16,SNR=36
ASAR ScS **ScS** **11 26 03.6 +1.4**
comp=Z,13nm,0.9s,baz=91,slow=7.3,SNR=12
ASAR P3KPbc 11 46 06.7
comp=Z,0.5nm,0.6s,baz=286,slow=3.8,SNR=11
ASAR P4KPbc 11 54 56.7
comp=Z,0.3nm,0.6s,baz=110,slow=4.3,SNR=9.8
ASAR Alice Springs 43.03 258 P **P** **11 17 07.9 -0.1**
ASAR PcP **PcP** **11 18 44.8 +0.4**
ASAR **ScP** **11 21 41.4 +2.0**
WRAB Tennant Creek 43.20 264*ce*P **P** **11 17 08.9 -0.4**
WRAB pmax pmax
comp=Z,358nm,0.9s
WRAB Tennant Creek 43.20 264 P **P** **11 17 08.8 -0.5**
WRA Warramunga Arr 43.20 264 P **P** **11 17 08.5 -0.9**
WRA 11 18 45.2
WRA pmax pmax
comp=Z,28nm,0.8s
WRA Warramunga Arr 43.20 264 P **P** **11 17 09.2 -0.2**
comp=Z,307nm,0.7s,baz=97,slow=7.8,SNR=2014
WRA PcP **PcP** **11 18 45.5 +0.6**
comp=Z,24nm,0.8s,baz=99,slow=3.9,SNR=6.6
WRA ScP **ScP** **11 21 42.5 +2.3**
comp=Z,30nm,0.9s,baz=96,slow=4.2,SNR=21
WRA S **S** **11 22 50.4 -4.0**
comp=Z,17nm,0.7s,baz=96,slow=13,SNR=11
WRA ScS **ScS** **11 26 04.3 +0.9**
comp=Z,2.7nm,0.9s,baz=96,slow=7.9,SNR=6.4
WRA P3KPbc 11 46 06.3
comp=Z,0.7nm,0.5s,baz=293,slow=2.9,SNR=7.5
WRA P4KPbc 11 54 58.0
comp=Z,0.9nm,1.1s,baz=291,slow=3.0,SNR=4.7
WRA Warramunga Arr 43.20 264 P **P** **11 17 08.5 -0.9**
WRA **PcP** **11 18 45.2 +0.2**
WRA **ScP** **11 21 42.1 +2.0**
JAY Jayapura 43.26 291 P **P** **11 17 10.2 +0.3**
comp=Z,535nm,0.6s,baz=145,slow=4.1,SNR=258
JAY S **S** **11 22 55.6 +0.4**
comp=Z,7.0nm,0.8s,baz=127,slow=19,SNR=3.2
JAY Jayapura 43.26 291 P **P** **11 17 10.1 +0.2**
H11N3 WAKE ISLAND Hy 43.31 341 P **P** **11 17 10.2 +0.4**
baz=179,slow=11,SNR=9.9
H11N1 WAKE ISLAND Hy 43.31 341 P **P** **11 17 10.1 +0.3**
baz=179,slow=11,SNR=8.6
H11N2 WAKE ISLAND Hy 43.33 341 P **P** **11 17 10.0 +0.1**
baz=179,slow=11,SNR=9.9
SMPI Sarmi 45.26 290 P **P** **11 17 25.3 +0.1**
KHLU Kahalu`u 47.02 31 P **P** **11 17 38.2 -0.3**
KHLU IAmb IAmb 11 17 54.5
comp=Z,101nm,1.1s
SRPI Serui, Papua 47.48 288 P **P** **11 17 41.8 -0.2**
BAKI Biak 47.92 289 P **P** **11 17 45.6 +0.4**
SAUI Saumlaki 49.41 278 P **P** **11 17 56.6 +0.4**
RKPI Ransiki, Papua 49.47 288 P **P** **11 17 57.1 +0.4**
GUMO Guam 49.63 312 P **P** **11 17 58.1 +0.4**
GUMO pmax pmax
comp=Z,754nm,1.2s
GUMO Guam 49.63 312 P **P** **11 17 58.4 +0.7**
comp=Z,343nm,0.5s,baz=154,slow=9.1,SNR=32
GUMO Guam 49.63 312 P **P** **11 17 58.1 +0.4**
MIDW Midway 49.67 2 P **P** **11 17 57.9 +0.1**
FAKI Fak Fak 50.57 285 P **P** **11 18 04.5 -0.2**
FAKI Fak Fak 50.57 285 P **P** **11 18 04.7 0.0**
SARN Sarigan 51.23 315 P **P** **11 18 09.1 -0.3**
FITZ Fitzroy Crossi 51.64 264 S **S** **11 24 49.7 -0.5**
comp=Z,7.1nm,0.8s,baz=271,slow=21,SNR=5.9
BNDI Bandanaira 52.02 282 P **P** **11 18 14.9 -0.2**
SIJI Sorong 52.35 287 P **P** **11 18 17.9 +0.4**
comp=Z,1μm,0.7s,baz=94,slow=5.3,SNR=346
SIJI ScP **ScP** **11 22 20.9 +1.8**
comp=Z,25nm,0.8s,baz=26,slow=3.5,SNR=5.8
SIJI S **S** **11 25 00.4 +0.5**
comp=Z,4.3nm,0.5s,baz=168,slow=19,SNR=3.6
SWI Sorong 52.36 287 P **P** **11 18 17.6 +0.1**
MSAI Masohi 53.39 282 P **P** **11 18 24.4 -0.5**
AAI Ambon 53.92 282 P **P** **11 18 28.1 -0.5**
NLAI Namlea 55.10 282 P **P** **11 18 36.9 +0.1**
SOEI Soe 55.30 273 P **P** **11 18 40.2 +1.9**
BATI Baumata 55.71 272 S **S** **11 25 46.1 +2.3**
comp=Z,4.3nm,0.3s,baz=286,slow=18,SNR=2.5
BATI Baumata 55.71 272 P **P** **11 18 43.1 +2.0**
PSA00 Pilbara Seismi 56.18 258 P **P** **11 18 44.2 0.0**
PSA00 PcP **PcP** **11 19 33.3 +0.1**
MBWA Marble Bar 56.38 258 P **P** **11 18 45.6 +0.1**
SNR=10
MBWA Marble Bar 56.38 258 P **P** **11 18 45.4 -0.2**
TNTI Ternate 56.57 286 P **P** **11 18 46.5 -0.4**
SANI Sanana 56.60 282 P **P** **11 18 46.5 -0.6**
NWAO Narrogin (SRO) 56.71 244 P **P** **11 18 47.9 +0.2**
NWAO Narrogin (SRO) 56.71 244 P **P** **11 18 47.3 -0.4**
NWAO pmax pmax
comp=Z,116nm,1.1s
NWAO Narrogin (SRO) 56.71 244 P **P** **11 18 47.3 -0.4**
NWAO IAmb IAmb 11 18 49.0
comp=Z,116nm,1.1s
MORW Morawa 58.22 249 IAmb IAmb 11 18 59.0
comp=Z,172nm,1.1s
KDI Kendari 58.91 279 P **P** **11 19 02.3 -0.5**
H01W1 Cape Leeuwin H 59.06 242 P **P** **11 19 04.9 +1.7**
baz=111,slow=6.6,SNR=8.3
H01W2 Cape Leeuwin H 59.07 242 P **P** **11 19 05.1 +1.8**
baz=111,slow=6.6,SNR=5.2
H01W3 Cape Leeuwin H 59.07 242 P **P** **11 19 05.0 +1.7**
baz=111,slow=6.6,SNR=8.5
WBSI Waikabubak, Su 59.87 271 P **P** **11 19 08.3 -0.9**
LUWI Luwuk 59.94 282 P **P** **11 19 09.7 +0.1**
GIRL Giralia 61.03 255 P **P** **11 19 17.7 +1.1**
DAV Davao City (W) 61.09 292 P **P** **11 19 17.7 +0.5**
SNR=7.8
DAV Davao City (W) 61.09 292 P **P** **11 19 17.5 +0.3**
JCJ Chichijima 61.15 321 P **P** **11 19 17.5 +0.2**
comp=Z,452nm,0.5s,baz=250,slow=4.6,SNR=60
KAPI Kappang 61.16 276 P **P** **11 19 17.6 0.0**
SNR=7.4
KAPI Kappang 61.16 276 P **P** **11 19 17.2 -0.4**
KAPI pmax pmax
comp=Z,58nm,0.7s
KAPI Kappang 61.16 276 PP PP 11 21 37.3 -5.3
comp=Z,17nm,0.9s,baz=135,slow=6.7,SNR=4.0
KAPI Kappang 61.16 276 P **P** **11 19 17.2 -0.4**
KAPI IAmb IAmb 11 19 18.2
comp=Z,58nm,0.7s
PLAI Plampang 61.64 272 P **P** **11 19 20.5 -0.2**
SKMP Bagumbayan, Su 61.73 291 *e*P **P** **11 19 20.8 -0.4**
BUKP Musuan 61.93 292 *e*P **P** **11 19 23.2 +0.5**
BUTP Butuan 61.99 294 *e*P **P** **11 19 22.9 -0.1**
CTBH Cotabato--PC H 62.32 291⇓*i*P **P** **11 19 25.6 +0.5**
TWSI Taliwang, Sumb 62.50 271 P **P** **11 19 25.7 -0.6**
MSLP Maasin 63.23 294 *e*P **P** **11 19 30.7 -0.2**
RPN Rapa Nui 63.25 110 P **P** **11 19 32.4 +1.5**
RPN pmax pmax
comp=Z,171nm,0.9s
RPN Rapa Nui 63.25 110 P **P** **11 19 32.6 +1.7**
comp=Z,116nm,0.6s,baz=305,slow=6.6,SNR=8.5
RPN Rapa Nui 63.25 110 P **P** **11 19 32.4 +1.5**
RPN IAmb IAmb 11 19 34.0
comp=Z,171nm,0.8s
BESP Borongan 63.49 296 *e*P **P** **11 19 32.9 +0.4**
DNP Denpasar 64.08 271 P **P** **11 19 35.9 -0.5**
IGBI Denpasar 64.09 271 P **P** **11 19 36.3 -0.1**
CNP Catarman 64.61 296 *e*P **P** **11 19 39.4 -0.3**
KBKI Kotabaru 65.11 277 P **P** **11 19 43.2 +0.3**
JAGI Jajag, Banyuwa 65.13 271 P **P** **11 19 41.8 -1.2**
JAGI Jajag, Banyuwa 65.13 271 P **P** **11 19 41.5 -1.5**
SMKI Samarinda 65.26 280 P **P** **11 19 46.1 +2.3**
GUIM Jordan 65.41 293 *e*P **P** **11 19 42.8 -1.8**
RCP Roxas 65.74 294⇓ *e*P **P** **11 19 46.7 0.0**
KMMI Kalianget 65.79 272 P **P** **11 19 46.3 -0.8**
OTRP Odiongan 66.75 295 *e*P **P** **11 19 52.3 -0.7**
JHJ Hachijo jima 2 67.03 323 P **P** **11 19 54.8 +0.5**
comp=Z,652nm,0.5s,baz=173,slow=7.0,SNR=104
GRJI Gresik 67.22 272 P **P** **11 19 56.6 +0.7**
PWJI Pagerwojo 67.47 270 P **P** **11 19 57.4 0.0**
SJMP San Jose 67.56 294 *e*P **P** **11 19 58.1 +0.2**
LQP Lukban 68.04 296⇓ *e*P **P** **11 20 00.6 -0.5**
WOJI Wonogiri, Jawa 68.35 270 P **P** **11 20 02.3 -0.5**
QSPA South Pole Qui 68.37 180 P **P** **11 20 03.5 +1.3**
comp=Z,114nm,0.8s,baz=347,slow=0.4,SNR=782
QSPA South Pole Qui 68.37 180 P **P** **11 20 03.3 +1.2**
QSPA IAmb IAmb 11 20 04.5
comp=Z,125nm,0.9s
TGY Tagaytay City 68.53 296 P **P** **11 20 05.0 +1.1**
comp=Z,267nm,0.5s,baz=252,slow=0.8,SNR=13
UGM Wanagama 68.69 270 P **P** **11 20 04.4 -0.5**
UGM Wanagama 68.69 270 P **P** **11 20 04.7 -0.2**
LUBP Lubang 68.93 295 *e*P **P** **11 20 04.9 -1.3**
YOGI Yogyakarta 68.94 270 P **P** **11 20 04.2 -2.1**
SMRI Semarang 69.07 271 P **P** **11 20 07.5 +0.4**
SMRI Semarang 69.07 271 P **P** **11 20 06.9 -0.3**
CAUP Cauayan 69.26 299 *e*P **P** **11 20 08.5 +0.4**
SMPP San Manuel, Pa 69.79 298 *e*P **P** **11 20 11.4 +0.1**
JOW Kunigami 69.99 311 P **P** **11 20 13.5 +1.2**
comp=Z,20nm,0.7s,baz=153,slow=13,SNR=32
JOW Kunigami 69.99 311 IAmb IAmb 11 20 14.5
comp=Z,123nm,0.9s
INU Inuyama 70.22 323 IAmb IAmb 11 20 15.0
comp=Z,82nm,0.9s
KPJI Karang Pucung 70.37 270 P **P** **11 20 14.9 0.0**
MJAR Matsushiro Arr 70.45 325 P **P** **11 20 14.3 -0.5**
MJAR pmax pmax
comp=Z,34nm,0.6s
MJAR Matsushiro Arr 70.45 325 P **P** **11 20 15.1 +0.3**
comp=Z,106nm,0.6s,baz=135,slow=5.7,SNR=506
MJAR P*K*PP*K*P **P'P'df** **11 48 06.9 +0.4**
comp=Z,1.9nm,1.0s,baz=324,slow=6.2,SNR=5.1
MJAR Matsushiro Arr 70.45 325 P **P** **11 20 14.3 -0.5**
MAJO Matsushiro 70.45 325*d*i*P* **P** **11 20 14.9 +0.1**
MAJO pmax pmax
comp=Z,119nm,0.9s
MAJO Matsushiro 70.45 325 P **P** **11 20 15.0 +0.2**
MAJO IAmb IAmb 11 20 16.1
comp=Z,125nm,0.8s
MAT Matsushiro 70.45 325 P **P** **11 20 15.0 +0.2**
MAT S **S** **11 28 43.0 +1.7**
MJB9 Matsu-Tunnel 70.45 325 IAmb IAmb 11 20 16.0
comp=Z,128nm,0.8s
BOLP Bolinao 70.54 297 *e*P **P** **11 20 14.9 -0.7**
CMJI Cimerak 70.67 269 P **P** **11 20 15.5 -1.1**
STKI Sintang 70.72 278 P **P** **11 20 16.0 -0.9**
SBUM Sibu 70.98 281 IAmb IAmb 11 20 20.3
comp=Z,40nm,1.1s
CISI Cisompet, Garu 71.33 269 P **P** **11 20 19.7 -0.9**
LEM Lembang 71.77 270 P **P** **11 20 23.9 +0.7**
comp=Z,588nm,0.7s
ERM Erimo 72.27 332*ce*P **P** **11 20 26.5 +1.3**
ERM pmax pmax
comp=Z,74nm,0.8s
ERM Erimo 72.27 332 P **P** **11 20 26.8 +1.6**
ERM IAmb IAmb 11 20 29.3
comp=Z,83nm,0.8s
NMR Nemuro--Hokkai 72.28 334*d*i*P* **P** **11 20 26.1 +0.9**
JNU Nakatsue 72.30 318 P **P** **11 20 26.2 +0.5**
comp=Z,102nm,0.9s,baz=192,slow=0.8,SNR=68
SKJI Sukabumi 72.70 269 P **P** **11 20 26.9 -1.5**
YUK Yuzh-Kuril'sk 72.78 334 *i* P **P** **11 20 28.5 +0.4**
GRPR Tuman 72.78 334⇑*i*P **P** **11 20 29.2 +1.1**
YULB Yu-li 73.12 304 IAmb IAmb 11 20 30.8
comp=Z,73nm,0.6s
TPI Tanjungpandan 73.20 274 P **P** **11 20 29.8 -1.4**
KIWB Kanaga Island 73.27 1 P **P** **11 20 30.6 0.0**
ADK Adak 73.31 2 P **P** **11 20 30.3 -0.6**
ADK pmax pmax
comp=Z,208nm,0.6s
ADK Adak 73.31 2 P **P** **11 20 30.4 -0.6**
TPUB Ta-pu 73.59 304 P **P** **11 20 32.3 -0.9**
CGJI Cibinong 73.64 269 P **P** **11 20 33.0 -0.7**
ATKA Atka Island 73.73 3 P **P** **11 20 32.5 -0.7**
TATO Taipei 73.85 306 P **P** **11 20 34.8 +0.2**
TATO Taipei 73.85 306 P **P** **11 20 34.5 -0.2**
ASAJ Asahikawa 74.20 333 P **P** **11 20 38.1 +1.9**
comp=Z,99nm,0.6s,baz=216,slow=5.7,SNR=180
BLSI Bandar Lampung 74.49 270 P **P** **11 20 37.6 -0.9**
KASI Kota Agung 75.13 270 P **P** **11 20 40.5 -1.6**
KLSI 75.21 271 P **P** **11 20 41.1 -1.4**
LWLI Liwa 75.72 270 P **P** **11 20 44.8 -0.7**
KNMB Chin-men Tao 75.94 304 IAmb IAmb 11 20 48.1
comp=Z,111nm,0.7s
QZH Quanzhou 76.04 304⇓*i*P **P** **11 20 47.8 +1.0**

QZH pmax pmax
comp=Z,160nm,0.7s
UNV Unalaska Valle 76.05 8 IAmb IAmb 11 20 46.5
comp=Z,110nm,1.0s
YSS Yuzh-Sakhalins 76.42 334κ *iP* **P 11 20 49.8 +1.4**
YSS pmax pmax
comp=Z,120nm,0.5s
YSS pmax pmax
comp=Z,400nm,2.5s
YSS Yuzh-Sakhalins 76.42 334 P **P 11 20 49.3 +1.0**
TJN Taejon 76.62 318*ceP* **P 11 20 50.4 +0.7**
PET Petropavlovsk 76.83 347 *eP* **P 11 20 50.6 +0.1**
PET pmax pmax
comp=Z,87nm,0.6s
PET Petropavlovsk 76.83 347 P **P 11 20 50.0 -0.5**
PET IAmb IAmb 11 20 51.0
comp=Z,73nm,0.5s
DSRI Dabo 76.89 275 P **P 11 20 52.3 +0.5**
KSRS Korea Array 76.97 319 P **P 11 20 52.8 +1.2**
comp=Z,211nm,0.6s,baz=134,slow=5.3,SNR=59
KSAR Wonju Array Be 76.98 319 P **P 11 20 52.6 +0.9**
KSAR Wonju Array Be 76.98 319 P **P 11 20 52.6 +0.9**
KS19 Wonju Array Si 77.03 319 IAmb IAmb 11 20 54.0
comp=Z,106nm,1.2s
PEA0B Petropavlovsk- 77.12 346 IAmb IAmb 11 20 53.5
comp=Z,150nm,0.7s
PETK Petropavlovsk- 77.12 346 P **P 11 20 52.5 +0.5**
comp=Z,138nm,0.7s,baz=126,slow=6.5,SNR=120
PETK Petropavlovsk- 77.12 346⇓ P **P 11 20 52.0 -0.1**
TEY Ternei 77.61 330⇓ *eP* **P 11 20 55.8 +0.9**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=E,20nm,0.7s
INCN Inchon 77.77 319 P **P 11 20 56.2 +0.2**
INCN pmax pmax
comp=Z,110nm,1.0s
INCN Inchon 77.77 319 P **P 11 20 56.2 +0.2**
INCN IAmb IAmb 11 20 58.2
comp=Z,110nm,1.0s
MASI Maura Aman, Be 78.08 271 P **P 11 20 57.4 -0.9**
H06E1 SOCORRO T-PHAS 78.09 64 P **P 11 20 59.6 +1.5**
SNR=11
MYKOM Kota Tinggi 78.42 277 IAmb IAmb 11 21 01.2
comp=Z,57nm,0.8s
VLA Vladivostok 78.56 326*d iP* **P 11 21 00.8 +0.8**
VLA pmax pmax
comp=Z,82nm,1.0s
MSHR Mys Shultsa 78.57 325*d iP* **P 11 21 01.3 +1.2**
KRJI Kerinci 79.19 272 P **P 11 21 02.4 -1.8**
USRK Ussuriysk Ar. 79.26 327 P **P 11 21 05.0 +1.3**
comp=Z,125nm,1.0s,baz=122,slow=3.1,SNR=123
USRK Ussuriysk Ar. 79.26 327 P **P 11 21 04.8 +1.1**
USA0B Ussuriysk Arra 79.27 327 IAmb IAmb 11 21 06.3
comp=Z,133nm,0.9s
SCI2 San Clemente I 79.50 48 P **P 11 21 06.8 +1.6**
baz=236
NJ2 Nanjing 79.69 310⇓ *iP* **P 11 21 07.4 +1.2**
NJ2 pmax pmax
comp=Z,100nm,1.0s
PKM Mcpherson Peak 79.73 46 P **P 11 21 08.4 +1.7**
baz=234,SNR=10.0
SAO San Andreas Ge 79.76 44 P **P 11 21 07.7 +1.2**
SAO pmax pmax
comp=Z,22nm,1.0s
SAO San Andreas Ge 79.76 44 P **P 11 21 07.7 +1.2**
CIS Catalina Islan 79.83 48 P **P 11 21 07.9 +0.9**
baz=236
SMMC Simmler 79.86 46 P **P 11 21 09.0 +1.9**
baz=234,SNR=6.3
MAW Mawson 80.01 200 P **P 11 21 08.0 +0.7**
MAW Mawson 80.01 200 P **P 11 21 08.2 +0.9**
comp=Z,4.8nm,0.6s,baz=125,slow=6.1,SNR=24
MAW pP **pwP 11 23 16.2 +1.4**
comp=Z,11nm,1.0s,baz=106,slow=9.3,SNR=5.4
MAW Mawson 80.01 200 P **P 11 21 08.0 +0.7**
FMP Fort Macarthur 80.09 48 P **P 11 21 09.9 +1.6**
baz=236
OSI Osito Audit: C 80.31 47 P **P 11 21 11.8 +2.3**
baz=235
DECC Green Verdugo 80.37 47 P **P 11 21 11.0 +1.2**
baz=236,SNR=7.4
109C Camp Elliot, M 80.46 49 P **P 11 21 11.6 +1.3**
baz=236,SNR=7.8
BKNI Bangkinang 80.47 274 IAmb IAmb 11 21 11.8
comp=Z,110nm,0.7s
KMRM Mail Ridge 80.48 40 IAmb IAmb 11 21 14.0
comp=Z,70nm,0.8s
ARVC Arvin 80.53 46 P **P 11 21 11.9 +1.3**
baz=235,SNR=5.4
PMSA Palmer Station 80.68 157 P **P 11 21 12.0 +1.2**
comp=Z,75nm,0.6s,baz=228,slow=3.4,SNR=44
PMSA Palmer Station 80.68 157 *eP* **P 11 21 12.2 +1.4**
PMSA Palmer Station 80.68 157 *eP* **P 11 21 12.2 +1.4**
PMSA Palmer Station 80.68 157 P **P 11 21 11.5 +0.6**
PMSA IAmb IAmb 11 21 12.9
comp=Z,90nm,0.7s
VES Vestal, Richgr 80.77 46 P **P 11 21 12.9 +1.1**
baz=235,SNR=16
MURC Murrieta 80.79 48 P **P 11 21 13.3 +1.3**
baz=236,SNR=9.7
MDJ Mudanjiang 80.79 326 P **P 11 21 13.0 +1.3**
MDJ pmax pmax
comp=Z,120nm,0.9s
MDJ pmax pmax
comp=Z,620nm,3.7s
MDJ Mudanjiang 80.79 326 IAmb IAmb 11 21 14.1
comp=Z,88nm,0.9s
BFSC Mount Baldy Ra 80.82 48 P **P 11 21 13.3 +1.0**
baz=236,SNR=12
VOG Valley Oaks Go 80.84 45 P **P 11 21 13.6 +1.4**
baz=234
MONP2 Monument Peak 80.94 49 P **P 11 21 14.6 +1.6**
baz=237,SNR=47
EDW2 Edwards Air Fo 80.95 47 P **P 11 21 14.1 +1.3**
baz=236,SNR=34
O02D Mt. Diablo Mer 81.00 40 P **P 11 21 15.3 +2.3**
baz=232,SNR=25
IKP In-Ko-Pah, Jac 81.03 50 P **P 11 21 15.0 +1.6**
baz=237,SNR=27
ISA Isabella, Lake 81.07 46 P **P 11 21 14.9 +1.5**
baz=235,SNR=40
ISA Isabella, Lake 81.07 46 P **P 11 21 14.5 +1.1**
ISA pmax pmax
comp=Z,34nm,0.9s
ISA Isabella, Lake 81.07 46 P **P 11 21 14.5 +1.1**
ISA IAmb IAmb 11 21 15.9
comp=Z,34nm,0.8s
SRIG Santa Rosalia 81.14 56 IAmb IAmb 11 21 16.4
comp=Z,76nm,1.0s
PFO Pinyon Flats O 81.31 49 P **P 11 21 16.1 +1.3**
baz=237,SNR=11
PFO Pinyon Flats O 81.31 49 P **P 11 21 15.6 +0.8**
PFO pmax pmax
comp=Z,13nm,1.1s
PFO Pinyon Flats O 81.31 49 P **P 11 21 15.6 +0.8**
BBRC Big Bear Solar 81.34 48 P **P 11 21 16.6 +1.5**
baz=236
WDC Whiskeytown Da 81.40 40 P **P 11 21 16.5 +1.6**
WDC pmax pmax
comp=Z,23nm,1.0s
WDC Whiskeytown Da 81.40 40 P **P 11 21 16.5 +1.6**
SWSC Sam W. Stewart 81.41 50 P **P 11 21 16.6 +1.5**
baz=237,SNR=16
LRMC Laurel Mtn Rad 81.50 47 P **P 11 21 17.0 +1.2**
baz=236,SNR=20
N02D Trinity Center 81.55 40 P **P 11 21 17.9 +2.1**
baz=232,SNR=20
OHAK Old Harbor 81.61 14 IAmb IAmb 11 21 16.6
comp=Z,32nm,0.6s
O03E Paynes Creek 81.67 41 P **P 11 21 17.5 +1.1**
baz=232,SNR=23
M02C Callahan 81.72 39 P **P 11 21 18.9 +2.3**
baz=232,SNR=21
DL2 Dalian 81.75 317 P **P 11 21 18.0 +1.3**
DL2 pmax pmax
comp=Z,73nm,0.8s
L02E Cave Junction 81.76 38 P **P 11 21 18.9 +2.2**
baz=231
CWC Cottonwood Cre 81.77 46 P **P 11 21 18.4 +1.2**
baz=235
MDPB Devils Postpil 81.80 44 IAmb IAmb 11 21 19.6
comp=Z,29nm,0.9s
BELC Belle Mtn. Jos 81.84 49 P **P 11 21 19.0 +1.5**
baz=237,SNR=33
MPMC Manual Prospec 81.95 46 P **P 11 21 19.3 +1.2**
baz=236,SNR=36
MLAC Mammoth, Mammo 81.96 44 P **P 11 21 19.7 +1.6**
baz=235,SNR=14
GSC Goldstone, Bar 82.00 47 P **P 11 21 19.5 +1.3**
baz=236,SNR=32
GRNR Gornyy 82.01 333⇓ *iP* **P 11 21 19.3 +1.5**
GRNR pmax pmax
comp=Z,100nm,0.8s
YBH Yreka Blue Hor 82.01 39 P **P 11 21 20.0 +1.9**
comp=Z,15nm,0.8s,baz=195,slow=2.2,SNR=54
TIN Tinemaha, Big 82.02 45 P **P 11 21 19.8 +1.5**
baz=235,SNR=11
BC3 Big Chuckawall 82.04 49 P **P 11 21 20.2 +1.8**
baz=237,SNR=17
HEC Hector,Ludlow 82.06 48 P **P 11 21 19.7 +1.2**
baz=237,SNR=55
K02D Willamette Mer 82.06 38 P **P 11 21 20.2 +1.9**
baz=232
WAKR Walker 82.08 43 IAmb IAmb 11 21 21.2
comp=Z,32nm,0.8s
WHN Wuhan 82.16 307⇓ P **P 11 21 20.1 +1.1**
WHN pmax pmax
comp=Z,120nm,1.0s
GLA Glamis 82.16 50 P **P 11 21 20.9 +1.9**
baz=238,SNR=16
J01E Myrtle Point 82.20 37 P **P 11 21 21.1 +2.2**
baz=230
KDAK Kodiak Island 82.28 14 P **P 11 21 19.6 +0.7**
KDAK pmax pmax
comp=Z,36nm,1.1s
KDAK Kodiak Island 82.28 14 P **P 11 21 19.5 +0.6**
comp=Z,15nm,0.7s,baz=193,slow=1.4,SNR=20
KDAK Kodiak Island 82.28 14 P **P 11 21 19.6 +0.7**
KDAK IAmb IAmb 11 21 20.4
comp=Z,36nm,1.1s
PNTR Pine Nut 82.31 43 IAmb IAmb 11 21 22.3
comp=Z,78nm,0.8s
SNY Shenyang 82.33 321⇓ P **P 11 21 20.1 +0.5**
SNY pP **pP 11 23 24.9 +0.3**
SNY pmax pmax
comp=Z,110nm,0.7s
SNY pmax pmax
comp=Z,330nm,3.6s
UBPT Khong Chiam 82.35 290 P **P 11 21 21.3 +1.1**
UBPT Khong Chiam 82.35 290 IAmb IAmb 11 21 22.0
comp=Z,46nm,0.7s
YERR Yerington 82.48 43 IAmb IAmb 11 21 22.9
comp=Z,37nm,0.7s
CN2 Changchun 82.50 323 *eP* **P 11 21 20.8 +0.4**
CN2 pmax pmax
comp=Z,150nm,1.0s
GMRC Granite Mounta 82.50 48 P **P 11 21 22.1 +1.3**
baz=237
IRM Iron Mountain 82.52 49 P **P 11 21 22.4 +1.6**
baz=238,SNR=30
L04D Klamath Falls 82.55 39 P **P 11 21 22.4 +1.5**
baz=232,SNR=9.5
M04C Madoel 82.56 40 P **P 11 21 22.5 +1.6**
baz=232,SNR=6.0
GRAC Grapevine Rang 82.56 45 P **P 11 21 22.5 +1.5**
baz=236,SNR=29
FURC Furnace Creek, 82.60 46 P **P 11 21 22.6 +1.5**
baz=236,SNR=21
TUQ Turquoise Moun 82.67 47 P **P 11 21 22.9 +1.3**
baz=237,SNR=27
SHOC Shoshone, Teco 82.69 47 P **P 11 21 22.7 +1.1**
baz=237,SNR=20
KULM Kulim 82.70 279 IAmb IAmb 11 21 24.0
comp=Z,95nm,0.8s
Y12C Blythe 82.74 49 P **P 11 21 23.5 +1.7**
baz=238,SNR=24
Y12C Blythe 82.74 49 IAmb IAmb 11 21 24.5
comp=Z,33nm,0.9s
NVAR Mina Array Bea 82.76 44 P **P 11 21 23.3 +1.2**
comp=Z,19nm,0.8s,baz=225,slow=8.4,SNR=147
NVAR pP **pwP 11 23 31.4 +0.5**
comp=Z,3.4nm,0.9s,baz=222,slow=9.0,SNR=4.7
NVAR S **S 11 30 49.6 -2.3**
comp=Z,0.8nm,0.8s,baz=264,slow=7.2,SNR=4.2
NVAR PKKPbc **PKKPbc 11 39 43.3 +1.0**
comp=Z,0.2nm,0.5s,baz=67,slow=3.0,SNR=5.1
NVAR PKPPKP **P'P'df 11 47 45.5 +0.1**
comp=Z,0.4nm,0.8s,baz=85,slow=3.1,SNR=4.3
NVAR Mina Array Bea 82.76 44 P **P 11 21 23.0 +0.9**
I03D Drain, OR 82.87 37 P **P 11 21 24.2 +2.0**
baz=231
KLR Kul'dur 82.93 330*d iP* **P 11 21 23.5 +1.1**
KLR pmax pmax
comp=Z,52nm,0.9s
KLR Kul'dur 82.93 330 P **P 11 21 23.8 +1.3**
comp=Z,45nm,0.8s,baz=105,slow=3.7,SNR=129
HSIG 82.97 55 IAmb IAmb 11 21 25.4
comp=Z,45nm,0.7s
214A Organ Pipe Nat 83.04 52 P **P 11 21 25.3 +1.8**
baz=239
K04D Chiloquin, OR 83.12 39 P **P 11 21 25.3 +1.6**
baz=232
NEE2 Needles Airpor 83.22 49 P **P 11 21 26.0 +1.8**
baz=238
TPNV Topopah Spring 83.28 46 P **P 11 21 25.9 +1.3**
baz=236,SNR=30
J04D Umpqua Nationa 83.29 38 P **P 11 21 26.4 +1.8**
baz=232,SNR=14
RPSI Rantau Prapat 83.31 276 IAmb IAmb 11 21 26.0
comp=Z,120nm,0.9s
PSI Prapat 83.36 276 P **P 11 21 25.2 -0.4**
comp=Z,98nm,0.8s,baz=153,slow=4.1,SNR=50
PSI PP **PP 11 24 47.7 -1.1**
comp=Z,24nm,1.1s,baz=162,slow=6.9,SNR=5.8
SKLT Songkhla 83.45 280 P **P 11 21 27.4 +1.6**
H04D Lebanon 83.73 37 P **P 11 21 28.5 +2.0**
baz=231
USHA Ushuaia 83.81 147 P **P 11 21 28.3 +1.5**
comp=Z,32nm,0.8s,baz=215,slow=7.6,SNR=18
J05D Fort Rock, OR 83.83 39 P **P 11 21 28.8 +1.6**
baz=232,SNR=34
CNPM China Poot 84.16 14 IAmb IAmb 11 21 29.7
comp=Z,66nm,0.8s
I05D Terrebonne, OR 84.41 38 P **P 11 21 31.5 +1.6**
baz=232,SNR=5.8
BRLK Bradley Lake 84.45 14 IAmb IAmb 11 21 30.9
comp=Z,74nm,0.9s
R11A Troy Canyon, C 84.48 45 P **P 11 21 31.4 +0.8**
baz=237,SNR=9.1
TRTT Trang 84.56 281 P **P 11 21 32.9 +1.7**
MA2 Magadan 84.62 345*ceP* **P 11 21 30.3 -0.2**
MA2 pmax pmax
comp=Z,80nm,1.0s
MA2 Magadan 84.62 345 P **P 11 21 30.4 0.0**
comp=Z,68nm,0.8s,baz=140,slow=5.8,SNR=38
MA2 Magadan 84.62 345 P **P 11 21 29.8 -0.7**
MA2 IAmb IAmb 11 21 31.4
comp=Z,82nm,0.9s
TUC Tucson 84.71 52 P **P 11 21 33.6 +1.8**
baz=240
TUC Tucson 84.71 52 P **P 11 21 33.5 +1.8**
TUC pmax pmax
comp=Z,34nm,0.9s
TUC Tucson 84.71 52 P **P 11 21 33.5 +1.8**
TUC IAmb IAmb 11 21 34.8
comp=Z,34nm,0.9s
H02S1 DAWSON INLET T 84.91 26 P **P 11 21 33.2 +1.2**
SNR=4.2
SEW Seward 85.09 15 IAmb IAmb 11 21 33.3
comp=Z,50nm,1.0s
SYO Syowa Base 85.28 193⇓ *iP* **P 11 21 32.0 -1.7**
SYO Syowa Base 85.28 193⇓ *iPcP* **P 11 21 34.2 +0.5**
SYO Syowa Base 85.28 193⇓ *epP* pP 11 23 40.0 -0.1
319A Douglas 85.37 54 IAmb IAmb 11 21 38.1
comp=Z,97nm,1.1s
D03D Eldon 85.43 34 P **P 11 21 36.5 +1.8**
baz=231
PATY Pattaya 85.47 286 P **P 11 21 37.7 +2.1**
NONG Nongkai 85.53 291 P **P 11 21 37.1 +1.3**
CHAI Chaiyaphum 85.66 289 P **P 11 21 37.6 +1.1**
comp=Z,177μm,1.0s
U15A North Rim 85.70 48 IAmb IAmb 11 21 39.2
comp=Z,40nm,0.7s
SURT Suratani 85.80 281 P **P 11 21 39.3 +2.1**
PKDT Phuket 85.82 280 P **P 11 21 40.0 +2.7**
BJT Baijiatuau 85.87 316 IAmb IAmb 11 21 38.5
comp=Z,55nm,0.7s
BJI Beijing 85.87 316⇓ *iP* **P 11 21 37.8 +0.8**
BJI pmax pmax
comp=Z,79nm,0.7s
WUAZ Wupatki 85.88 49 P **P 11 21 38.7 +1.4**
baz=240
RC01 Rabbit Creek A 85.90 14 IAmb IAmb 11 21 37.8
comp=Z,135nm,1.4s
HPIG 86.12 59 IAmb IAmb 11 21 40.9
comp=Z,26nm,0.7s
GYA Guiyang 86.16 300⇓ *iP* **P 11 21 39.8 +1.0**
GYA pP pwP 11 23 47.9 -2.0
GYA sP sP 11 24 47.1 +2.2
GYA PP **PP 11 25 12.0 +0.9**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,140nm,5.8s
SLVN Son La 86.23 295 IAmb IAmb 11 21 41.9
comp=Z,28nm,1.0s
SKT Skwentna 86.31 13 IAmb IAmb 11 21 38.5
comp=Z,22nm,0.9s
TTA Tatalina 86.35 10 IAmb IAmb 11 21 40.3
comp=Z,39nm,1.0s
B05A Bryant 86.41 34 P **P 11 21 41.1 +1.9**
baz=232
KNK Knik Glacier 86.47 14 IAmb IAmb 11 21 40.5
comp=Z,68nm,0.7s
PMR Palmer 86.48 14 IAmb IAmb 11 21 40.4
comp=Z,72nm,1.1s
PHET Kaeng Krachan 86.57 285 P **P 11 21 43.1 +2.3**
PBKT Sadao Pong 86.82 289 P **P 11 21 43.7 +1.8**
PBKT Sadao Pong 86.82 289 IAmb IAmb 11 21 45.1
comp=Z,119nm,1.2s
SNAA Sanae 86.84 179 P **P 11 21 40.7 -0.5**
SNAA Sanae 86.84 179 P **P 11 21 40.2 -1.0**
SNAA pmax pmax
comp=Z,9.0nm,0.6s
SNAA Sanae 86.84 179 P **P 11 21 40.1 -1.0**
W18A Petrified Fore 86.84 50 P **P 11 21 43.4 +1.5**
baz=241
W18A Petrified Fore 86.84 50 IAmb IAmb 11 21 45.0
comp=Z,31nm,1.4s
SML Sawmill 86.85 14 IAmb IAmb 11 21 47.1
comp=Z,29nm,1.0s
ZAIG Zacatecas 86.86 64 IAmb IAmb 11 21 45.3
comp=Z,29nm,0.9s
VNA3 Neumayer Olymp 87.02 177 P **P 11 21 41.6 -0.4**
121A Cookes Peak, D 87.04 53 P **P 11 21 44.9 +2.0**
baz=242
121A Cookes Peak, D 87.04 53 IAmb IAmb 11 21 46.6
comp=Z,28nm,1.3s
MFID Camas Ranch 87.11 41 IAmb IAmb 11 21 45.2
comp=Z,19nm,0.9s
TIY Taiyuan 87.16 312 *eP* **P 11 21 44.4 +1.2**
TIY pP **pP 11 23 52.3 +2.0**
TIY sP **sP 11 24 50.9 +1.4**
TIY S **S 11 31 32.3 -1.4**
TIY pmax pmax
comp=Z,110nm,0.7s
CRQM Cirque 87.24 17 IAmb IAmb 11 21 44.3
comp=Z,37nm,0.6s
SEY Seymchan 87.27 347 P **P 11 21 43.5 +0.6**
comp=Z,65nm,0.6s,baz=160,slow=4.8,SNR=236
DUG Dugway, Tooele 87.29 45 P **P 11 21 44.7 +0.8**
baz=239
WRAK Wrangell Islan 87.32 24 IAmb IAmb 11 21 45.9
comp=Z,25nm,0.9s
TGL Tana Glacier 87.32 17 IAmb IAmb 11 21 45.0
comp=Z,52nm,1.0s
VNA2 Neumayer--Watz 87.45 177 P **P 11 21 43.9 0.0**
baz=195,slow=3.9
CAST Castle Rocks 87.51 12 IAmb IAmb 11 21 44.4
comp=Z,24nm,0.6s
VRDI Verde Repeater 87.55 16 IAmb IAmb 11 21 46.1
comp=Z,40nm,1.1s
SRDT SRDT 87.59 286 P **P 11 21 47.7 +2.1**
GLB Gilahina Butte 87.64 16 IAmb IAmb 11 21 46.2
comp=Z,46nm,0.6s
VNA1 Neumayer--Stat 87.68 177 P **P 11 21 45.1 +0.1**
BALM Baldy 87.69 17 IAmb IAmb 11 21 46.7
comp=Z,57nm,0.7s
F10A Beach Ranch, E 87.72 38 IAmb IAmb 11 21 47.4
comp=Z,21nm,0.9s
KTH Kantishna Hill 87.86 12 IAmb IAmb 11 21 46.3
comp=Z,58nm,0.9s
XAN Xi'an 87.87 308 P **P 11 21 47.8 +1.2**
XAN pP pwP 11 23 56.9 -1.3
XAN pmax pmax
comp=Z,130nm,0.8s
XAN pmax pmax
comp=Z,160nm,4.1s
BARN Barnard Glacie 87.90 17 IAmb IAmb 11 21 48.0
comp=Z,62nm,0.8s
NANT Nan 87.94 291 P **P 11 21 48.5 +1.3**
BESE Bessie Mountai 88.03 22 IAmb IAmb 11 21 49.0
comp=Z,25nm,1.0s
ZEA Zeya 88.08 331 *eP* **P 11 21 47.6 +0.6**
ZEA *eS* **S 11 31 49.0 +7.7**
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,81nm,1.0s
ZEA smax smax
comp=N,300nm,10.0s
SPUT South Promonto 88.10 44 P **P 11 21 48.9 +1.3**
TLIG Tlapa 88.17 70 IAmb IAmb 11 21 51.2
comp=Z,36nm,0.8s
DHY Denali Highway 88.18 14 IAmb IAmb 11 21 57.7
comp=Z,16nm,0.8s
PHRA Phrae 88.23 291 P **P 11 21 50.2 +1.7**
MCK McKinley 88.42 13 IAmb IAmb 11 21 50.1
comp=Z,51nm,0.8s
MNTX Cornudas Mount 88.47 55 P **P 11 21 50.9 +1.5**
baz=243,SNR=50
MNTX Cornudas Mount 88.47 55 IAmb IAmb 11 21 51.9
comp=Z,41nm,0.8s
PAX Paxson 88.53 15 IAmb IAmb 11 21 49.8
comp=Z,18nm,1.0s
UMPA Umpang Tak 88.54 288 P **P 11 21 52.3 +2.3**
SKAG Skagway 88.55 21 IAmb IAmb 11 21 53.6
comp=Z,23nm,1.2s
BWN Browne 88.70 13 IAmb IAmb 11 21 50.3
comp=Z,68nm,1.0s
PV05 Paradox Valley 88.73 48 IAmb IAmb 11 21 53.0
comp=Z,11nm,0.8s
MVCO Mesa Verde 88.73 49 P **P 11 21 51.4 +0.6**
baz=241
TX31 Lajitas Ar. Si 88.76 58 IAmb IAmb 11 21 53.7
comp=Z,15nm,1.1s
TX32 Lajitas Array 88.76 58 IAmb IAmb 11 21 53.7
comp=Z,47nm,1.1s
TXAR Lajitas Array 88.76 58 P **P 11 21 52.5 +1.6**
comp=Z,29nm,0.9s,baz=215,slow=6.0,SNR=173
TXAR pP **pwP 11 24 03.7 +1.4**
comp=Z,3.1nm,1.1s,baz=202,slow=5.4,SNR=3.5
TXAR PKKPbc **PKKPbc 11 39 28.4 +0.9**
comp=Z,1.4nm,0.6s,baz=98,slow=2.7,SNR=14
TXAR Lajitas Array 88.76 58 P **P 11 21 51.8 +0.9**
LAMP Lampang 88.77 290 P P 11 21 59.2 +8.2
KMI Kunming 88.78 298 P **P 11 21 53.1 +1.8**
KMI pmax pmax
comp=Z,58nm,1.0s
KMI Kunming 88.78 298 IAmb IAmb 11 21 53.6
comp=Z,66nm,1.1s
HWUT Hardware Ranch 88.83 44 IAmb IAmb 11 21 52.7
comp=Z,16nm,0.7s
PAYA Payao 88.89 291 P **P 11 21 53.0 +1.4**
comp=Z,250μm,0.7s
PV19 Morning Glory 88.92 48 IAmb IAmb 11 21 53.5
comp=Z,18nm,1.3s
PV17 East Wray Mesa 88.92 48 IAmb IAmb 11 21 53.4
comp=Z,17nm,1.3s
PV14 Lion Creek, Pa 88.92 48 IAmb IAmb 11 21 53.5
comp=Z,10nm,0.8s
MENT Mentasta 88.92 15 IAmb IAmb 11 21 52.3
comp=Z,28nm,0.8s
HIA Hailar 88.95 325 IAmb IAmb 11 21 52.5
comp=Z,35nm,1.0s
PV16 Nyswonger Mesa 88.97 48 P **P 11 21 52.2 +0.4**
PV23 Carpenter Ridg 88.97 48 P **P 11 21 52.3 +0.5**
PV23 IAmb IAmb 11 21 53.8
comp=Z,15nm,0.9s
PV11 David Mesa, Pa 88.99 48 IAmb IAmb 11 21 54.4
comp=Z,20nm,1.3s
PV04 Paradox Valley 89.01 48 IAmb IAmb 11 21 53.9
comp=Z,13nm,1.1s
PV21 Cone Mtn., Par 89.05 48 IAmb IAmb 11 21 59.6
comp=Z,12nm,0.9s
PV12 Saucer Basin, 89.05 48 IAmb IAmb 11 21 54.8
comp=Z,12nm,0.8s
NEW Newport 89.08 36 P **P 11 21 53.2 +1.4**

comp=Z,2.5nm,1.0s,baz=246,slow=4.1,SNR=3.4
PV01 Paradox Valley 89.12 48 P **P 11 21 52.0 -0.5**
PV01 IAmb IAmb 11 21 54.1
comp=Z,14nm,1.1s
ANMO Albuquerque 89.13 52 P **P 11 21 53.7 +1.1**
baz=243
ANMO Albuquerque 89.13 52 P **P 11 21 53.2 +0.6**
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO Albuquerque 89.13 52 P **P 11 21 53.2 +0.6**
ANMO IAmb IAmb 11 21 54.6
comp=Z,20nm,0.9s
PV22 Blue Mesa, Par 89.16 48 IAmb IAmb 11 21 54.6
comp=Z,13nm,1.0s
WRH Wood River Hil 89.25 13 IAmb IAmb 11 21 52.9
comp=Z,58nm,0.8s
GO06 Curarrehue 89.27 133 IAmb IAmb 11 21 55.5
comp=Z,58nm,0.9s
HHC Hu-ho-hao-te 89.30 315 *i* P **P 11 21 55.8 +2.6**
HHC pmax pmax
comp=Z,26nm,0.9s
RIDG Independent Ri 89.33 15 IAmb IAmb 11 21 53.9
comp=Z,35nm,0.9s
CM31 Chiang Mai Arr 89.34 290 P **P 11 21 55.9 +2.2**
SNR=37
CMAR Chiang Mai Arr 89.34 290 P **P 11 21 55.8 +2.1**
comp=Z,98nm,0.8s,baz=132,slow=3.2,SNR=341
CMAR PP **PP 11 25 37.5 +1.4**
comp=Z,5.2nm,0.8s,baz=128,slow=6.1,SNR=5.9
CMAR PKKPbc **PKKPbc 11 39 26.4 +0.8**
comp=Z,2.2nm,0.5s,baz=274,slow=3.9,SNR=6.1
CMAR SKKPbc SKKPbc 11 42 08.2 -0.5
comp=Z,1.4nm,0.6s,baz=284,slow=4.3,SNR=6.6
CMAR Chiang Mai Arr 89.34 290 P **P 11 21 55.5 +1.8**
PLCA Paso Flores 89.35 134 P **P 11 21 54.9 +1.4**
comp=Z,43nm,0.9s,baz=260,slow=4.9,SNR=83
PLCA PKKPbc **PKKPbc 11 39 26.4 0.0**
comp=Z,0.8nm,0.4s,baz=103,slow=1.1,SNR=6.5
PLCA Paso Flores 89.35 134 *eP* **P 11 21 55.2 +1.6**
PLCA Paso Flores 89.35 134 *eP* **P 11 21 55.2 +1.6**
PLCA Paso Flores 89.35 134 IAmb IAmb 11 21 55.9
comp=Z,44nm,0.9s
HDA Harding Lake 89.44 13 P **P 11 21 52.8 -0.2**
baz=210
DOT Dot Lake 89.44 15 IAmb IAmb 11 21 54.4
comp=Z,32nm,0.9s
CMMT Chiang Mai 89.47 290 P **P 11 21 55.6 +1.3**
CHTO Chiang Mai 89.48 290 P **P 11 21 56.3 +2.0**
SNR=29
CHTO Chiang Mai 89.48 290 P **P 11 21 55.8 +1.5**
CHTO pmax pmax
comp=Z,118nm,0.8s
CHTO Chiang Mai 89.48 290 P **P 11 21 55.8 +1.5**
BCAR Beaver Creek A 89.52 16 P **P 11 21 53.6 0.0**
IMAR Indian Mountai 89.56 10 P **P 11 21 53.7 +0.2**
DLBC Dease Lake 89.65 24 P **P 11 21 55.7 +1.4**
comp=Z,8.9nm,0.8s,baz=227,slow=4.0,SNR=4.6
MDM Murphy Dome 89.65 13 IAmb IAmb 11 21 54.5
comp=Z,51nm,1.0s
TCOL CIGO, UAF Yank 89.65 13 P **P 11 21 53.5 -0.5**
baz=209
COLA College 89.65 13 *d i* P **P 11 21 53.3 -0.7**
COLA pmax pmax
comp=Z,44nm,1.0s
COLA College 89.65 13 P **P 11 21 53.4 -0.6**
AHID Auburn Hatcher 89.71 43 IAmb IAmb 11 21 57.9
comp=Z,20nm,0.7s
SCRK Sand Creek 89.74 15 IAmb IAmb 11 21 55.9
comp=Z,20nm,1.0s
IL31 89.77 13 IAmb IAmb 11 21 55.9
comp=Z,19nm,0.7s
ILAR Eielson Array 89.77 13 P **P 11 21 54.3 -0.3**
comp=Z,13nm,0.6s,baz=216,slow=4.5,SNR=224
ILAR PP **PP 11 25 36.1 -2.3**
comp=Z,2.4nm,0.9s,baz=229,slow=7.3,SNR=4.7
ILAR Eielson Array 89.77 13 P **P 11 21 53.4 -1.2**
POKR Poker Plat Res 89.95 13 P **P 11 21 55.1 -0.4**
baz=209
MSO Missoula 90.09 39 P **P 11 21 57.8 +1.1**
baz=238
BILL Bilibino 90.11 355 *eP* **P 11 21 56.5 +0.4**
BILL *e**PP **pP 11 24 05.7 +1.5**
BILL *e**SP **sP 11 25 04.4 +1.2**
BILL *e* 11 25 42.8
BILL pmax pmax
comp=Z,57nm,0.9s
BILL Bilibino 90.11 355 P **P 11 21 56.1 0.0**
MHMT Maesarieng 90.12 289 P **P 11 21 59.1 +1.8**
S22A 4UR Ranch, Cre 90.15 49 P **P 11 21 58.6 +1.2**
baz=242,SNR=19
S22A 4UR Ranch, Cre 90.15 49 IAmb IAmb 11 21 59.7
comp=Z,20nm,1.2s
REDW Red Top Meadow 90.17 43 IAmb IAmb 11 21 59.4
comp=Z,16nm,0.8s
TPAW Teton Pass 90.17 43 IAmb IAmb 11 21 59.6
comp=Z,11nm,0.9s
BTO Baotou 90.21 314 *eP* **P 11 21 58.5 +1.2**
SNOW Snow King Moun 90.28 43 IAmb IAmb 11 22 00.6
comp=Z,19nm,0.8s
O20A White River Ci 90.30 46 P **P 11 21 58.9 +1.0**
baz=242,SNR=16
O20A White River Ci 90.30 46 IAmb IAmb 11 21 59.7
comp=Z,19nm,0.8s
RDOG Red Dog Mine 90.31 6 IAmb IAmb 11 21 58.6
comp=Z,28nm,0.9s
IMW Indian Meadow 90.38 42 IAmb IAmb 11 22 01.1
comp=Z,13nm,1.0s
CD2 Chengdu 90.39 303 ⇓ *i* P **P 11 21 59.8 +1.5**
CD2 pmax pmax
comp=Z,30nm,0.6s
FLWY Flagg Ranch 90.62 42 IAmb IAmb 11 22 01.9
comp=Z,24nm,1.4s
BW06 Boulder Array 90.70 44 P **P 11 22 00.2 +0.5**
baz=241,SNR=10.0
BW06 Boulder Array 90.70 44 IAmb IAmb 11 22 01.2
comp=Z,13nm,1.1s
PD31 Pinedale Array 90.70 44 IAmb IAmb 11 22 01.2
comp=Z,12nm,1.1s
PDAR Pinedale Array 90.70 44 P **P 11 22 00.1 +0.4**
comp=Z,7.4nm,0.8s,baz=191,slow=2.7,SNR=44
PDAR PP **PP 11 25 44.2 -2.3**
comp=Z,1.6nm,1.1s,baz=240,slow=5.0,SNR=4.2
PDAR PKKP **PKKPdf 11 39 20.6 +0.7**
comp=Z,0.3nm,0.6s,baz=100,slow=6.2,SNR=3.7
PDAR Pinedale Array 90.70 44 P **P 11 21 59.8 +0.1**
PRP Porcupine Dome 90.70 13 IAmb IAmb 11 22 00.6
comp=Z,32nm,1.4s
SMCO Snowmass 90.71 48 IAmb IAmb 11 22 01.9
comp=Z,12nm,0.8s
EFI East Falkland 90.74 148 P **P 11 22 00.0 +0.5**
EFI East Falkland 90.74 148 P **P 11 22 00.0 +0.5**
BOZ Bozeman (W) 90.81 41 P **P 11 22 01.3 +1.2**
baz=239,SNR=9.4
H17A Grant Village 90.86 42 P **P 11 22 02.8 +2.4**
baz=240
SDCO Great Sand Dun 91.09 50 P **P 11 22 02.7 +1.0**
baz=243,SNR=14
SDCO Great Sand Dun 91.09 50 IAmb IAmb 11 22 03.5
comp=Z,10nm,0.8s
EGAK Eagle 91.09 15 IAmb IAmb 11 22 01.9
comp=Z,22nm,0.7s
MSTX Muleshoe 91.43 54 P **P 11 22 03.9 +0.7**
baz=245
MSTX Muleshoe 91.43 54 IAmb IAmb 11 22 04.7
comp=Z,18nm,0.8s
T25A Trinidad 91.60 51 P **P 11 22 04.8 +0.8**
baz=244,SNR=7.8
T25A Trinidad 91.60 51 IAmb IAmb 11 22 05.5
comp=Z,11nm,0.8s
RWWY Rawlins 91.72 45 IAmb IAmb 11 22 05.9
comp=Z,15nm,1.1s
833A Chaparral WMA, 91.75 60 P **P 11 22 05.8 +1.2**
baz=246,SNR=8.9
833A Chaparral WMA, 91.75 60 IAmb IAmb 11 22 06.5
comp=Z,33nm,0.8s
Q24A Divide 91.88 49 P **P 11 22 06.3 +1.0**
baz=244,SNR=7.6
Q24A Divide 91.88 49 IAmb IAmb 11 22 07.3
comp=Z,8.5nm,0.8s
ISCO Idaho Springs 91.93 48 P **P 11 22 06.3 +0.7**
baz=243,SNR=8.7
RLMT Red Lodge 92.03 42 P **P 11 22 07.0 +1.3**
baz=241
N23A Red Feather La 92.20 47 P **P 11 22 07.9 +1.1**
baz=243,SNR=5.8
N23A Red Feather La 92.20 47 IAmb IAmb 11 22 09.3
comp=Z,11nm,1.1s

JCT Junction City 92.28 58 P **P 11 22 07.4 +0.3**
baz=246,SNR=13
JCT Junction City 92.28 58 IAmb IAmb 11 22 08.2
comp=Z,15nm,0.7s
LZH Lanzhou 92.51 308 ⇓ P **P 11 22 09.5 +1.4**
LZH sP sP 11 25 17.0 +2.0
LZH pmax pmax
comp=Z,130nm,1.4s
LZH pmax pmax
comp=Z,210nm,6.2s
BMAR Burnt Mountain 92.54 13 P **P 11 22 07.5 +0.1**
K22A Casper 92.61 45 P **P 11 22 09.7 +1.3**
baz=243
AMTX Amarillo 92.64 54 P **P 11 22 09.5 +0.9**
baz=245
TOLK Toolik Lake Re 92.66 10 P **P 11 22 08.4 +0.5**
baz=208
YAK Yakutsk 92.76 338 *eP* **P 11 22 07.8 -0.6**
YAK *e* 11 26 03.5
YAK *eS* **SKSac 11 31 39.2 -5.7**
YAK *e* 11 32 16.2
YAK *e*SS **SS 11 38 58.4 +3.1**
YAK pmax pmax
comp=Z,100nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=Z,97nm,2.7s
YAK pmax pmax
comp=N,30nm,2.5s
YAK pmax pmax
comp=E,42nm,2.3s
YAK smax smax
comp=N,147nm,2.0s
YAK smax smax
comp=E,83nm,2.2s
YAK Yakutsk 92.76 338 P **P 11 22 08.4 0.0**
comp=E,62nm,0.7s,baz=141,slow=0.1,SNR=51
YAK Yakutsk 92.76 338 P **P 11 22 08.0 -0.4**
EGMT Eagleton 93.14 39 P **P 11 22 14.3 +3.6**
baz=241
ABTX Abilene, Hawle 93.27 56 P **P 11 22 12.0 +0.5**
baz=246,SNR=8.8
ABTX Abilene, Hawle 93.27 56 IAmb IAmb 11 22 12.9
comp=Z,14nm,0.8s
EPYK Eagle Plains 93.48 16 P **P 11 22 11.8 +0.2**
baz=219
EPYK Eagle Plains 93.48 16 IAmb IAmb 11 22 12.6
comp=Z,16nm,0.8s
KSCO Kaye Shedlock' 93.67 49 P **P 11 22 14.5 +1.2**
baz=245
KSCO Kaye Shedlock' 93.67 49 IAmb IAmb 11 22 15.1
comp=Z,28nm,0.9s
GO04 Tololo Observa 94.14 125 IAmb IAmb 11 22 17.1
comp=Z,29nm,0.8s
435B Jarrell 94.16 59 P **P 11 22 17.0 +1.4**
baz=247
435B Jarrell 94.16 59 IAmb IAmb 11 22 17.3
comp=Z,30nm,1.4s
LAO LASA Array 94.64 41 P **P 11 22 19.1 +1.6**
baz=243
LAO LASA Array 94.64 41 IAmb IAmb 11 22 19.8
comp=Z,6.7nm,0.8s
RSSD Black Hills 94.89 44 P **P 11 22 19.3 +0.5**
baz=244
RSSD Black Hills 94.89 44 P **P 11 22 18.7 -0.1**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 94.89 44 P **P 11 22 18.7 -0.1**
RSSD IAmb IAmb 11 22 20.5
comp=Z,7.5nm,0.8s
ULN Ulaanbaatar 95.46 320 P **P 11 22 21.7 +0.5**
SNR=6.2
ULN Ulaanbaatar 95.46 320 *ceP* **P 11 22 21.0 -0.2**
ULN pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 95.46 320 P **P 11 22 20.8 -0.5**
ULN IAmb IAmb 11 22 23.5
comp=Z,13nm,0.7s
INK Inuvik 95.76 16 P **P 11 22 21.4 -0.5**
comp=Z,4.5nm,0.6s,baz=218,slow=3.6,SNR=39
INK PP **PP 11 26 20.1 -4.3**
comp=Z,1.9nm,0.9s,baz=194,slow=7.6,SNR=4.7
INK Inuvik 95.76 16 P **P 11 22 21.4 -0.5**
INK IAmb IAmb 11 22 22.1
comp=Z,5.4nm,0.7s
SONM Songino Array 95.84 319 P **P 11 22 22.5 -0.4**
comp=Z,5.2nm,0.7s,baz=122,slow=3.6,SNR=25
SONM PP **PP 11 26 19.1 -6.7**
comp=Z,3.1nm,0.8s,baz=126,slow=6.6,SNR=6.7
SONM S **SKSac 11 32 01.1 -1.1**
comp=Z,1.8nm,0.9s,baz=178,slow=6.8,SNR=7.5
SONM PKKP **PKKPbc 11 39 09.3 -0.9**
comp=Z,1.4nm,0.5s,baz=276,slow=3.3,SNR=8.2
SONM Songino Array 95.84 319 P **P 11 22 22.5 -0.4**
TRQA Tornquist 96.41 135 P **P 11 22 25.9 +0.2**
TRQA pmax pmax
comp=Z,15nm,1.1s
TRQA Tornquist 96.41 135 P **P 11 22 25.9 +0.2**
TRQA IAmb IAmb 11 22 26.8
comp=Z,15nm,1.1s
GTA Gaotai 96.77 310 ⇓ P **P 11 22 27.9 +0.6**
GTA pP pwP 11 24 41.8 +1.5
GTA sP sP 11 25 35.8 +1.2
GTA SKS **SKSac 11 32 06.5 -0.9**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.8s
KSU1 Kansas State U 98.02 51 Pdiff **P 11 22 34.4 +1.7**
baz=249
YKA Yellowknife Ar 98.13 25 P **P 11 22 32.9 +0.3**
comp=Z,1.1nm,0.8s,baz=340,slow=12,SNR=5.9
YKA PKiKP **PKiKP 11 27 01.6 +0.1**
comp=Z,0.7nm,0.7s,baz=249,slow=1.5,SNR=4.2
YKA Yellowknife Ar 98.13 25 Pdif 11 22 32.5 0.0
ZAK Zakamensk 98.76 321 *eP* **P 11 22 36.8 +0.9**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
C36M Paulatuk 98.97 17 Pdiff **P 11 22 37.4 +1.2**
baz=231
TIXI Tiksi 99.59 345 P **Pdif 11 22 37.0 -1.9**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 99.59 345 P **Pdif 11 22 38.1 -0.8**
comp=Z,2.4nm,0.7s,baz=143,slow=3.9,SNR=7.2
TIXI PP **PP 11 26 49.8 -3.3**
comp=Z,8.8nm,1.0s,baz=141,slow=5.9,SNR=12
TIXI Tiksi 99.59 345 **Pdif 11 22 37.0 -1.9**
TIXI IAmb IAmb 11 22 43.2
comp=Z,3.3nm,0.8s
MOY Mondy 100.59 321 *eP* **Pdif 11 22 43.0 -1.0**
PALK Pallekele 101.87 273 PKiKP **PKiKP 11 27 10.7 +1.0**
comp=Z,10.0nm,0.9s,baz=115,slow=1.5,SNR=5.9
LPAZ La Paz 102.75 113 P **Pdif 11 22 57.5 +2.5**
LPAZ La Paz 102.75 113 Pdiff **Pdif 11 22 58.0 +3.0**
comp=Z,3.1nm,0.8s,baz=248,slow=1.6,SNR=12
LPAZ PKiKP **PKiKP 11 27 12.2 +0.3**
comp=Z,1.3nm,0.4s,baz=262,slow=5.4,SNR=7.0
LPAZ PKKPbc **PKKPbc 11 38 50.9 0.0**
comp=Z,3.4nm,0.7s,baz=23,slow=0.7,SNR=10
LPAZ La Paz 102.75 113 *eP* **Pdif 11 22 58.0 +3.0**
LPAZ La Paz 102.75 113 *eP* **Pdif 11 22 58.0 +3.0**
LPAZ La Paz 102.75 113 **Pdif 11 22 57.5 +2.5**
RAMN Ramite 102.97 294 *eP* **PKiKP 11 27 11.4 -0.2**
comp=Z,27nm,0.7s
JIRN Jiri 103.53 295 *eP* **PKiKP 11 27 12.3 -0.5**
comp=Z,46nm,0.7s
GUN Gumba 103.87 295 *eP* **PKiKP 11 27 12.7 -0.7**
comp=Z,25nm,0.8s
PKI Pulchoki 104.17 294 *eP* **PKiKP 11 27 13.1 -0.8**
comp=Z,22nm,0.6s
PKIN Phulchoki 104.18 294 *eP* **PKiKP 11 27 13.0 -0.9**
comp=Z,19nm,0.5s
DMN Daman 104.44 294 *eP* **PKiKP 11 27 13.4 -0.9**
comp=Z,10nm,0.5s
GKN Gorkha 104.95 294 *eP* **PKiKP 11 27 14.3 -0.8**
comp=Z,7.8nm,0.2s
PLTB Pedras Altas 105.67 134 *eP* **Pdif 11 23 08.5 +1.5**
PLTB Pedras Altas 105.67 134 *eP* **Pdif 11 23 08.5 +1.5**
KOLN Koldanda 105.76 294 *eP* **PKiKP 11 27 15.3 -1.4**
comp=Z,9.3nm,0.6s
DANN Dangsing 105.79 295 *eP* **PKiKP 11 27 15.8 -1.0**
comp=Z,46nm,0.6s
RES Resolute Bay 109.30 16 PKiKP **PKiKP 11 27 21.1 -0.5**

comp=Z,2.6nm,0.7s,baz=260,slow=4.7,SNR=8.2
ZALV Zalesovo Beam 110.64 321 PKiKP **PKiKP 11 27 23.6 -1.2**
comp=Z,8.3nm,0.5s,baz=176,slow=0.9,SNR=34
ZALV PP **PP 11 28 13.5 -0.2**
comp=Z,3.2nm,0.7s,baz=102,slow=6.4,SNR=4.3
ZALV PKKPbc **PKKPbc 11 38 26.3 -0.4**
comp=Z,0.7nm,0.5s,baz=272,slow=3.2,SNR=3.6
MK31 Makanchi Array 111.11 313 *e*PKiKP **PKiKP 11 27 24.8 -1.1**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 111.11 313 Pdiff **Pdif 11 23 32.1 +1.3**
comp=Z,2.6nm,0.7s,baz=96,slow=6.0,SNR=18
MKAR PKiKP **PKiKP 11 27 24.9 -1.0**
comp=Z,3.5nm,0.4s,baz=75,slow=3.4,SNR=38
MKAR PP **PP 11 28 13.7 -3.6**
comp=Z,2.6nm,0.8s,baz=85,slow=7.5,SNR=4.1
MKAR SKP 11 30 05.2
comp=Z,2.3nm,0.7s,baz=93,slow=2.4,SNR=3.7
MKAR PKKPbc **PKKPbc 11 38 24.5 -0.6**
comp=Z,4.0nm,0.6s,baz=274,slow=3.9,SNR=21
MKAR PKKPab **PKKPab 11 38 36.4 +1.0**
comp=Z,4.3nm,0.8s,baz=276,slow=4.5,SNR=12
MKAR SKKPbc SKKPbc 11 41 10.0 -4.1
comp=Z,0.8nm,0.7s,baz=290,slow=3.6,SNR=4.2
MKAR Makanchi Array 111.11 313 **Pdif 11 23 31.0 +0.2**
NRIK Noril'sk 111.20 338 PKiKP **PKiKP 11 27 25.1 -0.2**
comp=Z,2.2nm,0.4s,baz=76,slow=5.8,SNR=4.2
NRIK PP **PP 11 28 14.0 -3.3**
comp=Z,8.9nm,1.1s,baz=120,slow=9.6,SNR=6.3
KURK Kurchatov 114.02 317 P PKPdf 11 27 30.4 -0.9
KURK Kurchatov 114.02 317 *c i* PKiKP PKPdf 11 27 30.0 -1.3
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 114.02 317 PKPdf 11 27 29.9 -1.3
KURBB Kurchatov Arra 114.07 317 PKP PKPdf 11 27 30.4 -1.0
comp=Z,8.7nm,0.5s,baz=108,slow=1.7,SNR=70
KURBB PP **PP 11 28 32.7 -5.2**
comp=Z,5.7nm,1.1s,baz=96,slow=6.5,SNR=6.2
KURBB SKP 11 30 10.5
comp=Z,3.8nm,0.8s,baz=108,slow=2.0,SNR=5.3
KSH Kashi 114.54 305 PKP PKPdf 11 27 32.3 -0.6
KSH PP **PP 11 28 48.3 +6.6**
KSH sPKP 11 30 48.8
KSH PKS **PKSdf 11 31 07.8 -1.8**
KSH SS SS 11 43 56.5 +5.3
KSH AMB AMB
comp=Z,330nm,6.1s
ULHL Ulahol 114.72 308 P PKPdf 11 27 33.1 -0.1
SNR=7.4
TKM2 Tokmak 2 115.28 308 PKiKP **PKPdf 11 27 33.3 -1.0**
TKM2 pmax pmax
comp=Z,12nm,0.9s
TKM2 Tokmak 2 115.28 308 P **PKPdf 11 27 33.6 -0.7**
SNR=14
KZA Kyzart 115.43 307 P **PKPdf 11 27 34.7 -0.1**
SNR=8.0
KBK Karagaybulak 115.72 308 P **PKPdf 11 27 34.7 -0.4**
SNR=8.9
CHMS Chumysh 115.90 308 P **PKPdf 11 27 34.6 -0.6**
SNR=7.0
UCH Uchtor 115.99 307 P **PKPdf 11 27 36.0 0.0**
SNR=18
AAK Ala-Archa 116.05 308 *c i* PKiKP **PKPdf 11 27 35.1 -0.6**
AAK pmax pmax
comp=Z,10.0nm,1.3s
AAK Ala-Archa 116.05 308 Pdiff **Pdif 11 23 57.6 +4.5**
comp=Z,2.5nm,0.8s,baz=142,slow=4.7,SNR=8.9
AAK PKP **PKPdf 11 27 35.1 -0.6**
comp=Z,6.7nm,0.7s,baz=166,slow=4.2,SNR=20
AAK PP **PP 11 28 48.9 -3.2**
comp=Z,1.3nm,0.6s,baz=76,slow=9.2,SNR=4.5
AAK Ala-Archa 116.05 308 P **PKPdf 11 27 35.3 -0.4**
SNR=5.7
AAK Ala-Archa 116.05 308 **Pdif 11 23 57.2 +4.2**
AAK **PKPdf 11 27 34.8 -0.9**
USP Ospenovka 116.11 309 P **PKPdf 11 27 35.1 -0.5**
SNR=12
EKS2 Erkin-Say 116.58 308 P **PKPdf 11 27 35.7 -1.0**
SNR=11
AML Almayashu 116.59 307 P **PKPdf 11 27 36.9 -0.1**
SNR=20
FRB Frobisher Bay 118.44 28 PKP **PKPdf 11 27 38.7 -0.7**
comp=Z,43nm,1.4s,baz=339,slow=0.8,SNR=4.7
KK31 Karatay Array 119.01 308 *i* PKiKP **PKPdf 11 27 40.4 -0.8**
KK31 pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 119.01 308 PKiKP **PKPdf 11 27 39.9 -1.3**
KKAR Karatay Array 119.01 308 **PKPdf 11 27 39.9 -1.3**
BVAR Borovoye Array 119.19 320 PKP **PKPdf 11 27 40.8 -0.4**
comp=Z,29nm,0.4s,baz=118,slow=2.1,SNR=175
BVAR PP **PP 11 29 09.3 -3.5**
comp=Z,5.9nm,0.8s,baz=90,slow=7.4,SNR=6.4
BVAR SKP 11 30 21.1
comp=Z,4.9nm,0.8s,baz=67,slow=5.0,SNR=3.6
BRVK Borovoye 119.25 320 P **PKPdf 11 27 40.9 -0.4**
SNR=5.4
BRVK Borovoye 119.25 320 PKIKP **PKPdf 11 27 40.4 -0.9**
BRVK pmax pmax
comp=Z,19nm,0.9s
BRVK Borovoye 119.25 320 **PKPdf 11 27 40.1 -1.2**
KBL Kabul 119.36 298 P **PKiKP 11 27 42.7 +0.2**
KBL Kabul 119.36 298 PKIKP **PKPdf 11 27 42.2 -0.2**
KBL Kabul 119.36 298 **PKPdf 11 27 42.2 -0.2**
OPO Ambohidratompo 119.37 232 PKP **PKPdf 11 27 42.7 -0.1**
comp=Z,6.3nm,0.7s,baz=171,slow=1.3,SNR=7.7
BDFB Brasilia 119.55 124 PKP **PKPdf 11 27 42.7 -0.5**
comp=Z,2.8nm,0.4s,baz=222,slow=3.2,SNR=6.4
BDFB PKKPbc **PKKPbc 11 37 57.1 +0.8**
comp=Z,6.8nm,0.7s,baz=115,slow=7.8,SNR=9.9
SJMB Sao Joao De Ma 122.65 131 *eP* **PKiKP 11 27 52.3 +3.1**
SJMB Sao Joao De Ma 122.65 131 *eP* **PKiKP 11 27 52.3 +3.1**
BSFB Barra de Sao F 122.80 132 *eP* **PKiKP 11 27 51.7 +2.2**
BSFB Barra de Sao F 122.80 132 *eP* **PKiKP 11 27 51.7 +2.2**
SUR Sutherland 122.87 200 PKP **PKiKP 11 27 50.0 +0.4**
comp=Z,7.0nm,0.9s,baz=117,slow=4.5,SNR=5.6
SPA0 Spitsbergen Ar 122.98 356 *e*PKPdf **PKPdf 11 27 47.3 -0.6**
SPITS Spitsbergen Ar 122.98 356 PKP **PKPdf 11 27 47.7 -0.2**
comp=Z,41nm,0.7s,baz=74,slow=6.2,SNR=34
DAG Danmarks Havn 124.05 5 *i* PKIKP **PKPdf 11 27 48.5 -1.4**
DAG pmax pmax
comp=Z,10.0nm,0.5s
DAG Danmarks Havn 124.05 5 *i* P **PKPdf 11 27 48.5 -1.4**
comp=Z,14nm,0.5s
SVE Sverdlovsk 124.26 325 *e*PKIKP **PKPdf 11 27 50.9 +0.1**
SVE pmax pmax
comp=Z,38nm,0.8s
SFJD Kangerlussuaq 124.52 22 PKP **PKPdf 11 27 50.6 -0.3**
comp=Z,4.8nm,0.4s,baz=322,slow=3.4,SNR=5.1
SUMG Summit 124.61 13 *i* PKIKP **PKPdf 11 27 51.3 -0.3**
SUMG pmax pmax
comp=Z,26nm,0.7s
SUMG Summit 124.61 13 *i* P **PKPdf 11 27 51.3 -0.3**
comp=Z,26nm,0.7s
SUMG Summit 124.61 13 **PKPdf 11 27 51.3 -0.3**
BOSA Boshof 124.63 206 PKP **PKiKP 11 27 52.9 -0.2**
comp=Z,0.9nm,0.4s,baz=347,slow=1.5,SNR=4.1
BOSA PKKPbc **PKKPbc 11 37 37.5 -0.6**
comp=Z,2.3nm,0.8s,baz=163,slow=1.3,SNR=4.9
ARU Arti 125.47 325 *i* PKIKP **PKPdf 11 27 53.2 +0.1**
ARU 11 29 53.4
ARU 11 34 07.8
ARU SS SS 11 46 03.4 -4.4
ARU Arti 125.47 325 PKP **PKPdf 11 27 53.3 +0.1**
comp=Z,17nm,0.4s,baz=72,slow=1.2,SNR=55
ARU PP **PP 11 29 51.3 -3.1**
comp=Z,4.4nm,0.8s,baz=50,slow=3.3,SNR=8.8
ARU Arti 125.47 325 **PKPdf 11 27 53.0 -0.2**
JLN Jalan Bani Buh 125.81 282 P **PKPdf 11 27 54.9 +0.1**
AB31 Akbulak array 126.08 316 *i* PKIKP **PKPdf 11 27 53.7 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 126.08 316 **PKPdf 11 27 48.4 -6.1**
ABKAR Akbulak array 126.08 316 **PKPdf 11 27 48.0 -6.5**
WBK Wadi Bani Khal 126.29 283 P **PKPdf 11 27 55.7 -0.1**
WSAR Wadi Sarin 126.72 283 P **PKiKP 11 27 57.0 -0.1**
WSAR Wadi Sarin 126.72 283 PKP **PKiKP 11 27 56.9 -0.2**
comp=Z,4.7nm,0.6s,baz=281,slow=4.3,SNR=5.4
JMDO Jabal Madar 127.04 282 P **PKPdf 11 27 54.4 +0.2**
DQM DQM 127.06 279 P **PKiKP 11 27 57.6 -0.2**
AKTO Aktyubinsk 127.12 318 PKIKP **PKPdf 11 27 55.8 -0.7**
AKTO pmax pmax
comp=Z,17nm,0.7s
SMDO Samad 127.21 283 P **PKiKP 11 27 58.1 -0.2**
LBTB Lobatse 127.62 209 PKIKP **PKPdf 11 27 58.5 0.0**
LBTB Lobatse 127.62 209 PKP **PKiKP 11 27 59.4 +0.3**
comp=Z,1.6nm,0.6s,baz=159,slow=2.2,SNR=4.0

LBTB **Lobatse** 127.62 209 PKPdf 11 27 58.5 0.0
GEYT **Alibeck** 128.36 302 PKP PKiKP 11 28 00.0 0.0
comp=Z,35nm,0.6s,baz=222,slow=2.0,SNR=11
GEYT PP PP 11 30 10.3 -3.7
comp=Z,8.7nm,0.4s,baz=150,slow=3.2,SNR=2.1
UOSS **Minazif** 129.18 285 PKPdf 11 27 59.8 -1.4
HATD **Hatta, Dubai** 129.23 285 P PKiKP 11 28 01.9 -0.3
SNR=6.2
ASHO **Ashiyiah** 129.28 285 P PKPdf 11 28 01.2 -0.2
SNR=5.3
SCO **Scoresbysund** 129.41 10 *i* PKIKP PKPdf 11 28 00.0 -0.2
SCO pmax pmax
comp=Z,8.0nm,0.6s
SCO **Scoresbysund** 129.41 10 *i* P PKPdf 11 28 00.0 -0.2
comp=Z,7.6nm,0.6s
RBK **Rabkut** 129.58 275 P PKiKP 11 28 02.7 -0.3
PRGR **Permogore** 129.59 334 *e*PKIKP PKPdf 11 27 55.2 -5.6
PRGR *e* 11 30 25.2
PRGR pmax pmax
comp=Z,20nm,0.7s
ARCES **ARCESS Array B** 129.87 349 PKP PKPdf 11 28 00.9 -0.3
comp=Z,28nm,0.6s,baz=19,slow=0.9,SNR=39
ARCES SKPbc SKPab 11 30 29.8 +0.8
comp=Z,82nm,1.1s,baz=20,slow=3.9,SNR=22
ARE0 **ARCESS Array S** 129.87 349 *e*PKPdf PKPdf 11 28 00.8 -0.3
WHFO **Wadi Hawf** 130.08 276 P PKiKP 11 28 03.7 -0.4
ABTO **Aybut** 130.39 275 P PKiKP 11 28 04.4 -0.3
TRO **Tromso** 130.81 352 *e*PKPdf PKPdf 11 28 02.4 -0.5
NBMA **Muriti-CE** 131.74 122 *e*P PKiKP 11 28 09.3 +1.7
NBMA **Muriti-CE** 131.74 122 *e*P PKiKP 11 28 09.3 +1.7
KLMR **Klimovskoe** 132.46 335 *e*PKIKP PKPdf 11 28 05.6 -0.7
KLMR *e* 11 30 35.4
KLMR pmax pmax
comp=Z,20nm,0.7s
KLMR **Klimovskoe** 132.46 335 *e*PKPdf PKPdf 11 28 05.7 -0.6
KLMR AMP 11 28 07.2
comp=Z,20nm,0.7s
KLMR *e*PP PP 11 30 35.5 -3.3
KLMR *e*PKKP PKKPdf 11 37 50.2 -11
NBPA **Parau_RN** 134.02 122 *e*P PKiKP 11 28 13.1 +1.0
NBPA **Parau_RN** 134.02 122 *e*P PKiKP 11 28 13.1 +1.0
LSZ **Lusaka** 134.39 219 PKP PKiKP 11 28 13.2 +0.2
comp=Z,3.5nm,0.3s,baz=42,slow=4.3,SNR=6.9
LSZ SKPbc SKPbc 11 30 47.6 +1.4
comp=Z,24nm,1.0s,baz=143,slow=3.6,SNR=6.6
BORG **Borgarnes** 134.59 13 PKP PKiKP 11 28 11.8 +0.1
comp=Z,9.1nm,1.0s,baz=350,slow=6.1,SNR=2.5
RCBR **Riachuelo** 134.92 123 *e*P PKiKP 11 28 14.7 +0.7
RCBR **Riachuelo** 134.92 123 *e*P PKiKP 11 28 14.7 +0.7
NBPV **Pedro Velho** 135.02 124 *e*P PKiKP 11 28 15.1 +0.9
NBPV **Pedro Velho** 135.02 124 *e*P PKiKP 11 28 15.1 +0.9
TSUM **Tsumeb** 136.10 203 PKP PKiKP 11 28 16.2 -0.2
comp=Z,1.5nm,0.5s,baz=172,slow=7.1,SNR=3.8
TSUM PP PP 11 30 58.0 -3.3
comp=Z,4.1nm,0.8s,baz=153,slow=9.0,SNR=4.6
MOS **Moscow** 136.34 330 *e*PKIKP PKPdf 11 28 13.0 -0.6
MOS pmax pmax
comp=Z,33nm,0.7s
FINES **FINESS Array B** 136.56 343 PKhKP PKPpre 11 28 01.1
comp=Z,5.4nm,0.5s,baz=50,slow=2.6,SNR=25
FINES PKP PKiKP 11 28 15.4 -0.4
comp=Z,20nm,0.6s,baz=54,slow=2.4,SNR=28
FINES SKPbc SKPbc 11 30 51.5 +0.4
comp=Z,28nm,0.8s,baz=49,slow=3.8,SNR=16
VRH **Novokhopyorsk** 136.63 323 *e*PKIKP PKPdf 11 28 14.1 -0.2
VRH pmax pmax
comp=Z,50nm,0.6s
GROC **Groznyy** 136.93 311 *e*PKIKP PKPdf 11 28 15.2 0.0
GROC *e* 11 34 28.8
GROC pmax pmax
comp=Z,33nm,0.7s
OBN **Obninsk** 137.20 330 *e*PKIKP PKPdf 11 28 14.3 -0.9
OBN *e* 11 30 30.7
OBN *e* 11 31 11.5
OBN *e* 11 31 27.3
OBN *e*PPP PPP 11 34 17.2
OBN pmax pmax
comp=Z,16nm,0.9s
LPSR **Galich'ya Gora** 137.45 326 *e*PKIKP PKPdf 11 28 14.6 -1.2
LPSR pmax pmax
comp=Z,20nm,1.4s
KMBO **Kilima Mbogo** 137.67 242 PKhKP PKPpre 11 28 08.2
comp=Z,2.6nm,0.6s,baz=322,slow=1.7,SNR=8.0
KMBO PKP PKiKP 11 28 19.4 -0.5
comp=Z,3.7nm,0.6s,baz=78,slow=3.7,SNR=8.3
KMBO SKP 11 30 57.3
comp=Z,19nm,1.0s,baz=74,slow=2.5,SNR=17
KMBO **Kilima Mbogo** 137.67 242 PKPpre 11 28 07.5
KMBO PKPdf 11 28 17.3 -0.4
VSR **Storozhevoye** 138.03 324 *e*PKIKP PKPdf 11 28 17.2 +0.3
VSR pmax pmax
comp=Z,20nm,0.9s
ZEI **Tsey** 138.38 311 *i* PKHKP PKPpre 11 28 06.9
ZEI pmax pmax
comp=Z,7.0nm,0.5s
GNI **Garni** 138.43 307 PKIKP PKPdf 11 28 18.4 +0.1
GNI **Garni** 138.43 307 PKP PKPdf 11 28 18.8 +0.5
comp=Z,17nm,0.3s,baz=136,slow=6.1,SNR=6.9
GNI SKP 11 30 58.6
comp=Z,10nm,0.3s,baz=171,slow=1.6,SNR=10
GNI **Garni** 138.43 307 PKPdf 11 28 18.4 +0.1
ATD **Arta Tunnel** 138.44 263 PKP PKiKP 11 28 21.3 +0.1
comp=Z,4.4nm,0.5s,baz=104,slow=4.2,SNR=3.1
ATD SKP 11 31 01.1
comp=Z,9.7nm,0.6s,baz=203,slow=4.9,SNR=4.9
KBZ **Khabaz** 138.80 312 PKhKP PKPpre 11 28 10.6
comp=Z,1.2nm,0.4s,baz=126,slow=1.1,SNR=5.7
KBZ PKP PKiKP 11 28 20.5 -0.4
comp=Z,5.4nm,0.7s,baz=270,slow=4.1,SNR=9.4
KBZ SKPbc SKPbc 11 30 58.5 +0.5
comp=Z,6.6nm,0.7s,baz=11,slow=2.1,SNR=8.0
KBZ SKPab SKPab 11 31 08.1 -0.8
comp=Z,7.4nm,0.7s,baz=60,slow=11,SNR=5.6
KIV **Kislovodsk** 138.87 313 *e*PKIKP PKPdf 11 28 18.2 -0.6
KIV pmax pmax
comp=Z,47nm,1.0s
KIV **Kislovodsk** 138.87 313 PKPpre PKPpre 11 28 11.8
KIV PKPdf 11 28 18.1 -0.7
AKH **Akhalkalaki** 139.05 309 ⇑P PKPdf 11 28 11.9 -7.4
NEY **Neytrino** 139.07 312 *i* PKIKP PKPdf 11 28 18.9 -0.4
NB2 **NORSAR Subarra** 140.01 352 PKP PKPdf 11 28 13.5 -6.8
comp=Z,4.8nm,0.5s,baz=16,slow=3.2
NOA **NORSAR Array B** 140.01 352 PKhKP PKPdf 11 28 13.0 -7.3
comp=Z,3.9nm,0.5s,baz=6.1,slow=1.3,SNR=46
NOA PKP PKiKP 11 28 22.5 -0.5
comp=Z,3.2nm,0.5s,baz=14,slow=4.1,SNR=9.4
NOA SKPbc SKPbc 11 31 01.1 +0.2
comp=Z,12nm,0.7s,baz=14,slow=4.3,SNR=16
NOA SKPab SKPab 11 31 14.3 +0.6
comp=Z,3.8nm,0.8s,baz=18,slow=3.2,SNR=3.6
NAO01 **NORSAR Array S** 140.24 352 PKPdf 11 28 13.9 -6.8
NC602 **NORSAR Array S** 140.26 352 *e*PKPdf PKPdf 11 28 13.8 -6.9
BATM **Batumi** 140.29 310 ⇑P PKPdf 11 28 15.4 -6.0
BCA **Borcka** 140.39 309 ⇑P PKPdf 11 28 15.7 -5.9
SKAR **Skarslia** 140.69 354 *e*PKPdf PKPdf 11 28 15.8 -5.7
SOC **Sochi** 141.02 313 *e*PKHKP PKPdf 11 28 18.9 -3.7
SOC *i* 11 28 24.0
SOC *e* 11 30 38.4
SOC *e* 11 31 31.3
SOC *e*PPP PPP 11 34 45.1
SOC *e*SS SS 11 49 10.5 -3.0
SOC pmax pmax
comp=Z,13nm,0.5s
SOC pmax pmax
comp=Z,12nm,0.6s
ASK **Askoy** 141.12 356 *e*PKPdf PKPdf 11 28 17.6 -4.5
OSL **Oslo** 141.14 352 *e*PKPdf PKPdf 11 28 17.2 -5.1
BER **Bergen** 141.22 356 *e*PKPdf PKPdf 11 28 18.1 -4.3
NACGM **Naroch** 141.48 336 *e* PKPdf 11 28 18.0 -5.0
KONO **Kongsberg** 141.56 353 *e*PKPdf PKPdf 11 28 18.7 -4.3
KONO **Kongsberg** 141.56 353 PKPdf 11 28 18.2 -4.8
ODD1 **Odda** 141.59 355 *e*PKPdf PKPdf 11 28 19.0 -4.2
LODK **Lodwar** 141.72 247 P PKPdf 11 28 21.6 -3.2
SNR=8.0
ANN **Anapa** 142.05 316 *i* PKHKP PKPdf 11 28 21.2 -3.1
ANN pmax pmax
comp=Z,162nm,1.4s
SHEL **Horse Pasture** 142.05 170 *i* PKIKP PKPdf 11 28 23.9 -1.4
SHEL **Horse Pasture** 142.05 170 PKPdf 11 28 22.5 -2.8
BLS5 **Blasjo** 142.09 355 *e*PKPdf PKPdf 11 28 20.0 -4.1
KMY **Karmoy** 142.39 356 *e*PKPdf PKPdf 11 28 21.3 -3.1
SNART **Snartemo** 143.10 354 *e*PKP PKPab 11 28 23.6 -0.2
BIGH **Upper Bighouse** 143.10 4 *e*P PKPab 11 28 23.5 -0.2
RSC **Scourie** 143.16 5 *e*P PKPab 11 28 23.3 -0.6

MBAR **Mbarara** 143.21 237 PKP PKPdf 11 28 27.1 -0.5
comp=Z,152nm,0.7s,baz=136,slow=4.3,SNR=188
MBAR **Mbarara** 143.21 237 PKPbc 11 28 26.3 +0.2
MLA1 **Latheron** 143.32 4 *e*P PKPab 11 28 24.3 -0.3
AKASG **Malin Array Be** 143.43 329 PKP PKPab 11 28 24.9 -0.4
comp=Z,51nm,0.3s,baz=42,slow=4.4,SNR=861
AKASG SKPbc SKPbc 11 31 09.7 +0.2
comp=Z,7.1nm,0.5s,baz=43,slow=2.9,SNR=13
AKASG **Malin Array Be** 143.43 329 PKPab 11 28 24.8 -0.5
SUW **Suwalki** 143.50 338 *e*PKIKP PKPab 11 28 25.2 -0.2
SUW **Suwalki** 143.50 338 *e*PKP PKPab 11 28 25.2 -0.2
SUW *e*PKP PKPab 11 28 25.2 -0.2
RRR **Rubha Reidh** 143.58 6 *e*P PKPab 11 28 24.5 -1.1
KAC **Achnashellach** 143.98 5 *e*P PKPbc 11 28 26.9 0.0
MCD **Coleburn Disti** 144.05 4 *e*P PKPbc 11 28 26.5 -0.6
SIM **Simferopol'** 144.08 318 *d i*PKIKP PKPab 11 28 28.3 +0.3
SIM pmax pmax
comp=Z,265nm,0.5s
KPL **Plockton** 144.11 6 *e*P PKPbc 11 28 26.9 -0.4
MDO **Dochfour** 144.12 5 *e*P PKPbc 11 28 26.9 -0.5
MUD **Monsted U'grnd** 144.73 352 *i* PKIKP PKPbc 11 28 29.2 0.0
MUD pmax pmax
comp=Z,73nm,0.6s
MUD **Monsted U'grnd** 144.73 352 *i* P PKPbc 11 28 29.2 0.0
comp=Z,73nm,0.6s
DRUM **Mains of Drumt** 144.76 3 *e*P PKPdf 11 28 28.3 -0.4
DIKM **Dikmen** 144.80 312 ⇑P PKPab 11 28 30.5 -0.4
COP **Copenhagen** 144.95 348 ⇓*i*PKIKP PKPbc 11 28 29.8 0.0
COP pmax pmax
comp=Z,83nm,0.5s
COP **Copenhagen** 144.95 348 ⇓*i*P PKPbc 11 28 29.8 0.0
comp=Z,83nm,0.5s
BSD **Bornholm Skovb** 144.96 346 ⇓*i*PKIKP PKPbc 11 28 29.6 -0.3
BSD pmax pmax
comp=Z,200nm,0.7s
BSD **Bornholm Skovb** 144.96 346 ⇓*i*P PKPbc 11 28 29.6 -0.3
comp=Z,204nm,0.7s
EDU **Dundee** 145.10 4 *e*P PKPbc 11 28 29.9 -0.4
INVG **Invergeldie, C** 145.15 5 *e*P PKPdf 11 28 29.8 +0.4
LAWE **Loch Awe, Argy** 145.20 6 *e*P PKPbc 11 28 30.2 -0.4
EAB **Aberfoyle** 145.36 5 *e*P PKPbc 11 28 30.7 -0.4
BZK **Bozkurt** 145.52 314 ⇑P PKPbc 11 28 32.5 +0.5
SORM **Soroca** 145.55 327 ⇑PKIKP PKPbc 11 28 31.5 -0.4
SORM **Soroca** 145.55 327 ⇑P PKPbc 11 28 31.5 -0.4
EDI **Edinburgh** 145.71 4 *e*P PKPdf 11 28 30.8 +0.5
PGBU **Glenifferbraes** 145.73 5 *e*P PKPdf 11 28 31.0 +0.6
ESY **Stoneypath** 145.75 3 *e*P PKPbc 11 28 31.7 -0.5
EAU **Auchinoon** 145.77 4 *e*P PKPbc 11 28 32.2 -0.1
EBL **Broad Law** 145.87 4 *e*P PKPbc 11 28 32.3 -0.2
KIS **Kishinev** 146.02 325 ⇓*i*PKP PKPbc 11 28 33.0 -0.2
comp=Z,250nm,1.2s
KIS **Kishinev** 146.02 325 ⇓*i*PKIKP PKPbc 11 28 33.0 -0.2
KIS *e* 11 28 37.0
KIS pmax pmax
comp=Z,250nm,1.2s
GKP **Gorka Klasztor** 146.03 342 *e*PKP2 PKPbc 11 28 33.1 +0.1
GKP **Gorka Klasztor** 146.03 342 *e*PKP PKPbc 11 28 33.1 +0.1
GKP *e*PKP PKPbc 11 28 33.1 +0.1
MILM **Milestii Mici** 146.07 325 ⇑P PKPbc 11 28 32.9 -0.5
BEL **Belsk** 146.11 337 *e*PKP2 PKPbc 11 28 34.1 +0.8
BEL **Belsk** 146.11 337 *e*PKP PKPbc 11 28 34.1 +0.8
BEL *e*PKP PKPbc 11 28 34.1 +0.8
IDGL **Inch Island, C** 146.12 8 *e*P PKPbc 11 28 33.0 -0.3
CLGH **Cloghs, Cushen** 146.28 7 *e*P PKPbc 11 28 33.8 +0.1
ESK **Eskdalemuir** 146.31 4 *e*P PKPbc 11 28 33.2 -0.6
ESK **Eskdalemuir** 146.31 4 *i* PKP2 PKPbc 11 28 33.8 0.0
ESK **Eskdalemuir** 146.31 4 PKPbc 11 28 33.3 -0.5
LVV **L'vov** 146.41 332 *e*PKIKP PKPbc 11 28 33.8 -0.5
IAS **Iasi** 146.56 326 ⇑PKP2 PKPbc 11 28 35.1 +0.4
IAS **Iasi** 146.56 326 ⇑P PKPbc 11 28 35.1 +0.4
GAL1 **Galloway** 146.64 6 *e*P PKPbc 11 28 34.4 -0.3
LEOM **Leova** 146.65 324 ⇑PKP2 PKPbc 11 28 35.4 +0.4
LEOM **Leova** 146.65 324 ⇑P PKPbc 11 28 35.4 +0.4
BR131 **Keskin Array S** 146.69 310 P PKPbc 11 28 35.3 -0.2
SNR=56
BRTR **Keskin Array B** 146.69 310 PKIKP PKPdf 11 28 31.8 -0.9
BRTR **Keskin Array B** 146.69 310 PKPbc PKPbc 11 28 35.4 -0.2
comp=Z,62nm,0.7s,baz=137,slow=4.2,SNR=192
BRTR SKPbc SKiKP 11 31 18.0 +0.2
comp=Z,6.0nm,0.9s,baz=135,slow=2.6,SNR=4.2
BRTR **Keskin Array B** 146.69 310 PKPdf 11 28 31.8 -0.9
BRTR PKPbc PKPbc 11 28 35.0 -0.5
HSUJ **Al Zarqa** 146.79 296 P PKPbc 11 28 36.8 +0.9
EDMD **Edmundbyers** 146.87 3 *e*P PKPbc 11 28 34.8 -0.5
BHL **Bhannes** 146.90 299 *e*P PKPbc 11 28 36.5 +0.3
SHBL **Chebaa** 146.94 298 *e*P PKPbc 11 28 37.2 +0.8
SWQJ **Swaqa** 147.03 294 P PKPbc 11 28 35.8 -0.8
KESW **Keswick, Cumbr** 147.04 4 *e*P PKPbc 11 28 35.7 0.0
SHMJ **Saham** 147.04 297 P PKiKP 11 28 37.7 -0.6
ASCN **Ascension** 147.07 152 PKiKP 11 28 38.2 -0.6
TLCR 147.12 322 ⇑PKP2 PKPbc 11 28 36.5 +0.3
TLCR 147.12 322 ⇑P PKPbc 11 28 36.5 +0.3
BIR **Birlad** 147.12 325 ⇑PKP2 PKiKP 11 28 37.2 -0.7
BIR **Birlad** 147.12 325 ⇑P PKiKP 11 28 37.2 -0.7
KWP **Kalwaria Pacla** 147.12 333 *e*PKP2 PKPbc 11 28 36.6 +0.5
KWP **Kalwaria Pacla** 147.12 333 *e*PKP PKPbc 11 28 36.6 +0.5
KWP *e*PKP PKPbc 11 28 36.6 +0.5
PRAR **RASCA** 147.13 327 ⇑P PKPbc 11 28 35.9 -0.4
WALJ **Wala** 147.20 295 P PKiKP 11 28 38.1 -0.5
ANTO **Ankara** 147.23 311 P PKPbc 11 28 37.2 +0.3
SNR=25
ANTO **Ankara** 147.23 311 PKP2 PKPbc 11 28 36.9 +0.1
ANTO **Ankara** 147.23 311 ⇓P PKPbc 11 28 37.5 +0.6
ANTO **Ankara** 147.23 311 PKPbc 11 28 36.9 +0.1
JURR **Jurilovca** 147.33 321 ⇑P PKPbc 11 28 36.9 +0.1
IGLA **Glengowla, Co** 147.42 11 *e*P PKPbc 11 28 35.4 -1.4
BURAR **Bucovina Array** 147.46 328 ⇑PKP2 PKiKP 11 28 38.3 -0.5
BURAR **Bucovina Array** 147.46 328 ⇑P PKiKP 11 28 38.3 -0.5
BURAR **Bucovina Array** 147.46 328 PKPdf 11 28 34.0 +0.3
BURAR PKPbc PKPbc 11 28 37.3 0.0
BIZ **Bicaz** 147.48 327 ⇑P PKPbc 11 28 37.9 +0.7
HSNJ **Maan** 147.48 292 P PKiKP 11 28 38.9 -0.5
TESR **Tescani** 147.48 326 ⇑P PKPbc 11 28 37.3 +0.1
CFR **Carcaliu** 147.51 323 ⇑PKP2 PKPbc 11 28 37.3 +0.1
CFR **Carcaliu** 147.51 323 ⇑P PKPbc 11 28 37.3 +0.1
LISJ **El Lisan** 147.53 294 P PKPdf 11 28 29.1 -5.0
TOPG **Topolog** 147.55 322 ⇑P PKPbc 11 28 37.6 +0.2
PETR **Petresti** 147.68 324 ⇑P PKPbc 11 28 38.3 +0.6
ODBI **Odobesti** 147.75 324 ⇑P PKiKP 11 28 39.2 0.0
HPK **Haverah Park** 147.75 3 *e*P PKPbc 11 28 37.5 -0.1
OJC **Ojcow** 147.79 337 *e*PKP2 PKPbc 11 28 38.1 +0.3
OJC **Ojcow** 147.79 337 *e*PKP PKPbc 11 28 38.1 +0.3
OJC *e*PKP PKPbc 11 28 38.1 +0.3
KOLS **Kolonicke sedl** 147.84 333 *e*PKIKP PKPdf 11 28 34.7 +0.5
KOLS **Kolonicke sedl** 147.84 333 *e*PKP PKPdf 11 28 34.7 +0.5
KOLS *e* 11 28 38.9
VRI **Vrincioaia** 147.86 325 ⇑PKP2 PKPbc 11 28 38.2 +0.3
VRI **Vrincioaia** 147.86 325 ⇑P PKPbc 11 28 38.5 +0.3
PLOR **Plostina** 147.91 325 ⇑P PKPbc 11 28 38.2 -0.2
TLB **Topalu** 147.91 322 ⇑PKP2 PKPbc 11 28 38.6 +0.3
TLB **Topalu** 147.91 322 ⇑P PKPbc 11 28 38.6 +0.3
HARR **Harsova** 147.92 322 ⇑PKP2 PKPbc 11 28 38.3 0.0
HARR **Harsova** 147.92 322 ⇑P PKPbc 11 28 38.3 0.0
MFTR **Murfatlar** 147.93 321 ⇑P PKPbc 11 28 38.9 +0.5
GRER 148.03 324 ⇑P PKiKP 11 28 40.1 +0.3
MANR **Mangalia** 148.04 320 ⇑P PKiKP 11 28 39.4 -0.5
TSMN **Mangalia Port-** 148.05 320 ⇑P PKPbc 11 28 38.1 -0.5
UZH **Uzhgorod** 148.06 332 *e*PKHKP PKPdf 11 28 34.6 +0.1
UZH *e* 11 28 43.2
CVDA **Cernavoda** 148.07 321 ⇑P PKPbc 11 28 38.9 +0.2
WPS **Cemaes, Angles** 148.11 6 *e*P PKPbc 11 28 37.0 -1.5
WME **Myndd Eilian** 148.13 6 *e*P PKPbc 11 28 38.0 -0.6
OZUR 148.21 326 ⇑P PKPbc 11 28 39.4 +0.4
WLF1 **Llynfaes** 148.23 6 *e*P PKPbc 11 28 37.7 -1.1
BMR **Baia Mare** 148.24 330 ⇑PKP2 PKiKP 11 28 39.7 -0.5
BMR **Baia Mare** 148.24 330 ⇑P PKiKP 11 28 39.7 -0.5
ARCR **ARCALIA** 148.25 329 ⇑P PKPbc 11 28 39.7 +0.6
YRC **Rhoscolyn** 148.25 6 *e*P PKPbc 11 28 38.3 -0.6
NIE **Niedzica** 148.26 335 *e*PKP2 PKiKP 11 28 40.0 -0.3
NIE **Niedzica** 148.26 335 *e*PKP PKiKP 11 28 40.0 -0.3
NIE *e*PKP PKiKP 11 28 40.0 -0.3
LMK **Market Rasen** 148.29 1 *e*P PKPbc 11 28 38.9 -0.1
AMRR **Amara** 148.30 322 ⇑PKP2 PKPab 11 28 44.4 -0.4
AMRR **Amara** 148.30 322 ⇑P PKPab 11 28 44.4 -0.4
LBWR **Ladybower, Pea** 148.30 3 *e*P PKPbc 11 28 38.6 -0.4
TRPA **Tarpa** 148.33 332 ⇑P PKPbc 11 28 39.3 +0.1
ICOR **Ion Corvin** 148.33 321 ⇑P PKiKP 11 28 40.1 -0.5
PSN **Preselentsi** 148.36 320 P PKPbc 11 28 39.7 +0.2
KALB **Balgarevo** 148.38 320 ⇑P PKiKP 11 28 40.3 -0.3
YLL **Llanberis** 148.40 6 *e*P PKPbc 11 28 38.1 -1.1
ISR **Istrita** 148.43 324 ⇑P PKPbc 11 28 39.9 +0.2

KSP **Ksiaz** 148.44 341 *e*PKP2 PKiKP 11 28 40.2 -0.3
KSP **Ksiaz** 148.44 341 *e*PKP PKiKP 11 28 40.2 -0.3
KSP *e*PKP PKiKP 11 28 40.2 -0.3
DOPR **Dopca** 148.50 326 ⇑P PKPbc 11 28 40.2 +0.4
MLR **Muntele Rosu** 148.52 325 ⇓P PKPbc 11 28 39.9 -0.1
LEHL **Lehliu** 148.68 323 ⇑P PKiKP 11 28 41.1 -0.1
OKC **Ostrava-Krasne** 148.71 338 ⇑*e*PKP PKPbc 11 28 40.0 -0.1
OKC *e*PKPAB PKPab 11 28 46.8 +0.5
FOEL **Foel Wylfa** 148.73 5 *e*P PKPbc 11 28 39.9 -0.2
LLW **Llanuwychllyn** 148.73 5 *e*P PKPbc 11 28 39.3 -0.7
CHVC **Chvalec** 148.74 341 ⇑*e*PKP PKPbc 11 28 40.5 +0.3
CHVC *e*PKPAB PKPab 11 28 47.4 +1.0
SECR 148.75 324 ⇑P PKPbc 11 28 40.7 +0.3
LANS **Liptovska Anna** 148.79 336 *e*PKP2 PKiKP 11 28 41.9 +0.5
LANS **Liptovska Anna** 148.79 336 *e*PKP PKiKP 11 28 41.9 +0.5
LANS *e* 11 28 48.4
SILT **Sile** 148.79 315 ⇓P PKiKP 11 28 41.9 +0.4
LEF **Lefka** 148.81 302 ⇑P PKPbc 11 28 40.7 -0.1
UPC **Upice** 148.82 341 ⇑*e*PKP PKiKP 11 28 40.9 -0.5
UPC *e*PKPAB PKPab 11 28 46.8 0.0
IWEX **Carrickbyrne,** 148.85 9 *e*P PKPbc 11 28 39.4 -0.9
DPC **Dobruska-Polom** 148.87 340 ⇑*e*PKP PKiKP 11 28 41.1 -0.4
DPC *e*PKPAB PKPab 11 28 48.1 +1.1
SULR 148.87 323 ⇓P PKPbc 11 28 41.1 +0.4
CJR **Cluj-Napoca** 148.88 329 ⇑P PKiKP 11 28 41.2 -0.4
CLL **Collm** 148.92 345 *e*PKPdf PKPdf 11 28 36.0 +0.2
comp=Z,10.0nm,1.3s
CLL ⇓*i*PKPbc PKPbc 11 28 41.0 +0.4
comp=Z,204nm,1.2s
CLL *i* PKPab PKPab 11 28 47.4 +0.3
comp=Z,94nm,0.7s
CLL *e*pPKPab pPKPab 11 30 59.0 +1.1
CLL *i* 11 31 04.0
comp=Z,33nm,1.1s
KECS **Kecovo** 148.93 334 *e*PKP2 PKiKP 11 28 42.0 +0.4
KECS **Kecovo** 148.93 334 *e*PKP PKiKP 11 28 42.0 +0.4
KRLC **Kraliky** 148.96 340 ⇑*e*PKP PKPbc 11 28 41.2 +0.4
KRLC *e*PKPAB PKPab 11 28 48.5 +1.1
MORC **Moravsky Berou** 148.96 339 ⇑P PKiKP 11 28 41.4 -0.4
MORC **Moravsky Berou** 148.96 339 *e*PKP PKiKP 11 28 41.3 -0.4
MORC *e* 11 28 47.8
CWF **Charnwood Fore** 148.98 2 *e*P PKPbc 11 28 40.2 -0.5
VOIR 149.03 326 ⇑P PKPbc 11 28 41.5 +0.4
BRG **Berggiesshubel** 149.08 344 *e*PKP PKPdf 11 28 36.5 +0.5
comp=Z,4.6nm,1.0s
BRG **Berggiesshubel** 149.08 344 *i* PKP PKiKP 11 28 41.5 -0.3
comp=Z,92nm,0.7s
BRG **Berggiesshubel** 149.08 344 *i* PKP PKPab 11 28 48.2 +0.4
comp=Z,70nm,0.8s
BRG *i* 11 31 04.5
comp=Z,31nm,1.5s
BRG **Berggiesshubel** 149.08 344 *e*PKHKP PKPdf 11 28 36.5 +0.5
BRG *i* 11 28 48.2
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,70nm,0.8s
PRD **Provadia** 149.10 320 P PKPbc 11 28 41.5 +0.2
HLM1 **Long Mynd** 149.12 4 *e*P PKPbc 11 28 40.8 -0.3
KLYT **Kilyos** 149.14 316 ⇑P PKiKP 11 28 44.1 +1.8
PVCC **Panska Ves** 149.22 343 ⇑*e*PKP PKiKP 11 28 41.8 -0.4
PVCC *e*PKPAB PKPab 11 28 49.2 +0.8
DRGR 149.25 330 ⇑P PKPbc 11 28 41.7 0.0
YLV **Yalova** 149.26 314 ⇑P PKPbc 11 28 41.5 -0.3
ARR **Arges** 149.29 326 ⇑P PKiKP 11 28 42.9 +0.3
RAZG **Razgrad** 149.41 321 ⇓P PKPbc 11 28 42.1 +0.1
WTSB **Winterswijk** 149.42 353 *e*P PKPbc 11 28 41.9 +0.2
RSBS **Rosebush, Pemb** 149.52 7 *e*P PKPbc 11 28 41.1 -0.9
VYHS **Vyhne** 149.57 336 *e*PKIKP PKPdf 11 28 36.9 0.0
VYHS *e* 11 28 51.0
VYHS **Vyhne** 149.57 336 *e*PKP PKPdf 11 28 36.9 0.0
VYHS *e* 11 28 42.8
VYHS *e* 11 28 51.0
PSZ **Piszkesteto** 149.62 334 ⇑P PKPbc 11 28 42.6 +0.2
MCH1 **Michaelchurch** 149.63 4 *e*P PKPbc 11 28 41.7 -0.5
HUMR **Humele** 149.66 324 ⇑P PKPbc 11 28 42.5 0.0
ISP **Isparta** 149.67 309 ⇓P PKPbc 11 28 42.3 -0.7
PRA **Prague** 149.68 342 ⇑*e*PKP PKiKP 11 28 42.8 -0.3
PRA *ex* x 11 28 46.3
PRA *e*PKPAB PKPab 11 28 51.0 +0.7
LOT **Lotru** 149.68 327 ⇑P PKPbc 11 28 42.0 -0.8
VRAC **Vranov** 149.69 339 ⇑P PKiKP 11 28 42.9 -0.3
VRAC **Vranov** 149.69 339 *e*PKP PKiKP 11 28 42.9 -0.3
VRAC *e* 11 28 51.5
JAVC **Velka Javorina** 149.70 337 *e*PKP PKiKP 11 28 44.2 +0.9
JAVC *e* 11 28 52.5
GOPC **GO Pecny, Ondr** 149.71 342 ⇑*e*PKP PKPbc 11 28 42.3 -0.3
GOPC *e*PKPAB PKPab 11 28 50.9 +0.4
PRU **Pruhonice** 149.72 342 ⇑*e*PKP PKiKP 11 28 42.9 -0.3
PRU *e*PKPAB PKPab 11 28 51.4 +0.9
COPA **Copaceanca** 149.79 324 ⇑P PKPbc 11 28 42.8 -0.1
MONM **Monmouth** 149.80 4 *e*P PKPbc 11 28 42.4 -0.3
DEV **Deva** 149.81 328 ⇑P PKPbc 11 28 43.0 +0.1
PHSR **Pinarhisar** 149.91 317 ⇑P PKiKP 11 28 46.0 +2.1
SZH **Strazhica** 149.93 322 P PKPbc 11 28 43.0 -0.3
KRUC **Moravsky** 149.96 339 *e*PKP PKiKP 11 28 43.5 -0.2
KRUC *e* 11 28 52.4
ZIMR 150.01 323 ⇑P PKiKP 11 28 43.7 -0.2
JMB **Yambol** 150.02 320 P PKPbc 11 28 43.4 -0.1
NKC **Novy Kostel** 150.05 345 *e*PKIKP PKPbc 11 28 43.6 +0.2
NKC *e* 11 28 52.0
NKC **Novy Kostel** 150.05 345 ⇑*e*PKP PKPbc 11 28 43.6 +0.2
NKC *e*PKPAB PKPab 11 28 52.0 +0.1
TREC **Trest** 150.05 340 *e*PKIKP PKiKP 11 28 43.7 -0.3
TREC *e* 11 28 52.1
TREC **Trest** 150.05 340 ⇑*e*PKP PKiKP 11 28 43.7 -0.3
TREC *e*PKPAB PKPab 11 28 52.1 +0.2
SMOL **Smolenice** 150.07 337 *e*PKIKP PKiKP 11 28 44.6 +0.6
SMOL **Smolenice** 150.07 337 *e*PKP PKiKP 11 28 44.6 +0.6
SMOL *e* 11 28 53.7
SIRR **Siria** 150.12 330 ⇑P PKiKP 11 28 44.0 -0.2
PBCC **Pribram** 150.15 342 ⇑*e*PKP PKiKP 11 28 44.0 -0.1
PBCC *e*PKPAB PKPab 11 28 52.9 +0.6
ELND **Elena** 150.16 321 ⇑P PKiKP 11 28 44.1 -0.2
SWN1 **Swindon** 150.19 3 *e*P PKPbc 11 28 43.0 -0.5
GZR **Gura Zlata** 150.22 328 ⇑PKIKP PKPbc 11 28 43.6 -0.3
GZR **Gura Zlata** 150.22 328 ⇑P PKPbc 11 28 43.6 -0.3
MODS **Modra-Piesok** 150.25 337 *e*PKIKP PKPbc 11 28 43.9 0.0
MODS *e* 11 28 53.6
MODS **Modra-Piesok** 150.25 337 *e*PKP PKPbc 11 28 43.9 0.0
MODS *e* 11 28 53.6
VLAD **Vladila** 150.32 324 ⇑P PKiKP 11 28 44.8 +0.2
WOL **Wolverton** 150.41 2 *e*P PKPbc 11 28 43.9 -0.2
HTL **Hartland** 150.49 7 *e*P PKPbc 11 28 44.0 -0.2
SRE **Strehaia** 150.51 326 ⇑PKIKP PKiKP 11 28 45.0 0.0
SRE **Strehaia** 150.51 326 ⇑P PKiKP 11 28 45.0 0.0
PLVB **Pleven** 150.60 323 ⇓P PKiKP 11 28 45.1 -0.1
BZS **Buzias** 150.62 329 ⇓PKIKP PKPbc 11 28 44.8 0.0
BZS **Buzias** 150.62 329 ⇓P PKPbc 11 28 44.8 0.0
BEBN **Eben Emael** 150.70 353 PKPbc PKiKP 11 28 45.2 +0.1
BEBN PKPab PKPab 11 28 54.7 +0.2
HGN **Heimansgroeve** 150.70 353 *e*P PKPbc 11 28 44.8 0.0
HERR **Herculane** 150.76 327 ⇑P PKPbc 11 28 44.9 -0.2
KHC **Kasperske Hory** 150.76 342 *e*PKIKP PKPdf 11 28 38.9 +0.1
KHC *e* 11 28 55.9
KHC **Kasperske Hory** 150.76 342 *e*PKPDF PKPdf 11 28 38.9 +0.1
KHC ⇑*e*PKP PKPbc 11 28 45.1 0.0
KHC *e*PKPAB PKPab 11 28 55.9 +1.0
KHC *ex* x 11 29 05.0
UCC **Uccle** 150.82 355 PKPbc PKiKP 11 28 45.3 -0.1
MEM **

SNF	**Seneffe**	**151.11 355**		PKPbc	**PKiKP**	**11 28 46.0**	**0.0**
SNF				PKPab	**PKPab**	**11 28 56.4**	**+0.2**
CONA	**Conrad Observa**	**151.12 339**	*i*	PKiKP	**PKiKP**	**11 28 46.4**	**+0.1**
	comp=Z,30nm,0.5s,SNR=20						
CONA			*i*	PKPab	**PKPab**	**11 28 57.8**	**+1.2**
	comp=Z,69nm,0.7s						
CONA				pPKPab	**pPKPab**	**11 31 06.6**	**-0.2**
	comp=Z,6.1nm,0.8s						
MDVR	**Moldovita**	**151.19 328**	⇑	P	**PKPbc**	**11 28 46.1**	**0.0**
CCA1	**Carnmenellis**	**151.20 8**	*e*	P	**PKPbc**	**11 28 45.6**	**-0.4**
KDZ	**Kurdzhali**	**151.20 319**		P	**PKPbc**	**11 28 46.0**	**-0.3**
BMRD	**Maredsous**	**151.28 355**		PKPbc	**PKiKP**	**11 28 46.4**	**0.0**
BMRD				PKPab	**PKPab**	**11 28 56.5**	**-0.4**
DOU	**Dourbes**	**151.50 355**		PKPbc	**PKiKP**	**11 28 46.9**	**+0.1**
DOU				PKPab	**PKPab**	**11 28 57.7**	**-0.2**
RZN	**Rozhen**	**151.60 320**		P	**PKPbc**	**11 28 46.6**	**-0.8**
EZN	**Ezine**	**151.65 315**	⇑	PKiKP	**PKiKP**	**11 28 49.6**	**+2.1**
EZN	**Ezine**	**151.65 315**	⇑	P	**PKiKP**	**11 28 49.6**	**+2.1**
MOA	**Molln**	**151.71 340**	*e*	PKPbc	**PKPbc**	**11 28 46.8**	**-0.4**
	comp=Z,11nm,0.5s,SNR=7.3						
MOA			*i*	PKPab	**PKPab**	**11 29 00.0**	**+1.1**
	comp=Z,30nm,0.7s						
WLF	**Walferdange**	**151.76 352**		PKPbc	**PKiKP**	**11 28 47.9**	**+0.5**
WLF				PKPab	**PKPab**	**11 28 59.6**	**+0.6**
FRGS	**Fruska Gora**	**151.81 331**	‖	*i* P	**PKPbc**	**11 28 47.5**	**0.0**
ARSA	**Arzberg**	**151.82 338**	*i*	PKPbc	**PKPbc**	**11 28 46.8**	**-0.7**
	comp=Z,7.0nm,0.7s						
ARSA			*i*	PKPab	**PKPab**	**11 29 00.2**	**+0.7**
	comp=Z,32nm,0.7s						
VTS	**Vitosha**	**151.87 323**		P	**PKPbc**	**11 28 47.4**	**-0.5**
VTS	**Vitosha**	**151.87 323**	⇑	PKiKP	**PKPbc**	**11 28 47.7**	**-0.2**
VTS	**Vitosha**	**151.87 323**	⇑	P	**PKPbc**	**11 28 47.7**	**-0.2**
MMB	**Musomiste**	**152.24 321**		P	**PKPbc**	**11 28 48.3**	**-0.3**
TEKS	**Tekeris**	**152.40 330**	*e*	P	**PKPbc**	**11 28 48.8**	**0.0**
KALN	**Kalnik**	**152.44 336**	*i*	P	**PKPbc**	**11 28 48.4**	**-0.5**
KKB	**Krupnik**	**152.44 322**		P	**PKPbc**	**11 28 48.3**	**-0.7**
JSA	**Saint Aubin**	**152.48 4**	*e*	P	**PKPbc**	**11 28 48.1**	**-0.6**
SOKA	**Soboth**	**152.49 338**	*i*	PKPbc	**PKPbc**	**11 28 48.5**	**-0.5**
	comp=Z,22nm,1.0s,SNR=6.3						
SOKA			*i*	PKPab	**PKPab**	**11 29 02.9**	**+0.5**
	comp=Z,33nm,0.7s						
SOKA			*e*	pPKPab	**pPKPab**	**11 31 09.4**	**-3.0**
	comp=Z,6.4nm,1.2s						
DIVS	**Divibare**	**152.52 329**	‖	*i* P	**PKPbc**	**11 28 49.1**	**-0.1**
KBA	**Koelnbreinsper**	**152.68 341**	*e*	PKPbc	**PKPbc**	**11 28 48.7**	**-0.8**
	comp=Z,18nm,0.7s,SNR=6.2						
KBA			*i*	PKPab	**PKPab**	**11 29 04.6**	**+1.3**
	comp=Z,32nm,0.5s						
BFO	**Black Forest**	**152.73 349**		PKiKP	**PKPbc**	**11 28 49.2**	**-0.2**
BFO						11 29 03.1	
BFO	**Black Forest**	**152.73 349**			**PKPbc**	**11 28 49.2**	**-0.2**
BFO				PKPab	**PKPab**	**11 29 03.1**	**-0.2**
OBKA	**Obir**	**152.80 339**	*i*	PKPbc	**PKPbc**	**11 28 48.9**	**-0.9**
	comp=Z,8.0nm,0.8s						
OBKA			*e*	PKPab	**PKPab**	**11 29 03.8**	**+0.1**
	comp=Z,29nm,0.6s,SNR=8.1						
OBKA			*i*	pPKPbc	**pPKPbc**	**11 31 06.2**	**+0.3**
	comp=Z,15nm,1.4s						
PTJ	**Puntijarka**	**152.81 336**	*i*	P	**PKPbc**	**11 28 49.5**	**-0.2**
WATA	**Walderalm**	**152.95 344**		PKPdf	**PKPdf**	**11 28 41.9**	**-0.3**
	comp=Z,3.8nm,0.9s						
WATA			*i*	PKiKP	**PKPbc**	**11 28 49.7**	**-0.4**
	comp=Z,13nm,0.5s,SNR=9.0						
WATA			*i*	PKPab	**PKPab**	**11 29 05.1**	**+0.7**
	comp=Z,33nm,0.7s						
WATA				pPKPbc	**pPKPbc**	**11 31 06.3**	**-0.1**
	comp=Z,12nm,1.3s						
BBLS	**Lazići**	**152.98 329**	*e*	P	**PKPbc**	**11 28 49.0**	**-1.2**
MYKA	**Terra Mystica**	**152.99 340**	*i*	PKPbc	**PKPbc**	**11 28 49.2**	**-0.9**
	comp=Z,12nm,0.5s						
MYKA			*i*	PKPab	**PKPab**	**11 29 04.5**	**0.0**
	comp=Z,37nm,0.5s						
MYKA			*e*	pPKiKP	**pPKPbc**	**11 31 06.8**	**+0.1**
	comp=Z,6.4nm,1.2s						
WTTA	**Wattenberg**	**153.00 343**	*i*	PKPdf	**PKPdf**	**11 28 42.1**	**-0.2**
	comp=Z,7.6nm,0.9s						
WTTA			*i*	PKiKP	**PKPbc**	**11 28 50.1**	**-0.1**
	comp=Z,23nm,0.5s,SNR=8.3						
WTTA			*i*	PKPab	**PKPab**	**11 29 05.5**	**+0.9**
	comp=Z,59nm,0.6s						
WTTA				pPKiKP	**pPKiKP**	**11 31 08.0**	**+0.8**
	comp=Z,9.4nm,1.3s						
RETA	**Reutte**	**153.01 345**	*e*	PKiKP	**PKPbc**	**11 28 49.9**	**-0.3**
	comp=Z,11nm,0.8s						
RETA			*e*	PKPab	**PKPab**	**11 29 05.2**	**+0.6**
	comp=Z,27nm,0.6s,SNR=5.1						
RETA				pPKPab	**pPKPab**	**11 31 14.1**	**-0.5**
	comp=Z,7.7nm,0.9s						
HAPS	**Han Pijesak,Bl**	**153.03 330**	*e*	P	**PKPbc**	**11 28 49.5**	**-0.8**
MOTA	**Moosalm**	**153.06 344**	*e*	PKPdf	**PKPdf**	**11 28 42.0**	**-0.4**
	comp=Z,9.9nm,0.9s						
MOTA			*e*	PKiKP	**PKPbc**	**11 28 49.9**	**-0.4**
	comp=Z,31nm,1.0s,SNR=6.0						
MOTA			*e*	PKPab	**PKPab**	**11 29 05.4**	**+0.6**
	comp=Z,69nm,1.3s,SNR=5.7						
MOTA			*e*	pPKPab	**pPKPab**	**11 31 14.7**	**-0.2**
	comp=Z,12nm,1.0s						
CRES	**Cresnjev**	**153.07 337**	*e*	P	**PKPbc**	**11 28 49.6**	**-0.6**
VNDS	**Vrh nad Dolski**	**153.10 338**	*i*	PKPbc	**PKPbc**	**11 28 50.1**	**-0.2**
SQTA	**Sankt Quirin**	**153.15 344**	*i*	PKPdf	**PKPdf**	**11 28 42.2**	**-0.3**
	comp=Z,6.6nm,0.8s,SNR=4.9						
SQTA			*i*	PKiKP	**PKPbc**	**11 28 50.2**	**-0.2**
	comp=Z,12nm,0.5s						
SQTA			*i*	PKPab	**PKPab**	**11 29 06.0**	**+0.8**
	comp=Z,62nm,1.2s						
SQTA				pPKiKP	**pPKiKP**	**11 31 10.1**	**+2.7**
	comp=Z,8.6nm,1.1s						
RUDO	**Rudo**	**153.18 329**	‖	*i* P	**PKPbc**	**11 28 49.8**	**-0.7**
LJU	**Ljubljana**	**153.21 338**	*i*	PKPbc	**PKPbc**	**11 28 50.4**	**-0.1**
LJU			*i*	PKPab	**PKPab**	**11 29 05.3**	**-0.1**
LJU	**Ljubljana**	**153.21 338**	‖	*i* P	**PKPbc**	**11 28 50.2**	**-0.3**
ABTA	**Abfaltersbach**	**153.23 342**	*i*	PKPdf	**PKPdf**	**11 28 41.7**	**-0.8**
	comp=Z,13nm,1.0s,SNR=11						
ABTA			*i*	PKPbc	**PKPbc**	**11 28 49.8**	**-0.8**
	comp=Z,19nm,0.6s,SNR=6.7						
ABTA			*i*	PKPab	**PKPab**	**11 29 05.5**	**0.0**
	comp=Z,62nm,0.6s						
ABTA			*e*	pPKiKP	**pPKiKP**	**11 31 10.4**	**+3.2**
	comp=Z,7.2nm,0.9s						
BLY	**Banja Luka**	**153.28 333**	*e*	P	**PKPbc**	**11 28 48.8**	**-1.9**
BLY	**Banja Luka**	**153.28 333**	⇑	P	**PKiKP**	**11 28 51.2**	**+0.5**
DAVA	**Damuels**	**153.41 346**	*e*	PKPdf	**PKPdf**	**11 28 42.7**	**-0.2**
	comp=Z,7.8nm,0.9s						
DAVA			*i*	PKiKP	**PKiKP**	**11 28 51.2**	**0.0**
	comp=Z,9.4nm,0.5s						
DAVA			*i*	PKPab	**PKPab**	**11 29 06.9**	**+0.5**
	comp=Z,50nm,0.9s						
DAVA				pPKPab	**pPKPab**	**11 31 15.9**	**-0.5**
	comp=Z,11nm,1.2s						
FETA	**Feichten**	**153.46 344**	*i*	PKPdf	**PKPdf**	**11 28 42.8**	**-0.1**
	comp=Z,13nm,0.8s,SNR=13						
FETA			*i*	PKPbc	**PKPbc**	**11 28 50.2**	**-1.0**
	comp=Z,20nm,1.1s						
FETA			*i*	PKPab	**PKPab**	**11 29 07.1**	**+0.5**
	comp=Z,20nm,0.7s						
FETA			*e*	pPKiKP	**pPKiKP**	**11 31 10.7**	**+2.6**
	comp=Z,8.0nm,1.0s						
CEY	**Cerknica**	**153.51 338**	*i*	PKPbc	**PKPbc**	**11 28 51.0**	**-0.2**
CEY			*i*	PKPab	**PKPab**	**11 29 06.6**	**-0.1**
CEY	**Cerknica**	**153.51 338**	‖	*i* P	**PKPbc**	**11 28 50.7**	**-0.5**
MGRS	**Mrkonjic Grad**	**153.59 333**	*e*	P	**PKPbc**	**11 28 49.9**	**-1.5**
UPM	**Unac-Piva**	**153.72 329**	*e*	P	**PKPbc**	**11 28 50.7**	**-1.2**
RIY	**Rijeka**	**153.85 338**	*e*	P	**PKPbc**	**11 28 51.1**	**-0.7**
UDBI	**Udbina**	**154.04 335**	*i*	P	**PKPbc**	**11 28 52.1**	**-0.3**
PDG	**Podgorica**	**154.12 327**	*e*	P	**PKPbc**	**11 28 50.7**	**-1.8**
PDG	**Podgorica**	**154.12 327**	⇑	P	**PKPab**	**11 29 09.8**	**+0.5**
BRY	**Bratogost**	**154.12 329**	*e*	P	**PKPbc**	**11 28 52.1**	**-0.6**
DRME	**Dracevica, Mon**	**154.33 327**	‖	*i* P	**PKiKP**	**11 28 52.5**	**-0.5**
TREB	**Trebinje**	**154.35 329**	*e*	P	**PKiKP**	**11 28 51.1**	**-1.9**
NVLJ	**Novalja**	**154.36 336**	*i*	P	**PKiKP**	**11 28 52.3**	**-0.6**
HCY	**Herceg Novi**	**154.48 328**	*e*	P	**PKPbc**	**11 28 54.0**	**+0.7**
DBRK	**Dubrovnik**	**154.49 329**	*i*	P	**PKiKP**	**11 28 52.6**	**-0.7**
MAKA	**Makarska**	**154.53 331**	*i*	P	**PKiKP**	**11 28 52.6**	**-0.7**
STON	**Ston**	**154.54 330**	*i*	P	**PKiKP**	**11 28 52.3**	**-1.1**
STON	**Ston**	**154.54 330**	*e*	P	**PKiKP**	**11 28 51.1**	**-2.2**
DUGI	**Dugi Otok**	**154.77 335**	*i*	P	**PKiKP**	**11 28 53.2**	**-0.6**
MATE	**Matera**	**156.72 328**	⇑	P	**PKPab**	**11 29 21.0**	**+0.4**
PBRG	**Braganca**	**159.01 16**	*e*	PKPab	**PKPab**	**11 29 31.3**	**+0.7**
POLO	**Lamas de Olo**	**159.13 18**	*e*	PKPab	**PKPab**	**11 29 32.0**	**+0.8**
PVRL	**Vila Real**	**159.25 18**	*e*	PKPab	**PKPab**	**11 29 32.4**	**+0.8**
MVO	**Moncorvo**	**159.54 17**	*e*	PKPab	**PKPab**	**11 29 33.6**	**+0.6**
PCAS	**Casmilo, Conde**	**160.12 21**	*e*	PKPab	**PKPab**	**11 29 35.8**	**+0.4**
PTOM	**Tomar**	**160.54 21**	*e*	PKPab	**PKPab**	**11 29 37.6**	**+0.3**
PMAFR	**Mafra**	**160.81 24**	*e*	PKPab	**PKPab**	**11 29 38.9**	**+0.4**
PMRV	**Marv??o**	**161.04 19**	*e*	PKPab	**PKPab**	**11 29 39.9**	**+0.4**
PMTG	**Montargil**	**161.09 22**	*e*	PKPab	**PKPab**	**11 29 39.6**	**-0.1**
EVO	**Evora**	**161.65 22**	*e*	PKPab	**PKPab**	**11 29 42.4**	**+0.2**
ESDC	**Sonseca Array**	**161.66 11**		PKP	**PKPdf**	**11 28 53.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=354,slow=7.4,SNR=4.1						
ESDC				PKPab	**PKPab**	**11 29 42.4**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=348,slow=4.1,SNR=25						
ESDC				PP	**PP**	**11 33 31.1**	**+4.0**
	comp=Z,0.9nm,0.8s,baz=15,slow=4.4,SNR=4.4						
ESDC	**Sonseca Array**	**161.66 11**			**PKPdf**	**11 28 52.8**	**-0.3**
ESDC				PKPab	**PKPab**	**11 29 41.9**	**-0.3**
PNCL	**Nicolau / Gran**	**161.83 24**	*e*	PKPab	**PKPab**	**11 29 43.2**	**+0.2**
PTEO	**Sao Teotonio**	**162.25 25**	*e*	PKPab	**PKPab**	**11 29 45.3**	**+0.4**
PCVE	**Castro Verde**	**162.44 23**	*e*	PKPab	**PKPab**	**11 29 46.2**	**+0.5**
PVAQ	**Vaqueiros**	**162.76 23**	*e*	PKPab	**PKPab**	**11 29 47.4**	**+0.3**
LIC	**Lamto**	**163.66 160**	*e*	PKP2	**PKPab**	**11 29 52.2**	**+0.7**
	comp=Z,138nm,0.7s						
KIC	**Kosan Boka**	**163.88 160**	*e*	PKP2	**PKPab**	**11 29 53.3**	**+0.8**
	comp=Z,111nm,0.7s						
TIC	**Toumodi**	**164.05 159**	*e*	PKP2	**PKPab**	**11 29 53.9**	**+0.6**
	comp=Z,61nm,0.6s						
KEST	**Kesra**	**164.09 333**		PKPab	**PKPab**	**11 29 53.6**	**+0.5**
	comp=Z,40nm,0.8s,baz=330,slow=1.2,SNR=22						
KEST	**Kesra**	**164.09 333**			**PKPab**	**11 29 53.3**	**+0.1**
DBIC	**Dimbokro**	**164.13 160**		PKPab	**PKPab**	**11 29 54.4**	**+0.8**
	comp=Z,24nm,0.7s,baz=173,slow=5.8,SNR=25						
TORD	**Torodi Ar. Bea**	**171.43 187**		PKP	**PKPdf**	**11 28 59.9**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=180,slow=0.3,SNR=9.1						
TORD				PKPab	**PKPab**	**11 30 25.8**	**-0.1**
	comp=Z,6.5nm,0.8s,baz=178,slow=4.4,SNR=20						
TORD				pPKPab	**pPKPab**	**11 32 38.3**	**+3.1**
	comp=Z,1.8nm,1.0s,baz=194,slow=2.4,SNR=2.1						
TORD				PP	**PP**	**11 34 17.0**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=173,slow=4.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**171.43 187**			**PKPdf**	**11 28 59.4**	**-1.6**
TORD					**PKPab**	**11 30 25.4**	**-0.5**

*ISCJB **24** 11:12:12.0±0.5, 33°.72N±0°.03×25°.99E±0°.03, h10km, mb3.8/8, Error ellipse: s-maj=5.7km s-min=2.7km az=34.5*
*IDC **24** 11:12:13.5±1.1, 34°.02N×25°.94E, h0km, mb3.9/8, mb1 3.9/17, mb1mx3.7/81, mbtmp3.8/17, ML3.9/9, Error ellipse: s-maj=23.0km s-min=14.9km az=7.0*
*THE **24** 11:12:17.9, 34°.03N×25°.71E, h0km±6km, ML2.9/2, Error ellipse: s-maj=17.6km s-min=2.8km az=155.0*
*ATH **24** 11:12:18.7, 34°.16N×25°.56E, h36km±17km, ML2.8/2, Error ellipse: s-maj=35.3km s-min=3.6km az=1.0*
*GII **24** 11:12:19.9±0.0, 33°.44N×26°.32E, h1km, MD3.0/1*
ISC 24 11:12:13.7±0.7, 33°.83N±0°.05×25°.86E±0°.05, h10km, n50, σ1§99/65, mb3.9/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**1.18**	**355**	P	**Pn**	**11 12 36.3**	**0.0**
ZKR	**Zakros**	**1.31**	**13**	P	**Pg**	**11 12 39.8**	**+0.9**
ZKR				S	**Sg**	**11 12 56.8**	**+0.9**
ZKR	**Zakros**	**1.31**	**13**	P	**Pg**	**11 12 39.8**	**+0.9**
ZKR				AML	AML	11 13 04.2	
	comp=E,1565μm,0.6s						
ZKR				AML	AML	11 13 10.9	
	comp=N,642μm,0.9s						
STIA	**Sitia Lasithi**	**1.38**	**8**	P	**Pg**	**11 12 41.1**	**+0.9**
NPS	**Neapolis**	**1.44**	**352**	P	**Pg**	**11 12 40.9**	**-0.4**
NPS				S	**Sg**	**11 12 59.7**	**-0.3**
	comp=N,392nm,0.8s						
NPS	**Neapolis**	**1.44**	**352**	P	**Pn**	**11 12 39.1**	**-0.7**
NPS				AML	AML	11 13 17.5	
	comp=N,784μm,0.8s						
NPS				AML	AML	11 13 18.9	
	comp=E,607μm,0.6s						
SIVA	**Sivas**	**1.46**	**324**	P	**Pn**	**11 12 39.2**	**-0.9**
SIVA	**Sivas**	**1.46**	**324**	P	**Pn**	**11 12 37.9**	**-2.2**
GVD	**Gavdhos**	**1.77**	**305**	P	**Pg**	**11 12 47.4**	**-0.3**
GVD				S	**Sn**	**11 13 06.7**	**-0.3**
	comp=E,410nm,0.6s						
KARP	**Karpathos**	**2.02**	**32**	P	**Pb**	**11 12 50.4**	**-0.1**
VAM	**Vamos**	**2.08**	**319**	P	**Pn**	**11 12 48.1**	**-0.6**
IMMV	**Iera Moni Meta**	**2.24**	**317**	P	**Pn**	**11 12 49.3**	**-1.5**
RODP	**Rodopos**	**2.44**	**315**	P	**Pn**	**11 12 55.2**	**+1.6**
DALY	**Dalyan (Mula)**	**3.75**	**37**	*i* P	**Pn**	**11 13 13.3**	**+1.7**
FETY	**Fethiye**	**3.85**	**42**	*i* P	**Pn**	**11 13 12.2**	**-0.8**
FETY				*i* S	**Sn**	**11 13 53.2**	**-5.0**
FETY				IAML		11 14 00.0	
	comp=E,12nm,0.6s						
AKAS	**Kas**	**3.90**	**51**	*i* P	**Pn**	**11 13 16.0**	**+2.3**
AKAS				*i* S	**Sn**	**11 13 56.9**	**-2.7**
AKAS				IAML		11 14 07.0	
	comp=E,48nm,0.6s						
AKUM	**Antalya-Kumluc**	**4.44**	**55**	*i* P	**Pn**	**11 13 22.5**	**+1.4**
AKUM				*i* S	**Sn**	**11 14 13.0**	**+0.3**
AKUM				IAML		11 15 07.0	
	comp=N,75nm,2.8s						
GOLH	**Golhisar**	**4.54**	**41**	*i* P	**Pn**	**11 13 26.3**	**+3.7**
KORT	**Korkueli**	**4.84**	**48**	*i* P	**Pn**	**11 13 27.4**	**+0.7**
KORT				*i* S	Sn	11 13 31.3	-52
KORT				IAML		11 13 39.0	
	comp=E,15nm,0.6s						
KEPZ	**Antalya-Kepez**	**5.61**	**55**	*i* P	**Pn**	**11 13 39.0**	**+1.8**
KEPZ				*i* S	**Sn**	**11 14 34.4**	**-7.2**
KEPZ				IAML		11 14 45.0	
	comp=N,21nm,0.4s						
KZIT	**Kziot**	**7.79**	**110**	Sn	**Sn**	**11 15 32.4**	**-3.0**
SLTI	**Sal'it**	**7.87**	**99**	Sn	**Sn**	**11 15 35.3**	**-2.1**
MMA0B	**Mount Meron ar**	**8.02**	**93**	Sn	**Sn**	**11 15 40.8**	**-0.4**
MMAI	**Mount Meron Ar**	**8.02**	**93**	Pn	**Pn**	**11 14 11.1**	**+0.7**
	comp=N,3.3nm,0.3s,baz=279,slow=12,SNR=4.8						
MMAI				Sn	**Sn**	**11 15 42.5**	**+1.3**
	comp=N,3.1nm,0.3s,baz=270,slow=25,SNR=4.0						
MMLI	**Mount Malkishu**	**8.14**	**97**	Sn	**Sn**	**11 15 41.7**	**-2.4**
YTIR	**Yattir**	**8.19**	**105**	Sn	**Sn**	**11 15 42.3**	**-3.1**
GEM	**Giv'at Ha'Em**	**8.21**	**92**	Sn	**Sn**	**11 15 45.8**	**0.0**
HMDT	**Nahal Hemdat**	**8.27**	**98**	Sn	**Sn**	**11 15 45.5**	**-1.7**
DSI	**Dead Sea**	**8.34**	**103**	Sn	**Sn**	**11 15 46.8**	**-2.0**
KRMI	**Paran Flat**	**8.39**	**114**	Pn	**Pn**	**11 14 15.8**	**+0.4**
KRMI				Sn	**Sn**	**11 15 46.4**	**-3.9**
MZDA	**Masada**	**8.41**	**105**	Sn	**Sn**	**11 15 48.0**	**-2.5**
PRNI	**Paran**	**8.50**	**112**	Pn	**Pn**	**11 14 17.8**	**+0.9**
PRNI				Sn	**Sn**	**11 15 49.9**	**-3.0**
BRTR	**Keskin Array B**	**8.57**	**44**	Pn	**Pn**	**11 14 19.5**	**+1.5**
	comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=4.7						
BRTR				Sn	**Sn**	**11 15 55.9**	**+1.1**
	comp=N,0.1nm,0.3s,baz=220,slow=24,SNR=3.6						
HRFI	**Mount Harif**	**8.67**	**113**	Pn	**Pn**	**11 14 19.5**	**+0.3**
HRFI				Sn	**Sn**	**11 15 53.4**	**-3.7**
MBRI	**Mt Berech**	**8.69**	**115**	Pn	**Pn**	**11 14 20.7**	**+1.1**
MBRI				Sn	**Sn**	**11 15 54.6**	**-3.1**
EIL	**Elat**	**8.79**	**116**	Pn	**Pn**	**11 14 21.5**	**+0.8**
	comp=N,1.0nm,0.3s,baz=246,slow=3.4,SNR=8.2						
EIL				Sn	**Sn**	**11 15 59.9**	**0.0**
	comp=N,1.7nm,0.3s,baz=37,slow=18,SNR=4.2						
ASF	**Jabal al Asfar**	**9.42**	**97**	Pn	**Pn**	**11 14 29.8**	**+0.3**
	comp=N,1.6nm,0.3s,baz=124,slow=3.1,SNR=11						
ASF				Sn	**Sn**	**11 16 15.8**	**+0.3**
	comp=N,0.3nm,0.3s,baz=312,slow=18,SNR=2.2						
KBZ	**Khabaz**	**16.53**	**48**	Pn	**Pn**	**11 16 06.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=202,slow=14,SNR=2.3						
VRAC	**Vranov**	**16.92**	**339**	Pn	**Pn**	**11 16 10.3**	**-0.2**
	comp=N,0.5nm,0.3s,baz=18,slow=7.4,SNR=3.6						
AKASG	**Malin Array Be**	**17.04**	**7**	Pn	**Pn**	**11 16 11.2**	**-0.7**
	comp=N,1.3nm,0.3s,baz=199,slow=10,SNR=4.6						
GERES	**GERESS Array B**	**17.52**	**332**	P	**Pn**	**11 16 17.9**	**-0.2**
	comp=N,0.1nm,0.3s,baz=150,slow=11,SNR=3.3						
DAVOX	**Davos/Dischmat**	**17.72**	**322**	P	**P**	**11 16 22.0**	**+0.4**
	comp=N,0.2nm,0.3s,baz=131,slow=16,SNR=6.1						
ESDC	**Sonseca Array**	**24.53**	**292**	P	**P**	**11 17 35.9**	**+2.5**
	comp=N,0.1nm,0.2s,baz=87,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**27.63**	**0**	P	**P**	**11 17 59.5**	**-1.5**
	comp=N,4.5nm,0.9s,baz=148,slow=15,SNR=4.3						
AKTO	**Aktyubinsk**	**28.75**	**45**	P	**P**	**11 18 10.3**	**-1.0**
	comp=N,1.0nm,0.5s,baz=239,slow=12,SNR=3.1						
EKA	**Eskdalemuir Ar**	**29.46**	**326**	P	**P**	**11 18 16.3**	**-1.2**
	comp=N,2.3nm,0.9s,baz=69,slow=32,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.11**	**233**	P	**P**	**11 18 26.0**	**+2.4**
	comp=N,1.6nm,0.7s,baz=29,slow=9.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**41.52**	**50**	P	**P**	**11 20 01.8**	**+0.8**
	comp=N,0.8nm,0.7s,baz=280,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**44.04**	**55**	P	**P**	**11 20 22.0**	**+0.5**
	comp=N,1.2nm,0.7s,baz=278,slow=6.4,SNR=9.1						
ZALV	**Zalesovo Beam**	**45.52**	**45**	P	**P**	**11 20 33.1**	**0.0**
	comp=N,1.4nm,0.5s,baz=264,slow=9.5,SNR=6.1						

*ISCJB **24** 12:03:01.5±1.5, 16°.30N±0°.08×98°.95W±0°.05, h30km±12km, Error ellipse: s-maj=13.6km s-min=7.0km az=13.1*
*NEIC **24** 12:03:01.8±0.8, 16°.4N±0°.2×98°.93W±0°.04, h12km±16km*
*MEX **24** 12:03:03.6±0.5, 16°.27N×98°.98W, h15km±8km, MD4.1*
ISC 24 12:03:01.1±1.5, 16°.36N±0°.07×98°.97W±0°.04, h14km±11km, n13, σ1§10/21, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.81**	**87**	*i* P	**Pg**	**12 03 16.8**	**-0.1**
PNIG				*e* S	**Sg**	**12 03 26.7**	**-0.9**
PNIG	**Pinotepa**	**0.81**	**87**		**Pg**	**12 03 16.8**	**-0.1**
PNIG					**Sg**	**12 03 26.7**	**-0.9**
TLIG	**Tlapa**	**1.26**	**18**	*e* P	**Pn**	**12 03 24.3**	**-0.3**
TLIG				*e* S	**Sb**	**12 03 40.1**	**-0.9**
TLIG	**Tlapa**	**1.26**	**18**		**Pn**	**12 03 24.3**	**-0.3**
TLIG	**Tlapa**	**1.26**	**18**		**Pn**	**12 03 24.3**	**-0.3**
TLIG					**Sb**	**12 03 40.1**	**-0.9**
CAIG	**El Cayaco**	**1.42**	**299**	*e* P	**Pn**	**12 03 26.1**	**-0.5**
CAIG				*i* S	**Sn**	**12 03 43.6**	**-1.5**
CAIG	**El Cayaco**	**1.42**	**299**		**Pb**	**12 03 27.6**	**+0.1**
VHO	**Vista Hermosa**	**2.26**	**71**	*e* P	**Pn**	**12 03 38.8**	**+0.4**
VHO				*i* S	**Sn**	**12 04 05.3**	**-0.9**
TPIG	**Tehuac#an**	**2.56**	**37**	*e* P	**Pn**	**12 03 42.6**	**+0.1**
TPIG				*i* S	**Sn**	**12 04 13.5**	**-0.2**
TPIG	**Tehuac#an**	**2.56**	**37**		**Pn**	**12 03 42.6**	**+0.1**
HUIG	**Huatulco**	**2.81**	**102**	*i* P	**Pn**	**12 03 45.9**	**+0.1**
HUIG				*i* S	**Sn**	**12 04 17.0**	**-2.6**
HUIG	**Huatulco**	**2.81**	**102**		**Pb**	**12 03 52.4**	**+1.1**
TX32	**Lajitas Array**	**13.62**	**342**		**Pn**	**12 06 16.5**	**+2.4**

*IDC **24** 12:34:31.2±1.0, 11°.55S×165°.14E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/41, mbtmp4.0/11, ML4.3/2, MS3.1/8, Ms1 3.2/8, ms1mx2.9/29, Error ellipse: s-maj=32.8km s-min=19.2km az=127.0*
*ISCJB **24** 12:34:34.8±0.5, 11°.71S±0°.06×165°.02E±0°.07, h34km, mb3.9/9, MS3.2/6, Error ellipse: s-maj=9.5km s-min=8.7km az=163.9*
*NEIC **24** 12:34:34.5±1.2, 11°.5S±0°.1×165°.1E±0°.1, h21km±7km, mb4.1/9*
**ISC 24 12:34:36.7±0.7, 11°.66S±0°.07×165°.05E±0°.08, h34km, n33, σ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=217	**0.28**	**233**	**P**	**Pn**	**13 01 37.1**	**+0.3**
EGS	baz=276	**0.42**	**288**	*eP*	**Pn**	**13 01 37.8**	**+0.1**
TWB1	**Santiao Chiao** baz=301	**0.45**	**310**	*i P*	**Pn**	**13 01 37.8**	**-0.1**
TWC	**Suao** baz=252	**0.49**	**257**	P	**Pn**	**13 01 37.9**	**-0.3**
NTC	**Toucheng** baz=278	**0.51**	**286**	⇑*iP*	**Pn**	**13 01 38.0**	**-0.3**
TIPB	**Shuangxi** baz=290	**0.56**	**297**	⇑*iP*	**Pn**	**13 01 38.8**	**0.0**
TIPB	baz=290			*e*S	**Sn**	**13 01 49.9**	**-0.3**
ILA	**Ilan** baz=265	**0.57**	**275**	*eP*	**Pn**	**13 01 38.0**	**-0.9**
JYNG	**Yonagunijimaku**	**0.59**	**117**	P	**Pn**	**13 01 39.1**	**+0.1**
JYNG				*e*S	**Sn**	**13 01 51.0**	**+0.4**
NANB	**Nanao** baz=239	**0.63**	**243**	⇑*iP*	**Pn**	**13 01 39.5**	**+0.1**
YOJ	**Yonaguni jima** baz=124	**0.64**	**113**	P	**Pn**	**13 01 39.4**	**-0.1**
YOJ	baz=124			S	**Sn**	**13 01 52.1**	**+0.7**
YOJ	**Yonaguni jima**	**0.64**	**113**	P	**Pn**	**13 01 39.4**	**-0.1**
YOJ				S	**Sn**	**13 01 51.7**	**+0.4**
TWE	**Neicheng** baz=271	**0.64**	**270**	⇑*iP*	**Pn**	**13 01 39.4**	**0.0**
NWF	**Wu-fen Shan** baz=294	**0.64**	**303**	P	**Pn**	**13 01 39.5**	**-0.1**
WFSB	**Wu-fen Shan** baz=294	**0.64**	**303**	P	**Pn**	**13 01 39.5**	**0.0**
ENA	**Nanau** baz=239	**0.64**	**243**	P	**Pn**	**13 01 39.7**	**+0.2**
SLBB	**Yuanshan** baz=277	**0.67**	**273**	*eP*	**Pn**	**13 01 38.7**	**-1.2**
ENTT	**Nioudou** baz=266	**0.73**	**264**	P	**Pn**	**13 01 40.6**	**+0.2**
TWA	**Mucha** baz=287	**0.76**	**290**	*eP*	**Pn**	**13 01 40.1**	**-0.6**
NDT	**Datong Townshi** baz=264	**0.79**	**262**	*eP*	**Pn**	**13 01 41.3**	**+0.3**
NWLT	**Wulai** baz=275	**0.79**	**274**	*eP*	**Pn**	**13 01 40.7**	**-0.3**
NHDH	**Xindian Distri** baz=285	**0.81**	**288**	P	**Pn**	**13 01 40.8**	**-0.3**
TAP1	**Taipei** baz=290	**0.83**	**293**	*eP*	**Pn**	**13 01 40.8**	**-0.6**
TATO	**Taipei** baz=278	**0.84**	**288**	*eP*	**Pn**	**13 01 40.9**	**-0.6**
YM01	**YM01** baz=290	**0.84**	**301**	P	**Pn**	**13 01 41.1**	**-0.5**
YM08	**YM08** baz=294	**0.85**	**304**	*eP*	**Pn**	**13 01 41.0**	**-0.6**
YM11	**YM11** baz=292	**0.85**	**302**	P	**Pn**	**13 01 41.4**	**-0.3**
YM10	**YM10** baz=291	**0.85**	**301**	P	**Pn**	**13 01 41.4**	**-0.3**
TWY	**Chenhua** baz=307	**0.89**	**309**	*eP*	**Pn**	**13 01 42.0**	**-0.1**
YHNB	**Yeheng** baz=267	**0.91**	**267**	⇑P	**Pn**	**13 01 42.4**	**+0.1**
NSK	**Sanguang** baz=269	**0.92**	**268**	⇑P	**Pn**	**13 01 42.4**	**0.0**
NNSB	**Datong** baz=244	**0.94**	**252**	⇑P	**Pn**	**13 01 42.7**	**0.0**
TWS1	**Kuangyinshan** baz=291	**0.94**	**294**	P	**Pn**	**13 01 42.4**	**-0.2**
NTST	**Danshui** baz=290	**0.95**	**298**	*eP*	**Pn**	**13 01 42.3**	**-0.4**
NNS	**Nan Shan** baz=244	**0.95**	**253**	P	**Pn**	**13 01 42.8**	**0.0**
ETLH	**Xiulin Townshi** baz=235	**0.96**	**238**	*eP*	**Pn**	**13 01 42.3**	**-0.6**
WLTB	**Daxi** baz=277	**1.02**	**278**	*eP*	**Pn**	**13 01 43.8**	**+0.3**
NCU	**National Centr** baz=289	**1.10**	**283**	*eP*	**Pn**	**13 01 44.8**	**+0.3**
NCUH	**Zhongli** baz=289	**1.10**	**283**	*eP*	**Pn**	**13 01 44.2**	**-0.2**
WHF	**Hehuan Shan** baz=238	**1.16**	**241**	*eP*	**Pn**	**13 01 45.3**	**-0.2**
TDCB	**Techi** baz=238	**1.20**	**248**	P	**Pn**	**13 01 45.9**	**+0.2**
LIOB	**Emei** baz=264	**1.23**	**267**	P	**Pn**	**13 01 46.0**	**0.0**
ESL	**Shilin** baz=229	**1.24**	**224**	*eP*	**Pn**	**13 01 45.0**	**-1.1**
NSTT	**Nanjuang** baz=264	**1.25**	**266**	*eP*	**Pn**	**13 01 46.0**	**-0.2**
SBCB	**Hsinchu** baz=271	**1.26**	**274**	*eP*	**Pn**	**13 01 46.0**	**-0.3**
CHGB	**Renai** baz=231	**1.27**	**239**	*eP*	**Pn**	**13 01 46.6**	**-0.1**
IRIF	**Iriomote-Funau**	**1.30**	**107**	P	**Pn**	**13 01 46.8**	**0.0**
IRIF				*e*S	**Sn**	**13 02 04.5**	**+0.2**
WHP	**Taichung City** baz=249	**1.37**	**252**	*eP*	**Pn**	**13 01 48.2**	**+0.5**
NMLH	**Miaoli** baz=261	**1.45**	**263**	*eP*	**Pn**	**13 01 48.8**	**+0.1**
VWDT	**VWDT** baz=220	**1.48**	**230**	*eP*	**Pn**	**13 01 48.9**	**-0.2**
HGSD	**Ruisui** baz=206	**1.50**	**215**	*eP*	**Pn**	**13 01 48.4**	**-0.8**
NSY	**Sanyi** baz=257	**1.50**	**259**	*eP*	**Pn**	**13 01 49.4**	**+0.2**
TWQ1	**Liyutan** baz=254	**1.50**	**256**	*eP*	**Pn**	**13 01 50.1**	**+0.8**
JKRS	**Kuro-shima**	**1.57**	**107**	P	**Pn**	**13 01 50.4**	**+0.2**
JKRS				*e*S	**Sn**	**13 02 10.5**	**+0.2**
SMLT	**Sun Moon Lake** baz=230	**1.58**	**239**	*eP*	**Pn**	**13 01 51.0**	**+0.6**
SSLB	**Suanglung** baz=232	**1.59**	**235**	*eP*	**Pn**	**13 01 51.2**	**+0.7**
TYC	**Yuchr** baz=237	**1.60**	**240**	*eP*	**Pn**	**13 01 51.4**	**+0.8**
YULB	**Yu-li** baz=222	**1.64**	**217**	*eP*	**Pn**	**13 01 50.0**	**-1.2**
JIJ	**Ishigaki jima**	**1.65**	**102**	P	**Pn**	**13 01 50.9**	**-0.4**
JIJ				S	**Sn**	**13 02 11.6**	**-0.7**
TWF1	**Yuli** baz=222	**1.68**	**216**	*eP*	**Pn**	**13 01 50.5**	**-1.1**
WHYT	**Xinyi Township** baz=232	**1.72**	**234**	*eP*	**Pn**	**13 01 52.8**	**+0.6**
JISG	**Ishigakijimahi**	**1.77**	**94**	P	**Pn**	**13 01 52.7**	**-0.1**
JISG				*e*S	**Sn**	**13 02 14.9**	**-0.1**
FULB	**Fuli** baz=220	**1.80**	**213**	*eP*	**Pn**	**13 01 52.4**	**-0.9**
CHN5	**Tsauling** baz=242	**1.91**	**235**	*eP*	**Pn**	**13 01 55.2**	**+0.6**
RLNB	**Erlin** baz=250	**2.01**	**246**	*eP*	**Pn**	**13 01 55.9**	**+0.1**
CHN4	**Tsaushan** baz=238	**2.12**	**230**	*eP*	**Pn**	**13 01 57.8**	**+0.5**
TPUB	**Ta-pu** baz=238	**2.13**	**229**	*eP*	**Pn**	**13 01 58.0**	**+0.5**
CHN1	**Nanshi** baz=237	**2.27**	**228**	*eP*	**Pn**	**13 01 59.5**	**+0.1**

ISCJB ***24*** *13:01:38.8±0.2, 24°.31N±0°.01×121°.76E±0°.02, h18km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=27.7*
TAP ***24*** *13:01:38.1, 24°.30N×121°.76E, h18km, ML3.3, B*
JMA ***24*** *13:01:38.2±0.1, 24°.25N×121°.70E, h25km, M2.8*
ISC 24 13:01:38.5±0.8, 24°.30N±0°.01×121°.76E±0°.02, h16km±5km, n112, σ0°46/155, 8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao** baz=353	**0.13**	**357**	⇓*iP*	**Pg**	**13 01 42.0**	**-0.3**
NANB	baz=353			*i* S	**Sg**	**13 01 44.7**	**0.0**
ENA	**Nanau** baz=352	**0.13**	**354**	⇓*iP*	**Pg**	**13 01 42.0**	**-0.3**
ENA	baz=352			*i* S	**Sg**	**13 01 44.9**	**+0.1**
NACB	**Ninganchiao** baz=228	**0.19**	**230**	P	**Pg**	**13 01 42.8**	**-0.4**
NACB	baz=228			*i* S	**Sg**	**13 01 46.3**	**0.0**
TWD	**Chiawan** baz=219	**0.26**	**214**	P	**Pg**	**13 01 44.0**	**-0.3**
TWD	baz=219			S	**Sg**	**13 01 48.3**	**+0.1**
ETLH	**Xiulin Townshi** baz=251	**0.27**	**250**	⇓P	**Pg**	**13 01 44.1**	**-0.3**
ETLH	baz=251			S	**Sg**	**13 01 48.5**	**+0.1**
TWC	**Suao** baz=10.0	**0.32**	**15**	⇓*iP*	**Pg**	**13 01 45.1**	**-0.2**
TWC	baz=10.0			S	**Sg**	**13 01 49.7**	**-0.2**
HWA	**Hwalien** baz=213	**0.35**	**203**	P	**Pg**	**13 01 46.0**	**+0.2**
HWA	baz=213			*e*S	**Sb**	**13 01 51.3**	**-0.3**
NNSB	**Datong** baz=290	**0.36**	**291**	⇓P	**Pg**	**13 01 46.2**	**+0.1**
NNSB	baz=290			S	**Sg**	**13 01 51.2**	**-0.1**
NDT	**Datong Townshi** baz=322	**0.38**	**324**	⇓P	**Pg**	**13 01 46.3**	**0.0**
NDT	baz=322			*e*S	**Sg**	**13 01 51.8**	**+0.3**
NNS	**Nan Shan** baz=291	**0.38**	**292**	⇓P	**Pg**	**13 01 46.3**	**0.0**
NNS	baz=291			S	**Sg**	**13 01 51.7**	**0.0**
ENTT	**Nioudou** baz=331	**0.38**	**333**	P	**Pg**	**13 01 46.4**	**0.0**
ENTT	baz=331			S	**Sg**	**13 01 52.1**	**+0.4**
ENLB	**Shoufeng** baz=210	**0.42**	**200**	*eP*	**Pg**	**13 01 47.0**	**0.0**
ENLB	baz=210			*e*S	**Sb**	**13 01 53.5**	**-0.1**
EOS1	**EOS1** baz=44	**0.42**	**54**	*eP*	**Pg**	**13 01 47.2**	**+0.2**
EOS1	baz=44			*e*S	**Sb**	**13 01 54.3**	**+0.7**
TWE	**Neicheng** baz=348	**0.43**	**349**	P	**Pg**	**13 01 47.1**	**-0.1**
TWE	baz=348			S	**Sg**	**13 01 53.4**	**+0.3**
ILA	**Ilan** baz=352	**0.46**	**359**	*eP*	**Pg**	**13 01 47.7**	**-0.1**
SLBB	**Yuanshan** baz=338	**0.47**	**346**	*eP*	**Pg**	**13 01 47.1**	**-0.8**
SLBB	baz=338			*e*S	**Sg**	**13 01 54.0**	**-0.2**
WHF	**Hehuan Shan** baz=260	**0.47**	**251**	P	**Pg**	**13 01 47.8**	**-0.4**
WHF	baz=260			S	**Sg**	**13 01 54.6**	**-0.1**
YHNB	**Yeheng** baz=315	**0.51**	**317**	P	**Pg**	**13 01 48.6**	**-0.1**
YHNB	baz=315			*e*S	**Sg**	**13 01 55.3**	**-0.2**
NSK	**Sanguang** baz=315	**0.52**	**316**	*eP*	**Pg**	**13 01 48.9**	**-0.1**
NSK	baz=315			*e*S	**Sg**	**13 01 55.9**	**-0.1**
NWLT	**Wulai** baz=332	**0.53**	**334**	*eP*	**Pg**	**13 01 49.0**	**0.0**
NWLT	baz=332			*e*S	**Sg**	**13 01 56.3**	**+0.1**
TDCB	**Techi** baz=266	**0.55**	**265**	⇓P	**Pg**	**13 01 49.6**	**+0.1**
TDCB	baz=266			S	**Sg**	**13 01 56.5**	**-0.3**
NTC	**Toucheng** baz=5.0	**0.56**	**7**	*eP*	**Pg**	**13 01 49.7**	**+0.1**
NTC	baz=5.0			*e*S	**Sg**	**13 01 56.5**	**-0.6**
EGS	baz=21	**0.57**	**16**	P	**Pg**	**13 01 49.8**	**0.0**
ESL	**Shilin** baz=218	**0.57**	**212**	*eP*	**Pg**	**13 01 49.1**	**-0.6**
ESL	baz=218			*e*S	**Sg**	**13 01 57.3**	**-0.1**
CHGB	**Renai** baz=247	**0.58**	**246**	P	**Pg**	**13 01 50.1**	**0.0**
CHGB	baz=247			S	**Sg**	**13 01 58.0**	**0.0**
TIPB	**Shuangxi** baz=3.0	**0.67**	**5**	P	**Pg**	**13 01 51.5**	**-0.2**
TIPB	baz=3.0			S	**Sg**	**13 01 59.9**	**-0.8**
NHDH	**Xindian Distri** baz=335	**0.69**	**342**	*eP*	**Pg**	**13 01 52.2**	**0.0**
EGFH	**Guangfu** baz=219	**0.70**	**206**	*eP*	**Pg**	**13 01 52.0**	**-0.2**
TWA	**Mucha** baz=345	**0.70**	**347**	*eP*	**Pb**	**13 01 52.7**	**+0.4**
TWA	baz=345			*e*S	**Sg**	**13 02 01.1**	**-0.3**
TATO	**Taipei** baz=338	**0.72**	**340**	*eP*	**Pg**	**13 01 52.4**	**-0.2**
TATO	baz=338			*e*S	**Sb**	**13 02 02.5**	**+0.2**
WLTB	**Daxi** baz=319	**0.72**	**320**	*eP*	**Pb**	**13 01 53.3**	**+0.7**
TWB1	**Santiao Chiao** baz=15	**0.74**	**17**	P	**Pg**	**13 01 52.5**	**-0.4**
TWB1	baz=15			S	**Sg**	**13 02 01.6**	**-1.1**
WHP	**Taichung City** baz=269	**0.74**	**269**	*eP*	**Pb**	**13 01 53.6**	**+0.6**
WHP	baz=269			*e*S	**Sb**	**13 02 03.2**	**+0.2**
LIOB	**Emei** baz=297	**0.76**	**297**	*eP*	**Pn**	**13 01 54.2**	**-0.4**
LIOB	baz=297			*e*S	**Sg**	**13 02 02.9**	**-0.4**
NSTT	**Nanjuang** baz=295	**0.76**	**296**	*eP*	**Pb**	**13 01 53.7**	**+0.3**
NSTT	baz=295			*e*S	**Sg**	**13 02 03.5**	**0.0**
TAP1	**Taipei** baz=341	**0.77**	**344**	*eP*	**Pg**	**13 01 53.4**	**-0.1**
TAP1	baz=341			*e*S	**Sb**	**13 02 04.1**	**+0.5**
NWF	**Wu-fen Shan** baz=349	**0.77**	**2**	*eP*	**Pg**	**13 01 53.6**	**0.0**
WFSB	**Wu-fen Shan** baz=353	**0.77**	**2**	*eP*	**Pg**	**13 01 53.4**	**-0.2**
WFSB	baz=353			*e*S	**Sb**	**13 02 03.9**	**+0.2**
VWDT	**VWDT** baz=228	**0.78**	**226**	*eP*	**Pg**	**13 01 53.2**	**-0.6**
VWDT	baz=228			*e*S	**Sg**	**13 02 04.1**	**0.0**
DPDB	**Guoxing** baz=252	**0.80**	**251**	*eP*	**Pg**	**13 01 53.9**	**-0.3**
NCUH	**Zhongli** baz=320	**0.84**	**322**	*eP*	**Pb**	**13 01 55.3**	**+0.4**
NCU	**National Centr** baz=321	**0.85**	**322**	*eP*	**Pb**	**13 01 55.2**	**+0.3**
TWS1	**Kuangyinshan** baz=337	**0.86**	**339**	*eP*	**Pb**	**13 01 55.2**	**+0.2**
TWS1	baz=337			*e*S	**Sn**	**13 02 07.7**	**-0.4**
SBCB	**Hsinchu** baz=304	**0.86**	**305**	*eP*	**Pb**	**13 01 55.5**	**+0.5**
HGSD	**Ruisui** baz=190	**0.86**	**201**	*eP*	**Pg**	**13 01 55.1**	**-0.1**
YM01	**YM01** baz=346	**0.86**	**349**	*eP*	**Pg**	**13 01 54.8**	**-0.5**
YM01	baz=346			S	**Sb**	**13 02 07.2**	**+0.7**
YM10	**YM10** baz=347	**0.87**	**348**	*eP*	**Pg**	**13 01 55.0**	**-0.5**
YM11	**YM11** baz=348	**0.88**	**349**	*eP*	**Pg**	**13 01 55.3**	**-0.4**
EHY	**Hungye** baz=218	**0.88**	**207**	*eP*	**Pg**	**13 01 54.9**	**-0.8**
SMLT	**Sun Moon Lake** baz=237	**0.89**	**242**	*eP*	**Pg**	**13 01 55.4**	**-0.3**
SMLT	baz=237			*e*S	**Sg**	**13 02 07.4**	**0.0**
SSLB	**Suanglung** baz=237	**0.89**	**235**	*eP*	**Pb**	**13 01 55.3**	**-0.4**
SSLB	baz=237			*e*S	**Sg**	**13 02 06.2**	**-1.5**
YM08	**YM08** baz=349	**0.90**	**350**	*eP*	**Pb**	**13 01 54.6**	**-1.1**
TWQ1	**Liyutan** baz=273	**0.90**	**273**	*eP*	**Pn**	**13 01 56.7**	**+0.2**
NTST	**Danshui** baz=328	**0.91**	**342**	*eP*	**Pb**	**13 01 56.0**	**+0.2**
ANP	**Anpu** baz=345	**0.91**	**346**	*eP*	**Pb**	**13 01 55.9**	**-0.1**
TYC	**Yuchr** baz=245	**0.91**	**245**	*eP*	**Pb**	**13 01 56.0**	**+0.1**
NMLH	**Miaoli** baz=291	**0.91**	**285**	*eP*	**Pn**	**13 01 57.2**	**+0.5**
NMLH	baz=291			*e*S	**Sg**	**13 02 07.9**	**-0.3**
NSY	**Sanyi** baz=277	**0.92**	**278**	*eP*	**Pn**	**13 01 56.8**	**+0.1**
PTSB	**Yuanli** baz=279	**0.97**	**279**	*eP*	**Pn**	**13 01 58.3**	**+0.8**
TWY	**Chenhua** baz=336	**0.98**	**352**	*eP*	**Pn**	**13 01 57.9**	**+0.3**
YULB	**Yu-li** baz=216	**1.00**	**205**	*eP*	**Pb**	**13 01 57.4**	**0.0**
TCU	**Taichung** baz=262	**1.00**	**262**	*eP*	**Pn**	**13 01 59.0**	**+1.2**
WDJ	**Dajia District** baz=273	**1.02**	**273**	*eP*	**Pn**	**13 01 58.5**	**+0.4**
WHYT	**Xinyi Township** baz=228	**1.02**	**234**	*eP*	**Pg**	**13 01 58.3**	**0.0**
TWF1	**Yuli** baz=216	**1.03**	**204**	*eP*	**Pb**	**13 01 57.9**	**-0.1**
WJS	**Zhushan** baz=238	**1.05**	**243**	*eP*	**Pn**	**13 01 59.0**	**+0.4**
WNT	**Mingjian** baz=239	**1.07**	**247**	*eP*	**Pg**	**13 01 59.4**	**+0.2**
JYNG	**Yonagunijimaku**	**1.09**	**82**	P	**Pb**	**13 01 59.2**	**+0.1**
JYNG				*e*S	**Sg**	**13 02 14.1**	**+0.1**
WCHH	**Zhanghua** baz=259	**1.12**	**259**	*eP*	**Pg**	**13 02 00.3**	**+0.3**
YOJ	**Yonaguni jima** baz=71	**1.16**	**82**	*eP*	**Pn**	**13 02 00.1**	**+0.1**
YOJ	baz=71			*e*S	**Sg**	**13 02 16.5**	**+0.5**
YOJ	**Yonaguni jima**	**1.16**	**82**	P	**Pn**	**13 01 59.6**	**-0.4**
YOJ				S	**Sg**	**13 02 16.4**	**+0.5**
FULB	**Fuli** baz=216	**1.18**	**201**	*eP*	**Pg**	**13 02 01.0**	**-0.3**
CHN5	**Tsauling** baz=236	**1.21**	**235**	*eP*	**Pg**	**13 02 01.6**	**-0.3**
ELDTW	**Lidau** baz=199	**1.30**	**212**	*eP*	**Pn**	**13 02 01.7**	**-0.3**
RLNB	**Erlin** baz=253	**1.34**	**253**	*eP*	**Pb**	**13 02 03.8**	**+0.5**
CHN2	**Minshiung** baz=238	**1.40**	**237**	*eP*	**Pg**	**13 02 05.2**	**-0.3**
CHN4	**Tsaushan** baz=229	**1.42**	**229**	*eP*	**Pb**	**13 02 05.2**	**+0.5**
TPUB	**Ta-pu** baz=215	**1.43**	**226**	*eP*	**Pb**	**13 02 04.7**	**-0.2**
STYT	**Tauyuan** baz=220	**1.46**	**219**	*eP*	**Pg**	**13 02 06.3**	**-0.3**
CHY	**Chiayi** baz=224	**1.46**	**237**	*eP*	**Pb**	**13 02 05.1**	**-0.2**
WTP	**Ta-pu** baz=214	**1.48**	**225**	*eP*	**Pb**	**13 02 05.7**	**0.0**
WSF	**Szhu** baz=245	**1.55**	**245**	*eP*	**Pn**	**13 02 04.8**	**-0.7**
TWK	**Hsinying** baz=229	**1.55**	**229**	*eP*	**Pb**	**13 02 06.8**	**-0.1**
SNST	**Tainan City** baz=228	**1.58**	**227**	*eP*	**Pb**	**13 02 07.0**	**-0.3**
CHN1	**Nanshi** baz=227	**1.58**	**226**	*eP*	**Pb**	**13 02 07.4**	**0.0**
TWG	**Pinlang** baz=191	**1.60**	**203**	*eP*	**Pb**	**13 02 07.3**	**-0.4**
TWGBT	**Beinan** baz=191	**1.60**	**203**	*eP*	**Pn**	**13 02 07.0**	**+0.8**
SGST	**Jiashian** baz=223	**1.62**	**222**	*eP*	**Pn**	**13 02 07.3**	**+0.8**
SLGT	**Liugui** baz=220	**1.65**	**218**	*eP*	**Pb**	**13 02 08.0**	**-0.6**
CHN8	**Yiju** baz=221	**1.70**	**236**	*eP*	**Pb**	**13 02 08.8**	**-0.7**
IRIF	**Iriomote-Funau**	**1.80**	**88**	P	**Pn**	**13 02 08.8**	**-0.1**
IRIF				*e*S	**Sn**	**13 02 31.6**	**+0.2**
ECL	**Taimali** baz=193	**1.85**	**204**	*eP*	**Pn**	**13 02 10.1**	**+0.5**
SSD	**Sandimen** baz=215	**1.86**	**214**	*eP*	**Pn**	**13 02 11.1**	**+1.4**
MASBT	**Mashibuluo** baz=214	**1.97**	**212**	*eP*	**Pn**	**13 02 12.6**	**+1.3**
JKRS	**Kuro-shima**	**2.06**	**91**	*e*S	**Sn**	**13 02 38.2**	**+0.5**
EAST	**Anshuo** baz=196	**2.08**	**204**	*eP*	**Pn**	**13 02 14.2**	**+1.4**
PNG	**Penghu** baz=249	**2.14**	**251**	*eP*	**Pn**	**13 02 13.1**	**-0.4**
PHUB	**P'eng-hu** baz=248	**2.15**	**249**	*eP*	**Pn**	**13 02 13.2**	**-0.5**
PTTC	**Pingtan** baz=301	**2.16**	**304**	*eP*	**Pn**	**13 02 13.0**	**-0.9**
PTTC	baz=301			*e*S	**Sn**	**13 02 40.5**	**+0.1**
JIJ	**Ishigaki jima**	**2.18**	**88**	*e*S	**Sn**	**13 02 40.0**	**-0.7**
WDGT	**Dungji** baz=242	**2.18**	**242**	*eP*	**Pn**	**13 02 14.9**	**+0.8**
SCZT	**Fangliau** baz=195	**2.18**	**209**	*eP*	**Pn**	**13 02 15.2**	**+1.1**
VWUC	**VWUC** baz=286	**2.21**	**289**	*eP*	**Pn**	**13 02 14.3**	**-0.2**
JISG	**Ishigakijimahi**	**2.34**	**82**	*e*S	**Sn**	**13 02 44.3**	**-0.5**
VCHM	**Qimei** baz=229	**2.39**	**243**	*eP*	**Pn**	**13 02 16.9**	**-0.1**
MATB	**Ma-tsu** baz=315	**2.47**	**319**	*eP*	**Pn**	**13 02 17.9**	**-0.2**
PTMZ	**Houxiangcun** baz=285	**2.51**	**288**	*eP*	**Pn**	**13 02 18.8**	**+0.1**
XPSS	**Dashiqiu** baz=329	**2.98**	**332**	*eP*	**Pn**	**13 02 25.1**	**0.0**
MHZQ	**Yeshan** baz=303	**3.05**	**307**	*eP*	**Pn**	**13 02 26.1**	**0.0**
KNMB	**Chin-men Tao** baz=271	**3.08**	**274**	*eP*	**Pn**	**13 02 26.2**	**-0.2**
AXDP	**Jialang** baz=278	**3.50**	**281**	*eP*	**Pn**	**13 02 32.5**	**+0.2**
ZPLA	**Ao Xicun** baz=261	**3.68**	**265**	*eP*	**Pn**	**13 02 35.0**	**+0.2**

IDC 24 13:16:34.4±8.0, 7°.44S×128°.72E, h142km±84km, mb3.0/1, mb1 3.1/5, mb1mx3.0/28, mbtmp3.5/5, Error ellipse: s-maj=75.5km s-min=26.1km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 9.3nm,0.3s,baz=192,slow=1.8,SNR=14	**5.71**	**241**	P	Pn	13 17 57.8	+0.6
BATI	4.7nm,0.3s,baz=16,slow=19,SNR=3.5			S	Sn	13 19 02.1	+0.3
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=9.5,slow=12,SNR=3.4	**11.01**	**196**	P	Pn	13 19 07.7	-0.4
FITZ	0.2nm,0.3s,baz=263,slow=23,SNR=4.7			S	Sn	13 21 02.2	-7.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=336,slow=16,SNR=4.3	**13.57**	**157**	P	Pn	13 19 40.0	-1.3
WRA	0.3nm,0.3s,baz=335,slow=23,SNR=6.6			S	Sn	13 22 02.7	-8.7
ASAR	**Alice Springs** 0.0nm,0.3s,baz=334,slow=10,SNR=5.3	**16.88**	**163**	P	Pn	13 20 23.4	+0.9
ASAR	0.1nm,0.3s,baz=330,slow=14,SNR=4.7			S	S	13 23 24.5	-6.4
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=120,slow=7.3,SNR=4.6	**67.91**	**328**	P	P	13 27 17.7	0.0

ISCJB ***24*** *13:34:48.1±0.8, 6°.09S±0°.07×128°.93E±0°.10, h264km, mb3.3/1, Error ellipse: s-maj=14.4km s-min=7.1km az=27.7*
IDC ***24*** *13:34:48.6±1.2, 5°.94S×128°.88E, h297km±17km, mb2.8/1, mb1 3.1/5, mb1mx2.9/31, mbtmp3.8/5, Error ellipse: s-maj=24.0km s-min=14.1km az=103.0*
ISC 24 13:34:47.8±0.9, 6°.05S±0°.08×128°.8E±0°.1, h264km, n7, σ1°72/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.69**	**25**	P	**Pn**	**13 36 14.7**	**+2.1**
SIJI	6.0nm,0.3s,baz=178,slow=22,SNR=18			S	**S**	**13 37 19.8**	**-0.6**
BATI	**Baumata** 38nm,0.3s,baz=79,slow=1.8,SNR=38	**6.57**	**231**	P	**Pn**	**13 36 25.4**	**+2.0**
BATI	1.5nm,0.3s,baz=215,slow=20,SNR=2.7			S	**S**	**13 37 40.3**	**0.0**
KAPI	**Kappang** 1.1nm,0.3s,baz=73,slow=11,SNR=2.4	**9.10**	**276**	P	**Pn**	**13 36 56.1**	**+1.1**
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=26,slow=10,SNR=15	**12.37**	**194**	P	**P**	**13 37 37.3**	**-0.5**

FITZ S **S** **13 39 52.7 -0.8**
0.1nm,0.3s,baz=42,slow=11,SNR=2.4
WRA Warramunga Arr 14.81 159 P **P** **13 38 04.7 -0.1**
0.3nm,0.3s,baz=340,slow=11,SNR=18
ASAR Alice Springs 18.18 165 P **P** **13 38 41.5 -0.1**
0.3nm,0.3s,baz=346,slow=12,SNR=26
MKAR Makanchi Array 66.80 327 P **P** **13 45 08.2 -3.1**
0.2nm,0.3s,baz=121,slow=8.0,SNR=3.7

WEL 24 14:10:02.0±1.6, 33°S±13″×17°9E±2°9, h33km, M4.0/6, mB4.5/3, ML4.2/7, MLv4.0/6, Mw(mB)3.7/3, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.17**	**40**	S	Sn	14 11 51.7	+0.8
MXZ	**Matakaoa Point**	**5.07**	**186**	P	Pn	14 11 16.2	+0.5
MXZ				S	Sn	14 12 13.8	+0.7
WMGZ	**Waiomatatini S**	**5.32**	**185**	P	Pn	14 11 19.5	+0.5
WMGZ				S	Sn	14 12 20.1	+0.9
HAZ	**Te Kaha**	**5.33**	**191**	P	Pn	14 11 19.7	+0.5
HAZ				S	Sn	14 12 21.2	+1.7
PKGZ	**Pakihiroa**	**5.42**	**188**	P	Pn	14 11 21.0	+0.5
RUGZ	**Raukumara Rang**	**5.55**	**191**	P	Pn	14 11 21.5	-0.9
RUGZ				S	Sn	14 12 25.2	+0.1
PUZ	**Puketiti**	**5.58**	**186**	P	Pn	14 11 21.6	-1.1
TWGZ	**Tauwhareparae**	**5.72**	**188**	P	Pn	14 11 24.5	-0.1
TWGZ				S	Sn	14 12 29.5	+0.4
MWZ	**Matawai**	**5.94**	**191**	P	Pn	14 11 26.3	-1.3
MWZ				S	Sn	14 12 33.9	-0.5
URZ	**Urewera**	**5.94**	**195**	P	Pn	14 11 26.3	-1.3
URZ				S	Sn	14 12 34.9	+0.3
CNGZ	**Carnagh Statio**	**6.00**	**186**	P	Pn	14 11 26.7	-1.7
MUGZ	**Murupara**	**6.23**	**196**	P	Pn	14 11 30.3	-1.3
RIGZ	**Rimuhau**	**6.27**	**189**	P	Pn	14 11 30.1	-2.0
MTHZ	**Maungataniwha**	**6.57**	**195**	P	Pn	14 11 33.5	-2.8
MTHZ				S	Sn	14 12 47.5	-2.6
RAHZ	**Arahi**	**6.58**	**193**	P	Pn	14 11 33.9	-2.5
ARHZ	**Aropaoanui**	**6.94**	**193**	P	Pn	14 11 37.7	-3.5

*BJI **24** 14:14:51.0±0.0, 10°.27S×161°.59E, h54km, mb4.8/27, mB5.2/23, Ms5.1/5, Ms7 4.9/4*
*MOS **24** 14:14:52.6±0.9, 10°.14S×161°.00E, h44km, mb5.0/26, Error ellipse: s-maj=8.9km s-min=7.8km az=86.7*
*NEIC **24** 14:14:55.0±1.7, 10°.17S±0°.07×161°.00E±0°.07, h53km±4km, mb5.0/85*
*ISCJB **24** 14:14:55.3±0.8, 10°.23S±0°.03×160°.85E±0°.04, h67km±7km, mb4.7/59, Error ellipse: s-maj=5.9km s-min=4.7km az=175.8*
*IDC **24** 14:14:56.0±1.6, 10°.21S×160°.93E, h58km±12km, mb4.2/24, mb1 4.3/27, mb1mx4.3/40, mbtmp4.5/27, MS3.6/19, Ms1 3.7/19, ms1mx3.6/24, Error ellipse: s-maj=15.4km s-min=10.7km az=84.0*
ISC 24 14:14:54.3±0.5, 10°.19S±0°.05×161°.01E±0°.06, h48km±4km, h48km: pP-P, n257, σ1§19/264, mb5.0/83, MS3.7/21, 5C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.29**	**306**	P	**Pn**	**14 15 16.6**	**+0.7**
HNR						14 15 33.0	
HNR	**Honiara**	**1.29**	**306**	P	**Pn**	**14 15 16.2**	**+0.2**
624nm,0.3s,baz=178,slow=12,SNR=199							
HNR				S	**Sn**	**14 15 33.0**	**+0.8**
3μm,0.3s,baz=342,slow=20,SNR=29							
HNR				LR	LR	14 15 59.4	
comp=Z,1μm,18.7s,baz=106,slow=51							
HNR	**Honiara**	**1.29**	**306**	*i* P	**Pn**	**14 15 17.0**	**+1.0**
HNR	**Honiara**	**1.29**	**306**		**Pn**	**14 15 16.6**	**+0.7**
KRVT	**Keravat (AS076**	**10.66**	**303**	P	Pn	14 17 30.1	+5.6
1.1nm,0.3s,baz=153,slow=4.5,SNR=2.1							
KRVT				LR	LR	14 21 57.7	
comp=Z,305nm,20.3s,baz=133,slow=40							
DZM	**Mont Dzumac**	**12.91**	**157**	*e*Pn	**Pn**	**14 17 57.6**	**+2.3**
11nm,0.3s							
DZM				*e*Sn	**Sn**	**14 20 13.8**	**-3.8**
5.8nm,0.3s							
DZM				*e*LR	LR	14 21 01.4	
comp=Z,620nm,25.1s							
DZM	**Mont Dzumac**	**12.91**	**157**	P	**Pn**	**14 17 57.0**	**+1.7**
3.8nm,0.3s,baz=330,slow=9.9,SNR=115							
DZM				S	**Sn**	**14 20 14.8**	**-2.8**
0.4nm,0.3s,baz=307,slow=20,SNR=3.4							
DZM				LR	LR	14 22 24.5	
comp=Z,315nm,19.5s,baz=22,slow=35							
DZM	**Mont Dzumac**	**12.91**	**157**		**Pn**	**14 17 57.6**	**+2.3**
PMG	**Port Moresby**	**13.67**	**272**	P	**Pn**	**14 18 05.6**	**-0.1**
PMG	**Port Moresby**	**13.67**	**272**	P	**Pn**	**14 18 05.1**	**-0.6**
0.4nm,0.3s,baz=87,slow=12,SNR=3.1							
PMG	**Port Moresby**	**13.67**	**272**		**Pn**	**14 18 05.6**	**-0.1**
MANU	**Manus Island**	**15.79**	**300**	Pn	**Pn**	**14 18 33.2**	**-0.3**
TARA	**Tarawa**	**16.50**	**47**	Pn	**Pn**	**14 18 42.8**	**+0.2**
TARA				IAmb	IAmb	14 19 01.9	
comp=Z,179nm,1.1s							
PATS	**Pohnpei**	**17.13**	**351**	P	**P**	**14 18 52.0**	**+0.4**
PATS				IAmb	IAmb	14 19 15.9	
comp=Z,103nm,1.0s							
CTA	**Charters Tower**	**17.30**	**234**	P	**P**	**14 18 54.3**	**+0.9**
comp=Z,2.6nm,0.3s,baz=68,slow=16,SNR=21							
EIDS	**Eidsvold**	**17.79**	**211**	P	**P**	**14 19 00.1**	**+1.3**
COEN	**Coen**	**17.84**	**256**	P	**P**	**14 19 00.6**	**+1.3**
KWAJ	**Kwajalein Atol**	**19.98**	**19**	P	**P**	**14 19 21.7**	**-1.2**
KWAJ				pmax	pmax		
comp=Z,192nm,0.8s							
KWAJ	**Kwajalein Atol**	**19.98**	**19**	P	**P**	**14 19 21.6**	**-1.2**
JAY	**Jayapura**	**21.56**	**289**	P	**P**	**14 19 40.2**	**+0.2**
comp=Z,20nm,0.8s,baz=169,slow=6.8,SNR=6.4							
JAY	**Jayapura**	**21.56**	**289**	P	**P**	**14 19 39.9**	**-0.1**
ARMA	**Armidale**	**21.94**	**202**	P	**P**	**14 19 44.7**	**+0.7**
ARMA				IAmb	IAmb	14 19 51.3	
comp=Z,92nm,1.9s							
SMPI	**Sarmi**	**23.61**	**289**	P	**P**	**14 20 01.5**	**+0.4**
comp=Z,119nm,1.1s,comp=Z,2μm							
CAN	**Canberra**	**27.30**	**202**	P	**P**	**14 20 35.3**	**+0.7**
CAN				pmax	pmax		
comp=Z,85nm,1.7s							
CAN	**Canberra**	**27.30**	**202**	P	**P**	**14 20 35.3**	**+0.7**
CAN				IAmb	IAmb	14 21 25.5	
comp=Z,85nm,1.7s							
RAO	**Raoul Island**	**27.35**	**137**	LR	LR	14 28 56.2	
comp=Z,78nm,21.7s,baz=281,slow=31							
OUZ	**Omahuta**	**27.43**	**157**	P	**P**	**14 20 37.5**	**+1.9**
WRAB	**Tennant Creek**	**27.46**	**246**	*ce*P	**P**	**14 20 37.1**	**+0.9**
WRAB				pmax	pmax		
comp=Z,31nm,2.5s							
WRAB	**Tennant Creek**	**27.46**	**246**	P	**P**	**14 20 36.2**	**+0.1**
WB2	**Warramunga Arr**	**27.47**	**246**	P	**P**	**14 20 36.2**	**0.0**
WRA	**Warramunga Arr**	**27.48**	**246**	*i* P	**P**	**14 20 36.2**	**-0.1**
WRA				pmax	pmax		
comp=Z,3.0nm,0.5s							
WRA	**Warramunga Arr**	**27.48**	**246**	P	**P**	**14 20 36.4**	**+0.1**
comp=Z,3.0nm,0.5s,baz=75,slow=9.2,SNR=28							
WRA				PcP	**PcP**	**14 23 54.1**	**+0.1**
comp=Z,2.7nm,0.6s,baz=75,slow=3.1,SNR=7.6							
WRA				ScP	**ScP**	**14 27 30.1**	**-0.7**
comp=Z,1.0nm,1.0s,baz=72,slow=3.4,SNR=3.4							
WRA				LR	LR	14 31 54.7	
comp=Z,119nm,18.0s,baz=65,slow=37							
WRA	**Warramunga Arr**	**27.48**	**246**	P	**P**	**14 20 35.7**	**-0.5**
WRA					**PcP**	**14 23 53.8**	**-0.2**
STKA	**Stephens Creek**	**28.08**	**217**	P	**P**	**14 20 42.0**	**+0.5**
STKA				pmax	pmax		
comp=Z,8.0nm,1.7s							
STKA	**Stephens Creek**	**28.08**	**217**	P	**P**	**14 20 41.5**	**+0.1**
comp=Z,3.6nm,0.7s,baz=38,slow=15,SNR=7.0							
STKA				LR	LR	14 31 32.1	
comp=Z,173nm,20.2s,baz=27,slow=36							
STKA	**Stephens Creek**	**28.08**	**217**	P	**P**	**14 20 42.0**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	14 49 59.2	
baz=194,slow=76,SNR=47							
H11S3	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	14 50 06.0	
baz=194,slow=76,SNR=17							
H11S1	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	14 49 47.8	
baz=194,slow=76,SNR=14							
AS31	**Alice Springs**	**29.11**	**239**	P	**P**	**14 20 50.4**	**-0.5**
ASAR	**Alice Springs**	**29.11**	**239**	P	**P**	**14 20 50.5**	**-0.4**
comp=Z,2.6nm,0.7s,baz=63,slow=9.5,SNR=21							
ASAR				PcP	**PcP**	**14 23 57.6**	**-0.4**
comp=Z,1.3nm,0.9s,baz=59,slow=3.4,SNR=4.2							
ASAR				LR	LR	14 32 28.3	
comp=Z,391nm,18.3s,baz=82,slow=36							
ASAR	**Alice Springs**	**29.11**	**239**	P	**P**	**14 20 50.3**	**-0.6**
MTN	**Manton Dam**	**29.39**	**262**	P	**P**	**14 20 53.9**	**+0.6**
MTN				IAmb	IAmb	14 20 55.9	
comp=Z,71nm,1.4s							
H11N1	**WAKE ISLAND Hy**	**30.28**	**11**	T	T	14 51 52.5	
baz=193,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**30.29**	**11**	T	T	14 51 40.6	
baz=193,slow=76,SNR=26							
H11N2	**WAKE ISLAND Hy**	**30.30**	**11**	T	T	14 51 33.0	
baz=193,slow=76,SNR=30							
TOO	**Toolangi**	**30.64**	**205**	P	**P**	**14 21 05.1**	**+1.0**
TOO				pmax	pmax		
comp=Z,45nm,1.5s							
TOO	**Toolangi**	**30.64**	**205**	P	**P**	**14 21 05.1**	**+1.0**
TOO				IAmb	IAmb	14 21 31.8	
comp=Z,45nm,1.4s							
HIZ	**Hauiti**	**30.81**	**158**	P	**P**	**14 21 07.1**	**+1.5**
HIZ				IAmb	IAmb	14 21 46.6	
comp=Z,63nm,1.3s							
URZ	**Urewera**	**31.46**	**155**	P	**P**	**14 21 12.4**	**+1.1**
comp=Z,7.1nm,0.9s,baz=31,slow=5.9,SNR=3.3							
URZ				LR	LR	14 32 25.5	
comp=Z,79nm,18.9s,baz=328,slow=33							
URZ	**Urewera**	**31.46**	**155**	P	**P**	**14 21 12.4**	**+1.1**
URZ				IAmb	IAmb	14 21 50.3	
comp=Z,26nm,1.3s							
KNRA	**Kununurra**	**31.87**	**257**	P	**P**	**14 21 15.3**	**+0.1**
KNRA				IAmb	IAmb	14 21 16.5	
comp=Z,28nm,0.8s							
BKZ	**Black Stump Fm**	**31.99**	**157**	P	**P**	**14 21 16.7**	**+0.6**
BKZ				IAmb	IAmb	14 21 18.9	
comp=Z,15nm,0.7s							
BBOO	**Buckleboo**	**32.17**	**222**	P	**P**	**14 21 18.3**	**+0.6**
BBOO				IAmb	IAmb	14 21 19.2	
comp=Z,30nm,0.7s							
NNZ	**Nelson**	**32.77**	**163**	P	**P**	**14 21 24.5**	**+1.7**
TUWZ	**Tuamarina**	**33.13**	**162**	P	**P**	**14 21 27.1**	**+1.1**
THZ	**Tophouse**	**33.14**	**164**	P	**P**	**14 21 27.0**	**+0.9**
THZ				IAmb	IAmb	14 21 28.3	
comp=Z,34nm,1.1s							
BSWZ	**Blackbirch Sta**	**33.38**	**162**	P	**P**	**14 21 29.2**	**+1.1**
BHW	**Baring Head**	**33.41**	**161**	P	**P**	**14 21 28.7**	**+0.4**
MSWZ	**Moikau Station**	**33.54**	**160**	P	**P**	**14 21 29.8**	**+0.3**
PLWZ	**Palliser**	**33.68**	**161**	P	**P**	**14 21 30.9**	**+0.1**
KHZ	**Kahutara**	**33.92**	**163**	P	**P**	**14 21 33.2**	**+0.4**
LTZ	**Lake Taylor**	**33.92**	**165**	P	**P**	**14 21 33.1**	**+0.2**
OXZ	**Oxford**	**34.38**	**166**	P	**P**	**14 21 37.3**	**+0.5**
RPZ	**Rata Peaks**	**34.52**	**167**	P	**P**	**14 21 38.8**	**+0.8**
comp=Z,9.5nm,0.8s,baz=28,slow=5.3,SNR=3.8							
RPZ				LR	LR	14 34 10.6	
comp=Z,72nm,19.3s,baz=339,slow=33							
RPZ	**Rata Peaks**	**34.52**	**167**	P	**P**	**14 21 38.4**	**+0.4**
MQZ	**McQueen's Vall**	**34.89**	**165**	P	**P**	**14 21 41.8**	**+0.7**
MQZ				IAmb	IAmb	14 22 23.6	
comp=Z,52nm,1.4s							
LBZ	**Lake Benmore**	**34.98**	**168**	P	**P**	**14 21 41.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**35.13**	**253**	P	**P**	**14 21 43.2**	**-0.4**
SANI	**Sanana**	**35.72**	**281**	P	**P**	**14 21 48.4**	**-0.3**
SOEI	**Soe**	**36.18**	**267**	P	**P**	**14 21 52.9**	**+0.2**
SOEI				IAmb	IAmb	14 22 36.4	
comp=Z,51nm,1.4s							
BATI	**Baumata**	**36.74**	**267**	P	**P**	**14 21 57.5**	**0.0**
KDI	**Kendari**	**38.57**	**276**	P	**P**	**14 22 13.9**	**+1.0**
BNSI	**Bone**	**40.95**	**275**	P	**P**	**14 22 32.3**	**-0.4**
PSA00	**Pilbara Seismi**	**41.05**	**249**	P	**P**	**14 22 33.6**	**+0.1**
PSA00				IAmb	IAmb	14 22 34.4	
comp=Z,54nm,1.4s							
PSA00	**Pilbara Seismi**	**41.05**	**249**	P	**P**	**14 22 32.5**	**-1.0**
PSA00				IAmb	IAmb	14 22 33.8	
comp=Z,22nm,1.4s							
KAPI	**Kappang**	**41.19**	**274**	P	**P**	**14 22 34.8**	**+0.1**
KAPI				pmax	pmax		
comp=Z,55nm,1.3s							
KAPI	**Kappang**	**41.19**	**274**	P	**P**	**14 22 34.8**	**+0.1**
KAPI				IAmb	IAmb	14 22 36.7	
comp=Z,55nm,1.3s							
PLAI	**Plampang**	**42.64**	**268**	P	**P**	**14 22 44.7**	**-1.8**
MORW	**Morawa**	**46.00**	**239**	P	**P**	**14 23 13.2**	**0.0**
MORW				IAmb	IAmb	14 23 15.2	
comp=Z,47nm,1.6s							
NWAO	**Narrogin (SRO)**	**46.14**	**234**	P	**P**	**14 23 14.6**	**+0.4**
NWAO				pmax	pmax		
comp=Z,114nm,1.9s							
NWAO	**Narrogin (SRO)**	**46.14**	**234**	P	**P**	**14 23 14.2**	**0.0**
NWAO	**Narrogin (SRO)**	**46.14**	**234**	P	**P**	**14 23 14.6**	**+0.4**
NWAO				IAmb	IAmb	14 23 32.5	
comp=Z,114nm,1.9s							
JAGI	**Jajag, Banyuwa**	**46.24**	**268**	P	**P**	**14 23 14.2**	**-1.1**
comp=Z,88nm,0.9s							
JAGI	**Jajag, Banyuwa**	**46.24**	**268**	P	**P**	**14 23 13.6**	**-1.7**
KKM	**Kota Kinabalu**	**47.44**	**288**	P	**P**	**14 23 24.1**	**-0.7**
KKM				IAmb	IAmb	14 23 25.5	
comp=Z,18nm,1.0s							
JHJ2	**Mitsune**	**47.57**	**336**	P	**P**	**14 23 24.8**	**-0.4**
PPT	**Papeete**	**48.42**	**104**	LR	LR	14 39 13.1	
comp=Z,67nm,22.0s,baz=276,slow=30							
PWJI	**Pagerwojo**	**48.60**	**268**	P	**P**	**14 23 32.2**	**-1.4**
comp=Z,50nm,0.7s							
TBI	**Tubuai**	**48.96**	**112**	*e*LR	LR	14 37 51.3	
comp=Z,153nm,37.2s							
WOJI	**Wonogiri, Jawa**	**49.49**	**268**	P	**P**	**14 23 38.7**	**-1.7**
UGM	**Wanagama**	**49.87**	**268**	P	**P**	**14 23 43.1**	**-0.3**
SMRI	**Semarang**	**50.06**	**269**	P	**P**	**14 23 43.6**	**-1.2**
comp=Z,112nm,0.8s							
SMRI	**Semarang**	**50.06**	**269**	P	**P**	**14 23 45.1**	**+0.3**
INU	**Inuyama**	**50.66**	**335**	P	**P**	**14 23 48.6**	**-0.2**
INU				IAmb	IAmb	14 24 47.9	
comp=Z,39nm,1.8s							
MJAR	**Matsushiro Arr**	**51.20**	**336**	P	**P**	**14 23 52.0**	**-1.0**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MJAR	**Matsushiro Arr**	**51.20**	**336**	P	**P**	**14 23 52.4**	**-0.6**
comp=Z,4.3nm,0.8s,baz=163,slow=8.1,SNR=14							
MJAR				LR	LR	14 45 12.3	
comp=Z,11nm,20.1s,baz=250,slow=36							
MJAR	**Matsushiro Arr**	**51.20**	**336**	P	**P**	**14 23 52.0**	**-1.0**
MAJO	**Matsushiro**	**51.20**	**336**	*eP*	**P**	**14 23 52.8**	**-0.2**
MAJO				pmax	pmax		
comp=Z,4.0nm,0.9s							
MAJO	**Matsushiro**	**51.20**	**336**	P	**P**	**14 23 52.2**	**-0.8**
MAT	**Matsushiro**	**51.20**	**336**	P	**P**	**14 23 51.9**	**-1.1**
MJB9	**Matsu-Tunnel**	**51.21**	**336**	P	**P**	**14 23 52.1**	**-0.9**
KPJI	**Karang Pucung**	**51.51**	**269**	P	**P**	**14 23 54.3**	**-1.4**
comp=Z,62nm,0.8s							
JNU	**Nakatsue**	**51.77**	**328**	P	**P**	**14 23 57.2**	**-0.1**
comp=Z,9.2nm,0.8s,baz=88,slow=1.4,SNR=4.8							
JNU	**Nakatsue**	**51.77**	**328**	P	**P**	**14 23 56.9**	**-0.4**
KSM	**Kuching**	**51.77**	**280**	P	**P**	**14 23 57.6**	**-0.1**
KSM				IAmb	IAmb	14 23 58.3	
comp=Z,13nm,0.9s							
CMJI	**Cimerak**	**51.93**	**268**	P	**P**	**14 23 57.4**	**-1.4**
comp=Z,79nm,0.8s							
MWH	**Moku'aweowe**	**51.93**	**55**	P	**P**	**14 23 57.8**	**-1.6**
CISI	**Cisompet, Garu**	**52.58**	**268**	P	**P**	**14 24 02.3**	**-1.4**
CISI	**Cisompet, Garu**	**52.58**	**268**	P	**P**	**14 24 02.3**	**-1.4**
LEM	**Lembang**	**52.87**	**269**	P	**P**	**14 24 06.1**	**+0.1**
comp=Z,695nm,0.8s							
XMIS	**Christmas Isla**	**54.40**	**264**	P	**P**	**14 24 17.2**	**+0.2**
CGJI	**Cibinong**	**54.79**	**269**	P	**P**	**14 24 18.6**	**-1.2**
KASI	**Kota Agung**	**56.12**	**270**	P	**P**	**14 24 28.0**	**-1.4**
comp=Z,47nm,1.3s							
PMBI	**Palembang**	**56.27**	**273**	P	**P**	**14 24 27.9**	**-2.6**
JKA	**Kamikawa-asahi**	**56.58**	**344**	P	**P**	**14 24 33.0**	**+0.9**
ASAJ	**Asahikawa**	**56.58**	**344**	P	**P**	**14 24 33.0**	**+0.9**
ASAJ	**Asahikawa**	**56.58**	**344**	P	**P**	**14 24 33.0**	**+0.9**
comp=Z,7.1nm,0.5s,baz=207,slow=5.9,SNR=15							
KSRS	**Koa Array**	**56.64**	**329**	P	**P**	**14 24 33.1**	**+0.5**
comp=Z,25nm,1.4s,baz=148,slow=8.0,SNR=6.2							
KSRS				LR	LR	14 46 58.4	
comp=Z,42nm,20.8s,baz=150,slow=34							
KSAR	**Wonju Array Be**	**56.65**	**329**	P	**P**	**14 24 33.3**	**+0.6**
KSAR	**Wonju Array Be**	**56.65**	**329**	P	**P**	**14 24 33.3**	**+0.6**
NJ2	**Nanjing**	**58.21**	**318**	*eP*	**P**	**14 24 44.9**	**+1.1**
NJ2				pmax	pmax		
comp=Z,15nm,0.5s							
YSS	**Yuzh-Sakhalins**	**59.18**	**346**	P	**P**	**14 24 51.1**	**+0.9**
YSS				pmax	pmax		
comp=Z,23nm,1.3s							
YSS	**Yuzh-Sakhalins**	**59.18**	**346**	P	**P**	**14 24 51.1**	**+0.9**
YSS				IAmb	IAmb	14 26 21.3	
comp=Z,23nm,1.3s							
USA0B	**Ussuriysk Arra**	**60.20**	**336**	P	**P**	**14 24 57.9**	**+0.6**
USA0B				pmax	pmax		
comp=Z,21nm,1.1s							
USA0B	**Ussuriysk Arra**	**60.20**	**336**	P	**P**	**14 24 57.9**	**+0.6**
USA0B				IAmb	IAmb	14 24 59.1	
comp=Z,21nm,1.1s							
USRK	**Ussuriysk Ar.**	**60.20**	**336**	P	**P**	**14 24 57.9**	**+0.6**
comp=Z,11nm,0.9s,baz=148,slow=6.4,SNR=18							
MDJ	**Mudanjiang**	**61.52**	**335**	P	**P**	**14 25 06.8**	**+0.5**
MDJ				pP	pP	14 25 19.8	+0.6
MDJ				pmax	pmax		
comp=Z,14nm,1.1s							
MDJ				pmax	pmax		
comp=Z,210nm,3.6s							
MDJ	**Mudanjiang**	**61.52**	**335**	P	**P**	**14 25 06.5**	**+0.2**
PET	**Petropavlovsk**	**63.00**	**358**	*i* P	**P**	**14 25 15.4**	**-0.6**
PET				pmax	pmax		
comp=Z,22nm,1.4s							
PETK	**Petropavlovsk-**	**63.11**	**358**	P	**P**	**14 25 17.6**	**+0.8**
comp=Z,2.1nm,0.6s,baz=166,slow=3.7,SNR=14							
PETK				LR	LR	14 48 24.3	
comp=Z,91nm,22.0s,baz=239,slow=32							
KLR	**Kul'dur**	**64.52**	**339**	*i* P	**P**	**14 25 26.1**	**0.0**
KLR				pmax	pmax		
comp=Z,9.0nm,1.0s							
CASY	**Casey**	**65.53**	**200**	P	**P**	**14 25 30.8**	**-1.7**
CASY				pP	**pP**	**14 25 44.7**	**-0.4**
XAN	**Xi'an**	**66.15**	**314**	P	P	14 25 52.6	+16
XAN				pmax	pmax		
comp=Z,6.0nm,0.8s							
XAN				pmax	pmax		
comp=Z,110nm,3.8s							
CMAR	**Chiang Mai Arr**	**67.52**	**295**	*ce*P	**P**	**14 25 46.7**	**+0.7**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**67.52**	**295**	P	**P**	**14 25 46.6**	**+0.6**
comp=Z,2.7nm,0.7s,baz=121,slow=5.0,SNR=15							
CMAR				LR	LR	14 56 14.0	
comp=Z,16nm,19.3s,baz=40,slow=37							
CMAR	**Chiang Mai Arr**	**67.52**	**295**	P	**P**	**14 25 45.0**	**-1.0**
CMAR				pP	**pP**	**14 25 57.8**	**-1.5**
HHC	**Hu-ho-hao-te**	**68.22**	**322**	*eP*	**P**	**14 25 52.4**	**+2.2**
HHC				pmax	pmax		
comp=Z,4.0nm,1.3s							
CD2	**Chengdu**	**68.42**	**309**	P	**P**	**14 25 51.3**	**-0.2**
CD2				pmax	pmax		
comp=Z,30nm,0.5s							
ZEA	**Zeya**	**69.83**	**339**	*eP*	**P**	**14 26 00.5**	**+0.8**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
LZH	**Lanzhou**	**70.78**	**314**	*eP*	**P**	**14 26 06.1**	**0.0**
LZH				pP	pP	14 26 20.3	+0.7
LZH				sP	sP	14 26 25.6	+0.6
LZH				*e*PP	**PP**	**14 28 45.5**	**+1.9**
LZH				pmax	pmax		
comp=Z,18nm,1.3s							
LZH				pmax	pmax		
comp=Z,85nm,6.9s							
LZH				LR	LR		
comp=Z,310nm,15.6s							
LZH				LR	LR		
comp=Z,320nm,15.4s							
LZH				LR	LR		
comp=Z,440nm,18.3s							
SEY	**Seymchan**	**73.21**	**356**	P	**P**	**14 26 20.4**	**+0.6**
comp=Z,2.3nm,0.7s,baz=166,slow=6.4,SNR=5.8							
ULN	**Ulaanbaatar**	**74.93**	**326**	*ce*P	**P**	**14 26 31.1**	**+0.7**
ULN				pmax	pmax		
comp=Z,8.0nm,1.7s							
GTA	**Gaotai**	**75.15**	**315**	*eP*	**P**	**14 26 34.4**	**+2.5**
GTA				pP	PcP	14 26 47.6	+2.3
GTA				sP	sP	14 26 52.3	+1.4
GTA				pmax	pmax		
comp=Z,2.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,98nm,4.9s							
GTA				LR	LR		
comp=Z,170nm,17.2s							
GTA				LR	LR		
comp=Z,140nm,16.8s							
SONM	**Songino Array**	**75.28**	**325**	P	**P**	**14 26 32.1**	**-0.3**
SONM				pmax	pmax		
comp=Z,5.0nm,0.7s							
SONM	**Songino Array**	**75.28**	**325**	P	**P**	**14 26 33.1**	**+0.7**
comp=Z,1.7nm,0.6s,baz=134,slow=5.3,SNR=11							
SONM	**Songino Array**	**75.28**	**325**	P	**P**	**14 26 32.1**	**-0.3**
YAK	**Yakutsk**	**76.03**	**345**	*eP*	**P**	**14 26 36.3**	**+0.1**
YAK				*e*PP	**PcP**	**14 26 49.2**	**+0.9**
YAK				*e*S	**S**	**14 36 15.1**	**-0.6**
YAK				*e*SS	**SS**	**14 41 05.8**	**-3.9**
YAK				pmax	pmax		
comp=Z,19nm,0.9s							
YAK				pmax	pmax		
comp=N,5.0nm,0.9s							
YAK				smax	smax		
comp=N,37nm,2.4s							
YAK				smax	smax		
comp=E,62nm,2.7s							
YAK	**Yakutsk**	**76.03**	**345**	P	**P**	**14 26 35.9**	**-0.3**
YAK				IAmb	IAmb	14 26 37.3	
comp=Z,20nm,0.7s							
KDAK	**Kodiak Island**	**77.58**	**23**	P	**P**	**14 26 46.1**	**+1.1**
KDAK				pmax	pmax		
comp=Z,56nm,1.5s							
KDAK	**Kodiak Island**	**77.58**	**23**	P	**P**	**14 26 46.1**	**+1.

TIXI	Tiksi	84.42	350	P	P	14 27 20.3	-0.9
TIXI					pP	14 27 34.4	-0.5
DOT	Dot Lake	84.54	22	P	P	14 27 22.7	+0.7
SCRK	Sand Creek	84.76	21	P	P	14 27 23.9	+0.6
BCAR	Beaver Creek A	85.05	23	P	P	14 27 25.6	+0.9
TOLK	Toolik Lake Re	85.93	16	P	P	14 27 30.2	+1.3
	baz=228						
O02D	Mt. Diablo Mer	86.16	48	P	P	14 27 33.0	+2.3
	baz=253						
EGAK	Eagle	86.23	21	P	P	14 27 31.4	+1.0
EGAK				IAmb	IAmb	14 27 48.5	
	comp=Z,20nm,1.4s						
K02D	Willamette Mer	86.27	46	P	P	14 27 33.0	+1.8
	baz=253						
N02D	Trinity Center	86.45	47	P	P	14 27 33.9	+1.8
	baz=253						
M02C	Callahan	86.47	47	P	P	14 27 34.2	+2.0
	baz=253						
BMAR	Burnt Mountain	86.62	18	P	P	14 27 33.6	+1.3
YBH	Yreka Blue Hor	86.67	47	P	P	14 27 34.8	+1.6
YBH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
YBH	Yreka Blue Hor	86.67	47	P	P	14 27 34.8	+1.6
	baz=249,slow=5.5						
HUMO	Hull Mountain	86.74	46	P	P	14 27 34.7	+1.3
HUMO				IAmb	IAmb	14 27 53.3	
	comp=Z,27nm,2.0s						
AFDM	Forest Hills D	87.17	50	P	P	14 27 35.1	-0.5
DGZ	Jazzator, Alta	87.31	321	*i* P	P	14 27 34.5	-1.7
J04D	Umpqua Nationa	87.52	45	P	P	14 27 39.3	+1.9
	baz=254						
DLBC	Dease Lake	87.92	29	P	P	14 27 37.9	-0.9
	comp=Z,8.2nm,0.9s,baz=273,slow=2.4,SNR=3.8						
DLBC	Dease Lake	87.92	29	IAmb	IAmb	14 29 57.1	
	comp=Z,15nm,1.0s						
J05D	Fort Rock, OR	88.15	46	P	P	14 27 42.4	+2.1
	baz=254						
EPYK	Eagle Plains	88.64	21	P	P	14 27 43.6	+1.6
	baz=241						
CWC	Cottonwood Cre	88.77	53	P	P	14 27 45.3	+1.8
	baz=256						
LRMC	Laurel Mtn Rad	88.86	54	P	P	14 27 45.7	+1.9
	baz=257						
NVAR	Mina Array Bea	89.07	51	P	P	14 27 46.2	+1.4
	comp=Z,1.7nm,0.8s,baz=239,slow=6.0,SNR=12						
NVAR				LR	LR	15 03 45.1	
	comp=Z,41nm,18.1s,baz=286,slow=33						
NVAR	Mina Array Bea	89.07	51	P	P	14 27 45.8	+0.9
MPMC	Manual Prospec	89.15	53	P	P	14 27 47.0	+1.7
	baz=257						
NV11	Mina Array Sit	89.18	51	P	P	14 27 45.9	+0.5
NV11				IAmb	IAmb	14 27 48.5	
	comp=Z,12nm,1.4s						
MONP2	Monument Peak	89.31	57	P	P	14 27 48.0	+1.9
	baz=257						
KVN	Kaiserville	89.37	50	P	P	14 27 47.0	+0.7
KVN				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KVN	Kaiserville	89.37	50	P	P	14 27 47.0	+0.7
KVN				IAmb	IAmb	14 27 48.8	
	comp=Z,10nm,1.5s						
GRAC	Grapevine Rang	89.46	52	P	P	14 27 48.2	+1.7
	baz=257						
FURC	Furnace Creek,	89.73	53	P	P	14 27 49.7	+2.0
	baz=257						
MK31	Makanchi Array	89.74	318	P	P	14 27 47.2	-0.4
MK31				*PP	pP	14 27 59.9	-1.1
MK31	Makanchi Array	89.74	318	P	P	14 27 47.2	-0.4
MK31					pP	14 27 59.9	-1.1
MKAR	Makanchi Array	89.74	318	P	P	14 27 46.3	-1.3
MKAR				*PP	pP	14 27 59.9	-1.1
MKAR	Makanchi Array	89.74	318	P	P	14 27 47.9	+0.4
	comp=Z,0.7nm,0.6s,baz=108,slow=4.8,SNR=7.9						
MKAR	Makanchi Array	89.74	318	P	P	14 27 46.4	-1.3
MKAR				pP	pP	14 27 59.9	-1.1
WVOR	Wild Horse Val	89.78	47	P	P	14 27 48.2	+0.2
WVOR				pmax	pmax		
	comp=Z,12nm,1.4s						
WVOR	Wild Horse Val	89.78	47	P	P	14 27 48.2	+0.2
WVOR				IAmb	IAmb	14 27 50.8	
	comp=Z,12nm,1.4s						
HEC	Hector,Ludlow	89.80	55	P	P	14 27 49.8	+1.6
	baz=258						
BELC	Belle Mtn. Jos	89.89	56	P	P	14 27 50.2	+1.5
	baz=258						
ZALV	Zalesovo Beam	90.17	325	P	P	14 27 50.7	+1.3
	comp=Z,0.4nm,0.4s,baz=97,slow=4.5,SNR=3.0						
TUQ	Turquoise Moun	90.25	54	P	P	14 27 51.9	+1.5
	baz=258						
TPNV	Topopah Spring	90.32	53	P	P	14 27 52.4	+1.7
	baz=258						
TPNV	Topopah Spring	90.32	53	P	P	14 27 49.7	-1.0
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.5s						
TPNV	Topopah Spring	90.32	53	P	P	14 27 49.7	-1.0
TPNV				IAmb	IAmb	14 28 05.7	
	comp=Z,10nm,1.5s						
GMRC	Granite Mounta	90.33	55	P	P	14 27 52.1	+1.3
	baz=258						
IRM	Iron Mountain	90.62	56	P	P	14 27 53.8	+1.8
	baz=258						
INK	Inuvik	90.64	20	P	P	14 27 51.7	+0.5
INK				pmax	pmax		
	comp=Z,10.0nm,1.5s						
INK	Inuvik	90.64	20	P	P	14 27 51.6	+0.5
	comp=Z,0.6nm,0.7s,baz=268,slow=5.5,SNR=3.8						
INK	Inuvik	90.64	20	IAmb	IAmb	14 28 05.0	
	comp=Z,10.0nm,1.4s						
SHPR	Sheep Range	91.08	53	P	P	14 27 54.2	-0.1
SHPR				IAmb	IAmb	14 27 56.9	
	comp=Z,5.5nm,1.2s						
R11A	Troy Canyon, C	91.13	51	P	P	14 27 55.1	+0.7
	baz=258						
R11A	Troy Canyon, C	91.13	51	P	P	14 27 54.2	-0.3
SYO	Syowa Base	91.20	198⇑	*e*P	P	14 27 53.0	-0.9
F10A	Beach Ranch, E	91.58	44	P	P	14 27 56.6	+0.3
F10A				IAmb	IAmb	14 27 58.8	
	comp=Z,4.8nm,0.8s						
ELK	Elko	91.89	49	P	P	14 27 58.4	+0.4
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	Elko	91.89	49	P	P	14 27 58.4	+0.4
NEW	Newport	92.16	41	P	P	14 28 00.1	+1.3
	baz=257						
KSH	Kashi	92.61	310	P	P	14 28 01.9	+0.7
KSH				pP	pP	14 28 14.1	-1.1
KSH				PP	PP	14 31 46.4	+3.0
KSH				S	S	14 38 58.3	-4.1
KSH				pmax	pmax		
	comp=Z,350nm,8.2s						
KSH				LR	LR		
	comp=Z,410nm,10.6s						
KSH				LR	LR		
	comp=Z,330nm,10.9s						
KSH				LR	LR		
	comp=Z,380nm,9.2s						
NRIK	Noril'sk	93.72	340	LR	LR	15 09 41.2	
	comp=Z,79nm,20.9s,baz=48,slow=35						
C36M	Paulatuk	94.22	20	P	P	14 28 08.6	+0.9
	baz=252						
BOZ	Bozeman (W)	95.36	45	P	P	14 28 15.3	+1.6
	baz=261						
HRY	Holter Researc	95.39	44	P	P	14 28 14.6	+0.8
PDAR	Pinedale Array	96.42	48	P	P	14 28 20.7	+2.0
	comp=Z,0.5nm,0.8s,baz=247,slow=3.1,SNR=3.7						
PDAR				LR	LR	15 04 32.8	
	comp=Z,27nm,20.6s,baz=8.5,slow=31						
SNAA	Sanae	97.61	185	P	P	14 28 22.8	-0.6
ANMO	Albuquerque	97.82	56	*i* P	P	14 28 24.1	-1.1
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRVK	Borovoye	98.50	322	*i* P	P	14 28 26.4	-1.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNA3	Neumayer Olymp	98.50	183	Pdiff	P	14 28 27.4	+0.1
VNA2	Neumayer--Watz	98.68	184	Pdiff	P	14 28 27.9	-0.3
	baz=137,slow=2.6						
TXAR	Lajitas Array	99.52	62	LR	LR	15 05 36.5	
	comp=Z,47nm,21.1s,baz=0.0,slow=30						
ARCES	ARCESS Array B	114.30	344	PKP	PKPdf	14 33 27.9	-0.3
	comp=Z,5.5nm,1.1s,baz=306,slow=2.0,SNR=4.2						
OBN	Obninsk	117.63	328	*e*PKIKP	PKPdf	14 33 33.8	-1.1
OBN				*e*		14 34 43.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	119.23	337	PKIKP	PKPdf	14 33 37.0	-0.8
FINES	FINESS Array B	119.23	337	PKP	PKPdf	14 33 37.0	-0.8
	comp=Z,3.0nm,1.0s,baz=64,slow=3.2,SNR=2.7						
BOSA	Boshof	122.43	227	PKP	PKPdf	14 33 44.4	-0.8
	comp=Z,1.7nm,0.5s,baz=217,slow=5.1,SNR=2.1						
VYHS	Vyhne	130.43	328	*e*P	Pdif	14 30 52.6	+2.9
VYHS	Vyhne	130.43	328	*e*PDIFF	Pdif	14 30 52.6	+2.9
MODS	Modra-Piesok	131.32	328	*e*P	Pdif	14 30 55.0	+1.3
MODS	Modra-Piesok	131.32	328	*e*PDIFF	Pdif	14 30 55.0	+1.3
GERES	GERESS Array B	132.79	331	PKP	PKPdf	14 34 04.7	+0.4
	comp=Z,0.2nm,0.4s,baz=56,slow=7.2,SNR=1.8						
ESDC	Sonseca Array	147.74	338	PKPbc	PKPbc	14 34 33.5	-0.7
	comp=Z,0.2nm,0.4s,baz=18,slow=2.3,SNR=1.8						
TORD	Torodi Ar. Bea	159.53	280	PKP	PKPdf	14 34 48.0	-0.8
	comp=Z,0.6nm,0.8s,baz=51,slow=1.9,SNR=3.5						
TORD				PKPab	PKPab	14 35 26.9	-0.1
	comp=Z,1.2nm,0.8s,baz=79,slow=3.8,SNR=5.6						

ISCJB ***24*** *14:29:10.4±0.7,23°.91N±0°.02×122°.43E±0°.02, h6km±5km, Error ellipse: s-maj=3.5km s-min=3.0km az=155.7*
JMA ***24*** *14:29:11.8±0.2,23°.96N×122°.41E, h20km±4km, M2.0*
TAP ***24*** *14:29:12.0,23°.97N×122°.43E, h27km, ML2.7, D*

ISC 24 14:29:11.5±1.4, 23°.94N±0°.03×122°.42E±0°.02, h21km±4km, n47, σ0°63/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.67	337	*e*P	Pb	14 29 24.3	-0.2
	baz=328						
EOS1				S	Sn	14 29 34.4	-1.0
	baz=328						
JYNG	Yonagunijimaku	0.70	43	P	Pb	14 29 25.0	-0.1
JYNG				S	Sb	14 29 33.4	-0.9
YOJ	Yonaguni jima	0.75	46	P	Pb	14 29 26.0	+0.1
	baz=55						
YOJ				*e*S	Sb	14 29 35.0	-0.7
	baz=55						
YOJ	Yonaguni jima	0.75	46	P	Pb	14 29 25.9	+0.1
YOJ				*e*S	Sb	14 29 34.9	-0.8
NANB	Nanao	0.78	309	*e*P	Pb	14 29 26.5	+0.1
	baz=306						
NANB				*e*S	Sn	14 29 37.8	-0.6
	baz=306						
ENA	Nanau	0.79	309	*e*P	Pb	14 29 26.2	-0.2
	baz=306						
ENA				*e*S	Sb	14 29 36.8	0.0
	baz=306						
NACB	Ninganchiao	0.79	288	*e*P	Pb	14 29 26.8	+0.3
	baz=271						
NACB				*e*S	Sn	14 29 38.1	-0.4
	baz=271						
TWC	Suao	0.85	322	P	Pb	14 29 26.9	-0.6
	baz=320						
TWC				*e*S	Sb	14 29 38.2	-0.2
	baz=320						
ETLH	Xiulin Townshi	0.90	288	*e*P	Pb	14 29 28.1	-0.3
	baz=272						
ETLH				*e*S	Sn	14 29 41.0	-0.4
	baz=272						
HGSD	Ruisui	1.01	244	*e*P	Pn	14 29 30.0	-0.4
	baz=242						
HGSD				*e*S	Sb	14 29 43.3	+0.1
	baz=242						
TWE	Neicheng	1.04	319	P	Pb	14 29 31.1	+0.3
	baz=317						
TWE				*e*S	Sn	14 29 44.1	-0.6
	baz=317						
ENTT	Nioudou	1.05	312	P	Pb	14 29 31.2	+0.3
	baz=295						
ENTT				*e*S	Sn	14 29 45.2	+0.2
	baz=295						
NDT	Datong Townshi	1.06	309	*e*P	Pb	14 29 31.2	+0.1
	baz=306						
NDT				*e*S	Sn	14 29 45.8	+0.5
	baz=306						
NNSB	Datong	1.06	298	*e*P	Pn	14 29 31.2	-0.1
	baz=283						
NNSB				*e*S	Sn	14 29 45.6	+0.1
	baz=283						
NNS	Nan Shan	1.08	298	P	Pn	14 29 31.5	0.0
	baz=283						
NNS				*e*S	Sn	14 29 45.7	-0.2
	baz=283						
SLBB	Yuanshan	1.08	319	*e*P	Pn	14 29 30.6	-0.8
	baz=317						
EHY	Hungye	1.09	247	*e*S	Sb	14 29 45.4	-0.1
	baz=245						
YULB	Yu-li	1.16	242	*e*P	Pn	14 29 32.3	-0.2
	baz=240						
YULB				*e*S	Sn	14 29 47.4	-0.3
	baz=240						
TIPB	Shuangxi	1.17	333	*e*P	Pb	14 29 32.7	-0.2
	baz=331						
TIPB				*e*S	Sb	14 29 47.4	-0.2
	baz=331						
TWF1	Yuli	1.18	241	P	Pn	14 29 32.7	-0.1
	baz=239						
TWF1				S	Sn	14 29 48.1	-0.1
	baz=239						
TDCB	Techi	1.19	286	*e*P	Pn	14 29 33.4	+0.3
	baz=271						
TDCB				*e*S	Sn	14 29 48.0	-0.7
	baz=271						
YHNB	Yeheng	1.20	308	*e*P	Pn	14 29 33.3	+0.2
	baz=305						
NSK	Sanguang	1.22	308	P	Pn	14 29 33.2	-0.1
	baz=305						
NSK				*e*S	Sb	14 29 49.7	+0.6
	baz=305						
IRIF	Iriomote-Funau	1.26	71	P	Pb	14 29 34.6	0.0
IRIF				S	Sb	14 29 51.4	+1.0
FULB	Fuli	1.27	235	*e*P	Pn	14 29 33.7	-0.2
	baz=221						
FULB				*e*S	Sn	14 29 50.8	+0.4
	baz=221						
TWA	Mucha	1.29	324	*e*P	Pb	14 29 36.1	+1.1
	baz=322						
TWA				*e*S	Sb	14 29 52.6	+1.4
	baz=322						
TATO	Taipei	1.34	321	*e*P	Pb	14 29 35.9	0.0
	baz=303						
TATO				*e*S	Sb	14 29 53.7	+1.2
	baz=303						
YUS	Yu-Shan	1.42	252	*e*S	Sn	14 29 54.0	-0.6
	baz=250						
ELDTW	Lidau	1.48	240	*e*P	Pn	14 29 36.1	-0.9
	baz=238						
ELDTW				*e*S	Sn	14 29 55.1	-0.8
	baz=238						
JKRS	Kuro-shima	1.48	78	P	Pb	14 29 38.9	+0.6
JKRS				S	Sb	14 29 57.8	+1.0
ALS	Alishan	1.54	254	*e*P	Pn	14 29 38.6	+0.7
	baz=252						
ALS				*e*S	Sn	14 29 58.3	+0.9
	baz=252						
CHN5	Tsauling	1.63	258	*e*P	Pn	14 29 40.2	+1.2
	baz=246						
CHN5				S	Sb	14 30 01.8	+0.8
	baz=246						
JIJ	Ishigaki jima	1.63	75	P	Pn	14 29 39.3	+0.3
JIJ				*e*S	Sb	14 30 00.3	-0.7
TWGBT	Beinan	1.66	228	S	Sn	14 29 59.8	-0.2
	baz=240						
TWG	Pinlang	1.66	228	*e*P	Pn	14 29 38.9	-0.5
	baz=240						
TWG				*e*S	Sn	14 29 59.6	-0.5
	baz=240						
STYT	Tauyuan	1.71	244	*e*S	Sn	14 30 02.7	+1.4
	baz=233						
WGK	Gukeng	1.72	262	*e*P	Pb	14 29 41.7	-0.6
	baz=260						
TPUB	Ta-pu	1.76	249	*e*P	Pb	14 29 42.7	-0.3
	baz=247						
TPUB				*e*S	Sb	14 30 05.0	+0.3
	baz=247						
CHN4	Tsaushan	1.77	251	*e*P	Pb	14 29 42.6	-0.7
	baz=249						
CHN4				S	Sb	14 30 05.2	+0.2
	baz=249						
WTP	Ta-pu	1.79	248	*e*P	Pn	14 29 42.7	+1.5
	baz=236						
WTP				*e*S	Sb	14 30 05.7	0.0
	baz=236						
SLGT	Liugui	1.88	240	*e*P	Pn	14 29 44.0	+1.6
	baz=230						
RLNB	Erlin	1.88	269	*e*S	Sb	14 30 08.7	+0.4
	baz=281						
SGST	Jiashian	1.89	244	*e*S	Sb	14 30 08.0	-0.4
	baz=233						
CHN1	Nanshi	1.89	247	*e*P	Pb	14 29 44.8	-0.5
	baz=245						
CHN1				*e*S	Sb	14 30 08.7	+0.2
	baz=245						
TWK	Hsinying	1.89	250	*e*P	Pb	14 29 44.7	-0.7
	baz=248						
TWK				*e*S	Sb	14 30 09.2	+0.6
	baz=248						
SNST	Tainan City	1.90	248	*e*P	Pb	14 29 45.4	0.0
	baz=247						
SNST				*e*S	Sb	14 30 08.1	-0.7
	baz=247						
CHN8	Yiju	2.11	254	*e*S	Sb	14 30 14.2	-0.4
	baz=252						

JMA ***24*** *14:34:38.9±0.4, 45°.93N×141°.79E, h17km±3km, M2.5*
SKHL ***24*** *14:34:38.1±0.6, 45°.86N×141°.85E, h10km, mb3.7/4*

ISC 24 14:34:38.6±1.5, 45°.85N±0°.04×141°.76E±0°.07, h4km±14km, n6, σ0°71/12, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.54	170	P	Pb	14 34 50.8	+0.2
JWK2				*e*S	Sb	14 34 58.9	+0.3
JRBN	Rebuntou	0.65	229	P	Pb	14 34 51.9	-0.5
JRBN				*e*S	Sb	14 35 01.1	-0.6
JRR	Rishiri	0.78	204	P	Pb	14 34 54.8	+0.2
JRR				*e*S	Sb	14 35 06.9	+1.5
JSE	Soyaes	1.06	146	P	Pg	14 34 58.5	-0.4
JSE				*e*S	Sg	14 35 12.6	0.0
KHLM	Kholmsk	1.23	9	*i* Pg	Pg	14 35 02.5	+0.4
KHLM				AMB	AMB	14 35 03.9	
	70nm,0.2s						
KHLM				*e*Sg	Sn	14 35 19.7	+0.2
KHLM				A	A	14 35 22.2	
	440nm,0.4s						
KHLM				A	A	14 35 22.2	
	500nm,0.4s						
YSS	Yuzh-Sakhalins	1.30	32⇑	*i* Pg	Pg	14 35 03.4	-0.2
YSS				AMB	AMB	14 35 03.6	
	40nm,0.4s						
YSS				*e*Sg	Sn	14 35 20.6	-0.8
YSS				A	A	14 35 21.9	
	120nm,0.6s						
YSS				A	A	14 35 21.9	
	230nm,0.6s						

IDC ***24*** *14:48:22.6±1.2,2°.55S×138°.88E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=28.7km s-min=23.3km az=99.0*
ISCJB ***24*** *14:48:30.7±0.7,2°.52S±0°.07×139°.35E±0°.06, h102km±6km, mb3.2/3, Error ellipse: s-maj=11.7km s-min=9.3km az=179.4*
DJA ***24*** *14:48:31.5±1.2,3°.5S±5°.5×13°.9E±°, h84km±12km, M3.9/4, MLv3.9/4*

ISC 24 14:48:31.6±0.9, 2°.54S±0°.07×139°.36E±0°.05, h95km±9km, n10, σ1°40/15, mb3.1/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.81	94	P	Pn	14 48 49.6	0.0
GENI				S	Sn	14 49 04.1	+1.1
SMPI	Sarmi	0.85	310	P	Pn	14 48 49.9	-0.2
SMPI				S	Sn	14 49 03.3	-0.6
JAY	Jayapura	1.34	89	Pn	Pn	14 48 55.5	-0.1
	18nm,0.3s,baz=267,slow=14,SNR=41						
JAY				Sn	Sn	14 49 14.3	+0.4
	55nm,0.3s,baz=180,slow=20,SNR=29						
JAY				LR	LR	14 49 31.5	
	comp=Z,70nm,18.6s,baz=141,slow=38						
JAY	Jayapura	1.34	89	P	Pn	14 48 55.3	-0.4
JAY				S	Sn	14 49 13.8	-0.1
WAMI	Wamena	1.49	206	P	Pn	14 48 58.3	+0.8
WAMI				S	Sn	14 49 18.2	+1.1
WRA	Warramunga Arr	17.98	195	P	P	14 52 32.2	-2.6
	0.2nm,0.3s,baz=17,slow=13,SNR=11						
FITZ	Fitzroy Crossi	20.50	220	P	P	14 52 59.6	-2.7
	3.8nm,1.0s,baz=37,slow=12,SNR=1.8						
ASAR	Alice Springs	21.66	194	P	P	14 53 13.7	-1.0
	0.4nm,0.4s,baz=19,slow=10,SNR=11						
SONM	Songino Array	57.85	334	P	P	14 58 15.0	+1.4
	0.1nm,0.5s,baz=140,slow=7.5,SNR=1.4						
MKAR	Makanchi Array	70.05	322	P	P	14 59 34.5	+1.0
	0.6nm,0.6s,baz=101,slow=7.6,SNR=6.3						

ISCJB ***24*** *15:05:23.9±1.2, 18°.72N±0°.06×62°.87W±0°.05, h6km±9km, Error ellipse: s-maj=11.4km s-min=4.6km az=36.8*
NEIC ***24*** *15:05:24.4±1.1, 18°.66N±0°.05×62°.87W±0°.04, h1km±9km*
TRN ***24*** *15:05:24.4, 18°.60N×62°.90W, h11km, MD4.0*

ISC 24 15:05:24.2±1.9, 18°.69N±0°.07×62°.85W±0°.05, h1km±13km, n44, σ0°83/56, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	Saba	1.12	199	*e*P	Pg	15 05 46.3	+0.5
SABA				*e*S	Sb	15 06 02.6	+0.9
SABA	Saba	1.12	199		Sb	15 06 02.6	+0.9
SABA	Saba	1.12	199	Pg	Pg	15 05 46.2	+0.4
SEUS	St. Eustatius	1.20	186	*e*P	Pg	15 05 46.9	-0.3
SEUS				*e*S	Sn	15 06 04.9	-0.2
SEUS	St. Eustatius	1.20	186		Pg	15 05 46.9	-0.3
SEUS					Sn	15 06 04.9	-0.2
SKI	Saint Kitts	1.35	176	*e*P	Pn	15 05 49.6	-0.7
SKI				*e*S	Sn	15 06 08.4	-0.5
SKI	Saint Kitts	1.35	176		Pn	15 05 49.6	-0.7
SKI					Sn	15 06 08.4	-0.5
SKOC	St. Kitts, UWI	1.39	175	*e*P	Pg	15 05 51.1	+0.1
SKOC				*e*S	Sn	15 06 09.9	+0.1
ABVI	Anegada Island	1.41	272		Pn	15 05 50.7	-0.3
ANWB	Willy Bob	1.43	135	*e*P	Pg	15 05 51.5	-0.2
ANWB				*e*S	Sn	15 06 12.5	+1.7
ANWB	Willy Bob	1.43	135		Pg	15 05 51.5	-0.2
ANWB					Sn	15 06 12.5	+1.7
BPA	Boggy Peak	1.89	150	*e*P	Pn	15 05 56.9	-0.8
BPA	Boggy Peak	1.89	150		Pn	15 05 56.9	-0.8
STVI	Saint Thomas	2.02	261		Pn	15 05 59.1	-0.4
MLYT	Lee's Yard	2.05	162	*e*P	Pn	15 06 00.2	+0.3
MLYT				*e*S	Sn	15 06 25.6	-0.7
ABD	La Joyeuse, An	2.56	149	*e*P	Pb	15 06 10.5	-0.4
MTP	Monte Pirata	2.63	258		Pb	15 06 08.0	0.0
CBE	Ff, Capester	2.86	155	*e*P	Pn	15 06 10.2	-0.9
CBE	Ff, Capester	2.86	155	*e*P	Pn	15 06 11.6	+0.5
CBYP	Canovanas	2.88	262		Pn	15 06 11.1	-0.4
HUMP	Col San Antoni	2.90	260		Pn	15 06 11.4	-0.2
TDBA	Terre de Bas,	3.05	157	*e*P	Pn	15 06 14.3	+0.6
PDRR	Patillas Dam,	3.09	258		Pn	15 06 14.6	+0.4
GCPR	Guaynabo City	3.09	264		Pn	15 06 13.3	-1.0
IGPR	InterUniversit	3.18	257		Pn	15 06 15.9	+0.5
SJG	San Juan	3.19	260		Pn	15 06 16.1	+0.6
BBL	Barber's Block	3.41	157	*e*P	Pn	15 06 18.3	-0.4
BBL				*e*S	Sn	15 06 59.8	0.0
BBL	Barber's Block	3.41	157		Pn	15 06 18.3	-0.4
BBL					Sn	15 06 59.8	0.0
OBIP	Obispado Ponce	3.62	260		Pn	15 06 21.8	+0.2
AOPR	Arecibo Observ	3.72	265		Pn	15 06 23.2	+0.2
MLPR	Magueyes Islan	4.05	260	Pn	Pn	15 06 27.5	+0.1
AGPR	Aguadilla, PR	4.05	268	Pn	Pn	15 06 27.2	-0.2
MPR	Mayaguez	4.10	264	Pn	Pn	15 06 27.5	-0.6
CRPR	Cabo Rojo, PR	4.10	261		Pn	15 06 28.4	+0.2
PCM	Pelee Case Pet	4.16	158	*e*P	Pn

HJGM	San Juan Grade	0.02	324			Pg	15 22 27.7 -0.1
FRP	Fremont Peak	0.07	118			Pg	15 22 28.1 -0.3
HBTM	San Juan Bauti	0.07	7			Pg	15 22 27.8 -0.5
HTUM	Tustin Road	0.08	303			Pg	15 22 28.6 +0.1
SAO	San Andreas Ge	0.09	102	Pg		Pg	15 22 28.3 -0.4
SAO				Sg		Sg	15 22 29.8 -0.5
ANZ	Anzar Road	0.10	347			Pg	15 22 28.3 -0.5
HERM	Elkhorn Road	0.12	277			Pg	15 22 29.8 +0.7
BSRM	Salinas Radio	0.12	164			Pg	15 22 29.3 +0.2
BVYM	Vineyard	0.12	106			Pg	15 22 28.9 -0.2
OCR	O'Connell Ranc	0.14	18			Pg	15 22 29.4 0.0
HCOM	Corn Cob Canyo	0.16	311			Pg	15 22 29.9 +0.2
BSLM	Silva Ranch	0.17	93			Pg	15 22 30.4 +0.5
BCGM	Cienega Road	0.19	113			Pg	15 22 30.1 -0.1
BPCNC	Pine Canyon	0.22	194			Pg	15 22 31.6 +0.8
SCZ	Santa Cruz	0.23	146			Pg	15 22 30.8 -0.1
SCZ						Sg	15 22 34.2 +0.3
HLTM	Lone Tree Road	0.23	64			Pg	15 22 31.0 +0.1
HFEM	San Felipe	0.24	33			Pg	15 22 31.1 0.0
BHRM	Hodges Ranch	0.24	103			Pg	15 22 31.8 +0.6
CDC	Canada Road	0.25	14			Pg	15 22 31.3 -0.1
BJOM	Mount Johnson	0.25	128			Pg	15 22 31.4 0.0
JELB	Ellicott, Sant	0.26	304			Pg	15 22 31.8 +0.3
BLRM	Lewis Ranch	0.26	117			Pb	15 22 32.7 -0.6
HLPM	Lions Peak	0.26	348			Pg	15 22 31.6 0.0
BJCM	Johnson Can.	0.27	150			Pg	15 22 31.8 0.0
PACP	Pacheco Peak	0.31	44			Pg	15 22 32.7 +0.1
GHS	Gilroy Hot Spr	0.32	16			Pg	15 22 32.8 -0.1
JECB	Eureka Canyon	0.33	323			Pg	15 22 33.4 +0.5
BEHM	Elkhorn Ranch	0.33	111			Pg	15 22 33.5 +0.6
HMOM	Monterey	0.34	238			Pg	15 22 33.8 +0.7
JTGM	Trout Gulch Ro	0.35	314			Pg	15 22 33.4 0.0
HPCM	Pacheco Lake	0.36	40			Pg	15 22 33.4 0.0
HPCM						Sg	15 22 38.7 +0.5
CADM	Anderson Res.	0.38	352			Pg	15 22 33.9 0.0
BEMM	Emmet	0.39	108			Pg	15 22 34.5 +0.4
HAST	Hastings Reser	0.40	179			Pg	15 22 34.5 +0.3
JLAB	Laurel Hill	0.40	339			Pg	15 22 34.1 0.0
JLAB						Sg	15 22 40.4 +1.0
SLD	San Luis Dam	0.40	43			Pg	15 22 34.1 -0.1
SFJWR	San Luis Fatjo	0.41	50			Pg	15 22 34.3 -0.1
BSMM	Soledad Missio	0.41	165			Pg	15 22 34.9 +0.4
BPIM	Pinnacles	0.43	133			Pg	15 22 34.4 -0.4
BSGM	Shirttail Gulc	0.44	146			Pg	15 22 34.8 -0.3
BAVM	Antelope Valle	0.45	108			Pg	15 22 35.4 +0.3
JUMM	Mount Umunhum	0.46	324			Pg	15 22 34.9 -0.5
BBGB	Big Mountain B	0.47	116			Pg	15 22 35.8 +0.3
BCWM	Chews Ridge	0.48	180			Pg	15 22 36.1 +0.4
BBNM	San Benito	0.48	125			Pg	15 22 35.9 +0.3
CCOB	Coe Ranch Numb	0.48	349			Pb	15 22 36.5 -0.7
CCOB						Sb	15 22 44.1 -0.3
MHC	Mount Hamilton	0.56	353			Pg	15 22 37.6 +0.3
ARN	Arnold Ranch	0.56	2			Pg	15 22 37.4 +0.1
LRV	Little Rabbit	0.57	129			Pg	15 22 37.3 -0.1
BPOM	Post Ranch	0.58	197			Pg	15 22 37.9 +0.3
JBNB	Ben Lomond Mou	0.58	306			Pg	15 22 37.5 -0.2
BRMM	Rolling Bench	0.59	85			Pb	15 22 38.5 -0.5
BAPM	Anderson Peak	0.61	186			Pg	15 22 38.5 +0.3
BMSM	Mercy Hot Spri	0.63	101			Pg	15 22 38.8 +0.3
JSGM	Saratoga Golf	0.63	322			Pb	15 22 39.2 -0.5
JHUM	Huhtala Lane,	0.65	312			Pg	15 22 38.7 -0.3
CMMM	Mount Mocho	0.67	5			Pg	15 22 39.4 0.0
LRC	Lone Oak Road	0.68	142			Pg	15 22 39.0 -0.4
PBWM	Bitterwater Cr	0.69	132			Pg	15 22 39.6 -0.1
CALM	Calaveras Res.	0.69	344			Pg	15 22 40.1 +0.3
CMLM	Mount Lewis	0.70	354			Pg	15 22 40.1 +0.3
JPSM		0.75	304			Pg	15 22 40.7 -0.2
JJRM	Joaquin Road	0.76	118			Pg	15 22 41.1 +0.1
CMJM	Mission San Jo	0.78	341			Pg	15 22 41.4 0.0
JRSC	Jasper Ridge	0.82	319			Pg	15 22 41.6 -0.6
PMPB	Monarch Peak	0.83	133			Pg	15 22 42.0 -0.5
WENL	Wente Vineyard	0.85	349			Pb	15 22 43.1 -0.3
CVLM	Vallecito	0.87	345			Pg	15 22 43.2 +0.1
CNIC	Niles Canyon	0.88	339			Pg	15 22 42.9 -0.5
PAPM	Alder Peak	0.88	169			Pg	15 22 43.4 0.0
PSAM	San Ardo	0.93	144			Pg	15 22 44.2 -0.1
PPTM	Peach Tree Val	0.96	135			Pg	15 22 44.3 -0.5
JCHM	Cahill Ridge	0.98	319			Pg	15 22 44.1 -1.1
OXMT	Ox Mountain	0.99	316			Pg	15 22 44.1 -1.4
JCPM	Coyote Point	1.01	323			Pg	15 22 45.1 -0.7
PHSB	Hesperia Broad	1.04	157			Pg	15 22 45.9 -0.5
CMOB	Morgan Territo	1.04	349			Pn	15 22 47.7 +0.3
SAC	San Andreas	1.05	320			Pg	15 22 45.6 -1.0
MYLM	Yosemite Lake	1.09	56			Pg	15 22 46.5 -0.9
PHPM	Hope Ranch	1.11	136			Pg	15 22 46.8 -1.0
PKD	Bear Valley Ra	1.17	135			Pg	15 22 47.5 -1.5
PSTM	Stockdale Moun	1.21	135			Pb	15 22 47.9 -1.6
BKS	Berkeley--Byer	1.22	334			Pb	15 22 47.2 -2.4
PAGB	Antelope Grade	1.49	134	Pn		Pn	15 22 52.7 -0.8
CMB	Columbia Colle	1.56	36			Pn	15 22 53.5 -1.0
MCCM	Marconi Confer	1.72	323	Pn		Pn	15 22 56.3 -0.3
AFDM	Forest Hills D	2.21	12	Pn		Pn	15 23 02.2 -1.2
WAKR	Walker	2.41	44	Pn		Pn	15 23 06.2 -0.1
ISA	Isabella, Lake	2.73	113	Pn		Pn	15 23 09.7 -1.0
VCNR	Virginia City	2.93	30	Pn		Pn	15 23 13.2 -0.3
OSI	Osito Audit: C	3.17	132	Pn		Pn	15 23 16.8 +0.2

*IDC **24** 15:23:34.8±1.1,3°.68N×126°.74E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/33,mbtmp3.6/6,Error ellipse: s-maj=49.5km s-min=20.4km az=70.0*
*ISCJB **24** 15:23:39.9±0.9,3°.6N±0°.1×126°.8E±0°.3,h53km,mb3.5/6, Error ellipse: s-maj=39.5km s-min=13.7km az=157.9*
ISC 24 15:23:41.8±1.1,3°.6N±0°.2×126°.8E±0°.3,h53km,n7,σ0°69/7, mb3.6/6,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	3.75	334	⇓eP	Pn	15 24 38.3	+1.0
KCP				i S	Sn	15 25 38.3	+18
WRA	Warramunga Arr	24.57	163	P	P	15 28 56.9	0.0
	1.3nm,0.7s,baz=345,slow=10,SNR=8.3						
ASAR	Alice Springs	28.00	166	P	P	15 29 28.5	+0.5
	0.1nm,0.3s,baz=346,slow=12,SNR=5.7						
CMAR	Chiang Mai Arr	30.95	301	P	P	15 29 53.9	-0.2
	0.3nm,0.3s,baz=102,slow=7.5,SNR=2.3						
SONM	Songino Array	47.41	341	P	P	15 32 10.8	-0.3
	0.3nm,0.4s,baz=160,slow=8.9,SNR=3.6						
PETK	Petropavlovsk-	55.52	22	P	P	15 33 11.3	-0.1
	1.7nm,0.8s,baz=178,slow=4.5,SNR=5.2						
MKAR	Makanchi Array	57.66	325	P	P	15 33 26.1	-0.7
	0.3nm,0.5s,baz=115,slow=8.5,SNR=7.1						

*ISCJB **24** 15:48:17.9±0.4,0°.63N±0°.04×129°.19E±0°.04,h10km, mb4.0/10,MS3.0/1,Error ellipse: s-maj=6.8km s-min=4.8km az=25.5*
*IDC **24** 15:48:18.4±0.7,0°.62N×129°.21E,h0km,mb3.9/9, mb1 4.1/12,mb1mx3.8/51,mbtmp4.0/12,ML3.9/3,MS2.9/3, Ms1 2.9/3,ms1mx2.5/42,Error ellipse: s-maj=29.6km s-min=13.4km az=69.0*
*NEIC **24** 15:48:19.3±1.9,0°.64N±0°.06×129°.19E±0°.06,h10km±4km, mb4.4/17*
*DJA **24** 15:48:21.4±1.1,1°.N±3°.×12°.9E±°,h13km±7km,M4.0/9, MLv4.0/9*
ISC 24 15:48:19.8±0.6,0°.56N±0°.06×129°.19E±0°.05,h10km,n47, σ1°72/49,mb3.9/11,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.84	277	P	Pn	15 48 51.4	0.0
TNTI				S	Sn	15 49 15.0	+0.3
TNTI	Ternate	1.84	277	Pn	Pn	15 48 50.9	-0.5
LBMI	Labuha	2.07	235	P	Pn	15 48 55.2	+0.6
LBMI				S	Sn	15 49 20.0	-0.4
SWI	Sorong	2.50	124	P	Pn	15 49 01.4	+0.8
SWI				S	Sn	15 49 33.2	+2.0
SIJI	Sorong	2.51	124	Pn	Pn	15 49 01.6	+0.9
	53nm,0.3s,baz=326,slow=17,SNR=307						
SIJI				Sn	Sn	15 49 33.5	+2.1
	22nm,0.3s,baz=192,slow=21,SNR=12						
SIJI				LR	LR	15 49 50.3	
	comp=Z,141nm,19.8s,baz=212,slow=36						
MSAI	Masohi	3.89	184	P	Pn	15 49 22.0	+2.4
SANI	Sanana	4.12	231	P	Pn	15 49 22.2	-0.6
NLAI	Namlea	4.31	209	P	Pn	15 49 26.3	+0.8
AAI	Ambon	4.33	193	P	Pn	15 49 27.5	+1.7
FAKI	Fak Fak	4.61	139		Pn	15 49 30.6	+1.0
KCP	Kidapawan	7.60	328	⇑eP	Pn	15 50 15.4	+4.6
KAPI	Kappang	10.93	239	Pn	Pn	15 50 58.3	+1.8
	0.5nm,0.3s,baz=83,slow=12,SNR=2.8						
JAY	Jayapura	11.91	105	LR	LR	15 56 09.2	
	comp=Z,80nm,21.2s,baz=258,slow=40						
MTN	Manton Dam	13.45	172	Pn	Pn	15 51 28.2	-2.7
KNRA	Kununurra	16.14	181	Pn	Pn	15 52 03.3	-3.5
KNRA				IAmb	IAmb	15 52 22.5	
	comp=Z,84nm,1.6s						
FITZ	Fitzroy Crossi	18.86	190	P	P	15 52 39.9	-0.4
	comp=Z,0.2nm,0.3s,baz=9.5,slow=12,SNR=5.1						
FITZ	Fitzroy Crossi	18.86	190	P	P	15 52 39.8	-0.4
KSM	Kuching	18.90	273	P	Pn	15 52 44.2	+2.8
COEN	Coen	20.00	137	P	P	15 52 51.4	-1.4
COEN				IAmb	IAmb	15 53 24.6	
	comp=Z,11nm,1.2s						
WB0	Warramunga Arr	20.83	166	P	P	15 53 01.9	+0.1
WB0				IAmb	IAmb	15 53 03.0	
	comp=Z,7.4nm,0.7s						
WRAB	Tennant Creek	20.98	166	P	P	15 53 03.2	-0.2
WRAB				IAmb	IAmb	15 53 04.6	
	comp=Z,11nm,0.7s						
WRA	Warramunga Arr	20.99	166	P	P	15 53 03.8	+0.3
	comp=Z,14nm,0.7s,baz=346,slow=11,SNR=68						
WRA	Warramunga Arr	20.99	166	P	P	15 53 03.0	-0.5
WB2	Warramunga Arr	20.99	166	P	P	15 53 03.7	+0.2
WR0	Warramunga Arr	21.05	166	P	P	15 53 04.3	+0.1
WR0				IAmb	IAmb	15 53 05.3	
	comp=Z,12nm,0.7s						
CMJI	Cimerak	22.28	248	P	P	15 53 14.7	-2.7
AS31	Alice Springs	24.51	170	P	P	15 53 39.8	+0.2
AS31				IAmb	IAmb	15 53 42.3	
	comp=Z,14nm,0.8s						
ASAR	Alice Springs	24.51	170	P	P	15 53 40.4	+0.8
	comp=Z,40nm,0.8s,baz=351,slow=7.5,SNR=4.7						
ASAR	Alice Springs	24.51	170	P	P	15 53 40.0	+0.4
KASI	Kota Agung	25.39	256	P	P	15 53 53.7	+6.1
MORW	Morawa	32.03	202	P	P	15 54 46.4	-0.4
HNR	Honiara	32.19	109	LR	LR	16 07 26.9	
	comp=Z,31nm,21.1s,baz=320,slow=36						
BBOO	Buckleboo	33.82	170	P	P	15 55 03.2	+1.0
STKA	Stephens Creek	34.33	161	P	P	15 55 07.4	+0.7
	comp=Z,2.6nm,0.4s,baz=334,slow=9.5,SNR=14						
STKA	Stephens Creek	34.33	161	P	P	15 55 07.5	+0.8
STKA				IAmb	IAmb	15 55 08.5	
	comp=Z,2.9nm,1.2s						
MJAR	Matsushiro Arr	36.77	12	P	P	15 55 27.0	-0.7
	comp=Z,0.4nm,0.5s,baz=187,slow=9.4,SNR=1.8						
MJAR	Matsushiro Arr	36.77	12	P	P	15 55 25.4	-2.2
USRK	Ussuriysk Ar.	43.52	3	P	P	15 56 23.2	-0.4
	comp=Z,0.8nm,0.6s,baz=187,slow=9.7,SNR=3.1						
SONM	Songino Array	51.08	340	P	P	15 57 22.5	-0.1
	comp=Z,0.6nm,0.6s,baz=155,slow=8.2,SNR=4.5						
SONM	Songino Array	51.08	340	P	P	15 57 22.1	-0.5
OUZ	Omahuta	54.59	135	P	P	15 57 46.8	-1.8
MKAR	Makanchi Array	61.55	325	P	P	15 58 37.2	0.0
	comp=Z,0.5nm,0.5s,baz=119,slow=8.4,SNR=11						
MKAR	Makanchi Array	61.55	325	P	P	15 58 36.7	-0.5
ZALV	Zalesovo Beam	64.51	333	P	P	15 58 57.6	+0.8
	comp=Z,0.4nm,0.4s,baz=102,slow=5.0,SNR=1.5						
KURBB	Kurchatov Arra	65.72	327	P	P	15 59 04.3	-0.3
	comp=Z,1.6nm,0.8s,baz=124,slow=6.0,SNR=9.2						
KURK	Kurchatov	65.72	327	P	P	15 59 03.6	-1.1
BVAR	Borovoye Array	71.30	327	P	P	15 59 39.5	-0.1
	comp=Z,0.5nm,0.7s,baz=83,slow=3.5,SNR=4.4						

*ISCJB **24** 15:54:53.4±1.0,32°.11S±0°.04×70°.04W±0°.05, h112km±10km,Error ellipse: s-maj=7.7km s-min=4.8km az=41.5*
*SJA **24** 15:54:53.3±0.7,32°.10S×70°.04W,h102km±5km,ML2.1, MW2.6*
*GUC **24** 15:54:53.4±0.6,32°.12S×70°.15W,h125km±10km,ML2.5*
ISC 24 15:54:54.5±1.8,32°.10S±0°.04×70°.05W±0°.04, h102km±16km,n22,σ0°48/35,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.71	65	eP	Pn	15 55 12.3	-0.2
RTLS				eS	Sn	15 55 26.2	+0.2
RTLS				IAML		15 55 26.7	
	comp=Z,26nm,0.4s						
RTLS	Leoncito	0.71	65	i P	Pn	15 55 12.2	-0.3
RTLS				i Sg	Sn	15 55 26.5	+0.5
RTLS				IAML		15 55 26.6	
	comp=Z,61nm,0.4s						
PEL	Peldehue	1.17	207	eP	Pn	15 55 16.9	-0.1
PEL				eS	Sn	15 55 34.1	+0.1
ROCH	El Roble	1.19	223	i P	Pn	15 55 17.0	-0.4
ROCH				eS	Sn	15 55 34.8	+0.1
ROCH				IAML		15 55 38.2	
	comp=N,70nm,0.2s						
ROC1	El Roble	1.20	223	eP	Pn	15 55 17.1	-0.4
ROC1				eS	Sn	15 55 34.9	+0.1
CO02	Combarbal	1.21	318	⇑i P	Pn	15 55 16.8	-0.7
CO02				eS	Sn	15 55 35.0	+0.2
FCH	Farellones	1.24	189	⇑i P	Pn	15 55 18.1	0.0
FCH				eS	Sn	15 55 37.5	+1.5
FCH				IAML		15 55 38.4	
	comp=E,69nm,0.2s						
ZON	Zonda	1.29	65	i P	Pn	15 55 17.7	-0.7
RTCV	Cerro Valdivia	1.31	80	eP	Pn	15 55 18.4	-0.2
RTCV				eS	Sn	15 55 36.9	+0.1
RTCV				IAML		15 55 37.2	
	comp=Z,30nm,0.2s						
RTCV	Cerro Valdivia	1.31	80	i P	Pn	15 55 17.9	-0.7
RTCV				i Sg	Sn	15 55 36.6	-0.1
RTLL	Cerro Villicun	1.55	61	eP	Pn	15 55 21.2	-0.3
RTLL				eS	Sn	15 55 42.0	0.0
RTLL				IAML		15 55 42.5	
	comp=Z,42nm,0.2s						
RTLL	Cerro Villicun	1.55	61	i P	Pn	15 55 21.3	-0.3
CFA	Coronel Fontan	1.62	73	⇓eP	Pn	15 55 22.0	-0.4
CFA	Coronel Fontan	1.62	73	i P	Pn	15 55 22.0	-0.4
ACCO	Cerro Coronel	1.73	29	eP	Pn	15 55 24.4	+0.4
ACCO				eS	Sn	15 55 47.2	+0.8
ACCO				IAML		15 55 51.9	
	comp=Z,14nm,3.9s						
ACCO	Cerro Coronel	1.73	29	i P	Pn	15 55 24.5	+0.4
AMOG	MOGNA	1.76	49	eP	Pn	15 55 24.2	0.0
AMOG				eS	Sn	15 55 46.6	-0.2
AMOG				IAML		15 55 48.3	
	comp=Z,12nm,0.2s						
AMOG	MOGNA	1.76	49	i P	Pn	15 55 24.3	0.0
GO04	Tololo Observa	2.02	341	eP	Pn	15 55 27.4	-0.4
GO04				eS	Sn	15 55 53.2	+0.2
GO04				IAML		15 55 59.7	
	comp=N,105nm,0.5s						
ACAN	Cantantal	2.43	95	eP	Pn	15 55 32.1	-0.7
ACAN				IAML		15 56 45.7	
	comp=Z,12nm,1.5s						
ACAN	Cantantal	2.43	95	i P	Pn	15 55 32.3	-0.5
APLL	PUNTA DE LOS L	3.46	62	i P	Pn	15 55 46.7	+0.2

*IDC **24** 15:56:31.1±3.2,36°.10N×70°.62E,h121km±29km,mb3.3/8, mb1 3.6/14,mb1mx3.2/70,mbtmp3.9/14,Error ellipse: s-maj=27.2km s-min=16.7km az=164.0*
*ISCJB **24** 15:56:32.2±0.3,36°.28N±0°.02×70°.72E±0°.04,h150km, mb3.6/10,Error ellipse: s-maj=4.3km s-min=3.1km az=164.3*
*NEIC **24** 15:56:33.4±1.4,36°.34N±0°.06×70°.64E±0°.03,h144km±8km, mb4.2/11*
*NNC **24** 15:56:35.8±2.3,36°.60N×70°.43E,h128km±46km,mb3.7, mpv4.2,Error ellipse: s-maj=22.6km s-min=11.9km az=160.0*
ISC 24 15:56:33.0±0.5,36°.33N±0°.05×70°.64E±0°.04,h150km,n83, σ2°18/96,mb3.5/10,5C-9D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.21	217		Pn	15 57 11.7	+0.8
KBL				Sn	Sn	15 57 39.9	+0.1
CHGR	Chuyangaron	2.60	334		Pn	15 57 15.8	+0.3
GAR	Garm	2.68	355		Pn	15 57 17.0	+0.5
CEP	Cherat	2.71	157	P	Pn	15 57 17.5	+0.6
CHCP	Chirah Chowk	3.43	140	P	Pn	15 57 26.5	+0.6
NIL	Nilore	3.43	140		Pn	15 57 26.3	+0.5
THW	Thamme Wali	3.64	165	P	Pn	15 57 29.2	+0.5
BTK	Batken	3.73	2		Pn	15 57 31.4	+1.7
JMU	Jammu	5.04	134	eS	Sn	15 58 40.0	-4.5
KSH	Kashi	5.28	51	P	Pn	15 57 47.0	-3.2
KSH				S	Sn	15 58 40.6	-10
KSH				smax	smax		
	comp=N,940nm,0.3s						
KSH				smax	smax		
	comp=E,730nm,0.4s						
ARSB	Arslanbob	5.31	19		Pn	15 57 50.1	-0.5
DHRM	DHARAMSHALA	6.21	129	eP	Pn	15 58 02.0	-0.7
DHRM				eS	Sn	15 59 09.3	-3.5
DHRM				IAML		15 59 11.8	
	comp=E,269nm,0.3s						
DHRM				IAML		15 59 12.7	
	comp=N,339nm,0.1s						
AML	Almayashu	6.26	21	P	Pn	15 58 03.7	+0.2
	SNR=282						
NRN	Naryn	6.59	38		Pn	15 58 06.2	-1.6
UCH	Uchtor	6.61	26	P	Pn	15 58 08.3	+0.1
	SNR=50						
KZA	Kyzart	6.76	31	P	Pn	15 58 10.5	+0.3
	SNR=11						
KK31	Karatay Array	6.77	359	⇑P	Pn	15 58 10.1	+0.3
	comp=N,6.2nm,0.4s,baz=172,slow=12,SNR=158						
KK31				⇑S	Sn	15 59 23.2	-2.6
	comp=N,34nm,0.7s,baz=186,slow=24,SNR=5.8						
KK31	Karatay Array	6.77	359		Pn	15 58 10.1	+0.3
KKAR	Karatay Array	6.77	359		Pn	15 58 10.1	+0.2
EKS2	Erkin-Say	6.77	20	P	Pn	15 58 10.3	+0.3
	SNR=22						
AAK	Ala-Archa	6.97	24	⇑P	Pn	15 58 12.9	+0.3
	comp=N,7.3nm,0.3s						
AAK				⇑S	Sn	15 59 29.0	-1.9
	comp=N,54nm,1.2s						
AAK	Ala-Archa	6.97	24	P	Pn	15 58 13.3	+0.6
	comp=N,7.7nm,0.3s,baz=193,slow=7.9,SNR=69						
AAK				S	Sn	15 59 29.8	-1.0
	comp=N,5.1nm,0.3s,baz=301,slow=24,SNR=19						
AAK	Ala-Archa	6.97	24	P	Pn	15 58 13.4	+0.7
	SNR=25						
AAK	Ala-Archa	6.97	24		Pn	15 58 12.8	+0.1
KBK	Karagaybulak	7.14	26	P	Pn	15 58 16.4	+1.4
	SNR=11						
FRU1	Bishkek	7.17	24		Pn	15 58 15.6	+0.3
CHMS	Chumysh	7.38	24	P	Pn	15 58 18.1	+0.1
	SNR=28						
SMLA	Simla	7.51	132	eP	Pn	15 58 18.2	-1.6
SMLA				eS	Sn	15 59 38.3	-5.5
SMLA				IAML		15 59 42.4	
	comp=E,130nm,0.3s						
SMLA				IAML		15 59 42.4	
	comp=N,112nm,0.2s						
USP	Ospenovka	7.54	22	P	Pn	15 58 20.7	+0.5
	SNR=15						
TKM2	Tokmak 2	7.61	29	⇓P	Pn	15 58 20.4	-0.9
	comp=N,8.3nm,0.5s						
TKM2				⇓S	Sn	15 59 45.3	-1.1
	comp=N,9.2nm,0.6s						
TKM2	Tokmak 2	7.61	29	P	Pn	15 58 22.0	+0.6
	SNR=24						
KDJ	Kajisay	7.70	39	Pn	Pn	15 58 22.4	-0.1
TARG	Taragay, Kyrgy	7.75	44		Pn	15 58 23.1	-0.3
MDOK	Medeo	8.42	34	⇓P	Pn	15 58 32.9	+0.8
	comp=N,9.2nm,0.6s						
KNDC	Almaty	8.43	33	⇓P	Pn	15 58 34.8	+2.7
PRZ	Przheval'sk	8.59	42		Pn	15 58 34.6	+0.2
JOSI	Joshimath	9.41	125	eP	Pn	15 58 44.4	-1.1
JOSI				eS	Sn	16 00 22.6	-7.3
JOSI				IAML		16 00 25.9	
	comp=E,45nm,0.1s						
JOSI				IAML		16 00 26.3	
	comp=N,75nm,0.3s						
KUDL	Kundal	9.54	147	eP	Pn	15 58 43.8	-3.2
KUDL				eS	Sn	16 00 22.1	-11
GEYT	Alibeck	10.13	283	P	Pn	15 58 54.6	-0.1
	comp=N,1.6nm,0.3s,baz=105,slow=16,SNR=9.2						
GEYT				S	Sn	16 00 45.6	-1.2
	comp=N,1.2nm,0.3s,baz=92,slow=19,SNR=3.7						
GEYT	Alibeck	10.13	283	Pn	Pn	15 58 54.7	+0.1
GYA0B	ALIBECK ARRAY	10.13	283	⇓P	Pn	15 58 54.8	+0.2
GYA0B				⇓S	Sn	16 00 43.9	-2.8
GYA0B	ALIBECK ARRAY	10.13	283		Pn	15 58 54.4	-0.3
MK31	Makanchi Array	13.60	36	⇓P	Pn	15 59 40.9	+1.2
	comp=N,2.9nm,0.7s,baz=220,slow=13,SNR=15						
MK31	Makanchi Array	13.60	36		Pn	15 59 40.2	+0.5
MKAR	Makanchi Array	13.60	36	P	Pn	15 59 41.3	+1.6
	comp=N,0.3nm,0.3s,baz=221,slow=14,SNR=14						
MKAR	Makanchi Array	13.60	36		Pn	15 59 39.8	+0.1
DANN	Dangsing	13.64	122	eP	Pn	15 59 37.9	-2.8
	comp=N,28nm,0.3s						
KOLN	Koldanda	13.90	124	eP	Pn	15 59 41.6	-2.3
	comp=N,17nm,0.3s						
GKN	Gorkha	14.46	121	eP	Pn	15 59 48.4	-2.5
	comp=N,53nm,0.2s						
DMN	Daman	15.03	121	eP	Pn	15 59 56.3	-1.8
	comp=N,29nm,0.4s						
KKN	Kakani	15.04	120	eP	Pn	15 59 55.8	-2.3
	comp=N,31nm,0.4s						
AB31	Akbulak array	15.10	332	⇓P	Pn	15 59 59.3	+0.9
	comp=N,2.2nm,0.3s,baz=145,slow=12,SNR=132						
AB31				⇓S	Sn	16 02 37.5	-8.5
	comp=N,1.8nm,0.5s,baz=154,slow=22,SNR=6.9

comp=Z,0.5nm,0.5s,baz=338,slow=5.6,SNR=4.4
ILAR Eielson Array 75.02 16 P **P 16 08 00.2 +2.6**
comp=Z,0.2nm,0.5s,baz=312,slow=4.8,SNR=4.1
WRA Warramunga Arr 82.15 122 P **P 16 08 37.7 +0.5**
comp=Z,0.5nm,0.8s,baz=324,slow=4.8,SNR=5.0
ASAR Alice Springs 84.40 125 P **P 16 08 49.5 +0.9**
comp=Z,0.3nm,0.7s,baz=324,slow=4.6,SNR=4.1

DJA 24 15:58:53.2±0.6,8°S±6°×12°3E±°,h10km,M3.8/6,mb4.1/2, MLv3.6/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.46**	**150**	P	Pn	15 59 33.2	-0.4
SOEI				S	Sn	16 00 03.8	0.0
BATI	**Baumata**	**2.66**	**166**	P	Pn	15 59 35.8	-0.4
BATI				S	Sn	16 00 10.0	+1.5
WBSI	**Waikabubak, Su**	**4.12**	**240**	P	Pn	15 59 56.6	+0.3
PLAI	**Plampang**	**5.33**	**257**	P	Pn	16 00 12.5	-0.4
	17nm,0.6s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.18**	**259**	P	Pn	16 00 23.8	-0.8

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*ISCJB **24** 16:05:55.3±0.5,7°.84S±0°.05×122°.89E±0°.05,h250km, Error ellipse: s-maj=6.7km s-min=6.2km az=41.4*
*NEIC **24** 16:05:57.3±1.7,7°.85S±0°.08×122°.96E±0°.09,h263km±4km, mb4.5/12*
*IDC **24** 16:05:57.8±1.5,7°.85S×123°.02E,h247km±11km,mb3.8/1, mb1 3.5/7,mb1mx3.1/46,mbtmp4.0/7,Error ellipse: s-maj=37.6km s-min=16.6km az=71.0*
*DJA **24** 16:05:58.7±0.7,8°S±7°×12°3E±°,h235km±8km,M3.5/6, mb3.3/1,MLv3.6/6*
ISC 24 16:05:56.1±0.7,7°.89S±0°.07×122°.83E±0°.06,h250km,n31, σ1§42/36,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.33**	**143**	P	**Pn**	**16 06 43.5**	**+1.6**
SOEI				S	**S**	**16 07 17.4**	**-0.6**
SOEI	**Soe**	**2.33**	**143**	**Pn**	**Pn**	**16 06 43.3**	**+1.4**
BATI	**Baumata**	**2.44**	**160**	P	**Pn**	**16 06 44.9**	**+2.1**
	13nm,0.3s,baz=306,slow=14,SNR=25						
BATI				S	**S**	**16 07 21.1**	**+1.3**
	19nm,0.3s,baz=73,slow=19,SNR=11						
BATI	**Baumata**	**2.44**	**160**	P	**Pn**	**16 06 45.1**	**+2.2**
BASI	**Baing, Sumba**	**3.21**	**224**	S	**S**	**16 07 33.2**	**-1.1**
WBSI	**Waikabubak, Su**	**3.82**	**243**	P	**Pn**	**16 06 58.3**	**+0.4**
WBSI				S	**S**	**16 07 43.9**	**-3.0**
KAPI	**Kappang**	**4.18**	**313**	P	**Pn**	**16 07 04.8**	**+2.6**
	1.5nm,0.3s,baz=169,slow=10,SNR=4.7						
KAPI	**Kappang**	**4.18**	**313**		**Pn**	**16 07 04.5**	**+2.3**
TWSI	**Taliwang, Sumb**	**5.95**	**261**	P	**Pn**	**16 07 24.4**	**+0.8**
LUWI	**Luwuk**	**6.80**	**360**	Pn	**Pn**	**16 07 35.3**	**+0.9**
SAUI	**Saumlaki**	**8.39**	**91**	Pn	**Pn**	**16 07 51.6**	**-2.8**
JAGI	**Jajag, Banyuwa**	**8.61**	**266**	Pn	**Pn**	**16 07 57.8**	**+0.6**
MTN	**Manton Dam**	**9.54**	**122**	Pn	**Pn**	**16 08 08.4**	**-0.5**
KNRA	**Kununurra**	**9.67**	**144**	Pn	**Pn**	**16 08 09.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.51**	**165**	P	**Pn**	**16 08 21.4**	**+0.3**
	0.2nm,0.3s,baz=350,slow=9.4,SNR=6.7						
FITZ				S	**S**	**16 10 19.0**	**-0.1**
	0.4nm,0.3s,baz=196,slow=8.1,SNR=5.6						
FAKI	**Fak Fak**	**10.60**	**63**	Pn	**Pn**	**16 08 22.2**	**-0.1**
SIJI	**Sorong**	**10.92**	**51**	P	**Pn**	**16 08 25.4**	**-1.0**
	0.4nm,0.3s,baz=246,slow=11,SNR=4.4						
WB0	**Warramunga Arr**	**16.28**	**138**	P	**P**	**16 09 30.5**	**+0.4**
WB0				IAmb	IAmb	16 09 32.0	
	comp=Z,6.4nm,0.9s						
WRA	**Warramunga Arr**	**16.37**	**138**	P	**P**	**16 09 31.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=314,slow=12,SNR=23						
WRA				S	**S**	**16 12 29.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=316,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**16.37**	**138**	P	**P**	**16 09 31.2**	**+0.1**
WRAB	**Tennant Creek**	**16.37**	**138**	P	**P**	**16 09 31.6**	**+0.6**
WRAB				IAmb	IAmb	16 09 56.0	
	comp=Z,28nm,1.7s						
WB2	**Warramunga Arr**	**16.38**	**138**	P	**P**	**16 09 31.6**	**+0.4**
WB2				IAmb	IAmb	16 10 13.7	
	comp=Z,31nm,1.8s						
WR0	**Warramunga Arr**	**16.51**	**138**	P	**P**	**16 09 33.3**	**+0.6**
WR0				IAmb	IAmb	16 09 51.6	
	comp=Z,22nm,1.6s						
AS31	**Alice Springs**	**18.94**	**147**	P	**P**	**16 10 00.5**	**+1.4**
ASAR	**Alice Springs**	**18.94**	**147**	P	**P**	**16 10 00.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=332,slow=13,SNR=45						
COEN	**Coen**	**20.86**	**109**	P	**P**	**16 10 18.9**	**-0.6**
COEN				IAmb	IAmb	16 11 01.0	
	comp=Z,39nm,1.9s						
MORW	**Morawa**	**22.02**	**196**	P	**P**	**16 10 31.7**	**+1.4**
MORW				IAmb	IAmb	16 11 05.5	
	comp=Z,78nm,1.9s						
BBOO	**Buckleboo**	**27.67**	**155**	P	**P**	**16 11 21.7**	**+0.6**
BBOO				IAmb	IAmb	16 12 00.8	
	comp=Z,71nm,1.7s						
STKA	**Stephens Creek**	**29.58**	**146**	P	**P**	**16 11 39.5**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=315,slow=9.7,SNR=11						
YOJ	**Yonaguni jima**	**32.16**	**0**	P	**P**	**16 12 00.4**	**-0.2**
FUNA	**Funafuti**	**55.75**	**95**	P	**P**	**16 15 05.1**	**-2.5**

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*BJI **24** 16:06:18.6±0.0,55°.48N×162°.10E,h77km,mb4.6/40, mB5.1/32,Ms4.8/9,Ms7 4.5/8*
*KRSC **24** 16:06:20.6±0.4,55°.52N×161°.92E,h72km±11km,ML5.4, FELT [IV] at GMS Kronoki; [III] at Ust-Kamchatsk, Kluchi, Lazo.*
*ISCJB **24** 16:06:22.5±0.2,55°.61N±0°.02×161°.59E±0°.02,h87km±1km, mb4.8/161,Error ellipse: s-maj=2.9km s-min=1.9km az=144.0*
*MOS **24** 16:06:22.1±0.9,55°.60N×161°.65E,h84km,mb4.9/96,Error ellipse: s-maj=5.9km s-min=3.2km az=79.0*
MOS Felt (III) at Ust'-Kamchatsk, Klyuchi, Lazo.
*NEIC **24** 16:06:22.4±1.6,55°.58N±0°.07×161°.6E±0°.1,h71km±4km, mb5.0/376*
*IDC **24** 16:06:22.3±0.5,55°.67N×161°.56E,h66km±4km,mb4.4/36, mb1 4.6/39,mb1mx4.5/54,mbtmp4.7/39,MS3.7/32, Ms1 3.7/32,ms1mx3.6/39,Error ellipse: s-maj=10.4km s-min=7.1km az=141.0*
*GCMT **24** 16:06:25.4±0.4,55°.70N±0°.03×162°.24E±0°.04,h70km±2km, MW4.8/76,Moment Tensor Solution. s25,c28; s76,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.48±.12; $M_{\theta\theta}$-1.27±.11; $M_{\phi\phi}$-0.21±.11; $M_{r\theta}$0.74±.07; $M_{\theta\phi}$-1.75±.09; $M_{\phi r}$-0.53±.05; Best double couple: $M_0$2.38700×10^{16} NP1:ϕ_s85.00000°,δ60.00000°,λ136.00000°. NP2: ϕ_s201.00000°,δ53.00000°,λ39.00000°. Principal axes: T 2.1820, Plg52.0000°, Azm49.0000°; N 0.4020, Plg38.0000°, Azm238.0000°; P -2.5910, Plg4.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 16:06:21.9±0.3,55°.55N±0°.03×161°.79E±0°.03,h67km±3km, h67km:pP-P,n1124,σ1§27/1204,mb5.0/307,33C-8D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.73**	**311**	*i* P	**Pn**	**16 06 38.4**	**+1.4**
ZLN	**Zelenaya**	**0.73**	**311**	PN	**Pn**	**16 06 38.4**	**+1.4**
CIRR	**Tsirk**	**0.82**	**315**	*i* P	**Pn**	**16 06 39.4**	**+1.3**
CIRR	**Tsirk**	**0.82**	**315**	PN	**Pn**	**16 06 39.4**	**+1.3**
LGNR	**Loginova**	**0.82**	**311**	*i* P	**Pn**	**16 06 39.9**	**+1.7**
LGNR	**Loginova**	**0.82**	**311**	PN	**Pn**	**16 06 39.9**	**+1.7**
BZWR	**Bezymyannyi-We**	**0.84**	**300**	*i* P	**Pn**	**16 06 39.5**	**+1.1**
BZWR	**Bezymyannyi-We**	**0.84**	**300**	PN	**Pn**	**16 06 39.5**	**+1.1**
TUMD	**Tumrok D**	**0.86**	**247**	*i* P	**Pn**	**16 06 39.2**	**+0.7**
TUMD				*e*S	**Sn**	**16 06 52.1**	**+1.3**
KBG	**Krutoberegovo**	**0.88**	**36**	*i* P	**Pn**	**16 06 39.2**	**+0.6**
KBG				*e*S	**Sn**	**16 06 52.6**	**+1.5**
KBG	**Krutoberegovo**	**0.88**	**36**	PN	**Pn**	**16 06 39.2**	**+0.6**
KBG				S	**Sn**	**16 06 52.6**	**+1.5**
KBTR	**Krutoberegovo**	**0.88**	**41**	*i* P	**Pn**	**16 06 39.4**	**+0.7**
KBTR	**Krutoberegovo**	**0.88**	**41**	PN	**Pn**	**16 06 39.4**	**+0.7**
KMNR	**Kamenistaya**	**0.90**	**284**	*i* P	**Pn**	**16 06 40.3**	**+1.2**
KMNR	**Kamenistaya**	**0.90**	**284**	PN	**Pn**	**16 06 40.3**	**+1.2**
KIRR	**Kirishev**	**0.91**	**297**	*e*P	**Pn**	**16 06 39.9**	**+0.7**
KIRR				*e*S	**Sn**	**16 06 53.5**	**+1.4**
KIRR	**Kirishev**	**0.91**	**297**	PN	**Pn**	**16 06 39.9**	**+0.7**
KIRR				S	**Sn**	**16 06 53.5**	**+1.4**
KZV	**Kizimen**	**0.96**	**244**	*i* P	**Pn**	**16 06 40.5**	**+0.7**
KZV	**Kizimen**	**0.96**	**244**	PN	**Pn**	**16 06 40.5**	**+0.7**
KRSR	**Krestovskiy**	**0.96**	**315**	*i* P	**Pn**	**16 06 40.8**	**+1.0**
KRSR	**Krestovskiy**	**0.96**	**315**	PN	**Pn**	**16 06 40.8**	**+1.0**
TUMR	**Tumrok**	**0.97**	**255**	*i* P	**Pn**	**16 06 41.3**	**+1.4**
TUMR	**Tumrok**	**0.97**	**255**	PN	**Pn**	**16 06 39.2**	**-0.7**
TUMR				S	**Sn**	**16 06 52.1**	**-1.2**
KPT	**Kopyto**	**0.98**	**296**	*i* P	**Pn**	**16 06 41.2**	**+1.2**
KPT	**Kopyto**	**0.98**	**296**	PN	**Pn**	**16 06 41.2**	**+1.2**
KLY	**Klyuchi**	**1.00**	**321**	*i* P	**Pn**	**16 06 40.3**	**+0.2**
KLY				*e*S	**Sn**	**16 06 54.3**	**+0.6**
KLY	**Klyuchi**	**1.00**	**321**	PN	**Pn**	**16 06 40.3**	**+0.2**
KLY				S	**Sn**	**16 06 54.3**	**+0.6**
SMKR	**Semkarok**	**1.05**	**350**	*i* P	**Pn**	**16 06 42.3**	**+1.4**
SMKR	**Semkarok**	**1.05**	**350**	PN	**Pn**	**16 06 42.3**	**+1.4**
BDR	**Baidarnaya**	**1.07**	**343**	*i* P	**Pn**	**16 06 42.4**	**+1.2**
BDR	**Baidarnaya**	**1.07**	**343**	PN	**Pn**	**16 06 42.4**	**+1.2**
SRKR	**Sorokina**	**1.16**	**343**	*i* P	**Pn**	**16 06 43.6**	**+1.3**
SRKR	**Sorokina**	**1.16**	**343**	PN	**Pn**	**16 06 43.6**	**+1.3**
KOZ	**Kozyrevsk**	**1.20**	**296**	*i* P	**Pn**	**16 06 44.4**	**+1.7**
KOZ	**Kozyrevsk**	**1.20**	**296**	PN	**Pn**	**16 06 44.4**	**+1.7**
SRDR	**Sredinnyy**	**1.40**	**304**	*i* P	**Pn**	**16 06 46.6**	**+1.2**
SRDR	**Sredinnyy**	**1.40**	**304**	PN	**Pn**	**16 06 46.6**	**+1.2**
KII	**Karymskiy**	**2.03**	**223**	*i* P	**Pn**	**16 06 55.4**	**+1.5**
KII	**Karymskiy**	**2.03**	**223**	PN	**Pn**	**16 06 55.4**	**+1.5**
BKI	**Bering**	**2.41**	**96**	*i* P	**Pn**	**16 06 59.0**	**+0.1**
BKI				*e*S	**Sn**	**16 07 25.5**	**-1.9**
BKI	**Bering**	**2.41**	**96**	PN	**Pn**	**16 06 59.0**	**+0.1**
BKI				S	**Sn**	**16 07 25.5**	**-1.9**
SPN	**Mys Shipunski**	**2.66**	**204**	*e*P	**Pn**	**16 07 02.4**	**0.0**
SPN				*e*S	**Sn**	**16 07 33.3**	**-0.2**
SPN	**Mys Shipunski**	**2.66**	**204**	PN	**Pn**	**16 07 02.4**	**0.0**
SPN				S	**Sn**	**16 07 33.3**	**-0.2**
NLC	**Nalytchevo**	**2.77**	**212**	*e*P	**Pn**	**16 07 05.3**	**+1.4**
NLC				*e*S	**Sn**	**16 07 37.3**	**+1.1**
NLC	**Nalytchevo**	**2.77**	**212**	PN	**Pn**	**16 07 05.3**	**+1.4**
NLC				S	**Sn**	**16 07 37.3**	**+1.1**
SDLR	**Sedlovina**	**2.83**	**218**	*e*P	**Pn**	**16 07 06.4**	**+1.6**
SDLR	**Sedlovina**	**2.83**	**218**	PN	**Pn**	**16 07 06.4**	**+1.6**
KRX	**Arik**	**2.86**	**221**	*e*P	**Pn**	**16 07 07.5**	**+2.4**
KRX	**Arik**	**2.86**	**221**	PN	**Pn**	**16 07 07.5**	**+2.4**
KRER	**Koryakskii**	**2.86**	**220**	*e*P	**Pn**	**16 07 07.2**	**+1.9**
KRER				*e*S	**Sn**	**16 07 41.3**	**+2.6**
KRER	**Koryakskii**	**2.86**	**220**	PN	**Pn**	**16 07 07.2**	**+1.9**
KRER				S	**Sn**	**16 07 41.3**	**+2.6**
SMAR	**Somma**	**2.88**	**219**	*e*P	**Pn**	**16 07 07.0**	**+1.5**
SMAR				*e*S	**Sn**	**16 07 41.3**	**+2.3**
SMAR	**Somma**	**2.88**	**219**	PN	**Pn**	**16 07 07.0**	**+1.5**
SMAR				S	**Sn**	**16 07 41.3**	**+2.3**
AVH	**Avacha**	**2.90**	**219**	*e*P	**Pn**	**16 07 07.9**	**+2.2**
AVH				*e*S	**Sn**	**16 07 42.5**	**+3.1**
AVH	**Avacha**	**2.90**	**219**	PN	**Pn**	**16 07 07.9**	**+2.2**
AVH				S	**Sn**	**16 07 42.5**	**+3.1**
GNL	**Ganaly**	**2.90**	**232**	*i* P	**Pn**	**16 07 07.7**	**+1.9**
GNL	**Ganaly**	**2.90**	**232**	PN	**Pn**	**16 07 07.7**	**+1.9**
KOK	**Koryaka**	**2.91**	**220**	*e*P	**Pn**	**16 07 08.5**	**+2.6**
KOK	**Koryaka**	**2.91**	**220**	PN	**Pn**	**16 07 08.5**	**+2.6**
UGLR	**Uglovaya**	**2.91**	**218**	*e*P	**Pn**	**16 07 07.6**	**+1.7**
UGLR	**Uglovaya**	**2.91**	**218**	PN	**Pn**	**16 07 07.6**	**+1.7**
DALK	**Dalny**	**3.08**	**216**	*i* P	**Pn**	**16 07 09.7**	**+1.6**
DALK				*e*S	**Sn**	**16 07 45.5**	**+1.8**
DALK	**Dalny**	**3.08**	**216**	PN	**Pn**	**16 07 09.7**	**+1.6**
DALK				S	**Sn**	**16 07 45.5**	**+1.8**
PET	**Petropavlovsk**	**3.12**	**217**	⇑ *i* PN	**Pn**	**16 07 10.2**	**+1.6**
PET				*e*S	**Sn**	**16 07 45.4**	**+0.7**
PET				pmax	pmax		
	comp=Z,820nm,0.3s						
PET				smax	smax		
	comp=E,2μm,2.2s						
PET				smax	smax		
	comp=N,2μm,3.0s						
PET				smax	smax		
	comp=E,12μm,1.2s						
PET				smax	smax		
	comp=N,4μm,1.2s						
PET				smax	smax		
	comp=E,6μm,0.7s						
PET				smax	smax		
	comp=N,9μm,0.7s						
PET				MLR	MLR		
	comp=Z,2μm,12.0s						
PET	**Petropavlovsk**	**3.12**	**217**		**Pn**	**16 07 10.0**	**+1.4**
PEA0B	**Petropavlovsk-**	**3.42**	**226**	PN	**Pn**	**16 07 14.3**	**+1.6**
PEA0B	**Petropavlovsk-**	**3.42**	**226**		**Pn**	**16 07 14.3**	**+1.6**
PETK	**Petropavlovsk-**	**3.42**	**226**	P	**Pn**	**16 07 14.6**	**+1.9**
	comp=Z,49nm,0.3s,baz=60,slow=17,SNR=159						
PETK				S	**Sn**	**16 07 55.1**	**+3.1**
	comp=Z,37nm,0.3s,baz=74,slow=20,SNR=4.5						
PETK	**Petropavlovsk-**	**3.42**	**226**		**Pn**	**16 07 14.4**	**+1.7**
KRMR	**Karymshinskiy**	**3.47**	**220**	*e*P	**Pn**	**16 07 15.7**	**+2.4**
KRMR				*e*S	**Sn**	**16 07 56.0**	**+2.9**
KRMR	**Karymshinskiy**	**3.47**	**220**	PN	**Pn**	**16 07 15.7**	**+2.4**
KRMR				S	**Sn**	**16 07 56.0**	**+2.9**
RUS	**Russkaya**	**3.67**	**213**	*e*P	**Pn**	**16 07 17.2**	**+1.1**
RUS				*e*S	**Sn**	**16 07 59.2**	**+1.2**
RUS	**Russkaya**	**3.67**	**213**	PN	**Pn**	**16 07 17.2**	**+1.1**
RUS				S	**Sn**	**16 07 59.2**	**+1.2**
PALN	**Palana**	**3.69**	**345**	*e*P	**Pn**	**16 07 17.8**	**+1.5**
PALN	**Palana**	**3.69**	**345**	PN	**Pn**	**16 07 17.8**	**+1.5**
GRL	**Gorelyy**	**3.71**	**218**	*e*P	**Pn**	**16 07 19.9**	**+3.1**
GRL				*e*S	**Sn**	**16 08 03.0**	**+3.7**
GRL	**Gorelyy**	**3.71**	**218**	PN	**Pn**	**16 07 19.9**	**+3.1**
GRL				S	**Sn**	**16 08 03.0**	**+3.7**
MTVR	**Mutnovka**	**3.73**	**216**	*e*P	**Pn**	**16 07 19.4**	**+2.3**
MTVR				*e*S	**Sn**	**16 08 01.6**	**+1.7**
MTVR	**Mutnovka**	**3.73**	**216**	PN	**Pn**	**16 07 19.4**	**+2.3**
MTVR				S	**Sn**	**16 08 01.6**	**+1.7**
APC	**Apacha**	**3.78**	**228**	*e*P	**Pn**	**16 07 19.8**	**+2.3**
APC				*e*S	**Sn**	**16 08 03.0**	**+2.3**
APC	**Apacha**	**3.78**	**228**	PN	**Pn**	**16 07 19.8**	**+2.3**
APC				S	**Sn**	**16 08 03.0**	**+2.3**
OSSR	**Ossora**	**3.78**	**10**	*e*P	**Pn**	**16 07 18.6**	**+1.1**
OSSR				*e*S	**Sn**	**16 08 02.3**	**+1.7**
OSSR	**Ossora**	**3.78**	**10**	PN	**Pn**	**16 07 18.6**	**+1.1**
OSSR				S	**Sn**	**16 08 02.3**	**+1.7**
ASAK	**Asacha**	**3.91**	**218**	*e*P	**Pn**	**16 07 22.0**	**+2.5**
ASAK	**Asacha**	**3.91**	**218**	PN	**Pn**	**16 07 22.0**	**+2.5**
PAU	**Pauzhetka**	**5.05**	**218**	*e*P	**Pn**	**16 07 37.5**	**+2.6**
PAU				*e*S	**Sn**	**16 08 34.0**	**+2.1**
PAU	**Pauzhetka**	**5.05**	**218**	PN	**Pn**	**16 07 37.5**	**+2.6**
PAU				S	**Sn**	**16 08 34.0**	**+2.1**
TILK	**Tilichiki**	**5.43**	**23**	*e*P	**Pn**	**16 07 42.1**	**+2.0**
TILK				*e*S	**Sn**	**16 08 43.0**	**+1.9**
TILK	**Tilichiki**	**5.43**	**23**	PN	**Pn**	**16 07 42.1**	**+2.0**
TILK				S	**Sn**	**16 08 43.0**	**+1.9**
SKR	**Severo-Kuril's**	**5.95**	**217**	*e*P	**Pn**	**16 07 50.2**	**+3.0**
SKR				*e*S	**Sn**	**16 08 55.9**	**+2.1**
SKR	**Severo-Kuril's**	**5.95**	**217**	PN	**Pn**	**16 07 50.2**	**+3.0**
SKR				S	**Sn**	**16 08 55.9**	**+2.1**
MA2	**Magadan**	**7.17**	**309**	*ce*PN	**Pn**	**16 08 06.5**	**+2.6**
MA2				pmax	pmax		
	comp=Z,73nm,0.8s						
MA2	**Magadan**	**7.17**	**309**	P	**Pn**	**16 08 06.1**	**+2.3**
	comp=Z,3.3nm,0.3s,baz=122,slow=13,SNR=29						
MA2				LR	LR	16 11 17.0	
	comp=Z,374nm,20.0s,baz=152,slow=42						
MA2	**Magadan**	**7.17**	**309**		**Pn**	**16 08 04.8**	**+0.9**
SMY	**Shemya**	**7.76**	**106**	PN	**Pn**	**16 08 12.1**	**+0.1**
SMY	**Shemya**	**7.76**	**106**		**Pn**	**16 08 12.1**	**+0.1**
SEY	**Seymchan**	**8.83**	**331**	*i* PN	**Pn**	**16 08 30.0**	**+3.5**
SEY	**Seymchan**	**8.83**	**331**	P	**Pn**	**16 08 29.1**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=134,slow=13,SNR=12						
SEY				LR	LR	16 12 08.4	
	comp=Z,534nm,19.9s,baz=162,slow=40						
TYV	**Tymovskoe**	**12.38**	**256**	*e*PN	**Pn**	**16 09 17.4**	**+2.5**
TYV				*e*S	**Sn**	**16 11 35.3**	**+4.4**
TYV				pmax	pmax		
	comp=Z,11nm,1.2s						
TYV				smax	smax		
	comp=N,11nm,1.0s						
BILL	**Bilibino**	**12.71**	**8**	*c i* PN	**P**	**16 09 24.0**	**-4.2**
BILL				pmax	pmax		
	comp=Z,78nm,1.1s						
BILL	**Bilibino**	**12.71**	**8**		**Pn**	**16 09 23.6**	**+4.2**
ADK	**Adak**	**13.25**	**97**	PN	**Pn**	**16 09 27.1**	**+0.3**
ADK	**Adak**	**13.25**	**97**	Pn	**Pn**	**16 09 27.1**	**+0.3**
KUR	**Kuril'sk**	**13.59**	**226**	*e*P	**P**	**16 09 37.1**	**-0.9**
ATKA	**Atka Island**	**14.53**	**93**		**P**	**16 09 46.5**	**-2.0**
YSS	**Yuzh-Sakhalins**	**14.65**	**242**	⇑ *e*P	**P**	**16 09 51.7**	**+1.8**
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YSS				MLR	MLR		
	comp=E,100nm,15.0s						
YSS	**Yuzh-Sakhalins**	**14.65**	**242**	P	**P**	**16 09 48.1**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**15.40**	**228**	*c i* P	**Pn**	**16 09 54.4**	**-0.4**
YUK				*e*S	**Sn**	**16 12 41.9**	**-2.4**
YUK				pmax	pmax		
	comp=Z,183nm,0.4s						
YUK				pmax	pmax		
	comp=N,30nm,0.5s						
YUK				pmax	pmax		
	comp=E,73nm,0.5s						
YUK				MLR	MLR		
	comp=Z,213nm,15.0s						
GRPR	**Tuman**	**15.47**	**228**	*e*P	**Pn**	**16 09 55.7**	**-0.1**
SPIA	**Saint Paul Isl**	**15.54**	**72**	P	**P**	**16 10 00.3**	**+0.7**
GLVR	**Golovnino**	**15.78**	**228**	*e*P	**Pn**	**16 09 57.5**	**-2.2**
GLVR				S	**Sn**	**16 12 48.5**	**-5.1**
GRNR	**Gornyy**	**15.90**	**263**	*e*P	**Pn**	**16 09 54.6**	**-6.7**
GRNR				pmax	pmax		
	comp=Z,40nm,0.7s						
GRNR				MLR	MLR		
	comp=Z,90nm,16.0s						
NMR	**Nemuro--Hokkai**	**15.99**	**227**	*e*P	**Pn**	**16 09 56.2**	**-6.2**
JKA	**Kamikawa-asahi**	**16.79**	**235**	P	**P**	**16 10 15.3**	**+1.8**
ASAJ	**Asahikawa**	**16.79**	**235**	P	**P**	**16 10 15.3**	**+1.8**
	comp=Z,2.7nm,0.3s,baz=73,slow=13,SNR=32						
ASAJ				LR	LR	16 16 58.3	
	comp=Z,235nm,18.5s,baz=32,slow=38						
YAK	**Yakutsk**	**17.71**	**305**	*e*P	**P**	**16 10 24.6**	**+1.0**
YAK				*e*S	**Sn**	**16 13 37.9**	**-2.1**
YAK				pmax	pmax		
	comp=Z,36nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,17nm,1.0s						
YAK				smax	smax		
	comp=N,126nm,2.5s						
YAK				smax	smax		
	comp=E,114nm,2.3s						
YAK	**Yakutsk**	**17.71**	**305**	P	**Pn**	**16 10 23.5**	**0.0**
	comp=E,0.3nm,0.3s,baz=261,slow=4.8,SNR=10						
YAK	**Yakutsk**	**17.71**	**305**	P	**Pn**	**16 10 21.0**	**-2.6**
ERM	**Erimo**	**18.19**	**230**	P	**P**	**16 10 28.5**	**-0.5**
ERM				pmax	pmax		
	comp=Z,31nm,0.7s						
ERM	**Erimo**	**18.19**	**230**	P	**P**	**16 10 28.5**	**-0.5**
UNV	**Unalaska Valle**	**18.32**	**82**	P	**Pn**	**16 10 31.6**	**+0.5**
AKUT	**Akutan**	**18.65**	**81**	P	**Pn**	**16 10 36.5**	**+1.6**
KLR	**Kul'dur**	**19.29**	**263**	*i* P	**P**	**16 10 40.3**	**-0.6**
KLR				pmax	pmax		
	comp=Z,13nm,1.0s						
KLR	**Kul'dur**	**19.29**	**263**	P	**P**	**16 10 41.8**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=57,slow=10,SNR=11						
KLR				PcP	**PcP**	**16 15 01.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=15,slow=3.7,SNR=6.6						
KLR				LR	LR	16 18 43.7	
	comp=Z,121nm,19.6s,baz=62,slow=39						
FALS	**False Pass**	**19.75**	**78**	P	**P**	**16 10 45.5**	**-0.5**
ZEA	**Zeya**	**19.95**	**279**	*e*P	**P**	**16 10 48.0**	**-0.1**
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,12.0s						
RDOG	**Red Dog Mine**	**20.48**	**38**	P	**P**	**16 10 55.0**	**+1.3**
RDOG				IAmb	IAmb	16 11 00.2	
	comp=Z,67nm,1.1s						
SDPT	**Sand Point**	**21.24**	**75**	P	**P**	**16 11 04.1**	**+2.2**
TIXI	**Tiksi**	**21.32**	**332**	*ce*P	**P**	**16 11 04.2**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,71nm,1.0s						
TIXI	**Tiksi**	**21.32**	**332**	P	**P**	**16 11 04.0**	**+1.3**
	comp=Z,77nm,1.0s,baz=0.0,slow=24,SNR=130						
TIXI				PcP	**PcP**	**16 15 03.8**	**-0.3**
	comp=Z,3.7nm,0.5s,baz=91,slow=2.8,SNR=6.7						
TIXI				LR	LR	16 19 55.9	
	comp=Z,218nm,19.8s,baz=134,slow=38						
TIXI	**Tiksi**	**21.32**	**332**	P	**P**	**16 11 03.5**	**+0.8**
TIXI				IAmb	IAmb	16 11 08.9	
	comp=Z,72nm,1.0s						
TIXI				**PcP**	**PcP**	**16 15 03.8**	**-0.3**
CNBA	**Chernabura Isl**	**21.88**	**76**	P	**P**	**16 11 09.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**22.12**	**252**

GHO	Glory Hole Cre	25.83	56	P		P	16 11 46.7 +0.1
MDM	Murphy Dome	25.83	48	P		P	16 11 46.5 +0.1
SEW	Seward	25.87	60	P		P	16 11 46.4 -0.4
SEW				IAmb		IAmb	16 11 47.7
	comp=Z,38nm,0.9s						
BOD	Bodaibo	25.92	295	eP		P	16 11 45.6 -1.7
BOD				pmax		pmax	
	comp=Z,23nm,1.4s						
WRH	Wood River Hil	25.92	50	P		P	16 11 47.4 +0.2
TCOL	CIGO, UAF Yank	25.99	49	P		P	16 11 48.6 +0.7
	baz=273,SNR=12						
COLA	College	26.00	49c	iP		P	16 11 48.6 +0.7
COLA				pmax		pmax	
	comp=Z,24nm,0.8s						
COLA	College	26.00	49	P		P	16 11 48.2 +0.3
CCB	Clear Creek Bu	26.03	49	P		P	16 11 48.5 +0.3
CCB				IAmb		IAmb	16 11 49.8
	comp=Z,36nm,1.0s						
HIA	Hailar	26.08	274			pP	16 12 05.0 0.0
SML	Sawmill	26.10	56	P		P	16 11 49.0 0.0
SML				IAmb		IAmb	16 11 52.4
	comp=Z,45nm,0.8s						
KNK	Knik Glacier	26.11	57	P		P	16 11 49.2 +0.2
KNK				IAmb		IAmb	16 11 50.4
	comp=Z,34nm,0.8s						
POKR	Poker Plat Res	26.16	48	P		P	16 11 50.2 +0.8
	baz=273,SNR=19						
DHY	Denali Highway	26.36	53	P		P	16 11 51.4 -0.1
INU	Inuyama	26.39	230	P		P	16 11 51.3 -0.4
IL31		26.41	49	P		P	16 11 51.5 -0.1
ILAR	Eielson Array	26.41	49	P		P	16 11 52.0 +0.2
	comp=Z,18nm,0.8s,baz=274,slow=9.9,SNR=224						
ILAR				PcP		PcP	16 15 15.3 +0.1
	comp=Z,0.7nm,0.8s,baz=299,slow=3.6,SNR=3.7						
ILAR				LR		LR	16 22 48.2
	comp=Z,75nm,20.5s,baz=293,slow=37						
ILAR	Eielson Array	26.41	49	P		P	16 11 51.4 -0.3
HDA	Harding Lake	26.41	50	P		P	16 11 51.6 -0.1
	baz=275,SNR=25						
HDA	Harding Lake	26.41	50	P		P	16 11 51.4 -0.4
HDA				IAmb		IAmb	16 11 52.9
	comp=Z,26nm,0.7s						
SCM	Sheep Creek Mo	26.57	55	P		P	16 11 53.7 +0.5
SCM				pmax		pmax	
	comp=Z,59nm,0.7s						
SCM	Sheep Creek Mo	26.57	55	P		P	16 11 53.7 +0.5
GLI	Glacier Island	26.86	57	P		P	16 11 56.0 +0.3
GLI				IAmb		IAmb	16 12 05.7
	comp=Z,34nm,0.9s						
PRP	Porcupine Dome	26.94	47	P		P	16 11 57.1 +0.5
PRP				IAmb		IAmb	16 11 59.0
	comp=Z,49nm,1.0s						
FYU	Fort Yukon	27.00	45	P		P	16 11 57.5 +0.5
FYU				IAmb		IAmb	16 11 59.8
	comp=Z,77nm,1.4s						
FID	Port Fidalgo	27.18	58	P		P	16 11 59.3 +0.7
FID				IAmb		IAmb	16 12 43.5
	comp=Z,39nm,1.2s						
BMAR	Burnt Mountain	27.24	43	P		P	16 11 59.8 +0.6
PAX	Paxson	27.24	53	P		P	16 11 59.8 +0.5
PAX				pmax		pmax	
	comp=Z,12nm,0.8s						
PAX	Paxson	27.24	53	P		P	16 11 59.8 +0.5
RIDG	Independent Ri	27.41	51	P		P	16 11 59.8 -0.9
RIDG				IAmb		IAmb	16 12 01.3
	comp=Z,49nm,1.2s						
SCRK	Sand Creek	27.75	50	P		P	16 12 02.9 -0.9
SCRK				IAmb		IAmb	16 12 04.4
	comp=Z,39nm,1.0s						
DOT	Dot Lake	27.77	51	P		P	16 12 03.0 -0.8
MENT	Mentasta	28.04	52	P		P	16 12 06.6 +0.3
GLB	Gilahina Butte	28.29	56	P		P	16 12 09.5 +0.9
VRDI	Verde Repeater	28.51	56	P		P	16 12 11.4 +0.7
VRDI				IAmb		IAmb	16 12 39.7
	comp=Z,80nm,1.9s						
MCARA	McCarthy VSAT	28.67	55	P		P	16 12 13.1 +1.2
MCARA				IAmb		IAmb	16 12 20.1
	comp=Z,42nm,1.3s						
CRQM	Cirque	28.77	57	P		P	16 12 14.0 +0.9
CRQM				IAmb		IAmb	16 12 15.2
	comp=Z,30nm,0.7s						
EGAK	Eagle	28.85	48	P		P	16 12 12.9 -0.5
EGAK				IAmb		IAmb	16 12 14.1
	comp=Z,27nm,0.8s						
BCAR	Beaver Creek A	28.88	52	P		P	16 12 14.5 +0.7
KSRS	Korea Array	29.10	246	P		P	16 12 16.1 +0.2
	comp=Z,2.2nm,0.9s,baz=38,slow=8.9,SNR=4.5						
KSRS				PcP		PcP	16 15 22.6 +0.4
	comp=Z,5.0nm,0.8s,baz=13,slow=3.0,SNR=11						
KSRS				LR		LR	16 23 24.9
	comp=Z,78nm,21.9s,baz=50,slow=35						
KSAR	Wonju Array Be	29.12	246	P		P	16 12 15.3 -0.8
KSAR	Wonju Array Be	29.12	246	P		P	16 12 15.3 -0.8
BARN	Barnard Glacie	29.39	56	P		P	16 12 19.7 +1.2
BARN				IAmb		IAmb	16 12 47.9
	comp=Z,43nm,1.4s						
PCA	Pinnacle	30.33	57	P		P	16 12 27.7 +1.0
EPYK	Eagle Plains	30.42	44	P		P	16 12 28.3 +1.0
	baz=280,SNR=5.4						
EPYK	Eagle Plains	30.42	44	P		P	16 12 27.9 +0.5
BCPM	Bancas Point	30.67	57	P		P	16 12 30.4 +0.8
JNU	Nakatsue	31.05	237	P		P	16 12 33.4 +0.2
	comp=Z,6.9nm,0.8s,baz=73,slow=1.2,SNR=3.7						
INK	Inuvik	31.33	40	P		P	16 12 36.1 +0.8
INK				pmax		pmax	
	comp=Z,119nm,2.0s						
INK	Inuvik	31.33	40	P		P	16 12 36.0 +0.8
	comp=Z,8.3nm,0.6s,baz=286,slow=7.2,SNR=42						
INK	Inuvik	31.33	40	P		P	16 12 36.1 +0.8
HYT	Haines Junctio	31.41	55	P		P	16 12 37.4 +1.2
HYT				IAmb		IAmb	16 12 39.4
	comp=Z,34nm,1.0s						
WHY	Whitehorse	32.68	55	P		P	16 12 48.9 +1.5
WHY				IAmb		IAmb	16 12 50.4
	comp=Z,35nm,0.9s						
SKAG	Skagway	32.89	57	P		P	16 12 51.1 +2.1
SKAG				IAmb		IAmb	16 12 52.4
	comp=Z,38nm,0.9s						
BESE	Bessie Mountai	33.45	58	P		P	16 12 55.6 +1.6
JIS	Juneau Island	33.80	58	P		P	16 12 58.9 +2.0
ULN	Ulaanbaatar	33.98	280	iP		P	16 12 58.8 0.0
ULN				pmax		pmax	
	comp=Z,9.0nm,2.5s						
ULN	Ulaanbaatar	33.98	280	P		P	16 12 59.2 +0.4
ULN						pP	16 13 15.5 +0.2
SONM	Songino Array	34.36	281	P		P	16 13 01.5 -0.6
	comp=Z,2.0nm,0.5s,baz=59,slow=7.4,SNR=16						
SONM				pP		pP	16 13 17.9 -0.7
	comp=Z,3.6nm,0.8s,baz=64,slow=6.9,SNR=8.9						
SONM				PcP		PcP	16 15 36.1 -0.3
	comp=Z,2.9nm,0.6s,baz=81,slow=2.1,SNR=10						
SONM				ScP		ScP	16 19 15.1 -0.3
	comp=Z,2.4nm,1.0s,baz=44,slow=3.2,SNR=7.3						
SONM				LR		LR	16 28 40.5
	comp=Z,81nm,18.8s,baz=44,slow=39						
SONM	Songino Array	34.36	281	P		P	16 13 00.8 -1.3
SONM	Songino Array	34.36	281	IAmb		IAmb	16 13 19.9
	comp=Z,3.9nm,1.0s						
SONM						PcP	16 15 36.2 -0.3
C36M	Paulatuk	34.48	37	P		P	16 13 03.5 +0.8
	baz=285,SNR=29						
NRIK	Noril'sk	34.51	323	P		P	16 13 01.9 -1.0
	comp=Z,0.6nm,0.3s,baz=90,slow=10,SNR=2.5						
NRIK				PcP		PcP	16 15 36.0 -0.2
	comp=Z,2.8nm,0.5s,baz=112,slow=4.3,SNR=6.2						
NRIK				LR		LR	16 27 52.6
	comp=Z,197nm,19.5s,baz=87,slow=38						
WRAK	Wrangell Islan	35.59	61	P		P	16 13 14.8 +2.4
WRAK				IAmb		IAmb	16 13 16.1
	comp=Z,24nm,0.8s						
CRAG	Craig	35.64	62	P		P	16 13 15.7 +2.8
HHC	Hu-ho-hao-te	35.71	267	eP		P	16 13 13.4 -0.4
HHC				pmax		pmax	
	comp=Z,11nm,1.1s						
DLBC	Dease Lake	35.82	57	P		P	16 13 16.5 +2.0
	comp=Z,34nm,0.9s,baz=285,slow=10,SNR=20						
H11N2	WAKE ISLAND Hy	35.97	172	T		T	16 52 34.9
	baz=357,slow=76,SNR=3.7						
H11N3	WAKE ISLAND Hy	35.98	172	T		T	16 52 35.7
	baz=357,slow=76,SNR=3.4						
H11N1	WAKE ISLAND Hy	35.98	172	T		T	16 52 34.0
	baz=357,slow=76,SNR=4.3						
DIB	Dawson Inlet,	37.08	65	P		P	16 13 27.2 +2.0
NJ2	Nanjing	38.01	250	eP		P	16 13 32.9 -0.3
NJ2				pmax		pmax	
	comp=Z,9.0nm,0.5s						
YKW3	Yellowknife Ar	40.66	45	P		P	16 13 55.3 +0.3
YKW3				IAmb		IAmb	16 13 56.9
	comp=Z,21nm,1.0s						
RES	Resolute Bay	40.67	23	P		P	16 13 55.3 +0.4
	comp=Z,12nm,0.6s,baz=314,slow=7.4,SNR=24						
RES	Resolute Bay	40.67	23	P		P	16 13 55.3 +0.4
RES				IAmb		IAmb	16 13 56.5
	comp=Z,17nm,0.8s						
YKA	Yellowknife Ar	40.70	45	P		P	16 13 55.9 +0.7
	comp=Z,9.5nm,0.8s,baz=300,slow=7.9,SNR=11						
ZALV	Zalesovo Beam	42.32	301	P		P	16 14 06.4 -2.2
	comp=Z,1.2nm,0.8s,baz=26,slow=7.0,SNR=3.9						
ZALV				PP		PP	16 15 47.9 +0.5
	comp=Z,1.5nm,0.7s,baz=60,slow=10,SNR=2.8						
ZALV				PcP		PcP	16 16 00.1 -0.8
	comp=Z,2.9nm,0.7s,baz=31,slow=4.4,SNR=4.9						
ZALV				ScP		ScP	16 19 44.9 -0.4
	comp=Z,1.5nm,0.8s,baz=29,slow=3.3,SNR=4.1						
ZALV				LR		LR	16 32 08.8
	comp=Z,86nm,18.3s,baz=34,slow=37						
ZALV	Zalesovo Beam	42.32	301	P		P	16 14 05.8 -2.7
GTA	Gaotai	43.35	275	eP		P	16 14 18.9 +1.6
GTA				pP		pP	16 14 35.3 +1.1
GTA				sP		sP	16 14 42.6 +0.6
GTA				pmax		pmax	
	comp=Z,8.0nm,1.2s						
GTA				pmax		pmax	
	comp=Z,82nm,4.2s						
GTA				LR		LR	
	comp=Z,160nm,17.5s						
GTA				LR		LR	
	comp=Z,140nm,14.8s						
GTA				LR		LR	
	comp=Z,170nm,15.1s						
LZH	Lanzhou	43.38	268	eP		P	16 14 15.1 -2.5
LZH				pP		pP	16 14 31.5 -3.0
LZH				sP		sP	16 14 40.3 -2.0
LZH				ePP		PP	16 15 58.3 -1.0
LZH				pmax		pmax	
	comp=Z,25nm,1.3s						
LZH				pmax		pmax	
	comp=Z,120nm,5.4s						
LZH				LR		LR	
	comp=Z,320nm,14.0s						
LZH				LR		LR	
	comp=Z,340nm,13.7s						
LZH				LR		LR	
	comp=Z,460nm,17.0s						
DGZ	Jazzator, Alta	43.51	295	‖iP		P	16 14 18.0 -0.5
TULEG	Thule	44.32	15	P		P	16 14 24.2 -0.2
SPA0	Spitsbergen Ar	44.88	350	eP		P	16 14 29.3 +0.4
SPA0	Spitsbergen Ar	44.88	350	P		P	16 14 28.9 0.0
NLWA	Neilton Lookou	44.94	68	P		P	16 14 31.2 +1.4
D03D	Eldon	45.25	67	P		P	16 14 34.1 +1.9
	baz=310,SNR=5.4						
B05A	Bryant	45.31	66	P		P	16 14 34.4 +1.8
	baz=309,SNR=13						
B06A	Marblemount	45.47	65	P		P	16 14 34.7 +0.8
B06A				IAmb		IAmb	16 14 36.1
	comp=Z,38nm,1.4s						
E03A	Lebam	45.63	69	P		P	16 14 36.7 +1.5
E03A				IAmb		IAmb	16 14 38.1
	comp=Z,24nm,0.9s						
D04E	Lakebay	45.65	67	P		P	16 14 37.6 +2.3
	baz=310						
D05A	Enumclaw	46.05	67	P		P	16 14 39.5 +1.0
D05A				IAmb		IAmb	16 14 41.5
	comp=Z,20nm,0.8s						
C06D	Leavenworth	46.15	65	P		P	16 14 40.9 +1.6
	baz=310						
E04D	Cinebar	46.15	68	P		P	16 14 41.4 +2.1
	baz=310						
LON	Longmire	46.43	67	P		P	16 14 42.4 +0.9
LON				pmax		pmax	
	comp=Z,25nm,1.9s						
LON	Longmire	46.43	67	P		P	16 14 42.4 +0.9
G03D	McMinnville, O	46.66	70	P		P	16 14 43.6 +0.3
	baz=311						
B08A	Colville Reser	46.67	64	P		P	16 14 44.3 +0.9
B08A				IAmb		IAmb	16 14 45.6
	comp=Z,15nm,0.8s						
LTY	Liberty	46.69	66	P		P	16 14 44.4 +0.8
COR	Corvallis	47.05	70	P		P	16 14 48.1 +1.8
COR				pmax		pmax	
	comp=Z,27nm,0.8s						
COR	Corvallis	47.05	70	P		P	16 14 48.1 +1.8
WMQ	Urumqi	47.12	288	P		P	16 14 46.8 -0.2
WMQ				pmax		pmax	
	comp=Z,25nm,0.5s						
WMQ	Urumqi	47.12	288	P		P	16 14 46.8 -0.2
F05D	White Salmon	47.17	68	P		P	16 14 49.1 +1.8
	baz=311						
CD2	Chengdu	47.22	263	P		P	16 14 45.1 -2.8
CD2				pmax		pmax	
	comp=Z,20nm,0.5s						
KURK	Kurchatov	47.30	301	P		P	16 14 46.3 -1.9
KURK				pmax		pmax	
	comp=Z,21nm,0.8s						
KURK	Kurchatov	47.30	301	P		P	16 14 46.2 -1.9
KURK				IAmb		IAmb	16 14 51.7
	comp=Z,21nm,0.8s						
H04D	Lebanon	47.40	70	P		P	16 14 51.2 +2.1
	baz=312,SNR=5.5						
KURBB	Kurchatov Arra	47.41	301	P		P	16 14 47.7 -1.3
	comp=Z,16nm,0.6s,baz=55,slow=7.9,SNR=46						
E07A	Sunnyside	47.57	66	P		P	16 14 50.9 +0.5
KULLO	Kullorsuaq	47.57	13	iP		P	16 14 49.9 -0.1
KULLO				pmax		pmax	
	comp=Z,62nm,1.1s						
KULLO	Kullorsuaq	47.57	13	iP		P	16 14 49.9 -0.1
	comp=Z,62nm,1.1s						
C09A	Chrisman Ranch	47.58	64	P		P	16 14 50.8 +0.4
I03D	Drain, OR	47.62	71	P		P	16 14 52.7 +2.0
	baz=312						
J01E	Myrtle Point	47.66	72	P		P	16 14 53.6 +2.5
	baz=312						
G05D	Wamic, OR	47.67	69	P		P	16 14 53.0 +1.7
	baz=312						
HAWA	Hanford	47.85	66	P		P	16 14 53.5 +0.9
NEW	Newport	47.86	63	P		P	16 14 53.6 +0.9
	baz=311,SNR=8.0						
NEW	Newport	47.86	63	P		P	16 14 53.2 +0.6
NEW							16 16 20.6
NEW				pmax		pmax	
	comp=Z,10.0nm,1.0s						
NEW	Newport	47.86	63	P		P	16 14 53.2 +0.6
NEW						PcP	16 16 20.6 +0.4
DAG	Danmarks Havn	47.95	0	iP		P	16 14 52.0 -0.9
DAG				pmax		pmax	
	comp=Z,16nm,1.0s						
DAG	Danmarks Havn	47.95	0	iP		P	16 14 52.0 -0.9
	comp=Z,16nm,1.0s						
F07A	Phinny Hill Vi	47.97	67	P		P	16 14 54.6 +1.1
MK31	Makanchi Array	48.01	295	P		P	16 14 52.1 -1.7
MK31				pmax		pmax	
	comp=Z,15nm,1.5s						
MK31	Makanchi Array	48.01	295	P		P	16 14 52.1 -1.7
MKAR	Makanchi Array	48.01	295	iP		P	16 14 52.2 -1.6
MKAR				pmax		pmax	
	comp=Z,4.0nm,0.5s						
MKAR	Makanchi Array	48.01	295	P		P	16 14 52.0 -1.7
	comp=Z,4.2nm,0.5s,baz=53,slow=6.6,SNR=36						
MKAR				pP		pP	16 15 10.4 -0.8
	comp=Z,3.2nm,0.7s,baz=46,slow=6.9,SNR=4.1						
MKAR				LR		LR	16 35 53.1
	comp=Z,93nm,21.5s,baz=28,slow=37						
MKAR	Makanchi Array	48.01	295	P		P	16 14 51.9 -1.9
E08A	Dider Farm, El	48.03	66	P		P	16 14 54.4 +0.5
K02D	Willamette Mer	48.12	73	P		P	16 14 56.7 +1.9
	baz=313						
KBO	Bosley Butte	48.15	73	P		P	16 14 56.9 +2.0
KBO				IAmb		IAmb	16 14 58.9
	comp=Z,40nm,1.4s						
I05D	Terrebonne, OR	48.27	69	P		P	16 14 57.3 +1.4
	baz=312,SNR=7.1						
HUMO	Hull Mountain	48.57	72	P		P	16 14 60.0 +1.8
HUMO				IAmb		IAmb	16 15 01.2
	comp=Z,12nm,0.9s						
J04D	Umpqua Nationa	48.59	71	P		P	16 15 00.6 +2.0
	baz=313,SNR=12						
KRMB	Red Mountain	48.79	74	P		P	16 15 02.0 +2.0
KRMB				IAmb		IAmb	16 15 03.1
	comp=Z,14nm,0.9s						
PINE	Pine Mountain	48.85	70	P		P	16 15 02.2 +1.7
PINE						PcP	16 16 25.6 +1.5
G08A	Pilot Rock	48.88	67	P		P	16 15 01.3 +0.6
WALA	Waterton Lakes	48.94	60	P		P	16 15 01.7 +0.7
J05D	Fort Rock, OR	49.03	70	P		P	16 15 04.0 +2.1
	baz=313,SNR=25						
L04D	Klamath Falls	49.19	72	P		P	16 15 04.9 +1.9
	baz=313,SNR=15						
K04D	Chiloquin, OR	49.20	71	P		P	16 15 05.3 +2.2
	baz=313						
JCC	Jacoby Creek,	49.21	75	P		P	16 15 04.7 +1.7
YBH	Yreka Blue Hor	49.30	73	P		P	16 15 05.7 +1.9
YBH				pmax		pmax	
	comp=Z,18nm,0.8s						
YBH	Yreka Blue Hor	49.30	73	P		P	16 15 05.7 +1.9
YBH				IAmb		IAmb	16 15 07.1
	comp=Z,18nm,0.8s						
F10A	Beach Ranch, E	49.32	65	P		P	16 15 04.6 +0.7
F10A				IAmb		IAmb	16 15 06.1
	comp=Z,10nm,0.8s						
F10A						PcP	16 16 26.9 +1.2
KHMM	Horse Mountain	49.33	74	P		P	16 15 06.1 +1.9
KHMM				IAmb		IAmb	16 15 07.6
	comp=Z,22nm,0.9s						
M02C	Callahan	49.45	73	P		P	16 15 07.5 +2.5
	baz=314,SNR=12						
JTMT	Jette	49.63	62	P		P	16 15 07.2 +0.9
BRVK	Borovoye	49.68	308	P		P	16 15 05.2 -1.3
BRVK				pmax		pmax	
	comp=Z,11nm,0.7s						
BRVK	Borovoye	49.68	308	P		P	16 15 05.2 -1.3
BRVK				IAmb		IAmb	16 15 09.8
	comp=Z,11nm,0.7s						
M04C	Macdoel	49.74	72	P		P	16 15 09.2 +2.0
	baz=314,SNR=12						
KMRM	Mail Ridge	49.80	75	P		P	16 15 09.5 +1.9
N02D	Trinity Center	49.82	74	P		P	16 15 10.2 +2.4
	baz=314,SNR=14						
BMO	Blue Mountains	50.04	66	P		P	16 15 10.5 +1.1
BMO	Blue Mountains	50.04	66	P		P	16 15 10.6 +1.1
BMO				IAmb		IAmb	16 15 11.8
	comp=Z,14nm,0.9s						
WDC	Whiskeytown Da	50.19	74	P		P	16 15 11.7 +1.3
WDC				pmax		pmax	
	comp=Z,13nm,0.9s						
WDC	Whiskeytown Da	50.19	74	P		P	16 15 11.7 +1.3
WDC				IAmb		IAmb	16 15 13.4
	comp=Z,13nm,0.8s						
O02D	Mt. Diablo Mer	50.33	74	P		P	16 15 14.0 +2.3
	baz=315,SNR=18						
MSO	Missoula	50.42	62	P		P	16 15 13.3 +1.0
	baz=313,SNR=11						
MSO	Missoula	50.42	62	P		P	16 15 13.0 +0.7
MSO				IAmb		IAmb	16 15 15.1
	comp=Z,24nm,1.3s						
MOD	Modoc Plateau	50.48	71	P		P	16 15 13.9 +1.1
MOD						PcP	16 16 31.1 +1.1
PLID	Pearl Lake	50.56	65	P		P	16 15 14.3 +0.8
PLID				IAmb		IAmb	16 15 15.7
	comp=Z,14nm,0.7s						
FFC	Flin Flon	50.62	48	P		P	16 15 14.2 +0.6
FFC				pmax		pmax	
	comp=Z,12nm,0.9s						
FFC	Flin Flon	50.62	48	P		P	16 15 14.2 +0.6
FFC				IAmb		IAmb	16 15 15.4
	comp=Z,12nm,0.9s						
O03E	Paynes Creek	50.79	74	P		P	16 15 16.5 +1.4
	baz=315,SNR=30						
KEV	Kevo	50.80	341	P		P	16 15 13.7 -0.9
KEV	Kevo	50.80	341	P		P	16 15 13.7 -0.9
LVZ	Lovozero	50.82	337	P		P	16 15 13.9 -1.0
LVZ	Lovozero	50.82	337	P		P	16 15 13.9 -1.0
FCC	Fort Churchill	50.95	41	P		P	16 15 16.3 +0.4
FCC				pmax		pmax	
	comp=Z,23nm,0.8s						
FCC	Fort Churchill	50.95	41	P		P	16 15 16.4 +0.4
WVOR	Wild Horse Val	51.01	70	P		P	16 15 17.7 +1.0
WVOR				pmax		pmax	
	comp=Z,18nm,1.0s						
WVOR	Wild Horse Val	51.01	70	P		P	16 15 17.7 +1.0
WVOR				IAmb		IAmb	16 15 19.4
	comp=Z,18nm,0.9s						
HOPS	Hopland Field	51.01	76	P		P	16 15 17.8 +1.2
HOPS				IAmb		IAmb	16 15 19.7
	comp=Z,13nm,1.0s						
SVE	Sverdlovsk	51.18	316	eP		P	16 15 16.9 -0.8
SVE				pmax		pmax	
	comp=Z,14nm,0.7s						
ARCES	ARCESS Array B	51.26	342	P		P	16 15 17.4 -0.7
	comp=Z,5.3nm,0.6s,baz=32,slow=7.1,SNR=16						
ARCES				LR		LR	16 43 55.0
	comp=Z,90nm,18.1s,baz=48,slow=44						
ARCES	ARCESS Array B	51.26	342	P		P	16 15 16.9 -1.3
ARE0	ARCESS Array S	51.26	342	eP		P	16 15 19.6 +1.5
ARE0	ARCESS Array S	51.26	342	P		P	16 15 17.4 -0.8
GDXM	Geysers	51.29	76	P		P	16 15 19.3 +0.4
APA	Apatity	51.36	337	‖iP		P	16 15 25.8 +6.9
APA				pmax		pmax	
	comp=Z,10.0nm,1.1s						
APA				MLR		MLR	
	comp=Z,2μm,16.0s						
SUMG	Summit	51.40	8	iP		P	16 15 19.9 +0.3
SUMG				pmax		pmax	
	comp=Z,85nm,1.0s						
SUMG	Summit	51.40	8	iP		P	16 15 19.9 +0.3
	comp=Z,85nm,1.0s						
SUMG	Summit	51.40	8	P		P	16 15 19.9 +0.3
ORV	Oroville	51.48	74	P		P	16 15 20.6 +0.5
ORV				pmax		pmax	
	comp=Z,12nm,0.8s						
ORV	Oroville	51.48	74	P		P	16 15 20.6 +0.5
ORV				IAmb		IAmb	16 15 22.2
	comp=Z,12nm,0.8s						
HRY	Holter Researc	51.56	61	P		P	16 15 21.8 +1.0
EGMT	Eagleton	51.68	59	P		P	16 15 22.3 +0.7
	baz=314						
EGMT	Eagleton	51.68	59	P		P	16 15 22.0 +0.4
EGMT				IAmb		IAmb	16 15 23.4
	comp=Z,13nm,0.8s						
MFID	Camas Ranch	51.80	67	P		P	16 15 23.2 +0.5
MFID				IAmb		IAmb	16 15 25.1
	comp=Z,24nm,1.2s						
PDGK	Podgornoye	51.82	293	P		P	16 15 21.8 -1.0
PDGK				pmax		pmax	
	comp=Z,8.0nm,0.9s						
LRM	Limekiln Ridge	51.86	62	P		P	16 15 19.1 -4.2
BEKR	Beckworth	51.88	73	P		P	16 15 24.4 +1.0
BEKR				IAmb		IAmb	16 15 26.0
	comp=Z,17nm,1.0s						
DLMT	Dillon	52.11	63	P		P	16 15 25.6 +0.6
DLMT				IAmb		IAmb	16 15 27.4
	comp=Z,27nm,1.4s						
KTK1	Kautokeino	52.12	342	eP		P	16 15 24.4 -0.1
AFDM	Forest Hills D	52.19	74	P		P	16 15 26.7 +1.1
TRO	Tromso	52.26	344	eP		P	16 15 25.1 -0.4
ARU	Arti	52.27	317c	iP		P	16 15 24.6 -1.2
ARU				*PP		sP	16 15 48.5 -2.4
ARU							16 17 24.4
ARU				S		S	16 22 44.5 -1.0
ARU				SS		SS	16 26 22.2 -0.8
ARU				pmax		pmax	

comp=Z,25nm,1.0s
CMB Columbia Colle 53.17 75 P P 16 15 33.8 +1.1
CMB pmax pmax
comp=Z,16nm,1.3s
CMB Columbia Colle 53.17 75 P P 16 15 33.9 +1.1
CMB IAmb IAmb 16 15 35.8
comp=Z,16nm,1.2s
BMN Battle Mountai 53.17 70 P P 16 15 34.4 +1.5
BMN Battle Mountai 53.17 70 P P 16 15 34.4 +1.5
YHL Hebgen Lake 53.18 63 P P 16 15 34.2 +1.1
YHB Horse Butte 53.25 63 P P 16 15 34.5 +1.0
GCMT Greycliff 53.28 61 P P 16 15 35.1 +1.5
WAKR Walker 53.35 74 P P 16 15 36.1 +1.8
YHH Holmes Hill 53.39 62 P P 16 15 35.9 +1.3
YMR Madison River 53.42 63 P P 16 15 36.1 +1.3
SAO San Andreas Ge 53.50 77 P P 16 15 36.4 +1.2
SAO pmax pmax
comp=Z,11nm,1.0s
SAO San Andreas Ge 53.50 77 P P 16 15 36.4 +1.2
SAO IAmb IAmb 16 15 38.0
comp=Z,11nm,1.0s
YNR Norris Junctio 53.53 62 P P 16 15 36.8 +1.2
YUF Upper Falls 53.62 62 P P 16 15 37.2 +1.0
YNE Yellowstone No 53.66 62 P P 16 15 37.8 +1.2
KVN Kaiserville 53.68 72 P P 16 15 38.5 +1.8
KVN pmax pmax
comp=Z,33nm,1.1s
KVN Kaiserville 53.68 72 P P 16 15 38.5 +1.8
RYN Ryan 53.76 73 P P 16 15 39.0 +1.8
RYN IAmb IAmb 16 15 40.3
comp=Z,27nm,1.1s
YMP Mirror Lake Pl 53.78 62 P P 16 15 38.5 +1.1
LKWY Lake 53.78 62 P P 16 15 39.7 +2.3
LKWY pmax pmax
comp=Z,19nm,0.9s
LKWY Lake 53.78 62 P P 16 15 39.7 +2.3
LKWY IAmb IAmb 16 15 41.3
comp=Z,20nm,0.9s
YPP Pitchstone Pla 53.78 63 P P 16 15 39.5 +2.0
H17A Grant Village 53.81 63 P P 16 15 40.7 +3.1
baz=316,SNR=18
H17A Grant Village 53.81 63 P P 16 15 40.1 +2.4
TARG Taragay, Kyrgy 53.83 293 P P 16 15 37.8 -0.2
KDJ Kajisay 53.87 294 P P 16 15 37.4 -0.6
KDJ pmax pmax
comp=Z,8.0nm,0.8s
KDJ Kajisay 53.87 294 P P 16 15 37.4 -0.6
RLMT Red Lodge 53.95 61 P P 16 15 40.4 +1.8
baz=316,SNR=23
RLMT Red Lodge 53.95 61 P P 16 15 40.2 +1.6
FLWY Flagg Ranch 53.97 63 P P 16 15 40.6 +1.8
IMW Indian Meadow 53.98 63 P P 16 15 40.6 +1.7
IMW IAmb IAmb 16 15 42.8
comp=Z,18nm,0.9s
ELK Elko 54.00 69 P P 16 15 40.5 +1.4
ELK pmax pmax
comp=Z,12nm,0.9s
ELK Elko 54.00 69 P P 16 15 40.5 +1.4
ELK IAmb IAmb 16 15 42.2
comp=Z,12nm,0.9s
DGMT Dagmar 54.01 55 P P 16 15 39.6 +0.8
baz=316
DGMT Dagmar 54.01 55 P P 16 15 39.5 +0.8
DGMT **PcP 16 16 43.2 +0.2**
KIRV Kirov 54.01 323 P P 16 15 38.0 -0.5
baz=18,slow=6.4
NVAR Mina Array Bea 54.02 73 P P 16 15 41.3 +2.1
comp=Z,16nm,0.9s,baz=296,slow=7.5,SNR=106
NVAR LR LR 16 36 08.8
comp=Z,46nm,19.0s,baz=329,slow=33
NVAR Mina Array Bea 54.02 73 P P 16 15 40.7 +1.5
NV11 Mina Array Sit 54.10 73 P P 16 15 41.0 +1.4
NV11 IAmb IAmb 16 15 42.9
comp=Z,26nm,1.1s
FXWY Fox Creek 54.12 64 P P 16 15 41.5 +1.6
FXWY IAmb IAmb 16 15 42.8
comp=Z,12nm,0.8s
TKM2 Tokmak 2 54.12 295 P P 16 15 38.6 -1.3
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 54.12 295 P P 16 15 38.9 -1.0
SNR=6.9
MDPB Devils Postpil 54.17 74 P P 16 15 41.9 +1.5
MDPB IAmb IAmb 16 15 43.8
comp=Z,27nm,1.1s
MOOW Moose Ponds 54.19 63 P P 16 15 41.8 +1.5
MOOW IAmb IAmb 16 15 43.3
comp=Z,18nm,1.2s
SCO Scoresbysund 54.24 2 P P 16 15 40.2 +0.1
SCO pmax pmax
comp=Z,28nm,1.6s
SCO Scoresbysund 54.24 2 P P 16 15 40.2 +0.1
SCO IAmb IAmb 16 16 45.7
comp=Z,28nm,1.6s
PMPB Monarch Peak 54.26 77 P P 16 15 42.7 +2.0
PMPB IAmb IAmb 16 15 43.9
comp=Z,12nm,1.0s
TPAW Teton Pass 54.27 64 P P 16 15 42.7 +1.7
TPAW IAmb IAmb 16 15 44.0
comp=Z,12nm,0.7s
LAO LASA Array 54.32 58 P P 16 15 42.8 +1.7
baz=316,SNR=11
LAO LASA Array 54.32 58 P P 16 15 42.4 +1.3
SNOW Snow King Moun 54.39 63 P P 16 15 42.8 +0.9
SNOW IAmb IAmb 16 15 45.1
comp=Z,34nm,1.4s
REDW Red Top Meadow 54.41 64 P P 16 15 43.4 +1.4
REDW IAmb IAmb 16 15 45.1
comp=Z,16nm,1.1s
USP Ospenovka 54.44 296 P P 16 15 41.6 -0.4
SNR=14
HVU Hansel Valley 54.55 66 P P 16 15 44.2 +1.2
HVU pmax pmax
comp=Z,12nm,1.0s
HVU Hansel Valley 54.55 66 P P 16 15 44.2 +1.2
KBK Karagaybulak 54.65 295 P P 16 15 42.8 -0.8
SNR=8.1
AHID Auburn Hatcher 54.71 64 P P 16 15 45.0 +0.9
AAK Ala-Archa 54.89 296 P P 16 15 44.7 -0.7
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 54.89 296 P P 16 15 44.9 -0.5
SNR=7.7
AAK Ala-Archa 54.89 296 P P 16 15 44.7 -0.7
AAK IAmb IAmb 16 16 03.3
comp=Z,12nm,1.1s
KZA Kyzart 54.91 295 P P 16 15 45.8 0.0
SNR=6.7
PAGB Antelope Grade 54.91 77 P P 16 15 46.8 +1.3
PAGB IAmb IAmb 16 15 48.7
comp=Z,16nm,1.1s
NRN Naryn 54.98 294 P P 16 15 45.8 -0.5
NRN pmax pmax
comp=Z,4.0nm,0.8s
NRN Naryn 54.98 294 P P 16 15 45.8 -0.5
BGU Big Grassy Mou 55.03 67 P P 16 15 47.7 +1.3
TIN Tinemaha, Big 55.06 74 P P 16 15 49.3 +2.7
baz=317
SPUT South Promonto 55.06 66 P P 16 15 48.2 +1.6
EKS2 Erkin-Say 55.24 296 P P 16 15 49.2 +1.3
SNR=6.1
LSA Lhasa 55.28 273 P P 16 15 47.4 -1.3
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 55.28 273 P P 16 15 47.4 -1.3
HWUT Hardware Ranch 55.30 66 P P 16 15 50.3 +1.9
HWUT IAmb IAmb 16 15 51.4
comp=Z,18nm,0.8s
KLMR Klimovskoe 55.32 330 *e*P **P 16 15 46.5 -1.5**
KLMR pmax pmax
comp=Z,16nm,0.8s
KLMR Klimovskoe 55.32 330 *e*P **P 16 15 46.5 -1.5**
KLMR AMP 16 15 49.8
comp=Z,16nm,0.8s
SMMC Simmler 55.36 77 P P 16 15 50.9 +2.2
baz=318
SFJD Kangerlussuaq 55.39 15 P P 16 15 47.9 -0.5
SFJD pmax pmax
comp=Z,98nm,1.7s
SFJD Kangerlussuaq 55.39 15 P P 16 15 47.9 -0.5
VES Vestal, Richgr 55.48 76 P P 16 15 51.0 +1.6
baz=318,SNR=7.9
BW06 Boulder Array 55.49 63 P P 16 15 51.5 +1.6
baz=317,SNR=18
BW06 Boulder Array 55.49 63 P P 16 15 51.1 +1.3
BW06 IAmb IAmb 16 15 51.9
comp=Z,13nm,0.7s
PD31 Pinedale Array 55.49 63 P P 16 15 51.0 +1.2
PD31 IAmb IAmb 16 15 51.9
comp=Z,12nm,0.7s
PDAR Pinedale Array 55.49 63 P P 16 15 51.3 +1.5
comp=Z,9.7nm,0.6s,baz=326,slow=2.6,SNR=106
PDAR LR LR 16 39 08.1
comp=Z,33nm,18.4s,baz=9.0,slow=35
PDAR Pinedale Array 55.49 63 P P 16 15 51.0 +1.2
R11A Troy Canyon, C 55.55 71 P P 16 15 51.7 +1.5
baz=317,SNR=17
R11A Troy Canyon, C 55.55 71 P P 16 15 51.4 +1.2
GRAC Grapevine Rang 55.57 73 P P 16 15 52.5 +2.3
baz=317,SNR=5.8
CWC Cottonwood Cre 55.59 74 P P 16 15 52.4 +1.9
baz=318
AML Almayashu 55.67 296 P P 16 15 50.6 -0.7
SNR=8.8
DUG Dugway, Tooele 55.68 68 P P 16 15 53.0 +2.0
baz=317,SNR=20
DUG Dugway, Tooele 55.68 68 P P 16 15 52.7 +1.7
DUG pmax pmax
comp=Z,23nm,1.0s
DUG Dugway, Tooele 55.68 68 P P 16 15 52.7 +1.7
DUG IAmb IAmb 16 15 54.1
comp=Z,23nm,1.0s
TCUT Toone Canyon 55.74 66 P P 16 15 53.2 +1.5
JOF Joensuu 55.76 335 P P 16 15 54.2 +3.1
JOF pmax pmax
comp=Z,13nm,0.8s
PKM Mcpherson Peak 55.77 77 P P 16 15 54.0 +2.1
baz=318,SNR=11
CTU Camp Tracy 55.87 66 P P 16 15 53.8 +1.3
ISA Isabella, Lake 55.94 75 P P 16 15 54.1 +1.2
baz=318,SNR=6.6
ISA Isabella, Lake 55.94 75 P P 16 15 53.6 +0.7
ISA pmax pmax
comp=Z,8.0nm,1.2s
ISA Isabella, Lake 55.94 75 P P 16 15 53.6 +0.7
MPMC Manual Prospec 56.19 74 P P 16 15 56.6 +1.7
baz=318,SNR=9.0
TPNV Topopah Spring 56.21 73 P P 16 15 56.7 +1.8
baz=318,SNR=14
TPNV Topopah Spring 56.21 73 P P 16 15 56.3 +1.3
TPNV pmax pmax
comp=Z,31nm,1.6s
TPNV Topopah Spring 56.21 73 P P 16 15 56.3 +1.3
TPNV IAmb IAmb 16 16 01.5
comp=Z,31nm,1.6s
FURC Furnace Creek, 56.23 73 P P 16 15 57.1 +2.2
baz=318,SNR=7.5
NLU North Lily Min 56.24 67 P P 16 15 56.8 +1.6
PSUT Pine Spring 56.34 70 P P 16 15 56.6 +0.8
KSH Kashi 56.39 292 P P 16 16 00.1 +4.0
KSH sP sP 16 16 28.6 +7.3
KSH PP **PP 16 18 09.0 +7.1**
KSH S **S 16 23 44.5 +2.9**
KSH sS sS 16 24 17.0 +5.4
KSH SS **SS 16 27 33.3 +4.5**
KSH pmax pmax
comp=Z,14nm,0.6s
KSH pmax pmax
comp=Z,530nm,6.1s
KSH LR LR
comp=Z,270nm,12.6s
KSH LR LR
comp=Z,500nm,11.4s
KSH LR LR
comp=Z,190nm,10.2s
ULM Lac du Bonnet 56.44 49 P P 16 15 56.7 +0.6
ULM pmax pmax
comp=Z,29nm,1.3s
ULM Lac du Bonnet 56.44 49 P P 16 15 57.0 +0.9
comp=Z,6.3nm,0.4s,baz=314,slow=7.1,SNR=14
ULM LR LR 16 41 50.6
comp=Z,53nm,18.6s,baz=92,slow=38
ULM Lac du Bonnet 56.44 49 P P 16 15 56.7 +0.6
ULM IAmb IAmb 16 15 58.0
comp=Z,29nm,1.2s
LRMC Laurel Mtn Rad 56.51 75 P P 16 15 58.6 +1.5
baz=318,SNR=9.7
KK31 Karatay Array 56.57 299 *e*P **P 16 15 55.7 -1.5**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 56.57 299 P P 16 15 55.7 -1.5
KK31 IAmb IAmb 16 16 00.7
comp=Z,8.5nm,0.7s
KKAR Karatay Array 56.57 299 P P 16 15 55.1 -2.1
KKAR pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 56.57 299 P P 16 15 55.1 -2.1
KKAR Karatay Array 56.57 299 P P 16 15 55.4 -1.8
KKAR IAmb IAmb 16 16 00.7
comp=Z,8.5nm,0.7s
MDND Maddock 56.58 53 P P 16 15 59.0 +1.8
baz=318
MDND Maddock 56.58 53 P P 16 15 58.5 +1.4
ARSB Arslanbob 56.62 296 P P 16 15 56.9 -0.9
ARSB IAmb IAmb 16 16 00.1
comp=Z,6.8nm,0.6s
EDW2 Edwards Air Fo 56.78 76 P P 16 16 00.7 +1.8
baz=318,SNR=12
AB31 Akbulak array 56.96 310 *e*P **P 16 15 58.8 -1.1**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 56.96 310 P P 16 15 58.3 -1.5
ABKAR Akbulak array 56.96 310 P P 16 15 58.5 -1.3
ABKAR IAmb IAmb 16 15 59.5
comp=Z,8.6nm,0.6s
DECC Green Verdugo 57.06 76 P P 16 16 02.8 +2.0
baz=318
RDMU Red Mountain 57.09 65 P P 16 16 02.1 +0.9
K22A Casper 57.11 61 P P 16 16 02.9 +1.7
baz=318
SUF Sumiainen 57.11 337 P P 16 16 03.2 +2.5
GSC Goldstone, Bar 57.13 74 P P 16 16 03.4 +2.1
baz=318,SNR=10
GSC Goldstone, Bar 57.13 74 P P 16 16 02.5 +1.1
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 57.13 74 P P 16 16 02.5 +1.1
GSC IAmb IAmb 16 16 04.1
comp=Z,9.3nm,0.9s
SHPR Sheep Range 57.13 72 P P 16 16 02.7 +1.2
TMUT Trail Mountain 57.18 67 P P 16 16 03.6 +1.7
PASC Pasadena Art C 57.21 76 P P 16 16 03.0 +1.2
MWC Mount Wilson 57.24 76 P P 16 16 03.6 +1.3
MWC pmax pmax
comp=Z,9.0nm,0.9s
MWC Mount Wilson 57.24 76 P P 16 16 03.6 +1.3
MWC IAmb IAmb 16 16 04.4
comp=Z,9.2nm,0.9s
MSU Marysvale 57.24 69 P P 16 16 04.3 +2.0
MSU Marysvale 57.24 69 P P 16 16 04.3 +2.0
RSSD Black Hills 57.25 59 P P 16 16 03.6 +1.4
baz=318
RSSD Black Hills 57.25 59 P P 16 16 03.3 +1.0
RSSD pmax pmax
comp=Z,19nm,0.8s
RSSD Black Hills 57.25 59 P P 16 16 03.3 +1.0
P17A Butcher Ranch, 57.29 67 P P 16 16 03.9 +1.3
CCUT Cedar City 57.32 70 P P 16 16 04.6 +1.7
SZCU Shurtz Canyon 57.44 70 P P 16 16 05.2 +1.5
BFSC Mount Baldy Ra 57.45 76 P P 16 16 05.5 +1.8
baz=318,SNR=5.9
RWWY Rawlins 57.47 63 P P 16 16 04.7 +0.8
Q16A Castle Valley 57.48 68 P P 16 16 05.3 +1.4
TUQ Turquoise Moun 57.51 74 P P 16 16 05.9 +1.8
baz=318,SNR=10
MTPU Mount Pierson 57.59 69 P P 16 16 06.8 +1.9
SRU San Rafael Swe 57.67 67 P P 16 16 06.8 +1.5
SRU pmax pmax
comp=Z,21nm,0.6s
SRU San Rafael Swe 57.67 67 P P 16 16 06.8 +1.5
LCMT Little Creek M 57.79 70 P P 16 16 07.7 +1.7
AGMN Agassiz Nation 57.91 50 P P 16 16 07.2 +0.6
baz=319
AGMN Agassiz Nation 57.91 50 P P 16 16 07.0 +0.5
AGMN IAmb IAmb 16 16 23.4
comp=Z,12nm,1.0s
KNB Kanab 58.01 70 P P 16 16 09.3 +1.7
KNB pmax pmax
comp=Z,12nm,0.9s
KNB Kanab 58.01 70 P P 16 16 09.3 +1.7
O20A White River Ci 58.10 65 P P 16 16 09.9 +1.7
baz=318,SNR=37
O20A White River Ci 58.10 65 P P 16 16 09.3 +1.1
GMRC Granite Mounta 58.14 74 P P 16 16 10.4 +1.9
baz=319
MURC Murrieta 58.18 76 P P 16 16 10.0 +1.3
baz=319
FIA1 FINESS Array S 58.26 337 P P 16 16 08.2 -0.5
FINES FINESS Array B 58.26 337 P P 16 16 08.4 -0.4
comp=Z,12nm,0.7s,baz=32,slow=8.1,SNR=59
FINES LR LR 16 48 28.7
comp=Z,152nm,20.3s,baz=360,slow=44
FINES FINESS Array B 58.26 337 P P 16 16 08.2 -0.5
BELC Belle Mtn. Jos 58.54 75 P P 16 16 12.5 +1.2
baz=319,SNR=5.8
PFO Pinyon Flats O 58.58 75 P P 16 16 12.7 +1.1
baz=319
PFO Pinyon Flats O 58.58 75 P P 16 16 12.3 +0.7
PFO 16 17 01.7
PFO Pinyon Flats O 58.58 75 P P 16 16 12.3 +0.7
PFO **PcP 16 17 01.7 +0.5**
TPFO Pinon Flats 58.58 75 P P 16 16 12.9 +1.3
baz=319
PHWY Pilot Hill 58.64 62 P P 16 16 11.8 -0.3
BTK Batken 58.66 296 P P 16 16 09.8 -2.2
BTK pmax pmax
comp=Z,13nm,0.6s
BTK Batken 58.66 296 P P 16 16 09.8 -2.2
N23A Red Feather La 58.70 62 P P 16 16 14.2 +1.7
baz=319,SNR=11
N23A Red Feather La 58.70 62 P P 16 16 13.4 +0.9
U15A North Rim 58.73 70 P P 16 16 14.3 +1.5
PV09 Paradox Valley 58.85 66 P P 16 16 14.5 +0.8
W13A Hualapai Mount 58.87 72 P P 16 16 13.7 +0.1
IRM Iron Mountain 58.89 74 P P 16 16 15.4 +1.8
baz=319,SNR=9.3
PV21 Cone Mtn., Par 58.89 66 P P 16 16 14.1 +0.3
PV21 IAmb IAmb 16 16 16.0
comp=Z,10nm,0.7s
PHRA Phrae 58.91 257 P P 16 16 15.9 +2.0
comp=Z,1.1nm,0.9s
PV23 Carpenter Ridg 58.95 66 P P 16 16 15.1 +0.8
PV23 IAmb IAmb 16 16 16.9
comp=Z,12nm,0.8s
PV14 Lion Creek, Pa 59.01 66 P P 16 16 15.2 +0.6
PV14 IAmb IAmb 16 16 16.6
comp=Z,15nm,1.3s
PV22 Blue Mesa, Par 59.01 66 P P 16 16 15.6 +1.0
PV22 IAmb IAmb 16 16 16.7
comp=Z,13nm,0.7s
TAPN Taplejung 59.02 274 *e*P **P 16 16 13.5 -1.4**
comp=Z,22nm,0.8s
PV04 Paradox Valley 59.05 66 P P 16 16 16.1 +1.3
PV04 IAmb IAmb 16 16 17.6
comp=Z,18nm,0.9s
PV20 West Nyswonger 59.06 66 P P 16 16 15.9 +1.0
PV19 Morning Glory 59.07 66 P P 16 16 15.8 +0.7
BC3 Big Chuckawall 59.10 75 P P 16 16 16.7 +1.6
baz=319,SNR=6.1
PV16 Nyswonger Mesa 59.11 66 P P 16 16 16.0 +0.7
PV16 IAmb IAmb 16 16 17.9
comp=Z,11nm,0.7s
PV17 East Wray Mesa 59.11 66 P P 16 16 15.8 +0.5
MONP2 Monument Peak 59.14 76 P P 16 16 16.8 +1.2
baz=319
PV11 David Mesa, Pa 59.14 66 P P 16 16 16.4 +0.9
PV11 IAmb IAmb 16 16 18.1
comp=Z,15nm,0.8s
PV07 Paradox Valley 59.15 66 P P 16 16 16.8 +1.2
PV07 IAmb IAmb 16 16 18.1
comp=Z,11nm,0.8s
BAR Barrett 59.16 76 P P 16 16 16.5 +1.0
PV18 Skein Mesa, Pa 59.16 66 P P 16 16 16.7 +1.0
PV18 IAmb IAmb 16 16 18.2
comp=Z,16nm,0.9s
PV12 Saucer Basin, 59.16 66 P P 16 16 16.7 +1.1
PV12 IAmb IAmb 16 16 20.6
comp=Z,10nm,0.7s
PV03 Paradox Valley 59.18 66 P P 16 16 16.9 +1.1
PV03 IAmb IAmb 16 16 18.4
comp=Z,13nm,0.9s
PV05 Paradox Valley 59.19 67 P P 16 16 17.0 +1.1
PV13 Radium Mtn., P 59.27 66 P P 16 16 17.1 +0.7
PV02 Paradox Valley 59.28 66 P P 16 16 17.7 +1.2
CHTO Chiang Mai 59.37 258 P P 16 16 15.9 -1.2
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 59.37 258 P P 16 16 15.9 -1.2
PV01 Paradox Valley 59.42 66 P P 16 16 18.7 +1.2
PV01 IAmb IAmb 16 16 19.5
comp=Z,6.2nm,0.6s
SWSC Sam W. Stewart 59.44 75 P P 16 16 18.8 +1.5
baz=319
SMCO Snowmass 59.46 64 P P 16 16 18.5 +0.5
SMCO IAmb IAmb 16 16 20.5
comp=Z,11nm,0.8s
IKP In-Ko-Pah, Jac 59.49 76 P P 16 16 19.3 +1.5
baz=319
Y12C Blythe 59.53 74 P P 16 16 19.8 +1.8
baz=319,SNR=5.5
Y12C Blythe 59.53 74 P P 16 16 18.3 +0.3
Y12C IAmb IAmb 16 16 20.3
comp=Z,7.8nm,0.8s
ODAN Odare 59.58 274 *e*P **P 16 16 17.1 -1.6**
comp=Z,12nm,0.6s
GUN Gumba 59.63 276 *e*P **P 16 16 18.5 -0.7**
comp=Z,24nm,0.4s
CMAR Chiang Mai Arr 59.66 258 *i* P **P 16 16 18.7 -0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 59.66 258 P P 16 16 19.0 0.0
comp=Z,1.1nm,0.6s,baz=22,slow=7.2,SNR=8.0
CMAR PcP **PcP 16 17 05.5 0.0**
comp=Z,4.8nm,0.7s,baz=8.7,slow=3.1,SNR=17
CMAR LR LR 16 43 22.6
comp=Z,90nm,18.5s,baz=194,slow=37
CMAR Chiang Mai Arr 59.66 258 P P 16 16 17.5 -1.5
CMAR **PcP 16 17 05.1 -0.4**
ISCO Idaho Springs 59.69 63 P P 16 16 21.6 +2.2
baz=319,SNR=8.6
ISCO Idaho Springs 59.69 63 P P 16 16 20.1 +0.7
ISCO pmax pmax
comp=Z,8.0nm,0.7s
ISCO Idaho Springs 59.69 63 P P 16 16 20.1 +0.7
ISCO IAmb IAmb 16 16 22.1
comp=Z,7.6nm,0.7s
GAR Garm 59.71 296 P P 16 16 17.8 -1.6
GLA Glamis 59.89 75 P P 16 16 22.6 +2.1
baz=320
WUAZ Wupatki 59.91 70 P P 16 16 22.9 +2.1
baz=319,SNR=5.9
WUAZ Wupatki 59.91 70 P P 16 16 22.4 +1.6
RAMN Ramite 59.96 275 *e*P **P 16 16 19.7 -1.6**
comp=Z,17nm,0.4s
EYMN Ely 60.05 48 P P 16 16 22.0 +0.6
baz=321,SNR=5.7
EYMN Ely 60.05 48 P P 16 16 21.6 +0.2
KKN Kakani 60.06 276 *e*P **P 16 16 20.5 -1.5**
comp=Z,16nm,0.6s
PBKT Sadao Pong 60.07 255 P P 16 16 21.2 -0.6
MVCO Mesa Verde 60.15 67 P P 16 16 24.0 +1.5
baz=319
MVCO Mesa Verde 60.15 67 P P 16 16 22.8 +0.3
MVCO IAmb IAmb 16 16 25.0
comp=Z,6.9nm,0.6s
PKI Pulchoki 60.16 276 *e*P **P 16 16 21.0 -1.8**
comp=Z,15nm,0.8s
PKIN Phulchoki 60.16 276 *e*P **P 16 16 20.9 -1.8**
comp=Z,11nm,0.5s
DANN Dangsing 60.49 278 *e*P **P 16 16 23.8 -1.2**
comp=Z,23nm,0.5s
Q24A Divide 60.55 63 P P 16 16 26.7 +1.4
baz=320
CHGR Chuyangaron 60.56 296 P P 16 16 23.3 -1.8
S22A 4UR Ranch, Cre 60.62 65 P P 16 16 28.1 +2.3
baz=320,SNR=13
S22A 4UR Ranch, Cre 60.62 65 P P 16 16 26.9 +1.1
S22A IAmb IAmb 16 16 28.8
comp=Z,9.0nm,0.8s
X16A Lo Mia Camp, P 60.70 71 P P 16 16 27.8 +1.6
AKN Aaknes 60.96 347 *e*P **P 16 16 27.6 +0.2**
OBN Obninsk 60.98 328 *e*P **P 16 16 28.6 +1.1**
OBN *e**PP **sP 16 16 51.2 -1.6**
OBN *e* 16 18 50.7
OBN pmax pmax

comp=Z,8.0nm,1.1s
KOLN Koldanda 61.02 277 eP P 16 16 26.7 -1.8
comp=Z,15nm,0.6s
ECSD EROS Data Cent 61.05 54 P P 16 16 29.0 +0.8
baz=321,SNR=7.5
ECSD EROS Data Cent 61.05 54 P P 16 16 28.8 +0.5
ECSD IAmb IAmb 16 16 29.8
comp=Z,29nm,1.5s
E38A The Farm, Brul 61.08 49 P P 16 16 28.6 +0.3
baz=322
E38A The Farm, Brul 61.08 49 P P 16 16 28.5 +0.1
W18A Petrified Fore 61.08 69 P P 16 16 30.9 +2.1
baz=320
NC303 NORSAR Array S 61.25 344 P P 16 16 28.6 -0.7
NC204 NORSAR Array S 61.30 345 P P 16 16 29.0 -0.7
SDCO Great Sand Dun 61.30 65 P P 16 16 32.1 +1.8
baz=320,SNR=8.4
SDCO Great Sand Dun 61.30 65 P P 16 16 31.4 +1.1
NC405 NORSAR Array S 61.31 344 P P 16 16 29.0 -0.7
X18A Snowflake 61.41 70 P P 16 16 32.6 +1.5
X18A IAmb IAmb 16 16 34.1
comp=Z,13nm,0.8s
NB201 NORSAR Array S 61.43 344 P P 16 16 30.0 -0.6
NB2 NORSAR Subarra 61.45 344 P P 16 16 30.0 -0.7
comp=Z,14nm,0.6s,baz=18,slow=6.9
NB2 NORSAR Subarra 61.45 344 P P 16 16 30.0 -0.7
baz=18,slow=6.9
NOA NORSAR Array B 61.45 344 P P 16 16 30.4 -0.4
comp=Z,20nm,0.7s,baz=18,slow=6.9,SNR=73
NOA LR LR 16 44 36.1
comp=Z,36nm,18.4s,baz=335,slow=37
SWI Sorong 61.50 215 P P 16 16 31.5 0.0
UMPA Umpang Tak 61.53 257 P P 16 16 34.5 +2.7
comp=Z,15μm,0.6s
NAO01 NORSAR Array S 61.69 344 eP P 16 16 31.9 -0.4
UTHA Uthaitani 61.73 256 P P 16 16 35.4 +2.3
comp=Z,12μm,1.1s
214A Organ Pipe Nat 61.83 74 P P 16 16 35.6 +1.9
baz=320
214A Organ Pipe Nat 61.83 74 P P 16 16 34.8 +1.1
SKAR Skarslia 62.23 346 eP P 16 16 35.9 -0.1
NIL Nilore 62.23 290 P P 16 16 35.1 -1.2
NIL pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 62.23 290 P P 16 16 35.1 -1.2
NIL IAmb IAmb 16 16 55.9
comp=Z,10nm,0.9s
LPSR Galich'ya Gora 62.36 325 eP P 16 16 38.8 +2.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OSL Oslo 62.58 344 eP P 16 16 38.7 +0.5
VRH Novokhopyorsk 62.58 322 eP P 16 16 38.1 -0.3
VRH pmax pmax
comp=Z,10.0nm,0.5s
TUC Tucson 62.66 72 P P 16 16 41.1 +1.8
baz=320
TUC Tucson 62.66 72 P P 16 16 40.4 +1.1
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC Tucson 62.66 72 P P 16 16 40.4 +1.1
ASK Askoy 62.83 347 eP P 16 16 40.1 +0.2
BER Bergen 62.91 347 eP P 16 16 40.5 +0.1
ANMO Albuquerque 62.94 67 P P 16 16 42.9 +1.6
baz=321
ANMO Albuquerque 62.94 67 P P 16 16 42.1 +0.8
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO Albuquerque 62.94 67 P P 16 16 42.1 +0.8
SCHQ Schefferville 63.02 29 P P 16 16 41.1 -0.1
comp=Z,17nm,0.6s,baz=0.4,slow=5.7,SNR=13
SCHQ LR LR 16 48 10.2
comp=Z,36nm,18.1s,baz=310,slow=40
KONO Kongsberg 63.03 345 eP P 16 16 41.6 +0.4
KONO pmax pmax
comp=Z,38nm,1.7s
KONO Kongsberg 63.03 345 eP P 16 16 41.3 +0.1
ODD1 Odda 63.20 346 eP P 16 16 42.3 -0.1
LENM Lemitar 63.27 68 P P 16 16 44.3 +0.8
CBKS Cedar Bluff 63.37 60 P P 16 16 44.4 +0.5
baz=321
VSR Storozhevoye 63.45 324 eP P 16 16 43.0 -1.1
VSR pmax pmax
comp=Z,4.0nm,0.6s
BLS5 Blasjo 63.70 346 eP P 16 16 45.7 0.0
KBL Kabul 63.77 293 P P 16 16 44.4 -2.4
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 63.77 293 P P 16 16 44.4 -2.4
121A Cookes Peak, D 64.10 70 P P 16 16 50.5 +1.5
baz=321
121A Cookes Peak, D 64.10 70 P P 16 16 49.9 +1.0
319A Douglas 64.19 72 P P 16 16 50.8 +1.4
SANI Sanana 64.44 220 P P 16 16 50.5 -0.5
comp=Z,21nm,0.9s
JFWS Jewell Farm 64.57 51 P P 16 16 51.6 0.0
baz=323
E47A Iron Bridge 64.61 44 P P 16 16 51.2 -0.6
baz=325
SNART Snartemo 64.64 345 eP P 16 16 51.7 -0.1
KSU1 Kansas State U 64.67 57 P P 16 16 52.1 -0.2
baz=322
LSQQ Lebel-sur-Quev 64.79 38 P P 16 16 52.5 -0.5
baz=328
G46A Petoskey 64.90 46 P P 16 16 53.6 -0.1
baz=325
CHGQ Chibougamau 64.97 36 P P 16 16 52.7 -1.4
baz=329
AAI Ambon 65.17 217 P P 16 16 55.5 -0.3
D50A G1974 Best Tow 65.34 41 P P 16 16 55.6 -1.0
baz=327
GLMI Grayling 65.41 46 P P 16 16 57.2 +0.2
baz=325
VLDQ Val d'Or 65.42 39 P P 16 16 55.2 -1.8
MSTX Muleshoe 65.62 65 P P 16 16 59.6 +0.9
baz=322,SNR=7.3
MSTX Muleshoe 65.62 65 P P 16 16 59.0 +0.4
MSTX IAmb IAmb 16 17 00.3
comp=Z,15nm,1.0s
BIGH Upper Bighouse 65.73 352 eP P 16 16 58.9 0.0
RSC Scourie 65.97 353 eP P 16 17 00.1 -0.3
MNTX Cornudas Mount 66.03 69 P P 16 17 02.8 +1.5
baz=322,SNR=19
MNTX Cornudas Mount 66.03 69 P P 16 17 02.0 +0.7
D53A Lac Vacive, Po 66.21 40 P P 16 17 01.8 -0.3
baz=328,SNR=5.3
D53A Lac Vacive, Po 66.21 40 P P 16 17 01.3 -0.9
D53A IAmb IAmb 16 17 02.5
comp=Z,24nm,0.9s
SBUM Sibu 66.22 236 P P 16 17 02.0 -0.6
D54A Lac Fusel, La 66.52 39 P P 16 17 03.6 -0.6
baz=328
MCD Coleburn Disti 66.58 351⇑ eP P 16 17 04.2 -0.1
GEYT Alibeck 66.58 303 P P 16 17 03.3 -1.4
comp=Z,6.0nm,0.7s,baz=86,slow=2.0,SNR=4.9
GEYT LR LR 16 51 43.1
comp=Z,50nm,18.1s,baz=20,slow=41
GYA0B ALIBECK ARRAY 66.58 303 P P 16 17 03.1 -1.6
HDIL Hopedale 66.89 52 P P 16 17 06.8 +0.2
baz=324,SNR=5.6
HDIL Hopedale 66.89 52 P P 16 17 06.5 -0.1
E54A Lac Daplat, Po 66.94 40 P P 16 17 05.9 -0.9
baz=328
AKASG Malin Array Be 67.01 329 P P 16 17 05.8 -1.3
comp=Z,2.2nm,0.4s,baz=28,slow=6.8,SNR=12
AKASG LR LR 16 51 30.3
comp=Z,43nm,20.1s,baz=325,slow=40
AKBB Malin Array Si 67.01 329 P P 16 17 06.0 -1.2
AKBB pmax pmax
comp=Z,21nm,1.6s
AKBB Malin Array Si 67.01 329 P P 16 17 06.0 -1.2
KPL Plockton 67.01 353 eP P 16 17 05.7 -1.3
WMOK Wichita Mounta 67.05 62 P P 16 17 08.3 +0.6
baz=323,SNR=21
WMOK Wichita Mounta 67.05 62 P P 16 17 08.2 +0.6
WMOK pmax pmax
comp=Z,18nm,0.9s
WMOK Wichita Mounta 67.05 62 P P 16 17 08.2 +0.5
WMOK IAmb IAmb 16 17 09.3
comp=Z,18nm,0.9s
D55A Sainte-Anne-du 67.06 39 P P 16 17 07.2 -0.4
baz=329
DRUM Mains of Drumt 67.17 351⇑ eP P 16 17 07.5 -0.6
DRUM IAmb IAmb 16 17 08.8
comp=Z,25nm,0.7s
K48A Perry 67.28 47 P P 16 17 09.5 +0.5
baz=326
D56A ZEC Mazanza, M 67.29 38 P P 16 17 08.6 -0.4
baz=329
L47A Sherwood 67.51 48 P P 16 17 10.4 -0.1
baz=326
G53A Haliburton 67.52 42 P P 16 17 09.8 -0.6
baz=328
P43A Skaggs, Pawnee 67.53 52 P P 16 17 10.4 -0.3
P43A IAmb IAmb 16 17 11.4
comp=Z,33nm,1.1s
K49A Clarkson 67.57 46 P P 16 17 11.4 +0.6
baz=326
TUL1 Leonard 67.59 59 P P 16 17 11.7 +0.6
baz=323
D57A Chemin Vers le 67.62 38 P P 16 17 11.0 -0.1
baz=330
E56A St. Veronique 67.62 39 P P 16 17 11.1 0.0
baz=329
INVG Invergeldie, C 67.79 352⇑ eP P 16 17 11.6 -0.4
INVG IAmb IAmb 16 17 12.1
comp=Z,20nm,0.7s
M47A Cromwell 67.83 49 P P 16 17 13.1 +0.6
baz=326
L48A N Adams 67.86 47 P P 16 17 13.0 +0.3
baz=326
KSM Kuching 67.98 238 P P 16 17 13.5 -0.3
L49A Milan 68.00 47 P P 16 17 13.8 +0.3
baz=326
CCM Cathedral Cave 68.03 55 P P 16 17 14.0 +0.2
baz=324
CCM Cathedral Cave 68.03 55 P P 16 17 13.5 -0.3
CCM pmax pmax
comp=Z,20nm,1.1s
CCM Cathedral Cave 68.03 55 P P 16 17 13.5 -0.3
CCM IAmb IAmb 16 17 14.8
comp=Z,20nm,1.1s
E57A Chemin Saint G 68.05 38 P P 16 17 13.7 -0.1
baz=330
EAB Aberfoyle 68.05 352⇑ eP P 16 17 13.4 -0.2
LAWE Loch Awe, Argy 68.06 352⇑ eP P 16 17 13.5 -0.2
LAWE IAmb IAmb 16 17 14.6
comp=Z,28nm,0.8s
M48A Edgerton 68.12 48 P P 16 17 14.5 +0.2
baz=326
M48A Edgerton 68.12 48 P P 16 17 13.8 -0.5
G55A Calabogie 68.12 40 P P 16 17 13.3 -0.9
baz=329
ESY Stoneypath 68.17 351⇑ eP P 16 17 13.8 -0.5
HHAR Hobbs 68.19 58 P P 16 17 14.4 -0.5
N47A Urbana 68.20 49 P P 16 17 14.6 -0.2
baz=326
MGMO Mountain Grove 68.28 56 P P 16 17 14.9 -0.6
MGMO IAmb IAmb 16 17 16.0
comp=Z,13nm,0.8s
ABTX Abilene, Hawle 68.28 64 P P 16 17 16.1 +0.6
baz=323
ABTX Abilene, Hawle 68.28 64 P P 16 17 15.5 0.0
ABTX IAmb IAmb 16 17 17.0
comp=Z,13nm,0.8s
KIV Kislovodsk 68.31 317 eP P 16 17 16.2 +0.6
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,294nm,17.0s
AKT Akhty 68.36 312 eP P 16 17 15.5 -0.4
AKT e*PP pP 16 17 37.3 +3.4
AKT e 16 17 39.9
AKT pmax pmax
comp=Z,11nm,0.7s
E58A La Victoria 68.39 38 P P 16 17 15.9 0.0
baz=330
KBZ Khabaz 68.42 317 P P 16 17 15.9 -0.3
comp=Z,5.1nm,0.8s,baz=30,slow=3.4,SNR=19
KBZ LR LR 16 49 40.4
comp=Z,170nm,18.2s,baz=10.0,slow=38
PGBU Glenifferbraes 68.44 352 eP P 16 17 16.0 0.0
PGBU IAmb IAmb 16 17 16.7
comp=Z,61nm,0.8s
N48A Decatur 68.50 49 P P 16 17 16.5 -0.2
baz=326
P46A Rosedale 68.58 51 P P 16 17 17.3 +0.1
baz=326,SNR=6.2
U40A Yellville 68.65 57 P P 16 17 17.7 0.0
baz=324,SNR=10
U40A Yellville 68.65 57 P P 16 17 17.2 -0.5
U40A IAmb IAmb 16 17 18.5
comp=Z,18nm,1.0s
TX31 Lajitas Ar. Si 68.80 69 P P 16 17 18.5 -0.3
TX32 Lajitas Array 68.80 69 P P 16 17 18.7 -0.1
TX32 IAmb IAmb 16 17 21.1
comp=Z,14nm,0.9s
TXAR Lajitas Array 68.80 69 P P 16 17 19.4 +0.6
TXAR Lajitas Array 68.80 69 P P 16 17 20.0 +1.2
comp=Z,13nm,0.8s,baz=296,slow=4.7,SNR=117
TXAR Lajitas Array 68.80 69 P P 16 17 19.4 +0.6
N49A Columbus Grove 68.81 48 P P 16 17 18.3 -0.3
baz=326
ESK Eskdalemuir 68.82 351 eP P 16 17 18.2 -0.2
ESK IAmb IAmb 16 17 19.3
comp=Z,20nm,0.8s
ESK Eskdalemuir 68.82 351 P P 16 17 18.0 -0.4
ESK pmax pmax
comp=Z,20nm,0.8s
ESK Eskdalemuir 68.82 351 P P 16 17 18.0 -0.4
ESK IAmb IAmb 16 17 19.1
comp=Z,20nm,0.8s
OLIL Olney 68.91 52 P P 16 17 19.5 +0.3
E60A Ste Agathe de 69.02 36 P P 16 17 19.5 -0.3
baz=331
W39A Magazine 69.14 58 P P 16 17 21.0 +0.2
baz=324
D62A Allapoint, All 69.18 35 P P 16 17 20.9 +0.1
baz=332
S44A Carbondale 69.24 53 P P 16 17 21.4 +0.1
baz=325,SNR=5.1
SIUC Southern Illin 69.24 53 P P 16 17 21.0 -0.3
SIUC IAmb IAmb 16 17 22.3
comp=Z,26nm,1.0s
CLGH Cloghs, Cushen 69.29 353⇑ eP P 16 17 21.0 -0.3
CLGH IAmb IAmb 16 17 22.3
comp=Z,24nm,0.9s
N50A Nevada 69.37 47 P P 16 17 22.1 0.0
baz=327
FCAR Ozark Folk Cen 69.37 56 P P 16 17 21.6 -0.5
FCAR IAmb IAmb 16 17 22.9
comp=Z,23nm,1.1s
GAL1 Galloway 69.39 352 eP P 16 17 21.5 -0.4
GAL1 IAmb IAmb 16 17 22.2
comp=Z,17nm,0.8s
E62A Clayton Lake 69.44 35 P P 16 17 22.6 +0.2
baz=332,SNR=6.8
E62A Clayton Lake 69.44 35 P P 16 17 22.2 -0.2
PBMO Poplar Bluff 69.44 55 P P 16 17 22.4 -0.2
P48A Milroy 69.49 50 P P 16 17 22.4 -0.4
baz=326,SNR=6.3
P48A Milroy 69.49 50 P P 16 17 22.0 -0.8
P48A IAmb IAmb 16 17 23.1
comp=Z,30nm,0.9s
F61A St Evariste 69.52 36 P P 16 17 22.5 -0.4
baz=331
KESW Keswick, Cumbr 69.53 351 eP P 16 17 22.6 -0.3
KESW IAmb IAmb 16 17 23.6
comp=Z,45nm,0.8s
SORM Soroca 69.56 329 ⇑P P 16 17 21.1 -2.1
N51A Ashland 69.57 47 P P 16 17 23.0 -0.3
baz=327
KULM Kulim 69.60 249 P P 16 17 22.8 -1.0
KULM IAmb IAmb 16 17 24.5
comp=Z,13nm,0.9s
K54A Basiliko Farm, 69.62 43 P P 16 17 22.9 -0.8
baz=328
O50A Cable 69.69 48 P P 16 17 24.0 -0.1
baz=327,SNR=5.6
P49A Miami Univ. Ec 69.73 49 P P 16 17 24.2 -0.2
baz=326
USIN University of 69.73 52 P P 16 17 23.9 -0.5
USIN IAmb IAmb 16 17 25.5
comp=Z,29nm,0.9s
K55A Perry 69.76 43 P P 16 17 23.5 -1.0
baz=329
MIAR Mount Ida 69.76 58 P P 16 17 25.3 +0.7
baz=324,SNR=5.6
MIAR Mount Ida 69.76 58 P P 16 17 24.7 +0.1
MIAR pmax pmax
comp=Z,28nm,1.3s
MIAR Mount Ida 69.76 58 P P 16 17 24.7 +0.1
MIAR IAmb IAmb 16 17 26.1
comp=Z,28nm,1.2s
KWP Kalwaria Pacla 69.76 333 P P 16 17 24.0 -0.4
KWP Kalwaria Pacla 69.76 333 P P 16 17 24.0 -0.4
WHAR Wooly Hollow 69.78 57 P P 16 17 24.7 0.0
WHAR IAmb IAmb 16 17 25.8
comp=Z,18nm,0.9s
Q48A North Vernon 69.79 50 P P 16 17 24.2 -0.5
baz=326
ACSO Alum Creek Sta 69.89 48 P P 16 17 25.4 +0.1
baz=327
ACSO Alum Creek Sta 69.89 48 P P 16 17 25.0 -0.3
W41B Gary Mavity, V 69.89 57 P P 16 17 25.8 +0.4
baz=325,SNR=8.9
W41B Gary Mavity, V 69.89 57 P P 16 17 25.4 0.0
W41B IAmb IAmb 16 17 26.6
comp=Z,27nm,1.0s
JCT Junction City 69.91 65 P P 16 17 26.4 +0.8
baz=323,SNR=8.5
JCT Junction City 69.91 65 P P 16 17 25.9 +0.3
JCT pmax pmax
comp=Z,19nm,0.8s
JCT Junction City 69.91 65 P P 16 17 25.9 +0.3
JCT IAmb IAmb 16 17 27.1
comp=Z,19nm,0.8s
N52A McGinn's Farm, 69.94 46 P P 16 17 25.3 -0.3
baz=327
P50A Jamestown 70.06 48 P P 16 17 26.3 0.0
baz=327
K56A Middlesex 70.07 42 P P 16 17 25.7 -0.7
baz=329
L55A Hinsdale 70.08 43 P P 16 17 26.1 -0.4
baz=329
IPM Ipoh 70.09 248 P P 16 17 25.4 -1.4
IPM IAmb IAmb 16 17 30.3
comp=Z,14nm,0.8s
WIM Isle of Man 70.10 352⇑ eP P 16 17 25.9 -0.5
GMM Mts of Mourne 70.11 352⇑ eP P 16 17 26.1 -0.3
O51A Pataskala 70.11 47 P P 16 17 26.8 +0.1
baz=327
WCI Wyandotte Cave 70.13 51 P P 16 17 27.0 +0.2
baz=326
WCI Wyandotte Cave 70.13 51 P P 16 17 26.6 -0.2
WCI pmax pmax
comp=Z,19nm,0.9s
WCI Wyandotte Cave 70.13 51 P P 16 17 26.6 -0.2
WCI IAmb IAmb 16 17 27.7
comp=Z,19nm,0.8s
E64A Bridgewater 70.16 34 P P 16 17 26.5 -0.3
baz=333
X40A Basin Creek Fa 70.17 58 P P 16 17 27.9 +0.8
baz=325,SNR=6.2
X40A Basin Creek Fa 70.17 58 P P 16 17 27.6 +0.5
X40A IAmb IAmb 16 17 28.5
comp=Z,21nm,1.1s
M54A Oil Creek Stat 70.17 45 P P 16 17 26.6 -0.4
baz=328
M54A Oil Creek Stat 70.17 45 P P 16 17 26.4 -0.6
J58A Remsen 70.27 41 P P 16 17 26.8 -0.8
baz=330
J58A Remsen 70.27 41 P P 16 17 26.8 -0.8
N53A Lisbon 70.29 46 P P 16 17 27.8 0.0
baz=328
CLL Collm 70.40 340⇑ iP P 16 17 27.8 -0.4
CLL pmax pmax
comp=Z,23nm,1.2s
CLL Collm 70.40 340⇑ iP P 16 17 27.8 -0.4
comp=Z,23nm,1.2s
CLL Collm 70.40 340 P P 16 17 27.6 -0.6
CLL IAmb IAmb 16 17 28.8
comp=Z,28nm,1.2s
CHVC Chvalec 70.45 338 eP P 16 17 28.7 +0.1
H61A Lyndonville 70.46 38 P P 16 17 29.1 +0.4
baz=331
L56A Greenwood 70.46 43 P P 16 17 28.3 -0.6
baz=329
O52A Adamsville 70.46 47 P P 16 17 28.2 -0.6
baz=328
O52A Adamsville 70.46 47 P P 16 17 28.5 -0.3
P51A Williamsport 70.48 48 P P 16 17 28.6 -0.3
baz=327
P51A Williamsport 70.48 48 P P 16 17 27.8 -1.1
P51A IAmb IAmb 16 17 29.3
comp=Z,20nm,0.9s
N54A Moraine State 70.50 45 P P 16 17 28.7 -0.4
baz=328
KOLS Kolonicke sedl 70.52 333 eP P 16 17 32.0 +3.0
KOLS Kolonicke sedl 70.52 333 eP P 16 17 32.0 +3.0
UPC Upice 70.54 338 eP P 16 17 29.7 +0.6
UPC Upice 70.54 338 eP P 16 17 29.7 +0.6
M55A Ridgway 70.56 44 P P 16 17 29.1 -0.3
baz=328
M55A Ridgway 70.56 44 P P 16 17 28.8 -0.7
R49A Shelbyville 70.57 50 P P 16 17 29.7 +0.3
baz=326
R49A Shelbyville 70.57 50 P P 16 17 29.2 -0.3
R49A IAmb IAmb 16 17 33.3
comp=Z,29nm,1.4s
LBWR Ladybower, Pea 70.57 350 eP P 16 17 29.0 -0.3
LBWR IAmb IAmb 16 17 30.1
comp=Z,41nm,0.8s
O53A New Philadelph 70.61 46 P P 16 17 29.4 -0.3
baz=328
DPC Dobruska-Polom 70.62 337 eP P 16 17 30.0 +0.4
DPC Dobruska-Polom 70.62 337 eP P 16 17 30.0 +0.4
Q50A Georgetown 70.62 49 P P 16 17 29.8 0.0
baz=327
BRG Berggiesshubel 70.63 339 eP P 16 17 29.4 -0.2
comp=Z,7.6nm,0.7s
BRG Berggiesshubel 70.63 339 eP P 16 17 29.4 -0.2
BRG pmax pmax
comp=Z,8.0nm,0.7s
Q51A Peebles 70.74 48 P P 16 17 30.8 +0.3
baz=327
Q51A Peebles 70.74 48 P P 16 17 30.0 -0.5
Q51A IAmb IAmb 16 17 31.4
comp=Z,18nm,0.9s
P52A Corning 70.74 47 P P 16 17 29.6 -0.9
baz=328
KRLC Kraliky 70.78 337 eP P 16 17 30.5 -0.1
KRLC Kraliky 70.78 337 eP P 16 17 30.5 -0.1
M56A Emporium 70.78 44 P P 16 17 30.3 -0.4
baz=329
T47A Sharon Grove 70.79 52 P P 16 17 31.5 +0.6
baz=326,SNR=8.3
T47A Sharon Grove 70.79 52 P P 16 17 30.7 -0.1
T47A IAmb IAmb 16 17 32.2
comp=Z,31nm,1.0s
WME Myndd Eilian 70.82 351⇑ eP P 16 17 30.0 -0.7
PVCC Panska Ves 70.82 339 eP P 16 17 30.9 +0.1
PVCC Panska Ves 70.82 339 eP P 16 17 30.9 +0.1
MORC Moravsky Berou 70.88 336 P P 16 17 31.1 -0.2
MORC pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 70.88 336 ⇑P P 16 17 31.5 +0.2
MORC mb 16 17 32.5
MORC Moravsky Berou 70.88 336 eP P 16 17 31.4 +0.2
MORC Moravsky Berou 70.88 336 P P 16 17 31.1 -0.2
BUR08 Bucovina Ar. S 70.91 331 P P 16 17 30.7 -0.9
BUR08 IAmb IAmb 16 17 34.1
comp=Z,45nm,2.0s
WLF1 Llynfaes 70.93 351 eP P 16 17 30.7 -0.7
WLF1 IAmb IAmb 16 17 32.3
comp=Z,37nm,1.1s
BURAR Bucovina Array 70.94 331 ⇑P P 16 17 30.9 -0.8
BURAR mb 16 17 35.9
BURAR Bucovina Array 70.94 331 P P 16 17 30.6 -1.1
K59A Cooperstown 70.94 41 P P 16 17 31.4 -0.3
baz=330
S49A Springfield 70.94 51 P P 16 17 31.8 +0.1
baz=327,SNR=6.5
R50A Paris 70.94 50 P P 16 17 31.6 -0.1
baz=327
R50A Paris 70.94 50 P P 16 17 31.4 -0.4
R50A IAmb IAmb 16 17 32.4
comp=Z,16nm,0.9s
COEN Coen 70.99 199 P P 16 17 32.7 +0.6
COEN pP 16 17 50.1 -0.1
COEN IAmb IAmb 16 17 51.3
comp=Z,14nm,0.8s
O54A Avella 71.00 46 P P 16 17 32.4 +0.3
baz=328
LANS Liptovska Anna 71.02 335 eP P 16 17 33.2 +1.1
LANS pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 71.02 335 eP P 16 17 33.2 +1.1

N55A	Marion Center	71.06	44	P	P	16 17 31.7	-0.7
	baz=329						
DSB	Dublin	71.13	353	P	P	16 17 32.3	-0.3
DSB				IAmb	IAmb	16 17 33.4	
	comp=Z,24nm,0.9s						
WVT	Waverly	71.17	53	P	P	16 17 33.6	+0.5
	baz=326						
WVT	Waverly	71.17	53	P	P	16 17 33.3	+0.1
WVT				pmax	pmax		
	comp=Z,27nm,1.0s						
WVT	Waverly	71.17	53	P	P	16 17 33.3	+0.1
WVT				IAmb	IAmb	16 17 34.7	
	comp=Z,27nm,1.0s						
P53A	Whipple	71.18	47	P	P	16 17 33.1	0.0
	baz=328						
TRPA	Tarpa	71.19	332	⇓P	P	16 17 33.4	+0.4
TRPA				mb		16 17 36.5	
L58A	Harry Jones Me	71.19	42	P	P	16 17 32.8	-0.4
	baz=330						
N56A	West Decatur	71.22	44	P	P	16 17 33.0	-0.4
	baz=329						
R51A	Hillsboro	71.25	49	P	P	16 17 33.9	+0.3
	baz=327						
Q52A	Bidwell	71.25	48	P	P	16 17 33.1	-0.5
	baz=328						
MOX	Moxa	71.30	340	P	P	16 17 34.8	+1.1
MOX				pmax	pmax		
	comp=Z,13nm,1.1s						
LLW	Llanuwychllyn	71.30	351⇑	eP	P	16 17 33.3	-0.4
LLW				IAmb	IAmb	16 17 34.5	
	comp=Z,6.5nm,0.7s						
M57A	Sunshine Farm,	71.31	43	P	P	16 17 33.4	-0.5
	baz=329						
PRU	Pruhonice	71.34	338	eP	P	16 17 33.9	-0.1
PRU	Pruhonice	71.34	338	eP	P	16 17 33.9	-0.1
GOPC	GO Pecny, Ondr	71.36	338	eP	P	16 17 34.0	-0.1
GOPC	GO Pecny, Ondr	71.36	338	eP	P	16 17 34.0	-0.1
L59A	Walton	71.37	41	P	P	16 17 33.7	-0.6
	baz=330						
T49A	Edmonton	71.39	51	P	P	16 17 34.8	+0.3
	baz=327,SNR=5.5						
T49A	Edmonton	71.39	51	P	P	16 17 34.5	0.0
T49A				IAmb	IAmb	16 17 35.6	
	comp=Z,17nm,0.8s						
S50A	Richmond	71.41	50	P	P	16 17 34.4	-0.2
	baz=327						
O55A	Ligonier	71.42	45	P	P	16 17 34.0	-0.6
	baz=328						
P54A	Burton	71.45	46	P	P	16 17 35.0	+0.1
	baz=328,SNR=5.7						
NKC	Novy Kostel	71.53	340	eP	P	16 17 35.2	0.0
NKC	Novy Kostel	71.53	340	eP	P	16 17 35.2	0.0
NKC				ex	x	16 17 38.1	
VRAC	Vranov	71.54	337	⇑P	P	16 17 35.8	+0.6
VRAC				mb		16 17 36.2	
VRAC	Vranov	71.54	337	eP	P	16 17 35.4	+0.2
SSPA	Standing Stone	71.62	44	P	P	16 17 35.4	-0.4
	baz=329						
R52A	Catlettsburg	71.62	48	P	P	16 17 35.7	-0.1
	baz=328						
N57A	Milroy	71.64	44	P	P	16 17 35.4	-0.5
	baz=329						
Q53A	Leroy	71.65	47	P	P	16 17 36.1	+0.1
	baz=328,SNR=6.4						
O56A	Blue Knob Stat	71.66	44	P	P	16 17 35.7	-0.4
	baz=329						
JAVC	Velka Javorina	71.72	336	eP	P	16 17 37.4	+1.1
T50A	Nancy	71.77	51	P	P	16 17 37.2	+0.4
	baz=327,SNR=6.5						
OXF	Oxford	71.77	55	P	P	16 17 37.6	+0.8
	baz=326,SNR=6.9						
OXF	Oxford	71.77	55	P	P	16 17 37.2	+0.4
OXF				pmax	pmax		
	comp=Z,72nm,1.1s						
OXF	Oxford	71.77	55	P	P	16 17 37.2	+0.4
U49A	Red Boiling Sp	71.78	52	P	P	16 17 37.0	+0.2
	baz=327						
VYHS	Vyhne	71.78	335	eP	P	16 17 36.9	+0.2
VYHS	Vyhne	71.78	335	eP	P	16 17 36.9	+0.2
P55A	Reedsville	71.80	46	P	P	16 17 37.0	0.0
	baz=328						
KRUC	Moravsky	71.81	337	eP	P	16 17 37.0	+0.2
Q54A	Coxs Mills	71.83	47	P	P	16 17 37.3	+0.2
	baz=328						
CLTN	Cedars of Leba	71.88	52	P	P	16 17 37.5	+0.1
CLTN				IAmb	IAmb	16 17 38.7	
	comp=Z,13nm,0.8s						
N58A	Sunbury	71.90	43	P	P	16 17 36.9	-0.5
	baz=330						
R53A	Hurricane	71.92	48	P	P	16 17 37.9	+0.3
	baz=328,SNR=5.6						
R53A	Hurricane	71.92	48	P	P	16 17 37.6	0.0
V48A	Smith Brothers	71.95	53	P	P	16 17 38.4	+0.5
	baz=326						
V48A	Smith Brothers	71.95	53	P	P	16 17 37.8	-0.1
V48A				IAmb	IAmb	16 17 39.0	
	comp=Z,20nm,0.9s						
PLAL	Pickwick Lake	72.00	54	P	P	16 17 38.1	0.0
PSZ	Piszkesteto	72.06	334	⇑P	P	16 17 37.5	-0.9
O57A	Amberson	72.08	44	P	P	16 17 38.6	0.0
	baz=329						
MCH1	Michaelchurch	72.08	350	eP	P	16 17 37.4	-1.0
MCH1				IAmb	IAmb	16 17 39.0	
	comp=Z,20nm,0.8s						
Q55A	Buckhannon	72.13	46	P	P	16 17 39.4	+0.4
	baz=328						
P56A	Dayton Farm, R	72.20	45	P	P	16 17 39.6	+0.3
	baz=329,SNR=7.3						
MONM	Monmouth	72.22	350	eP	P	16 17 39.0	-0.2
MONM				IAmb	IAmb	16 17 39.9	
	comp=Z,33nm,0.8s						
MODS	Modra-Piesok	72.26	336	eP	P	16 17 39.2	-0.3
MODS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MODS	Modra-Piesok	72.26	336	eP	P	16 17 39.2	-0.3
U50A	Jamestown	72.27	51	P	P	16 17 40.2	+0.4
	baz=327,SNR=7.2						
GRA1	Grafenberg Arr	72.29	340	P	P	16 17 39.4	-0.3
GRA1				IAmb	IAmb	16 17 41.0	
	comp=Z,19nm,0.6s						
GRF	Grafenberg Arr	72.29	340	P	P	16 17 39.4	-0.3
GRF				pmax	pmax		
	comp=Z,19nm,0.6s						
MEM	Membach	72.31	344	⇑P	P	16 17 39.6	-0.1
	comp=Z,24nm,1.0s						
KHC	Kasperske Hory	72.36	339	P	P	16 17 40.1	0.0
KHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KHC	Kasperske Hory	72.36	339	eP	P	16 17 40.5	+0.4
KHC				epP	pP	16 18 00.0	+1.8
KHC	Kasperske Hory	72.36	339	P	P	16 17 40.1	0.0
DRGR		72.38	332	⇑P	P	16 17 40.0	-0.4
BSTI	Sart Tilman	72.40	344	P	P	16 17 40.5	+0.2
R54A	Victor	72.45	47	P	P	16 17 41.2	+0.3
	baz=328						
T52A	Hallie	72.50	49	P	P	16 17 41.7	+0.5
	baz=328						
T52A	Hallie	72.50	49	P	P	16 17 41.3	+0.1
GEC2	GERESS Array S	72.60	339	P	P	16 17 41.4	-0.3
GERES	GERESS Array B	72.60	339	P	P	16 17 41.7	+0.1
	comp=Z,4.2nm,0.7s,baz=35,slow=4.8,SNR=25						
GERES				LR	LR	16 55 28.9	
	comp=Z,100nm,18.0s,baz=347,slow=41						
GERES	GERESS Array B	72.60	339	P	P	16 17 41.4	-0.3
PSI	Prapat	72.61	249	P	P	16 17 41.0	-1.1
PSI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PSI	Prapat	72.61	249	P	P	16 17 41.6	-0.5
	comp=Z,7.5nm,0.6s,baz=23,slow=8.2,SNR=10						
MLR	Muntele Rosu	72.66	329	P	P	16 17 42.0	-0.1
MLR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MLR	Muntele Rosu	72.66	329	⇑P	P	16 17 42.3	+0.2
MLR	Muntele Rosu	72.66	329	P	P	16 17 42.0	-0.1
U51A	La Follette	72.67	50	P	P	16 17 42.6	+0.5
	baz=327						
AFI	Afiamalu	72.69	153	LR	LR	16 42 37.5	
	comp=Z,55nm,20.5s,baz=84,slow=30						
RPSI	Rantau Prapat	72.70	249	P	P	16 17 41.0	-1.5
RPSI				IAmb	IAmb	16 17 42.3	
	comp=Z,9.4nm,0.6s						
RPSI	Rantau Prapat	72.70	249	P	P	16 17 41.6	-0.9
W49A	Belvidere	72.72	53	P	P	16 17 42.7	+0.3
	baz=327						
R55A	Marlinton	72.72	47	P	P	16 17 42.9	+0.4
	baz=328						
TZTN	Tazewell	72.73	50	P	P	16 17 42.7	+0.2
	baz=328						
TZTN	Tazewell	72.73	50	P	P	16 17 42.8	+0.2
TZTN				IAmb	IAmb	16 17 43.8	
	comp=Z,25nm,0.8s						
Q57A	Strasburg	72.78	45	P	P	16 17 42.4	-0.3
	baz=329						
V50A	Pikevile	72.78	52	P	P	16 17 42.9	+0.1
	baz=327						
SWET	Sewanee	72.79	52	P	P	16 17 42.5	-0.4
BMRD	Maredsous	72.79	345	P	P	16 17 42.5	-0.1
T53A	Wise	72.80	49	P	P	16 17 43.7	+0.7
	baz=328,SNR=9.2						
BATI	Baumata	72.83	219	P	P	16 17 41.3	-1.9
X48A	Hartselle	72.92	54	P	P	16 17 43.5	-0.1
	baz=326						
X48A	Hartselle	72.92	54	P	P	16 17 43.1	-0.5
X48A				IAmb	IAmb	16 17 44.5	
	comp=Z,20nm,1.1s						
U52A	Thorn Hill	72.94	50	P	P	16 17 44.2	+0.4
	baz=328,SNR=7.0						
VOIR		72.97	330	⇓P	P	16 17 44.3	+0.4
CONA	Conrad Observa	73.00	337	eP	P	16 17 44.8	+0.8
	comp=Z,5.9nm,1.0s						
V51A	Loudon	73.00	51	P	P	16 17 44.2	+0.1
	baz=327						
V51A	Loudon	73.00	51	P	P	16 17 43.8	-0.3
V51A				IAmb	IAmb	16 17 45.1	
	comp=Z,20nm,0.8s						
W50A	Signal Mountai	73.08	52	P	P	16 17 44.7	+0.1
	baz=327,SNR=5.1						
W50A	Signal Mountai	73.08	52	P	P	16 17 44.2	-0.4
W50A				IAmb	IAmb	16 17 45.6	
	comp=Z,22nm,0.8s						
SIRR	Siria	73.14	332	⇓P	P	16 17 44.8	0.0
T54A	Tazewell	73.15	48	P	P	16 17 45.5	+0.5
	baz=328,SNR=5.7						
Q58A	Fox Den Farm,	73.15	45	P	P	16 17 44.9	0.0
	baz=329,SNR=5.4						
CPCT	Cooper Cave	73.22	51	P	P	16 17 45.2	-0.3
CPCT				IAmb	IAmb	16 17 46.3	
	comp=Z,20nm,0.9s						
V52A	Sevierville	73.30	50	P	P	16 17 46.1	+0.2
	baz=328						
V52A	Sevierville	73.30	50	P	P	16 17 45.8	-0.1
V52A				IAmb	IAmb	16 17 50.9	
	comp=Z,29nm,1.1s						
U53A	Fall Branch	73.31	49	P	P	16 17 45.4	-0.5
	baz=328						
W51A	Cleveland	73.36	52	P	P	16 17 46.4	+0.1
	baz=327						
R57A	Stanardsville	73.36	46	P	P	16 17 46.5	+0.3
	baz=329						
MOA	Molln	73.43	338	eP	P	16 17 45.9	-0.6
	comp=Z,4.5nm,0.7s						
T55A	Pulaski	73.43	48	P	P	16 17 47.0	+0.3
	baz=328						
S56A	Natural Bridge	73.47	47	P	P	16 17 47.3	+0.4
	baz=329						
FPAL	Fort Paine	73.50	53	P	P	16 17 47.1	0.0
FPAL				IAmb	IAmb	16 17 48.1	
	comp=Z,20nm,1.0s						
U54A	Nelsons Funny	73.50	49	P	P	16 17 47.7	+0.5
	baz=328,SNR=8.9						
U54A	Nelsons Funny	73.50	49	P	P	16 17 47.0	-0.2
BLA	Blacksburg	73.51	47	P	P	16 17 47.5	+0.4
	baz=329						
BLA	Blacksburg	73.51	47	P	P	16 17 47.0	-0.1
BLA				pmax	pmax		
	comp=Z,29nm,1.0s						
BLA	Blacksburg	73.51	47	P	P	16 17 47.0	-0.1
BLA				IAmb	IAmb	16 17 48.1	
	comp=Z,29nm,0.9s						
R58A	Rapidan	73.57	45	P	P	16 17 47.6	+0.2
	baz=329						
GZR	Gura Zlata	73.65	331	⇑P	P	16 17 47.2	-0.6
S57A	Dark Hollow, R	73.65	46	P	P	16 17 48.5	+0.6
	baz=329,SNR=5.2						
Y49A	Blount Mountai	73.70	54	P	P	16 17 48.3	0.0
	baz=327,SNR=6.3						
Y49A	Blount Mountai	73.70	54	P	P	16 17 47.6	-0.7
Y49A				IAmb	IAmb	16 17 49.1	
	comp=Z,21nm,0.8s						
ARSA	Arzberg	73.72	337	eP	P	16 17 48.8	+0.7
	comp=Z,5.2nm,1.0s						
BZS	Buzias	73.75	332	⇑P	P	16 17 47.8	-0.5
W52A	Murphy	73.79	51	P	P	16 17 49.1	+0.3
	baz=328,SNR=5.1						
W52A	Murphy	73.79	51	P	P	16 17 48.5	-0.2
W52A				IAmb	IAmb	16 17 50.4	
	comp=Z,29nm,1.1s						
V53A	Saluda	73.79	50	P	P	16 17 49.1	+0.3
	baz=328						
V53A	Saluda	73.79	50	P	P	16 17 48.7	-0.1
V53A				IAmb	IAmb	16 17 50.0	
	comp=Z,20nm,1.0s						
X51A	Calhoun	73.81	52	P	P	16 17 49.3	+0.4
	baz=327						
U55A	TA2, Sparta	73.84	48	P	P	16 17 49.1	-0.1
	baz=328						
W53A	Cullowhee	74.06	51	P	P	16 17 50.3	-0.2
	baz=328						
V54A	Nebo	74.07	49	P	P	16 17 51.0	+0.5
	baz=328,SNR=8.2						
LRAL	Lakeview Retre	74.12	55	P	P	16 17 50.4	-0.2
	baz=327,SNR=7.2						
LRAL	Lakeview Retre	74.12	55	P	P	16 17 50.0	-0.7
LRAL				IAmb	IAmb	16 17 51.2	
	comp=Z,22nm,0.7s						
BFO	Black Forest	74.13	342	P	P	16 17 50.0	-0.5
BFO				pmax	pmax		
	comp=Z,18nm,1.3s						
BFO	Black Forest	74.13	342	P	P	16 17 50.0	-0.5
T57A	Hurt	74.17	47	P	P	16 17 51.0	+0.1
	baz=329,SNR=5.5						
X52A	Dahlonega	74.21	51	P	P	16 17 51.4	+0.1
	baz=328						
HERR	Herculane	74.22	331	⇓P	P	16 17 50.3	-0.8
U56A	King	74.26	48	P	P	16 17 51.8	+0.4
	baz=329						
U56A	King	74.26	48	P	P	16 17 51.1	-0.4
U56A				IAmb	IAmb	16 17 52.5	
	comp=Z,40nm,1.3s						
Y51A	Rockmart	74.28	53	P	P	16 17 51.8	+0.1
	baz=327,SNR=5.4						
S59A	Mechanicsville	74.32	45	P	P	16 17 52.1	+0.4
	baz=330						
V55A	Taylorsville	74.33	49	P	P	16 17 52.1	+0.2
	baz=328						
KBA	Koelnbreinsper	74.36	338	eP	P	16 17 52.7	+0.6
	comp=Z,15nm,0.7s						
SOKA	Soboth	74.37	337	eP	P	16 17 52.3	+0.3
	comp=Z,3.6nm,0.7s						
Z50A	Ashland	74.43	54	P	P	16 17 52.5	0.0
	baz=327,SNR=11						
Z50A	Ashland	74.43	54	P	P	16 17 52.3	-0.2
ECH	Echery	74.44	343	P	P	16 17 51.7	-0.7
ECH				pmax	pmax		
	comp=Z,11nm,0.9s						
ECH	Echery	74.44	343	P	P	16 17 51.6	-0.7
WATA	Walderalm	74.47	339	eP	P	16 17 53.1	+0.4
	comp=Z,4.9nm,0.6s						
RETA	Reutte	74.49	340	eP	P	16 17 52.8	+0.1
	comp=Z,6.0nm,0.7s						
T58A	Grand View Acr	74.52	46	P	P	16 17 52.8	-0.1
	baz=329						
WTTA	Wattenberg	74.53	339	eP	P	16 17 53.7	+0.6
	comp=Z,18nm,1.4s,SNR=6.0						
W54A	Cherokee Point	74.56	50	P	P	16 17 53.4	+0.1
	baz=328						
MOTA	Moosalm	74.56	340	eP	P	16 17 53.3	0.0
	comp=Z,10nm,0.8s						
X53A	Estanollee	74.56	51	P	P	16 17 53.7	+0.5
	baz=328						
GSI	Gunungsitoli	74.59	249	P	P	16 17 49.8	-3.8
GSI	Gunungsitoli	74.59	249	P	P	16 17 51.7	-1.9
GSI				IAmb	IAmb	16 17 55.9	
	comp=Z,34nm,1.2s						
U57A	Blanch	74.62	47	P	P	16 17 53.8	+0.2
	baz=329						
OBKA	Obir	74.64	337	eP	P	16 17 54.2	+0.5
	comp=Z,12nm,0.8s						
SQTA	Sankt Quirin	74.66	340	eP	P	16 17 54.4	+0.6
	comp=Z,16nm,0.8s,SNR=5.4						
V56A	Mocksville	74.67	48	P	P	16 17 53.9	+0.1
	baz=329						
Z51A	Franklin	74.72	53	P	P	16 17 54.3	+0.1
	baz=327						
Y52A	Lilburn	74.76	52	P	P	16 17 55.0	+0.6
	baz=328						
Y52A	Lilburn	74.76	52	P	P	16 17 54.4	0.0
Y52A				IAmb	IAmb	16 17 56.1	
	comp=Z,25nm,1.1s						
ABTA	Abfaltersbach	74.84	339	eP	P	16 17 55.1	+0.3
	comp=Z,11nm,0.8s						
KMSC	Kings Mountain	74.88	49	P	P	16 17 55.3	+0.2
	baz=328						
KMSC	Kings Mountain	74.88	49	P	P	16 17 54.4	-0.6
KMSC				IAmb	IAmb	16 17 55.8	
	comp=Z,23nm,0.8s						
T59A	Double "B" Far	74.89	46	P	P	16 17 55.2	+0.1
	baz=330						
V57A	Coltrane Farms	74.91	48	P	P	16 17 55.4	+0.2
	baz=329						
X54A	Belton	74.93	50	P	P	16 17 55.5	+0.1
	baz=328						
FETA	Feichten	74.94	340	eP	P	16 17 55.9	+0.5
	comp=Z,15nm,0.8s,SNR=5.0						
Y53A	Monroe	74.98	52	P	P	16 17 56.0	+0.4
	baz=328						
U58A	Oxford	74.98	47	P	P	16 17 56.2	+0.6
	baz=330						
Z52A	Williamson	75.17	53	P	P	16 17 57.0	+0.2
	baz=328						
V58A	Windy Hill, Pi	75.26	47	P	P	16 17 57.7	+0.4
	baz=329						
V58A	Windy Hill, Pi	75.26	47	P	P	16 17 57.0	-0.2
X55A	Gracelyn & Ava	75.32	50	P	P	16 17 57.7	+0.1
	baz=328						
U59A	Littleton	75.33	46	P	P	16 17 58.0	+0.4
	baz=330						
U59A	Littleton	75.33	46	P	P	16 17 57.6	0.0
U59A				IAmb	IAmb	16 17 59.0	
	comp=Z,25nm,0.9s						
250A	Grady	75.34	55	P	P	16 17 57.9	+0.2
	baz=327						
BR131	Keskin Array S	75.34	321	P	P	16 17 56.5	-1.3
BR131				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BR131	Keskin Array S	75.34	321	P	P	16 17 56.5	-1.3
BRTR	Keskin Array B	75.34	321	i P	P	16 17 57.5	-0.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	Keskin Array B	75.34	321	P	P	16 17 57.3	-0.6
	comp=Z,2.7nm,0.6s,baz=32,slow=3.0,SNR=20						
BRTR				pP	pP	16 18 15.8	-0.3
	comp=Z,1.7nm,0.8s,baz=59,slow=4.0,SNR=3.5						
BRTR				LR	LR	16 53 22.8	
	comp=Z,39nm,19.1s,baz=44,slow=38						
BRTR	Keskin Array B	75.34	321	P	P	16 17 56.6	-1.3
Y54A	Tignall	75.37	51	P	P	16 17 58.2	+0.3
	baz=328,SNR=7.8						
W57A	Gilead	75.44	48	P	P	16 17 58.0	-0.2
	baz=329						
152A	Waverly Hall	75.47	53	P	P	16 17 58.6	+0.1
	baz=328						
152A	Waverly Hall	75.47	53	P	P	16 17 58.4	-0.1
152A				IAmb	IAmb	16 17 59.3	
	comp=Z,17nm,1.0s						
Z53A	Monticello	75.47	52	P	P	16 17 58.8	+0.3
	baz=328						
U60A	Pendleton	75.48	46	P	P	16 17 58.9	+0.4
	baz=330						
X56A	White Oak	75.56	49	P	P	16 17 59.1	+0.2
	baz=329						
V59A	Middlesex	75.65	47	P	P	16 18 00.1	+0.6
	baz=330						
Y55A	Saluda	75.67	50	P	P	16 18 00.1	+0.5
	baz=328						
CTI	Castel Tesino	75.69	339	P	P	16 17 58.3	-1.4
CTI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CTI	Castel Tesino	75.69	339	P	P	16 17 58.3	-1.4
TUE	Stuetta	75.73	341	P	P	16 18 00.3	+0.2
Z54A	Sparta	75.83	51	P	P	16 18 01.1	+0.6
	baz=328,SNR=5.6						
W58A	Raeford	75.87	48	P	P	16 18 01.3	+0.6
	baz=329,SNR=5.9						
252A	Lumpkin	76.03	53	P	P	16 18 01.6	-0.1
	baz=328						
SSF	Saint Saulge	76.14	345	eP	P	16 18 01.2	-0.9
SSF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SENIN	Lac Senin/Sane	76.21	342	P	P	16 18 02.1	-0.7
SENIN				IAmb	IAmb	16 18 07.5	
	comp=Z,28nm,1.6s						
X58A	Rowland	76.23	48	P	P	16 18 03.4	+0.6
	baz=329						
253A	Americus	76.25	53	P	P	16 18 03.0	0.0
	baz=328						
TEOL	Teolo	76.34	339	P	P	16 18 02.8	-0.5
CTA	Charters Tower	76.48	195	P	P	16 18 04.8	+0.7
	comp=Z,6.9nm,0.8s,baz=356,slow=7.2,SNR=8.1						
CTA				pP	pP	16 18 22.8	+0.4
	comp=Z,14nm,0.8s,baz=8.1,slow=7.3,SNR=9.5						
155A	Kite	76.52	51	P	P	16 18 05.2	+0.8
	baz=328						
Y58A	Scranton	76.65	49	P	P	16 18 05.7	+0.6
	baz=329						
TIGA	Tifton	77.02	53	P	P	16 18 08.2	+0.9
	baz=328						
TIGA	Tifton	77.02	53	P	P	16 18 07.4	+0.1
MFF	Saint Martin d	77.09	347	eP	P	16 18 06.8	-0.6
MFF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LPL	La Plagne	77.13	342	eP	P	16 18 08.2	+0.2
LPL				pmax	pmax		
	comp=Z,17nm,0.8s						
DZM	Mont Dzumac	77.41	176	P	P	16 18 10.9	+1.5
	comp=Z,6.0nm,0.9s,baz=47,slow=8.7,SNR=7.6						
DZM				LR	LR	16 45 24.7	
	comp=Z,54nm,21.8s,baz=26,slow=30						
DZM	Mont Dzumac	77.41	176	P	P	16 18 10.2	+0.7
DZM					pP	16 18 29.2	+1.5
355A	Pearson	77.43	52	P	P	16 18 10.4	+0.8
	baz=328						
ZCCA	Zocca	77.45	339	P	P	16 18 10.1	+0.5
BNI	Bardonecchia	77.59	342	P	P	16 18 11.0	+0.5
BNI				pmax	pmax		
	comp=Z,14nm,1.0s						
BNI	Bardonecchia	77.59	342	P	P	16 18 10.9	+0.5
MURB	Monte Urbino	78.17	338	P	P	16 18 13.3	-0.3
CAF	Calviac	78.44	345	eP	P	16 18 18.3	+3.3
CAF				pmax	pmax		
	comp=Z,25nm,1.4s						
NRCA	Norcia	78.45	337	P	P	16 18 15.2	+0.1
WRAB	Tennant Creek	78.71	206	P	P	16 18 16.3	-0.3
WRAB				*PP	pP	16 18 34.5	-0.4
WRAB	Tennant Creek	78.71	206	P	P	16 18 16.4	-0.3
WRAB				pP	pP	16 18 34.5	-0.4
WRAB				IAmb	IAmb	16 18 35.6	
	comp=Z,18nm,0.9s						
WB2	Warramunga Arr	78.72	206	P	P	16 18 15.5	-1.2
WB2					pP	16 18 34.4	-0.6
WB2				IAmb	IAmb	16 18 35.6	
	comp=Z,19nm,0.8s						
WRA	Warramunga Arr	78.73	206	i P	P	16 18 16.8	+0.1
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA	Warramunga Arr	78.73	206	P	P	16 18 17.0	+0.3
	comp=Z,2.5nm,0.4s,baz=10,slow=5.7,SNR=34						
WRA				pP	pP	16 18 34.6	-0.4
	comp=Z,12nm,0.8s,baz=19,slow=5.8,SNR=18						
WRA	Warramunga Arr	78.73	206	P	P	16 18 16.3	-0.4
WRA				pP	pP	16 18 34.1	-0.9
PALK	Pallekele	79.00	267	P	P	16 18 18.3	-0.2
	comp=Z,1.1nm,0.4s,baz=292,slow=1.9,SNR=4.1						
PALK	Pallekele	79.00	267	IAmb	IAmb	16 20 18.3	
	comp=Z,63nm,1.9s			

PPT	**Papeete**	**83.60 134**	LR	LR	16 47 59.0
	comp=Z,46nm,21.7s,baz=352,slow=30				
MTE	**Manteigas**	**83.99 352**	*e*P	**P**	**16 18 44.9 +0.3**
	comp=Z,36nm,1.8s				
ESBB	**Sonseca Array**	**84.37 349**	P	**P**	**16 18 46.7 +0.2**
ESBB			IAmb	IAmb	16 18 47.8
	comp=Z,16nm,1.1s				
ESDC	**Sonseca Array**	**84.37 349**	P	**P**	**16 18 46.6 +0.1**
	comp=Z,6.4nm,0.8s,baz=1.8,slow=5.0,SNR=28				
ESDC	**Sonseca Array**	**84.37 349**	P	**P**	**16 18 46.1 -0.4**
PCAS	**Casmilo, Conde**	**84.41 353**	*e*P	**P**	**16 18 47.0 +0.4**
	comp=Z,39nm,2.2s				
PCBR	**Castelo Branco**	**84.54 352**	*e*P	**P**	**16 18 47.5 +0.2**
	comp=Z,22nm,2.0s				
KEST	**Kesra**	**86.08 338**	LR	LR	17 06 23.6
	comp=Z,69nm,18.8s,baz=302,slow=42				
STKA	**Stephens Creek**	**88.77 197**	P	**P**	**16 19 08.4 +0.8**
	comp=Z,4.0nm,1.0s,baz=277,slow=12,SNR=3.7				
STKA			LR	LR	16 57 15.8
	comp=Z,23nm,19.2s,baz=24,slow=34				
RPZ	**Rata Peaks**	**99.20 173**	LR	LR	16 59 21.8
	comp=Z,38nm,20.2s,baz=351,slow=32				
TORD	**Torodi Ar. Bea**	**109.55 339**	PKiKP	**PKiKP**	**16 24 43.8 -0.9**
	comp=Z,0.4nm,0.6s,baz=327,slow=3.1,SNR=3.3				
BOSA	**Boshof**	**138.99 293**	PKP	**PKPdf**	**16 25 40.6 +0.2**
	comp=Z,3.1nm,0.5s,baz=16,slow=2.9,SNR=10				
MAW	**Mawson**	**142.54 218**	PKhKP	**PKPdf**	**16 25 41.5 -3.8**
	baz=27,slow=4.5				
PLCA	**Paso Flores**	**143.01 89**	PKIKP	PKPbc	16 25 44.0 -0.2
PLCA	**Paso Flores**	**143.01 89**	PKhKP	PKPbc	16 25 44.0 -0.2
	comp=Z,2.4nm,0.6s,baz=315,slow=4.7,SNR=10.0				
QSPA	**South Pole Qui**	**145.30 180**		**PKPbc**	**16 25 49.6 -0.6**
TRQA	**Tornquist**	**146.01 78**	PKP2	**PKPbc**	**16 25 52.9 -0.4**
TRQA	**Tornquist**	**146.01 78**		**PKPbc**	**16 25 52.9 -0.4**
SYO	**Syowa Base**	**151.24 219**‖	*e*X	**PKPbc**	**16 26 04.6 -1.2**
SYO	**Syowa Base**	**151.24 219**⇑	*e*PKPab	**PKPab**	**16 26 18.0 +3.9**
SNAA	**Sanae**	**162.54 196**	PKPab	**PKPab**	**16 27 02.2 -0.6**
VNA3	**Neumayer Olymp**	**163.82 190**	PKPab	**PKPab**	**16 27 08.3 -0.1**
VNA3	**Neumayer Olymp**	**163.82 190**	PKPdf	**PKPdf**	**16 26 19.6 +4.2**
VNA2	**Neumayer--Watz**	**163.86 193**	PKPab	**PKPab**	**16 27 09.2 +0.6**
	baz=104,slow=2.4				
VNA1	**Neumayer--Stat**	**164.22 192**	PKPdf	**PKPdf**	**16 26 18.4 +2.7**

*ISCJB **24** 16:58:44.0±0.4,23°.81S±0°.04×69°.14W±0°.06,h100km±5km, mb4.0/7, Error ellipse: s-maj=9.8km s-min=5.8km az=10.5*
*SJA **24** 16:58:44.9±0.3,23°.74S×69°.19W,h82km±3km,ML3.4, MW3.1*
*NEIC **24** 16:58:44.4±1.2,23°.76S±0°.06×69°.03W±0°.05,h89km±6km, mb4.6/8,ML3.9(GUC)*
*GUC **24** 16:58:44.7±0.9,23°.82S×69°.16W,h83km±8km,ML4.0*
*IDC **24** 16:58:45.5±0.8,23°.78S×68°.92W,h91km±5km,mb3.8/7, mb1 3.9/9,mb1mx3.7/28,mbtmp4.2/9,MS2.4/1,Ms1 2.5/1, ms1mx2.2/22, Error ellipse: s-maj=22.1km s-min=11.1km az=84.0*

ISC 24 16:58:44.3±0.6,23°.79S±0°.04×69°.13W±0°.05,h86km±5km, n49,σ1§42/67,mb4.2/7,5C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.66 332**	‖	*e*P	**Pn**	**16 59 01.1**	**+0.7**
PB15				*e*S	**Sn**	**16 59 13.2**	**+0.9**
PB15	**IPOC Station P**	**0.66 332**		*i* P	**Pn**	**16 59 00.6**	**+0.2**
PB15				*i* Sg	**Sn**	**16 59 12.3**	**-0.1**
PB06	**IPOC Station P**	**1.16 339**	‖	*e*P	**Pn**	**16 59 06.6**	**+0.7**
PB06				*e*S	**Sn**	**16 59 23.4**	**+1.4**
PB06				IAML		16 59 24.8	
	comp=N,4μm,0.3s						
PB06	**IPOC Station P**	**1.16 339**		*i* P	**Pn**	**16 59 06.2**	**+0.4**
PB06				*i* Sg	**Sn**	**16 59 22.4**	**+0.4**
LVC	**Limon Verde**	**1.20 10**		P	**Pn**	**16 59 07.3**	**+0.8**
	comp=N,88nm,0.3s,baz=165,slow=11,SNR=1618						
LVC				S	**Sn**	**16 59 24.1**	**+1.0**
	comp=N,1μm,0.3s,baz=349,slow=19,SNR=233						
LVC				LR	LR	16 59 41.0	
	comp=N,250nm,20.6s,baz=204,slow=48						
LVC	**Limon Verde**	**1.20 10**		*i* P	**Pn**	**16 59 07.1**	**+0.6**
LVC				*i* Sg	**Sn**	**16 59 24.1**	**+1.0**
LVC	**Limon Verde**	**1.20 10**			**Pn**	**16 59 07.1**	**+0.6**
LVC					**Sn**	**16 59 22.0**	**-1.2**
PB10	**IPOC Station P**	**1.33 282**	⇑	*i*P	**Pn**	**16 59 08.7**	**+0.9**
PB10				*e*S	**Sn**	**16 59 25.8**	**+0.3**
PB10				IAML		16 59 31.0	
	comp=E,3μm,0.3s						
PB10	**IPOC Station P**	**1.33 282**		*i* P	**Pn**	**16 59 08.5**	**+0.7**
PB10	**IPOC Station P**	**1.33 282**			**Pn**	**16 59 08.7**	**+0.9**
PB05	**IPOC Station P**	**1.36 313**	‖	*e*P	**Pn**	**16 59 08.9**	**+0.6**
PB05				*e*S	**Sn**	**16 59 27.5**	**+1.2**
PB05				IAML		16 59 33.9	
	comp=E,2μm,0.2s						
PB05	**IPOC Station P**	**1.36 313**		*i* P	**Pn**	**16 59 08.8**	**+0.6**
GO02	**Mina Guanaco**	**1.43 197**		Pn	**Pn**	**16 59 10.1**	**+0.8**
PB14	**IPOC Station P**	**1.43 234**	⇑	*i*P	**Pn**	**16 59 09.6**	**+0.3**
PB14				*e*S	**Sn**	**16 59 29.1**	**+0.9**
PB14				IAML		16 59 32.8	
	comp=E,3μm,0.2s						
PB04	**IPOC Station P**	**1.73 327**	⇑	*i*P	**Pn**	**16 59 13.6**	**+0.6**
PB04				*e*S	**Sn**	**16 59 36.7**	**+1.9**
PB04				IAML		16 59 42.5	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**1.73 327**		*i* P	**Pn**	**16 59 13.7**	**+0.6**
PB04	**IPOC Station P**	**1.73 327**			**Pn**	**16 59 13.6**	**+0.6**
PB03	**IPOC Station P**	**1.83 342**	⇑	*i*P	**Pn**	**16 59 14.9**	**+0.5**
PB03				*e*S	**Sn**	**16 59 38.0**	**+0.8**
PB03				IAML		16 59 46.5	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**1.99 357**		*e*P	**Pn**	**16 59 18.2**	**+1.7**
PB09				*e*S	**Sn**	**16 59 44.1**	**+3.2**
PB09				IAML		16 59 48.6	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**1.99 357**		*i* P	**Pn**	**16 59 17.6**	**+1.1**
PB07	**IPOC Station P**	**2.17 341**	⇑	*i*P	**Pn**	**16 59 19.5**	**+0.6**
PB07				*e*S	**Sn**	**16 59 47.2**	**+2.0**
PB01	**IPOC Station P**	**2.76 353**			**Pn**	**16 59 27.2**	**+0.5**
HJA	**Humahuaca**	**3.47 81**		*i* P	**Pn**	**16 59 39.9**	**+3.4**
HJA				IAML		16 59 40.7	
	comp=Z,75nm,0.5s						
GO03	**Copiap**	**3.91 194**			**Pn**	**16 59 41.5**	**-0.8**
AHML	**Horco Molle**	**4.55 132**		*i* P	**Pn**	**16 59 53.9**	**+3.1**
LPAZ	**La Paz**	**7.53 7**		P	**Pn**	**17 00 32.8**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=211,slow=5.3,SNR=18						
LPAZ				LR	LR	17 03 39.9	
	comp=Z,28nm,19.8s,baz=252,slow=39						
LPAZ	**La Paz**	**7.53 7**			**Pn**	**17 00 32.0**	**0.0**
SIV	**San Ignacio**	**10.85 46**		P	**Pn**	**17 01 15.2**	**-1.5**
	comp=Z,5.2nm,0.3s,baz=239,slow=13,SNR=75						
SIV				S	**Sn**	**17 03 12.1**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=173,slow=8.1,SNR=3.1						
BDFB	**Brasilia**	**21.45 72**		P	**P**	**17 03 24.7**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=225,slow=11,SNR=4.5						
BDFB	**Brasilia**	**21.45 72**		IAmb	IAmb	17 04 02.7	
	comp=Z,27nm,1.9s						
RCBR	**Riachuelo**	**36.60 66**		P	**P**	**17 05 41.9**	**-0.7**
EMPR	**Esperanza - Ma**	**42.09 4**		P	**P**	**17 06 26.6**	**-1.3**
SNAA	**Sanae**	**60.19 160**		P	**P**	**17 08 43.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=256,slow=13,SNR=7.0						
SNAA	**Sanae**	**60.19 160**		P	**P**	**17 08 42.8**	**0.0**
SNAA				IAmb	IAmb	17 10 51.7	
	comp=Z,5.8nm,1.4s						
TXAR	**Lajitas Array**	**62.40 326**		P	**P**	**17 08 59.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=138,slow=8.2,SNR=4.3						
TXAR	**Lajitas Array**	**62.40 326**		P	**P**	**17 08 58.4**	**+0.1**
ULM	**Lac du Bonnet**	**77.43 343**		P	**P**	**17 10 30.1**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=151,slow=5.8,SNR=4.3						
ULM	**Lac du Bonnet**	**77.43 343**		P	**P**	**17 10 29.9**	**0.0**
ULM				IAmb	IAmb	17 11 08.6	
	comp=Z,28nm,1.6s						
TORD	**Torodi Ar. Bea**	**78.32 70**		P	**P**	**17 10 35.2**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=257,slow=5.1,SNR=20						
TORD				pP	**pP**	**17 10 58.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=254,slow=5.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**78.32 70**		P	**P**	**17 10 34.6**	**-1.0**
SCHQ	**Schefferville**	**78.33 1**		P	**P**	**17 10 35.7**	**+1.0**
	comp=Z,13nm,0.8s,baz=270,slow=2.0,SNR=6.3						
SCHQ	**Schefferville**	**78.33 1**		P	**P**	**17 10 35.6**	**+1.0**
MAW	**Mawson**	**82.20 163**		P	**P**	**17 10 56.2**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=196,slow=7.4,SNR=6.4						
VYHS	**Vyhne**	**106.14 44**		*e*PDIFF	**Pdif**	**17 12 52.9**	**+5.9**
ASAR	**Alice Springs**	**127.79 207**		PKP	**PKiKP**	**17 17 40.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=123,slow=1.4,SNR=8.1						
ASAR				pPKP	**pPKPdf**	**17 18 05.0**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=125,slow=1.9,SNR=1.9						
ASAR	**Alice Springs**	**127.79 207**			**PKiKP**	**17 17 40.4**	**-0.8**
WRA	**Warramunga Arr**	**130.88 210**		PKP	**PKiKP**	**17 17 47.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=154,slow=2.0,SNR=9.0						
WRA				pPKP	**pPKPdf**	**17 18 11.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=156,slow=1.7,SNR=1.4						
ZALV	**Zalesovo Beam**	**144.10 26**		PKP	**PKPdf**	**17 18 09.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=332,slow=2.1,SNR=3.4						
MKAR	**Makanchi Array**	**147.58 38**		PKPbc	**PKPbc**	**17 18 18.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=298,slow=3.1,SNR=2.3						
MKAR				pPKPbc	**pPKPbc**	**17 18 44.0**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=322,slow=2.8,SNR=3.0						

*MEX **24** 17:27:08.2±0.4,30°.23N×114°.74W,h5km±309km,MD3.7*
ECX 24 17:27:08.2±0.6,30°.64N×114°.49W,h6km,MD2.7,ML2.9, 1C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.50 322**		*e*P	Pg	17 27 16.6	-1.3
SFX				*e*S	Sg	17 27 23.8	-0.5
SPX	**San Pedro Mart**	**0.92 295**		*e*P	Pg	17 27 24.6	-1.4
SPX				*e*S	Sg	17 27 37.7	-0.3
SPX				⇑*e*		17 27 40.2	
SPX				IAML		17 27 40.2	
	comp=N,213nm,0.4s						
SPIG	**San Pedro Mart**	**0.93 296**		*e*P	Pg	17 27 25.5	-0.6
SPIG				*i* S	Sb	17 27 39.1	-0.5
SPIG	**San Pedro Mart**	**0.93 296**		*e*P	Pg	17 27 24.5	-1.6
SPIG				*e*S	Sg	17 27 37.7	-0.4
RMX	**La Rumorosa**	**2.38 326**		*e*P	Pn	17 27 46.7	-1.2
CBX	**Cerro Bola**	**2.49 312**		*i* P	Pn	17 27 49.0	-0.5
CBX				*i* S	Sn	17 28 21.0	+0.8
CBX	**Cerro Bola**	**2.49 312**		*e*P	Pn	17 27 49.6	+0.2
CBX				IAML		17 28 29.6	
	comp=N,98nm,0.6s						
CBX				*e*		17 28 29.7	
CBX				IAML		17 28 29.7	
	comp=E,79nm,0.5s						
TJIG	**Tijuana**	**2.58 314**		*i* P	Pn	17 27 51.0	+0.4
TJIG				*i* S	Sn	17 28 23.5	+1.3

MAN 24 17:34:08.8,8°.68N×126°.55E,h21km,mb4.0,ML2.8,MS2.4, Mindanao

*ISCJB **24** 17:53:41.0±0.4,6°.01S±0°.04×128°.10E±0°.06,h400km, mb3.3/5, Error ellipse: s-maj=8.0km s-min=5.7km az=13.5*
*IDC **24** 17:53:41.2±1.1,6°.00S×128°.16E,h382km±12km,mb3.2/5, mb1 3.3/10,mb1mx2.9/54,mbtmp4.0/10,Error ellipse: s-maj=18.7km s-min=10.1km az=90.0*
*NEIC **24** 17:53:42.1±1.2,6°.01S±0°.07×128°.09E±0°.10,h389km±10km, mb4.2/8*

ISC 24 17:53:41.9±0.7,6°.03S±0°.06×128°.11E±0°.07,h400km,n27, σ1§94/31,mb3.5/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.71 122**		Pn	**Pn**	**17 54 52.2**	**+0.9**
SAUI				S	**S**	**17 55 42.5**	**-5.0**
FAKI	**Fak Fak**	**5.16 53**			**Pn**	**17 55 05.6**	**0.0**
SOEI	**Soe**	**5.31 226**		Pn	**Pn**	**17 55 06.8**	**-0.4**
SOEI				S	**S**	**17 56 14.0**	**-2.7**
SIJI	**Sorong**	**6.02 32**		P	**Pn**	**17 55 14.4**	**-0.4**
	2.5nm,0.3s,baz=228,slow=23,SNR=20						
SIJI				S	**S**	**17 56 25.8**	**-4.7**
	2.3nm,0.3s,baz=238,slow=23,SNR=8.9						
BATI	**Baumata**	**6.05 226**		P	**Pn**	**17 55 16.1**	**+1.0**
	3.5nm,0.3s,baz=70,slow=4.6,SNR=6.3						
BATI				S	**S**	**17 56 28.3**	**-2.7**
	3.9nm,0.3s,baz=299,slow=17,SNR=5.4						
MTN	**Manton Dam**	**7.39 156**		Pn	**P**	**17 55 31.1**	**+0.5**
KNRA	**Kununurra**	**9.61 176**			**Pn**	**17 55 56.4**	**+1.0**
BKB	**Balikpapan**	**12.15 293**		P	**P**	**17 56 22.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**12.23 191**		P	**P**	**17 56 24.7**	**+0.6**
	0.1nm,0.3s,baz=19,slow=9.8,SNR=4.2						
JAGI	**Jajag, Banyuwa**	**14.06 259**		P	**P**	**17 56 42.0**	**-2.3**
WB0	**Warramunga Arr**	**14.96 156**		P	**P**	**17 56 55.2**	**+1.2**
WRAB	**Tennant Creek**	**15.09 157**		P	**P**	**17 56 56.7**	**+1.2**
WRAB				IAmb	IAmb	17 57 19.2	
	comp=Z,23nm,1.6s						
WRA	**Warramunga Arr**	**15.09 157**		P	**P**	**17 56 56.5**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=337,slow=11,SNR=101						
WRA				S	**S**	**17 59 33.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=338,slow=22,SNR=3.8						
WRA	**Warramunga Arr**	**15.09 157**		P	**P**	**17 56 55.9**	**+0.4**
WB2	**Warramunga Arr**	**15.10 157**		P	**P**	**17 56 56.8**	**+1.3**
WB2				IAmb	IAmb	17 57 31.0	
	comp=Z,9.8nm,1.2s						
WR0	**Warramunga Arr**	**15.19 156**		P	**P**	**17 56 57.9**	**+1.4**
AS31	**Alice Springs**	**18.40 163**		P	**P**	**17 57 31.6**	**+0.9**
ASAR	**Alice Springs**	**18.40 163**		P	**P**	**17 57 31.9**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=344,slow=12,SNR=111						
ASAR				S	**S**	**18 00 41.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=343,slow=22,SNR=4.7						
SONM	**Songino Array**	**56.95 343**		P	**P**	**18 02 48.8**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=163,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**66.40 327**		P	**P**	**18 03 50.8**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=126,slow=9.2,SNR=11						
ZALV	**Zalesovo Beam**	**69.90 334**		P	**P**	**18 04 11.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=100,slow=7.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**70.72 329**		P	**P**	**18 04 16.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=129,slow=5.1,SNR=8.1						
KURK	**Kurchatov**	**70.72 329**		P	**P**	**18 04 16.9**	**+1.1**
KURK	**Kurchatov**	**70.72 329**		IAmb	IAmb	18 04 52.4	
	comp=Z,9.7nm,1.7s						
TIXI	**Tiksi**	**77.53 0**		P	**P**	**18 04 54.6**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=0.0,slow=24,SNR=9.1						
TIXI	**Tiksi**	**77.53 0**		IAmb	IAmb	18 05 50.7	
	comp=Z,12nm,2.0s						
YMR	**Madison River**	**115.97 43**			**PKiKP**	**18 11 41.2**	**+2.8**

*ISCJB **24** 18:02:18.1±0.3,12°.44N±0°.04×141°.58E±0°.06,h50km, mb4.2/20,MS3.6/11,Error ellipse: s-maj=8.4km s-min=6.3km az=8.1*
*IDC **24** 18:02:20.7±2.9,12°.44N×141°.63E,h56km±28km,mb3.9/17, mb1 4.1/19,mb1mx3.9/63,mbtmp4.2/19,ML4.2/2,MS3.7/13, Ms1 3.7/13,ms1mx3.5/44,Error ellipse: s-maj=17.4km s-min=11.2km az=96.0*
*NEIC **24** 18:02:21.5±2.9,12°.486N±0°.006×141°.6E±0°.1,h71km±6km, mb4.7/22*

ISC 24 18:02:20.0±0.4,12°.48N±0°.06×141°.58E±0°.08,h50km,n72, σ1§38/60,mb4.2/25,MS3.7/11,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.39 71**		P	**Pn**	**18 03 12.0**	**+1.6**
	9.6nm,0.3s,baz=221,slow=13,SNR=4.1						
SARN	**Sarigan**	**5.84 44**		Pn	**Pn**	**18 03 45.1**	**+1.0**
JAY	**Jayapura**	**14.93 183**		P	**Pn**	**18 05 48.8**	**+0.7**
	2.7nm,0.3s,baz=333,slow=2.5,SNR=11						
JAY				LR	LR	18 10 25.8	
	comp=Z,387nm,19.9s,baz=28,slow=33						
PATS	**Pohnpei**	**17.42 107**			**Pn**	**18 06 18.4**	**-1.3**
PATS				IAmb	IAmb	18 07 05.9	
	comp=Z,112nm,1.3s						
KRVT	**Keravat (AS076**	**19.65 147**		LR	LR	18 12 54.0	
	comp=Z,138nm,19.5s,baz=320,slow=32						
TGY	**Tagaytay City**	**20.15 277**		P	**P**	**18 06 51.8**	**+1.4**
	comp=Z,61nm,0.3s,baz=297,slow=21,SNR=4.4						
JHJ	**Hachijo jima 2**	**20.61 356**		LR	LR	18 13 09.2	
	comp=Z,214nm,19.4s,baz=143,slow=31						
PMG	**Port Moresby**	**22.44 165**		P	**P**	**18 07 13.7**	**-1.2**
	comp=Z,12nm,0.8s,baz=100,slow=6.1,SNR=10.0						
PMG				LR	LR	18 15 23.8	
	comp=Z,433nm,19.3s,baz=270,slow=35						
PMG	**Port Moresby**	**22.44 165**		P	**P**	**18 07 13.1**	**-1.8**
PMG				IAmb	IAmb	18 07 25.6	
	comp=Z,24nm,0.9s						
SSLB	**Suanglung**	**22.56 303**		P	**P**	**18 07 16.3**	**+0.1**
SSLB				IAmb	IAmb	18 07 25.3	
	comp=Z,24nm,1.0s						
JNU	**Nakatsue**	**22.76 336**		LR	LR	18 14 25.3	
	comp=Z,151nm,18.4s,baz=182,slow=32						
MJAR	**Matsushiro Arr**	**24.15 353**		P	**P**	**18 07 31.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=182,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**24.15 353**		P	**P**	**18 07 30.3**	**-1.2**
MAJO	**Matsushiro**	**24.15 353**		P	**P**	**18 07 30.9**	**-0.6**
MJB9	**Matsu-Tunnel**	**24.15 353**		P	**P**	**18 07 30.8**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**25.34 70**		T	T	18 34 15.8	
	baz=255,slow=75,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**25.35 70**		T	T	18 34 24.5	
	baz=255,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**25.36 70**		T	T	18 34 15.1	
	baz=255,slow=75,SNR=5.7						
KSRS	**Korea Array**	**27.71 336**		LR	LR	18 19 42.3	
	comp=Z,72nm,18.2s,baz=191,slow=38						
KSAR	**Wonju Array Be**	**27.71 336**		P	**P**	**18 08 00.8**	**-2.8**
KS19	**Wonju Array Si**	**27.77 336**		P	**P**	**18 08 01.0**	**-3.2**
KAPI	**Kappang**	**27.80 233**		LR	LR	18 18 12.3	
	comp=Z,100nm,20.2s,baz=325,slow=34						
HNR	**Honiara**	**28.41 139**		LR	LR	18 18 13.9	
	comp=Z,96nm,18.8s,baz=328,slow=34						
CTA	**Charters Tower**	**32.69 172**		P	**P**	**18 08 50.8**	**+3.0**
	comp=Z,2.6nm,0.9s,baz=343,slow=14,SNR=3.0						
WR0	**Warramunga Arr**	**32.98 192**		P	**P**	**18 08 50.1**	**-0.2**
WR0				IAmb	IAmb	18 09 00.5	
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**32.99 193**		P	**P**	**18 08 50.6**	**+0.2**
WRAB				IAmb	IAmb	18 09 14.2	
	comp=Z,24nm,1.6s						
WB2	**Warramunga Arr**	**33.00 193**		P	**P**	**18 08 48.3**	**-2.2**
WB2				IAmb	IAmb	18 09 09.2	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**33.00 193**		P	**P**	**18 08 50.1**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=12,slow=9.1,SNR=9.0						
WRA				LR	LR	18 21 31.0	
	comp=Z,188nm,21.4s,baz=315,slow=35						
WRA	**Warramunga Arr**	**33.00 193**		P	**P**	**18 08 48.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**34.22 208**		P	**P**	**18 09 00.7**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=0.0,slow=7.1,SNR=2.3						
FITZ	**Fitzroy Crossi**	**34.22 208**		IAmb	IAmb	18 09 18.9	
	comp=Z,33nm,1.9s						
ASAR	**Alice Springs**	**36.70 192**		P	**P**	**18 09 22.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=21,slow=11,SNR=10						
ASAR				LR	LR	18 23 57.7	
	comp=Z,150nm,21.6s,baz=12,slow=35						
ASAR	**Alice Springs**	**36.70 192**		P	**P**	**18 09 20.7**	**-1.7**
KLR	**Kul'dur**	**37.53 349**		P	**P**	**18 09 29.7**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=129,slow=8.8,SNR=8.3						
CMAR	**Chiang Mai Arr**	**41.44 284**		P	**P**	**18 10 03.5**	**+1.2**
	comp=Z,5.3nm,0.9s,baz=86,slow=7.0,SNR=29						
CMAR	**Chiang Mai Arr**	**41.44 284**		P	**P**	**18 10 02.6**	**+0.4**
CHTO	**Chiang Mai**	**41.46 284**		P	**P**	**18 10 02.2**	**-0.1**
DZM	**Mont Dzumac**	**42.12 144**		P	**P**	**18 10 08.2**	**+0.5**
DZM				IAmb	IAmb	18 10 18.3	
	comp=Z,14nm,1.3s						
PETK	**Petropavlovsk-**	**42.52 14**		P	**P**	**18 10 10.7**	**+0.2**
	comp=Z,4.8nm,1.0s,baz=237,slow=10,SNR=3.0						
PSI	**Prapat**	**43.29 261**		P	**P**	**18 10 16.7**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=178,slow=23,SNR=5.1						
RPSI	**Rantau Prapat**	**43.32 261**		P	**P**	**18 10 16.7**	**-0.8**
STKA	**Stephens Creek**	**44.11 180**		P	**P**	**18 10 22.2**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=15,slow=9.2,SNR=6.3						
STKA				LR	LR	18 29 25.2	
	comp=Z,125nm,18.6s,baz=23,slow=37						
ULN	**Ulaanbaatar**	**45.52 328**		P	**P**	**18 10 36.0**	**+1.2**
GTA	**Gaotai**	**45.56 314**		*e*P	**P**	**18 10 36.0**	**+0.8**
GTA				pP	pP	18 10 43.4	-4.7
GTA				sP	pwP	18 10 47.9	-2.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**45.85 327**		P	**P**	**18 10 38.3**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=145,slow=7.2,SNR=9.9						
SONM	**Songino Array**	**45.85 327**		P	**P**	**18 10 38.1**	**+0.7**
YAK	**Yakutsk**	**50.21 353**		P	**P**	**18 11 10.3**	**-0.3**
	comp=Z,8.0nm,0.6s,baz=237,slow=0.2,SNR=8.5						
SEY	**Seymchan**	**50.96 6**		P	**P**	**18 11 16.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=17,slow=19,SNR=1.6						
AFI	**Afiamalu**	**53.15 118**		LR	LR	18 29 00.9	
	comp=Z,75nm,20.6s,baz=234,slow=30						
RAO	**Raoul Island**	**57.01 137**		LR	LR	18 32 35.7	
	comp=Z,69nm,20.1s,baz=221,slow=32						
IMAR	**Indian Mountai**	**68.47 23

comp=Z,0.0nm,1.0s
IKFM Kafar-mosalman 2.00 109 *e*Pn **Pb 18 03 49.8 -1.7**
IKFM IAMB IAmb 18 04 25.3
comp=Z,0.0nm,0.7s
IDOB Doab 2.20 100 *e*Pn **Pn 18 03 52.2 +1.5**
IDOB IAMB IAmb 18 04 49.9
comp=Z,0.0nm,0.9s
IKMR Kamar-syah 2.43 106 *e*Pn **Pn 18 03 55.6 +1.9**
IKMR IAMB IAmb 18 04 36.8
comp=Z,0.0nm,0.8s
HSRG Sareghieh 2.45 64 *e*Pn **Pn 18 03 55.6 +1.3**
HSRG IAMB IAmb 18 04 33.9
comp=Z,0.0nm,0.8s
HSAM Samen 2.50 89 *e*Pn **Pn 18 03 56.4 +1.4**
HSAM IAMB IAmb 18 04 02.3
comp=Z,0.0nm,0.9s
MAHB Mahabad 2.56 2 *e*Pn **Pn 18 03 56.6 +1.0**
MAHB IAMB IAmb 18 03 58.6
comp=Z,0.0nm,0.6s
BDRS Dareh Seyedi 2.75 94 *e*Pn **Pn 18 03 59.6 +1.2**
BDRS IAMB IAmb 18 04 37.5
comp=Z,0.0nm,0.6s
MSL Mosul 2.98 318 *e*Pn **Pn 18 04 02.0 +0.7**
MSL AML AML 18 04 02.8
comp=Z,5μm,0.4s
MSL *e*Sn **Sn 18 04 37.0 +0.9**
HAGD Aghdareh 3.00 77 *e*Pn **Pn 18 04 03.7 +1.9**
HAGD IAMB IAmb 18 04 55.2
comp=Z,0.0nm,0.7s
NSR Nassriya 3.22 171 *e*Pn **Pn 18 04 08.0 +3.4**
SHGR Shooshtar-Gavs 3.42 127 *e*Pn **Pn 18 04 09.6 +2.3**
SHGR Shooshtar-Gavs 3.42 127 *e*AML AML 18 05 26.1
comp=Z,747nm,0.5s
SHGR Shooshtar-Gavs 3.42 127 *e*AML AML 18 05 17.2
comp=Z,1μm,0.5s
SHGR Shooshtar-Gavs 3.42 127 *e*P **Pn 18 04 09.6 +2.3**
SHGR Shooshtar-Gavs 3.42 127 *e*Sg **Sb 18 05 00.7 +4.0**
CUKT Cukurca 3.43 333 PN **Pn 18 04 07.9 +0.3**
CUKT SN **Sn 18 04 50.7 +3.2**
ZNJK Zanjan 3.53 45 *e*Pn **Pn 18 04 10.6 +1.5**
ZNJK Zanjan 3.53 45 *e*Pn **Pn 18 04 10.6 +1.5**
QABG Abgarm-Qazvin 3.61 64 *e*Pn **Pn 18 04 12.7 +2.5**
QABG IAMB IAmb 18 05 21.5
comp=Z,0.0nm,0.9s
IBST Bostanabad 3.64 17 *e*Pn **Pn 18 04 10.9 +0.3**
IBST IAMB IAmb 18 05 11.8
comp=Z,11μm,0.8s
KHMZ Khomeyn 3.67 96 *e*Pn **Pn 18 04 12.9 +2.0**
KHMZ Khomeyn 3.67 96 *e*Pn **Pn 18 04 12.9 +2.0**
HAKT HAKKARI 3.67 336 *e*Pn **Pn 18 04 11.1 0.0**
IRAZ Razeghan 3.77 70 *e*Pn **Pn 18 04 14.4 +2.0**
IRAZ IAMB IAmb 18 05 20.4
comp=Z,15μm,0.6s
ITBZ Tabriz 4.04 6 *e*Pn **Pn 18 04 16.0 -0.1**
ITBZ IAMB IAmb 18 05 26.9
comp=Z,10μm,0.7s
SIRT Sirnak 4.16 323 PN **Pn 18 04 17.8 +0.2**
SIRT SN **Sn 18 05 07.4 +1.9**
IGZV Ghazvin 4.37 59 *e*Pn **Pn 18 04 20.3 -0.3**
IGZV IAMB IAmb 18 05 38.5
comp=Z,8μm,0.7s
IMHD Mahdasht 4.43 69 *e*Pn **Pn 18 04 22.4 +1.1**
IMHD IAMB IAmb 18 05 45.4
comp=Z,7μm,1.0s
RTB Rutbah 4.55 257 *e*Pn **Pn 18 04 23.0 0.0**
RTB AML AML 18 04 23.9
comp=Z,584nm,0.4s
RTB *e*Sn **Sn 18 05 17.0 +1.9**
IQOM Qom 4.58 80 *e*Pn **Pn 18 04 24.0 +0.5**
AKDM Akdamar-Van 4.62 334 PN **Pn 18 04 24.7 +0.7**
IPIR Pirpir 4.69 107 *e*Pn **Pn 18 04 25.7 +0.6**
IPIR IAMB IAmb 18 05 25.6
comp=Z,17μm,0.6s
JHBN Jahan bin 4.69 113 *e*Pn **Pn 18 04 25.6 +0.5**
JHBN IAMB IAmb 18 05 28.4
comp=Z,0.0nm,0.5s
QALM Alamut, Qazvin 4.70 60 *e*Pn **Pn 18 04 26.5 +1.4**
QALM IAMB IAmb 18 05 52.0
comp=Z,0.0nm,0.9s
ORD Ordubad 4.72 4 P **Pn 18 04 28.1 +2.7**
SNR=196
ORD S **Sn 18 05 23.6 +4.3**
VANB Van 4.72 339 PN **Pn 18 04 25.4 0.0**
GHVR GHOM 4.73 85 *e*Pn **Pn 18 04 26.7 +1.2**
GHVR GHOM 4.73 85 *e*Pn **Pn 18 04 26.7 +1.2**
IHSB Hasanabad 4.84 74 *e*Pn **Pn 18 04 27.9 +0.9**
IHSB IAMB IAmb 18 06 08.2
comp=Z,0.0nm,1.0s
CHTH Charan 4.85 68 *e*Pn **Pn 18 04 29.0 +1.7**
CHTH Charan 4.85 68 *e*P **Pn 18 04 29.0 +1.7**
QAM Ghamsar 4.89 94 *e*Pn **Pn 18 04 29.3 +1.6**
QAM IAMB IAmb 18 05 33.9
comp=Z,7μm,0.5s
ZNGN Zangian 4.89 114 *e*Pn **Pn 18 04 27.9 +0.1**
ZNGN IAMB IAmb 18 05 27.8
comp=Z,0.0nm,0.8s
ROKH ROKH 4.93 111 *e*Pn **Pn 18 04 28.8 +0.5**
ROKH IAMB IAmb 18 05 30.9
comp=Z,0.0nm,0.6s
LRK Lerik 4.95 26 P **Pn 18 04 30.0 +1.5**
SNR=105
LRK S **Sn 18 05 31.9 +6.8**
NAX Nakhchivan 4.96 359 P **Pn 18 04 31.0 +2.4**
SNR=51
NAX S **Sn 18 05 28.8 +3.8**
ASTR Astara 5.06 30 P **Pn 18 04 32.0 +2.2**
SNR=29
ASTR S **Sn 18 05 34.2 +6.8**
IKLH Kolahrood 5.07 98 *e*Pn **Pn 18 04 31.7 +1.4**
IKLH IAMB IAmb 18 05 40.5
comp=Z,10μm,0.4s
CLDR Caldiran 5.11 345 PN **Pn 18 04 32.4 +1.7**
IVRN Varamin 5.13 79 *e*Pn **Pn 18 04 31.9 +1.0**
YRD Yardimli 5.16 24 P **Pn 18 04 33.2 +1.7**
SNR=26
YRD S **Sn 18 05 36.8 +6.6**
LKRN Lenkeran, Azer 5.18 29 P **Pn 18 04 34.0 +2.5**
SNR=27
LKRN S **Sn 18 05 37.3 +6.9**
SBZ Shahbuz 5.18 360 P **Pn 18 04 33.0 +1.4**
SNR=99
SBZ S **Sn 18 05 34.7 +4.1**
GURO Guroymak-BITLI 5.20 328 PN **Pn 18 04 32.3 +0.4**
MAZI Mazidag 5.29 309 PN **Pn 18 04 32.4 -0.7**
IBRJ Brojen 5.29 114 *e*Pn **Pn 18 04 34.0 +0.7**
SVAN Silvan-Diyarba 5.30 319 PN **Pn 18 04 32.6 -0.6**
QRD Qoradiz 5.43 14 P **Pn 18 04 38.3 +3.3**
SNR=17
QRD S **Sn 18 05 42.2 +5.7**
KRSH Karshahi 5.44 91 *e*Pn **Pn 18 04 36.2 +0.9**
IDMV Damavand 5.47 74 *e*Pn **Pn 18 04 36.5 +0.7**
MLAZ Malazgirt-MUS 5.49 335 PN **Pn 18 04 37.4 +1.4**
GLBA Clilabad 5.51 23 P **Pn 18 04 38.5 +2.5**
SNR=49
GLBA S **Sn 18 05 44.9 +6.4**
ISFB Sefidab 5.51 87 *e*Pn **Pn 18 04 36.5 +0.3**
HYR Heyderabad 5.53 354 P **Pn 18 04 38.7 +2.2**
SNR=25
HYR S **Sn 18 05 41.8 +2.6**
BLQ Beylaqan 5.73 15 P **Pn 18 04 42.2 +3.1**
SNR=28
BLQ S **Sn 18 05 49.1 +5.2**
DYBB Diyarbakir 5.78 312 PN **Pn 18 04 40.1 +0.3**
IZEF Zefreh 5.78 101 *e*Pn **Pn 18 04 39.8 -0.3**
IZEF IAMB IAmb 18 05 58.6
comp=Z,3μm,0.7s
TASB TASBURUN-IGDIR 5.87 350 PN **Pn 18 04 42.6 +1.6**
IPRN Peran 5.89 68 *e*Pn **Pn 18 04 43.8 +2.4**
VRTB Varto-Mus 5.95 327 PN **Pn 18 04 43.2 +0.9**
GNI Garni 5.97 354 *i* P **Pn 18 04 44.6 +2.1**
SNR=38
GNI Garni 5.97 354 P **Pn 18 04 44.6 +2.1**
SNR=25
GNI Garni 5.97 354 *ce*P **Pn 18 04 44.7 +2.1**
GNI pmax pmax
comp=Z,180nm,0.8s
GNI Garni 5.97 354 *e*Pn **Pn 18 04 44.6 +2.1**
GNI Garni 5.97 354 Pn **Pn 18 04 44.6 +2.1**
comp=Z,2.7nm,0.3s,baz=201,slow=2.2,SNR=44
GNI Pg **Pb 18 04 58.8 -0.3**
comp=Z,7.1nm,0.3s,baz=0.0,slow=18,SNR=20
GNI Garni 5.97 354 PN **Pn 18 04 44.7 +2.1**
GNI Garni 5.97 354 **Pn 18 04 43.9 +1.4**
AGDM Agdam 6.01 11 P **Pn 18 04 46.1 +3.1**
SNR=12
AGDM S **Sn 18 05 56.5 +5.5**
IFIR Firoozkooh 6.06 74 *e*Pn **Pn 18 04 44.9 +1.0**
SAAT Saatly 6.08 21 P **Pn 18 04 48.2 +4.3**
SAAT S **Sn 18 05 59.7 +7.1**
BRDA Brd 6.18 11 P **Pn 18 04 48.3 +3.1**
BRDA S **Sn 18 06 00.5 +5.5**
BNGB Bingl 6.19 322 PN **Pn 18 04 45.8 +0.3**
IRAM Ramesheh 6.19 111 *e*Pn **Pn 18 04 45.5 -0.2**
KARO Karliova-Bingo 6.26 326 PN **Pn 18 04 47.9 +1.4**
ZRD Zardab 6.29 15 P **Pn 18 04 50.7 +4.0**
ZRD S **Sn 18 06 03.6 +5.9**
ALIB Äli-Bayra 6.36 24 P **Pn 18 04 51.1 +3.4**
ALIB S **Sn 18 06 05.8 +6.4**
URFA Urfa 6.37 302 PN **Pn 18 04 47.5 -0.4**
GANJ Ganja 6.46 5 P **Pn 18 04 52.0 +2.9**
SNR=14
GANJ S **Sn 18 06 06.3 +4.4**
KDMR Kurdemir 6.50 18 P **Pn 18 04 53.2 +3.6**
KDMR S **Sn 18 06 08.4 +5.6**
GDB GEDABAY 6.50 1 P **Pn 18 04 52.2 +2.3**
SNR=69
GDB S **Sn 18 06 06.6 +3.3**
SVRC Sivrice-ELAZID 6.56 311 PN **Pn 18 04 50.8 +0.2**
MNGR Mingechevir, A 6.66 10 P **Pn 18 04 55.1 +3.3**
MNGR S **Sn 18 06 11.8 +4.9**
KARS Kars 6.71 343 PN **Pn 18 04 54.9 +2.2**
QZX Qazax, Azerbai 6.84 359 P **Pn 18 04 57.1 +2.7**
SNR=31
QZX S **Sn 18 06 14.3 +2.9**
SENK Senkaya-Erzuru 6.84 339 PN **Pn 18 04 56.3 +1.7**
GBS Qobustan 6.86 22 P **Pn 18 04 59.0 +4.3**
SNR=7.4
GBS S **Sn 18 06 18.4 +6.5**
ANAR Anarak 6.87 96 *e*Pn **Pn 18 04 55.0 +0.2**
IML Ismayilli 6.89 17 P **Pn 18 04 58.0 +2.9**
SNR=4.1
IML S **Sn 18 06 18.1 +5.5**
IKAZ Kazeroun 6.91 128 *e*Pn **Pn 18 04 56.2 +0.6**
IKIA Kiasar 6.92 71 *e*Pn **Pn 18 04 57.3 +1.6**
QBL Gabala 6.96 14 P **Pn 18 04 58.0 +2.0**
SNR=8.9
QBL S **Sn 18 06 20.0 +5.6**
PQL Pirkuli 6.99 19 P **Pn 18 04 59.2 +2.6**
SNR=11
PQL S **Sn 18 06 21.0 +5.8**
GOBA Gobu 7.01 27 P **Pn** 18 05 02.0 +5.3
SNR=3.4
GOBA S **Sn 18 06 21.8 +6.3**
MALT Malatya 7.08 307 PN **Pn 18 04 57.9 +0.1**
SEKA Sheki 7.11 10 P **Pn 18 05 01.6 +3.5**
SNR=16
SEKA S **Sn 18 06 23.6 +5.7**
IGLO Ghaloghah 7.12 69 *e*Pn **Pn 18 05 00.9 +2.6**
ERZN Erzincan 7.13 321 PN **Pn 18 04 58.9 +0.5**
ATGJ Altiaghaj 7.16 21 P **Pn 18 05 03.1 +4.4**
SNR=9.5
ATGJ S **Sn 18 06 24.8 +5.5**
ISAD Sadrabad 7.18 106 *e*Pn **Pn 18 04 59.0 -0.2**
GALA Gala 7.18 29 P **Pn 18 05 02.8 +3.8**
GALA S **Sn 18 06 26.6 +7.0**
XNQ Khinaliq 7.24 16 P **Pn 18 05 02.0 +1.9**
SNR=11
XNQ S **Sn 18 06 27.1 +5.6**
NDR Nardaran 7.26 28 P **Pn 18 05 03.6 +3.5**
NDR S **Sn 18 06 28.7 +7.0**
SIZA Siyzn 7.34 20 P **Pn 18 05 04.2 +2.9**
SNR=9.6
SIZA S **Sn 18 06 30.0 +6.2**
AKH Akhalkalaki 7.38 348 P **Pn 18 05 04.4 +2.6**
AKH Akhalkalaki 7.38 348 PN **Pn 18 05 04.1 +2.2**
AKH Akhalkalaki 7.38 348 **Pn 18 05 04.4 +2.6**
AKT Akhty 7.46 13 *e*P **Pn 18 05 05.7 +2.8**
AKT pmax pmax
comp=Z,20nm,0.8s
ZKTA Zakatala 7.46 6 P **Pn 18 05 06.4 +3.5**
SNR=18
ZKTA S **Sn 18 06 31.1 +4.4**
QUBA Quba, Azerbaij 7.50 17 P **Pn 18 05 06.5 +3.1**
SNR=4.4
QUBA S **Sn 18 06 32.6 +5.1**
TBLG Delisi 7.54 355 P **Pn 18 05 06.6 +2.6**
TBLG Delisi 7.54 355 **Pn 18 05 06.6 +2.6**
BAYT Aydıntepe-Bayb 7.54 327 PN **Pn 18 05 04.7 +0.6**
ASF Jabal al Asfar 7.56 257 Pn **Pn 18 05 04.0 -0.2**
comp=Z,2.6nm,0.3s,baz=4.6,slow=11,SNR=30
ASF Sn **Sn 18 06 30.6 +1.4**
comp=Z,7.2nm,0.3s,baz=148,slow=22,SNR=6.4
ASF Lg Lg 18 07 13.5
comp=Z,15nm,0.3s,baz=75,slow=16,SNR=4.6
QSAR Qusar 7.60 15 P **Pn 18 05 07.5 +2.7**
SNR=6.6
QSAR S **Sn 18 06 35.2 +5.2**
KEMA Kemaliye 7.61 314 *e*Pn **Pn 18 05 05.6 +0.6**
EPOS Posof 7.63 344 *e*Pn **Pn 18 05 08.4 +3.2**
ILIC ilic-Erzincan 7.68 315 PN **Pn 18 05 05.9 -0.1**
KMRS Kahramanmaras 7.78 298 PN **Pn 18 05 06.2 -1.1**
KELT Kelkit 7.79 321 *e*Pn **Pn 18 05 08.8 +1.3**
DARE Darende-Malaty 7.85 306 PN **Pn 18 05 07.9 -0.4**
CHOM Cayeli-Rize 7.87 332 PN **Pn 18 05 09.5 +1.1**
BCA Borcka 7.88 338 *e*Pn **Pn 18 05 13.1 +4.6**
BCA Borcka 7.88 338 PN **Pn 18 05 10.0 +1.5**
IMEH Mehriz 8.10 108 *e*Pn **Pn 18 05 12.3 +0.4**
SHBL Chebaa 8.24 267 *e*P **Pn 18 05 12.6 -1.0**
GNBR Gunib 8.24 7 *i* P **Pn 18 05 15.3 +1.7**
BHL Bhannes 8.24 271 *e*P **Pn 18 05 14.2 +0.5**
DQRL Deir Qamar 8.33 269 *e*P **Pn 18 05 14.4 -0.5**
ONI Oni 8.54 349 PN **Pn 18 05 19.6 +2.0**
MMAI Mount Meron Ar 8.57 265 Pn **Pn 18 05 18.4 +0.2**
comp=Z,3.6nm,0.3s,baz=84,slow=16,SNR=19
MMAI Pg 18 05 48.0
comp=Z,5.2nm,0.3s,baz=83,slow=15,SNR=7.3
MMAI Sn **Sn 18 06 55.8 +1.7**
comp=Z,6.8nm,0.3s,baz=99,slow=19,SNR=2.7
ZEI Tsey 8.67 352 *e*P **Pn 18 05 20.6 +1.0**
ZEI pmax pmax
comp=Z,58nm,0.7s
IBAF Bafgh 8.79 105 *e*Pn **Pn 18 05 20.8 -0.5**
DBC Dubki 8.85 6 *i* P **Pn 18 05 23.9 +1.9**
JHRM Jahrom 8.89 128 *e*Pn **Pn 18 05 23.1 +0.6**
SVSK Karacayir 8.92 312 PN **Pn 18 05 22.5 -0.3**
GROC Groznyy 8.98 1 *e*P **Pn 18 05 24.4 +0.7**
GROC *e*S **Sn 18 07 07.7 +3.7**
GROC pmax pmax
comp=Z,87nm,1.1s
NEY Neytrino 9.30 347 *d i* P Pn 18 05 33.3 +5.1
NEY pmax pmax
comp=Z,36nm,0.8s
NCK Nalchik 9.40 351 *i* P **Pn 18 05 31.4 +1.9**
KBZ Khabaz 9.73 348 Pn **Pn 18 05 38.4 +4.4**
comp=Z,0.8nm,0.3s,baz=172,slow=9.3,SNR=126
KVAR Kislovodsk Arr 9.99 348 Pn **Pn 18 05 42.3 +4.7**
baz=86,slow=19,SNR=52
KIV Kislovodsk 9.99 348 *i* P **Pn 18 05 41.5 +3.9**
SNR=51
KIV Kislovodsk 9.99 348 P **Pn 18 05 42.1 +4.5**
SNR=51
KIV Kislovodsk 9.99 348 *e*P **Pn 18 05 41.9 +4.3**
KIV pmax pmax
comp=Z,406nm,1.1s
KIV Kislovodsk 9.99 348 **Pn 18 05 41.4 +3.8**
EIL Elat 10.10 246 Pn **Pn 18 05 38.3 -0.8**
comp=Z,1.6nm,0.3s,baz=79,slow=3.8,SNR=14
SOC Sochi 10.41 336 *c i* P **Pn 18 05 45.4 +2.1**
SOC *e* 18 07 45.5
SOC pmax pmax
comp=Z,89nm,0.8s
GEYT Alibeck 10.80 66 Pn **Pn 18 05 51.9 +3.2**
comp=Z,0.2nm,0.3s,baz=243,slow=16,SNR=3.6
GYA0B ALIBECK ARRAY 10.80 66 **Pn 18 05 51.0 +2.3**
GOF Gofitskoye 11.01 351 ⇑ *e*P **Pn 18 05 55.4 +3.9**
GOF pmax pmax
comp=Z,186nm,1.1s
BR131 Keskin Array S 11.02 303 P **Pn 18 05 55.7 +3.9**
SNR=10
BR131 Keskin Array S 11.02 303 P **Pn 18 05 54.7 +2.9**
BR131 Keskin Array S 11.02 303 **Pn 18 05 54.7 +2.9**
BRTR Keskin Array B 11.02 303 Pn **Pn 18 05 53.7 +1.8**
comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=31
BRTR Keskin Array B 11.02 303 **Pn 18 05 54.5 +2.7**
ILGA Ilgaz 11.62 309 **Pn 18 06 02.9 +2.9**
ANTO Ankara 11.67 303 P Pn 18 06 06.1 +5.4
SNR=5.5
ANTO Ankara 11.67 303 P **Pn 18 06 04.1 +3.5**
ANTO Ankara 11.67 303 Pn **Pn 18 06 04.1 +3.5**
SHME Shamm 12.22 129 *i* P **Pn 18 06 07.2 -0.9**
SNR=11
SHME *i* P **Pn 18 06 07.3 -0.9**
SNR=28
UMQ Umm Al-Quwin 12.30 132 P **Pn 18 06 08.3 -0.8**
ANN Anapa 12.30 332 *e*P **Pn 18 06 12.2 +3.1**
ANN pmax pmax
comp=Z,73nm,1.4s
BANOM Banah 12.41 129 *i* P **Pn 18 06 10.0 -0.8**
SNR=57
BANOM *i* P **Pn 18 06 10.0 -0.8**
SNR=25
BANOM Banah 12.41 129 P **Pn 18 06 09.0 -1.8**
SNR=57
AJN Ajban 12.62 137 P **Pn 18 06 12.8 -0.8**
ISP Isparta 12.71 291 P **Pn 18 06 18.2 +3.3**
ISP Isparta 12.71 291 **Pn 18 06 18.2 +3.3**
MSFE Esma-Masafi 12.72 131 *i* P **Pn 18 06 13.5 -1.5**
SNR=43
ASUD Al Ashush, Dub 12.77 136 *i* P **Pn 18 06 14.9 -0.7**
SNR=20
ASUD Al Ashush, Dub 12.77 136 P **Pn 18 06 15.2 -0.4**
SNR=20
MDH Madha 12.86 131 *i* P **Pn 18 06 15.0 -1.8**
SNR=27
MDH Madha 12.86 131 P **Pn 18 06 14.8 -2.0**
SNR=26
UOSS Minazif 13.05 132 *i* P **Pn 18 06 17.6 -1.9**
SNR=20
UOSS Minazif 13.05 132 P **Pn 18 06 17.6 -1.9**
SNR=20
UOSS Minazif 13.05 132 **Pn 18 06 17.0 -2.5**
HATD Hatta, Dubai 13.10 133 *i* P **Pn 18 06 18.5 -1.6**
SNR=28
HATD Hatta, Dubai 13.10 133 P **Pn 18 06 19.0 -1.1**
SNR=27
ASHO Ashiyiah 13.16 133 *i* P **Pn 18 06 20.0 -1.0**
SNR=32
ASHO Ashiyiah 13.16 133 P **Pn 18 06 19.7 -1.2**
SNR=33
ALNE Al Ain 13.45 136 *i* P **Pn 18 06 23.3 -1.6**
SNR=14
HRA Herat 13.78 85 Pn **Pn 18 06 31.6 +2.0**
SIM Simferopol' 13.89 324 *e*P **Pn 18 06 33.8 +3.1**
SIM pmax pmax
comp=Z,21nm,1.1s
SIM MLR MLR
comp=Z,800nm,13.5s
ARQ Araqi 14.46 136 P **Pn 18 06 37.0 -1.7**
SNR=14
HOQ Hoqain 14.74 133 P **Pn 18 06 40.0 -2.4**
BIDO Bidbid 15.29 131 P **Pn 18 06 48.2 -1.6**
BSY Bisya 15.31 135 P **Pn 18 06 47.0 -3.1**
SNR=15
SMDO Samad 15.58 132 P **Pn 18 06 51.6 -2.1**
SNR=23
WSAR Wadi Sarin 15.81 130 P **Pn 18 06 54.0 -2.6**
SNR=8.8
WSAR Wadi Sarin 15.81 130 Pn **Pn 18 06 53.7 -2.9**
comp=Z,3.3nm,0.3s,baz=337,slow=8.7,SNR=24
JMDO Jabal Madar 16.13 134 P **Pn 18 06 58.8 -1.8**
SNR=8.6
WBK Wadi Bani Khal 16.48 131 P **Pn 18 07 03.2 -2.0**
SNR=14
MFTR Murfatlar 16.59 312 ⇓P **P 18 07 09.3 +0.6**
TIRR Tirgusor 16.74 313 P **Pn 18 07 08.8 +0.6**
TIRR pmax pmax
comp=Z,185nm,1.2s
TIRR Tirgusor 16.74 313 ⇑P **P 18 07 09.8 -0.5**
TIRR Tirgusor 16.74 313 **Pn 18 07 08.8 +0.6**
TIRR IAmb IAmb 18 07 12.2
comp=Z,185nm,1.2s
TLCR 16.90 315 ⇑P **P 18 07 11.5 -0.6**
TLCR 16.90 315 ⇑P **P 18 07 11.5 -0.6**
TOPG Topolog 16.98 314 ⇓P **P 18 07 13.1 +0.1**
TLB Topalu 17.03 313 ⇓P **Pn 18 07 11.7 -0.2**
TLB Topalu 17.03 313 ⇓P **Pn 18 07 11.7 -0.2**
JLN Jalan Bani Buh 17.09 131 P **Pn 18 07 10.9 -2.0**
HARR Harsova 17.15 313 ⇑P **Pn 18 07 13.5 +0.1**
HARR Harsova 17.15 313 ⇑P **Pn 18 07 13.5 +0.1**
VRH Novokhopyorsk 17.22 352 *e*P **Pn 18 07 12.4 -1.8**
VRH pmax pmax
comp=Z,100nm,0.8s
CFR Carcaliu 17.29 314 ⇓P **Pn 18 07 13.8 -1.4**
CFR Carcaliu 17.29 314 ⇓P **Pn 18 07 13.8 -1.4**
AMRR Amara 17.48 312 ⇓P **P 18 07 23.6 +5.1**
AMRR Amara 17.48 312 ⇓P **P 18 07 23.6 +5.1**
VSR Storozhevoye 17.63 347 *e*P **Pn 18 07 17.8 -1.5**
VSR pmax pmax
comp=Z,200nm,1.4s
ELND Elena 17.67 305 ⇓P **P 18 07 20.6 0.0**
DQM DQM 17.74 140 P **Pn 18 07 18.1 -2.9**
SNR=19
WHFO Wadi Hawf 17.80 154 P **Pn 18 07 19.0 -2.7**
SNR=27
MILM Milestii Mici 17.94 320 ⇑P **Pn 18 07 22.2 -1.0**
LEOM Leova 17.97 318 ⇓P **Pn 18 07 22.3 -1.3**
LEOM Leova 17.97 318 ⇓P **Pn 18 07 22.3 -1.3**
VORR Voronezh 18.06 347 *e*P **P 18 07 27.0 +2.2**
VORR pmax pmax
comp=Z,500nm,1.2s
ABTO Aybut 18.15 156 P **Pn 18 07 22.6 -3.4**
SNR=6.8
ISR Istrita 18.22 312 ⇑P **P 18 07 27.1 +0.3**
ISR Istrita 18.22 312 ⇑P **P 18 07 27.1 +0.3**
RBK Rabkut 18.34 153 P **P 18 07 25.3 -2.9**
SNR=14
ABKAR Akbulak array 18.41 31 P **P 18 07 27.2 -1.6**
ABKAR Akbulak array 18.41 31 P **P 18 07 27.5 -1.3**
ABKAR IAmb IAmb 18 07 30.4
comp=Z,28nm,0.7s
DMTO DMTO 18.44 151 P **P 18 07 26.1 -3.2**
SNR=28
SHAO Shalim 18.45 148 *i* P **P 18 07 28.6 -0.9**
SNR=25
SHAO Shalim 18.45 148 P **P 18 07 27.5 -1.9**
SNR=26
VRI Vrincioaia 18.50 315 ⇑P **Pn 18 07 30.8 +0.7**
VRI Vrincioaia 18.50 315 ⇑P **Pn 18 07 30.8 +0.7**
PLOR Plostina 18.54 314 ⇑P **Pn 18 07 31.4 +0.9**
PLOR Plostina 18.54 314 ⇑P **Pn 18 07 31.4 +0.9**
AKTO Aktyubinsk 18.60 26 P **P 18 07 30.6 -0.2**
comp=Z,2.4nm,0.3s,baz=207,slow=10,SNR=102
PLVB Pleven 18.69 306 ⇓P **Pn 18 07 33.7 +1.3**
MLR Muntele Rosu 18.77 313 P **Pn 18 07 33.6 +0.1**
MLR pmax pmax
comp=Z,16nm,0.8s
MLR Muntele Rosu 18.77 313 P **Pn 18 07 35.5 +2.0**
comp=Z,0.7nm,0.3s,baz=154,slow=7.9,SNR=14
MLR Muntele Rosu 18.77 313 ⇓P **Pn 18 07 35.2 +1.7**
MLR Muntele Rosu 18.77 313 P **Pn 18 07 33.6 +0.1**
TESR Tescani 18.90 316 ⇑P **P 18 07 34.1 0.0**
HUMR Humele 18.92 309 ⇓P **Pn 18 07 35.6 +0.4**
SORM Soroca 18.96 322 ⇑P **P 18 07 33.7 -1.1**
SORM Soroca 18.96 322 ⇑P **P 18 07 33.7 -1.1**
LPSR Galich'ya Gora 19.00 347 *e*P **P 18 07 33.7 -1.4**
LPSR pmax pmax
comp=Z,560nm,0.8s
OZUR 19.18 314 ⇑P **P 18 07 37.8 +0.6**
AGG Agios Georgios 19.26 291 P **Pn 18 07 39.0 -0.3**
AGG pmax pmax
comp=Z,37nm,1.3s
AGG Agios Georgios 19.26 291 P **Pn 18 07 39.0 -0.3**
VOIR 19.30 312 ⇑P **Pn 18 07 40.2 +0.5**
DOPR Dopca 19.35 313 ⇑P **P 18 07 39.8 +0.7**
KBL Kabul 19.36 82 P **Pn 18 07 41.0 +0.2**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 19.36 82 **Pn 18 07 41.0 +0.2**
VTS Vitosha 19.38 302 P **P 18 07 39.2 -0.5**
VTS pmax pmax
comp=Z,7.0nm,1.1s
VTS Vitosha 19.38 302 P **P 18 07 39.2 -0.5**
ITM Ithomi 19.43 286 P **P 18 07 39.3 -0.8**
BIZ Bicaz 19.45 317 ⇓P **P 18 07 40.3 +0.2**
CHGR Chuyangaron 19.47 70 P **P 18 07 40.6 0.0**
ARR Arges 19.52 311 ⇑P **Pn 18 07 42.1 -0.4**
PRAR RASCA 19.61 318 ⇓P **P 18 07 41.7 -0.3**
MDB Medias 20.04 313 ⇑P Pn 18 07 48.0 -0.6
LOT Lotru 20.10 310 ⇓P **P 18 07 48.4 +0.9**
SRE Strehaia 20.13 308 ⇑P Pn 18 07 49.9 +0.3
FNA Florina 20.26 296 P **P 18 07 48.5 -0.7**

FNA pmax pmax
comp=Z,17nm,0.8s
FNA Florina 20.26 296 P **P 18 07 48.5 -0.7**
BURAR Bucovina Array 20.32 317 ⇓P Pn 18 07 54.7 +2.8
BURAR Bucovina Array 20.32 317 P **P 18 07 49.2 -0.6**
BUR08 Bucovina Ar. S 20.35 317 P **P 18 07 50.4 +0.3**
BUR08 IAmb IAmb 18 07 53.1
comp=Z,53nm,0.8s
AKASG Malin Array Be 20.35 329 P **P 18 07 47.5 -2.5**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG Malin Array Be 20.35 329 P **P 18 07 49.2 -0.7**
comp=Z,19nm,0.5s,baz=133,slow=11,SNR=64
AKASG Malin Array Be 20.35 329 P **P 18 07 47.5 -2.5**
AKBB Malin Array Si 20.35 329 P **P 18 07 48.4 -1.6**
AKBB pmax pmax
comp=Z,109nm,1.1s
AKBB Malin Array Si 20.35 329 P **P 18 07 48.4 -1.6**
AKBB IAmb IAmb 18 07 51.8
comp=Z,109nm,1.1s
GAR Garm 20.40 69 **P 18 07 51.5 +0.7**
GAR IAmb IAmb 18 08 03.8
comp=Z,39nm,1.0s
ARCR ARCALIA 20.53 315 ⇑P **P 18 07 52.8 +0.8**
GZR Gura Zlata 20.71 309 ⇑P **P 18 07 53.3 -0.7**
HERR Herculane 20.73 308 ⇓P **P 18 07 54.9 +0.7**
CJR Cluj-Napoca 20.80 313 ⇑P **P 18 07 55.6 +0.7**
BTK Batken 20.92 66 P **P 18 07 56.4 +0.1**
BTK pmax pmax
comp=Z,12nm,0.7s
BTK Batken 20.92 66 P **P 18 07 56.4 +0.1**
MDVR Moldovita 21.16 307 ⇓P **P 18 07 59.3 +0.5**
BMR Baia Mare 21.34 316 ⇑P **P 18 07 54.6 -6.0**
KK31 Karatay Array 21.34 58 P **P 18 08 00.3 -0.4**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KK31 Karatay Array 21.34 58 P **P 18 08 00.3 -0.4**
KKAR Karatay Array 21.34 58 P **P 18 07 59.9 -0.8**
KKAR Karatay Array 21.34 58 P **P 18 07 59.9 -0.8**
DRGR 21.37 313 ⇑P **P 18 08 00.9 -0.2**
BZS Buzias 21.54 309 ⇓P **P 18 08 01.8 -1.1**
BANR Banloc 21.76 308 ⇑P **P 18 08 06.5 +1.3**
SIRR Siria 21.78 311 ⇓P **P 18 08 06.1 +0.6**
OBN Obninsk 21.83 346 *e*P **P 18 08 04.2 -1.6**
OBN *e*PPP PPP 18 08 34.2
OBN pmax pmax
comp=Z,65nm,0.9s
OBN Obninsk 21.83 346 P **P 18 08 04.2 -1.6**
comp=Z,16nm,0.4s,baz=93,slow=2.0,SNR=20
OBN Obninsk 21.83 346 ⇑P **P 18 08 04.0 -1.8**
OBN Obninsk 21.83 346 P **P 18 08 03.3 -2.5**
TRPA Tarpa 22.12 316 ⇓P **P 18 08 09.1 0.0**
MOS Moscow 22.23 348 *e*P **P 18 08 11.0 +0.9**
MOS pmax pmax
comp=Z,174nm,0.7s
LVV L'vov 22.24 321 *e*P **P 18 08 09.4 -0.9**
UZH Uzhgorod 22.52 317 ⇓*i*P **P 18 08 14.5 +1.2**
UZH *e* 18 08 17.3
KOLS Kolonicke sedl 22.69 317 *e*P **P 18 08 16.3 +1.1**
KOLS Kolonicke sedl 22.69 317 *e*P **P 18 08 16.3 +1.1**
ATD Arta Tunnel 22.71 187 P **P 18 08 18.1 +2.5**
comp=Z,4.8nm,0.7s,baz=3.8,slow=15,SNR=3.3
ATD Arta Tunnel 22.71 187 IAmb IAmb 18 08 26.5
comp=Z,23nm,1.1s
ARSB Arslanbob 22.74 64 P **P 18 08 16.9 +1.0**
KWP Kalwaria Pacla 22.83 319 P **P 18 08 16.3 -0.3**
KWP pmax pmax
comp=Z,693nm,1.2s
KWP Kalwaria Pacla 22.83 319 P **P 18 08 16.3 -0.3**
AML Almayashu 23.40 62 P **P 18 08 23.2 +0.3**
SNR=19
KECS Kecovo 23.49 315 *e*P **P 18 08 25.2 +1.9**
KECS Kecovo 23.49 315 *e*P **P 18 08 25.2 +1.9**
EKS2 Erkin-Say 23.56 61 P **P 18 08 25.6 +1.4**
SNR=15
PSZ Piszkesteto 23.59 313 P **P 18 08 22.1 -2.2**
PSZ pmax pmax
comp=Z,11nm,0.7s
PSZ Piszkesteto 23.59 313 ⇓P **P 18 08 24.1 -0.1**
PSZ Piszkesteto 23.59 313 P **P 18 08 22.1 -2.2**
MICGM Minsk 23.79 334 ⇓*e*P **P 18 08 24.0 -2.0**
MICGM PM 18 08 26.0
comp=Z,0.6nm,1.0s
MNK Minsk 23.79 334 ⇑*e*P **P 18 08 24.0 -2.0**
MNK pmax pmax
comp=Z,600nm,1.0s
ARU Arti 23.94 18*c i*P **P 18 08 27.1 -0.4**
ARU 18 08 56.5
ARU S **S 18 12 46.4 +4.1**
ARU SS **SnSn 18 13 28.6 +5.5**
ARU pmax pmax
comp=Z,46nm,2.1s
ARU Arti 23.94 18 P **P 18 08 26.9 -0.5**
comp=Z,3.0nm,0.6s,baz=195,slow=6.2,SNR=16
ARU Arti 23.94 18 P **P 18 08 26.6 -0.9**
ARU IAmb IAmb 18 08 35.5
comp=Z,63nm,0.9s
AAK Ala-Archa 24.08 61 *i*P **P 18 08 30.6 +1.5**
SNR=9.0
AAK Ala-Archa 24.08 61 P **P 18 08 29.9 +0.8**
AAK P **P 18 08 29.9 +0.8**
SNR=9.0
AAK Ala-Archa 24.08 61 P **P 18 08 29.8 +0.7**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 24.08 61 P **P 18 08 30.8 +1.7**
comp=Z,2.8nm,0.5s,baz=200,slow=3.5,SNR=18
AAK Ala-Archa 24.08 61 P **P 18 08 29.8 +0.7**
USP Ospenovka 24.21 59 P **P 18 08 31.1 +0.9**
SNR=7.4
CHMS Chumysh 24.33 60 P **P 18 08 32.4 +1.1**
SNR=10
LANS Liptovska Anna 24.40 316 *e*P **P 18 08 32.7 +0.8**
LANS Liptovska Anna 24.40 316 *e*P **P 18 08 32.7 +0.8**
KBK Karagaybulak 24.41 61 P **P 18 08 34.1 +1.9**
SNR=14
VYHS Vyhne 24.48 314 *e*P **P 18 08 32.7 +0.2**
VYHS Vyhne 24.48 314 *e*P **P 18 08 32.7 +0.2**
NACGM Naroch 24.50 333 *e* **P 18 08 31.0 -1.6**
SRO Srobarova 24.51 312 *e*P **P 18 08 33.4 +0.6**
SRO Srobarova 24.51 312 *e*P **P 18 08 33.4 +0.6**
KIRV Kirov 24.52 5 P **P 18 08 32.0 -0.7**
comp=Z,120nm,0.6s,baz=199,slow=1.1,SNR=39
OJC Ojcow 24.74 318 P **P 18 08 34.3 -0.5**
OJC pmax pmax
comp=Z,29nm,1.0s
OJC Ojcow 24.74 318 P **P 18 08 34.3 -0.5**
OJC IAmb IAmb 18 08 36.8
comp=Z,28nm,1.0s
KSH Kashi 24.82 69 P **P 18 08 34.8 -1.1**
KSH sP pP 18 08 41.3 -2.5
KSH PcP **PcP 18 12 14.6 +2.9**
KSH S **S 18 12 53.6 -3.4**
KSH sS pS 18 13 00.3 -5.4
KSH SS **SnSn 18 13 47.1 +2.2**
KSH pmax pmax
comp=Z,22nm,0.9s
KSH pmax pmax
comp=Z,520nm,5.6s
KSH LR LR
comp=Z,8μm,10.6s
KSH LR LR
comp=Z,13μm,14.2s
KSH LR LR
comp=Z,16μm,16.8s
IDID Didziasalis 24.84 334 *e*P **P 18 08 35.5 -0.1**
SVE Sverdlovsk 24.85 20 ⇑*e*P **P 18 08 36.2 +0.4**
SVE pmax pmax
comp=Z,40nm,0.9s
TKM2 Tokmak 2 24.93 61 P **P 18 08 38.1 +1.2**
SNR=21
NRN Naryn 25.00 64 P **P 18 08 39.2 +1.5**
NRN pmax pmax
comp=Z,19nm,0.7s
NRN Naryn 25.00 64 P **P 18 08 39.2 +1.5**
NRN IAmb IAmb 18 08 40.1
comp=Z,19nm,0.7s
IIGN Ignalina 25.05 333 *e*P **P 18 08 37.2 -0.4**
IIGN IAmb IAmb 18 08 39.6
comp=Z,78nm,0.8s
ISAL Salakas 25.26 334 *e*P **P 18 08 38.9 -0.6**
ISAL IAmb IAmb 18 08 42.0
comp=Z,62nm,0.8s
SUW Suwalki 25.32 328 P **P 18 08 39.2 -0.8**
SUW pmax pmax
comp=Z,386nm,1.1s
SUW Suwalki 25.32 328 P **P 18 08 39.2 -0.8**
JAVC Velka Javorina 25.33 314 *e*P **P 18 08 41.1 +0.8**
IZAR Zarasai 25.35 334 *e*P **P 18 08 39.9 -0.4**
MODS Modra-Piesok 25.37 312 *e*P **P 18 08 39.1 -1.5**
MODS Modra-Piesok 25.37 312 *e*P **P 18 08 39.1 -1.5**
VAE Valguarnera 25.42 286 P **P 18 08 43.4 +2.1**
comp=Z,18nm,0.9s,baz=66,slow=7.2,SNR=4.1
OKC Ostrava-Krasne 25.48 316 *e*P **P 18 08 41.2 -0.4**
OKC Ostrava-Krasne 25.48 316 *e*P **P 18 08 41.2 -0.4**
BRVK Borovoye 25.76 35 P **P 18 08 44.6 +0.6**
SNR=8.1
BRVK P **P 18 08 44.6 +0.6**
SNR=8.1
BRVK Borovoye 25.76 35*ce*P **P 18 08 44.6 +0.6**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 25.76 35 P **P 18 08 43.0 -1.1**
BRVK IAmb IAmb 18 08 46.0
comp=Z,18nm,0.9s
BVAR Borovoye Array 25.79 36 P **P 18 08 44.6 +0.2**
comp=Z,15nm,0.7s,baz=224,slow=6.2,SNR=62
MORC Moravsky Berou 25.80 316 P **P 18 08 44.4 -0.2**
MORC pmax pmax
comp=Z,23nm,1.0s
MORC Moravsky Berou 25.80 316 ⇑P **P 18 08 44.0 -0.5**
MORC Moravsky Berou 25.80 316 *e*P **P 18 08 44.3 -0.3**
MORC Moravsky Berou 25.80 316 P **P 18 08 44.4 -0.2**
MORC IAmb IAmb 18 08 47.0
comp=Z,23nm,1.0s
KDJ Kajisay 25.96 63 P **P 18 08 46.5 +0.2**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
KDJ Kajisay 25.96 63 P **P 18 08 46.5 +0.2**
PABE Paberze 26.03 331 *e*P **P 18 08 46.1 -0.4**
PABE IAmb IAmb 18 08 48.9
comp=Z,160nm,0.7s
ARSA Arzberg 26.06 309 *e*P **P 18 08 46.9 0.0**
comp=Z,8.4nm,0.8s
CONA Conrad Observa 26.08 311 *e*P **P 18 08 46.9 -0.2**
comp=Z,12nm,1.0s,SNR=7.1
VRAC Vranov 26.16 314 ⇓P **P 18 08 48.1 +0.3**
VRAC Vranov 26.16 314 P **P 18 08 47.9 +0.1**
comp=Z,17nm,0.9s,baz=108,slow=8.7,SNR=17
VRAC Vranov 26.16 314 ⇓P **P 18 08 48.1 +0.3**
VRAC Vranov 26.16 314 *e*P **P 18 08 47.9 +0.1**
KRUC Moravsky 26.18 313 *e*P **P 18 08 47.8 -0.1**
SOKA Soboth 26.20 308 *e*P **P 18 08 47.9 -0.4**
comp=Z,7.9nm,0.9s
KRLC Kraliky 26.38 316 *e*P **P 18 08 49.3 -0.5**
KRLC Kraliky 26.38 316 *e*P **P 18 08 49.3 -0.5**
NRCA Norcia 26.69 298 P **P 18 08 52.2 -0.6**
NRCA IAmb IAmb 18 08 54.6
comp=Z,38nm,1.3s
DPC Dobruska-Polom 26.76 316 *e*P **P 18 08 52.4 -0.8**
DPC Dobruska-Polom 26.76 316 *e*P **P 18 08 52.4 -0.8**
KLMR Klimovskoe 26.95 353 *e*P **P 18 08 52.4 -2.3**
KLMR *e* 18 09 36.1
KLMR pmax pmax
comp=Z,70nm,1.1s
KLMR Klimovskoe 26.95 353 *e*P **P 18 08 52.5 -2.3**
KLMR AMP 18 08 56.0
comp=Z,70nm,1.1s
KLMR *e*PP **PnPn 18 09 36.1 -1.2**
UPC Upice 27.01 316 *e*P **P 18 08 55.0 -0.4**
UPC Upice 27.01 316 *e*P **P 18 08 55.0 -0.4**
CHVC Chvalec 27.02 316 *e*P **P 18 08 54.9 -0.6**
MOA Molln 27.06 310 *e*P **P 18 08 55.8 -0.1**
comp=Z,19nm,0.9s,SNR=10
PBUR Paburg 27.22 330 *e*P **P 18 08 56.6 -0.5**
VSU Vasula 27.34 338*ce*P **P 18 08 56.6 -1.6**
VSU pmax pmax
comp=Z,68nm,0.9s
VSU Vasula 27.34 338 *e*P **P 18 08 57.2 -1.0**
VSU IAmb IAmb 18 08 58.1
comp=Z,88nm,0.5s
KBA Koelnbreinsper 27.43 308 *e*P **P 18 08 57.5 -1.9**
comp=Z,14nm,0.8s
PRGR Permogore 27.45 0 ⇑*i*P **P 18 08 57.7 -1.4**
PRGR pmax pmax
comp=Z,65nm,0.6s
GOPC GO Pecny, Ondr 27.48 314 *e*P **P 18 08 59.3 -0.4**
GOPC GO Pecny, Ondr 27.48 314 *e*P **P 18 08 59.3 -0.4**
PRU Pruhonice 27.66 314 *e*P **P 18 09 01.9 +0.7**
PRU Pruhonice 27.66 314 *e*P **P 18 09 01.9 +0.7**
GERES GERESS Array B 27.75 311 P **P 18 09 01.4 -0.7**
comp=Z,2.3nm,0.8s,baz=116,slow=7.7,SNR=8.5
GERES GERESS Array B 27.75 311 P **P 18 09 00.3 -1.8**
KHC Kasperske Hory 27.92 312 P **P 18 09 01.7 -1.9**
KHC pmax pmax
comp=Z,3.0nm,1.3s
KHC Kasperske Hory 27.92 312 *e*P **P 18 09 02.2 -1.4**
KHC *ex* x 18 09 22.0
KHC Kasperske Hory 27.92 312 P **P 18 09 01.7 -1.9**
CTI Castel Tesino 28.30 305 P **P 18 09 05.9 -1.2**
CTI pmax pmax
comp=Z,10.0nm,0.9s
CTI Castel Tesino 28.30 305 P **P 18 09 05.9 -1.2**
BRG Berggiesshubel 28.36 316 *e*P **P 18 09 06.5 -0.9**
comp=Z,10nm,1.5s
BRG Berggiesshubel 28.36 316 *e*P **P 18 09 06.5 -0.9**
BRG pmax pmax
comp=Z,10.0nm,1.5s
WTTA Wattenberg 28.60 307 *e*P **P 18 09 09.0 -0.9**
comp=Z,24nm,1.3s
WATA Walderalm 28.66 308 *e*P **P 18 09 09.2 -1.1**
comp=Z,20nm,1.3s
SQTA Sankt Quirin 28.87 307 *e*P **P 18 09 11.4 -0.8**
comp=Z,8.8nm,0.8s
MOTA Moosalm 28.97 307 *e*P **P 18 09 11.8 -1.3**
comp=Z,11nm,0.8s,SNR=5.5
KURBB Kurchatov Arra 29.03 46 P **P 18 09 14.6 +1.2**
comp=Z,14nm,0.7s,baz=252,slow=8.9,SNR=87
CLL Collm 29.08 316 *e*P **P 18 09 13.0 -0.8**
CLL pmax pmax
comp=Z,14nm,1.4s
CLL Collm 29.08 316 *e*P **P 18 09 13.0 -0.8**
comp=Z,14nm,1.4s
KURK Kurchatov 29.12 45 P **P 18 09 15.7 +1.5**
SNR=5.5
KURK Kurchatov 29.12 45*ce*P **P 18 09 15.1 +0.9**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 29.12 45 P **P 18 09 14.4 +0.3**
KURK IAmb IAmb 18 09 16.2
comp=Z,16nm,0.9s
FETA Feichten 29.14 307 *e*P **P 18 09 13.9 -0.8**
comp=Z,8.1nm,0.9s
DAVOX Davos/Dischmat 29.66 306 P **P 18 09 19.0 -0.3**
DAVOX Davos/Dischmat 29.66 306 P **P 18 09 19.0 -0.3**
comp=Z,5.1nm,0.8s,baz=100,slow=13,SNR=8.0
DAVA Damuels 29.77 307 *e*P **P 18 09 19.0 -1.1**
comp=Z,14nm,0.9s,SNR=5.6
FINES FINESS Array B 29.99 341 P **P 18 09 20.7 -1.0**
comp=Z,10nm,0.7s,baz=143,slow=10,SNR=45
FINES PP PP 18 10 16.1 -13
comp=Z,7.8nm,0.6s,baz=139,slow=15,SNR=4.1
FINES FINESS Array B 29.99 341 P **P 18 09 20.9 -0.9**
MK31 Makanchi Array 30.33 54 P **P 18 09 24.9 -0.2**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 30.33 54 P **P 18 09 24.9 -0.2**
MKAR Makanchi Array 30.33 54 *i*P **P 18 09 26.0 +0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 30.33 54 P **P 18 09 26.0 +0.9**
comp=Z,2.9nm,0.5s,baz=251,slow=11,SNR=38
MKAR Makanchi Array 30.33 54 P **P 18 09 25.3 +0.2**
TMCR Tamitsa 30.34 353 *e*P **P 18 09 22.7 -2.1**
TMCR pmax pmax
comp=Z,62nm,0.7s
BFO Black Forest 31.02 308 *i*P P 18 09 36.1 +5.0
BNI Bardonecchia 31.58 302 P **P 18 09 35.8 -0.4**
BNI pmax pmax
comp=Z,40nm,1.0s
BNI Bardonecchia 31.58 302 P **P 18 09 35.8 -0.4**
BNI IAmb IAmb 18 09 37.1
comp=Z,40nm,1.0s
LPL La Plagne 31.60 303 *e*P **P 18 09 35.5 -1.0**
LPL pmax pmax
comp=Z,14nm,0.9s
ECH Echery 31.76 308 P **P 18 09 35.4 -2.2**
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 31.76 308 P **P 18 09 35.4 -2.2**
ECH IAmb IAmb 18 09 37.3
comp=Z,12nm,1.0s
WLF Walferdange 32.72 310 P **P 18 09 45.2 -0.8**
comp=Z,13nm,1.1s
HFS Hagfors 33.21 331 P **P 18 09 49.5 -0.6**
comp=Z,40nm,0.6s,baz=128,slow=9.6,SNR=92
BMRD Maredsous 33.73 311 P **P 18 09 55.2 +0.4**
ZAA0 Zalesovo Array 33.82 42 P **P 18 09 54.0 -1.5**
ZAA0 IAmb IAmb 18 09 56.5
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 33.82 42 *i*P **P 18 09 55.5 0.0**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 33.82 42 P **P 18 09 55.6 +0.1**
comp=Z,10nm,0.6s,baz=261,slow=8.8,SNR=41
ZALV Zalesovo Beam 33.82 42 P **P 18 09 54.1 -1.4**
HYB Hyderabad 33.87 111 *i*P **P 18 09 56.0 -0.4**
SSF Saint Saulge 34.01 305 *e*P **P 18 09 55.9 -1.4**
SSF pmax pmax
comp=Z,8.0nm,0.8s
APA Apatity 34.14 352 ⇓*i*P **P 18 09 57.1 -1.0**
APA pmax pmax
comp=Z,40nm,0.8s
APA MLR MLR
comp=Z,3μm,13.0s
LVZ Lovozero 34.32 353 P **P 18 09 59.2 -0.5**
LVZ pmax pmax
comp=Z,29nm,0.7s
LVZ Lovozero 34.32 353 P **P 18 09 59.2 -0.5**
NC405 NORSAR Array S 34.58 332 P **P 18 10 00.5 -1.5**
KONO Kongsberg 34.65 328*ce*P **P 18 10 00.4 -2.2**
KONO pmax pmax
comp=Z,52nm,1.7s
KONO Kongsberg 34.65 328 P **P 18 10 01.1 -1.5**
NB2 NORSAR Subarra 34.73 331 P **P 18 10 01.9 -1.5**
comp=Z,3.7nm,0.6s,baz=124,slow=9.3
NOA NORSAR Array B 34.73 331 P **P 18 10 02.2 -1.2**
comp=Z,6.9nm,0.8s,baz=125,slow=8.6,SNR=22
KMBO Kilima Mbogo 36.01 194 P **P 18 10 18.0 +3.0**
comp=Z,0.6nm,0.5s,baz=217,slow=20,SNR=2.3
MFF Saint Martin d 36.47 304 *e*P **P 18 10 16.7 -1.7**
MFF pmax pmax
comp=Z,15nm,1.1s
ARCES ARCESS Array B 37.10 348 P **P 18 10 23.0 -0.5**
ARCES ARCESS Array B 37.10 348 P **P 18 10 22.7 -0.8**
comp=Z,22nm,0.8s,baz=144,slow=9.3,SNR=56
ARCES PP **PP 18 11 45.6 -2.5**
comp=Z,8.6nm,0.8s,baz=155,slow=6.7,SNR=4.2
ARCES ARCESS Array B 37.10 348 P **P 18 10 23.0 -0.5**
MBAR Mbarara 37.32 205 P **P 18 10 27.7 +1.5**
comp=Z,1.8nm,0.2s,baz=311,slow=19,SNR=1.9
LSA Lhasa 38.68 84 P **P 18 10 38.8 +1.0**
EKA Eskdalemuir Ar 39.51 318 P **P 18 10 43.1 -0.8**
comp=Z,8.1nm,0.7s,baz=102,slow=8.5,SNR=31
ESDC Sonseca Array 39.57 293 P **P 18 10 43.9 -0.8**
comp=Z,2.1nm,0.8s,baz=65,slow=8.9,SNR=11
ESDC PcP **PcP 18 12 52.6 +0.9**
comp=Z,0.9nm,0.8s,baz=35,slow=3.8,SNR=5.5
MDT Midelt 41.53 283 P **P 18 11 01.8 +0.8**
comp=Z,2.0nm,0.9s,baz=59,slow=12,SNR=3.6
NRIK Noril'sk 42.11 21 P **P 18 11 06.0 +0.8**
comp=Z,13nm,0.5s,baz=235,slow=4.8,SNR=18
GTA Gaotai 43.19 67 ⇓P **P 18 11 15.9 +1.4**
GTA pP pP 18 11 21.3 -1.4
GTA sP sP 18 11 24.0 -2.1
GTA pmax pmax
comp=Z,12nm,1.4s
GTA pmax pmax
comp=Z,130nm,4.5s
GTA LR LR
comp=Z,880nm,10.6s
GTA LR LR
comp=Z,480nm,10.3s
GTA LR LR
comp=Z,810nm,12.4s
TOA0 Torodi Ar. Sit 44.90 253 P **P 18 11 27.8 -0.6**
TORD Torodi Ar. Bea 44.90 253 P **P 18 11 28.4 0.0**
comp=Z,2.1nm,0.5s,baz=48,slow=5.8,SNR=16
TORD Torodi Ar. Bea 44.90 253 P **P 18 11 26.8 -1.6**
SPA0 Spitsbergen Ar 45.84 352 P **P 18 11 34.8 -0.2**
SPITS Spitsbergen Ar 45.84 352 P **P 18 11 35.2 +0.2**
comp=Z,28nm,0.5s,baz=125,slow=10,SNR=59
SONM Songino Array 46.70 54 P **P 18 11 42.6 +0.3**
comp=Z,1.2nm,0.5s,baz=283,slow=8.9,SNR=13
SONM Songino Array 46.70 54 IAmb IAmb 18 11 46.9
comp=Z,0.7nm,0.7s
LZH Lanzhou 47.05 70 ⇑P **P 18 11 44.5 -0.8**
LZH pP pP 18 11 47.8 -5.8
LZH sP sP 18 11 49.3 -7.7
LZH *e*PP **PP 18 13 34.6 -1.5**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.5s
LZH LR LR
comp=Z,370nm,14.0s
LZH LR LR
comp=Z,380nm,13.8s
LZH LR LR
comp=Z,570nm,17.1s
ULN Ulaanbaatar 47.14 54 P **P 18 11 46.5 +0.7**
SNR=7.1
ULN P **P 18 11 46.5 +0.7**
SNR=7.1
ULN Ulaanbaatar 47.14 54*ce*P **P 18 11 46.0 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 47.14 54 P **P 18 11 46.0 +0.2**
ULN IAmb IAmb 18 11 46.8
comp=Z,5.7nm,0.6s
CD2 Chengdu 48.57 77 P **P 18 11 57.8 +0.8**
CD2 pmax pmax
comp=Z,40nm,0.5s
CHTO Chiang Mai 49.62 94 P **P 18 12 04.8 -0.3**
SNR=11
CHTO P **P 18 12 04.8 -0.3**
SNR=11
CHTO Chiang Mai 49.62 94 P **P 18 12 03.8 -1.3**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 49.62 94 P **P 18 12 03.8 -1.3**
CHTO IAmb IAmb 18 12 05.0
comp=Z,8.4nm,0.6s
CMMT Chiang Mai 49.62 94 P **P 18 12 04.4 -0.8**
comp=Z,7.1nm,0.7s
CMAR Chiang Mai Arr 49.79 94 P **P 18 12 05.8 -0.6**
comp=Z,7.5nm,0.8s,baz=294,slow=8.3,SNR=30
CMAR Chiang Mai Arr 49.79 94 P **P 18 12 04.7 -1.7**
PAYA Payao 50.12 93 P **P 18 12 13.6 +4.7**
BOD Bodaibo 50.52 40 *e*P **P 18 12 11.3 -0.1**
BOD pmax pmax
comp=Z,24nm,0.9s
PHRA Phrae 50.84 93 P **P 18 12 14.4 +0.1**
comp=Z,1.3nm,1.1s,comp=Z,749nm
XAN Xi'an 51.64 71 P **P 18 12 19.8 -0.4**
XAN pmax pmax
comp=Z,15nm,0.8s
XAN pmax pmax
comp=Z,170nm,3.8s
HHC Hu-ho-hao-te 51.65 62 *e*P **P 18 12 20.8 +0.5**
PBKT Sadao Pong 52.41 95 P **P 18 12 25.1 -0.9**
PBKT IAmb IAmb 18 12 26.2
comp=Z,9.3nm,0.7s
SLVN Son La 52.54 88 P **P 18 12 25.8 -1.3**
SLVN IAmb IAmb 18 12 27.8
comp=Z,8.5nm,0.7s
GYA Guiyang 52.61 81 P **P 18 12 28.3 +0.7**
GYA PP **PP 18 14 28.6 +1.9**
GYA S **S 18 19 48.8 -4.7**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,150nm,5.0s
GYA LR LR
comp=Z,440nm,17.0s
GYA LR LR
comp=Z,340nm,17.7s
NONG Nongkai 53.46 92 P **P 18 12 33.0 -0.8**
comp=Z,0.3nm,0.9s,comp=Z,110nm
DBIC Dimbokro 53.92 251 P **P 18 12 37.1 -0.1**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 53.92 251 P **P 18 12 37.3 0.0**
comp=Z,4.1nm,0.6s,baz=21,slow=8.8,SNR=8.1

DBIC	**Dimbokro**	**53.92**	**251**	P	**P**	**18 12 37.1**	**-0.1**
KIC	**Kosan Boka**	**54.02**	**251**	*e*P	**P**	**18 12 37.9**	**-0.1**
	comp=Z,10nm,0.5s						
TIC	**Toumodi**	**54.07**	**251**	*e*P	**P**	**18 12 37.4**	**-0.9**
LIC	**Lamto**	**54.33**	**251**	*e*P	**P**	**18 12 39.7**	**-0.5**
	comp=Z,29nm,0.9s						
BJI	**Beijing**	**55.25**	**62**	*e*P	**P**	**18 12 46.8**	**+0.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJI				LR	LR		
	comp=Z,470nm,11.8s						
BJI				LR	LR		
	comp=Z,830nm,16.3s						
BJI				LR	LR		
	comp=Z,740nm,28.4s						
TIXI	**Tiksi**	**55.84**	**22**	*i* P	**P**	**18 12 49.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,18nm,0.7s						
TIXI	**Tiksi**	**55.84**	**22**	P	**P**	**18 12 50.4**	**+0.1**
	comp=Z,15nm,0.6s,baz=180,slow=24,SNR=39						
TIXI	**Tiksi**	**55.84**	**22**	P	**P**	**18 12 50.6**	**+0.2**
TIXI				IAmb	IAmb	18 12 51.2	
	comp=Z,18nm,0.8s						
SUMG	**Summit**	**55.98**	**339**	P	**P**	**18 12 51.6**	**-0.2**
SUMG				pmax	pmax		
	comp=Z,11nm,0.7s						
SUMG	**Summit**	**55.98**	**339**	P	**P**	**18 12 51.6**	**-0.2**
SUMG				IAmb	IAmb	18 12 53.9	
	comp=Z,11nm,0.7s						
YAK	**Yakutsk**	**57.75**	**34**	*e*P	**P**	**18 13 03.4**	**-0.6**
YAK				*e**PP	**pP**	**18 13 10.1**	**-2.2**
YAK				*e*		18 13 55.3	
YAK				*e*		18 15 08.5	
YAK				*e*S	**S**	**18 20 59.2**	**-1.8**
YAK				*e**SS	**sS**	**18 21 14.9**	**+0.1**
YAK				*e*SS	**SS**	**18 24 52.2**	**+1.2**
YAK				pmax	pmax		
	comp=Z,24nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,34nm,2.6s						
YAK				pmax	pmax		
	comp=N,76nm,2.7s						
YAK				pmax	pmax		
	comp=E,46nm,2.7s						
YAK				smax	smax		
	comp=N,43nm,1.6s						
YAK				smax	smax		
	comp=E,92nm,2.4s						
YAK	**Yakutsk**	**57.75**	**34**	P	**P**	**18 13 03.1**	**-0.9**
	comp=E,10nm,0.5s,baz=64,slow=0.2,SNR=10						
PSI	**Prapat**	**58.58**	**110**	P	**P**	**18 13 09.8**	**-0.8**
	comp=E,1.3nm,0.3s,baz=3.0,slow=23,SNR=3.9						
DL2	**Dalian**	**59.60**	**61**	*e*P	**P**	**18 13 16.4**	**-0.9**
DL2				pmax	pmax		
	comp=E,50nm,0.8s						
NJ2	**Nanjing**	**60.12**	**70**	*e*P	**P**	**18 13 19.1**	**-1.9**
NJ2				pmax	pmax		
	comp=E,9.0nm,0.5s						
NJ2				LR	LR		
	comp=E,2μm,11.4s						
NJ2				LR	LR		
	comp=E,2μm,16.1s						
NJ2				LR	LR		
	comp=E,1μm,19.9s						
LBTB	**Lobatse**	**61.88**	**201**	P	**P**	**18 13 32.9**	**0.0**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LBTB	**Lobatse**	**61.88**	**201**	P	**P**	**18 13 32.9**	**0.0**
LBTB				IAmb	IAmb	18 13 41.1	
	comp=Z,9.4nm,0.9s						
KLR	**Kul'dur**	**62.68**	**47**	*i* P	**P**	**18 13 38.0**	**0.0**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSRS	**Korea Array**	**64.74**	**61**	P	**P**	**18 13 51.2**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=288,slow=6.9,SNR=15						
USRK	**Ussuriysk Ar.**	**64.78**	**53**	P	**P**	**18 13 50.4**	**-1.5**
	comp=Z,3.7nm,0.6s,baz=291,slow=6.1,SNR=16						
USRK	**Ussuriysk Ar.**	**64.78**	**53**	P	**P**	**18 13 50.1**	**-1.8**
BOSA	**Boshof**	**65.38**	**200**	P	**P**	**18 13 56.6**	**+0.7**
	comp=Z,4.5nm,0.6s,baz=9.3,slow=5.7,SNR=17						
BOSA	**Boshof**	**65.38**	**200**	IAmb	IAmb	18 14 03.2	
	comp=Z,7.3nm,0.8s						
SEY	**Seymchan**	**67.17**	**28**	*i* P	**P**	**18 14 07.3**	**+0.4**
SEY	**Seymchan**	**67.17**	**28**	P	**P**	**18 14 08.2**	**+1.3**
	comp=Z,53nm,0.7s,baz=288,slow=6.3,SNR=170						
MA2	**Magadan**	**68.21**	**32**	*ce*P	**P**	**18 14 14.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,67nm,2.5s						
BILL	**Bilibino**	**68.94**	**20**	*e*P	**P**	**18 14 18.4**	**+0.4**
BILL				*e*		18 14 22.4	
BILL				*e*		18 14 40.1	
BILL				pmax	pmax		
	comp=Z,29nm,1.0s						
BILL	**Bilibino**	**68.94**	**20**	P	**P**	**18 14 17.8**	**-0.2**
CISI	**Cisompet, Garu**	**71.96**	**113**	P	**P**	**18 14 33.9**	**-3.4**
MJAR	**Matsushiro Arr**	**72.47**	**58**	P	**P**	**18 14 40.3**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=302,slow=2.7,SNR=3.1						
MJAR	**Matsushiro Arr**	**72.47**	**58**	IAmb	IAmb	18 14 47.5	
	comp=Z,2.1nm,1.2s						
SCHQ	**Schefferville**	**74.12**	**326**	P	**P**	**18 14 48.9**	**-0.6**
	comp=Z,7.5nm,0.7s,baz=33,slow=7.1,SNR=8.6						
SCHQ	**Schefferville**	**74.12**	**326**	IAmb	IAmb	18 14 49.8	
	comp=Z,8.1nm,0.7s						
PETK	**Petropavlovsk-**	**75.03**	**35**	P	**P**	**18 14 53.3**	**-1.4**
	comp=Z,8.8nm,0.8s,baz=37,slow=1.5,SNR=10						
PETK	**Petropavlovsk-**	**75.03**	**35**	P	**P**	**18 14 52.5**	**-2.3**
C36M	**Paulatuk**	**76.47**	**356**	P	**P**	**18 15 02.1**	**-0.5**
	baz=8.8						
TOLK	**Toolik Lake Re**	**76.84**	**6**	P	**P**	**18 15 05.6**	**+0.7**
	baz=347						
TOLK	**Toolik Lake Re**	**76.84**	**6**	P	**P**	**18 15 05.1**	**+0.2**
INK	**Inuvik**	**77.80**	**360**	P	**P**	**18 15 08.3**	**-1.8**
INK				pmax	pmax		
	comp=Z,16nm,1.1s						
INK	**Inuvik**	**77.80**	**360**	P	**P**	**18 15 09.6**	**-0.6**
	comp=Z,9.5nm,0.9s,baz=8.1,slow=5.2,SNR=4.9						
INK	**Inuvik**	**77.80**	**360**	P	**P**	**18 15 08.3**	**-1.8**
INK				IAmb	IAmb	18 15 10.7	
	comp=Z,16nm,1.1s						
COLD	**Coldfoot**	**78.17**	**6**	P	**P**	**18 15 12.9**	**+0.7**
COLD				IAmb	IAmb	18 15 14.4	
	comp=Z,15nm,0.9s						
BMAR	**Burnt Mountain**	**78.39**	**4**	P	**P**	**18 15 13.9**	**+0.4**
IMAR	**Indian Mountai**	**79.02**	**8**	P	**P**	**18 15 17.1**	**+0.2**
FYU	**Fort Yukon**	**79.20**	**4**	P	**P**	**18 15 18.9**	**+1.0**
FYU				IAmb	IAmb	18 15 19.4	
	comp=Z,11nm,0.8s						
EPYK	**Eagle Plains**	**79.73**	**1**	P	**P**	**18 15 20.9**	**0.0**
	baz=358						
EPYK	**Eagle Plains**	**79.73**	**1**	P	**P**	**18 15 20.7**	**-0.1**
EPYK				IAmb	IAmb	18 15 21.7	
	comp=Z,25nm,0.8s						
JCJ	**Chichijima**	**80.30**	**64**	P	**P**	**18 15 26.3**	**+1.7**
	comp=Z,24nm,0.7s,baz=282,slow=23,SNR=9.5						
POKR	**Poker Plat Res**	**80.48**	**6**	P	**P**	**18 15 25.8**	**+0.9**
	baz=349						
TCOL	**CIGO, UAF Yank**	**80.68**	**6**	P	**P**	**18 15 26.5**	**+0.5**
	baz=349						
IL31		**80.86**	**5**	P	**P**	**18 15 26.4**	**-0.4**
IL31				IAmb	IAmb	18 15 27.9	
	comp=Z,7.7nm,0.8s						
ILAR	**Eielson Array**	**80.86**	**5**	P	**P**	**18 15 27.4**	**+0.4**
ILAR	**Eielson Array**	**80.86**	**5**	P	**P**	**18 15 26.8**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=324,slow=3.9,SNR=56						
ILAR				PKKPbc	**PKKPbc**	**18 34 06.2**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=182,slow=2.9,SNR=4.3						
ILAR	**Eielson Array**	**80.86**	**5**	P	**P**	**18 15 27.4**	**+0.4**
CCB	**Clear Creek Bu**	**80.91**	**6**	P	**P**	**18 15 27.3**	**+0.1**
CCB				IAmb	IAmb	18 15 28.0	
	comp=Z,9.9nm,0.8s						
WRH	**Wood River Hil**	**81.06**	**6**	P	**P**	**18 15 28.0**	**0.0**
WRH				IAmb	IAmb	18 15 30.0	
	comp=Z,9.5nm,0.9s						
BPAW	**Bear Paw Mtn.**	**81.15**	**7**	P	**P**	**18 15 29.1**	**+0.6**
BPAW				IAmb	IAmb	18 15 29.9	
	comp=Z,18nm,0.9s						
EGAK	**Eagle**	**81.20**	**3**	P	**P**	**18 15 29.6**	**+0.8**
EGAK				IAmb	IAmb	18 15 30.0	
	comp=Z,15nm,0.8s						
HDA	**Harding Lake**	**81.22**	**5**	P	**P**	**18 15 28.4**	**-0.4**
	baz=350						
HDA	**Harding Lake**	**81.22**	**5**	P	**P**	**18 15 28.5**	**-0.3**
HDA				IAmb	IAmb	18 15 29.3	
	comp=Z,14nm,0.7s						
TTA	**Tatalina**	**81.66**	**10**	P	**P**	**18 15 31.8**	**+0.5**
TTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TTA	**Tatalina**	**81.66**	**10**	P	**P**	**18 15 31.8**	**+0.5**
TTA				IAmb	IAmb	18 15 32.6	
	comp=Z,6.2nm,0.8s						
KTH	**Kantishna Hill**	**81.69**	**7**	P	**P**	**18 15 31.5**	**+0.1**
KTH				IAmb	IAmb	18 15 33.1	
	comp=Z,19nm,0.7s						
MCK	**McKinley**	**81.71**	**6**	P	**P**	**18 15 30.4**	**-1.1**
MCK				pmax	pmax		
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**81.71**	**6**	P	**P**	**18 15 30.4**	**-1.1**
MCK				IAmb	IAmb	18 15 32.4	
	comp=Z,15nm,0.9s						
SCRK	**Sand Creek**	**81.85**	**4**	P	**P**	**18 15 33.3**	**+0.9**
RIDG	**Independent Ri**	**82.03**	**5**	P	**P**	**18 15 32.4**	**-0.8**
RIDG				IAmb	IAmb	18 15 34.6	
	comp=Z,17nm,0.8s						
RND	**Reindeer**	**82.04**	**7**	P	**P**	**18 15 33.0**	**-0.3**
RND				pmax	pmax		
	comp=Z,10.0nm,0.7s						
RND	**Reindeer**	**82.04**	**7**	P	**P**	**18 15 33.0**	**-0.3**
RND				IAmb	IAmb	18 15 33.2	
	comp=Z,9.5nm,0.7s						
DOT	**Dot Lake**	**82.17**	**4**	P	**P**	**18 15 34.7**	**+0.8**
DOT				IAmb	IAmb	18 15 35.6	
	comp=Z,17nm,0.7s						
PPLA	**Purkeypile**	**82.19**	**8**	P	**P**	**18 15 34.6**	**+0.5**
PPLA				IAmb	IAmb	18 15 35.6	
	comp=Z,9.9nm,0.9s						
YKA	**Yellowknife Ar**	**82.32**	**351**	P	**P**	**18 15 33.9**	**-0.8**
YKA						18 18 42.0	
YKA	**Yellowknife Ar**	**82.32**	**351**	P	**P**	**18 15 34.2**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=18,slow=5.5,SNR=10						
YKA				PP	**PP**	**18 18 42.0**	**-0.6**
	comp=Z,6.5nm,0.9s,baz=16,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**82.32**	**351**	P	**P**	**18 15 33.9**	**-0.8**
DHY	**Denali Highway**	**82.50**	**6**	P	**P**	**18 15 35.9**	**+0.1**
DHY				IAmb	IAmb	18 15 36.5	
	comp=Z,10nm,0.7s						
LSQQ	**Lebel-sur-Quev**	**82.64**	**326**	P	**P**	**18 15 36.7**	**+0.1**
	baz=45						
BCAR	**Beaver Creek A**	**82.88**	**3**	P	**P**	**18 15 38.6**	**+0.9**
MENT	**Mentasta**	**82.90**	**4**	P	**P**	**18 15 37.5**	**-0.2**
MENT				IAmb	IAmb	18 15 39.6	
	comp=Z,15nm,0.8s						
SKT	**Skwentna**	**83.15**	**8**	P	**P**	**18 15 39.0**	**-0.1**
GHO	**Glory Hole Cre**	**83.64**	**7**	P	**P**	**18 15 41.9**	**+0.3**
GHO				IAmb	IAmb	18 15 43.5	
	comp=Z,16nm,1.1s						
SML	**Sawmill**	**83.66**	**7**	P	**P**	**18 15 41.2**	**-0.5**
SCM	**Sheep Creek Mo**	**83.73**	**6**	P	**P**	**18 15 43.3**	**+1.2**
SCM				pmax	pmax		
	comp=Z,16nm,0.7s						
SCM	**Sheep Creek Mo**	**83.73**	**6**	P	**P**	**18 15 43.3**	**+1.2**
PMR	**Palmer**	**83.79**	**7**	P	**P**	**18 15 41.5**	**-0.8**
PMR				pmax	pmax		
	comp=Z,18nm,0.8s						
PMR	**Palmer**	**83.79**	**7**	P	**P**	**18 15 41.5**	**-0.8**
KNK	**Knik Glacier**	**84.03**	**7**	P	**P**	**18 15 44.4**	**+0.8**
RC01	**Rabbit Creek A**	**84.22**	**7**	P	**P**	**18 15 45.0**	**+0.5**
BALM	**Baldy**	**84.88**	**4**	P	**P**	**18 15 48.4**	**+0.5**
HYT	**Haines Junctio**	**85.28**	**2**	P	**P**	**18 15 49.5**	**-0.6**
KDAK	**Kodiak Island**	**87.09**	**10**	*i* P	**P**	**18 15 59.6**	**+0.8**
KDAK	**Kodiak Island**	**87.09**	**10**	P	**P**	**18 15 59.6**	**+0.8**
G40A	**Rib Lake**	**91.33**	**330**	P	**P**	**18 16 18.9**	**-0.2**
	baz=35						
O51A	**Pataskala**	**91.91**	**323**	P	**P**	**18 16 21.5**	**-0.3**
	baz=41						
P52A	**Corning**	**92.06**	**322**	P	**P**	**18 16 22.6**	**+0.1**
	baz=41						
O50A	**Cable**	**92.42**	**324**	P	**P**	**18 16 23.6**	**-0.6**
	baz=40						
O49A	**Covington**	**92.73**	**324**	P	**P**	**18 16 25.3**	**-0.4**
	baz=40						
O49A	**Covington**	**92.73**	**324**	P	**P**	**18 16 24.9**	**-0.7**
P49A	**Miami Univ. Ec**	**93.42**	**324**	P	**P**	**18 16 28.1**	**-0.8**
	baz=39						
T50A	**Nancy**	**95.43**	**322**	P	**P**	**18 16 37.9**	**-0.2**
	baz=39						
WRA	**Warramunga Arr**	**99.95**	**107**	*i* P	**Pdif**	**18 17 04.0**	**+5.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**99.95**	**107**	P	**Pdif**	**18 16 57.0**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=194,slow=19,SNR=8.8						
PDAR	**Pinedale Array**	**100.09**	**342**	P	**Pdif**	**18 17 00.2**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=54,slow=4.6,SNR=2.3						
ASAR	**Alice Springs**	**101.60**	**111**	P	**Pdif**	**18 17 03.8**	**-2.1**
ASAR	**Alice Springs**	**101.60**	**111**	P	**Pdif**	**18 17 04.3**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=312,slow=4.7,SNR=4.9						
ASAR				PKKPbc	**PKKPbc**	**18 33 13.9**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=110,slow=3.8,SNR=9.7						
ASAR	**Alice Springs**	**101.60**	**111**		**Pdif**	**18 17 03.8**	**-2.1**
SYO	**Syowa Base**	**103.00**	**182**	*e*PKiKP	**PKiKP**	**18 21 31.7**	**+1.0**
GO02	**Mina Guanaco**	**123.78**	**261**		**PKPdf**	**18 22 09.9**	**-1.9**
QSPA	**South Pole Qui**	**124.04**	**180**		**PKiKP**	**18 22 11.0**	**0.0**

BJI ***24*** *18:05:37.0±0.0, 34°.10N×45°.50E, h5km, mb5.4/74, mB5.7/53, Ms5.5/65, Ms7 5.3/57*

MOS ***24*** *18:05:38.5±1.4, 34°.07N×45°.57E, h6km, mb5.8/45, MS5.1/48, Error ellipse: s-maj=3.8km s-min=2.4km az=111.9*

IDC ***24*** *18:05:40.0±0.3, 34°.28N×45°.58E, h0km, mb5.3/54, mb1 5.3/60, mb1mx5.3/69, mbtmp5.3/60, ML5.3/5, MS5.0/37, Ms1 5.0/37, ms1mx5.0/46, Error ellipse: s-maj=8.3km s-min=7.6km az=20.0*

NEIC ***24*** *18:05:41.7±2.5, 34°.18N±0°.07×45°.62E±0°.07, h14km±1km, mb5.7/199, Ms_20 5.3/192, Mwb5.4, Mwc5.6(GCMT), Mwr5.5(TEH), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.17; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-1.61; $M_{r\theta}$0.34; $M_{\theta\phi}$0.34; $M_{\phi r}$-0.34; Fault plane solution: $M_0$1.55000×10^17^ NP1:ϕ_s10.32000°, δ40.70000°, λ119.46000°. NP2: ϕ_s153.63000°, δ55.40000°, λ67.07000°. Principal axes: T 1.3164, Plg70.0000°, Azm11.0000°; N 0.3981, Plg19.0000°, Azm167.0000°; P -1.7145, Plg8.0000°, Azm260.0000°;*

ISCJB ***24*** *18:05:42.5±0.3, 34°.01N±0°.01×45°.526E±0°.009, h33km±2km, mb5.5/209, MS5.1/85 Error ellipse: s-maj=1.8km s-min=1.3km az=14.3*

ISK ***24*** *18:05:42.4, 34°.34N×45°.71E, h16km±1km, ML6.0/1*

TEH ***24*** *18:05:42.8, 34°.30N×45°.59E, h14km, ML5.5*

ISN ***24*** *18:05:42.0±1.2, 34°.31N×45°.66E, h10km±6km, ML5.5*

DSN ***24*** *18:05:43.3±0.5, 34°.02N×45°.66E, h10km, mb5.6/7, Ms5.5/7, Error ellipse: s-maj=11.7km s-min=5.2km az=64.0*

THR ***24*** *18:05:43.1, 34°.24N×45°.57E, h17km, ML5.3*

GCMT ***24*** *18:05:43.7±0.1, 34°.18N±0°.01×45°.43E±0°.01, h19km, MW5.5/128, Moment Tensor Solution. s108,c171; s128,c260; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; M_{rr}1.90±.04; $M_{\theta\theta}$0.60±.03; $M_{\phi\phi}$-2.50±.03; $M_{r\theta}$0.49±.08; $M_{\theta\phi}$0.25±.02; $M_{\phi r}$-0.46±.06; Best double couple: $M_0$2.33500×10^17^ NP1:ϕ_s160.00000°, δ54.00000°, λ69.00000°. NP2:ϕ_s13.00000°, δ41.00000°, λ116.00000°. Principal axes: T 2.0930, Plg72.0000°, Azm15.0000°; N 0.4850, Plg17.0000°, Azm173.0000°; P -2.5760, Plg6.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AZER ***24*** *18:05:45.2±0.4, 34°.15N×45°.64E, h10km, ml6.1/7, ms4.8/10 Error ellipse: s-maj=6.1km s-min=2.9km az=94.0*

NEIC ***24*** *18:05:46, 34°.29N×45°.43E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.74; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-2.46; $M_{r\theta}$1.44; $M_{\theta\phi}$0.22; $M_{\phi r}$-1.34; Fault plane solution: $M_0$2.95000×10^17^ NP1:ϕ_s148.00000°, δ69.00000°, λ61.00000°. NP2:ϕ_s25.00000°, δ35.00000°, λ141.00000°. Principal axes: T 2.9402, Plg56.0000°, Azm20.0000°; N 0.0248, Plg27.0000°, Azm159.0000°; P -2.9651, Plg19.0000°, Azm259.0000°;*

OMAN ***24*** *18:05:47.2±1.0, 33°.93N×45°.93E, h30km±7km, mb6.0/8, ms5.5/10, Mwp5.5/13 Error ellipse: s-maj=3.9km s-min=1.5km az=310.0*

GII ***24*** *18:05:49.2±0.0, 34°.22N×45°.59E, h10km*

ISC 24 18:05:41.6±0.4, 34°.16N±0°.02×45°.68E±0°.02, h12km±2km, h12km:pP-P, n1604, σ2±31/1744, mb5.7/295, MS5.2/180, 162C-40D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.76**	**77**	*e*Pg	**Pn**	**18 05 58.8**	**+0.5**
IGHG				*e*Sg	**Sn**	**18 06 11.1**	**+1.3**
IDHR	**Dehrash**	**0.80**	**47**	*e*Pg	**Pb**	**18 05 57.7**	**+0.2**
IDHR				*e*Sg	**Sb**	**18 06 07.9**	**-0.4**
IBDR	**Badra**	**1.07**	**169**	*e*Pg	**Pn**	**18 06 05.2**	**+2.9**
IBDR				*e*Sg	**Sn**	**18 06 22.0**	**+4.9**
KCHF	**Cheshme Sefid,**	**1.13**	**84**	*e*Sg	**Sn**	**18 06 22.8**	**+3.8**
KCHF				*e*Pg	**Pn**	**18 06 05.2**	**+1.8**
KER	**Kermanshah**	**1.22**	**79**	*e*Pg	**Pg**	**18 06 06.8**	**+1.7**
ILIN	**Lien**	**1.30**	**54**	*e*Pg	**Pg**	**18 06 07.3**	**+0.6**
BHD	**Baghdad**	**1.40**	**231**	*e*Pn	**Pg**	**18 06 10.2**	**+1.7**
BHD				AML	AML	18 06 12.5	
	comp=Z,515μm,0.7s						
BHD				*e*Sn	**Sg**	**18 06 31.0**	**+4.3**
IKOM	**Komasi**	**1.52**	**89**	*e*Pn	**Pg**	**18 06 12.8**	**+2.0**
IKRK	**Kirkuk**	**1.66**	**319**	*e*Pn	**Pn**	**18 06 11.1**	**+0.6**
IKRK				AML	AML	18 06 12.7	
	comp=Z,41μm,0.4s						
IKRK				*e*Sn	**Sb**	**18 06 33.0**	**+0.1**
IBZA	**Bozab**	**1.83**	**80**	*e*Pn	**Pg**	**18 06 16.9**	**+0.1**
IKFM	**Kafar-mosalman**	**1.91**	**109**	*e*Pn	**Pg**	**18 06 18.6**	**+0.3**
IDOB	**Doab**	**2.11**	**99**	*e*Pn	**Pg**	**18 06 21.0**	**-1.0**
IKMR	**Kamar-syah**	**2.34**	**105**	*e*Pn	**Pb**	**18 06 24.0**	**+0.4**
HSRG	**Sareghieh**	**2.40**	**62**	*e*Pn	**Pb**	**18 06 24.9**	**0.0**
HSAM	**Samen**	**2.42**	**88**	*e*Pn	**Pb**	**18 06 24.8**	**-0.5**
MAHB	**Mahabad**	**2.60**	**0**	*e*Pn	**Pn**	**18 06 25.3**	**+1.7**
BDRS	**Dareh Seyedi**	**2.67**	**94**	*e*Pn	**Pb**	**18 06 28.3**	**-1.1**
HAGD	**Aghdareh**	**2.93**	**76**	*e*Pn	**Pb**	**18 06 32.3**	**-1.7**
MSL	**Mosul**	**3.07**	**317**	*e*Pn	**Pn**	**18 06 30.5**	**+0.6**
MSL				AML	AML	18 06 37.1	
	comp=Z,24μm,0.5s						
MSL				*e*Sn	**Sn**	**18 07 07.0**	**+0.5**
NSR	**Nassriya**	**3.16**	**173**	*e*Pn	**Pb**	**18 06 35.3**	**-2.4**
NSR				*e*Sn	**Sb**	**18 07 16.0**	**-0.2**
SHGR	**Shooshtar-Gavs**	**3.32**	**127**	*e*Pn	**Pb**	**18 06 38.1**	**-2.3**
SHGR	**Shooshtar-Gavs**	**3.32**	**127**	*e*AML	AML	18 07 57.7	
	comp=E,6μm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.32**	**127**	*e*Pn	**Pb**	**18 06 38.1**	**-2.3**
SHGR	**Shooshtar-Gavs**	**3.32**	**127**	*e*AML	AML	18 07 49.9	
	comp=N,6μm,0.5s						
ZNJK	**Zanjan**	**3.51**	**44**	*e*Sg	**Sg**	**18 07 32.5**	**-1.7**
ZNJK				*e*Pn	**Pn**	**18 06 39.4**	**+3.2**
CUKT	**Cukurca**	**3.51**	**332**	*e*Pn	**Pn**	**18 06 36.4**	**+0.3**
CUKT	**Cukurca**	**3.51**	**332**	PN	**Pn**	**18 06 36.9**	**+0.8**
CUKT				SN	**Sn**	**18 07 13.4**	**-4.3**
QABG	**Abgarm-Qazvin**	**3.56**	**63**	*e*Pn	**Pb**	**18 06 42.1**	**-2.5**
KHMZ	**Khomeyn**	**3.58**	**96**	*e*Pn	**Pb**	**18 06 41.5**	**-3.5**
KHMZ	**Khomeyn**	**3.58**	**96**	*e*Pn	**Pb**	**18 06 41.5**	**-3.5**
IBST	**Bostanabad**	**3.67**	**15**	*e*Pn	**Pn**	**18 06 39.2**	**+0.9**
IRAZ	**Razeghan**	**3.71**	**69**	*e*Pn	**Pb**	**18 06 43.4**	**-3.8**
ITBZ	**Tabriz**	**4.08**	**5**	*e*Pn	**Pn**	**18 06 45.2**	**+1.2**
SIRT	**Sirnak**	**4.25**	**323**	*e*Pn	**Pn**	**18 06 46.4**	**+0.2**
SIRT	**Sirnak**	**4.25**	**323**	PN	**Pn**	**18 06 46.9**	**+0.7**
IGZV	**Ghazvin**	**4.33**	**58**	*e*Pn	**Pn**	**18 06 49.8**	**+2.4**
IMHD	**Mahdasht**	**4.37**	**68**	*e*Pn	**Pn**	**18 06 50.6**	**+2.7**
IQOM	**Qom**	**4.50**	**80**	*e*Pn	**Pn**	**18 06 52.8**	**+2.9**
IPIR	**Pirpir**	**4.60**	**107**	*e*Pn	**Pn**	**18 06 54.7**	**+3.5**
JHBN	**Jahan bin**	**4.60**	**113**	*e*Pn	**Pn**	**18 06 54.9**	**+3.7**
RTB	**Rutbah**	**4.62**	**257**	*e*Pn	**Pn**	**18 06 55.0**	**+3.7**
RTB				*e*Sn	**Sn**	**18 07 47.0**	**+2.1**
QALM	**Alamut, Qazvin**	**4.65**	**59**	*e*Pn	Pn	18 06 57.3	+5.4
GHVR	**GHOM**	**4.66**	**84**	*e*Pn	**Pn**	**18 06 55.4**	**+3.6**
GHVR	**GHOM**	**4.66**	**84**	*e*Pn	**Pn**	**18 06 55.4**	**+3.6**
AKDM	**Akdamar-Van**	**4.70**	**333**	*e*Pn	**Pn**	**18 06 53.2**	**+0.7**
AKDM	**Akdamar-Van**	**4.70**	**333**	PN	**Pn**	**18 06 53.6**	**+1.1**
ORD	**Ordubad**	**4.77**	**3**	P	**Pn**	**18 06 55.8**	**+2.5**
ORD				S	**Sn**	**18 07 53.7**	**+5.2**
IHSB	**Hasanabad**	**4.78**	**73**	*e*Pn	**Pn**	**18 06 57.0**	**+3.5**
ZNGN	**Zangian**	**4.79**	**114**	*e*Pn	**Pn**	**18 06 56.8**	**+2.9**
CHTH	**Charan**	**4.80**	**67**	*e*Pn	**Pn**	**18 06 57.8**	**+3.9**
CHTH	**Charan**	**4.80**	**67**	*e*Pn	**Pn**	**18 06 57.8**	**+3.9**
VANB	**Van**	**4.80**	**338**	*e*Pn	**Pn**	**18 06 53.6**	**-0.2**
VANB	**Van**	**4.80**	**338**	PN	**Pn**	**18 06 53.4**	**-0.4**
QAM	**Ghamsar**	**4.80**	**93**	*e*Pn	**Pn**	**18 06 57.7**	**+3.8**
ROKH	**ROKH**	**4.84**	**110**	*e*Pn	**Pn**	**18 06 58.0**	**+3.6**
TEH	**Tehran**	**4.94**	**70**	*e*Pn	**Pn**	**18 06 59.4**	**+3.6**
LRK	**Lerik**	**4.96**	**25**	P	**Pn**	**18 06 58.8**	**+2.7**
	SNR=22						
LRK				S	**Sn**	**18 07 59.0**	**+5.5**
IKLH

ISHM	**Shahmirzad**	**6.46**	**73**	*e*Pn	Pn	18 07 09.9	-6.9
URFA	**Urfa**	**6.46**	**302**	PN	**Pn**	**18 07 19.0**	**+2.4**
GANJ	**Ganja**	**6.50**	**4**	P	**Pn**	**18 07 20.5**	**+3.5**
GANJ				S	**Sn**	**18 08 37.0**	**+5.9**
KDMR	**Kurdemir**	**6.52**	**17**	P	**Pn**	**18 07 21.4**	**+4.1**
KDMR				S	**Sn**	**18 08 37.1**	**+5.6**
GDB	**GEDABAY**	**6.55**	**0**	P	**Pn**	**18 07 21.2**	**+3.3**
	SNR=23						
GDB				S	**Sn**	**18 08 38.5**	**+5.9**
SVRC	**Sivrice-ELAZID**	**6.65**	**311**	PN	**Pn**	**18 07 21.3**	**+2.0**
MNGR	**Mingechevir, A**	**6.70**	**9**	P	**Pn**	**18 07 23.9**	**+4.2**
	SNR=3.8						
MNGR				S	**Sn**	**18 08 42.1**	**+6.2**
ANAR	**Anarak**	**6.78**	**96**	*e*Pn	**Pn**	**18 07 24.0**	**+3.0**
KARS	**Kars**	**6.78**	**343**	P	**Pn**	**18 07 21.9**	**+0.9**
KARS	**Kars**	**6.78**	**343**	*e*Pn	**Pn**	**18 07 21.9**	**+0.9**
KARS	**Kars**	**6.78**	**343**	PN	**Pn**	**18 07 22.1**	**+1.1**
IKAZ	**Kazeroun**	**6.81**	**128**	*e*Pn	**Pn**	**18 07 26.0**	**+4.3**
IKIA	**Kiasar**	**6.86**	**70**	*e*Pn	**Pn**	**18 07 25.6**	**+3.3**
GBS	**Qobustan**	**6.87**	**21**	P	**Pn**	**18 07 26.2**	**+4.0**
GBS				S	**Sn**	**18 08 46.3**	**+5.9**
QZX	**Qazax, Azerbai**	**6.89**	**358**	P	**Pn**	**18 07 26.7**	**+4.3**
QZX				S	**Sn**	**18 08 46.3**	**+5.5**
IML	**Ismayilli**	**6.91**	**16**	P	**Pn**	**18 07 26.8**	**+4.0**
IML				S	**Sn**	**18 08 47.2**	**+5.8**
SENK	**Senkaya-Erzuru**	**6.92**	**338**	*e*Pn	**Pn**	**18 07 24.3**	**+1.3**
SENK	**Senkaya-Erzuru**	**6.92**	**338**	PN	**Pn**	**18 07 23.9**	**+0.9**
QBL	**Gabala**	**6.99**	**14**	P	**Pn**	**18 07 27.8**	**+4.1**
QBL				S	**Sn**	**18 08 49.3**	**+6.1**
PQL	**Pirkuli**	**7.01**	**18**	P	**Pn**	**18 07 28.1**	**+3.9**
PQL				S	**Sn**	**18 08 49.6**	**+5.7**
GOBA	**Gobu**	**7.02**	**26**	P	**Pn**	**18 07 28.7**	**+4.6**
	SNR=9.7						
GOBA				S	**Sn**	**18 08 49.6**	**+5.8**
IGLO	**Ghaloghah**	**7.06**	**68**	*e*Pn	**Pn**	**18 07 29.4**	**+4.5**
ISAD	**Sadrabad**	**7.08**	**106**	*e*Pn	**Pn**	**18 07 28.0**	**+2.6**
SEKA	**Sheki**	**7.14**	**9**	P	**Pn**	**18 07 30.4**	**+4.5**
SEKA				S	**Sn**	**18 08 53.2**	**+6.3**
ATGJ	**Altiaghaj**	**7.17**	**20**	P	**Pn**	**18 07 30.6**	**+4.2**
ATGJ				S	**Sn**	**18 08 53.7**	**+5.9**
MALT	**Malatya**	**7.18**	**307**	PN	**Pn**	**18 07 28.2**	**+1.8**
GALA	**Gala**	**7.19**	**28**	P	**Pn**	**18 07 31.0**	**+4.6**
	SNR=13						
GALA				S	**Sn**	**18 08 53.8**	**+5.9**
ERZN	**Erzincan**	**7.22**	**320**	PN	**Pn**	**18 07 28.5**	**+1.5**
XNQ	**Khinaliq**	**7.27**	**15**	P	**Pn**	**18 07 31.7**	**+4.0**
	SNR=4.9						
XNQ				S	**Sn**	**18 08 56.2**	**+5.9**
NDR	**Nardaran**	**7.27**	**27**	P	**Pn**	**18 07 32.0**	**+4.4**
	SNR=20						
NDR				S	**Sn**	**18 08 55.8**	**+5.8**
SHI	**Shiraz**	**7.35**	**126**	*e*Pn	**Pn**	**18 07 31.9**	**+3.0**
SIZA	**Siyzn**	**7.36**	**19**	P	**Pn**	**18 07 33.3**	**+4.4**
	SNR=5.8						
SIZA				S	**Sn**	**18 08 58.2**	**+5.8**
AKH	**Akhalkalaki**	**7.44**	**347**	P	**Pn**	**18 07 32.3**	**+2.1**
AKH	**Akhalkalaki**	**7.44**	**347**	⇑P	**Pn**	**18 07 32.9**	**+2.8**
AKH	**Akhalkalaki**	**7.44**	**347**		**Pn**	**18 07 32.2**	**+2.1**
AKT	**Akhty**	**7.49**	**12**	*e*P	Pn	18 07 35.6	+4.9
AKT				*e*S	Sn	18 09 07.4	+12
AKT				pmax	pmax		
	comp=Z,143nm,0.8s						
AKT				smax	smax		
	comp=N,300nm,0.9s						
AKT				smax	smax		
	comp=E,300nm,1.0s						
AKT				MLR	MLR		
	comp=Z,13μm,12.0s						
ZKTA	**Zakatala**	**7.50**	**5**	P	**Pn**	**18 07 35.0**	**+4.1**
	SNR=58						
ZKTA				S	**Sn**	**18 09 01.7**	**+5.8**
QUBA	**Quba, Azerbaij**	**7.52**	**16**	P	**Pn**	**18 07 35.7**	**+4.6**
	SNR=9.8						
QUBA				S	**Sn**	**18 09 02.3**	**+6.0**
ICHK	**Chekchek**	**7.56**	**102**	*e*Pn	**Pn**	**18 07 33.4**	**+1.6**
TBLG	**Delisi**	**7.60**	**355**	P	**Pn**	**18 07 34.7**	**+2.6**
TBLG	**Delisi**	**7.60**	**355**		**Pn**	**18 07 34.6**	**+2.6**
QSAR	**Qusar**	**7.62**	**15**	P	**Pn**	**18 07 36.5**	**+4.0**
QSAR				S	**Sn**	**18 09 04.5**	**+5.7**
ASF	**Jabal al Asfar**	**7.63**	**257**	Pn	**Pn**	**18 07 32.6**	**0.0**
	comp=Z,15nm,0.3s,baz=2.4,slow=22,SNR=8.4						
ASF				Pg	**Pg**	**18 08 07.7**	**+0.1**
	comp=Z,19nm,0.3s,baz=359,slow=2.5,SNR=6.7						
ASF				Sn	**Sn**	**18 08 57.8**	**-1.2**
	comp=Z,3.8nm,0.3s,baz=74,slow=18,SNR=2.1						
ASF				Lg	Lg	18 09 46.0	
	comp=Z,24nm,0.3s,baz=41,slow=20,SNR=3.8						
ASF				LR	LR	18 11 22.1	
	comp=Z,22μm,18.4s,baz=44,slow=45						
ASF	**Jabal al Asfar**	**7.63**	**257**	P	Pg	18 08 18.0	+10
	comp=Z,1μm,1.1s						
BAYT	**Aydıntepe-Bayb**	**7.63**	**326**	Pn	**Pn**	**18 07 32.8**	**+0.1**
ILIC	**ilic-Erzincan**	**7.77**	**315**	PN	**Pn**	**18 07 35.8**	**+1.2**
KMRS	**Kahramanmaras**	**7.87**	**298**	PN	**Pn**	**18 07 37.3**	**+1.4**
DARE	**Darende-Malaty**	**7.94**	**306**	PN	**Pn**	**18 07 38.1**	**+1.2**
CHOM	**Cayeli-Rize**	**7.95**	**332**	PN	**Pn**	**18 07 37.3**	**+0.4**
BCA	**Borcka**	**7.95**	**337**	⇑P	**Pn**	**18 07 39.7**	**+2.7**
BCA	**Borcka**	**7.95**	**337**	PN	**Pn**	**18 07 37.3**	**+0.3**
IMEH	**Mehriz**	**8.01**	**108**	*e*Pn	**Pn**	**18 07 40.9**	**+2.8**
BATM	**Batumi**	**8.07**	**338**	P	**Pn**	**18 07 39.0**	**+0.4**
BATM	**Batumi**	**8.07**	**338**	⇑P	**Pn**	**18 07 41.2**	**+2.6**
HSUJ	**Al Zarqa**	**8.22**	**258**	P	Pn	18 07 47.0	+6.3
GNBR	**Gunib**	**8.28**	**7**	*i* P	**Pn**	**18 07 45.7**	**+4.2**
NATI	**Neve Ativ**	**8.33**	**267**	Pn	Pn	18 07 50.6	+8.4
KSDI	**Kefar Szold**	**8.41**	**266**	Pn	Pn	18 07 49.7	+6.5
KSDI	**Kefar Szold**	**8.41**	**266**	P	Pg	18 08 29.4	+6.9
CEYT	**Ceyhan**	**8.58**	**292**	PN	**Pn**	**18 07 47.3**	**+1.8**
ONI	**Oni**	**8.60**	**349**	PN	**Pn**	**18 07 45.8**	**-0.1**
YURE	**YUREGIR**	**8.62**	**291**	PN	**Pn**	**18 07 48.1**	**+2.0**
MMAI	**Mount Meron Ar**	**8.65**	**265**	Pn	**Pn**	**18 07 46.1**	**-0.6**
	comp=Z,34nm,0.3s,baz=84,slow=15,SNR=8.6						
MMAI				Sn	**Sn**	**18 09 25.1**	**+0.9**
	comp=Z,7.9nm,0.3s,baz=79,slow=15,SNR=2.4						
MMAI				Lg	Lg	18 10 15.8	
	comp=Z,69nm,0.3s,baz=123,slow=31,SNR=5.7						
MMAI				LR	LR	18 11 54.0	
	comp=Z,18μm,19.1s,baz=80,slow=44						
WALJ	**Wala**	**8.70**	**255**	P	Pn	18 07 54.6	+7.4
IBAF	**Bafgh**	**8.70**	**104**	*e*Pn	**Pn**	**18 07 49.2**	**+1.8**
HMDT	**Nahal Hemdat**	**8.72**	**260**	Pn	Pn	18 07 54.4	+6.9
ZEI	**Tsey**	**8.73**	**351**	*e*P	**Pn**	**18 07 49.9**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,437nm,1.1s						
KRTS	**Karatas**	**8.76**	**289**	PN	**Pn**	**18 07 51.1**	**+3.1**
MMLI	**Mount Malkishu**	**8.76**	**262**	PN	**Pn**	**18 07 51.1**	**+3.0**
MMLI	**Mount Malkishu**	**8.76**	**262**	P	Pn	18 07 53.1	+5.0
	comp=Z,320nm,0.8s						
HNTI	**Hanita**	**8.83**	**266**	Pn	**Pn**	**18 07 52.9**	**+3.9**
MAK	**Makhachkala**	**8.90**	**9**	*e*P	**Pn**	**18 07 50.5**	**+0.5**
MAK				*e*S	**Sn**	**18 09 33.0**	**+2.8**
MAK				pmax	pmax		
	comp=Z,956nm,1.2s						
MAK				MLR	MLR		
	comp=Z,15μm,13.0s						
KORR	**Kora**	**9.00**	**352**	*c e*P	Pn	18 07 56.5	+5.1
SVSK	**Karacayir**	**9.01**	**312**	PN	**Pn**	**18 07 52.6**	**+1.2**
GROC	**Groznyy**	**9.03**	**1**	*e*P	**Pn**	**18 07 55.9**	**+4.2**
GROC				*e*S	Sn	18 09 43.6	+10
GROC				pmax	pmax		
	comp=Z,954nm,1.3s						
TNSJ	**Nastanj**	**9.07**	**88**	*e*Pn	Pn	18 07 58.5	+6.1
LISJ	**El Lisan**	**9.07**	**254**	P	Pn	18 08 00.4	+8.1
	comp=Z,362nm,0.9s						
OFRI	**`Ofer**	**9.07**	**263**	Pn	Pn	18 07 59.8	+7.4
RSDY	**Resadiye-TOKAT**	**9.11**	**316**	PN	**Pn**	**18 07 54.2**	**+1.3**
SLTI	**Sal'it**	**9.12**	**261**	Pn	Pn	18 07 58.9	+5.9
KARA	**Karaisali**	**9.18**	**293**	PN	**Pn**	**18 07 55.7**	**+1.9**
BNN	**Bunyan**	**9.20**	**303**	PN	**Pn**	**18 07 56.5**	**+2.3**
LSNR	**Lesken**	**9.22**	**352**	*c e*P	Pn	18 07 59.3	+4.9
BTKR	**Batakoyurt**	**9.24**	**355**	*e*P	Pn	18 07 59.8	+5.1
TPRV	**Parvadeh(Tabas**	**9.25**	**94**	*e*Pn	**Pn**	**18 07 58.0**	**+3.1**
YTIR	**Yattir**	**9.32**	**256**	Pn	Pn	18 08 02.7	+6.8
AMAZ	**Amatzia**	**9.43**	**257**	P	Pn	18 08 08.0	+11
NCK	**Nalchik**	**9.46**	**351**	*c i* P	**Pn**	**18 08 02.2**	**+4.5**
TOKT	**Tokat**	**9.53**	**313**	PN	**Pn**	**18 08 00.3**	**+1.7**
EREN	**Erenkoy**	**9.56**	**281**	PN	**Pn**	**18 08 01.8**	**+2.8**
ZFRI	**Zfri**	**9.58**	**251**	Pn	Pn	18 08 06.8	+7.5
KIZK	**Mersin**	**9.71**	**287**	PN	**Pn**	**18 08 03.4**	**+2.4**
KBZ	**Khabaz**	**9.80**	**348**	Pn	**Pn**	**18 08 06.5**	**+4.3**
	comp=Z,3.2nm,0.3s,baz=167,slow=11,SNR=105						
KBZ				LR	LR	18 12 21.5	
	comp=Z,13μm,20.1s,baz=163,slow=42						
KHGB	**Koh Gabri**	**9.89**	**109**	*e*Pn	**Pn**	**18 08 07.0**	**+3.2**
HRFI	**Mount Harif**	**9.92**	**248**	Pn	Pn	18 08 12.0	+8.0
HRFI	**Mount Harif**	**9.92**	**248**	PN	**Pn**	**18 08 07.2**	**+3.2**
HRFI	**Mount Harif**	**9.92**	**248**	P	Pn	18 08 10.5	+6.5
	comp=Z,372nm,0.8s						
HRFI	**Mount Harif**	**9.92**	**248**	P	Pn	18 08 52.9	+49
YOZ	**Yozgat**	**9.93**	**306**	PN	**Pn**	**18 08 05.8**	**+1.5**
SBZV	**Sabzevar**	**10.01**	**74**	*e*Pn	**Pn**	**18 08 08.8**	**+3.5**
IKL	**Isikli**	**10.03**	**285**	PN	**Pn**	**18 08 08.1**	**+2.6**
KEBE	**Keben-Mersin**	**10.04**	**287**	PN	**Pn**	**18 08 07.3**	**+1.6**
AQBJ	**Aqaba**	**10.05**	**247**	P	Pn	18 08 14.1	+8.3
KVAR	**Kislovodsk Arr**	**10.05**	**348**	Pn	**Pn**	**18 08 10.2**	**+4.4**
	baz=90,slow=20						
KVAR				LR	LR	18 12 04.1	
	comp=Z,11μm,18.8s,baz=39,slow=39						
KIV	**Kislovodsk**	**10.05**	**348**	P	**Pn**	**18 08 10.2**	**+4.3**
KIV	**Kislovodsk**	**10.05**	**348**	P	**Pn**	**18 08 10.3**	**+4.5**
	SNR=182						
KIV	**Kislovodsk**	**10.05**	**348**	*e*P	**Pn**	**18 08 10.2**	**+4.3**
KIV				*e*S	**Sn**	**18 10 05.3**	**+6.7**
KIV				pmax	pmax		
	comp=Z,3μm,1.1s						
KIV				MLR	MLR		
	comp=Z,11μm,12.0s						
KIV	**Kislovodsk**	**10.05**	**348**	⇑P	**Pn**	**18 08 10.4**	**+4.5**
KIV	**Kislovodsk**	**10.05**	**348**	PN	**Pn**	**18 08 06.6**	**+0.7**
KIV	**Kislovodsk**	**10.05**	**348**		**Pn**	**18 08 09.8**	**+4.0**
KZIT	**Kziot**	**10.06**	**254**	Pn	Pn	18 08 12.4	+6.5
KRMI	**Paran Flat**	**10.12**	**250**	Pn	Pn	18 08 15.2	+8.4
AKKU	**Akkuyu-Mersin**	**10.13**	**285**	PN	**Pn**	**18 08 09.5**	**+2.7**
EIL	**Elat**	**10.15**	**247**	Pn	**Pn**	**18 08 07.8**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=164,slow=2.2,SNR=11						
EIL				Lg	Lg	18 11 13.6	
	comp=Z,15nm,0.3s,baz=11,slow=14,SNR=4.7						
EIL				LR	LR	18 13 03.4	
	comp=Z,21μm,18.6s,baz=67,slow=44						
EIL	**Elat**	**10.15**	**247**	P	Pn	18 08 15.7	+8.5
	comp=Z,359nm,0.8s						
CSS	**Mathiatis**	**10.22**	**278**	PN	**Pn**	**18 08 10.3**	**+2.2**
CSS	**Mathiatis**	**10.22**	**278**	P	**Pn**	**18 08 11.9**	**+3.8**
	comp=Z,29nm,1.2s						
CSS	**Mathiatis**	**10.22**	**278**	P	**Pn**	**18 08 10.9**	**+2.8**
	comp=Z,29nm,1.2s						
CSS	**Mathiatis**	**10.22**	**278**		**Pn**	**18 08 10.7**	**+2.6**
TEVE	**Tevekalti-Mers**	**10.26**	**286**	PN	**Pn**	**18 08 11.0**	**+2.4**
KVT	**Kavak**	**10.30**	**315**	PN	**Pn**	**18 08 10.6**	**+1.5**
TEKE	**Tekeli-Mersin**	**10.48**	**284**	PN	**Pn**	**18 08 13.3**	**+1.7**
SOC	**Sochi**	**10.49**	**336**	*i* P	**Pn**	**18 08 13.9**	**+2.2**
SOC				*e*		18 10 11.4	
SOC				pmax	pmax		
	comp=Z,576nm,1.2s						
SOC				MLR	MLR		
	comp=Z,14μm,11.0s						
LEF	**Lefka**	**10.58**	**279**	PN	**Pn**	**18 08 15.8**	**+2.8**
YAYX	**Yaylak**	**10.67**	**300**	PN	**Pn**	**18 08 15.8**	**+1.5**
GEYT	**Alibeck**	**10.75**	**66**	Pn	**Pn**	**18 08 19.0**	**+3.7**
	comp=Z,0.9nm,0.3s,baz=248,slow=16,SNR=9.8						
GEYT	**Alibeck**	**10.75**	**66**		**Pn**	**18 08 18.4**	**+3.1**
GYA0B	**ALIBECK ARRAY**	**10.75**	**66**		**Pn**	**18 08 18.4**	**+3.1**
IKRD	**Kardeh**	**10.79**	**72**	*e*Pn	Pn	18 08 31.9	+16
SERE	**Sereflikochisa**	**10.85**	**300**	PN	**Pn**	**18 08 18.7**	**+1.9**
CHMN	**Cheshme madani**	**10.94**	**110**	*e*Pn	**Pn**	**18 08 21.3**	**+3.0**
IAKL	**Akhelmad**	**10.95**	**73**	*e*Pn	**Pn**	**18 08 21.7**	**+3.4**
ASHT	**Ashkhabad**	**10.95**	**66**	P	Pn	18 08 23.3	+5.2
ASHT	**Ashkhabad**	**10.95**	**66**	Pn	Pn	18 08 23.3	+5.2
ITEG	**Tejag**	**10.98**	**93**	*e*Pn	**Pn**	**18 08 21.0**	**+2.3**
IEMG	**Emamgholi**	**11.03**	**69**	*e*Pn	**Pn**	**18 08 22.8**	**+3.4**
GOF	**Gofitskoye**	**11.07**	**350**	⇓*i* P	**Pn**	**18 08 23.3**	**+3.6**
GOF				pmax	pmax		
	comp=Z,2μm,1.3s						
DIKM	**Dikmen**	**11.12**	**315**	⇓P	**Pn**	**18 08 24.5**	**+4.2**
DIKM	**Dikmen**	**11.12**	**315**	PN	**Pn**	**18 08 20.9**	**+0.6**
BR131	**Keskin Array S**	**11.12**	**303**	P	**Pn**	**18 08 20.7**	**+0.2**
BR131	**Keskin Array S**	**11.12**	**303**	Pn	**Pn**	**18 08 20.7**	**+0.2**
BRTR	**Keskin Array B**	**11.12**	**303**	P	**Pn**	**18 08 21.0**	**+0.5**
BRTR	**Keskin Array B**	**11.12**	**303**	Pn	**Pn**	**18 08 24.4**	**+4.0**
	comp=Z,0.5nm,0.3s,baz=126,slow=12,SNR=14						
BRTR				Lg	Lg	18 11 46.8	
	comp=Z,0.3nm,0.3s,baz=107,slow=18,SNR=3.4						
BRTR				LR	LR	18 13 53.2	
	comp=Z,7μm,21.9s,baz=100,slow=45						
BRTR	**Keskin Array B**	**11.12**	**303**	PN	**Pn**	**18 08 22.2**	**+1.7**
BRTR	**Keskin Array B**	**11.12**	**303**	Pn	**Pn**	**18 08 20.9**	**+0.5**
IPAY	**Payeh**	**11.12**	**74**	*e*Pn	**Pn**	**18 08 24.1**	**+3.5**
GAZI	**Gazipasa**	**11.13**	**285**	PN	**Pn**	**18 08 22.5**	**+2.0**
CHBY	**Cihanbeyli**	**11.21**	**297**	PN	**Pn**	**18 08 23.3**	**+1.5**
IKOO	**Kooshah**	**11.29**	**95**	*e*Pn	**Pn**	**18 08 25.7**	**+2.8**
KULU	**Kulu**	**11.29**	**299**	PN	**Pn**	**18 08 23.3**	**+0.5**
AFSR	**Afar-Bala (An**	**11.40**	**301**	PN	**Pn**	**18 08 26.1**	**+1.8**
KONT	**Konya--Tatoy**	**11.42**	**293**	PN	**Pn**	**18 08 26.6**	**+2.0**
LADK	**Ladik-KONYA**	**11.49**	**294**	PN	**Pn**	**18 08 26.3**	**+0.8**
CANT	**Cankiri**	**11.55**	**307**	PN	**Pn**	**18 08 27.9**	**+1.6**
IMON	**Monand**	**11.69**	**91**	*e*Pn	**Pn**	**18 08 32.2**	**+3.7**
ILGA	**Ilgaz**	**11.71**	**309**		**Pn**	**18 08 30.9**	**+2.2**
ANTO	**Ankara**	**11.77**	**303**	P	**Pn**	**18 08 33.9**	**+4.6**
	SNR=16						
ANTO	**Ankara**	**11.77**	**303**	P	**Pn**	**18 08 31.8**	**+2.5**
ANTO	**Ankara**	**11.77**	**303**	⇑P	Pn	18 08 34.4	+5.1
ANTO	**Ankara**	**11.77**	**303**	PN	**Pn**	**18 08 30.1**	**+0.8**
ANTO	**Ankara**	**11.77**	**303**		**Pn**	**18 08 31.8**	**+2.5**
BR231	**Keskin MP Arra**	**11.77**	**303**		**Pn**	**18 08 31.6**	**+2.2**
LOD	**Lodumlu**	**11.80**	**303**	PN	**Pn**	**18 08 30.1**	**+0.4**
IDAH	**Dahanechah**	**11.94**	**93**	*e*Pn	**Pn**	**18 08 34.5**	**+2.7**
IMYA	**Miami**	**11.99**	**75**	*e*Pn	**Pn**	**18 08 35.1**	**+2.6**
BZK	**Bozkurt**	**12.05**	**314**	⇑P	**Pn**	**18 08 36.6**	**+3.6**
BZK	**Bozkurt**	**12.05**	**314**	PN	**Pn**	**18 08 33.2**	**+0.2**
KIZT	**Kizilcal**	**12.06**	**297**	PN	**Pn**	**18 08 33.9**	**+0.6**
SHME	**Shamm**	**12.13**	**129**	P	**Pn**	**18 08 34.8**	**+0.5**
JRKH	**Jarkhoshk**	**12.15**	**78**	*e*Pn	**Pn**	**18 08 37.5**	**+2.9**
UMQ	**Umm Al-Quwin**	**12.20**	**132**	P	**Pn**	**18 08 37.5**	**+2.3**
UMQ	**Umm Al-Quwin**	**12.20**	**132**	P	**Pn**	**18 08 37.3**	**+2.1**
	SNR=15						
UMQ				S	**Sn**	**18 10 50.4**	**-0.9**
BANOM	**Banah**	**12.32**	**129**	*i* P	**Pn**	**18 08 38.1**	**+1.2**
	SNR=11						
BANOM	**Banah**	**12.32**	**129**	P	**Pn**	**18 08 38.0**	**+1.2**
	SNR=51						
BANOM				S	**Sn**	**18 10 47.6**	**-6.6**
	SNR=6.6						
ANN	**Anapa**	**12.38**	**332**	*c i* P	**Pn**	**18 08 40.3**	**+2.7**
ANN				*e*S	**Sn**	**18 11 01.1**	**+5.7**
ANN				pmax	pmax		
	comp=Z,604nm,1.3s						
ANN				MLR	MLR		
	comp=E,10μm,16.0s						
ANN				MLR	MLR		
	comp=N,19μm,16.0s						
ANN				MLR	MLR		
	comp=Z,24μm,16.0s						
AUSIV	**SIVRIHISAR**	**12.49**	**299**	PN	**Pn**	**18 08 40.1**	**+0.8**
AJN	**Ajban**	**12.54**	**137**	*i* P	**Pn**	**18 08 41.6**	**+1.9**
	SNR=12						
AJN	**Ajban**	**12.54**	**137**	S	**Sn**	**18 10 57.4**	**-2.0**
	SNR=7.2						
AJN	**Ajban**	**12.54**	**137**	P	**Pn**	**18 08 41.2**	**+1.4**
	SNR=21						
AJN				S	**Sn**	**18 10 57.4**	**-2.0**
	SNR=7.2						
MSFE	**Esma-Masafi**	**12.63**	**131**	*i* P	**Pn**	**18 08 42.5**	**+1.4**
	SNR=6.4						
ASUD	**Al Ashush, Dub**	**12.68**	**136**	*i* P	**Pn**	**18 08 43.9**	**+2.2**
	SNR=12						
ASUD	**Al Ashush, Dub**	**12.68**	**136**	P	**Pn**	**18 08 43.5**	**+1.7**
	SNR=9.1						
ASUD				S	**Sn**	**18 11 01.0**	**-1.9**
BCK	**Bucak**	**12.69**	**289**	PN	**Pn**	**18 08 43.2**	**+1.3**
AUMIH	**MIHALICIK**	**12.69**	**301**	PN	**Pn**	**18 08 42.4**	**+0.4**
FAQ	**Al Faqa, Dubai**	**12.74**	**135**	*i* P	**Pn**	**18 08 43.8**	**+1.1**
	SNR=7.0						
FAQ	**Al Faqa, Dubai**	**12.74**	**135**	P	**Pn**	**18 08 43.7**	**+1.1**
	SNR=13						
FAQ				S	**Sn**	**18 11 01.0**	**-3.4**
KURC	**Kurucasile-Bar**	**12.76**	**311**	PN	**Pn**	**18 08 43.2**	**+0.5**
MDH	**Madha**	**12.76**	**131**	*i* P	**Pn**	**18 08 43.6**	**+0.7**
	SNR=10						
MDH	**Madha**	**12.76**	**131**	P	**Pn**	**18 08 43.6**	**+0.7**
	SNR=10						
MDH				S	**Sn**	**18 11 00.5**	**-4.5**
	SNR=7.2						
KORT	**Korkueli**	**12.80**	**287**	PN	**Pn**	**18 08 44.6**	**+1.1**
ISP	**Isparta**	**12.81**	**291**	P	**Pn**	**18 08 47.5**	**+3.9**
ISP	**Isparta**	**12.81**	**291**	P	**Pn**	**18 08 45.1**	**+1.5**
ISP	**Isparta**	**12.81**	**291**	⇓P	**Pn**	**18 08 48.1**	**+4.5**
ISP	**Isparta**	**12.81**	**291**	PN	**Pn**	**18 08 43.8**	**+0.2**
ISP	**Isparta**	**12.81**	**291**		**Pn**	**18 08 45.1**	**+1.5**
CIFT	**Cifteler, Eski**	**12.82**	**298**	PN	**Pn**	**18 08 44.7**	**+1.1**
SHUT	**Suhut-Afyon**	**12.96**	**294**	PN	**Pn**	**18 08 46.8**	**+1.2**
UOSS	**Minazif**	**12.96**	**132**	*i* P	**Pn**	**18 08 46.4**	**+0.8**
	SNR=5.7						
UOSS	**Minazif**	**12.96**	**132**	P	Pn	18 08 36.1	-10
	SNR=8.2						
HATD	**Hatta, Dubai**	**13.01**	**133**	*i* P	**Pn**	**18 08 46.4**	**+0.2**
	SNR=9.3						
HATD	**Hatta, Dubai**	**13.01**	**133**	P	Pn	18 08 38.1	-8.1
	SNR=9.7						
HATD				S	**Sn**	**18 11 05.7**	**-5.2**
ASHO	**Ashiyiah**	**13.07**	**134**	*e*P	**Pn**	**18 08 48.0**	**+0.9**
	SNR=38						
ASHO	**Ashiyiah**	**13.07**	**134**	P	**Pn**	**18 08 43.1**	**-4.0**
	SNR=49						
ASHO				S	**Sn**	**18 11 07.6**	**-4.9**
ELL	**Elmali**	**13.12**	**286**	P	**Pn**	**18 08 49.9**	**+2.1**
ELL	**Elmali**	**13.12**	**286**		**Pn**	**18 08 49.9**	**+2.1**
KSL	**Kastellorizon**	**13.32**	**283**	P	**P**	**18 09 00.2**	**0.0**
KDZE	**Karadeniz Ereo**	**13.33**	**307**	⇑P	**Pn**	**18 08 54.3**	**+3.7**
ALNE	**Al Ain**	**13.36**	**136**	*i* P	**Pn**	**18 08 52.0**	**+0.8**
	SNR=14						
SRCK	**Saricakaya, Es**	**13.37**	**300**	PN	**Pn**	**18 08 52.3**	**+1.2**
BORA	**Eskisehir**	**13.43**	**300**	PN	**Pn**	**18 08 53.1**	**+1.0**
GULT	**Gulveren**	**13.59**	**302**	PN	**Pn**	**18 08 54.6**	**+0.4**
HRA	**Herat**	**13.70**	**84**		**Pn**	**18 08 57.4**	**+1.5**
FETY	**Fethiye**	**13.76**	**285**	P	**Pn**	**18 08 57.3**	**+0.8**
SEVA	**Sevastopol**	**13.89**	**322**	⇓P	P	18 09 49.4	+43
SIM	**Simferopol'**	**13.97**	**324**	*c i* P	**Pn**	**18 08 59.8**	**+0.5**
SIM				*e*S	**Sn**	**18 11 38.0**	**+3.7**
SIM				pmax	pmax		
	comp=Z,268nm,1.7s						
ARQ	**Araqi**	**14.37**	**136**	P	**Pn**	**18 09 03.3**	**-1.5**
	SNR=24						
ARQ				S	**Sn**	**18 11 40.1**	**-4.0**
KULA	**Kula-Manisa**	**14.39**	**292**	P	**Pn**	**18 09 07.3**	**+2.2**
YLV	**Yalova**	**14.45**	**301**	⇑P	**P**	**18 09 15.1**	**+2.3**
YLV	**Yalova**	**14.45**	**301**	⇑P	**P**	**18 09 15.1**	**+2.3**
YER	**Yerkesik**	**14.46**	**287**	P	**Pn**	**18 09 06.7**	**+0.7**
MANT	**Manisa**	**14.46**	**292**		**Pn**	**18 09 07.2**	**+0.9**
HOQ	**Hoqain**	**14.64**	**133**	P	**Pn**	**18 09 08.2**	**-0.5**
	SNR=23						
HOQ				S	**Sn**	**18 11 43.8**	**-7.1**
ISK	**Istanbul-Kandi**	**14.86**	**302**	P	**P

comp=Z,1μm,2.5s
KIS pmax pmax
comp=Z,2μm,8.0s
KIS pmax pmax
comp=N,2μm,8.0s
KIS smax smax
comp=N,5μm,8.0s
KIS Kishinev 18.08 320 ⇓P Pn 18 09 50.5 -2.0
VLY Voula,Athens 18.08 288 P Pn 18 09 52.5 -0.1
ATHU Athens Univers 18.10 288 P P 18 09 53.7 +0.5
VORR Voronezh 18.12 347⇑ *i*P P 18 09 55.0 +1.7
VORR *e*S **S 18 13 18.0 -2.6**
VORR pmax pmax
comp=Z,2μm,1.4s
RZN Rozhen 18.14 301 *i* P P 18 09 53.6 -0.2
ATH Athens Observa 18.15 288 P P 18 09 53.7 0.0
GRER 18.18 314 ⇑P P 18 09 54.6 +0.6
PETR Petresti 18.21 315 ⇑P P 18 09 55.2 +0.9
PVL Pavlikeni 18.24 306 *i* P P 18 09 54.9 +0.2
SGRR Singureni 18.24 309 ⇓P P 18 09 54.8 +0.2
RBK Rabkut 18.26 153 P Pn 18 09 52.9 -2.0
SNR=43
RBK S Sn 18 13 07.2 -12
SULR 18.27 311 ⇑P Pn 18 09 53.9 -1.0
BIR Birlad 18.29 317 ⇑P P 18 09 55.4 +0.2
BIR Birlad 18.29 317 ⇑P P 18 09 55.4 +0.2
MRKA Markates 18.34 291 P Pn 18 09 55.4 -0.3
ODBI Odobesti 18.34 315 ⇑P P 18 09 56.2 +0.5
DMTO DMTO 18.36 151 P Pn 18 09 54.1 -2.0
SNR=53
DMTO S **Sn 18 13 11.1 -10**
SHAO Shalim 18.37 149 *i* P Pn 18 09 55.0 -1.2
SNR=20
SHAO Shalim 18.37 149 P Pn 18 09 55.0 -1.2
SNR=93
SHAO P **Pn 18 09 55.0 -1.2**
SNR=93
SHAO S **Sn 18 13 10.8 -10**
SHAO S **Sn 18 13 10.8 -10**
AB31 Akbulak array 18.41 31 *i* P P 18 09 55.7 -0.8
AB31 pmax pmax
comp=Z,110nm,0.7s
ABKAR Akbulak array 18.41 31 P P 18 09 55.2 -1.4
ABKAR Akbulak array 18.41 31 P P 18 09 55.4 -1.2
ABKAR IAmb IAmb 18 10 09.3
comp=Z,518nm,1.4s
VASR Vaslui 18.41 318 ⇑P Pn 18 09 59.2 +2.6
PAIG Paliouri 18.46 295 P P 18 09 56.3 -0.9
VILL Villia 18.49 289 P Pn 18 09 58.5 +0.9
SKIA Skiathos 18.50 292 P P 18 09 53.2 -4.3
SECR 18.56 312 ⇓P Pn 18 09 59.2 +0.7
VRI Vrincioaia 18.59 315 ⇑P P 18 09 58.3 -0.2
VRI Vrincioaia 18.59 315 ⇑P P 18 09 58.3 -0.2
AKTO Aktyubinsk 18.61 25 P P 18 09 58.7 0.0
AKTO pmax pmax
comp=Z,459nm,1.4s
AKTO Aktyubinsk 18.61 25 P Pn 18 09 58.9 0.0
comp=Z,6.1nm,0.3s,baz=211,slow=10,SNR=36
AKTO S **Sn 18 13 22.4 -4.3**
comp=Z,0.3nm,0.3s,baz=219,slow=18,SNR=1.7
AKTO LR LR 18 19 34.5
comp=Z,4μm,18.2s,baz=201,slow=45
PLOR Plostina 18.63 314 ⇓P Pn 18 09 59.1 -0.1
PLOR Plostina 18.63 314 ⇓P Pn 18 09 59.1 -0.1
NVR Nevrokopi 18.66 299 P P 18 09 59.0 -0.3
COPA Copaceanca 18.69 308 ⇑P P 18 09 59.5 -0.1
VLI Veliai 18.70 284 P P 18 09 58.5 -1.3
NEO Neokhori 18.70 292 P Pn 18 10 00.6 +0.4
PLG Polygyros 18.73 296 P Pn 18 10 00.4 -0.2
XOR Xorichti 18.74 293 P P 18 09 59.9 -0.3
LOUT Loutraki 18.74 288 P Pn 18 10 00.6 0.0
LTK Loutraki 18.75 288 P P 18 09 59.9 -0.4
LKR Lokris 18.79 290 P P 18 10 00.1 -0.6
PLVB Pleven 18.79 306 ⇓P Pn 18 10 01.8 +0.6
PGB Panagyurishte 18.80 303 *i* P P 18 10 00.9 0.0
MLR Muntele Rosu 18.86 313 P P 18 10 01.1 -0.6
MLR pmax pmax
comp=Z,280nm,1.0s
MLR Muntele Rosu 18.86 313 P Pn 18 10 02.1 -0.1
comp=Z,5.2nm,0.3s,baz=102,slow=5.0,SNR=21
MLR S S 18 13 50.1 +14
comp=Z,0.3nm,0.3s,baz=207,slow=22,SNR=9.8
MLR ScP **ScP 18 18 04.4 +1.0**
comp=Z,0.1nm,0.3s,baz=123,slow=0.7,SNR=3.4
MLR LR LR 18 19 07.5
comp=Z,5μm,21.4s,baz=122,slow=43
MLR Muntele Rosu 18.86 313 ⇑P Pn 18 10 03.5 +1.3
MLR Muntele Rosu 18.86 313 P P 18 10 01.1 -0.6
IAS Iasi 18.87 319 ⇑P P 18 10 00.4 -1.2
IAS Iasi 18.87 319 ⇑P P 18 10 00.4 -1.2
SOH Sokhos 18.90 297 P P 18 10 01.2 -0.8
TESR Tescani 18.99 316 ⇑P P 18 10 02.3 -0.6
HUMR Humele 19.02 309 ⇑P P 18 10 03.4 +0.3
HORT Hortiatis 19.04 296 P P 18 10 02.8 -0.7
SORM Soroca 19.05 322 ⇑P P 18 10 02.0 -1.5
SORM Soroca 19.05 322 ⇑P P 18 10 02.0 -1.5
LPSR Galich'ya Gora 19.06 347 *e*P P 18 10 01.7 -1.9
LPSR *e*S **Sn 18 13 27.7 -10**
LPSR pmax pmax
comp=Z,2μm,1.1s
LPSR smax smax
comp=E,4μm,11.7s
LPSR MLR MLR
comp=Z,7μm,16.0s
THE Thessaloniki 19.14 296 P P 18 10 04.1 -0.5
GOLR 19.17 310 ⇓P Pn 18 10 05.3 -0.5
VLAD Vladila 19.17 307 ⇑P Pn 18 10 06.0 +0.2
DYR Agios Nikonas 19.19 284 P P 18 10 05.0 -0.2
OZUR 19.27 314 ⇑P P 18 10 06.0 0.0
MTUR Matau 19.28 311 ⇑P Pn 18 10 08.3 +1.1
MTUR Matau 19.28 311 ⇑P Pn 18 10 08.3 +1.1
KBL Kabul 19.29 82 P Pn 18 10 08.5 +1.0
KBL pmax pmax
comp=Z,161nm,1.0s
KBL Kabul 19.29 82 P Pn 18 10 08.5 +1.0
KNT Kendrikon 19.31 298 P P 18 10 06.0 -0.5
AGG Agios Georgios 19.35 291 P P 18 10 06.7 -0.2
AGG Agios Georgios 19.35 291 P P 18 10 06.8 -0.2
AGG pmax pmax
comp=Z,539nm,1.3s
AGG Agios Georgios 19.35 291 P P 18 10 06.8 -0.2
AGG IAmb IAmb 18 10 14.0
comp=Z,539nm,1.3s
KKB Krupnik 19.36 300 *i* P P 18 10 06.8 -0.2
MPEP Malo Peshtene 19.37 305 P P 18 10 06.4 -0.7
VOIR 19.39 312 ⇑P Pn 18 10 08.5 0.0
VOIR 19.39 312 ⇑P Pn 18 10 08.4 0.0
KLV Kalavryta, Ach 19.39 288 P P 18 10 06.7 -0.7
LIT Litokhoron 19.39 295 P P 18 10 06.4 -1.0
LIT Litokhoron 19.39 295 P P 18 10 07.0 -0.4
LIT pmax pmax
comp=Z,602nm,1.5s
LIT Litokhoron 19.39 295 P P 18 10 07.0 -0.4
LIT IAmb IAmb 18 10 13.0
comp=Z,602nm,1.5s
KALE Kalithea 19.43 289 P Pn 18 10 08.7 -0.3
DOPR Dopca 19.44 313 ⇑P P 18 10 08.0 +0.2
VTS Vitosha 19.48 302 *i* P P 18 10 08.3 -0.2
VTS Vitosha 19.48 302 P P 18 10 08.2 -0.2
VTS pmax pmax
comp=Z,163nm,1.3s
VTS Vitosha 19.48 302 ⇓P P 18 10 08.8 +0.4
VTS Vitosha 19.48 302 P P 18 10 08.2 -0.2
TRIZ Trizonia 19.48 289 P Pn 18 10 09.0 -0.5
SERG Sergoula 19.50 289 P P 18 10 09.0 +0.5
ITM Ithomi 19.52 286 P P 18 10 07.2 -1.6
ITM Ithomi 19.52 286 P P 18 10 07.0 -1.9
ITM IAmb IAmb 18 10 22.1
comp=Z,237nm,0.7s
BIZ Bicaz 19.54 317 ⇑P P 18 10 08.9 0.0
LAKA Lakka 19.54 289 P P 18 10 08.9 -0.1
VAY Valandovo 19.59 298 *i* P P 18 10 09.3 -0.2
ARR Arges 19.61 311 ⇑P P 18 10 10.2 +0.4
EFP Efpalio 19.61 289 P P 18 10 10.4 +0.6
GRG Griva 19.63 297 P P 18 10 08.7 -1.3
THL Klokotos Trika 19.67 293 P P 18 10 09.6 -0.7
PRAR RASCA 19.70 318 ⇓P P 18 10 10.0 -0.7
DRO Drossia 19.73 288 P P 18 10 10.4 -0.7
EVR Evrytania 19.74 291 P P 18 10 10.5 -0.8
BAIL Bailesti 19.88 306 ⇑P P 18 10 12.8 +0.1
PVO Paravola 19.93 290 P P 18 10 13.0 -0.2
RLS Riolos of Patr 19.93 288 P P 18 10 12.1 -1.1
TAS Tashkent 19.96 62 P Pn 18 10 15.4 +0.2

TAS pmax pmax
comp=Z,657nm,1.0s
TAS Tashkent 19.96 62 P Pn 18 10 15.4 +0.2
TAS IAmb IAmb 18 10 27.1
comp=Z,657nm,1.0s
STIP Stip 19.96 299 *i* P P 18 10 11.4 -2.2
KZN Kozani 19.97 295 P P 18 10 12.9 -0.9
MDB Medias 20.14 313 ⇑P Pn 18 10 16.7 -0.6
MDB Medias 20.14 313 ⇑P Pn 18 10 16.7 -0.5
LOT Lotru 20.19 310 ⇑P P 18 10 16.5 +0.3
PDO Prodromos 20.20 290 P P 18 10 14.9 -1.2
SRE Strehaia 20.23 308 ⇑P Pn 18 10 17.4 -0.9
SRE Strehaia 20.23 308 ⇑P Pn 18 10 17.4 -0.9
GAR Garm 20.34 69 P Pn 18 10 19.9 0.0
FNA Florina 20.36 296 P P 18 10 15.9 -2.0
FNA Florina 20.36 296 P P 18 10 17.4 -0.5
FNA pmax pmax
comp=Z,292nm,0.7s
FNA Florina 20.36 296 P P 18 10 17.4 -0.5
FNA IAmb IAmb 18 10 28.3
comp=Z,292nm,0.7s
BURAR Bucovina Array 20.41 317 ⇑P P 18 10 17.9 -0.6
BURAR Bucovina Array 20.41 317 P P 18 10 18.0 -0.6
CHM Chimkent 20.43 59⇑ *e*P Pn 18 10 20.1 -0.8
CHM *e*S **S 18 14 08.2 +0.8**
CHM *e*LR LR 18 19 26.9
CHM Chimkent 20.43 59 *c e*P Pn 18 10 20.0 -0.8
CHM *e*S **S 18 14 08.1 +0.8**
AKASG Malin Array Be 20.44 329 P P 18 10 16.9 -1.8
comp=Z,22nm,0.3s,baz=136,slow=8.0,SNR=59
AKASG S **S 18 14 05.2 -1.9**
comp=Z,11nm,1.0s,baz=135,slow=23,SNR=7.0
AKASG ScP **ScP 18 18 06.0 -0.8**
comp=Z,6.1nm,1.0s,baz=92,slow=2.3,SNR=4.4
AKASG LR LR 18 19 35.7
comp=Z,4μm,20.4s,baz=135,slow=41
AKASG Malin Array Be 20.44 329 P P 18 10 15.8 -2.9
AKBB Malin Array Si 20.44 329 P P 18 10 17.2 -1.4
AKBB pmax pmax
comp=Z,575nm,1.3s
AKBB Malin Array Si 20.44 329 P P 18 10 17.2 -1.4
AKBB IAmb IAmb 18 10 18.6
comp=Z,575nm,1.2s
BUR08 Bucovina Ar. S 20.44 317 P P 18 10 18.2 -0.7
BUR08 IAmb IAmb 18 10 28.2
comp=Z,359nm,0.9s
KFL Anninata 20.47 288 P P 18 10 16.5 -2.6
JAN Janina 20.57 293 P P 18 10 19.9 -0.3
SKO Skopje 20.57 299 *i* P P 18 10 20.1 -0.2
EVGI Lefkada island 20.61 290 P P 18 10 18.9 -1.7
LKD2 Lefkada island 20.62 290 P P 18 10 19.4 -1.4
ARCR ARCALIA 20.62 315 ⇓P P 18 10 21.0 +0.3
TSLK Tsoukalades, L 20.63 290 P P 18 10 19.4 -1.4
VLS Valsamata 20.63 288 P P 18 10 18.7 -2.2
FSK Fiskardo 20.67 289 P P 18 10 19.3 -2.0
IUG Iuzhnay 20.70 60⇑ *i*P Pn 18 10 23.2 -0.8
IUG *e*S **S 18 14 14.8 +2.1**
IUG *e*LR LR 18 20 12.7
IUG Iuzhnay 20.70 60 *c i*P Pn 18 10 23.1 -0.9
IUG *e*S **S 18 14 14.7 +2.1**
BRLS Boroldayy 20.80 58 *e*S S 18 14 11.1 -3.5
GZR Gura Zlata 20.80 309 ⇓P P 18 10 21.3 -1.5
HERR Herculane 20.83 308 ⇓P P 18 10 23.0 0.0
BTK Batken 20.86 66 P Pn 18 10 25.4 -0.5
BTK pmax pmax
comp=Z,367nm,1.4s
BTK Batken 20.86 66 P Pn 18 10 25.4 -0.6
BTK IAmb IAmb 18 10 37.6
comp=Z,367nm,1.4s
CJR Cluj-Napoca 20.89 313 ⇑P P 18 10 23.6 0.0
CJR Cluj-Napoca 20.89 313 ⇑P P 18 10 23.6 0.0
DEV Deva 20.93 311 ⇓P P 18 10 23.4 -0.6
DEV Deva 20.93 311 ⇓P P 18 10 23.4 -0.6
IGT Igoumenitsa 20.95 292 P P 18 10 20.9 -3.4
JBG Jabagly 21.13 60 *c i*P P 18 10 27.0 +0.6
JBG *e*S **S 18 14 21.3 -0.1**
JBG pmax pmax
comp=Z,1μm,2.1s
JBG MLR MLR
comp=Z,1μm,11.0s
PHP Peshkopia 21.23 298 P P 18 10 27.3 -0.1
SRN Sarande 21.25 293 P P 18 10 26.4 -1.1
MDVR Moldovita 21.25 307 ⇓P P 18 10 27.7 +0.1
KK31 Karatay Array 21.29 58 *i* P P 18 10 28.7 +0.7
KK31 pmax pmax
comp=Z,120nm,0.9s
KK31 Karatay Array 21.29 58 P P 18 10 28.9 +0.9
KK31 IAmb IAmb 18 10 41.1
comp=Z,687nm,1.6s
KKAR Karatay Array 21.29 58 P P 18 10 28.7 +0.7
KKAR pmax pmax
comp=Z,687nm,1.6s
KKAR Karatay Array 21.29 58 P P 18 10 28.9 +0.9
KKAR IAmb IAmb 18 10 41.1
comp=Z,687nm,1.6s
KKAR Karatay Array 21.29 58 P P 18 10 28.7 +0.7
BMR Baia Mare 21.43 316 ⇑P P 18 10 29.1 -0.3
BMR Baia Mare 21.43 316 ⇑P P 18 10 29.1 -0.3
DRGR 21.46 313 ⇑P P 18 10 29.7 -0.1
DRGR 21.46 313 ⇑P P 18 10 29.7 -0.1
TIR Tirane 21.59 297 P P 18 10 32.6 +1.5
TIR 18 14 31.9
TIR pmax pmax
comp=Z,316nm,0.8s
TIR MLR MLR
comp=Z,6μm,19.0s
TIR Tirane 21.59 297 P P 18 10 32.6 +1.5
TIR IAmb IAmb 18 10 38.5
comp=Z,316nm,0.8s
TIR **PcP 18 14 31.9 -1.0**
BZS Buzias 21.64 309 ⇑P P 18 10 30.5 -1.1
BZS Buzias 21.64 309 ⇑P P 18 10 30.5 -1.1
DZA Taraz 21.82 59 *e*P P 18 10 33.7 0.0
DZA Taraz 21.82 59 *e*P P 18 10 33.6 0.0
BANR Banloc 21.86 308 ⇑P P 18 10 34.0 0.0
SIRR Siria 21.88 311 ⇓P P 18 10 34.3 +0.1
OBN Obninsk 21.89 346 *c i*P P 18 10 31.8 -2.5
OBN *e**PP **pP 18 10 35.6 -2.2**
OBN *e*PPP PPP 18 11 02.8
OBN *e* 18 14 28.5
OBN *i* 18 14 29.0
OBN *e*SS Sn 18 15 10.0 +24
OBN pmax pmax
comp=Z,780nm,1.4s
OBN MLR MLR
comp=Z,8μm,19.0s
OBN Obninsk 21.89 346 P P 18 10 32.4 -1.9
comp=Z,46nm,0.5s,baz=161,slow=11,SNR=41
OBN S **S 18 14 28.5 -7.2**
comp=Z,37nm,1.0s,baz=260,slow=23,SNR=9.6
OBN LR LR 18 19 46.0
comp=Z,1μm,21.9s,baz=154,slow=39
OBN Obninsk 21.89 346 P P 18 10 31.7 -2.6
OBN IAMs_20 IAMs_20 18 19 55.5
comp=Z,11μm,21.0s
TIM Timisoara 21.94 309 ⇑P P 18 10 40.2 +5.4
TIM Timisoara 21.94 309 ⇑P P 18 10 40.2 +5.4
DIVS Divibare 22.18 304⇑ *i*P P 18 10 35.0 -2.6
TRPA Tarpa 22.21 316 ⇑P P 18 10 37.1 -0.7
DRME Dracevica, Mon 22.26 299 *e*P P 18 10 37.1 -1.2
PDG Podgorica 22.26 300 *e*P P 18 10 37.9 -0.4
PDG Podgorica 22.26 300 ⇑P P 18 10 38.1 -0.2
MOS Moscow 22.29 348 *e*P P 18 10 34.3 -4.2
MOS *e*S **S 18 14 35.5 -7.8**
MOS pmax pmax
comp=Z,2μm,1.5s
MOS pmax pmax
comp=Z,2μm,1.4s
MOS MLR MLR
comp=Z,5μm,16.0s
LVV L'vov 22.32 321 *e*P P 18 10 37.4 -1.6
LVV *e* 18 11 09.3
LVV *e*S **S 18 14 36.7 -7.4**
LVV *e*SSS SSS 18 15 27.8
LVV pmax pmax
comp=Z,1μm,1.8s
LVV smax smax
comp=E,3μm,3.4s
LVV smax smax
comp=N,2μm,3.7s
RUDO Rudo 22.47 303 *e*P P 18 10 41.1 +0.4
BBLS Lazići 22.52 303 *e*P P 18 10 41.3 +0.1
UZH Uzhgorod 22.61 317 *e*P P 18 10 39.4 -2.6

UZH *e* 18 11 11.5
UZH *e*S **S 18 14 40.0 -9.4**
UZH MLR MLR
comp=N,900nm,14.0s
UZH MLR MLR
comp=E,1μm,14.0s
TEKS Tekeris 22.64 305 *e*P P 18 10 42.1 -0.3
FRGS Fruska Gora 22.65 307⇑ *i*P P 18 10 40.9 -1.6
ATD Arta Tunnel 22.67 187 P P 18 10 45.2 +2.2
comp=E,39nm,1.0s,baz=333,slow=6.6,SNR=12
ATD LR LR 18 20 04.4
comp=E,3μm,22.0s,baz=9.5,slow=38
ATD Arta Tunnel 22.67 187 P P 18 10 46.3 +3.3
ARSB Arslanbob 22.68 64 P P 18 10 44.2 +1.1
ARSB IAmb IAmb 18 11 37.9
comp=Z,286nm,1.3s
UPM Unac-Piva 22.69 301 *e*P P 18 10 43.2 0.0
KOLS Kolonicke sedl 22.78 317 *e*P P 18 10 44.7 +0.8
KOLS pmax pmax
comp=Z,475nm,1.4s
KOLS Kolonicke sedl 22.78 317 *e*P P 18 10 44.7 +0.8
HCY Herceg Novi 22.81 299 *e*P P 18 10 43.4 -0.8
NIL Nilore 22.87 83 P P 18 10 44.6 -0.3
NIL pmax pmax
comp=Z,262nm,1.1s
NIL Nilore 22.87 83 P P 18 10 44.6 -0.3
NIL IAmb IAmb 18 11 21.0
comp=Z,262nm,1.1s
BRY Bratogost 22.88 300⇑ *i*P P 18 10 44.1 -1.0
HAPS Han Pijesak,Bl 22.90 304 *e*P P 18 10 43.1 -2.1
KWP Kalwaria Pacla 22.92 319 *e*P P 18 10 44.0 -1.3
KWP *e*S **S 18 14 53.4 -1.6**
KWP Kalwaria Pacla 22.92 319 *e*P P 18 10 44.0 -1.3
KWP *e*P **P 18 10 44.0 -1.3**
KWP *e*S **S 18 14 53.4 -1.6**
KWP *e*S **S 18 14 53.4 -1.6**
KWP Kalwaria Pacla 22.92 319 P P 18 10 44.1 -1.2
TREB Trebinje 22.97 300 *e*P P 18 10 44.6 -1.3
DBRK Dubrovnik 23.11 300 *i* P P 18 10 46.3 -1.0
SOCY Socotra 23.15 159 P P 18 10 45.2 -2.7
SNR=8.1
SOCY Socotra 23.15 159 P P 18 10 44.2 -3.7
SOCY IAmb IAmb 18 10 54.6
comp=Z,217nm,1.1s
SOCY IAMs_20 IAMs_20 18 21 11.7
comp=Z,7μm,19.0s
AML Almayashu 23.35 62 P P 18 10 52.1 +1.9
SNR=92
TAR1 Taranto 23.39 294 *e*P P 18 10 48.7 -1.5
EKS2 Erkin-Say 23.51 61 P P 18 10 53.5 +1.9
SNR=48
KECS Kecovo 23.58 315 *e*P P 18 10 53.2 +1.2
KECS pmax pmax
comp=Z,193nm,1.2s
KECS Kecovo 23.58 315 *e*P P 18 10 53.2 +1.2
DOB Doboj 23.67 305 *e*P P 18 10 53.7 +0.9
PSZ Piszkesteto 23.68 313 P P 18 10 51.3 -1.7
PSZ pmax pmax
comp=Z,503nm,1.4s
PSZ MLR MLR
comp=Z,6μm,18.0s
PSZ Piszkesteto 23.68 313 P P 18 10 51.3 -1.7
PSZ IAmb IAmb 18 10 59.6
comp=Z,503nm,1.4s
TIP Timpagrande 23.68 291 P P 18 10 51.7 -1.5
TIP IAmb IAmb 18 10 59.6
comp=Z,396nm,1.5s
BAI Bari 23.77 295 *e*P P 18 10 52.6 -1.3
MICGM Minsk 23.86 334⇑ *i*P P 18 10 52.0 -2.6
MICGM PM 18 10 54.0
comp=Z,3.7nm,1.7s
MICGM PM 18 10 55.0
comp=N,3.7nm,1.5s
MICGM PM 18 10 56.0
comp=E,2.4nm,1.4s
MICGM *e*PP sP 18 11 31.0 +31
MICGM *e*PPP PPP 18 11 44.0
MICGM *e*PcP **PcP 18 14 37.0 -0.3**
MICGM *e*S **S 18 15 04.0 -6.3**
MICGM *e*SS SnSn 18 16 08.0 +19
MICGM *e*SSS SSS 18 16 26.0
MICGM *e*LQ LQ 18 18 38.0
MICGM *e*LR LR 18 20 44.0
MICGM LRM MLR 18 21 24.0
comp=Z,13nm,18.0s
MICGM LRM MLR 18 21 25.0
comp=Z,12nm,12.0s
MNK Minsk 23.86 334⇑ *i*P P 18 10 52.0 -2.6
MNK *e* 18 11 31.0
MNK *e* 18 11 44.0
MNK *e* 18 14 37.0
MNK *e*S **S 18 15 04.0 -6.3**
MNK *e* 18 16 08.0
MNK pmax pmax
comp=Z,4μm,1.7s
MNK pmax pmax
comp=N,3μm,1.5s
MNK pmax pmax
comp=E,2μm,1.4s
MNK MLR MLR
comp=Z,13μm,18.0s
MNK MLR MLR
comp=Z,12μm,12.0s
SG1 Sgolgore (BA) 23.89 295 *e*P P 18 10 53.3 -1.8
ARU Arti 23.96 18 *c i*P P 18 10 55.2 -0.4
ARU PPP PPP 18 11 33.9
ARU S **S 18 15 14.3 +2.5**
ARU SS **SnSn 18 15 56.5 +4.7**
ARU SSS SSS 18 16 13.0
ARU pmax pmax
comp=Z,503nm,1.6s
ARU MLR MLR
comp=Z,3μm,15.0s
ARU Arti 23.96 18 P P 18 10 54.9 -0.6
comp=Z,8.1nm,0.5s,baz=198,slow=9.9,SNR=27
ARU Arti 23.96 18 P P 18 10 55.4 -0.2
UCH Uchtor 23.97 62 P P 18 10 58.1 +1.8
SNR=14
AAK Ala-Archa 24.03 61 *i* P P 18 10 59.0 +2.4
SNR=16
AAK Ala-Archa 24.03 61 P P 18 10 58.8 +2.3
SNR=23
AAK P **P 18 10 58.8 +2.3**
SNR=23
AAK P **P 18 10 58.8 +2.3**
SNR=23
AAK Ala-Archa 24.03 61 P P 18 10 58.1 +1.6
AAK pmax pmax
comp=Z,71nm,1.2s
AAK Ala-Archa 24.03 61 P P 18 10 58.4 +1.9
comp=Z,7.5nm,0.5s,baz=207,slow=3.5,SNR=19
AAK PcP **PcP 18 14 38.7 +0.6**
comp=Z,9.5nm,0.8s,baz=144,slow=5.2,SNR=3.8
AAK ScP **ScP 18 18 16.9 +0.6**
comp=Z,5.2nm,0.9s,baz=207,slow=4.5,SNR=2.5
AAK LR LR 18 22 08.5
comp=Z,7μm,18.4s,baz=259,slow=41
AAK Ala-Archa 24.03 61 P P 18 10 58.5 +1.9
SNR=8.6
MAKA Makarska 24.05 301 *i* P P 18 10 55.0 -1.5
NIE Niedzica 24.14 317 *e*P P 18 10 57.1 -0.3
NIE *e*S **S 18 15 20.2 +5.3**
NIE Niedzica 24.14 317 *e*P P 18 10 57.1 -0.3
NIE *e*P **P 18 10 57.1 -0.3**
NIE *e*S **S 18 15 20.2 +5.3**
NIE *e*S **S 18 15 20.2 +5.3**
FRU1 Bishkek 24.16 60 P P 18 10 59.7 +2.0
FRU1 pmax pmax
comp=Z,129nm,1.1s
FRU1 Bishkek 24.16 60 P P 18 10 59.6 +2.0
USP Ospenovka 24.16 59 P P 18 10 59.2 +1.5
SNR=41
MGRS Mrkonjic Grad 24.28 303 *e*P P 18 10 56.7 -2.0
CHMS Chumysh 24.28 60 P P 18 11 00.6 +1.9
SNR=38
BLY Banja Luka 24.30 304⇑ *i*P P 18 10 57.6 -1.2
BLY Banja Luka 24.30 304 ⇑P P 18 10 57.6 -1.2
BLY Banja Luka 24.30 304 P P 18 10 57.4 -1.4
BLY IAmb IAmb 18 11 03.7
comp=Z,443nm,1.6s
KBK Karagaybulak 24.36 61 P P 18 11 01.9 +2.3
SNR=24
ACER Acerenza 24.44 294 P P 18 10 58.9 -1.2
ACER IAmb IAmb 18 11 04.8

comp=Z,520nm,1.6s
KZA Kyzart 24.48 62 P **P 18 11 03.4 +2.4**
SNR=14
LANS Liptovska Anna 24.49 316 *e*P **P 18 11 00.9 +0.3**
LANS pmax pmax
comp=Z,80nm,1.0s
LANS Liptovska Anna 24.49 316 *e*P **P 18 11 00.9 +0.3**
KIRV Kirov 24.56 5 P **P 18 11 00.3 -0.7**
comp=Z,250nm,0.6s,baz=190,slow=8.2,SNR=66
KIRV LR LR 18 22 12.3
comp=Z,5μm,19.7s,baz=190,slow=41
VYHS Vyhne 24.57 314 *e*P **P 18 11 01.0 -0.2**
VYHS Vyhne 24.57 314 *e*P **P 18 11 01.0 -0.2**
NACGM Naroch 24.58 333 *e*P **P 18 11 01.0 -0.2**
NACGM PM 18 11 02.0
comp=Z,2.2nm,1.0s
NACGM *e*PP sP 18 11 39.0 +32
NACGM *e*PPP PPP 18 12 08.0
NACGM *e*S **S 18 15 18.0 -3.8**
NACGM *e*SS **SnSn 18 16 16.0 +9.1**
NACGM *e*SSS SSS 18 16 42.0
NACGM *e*LQ LQ 18 19 02.0
NACGM *e*LR LR 18 21 08.0
NACGM LRM MLR 18 21 50.0
comp=Z,11nm,18.0s
SRO Srobarova 24.60 312 *e*P **P 18 11 01.7 +0.2**
SRO pmax pmax
comp=Z,291nm,0.7s
SRO Srobarova 24.60 312 *e*P **P 18 11 01.7 +0.2**
KSH Kashi 24.76 69 P **P 18 11 02.5 -0.7**
KSH sP sP 18 11 09.8 +1.1
KSH PP pP 18 11 37.0 +30
KSH S **S 18 15 20.5 -4.8**
KSH sS pS 18 15 27.8 -1.7
KSH SS **SnSn 18 16 13.5 +1.8**
KSH pmax pmax
comp=Z,200nm,1.2s
KSH pmax pmax
comp=Z,7μm,5.1s
KSH LR LR
comp=Z,10μm,12.0s
KSH LR LR
comp=Z,16μm,13.8s
KSH LR LR
comp=Z,15μm,17.1s
OJC Ojcow 24.82 318⇑ *e*P **P 18 11 02.7 -0.8**
OJC *e*S **S 18 15 28.2 +2.3**
OJC Ojcow 24.82 318 *e*P **P 18 11 02.7 -0.8**
OJC *e*P **P 18 11 02.7 -0.8**
OJC *e*S **S 18 15 28.2 +2.3**
OJC *e*S **S 18 15 28.2 +2.3**
OJC Ojcow 24.82 318 P **P 18 11 02.6 -0.8**
OJC IAmb IAmb 18 11 09.8
comp=Z,172nm,0.8s
SVE Sverdlovsk 24.87 20*d* *i*P **P 18 11 04.2 +0.4**
SVE *e*S **S 18 15 35.0 +8.6**
SVE pmax pmax
comp=Z,582nm,1.1s
SVE MLR MLR
comp=Z,4μm,20.0s
TKM2 Tokmak 2 24.88 61 P **P 18 11 05.9 +1.5**
TKM2 pmax pmax
comp=Z,188nm,1.2s
TKM2 Tokmak 2 24.88 61 P **P 18 11 06.4 +2.0**
SNR=46
IDID Didziasalis 24.91 334 *e*P **P 18 11 04.0 -0.3**
IDID IAmb IAmb 18 11 06.3
comp=Z,193nm,1.0s
NRN Naryn 24.95 64 P **P 18 11 07.5 +2.4**
NRN pmax pmax
comp=Z,359nm,1.6s
NRN Naryn 24.95 64 P **P 18 11 07.5 +2.4**
NRN IAmb IAmb 18 11 14.7
comp=Z,359nm,1.6s
ZIRJ Zirje 25.11 301 *i*P **P 18 11 04.0 -2.1**
IIGN Ignalina 25.13 333 *e*P **P 18 11 05.8 -0.4**
IIGN IAmb IAmb 18 11 10.3
comp=Z,442nm,1.1s
IIGN *e*S **S 18 15 25.9 -4.7**
BEL Belsk 25.17 322 *e*P **P 18 11 06.0 -0.6**
BEL Belsk 25.17 322 *e*P **P 18 11 06.0 -0.6**
BEL *e*P **P 18 11 06.0 -0.6**
KALN Kalnik 25.19 307 *i*P **P 18 11 06.3 -0.6**
UDBI Udbina 25.22 303 *i*P **P 18 11 07.6 +0.4**
ULHL Ulahol 25.24 62 P **P 18 11 10.7 +3.1**
SNR=9.8
ISAL Salakas 25.34 334 *e*P **P 18 11 07.6 -0.4**
ISAL *e*S **S 18 15 27.8 -6.1**
SUW Suwalki 25.40 328 P **P 18 11 07.7 -1.0**
SUW Suwalki 25.40 328 *e*P **P 18 11 07.5 -1.1**
SUW *e*P **P 18 11 07.5 -1.1**
SUW Suwalki 25.40 328 P **P 18 11 07.7 -1.0**
ZAG Zagreb 25.41 306 *i*P **P 18 11 09.9 +1.1**
ZAG Zagreb 25.41 306 *e*P **P 18 11 07.0 -1.9**
JAVC Velka Javorina 25.42 314 *e*P **P 18 11 09.3 +0.3**
KOGS Kog 25.43 308 *e*P **P 18 11 08.5 -0.5**
SMOL Smolenice 25.43 313 *e*P **P 18 11 09.3 +0.3**
SMOL pmax pmax
comp=Z,243nm,1.1s
SMOL Smolenice 25.43 313 *e*P **P 18 11 09.2 +0.3**
IZAR Zarasai 25.43 334 *e*P **P 18 11 08.5 -0.4**
IZAR IAmb IAmb 18 11 12.7
comp=Z,934nm,1.4s
IZAR *e*S **S 18 15 31.5 -3.8**
PTJ Puntijarka 25.45 306 *i*P **P 18 11 08.3 -1.0**
MODS Modra-Piesok 25.46 312 *e*P **P 18 11 08.4 -0.9**
MODS pmax pmax
comp=Z,475nm,1.3s
MODS Modra-Piesok 25.46 312 *e*P **P 18 11 08.4 -0.9**
PAOL Paolisi 25.50 295 P **P 18 11 09.1 -0.7**
PAOL IAmb IAmb 18 11 16.0
comp=Z,129nm,0.8s
ZST Bratislava 25.50 312 *e*P **P 18 11 09.1 -0.6**
ZST Bratislava 25.50 312 *e*P **P 18 11 09.0 -0.6**
VAE Valguarnera 25.51 287 P **P 18 11 12.1 +2.2**
comp=Z,147nm,0.9s,baz=126,slow=3.6,SNR=14
RAFF Raffo Rosso 25.56 286 P **P 18 11 11.6 +1.2**
OKC Ostrava-Krasne 25.57 316 *e*P **P 18 11 09.2 -1.1**
OKC *e* 18 11 12.3
OKC MLR MLR
comp=Z,4μm,10.0s
OKC Ostrava-Krasne 25.57 316 *e*P **P 18 11 09.2 -1.1**
OKC *e*pP **pP 18 11 12.3 -1.8**
OKC *e*S S 18 15 49.4 +12
OKC AMS AMS 18 22 50.0
comp=Z,4μm,10.0s
DUGI Dugi Otok 25.59 302 *i*P **P 18 11 08.4 -2.1**
RAC Raciborz 25.66 317 *e*P **P 18 11 10.3 -0.8**
RAC MLR MLR
comp=Z,5μm,16.7s
GCIS Gornji Cirnik 25.66 306 *i*P **P 18 11 10.6 -0.5**
GOLS Golise 25.71 306 *i*P **P 18 11 11.0 -0.6**
BRVK Borovoye 25.75 35 P **P 18 11 12.8 +0.8**
SNR=37
BRVK P **P 18 11 12.8 +0.8**
SNR=37
BRVK P **P 18 11 13.0 +1.1**
SNR=79
BRVK P **P 18 11 13.0 +1.1**
SNR=79
BRVK Borovoye 25.75 35 P **P 18 11 12.7 +0.8**
BRVK pmax pmax
comp=Z,450nm,1.5s
BRVK Borovoye 25.75 35 P **P 18 11 12.7 +0.8**
BRVK IAmb IAmb 18 11 22.7
comp=Z,450nm,1.5s
CRES Cresnjev 25.77 306⇑ *i*P **P 18 11 11.6 -0.5**
BVAR Borovoye Array 25.78 35 P **P 18 11 12.8 +0.7**
comp=Z,57nm,0.7s,baz=226,slow=8.1,SNR=43
BVAR PcP **PcP 18 14 42.5 +0.9**
comp=Z,18nm,0.9s,baz=164,slow=3.4,SNR=4.3
BVAR ScP **ScP 18 18 20.2 -0.7**
comp=Z,3.4nm,0.7s,baz=211,slow=2.6,SNR=3.7
AAE Adis Abeba 25.81 196 *i*P **P 18 11 16.5 +3.5**
AAE *i*S **S 18 15 52.8 +10**
NVLJ Novalja 25.85 303 *i*P **P 18 11 11.2 -1.7**
TNSS Tian-Shan 25.88 61 *e*P **P 18 11 15.2 +1.5**
TNSS Tian-Shan 25.88 61 *e*P **P 18 11 15.1 +1.5**
AAA Alma-Ata 25.88 60 *e*LR LR 18 22 42.8
comp=Z,3μm,12.7s
AAA Alma-Ata 25.88 60 *e*P **P 18 11 16.6 +3.3**
AAA *e*S **S 18 15 51.5 +8.6**
AAA pmax pmax
comp=Z,1μm,7.4s
AAA smax smax
comp=E,2μm,7.7s
AAA MLR MLR
comp=Z,4μm,13.0s
MORC Moravsky Berou 25.89 316 P **P 18 11 12.0 -1.3**
MORC pmax pmax
comp=Z,420nm,1.4s
MORC Moravsky Berou 25.89 316 ⇓P **P 18 11 13.0 -0.3**
MORC Moravsky Berou 25.89 316 *e*P **P 18 11 12.5 -0.8**
MORC Moravsky Berou 25.89 316 P **P 18 11 12.0 -1.3**
MORC IAmb IAmb 18 11 15.6
comp=Z,420nm,1.4s
FURI Furi 25.95 196 *i*P **P 18 11 17.9 +3.5**
FURI *i*S S 18 16 04.8 +20
MDOK Medeo 25.97 60 *e*P **P 18 11 15.6 +1.4**
MDOK *e*S S 18 15 55.4 +11
MDOK *e*LR LR 18 23 22.9
comp=Z,4μm,11.7s
MDOK Medeo 25.97 60 *e*P **P 18 11 15.6 +1.4**
MDOK MLR MLR
comp=Z,4μm,12.0s
CHKK Chushkaly 26.05 59⇑ *i*P **P 18 11 16.2 +1.5**
CHKK Chushkaly 26.05 59⇑ *i*P **P 18 11 16.2 +1.5**
PABE Paberze 26.11 331 *e*P **P 18 11 14.3 -0.8**
ARSA Arzberg 26.16 309 *e*P **P 18 11 15.2 -0.5**
comp=Z,94nm,0.9s,SNR=35
CONA Conrad Observa 26.17 311 *e*P **P 18 11 15.2 -0.7**
comp=Z,162nm,1.1s,SNR=59
VRAC Vranov 26.25 314 P **P 18 11 16.0 -0.5**
comp=Z,104nm,0.9s,baz=110,slow=8.8,SNR=53
VRAC LR LR 18 23 30.6
comp=Z,4μm,18.3s,baz=114,slow=41
VRAC Vranov 26.25 314 *e*P **P 18 11 16.0 -0.5**
KRUC Moravsky 26.27 313 *e*P **P 18 11 16.0 -0.6**
RIY Rijeka 26.30 304 *i*P **P 18 11 17.1 +0.2**
RIY Rijeka 26.30 304 *e*P **P 18 11 14.3 -2.6**
SOKA Soboth 26.30 308 *e*P **P 18 11 16.3 -0.7**
comp=Z,89nm,1.1s,SNR=22
SOKA PcP **PcP 18 14 44.0 +1.0**
comp=Z,23nm,1.3s
TARG Taragay, Kyrgy 26.33 64 P **P 18 11 19.7 +2.0**
CEY Cerknica 26.44 305 *e*P **P 18 11 17.2 -1.0**
LJU Ljubljana 26.45 306 *i*P **P 18 11 18.1 -0.2**
LJU *e*S **S 18 15 49.4 -2.4**
LJU Ljubljana 26.45 306⇑ *i*P **P 18 11 17.9 -0.4**
CLTB Caltabellotta 26.46 287 P **P 18 11 19.4 +0.8**
CLTB IAmb IAmb 18 11 27.3
comp=Z,208nm,0.9s
KRLC Kraliky 26.47 316 *e*P **P 18 11 17.2 -1.3**
KRLC *e* 18 11 20.1
KRLC *e*S **S 18 15 43.1 -8.9**
KRLC MLR MLR
comp=Z,4μm,15.4s
KRLC Kraliky 26.47 316 *e*P **P 18 11 17.2 -1.3**
KRLC *e*pP **pP 18 11 20.1 -2.2**
KRLC *e*S **S 18 15 43.1 -8.9**
KRLC AMS AMS 18 23 20.0
comp=Z,4μm,15.4s
AQU L'Aquila 26.51 298 P **P 18 11 18.0 -1.0**
AQU pmax pmax
comp=Z,231nm,1.1s
AQU L'Aquila 26.51 298 *e*P **P 18 11 18.0 -1.0**
AQU L'Aquila 26.51 298 P **P 18 11 18.0 -1.0**
AQU IAmb IAmb 18 11 36.7
comp=Z,231nm,1.1s
OBKA Obir 26.57 307 *e*P **P 18 11 19.1 -0.4**
comp=Z,332nm,1.6s,SNR=31
OBKA S **S 18 15 54.4 +0.7**
comp=Z,20nm,1.2s
DPC Dobruska-Polom 26.85 316 *e*P **P 18 11 21.1 -0.8**
DPC *e* 18 11 23.8
DPC *e*S **S 18 15 48.4 -10**
DPC MLR MLR
comp=Z,5μm,13.8s
DPC Dobruska-Polom 26.85 316 *e*P **P 18 11 21.1 -0.8**
DPC *e*pP **pP 18 11 23.8 -2.0**
DPC *e*S **S 18 15 48.4 -10**
DPC AMS AMS 18 25 30.0
comp=Z,5μm,13.8s
PRZ Przheval'sk 26.85 62 P **P 18 11 24.3 +2.1**
PRZ pmax pmax
comp=Z,158nm,1.4s
PRZ Przheval'sk 26.85 62 P **P 18 11 24.3 +2.1**
TRI Trieste 26.88 305 P **P 18 11 20.8 -1.4**
TRI pmax pmax
comp=Z,64nm,0.7s
TRI Trieste 26.88 305 P **P 18 11 20.8 -1.4**
TREC Trest 26.91 313 *e*P **P 18 11 22.0 -0.4**
TREC *e* 18 11 24.5
TREC MLR MLR
comp=Z,5μm,14.6s
TREC Trest 26.91 313 *e*P **P 18 11 22.0 -0.4**
TREC *e*pP **pP 18 11 24.5 -1.8**
TREC *e*S S 18 16 11.3 +12
TREC AMS AMS 18 24 50.0
comp=Z,5μm,14.6s
SATY Saty 26.93 61⇑ *i*P **P 18 11 24.9 +2.1**
comp=Z,354nm,2.8s
SATY *e*S S 18 16 14.4 +15
SATY *e*LR LR 18 23 09.6
SATY Saty 26.93 61*c* *i*P **P 18 11 24.9 +2.1**
SATY pmax pmax
comp=Z,354nm,2.8s
ZHN Zhinishke 26.97 61 *e*P **P 18 11 24.9 +1.7**
ZHN Zhinishke 26.97 61 *e*P **P 18 11 24.8 +1.7**
KLMR Klimovskoe 27.01 353 *e*P **P 18 11 21.4 -1.7**
KLMR *e*S **S 18 16 02.6 +2.4**
KLMR pmax pmax
comp=Z,612nm,1.4s
KLMR MLR MLR
comp=Z,4μm,11.0s
KLMR Klimovskoe 27.01 353 *e*P **P 18 11 21.4 -1.7**
KLMR AMP 18 11 23.4
comp=Z,612nm,1.4s
KLMR *e*S **S 18 16 02.7 +2.5**
KLMR *e*S **S 18 16 02.7 +2.5**
KLMR LQ LQ 18 20 14.4
KLMR LQ LQ 18 20 14.4
KLMR LR LR 18 22 02.5
KLMR AMP 18 23 18.6
comp=Z,4μm,10.9s
KSP Ksiaz 27.09 317⇑ *e*P **P 18 11 23.3 -0.7**
KSP Ksiaz 27.09 317 *e*P **P 18 11 23.3 -0.7**
KSP *e*P **P 18 11 23.3 -0.7**
UPC Upice 27.10 316 *e*P **P 18 11 23.2 -0.9**
UPC *e* 18 11 25.5
UPC *e*S **S 18 16 03.3 +1.4**
UPC MLR MLR
comp=Z,5μm,16.6s
UPC Upice 27.10 316 *e*P **P 18 11 23.2 -0.9**
UPC *e*pP **pP 18 11 25.5 -2.4**
UPC *e*S **S 18 16 03.3 +1.4**
UPC AMS AMS 18 23 40.0
comp=Z,5μm,16.6s
CHVC Chvalec 27.11 316 *e*P **P 18 11 23.4 -0.8**
CHVC *e*x x 18 11 26.4
CHVC AMS AMS 18 25 50.0
comp=Z,4μm,15.0s
MOA Molln 27.16 310 *e*P **P 18 11 24.0 -0.7**
comp=Z,146nm,0.8s,SNR=63
KPKS Kokpek 27.20 60⇑ *i*P **P 18 11 26.6 +1.4**
comp=Z,146nm,2.3s
KPKS *e*S **S 18 16 08.3 +4.5**
KPKS *e*LR LR 18 24 11.7
KPKS Kokpek 27.20 60*c* *i*P **P 18 11 26.6 +1.4**
KPKS *e*S **S 18 16 08.3 +4.5**
KPKS pmax pmax
comp=Z,146nm,2.3s
MYKA Terra Mystica 27.20 307 *e*P **P 18 11 24.5 -0.6**
comp=Z,76nm,0.9s,SNR=21
MYKA *e*S **S 18 16 03.9 +0.2**
comp=Z,25nm,1.4s
MURB Monte Urbino 27.27 299 P **P 18 11 26.4 +0.6**
TDK Taldyqorghan 27.28 57 *e*P **P 18 11 26.4 +0.6**
TDK *e*LR LR 18 24 31.7
comp=Z,2μm,10.0s
TDK Taldyqorghan 27.28 57 *e*P **P 18 11 26.4 +0.6**
TDK MLR MLR
comp=Z,2μm,10.0s
PBUR Paburg 27.30 330 *e*P **P 18 11 25.2 -0.5**
UZB Uzynbulak 27.39 61⇑ *i*P **P 18 11 28.4 +1.4**
comp=Z,172nm,3.6s
UZB Uzynbulak 27.39 61*c* *i*P **P 18 11 28.4 +1.4**
UZB pmax pmax
comp=Z,172nm,3.6s
NDI New Delhi 27.39 93 *e*P **P 18 11 28.0 +1.0**
VSU Vasula 27.41 338*c* *i*P **P 18 11 25.4 -1.4**
VSU pmax pmax
comp=Z,403nm,0.8s
VSU Vasula 27.41 338 *e*P **P 18 11 25.5 -1.2**
PRGR Permogore 27.50 360⇑ *i*P **P 18 11 25.9 -1.6**
PRGR *e*S **S 18 16 00.7 -7.1**
PRGR pmax pmax
comp=Z,507nm,1.4s
KBA Koelnbreinsper 27.52 308 *e*P **P 18 11 27.3 -0.8**
comp=Z,76nm,1.1s,SNR=18
GOPC GO Pecny, Ondr 27.57 314 *e*P **P 18 11 27.2 -1.2**
GOPC *e* 18 11 30.3
GOPC *e*S **S 18 16 01.2 -8.2**
GOPC MLR MLR
comp=Z,4μm,14.5s
GOPC GO Pecny, Ondr 27.57 314 *e*P **P 18 11 27.2 -1.2**
GOPC *e*pP **pP 18 11 30.3 -1.9**
GOPC *e*S **S 18 16 01.2 -8.2**
GOPC AMS AMS 18 25 10.0
comp=Z,4μm,14.5s
LATE Laterza 27.72 298 P **P 18 11 26.0 -3.8**
STAL STALIGIAL 27.73 306 P **P 18 11 28.8 -1.0**
PRU Pruhonice 27.75 314 *e*P **P 18 11 28.6 -1.3**
PRU *e* 18 11 30.6
PRU *e*S **S 18 16 03.1 -9.0**
PRU MLR MLR
comp=Z,4μm,11.8s
PRU Pruhonice 27.75 314 *e*P **P 18 11 28.6 -1.3**
PRU *e*pP **pP 18 11 30.6 -3.1**
PRU *e*S **S 18 16 03.1 -9.0**
PRU AMS AMS 18 25 20.0
comp=Z,4μm,11.8s
PDGK Podgornoye 27.76 61 P **P 18 11 30.3 +0.1**
PDGK pmax pmax
comp=Z,41nm,1.3s
GKP Gorka Klasztor 27.77 322 *e*P **P 18 11 29.4 -0.7**
GKP Gorka Klasztor 27.77 322 *e*P **P 18 11 29.4 -0.7**
GKP *e*P **P 18 11 29.4 -0.7**
GEC2 GERESS Array S 27.84 311 P **P 18 11 29.7 -1.1**
GERES GERESS Array B 27.84 311 P **P 18 11 29.3 -1.6**
GERES 18 14 47.1
GERES GERESS Array B 27.84 311 P **P 18 11 29.8 -1.1**
comp=Z,23nm,0.9s,baz=112,slow=8.3,SNR=18
GERES PcP **PcP 18 14 47.1 +0.5**
comp=Z,4.3nm,0.8s,baz=119,slow=3.5,SNR=4.7
GERES ScP **ScP 18 18 27.5 +0.3**
comp=Z,1.3nm,0.8s,baz=188,slow=2.7,SNR=3.6
GERES LR LR 18 24 14.7
comp=Z,3μm,19.5s,baz=116,slow=40
GERES GERESS Array B 27.84 311 **ScP 18 18 30.0 +2.8**
GERES GERESS Array B 27.84 311 P **P 18 11 29.3 -1.6**
PRA Prague 27.84 314 *e*P **P 18 11 32.5 +1.7**
PRA *e* 18 11 35.4
PRA MLR MLR
comp=Z,4μm,13.0s
PRA Prague 27.84 314 *e*P **P 18 11 32.5 +1.7**
PRA *e*pP **sP 18 11 35.4 -0.7**
PRA *e*S S 18 16 31.8 +18
PRA AMS AMS 18 25 30.0
comp=Z,4μm,13.0s
PVCC Panska Ves 27.95 315 *e*P **P 18 11 30.6 -1.1**
PVCC *e* 18 11 33.9
PVCC MLR MLR
comp=Z,5μm,12.1s
PVCC Panska Ves 27.95 315 *e*P **P 18 11 30.6 -1.1**
PVCC *e*pP **pP 18 11 33.9 -1.6**
PVCC *e*S S 18 16 43.6 +28
PVCC AMS AMS 18 25 50.0
comp=Z,5μm,12.1s
PBCC Pribram 27.96 313 *e*P **P 18 11 30.9 -0.9**
PBCC *e*x x 18 11 33.5
PBCC AMS AMS 18 26 00.0
ABTA Abfaltersbach 27.98 307 *e*P **P 18 11 31.2 -1.0**
comp=Z,44nm,1.2s,SNR=17
ABTA PcP **PcP 18 14 47.4 +0.4**
comp=Z,31nm,1.2s
ABTA S **S 18 16 13.6 -2.4**
comp=Z,19nm,1.3s
KHC Kasperske Hory 28.02 312 *e*P **P 18 11 31.0 -1.3**
KHC *e* 18 11 35.8
KHC *e*S **S 18 16 11.0 -5.4**
KHC MLR MLR
comp=Z,3μm,13.2s
KHC Kasperske Hory 28.02 312 *e*P **P 18 11 31.0 -1.3**
KHC *e*pP **pP 18 11 35.8 -0.4**
KHC *e*x x 18 12 07.5
KHC *e*x x 18 12 13.0
KHC *e*S **S 18 16 11.0 -5.4**
KHC AMS AMS 18 26 10.0
comp=Z,3μm,13.2s
KHC Kasperske Hory 28.02 312 P **P 18 11 31.1 -1.3**
OSSC Osservatorio P 28.23 300 P **P 18 11 35.4 +1.0**
OSSC IAmb IAmb 18 12 00.4
comp=Z,136nm,1.0s
OSSC IAMs_20 IAMs_20 18 24 49.6
comp=Z,5μm,18.0s
TEOL Teolo 28.24 304 P **P 18 11 33.5 -0.8**
TEOL IAmb IAmb 18 12 06.8
comp=Z,111nm,0.8s
SLIT Slitere, Latvi 28.29 333 *e*P **P 18 11 32.9 -1.7**
CTI Castel Tesino 28.39 305 P **P 18 11 34.0 -1.9**
CTI pmax pmax
comp=Z,98nm,0.9s
CTI Castel Tesino 28.39 305 P **P 18 11 34.0 -1.9**
CTI IAmb IAmb 18 11 38.8
comp=Z,98nm,0.9s
CASP Castiglione de 28.42 298 P **P 18 11 36.7 +0.6**
BRG Berggiesshubel 28.45 316 *i*P **P 18 11 34.8 -1.4**
comp=Z,80nm,1.4s
BRG S **S 18 16 21.0 -2.1**
BRG *e*SCP **ScP 18 18 26.8 -2.2**
comp=Z,22nm,1.5s
comp=N,3μm,12.4s
comp=E,3μm,17.3s
comp=Z,9μm,15.3s
BRG Berggiesshubel 28.45 316 *i*P **P 18 11 34.8 -1.4**
BRG S **S 18 16 21.0 -2.1**
BRG pmax pmax
comp=Z,81nm,1.5s
BRG MLR MLR
comp=N,3μm,12.4s
BRG MLR MLR
comp=E,3μm,17.3s
BRG MLR MLR
comp=Z,9μm,15.3s
ZCCA Zocca 28.55 301 P **P 18 11 37.8 +0.7**
WTTA Wattenberg 28.69 307 *e*P **P 18 11 37.2 -1.4**
comp=Z,87nm,0.9s,SNR=30
WTTA PcP **PcP 18 14 49.7 +0.8**
comp=Z,26nm,0.8s
WTTA S **S 18 16 23.2 -4.2**
comp=Z,90nm,1.5s
WATA Walderalm 28.75 308 *e*P **P 18 11 37.5 -1.5**
comp=Z,150nm,1.2s,SNR=48
WATA PcP **PcP 18 14 49.0 +0.1**
comp=Z,30nm,0.8s
WATA S **S 18 16 23.7 -4.5**
comp=Z,86nm,1.8s
VLC Villacollemand 28.94 301 P **P 18 11 40.4 -0.2**
VLC IAmb IAmb 18 12 37.6
comp=Z,118nm,0.9s
VLC IAMs_20 IAMs_20 18 25 13.2
comp=Z,5μm,20.0s
SQTA Sankt Quirin 28.96 307 *e*P **P 18 11 39.4 -1.5**
comp=Z,118nm,0.6s,SNR=48
SQTA PcP **PcP 18 14 47.9 -1.7**
comp=Z,24nm,0.9s
SQTA S **S 18 16 27.1 -4.5**
comp=Z,45nm,1.6s
KURBB Kurchatov Arra 29.00 45 P **P 18 11 42.7 +1.6**
comp=Z,67nm,0.8s,baz=252,slow=8.9,SNR=74
KURBB PcP **PcP 18 14 49.7 +0.4**
comp=Z,18nm,1.0s,baz=234,slow=3.3,SNR=6.2
KURBB ScP **ScP 18 18 30.1 -0.6**
comp=Z,13nm,1.1s,baz=256,slow=3.9,SNR=6.6
MOTA Moosalm 29.06 307 *e*P **P 18 11 40.0 -1.8**
comp=Z,117nm,0.6s,SNR=47
MOTA S **S 18 16 28.5 -4.6**
comp=Z,47nm,1.1s
PRMA PARMA 29.08 302 P **P 18 11 41.9 +0.1**
PRMA IAmb IAmb 18 11 50.2
comp=Z,276nm,1.2s
NKC Novy Kostel 29.09 314 *e*P **P 18 11 40.7 -1.2**

NKC *e* 18 11 43.6
NKC MLR MLR
comp=Z,5µm,14.0s
NKC Novy Kostel 29.09 314 *e*P **P** **18 11 40.7 -1.2**
NKC *e*pP **pP** **18 11 43.6 -2.1**
NKC *e*S S 18 16 55.6 +22
NKC AMS AMS 18 26 40.0
comp=Z,5µm,14.0s
KURK Kurchatov 29.09 45 P **P** **18 11 43.6 +1.7**
SNR=5.4
KURK Kurchatov 29.09 45 P **P** **18 11 43.5 +1.7**
KURK 18 14 49.7
KURK pmax pmax
comp=Z,155nm,1.2s
KURK Kurchatov 29.09 45 **PcP** **18 14 49.7 +0.1**
KURK **ScP** **18 18 30.1 -0.9**
KURK Kurchatov 29.09 45 P **P** **18 11 43.5 +1.6**
KURK IAmb IAmb 18 11 53.0
comp=Z,155nm,1.2s
CLL Collm 29.17 316⇑ *i*P **P** **18 11 41.3 -1.2**
CLL *e*S **S** **18 16 33.0 -1.4**
CLL pmax pmax
comp=Z,88nm,1.1s
CLL MLR MLR
comp=Z,4µm,18.6s
CLL Collm 29.17 316⇑ *i*P **P** **18 11 41.3 -1.2**
comp=Z,88nm,1.1s
CLL *e*S **S** **18 16 33.0 -1.4**
CLL *i* ScP **ScP** **18 18 29.1 -2.1**
CLL L L 18 25 00.0
comp=Z,4µm,18.6s
CLL Collm 29.17 316 P **P** **18 11 41.0 -1.5**
RUE Ruedersdorf 29.22 319 *e*P **P** **18 11 42.0 -0.9**
FETA Feichten 29.23 307 *e*P **P** **18 11 42.1 -1.3**
comp=Z,96nm,0.9s,SNR=47
FETA PcP **PcP** **18 14 51.1 +0.8**
comp=Z,22nm,0.9s
FETA S **S** **18 16 31.3 -4.6**
comp=Z,34nm,1.3s
RETA Reutte 29.32 308 *e*P **P** **18 11 42.3 -1.8**
comp=Z,38nm,0.8s,SNR=20
RETA S **S** **18 16 32.0 -5.1**
comp=Z,68nm,1.5s
POO Poona 29.53 115 *e*P P 18 11 55.0 +8.9
POO *e*P P 18 11 55.0 +8.9
MSSA Maissana 29.58 301 IAMs_20 IAMs_20 18 25 32.1
comp=Z,5µm,20.0s
GRA1 Grafenberg Arr 29.65 312 IAmb IAmb 18 11 49.5
comp=Z,156nm,0.9s
KEST Kesra 29.72 284 P **P** **18 11 49.4 +1.6**
comp=Z,37nm,1.0s,baz=24,slow=2.5,SNR=13
KEST Kesra 29.72 284 P **P** **18 11 48.9 +1.2**
DAVOX Davos/Dischmat 29.75 306 P **P** **18 11 46.7 -1.3**
comp=Z,32nm,0.8s,baz=112,slow=11,SNR=27
DAVOX S **S** **18 16 41.2 -2.8**
comp=Z,9.6nm,1.1s,baz=183,slow=21,SNR=5.7
DAVOX LR LR 18 24 56.0
comp=Z,2µm,21.6s,baz=109,slow=39
DAVA Damuels 29.86 307 *e*P **P** **18 11 47.2 -1.7**
SNR=69
DAVA PcP **PcP** **18 14 52.4 +0.6**
comp=Z,43nm,1.0s
DAVA S **S** **18 16 40.8 -4.8**
comp=Z,97nm,1.8s
BSD Bornholm Skovb 29.91 324 *i*P **P** **18 11 47.7 -1.3**
BSD Bornholm Skovb 29.91 324 *i*P **P** **18 11 47.7 -1.3**
SEM Semipalatinsk 29.95 47 *e*P **P** **18 11 50.9 +1.0**
comp=Z,96nm,1.9s
SEM Semipalatinsk 29.95 47 *e*P **P** **18 11 50.8 +1.0**
SEM pmax pmax
comp=Z,96nm,1.9s
TUE Stuetta 30.05 305 P **P** **18 11 49.3 -1.4**
TUE **S** **18 16 44.4 -4.3**
FIA1 FINESS Array S 30.06 341 P **P** **18 11 48.6 -1.7**
FIA1 IAmb IAmb 18 11 50.4
comp=Z,244nm,1.4s
FINES FINESS Array B 30.06 341 P **P** **18 11 48.9 -1.4**
comp=Z,48nm,0.6s,baz=148,slow=10,SNR=28
FINES S **S** **18 16 43.2 -4.9**
comp=Z,5.8nm,0.8s,baz=186,slow=21,SNR=2.0
FINES LR LR 18 26 00.8
comp=Z,4µm,18.5s,baz=148,slow=41
FINES FINESS Array B 30.06 341 P **P** **18 11 48.5 -1.8**
MK31 Makanchi Array 30.30 54 *i*P **P** **18 11 53.7 +1.1**
MK31 pmax pmax
comp=Z,25nm,0.8s
MK31 Makanchi Array 30.30 54 P **P** **18 11 54.0 +1.4**
MKAR Makanchi Array 30.30 54 *i*P **P** **18 11 54.0 +1.4**
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR Makanchi Array 30.30 54 P **P** **18 11 54.0 +1.4**
comp=Z,24nm,0.8s,baz=252,slow=6.8,SNR=29
MKAR LR LR 18 26 39.7
comp=Z,3µm,18.6s,baz=258,slow=42
MKAR Makanchi Array 30.30 54 P **P** **18 11 53.3 +0.6**
TMCR Tamitsa 30.40 353 *e*P **P** **18 11 51.5 -1.8**
TMCR *e*S **S** **18 16 52.8 -0.6**
TMCR pmax pmax
comp=Z,259nm,0.9s
STU Stuttgart 30.66 310 P **P** **18 11 53.1 -2.7**
STU pmax pmax
comp=Z,50nm,0.9s
STU Stuttgart 30.66 310 P **P** **18 11 53.1 -2.7**
BFO Black Forest 31.11 308 P **P** **18 11 58.8 -1.0**
BFO pmax pmax
comp=Z,34nm,0.9s
BFO Black Forest 31.11 308 P **P** **18 11 58.8 -1.0**
SENIN Lac Senin/Sane 31.42 304 P **P** **18 12 01.1 -1.7**
SENIN IAmb IAmb 18 12 07.8
comp=Z,56nm,0.7s
SENIN **S** **18 17 06.3 -4.0**
BNI Bardonecchia 31.68 302 P **P** **18 12 03.9 -1.0**
BNI S **S** **18 17 10.6 -3.6**
BNI pmax pmax
comp=Z,393nm,0.8s
BNI Bardonecchia 31.68 302 P **P** **18 12 03.9 -1.0**
BNI **S** **18 17 10.6 -3.6**
LPL La Plagne 31.69 303 *e*P **P** **18 12 03.1 -2.1**
LPL pmax pmax
comp=Z,133nm,0.8s
ECH Echery 31.85 308 P **P** **18 12 04.4 -1.9**
ECH pmax pmax
comp=Z,87nm,0.9s
ECH Echery 31.85 308 P **P** **18 12 04.4 -1.9**
ECH IAmb IAmb 18 12 11.8
comp=Z,87nm,0.9s
LODK Lodwar 32.06 200 P **P** **18 12 10.9 +2.5**
SNR=29
LODK P **P** **18 12 11.2 +2.8**
SNR=40
ZSN Zaisan 32.15 54 *e*P **P** **18 12 08.8 -0.2**
ZSN Zaisan 32.15 54 *e*P **P** **18 12 08.7 -0.2**
WLF Walferdange 32.81 310 P **P** **18 12 13.1 -1.6**
WLF pmax pmax
comp=Z,144nm,0.9s
WLF Walferdange 32.81 310 P **P** **18 12 13.1 -1.6**
WLF IAmb IAmb 18 12 17.1
comp=Z,144nm,0.9s
DANN Dangsing 32.93 90 *e*P **P** **18 12 17.8 +1.5**
comp=Z,465nm,0.8s
WTSB Winterswijk 33.02 315 *e*P **P** **18 12 15.8 -0.7**
WTSB *e*S **S** **18 17 34.3 -0.3**
SSB Saint Sauveur 33.20 302 P **P** **18 12 17.8 -0.5**
SSB pmax pmax
comp=Z,324nm,1.7s
SSB Saint Sauveur 33.20 302 P **P** **18 12 17.8 -0.5**
HGN Heimansgroeve 33.21 312 *e*P **P** **18 12 17.5 -0.7**
HGN *e*S **S** **18 17 36.6 -1.1**
HFS Hagfors 33.29 331 P **P** **18 12 17.6 -1.1**
comp=Z,189nm,0.7s,baz=132,slow=10,SNR=77
HFS S **S** **18 17 35.5 -3.2**
comp=Z,26nm,1.0s,baz=116,slow=20,SNR=4.7
MAHO Mahon 33.33 292 *i*P P 18 12 24.5 +5.2
MAHO *e*S **S** **18 17 39.1 -0.6**
MUD Monsted U'grnd 33.40 323 *i*P **P** **18 12 20.2 +0.6**
MUD Monsted U'grnd 33.40 323 *i*P **P** **18 12 20.2 +0.6**
WMQ Urumqi 33.74 61 P **P** **18 12 24.4 +1.5**
WMQ pmax pmax
comp=Z,75nm,1.2s
WMQ Urumqi 33.74 61 P **P** **18 12 24.4 +1.5**
GKN Gorkha 33.78 90 *e*P **P** **18 12 24.6 +1.1**
comp=Z,370nm,0.7s
HYB Hyderabad 33.78 111 *i*P **P** **18 12 22.0 -1.5**
comp=Z,100nm,1.0s
ZAA0 Zalesovo Array 33.80 42 P **P** **18 12 23.8 +0.6**
ZAA0 IAMs_20 IAMs_20 18 28 44.6
comp=Z,5µm,18.0s
ZALV Zalesovo Beam 33.80 42 P **P** **18 12 23.8 +0.5**
comp=Z,39nm,0.7s,baz=260,slow=9.6,SNR=59
ZALV S **S** **18 17 47.3 +0.6**
comp=Z,2.9nm,0.8s,baz=249,slow=7.6,SNR=3.0
ZALV LR LR 18 28 54.9
comp=Z,5µm,18.2s,baz=250,slow=41
ZALV Zalesovo Beam 33.80 42 P **P** **18 12 22.9 -0.3**
SSF Saint Saulge 34.10 305 *e*P **P** **18 12 23.6 -2.4**
SSF pmax pmax
comp=Z,70nm,0.8s
APA Apatity 34.20 352⇓ *i*P **P** **18 12 24.5 -2.0**
APA pmax pmax
comp=Z,96nm,0.9s
APA MLR MLR
comp=Z,6µm,18.0s
DGZ Jazzator, Alta 34.23 50 *i*P **P** **18 12 27.8 +0.5**
DMN Daman 34.30 90 *e*P **P** **18 12 29.4 +1.2**
comp=Z,396nm,1.0s
LVZ Lovozero 34.38 353 *i*P **P** **18 12 26.6 -1.5**
LVZ pmax pmax
comp=Z,315nm,1.5s
KKN Kakani 34.38 90 *e*P **P** **18 12 29.9 +1.0**
comp=Z,195nm,0.6s
OSL Oslo 34.40 329 *e*P **P** **18 12 27.4 -1.0**
NC602 NORSAR Array S 34.51 331 P **P** **18 12 27.1 -2.2**
PKIN Phulchoki 34.55 90 *e*P **P** **18 12 31.5 +1.1**
comp=Z,263nm,0.8s
PKI Pulchoki 34.57 90 *e*P **P** **18 12 31.6 +1.0**
comp=Z,328nm,0.8s
NC405 NORSAR Array S 34.66 332 P **P** **18 12 29.1 -1.6**
KONO Kongsberg 34.73 328 *i*P **P** **18 12 29.1 -2.2**
KONO pmax pmax
comp=Z,114nm,0.9s
KONO Kongsberg 34.73 328 *e*P **P** **18 12 29.6 -1.6**
KONO Kongsberg 34.73 328 P **P** **18 12 29.0 -2.2**
KONO IAmb IAmb 18 12 33.1
comp=Z,101nm,0.9s
NB201 NORSAR Array S 34.79 331 *e*P **P** **18 12 30.2 -1.6**
NB201 NORSAR Array S 34.79 331 P **P** **18 12 29.9 -1.9**
NB2 NORSAR Subarra 34.82 331 P **P** **18 12 30.0 -2.0**
comp=Z,220nm,1.7s,baz=125,slow=9.3
NB2 NORSAR Subarra 34.82 331 P **P** **18 12 30.0 -2.0**
baz=125,slow=9.3
NOA NORSAR Array B 34.82 331 P **P** **18 12 30.1 -2.0**
comp=Z,29nm,0.8s,baz=125,slow=8.6,SNR=23
NOA PP **PP** **18 13 47.2 -3.7**
comp=Z,22nm,1.0s,baz=126,slow=12,SNR=2.4
NOA LR LR 18 28 24.4
comp=Z,6µm,20.2s,baz=125,slow=39
GUN Gumba 34.84 89 *e*P **P** **18 12 34.2 +1.2**
comp=Z,844nm,0.8s
NAO01 NORSAR Array S 34.84 331 *e*P **P** **18 12 30.8 -1.4**
NAO01 NORSAR Array S 34.84 331 P **P** **18 12 30.2 -1.9**
NC303 NORSAR Array S 34.86 332 P **P** **18 12 30.6 -1.7**
CAF Calviac 34.93 301 *e*P **P** **18 12 31.0 -2.2**
CAF pmax pmax
comp=Z,63nm,1.0s
NBO00 NORSAR Array S 34.99 331 P **P** **18 12 31.8 -1.7**
CLF Chambon-Foret 35.06 307 P **P** **18 12 32.0 -2.2**
CLF IAmb IAmb 18 12 36.2
comp=Z,97nm,1.1s
NC204 NORSAR Array S 35.13 331 P **P** **18 12 33.1 -1.7**
NC204 IAmb IAmb 18 12 36.4
comp=Z,133nm,1.0s
JIRN Jiri 35.18 89 *e*P **P** **18 12 37.3 +1.3**
comp=Z,516nm,0.6s
SNART Snartemo 35.19 325 *e*P **P** **18 12 34.4 -0.8**
RAMN Ramite 35.78 90 *e*P **P** **18 12 41.8 +0.8**
comp=Z,396nm,0.6s
SKAR Skarslia 35.82 329 *e*P **P** **18 12 40.2 -0.4**
LFF La Frestale 35.87 301 *e*P **P** **18 12 39.4 -1.8**
LFF pmax pmax
comp=Z,79nm,0.6s
KMBO Kilima Mbogo 35.98 194 *i*P **P** **18 12 45.7 +3.0**
SNR=19
KMBO Kilima Mbogo 35.98 194 P **P** **18 12 45.4 +2.8**
SNR=19
KMBO Kilima Mbogo 35.98 194 *i*P **P** **18 12 45.3 +2.6**
KMBO *e*S **PP** **18 14 05.2 +0.6**
KMBO Kilima Mbogo 35.98 194 P **P** **18 12 45.5 +2.8**
comp=Z,11nm,1.0s,baz=34,slow=13,SNR=15
KMBO LR LR 18 27 39.4
comp=Z,4µm,19.1s,baz=360,slow=37
KMBO Kilima Mbogo 35.98 194 IAMs_20 IAMs_20 18 27 28.1
comp=Z,4µm,19.0s
BLS5 Blasjo 36.02 327 *e*P **P** **18 12 42.1 -0.3**
ODD1 Odda 36.17 327 *e*P **P** **18 12 43.6 -0.1**
DOMB Dombas 36.23 332 *e*P **P** **18 12 43.4 -0.8**
TBLU Trondheim 36.47 334 *e*P **P** **18 12 46.9 +0.8**
ODAN Odare 36.47 90 *e*P **P** **18 12 47.8 +0.9**
comp=Z,91nm,0.5s
TAPN Taplejung 36.55 89 *e*P **P** **18 12 49.0 +1.3**
comp=Z,680nm,0.9s
MFF Saint Martin d 36.56 304 *e*P **P** **18 12 44.4 -2.7**
MFF pmax pmax
comp=Z,130nm,0.9s
NSS Namsos 36.66 336 *e*P **P** **18 12 46.0 -1.7**
TAM Tamanrasset 36.86 263 P **P** **18 12 50.6 +0.5**
TAM pmax pmax
comp=Z,168nm,1.2s
TAM MLR MLR
comp=Z,5µm,18.0s
TAM Tamanrasset 36.86 263 P **P** **18 12 50.6 +0.5**
TAM IAmb IAmb 18 12 57.7
comp=Z,168nm,1.2s
TAM IAMs_20 IAMs_20 18 30 42.1
comp=Z,5µm,18.0s
WACR West Acre 36.88 314 *e*P **P** **18 12 48.1 -1.6**
WACR IAmb IAmb 18 12 54.3
comp=Z,264nm,0.8s
HYA Hoyanger 36.96 329 *e*P **P** **18 12 50.6 +0.3**
BER Bergen 36.97 328 *e*P **P** **18 12 50.2 -0.2**
MOR8 Moi Rana 36.99 340 *e*P **P** **18 12 49.3 -1.2**
KIBK Kibwezi 37.01 193 P **P** **18 12 54.2 +2.9**
SNR=19
ASK Askoy 37.07 328 *e*P **P** **18 12 50.9 -0.4**
MOL Molde 37.12 332 *e*P **P** **18 12 50.8 -0.8**
KEV Kevo 37.12 349 P **P** **18 12 50.7 -0.8**
KEV pmax pmax
comp=Z,209nm,1.2s
KEV MLR MLR
comp=Z,6µm,19.0s
KEV Kevo 37.12 349 P **P** **18 12 50.7 -0.8**
KEV IAmb IAmb 18 12 52.5
comp=Z,209nm,1.2s
KEV IAMs_20 IAMs_20 18 29 25.8
comp=Z,6µm,19.0s
AKN Aaknes 37.13 331 *e*P **P** **18 12 51.5 -0.3**
ARCES ARCESS Array B 37.16 348 P **P** **18 12 51.0 -0.9**
comp=Z,248nm,1.2s,baz=146,slow=8.1,SNR=42
ARCES PP **PP** **18 14 14.3 -2.2**
comp=Z,47nm,0.9s,baz=147,slow=6.9,SNR=4.1
ARCES LR LR 18 29 20.1
comp=Z,6µm,19.6s,baz=152,slow=38
ARCES ARCESS Array B 37.16 348 P **P** **18 12 49.8 -2.2**
ARE0 ARCESS Array S 37.16 348 *e*P **P** **18 12 51.3 -0.6**
HMDM Hanimaadhoo 37.26 131 P **P** **18 12 56.3 +3.0**
SNR=7.2
MBAR Mbarara 37.31 205 P **P** **18 12 54.6 +0.6**
comp=Z,2.7nm,0.2s,baz=43,slow=9.3,SNR=11
SUE Sulen 37.52 328 *e*P **P** **18 12 55.2 +0.2**
KONS Konsvik 37.60 339 *e*P **P** **18 12 54.9 -0.7**
FOO Floro 37.65 329 *e*P **P** **18 12 55.4 -0.7**
CART Cartagena 37.68 289 *e*P P 18 13 04.9 +8.1
CART *e*S **S** **18 18 47.2 +0.6**
WOL Wolverton 37.75 312⇑ *e*P **P** **18 12 56.0 -1.2**
WOL IAmb IAmb 18 13 01.8
comp=Z,385nm,0.8s
CWF Charnwood Fore 38.03 314 *e*P **P** **18 12 57.9 -1.6**
CWF IAmb IAmb 18 13 03.5
comp=Z,72nm,0.9s
STEI Steigen 38.03 342 *e*P **P** **18 12 58.3 -1.0**
GDLE Glaisdale, N Y 38.08 317 *e*P **P** **18 12 58.5 -1.4**
GDLE IAmb IAmb 18 13 05.8
comp=Z,236nm,0.9s
JSA Saint Aubin 38.10 308 *e*P **P** **18 12 58.2 -1.9**
JSA IAmb IAmb 18 13 03.8
comp=Z,157nm,0.9s
SWN1 Swindon 38.13 312⇑ *e*P **P** **18 12 59.5 -0.9**
SWN1 IAmb IAmb 18 13 06.0
comp=Z,285nm,0.8s
STRD Stroud 38.40 312⇑ *e*P **P** **18 13 01.3 -1.3**
STRD IAmb IAmb 18 13 07.8
comp=Z,238nm,0.8s
LBWR Ladybower, Pea 38.40 315⇑ *e*P **P** **18 13 01.0 -1.6**
LBWR IAmb IAmb 18 13 05.4
comp=Z,137nm,0.9s
HAMF Hammerfest 38.44 348 *e*P **P** **18 13 02.6 -0.1**
HPK Haverah Park 38.45 316 *e*P **P** **18 13 01.7 -1.3**
HPK IAmb IAmb 18 13 08.9
comp=Z,349nm,1.4s
LSA Lhasa 38.60 84 P **P** **18 13 06.5 +1.4**
LSA Lhasa 38.60 84 P **P** **18 13 06.2 +1.0**
LSA pmax pmax
comp=Z,150nm,1.6s
LSA MLR MLR
comp=Z,2µm,19.0s
LSA Lhasa 38.60 84 P **P** **18 13 06.2 +1.0**
OLDB Oldbury-Upon-S 38.62 312⇑ *e*P **P** **18 13 03.0 -1.5**
OLDB IAmb IAmb 18 13 09.6
comp=Z,216nm,0.9s
MONM Monmouth 38.80 312⇑ *e*P **P** **18 13 04.5 -1.5**
MONM IAmb IAmb 18 13 09.7
comp=Z,110nm,1.0s
EDMD Edmundbyers 38.82 317 *e*P **P** **18 13 04.7 -1.5**
EDMD IAmb IAmb 18 13 08.3
comp=Z,82nm,0.8s
MCH1 Michaelchurch 38.94 312⇑ *e*P **P** **18 13 05.6 -1.6**
MCH1 IAmb IAmb 18 13 12.1
comp=Z,173nm,0.8s
HLM1 Long Mynd 38.94 313⇑ *e*P **P** **18 13 05.6 -1.6**
HLM1 IAmb IAmb 18 13 10.9
comp=Z,146nm,1.0s
FOEL Foel Wylfa 39.19 314⇑ *e*P **P** **18 13 08.0 -1.3**
FOEL IAmb IAmb 18 13 15.3
comp=Z,259nm,1.0s
ESY Stoneypath 39.42 319⇑ *e*P **P** **18 13 10.0 -1.1**
KESW Keswick, Cumbr 39.42 316⇑ *e*P **P** **18 13 10.2 -0.9**
KESW IAmb IAmb 18 13 14.6
comp=Z,166nm,1.1s
LLW Llanuwychllyn 39.46 314⇑ *e*P **P** **18 13 10.3 -1.2**
DRUM Mains of Drumt 39.58 320 *e*P **P** **18 13 11.2 -1.3**
DRUM IAmb IAmb 18 13 14.6
comp=Z,155nm,0.8s
EKA Eskdalemuir Ar 39.60 318 P **P** **18 13 11.1 -1.5**
comp=Z,29nm,0.6s,baz=104,slow=7.9,SNR=44
EKA PcP **PcP** **18 15 19.9 +0.3**
comp=Z,13nm,0.8s,baz=101,slow=3.7,SNR=3.7
EKA LR LR 18 32 55.9
comp=Z,1µm,18.4s,baz=115,slow=42
ESK Eskdalemuir 39.62 318 *e*P **P** **18 13 11.2 -1.6**
ESK IAmb IAmb 18 13 17.0
comp=Z,58nm,0.7s
ESK Eskdalemuir 39.62 318 *i*P **P** **18 13 12.2 -0.6**
EBL Broad Law 39.62 318⇑ *e*P **P** **18 13 11.8 -1.1**
MELI Melilla 39.65 286 *i*P **P** **18 13 11.7 -1.6**
ESBB Sonseca Array 39.66 293 P **P** **18 13 12.3 -1.1**
ESDC Sonseca Array 39.66 293 P **P** **18 13 12.5 -1.0**
comp=Z,46nm,1.0s,baz=69,slow=8.5,SNR=40
ESDC PcP **PcP** **18 15 20.8 +0.6**
comp=Z,3.2nm,0.6s,baz=44,slow=3.5,SNR=4.2
ESDC ScP **ScP** **18 19 11.8 +3.0**
comp=Z,0.8nm,0.8s,baz=71,slow=3.3,SNR=3.2
ESDC LR LR 18 30 27.2
comp=Z,1µm,19.4s,baz=80,slow=38
ESDC Sonseca Array 39.66 293 P **P** **18 13 12.0 -1.5**
MSEY Mahe Island 39.72 165 P **P** **18 13 16.0 +1.9**
MSEY Mahe Island 39.72 165 P **P** **18 13 14.5 +0.5**
MSEY pmax pmax
comp=Z,40nm,1.2s
MSEY MLR MLR
comp=Z,3µm,20.0s
MSEY Mahe Island 39.72 165 P **P** **18 13 14.5 +0.5**
EDI Edinburgh 39.74 318⇑ *e*P **P** **18 13 12.7 -1.0**
EDU Dundee 39.78 319⇑ *e*P **P** **18 13 12.6 -1.5**
YLL Llanberis 39.81 314⇑ *e*P **P** **18 13 12.7 -1.7**
SAN1 Sandwick 39.85 325⇑ *e*P **P** **18 13 13.8 -0.8**
LRW Lerwick 39.86 325 *e*P **P** **18 13 13.4 -1.2**
LRW IAmb IAmb 18 13 18.9
comp=Z,126nm,0.7s
EAU Auchinoon 39.86 318⇑ *e*P **P** **18 13 13.7 -1.1**
WME Myndd Eilian 39.92 314⇑ *e*P **P** **18 13 13.7 -1.7**
WLF1 Llynfaes 39.96 314 *e*P **P** **18 13 14.3 -1.3**
WLF1 IAmb IAmb 18 13 21.9
comp=Z,150nm,1.3s
PAB San Pablo 39.98 293 P **P** **18 13 15.2 -0.9**
PAB pmax pmax
comp=Z,174nm,1.6s
PAB San Pablo 39.98 293 P **P** **18 13 15.2 -0.9**
RSBS Rosebush, Pemb 40.01 312⇑ *e*P **P** **18 13 14.3 -1.8**
RSBS IAmb IAmb 18 13 17.7
comp=Z,40nm,0.9s
WPS Cemaes, Angles 40.04 314 *e*P **P** **18 13 14.0 -2.2**
WPS IAmb IAmb 18 13 20.3
comp=Z,162nm,1.0s
YRC Rhoscolyn 40.06 314⇑ *e*P **P** **18 13 15.1 -1.3**
MCD Coleburn Disti 40.15 321⇑ *e*P **P** **18 13 15.9 -1.2**
CCA1 Carnmenellis 40.16 309 *e*P **P** **18 13 15.8 -1.5**
CCA1 IAmb IAmb 18 13 21.7
comp=Z,481nm,1.7s
WIM Isle of Man 40.25 315⇑ *e*P **P** **18 13 17.0 -1.1**
INVG Invergeldie, C 40.31 319 *e*P **P** **18 13 17.1 -1.4**
INVG IAmb IAmb 18 13 20.4
comp=Z,172nm,1.0s
GAL1 Galloway 40.39 317⇑ *e*P **P** **18 13 17.8 -1.4**
GAL1 IAmb IAmb 18 13 21.2
comp=Z,79nm,1.0s
MLA1 Latheron 40.39 322⇑ *e*P **P** **18 13 17.6 -1.5**
EAB Aberfoyle 40.42 319⇑ *e*P **P** **18 13 18.0 -1.5**
PGBU Glenifferbraes 40.43 318 *e*P **P** **18 13 18.5 -1.0**
SHL Shillong 40.69 89 P **P** **18 13 21.8 -0.5**
SHL Shillong 40.69 89 P **P** **18 13 21.8 -0.5**
BIGH Upper Bighouse 40.72 322 *e*P **P** **18 13 20.6 -1.2**
BIGH IAmb IAmb 18 13 27.0
comp=Z,100nm,1.1s
PVLZ Peæn de 40.77 286 *e*P P 18 13 34.9 +12
PVLZ *e*S S 18 19 46.3 +13
GMM Mts of Mourne 41.01 315⇑ *e*P **P** **18 13 23.0 -1.3**
LAWE Loch Awe, Argy 41.02 319⇑ *e*P **P** **18 13 22.9 -1.5**
LAWE IAmb IAmb 18 13 26.4
comp=Z,89nm,1.1s
DSB Dublin 41.14 314 P **P** **18 13 23.9 -1.5**
KAC Achnashellach 41.21 320⇑ *e*P **P** **18 13 24.5 -1.4**
CLGH Cloghs, Cushen 41.22 317⇑ *e*P **P** **18 13 24.6 -1.4**
CLGH IAmb IAmb 18 13 28.7
comp=Z,162nm,1.1s
LIJA Lijar 41.26 289 *e*P **P** **18 13 26.0 -0.7**
IWEX Carrickbyrne, 41.29 313 *e*P **P** **18 13 24.9 -1.7**
RSC Scourie 41.33 322⇑ *e*P **P** **18 13 25.8 -1.1**
CEU Ceuta 41.45 287 *e*P **P** **18 13 28.8 +0.6**
CEU Ceuta 41.45 287 PcS PcS 18 20 06.2 +49
PBRG Braganca 41.47 297 *e*P **P** **18 13 28.4 0.0**
comp=Z,52nm,1.5s
ALJ Aljibe 41.53 288 *e*P **P** **18 13 27.5 -1.4**
RRR Rubha Reidh 41.55 321⇑ *e*P **P** **18 13 27.3 -1.4**
MDT Midelt 41.62 283 P **P** **18 13 30.0 +0.3**
comp=Z,27nm,0.9s,baz=110,slow=7.4,SNR=23
MVO Moncorvo 41.77 296 *e*P **P** **18 13 30.0 -0.9**
comp=Z,124nm,1.0s
MVO *e*S **S** **18 19 42.7 -5.3**
MVO Moncorvo 41.77 296 *e*LR LR 18 30 39.9
comp=Z,1µm,18.0s
IFR Ifrane 41.84 284 *i*P **P** **18 13 31.0 -0.7**
IFR *i*S **S** **18 19 49.0 -0.5**
CNIL Conil 41.89 288 *e*P **P** **18 13 32.5 +0.7**
PALK Pallekele 41.93 122 *i*P **P** **18 13 33.9 +1.6**
SNR=12
PALK Pallekele 41.93 122 P **P** **18 13 33.3 +1.0**
PALK 18 15 28.7
PALK pmax pmax
comp=Z,62nm,1.1s
PALK Pallekele 41.93 122 P **P** **18 13 33.7 +1.4**
comp=Z,19nm,0.7s,baz=296,slow=9.0,SNR=17
PALK PcP **PcP** **18 15 28.7 +0.9**
comp=Z,7.0nm,0.7s,baz=303,slow=3.8,SNR=3.1
PALK Pallekele 41.93 122 P **P** **18 13 33.3 +1.0**
IDGL Inch Island, C 42.02 317 *e*P **P** **18 13 31.4 -1.1**
NRIK Noril'sk 42.13 21 P **P** **18 13 34.2 +0.9**
comp=Z,112nm,1.0s,baz=227,slow=7.7,SNR=66
NRIK PP **PP** **18 15 10.9 +0.3**
comp=Z,40nm,1.1s,baz=238,slow=9.5,SNR=2.2
NRIK LR LR 18 34 16.3
comp=Z,1µm,21.9s,baz=231,slow=41
KAAM Kaadhehdhoo 42.14 137 IAMs_20 IAMs_20 18 31 00.9
comp=Z,3µm,20.0s
PVRL Vila Real 42.27 296 *e*P **P** **18 13 34.2 -0.7**
comp=Z,124nm,0.7s

MTE	**Manteigas**	**42.27**	**295**	*e*P	**P**	**18 13 34.5**	**-0.5**
	comp=Z,211nm,1.2s						
MTE				*e*S	**S**	**18 19 49.6**	**-5.8**
MTE	**Manteigas**	**42.27**	**295**	P	**P**	**18 13 34.8**	**-0.1**
MTE				IAmb	IAmb	18 13 40.5	
	comp=Z,380nm,1.7s						
PCBR	**Castelo Branco**	**42.31**	**294**	*e*P	**P**	**18 13 34.8**	**-0.4**
	comp=Z,214nm,1.1s						
PMRV	**Marv??o**	**42.32**	**293**	*e*P	**P**	**18 13 34.5**	**-0.8**
	comp=Z,79nm,1.3s						
PMRV				*e*S	**S**	**18 20 01.4**	**+5.4**
PMRV	**Marv??o**	**42.32**	**293**	*e*LR	LR	18 31 22.6	
	comp=Z,1μm,20.0s						
PVIS	**Viseu**	**42.49**	**295**	*e*P	**P**	**18 13 36.3**	**-0.4**
	comp=Z,161nm,1.6s						
PESTR	**Estremoz**	**42.57**	**292**	*e*S	**S**	**18 19 59.6**	**-0.2**
PESTR	**Estremoz**	**42.57**	**292**	P	**P**	**18 13 36.2**	**-1.2**
IGLA	**Glengowla, Co**	**42.94**	**314**	*e*P	**P**	**18 13 38.1**	**-1.9**
PBEJ	**Beja**	**42.95**	**291**	*e*P	**P**	**18 13 40.2**	**-0.2**
	comp=Z,186nm,1.4s						
COI	**Coimbra**	**42.96**	**294**	*e*P	**P**	**18 13 40.9**	**+0.5**
	comp=Z,179nm,1.6s						
COI				*e*S	**S**	**18 20 05.6**	**+0.3**
EVO	**Evora**	**42.96**	**292**	*e*P	**P**	**18 13 39.1**	**-1.4**
	comp=Z,57nm,1.8s						
EVO	**Evora**	**42.96**	**292**	*e*P	**P**	**18 13 39.3**	**-1.2**
EVO				*e*S	**S**	**18 20 02.9**	**-2.5**
PVAQ	**Vaqueiros**	**42.96**	**290**	*e*P	**P**	**18 13 39.4**	**-1.1**
	comp=Z,122nm,1.4s						
PVAQ				*e*S	**S**	**18 20 03.6**	**-1.9**
MOY	**Mondy**	**43.01**	**49**	*e*P	**P**	**18 13 42.6**	**+1.7**
MOY				*e*		18 15 23.3	
MOY				pmax	pmax		
	comp=Z,181nm,2.9s						
PMTG	**Montargil**	**43.02**	**293**	*e*P	**P**	**18 13 40.5**	**-0.5**
	comp=Z,75nm,1.0s						
PMTG				*e*S	**S**	**18 20 06.3**	**0.0**
PCAS	**Casmilo, Conde**	**43.05**	**294**	*e*P	**P**	**18 13 40.8**	**-0.4**
	comp=Z,107nm,1.6s						
PCAS				*e*S	**S**	**18 20 07.0**	**+0.3**
PTOM	**Tomar**	**43.06**	**294**	*e*P	**P**	**18 13 41.1**	**-0.2**
	comp=Z,166nm,1.4s						
GTA	**Gaotai**	**43.13**	**67**	⇑P	**P**	**18 13 43.8**	**+1.8**
GTA				pP	sP	18 13 49.6	+2.0
GTA				sP	pP	18 13 52.8	+6.8
GTA				S	**S**	**18 20 08.3**	**+0.1**
GTA				sS	sS	18 20 20.3	+5.5
GTA				pmax	pmax		
	comp=Z,74nm,1.1s						
GTA				pmax	pmax		
	comp=Z,720nm,5.7s						
GTA				LR	LR		
	comp=Z,2μm,14.4s						
GTA				LR	LR		
	comp=Z,3μm,15.1s						
GTA				LR	LR		
	comp=Z,4μm,16.1s						
PBDV	**Barranco-do-Ve**	**43.16**	**290**	*e*P	**P**	**18 13 41.7**	**-0.5**
	comp=Z,207nm,1.5s						
PBDV				*e*S	**S**	**18 20 02.1**	**-6.4**
PCVE	**Castro Verde**	**43.16**	**291**	*e*P	**P**	**18 13 41.7**	**-0.4**
	comp=Z,140nm,1.5s						
PCVE				*e*S	**S**	**18 20 11.6**	**+3.2**
PNCL	**Nicolau / Gran**	**43.44**	**291**	*e*P	**P**	**18 13 44.1**	**-0.3**
	comp=Z,85nm,1.6s						
PNCL				*e*S	**S**	**18 20 11.9**	**-0.6**
MORF	**Marmelete**	**43.71**	**290**	*e*P	**P**	**18 13 45.2**	**-1.4**
MORF				*e*S	**S**	**18 20 15.4**	**-1.1**
MORF				AMS	AMS	18 33 31.5	
	comp=E,801nm,13.3s						
MORF	**Marmelete**	**43.71**	**290**	*e*S	**S**	**18 20 16.5**	**-0.1**
MORF	**Marmelete**	**43.71**	**290**	*e*P	**P**	**18 13 45.2**	**-1.4**
MORF				*e*S	**S**	**18 20 15.4**	**-1.1**
PTEO	**Sao Teotonio**	**43.71**	**291**	*e*P	**P**	**18 13 44.8**	**-1.8**
	comp=E,132nm,2.0s						
LIS	**Lisbon**	**43.80**	**292**	*e*P	**P**	**18 13 45.9**	**-1.3**
LIS				AMS	AMS	18 33 23.2	
	comp=E,2μm,19.6s						
LIS	**Lisbon**	**43.80**	**292**	*e*P	**P**	**18 13 45.9**	**-1.3**
PMAFR	**Mafra**	**43.85**	**293**	*e*P	**P**	**18 13 45.1**	**-2.6**
	comp=E,234nm,1.7s						
PMAFR				*e*S	**S**	**18 20 13.8**	**-4.7**
PFVI	**Vila Bisbo**	**43.89**	**290**	*e*P	**P**	**18 13 47.7**	**-0.3**
	comp=E,203nm,1.4s						
PFVI				*e*S	**S**	**18 20 20.6**	**+1.6**
ZAK	**Zakamensk**	**44.45**	**51**	*e*P	**P**	**18 13 53.6**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,27nm,1.7s						
TLY	**Talaya**	**44.66**	**49**	P	**P**	**18 13 56.1**	**+2.0**
	SNR=5.4						
TLY				P	**P**	**18 13 56.1**	**+2.0**
	SNR=5.4						
TLY	**Talaya**	**44.66**	**49***c*	*i*P	**P**	**18 13 55.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,102nm,1.9s						
TLY				MLR	MLR		
	comp=Z,5μm,13.0s						
TLY	**Talaya**	**44.66**	**49**	P	**P**	**18 13 55.9**	**+1.9**
	comp=Z,8.1nm,0.8s,baz=263,slow=9.5,SNR=6.8						
TLY				PP	**PP**	**18 15 39.0**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=238,slow=13,SNR=2.8						
TLY	**Talaya**	**44.66**	**49**	P	**P**	**18 13 52.9**	**-1.2**
TOC2	**Torodi Ar. Sit**	**44.94**	**253**	IAms_20	IAms_20	18 35 39.3	
	comp=Z,4μm,18.0s						
TOC3	**Torodi Ar. Sit**	**44.95**	**253**	IAms_20	IAms_20	18 33 08.6	
	comp=Z,2μm,18.0s						
TOB2	**Torodi Ar. Sit**	**44.95**	**253**	IAms_20	IAms_20	18 33 08.6	
	comp=Z,2μm,18.0s						
TOA2	**Torodi Ar. Sit**	**44.96**	**253**	IAms_20	IAms_20	18 35 39.2	
	comp=Z,4μm,18.0s						
TOB3	**Torodi Ar. Sit**	**44.96**	**253**	IAms_20	IAms_20	18 35 39.3	
	comp=Z,4μm,18.0s						
TOA1	**Torodi Ar. Sit**	**44.97**	**253**	IAms_20	IAms_20	18 35 39.3	
	comp=Z,4μm,18.0s						
TOA0	**Torodi Ar. Sit**	**44.97**	**253**	P	**P**	**18 13 56.6**	**-0.2**
	SNR=47						
TOA0	**Torodi Ar. Sit**	**44.97**	**253**	P	**P**	**18 13 56.6**	**-0.2**
TOA0				IAmb	IAmb	18 14 02.7	
	comp=Z,143nm,1.4s						
TOA0				IAms_20	IAms_20	18 35 40.3	
	comp=Z,4μm,18.0s						
TORD	**Torodi Ar. Bea**	**44.97**	**253**	P	**P**	**18 13 56.5**	**-0.4**
	comp=Z,63nm,1.1s,baz=51,slow=5.6,SNR=41						
TORD				LR	LR	18 33 19.7	
	comp=Z,2μm,19.0s,baz=5.0,slow=37						
TORD	**Torodi Ar. Bea**	**44.97**	**253**	P	**P**	**18 13 56.4**	**-0.4**
TOC7	**Torodi Ar. Sit**	**44.97**	**253**	IAms_20	IAms_20	18 35 37.4	
	comp=Z,4μm,18.0s						
TOA3	**Torodi Ar. Sit**	**44.97**	**253**	IAms_20	IAms_20	18 35 39.4	
	comp=Z,4μm,18.0s						
TOB5	**Torodi Ar. Sit**	**44.97**	**253**	IAms_20	IAms_20	18 35 40.5	
	comp=Z,4μm,18.0s						
TOC4	**Torodi Ar. Sit**	**44.98**	**253**	IAms_20	IAms_20	18 35 40.5	
	comp=Z,4μm,18.0s						
TOB4	**Torodi Ar. Sit**	**44.98**	**253**	IAms_20	IAms_20	18 35 40.6	
	comp=Z,4μm,18.0s						
IRK	**Irkutsk**	**45.05**	**48**	*e*P	**P**	**18 13 55.0**	**-2.1**
IRK				*e*		18 15 40.2	
IRK				pmax	pmax		
	comp=Z,232nm,2.5s						
SPA0	**Spitsbergen Ar**	**45.89**	**352**	P	**P**	**18 14 03.4**	**0.0**
SPITS	**Spitsbergen Ar**	**45.89**	**352**	P	**P**	**18 14 03.4**	**0.0**
	comp=Z,60nm,0.5s,baz=130,slow=9.9,SNR=78						
SONM	**Songino Array**	**46.66**	**54**	P	**P**	**18 14 10.1**	**+0.1**
SONM						18 15 44.7	
SONM				pmax	pmax		
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	**46.66**	**54**	P	**P**	**18 14 10.9**	**+0.9**
	comp=Z,5.1nm,0.6s,baz=281,slow=9.1,SNR=24						
SONM				PcP	**PcP**	**18 15 44.7**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=284,slow=2.0,SNR=4.8						
SONM				LR	LR	18 37 17.6	
	comp=Z,2μm,18.9s,baz=282,slow=41						
SONM	**Songino Array**	**46.66**	**54**	P	**P**	**18 14 10.1**	**+0.1**
LZH	**Lanzhou**	**46.99**	**70**	⇑P	**P**	**18 14 14.3**	**+1.5**
LZH				sP	sP	18 14 19.4	+1.0
LZH				PP	**PP**	**18 16 07.5**	**+4.3**
LZH				S	**S**	**18 21 02.6**	**-1.7**
LZH				SS	**SS**	**18 24 25.3**	**-5.6**
LZH				pmax	pmax		
	comp=Z,110nm,1.3s						
LZH				pmax	pmax		
	comp=Z,790nm,5.6s						
LZH				LR	LR		
	comp=Z,3μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,16.3s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
KBS	**Kingsbay**	**47.02**	**352**	P	**P**	**18 14 11.3**	**-1.0**
KBS				pmax	pmax		
	comp=Z,143nm,1.1s						
KBS	**Kingsbay**	**47.02**	**352**	P	**P**	**18 14 11.2**	**-1.0**
ULN	**Ulaanbaatar**	**47.10**	**54**	P	**P**	**18 14 14.6**	**+1.1**
	SNR=32						
ULN				P	**P**	**18 14 14.6**	**+1.1**
	SNR=32						
ULN				P	**P**	**18 14 14.9**	**+1.4**
	SNR=22						
ULN				P	**P**	**18 14 14.9**	**+1.4**
	SNR=22						
ULN	**Ulaanbaatar**	**47.10**	**54***c*	*i*P	**P**	**18 14 14.6**	**+1.1**
ULN				pmax	pmax		
	comp=Z,31nm,1.0s						
ULN	**Ulaanbaatar**	**47.10**	**54**	P	**P**	**18 14 14.6**	**+1.1**
ULN				IAmb	IAmb	18 14 15.3	
	comp=Z,82nm,1.4s						
ULN	**Ulaanbaatar**	**47.10**	**54**	IAms_20	IAms_20	18 37 29.4	
	comp=Z,3μm,20.0s						
SBV	**Sambava**	**47.52**	**174**	P	P	18 14 24.4	+7.7
	SNR=5.9						
DGAR	**Diego Garcia**	**48.50**	**143**	IAms_20	IAms_20	18 34 35.6	
	comp=Z,2μm,20.0s						
CD2	**Chengdu**	**48.51**	**77**⇓	*i*P	**P**	**18 14 25.6**	**+1.1**
CD2				sP	pP	18 14 28.3	-0.2
CD2				PP	**PP**	**18 16 17.3**	**+0.1**
CD2				S	**S**	**18 21 25.3**	**-0.3**
CD2				sS	sS	18 21 34.6	+2.4
CD2				SS	**SS**	**18 24 52.3**	**-3.1**
CD2				pmax	pmax		
	comp=Z,130nm,0.9s						
CD2				pmax	pmax		
	comp=Z,790nm,10.6s						
CD2				LR	LR		
	comp=Z,3μm,17.6s						
CD2				LR	LR		
	comp=Z,3μm,17.3s						
CD2				LR	LR		
	comp=Z,3μm,18.1s						
CHTO	**Chiang Mai**	**49.53**	**94**	P	**P**	**18 14 33.1**	**+0.6**
	SNR=36						
CHTO				P	**P**	**18 14 33.1**	**+0.6**
	SNR=36						
CHTO	**Chiang Mai**	**49.53**	**94**	P	**P**	**18 14 32.2**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,115nm,1.2s						
CHTO	**Chiang Mai**	**49.53**	**94**	P	**P**	**18 14 32.2**	**-0.2**
CHTO				IAmb	IAmb	18 14 38.7	
	comp=Z,115nm,1.2s						
CM31	**Chiang Mai Arr**	**49.71**	**94**	P	**P**	**18 14 34.2**	**+0.4**
	SNR=30						
CM31				P	**P**	**18 14 34.2**	**+0.4**
	SNR=16						
CM31	**Chiang Mai Arr**	**49.71**	**94**	P	**P**	**18 14 33.4**	**-0.4**
CM31				IAmb	IAmb	18 14 45.2	
	comp=Z,77nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.71**	**94**	P	**P**	**18 14 33.6**	**-0.2**
	comp=Z,45nm,0.8s,baz=295,slow=8.3,SNR=93						
CMAR				PP	**PP**	**18 16 29.1**	**+0.8**
	comp=Z,9.4nm,1.0s,baz=297,slow=7.9,SNR=2.5						
CMAR				ScP	**ScP**	**18 19 50.2**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=335,slow=4.0,SNR=4.8						
CMAR				S	**S**	**18 21 47.0**	**+4.3**
	comp=Z,0.5nm,0.7s,baz=283,slow=13,SNR=6.3						
CMAR				LR	LR	18 39 42.9	
	comp=Z,1μm,20.6s,baz=292,slow=41						
CMAR	**Chiang Mai Arr**	**49.71**	**94**	P	**P**	**18 14 33.2**	**-0.6**
KMI	**Kunming**	**49.85**	**84**	P	**P**	**18 14 34.9**	**-0.2**
KMI				pP	pP	18 14 38.5	-0.6
KMI				sP	sP	18 14 40.8	+0.1
KMI				PP	**PP**	**18 16 31.5**	**+1.7**
KMI				S	**S**	**18 21 43.3**	**-1.7**
KMI				pmax	pmax		
	comp=Z,30nm,1.1s						
KMI				pmax	pmax		
	comp=Z,410nm,9.9s						
KMI				LR	LR		
	comp=Z,740nm,10.5s						
KMI				LR	LR		
	comp=Z,1μm,20.2s						
KMI				LR	LR		
	comp=Z,1μm,26.5s						
KMI	**Kunming**	**49.85**	**84**	IAmb	IAmb	18 14 42.0	
	comp=Z,74nm,1.2s						
BORG	**Borgarnes**	**49.92**	**329**	P	**P**	**18 14 33.5**	**-1.2**
	comp=Z,40nm,1.1s,baz=90,slow=11,SNR=2.1						
BORG				LR	LR	18 38 33.9	
	comp=Z,1μm,18.2s,baz=95,slow=40						
BOD	**Bodaibo**	**50.50**	**40**	*e*P	**P**	**18 14 38.9**	**-0.3**
BOD				pmax	pmax		
	comp=Z,159nm,1.5s						
BTO	**Baotou**	**50.52**	**63**	*e*P	**P**	**18 14 39.4**	**-0.4**
SCO	**Scoresbysund**	**50.77**	**336**⇑	*i*P	**P**	**18 14 41.4**	**+0.3**
SCO				pmax	pmax		
	comp=Z,40nm,1.1s						
SCO	**Scoresbysund**	**50.77**	**336**⇑	*i*P	**P**	**18 14 41.4**	**+0.3**
	comp=Z,40nm,1.1s						
CIT	**Chita**	**50.77**	**48**	*e*P	**P**	**18 14 42.0**	**+0.6**
CIT				*e*		18 14 49.0	
CIT				pmax	pmax		
	comp=Z,206nm,1.9s						
PMPST	**Porto Santo, M**	**50.93**	**287**	*e*P	**P**	**18 14 38.9**	**-3.9**
DAG	**Danmarks Havn**	**51.20**	**345**⇑	*i*P	**P**	**18 14 43.3**	**-0.9**
DAG	**Danmarks Havn**	**51.20**	**345**⇑	*i*P	**P**	**18 14 43.3**	**-0.9**
PMAR	**Madeira**	**51.51**	**287**	*e*P	**P**	**18 14 48.1**	**+0.7**
	comp=Z,538nm,1.3s						
XAN	**Xi'an**	**51.58**	**71**	P	**P**	**18 14 48.0**	**+0.2**
XAN				PP	**PP**	**18 16 48.1**	**+3.0**
XAN				S	**S**	**18 22 08.9**	**+0.5**
XAN				pmax	pmax		
	comp=Z,130nm,0.9s						
XAN				pmax	pmax		
	comp=Z,690nm,4.2s						
XAN				LR	LR		
	comp=Z,2μm,14.1s						
XAN				LR	LR		
	comp=Z,2μm,17.1s						
XAN				LR	LR		
	comp=Z,2μm,14.9s						
XAN	**Xi'an**	**51.58**	**71**	IAmb	IAmb	18 14 56.3	
	comp=Z,172nm,1.1s						
HHC	**Hu-ho-hao-te**	**51.60**	**62**⇓	*i*P	**P**	**18 14 50.5**	**+2.6**
HHC				S	**S**	**18 22 08.9**	**+0.3**
HHC				pmax	pmax		
	comp=Z,21nm,1.2s						
PMOZ	**Porto Moniz, M**	**51.70**	**287**	*e*P	**P**	**18 14 50.2**	**+1.5**
PMOZ				*e*S	**S**	**18 22 06.2**	**-4.0**
LSZ	**Lusaka**	**51.91**	**202**	IAms_20	IAms_20	18 38 57.3	
	comp=Z,2μm,18.0s						
SLVN	**Son La**	**52.47**	**88**	P	**P**	**18 14 54.9**	**+0.4**
SLVN				IAmb	IAmb	18 15 01.6	
	comp=Z,126nm,1.4s						
GYA	**Guiyang**	**52.54**	**81**⇓	*i*P	**P**	**18 14 55.3**	**+0.2**
GYA				pP	sP	18 15 01.3	+0.6
GYA				PP	**PP**	**18 16 55.8**	**+1.8**
GYA				S	**S**	**18 22 27.3**	**+5.4**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,150nm,4.8s						
GYA				LR	LR		
	comp=Z,800nm,17.3s						
GYA				LR	LR		
	comp=Z,610nm,17.1s						
GYA				LR	LR		
	comp=Z,570nm,17.9s						
ABPO	**Ambohimpanom**	**52.90**	**178**	IAms_20	IAms_20	18 38 15.5	
	comp=Z,2μm,20.0s						
TIY	**Taiyuan**	**53.13**	**66**	*e*P	**P**	**18 15 00.1**	**+0.8**
TIY				S	**S**	**18 22 29.5**	**-0.1**
TIY				ScS	**ScS**	**18 24 46.9**	**-2.1**
TIY				SS	**SS**	**18 26 08.3**	**-0.5**
TIY				pmax	pmax		
	comp=Z,32nm,0.6s						
TIY				pmax	pmax		
	comp=Z,500nm,3.6s						
TIY				LR	LR		
	comp=Z,1μm,12.0s						
TIY				LR	LR		
	comp=Z,520nm,9.6s						
TIY				LR	LR		
	comp=Z,2μm,15.4s						
ENH	**Enshi**	**53.35**	**75**	IAmb	IAmb	18 15 19.0	
	comp=Z,83nm,1.1s						
DBIC	**Dimbokro**	**53.98**	**251**	P	**P**	**18 15 05.0**	**-0.7**
DBIC	**Dimbokro**	**53.98**	**251**	P	**P**	**18 15 05.0**	**-0.7**
	comp=Z,18nm,0.7s,baz=21,slow=8.6,SNR=18						
DBIC				LR	LR	18 39 49.4	
	comp=Z,1μm,18.3s,baz=28,slow=38						
KIC	**Kosan Boka**	**54.08**	**251**	*e*P	**P**	**18 15 04.9**	**-1.5**
	comp=Z,48nm,0.6s						
TIC	**Toumodi**	**54.13**	**252**	*e*P	**P**	**18 15 05.7**	**-1.1**
	comp=Z,3.6nm,0.2s						
LIC	**Lamto**	**54.39**	**251**	*e*P	**P**	**18 15 07.2**	**-1.5**
	comp=Z,73nm,0.5s						
HIA	**Hailar**	**55.15**	**50**	P	**P**	**18 15 14.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,90nm,1.3s						
HIA				MLR	MLR		
	comp=Z,3μm,22.0s						
HIA	**Hailar**	**55.15**	**50**	P	**P**	**18 15 14.4**	**+0.6**
HIA				IAmb	IAmb	18 15 15.4	
	comp=Z,90nm,1.3s						
HIA	**Hailar**	**55.15**	**50**	IAms_20	IAms_20	18 40 53.0	
	comp=Z,3μm,22.0s						
BJI	**Beijing**	**55.20**	**62**⇑	*i*P	**P**	**18 15 15.0**	**+0.8**
BJI				S	**S**	**18 22 54.5**	**-2.8**
BJI				pmax	pmax		
	comp=Z,32nm,0.8s						
BJI				pmax	pmax		
	comp=Z,670nm,3.5s						
BJI				LR	LR		
	comp=Z,2μm,16.8s						
BJI				LR	LR		
	comp=Z,1μm,14.3s						
MLSI	**Meulaboh, Aceh**	**55.61**	**111**	P	**P**	**18 15 18.2**	**+0.7**
RER	**Riviere de l'E**	**55.84**	**169**	P	**P**	**18 15 19.9**	**+0.9**
TIXI	**Tiksi**	**55.85**	**22***c*	*i*P	**P**	**18 15 17.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,57nm,0.9s						
TIXI	**Tiksi**	**55.85**	**22**	P	**P**	**18 15 18.3**	**-0.1**
	comp=Z,40nm,0.7s,baz=0.0,slow=24,SNR=58						
TIXI	**Tiksi**	**55.85**	**22**	P	**P**	**18 15 18.2**	**-0.2**
TIXI				IAms_20	IAms_20	18 43 41.9	
	comp=Z,2μm,19.0s						
SUMG	**Summit**	**56.05**	**339**⇑	*i*P	**P**	**18 15 20.0**	**-0.3**
SUMG	**Summit**	**56.05**	**339**⇑	*i*P	**P**	**18 15 20.0**	**-0.3**
SUMG	**Summit**	**56.05**	**339**	IAmb	IAmb	18 15 25.4	
	comp=Z,185nm,1.4s						
WHN	**Wuhan**	**57.12**	**73**	⇑P	**P**	**18 15 28.4**	**+0.3**
WHN				S	**S**	**18 23 23.3**	**+0.2**
WHN				pmax	pmax		
	comp=Z,220nm,1.5s						
WHN				LR	LR		
	comp=Z,5μm,17.8s						
TIA	**Tai'an**	**57.17**	**66**	P	**P**	**18 15 28.3**	**-0.1**
TIA				pmax	pmax		
	comp=Z,62nm,1.3s						
YAK	**Yakutsk**	**57.74**	**34***c*	*i*P	**P**	**18 15 31.4**	**-0.6**
YAK				*e*		18 16 23.9	
YAK				*e*S	**S**	**18 23 26.0**	**-4.3**
YAK				*e*		18 25 21.2	
YAK				pmax	pmax		
	comp=Z,119nm,0.9s						
YAK				pmax	pmax		
	comp=N,32nm,1.2s						
YAK				pmax	pmax		
	comp=E,41nm,1.2s						
YAK				smax	smax		
	comp=N,154nm,1.9s						
YAK				smax	smax		
	comp=E,80nm,1.8s						
YAK	**Yakutsk**	**57.74**	**34**	P	**P**	**18 15 31.4**	**-0.6**
	comp=E,72nm,0.8s,baz=257,slow=3.2,SNR=38						
YAK	**Yakutsk**	**57.74**	**34**	P	**P**	**18 15 31.3**	**-0.6**
GSI	**Gunungsitoli**	**58.38**	**113**	P	**P**	**18 15 37.0**	**-0.2**
GSI	**Gunungsitoli**	**58.38**	**113**	IAmb	IAmb	18 15 44.8	
	comp=Z,63nm,0.9s						
QIZ	**Qiongzhong**	**58.47**	**87**	P	**P**	**18 15 36.8**	**-0.9**
QIZ				S	**S**	**18 23 41.4**	**+0.4**
QIZ				sS	**pS**	**18 23 45.4**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,44nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,620nm,2.9s						
QIZ				LR	LR		
	comp=Z,880nm,22.6s						
QIZ				LR	LR		
	comp=Z,640nm,18.6s						
QIZ				LR	LR		
	comp=Z,970nm,16.7s						
PSI	**Prapat**	**58.48**	**110**	P	**P**	**18 15 36.4**	**-1.6**
PSI				pmax	pmax		
	comp=Z,31nm,0.9s						
PSI				MLR	MLR		
	comp=Z,1μm,19.0s						
PSI	**Prapat**	**58.48**	**110**	P	**P**	**18 15 37.0**	**-1.0**
	comp=Z,14nm,0.7s,baz=291,slow=6.6,SNR=17						
ZEA	**Zeya**	**58.55**	**44**	*e*P	**P**	**18 15 38.4**	**+0.7**
ZEA				*e*S	**S**	**18 23 46.0**	**+4.9**
ZEA				pmax	pmax		
	comp=E,42nm,0.8s						
ZEA				pmax	pmax		
	comp=N,47nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,70nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,700nm,9.0s						
ZEA				smax	smax		
	comp=E,500nm,9.0s						
ZEA				MLR	MLR		
	comp=Z,4μm,16.0s						
ZEA				MLR	MLR		
	comp=E,3μm,18.0s						
RPSI	**Rantau Prapat**	**58.55**	**110**	P	**P**	**18 15 36.4**	**-1.9**
IPM	**Ipoh**	**59.10**	**107**	P	**P**	**18 15 40.0**	**-2.2**
DL2	**Dalian**	**59.56**	**61**	P	**P**	**18 15 45.3**	**+0.3**
DL2				PP	**PP**	**18 17 59.8**	**+3.6**
DL2				*e*S	**S**	**18 23 57.1**	**+2.4**
DL2				pmax	pmax		
	comp=E,210nm,0.9s						
DL2				pmax	pmax		
	comp=E,960nm,3.9s						
DL2				LR	LR		
	comp=E,3μm,19.6s						
DL2				LR	LR		
	comp=E,2μm,18.8s						
DL2				LR	LR		
	comp=E,2μm,17.5s						
NJ2	**Nanjing**	**60.07**	**70**	*e*P	**P**	**18 15 47.3**	**-1.3**
NJ2				pmax	pmax		
	comp=E,39nm,0.9s						
NJ2				LR	LR		
	comp=E,2μm,18.0s						
NJ2				LR	LR		
	comp=E,2μm,13.3s						
NJ2				LR	LR		
	comp=E,2μm,14.7s						
CN2	**Changchun**	**60.52**	**55**	*e*P	**P**	**18 15 50.8**	**-0.7**
CN2				pmax	pmax		
	comp=E,30nm,1.8s						
CN2				pmax	pmax		
	comp=E,700nm,4.0s						
CN2				LR	LR		
	comp=E,2μm,19.0s						
CN2				LR	LR		
	comp=E,1μm,19.0s						
CN2				LR	LR		
	comp=E,2μm,18.0s						
KULLO	**Kullorsuaq**	**60.73**	**343**	*i* P	**P**	**18 15 51.5**	**-0.9**
KULLO				pmax	pmax		
	comp=Z,44nm,0.9s						
KULLO	**Kullorsuaq**	**60.73**	**343**	*i* P	**P**	**18 15 51.5**	**-0.9**
	comp=Z,44nm,0.9s						
DLV	**T Lat**	**60.94**	**95**	P	**P**	**18 15 54.4**	**-0.6**
SISI	**Saibi**	**61.23**	**114**	P	P	18 16 02.5	+5.8
SFJD	**Kangerlussuaq**	**61.44**

KLR pmax pmax
comp=Z,32nm,1.1s
SDSI Sungai Dareh 62.77 112 P **P 18 16 05.7 -1.4**
MYKOM Kota Tinggi 62.97 108 P **P 18 16 07.3 -1.1**
MYKOM IAmb IAmb 18 16 15.3
comp=Z,50nm,0.8s
MDJ Mudanjiang 63.00 53 P **P 18 16 07.9 -0.3**
MDJ pP pP 18 16 11.0 -1.4
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,630nm,4.9s
MDJ LR LR
comp=Z,3μm,17.8s
MDJ LR LR
comp=Z,2μm,17.7s
MDJ LR LR
comp=Z,3μm,12.9s
MDJ Mudanjiang 63.00 53 IAMs_20 IAMs_20 18 48 32.2
comp=Z,2μm,19.0s
KRJI Kerinci 63.53 113 P **P 18 16 12.3 +0.1**
TPRI Tanjung Pinang 64.03 108 P **P 18 16 14.7 -0.8**
KS19 Wonju Array Si 64.63 61 P **P 18 16 20.2 +1.1**
KSAR Wonju Array Be 64.67 61 P **P 18 16 17.8 -1.5**
KSAR Wonju Array Be 64.67 61 P **P 18 16 17.8 -1.5**
KSRS Korea Array 64.69 61 P **P 18 16 18.9 -0.6**
comp=Z,33nm,0.8s,baz=283,slow=6.7,SNR=37
KSRS LR LR 18 48 44.1
comp=Z,978nm,19.5s,baz=296,slow=40
USA0B Ussuriysk Arra 64.74 53 IAMs_20 IAMs_20 18 49 28.1
comp=Z,2μm,22.0s
USRK Ussuriysk Ar. 64.74 53 P **P 18 16 18.7 -1.0**
comp=Z,19nm,0.8s,baz=285,slow=5.8,SNR=42
MASI Maura Aman, Be 64.80 113 P **P 18 16 19.9 -0.6**
GRNR Gornyy 64.85 45⇑ *i*P **P 18 16 20.3 -0.1**
GRNR *i* 18 16 22.6
GRNR *i* 18 16 22.6
GRNR *e*S **S 18 25 04.1 +2.9**
GRNR pmax pmax
comp=Z,20nm,1.4s
GRNR smax smax
comp=N,2.0nm,1.2s
GRNR MLR MLR
comp=Z,2μm,16.0s
YHNB Yeheng 65.27 76 P **P 18 16 24.0 +0.5**
TPUB Ta-pu 65.30 78 P **P 18 16 24.6 +0.9**
TPUB IAmb IAmb 18 16 30.8
comp=Z,70nm,1.0s
BOSA Boshof 65.36 200 *i*P **P 18 16 25.3 +1.4**
BOSA *i*S **pP 18 16 30.8 +2.9**
BOSA Boshof 65.36 200 P **P 18 16 25.3 +1.4**
BOSA pmax pmax
comp=Z,306nm,1.7s
BOSA Boshof 65.36 200 P **P 18 16 25.2 +1.3**
comp=Z,32nm,0.8s,baz=14,slow=6.3,SNR=36
BOSA Boshof 65.36 200 *i*P **P 18 16 25.3 +1.4**
BOSA *i*S **pP 18 16 30.8 +2.9**
BOSA Boshof 65.36 200 P **P 18 16 25.3 +1.4**
NACB Ninganchiao 65.67 76 IAMs_20 IAMs_20 18 48 26.9
comp=Z,2μm,19.0s
LHSI Lahat 66.21 113 P **P 18 16 27.6 -2.0**
NKL Nikolayevsk 66.26 41 P **P 18 16 27.7 -1.6**
NKL *e* 18 17 05.1
NKL *e* 18 18 53.3
NKL pmax pmax
comp=N,6.0nm,1.0s
NKL pmax pmax
comp=Z,77nm,1.0s
NKL pmax pmax
comp=E,23nm,1.1s
NKL pmax pmax
comp=Z,89nm,1.5s
SEY Seymchan 67.17 28*c* *i*P **P 18 16 36.1 +1.1**
SEY Seymchan 67.17 28 P **P 18 16 36.4 +1.4**
comp=Z,142nm,0.7s,baz=286,slow=6.3,SNR=154
TEY Ternei 67.38 50⇑ *e*P **P 18 16 34.9 -1.7**
TEY pmax pmax
comp=E,10.0nm,2.4s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=Z,20nm,1.9s
TEY pmax pmax
comp=Z,100nm,5.0s
LWLI Liwa 67.38 113 P **P 18 16 35.7 -1.5**
KLSI 67.69 112 P **P 18 16 36.7 -2.3**
comp=Z,46nm,1.5s,comp=Z,715nm
KASI Kota Agung 68.04 113 P **P 18 16 39.4 -1.8**
comp=Z,74nm,0.7s,comp=Z,1μm
MA2 Magadan 68.21 32*c* *i*P **P 18 16 41.6 0.0**
MA2 pmax pmax
comp=Z,106nm,1.0s
MA2 Magadan 68.21 32 P **P 18 16 41.4 -0.2**
MA2 IAmb IAmb 18 16 44.7
comp=Z,83nm,0.9s
KSM Kuching 68.32 104 P **P 18 16 42.5 -0.4**
KSM IAmb IAmb 18 16 48.9
comp=Z,62nm,0.9s
RES Resolute Bay 68.37 350 P **P 18 16 42.3 -0.1**
RES pmax pmax
comp=Z,91nm,1.5s
RES Resolute Bay 68.37 350 P **P 18 16 42.9 +0.5**
comp=Z,19nm,1.0s,baz=40,slow=11,SNR=11
RES Resolute Bay 68.37 350 P **P 18 16 42.3 -0.1**
RES IAmb IAmb 18 16 43.2
comp=Z,91nm,1.5s
TYV Tymovskoe 68.38 43 *e*P **P 18 16 44.0 +1.2**
TYV pmax pmax
comp=Z,1μm,3.6s
TYV pmax pmax
comp=Z,69nm,1.0s
TPI Tanjungpandan 68.75 109 P **P 18 16 45.1 -0.5**
comp=Z,44nm,1.1s,comp=Z,650nm
JNU Nakatsue 68.76 64 P **P 18 16 46.5 +0.8**
comp=Z,18nm,0.8s,baz=146,slow=5.2,SNR=4.9
BILL Bilibino 68.95 20*c* *i*P **P 18 16 46.1 0.0**
BILL *e*PP **pP 18 16 49.3 -1.0**
BILL *e* 18 17 08.0
BILL *e* 18 19 20.5
BILL *e*PPP PPP 18 20 57.0
BILL *e*S **S 18 25 56.3 +6.2**
BILL pmax pmax
comp=Z,294nm,2.3s
BILL Bilibino 68.95 20 P **P 18 16 46.4 +0.2**
BILL IAMs_20 IAMs_20 18 52 45.8
comp=Z,2μm,21.0s
SBUM Sibu 69.30 102 P **P 18 16 48.9 -0.2**
FRB Frobisher Bay 69.56 334 P **P 18 16 49.3 -0.6**
comp=Z,115nm,1.0s,baz=47,slow=8.1
CGJI Cibinong 69.65 113 P **P 18 16 49.7 -1.5**
comp=Z,187nm,0.8s,comp=Z,2μm
SHEL Horse Pasture 69.84 233 IAMs_20 IAMs_20 18 47 07.3
comp=Z,2μm,19.0s
STKI Sintang 70.09 104 P **P 18 16 54.4 +0.4**
comp=Z,100nm,0.9s
TGY Tagaytay City 70.12 86 P **P 18 16 55.1 +0.8**
comp=Z,53nm,0.3s,baz=223,slow=2.8,SNR=3.7
TGY LR LR 18 51 01.9
comp=Z,772nm,19.5s,baz=326,slow=39
YSS Yuzh-Sakhalins 70.29 46*u* *i*P **P 18 16 54.6 -0.1**
YSS *e* 18 19 28.4
YSS *e*PPP PPP 18 21 11.6
YSS *e*S S 18 25 57.0 -9.5
YSS pmax pmax
comp=Z,70nm,1.2s
YSS pmax pmax
comp=Z,900nm,4.3s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=N,900nm,16.0s
YSS Yuzh-Sakhalins 70.29 46 P **P 18 16 53.8 -1.0**
KKM Kota Kinabalu 70.53 96 P **P 18 16 56.2 -0.6**
KKM IAmb IAmb 18 17 04.5
comp=Z,46nm,0.7s
SKJI Sukabumi 70.56 113 P **P 18 16 53.6 -3.2**
CISI Cisompet, Garu 71.87 113 P **P 18 17 02.7 -2.1**
CISI Cisompet, Garu 71.87 113 P **P 18 17 02.4 -2.4**
MJB9 Matsu-Tunnel 72.42 58 P **P 18 17 07.9 0.0**
MJB9 IAMs_20 IAMs_20 18 53 14.9
comp=Z,1μm,19.0s
MAJO Matsushiro 72.43 58*c* *i*P **P 18 17 06.7 -1.2**
MAJO pmax pmax
comp=Z,68nm,2.2s
MAJO Matsushiro 72.43 58 P **P 18 17 08.1 +0.2**
MAJO Matsushiro 72.43 58 IAMs_20 IAMs_20 18 53 14.9
comp=Z,997nm,19.0s
MAT Matsushiro 72.43 58 P **P 18 17 06.4 -1.5**
MAT S **S 18 26 29.0 -2.6**
MJAR Matsushiro Arr 72.43 58 P **P 18 17 06.9 -1.0**
MJAR pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 72.43 58 P **P 18 17 07.1 -0.8**
comp=Z,9.8nm,0.9s,baz=312,slow=3.2,SNR=13
MJAR LR LR 18 51 28.5
comp=Z,767nm,19.9s,baz=300,slow=38
MJAR Matsushiro Arr 72.43 58 P **P 18 17 06.9 -1.0**
ERM Erimo 73.00 51 *i*P **P 18 17 09.3 -1.9**
ERM pmax pmax
comp=Z,95nm,1.6s
ERM Erimo 73.00 51 IAMs_20 IAMs_20 18 52 10.6
comp=Z,2μm,21.0s
YUK Yuzh-Kuril'sk 73.66 48*d* *i*P **P 18 17 14.0 -1.0**
YUK *e*S **SKiKP 18 26 41.0 -3.7**
YUK pmax pmax
comp=Z,243nm,1.7s
YUK pmax pmax
comp=Z,177nm,1.1s
YUK pmax pmax
comp=E,95nm,1.0s
YUK pmax pmax
comp=N,41nm,1.2s
YUK MLR MLR
comp=Z,1μm,20.0s
SCHQ Schefferville 74.21 326 P **P 18 17 17.4 -0.6**
comp=Z,27nm,0.9s,baz=37,slow=5.2,SNR=18
SCHQ LR LR 18 50 43.7
comp=Z,490nm,19.5s,baz=120,slow=36
KUR Kuril'sk 74.23 46 *e*P **P 18 17 20.5 +2.2**
KUR S **S 18 26 50.8 -0.8**
KUR MLR MLR
comp=Z,1μm,21.0s
PEA0B Petropavlovsk- 75.02 35 IAMs_20 IAMs_20 18 56 50.2
comp=Z,1μm,18.0s
PETK Petropavlovsk- 75.02 35 P **P 18 17 21.2 -1.6**
comp=Z,36nm,0.9s,baz=328,slow=1.7,SNR=33
PETK PP **PP 18 20 11.1 +1.0**
comp=Z,5.9nm,0.9s,baz=336,slow=3.3,SNR=3.6
PETK Petropavlovsk- 75.02 35 P **P 18 17 20.7 -2.1**
PET Petropavlovsk 75.53 35 *i*P **P 18 17 23.4 -2.3**
PET Petropavlovsk 75.53 35 P **P 18 17 22.9 -2.7**
PET IAmb IAmb 18 17 25.5
comp=Z,73nm,1.3s
PET IAMs_20 IAMs_20 18 57 16.6
comp=Z,1μm,18.0s
SKR Severo-Kuril's 75.70 38 *e*P P 18 17 19.9 -6.8
SKR *e*S **S 18 27 06.9 -0.9**
SKR pmax pmax
comp=Z,200nm,13.9s
KBKI Kotabaru 75.84 104 P **P 18 17 27.4 -0.7**
comp=Z,33nm,1.0s,comp=Z,490nm
RDOG Red Dog Mine 75.86 11 P **P 18 17 26.6 -0.8**
RDOG IAmb IAmb 18 17 28.3
comp=Z,82nm,1.1s
RDOG IAMs_20 IAMs_20 18 57 07.0
comp=Z,1μm,19.0s
C36M Paulatuk 76.52 356 P **P 18 17 30.4 -0.7**
baz=8.8
TOLK Toolik Lake Re 76.88 6 P **P 18 17 34.0 +0.9**
baz=347,SNR=90
TOLK Toolik Lake Re 76.88 6 P **P 18 17 34.1 +0.9**
GBN Guysborough 77.06 316 P **P 18 17 34.2 -0.2**
GBN IAmb IAmb 18 17 40.4
comp=Z,84nm,1.0s
JAGI Jajag, Banyuwa 77.34 109 P **P 18 17 39.5 +3.0**
JAGI Jajag, Banyuwa 77.34 109 P **P 18 17 33.5 -3.0**
KCP Kidapawan 77.35 90⇑ *i*P **P 18 17 36.1 -0.6**
DAV Davao City (W) 77.72 90 LR LR 18 58 57.4
comp=Z,612nm,18.4s,baz=338,slow=41
INK Inuvik 77.84 360 P **P 18 17 37.8 -0.7**
INK pmax pmax
comp=Z,55nm,1.2s
INK MLR MLR
comp=Z,2μm,19.0s
INK Inuvik 77.84 360 P **P 18 17 37.9 -0.7**
comp=Z,26nm,0.9s,baz=7.3,slow=9.8,SNR=23
INK PP **PP 18 20 35.4 +2.0**
comp=Z,29nm,1.3s,baz=359,slow=10,SNR=7.6
INK Inuvik 77.84 360 P **P 18 17 37.8 -0.7**
INK IAMs_20 IAMs_20 18 56 52.0
comp=Z,2μm,19.0s
GAMB Gambell 78.00 16 IAMs_20 IAMs_20 18 55 17.6
comp=Z,1μm,21.0s
COLD Coldfoot 78.21 6 P **P 18 17 41.1 +0.5**
COLD IAmb IAmb 18 17 43.8
comp=Z,71nm,1.1s
BMAR Burnt Mountain 78.43 4 P **P 18 17 42.2 +0.4**
ANM Nome 78.62 13 P **P 18 17 43.3 +0.4**
ANM MLR MLR
comp=Z,800nm,20.0s
ANM Nome 78.62 13 P **P 18 17 43.3 +0.4**
LMN Caledonia Moun 78.64 318 P **P 18 17 42.7 -0.7**
LMN IAmb IAmb 18 17 49.3
comp=Z,67nm,1.1s
HAL Halifax 78.70 317 P **P 18 17 43.1 -0.5**
HAL pmax pmax
comp=Z,94nm,0.9s
HAL Halifax 78.70 317 P **P 18 17 43.1 -0.5**
HAL IAmb IAmb 18 17 45.2
comp=Z,94nm,0.9s
IMAR Indian Mountai 79.05 8 P **P 18 17 45.2 0.0**
FYU Fort Yukon 79.25 4 P **P 18 17 46.5 +0.3**
TWSI Taliwang, Sumb 79.64 108 P P 18 17 57.7 +8.5
KAPI Kappang 79.74 103 P **P 18 17 49.6 -0.2**
SNR=6.2
KAPI P **P 18 17 49.6 -0.2**
SNR=6.2
KAPI Kappang 79.74 103 P **P 18 17 47.7 -2.1**
KAPI pmax pmax
comp=Z,128nm,1.9s
KAPI MLR MLR
comp=Z,400nm,21.0s
KAPI Kappang 79.74 103 P **P 18 17 49.1 -0.6**
comp=Z,18nm,1.0s,baz=85,slow=1.0,SNR=9.4
KAPI Kappang 79.74 103 P **P 18 17 47.7 -2.1**
KAPI IAmb IAmb 18 17 50.8
comp=Z,128nm,1.9s
EPYK Eagle Plains 79.77 1 P **P 18 17 49.1 -0.2**
baz=358
EPYK Eagle Plains 79.77 1 IAmb IAmb 18 17 49.7
comp=Z,79nm,0.8s
E64A Bridgewater 79.94 320 P **P 18 17 47.7 -2.7**
baz=50
D62A Allapoint, All 80.16 321 P **P 18 17 51.5 0.0**
baz=50,SNR=6.0
PLAI Plampang 80.40 107 P **P 18 17 56.3 +3.0**
POKR Poker Plat Res 80.52 6 P **P 18 17 54.1 +0.9**
baz=349,SNR=37
F64A Sherman 80.57 320 P **P 18 17 50.6 -3.2**
baz=50
MDM Murphy Dome 80.61 6 P **P 18 17 54.0 +0.2**
MDM IAmb IAmb 18 17 55.7
comp=Z,121nm,1.1s
E62A Clayton Lake 80.70 321 P **P 18 17 50.9 -3.7**
baz=49
TCOL CIGO, UAF Yank 80.72 6 P **P 18 17 54.9 +0.6**
baz=349,SNR=29
COLA College 80.72 6*c* *i*P **P 18 17 54.6 +0.3**
COLA pmax pmax
comp=Z,81nm,0.9s
COLA College 80.72 6 P **P 18 17 54.9 +0.6**
COLA IAmb IAmb 18 17 55.5
comp=Z,94nm,0.8s
IL31 80.90 5 P **P 18 17 54.3 -0.9**
ILAR Eielson Array 80.90 5 P **P 18 17 54.2 -1.1**
ILAR Eielson Array 80.90 5 P **P 18 17 55.0 -0.3**
comp=Z,22nm,0.9s,baz=330,slow=4.1,SNR=80
ILAR PP **PP 18 20 58.9 0.0**
comp=Z,8.2nm,1.0s,baz=354,slow=7.5,SNR=4.3
ILAR PKKPbc **PKKPbc 18 36 33.0 -0.5**
comp=Z,1.2nm,0.8s,baz=191,slow=3.0,SNR=11
ILAR PKP2ab 18 44 29.9
comp=Z,0.9nm,1.2s,baz=257,slow=1.6,SNR=4.6
ILAR PKPPKP **P'P'df 18 44 38.0 -6.0**
comp=Z,1.5nm,1.1s,baz=216,slow=3.7,SNR=6.8
ILAR Eielson Array 80.90 5 P **P 18 17 54.2 -1.1**
CHGQ Chibougamau 80.92 325 P **P 18 17 55.0 -0.7**
baz=47
CCB Clear Creek Bu 80.95 6 P **P 18 17 55.2 -0.3**
CCB IAmb IAmb 18 17 56.8
comp=Z,190nm,1.8s
WRH Wood River Hil 81.10 6 P **P 18 17 56.0 -0.3**
BPAW Bear Paw Mtn. 81.19 7 P **P 18 17 56.9 0.0**
BPAW IAMs_20 IAMs_20 18 56 06.5
comp=Z,1μm,21.0s
EGAK Eagle 81.24 3 P **P 18 17 57.5 +0.5**
HDA Harding Lake 81.26 6 P **P 18 17 56.7 -0.5**
baz=350,SNR=30
HDA Harding Lake 81.26 6 P **P 18 17 56.7 -0.5**
BWN Browne 81.27 7 P **P 18 17 56.7 -0.5**
BWN IAmb IAmb 18 19 13.1
comp=Z,86nm,1.2s
KDI Kendari 81.45 101 P **P 18 18 00.3 +1.3**
TTA Tatalina 81.69 10 P **P 18 18 00.4 +0.8**
TTA pmax pmax
comp=Z,181nm,1.6s
TTA Tatalina 81.69 10 P **P 18 18 00.4 +0.8**
TTA IAmb IAmb 18 18 01.9
comp=Z,181nm,1.6s
KTH Kantishna Hill 81.72 7 P **P 18 17 59.7 -0.1**
KTH IAmb IAmb 18 18 02.9
comp=Z,63nm,0.9s
CAST Castle Rocks 81.73 8 P **P 18 17 59.8 +0.1**
CAST IAmb IAmb 18 18 00.8
comp=Z,70nm,1.2s
MCK McKinley 81.75 7 P **P 18 17 59.7 -0.1**
MCK pmax pmax
comp=Z,127nm,1.3s
MCK McKinley 81.75 7 P **P 18 17 59.6 -0.1**
MCK IAmb IAmb 18 18 01.0
comp=Z,127nm,1.3s
TRF Thorofare Moun 81.89 7 P **P 18 18 01.3 +0.6**
TRF IAmb IAmb 18 18 03.6
comp=Z,109nm,1.4s
TRF IAMs_20 IAMs_20 18 56 31.2
comp=Z,1μm,21.0s
SCRK Sand Creek 81.89 4 P **P 18 18 01.3 +0.6**
SCRK IAmb IAmb 18 18 02.1
comp=Z,84nm,0.9s
RIDG Independent Ri 82.07 5 P **P 18 18 01.6 +0.1**
RND Reindeer 82.08 7 P **P 18 18 00.8 -0.8**
RND pmax pmax
comp=Z,37nm,0.8s
RND Reindeer 82.08 7 P **P 18 18 00.8 -0.8**
G62A West of Eustis 82.15 320 P **P 18 18 02.7 +0.4**
baz=49
WBSI Waikabubak, Su 82.16 107 P **P 18 18 06.7 +3.9**
PPLA Purkeypile 82.22 8 P **P 18 18 02.1 -0.3**
PPLA IAmb IAmb 18 18 05.0
comp=Z,76nm,1.3s
PPLA IAMs_20 IAMs_20 19 00 37.9
comp=Z,944nm,20.0s
YKA Yellowknife Ar 82.38 351 P **P 18 18 02.0 -1.0**
comp=Z,4.8nm,0.7s,baz=21,slow=5.5,SNR=20
MATQ Matagami 82.53 327 P **P 18 18 03.7 -0.4**
baz=44
DHY Denali Highway 82.54 6 P **P 18 18 03.5 -0.6**
DHY IAmb IAmb 18 18 13.2
comp=Z,37nm,0.8s
D57A Chemin Vers le 82.67 323 P **P 18 18 04.6 -0.3**
baz=47
TNTI Ternate 82.68 94 P **P 18 18 08.3 +2.8**
TNTI Ternate 82.68 94 P **P 18 18 04.2 -1.3**
TNTI IAmb IAmb 18 18 10.5
comp=Z,102nm,1.6s
LSQQ Lebel-sur-Quev 82.73 326 P **P 18 18 04.9 -0.3**
baz=45
PAX Paxson 82.79 5 P **P 18 18 04.6 -0.8**
PAX pmax pmax
comp=Z,114nm,1.7s
PAX Paxson 82.79 5 P **P 18 18 04.6 -0.8**
PAX IAmb IAmb 18 18 06.9
comp=Z,114nm,1.7s
E58A La Victoria 82.80 322 P **P 18 18 05.4 -0.2**
baz=47
BCAR Beaver Creek A 82.92 3 P **P 18 18 06.4 +0.4**
MENT Mentasta 82.94 4 P **P 18 18 06.6 +0.5**
MENT IAmb IAmb 18 18 07.6
comp=Z,55nm,0.9s
D56A ZEC Mazanza, M 83.08 324 P **P 18 18 06.6 -0.5**
baz=46
SANI Sanana 83.13 97 P **P 18 18 06.8 -1.0**
SKT Skwentna 83.19 8 IAMs_20 IAMs_20 19 01 08.5
comp=Z,1μm,20.0s
E57A Chemin Saint G 83.21 323 P **P 18 18 07.0 -0.8**
baz=46
H61A Lyndonville 83.35 320 P **P 18 18 08.6 +0.1**
baz=48
D55A Sainte-Anne-du 83.45 324 P **P 18 18 08.4 -0.5**
baz=46
E56A St. Veronique 83.56 323 P **P 18 18 08.6 -1.0**
baz=46
SML Sawmill 83.70 7 P **P 18 18 09.8 -0.2**
H60A Morristown 83.74 321 P **P 18 18 10.7 +0.2**
baz=47
PMR Palmer 83.83 7 P **P 18 18 10.5 -0.1**
PMR pmax pmax
comp=Z,66nm,0.9s
PMR Palmer 83.83 7 P **P 18 18 10.5 -0.1**
PMR IAmb IAmb 18 18 11.6
comp=Z,66nm,0.9s
D54A Lac Fusel, La 83.93 325 P **P 18 18 11.0 -0.5**
baz=45
KNK Knik Glacier 84.07 7 P **P 18 18 12.6 +0.7**
H59A Cadyville 84.20 321 P **P 18 18 12.9 +0.1**
baz=46,SNR=5.5
RC01 Rabbit Creek A 84.26 7 IAMs_20 IAMs_20 19 00 30.0
comp=Z,1μm,20.0s
D53A Lac Vacive, Po 84.48 325 P **P 18 18 14.0 -0.2**
baz=44
G57A Newington 84.54 322 P **P 18 18 14.3 -0.2**
baz=46
H58A Gabriels 84.61 321 P **P 18 18 13.8 -1.1**
baz=46
LONY Lake Ozonia 84.68 322 P **P 18 18 14.9 -0.4**
baz=46
E54A Lac Daplat, Po 84.70 324 P **P 18 18 14.2 -1.1**
baz=44
I59A Olmsteadville 84.88 321 P **P 18 18 16.5 +0.2**
baz=46
D52A ZEK Kipawa Sen 84.89 325 P **P 18 18 15.6 -0.7**
baz=44
E53A Dumoine, Ponti 84.97 325 P **P 18 18 16.3 -0.4**
baz=44
J60A Lant Hill Farm 85.02 320 P **P 18 18 16.9 -0.1**
baz=47
CRQM Cirque 85.15 4 P **P 18 18 18.1 +0.5**
CRQM IAmb IAmb 18 18 24.3
comp=Z,75nm,0.9s
EYAK Cordova Ski Ar 85.17 6 P **P 18 18 18.3 +0.9**
TGL Tana Glacier 85.17 4 P **P 18 18 17.2 -0.3**
H57A Richville 85.20 322 P **P 18 18 17.7 -0.2**
baz=45
SEW Seward 85.25 8 P **P 18 18 16.5 -1.3**
SEW IAmb IAmb 18 18 19.0
comp=Z,68nm,1.0s
D51A Lot 18 Range I 85.26 326 P **P 18 18 17.7 -0.4**
baz=43
G55A Calabogie 85.31 323 P **P 18 18 18.4 0.0**
baz=45
HYT Haines Junctio 85.32 2 P **P 18 18 17.6 -0.7**
HYT IAmb IAmb 18 18 20.5
comp=Z,95nm,1.1s
RAGM Ragged Mountai 85.41 5 P **P 18 18 16.3 -2.4**
BRLK Bradley Lake 85.42 8 P **P 18 18 18.1 -0.6**
J59A Piesco 85.44 321 P **P 18 18 19.2 +0.1**
baz=46,SNR=6.1
J59A Piesco 85.44 321 P **P 18 18 17.2 -1.9**
J59A IAmb IAmb 18 18 20.5
comp=Z,54nm,1.1s
ALGO Algonquin Park 85.46 324 P **P 18 18 18.4 -0.7**
baz=44
E52A Mattawa 85.51 325 P **P 18 18 19.0 -0.4**
baz=43
WHY Whitehorse 85.52 0 IAmb IAmb 18 18 20.4
comp=Z,104nm,1.9s
I58A Old Forge 85.53 321 P **P 18 18 19.3 -0.2**
baz=46
H56A Elgin 85.55 323 P **P 18 18 19.2 -0.4**
baz=45
CNPM China Poot 85.61 9 P **P 18 18 18.0 -1.6**
PLVO Plevna 85.64 323 P **P 18 18 19.5 -0.6**
PLVO IAmb IAmb 18 18 20.4
comp=Z,44nm,1.1s
I57A Carthage 85.70 322 P **P 18 18 20.0 -0.4**
baz=45
L61A Hillsdale 1, H 85.81 319 P **P 18 18 21.2 +0.2**

baz=46
AAI Ambon 85.86 97 P P 18 18 26.2 +4.6
G54A Lake Saint Pet 85.88 324 P P 18 18 21.2 -0.1
baz=44
BATI Baumata 85.90 105 P P 18 18 22.7 +0.9
comp=Z,44nm,0.7s,baz=215,slow=6.5,SNR=6.7
BATI Baumata 85.90 105 P P 18 18 28.0 +6.2
J58A Remsen 85.92 321 P P 18 18 21.5 0.0
baz=45
J58A Remsen 85.92 321 P P 18 18 19.9 -1.6
J58A IAmb IAmb 18 18 22.1
comp=Z,66nm,1.3s
H55A Tweed 86.04 323 P P 18 18 20.8 -1.2
baz=44
K59A Cooperstown 86.10 321 P P 18 18 22.8 +0.3
baz=46
SOEI Soe 86.12 104 P P 18 18 29.0 +6.0
NBPV Pedro Velho 86.14 260 *eP* **P 18 18 25.1 +2.1**
NBPV Pedro Velho 86.14 260 *eP* **P 18 18 25.1 +2.1**
F52A Sundridge 86.18 325 P P 18 18 22.7 -0.1
baz=43
MSAI Masohi 86.28 97 P P 18 18 30.4 +6.7
RCBR Riachuelo 86.31 260 *eP* **P 18 18 26.0 +2.1**
RCBR Riachuelo 86.31 260 *eP* **P 18 18 26.0 +2.1**
RCBR Riachuelo 86.31 260 IAMs_20 IAMs_20 19 00 11.2
comp=Z,1μm,18.0s
F51A Arnstein 86.37 325 P P 18 18 23.4 -0.2
baz=42
K58A Earlville 86.53 321 P P 18 18 24.4 -0.1
baz=45
L59A Walton 86.61 320 P P 18 18 25.0 0.0
baz=46
SWI Sorong 86.82 93 P P 18 18 25.7 -0.6
D47A Chapleau 86.98 328 P P 18 18 25.9 -0.7
baz=40
K57A Scipio Center 87.00 321 P P 18 18 27.2 +0.4
baz=45
BINY Binghamton 87.10 321 P P 18 18 27.1 -0.3
baz=45
KDAK Kodiak Island 87.13 10 P P 18 18 27.0 -0.1
KDAK pmax pmax
comp=Z,199nm,1.0s
KDAK Kodiak Island 87.13 10 P P 18 18 28.0 +0.9
comp=Z,174nm,1.0s,baz=321,slow=2.3,SNR=46
KDAK Kodiak Island 87.13 10 P P 18 18 27.0 -0.1
FFC Flin Flon 87.20 342 P P 18 18 26.5 -1.0
FFC pmax pmax
comp=Z,43nm,1.5s
FFC Flin Flon 87.20 342 P P 18 18 26.5 -1.0
NBPA Parau_RN 87.25 261 *eP* **P 18 18 29.7 +1.3**
NBPA Parau_RN 87.25 261 *eP* **P 18 18 29.7 +1.3**
NBRF Rio Formoso - 87.30 258 *eP* **P 18 18 30.0 +1.4**
NBRF Rio Formoso - 87.30 258 *eP* **P 18 18 30.0 +1.4**
D46A Sault St. Mari 87.52 328 P P 18 18 28.6 -0.6
baz=40
E47A Iron Bridge 87.52 327 P P 18 18 28.8 -0.4
baz=40
OHAK Old Harbor 87.57 10 P P 18 18 29.8 +0.5
MEDO Medina 87.68 323 IAMs_20 IAMs_20 18 59 58.6
comp=Z,1μm,19.0s
DLBC Dease Lake 87.68 358 P P 18 18 30.7 +0.8
comp=Z,22nm,1.1s,baz=8.4,slow=4.5,SNR=10
DLBC PP **PP 18 21 56.3 +2.0**
comp=Z,7.8nm,0.9s,baz=351,slow=9.1,SNR=4.7
DLBC PKPPKP **P'P'df 18 44 25.8 -5.6**
comp=Z,8.3nm,0.9s,baz=345,slow=2.5,SNR=5.3
L57A Andrews Acres 87.69 321 P P 18 18 29.9 -0.3
baz=44
JIS Juneau Island 87.92 0 P P 18 18 30.7 -0.2
L56A Greenwood 87.97 322 P P 18 18 31.1 -0.4
baz=44
E46A Sault Ste Mari 88.04 328 P P 18 18 31.3 -0.5
baz=39
E46A Sault Ste Mari 88.04 328 P P 18 18 31.3 -0.5
E46A IAmb IAmb 18 18 35.1
comp=Z,31nm,0.9s
O60A Telford 88.12 319 P P 18 18 32.0 -0.2
baz=45
K54A Basiliko Farm, 88.20 322 P P 18 18 32.0 -0.6
baz=43
NBMO Morrinhos-CE 88.30 265 *eP* **P 18 18 35.4 +2.0**
NBMO Morrinhos-CE 88.30 265 *eP* **P 18 18 35.4 +2.0**
WVNY West Valley, N 88.31 322 IAmb IAmb 18 18 33.0
comp=Z,61nm,1.4s
L55A Hinsdale 88.38 322 P P 18 18 33.1 -0.4
baz=43
M56A Emporium 88.76 321 P P 18 18 33.5 -1.8
baz=44
FAKI Fak Fak 88.78 94 P P 18 18 43.1 +7.4
NBAN Anadia - AL 88.79 258 *eP* **P 18 18 37.4 +1.7**
NBAN Anadia - AL 88.79 258 *eP* **P 18 18 37.4 +1.7**
L54A Sinclairville 88.79 323 P P 18 18 34.6 -0.8
baz=43
N57A Milroy 88.95 321 P P 18 18 35.7 -0.5
baz=44
M55A Ridgway 89.07 322 P P 18 18 36.4 -0.4
baz=43
NBPB Pedra_Branca-C 89.17 263 *eP* **P 18 18 39.4 +1.9**
NBPB Pedra_Branca-C 89.17 263 *eP* **P 18 18 39.4 +1.9**
ERPA Erie 89.22 323 IAMs_20 IAMs_20 18 58 58.3
comp=Z,1μm,20.0s
SSPA Standing Stone 89.22 321 P P 18 18 36.4 -1.0
baz=44
MBWA Marble Bar 89.31 116 IAMs_20 IAMs_20 18 58 41.4
comp=Z,950nm,19.0s
ULM Lac du Bonnet 89.34 336 P P 18 18 36.3 -1.5
comp=Z,4.1nm,0.8s,baz=357,slow=7.3,SNR=5.2
L53A Girard 89.47 323 P P 18 18 36.5 -2.1
baz=42
M54A Oil Creek Stat 89.50 322 P P 18 18 38.3 -0.5
baz=42
NBMA Muriti-CE 89.52 261 *eP* **P 18 18 40.9 +1.6**
NBMA Muriti-CE 89.52 261 *eP* **P 18 18 40.9 +1.6**
PSAD1 Pilbara Seismi 89.56 116 IAMs_20 IAMs_20 18 59 54.1
comp=Z,918nm,20.0s
PSAB1 Pilbara Seismi 89.62 116 IAMs_20 IAMs_20 19 04 40.7
comp=Z,889nm,18.0s
PSAA2 Pilbara Seismi 89.63 116 IAMs_20 IAMs_20 19 00 23.1
comp=Z,977nm,21.0s
PSAA1 Pilbara Seismi 89.64 116 IAMs_20 IAMs_20 19 04 03.1
comp=Z,807nm,19.0s
PSA00 Pilbara Seismi 89.64 116 P P 18 18 38.5 -1.0
N55A Marion Center 89.69 321 P P 18 18 39.3 -0.4
baz=43
NBPS Pedro II - PI 90.06 265 *eP* **P 18 18 43.7 +1.9**
NBPS Pedro II - PI 90.06 265 *eP* **P 18 18 43.7 +1.9**
N54A Moraine State 90.07 322 P P 18 18 40.5 -0.9
baz=42
N53A Lisbon 90.61 322 P P 18 18 43.5 -0.4
baz=42
J47A Sunmer 90.69 326 P P 18 18 43.9 -0.3
baz=39
K48A Perry 90.70 326 P P 18 18 43.8 -0.5
baz=40
O54A Avella 90.84 322 P P 18 18 44.9 -0.2
baz=42
E38A The Farm, Brul 90.85 332 P P 18 18 43.9 -1.1
baz=34
MCWV Mont Chateau 90.96 321 P P 18 18 45.0 -0.5
baz=42
N52A McGinn's Farm, 91.04 323 P P 18 18 45.1 -0.8
baz=41
L49A Milan 91.07 325 P P 18 18 46.1 +0.1
baz=40
K47A Vermontville 91.22 326 P P 18 18 46.1 -0.6
baz=39
O53A New Philadelph 91.22 322 P P 18 18 46.7 -0.1
baz=42
R57A Stanardsville 91.25 319 P P 18 18 48.1 +1.2
baz=43
N51A Ashland 91.30 323 P P 18 18 46.2 -0.9
baz=41
P54A Burton 91.33 321 P P 18 18 47.2 -0.1
baz=42,SNR=5.8
G40A Rib Lake 91.41 331 P P 18 18 47.2 -0.4
baz=35,SNR=5.4
S58A Poland Farm, P 91.49 319 P P 18 18 47.0 -1.0
baz=44
L48A N Adams 91.51 325 P P 18 18 47.2 -0.9
baz=39
U61A Possum Corner 91.51 317 P P 18 18 48.8 +0.6
baz=44
Q55A Buckhannon 91.57 321 P P 18 18 47.3 -1.1
baz=42
O52A Adamsville 91.64 323 P P 18 18 48.3 -0.4
baz=41,SNR=7.2
N50A Nevada 91.79 324 P P 18 18 48.8 -0.6
baz=40,SNR=6.2
L47A Sherwood 91.85 326 P P 18 18 48.8 -0.8
baz=39
P53A Whipple 91.88 322 P P 18 18 49.9 +0.1
baz=41,SNR=8.5
O51A Pataskala 92.00 323 P P 18 18 49.6 -0.7
baz=40,SNR=12
M48A Edgerton 92.00 325 P P 18 18 49.5 -0.8
baz=39
FITZ Fitzroy Crossi 92.01 110 P P 18 18 50.4 -0.2
FITZ IAmb IAmb 18 18 57.3
comp=Z,25nm,1.0s
ACSO Alum Creek Sta 92.12 323 P P 18 18 50.5 -0.5
baz=40
P52A Corning 92.15 322 P P 18 18 50.2 -0.9
baz=41,SNR=13
N49A Columbus Grove 92.18 324 P P 18 18 50.5 -0.6
baz=39,SNR=9.5
T58A Grand View Acr 92.24 318 P P 18 18 51.2 -0.4
baz=43
U59A Littleton 92.26 318 P P 18 18 51.2 -0.4
baz=44
Q53A Leroy 92.42 322 P P 18 18 52.1 -0.3
baz=41
SPMN Marine on St. 92.48 332 P P 18 18 52.0 -0.5
baz=33
O50A Cable 92.50 324 P P 18 18 51.9 -0.8
baz=40,SNR=8.4
M47A Cromwell 92.53 326 P P 18 18 52.4 -0.3
baz=38
T57A Hurt 92.59 319 P P 18 18 52.9 -0.3
baz=43
T57A Hurt 92.59 319 IAMs_20 IAMs_20 19 04 46.9
comp=Z,1μm,21.0s
N48A Decatur 92.64 325 P P 18 18 52.2 -1.1
baz=39,SNR=6.0
U58A Oxford 92.65 318 P P 18 18 53.8 +0.4
baz=43
Q52A Bidwell 92.72 322 P P 18 18 53.3 -0.4
baz=41,SNR=9.5
P51A Williamsport 92.73 323 P P 18 18 52.8 -0.9
baz=40
O49A Covington 92.82 324 P P 18 18 53.3 -0.8
baz=39,SNR=14
V59A Middlesex 92.93 317 P P 18 18 54.7 0.0
baz=43
N47A Urbana 92.94 325 P P 18 18 53.7 -1.0
baz=38
T56A Rocky Mt 92.99 319 P P 18 18 55.1 +0.1
baz=42
P50A Jamestown 93.00 323 P P 18 18 54.1 -0.9
baz=40
R53A Hurricane 93.04 321 P P 18 18 55.0 -0.2
baz=41,SNR=5.4
U57A Blanch 93.05 319 P P 18 18 55.0 -0.3
baz=43,SNR=6.1
Q51A Peebles 93.22 323 P P 18 18 55.6 -0.4
baz=40,SNR=12
JFWS Jewell Farm 93.35 329 P P 18 18 55.5 -1.1
baz=35
R52A Catlettsburg 93.39 322 P P 18 18 56.5 -0.3
baz=41
V58A Windy Hill, Pi 93.40 318 P P 18 18 56.3 -0.6
baz=43
P49A Miami Univ. Ec 93.51 324 P P 18 18 56.2 -1.2
baz=39,SNR=5.9
S53A Williamson 93.62 321 P P 18 18 57.6 -0.4
baz=41,SNR=6.5
Q50A Georgetown 93.68 323 P P 18 18 57.6 -0.6
baz=40,SNR=5.8
U56A King 93.69 319 P P 18 18 57.9 -0.3
baz=42
V57A Coltrane Farms 93.69 318 P P 18 18 58.1 -0.2
baz=42
T54A Tazewell 93.79 320 P P 18 18 58.2 -0.6
baz=41
R51A Hillsboro 93.90 322 P P 18 18 58.6 -0.5
baz=40,SNR=6.3
P48A Milroy 93.91 324 P P 18 18 57.9 -1.3
baz=39,SNR=7.2
U55A TA2, Sparta 93.93 320 P P 18 18 59.9 +0.4
baz=42,SNR=7.9
SFIN Lafayette 93.99 326 P P 18 18 58.5 -1.1
baz=38
Q49A Aurora 94.01 324 P P 18 18 58.7 -1.0
baz=39,SNR=7.6
W58A Raeford 94.03 318 P P 18 18 59.6 -0.2
baz=43
S52A Salyersville 94.11 322 P P 18 19 00.4 +0.2
baz=40,SNR=5.2
V56A Mocksville 94.14 319 P P 18 19 00.0 -0.3
baz=42
R50A Paris 94.28 323 P P 18 19 00.5 -0.5
baz=40,SNR=7.4
T53A Wise 94.36 321 P P 18 19 01.1 -0.3
baz=41
S51A Beattyville 94.41 322 P P 18 19 00.9 -0.6
baz=40,SNR=7.8
S51A Beattyville 94.41 322 P P 18 19 01.8 +0.2
S51A IAmb IAmb 18 19 07.1
comp=Z,43nm,0.9s
L40A Anamosa 94.46 329 P P 18 19 00.5 -1.1
baz=35
Q48A North Vernon 94.48 324 P P 18 19 00.9 -0.9
baz=38,SNR=5.7
T52A Hallie 94.50 321 P P 18 19 02.2 +0.2
baz=40,SNR=9.8
V55A Taylorsville 94.50 319 P P 18 19 02.4 +0.4
baz=42
R49A Shelbyville 94.70 323 P P 18 19 02.2 -0.6
baz=39,SNR=6.8
S50A Richmond 94.79 322 P P 18 19 02.8 -0.4
baz=40,SNR=6.9
U53A Fall Branch 94.85 320 P P 18 19 03.4 -0.2
baz=41
HDIL Hopedale 94.85 327 P P 18 19 02.6 -0.8
baz=36
V54A Nebo 94.95 320 P P 18 19 03.8 -0.3
baz=41
KMSC Kings Mountain 95.10 319 P P 18 19 04.4 -0.4
baz=42
T51A Gray 95.10 322 P P 18 19 04.4 -0.3
baz=40,SNR=5.2
S49A Springfield 95.15 323 P P 18 19 03.9 -1.0
baz=39
ECSD EROS Data Cent 95.19 334 P P 18 19 04.5 -0.5
baz=31
TZTN Tazewell 95.22 321 P P 18 19 05.5 +0.2
baz=40
TZTN Tazewell 95.22 321 P P 18 19 04.1 -1.2
TZTN IAmb IAmb 18 19 11.4
comp=Z,60nm,1.2s
U52A Thorn Hill 95.24 321 P P 18 19 05.4 0.0
baz=40
WCI Wyandotte Cave 95.30 324 P P 18 19 04.8 -0.7
baz=38
SCIA State Center 95.42 330 P P 18 19 05.8 -0.3
baz=33
V53A Saluda 95.50 320 P P 18 19 06.4 -0.2
baz=41,SNR=7.0
T50A Nancy 95.52 322 P P 18 19 06.0 -0.6
baz=39,SNR=6.5
JAY Jayapura 95.56 89 LR LR 19 04 50.2
comp=Z,140nm,22.0s,baz=325,slow=37
U51A La Follette 95.59 321 P P 18 19 07.0 0.0
baz=40,SNR=5.4
W54A Cherokee Point 95.60 319 P P 18 19 06.8 -0.3
baz=41
LAO LASA Array 95.63 341 P P 18 19 07.6 +0.6
baz=23
X55A Gracelyn & Ava 95.76 319 P P 18 19 07.4 -0.3
baz=41
V52A Sevierville 95.78 321 P P 18 19 07.6 -0.2
baz=40
T49A Edmonton 95.80 323 P P 18 19 06.6 -1.3
baz=39
U50A Jamestown 95.98 322 P P 18 19 08.0 -0.8
baz=39
TKL Tuckaleechee C 96.01 321 P P 18 19 07.9 -1.0
comp=Z,17nm,1.0s,baz=126,slow=4.2,SNR=6.2
W53A Cullowhee 96.06 320 P P 18 19 09.1 -0.2
baz=40
X54A Belton 96.11 319 P P 18 19 09.6 +0.2
baz=41
U49A Red Boiling Sp 96.39 323 P P 18 19 09.5 -1.0
baz=39
NEW Newport 96.52 349 P P 18 19 11.0 0.0
baz=14
NEW Newport 96.52 349 P P 18 19 11.0 0.0
comp=Z,4.3nm,0.9s,baz=6.5,slow=5.5,SNR=6.7
NEW PP **PP 18 23 04.9 +1.0**
comp=Z,4.1nm,0.9s,baz=354,slow=12,SNR=3.1
X53A Estanollee 96.64 320 P P 18 19 11.5 -0.3
baz=40
V50A Pikevile 96.69 322 P P 18 19 11.5 -0.5
baz=39
B08A Colville Reser 96.77 350 IAMs_20 IAMs_20 19 04 01.2
comp=Z,1μm,21.0s
Y54A Tignall 96.80 319 P P 18 19 12.1 -0.4
baz=41
X52A Dahlonega 96.88 320 P P 18 19 12.2 -0.7
baz=40
W51A Cleveland 96.91 321 P P 18 19 12.7 -0.3
baz=39
V49A McMinnville 97.03 322 P P 18 19 12.1 -1.4
baz=39
S44A Carbondale 97.14 326 P P 18 19 13.6 -0.4
baz=36
W50A Signal Mountai 97.17 321 P P 18 19 13.6 -0.6
baz=39
Y53A Monroe 97.28 319 P P 18 19 14.3 -0.4
baz=40
MSO Missoula 97.32 346 P P 18 19 14.0 -0.7
baz=17
RSSD Black Hills 97.35 339 P P 18 19 15.1 0.0
baz=25
RLMT Red Lodge 97.88 342 P Pdif 18 19 18.0 +0.5
baz=21
D03D Eldon 98.05 352 P Pdif 18 19 18.3 +0.4
baz=9.4
LON Longmire 98.68 351 IAMs_20 IAMs_20 19 05 56.7
comp=Z,1μm,20.0s
E03A Lebam 99.08 353 IAMs_20 IAMs_20 19 06 25.4
comp=Z,1μm,22.0s
SDD Santo Domingo 99.45 300 IAMs_20 IAMs_20 18 57 47.8
comp=Z,667nm,19.0s
BMO Blue Mountains 99.86 348 IAMs_20 IAMs_20 19 11 08.9
comp=Z,799nm,22.0s
WRA Warramunga Arr 99.86 107 P **Pdif 18 19 25.4 -1.0**
comp=Z,1.7nm,0.9s,baz=317,slow=3.9,SNR=15
WRA PP **PP 18 23 33.5 +2.0**
comp=Z,3.0nm,0.9s,baz=304,slow=8.1,SNR=5.3
WRA PKKPbc **PKKPbc 18 35 45.1 -0.4**
comp=Z,0.6nm,0.7s,baz=122,slow=2.6,SNR=5.3
WRAB Tennant Creek 99.86 107 *i* P **Pdif 18 19 21.7 -4.7**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
PDAR Pinedale Array 100.16 342 P **Pdif 18 19 27.0 -0.7**
comp=Z,0.2nm,0.6s,baz=345,slow=2.8,SNR=3.5
PDAR PKKPbc **PKKPbc 18 35 44.5 -0.7**
comp=Z,0.4nm,0.7s,baz=177,slow=3.0,SNR=4.4
250A Grady 100.17 320 Pdiff **Pdif 18 19 29.8 +2.2**
baz=39
PHWY Pilot Hill 100.35 338 IAMs_20 IAMs_20 19 07 15.3
comp=Z,853nm,20.0s
COR Corvallis 100.99 352 IAMs_20 IAMs_20 19 07 56.9
comp=Z,981nm,19.0s
ASAR Alice Springs 101.51 111 P **Pdif 18 19 33.0 -0.6**
comp=Z,2.0nm,0.8s,baz=306,slow=4.4,SNR=10.0
ASAR PP **PP 18 23 43.8 -0.1**
comp=Z,1.5nm,0.9s,baz=311,slow=7.2,SNR=3.4
ASAR PKKPbc **PKKPbc 18 35 42.0 +1.1**
comp=Z,0.6nm,0.5s,baz=119,slow=3.8,SNR=21
HUMO Hull Mountain 102.90 351 IAMs_20 IAMs_20 19 08 12.4
comp=Z,831nm,21.0s
DUG Dugway, Tooele 103.39 343 IAMs_20 IAMs_20 19 09 39.7
comp=Z,906nm,20.0s
ELK Elko 103.42 345 Pdiff **Pdif 18 19 43.5 +1.3**
comp=Z,0.3nm,0.4s,baz=54,slow=7.0,SNR=4.1
ELK PP **PP 18 23 51.6 -5.1**
comp=Z,1.2nm,0.8s,baz=7.0,slow=8.0,SNR=2.8
YBH Yreka Blue Hor 103.73 351 PP **PP 18 23 53.7 -5.1**
comp=Z,0.5nm,0.2s,baz=52,slow=0.8,SNR=7.9
YBH Yreka Blue Hor 103.73 351 IAMs_20 IAMs_20 19 08 38.4
comp=Z,866nm,22.0s
KRMB Red Mountain 104.08 352 IAMs_20 IAMs_20 19 09 03.7
comp=Z,798nm,18.0s
WDC Whiskeytown Da 104.84 351 IAMs_20 IAMs_20 19 09 12.8
comp=Z,992nm,22.0s
MVCO Mesa Verde 105.03 339 IAMs_20 IAMs_20 19 09 05.2
comp=Z,1μm,21.0s
PAHR Pah Rah Range 105.22 348 IAMs_20 IAMs_20 19 12 22.7
comp=Z,683nm,19.0s
BEKR Beckworth 105.22 349 IAMs_20 IAMs_20 19 09 07.9
comp=Z,1μm,22.0s
KVN Kaiserville 105.62 347 IAMs_20 IAMs_20 19 10 28.6
comp=Z,878nm,21.0s
VCNR Virginia City 105.66 348 IAMs_20 IAMs_20 19 15 02.6
comp=Z,723nm,19.0s
ORV Oroville 105.70 350 IAMs_20 IAMs_20 19 09 34.6
comp=Z,896nm,22.0s
PNTR Pine Nut 105.85 348 IAMs_20 IAMs_20 19 14 23.7
comp=Z,675nm,19.0s
KCPM Cahto Peak 105.85 351 IAMs_20 IAMs_20 19 10 09.7
comp=Z,1μm,22.0s
RUBR Rubicon Trail 105.98 349 IAMs_20 IAMs_20 19 15 41.1
comp=Z,796nm,20.0s
RYN Ryan 106.11 347 IAMs_20 IAMs_20 19 10 56.5
comp=Z,1μm,20.0s
AFDM Forest Hills D 106.21 349 IAMs_20 IAMs_20 19 10 02.3
comp=Z,635nm,19.0s
NV11 Mina Array Sit 106.23 347 IAMs_20 IAMs_20 19 14 33.7
comp=Z,900nm,20.0s
NVAR Mina Array Bea 106.26 347 PKiKP **PKiKP 18 24 07.3 +1.0**
comp=Z,0.6nm,0.6s,baz=21,slow=3.0,SNR=4.2
NVAR PP **PP 18 24 18.8 +1.1**
comp=Z,2.0nm,0.9s,baz=38,slow=1.7,SNR=5.9
NVAR PKKPbc **PKKPbc 18 35 27.1 0.0**
comp=Z,0.3nm,0.6s,baz=201,slow=6.4,SNR=3.7
CMB Columbia Colle 107.01 349 IAMs_20 IAMs_20 19 10 47.4
comp=Z,881nm,21.0s
MDPB Devils Postpil 107.18 347 IAMs_20 IAMs_20 19 15 19.8
comp=Z,715nm,19.0s
TPNV Topopah Spring 107.28 345 IAMs_20 IAMs_20 19 11 07.4
comp=Z,974nm,20.0s
MCCM Marconi Confer 107.28 351 IAMs_20 IAMs_20 19 14 56.4
comp=Z,712nm,18.0s
Y22D IRIS PASSCAL I 107.42 336 IAMs_20 IAMs_20 19 10 52.5
comp=Z,1μm,21.0s
WUAZ Wupatki 107.44 341 IAMs_20 IAMs_20 19 11 27.8
comp=Z,928nm,20.0s
SHPR Sheep Range 107.46 344 IAMs_20 IAMs_20 19 17 09.3
comp=Z,925nm,21.0s
SAO San Andreas Ge 108.43 349 IAMs_20 IAMs_20 19 11 07.8
comp=Z,959nm,22.0s
PMPB Monarch Peak 108.86 348 IAMs_20 IAMs_20 19 12 51.2
comp=Z,823nm,20.0s
ISA Isabella, Lake 108.98 346 IAMs_20 IAMs_20 19 13 21.4
comp=Z,767nm,18.0s
121A Cookes Peak, D 109.12 336 IAMs_20 IAMs_20 19 11 57.5
comp=Z,992nm,21.0s
MWC Mount Wilson 110.29 346 IAMs_20 IAMs_20 19 14 42.1
comp=Z,804nm,18.0s
TXAR Lajitas Array 110.52 332 PKiKP **PKiKP 18 24 15.3 +1.0**
comp=Z,0.5nm,0.7s,baz=21,slow=7.7,SNR=2.7
TXAR PP **PP 18 24 45.4 -3.6**
comp=Z,1.1nm,1.0s,baz=35,slow=4.6,SNR=3.6
TXAR PKKPbc **PKKPbc 18 35 14.3 +0.9**
comp=Z,0.4nm,0.6s,baz=186,slow=8.2,SNR=3.0
TXAR PKKP **PKKPdf 18 35 30.2 +0.9**
comp=Z,2.9nm,1.0s,baz=187,slow=6.0,SNR=10.0
PFO Pinyon Flats O 110.53 344 PP **PP 18 24 50.3 +1.5**
comp=Z,6.6nm,1.1s,baz=21,slow=8.2,SNR=6.8
SNAA Sanae 110.88 195 PKiKP **PKiKP 18 24 13.9 +0.3**
VNA2 Neumayer--Watz 111.35 196 PKiKP **PKiKP 18 24 16.2 +1.8**
baz=72,slow=2.1
VNA3 Neumayer Olymp 112.11 197 PKiKP **PKiKP 18 24 16.4 +0.6**
SIV San Ignacio 112.51 266 PP **PP 18 25 04.7 0.0**
comp=Z,5.6nm,1.2s,baz=102,slow=9.0,SNR=5.9
CPUP Villa Florida 114.46 254 PKIKP PKPdf 18 24 21.0 -0.7
CPUP Villa Florida 114.46 254 PKP PKPdf 18 24 21.0 -0.7
comp=Z,0.8nm,0.6s,baz=91,slow=2.9,SNR=3.0
CPUP PKKPbc **PKKPbc 18 35 00.6 +0.7**
comp=Z,1.0nm,0.4s,baz=136,slow=1.9,SNR=3.5
ZAIG Zacatecas 115.83 327 IAMs_20 IAMs_20 19 24 12.8
comp=Z,538nm,18.0s
CMIG Matias Romero 116.70 317 PKP **PKiKP 18 24 27.3 +1.0**
comp=Z,3.2nm,0.8s,baz=45,slow=11,SNR=2.1
LPAZ La Paz 118.51 269 PKP **PKPdf 18 24 30.2 -0.3**
comp=Z,2.3nm,0.8s,baz=38,slow=2.2,SNR=4.8
GO01 Chusmiza 121.04 266 IAMs_20 IAMs_20 19 20 02.9
comp=Z,672nm,19.0s
PB11 IPOC Station P 121.47 266 IAMs_20 IAMs_20 19 22 42.2
comp=Z,771nm,18.0s
LVC Limon Verde 122.17 263 PKIKP **PKiKP 18 24 38.0 +0.7**
LVC Limon Verde 122.17 263 PKP **PKiKP 18 24 38.0 +0.7**

comp=Z,7.3nm,1.0s,baz=103,slow=2.9,SNR=5.0
NNA Nana 123.47 278 PKP **PKPdf 18 24 39.2 -0.2**
comp=Z,1.8nm,0.3s,baz=201,slow=8.6,SNR=3.2
QSPA South Pole Qui 123.99 180 PKP **PKiKP 18 24 39.2 0.0**
comp=Z,14nm,0.9s,baz=259,slow=1.9,SNR=28
QSPA South Pole Qui 123.99 180 PKiKP 18 24 39.7 +0.6
CFA Coronel Fontan 125.33 253 PKP **PKPdf 18 24 42.6 +0.1**
comp=Z,7.5nm,1.1s,baz=72,slow=0.7,SNR=8.3
DZM Mont Dzumac 127.03 93 eLR LR 19 04 45.3
comp=Z,794nm,36.3s
PLCA Paso Flores 129.93 243 PKP **PKiKP 18 24 51.7 -0.1**
comp=Z,9.0nm,1.0s,baz=139,slow=3.2,SNR=7.3
TAOE Nuku Hiva Isla 154.25 13 eLR LR 19 17 21.6
comp=Z,694nm,23.6s
TBI Tubuai 162.93 55 eLR LR 19 21 17.8
comp=Z,810nm,28.0s

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*GCG **24** 18:16:12.4±0.5, 12°.71N×90°.99W, h32km±228km, MD4.0*
*IDC **24** 18:16:18.0±1.3, 13°.28N×90°.90W, h0km, mb4.0/2, mb1 4.1/6, mb1mx3.7/60, mbtmp3.9/6, ML3.8/4, MS4.0/1, Ms1 4.0/1, ms1mx2.7/39, Error ellipse: s-maj=31.5km s-min=18.8km az=66.0*
*SNET **24** 18:16:19.2±0.9, 13°.27N×90°.79W, h2km±11km, ML3.6*
*MEX **24** 18:16:21.8±0.4, 13°.23N×91°.10W, h20km, MD4.0*
ISC 24 18:16:18.5±3.5, 13°.23N±0°.06×90°.98W±0°.04, h13km±22km, n32, σ1§47/42, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.07**	**29**	⇑*iP*	**Pb**	**18 16 38.5**	**-0.4**
IXG	**Ixpaco**	**1.07**	**29**	⇑*iP*	**Pb**	**18 16 37.5**	**-1.4**
PCG	**Pacaya**	**1.21**	**17**	*eP*	**Pn**	**18 16 40.9**	**-0.4**
FUG	**Fuego 3**	**1.22**	**6**	*eP*	**Pn**	**18 16 39.8**	**-1.5**
CEVE	**Cerro Verde**	**1.44**	**66**	⇓*eP*	**Pn**	**18 16 43.1**	**-1.5**
CEVE				*eS*	**Sn**	**18 17 01.8**	**-1.7**
SBLS	**San Blas**	**1.45**	**65**	⇓*eP*	**Pn**	**18 16 43.0**	**-1.6**
RTR	**El Retiro**	**1.46**	**63**	⇓*eP*	**Pn**	**18 16 43.3**	**-1.3**
SNJE	**San Jose**	**1.48**	**64**	⇓*eP*	**Pn**	**18 16 43.5**	**-1.5**
NBG	**Las Nubes**	**1.48**	**24**	*eP*	**Pn**	**18 16 45.8**	**+0.7**
STG3	**Santiaguito 3,**	**1.58**	**339**	*eP*	**Pn**	**18 16 45.8**	**-0.5**
UEES	**Universidad Ev**	**1.76**	**74**	*eP*	**Pn**	**18 16 47.8**	**-0.9**
UEES				*eS*	**Sn**	**18 17 09.6**	**-1.4**
UEES				IAML		18 17 12.9	
	comp=Z,818nm,0.2s						
APG	**El Apazote**	**1.83**	**16**	Pn	**Pn**	**18 16 50.1**	**+0.3**
	comp=Z,85nm,0.3s,baz=188,slow=13,SNR=331						
APG				Sn	**Sn**	**18 17 13.8**	**+0.7**
	comp=Z,119nm,0.3s,baz=255,slow=21,SNR=27						
LFU	**La Fuente**	**1.89**	**74**	*eP*	**Pn**	**18 16 50.0**	**-0.5**
MTO3	**Montecristo**	**1.95**	**53**	⇓*eP*	**Pn**	**18 16 50.9**	**-0.7**
COEG	**Centro de Oper**	**2.08**	**79**	*eP*	**Pn**	**18 16 52.5**	**-0.6**
COEG				IAML		18 17 23.5	
	comp=Z,380nm,0.5s						
THIG		**2.08**	**323**	*iP*	**Pn**	**18 16 52.6**	**-0.5**
THIG				*i*S	**Sn**	**18 17 15.0**	**-3.9**
MRL	**Marmol**	**2.23**	**34**	*eP*	**Pb**	**18 16 57.9**	**-0.8**
MRL				*eS*	**Sb**	**18 17 26.8**	**+0.5**
MRL	**Marmol**	**2.23**	**34**	*eP*	**Pn**	**18 16 55.3**	**0.0**
PACA	**Pacayal**	**2.59**	**84**	*eP*	**Pn**	**18 16 59.7**	**-0.6**
CNCH	**Conchagua**	**3.06**	**89**	*eP*	**Pn**	**18 17 05.7**	**-1.0**
CCIG	**Comitan**	**3.23**	**340**	*eP*	**Pn**	**18 17 08.4**	**-0.7**
CCIG				*i*S	**Sn**	**18 17 46.4**	**-1.2**
PCIG		**3.28**	**319**	*eP*	**Pn**	**18 17 09.0**	**-0.6**
PCIG				*i*S	**Sn**	**18 17 45.5**	**-2.9**
TGIG		**4.09**	**330**	*iP*	**Pn**	**18 17 21.1**	**+0.3**
TGIG				*i*S	**Sn**	**18 18 06.0**	**-2.6**
CMIG	**Matias Romero**	**5.38**	**316**	Pn	**Pn**	**18 17 39.4**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=133,slow=11,SNR=16						
CMIG				Sn	**Sn**	**18 18 39.1**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=46,slow=22,SNR=3.5						
CMIG	**Matias Romero**	**5.38**	**316**	*eP*	**Pn**	**18 17 38.4**	**-0.1**
CMIG				*i*S	**Sn**	**18 18 38.4**	**-1.9**
JTS	**Las Juntas de**	**6.58**	**116**	Pn	**Pn**	**18 17 55.6**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=175,slow=22,SNR=8.0						
JTS				Sn	**Sn**	**18 19 07.5**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=356,slow=19,SNR=2.1						
TEIG	**Tepich**	**7.42**	**20**	Pn	**Pn**	**18 18 07.7**	**+1.2**
	comp=Z,4.1nm,0.3s,baz=138,slow=0.4,SNR=23						
TEIG				Lg	Lg	18 20 19.5	
	comp=Z,0.6nm,0.3s,baz=319,slow=23,SNR=5.5						
TXAR	**Lajitas Array**	**19.88**	**326**	P	**Pn**	**18 20 51.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=9.0						
PCRV	**Puerto La Cruz**	**25.97**	**94**	LR	LR	18 32 40.1	
	comp=Z,388nm,21.8s,slow=38						
NVAR	**Mina Array Bea**	**34.89**	**321**	P	**P**	**18 23 12.5**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=137,slow=8.2,SNR=6.6						
LVC	**Limon Verde**	**41.67**	**149**	P	**P**	**18 24 09.4**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=93,slow=22,SNR=6.1						
CMAR	**Chiang Mai Arr**	**147.03**	**343**	PKPbc	**PKPdf**	**18 36 00.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=341,slow=3.1,SNR=6.0						

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*ISCJB **24** 18:26:56.0±1.0, 27°.99N±0°.06×51°.4E±0°.1, h10km, Error ellipse: s-maj=15.1km s-min=4.6km az=152.9*
*TEH **24** 18:27:00.2, 28°.29N×51°.43E, h18km, ML3.3*
*DSN **24** 18:27:00.3±1.2, 28°.15N×51°.74E, h10km, ML4.2/1, Error ellipse: s-maj=26.6km s-min=7.4km az=15.0*
*OMAN **24** 18:27:03.3±6.8, 28°.11N×51°.82E, h157km±315km, ml3.4/2, Error ellipse: s-maj=198.2km s-min=74.2km az=61.0*
ISC 24 18:26:57.4±1.9, 28°.01N±0°.06×51°.4E±0°.1, h10km, n31, σ1§17/37, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.72**	**113**	*ePn*	**Pg**	**18 27 31.8**	**+1.4**
LMD1				IAMB	IAmb	18 28 06.9	
	comp=Z,0.0nm,0.4s						
IKAZ	**Kazeroun**	**1.81**	**13**	*ePn*	**Pn**	**18 27 28.5**	**-0.5**
IKAZ				IAMB	IAmb	18 28 07.5	
	comp=Z,3μm,0.5s						
SHI	**Shiraz**	**1.90**	**31**	*ePn*	**Pn**	**18 27 30.5**	**+0.3**
SHI				*eSg*	**Sn**	**18 27 54.2**	**-0.1**
SHI				IAMB	IAmb	18 27 59.0	
	comp=Z,1μm,0.5s						
JHRM	**Jahrom**	**2.00**	**75**	*ePn*	**Pb**	**18 27 34.4**	**+0.4**
JHRM				IAMB	IAmb	18 28 09.1	
	comp=Z,0.0nm,0.4s						
IRAM	**Ramesheh**	**3.88**	**13**	*ePn*	**Pn**	**18 27 56.8**	**-0.6**
IBRJ	**Brojen**	**3.88**	**358**	*ePn*	**Pn**	**18 27 57.6**	**+0.1**
ZNGN	**Zangian**	**4.12**	**354**	*ePn*	**Pn**	**18 27 59.9**	**-0.8**
JHBN	**Jahan bin**	**4.25**	**352**	*ePn*	**Pn**	**18 28 02.0**	**-0.6**
ROKH	**ROKH**	**4.33**	**356**	*ePn*	**Pn**	**18 28 02.9**	**-0.7**
ISAD	**Sadrabad**	**4.37**	**27**	*ePn*	**Pn**	**18 28 04.5**	**+0.3**
IMEH	**Mehriz**	**4.39**	**39**	*ePn*	**Pn**	**18 28 05.1**	**+0.7**
IGAR	**Gharneh**	**4.42**	**7**	*ePn*	**Pn**	**18 28 03.7**	**-1.0**
SHME	**Shamm**	**4.67**	**114**	*iP*	**Pn**	**18 28 07.9**	**-0.3**
	SNR=5.4						
BANOM	**Banah**	**4.86**	**114**	*iP*	**Pn**	**18 28 10.8**	**+0.1**
	SNR=31						
BANOM				S	**Sn**	**18 29 05.3**	**-1.8**
BANOM	**Banah**	**4.86**	**114**	P	**Pn**	**18 28 11.0**	**+0.3**
	SNR=31						
BANOM				S	**Sn**	**18 29 05.8**	**-1.2**
ASUD	**Al Ashush, Dub**	**4.89**	**133**	*iP*	**Pn**	**18 28 12.9**	**+1.9**
	SNR=19						
ASUD	**Al Ashush, Dub**	**4.89**	**133**	P	**Pn**	**18 28 13.0**	**+1.9**
	SNR=20						
ICHK	**Chekchek**	**4.97**	**31**	*ePn*	**Pn**	**18 28 11.4**	**-0.9**
NGRK	**Negar Kerman**	**4.97**	**70**	*ePn*	**Pn**	**18 28 12.8**	**+0.3**
MSFE	**Esma-Masafi**	**5.03**	**121**	*iP*	**Pn**	**18 28 12.9**	**0.0**
	SNR=8.5						
KHGB	**Koh Gabri**	**5.04**	**61**	*ePn*	**Pn**	**18 28 14.1**	**+0.8**
IBAF	**Bafgh**	**5.09**	**45**	*ePn*	**Pn**	**18 28 14.3**	**+0.3**
TVBK	**TV Kerman**	**5.11**	**66**	*ePn*	**Pn**	**18 28 15.9**	**+1.5**
MDH	**Madha**	**5.16**	**120**	P	**Pn**	**18 28 15.2**	**+0.4**
MDH				S	**Sn**	**18 29 11.5**	**-3.0**
UOSS	**Minazif**	**5.29**	**124**	P	**Pn**	**18 28 16.7**	**+0.1**
	SNR=9.0						
HATD	**Hatta, Dubai**	**5.31**	**126**	P	**Pn**	**18 28 17.0**	**+0.2**
ASHO	**Ashiyiah**	**5.35**	**127**	*iP*	**Pn**	**18 28 18.0**	**+0.6**
	SNR=18						
ASHO	**Ashiyiah**	**5.35**	**127**	P	**Pn**	**18 28 18.0**	**+0.6**
	SNR=18						
ASHO				S	**Sn**	**18 29 17.8**	**-1.3**
CHMN	**Cheshme madani**	**5.70**	**70**	*ePn*	**Pn**	**18 28 22.9**	**+0.3**
ARQ	**Araqi**	**6.57**	**134**	P	**Pn**	**18 28 35.0**	**+0.8**
	SNR=5.8						
HOQ	**Hoqain**	**6.93**	**128**	P	**Pn**	**18 28 39.8**	**+0.7**
	SNR=6.9						
HOQ				S	**Sn**	**18 29 54.5**	**-3.5**

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*ISN **24** 18:39:02.0±1.4, 34°.35N×45°.52E, h0km±6km, ML3.1*
*TEH **24** 18:39:03.7, 34°.25N×45°.58E, h10km, ML3.1*
ISC 24 18:39:04.4±1.3, 34°.35N±0°.04×45°.58E±0°.03, h6km±11km, n22, σ0§86/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.75**	**62**	*ePg*	**Pg**	**18 39 19.2**	**+0.3**
IDHR				*eSg*	**Sb**	**18 39 30.8**	**+0.2**
IDHR				IAMB	IAmb	18 39 34.9	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.82**	**91**	*ePg*	**Pg**	**18 39 20.2**	**0.0**
IGHG				IAMB	IAmb	18 39 22.9	
	comp=Z,12μm,0.2s						
IGHG				*eSg*	**Sb**	**18 39 31.7**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.21**	**93**	*ePg*	**Pg**	**18 39 27.2**	**-0.5**
KCHF				*eSg*	**Sn**	**18 39 44.8**	**-0.1**
KCHF				IAMB	IAmb	18 39 49.7	
	comp=Z,0.0nm,0.3s						
IBDR	**Badra**	**1.27**	**167**	*ePg*	**Pn**	**18 39 28.0**	**-0.7**
IBDR				AML	AML	18 39 29.6	
	comp=Z,491nm,0.4s						
IBDR				*eSg*	**Sn**	**18 39 47.0**	**+0.9**
ILIN	**Lien**	**1.27**	**63**	*ePg*	**Pg**	**18 39 28.7**	**-0.2**
ILIN				IAMB	IAmb	18 39 30.6	
	comp=Z,4μm,0.2s						
KER	**Kermanshah**	**1.29**	**88**	*ePg*	**Pb**	**18 39 29.3**	**+0.2**
KER				*eSg*	**Sn**	**18 39 48.0**	**+1.4**
IKRK	**Kirkuk**	**1.46**	**316**	*ePn*	**Pn**	**18 39 31.0**	**-0.3**
IKRK				AML	AML	18 39 38.0	
	comp=Z,360nm,0.4s						
IKRK				*eSn*	**Sg**	**18 39 52.0**	**+0.7**
BHD	**Baghdad**	**1.47**	**223**	*ePn*	**Pn**	**18 39 31.0**	**-0.4**
BHD				*eSn*	**Sg**	**18 39 53.0**	**+1.3**
IKOM	**Komasi**	**1.61**	**96**	*ePn*	**Pn**	**18 39 33.6**	**+0.1**
IKOM				IAMB	IAmb	18 40 00.7	
	comp=Z,0.0nm,0.5s						
IBZA	**Bozab**	**1.89**	**86**	*ePn*	**Pn**	**18 39 38.2**	**+0.7**
IBZA				IAMB	IAmb	18 40 08.9	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**2.06**	**113**	*ePn*	**Pn**	**18 39 39.5**	**0.0**
IKFM				IAMB	IAmb	18 40 14.9	
	comp=Z,0.0nm,0.8s						
IDOB	**Doab**	**2.23**	**104**	*ePn*	**Pn**	**18 39 42.3**	**+0.2**
HSRG	**Sareghieh**	**2.39**	**67**	*ePn*	**Pb**	**18 39 46.4**	**-1.7**
HSRG				IAMB	IAmb	18 40 24.4	
	comp=Z,0.0nm,0.7s						
MAHB	**Mahabad**	**2.41**	**2**	*ePn*	**Pb**	**18 39 47.4**	**-0.9**
MAHB				IAMB	IAmb	18 40 28.1	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.48**	**109**	*ePn*	**Pn**	**18 39 45.2**	**0.0**
IKMR				IAMB	IAmb	18 39 45.9	
	comp=Z,0.0nm,0.3s						
HSAM	**Samen**	**2.51**	**92**	*ePn*	**Pn**	**18 39 46.1**	**+0.1**
HSAM				IAMB	IAmb	18 39 52.4	
	comp=Z,0.0nm,0.4s						
BDRS	**Dareh Seyedi**	**2.77**	**97**	*ePn*	**Pn**	**18 39 49.3**	**-0.3**
BDRS				IAMB	IAmb	18 39 56.6	
	comp=Z,0.0nm,0.3s						
MSL	**Mosul**	**2.87**	**316**	*ePn*	**Pn**	**18 39 51.0**	**+0.3**
MSL				AML	AML	18 39 55.0	
	comp=Z,204nm,0.0s						
MSL				*eSn*	**Sn**	**18 40 27.0**	**+1.5**
HAGD	**Aghdareh**	**2.98**	**80**	*ePn*	**Pn**	**18 39 53.3**	**+0.9**
HAGD				IAMB	IAmb	18 39 55.7	
	comp=Z,0.0nm,0.2s						
NSR	**Nassriya**	**3.37**	**172**	*ePn*	**Pn**	**18 39 58.0**	**+0.5**
NSR				*eSn*	**Sn**	**18 40 39.0**	**+1.3**
RTB	**Rutbah**	**4.59**	**255**	*ePn*	**Pn**	**18 40 15.0**	**+0.7**
RTB				*eSn*	**Sn**	**18 41 06.0**	**-1.9**
JHBN	**Jahan bin**	**4.76**	**115**	*ePn*	**Pn**	**18 40 16.3**	**-0.6**

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*IDC **24** 18:48:24.9±1.2, 5°.57S×128°.93E, h276km±18km, mb2.8/1, mb1 2.9/5, mb1mx2.6/41, mbtmp3.5/5, Error ellipse: s-maj=25.4km s-min=12.4km az=113.0*
*ISCJB **24** 18:48:26.3±0.5, 5°.60S±0°.04×128°.85E±0°.06, h250km, mb3.1/1, Error ellipse: s-maj=8.7km s-min=4.7km az=19.6*
*DJA **24** 18:48:27.1±0.5, 6°.S±3°×12°.9E±°, h255km±8km, M3.9/7, mb3.8/4, mB4.5/2, MLv3.9/7, Mw(mB)3.7/2*
ISC 24 18:48:24.9±0.8, 5°.60S±0°.05×128°.82E±0°.07, h250km, n14, σ2§63/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.24**	**3**	P	**Pn**	**18 49 10.8**	**+1.1**
MSAI				S	**S**	**18 49 48.6**	**+3.6**
SAUI	**Saumlaki**	**3.42**	**134**	P	**Pn**	**18 49 25.4**	**+3.3**
SAUI				S	**S**	**18 50 10.1**	**+2.7**
FAKI	**Fak Fak**	**4.34**	**52**	P	**Pn**	**18 49 34.9**	**+2.2**
SANI	**Sanana**	**4.51**	**321**	P	**Pn**	**18 49 37.9**	**+3.0**
SIJI	**Sorong**	**5.30**	**28**	P	**Pn**	**18 49 46.0**	**+1.6**
	0.9nm,0.3s,baz=228,slow=1.7,SNR=20						
SIJI				S	**S**	**18 50 47.2**	**-0.6**
	2.3nm,0.3s,baz=302,slow=24,SNR=16						
SWI	**Sorong**	**5.30**	**27**	P	**Pn**	**18 49 45.8**	**+1.4**
	7.5nm,0.9s,0.1nm						
SWI				S	**S**	**18 50 46.5**	**-1.4**
	7.5nm,0.9s,0.1nm						
SOEI	**Soe**	**6.11**	**227**	P	**Pn**	**18 49 57.0**	**+2.4**
	17nm,1.1s,0.1nm						
RKPI	**Ransiki, Papua**	**6.72**	**53**	P	**Pn**	**18 50 04.4**	**+2.3**
	32nm,0.5s,1μm0.3nm						
BATI	**Baumata**	**6.86**	**228**	P	**Pn**	**18 50 06.8**	**+3.0**
	9.2nm,0.3s,baz=36,slow=2.1,SNR=26						
BATI				S	**S**	**18 51 24.0**	**+0.8**
	0.5nm,0.3s,baz=131,slow=19,SNR=1.7						
BATI	**Baumata**	**6.86**	**228**	P	**Pn**	**18 50 06.8**	**+3.0**
FITZ	**Fitzroy Crossi**	**12.80**	**194**	P	**Pn**	**18 51 19.4**	**+0.9**
	0.1nm,0.3s,baz=10,slow=11,SNR=1.3						
FITZ				S	**S**	**18 53 38.8**	**-2.2**
	0.2nm,0.3s,baz=209,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**15.24**	**160**	P	**P**	**18 51 45.8**	**-1.7**
	0.3nm,0.3s,baz=342,slow=11,SNR=27						
WRA				S	**S**	**18 54 30.8**	**-5.0**
	0.1nm,0.3s,baz=346,slow=25,SNR=2.8						
ASAR	**Alice Springs**	**18.62**	**165**	P	**P**	**18 52 23.1**	**-1.2**
	0.1nm,0.3s,baz=345,slow=12,SNR=16						
MKAR	**Makanchi Array**	**66.42**	**327**	P	**P**	**18 58 44.7**	**-2.7**
	0.2nm,0.4s,baz=124,slow=9.1,SNR=1.8						

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*NEIC **24** 18:53:38.6±2.8, 1°.5N±0°.1×130°.5E±0°.1, h14km±4km, mb4.3/18*
*ISCJB **24** 18:53:45.1±0.6, 0°.63N±0°.06×129°.17E±0°.04, h10km, mb4.0/5, Error ellipse: s-maj=9.3km s-min=5.3km az=19.1*
*IDC **24** 18:53:45.3±1.1, 0°.60N×129°.17E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.6/45, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=50.2km s-min=18.0km az=58.0*
*DJA **24** 18:53:47.3±0.3, 0°.N±4°×12°.9E±°, h10km, M3.6/6, MLv3.6/6*
ISC 24 18:53:46.7±0.8, 0°.58N±0°.08×129°.16E±0°.05, h10km, n41, σ2§08/34, mb4.1/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.81**	**276**	P	**Pn**	**18 54 18.2**	**+0.3**
TNTI				S	**Sb**	**18 54 42.7**	**+0.1**
TNTI	**Ternate**	**1.81**	**276**		**Pn**	**18 54 18.5**	**+0.7**
LBMI	**Labuha**	**2.05**	**234**	P	**Pn**	**18 54 21.0**	**-0.3**
LBMI				S	**Sn**	**18 54 46.2**	**-0.7**
SWI	**Sorong**	**2.54**	**124**	P	**Pn**	**18 54 27.5**	**-0.4**
SWI				S	**Sn**	**18 54 59.5**	**+0.6**
SIJI	**Sorong**	**2.55**	**124**	Pn	**Pn**	**18 54 28.4**	**+0.4**
	9.5nm,0.3s,baz=328,slow=20,SNR=30						
SIJI				Sn	**Sn**	**18 54 60.0**	**+0.8**
	7.3nm,0.3s,baz=329,slow=22,SNR=9.9						
SANI	**Sanana**	**4.11**	**231**	P	**Pn**	**18 54 48.3**	**-1.2**
NLAI	**Namlea**	**4.31**	**209**	P	**Pn**	**18 54 52.9**	**+0.5**
FAKI	**Fak Fak**	**4.64**	**138**	Pn	**Pn**	**18 54 57.8**	**+0.8**
LUWI	**Luwuk**	**6.59**	**256**	Pn	Pb	18 55 33.4	-8.0
SOEI	**Soe**	**11.36**	**205**	Pn	Pn	18 56 41.7	+12
MTN	**Manton Dam**	**13.47**	**172**		**Pn**	**18 56 56.0**	**-2.0**
KNRA	**Kununurra**	**16.15**	**181**	Pn	**P**	**18 57 37.2**	**0.0**
KNRA				IAmb	IAmb	18 57 43.0	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.88**	**190**	P	**Pn**	**18 58 11.3**	**+3.5**
WB0	**Warramunga Arr**	**20.86**	**166**	P	**P**	**18 58 29.2**	**+0.3**
WRAB	**Tennant Creek**	**21.01**	**166**	P	**P**	**18 58 28.8**	**-1.7**
WRAB				IAmb	IAmb	18 58 46.8	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**21.01**	**166**	P	**P**	**18 58 30.8**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=346,slow=11,SNR=12						
WRA	**Warramunga Arr**	**21.01**	**166**	P	**P**	**18 58 27.8**	**-2.8**
WB2	**Warramunga Arr**	**21.02**	**166**	P	**P**	**18 58 29.1**	**-1.6**
WB2				IAmb	IAmb	18 58 44.1	
	comp=Z,15nm,1.5s						
WR0	**Warramunga Arr**	**21.08**	**166**	P	**P**	**18 58 30.0**	**-1.3**
PSAD2	**Pilbara Seismi**	**23.82**	**202**	P	**P**	**18 59 04.7**	**+4.7**
PSA00	**Pilbara Seismi**	**23.82**	**202**	P	**P**	**18 59 05.5**	**+5.5**
PSAB3	**Pilbara Seismi**	**23.84**	**202**	P	**P**	**18 59 03.4**	**+3.3**
AS31	**Alice Springs**	**24.53**	**169**	P	**P**	**18 59 07.1**	**+0.5**
AS31				IAmb	IAmb	18 59 08.9	
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**24.53**	**169**	P	**P**	**18 59 07.0**	**+0.3**
	comp=Z,11nm,0.8s,baz=349,slow=11,SNR=81						
ASAR	**Alice Springs**	**24.53**	**169**	P	**P**	**18 59 06.9**	**+0.2**
PBKT	**Sadao Pong**	**32.01**	**301**	P	**P**	**19 00 12.1**	**-1.4**
PBKT				IAmb	IAmb	19 00 28.8	
	comp=Z,3.3nm,1.2s						
MORW	**Morawa**	**32.04**	**202**	P	**P**	**19 00 16.7**	**+3.1**
MORW				IAmb	IAmb	19 00 32.7	
	comp=Z,6.8nm,1.1s						
JNU	**Nakatsue**	**32.41**	**3**	P	P	18 59 58.9	-18
EIDS	**Eidsvold**	**33.38**	**142**	P	P	19 00 15.4	-10
EIDS				IAmb	IAmb	19 00 22.5	
	comp=Z,9.7nm,1.2s						
BBOO	**Buckleboo**	**33.84**	**170**	P	**P**	**19 00 26.4**	**-3.0**
STKA	**Stephens Creek**	**34.36**	**161**	P	**P**	**19 00 30.1**	**-3.7**
ARMA	**Armidale**	**37.51**	**147**	P	P	19 00 52.0	-9.1
ARMA				IAmb	IAmb	19 00 55.7	
	comp=Z,13nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**40.91**	**62**	T	T	19 45 08.0	
	baz=246						
H11S2	**WAKE ISLAND Hy**	**40.92**	**62**	T	T	19 45 07.4	
	baz=246						
H11S1	**WAKE ISLAND Hy**	**40.93**	**62**	T	T	19 45 09.5	
	baz=246						
H11N1	**WAKE ISLAND Hy**	**41.55**	**60**	T	T	19 45 52.3	
	baz=247,slow=75,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**41.56**	**60**	T	T	19 45 52.7	
	baz=247,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**41.56**	**60**	T	T	19 45 50.5	
	baz=247,slow=75,SNR=6.2						
SONM	**Songino Array**	**51.05**	**340**	P	**P**	**19 02 48.8**	**-0.5**
	comp=Z,0.5nm,1.1s,baz=155,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**61.52**	**325**	P	**P**	**19 04 03.8**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=114,slow=6.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**65.69**	**327**	P	**P**	**19 04 32.2**	**+0.9**
	comp=Z,1.9nm,0.2s,baz=126,slow=4.7,SNR=1.9						

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*NNC **24** 19:02:29.5±2.8, 40°.76N×77°.75E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=19.1km s-min=13.1km az=175.0*
*SOME **24** 19:02:30.3, 40°.82N×77°.73E, h15km*
*KRNET **24** 19:02:33.1±0.1, 40°.96N×77°.80E, h19km, mb2.7*
ISC 24 19:02:32.8±1.3, 40°.94N±0°.04×77°.71E±0°.03, h10km±12km, n52, σ1§27/81, 18C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.79**	**5**	⇑*iP*	**Pg**	**19 02 47.8**	**-0.3**
	baz=0.0						
TARG				⇑*iS*	**Sg**	**19 02 58.6**	**+0.2**
	baz=0.0						
KDJ	**Kajisay**	**1.25**	**342**	⇓*iP*	**Pg**	**19 02 56.6**	**-0.2**
	baz=39						
KDJ				⇓*iS*	**Sb**	**19 03 13.9**	**+1.0**
	baz=39						
NRN	**Naryn**	**1.38**	**291**	⇑*iP*	**Pg**	**19 03 00.1**	**+0.8**
	baz=89						
NRN				⇑*iS*	**Sg**	**19 03 19.3**	**+2.1**
	baz=89						
PRZ	**Przheval'sk**	**1.62**	**18**	⇓*eP*	**Pb**	**19 03 02.7**	**-0.3**
	baz=17						
PRZ				⇓*iS*	**Sn**	**19 03 23.2**	**+0.4**
	baz=17						
ULHL	**Ulahol**	**1.70**	**320**	⇑*eP*	**Pg**	**19 03 04.7**	**-0.8**
	baz=18						
ULHL				⇑*iS*	**Sg**	**19 03 28.1**	**+0.5**
	baz=18						
ANVS	**Anan'yevo**	**1.84**	**359**	⇓*iP*	**Pb**	**19 03 06.7**	**+0.1**
	baz=57						
ANVS				⇓*iS*	**Sb**	**19 03 31.2**	**+1.4**
	baz=57						
KSH	**Kashi**	**1.95**	**224**	⇑*iP*	**Pg**	**19 03 09.8**	**-0.3**
	baz=26						
KSH				⇑*iS*	**Sg**	**19 03 36.8**	**+1.4**
	baz=26				

baz=21
TKM2 ⇑*i*S **Sb** **19 03 49.2 -0.4**
baz=21
SHLS Shalkode 2.57 30 Pg **Pg** **19 03 22.3 +0.2**
2.3nm,0.5s
SHLS Lg Lg 19 03 59.1
29nm,0.6s
SHLS Shalkode 2.57 30 *e*P **Pg** **19 03 22.3 +0.2**
2.3nm,0.5s
SHLS *e*S **Sg** **19 03 59.1 +3.8**
29nm,0.6s
KPKS Kokpek 2.62 16 *e*P **Pb** **19 03 20.8 +0.8**
23nm,0.3s
KPKS *e*S **Sg** **19 03 56.5 -0.6**
20nm,0.5s
KBK Karagaybulak 2.68 311⇓*e*P **Pb** **19 03 19.6 -1.4**
baz=10.0
KBK ⇓*i*S **Sb** **19 03 52.9 -1.1**
baz=10.0
ARLS Aral 2.71 291⇑*e*P **Pb** **19 03 19.7 -1.7**
baz=90
ARLS ⇑*e*S **Sb** **19 03 54.0 -0.7**
baz=90
DGS Degeres 2.71 329 Pg **Pb** **19 03 22.7 +1.2**
3.5nm,0.5s
DGS Lg Lg 19 03 59.9
8.3nm,0.6s
DGS Degeres 2.71 329 *e*P **Pb** **19 03 22.7 +1.2**
3.5nm,0.5s
DGS *e*S **Sg** **19 03 59.9 0.0**
8.3nm,0.6s
UCH Uchtor 2.72 299⇓*e*P **Pb** **19 03 20.1 -1.7**
baz=98
UCH ⇓*i*S **Sb** **19 03 54.8 -0.5**
baz=98
PDGK Podgornoye 2.73 28 Pg **Pb** **19 03 20.8 -1.0**
3.6nm,0.3s
PDGK Lg Lg 19 03 57.0
11nm,0.6s
PDGK Podgornoye 2.73 28 ⇓Pg **Pb** **19 03 21.8 0.0**
4.8nm,0.6s
PDGK ⇑Lg Lg 19 04 00.4
20nm,0.6s
KTBS Karatobe 2.87 345 Pg **Pb** **19 03 25.6 +1.5**
16nm,0.4s
KTBS Lg Lg 19 04 05.3
16nm,0.6s
KTBS Karatobe 2.87 345 *e*P **Pb** **19 03 25.6 +1.5**
16nm,0.4s
KTBS *e*S **Sg** **19 04 05.3 +0.4**
16nm,0.6s
AAK Ala-Archa 2.94 306 ⇓Pg **Pb** **19 03 24.9 -0.5**
1.1nm,0.3s
AAK ⇓Lg Lg 19 04 07.4
9.4nm,0.9s
CHKK Chushkaly 2.96 350 Pg **Pb** **19 03 26.8 +1.2**
4.1nm,0.3s
CHKK Lg Lg 19 04 07.2
6.5nm,0.3s
CHKK Chushkaly 2.96 350 *e*P **Pb** **19 03 26.8 +1.2**
4.1nm,0.3s
CHKK *e*S **Sg** **19 04 07.2 -0.5**
6.5nm,0.3s
KUU Kurty 3.12 341 Pg **Pb** **19 03 29.7 +1.4**
1.2nm,0.2s
KUU Lg Lg 19 04 12.3
10.0nm,0.5s
KUU Kurty 3.12 341⇑*i*P **Pb** **19 03 29.7 +1.4**
1.2nm,0.2s
KUU *e*S **Sg** **19 04 12.3 -0.6**
10.0nm,0.5s
ARXS Arharly 3.27 2 Pg **Pb** **19 03 32.3 +1.3**
3.7nm,0.4s
ARXS Lg Lg 19 04 16.6
8.0nm,0.5s
ARXS Arharly 3.27 2 *e*P **Pb** **19 03 32.3 +1.3**
3.7nm,0.4s
ARXS *e*S **Sg** **19 04 16.6 -1.2**
8.0nm,0.5s
DJR Jarkent 3.72 24 Pg **Pb** **19 03 40.0 +1.4**
1.5nm,0.2s
DJR Lg Lg 19 04 29.7
2.5nm,0.5s
DJR Jarkent 3.72 24 *e*P **Pb** **19 03 40.0 +1.4**
1.5nm,0.2s
DJR *e*S **Sg** **19 04 29.7 -2.5**
2.5nm,0.5s
KAPS Kapalarasan 4.50 15 Pg **Pg** **19 03 55.9 -3.1**
1.6nm,0.4s
KAPS Lg Lg 19 04 56.9
2.2nm,0.5s
KAPS Kapalarasan 4.50 15 *e*P **Pg** **19 03 55.9 -3.1**
1.6nm,0.4s
KAPS *e*S **Sg** **19 04 56.9 -0.5**
2.2nm,0.5s
KK31 Karatay Array 5.78 294 Lg Lg 19 05 35.8
baz=130,slow=28

*ISCJB **24** 19:05:24.3±0.3, 43°.81N±0°.02×105°.18W±0°.04, h7km, mb4.0/6, Error ellipse: s-maj=4.1km s-min=3.5km az=171.9*
*NEIC **24** 19:05:25.3±1.4, 43°.82N±0°.04×105°.20W±0°.05, h0km±1km, ML3.6/70*
*IDC **24** 19:05:25.8±0.7, 44°.08N×105°.66W, h0km, mb3.9/6, mb1 3.9/13, mb1mx3.7/47, mbtmp3.7/13, ML3.3/6, Error ellipse: s-maj=20.9km s-min=6.4km az=146.0*
ISC 24 19:05:26.0±0.6, **43°.81N**±0°.04×**105°.26W**±0°.04, **h7**km, **n97**, σ**1**§**30**/104, **mb4.1/6, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**70**		**Pg**	**19 05 43.8**	**-0.2**
K22A	**Casper**	**1.49**	**219**		**Pn**	**19 05 52.1**	**-1.2**
K22A				IAML		19 06 15.0	
comp=N,825nm,0.4s							
PHWY	**Pilot Hill**	**2.51**	**183**		**Pn**	**19 06 07.7**	**+0.1**
RWWY	**Rawlins**	**2.56**	**215**		**Pn**	**19 06 09.6**	**+1.4**
RWWY				Sn	**Sn**	**19 06 41.5**	**+1.7**
RWWY				IAML		19 06 47.7	
comp=N,328nm,0.8s							
LAO	**LASA Array**	**2.96**	**347**		**Pn**	**19 06 13.7**	**+0.3**
N23A	**Red Feather La**	**2.96**	**190**		**Pn**	**19 06 14.5**	**+0.8**
N23A				Sn	**Sb**	**19 06 53.9**	**-1.8**
N23A				IAML		19 07 00.6	
comp=N,230nm,0.6s							
N23A				IAML		19 07 04.1	
comp=E,108nm,0.8s							
RLMT	**Red Lodge**	**3.16**	**296**		**Pn**	**19 06 16.9**	**+0.5**
RLMT					**Sn**	**19 06 57.9**	**+3.6**
RLMT				IAML		19 07 12.1	
comp=E,114nm,0.6s							
RLMT				IAML		19 07 13.5	
comp=E,142nm,0.6s							
PD31	**Pinedale Array**	**3.31**	**253**		**Pn**	**19 06 18.9**	**+0.4**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 06 18.9**	**+0.4**
comp=E,12nm,0.3s,baz=66,slow=16,SNR=97							
PDAR				Pg	**Pb**	**19 06 24.4**	**-0.8**
comp=E,31nm,0.3s,baz=70,slow=19,SNR=84							
PDAR				Lg	Lg	19 07 04.5	
comp=E,18nm,0.3s,baz=79,slow=33,SNR=9.5							
PDAR	**Pinedale Array**	**3.31**	**253**		**Pn**	**19 06 18.6**	**+0.2**
BW06	**Boulder Array**	**3.31**	**253**		**Pn**	**19 06 18.7**	**+0.3**
BW06				IAML		19 07 14.3	
comp=N,77nm,0.7s							
BW06				IAML		19 07 16.3	
comp=E,82nm,0.7s							
YNE	**Yellowstone No**	**3.61**	**291**		**Pn**	**19 06 22.7**	**+0.2**
YNE				Sn	**Sn**	**19 07 08.8**	**+3.2**
YMP	**Mirror Lake Pl**	**3.64**	**286**		**Pn**	**19 06 23.5**	**+0.5**
GCMT	**Greycliff**	**3.71**	**304**		**Pn**	**19 06 23.9**	**0.0**
OGNE	**Ogallala**	**3.73**	**139**		**Pn**	**19 06 23.4**	**-0.7**
LKWY	**Lake**	**3.78**	**283**		**Pn**	**19 06 25.6**	**+0.7**
LKWY				IAML		19 06 50.3	
comp=E,96nm,0.6s							
LKWY				IAML		19 06 51.1	
comp=E,72nm,0.7s							
H17A	**Grant Village**	**3.88**	**280**		**Pn**	**19 06 27.9**	**+1.7**
H17A				IAML		19 07 32.7	
comp=N,54nm,0.3s							
FLWY	**Flagg Ranch**	**3.94**	**276**		**Pn**	**19 06 27.5**	**+0.4**
FLWY				IAML		19 07 35.9	
comp=N,55nm,1.0s							
FLWY				IAML		19 07 40.6	
comp=N,53nm,1.7s							
MOOW	**Moose Ponds**	**3.98**	**271**		**Pn**	**19 06 28.1**	**+0.5**
YNR	**Norris Junctio**	**4.00**	**285**		**Pn**	**19 06 31.6**	**+3.6**
SNOW	**Snow King Moun**	**4.01**	**267**		**Pn**	**19 06 28.8**	**+0.7**
SNOW				IAML		19 07 35.4	
comp=N,74nm,1.1s							
SNOW				IAML		19 07 40.6	
comp=N,65nm,0.8s							
ISCO	**Idaho Springs**	**4.02**	**184**		**Pn**	**19 06 29.1**	**+0.8**
YPP	**Pitchstone Pla**	**4.03**	**278**		**Pn**	**19 06 29.2**	**+0.8**
YPP				Sg	**Sg**	**19 07 33.9**	**-1.4**
REDW	**Red Top Meadow**	**4.09**	**266**		**Pn**	**19 06 30.1**	**+1.0**
REDW				IAML		19 07 50.2	
comp=N,85nm,0.7s							
REDW				IAML		19 07 53.0	
comp=N,82nm,0.8s							
IMW	**Indian Meadow**	**4.11**	**273**		**Pn**	**19 06 30.2**	**+0.7**
IMW				IAML		19 06 59.0	
comp=N,87nm,0.6s							
IMW				Sg	**Sg**	**19 07 36.8**	**-1.3**
IMW				IAML		19 07 40.7	
comp=N,50nm,0.9s							
YHH	**Holmes Hill**	**4.13**	**286**		**Pn**	**19 06 30.0**	**+0.2**
YHH				Sg	**Sg**	**19 07 35.7**	**-3.0**
TPAW	**Teton Pass**	**4.15**	**268**		**Pn**	**19 06 31.5**	**+1.5**
TPAW				IAML		19 07 52.7	
comp=N,78nm,0.7s							
FXWY	**Fox Creek**	**4.19**	**270**		**Pn**	**19 06 30.9**	**+0.5**
YMR	**Madison River**	**4.19**	**284**		**Pn**	**19 06 31.1**	**+0.5**
O20A	**White River Ci**	**4.30**	**212**		**Pn**	**19 06 32.7**	**+0.7**
O20A				IAML		19 07 42.0	
comp=E,84nm,1.0s							
O20A				Sg	**Sg**	**19 07 42.3**	**-1.7**
O20A				IAML		19 07 43.9	
comp=N,77nm,0.9s							
YHB	**Horse Butte**	**4.37**	**284**		**Pn**	**19 06 33.2**	**+0.3**
YHL	**Hebgen Lake**	**4.38**	**286**		**Pn**	**19 06 33.1**	**-0.1**
AHID	**Auburn Hatcher**	**4.39**	**258**		**Pn**	**19 06 34.3**	**+1.0**
AHID				IAML		19 07 37.7	
comp=E,78nm,0.1s							
QLMT	**Earthquake Lak**	**4.55**	**285**		**Pn**	**19 06 36.2**	**+0.8**
RDMU	**Red Mountain**	**4.56**	**226**		**Pn**	**19 06 36.2**	**+0.6**
RDMU				Sg	**Sg**	**19 07 49.3**	**-3.0**
DGMT	**Dagmar**	**4.72**	**9**		**Pn**	**19 06 39.1**	**+1.6**
Q24A	**Divide**	**4.84**	**179**	Sg	**Sb**	**19 07 55.5**	**+5.5**
BOZ	**Bozeman (W)**	**4.88**	**294**		**Pn**	**19 06 39.8**	**-0.1**
BOZ				IAML		19 07 57.3	
comp=E,25nm,0.9s							
BOZ				IAML		19 08 05.6	
comp=E,36nm,0.9s							
HWUT	**Hardware Ranch**	**5.14**	**247**		**Pn**	**19 06 44.2**	**+0.6**
HWUT				IAML		19 08 13.3	
comp=E,43nm,1.0s							
EGMT	**Eagleton**	**5.25**	**325**		**Pn**	**19 06 45.0**	**+0.1**
EGMT				Sg	**Sg**	**19 08 13.9**	**-0.7**
TCUT	**Toone Canyon**	**5.29**	**241**		**Pn**	**19 06 45.9**	**+0.3**
HRY	**Holter Researc**	**5.47**	**304**		**Pn**	**19 06 48.8**	**+0.8**
MCMT	**McKenzie Canyo**	**5.54**	**283**		**Pn**	**19 06 50.2**	**+1.1**
JLU	**Jordanelle**	**5.61**	**237**		**Pn**	**19 06 50.1**	**+0.1**
CTU	**Camp Tracy**	**5.74**	**239**		**Pn**	**19 06 50.8**	**-1.0**
SPUT	**South Promonto**	**5.87**	**247**	Pn	**Pn**	**19 06 55.5**	**+1.9**
HVU	**Hansel Valley**	**5.89**	**252**		**Pn**	**19 06 54.5**	**+0.6**
PV22	**Blue Mesa, Par**	**5.91**	**208**	Pn	**Pn**	**19 06 55.1**	**+0.3**
PV07	**Paradox Valley**	**5.95**	**207**	Pn	**Pn**	**19 06 55.3**	**+0.6**
PV21	**Cone Mtn., Par**	**5.95**	**209**		**Pn**	**19 06 55.3**	**+0.6**
P17A	**Butcher Ranch,**	**5.97**	**225**		**Pn**	**19 06 55.8**	**+0.9**
PV23	**Carpenter Ridg**	**6.06**	**209**	Pn	**Pn**	**19 06 56.7**	**+0.4**
PV09	**Paradox Valley**	**6.06**	**210**	Pn	**Pn**	**19 06 56.9**	**+0.6**
SDCO	**Great Sand Dun**	**6.06**	**182**		**Pn**	**19 06 55.9**	**-0.4**
MPU	**Maple Canyon**	**6.08**	**234**		**Pn**	**19 06 57.5**	**+0.9**
SRU	**San Rafael Swe**	**6.14**	**222**		**Pn**	**19 06 57.1**	**-0.2**
S22A	**4UR Ranch, Cre**	**6.18**	**192**		**Pn**	**19 06 58.4**	**+0.5**
PV03	**Paradox Valley**	**6.18**	**207**		**Pn**	**19 06 58.6**	**+0.7**
ECSD	**EROS Data Cent**	**6.26**	**88**		**Pn**	**19 06 58.8**	**+0.1**
TMUT	**Trail Mountain**	**6.35**	**227**		**Pn**	**19 07 00.6**	**+0.4**
NLU	**North Lily Min**	**6.38**	**235**	Pn	**Pn**	**19 07 00.2**	**-0.4**
BGU	**Big Grassy Mou**	**6.44**	**246**		**Pn**	**19 07 02.0**	**+0.6**
CBKS	**Cedar Bluff**	**6.50**	**138**	Pn	**Pn**	**19 07 01.9**	**-0.1**
Q16A	**Castle Valley**	**6.61**	**224**		**Pn**	**19 07 04.1**	**+0.3**
DUG	**Dugway, Tooele**	**6.69**	**240**		**Pn**	**19 07 04.8**	**0.0**
T25A	**Trinidad**	**6.70**	**174**		**Pn**	**19 07 04.2**	**-0.8**
MSO	**Missoula**	**6.82**	**299**		**Pn**	**19 07 06.9**	**+0.3**
MVCO	**Mesa Verde**	**7.04**	**202**		**Pn**	**19 07 12.4**	**+2.7**
JTMT	**Jette**	**7.43**	**305**		**Pn**	**19 07 16.2**	**+1.2**
MSU	**Marysvale**	**7.43**	**227**		**Pn**	**19 07 15.8**	**+0.7**
TCRU	**Three Creeks R**	**7.51**	**229**	Pn	**Pn**	**19 07 16.5**	**+0.3**
MTPU	**Mount Pierson**	**7.79**	**225**		**Pn**	**19 07 20.3**	**+0.1**
WALA	**Waterton Lakes**	**7.95**	**314**	Pn	**Pn**	**19 07 21.4**	**-0.7**
ELK	**Elko**	**8.01**	**251**	Pn	**Pn**	**19 07 23.7**	**+0.7**
comp=E,0.5nm,0.3s,baz=72,slow=8.9,SNR=8.0							
ELK				Lg	Lg	19 09 30.9	
comp=E,0.1nm,0.3s,baz=21,slow=18,SNR=2.0							
PKCU	**Pink Cliffs**	**8.32**	**223**		**Pn**	**19 07 28.5**	**+1.2**
PSUT	**Pine Spring**	**8.36**	**234**		**Pn**	**19 07 29.0**	**+1.3**
F10A	**Beach Ranch, E**	**8.77**	**288**		**Pn**	**19 07 33.9**	**+0.7**
CCUT	**Cedar City**	**8.78**	**227**		**Pn**	**19 07 34.8**	**+1.3**
ANMO	**Albuquerque**	**8.90**	**186**	Pg	Pg	19 08 11.2	-5.3
comp=E,0.1nm,0.3s,baz=358,slow=16,SNR=2.7							
I10CA	**LAC DU BONNET**	**8.97**	**41**	*i*		19 59 40.0	
baz=220,slow=330,SNR=0.4							
ULM	**Lac du Bonnet**	**9.08**	**42**	Pn	**Pn**	**19 07 35.8**	**-1.5**
comp=E,2.7nm,0.3s,baz=230,slow=12,SNR=21							
ULM				Pg		19 08 08.8	
comp=E,2.0nm,0.3s,baz=242,slow=14,SNR=5.0							
ULM				Lg	Lg	19 10 06.0	
comp=E,0.8nm,0.3s,baz=86,slow=14,SNR=2.7							
ULM	**Lac du Bonnet**	**9.08**	**42**		**Pn**	**19 07 35.6**	**-1.7**
U15A	**North Rim**	**9.13**	**218**		**Pn**	**19 07 38.0**	**-0.4**
NEW	**Newport**	**9.38**	**302**	Lg	Lg	19 10 01.1	
comp=E,0.2nm,0.3s,baz=252,slow=19,SNR=2.2							
WUAZ	**Wupatki**	**9.53**	**212**		Pn	19 07 38.2	-5.6
KVN	**Kaiserville**	**10.75**	**248**		**Pn**	**19 07 59.6**	**-0.9**
FFC	**Flin Flon**	**11.13**	**10**		**Pn**	**19 08 04.1**	**-1.4**
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**19 08 08.9**	**+2.0**
comp=E,0.3nm,0.3s,baz=47,slow=12,SNR=7.6							
YBH	**Yreka Blue Hor**	**12.99**	**267**	Pn	**Pn**	**19 08 33.5**	**+2.4**
comp=E,0.1nm,0.3s,baz=47,slow=7.8,SNR=5.8							
TXAR	**Lajitas Array**	**14.51**	**174**	Pn	**P**	**19 08 59.0**	**+0.4**
comp=E,0.1nm,0.3s,baz=356,slow=10.0,SNR=3.9							
TXAR				Pg		19 09 55.0	
comp=E,0.1nm,0.3s,baz=5.2,slow=15,SNR=4.5							
TXAR				Lg	Lg	19 13 09.8	
comp=E,0.0nm,0.3s,baz=336,slow=24,SNR=6.2							
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**19 09 52.0**	**-1.3**
comp=E,0.1nm,0.3s,baz=160,slow=11,SNR=4.0							
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**19 15 40.7**	**-1.1**
comp=E,2.4nm,0.7s,baz=321,slow=6.9,SNR=5.2							
NOA	**NORSAR Array B**	**63.54**	**29**	P	**P**	**19 15 57.3**	**+0.6**
comp=E,1.1nm,0.8s,baz=327,slow=13,SNR=2.5							
GERES	**GERESS Array B**	**73.36**	**37**	P	**P**	**19 16 58.5**	**+0.2**
comp=E,0.2nm,0.3s,baz=306,slow=8.4,SNR=4.1							
ZALV	**Zalesovo Beam**	**82.23**	**354**	P	**P**	**19 17 46.8**	**-0.8**
comp=E,1.0nm,0.6s,baz=33,slow=5.7,SNR=4.4							
SONM	**Songino Array**	**84.57**	**339**	P	**P**	**19 17 59.9**	**0.0**
comp=E,0.4nm,0.5s,baz=26,slow=2.1,SNR=3.5							
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**19 18 23.9**	**0.0**
comp=E,0.9nm,0.7s,baz=28,slow=5.9,SNR=5.7							

*ISCJB **24** 19:16:22.7±0.2, 6°.56S±0°.03×129°.86E±0°.04, h150km, mb4.1/11, Error ellipse: s-maj=5.5km s-min=4.2km az=171.3*
*NEIC **24** 19:16:25.6±2.8, 6°.49S±0°.06×129°.90E±0°.07, h171km±5km, mb4.4/25*
*DJA **24** 19:16:25.2±0.2, 7°.S±3°.×13°.0E±°, h198km±8km, M4.5/14, mB4.9/9, mb4.6/12, MLv4.8/14, Mw(mB)4.2/9*
*IDC **24** 19:16:26.1±1.9, 6°.46S×129°.98E, h164km±19km, mb3.9/10, mb1 4.0/14, mb1mx3.8/34, mbtmp4.4/14, MS3.0/1, Ms1 3.0/1, ms1mx2.6/43, Error ellipse: s-maj=17.6km s-min=11.5km az=63.0*
ISC 24 19:16:24.1±0.4, **6°.58S**±0°.04×**129°.89E**±0°.05, **h150**km, **n91**, σ**2**§**00**/94, **mb4.4**/19, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.97**	**135**	P	**Pn**	**19 17 02.9**	**+3.9**
SAUI	**Saumlaki**	**1.97**	**135**		**Pn**	**19 17 03.1**	**+4.1**
BNDI	**Bandanaira**	**2.04**	**0**	P	**Pn**	**19 17 04.0**	**+4.2**
AAI	**Ambon**	**3.33**	**329**	P	**Pn**	**19 17 19.6**	**+3.8**
MSAI	**Masohi**	**3.35**	**343**	P	**Pn**	**19 17 19.9**	**+3.8**
FAKI	**Fak Fak**	**4.33**	**33**	P	**Pn**	**19 17 29.1**	**+0.3**
FAKI	**Fak Fak**	**4.33**	**33**		**Pn**	**19 17 29.1**	**+0.3**
NLAI	**Namlea**	**4.33**	**320**	P	Pn	19 17 37.0	+8.2
SIJI	**Sorong**	**5.84**	**14**	P	**Pn**	**19 17 48.6**	**-0.1**
11nm,0.3s,baz=50,slow=16,SNR=60							
SIJI				S	**Sn**	**19 18 50.3**	**-4.6**
21nm,0.3s,baz=80,slow=23,SNR=22							
SIJI				LR	LR	19 21 02.0	
comp=Z,136nm,18.4s,baz=290,slow=48							
SWI	**Sorong**	**5.84**	**14**	P	**Pn**	**19 17 48.6**	**-0.2**
SANI	**Sanana**	**5.95**	**319**	P	**Pn**	**19 17 53.8**	**+3.6**
30nm,0.8s							
MTN	**Manton Dam**	**6.34**	**169**		**Pn**	**19 17 57.2**	**+1.7**
LBMI	**Labuha**	**6.37**	**338**	P	**Pn**	**19 17 57.9**	**+2.1**
114nm,0.8s,7μm							
SOEI	**Soe**	**6.40**	**240**	P	**Pn**	**19 17 59.4**	**+3.1**
68nm,0.6s,1μm							
SOEI	**Soe**	**6.40**	**240**		**Pn**	**19 17 59.1**	**+2.8**
RKPI	**Ransiki, Papua**	**6.60**	**40**	P	**Pn**	**19 18 00.3**	**+1.3**
149nm,0.8s,4μm							
BATI	**Baumata**	**7.14**	**239**	P	**Pn**	**19 18 09.7**	**+3.5**
32nm,0.3s,baz=78,slow=1.4,SNR=39							
BATI				S	**Sn**	**19 19 27.0**	**+0.9**
32nm,0.3s,baz=195,slow=22,SNR=12							
BATI	**Baumata**	**7.14**	**239**	P	**Pn**	**19 18 09.2**	**+3.1**
72nm,0.6s,876nm							
KDI	**Kendari**	**7.70**	**289**	P	Pn	19 18 23.4	+10
MMRI	**Maumere**	**7.86**	**254**		**Pn**	**19 18 18.6**	**+2.9**
BAKI	**Biak**	**8.19**	**49**	P	**Pn**	**19 18 24.3**	**+4.1**
KNRA	**Kununurra**	**9.11**	**187**		**Pn**	**19 18 32.6**	**+0.2**
WAMI	**Wamena**	**9.18**	**73**	P	Pn	19 18 48.9	+16
WBSI	**Waikabubak, Su**	**10.83**	**253**	P	**Pn**	**19 18 56.1**	**+0.8**
46nm,0.8s							
JAY	**Jayapura**	**11.51**	**70**	P	**Pn**	**19 19 04.8**	**+0.7**
0.3nm,0.3s,baz=180,slow=20,SNR=1.8							
FITZ	**Fitzroy Crossi**	**12.18**	**200**	P	**Pn**	**19 19 12.0**	**-0.8**
1.8nm,0.3s,baz=27,slow=11,SNR=57							
FITZ				S	Sn	19 21 19.5	-8.0
4.8nm,0.3s,baz=204,slow=17,SNR=7.6							
FITZ	**Fitzroy Crossi**	**12.18**	**200**		**Pn**	**19 19 12.8**	**0.0**
FITZ					**Sn**	**19 21 23.8**	**-3.6**
PLAI	**Plampang**	**12.21**	**259**	P	**Pn**	**19 19 12.7**	**-0.6**
WRAB	**Tennant Creek**	**13.96**	**162**		**Pn**	**19 19 33.6**	**-2.0**
WRA	**Warramunga Arr**	**13.97**	**162**	P	**Pn**	**19 19 33.5**	**-2.2**
2.0nm,0.3s,baz=347,slow=13,SNR=61							
WRA				S	Sn	19 21 60.0	-11
5.8nm,0.3s,baz=334,slow=20,SNR=13							
COEN	**Coen**	**14.98**	**120**	P	**Pn**	**19 19 49.7**	**+1.3**
COEN				IAmb	IAmb	19 19 52.7	
comp=Z,18nm,0.8s							
JAGI	**Jajag, Banyuwa**	**15.72**	**262**	P	**Pn**	**19 19 55.6**	**-2.0**
JAGI				IAmb	IAmb	19 20 02.4	
comp=Z,17nm,0.9s							
PMG	**Port Moresby**	**17.33**	**100**	P	**Pn**	**19 20 19.8**	**+2.7**
comp=Z,0.4nm,0.3s,baz=318,slow=2.0,SNR=3.8							
PMG				S	S	19 23 17.3	-12
comp=Z,0.4nm,0.3s,baz=270,slow=16,SNR=3.2							
PMG	**Port Moresby**	**17.33**	**100**	P	**P**	**19 20 17.0**	**+0.8**
PMG				IAmb	IAmb	19 20 20.5	
comp=Z,14nm,1.0s							
AS31	**Alice Springs**	**17.42**	**168**	P	**P**	**19 20 19.2**	**+2.0**
AS31				IAmb	IAmb	19 20 20.0	
comp=Z,9.1nm,0.9s							
ASAR	**Alice Springs**	**17.42**	**168**	P	**P**	**19 20 18.9**	**+1.8**
comp=Z,4.3nm,0.3s,baz=341,slow=10,SNR=234							
ASAR				S	**S**	**19 23 24.9**	**-6.1**
comp=Z,0.8nm,0.3s,baz=353,slow=29,SNR=5.2							
ASAR	**Alice Springs**	**17.42**	**168**	P	**P**	**19 20 19.2**	**+2.0**
PSA00	**Pilbara Seismi**	**17.79**	**212**	P	**P**	**19 20 21.8**	**+0.6**
SBUM	**Sibu**	**19.79**	**296**	P	**P**	**19 20 43.4**	**+0.4**
SBUM				IAmb	IAmb	19 20 47.0	
comp=Z,5.8nm,0.7s							
CTA	**Charters Tower**	**20.80**	**132**	P	**P**	**19 20 55.5**	**+1.7**
comp=Z,19nm,0.7s,baz=312,slow=11,SNR=31							
CISI	**Cisompet, Garu**	**21.93**	**266**	P	**P**	**19 21 03.6**	**-2.4**
LEM	**Lembang**	**22.12**	**268**	P	**P**	**19 21 10.6**	**+2.6**
comp=Z,22nm,0.8s,baz=5.2,slow=6.1,SNR=7.2							
CGJI	**Cibinong**	**24.04**	**269**	P	**P**	**19 21 26.5**	**+0.9**
BBOO	**Buckleboo**	**26.72**	**168**	P	**P**	**19 21 49.7**	**+0.1**
BBOO				IAmb	IAmb	19 21 50.3	
comp=Z,11nm,0.7s							
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**	**19 21 56.8**	**+0.7**
comp=Z,5.5nm,0.3s,baz=337,slow=8.4,SNR=34							
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**	**19 21 56.3**	**+0.2**
ARMA	**Armidale**	**31.29**	**142**	P	**P**	**19 22 30.1**	**-0.2**
ARMA				IAmb	IAmb	19 22 38.4	
comp=Z,7.2nm,1.1s							
CAN	**Canberra**	**33.57**	**151**	P	**P**	**19 22 49.3**	**-0.7**
CAN				IAmb	IAmb	19 22 54.0	
comp=Z,6.1nm,0.8s							
TOO	**Toolangi**	**33.96**	**158**	P	P	19 22 50.3	-3.0
TOO				IAmb	IAmb	19 23 02.5	
comp=Z,11nm,1.1s							
CMAR	**Chiang Mai Arr**	**39.38**	**310**	P	**P**	**19 23 39.6**	**+0.2**
comp=Z,1.5nm,0.5s,baz=134,slow=7.1,SNR=16							
CMAR	**Chiang Mai Arr**	**39.38**	**310**	P	**P**	**19 23 38.2**	**-1.2**
JNU	**Nakatsue**	**39.49**	**1**	P	**P**	**19 23 39.2**	**-0.9**
CHTO	**Chiang Mai**	**39.59**	**310**	P	**P**	**19 23 41.0**	**-0.2**
JHJ2	**Mitsune**	**40.58**	**13**	P	**P**	**19 23 48.0**	**-1.1**
MJAR	**Matsushiro Arr**	**43.60**	**10**	P	**P**	**19 24 12.2**	**-1.3**
comp=Z,0.8nm,0.6s,baz=185,slow=9.4,SNR=3.5							
CD2	**Chengdu**	**44.89**	**328**	*e*P	**P**	**19 24 24.3**	**+0.3**
LZH	**Lanzhou**	**48.99**	**332**	⇓P	**P**	**19 24 56.5**	**+0.7**
LZH				pP	pP	19 25 30.6	+2.2
LZH				sP	sP	19 25 48.8	+4.3
LZH				PP	**PP**	**19 26 54.3**	**+3.5**
LZH				pmax	pmax		
comp=Z,18nm,1.3s							
LZH				pmax	pmax		
comp=Z,54nm,6.2s							
HHC	**Hu-ho-hao-te**	**50.11**	**342**	*e*P	**P**	**19 25 08.3**	**+4.1**
HHC				pmax	pmax		
comp=Z,5.0nm,1.1s							
HHC				pmax	pmax		
comp=Z,6.0nm,5.3s							
USRK	**Ussuriysk Ar.**	**50.58**	**2**	P	**P**	**19 25 06.9**	**-0.6**
comp=Z,1.2nm,0.5s,baz=194,slow=9.0,SNR=5.0							
RPZ	**Rata Peaks**	**51.63**	**143**	P	**P**

ZALV	**Zalesovo Beam**	**71.16**	**334**	P	**P**	**19 27 23.9**	**-2.5**
ZALV					**P**	**19 27 26.0**	**-0.3**
GAR	**Garm**	**71.30**	**315**	P	**P**	**19 27 25.3**	**-2.3**
CHGR	**Chuyangaron**	**71.97**	**314**	P	**P**	**19 27 30.8**	**-0.9**
CHGR				IAmb	IAmb	19 27 32.5	
comp=Z,7.4nm,0.7s							
KK31	**Karatay Array**	**72.96**	**319**	P	**P**	**19 27 37.1**	**-0.2**
KKAR	**Karatay Array**	**72.96**	**319**	P	**P**	**19 27 37.0**	**-0.3**
KKAR	**Karatay Array**	**72.96**	**319**	P	**P**	**19 27 37.1**	**-0.3**
KKAR				IAmb	IAmb	19 27 38.0	
comp=Z,2.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**128.62**	**282**	PKP	**PKPdf**	**19 35 14.0**	**-0.5**
comp=Z,0.4nm,0.7s,baz=126,slow=5.6,SNR=3.1							

MAN 24 19:19:03.6, 18°.05N×119°.30E, h34km, mb4.2, ML3.1, MS2.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.41**	**106**	*e*P	Pn	19 19 27.0	+0.2
ABRA				*e*S	Sn	19 19 45.4	+1.1
BOLP	**Bolinao**	**1.76**	**160**	*e*P	Pn	19 19 33.3	+1.5
BOLP				*e*S	Sn	19 19 53.1	+0.1
APYP	**Conner**	**1.86**	**95**	*e*P	Pn	19 19 33.0	-0.1
APYP				*e*S	Sn	19 19 56.1	+0.6
SMPP	**San Manuel, Pa**	**2.31**	**145**	*e*P	Pn	19 19 39.8	+0.6

NNC 24 19:55:09.7±3.6, 37°.14N×71°.18E, h119km±119km, mb3.0, mpv3.6, 3C-1D, Error ellipse: s-maj=35.5km s-min=30.7km az=150.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.98**	**355**	⇑P	Pn	19 56 37.2	+1.4
3.8nm,0.3s,baz=180,slow=13,SNR=160							
KK31				⇑S	Sn	19 57 43.6	+0.6
0.8nm,0.3s,baz=160,slow=21,SNR=8.1							
AAK	**Ala-Archa**	**6.06**	**24**	P	Pn	19 56 37.3	+0.4
1.6nm,0.3s							
AAK				⇑S	Sn	19 57 44.6	-0.4
4.9nm,0.8s							
TKM2	**Tokmak 2**	**6.70**	**29**	⇓P	Pn	19 56 45.5	-0.1
1.2nm,0.5s							
GYA0B	**ALIBECK ARRAY**	**10.41**	**278**	P	Pn	19 57 34.0	-1.7
AB31	**Akbulak array**	**14.60**	**330**	P	Pn	19 58 31.3	+0.9
0.9nm,0.9s,baz=163,slow=10,SNR=4.6							

BJI ***24*** *19:58:13.8±0.0, 7°.26S×108°.19E, h160km, mb4.6/38, mB4.9/30*
ISCJB ***24*** *19:58:15.0±0.2, 7°.17S±0°.03×108°.35E±0°.02, h170km±2km, mb4.8/83, Error ellipse: s-maj=5.3km s-min=3.2km az=28.5*
MOS ***24*** *19:58:15.8±1.3, 6°.92S×108°.34E, h176km, mb4.5/18, Error ellipse: s-maj=10.1km s-min=6.7km az=108.9*
NEIC ***24*** *19:58:16.3±2.9, 7°.20S±0°.06×108°.36E±0°.05, h168km±3km, mb4.8/65*
IDC ***24*** *19:58:16.5±0.3, 6°.94S×108°.45E, h163km±2km, mb4.3/32, mb1 4.4/33, mb1mx4.3/47, mbtmp4.8/33, MS3.1/3, Ms1 3.1/3, ms1mx2.8/37, Error ellipse: s-maj=7.9km s-min=6.1km az=35.0*
DJA ***24*** *19:58:16.0±0.1, 7°.S±2°×10°.8E±°, h152km±1km, M4.6/52, mB5.1/28, mb4.9/52, MLv5.0/19, Mw(mB)4.4/28*
ISC 24 19:58:16.1±0.4, 7°.12S±0°.04×108°.39E±0°.03, h163km±3km, h164km: pP-P, n439, σ1.9 29/480, mb4.7/98, 11C-5D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.58**	**111**	P	**Pn**	**19 58 38.7**	**-0.6**
KPJI				S	**Sn**	**19 58 56.2**	**-0.8**
CMJI	**Cimerak**	**0.66**	**175**	P	**Pn**	**19 58 37.7**	**-2.0**
CMJI				S	**Sn**	**19 58 54.7**	**-3.3**
CISI	**Cisompet, Garu**	**0.71**	**233**		**Pn**	**19 58 38.9**	**-1.2**
CISI				Sn	**Sn**	**19 58 57.9**	**-0.7**
LEM	**Lembang**	**0.82**	**291**	P	**Pn**	**19 58 41.7**	**+0.8**
638nm,0.3s,baz=27,slow=2.9,SNR=1670							
LEM				S	**Sn**	**19 59 01.3**	**+1.4**
460nm,0.3s,baz=175,slow=21,SNR=39							
SKJI	**Sukabumi**	**1.82**	**274**	P	**Pn**	**19 58 49.9**	**-0.1**
SKJI				S	**Sn**	**19 59 15.0**	**-1.1**
YOGI	**Yogyakarta**	**2.02**	**110**	P	**Pn**	**19 58 51.2**	**-1.0**
YOGI				S	**Sn**	**19 59 18.0**	**-2.1**
SMRI	**Semarang**	**2.04**	**88**	P	**Pn**	**19 58 52.6**	**+0.2**
SMRI				S	**Sn**	**19 59 22.1**	**+1.5**
SMRI	**Semarang**	**2.04**	**88**		**Pn**	**19 58 52.7**	**+0.2**
UGM	**Wanagama**	**2.26**	**110**	P	**Pn**	**19 58 54.2**	**-0.8**
UGM				S	**Sn**	**19 59 23.3**	**-1.9**
UGM	**Wanagama**	**2.26**	**110**		**Pn**	**19 58 54.2**	**-0.8**
UGM				Sn	**Sn**	**19 59 21.9**	**-3.3**
CGJI	**Cibinong**	**2.72**	**281**	P	**Pn**	**19 59 00.7**	**+0.2**
CGJI				S	**Sn**	**19 59 34.3**	**-0.6**
BLSI	**Bandar Lampung**	**3.58**	**299**	P	**Pn**	**19 59 13.0**	**+1.8**
GRJI	**Gresik**	**4.07**	**87**	P	**Pn**	**19 59 18.7**	**+1.1**
KASI	**Kota Agung**	**4.18**	**292**	P	**Pn**	**19 59 20.2**	**+1.2**
XMIS	**Christmas Isla**	**4.29**	**219**		**Pn**	**19 59 16.8**	**-3.7**
KLSI		**4.37**	**303**	P	**Pn**	**19 59 23.1**	**+1.7**
TPI	**Tanjungpandan**	**4.40**	**350**	P	**Pn**	**19 59 23.0**	**+1.1**
LWLI	**Liwa**	**4.78**	**296**	P	**Pn**	**19 59 28.8**	**+1.8**
PMBI	**Palembang**	**5.51**	**319**	P	**Pn**	**19 59 39.3**	**+2.9**
PMBI	**Palembang**	**5.51**	**319**		**Pn**	**19 59 39.6**	**+3.2**
JAGI	**Jajag, Banyuwa**	**5.87**	**104**	P	**Pn**	**19 59 40.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.87**	**104**		**Pn**	**19 59 40.4**	**-0.8**
MNAI	**Manna**	**6.06**	**297**	P	**Pn**	**19 59 44.7**	**+1.0**
MNAI	**Manna**	**6.06**	**297**		**Pn**	**19 59 44.3**	**+0.6**
MASI	**Maura Aman, Be**	**7.29**	**303**	P	**Pn**	**20 00 00.7**	**+0.7**
STKI	**Sintang**	**7.78**	**23**	P	**Pn**	**20 00 09.0**	**+2.5**
170nm,1.3s,2μm0.7nm							
KRJI	**Kerinci**	**8.52**	**306**	P	**Pn**	**20 00 16.4**	**-0.1**
KBKI	**Kotabaru**	**8.63**	**64**	P	**Pn**	**20 00 19.8**	**+2.0**
KSM	**Kuching**	**8.75**	**13**		**Pn**	**20 00 20.8**	**+1.3**
TPRI	**Tanjung Pinang**	**8.87**	**334**	P	**Pn**	**20 00 22.6**	**+1.6**
PPSI	**Pulau Pagai**	**9.40**	**297**	P	**Pn**	**20 00 26.2**	**-1.8**
PLAI	**Plampang**	**9.45**	**101**	P	**Pn**	**20 00 27.4**	**-1.3**
MYKOM	**Kota Tinggi**	**9.94**	**333**	Pn	**Pn**	**20 00 35.8**	**+0.6**
PDSI	**Padang**	**10.02**	**308**	P	**Pn**	**20 00 34.8**	**-1.5**
SBUM	**Sibu**	**10.25**	**22**		**Pn**	**20 00 42.2**	**+2.9**
BKNI	**Bangkinang**	**10.41**	**315**	P	**Pn**	**20 00 42.9**	**+1.5**
SISI	**Saibi**	**10.91**	**301**	P	**Pn**	**20 00 44.7**	**-3.2**
KAPI	**Kappang**	**11.49**	**80**	LR	LR	20 05 55.3	
comp=Z,50nm,20.1s,baz=120,slow=40							
RPSI	**Rantau Prapat**	**13.57**	**316**		**Pn**	**20 01 19.1**	**-3.1**
RPSI	**Rantau Prapat**	**13.57**	**316**	P	**Pn**	**20 01 19.5**	**-2.7**
PSI	**Prapat**	**13.65**	**316**	P	**Pn**	**20 01 19.5**	**-3.8**
0.9nm,0.3s,baz=162,slow=10,SNR=7.9							
PSI				LR	LR	20 08 01.0	
comp=Z,179nm,18.3s,baz=83,slow=43							
GSI	**Gunungsitoli**	**13.65**	**307**	P	**Pn**	**20 01 19.7**	**-3.5**
GSI	**Gunungsitoli**	**13.65**	**307**		**Pn**	**20 01 19.8**	**-3.5**
IPM	**Ipoh**	**13.67**	**327**		**P**	**20 01 25.2**	**-1.5**
KULM	**Kulim**	**14.55**	**328**		**Pn**	**20 01 35.3**	**+0.9**
KKM	**Kota Kinabalu**	**15.23**	**31**	P	**P**	**20 01 44.5**	**+0.3**
KKM				IAmb	IAmb	20 01 45.5	
comp=Z,56nm,0.9s							
BATI	**Baumata**	**15.41**	**103**	P	**P**	**20 01 47.1**	**+1.0**
comp=Z,12nm,0.3s,baz=247,slow=1.7,SNR=12							
BATI				S	**S**	**20 04 38.7**	**-0.3**
comp=Z,6.3nm,0.3s,baz=182,slow=18,SNR=5.1							
BATI	**Baumata**	**15.41**	**103**	P	**P**	**20 01 47.0**	**+1.0**
LUWI	**Luwuk**	**15.56**	**68**	P	**P**	**20 01 49.2**	**+1.5**
SOEI	**Soe**	**15.93**	**101**	P	**P**	**20 01 52.8**	**+0.9**
SOEI	**Soe**	**15.93**	**101**	P	**P**	**20 01 52.7**	**+0.8**
SKLT	**Songkhla**	**16.17**	**331**	P	**P**	**20 01 55.4**	**+1.0**
comp=Z,20nm,0.9s,comp=Z,337nm							
GIRL	**Giralia**	**16.43**	**161**	P	**Pn**	**20 02 00.1**	**+2.7**
TRTT	**Trang**	**17.20**	**330**	P	**Pn**	**20 02 07.7**	**+0.9**
comp=Z,28nm,1.3s							
PSA00	**Pilbara Seismi**	**18.14**	**144**		**Pn**	**20 02 17.7**	**-0.1**
PSA00	**Pilbara Seismi**	**18.14**	**144**	P	**P**	**20 02 14.4**	**-1.6**
PSA00				IAmb	IAmb	20 02 17.6	
comp=Z,22nm,1.0s							
SANI	**Sanana**	**18.25**	**75**	P	**P**	**20 02 16.1**	**-1.2**
SURT	**Suratani**	**18.61**	**329**	P	**Pn**	**20 02 26.0**	**+2.6**
comp=Z,44nm,0.8s							
DLV	**T Lat**	**18.94**	**0**	P	**Pn**	**20 02 27.8**	**+0.4**
NLAI	**Namlea**	**19.03**	**79**	P	**Pn**	**20 02 28.8**	**+0.5**
comp=Z,109nm,1.0s							
AAI	**Ambon**	**20.01**	**81**	P	**P**	**20 02 35.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**20.04**	**125**	P	**P**	**20 02 37.4**	**+0.7**
comp=Z,76nm,0.7s,baz=306,slow=7.8,SNR=142							
FITZ				S	**S**	**20 06 13.3**	**+0.2**
comp=Z,3.4nm,0.6s,baz=198,slow=20,SNR=3.8							
FITZ				ScP	**ScP**	**20 10 08.0**	**+1.2**
comp=Z,1.7nm,0.9s,baz=284,slow=3.8,SNR=3.6							
FITZ	**Fitzroy Crossi**	**20.04**	**125**	P	**P**	**20 02 37.7**	**+1.1**
TNTI	**Ternate**	**20.50**	**68**	P	**P**	**20 02 41.1**	**-0.4**
TNTI	**Ternate**	**20.50**	**68**	P	**P**	**20 02 41.9**	**+0.4**
TNTI				IAmb	IAmb	20 02 44.6	
comp=Z,62nm,1.0s							
PATY	**Pattaya**	**21.27**	**339**	P	P	20 02 58.4	+8.7
KNRA	**Kununurra**	**21.69**	**115**	P	**P**	**20 02 54.4**	**+0.1**
PHET	**Kaeng Krachan**	**21.72**	**336**	P	**P**	**20 02 55.7**	**+1.2**
comp=Z,39μm,0.7s							
KCP	**Kidapawan**	**21.79**	**50**	⇑*e*P	**P**	**20 02 56.7**	**+1.4**
SRAK	**Srakaew**	**21.92**	**343**	P	**P**	**20 02 55.6**	**-0.9**
comp=Z,260μm,0.6s							
DAV	**Davao City (W)**	**22.20**	**51**	P	**P**	**20 03 02.2**	**+2.8**
comp=Z,103nm,0.4s,baz=128,slow=1.1,SNR=7.6							
DAV	**Davao City (W)**	**22.20**	**51**	IAmb	IAmb	20 03 03.6	
comp=Z,106nm,0.7s							
UBPT	**Khong Chiam**	**22.44**	**353**	P	**P**	**20 03 04.0**	**+2.4**
comp=Z,14nm,1.0s							
MORW	**Morawa**	**22.99**	**163**	P	**P**	**20 03 07.6**	**+1.0**
MORW				IAmb	IAmb	20 03 09.3	
comp=Z,48nm,0.8s							
MTN	**Manton Dam**	**23.10**	**106**	P	**P**	**20 03 08.0**	**+0.2**
MTN				IAmb	IAmb	20 03 21.7	
comp=Z,24nm,0.7s							
RCP	**Roxas**	**23.42**	**38**	⇓*e*P	**P**	**20 03 12.3**	**+1.7**
SWI	**Sorong**	**23.64**	**76**	P	**P**	**20 03 11.5**	**-1.2**
SIJI	**Sorong**	**23.64**	**76**	P	**P**	**20 03 11.9**	**-0.8**
comp=Z,32nm,0.6s,baz=280,slow=6.1,SNR=19							
CHAI	**Chaiyaphum**	**23.74**	**345**	P	**P**	**20 03 14.2**	**+0.7**
comp=Z,89μm,0.8s							
FAKI	**Fak Fak**	**24.13**	**81**	P	**P**	**20 03 17.3**	**+0.1**
FAKI	**Fak Fak**	**24.13**	**81**	P	**P**	**20 03 17.1**	**-0.1**
FAKI				IAmb	IAmb	20 03 19.8	
comp=Z,31nm,0.8s							
UTHA	**Uthaitani**	**24.21**	**339**	P	**P**	**20 03 18.4**	**+0.6**
comp=Z,26μm,1.0s,comp=Z,270μm							
TGY	**Tagaytay City**	**24.49**	**31**	P	**P**	**20 03 21.3**	**+0.9**
comp=Z,76nm,0.4s,baz=254,slow=12,SNR=5.3							
TGY				LR	LR	20 14 59.0	
comp=Z,30nm,18.7s,baz=181,slow=41							
PBKT	**Sadao Pong**	**24.66**	**343**	P	**P**	**20 03 21.9**	**+0.1**
comp=Z,19nm,0.8s							
PBKT	**Sadao Pong**	**24.66**	**343**	P	**P**	**20 03 21.6**	**-0.1**
PBKT				IAmb	IAmb	20 03 22.9	
comp=Z,24nm,0.8s							
NONG	**Nongkai**	**25.55**	**348**	P	**P**	**20 03 32.9**	**+3.0**
comp=Z,0.3nm,0.8s,comp=Z,202nm							
PHRA	**Phrae**	**26.70**	**343**	P	**P**	**20 03 40.8**	**+0.6**
comp=Z,4.6nm,0.9s,comp=Z,728nm							
LAMP	**Lampang**	**26.91**	**341**	P	**P**	**20 03 42.8**	**+0.7**
comp=Z,101μm,0.8s							
NWAO	**Narrogin (SRO)**	**26.96**	**163**	P	**P**	**20 03 41.5**	**-1.0**
NWAO				pmax	pmax		
comp=Z,51nm,1.3s							
NWAO	**Narrogin (SRO)**	**26.96**	**163**	P	**P**	**20 03 42.3**	**-0.2**
comp=Z,18nm,0.7s,baz=328,slow=7.9,SNR=13							
NWAO	**Narrogin (SRO)**	**26.96**	**163**	P	**P**	**20 03 41.5**	**-1.0**
NWAO				IAmb	IAmb	20 03 44.8	
comp=Z,51nm,1.2s							
NWAO	**Narrogin (SRO)**	**26.96**	**163**	P	**P**	**20 03 41.4**	**-1.1**
NWAO				IAmb	IAmb	20 03 44.8	
comp=Z,41nm,1.2s							
CM31	**Chiang Mai Arr**	**27.07**	**340**	P	**P**	**20 03 43.2**	**-0.3**
CM31				IAmb	IAmb	20 03 44.6	
comp=Z,26nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.07**	**340**	P	**P**	**20 03 43.7**	**+0.1**
CMAR						20 07 01.0	
CMAR	**Chiang Mai Arr**	**27.07**	**340**	P	**P**	**20 03 43.5**	**0.0**
comp=Z,15nm,0.8s,baz=178,slow=8.5,SNR=122							
CMAR				PcP	**PcP**	**20 07 01.4**	**+0.8**
comp=Z,3.0nm,0.8s,baz=196,slow=3.4,SNR=9.1							
CMAR				ScP	**ScP**	**20 10 27.2**	**+1.5**
comp=Z,1.9nm,0.6s,baz=199,slow=3.3,SNR=8.4							
CMAR	**Chiang Mai Arr**	**27.07**	**340**	P	**P**	**20 03 43.7**	**+0.1**
CMAR					**PcP**	**20 07 01.0**	**+0.4**
CMAR					**ScP**	**20 10 26.7**	**+1.0**
MHMT	**Maesarieng**	**27.17**	**338**	P	**P**	**20 03 44.4**	**-0.1**
comp=Z,51nm,0.8s,comp=Z,539nm							
CHTO	**Chiang Mai**	**27.40**	**340**	P	**P**	**20 03 46.5**	**0.0**
CHTO				pmax	pmax		
comp=Z,21nm,0.8s							
CHTO	**Chiang Mai**	**27.40**	**340**	P	**P**	**20 03 46.5**	**0.0**
CHTO				IAmb	IAmb	20 03 47.3	
comp=Z,21nm,0.8s							
PAYA	**Payao**	**27.62**	**342**	P	**P**	**20 03 49.0**	**+0.5**
comp=Z,72μm,0.8s,comp=Z,562μm							
WB0	**Warramunga Arr**	**28.19**	**119**	P	**P**	**20 03 53.6**	**0.0**
WB0				IAmb	IAmb	20 03 54.8	
comp=Z,22nm,1.0s							
WRA	**Warramunga Arr**	**28.21**	**119**	P	**P**	**20 03 54.3**	**+0.5**
comp=Z,15nm,0.8s,baz=285,slow=7.9,SNR=91							
WRA				pP	**pP**	**20 04 27.4**	**-0.5**
comp=Z,8.3nm,0.9s,baz=291,slow=12,SNR=4.1							
WRA				PcP	**PcP**	**20 07 03.0**	**-0.5**
comp=Z,1.1nm,0.5s,baz=306,slow=2.1,SNR=3.8							
WRA				S	**S**	**20 08 26.2**	**-1.5**
comp=Z,1.9nm,0.8s,baz=292,slow=16,SNR=4.3							
WRA				ScP	**ScP**	**20 10 29.8**	**+0.5**
comp=Z,1.9nm,0.7s,baz=313,slow=2.3,SNR=6.0							
WRA	**Warramunga Arr**	**28.21**	**119**	P	**P**	**20 03 53.8**	**0.0**
WRAB	**Tennant Creek**	**28.22**	**119**	*ce*P	**P**	**20 03 54.0**	**+0.2**
WRAB				pmax	pmax		
comp=Z,67nm,2.5s							
WRAB	**Tennant Creek**	**28.22**	**119**	P	**P**	**20 03 54.4**	**+0.5**
WRAB				IAmb	IAmb	20 03 55.1	
comp=Z,28nm,0.9s							
WB2	**Warramunga Arr**	**28.22**	**119**	P	**P**	**20 03 54.4**	**+0.6**
WR0	**Warramunga Arr**	**28.39**	**119**	P	**P**	**20 03 56.1**	**+0.7**
AS31	**Alice Springs**	**29.51**	**127**	P	**P**	**20 04 05.9**	**+0.6**
AS31				IAmb	IAmb	20 04 06.8	
comp=Z,12nm,0.6s							
ASAR	**Alice Springs**	**29.51**	**127**	P	**P**	**20 04 06.0**	**+0.8**
comp=Z,30nm,0.7s,baz=305,slow=8.9,SNR=270							
ASAR				pP	**pP**	**20 04 39.4**	**0.0**
comp=Z,4.3nm,1.0s,baz=304,slow=8.8,SNR=1.4							
ASAR				PcP	**PcP**	**20 07 07.3**	**+0.7**
comp=Z,1.9nm,0.6s,baz=293,slow=2.4,SNR=7.2							
ASAR				S	**S**	**20 08 46.5**	**-1.4**
comp=Z,4.6nm,0.8s,baz=295,slow=15,SNR=13							
ASAR	**Alice Springs**	**29.51**	**127**	P	**P**	**20 04 05.3**	**0.0**
PALK	**Palleke**	**31.09**	**297**	ScP	**ScP**	**20 10 39.4**	**+0.7**
comp=Z,19nm,1.1s,baz=116,slow=6.0,SNR=6.2							
KMI	**Kunming**	**32.52**	**350**	P	**P**	**20 04 34.9**	**+3.1**
KMI				pmax	pmax		
comp=Z,9.0nm,0.6s							
JAY	**Jayapura**	**32.52**	**84**	ScP	**ScP**	**20 10 43.9**	**+0.3**
comp=Z,19nm,0.9s,baz=182,slow=12,SNR=3.8							
TPUB	**Ta-pu**	**32.52**	**21**	P	**P**	**20 04 33.1**	**+1.5**
TPUB				IAmb	IAmb	20 04 38.0	
comp=Z,14nm,0.9s							
YULB	**Yu-li**	**32.85**	**22**	P	**P**	**20 04 33.9**	**-0.6**
YULB				IAmb	IAmb	20 04 43.3	
comp=Z,15nm,1.1s							
SSLB	**Suanglung**	**33.08**	**21**	P	**P**	**20 04 38.0**	**+1.5**
SSLB				IAmb	IAmb	20 04 39.6	
comp=Z,26nm,0.8s							
YHNB	**Yeheng**	**34.04**	**21**	P	**P**	**20 04 46.5**	**+1.7**
YHNB				IAmb	IAmb	20 04 52.7	
comp=Z,35nm,1.1s							
YOJ	**Yonaguni jima**	**34.48**	**24**	P	**P**	**20 04 46.3**	**-2.2**
YOJ	**Yonaguni jima**	**34.48**	**24**	P	**P**	**20 04 46.3**	**-2.2**
COEN	**Coen**	**34.84**	**104**	P	**P**	**20 04 51.8**	**0.0**
KAAM	**Kaadhdhoo**	**36.10**	**281**	P	**P**	**20 05 02.0**	**-0.7**
SHL	**Shillong**	**36.24**	**334**	P	**P**	**20 05 03.1**	**-0.7**
SHL	**Shillong**	**36.24**	**334**	P	**P**	**20 05 03.1**	**-0.7**
BBOO	**Buckleboo**	**36.24**	**139**	P	**P**	**20 05 04.0**	**+0.5**
CD2	**Chengdu**	**38.07**	**354**	P	**P**	**20 05 19.4**	**+0.4**
CD2				pmax	pmax		
comp=Z,20nm,0.6s							
MNCI	**Minicoy**	**38.40**	**293**	P	**P**	**20 05 22.9**	**+1.0**
PMG	**Port Moresby**	**38.42**	**96**	P	**P**	**20 05 23.6**	**+1.4**
comp=Z,20nm,0.8s,baz=234,slow=7.3,SNR=7.2							
PMG				ScP	**S**	**20 11 05.8**	**+0.5**
comp=Z,2.9nm,0.6s,baz=293,slow=7.7,SNR=3.1							
CTA	**Charters Tower**	**38.89**	**113**	P	**P**	**20 05 27.2**	**+1.3**
comp=Z,8.8nm,0.8s,baz=268,slow=12,SNR=9.8							
CTA				PcP	**PcP**	**20 07 34.5**	**+0.8**
comp=Z,2.9nm,0.7s,baz=270,slow=3.0,SNR=3.0							
CTA				ScP	**ScP**	**20 11 06.2**	**-0.6**
comp=Z,2.6nm,0.8s,baz=309,slow=6.5,SNR=3.6							
STKA	**Stephens Creek**	**39.55**	**133**	P	**P**	**20 05 32.4**	**+1.1**
comp=Z,86nm,0.8s,baz=309,slow=8.7,SNR=180							
STKA				pP	**pP**	**20 06 08.3**	**+1.7**
comp=Z,14nm,0.8s,baz=300,slow=11,SNR=2.5							
STKA				PcP	**PcP**	**20 07 36.1**	**+0.6**
comp=Z,7.2nm,0.9s,baz=313,slow=6.9,SNR=3.3							
STKA				ScP	**ScP**	**20 11 08.7**	**-0.4**
comp=Z,2.6nm,0.8s,baz=329,slow=3.7,SNR=3.5							
STKA				S	**S**	**20 11 22.8**	**+1.0**
comp=Z,4.8nm,1.0s,baz=173,slow=15,SNR=5.0							
STKA	**Stephens Creek**	**39.55**	**133**	P	**P**	**20 05 32.5**	**+1.3**
STKA				IAmb	IAmb	20 05 33.3	
comp=Z,17nm,0.8s							
LSA	**Lhasa**	**40.19**	**336**	P	**P**	**20 05 36.5**	**-0.6**
LSA				pmax	pmax		
comp=Z,21nm,0.8s							
LSA	**Lhasa**	**40.19**	**336**	P	**P**	**20 05 36.5**	**-0.6**
LSA				IAmb	IAmb	20 05 37.8	
comp=Z,21nm,0.8s							
NJ2	**Nanjing**	**40.22**	**14**	*e*P	**P**	**20 05 39.0**	**+2.3**
NJ2				pmax	pmax		
comp=Z,14nm,0.5s							
XAN	**Xi'an**	**40.94**	**1**	P	**P**	**20 05 42.8**	**+0.1**
XAN				pmax	pmax		
comp=Z,8.0nm,0.8s							
XAN				pmax	pmax		
comp=Z,120nm,4.1s							
XAN	**Xi'an**	**40.94**	**1**	P	**P**	**20 05 41.3**	**-1.4**
XAN				pmax	pmax		
comp=Z,8.0nm,0.9s							
XAN	**Xi'an**	**40.94**	**1**	P	**P**	**20 05 41.3**	**-1.4**
LZH	**Lanzhou**	**43.19**	**355**	⇑P	**P**	**20 06 01.9**	**+0.9**
LZH				pP	pP	20 06 38.0	+1.1
LZH				sP	sP	20 06 56.3	+1.0
LZH				PP	**PcP**	**20 07 47.5**	**0.0**
LZH				pmax	pmax		
comp=Z,25nm,1.3s							
LZH				pmax	pmax		
comp=Z,100nm,6.5s							
TIY	**Taiyuan**	**44.76**	**5**	*e*P	**P**	**20 06 14.3**	**+0.9**
TIY				pmax	pmax		
comp=Z,23nm,0.6s							
GTA	**Gaotai**	**46.97**	**351**	P	**P**	**20 06 31.5**	**+0.7**
GTA				pP	pP	20 07 09.3	+2.1
GTA				sP	sP	20 07 28.5	+3.1
GTA				pmax	pmax		
comp=Z,6.0nm,1.4s							
GTA				pmax	pmax		
comp=Z,38nm,5.2s							
GTA				LR	LR		
comp=Z,120nm,15.5s							
GTA				LR	LR		
comp=Z,160nm,15.1s							
GTA				LR	LR		
comp=Z,120nm,15.8s							
JCJ	**Chichijima**	**47.20**	**43**	P	**P**	**20 06 31.0**	**-1.6**
comp=Z,37nm,0.9s,baz=270,slow=20							
BJI	**Beijing**	**47.47**	**8**	*e*P	**P**	**20 06 34.4**	**0.0**
BJI				pmax	pmax		
comp=Z,14nm,0.8s							
HHC	**Hu-ho-hao-te**	**47.82**	**3**	*e*P	**P**	**20 06 40.3**	**+3.0**
HHC				pmax	pmax		
comp=Z,4.0nm,1.0s							
KSRS	**Korea Array**	**47.96**	**21**	P	**P**	**20 06 38.5**	**+0.3**
comp=Z,2.6nm,0.7s,baz=217,slow=6.6,SNR=6.8							
KSRS				pP	**pP**	**20 07 15.2**	**+0.4**
comp=Z,3.1nm,0.8s,baz=214,slow=9.8,SNR=4.2							
MJAR	**Matsushiro Arr**	**51.66**	**31**	P	**P**	**20 07 04.9**	**-1.3**
MJAR				pmax	pmax		
comp=Z,3.0nm,1.0s							
MJAR	**Matsushiro Arr**	**51.66**	**31**	P	**P**	**20 07 04.4**	**-1.9**
comp=Z,3.8nm,0.9s,baz=215,slow=7.6,SNR=14							
MJAR				pP	**pP**	**20 07 42.5**	**-0.8**
comp=Z,4.9nm,0.9s,baz=214,slow=8.6,SNR=6.1							
MJAR				PcP	**PcP**	**20 08 17.5**	**-0.1**
comp=Z,3.1nm,0.8s,baz=211,slow=5.7,SNR=6.0							
MJAR	**Matsushiro Arr**	**51.66**	**31**	P	**P**	**20 07 04.9**	**-1.3**
NIL	**Nilore**	**52.48**	**323**	P	**P**	**20 07 10.8**	**-1.6**
NIL				pmax	pmax		
comp=Z,19nm,0.9s							
NIL	**Nilore**	**52.48**	**323**	P	**P**	**20 07 10.8**	**-1.6**
NIL				IAmb	IAmb	20 07 11.0	
comp=Z,19nm,0.8

YSS pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 63.09 339 P **P 20 08 25.0 -1.0**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 63.09 339 P **P 20 08 25.0 -1.0**
KURK IAmb IAmb 20 08 25.4
comp=Z,7.3nm,1.0s
ZAA0 Zalesovo Array 64.00 345 P **P 20 08 30.6 -1.3**
ZAA0 **pP 20 09 11.8 +1.3**
ZALV Zalesovo Beam 64.00 345 P **P 20 08 29.9 -2.0**
comp=Z,3.5nm,0.7s,baz=139,slow=4.0,SNR=18
ZALV pP **pP 20 09 08.9 -1.6**
comp=Z,4.3nm,0.8s,baz=126,slow=4.0,SNR=4.3
ZALV Zalesovo Beam 64.00 345 P **P 20 08 30.1 -1.8**
GEYT Alibeck 64.77 318 P **P 20 08 36.6 -0.7**
comp=Z,31nm,0.4s,baz=112,slow=6.4,SNR=3.6
GEYT Alibeck 64.77 318 P **P 20 08 37.3 0.0**
BOD Bodaibo 64.88 3 *eP* **P 20 08 36.0 -1.5**
BOD pmax pmax
comp=Z,7.0nm,1.1s
MAW Mawson 67.65 197 P **P 20 08 57.1 +2.0**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 67.65 197 P **P 20 08 56.8 +1.7**
comp=Z,14nm,0.7s,baz=51,slow=6.7,SNR=45
MAW Mawson 67.65 197 P **P 20 08 57.1 +2.0**
BRVK Borovoye 68.09 336*ceP* **P 20 08 54.4 -3.6**
BRVK pmax pmax
comp=Z,13nm,2.5s
BRVK Borovoye 68.09 336 P **P 20 08 55.9 -2.1**
BKZ Black Stump Fm 68.58 129 P **P 20 09 00.8 -0.8**
BKZ IAmb IAmb 20 09 03.0
comp=Z,12nm,1.0s
URZ Urewera 68.94 128 P **P 20 09 04.7 +1.1**
comp=Z,3.6nm,0.6s,baz=216,slow=17,SNR=2.8
ABKAR Akbulak array 70.23 329 P **P 20 09 09.7 -1.6**
ABKAR IAmb IAmb 20 09 24.8
comp=Z,7.5nm,0.7s
ABKAR Akbulak array 70.23 329 P **P 20 09 09.6 -1.7**
KMBO Kilima Mbogo 71.14 271 *i* P P 20 09 12.6 -5.2
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 71.14 271 P **P 20 09 19.1 +1.3**
comp=Z,1.6nm,0.8s,baz=82,slow=7.6,SNR=6.0
PEA0B Petropavlovsk- 73.04 29 P **P 20 09 27.2 -0.8**
PEA0B pmax pmax
comp=Z,11nm,0.9s
PEA0B Petropavlovsk- 73.04 29 P **P 20 09 27.2 -0.8**
PEA0B IAmb IAmb 20 09 29.4
comp=Z,11nm,0.9s
PETK Petropavlovsk- 73.04 29 P **P 20 09 26.8 -1.1**
comp=Z,1.7nm,0.5s,baz=107,slow=1.7,SNR=7.9
SVE Sverdlovsk 74.69 335 *eP* **P 20 09 36.6 -0.9**
SVE pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 75.01 315 *i* P **P 20 09 38.3 -1.7**
GNI pmax pmax
comp=Z,14nm,1.2s
ARU Arti 75.33 334*d iP* **P 20 09 37.7 -3.5**
ARU S **S 20 19 11.1 +4.0**
ARU SS **SS 20 23 53.2 -7.7**
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 75.33 334 P **P 20 09 40.2 -1.0**
SYO Syowa Base 75.86 200 ‖ *iP* **P 20 09 44.0 0.0**
SYO Syowa Base 75.86 200 ‖ *epP* pP 20 10 23.8 -0.1
SYO Syowa Base 75.86 200 ‖ *esP* sP 20 10 42.6 +1.3
ZEI Tsey 76.62 317 *eP* **P 20 09 47.4 -1.7**
ZEI pmax pmax
comp=Z,2.0nm,0.6s
SBA Scott Base 76.67 169 P **P 20 09 47.3 -1.2**
SBA pmax pmax
comp=Z,13nm,0.8s
SBA Scott Base 76.67 169 P **P 20 09 47.3 -1.2**
SBA IAmb IAmb 20 09 51.5
comp=Z,13nm,0.8s
NCK Nalchik 77.11 318 *i* P **P 20 09 49.8 -1.7**
NCK pmax pmax
comp=Z,4.0nm,0.7s
NEY Neytrino 77.60 317 *i* P **P 20 09 52.8 -1.7**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 77.66 318 P **P 20 09 53.8 -0.7**
comp=Z,3.8nm,0.8s,baz=128,slow=5.3,SNR=16
MBAR Mbarara 77.67 271 *i* P **P 20 09 51.8 -3.7**
MBAR pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 77.89 318 *eP* **P 20 09 55.0 -1.0**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 77.89 318 P **P 20 09 55.2 -0.8**
LSZ Lusaka 78.74 256 P **P 20 10 02.5 +1.2**
comp=Z,7.5nm,0.7s,baz=90,slow=4.6,SNR=13
TIXI Tiksi 79.77 6 P **P 20 10 03.7 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 79.77 6 P **P 20 10 03.7 -1.7**
LBTB Lobatse 80.51 246 P **P 20 10 11.7 +1.0**
LBTB pmax pmax
comp=Z,7.0nm,0.8s
LBTB Lobatse 80.51 246 P **P 20 10 12.2 +1.5**
comp=Z,6.5nm,0.7s,baz=93,slow=4.7,SNR=13
LBTB Lobatse 80.51 246 P **P 20 10 11.7 +1.0**
BOSA Boshof 80.62 242 P **P 20 10 11.8 +0.6**
BOSA pmax pmax
comp=Z,4.0nm,0.7s
BOSA Boshof 80.62 242 P **P 20 10 12.2 +1.0**
comp=Z,3.5nm,0.6s,baz=104,slow=4.5,SNR=18
BOSA Boshof 80.62 242 P **P 20 10 11.8 +0.6**
VRH Novokhopyorsk 81.28 324 *eP* **P 20 10 12.1 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
CSS Mathiatis 81.95 307 P **P 20 10 17.7 -0.2**
CSS IAmb IAmb 20 10 18.7
comp=Z,30nm,0.9s
VSR Storozhevoye 82.78 324 *i* P **P 20 10 19.3 -2.5**
VSR pmax pmax
comp=Z,14nm,0.8s
QSPA South Pole Qui 82.87 180 P **P 20 10 23.4 +1.3**
BR131 Keskin Array S 82.94 311 P **P 20 10 22.7 -0.4**
BR131 pmax pmax
comp=Z,12nm,0.8s
BR131 Keskin Array S 82.94 311 P **P 20 10 22.7 -0.4**
BR131 IAmb IAmb 20 10 23.0
comp=Z,12nm,0.8s
BRTR Keskin Array B 82.94 311*ceP* **P 20 10 21.8 -1.3**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 82.94 311 P **P 20 10 21.9 -1.2**
comp=Z,8.4nm,0.8s,baz=132,slow=7.2,SNR=61
BRTR pP **pP 20 11 03.7 +0.1**
comp=Z,1.2nm,0.7s,baz=140,slow=9.0,SNR=1.9
BILL Bilibino 85.16 19 *eP* **P 20 10 33.8 +0.3**
BILL pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 85.58 327 *eP* **P 20 10 33.2 -2.6**
OBN *e* 20 13 54.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 86.11 333 *eP* P 20 10 49.9 +12
KLMR pmax pmax
comp=Z,23nm,1.5s
KLMR Klimovskoe 86.11 333 *eP* P 20 10 50.0 +12
KLMR AMP 20 11 04.5
comp=Z,23nm,1.5s
TSUM Tsumeb 88.44 251 P **P 20 10 52.6 +2.0**
comp=Z,3.0nm,0.5s,baz=53,slow=4.4,SNR=6.8
AKASG Malin Array Be 88.65 321*ceP* **P 20 10 50.0 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 88.65 321 P **P 20 10 49.1 -1.5**
comp=Z,1.0nm,0.5s,baz=84,slow=4.4,SNR=8.0
AKASG Malin Array Be 88.65 321 P **P 20 10 49.7 -0.9**
SNAA Sanae 89.82 197 P **P 20 10 57.9 +2.0**
SNAA Sanae 89.82 197 P **P 20 10 57.9 +2.0**
SNAA pmax pmax
comp=Z,18nm,0.9s
SNAA Sanae 89.82 197 P **P 20 10 57.8 +2.0**
comp=Z,13nm,0.8s,baz=135,slow=4.0,SNR=50
SNAA Sanae 89.82 197 P **P 20 10 57.9 +2.0**
VNA2 Neumayer--Watz 91.47 197 P **P 20 11 05.5 +2.0**
baz=96,slow=4.4
VNA3 Neumayer Olymp 91.97 197 P **P 20 11 07.6 +1.7**
KOLS Kolonicke sedl 92.76 319 *eP* **P 20 11 12.4 +2.5**
KOLS Kolonicke sedl 92.76 319 *eP* **P 20 11 12.4 +2.5**
MODS Modra-Piesok 96.00 318 *eP* **P 20 11 28.7 +4.0**
MODS Modra-Piesok 96.00 318 *eP* **P 20 11 28.7 +4.0**
TORD Torodi Ar. Bea 107.79 282 PKiKP **PKiKP 20 16 24.9 -0.1**
comp=Z,0.6nm,0.9s,baz=46,slow=2.0,SNR=4.4
YKA Yellowknife Ar 116.50 21 PKIKP **PKiKP 20 16 40.2 +0.1**
YKA Yellowknife Ar 116.50 21 PKP **PKPdf 20 16 39.7 -0.4**
comp=Z,1.4nm,0.6s,baz=336,slow=2.1,SNR=5.4
YKA Yellowknife Ar 116.50 21 **PKiKP 20 16 40.2 +0.1**
B05A Bryant 120.90 37 P **PKiKP 20 16 50.0 +0.8**
baz=297
L04D Klamath Falls 123.33 43 P **PKiKP 20 16 55.0 +0.7**
baz=293
N02D Trinity Center 123.53 45 P **PKiKP 20 16 56.0 +1.3**
baz=292
J05D Fort Rock, OR 123.62 42 P **PKiKP 20 16 55.8 +0.9**
baz=295
O02D Mt. Diablo Mer 123.77 46 P **PKiKP 20 16 56.5 +1.3**
baz=292
O03E Paynes Creek 124.43 45 P **PKiKP 20 16 56.4 -0.1**
baz=293
MSO Missoula 126.39 35 P **PKiKP 20 17 00.4 +0.2**
baz=304
NVAR Mina Array Bea 127.65 46 PKP **PKiKP 20 17 04.3 +1.1**
comp=Z,1.4nm,0.9s,baz=257,slow=1.7,SNR=7.6
PKM Mcpherson Peak 127.87 51 P **PKiKP 20 17 05.4 +1.7**
baz=290
EGMT Eagleton 127.97 32 P **PKiKP 20 17 03.9 +0.6**
baz=309
BOZ Bozeman (W) 128.41 35 P **PKiKP 20 17 05.2 +0.7**
baz=306
MPMC Manual Prospec 129.20 49 P **PKiKP 20 17 07.9 +1.5**
baz=293
EDW2 Edwards Air Fo 129.27 50 P **PKiKP 20 17 07.9 +1.5**
baz=292
R11A Troy Canyon, C 129.62 45 P **PKiKP 20 17 08.3 +1.2**
baz=297
GMRC Granite Mounta 131.08 49 P **PKiKP 20 17 12.2 +2.1**
baz=294
PDAR Pinedale Array 131.27 37 PKP **PKiKP 20 17 10.4 0.0**
comp=Z,0.7nm,0.7s,baz=278,slow=0.5,SNR=7.1
PLCA Paso Flores 132.37 181 PKP **PKiKP 20 17 12.4 -0.1**
comp=Z,0.9nm,0.6s,baz=34,slow=3.4,SNR=3.4
ULM Lac du Bonnet 132.47 21 PKP **PKPdf 20 17 10.6 -0.6**
comp=Z,3.5nm,0.8s,baz=351,slow=4.7,SNR=3.5
RSSD Black Hills 133.53 32 P **PKPdf 20 17 14.2 +0.6**
baz=313
O20A White River Ci 133.60 39 P **PKiKP 20 17 15.2 +0.1**
baz=305
ECSD EROS Data Cent 137.46 27 P **PKPdf 20 17 21.1 +0.5**
baz=322
ANMO Albuquerque 137.67 44*c iP*KIKP **PKiKP 20 17 24.0 +0.4**
ANMO pmax pmax
comp=Z,13nm,2.5s
TXAR Lajitas Array 142.60 50 PKIKP **PKPdf 20 17 27.8 -2.7**
TXAR Lajitas Array 142.60 50 PKhKP **PKPdf 20 17 26.9 -3.6**
comp=Z,1.4nm,0.7s,baz=256,slow=2.1,SNR=18
TXAR SKPbc **SKiKP 20 20 54.1 -0.6**
comp=Z,4.4nm,0.8s,baz=263,slow=1.3,SNR=15
TXAR Lajitas Array 142.60 50 **PKPdf 20 17 27.8 -2.7**
WMOK Wichita Mounta 142.84 39 P **PKPdf 20 17 27.3 -3.4**
baz=312
CPUP Villa Florida 143.97 202 PKP **PKPdf 20 17 32.4 -0.5**
comp=Z,13nm,0.9s,baz=155,slow=2.8,SNR=18
CPUP SKPbc **SKiKP 20 20 57.1 -0.3**
comp=Z,0.6nm,0.4s,baz=88,slow=6.3,SNR=3.3
CPUP Villa Florida 143.97 202 **PKPdf 20 17 32.8 -0.1**
N48A Decatur 144.34 18 P **PKPab 20 17 31.1 -0.4**
baz=337
CCM Cathedral Cave 144.44 27 P **PKPab 20 17 31.5 -0.4**
baz=325
CCM Cathedral Cave 144.44 27 PKIKP PKPbc 20 17 32.1 -0.1
CCM Cathedral Cave 144.44 27 PKPbc 20 17 32.1 -0.1
HHAR Hobbs 144.52 32 **PKPab 20 17 31.4 -1.0**
N49A Columbus Grove 144.52 17 P **PKPab 20 17 31.8 -0.4**
baz=338
N49A Columbus Grove 144.52 17 **PKPab 20 17 31.7 -0.5**
MGMO Mountain Grove 144.69 29 **PKPab 20 17 32.6 -0.4**
P46A Rosedale 144.74 21 P **PKPab 20 17 32.9 -0.1**
baz=333
JCT Junction City 144.81 45 P **PKPdf 20 17 34.5 +0.2**
baz=306
JCT Junction City 144.81 45 PKIKP **PKPdf 20 17 35.0 +0.7**
JCT Junction City 144.81 45 **PKPdf 20 17 35.0 +0.7**
M53A WI Miller and 144.89 12 P PKPbc 20 17 33.1 -0.5
baz=344
N50A Nevada 144.94 15 P PKPbc 20 17 33.3 -0.5
baz=340
N51A Ashland 145.00 14 P **PKPbc 20 17 33.3 -0.6**
baz=341
M54A Oil Creek Stat 145.02 11 P **PKPbc 20 17 33.3 -0.6**
baz=346
M54A Oil Creek Stat 145.02 11 **PKPbc 20 17 33.8 -0.2**
L58A Harry Jones Me 145.02 6 P **PKPbc 20 17 33.4 -0.5**
baz=353
U40A Yellville 145.02 31 P **PKPbc 20 17 33.7 -0.4**
baz=321
U40A Yellville 145.02 31 **PKPbc 20 17 33.7 -0.4**
O49A Covington 145.16 17 P **PKPbc 20 17 33.6 -0.8**
baz=338
O49A Covington 145.16 17 **PKPbc 20 17 34.1 -0.3**
OLIL Olney 145.19 23 **PKPab 20 17 34.8 +0.1**
M55A Ridgway 145.21 9 P **PKPbc 20 17 33.9 -0.7**
baz=348
N52A McGinn's Farm, 145.27 13 P **PKPdf 20 17 34.2 -0.6**
baz=342
M56A Emporium 145.29 9 P **PKPdf 20 17 33.9 -0.8**
baz=349
BLO Bloomington 145.38 21 PKP2 **PKPab 20 17 35.3 -0.2**
BLO Bloomington 145.38 21 **PKPab 20 17 35.3 -0.2**
O50A Cable 145.40 16 P **PKPdf 20 17 34.5 -0.4**
baz=339
W39A Magazine 145.42 33 P **PKPdf 20 17 35.1 -0.1**
baz=319
W39A Magazine 145.42 33 **PKPdf 20 17 34.7 -0.4**
N53A Lisbon 145.46 12 P **PKPdf 20 17 34.8 -0.3**
baz=344
WHTX Lake Whitney, 145.47 41 P **PKPab 20 17 36.7 +0.6**
baz=310
N54A Moraine State 145.48 11 P **PKPdf 20 17 34.8 -0.3**
baz=345
P48A Milroy 145.49 19 P **PKPdf 20 17 34.7 -0.4**
baz=335
ACSO Alum Creek Sta 145.50 15 P **PKPdf 20 17 34.9 -0.2**
baz=340
M59A Waymart 145.56 5 P **PKPbc 20 17 35.4 -0.2**
baz=353
M57A Sunshine Farm, 145.58 7 P **PKPdf 20 17 35.3 +0.1**
baz=350
S44A Carbondale 145.61 25 P **PKPab 20 17 36.6 +0.3**
baz=328
M58A Price's Panora 145.62 6 P **PKPdf 20 17 35.3 0.0**
baz=352
P49A Miami Univ. Ec 145.65 18 P **PKPdf 20 17 35.4 0.0**
baz=337
O51A Pataskala 145.67 15 P **PKPdf 20 17 35.5 +0.1**
baz=340
P50A Jamestown 145.85 17 P **PKPdf 20 17 36.0 +0.2**
baz=338
PBMO Poplar Bluff 145.85 27 **PKPbc 20 17 36.3 -0.3**
Q48A North Vernon 145.87 20 P **PKPdf 20 17 36.1 +0.4**
baz=335
O52A Adamsville 145.89 14 P **PKPdf 20 17 36.0 +0.2**
baz=342
MIAR Mount Ida 146.02 34 P **PKPbc 20 17 37.6 +0.3**
baz=319
MIAR Mount Ida 146.02 34 PKP2 **PKPab 20 17 37.7 -0.3**
MIAR Mount Ida 146.02 34 **PKPab 20 17 37.7 -0.3**
Q49A Aurora 146.07 19 P **PKPbc 20 17 36.8 -0.4**
baz=336
LCAR Lake Charles 146.09 29 **PKPbc 20 17 37.5 +0.2**
N58A Sunbury 146.12 7 P **PKPbc 20 17 36.8 -0.5**
baz=351
N59A State Game Lan 146.14 6 P **PKPbc 20 17 37.2 -0.3**
baz=353
435B Jarrell 146.16 43 P **PKPab 20 17 38.4 -0.3**
baz=309
O54A Avella 146.16 12 P **PKPbc 20 17 37.4 -0.1**
baz=344
O54A Avella 146.16 12 **PKPbc 20 17 37.7 +0.2**
P52A Corning 146.28 15 P **PKPdf 20 17 37.0 +0.5**
baz=341
WCI Wyandotte Cave 146.30 21 P **PKPbc 20 17 37.6 -0.3**
baz=333
WCI Wyandotte Cave 146.30 21 PKP2 **PKPbc 20 17 38.3 +0.4**
WCI Wyandotte Cave 146.30 21 **PKPbc 20 17 38.3 +0.4**
833A Chaparral WMA, 146.32 48 P **PKPab 20 17 39.9 +0.5**
baz=304
O56A Blue Knob Stat 146.41 10 P **PKPbc 20 17 37.7 -0.6**
baz=348
X40A Basin Creek Fa 146.47 33 P **PKPbc 20 17 39.1 +0.6**
baz=320
Q50A Georgetown 146.50 18 P **PKPdf 20 17 37.7 +0.8**
baz=338
Q51A Peebles 146.52 17 P **PKPbc 20 17 38.0 -0.5**
baz=339
Q51A Peebles 146.52 17 **PKPbc 20 17 38.1 -0.5**
P53A Whipple 146.60 14 P **PKPbc 20 17 38.4 -0.3**
baz=342
R49A Shelbyville 146.63 20 P **PKPbc 20 17 38.3 -0.6**
baz=335
P54A Burton 146.69 13 P **PKPbc 20 17 38.8 -0.3**
baz=344
O59A Robesonia 146.70 6 P **PKPbc 20 17 38.6 -0.5**
baz=352
Q52A Bidwell 146.88 15 P **PKPbc 20 17 39.0 -0.6**
baz=340
R50A Paris 146.91 18 P **PKPbc 20 17 39.2 -0.5**
baz=337
P55A Reedsville 146.92 12 P **PKPbc 20 17 39.3 -0.5**
baz=345
T47A Sharon Grove 147.09 23 P **PKPbc 20 17 40.0 -0.2**
baz=331
P56A Dayton Farm, R 147.11 10 P **PKPbc 20 17 39.5 -0.7**
baz=347
Q54A Coxs Mills 147.21 13 P **PKPbc 20 17 40.1 -0.3**
baz=343
P57A Homestead Farm 147.27 9 P **PKPbc 20 17 40.3 -0.3**
baz=348
Q55A Buckhannon 147.36 12 P **PKPbc 20 17 40.7 -0.3**
baz=344
NATX Nacogdoches 147.39 38 P **PKiKP 20 17 42.5 -0.8**
baz=314
Z41A Richland Creek 147.41 34 P **PKPbc 20 17 42.0 +0.8**
baz=318
S50A Richmond 147.44 19 P **PKPbc 20 17 40.5 -0.7**
baz=336
BDFB Brasilia 147.47 226 PKPbc **PKiKP 20 17 43.3 -0.7**
comp=Z,7.0nm,0.5s,baz=120,slow=2.9,SNR=12
WVT Waverly 147.54 25 P **PKPbc 20 17 41.3 -0.2**
baz=329
WVT Waverly 147.54 25 PKP2 **PKPbc 20 17 41.5 0.0**
WVT Waverly 147.54 25 **PKPbc 20 17 41.5 0.0**
R53A Hurricane 147.55 15 P **PKPbc 20 17 41.0 -0.5**
baz=341
Q57A Strasburg 147.64 10 P **PKPbc 20 17 41.5 -0.2**
baz=348
S51A Beattyville 147.73 18 P **PKPbc 20 17 41.4 -0.6**
baz=338
S52A Salyersville 147.85 17 P **PKPbc 20 17 41.9 -0.4**
baz=338
Q58A Fox Den Farm, 147.85 9 P **PKPbc 20 17 41.9 -0.3**
baz=349
T50A Nancy 147.89 20 P **PKPbc 20 17 41.8 -0.6**
baz=335
U49A Red Boiling Sp 148.01 22 P **PKPbc 20 17 42.5 -0.2**
baz=333
OXF Oxford 148.18 29 P **PKPbc 20 17 43.2 0.0**
baz=325
S54A Dingess, Beckl 148.22 15 P **PKPbc 20 17 42.9 -0.4**
baz=342
T51A Gray 148.24 19 P **PKPbc 20 17 42.9 -0.4**
baz=336
V48A Smith Brothers 148.29 24 P **PKPbc 20 17 43.0 -0.5**
baz=330
R57A Stanardsville 148.34 10 P **PKPbc 20 17 43.6 +0.1**
baz=347
R58A Rapidan 148.43 10 P **PKPbc 20 17 43.6 -0.2**
baz=348
U50A Jamestown 148.44 21 P **PKPbc 20 17 43.8 -0.1**
baz=334
V49A McMinnville 148.62 23 P **PKPbc 20 17 43.9 -0.5**
baz=332
T53A Wise 148.65 17 P **PKPbc 20 17 44.6 +0.1**
baz=339
R58B Mineral 148.78 10 P **PKPbc 20 17 44.3 -0.3**
baz=348
S57A Dark Hollow, R 148.78 11 P **PKPbc 20 17 44.4 -0.3**
baz=346
T54A Tazewell 148.85 16 P **PKPbc 20 17 44.6 -0.3**
baz=341
T55A Pulaski 149.00 14 P **PKPbc 20 17 45.1 -0.2**
baz=342
V50A Pikevile 149.01 22 P **PKPbc 20 17 44.9 -0.4**
baz=334
W49A Belvidere 149.05 24 P **PKPbc 20 17 45.0 -0.4**
baz=331
S58A Poland Farm, P 149.09 10 P **PKPbc 20 17 45.3 -0.1**
baz=348
V51A Loudon 149.16 20 P **PKPbc 20 17 45.7 0.0**
baz=335
T56A Rocky Mt 149.26 13 P **PKPbc 20 17 45.5 -0.4**
baz=344
X48A Hartselle 149.30 26 P **PKPbc 20 17 45.4 -0.7**
baz=329
W50A Signal Mountai 149.35 22 P **PKPbc 20 17 46.0 -0.3**
baz=333
V52A Sevierville 149.38 19 P **PKPbc 20 17 46.2 0.0**
baz=336
U55A TA2, Sparta 149.51 15 P **PKPbc 20 17 46.4 -0.2**
baz=342
W51A Cleveland 149.59 22 P **PKPbc 20 17 46.7 -0.1**
baz=334
T58A Grand View Acr 149.65 11 P **PKPbc 20 17 46.6 -0.3**
baz=346
V53A Saluda 149.79 18 P **PKPbc 20 17 47.2 -0.1**
baz=338
T59A Double "B" Far 149.80 9 P **PKPbc 20 17 47.3 +0.1**
baz=348
W52A Murphy 149.95 20 P **PKPbc 20 17 47.9 +0.2**
baz=335
V54A Nebo 149.95 17 P **PKPbc 20 17 47.5 -0.2**
baz=339
U57A Blanch 149.98 13 P **PKPbc 20 17 47.5 -0.2**
baz=345
Y49A Blount Mountai 150.08 25 P **PKPbc 20 17 47.6 -0.4**
baz=330
V55A Taylorsville 150.08 16 P **PKPbc 20 17 47.8 -0.1**
baz=341
W53A Cullowhee 150.13 19 P **PKPbc 20 17 48.6 +0.4**
baz=337
U58A Oxford 150.18 11 P **PKPbc 20 17 48.3 +0.1**
baz=346
V56A Mocksville 150.31 15 P **PKPbc 20 17 48.4 0.0**
baz=342
X52A Dahlonega 150.40 21 P **PKPbc 20 17 49.0 +0.3**
baz=335
V57A Coltrane Farms 150.41 13 P **PKPbc 20 17 48.5 -0.2**
baz=344
W54A Cherokee Point 150.52 18 P **PKPbc 20 17 48.9 -0.1**
baz=338
LRAL Lakeview Retre 150.53 27 P **PKPbc 20 17 49.0 0.0**
baz=328
X53A Estanollee 150.70 20 P **PKiKP 20 17 49.8 -0.2**
baz=336
KMSC Kings Mountain 150.72 16 P **PKPbc 20 17 49.4 -0.1**
baz=340
Z50A Ashland 150.81 25 P **PKPbc 20 17 49.4 -0.3**
baz=330
Z50A Ashland 150.81 25 **PKPbc 20 17 49.9 +0.1**
Z50A **PKPab 20 17 56.3 -1.0**
V59A Middlesex 150.85 11 P **PKPbc 20 17 49.8 +0.1**
baz=347
PAULI Pauline 150.88 17 **PKPbc 20 17 50.1 +0.2**
X54A Belton 150.96 19 P **PKPbc 20 17 49.7 -0.3**
baz=338
Y52A Lilburn 151.00 22 P **PKPbc 20 17 50.4 +0.3**
baz=334
W57A Gilead 151.06 14 P **PKPbc 20 17 50.3 +0.1**
baz=343
Y53A Monroe 151.19 21 P **PKiKP 20 17 50.9 -0.1**
baz=335
X55A Gracelyn & Ava 151.26 17 P **PKPbc 20 17 50.8 +0.1**
baz=339
W58A Raeford 151.36 13 P **PKPbc 20 17 50.4 -0.5**
baz=344
X56A White Oak 151.41 16 P **PKPbc 20 17 51.1 0.0**
baz=340
Z52A Williamson 151.47 23 P **PKiKP 20 17 51.7 0.0**
baz=333
Y54A Tignall 151.49 20 P **PKiKP 20 17 51.6 -0.1**
baz=337
GOGA Godfrey 151.63 21 P **PKiKP 20 17 51.9 -0.1**
baz=335
Y55A Saluda 151.68 18 P **PKPbc 20 17 51.8 +0.1**

baz=338
Z53A Monticello 151.71 21 P **PKPbc 20 17 51.8 0.0**
baz=334
250A Grady 151.75 27 P **PKPbc 20 17 52.0 0.0**
baz=328
X58A Rowland 151.78 14 P **PKPbc 20 17 52.0 +0.1**
baz=344
152A Waverly Hall 151.81 24 P **PKiKP 20 17 52.3 -0.1**
baz=332
152A Waverly Hall 151.81 24 PKiKP 20 17 52.8 +0.4
Z54A Sparta 152.00 20 P **PKPbc 20 17 52.5 +0.1**
baz=336
X60A Albert Glenn T 152.05 11 P **PKiKP 20 17 52.9 0.0**
baz=347
BRAL Brewton 152.06 29 P **PKiKP 20 17 53.8 +0.9**
baz=326
Y58A Scranton 152.33 15 P **PKiKP 20 17 53.6 +0.2**
baz=343
252A Lumpkin 152.39 25 P **PKiKP 20 17 53.8 +0.2**
baz=331
LPAZ La Paz 156.49 188 PKPab **PKPab 20 18 24.2 +1.8**
comp=Z,3.4nm,0.8s,baz=128,slow=6.6,SNR=11

*ISCJB **24** 20:03:52.0±0.8, 14°.3S±0°.1×174°.3E±0°.1, h600km, mb3.7/5, Error ellipse: s-maj=19.1km s-min=13.5km az=167.8*
*NEIC **24** 20:03:53.8±0.9, 14°.4S±0°.2×174°.4E±0°.2, h614km±14km, mb4.3/14*
*IDC **24** 20:03:53.7±5.2, 14°.34S×174°.39E, h610km±74km, mb3.1/5, mb1 3.4/6, mb1mx3.0/35, mbtmp4.1/6, Error ellipse: s-maj=85.5km s-min=30.3km az=161.0*
ISC 24 20:03:53.0±1.0, 14°.3S±0°.2×174°.4E±0°.1, h600km, n23, σ0 78/23, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**135**	P	**P**	**20 05 26.2**	**+0.7**
DZM	**Mont Dzumac**	**10.79**	**223**	P	**P**	**20 06 20.2**	**+0.5**
	0.6nm,0.3s,baz=75,slow=20,SNR=8.8						
EIDS	**Eidsvold**	**24.47**	**240**	P	**P**	**20 08 26.9**	**+0.3**
EIDS				IAmb	IAmb	20 08 41.9	
	comp=Z,15nm,1.2s						
ARMA	**Armidale**	**26.37**	**229**	P	**P**	**20 08 42.4**	**-1.0**
MSWZ	**Moikau Station**	**27.05**	**179**	P	**P**	**20 08 47.8**	**-1.2**
TOO	**Toolangi**	**34.57**	**223**	P	**P**	**20 09 52.7**	**-0.5**
TOO				IAmb	IAmb	20 09 52.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**34.67**	**234**	P	**P**	**20 09 54.2**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=71,slow=9.7,SNR=3.9						
STKA	**Stephens Creek**	**34.67**	**234**	P	**P**	**20 09 53.6**	**-0.6**
WR0	**Warramunga Arr**	**38.40**	**256**	P	**P**	**20 10 25.2**	**+0.4**
WB0	**Warramunga Arr**	**38.53**	**256**	P	**P**	**20 10 26.2**	**+0.3**
WB0				IAmb	IAmb	20 10 26.6	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**38.58**	**256**	P	**P**	**20 10 25.1**	**-1.2**
WB2				IAmb	IAmb	20 10 30.3	
	comp=Z,8.1nm,1.1s						
WRAB	**Tennant Creek**	**38.58**	**256**	P	**P**	**20 10 26.0**	**-0.3**
WRAB				IAmb	IAmb	20 10 37.1	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**38.59**	**256**	P	**P**	**20 10 26.5**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=90,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**38.59**	**256**	P	**P**	**20 10 25.9**	**-0.5**
AS31	**Alice Springs**	**39.26**	**250**	P	**P**	**20 10 32.1**	**+0.4**
ASAR	**Alice Springs**	**39.26**	**250**	P	**P**	**20 10 31.8**	**0.0**
	comp=Z,3.1nm,0.4s,baz=86,slow=8.4,SNR=26						
ASAR	**Alice Springs**	**39.26**	**250**	P	**P**	**20 10 31.6**	**-0.2**
BBOO	**Buckleboo**	**39.38**	**235**	P	**P**	**20 10 31.9**	**-0.7**
BBOO				IAmb	IAmb	20 10 39.8	
	comp=Z,13nm,1.1s						
MTN	**Manton Dam**	**42.00**	**267**	P	**P**	**20 10 53.6**	**+0.1**
KNRA	**Kununurra**	**44.00**	**262**	P	**P**	**20 11 10.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**46.84**	**258**	P	**P**	**20 11 32.2**	**+1.7**
FITZ				IAmb	IAmb	20 11 34.0	
	comp=Z,14nm,1.4s						
ILAR	**Eielson Array**	**84.11**	**16**	P	**P**	**20 15 21.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=230,slow=4.8,SNR=2.2						
TXAR	**Lajitas Array**	**90.08**	**60**	P	**P**	**20 15 50.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=221,slow=6.8,SNR=6.1						

ROM 24 20:04:31.3±0.2, 39°.240N±0°.008×16°.96E±0°.02, h24km±1km, ML2.8/21, Error ellipse: s-maj=1.5km s-min=0.1km az=278.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.05**	**20**	P	Pb	20 04 35.4	-0.2
LADO				S	Sb	20 04 39.1	+0.6
LADO				AML	AML		
	comp=E,3100μm,1.1s						
LADO				AML	AML		
	comp=N,2910μm,1.5s						
TIP	**Timpagrande**	**0.17**	**249**	P	Pb	20 04 36.4	-0.2
TIP				S	Sb	20 04 40.6	+0.5
TIP				AML	AML		
	comp=E,2440μm,0.7s						
TIP				AML	AML		
	comp=N,1810μm,0.3s						
TIP				AML	AML		
	comp=N,2290μm,0.3s						
TIP				AML	AML		
	comp=E,2900μm,0.7s						
PIPA	**Pietrapaola**	**0.27**	**336**	P	Pb	20 04 37.8	-0.1
PIPA				S	Sb	20 04 43.7	+1.4
PIPA				AML	AML		
	comp=E,2755μm,0.7s						
PIPA				AML	AML		
	comp=E,2730μm,0.7s						
PIPA				AML	AML		
	comp=N,2140μm,1.6s						
PIPA				AML	AML		
	comp=N,2220μm,0.3s						
SERS	**Sersale**	**0.29**	**226**	P	Pb	20 04 38.0	-0.3
SERS				S	Sb	20 04 43.2	+0.2
SERS				AML	AML		
	comp=E,1800μm,0.7s						
SERS				AML	AML		
	comp=N,2880μm,0.6s						
SERS				AML	AML		
	comp=E,3010μm,0.6s						
SERS				AML	AML		
	comp=N,1825μm,0.5s						
SERS				AML	AML		
	comp=E,1804μm,0.7s						
CELI	**Celico**	**0.39**	**295**	P	Pb	20 04 39.5	-0.2
CELI				S	Sb	20 04 45.9	+0.4
CELI				AML	AML		
	comp=E,964μm,0.6s						
CELI				AML	AML		
	comp=N,1041μm,0.4s						
CELI				AML	AML		
	comp=N,2575μm,0.5s						
CELI				AML	AML		
	comp=N,1046μm,0.4s						
CELI				AML	AML		
	comp=E,2360μm,0.7s						
CELI				AML	AML		
	comp=E,968μm,0.6s						
CAR1	**CAROLEI**	**0.58**	**272**	P	Pb	20 04 42.2	-0.7
CAR1				AML	AML		
	comp=E,982μm,0.8s						
CAR1				AML	AML		
	comp=N,988μm,1.4s						
CAR1				AML	AML		
	comp=E,1034μm,0.6s						
CAR1				AML	AML		
	comp=E,1034μm,0.6s						
CAR1				AML	AML		
	comp=N,886μm,0.7s						
CAR1				AML	AML		
	comp=E,982μm,0.8s						
CAR1				AML	AML		
	comp=N,987μm,1.4s						
GRI	**Girifalco**	**0.59**	**225**	P	Pb	20 04 43.0	0.0
GRI				S	Sn	20 04 52.7	-0.4
GRI				AML	AML		
	comp=N,952μm,1.6s						
GRI				AML	AML		
	comp=E,1045μm,0.5s						
GRI				AML	AML		
	comp=N,950μm,1.6s						
SALB	**San Lorenzo Be**	**0.79**	**324**	P	Pb	20 04 46.1	-0.5
SALB				AML	AML		
	comp=N,300μm,0.9s						
SALB				AML	AML		
	comp=E,363μm,0.4s						
CET2	**Cetraro**	**0.83**	**291**	P	Pb	20 04 47.0	-0.1
CET2				AML	AML		
	comp=E,2035μm,0.8s						
CET2				AML	AML		
	comp=N,1940μm,0.7s						
CET2				AML	AML		
	comp=E,2040μm,0.8s						
T0702	**Acquaformosa (**	**0.83**	**306**	AML	AML		
	comp=E,512μm,0.4s						
T0702				AML	AML		
	comp=N,379μm,0.6s						
T0702				AML	AML		
	comp=N,385μm,0.6s						
PLAC	**Placanica**	**0.89**	**207**	P	Pn	20 04 48.4	+0.1
PLAC				AML	AML		
	comp=E,593μm,0.6s						
PLAC				AML	AML		
	comp=N,560μm,0.7s						
PLAC				AML	AML		
	comp=N,584μm,0.6s						
PLAC				AML	AML		
	comp=N,560μm,0.7s						
PLAC				AML	AML		
	comp=E,550μm,0.7s						
JOPP	**Joppolo**	**1.05**	**233**	P	Pb	20 04 50.7	-0.1
JOPP				AML	AML		
	comp=E,401μm,0.4s						
JOPP				AML	AML		
	comp=N,298μm,1.2s						
SCHR	**S. Chirico Rap**	**1.18**	**325**	AML	AML		
	comp=N,184μm,1.3s						
SCHR				AML	AML		
	comp=E,178μm,0.7s						
CRAC	**Craco**	**1.19**	**340**	P	Pb	20 04 54.4	+1.1
CRAC				AML	AML		
	comp=N,889μm,0.6s						
CRAC				AML	AML		
	comp=E,598μm,0.6s						
TAR1	**Taranto**	**1.31**	**11**	*e*Pn	Pn	20 04 53.9	-0.2
MASS	**Massafra**	**1.40**	**6**	*e*Pn	Pn	20 04 55.1	-0.2
MCEL	**Monticello**	**1.40**	**321**	P	Pb	20 04 57.2	+0.3
MCEL				AML	AML		
	comp=N,177μm,0.8s						
MCEL				AML	AML		
	comp=E,200μm,0.6s						
MGR	**Morigerati**	**1.41**	**310**	P	Pb	20 04 59.4	+2.5
MGR				AML	AML		
	comp=N,131μm,0.9s						
MGR				AML	AML		
	comp=E,156μm,0.6s						
MATE	**Matera**	**1.42**	**352**	AML	AML		
	comp=N,414μm,0.7s						
MATE				AML	AML		
	comp=E,266μm,0.6s						
NOCI	**Noci**	**1.55**	**3**	P	Pn	20 04 57.5	+0.1
NOCI				AML	AML		
	comp=N,356μm,0.5s						
NOCI				AML	AML		
	comp=E,318μm,0.3s						
SG1	**Sgolgore (BA)**	**1.61**	**352**	*e*Pn	Pb	20 05 01.3	+0.9
AMUR	**Altamura**	**1.69**	**351**	AML	AML		
	comp=N,164μm,1.0s						
AMUR				AML	AML		
	comp=E,202μm,0.7s						
ACER	**Acerenza**	**1.73**	**334**	AML	AML		
	comp=E,320μm,0.9s						
ACER				AML	AML		
	comp=N,288μm,1.1s						
MCSR	**Castroreale**	**1.78**	**229**	AML	AML		
	comp=N,184μm,0.3s						
MCSR				AML	AML		
	comp=E,218μm,0.4s						
BAI	**Bari**	**1.87**	**358**	*e*Pn	Pb	20 05 07.8	+3.1
NOV	**Novara**	**1.87**	**230**	AML	AML		
	comp=N,156μm,1.0s						
NOV				AML	AML		
	comp=E,196μm,0.6s						

ROM 24 20:05:30.4±0.2, 39°.226N±0°.006×16°.99E±0°.01, h28km, Md1.1/2, Error ellipse: s-maj=1.0km s-min=0.7km az=113.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.06**	**352**	P	Pb	20 05 35.5	+0.1
LADO				S	Sb	20 05 39.1	+0.4
LADO				END			
TIP	**Timpagrande**	**0.19**	**255**	P	Pb	20 05 36.3	-0.1
TIP				S	Sb	20 05 40.8	+0.3
TIP				END			
SERS	**Sersale**	**0.30**	**231**	P	Pb	20 05 38.0	+0.1
SERS				S	Sb	20 05 43.5	+0.5
CELI	**Celico**	**0.41**	**295**	P	Pb	20 05 39.6	+0.1

*NEIC **24** 20:10:47.7±1.9, 59°.70N±0°.06×153°.5W±0°.1, h144km±5km*
AEIC 24 20:10:49±1.5, 59°.72N±0°.06×153°.45W±0°.09, h134km±4km, ML3.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.31**	**39**		Pn	20 11 07.6	-0.1
AUL	**Augustine Lava**	**0.34**	**178**		Pn	20 11 07.8	+0.2
AUL					Sn	20 11 21.9	+0.1
AU2	**Augustine Isla**	**0.35**	**174**		Pn	20 11 07.7	0.0
AU22	**Augustine Moun**	**0.35**	**172**		Pn	20 11 07.6	-0.1
AU22					Sn	20 11 21.9	0.0
AUH	**Augustine H**	**0.35**	**179**		Pn	20 11 08.1	+0.3
AUP	**Augustine Pinn**	**0.36**	**177**		Pn	20 11 08.1	+0.2
AUQ	**Augustine Qik'**	**0.36**	**177**		Pn	20 11 07.9	+0.1
AUQ					Sn	20 11 22.6	+0.6
AUJK	**Augustine Jueg**	**0.37**	**176**		Pn	20 11 07.8	0.0
ILW	**Iliamna West**	**0.38**	**25**		Pn	20 11 07.7	-0.3
ILW					Sn	20 11 22.1	-0.4
AUI	**Augustine Isla**	**0.38**	**178**		Pn	20 11 07.8	-0.1
AUI					Sn	20 11 22.0	-0.1
RED	**Redoubt Volcan**	**0.78**	**26**		Pn	20 11 10.3	-0.1
RED					Sn	20 11 26.4	-0.3
RSO	**Redoubt South**	**0.83**	**25**		Pn	20 11 10.9	0.0
RSO				Sn	Sn	20 11 27.4	-0.1
RDWB	**Redoubt West**	**0.83**	**21**		Pn	20 11 10.8	-0.1
RDWB					Sn	20 11 27.2	-0.3
NCT	**North Crescent**	**0.89**	**17**		Pn	20 11 11.2	-0.1
NCT					Sn	20 11 27.8	-0.5
HOM	**Homer**	**0.92**	**93**		Pn	20 11 11.8	+0.3
HOM					Sn	20 11 28.7	+0.3
FOSS	**Fourpeaked Sta**	**0.93**	**188**		Pn	20 11 11.2	-0.4
RDJH	**Redoubt Jeurge**	**0.94**	**20**		Pn	20 11 11.6	-0.1
RDJH					Sn	20 11 29.1	0.0
DFR	**Drift River**	**0.96**	**23**		Pn	20 11 11.8	-0.1
DFR					Sn	20 11 29.3	-0.1
RDT	**Redoubt**	**1.01**	**31**		Pn	20 11 12.2	-0.1
CNPM	**China Poot**	**1.14**	**99**		Pn	20 11 13.3	-0.2
CNPM					Sn	20 11 31.5	-0.8
BRLK	**Bradley Lake**	**1.30**	**87**		Pn	20 11 14.8	-0.4
KAHC	**Katmai Hardscr**	**1.34**	**217**		Pn	20 11 15.3	-0.4
KAHG	**Katmai Hook Gl**	**1.35**	**205**		Pn	20 11 15.7	-0.1
BRSE	**Bradley Lake S**	**1.37**	**88**		Pn	20 11 15.7	-0.2
KARR	**Katmai Rainbow**	**1.38**	**208**		Pn	20 11 15.4	-0.6
CAPN	**Captain Cook N**	**1.56**	**46**		Pn	20 11 19.6	+1.7
CKL	**Chakachamna La**	**1.58**	**20**		Pn	20 11 18.6	+0.3
SPCR	**Spurr Chakacha**	**1.61**	**22**		Pn	20 11 18.8	+0.2
SPWE	**Spurr West**	**1.62**	**15**		Pn	20 11 19.2	+0.4
SPBG	**Spurr Blockage**	**1.64**	**19**		Pn	20 11 19.4	+0.4
SPBG					Sn	20 11 42.7	+0.8
KAKN	**Katmai Knife C**	**1.65**	**211**		Pn	20 11 18.6	-0.4
KCG	**Knife Ck. Glac**	**1.65**	**212**		Pn	20 11 18.7	-0.4
SPCP	**Crater Peak Br**	**1.68**	**22**		Pn	20 11 19.6	+0.1
SPNN	**North Nagishla**	**1.70**	**12**		Pn	20 11 19.8	+0.1
KABU	**Katmai Buttres**	**1.73**	**214**		Pn	20 11 19.8	-0.2
SVW2	**Sparrevohn**	**1.74**	**324**		Pn	20 11 19.6	-0.5
CGLM	**Capps Glacier**	**1.75**	**24**		Pn	20 11 20.4	+0.2
SLKM	**Skilak Lake**	**1.80**	**62**		Pn	20 11 20.5	-0.2
KDAK	**Kodiak Island**	**1.99**	**166**		Pn	20 11 21.5	-1.5
SEW	**Seward**	**2.05**	**77**		Pn	20 11 23.3	-0.4
SUA	**Susitna One**	**2.20**	**36**		Pn	20 11 25.8	+0.1
SUA	**Susitna One**	**2.20**	**36**	Sn	Sn	20 11 54.5	+0.6
RC01	**Rabbit Creek A**	**2.30**	**52**		Pn	20 11 26.4	-0.4
RC01	**Rabbit Creek A**	**2.30**	**52**	Sn	Sn	20 11 54.2	-1.6
SKT	**Skwentna**	**2.46**	**22**		Pn	20 11 28.5	-0.2
OHAK	**Old Harbor**	**2.50**	**178**		Pn	20 11 27.5	-1.8
PLK3	**Peulik 3**	**2.51**	**217**		Pn	20 11 29.5	+0.1
PLK1	**Peulik 1**	**2.53**	**222**		Pn	20 11 30.2	+0.6
PWL	**Port Wells**	**2.79**	**64**		Pn	20 11 32.1	-0.9
PMR	**Palmer**	**2.84**	**47**	Pn	Pn	20 11 33.7	+0.2
PMR					Sn	20 12 05.3	-2.7
KNK	**Knik Glacier**	**3.00**	**53**		Pn	20 11 34.6	-1.0
GHO	**Glory Hole Cre**	**3.03**	**45**		Pn	20 11 35.1	-1.0
SII	**Sitkinak Islan**	**3.19**	**187**		Pn	20 11 36.4	-1.8
PPLA	**Purkeypile**	**3.25**	**10**		Pn	20 11 39.4	+0.4
SML	**Sawmill**	**3.27**	**48**	Pn	Pn	20 11 40.2	+1.0
SML					Sn	20 12 14.2	-3.8
GLI	**Glacier Island**	**3.37**	**67**		Pn	20 11 39.7	-0.8
TT01	**Tatalina**	**3.43**	**340**		Pn	20 11 40.6	-0.6
TTA	**Tatalina**	**3.45**	**340**		Pn	20 11 40.8	-0.8
HIN	**Hinchinbrook I**	**3.55**	**76**		Pn	20 11 42.2	-0.7
FID	**Port Fidalgo**	**3.63**	**70**		Sn	20 12 21.4	-5.0
FID	**Port Fidalgo**	**3.63**	**70**		Pn	20 11 42.6	-1.2
JPK	**Jack Peak**	**3.66**	**66**		Pn	20 11 43.8	-0.4
SCM	**Sheep Creek Mo**	**3.68**	**52**		Pn	20 11 43.5	-1.0
WAT1	**Susitna Watana**	**3.92**	**35**		Pn	20 11 46.6	-1.0
EYAK	**Cordova Ski Ar**	**3.94**	**74**		Pn	20 11 47.0	-1.0
WAT6	**Susitna Watana**	**3.99**	**41**		Pn	20 11 47.6	-1.1
WAT2	**Susitna Watana**	**4.01**	**34**		Pn	20 11 48.0	-1.0
KTH	**Kantishna Hill**	**4.04**	**16**		Pn	20 11 48.5	-0.7
TRF	**Thorofare Moun**	**4.04**	**21**		Pn	20 11 48.6	-0.8
CHUM	**Lake Minchumin**	**4.22**	**7**		Pn	20 11 51.5	-0.1
RND	**Reindeer**	**4.31**	**29**		Pn	20 11 51.9	-0.9
RND	**Reindeer**	**4.31**	**29**		Sn	20 12 39.8	-2.7
GOAT	**Goat Mountain**	**4.45**	**75**		Pn	20 11 54.4	-0.3
DHY	**Denali Highway**	**4.46**	**38**		Pn	20 11 54.0	-0.9
BPAW	**Bear Paw Mtn.**	**4.55**	**14**		Pn	20 11 55.2	-0.8
MCK	**McKinley**	**4.57**	**26**		Pn	20 11 55.7	-0.5
PAX	**Paxson**	**5.04**	**46**		Sn	20 12 54.4	-5.6
PAX	**Paxson**	**5.04**	**46**		Pn	20 11 01.9	-0.7
GLB	**Gilahina Butte**	**5.06**	**66**		Pn	20 12 02.5	-0.3
GLB					Sn	20 12 57.5	-2.9
VRDI	**Verde Repeater**	**5.17**	**69**		Sn	20 13 00.1	-3.2
VRDI	**Verde Repeater**	**5.17**	**69**		Pn	20 12 04.7	+0.1
CRQM	**Cirque**	**5.25**	**74**	Pn	Pn	20 12 05.3	-0.2
CRQM					Sn	20 13 01.9	-3.1
NEA	**Nenana**	**5.29**	**21**		Pn	20 12 04.8	-1.1
WRH	**Wood River Hil**	**5.39**	**26**		Pn	20 12 05.9	-1.4
TGL	**Tana Glacier**	**5.39**	**74**		Sn	20 13 06.5	-2.0
MCARA	**McCarthy VSAT**	**5.41**	**68**		Pn	20 12 08.1	+0.6
MLY	**Manley**	**5.48**	**12**		Pn	20 12 07.8	-0.7
CCB	**Clear Creek Bu**	**5.61**	**26**		Pn	20 12 08.7	-1.4
HDA	**Harding Lake**	**5.61**	**30**		Pn	20 12 09.1	-1.1
PTPK	**Patty Peak**	**5.63**	**70**		Pn	20 12 10.3	-0.4
KIAG	**Kiagna River**	**5.64**	**73**		Pn	20 12 10.4	-0.4
BALM	**Baldy**	**5.67**	**72**		Sn	20 13 11.7	-3.3
BALM	**Baldy**	**5.67**	**72**		Pn	20 12 10.7	-0.3
MDM	**Murphy Dome**	**5.79**	**23**		Pn	20 12 11.5	-1.1
COLA	**College**	**5.80**	**24**		Pn	20 12 11.2	-1.3
IL31		**5.93**	**28**		Pn	20 12 13.0	-1.3
ILAR	**Eielson Array**	**5.93**	**28**		Pn	20 12 12.7	-1.7
ILAR					Sn	20 13 18.1	-2.9
DOT	**Dot Lake**	**5.96**	**45**	Pn	Pn	20 12 15.8	+0.9
BARN	**Barnard Glacie**	**6.00**	**72**	Pn	Pn	20 12 16.3	+0.7
CTGM	**Chitina Glacie**	**6.15**	**73**	Pn	Pn	20 12 17.7	+0.2
SCRK	**Sand Creek**	**6.19**	**42**		Pn	20 12 16.5	-1.6
CHX	**Chaix Hills**	**6.22**	**81**		Pn	20 12 17.9	-0.5
IM03		**6.29**	**359**		Pn	20 12 19.1	-0.1
BC03		**6.53**	**54**		Pn	20 12 22.1	-0.4
PCA	**Pinnacle**	**6.65**	**81**		Pn	20 12 24.6	+0.4
YUK3	**Moose Creek**	**6.70**	**66**		Pn	20 12 24.5	-0.4
PRP	**Porcupine Dome**	**6.87**	**29**		Pn	20 12 26.0	-1.2
PNL	**Peninsula**	**7.12**	**84**		Pn	20 12 30.2	-0.2
YUK4	**Talbot Arm**	**7.48**	**71**		Pn	20 12 36.2	+0.7
COLD	**Coldfoot**	**7.68**	**10**		Pn	20 12 36.8	-1.0
COLD	**Coldfoot**	**7.68**	**10**		Pn	20 12 37.6	-0.3
YUK7	**Dusty Glacier**	**7.69**	**77**		Pn	20 12 37.7	-0.6
DHAK	**Deception Hill**	**7.80**	**88**	Pn	Pn	20 12 42.4	+2.7
FYU	**Fort Yukon**	**7.81**	**25**	Pn	Pn	20 12 38.9	-0.8
YUK5	**Granite Creek**	**7.84**	**73**		Pn	20 12 40.4	+0.1
HYT	**Haines Junctio**	**8.01**	**75**	Pn	Pn	20 12 42.1	-0.3
BM03	**Burnt Mountain**	**8.67**	**23**		Pn	20 12 49.8	-1.4
BMAR	**Burnt Mountain**	**8.68**	**23**	Pn	Pn	20 12 50.0	-1.5
TOLK	**Toolik Lake Re**	**9.12**	**9**	Pn	Pn	20 12 57.1	-0.1
SKAG	**Skagway**	**9.20**	**84**	Pn	Pn	20 12 57.8	-0.5
UNV	**Unalaska Valle**	**9.26**	**236**	Pn	Pn	20 12 54.7	-4.4
WHY	**Whitehorse**	**9.30**	**76**	Pn	Pn	20 13 01.7	+1.9
INK	**Inuvik**	**12.20**	**37**	Pn	Pn	20 13 37.4	-0.6

IDC 24 20:28:37.2±42.0, 4°.87N×126°.61E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/28, mbtmp3.6/3, Error ellipse: s-maj=705.5km s-min=209.0km az=159.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.81**	**163**	P	P	20 34 10.4	+0.1
	0.7nm,0.9s,baz=342,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**29.25**	**166**	P	P	20 34 41.6	+0.4
	0.3nm,0.5s,baz=350,slow=8.7,SNR=4.1						
STKA	**Stephens Creek**	**39.24**	**160**	P	P	20 36 06.8	-0.8
	1.5nm,0.9s,baz=336,slow=12,SNR=1.4						
H11S3	**WAKE ISLAND Hy**	**41.40**	**68**	T	T	21 21 20.1	
	baz=262,slow=73,SNR=13						
H11S1	**WAKE ISLAND Hy**	**41.42**	**68**	T	T	21 21 19.6	
	baz=262,slow=73,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.42**	**68**	T	T	21 21 17.8	
	baz=262,slow=73,SNR=19						
H11N1	**WAKE ISLAND Hy**	**41.89**	**66**	T	T	21 21 42.0	
	baz=263,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**41.90**	**66**	T	T	21 21 42.6	
	baz=263,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**41.91**	**66**	T	T	21 21 43.7	
	baz=263,slow=74,SNR=12						

*IDC **24** 20:30:46.5±2.5, 9°.80N×126°.17E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, Error ellipse: s-maj=245.5km s-min=25.9km az=68.0*
*ISCJB **24** 20:30:49.9±1.9, 9°.55N±0°.04×126°.51E±0°.07, h15km±14km, mb3.6/4, Error ellipse: s-maj=11.5km s-min=6.8km az=3.1*
*MAN **24** 20:30:50.8, 9°.48N×126°.46E, h17km, mb4.6, ML3.4, MS3.3*
ISC 24 20:30:47.9±1.9, 9°.67N±0°.03×126°.36E±0°.08, h11km±12km, n15, σ2 21/23, mb3.2/4, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.01**	**227**	*e*P	**Pn**	**20 31 08.5**	**+0.5**
BUTP				*e*S	**Sn**	**20 31 22.1**	**-0.1**
MSLP	**Maasin**	**1.55**	**288**	*e*P	**Pg**	**20 31 18.8**	**+1.1**
MSLP				*e*S	**Sg**	**20 31 42.7**	**+4.8**
CGP	**Cagayan de Oro**	**2.04**	**234**	‖*e*P	**Pn**	**20 31 23.7**	**+1.5**
CGP				*e*S	**Sb**	**20 31 49.2**	**-1.2**
BESP	**Borongan**	**2.13**	**335**	*e*P	**Pg**	**20 31 28.5**	**-0.1**
BESP				*e*S	**Sg**	**20 31 55.6**	**-0.7**
BUKP	**Musuan**	**2.19**	**216**	*e*P	**Pb**	**20 31 26.3**	**-1.3**
BUKP				*e*S	**Sg**	**20 31 57.4**	**-1.0**
OCLP	**Ormoc**	**2.21**	**309**	*e*P	**Pg**	**20 31 29.6**	**-0.6**
LLP	**Lapu-Lapu**

IDC **24** *20:49:37.5±0.4, 40˚.78N×31˚.82E, h0km, mb4.7/35, mb1 4.8/46, mb1mx4.7/51, mbtmp4.7/46, ML4.0/9, MS3.8/35, Ms1 3.8/35, ms1mx3.7/49, Error ellipse: s-maj=7.6km s-min=6.0km az=34.0*

NEIC **24** *20:49:38.7±2.3, 40˚.82N±0˚.04×31˚.87E±0˚.04, h6km±4km, mb5.1/93, ML5.0(BUC), ML4.8(ISK), ML4.7(THE)*

MED_RC **24** *20:49:38.0±0.3, 40˚.85N×31˚.98E, h12km±1km, MW4.8/21, Moment Tensor Solution. Mantle waves: s21, c31; Duration: 1s0 Moment tensor: Scale 10^16 Nm; M_{rr}1.78±.14; $M_{\theta\theta}$-1.59±.09; $M_{\phi\phi}$-0.19±.07; $M_{r\theta}$-1.03±.17; $M_{\theta\phi}$-0.84±.04; $M_{r\phi}$0.03±.14; Best double couple: $M_0$2.15000×10^16 NP1:ϕ_s258.00000°, δ59.00000°, λ104.00000°. NP2:ϕ_s51.00000°, δ34.00000°, λ67.00000°. Principal axes: T 2.1000, Plg72.0000°, Azm202.0000°; N 0.1000, Plg12.0000°, Azm71.0000°; P -2.2000, Plg13.0000°, Azm338.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

GII **24** *20:49:39.9±0.0, 40˚.70N×31˚.80E, h7km*

GCMT **24** *20:49:39.2±0.2, 40˚.89N±0˚.02×32˚.01E±0˚.03, h13km±1km, MW4.8/79, Moment Tensor Solution. s21, c23; s79, c104; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}1.86±.11; $M_{\theta\theta}$-1.70±.09; $M_{\phi\phi}$-0.15±.06; $M_{r\theta}$-0.78±.21; $M_{\theta\phi}$-0.86±.05; $M_{r\phi}$0.07±.18; Best double couple: $M_0$2.12400×10^16 NP1:ϕ_s257.00000°, δ56.00000°, λ103.00000°. NP2: ϕ_s54.00000°, δ37.00000°, λ71.00000°. Principal axes: T 2.0500, Plg75.0000°, Azm207.0000°; N 0.1520, Plg11.0000°, Azm69.0000°; P -2.1970, Plg10.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

THE **24** *20:49:40.4, 40˚.78N×31˚.82E, h2km±4km, ML4.7/4 Error ellipse: s-maj=8.2km s-min=1.1km az=64.0*

ISC 24 20:49:38.8±0.7, **40˚.82N**±0˚.02×**31˚.85E**±0˚.01, **h10**km±4km, **n1069**, σ1**58**/1218, **mb5.0**/129, **MS3.8**/31, **98C-45D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.16**	**92**	*i* PA	**Pg**	**20 49 41.6**	**-0.9**
BCAM				*i* S	**Sg**	**20 49 44.3**	**-0.7**
YIGI	**Dzce**	**0.34**	**295**	*i* PA	**Pg**	**20 49 45.7**	**+0.1**
YIGI				*i* S	**Sg**	**20 49 50.9**	**+0.8**
YIGI				IAML		20 49 54.0	
	comp=N,30μm,1.3s						
KIBS	**BOLU**	**0.40**	**180**	*i* PA	**Pg**	**20 49 45.6**	**-1.2**
KIBS				IAML		20 49 51.0	
	comp=N,113μm,0.3s						
KIBS				IAML		20 49 51.0	
	comp=E,77μm,0.7s						
KIBS				*i* S	**Sg**	**20 49 51.1**	**-1.1**
YUVA	**Yuva-Kibriscik**	**0.45**	**196**	PG	**Pg**	**20 49 46.9**	**-0.8**
YUVA				SG	**Sg**	**20 49 53.2**	**-0.4**
CMDR	**Camlidere-ANKA**	**0.57**	**125**	*i* PA	**Pg**	**20 49 48.8**	**-1.2**
CMDR				*i* S	**Sg**	**20 49 56.8**	**-0.8**
CMDR				IAML		20 49 57.0	
	comp=E,69μm,0.6s						
CMDR				IAML		20 50 06.0	
	comp=N,131μm,1.1s						
KDZE	**Karadeniz Ereo**	**0.58**	**328**	⇓P	**Pg**	**20 49 50.3**	**+0.1**
KDZE				⇑S	**Sb**	**20 49 58.9**	**-0.6**
KDZE				AML	AML	20 50 04.0	
KDZE	**Karadeniz Ereo**	**0.58**	**328**	PG	**Pg**	**20 49 49.4**	**-0.7**
KDZE				SG	**Sb**	**20 49 59.1**	**-0.3**
KDZE	**Karadeniz Ereo**	**0.58**	**328**		**Pg**	**20 49 50.3**	**+0.1**
KDZE					**Sb**	**20 49 58.9**	**-0.6**
BTAS	**Taskesti**	**0.70**	**249**	*i* PA	**Pg**	**20 49 51.5**	**-0.9**
BTAS				*i* S	**Sg**	**20 50 01.0**	**-0.5**
BTAS				IAML		20 50 08.0	
	comp=E,23μm,0.6s						
BTAS				IAML		20 50 21.0	
	comp=N,25μm,1.2s						
SAFT	**Safranbolu**	**0.76**	**56**	PG	**Pg**	**20 49 53.3**	**-0.1**
SAHE	**Sakarya_HENDEK**	**0.76**	**273**	*i* PA	**Pg**	**20 49 53.0**	**-0.5**
SAHE				*i* S	**Sg**	**20 50 03.4**	**0.0**
SAHE				IAML		20 50 05.0	
	comp=E,17μm,0.5s						
SAHE				IAML		20 50 10.0	
	comp=N,20μm,0.7s						
BTIN	**Bartın**	**0.87**	**20**	*i* PA	**Pg**	**20 49 55.3**	**-0.3**
BTIN				*i* S	**Sb**	**20 50 07.6**	**0.0**
BTIN				IAML		20 50 13.0	
	comp=N,56nm,0.3s						
BTIN				IAML		20 50 14.0	
	comp=N,58nm,0.4s						
AUMIH	**MIHALICIK**	**0.99**	**197**	*i* PA	**Pg**	**20 49 56.8**	**-1.2**
AUMIH				*i* S	**Sg**	**20 50 10.3**	**-0.7**
AUMIH				IAML		20 50 15.0	
	comp=E,26μm,0.4s						
AUMIH				IAML		20 50 15.0	
	comp=N,26μm,0.3s						
AUMIH	**MIHALICIK**	**0.99**	**197**	PG	**Pg**	**20 49 56.9**	**-1.1**
AUMIH				SG	**Sg**	**20 50 10.3**	**-0.7**
GULT	**Gulveren**	**1.09**	**249**	PN	**Pg**	**20 49 59.5**	**-0.3**
SAUV	**Serdivan-Sakar**	**1.16**	**266**	PN	**Pb**	**20 50 00.3**	**-0.7**
LOD	**Lodumlu**	**1.16**	**143**	PN	**Pb**	**20 49 59.2**	**-1.9**
LOD				SN	**Sg**	**20 50 15.9**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.18**	**264**	PN	**Pb**	**20 50 00.9**	**-0.4**
ANTO	**Ankara**	**1.19**	**143**	P	**Pb**	**20 50 00.1**	**-1.4**
	SNR=1543						
ANTO	**Ankara**	**1.19**	**143**	P	**Pb**	**20 50 00.2**	**-1.4**
ANTO	**Ankara**	**1.19**	**143**	PN	**Pb**	**20 49 59.9**	**-1.7**
ANTO				SN	**Sg**	**20 50 16.7**	**-0.6**
ANTO	**Ankara**	**1.19**	**143**		**Pb**	**20 50 00.2**	**-1.4**
BR231	**Keskin MP Arra**	**1.21**	**144**		**Pb**	**20 50 01.4**	**-0.5**
SRCK	**Saricakaya, Es**	**1.22**	**231**	*i* PA	**Pg**	**20 50 00.9**	**-1.3**
SRCK				*i* S	**Sg**	**20 50 17.7**	**-0.4**
SRCK				IAML		20 50 23.0	
	comp=N,18μm,0.7s						
SRCK				IAML		20 50 26.0	
	comp=E,14μm,1.0s						
SRCK	**Saricakaya, Es**	**1.22**	**231**	PN	**Pb**	**20 50 01.1**	**-0.9**
KURC	**Kurucasile-Bar**	**1.22**	**33**	PN	**Pn**	**20 50 01.8**	**-0.2**
GEYV	**SAKARYA_Geyve**	**1.23**	**255**	*i* P	**Pn**	**20 50 01.2**	**-0.9**
GEYV				*i* S	**Sn**	**20 50 20.3**	**+1.5**
GEYV				IAML		20 50 23.0	
	comp=N,18μm,0.5s						
GEYV				IAML		20 50 29.0	
	comp=E,12μm,0.8s						
ELDT	**Eldivan**	**1.24**	**105**	*i* PA	**Pg**	**20 50 01.2**	**-1.5**
ELDT				*i* S	**Sb**	**20 50 18.1**	**-0.5**
ELDT				IAML		20 50 22.0	
	comp=N,21μm,1.2s						
KAND	**Kocaeli-Kandir**	**1.29**	**283**	*i* P	**Pn**	**20 50 02.0**	**-0.8**
KAND				*i* S	**Sn**	**20 50 20.2**	**0.0**
KAND				IAML		20 50 24.0	
	comp=N,12μm,0.7s						
KAND				IAML		20 50 24.0	
	comp=E,9μm,1.0s						
CANT	**Cankiri**	**1.36**	**99**	PN	**Pn**	**20 50 03.4**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.40**	**191**	PN	**Pn**	**20 50 03.6**	**-0.9**
AUSIV	**SIVRIHISAR**	**1.40**	**190**	*i* PA	**Pg**	**20 50 03.5**	**-2.2**
AUSIV				*i* S	**Sb**	**20 50 22.2**	**-1.0**
AUSIV				IAML		20 50 26.0	
	comp=N,7μm,0.9s						
AUSIV				IAML		20 50 27.0	
	comp=E,5μm,0.5s						
AUSIV	**SIVRIHISAR**	**1.40**	**190**	PN	**Pn**	**20 50 03.9**	**-0.7**
BORA	**Eskisehir**	**1.43**	**229**	*i* P	**Pn**	**20 50 04.2**	**-0.6**
BORA				*i* S	**Sb**	**20 50 23.8**	**0.0**
BORA				IAML		20 50 28.0	
	comp=E,2μm,0.3s						
BORA				IAML		20 50 29.0	
	comp=N,3μm,0.4s						
BORA	**Eskisehir**	**1.43**	**229**	PN	**Pn**	**20 50 04.5**	**-0.4**
ILGA	**Ilgaz**	**1.43**	**80**	*i* PA	**Pn**	**20 50 04.7**	**-0.3**
ILGA				*i* S	**Sg**	**20 50 25.5**	**+0.6**
ILGA				IAML		20 50 32.0	
	comp=N,15μm,0.9s						
ILGA				IAML		20 50 34.0	
	comp=E,17μm,1.0s						
ILGA	**Ilgaz**	**1.43**	**80**		**Pn**	**20 50 04.8**	**-0.2**
ESKT	**Eskisehir**	**1.51**	**211**	PN	**Pn**	**20 50 05.7**	**-0.4**
KMON	**Kastamonu**	**1.56**	**69**	PN	**Pn**	**20 50 06.5**	**-0.2**
CIFT	**Cifteler, Eski**	**1.58**	**203**	*i* PA	**Pn**	**20 50 06.1**	**-0.9**
CIFT				*i* S	**Sg**	**20 50 29.8**	**+0.1**
CIFT				IAML		20 50 33.0	
	comp=N,10μm,0.5s						
CIFT				IAML		20 50 34.0	
	comp=E,16μm,0.7s						
CIFT	**Cifteler, Eski**	**1.58**	**203**	PN	**Pn**	**20 50 06.1**	**-0.9**
BBAL	**Bala**	**1.61**	**142**	*i* P	**Pn**	**20 50 06.5**	**-0.9**
BBAL				*i* S	**Sb**	**20 50 29.0**	**-0.1**
BBAL				IAML		20 50 32.0	
	comp=E,15μm,0.7s						
BBAL				IAML		20 50 36.0	
	comp=N,19μm,1.0s						
CAVI	**Cavuskoy**	**1.65**	**249**	PN	**Pn**	**20 50 07.9**	**0.0**
ADVT	**Abdulvahap**	**1.66**	**257**	PN	**Pn**	**20 50 08.1**	**+0.2**
TOS	**Tosya**	**1.66**	**82**	PN	**Pn**	**20 50 07.7**	**-0.4**
HRT	**Hereke**	**1.66**	**271**	PN	**Pb**	**20 50 08.8**	**-0.7**
AFSR	**Afar-Bala (An**	**1.66**	**145**	PN	**Pn**	**20 50 07.5**	**-0.6**
KAST	**KASTAMONU**	**1.70**	**66**	*i* P	**Pn**	**20 50 08.9**	**+0.3**
KAST				*i* S	**Sg**	**20 50 33.3**	**-0.3**
KAST				IAML		20 50 44.0	
	comp=E,11μm,0.7s						
SILT	**Sile**	**1.71**	**282**	⇓P	**Pb**	**20 50 10.0**	**-0.2**
SILT				⇑S	**Sg**	**20 50 32.9**	**-0.8**
SILT				AML	AML	20 50 35.5	
SILT	**Sile**	**1.71**	**282**	PN	**Pb**	**20 50 09.5**	**-0.8**
SILT	**Sile**	**1.71**	**282**		**Pb**	**20 50 10.0**	**-0.2**
SILT					**Sg**	**20 50 32.9**	**-0.8**
BR131	**Keskin Array S**	**1.75**	**128**	P	**Pn**	**20 50 09.0**	**-0.4**
	SNR=3903						
BR131				S	**Sg**	**20 50 35.0**	**-0.1**
BR131	**Keskin Array S**	**1.75**	**128**	P	**Pb**	**20 50 10.8**	**-0.3**
BR131	**Keskin Array S**	**1.75**	**128**		**Pb**	**20 50 10.8**	**-0.3**
BRTR	**Keskin Array B**	**1.75**	**128**	Pn	**Pb**	**20 50 11.2**	**+0.1**
	comp=E,655nm,0.3s,baz=306,slow=10,SNR=1456						
BRTR				Sn	**Sg**	**20 50 34.6**	**-0.6**
	comp=E,1μm,0.3s,baz=306,slow=20,SNR=39						
BRTR	**Keskin Array B**	**1.75**	**128**	PN	**Pn**	**20 50 08.7**	**-0.7**
BRTR	**Keskin Array B**	**1.75**	**128**		**Pn**	**20 50 08.9**	**-0.4**
DELI	**KIRIKKALE**	**1.78**	**117**	*i* P	**Pn**	**20 50 09.1**	**-0.6**
DELI				*i* S	**Sn**	**20 50 32.8**	**+0.3**
DELI				IAML		20 50 36.0	
	comp=N,6μm,0.6s						
DELI				IAML		20 50 39.0	
	comp=E,4μm,1.0s						
KKUL	**Konya-Kulu**	**1.84**	**153**	*i* P	**Pn**	**20 50 09.9**	**-0.7**
KKUL				*i* S	**Sb**	**20 50 35.2**	**-0.5**
KKUL				IAML		20 50 40.0	
	comp=E,28μm,0.9s						
KKUL				IAML		20 50 41.0	
	comp=N,16μm,0.7s						
AUKIR	**Kırka- Seyitga**	**1.85**	**214**	*i* P	**Pn**	**20 50 10.2**	**-0.5**
AUKIR				*i* S	**Sn**	**20 50 34.5**	**+0.4**
AUKIR				IAML		20 50 44.0	
	comp=E,12μm,1.1s						
AUKIR				IAML		20 50 47.0	
	comp=N,8μm,0.5s						
IZI	**Iznik**	**1.88**	**256**	PN	**Pn**	**20 50 11.2**	**+0.1**
YLV	**Yalova**	**1.90**	**263**	P	**Pb**	**20 50 13.3**	**-0.4**
YLV						20 50 38.0	
YLV	**Yalova**	**1.90**	**263**	⇑P	**Pb**	**20 50 13.3**	**-0.4**
YLV				⇑S	**Sb**	**20 50 38.0**	**+0.5**
YLV				AML	AML	20 50 44.6	
YLV	**Yalova**	**1.90**	**263**	PN	**Pn**	**20 50 11.6**	**+0.2**
YLV	**Yalova**	**1.90**	**263**		**Pb**	**20 50 13.3**	**-0.4**
YLV					**Sb**	**20 50 38.0**	**+0.5**
KIZT	**Kizilcal**	**1.94**	**179**	PN	**Pn**	**20 50 11.3**	**-0.7**
BZK	**Bozkurt**	**1.98**	**54**	⇑P	**Pn**	**20 50 13.5**	**+1.1**
BZK				⇑S	**Sn**	**20 50 37.6**	**+0.5**
BZK				AML	AML	20 50 49.2	
BZK	**Bozkurt**	**1.98**	**54**	PN	**Pn**	**20 50 12.5**	**+0.2**
BZK	**Bozkurt**	**1.98**	**54**		**Pn**	**20 50 13.5**	**+1.1**
BZK					**Sn**	**20 50 37.6**	**+0.5**
KULU	**Kulu**	**1.98**	**153**	PN	**Pn**	**20 50 11.9**	**-0.7**
KAGI	**orum-Kargı**	**2.01**	**80**	*i* P	**Pn**	**20 50 12.8**	**-0.1**
KAGI				*i* S	**Sg**	**20 50 42.6**	**-0.9**
KAGI				IAML		20 50 55.0	
	comp=N,4μm,1.1s						
KAGI				IAML		20 51 10.0	
	comp=E,2μm,0.9s						
GEMT	**Gemlik**	**2.06**	**260**	PN	**Pn**	**20 50 13.7**	**+0.1**
BUY	**Buyukada**	**2.08**	**272**	*i* P	**Pn**	**20 50 14.8**	**+1.1**
BUY				*i* S	**Sb**	**20 50 42.0**	**-0.4**
BUY				IAML		20 50 46.0	
	comp=E,12μm,0.6s						
BUY				IAML		20 50 51.0	
	comp=N,11μm,0.7s						
BUY	**Buyukada**	**2.08**	**272**	PN	**Pn**	**20 50 14.1**	**+0.4**
IGD	**Bursa**	**2.10**	**255**	*i* P	**Pn**	**20 50 13.9**	**-0.1**
IGD				*i* S	**Sn**	**20 50 41.2**	**+1.1**
IGD				IAML		20 50 49.0	
	comp=E,3μm,1.2s						
IGD				IAML		20 50 49.0	
	comp=N,3μm,0.7s						
KAVV	**Kandilli-Istan**	**2.13**	**277**	PN	**Pn**	**20 50 14.8**	**+0.4**
ISK	**Istanbul-Kandi**	**2.13**	**277**	P	**Pn**	**20 50 15.5**	**+1.0**
ISK				S	**Sn**	**20 50 42.1**	**+1.1**
	comp=N,8μm,0.7s						
ISK	**Istanbul-Kandi**	**2.13**	**277**	PN	**Pn**	**20 50 14.9**	**+0.4**
KLYT	**Kilyos**	**2.17**	**282**	⇓P	**Pn**	**20 50 16.4**	**+1.4**
KLYT				⇑S	**Sb**	**20 50 43.9**	**-1.2**
KLYT				AML	AML	20 50 54.6	
KLYT	**Kilyos**	**2.17**	**282**	PN	**Pn**	**20 50 15.7**	**+0.7**
KLYT	**Kilyos**	**2.17**	**282**		**Pn**	**20 50 16.4**	**+1.4**
KLYT					**Sb**	**20 50 43.9**	**-1.2**
ULDT	**Uludag**	**2.18**	**253**	*i* P	**Pn**	**20 50 15.6**	**+0.3**
BOLV	**Bolvadin**	**2.21**	**199**	*i* PA	**Pn**	**20 50 15.7**	**0.0**
BOLV				*i* S	**Sn**	**20 50 44.1**	**+0.9**
BOLV				IAML		20 50 52.0	
	comp=N,5μm,0.5s						
BOLV				IAML		20 50 52.0	
	comp=E,4μm,0.6s						
CTAK	**Corum_Osmancik**	**2.24**	**94**	*i* P	**Pn**	**20 50 15.9**	**-0.3**
CTAK				*i* S	**Sg**	**20 50 49.1**	**-1.7**
CTAK				IAML		20 50 59.0	
	comp=E,3μm,1.3s						
CTAK				IAML		20 51 06.0	
	comp=N,3μm,1.3s						
CDAG	**Cicekdag**	**2.27**	**121**	*i* P	**Pn**	**20 50 15.9**	**-0.6**
CDAG				*i* S	**Sb**	**20 50 48.9**	**+0.8**
CDAG				IAML		20 50 52.0	
	comp=N,6μm,0.7s						
CDAG				IAML		20 51 03.0	
	comp=E,6μm,1.2s						
ARMT	**Armutlu**	**2.29**	**265**	PN	**Pn**	**20 50 16.8**	**+0.1**
SERE	**Sereflikochisa**	**2.29**	**144**	PN	**Pn**	**20 50 16.3**	**-0.5**
MDNY	**Mudanya-Bursa**	**2.31**	**260**	PN	**Pn**	**20 50 17.1**	**+0.2**
KDHN	**Kadinhani**	**2.31**	**175**	*i* P	**Pn**	**20 50 16.2**	**-0.8**
KDHN				*i* S	**Sn**	**20 50 44.8**	**-0.7**
KDHN				IAML		20 50 53.0	
	comp=E,4μm,0.9s						
KDHN				IAML		20 51 03.0	
	comp=N,2μm,1.4s						
KIRS	**Kırehir-Merke**	**2.31**	**136**	*i* P	**Pn**	**20 50 16.1**	**-1.0**
KIRS				*i* S	**Sb**	**20 50 50.8**	**+1.4**
KIRS				IAML		20 50 54.0	
	comp=N,5μm,0.7s						
KIRS				IAML		20 50 54.0	
	comp=E,3μm,0.4s						
BGKT	**Bogazkoy**	**2.36**	**280**	PN	**Pn**	**20 50 18.3**	**+0.7**
AFYO	**Afyonkarahisar**	**2.36**	**211**	*i* PA	**Pn**	**20 50 17.5**	**-0.2**
AFYO				*i* S	**Sb**	**20 50 51.1**	**+0.4**
AFYO				IAML		20 51 01.0	
	comp=E,7μm,2.0s						
AFYO				IAML		20 51 06.0	
	comp=N,6μm,1.2s						
CHBY	**Cihanbeyli**	**2.38**	**160**	PN	**Pn**	**20 50 17.5**	**-0.4**
YAYX	**Yaylak**	**2.41**	**141**	PN	**Pn**	**20 50 17.7**	**-0.7**
COAL	**Corum-Alaca**	**2.45**	**102**	*i* P	**Pn**	**20 50 18.9**	**-0.1**
COAL				*i* S	**Sg**	**20 50 56.3**	**-1.4**
COAL				IAML		20 51 02.0	
	comp=E,5μm,0.8s						
COAL				IAML		20 51 03.0	
	comp=N,4μm,0.9s						
SHUT	**Suhut-Afyon**	**2.48**	**204**	PN	**Pn**	**20 50 19.3**	**-0.1**
GDZ	**Gediz**	**2.52**	**227**	*i* P	**Pn**	**20 50 19.3**	**-0.5**
GDZ				*i* S	**Sb**	**20 50 57.0**	**+1.8**
GDZ				IAML		20 51 07.0	
	comp=N,1μm,1.3s						
GDZ				IAML		20 51 13.0	
	comp=E,1μm,1.6s						
CTKS	**Kestanelik-??a**	**2.57**	**280**	PN	**Pn**	**20 50 21.2**	**+0.8**
GEDZ	**Gediz**	**2.58**	**227**	PN	**Pn**	**20 50 20.8**	**0.0**
ELBA	**Catalca**	**2.61**	**278**	*i* P	**Pn**	**20 50 22.1**	**+1.0**
ELBA				*i* S	**Sb**	**20 50 56.0**	**-1.9**
ELBA				IAML		20 51 02.0	
	comp=E,1μm,0.5s						
ELBA				IAML		20 51 04.0	
	comp=N,1μm,0.6s						
AKSY	**AKSARAY - Alti**	**2.62**	**145**	*i* P	**Pn**	**20 50 20.7**	**-0.6**
LADK	**Ladik-KONYA**	**2.65**	**171**	PN	**Pn**	**20 50 21.1**	**-0.6**
DIKM	**Dikmen**	**2.70**	**71**	⇑P	**Pn**	**20 50 23.1**	**+0.9**
DIKM				AML	AML	20 51 11.5	
DIKM	**Dikmen**	**2.70**	**71**		**Pn**	**20 50 23.1**	**+0.9**
SHAP	**Saphane-Kutahy**	**2.71**	**229**	PN	**Pn**	**20 50 22.7**	**+0.2**
DOGA	**KONYA_Doganhis**	**2.72**	**183**	*i* P	**Pn**	**20 50 21.7**	**-1.0**
DOGA				*i* S	**Sg**	**20 51 06.5**	**+0.3**
DOGA				IAML		20 51 16.0	
	comp=N,2μm,0.7s						
DOGA				IAML		20 51 23.0	
	comp=E,2μm,1.2s						
KCTX	**Karacabey (Bur**	**2.72**	**259**	PN	**Pn**	**20 50 23.5**	**+0.9**
SLVT	**Silivri**	**2.79**	**280**	PN	**Pn**	**20 50 24.4**	**+0.9**
SMAA	**Simav-Kutahya**	**2.80**	**233**	PN	**Pn**	**20 50 24.1**	**+0.4**
SIMA	**Simav-Kutahya**	**2.81**	**233**	PN	**Pn**	**20 50 23.8**	**-0.1**
DURS	**Dursunbey**	**2.86**	**246**	*e*P	**Pn**	**20 50 24.0**	**-0.6**
DURS				*i* S	**Sg**	**20 51 10.7**	**0.0**
DURS				IAML		20 51 18.0	
	comp=E,1μm,0.5s						
DURS				IAML		20 51 20.0	
	comp=N,3μm,0.7s						
KZIL	**AFYON_Kizioren**	**2.88**	**208**	*e*P	**Pn**	**20 50 24.4**	**-0.5**
KZIL				*i* S	**Sg**	**20 51 11.8**	**+0.3**
KZIL				IAML		20 51 20.0	
	comp=E,1μm,1.2s						
KZIL				IAML		20 51 23.0	
	comp=N,911nm,1.2s						
KZIL				IVMs_BB	IVMs_BB	20 51 44.0	
	comp=Z,26μm,4.8s						
KONT	**Konya--Tatoy**	**2.90**	**172**	*i* P	**Pn**	**20 50 24.3**	**-0.8**
KONT				*i* S	**Sn**	**20 51 00.4**	**+0.3**
KONT				IAML		20 51 23.0	
	comp=N,1μm,1.7s						
KONT				IAML		20 51 28.0	
	comp=E,2μm,1.2s						
KONT				IVMs_BB	IVMs_BB	20 51 41.0	
	comp=Z,18μm,5.6s						
KONT	**Konya--Tatoy**	**2.90**	**172**	PN	**Pn**	**20 50 24.5**	**-0.6**
YOZ	**Yozgat**	**2.90**	**113**	PN	**Pn**	**20 50 25.1**	**-0.2**
SIRC	**Yozgat**	**2.93**	**119**	*i* P	**Pn**	**20 50 25.5**	**-0.1**
SIRC				*i* S	**Sb**	**20 51 08.8**	**+1.7**
SIRC				IAML		20 51 14.0	
	comp=E,3μm,0.8s						
SIRC				IAML		20 51 26.0	
	comp=N,1μm,0.9s						
HAVZ	**Havza**	**2.94**	**84**	*i* P	**Pn**	**20 50 25.6**	**0.0**
HAVZ				*i* S	**Sg**	**20 51 13.2**	**0.0**
HAVZ				IAML		20 51 23.0	
	comp=N,3μm,1.2s						
HAVZ				IAML		20 51 27.0	
	comp=E,2μm,1.1s						
HAVZ				IVMs_BB	IVMs_BB	20 51 51.0	
	comp=Z,32μm,4.6s						
BAGO	**Egridir - ISPA**	**2.95**	**197**	*i* P	**Pn**	**20 50 25.9**	**+0.2**
BAGO				*i* S	**Sg**	**20 51 11.5**	**-2.0**
BAGO				IAML		20 51 35.0	
	comp=N,709nm,1.4s						
BAGO				IVMs_BB	IVMs_BB	20 51 47.0	
	comp=Z,10μm,4.4s						
DEMI	**Demirci**	**3.00**	**235**	*i* P	**Pn**	**20 50 26.3**	**-0.1**
DEMI				*i* S	**Sb**	**20 51 08.8**	**-0.2**
DEMI				IAML		20 51 21.0	
	comp=N,1μm,0.6s						
DEMI				IVMs_BB	IVMs_BB	20 51 46.0	
	comp=Z,25μm,5.4s						
USAK	**Uak-Merkez**	**3.04**	**227**	*i* P	**Pn**	**20 50 26.4**	**-0.6**
USAK				*i* S	**Sg**	**20 51 17.7**	**+1.4**
USAK				IAML		20 51 26.0	
	comp=N,645nm,1.1s						
USAK				IAML		20 51 29.0	
	comp=E,577nm,1.1s						
USAK				IVMs_BB	IVMs_BB	20 51 40.0	
	comp=Z,16μm,7.3s						
KHAL	**Karahalli**	**3.05**	**217**	*i* P	**Pn**	**20 50 26.3**	**-0.9**
KHAL				*i* S	**Sg**	**20 51 16.9**	**-0.1**
KHAL				IAML		20 51 25.0	
	comp=E,989nm,1.4s						
KHAL				IAML		20 51 44.0	
	comp=N,688nm,2.1s						
KHAL				IVMs_BB	IVMs_BB	20 51 52.0	
	comp=Z,19μm,5.3s						
AVNS	**Nevsehir-Avano**	**3.06**	**130**	*i* P	**Pn**	**20 50 27.1**	**-0.3**
AVNS				*i* S	**Sg**	**20 51 14.2**	**-2.9**
AVNS				IAML		20 51 21.0	
	comp=E,15μm,1.2s						
AVNS				IAML		20 51 23.0	
	comp=N,8μm,0.7s						
KMER	**Konya-Meram**	**3.08**	**172**	*i* P	**Pn**	**20 50 27.1**	**-0.5**
KMER				*i* S	**Sb**	**20 51 13.1**	**+1.8**
KMER				IAML		20 51 38.0	
	comp=N,860nm,1.4s						
KMER				IVMs_BB	IVMs_BB	20 51 49.0	
	comp=Z,18μm,4.6s						
ISP	**Isparta**	**3.17**	**199**	P	**Pn**	**20 50 28.4**	**-0.5**
ISP	**Isparta**	**3.17**	**199**	P	**Pn**	**20 50 28.6**	**-0.2**
ISP	**Isparta**	**3.17**	**199**	Pn	**Pn**	**20 50 28.4**	**-0.5**
ISP	**Isparta**	**3.17**	**199**	⇑P	**Pn**	**20 50 28.7**	**-0.2**
ISP	**Isparta**	**3.17**	**199**	PN	**Pn**	**20 50 28.6**	**-0.2**
ISP	**Isparta**	**3.17**	**199**		**Pn**	**20 50 28.6**	**-0.2**
BALB	**Balikesir**	**3.26**	**250**	Pn	**Pb**	**20 50 36.6**	**-0.2**
SAMS	**Samsun-Alacam**	**3.32**	**79**	*e*P	**Pn**	**20 50 31.8**	**+1.0**
SAMS				IVMs_BB	IVMs_BB	20 52 15.0	
	comp=Z,33μm,4.8s						
PHSR	**Pinarhisar**	**3.36**	**285**	⇑P	**Pb**	**20 50 35.0**	**-3.6**
KULA	**Kula-Manisa**	**3.37**	**228**	P	**P

ERMK Ermenek 4.26 168 *i* P Pn 20 50 43.7 -0.2
ERMK IVMs_BB IVMs_BB 20 52 42.0
comp=Z,19μm,5.5s
ALU Alushta 4.29 25 *i* P Pn 20 50 45.0 +0.9
ALU *i* S Sn 20 51 35.3 +1.1
SAIM ADANA 4.34 130 *e*P Pn 20 50 45.4 +0.5
SAIM IVMs_BB IVMs_BB 20 53 02.0
comp=Z,6μm,4.3s
EZN Ezine 4.34 259 P Pn 20 50 45.9 +1.1
EZN Ezine 4.34 259 P Pn 20 50 48.0 +3.1
EZN 20 51 37.4
EZN Ezine 4.34 259 ⇓P Pn 20 50 48.0 +3.1
EZN ⇑S Sn 20 51 37.4 +2.0
EZN AML AML 20 52 34.2
EZN Ezine 4.34 259 Pn 20 50 48.0 +3.1
EZN Sn 20 51 37.4 +2.0
ELL Elmali 4.34 201 P Pn 20 50 46.5 +1.5
ELL Elmali 4.34 201 Pn 20 50 46.5 +1.5
AKO Adana 4.37 139 *e*P Pn 20 50 49.1 +3.9
ALN Alexandroupoli 4.41 273 P Pn 20 50 46.0 +0.2
ALN Alexandroupoli 4.41 273 P Pn 20 50 45.9 +0.2
ALN Alexandroupoli 4.41 273 Pn 20 50 45.9 +0.1
AYDN Tasoluk 4.42 226 *e*P Pn 20 50 46.0 +0.1
AYDN IVMs_BB IVMs_BB 20 52 46.0
comp=Z,15μm,4.8s
TIRR Tirgusor 4.43 326 P Pn 20 50 46.7 +0.6
TIRR 20 51 39.3
TIRR Tirgusor 4.43 326 ⇑P Pn 20 50 47.0 +0.9
TIRR Tirgusor 4.43 326 Pn 20 50 46.7 +0.6
TIRR Sn Sn 20 51 39.3 +1.6
SIM Simferopol' 4.45 21 *c i*P Pn 20 50 48.2 +1.9
SIM *i* S Sn 20 51 39.7 +1.6
SIM pmax pmax
comp=Z,2μm,0.6s
SIM smax smax
comp=N,828nm,1.1s
SIM smax smax
comp=E,4μm,1.0s
ICOR Ion Corvin 4.45 319 ⇑P Pn 20 50 47.4 +1.1
ICOR ⇑S Sn 20 51 38.0 -0.1
ICOR AML AML 20 51 44.8
DED Mersin 4.49 148 *i* P Pn 20 50 50.5 +3.6
CVDA Cernavoda 4.50 322 ⇓P Pn 20 50 48.4 +1.3
CVDA ⇑S Sn 20 51 39.3 0.0
CVDA Cernavoda 4.50 322 Pn 20 50 48.4 +1.3
CVDA Sn 20 51 39.3 0.0
JURR Jurilovca 4.51 332 ⇓P Pn 20 50 46.8 -0.3
CUKAN kangal_SIVAS 4.56 107 *i* P Pn 20 50 48.8 +0.7
CUKAN IVMs_BB IVMs_BB 20 52 52.0
comp=Z,7μm,5.2s
PRK Paraskevi 4.56 252 P Pn 20 50 49.7 +1.8
GADA Gvkgeada 4.58 264 P Pn 20 50 48.9 +0.7
GAZI Gazipasa 4.59 175 *i* P Pn 20 50 48.1 -0.2
GAZI IVMs_BB IVMs_BB 20 52 52.0
comp=Z,7μm,5.6s
TSSL Sulina 4.61 341 ⇑P Pn 20 50 49.2 +0.7
TSSL ⇑S Sn 20 51 41.1 -0.9
TSSL AML AML 20 51 45.3
YER Yerkesik 4.62 218 P Pn 20 50 49.7 +1.0
CUZAR Zara_SIVAS 4.62 100 *i* P Pn 20 50 49.4 +0.7
CUZAR IVMs_BB IVMs_BB 20 52 56.0
comp=Z,12μm,5.2s
SUDU Sudak 4.68 29 *e*P Pn 20 50 50.2 +0.8
SUDU *i* S Sn 20 51 44.9 +1.2
KIZK Mersin 4.69 157 *i* P Pn 20 50 50.5 +0.8
KIZK IVMs_BB IVMs_BB 20 53 25.0
comp=Z,9μm,4.7s
TLB Topalu 4.69 325 P Pn 20 50 50.2 +0.6
TLB 20 51 43.8
TLB Topalu 4.69 325 ⇑P Pn 20 50 50.2 +0.6
TLB ⇑S Sn 20 51 43.7 -0.4
TLB AML AML 20 51 46.8
TLB Topalu 4.69 325 Pn 20 50 50.2 +0.6
TLB Sn 20 51 43.8 -0.4
FETY Fethiye 4.71 208 P Pn 20 50 51.1 +1.2
TOPG Topolog 4.79 329 ⇑P Pn 20 50 51.0 0.0
TOPG ⇓S Sn 20 51 45.5 -1.0
TOPG AML AML 20 51 50.8
RDO Rodhopi 4.79 276 P Pn 20 50 52.1 +1.1
HARR Harsova 4.82 325 P Pn 20 50 52.2 +0.7
HARR Harsova 4.82 325 ⇑P Pn 20 50 52.2 +0.7
HARR Harsova 4.82 325 Pn 20 50 52.2 +0.7
RAZG Razgrad 4.83 306 ⇑P Pn 20 50 52.1 +0.6
RAZG AML AML 20 52 28.6
RASA Rasa 4.86 316 ⇓P Pn 20 50 53.3 +1.4
RASA AML AML 20 52 16.1
SIGR SIGRI 4.88 253 P Pn 20 50 53.0 +0.8
TLCR 4.90 334 P Pn 20 50 52.3 -0.2
TLCR 20 51 47.9
TLCR 4.90 334 ⇑P Pn 20 50 52.3 -0.2
TLCR AML AML 20 50 55.8
TLCR ⇓S Sn 20 51 47.9 -1.2
TLCR 4.90 334 Pn 20 50 52.3 -0.2
TLCR Sn 20 51 47.9 -1.2
FEO Feodosiya 4.93 31 *e*P Pn 20 50 54.1 +1.2
FEO *i* S Sn 20 51 51.0 +1.0
ELND Elena 4.93 297 ⇓P Pn 20 50 53.3 +0.3
ELND ⇑S Sn 20 51 49.2 -1.0
ELND AML AML 20 52 03.9
KSL Kastellorizon 4.99 202 P Pn 20 50 55.5 +1.7
AMRR Amara 5.04 320 ⇓P Pn 20 50 59.8 +5.3
CFR Carcaliu 5.14 329 P Pn 20 50 55.5 -0.3
CFR 20 51 54.5
CFR Carcaliu 5.14 329 ⇑P Pn 20 50 55.5 -0.3
CFR ⇑S Sn 20 51 54.5 -0.5
CFR AML AML 20 51 57.5
CFR Carcaliu 5.14 329 Pn 20 50 55.5 -0.3
CFR Sn 20 51 54.5 -0.5
LEHL Lehliu 5.21 316 ⇑P Pn 20 50 58.1 +1.4
LEHL AML AML 20 52 30.7
GIUM Giurgiulesti 5.37 331 ⇑P Pn 20 50 59.5 +0.5
GIUM ⇑S Sn 20 52 00.2 -0.6
GIUM Giurgiulesti 5.37 331 Pn 20 50 59.5 +0.5
GIUM Sn 20 52 00.2 -0.6
GISR Galati 5.39 330 ⇑P Pn 20 50 00.2 +1.0
GISR AML AML 20 52 08.0
PGOR Pogoanele 5.43 320 ⇓P Pn 20 50 02.2 +2.4
PGOR AML AML 20 52 23.3
PGOR Pogoanele 5.43 320 Pn 20 50 02.2 +2.4
BRAG Branistea 5.47 329 ⇑P Pn 20 51 01.8 +1.4
BRAG ⇑S Sn 20 52 03.3 -0.1
BRAG AML AML 20 52 14.4
SGRR Singureni 5.51 310 ⇑P Pn 20 51 02.3 +1.3
GAZ Gaziantep 5.54 129 Pn Pn 20 51 02.4 +0.9
KAVA Kavala 5.56 274 P Pn 20 51 02.2 +0.6
IZVR Izvoarele 5.58 329 ⇓P Pn 20 51 03.5 +1.6
IZVR ⇑S Sn 20 52 05.9 -0.1
ZIMR 5.59 303 P Pn 20 51 02.7 +0.8
ZIMR 5.59 303 ⇑P Pn 20 51 02.7 +0.8
ZIMR 5.59 303 Pn 20 51 02.7 +0.8
KERU Kerch 5.61 35 *e*P Pn 20 51 06.8 +4.5
SLCR Slobozia Conac 5.62 329 ⇓P Pn 20 51 03.7 +1.3
SULR 5.64 315 ⇑P Pn 20 51 03.8 +1.1
SULR 5.64 315 Pn 20 51 03.8 +1.1
TUDR 5.66 329 ⇑P Pn 20 51 05.3 +2.3
TUDR ⇓S Sn 20 52 08.7 +0.6
TUDR 5.66 329 Pn 20 51 05.3 +2.3
TUDR Sn 20 52 08.7 +0.6
ANN Anapa 5.71 44 *e*P Pn 20 51 03.3 -0.4
ANN *e*S Sn 20 52 08.5 -0.7
ANN pmax pmax
comp=Z,392nm,1.3s
GRER 5.79 324 ⇓P Pn 20 51 07.2 +2.5
GRER ⇑S Sn 20 52 11.5 +0.3
GRER 5.79 324 Pn 20 51 07.2 +2.5
GRER Sn 20 52 11.5 +0.3
ISR Istrita 5.80 320 ⇓P Pn 20 51 07.0 +2.1
COPA Copaceanca 5.92 306 ⇓P Pn 20 51 07.0 +0.5
COPA ⇑S Sn 20 52 14.7 +0.4
PETR Petresti 5.95 327 ⇑P Pn 20 51 09.1 +2.2
PETR Petresti 5.95 327 Pn 20 51 09.1 +2.2
PLVB Pleven 5.96 298 ⇓P Pn 20 51 07.5 +0.5
CSS Mathiatis 5.97 168 Pn Pn 20 51 08.9 +1.7
CSS Mathiatis 5.97 168 P Pn 20 51 10.0 +2.8
comp=Z,38nm,1.0s,comp=Z,0.3nm
CSS Mathiatis 5.97 168 Pn 20 51 05.5 -1.7
SECR 5.98 317 ⇑P Pn 20 51 09.3 +2.0
SECR 5.98 317 Pn 20 51 09.3 +2.0
ODBI Odobesti 6.05 326 ⇓P Pn 20 51 10.5 +2.1
ODBI Odobesti 6.05 326 Pn 20 51 10.5 +2.1

NVR Nevrokopi 6.06 278 P Pn 20 51 09.7 +1.2
APE Apeiranthos 6.19 235 *i* P Pn 20 51 10.5 +0.2
LEOM Leova 6.22 336 P Pn 20 51 11.0 +0.3
LEOM 20 52 20.0
LEOM Leova 6.22 336 ⇑P Pn 20 51 11.0 +0.3
LEOM ⇑S Sn 20 52 20.0 -1.8
LEOM Leova 6.22 336 Pn 20 51 11.0 +0.3
LEOM Sn 20 52 20.0 -1.8
BIR Birlad 6.25 332 P Pn 20 51 11.5 +0.5
BIR 20 52 21.0
BIR Birlad 6.25 332 ⇑P Pn 20 51 11.5 +0.5
BIR ⇑S Sn 20 52 20.9 -1.5
BIR Birlad 6.25 332 Pn 20 51 11.5 +0.5
BIR Sn 20 52 20.9 -1.5
HUMR Humele 6.27 308 ⇓P Pn 20 51 11.9 +0.5
HUMR ⇑S Sn 20 52 22.6 -0.5
HUMR Humele 6.27 308 Pn 20 51 11.9 +0.5
HUMR Sn 20 52 22.6 -0.5
VRI Vrincioaia 6.27 325 P Pn 20 51 12.2 +0.8
VRI Vrincioaia 6.27 325 ⇓P Pn 20 51 12.2 +0.8
VRI Vrincioaia 6.27 325 Pn 20 51 12.2 +0.8
PLOR Plostina 6.30 325 P Pn 20 51 13.1 +1.3
PLOR Plostina 6.30 325 ⇑P Pn 20 51 13.1 +1.3
PLOR Plostina 6.30 325 Pn 20 51 13.1 +1.3
MLR Muntele Rosu 6.36 319 P Pn 20 51 14.5 +1.9
MLR 20 52 26.3
MLR Muntele Rosu 6.36 319 Pn Pn 20 51 14.6 +1.9
comp=Z,10nm,0.3s,baz=4.1,slow=1.6,SNR=124
MLR Sn Sn 20 52 28.0 +2.6
comp=Z,19nm,0.3s,baz=305,slow=16,SNR=6.0
MLR LR LR 20 53 14.7
comp=Z,771nm,21.3s,baz=121,slow=34
MLR Muntele Rosu 6.36 319 ⇑P Pn 20 51 14.3 +1.6
MLR ⇑S Sn 20 52 26.3 +0.9
VLAD Vladila 6.36 302 ⇓P Pn 20 51 12.8 +0.2
PLG Polygyros 6.42 269 P Pn 20 51 13.4 0.0
KARP Karpathos 6.43 217 Pn Pn 20 51 14.9 +1.3
SOH Sokhos 6.45 273 P Pn 20 51 14.2 +0.3
SOC Sochi 6.46 62 *e*P Pn 20 51 13.0 -0.9
SOC *e* 20 52 28.4
SOC pmax pmax
comp=Z,37nm,0.8s
SOC MLR MLR
comp=Z,507nm,10.0s
GOLR 6.46 311 ⇓P Pn 20 51 15.7 +1.7
GOLR 6.46 311 Pn 20 51 15.7 +1.7
MILM Milestii Mici 6.48 341 ⇓P Pn 20 51 14.6 +0.4
MILM ⇑S Sn 20 52 24.7 -3.4
MILM Milestii Mici 6.48 341 Pn 20 51 14.6 +0.4
VASR Vaslui 6.52 335 ⇓P Pn 20 51 15.7 +1.0
KIS Kishinev 6.55 341 ⇓*i*P Pn 20 51 17.0 +1.8
comp=Z,400nm,1.0s
KIS *i* S Sn 20 52 28.0 -1.9
comp=Z,6μm,1.0s
KIS Kishinev 6.55 341 ⇓*i*P Pn 20 51 17.0 +1.8
KIS *i* S Sn 20 52 28.0 -1.9
KIS pmax pmax
comp=Z,400nm,1.0s
KIS smax smax
comp=E,6μm,1.0s
KIS smax smax
comp=N,7μm,1.0s
KIS Kishinev 6.55 341 ⇑P Pn 20 51 16.2 +1.1
KIS ⇑S Sn 20 52 28.4 -1.4
KIS Kishinev 6.55 341 Pn 20 51 16.2 +1.1
KIS Sn 20 52 28.4 -1.4
MTUR Matau 6.64 314 P Pn 20 51 18.2 +1.7
MTUR Matau 6.64 314 ⇑P Pn 20 51 18.2 +1.7
MTUR Matau 6.64 314 Pn 20 51 18.2 +1.7
VTS Vitosha 6.69 288 P Pn 20 51 18.7 +1.4
VTS Vitosha 6.69 288 ⇓P Pn 20 51 18.7 +1.4
VTS Vitosha 6.69 288 Pn 20 51 18.6 +1.4
SANT Santorini 6.70 230 Pn Pn 20 51 14.4 -2.9
VOIR 6.78 315 P Pn 20 51 20.3 +1.8
VOIR 6.78 315 ⇑P Pn 20 51 20.3 +1.8
VOIR 6.78 315 Pn 20 51 20.3 +1.8
KNT Kendrikon 6.79 276 P Pn 20 51 19.2 +0.8
NEO Neokhori 6.79 260 P Pn 20 51 18.2 -0.3
TESR Tescani 6.82 328 ⇑P Pn 20 51 19.0 +0.1
TESR Tescani 6.82 328 Pn 20 51 19.0 +0.1
OZUR 6.87 322 ⇑P Pn 20 51 21.3 +1.7
OZUR 6.87 322 Pn 20 51 21.3 +1.7
ARR Arges 6.97 313 ⇓P Pn 20 51 22.3 +1.3
ARR ⇑S Sn 20 52 38.8 -1.4
ARR Arges 6.97 313 Pn 20 51 22.3 +1.3
ARR Sn 20 52 38.8 -1.4
DOPR Dopca 6.97 320 ⇓P Pn 20 51 21.7 +0.7
DOPR ⇑S Sn 20 52 41.1 +0.8
DOPR Dopca 6.97 320 Pn 20 51 21.7 +0.7
DOPR Sn 20 52 41.1 +0.8
VAY Valandovo 7.03 277 *i* P Pn 20 51 23.0 +1.2
BAIL Bailesti 7.06 300 ⇑P Pn 20 51 22.4 +0.2
IAS Iasi 7.08 336 P Pn 20 51 23.5 +1.1
IAS Iasi 7.08 336 ⇓P Pn 20 51 23.5 +1.1
IAS Iasi 7.08 336 Pn 20 51 23.5 +1.1
GRG Griva 7.16 274 P Pn 20 51 24.6 +0.9
LIT Litokhoron 7.18 267 P Pn 20 51 23.2 -0.6
LIT Litokhoron 7.18 267 Pn Pn 20 51 23.2 -0.6
GIRR Girov 7.25 330 ⇑P Pn 20 51 25.2 +0.5
GIRR Girov 7.25 330 Pn 20 51 25.2 +0.5
STIP Stip 7.34 280 *i* P Pn 20 51 24.6 -1.4
BIZ Bicaz 7.39 328 ⇓P Pn 20 51 27.6 +0.9
BIZ Bicaz 7.39 328 Pn 20 51 27.6 +0.9
BCA Borcka 7.40 82 ⇑P Pn 20 51 27.1 +0.1
BCA Borcka 7.40 82 Pn 20 51 27.1 +0.1
SRE Strehaia 7.43 304 P Pn 20 51 27.4 +0.1
SRE Strehaia 7.43 304 ⇑P Pn 20 51 27.4 +0.1
SRE Strehaia 7.43 304 Pn 20 51 27.4 +0.1
PUNG Punghina 7.44 301 ⇑P Pn 20 51 27.0 -0.4
JOSR Joseni 7.46 324 ⇑P Pn 20 51 29.2 +1.5
JOSR Joseni 7.46 324 Pn 20 51 29.2 +1.5
LOT Lotru 7.50 311 ⇑P Pn 20 51 29.6 +1.2
LOT Lotru 7.50 311 Pn 20 51 29.6 +1.2
AGG Agios Georgios 7.54 259 P Pn 20 51 29.3 +0.5
AGG Agios Georgios 7.54 259 P Pn 20 51 29.2 +0.5
AGG Agios Georgios 7.54 259 Pn 20 51 29.2 +0.5
MDB Medias 7.60 317 P Pn 20 51 31.4 +1.8
MDB Medias 7.60 317 ⇓P Pn 20 51 31.4 +1.8
MDB Medias 7.60 317 Pn 20 51 31.4 +1.8
PRAR RASCA 7.69 330 ⇑P Pn 20 51 31.4 +0.6
PRAR RASCA 7.69 330 Pn 20 51 31.4 +0.6
KZN Kozani 7.69 269 P Pn 20 51 31.7 +0.7
SORM Soroca 7.73 342 P Pn 20 51 31.2 -0.1
SORM Soroca 7.73 342 ⇑P Pn 20 51 31.2 -0.1
SORM ⇓S Sn 20 52 54.8 -4.0
SORM Soroca 7.73 342 Pn 20 51 31.2 -0.1
KALE Kalithea 7.88 255 P Pn 20 51 34.3 +0.7
SKO Skopje 7.91 282 *i* P Pn 20 51 35.7 +1.8
SERG Sergoula 7.94 256 P Pn 20 51 35.3 +1.0
FNA Florina 7.95 273 P Pn 20 51 35.2 +0.7
FNA Florina 7.95 273 Pn 20 51 35.1 +0.7
KLV Kalavryta, Ach 8.01 253 P Pn 20 51 36.2 +1.0
HERR Herculane 8.03 303 ⇑P Pn 20 51 34.9 -0.6
GZR Gura Zlata 8.06 308 ⇓P Pn 20 51 35.8 -0.1
GZR Gura Zlata 8.06 308 Pn 20 51 35.9 -0.1
NATI Neve Ativ 8.16 156 Pn Pn 20 51 37.3 0.0
GEM Giv'at Ha'Em 8.19 157 Pn Pn 20 51 38.5 +0.8
KSR Kefar Szold 8.20 157 Pn Pn 20 51 38.7 +0.8
KSDI Kefar Szold 8.20 157 P Pn 20 51 39.1 +1.2
comp=N,89nm,0.9s
DEV Deva 8.25 311 P Pn 20 51 39.9 +1.4
DEV Deva 8.25 311 ⇓P Pn 20 51 39.9 +1.4
DEV Deva 8.25 311 Pn 20 51 39.9 +1.4
ARCR ARCALIA 8.27 322 ⇓P Pn 20 51 40.1 +1.3
ARCR ARCALIA 8.27 322 Pn 20 51 40.1 +1.3
BUR01 Bucovina Ar. S 8.29 327 Pn 20 51 40.5 +1.3
BURAR Bucovina Array 8.29 327 ⇑P Pn 20 51 40.5 +1.3
BURAR Bucovina Array 8.29 327 Pn 20 51 40.4 +1.2
MMA0B Mount Meron ar 8.29 159 Pn Pn 20 51 39.0 -0.2
MMAI Mount Meron Ar 8.29 159 Pn Pn 20 51 38.3 -0.9
comp=N,2.4nm,0.3s,baz=345,slow=13,SNR=29
MMAI LR LR 20 55 22.4
comp=N,1μm,19.2s,baz=350,slow=42
BUR08 Bucovina Ar. S 8.32 327 Pn 20 51 41.2 +1.6
DRO Drossia 8.36 253 P Pn 20 51 41.6 +1.5
CJR Cluj-Napoca 8.38 317 P Pn 20 51 41.5 +1.1
CJR Cluj-Napoca 8.38 317 ⇑P Pn 20 51 41.5 +1.1
CJR Cluj-Napoca 8.38 317 Pn 20 51 41.5 +1.1
MDVR Moldovita 8.44 301 ⇓P Pn 20 51 40.6 -0.6
MDVR Moldovita 8.44 301 Pn 20 51 40.6 -0.6
KSHT Keshet 8.44 157 Pn Pn 20 51 42.6 +1.4

NEY Neytrino 8.45 70 *i* P Pn 20 51 42.6 +1.2
BLGI Bet Lehem HaGe 8.51 161 Pn Pn 20 51 42.5 +0.5
ITM Ithomi 8.54 248 Pn Pn 20 51 44.6 +2.1
OFRI `Ofer 8.56 162 Pn Pn 20 51 42.4 -0.5
KIV Kislovodsk 8.61 65 P Pn 20 51 43.6 +0.2
KIV Kislovodsk 8.61 65 P Pn 20 51 44.0 +0.5
SNR=24
KIV Kislovodsk 8.61 65 *e*P Pn 20 51 43.4 -0.1
KIV *e*S Sn 20 53 22.1 +1.5
KIV pmax pmax
comp=Z,90nm,1.1s
KIV MLR MLR
comp=Z,306nm,10.0s
KIV Kislovodsk 8.61 65 Pn 20 51 43.7 +0.2
KVAR Kislovodsk Arr 8.61 65 Sn Sn 20 53 28.7 +7.9
baz=102,slow=20,SNR=2.4
PHP Peshkopia 8.64 279 P Pn 20 51 46.3 +2.3
KBZ Khabaz 8.69 67 Pn Pn 20 51 45.5 +1.1
comp=Z,0.7nm,0.3s,baz=268,slow=10.0,SNR=27
KBZ Sn Sn 20 53 26.4 +3.9
comp=Z,0.7nm,0.3s,baz=156,slow=20,SNR=1.7
KBZ LR LR 20 56 10.1
comp=Z,491nm,20.7s,baz=250,slow=45
AKH Akhalkalaki 8.81 82 P Pn 20 51 48.9 +2.6
AKH Akhalkalaki 8.81 82 ⇑P Pn 20 51 48.9 +2.6
AKH Akhalkalaki 8.81 82 Pn Pn 20 51 43.7 -2.6
AKH Akhalkalaki 8.81 82 Pn 20 51 48.9 +2.6
MMLI Mount Malkishu 8.85 160 Pn Pn 20 51 47.2 +0.5
MMLI Mount Malkishu 8.85 160 P Pn 20 51 47.1 +0.4
comp=Z,56nm,1.4s
BZS Buzias 8.88 306 P Pn 20 51 46.1 -1.0
BZS Buzias 8.88 306 ⇑P Pn 20 51 46.1 -1.0
BZS Buzias 8.88 306 Pn 20 51 46.1 -1.0
DRGR 8.90 315 P Pn 20 51 47.7 +0.2
DRGR 8.90 315 ⇑P Pn 20 51 47.7 +0.2
DRGR 8.90 315 Pn 20 51 47.7 +0.2
SLTI Sal'it 8.94 162 Pn Pn 20 51 47.9 -0.1
HMDT Nahal Hemdat 9.05 160 Pn Pn 20 51 50.3 +0.8
BANR Banloc 9.07 304 ⇑P Pn 20 51 49.4 -0.2
BANR Banloc 9.07 304 Pn 20 51 49.4 -0.2
TIR Tirane 9.07 277 P Pn 20 51 47.9 -1.9
TIR Tirane 9.07 277 Pn Pn 20 51 47.9 -1.9
BMR Baia Mare 9.10 322 P Pn 20 51 51.3 +1.2
BMR Baia Mare 9.10 322 ⇑P Pn 20 51 51.3 +1.2
BMR Baia Mare 9.10 322 Pn 20 51 51.3 +1.2
NCK Nalchik 9.12 69 *i* P Pn 20 51 53.1 +2.6
SIRR Siria 9.18 310 ⇑P Pn 20 51 51.4 0.0
SIRR Siria 9.18 310 Pn 20 51 51.4 0.0
ZEI Tsey 9.21 74 *e*P Pn 20 51 50.6 -1.3
ZEI pmax pmax
comp=Z,24nm,0.7s
GOF Gofitskoye 9.23 59 ⇑*e*P Pn 20 51 53.9 +1.9
GOF pmax pmax
comp=Z,25nm,1.4s
DIVS Divibare 9.36 294 *e*Pn Pn 20 51 53.6 -0.2
ASF Jabal al Asfar 9.54 153 Pn Pn 20 51 57.8 +1.5
comp=Z,0.2nm,0.3s,baz=298,slow=12,SNR=8.8
ASF LR LR 20 56 26.5
comp=Z,934nm,19.1s,baz=306,slow=43
PDG Podgorica 9.57 284 *e*Pn Pn 20 51 59.7 +3.1
PDG Podgorica 9.57 284 ⇓P Pn 20 51 54.8 -1.8
PDG Podgorica 9.57 284 Pn 20 51 57.5 +0.9
AMAZ Amatzia 9.60 164 Pn Pn 20 51 57.8 +0.8
AMAZ Amatzia 9.60 164 P Pn 20 51 59.3 +2.3
comp=Z,111nm,1.2s
DRME Dracevica, Mon 9.60 282 *e*Pn Pn 20 51 59.6 +2.5
DSI Dead Sea 9.66 162 Pn Pn 20 51 58.7 +0.8
LTVH Ltavrtes, Hu 9.71 316 *e*PKiKPC Pn 20 52 25.1 +27
BBLS Lazići 9.71 292 *e*Pn Pn 20 51 59.7 +1.2
WALJ Wala 9.78 160 P Pn 20 52 00.3 +0.8
YTIR Yattir 9.80 163 Pn Pn 20 51 59.9 0.0
TEKS Tekeris 9.81 296 *e*Pn Pn 20 52 00.0 +0.1
FRGS Fruska Gora 9.83 300 *e*Pn Pn 20 51 57.2 -3.0
GNI Garni 9.84 90 P Pn 20 52 07.0 +6.5
SNR=18
GNI Garni 9.84 90 P Pn 20 52 02.8 +2.3
GNI Garni 9.84 90 Pn Pn 20 52 05.4 +4.9
comp=Z,0.6nm,0.3s,baz=194,slow=1.5,SNR=30
GNI LR LR 20 56 08.4
comp=Z,401nm,21.3s,baz=193,slow=40
GNI Garni 9.84 90 Pn Pn 20 52 02.8 +2.3
TRPA Tarpa 9.88 321 ⇑P Pn 20 52 01.4 +0.6
TRPA Tarpa 9.88 321 *e*PKiKPC 20 52 23.0
TRPA Tarpa 9.88 321 Pn 20 52 01.4 +0.6
MZDA Masada 9.91 162 Pn Pn 20 52 02.0 +0.8
LISJ El Lisan 10.00 162 P Pn 20 52 04.1 +1.6
comp=Z,105nm,1.2s
AKASG Malin Array Be 10.05 350 Pn Pn 20 52 02.0 -1.1
comp=Z,66nm,0.3s,baz=165,slow=13,SNR=590
AKASG Sn Sn 20 53 49.0 -6.8
comp=Z,22nm,0.3s,baz=167,slow=21,SNR=6.4
AKASG LR LR 20 56 48.5
comp=Z,584nm,20.1s,baz=160,slow=43
AKASG Malin Array Be 10.05 350 Pn 20 52 00.6 -2.6
AKASG Sn 20 53 53.5 -2.3
HAPS Han Pijesak,BI 10.08 293 *e*Pn Pn 20 52 03.9 +0.2
KZIT Kziot 10.11 167 Pn Pn 20 52 03.0 -1.0
KZIT Kziot 10.11 167 P Pn 20 52 06.1 +2.1
comp=Z,130nm,1.1s
HCY Herceg Novi 10.13 284 *e*Pn Pn 20 52 07.4 +3.0
BRY Bratogost 10.15 286 *e*Pn Pn 20 52 06.9 +2.2
TREB Trebinje 10.27 285 *e*Pn Pn 20 52 07.4 +1.3
UZH Uzhgorod 10.35 322 *e*P Pn 20 52 08.1 +0.9
LVV L'vov 10.54 331 *d i*P Pn 20 52 09.8 -0.1
LVV *e*S Sn 20 54 04.8 -3.1
LVV pmax pmax
comp=Z,500nm,1.3s
LVV smax smax
comp=E,300nm,1.1s
LVV smax smax
comp=N,600nm,1.4s
LVV MLR MLR
comp=E,400nm,9.0s
LVV MLR MLR
comp=N,1μm,8.0s
LVV MLR MLR
comp=Z,900nm,8.0s
KOLS Kolonicke sedl 10.57 323 *e*P Pn 20 52 12.1 +1.7
KOLS Kolonicke sedl 10.57 323 *e*PN Pn 20 52 12.1 +1.7
ZFRI Zfri 10.60 164 Pn Pn 20 52 10.6 -0.1
GROC Groznyy 10.64 73 *e*P Pn 20 52 16.6 +5.3
GROC pmax pmax
comp=Z,29nm,0.8s
PRNI Paran 10.76 165 Pn Pn 20 52 13.0 +0.1
DOB Doboj 10.84 296 *e*Pn Pn 20 52 14.7 +0.8
KWP Kalwaria Pacla 10.91 327 *e*P Pn 20 52 15.3 +0.4
KWP Kalwaria Pacla 10.91 327 *e*P Pn 20 52 15.3 +0.4
KWP *e*P Pn 20 52 15.3 +0.4
KWP *e*S Sn 20 54 44.9 +28
KWP *e*S Sn 20 54 44.9 +28
KWP Kalwaria Pacla 10.91 327 Pn 20 52 15.2 +0.4
MORH Mrgy, Hungar 11.00 304 *e*PKiKP Pn 20 52 21.1 +5.0
HRFI Mount Harif 11.07 165 Pn Pn 20 52 17.4 +0.2
PSZ Piszkesteto 11.11 314 P Pn 20 52 18.1 +0.4
PSZ Piszkesteto 11.11 314 *e*PKiKP Pn 20 52 27.0 +9.3
PSZ Piszkesteto 11.11 314 Pn 20 52 18.1 +0.4
KECS Kecovo 11.14 317 *e*P Pn 20 52 19.2 +1.2
KECS Kecovo 11.14 317 *e*PN Pn 20 52 19.2 +1.2
MBRI Mt Berech 11.28 166 Pn Pn 20 52 19.8 -0.4
BUD Budapest 11.36 310 *e*PKiKP Pn 20 52 28.1 +6.9
EIL Elat 11.41 166 Pn Pn 20 52 21.7 -0.2
EIL Elat 11.41 166 Pn Pn 20 52 21.6 -0.3
comp=Z,0.6nm,0.3s,baz=328,slow=13,SNR=8.7
EIL Elat 11.41 166 P Pn 20 52 22.0 +0.1
comp=Z,24nm,1.1s
BLY Banja Luka 11.47 295 *e*Pn Pn 20 52 23.5 +0.9
BLY Banja Luka 11.47 295 Pn Pn 20 52 20.9 -1.7
VSR Storozhevoye 11.56 24 *e*P Pn 20 52 23.8 0.0
VSR pmax pmax
comp=Z,50nm,0.7s
CSKK Cskako 11.75 308 *e*PKiKP Pn 20 52 27.1 +0.6
TIH Tihany 11.76 306 *e*PKiKP Pn 20 52 28.1 +1.5
NIE Niedzica 11.84 320 *e*P Pn 20 52 29.3 +1.6
NIE Niedzica 11.84 320 *e*P Pn 20 52 29.2 +1.6
NIE *e*P Pn 20 52 29.2 +1.6
MAK Makhachkala 11.86 74 *e*P Pn 20 52 26.9 -1.0
MAK *e*S Sn 20 54 39.0 -1.3
MAK pmax pmax
comp=Z,60nm,1.4s
MAK MLR MLR
comp=Z,176nm,8.0s
VORR Voronezh 11.98 23 *e*P Pn 20 52 29.0 -0.5
VORR pmax pmax

comp=Z,300nm,1.4s
VYHS Vyhne 12.02 314 *e*P **Pn 20 52 31.8 +1.7**
VYHS Vyhne 12.02 314 *e*PN **Pn 20 52 31.8 +1.7**
ACER Acerenza 12.06 275 Pn **Pn 20 52 27.4 -3.4**
LANS Liptovska Anna 12.08 318 *e*P **Pn 20 52 33.4 +2.4**
LANS Liptovska Anna 12.08 318 *e*PN **Pn 20 52 33.4 +2.4**
MPLH Magyarpolny 12.10 306 *e*PKiKP **Pn 20 52 27.1 -4.1**
SGRT San Giovanni R 12.16 280 Pn **Pn 20 52 32.6 +0.5**
BEHE Becsehely 12.29 302 *e*PKiKP **Pn 20 52 30.0 -3.8**
VRH Novokhopyorsk 12.43 30 *e*P **Pn 20 52 35.3 -0.4**
VRH *e*S **Sn 20 54 48.3 -5.8**
VRH pmax pmax
comp=Z,40nm,0.7s
VRH smax smax
comp=E,940nm,2.4s
OJC Ojcow 12.62 322 *e*P **Pn 20 52 38.4 0.0**
OJC Ojcow 12.62 322 *e*P **Pn 20 52 38.4 0.0**
OJC *e*P **Pn 20 52 38.4 0.0**
OJC Ojcow 12.62 322 Pn 20 52 37.9 -0.4
LPSR Galich'ya Gora 12.73 20 *e*P **Pn 20 52 40.2 +0.4**
LPSR *e*S **Sn 20 54 55.9 -5.6**
LPSR pmax pmax
comp=Z,80nm,0.8s
LPSR smax smax
comp=E,600nm,1.5s
JAVC Velka Javorina 12.86 313 *e*PN **Pn 20 52 44.1 +2.4**
SOP Sopron 12.92 307 *e*PKiKP Pn 20 52 28.0 -14
CRES Cresnjev 12.94 298 *e*Pn **Pn 20 52 44.8 +2.1**
PAOL Paolisi 13.08 277 Pn 20 52 47.3 +2.6
OKC Ostrava-Krasne 13.18 318 *e*P **Pn 20 52 46.1 +0.1**
OKC Ostrava-Krasne 13.18 318 *e*P **Pn 20 52 46.1 +0.1**
ARSA Arzberg 13.38 304 P **Pn 20 52 49.2 +0.5**
comp=E,4.6nm,0.7s
BEL Belsk 13.39 329 *e*P **Pn 20 52 47.7 -1.1**
BEL Belsk 13.39 329 *e*P **Pn 20 52 47.7 -1.1**
BEL *e*P **Pn 20 52 47.7 -1.1**
CONA Conrad Observa 13.45 307 P **Pn 20 52 52.9 +3.1**
comp=E,22nm,1.1s,SNR=6.2
MORC Moravsky Berou 13.46 316 P **Pn 20 52 50.3 +0.5**
MORC Moravsky Berou 13.46 316 *e*PN **Pn 20 52 50.2 +0.5**
MORC Moravsky Berou 13.46 316 Pn **Pn 20 52 50.3 +0.5**
SOKA Soboth 13.49 301 P **Pn 20 52 50.7 +0.4**
comp=E,13nm,1.5s
INTR Introdacqua 13.53 281 Pn 20 52 52.6 +1.8
LJU Ljubljana 13.62 298 *e*Pn **Pn 20 52 54.3 +2.3**
KRUC Moravsky 13.68 312 *e*PN **Pn 20 52 53.7 +0.9**
VRAC Vranov 13.70 313 P **Pn 20 52 54.4 +1.3**
VRAC Vranov 13.70 313 Pn **Pn 20 52 54.8 +1.7**
comp=E,0.3nm,0.3s,baz=101,slow=11,SNR=6.2
VRAC LR LR 20 59 08.3
comp=E,213nm,18.4s,baz=125,slow=42
VRAC Vranov 13.70 313 ⇑P **Pn 20 52 54.4 +1.3**
VRAC Vranov 13.70 313 *e*PN **Pn 20 52 53.9 +0.8**
VRAC Vranov 13.70 313 Pn 20 52 54.4 +1.3
AQU L'Aquila 13.90 282 P **Pn 20 52 56.0 +0.2**
AQU L'Aquila 13.90 282 *e*Pn **Pn 20 52 56.7 +0.9**
AQU L'Aquila 13.90 282 Pn 20 52 56.0 +0.2
MICGM Minsk 13.94 350⇑ *e*P Pn 20 52 51.0 -5.3
MICGM PM 20 52 53.0
comp=Z,0.5nm,1.0s
MICGM *e*S Sn 20 55 22.0 -9.0
MNK Minsk 13.94 350⇑ *e*P Pn 20 52 51.0 -5.3
MNK pmax pmax
comp=Z,520nm,1.0s
KRLC Kraliky 14.03 316 *e*P **Pn 20 52 59.2 +1.6**
KRLC Kraliky 14.03 316 *e*P **Pn 20 52 59.2 +1.6**
KRLC *e*x x 20 53 15.3
RAFF Raffo Rosso 14.06 261 Pn **Pn 20 52 54.2 -3.9**
NRCA Norcia 14.12 284 Pn **Pn 20 52 58.0 -0.9**
MYKA Terra Mystica 14.38 300 P **Pn 20 53 05.2 +2.8**
comp=Z,16nm,1.1s
MOA Molln 14.40 305 P **Pn 20 53 02.9 +0.3**
comp=Z,8.6nm,0.9s
SUW Suwalki 14.43 339 *e*P **Pn 20 52 59.1 -3.8**
SUW *e*S **Sn 20 55 34.2 -8.6**
SUW Suwalki 14.43 339 *e*P **Pn 20 52 59.1 -3.8**
SUW *e*P **Pn 20 52 59.1 -3.8**
SUW *e*S **Sn 20 55 34.2 -8.6**
SUW *e*S **Sn 20 55 34.2 -8.6**
SUW Suwalki 14.43 339 Pn 20 52 59.2 -3.7
DPC Dobruska-Polom 14.43 317 *e*P **Pn 20 53 04.5 +1.4**
DPC Dobruska-Polom 14.43 317 *e*P **Pn 20 53 04.5 +1.4**
NACGM Naroch 14.49 348 *e*P **Pn 20 53 01.0 -2.8**
NACGM PM 20 53 03.0
comp=Z,0.5nm,1.0s
NACGM *e*S Sn 20 55 31.0 -13
MURB Monte Urbino 14.57 286 Pn **Pn 20 53 04.7 -0.4**
OBN Obninsk 14.64 11 *e*P **Pn 20 53 03.4 -2.4**
OBN *e*S **Sn 20 55 42.4 -5.5**
OBN pmax pmax
comp=Z,71nm,1.0s
OBN MLR MLR
comp=Z,631nm,19.0s
OBN Obninsk 14.64 11 Pn **Pn 20 53 03.9 -1.9**
comp=Z,1.5nm,0.3s,baz=24,slow=20,SNR=10
OBN Sn Sn 20 55 36.5 -11
comp=Z,0.8nm,0.3s,baz=165,slow=20,SNR=2.9
OBN LR LR 20 59 38.4
comp=Z,113nm,20.0s,baz=184,slow=41
OBN Obninsk 14.64 11 Pn 20 53 03.4 -2.4
OBN **Sn 20 55 45.5 -2.4**
CORL Corleone 14.65 264 Pn 20 53 07.1 +1.0
UPC Upice 14.68 317 *e*P **Pn 20 53 08.3 +1.8**
UPC Upice 14.68 317 *e*P **Pn 20 53 08.3 +1.8**
CHVC Chvalec 14.71 317 *e*P **Pn 20 53 09.5 +2.6**
CHVC *e*x x 20 53 18.0
KSP Ksiaz 14.74 318 *e*P **Pn 20 53 07.6 +0.4**
KSP Ksiaz 14.74 318 *e*P **Pn 20 53 07.5 +0.4**
KSP *e*P **Pn 20 53 07.5 +0.4**
IDID Didziasalis 14.89 349 *e*P **Pn 20 53 08.9 -0.4**
IIGN Ignalina 15.01 348 *e*P **Pn 20 53 07.7 -3.2**
IIGN IAmb IAmb 20 53 09.4
comp=Z,116nm,0.9s
IIGN *e*S **Sn 20 55 50.0 -6.9**
GOPC GO Pecny, Ondr 15.02 313 *e*P **Pn 20 53 12.1 +1.0**
GOPC GO Pecny, Ondr 15.02 313 *e*P **Pn 20 53 12.1 +1.0**
LATE Laterza 15.08 283 Pn **Pn 20 53 09.8 -2.2**
GERES GERESS Array B 15.15 308 P **Pn 20 53 13.0 +0.2**
GERES GERESS Array B 15.15 308 Pn **Pn 20 53 13.8 +1.0**
comp=Z,0.1nm,0.3s,baz=114,slow=13,SNR=24
GERES PcP **PcP 20 58 18.5 -1.0**
comp=Z,0.1nm,0.3s,baz=64,slow=6.1,SNR=4.6
GERES LR LR 20 59 51.8
comp=Z,260nm,19.2s,baz=112,slow=40
GERES GERESS Array B 15.15 308 Pn 20 53 13.0 +0.2
GERES **PcP 20 58 18.4 -1.1**
ABTA Abfaltersbach 15.16 299 P **Pn 20 53 14.5 +1.5**
comp=Z,13nm,1.2s
PRU Pruhonice 15.20 313 *e*P **Pn 20 53 14.4 +1.0**
PRU Pruhonice 15.20 313 *e*P **Pn 20 53 14.4 +1.0**
ISAL Salakas 15.24 348 *e*P **Pn 20 53 10.3 -3.6**
ISAL *e*S **Sn 20 55 52.3 -10**
KHC Kasperske Hory 15.34 309 *e*P **Pn 20 53 15.8 +0.4**
KHC Kasperske Hory 15.34 309 *e*P **Pn 20 53 15.8 +0.4**
KHC *e*x x 20 53 25.7
KHC Kasperske Hory 15.34 309 Pn 20 53 14.8 -0.6
PBCC Pribram 15.35 311 *e*P **Pn 20 53 17.6 +2.1**
PBCC *e*x x 20 53 21.6
IZAR Zarasai 15.39 348 *e*P **Pn 20 53 12.4 -3.5**
IZAR IAmb IAmb 20 53 14.7
comp=Z,78nm,1.1s
IZAR *e*S **Sn 20 55 56.4 -10**
MOS Moscow 15.40 12 *e*P **Pn 20 53 14.5 -1.5**
MOS *e*S **Sn 20 55 59.3 -7.3**
MOS pmax pmax
comp=Z,181nm,1.1s
TEOL Teolo 15.42 294 Pn 20 53 14.3 -2.1
PABE Paberze 15.59 343 *e*P **Pn 20 53 15.1 -3.4**
PABE IAmb IAmb 20 53 18.2
comp=Z,241nm,1.0s
PABE *e*S **Sn 20 56 01.3 -10**
CASP Castiglione de 15.77 284 Pn **Pn 20 53 19.6 -1.4**
KLNR Kaliningrad 15.83 334 *i* P **Pn 20 53 20.6 -0.9**
KLNR pmax pmax
comp=Z,239nm,1.2s
WTTA Wattenberg 15.88 301 *e*P **P 20 53 25.0 -1.2**
comp=Z,28nm,1.3s,SNR=6.7
GKP Gorka Klasztor 15.90 326 *e*P **Pn 20 53 20.4 -2.1**
GKP Gorka Klasztor 15.90 326 *e*P **Pn 20 53 20.4 -2.1**
GKP *e*P **Pn 20 53 20.4 -2.1**
WATA Walderalm 15.94 301 P **P 20 53 25.9 -0.9**
comp=Z,22nm,1.3s
BRG Berggiesshubel 15.98 315 *e*P **Pn 20 53 24.1 +0.5**
comp=Z,27nm,1.4s
BRG Berggiesshubel 15.98 315 *e*P **Pn 20 53 24.1 +0.5**
BRG pmax pmax
comp=Z,27nm,1.4s
SQTA Sankt Quirin 16.15 300 *e*P **Pn 20 53 27.0 +1.1**
comp=Z,28nm,1.2s
MOTA Moosalm 16.25 301 Pn **Pn 20 53 26.3 -0.9**
comp=Z,28nm,1.1s,SNR=5.0
FETA Feichten 16.41 299 *e*P **Pn 20 53 30.4 +1.1**
comp=Z,17nm,0.9s
NKC Novy Kostel 16.49 311 *e*P **P 20 53 32.0 -0.9**
NKC Novy Kostel 16.49 311 *e*P **P 20 53 32.0 -0.9**
RETA Reutte 16.51 301 *e*P **P 20 53 32.3 -0.9**
comp=Z,30nm,1.0s,SNR=12
PBUR Paburg 16.55 340 *e*P **Pn 20 53 27.6 -3.2**
PBUR IAmb IAmb 20 53 29.4
comp=Z,116nm,0.7s
CLL Collm 16.72 315 *i* P **P 20 53 34.1 -1.2**
CLL pmax pmax
comp=Z,33nm,1.4s
CLL MLR MLR
comp=Z,1μm,13.4s
CLL Collm 16.72 315 *i* P **P 20 53 34.1 -1.2**
comp=Z,33nm,1.4s
CLL *i* (sP) **pP 20 53 38.6 +0.2**
CLL LmH 20 59 00.0
comp=N,600nm,19.3s
CLL LmH 20 59 00.0
comp=E,600nm,21.0s
CLL L L 21 00 00.0
comp=Z,300nm,20.4s
MSSA Maissana 16.81 289 Pn **Pn 20 53 33.9 -0.4**
DAVOX Davos/Dischmat 16.92 298 Pn **P 20 53 37.4 -0.4**
comp=Z,0.2nm,0.3s,baz=108,slow=12,SNR=6.3
DAVOX LR LR 21 00 48.3
comp=Z,298nm,18.5s,baz=88,slow=40
RUE Ruedersdorf 16.97 319 *e*P **P 20 53 39.5 +1.4**
DAVA Damuels 17.04 300 *e*P **P 20 53 39.4 +0.4**
comp=Z,43nm,1.0s,SNR=10
MOX Moxa 17.16 312 P **P 20 53 40.3 +0.1**
MOX pmax pmax
comp=Z,42nm,1.4s
SLIT Slitere, Latvi 17.91 343 *e*P **Pn 20 53 43.4 -4.4**
VSU Vasula 17.96 351 *ce*P **Pn 20 53 45.2 -3.1**
VSU pmax pmax
comp=Z,243nm,0.6s
VSU Vasula 17.96 351 *e*P **Pn 20 53 45.3 -3.0**
BSD Bornholm Skovb 18.18 328 *i* P **P 20 53 51.4 0.0**
BSD Bornholm Skovb 18.18 328 *i* P **P 20 53 51.4 0.0**
KEST Kesra 18.37 261 P **P 20 53 55.8 +2.0**
comp=Z,0.2nm,0.3s,baz=227,slow=3.2,SNR=7.2
SENIN Lac Senin/Sane 18.59 296 Pn 20 53 58.5 +2.0
BNI Bardonecchia 18.88 291 P **Pn 20 54 02.4 +2.5**
BNI pmax pmax
comp=Z,54nm,1.1s
BNI Bardonecchia 18.88 291 P **Pn 20 54 02.4 +2.5**
LPL La Plagne 18.88 293 *e*P **Pn 20 54 03.0 +3.0**
LPL pmax pmax
comp=Z,59nm,1.2s
PUL Pulkovo 19.00 358 *i* P **P 20 53 59.1 -1.2**
PUL pmax pmax
comp=Z,55nm,0.7s
ECH Echery 19.04 301 P **P 20 54 00.5 -0.5**
ECH Echery 19.04 301 P **P 20 54 00.5 -0.5**
WLF Walferdange 20.06 305 P Pn 20 54 14.2 +0.4
comp=Z,23nm,1.8s
CKFL Kef-Lekhel 20.11 265 P Pn 20 54 15.4 +0.8
CASM Ain Smara 20.33 265 P Pn 20 54 17.4 +0.2
SSB Saint Sauveur 20.41 292 P **P 20 54 14.8 -1.1**
SSB Saint Sauveur 20.41 292 P **P 20 54 14.8 -1.1**
MEM Membach 20.43 307 P Pn 20 54 18.0 -0.2
comp=Z,28nm,1.2s
CTEI Djebel Teioual 20.46 265 P Pn 20 54 19.3 +0.5
GEYT Alibeck 20.48 90 P **P 20 54 17.2 +0.4**
comp=Z,13nm,0.6s,baz=291,slow=12,SNR=20
GEYT LR LR 21 03 34.8
comp=Z,180nm,19.0s,baz=245,slow=41
GYA0B ALIBECK ARRAY 20.48 90 P **P 20 54 15.8 -1.0**
AKTO Aktyubinsk 20.57 53 P **P 20 54 18.4 +0.8**
comp=Z,56nm,0.8s,baz=252,slow=11,SNR=55
AKTO LR LR 21 05 41.5
comp=Z,176nm,20.4s,baz=259,slow=47
KLMR Klimovskoe 20.61 11 *e*P **P 20 54 18.4 +0.6**
KLMR *e*S Sn 20 58 13.5 +1.2
KLMR pmax pmax
comp=Z,142nm,1.4s
KLMR Klimovskoe 20.61 11 *e*P **P 20 54 18.5 +0.6**
KLMR AMP 20 54 23.3
comp=Z,142nm,1.4s
KLMR *e*S Sn 20 58 13.5 +1.2
KLMR *e*S Sn 20 58 13.5 +1.2
KLMR LQ LQ 21 00 32.4
KLMR LQ LQ 21 00 32.4
KLMR LR LR 21 01 51.7
DFRA Djebel Bou Aff 20.69 267 P Pn 20 54 21.8 +0.3
BCLA Clavier 20.80 306 P Pn 20 54 26.5 +4.0
comp=Z,29nm,1.9s
FINES FINESS Array B 20.95 352 P **P 20 54 21.9 +0.3**
comp=Z,20nm,0.5s,baz=164,slow=13,SNR=50
FINES S S 20 58 03.2 -11
comp=Z,13nm,0.7s,baz=166,slow=23,SNR=4.0
FINES LR LR 21 03 40.0
comp=Z,428nm,18.5s,baz=165,slow=40
FINES FINESS Array B 20.95 352 P **P 20 54 21.8 +0.2**
FIA1 FINESS Array S 20.95 352 P **P 20 54 21.7 +0.2**
KIRV Kirov 20.98 26 P **P 20 54 22.4 +0.5**
comp=Z,63nm,0.7s,baz=52,slow=4.9,SNR=6.4
KIRV S **S 20 58 09.2 -6.2**
comp=Z,4.6nm,0.5s,baz=143,slow=20,SNR=2.6
BMRD Maredsous 21.10 306 P **P 20 54 26.4 +3.1**
CKHR Kef el Ahmar 21.16 265 P **P 20 54 26.3 +2.1**
SET Setif 21.17 266 P **P 20 54 27.0 +2.7**
SSF Saint Saulge 21.27 297 *e*P **P 20 54 25.6 +0.4**
SSF pmax pmax
comp=Z,145nm,1.2s
SNF Seneffe 21.45 306 P **P 20 54 31.5 +4.4**
ABKAR Akbulak array 21.47 57 P **P 20 54 27.3 +0.1**
ABKAR Akbulak array 21.47 57 P **P 20 54 27.3 +0.1**
ABKAR **PcP 20 58 29.2 -0.8**
MUD Monsted U'grnd 21.51 324 *e*P **P 20 54 30.5 +2.9**
MUD Monsted U'grnd 21.51 324 *i* P **P 20 54 30.5 +2.9**
JOF Joensuu 22.13 359 P **P 20 54 35.4 +1.1**
JOF pmax pmax
comp=Z,39nm,0.9s
CAF Calviac 22.15 291 *e*P **P 20 54 36.7 +2.0**
CAF pmax pmax
comp=Z,16nm,1.0s
HFS Hagfors 22.38 336 P **P 20 54 38.0 +1.1**
comp=Z,30nm,0.7s,baz=146,slow=11,SNR=29
HFS S **S 20 58 37.5 -5.2**
comp=Z,15nm,1.0s,baz=143,slow=24,SNR=3.7
PRGR Permogore 22.46 17⇑*i*P **P 20 54 39.8 +2.0**
PRGR *e*S **S 20 58 47.2 +3.1**
PRGR pmax pmax
comp=Z,75nm,0.9s
LFF La Frestale 23.09 291 *e*P **P 20 54 46.5 +1.9**
LFF pmax pmax
comp=Z,11nm,0.8s
OSL Oslo 23.21 333 *e*P **P 20 54 46.2 +0.6**
ARU Arti 23.35 39 *c i*P **P 20 54 47.1 0.0**
ARU PPP PPP 20 55 20.5
ARU S **S 20 59 02.9 +3.2**
ARU SS **SnSn 20 59 37.6 +3.4**
ARU pmax pmax
comp=Z,76nm,0.9s
ARU Arti 23.35 39 P **P 20 54 47.2 +0.1**
comp=Z,22nm,0.8s,baz=240,slow=6.7,SNR=47
ARU S **S 20 59 01.9 +2.2**
comp=Z,0.5nm,0.5s,baz=356,slow=19,SNR=1.5
ARU Arti 23.35 39 P **P 20 54 47.3 +0.1**
ARU IAmb IAmb 20 54 51.8
comp=Z,70nm,0.9s
KONO Kongsberg 23.41 331 *ce*P **P 20 54 45.3 -2.4**
KONO pmax pmax
comp=Z,124nm,1.3s
KONO Kongsberg 23.41 331 *e*P **P 20 54 48.6 +0.9**
KONO Kongsberg 23.41 331 P **P 20 54 49.0 +1.3**
KONO IAmb IAmb 20 54 51.2
comp=Z,79nm,0.9s
NC602 NORSAR Array S 23.53 335 *e*P **P 20 54 49.8 +1.0**
NC602 NORSAR Array S 23.53 335 P **P 20 54 49.8 +1.0**
NC602 IAmb IAmb 20 54 57.0
comp=Z,81nm,0.9s
TMCR Tamitsa 23.66 7 *e*P **P 20 54 46.9 -3.1**
TMCR *e*S **S 20 59 01.1 -3.4**
TMCR pmax pmax
comp=Z,213nm,1.0s
MFF Saint Martin d 23.74 295 *e*P **P 20 54 51.2 +0.2**
MFF pmax pmax
comp=Z,51nm,1.4s
NC405 NORSAR Array S 23.76 335 P **P 20 54 51.5 +0.4**
NAO01 NORSAR Array S 23.82 334 P **P 20 54 53.9 +2.2**
NB201 NORSAR Array S 23.84 335 P **P 20 54 53.2 +1.3**
NB2 NORSAR Subarra 23.86 335 P **P 20 54 51.3 -0.8**
comp=Z,112nm,2.0s,baz=139,slow=9.3
NB2 NORSAR Subarra 23.86 335 P **P 20 54 51.3 -0.8**
baz=139,slow=9.3
NOA NORSAR Array B 23.86 335 P **P 20 54 51.9 -0.3**
comp=Z,11nm,0.9s,baz=222,slow=25,SNR=20
NOA S **S 20 59 12.3 +4.4**
comp=Z,13nm,1.0s,baz=138,slow=21,SNR=3.9
NOA LR LR 21 05 26.7
comp=Z,318nm,19.8s,baz=155,slow=40
NC303 NORSAR Array S 23.95 335 P **P 20 54 55.4 +2.4**
NBO00 NORSAR Array S 24.00 335 P **P 20 54 54.3 +0.9**
NBO00 IAmb IAmb 20 55 10.9
comp=Z,74nm,1.1s
NC204 NORSAR Array S 24.18 335 P **P 20 54 55.4 +0.2**
NC204 IAmb IAmb 20 55 07.6
comp=Z,94nm,1.1s
BLS5 Blasjo 24.47 328 *e*P **P 20 54 58.6 +0.8**
SVE Sverdlovsk 24.55 40⇑*e*P **P 20 54 59.6 +1.2**
SVE pmax pmax
comp=Z,89nm,1.1s
SKAR Skarslia 24.59 332 *e*P **P 20 54 59.5 +0.6**
ODD1 Odda 24.71 329 *e*P **P 20 55 01.2 +1.3**
HRA Herat 24.84 95 P **P 20 55 02.3 +0.7**
SHME Shamm 24.95 119 *i* P **P 20 55 03.0 +0.6**
SNR=12
BANOM Banah 25.14 119 *i* P **P 20 55 03.4 -0.7**
SNR=11
BANOM Banah 25.14 119 P **P 20 55 03.9 -0.2**
SNR=10
DOMB Dombas 25.30 335 *e*P **P 20 55 06.0 +0.7**
ASUD Al Ashush, Dub 25.40 122 *i* P **P 20 55 06.3 -0.1**
SNR=8.5
ASUD Al Ashush, Dub 25.40 122 P **P 20 55 06.8 +0.4**
SNR=5.3
MSFE Esma-Masafi 25.43 120 *i* P **P 20 55 05.8 -1.0**
SNR=16
BER Bergen 25.51 329 *e*P **P 20 55 08.0 +0.9**
MDH Madha 25.56 120 *i* P **P 20 55 06.6 -1.3**
SNR=15
MDH Madha 25.56 120 P **P 20 55 07.6 -0.3**
SNR=9.2
CART Cartagena 25.58 274 P **P 20 55 08.2 +0.2**
CART IAmb IAmb 20 55 13.5
comp=Z,19nm,0.8s
UOSS Minazif 25.74 120 *i* P **P 20 55 08.4 -1.1**
SNR=14
UOSS Minazif 25.74 120 P **P 20 55 08.6 -1.0**
SNR=8.9
UOSS P **P 20 55 08.6 -1.0**
SNR=8.9
UOSS Minazif 25.74 120 P **P 20 55 09.8 +0.2**
UOSS IAmb IAmb 20 55 11.3
comp=Z,49nm,0.8s
HATD Hatta, Dubai 25.78 121 *i* P **P 20 55 09.1 -0.8**
SNR=6.0
HATD Hatta, Dubai 25.78 121 P **P 20 55 09.5 -0.4**
SNR=10.0
HATD P **P 20 55 09.5 -0.4**
SNR=10.0
ASHO Ashiyiah 25.83 121 *i* P **P 20 55 09.5 -0.9**
SNR=36
ASHO Ashiyiah 25.83 121 P **P 20 55 09.8 -0.6**
SNR=10
TBLU Trondheim 25.84 338 *e*P **P 20 55 11.6 +1.6**
AKN Aaknes 26.08 333 *e*P **P 20 55 13.3 +0.9**
MOL Molde 26.17 334 *e*P **P 20 55 14.1 +1.0**
NSS Namsos 26.39 341 *e*P **P 20 55 15.9 +0.9**
APA Apatity 26.81 1⇓*i*P P 20 55 32.7 +14
APA pmax pmax
comp=Z,35nm,0.8s
APA MLR MLR
comp=Z,2μm,16.0s
ARQ Araqi 27.08 123 P **P 20 55 21.4 -0.2**
SNR=9.4
EKA Eskdalemuir Ar 27.18 314 P **P 20 55 22.3 +0.1**
comp=Z,2.4nm,0.7s,baz=106,slow=9.6,SNR=7.5
EKA PcP **PcP 20 58 41.9 -0.4**
comp=Z,3.7nm,0.9s,baz=104,slow=3.5,SNR=4.0
ESK Eskdalemuir 27.20 314 P **P 20 55 20.4 -2.1**
ESK pmax pmax
comp=Z,12nm,1.1s
ESK Eskdalemuir 27.20 314 P **P 20 55 20.4 -2.1**
MOR8 Moi Rana 27.22 345 *e*P **P 20 55 23.9 +1.3**
ESBB Sonseca Array 27.25 279 P **P 20 55 22.1 -1.0**
ESDC Sonseca Array 27.25 279 P **P 20 55 23.2 +0.1**
comp=Z,6.9nm,0.9s,baz=66,slow=9.6,SNR=25
ESDC LR LR 21 05 52.1
comp=Z,109nm,19.5s,baz=85,slow=36
ESDC Sonseca Array 27.25 279 P **P 20 55 20.5 -2.7**
HOQ Hoqain 27.41 121 P **P 20 55 25.2 +0.6**
HOQ P **P 20 55 25.2 +0.6**
PAB San Pablo 27.57 279 P **P 20 55 26.3 +0.3**
PAB pmax pmax
comp=Z,19nm,1.1s
PAB San Pablo 27.57 279 P **P 20 55 26.3 +0.3**
BSY Bisya 27.93 122 P **P 20 55 28.3 -1.1**
SMDO Samad 28.26 121 P **P 20 55 31.7 -0.6**
WSAR Wadi Sarin 28.52 120 P **P 20 55 34.1 -0.4**
WSAR Wadi Sarin 28.52 120 P **P 20 55 34.1 -0.4**
comp=Z,3.8nm,0.8s,baz=303,slow=7.5,SNR=5.7
BRVK Borovoye 28.59 52 P **P 20 55 36.6 +1.6**
SNR=6.8
BRVK Borovoye 28.59 52 P **P 20 55 35.9 +1.0**
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 28.59 52 P **P 20 55 35.9 +1.0**
CHGR Chuyangaron 28.63 82 P **P 20 55 36.4 +0.9**
BVAR Borovoye Array 28.65 52 P **P 20 55 36.8 +1.3**
comp=Z,5.4nm,0.8s,baz=263,slow=6.0,SNR=40
KKAR Karatay Array 28.67 72 P **P 20 55 36.1 +0.4**
KKAR Karatay Array 28.67 72 P **P 20 55 36.1 +0.4**
JMDO Jabal Madar 28.78 122 P **P 20 55 36.3 -0.6**
SNR=8.6
JMDO P **P 20 55 36.3 -0.6**
SNR=8.6
ARCES ARCESS Array B 28.97 355 P **P 20 55 39.5 +1.4**
comp=Z,15nm,0.7s,baz=162,slow=8.3,SNR=28
ARCES LR LR 21 06 48.6
comp=Z,202nm,20.2s,baz=125,slow=36
ARE0 ARCESS Array S 28.97 355 *e*P **P 20 55 39.1 +1.0**
WBK Wadi Bani Khal 29.18 120 P **P 20 55 40.0 -0.4**
GAR Garm 29.40 81 P **P 20 55 43.9 +1.5**
WHFO Wadi Hawf 29.60 134 P **P 20 55 43.0 -1.2**
MTE Manteigas 29.74 282 P **P 20 55 41.9 -3.4**
MTE IAmb IAmb 20 55 48.9
comp=Z,24nm,1.1s
JLN Jalan Bani Buh 29.79 120 P **P 20 55 45.4 -0.4**
MDT Midelt 30.09 266 P **P 20 55 49.9 +1.3**
comp=Z,8.3nm,0.9s,baz=50,slow=2.5,SNR=9.5
MDT LR LR 21 07 46.6
comp=Z,82nm,20.8s,baz=91,slow=36
ARSB Arslanbob 30.80 75 P **P 20 55 51.6 -3.2**
ARSB IAmb IAmb 20 56 00.4
comp=Z,34nm,1.1s
EKS2 Erkin-Say 31.11 73 P **P 20 55 58.7 +1.2**
SNR=16
AAK Ala-Archa 31.63 72 *i* P **P 20 56 03.2 +1.1**
SNR=30
AAK Ala-Archa 31.63 72 P **P 20 56 03.9 +1.8**
SNR=12
AAK Ala-Archa 31.63 72 *i* P **P 20 56 02.9 +0.8**
AAK pmax pmax
comp=Z,21nm,1.0s
AAK Ala-Archa 31.63 72 P **P 20 56 03.7 +1.6**
SNR=16
AAK Ala-Archa 31.63 72 P **P 20 56 01.2 -0.9**
AAK IAmb IAmb 20 56 04.7
comp=Z,22nm,0.9s
FRU1 Bishkek 31.70 72 P **P 20 56 00.3 -2.3**
FRU1 pmax pmax
comp=Z,82nm,0.9s
FRU1 Bishkek 31.70 72 P **P 20 56 00.3 -2.3**
UCH Uchtor 31.73 73 P **P 20 56 04.9 +1.6**
SNR=7.2
CHMS Chumysh 31.75 72 P **P 20 56 04.6 +1.6**
SNR=21
KBK Karagaybulak 31.95 72 P **P 20 56 06.9 +1.9**

SNR=9.9
KZA Kyzart 32.30 73 P **P 20 56 10.1 +1.9**
SNR=24
TKM2 Tokmak 2 32.37 72 *i* P **P 20 56 08.7 0.0**
TKM2 pmax pmax
comp=Z,11nm,1.1s
TKM2 Tokmak 2 32.37 72 P **P 20 56 09.5 +0.8**
SNR=7.9
NRN Naryn 32.99 74 P **P 20 56 11.9 -2.3**
NRN pmax pmax
comp=Z,15nm,1.1s
NRN Naryn 32.99 74 P **P 20 56 11.9 -2.3**
NRN IAmb IAmb 20 56 18.6
comp=Z,15nm,1.1s
KSH Kashi 33.47 78 P **P 20 56 17.9 -0.4**
KSH sP sP 20 56 24.1 +1.1
KSH PP **PnPn 20 57 29.8 +0.6**
KSH S **S 21 01 36.3 -3.6**
KSH sS pS 21 01 43.9 +0.3
KSH PcS **PcS 21 02 44.4 -0.6**
KSH pmax pmax
comp=Z,48nm,1.1s
KSH pmax pmax
comp=Z,320nm,4.3s
KSH LR LR
comp=Z,260nm,11.4s
KSH LR LR
comp=Z,420nm,11.6s
KSH LR LR
comp=Z,280nm,11.5s
NIL Nilore 33.48 89 P **P 20 56 19.5 +1.3**
NIL P **P 20 56 19.5 +1.3**
NIL Nilore 33.48 89 P **P 20 56 19.2 +0.9**
NIL pmax pmax
comp=Z,33nm,0.8s
NIL Nilore 33.48 89 P **P 20 56 19.2 +0.9**
NIL IAmb IAmb 20 56 21.0
comp=Z,34nm,0.8s
KURK Kurchatov 33.58 57 P **P 20 56 20.2 +1.3**
SNR=13
KURK P **P 20 56 20.2 +1.3**
SNR=13
KURK Kurchatov 33.58 57 P **P 20 56 19.7 +0.9**
KURK pmax pmax
comp=Z,42nm,1.0s
KURK Kurchatov 33.58 57 P **P 20 56 19.7 +0.9**
KURK IAmb IAmb 20 56 20.9
comp=Z,42nm,1.0s
PDGK Podgornoye 35.07 70 *i* P **P 20 56 32.4 +0.3**
PDGK pmax pmax
comp=Z,27nm,0.9s
MK31 Makanchi Array 36.36 63 P **P 20 56 43.4 +0.4**
MK31 pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 36.36 63 P **P 20 56 43.4 +0.4**
MK31 IAmb IAmb 20 56 45.1
comp=Z,25nm,1.0s
MKAR Makanchi Array 36.36 63 P **P 20 56 44.0 +1.0**
comp=Z,24nm,0.9s,baz=284,slow=5.9,SNR=108
MKAR LR LR 21 13 02.0
comp=Z,113nm,18.2s,baz=269,slow=39
MKAR Makanchi Array 36.36 63 P **P 20 56 44.2 +1.2**
JMIC Jan Mayen 36.41 339 LR LR 21 11 07.9
comp=Z,187nm,18.3s,baz=101,slow=35
ZAA0 Zalesovo Array 37.30 51 P **P 20 56 50.9 0.0**
ZALV Zalesovo Beam 37.30 51 P **P 20 56 50.9 +0.1**
ZALV 20 58 15.6
ZALV Zalesovo Beam 37.30 51 P **P 20 56 51.5 +0.6**
comp=Z,13nm,0.8s,baz=266,slow=8.8,SNR=68
ZALV PP **PP 20 58 15.6 -0.1**
comp=Z,3.2nm,0.7s,baz=278,slow=10.0,SNR=2.4
ZALV LR LR 21 15 30.8
comp=Z,111nm,18.1s,baz=263,slow=42
ZALV Zalesovo Beam 37.30 51 P **P 20 56 50.9 +0.1**
SPA0 Spitsbergen Ar 38.00 355 *eP* **P 20 56 57.7 +1.2**
SPITS Spitsbergen Ar 38.00 355 P **P 20 56 58.1 +1.7**
comp=Z,31nm,0.8s,baz=180,slow=22,SNR=6.9
TOA0 Torodi Ar. Sit 38.15 232 P **P 20 56 58.1 -0.3**
TOA0 Torodi Ar. Sit 38.15 232 P **P 20 56 57.8 -0.6**
TORD Torodi Ar. Bea 38.15 232 P **P 20 56 57.8 -0.6**
comp=Z,11nm,0.9s,baz=33,slow=9.2,SNR=50
TORD PcP **PcP 20 59 12.1 -1.0**
comp=Z,3.4nm,0.8s,baz=33,slow=3.8,SNR=5.1
TORD Torodi Ar. Bea 38.15 232 P **P 20 56 56.2 -2.1**
TORD **PcP 20 59 11.9 -1.2**
DGZ Jazzator, Alta 39.30 58 *c i* P **P 20 57 09.0 +1.1**
SCO Scoresbysund 40.19 335 P **P 20 57 15.1 +0.3**
SCO pmax pmax
comp=Z,9.0nm,0.9s
SCO Scoresbysund 40.19 335 *i* P **P 20 57 17.8 +3.0**
comp=Z,5.6nm,0.9s
SCO Scoresbysund 40.19 335 P **P 20 57 15.1 +0.3**
NRIK Noril'sk 40.48 27 P **P 20 57 19.0 +1.7**
comp=Z,5.3nm,0.5s,baz=256,slow=7.1,SNR=5.8
NRIK LR LR 21 16 58.6
comp=Z,127nm,18.5s,baz=240,slow=40
DAG Danmarks Havn 41.85 345 *i* P **P 20 57 30.0 +1.5**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 41.85 345 *i* P **P 20 57 30.0 +1.5**
comp=Z,6.5nm,0.8s
KMBO Kilima Mbogo 42.04 172 *i* P **P 20 57 31.7 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 42.04 172 P **P 20 57 31.1 +0.1**
comp=Z,2.8nm,1.0s,baz=349,slow=7.9,SNR=9.3
KMBO PcP **PcP 20 59 26.0 +0.1**
comp=Z,1.0nm,0.6s,baz=8.4,slow=4.7,SNR=4.7
POO Poona 42.20 109 *eP* P 20 57 38.5 +6.5
DANN Dangsing 43.92 90 *eP* **P 20 57 46.6 +0.4**
comp=Z,335nm,1.0s
KOLN Koldanda 44.10 90 *eP* **P 20 57 47.6 +0.1**
comp=Z,176nm,1.0s
GKN Gorkha 44.76 89 *eP* **P 20 57 52.8 0.0**
comp=Z,166nm,1.1s
DMN Daman 45.32 90 *eP* **P 20 57 57.4 +0.1**
comp=Z,118nm,1.0s
KKN Kakani 45.36 89 *eP* **P 20 57 57.4 -0.2**
comp=Z,73nm,1.0s
PKIN Phulchoki 45.56 90 *eP* **P 20 57 58.9 -0.3**
comp=Z,79nm,1.3s
PKI Pulchoki 45.57 90 *eP* **P 20 57 58.9 -0.5**
comp=Z,85nm,1.2s
GUN Gumba 45.75 89 *eP* **P 20 58 00.8 -0.1**
comp=Z,116nm,1.1s
JIRN Jiri 46.12 89 *eP* **P 20 58 03.5 -0.3**
comp=Z,108nm,1.1s
HYB Hyderabad 46.32 106 *i* P **P 20 58 03.0 -2.0**
RAMN Ramite 46.80 89 *eP* **P 20 58 08.5 -0.5**
comp=Z,52nm,0.7s
DBIC Dimbokro 47.20 234 P **P 20 58 11.6 -0.3**
DBIC 20 59 42.6
DBIC pmax pmax
comp=Z,14nm,1.0s
DBIC Dimbokro 47.20 234 P **P 20 58 11.1 -0.8**
comp=Z,8.1nm,0.9s,baz=38,slow=8.4,SNR=7.5
DBIC PcP **PcP 20 59 41.9 -1.4**
comp=Z,5.1nm,0.8s,baz=71,slow=2.8,SNR=5.0
DBIC Dimbokro 47.20 234 P **P 20 58 11.6 -0.3**
DBIC IAmb IAmb 20 58 11.7
comp=Z,14nm,1.0s
DBIC **PcP 20 59 42.6 -0.7**
TIC Toumodi 47.32 234 *eP* **P 20 58 11.5 -1.3**
MOY Mondy 47.33 52 *eP* **P 20 58 14.6 +2.0**
MOY pmax pmax
comp=Z,30nm,1.7s
KIC Kosan Boka 47.37 234 *eP* **P 20 58 12.1 -1.1**
comp=Z,15nm,0.9s
TAPN Taplejung 47.43 88 *eP* **P 20 58 13.8 -0.2**
comp=Z,86nm,1.1s
ODAN Odare 47.45 89 *eP* **P 20 58 13.9 -0.1**
comp=Z,117nm,1.2s
LIC Lamto 47.65 234 *eP* **P 20 58 14.3 -1.1**
comp=Z,21nm,0.8s
LSA Lhasa 48.84 84 P **P 20 58 25.5 +0.5**
LSA Lhasa 48.84 84 P **P 20 58 25.5 +0.5**
LSA Lhasa 48.84 84 P **P 20 58 25.4 +0.3**
LSA pmax pmax
comp=Z,24nm,0.9s
LSA Lhasa 48.84 84 P **P 20 58 25.4 +0.3**
LSA IAmb IAmb 20 58 26.8
comp=Z,24nm,0.9s
TLY Talaya 48.91 52 P **P 20 58 27.1 +2.4**
SNR=5.8
TLY Talaya 48.91 52 *i* P **P 20 58 26.8 +2.0**
TLY pmax pmax
comp=Z,20nm,1.1s
ZAK Zakamensk 49.08 53 *eP* **P 20 58 27.2 +1.0**
ZAK pmax pmax
comp=Z,10.0nm,0.9s
MSEY Mahe Island 50.19 149 *i* P **P 20 58 34.5 -0.4**
SNR=7.4
MSEY Mahe Island 50.19 149 P **P 20 58 34.6 -0.2**
MSEY Mahe Island 50.19 149 P **P 20 58 34.5 -0.4**
MSEY pmax pmax
comp=Z,31nm,0.9s
MSEY Mahe Island 50.19 149 P **P 20 58 34.5 -0.4**
MSEY IAmb IAmb 20 58 35.3
comp=Z,31nm,0.9s
SFJD Kangerlussuaq 50.37 330 LR LR 21 21 43.6
comp=Z,80nm,18.2s,baz=94,slow=38
IVI Ivigtut 50.70 322 P **P 20 58 37.3 -0.8**
IVI IAmb IAmb 20 58 45.0
comp=Z,38nm,1.1s
GTA Gaotai 50.77 68 ⇓P **P 20 58 40.0 +0.8**
GTA PP **PP 21 00 38.8 +3.6**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,220nm,4.7s
GTA LR LR
comp=Z,140nm,16.8s
GTA LR LR
comp=Z,170nm,17.2s
GTA LR LR
comp=Z,200nm,18.5s
SHL Shillong 51.54 88 P **P 20 58 44.8 -0.4**
SHL pmax pmax
comp=Z,55nm,1.1s
SHL Shillong 51.54 88 P **P 20 58 44.8 -0.4**
SONM Songino Array 51.87 56 P **P 20 58 48.8 +1.5**
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 51.87 56 P **P 20 58 48.3 +0.9**
comp=Z,6.7nm,0.7s,baz=289,slow=7.7,SNR=58
SONM PcP **PcP 21 00 00.4 +0.3**
comp=Z,3.7nm,1.0s,baz=255,slow=3.0,SNR=6.8
SONM LR LR 21 23 49.1
comp=Z,126nm,19.4s,baz=276,slow=40
SONM Songino Array 51.87 56 P **P 20 58 48.8 +1.5**
ULN Ulaanbaatar 52.27 55 P **P 20 58 51.8 +1.4**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 52.27 55 P **P 20 58 51.8 +1.4**
BOD Bodaibo 52.73 42 *eP* **P 20 58 53.3 -0.1**
BOD pmax pmax
comp=Z,35nm,1.0s
TULEG Thule 53.12 343 P **P 20 58 56.5 +0.5**
TULEG IAmb IAmb 20 58 57.2
comp=Z,16nm,0.9s
TIXI Tiksi 53.96 23 *i* P **P 20 59 01.9 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 55.11 70 *eP* **P 20 59 09.4 -2.0**
LZH pP pP 20 59 12.6 -2.3
LZH sP sP 20 59 14.3 -2.0
LZH *e*PP **PP 21 01 13.5 -0.9**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,89nm,6.5s
LZH LR LR
comp=Z,320nm,15.2s
LZH LR LR
comp=Z,330nm,15.6s
LZH LR LR
comp=Z,460nm,17.8s
CD2 Chengdu 57.62 75 P **P 20 59 28.0 -1.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
HHC Hu-ho-hao-te 58.19 61 *eP* **P 20 59 33.5 +0.4**
YAK Yakutsk 58.29 33 *i* P **P 20 59 32.8 -0.5**
YAK pmax pmax
comp=Z,14nm,0.9s
RES Resolute Bay 59.53 346 P **P 20 59 42.8 +1.1**
RES pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 59.53 346 P **P 20 59 42.9 +1.1**
XAN Xi'an 59.74 70 P **P 20 59 44.0 +0.1**
XAN pmax pmax
comp=Z,9.0nm,1.3s
XAN pmax pmax
comp=Z,160nm,4.1s
KMI Kunming 59.98 82 P **P 20 59 46.0 +0.1**
KMI pmax pmax
comp=Z,22nm,1.0s
MHMT Maesarieng 60.36 91 P **P 20 59 48.1 -0.2**
comp=Z,76nm,1.2s,comp=Z,655nm
CHTO Chiang Mai 60.75 90 P **P 20 59 50.4 -0.6**
SNR=5.7
CHTO Chiang Mai 60.75 90 P **P 20 59 50.1 -0.8**
CHTO pmax pmax
comp=Z,22nm,0.9s
CHTO Chiang Mai 60.75 90 P **P 20 59 50.1 -0.8**
CHTO IAmb IAmb 20 59 51.2
comp=Z,22nm,0.9s
CMMT Chiang Mai 60.76 90 P **P 20 59 50.0 -1.0**
comp=Z,16nm,0.9s
CM31 Chiang Mai Arr 60.96 90 P **P 20 59 52.2 -0.2**
SNR=7.1
CMAR Chiang Mai Arr 60.96 90 P **P 20 59 51.8 -0.6**
comp=Z,13nm,0.7s,baz=300,slow=7.8,SNR=78
CMAR LR LR 21 31 33.0
comp=Z,32nm,20.9s,baz=275,slow=41
PAYA Payao 61.13 89 P **P 20 59 53.1 -0.4**
comp=Z,65μm,0.9s,comp=Z,540μm
TSUM Tsumeb 61.17 195 LR LR 21 30 30.3
comp=Z,62nm,19.2s,baz=7.5,slow=40
TSUM Tsumeb 61.17 195 P **P 20 59 53.9 +0.1**
TSUM IAmb IAmb 20 59 55.2
comp=Z,9.4nm,1.0s
BJI Beijing 61.65 60 ⇓*i* P **P 20 59 57.5 +0.8**
BJI pmax pmax
comp=Z,10.0nm,0.8s
PHRA Phrae 61.92 89 P **P 20 59 58.4 -0.4**
comp=Z,4.8nm,1.4s
UMPA Umpang Tak 62.26 92 P **P 21 00 02.3 +1.1**
comp=Z,24μm,1.0s
SCHQ Schefferville 62.30 320 P **P 21 00 01.6 +0.7**
comp=Z,16nm,1.0s,baz=59,slow=19,SNR=3.3
SLVN Son La 63.03 84 P **P 21 00 06.2 -0.1**
SLVN IAmb IAmb 21 00 07.3
comp=Z,17nm,0.9s
UTHA Uthaitani 63.10 92 P **P 21 00 06.8 +0.1**
comp=Z,40μm,1.1s,comp=Z,337μm
SRDT SRDT 63.60 94 P **P 21 00 10.8 +0.7**
comp=Z,10nm,1.1s
PBKT Sadao Pong 63.64 90 P **P 21 00 09.9 -0.4**
comp=Z,13nm,1.1s,comp=Z,450nm
PBKT Sadao Pong 63.64 90 P **P 21 00 09.8 -0.4**
NONG Nongkai 64.39 88 P **P 21 00 14.3 -0.9**
comp=Z,0.7nm,1.3s,comp=Z,138nm
CHAI Chaiyaphum 64.82 90 P **P 21 00 17.3 -0.8**
comp=Z,39μm,1.0s,comp=Z,360μm
PHET Kaeng Krachan 64.89 95 P **P 21 00 18.7 +0.2**
comp=Z,35μm,0.9s
LBTB Lobatse 65.76 186 P **P 21 00 24.3 +0.4**
LBTB pmax pmax
comp=Z,7.0nm,1.2s
LBTB Lobatse 65.76 186 P **P 21 00 24.3 +0.4**
KLR Kul'dur 66.03 45 *i* P **P 21 00 26.1 +0.6**
KLR pmax pmax
comp=Z,28nm,1.0s
BATG Bathurst New B 66.06 312 P **P 21 00 27.1 +1.4**
LMN Caledonia Moun 66.16 311 P **P 21 00 26.5 +0.2**
BILL Bilibino 66.20 17 *eP* **P 21 00 26.3 +0.1**
BILL *e* 21 00 54.6
BILL *e*PPP PPP 21 04 25.1
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,137nm,22.0s
SEY Seymchan 66.25 25 *i* P **P 21 00 28.0 +1.4**
E64A Bridgewater 67.55 312 P **P 21 00 36.4 +1.3**
baz=54
GRNR Gornyy 67.55 42 *eP* **P 21 00 35.9 +0.8**
NJ2 Nanjing 67.81 66 *eP* **P 21 00 38.0 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
D62A Allapoint, All 67.83 314 P **P 21 00 38.6 +1.6**
baz=54
UBPT Khong Chiam 67.84 89 P **P 21 00 36.9 -0.6**
comp=Z,10nm,1.1s
E63A Oxbow 67.88 313 P **P 21 00 38.7 +1.5**
baz=54
MA2 Magadan 68.05 29 *i* P **P 21 00 38.1 0.0**
MA2 pmax pmax
comp=Z,62nm,1.5s
G65A Princeton 68.11 311 P **P 21 00 40.0 +1.3**
baz=54
F64A Sherman 68.17 312 P **P 21 00 40.2 +1.1**
baz=54
H66A Whiting 68.22 311 P **P 21 00 40.9 +1.5**
baz=54
E62A Clayton Lake 68.37 313 P **P 21 00 41.8 +1.5**
baz=53
C36M Paulatuk 68.71 351 P **P 21 00 42.9 +0.9**
baz=19
G64A Maxfield 68.76 312 P **P 21 00 44.5 +1.7**
baz=53
CHGQ Chibougamau 68.92 318 P **P 21 00 44.9 +1.2**
baz=51
E61A Lac Etchemin 69.02 314 P **P 21 00 45.7 +1.3**
baz=52
USRK Ussuriysk Ar. 69.12 49 P **P 21 00 45.5 +0.4**
comp=Z,14nm,0.9s,baz=297,slow=5.0,SNR=26
BOSA Boshof 69.36 186 P **P 21 00 46.3 -0.3**
BOSA pmax pmax
comp=Z,9.0nm,0.9s
BOSA Boshof 69.36 186 P **P 21 00 46.6 0.0**
comp=Z,8.3nm,0.7s,baz=9.9,slow=5.6,SNR=16
BOSA LR LR 21 32 42.5
comp=Z,46nm,19.0s,baz=9.0,slow=37
BOSA Boshof 69.36 186 P **P 21 00 46.3 -0.3**
BOSA IAmb IAmb 21 00 48.5
comp=Z,9.3nm,0.9s
LATQ La Tuque 69.67 315 P **P 21 00 50.1 +1.7**
baz=52
G62A West of Eustis 69.78 313 P **P 21 00 51.2 +2.0**
baz=52
D58A Chemin du LacG 69.90 315 P **P 21 00 51.0 +1.1**
baz=51
F60A Warwick 70.10 314 P **P 21 00 52.6 +1.5**
baz=52
G61A St-Isidore-de- 70.29 313 P **P 21 00 54.4 +2.2**
baz=52,SNR=5.2
D57A Chemin Vers le 70.49 316 P **P 21 00 54.8 +1.3**
baz=51
H62A Milan 70.53 312 P **P 21 00 55.9 +2.2**
baz=52
TYV Tymovskoe 70.55 39 *eP* **P 21 00 54.8 +1.1**
TYV pmax pmax
comp=Z,13nm,1.1s
E58A La Victoria 70.57 315 P **P 21 00 55.5 +1.6**
baz=51,SNR=5.9
INK Inuvik 70.64 354 P **P 21 00 54.5 +0.5**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 70.64 354 P **P 21 00 54.5 +0.5**
MATQ Matagami 70.64 320 P **P 21 00 55.5 +1.2**
baz=49
KSAR Wonju Array Be 70.69 57 P **P 21 00 54.4 -0.4**
KSAR Wonju Array Be 70.69 57 P **P 21 00 54.4 -0.4**
KSRS Korea Array 70.70 57 P **P 21 00 55.1 +0.2**
comp=Z,10nm,0.9s,baz=305,slow=5.3,SNR=14
KSRS LR LR 21 36 01.6
comp=Z,127nm,19.1s,baz=322,slow=39
LSQQ Lebel-sur-Quev 70.77 319 P **P 21 00 56.4 +1.3**
baz=49
TOLK Toolik Lake Re 70.85 1 P **P 21 00 57.0 +1.7**
baz=359,SNR=7.7
TOLK Toolik Lake Re 70.85 1 P **P 21 00 56.3 +0.9**
TOLK IAmb IAmb 21 01 03.9
comp=Z,9.2nm,1.0s
D56A ZEC Mazanza, M 70.93 316 P **P 21 00 57.6 +1.5**
baz=50,SNR=8.1
H61A Lyndonville 70.98 313 P **P 21 00 58.3 +1.7**
baz=51
E57A Chemin Saint G 71.01 315 P **P 21 00 58.1 +1.4**
baz=50,SNR=9.6
LBNH Lisbon 71.17 312 P **P 21 00 59.9 +2.3**
baz=51
D55A Sainte-Anne-du 71.32 316 P **P 21 01 00.2 +1.7**
baz=50,SNR=9.2
H60A Morristown 71.39 313 P **P 21 01 01.0 +2.0**
baz=51
E56A St. Veronique 71.40 316 P **P 21 01 00.4 +1.5**
baz=50
VLDQ Val d'Or 71.63 318 P **P 21 01 00.8 +0.5**
VLDQ IAmb IAmb 21 01 03.0
comp=Z,29nm,1.0s
HNH Hanover 71.70 312 P **P 21 01 00.4 -0.5**
D54A Lac Fusel, La 71.85 317 P **P 21 01 02.8 +1.1**
baz=49
H59A Cadyville 71.89 314 P **P 21 01 03.8 +1.8**
baz=50
E55A Montcerf-Lytto 71.99 316 P **P 21 01 04.3 +1.7**
baz=49
BMAR Burnt Mountain 72.04 359 P **P 21 01 04.5 +2.0**
J61A Chester 72.08 312 P **P 21 01 05.4 +2.3**
baz=50
COLD Coldfoot 72.27 1 P **P 21 01 05.5 +1.6**
COLD IAmb IAmb 21 01 06.5
comp=Z,12nm,1.0s
G57A Newington 72.30 315 P **P 21 01 06.1 +1.7**
baz=50
H58A Gabriels 72.30 314 P **P 21 01 06.0 +1.5**
baz=50
LONY Lake Ozonia 72.39 314 P **P 21 01 06.6 +1.6**
baz=50
D53A Lac Vacive, Po 72.43 318 P **P 21 01 06.6 +1.4**
baz=48,SNR=6.5
D53A Lac Vacive, Po 72.43 318 P **P 21 01 05.8 +0.7**
I59A Olmsteadville 72.53 313 P **P 21 01 08.3 +2.4**
baz=50
E54A Lac Daplat, Po 72.60 317 P **P 21 01 07.3 +1.2**
baz=49,SNR=7.1
EPYK Eagle Plains 72.78 355 P **P 21 01 07.7 +0.8**
baz=9.0
EPYK Eagle Plains 72.78 355 P **P 21 01 07.2 +0.3**
EPYK IAmb IAmb 21 01 10.8
comp=Z,10nm,0.8s
D52A ZEK Kipawa Sen 72.87 318 P **P 21 01 08.6 +0.8**
baz=48
E53A Dumoine, Ponti 72.88 317 P **P 21 01 09.3 +1.4**
baz=48,SNR=13
H57A Richville 72.93 314 P **P 21 01 10.2 +2.0**
baz=49,SNR=8.3
J59A Piesco 73.10 313 P **P 21 01 10.6 +1.4**
baz=50
G55A Calabogie 73.13 316 P **P 21 01 10.8 +1.5**
baz=49
YSS Yuzh-Sakhalins 73.20 42 *eP* **P 21 01 10.5 +0.8**
YSS *e* 21 01 13.6
YSS *e* 21 01 23.0
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,100nm,15.0s
I58A Old Forge 73.21 314 P **P 21 01 11.9 +2.0**
baz=49
D51A Lot 18 Range I 73.28 318 P **P 21 01 11.3 +1.1**
baz=48,SNR=6.5
H56A Elgin 73.32 315 P **P 21 01 12.0 +1.6**
baz=49
ALGO Algonquin Park 73.36 317 P **P 21 01 11.6 +0.9**
baz=48
I57A Carthage 73.42 314 P **P 21 01 13.0 +1.9**
baz=49
IMAR Indian Mountai 73.44 2 P **P 21 01 11.9 +1.1**
E52A Mattawa 73.45 317 P **P 21 01 12.5 +1.2**
baz=48
D50A G1974 Best Tow 73.46 319 P **P 21 01 12.6 +1.3**
baz=47
YKA Yellowknife Ar 73.56 344 P **P 21 01 12.3 +0.8**
comp=Z,15nm,0.8s,baz=29,slow=5.3,SNR=25
YKA Yellowknife Ar 73.56 344 P **P 21 01 12.1 +0.6**
J58A Remsen 73.60 313 P **P 21 01 14.0 +1.9**
baz=49
E51A G1948 Merrick 73.72 318 P **P 21 01 14.2 +1.4**
baz=47
K59A Cooperstown 73.74 313 P **P 21 01 15.0 +2.0**
baz=49
G54A Lake Saint Pet 73.75 316 P **P 21 01 14.6 +1.6**
baz=48,SNR=7.2
H55A Tweed 73.84 315 P **P 21 01 15.1 +1.6**
baz=48
J57A Williamstown 73.95 314 P **P 21 01 15.5 +1.3**
baz=49

F52A	Sundridge	74.13 317	P	P	21 01 16.7 +1.5
	baz=47				
L59A	Walton	74.23 312	P	P	21 01 17.7 +1.7
	baz=49				
I55A	Frankford	74.33 315	P	P	21 01 18.3 +1.9
	baz=48				
F51A	Arnstein	74.34 318	P	P	21 01 18.4 +1.9
	baz=47				
POKR	Poker Plat Res	74.40 360	P	P	21 01 18.3 +1.9
	baz=0.5,SNR=8.2				
E50A	Wahnapitae	74.42 318	P	P	21 01 18.7 +1.9
	baz=47				
H53A	Bobcaygeon	74.57 316	P	P	21 01 19.6 +1.8
	baz=47				
EGAK	Eagle	74.59 357	IAmb	IAmb	21 01 23.0
	comp=Z,9.9nm,0.8s				
COLA	College	74.64 360	*i* P	P	21 01 18.5 +0.7
COLA			pmax	pmax	
	comp=Z,12nm,0.9s				
K57A	Scipio Center	74.69 314	P	P	21 01 21.1 +2.6
	baz=48				
ILAR	Eielson Array	74.74 359	P	P	21 01 19.0 +0.6
	comp=Z,1.7nm,0.7s,baz=355,slow=5.0,SNR=24				
ILAR			PP	PP	21 04 06.0 +1.3
	comp=Z,0.8nm,0.9s,baz=1.6,slow=6.5,SNR=5.1				
ILAR			LR	LR	21 35 36.2
	comp=Z,44nm,19.4s,baz=10.0,slow=37				
ILAR	Eielson Array	74.74 359	P	P	21 01 19.1 +0.7
CCB	Clear Creek Bu	74.87 360	P	P	21 01 20.3 +1.2
WRH	Wood River Hil	75.05 360	P	P	21 01 21.2 +1.0
WRH			IAmb	IAmb	21 01 24.4
	comp=Z,14nm,0.8s				
E48A	Lockeyer	75.09 319	P	P	21 01 21.9 +1.1
	baz=46				
HDA	Harding Lake	75.10 359	P	P	21 01 21.3 +0.7
	baz=0.9,SNR=14				
HDA	Harding Lake	75.10 359	P	P	21 01 21.0 +0.5
HDA			IAmb	IAmb	21 01 22.1
	comp=Z,15nm,0.8s				
N60A	Cedar Hill Far	75.13 311	P	P	21 01 23.1 +2.0
	baz=49				
D47A	Chapleau	75.15 320	P	P	21 01 22.1 +0.9
	baz=45				
L57A	Andrews Acres	75.36 313	P	P	21 01 24.5 +2.0
	baz=48				
BPAW	Bear Paw Mtn.	75.39 1	P	P	21 01 22.9 +0.6
BPAW			IAmb	IAmb	21 01 23.9
	comp=Z,11nm,1.0s				
PETK	Petropavlovsk-	75.43 30	P	P	21 01 22.0 -0.6
	comp=Z,4.5nm,1.1s,baz=46,slow=6.2,SNR=3.3				
PETK			LR	LR	21 39 26.2
	comp=Z,43nm,18.5s,baz=243,slow=40				
SCRK	Sand Creek	75.49 358	P	P	21 01 23.6 +0.7
SCRK			IAmb	IAmb	21 01 25.5
	comp=Z,11nm,1.0s				
F49A	Sandfield	75.53 319	P	P	21 01 24.8 +1.5
	baz=46				
E47A	Iron Bridge	75.66 320	P	P	21 01 25.3 +1.3
	baz=45				
L56A	Greenwood	75.66 314	P	P	21 01 25.5 +1.3
	baz=48				
D46A	Sault St. Mari	75.72 320	P	P	21 01 25.9 +1.5
	baz=45				
I52A	Shelburne	75.75 316	P	P	21 01 26.2 +1.5
	baz=46				
DOT	Dot Lake	75.82 358	P	P	21 01 26.2 +1.5
DOT			IAmb	IAmb	21 01 27.2
	comp=Z,17nm,0.8s				
M57A	Sunshine Farm,	75.96 313	P	P	21 01 27.0 +1.1
	baz=48				
L55A	Hinsdale	76.11 314	P	P	21 01 27.8 +1.0
	baz=47				
E46A	Sault Ste Mari	76.22 320	P	P	21 01 28.4 +1.1
	baz=44				
E46A	Sault Ste Mari	76.22 320	P	P	21 01 28.2 +0.9
BCAR	Beaver Creek A	76.33 357	P	P	21 01 29.1 +1.5
M56A	Emporium	76.44 313	P	P	21 01 30.1 +1.5
	baz=47				
DHY	Denali Highway	76.45 360	P	P	21 01 29.5 +1.1
DHY			IAmb	IAmb	21 01 35.8
	comp=Z,9.8nm,0.8s				
J52A	Paris	76.48 316	P	P	21 01 29.9 +1.2
	baz=46				
MENT	Mentasta	76.53 358	P	P	21 01 29.0 +0.2
MENT			IAmb	IAmb	21 01 35.8
	comp=Z,14nm,0.8s				
M55A	Ridgway	76.78 314	P	P	21 01 31.1 +0.6
	baz=47				
M55A	Ridgway	76.78 314	P	P	21 01 31.4 +0.9
G47A	Hillman	76.85 319	P	P	21 01 32.3 +1.4
	baz=44				
SSPA	Standing Stone	76.86 313	P	P	21 01 32.2 +1.3
	baz=47				
SSPA	Standing Stone	76.86 313	P	P	21 01 29.1 -1.8
SSPA			IAmb	IAmb	21 01 36.9
	comp=Z,18nm,1.0s				
FFC	Flin Flon	76.96 335	P	P	21 01 32.4 +1.1
FFC			pmax	pmax	
	comp=Z,27nm,1.0s				
FFC	Flin Flon	76.96 335	P	P	21 01 32.4 +1.1
FFC			IAmb	IAmb	21 01 35.5
	comp=Z,27nm,0.9s				
M54A	Oil Creek Stat	77.24 314	P	P	21 01 33.5 +0.3
	baz=46				
N55A	Marion Center	77.37 313	P	P	21 01 34.6 +0.7
	baz=46				
O56A	Blue Knob Stat	77.49 313	P	P	21 01 35.7 +1.1
	baz=47				
E43A	Lone Tree Farm	77.50 322	P	P	21 01 35.4 +0.9
	baz=43				
SKT	Skwentna	77.51 2	IAmb	IAmb	21 01 40.2
	comp=Z,12nm,1.0s				
MAT	Matsushiro	77.64 52	P	P	21 01 35.4 -0.1
MJAR	Matsushiro Arr	77.65 52	P	P	21 01 35.9 +0.4
	comp=Z,9.0nm,0.8s,baz=309,slow=6.2,SNR=15				
MJAR			LR	LR	21 40 19.2
	comp=Z,52nm,18.0s,baz=30,slow=39				
SCM	Sheep Creek Mo	77.69 360	P	P	21 01 37.0 +1.6
SCM			pmax	pmax	
	comp=Z,29nm,0.7s				
SCM	Sheep Creek Mo	77.69 360	P	P	21 01 37.0 +1.6
SML	Sawmill	77.72 0	IAmb	IAmb	21 01 37.0
	comp=Z,15nm,0.8s				
D41A	Chassel	77.73 323	P	P	21 01 37.0 +1.3
	baz=42				
N54A	Moraine State	77.79 314	P	P	21 01 36.4 +0.2
	baz=46				
O55A	Ligonier	77.94 313	P	P	21 01 38.2 +1.2
	baz=46				
H46A	Fife Lake	77.97 319	P	P	21 01 38.1 +1.0
	baz=44				
I47A	Gladwin	78.00 319	P	P	21 01 38.8 +1.4
	baz=44				
J48A	Bridge Port	78.16 318	P	P	21 01 39.2 +1.0
	baz=44				
Q57A	Strasburg	78.24 312	P	P	21 01 39.6 +0.8
	baz=46				
HYT	Haines Junctio	78.33 355	P	P	21 01 39.5 +0.5
HYT			IAmb	IAmb	21 01 41.5
	comp=Z,17nm,1.0s				
N53A	Lisbon	78.36 314	P	P	21 01 40.6 +1.2
	baz=46				
BALM	Baldy	78.38 357	P	P	21 01 39.9 +0.6
BALM			IAmb	IAmb	21 01 44.5
	comp=Z,17nm,0.8s				
ULM	Lac du Bonnet	78.39 329	P	P	21 01 39.9 +0.5
ULM			pmax	pmax	
	comp=Z,39nm,1.0s				
ULM	Lac du Bonnet	78.39 329	P	P	21 01 39.7 +0.3
	comp=Z,30nm,0.8s,baz=40,slow=5.0,SNR=28				
ULM			LR	LR	21 38 28.7
	comp=Z,103nm,18.1s,baz=333,slow=37				
ULM	Lac du Bonnet	78.39 329	P	P	21 01 39.9 +0.5
I46A	Reed City	78.53 319	P	P	21 01 41.5 +1.2
	baz=43				
MCWV	Mont Chateau	78.62 313	P	P	21 01 42.2 +1.4
	baz=46				
K48A	Perry	78.68 318	P	P	21 01 44.5 +3.4
	baz=44				
P55A	Reedsville	78.71 313	P	P	21 01 42.4 +1.0
	baz=46				
N52A	McGinn's Farm,	78.82 315	P	P	21 01 42.7 +0.8
	baz=45				
P54A	Burton	79.01 313	P	P	21 01 43.7 +0.7
	baz=46				
K47A	Vermontville	79.22 318	P	P	21 01 44.8 +0.7
	baz=44				
L48A	N Adams	79.46 317	P	P	21 01 46.9 +1.5
	baz=44				
P53A	Whipple	79.59 314	P	P	21 01 47.3 +1.1
	baz=45				
N50A	Nevada	79.63 316	P	P	21 01 49.7 +3.4
	baz=44				
O51A	Pataskala	79.78 315	P	P	21 01 47.8 +0.7
	baz=44				
G40A	Rib Lake	79.83 323	P	P	21 01 48.8 +1.5
	baz=41				
G40A	Rib Lake	79.83 323	IAmb	IAmb	21 01 51.3
	comp=Z,19nm,1.1s				
P52A	Corning	79.89 314	P	P	21 01 48.1 +0.4
	baz=45				
ACSO	Alum Creek Sta	79.93 315	P	P	21 01 49.0 +1.1
	baz=44				
AGMN	Agassiz Nation	79.94 328	P	P	21 01 48.5 +0.7
	baz=38				
N49A	Columbus Grove	80.07 316	P	P	21 01 49.5 +0.8
	baz=44				
Q53A	Leroy	80.11 313	P	P	21 01 52.4 +3.4
	baz=45				
Q52A	Bidwell	80.44 314	P	P	21 01 51.3 +0.5
	baz=44				
N48A	Decatur	80.55 317	P	P	21 01 51.8 +0.5
	baz=43				
O49A	Covington	80.68 316	P	P	21 01 52.2 +0.3
	baz=44				
R53A	Hurricane	80.72 313	P	P	21 01 53.5 +1.2
	baz=45				
N47A	Urbana	80.88 317	P	P	21 01 53.0 -0.1
	baz=43				
Q51A	Peebles	80.98 314	P	P	21 01 54.1 +0.4
	baz=44				
SPMN	Marine on St.	81.04 324	P	P	21 01 54.5 +0.7
	baz=39				
U55A	TA2, Sparta	81.50 311	P	P	21 01 57.6 +1.0
	baz=45				
JFWS	Jewell Farm	81.63 321	P	P	21 01 59.8 +2.8
	baz=40				
KDAK	Kodiak Island	81.69 2	*i* P	P	21 01 57.9 +0.9
MDND	Maddock	81.78 329	P	P	21 01 59.2 +1.4
	baz=35				
SFIN	Lafayette	81.97 318	P	P	21 01 59.0 +0.2
	baz=42				
STKI	Sintang	82.10 97	P	P	21 02 00.1 +0.2
Q48A	North Vernon	82.33 316	P	P	21 02 02.0 +1.3
	baz=43				
V54A	Nebo	82.53 311	P	P	21 02 01.7 -0.2
	baz=44				
P46A	Rosedale	82.60 317	P	P	21 02 04.9 +2.7
	baz=42				
L40A	Anamosa	82.75 321	P	P	21 02 02.9 0.0
	baz=40				
HDIL	Hopedale	82.95 319	P	P	21 02 04.4 +0.5
	baz=41				
T50A	Nancy	83.25 314	P	P	21 02 06.4 +0.8
	baz=43				
U51A	La Follette	83.26 313	P	P	21 02 06.7 +1.0
	baz=43				
T49A	Edmonton	83.56 314	P	P	21 02 07.4 +0.2
	baz=43				
W53A	Cullowhee	83.66 312	P	P	21 02 08.6 +0.7
	baz=44				
U50A	Jamestown	83.69 314	P	P	21 02 08.6 +0.7
	baz=43				
ECSD	EROS Data Cent	83.89 325	P	P	21 02 09.2 +0.5
	baz=37,SNR=6.3				
ECSD	EROS Data Cent	83.89 325	P	P	21 02 09.3 +0.5
ECSD			IAmb	IAmb	21 02 12.8
	comp=Z,19nm,1.1s				
PDPR	Patillas Dam,	84.19 289	P	P	21 02 10.2 -0.4
X53A	Estanollee	84.22 311	P	P	21 02 11.2 +0.7
	baz=44				
Y54A	Tignall	84.33 310	P	P	21 02 11.5 +0.3
	baz=44				
V50A	Pikevile	84.38 313	P	P	21 02 11.7 +0.3
	baz=43				
X52A	Dahlonega	84.48 312	P	P	21 02 12.6 +0.6
	baz=43				
T47A	Sharon Grove	84.50 315	P	P	21 02 12.0 +0.1
	baz=42				
W51A	Cleveland	84.56 313	P	P	21 02 13.7 +1.4
	baz=43				
V49A	McMinnville	84.75 314	P	P	21 02 13.6 +0.3
	baz=42				
W50A	Signal Mountai	84.84 313	P	P	21 02 14.4 +0.6
	baz=42				
Y53A	Monroe	84.84 311	P	P	21 02 14.6 +0.8
	baz=43				
Z54A	Sparta	84.86 310	P	P	21 02 17.3 +3.4
	baz=44				
GOGA	Godfrey	85.10 311	P	P	21 02 16.1 +1.1
	baz=43				
Y52A	Lilburn	85.11 311	P	P	21 02 16.1 +1.0
	baz=43				
LAO	LASA Array	85.20 333	P	P	21 02 17.2 +1.8
	baz=30,SNR=15				
EGMT	Eagleton	85.22 335	P	P	21 02 16.6 +1.1
	baz=28				
Z53A	Monticello	85.25 311	P	P	21 02 16.7 +0.9
	baz=43				
V48A	Smith Brothers	85.27 314	P	P	21 02 15.6 -0.2
	baz=42				
W49A	Belvidere	85.43 314	P	P	21 02 16.4 -0.2
	baz=42				
154A	Montrose	85.47 310	P	P	21 02 18.1 +1.2
	baz=44				
WVT	Waverly	85.53 315	P	P	21 02 16.6 -0.5
	baz=41				
WALA	Waterton Lakes	85.54 338	IAmb	IAmb	21 02 21.6
	comp=Z,17nm,1.0s				
Y51A	Rockmart	85.66 312	P	P	21 02 18.1 +0.3
	baz=43				
X48A	Hartselle	86.35 314	P	P	21 02 20.8 -0.4
	baz=42				
LRAL	Lakeview Retre	87.38 313	P	P	21 02 26.2 -0.1
	baz=42				
MSO	Missoula	87.56 337	P	P	21 02 27.6 +0.5
	baz=25				
RLMT	Red Lodge	87.61 334	P	P	21 02 29.0 +1.5
	baz=28				
KBKI	Kotabaru	87.83 96	P	P	21 02 28.2 -0.5
BOZ	Bozeman (W)	87.97 335	P	P	21 02 29.9 +0.9
	baz=27				
H17A	Grant Village	88.69 334	P	P	21 02 35.6 +2.9
	baz=28				
D03D	Eldon	89.25 343	P	P	21 02 36.2 +1.3
	baz=19				
MIAR	Mont Ida	89.75 318	P	P	21 02 37.9 +0.4
	baz=38				
TUL1	Leonard	89.77 320	P	P	21 02 37.4 -0.1
	baz=37				
TUL1	Leonard	89.77 320	P	P	21 02 37.6 0.0
TUL1			IAmb	IAmb	21 02 40.6
	comp=Z,14nm,0.9s				
PDAR	Pinedale Array	89.78 333	P	P	21 02 37.9 +0.1
	comp=Z,0.7nm,0.7s,baz=22,slow=1.6,SNR=7.0				
PDAR	Pinedale Array	89.78 333	P	P	21 02 36.7 -1.1
N23A	Red Feather La	90.08 329	P	P	21 02 40.0 +0.7
	baz=30				
ISCO	Idaho Springs	90.90 329	P	P	21 02 43.4 +0.3
	baz=31				
O20A	White River Ci	91.62 331	P	P	21 02 46.3 0.0
	baz=29				
WMOK	Wichita Mounta	92.16 321	P	P	21 02 48.7 0.0
	baz=35				
WMOK	Wichita Mounta	92.16 321	IAmb	IAmb	21 02 54.5
	comp=Z,9.9nm,1.1s				
BDFB	Brasília	92.63 252	P	P	21 02 51.3 +0.2
	comp=Z,3.8nm,0.8s,baz=16,slow=4.8,SNR=4.5				
BDFB			LR	LR	21 45 08.1
	comp=Z,53nm,19.8s,baz=111,slow=36				
S22A	4UR Ranch, Cre	93.14 328	P	P	21 02 53.8 +0.2
	baz=30				
DUG	Dugway, Tooele	93.19 334	P	P	21 02 53.9 +0.4
	baz=26				
NVAR	Mina Array Bea	96.54 337	P	P	21 03 09.7 +0.7
	comp=Z,0.4nm,0.5s,baz=52,slow=3.7,SNR=4.0				
NVAR			LR	LR	21 48 39.1
	comp=Z,102nm,18.1s,baz=76,slow=37				
NVAR	Mina Array Bea	96.54 337	P	P	21 03 10.9 +1.9
TXAR	Lajitas Array	98.94 322	P	Pdif	21 03 19.8 0.0
	comp=Z,1.1nm,0.8s,baz=55,slow=3.7,SNR=9.5				
TXAR			LR	LR	21 49 23.6
	comp=Z,19nm,18.7s,baz=0.0,slow=36				
TXAR	Lajitas Array	98.94 322	P	P	21 03 19.4 -0.4
ROSC	El Rosal	98.98 284	LR	LR	21 43 50.1
	comp=Z,75nm,20.2s,baz=63,slow=33				
SYO	Syowa Base	109.66 177⇑	*e*PKiKP	PKiKP	21 08 11.0 +2.4
WRA	Warramunga Arr	112.03 98	PKiKP	PKiKP	21 08 12.9 -1.7
	comp=Z,0.2nm,0.3s,baz=339,slow=2.5,SNR=7.6				
ASAR	Alice Springs	113.90 101	PKiKP	PKiKP	21 08 16.6 -1.5
	comp=Z,0.9nm,0.8s,baz=326,slow=2.0,SNR=7.4				
PLCA	Paso Flores	123.17 242	PKP	PKPdf	21 08 34.1 -1.4
	comp=Z,4.5nm,1.0s,baz=28,slow=3.4,SNR=5.8				
STKA	Stephens Creek	124.08 105	PKP	PKPdf	21 08 35.8 -1.7
	comp=Z,1.6nm,0.6s,baz=329,slow=8.2,SNR=4.1				

GUC ***24*** *20:49:39.3±0.8, 21°.58S×68°.56W, h145km±6km, ML3.0*
ISCJB ***24*** *20:49:40.2±0.9, 21°.60S±0°.04×68°.52W±0°.09, h140km±12km, Error ellipse: s-maj=13.8km s-min=5.9km az=0.9*
SJA ***24*** *20:49:40.1±0.4, 21°.64S×68°.42W, h130km±4km, ML2.5, MW2.8*

ISC 24 20:49:41.0±1.8, 21°.59S±0°.04×68°.49W±0°.07, h133km±15km, n20, σ0s51/34, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.73	253⇑	*i* P		Pn	20 50 01.8	-0.3
PB09				*i* S		Sn	20 50 19.2	+1.2
PB09				IAML			20 50 20.4	
	comp=N,167nm,0.1s							
PB09	IPOC Station P	0.73	253	*i* P		Pn	20 50 01.9	-0.3
PB09				*i* Sg		Sn	20 50 18.2	+0.1
PB09				IAML			20 50 20.4	
	comp=Z,101nm,0.3s							
PB01	IPOC Station P	1.08	300⇑	*i* P		Pn	20 50 04.4	-0.5
PB01				*i* S		Sn	20 50 23.8	+0.7
PB01				IAML			20 50 25.0	
	comp=E,221nm,0.2s							
LVC	Limon Verde	1.09	201	*i* P		Pn	20 50 04.6	-0.8
PB03	IPOC Station P	1.26	248⇑	*i* P		Pn	20 50 06.2	-0.6
PB03				*i* S		Sn	20 50 26.4	-0.2
PB03				IAML			20 50 27.8	
	comp=E,223nm,0.3s							
PB07	IPOC Station P	1.31	264⇑	*i* P		Pn	20 50 07.1	-0.2
PB07				*i* S		Sn	20 50 27.7	+0.2
PB07				IAML			20 50 28.9	
	comp=N,525nm,0.1s							
PB02	IPOC Station P	1.34	281⇑	*i* P		Pn	20 50 07.3	-0.4
PB02				*i* S		Sn	20 50 28.0	+0.1
PB02				IAML			20 50 29.4	
	comp=E,559nm,0.3s							
PB06	IPOC Station P	1.50	222⇑	*i* P		Pn	20 50 08.9	-0.6
PB06				*i* S		Sn	20 50 31.1	-0.1
PB06				IAML			20 50 32.0	
	comp=E,87nm,0.4s							
PB06	IPOC Station P	1.50	222	*i* P		Pn	20 50 09.0	-0.4
PB06				IAML			20 50 32.3	
	comp=Z,35nm,0.1s							
PB08	IPOC Station P	1.57	336⇑	*i* P		Pn	20 50 10.5	+0.1
PB08				*i* S		Sn	20 50 33.6	+0.7
PB08				IAML			20 50 35.8	
	comp=E,83nm,0.2s							
PB04	IPOC Station P	1.71	244	*i* P		Pn	20 50 11.6	-0.3
PB04				*i* S		Sn	20 50 35.4	0.0
PB04				IAML			20 50 37.1	
	comp=N,136nm,0.1s							
PB04	IPOC Station P	1.71	244	*i* P		Pn	20 50 12.0	+0.2
PB04				*i* Sg		Sn	20 50 35.8	+0.4
PB15	IPOC Station P	1.85	209⇑	*i* P		Pn	20 50 13.6	+0.1
PB15				*e*S		Sn	20 50 39.0	+0.5
PB15	IPOC Station P	1.85	209	*i* P		Pn	20 50 13.3	-0.3
TA01	Diego Aracena	1.88	302	*i* P		Pn	20 50 13.2	-0.4
TA01				*i* S		Sn	20 50 38.6	0.0
TA01				IAML			20 50 40.0	
	comp=E,270nm,0.3s							
GO01	Chusmiza	2.02	341⇑	*i* P		Pn	20 50 15.4	-0.5
GO01				*e*S		Sn	20 50 43.6	+1.1
GO01				IAML			20 50 47.1	
	comp=N,168nm,0.2s							
PB05	IPOC Station P	2.03	231	*i* P		Pn	20 50 15.7	+0.1
PB05				IAML			20 50 51.3	
	comp=Z,21nm,0.6s							
PB11	IPOC Station P	2.12	329⇑	*i* P		Pn	20 50 15.9	-0.8
PB11				*e*S		Sn	20 50 44.0	-0.1
PB11				IAML			20 50 45.7	
	comp=E,144nm,0.5s							
PB10	IPOC Station P	2.71	224	*i* P		Pn	20 50 24.2	+0.3
PB10				IAML			20 51 38.4	
	comp=Z,18nm,1.2s							
HJA	Humahuaca	3.27	120	*i* P		Pn	20 50 31.3	-0.3
HJA				IAML			20 51 52.3	
	comp=Z,5.1nm,2.7s							

ROM 24 20:49:45.3±0.3, 39°.226N±0°.008×17°.02E±0°.01, h29km±1km, ML1.5/2, Error ellipse: s-maj=0.9km s-min=0.8km az=104.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LADO	San Nicola del	0.07	334	P		Pb	20 49 50.5	+0.1
LADO				S		Sb	20 49 54.2	+0.5
TIP	Timpagrande	0.20	257	P		Pb	20 49 51.4	-0.1
TIP				S		Sb	20 49 55.7	0.0
TIP				AML		AML		
	comp=E,146μm,0.7s							
TIP				AML		AML		
	comp=N,92μm,0.5s							
SERS	Sersale	0.32	233	P		Pb	20 49 53.1	+0.1
SERS				S		Sb	20 49 58.8	+0.6
SERS				AML		AML		
	comp=E,117μm,0.6s							
SERS				AML		AML		
	comp=N,78μm,1.2s							
CELI	Celico	0.43	294	P		Pb	20 49 54.6	-0.1
CELI				S		Sb	20 50 01.6	+0.6
PZUN	Potenza	1.70	327	AML		AML		
	comp=E,118μm,0.3s							
PZUN				AML		AML		
	comp=N,172μm,0.4s							

IDC ***24*** *20:55:18.9±1.2, 11°.50S×165°.10E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/29, mbtmp3.9/8, ML3.9/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/22, Error ellipse: s-maj=42.9km s-min=23.9km az=133.0*
ISCJB ***24*** *20:55:22.5±0.8, 11°.7S±0°.1×165°.02E±0°.09, h34km, mb3.9/6, MS2.9/3, Error ellipse: s-maj=16.4km s-min=11.1km az=32.8*

ISC 24 20:55:24.1±0.9, 11°.6S±0°.1×165°.1E±0°.1, h34km, n18, σ0s72/9, mb3.9/6, MS2.9/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.49	293	Sn		Sn	20 57 45.6	+0.1
	11nm,0.3s,baz=0.0,slow=20,SNR=4.9							
DZM	Mont Dzumac	10.49	173	Pn		Pn	20 57 52.5	+0.3
	0.8nm,0.3s,baz=335,slow=13,SNR=8.9							
DZM				LR		LR	21 01 28.5	
	comp=Z,77nm,19.4s,baz=29,slow=35							
KRVT	Keravat (AS076	14.81	298	LR		LR	21 04 38.3	
	comp=Z,44nm,19.8s,baz=156,slow=38							
CTA	Charters Tower	19.97	243	P		Pn	20 59 55.6	+0.2
	2.6nm,0.7s,baz=68,slow=15,SNR=4.2							
AFI	Afiamalu	22.68	98	LR		LR	21 07 32.4	
	comp=Z,18nm,18.7s,baz=26,slow=32							
STKA	Stephens Creek	29.59	223	LR		LR	21 12 37.8	
	comp=Z,62nm,18.7s,baz=26,slow=35							
H11S2	WAKE ISLAND Hy	29.94	3	T		T	21 33 05.8	
	baz=184,slow=76,SNR=6.0							
H11S3	WAKE ISLAND Hy	29.95	3	T		T	21 33 05.2	
	baz=184,slow=76,SNR=5.6							
H11S1	WAKE ISLAND Hy	29.96	3	T		T	21 33 03.4	
	baz=184,slow=76,SNR=6.0							
WRA	Warramunga Arr	30.68	250	P		P	21 01 36.2	+0.3
	2.4nm,1.0s,baz=80,slow=9.1,SNR=5.0							
WRA				LR		LR	21 12 45.3	
	comp=Z,25nm,21.2s,baz=330,slow=34							
H11N1	WAKE ISLAND Hy	31.17	3	T		T	21 34 27.6	
	baz=182,slow=76,SNR=6.2							
H11N3	WAKE ISLAND Hy	31.17	3	T		T	21 34 30.1	
	baz=182,slow=76,SNR=4.7							
H11N2	WAKE ISLAND Hy	31.18	3	T		T	21 34 32.0	
	baz=182,slow=76,SNR=5.1							
ASAR	Alice Springs	31.96	244	P		P	21 01 45.9	-1.3
	1.1nm,0.8s,baz=77,slow=8.8,SNR=7.6							

SONM	**Songino Array**	**78.73**	**324**	P	**P**	**21 07 23.5**	**+0.3**
	0.7nm,0.9s,baz=157,slow=7.8,SNR=3.6						
ILAR	**Eielson Array**	**84.24**	**19**	P	**P**	**21 07 51.0**	**-0.9**
	0.5nm,0.6s,baz=242,slow=4.9,SNR=10.0						
NVAR	**Mina Array Bea**	**86.88**	**50**	P	**P**	**21 08 06.1**	**+0.3**
	0.8nm,0.9s,baz=224,slow=7.6,SNR=2.9						
MKAR	**Makanchi Array**	**93.48**	**317**	P	**P**	**21 08 36.9**	**+0.6**
	0.7nm,0.8s,baz=114,slow=5.7,SNR=5.0						

IDC 24 21:13:53.9±10.0,**20°.77S**×**178°.89W**,**h606**km±100km,
mb2.7/4,**mb1 3.0/4**,**mb1mx2.8/21**,**mbtmp3.6/4**,**Error ellipse: s-maj=165.0km s-min=41.4km az=147.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.65**	**257**	P	P	21 21 06.9	+0.1
	1.0nm,0.6s,baz=97,slow=7.6,SNR=8.6						
ASAR				PcP	PcP	21 22 39.8	-0.5
	0.5nm,0.8s,baz=107,slow=4.0,SNR=2.8						
WRA	**Warramunga Arr**	**43.74**	**263**	P	P	21 21 07.0	-0.5
	0.2nm,0.2s,baz=97,slow=7.2,SNR=3.1						
ILAR	**Eielson Array**	**88.77**	**13**	P	P	21 25 43.2	-0.5
	0.2nm,0.6s,baz=226,slow=6.1,SNR=2.3						
PDAR	**Pinedale Array**	**89.73**	**44**	P	P	21 25 49.4	+0.4
	0.2nm,0.6s,baz=232,slow=4.4,SNR=2.2						
NOA	**NORSAR Array B**	**139.15**	**353**	PKP	PKPdf	21 32 11.3	-1.1
	0.7nm,0.8s,baz=346,slow=2.7,SNR=2.9						
AKASG	**Malin Array Be**	**142.84**	**330**	PKP	PKPdf	21 32 17.6	-1.7
	0.2nm,0.3s,baz=43,slow=4.3,SNR=5.1						
BRTR	**Keskin Array B**	**146.40**	**311**	PKPbc	PKPbc	21 32 28.8	+0.4
	0.3nm,0.5s,baz=42,slow=2.3,SNR=1.9						

*JMA **24** 21:21:33.7±0.6, 44°.59N×149°.25E, h30km, M3.9*
*SKHL **24** 21:21:35.7±0.3, 44°.40N×149°.24E, h55km±10km, mb4.4/3*
ISC 24 21:33.7±4.0,**44°.36N**±0°.10×**149°.4E**±0°.2,**h42km**,**n14**,
σ1§**47**/24,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.37**	**310**	*e*P	**Pn**	**21 21 56.3**	**-0.1**
KUR				AMB	AMB	21 21 59.0	
	100nm,0.3s						
KUR				*e*S	**Sn**	**21 22 11.6**	**-1.7**
KUR				A	A	21 22 13.0	
	1μm,0.3s						
KUR				A	A	21 22 13.0	
	183nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**264**	*i* P	**Pn**	**21 22 13.5**	**+1.3**
YUK				AMB	AMB	21 22 21.0	
	60nm,0.3s						
YUK				*e*S	**Sn**	**21 22 41.8**	**0.0**
YUK				A	A	21 22 46.0	
	271nm,0.3s						
YUK				A	A	21 22 46.0	
	189nm,0.3s						
GRPR	**Tuman**	**2.60**	**263**	*e*P	**Pn**	**21 22 14.0**	**+0.8**
GRPR				*e*S	**Sn**	**21 22 43.0**	**-0.5**
GRPR				A	A	21 22 47.0	
	151nm,0.3s						
GRPR				A	A	21 22 47.0	
	143nm,0.3s						
NEM2	**Nemuro 2**	**2.79**	**250**	P	**Pn**	**21 22 15.1**	**-0.7**
NEM2				*e*S	**Sn**	**21 22 46.5**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.80**	**251**	*e*P	**Pn**	**21 22 16.5**	**+0.6**
NMR				*e*S	**Sn**	**21 22 48.0**	**-0.4**
GLVR	**Golovnino**	**2.83**	**259**	*e*P	**Pn**	**21 22 16.9**	**+0.5**
GLVR				AMB	AMB	21 22 17.0	
	40nm,0.3s						
GLVR				*e*S	**Sn**	**21 22 48.0**	**-1.2**
GLVR				A	A	21 22 52.0	
	165nm,0.3s						
GLVR				A	A	21 22 52.0	
	171nm,0.3s						
JRA	**Rausu**	**3.07**	**264**	P	**Pn**	**21 22 21.2**	**+1.5**
JRA				*e*S	**Sn**	**21 22 56.6**	**+1.5**
JNK	**Nakash**	**3.43**	**259**	P	**Pn**	**21 22 25.4**	**+0.8**
JNK				*e*S	**Sn**	**21 23 03.7**	**-0.3**
JAK	**Akkeshi**	**3.64**	**250**	P	**Pn**	**21 22 27.6**	**+0.1**
JAR	**Ashorobuto**	**4.17**	**257**	P	**Pn**	**21 22 36.5**	**+1.7**
JMP	**Maruseppu**	**4.32**	**267**	P	**Pn**	**21 22 39.2**	**+2.3**
JCH	**Churui**	**4.69**	**250**	P	**Pn**	**21 22 43.3**	**+1.4**
JNB	**Noboribetsu**	**6.34**	**256**	P	**Pn**	**21 23 05.8**	**+1.2**
JNB				*e*S	**Sn**	**21 24 15.4**	**-0.2**
JKB	**Kayabe**	**6.57**	**251**	P	**Pn**	**21 23 08.1**	**+0.4**
JKB				*e*S	**Sn**	**21 24 17.0**	**-4.2**

*ISCJB **24** 21:49:44.1±0.7, 27°.92N±0°.04×51°.34E±0°.07, h16km, Error ellipse: s-maj=9.4km s-min=3.3km az=153.1*
*THR **24** 21:49:47.7, 28°.24N×51°.37E, h19km, ML3.1*
*TEH **24** 21:49:47.3, 28°.23N×51°.45E, h14km, ML3.3*
*DSN **24** 21:49:49.1±0.9, 28°.14N×51°.75E, h10km, ML3.9/7, Error ellipse: s-maj=22.5km s-min=4.7km az=15.0*
*OMAN **24** 21:49:50.5±2.6, 27°.90N×51°.48E, h74km±317km, ml3.6/7, Error ellipse: s-maj=89.1km s-min=20.9km az=29.0*
ISC 24 21:49:45.5±1.3,**27°.97N**±0°.06×**51°.31E**±0°.08,**h16km**,**n48**,
σ1§**11**/58,**Persian Gulf**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.77**	**110**	*e*Pn	**Pg**	**21 50 20.0**	**+0.6**
LMD1				IAMB	IAmb	21 50 52.2	
	comp=Z,0.0nm,0.3s						
IKAZ	**Kazeroun**	**1.86**	**14**	*e*Pn	**Pn**	**21 50 16.5**	**-0.6**
IKAZ				IAMB	IAmb	21 50 50.1	
	comp=Z,5μm,0.4s						
SHI	**Shiraz**	**1.97**	**32**	*e*Pn	**Pn**	**21 50 19.0**	**+0.5**
SHI				*e*Sg	**Sn**	**21 50 42.8**	**-0.2**
SHI				IAMB	IAmb	21 50 48.6	
	comp=Z,2μm,0.4s						
JHRM	**Jahrom**	**2.07**	**75**	*e*Pn	**Pn**	**21 50 20.7**	**+0.9**
JHRM				IAMB	IAmb	21 50 57.7	
	comp=Z,0.0nm,0.4s						
IBRJ	**Brojen**	**3.92**	**359**	*e*Pn	**Pn**	**21 50 45.7**	**+0.3**
IRAM	**Ramesheh**	**3.94**	**13**	*e*Pn	**Pn**	**21 50 45.1**	**-0.4**
ZNGN	**Zangian**	**4.15**	**355**	*e*Pn	**Pn**	**21 50 48.3**	**-0.2**
JHBN	**Jahan bin**	**4.28**	**353**	*e*Pn	**Pn**	**21 50 50.6**	**+0.3**
ROKH	**ROKH**	**4.37**	**357**	*e*Pn	**Pn**	**21 50 51.3**	**-0.1**
ISAD	**Sadrabad**	**4.44**	**27**	*e*Pn	**Pn**	**21 50 52.6**	**+0.1**
IMEH	**Mehriz**	**4.46**	**39**	*e*Pn	**Pn**	**21 50 54.1**	**+1.4**
IGAR	**Gharneh**	**4.46**	**8**	*e*Pn	**Pn**	**21 50 53.0**	**+0.2**
IPIR	**Pirpir**	**4.71**	**356**	*e*Pn	**Pn**	**21 50 56.2**	**0.0**
SHME	**Shamm**	**4.72**	**113**	*i* P	**Pn**	**21 50 56.5**	**+0.4**
	SNR=8.5						
SHME				S	**Sn**	**21 51 48.8**	**-1.7**
BANOM	**Banah**	**4.90**	**113**	*i* P	**Pn**	**21 50 59.2**	**+0.6**
	SNR=42						
BANOM				S	**Sn**	**21 51 54.0**	**-1.1**
BANOM	**Banah**	**4.90**	**113**	P	**Pn**	**21 50 59.3**	**+0.7**
BANOM				S	**Sn**	**21 51 52.9**	**-2.2**
ASUD	**Al Ashush, Dub**	**4.91**	**132**	*i* P	**Pn**	**21 51 01.3**	**+2.6**
	SNR=29						
ASUD	**Al Ashush, Dub**	**4.91**	**132**	P	**Pn**	**21 51 01.2**	**+2.5**
	SNR=29						
IZEF	**Zefreh**	**4.99**	**10**	*e*Pn	**Pn**	**21 51 00.0**	**0.0**
ICHK	**Chekchek**	**5.04**	**31**	*e*Pn	**Pn**	**21 51 00.8**	**+0.2**
NGRK	**Negar Kerman**	**5.04**	**69**	*e*Pn	**Pn**	**21 51 00.8**	**-0.1**
MSFE	**Esma-Masafi**	**5.06**	**120**	*i* P	**Pn**	**21 51 01.9**	**+1.1**
	SNR=9.9						
KHGB	**Koh Gabri**	**5.12**	**61**	*e*Pn	**Pn**	**21 51 02.3**	**+0.6**
IBAF	**Bafgh**	**5.17**	**45**	*e*Pn	**Pn**	**21 51 03.1**	**+0.7**
TVBK	**TV Kerman**	**5.18**	**66**	*e*Pn	**Pn**	**21 51 03.4**	**+0.6**
MDH	**Madha**	**5.20**	**120**	P	**Pn**	**21 51 03.5**	**+0.8**
MDH	**Madha**	**5.20**	**120**	P	**Pn**	**21 51 03.7**	**+1.0**
MDH				S	**Sn**	**21 52 00.4**	**-2.0**
YZKH	**Yazd**	**5.24**	**32**	*e*Pn	**Pn**	**21 51 04.1**	**+0.8**
YZKH	**Yazd**	**5.24**	**32**	*e*Pn	**Pn**	**21 51 04.1**	**+0.8**
UOSS	**Minazif**	**5.33**	**123**	P	**Pn**	**21 51 05.5**	**+1.1**
UOSS	**Minazif**	**5.33**	**123**	P	**Pn**	**21 51 05.6**	**+1.2**
HATD	**Hatta, Dubai**	**5.34**	**125**	P	**Pn**	**21 51 05.9**	**+1.2**
HATD	**Hatta, Dubai**	**5.34**	**125**	P	**Pn**	**21 51 05.9**	**+1.2**
HATD				S	**Sn**	**21 52 04.9**	**-1.0**
ASHO	**Ashiyiah**	**5.38**	**126**	*i* P	**Pn**	**21 51 06.3**	**+1.1**
	SNR=18						
ASHO	**Ashiyiah**	**5.38**	**126**	P	**Pn**	**21 51 06.4**	**+1.3**
ASHO				S	**Sn**	**21 52 06.3**	**-0.4**
KHNJ	**Kahnooj**	**5.66**	**89**	*e*Pn	**Pn**	**21 51 10.2**	**+1.2**
CHMN	**Cheshme madani**	**5.78**	**70**	*e*Pn	**Pn**	**21 51 11.8**	**+0.8**
KHMZ	**Khomeyn**	**5.87**	**349**	*e*Pn	**Pn**	**21 51 12.7**	**+0.7**
KHMZ	**Khomeyn**	**5.87**	**349**	*e*Pn	**Pn**	**21 51 12.7**	**+0.7**
HOQ	**Hoqain**	**6.96**	**128**	P	**Pn**	**21 51 27.5**	**+0.6**
	SNR=11						
HOQ				S	**Sn**	**21 52 43.9**	**-1.8**
BSY	**Bisya**	**7.45**	**133**	P	**Pn**	**21 51 34.6**	**+1.0**
SMDO	**Samad**	**7.81**	**127**	P	**Pn**	**21 51 39.3**	**+0.7**
SMDO				S	**Sn**	**21 53 06.1**	**-0.7**
BSRN	**Basiran**	**7.86**	**58**	*e*Pn	**Pn**	**21 51 41.1**	**+1.7**
BSRN	**Basiran**	**7.86**	**58**	*e*Pn	**Pn**	**21 51 41.1**	**+1.7**
WSAR	**Wadi Sarin**	**8.12**	**124**	P	**Pn**	**21 51 43.9**	**+1.1**
JMDO	**Jabal Madar**	**8.31**	**131**	P	**Pn**	**21 51 45.7**	**+0.3**
JMDO				S	**Sn**	**21 53 16.6**	**-2.3**
WBK	**Wadi Bani Khal**	**8.75**	**126**	P	**Pn**	**21 51 51.8**	**+0.3**
	SNR=12						
WHFO	**Wadi Hawf**	**10.26**	**167**	P	**Pn**	**21 52 12.0**	**-0.2**
	SNR=12						

TAP 24 21:49:48.4,**23°.44N**×**120°.91E**,**h3km**,**ML1.0**,**B**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUS	**Yu-Shan**	**0.07**	**37**	*e*P	Pg	21 49 50.5	+0.5
	baz=42						
WHYT	**Xinyi Township**	**0.26**	**349**	*e*P	Pg	21 49 54.6	+1.0
	baz=350						
ELDTW	**Lidau**	**0.27**	**158**	*e*P	Pg	21 49 54.5	+1.0
	baz=157						
ELDTW				*e*S	Sg	21 49 58.1	+1.1
	baz=157						
CHN4	**Tsaushan**	**0.30**	**254**	*e*P	Pb	21 49 55.8	-0.7
	baz=253						
WTP	**Ta-pu**	**0.33**	**235**	*e*P	Pb	21 49 56.1	-0.9
	baz=247						
WTP				*e*S	Sb	21 50 01.3	-1.5
	baz=247						
YULB	**Yu-li**	**0.36**	**97**	*e*P	Pg	21 49 56.1	+0.7
	baz=97						

TAP 24 21:49:53.4,**23°.45N**×**120°.93E**,**h11km**,**ML1.0**,**A**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUS	**Yu-Shan**	**0.04**	**24**	*e*P	Pg	21 49 55.5	-0.6
	baz=24						
YUS				*e*S	Sg	21 49 56.9	-1.1
	baz=24						
WHYT	**Xinyi Township**	**0.26**	**344**	*e*P	Pg	21 49 58.5	-0.2
	baz=343						
WHYT				*e*S	Sg	21 50 02.7	+0.4
	baz=343						
WHYT	**Xinyi Township**	**0.26**	**344**	*e*S	Pg	21 49 58.6	-0.2
	baz=350						
ELDTW	**Lidau**	**0.27**	**163**	*e*P	Pg	21 49 59.2	+0.2
	baz=161						
ELDTW				*e*S	Sg	21 50 02.3	-0.4
	baz=161						
TPUB	**Ta-pu**	**0.31**	**242**	*e*S	Pg	21 49 59.5	-0.3
	baz=242						
TPUB	**Ta-pu**	**0.31**	**242**	*e*P	Pg	21 49 59.8	0.0
	baz=242						
TPUB				*e*S	Sg	21 50 03.9	-0.1
	baz=242						
CHN4	**Tsaushan**	**0.33**	**253**	*e*P	Pg	21 50 00.1	+0.1
	baz=252						
CHN4				*e*S	Sg	21 50 04.7	+0.4
	baz=252						
CHN4	**Tsaushan**	**0.33**	**253**	*e*S	Pg	21 50 00.4	+0.4
	baz=253						
SSLB	**Suanglung**	**0.34**	**3**	*e*P	Pg	21 49 60.0	-0.3
	baz=3.0						
SSLB				*e*S	Sg	21 50 04.8	0.0
	baz=3.0						
YULB	**Yu-li**	**0.34**	**99**	*e*P	Pg	21 50 00.4	+0.1
	baz=99						
YULB				*e*S	Sg	21 50 05.3	+0.5
	baz=99						
WTP	**Ta-pu**	**0.35**	**236**	*e*P	Pg	21 50 00.4	-0.1
	baz=234						
WTP				*e*S	Sg	21 50 05.3	+0.1
	baz=234						
VWDT	**VWDT**	**0.36**	**32**	*e*P	Pg	21 50 00.4	-0.2
	baz=32						
VWDT				*e*S	Sg	21 50 05.5	+0.1
	baz=32						

*ISN **24** 21:50:36.4±1.3, 34°.37N×45°.48E, h6km±7km, ML3.3*
*TEH **24** 21:50:37.6, 34°.28N×45°.56E, h8km, ML3.3*
ISC 24 21:50:37.1±1.8,**34°.36N**±0°.04×**45°.52E**±0°.04,**h0**km±15km,
n18,σ0§**62**/25,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.79**	**64**	*e*Pg	**Pg**	**21 50 52.7**	**+0.4**
IDHR				IAMB	IAmb	21 51 06.4	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.87**	**92**	*e*Pg	**Pg**	**21 50 54.4**	**+0.6**
IGHG				*e*Sg	**Sb**	**21 51 06.7**	**-0.8**
IGHG				IAMB	IAmb	21 51 10.2	
	comp=Z,11μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.26**	**93**	*e*Pg	**Pg**	**21 51 01.3**	**0.0**
KCHF				IAMB	IAmb	21 51 22.8	
	comp=Z,0.0nm,0.4s						
IBDR	**Badra**	**1.29**	**164**	*e*Pg	**Pb**	**21 51 02.0**	**-0.3**
IBDR				AML	AML	21 51 05.4	
	comp=Z,438nm,0.2s						
IBDR				*e*Sg	**Sn**	**21 51 20.0**	**-0.4**
ILIN	**Lien**	**1.31**	**64**	IAMB	IAmb	21 51 04.2	
	comp=Z,6μm,0.2s						
ILIN				*e*Pg	**Pg**	**21 51 02.4**	**+0.1**
KER	**Kermanshah**	**1.33**	**88**	*e*Pg	**Pb**	**21 51 03.1**	**0.0**
IKRK	**Kirkuk**	**1.42**	**317**	*e*Pn	**Pn**	**21 51 04.0**	**-0.2**
IKRK				AML	AML	21 51 08.0	
	comp=Z,1μm,0.2s						
IKRK				*e*Sn	**Sn**	**21 51 24.0**	**+0.4**
BHD	**Baghdad**	**1.44**	**221**	*e*Pn	**Pn**	**21 51 04.0**	**-0.4**
BHD				*e*Sn	**Sn**	**21 51 25.0**	**+0.9**
IKOM	**Komasi**	**1.66**	**96**	IAMB	IAmb	21 51 38.3	
	comp=Z,0.0nm,0.8s						
IKOM				*e*Pn	**Pb**	**21 51 08.4**	**-0.3**
IBZA	**Bozab**	**1.94**	**86**	*e*Pn	**Pb**	**21 51 12.5**	**-1.0**
IBZA				IAMB	IAmb	21 51 45.2	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**2.11**	**113**	*e*Pn	**Pn**	**21 51 14.0**	**+0.4**
IKFM				IAMB	IAmb	21 51 49.8	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.28**	**104**	*e*Pn	**Pn**	**21 51 16.5**	**+0.3**
IDOB				IAMB	IAmb	21 52 02.8	
	comp=Z,0.0nm,0.6s						
MAHB	**Mahabad**	**2.41**	**4**	*e*Pn	**Pb**	**21 51 21.0**	**-0.4**
MAHB				IAMB	IAmb	21 51 55.9	
	comp=Z,0.0nm,0.6s						
IKMR	**Kamar-syah**	**2.52**	**109**	*e*Pn	**Pn**	**21 51 19.7**	**+0.4**
MSL	**Mosul**	**2.83**	**317**	*e*Pn	**Pn**	**21 51 24.0**	**+0.4**
MSL				AML	AML	21 51 36.7	
	comp=Z,184nm,0.4s						
MSL				*e*Sn	**Sn**	**21 51 59.0**	**+0.6**
HAGD	**Aghdareh**	**3.02**	**80**	*e*Pn	**Pn**	**21 51 26.7**	**+0.2**
HAGD				IAMB	IAmb	21 52 24.1	
	comp=Z,0.0nm,0.7s						
NSR	**Nassriya**	**3.38**	**171**	*e*Pn	**Pn**	**21 51 31.0**	**-0.1**
NSR				AML	AML	21 51 34.7	
	comp=Z,217nm,0.1s						
NSR				*e*Sn	**Sn**	**21 52 13.0**	**+1.1**
RTB	**Rutbah**	**4.54**	**254**	*e*Pn	**Pn**	**21 51 48.0**	**+0.8**
RTB				*e*Sn	**Sn**	**21 52 39.5**	**-1.2**

*ISCJB **24** 22:00:27.9±1.6, 20°.26S±0°.06×175°.71W±0°.08, h73km±17km, mb4.2/11, Error ellipse: s-maj=13.2km s-min=8.7km az=28.9*
*NEIC **24** 22:00:28.9±1.7, 20°.21S±0°.10×175°.6W±0°.1, h79km±4km, mb4.6/31*
*IDC **24** 22:00:33.4±2.5, 20°.16S×175°.65W, h102km±23km, mb4.0/11, mb1 4.2/14, mb1mx3.9/38, mbtmp4.4/14, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=18.9km s-min=13.7km az=139.0*
ISC 24 22:00:32.2±1.2,**20°.08S**±0°.08×**175°.63W**±0°.08,
h100km±13km,**n62**,σ2§**10**/66,**mb4.6**/24,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.47**	**80**		**Pn**	**22 01 51.3**	**-0.1**
NIUE				Sn	Sn	22 02 45.2	-7.7
AFI	**Afiamalu**	**7.16**	**32**	P	**Pn**	**22 02 16.6**	**+2.2**
	5.0nm,0.3s,baz=233,slow=7.3,SNR=4.8						
AFI				S	Sn	22 03 26.9	-7.3
	17nm,0.3s,baz=69,slow=23,SNR=8.3						
AFI	**Afiamalu**	**7.16**	**32**		**Pn**	**22 02 11.9**	**-2.5**
AFI					**Sn**	**22 03 30.4**	**-3.8**
RAO	**Raoul Island**	**9.37**	**192**	P	**Pn**	**22 02 45.4**	**+1.2**
	88nm,0.3s,baz=169,slow=22,SNR=4.4						
RAR	**Rarotonga**	**14.89**	**97**	P	**Pn**	**22 03 59.5**	**+2.0**
	1.0nm,0.3s,baz=236,slow=11,SNR=4.8						
RAR				S	Sn	22 06 29.0	-13
	1.0nm,0.3s,baz=124,slow=22,SNR=1.5						
RAR	**Rarotonga**	**14.89**	**97**	P	Pn	22 03 53.3	-4.3
DZM	**Mont Dzumac**	**16.85**	**260**	P	**P**	**22 04 29.2**	**+6.6**
	1.8nm,0.3s,baz=79,slow=18,SNR=49						
DZM				LR	LR	22 09 49.2	
	comp=Z,61nm,18.0s,baz=276,slow=33						
OUZ	**Omahuta**	**17.83**	**210**		**P**	**22 04 30.4**	**-2.7**
MXZ	**Matakaoa Point**	**18.20**	**196**		**P**	**22 04 33.4**	**-3.9**
MXZ				IAmb	IAmb	22 04 44.1	
	comp=Z,28nm,1.1s						
URZ	**Urewera**	**19.18**	**198**	P	**P**	**22 04 47.4**	**-0.5**
	comp=Z,13nm,0.3s,baz=302,slow=2.6,SNR=35						
URZ	**Urewera**	**19.18**	**198**	P	**P**	**22 04 44.1**	**-3.8**
HIZ	**Hauiti**	**20.13**	**202**	P	**P**	**22 04 55.9**	**-2.4**
BKZ	**Black Stump Fm**	**20.20**	**198**	P	**P**	**22 04 56.2**	**-2.9**
SNZO	**South Karori**	**22.71**	**199**	P	**P**	**22 05 22.0**	**-3.5**
SNZO				IAmb	IAmb	22 05 27.5	
	comp=Z,29nm,0.7s						
BHW	**Baring Head**	**22.75**	**199**	P	**P**	**22 05 22.9**	**-3.0**
PLWZ	**Palliser**	**22.78**	**198**	P	**P**	**22 05 22.6**	**-3.7**
QRZ	**Quartz Range**	**23.02**	**203**	P	**P**	**22 05 26.1**	**-2.5**
QRZ				IAmb	IAmb	22 05 36.4	
	comp=Z,36nm,1.0s						
TUWZ	**Tuamarina**	**23.06**	**200**	P	**P**	**22 05 26.1**	**-2.8**
BSWZ	**Blackbirch Sta**	**23.34**	**200**	P	**P**	**22 05 29.5**	**-2.1**
THZ	**Tophouse**	**23.70**	**202**	P	**P**	**22 05 32.0**	**-3.0**
THZ				IAmb	IAmb	22 05 42.7	
	comp=Z,19nm,0.9s						
KHZ	**Kahutara**	**24.07**	**200**	P	**P**	**22 05 36.3**	**-1.9**
PPT	**Papeete**	**24.78**	**89**	P	**P**	**22 05 45.2**	**+0.3**
	comp=Z,18nm,0.8s,baz=216,slow=19,SNR=2.5						
LTZ	**Lake Taylor**	**24.82**	**202**	P	**P**	**22 05 43.2**	**-1.9**
LTZ				IAmb	IAmb	22 05 48.4	
	comp=Z,33nm,1.0s						
MQZ	**McQueen's Vall**	**25.52**	**200**	P	**P**	**22 05 49.8**	**-1.5**
MQZ				IAmb	IAmb	22 06 07.6	
	comp=Z,36nm,1.1s						
RPZ	**Rata Peaks**	**26.07**	**202**	P	**P**	**22 05 56.1**	**-0.2**
	comp=Z,20nm,0.6s,baz=333,slow=1.4,SNR=9.9						
RPZ	**Rata Peaks**	**26.07**	**202**	P	**P**	**22 05 54.0**	**-2.4**
FOZ	**Fox Glacier**	**26.37**	**204**	P	**P**	**22 05 56.2**	**-2.8**
LBZ	**Lake Benmore**	**26.96**	**203**	P	**P**	**22 06 03.1**	**-1.2**
LBZ				IAmb	IAmb	22 06 22.0	
	comp=Z,16nm,1.2s						
ODZ	**Otahua Downs**	**27.37**	**201**	P	**P**	**22 06 05.3**	**-2.7**
ODZ				IAmb	IAmb	22 06 12.7	
	comp=Z,25nm,1.1s						
ARMA	**Armidale**	**31.25**	**244**	P	**P**	**22 06 40.1**	**-2.6**
PMG	**Port Moresby**	**37.43**	**281**	P	**P**	**22 07 36.7**	**+0.7**
	comp=Z,8.8nm,0.9s,baz=142,slow=7.8,SNR=3.8						
TOO	**Toolangi**	**37.94**	**234**	P	**P**	**22 07 37.5**	**-2.7**
TOO				IAmb	IAmb	22 07 44.0	
	comp=Z,9.9nm,1.1s						
COEN	**Coen**	**39.78**	**272**	P	**P**	**22 07 54.2**	**-1.5**
COEN				IAmb	IAmb	22 07 59.2	
	comp=Z,5.9nm,0.9s						
STKA	**Stephens Creek**	**39.97**	**244**	P	**P**	**22 07 57.5**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=91,slow=11,SNR=12						
STKA	**Stephens Creek**	**39.97**	**244**	P	**P**	**22 07 56.0**	**-1.1**
BBOO	**Buckleboo**	**44.73**	**243**	P	**P**	**22 08 32.3**	**-3.4**
BBOO				IAmb	IAmb	22 08 35.9	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**46.67**	**261**	P	**P**	**22 08 50.4**	**-0.7**
AS31	**Alice Springs**	**46.78**	**256**	P	**P**	**22 08 51.3**	**-0.7**
AS31				PcP	**PcP**	**22 10 23.9**	**+0.1**
ASAR	**Alice Springs**	**46.78**	**256**	P	**P**	**22 08 52.5**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=90,slow=8.4,SNR=34						
ASAR				PcP	**PcP**	**22 10 24.5**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=106,slow=3.9,SNR=16						
ASAR	**Alice Springs**	**46.78**	**256**	P	**P**	**22 08 51.7**	**-0.3**
ASAR					**PcP**	**22 10 22.7**	**-1.1**
WB0	**Warramunga Arr**	**46.84**	**261**	P	**P**	**22 08 52.6**	**+0.1**
WB0				IAmb	IAmb	22 08 54.0	
	comp=Z,10nm,1.1s						
WB2	**Warramunga Arr**	**46.85**	**261**	P	**P**	**22 08 53.0**	**+0.4**
WB2				IAmb	IAmb	22 08 54.6	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**46.85**	**261**	P	**P**	**22 08 52.9**	**+0.3**
WRA	**Warramunga Arr**	**46.86**	**261**	P	**P**	**22 08 53.3**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=96,slow=7.6,SNR=200						
WRA				PcP	**PcP**	**22 10 24.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=91,slow=3.5,SNR=6.2						
WRA	**Warramunga Arr**	**46.86**	**261**	P	**P**	**22 08 51.0**	**-1.7**
WRA					**PcP**	**22 10 22.7**	**-1.4**
MTN	**Manton Dam**	**51.39**	**269**	P	**P**	**22 09 26.4**	**-0.7**
KNRA	**Kununurra**	**52.91**	**265**	P	**P**	**22 09 38.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**55.29**	**261**	P	**P**	**22 09 55.1**	**-0.7**
F

baz=188,slow=76,SNR=410
H08S3 Diego Garcia H 17.87 8 T T 22 26 46.4
baz=188,slow=76,SNR=230
H08N3 Diego Garcia H 19.00 3 T T 22 28 13.8
baz=187,slow=78,SNR=5.6
H08N1 Diego Garcia H 19.01 3 T T 22 28 17.7
baz=187,slow=78,SNR=6.1
H08N2 Diego Garcia H 19.02 3 T T 22 28 12.5
baz=187,slow=78,SNR=7.1
ABPO Ambohimpanom 21.98 282 P **P** **22 09 08.0 +0.6**
ABPO pmax pmax
comp=Z,31nm,1.2s
ABPO Ambohimpanom 21.98 282 P **P** **22 09 08.0 +0.6**
OPO Ambohidratompo 22.18 283 P **P** **22 09 09.5 0.0**
comp=Z,13nm,0.8s,baz=121,slow=15,SNR=2.7
MSEY Mahe Island 24.88 324 P **P** **22 09 35.2 -0.8**
MSEY pmax pmax
comp=Z,34nm,1.4s
MSEY Mahe Island 24.88 324 P **P** **22 09 35.2 -0.8**
CRZF Crozet Islands 25.46 210 P **P** **22 09 40.5 -0.3**
PALK Pallekele 34.14 19 P **P** **22 11 00.0 +1.8**
PALK pmax pmax
comp=Z,37nm,1.5s
PALK Pallekele 34.14 19 P **P** **22 10 57.2 -1.0**
comp=Z,6.1nm,1.0s,baz=294,slow=3.4,SNR=1.7
PALK LR LR 22 21 25.0
comp=Z,2μm,21.4s,baz=114,slow=30
PALK Pallekele 34.14 19 P **P** **22 10 60.0 +1.8**
PALK IAmb IAmb 22 11 11.7
comp=Z,37nm,1.5s
XMIS Christmas Isla 36.92 73 P **P** **22 11 22.4 +0.3**
XMIS IAmb IAmb 22 11 35.8
comp=Z,49nm,1.2s
GSI Gunungsitoli 37.68 49 P **P** **22 11 29.1 +0.5**
GSI Gunungsitoli 37.68 49 P **P** **22 11 28.8 +0.2**
GSI IAmb IAmb 22 11 34.6
comp=Z,47nm,1.5s
KRJI Kerinci 38.19 58 P **P** **22 11 33.2 +0.2**
PDSI Padang 38.21 55 P **P** **22 11 33.6 +0.6**
comp=Z,24nm,1.4s,comp=Z,372nm
H01W2 Cape Leeuwin H 39.07 115 T T 22 53 29.9
baz=272,slow=75,SNR=18
H01W3 Cape Leeuwin H 39.07 115 T T 22 53 17.5
baz=272,slow=75,SNR=16
H01W1 Cape Leeuwin H 39.09 115 T T 22 53 19.0
baz=272,slow=75,SNR=16
RPSI Rantau Prapat 39.61 49 P **P** **22 11 48.1 +3.3**
RPSI Rantau Prapat 39.61 49 P **P** **22 11 44.7 -0.1**
PSI Prapat 39.69 49 P **P** **22 11 44.7 -0.9**
comp=Z,4.0nm,0.9s,baz=184,slow=6.6,SNR=6.9
PSI LR LR 22 24 05.2
comp=Z,1μm,21.7s,baz=228,slow=30
KMBO Kilima Mbogo 39.74 302 P **P** **22 11 47.1 +1.0**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 39.74 302 P **P** **22 11 47.0 +1.0**
comp=Z,4.2nm,0.8s,baz=101,slow=5.6,SNR=21
KMBO LR LR 22 24 36.9
comp=Z,393nm,20.8s,baz=98,slow=31
KMBO Kilima Mbogo 39.74 302 P **P** **22 11 47.1 +1.0**
BOSA Boshof 39.78 255 P **P** **22 11 46.6 +0.4**
comp=Z,12nm,0.9s,baz=93,slow=7.2,SNR=16
BOSA LR LR 22 25 29.6
comp=Z,2μm,19.6s,baz=111,slow=32
BOSA Boshof 39.78 255 P **P** **22 11 46.6 +0.4**
BOSA IAmb IAmb 22 11 50.9
comp=Z,38nm,1.2s
LBTB Lobatse 40.00 261 P **P** **22 11 48.5 +0.4**
LBTB pmax pmax
comp=Z,27nm,1.5s
LBTB Lobatse 40.00 261 P **P** **22 11 49.2 +1.1**
comp=Z,10nm,1.2s,baz=120,slow=11,SNR=4.2
LBTB LR LR 22 25 19.0
comp=Z,2μm,20.5s,baz=97,slow=32
LBTB Lobatse 40.00 261 P **P** **22 11 48.5 +0.4**
LSZ Lusaka 40.30 276 P **P** **22 11 52.3 +1.6**
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LSZ Lusaka 40.30 276 P **P** **22 11 52.3 +1.6**
NWAO Narrogin (SRO) 41.66 112 LR LR 22 25 39.6
comp=Z,894nm,20.8s,baz=274,slow=31
IPM Ipoh 42.34 50 P **P** **22 12 08.1 +0.8**
IPM IAmb IAmb 22 12 17.5
comp=Z,47nm,1.4s
MAW Mawson 42.41 184 P **P** **22 12 07.6 +0.5**
MAW pmax pmax
comp=Z,5.0nm,1.5s
MAW Mawson 42.41 184 P **P** **22 12 06.9 -0.2**
comp=Z,7.7nm,1.0s,baz=16,slow=9.1,SNR=8.9
MAW LR LR 22 25 34.1
comp=Z,728nm,21.4s,baz=6.0,slow=30
MAW Mawson 42.41 184 P **P** **22 12 07.6 +0.5**
KULM Kulim 42.67 49 P **P** **22 12 10.6 +0.7**
KULM IAmb IAmb 22 12 19.6
comp=Z,34nm,1.3s
SUR Sutherland 43.28 249 P **P** **22 12 15.4 +0.4**
comp=Z,11nm,1.0s,baz=233,slow=14,SNR=3.7
SUR Sutherland 43.28 249 P **P** **22 12 15.3 +0.3**
HYB Hyderabad 43.40 12 *i* P **P** **22 12 15.0 -0.8**
POO Poona 43.86 5 *eP* P 22 12 29.0 +10
TRTT Trang 43.93 45 P **P** **22 12 24.5 +4.4**
comp=Z,48nm,1.5s
MBAR Mbarara 45.18 297 *i* P **P** **22 12 28.5 -1.8**
MBAR pmax pmax
comp=Z,2.0nm,1.0s
ATD Arta Tunnel 45.25 321 P **P** **22 12 31.2 +0.5**
comp=Z,6.3nm,0.8s,baz=84,slow=10,SNR=2.8
ATD Arta Tunnel 45.25 321 IAmb IAmb 22 12 39.4
comp=Z,16nm,1.0s
PSA00 Pilbara Seismi 45.70 96 P **P** **22 12 33.9 -0.3**
SYO Syowa Base 47.20 194⇓ *eP* **P** **22 12 44.0 -1.2**
SYO Syowa Base 47.20 194⇑ *es*P sP 22 12 50.8 -2.3
TSUM Tsumeb 48.61 266 P **P** **22 12 58.7 +1.7**
TSUM IAmb IAmb 22 13 16.4
comp=Z,24nm,1.4s
MHMT Maesarieng 51.18 35 P **P** **22 13 18.7 +2.4**
comp=Z,20nm,1.0s
PBKT Sadao Pong 51.52 39 P **P** **22 13 20.2 +1.3**
comp=Z,12nm,1.5s
PBKT Sadao Pong 51.52 39 P **P** **22 13 19.5 +0.6**
PBKT IAmb IAmb 22 13 21.8
comp=Z,16nm,0.9s
CHAI Chaiyaphum 51.58 41 P **P** **22 13 22.4 +3.0**
comp=Z,28μm,1.3s,comp=Z,360μm
FITZ Fitzroy Crossi 51.91 94 IAmb IAmb 22 13 30.8
comp=Z,31nm,1.1s
CM31 Chiang Mai Arr 51.94 36 P **P** **22 13 23.4 +1.3**
CM31 IAmb IAmb 22 13 25.3
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 51.94 36 *ceP* **P** **22 13 22.7 +0.6**
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 51.94 36 P **P** **22 13 22.4 +0.3**
comp=Z,9.0nm,0.8s,baz=227,slow=6.9,SNR=43
CMAR LR LR 22 31 35.7
comp=Z,395nm,21.7s,baz=206,slow=32
CMAR Chiang Mai Arr 51.94 36 P **P** **22 13 22.0 0.0**
CHTO Chiang Mai 52.24 35 P **P** **22 13 24.9 +0.6**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 52.24 35 P **P** **22 13 24.9 +0.6**
UBPT Khong Chiam 53.23 44 P **P** **22 13 34.7 +3.1**
comp=Z,36nm,1.4s,comp=Z,510nm
UBPT Khong Chiam 53.23 44 P **P** **22 13 33.2 +1.5**
SOEI Soe 53.70 83 P **P** **22 13 35.4 0.0**
RAMN Ramite 54.49 18 *eP* **P** **22 13 41.0 0.0**
comp=Z,53nm,1.3s
KOLN Koldanda 54.50 15 *eP* **P** **22 13 41.0 0.0**
comp=Z,126nm,1.4s
ODAN Odare 54.64 19 *eP* **P** **22 13 42.5 +0.5**
comp=Z,73nm,1.4s
DMN Daman 54.71 16 *eP* **P** **22 13 42.7 +0.1**
comp=Z,28nm,1.0s
PKI Pulchoki 54.76 17 *eP* **P** **22 13 42.6 -0.4**
comp=Z,23nm,1.1s
PKIN Phulchoki 54.76 17 *eP* **P** **22 13 42.3 -0.6**
comp=Z,19nm,1.2s
KKN Kakani 54.93 17 *eP* **P** **22 13 43.9 -0.2**
comp=Z,28nm,1.0s
GKN Gorkha 54.97 16 *eP* **P** **22 13 44.1 -0.2**
comp=Z,53nm,1.2s
JIRN Jiri 55.05 18 *eP* **P** **22 13 45.4 +0.3**
comp=Z,66nm,1.1s
DANN Dangsing 55.09 15 *eP* **P** **22 13 44.9 -0.5**
comp=Z,78nm,1.1s
TAPN Taplejung 55.19 19 *eP* **P** **22 13 45.9 -0.2**
comp=Z,73nm,1.1s
GUN Gumba 55.20 17 *eP* **P** **22 13 46.3 +0.1**
comp=Z,135nm,1.5s
KNRA Kununurra 55.53 92 P **P** **22 13 48.8 +0.2**
SLVN Son La 56.98 38 IAmb IAmb 22 14 13.1
comp=Z,32nm,1.4s
ASAR Alice Springs 57.68 103 P **P** **22 14 02.9 -0.9**
comp=Z,4.8nm,0.8s,baz=254,slow=6.1,SNR=41
ASAR PcP **PcP** **22 14 55.5 -1.3**
comp=Z,1.6nm,0.8s,baz=257,slow=3.6,SNR=2.5
ASAR LR LR 22 36 15.3
comp=Z,497nm,19.6s,baz=276,slow=33
ASAR Alice Springs 57.68 103 P **P** **22 14 02.7 -1.0**
LSA Lhasa 58.46 22 IAmb IAmb 22 14 23.1
comp=Z,39nm,1.4s
MTN Manton Dam 58.69 90 P **P** **22 14 09.4 -1.5**
QIZ Qiongzhong 58.80 45 P **P** **22 14 12.6 +1.1**
QIZ S **S** **22 22 19.8 +3.9**
QIZ pmax pmax
comp=Z,31nm,1.9s
QIZ pmax pmax
comp=Z,270nm,3.2s
QIZ LR LR
comp=Z,750nm,20.6s
QIZ LR LR
comp=Z,470nm,24.5s
QIZ LR LR
comp=Z,650nm,19.6s
NIL Nilore 58.84 3 P **P** **22 14 11.0 -0.5**
NIL pmax pmax
comp=Z,13nm,1.1s
NIL Nilore 58.84 3 P **P** **22 14 11.0 -0.5**
NIL IAmb IAmb 22 14 18.2
comp=Z,13nm,1.1s
WRA Warramunga Arr 59.16 99 P **P** **22 14 13.9 -0.2**
WRA 22 15 00.9
WRA pmax pmax
comp=Z,2.0nm,1.5s
WRA Warramunga Arr 59.16 99 P **P** **22 14 13.4 -0.7**
comp=Z,4.9nm,0.9s,baz=255,slow=7.1,SNR=17
WRA PcP **PcP** **22 15 00.9 -1.7**
comp=Z,1.3nm,1.0s,baz=250,slow=2.4,SNR=3.2
WRA LR LR 22 37 13.9
comp=Z,957nm,19.6s,baz=265,slow=34
WRA Warramunga Arr 59.16 99 P **P** **22 14 13.9 -0.2**
WRAB Tennant Creek 59.17 99 *ceP* **P** **22 14 14.0 -0.2**
WRAB pmax pmax
comp=Z,54nm,2.5s
WRAB Tennant Creek 59.17 99 P **P** **22 14 13.9 -0.2**
WRAB IAmb IAmb 22 14 25.4
comp=Z,25nm,1.4s
KMI Kunming 59.41 35 P **P** **22 14 17.0 +1.1**
KMI pP pP 22 14 22.6 +1.0
KMI S **S** **22 22 29.1 +5.0**
KMI sS sS 22 22 37.3 +3.9
KMI pmax pmax
comp=Z,15nm,1.2s
KMI pmax pmax
comp=Z,140nm,4.2s
KMI LR LR
comp=Z,430nm,22.4s
KMI LR LR
comp=Z,430nm,16.9s
KMI LR LR
comp=Z,520nm,19.0s
KBL Kabul 59.65 359 P **P** **22 14 18.2 +0.9**
KBL pmax pmax
comp=Z,21nm,1.1s
KBL Kabul 59.65 359 P **P** **22 14 18.2 +0.9**
KBL IAmb IAmb 22 14 25.7
comp=Z,21nm,1.1s
HRA Herat 59.94 353 P **P** **22 14 19.6 +0.3**
SNAA Sanae 60.68 200 P **P** **22 14 24.3 +0.5**
SNAA Sanae 60.68 200 P **P** **22 14 23.6 -0.2**
SNAA pmax pmax
comp=Z,10.0nm,1.1s
SNAA Sanae 60.68 200 P **P** **22 14 24.2 +0.4**
comp=Z,3.4nm,0.9s,baz=71,slow=8.7,SNR=7.9
SNAA Sanae 60.68 200 P **P** **22 14 23.6 -0.2**
VNA2 Neumayer--Watz 62.07 201 P **P** **22 14 32.4 -0.8**
baz=76,slow=5.4
STKA Stephens Creek 62.17 114 P **P** **22 14 33.7 -0.8**
STKA pmax pmax
comp=Z,3.0nm,1.3s
STKA Stephens Creek 62.17 114 P **P** **22 14 33.2 -1.2**
comp=Z,5.4nm,1.0s,baz=276,slow=6.3,SNR=5.5
STKA LR LR 22 37 47.5
comp=Z,736nm,20.5s,baz=248,slow=32
STKA Stephens Creek 62.17 114 P **P** **22 14 33.7 -0.8**
VNA1 Neumayer--Stat 62.34 202 P **P** **22 14 34.9 0.0**
VNA3 Neumayer Olymp 62.82 201 P **P** **22 14 38.7 +0.5**
CHGR Chuyangaron 63.76 359 IAmb IAmb 22 14 57.8
comp=Z,23nm,1.1s
SWI Sorong 63.85 78 P **P** **22 14 45.9 0.0**
comp=Z,48nm,0.9s
GEYT Alibeck 64.00 350 LR LR 22 39 51.0
comp=Z,254nm,19.5s,baz=325,slow=33
GYA0B ALIBECK ARRAY 64.00 350 P **P** **22 14 46.5 +0.1**
GAR Garm 64.09 0 IAmb IAmb 22 14 59.5
comp=Z,26nm,1.3s
CD2 Chengdu 64.69 32 P **P** **22 14 51.9 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
QSPA South Pole Qui 64.70 180 P **P** **22 14 50.5 -0.2**
comp=Z,28nm,0.9s,baz=266,slow=2.3,SNR=39
QSPA South Pole Qui 64.70 180 P **P** **22 14 50.6 -0.2**
KSH Kashi 64.85 5 P **P** **22 14 49.3 -2.7**
KSH sP pP 22 14 56.5 -1.2
KSH PcP **PcP** **22 15 23.5 -1.7**
KSH S **S** **22 23 24.4 -7.7**
KSH ScS **SKSac** **22 24 36.6 -8.9**
KSH SS **SS** **22 27 37.9 -6.4**
KSH pmax pmax
comp=Z,24nm,0.6s
KSH pmax pmax
comp=Z,600nm,4.5s
KSH LR LR
comp=Z,540nm,15.3s
KSH LR LR
comp=Z,250nm,10.7s
KSH LR LR
comp=Z,210nm,12.2s
ARSB Arslanbob 66.47 2 IAmb IAmb 22 15 09.5
comp=Z,26nm,1.3s
NRN Naryn 66.76 5 IAmb IAmb 22 15 17.8
comp=Z,13nm,1.3s
KDJ Kajisay 67.55 6 P **P** **22 15 08.1 -1.2**
KDJ pmax pmax
comp=Z,22nm,1.4s
KDJ Kajisay 67.55 6 P **P** **22 15 08.1 -1.2**
KDJ IAmb IAmb 22 15 22.1
comp=Z,22nm,1.4s
AAK Ala-Archa 67.86 4 P **P** **22 15 11.9 +0.7**
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 67.86 4 P **P** **22 15 11.9 +0.7**
AAK IAmb IAmb 22 15 25.2
comp=Z,18nm,1.2s
PRZ Przheval'sk 68.02 7 P **P** **22 15 12.7 +0.4**
PRZ pmax pmax
comp=Z,34nm,1.3s
PRZ Przheval'sk 68.02 7 P **P** **22 15 12.7 +0.4**
KK31 Karatay Array 68.19 0 *eP* **P** **22 15 13.4 +0.3**
KK31 pmax pmax
comp=Z,21nm,1.3s
KK31 Karatay Array 68.19 0 IAmb IAmb 22 15 26.5
comp=Z,29nm,1.3s
KKAR Karatay Array 68.19 0 P **P** **22 15 13.3 +0.2**
KKAR Karatay Array 68.19 0 P **P** **22 15 13.3 +0.2**
KKAR Karatay Array 68.19 0 IAmb IAmb 22 15 26.5
comp=Z,29nm,1.3s
TKM2 Tokmak 2 68.21 4 *i* P **P** **22 15 13.2 -0.3**
TKM2 pmax pmax
comp=Z,13nm,1.1s
PDGK Podgornoye 68.98 7 *i* P **P** **22 15 17.9 -0.3**
PDGK pmax pmax
comp=Z,25nm,1.0s
LZH Lanzhou 69.05 29 *eP* **P** **22 15 19.0 +0.2**
LZH sP pP 22 15 25.0 +0.4
LZH *eS* **S** **22 24 24.3 +1.4**
LZH pmax pmax
comp=Z,36nm,1.1s
LZH pmax pmax
comp=Z,340nm,7.4s
LZH LR LR
comp=Z,630nm,16.8s
LZH LR LR
comp=Z,730nm,15.2s
LZH LR LR
comp=Z,800nm,18.6s
GNI Garni 69.35 340 *i* P **P** **22 15 19.6 -1.0**
GNI pmax pmax
comp=Z,65nm,1.0s
GNI Garni 69.35 340 P **P** **22 15 21.8 +1.2**
GNI IAmb IAmb 22 15 24.4
comp=Z,24nm,0.9s
SSLB Suanglung 69.51 49 P **P** **22 15 23.0 +1.3**
CTA Charters Tower 69.68 103 LR LR 22 44 08.3
comp=Z,549nm,18.2s,baz=256,slow=34
AKT Akhty 69.69 342 *eP* **P** **22 15 23.3 +0.7**
AKT *e* 22 15 46.3
AKT pmax pmax
comp=Z,22nm,1.1s
XAN Xi'an 69.76 34 P **P** **22 15 22.4 -0.7**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,180nm,3.8s
XAN Xi'an 69.76 34 IAmb IAmb 22 15 24.6
comp=Z,17nm,0.8s
WHN Wuhan 70.03 40⇑ P **P** **22 15 27.1 +2.3**
GTA Gaotai 70.27 24⇑ P **P** **22 15 26.6 +0.3**
GTA pP pP 22 15 33.1 +1.1
GTA sP pwP 22 15 35.8 -0.6
GTA S **S** **22 24 42.5 +5.3**
GTA pmax pmax
comp=Z,7.0nm,1.7s
GTA pmax pmax
comp=Z,100nm,5.1s
GTA LR LR
comp=Z,260nm,22.7s
GTA LR LR
comp=Z,210nm,21.6s
GTA LR LR
comp=Z,370nm,20.6s
KARS Kars 70.32 339 P P 22 15 31.4 +4.9
AKH Akhalkalaki 70.89 339 P **P** **22 15 30.8 +0.8**
AKH Akhalkalaki 70.89 339⇑ P **P** **22 15 30.8 +0.8**
GROC Groznyy 71.83 342 *eP* **P** **22 15 35.0 -0.4**
GROC *e* 22 15 53.6
GROC *e* 22 18 14.2
GROC *e*S **S** **22 24 52.7 -2.0**
GROC pmax pmax
comp=Z,35nm,0.9s
ZEI Tsey 72.01 340 *eP* **P** **22 15 36.2 -0.6**
ZEI pmax pmax
comp=Z,14nm,1.3s
NCK Nalchik 72.74 340 *i* P **P** **22 15 38.4 -2.5**
NCK pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 72.75 9 *i* P **P** **22 15 39.9 -1.0**
MK31 pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 72.75 9 IAmb IAmb 22 15 53.1
comp=Z,28nm,1.4s
MKAR Makanchi Array 72.75 9 P **P** **22 15 40.5 -0.3**
comp=Z,7.8nm,0.7s,baz=194,slow=6.0,SNR=48
MKAR LR LR 22 46 49.8
comp=Z,222nm,18.9s,baz=176,slow=35
MKAR Makanchi Array 72.75 9 P **P** **22 15 40.1 -0.8**
NEY Neytrino 72.79 340 *i* P **P** **22 15 40.8 -0.6**
NEY pmax pmax
comp=Z,1.0nm,1.1s
KARP Karpathos 72.91 325 P **P** **22 15 43.2 +1.1**
ISP Isparta 73.01 328 P **P** **22 15 42.8 0.0**
ISP pmax pmax
comp=Z,20nm,1.3s
ISP Isparta 73.01 328⇓ P P 22 15 51.1 +8.3
BR131 Keskin Array S 73.14 331 IAmb IAmb 22 15 58.2
comp=Z,14nm,1.1s
BRTR Keskin Array B 73.14 331 *ceP* **P** **22 15 44.0 +0.4**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 73.14 331 P **P** **22 15 44.0 +0.4**
comp=Z,5.8nm,0.8s,baz=148,slow=7.3,SNR=36
BRTR LR LR 22 46 30.9
comp=Z,122nm,19.3s,baz=102,slow=35
BRTR Keskin Array B 73.14 331 P **P** **22 15 43.8 +0.2**
KBZ Khabaz 73.17 340 P **P** **22 15 44.0 +0.7**
comp=Z,4.0nm,0.9s,baz=177,slow=2.7,SNR=10.0
KBZ LR LR 22 45 53.8
comp=Z,142nm,18.5s,baz=153,slow=34
KIV Kislovodsk 73.44 340 *eP* **P** **22 15 45.9 +0.8**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 73.44 340⇓ P **P** **22 15 45.5 +0.4**
KIV Kislovodsk 73.44 340 P **P** **22 15 45.5 +0.4**
KIV IAmb IAmb 22 15 52.8
comp=Z,12nm,1.1s
NJ2 Nanjing 73.78 42 *eP* **P** **22 15 48.3 +1.0**
NJ2 pmax pmax
comp=Z,18nm,0.7s
SOC Sochi 74.08 338 *eP* **P** **22 15 48.8 0.0**
SOC *e* 22 18 36.7
SOC *e*S **S** **22 25 20.0 -0.4**
SOC *e*SSS SSS 22 33 24.1
SOC pmax pmax
comp=Z,10.0nm,0.5s
GOF Gofitskoye 74.33 341⇑ *eP* **P** **22 15 50.7 +0.5**
GOF pmax pmax
comp=Z,19nm,0.9s
PMG Port Moresby 74.51 93 *ceP* **P** **22 15 51.2 -0.8**
PMG pmax pmax
comp=Z,156nm,1.3s
PMG Port Moresby 74.51 93 LR LR 22 47 00.4
comp=Z,625nm,20.8s,baz=248,slow=34
AB31 Akbulak array 74.89 353 *eP* **P** **22 15 53.0 -0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 74.89 353 P **P** **22 15 53.1 -0.2**
ABKAR Akbulak array 74.89 353 IAmb IAmb 22 16 06.2
comp=Z,37nm,1.4s
ANN Anapa 75.95 337 *eP* **P** **22 16 00.8 +1.3**
ANN pmax pmax
comp=Z,80nm,1.8s
KURK Kurchatov 76.19 6 P **P** **22 16 01.3 +0.5**
KURK pmax pmax
comp=Z,39nm,1.2s
KURK Kurchatov 76.19 6 P **P** **22 16 01.3 +0.5**
AKTO Aktyubinsk 76.27 352 *i* P **P** **22 16 00.5 -0.7**
AKTO pmax pmax
comp=Z,10.0nm,0.8s
DGZ Jazzator, Alta 76.39 12 *i* P **P** **22 16 01.0 -1.2**
HHC Hu-ho-hao-te 76.43 31 *eP* **P** **22 16 04.3 +1.8**
HHC pmax pmax
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 76.73 292 IAmb IAmb 22 16 06.2
comp=Z,22nm,1.4s
TORD Torodi Ar. Bea 76.73 292 P **P** **22 16 05.0 +0.3**
comp=Z,6.3nm,0.9s,baz=113,slow=5.9,SNR=31
TORD LR LR 22 48 23.7
comp=Z,366nm,21.0s,baz=15,slow=34
TORD Torodi Ar. Bea 76.73 292 P **P** **22 16 03.9 -0.7**
SIM Simferopol' 77.31 335 *eP* **P** **22 16 08.6 +1.4**
SIM *e* 22 16 19.8
SIM pmax pmax
comp=Z,11nm,1.0s
BJI Beijing 78.07 35 *eP* P 22 16 17.4 +5.9
BJI pmax pmax
comp=Z,11nm,1.1s
BJI LR LR
comp=N,440nm,26.5s
BJI LR LR
comp=E,380nm,22.7s
BJI LR LR
comp=Z,630nm,28.4s
BRVK Borovoye 78.16 0 P **P** **22 16 11.6 -0.1**
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 78.16 0 P **P** **22 16 11.6 -0.1**
BRVK IAmb IAmb 22 16 24.3
comp=Z,14nm,1.3s
TAM Tamanrasset 78.73 302 P **P** **22 16 16.1 +0.3**
TAM pmax pmax
comp=Z,12nm,1.4s
TAM Tamanrasset 78.73 302 P **P** **22 16 16.1 +0.3**
KIC Kosan Boka 79.05 282 *eP* **P** **22 16 18.0 +0.4**
comp=Z,29nm,1.1s
LIC Lamto 79.24 282 *eP* **P** **22 16 18.8 +0.2**
comp=Z,34nm,0.9s
TIRR Tirgusor 79.25 331 P **P** **22 16 18.8 +0.8**

TIRR pmax pmax
comp=Z,54nm,1.1s
TIRR Tirgusor 79.25 331 P P 22 16 18.8 +0.8
DBIC Dimbokro 79.29 283 P P 22 16 18.7 -0.2
DBIC pmax pmax
comp=Z,20nm,1.4s
DBIC Dimbokro 79.29 283 P P 22 16 19.1 +0.2
comp=Z,5.6nm,0.9s,baz=285,slow=2.4,SNR=4.6
DBIC LR LR 22 49 42.3
comp=Z,417nm,18.7s,baz=104,slow=34
DBIC Dimbokro 79.29 283 P P 22 16 18.7 -0.2
DBIC IAmb IAmb 22 16 37.5
comp=Z,20nm,1.4s
TIC Toumodi 79.42 283 *eP* **P 22 16 20.7 +1.0**
RASA Rasa 79.62 330 ⇓P P 22 16 28.1 +8.1
FNA Florina 79.85 325 P **P 22 16 21.6 +0.2**
FNA pmax pmax
comp=Z,15nm,1.2s
FNA Florina 79.85 325 P P 22 16 21.6 +0.2
CFR Carcaliu 79.94 331 ⇑P **P 22 16 22.1 +0.4**
CFR Carcaliu 79.94 331 ⇑P **P 22 16 22.1 +0.4**
SONM Songino Array 79.95 24 P **P 22 16 21.7 -0.2**
SONM pmax pmax
comp=Z,22nm,1.2s
SONM Songino Array 79.95 24 P P 22 16 22.1 +0.3
comp=Z,4.9nm,0.8s,baz=212,slow=4.5,SNR=35
SONM LR LR 22 50 22.0
comp=Z,312nm,22.0s,baz=192,slow=35
SONM Songino Array 79.95 24 P **P 22 16 21.6 -0.2**
ZAA0 Zalesovo Array 80.09 9 IAmb IAmb 22 16 35.2
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 80.09 9 P P 22 16 22.0 -0.3
comp=Z,9.8nm,0.8s,baz=205,slow=4.6,SNR=34
ZALV LR LR 22 51 54.7
comp=Z,149nm,18.0s,baz=187,slow=36
ZALV Zalesovo Beam 80.09 9 P P 22 16 21.6 -0.7
ULN Ulaanbaatar 80.22 24 *ce*P **P 22 16 23.3 -0.1**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 80.22 24 P P 22 16 23.2 -0.1
ULN IAmb IAmb 22 16 35.9
comp=Z,30nm,1.1s
VRH Novokhopyorsk 80.26 342 *eP* **P 22 16 21.8 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 81.00 341 *i* P **P 22 16 26.4 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
KRVT Keravat (AS076 81.00 90 LR LR 22 52 54.6
comp=Z,220nm,19.3s,baz=234,slow=36
VRI Vrincioaia 81.10 331 ⇑P **P 22 16 30.2 +2.3**
VRI Vrincioaia 81.10 331 ⇑P **P 22 16 30.2 +2.3**
PLOR Plostina 81.12 331 ⇓P **P 22 16 29.0 +0.9**
PLOR Plostina 81.12 331 ⇓P **P 22 16 29.0 +0.9**
MLR Muntele Rosu 81.15 330 P **P 22 16 29.0 +0.6**
MLR pmax pmax
comp=Z,42nm,1.3s
MLR Muntele Rosu 81.15 330 ⇓P **P 22 16 29.3 +0.9**
MLR Muntele Rosu 81.15 330 P **P 22 16 29.0 +0.6**
MLR IAmb IAmb 22 16 42.8
comp=Z,42nm,1.3s
VOIR 81.52 330 ⇓P **P 22 16 30.2 -0.1**
VOIR 81.52 330 ⇓P **P 22 16 30.2 -0.1**
ARR Arges 81.65 330 ⇓P **P 22 16 31.0 +0.1**
OZUR 81.69 331 ⇓P **P 22 16 31.0 -0.1**
DOPR Dopca 81.77 330 ⇓P **P 22 16 31.6 +0.1**
ARU Arti 82.11 354 *d i*P **P 22 16 33.3 +0.3**
ARU 22 19 38.8
ARU S **S 22 26 49.4 +3.2**
ARU pmax pmax
comp=Z,22nm,1.4s
ARU Arti 82.11 354 P P 22 16 33.7 +0.7
LOT Lotru 82.11 329 ⇓P **P 22 16 35.7 +2.2**
SORM Soroca 82.20 333 ⇓P **P 22 16 33.3 -0.3**
SORM Soroca 82.20 333 ⇓P **P 22 16 33.3 -0.3**
BIZ Bicaz 82.20 331 ⇓P **P 22 16 33.8 +0.1**
LPSR Galich'ya Gora 82.29 341 *eP* **P 22 16 32.9 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SVE Sverdlovsk 82.31 355 *eP* **P 22 16 35.2 +1.2**
SVE pmax pmax
comp=Z,42nm,1.4s
HERR Herculane 82.33 328 ⇓P **P 22 16 34.8 +0.4**
GZR Gura Zlata 82.53 329 ⇓P **P 22 16 35.9 +0.3**
GZR Gura Zlata 82.53 329 ⇓P **P 22 16 35.9 +0.3**
MDVR Moldovita 82.59 328 ⇓P **P 22 16 36.0 +0.1**
DEV Deva 82.84 329 ⇓P **P 22 16 38.3 +1.2**
DEV Deva 82.84 329 ⇓P **P 22 16 38.3 +1.2**
KSAR Wonju Array Be 82.89 43 P **P 22 16 37.3 -0.2**
KSAR Wonju Array Be 82.89 43 P **P 22 16 37.3 -0.2**
KSRS Korea Array 82.93 43 P **P 22 16 36.8 -0.9**
comp=Z,3.4nm,0.8s,baz=223,slow=5.2,SNR=7.3
KSRS LR LR 22 52 30.7
comp=Z,238nm,18.9s,baz=226,slow=35
BURAR Bucovina Array 83.11 331 ⇓P **P 22 16 39.9 +1.3**
BURAR Bucovina Array 83.11 331 ⇓P **P 22 16 39.9 +1.3**
BURAR Bucovina Array 83.11 331 P **P 22 16 39.4 +0.8**
BUR08 Bucovina Ar. S 83.14 331 IAmb IAmb 22 16 41.2
comp=Z,17nm,1.5s
CJR Cluj-Napoca 83.14 330 ⇓P **P 22 16 39.6 +0.9**
CJR Cluj-Napoca 83.14 330 ⇓P **P 22 16 39.6 +0.9**
BZS Buzias 83.25 328 ⇓P **P 22 16 39.1 -0.1**
BZS Buzias 83.25 328 ⇓P **P 22 16 39.1 -0.1**
KEST Kesra 83.53 314 LR LR 22 52 37.0
comp=Z,244nm,20.5s,baz=20,slow=35
DRGR 83.61 329 ⇓P **P 22 16 41.6 +0.5**
DRGR 83.61 329 ⇓P **P 22 16 41.6 +0.5**
SIRR Siria 83.71 329 ⇓P **P 22 16 42.4 +0.9**
BHW Baring Head 83.89 133 P **P 22 16 42.7 -0.2**
AKASG Malin Array Be 83.91 335 *ce*P **P 22 16 42.5 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 83.91 335 P **P 22 16 42.6 +0.2**
comp=Z,3.3nm,0.6s,baz=146,slow=4.4,SNR=17
AKASG LR LR 22 55 41.8
comp=Z,48nm,18.3s,baz=125,slow=37
AKASG Malin Array Be 83.91 335 P **P 22 16 42.3 -0.1**
AKBB Malin Array Si 83.91 335 IAmb IAmb 22 16 44.5
comp=Z,7.6nm,0.8s
TRPA Tarpa 84.68 330 ⇓P **P 22 16 47.1 +0.7**
UZH Uzhgorod 85.16 331 *eP* **P 22 16 47.4 -1.4**
OBN Obninsk 85.17 341 *eP* **P 22 16 48.5 -0.2**
OBN *e*PPP PPP 22 22 01.6
OBN pmax pmax
comp=Z,12nm,1.6s
KOLS Kolonicke sedl 85.39 331 *eP* **P 22 16 52.8 +2.8**
KOLS Kolonicke sedl 85.39 331 *eP* **P 22 16 52.8 +2.8**
MOS Moscow 85.42 342 *eP* P 22 16 56.2 +6.3
HIA Hailar 86.57 30 *i* P **P 22 16 55.7 -0.2**
HIA pmax pmax
comp=Z,43nm,1.4s
VYHS Vyhne 86.64 329 *eP* **P 22 16 56.8 +0.6**
VYHS Vyhne 86.64 329 *eP* **P 22 16 56.8 +0.6**
LANS Liptovska Anna 86.82 330 *eP* **P 22 16 58.6 +1.5**
LANS pmax pmax
comp=Z,9.0nm,1.1s
LANS Liptovska Anna 86.82 330 *eP* **P 22 16 58.6 +1.5**
URZ Urewera 86.93 131 LR LR 22 48 27.5
comp=Z,111nm,20.0s,baz=256,slow=31
MODS Modra-Piesok 87.30 328 *eP* **P 22 16 59.0 -0.4**
MODS Modra-Piesok 87.30 328 *eP* **P 22 16 59.0 -0.4**
ARSA Arzberg 87.39 326 *eP* **P 22 17 01.0 +1.1**
comp=Z,8.3nm,1.0s
OJC Ojcow 87.43 330 IAmb IAmb 22 17 13.2
comp=Z,16nm,1.1s
JAVC Velka Javorina 87.45 328 *eP* **P 22 17 01.7 +1.5**
CONA Conrad Observa 87.68 327 *eP* **P 22 17 02.1 +0.7**
comp=Z,8.6nm,0.8s
MORC Moravsky Berou 88.15 329 ⇓P **P 22 17 04.0 +0.5**
MORC Moravsky Berou 88.15 329 ⇓P **P 22 17 04.0 +0.5**
MORC Moravsky Berou 88.15 329 *eP* **P 22 17 04.1 +0.5**
MORC Moravsky Berou 88.15 329 IAmb IAmb 22 17 04.9
comp=Z,7.3nm,0.9s
NACGM Naroch 88.16 337 *e* **P 22 17 05.0 +1.7**
KRUC Moravsky 88.19 328 *eP* **P 22 17 04.1 +0.4**
VRAC Vranov 88.27 328 *eP* **P 22 17 04.7 +0.7**
KBA Koelnbreinsper 88.38 325 P **P 22 17 05.2 +0.3**
comp=Z,16nm,0.9s
MOA Molln 88.42 326 *eP* **P 22 17 05.4 +0.6**
comp=Z,10nm,0.8s
ABTA Abfaltersbach 88.60 325 *eP* **P 22 17 06.7 +1.0**
comp=Z,10nm,0.9s,SNR=6.5
PRGR Permogore 88.96 349 *eP* P 22 16 59.1 -7.8
PRGR pmax pmax
comp=Z,15nm,1.0s
MJAR Matsushiro Arr 89.04 48 LR LR 22 57 11.7
comp=Z,178nm,18.6s,baz=265,slow=36
DPC Dobruska-Polom 89.11 329 *eP* **P 22 17 08.7 +0.7**
DPC Dobruska-Polom 89.11 329 *eP* **P 22 17 08.7 +0.7**
GERES GERESS Array B 89.36 327 P **P 22 17 09.1 -0.2**
comp=Z,1.4nm,0.8s,baz=123,slow=4.9,SNR=8.3
GERES GERESS Array B 89.36 327 P **P 22 17 08.5 -0.8**
WTTA Wattenberg 89.39 325 P **P 22 17 10.1 +0.5**
comp=Z,9.6nm,0.9s,SNR=6.2
WATA Walderalm 89.47 325 P **P 22 17 10.5 +0.6**
comp=Z,8.3nm,1.0s
KLMR Klimovskoe 89.47 346 *eP* **P 22 17 08.6 -0.8**
KLMR pmax pmax
comp=Z,86nm,1.4s
KLMR Klimovskoe 89.47 346 *eP* **P 22 17 08.6 -0.8**
KLMR AMP 22 17 23.2
comp=Z,86nm,1.4s
USRK Ussuriysk Ar. 89.52 39 P **P 22 17 10.3 +0.3**
USRK Ussuriysk Ar. 89.52 39 LR LR 22 56 46.6
comp=Z,237nm,19.3s,baz=224,slow=35
USRK Ussuriysk Ar. 89.52 39 P **P 22 17 10.3 +0.3**
GOPC GO Pecny, Ondr 89.54 328 *eP* **P 22 17 10.4 +0.4**
GOPC GO Pecny, Ondr 89.54 328 *eP* **P 22 17 10.4 +0.4**
GOPC *ex* x 22 17 22.0
SQTA Sankt Quirin 89.59 324 *eP* **P 22 17 11.0 +0.6**
comp=Z,12nm,0.9s,SNR=7.4
KHC Kasperske Hory 89.61 327 *eP* **P 22 17 10.0 -0.4**
KHC Kasperske Hory 89.61 327 *eP* **P 22 17 10.0 -0.4**
KHC *ex* x 22 17 22.3
FETA Feichten 89.72 324 P **P 22 17 12.0 +0.9**
comp=Z,11nm,0.9s,SNR=11
MOTA Moosalm 89.72 324 *eP* **P 22 17 11.7 +0.6**
comp=Z,9.0nm,0.8s
RETA Reutte 89.99 324 P **P 22 17 13.0 +0.7**
comp=Z,8.3nm,0.8s
DAVA Damuels 90.33 324 P **P 22 17 14.9 +1.0**
comp=Z,12nm,0.9s
KLR Kul'dur 92.42 35 *i* P **P 22 17 22.5 -0.9**
KLR pmax pmax
comp=Z,4.0nm,1.1s
KLR Kul'dur 92.42 35 P **P 22 17 21.9 -1.5**
comp=Z,0.4nm,0.3s,baz=200,slow=8.6,SNR=3.0
FINES FINESS Array B 93.52 341 LR LR 22 58 24.4
comp=Z,131nm,18.8s,baz=136,slow=35
ESDC Sonseca Array 94.50 312 P **P 22 17 33.6 +0.3**
comp=Z,1.3nm,0.7s,baz=118,slow=3.4,SNR=6.8
ESDC LR LR 22 58 43.1
comp=Z,146nm,20.7s,baz=140,slow=35
ESDC Sonseca Array 94.50 312 P **P 22 17 32.8 -0.4**
NRIK Noril'sk 95.36 6 LR LR 23 00 58.2
comp=Z,215nm,20.2s,baz=208,slow=36
LVZ Lovozero 96.67 347 *ce*P **P 22 17 42.3 -0.2**
LVZ pmax pmax
comp=Z,28nm,1.4s
BILL Bilibino 115.66 25 *e*PKIKP **PKPdf 22 22 54.5 +0.2**
BILL *e* 22 24 02.4
BILL pmax pmax
comp=Z,2.0nm,1.2s
IMAR Indian Mountai 131.08 22 PKPdf 22 23 24.1 +0.1
ILAR Eielson Array 134.10 21 PP PP 22 26 00.8 +0.3
comp=Z,0.5nm,1.0s,baz=298,slow=4.7,SNR=3.1
INK Inuvik 134.81 12 PKP **PKPdf 22 23 30.8 -0.1**
comp=Z,1.0nm,0.8s,baz=90,slow=1.0,SNR=3.0
RAGM Ragged Mountai 137.74 25 PKPpre 22 23 26.6
OTAV Otavalo 140.54 235 PKIKP **PKiKP 22 23 45.3 -1.0**
OTAV Otavalo 140.54 235 PKiKP 22 23 45.3 -1.0
FFC Flin Flon 150.14 351 PKIKP **PKPab 22 24 07.8 -1.5**
FFC Flin Flon 150.14 351 PKPab 22 24 07.8 -1.5
Q51A Peebles 153.78 308 PKPdf 22 24 02.0 -2.2
FXWY Fox Creek 161.82 2 PKPdf 22 24 17.7 +3.4
X40A Basin Creek Fa 162.59 305 PKPab 22 25 03.5 +0.2
PDAR Pinedale Array 162.70 359 PKP **PKPdf 22 24 14.8 -0.4**
comp=Z,1.8nm,1.0s,baz=116,slow=3.4,SNR=5.9
PDAR PKPab **PKPab 22 25 02.2 -1.5**
comp=Z,0.5nm,0.8s,baz=18,slow=3.8,SNR=2.3
PDAR Pinedale Array 162.70 359 PKPdf 22 24 16.5 +1.3
HWUT Hardware Ranch 163.82 4 PKPab 22 25 09.0 +0.4
NVAR Mina Array Bea 165.27 26 PKP **PKPdf 22 24 16.6 -1.1**
comp=Z,0.3nm,0.8s,baz=222,slow=2.0,SNR=4.4
NVAR PKPab **PKPab 22 25 14.3 -0.8**
comp=Z,0.1nm,0.3s,baz=344,slow=5.6,SNR=2.7
NVAR Mina Array Bea 165.27 26 PKPdf 22 24 17.7 0.0
MNTX Cornudas Mount 172.54 328 PKPdf 22 24 23.1 +0.9
TXAR Lajitas Array 173.13 306 PKIKP **PKPdf 22 24 22.8 +0.1**
TXAR Lajitas Array 173.13 306 PKP **PKPdf 22 24 22.6 0.0**
comp=Z,0.7nm,0.9s,baz=134,slow=3.6,SNR=5.3
TXAR PKPab **PKPab 22 25 50.7 +0.5**
comp=Z,0.3nm,0.6s,baz=66,slow=5.1,SNR=3.3
TXAR PP PP 22 29 50.1 +8.3
comp=Z,0.4nm,0.9s,baz=72,slow=3.9,SNR=3.7
TXAR Lajitas Array 173.13 306 PKPdf 22 24 22.8 +0.1

ISCJB ***24*** *22:07:15.5±0.5,25°.49S±0°.10×70°.23E±0°.09,h21km, mb4.1/15,Error ellipse: s-maj=14.4km s-min=11.4km az=15.3*
NEIC ***24*** *22:07:15.1±0.8,25°.6S±0°.2×70°.1E±0°.1,h10km±3km, mb4.5/15*
IDC ***24*** *22:07:15.0±0.6,25°.45S×70°.08E,h0km,mb4.2/15, mb1 4.3/15,mb1mx4.1/41,mbtmp4.2/15,Error ellipse: s-maj=18.8km s-min=16.8km az=173.0*
ISC 24 22:07:17.8±0.6,25°.4S±0°.1×70°.1E±0°.1,h21km,n48, σ0°.94/38,mb4.4/23,1C,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.84**	**8**	T	T	22 29 48.3	
baz=186							
H08S2	**Diego Garcia H**	**17.84**	**8**	T	T	22 29 41.0	
baz=186,slow=74							
H08S3	**Diego Garcia H**	**17.86**	**8**	T	T	22 29 42.6	
baz=186,slow=74							
H08N3	**Diego Garcia H**	**19.00**	**3**	T	T	22 31 09.0	
baz=177							
H08N1	**Diego Garcia H**	**19.01**	**3**	T	T	22 31 08.7	
baz=177							
H08N2	**Diego Garcia H**	**19.02**	**3**	T	T	22 31 14.0	
baz=177							
OPO	**Ambohidratompo**	**22.31**	**283**	P	**P**	**22 12 13.7**	**-0.5**
3.8nm,0.9s,baz=99,slow=13,SNR=1.9							
H01W2	**Cape Leeuwin H**	**38.95**	**115**	T	T	22 56 25.2	
baz=272							
H01W3	**Cape Leeuwin H**	**38.95**	**115**	T	T	22 56 22.7	
baz=272							
H01W1	**Cape Leeuwin H**	**38.96**	**115**	T	T	22 56 27.9	
baz=272							
KMBO	**Kilima Mbogo**	**39.85**	**302**	P	**P**	**22 14 51.5**	**+1.1**
0.7nm,0.6s,baz=101,slow=10,SNR=2.6							
KMBO	**Kilima Mbogo**	**39.85**	**302**	P	**P**	**22 14 49.7**	**-0.7**
KMBO				IAmb	IAmb	22 14 54.2	
comp=Z,6.1nm,1.6s							
BOSA	**Boshof**	**39.91**	**255**	P	**P**	**22 14 51.2**	**+0.5**
comp=Z,4.0nm,1.0s,baz=88,slow=5.8,SNR=2.7							
BOSA	**Boshof**	**39.91**	**255**	P	**P**	**22 14 49.6**	**-1.1**
BOSA				IAmb	IAmb	22 14 57.7	
comp=Z,65nm,1.9s							
SYO	**Syowa Base**	**47.22**	**194**	⇑*e*X	P	22 15 40.2	-8.6
CMAR	**Chiang Mai Arr**	**51.87**	**36**	P	**P**	**22 16 26.1**	**+1.3**
comp=Z,4.2nm,0.9s,baz=228,slow=6.8,SNR=15							
SHL	**Shillong**	**54.90**	**24**	P	**P**	**22 16 46.0**	**-1.2**
SHL				IAmb	IAmb	22 16 50.8	
comp=Z,9.5nm,1.0s							
ASAR	**Alice Springs**	**57.54**	**103**	P	**P**	**22 17 07.3**	**+1.2**
comp=Z,3.5nm,0.8s,baz=248,slow=6.5,SNR=16							
ASAR	**Alice Springs**	**57.54**	**103**	P	**P**	**22 17 06.2**	**0.0**
AS31	**Alice Springs**	**57.54**	**103**	P	**P**	**22 17 04.8**	**-1.3**
AS31				IAmb	IAmb	22 17 08.0	
comp=Z,1.3nm,0.7s							
WRA	**Warramunga Arr**	**59.02**	**99**	P	**P**	**22 17 17.2**	**+0.7**
comp=Z,2.6nm,0.9s,baz=255,slow=7.0,SNR=7.5							
WRA	**Warramunga Arr**	**59.02**	**99**	P	**P**	**22 17 15.5**	**-1.0**
WRA				IAmb	IAmb	22 17 20.4	
comp=Z,1.1nm,1.9s							
WB2	**Warramunga Arr**	**59.03**	**99**	P	**P**	**22 17 13.8**	**-2.7**
WB2				IAmb	IAmb	22 17 20.2	
comp=Z,38nm,1.9s							
WB0	**Warramunga Arr**	**59.12**	**99**	P	**P**	**22 17 15.3**	**-1.8**
WB0				IAmb	IAmb	22 17 21.3	
comp=Z,7.8nm,1.4s							
WR0	**Warramunga Arr**	**59.20**	**99**	P	**P**	**22 17 16.3**	**-1.4**
WR0				IAmb	IAmb	22 17 19.9	
comp=Z,2.5nm,0.9s							
SNAA	**Sanae**	**60.72**	**200**	P	**P**	**22 17 28.0**	**+0.6**
comp=Z,1.1nm,0.9s,baz=223,slow=7.0,SNR=2.7							
QSPA	**South Pole Qui**	**64.69**	**180**	P	**P**	**22 17 54.4**	**+0.3**
comp=Z,7.0nm,1.0s,baz=289,slow=6.6,SNR=6.0							
KKAR	**Karatay Array**	**68.20**	**0**	P	**P**	**22 18 16.3**	**-0.2**
MK31	**Makanchi Array**	**72.73**	**9**	P	**P**	**22 18 44.2**	**+0.1**
MK31				IAmb	IAmb	22 18 51.5	
comp=Z,3.9nm,1.0s							
MKAR	**Makanchi Array**	**72.73**	**9**	P	**P**	**22 18 44.3**	**+0.2**
comp=Z,2.7nm,0.8s,baz=196,slow=5.8,SNR=9.3							
MKAR	**Makanchi Array**	**72.73**	**9**	P	**P**	**22 18 44.1**	**0.0**
BR131	**Keskin Array S**	**73.22**	**331**	P	**P**	**22 18 47.3**	**+0.1**
BR131				IAmb	IAmb	22 18 50.4	
comp=Z,8.2nm,1.4s							
BRTR	**Keskin Array B**	**73.22**	**331**	P	**P**	**22 18 48.2**	**+1.0**
comp=Z,2.1nm,0.9s,baz=148,slow=6.7,SNR=9.0							
BRTR	**Keskin Array B**	**73.22**	**331**	P	**P**	**22 18 47.5**	**+0.3**
ABKAR	**Akbulak array**	**74.91**	**353**	P	**P**	**22 18 56.6**	**-0.2**
ABKAR	**Akbulak array**	**74.91**	**353**	P	**P**	**22 18 56.8**	**+0.1**
ABKAR				IAmb	IAmb	22 18 59.6	
comp=Z,3.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.86**	**292**	P	**P**	**22 19 09.1**	**+0.4**
comp=Z,1.7nm,0.8s,baz=98,slow=4.8,SNR=6.4							
TORD	**Torodi Ar. Bea**	**76.86**	**292**	P	**P**	**22 19 07.8**	**-0.8**
TORD				IAmb	IAmb	22 19 10.2	
comp=Z,1.8nm,0.9s							
SONM	**Songino Array**	**79.90**	**24**	P	**P**	**22 19 26.2**	**+1.3**
comp=Z,2.3nm,0.9s,baz=203,slow=5.3,SNR=8.7							
SONM	**Songino Array**	**79.90**	**24**	P	**P**	**22 19 25.0**	**+0.1**
SONM				IAmb	IAmb	22 19 33.8	
comp=Z,4.5nm,0.9s							
ZALV	**Zalesovo Beam**	**80.07**	**9**	P	**P**	**22 19 25.9**	**+0.4**
comp=Z,2.0nm,0.6s,baz=199,slow=5.2,SNR=7.1							
ZALV	**Zalesovo Beam**	**80.07**	**9**	P	**P**	**22 19 25.1**	**-0.4**
ULN	**Ulaanbaatar**	**80.17**	**24**	P	**P**	**22 19 25.4**	**-1.0**
ULN				IAmb	IAmb	22 19 29.6	
comp=Z,3.4nm,0.8s							
KSRS	**Korea Array**	**82.84**	**43**	P	**P**	**22 19 41.4**	**+0.8**
comp=Z,1.8nm,0.8s,baz=231,slow=6.2,SNR=3.8							
AKASG	**Malin Array Be**	**83.97**	**335**	P	**P**	**22 19 46.3**	**+0.2**
comp=Z,0.5nm,0.5s,baz=137,slow=3.7,SNR=4.3							
AKASG	**Malin Array Be**	**83.97**	**335**	P	**P**	**22 19 45.7**	**-0.4**
AKASG				IAmb	IAmb	22 19 48.0	
comp=Z,1.4nm,0.8s							
LPAZ	**La Paz**	**121.92**	**229**	PKP	**PKPdf**	**22 26 12.1**	**0.0**
comp=Z,0.6nm,0.4s,baz=354,slow=1.9,SNR=3.4							
LPAZ	**La Paz**	**121.92**	**229**	**PKPdf**	**22 26 11.3**	**-0.8**	

IDC ***24*** *22:13:24.3±0.7,25°.57S×69°.90E,h0km,mb4.1/13, mb1 4.2/13,mb1mx4.0/39,mbtmp4.1/13,MS4.1/3, Ms1 4.0/3,ms1mx3.4/36,Error ellipse: s-maj=21.7km s-min=17.2km az=12.0*
ISCJB ***24*** *22:13:25.3±0.4,25°.61S±0°.09×70°.01E±0°.08,h21km, mb4.0/13,MS4.1/3,Error ellipse: s-maj=12.8km s-min=10.1km az=17.4*
NEIC ***24*** *22:13:26.2±1.3,25°.6S±0°.1×69°.9E±0°.1,h15km±4km, mb4.7/26*
GCMT ***24*** *22:13:29.2±0.4,24°.95S±0°.05×69°.77E±0°.02,h27km±1km, MW5.0/72,Moment Tensor Solution. s16,c16; s72,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.18±.29; Mθθ0.98±.17; Mφφ2.21±.18; Mrθ1.04±.30; Mθφ-1.35±.09; Mφr1.37±.23; Best double couple: M0=3.51300×10^16 NP1:φs169.00000°,δ55.00000°,λ-63.00000°. NP2: φs308.00000°,δ43.00000°,λ-122.00000°. Principal axes: T 3.1420, Plg6.0000°, Azm241.0000°; N 0.7500, Plg22.0000°, Azm333.0000°; P -3.8840, Plg68.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 22:13:27.1±0.6,25°.6S±0°.1×70°.0E±0°.1,h21km,n58, σ0°.68/47,mb4.5/23,MS4.1/3,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.02**	**8**	T	T	22 35 52.3	
baz=188,slow=76,SNR=44							
H08S2	**Diego Garcia H**	**18.02**	**8**	T	T	22 35 47.7	
baz=188,slow=76,SNR=102							
H08S3	**Diego Garcia H**	**18.04**	**8**	T	T	22 35 53.5	
baz=188,slow=76,SNR=53							
H08N3	**Diego Garcia H**	**19.18**	**3**	T	T	22 37 10.5	
baz=174,slow=75							
H08N1	**Diego Garcia H**	**19.18**	**3**	T	T	22 37 07.1	
baz=174,slow=75							
H08N2	**Diego Garcia H**	**19.20**	**3**	T	T	22 37 15.1	
baz=174,slow=75							
OPO	**Ambohidratompo**	**22.23**	**284**	P	**P**	**22 18 22.1**	**-0.6**
2.0nm,0.8s,baz=109,slow=11,SNR=1.9							
H01W2	**Cape Leeuwin H**	**38.99**	**114**	T	T	23 02 37.9	
baz=270							
H01W3	**Cape Leeuwin H**	**38.99**	**114**	T	T	23 02 33.7	
baz=270							
H01W1	**Cape Leeuwin H**	**39.01**	**114**	T	T	23 02 36.2	
baz=270							
BOSA	**Boshof**	**39.75**	**255**	P	**P**	**22 20 59.1**	**+0.5**
6.8nm,1.0s,baz=102,slow=8.1,SNR=5.4							
BOSA				LR	LR	22 34 32.9	
comp=Z,386nm,19.6s,baz=86,slow=32							
BOSA	**Boshof**	**39.75**	**255**	P	**P**	**22 20 58.9**	**+0.3**
BOSA				IAmb	IAmb	22 21 04.6	
comp=Z,54nm,1.9s							
KMBO	**Kilima Mbogo**	**39.84**	**302**	P	**P**	**22 20 59.5**	**-0.1**
comp=Z,1.3nm,0.8s,baz=136,slow=6.6,SNR=5.0							
KMBO	**Kilima Mbogo**	**39.84**	**302**	P	**P**	**22 20 59.0**	**-0.6**
MAW	**Mawson**	**42.24**	**184**	LR	LR	22 35 28.6	
comp=Z,174nm,18.5s,baz=47,slow=31							
PBKT	**Sadao Pong**	**51.65**	**39**	P	**P**	**22 22 32.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.90**	**94**	P	**P**	**22 22 35.8**	**+1.2**
FITZ				IAmb	IAmb	22 22 38.6	
comp=Z,12nm,1.1s							
CM31	**Chiang Mai Arr**	**52.08**	**36**	P	**P**	**22 22 35.0**	**-0.7**
CM31				IAmb	IAmb	22 22 38.7	
comp=Z,8.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**52.08**	**36**	P	**P**	**22 22 36.8**	**+1.0**
comp=Z,2.6nm,0.9s,baz=225,slow=7.5,SNR=15							
CMAR	**Chiang Mai Arr**	**52.08**	**36**	P	**P**	**22 22 35.3**	**-0.5**
KKM	**Kota Kinabalu**	**54.82**	**61**	P	**P**	**22 22 54.0**	**-2.2**
SHL	**Shillong**	**55.10**	**24**	P	**P**	**22 22 58.1**	**+0.1**
SHL				IAmb	IAmb	22 23 01.9	
comp=Z,9.2nm,1.1s							
ASAR	**Alice Springs**	**57.63**	**103**	P	**P**	**22 23 17.3**	**+1.2**
comp=Z,2.5nm,0.7s,baz=250,slow=6.6,SNR=25							
ASAR	**Alice Springs**	**57.63**	**103**	P	**P**	**22 23 16.3**	**+0.2**
AS31	**Alice Springs**	**57.63**	**103**	P	**P**	**22 23 17.1**	**+0.9**
LSA	**Lhasa**	**58.62**	**22**	P	**P**	**22 23 23.8**	**+0.5**
LSA				IAmb	IAmb	22 23 32.7	
comp=Z,6.6nm,1.1s							
WRA	**Warramunga Arr**	**59.12**	**99**	P	**P**	**22 23 27.6**	**+1.0**
comp=Z,1.5nm,0.7s,baz=255,slow=7.0,SNR=10.0							
WRA	**Warramunga Arr**	**59.12**	**99**	P	**P**	**22 23 27.3**	**+0.7**
WB2	**Warramunga Arr**	**59.13**	**99**	P	**P**	**22 23 26.1**	**-0.6**
WRAB	**Tennant Creek**	**59.13**	**99**	P	**P**	**22 23 26.1**	**-0.5**
WR0	**Warramunga Arr**	**59.30**	**99**	P	**P**	**22 23 27.7**	**-0.1**
SNAA	**Sanae**	**60.52**	**200**	P	**P**	**22 23 35.0**	**-0.4**
SNAA				IAmb	IAmb	22 23 39.5	
comp=Z,6.7nm,1.6s							
QSPA	**South Pole Qui**	**64.53**	**180**	P	**P**	**22 24 02.7**	**+0.4**
comp=Z,4.5nm,0.7s,baz=266,slow=2.3,SNR=11							
QSPA	**South Pole Qui**	**64.53**	**180**	P	**P**	**22 24 02.4**	**0.0**
QSPA				IAmb	IAmb	22 24 06.9	
comp=Z,8.9nm,1.0s							
BTK	**Batken**	**65.33**	**1**	P	**P**	**22 24 07.2**	**-0.5**
BTK				IAmb	IAmb	22 24 16.1	
comp=Z,16nm,1.6s							
AAK	**Ala-Archa**	**68.03**	**4**	P	**P**	**22 24 25.3**	**+0.3**
AAK				IAmb	IAmb	22 24 33.9	

TORD Torodi Ar. Bea 76.80 292 P P 22 25 17.7 0.0
comp=Z,2.7nm,1.0s,baz=123,slow=4.4,SNR=10
TORD Torodi Ar. Bea 76.80 292 P P 22 25 17.5 -0.2
SONM Songino Array 80.10 24 P P 22 25 36.7 +1.3
comp=Z,2.1nm,0.9s,baz=202,slow=4.9,SNR=13
SONM Songino Array 80.10 24 P P 22 25 36.0 +0.6
ZAA0 Zalesovo Array 80.26 9 P P 22 25 35.8 -0.1
ZAA0 IAmb IAmb 22 25 38.4
comp=Z,18nm,1.9s
ZALV Zalesovo Beam 80.26 9 P P 22 25 35.6 -0.3
comp=Z,1.4nm,0.6s,baz=202,slow=6.3,SNR=7.8
ZALV Zalesovo Beam 80.26 9 P P 22 25 36.0 +0.1
ULN Ulaanbaatar 80.37 24 P P 22 25 37.8 +1.0
MLR Muntele Rosu 81.31 330 P P 22 25 42.0 +0.1
JNU Nakatsue 82.26 48 LR LR 23 02 05.7
comp=Z,70nm,18.3s,baz=188,slow=36
BURAR Bucovina Array 83.26 331 P P 22 25 51.5 -0.5
AKASG Malin Array Be 84.07 335 P P 22 25 56.0 +0.1
comp=Z,0.2nm,0.4s,baz=127,slow=3.9,SNR=3.4
AKASG Malin Array Be 84.07 335 P P 22 25 55.2 -0.7

*TEH **24** 22:18:47.9, 34.°39N×45.°47E, h13km, ML3.3*
*ISN **24** 22:18:49.3±1.5, 34.°42N×45.°49E, h15km±5km, ML3.2*
ISC 24 22:18:48.4±1.1, 34.°44N±0.°03×45.°49E±0.°03, h10km±11km, n25, σ1°45/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.79**	**71**	IAMB	IAmb	22 19 16.5	
IDHR	comp=Z,0.0nm,0.4s						
				*e*Pg	**Pg**	**22 19 03.3**	**-0.3**
IGHG	**Ghaleghazi**	**0.90**	**97**	IAMB	IAmb	22 19 22.9	
IGHG	comp=Z,9μm,0.4s						
				*e*Pg	**Pg**	**22 19 05.5**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.30**	**97**	*e*Pg	**Pb**	**22 19 12.6**	**-0.5**
KCHF	comp=Z,0.0nm,0.3s			IAMB	IAmb	22 19 14.5	
				*e*Sg	**Sg**	**22 19 31.3**	**+1.1**
ILIN	**Lien**	**1.31**	**68**	*e*Pg	**Pb**	**22 19 13.2**	**-0.1**
ILIN	comp=Z,4μm,0.2s			IAMB	IAmb	22 19 17.2	
				*e*Sg	**Sg**	**22 19 32.9**	**+2.4**
IKRK	**Kirkuk**	**1.34**	**316**	*e*Pg	**Pg**	**22 19 14.0**	**-0.2**
IKRK	comp=Z,1μm,0.2s			AML	AML	22 19 18.7	
				*e*Sg	**Sg**	**22 19 33.0**	**+1.4**
KER	**Kermanshah**	**1.36**	**92**	*e*Pg	**Pg**	**22 19 14.0**	**-0.6**
KER				*e*Sg	**Sg**	**22 19 32.4**	**+0.1**
IBDR	**Badra**	**1.38**	**164**	*e*Pg	**Pg**	**22 19 15.0**	**+0.1**
IBDR	comp=Z,469nm,0.4s			AML	AML	22 19 19.5	
				*e*Sg	**Sg**	**22 19 31.5**	**-1.4**
BHD	**Baghdad**	**1.49**	**218**	*e*Pn	**Pg**	**22 19 17.0**	**0.0**
BHD				*e*Sn	**Sg**	**22 19 38.0**	**+1.7**
IKOM	**Komasi**	**1.70**	**99**	*e*Pn	**Pb**	**22 19 19.8**	**-0.1**
IKOM	comp=Z,0.0nm,0.7s			IAMB	IAmb	22 19 49.8	
				*e*Pn	**Pb**	**22 19 23.4**	**-1.1**
IBZA	**Bozab**	**1.96**	**89**				
IKFM	**Kafar-mosalman**	**2.17**	**114**	*e*Pn	**Pb**	**22 19 25.7**	**-2.0**
IKFM	comp=Z,0.0nm,0.5s			IAMB	IAmb	22 20 03.4	
				*e*Pn	**Pn**	**22 19 28.2**	**+1.3**
MAHB	**Mahabad**	**2.32**	**4**				
MAHB	comp=Z,0.0nm,0.4s			IAMB	IAmb	22 20 02.4	
				*e*Pn	**Pn**	**22 19 27.1**	**+0.1**
IDOB	**Doab**	**2.33**	**106**				
HSRG	**Sareghieh**	**2.43**	**70**	*e*Pn	**Pb**	**22 19 31.0**	**-1.5**
IKMR	**Kamar-syah**	**2.58**	**110**	*e*Pn	**Pn**	**22 19 31.2**	**+1.0**
IKMR	comp=Z,0.0nm,0.3s			IAMB	IAmb	22 19 31.9	
				*e*Pn	**Pn**	**22 19 31.7**	**+1.0**
HSAM	**Samen**	**2.59**	**94**				
MSL	**Mosul**	**2.75**	**316**	*e*Pn	**Pb**	**22 19 35.0**	**-2.7**
MSL	comp=Z,232nm,0.4s			AML	AML	22 19 45.9	
				*e*Sn	**Sb**	**22 20 09.0**	**-2.5**
MSL							
BDRS	**Dareh Seyedi**	**2.86**	**99**	*e*Pn	**Pn**	**22 19 35.1**	**+0.7**
HAGD	**Aghdareh**	**3.04**	**82**	*e*Pn	**Pn**	**22 19 38.4**	**+1.6**
HAGD	comp=Z,0.0nm,0.6s			IAMB	IAmb	22 20 31.9	
				*e*Pn	**Pn**	**22 19 44.0**	**+1.5**
NSR	**Nassriya**	**3.47**	**171**				
NSR	comp=Z,244nm,0.3s			AML	AML	22 19 50.4	
				*e*Sn	**Sn**	**22 20 25.0**	**+1.4**
NSR							
IRAZ	**Razeghan**	**3.77**	**74**	*e*Pn	**Pn**	**22 19 49.9**	**+3.0**
IRAZ	comp=N,438nm,0.9s			IAMB	IAmb	22 20 59.3	
				*e*Pn	**Pn**	**22 20 00.0**	**+2.7**
RTB	**Rutbah**	**4.54**	**253**				
RTB	comp=Z,41nm,0.4s			AML	AML	22 20 09.9	
				*e*Sn	**Sn**	**22 20 50.0**	**-0.2**
RTB							
IPIR	**Pirpir**	**4.84**	**110**	*e*Pn	**Pn**	**22 20 01.6**	**-0.1**
JHBN	**Jahan bin**	**4.87**	**116**	*e*Pn	**Pn**	**22 20 01.3**	**-0.7**
ZNGN	**Zangian**	**5.06**	**116**	*e*Pn	**Pn**	**22 20 04.5**	**-0.2**

IDC 24 22:33:31.0±1.7, 13.°81S×166.°53E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/25, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=50.6km s-min=30.0km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.22**	**181**	Pn	Pn	22 35 31.6	-0.1
DZM	0.3nm,0.3s,baz=7.3,slow=19,SNR=3.2			Sn	Sn	22 37 01.1	-4.2
WRA	**Warramunga Arr**	**31.37**	**254**	P	P	22 39 53.3	-0.5
H11S2	**WAKE ISLAND Hy**	**32.09**	**0**	T	T	23 14 19.8	
H11S3	**WAKE ISLAND Hy**	**32.10**	**0**	T	T	23 14 22.9	
H11S1	**WAKE ISLAND Hy**	**32.11**	**0**	T	T	23 14 24.3	
ASAR	**Alice Springs**	**32.34**	**248**	P	P	22 40 02.5	+0.1
H11N1	**WAKE ISLAND Hy**	**33.31**	**1**	T	T	23 15 52.2	
H11N3	**WAKE ISLAND Hy**	**33.32**	**1**	T	T	23 15 52.9	
H11N2	**WAKE ISLAND Hy**	**33.33**	**1**	T	T	23 15 53.6	
ILAR	**Eielson Array**	**85.88**	**18**	P	P	22 46 12.1	-0.2
MKAR	**Makanchi Array**	**96.05**	**317**	P	P	22 47 00.8	+0.4

*ISCJB **24** 22:50:22.1±0.4, 31.°70S±0.°03×179.°58W±0.°08, h200km, mb4.3/4, Error ellipse: s-maj=9.8km s-min=3.3km az=8.5*
*NEIC **24** 22:50:23.4±1.5, 31.°73S±0.°07×179.°5W±0.°1, h206km±7km, mb4.5/20*
*IDC **24** 22:50:25.1±1.0, 31.°85S×179.°35W, h220km±9km, mb4.2/4, mb1 4.3/6, mb1mx3.7/37, mbtmp4.7/6, Error ellipse: s-maj=23.2km s-min=11.4km az=121.0*
ISC 24 22:50:23.4±0.5, 31.°79S±0.°05×179.°49W±0.°09, h200km, n126, σ1°82/148, mb4.5/14, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.86**	**29**	P	**Pn**	**22 51 14.8**	**+3.3**
GLKZ				S	**Sn**	**22 51 52.5**	**+3.6**
RAO	**Raoul Island**	**2.87**	**29**	P	**Pn**	**22 51 14.7**	**+3.2**
RAO	78nm,0.3s,baz=253,slow=20,SNR=5.3			S	**Sn**	**22 51 53.5**	**+4.4**
RAO	**Raoul Island**	**2.87**	**29**		**Pn**	**22 51 11.6**	**0.0**
RAO	518nm,0.3s,baz=71,slow=21,SNR=9.7				**Sn**	**22 51 49.0**	**-0.2**
RIZ	**Raoul Island**	**2.87**	**28**	P	**Pn**	**22 51 15.4**	**+3.9**
RIZ				S	**Sn**	**22 51 53.9**	**+4.8**
MXZ	**Matakaoa Point**	**6.04**	**197**	P	**Pn**	**22 51 53.2**	**+2.1**
MXZ				S	**Sn**	**22 53 02.6**	**+2.0**
MXZ	**Matakaoa Point**	**6.04**	**197**	Pn	**Pn**	**22 51 52.8**	**+1.7**
MXZ					**Sn**	**22 53 02.5**	**+1.9**
GRZ	**Great Barrier**	**6.12**	**222**	P	Pn	22 51 58.7	+6.5
WMGZ	**Waiomatatini S**	**6.26**	**195**	P	**Pn**	**22 51 56.9**	**+2.9**
WMGZ				S	**Sn**	**22 53 08.2**	**+2.5**
HAZ	**Te Kaha**	**6.36**	**200**	P	**Pn**	**22 51 58.5**	**+3.2**
HAZ				S	**Sn**	**22 53 11.6**	**+3.5**
PKGZ	**Pakihiroa**	**6.41**	**198**	P	**Pn**	**22 51 58.3**	**+2.4**
PKGZ				S	**Sn**	**22 53 10.1**	**+0.9**
PUZ	**Puketiti**	**6.54**	**196**	P	**Pn**	**22 51 59.3**	**+1.7**
PUZ				S	**Sn**	**22 53 13.6**	**+1.4**
RUGZ	**Raukumara Rang**	**6.59**	**200**	P	**Pn**	**22 52 00.5**	**+2.2**
RUGZ				S	**Sn**	**22 53 13.1**	**-0.5**
WCZ	**Waipu Caves**	**6.59**	**229**	P	Pn	22 52 05.9	+7.6
OUZ	**Omahuta**	**6.71**	**238**	P	Pn	22 52 06.8	+7.0
OUZ	**Omahuta**	**6.71**	**238**		**Pn**	**22 52 01.1**	**+1.2**
MWZ	**Matawai**	**6.97**	**200**	P	**Pn**	**22 52 04.6**	**+1.3**
MWZ				S	**Sn**	**22 53 23.7**	**+1.2**
URZ	**Urewera**	**7.03**	**202**	P	**Pn**	**22 52 05.0**	**+1.0**
URZ	2.9nm,0.3s,baz=257,slow=4.2,SNR=23			S	**Sn**	**22 53 24.4**	**+0.5**
URZ	**Urewera**	**7.03**	**202**	P	**Pn**	**22 52 05.2**	**+1.3**
URZ				S	**Sn**	**22 53 25.0**	**+1.2**
URZ	**Urewera**	**7.03**	**202**		**Pn**	**22 52 05.2**	**+1.3**
URZ					**Sn**	**22 53 27.6**	**+3.7**
RAGZ	**Rawiri**	**7.16**	**200**	P	**Pn**	**22 52 07.1**	**+1.5**
RAGZ				S	**Sn**	**22 53 28.4**	**+1.5**
RTZ	**Ruatahuna**	**7.40**	**202**	P	**Pn**	**22 52 09.2**	**+0.4**
PRGZ	**Paritu Road**	**7.43**	**196**	P	**Pn**	**22 52 10.6**	**+1.4**
PRGZ				S	**Sn**	**22 53 32.6**	**-0.8**
SNGZ	**Shannon Statio**	**7.44**	**200**	P	**Pn**	**22 52 10.0**	**+0.7**
SNGZ				S	**Sn**	**22 53 33.7**	**0.0**
KNZ	**Kokohu**	**7.58**	**197**	P	**Pn**	**22 52 11.2**	**+0.1**
RAHZ	**Arahi**	**7.64**	**201**	P	**Pn**	**22 52 13.1**	**+1.2**
RAHZ				S	**Sn**	**22 53 39.0**	**+0.7**
MHGZ	**Mahia Peninsul**	**7.65**	**195**	P	**Pn**	**22 52 12.4**	**+0.4**
MHGZ				S	**Sn**	**22 53 37.2**	**-1.2**
MTHZ	**Maungataniwha**	**7.66**	**202**	P	**Pn**	**22 52 13.0**	**+0.8**
MTHZ				S	**Sn**	**22 53 40.1**	**+1.3**
WHHZ	**Waihua**	**7.75**	**199**	P	**Pn**	**22 52 14.3**	**+1.0**
WHHZ				S	**Sn**	**22 53 41.6**	**+0.8**
BKZ	**Black Stump Fm**	**8.06**	**203**	Pn	**Pn**	**22 52 19.2**	**+1.8**
HIZ	**Hauiti**	**8.15**	**213**	P	**Pn**	**22 52 23.1**	**+4.6**
HIZ	**Hauiti**	**8.15**	**213**	Pn	**Pn**	**22 52 19.8**	**+1.2**
MCHZ	**McNeill Hill**	**8.24**	**201**	P	**Pn**	**22 52 19.5**	**-0.3**
MCHZ				S	**Sn**	**22 53 53.2**	**+0.6**
KWHZ	**Kaweka Forest**	**8.31**	**202**	P	**Pn**	**22 52 20.4**	**-0.3**
KWHZ				S	**Sn**	**22 53 53.6**	**-0.7**
CKHZ	**Cape Kidnapper**	**8.33**	**199**	P	**Pn**	**22 52 20.3**	**-0.6**
CKHZ				S	**Sn**	**22 53 52.9**	**-1.7**
TWVZ	**Taurewa**	**8.36**	**208**	P	**Pn**	**22 52 23.2**	**+1.9**
NGZ	**Ngauruhoe**	**8.39**	**207**	P	**Pn**	**22 52 22.5**	**+0.7**
TUVZ	**Tukino**	**8.45**	**207**	P	**Pn**	**22 52 25.6**	**+3.0**
FWVZ	**Far West T-bar**	**8.47**	**207**	P	**Pn**	**22 52 23.5**	**+0.5**
BHHZ	**Black Hill Sta**	**8.49**	**204**	P	**Pn**	**22 52 22.6**	**-0.5**
TRVZ	**Turoa**	**8.51**	**207**	P	**Pn**	**22 52 25.8**	**+2.3**
KAHZ	**Kahuranaki**	**8.52**	**199**	P	**Pn**	**22 52 22.6**	**-0.8**
KRHZ	**Kereru**	**8.53**	**202**	P	**Pn**	**22 52 22.2**	**-1.3**
KRHZ				S	**Sn**	**22 53 57.6**	**-1.8**
MOVZ	**Moawhango**	**8.53**	**206**	P	**Pn**	**22 52 23.7**	**+0.1**
MTVZ	**Mangateitei**	**8.62**	**207**	P	**Pn**	**22 52 25.6**	**+0.9**
PXZ	**Pawanui**	**8.74**	**199**	P	**Pn**	**22 52 24.9**	**-1.3**
PNHZ	**Pukenui**	**8.83**	**202**	P	**Pn**	**22 52 25.7**	**-1.7**
PRHZ	**Porangahau**	**9.02**	**199**	P	**Pn**	**22 52 28.7**	**-1.2**
TSZ	**Takapari Road**	**9.04**	**203**	P	**Pn**	**22 52 28.7**	**-1.4**
PKE	**Pukeiti**	**9.10**	**214**	P	**Pn**	**22 52 35.4**	**+4.4**
DVHZ	**Dannevirke**	**9.19**	**201**	P	**Pn**	**22 52 31.0**	**-1.1**
ANWZ	**Angora Road**	**9.25**	**200**	P	**Pn**	**22 52 31.7**	**-1.1**
POWZ	**Post Office Ro**	**9.40**	**203**	P	**Pn**	**22 52 33.9**	**-0.9**
PRWZ	**Pori Road**	**9.48**	**201**	P	**Pn**	**22 52 35.7**	**-0.2**
BFZ	**Birch Farm**	**9.52**	**200**	P	**Pn**	**22 52 34.1**	**-2.2**
BFZ	**Birch Farm**	**9.52**	**200**	Pn	**Pn**	**22 52 34.1**	**-2.2**
MRZ	**Mangatainoka R**	**9.71**	**203**	P	**Pn**	**22 52 36.3**	**-2.5**
TIWZ	**Tintock**	**9.71**	**201**	P	**Pn**	**22 52 37.0**	**-1.9**
CPWZ	**Castlepoint**	**9.74**	**200**	P	**Pn**	**22 52 38.5**	**-0.7**
HOWZ	**Holdsworth Sta**	**9.94**	**202**	P	**Pn**	**22 52 38.8**	**-3.0**
OGWZ	**Otaki Gorge**	**9.98**	**204**	P	**Pn**	**22 52 39.9**	**-2.4**
TMWZ	**Te Maipa**	**10.01**	**201**	P	**Pn**	**22 52 39.9**	**-2.9**
KIW	**Kapiti Island**	**10.12**	**205**	P	**Pn**	**22 52 41.5**	**-2.6**
MTW	**Mount Morrison**	**10.18**	**202**	P	Pn	22 52 40.0	-4.8
CAW	**Cannon Point**	**10.28**	**204**	P	**Pn**	**22 52 44.0**	**-2.2**
TRWZ	**Traveller**	**10.34**	**201**	P	**Pn**	**22 52 44.1**	**-2.9**
PAWZ	**Paruwai Farm**	**10.41**	**202**	P	**Pn**	**22 52 45.4**	**-2.4**
DUWZ	**D'Urville Isla**	**10.45**	**209**	P	**Pn**	**22 52 45.9**	**-2.4**
MSWZ	**Moikau Station**	**10.49**	**202**	P	**Pn**	**22 52 45.7**	**-3.2**
MSWZ	**Moikau Station**	**10.49**	**202**	Pn	**Pn**	**22 52 47.7**	**-1.2**
BHW	**Baring Head**	**10.61**	**204**	P	**Pn**	**22 52 47.1**	**-3.3**
PLWZ	**Palliser**	**10.63**	**202**	P	**Pn**	**22 52 47.5**	**-3.2**
PLWZ	**Palliser**	**10.63**	**202**	Pn	**Pn**	**22 52 49.4**	**-1.4**
TCW	**Tory Channel**	**10.65**	**206**	P	**Pn**	**22 52 47.6**	**-3.4**
TUWZ	**Tuamarina**	**10.97**	**207**	P	**Pn**	**22 52 51.5**	**-3.5**
NNZ	**Nelson**	**11.02**	**209**	P	**Pn**	**22 52 54.8**	**-0.9**
NNZ	**Nelson**	**11.02**	**209**	Pn	**Pn**	**22 52 54.8**	**-0.9**
QRZ	**Quartz Range**	**11.08**	**213**	P	**Pn**	**22 52 55.5**	**-0.9**
QRZ	**Quartz Range**	**11.08**	**213**	Pn	**Pn**	**22 52 56.5**	**+0.1**
CMWZ	**Cape Campbell**	**11.15**	**205**	Pn	**Pn**	**22 52 57.8**	**+0.5**
THZ	**Tophouse**	**11.67**	**209**	Pn	**Pn**	**22 53 04.6**	**+0.6**
LTZ	**Lake Taylor**	**12.78**	**209**	Pn	**Pn**	**22 53 17.0**	**-1.0**
RPZ	**Rata Peaks**	**14.05**	**209**	P	**Pn**	**22 53 30.9**	**-3.0**
RPZ	0.5nm,0.3s,baz=288,slow=6.4,SNR=4.4			S	S	22 55 56.6	-14
RPZ	**Rata Peaks**	**14.05**	**209**	P	**Pn**	**22 53 32.6**	**-1.3**
MSVF	**Nonsavu**	**14.17**	**350**	P	**Pn**	**22 53 35.5**	**-0.1**
FOZ	**Fox Glacier**	**14.45**	**213**	Pn	**Pn**	**22 53 38.2**	**-0.5**
LBZ	**Lake Benmore**	**14.96**	**210**		**Pn**	**22 53 45.0**	**0.0**
NIUE	**Niue**	**15.31**	**36**	P	**Pn**	**22 53 48.3**	**-1.2**
NIUE	comp=Z,57nm,0.9s			IAmb	IAmb	22 54 05.0	
WKZ	**Wanaka**	**15.82**	**211**		**P**	**22 53 55.0**	**-0.2**
KNTN	**Kanton**	**29.77**	**16**	P	**P**	**22 56 09.3**	**-2.2**
STKA	**Stephens Creek**	**32.95**	**259**	P	**P**	**22 56 41.3**	**+2.1**
STKA	comp=Z,4.3nm,0.7s,baz=104,slow=12,SNR=12 **Stephens Creek**	**32.95**	**259**	P	**P**	**22 56 40.0**	**+0.8**
BBOO	**Buckleboo**	**37.38**	**256**	P	**P**	**22 57 17.4**	**+0.3**
BBOO	comp=Z,8.7nm,0.8s			IAmb	IAmb	22 57 19.9	
COEN	**Coen**	**38.47**	**289**	P	**P**	**22 57 26.8**	**+0.5**
COEN	comp=Z,4.4nm,0.9s			IAmb	IAmb	22 57 28.4	
AS31	**Alice Springs**	**41.79**	**269**	P	**P**	**22 57 53.3**	**-0.2**
ASAR	**Alice Springs**	**41.79**	**269**	P	**P**	**22 57 54.0**	**+0.5**
ASAR	comp=Z,6.6nm,0.3s,baz=105,slow=7.5,SNR=84 **Alice Springs**	**41.79**	**269**	P	**P**	**22 57 52.9**	**-0.6**
WR0	**Warramunga Arr**	**42.73**	**275**	P	**P**	**22 58 01.2**	**+0.1**
WR0	comp=Z,13nm,1.0s			IAmb	IAmb	22 58 02.0	
WB2	**Warramunga Arr**	**42.89**	**274**	P	**P**	**22 58 02.5**	**+0.1**
WRAB	**Tennant Creek**	**42.90**	**274**	P	**P**	**22 58 02.1**	**-0.3**
WRAB	comp=Z,19nm,0.3s			IAmb	IAmb	22 58 03.0	
WRA	**Warramunga Arr**	**42.90**	**274**	P	**P**	**22 58 02.5**	**-0.1**
WRA	comp=Z,14nm,0.3s,baz=111,slow=8.0,SNR=321 **Warramunga Arr**	**42.90**	**274**	P	**P**	**22 58 02.0**	**-0.6**
WB0	**Warramunga Arr**	**42.93**	**275**	P	**P**	**22 58 02.9**	**+0.1**
MTN	**Manton Dam**	**48.97**	**281**	P	**P**	**22 58 49.0**	**-0.9**
MTN	comp=Z,21nm,1.1s			IAmb	IAmb	22 58 55.0	
KNRA	**Kununurra**	**49.56**	**276**	P	**P**	**22 58 53.6**	**-0.7**
KNRA	comp=Z,18nm,1.0s			IAmb	IAmb	22 58 55.4	
FITZ	**Fitzroy Crossi**	**51.10**	**272**	P	**P**	**22 59 05.1**	**-0.9**
SAUI	**Saumlaki**	**51.44**	**286**	P	**P**	**22 59 06.4**	**-2.0**
PSAD3	**Pilbara Seismi**	**54.58**	**265**	P	**P**	**22 59 30.7**	**-0.7**
PSAD3	comp=Z,16nm,1.1s			IAmb	IAmb	22 59 47.4	
MORW	**Morawa**	**54.92**	**255**	P	**P**	**22 59 33.6**	**-0.1**
MORW	comp=Z,8.0nm,1.0s			IAmb	IAmb	22 59 42.8	
QSPA	**South Pole Qui**	**58.32**	**180**	P	**P**	**23 00 00.3**	**+3.1**
QSPA	comp=Z,10nm,0.6s			IAmb	IAmb	23 00 00.9	
MAW	**Mawson**	**70.56**	**201**	P	**P**	**23 01 16.1**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=135,slow=5.7,SNR=3.7						
MAW	**Mawson**	**70.56**	**201**	P	**P**	**23 01 16.3**	**+0.1**
SYO	**Syowa Base**	**75.47**	**194⇑**	*i*P	**P**	**23 01 43.6**	**-1.4**
SYO	**Syowa Base**	**75.47**	**194⇑**	*e*PcP	**PcP**	**23 01 56.2**	**-0.9**
SNAA	**Sanae**	**76.80**	**179**	P	**P**	**23 01 53.8**	**+1.2**
SNAA	**Sanae**	**76.80**	**179**	P	**P**	**23 01 52.5**	**-0.1**
SNAA	comp=Z,4.9nm,0.9s			IAmb	IAmb	23 01 54.6	
VNA3	**Neumayer Olymp**	**77.00**	**177**	P	**P**	**23 01 54.8**	**+1.2**
VNA2	**Neumayer--Watz**	**77.42**	**177**	P	**P**	**23 01 57.5**	**+1.5**
VNA1	baz=182,slow=5.3 **Neumayer--Stat**	**77.66**	**177**	P	**P**	**23 01 57.4**	**+0.2**
MKAR	**Makanchi Array**	**117.68**	**310**	PKP	**PKPdf**	**23 08 43.5**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=83,slow=2.6,SNR=3.3						
MKAR	**Makanchi Array**	**117.68**	**310**		**PKPdf**	**23 08 43.9**	**-1.5**
KBZ	**Khabaz**	**144.80**	**302**	PKP	PKPbc	23 09 35.5	-0.2
	comp=Z,1.6nm,0.8s,baz=57,slow=3.6,SNR=6.1						
FINES	**FINESS Array B**	**145.98**	**338**	PKPbc	**PKPdf**	**23 09 37.1**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=50,slow=3.8,SNR=14						
NOA	**NORSAR Array B**	**149.91**	**350**	PKPbc	**PKPbc**	**23 09 48.1**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=16,slow=4.2,SNR=2.7						
AKASG	**Malin Array Be**	**151.59**	**320**	PKPbc	**PKPbc**	**23 09 52.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=51,slow=1.9,SNR=5.2						
BRTR	**Keskin Array B**	**152.10**	**296**	PKPbc	**PKPbc**	**23 09 53.9**	**-1.3**
BRTR	comp=Z,1.1nm,0.6s,baz=139,slow=2.9,SNR=7.3			PKPab	**PKPab**	**23 10 04.6**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=90,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**161.41**	**184**	PKPab	**PKPab**	**23 10 45.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=174,slow=3.9,SNR=12						

*IDC **24** 23:01:39.6±1.0, 37.°96N×142.°29E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/34, mbtmp3.7/8, ML2.7/3, MS2.6/2, Ms1 2.6/2, ms1mx2.4/49, Error ellipse: s-maj=24.9km s-min=20.1km az=98.0*
*JMA **24** 23:01:47.0±0.1, 37.°98N×141.°84E, h52km±1km, M3.6*
ISC 24 23:01:43.6±1.7, 37.°93N±0.°04×142.°13E±0.°07, h27km±12km, n31, σ1°61/38, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.65**	**306**	P	**Pn**	**23 01 57.9**	**+0.9**
JIKH				S	**Sb**	**23 02 05.5**	**+0.4**
JIO	**Ouri**	**0.81**	**311**	P	**Pn**	**23 01 59.8**	**+0.6**
JIO				S	**Sb**	**23 02 09.1**	**-0.5**
JMST	**Minamisoumatoc**	**1.01**	**259**	P	**Pn**	**23 02 02.1**	**+0.2**
JMST				S	**Sn**	**23 02 13.0**	**-2.2**
JKMT	**Kesennumamotoy**	**1.02**	**330**	P	**Pb**	**23 02 03.2**	**+0.6**
JKMT				S	**Sn**	**23 02 14.6**	**-1.0**
JMM	**Marumori**	**1.06**	**267**	P	**Pn**	**23 02 02.7**	**0.0**
JMM				S	**Sn**	**23 02 14.0**	**-2.6**
JFK	**Kawauchi**	**1.15**	**241**	P	**Pb**	**23 02 04.5**	**-0.2**
JFK				S	**Sn**	**23 02 16.9**	**-1.8**
JOU	**Okura**	**1.24**	**291**	P	**Pn**	**23 02 05.2**	**+0.1**
JOU				S	**Sn**	**23 02 18.8**	**-2.2**
JMK	**Ichinoseki**	**1.25**	**325**	P	**Pb**	**23 02 06.3**	**-0.2**
JMK				S	**Sn**	**23 02 20.1**	**-1.1**
JFT	**Otama**	**1.48**	**255**	P	**Pb**	**23 02 09.5**	**-1.0**
JFT				eS	**Sn**	**23 02 25.4**	**-1.6**
JYS	**Shiratake**	**1.66**	**281**	P	**Pn**	**23 02 11.3**	**+0.4**
JOM	**Ohasama**	**1.68**	**337**	P	**Pb**	**23 02 12.9**	**-0.9**
JOM				*e*S	**Sn**	**23 02 31.9**	**+0.1**
JYK	**Kaneyama**	**1.71**	**306**	P	**Pn**	**23 02 12.0**	**+0.4**
JYK				S	**Sn**	**23 02 31.2**	**-1.3**
JRG	**Rokugo**	**1.88**	**322**	P	**Pn**	**23 02 15.3**	**+1.4**
JYA	**Atsumi**	**2.02**	**290**	P	**Pn**	**23 02 16.1**	**+0.3**
MJAR	**Matsushiro Arr**	**3.42**	**247**	Pn	**Pn**	**23 02 36.8**	**+1.6**
MJAR	0.3nm,0.3s,baz=62,slow=11,SNR=24			Sn	**Sn**	**23 03 19.4**	**+4.5**
MAT	**Matsushiro**	**3.43**	**247**	P	**Pn**	**23 02 36.8**	**+1.6**
MAT				S	**Sn**	**23 03 19.6**	**+4.7**
JHJ	**Hachijo jima 2**	**5.17**	**202**	Pn	**Pn**	**23 02 59.6**	**+0.5**
JHJ	5.3nm,0.3s,baz=42,slow=10,SNR=2.3			Sn	**Sn**	**23 03 55.0**	**-2.8**
JHJ	10nm,0.3s,baz=106,slow=23,SNR=7.6			LR	LR	23 04 21.0	
JHJ	comp=Z,24nm,21.7s,baz=304,slow=31			LR	LR	23 05 16.8	
ASAJ	**Asahikawa**	**6.19**	**3**	LR	LR	23 05 16.8	
USRK	comp=Z,131nm,18.5s,baz=223,slow=35 **Ussuriysk Ar.**	**9.89**	**312**	Pn	**Pn**	**23 04 04.5**	**+0.6**
SONM	baz=118,slow=12,SNR=2.6 **Songino Array**	**27.78**	**302**	P	**P**	**23 07 30.6**	**+0.4**
H11N2	0.4nm,0.6s,baz=96,slow=9.0,SNR=3.4 **WAKE ISLAND Hy**	**28.13**	**123**	T	T	23 37 53.8	
H11N1	baz=316,slow=76,SNR=23 **WAKE ISLAND Hy**	**28.14**	**123**	T	T	23 38 01.0	
H11N3	baz=316,slow=76,SNR=40 **WAKE ISLAND Hy**	**28.15**	**123**	T	T	23 37 58.9	
H11S1	baz=316,slow=76,SNR=28 **WAKE ISLAND Hy**	**28.89**	**125**	T	T	23 38 52.2	
H11S3	baz=318,slow=76,SNR=20 **WAKE ISLAND Hy**	**28.89**	**125**	T	T	23 38 54.8	
H11S2	baz=318,slow=76,SNR=28 **WAKE ISLAND Hy**	**28.90**	**125**	T	T	23 38 53.8

comp=Z,79nm,18.6s,baz=229,slow=36
ANMO Albuquerque 52.57 280 LR LR 23 58 33.1
comp=Z,136nm,20.1s,baz=44,slow=35
AKTO Aktyubinsk 53.60 53 LR LR 23 58 43.2
comp=Z,126nm,20.8s,baz=324,slow=35
TXAR Lajitas Array 54.82 273 P **P** **23 37 19.1 +0.5**
0.2nm,0.6s,baz=48,slow=9.8,SNR=3.1
YBH Yreka Blue Hor 57.23 297 LR LR 00 00 19.6
comp=Z,72nm,18.3s,baz=50,slow=34
APG El Apazote 57.78 251 LR LR 00 01 37.3
comp=Z,114nm,18.1s,baz=38,slow=35
JTS Las Juntas de 58.54 243 LR LR 23 59 28.5
comp=Z,78nm,21.9s,baz=62,slow=32
CMIG Matias Romero 58.71 257 LR LR 00 02 22.3
comp=Z,64nm,19.5s,baz=20,slow=35
GEYT Alibeck 62.35 63 LR LR 00 05 18.5
comp=Z,43nm,18.2s,baz=340,slow=36
LPIG La Paz 62.68 274 LR LR 00 03 07.3
comp=Z,62nm,18.1s,baz=37,slow=34
AAK Ala-Archa 67.05 49 LR LR 00 08 08.9
comp=Z,55nm,18.9s,baz=330,slow=36
MKAR Makanchi Array 67.12 42 P **P** **23 38 42.2 +0.4**
0.6nm,0.7s,baz=323,slow=5.1,SNR=8.0
MKAR LR LR 00 06 44.4
comp=Z,76nm,20.7s,baz=332,slow=35
BDFB Brasilia 69.13 194 LR LR 00 04 37.5
comp=Z,45nm,20.3s,baz=305,slow=32
SONM Songino Array 74.38 26 P **P** **23 39 25.8 -0.3**
1.3nm,1.1s,baz=337,slow=3.4,SNR=4.9
LPAZ La Paz 74.66 213 P **P** **23 39 28.5 0.0**
1.8nm,1.1s,baz=7.2,slow=13,SNR=4.0
MBAR Mbarara 75.77 110 LR LR 00 11 17.4
comp=Z,35nm,18.7s,baz=358,slow=34
KMBO Kilima Mbogo 79.96 105 LR LR 00 14 40.0
comp=Z,28nm,19.7s,baz=92,slow=35
PLCA Paso Flores 98.22 207 LR LR 00 25 38.4
comp=Z,22nm,18.6s,baz=44,slow=35
WRA Warramunga Arr 146.11 19 PKPbc **PKPbc** **23 47 27.9 -0.6**
2.5nm,0.8s,baz=339,slow=3.3,SNR=12
ASAR Alice Springs 149.63 21 PKPbc **PKPbc** **23 47 36.8 -1.1**
1.8nm,0.9s,baz=331,slow=1.6,SNR=12

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*IDC **24** 23:48:48.5±1.3, 34°.09N×25°.20E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.4/66, mbtmp3.7/7, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/48, Error ellipse: s-maj=29.9km s-min=24.1km az=164.0*
*ISCJB **24** 23:48:50.3±0.4, 33°.99N±0°.03×25°.30E±0°.05, h20km, mb3.6/4, MS2.8/1, Error ellipse: s-maj=6.5km s-min=3.2km az=146.4*
*ATH **24** 23:48:51.2, 34°.03N×25°.11E, h31km±11km, ML3.1/2, Error ellipse: s-maj=12.0km s-min=3.5km az=197.0*
*THE **24** 23:48:52.2, 34°.04N×25°.08E, h5km±5km, ML3.0/3, Error ellipse: s-maj=7.2km s-min=2.7km az=227.0*
*HLW **24** 23:48:53.8, 33°.85N×25°.98E, h10km±15km, Md4.0, Ml3.3*
*GII **24** 23:48:59.0±0.0, 33°.78N×25°.92E, h10km*
ISC 24 23:48:51.3±0.8, 34°.02N±0°.05×25°.37E±0°.05, h20km, n43, σ2§11/58, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.10**	**335**	P	**Pn**	**23 49 10.3**	**-1.2**
SIVA				S	**Sb**	**23 49 24.9**	**-0.6**
	1μm,0.6s						
SIVA	**Sivas**	**1.10**	**335**	P	**Pn**	**23 49 10.4**	**-1.2**
SIVA				S	**Sb**	**23 49 24.8**	**-0.6**
SIVA				AML	AML	23 49 38.0	
	comp=N,1553μm,0.6s						
SIVA				AML	AML	23 49 40.9	
	comp=E,3460μm,0.7s						
TMBK	**Timbaki Herakl**	**1.16**	**335**	P	**Pn**	**23 49 11.7**	**-0.7**
TMBK				S	**Sn**	**23 49 28.2**	**+0.5**
	comp=E,322nm,0.7s						
NPS	**Neapolis**	**1.26**	**9**	P	**Pn**	**23 49 15.5**	**+1.8**
NPS	**Neapolis**	**1.26**	**9**	P	**Pn**	**23 49 14.9**	**+1.2**
ZKR	**Zakros**	**1.30**	**32**	P	**Pn**	**23 49 17.2**	**+2.9**
HRKL	**Herakleio**	**1.31**	**350**	P	**Pb**	**23 49 15.9**	**+0.7**
HRKL				S	**Sn**	**23 49 32.4**	**+1.1**
	comp=E,695nm,0.6s						
STIA	**Sitia Lasithi**	**1.32**	**26**	P	**Pn**	**23 49 17.2**	**+2.6**
GVD	**Gavdhos**	**1.34**	**308**	P	**Pn**	**23 49 13.2**	**-1.6**
GVD	**Gavdhos**	**1.34**	**308**	P	**Pn**	**23 49 13.3**	**-1.5**
GVD				AML	AML	23 49 37.7	
	comp=N,1325μm,0.4s						
GVD				AML	AML	23 49 39.5	
	comp=E,1215μm,0.4s						
VAM	**Vamos**	**1.69**	**325**	P	**Pn**	**23 49 18.7**	**-0.9**
VAM	**Vamos**	**1.69**	**325**	P	**Pn**	**23 49 18.6**	**-1.1**
IMMV	**Iera Moni Meta**	**1.84**	**322**	P	**Pn**	**23 49 20.7**	**-1.0**
SLUM	**Salum**	**2.52**	**183**	P	**Pn**	**23 49 33.0**	**+1.9**
SLUM	baz=196			AMP		23 50 00.0	
SLUM	baz=196			S	**Sn**	**23 50 02.1**	**+0.8**
	baz=196						
KTHA	**Kythira Island**	**2.93**	**320**	P	**Pn**	**23 49 35.8**	**-0.9**
MATC	**Matruh**	**3.09**	**149**	P	**Pn**	**23 49 41.1**	**+2.2**
	baz=156						
VLI	**Veliai**	**3.35**	**324**	P	**Pn**	**23 49 40.8**	**-1.7**
SWA2		**4.76**	**179**	P	**Pn**	**23 50 03.5**	**+1.7**
	baz=186						
SWA2				S	**Sn**	**23 50 54.1**	**-2.4**
	baz=186						
HNAT	**Natroun**	**6.25**	**133**	P	**Pn**	**23 50 25.0**	**+2.7**
	baz=135						
CSS	**Mathiatis**	**6.64**	**80**	Pn	**Pn**	**23 50 30.8**	**+3.1**
HFRF	**Wahat Farafira**	**7.30**	**159**	P	**Pn**	**23 50 37.6**	**+0.8**
	baz=162						
OFRI	**`Ofer**	**8.17**	**97**	Pn	**Pn**	**23 50 49.6**	**+0.9**
KZIT	**Kziot**	**8.23**	**110**	Pn	**Pn**	**23 50 51.1**	**+1.5**
KZIT				Sn	**Sn**	**23 52 18.4**	**-3.6**
SLTI	**Sal'it**	**8.30**	**100**	Pn	**Pn**	**23 50 52.1**	**+1.6**
SLTI				Sn	**Sn**	**23 52 21.2**	**-2.5**
AMAZ	**Amatzia**	**8.41**	**105**	Pn	**Pn**	**23 50 54.6**	**+2.6**
AMAZ				Sn	**Sn**	**23 52 24.7**	**-1.7**
MMA0B	**Mount Meron ar**	**8.44**	**94**	Pn	**Pn**	**23 50 55.6**	**+3.2**
MMAI	**Mount Meron Ar**	**8.44**	**94**	Pn	**Pn**	**23 50 54.4**	**+1.9**
	comp=E,1.0nm,0.3s,baz=273,slow=10,SNR=13						
MMAI				Sn	**Sn**	**23 52 25.5**	**-1.7**
	comp=E,1.8nm,0.3s,baz=269,slow=25,SNR=7.5						
MMLI	**Mount Malkishu**	**8.57**	**98**	Pn	**Pn**	**23 50 57.3**	**+3.1**
YTIR	**Yattir**	**8.63**	**105**	Pn	**Pn**	**23 50 58.3**	**+3.2**
NATI	**Neve Ativ**	**8.68**	**92**	Pn	**Pn**	**23 50 58.6**	**+3.0**
NATI				Sn	**Sn**	**23 52 32.7**	**-0.2**
DSI	**Dead Sea**	**8.77**	**103**	Pn	**Pn**	**23 51 00.6**	**+3.6**
DSI				Sn	**Sn**	**23 52 33.4**	**-1.9**
KRMI	**Paran Flat**	**8.84**	**114**	Pn	**Pn**	**23 51 00.3**	**+2.4**
PRNI	**Paran**	**8.94**	**111**	Pn	**Pn**	**23 51 02.4**	**+3.0**
PRNI				Sn	**Sn**	**23 52 35.4**	**-4.1**
HRFI	**Mount Harif**	**9.11**	**113**	Pn	**Pn**	**23 51 04.6**	**+2.9**
MBRI	**Mt Berech**	**9.14**	**115**	Pn	**Pn**	**23 51 04.6**	**+2.5**
MBRI				Sn	**Sn**	**23 52 41.9**	**-2.5**
EIL	**Elat**	**9.23**	**115**	Pn	**Pn**	**23 51 05.1**	**+1.9**
EIL				Sn	**Sn**	**23 52 44.4**	**-2.1**
EIL	**Elat**	**9.23**	**115**	Pn	**Pn**	**23 51 04.9**	**+1.7**
	comp=E,0.8nm,0.3s,baz=302,slow=5.7,SNR=30						
EIL				Sn	**Sn**	**23 52 43.6**	**-2.9**
	comp=E,0.6nm,0.3s,baz=62,slow=12,SNR=2.6						
GERES	**GERESS Array B**	**17.17**	**333**	P	**Pn**	**23 52 49.3**	**-0.7**
	comp=E,0.2nm,0.3s,baz=139,slow=12,SNR=5.0						
MDT	**Midelt**	**25.01**	**276**	LR	LR	00 06 08.4	
	comp=E,30nm,18.1s,baz=70,slow=42						
HFS	**Hagfors**	**27.23**	**347**	P	**P**	**23 54 32.6**	**-1.0**
	comp=E,0.9nm,0.6s,baz=164,slow=11,SNR=0.9						
TORD	**Torodi Ar. Bea**	**29.30**	**232**	P	**P**	**23 54 57.5**	**-0.4**
	comp=E,0.3nm,0.4s,baz=30,slow=8.6,SNR=7.7						
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**	**23 57 00.7**	**+1.3**
	comp=E,0.5nm,0.5s,baz=272,slow=6.8,SNR=16						
ZALV	**Zalesovo Beam**	**45.67**	**45**	P	**P**	**23 57 10.3**	**-0.1**
	comp=E,0.7nm,0.4s,baz=266,slow=8.0,SNR=4.2						

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*NEIC **24** 23:50:54.0±2.3, 24°.14S±0°.06×66°.85W±0°.10, h187km±6km*
*SJA **24** 23:50:54.6±0.8, 24°.15S×66°.94W, h192km±10km, ML4.2, MW3.9*
*ISCJB **24** 23:50:54.1±0.2, 24°.11S±0°.02×66°.97W±0°.03, h198km±3km, mb3.8/13, Error ellipse: s-maj=5.0km s-min=3.6km az=150.0*
*IDC **24** 23:50:54.4±0.9, 24°.06S×66°.81W, h182km±8km, mb3.7/13, mb1 3.8/20, mb1mx3.6/54, mbtmp4.1/20, Error ellipse: s-maj=14.5km s-min=10.1km az=57.0*
*VAO **24** 23:50:55.1±0.8, 24°.12S×67°.41W, h253km±11km, mb4.1*
*GUC **24** 23:50:55.8±0.6, 24°.09S×67°.20W, h196km±16km, ML4.9*
ISC 24 23:50:54.6±0.6, 24°.14S±0°.04×66°.97W±0°.04, h191km±6km, n116, σ1§07/128, mb3.9/13, 6C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.46**	**114**	*i* P	**Pn**	**23 51 28.2**	**+0.8**
SLA				IAML		23 51 29.4	
	comp=Z,313nm,0.6s						
AZAP	**Zapla**	**1.74**	**93**	*i* P	**Pn**	**23 51 30.8**	**+0.7**
FSA	**Cafayete**	**2.16**	**156**	*e* P	**Pn**	**23 51 35.5**	**+1.1**
FSA				*e* S	**Sn**	**23 52 04.6**	**-0.9**
FSA	**Cafayete**	**2.16**	**156**	⇓ *i* P	**Pn**	**23 51 35.5**	**+1.1**
FSA				IAML		23 51 38.0	
	comp=Z,32nm,0.2s						
FSA				*i* Sg	**Sn**	**23 52 05.5**	**+0.1**
LVC	**Limon Verde**	**2.34**	**310**	P	**Pn**	**23 51 37.7**	**+1.2**
	comp=Z,94nm,0.3s,baz=129,slow=7.2,SNR=1315						
LVC				S	**Sn**	**23 52 09.4**	**+0.2**
	comp=Z,87nm,0.3s,baz=312,slow=19,SNR=28						
LVC	**Limon Verde**	**2.34**	**310**	*e* P	**Pn**	**23 51 37.8**	**+1.2**
LVC				*e* S	**Sn**	**23 52 09.7**	**+0.5**
LVC				IAML		23 52 13.2	
	comp=Z,142nm,0.3s						
LVC	**Limon Verde**	**2.34**	**310**	*e* P	**Pn**	**23 51 37.8**	**+1.2**
LVC	**Limon Verde**	**2.34**	**310**	*e* P	**Pn**	**23 51 37.8**	**+1.2**
YJA	**Yavi**	**2.37**	**35**	⇓ *i* P	**Pn**	**23 51 38.0**	**+1.1**
YJA				*i* Sg	**Sn**	**23 52 10.6**	**+0.7**
PB15	**IPOC Station P**	**2.47**	**291**	⇑ *i* P	**Pn**	**23 51 39.1**	**+1.2**
PB15				*e* S	**Sn**	**23 52 11.1**	**-0.5**
PB15				IAML		23 52 17.5	
	comp=N,8μm,0.2s						
PB15	**IPOC Station P**	**2.47**	**291**	*e* P	**Pn**	**23 51 39.2**	**+1.3**
PB15				*e* S	**Sn**	**23 52 11.9**	**+0.4**
GO02	**Mina Guanaco**	**2.59**	**246**	⇑ *i* P	**Pn**	**23 51 40.4**	**+1.0**
GO02				*i* S	**Sn**	**23 52 14.6**	**+0.3**
GO02				IAML		23 52 16.1	
	comp=E,4μm,0.2s						
GO02	**Mina Guanaco**	**2.59**	**246**		**Pn**	**23 51 40.5**	**+1.1**
PB06	**IPOC Station P**	**2.78**	**300**	⇑ *i* P	**Pn**	**23 51 42.4**	**+1.0**
PB06				*i* S	**Sn**	**23 52 17.2**	**-0.6**
PB06				IAML		23 52 20.7	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**2.78**	**300**	*e* P	**Pn**	**23 51 42.5**	**+1.0**
PB06				*e* S	**Sn**	**23 52 17.3**	**-0.6**
PB06				IAML		23 52 22.9	
	comp=Z,557nm,0.3s						
AHML	**Horco Molle**	**3.02**	**151**	*i* P	**Pn**	**23 51 44.4**	**+0.3**
PB09	**IPOC Station P**	**3.13**	**318**	⇑ *i* P	**Pn**	**23 51 46.7**	**+1.1**
PB09				*i* S	**Sn**	**23 52 25.2**	**-0.2**
PB09	**IPOC Station P**	**3.13**	**318**	*e* P	**Pn**	**23 51 46.8**	**+1.1**
PB09				*e* S	**Sn**	**23 52 25.2**	**-0.2**
PB09				IAML		23 52 32.2	
	comp=Z,466nm,0.5s						
PB05	**IPOC Station P**	**3.23**	**293**	⇑ *i* P	**Pn**	**23 51 47.1**	**+0.3**
PB05				*i* S	**Sn**	**23 52 26.4**	**-1.0**
PB10	**IPOC Station P**	**3.34**	**280**	*i* P	**Pn**	**23 51 48.7**	**+0.7**
PB10				*i* S	**Sn**	**23 52 28.8**	**-0.8**
PB10	**IPOC Station P**	**3.34**	**280**	*e* P	**Pn**	**23 51 48.6**	**+0.7**
PB10				*e* S	**Sn**	**23 52 29.5**	**-0.1**
PB10				IAML		23 52 32.7	
	comp=Z,416nm,0.7s						
PB10	**IPOC Station P**	**3.34**	**280**		**Pn**	**23 51 48.1**	**+0.2**
PB04	**IPOC Station P**	**3.43**	**301**	⇑ *i* P	**Pn**	**23 51 49.5**	**+0.3**
PB04				*e* S	**Sn**	**23 52 30.3**	**-1.6**
PB04				IAML		23 52 33.0	
	comp=N,1μm,0.1s						
PB04	**IPOC Station P**	**3.43**	**301**		**Pn**	**23 51 49.6**	**+0.3**
PB01	**IPOC Station P**	**3.86**	**322**		**Pn**	**23 51 54.5**	**+0.1**
CYA	**Choya**	**4.42**	**167**	*i* P	**Pn**	**23 52 01.8**	**+0.4**
PB08	**IPOC Station P**	**4.46**	**333**	*e* P	**Pn**	**23 52 03.0**	**+0.6**
PB08				*e* S	**Sn**	**23 52 54.4**	**-1.1**
PB08				IAML		23 52 58.0	
	comp=Z,193nm,0.6s						
GO03	**Copiap**	**4.53**	**220**	*i* P	**Pn**	**23 52 02.4**	**-0.4**
GO03	**Copiap**	**4.53**	**220**		**Pn**	**23 52 02.5**	**-0.4**
VCA	**Vinchina**	**4.71**	**193**	*i* P	**Pn**	**23 52 05.8**	**+0.5**
GO01	**Chusmiza**	**4.90**	**335**		**Pn**	**23 52 07.8**	**-0.3**
PB11	**IPOC Station P**	**5.02**	**330**	*e* P	**Pn**	**23 52 08.1**	**-1.1**
PB11				*e* S	**Sn**	**23 53 05.1**	**-2.8**
PB11				IAML		23 53 08.9	
	comp=Z,302nm,0.2s						
PB11	**IPOC Station P**	**5.02**	**330**		**Pn**	**23 52 07.9**	**-1.4**
ACLC	**CERRO LA CRUZ**	**5.27**	**180**	*i* P	**Pn**	**23 52 12.8**	**+0.4**
MNMC	**Minye Minye**	**5.55**	**333**		**Pn**	**23 52 15.0**	**-1.2**
AROD	**Rodeo**	**6.41**	**200**	*i* P	**Pn**	**23 52 28.1**	**+0.8**
ACCO	**Cerro Coronel**	**6.69**	**196**	*i* P	**Pn**	**23 52 31.6**	**+0.6**
GO04	**Tololo Observa**	**6.91**	**209**	Pn	**Pn**	**23 52 32.7**	**-1.2**
TCA	**Tanti**	**7.48**	**164**	*i* P	**Pn**	**23 52 41.4**	**+0.3**
CFA	**Coronel Fontan**	**7.53**	**188**	P	**Pn**	**23 52 41.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=326,slow=11,SNR=18						
CFA				S	**Sn**	**23 54 01.1**	**-5.5**
	comp=Z,3.6nm,0.3s,baz=259,slow=21,SNR=16						
CFA	**Coronel Fontan**	**7.53**	**188**	*i* P	**Pn**	**23 52 41.6**	**-0.1**
RTCV	**Cerro Valdivia**	**7.82**	**190**	*i* P	**Pn**	**23 52 45.6**	**0.0**
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**23 52 47.2**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=150,slow=9.6,SNR=35						
LPAZ				S	**Sn**	**23 54 12.4**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=32,slow=21,SNR=2.4						
LPAZ	**La Paz**	**7.88**	**352**	*i* P	**Pn**	**23 52 47.3**	**+0.3**
LPAZ	**La Paz**	**7.88**	**352**	*e* P	**Pn**	**23 52 46.7**	**-0.3**
LPAZ	**La Paz**	**7.88**	**352**	*e* P	**Pn**	**23 52 46.7**	**-0.3**
RTLS	**Leoncito**	**7.91**	**195**	*i* P	**Pn**	**23 52 47.7**	**+0.8**
MRA	**San Martin**	**8.33**	**173**	*i* P	**Pn**	**23 52 52.3**	**+0.1**
CPUP	**Villa Florida**	**9.00**	**106**	P	**Pn**	**23 52 58.8**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=276,slow=13,SNR=4.3						
SIV	**San Ignacio**	**9.81**	**35**	P	**Pn**	**23 53 10.0**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=226,slow=12,SNR=17						
SIV				S	Sn	23 54 47.5	-14
	comp=Z,0.1nm,0.3s,baz=259,slow=15,SNR=1.4						
TRCB	**Terra Rica**	**13.22**	**87**	*e* P	**P**	**23 53 59.2**	**+0.7**
TRCB	**Terra Rica**	**13.22**	**87**	*e* P	**P**	**23 53 59.2**	**+0.7**
CPSB	**Cacapava Do Su**	**13.55**	**120**	*e* P	**P**	**23 54 02.1**	**0.0**
CPSB	**Cacapava Do Su**	**13.55**	**120**	*e* P	**P**	**23 54 02.1**	**0.0**
PTGB	**Pitanga**	**13.59**	**96**	*e* P	**P**	**23 54 04.0**	**+1.4**
PTGB	**Pitanga**	**13.59**	**96**	*e* P	**P**	**23 54 04.0**	**+1.4**
ITAB	**Concordia**	**13.73**	**106**	*e* P	**P**	**23 54 04.4**	**+0.4**
ITAB	**Concordia**	**13.73**	**106**	*e* P	**P**	**23 54 04.4**	**+0.4**
PLTB	**Pedras Altas**	**14.04**	**126**	*e* P	**P**	**23 54 07.7**	**+0.2**
PLTB	**Pedras Altas**	**14.04**	**126**	*e* P	**P**	**23 54 07.7**	**+0.2**
TRQA	**Tornquist**	**14.52**	**164**	Pn	**Pn**	**23 54 10.0**	**-1.3**
FRTB	**Fartura**	**15.96**	**91**	*e* P	**Pn**	**23 54 29.6**	**+0.6**
FRTB	**Fartura**	**15.96**	**91**	*e* P	**Pn**	**23 54 29.6**	**+0.6**
ITRB	**Iturama**	**16.03**	**77**	*e* P	**Pn**	**23 54 30.8**	**+0.9**
ITRB	**Iturama**	**16.03**	**77**	*e* P	**Pn**	**23 54 30.8**	**+0.9**
ARAG	**Araguaiana, MT**	**16.52**	**62**	*e* P	**Pn**	**23 54 36.4**	**+0.6**
ARAG	**Araguaiana, MT**	**16.52**	**62**	*e* P	**Pn**	**23 54 36.4**	**+0.6**
PLCA	**Paso Flores**	**16.82**	**189**	P	**Pn**	**23 54 40.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=3.5						
PLCA	**Paso Flores**	**16.82**	**189**	IAmb	IAmb	23 54 44.6	
	comp=Z,9.1nm,1.4s						
CLDB	**Colider**	**16.94**	**41**	*e* P	**P**	**23 54 38.6**	**-1.0**
CLDB	**Colider**	**16.94**	**41**	*e* P	**P**	**23 54 38.6**	**-1.0**
BB19B	**Bebedouro**	**17.30**	**83**	*e* P	**Pn**	**23 54 44.3**	**-0.8**
BB19B	**Bebedouro**	**17.30**	**83**	*e* P	**Pn**	**23 54 44.3**	**-0.8**
SPB	**Sao Paulo**	**17.88**	**92**	*e* P	**Pn**	**23 54 50.7**	**-1.1**
SPB	**Sao Paulo**	**17.88**	**92**	*e* P	**Pn**	**23 54 50.7**	**-1.1**
RCLB	**Rio Claro- Sao**	**17.94**	**88**	*e* P	**P**	**23 54 50.1**	**-0.4**
RCLB	**Rio Claro- Sao**	**17.94**	**88**	*e* P	**P**	**23 54 50.1**	**-0.4**
IPMB	**Ipameri, GO**	**18.54**	**74**	*e* P	**P**	**23 54 57.1**	**0.0**
IPMB	**Ipameri, GO**	**18.54**	**74**	*e* P	**P**	**23 54 57.1**	**0.0**
BDFB	**Brasilia**	**19.71**	**68**	P	**P**	**23 55 09.5**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=240,slow=12,SNR=21						
BDFB	**Brasilia**	**19.71**	**68**	P	**P**	**23 55 09.6**	**-0.2**
PEXB	**Peixe**	**21.37**	**59**	*e* P	**P**	**23 55 25.7**	**-1.6**
PEXB	**Peixe**	**21.37**	**59**	*e* P	**P**	**23 55 25.7**	**-1.6**
VAS01	**Vassouras-RJ**	**21.70**	**90**	*e* P	**P**	**23 55 30.3**	**-0.4**
VAS01	**Vassouras-RJ**	**21.70**	**90**	*e* P	**P**	**23 55 30.3**	**-0.4**
SJMB	**Sao Joao De Ma**	**24.59**	**82**	*e* P	**P**	**23 55 56.2**	**-1.1**
SJMB	**Sao Joao De Ma**	**24.59**	**82**	*e* P	**P**	**23 55 56.2**	**-1.1**
NBPN	**Ponto Novo - B**	**28.68**	**67**	*e* P	**P**	**23 56 32.9**	**-1.1**
NBPN	**Ponto Novo - B**	**28.68**	**67**	*e* P	**P**	**23 56 32.9**	**-1.1**
TEIG	**Tepich**	**48.73**	**333**	P	**P**	**23 59 20.3**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=139,slow=10,SNR=3.2						
TEIG	**Tepich**	**48.73**	**333**	IAmb	IAmb	23 59 24.0	
	comp=Z,28nm,1.2s						
SNAA	**Sanae**	**59.21**	**161**	P	**P**	**00 00 36.4**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=259,slow=12,SNR=5.0						
SNAA	**Sanae**	**59.21**	**161**	IAmb	IAmb	00 00 50.3	
	comp=Z,5.8nm,1.4s						
TKL	**Tuckaleechee C**	**61.56**	**344**	P	**P**	**00 00 51.5**	**0.0**
	comp=Z,5.5nm,0.9s,baz=174,slow=9.0,SNR=4.2						
TXAR	**Lajitas Array**	**63.80**	**324**	P	**P**	**00 01 07.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=147,slow=8.1,SNR=7.3						
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**00 01 22.3**	**+1.5**
	comp=Z,2.7nm,0.5s,baz=178,slow=0.2,SNR=8.9						
QSPA	**South Pole Qui**	**66.07**	**180**	IAmb	IAmb	00 01 23.4	
	comp=Z,2.7nm,0.5s						
ANMO	**Albuquerque**	**69.67**	**326**	P	**P**	**00 01 45.1**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=151,slow=4.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P	**P**	**00 02 24.3**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=259,slow=5.7,SNR=20						
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P	**P**	**00 02 24.4**	**0.0**
PDAR	**Pinedale Array**	**77.28**	**329**	P	**P**	**00 02 29.3**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=130,slow=7.9,SNR=4.3						
ULM	**Lac du Bonnet**	**78.36**	**342**	P	**P**	**00 02 34.1**	**+0.6**
	comp=Z,3.4nm,0.5s,baz=165,slow=6.3,SNR=8.2						
ULM	**Lac du Bonnet**	**78.36**	**342**	IAmb	IAmb	00 02 48.5	
	comp=Z,12nm,1.5s						
ELK	**Elko**	**78.60**	**325**	P	**P**	**00 02 36.6**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=139,slow=3.9,SNR=3.8						
NVAR	**Mina Array Bea**	**78.66**	**321**	P	**P**	**00 02 36.8**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=155,slow=6.9,SNR=4.5						
LBTB	**Lobatse**	**82.31**	**114**	P	**P**	**00 02 55.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=232,slow=9.3,SNR=3.4						
LBTB	**Lobatse**	**82.31**	**114**	IAmb	IAmb	00 03 02.4	
	comp=Z,2.8nm,0.9s						
YKA	**Yellowknife Ar**	**94.26**	**340**	P	**P**	**00 03 52.3**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=132,slow=4.6,SNR=11						
ASAR	**Alice Springs**	**128.34**	**205**	PKP	**PKiKP**	**00 09 39.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=160,slow=1.9,SNR=6.8						
WRA	**Warramunga Arr**	**131.52**	**207**	PKP	**PKiKP**	**00 09 46.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=155,slow=1.9,SNR=5.5						
KURK	**Kurchatov**	**142.47**	**36**		PKPpre	00 10 00.5	
KURBB	**Kurchatov Arra**	**142.47**	**36**	PKhKP	PKPpre	00 10 00.5	
	comp=Z,0.6nm,0.2s,baz=303,slow=2.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**143.50**	**28**	**PKPdf**	**PKPdf**	**00 10 04.8**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=297,slow=3.6,SNR=12						
ZALV	**Zalesovo Beam**	**143.50**	**28**	**PKPdf**	**PKPdf**	**00 10 04.9**	**-1.2**
MKAR	**Makanchi Array**	**146.61**	**40**	PKPbc	**PKPbc**	**00 10 12.9**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=16,slow=1.7,SNR=22						
MKAR	**Makanchi Array**	**146.61**	**40**		**PKPbc**	**00 10 13.2**	**-0.4**

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*NIED **24** 23:57:00, 40°.80N×143°.10E, h26km, Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φ0=248.00000°, δ29.00000°, λ136.00000°. NP2:φ0=18.00000°, δ70.00000°, λ68.00000°.*
*JMA **24** 23:57:00.6±0.2, 40°.83N×143°.13E, h9km±4km, M4.0*
JMA Felt I J1.
*ISCJB **24** 23:57:01.9±0.4, 40°.86N±0°.03×143°.27E±0°.04, h42km±3km, mb4.2/28, MS3.4/4, Error ellipse: s-maj=6.0km s-min=2.8km az=40.7*
*MOS **24** 23:57:02.0±0.7, 40°.88N×143°.17E, h42km, mb4.4/4, Error ellipse: s-maj=10.3km s-min=6.5km az=84.3*
*NEIC **24** 23:57:03.5±1.7, 40°.88N±0°.06×143°.2E±0°.1, h37km±7km, mb4.4/20*
*IDC **24** 23:57:04.5±2.0, 40°.88N×143°.08E, h43km±16km, mb3.9/24, mb1 4.0/29, mb1mx3.8/62, mbtmp4.1/29, ML3.2/5, MS3.3/8, Ms1 3.3/8, ms1mx2.9/47, Error ellipse: s-maj=16.5km s-min=11.7km az=111.0*
ISC 24 23:57:02.9±0.6, 40°.83N±0°.04×143°.29E±0°.05, h37km±1km, n113, σ1§25/124, mb4.4/34, MS3.4/4, 4C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.19**	**355**	P	**Pn**	**23

USRK			LR	LR	00 02 58.6	
	comp=N,118nm,18.2s,baz=146,slow=40					
KLR	**Kul'dur**	**11.71 320**	P	**Pn**	**23 59 46.8**	**-0.5**
	comp=N,0.0nm,0.3s,baz=125,slow=14,SNR=3.5					
KLR			LR	LR	00 04 33.9	
	comp=N,47nm,18.8s,baz=198,slow=39					
KSRS	**Korea Array**	**12.40 259**	P	**Pn**	**23 59 56.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=66,slow=14,SNR=2.7					
KSRS			LR	LR	00 04 30.1	
	comp=N,112nm,18.3s,baz=80,slow=36					
SONM	**Songino Array**	**27.11 297**	P	**P**	**00 02 41.9**	**-0.4**
SONM			pmax	pmax		
	comp=Z,3.0nm,1.1s					
SONM	**Songino Array**	**27.11 297**	P	**P**	**00 02 42.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=98,slow=8.8,SNR=9.7					
SONM			LR	LR	00 14 08.7	
	comp=Z,92nm,18.9s,baz=22,slow=38					
SONM	**Songino Array**	**27.11 297**	P	**P**	**00 02 41.9**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**29.12 129**	T	T	00 33 54.6	
	baz=322,slow=75,SNR=97					
H11N1	**WAKE ISLAND Hy**	**29.13 129**	T	T	00 34 13.6	
	baz=322,slow=75,SNR=100					
H11N3	**WAKE ISLAND Hy**	**29.14 129**	T	T	00 33 44.5	
	baz=322,slow=75,SNR=91					
ADK	**Adak**	**29.39 54**	P	**P**	**00 03 00.3**	**-2.0**
ADK			pmax	pmax		
	comp=Z,28nm,1.2s					
ADK	**Adak**	**29.39 54**	P	**P**	**00 03 00.3**	**-2.0**
H11S1	**WAKE ISLAND Hy**	**29.96 131**	T	T	00 35 02.6	
	baz=323,slow=75,SNR=45					
H11S3	**WAKE ISLAND Hy**	**29.97 131**	T	T	00 34 47.8	
	baz=323,slow=75,SNR=26					
H11S2	**WAKE ISLAND Hy**	**29.98 131**	T	T	00 34 49.4	
	baz=323,slow=75,SNR=31					
NRIK	**Noril'sk**	**40.49 333**	P	**P**	**00 04 37.6**	**0.0**
	comp=Z,1.8nm,0.5s,baz=125,slow=8.6,SNR=4.7					
ZAA0	**Zalesovo Array**	**40.55 309**	P	**P**	**00 04 38.3**	**0.0**
ZALV	**Zalesovo Beam**	**40.55 309**	P	**P**	**00 04 38.3**	**0.0**
	comp=Z,3.3nm,0.4s,baz=96,slow=9.3,SNR=20					
ZALV			PcP	**PcP**	**00 06 40.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=74,slow=2.2,SNR=3.2					
ZALV			LR	LR	00 22 23.5	
	comp=Z,77nm,19.2s,baz=3.5,slow=38					
ZALV	**Zalesovo Beam**	**40.55 309**	P	**P**	**00 04 38.0**	**-0.3**
IMAR	**Indian Mountai**	**42.66 33**	P	**P**	**00 04 58.0**	**+2.6**
PPLA	**Purkeypile**	**43.24 37**	P	**P**	**00 05 02.1**	**+1.7**
PPLA			IAmb	IAmb	00 05 07.0	
	comp=Z,5.3nm,1.2s					
MKAR	**Makanchi Array**	**43.45 299**	P	**P**	**00 05 02.0**	**-0.1**
MKAR	**Makanchi Array**	**43.45 299**	P	**P**	**00 05 01.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=85,slow=12,SNR=18					
MKAR			LR	LR	00 26 00.2	
	comp=Z,35nm,19.7s,baz=348,slow=40					
MKAR	**Makanchi Array**	**43.45 299**	P	**P**	**00 05 02.0**	**-0.1**
KURK	**Kurchatov**	**44.84 305**	P	**P**	**00 05 12.7**	**-0.4**
KURK			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KURK	**Kurchatov**	**44.84 305**	P	**P**	**00 05 12.7**	**-0.4**
KURK			IAmb	IAmb	00 05 18.2	
	comp=Z,5.7nm,0.8s					
KURBB	**Kurchatov Arra**	**44.92 305**	P	**P**	**00 05 13.1**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=78,slow=8.7,SNR=21					
ILAR	**Eielson Array**	**45.52 34**	P	**P**	**00 05 20.2**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=264,slow=6.0,SNR=13					
TAPN	**Taplejung**	**47.23 272**	*eP*	**P**	**00 05 31.3**	**-1.3**
	comp=Z,8.0nm,0.7s					
VRDI	**Verde Repeater**	**47.49 39**	P	**P**	**00 05 35.5**	**+1.5**
VRDI			IAmb	IAmb	00 05 37.6	
	comp=Z,2.8nm,1.0s					
BCAR	**Beaver Creek A**	**47.96 36**	P	**P**	**00 05 39.9**	**+2.5**
JIRN	**Jiri**	**48.22 273**	*eP*	**P**	**00 05 40.3**	**-0.1**
	comp=Z,11nm,0.5s					
RAMN	**Ramite**	**48.28 272**	*eP*	**P**	**00 05 40.5**	**-0.2**
	comp=Z,5.6nm,0.3s					
GUN	**Gumba**	**48.32 273**	*eP*	**P**	**00 05 41.1**	**0.0**
	comp=Z,19nm,0.5s					
KKN	**Kakani**	**48.84 274**	*eP*	**P**	**00 05 44.9**	**-0.1**
	comp=Z,9.3nm,0.5s					
PKI	**Pulchoki**	**48.85 273**	*eP*	**P**	**00 05 45.5**	**+0.3**
	comp=Z,6.4nm,0.5s					
PKIN	**Phulchoki**	**48.86 273**	*eP*	**P**	**00 05 45.5**	**+0.3**
	comp=Z,4.3nm,0.4s					
BVAR	**Borovoye Array**	**49.17 310**	P	**P**	**00 05 46.8**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=75,slow=9.1,SNR=33					
BRVK	**Borovoye**	**49.23 310**	P	**P**	**00 05 47.5**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BRVK	**Borovoye**	**49.23 310**	P	**P**	**00 05 47.5**	**+0.2**
BRVK			IAmb	IAmb	00 06 06.0	
	comp=Z,2.4nm,0.6s					
DANN	**Dangsing**	**49.70 275**	*eP*	**P**	**00 05 51.9**	**+0.3**
	comp=Z,33nm,0.5s					
AAK	**Ala-Archa**	**50.06 296**	P	**P**	**00 05 53.5**	**-0.5**
AAK			pmax	pmax		
	comp=Z,2.0nm,0.7s					
AAK	**Ala-Archa**	**50.06 296**	P	**P**	**00 05 53.2**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=109,slow=4.0,SNR=2.8					
AAK	**Ala-Archa**	**50.06 296**	P	**P**	**00 05 53.5**	**-0.5**
KOLN	**Koldanda**	**50.12 275**	*eP*	**P**	**00 05 55.5**	**+0.8**
	comp=Z,5.4nm,0.4s					
INK	**Inuvik**	**50.35 29**	P	**P**	**00 05 57.0**	**+1.4**
INK			pmax	pmax		
	comp=Z,2.0nm,0.9s					
INK	**Inuvik**	**50.35 29**	P	**P**	**00 05 57.1**	**+1.5**
	comp=Z,1.6nm,0.4s,baz=266,slow=5.8,SNR=15					
INK	**Inuvik**	**50.35 29**	P	**P**	**00 05 57.0**	**+1.4**
HYT	**Haines Junctio**	**50.40 39**	P	**P**	**00 05 57.6**	**+1.3**
HYT			IAmb	IAmb	00 06 01.3	
	comp=Z,4.8nm,0.9s					
KKAR	**Karatay Array**	**52.56 298**	P	**P**	**00 06 13.0**	**+0.4**
KKAR	**Karatay Array**	**52.56 298**	P	**P**	**00 06 13.0**	**+0.4**
ARU	**Arti**	**54.53 317**	P	**P**	**00 06 27.0**	**+0.2**
ARU	**Arti**	**54.53 317**	P	**P**	**00 06 26.5**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=82,slow=4.8,SNR=8.5					
ARU	**Arti**	**54.53 317**	P	**P**	**00 06 26.7**	**-0.1**
DLBC	**Dease Lake**	**54.76 40**	P	**P**	**00 06 29.2**	**+0.7**
PSI	**Prapat**	**55.01 238**	P	**P**	**00 06 30.9**	**0.0**
	comp=Z,2.1nm,0.5s,baz=292,slow=19,SNR=2.9					
RPSI	**Rantau Prapat**	**55.09 238**	P	**P**	**00 06 30.9**	**-0.4**
ABKAR	**Akbulak array**	**56.66 309**	P	**P**	**00 06 42.1**	**0.0**
ABKAR	**Akbulak array**	**56.66 309**	IAmb	IAmb	00 06 43.2	
	comp=Z,3.8nm,1.1s					
AKTO	**Aktyubinsk**	**57.27 311**	P	**P**	**00 06 46.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=34,slow=7.3,SNR=3.2					
KIRV	**Kirov**	**58.14 322**	P	**P**	**00 06 52.3**	**-0.1**
	comp=Z,11nm,0.6s,baz=114,slow=3.6,SNR=7.5					
RES	**Resolute Bay**	**58.56 15**	P	**P**	**00 06 55.9**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=308,slow=5.2,SNR=4.5					
RES	**Resolute Bay**	**58.56 15**	IAmb	IAmb	00 07 04.5	
	comp=Z,3.5nm,1.1s					
WB0	**Warramunga Arr**	**60.85 190**	P	**P**	**00 07 12.1**	**+0.6**
WB0			IAmb	IAmb	00 07 28.0	
	comp=Z,4.8nm,1.1s					
ARCES	**ARCESS Array B**	**60.97 339**	P	**P**	**00 07 11.0**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=48,slow=9.8,SNR=3.7					
WR0	**Warramunga Arr**	**61.02 189**	P	**P**	**00 07 12.6**	**-0.1**
WR0			IAmb	IAmb	00 07 14.5	
	comp=Z,4.1nm,1.1s					
WB2	**Warramunga Arr**	**61.02 190**	P	**P**	**00 07 13.0**	**+0.3**
WRA	**Warramunga Arr**	**61.03 190**	P	**P**	**00 07 12.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=6.7,slow=6.8,SNR=8.7					
GEYT	**Alibeck**	**63.31 298**	LR	LR	00 34 42.0	
	comp=Z,32nm,19.6s,baz=340,slow=36					
ASAR	**Alice Springs**	**64.75 190**	P	**P**	**00 07 38.5**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=1.5,slow=5.4,SNR=5.7					
FINES	**FINESS Array B**	**66.15 332**	P	**P**	**00 07 46.2**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=45,slow=7.8,SNR=30					
MOD	**Modoc Plateau**	**68.28 53**		**PcP**	**00 08 20.4**	**-5.2**
KIV	**Kislovodsk**	**69.54 311**	*eP*	**P**	**00 08 04.7**	**-3.1**
KIV			pmax	pmax		
	comp=Z,27nm,1.0s					
KIV	**Kislovodsk**	**69.54 311**	P	**P**	**00 08 08.8**	**+1.0**
KBZ	**Khabaz**	**69.55 310**	P	**P**	**00 08 08.1**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=37,slow=8.9,SNR=17					
NB2	**NORSAR Subarra**	**71.25 338**	P	**P**	**00 08 17.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=36,slow=6.2					
NOA	**NORSAR Array B**	**71.25 338**	P	**P**	**00 08 18.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=38,slow=6.2,SNR=4.7					
ASAR	**Malin Array Be**	**72.19 322**	P	**P**	**00 08 23.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=44,slow=6.0,SNR=7.8					
PDAR	**Pinedale Array**	**73.99 47**	P	**P**	**00 08 36.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=308,slow=3.0,SNR=2.8					
BRTR	**Keskin Array B**	**77.42 312**	P	**P**	**00 08 54.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=91,slow=3.3,SNR=3.2					
TXAR	**Lajitas Array**	**86.67 54**	P	**P**	**00 09 44.7**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=322,slow=3.0,SNR=4.2					

ISCJB ***25*** *00:02:40.8±0.8, 30°.23S±0°.08×179°.4W±0°.1, h300km, mb3.4/3, Error ellipse: s-maj=16.6km s-min=10.3km az=23.4*
IDC ***25*** *00:02:42.2±1.2, 30°.08S×179°.29W, h314km±12km, mb3.3/3, mb1 3.5/5, mb1mx3.3/29, mbtmp4.1/5, Error ellipse: s-maj=25.2km s-min=21.1km az=51.0*
ISC 25 00:02:41.2±0.8, 30°.25±0°.1×179°.4W±0°.1, h300km, n11, σ1§56/13, mb3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.61**	**53**	P	**Pn**	**00 03 26.6**	**+1.5**
	183nm,0.3s,baz=143,slow=20,SNR=11						
RAO				S	**S**	**00 03 58.1**	**-2.0**
	161nm,0.3s,baz=218,slow=19,SNR=4.1						
URZ	**Urewera**	**8.51**	**199**	P	**Pn**	**00 04 42.5**	**+1.6**
	6.1nm,0.3s,baz=119,slow=19,SNR=30						
URZ				S	**S**	**00 06 15.3**	**-2.8**
	2.9nm,0.3s,baz=90,slow=20,SNR=6.5						
DZM	**Mont Dzumac**	**15.09**	**299**	P	**Pn**	**00 06 01.2**	**+0.4**
	0.3nm,0.3s,baz=120,slow=14,SNR=5.1						
ASAR	**Alice Springs**	**41.92**	**267**	P	**P**	**00 10 03.6**	**+0.4**
	0.5nm,0.4s,baz=115,slow=6.5,SNR=6.0						
WRA	**Warramunga Arr**	**42.89**	**273**	P	**P**	**00 10 11.2**	**+0.1**
	2.5nm,0.5s,baz=112,slow=7.5,SNR=15						
QSPA	**South Pole Qui**	**59.87**	**180**	P	**P**	**00 12 17.0**	**+1.4**
	0.5nm,0.4s,baz=86,slow=2.8,SNR=2.9						
KBZ	**Khabaz**	**144.02**	**304**	PKP	**PKPab**	**00 21 39.5**	**+0.3**
	1.0nm,0.5s,baz=124,slow=3.6,SNR=5.3						
FINES	**FINESS Array B**	**144.57**	**339**	PKP	**PKPab**	**00 21 39.7**	**-1.1**
	3.4nm,0.4s,baz=46,slow=4.5,SNR=41						
AKASG	**Malin Array Be**	**150.44**	**322**	PKPbc	**PKPbc**	**00 21 55.8**	**-1.1**
	0.9nm,0.6s,baz=56,slow=2.9,SNR=6.4						
BRTR	**Keskin Array B**	**151.47**	**298**	PKPbc	**PKPbc**	**00 21 58.3**	**-1.6**
	0.3nm,0.5s,baz=145,slow=3.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**162.96**	**184**	PKPab	**PKPab**	**00 22 58.9**	**-0.4**
	0.5nm,0.7s,baz=170,slow=4.4,SNR=5.5						

IDC ***25*** *00:09:02.7±2.1, 41°.28N×79°.28E, h0km, mb3.3/2, mb1 3.2/6, mb1mx3.1/40, mbtmp3.2/6, ML2.7/4, Error ellipse: s-maj=32.7km s-min=17.1km az=173.0*
KRNET ***25*** *00:09:05.2±0.1, 41°.50N×79°.39E, h17km, mb3.6*
SOME ***25*** *00:09:06.3, 41°.55N×79°.37E, h15km*
BJI ***25*** *00:09:06.6±0.0, 41°.54N×79°.43E, h7km, ML3.5/5*
NNC ***25*** *00:09:07.0±0.9, 41°.56N×79°.31E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=6.3km s-min=3.9km az=152.0*
ISC 25 00:09:04.6±2.0, 41°.49N±0°.06×79°.34E±0°.05, h2km±10km, n66, σ1§67/105, 28C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.18**	**282**	⇓*iP*	**Pb**	**00 09 28.2**	**+0.3**
	baz=82						
TARG				⇓*iS*	**Sg**	**00 09 45.3**	**+2.8**
	baz=82						
PRZ	**Przheval'sk**	**1.22**	**325**	⇓*iP*	**Pb**	**00 09 28.6**	**+0.1**
	baz=24						
PRZ				⇓*iS*	**Sg**	**00 09 45.5**	**+1.7**
	baz=24						
SHLS	**Shalkode**	**1.67**	**3**	P	**Pg**	**00 09 37.2**	**+0.5**
	220nm,0.3s						
SHLS				S	**Sg**	**00 09 59.8**	**+1.5**
	972nm,0.6s						
SHLS	**Shalkode**	**1.67**	**3**	⇑*eP*	**Pg**	**00 09 37.0**	**+0.3**
	42nm,0.3s						
SHLS				⇓*eS*	**Sg**	**00 09 58.9**	**+0.6**
	979nm,0.5s						
UZB	**Uzynbulak**	**1.68**	**352**	P	**Pb**	**00 09 36.4**	**+0.2**
	31nm,0.2s						
UZB				S	**Sb**	**00 09 57.9**	**0.0**
	148nm,0.5s						
UZB	**Uzynbulak**	**1.68**	**352**	⇓*iP*	**Pb**	**00 09 36.5**	**+0.2**
	31nm,0.3s						
UZB				*eS*	**Sb**	**00 09 57.8**	**0.0**
	148nm,0.5s						
SATY	**Saty**	**1.72**	**336**	P	**Pg**	**00 09 37.6**	**0.0**
	68nm,0.4s						
SATY				S	**Sg**	**00 09 59.8**	**0.0**
	240nm,0.4s						
SATY	**Saty**	**1.72**	**336**	⇓*iP*	**Pg**	**00 09 37.5**	**0.0**
	97nm,0.4s						
SATY				⇑*iS*	**Sg**	**00 09 59.8**	**0.0**
	298nm,0.3s						
KDJ	**Kajisay**	**1.74**	**292**	⇑*eP*	**Pb**	**00 09 37.9**	**+0.5**
	baz=92						
KDJ				⇑*iS*	**Sg**	**00 10 02.0**	**+1.5**
	baz=92						
ANVS	**Anan'yevo**	**1.80**	**317**	⇑*eP*	**Pg**	**00 09 39.3**	**+0.2**
	baz=16						
ANVS				⇑*iS*	**Sg**	**00 10 03.6**	**+1.2**
	baz=16						
ZHN	**Zhinishke**	**1.81**	**338**	P	**Pb**	**00 09 39.1**	**+0.6**
	65nm,0.2s						
ZHN				S	**Sg**	**00 10 02.7**	**-0.1**
	259nm,0.3s						
ZHN	**Zhinishke**	**1.81**	**338**	⇓*iP*	**Pb**	**00 09 39.1**	**+0.6**
	69nm,0.3s						
ZHN				⇑*iS*	**Sg**	**00 10 02.7**	**-0.1**
	259nm,0.3s						
PDGK	**Podgornoye**	**1.84**	**3**	P	**Pb**	**00 09 39.2**	**+0.1**
	36nm,0.3s						
PDGK				S	**Sb**	**00 10 02.7**	**0.0**
	336nm,0.5s						
PDGK	**Podgornoye**	**1.84**	**3**	⇑P	**Pb**	**00 09 39.0**	**-0.1**
	39nm,0.4s						
PDGK				⇑S	**Sb**	**00 10 02.6**	**-0.1**
	286nm,0.4s						
KPKS	**Kokpek**	**2.04**	**346**	*eP*	**Pg**	**00 09 43.1**	**-0.5**
	277nm,0.3s						
KPKS				*eS*	**Sg**	**00 10 09.6**	**-0.4**
	2μm,0.4s						
KURS	**Kuram**	**2.18**	**337**	Pg	**Pg**	**00 09 46.0**	**-0.4**
	92nm,0.7s						
KURS				Lg	Lg	00 10 14.4	
	184nm,0.6s						
KURS	**Kuram**	**2.18**	**337**	*eP*	**Pg**	**00 09 46.0**	**-0.4**
	92nm,0.7s						
KURS				*eS*	**Sg**	**00 10 14.4**	**-0.2**
	184nm,0.6s						
TNSS	**Tian-Shan**	**2.36**	**312**	Pg	**Pg**	**00 09 49.9**	**+0.1**
	68nm,0.5s						
TNSS				Lg	Lg	00 10 20.9	
	107nm,0.5s						
TNSS	**Tian-Shan**	**2.36**	**312**	*eP*	**Pg**	**00 09 49.9**	**+0.1**
	68nm,0.4s						
TNSS				*eS*	**Sg**	**00 10 20.9**	**+0.6**
	107nm,0.5s						
MDOK	**Medeo**	**2.39**	**315**	⇑Pg	**Pb**	**00 09 49.4**	**+1.0**
	41nm,0.5s						
MDOK				⇑Lg	Lg	00 10 21.0	
	105nm,0.5s						
MDOK	**Medeo**	**2.39**	**315**	Pg	**Pb**	**00 09 49.5**	**+1.1**
	60nm,0.4s						
MDOK				Lg	Lg	00 10 20.8	
	146nm,0.5s						
MDOK	**Medeo**	**2.39**	**315**	*eP*	**Pb**	**00 09 49.5**	**+1.1**
	60nm,0.5s						
MDOK				*eS*	**Sg**	**00 10 20.8**	**-0.5**
	146nm,0.4s						
KOTS	**Kotyrbulak**	**2.41**	**317**	Pg	**Pg**	**00 09 50.4**	**-0.3**
	203nm,0.3s						
KOTS				Lg	Lg	00 10 22.5	
	592nm,0.4s						
KOTS	**Kotyrbulak**	**2.41**	**317**	*eP*	**Pg**	**00 09 50.4**	**-0.3**
	202nm,0.4s						
KOTS				*eS*	**Sg**	**00 10 22.6**	**+0.8**
	700nm,0.4s						
ULHL	**Ulahol**	**2.44**	**289**	⇑*iP*	**Pb**	**00 09 48.9**	**-0.4**
	baz=89						
ULHL				⇑*iS*	**Sb**	**00 10 20.3**	**+0.5**
	baz=89						
KNDC	**Almaty**	**2.47**	**315**	⇓Pg	**Pg**	**00 09 52.7**	**+0.8**
	124nm,0.7s						
KNDC				⇓Lg	Lg	00 10 24.2	
	134nm,0.6s						
AAA	**Alma-Ata**	**2.49**	**315**	Pg	**Pg**	**00 09 51.7**	**-0.6**
	65nm,0.3s						
AAA				Lg	Lg	00 10 24.7	
	112nm,0.3s						
AAA	**Alma-Ata**	**2.49**	**315**	*eP*	**Pg**	**00 09 51.7**	**-0.6**
	65nm,0.3s						
AAA				*eS*	**Sg**	**00 10 24.7**	**+0.1**
	112nm,0.3s						
NRN	**Naryn**	**2.51**	**270**	⇓*iP*	**Pb**	**00 09 49.9**	**-0.7**
	baz=70						
NRN				⇓*iS*	**Sb**	**00 10 22.5**	**+0.4**
	baz=70						
IZV	**Izvestkoviy**	**2.55**	**308**	Pg	**Pb**	**00 09 52.6**	**+1.5**
	172nm,0.6s						
IZV				Lg	Lg	00 10 26.1	
	191nm,0.3s						
IZV	**Izvestkoviy**	**2.55**	**308**	*eP*	**Pb**	**00 09 52.6**	**+1.5**
	172nm,0.6s						
IZV				*eS*	**Sg**	**00 10 26.1**	**-0.4**
	201nm,0.6s						
MNBS	**Baschi**	**2.68**	**345**	Pg	**Pb**	**00 09 54.1**	**+0.7**
	388nm,0.6s						
MNBS				Lg	Lg	00 10 28.9	
	373nm,0.3s						
MNBS	**Baschi**	**2.68**	**345**	*eP*	**Pb**	**00 09 54.1**	**+0.7**
	47nm,0.2s						
MNBS				*eS*	**Sg**	**00 10 28.9**	**-1.9**
	374nm,0.4s						
BOOM	**Boomskoye usch**	**2.73**	**293**	⇓*iP*	**Pb**	**00 09 52.9**	**-1.3**
	baz=92						
BOOM				⇓*iS*	**Sb**	**00 10 27.1**	**-1.0**
	baz=92						
DJR	**Jarkent**	**2.86**	**6**	Pg	**Pb**	**00 09 57.1**	**+0.6**
	36nm,0.5s						
DJR				Lg	Lg	00 10 33.6	
	199nm,0.5s						
DJR	**Jarkent**	**2.86**	**6**	*eP*	**Pb**	**00 09 57.2**	**+0.8**
	36nm,0.5s						
DJR				*eS*	**Sg**	**00 10 33.6**	**-2.9**
	199nm,0.5s						
CHKK	**Chushkaly**	**2.94**	**325**	*eP*	**Pg**	**00 09 59.7**	**-1.1**
	74nm,0.3s						
CHKK				*eS*	**Sg**	**00 10 38.1**	**-0.7**
	643nm,0.5s						
ARXS	**Arharly**	**2.94**	**338**	Pg	**Pb**	**00 09 58.8**	**+1.0**
	30nm,0.6s						
ARXS				Lg	Lg	00 10 36.9	
	217nm,0.5s						
ARXS	**Arharly**	**2.94**	**338**	*eP*	**Pb**	**00 09 58.9**	**+1.0**
	30nm,0.6s						
ARXS				*eS*	**Sg**	**00 10 37.0**	**-2.1**
	217nm,0.5s						
KST	**Kastek**	**2.95**	**303**	Pg	**Pb**	**00 09 58.5**	**+0.5**
	43nm,0.5s						
KST				Lg	Lg	00 10 35.8	
	129nm,0.7s						
KST	**Kastek**	**2.95**	**303**	*eP*	**Pb**	**00 09 59.1**	**+1.1**
	43nm,0.5s						
KST				*eS*	**Sg**	**00 10 37.5**	**-1.9**
	116nm,0.7s						
KTBS	**Karatobe**	**2.97**	**319**	Pg	**Pg**	**00 10 00.2**	**-1.3**
	34nm,0.5s						
KTBS				Lg	Lg	00 10 38.7	
	363nm,0.7s						
KTBS	**Karatobe**	**2.97**	**319**	*eP*	**Pg**	**00 10 00.2**	**-1.3**
	34nm,0.5s						
KTBS				*eS*	**Sg**	**00 10 38.7**	**-1.2**
	363nm,0.6s						
KZA	**Kyzart**	**3.12**	**282**	⇑*iP*	**Pb**	**00 09 58.2**	**-2.8**
	baz=82						
KZA				⇑*iS*	**Sb**	**00 10 36.6**	**-3.0**
	baz=82						
TKM2	**Tokmak 2**	**3.13**	**299**	⇑Pg	**Pb**	**00 10 00.3**	**-0.8**
	7.1nm,0.3s						
TKM2				⇓Lg	Lg	00 10 43.7	
	82nm,0.7s						
TKM2	**Tokmak 2**	**3.13**	**299**	⇑*iP*	**Pb**	**00 09 58.4**	**-2.7**
	baz=98						
TKM2				⇑*iS*	**Sb**	**00 10 36.9**	**-2.9**
	baz=98						
DGS	**Degeres**	**3.17**	**305**	Pg	**Pb**	**00 10 03.6**	**+1.8**
	30nm,0.6s						
DGS				Lg	Lg	00 10 44.7	
	128nm,0.7s						
DGS	**Degeres**	**3.17**	**305**	*eP*	**Pb**	**00 10 03.6**	**+1.8**
	31nm,0.6s						
DGS				*eS*	**Sg**	**00 10 44.7**	**-1.9**
	128nm,0.7s						
KUU	**Kurty**	**3.27**	**318**	*eP*	**Pb**	**00 10 05.5**	**+2.1**
	19nm,0.6s						
KUU				*eS*	**Sg**	**00 10 47.2**	**-2.4**
	163nm,0.8s						
KBK	**Karagaybulak**	**3.48**	**291**	⇓*iP*	**Pb**	**00 10 03.0**	**-3.9**
	baz=91						
KBK				⇓*iS*	**Sb**	**00 10 45.0**	**-4.6**
	baz=91						
UCH	**Uchtor**	**3.68**	**283**	⇑*iP*	**Pn**	**00 10 06.1**	**+3.2**
	baz=83						
UCH				⇑*eS*	**Sn**	**00 10 50.2**	**+3.1**
	baz=83						
FRU1	**Bishkek**	**3.75**	**292**	⇑*iP*	**Pn**	**00 10 06.6**	**+3.2**
	baz=92						
FRU1				⇑*iS*	**Sn**	**00 10 51.2**	**+3.1**
	baz=92						
ARLS	**Aral**	**3.78**	**277**	⇑*iP*	**Pn**	**00 10 07.1**	**+3.1**
	baz=77						
ARLS				⇑*iS*	**Sn**	**00 10 52.2**	**+3.1**
	baz=77						
AAK	**Ala-Archa**	**3.79**	**289**	⇓Pg	**Pb**	**00 10 12.8**	**+0.5**
	3.7nm,0.4s						
AAK				⇑Lg	Lg	00 11 03.6	
	28nm,0.6s						
AAK	**Ala-Archa**	**3.79**	**289**	Pn	**Pn**	**00 10 04.6**	**+0.5**
	0.1nm,0.3s,baz=176,slow=13,SNR=2.6						
AAK				Pg	**Pb**	**00 10 13.1**	**+0.8**
	1.8nm,0.3s,baz=106,slow=10,SNR=16						
AAK				Lg	Lg	00 11 03.6	
	1.0nm,0.3s,baz=58,slow=10,SNR=3.7						
KAPS	**Kapalarasan**	**3.80**	**0**	Pg	**Pb**	**00 10 13.9**	**+1.5**
	54nm,0.5s						
KAPS				Lg	Lg	00 11 02.2	
KAPS	**

```
     baz=178
KIF                          MSG                  00 17 09.1
     comp=Z,4.0nm,0.2s
KIF                          eSB      Sb          00 17 10.3  -0.1
PAJU Pajala          1.39 125 P        Pg          00 16 56.5  -1.2
PAJU Pajala          1.39 125 eP       Pg          00 16 56.5  -1.2
HEF  Hetta           1.42  65 ePG      Pn          00 16 57.3  -0.8
HEF                          MSG                  00 17 11.4
     comp=Z,1.0nm,0.2s
HARU Harads          1.71 169 P        Pn          00 17 02.3  +0.2
HARU Harads          1.71 169 eP       Pn          00 17 02.3  +0.2
KALU Kalix           2.35 146 eP       Pn          00 17 11.9  +1.1
     baz=331
KALU                         eSG      Sb          00 17 43.9  +0.2
TOF  Tornio          2.40 135 ePB      Pn          00 17 13.1  +1.5
     baz=314
TOF                          MSG                  00 17 40.9
     comp=Z,1.4nm,0.2s
TOF                          eSG      Sb          00 17 45.3  +0.1
SGF  Sodankyl        2.45  96 eSG      Sb          00 17 47.5  +0.8
RNF  Rovaniemi       2.58 116 ePB      Pn          00 17 15.9  +1.9
     baz=305
RNF                          eSG      Sb          00 17 50.8  +0.5
ARE0 ARCESS Array S  2.58  46 ePB      Pb          00 17 16.2  -2.0
     baz=226
ARE0                         eSB      Sb          00 17 49.4  -1.0
```

UPP 25 00:17:08.7±0.1, 67°.82N×20°.20E, h0km, ML1.5, Explosion, Sweden

```
Code Station Name     Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
KOVU Salmi           0.40 358  P       Pg              00 17 16.4 +0.1
KOVU                           S       Sg              00 17 21.8 +0.3
LANU Lannavaara      0.71  71  P       Pg              00 17 22.0 -0.3
DUNU Dundret         0.72 169  P       Pg              00 17 22.2 -0.2
DUNU                           S       Sg              00 17 32.0 +0.2
MASU Masugnsbyn      0.78 117  P       Pg              00 17 23.5 -0.1
PAJU Pajala          1.38 124  P       Pg              00 17 34.0 -1.2
HARU Harads          1.70 169  P       Pn              00 17 39.8 +0.3
```

ISCJB ***25*** *00:21:14.0±0.6, 21°.62S±0°.03×68°.80W±0°.08, h136km±7km, mb2.9/1, Error ellipse: s-maj=12.0km s-min=5.0km az=175.0*

SJA ***25*** *00:21:14.5±0.9, 21°.66S×68°.72W, h126km±6km, ML2.6, MW2.6*

GUC ***25*** *00:21:14.9±0.6, 21°.63S×68°.75W, h130km±4km, ML3.3*

IDC ***25*** *00:21:46.4±6.2, 18°.09S×67°.29W, h301km±38km, mb2.8/1, mb1 2.9/2, mb1mx2.7/21, mbtmp3.6/2, Error ellipse: s-maj=146.9km s-min=59.7km az=20.0*

ISC 25 00:21:14.6±1.0, 21°.62S±0°.03×68°.79W±0°.07, h129km±8km, n26, σ0§70/44, 11C, Chile-Bolivia border region

```
Code Station Name     Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
PB09 IPOC Station P  0.46 247⇑ iP       Pn              00 21 33.8 +0.2
PB09                           i S      Sn              00 21 48.3 +0.4
PB09                           IAML                     00 21 50.7
     comp=N,798nm,0.3s
PB09 IPOC Station P  0.46 247  i P      Pn              00 21 33.5 -0.1
PB09                           eS       Sn              00 21 48.5 +0.6
PB01 IPOC Station P  0.87 311⇑ iP       Pn              00 21 36.3 -0.1
PB01                           i S      Sn              00 21 52.8 -0.1
PB01                           IAML                     00 21 54.8
     comp=N,1μm,0.3s
LVC  Limon Verde     0.99 186  eP       Pn              00 21 37.5 -0.3
LVC                            i S      Sn              00 21 54.4 -1.0
LVC  Limon Verde     0.99 186⇑ iP       Pn              00 21 37.5 -0.3
LVC                            eS       Sn              00 21 54.7 -0.7
LVC                            IAML                     00 21 55.2
     comp=Z,136nm,0.1s
PB07 IPOC Station P  1.02 264⇑ iP       Pn              00 21 38.4 +0.5
PB07                           i S      Sn              00 21 56.1 +0.6
PB07                           IAML                     00 21 58.9
     comp=N,789nm,0.2s
PB02 IPOC Station P  1.07 286⇑ iP       Pn              00 21 38.6 +0.4
PB02                           i S      Sn              00 21 56.6 +0.4
PB02                           IAML                     00 21 58.3
     comp=E,943nm,0.2s
PB06 IPOC Station P  1.30 214  i P      Pn              00 21 41.0 +0.3
PB06                           i S      Sn              00 22 01.0 +0.5
PB06                           IAML                     00 22 01.5
     comp=E,786nm,0.3s
PB06 IPOC Station P  1.30 214  i P      Pn              00 21 40.9 +0.3
PB06                           eS       Sn              00 22 01.1 +0.5
PB04 IPOC Station P  1.45 240⇑ iP       Pn              00 21 42.7 +0.5
PB04                           IAML                     00 22 12.7
     comp=N,255nm,0.2s
PB04 IPOC Station P  1.45 240  i P      Pn              00 21 42.6 +0.3
PB04                           eS       Sn              00 22 04.5 +1.2
PB08 IPOC Station P  1.51 347⇑ iP       Pn              00 21 43.7 +0.4
PB08                           IAML                     00 22 07.1
     comp=E,195nm,0.5s
TA01 Diego Aracena   1.67 309  i P      Pn              00 21 44.5 -0.1
TA01                           i S      Sn              00 22 07.7 +0.2
TA01                           IAML                     00 22 08.5
     comp=E,354nm,0.2s
PB15 IPOC Station P  1.70 202⇑ iP       Pn              00 21 45.5 +0.3
PB15                           i S      Sn              00 22 09.2 +0.7
PB15 IPOC Station P  1.70 202  i P      Pn              00 21 45.7 +0.5
PB15                           eS       Sn              00 22 08.9 +0.3
PB05 IPOC Station P  1.79 227⇑ iP       Pn              00 21 46.5 +0.3
PB05                           IAML                     00 22 13.3
     comp=N,137nm,0.4s
PB05 IPOC Station P  1.79 227  i P      Pn              00 21 46.5 +0.3
PB05                           eS       Sn              00 22 11.3 +1.0
GO01 Chusmiza        1.98 349⇑ iP       Pn              00 21 49.1 +0.3
GO01                           i S      Sn              00 22 16.3 +1.4
GO01                           IAML                     00 22 18.1
     comp=E,256nm,0.1s
PB11 IPOC Station P  2.02 336⇑ iP       Pn              00 21 48.7 -0.3
PB11                           i S      Sn              00 22 15.0 -0.2
PB11                           IAML                     00 22 19.5
     comp=E,178nm,0.1s
PSGC Pisagua         2.37 328  eP       Pn              00 21 52.2 -1.0
PSGC                           i S      Sn              00 22 21.8 -1.1
PSGC                           IAML                     00 22 23.1
     comp=N,97nm,0.3s
MNMC Minye Minye     2.59 343⇑ iP       Pn              00 21 56.2 -0.1
MNMC                           i S      Sn              00 22 28.9 +0.7
MNMC                           IAML                     00 22 38.0
     comp=E,138nm,0.2s
HJA  Humahuaca       3.50 117  i P      Pn              00 22 09.0 +0.8
HJA                            IAML                     00 22 09.4
     comp=Z,6.3nm,0.3s
LPAZ La Paz          5.34   7  P        Pn              00 22 34.0 +1.1
     comp=Z,0.2nm,0.3s,baz=174,slow=8.5,SNR=8.2
LPAZ                           S        Sn              00 23 11.8  -22
     comp=Z,0.2nm,0.3s,baz=204,slow=5.7,SNR=4.7
LPAZ La Paz          5.34   7  i P      Pn              00 22 34.7 +1.8
BDFB Brasilia       20.56  77  P        P               00 25 42.7 -0.6
     comp=Z,0.2nm,0.3s,baz=257,slow=12,SNR=3.3
TORD Torodi Ar. Bea 77.29  70  P        P               00 32 54.5 -0.8
     comp=Z,0.1nm,0.3s,baz=246,slow=7.2,SNR=2.9
```

ISCJB ***25*** *00:25:55.4±0.3, 21°.34S±0°.06×68°.63E±0°.06, h10km, mb4.6/30, MS4.0/8, Error ellipse: s-maj=8.5km s-min=7.5km az=166.6*

IDC ***25*** *00:25:55.6±0.5, 21°.32S×68°.63E, h0km, mb4.4/24, mb1 4.5/24, mb1mx4.3/50, mbtmp4.4/24, MS3.7/5, Ms1 3.6/5, ms1mx3.3/33, Error ellipse: s-maj=14.8km s-min=13.0km az=3.0*

BJI ***25*** *00:25:55.0±0.0, 21°.55S×68°.68E, h10km, mb4.7/19, mB5.1/11, Ms4.9/7, Ms7 4.6/7*

NEIC ***25*** *00:25:57.1±1.4, 21°.4S±0°.1×68°.6E±0°.1, h10km±1km, mb4.6/33*

ISC 25 00:25:57.1±0.4, 21°.25S±0°.08×68°.56E±0°.07, h10km, n92, σ1§55/88, mb4.5/41, MS4.0/8, Mid-Indian Ridge

```
Code Station Name     Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
RER  Riviere de l'E  11.96 268  T       Pn              00 28 44.3 -3.5
H08S1 Diego Carcia H 14.04  16  T       T               00 43 38.2
     baz=196,slow=76,SNR=699
H08S2 Diego Garcia H 14.05  16  T       T               00 43 41.2
     baz=196,slow=76,SNR=1116
H08S3 Diego Garcia H 14.06  16  T       T               00 43 40.1
     baz=196,slow=76,SNR=533
H08N3 Diego Garcia H 15.00   9  T       T               00 44 52.6
     baz=216,slow=77,SNR=12
H08N1 Diego Carcia H 15.01   9  T       T               00 44 54.1
     baz=216,slow=77,SNR=13
H08N2 Diego Garcia H 15.02   9  T       T               00 44 51.4
     baz=216,slow=77,SNR=16
ABPO Ambohimpanom   20.15 273  P       P               00 30 33.2 +1.3
ABPO                           IAmb     IAmb            00 30 36.6
     comp=Z,37nm,1.3s
OPO  Ambohidratompo 20.27 274  P       P               00 30 35.0 +1.8
     comp=Z,4.8nm,0.8s,baz=65,slow=9.1,SNR=5.3
OPO                            LR       LR              00 36 38.3
     comp=Z,46nm,18.7s,baz=302,slow=32
KMBO Kilima Mbogo   36.50 299  LR      LR              00 45 02.4
     comp=Z,119nm,19.6s,baz=96,slow=31
LSZ  Lusaka         38.72 272  P       P               00 33 22.5 +0.7
LBTB Lobatse        39.57 256  P       P               00 33 29.4 +0.5
     comp=Z,6.7nm,0.9s,baz=103,slow=4.3,SNR=7.1
LBTB Lobatse        39.57 256  P       P               00 33 29.3 +0.5
LBTB                           IAmb     IAmb            00 33 33.4
     comp=Z,11nm,1.0s
BOSA Boshof         39.78 250  P       P               00 33 31.3 +0.7
     comp=Z,5.2nm,0.7s,baz=84,slow=7.6,SNR=13
BOSA                           LR       LR              00 47 00.1
     comp=Z,148nm,19.5s,baz=102,slow=32
BOSA Boshof         39.78 250  P       P               00 33 30.8 +0.2
LEM  Lembang        40.37  75  P       P               00 33 35.8 +0.1
     comp=Z,16nm,0.5s,baz=178,slow=10,SNR=5.1
JAGI Jajag, Banyuwa 45.70  81  P       P               00 34 18.8 +0.2
MAW  Mawson         46.49 183  P       P               00 34 23.9  -0.2
     comp=Z,4.4nm,1.0s,baz=338,slow=8.6,SNR=5.5
UOSS Minazif        47.46 345  P       P               00 34 32.3  0.0
UOSS                           IAmb     IAmb            00 34 37.2
     comp=Z,12nm,1.4s
PSA00 Pilbara Seismi 47.56 100 P       P               00 34 31.7  -1.6
CHAI Chaiyaphum     49.38  44  P       P               00 34 52.1  +4.9
     comp=Z,12μm,1.1s
CMAR Chiang Mai Arr 49.42  39  P       P               00 34 49.0 +1.5
     comp=Z,3.6nm,0.7s,baz=236,slow=8.3,SNR=25
CMAR Chiang Mai Arr 49.42  39  P       P               00 34 48.7 +1.2
CHTO Chiang Mai     49.70  39  P       P               00 34 50.9 +1.3
CHTO                           IAmb     IAmb            00 34 51.9
     comp=Z,6.0nm,1.0s
CMMT Chiang Mai     49.70  39  P       P               00 34 51.7 +2.1
     comp=Z,3.5nm,1.1s
UBPT Khong Chiam    51.28  48  P       P               00 35 03.5 +1.9
UBPT Khong Chiam    51.28  48  P       P               00 35 02.4 +0.8
FITZ Fitzroy Crossi 53.60  97  P       P               00 35 18.8  -0.1
     comp=Z,13nm,0.9s,baz=243,slow=6.4,SNR=10
FITZ Fitzroy Crossi 53.60  97  P       P               00 35 17.7  -1.1
SLVN Son La         54.61  41  P       P               00 35 27.2 +1.0
KBL  Kabul          55.48   0  P       P               00 35 33.4 +1.0
KBL                            IAmb     IAmb            00 35 35.3
     comp=Z,5.3nm,1.0s
HRA  Herat          55.65 354  P       P               00 35 34.7 +1.0
GAR  Garm           59.95   2  P       P               00 36 04.3 +0.6
GAR                            IAmb     IAmb            00 36 04.8
     comp=Z,8.0nm,1.1s
ASAR Alice Springs  59.96 106  P       P               00 36 03.5  -0.7
     comp=Z,7.5nm,0.7s,baz=261,slow=6.1,SNR=65
ASAR Alice Springs  59.96 106  P       P               00 36 03.2  -0.9
KSH  Kashi          60.84   7  P       P               00 36 08.1  -1.7
KSH                            sP       pwP             00 36 15.8  -0.2
KSH                            PP       PP              00 38 24.5 +0.4
KSH                            S        S               00 44 20.5  -6.9
KSH                            SS       SS              00 48 20.0  -7.0
KSH                            pmax     pmax
     comp=Z,30nm,1.1s
KSH                            LR       LR
     comp=Z,340nm,11.8s
KSH                            LR       LR
     comp=Z,290nm,12.1s
KSH                            LR       LR
     comp=Z,330nm,9.9s
BTK  Batken         61.02   2  IAmb    IAmb            00 36 14.7
     comp=Z,5.3nm,1.1s
WRA  Warramunga Arr 61.17 102  P       P               00 36 11.7  -0.7
     comp=Z,6.8nm,0.9s,baz=260,slow=6.8,SNR=23
WRA                            LR       LR              00 59 40.5
     comp=Z,132nm,19.7s,baz=275,slow=33
WRA  Warramunga Arr 61.17 102  P       P               00 36 12.0  -0.4
WB2  Warramunga Arr 61.18 102  P       P               00 36 11.8  -0.7
WRAB Tennant Creek  61.18 102  P       P               00 36 12.1  -0.4
CD2  Chengdu        61.90  34  eP      P               00 36 19.0 +2.0
ARSB Arslanbob      62.39   4  P       P               00 36 21.5 +1.3
AAK  Ala-Archa      63.80   5  P       P               00 36 30.9 +1.4
AAK                            IAmb     IAmb            00 36 32.0
     comp=Z,5.0nm,1.1s
KKAR Karatay Array  64.06   2  P       P               00 36 32.2 +1.2
SNAA Sanae          64.16 199  P       P               00 36 31.3  -0.2
SNAA Sanae          64.16 199  P       P               00 36 31.2  -0.3
     comp=Z,2.3nm,1.0s,baz=38,slow=3.3,SNR=3.0
SIJI Sorong         64.33  80  P       P               00 36 33.9 +0.3
     comp=Z,6.3nm,0.4s,baz=301,slow=3.6,SNR=6.2
GNI  Garni          64.99 340  P       P               00 36 37.3  -0.2
STKA Stephens Creek 65.11 116  P       P               00 36 37.1  -1.3
     comp=Z,3.3nm,0.9s,baz=297,slow=8.9,SNR=5.1
STKA Stephens Creek 65.11 116  P       P               00 36 37.2  -1.1
VNA2 Neumayer--Watz 65.50 201  P       P               00 36 39.7  -0.5
     baz=71,slow=7.8
LZH  Lanzhou        66.08  31  eP      P               00 36 45.5 +0.9
LZH                            pP       pP              00 36 47.8 +1.0
LZH                            sP       pwP             00 36 50.3  -0.5
LZH                            ePP      PP              00 39 14.1 +3.8
LZH                            pmax     pmax
     comp=Z,20nm,1.3s
LZH                            pmax     pmax
     comp=Z,72nm,7.4s
LZH                            LR       LR
     comp=Z,270nm,15.2s
LZH                            LR       LR
     comp=Z,280nm,15.4s
LZH                            LR       LR
     comp=Z,380nm,17.6s
VNA3 Neumayer Olymp 66.27 200  P       P               00 36 45.4 +0.3
GTA  Gaotai         67.05  26  P       P               00 36 52.1 +1.5
GTA                            pP       pwP             00 36 57.0 +0.1
GTA                            sP       sP              00 37 00.4 +6.6
GTA                            pmax     pmax
     comp=Z,170nm,5.4s
GTA                            LR       LR
     comp=Z,180nm,22.3s
GTA                            LR       LR
     comp=Z,190nm,19.6s
GTA                            LR       LR
     comp=Z,340nm,23.4s
XAN  Xi'an          67.08  36  P       P               00 36 50.8  0.0
XAN                            pmax     pmax
     comp=Z,9.0nm,1.2s
XAN                            pmax     pmax
     comp=Z,160nm,3.8s
WHN  Wuhan          67.73  42  P       P               00 36 53.8  -1.2
KBZ  Khabaz         68.82 340  P       P               00 37 02.6 +1.2
     comp=Z,2.3nm,0.9s,baz=188,slow=4.8,SNR=9.2
MKAR Makanchi Array 68.85  10  P       P               00 37 01.5  -0.2
     comp=Z,1.3nm,0.8s,baz=210,slow=6.5,SNR=9.0
MKAR Makanchi Array 68.85  10  P       P               00 37 01.6  -0.1
QSPA South Pole Qui 68.86 180  P       P               00 37 01.6  -0.2
     comp=Z,10.0nm,0.9s,baz=284,slow=2.6,SNR=19
QSPA South Pole Qui 68.86 180  P       P               00 37 01.6  -0.2
BR131 Keskin Array S 68.87 332 P       P               00 37 03.2 +1.1
BR131                          IAmb     IAmb            00 37 04.3
     comp=Z,3.7nm,1.0s
BRTR Keskin Array B 68.87 332  P       P               00 37 03.5 +1.4
     comp=Z,1.6nm,0.8s,baz=160,slow=7.1,SNR=12
BRTR Keskin Array B 68.87 332  P       P               00 37 02.9 +0.9
BRTR                           P       P               00 37 03.0 +0.9
KIV  Kislovodsk     69.09 340  P       P               00 37 04.2 +0.9
KIV                            P       pP              00 37 04.4  -1.2
KIV                            IAmb     IAmb            00 37 09.9
     comp=Z,6.5nm,1.1s
ABKAR Akbulak array 70.60 354  P       P               00 37 12.6 +0.2
ABKAR Akbulak array 70.60 354  P       P               00 37 12.7 +0.3
ABKAR                          IAmb     IAmb            00 37 14.3
     comp=Z,8.6nm,1.0s
NJ2  Nanjing        71.59  44  eP      P               00 37 20.3 +1.5
NJ2                            pmax     pmax
     comp=Z,28nm,0.5s
AKTO Aktyubinsk     71.97 353  P       P               00 37 21.4 +0.7
     comp=Z,3.5nm,0.8s,baz=190,slow=12
KURK Kurchatov      72.19   7  P       P               00 37 23.0 +1.0
KURK                           IAmb     IAmb            00 37 23.8
     comp=Z,4.9nm,1.0s
HHC  Hu-ho-hao-te   73.57  33  eP      P               00 37 33.3 +2.7
HHC                            pmax     pmax
     comp=Z,3.0nm,0.5s
TORD Torodi Ar. Bea 74.00 291  P       P               00 37 33.2  -0.3
     comp=Z,1.9nm,1.1s,baz=101,slow=4.9,SNR=5.5
TORD                           LR       LR              01 07 50.1
     comp=Z,38nm,21.8s,baz=350,slow=34
TORD Torodi Ar. Bea 74.00 291  P       P               00 37 34.4 +0.9
BRVK Borovoye       74.01   1  P       P               00 37 33.4 +0.7
ZAA0 Zalesovo Array 76.19  10  P       P               00 37 45.3 +0.1
ZAA0                           IAmb     IAmb            00 37 46.6
     comp=Z,4.5nm,1.1s
ZALV Zalesovo Beam  76.19  10  P       P               00 37 45.4 +0.2
     comp=Z,0.6nm,0.3s,baz=215,slow=5.5,SNR=9.4
SONM Songino Array  76.69  25  P       P               00 37 48.9 +0.4
     comp=Z,1.8nm,1.0s,baz=205,slow=6.4,SNR=8.3
SONM Songino Array  76.69  25  P       P               00 37 48.6 +0.1
DBIC Dimbokro       77.12 282  P       P               00 37 52.2 +0.8
     comp=Z,4.8nm,1.0s,baz=150,slow=6.0,SNR=3.0
BURAR Bucovina Array 78.83 332 P       P               00 38 00.4 +0.1
BUR08 Bucovina Ar. S 78.86 332 P       P               00 38 01.1 +0.7
AKASG Malin Array Be 79.59 336 P       P               00 38 04.1  -0.1
     comp=Z,2.6nm,0.8s,baz=138,slow=4.6,SNR=13
AKBB Malin Array Si 79.59 336  IAmb    IAmb            00 38 05.7
     comp=Z,5.5nm,0.8s
KSAR Wonju Array Be 80.75  44  P       P               00 38 10.8  0.0
KSRS Korea Array    80.78  44  P       P               00 38 10.7  -0.3
     comp=Z,2.9nm,0.9s,baz=217,slow=5.9,SNR=3.5
VYHS Vyhne          82.41 329  eP      P               00 38 21.5 +2.1
KLMR Klimovskoe     85.12 346  eP      P               00 38 32.4  -0.5
KLMR                           AMP                      00 38 35.3
     comp=Z,30nm,1.4s
MJAR Matsushiro Arr 87.27  49  P       P               00 38 44.1  0.0
     comp=Z,3.5nm,0.7s,baz=239,slow=7.8,SNR=6.9
PLWZ Palliser       87.87 134  P       P               00 38 45.8  -1.4
ULM  Lac du Bonnet 148.56 341  PKPbc   PKPbc           00 45 43.8  -0.3
     comp=Z,5.0nm,0.9s,baz=40,slow=1.8,SNR=4.1
TXAR Lajitas Array 169.31 320  PKPab   PKPab           00 47 17.1  -0.6
     comp=Z,1.5nm,1.1s,baz=48,slow=3.7,SNR=6.8
```

IDC 25 00:29:00.8±2.2, 4°.66N×123°.00E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/47, mbtmp3.7/3, Error ellipse: s-maj=309.4km s-min=26.9km az=63.0, Celebes Sea

```
Code Station Name     Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
WRA  Warramunga Arr 26.87 156  P       P               00 34 43.5  -0.1
     0.6nm,0.3s,baz=334,slow=9.6,SNR=23
ASAR Alice Springs  30.09 160  P       P               00 35 12.3 +0.1
     0.3nm,0.3s,baz=342,slow=6.8,SNR=5.6
MKAR Makanchi Array 54.71 327  P       P               00 38 31.9  -0.1
     0.2nm,0.5s,baz=122,slow=7.8,SNR=4.7
```

IDC ***25*** *00:32:12.5±7.7, 7°.76S×128°.45E, h190km±83km, mb2.9/1, mb1 3.1/5, mb1mx2.8/43, mbtmp3.6/5, Error ellipse: s-maj=84.4km s-min=23.9km az=40.0*

DJA ***25*** *00:32:14.5±1.4, 7°.5±17°×12°.8E±2°.5, h117km±107km, M4.0/4, mB4.6/1, MLv4.0/4, Mw(mB)3.8/1*

ISC 25 00:32:09.3±1.7, 7°.6S±0°.1×128°.7E±0°.1, h151km, n7, σ1§79/9, Banda Sea

```
Code Station Name     Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
SOEI Soe             4.85 244  P       Pn              00 33 22.0 +1.1
SOEI                           S       Sn              00 34 14.9  -1.8
BATI Baumata         5.58 242  P       Pn              00 33 32.2 +1.7
     20nm,0.3s,baz=83,slow=6.0,SNR=10.0
BATI                           S       Sn              00 34 31.9  -2.1
     5.6nm,0.3s,baz=37,slow=20,SNR=3.3
BATI Baumata         5.58 242  P       Pn              00 33 32.1 +1.6
BATI                           S       Sn              00 34 34.5 +0.5
FITZ Fitzroy Crossi 10.83 196  P       Pn              00 34 39.6  -0.7
     0.2nm,0.3s,baz=18,slow=8.2,SNR=6.1
FITZ                           S       Sn              00 36 32.3  -7.8
     0.4nm,0.3s,baz=73,slow=17,SNR=5.2
WRA  Warramunga Arr 13.43 156  P       Pn              00 35 13.7  -0.3
     0.1nm,0.3s,baz=331,slow=14,SNR=5.0
WRA                            S       Sn              00 37 35.9  -6.8
     0.3nm,0.3s,baz=334,slow=22,SNR=4.4
ASAR Alice Springs  16.73 163  P       P               00 35 56.4 +1.7
     0.1nm,0.3s,baz=339,slow=9.6,SNR=5.0
MKAR Makanchi Array 68.03 328  P       P               00 42 51.2  -1.2
     0.2nm,0.5s,baz=111,slow=7.9,SNR=3.8
```

DJA ***25*** *00:40:40.3±0.5, 8°.5±3°×10°.8E±°, h30km±4km, M4.8/25, mB5.3/18, mb5.2/25, MLv5.3/20, Mw(mB)4.7/18*

BJI ***25*** *00:40:41.7±0.0, 7°.80S×108°.00E, h70km, mb4.7/27, mB5.1/21, Ms4.7/9, Ms7 4.4/9*

ISCJB ***25*** *00:40:41.3±0.4, 7°.88S±0°.04×107°.95E±0°.03, h77km±3km, mb4.6/42, Error ellipse: s-maj=7.6km s-min=3.3km az=24.0*

NEIC ***25*** *00:40:42.4±1.9, 7°.87S±0°.07×107°.93E±0°.06, h71km±4km, mb4.8/54*

IDC ***25*** *00:40:43.5±1.0, 7°.72S×108°.10E, h81km±8km, mb4.3/34, mb1 4.4/37, mb1mx4.3/46, mbtmp4.6/37, MS3.8/23, Ms1 3.8/23, ms1mx3.7/32, Error ellipse: s-maj=13.2km s-min=9.0km az=41.0*

GCMT ***25*** *00:40:44.4±0.3, 8°.22S±0°.02×108°.01E±0°.03, h68km±2km, MW4.9/69, Moment Tensor Solution. s49,c60; s69,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.33±.11; $M_{\theta\theta}$-2.81±.10; $M_{\phi\phi}$0.48±.12; $M_{r\theta}$0.96±.08; $M_{\theta\phi}$0.48±.11; $M_{r\phi}$0.08±.08; Best double couple: $M_0$2.78100×10^{16} NP1:ϕ_s92.00000°, δ55.00000°, λ83.00000°. NP2: ϕ_s285.00000°, δ35.00000°, λ100.00000°. Principal axes: T 2.5170, Plg78.0000°, Azm336.0000°; N 0.5270, Plg6.0000°, Azm97.0000°; P -3.0450, Plg10.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 00:40:41.7±0.6, 7°.98S±0°.05×107°.92E±0°.04, h71km±5km, n558, σ1§24/555, mb4.7/59, 4C-16D, Jawa

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Code Station Name     Δ°   AZ°  Phase ID                Time      Res
                                Op      ISC             h m s     ISC
CISI Cisompet, Garu  0.44 346  P       Pn              00 40 52.7  -1.5
CISI                           S       Sn              00 41 00.9  -2.3
CISI Cisompet, Garu  0.44 346          Pn              00 40 52.7  -1.5
CMJI Cimerak         0.56  69  P       Pn              00 40 54.0  -1.2
CMJI                           S       Sn              00 41 02.9  -2.1
LEM  Lembang         1.19 345  P       Pn              00 41 04.0 +1.1
     615nm,0.3s,baz=189,slow=3.3,SNR=357
LEM                            S       Sn              00 41 23.1 +4.5
     2μm,0.3s,baz=144,slow=19,SNR=14
LEM  Lembang         1.19 345  P       Pn              00 41 03.9 +1.1
LEM                            S       Sn              00 41 21.9 +3.4
KPJI Karang Pucung   1.19  57  P       Pn              00 41 03.3 +0.6
SKJI Sukabumi        1.67 305  P       Pn              00 41 09.1 +0.1
TNG  Tangerang       2.20 325  P       Pn              00 41 17.5 +1.3
TNG                            P       Pn              00 41 17.4 +1.3
TNG                            S       Sn              00 41 45.7 +3.3
YOGI Yogyakarta      2.35  86  P       Pn              00 41 18.1  -0.1
YOGI                           S       Sn              00 41 45.0  -1.1
UGM  Wanagama        2.58  89  P       Pn              00 41 21.0  -0.2
UGM  Wanagama        2.58  89          Pn              00 41 21.1  -0.2
CGJI Cibinong        2.60 301  P       Pn              00 41 21.1  -0.4
CGJI                           S       Sn              00 41 50.4  -1.6
SMRI Semarang        2.66  70  P       Pn              00 41 24.2 +1.8
SMRI                           S       Sn              00 41 57.3 +3.7
SMRI Semarang        2.66  70          Pn              00 41 21.3  -1.1
XMIS Christmas Isla  3.35 222          Pn              00 41 28.2  -3.6
BLSI Bandar Lampung  3.72 314  P       Pn              00 41 39.5 +2.7
PWJI Pagerwojo       3.84  91  P       Pn              00 41 38.9 +0.4
KASI Kota Agung      4.19 305  P       Pn              00 41 44.8 +1.6
KLSI                 4.56 316  P       Pn              00 41 50.3 +2.0
GRJI Gresik          4.64  77  P       Pn              00 41 50.4 +1.0
LWLI Liwa            4.84 307  P       Pn              00 41 53.5 +1.3
BWJI Bawean          5.15  66  P       Pn              00 41 57.7 +1.3
TPI  Tanjungpandan   5.20 357  P       Pn              00 41 58.5 +1.5
     175nm,0.7s,2μm0.8nm
PMBI Palembang       5.92 328  P       Pn              00 42 20.0  +13
LHSI Lahat           6.02 313  P       Pn              00 42 11.1 +2.9
KMMI Kalianget       6.06  82  P       Pn              00 42 08.9 +0.1
     105nm,0.6s,0.6nm
MNAI Manna           6.11 306          Pn              00 42 10.4 +0.9
JAGI Jajag, Banyuwa  6.18  95  P       Pn              00 42 10.8 +0.3
JAGI Jajag, Banyuwa  6.18  95          Pn              00 42 11.4 +0.9
IGBI Denpasar        7.19  97  P       Pn              00 42 27.3 +3.0
MASI Maura Aman, Be  7.42 310  P       Pn              00 42 35.6 +8.1
DSRI Dabo            8.16 336  P       Pn              00 42 40.6 +3.0
     290nm,1.2s,4μm
TWSI Taliwang, Sumb  8.90  95  P       Pn              00 42 48.1 +0.5
```

74nm,0.7s,2µm
KBKI Kotabaru 9.43 61 P Pn 00 43 06.7 +12
PPSI Pulau Pagai 9.43 303 P **Pn 00 42 53.7 -1.2**
266nm,0.6s,3µm
KSM Kuching 9.69 14 Pn 00 42 58.1 -0.3
PLAI Plampang 9.78 96 P **Pn 00 43 00.8 +1.1**
134nm,0.6s,2µm
PDSI Padang 10.23 313 P **Pn 00 43 04.1 -1.7**
MYKOM **Kota Tinggi 10.52 337 Pn 00 43 10.2 +0.4**
SISI Saibi 11.01 306 P **Pn 00 43 13.7 -2.7**
SBUM Sibu 11.21 23 Pn 00 43 18.7 -0.5
KAPI Kappang 12.12 77 P **Pn 00 43 32.0 +0.4**
0.6nm,0.3s,baz=248,slow=15,SNR=6.1
KAPI LR LR 00 48 56.3
comp=Z,541nm,19.6s,baz=122,slow=42
KAPI Kappang 12.12 77 Pn 00 43 30.7 -0.9
GSI Gunungsitoli 13.84 311 P Pn 00 43 48.5 -6.3
GSI Gunungsitoli 13.84 311 Pn 00 43 49.9 -4.9
RPSI Rantau Prapat 13.89 319 Pn 00 43 46.3 -9.2
RPSI Rantau Prapat 13.89 319 Pn **Pn 00 43 54.9 -0.6**
PSI Prapat 13.97 320 P Pn 00 43 46.3 -10
0.3nm,0.3s,baz=224,slow=18,SNR=1.7
PSI LR LR 00 50 12.7
comp=Z,328nm,18.2s,baz=124,slow=41
IPM Ipoh 14.16 331 Pn **Pn 00 43 59.8 +0.7**
KULM Kulim 15.05 331 Pn **Pn 00 44 10.1 -0.4**
KDI Kendari 15.15 76 P P 00 44 25.1 +10
BATI Baumata 15.70 99 P **Pn 00 44 17.7 -1.1**
3.3nm,0.3s,baz=215,slow=19,SNR=3.0
BATI S **Sn 00 47 03.0 -9.1**
5.6nm,0.3s,baz=270,slow=20,SNR=2.2
BATI Baumata 15.70 99 P **P 00 44 20.6 -0.9**
KKM Kota Kinabalu 16.20 31 Pn **Pn 00 44 25.1 -0.1**
KKM IAmb IAmb 00 44 36.9
comp=Z,54nm,1.0s
SOEI Soe 16.24 97 P **P 00 44 27.5 -0.2**
SOEI Soe 16.24 97 Pn 00 44 26.6 +0.7
SOEI **S 00 47 35.5 +1.0**
PSA00 Pilbara Seismi 17.74 141 P **Pn 00 44 45.5 +1.3**
PSA00 Pilbara Seismi 17.74 141 Pn 00 44 45.5 +1.3
SANI Sanana 18.93 73 P **P 00 44 57.7 +0.6**
comp=Z,68nm,0.7s,comp=Z,803nm
NLAI Namlea 19.65 77 P **Pn 00 45 07.7 +0.7**
FITZ Fitzroy Crossi 19.95 122 P **Pn 00 45 09.8 -0.8**
comp=Z,1.0nm,0.3s,baz=294,slow=8.4,SNR=23
FITZ S S 00 48 35.8 -13
comp=Z,0.2nm,0.3s,baz=218,slow=19,SNR=2.2
FITZ LR LR 00 53 32.9
comp=Z,204nm,20.0s,baz=301,slow=39
FITZ Fitzroy Crossi 19.95 122 P **Pn 00 45 09.8 -0.8**
FITZ IAmb IAmb 00 45 20.6
comp=Z,31nm,0.8s
AAI Ambon 20.61 79 P **P 00 45 16.4 +1.0**
TNTI Ternate 21.25 67 P **P 00 45 23.0 +0.7**
TNTI Ternate 21.25 67 P **P 00 45 23.0 +0.7**
MSAI Masohi 21.40 79 P **P 00 45 24.5 +0.6**
KNRA Kununurra 21.77 112 IAmb IAmb 00 45 48.6
comp=Z,36nm,1.0s
MORW Morawa 22.32 161 P **P 00 45 34.3 +0.6**
KCP Kidapawan 22.69 49 ‖ *eP* **P 00 45 39.4 +1.6**
DAV Davao City (W) 23.10 50 LR LR 00 56 59.0
comp=Z,211nm,18.9s,baz=168,slow=43
MTN Manton Dam 23.32 104 P **P 00 45 44.3 +0.3**
SWI Sorong 24.30 74 P **P 00 45 54.3 +1.4**
SIJI Sorong 24.31 74 P **P 00 45 50.6 -2.3**
comp=Z,26nm,0.6s,baz=299,slow=8.1,SNR=11
CHAI Chaiyaphum 24.45 346 P **P 00 45 55.3 +1.2**
comp=Z,23µm,0.6s
FAKI Fak Fak 24.72 80 P **P 00 45 59.3 +2.6**
FAKI Fak Fak 24.72 80 P **P 00 45 57.2 +0.4**
FAKI IAmb IAmb 00 46 01.7
comp=Z,27nm,0.6s
PBKT Sadao Pong 25.34 344 P **P 00 46 04.2 +2.0**
comp=Z,3.3nm,0.7s,comp=Z,1µm
PBKT Sadao Pong 25.34 344 P **P 00 46 03.7 +1.4**
TGY Tagaytay City 25.46 31 LR LR 00 58 24.7
comp=Z,76nm,19.8s,baz=156,slow=42
NWAO Narrogin (SRO) 26.28 162 LR LR 00 55 45.1
comp=Z,365nm,21.6s,baz=289,slow=34
QIZ Qiongzhong 26.91 4 P **P 00 46 17.6 +1.2**
QIZ pP **pP 00 46 29.1 -4.2**
QIZ S **S 00 50 53.6 +5.3**
QIZ LR LR
comp=Z,320nm,20.6s
QIZ LR LR
comp=Z,330nm,17.2s
QIZ LR LR
comp=Z,320nm,17.6s
RKPI Ransiki, Papua 26.93 78 P **P 00 46 22.1 +5.4**
H01W3 Cape Leeuwin H 27.38 169 T T 01 15 17.8
baz=343,slow=78,SNR=5.0
H01W1 Cape Leeuwin H 27.39 169 T T 01 15 17.8
baz=343,slow=78,SNR=5.5
H01W2 Cape Leeuwin H 27.39 169 T T 01 15 20.1
baz=343,slow=78,SNR=4.7
CMAR Chiang Mai Arr 27.73 341 P **P 00 46 21.7 -2.0**
comp=Z,1.9nm,0.5s,baz=177,slow=9.0,SNR=11
CMAR PcP **PcP 00 49 39.7 +0.6**
comp=Z,1.1nm,0.3s,baz=197,slow=3.2,SNR=5.5
CMAR ScP **ScP 00 53 12.3 -1.5**
comp=Z,0.8nm,0.4s,baz=194,slow=3.3,SNR=7.0
CMAR LR LR 00 58 55.5
comp=Z,287nm,18.2s,baz=181,slow=40
CMAR Chiang Mai Arr 27.73 341 ScP 00 53 14.8 +1.0
CMAR Chiang Mai Arr 27.73 341 P **P 00 46 22.7 -1.0**
CHTO Chiang Mai 28.06 342 P **P 00 46 25.4 -1.3**
WRA Warramunga Arr 28.20 118 P **P 00 46 29.0 +0.9**
comp=Z,3.9nm,0.4s,baz=291,slow=11,SNR=9.7
WRA PcP **PcP 00 49 40.1 -0.3**
comp=Z,1.6nm,0.7s,baz=300,slow=2.1,SNR=4.8
WRA Warramunga Arr 28.20 118 P **P 00 46 30.2 +2.1**
WRAB Tennant Creek 28.21 118 P **P 00 46 30.1 +1.9**
WB2 Warramunga Arr 28.22 118 P **P 00 46 29.9 +1.7**
ASAR Alice Springs 29.38 125 P **P 00 46 38.5 0.0**
comp=Z,1.8nm,0.7s,baz=301,slow=9.3,SNR=15
ASAR PcP **PcP 00 49 42.5 -0.8**
comp=Z,2.1nm,0.6s,baz=287,slow=1.2,SNR=7.8
ASAR ScP **ScP 00 53 18.8 -0.2**
comp=Z,2.1nm,0.9s,baz=316,slow=2.6,SNR=5.8
ASAR LR LR 00 57 58.5
comp=Z,259nm,21.6s,baz=296,slow=35
ASAR Alice Springs 29.38 125 P **P 00 46 40.4 +2.0**
ASAR **ScP 00 53 21.0 +2.0**
COEN Coen 35.08 103 P **P 00 47 28.9 +0.4**
COEN IAmb IAmb 00 47 38.0
comp=Z,14nm,1.0s
H08S2 Diego Garcia H 35.10 268 T T 01 24 37.1
baz=93,slow=76,SNR=230
H08S3 Diego Garcia H 35.11 268 T T 01 24 37.5
baz=93,slow=76,SNR=217
H08S1 Diego Carcia H 35.12 268 T T 01 24 35.8
baz=93,slow=76,SNR=623
PMG Port Moresby 38.80 95 P **P 00 47 58.9 -1.1**
comp=Z,7.0nm,0.4s,baz=260,slow=3.9,SNR=4.5
PMG Port Moresby 38.80 95 IAmb IAmb 00 48 08.3
comp=Z,15nm,1.0s
WHN Wuhan 38.80 9 P P 00 48 06.9 +7.2
CD2 Chengdu 38.87 354 P **P 00 48 02.8 +2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
STKA Stephens Creek 39.31 132 P **P 00 48 05.2 +1.1**
comp=Z,11nm,0.5s,baz=310,slow=8.1,SNR=33
STKA PcP **PcP 00 50 11.7 +0.1**
comp=Z,3.7nm,0.6s,baz=328,slow=3.9,SNR=3.2
STKA Stephens Creek 39.31 132 P **P 00 48 05.3 +1.3**
STKA IAmb IAmb 00 48 17.8
comp=Z,4.5nm,0.5s
ODAN Odare 39.95 331 *eP* **P 00 48 09.1 -0.6**
comp=Z,16nm,0.5s
TAPN Taplejung 40.21 332 *eP* **P 00 48 11.8 -0.1**
comp=Z,9.3nm,0.5s
RAMN Ramite 40.41 330 *eP* **P 00 48 13.1 -0.4**
comp=Z,7.2nm,0.3s
NJ2 Nanjing 41.15 14 *eP* **P 00 48 22.8 +3.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
JIRN Jiri 41.20 330 *eP* **P 00 48 19.8 -0.4**
comp=Z,23nm,0.5s
PKI Pulchoki 41.52 329 *eP* **P 00 48 22.2 -0.5**
comp=Z,4.7nm,0.4s
PKIN Phulchoki 41.53 329 *eP* **P 00 48 21.8 -0.9**
comp=Z,5.8nm,0.5s
GUN Gumba 41.56 330 *eP* **P 00 48 22.7 -0.4**
comp=Z,18nm,0.5s
XAN Xi'an 41.80 1 P **P 00 48 23.5 -1.0**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN pmax pmax
comp=Z,220nm,3.8s
XAN Xi'an 41.80 1 P **P 00 48 24.4 -0.1**
KOLN Koldanda 42.62 327 *eP* **P 00 48 30.5 -1.1**
comp=Z,19nm,0.5s
POO Poona 42.71 308 *eP* P 00 48 39.5 +7.3
DANN Dangsing 43.00 328 *eP* **P 00 48 34.0 -0.7**
comp=Z,40nm,0.5s
LZH Lanzhou 44.00 355 *eP* **P 00 48 44.0 +1.6**
LZH pP pP 00 49 00.5 +0.4
LZH sP sP 00 49 08.3 +0.1
LZH *e*PP **PcP 00 50 29.4 +2.3**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,87nm,5.8s
LZH LR LR
comp=Z,350nm,14.0s
LZH LR LR
comp=Z,360nm,13.7s
LZH LR LR
comp=Z,460nm,16.9s
GTA Gaotai 47.75 352 P **P 00 49 11.8 -0.1**
GTA pP pP 00 49 27.1 -2.6
GTA sP sP 00 49 33.6 -4.2
GTA PcP **PcP 00 50 40.8 +0.8**
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=Z,180nm,22.7s
GTA LR LR
comp=Z,190nm,20.3s
GTA LR LR
comp=Z,350nm,19.6s
HHC Hu-ho-hao-te 48.70 4 *eP* **P 00 49 23.5 +4.3**
HHC pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 48.92 21 P **P 00 49 19.9 -0.8**
comp=Z,1.4nm,0.7s,baz=217,slow=9.1,SNR=2.9
MSEY Mahe Island 52.20 270 P **P 00 49 46.0 0.0**
MSEY IAmb IAmb 00 49 48.7
comp=Z,14nm,1.2s
MJAR Matsushiro Arr 52.63 31 P **P 00 49 46.2 -2.5**
comp=Z,1.4nm,0.4s,baz=185,slow=5.3,SNR=3.5
MJAR PcP **PcP 00 50 56.6 -1.3**
comp=Z,1.2nm,0.4s,baz=203,slow=4.2,SNR=2.6
MJAR Matsushiro Arr 52.63 31 IAmb IAmb 00 49 50.9
comp=Z,1.9nm,1.0s
NIL Nilore 52.89 323 P **P 00 49 49.7 -0.9**
SONM Songino Array 55.59 359 P **P 00 50 09.3 -0.8**
comp=Z,2.5nm,0.5s,baz=173,slow=8.2,SNR=22
SONM PcP **PcP 00 51 08.8 -0.3**
comp=Z,10nm,0.5s,baz=176,slow=3.9,SNR=44
SONM ScP **ScP 00 55 00.6 -1.3**
comp=Z,1.1nm,0.7s,baz=173,slow=4.9,SNR=3.9
SONM LR LR 01 15 08.2
comp=Z,229nm,21.5s,baz=176,slow=37
ULN Ulaanbaatar 55.61 359 P **P 00 50 09.7 -0.6**
ULN IAmb IAmb 00 50 13.7
comp=Z,5.0nm,0.5s
KSH Kashi 55.76 330 P **P 00 50 10.1 -1.5**
KSH PP **PP 00 52 16.3 -0.5**
KSH S **S 00 57 46.1 -7.2**
KSH ScS **ScS 00 59 45.9 -8.6**
KSH pmax pmax
comp=Z,34nm,0.9s
KSH pmax pmax
comp=Z,560nm,6.0s
KSH LR LR
comp=Z,300nm,9.3s
KSH LR LR
comp=Z,260nm,9.9s
KSH LR LR
comp=Z,210nm,10.0s
KBL Kabul 56.04 321 P **P 00 50 12.8 -1.0**
KBL IAmb IAmb 00 50 18.6
comp=Z,11nm,1.1s
JLN Jalan Bani Buh 56.18 303 P **P 00 50 16.6 +1.9**
USRK Ussuriysk Ar. 56.31 21 P **P 00 50 13.7 -1.5**
comp=Z,2.2nm,0.5s,baz=195,slow=7.5,SNR=10
USRK Ussuriysk Ar. 56.31 21 P **P 00 50 14.9 -0.3**
TARG Taragay, Kyrgy 56.65 333 IAmb IAmb 00 50 27.3
comp=Z,11nm,1.3s
WBK Wadi Bani Khal 56.75 304 P **P 00 50 19.9 +1.1**
SNR=6.3
NRN Naryn 57.24 332 IAmb IAmb 00 50 23.7
comp=Z,5.8nm,0.6s
KDJ Kajisay 57.25 333 P **P 00 50 21.9 -0.2**
WSAR Wadi Sarin 57.31 304 P **P 00 50 24.0 +1.2**
SNR=5.2
WSAR Wadi Sarin 57.31 304 P **P 00 50 24.1 +1.4**
comp=Z,15nm,0.7s,baz=161,slow=5.4,SNR=20
JMDO Jabal Madar 57.36 303 P **P 00 50 22.3 -0.8**
JMDO P **P 00 50 23.5 +0.3**
SMDO Samad 57.71 304 P **P 00 50 26.2 +0.6**
DZM Mont Dzumac 57.91 111 P **P 00 50 27.9 +0.8**
BSY Bisya 58.28 303 P **P 00 50 30.2 +0.6**
HOQ Hoqain 58.55 304 P **P 00 50 32.4 +1.0**
AAK Ala-Archa 58.88 332 P **P 00 50 33.3 -0.2**
comp=Z,1.3nm,0.5s,baz=183,slow=2.7,SNR=6.4
AAK PcP **PcP 00 51 22.0 -0.2**
comp=Z,1.9nm,0.5s,baz=148,slow=4.7,SNR=6.0
AAK Ala-Archa 58.88 332 P **P 00 50 33.2 -0.3**
AAK IAmb IAmb 00 50 44.2
comp=Z,8.7nm,1.4s
MK31 Makanchi Array 59.12 340 IAmb IAmb 00 50 38.6
comp=Z,5.3nm,0.6s
MKAR Makanchi Array 59.12 340 P **P 00 50 33.1 -1.8**
comp=Z,6.8nm,0.4s,baz=152,slow=7.9,SNR=138
MKAR LR LR 01 18 35.8
comp=Z,81nm,19.2s,baz=138,slow=39
WHFO Wadi Hawf 59.33 296 P **P 00 50 37.0 +0.1**
SNR=14
UOSS Minazif 60.06 305 P **P 00 50 42.0 +0.2**
UOSS Minazif 60.06 305 P **P 00 50 42.1 +0.4**
ASHO Ashiyiah 60.06 304 P **P 00 50 42.4 +0.6**
SNR=9.2
HATD Hatta, Dubai 60.06 305 P **P 00 50 42.7 +0.8**
SNR=5.5
HRA Herat 60.35 317 P **P 00 50 42.5 -1.4**
HRA IAmb IAmb 00 50 45.3
comp=Z,5.7nm,0.7s
FAQ Al Faqa, Dubai 60.47 304 P **P 00 50 45.1 +0.5**
ASUD Al Ashush, Dub 60.63 304 P **P 00 50 46.6 +0.9**
KURBB **Kurchatov Arra 63.68 340** P **P 00 51 04.5 -1.1**
comp=Z,4.0nm,0.5s,baz=150,slow=5.9,SNR=41
KURBB PcP **PcP 00 51 41.5 +0.3**
comp=Z,2.1nm,0.5s,baz=151,slow=3.8,SNR=9.4
KURK Kurchatov 63.73 340 P **P 00 51 05.2 -0.7**
KURK IAmb IAmb 00 51 08.4
comp=Z,5.6nm,0.7s
KURK Kurchatov 63.73 340 PcP 00 51 41.5 +0.1
ZALV Zalesovo Beam 64.71 345 P **P 00 51 10.6 -1.6**
comp=Z,2.7nm,0.3s,baz=153,slow=7.0,SNR=11
ZALV PcP **PcP 00 51 43.9 -1.4**
comp=Z,2.7nm,0.5s,baz=155,slow=4.8,SNR=6.9
ZALV LR LR 01 21 35.8
comp=Z,78nm,18.6s,baz=179,slow=38
GEYT Alibeck 65.10 318 P **P 00 51 15.1 -0.1**
comp=Z,11nm,0.5s,baz=117,slow=5.2,SNR=10
MAW Mawson 66.70 197 P **P 00 51 26.8 +2.0**
comp=Z,3.8nm,0.8s,baz=72,slow=15,SNR=2.1
MAW LR LR 01 14 10.1
comp=Z,63nm,20.3s,baz=54,slow=30
MAW Mawson 66.70 197 IAmb IAmb 00 51 32.0
comp=Z,1.8nm,1.1s
PLWZ Palliser 67.81 132 P **P 00 51 33.1 +0.5**
BKZ Black Stump Fm 68.40 129 P **P 00 51 37.0 +0.7**
BKZ IAmb IAmb 00 51 44.5
comp=Z,23nm,1.3s
BVAR Borovoye Array 68.62 337 P **P 00 51 36.6 -0.6**
comp=Z,6.2nm,0.5s,baz=147,slow=9.5,SNR=38
BVAR PcP **PcP 00 52 02.1 +0.4**
comp=Z,3.3nm,0.5s,baz=132,slow=7.1,SNR=5.3
BRVK Borovoye 68.69 337 P **P 00 51 37.3 -0.4**
SNR=18
BRVK Borovoye 68.69 337 P **P 00 51 37.2 -0.4**
BRVK IAmb IAmb 00 51 41.1
comp=Z,6.7nm,0.6s
KMBO Kilima Mbogo 70.70 272 P **P 00 51 52.5 +1.4**
comp=Z,2.8nm,1.1s,baz=61,slow=11,SNR=5.8
KMBO LR LR 01 16 59.4
comp=Z,54nm,20.6s,baz=100,slow=31
PETK Petropavlovsk- 74.00 29 P **P 00 52 08.6 -1.0**
comp=Z,2.3nm,0.5s,baz=198,slow=0.7,SNR=9.4
PETK LR LR 01 28 23.8
comp=Z,38nm,18.8s,baz=241,slow=39
SYO Syowa Base 74.90 200 ‖ *eX* **PcP 00 52 25.2 -3.0**
SYO Syowa Base 74.90 200 ‖ *eX* pP 00 52 32.4 -0.2
MA2 Magadan 75.47 21 LR LR 01 30 06.8
comp=Z,26nm,18.5s,baz=260,slow=39
ARU Arti 75.90 334 P **P 00 52 19.2 -1.3**
ARU IAmb IAmb 00 52 23.8
comp=Z,7.8nm,0.6s
AKH Akhalkalaki 76.67 316 ⇑P **P 00 52 26.7 +1.2**
KBZ Khabaz 77.99 318 P **P 00 52 32.8 +0.3**
comp=Z,5.5nm,0.8s,baz=68,slow=4.2,SNR=11
KBZ LR LR 01 32 40.3
comp=Z,29nm,18.0s,baz=81,slow=40
LSZ Lusaka 78.09 256 P **P 00 52 35.8 +1.9**
KIV Kislovodsk 78.22 318 P **P 00 52 34.8 +0.9**
SNR=8.9
KIV Kislovodsk 78.22 318 ⇓P **P 00 52 34.8 +0.9**
KIV Kislovodsk 78.22 318 P **P 00 52 34.0 0.0**
KIV IAmb IAmb 00 52 36.2
comp=Z,8.1nm,0.7s
SEY Seymchan 78.42 19 P **P 00 52 33.2 -1.2**
comp=Z,3.4nm,0.5s,baz=202,slow=4.2,SNR=18
NRIK Noril'sk 78.43 353 P **P 00 52 32.8 -1.7**
comp=Z,2.0nm,0.4s,baz=161,slow=4.2,SNR=5.2
NRIK LR LR 01 30 27.3
comp=Z,55nm,18.9s,baz=198,slow=38
ASF Jabal al Asfar 78.46 305 P **P 00 52 36.7 +1.2**
comp=Z,5.2nm,0.7s,baz=55,slow=7.4,SNR=14
EIL Elat 79.37 302 P **P 00 52 41.2 +0.8**
comp=Z,3.8nm,0.5s,baz=89,slow=0.5,SNR=6.9
BOSA Boshof 79.81 242 P **P 00 52 44.7 +1.6**
comp=Z,3.1nm,0.4s,baz=111,slow=4.9,SNR=27
BOSA LR LR 01 26 00.7
comp=Z,51nm,18.2s,baz=126,slow=34
BOSA Boshof 79.81 242 IAmb IAmb 00 52 47.7
comp=Z,13nm,1.3s
MMAI Mount Meron Ar 79.91 306 P **P 00 52 45.0 +1.6**
comp=Z,5.5nm,0.7s,baz=84,slow=8.5,SNR=16
BRTR Keskin Array B 83.16 312 P **P 00 53 00.3 -0.2**
comp=Z,5.6nm,0.7s,baz=143,slow=7.3,SNR=18
BRTR LR LR 01 31 45.9
comp=Z,30nm,20.9s,baz=96,slow=37
BR131 Keskin Array S 83.16 312 IAmb IAmb 00 53 08.5
comp=Z,6.9nm,0.8s
BZK Bozkurt 83.53 314 ⇓P **P 00 53 00.6 -1.5**
OBN Obninsk 86.04 327 P **P 00 53 14.8 +0.3**
KLMR Klimovskoe 86.67 333 *eP* **P 00 53 16.6 -0.8**
KLMR AMP 00 53 19.1
comp=Z,51nm,1.5s
MILM Milestii Mici 88.41 318 ⇓P **P 00 53 26.2 +0.2**
CFR Carcaliu 88.47 316 ⇓P **P 00 53 26.9 +0.5**
SNAA Sanae 88.87 197 P **P 00 53 30.0 +2.1**
SNAA Sanae 88.87 197 P **P 00 53 30.1 +2.1**
SNAA IAmb IAmb 00 53 34.4
comp=Z,5.0nm,1.0s
SORM Soroca 88.99 319 ⇓P **P 00 53 28.0 -0.8**
AKASG **Malin Array Be 89.03 321** P **P 00 53 28.1 -0.8**
comp=Z,1.4nm,0.6s,baz=85,slow=4.8,SNR=7.3
AKASG LR LR 01 39 55.2
comp=Z,32nm,18.0s,baz=305,slow=40
VRI Vrincioaia 89.58 316 ⇓P **P 00 53 36.1 +4.4**
MLR Muntele Rosu 90.05 316 P **P 00 53 33.5 -0.5**
comp=Z,3.0nm,0.6s,baz=218,slow=13,SNR=3.1
MLR Muntele Rosu 90.05 316 ⇓P **P 00 53 33.9 -0.1**
MLR Muntele Rosu 90.05 316 IAmb IAmb 00 53 35.9
comp=Z,6.2nm,0.9s
VNA2 Neumayer--Watz 90.52 197 P **P 00 53 37.8 +2.2**
PLVB Pleven 90.58 314 ⇓P **P 00 53 37.4 +1.0**
VOIR 90.66 316 ⇓P **P 00 53 35.6 -1.1**
ARR Arges 90.93 316 ⇑P **P 00 53 38.3 +0.3**
BURAR Bucovina Array 90.95 318 ⇓P **P 00 53 39.3 +1.2**
BUR08 Bucovina Ar. S 90.96 318 P **P 00 53 38.2 +0.1**
BUR08 IAmb IAmb 00 53 54.8
comp=Z,4.5nm,1.0s
VNA3 Neumayer Olymp 91.03 197 P **P 00 53 36.7 -1.2**
VTS Vitosha 91.45 313 ⇓P P 00 53 35.5 -5.2
GZR Gura Zlata 92.23 315 ⇓P **P 00 53 45.8 +1.8**
FNA Florina 92.55 311 P **P 00 53 44.3 -1.3**
FINES FINESS Array B 93.06 332 P **P 00 53 46.7 -0.7**
comp=Z,2.9nm,0.5s,baz=124,slow=6.2,SNR=23
FINES PKiKP **PKiKP 00 58 33.6 -0.6**
comp=Z,3.1nm,0.9s,baz=90,slow=3.8,SNR=4.9
FINES LR LR 01 44 01.9
comp=Z,108nm,18.9s,baz=290,slow=41
BZS Buzias 93.07 315 ⇓P **P 00 53 48.0 +0.2**
KOLS Kolonicke sedl 93.11 319 *eP* **P 00 53 51.8 +3.9**
SIRR Siria 93.13 316 ⇓P **P 00 53 48.1 0.0**
ARCES ARCESS Array B 94.77 340 P **P 00 53 54.0 -1.1**
comp=Z,8.5nm,1.1s,baz=41,slow=3.9,SNR=10
ARCES LR LR 01 42 41.2
comp=Z,182nm,20.0s,baz=156,slow=39
VYHS Vyhne 95.31 318 *eP* **P 00 53 57.6 -0.5**
MORC Moravsky Berou 96.28 319 ⇓P **P 00 54 02.1 -0.3**
GERES GERESS Array B 98.73 318 P **P 00 54 12.9 -0.7**
comp=Z,0.7nm,0.6s,baz=126,slow=1.3,SNR=3.4
GERES LR LR 01 45 06.4
comp=Z,49nm,18.1s,baz=32,slow=39
HFS Hagfors 98.97 330 P **P 00 54 13.7 -0.5**
comp=Z,1.6nm,0.5s,baz=130,slow=2.3,SNR=8.8
ILAR Eielson Array 103.64 25 PKiKP **PKiKP 00 58 52.0 -1.0**
comp=Z,0.2nm,0.5s,baz=278,slow=3.6,SNR=3.6
EPYK Eagle Plains 107.29 22 P **PKiKP 00 59 00.3 +0.6**
baz=290
TORD Torodi Ar. Bea 107.51 281 PKiKP **PKiKP 00 59 01.7 +0.2**
comp=Z,1.0nm,0.5s,baz=84,slow=1.3,SNR=22
INK Inuvik 107.70 20 PKiKP **PKiKP 00 58 59.3 -1.0**
comp=Z,0.8nm,1.1s,baz=292,slow=5.4,SNR=2.6
C36M Paulatuk 110.20 17 P **PKiKP 00 59 05.9 +1.0**
baz=304
ESDC Sonseca Array 111.88 309 PKiKP **PKiKP 00 59 09.0 -0.1**
comp=Z,0.3nm,0.5s,baz=25,slow=3.3,SNR=4.0
RES Resolute Bay 112.06 6 PKiKP **PKiKP 00 59 08.3 -0.1**
comp=Z,1.7nm,0.6s,baz=246,slow=4.6,SNR=5.4
YKA Yellowknife Ar 117.45 21 PKP **PKiKP 00 59 19.1 +0.1**
comp=Z,2.0nm,0.5s,baz=360,slow=2.0,SNR=33
B05A Bryant 121.86 37 P **PKiKP 00 59 29.3 +1.2**
baz=297
D04E Lakebay 121.93 38 P **PKiKP 00 59 29.4 +1.2**
baz=296
E04D Cinebar 122.32 39 P **PKiKP 00 59 30.2 +1.1**
baz=295
J01E Myrtle Point 122.80 43 P **PKiKP 00 59 31.3 +1.2**
baz=292
I03D Drain, OR 122.98 42 P **PKiKP 00 59 31.4 +1.0**
baz=293
H04D Lebanon 123.06 41 P **PKiKP 00 59 32.0 +1.4**
baz=294
K02D Willamette Mer 123.15 44 P **PKiKP 00 59 31.9 +0.9**
baz=292
L02E Cave Junction 123.39 44 P **PKiKP 00 59 32.1 +0.7**
baz=292
J04D Umpqua Nationa 123.99 42 P **PKiKP 00 59 33.6 +0.8**
baz=294
M02C Callahan 124.20 45 P **PKiKP 00 59 33.9 +0.8**
baz=292
L04D Klamath Falls 124.26 44 P **PKiKP 00 59 34.1 +0.8**
baz=293
N02D Trinity Center 124.46 45 P **PKiKP 00 59 34.6 +1.0**
baz=292
J05D Fort Rock, OR 124.56 42 P **PKiKP 00 59 35.0 +1.2**
baz=295
O02D Mt. Diablo Mer 124.69 46 P **PKiKP 00 59 35.3 +1.2**
baz=291
M04C Macdoel 124.75 44 P **PKiKP 00 59 34.6 +0.3**
baz=293
MSO Missoula 127.35 35 P **PKiKP 00 59 39.2 0.0**
baz=304
MFID Camas Ranch 128.01 40 PKiKP 00 59 41.9 +1.2
KVN Kaiserville 128.47 46 PKiKP 00 59 43.2 +1.4
NVAR Mina Array Bea 128.57 47 PKP **PKiKP 00 59 43.0 +0.9**
comp=Z,0.6nm,0.6s,baz=301,slow=2.5,SNR=6.2
NVAR SKPbc SKPbc 01 02 54.6
comp=Z,0.2nm,0.4s,baz=280,slow=5.4,SNR=2.5
EGMT Eagleton 128.94 32 P **PKiKP 00 59 43.4 +1.0**
baz=309
BOZ Bozeman (W) 129.37 35 P **PKiKP 00 59 44.6 +1.2**
baz=306
CWC Cottonwood Cre 129.52 49 P **PKiKP 00 59 45.2 +1.2**
baz=293
MPMC Manual Prospec 130.11 49 P **PKiKP 00 59 46.4 +1.2**
baz=293
EDW2 Edwards Air Fo 130.17 51 P **PKiKP 00 59 46.5 +1.4**
baz=292
LRMC Laurel Mtn Rad 130.18 50 P **PKiKP 00 59 46.5 +1.2**
baz=292

R11A	Troy Canyon, C	130.54	45	P		PKiKP	00 59 47.3 +1.3
	baz=296						
TPNV	Topopah Spring	130.66	47	P		PKPdf	00 59 45.5 +0.2
	baz=295						
GSC	Goldstone, Bar	130.91	50	P		PKPdf	00 59 46.1 +0.3
	baz=293						
BGU	Big Grassy Mou	131.06	41			PKiKP	00 59 48.2 +1.3
REDW	Red Top Meadow	131.11	37			PKiKP	00 59 48.8 +1.7
MURC	Murrieta	131.25	52	P		PKiKP	00 59 48.6 +1.2
	baz=291						
DGMT	Dagmar	131.39	28	P		PKiKP	00 59 48.1 +0.9
	baz=316						
HEC	Hector,Ludlow	131.45	50	P		PKiKP	00 59 49.3 +1.5
	baz=293						
PLCA	Paso Flores	131.51	182	PKP		PKiKP	00 59 47.6 -0.2
	comp=Z,1.5nm,0.8s,baz=338,slow=6.3,SNR=4.1						
DUG	Dugway, Tooele	131.57	42	P		PKiKP	00 59 49.4 +1.4
	baz=300						
LAO	LASA Array	131.63	31	P		PKiKP	00 59 49.0 +1.2
	baz=312						
GMRC	Granite Mounta	131.98	50	P		PKiKP	00 59 50.6 +1.7
	baz=293,SNR=5.5						
BELC	Belle Mtn. Jos	132.02	51	P		PKiKP	00 59 49.8 +0.7
	baz=292						
MONP2	Monument Peak	132.10	52	P		PKiKP	00 59 49.8 +0.5
	baz=291						
BW06	Boulder Array	132.23	37	P		PKiKP	00 59 49.8 +0.4
	baz=306						
PDAR	Pinedale Array	132.23	37	PKP		PKPdf	00 59 48.7 +0.4
	comp=Z,1.1nm,0.6s,baz=175,slow=0.7,SNR=7.5						
PDAR				SKPbc		SKPbc	01 03 05.5 -3.2
	comp=Z,0.4nm,0.5s,baz=300,slow=1.8,SNR=2.6						
PDAR	Pinedale Array	132.23	37			PKPdf	00 59 45.3 -2.9
IKP	In-Ko-Pah, Jac	132.44	53	P		PKiKP	00 59 50.4 +0.5
	baz=291						
SCHQ	Schefferville	133.09	356	PKP		PKPdf	00 59 49.1 -0.1
	comp=Z,6.2nm,0.5s,baz=328,slow=2.0,SNR=8.8						
ULM	Lac du Bonnet	133.44	21	PKP		PKPdf	00 59 49.3 -0.7
	comp=Z,3.9nm,0.8s,baz=69,slow=1.9,SNR=5.8						
ULM				SKPbc		SKPbc	01 03 09.3 -3.0
	comp=Z,1.9nm,0.7s,baz=326,slow=6.8,SNR=2.5						
K22A	Casper	134.08	36	P		PKiKP	00 59 53.2 +0.2
	baz=309						
RSSD	Black Hills	134.50	32	P		PKiKP	00 59 54.2 +0.4
	baz=313						
RSSD	Black Hills	134.50	32			PKiKP	00 59 54.3 +0.4
O20A	White River Ci	134.55	39	P		PKiKP	00 59 54.9 +0.8
	baz=305						
214A	Organ Pipe Nat	135.28	52	P		PKiKP	00 59 55.9 +0.3
	baz=293						
MVCO	Mesa Verde	136.00	43	P		PKiKP	00 59 57.7 +0.6
	baz=302						
ISCO	Idaho Springs	136.38	38	P		PKiKP	00 59 58.3 +0.3
	baz=308						
EYMN	Ely	136.90	19	P		PKiKP	00 59 59.2 +0.9
	baz=331						
SDCO	Great Sand Dun	137.68	40	P		PKiKP	01 00 01.1 +0.5
	baz=306						
CHGQ	Chibougamau	138.16	2	P		PKiKP	01 00 01.1 +0.2
	baz=357						
ECSD	EROS Data Cent	138.43	27	P		PKiKP	01 00 02.0 +0.4
	baz=322						
T25A	Trinidad	138.74	40	P		PKiKP	01 00 03.3 +0.6
	baz=307						
121A	Cookes Peak, D	138.87	49	P		PKiKP	01 00 03.0 -0.1
	baz=299						
BGNE	Belgrade	139.47	31	P		PKiKP	01 00 04.2 +0.4
	baz=318						
E43A	Lone Tree Farm	139.65	16	P		PKiKP	01 00 04.7 +0.7
	baz=337						
D52A	ZEK Kipawa Sen	140.77	7	P		PKiKP	01 00 06.6 +0.3
	baz=350						
MNTX	Cornudas Mount	141.05	48	P		PKiKP	01 00 08.0 +0.7
	baz=300						
D57A	Chemin Vers le	141.07	2	P		PKiKP	01 00 07.3 +0.4
	baz=357						
I42A	Draeger Farm,	141.32	20	P		PKiKP	01 00 07.9 +0.4
	baz=333						
F49A	Sandfield	141.39	11	P		PKiKP	01 00 07.9 +0.4
	baz=344						
E56A	St. Veronique	141.49	3	P		PKiKP	01 00 08.2 +0.4
	baz=355						
G47A	Hillman	141.57	13	P		PKiKP	01 00 09.0 +1.1
	baz=341						
E57A	Chemin Saint G	141.67	2	P		PKiKP	01 00 08.8 +0.7
	baz=357						
E58A	La Victoria	141.73	1	P		PKiKP	01 00 09.4 +1.2
	baz=358						
F64A	Sherman	142.12	356	P		PKiKP	01 00 09.3 +0.3
	baz=6.1						
H48A	Harrisville	142.13	13	P		PKiKP	01 00 09.2 +0.1
	baz=342						
CPUP	Villa Florida	143.01	202	PKP		PKPdf	01 00 07.7 -0.6
	comp=Z,2.7nm,1.0s,baz=188,slow=7.1,SNR=3.7						
H53A	Bobcaygeon	143.11	8	P		PKiKP	01 00 10.9 -0.2
	baz=349						
H55A	Tweed	143.30	6	P		PKiKP	01 00 11.5 0.0
	baz=352						
H64A	Troy	143.40	357	P		PKiKP	01 00 12.4 +0.7
	baz=4.8						
LONY	Lake Ozonia	143.44	3	P		PKiKP	01 00 12.3 +0.5
	baz=356						
TXAR	Lajitas Array	143.50	50	PKP		PKPdf	01 00 08.0 -1.2
	comp=Z,2.0nm,0.4s,baz=237,slow=0.7,SNR=73						
TXAR				SKPbc		SKPbc	01 03 41.7 0.0
	comp=Z,0.4nm,0.9s,baz=343,slow=2.8,SNR=3.1						
K48A	Perry	143.73	15	P		PKPbc	01 00 07.6 +0.9
	baz=340						
WMOK	Wichita Mounta	143.79	39	P		PKPbc	01 00 07.9 +0.7
	baz=311,SNR=15						
L47A	Sherwood	144.21	17	P		PKPbc	01 00 08.2 0.0
	baz=338						
I60A	Shoreham	144.26	2	P		PKPdf	01 00 09.2 -0.7
	baz=358						
I59A	Olmsteadville	144.29	2	P		PKPdf	01 00 09.3 -0.7
	baz=357						
L48A	N Adams	144.45	16	P		PKPbc	01 00 09.5 +0.6
	baz=339						
L49A	Milan	144.47	15	P		PKPbc	01 00 09.6 +0.6
	baz=340						
J57A	Williamstown	144.54	5	P		PKPbc	01 00 09.3 +0.2
	baz=353						
ABTX	Abilene, Hawle	144.58	42	P		PKPdf	01 00 11.3 +0.4
	baz=308,SNR=12						
ABTX	Abilene, Hawle	144.58	42			PKPdf	01 00 11.3 +0.4
M47A	Cromwell	144.65	18	P		PKPab	01 00 08.8 -0.6
	baz=336						
TUL1	Leonard	144.75	34	P		PKPdf	01 00 10.6 -0.4
	baz=317,SNR=12						
J61A	Chester	144.77	1	P		PKPab	01 00 09.7 -0.1
	baz=359						
L50A	Kingsville	144.77	14	P		PKPab	01 00 09.4 -0.4
	baz=342						
M48A	Edgerton	144.80	17	P		PKPab	01 00 09.5 -0.4
	baz=338						
J60A	Lant Hill Farm	144.86	2	P		PKPab	01 00 10.1 0.0
	baz=358						
J62A	Henniker	144.89	360	P		PKPbc	01 00 10.6 +0.3
	baz=0.5						
K55A	Perry	144.99	8	P		PKPbc	01 00 10.7 0.0
	baz=350						
M49A	Liberty Center	145.01	16	P		PKPab	01 00 10.8 +0.1
	baz=339						
K54A	Basiliko Farm,	145.02	9	P		PKPab	01 00 10.8 0.0
	baz=349,SNR=6.0						
SFIN	Lafayette	145.06	20	P		PKPdf	01 00 11.3 -0.1
	baz=334						
N47A	Urbana	145.07	18	P		PKPab	01 00 11.1 +0.1
	baz=336						
N47A	Urbana	145.07	18			PKPbc	01 00 10.9 0.0
K56A	Middlesex	145.11	7	P		PKPbc	01 00 10.8 -0.2
	baz=351						
K57A	Scipio Center	145.17	6	P		PKPab	01 00 11.4 +0.1
	baz=352						
K58A	Earlville	145.21	5	P		PKPab	01 00 11.5 0.0
	baz=354						
K59A	Cooperstown	145.26	4	P		PKPbc	01 00 11.4 -0.1
	baz=355						
N48A	Decatur	145.29	17	P		PKPbc	01 00 11.6 0.0
	baz=337,SNR=14						
ERPA	Erie	145.29	10	P		PKPbc	01 00 11.4 -0.1
	baz=346						
L54A	Sinclairville	145.29	9	P		PKPab	01 00 11.8 0.0
	baz=348						
M50A	Fremont	145.32	15	P		PKPbc	01 00 11.7 0.0
	baz=341						
SLM	Saint Louis	145.37	25	PKPbc		PKPbc	01 00 11.7 -0.2
L53A	Girard	145.40	11	P		PKPab	01 00 12.1 0.0
	baz=346						
CCM	Cathedral Cave	145.41	27	P		PKPab	01 00 12.6 +0.3
	baz=325						
CCM	Cathedral Cave	145.41	27			PKPab	01 00 12.3 0.0
K61A	Williamstown	145.43	2	P		PKPab	01 00 12.6 +0.3
	baz=358						
K62A	Royalston	145.45	0	P		PKPab	01 00 12.8 +0.5
	baz=360						
K60A	Five Rivers En	145.47	2	P		PKPab	01 00 12.5 +0.2
	baz=357						
N49A	Columbus Grove	145.47	16	P		PKPab	01 00 12.4 0.0
	baz=339,SNR=9.8						
L55A	Hinsdale	145.48	8	P		PKPdf	01 00 12.2 0.0
	baz=349,SNR=6.7						
HHAR	Hobbs	145.49	32			PKPab	01 00 12.7 0.0
M52A	Chesterland	145.58	12	P		PKPab	01 00 13.0 +0.2
	baz=344						
HRV	Adam Dziewonsk	145.61	359	P		PKPab	01 00 13.1 +0.2
	baz=1.0						
L56A	Greenwood	145.64	7	P		PKPbc	01 00 12.7 -0.1
	baz=350,SNR=6.1						
L61B	Northampton	145.67	1	P		PKPbc	01 00 12.9 +0.2
	baz=359						
P46A	Rosedale	145.70	21	P		PKPab	01 00 13.4 +0.1
	baz=333,SNR=7.8						
JCT	Junction City	145.74	46	P		PKPab	01 00 14.7 +0.8
	baz=305,SNR=40						
BINY	Binghamton	145.75	5	P		PKPab	01 00 13.4 -0.1
	baz=353,SNR=6.6						
M53A	WI Miller and	145.82	12	P		PKPbc	01 00 13.3 0.0
	baz=345						
L59A	Walton	145.83	4	P		PKPbc	01 00 13.5 +0.2
	baz=355						
L57A	Andrews Acres	145.86	6	P		PKPbc	01 00 13.4 0.0
	baz=352						
N50A	Nevada	145.89	15	P		PKPab	01 00 13.8 -0.2
	baz=340,SNR=9.0						
L61A	Hillsdale 1, H	145.90	2	P		PKPab	01 00 13.8 -0.2
	baz=358						
L58A	Harry Jones Me	145.91	5	P		PKPbc	01 00 13.7 +0.1
	baz=353,SNR=9.3						
M54A	Oil Creek Stat	145.94	10	P		PKPbc	01 00 13.7 +0.1
	baz=347,SNR=8.9						
N51A	Ashland	145.94	14	P		PKPbc	01 00 14.0 +0.3
	baz=342,SNR=5.8						
U40A	Yellville	145.99	31	P		PKPbc	01 00 14.0 0.0
	baz=321,SNR=21						
O49A	Covington	146.11	17	P		PKPbc	01 00 14.5 +0.3
	baz=338,SNR=9.8						
M55A	Ridgway	146.13	9	P		PKPab	01 00 14.6 -0.3
	baz=348						
L64A	Middleborough	146.17	358	P		PKPab	01 00 14.9 -0.1
	baz=2.3						
M56A	Emporium	146.20	8	P		PKPbc	01 00 14.6 +0.2
	baz=349						
N52A	McGinn's Farm,	146.20	13	P		PKPbc	01 00 14.7 +0.2
	baz=343,SNR=6.2						
O50A	Cable	146.35	16	P		PKPbc	01 00 15.0 +0.1
	baz=339,SNR=5.8						
W39A	Magazine	146.39	33	P		PKPbc	01 00 15.5 +0.3
	baz=319						
W39A	Magazine	146.39	33			PKPbc	01 00 15.4 +0.3
N53A	Lisbon	146.39	12	P		PKPbc	01 00 15.4 +0.3
	baz=344,SNR=6.3						
N53A	Lisbon	146.39	12			PKPab	01 00 15.6 -0.4
KSPA	Keystone Colle	146.40	5			PKPab	01 00 15.6 -0.3
N54A	Moraine State	146.41	11	P		PKPbc	01 00 15.2 +0.1
	baz=346						
WHTX	Lake Whitney,	146.42	41	P		PKPab	01 00 16.9 +0.6
	baz=310,SNR=9.4						
WHTX	Lake Whitney,	146.42	41			PKPab	01 00 17.1 +0.7
ACSO	Alum Creek Sta	146.44	15	P		PKPbc	01 00 15.2 +0.1
	baz=340,SNR=8.7						
ACSO	Alum Creek Sta	146.44	15			PKPbc	01 00 15.7 +0.5
P48A	Milroy	146.44	19	P		PKPbc	01 00 15.3 +0.1
	baz=336,SNR=7.0						
P48A	Milroy	146.44	19			PKPbc	01 00 15.4 +0.2
M59A	Waymart	146.44	5	P		PKPbc	01 00 14.6 -0.6
	baz=354						
M57A	Sunshine Farm,	146.48	7	P		PKPbc	01 00 15.3 +0.1
	baz=351						
M57A	Sunshine Farm,	146.48	7			PKPab	01 00 15.9 -0.3
M58A	Price's Panora	146.52	6	P		PKPbc	01 00 15.6 +0.2
	baz=352						
BDFB	Brasilia	146.55	225	PKPbc		PKPbc	01 00 16.6 +0.3
	comp=Z,6.6nm,0.5s,baz=74,slow=1.8,SNR=23						
SIUC	Southern Illin	146.57	25			PKPab	01 00 16.3 -0.4
S44A	Carbondale	146.58	25	P		PKPbc	01 00 16.1 +0.4
	baz=328,SNR=6.6						
P49A	Miami Univ. Ec	146.60	18	P		PKPbc	01 00 15.4 -0.2
	baz=337						
O51A	Pataskala	146.62	15	P		PKPbc	01 00 15.9 +0.2
	baz=341,SNR=14						
M60A	Port Jervis	146.72	3	P		PKPbc	01 00 16.0 +0.1
	baz=356						
N56A	West Decatur	146.74	9	P		PKPbc	01 00 16.2 +0.2
	baz=349						
N55A	Marion Center	146.76	10	P		PKPbc	01 00 16.2 +0.1
	baz=348,SNR=6.1						
M61A	Granite Spring	146.77	2	P		PKPbc	01 00 16.6 +0.5
	baz=357						
P50A	Jamestown	146.80	17	P		PKPbc	01 00 16.2 0.0
	baz=339,SNR=10						
PBMO	Poplar Bluff	146.82	28			PKPbc	01 00 16.4 0.0
Q48A	North Vernon	146.82	20	P		PKPbc	01 00 16.8 +0.4
	baz=335,SNR=11						
O52A	Adamsville	146.83	14	P		PKPbc	01 00 16.5 +0.2
	baz=342,SNR=6.6						
O53A	New Philadelph	146.85	13	P		PKPbc	01 00 16.4 +0.1
	baz=343						
GO02	Mina Guanaco	146.97	184			PKPab	01 00 19.5 +0.5
MIAR	Mount Ida	146.99	34	P		PKPab	01 00 17.9 -0.6
	baz=318,SNR=25						
N57A	Milroy	147.00	8	P		PKPbc	01 00 16.8 0.0
	baz=350,SNR=10						
N58A	Sunbury	147.02	6	P		PKPbc	01 00 16.8 0.0
	baz=352						
Q49A	Aurora	147.03	19	P		PKPbc	01 00 16.9 0.0
	baz=336,SNR=6.6						
N59A	State Game Lan	147.04	5	P		PKPbc	01 00 17.6 +0.7
	baz=353,SNR=10.0						
SSPA	Standing Stone	147.07	8	P		PKPbc	01 00 16.9 -0.1
	baz=350						
SSPA	Standing Stone	147.07	8			PKPbc	01 00 17.2 +0.3
PAL	Palisades	147.07	3	P		PKPbc	01 00 16.8 -0.2
	baz=357						
O54A	Avella	147.09	12	P		PKPbc	01 00 17.2 +0.2
	baz=345,SNR=9.7						
435B	Jarrell	147.09	43			PKPab	01 00 18.9 -0.1
WHAR	Wooly Hollow	147.10	31			PKPbc	01 00 17.6 +0.4
P51A	Williamsport	147.12	16	P		PKPbc	01 00 16.9 -0.2
	baz=340,SNR=7.5						
P51A	Williamsport	147.12	16			PKPbc	01 00 16.9 -0.2
N60A	Cedar Hill Far	147.14	4	P		PKPbc	01 00 17.1 0.0
	baz=355						
W41B	Gary Mavity, V	147.22	31	P		PKPbc	01 00 17.4 -0.1
	baz=321						
P52A	Corning	147.22	14	P		PKPbc	01 00 17.5 +0.1
	baz=342,SNR=6.2						
WCI	Wyandotte Cave	147.26	21	P		PKPbc	01 00 17.9 +0.3
	baz=334						
WCI	Wyandotte Cave	147.26	21			PKPbc	01 00 17.9 +0.3
O55A	Ligonier	147.27	10	P		PKPbc	01 00 17.8 +0.2
	baz=347						
N61A	South Mountain	147.31	3	P		PKPbc	01 00 17.9 +0.4
	baz=356						
O56A	Blue Knob Stat	147.33	9	P		PKPbc	01 00 17.9 +0.2
	baz=348,SNR=8.0						
Q50A	Georgetown	147.46	17	P		PKPbc	01 00 17.8 -0.3
	baz=338						
Q51A	Peebles	147.47	16	P		PKPbc	01 00 18.2 0.0
	baz=339,SNR=7.2						
O57A	Amberson	147.53	8	P		PKPbc	01 00 18.2 -0.1
	baz=350						
P53A	Whipple	147.53	13	P		PKPbc	01 00 18.3 +0.1
	baz=343,SNR=13						
R49A	Shelbyville	147.59	19	P		PKPbc	01 00 18.7 +0.2
	baz=335						
O59A	Robesonia	147.60	6	P		PKPbc	01 00 18.7 +0.3
	baz=352,SNR=5.7						
P54A	Burton	147.62	12	P		PKPbc	01 00 19.1 +0.5
	baz=344,SNR=12						
O60A	Telford	147.66	5	P		PKPbc	01 00 18.9 +0.3
	baz=354						
MCWV	Mont Chateau	147.70	11	P		PKPbc	01 00 19.3 +0.5
	baz=346,SNR=6.1						
O58A	Lewisberry	147.70	7	P		PKPbc	01 00 18.9 +0.2
	baz=351						
Q52A	Bidwell	147.82	15	P		PKPbc	01 00 19.0 0.0
	baz=341						
P55A	Reedsville	147.85	11	P		PKPbc	01 00 19.5 +0.3
	baz=346						
R50A	Paris	147.87	18	P		PKPbc	01 00 19.1 -0.1
	baz=337						
O61A	Allentown	147.95	4	P		PKPbc	01 00 19.1 -0.2
	baz=356						
S49A	Springfield	148.01	20	P		PKPbc	01 00 19.1 -0.5
	baz=335						
P56A	Dayton Farm, R	148.03	10	P		PKPbc	01 00 19.7 +0.1
	baz=347						
T47A	Sharon Grove	148.05	23	P		PKPbc	01 00 20.0 +0.3
	baz=331,SNR=11						
R51A	Hillsboro	148.07	17	P		PKPbc	01 00 19.5 -0.3
	baz=338						
Q53A	Leroy	148.10	14	P		PKPbc	01 00 19.8 0.0
	baz=342						
Q54A	Coxs Mills	148.14	13	P		PKPbc	01 00 20.3 +0.4
	baz=344,SNR=15						
P60A	Greenville	148.15	5	P		PKPbc	01 00 19.9 0.0
	baz=353,SNR=6.9						
P57A	Homestead Farm	148.18	9	P		PKPbc	01 00 20.3 +0.3
	baz=349,SNR=7.1						
P59A	Jarrettsville	148.26	6	P		PKPbc	01 00 20.1 -0.1
	baz=352						
P58A	Pank, Wackersv	148.28	8	P		PKPbc	01 00 20.6 +0.3
	baz=350						
Q55A	Buckhannon	148.29	12	P		PKPbc	01 00 20.7 +0.3
	baz=345,SNR=11						
R52A	Catlettsburg	148.31	16	P		PKPbc	01 00 20.2 -0.2
	baz=340						
Z41A	Richland Creek	148.37	34	P		PKiKP	01 00 21.9 -0.3
	baz=318,SNR=8.7						
S50A	Richmond	148.40	19	P		PKPbc	01 00 20.6 -0.1
	baz=336,SNR=8.2						
Q56A	Snyder Ridge,	148.42	11	P		PKPbc	01 00 20.9 +0.2
	baz=347						
R53A	Hurricane	148.50	15	P		PKPbc	01 00 21.1 +0.3
	baz=341,SNR=10						
WVT	Waverly	148.50	25	P		PKPbc	01 00 21.4 +0.5
	baz=329						
WVT	Waverly	148.50	25			PKPbc	01 00 21.7 +0.7
T49A	Edmonton	148.53	21	P		PKPbc	01 00 21.1 +0.1
	baz=334						
Q57A	Strasburg	148.56	9	P		PKPbc	01 00 21.1 +0.1
	baz=348						
S51A	Beattyville	148.68	18	P		PKPbc	01 00 21.6 +0.2
	baz=338,SNR=12						
S52A	Salyersville	148.80	17	P		PKPbc	01 00 21.8 +0.1
	baz=339,SNR=7.3						
T50A	Nancy	148.85	20	P		PKPbc	01 00 21.8 0.0
	baz=335,SNR=8.3						
R54A	Victor	148.87	14	P		PKPbc	01 00 22.1 +0.2
	baz=343						
R55A	Marlinton	148.97	12	P		PKPbc	01 00 22.4 +0.2
	baz=345						
U49A	Red Boiling Sp	148.97	22	P		PKPbc	01 00 22.4 +0.3
	baz=333,SNR=6.8						
R56A	Bull Pasture M	148.99	11	P		PKPbc	01 00 22.6 +0.4
	baz=346						
S53A	Williamson	149.06	16	P		PKPbc	01 00 22.8 +0.5
	baz=340,SNR=6.8						
OXF	Oxford	149.15	29	P		PKPbc	01 00 23.0 +0.4
	baz=325,SNR=5.1						
S54A	Dingess, Beckl	149.16	14	P		PKPbc	01 00 22.8 +0.1
	baz=342						
T51A	Gray	149.19	19	P		PKPbc	01 00 23.1 +0.4
	baz=337,SNR=8.1						
V48A	Smith Brothers	149.25	24	P		PKPbc	01 00 23.1 +0.2
	baz=331,SNR=9.4						
R57A	Stanardsville	149.26	10	P		PKiKP	01 00 23.5 -0.5
	baz=348						
R58A	Rapidan	149.34	9	P		PKPbc	01 00 23.4 +0.4
	baz=349						
T52A	Hallie	149.36	17	P		PKPbc	01 00 23.6 +0.4
	baz=339						
S55A	Lewisburg	149.38	13	P		PKPbc	01 00 23.4 +0.2
	baz=344						
U50A	Jamestown	149.39	20	P		PKiKP	01 00 23.9 -0.5
	baz=335,SNR=26						
V49A	McMinnville	149.59	23	P		PKPbc	01 00 23.8 +0.1
	baz=332,SNR=7.9						
T53A	Wise	149.60	17	P		PKPbc	01 00 24.3 +0.5
	baz=339,SNR=5.1						
S56A	Natural Bridge	149.67	12	P		PKPbc	01 00 24.2 +0.3
	baz=345						
R58B	Mineral	149.69	9	P		PKPbc	01 00 24.2 +0.3
	baz=349						
S57A	Dark Hollow, R	149.71	11	P		PKPbc	01 00 24.2 +0.3
	baz=347						
TZTN	Tazewell	149.71	19	P		PKPbc	01 00 24.3 +0.4
	baz=337						
U51A	La Follette	149.71	19	P		PKiKP	01 00 24.7 -0.3
	baz=336						
T54A	Tazewell	149.79	15	P		PKPbc	01 00 24.5 +0.2
	baz=341,SNR=9.1						
U52A	Thorn Hill	149.90	18	P		PKPbc	01 00 24.9 +0.4
	baz=337						
T55A	Pulaski	149.94	14	P		PKPbc	01 00 24.9 +0.3
	baz=343,SNR=5.5						
V50A	Pikevile	149.97	22	P		PKPbc	01 00 25.0 +0.3
	baz=334,SNR=6.9						
S59A	Mechanicsville	149.98	8	P		PKiKP	01 00 25.4 -0.1
	baz=350,SNR=5.7						
S58A	Poland Farm, P	150.01	10	P		PKPbc	01 00 24.9 +0.3
	baz=348						
W49A	Belvidere	150.01	24	P		PKPbc	01 00 24.9 +0.1
	baz=331,SNR=11						
V51A	Loudon	150.12	20	P		PKiKP	01 00 25.5 -0.3
	baz=335,SNR=8.1						
U53A	Fall Branch	150.17	17	P		PKPbc	01 00 25.4 +0.3
	baz=339						
T56A	Rocky Mt	150.19	13	P		PKPbc	01 00 25.6 +0.4
	baz=344						
U54A	Nelsons Funny	150.23	16	P		PKPbc	01 00 25.4 0.0
	baz=340						
X48A	Hartselle	150.27	25	P		PKPbc	01 00 25.4 0.0
	baz=329,SNR=16						
W50A	Signal Mountai	150.31	22	P		PKPbc	01 00 25.8 +0.2
	baz=333,SNR=8.4						
V52A	Sevierville	150.33	19	P		PKiKP	01 00 26.3 0.0
	baz=337,SNR=33						
VBMS	Vicksburg	150.41	33	P		PKiKP	01 00 26.3 -0.2
	baz=321						
U55A	TA2, Sparta	150.46	15	P		PKiKP	01 00 26.3 -0.3
	baz=342,SNR=8.5						
W51A	Cleveland	150.55	21	P		PKPbc	01 00 26.4 +0.3
	baz=334						
T58A	Grand View Acr	150.57	11	P		PKiKP	01 00 26.7 0.0
	baz=347						
T59A	Double "B" Far	150.71	9	P		PKiKP	01 00 27.1 +0.1
	baz=349,SNR=7.1						
V53A	Saluda	150.74	18	P		PKiKP	01 00 26.9 -0.3
	baz=338,SNR=13						
U56A	King	150.76	14	P		PKiKP	01 00 27.0 -0.1
	baz=343,SNR=5.1						
V54A	Nebo	150.90	17	P		PKiKP	01 00 27.2 -0.3
	baz=

baz=332
V58A Windy Hill, Pi 151.58 12 P **PKiKP** 01 00 28.9 +0.1
baz=345
X53A Estanollee 151.65 20 P **PKiKP** 01 00 29.4 +0.3
baz=336,SNR=6.1
KMSC Kings Mountain 151.66 16 P **PKiKP** 01 00 29.1 +0.1
baz=341,SNR=6.6
Z50A Ashland 151.77 25 P **PKiKP** 01 00 29.5 +0.1
baz=330,SNR=8.3
V59A Middlesex 151.78 11 P **PKiKP** 01 00 29.6 +0.3
baz=347
W56A Indian Trail 151.87 15 P **PKiKP** 01 00 29.6 +0.1
baz=342
X54A Belton 151.91 18 P **PKiKP** 01 00 30.1 +0.5
baz=338,SNR=17
V60A Jim Taylor Roa 151.94 9 P **PKiKP** 01 00 29.8 +0.3
baz=349
Y52A Lilburn 151.97 22 P **PKiKP** 01 00 30.5 +0.8
baz=334,SNR=17
W57A Gilead 152.00 14 P **PKiKP** 01 00 29.8 +0.1
baz=343
V61A Roper 152.01 8 P **PKiKP** 01 00 30.4 +0.7
baz=351
Y53A Monroe 152.15 21 P **PKiKP** 01 00 30.8 +0.7
baz=335,SNR=8.3
X55A Gracelyn & Ava 152.21 17 P **PKiKP** 01 00 30.7 +0.5
baz=340,SNR=13
W58A Raeford 152.30 13 P **PKiKP** 01 00 30.4 0.0
baz=345
PB11 IPOC Station P 152.33 185 **PKiKP** 01 00 32.8 +1.7
X56A White Oak 152.36 16 P **PKiKP** 01 00 30.9 +0.4
baz=341,SNR=5.6
Z52A Williamson 152.44 23 P **PKiKP** 01 00 31.4 +0.7
baz=333,SNR=8.1
Y54A Tignall 152.44 19 P **PKiKP** 01 00 31.3 +0.6
baz=337,SNR=5.5
W60A Pink Hill 152.56 10 P **PKiKP** 01 00 31.4 +0.6
baz=348
GOGA Godfrey 152.59 21 P **PKiKP** 01 00 31.6 +0.6
baz=335
X57A Johnson Farm, 152.63 15 P **PKiKP** 01 00 31.5 +0.5
baz=343
Y55A Saluda 152.64 18 P **PKiKP** 01 00 31.4 +0.3
baz=339,SNR=5.4
Z53A Monticello 152.67 21 P **PKiKP** 01 00 31.9 +0.7
baz=335,SNR=9.5
250A Grady 152.71 27 P **PKiKP** 01 00 32.0 +0.7
baz=328,SNR=5.5
X58A Rowland 152.72 13 P **PKiKP** 01 00 31.3 +0.1
baz=344
152A Waverly Hall 152.78 24 P **PKiKP** 01 00 32.3 +0.9
baz=332,SNR=7.8
X59A McDuffie Farm, 152.86 12 P **PKiKP** 01 00 31.9 +0.4
baz=346
Y56A Pelion 152.94 17 P **PKiKP** 01 00 32.2 +0.5
baz=340
Z54A Sparta 152.96 20 P **PKiKP** 01 00 32.2 +0.4
baz=336
Y57A Sumter 152.98 15 P **PKiKP** 01 00 32.2 +0.4
baz=342
X60A Albert Glenn T 152.98 11 P **PKiKP** 01 00 32.6 +0.9
baz=347
BRAL Brewton 153.02 29 P **PKiKP** 01 00 33.1 +1.2
baz=326,SNR=5.6
Z55A Blythe 153.21 19 P **PKiKP** 01 00 33.1 +0.8
baz=338,SNR=6.3
Z56A Williston 153.35 18 P **PKiKP** 01 00 32.9 +0.4
baz=339
252A Lumpkin 153.36 25 P **PKiKP** 01 00 33.0 +0.3
baz=331
Y59A Loris 153.37 13 P **PKiKP** 01 00 33.1 +0.5
baz=345
253A Americus 153.54 23 P **PKiKP** 01 00 33.2 +0.2
baz=333
Z57A Bowman 153.57 16 P **PKiKP** 01 00 33.0 0.0
baz=341
155A Kite 153.65 20 P **PKiKP** 01 00 33.5 +0.3
baz=336
352A Blakely 153.73 25 P **PKiKP** 01 00 34.0 +0.6
baz=330
Z58A St. Stephen 153.77 15 P **PKiKP** 01 00 33.8 +0.3
baz=343
LPAZ La Paz 155.57 189 PKP **PKPdf** 01 00 31.4 +2.3
comp=Z,0.6nm,0.7s,baz=225,slow=2.5,SNR=2.8

*NORS **25** 00:41:43.7±0.0,41°.88N×46°.18E,h17km,MPVA3.3*
*DRS **25** 00:41:44.6±0.0,41°.98N×46°.04E,h12km*
*TIF **25** 00:41:45.4,41°.92N×45°.93E,h23km±3km*
ISC 25 00:41:44.7±1.1,41°.91N±0°.03×46°.03E±0°.02,h18km±8km,
n23,σ1°06/44,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.47**	**171**	P	**Pn**	**00 41 56.0**	**-0.6**
DDFL				S	**Sn**	**00 42 07.4**	**+3.0**
DGRG	**David-gareji**	**0.67**	**227**	P	**Pb**	**00 41 58.2**	**+0.3**
BTLR	**Botlikh**	**0.77**	**11**	*e*Pg	**Pb**	**00 41 59.3**	**-0.4**
BTLR				*e*Sg	**Sn**	**00 42 10.9**	**-1.1**
XNZR	**Khunzakh**	**0.81**	**38**	*e*Pg	**Pb**	**00 41 59.6**	**-0.7**
XNZR				*e*Sg	**Sg**	**00 42 11.3**	**0.0**
KMKR	**Kumukh**	**0.83**	**74**	*e*Pg	**Pg**	**00 42 01.0**	**+0.1**
KMKR				*e*Sg	**Sg**	**00 42 12.0**	**+0.1**
GNBR	**Gunib**	**0.85**	**55**	*e*Pg	**Pb**	**00 42 00.4**	**-0.5**
GNBR				*e*Sg	**Sg**	**00 42 12.4**	**0.0**
BTNK	**Botanikuri**	**0.94**	**257**	P	**Pb**	**00 42 01.9**	**-0.7**
TBLG	**Delisi**	**0.98**	**260**	P	**Pb**	**00 42 02.6**	**-0.6**
TBLG				S	**Sg**	**00 42 16.8**	**+0.2**
UNCR	**Uncukul**	**0.99**	**35**	*e*Pg	**Pb**	**00 42 03.0**	**-0.3**
UNCR				*e*Sg	**Sn**	**00 42 17.5**	**+0.2**
KRNR	**Karanay**	**1.13**	**35**	*e*Pg	**Pb**	**00 42 05.0**	**-0.7**
KRNR				*e*Sg	**Sg**	**00 42 21.0**	**-0.3**
BUJR	**Buynaksk**	**1.22**	**41**	*e*Pg	**Pg**	**00 42 08.2**	**-0.1**
BUJR				*e*Sg	**Sg**	**00 42 25.6**	**+1.4**
DLMR	**Dylym**	**1.25**	**21**	*e*Pg	**Pg**	**00 42 08.0**	**-0.7**
DLMR				*e*Sg	**Sg**	**00 42 26.0**	**+1.0**
DBC	**Dubki**	**1.26**	**28**	*e*Pg	**Pb**	**00 42 07.9**	**-0.1**
DBC				*e*Sg	**Sg**	**00 42 26.4**	**+0.8**
GUDG	**Gudauri**	**1.28**	**296**	P	**Pn**	**00 42 07.6**	**-0.3**
GUDG				S	**Sn**	**00 42 25.1**	**+0.3**
GROC	**Groznyy**	**1.31**	**353**	*e*Pg	**Pg**	**00 42 10.4**	**+0.5**
GROC				*e*Sg	**Sg**	**00 42 30.0**	**+3.0**
KZRT	**Kazreti**	**1.33**	**247**	P	**Pn**	**00 42 08.1**	**-0.3**
KZRT				S	**Sn**	**00 42 25.1**	**-0.6**
AKT	**Akhty**	**1.34**	**108**	*e*Pg	**Pn**	**00 42 07.7**	**-1.0**
AKT				*e*Sg	**Sn**	**00 42 25.7**	**-0.5**
LACR	**Lac**	**1.58**	**306**	*e*Pg	**Pn**	**00 42 12.2**	**+0.3**
LACR				*e*Sg	**Sg**	**00 42 34.6**	**-1.0**
ZEI	**Tsey**	**1.81**	**300**	*e*Pg	**Pb**	**00 42 18.0**	**+0.7**
ZEI				*e*Sg	**Sg**	**00 42 42.2**	**-0.7**
KORR	**Kora**	**1.87**	**310**	*e*Pg	**Pg**	**00 42 20.4**	**-0.2**
KORR				*e*Sg	**Sg**	**00 42 46.6**	**+1.7**
ONI	**Oni**	**2.03**	**291**	P	**Pb**	**00 42 19.9**	**-1.2**
ONI				S	**Sb**	**00 42 47.7**	**+1.7**
DIGR	**Digorskoe uzhe**	**2.06**	**300**	*e*Pg	**Pb**	**00 42 21.5**	**-0.3**
DIGR				*e*Sg	**Sg**	**00 42 49.2**	**-2.0**
TKB	**Tkibuli**	**2.30**	**282**	P	**Pb**	**00 42 24.2**	**-1.5**
TKB				S	**Sb**	**00 42 54.2**	**+0.5**

*IDC **25** 00:52:48.0±1.0,34°.23N×45°.68E,h0km,mb3.9/10,*
mb1 4.0/14,mb1mx3.8/41,mbtmp3.9/14,ML3.8/4,MS3.7/1,
Ms1 3.7/1,ms1mx2.6/40,Error ellipse: s-maj=24.9km
s-min=16.2km az=165.0
*TEH **25** 00:52:50.8,34°.33N×45°.61E,h10km,ML3.8*
*ISN **25** 00:52:51.4±1.9,34°.33N×45°.45E,h15km±9km,ML3.7*
*THR **25** 00:52:51.1,34°.27N×45°.58E,h14km,ML3.5*
*AZER **25** 00:52:52.6±4.7,34°.20N×45°.69E,h11km±152km,ml3.8/7,*
Error ellipse: s-maj=160.5km s-min=39.3km az=12.0
*DSN **25** 00:52:53.9±1.5,36°.06N×49°.03E,h10km,Error ellipse:*
s-maj=67.9km s-min=14.4km az=59.0
*OMAN **25** 00:53:00.5±5.5,33°.49N×45°.75E,h72km±60km,Error*
ellipse: s-maj=94.0km s-min=48.1km az=33.0
ISC 25 00:52:50.1±1.2,34°.27N±0°.03×45°.61E±0°.02,h7km±8km,
n121,σ2°29/139,mb4.0/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**56**	*e*Sg	**Sb**	**00 53 16.3**	**-0.4**
IDHR				*e*Pg	**Pg**	**00 53 05.1**	**+0.2**
IDHR				IAMB	IAmb	00 53 20.3	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.80**	**86**	*e*Sg	**Sn**	**00 53 19.6**	**-0.5**
IGHG				*e*Pg	**Pb**	**00 53 06.9**	**+0.5**
IGHG				IAMB	IAmb	00 53 22.8	
	comp=Z,42μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.19**	**89**	*e*Pg	**Pn**	**00 53 13.7**	**+0.5**
KCHF				*e*Sg	**Sn**	**00 53 31.4**	**+1.7**
KCHF				IAMB	IAmb	00 53 35.5	
	comp=Z,0.0nm,0.6s						
IBDR	**Badra**	**1.19**	**167**	*e*Pg	**Pg**	**00 53 15.0**	**+2.1**
IBDR				*e*Sg	**Sn**	**00 53 32.0**	**+2.5**
IBDR				AML	AML	00 53 36.8	
	comp=Z,399nm,0.4s						
KER	**Kermanshah**	**1.27**	**84**	*e*Pg	**Pg**	**00 53 15.3**	**+0.9**
KER				*e*Sg	**Sn**	**00 53 33.2**	**+1.6**
ILIN	**Lien**	**1.29**	**60**	*e*Pg	**Pb**	**00 53 14.9**	**+0.1**
ILIN				*e*Sg	**Sn**	**00 53 32.9**	**+0.6**
ILIN				IAMB	IAmb	00 53 36.1	
	comp=Z,18μm,0.5s						
BHD	**Baghdad**	**1.43**	**226**	*e*Pn	**Pb**	**00 53 18.0**	**+1.0**
BHD				*e*Sn	**Sg**	**00 53 38.0**	**+1.9**
IKRK	**Kirkuk**	**1.53**	**318**	*e*Pn	**Pg**	**00 53 19.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**00 53 38.0**	**-0.4**
IKRK				AML	AML	00 53 49.1	
	comp=Z,1μm,1.0s						
IKOM	**Komasi**	**1.58**	**93**	*e*Pn	**Pg**	**00 53 21.1**	**+0.7**
IKOM				IAMB	IAmb	00 53 51.8	
	comp=Z,0.0nm,0.5s						
IBZA	**Bozab**	**1.87**	**83**	*e*Pn	**Pb**	**00 53 25.0**	**+0.3**
IBZA				IAMB	IAmb	00 53 55.5	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**2.01**	**111**	*e*Pn	**Pb**	**00 53 26.9**	**+0.1**
IKFM				IAMB	IAmb	00 54 02.4	
	comp=Z,0.0nm,0.6s						
IDOB	**Doab**	**2.19**	**102**	*e*Pn	**Pb**	**00 53 29.3**	**-0.8**
HSRG	**Sareghieh**	**2.40**	**66**	*e*Pn	**Pb**	**00 53 33.2**	**-0.6**
IKMR	**Kamar-syah**	**2.42**	**107**	*e*Pn	**Pn**	**00 53 32.5**	**+2.5**
IKMR				IAMB	IAmb	00 53 34.7	
	comp=Z,0.0nm,0.2s						
HSAM	**Samen**	**2.48**	**91**	*e*Pn	**Pn**	**00 53 33.5**	**+2.4**
HSAM				IAMB	IAmb	00 53 39.4	
	comp=Z,0.0nm,0.6s						
MAHB	**Mahabad**	**2.49**	**2**	*e*Pn	**Pb**	**00 53 33.3**	**-1.9**
MAHB				IAMB	IAmb	00 54 12.6	
	comp=Z,0.0nm,0.5s						
BDRS	**Dareh Seyedi**	**2.73**	**96**	*e*Pn	**Pn**	**00 53 36.8**	**+2.2**
BDRS				IAMB	IAmb	00 54 28.3	
	comp=Z,0.0nm,0.8s						
MSL	**Mosul**	**2.95**	**317**	*e*Pn	**Pn**	**00 53 38.0**	**+0.7**
MSL				*e*Sn	**Sn**	**00 54 12.5**	**-0.3**
MSL				AML	AML	00 54 37.7	
	comp=Z,1μm,0.6s						
HAGD	**Aghdareh**	**2.97**	**78**	*e*Pn	**Pn**	**00 53 40.2**	**+2.5**
HAGD				IAMB	IAmb	00 54 35.7	
	comp=Z,0.0nm,0.9s						
NSR	**Nassriya**	**3.28**	**172**	*e*Pn	**Pn**	**00 53 45.5**	**+3.6**
NSR				*e*Sn	**Sn**	**00 54 25.0**	**+3.9**
SHGR	**Shooshtar-Gavs**	**3.44**	**128**	*e*Pn	**Pn**	**00 53 46.3**	**+2.3**
SHGR	**Shooshtar-Gavs**	**3.44**	**128**	*e*Pn	**Pn**	**00 53 46.3**	**+2.3**
SHGR				*e*AML	AML	00 54 54.7	
	comp=E,102nm,0.5s						
SHGR	**Shooshtar-Gavs**	**3.44**	**128**	*e*AML	AML	00 54 31.5	
	comp=N,93nm,0.5s						
ZNJK	**Zanjan**	**3.47**	**46**	*e*Sg	**Sg**	**00 54 39.7**	**-1.7**
ZNJK				*e*Pn	**Pn**	**00 53 47.2**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.56**	**65**	*e*Pn	**Pn**	**00 53 48.1**	**+2.2**
IBST	**Bostanabad**	**3.58**	**17**	*e*Pn	**Pn**	**00 53 47.4**	**+1.3**
KHMZ	**Khomeyn**	**3.65**	**97**	*e*Pn	**Pn**	**00 53 49.8**	**+2.6**
KHMZ	**Khomeyn**	**3.65**	**97**	*e*Pn	**Pn**	**00 53 49.8**	**+2.6**
ASAO	**Ashtian**	**3.66**	**84**	*e*Pn	**Pn**	**00 53 50.0**	**+2.7**
ASAO	**Ashtian**	**3.66**	**84**	*e*Pn	**Pn**	**00 53 50.0**	**+2.7**
IRAZ	**Razeghan**	**3.73**	**71**	*e*Pn	**Pn**	**00 53 51.5**	**+3.3**
ITBZ	**Tabriz**	**3.98**	**6**	*e*Pn	**Pn**	**00 53 52.6**	**+1.0**
IQOM	**Qom**	**4.54**	**81**	*e*Pn	**Pn**	**00 54 00.9**	**+1.5**
RTB	**Rutbah**	**4.59**	**256**	*e*Pn	**Pn**	**00 53 58.7**	**-1.2**
RTB				AML	AML	00 54 26.0	
	comp=Z,673nm,0.0s						
RTB				*e*Sn	**Sn**	**00 54 52.0**	**-1.5**
QALM	**Alamut, Qazvin**	**4.65**	**61**	*e*Pn	**Pn**	**00 54 03.0**	**+2.1**
ORD	**Ordubad**	**4.66**	**4**	P	**Pn**	**00 54 04.0**	**+3.1**
ORD				S	**Sn**	**00 54 59.6**	**+4.5**
IPIR	**Pirpir**	**4.69**	**108**	*e*Pn	**Pn**	**00 54 03.0**	**+1.5**
JHBN	**Jahan bin**	**4.70**	**114**	*e*Pn	**Pn**	**00 54 02.9**	**+1.2**
GHVR	**GHOM**	**4.71**	**86**	*e*Pn	**Pn**	**00 54 03.6**	**+2.1**
GHVR	**GHOM**	**4.71**	**86**	*e*Pn	**Pn**	**00 54 03.6**	**+2.1**
CHTH	**Charan**	**4.81**	**69**	*e*Pn	**Pn**	**00 54 05.6**	**+2.5**
CHTH	**Charan**	**4.81**	**69**	*e*Pn	**Pn**	**00 54 05.6**	**+2.5**
QAM	**Ghamsar**	**4.87**	**94**	*e*Pn	**Pn**	**00 54 06.1**	**+2.2**
LRK	**Lerik**	**4.88**	**26**	P	**Pn**	**00 54 06.5**	**+2.5**
LRK				S	**Sn**	**00 55 05.3**	**+4.4**
NAX	**Nakhchivan**	**4.89**	**359**	P	**Pn**	**00 54 08.7**	**+4.6**
NAX				S	**Sn**	**00 55 05.1**	**+4.1**
ZNGN	**Zangian**	**4.89**	**115**	*e*Pn	**Pn**	**00 54 05.1**	**+0.8**
ROKH	**ROKH**	**4.93**	**111**	*e*Pn	**Pn**	**00 54 06.2**	**+1.4**
ASTR	**Astara**	**4.99**	**30**	P	**Pn**	**00 54 08.0**	**+2.7**
ASTR				S	**Sn**	**00 55 07.2**	**+4.0**
IKLH	**Kolahrood**	**5.06**	**99**	*e*Pn	**Pn**	**00 54 08.5**	**+1.9**
YRD	**Yardimli**	**5.09**	**24**	P	**Pn**	**00 54 09.4**	**+2.5**
YRD				S	**Sn**	**00 55 09.4**	**+3.2**
IVRN	**Varamin**	**5.10**	**80**	*e*Pn	**Pn**	**00 54 08.5**	**+1.6**
LKRN	**Lenkeran, Azer**	**5.11**	**29**	P	**Pn**	**00 54 09.9**	**+2.9**
LKRN				S	**Sn**	**00 55 10.1**	**+3.9**
SBZ	**Shahbuz**	**5.12**	**360**	P	**Pn**	**00 54 10.1**	**+2.9**
SBZ				S	**Sn**	**00 55 11.2**	**+4.7**
IBRJ	**Brojen**	**5.30**	**115**	*e*Pn	**Pn**	**00 54 10.8**	**+1.0**
QRD	**Qoradiz**	**5.36**	**14**	P	**Pn**	**00 54 12.9**	**+2.5**
QRD				S	**Sn**	**00 55 16.9**	**+4.5**
KRSH	**Karshahi**	**5.42**	**91**	*e*Pn	**Pn**	**00 54 13.4**	**+1.9**
GLBA	**Cilalabad**	**5.44**	**23**	P	**Pn**	**00 54 14.7**	**+3.2**
GLBA				S	**Sn**	**00 55 18.4**	**+4.1**
HYR	**Heyderabad**	**5.47**	**354**	S	**Sn**	**00 55 20.0**	**+4.8**
ISFB	**Sefidab**	**5.49**	**87**	*e*Pn	**Pn**	**00 54 13.4**	**+1.1**
IGAR	**Gharneh**	**5.70**	**107**	*e*Pn	**Pn**	**00 54 16.8**	**+1.5**
IZEF	**Zefreh**	**5.78**	**102**	*e*Pn	**Pn**	**00 54 18.2**	**+1.8**
AGDM	**Agdam**	**5.95**	**11**	P	**Pn**	**00 54 21.5**	**+3.0**
IRAM	**Ramesheh**	**6.20**	**111**	*e*Pn	**Pn**	**00 54 22.2**	**+0.1**
ZRD	**Zardab**	**6.22**	**15**	P	**Pn**	**00 54 25.2**	**+3.0**
ZRD				S	**Sn**	**00 55 37.9**	**+4.4**
GANJ	**Ganja**	**6.39**	**5**	P	**Pn**	**00 54 27.8**	**+3.2**
ASF	**Jabal al Asfar**	**7.59**	**256**	Pn	**Pn**	**00 54 40.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=56,slow=4.5,SNR=7.8						
ASF				Pg	Pg	00 55 11.3	-4.2
	comp=Z,0.6nm,0.3s,baz=16,slow=18,SNR=2.6						
ASF				Lg	Lg	00 56 41.5	
	comp=Z,0.7nm,0.3s,baz=33,slow=17,SNR=2.2						
MMAI	**Mount Meron Ar**	**8.60**	**264**	**Pn**	**Pn**	**00 54 54.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=44,slow=16,SNR=6.1						
EIL	**Elat**	**10.15**	**246**	**Pn**	**Pn**	**00 55 14.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=111,slow=3.5,SNR=7.8						
EIL				Lg	Lg	00 58 05.4	
	comp=Z,0.3nm,0.3s,baz=140,slow=19,SNR=3.3						
SHME	**Shamm**	**12.25**	**129**	P	**Pn**	**00 55 42.2**	**-2.8**
BANOM	**Banah**	**12.44**	**129**	*i* P	**Pn**	**00 55 44.7**	**-2.9**
	SNR=33						
BANOM				S	Sn	00 57 57.2	-9.2
BANOM	**Banah**	**12.44**	**129**	P	**Pn**	**00 55 46.0**	**-1.6**
	SNR=34						
BANOM				S	Sn	00 57 57.5	-8.9
	SNR=6.9						
MSFE	**Esma-Masafi**	**12.75**	**131**	*i* P	**Pn**	**00 55 49.8**	**-2.0**
	SNR=11						
ASUD	**Al Ashush, Dub**	**12.80**	**136**	*i* P	**Pn**	**00 55 52.4**	**-0.1**
	SNR=14						
ASUD	**Al Ashush, Dub**	**12.80**	**136**	P	**Pn**	**00 55 51.9**	**-0.6**
	SNR=14						
MDH	**Madha**	**12.88**	**131**	P	**Pn**	**00 55 51.8**	**-1.8**
MDH	**Madha**	**12.88**	**131**	P	**Pn**	**00 55 52.2**	**-1.4**
MDH				S	Sn	00 58 08.9	-8.3
UOSS	**Minazif**	**13.08**	**132**	P	**Pn**	**00 55 54.7**	**-1.6**
UOSS	**Minazif**	**13.08**	**132**	P	**Pn**	**00 55 54.6**	**-1.7**
	SNR=13						
HATD	**Hatta, Dubai**	**13.13**	**133**	P	**Pn**	**00 55 55.5**	**-1.4**
HATD	**Hatta, Dubai**	**13.13**	**133**	P	**Pn**	**00 55 55.9**	**-1.1**
HATD				S	Sn	00 58 14.6	-8.6
ASHO	**Ashiyiah**	**13.19**	**134**	*i* P	**Pn**	**00 55 55.8**	**-2.0**
	SNR=20						
ASHO	**Ashiyiah**	**13.19**	**134**	P	**Pn**	**00 55 56.0**	**-1.7**
	SNR=20						
ASHO				S	Sn	00 58 14.8	-10
ARQ	**Araqi**	**14.49**	**136**	P	**Pn**	**00 56 13.6**	**-2.0**
HOQ	**Hoqain**	**14.77**	**133**	P	**Pn**	**00 56 17.5**	**-1.8**
BSY	**Bisya**	**15.34**	**135**	P	**Pn**	**00 56 25.1**	**-1.9**
	SNR=11						
SMDO	**Samad**	**15.61**	**132**	P	**Pn**	**00 56 29.1**	**-1.5**
WSAR	**Wadi Sarin**	**15.83**	**131**	Pn	**Pn**	**00 56 30.1**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=310,slow=7.0,SNR=16						
JMDO	**Jabal Madar**	**16.16**	**134**	P	**Pn**	**00 56 35.7**	**-2.0**
WBK	**Wadi Bani Khal**	**16.51**	**131**	P	**Pn**	**00 56 40.0**	**-2.1**
	SNR=10						
JLN	**Jalan Bani Buh**	**17.12**	**131**	P	**Pn**	**00 56 48.9**	**-0.9**
WHFO	**Wadi Hawf**	**17.85**	**154**	P	**Pn**	**00 56 56.0**	**-3.0**
	SNR=12						
WHFO				S	Sn	01 00 03.1	-15
ABTO	**Aybut**	**18.20**	**156**	P	**Pn**	**00 56 58.9**	**-4.4**
	SNR=10						
DMTO	**DMTO**	**18.48**	**151**	P	**P**	**00 57 03.7**	**-2.9**
	SNR=15						
DMTO				S	Sn	01 00 18.0	-16
AKASG	**Malin Array Be**	**20.31**	**329**	P	**P**	**00 57 24.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=135,slow=8.6,SNR=4.1						
MOA	**Molln**	**27.04**	**310**	*i* pP	**P**	**00 58 36.3**	**+3.5**
	comp=Z,2.3nm,0.7s						
KBA	**Koelnbreinsper**	**27.40**	**308**	*i* pP	**P**	**00 58 42.7**	**+6.4**
	comp=Z,12nm,0.7s						
ABTA	**Abfaltersbach**	**27.86**	**307**	*i* pP	**P**	**00 58 44.4**	**+4.0**
	comp=Z,1.3nm,0.7s						
WTTA	**Wattenberg**	**28.58**	**307**	*i* P	**P**	**00 58 46.2**	**-0.5**
	comp=Z,2.1nm,0.6s						
SQTA	**Sankt Quirin**	**28.85**	**307**	*i* P	**P**	**00 58 49.4**	**+0.3**
	comp=Z,1.1nm,0.3s						
MOTA	**Moosalm**	**28.95**	**307**	*i* P	**P**	**00 58 49.7**	**-0.3**
FETA	**Feichten**	**29.12**	**306**	*i* pP	**P**	**00 58 54.3**	**+2.7**
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**29.93**	**341**	P	**P**	**00 58 56.9**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=152,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	**30.28**	**54**	P	**P**	**00 59 00.5**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=256,slow=8.6,SNR=4.9						
DANN	**Dangsing**	**32.99**	**90**	*e*P	**P**	**00 59 26.5**	**+0.5**
	comp=Z,8.4nm,0.6s						
ZALV	**Zalesovo Beam**	**33.76**	**42**	P	**P**	**00 59 31.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=261,slow=8.5,SNR=7.2						
GKN	**Gorkha**	**33.84**	**90**	*e*P	**P**	**00 59 33.3**	**+0.1**
	comp=Z,7.4nm,0.3s						
KKN	**Kakani**	**34.44**	**90**	*e*P	**P**	**00 59 39.3**	**+0.7**
	comp=Z,5.9nm,0.4s						
PKIN	**Phulchoki**	**34.62**	**90**	*e*P	**P**	**00 59 40.7**	**+0.6**
	comp=Z,5.8nm,0.5s						
PKI	**Pulchoki**	**34.63**	**90**	*e*P	**P**	**00 59 40.4**	**+0.1**
	comp=Z,8.0nm,0.6s						
GUN	**Gumba**	**34.90**	**89**	*e*P	**P**	**00 59 43.0**	**+0.3**
	comp=Z,8.6nm,0.4s						
JIRN	**Jiri**	**35.24**	**90**	*e*P	**P**	**00 59 46.1**	**+0.4**
	comp=Z,17nm,0.4s						
RAMN	**Ramite**	**35.84**	**90**	*e*P	**P**	**00 59 50.5**	**-0.2**
	comp=Z,19nm,0.6s						
ODAN	**Odare**	**36.53**	**90**	*e*P	**P**	**00 59 56.5**	**-0.1**
	comp=Z,4.9nm,0.5s						
ARCES	**ARCESS Array B**	**37.04**	**348**	P	**P**	**00 59 59.0**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=165,slow=7.4,SNR=3.7						
ESDC	**Sonseca Array**	**39.56**	**293**	P	**P**	**01 00 22.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=96,slow=9.5,SNR=3.3						
PALK	**Pallekele**	**42.04**	**122**	*i* P	P	01 00 34.2	-8.2
	SNR=8.1						
TORD	**Torodi Ar. Bea**	**44.94**	**253**	P	**P**	**01 01 05.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=64,slow=6.6,SNR=3.1						
SPITS	**Spitsbergen Ar**	**45.77**	**352**	P	**P**	**01 01 11.8**	**+0.1**
	comp=Z,20nm,1.1s,baz=137,slow=12,SNR=6.0						
CMAR	**Chiang Mai Arr**	**49.77**	**94**	P	**P**	**01 01 41.4**	**-2.1**
	comp=Z,1.6nm,0.4s,baz=295,slow=7.7,SNR=5.1						
TIXI	**Tiksi**	**55.77**	**22**	LR	LR	01 30 17.4	
	comp=Z,68nm,20.1s,baz=253,slow=40						
SEY	**Seymchan**	**67.10**	**28**	P	**P**	**01 03 43.6**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=278,slow=5.8,SNR=6.5						

*IDC **25** 01:18:15.3±1.0,46°.58N×155°.39E,h0km,mb3.7/10,*
mb1 3.9/12,mb1mx3.7/47,mbtmp3.7/12,ML2.7/2,MS3.5/3,
Ms1 3.5/3,ms1mx2.6/51,Error ellipse: s-maj=26.7km
s-min=19.6km az=162.0
*ISCJB **25** 01:18:16.3±0.6,46°.66N±0°.08×155°.4E±0°.1,h18km,*
mb3.6/10,MS3.5/3,Error ellipse: s-maj=13.0km
s-min=7.8km az=138.5
*NEIC **25** 01:18:16.7±1.8,46°.55N±0°.09×155°.5E±0°.2,h10km±1km,*
mb4.3/10
ISC 25 01:18:18.1±0.8,46°.6N±0°.1×155°.3E±0°.1,h18km,n37,
σ1°30/30,mb3.9/15,MS3.8/3,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**6.71**	**12**	Pn	**Pn**	**01 19 53.6**	**-2.0**
PETK	**Petropavlovsk-**	**6.71**	**12**	Pn	**Pn**	**01 19 53.5**	**-2.1**
	0.8nm,0.3s,baz=168,slow=13,SNR=18						
PETK				Sn	**Sn**	**01 21 11.8**	**+0.3**
	0.2nm,0.3s,baz=222,slow=14,SNR=2.5						
ERM	**Erimo**	**9.83**	**247**	Pn	**Pn**	**01 20 39.0**	**+0.7**
ERM				Sn	**Sn**	**01 22 24.5**	**-3.7**
USRK	**Ussuriysk Ar.**	**16.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.79**	**212**	*e*P	**Pn**	**01 21 38.3**	**-0.1**
UPD2				*e*S	**Sn**	**01 21 48.9**	**-0.6**
UPD2	**Meteti**	**0.79**	**212**	‖*i*P	**Pn**	**01 21 38.3**	**-0.1**
UPD2				*i* S	**Sn**	**01 21 47.3**	**-2.1**
LCBC	**Los crdobas,**	**1.27**	**107**	*e*P	**Pn**	**01 21 46.6**	**+1.8**
LCBC				*e*S	**Sn**	**01 22 05.2**	**+4.5**
CHPO	**Chepo, Panama**	**1.50**	**268**	*i* P	**Pn**	**01 21 47.9**	**0.0**
CHPO				*e*S	**Sn**	**01 22 05.6**	**-0.8**
UPA	**Univ. de Panam**	**1.93**	**263**	*e*P	**Pn**	**01 21 55.0**	**+1.2**
PTAC	**Punta Ardita,**	**2.08**	**186**	*e*P	**Pn**	**01 21 56.2**	**+0.4**
PTAC				*e*S	**Sn**	**01 22 20.9**	**+0.4**
PTAC				*i*		01 22 26.6	
	comp=Z,116nm,0.2s						
FRIJ	**El Hiral**	**2.10**	**270**	‖*i*P	**Pn**	**01 21 57.9**	**+1.7**
FRIJ				*e*S	**Sn**	**01 22 20.8**	**-0.4**
CHOR3	**La Chorrera**	**2.17**	**262**	*e*P	**Pn**	**01 21 57.9**	**+0.8**
BCIP	**Isla Barro Col**	**2.21**	**269**	*e*P	**Pn**	**01 21 58.9**	**+1.2**
BCIP				*e*S	**Sn**	**01 22 24.5**	**+0.6**
BCIP	**Isla Barro Col**	**2.21**	**269**	*e*P	**Pn**	**01 21 58.5**	**+0.8**
ZANG	**Zanguenga, Cho**	**2.26**	**263**	*i* P	**Pn**	**01 21 59.4**	**+1.1**
SJCC	**San Jacinto, C**	**2.47**	**74**	*e*P	**Pn**	**01 22 03.1**	**+1.8**
SJCC				*e*S	**Sn**	**01 22 27.2**	**-3.2**
SJCC				*i*		01 22 33.7	
	comp=Z,21nm,0.1s						
SJCC	**San Jacinto, C**	**2.47**	**74**	*e*P	**Pn**	**01 22 02.7**	**+1.4**
SJCC				*e*S	**Sn**	**01 22 29.0**	**-1.4**
VTON	**El Valle, Cocl**	**2.56**	**256**	*e*P	**Pn**	**01 22 03.6**	**+1.1**
AZU	**Azuero**	**3.01**	**242**	*e*P	**Pn**	**01 22 09.0**	**+0.4**
ZARC	**Zaragoza, Cauc**	**3.21**	**122**	*e*P	**Pn**	**01 22 11.6**	**+0.2**
ZARC				*e*S	**Sn**	**01 22 46.4**	**-2.0**
ZARC				*i*		01 22 49.5	
	comp=Z,36nm,0.2s						
SMLC	**San Martn de**	**3.50**	**97**	*e*P	**Pn**	**01 22 14.7**	**-0.7**
SMLC				*e*S	**Sn**	**01 22 54.6**	**-1.1**
SMLC				*i*		01 22 57.4	
	comp=Z,38nm,0.1s						
HELC	**Santa Helena**	**3.64**	**146**	*e*P	**Pn**	**01 22 17.3**	**-0.3**
CBOC	**Ciudad Bolivar**	**3.69**	**155**	*e*P	**Pn**	**01 22 20.6**	**+2.5**
SMRC	**Santa Marta, M**	**3.84**	**60**	*e*P	Pn	01 22 16.0	-3.9
SMRC				*e*S	**Sn**	**01 23 01.1**	**-2.7**
SMRC				*i*		01 23 05.5	
	comp=Z,12nm,0.1s						
GMAL	**Guarumal, Vera**	**3.88**	**248**	*e*P	**Pn**	**01 22 20.4**	**-0.2**
PTBC	**PUERTO BERRIO,**	**4.10**	**130**	*e*P	**Pn**	**01 22 25.5**	**+2.0**
PTBC				*e*S	**Sn**	**01 23 08.2**	**-2.0**
PTBC				*i*		01 23 11.9	
	comp=Z,8.0nm,0.4s						
CODC	**Agustn Codazz**	**4.15**	**80**	*e*P	**Pn**	**01 22 25.2**	**+0.9**
CODC				*e*S	**Sn**	**01 23 11.8**	**+0.2**
CODC				*i*		01 23 17.9	
	comp=Z,9.2nm,0.3s						
OCAC	**Ocana**	**4.34**	**103**	*e*P	**Pn**	**01 22 25.8**	**-1.2**
OCAC				*e*S	**Sn**	**01 23 15.2**	**-1.2**
OCAC				*i*		01 23 18.7	
	comp=Z,21nm,0.4s						
BRRC	**Barranca, Sant**	**4.38**	**118**	*e*P	**Pn**	**01 22 27.9**	**+0.5**
BRRC				*e*S	**Sn**	**01 23 17.0**	**-0.2**
BRRC				*i*		01 23 20.7	
	comp=Z,8.2nm,0.2s						

ISN ***25*** *01:29:42.1±0.9, 34°.30N×45°.49E, h0km±10km, ML3.1*
TEH ***25*** *01:29:45.5, 34°.33N×45°.56E, h16km, ML3.0*
ISC 25 01:29:44.6±1.3,**34°29N**±0°.04×**45°52E**±0°.03,**h7**km±11km,
n18,σ1§15/25,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.82**	**60**	*e*Pg	**Pb**	**01 29 59.9**	**-1.4**
IDHR				IAMB	IAmb	01 30 14.2	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.87**	**87**	IAMB	IAmb	01 30 04.1	
	comp=Z,15μm,0.1s						
IGHG				*e*Pg	**Pb**	**01 30 01.4**	**-0.7**
IGHG				*e*Sg	**Sb**	**01 30 13.8**	**-0.2**
IBDR	**Badra**	**1.23**	**164**	*e*Pg	**Pg**	**01 30 08.0**	**-0.1**
IBDR				AML	AML	01 30 10.6	
	comp=Z,474nm,0.2s						
IBDR				*e*Sg	**Sn**	**01 30 26.0**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.26**	**90**	*e*Sg	**Sn**	**01 30 26.0**	**0.0**
KCHF				*e*Pg	**Pg**	**01 30 09.3**	**+0.6**
KCHF				IAMB	IAmb	01 30 29.8	
	comp=Z,0.0nm,0.4s						
ILIN	**Lien**	**1.34**	**62**	*e*Pg	**Pg**	**01 30 10.5**	**+0.1**
ILIN				IAMB	IAmb	01 30 12.4	
	comp=Z,2μm,0.3s						
BHD	**Baghdad**	**1.39**	**223**	*e*Pn	**Pn**	**01 30 10.0**	**-0.4**
BHD				*e*Sn	**Sg**	**01 30 31.0**	**+1.6**
IKRK	**Kirkuk**	**1.47**	**319**	*e*Pn	**Pb**	**01 30 11.0**	**-1.3**
IKRK				AML	AML	01 30 14.2	
	comp=Z,796nm,0.4s						
IKRK				*e*Sn	**Sg**	**01 30 33.0**	**+1.0**
IKOM	**Komasi**	**1.65**	**93**	*e*Pn	**Pg**	**01 30 15.6**	**-0.7**
IKOM				IAMB	IAmb	01 30 42.9	
	comp=Z,0.0nm,0.4s						
IBZA	**Bozab**	**1.94**	**84**	*e*Pn	**Pb**	**01 30 19.2**	**-1.3**
IBZA				IAMB	IAmb	01 30 24.2	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**2.08**	**111**	*e*Pn	**Pb**	**01 30 21.7**	**-0.9**
IKFM				IAMB	IAmb	01 30 56.9	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.26**	**102**	*e*Pn	**Pb**	**01 30 23.5**	**-2.4**
HSRG	**Sareghieh**	**2.46**	**67**	*e*Pn	**Pb**	**01 30 27.5**	**-1.8**
IKMR	**Kamar-syah**	**2.50**	**107**	*e*Pn	**Pn**	**01 30 26.8**	**+1.2**
IKMR				IAMB	IAmb	01 31 19.9	
	comp=Z,0.0nm,0.7s						
HSAM	**Samen**	**2.55**	**91**	*e*Pn	**Pn**	**01 30 27.6**	**+0.9**
HSAM				IAMB	IAmb	01 30 34.2	
	comp=Z,0.0nm,0.4s						
BDRS	**Dareh Seyedi**	**2.81**	**96**	*e*Pn	**Pn**	**01 30 30.6**	**+0.4**
BDRS				IAMB	IAmb	01 31 21.0	
	comp=Z,0.0nm,0.6s						
MSL	**Mosul**	**2.88**	**318**	*e*Pn	**Pn**	**01 30 31.0**	**0.0**
MSL				AML	AML	01 30 43.8	
	comp=Z,102nm,0.4s						
MSL				*e*Sn	**Sn**	**01 31 07.4**	**+1.5**
HAGD	**Aghdareh**	**3.03**	**79**	*e*Pn	**Pn**	**01 30 34.3**	**+1.1**
HAGD				IAMB	IAmb	01 31 29.8	
	comp=Z,0.0nm,0.6s						
RTB	**Rutbah**	**4.53**	**255**	*e*Pn	**Pn**	**01 30 54.0**	**+0.4**
RTB				*e*Sn	**Sn**	**01 31 46.1**	**-0.4**

ATH ***25*** *01:55:03.5, 40°.62N×20°.61E, h21km±2km, ML2.8/2, Error ellipse: s-maj=2.8km s-min=1.5km az=126.0*
THE ***25*** *01:55:03.9, 40°.64N×20°.60E, h0km±2km, ML2.4/4, Error ellipse: s-maj=2.5km s-min=0.6km az=191.0*
TIR ***25*** *01:55:03.5, 40°.65N×20°.60E, h5km, Md2.9/7*
ISCJB ***25*** *01:55:04.0±0.5, 40°.59N±0°.03×20°.61E±0°.03, h7km±5km, Error ellipse: s-maj=4.4km s-min=3.5km az=16.4*
BEO ***25*** *01:55:07.7±0.3, 40°.66N×20°.87E, h24km±3km, ML2.6/6*
ISC 25 01:55:04.4±1.0,**40°63N**±0°.02×**20°65E**±0°.02,**h8**km±9km,
n53,σ1§63/73,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.37**	**125**	P	**Pg**	**01 55 11.8**	**0.0**
NEST				S	**Sg**	**01 55 18.1**	**+1.4**
	670nm,0.3s						
NEST	**Nestorio**	**0.37**	**125**	P	**Pg**	**01 55 11.7**	**0.0**
NEST				S	**Sg**	**01 55 18.0**	**+1.3**
NEST				AML	AML	01 55 19.6	
	comp=E,1490μm,0.3s						
NEST				AML	AML	01 55 21.8	
	comp=N,1094μm,0.2s						
PENT	**Pentalofos**	**0.57**	**139**	P	**Pg**	**01 55 15.2**	**-0.3**
PENT	**Pentalofos**	**0.57**	**139**	P	**Pg**	**01 55 15.2**	**-0.3**
PENT				S	**Sg**	**01 55 23.4**	**+0.3**
FNA	**Florina**	**0.57**	**74**	*e*Pg	**Pg**	**01 55 15.3**	**-0.2**
FNA				*e*Sg	**Sg**	**01 55 25.1**	**+2.0**
FNA	**Florina**	**0.57**	**74**	P	**Pg**	**01 55 15.4**	**-0.2**
FNA				S	**Sg**	**01 55 24.9**	**+1.8**
	comp=N,3μm,0.3s						
FNA	**Florina**	**0.57**	**74**	*i* PG	**Pg**	**01 55 15.5**	**-0.2**
FNA				*i* SG	**Sg**	**01 55 25.1**	**+2.0**
FNA	**Florina**	**0.57**	**74**	P	**Pg**	**01 55 15.4**	**-0.2**
FNA				S	**Sg**	**01 55 24.6**	**+1.5**
FNA				AML	AML	01 55 26.0	
	comp=E,5569μm,0.3s						
FNA				AML	AML	01 55 26.1	
	comp=N,7570μm,0.3s						
TPE	**Tepelena**	**0.59**	**236**	P	**Pg**	**01 55 14.1**	**-1.7**
TPE				S	**Sg**	**01 55 23.3**	**-0.2**
	comp=N,578nm,0.4s						
TPE	**Tepelena**	**0.59**	**236**	*i* PG	**Pg**	**01 55 14.4**	**-1.4**
TPE				*i* SG	**Sg**	**01 55 23.1**	**-0.4**
KPRO	**Kipourio**	**0.87**	**141**	P	**Pg**	**01 55 19.4**	**-1.7**
VLO	**Vlora**	**0.89**	**260**	*i* PG	**Pg**	**01 55 21.9**	**+0.3**
VLO				*i* SG	**Sg**	**01 55 32.7**	**-0.5**
SRN	**Sarande**	**0.90**	**214**	P	**Pg**	**01 55 20.4**	**-1.3**
KZN	**Kozani**	**0.92**	**110**	P	**Pb**	**01 55 21.6**	**-1.0**
KZN	**Kozani**	**0.92**	**110**	P	**Pn**	**01 55 21.4**	**-1.2**
TIR	**Tirane**	**0.93**	**321**	*e*Pg	**Pn**	**01 55 26.8**	**+3.0**
TIR				*e*Sg	**Sn**	**01 55 40.3**	**+3.0**
TIR	**Tirane**	**0.93**	**321**	P	**Pb**	**01 55 20.8**	**-2.0**
TIR				S	**Sb**	**01 55 34.3**	**-1.0**
	comp=N,135nm,0.7s						
TIR	**Tirane**	**0.93**	**321**	*i* PG	**Pb**	**01 55 21.9**	**-1.0**
TIR				*i* SG	**Sb**	**01 55 35.6**	**+0.3**
TIR	**Tirane**	**0.93**	**321**	P	**Pb**	**01 55 21.5**	**-1.3**
MEV	**Metsovon**	**0.95**	**152**	P	**Pb**	**01 55 22.5**	**-0.8**
JAN	**Janina**	**0.98**	**171**	P	**Pb**	**01 55 22.2**	**-1.5**
JAN	**Janina**	**0.98**	**171**	P	**Pb**	**01 55 21.8**	**-1.9**
PHP	**Peshkopia**	**1.07**	**352**	*i* PG	**Pb**	**01 55 21.6**	**-3.6**
PHP				*i* SG	**Sb**	**01 55 35.8**	**-3.5**
IGT	**Igoumenitsa**	**1.12**	**193**	*e*Pg	**Pg**	**01 55 30.0**	**+4.0**
IGT				*e*Sg	**Sn**	**01 55 45.7**	**+3.7**
IGT	**Igoumenitsa**	**1.12**	**193**	P	**Pb**	**01 55 24.9**	**-1.1**
IGT	**Igoumenitsa**	**1.12**	**193**	*i* PG	**Pb**	**01 55 23.3**	**-2.8**
IGT				*i* SG	**Sb**	**01 55 38.9**	**-1.9**
IGT	**Igoumenitsa**	**1.12**	**193**	P	**Pb**	**01 55 24.9**	**-1.1**
KEK	**Kerkira**	**1.12**	**216**	P	**Pb**	**01 55 25.6**	**-0.5**
GRG	**Griva**	**1.37**	**76**	P	**Pn**	**01 55 29.7**	**-0.2**
GRG	**Griva**	**1.37**	**76**	P	**Pn**	**01 55 29.5**	**-0.3**
LIT	**Litokhoron**	**1.50**	**110**	P	**Pn**	**01 55 32.3**	**+0.6**
LIT	**Litokhoron**	**1.50**	**110**	P	**Pn**	**01 55 32.2**	**+0.5**
PUK	**Puka**	**1.52**	**338**	*i* PN	**Pn**	**01 55 32.2**	**+0.2**
PUK				*i* SN	**Sb**	**01 55 54.1**	**+1.6**
STIP	**Stip**	**1.57**	**47**	*i* Pn	**Pg**	**01 55 35.8**	**+1.2**
VAY	**Valandovo**	**1.61**	**64**	*i* Pn	**Pb**	**01 55 34.9**	**+0.5**
KNT	**Kendrikon**	**1.79**	**72**	P	**Pn**	**01 55 35.9**	**+0.3**
KNT	**Kendrikon**	**1.79**	**72**	P	**Pn**	**01 55 35.8**	**+0.2**
HORT	**Hortiatis**	**1.87**	**90**	P	**Pn**	**01 55 37.1**	**+0.4**
PLG	**Polygyros**	**2.15**	**96**	P	**Pn**	**01 55 40.9**	**+0.3**
PLG	**Polygyros**	**2.15**	**96**	P	**Pn**	**01 55 41.1**	**+0.6**
BOSS	**Bosilegrad**	**2.32**	**36**	*e*Pn	**Pn**	**01 55 43.2**	**+0.3**
BOSS				*e*Sn	**Sn**	**01 56 09.1**	**-2.4**
BARS	**Barje**	**2.35**	**21**	*e*Pn	**Pn**	**01 55 43.6**	**+0.2**
SELS	**Selova**	**2.61**	**8**	*e*Pn	**Pn**	**01 55 48.6**	**+1.7**
SJES	**Sjenica**	**2.68**	**349**	*e*Pn	**Pn**	**01 55 50.4**	**+2.5**
SJES				*e*Sn	**Sn**	**01 56 21.4**	**+0.8**
TREB	**Trebinje**	**2.71**	**321**	*e*Pn	**Pn**	**01 55 49.9**	**+1.7**
VTS	**Vitosha**	**2.78**	**43**	*e*Pn	**Pn**	**01 55 49.7**	**+0.4**
VTS				*e*Sn	**Sn**	**01 56 19.3**	**-3.8**
IVAS	**Ivanjica**	**2.97**	**353**	*e*Pn	**Pn**	**01 55 53.6**	**+1.7**
ZAPS	**Zavoj**	**3.03**	**29**	*e*Pn	**Pn**	**01 55 53.9**	**+1.2**
BOVS	**Bovan**	**3.10**	**14**	*e*Pn	**Pn**	**01 55 53.5**	**-0.2**
GRUS	**Gruza**	**3.26**	**1**	*e*Pn	**Pn**	**01 55 56.3**	**+0.5**
ZAGS	**Zajecar**	**3.39**	**20**	*e*Pn	**Pn**	**01 55 58.3**	**+0.7**
DIVS	**Divibare**	**3.50**	**352**	*e*Pn	**Pn**	**01 56 01.7**	**+2.5**
TRUS	**Trudelj**	**3.60**	**357**	*e*Pn	**Pn**	**01 56 01.7**	**+1.3**

NEIC ***25*** *02:01:54.6±8.9, 34°.15N±0°.06×45°.42E±0°.05, h10km±1km*
ISCJB ***25*** *02:01:55.6±0.7, 34°.06N±0°.02×45°.35E±0°.02, h20km±7km, mb3.7/9, MS3.2/3, Error ellipse: s-maj=3.5km s-min=2.6km az=146.2*
IDC ***25*** *02:01:55.3±1.0, 34°.29N×45°.42E, h0km, mb3.7/10, mb1 3.8/18, mb1mx3.7/45, mbtmp3.7/18, ML3.4/7, MS3.0/9, Ms1 3.0/9, ms1mx2.8/38, Error ellipse: s-maj=18.4km s-min=12.9km az=152.0*
ISN ***25*** *02:01:56.4±1.1, 34°.35N×45°.50E, h16km±8km, ML4.2*
ISK ***25*** *02:01:56.8, 34°.21N×45°.14E, h7km, ML4.4/13*
TEH ***25*** *02:01:56.9, 34°.35N×45°.52E, h10km, ML4.1*
THR ***25*** *02:01:57.9, 34°.29N×45°.49E, h17km, ML4.0*
AZER ***25*** *02:01:58.0±1.9, 34°.19N×45°.51E, h2km, ml4.2/7, Error ellipse: s-maj=25.0km s-min=13.6km az=117.0*
OMAN ***25*** *02:02:06.9±5.9, 33°.29N×45°.50E, h41km±107km, ms2.9/3, Error ellipse: s-maj=82.8km s-min=34.3km az=36.0*
DSN ***25*** *02:02:07.8±1.5, 33°.35N×46°.04E, h10km, Error ellipse: s-maj=46.3km s-min=12.1km az=29.0*
ISC 25 02:01:54.0±1.2,**34°09N**±0°.03×**45°41E**±0°.03,**h10**km±8km,
n198,σ3§17/223,**mb3.7**/11,**MS3.2**/3,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.99**	**75**	*e*Pg	**Pn**	**02 02 14.5**	**+0.4**
IGHG				*e*Sg	**Sb**	**02 02 26.7**	**+0.3**
IGHG				IAMB	IAmb	02 02 30.1	
	comp=Z,81μm,0.4s						
IGHG	**Ghaleghazi**	**0.99**	**75**	Pg	**Pn**	**02 02 14.4**	**+0.4**
IGHG				Sg	**Sb**	**02 02 26.6**	**+0.2**
IDHR	**Dehrash**	**1.01**	**52**	*e*Pg	**Pg**	**02 02 12.5**	**-1.0**
IDHR				*e*Sg	**Sg**	**02 02 23.4**	**-3.2**
IDHR				IAMB	IAmb	02 02 28.0	
	comp=Z,0.0nm,0.3s						
IDHR	**Dehrash**	**1.01**	**52**	Pg	**Pg**	**02 02 12.4**	**-1.0**
IDHR				Sg	**Sg**	**02 02 23.4**	**-3.2**
IBDR	**Badra**	**1.06**	**156**	*e*Pg	**Pn**	**02 02 19.6**	**+4.7**
IBDR				AML	AML	02 02 23.6	
	comp=Z,3μm,0.2s						
BHD	**Baghdad**	**1.19**	**227**	*e*Pn	Pg	02 02 23.8	+7.1
BHD				*e*Sn	Sn	02 02 43.0	+10
BHD				AML	AML	02 02 51.8	
	comp=Z,51μm,0.0s						
KCHF	**Cheshme Sefid,**	**1.36**	**82**	*e*Pg	**Pg**	**02 02 20.7**	**+0.6**
KCHF				IAMB	IAmb	02 02 42.5	
	comp=Z,0.0nm,0.7s						
ILIN	**Lien**	**1.52**	**57**	*e*Pg	**Pb**	**02 02 22.1**	**-0.4**
ILIN				IAMB	IAmb	02 02 24.2	
	comp=Z,29μm,0.3s						
IKRK	**Kirkuk**	**1.58**	**326**	*e*Pn	**Pg**	**02 02 24.0**	**-0.3**
IKRK				AML	AML	02 02 26.1	
	comp=Z,2μm,0.8s						
IKRK				*e*Sn	**Sb**	**02 02 43.0**	**-0.4**
IKOM	**Komasi**	**1.74**	**86**	*e*Pn	**Pg**	**02 02 28.2**	**+0.8**
IKOM				IAMB	IAmb	02 02 59.0	
	comp=Z,0.0nm,0.6s						
IBZA	**Bozab**	**2.06**	**79**	*e*Pn	**Pb**	**02 02 32.3**	**+0.6**
IBZA				IAMB	IAmb	02 03 02.6	
	comp=Z,0.0nm,0.4s						
IBZA	**Bozab**	**2.06**	**79**	Pn	**Pb**	**02 02 32.2**	**+0.6**
IKFM	**Kafar-mosalman**	**2.10**	**105**	*e*Pn	**Pg**	**02 02 34.6**	**+0.4**
IKFM				IAMB	IAmb	02 03 22.4	
	comp=Z,0.0nm,0.8s						
IDOB	**Doab**	**2.32**	**97**	*e*Pn	**Pb**	**02 02 36.6**	**+0.7**
IDOB				IAMB	IAmb	02 03 30.0	
	comp=Z,0.0nm,0.9s						
IDOB	**Doab**	**2.32**	**97**	Pn	**Pb**	**02 02 36.6**	**+0.7**
IKMR	**Kamar-syah**	**2.53**	**102**	*e*Pn	**Pb**	**02 02 39.3**	**-0.2**
IKMR				IAMB	IAmb	02 03 27.9	
	comp=Z,0.0nm,0.6s						
HSAM	**Samen**	**2.65**	**86**	*e*Pn	**Pb**	**02 02 40.6**	**-1.0**
HSAM				IAMB	IAmb	02 02 46.1	
	comp=Z,0.0nm,1.0s						
BDRS	**Dareh Seyedi**	**2.88**	**92**	*e*Pn	**Pb**	**02 02 43.8**	**-1.8**
BDRS				IAMB	IAmb	02 03 34.1	
	comp=Z,0.0nm,0.6s						
BDRS	**Dareh Seyedi**	**2.88**	**92**	Pn	**Pb**	**02 02 43.8**	**-1.8**
MSL	**Mosul**	**2.98**	**321**	*e*Pn	**Pn**	**02 02 43.4**	**+2.1**
MSL				*e*Sn	**Sn**	**02 03 17.0**	**-0.1**
MSL				AML	AML	02 03 32.9	
	comp=Z,3μm,0.2s						
NSR	**Nassriya**	**3.13**	**169**	*e*Pn	**Pb**	**02 02 51.0**	**+1.4**
NSR				AML	AML	02 03 04.4	
	comp=Z,508nm,0.5s						
NSR				*e*Sn	**Sb**	**02 03 29.4**	**+1.6**
HAGD	**Aghdareh**	**3.17**	**76**	*e*Pn	**Pb**	**02 02 47.6**	**-2.8**
HAGD				IAMB	IAmb	02 02 54.0	
	comp=Z,0.0nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.46**	**124**	*e*Pn	**Pb**	**02 02 53.9**	**-1.4**
SHGR	**Shooshtar-Gavs**	**3.46**	**124**	*e*AML	AML	02 03 57.3	
	comp=E,289nm,0.5s						
SHGR	**Shooshtar-Gavs**	**3.46**	**124**	*e*AML	AML	02 04 04.6	
	comp=N,275nm,0.5s						
SHGR	**Shooshtar-Gavs**	**3.46**	**124**	*e*Pn	**Pb**	**02 02 53.9**	**-1.4**
CUKT	**Cukurca**	**3.48**	**336**	*e*Pn	**Pn**	**02 02 50.4**	**+2.1**
CUKT	**Cukurca**	**3.48**	**336**	PN	**Pn**	**02 02 50.3**	**+2.0**
CUKT				SN	**Sn**	**02 03 29.0**	**-0.6**
CUKT	**Cukurca**	**3.48**	**336**	Pn	**Pn**	**02 02 50.4**	**+2.1**
ZNJK	**Zanjan**	**3.71**	**45**	*e*Pn	**Pn**	**02 02 54.1**	**+2.5**
ZNJK	**Zanjan**	**3.71**	**45**	*e*Pn	**Pn**	**02 02 54.1**	**+2.5**
ZNJK	**Zanjan**	**3.71**	**45**	*e*Sg	**Sb**	**02 03 47.7**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.79**	**64**	*e*Pn	**Pn**	**02 02 55.8**	**+3.2**
QABG				IAMB	IAmb	02 03 10.1	
	comp=Z,0.0nm,0.7s						
KHMZ	**Khomeyn**	**3.79**	**94**	*e*Pn	**Pn**	**02 02 57.2**	**+4.5**
KHMZ	**Khomeyn**	**3.79**	**94**	*e*Pn	**Pn**	**02 02 57.2**	**+4.5**
IBST	**Bostanabad**	**3.80**	**18**	*e*Pn	**Pn**	**02 02 53.9**	**+1.1**
IBST				IAMB	IAmb	02 04 02.8	
	comp=Z,2μm,0.6s						
IBST	**Bostanabad**	**3.80**	**18**	Pn	**Pn**	**02 02 53.8**	**+1.0**
ASAO	**Ashtian**	**3.84**	**82**	*e*Pn	**Pn**	**02 02 57.6**	**+4.2**
ASAO	**Ashtian**	**3.84**	**82**	*e*Pn	**Pn**	**02 02 57.6**	**+4.2**
ASAO	**Ashtian**	**3.84**	**82**	Pn	**Pn**	**02 02 57.5**	**+4.2**
IRAZ	**Razeghan**	**3.94**	**69**	*e*Pn	**Pn**	**02 02 58.7**	**+4.0**
IRAZ				IAMB	IAmb	02 03 09.7	
	comp=Z,2μm,0.5s						
SIRT	**Sirnak**	**4.18**	**325**	*e*Pn	**Pn**	**02 03 00.0**	**+2.2**
SIRT	**Sirnak**	**4.18**	**325**	PN	**Pn**	**02 02 59.8**	**+2.0**
ITBZ	**Tabriz**	**4.18**	**8**	*e*Pn	**Pn**	**02 02 59.5**	**+1.6**
ITBZ				IAMB	IAmb	02 04 08.3	
	comp=Z,3μm,0.8s						
RTB	**Rutbah**	**4.39**	**258**	*e*Pn	Pn	02 03 05.8	+5.0
RTB				*e*Sn	**Sn**	**02 03 58.0**	**+6.0**
IGZV	**Ghazvin**	**4.55**	**58**	*e*Pn	**Pn**	**02 03 04.6**	**+1.5**
AKDM	**Akdamar-Van**	**4.67**	**336**	*e*Pn	**Pn**	**02 03 07.8**	**+3.1**
AKDM	**Akdamar-Van**	**4.67**	**336**	PN	**Pn**	**02 03 07.1**	**+2.4**
AKDM	**Akdamar-Van**	**4.67**	**336**	Pn	**Pn**	**02 03 07.8**	**+3.1**
IQOM	**Qom**	**4.73**	**79**	IAMB	IAmb	02 03 28.4	
	comp=Z,0.0nm,1.0s						
IQOM				*e*Pn	**Pn**	**02 03 08.1**	**+2.5**
VANB	**Van**	**4.79**	**341**	*e*Pn	**Pn**	**02 03 08.1**	**+1.8**
VANB	**Van**	**4.79**	**341**	PN	**Pn**	**02 03 08.0**	**+1.8**
IPIR	**Pirpir**	**4.79**	**105**	*e*Pn	**Pn**	**02 03 10.0**	**+3.5**
IPIR				IAMB	IAmb	02 04 16.2	
	comp=Z,2μm,0.7s						
ORD	**Ordubad**	**4.86**	**5**	P	**Pn**	**02 03 10.2**	**+3.1**
	SNR=12						
ORD				S	**Sn**	**02 04 07.8**	**+4.4**
QALM	**Alamut, Qazvin**	**4.88**	**60**	*e*Pn	**Pn**	**02 03 10.5**	**+2.9**
GHVR	**GHOM**	**4.88**	**84**	*e*Pn	**Pn**	**02 03 11.1**	**+3.5**
GHVR	**GHOM**	**4.88**	**84**	*e*Pn	**Pn**	**02 03 11.1**	**+3.5**
GHVR	**GHOM**	**4.88**	**84**	Pn	**Pn**	**02 03 11.0**	**+3.5**
ZNGN	**Zangian**	**4.97**	**112**	*e*Pn	**Pn**	**02 03 12.8**	**+3.9**
ZNGN				IAMB	IAmb	02 04 21.2	
	comp=Z,0.0nm,0.5s						
QAM	**Ghamsar**	**5.02**	**92**	*e*Pn	**Pn**	**02 03 13.7**	**+4.2**
QAM				IAMB	IAmb	02 04 18.0	
	comp=Z,746nm,0.4s						
ROKH	**ROKH**	**5.02**	**109**	*e*Pn	Pn	02 03 14.4	+4.9
ROKH				IAMB	IAmb	02 04 17.9	
	comp=Z,0.0nm,0.3s						
CHTH	**Charan**	**5.03**	**67**	*e*Pn	**Pn**	**02 03 13.0**	**+3.3**
CHTH	**Charan**	**5.03**	**67**	*e*Pn	**Pn**	**02 03 12.9**	**+3.3**
CHTH	**Charan**	**5.03**	**67**	Pn	**Pn**	**02 03 12.9**	**+3.3**
NAX	**Nakhchivan**	**5.08**	**1**	P	**Pn**	**02 03 14.0**	**+3.8**
	SNR=5.2						
NAX				S	**Sn**	**02 04 13.5**	**+4.6**
LRK	**Lerik**	**5.12**	**27**	P	**Pn**	**02 03 14.0**	**+3.1**
	SNR=6.8						
LRK				S	**Sn**	**02 04 14.0**	**+3.8**
CLDR	**Caldiran**	**5.19**	**347**	*e*Pn	**Pn**	**02 03 14.7**	**+2.9**
CLDR	**Caldiran**	**5.19**	**347**	PN	**Pn**	**02 03 14.4**	**+2.6**
CLDR	**Caldiran**	**5.19**	**347**	Pn	**

SVSK Karacayir 8.90 313 PN **Pn 02 04 04.6 +2.1**
KBZ Khabaz 9.83 349 Pn **Pn 02 04 18.1 +2.9**
comp=Z,0.1nm,0.3s,baz=174,slow=7.7,SNR=13
KBZ LR LR 02 08 19.1
comp=Z,120nm,18.3s,baz=142,slow=40
EIL Elat 9.92 247 Pn **Pn 02 04 21.4 +4.8**
comp=Z,0.6nm,0.3s,baz=97,slow=6.8,SNR=12
EIL Lg Lg 02 07 12.8
comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=3.1
EIL LR LR 02 08 49.5
comp=Z,27nm,21.6s,baz=36,slow=41
KVAR Kislovodsk Arr 10.08 349 Pn **Pn 02 04 22.3 +3.5**
baz=117,slow=14,SNR=5.2
KVAR LR LR 02 08 03.5
comp=Z,175nm,18.7s,baz=74,slow=37
KIV Kislovodsk 10.08 349 Pn 02 04 20.7 +1.8
BRTR Keskin Array B 10.98 304 Pn Pn 02 04 36.5 +5.4
comp=Z,0.1nm,0.3s,baz=91,slow=12,SNR=2.6
BRTR Keskin Array B 10.98 304 Pn 02 04 31.4 +0.2
GEYT Alibeck 10.98 66 LR LR 02 09 48.2
comp=Z,26nm,19.0s,baz=355,slow=43
SHME Shamm 12.26 128 P **Pn 02 04 51.2 +2.5**
BANOM Banah 12.45 128 *i* P **Pn 02 04 53.2 +2.0**
SNR=34
BANOM S **Sn 02 07 04.0 -6.1**
BANOM Banah 12.45 128 P **Pn 02 04 53.8 +2.5**
SNR=9.7
BANOM S **Sn 02 07 06.3 -3.7**
MSFE Esma-Masafi 12.75 130 P **Pn 02 04 56.7 +1.3**
ASUD Al Ashush, Dub 12.78 135 *i* P **Pn 02 04 59.4 +3.6**
SNR=11
ASUD Al Ashush, Dub 12.78 135 P **Pn 02 04 59.3 +3.6**
SNR=11
ASUD S **Sn 02 07 15.4 -2.8**
MDH Madha 12.88 130 P **Pn 02 04 59.5 +2.3**
MDH Madha 12.88 130 P **Pn 02 04 59.6 +2.5**
MDH S **Sn 02 07 17.4 -3.3**
UOSS Minazif 13.08 131 P **Pn 02 05 01.7 +1.9**
UOSS Minazif 13.08 131 P **Pn 02 05 02.0 +2.2**
SNR=10
UOSS Minazif 13.08 131 Pn 02 04 59.3 -0.5
UOSS Sn 02 07 17.1 -8.3
HATD Hatta, Dubai 13.12 132 P **Pn 02 05 01.5 +1.1**
HATD Hatta, Dubai 13.12 132 P **Pn 02 05 02.8 +2.4**
HATD S **Sn 02 07 22.9 -3.5**
ASHO Ashiyiah 13.18 133 *i* P **Pn 02 05 03.2 +2.0**
SNR=15
ASHO Ashiyiah 13.18 133 P **Pn 02 05 03.4 +2.1**
SNR=12
ASHO S **Sn 02 07 21.3 -6.6**
ARQ Araqi 14.47 135 P **Pn 02 05 21.5 +2.6**
ARQ S **Sn 02 07 57.4 -1.9**
HOQ Hoqain 14.76 132 P **Pn 02 05 26.8 +4.0**
HOQ S **Sn 02 08 01.0 -5.4**
BSY Bisya 15.32 134 P **Pn 02 05 32.1 +1.8**
SNR=7.3
BSY S **Sn 02 08 14.8 -5.3**
SMDO Samad 15.60 131 P **Pn 02 05 36.1 +2.0**
SMDO S **Sn 02 08 23.4 -3.7**
WSAR Wadi Sarin 15.84 130 P **Pn 02 05 39.8 +2.8**
SNR=7.8
WSAR Wadi Sarin 15.84 130 Pn **Pn 02 05 38.5 +1.5**
comp=Z,1.2nm,0.3s,baz=319,slow=11,SNR=14
JMDO Jabal Madar 16.15 133 P **P 02 05 44.0 -0.3**
WBK Wadi Bani Khal 16.51 130 P **P 02 05 48.6 +0.3**
WHFO Wadi Hawf 17.75 153 P **Pn 02 06 02.7 +1.4**
SNR=22
WHFO S **Sn 02 09 10.9 -8.3**
ABTO Aybut 18.10 155 P **Pn 02 06 06.1 +0.5**
ABTO S **Sn 02 09 21.5 -6.2**
RBK Rabkut 18.30 152 P **Pn 02 06 09.0 +1.0**
RBK S **Sn 02 09 24.2 -8.2**
DMTO DMTO 18.40 150 P **Pn 02 06 10.8 +1.6**
SNR=20
DMTO S Sn 02 09 24.5 -10
SHAO Shalim 18.42 148 *i* P **Pn 02 06 12.5 +3.0**
SNR=5.9
SHAO Shalim 18.42 148 P **Pn 02 06 11.3 +1.8**
SNR=6.1
ABKAR Akbulak array 18.59 31 P **P 02 06 07.8 -3.4**
ABKAR Akbulak array 18.59 31 P **P 02 06 07.3 -3.8**
ABKAR IAmb IAmb 02 06 17.1
comp=Z,3.1nm,0.8s
AKTO Aktyubinsk 18.77 26 P **Pn 02 06 13.6 +0.1**
comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=14
CHGR Chuyangaron 19.64 70 P **P 02 06 19.5 -3.3**
CHGR IAmb IAmb 02 06 34.0
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 20.32 318 P **P 02 06 26.3 -3.8**
BUR08 Bucovina Ar. S 20.34 318 P **P 02 06 28.4 -2.0**
BUR08 IAmb IAmb 02 06 35.6
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 20.39 329 P **P 02 06 29.7 -1.0**
comp=Z,1.4nm,0.5s,baz=135,slow=10,SNR=6.0
AKASG Malin Array Be 20.39 329 P **P 02 06 26.7 -4.0**
AKBB Malin Array Si 20.39 329 P **P 02 06 26.9 -3.8**
AKBB IAmb IAmb 02 06 34.4
comp=Z,8.8nm,0.8s
GAR Garm 20.57 69 P **P 02 06 28.1 -5.0**
GAR IAmb IAmb 02 06 42.0
comp=Z,4.3nm,0.8s
KK31 Karatay Array 21.52 58 P **P 02 06 37.3 -5.8**
KKAR Karatay Array 21.52 58 P **P 02 06 37.5 -5.6**
KKAR Karatay Array 21.52 58 P **P 02 06 38.4 -4.7**
KKAR IAmb IAmb 02 06 56.4
comp=Z,6.6nm,1.5s
KOLS Kolonicke sedl 22.69 318 *e*PN P 02 07 05.2 +10
TIP Timpagrande 23.50 291 P **P 02 07 01.2 -2.8**
VYHS Vyhne 24.46 314 *e*PN P 02 07 27.4 +14
SUW Suwalki 25.35 329 P **P 02 07 18.6 -2.2**
BVAR Borovoye Array 25.97 36 P **P 02 07 28.9 +2.4**
comp=Z,0.7nm,0.5s,baz=226,slow=7.8,SNR=5.5
KURBB Kurchatov Arra 29.21 45 P **P 02 07 57.8 +2.2**
comp=Z,0.5nm,0.5s,baz=255,slow=8.8,SNR=3.1
KURK Kurchatov 29.30 45 P **P 02 07 53.0 -3.4**
KURK IAmb IAmb 02 08 09.5
comp=Z,2.4nm,0.9s
FINES FINESS Array B 30.06 341 P **P 02 08 03.0 +0.1**
comp=Z,0.7nm,0.5s,baz=231,slow=6.1,SNR=12
FINES FINESS Array B 30.06 341 P **P 02 08 00.6 -2.3**
MKAR Makanchi Array 30.52 54 P **P 02 08 07.5 +0.2**
comp=Z,0.2nm,0.4s,baz=249,slow=12,SNR=2.5
MKAR LR LR 02 21 34.4
comp=Z,55nm,18.4s,baz=303,slow=39
MKAR Makanchi Array 30.52 54 P **P 02 08 04.3 -2.9**
BNI Bardonecchia 31.53 302 P **P 02 08 12.9 -3.4**
ZALV Zalesovo Beam 34.00 42 P **P 02 08 39.5 +1.9**
comp=Z,0.3nm,0.3s,baz=264,slow=7.1,SNR=3.0
ZALV LR LR 02 23 18.3
comp=Z,38nm,20.4s,baz=302,slow=38
ZALV Zalesovo Beam 34.00 42 P **P 02 08 36.9 -0.8**
NOA NORSAR Array B 34.77 331 P **P 02 08 44.9 +0.6**
comp=Z,0.9nm,0.7s,baz=125,slow=8.7,SNR=2.9
TAM Tamanrasset 36.63 263 P **P 02 08 58.1 -2.8**
TAM IAmb IAmb 02 09 07.2
comp=Z,5.1nm,1.5s
ARCES ARCESS Array B 37.19 349 P **P 02 09 05.8 +1.0**
comp=Z,4.9nm,1.0s,baz=161,slow=8.1,SNR=9.9
ARCES ARCESS Array B 37.19 349 P **P 02 09 04.0 -0.8**
TORD Torodi Ar. Bea 44.73 253 P **P 02 10 10.9 +3.3**
comp=Z,0.3nm,0.6s,baz=51,slow=7.0,SNR=3.0
CMAR Chiang Mai Arr 49.92 94 P **P 02 10 51.5 +3.4**
comp=Z,0.8nm,0.3s,baz=297,slow=8.6,SNR=4.0
GUMO Guam 90.13 74 LR LR 02 59 08.5
comp=Z,12nm,19.8s,baz=138,slow=38

IDC ***25*** *02:31:27.9±2.9, 35°.73N×71°.43E, h0km, mb3.7/4, mb1 3.8/10, mb1mx3.5/60, mbtmp3.8/10, ML3.6/6, Error ellipse: s-maj=57.5km s-min=21.5km az=137.0*
NNC ***25*** *02:31:46.0±5.8, 37°.07N×70°.88E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=57.0km s-min=30.1km az=155.0*

ISC 25 02:31:31.0±0.9, 36°.03N±0°.08×71°.30E±0°.07, h10km, n26, σ2§12/28, mb3.8/3, 7C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.04**	**20**	P		**Pn**	**02 33 18.6**	**+4.3**
	7.8nm,0.6s							
AAK				⇑S		**Sn**	**02 34 31.6**	**-3.0**
	5.3nm,0.6s							
AAK	**Ala-Archa**	**7.04**	**20**	Pn		Pn	02 33 19.8	+5.5
	2.5nm,0.3s,baz=154,slow=6.2,SNR=28							
AAK				Sn		**Sn**	**02 34 32.2**	**-2.3**
	0.5nm,0.3s,baz=150,slow=20,SNR=4.4							
KK31	**Karatay Array**	**7.09**	**355**	⇑P		**Pn**	**02 33 19.0**	**-4.2**
	5.1nm,0.3s,baz=179,slow=13,SNR=46							
KK31				⇑S		**Sn**	**02 34 30.3**	**-5.2**
	4.6nm,0.3s,baz=180,slow=26,SNR=5.8							
TKM2	**Tokmak 2**	**7.64**	**24**	⇑P		Pn	02 33 28.3	+5.8
	2.2nm,0.5s							
TKM2				⇑S		**Sn**	**02 34 47.1**	**-2.1**
	2.6nm,0.7s							
GEYT	**Alibeck**	**10.72**	**284**	Pn		**Pn**	**02 34 04.6**	**-0.1**
	1.1nm,0.3s,baz=100,slow=15,SNR=4.3							
GEYT				Sn		**Sn**	**02 36 03.5**	**-1.2**
	2.1nm,0.3s,baz=76,slow=12,SNR=4.7							
DANN	**Dangsing**	**13.03**	**123**	*e*P		Pn	02 34 43.6	+7.1
	30nm,0.3s							
KOLN	**Koldanda**	**13.29**	**125**	*e*P		**P**	**02 34 47.1**	**-2.8**
	22nm,0.4s							
MKAR	**Makanchi Array**	**13.53**	**34**	Pn		**Pn**	**02 34 44.3**	**+1.2**
	0.0nm,0.3s,baz=211,slow=11,SNR=2.4							
GKN	**Gorkha**	**13.85**	**122**	*e*P		**P**	**02 34 53.3**	**-2.7**
	35nm,0.3s							
DMN	**Daman**	**14.42**	**122**	*e*P		**P**	**02 35 01.3**	**-1.1**
	15nm,0.3s							
PKIN	**Phulchoki**	**14.64**	**121**	*e*P		**P**	**02 35 04.0**	**-0.9**
	13nm,0.3s							
PKI	**Pulchoki**	**14.65**	**121**	*e*P		**P**	**02 35 04.4**	**-0.7**
	7.6nm,0.3s							
GUN	**Gumba**	**14.77**	**119**	*e*P		**P**	**02 35 06.2**	**-0.3**
	14nm,0.4s							
JIRN	**Jiri**	**15.14**	**119**	*e*P		**P**	**02 35 10.2**	**-0.4**
	27nm,0.3s							
KURBB	**Kurchatov Arra**	**15.49**	**17**	Pn		**Pn**	**02 35 10.0**	**+0.5**
	0.1nm,0.3s,baz=206,slow=11,SNR=4.1							
AB31	**Akbulak array**	**15.61**	**331**	⇑P		**Pn**	**02 35 11.3**	**+0.3**
	0.8nm,0.2s,baz=137,slow=13,SNR=103							
RAMN	**Ramite**	**15.87**	**121**	*e*P		**P**	**02 35 19.3**	**+0.8**
	17nm,0.5s							
ODAN	**Odare**	**16.48**	**119**	*e*P		**P**	**02 35 27.8**	**+2.5**
	18nm,0.5s							
BVAR	**Borovoye Array**	**17.00**	**358**	Pn		**Pn**	**02 35 28.5**	**-0.3**
	0.1nm,0.3s,baz=161,slow=13,SNR=3.1							
AKTO	**Aktyubinsk**	**17.31**	**330**	⇑P		**P**	**02 35 34.4**	**+0.3**
	6.7nm,0.8s							
AKTO	**Aktyubinsk**	**17.31**	**330**	P		**Pn**	**02 35 33.3**	**+0.7**
	0.9nm,0.3s,baz=142,slow=10,SNR=16							
ZALV	**Zalesovo Beam**	**20.24**	**24**	P		**P**	**02 36 05.3**	**-1.0**
	1.2nm,0.4s,baz=212,slow=11,SNR=6.1							
FINES	**FINESS Array B**	**38.01**	**326**	P		**P**	**02 38 49.9**	**+1.0**
	1.1nm,0.6s,baz=120,slow=11,SNR=6.0							
NB2	**NORSAR Subarra**	**44.90**	**323**	P		**P**	**02 39 46.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.90**	**323**	P		**P**	**02 39 45.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=105,slow=7.1,SNR=4.9							
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P		**P**	**02 42 17.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.8,SNR=12							

IDC 25 02:33:08.4±660.0, 37°.97N×102°.94E, h0km, Error ellipse: s-maj=305.0km s-min=194.0km az=57.0, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**10.15**	**13**	*i*			03 42 40.0	
	baz=199,slow=335,SNR=0.5							
I44RU	**PETROPAVLOVSK**	**40.22**	**50**	*i*			06 34 20.0	
	baz=267,slow=323,SNR=2.2							
I39PW	**PALAU INFRASON**	**41.66**	**129**	*i*			06 49 00.0	
	baz=323,slow=309,SNR=1.4							

IDC ***25*** *02:44:07.4±1.1, 3°.90S×128°.76E, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.7/44, mbtmp3.9/7, ML3.3/3, Error ellipse: s-maj=40.3km s-min=19.6km az=69.0*
DJA ***25*** *02:44:09.9±0.3, 4°.5±2°.×12°.9E±°, h12km±2km, M4.0/11, mb4.2/1, MLv3.9/11*
ISCJB ***25*** *02:44:10.2±0.5, 3°.85S±0°.04×128°.90E±0°.03, h32km, mb3.9/3, Error ellipse: s-maj=5.8km s-min=4.8km az=179.3*

ISC 25 02:44:11.2±0.8, 3°.85S±0°.05×128°.88E±0°.04, h32km, n15, σ1§45/21, mb4.1/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.51**	**6**	P		**Pb**	**02 44 19.7**	**-2.1**
MSAI				S		**Sb**	**02 44 27.4**	**-1.7**
AAI	**Ambon**	**0.70**	**283**	P		**Pn**	**02 44 23.7**	**-1.2**
AAI				S		**Sb**	**02 44 33.7**	**-0.8**
BNDI	**Bandanaira**	**1.22**	**123**	P		**Pn**	**02 44 32.0**	**-0.1**
NLAI	**Namlea**	**1.88**	**289**	P		**Pn**	**02 44 42.4**	**+1.3**
SANI	**Sanana**	**3.40**	**302**	P		**Pn**	**02 45 03.1**	**+1.1**
SANI				S		**Sn**	**02 45 43.7**	**+2.5**
FAKI	**Fak Fak**	**3.49**	**75**	P		**Pn**	**02 45 04.5**	**+1.2**
FAKI				S		**Sn**	**02 45 44.8**	**+1.2**
SIJI	**Sorong**	**3.80**	**39**	Pn		**Pn**	**02 45 08.8**	**+1.1**
	12nm,0.3s,baz=288,slow=20,SNR=21							
SIJI				Sn		**Sn**	**02 45 51.0**	**-0.3**
	4.3nm,0.3s,baz=287,slow=19,SNR=4.9							
SWI	**Sorong**	**3.81**	**39**	P		**Pn**	**02 45 09.2**	**+1.6**
SWI				S		**Sn**	**02 45 50.5**	**-0.8**
SAUI	**Saumlaki**	**4.76**	**150**	P		**Pn**	**02 45 21.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**14.51**	**192**	Pn		**Pn**	**02 47 33.0**	**-1.4**
	0.1nm,0.3s,baz=11,slow=10,SNR=2.6							
WRA	**Warramunga Arr**	**16.86**	**162**	Pn		**Pn**	**02 48 02.8**	**-2.1**
	0.1nm,0.3s,baz=343,slow=13,SNR=15							
ASAR	**Alice Springs**	**20.29**	**167**	P		**P**	**02 48 45.5**	**+1.1**
	5.6nm,0.7s,baz=348,slow=10,SNR=49							
CTA	**Charters Tower**	**23.39**	**135**	P		**P**	**02 49 18.8**	**+1.3**
	1.5nm,0.5s,baz=315,slow=7.7,SNR=3.4							
MKAR	**Makanchi Array**	**65.00**	**327**	P		**P**	**02 54 49.2**	**+1.0**
	1.1nm,0.6s,baz=130,slow=7.9,SNR=10							
ZALV	**Zalesovo Beam**	**68.28**	**334**	P		**P**	**02 55 10.1**	**+1.1**
	0.8nm,0.5s,baz=116,slow=7.0,SNR=3.5							

IDC 25 02:55:22.4±4.9, 16°.40S×69°.67W, h169km±20km, mb3.1/2, mb1 3.1/2, mb1mx2.9/38, mbtmp3.6/2, Error ellipse: s-maj=128.6km s-min=61.9km az=4.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.48**	**86**	P		Pn	02 55 54.0	-0.1
	23nm,0.3s,baz=263,slow=7.1,SNR=770							
LPAZ				S		Sn	02 56 18.3	0.0
	1.2nm,0.3s,baz=162,slow=20,SNR=3.1							
BDFB	**Brasilia**	**20.83**	**91**	P		P	02 59 51.3	+0.1
	0.9nm,0.5s,baz=268,slow=11,SNR=3.3							
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P		P	03 06 53.7	0.0
	0.3nm,0.4s,baz=254,slow=5.4,SNR=5.7							

ISCJB ***25*** *03:00:29.7±0.7, 18°.3N±0°.2×68°.88W±0°.04, h150km±7km, Error ellipse: s-maj=26.3km s-min=3.4km az=10.6*
RSPR ***25*** *03:00:30.9, 18°.20N×68°.84W, h153km±1km, MD4.1/9*
NEIC ***25*** *03:00:31.2±1.6, 18°.4N±0°.2×68°.86W±0°.04, h138km±5km*
OSPL ***25*** *03:00:31.1±2.0, 18°.12N×68°.96W, h161km±15km, MD4.0, ML3.5*

ISC 25 03:00:29.4±1.5, 18°.3N±0°.1×68°.90W±0°.04, h158km±9km, n62, σ0§84/82, 20C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.54**	**65**	⇑*e*P		**Pn**	**03 00 52.2**	**+0.4**
PCDR				*e*S		**Sn**	**03 01 10.0**	**+1.0**
PCDR	**Punta Cana, DR**	**0.54**	**65**	⇑*e*P		**Pn**	**03 00 52.2**	**+0.4**
PCDR	**Punta Cana, DR**	**0.54**	**65**	*i* P		**Pn**	**03 00 52.3**	**+0.4**
PCDR				*e*S		**Sn**	**03 01 09.8**	**+0.7**
PCDR				IAML			03 01 12.9	
	comp=Z,591nm,0.4s							
PCDR	**Punta Cana, DR**	**0.54**	**65**			**Pn**	**03 00 52.2**	**+0.4**
PCDR						**Sn**	**03 01 09.2**	**+0.2**
DR12	**Loma Pena Alta**	**0.67**	**318**	Pn		**Pn**	**03 00 52.1**	**-0.6**
SDD	**Santo Domingo**	**0.97**	**280**	*i* P		**Pn**	**03 00 54.8**	**+0.1**
SDD				*e*S		**Sn**	**03 01 13.1**	**-1.0**
SDD	**Santo Domingo**	**0.97**	**280**			**Pn**	**03 00 54.7**	**-0.1**
SDD				Sn		**Sn**	**03 01 13.8**	**-0.3**
BANI	**BANI**	**1.39**	**275**			**Pn**	**03 00 59.2**	**+0.6**
BON1	**Bonao**	**1.56**	**295**	*i* P		**Pn**	**03 01 00.2**	**0.0**
BON1				*e*S		**Sn**	**03 01 23.5**	**-0.4**
BON1				IAML			03 01 23.9	
	comp=Z,438nm,1.6s							
MPR	**Mayaguez**	**1.68**	**92**	Pn		**Pn**	**03 01 00.9**	**-0.5**
MPR						**Sn**	**03 01 23.3**	**-2.7**
AGPR	**Aguadilla, PR**	**1.71**	**84**	⇑*e*P		**Pn**	**03 01 02.4**	**+0.6**
AGPR	**Aguadilla, PR**	**1.71**	**84**	*e*S		**Sn**	**03 01 27.4**	**+0.7**
AGPR	**Aguadilla, PR**	**1.71**	**84**	*i* P		**Pn**	**03 01 02.8**	**+1.0**
AGPR				*e*S		**Sn**	**03 01 28.4**	**+1.7**
AGPR				IAML			03 01 33.7	
	comp=Z,161nm,0.2s							
AGPR	**Aguadilla, PR**	**1.71**	**84**			**Sn**	**03 01 25.6**	**-1.1**
AGPR	**Aguadilla, PR**	**1.71**	**84**			**Pn**	**03 01 02.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.73**	**99**	⇑*e*P		**Pn**	**03 01 02.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.73**	**99**	*e*S		**Sn**	**03 01 26.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.73**	**99**			**Sn**	**03 01 24.7**	**-2.3**
CRPR	**Cabo Rojo, PR**	**1.73**	**99**			**Pn**	**03 01 02.2**	**+0.3**
LSP	**Las Mesas**	**1.73**	**93**	⇑*e*P		**Pn**	**03 01 02.9**	**+0.9**
LSP	**Las Mesas**	**1.73**	**93**			**Pn**	**03 01 02.9**	**+0.9**
MLPR	**Magueyes Islan**	**1.79**	**100**	*e*S		**Sn**	**03 01 28.1**	**-0.3**
MLPR	**Magueyes Islan**	**1.79**	**100**	⇑*e*P		**Pn**	**03 01 03.3**	**+0.6**
MLPR	**Magueyes Islan**	**1.79**	**100**			**Pn**	**03 01 03.0**	**+0.3**
MLPR						**Sn**	**03 01 27.0**	**-1.3**
GBPR	**Guanica, Bosqu**	**1.95**	**99**	*e*S		**Sn**	**03 01 31.2**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.95**	**99**	⇑*e*P		**Pn**	**03 01 04.9**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.95**	**99**			**Pn**	**03 01 04.9**	**+0.5**
GBPR						**Sn**	**03 01 31.2**	**-0.2**
AOPR	**Arecibo Observ**	**2.04**	**88**	*e*S		**Sn**	**03 01 32.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.04**	**88**	⇑*e*P		**Pn**	**03 01 06.3**	**+0.8**
AOPR	**Arecibo Observ**	**2.04**	**88**			**Pn**	**03 01 06.3**	**+0.8**
AOPR						**Sn**	**03 01 32.9**	**-0.5**
SC01	**Santiago de lo**	**2.07**	**304**	*i* P		**Pn**	**03 01 06.2**	**+0.4**
SC01				*e*S		**Sn**	**03 01 32.7**	**-1.2**
SC01				IAML			03 01 37.6	
	comp=Z,371nm,0.5s							
SC01	**Santiago de lo**	**2.07**	**304**			**Pn**	**03 01 06.0**	**+0.1**
SC01				Sn		**Sn**	**03 01 35.5**	**+1.6**
OBIP	**Obispado Ponce**	**2.20**	**96**	*e*S		**Sn**	**03 01 36.7**	**+0.2**
OBIP	**Obispado Ponce**	**2.20**	**96**	⇑*e*P		**Pn**	**03 01 07.8**	**+0.5**
OBIP	**Obispado Ponce**	**2.20**	**96**			**Pn**	**03 01 07.8**	**+0.5**
OBIP						**Sn**	**03 01 36.7**	**+0.2**
CELP	**Cerrillos**	**2.22**	**95**	⇑*e*P		**Pn**	**03 01 08.2**	**+0.6**
CELP				*e*S		**Sn**	**03 01 36.6**	**-0.4**
CELP	**Cerrillos**	**2.22**	**95**			**Pn**	**03 01 08.2**	**+0.6**
CELP						**Sn**	**03 01 36.6**	**-0.4**
SJM1	**San Juan de la**	**2.26**	**284**	*i* P		**Pn**	**03 01 09.2**	**+1.2**
SJM1				*e*S		**Sn**	**03 01 36.1**	**-1.8**
SDDR	**Presa de Saban**	**2.37**	**287**	*i* P		**Pn**	**03 01 10.0**	**+0.6**
SDDR				*e*S		**Sn**	**03 01 39.0**	**-1.2**
SDDR				IAML			03 01 44.6	
	comp=Z,101nm,0.3s							
SDDR	**Presa de Saban**	**2.37**	**287**			**Pn**	**03 01 10.1**	**+0.7**
SJG	**San Juan**	**2.62**	**93**	Pn		**Pn**	**03 01 13.0**	**+0.6**
GCPR	**Guaynabo City**	**2.68**	**89**			**Pn**	**03 01 13.3**	**+0.2**
IGPR	**InterUniversit**	**2.68**	**96**	⇑*e*P		**Pn**	**03 01 13.9**	**+0.8**
IGPR				*e*S		**Sn**	**03 01 47.5**	**+0.6**
IGPR	**InterUniversit**	**2.68**	**96**	⇑*e*P		**Pn**	**03 01 13.6**	**+0.5**
IGPR	**InterUniversit**	**2.68**	**96**			**Pn**	**03 01 13.9**	**+0.8**
PDPR	**Patillas Dam,**	**2.75**	**95**	⇑*e*P		**Pn**	**03 01 14.5**	**+0.5**
PDPR	**Patillas Dam,**	**2.75**	**95**	*e*S		**Sn**	**03 01 48.7**	**+0.2**
PDPR	**Patillas Dam,**	**2.75**	**95**			**Pn**	**03 01 14.5**	**+0.5**
PDPR	**Patillas Dam,**	**2.75**	**95**			**Sn**	**03 01 47.7**	**-0.8**
CBYP	**Canovanas**	**2.89**	**90**	⇑*e*P		**Pn**	**03 01 14.7**	**-1.2**
CBYP	**Canovanas**	**2.89**	**90**	⇑*e*P		**Pn**	**03 01 14.9**	**-1.0**
CBYP	**Canovanas**	**2.89**	**90**			**Sn**	**03 01 50.7**	**-1.0**
HUMP	**Col San Antoni**	**2.91**	**92**	⇑*e*P		**Pn**	**03 01 15.0**	**-0.9**
HUMP	**Col San Antoni**	**2.91**	**92**	⇑*e*P		**Pn**	**03 01 16.1**	**+0.2**
HUMP	**Col San Antoni**	**2.91**	**92**	Pn		**Pn**	**03 01 15.6**	**-0.3**
MTP	**Monte Pirata**	**3.19**	**93**	⇑*e*P		**Pn**	**03 01 19.9**	**+0.5**
MTP	**Monte Pirata**	**3.19**	**93**	*e*S		**Sn**	**03 01 57.8**	**-0.6**
MTP	**Monte Pirata**	**3.19**	**93**			**Pn**	**03 01 19.9**	**+0.5**
MTP						**Sn**	**03 01 57.8**	**-0.6**
LGNH	**Logne**	**3.52**	**274**	Pn		**Pn**	**03 01 24.9**	**+1.2**
STVI	**Saint Thomas**	**3.75**	**88**	⇑*e*P		**Pn**	**03 01 28.0**	**+1.3**
STVI	**Saint Thomas**	**3.75**	**88**			**Pn**	**03 01 25.9**	**-0.7**
ABV	**Anegada**	**4.36**	**83**	⇑*e*P		**Pn**	**03 01 34.4**	**-0.2**

ISCJB ***25*** *03:00:53.4±0.5, 52°.41S±0°.07×13°.4E±0°.2, h10km, mb4.0/10, MS4.2/12, Error ellipse: s-maj=18.3km s-min=9.3km az=11.2*
IDC ***25*** *03:00:53.6±0.7, 52°.40S×13°.42E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.0/34, mbtmp4.2/11, MS4.2/12, Ms1 4.2/12, ms1mx4.0/25, Error ellipse: s-maj=23.5km s-min=17.3km az=82.0*
NEIC ***25*** *03:00:55.4±2.5, 52°.4S±0°.1×13°.2E±0°.3, h10km±1km, mb4.5/11*
GCMT ***25*** *03:00:59.4±0.3, 52°.40S±0°.01×13°.69E±0°.05, h13km±1km, MW5.0/73, Moment Tensor Solution. s28,c31; s73,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.59±.19; $M_{\theta\theta}$3.52±.14; $M_{\phi\phi}$-0.92±.13; $M_{r\theta}$0.83±.27; $M_{\phi\phi}$0.03±.09; $M_{\phi r}$-1.68±.41; Best double couple: $M_0$3.67200×10^{16} NP1:ϕ_s297.00000°, δ60.00000°, λ-54.00000°. NP2: ϕ_s62.00000°, δ45.00000°, λ-135.00000°. Principal axes: T 3.6390, Plg8.0000°, Azm3.0000°; N 0.0710, Plg30.0000°, Azm98.0000°; P -3.7050, Plg58.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 03:00:55.3±0.5, 52°.40S±0°.09×13°.4E±0°.2, h10km, n49, σ1§31/32, mb4.3/11, MS4.2/12, 1C-1D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.64**	**194**	P		**P**	**03 05 34.9**	**+0.4**
SNAA	**Sanae**	**20.64**	**194**	P		**P**	**03 05 35.2**	**+0.7**
	28nm,1.0s,baz=24,slow=9.1,SNR=44							
SNAA	**Sanae**	**20.64**	**194**	P		**P**	**03 05 33.9**	**-0.7**
SNAA				IAmb		IAmb	03 05 37

TORD	**Torodi Ar. Bea**	**66.05 348**	P	**P**	**03 11 40.9**	**-1.2**
	comp=Z,2.1nm,1.2s,baz=197,slow=4.6,SNR=4.5					
TORD			LR	LR	03 36 26.1	
	comp=Z,110nm,20.2s,baz=255,slow=32					
TORD	**Torodi Ar. Bea**	**66.05 348**	P	**P**	**03 11 42.0**	**0.0**
H01W2	**Cape Leeuwin H**	**69.16 120**	T	T	04 27 50.4	
	baz=220,slow=75,SNR=13					
H01W3	**Cape Leeuwin H**	**69.17 120**	T	T	04 28 02.9	
	baz=220,slow=75,SNR=14					
H01W1	**Cape Leeuwin H**	**69.17 120**	T	T	04 27 59.1	
	baz=220,slow=75,SNR=14					
LPAZ	**La Paz**	**72.09 266**	P	**P**	**03 12 21.2**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=111,slow=6.6,SNR=9.1					
LPAZ	**La Paz**	**72.09 266**	P	**P**	**03 12 20.9**	**+0.4**
NNA	**Nana**	**80.73 262**	LR	LR	03 45 14.9	
	comp=Z,45nm,21.9s,baz=168,slow=33					
EIL	**Elat**	**83.88 19**	LR	LR	03 50 24.2	
	comp=Z,355nm,19.2s,baz=177,slow=35					
STKA	**Stephens Creek**	**84.69 138**	P	**P**	**03 13 30.7**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=185,slow=11,SNR=2.6					
STKA	**Stephens Creek**	**84.69 138**	IAmb	IAmb	03 13 45.2	
	comp=Z,2.4nm,1.4s					
ATAH	**Atahualpa**	**85.47 264**	LR	LR	03 50 09.4	
	comp=Z,61nm,20.0s,baz=179,slow=35					
ASAR	**Alice Springs**	**88.29 128**	P	**P**	**03 13 46.8**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=207,slow=4.8,SNR=10					
ASAR	**Alice Springs**	**88.29 128**	P	**P**	**03 13 48.9**	**+1.8**
WRA	**Warramunga Arr**	**91.65 126**	P	**P**	**03 14 02.3**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=216,slow=4.1,SNR=2.6					
TIXI	**Tiksi**	**146.43 31**		**PKPdf**	**03 20 33.0**	**-0.4**
G08A	**Pilot Rock**	**148.31 276**	PKPdf	**PKPdf**	**03 20 35.7**	**-1.9**
G08A				**pPKPbc**	**03 20 43.3**	**+0.2**
YKA	**Yellowknife Ar**	**151.03 311**	PKPbc	**PKPbc**	**03 20 46.3**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=95,slow=2.7,SNR=3.1					
YKA	**Yellowknife Ar**	**151.03 311**		**PKPdf**	**03 20 39.4**	**-1.7**
ILAR	**Eielson Array**	**163.98 328**	PKPab	**PKPab**	**03 21 51.3**	**+0.8**
	comp=Z,0.6nm,1.0s,baz=23,slow=4.9,SNR=4.6					
ILAR	**Eielson Array**	**163.98 328**	PKPdf	**PKPdf**	**03 21 00.8**	**+3.6**
ILAR				**PKPab**	**03 21 49.7**	**-0.7**

*NNC **25** 03:02:30.4±1.2, 41°.85N×82°.24E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=10.5km s-min=6.6km az=0.0
*SOME **25** 03:02:31.4, 41°.93N×82°.20E, h10km*
ISC 25 03:02:33.0±2.3, 42°.0N±0°.1×82°.14E±0°.07, h14km, n23,
σ1§84/34, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.30**	**302**	Pg	**Pn**	**03 03 09.7**	**-1.0**
	13nm,0.7s						
SHLS				Lg	Lg	03 03 39.1	
	100nm,0.3s						
SHLS	**Shalkode**	**2.30**	**302**	*e*P	**Pn**	**03 03 09.7**	**-1.0**
	9.7nm,0.5s						
SHLS				*e*S	**Sn**	**03 03 39.0**	**+0.1**
	79nm,0.5s						
PDGK	**Podgornoye**	**2.38**	**306**	Pg	**Pb**	**03 03 15.9**	**+0.3**
	6.4nm,0.4s						
PDGK				Lg	Lg	03 03 48.8	
	26nm,0.6s						
PDGK	**Podgornoye**	**2.38**	**306**	⇑P	**Pn**	**03 03 12.8**	**+1.1**
	9.4nm,0.5s						
PDGK				⇑S	**Sb**	**03 03 46.4**	**+1.5**
	43nm,0.6s						
UZB	**Uzynbulak**	**2.58**	**298**	Pg	**Pb**	**03 03 20.9**	**+1.6**
	8.8nm,0.6s						
UZB				Lg	Lg	03 03 57.6	
	53nm,0.5s						
UZB	**Uzynbulak**	**2.58**	**298**	*e*P	**Pb**	**03 03 20.8**	**+1.6**
	7.8nm,0.5s						
UZB				*e*S	**Sg**	**03 03 57.6**	**+1.6**
	55nm,0.5s						
DJR	**Jarkent**	**2.92**	**325**	Pg	**Pb**	**03 03 26.6**	**+1.7**
	9.0nm,0.4s						
DJR				Lg	Lg	03 04 07.6	
	17nm,0.6s						
DJR	**Jarkent**	**2.92**	**325**	*e*P	**Pb**	**03 03 26.5**	**+1.7**
	7.9nm,0.4s						
DJR				*e*S	**Sg**	**03 04 07.6**	**+0.9**
	18nm,0.5s						
SATY	**Saty**	**2.96**	**293**	Pg	**Pb**	**03 03 25.9**	**+0.2**
SATY				Lg	Lg	03 04 07.0	
SATY	**Saty**	**2.96**	**293**	*e*P	**Pb**	**03 03 25.9**	**+0.2**
	20nm,0.5s						
SATY				*e*S	**Sg**	**03 04 07.1**	**-1.2**
	47nm,0.5s						
ZHN	**Zhinishke**	**2.98**	**295**	Pg	**Pb**	**03 03 26.3**	**+0.3**
	8.0nm,0.3s						
ZHN				Lg	Lg	03 04 07.5	
	13nm,0.2s						
ZHN	**Zhinishke**	**2.98**	**295**	*e*P	**Pb**	**03 03 26.4**	**+0.4**
	5.2nm,0.3s						
ZHN				*e*S	**Sg**	**03 04 07.7**	**-1.2**
	14nm,0.3s						
MNBS	**Baschi**	**3.46**	**309**	Pg	**Pb**	**03 03 34.8**	**+0.7**
	22nm,0.5s						
MNBS				Lg	Lg	03 04 22.5	
	19nm,0.4s						
ARXS	**Arharly**	**3.87**	**307**	Pg	**Pb**	**03 03 43.8**	**+2.7**
	3.6nm,0.7s						
ARXS				Lg	Lg	03 04 38.4	
	14nm,0.4s						
ARXS	**Arharly**	**3.87**	**307**	*e*P	**Pb**	**03 03 44.0**	**+2.9**
	3.5nm,0.7s						
ARXS				*e*S	**Sg**	**03 04 38.3**	**+1.1**
	15nm,0.7s						
KOTS	**Kotyrbulak**	**3.92**	**290**	Pg	**Pb**	**03 03 44.1**	**+2.2**
	22nm,0.6s						
KOTS				Lg	Lg	03 04 38.0	
	28nm,0.5s						
KOTS	**Kotyrbulak**	**3.92**	**290**	*e*P	**Pb**	**03 03 44.2**	**+2.2**
	22nm,0.6s						
KOTS				*e*S	**Sg**	**03 04 37.9**	**-0.9**
	32nm,0.6s						
IZV	**Izvestkoviy**	**4.22**	**286**	Pg	**Pb**	**03 03 50.0**	**+2.9**
	8.4nm,0.6s						
IZV				Lg	Lg	03 04 48.3	
	19nm,1.0s						
IZV	**Izvestkoviy**	**4.22**	**286**	*e*P	**Pb**	**03 03 50.0**	**+2.9**
	8.4nm,0.6s						
IZV				*e*S	**Sg**	**03 04 48.1**	**-0.3**
	14nm,0.5s						
KTBS	**Karatobe**	**4.37**	**295**	Pg	**Pb**	**03 03 52.0**	**+2.4**
KTBS				Lg	Lg	03 04 52.7	
KTBS	**Karatobe**	**4.37**	**295**	*e*P	**Pb**	**03 03 52.0**	**+2.4**
	3.6nm,0.6s						
KTBS				*e*S	**Sg**	**03 04 52.7**	**-0.6**
	19nm,0.9s						
MK31	**Makanchi Array**	**4.82**	**1**	Pn	**Pn**	**03 03 44.6**	**-0.6**
	0.4nm,0.3s,baz=196,slow=12,SNR=43						
MK31				Pg	**Pg**	**03 04 01.5**	**-3.8**
	1.6nm,0.5s,baz=174,slow=16,SNR=6.5						
MK31				⇑Lg	Lg	03 05 04.3	
	4.5nm,0.5s,baz=176,slow=26,SNR=4.4						
ZSN	**Zaisan**	**5.81**	**19**	Pg	**Pb**	**03 04 17.3**	**+3.2**
	6.6nm,0.3s						
ZSN				Lg	Lg	03 05 35.5	
	8.5nm,0.6s						

*IDC **25** 03:04:42.9±2.8, 21°.88S×66°.69W, h166km±47km, mb3.4/1,*
mb1 3.4/3, mb1mx3.1/33, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1,
ms1mx2.5/13, Error ellipse: s-maj=94.5km s-min=20.2km
az=89.0
*ISCJB **25** 03:04:43.5±0.4, 21°.89S±0°.03×67°.17W±0°.03, h197km±6km,*
mb3.5/1, Error ellipse: s-maj=5.0km s-min=4.1km
az=144.0
*SJA **25** 03:04:43.4±0.5, 21°.91S×67°.08W, h201km±4km, ML3.2,*
MW3.4
*SCB **25** 03:04:44.1±1.2, 21°.92S×67°.12W, h214km±8km, ML3.5/2,*
Error ellipse: s-maj=3.8km s-min=3.0km az=0.0
*GUC **25** 03:04:45.1±0.6, 21°.83S×67°.39W, h217km±9km, ML3.9*
ISC 25 03:04:42.9±0.9, 21°.88S±0°.04×67°.13W±0°.03, h206km±8km,
n68, σ1§49/106, 12C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.53**	**101**	Pg	**Pn**	**03 05 18.4**	**+0.5**
YJA				Sg	**S**	**03 05 43.7**	**-1.0**
YJA	**Yavi**	**1.53**	**101**	*e*P	**Pn**	**03 05 19.1**	**+1.2**
YJA				*e*S	**S**	**03 05 43.9**	**-0.8**
YJA				IAML		03 05 47.8	
	comp=Z,104nm,0.4s						
LVC	**Limon Verde**	**1.80**	**246**	*i* P	**Pn**	**03 05 21.3**	**+1.0**
PB09	**IPOC Station P**	**1.96**	**272**	⇑*i*P	**Pn**	**03 05 22.7**	**+1.0**
PB09				*i* S	**S**	**03 05 50.4**	**-1.0**
PB09				IAML		03 05 57.4	
	comp=E,198nm,0.6s						
PB09	**IPOC Station P**	**1.96**	**272**	⇑*i*P	**Pn**	**03 05 22.7**	**+1.0**
PB09				*i* Sg	**S**	**03 05 51.7**	**+0.4**
HJA	**Humahuaca**	**2.07**	**130**	*i* P	**Pn**	**03 05 23.6**	**+0.6**
HJA				*i* Sg	**S**	**03 05 53.2**	**-0.5**
HJA				IAML		03 05 55.7	
	comp=Z,168nm,0.5s						
HJA	**Humahuaca**	**2.07**	**130**	*e*P	**Pn**	**03 05 24.6**	**+1.7**
HJA				*e*S	**S**	**03 05 53.7**	**0.0**
HJA				IAML		03 05 55.8	
	comp=Z,168nm,0.5s						
PB01	**IPOC Station P**	**2.35**	**290**	⇑*i*P	**Pn**	**03 05 26.0**	**+0.3**
PB01	**IPOC Station P**	**2.35**	**290**	P	**Pn**	**03 05 26.0**	**+0.3**
PB01				S	**S**	**03 05 57.5**	**-0.9**
PB06	**IPOC Station P**	**2.41**	**250**	⇑*i*P	**Pn**	**03 05 26.8**	**+0.4**
PB06				*i* S	**S**	**03 05 58.9**	**-0.7**
PB06				IAML		03 06 00.8	
	comp=E,282nm,0.1s						
PB06	**IPOC Station P**	**2.41**	**250**	P	**Pn**	**03 05 26.6**	**+0.3**
PB06				S	**S**	**03 05 58.3**	**-1.3**
PB06	**IPOC Station P**	**2.41**	**250**	*e*P	**Pn**	**03 05 27.1**	**+0.8**
PB03	**IPOC Station P**	**2.44**	**266**	*e*P	**Pn**	**03 05 27.4**	**+0.6**
PB03				*i* S	**S**	**03 05 59.2**	**-1.0**
PB03				IAML		03 05 59.9	
	comp=E,704nm,0.1s						
PB03	**IPOC Station P**	**2.44**	**266**	*e*P	**Pn**	**03 05 27.2**	**+0.5**
PB03				*e*S	**S**	**03 05 59.4**	**-0.9**
PB15	**IPOC Station P**	**2.53**	**238**	⇓*i*P	**Pn**	**03 05 28.8**	**+1.0**
PB15				*i* S	**S**	**03 06 02.8**	**+0.5**
PB15	**IPOC Station P**	**2.53**	**238**	*i* P	**Pn**	**03 05 29.2**	**+1.5**
PB15				*i* Sg	**S**	**03 06 02.5**	**+0.3**
PB08	**IPOC Station P**	**2.56**	**312**	⇑*i*P	**Pn**	**03 05 29.6**	**+1.2**
PB08				*i* S	**S**	**03 06 02.9**	**-0.3**
PB08				IAML		03 06 06.3	
	comp=E,114nm,0.4s						
PB08	**IPOC Station P**	**2.56**	**312**	P	**Pn**	**03 05 29.5**	**+1.2**
PB08				S	**S**	**03 06 02.9**	**-0.3**
PB07	**IPOC Station P**	**2.56**	**273**	⇓*i*P	**Pn**	**03 05 28.7**	**+0.6**
PB07				*i* S	**S**	**03 06 01.4**	**-1.4**
PB07	**IPOC Station P**	**2.56**	**273**	*e*P	**Pn**	**03 05 29.0**	**+0.9**
PB07				*e*S	**S**	**03 06 02.0**	**-0.8**
PB02	**IPOC Station P**	**2.63**	**282**	⇑*i*P	**Pn**	**03 05 28.9**	**+0.1**
PB02				*i* S	**S**	**03 06 02.4**	**-1.6**
PB02				IAML		03 06 03.0	
	comp=N,718nm,0.2s						
PB02	**IPOC Station P**	**2.63**	**282**	P	**Pn**	**03 05 28.7**	**-0.1**
PB02				S	**S**	**03 06 01.5**	**-2.5**
PB02	**IPOC Station P**	**2.63**	**282**	*e*P	**Pn**	**03 05 29.1**	**+0.3**
PB02				*e*S	**S**	**03 06 02.6**	**-1.4**
PB04	**IPOC Station P**	**2.83**	**260**	⇑*i*P	**Pn**	**03 05 31.4**	**+0.3**
PB04				*i* S	**S**	**03 06 06.4**	**-1.8**
PB04				IAML		03 06 08.6	
	comp=E,353nm,0.3s						
PB04	**IPOC Station P**	**2.83**	**260**	P	**Pn**	**03 05 31.2**	**0.0**
PB04				S	**S**	**03 06 05.5**	**-2.7**
PB04	**IPOC Station P**	**2.83**	**260**	*i* P	**Pn**	**03 05 32.0**	**+0.8**
PB04	**IPOC Station P**	**2.83**	**260**	*e*P	**Pn**	**03 05 31.4**	**+0.3**
PB04				*e*S	**S**	**03 06 07.6**	**-0.7**
GO01	**Chusmiza**	**2.93**	**318**	⇑*i*P	**Pn**	**03 05 33.4**	**+0.8**
GO01				*i* S	**S**	**03 06 11.5**	**+0.7**
GO01				IAML		03 06 16.3	
	comp=N,275nm,0.2s						
PB05	**IPOC Station P**	**3.00**	**251**	⇓*i*P	**Pn**	**03 05 33.7**	**+0.7**
PB05				IAML		03 06 11.0	
	comp=N,133nm,0.2s						
PB05	**IPOC Station P**	**3.00**	**251**	*i* P	**Pn**	**03 05 34.4**	**+1.3**
PB05	**IPOC Station P**	**3.00**	**251**	*e*P	**Pn**	**03 05 33.7**	**+0.7**
AZAP	**Zapla**	**3.01**	**141**	*i* P	**Pn**	**03 05 33.5**	**+0.2**
AZAP				IAML		03 06 16.4	
	comp=Z,32nm,0.5s						
TA01	**Diego Aracena**	**3.13**	**294**	⇑*i*P	**Pn**	**03 05 34.2**	**-0.3**
TA01				*i* S	**S**	**03 06 11.7**	**-2.5**
TA01				IAML		03 06 13.5	
	comp=E,352nm,0.2s						
PB11	**IPOC Station P**	**3.17**	**311**	⇑*i*P	**Pn**	**03 05 35.1**	**+0.1**
PB11				*i* S	**S**	**03 06 13.4**	**-1.9**
PB11				IAML		03 06 16.9	
	comp=N,267nm,0.3s						
PB11	**IPOC Station P**	**3.17**	**311**	P	**Pn**	**03 05 34.8**	**-0.3**
PB11				S	**S**	**03 06 13.4**	**-1.9**
PB11	**IPOC Station P**	**3.17**	**311**	*e*P	**Pn**	**03 05 35.2**	**+0.1**
SLA	**San Lorenzo**	**3.20**	**152**	P	**Pn**	**03 05 36.8**	**+1.4**
PB10	**IPOC Station P**	**3.55**	**242**	⇑*i*P	**Pn**	**03 05 39.7**	**+0.2**
PB10				*i* S	**S**	**03 06 20.3**	**-3.0**
PB10	**IPOC Station P**	**3.55**	**242**	P	**Pn**	**03 05 39.7**	**+0.2**
PB10	**IPOC Station P**	**3.55**	**242**	*i* P	**Pn**	**03 05 40.8**	**+1.3**
MNMC	**Minye Minye**	**3.58**	**319**	⇑*i*P	**Pn**	**03 05 40.8**	**+0.7**
MNMC				*i* S	**S**	**03 06 23.2**	**-1.2**
MNMC	**Minye Minye**	**3.58**	**319**	P	**Pn**	**03 05 40.8**	**+0.7**
MNMC				S	**S**	**03 06 22.6**	**-1.8**
PSGC	**Pisagua**	**3.61**	**309**	⇑*i*P	**Pn**	**03 05 39.2**	**-1.0**
PSGC				*i* S	**S**	**03 06 21.3**	**-3.4**
PSGC	**Pisagua**	**3.61**	**309**	P	**Pn**	**03 05 40.3**	**0.0**
PSGC				S	**S**	**03 06 21.4**	**-3.3**
PSGC				AML	AML	03 06 22.4	
	comp=N,47nm,0.2s						
BS03	**Mojotorillo**	**3.63**	**46**	P	**Pn**	**03 05 41.2**	**+0.3**
BS03				S	**S**	**03 06 23.1**	**-2.6**
BS03				AML	AML	03 06 24.7	
	comp=N,83nm,0.3s						
BS06	**Camiri**	**3.84**	**62**	P	**Pn**	**03 05 43.2**	**+0.1**
BS06				S	**S**	**03 06 25.7**	**-4.1**
PB14	**IPOC Station P**	**4.06**	**227**	*i* P	**Pn**	**03 05 46.9**	**+0.9**
PB16	**IPOC Station P**	**4.18**	**327**	*i* P	**Pn**	**03 05 49.0**	**+1.3**
PB16				*i* S	**S**	**03 06 37.8**	**-0.3**
BS08	**Valle Grande**	**4.40**	**41**	P	**Pn**	**03 05 50.5**	**+0.2**
BS08				S	**S**	**03 06 39.5**	**-3.2**
BBOJ	**La Paz, Jacaqu**	**4.98**	**348**	P	**Pn**	**03 05 59.6**	**+1.7**
BBOE	**La Paz, Chanca**	**5.11**	**351**	P	**Pn**	**03 06 00.8**	**+1.3**
AHML	**Horco Molle**	**5.15**	**162**	P	**Pn**	**03 05 59.1**	**-0.3**
AHML	**Horco Molle**	**5.15**	**162**	*i* P	**Pn**	**03 06 00.1**	**+0.8**
BBOD	**La Paz, Gloria**	**5.40**	**345**	P	**Pn**	**03 06 04.2**	**+1.0**
LPAZ	**La Paz**	**5.64**	**350**	P	**Pn**	**03 06 07.2**	**+0.8**
LPAZ				S	**S**	**03 07 08.1**	**-3.9**
LPAZ	**La Paz**	**5.64**	**350**	P	**Pn**	**03 06 08.1**	**+1.7**
	comp=N,2.6nm,0.3s,baz=154,slow=6.7,SNR=86						
LPAZ				S	**S**	**03 07 12.2**	**+0.2**
	baz=93,slow=17,SNR=2.6						
LPAZ	**La Paz**	**5.64**	**350**	⇑*i*P	**Pn**	**03 06 08.1**	**+1.7**
BBOB	**La Paz, Bander**	**5.79**	**350**	P	**Pn**	**03 06 09.3**	**+1.2**
CYA	**Choya**	**6.64**	**170**	*i* P	**Pn**	**03 06 19.2**	**+0.6**
APLL	**PUNTA DE LOS L**	**8.49**	**176**	*i* P	**Pn**	**03 06 42.9**	**+0.3**
ACCO	**Cerro Coronel**	**8.84**	**191**	*i* P	**Pn**	**03 06 48.8**	**+1.4**
GO04	**Tololo Observa**	**8.89**	**201**	*i* P	**Pn**	**03 06 49.0**	**+1.0**
AMOG	**MOGNA**	**9.10**	**187**	*i* P	**Pn**	**03 06 50.7**	**+0.2**
CFA	**Coronel Fontan**	**9.73**	**186**	P	**Pn**	**03 06 59.4**	**+0.7**
	comp=N,0.6nm,0.3s,baz=28,slow=16,SNR=12						
CFA				S	**S**	**03 08 41.2**	**-6.5**
	comp=N,0.3nm,0.3s,baz=332,slow=11,SNR=4.6						
CFA	**Coronel Fontan**	**9.73**	**186**	*i* P	**Pn**	**03 06 59.1**	**+0.4**
CMIG	**Matias Romero**	**47.32**	**323**	LR	LR	03 31 55.4	
	comp=N,22nm,18.3s,baz=334,slow=34						
TORD	**Torodi Ar. Bea**	**75.93**	**69**	P	**P**	**03 16 09.8**	**+2.2**
	comp=N,0.5nm,0.4s,baz=257,slow=5.7,SNR=14						
MKAR	**Makanchi Array**	**144.95**	**37**	PKP	**PKiKP**	**03 23 58.9**	**-0.5**
	comp=N,0.7nm,0.6s,baz=306,slow=3.9,SNR=5.8						

*NIED **25** 03:11:00, 47°.10N×152°.80E, h8km, Mw3.9 Best double*
couple: M₀9.25000×10¹⁴ NP1:φs177.00000°, δ27.00000°,
λ91.00000°. NP2:φs357.00000°, δ63.00000°, λ90.00000°.
*ISCJB **25** 03:11:12.0±0.4, 46°.80N±0°.07×152°.83E±0°.08, h50km,*
mb3.9/21, Error ellipse: s-maj=12.0km s-min=4.3km
az=140.2
*IDC **25** 03:11:11.6±0.7, 46°.83N×152°.71E, h31km±4km, mb3.7/20,*
mb1 4.0/21, mb1mx3.8/67, mbtmp3.9/21, ML3.6/1, Error
ellipse: s-maj=17.8km s-min=14.3km az=147.0
*MOS **25** 03:11:13.4±1.0, 46°.84N×152°.63E, h63km, mb4.5/4, Error*
ellipse: s-maj=14.8km s-min=8.1km az=63.4
*NEIC **25** 03:11:15.5±1.6, 46°.8N±0°.1×152°.7E±0°.2, h66km±9km,*
mb4.4/18
ISC 25 03:11:13.2±0.6, 46°.74N±0°.09×152°.91E±0°.08, h50km, n71,
σ1§42/70, mb4.1/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**249**	*e*PN	**Pn**	**03 12 10.2**	**+0.7**
KUR				*e*S	**Sn**	**03 12 56.4**	**+3.2**
KUR				pmax	pmax		
	comp=Z,71nm,0.3s						
KUR				pmax	pmax		
	comp=E,20nm,0.1s						
KUR				pmax	pmax		
	comp=N,44nm,0.2s						
KUR				smax	smax		
	comp=N,242nm,0.5s						
KUR				smax	smax		
	comp=E,262nm,0.4s						
SKR	**Severo-Kuril's**	**4.48**	**27**	*e*PN	**Pn**	**03 12 21.7**	**+3.2**
SKR				*e*S	**Sn**	**03 13 08.2**	**-1.1**
SKR				pmax	pmax		
	comp=Z,44nm,0.7s						
SKR				smax	smax		
	comp=N,73nm,0.4s						
SKR				smax	smax		
	comp=E,134nm,0.6s						
NMR	**Nemuro--Hokkai**	**6.10**	**239**	*e*PN	**Pn**	**03 12 39.1**	**-1.7**
PEA0B	**Petropavlovsk-**	**7.08**	**24**	PN	**Pn**	**03 12 56.5**	**+2.3**
PEA0B	**Petropavlovsk-**	**7.08**	**24**	Pn	**Pn**	**03 12 56.5**	**+2.3**
PETK	**Petropavlovsk-**	**7.08**	**24**	PN	**Pn**	**03 12 55.5**	**+1.3**
PETK						03 14 15.2	
PETK	**Petropavlovsk-**	**7.08**	**24**	Pn	**Pn**	**03 12 55.9**	**+1.7**
	comp=E,0.3nm,0.3s,baz=187,slow=12,SNR=3.3						
PETK	**Petropavlovsk-**	**7.08**	**24**		**Pn**	**03 12 55.5**	**+1.3**
PETK				Sn	**Sn**	**03 14 15.2**	**+2.0**
JKA	**Kamikawa-asahi**	**7.71**	**254**		**Pn**	**03 13 05.7**	**+2.8**
ASAJ	**Asahikawa**	**7.72**	**254**	Pn	**Pn**	**03 13 05.7**	**+2.8**
	comp=E,1.1nm,0.3s,baz=81,slow=15,SNR=11						
ERM	**Erimo**	**8.43**	**239**	PN	**Pn**	**03 13 13.0**	**+0.3**
ERM	**Erimo**	**8.43**	**239**		**Pn**	**03 13 13.0**	**+0.3**
KLR	**Kul'dur**	**14.38**	**288**	Pn	**P**	**03 14 37.4**	**-2.2**
	comp=E,0.1nm,0.3s,baz=106,slow=17,SNR=2.5						
USRK	**Ussuriysk Ar.**	**14.89**	**268**	Pn	**Pn**	**03 14 41.0**	**+0.5**
	baz=78,slow=14,SNR=3.8						
MJAR	**Matsushiro Arr**	**14.96**	**232**	P	**Pn**	**03 14 40.6**	**-0.9**
MJAR	**Matsushiro Arr**	**14.96**	**232**	Pn	**P**	**03 14 45.3**	**-0.8**
	comp=E,0.1nm,0.3s,baz=34,slow=8.9,SNR=5.7						
MJAR	**Matsushiro Arr**	**14.96**	**232**		**Pn**	**03 14 40.6**	**-0.9**
SEY	**Seymchan**	**16.23**	**359**	Pn	**Pn**	**03 14 55.8**	**-1.8**
	comp=E,0.2nm,0.3s,baz=130,slow=16,SNR=2.1						
KSRS	**Korea Array**	**20.66**	**252**	P	**P**	**03 15 49.0**	**+0.4**
	comp=E,3.4nm,0.9s,baz=50,slow=7.9,SNR=3.5						
SPIA	**Saint Paul Isl**	**24.69**	**51**	P	**P**	**03 16 27.1**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**29.27**	**152**	T	T	03 48 33.0	
	baz=340,slow=76,SNR=266						
H11N1	**WAKE ISLAND Hy**	**29.29**	**152**	T	T	03 48 23.1	
	baz=340,slow=76,SNR=281						
H11N3	**WAKE ISLAND Hy**	**29.29**	**152**	T	T	03 48 23.2	
	baz=340,slow=76,SNR=195						
H11S1	**WAKE ISLAND Hy**	**30.36**	**153**	T	T	03 49 40.8	
	baz=341,slow=76,SNR=351						
H11S3	**WAKE ISLAND Hy**	**30.37**	**153**	T	T	03 49 40.0	
	baz=341,slow=76,SNR=403						
H11S2	**WAKE ISLAND Hy**	**30.38**	**153**	T	T	03 49 44.1	
	baz=341,slow=76,SNR=448						
SONM	**Songino Array**	**31.21**	**289**	P	**P**	**03 17 25.8**	**-1.9**
	comp=E,0.1nm,0.4s,baz=50,slow=34,SNR=2.5						
TTA	**Tatalina**	**32.52**	**41**	P	**P**	**03 17 40.8**	**+1.8**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TTA	**Tatalina**	**32.52**	**41**	P	**P**	**03 17 40.8**	**+1.8**
TTA				IAmb	IAmb	03 17 49.5	
	comp=Z,9.8nm,1.4s						
IMAR	**Indian Mountai**	**33.86**	**36**	P	**P**	**03 17 51.4**	**+0.9**
SKT	**Skwentna**	**34.55**	**43**	P	**P**	**03 17 57.6**	**+1.0**
SKT				IAmb	IAmb	03 18 03.1	
	comp=Z,9.5nm,1.4s						
BPAW	**Bear Paw Mtn.**	**34.85**	**40**	P	**P**	**03 18 00.9**	**+1.8**
KTH	**Kantishna Hill**	**34.86**	**41**	P	**P**	**03 18 00.3**	**+1.0**
MLY	**Manley**	**35.01**	**38**	P	**P**	**03 18 01.4**	**+0.9**
COLD	**Coldfoot**	**35.42**	**34**	P	**P**	**03 18 05.1**	**+1.2**
RC01	**Rabbit Creek A**	**35.44**	**45**	P	**P**	**03 18 04.0**	**-0.1**
RC01				IAmb	IAmb	03 18 16.0	
	comp=Z,12nm,1.2s						
TOLK	**Toolik Lake Re**	**35.83**	**32**	P	**P**	**03 18 08.4**	**+1.0**
TOLK				IAmb	IAmb	03 18 11.9	
	comp=Z,6.2nm,1.4s						
WRH	**Wood River Hil**	**36.12**	**39**	P	**P**	**03 18 11.1**	**+1.1**
ILAR	**Eielson Array**	**36.64**	**39**	P	**P**	**03 18 15.0**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=258,slow=6.7,SNR=8.1						
ILAR				sP	**pwP**	**03 18 29.0**	**-0.9**
	comp=Z,0.7nm,1.1s,baz=256,slow=7.6,SNR=2.7						
SCRK	**Sand Creek**	**37.93**	**40**	P	**P**	**03 18 26.0**	**+0.5**
SCRK				IAmb	IAmb	03 18 31.3	
	comp=Z,4.5nm,1.4s						
MCARA	**McCarthy VSAT**	**38.64**	**44**	P	**P**	**03 18 29.6**	**-1.8**
BALM	**Baldy**	**39.02

MD4.8/2
*IDC **25** 03:23:04.5±1.0, 34°.07N×45°.66E, h0km, mb3.7/7, mb1 3.7/15, mb1mx3.6/54, mbtmp3.7/15, ML3.1/6, Error ellipse: s-maj=21.8km s-min=12.6km az=162.0*
*ISN **25** 03:23:04.8±1.9, 34°.27N×45°.59E, h0km±9km, ML4.2*
*TEH **25** 03:23:07.0, 34°.26N×45°.59E, h18km, ML3.9*
*THR **25** 03:23:07.9, 34°.22N×45°.68E, h18km, ML3.7*
*OMAN **25** 03:23:17.2±5.5, 33°.17N×45°.64E, h34km±103km, mb6.4/1, ms3.0/2, Error ellipse: s-maj=92.6km s-min=51.4km az=174.0*

ISC 25 03:23:06.5±0.5, 34°.24N±0°.03×45°.63E±0°.02, h18km, n122, σ2s55/132, mb3.7/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**54**	*e*Pg	**Pb**	**03 23 21.6**	**+0.1**
IDHR				IAMB	IAmb	03 23 36.0	
comp=Z,0.0nm,0.8s							
IGHG	**Ghaleghazi**	**0.78**	**83**	*e*Pg	**Pb**	**03 23 22.4**	**+0.8**
IGHG				*e*Sg	**Sn**	**03 23 35.3**	**+1.2**
IGHG				IAMB	IAmb	03 23 38.3	
comp=Z,70μm,0.4s							
IBDR	**Badra**	**1.16**	**168**	*e*Pg	**Pg**	**03 23 30.0**	**+1.1**
IBDR				*e*Sg	**Sg**	**03 23 46.5**	**+2.5**
IBDR	**Badra**	**1.16**	**168**	*e*Pg	**Pg**	**03 23 30.0**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.17**	**88**	*e*Pg	**Pb**	**03 23 29.5**	**+1.3**
KCHF				*e*Sg	**Sg**	**03 23 46.4**	**+2.0**
KCHF				IAMB	IAmb	03 23 52.4	
comp=Z,0.0nm,0.4s							
ILIN	**Lien**	**1.29**	**58**	*e*Pg	**Pb**	**03 23 31.4**	**+1.1**
ILIN				IAMB	IAmb	03 23 53.5	
comp=Z,26μm,0.5s							
BHD	**Baghdad**	**1.43**	**227**	*e*Pn	**Pg**	**03 23 34.4**	**+0.4**
BHD				*e*Sn	**Sg**	**03 23 54.8**	**+2.2**
BHD				AML	AML	03 24 00.1	
comp=Z,457μm,0.6s							
BHD	**Baghdad**	**1.43**	**227**	*e*Pg	**Pg**	**03 23 34.3**	**+0.4**
IKOM	**Komasi**	**1.56**	**92**	*e*Pn	**Pg**	**03 23 36.9**	**+0.4**
IKOM				IAMB	IAmb	03 24 06.6	
comp=Z,0.0nm,1.0s							
IKRK	**Kirkuk**	**1.57**	**318**	*e*Pn	**Pb**	**03 23 35.5**	**+0.5**
IKRK				AML	AML	03 23 37.1	
comp=Z,599nm,0.4s							
IKRK				*e*Sn	**Sg**	**03 23 58.0**	**+0.8**
IKRK	**Kirkuk**	**1.57**	**318**	*e*Pg	**Pb**	**03 23 35.5**	**+0.5**
IBZA	**Bozab**	**1.86**	**82**	*e*Pn	**Pb**	**03 23 40.7**	**+0.7**
IBZA				IAMB	IAmb	03 24 16.8	
comp=Z,0.0nm,0.4s							
IKFM	**Kafar-mosalman**	**1.98**	**111**	*e*Pn	**Pb**	**03 23 42.0**	**+0.1**
IKFM				IAMB	IAmb	03 24 17.3	
comp=Z,0.0nm,0.4s							
IDOB	**Doab**	**2.16**	**101**	*e*Pn	**Pb**	**03 23 44.7**	**-0.5**
IDOB				IAMB	IAmb	03 24 26.5	
comp=Z,0.0nm,0.7s							
HSRG	**Sareghieh**	**2.40**	**65**	*e*Pn	**Pb**	**03 23 48.4**	**-0.8**
IKMR	**Kamar-syah**	**2.40**	**107**	*e*Pn	**Pn**	**03 23 47.8**	**+3.0**
IKMR				IAMB	IAmb	03 24 28.2	
comp=Z,0.0nm,0.5s							
MAHB	**Mahabad**	**2.52**	**1**	*e*Pn	**Pb**	**03 23 50.4**	**-0.8**
MAHB				IAMB	IAmb	03 24 32.5	
comp=Z,0.0nm,0.4s							
BDRS	**Dareh Seyedi**	**2.71**	**95**	*e*Pn	**Pn**	**03 23 52.1**	**+2.7**
BDRS				IAMB	IAmb	03 24 43.1	
comp=Z,0.0nm,0.8s							
HAGD	**Aghdareh**	**2.95**	**78**	*e*Pn	**Pn**	**03 23 56.1**	**+3.4**
HAGD				IAMB	IAmb	03 24 47.6	
comp=Z,0.0nm,0.7s							
MSL	**Mosul**	**2.98**	**317**	*e*Pn	**Pn**	**03 23 54.4**	**+1.6**
MSL				AML	AML	03 24 11.3	
comp=Z,783nm,0.2s							
MSL				*e*Sn	**Sb**	**03 24 31.5**	**-3.6**
MSL	**Mosul**	**2.98**	**317**	*e*Pn	**Pn**	**03 23 54.4**	**+1.6**
NSR	**Nassriya**	**3.25**	**172**	*e*Pn	**Pn**	**03 23 59.0**	**+2.4**
NSR				*e*Sn	**Sn**	**03 24 40.0**	**+5.2**
NSR				AML	AML	03 25 14.0	
comp=Z,389nm,0.4s							
NSR	**Nassriya**	**3.25**	**172**	*e*Pn	**Pn**	**03 23 59.0**	**+2.4**
SHGR	**Shooshtar-Gavs**	**3.41**	**128**	*e*Pn	**Pn**	**03 24 01.6**	**+2.9**
SHGR	**Shooshtar-Gavs**	**3.41**	**128**	*e*Pn	**Pn**	**03 24 01.6**	**+2.9**
SHGR				*e*AML	AML	03 25 07.1	
comp=Z,166nm,0.6s							
SHGR				*e*AML	AML	03 25 18.5	
comp=Z,164nm,0.7s							
CUKT	**Cukurca**	**3.42**	**332**	*e*P	**Pn**	**03 24 01.2**	**+2.2**
ZNJK	**Zanjan**	**3.47**	**45**	*e*Sg	**Sg**	**03 24 55.8**	**-2.3**
ZNJK				*e*Pn	**Pn**	**03 24 03.3**	**+3.4**
QABG	**Abgarm-Qazvin**	**3.56**	**65**	IAMB	IAmb	03 24 22.9	
comp=Z,0.0nm,0.6s							
QABG				*e*Pn	**Pn**	**03 24 04.2**	**+3.2**
IBST	**Bostanabad**	**3.60**	**16**	*e*Pn	**Pn**	**03 24 04.3**	**+2.8**
IBST				IAMB	IAmb	03 25 07.0	
comp=Z,705nm,0.6s							
KHMZ	**Khomeyn**	**3.63**	**97**	*e*Pn	**Pn**	**03 24 05.1**	**+3.1**
KHMZ	**Khomeyn**	**3.63**	**97**	*e*Pn	**Pn**	**03 24 05.1**	**+3.1**
IRAZ	**Razeghan**	**3.72**	**71**	*e*Pn	**Pn**	**03 24 06.4**	**+3.2**
IRAZ				IAMB	IAmb	03 25 22.3	
comp=Z,2μm,0.7s							
SIRT	**Sirnak**	**4.16**	**322**	*e*P	**Pn**	**03 24 10.3**	**+1.2**
IGZV	**Ghazvin**	**4.32**	**59**	IAMB	IAmb	03 24 30.7	
comp=Z,2μm,1.0s							
IMHD	**Mahdasht**	**4.38**	**69**	*e*Pn	**Pn**	**03 24 14.8**	**+2.6**
IMHD				IAMB	IAmb	03 24 44.0	
comp=Z,640nm,0.5s							
IQOM	**Qom**	**4.53**	**81**	*e*Pn	**Pn**	**03 24 17.1**	**+2.7**
IQOM				IAMB	IAmb	03 24 38.4	
comp=Z,0.0nm,1.0s							
AKDM	**Akdamar-Van**	**4.61**	**333**	*e*P	**Pn**	**03 24 18.2**	**+2.9**
RTB	**Rutbah**	**4.61**	**256**	*e*Pn	**Pn**	**03 24 15.7**	**+0.5**
RTB				*e*Sn	**Sn**	**03 25 11.0**	**+2.7**
RTB				AML	AML	03 25 42.4	
comp=Z,1μm,1.4s							
RTB	**Rutbah**	**4.61**	**256**	*e*Pn	**Pn**	**03 24 15.7**	**+0.5**
QALM	**Alamut, Qazvin**	**4.64**	**61**	*e*Pn	**Pn**	**03 24 19.6**	**+3.7**
QALM				IAMB	IAmb	03 25 57.9	
comp=Z,0.0nm,0.9s							
IPIR	**Pirpir**	**4.66**	**108**	*e*Pn	**Pn**	**03 24 18.4**	**+2.1**
IPIR				IAMB	IAmb	03 25 18.2	
comp=Z,3μm,0.4s							
JHBN	**Jahan bin**	**4.67**	**114**	*e*Pn	**Pn**	**03 24 17.9**	**+1.5**
JHBN				IAMB	IAmb	03 25 16.5	
comp=Z,0.0nm,0.4s							
GHVR	**GHOM**	**4.69**	**86**	*e*Pn	**Pn**	**03 24 18.9**	**+2.5**
GHVR	**GHOM**	**4.69**	**86**	*e*Pn	**Pn**	**03 24 18.9**	**+2.5**
VANB	**Van**	**4.70**	**338**	*e*P	**Pn**	**03 24 19.3**	**+2.6**
CHTH	**Charan**	**4.80**	**68**	*e*Pn	**Pn**	**03 24 21.3**	**+3.2**
CHTH	**Charan**	**4.80**	**68**	*e*Pn	**Pn**	**03 24 21.3**	**+3.2**
QAM	**Ghamsar**	**4.85**	**94**	*e*Pn	**Pn**	**03 24 21.6**	**+2.9**
QAM				IAMB	IAmb	03 25 21.9	
comp=Z,765nm,0.5s							
ZNGN	**Zangian**	**4.86**	**114**	*e*Pn	**Pn**	**03 24 20.4**	**+1.4**
ZNGN				IAMB	IAmb	03 25 22.3	
comp=Z,0.0nm,0.4s							
ROKH	**ROKH**	**4.90**	**111**	*e*Pn	**Pn**	**03 24 21.4**	**+1.9**
ROKH				IAMB	IAmb	03 25 24.9	
comp=Z,0.0nm,0.5s							
IKLH	**Kolahrood**	**5.04**	**99**	*e*Pn	**Pn**	**03 24 24.2**	**+2.8**
IKLH				IAMB	IAmb	03 24 25.9	
comp=Z,1μm,0.5s							
CLDR	**Caldiran**	**5.08**	**345**	*e*P	**Pn**	**03 24 25.7**	**+3.8**
GURO	**Guroymak-BITLI**	**5.19**	**327**	*e*P	**Pn**	**03 24 25.2**	**+1.9**
MAZI	**Mazidag**	**5.29**	**309**	*e*P	**Pn**	**03 24 24.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**5.30**	**319**	*e*P	**Pn**	**03 24 25.4**	**+0.7**
IDMV	**Damavand**	**5.42**	**74**	*e*Pn	**Pn**	**03 24 28.9**	**+2.2**
MLAZ	**Malazgirt-MUS**	**5.48**	**334**	*e*P	**Pn**	**03 24 30.7**	**+3.4**
IGAR	**Gharneh**	**5.67**	**107**	*e*Pn	**Pn**	**03 24 31.8**	**+1.8**
IGAR				IAMB	IAmb	03 25 40.6	
comp=Z,884nm,0.4s							
IZEF	**Zefreh**	**5.75**	**102**	*e*Pn	**Pn**	**03 24 33.4**	**+2.2**
IZEF				IAMB	IAmb	03 25 05.4	
comp=Z,349nm,0.8s							
GNI	**Garni**	**5.94**	**353**	Pn	Pn	03 24 39.7	+6.1
comp=Z,0.3nm,0.3s,baz=254,slow=16,SNR=1.8							
GNI				Lg	Lg	03 26 26.4	
comp=Z,0.6nm,0.3s,baz=242,slow=17,SNR=3.3							
GNI	**Garni**	**5.94**	**353**	*e*P	Pn	03 24 39.9	+6.3
IRAM	**Ramesheh**	**6.17**	**111**	*e*Pn	**Pn**	**03 24 37.9**	**+1.1**
URFA	**Urfa**	**6.39**	**302**	*e*P	**Pn**	**03 24 38.7**	**-1.0**
ANAR	**Anarak**	**6.83**	**97**	*e*Pn	**Pn**	**03 24 47.3**	**+1.5**
IKAZ	**Kazeroun**	**6.90**	**128**	*e*Pn	**Pn**	**03 24 47.8**	**+0.8**
MALT	**Malatya**	**7.09**	**307**	*e*P	**Pn**	**03 24 49.2**	**-0.3**
ISAD	**Sadrabad**	**7.15**	**107**	*e*Pn	**Pn**	**03 24 51.2**	**+0.8**
ASF	**Jabal al Asfar**	**7.61**	**257**	Pn	**Pn**	**03 24 57.0**	**+0.5**
comp=Z,0.3nm,0.3s,baz=20,slow=7.1,SNR=7.6							
ASF				Lg	Lg	03 27 07.9	
comp=Z,0.6nm,0.3s,baz=143,slow=20,SNR=4.4							
KMRS	**Kahramanmaras**	**7.80**	**297**	*e*P	**Pn**	**03 24 57.3**	**-1.8**
DARE	**Darende-Malaty**	**7.86**	**306**	*e*P	**Pn**	**03 24 59.2**	**-0.8**
NATI	**Neve Ativ**	**8.30**	**266**	Pn	**Pn**	**03 25 02.2**	**-3.7**
KSDI	**Kefar Szold**	**8.38**	**266**	Pn	**Pn**	**03 25 03.4**	**-3.6**
KSDI				Sn	**Sn**	**03 26 38.2**	**-2.9**
MMA0B	**Mount Meron ar**	**8.62**	**265**	Pn	**Pn**	**03 25 06.9**	**-3.5**
MMAI	**Mount Meron Ar**	**8.62**	**265**	Pn	**Pn**	**03 25 09.3**	**-1.1**
comp=Z,0.7nm,0.3s,baz=64,slow=9.9,SNR=5.0							
MMAI				Lg	Lg	03 27 37.3	
comp=Z,1.3nm,0.3s,baz=110,slow=37,SNR=4.9							
HMDT	**Nahal Hemdat**	**8.70**	**260**	Pn	**Pn**	**03 25 07.6**	**-3.8**
MMLI	**Mount Malkishu**	**8.73**	**261**	Pn	**Pn**	**03 25 08.4**	**-3.5**
SLTI	**Sal'it**	**9.10**	**260**	Pn	**Pn**	**03 25 13.0**	**-3.8**
MZDA	**Masada**	**9.13**	**254**	Pn	**Pn**	**03 25 13.8**	**-3.4**
YTIR	**Yattir**	**9.31**	**255**	Pn	**Pn**	**03 25 16.5**	**-3.3**
KBZ	**Khabaz**	**9.71**	**348**	Pn	Pn	03 25 31.4	+6.3
comp=Z,0.0nm,0.3s,baz=125,slow=7.7,SNR=3.9							
PRNI	**Paran**	**9.80**	**250**	Pn	**Pn**	**03 25 22.7**	**-3.8**
HRFI	**Mount Harif**	**9.91**	**248**	Pn	**Pn**	**03 25 23.9**	**-4.2**
KZIT	**Kziot**	**10.05**	**254**	Pn	**Pn**	**03 25 26.4**	**-3.5**
EIL	**Elat**	**10.15**	**246**	Pn	**Pn**	**03 25 27.1**	**-4.3**
EIL	**Elat**	**10.15**	**246**	Pn	**Pn**	**03 25 32.3**	**+0.9**
comp=Z,0.3nm,0.3s,baz=66,slow=10.0,SNR=4.0							
EIL				Lg	Lg	03 28 24.7	
comp=Z,0.2nm,0.3s,baz=67,slow=13,SNR=2.8							
BRTR	**Keskin Array B**	**11.04**	**303**	Pn	**Pn**	**03 25 48.1**	**+4.5**
comp=Z,0.0nm,0.3s,baz=114,slow=12,SNR=4.8							
SHME	**Shamm**	**12.21**	**129**	P	**Pn**	**03 25 58.0**	**-1.6**
BANOM	**Banah**	**12.40**	**129**	*i* P	**Pn**	**03 26 03.0**	**+0.8**
SNR=7.6							
BANOM	**Banah**	**12.40**	**129**	P	**Pn**	**03 26 01.2**	**-1.0**
SNR=30							
BANOM				S	Sn	03 28 12.2	-7.9
MSFE	**Esma-Masafi**	**12.72**	**131**	*i* P	**Pn**	**03 26 05.2**	**-1.3**
SNR=10							
ASUD	**Al Ashush, Dub**	**12.77**	**136**	P	**Pn**	**03 26 07.1**	**0.0**
ASUD	**Al Ashush, Dub**	**12.77**	**136**	P	**Pn**	**03 26 07.9**	**+0.8**
SNR=7.1							
ASUD				S	**Sn**	**03 28 23.0**	**-5.8**
MDH	**Madha**	**12.85**	**131**	*i* P	**Pn**	**03 26 06.7**	**-1.6**
SNR=8.2							
MDH	**Madha**	**12.85**	**131**	P	**Pn**	**03 26 08.1**	**-0.1**
SNR=8.3							
MDH				S	Sn	03 28 22.6	-8.2
UOSS	**Minazif**	**13.05**	**132**	*i* P	**Pn**	**03 26 09.4**	**-1.6**
SNR=6.2							
UOSS	**Minazif**	**13.05**	**132**	P	**Pn**	**03 26 10.8**	**-0.1**
SNR=6.0							
HATD	**Hatta, Dubai**	**13.09**	**133**	P	**Pn**	**03 26 10.1**	**-1.5**
HATD	**Hatta, Dubai**	**13.09**	**133**	P	**Pn**	**03 26 11.4**	**-0.1**
HATD				S	**Sn**	**03 28 30.6**	**-6.2**
ASHO	**Ashiyiah**	**13.15**	**134**	*i* P	**Pn**	**03 26 12.0**	**-0.5**
SNR=17							
ASHO	**Ashiyiah**	**13.15**	**134**	P	**Pn**	**03 26 11.6**	**-0.9**
SNR=17							
ASHO				S	Sn	03 28 28.1	-10
ARQ	**Araqi**	**14.45**	**136**	P	**Pn**	**03 26 29.1**	**-1.1**
BSY	**Bisya**	**15.30**	**135**	P	**Pn**	**03 26 39.8**	**-1.9**
SMDO	**Samad**	**15.57**	**132**	P	**Pn**	**03 26 43.8**	**-1.4**
SMDO				S	**Sn**	**03 29 28.7**	**-8.7**
WSAR	**Wadi Sarin**	**15.80**	**131**	P	**Pn**	**03 26 46.6**	**-1.5**
SNR=5.3							
WSAR	**Wadi Sarin**	**15.80**	**131**	Pn	**Pn**	**03 26 46.0**	**-2.1**
comp=Z,1.5nm,0.3s,baz=308,slow=8.3,SNR=11							
WBK	**Wadi Bani Khal**	**16.47**	**131**	P	**Pn**	**03 26 55.7**	**-1.0**
WBK				S	**Sn**	**03 29 51.2**	**-7.9**
WHFO	**Wadi Hawf**	**17.81**	**154**	P	**Pn**	**03 27 11.6**	**-1.9**
SNR=7.3							
WHFO				S	Sn	03 30 14.1	-18
ABTO	**Aybut**	**18.17**	**156**	P	**Pn**	**03 27 17.5**	**-0.4**
ABTO				S	Sn	03 30 24.3	-16
DMTO	**DMTO**	**18.45**	**151**	P	**P**	**03 27 19.1**	**-2.0**
SNR=7.8							
DMTO				S	Sn	03 30 31.9	-15
AKTO	**Aktyubinsk**	**18.55**	**26**	P	**Pn**	**03 27 23.3**	**+1.0**
comp=Z,0.2nm,0.3s,baz=204,slow=10.0,SNR=3.7							
AKASG	**Malin Array Be**	**20.34**	**329**	P	**P**	**03 27 42.1**	**+0.5**
comp=Z,0.6nm,0.4s,baz=133,slow=10.0,SNR=5.9							
BVAR	**Borovoye Array**	**25.73**	**36**	P	**P**	**03 28 38.5**	**+2.8**
comp=Z,1.0nm,0.7s,baz=218,slow=9.0,SNR=6.1							
KURBB	**Kurchatov Arra**	**28.97**	**46**	P	**P**	**03 29 07.4**	**+2.7**
comp=Z,1.3nm,0.6s,baz=252,slow=9.4,SNR=3.4							
MKAR	**Makanchi Array**	**30.28**	**54**	P	**P**	**03 29 18.2**	**+1.7**
comp=Z,0.3nm,0.4s,baz=247,slow=11,SNR=4.6							
DANN	**Dangsing**	**32.97**	**90**	*e*P	**P**	**03 29 42.3**	**+1.7**
comp=Z,10nm,0.6s							
ZALV	**Zalesovo Beam**	**33.76**	**42**	P	**P**	**03 29 48.3**	**+1.4**
comp=Z,0.9nm,0.4s,baz=254,slow=8.8,SNR=4.5							
GUN	**Gumba**	**34.88**	**89**	*e*P	**P**	**03 29 58.6**	**+1.3**
comp=Z,21nm,0.8s							
JIRN	**Jiri**	**35.22**	**89**	*e*P	**P**	**03 30 01.6**	**+1.3**
comp=Z,25nm,0.6s							
RAMN	**Ramite**	**35.82**	**90**	*e*P	**P**	**03 30 06.3**	**+1.0**
comp=Z,20nm,0.6s							
TAPN	**Taplejung**	**36.59**	**89**	*e*P	**P**	**03 30 13.3**	**+1.4**
comp=Z,24nm,0.7s							
TORD	**Torodi Ar. Bea**	**44.95**	**253**	P	**P**	**03 31 21.6**	**+0.9**
comp=Z,0.6nm,0.8s,baz=46,slow=6.8,SNR=6.7							
CMAR	**Chiang Mai Arr**	**49.75**	**94**	P	**P**	**03 31 57.7**	**-0.4**
comp=Z,0.8nm,0.4s,baz=294,slow=8.8,SNR=3.3							

*NIED **25** 03:23:00, 46°.00N×141°.80E, h11km, Mw5.2 Best double couple: M0:6.56000×10^16 NP1:φs360.00000°, δ27.00000°, λ98.00000°. NP2:φs171.00000°, δ63.00000°, λ86.00000°.*
*SKHL **25** 03:23:52.6±0.6, 45°.88N×141°.79E, h12km±3km, mb5.5/23, Ms5.1/4*
SKHL Felt (II-III) at Korsakov, Kholmsk, Yuzhno-Sakhalinsk, Novikovo, Pravda. Felt (III) at Nevel'sk, Taranay. Felt (IV) at Shebunino, Moneron; (III-IV) at Gornozavods, Aniva.
*BJI **25** 03:23:52.9±0.0, 46°.04N×142°.05E, h32km, mb5.3/68, mB5.4/45, ML5.6/2, Ms5.4/77, Ms7 5.4/69*
*JMA **25** 03:23:52.5±0.3, 45°.99N×141°.81E, h22km±2km, M5.2 Broadband fault plane solution: P waves. NP1: φs175.00000°, δ57.00000°, λ80.00000°. NP2:φs12.00000°, δ35.00000°, λ105.00000°. Principal axes: T Plg76.0000°, Azm55.0000°; N Plg8.0000°, Azm180.0000°; P Plg11.0000°, Azm272.0000°;*
JMA Felt III J1.
*MOS **25** 03:23:53.8±0.9, 45°.90N×141°.78E, h26km, mb5.7/77, MS5.1/30 Error ellipse: s-maj=5.6km s-min=3.5km az=108.7*
MOS Felt (IV) at Shebunino; (III-IV) at Gornozavodsk, Aniva; (III) at Taranay, Nevel'sk; (II-III) at Pravda, Korsakov, Yuzhno-Sakhalinsk, Kholmsk, Uglezavodsk, Novikovo.
*ISCJB **25** 03:23:54.1±0.5, 45°.89N±0°.01×141°.81E±0°.02, h29km±3km, mb5.5/177, MS5.0/73, Error ellipse: s-maj=2.5km s-min=2.0km az=166.2*
*IDC **25** 03:23:54.8±0.5, 45°.89N×141°.88E, h21km±2km, mb5.0/41, mb1 5.1/48, mb1mx5.1/49, mbtmp5.2/48, ML4.9/6, MS4.6/37, Ms1 4.6/37, ms1mx4.5/46, Error ellipse: s-maj=8.9km s-min=8.6km az=27.0*
*NEIC **25** 03:23:54.5±2.2, 45°.87N±0°.04×141°.73E±0°.07, h20km±2km, mb5.6/484, Ms_20 4.8/125, Mwb5.1, Mwc5.2(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr4.42; Mθθ1.00; Mφφ-5.42; Mrθ0.99; Mθφ0.79; Mφr-1.43; Fault plane solution: M0:5.35000×10^16 NP1:φs5.91000°, δ37.76000°, λ109.57000°. NP2:φs161.70000°, δ54.76000°, λ75.45000°. Principal axes: T 4.8285, Plg75.0000°, Azm28.0000°; N 0.9202, Plg12.0000°, Azm170.0000°; P -5.7487, Plg9.0000°, Azm262.0000°;*
*GCMT **25** 03:23:57.5±0.1, 45°.93N±0°.01×141°.63E±0°.01, h21km, MW5.2/121, Moment Tensor Solution. s101,c161; s121,c210; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.71±.01; Mθθ-0.02±.01; Mφφ-0.68±.01; Mrθ-0.07±.02; Mθφ0.15±.01; Mφr-0.40±.02; Best double couple: M0:0.82000×10^17 NP1:φs179.00000°, δ60.00000°, λ101.00000°. NP2:φs337.00000°, δ32.00000°, λ72.00000°. Principal axes: T 0.8270, Plg73.0000°, Azm116.0000°; N -0.0140, Plg10.0000°, Azm353.0000°; P -0.8130, Plg14.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 03:23:58, 45°.89N×141°.66E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr7.78; Mθθ-0.44; Mφφ-7.34; Mrθ0.90; Mθφ1.43; Mφr-2.83; Fault plane solution: M0:8.26000×10^16 NP1:φs167.00000°, δ56.00000°, λ88.00000°. NP2:φs351.00000°, δ35.00000°, λ94.00000°. Principal axes: T 8.3385, Plg79.0000°, Azm67.0000°; N -0.1673, Plg2.0000°, Azm168.0000°; P -8.1711, Plg10.0000°, Azm258.0000°;*

ISC 25 03:23:55.1±0.3, 45°.86N±0°.02×141°.80E±0°.02, h24km±1km, h24km:pP-P, n1403, σ1s20/1270, mb5.6/392, MS4.9/126, 83C-39D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.55**	**173**	⇑P	**Pb**	**03 24 05.4**	**-0.6**
JWK2				*e*S	**Sb**	**03 24 14.0**	**+0.6**
JRBN	**Rebuntou**	**0.67**	**230**	⇓P	**Pb**	**03 24 06.6**	**-1.5**
JRBN				*e*S	**Sb**	**03 24 15.9**	**-1.1**
JRR	**Rishiri**	**0.80**	**206**	⇓P	**Pb**	**03 24 09.5**	**-0.7**
JRR				*e*S	**Sn**	**03 24 21.4**	**-0.5**
JSE	**Soyaes**	**1.05**	**148**	⇓P	**Pn**	**03 24 13.1**	**-1.2**
JSE				*e*S	**Sb**	**03 24 27.4**	**-0.6**
YSS	**Yuzh-Sakhalins**	**1.28**	**31**	*o*ePN	**Pn**	**03 24 17.6**	**+0.1**
YSS				*e*S	**Sb**	**03 24 35.0**	**+0.5**
YSS				pmax	pmax		
comp=Z,25μm,0.5s							
YSS				smax	smax		
comp=N,203μm,0.6s							
YSS				smax	smax		
comp=E,130μm,0.7s							
YSS	**Yuzh-Sakhalins**	**1.28**	**31**	⇑*i*Pg	**Pn**	**03 24 17.4**	**-0.1**
YSS				AMB	AMB	03 24 18.7	
comp=E,25μm,0.5s							
YSS				*e*Sg	**Sb**	**03 24 35.0**	**+0.5**
YSS				A	A	03 24 36.8	
comp=E,95μm,0.6s							
YSS				AMS	AMS	03 24 51.0	
comp=E,84μm,9.0s							
YSS				AMS	AMS	03 24 51.0	
comp=E,85μm,9.0s							
YSS				AMS	AMS	03 24 51.0	
comp=E,54μm,9.0s							
YSS	**Yuzh-Sakhalins**	**1.28**	**31**		**Pb**	**03 24 18.0**	**-0.5**
JYG	**Yagishiri**	**1.46**	**191**	⇑P	**Pn**	**03 24 19.0**	**-0.8**
JYG				*e*S	**Sn**	**03 24 38.2**	**+0.1**
JSS	**Shosan**	**1.46**	**178**	⇑P	**Pn**	**03 24 19.3**	**-0.6**
JSS				*e*S	**Sn**	**03 24 38.5**	**+0.3**
ASAJ	**Asahikawa**	**1.83**	**162**	⇑P	**Pn**	**03 24 24.7**	**-0.3**
ASAJ	**Asahikawa**	**1.83**	**162**	Pn	**Pn**	**03 24 24.8**	**-0.3**
comp=E,854nm,0.3s,baz=322,slow=15,SNR=1011							
ASAJ				Sn	**Sn**	**03 24 48.2**	**+0.8**
comp=E,784nm,0.3s,baz=110,slow=33,SNR=23							
ASAJ				LR	LR	03 25 17.3	
comp=E,17μm,19.2s,baz=85,slow=45							
JKA	**Kamikawa-asahi**	**1.83**	**162**		**Pn**	**03 24 24.8**	**-0.3**
JKA					**Sn**	**03 24 48.2**	**+0.7**
JKK2	**Kamakawa 2**	**2.10**	**161**	⇑P	**Pn**	**03 24 28.7**	**0.0**
JMP	**Maruseppu**	**2.16**	**149**	⇑P	**Pn**	**03 24 28.8**	**-0.7**
JTKR	**Abashiri--Toko**	**2.41**	**141**	P	**Pn**	**03 24 32.3**	**-0.7**
JAR	**Ashorobuto**	**2.92**	**150**	⇑P	**Pn**	**03 24 40.1**	**+0.1**
JRA	**Rausu**	**3.04**	**128**	⇑P	**Pn**	**03 24 41.4**	**-0.3**
JNK	**Nakash**	**3.08**	**136**	P	**Pn**	**03 24 41.7**	**-0.5**
JNSB	**Nemuroshibetsu**	**3.09**	**131**	⇑P	**Pn**	**03 24 42.4**	**+0.1**
UGL	**Uglegorsk**	**3.23**	**3**	*e*PN	**Pn**	**03 24 44.3**	**+0.1**
UGL				pmax	pmax		
comp=Z,3μm,0.6s							
UGL				MLR	MLR		
comp=Z,27μm,15.0s							
UGL				MLR	MLR		
comp=N,35μm,13.0s							
GRPR	**Tuman**	**3.38**	**122**	⇑*i*PN	**Pn**	**03 24 46.5**	**+0.2**
GRPR				*i* S	**Sn**	**03 25 26.8**	**+1.1**
GRPR				pmax	pmax		
comp=N,813nm,0.3s							
GRPR				pmax	pmax		
comp=Z,2μm,0.3s							
GRPR				pmax	pmax		
comp=E,1μm,0.4s							
GRPR				smax	smax		
comp=E,2μm,0.7s							
GRPR				smax	smax		
comp=N,3μm,0.6s							
GLVR	**Golovnino**	**3.39**	**127**	*c i*PN	**Pn**	**03 24 47.1**	**+0.7**
GLVR				*e*S	**Sn**	**03 25 26.5**	**+0.6**
GLVR				pmax	pmax		
comp=Z,5μm,0.3s							
GLVR				pmax	pmax		
comp=E,635nm,0.5s				

comp=E,17nm,0.8s
NKL pmax pmax
comp=Z,142nm,0.8s
NKL MLR MLR
comp=E,3μm,13.0s
NKL MLR MLR
comp=Z,7μm,14.0s
KLR Kul'dur 7.59 300 *i* PN **Pn 03 25 44.4 +0.3**
KLR Kul'dur 7.59 300 Pn **Pn 03 25 45.2 +1.1**
comp=Z,5.5nm,0.3s,baz=120,slow=14,SNR=91
KLR Sn **Sn 03 27 07.3 -2.0**
comp=Z,47nm,0.3s,baz=279,slow=15,SNR=22
KLR Lg Lg 03 27 59.4
comp=Z,11nm,0.3s,baz=14,slow=21,SNR=7.7
KLR LR LR 03 28 58.9
comp=Z,7μm,18.9s,baz=120,slow=40
VLA Vladivostok 7.60 252 *i* PN **Pn 03 25 46.2 +2.0**
OKH Okha 7.74 5*d i* PN Pn 03 25 52.4 +6.3
OKH pmax pmax
comp=Z,300nm,9.7s
OKH MLR MLR
comp=Z,10μm,15.0s
MSHR Mys Shultsa 8.31 251 *i* PN **Pn 03 25 55.5 +1.4**
MDJ Mudanjiang 8.71 266 P **Pn 03 26 02.0 +2.6**
MDJ pP 03 26 08.8
MDJ sP 03 26 13.4
MDJ pmax pmax
comp=Z,41nm,0.5s
MDJ pmax pmax
comp=Z,630nm,5.5s
MDJ LR LR
comp=Z,11μm,11.7s
MDJ LR LR
comp=Z,14μm,14.7s
MDJ LR LR
comp=Z,22μm,14.5s
MDJ Mudanjiang 8.71 266 Pn 03 26 02.0 +2.6
MJB9 Matsu-Tunnel 9.69 197 Pn 03 26 16.2 +3.2
MAJO Matsushiro 9.69 197 *i* PN **Pn 03 26 15.4 +2.4**
MAJO Matsushiro 9.69 197 Pn 03 26 15.3 +2.3
MAT Matsushiro 9.69 197 P **Pn 03 26 11.8 -1.2**
MAT S **Sn 03 28 03.6 +2.6**
MJAR Matsushiro Arr 9.69 197 PN **Pn 03 26 14.9 +1.9**
MJAR Matsushiro Arr 9.69 197 Pn **Pn 03 26 16.4 +3.4**
comp=Z,0.6nm,0.3s,baz=1.3,slow=13,SNR=55
MJAR LR LR 03 29 58.9
comp=Z,3μm,19.7s,baz=0.0,slow=37
MJAR Matsushiro Arr 9.69 197 Pn 03 26 14.9 +1.9
SKR Severo-Kuril's 10.69 58 *e*PN **Pn 03 26 29.0 +2.4**
SKR *e*S Sn 03 28 37.4 +12
SKR pmax pmax
comp=Z,300nm,6.5s
SKR pmax pmax
comp=Z,114nm,0.7s
SKR pmax pmax
comp=Z,600nm,4.4s
SKR MLR MLR
comp=Z,4μm,15.0s
SKR MLR MLR
comp=Z,4μm,16.0s
INU Inuyama 11.11 201 Pn 03 26 34.0 +1.6
CN2 Changchun 11.79 266 *e*P **Pn 03 26 45.1 +3.4**
CN2 *e*S **Sn 03 28 54.9 +2.4**
CN2 pmax pmax
comp=Z,140nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,10μm,14.0s
CN2 LR LR
comp=Z,13μm,14.0s
CN2 LR LR
comp=Z,18μm,15.0s
ZEA Zeya 12.25 315 *e*PN **Pn 03 26 49.7 +1.8**
ZEA *e*S Sn 03 29 13.0 +9.4
ZEA pmax pmax
comp=E,65nm,1.2s
ZEA pmax pmax
comp=N,93nm,1.4s
ZEA pmax pmax
comp=Z,110nm,1.4s
ZEA pmax pmax
comp=Z,600nm,8.0s
ZEA smax smax
comp=N,600nm,8.0s
ZEA MLR MLR
comp=Z,15μm,13.0s
ZEA MLR MLR
comp=E,9μm,14.0s
ZEA MLR MLR
comp=N,11μm,12.0s
PEA0B Petropavlovsk- 12.61 49 PN **Pn 03 26 54.2 +1.3**
PEA0B Petropavlovsk- 12.61 49 Pn 03 26 54.1 +1.3
PETK Petropavlovsk- 12.61 49 PN **Pn 03 26 55.7 +2.8**
PETK Petropavlovsk- 12.61 49 Pn **Pn 03 26 56.6 +3.8**
comp=N,2.0nm,0.3s,baz=225,slow=8.2,SNR=31
PETK Sn **Sn 03 29 15.4 +3.0**
comp=N,0.8nm,0.3s,baz=214,slow=9.8,SNR=6.1
PETK LR LR 03 31 57.9
comp=N,3μm,19.0s,baz=239,slow=38
PETK PcP **PcP 03 32 29.4 -0.4**
comp=N,0.2nm,0.3s,baz=118,slow=3.4,SNR=4.9
PETK Petropavlovsk- 12.61 49 Pn 03 26 55.6 +2.8
PETK **Sn 03 29 13.8 +1.4**
JHJ Hachijo jima 2 12.82 188 Pn **Pn 03 26 57.3 +1.6**
comp=N,14nm,0.3s,baz=208,slow=14,SNR=4.4
JHJ LR LR 03 31 35.6
comp=N,1μm,20.7s,baz=31,slow=36
PET Petropavlovsk 13.08 51 *e*PN **Pn 03 27 03.8 +4.6**
PET pmax pmax
comp=Z,72nm,1.2s
PET pmax pmax
comp=Z,1μm,9.9s
PET MLR MLR
comp=Z,6μm,15.0s
PET MLR MLR
comp=Z,7μm,15.0s
PET Petropavlovsk 13.08 51 Pn **P 03 27 05.0 -4.3**
KS19 Wonju Array Si 13.33 236 Pn 03 27 03.7 +1.0
KSRS Korea Array 13.33 236 Pn **P 03 27 07.7 -4.5**
comp=Z,2.1nm,0.3s,baz=47,slow=13,SNR=19
KSRS LR LR 03 31 32.9
comp=Z,3μm,18.4s,baz=69,slow=34
KSRS PcP **PcP 03 32 31.4 +0.5**
comp=Z,0.2nm,0.3s,baz=88,slow=2.4,SNR=5.4
KSRS ScP **ScP 03 36 02.8 +0.2**
comp=Z,0.2nm,0.3s,baz=126,slow=1.7,SNR=5.0
SNY Shenyang 13.75 259 ⇓P **Pn 03 27 11.0 +2.6**
SNY pmax pmax
comp=Z,710nm,5.3s
SNY LR LR
comp=Z,12μm,11.9s
SNY LR LR
comp=Z,11μm,13.1s
SNY LR LR
comp=Z,16μm,12.0s
MA2 Magadan 14.75 18 *i* P **Pn 03 27 23.3 +1.3**
MA2 Magadan 14.75 18 Pn **Pn 03 27 24.3 +2.3**
comp=Z,2.3nm,0.3s,baz=191,slow=13,SNR=4.6
MA2 Magadan 14.75 18 Pn 03 27 24.1 +2.1
JNU Nakatsue 15.24 217 Pn **P 03 27 31.1 -2.3**
comp=Z,0.6nm,0.3s,baz=8.9,slow=11,SNR=5.9
JNU LR LR 03 32 58.8
comp=Z,3μm,18.3s,baz=32,slow=36
JNU Nakatsue 15.24 217 Pn 03 27 27.0 -1.6
HIA Hailar 15.26 291 *i* P **Pn 03 27 29.8 +0.9**
HIA Hailar 15.26 291 P **P 03 27 31.3 -2.3**
HIA IAmb IAmb 03 27 40.3
comp=Z,375nm,1.7s
DL2 Dalian 16.42 252 P **P 03 27 47.0 +0.6**
DL2 S **S 03 30 51.5 -5.5**
DL2 pmax pmax
comp=Z,59nm,0.9s
DL2 pmax pmax
comp=Z,990nm,5.1s
DL2 LR LR
comp=Z,4μm,11.1s
DL2 LR LR
comp=Z,7μm,11.3s
DL2 LR LR
comp=Z,7μm,10.7s
YAK Yakutsk 17.65 341 *e*P **Pn 03 27 59.3 +0.3**
YAK *e*S **Sn 03 31 13.5 -1.2**
YAK pmax pmax
comp=Z,102nm,0.9s
YAK pmax pmax
comp=N,129nm,1.3s
YAK pmax pmax
comp=E,48nm,1.4s
YAK smax smax
comp=E,521nm,4.3s
YAK smax smax
comp=N,413nm,3.5s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,744nm,15.0s
YAK Yakutsk 17.65 341 P **P 03 27 59.7 -0.2**
comp=E,0.3nm,0.3s,baz=40,slow=3.6,SNR=26
YAK Yakutsk 17.65 341 P **Pn 03 27 59.4 +0.3**
SEY Seymchan 18.14 16*c i*P **P 03 28 05.5 +0.3**
SEY Seymchan 18.14 16 P **P 03 28 07.9 +2.6**
comp=E,12nm,0.3s,baz=197,slow=8.3,SNR=162
JCJ Chichijima 18.73 179 P **P 03 28 11.4 -0.6**
comp=E,4.0nm,0.3s,baz=264,slow=10,SNR=4.6
JCJ LR LR 03 37 28.5
comp=E,546nm,21.0s,baz=9.0,slow=43
CIT Chita 19.48 299 *e*P **Pn 03 28 22.4 +1.0**
CIT pmax pmax
comp=Z,2μm,1.1s
BJI Beijing 19.59 262⇑*i*P **Pn 03 28 23.4 +0.6**
BJI sP **sP 03 28 33.8 +2.9**
BJI S **Sn 03 32 01.8 -0.2**
BJI pmax pmax
comp=Z,31nm,1.0s
BJI pmax pmax
comp=Z,420nm,4.1s
BJI LR LR
comp=Z,4μm,12.9s
BJT Baijiatuau 19.61 262 P **Pn 03 28 23.5 +0.5**
BJT pmax pmax
comp=Z,94nm,1.0s
BJT Baijiatuau 19.61 262 Pn 03 28 23.5 +0.5
BOD Bodaibo 20.76 315 *e*P **P 03 28 34.2 +0.3**
BOD pmax pmax
comp=Z,167nm,1.4s
TIA Tai'an 20.89 251 P Pn 03 28 39.1 +1.1
TIA PP **PnPn 03 28 58.1 +4.0**
TIA S **S 03 32 29.5 +2.3**
TIA pmax pmax
comp=Z,48nm,1.1s
TIA LR LR
comp=Z,2μm,11.6s
TIA LR LR
comp=Z,3μm,12.0s
TIA LR LR
comp=Z,4μm,11.2s
JOW Kunigami 21.83 214 P **P 03 28 47.2 +1.6**
comp=Z,4.6nm,0.8s,baz=109,slow=14,SNR=4.2
SMY Shemya 22.02 60 P **P 03 28 48.5 +1.0**
SMY pmax pmax
comp=Z,511nm,1.2s
SMY Shemya 22.02 60 P **P 03 28 48.5 +1.0**
NJ2 Nanjing 22.45 240 *e*P **P 03 28 52.3 +0.1**
NJ2 pP **pP 03 28 58.9 +0.1**
NJ2 S **S 03 33 01.0 +3.7**
NJ2 sS Sn 03 33 12.3 +1.7
NJ2 pmax pmax
comp=Z,36nm,0.8s
NJ2 pmax pmax
comp=Z,810nm,4.4s
NJ2 LR LR
comp=Z,5μm,15.2s
NJ2 LR LR
comp=Z,4μm,12.8s
NJ2 LR LR
comp=Z,6μm,13.3s
HHC Hu-ho-hao-te 22.47 268 *e*P **P 03 28 52.9 +0.3**
TIY Taiyuan 23.26 260 *e*P **P 03 29 01.9 +1.2**
TIY S **S 03 33 09.8 -1.8**
TIY SS **SnSn 03 33 54.8 +8.6**
TIY ScS **ScS 03 40 08.5 -1.8**
TIY LR LR
comp=Z,2μm,13.2s
TIY LR LR
comp=Z,3μm,15.1s
TIY LR LR
comp=Z,3μm,17.0s
BTO Baotou 23.65 269 *e*P **P 03 29 04.0 -0.5**
BTO *e*pP **pP 03 29 11.0 -0.4**
BTO S **S 03 33 12.5 -5.3**
ULN Ulaanbaatar 23.73 287 P **P 03 29 05.6 +0.3**
SNR=17
ULN Ulaanbaatar 23.73 287*ce*P **P 03 29 05.3 0.0**
ULN pmax pmax
comp=Z,31nm,1.3s
ULN MLR MLR
comp=Z,5μm,15.0s
ULN Ulaanbaatar 23.73 287 P **P 03 29 05.6 +0.3**
ULN Ulaanbaatar 23.73 287 IAMs_20 IAMs_20 03 39 24.6
comp=Z,4μm,18.0s
SONM Songino Array 24.17 288 P **P 03 29 09.8 +0.3**
comp=Z,16nm,0.8s,baz=82,slow=8.0,SNR=47
SONM LR LR 03 38 02.6
comp=Z,665nm,21.6s,baz=84,slow=35
IRK Irkutsk 25.20 298 *e*P **P 03 29 19.1 +0.5**
IRK pmax pmax
comp=Z,388nm,0.5s
BILL Bilibino 25.58 21*c i*P **P 03 29 21.6 -0.3**
BILL *e* 03 29 59.3
BILL pmax pmax
comp=Z,29nm,1.0s
BILL MLR MLR
comp=Z,5μm,17.0s
BILL Bilibino 25.58 21 P **P 03 29 21.4 -0.4**
TLY Talaya 25.60 297 P **P 03 29 23.0 +0.8**
SNR=19
TLY Talaya 25.60 297*c i*P **P 03 29 22.7 +0.5**
TLY *e* 03 30 00.5
TLY *e*S **S 03 33 53.0 +4.3**
TLY *e*SS SnSn 03 35 03.0 +20
TLY pmax pmax
comp=Z,144nm,1.0s
TLY MLR MLR
comp=Z,17μm,12.0s
TLY Talaya 25.60 297 P **P 03 29 23.1 +0.9**
comp=Z,31nm,0.8s,baz=100,slow=6.2,SNR=24
TLY Talaya 25.60 297 P **P 03 29 22.4 +0.1**
ZAK Zakamensk 25.90 294 *e*P **P 03 29 25.2 +0.1**
ZAK pmax pmax
comp=Z,125nm,1.3s
WHN Wuhan 26.27 244 P **P 03 29 28.5 +0.1**
WHN S **S 03 34 03.0 +3.5**
WHN LR LR
comp=Z,5μm,12.4s
WHN LR LR
comp=Z,4μm,13.1s
WHN LR LR
comp=Z,5μm,12.4s
TIXI Tiksi 26.60 351*ce*P **P 03 29 30.5 -0.5**
TIXI pmax pmax
comp=Z,44nm,1.7s
TIXI MLR MLR
comp=Z,2μm,16.0s
TIXI Tiksi 26.60 351 P **P 03 29 30.4 -0.6**
comp=Z,16nm,0.6s,baz=159,slow=7.2,SNR=21
TIXI Tiksi 26.60 351 P **P 03 29 30.4 -0.6**
TIXI IAMs_20 IAMs_20 03 41 31.9
comp=Z,2μm,18.0s
MOY Mondy 27.25 297 *e*P **P 03 29 37.6 +0.4**
MOY pmax pmax
comp=Z,117nm,1.7s
XAN Xi'an 27.64 256 P **P 03 29 41.3 +0.5**
XAN pP pP 03 29 48.5 +0.7
XAN sP sP 03 29 52.0 +1.2
XAN pmax pmax
comp=Z,13nm,1.0s
XAN pmax pmax
comp=Z,130nm,5.7s
XAN LR LR
comp=Z,6μm,15.2s
XAN LR LR
comp=Z,3μm,17.1s
XAN LR LR
comp=Z,6μm,15.2s
XAN Xi'an 27.64 256 P **P 03 29 41.4 +0.6**
XAN pmax pmax
comp=Z,49nm,1.3s
XAN MLR MLR
comp=Z,2μm,21.0s
XAN Xi'an 27.64 256 P **P 03 29 41.4 +0.6**
XAN Xi'an 27.64 256 IAMs_20 IAMs_20 03 41 22.6
comp=Z,2μm,21.0s
ADK Adak 27.67 62 P **P 03 29 40.3 -0.6**
ADK pmax pmax
comp=Z,251nm,1.0s
ADK Adak 27.67 62 P **P 03 29 40.3 -0.6**
ENH Enshi 29.57 250 P **P 03 29 57.3 -0.8**
LZH Lanzhou 30.03 265 ⇑P **P 03 30 03.4 +1.2**
LZH pP pP 03 30 10.3 +1.1
LZH PP **PnPn 03 31 01.6 +2.5**
LZH S **S 03 34 58.3 -0.7**
LZH sS sS 03 35 12.9 +2.3
LZH pmax pmax
comp=Z,160nm,1.4s
LZH pmax pmax
comp=Z,590nm,5.3s
LZH LR LR
comp=Z,3μm,13.6s
LZH LR LR
comp=Z,7μm,13.5s
LZH LR LR
comp=Z,6μm,16.4s
GTA Gaotai 31.27 273 ⇑P **P 03 30 13.9 +0.8**
GTA pP sP 03 30 24.8 +1.7
GTA sP pP 03 30 29.8 +10
GTA PcP **PcP 03 33 08.1 +1.1**
GTA S **S 03 35 20.0 +1.6**
GTA sS sS 03 35 39.8 +10
GTA ScP **ScP 03 36 49.0 +0.7**
GTA PcS **PcS 03 36 53.1 +1.8**
GTA ScS **ScS 03 40 42.1 -3.7**
GTA pmax pmax
comp=Z,28nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.1s
GTA LR LR
comp=Z,2μm,11.0s
GTA LR LR
comp=Z,3μm,13.1s
GTA LR LR
comp=Z,5μm,12.4s
GUMO Guam 32.27 174 LR LR 03 43 33.8
comp=Z,597nm,20.7s,baz=8.5,slow=36
CD2 Chengdu 33.00 257⇑*i*P **P 03 30 28.9 +0.7**
CD2 pP pP 03 30 35.8 +0.5
CD2 S **S 03 35 45.4 +0.1**
CD2 ScS **ScS 03 40 51.5 -3.1**
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,150nm,4.7s
CD2 LR LR
comp=Z,5μm,14.7s
CD2 LR LR
comp=Z,3μm,14.9s
CD2 LR LR
comp=Z,6μm,15.8s
ANM Nome 34.16 38 IAmb IAmb 03 30 39.5
comp=Z,57nm,1.0s
ANM IAMs_20 IAMs_20 03 45 49.7
comp=Z,1μm,19.0s
NRIK Noril'sk 35.55 330 P **P 03 30 50.5 +0.7**
comp=Z,11nm,0.6s,baz=109,slow=10,SNR=25
NRIK LR LR 03 46 25.6
comp=Z,2μm,18.1s,baz=100,slow=38
RDOG Red Dog Mine 35.67 32 P **P 03 30 50.6 -0.3**
RDOG IAmb IAmb 03 30 51.8
comp=Z,160nm,1.6s
RDOG **PcP 03 33 19.9 +1.2**
RDOG IAMs_20 IAMs_20 03 47 17.4
comp=Z,1μm,19.0s
DGZ Jazzator, Alta 36.07 296*c i*P **P 03 30 55.6 +0.9**
ZAA0 Zalesovo Array 36.67 304 IAmb IAmb 03 31 08.4
comp=Z,64nm,0.9s
ZALV Zalesovo Beam 36.67 304 P **P 03 30 59.5 -0.1**
comp=Z,48nm,0.8s,baz=85,slow=8.2,SNR=126
ZALV pP **pP 03 31 06.2 -0.6**
comp=Z,38nm,0.7s,baz=81,slow=6.5,SNR=19
ZALV PcP **PcP 03 33 21.9 -0.1**
comp=Z,16nm,0.8s,baz=78,slow=2.6,SNR=7.5
ZALV ScP **ScP 03 37 06.5 -0.5**
comp=Z,1.0nm,0.5s,baz=82,slow=3.1,SNR=3.6
ZALV LR LR 03 47 44.0
comp=Z,693nm,21.2s,baz=80,slow=39
KMI Kunming 37.45 250 P **P 03 31 07.9 +1.1**
KMI pP pP 03 31 14.5 +0.6
KMI S **S 03 36 54.0 0.0**
KMI pmax pmax
comp=Z,71nm,0.8s
KMI LR LR
comp=Z,2μm,13.3s
KMI LR LR
comp=Z,1μm,14.1s
KMI LR LR
comp=Z,2μm,13.6s
KMI Kunming 37.45 250 IAmb IAmb 03 31 17.2
comp=Z,120nm,1.1s
KMI Kunming 37.45 250 IAMs_20 IAMs_20 03 48 37.5
comp=Z,2μm,19.0s
QIZ Qiongzhong 37.56 235 P **P 03 31 08.3 +0.8**
QIZ pP **sP 03 31 16.8 -0.7**
QIZ S **S 03 36 56.6 +1.3**
QIZ sS **ScP 03 37 10.4 -0.4**
QIZ pmax pmax
comp=Z,380nm,3.3s
QIZ LR LR
comp=Z,1μm,12.3s
QIZ LR LR
comp=Z,1μm,14.7s
QIZ LR LR
comp=Z,2μm,14.7s
QIZ Qiongzhong 37.56 235 P **P 03 31 10.4 +3.0**
QIZ IAmb IAmb 03 31 18.5
comp=Z,144nm,1.2s
TTA Tatalina 38.26 41 P **P 03 31 12.2 -0.8**
TTA pmax pmax
comp=Z,45nm,1.2s
TTA MLR MLR
comp=Z,900nm,20.0s
TTA Tatalina 38.26 41 P **P 03 31 12.2 -0.8**
SVW2 Sparrevohn 38.62 44 P **P 03 31 16.3 +0.3**
IMAR Indian Mountai 39.11 36 P **P 03 31 19.5 -0.5**
IMAR PcP **PcP 03 33 30.5 +1.3**
SLVN Son La 39.39 244 P **P 03 31 24.4 +1.4**
CAST Castle Rocks 40.00 40 P **P 03 31 27.4 -0.1**
PPLA Purkeypile 40.01 41 P **P 03 31 28.5 +0.8**
PPLA IAmb IAmb 03 31 29.5
comp=Z,200nm,1.7s
RSO Redoubt South 40.08 44 P **P 03 31 28.9 +0.5**
MK31 Makanchi Array 40.24 294 *i* P **P 03 31 29.5 -0.2**
MK31 pmax pmax
comp=Z,67nm,0.7s
MKAR Makanchi Array 40.24 294 P **P 03 31 29.8 0.0**
comp=Z,56nm,0.7s,baz=80,slow=8.7,SNR=295
MKAR PcP **PcP 03 33 33.2 -0.1**
comp=Z,1.5nm,0.3s,baz=72,slow=5.2,SNR=13
MKAR LR LR 03 47 19.2
comp=Z,281nm,20.9s,baz=73,slow=35
MKAR Makanchi Array 40.24 294 P **P 03 31 30.0 +0.2**
BPAW Bear Paw Mtn. 40.41 39 PcP 03 33 34.0 +0.6
BPAW IAMs_20 IAMs_20 03 49 27.9
comp=Z,1μm,20.0s
MLY Manley 40.42 37 P **P 03 31 30.6 -0.4**
MLY PcP **PcP 03 33 34.4 +0.9**
MLY IAMs_20 IAMs_20 03 50 37.1
comp=Z,2μm,18.0s
COLD Coldfoot 40.47 34 IAMs_20 IAMs_20 03 50 55.3
comp=Z,1μm,18.0s
KTH Kantishna Hill 40.50 39 IAmb IAmb 03 31 33.0
comp=Z,104nm,1.0s
TOLK Toolik Lake Re 40.64 32 P **P 03 31 32.1 -0.6**
baz=272,SNR=47
TOLK Toolik Lake Re 40.64 32 P **P 03 31 32.2 -0.6**
TOLK IAmb IAmb 03 31 33.5
comp=Z,111nm,1.2s
TOLK PcP **PcP 03 33 34.9 +0.7**
TOLK IAMs_20 IAMs_20 03 50 43.7
comp=Z,2μm,19.0s
KDAK Kodiak Island 40.66 48 *i* P **P 03 31 32.0 -1.0**
TRF Thorofare Moun 40.79 40 IAMs_20 IAMs_20 03 48 54.2
comp=Z,1μm,20.0s
SUA Susitna One 40.88 43 P **P 03 31 33.3 -1.6**
BWN Browne 41.06 38 IAMs_20 IAMs_20 03 49 48.1
comp=Z,1μm,20.0s

NEA	Nenana	41.17	38	P	P	03 31 37.2	+0.1
NEA				IAmb	IAmb	03 31 37.9	
	comp=Z,88nm,0.9s						
NEA				IAMs_20	IAMs_20	03 50 26.2	
	comp=Z,2μm,19.0s						
KURK	Kurchatov	41.19	301	P	P	03 31 37.5	0.0
	SNR=45						
KURK	Kurchatov	41.19	301	P	P	03 31 37.4	0.0
KURK						03 33 36.4	
KURK				pmax	pmax		
	comp=Z,97nm,0.9s						
KURK				MLR	MLR		
	comp=Z,2μm,18.0s						
KURK	Kurchatov	41.19	301	P	P	03 31 37.4	0.0
KURK				IAmb	IAmb	03 31 46.0	
	comp=Z,97nm,0.8s						
KURBB	Kurchatov Arra	41.27	300	P	P	03 31 38.0	-0.1
	comp=Z,78nm,0.8s,baz=70,slow=9.0,SNR=182						
KURBB				pP	pP	03 31 44.8	-0.5
	comp=Z,56nm,0.7s,baz=68,slow=8.3,SNR=18						
KURBB				PcP	PcP	03 33 36.4	0.0
	comp=Z,6.8nm,0.7s,baz=75,slow=3.0,SNR=5.0						
MCK	McKinley	41.35	39	IAMs_20	IAMs_20	03 50 08.6	
	comp=Z,1μm,20.0s						
RC01	Rabbit Creek A	41.43	43	P	P	03 31 38.9	-0.3
WRH	Wood River Hil	41.61	38	P	P	03 31 39.3	-1.4
WRH				PcP	PcP	03 33 36.6	-0.7
WRH				IAMs_20	IAMs_20	03 50 49.7	
	comp=Z,2μm,18.0s						
PMR	Palmer	41.62	42	P	P	03 31 40.3	-0.5
PMR				pmax	pmax		
	comp=Z,21nm,0.9s						
PMR	Palmer	41.62	42	P	P	03 31 40.3	-0.5
TCOL	CIGO, UAF Yank	41.65	37	P	P	03 31 40.9	-0.1
	baz=278,SNR=31						
COLA	College	41.66	37c	iP	P	03 31 40.7	-0.4
COLA				pmax	pmax		
	comp=Z,112nm,1.0s						
COLA				MLR	MLR		
	comp=Z,2μm,17.0s						
COLA	College	41.66	37	P	P	03 31 41.0	-0.1
COLA				IAmb	IAmb	03 31 42.0	
	comp=Z,127nm,0.9s						
COLA	College	41.66	37	IAMs_20	IAMs_20	03 51 08.8	
	comp=Z,2μm,19.0s						
GHO	Glory Hole Cre	41.68	42	IAmb	IAmb	03 31 41.9	
	comp=Z,103nm,0.9s						
CCB	Clear Creek Bu	41.71	38	IAMs_20	IAMs_20	03 50 33.3	
	comp=Z,2μm,20.0s						
SEW	Seward	41.76	45	P	P	03 31 41.0	-0.9
SEW				IAMs_20	IAMs_20	03 50 41.0	
	comp=Z,1μm,18.0s						
POKR	Poker Plat Res	41.80	37	P	P	03 31 42.2	-0.1
	baz=278,SNR=19						
SML	Sawmill	41.95	42	IAmb	IAmb	03 31 44.2	
	comp=Z,92nm,1.0s						
KNK	Knik Glacier	41.97	42	IAmb	IAmb	03 31 44.3	
	comp=Z,82nm,1.0s						
ILAR	Eielson Array	42.08	37	P	P	03 31 43.5	-1.1
	comp=Z,41nm,0.8s,baz=279,slow=7.2,SNR=336						
ILAR				PcP	PcP	03 33 37.5	-1.4
	comp=Z,7.6nm,0.9s,baz=283,slow=4.3,SNR=5.7						
ILAR				ScP	ScP	03 37 26.6	-1.1
	comp=Z,0.7nm,0.8s,baz=251,slow=4.7,SNR=3.4						
ILAR				LR	LR	03 51 05.6	
	comp=Z,1μm,18.1s,baz=289,slow=39						
ILAR	Eielson Array	42.08	37	P	P	03 31 43.3	-1.3
HDA	Harding Lake	42.11	38	P	P	03 31 43.5	-1.3
	baz=279,SNR=20						
HDA	Harding Lake	42.11	38	IAmb	IAmb	03 31 44.9	
	comp=Z,172nm,1.9s						
HDA				IAMs_20	IAMs_20	03 50 46.0	
	comp=Z,2μm,20.0s						
NONG	Nongkai	42.30	242	P	P	03 31 48.4	+1.5
	comp=Z,1.2nm,1.4s						
LSA	Lhasa	42.43	266	P	P	03 31 50.0	+1.6
LSA	Lhasa	42.43	266	P	P	03 31 50.2	+1.8
LSA	Lhasa	42.43	266	IAMs_20	IAMs_20	03 50 45.3	
	comp=Z,1μm,18.0s						
FYU	Fort Yukon	42.49	34	IAmb	IAmb	03 31 49.2	
	comp=Z,98nm,1.0s						
FYU				IAMs_20	IAMs_20	03 51 56.7	
	comp=Z,992nm,18.0s						
PAX	Paxson	43.03	40	IAMs_20	IAMs_20	03 50 13.2	
	comp=Z,1μm,21.0s						
FID	Port Fidalgo	43.05	43	IAMs_20	IAMs_20	03 51 03.8	
	comp=Z,925nm,19.0s						
UBPT	Khong Chiam	43.06	237	P	P	03 31 54.3	+1.3
	comp=Z,26nm,1.1s						
UBPT	Khong Chiam	43.06	237	P	P	03 31 54.4	+1.4
RIDG	Independent Ri	43.14	39	IAMs_20	IAMs_20	03 51 48.3	
	comp=Z,2μm,18.0s						
PAYA	Payao	43.40	247	P	P	03 31 57.5	+1.7
	comp=Z,163μm,1.0s						
PDGK	Podgornoye	43.44	290	P	P	03 31 55.8	-0.3
PDGK				pmax	pmax		
	comp=Z,35nm,0.9s						
EYAK	Cordova Ski Ar	43.45	43	IAMs_20	IAMs_20	03 51 19.6	
	comp=Z,1μm,20.0s						
SCRK	Sand Creek	43.47	38	IAmb	IAmb	03 31 55.6	
	comp=Z,67nm,0.8s						
SCRK				IAMs_20	IAMs_20	03 51 28.8	
	comp=Z,1μm,19.0s						
DOT	Dot Lake	43.50	39	IAMs_20	IAMs_20	03 52 25.7	
	comp=Z,2μm,19.0s						
PHRA	Phrae	43.80	245	P	P	03 32 00.5	+1.5
	comp=Z,13nm,1.1s,comp=Z,2μm						
MENT	Mentasta	43.81	40	IAMs_20	IAMs_20	03 52 52.0	
	comp=Z,2μm,18.0s						
RAGM	Ragged Mountai	44.01	43	IAMs_20	IAMs_20	03 52 05.0	
	comp=Z,1μm,19.0s						
CMMT	Chiang Mai	44.39	247	P	P	03 32 04.8	+1.0
	comp=Z,42nm,1.0s,comp=Z,472nm						
CHTO	Chiang Mai	44.39	247	P	P	03 32 05.1	+1.4
	SNR=24						
CHTO	Chiang Mai	44.39	247	P	P	03 32 05.1	+1.4
	SNR=24						
CHTO	Chiang Mai	44.39	247	P	P	03 32 05.2	+1.4
CHTO				pmax	pmax		
	comp=Z,108nm,1.2s						
CHTO				MLR	MLR		
	comp=Z,200nm,19.0s						
CHTO	Chiang Mai	44.39	247	P	P	03 32 05.2	+1.4
CHTO				IAmb	IAmb	03 32 13.9	
	comp=Z,108nm,1.2s						
SHL	Shillong	44.48	260	P	P	03 32 05.0	+0.3
	SNR=44						
SHL	Shillong	44.48	260	P	P	03 32 04.9	+0.3
SHL				pmax	pmax		
	comp=Z,103nm,0.9s						
SHL	Shillong	44.48	260	P	P	03 32 04.9	+0.3
SHL				IAmb	IAmb	03 32 12.6	
	comp=Z,103nm,0.9s						
EGAK	Eagle	44.49	37	IAmb	IAmb	03 32 04.1	
	comp=Z,96nm,0.9s						
CRQM	Cirque	44.64	42	IAmb	IAmb	03 32 06.6	
	comp=Z,86nm,1.1s						
BCAR	Beaver Creek A	44.64	39	P	P	03 32 05.3	0.0
CM31	Chiang Mai Arr	44.65	247	P	P	03 32 07.2	+1.3
CM31				IAmb	IAmb	03 32 16.4	
	comp=Z,77nm,1.2s						
CMAR	Chiang Mai Arr	44.65	247	P	P	03 32 07.0	+1.2
	comp=Z,13nm,0.8s,baz=35,slow=7.3,SNR=54						
CMAR				pP	pP	03 32 13.5	+0.4
	comp=Z,24nm,0.9s,baz=29,slow=7.8,SNR=11						
CMAR				PcP	PcP	03 33 49.0	+0.7
	comp=Z,9.5nm,0.9s,baz=12,slow=3.4,SNR=6.4						
CMAR				LR	LR	03 51 38.0	
	comp=Z,242nm,18.4s,baz=34,slow=37						
CMAR	Chiang Mai Arr	44.65	247	P	P	03 32 06.7	+0.9
CHAI	Chaiyaphum	44.66	241	P	P	03 32 06.6	+0.7
	comp=Z,89μm,1.0s,comp=Z,742μm						
PBKT	Sadao Pong	44.78	243	P	P	03 32 08.0	+1.2
	comp=Z,18nm,0.9s,comp=Z,3μm						
PBKT	Sadao Pong	44.78	243	P	P	03 32 06.6	-0.2
TGL	Tana Glacier	44.78	42	IAMs_20	IAMs_20	03 50 58.8	
	comp=Z,937nm,21.0s						
BVAR	Borovoye Array	45.20	306	P	P	03 32 10.0	+0.1
	comp=Z,30nm,0.8s,baz=72,slow=9.7,SNR=134						
BVAR				pP	pP	03 32 16.8	-0.3
	comp=Z,24nm,0.7s,baz=84,slow=7.6,SNR=13						
BVAR				PcP	PcP	03 33 49.9	+0.2
	comp=Z,20nm,0.9s,baz=42,slow=4.6,SNR=6.5						
BVAR				ScP	ScP	03 37 41.1	+0.6
	comp=Z,1.9nm,0.8s,baz=64,slow=6.6,SNR=4.4						
BRVK	Borovoye	45.25	306	P	P	03 32 10.5	+0.3
	SNR=26						
BRVK	Borovoye	45.25	306	P	P	03 32 10.4	+0.2
BRVK				pmax	pmax		
	comp=Z,70nm,1.0s						
BRVK				MLR	MLR		
	comp=Z,1μm,19.0s						
BRVK	Borovoye	45.25	306	P	P	03 32 10.4	+0.2
BRVK				IAmb	IAmb	03 32 11.6	
	comp=Z,70nm,1.0s						
BRVK	Borovoye	45.25	306	IAMs_20	IAMs_20	03 52 52.1	
	comp=Z,1μm,19.0s						
KDJ	Kajisay	45.50	290	IAmb	IAmb	03 32 14.3	
	comp=Z,59nm,0.8s						
MHMT	Maesarieng	45.51	247	P	P	03 32 14.4	+1.7
	comp=Z,80nm,0.9s						
EPYK	Eagle Plains	45.87	34	P	P	03 32 14.8	-0.2
	baz=286,SNR=37						
EPYK	Eagle Plains	45.87	34	IAmb	IAmb	03 32 15.2	
	comp=Z,49nm,0.6s						
ULHL	Ulahol	46.07	290	P	P	03 32 17.8	+0.7
	SNR=7.5						
BOOM	Boomskoye usch	46.15	291	IAmb	IAmb	03 32 26.4	
	comp=Z,86nm,0.9s						
TKM2	Tokmak 2	46.17	291	iP	P	03 32 18.5	+0.6
TKM2				pmax	pmax		
	comp=Z,82nm,0.9s						
TKM2	Tokmak 2	46.17	291	P	P	03 32 18.3	+0.4
	SNR=79						
TAPN	Taplejung	46.25	266	eP	P	03 32 19.9	+1.1
	comp=Z,167nm,0.9s						
UMPA	Umpang Tak	46.38	245	P	P	03 32 22.8	+3.3
	comp=Z,117μm,1.1s						
UTHA	Uthaitani	46.49	244	P	P	03 32 22.2	+1.8
	comp=Z,100μm,1.1s,comp=Z,832μm						
TNTI	Ternate	46.66	200	P	P	03 32 20.7	-1.0
CHMS	Chumysh	46.69	292	P	P	03 32 22.1	+0.4
	SNR=6.5						
KBK	Karagaybulak	46.72	291	P	P	03 32 22.8	+0.7
	SNR=64						
USP	Ospenovka	46.73	292	P	P	03 32 22.6	+0.6
	SNR=45						
ODAN	Odare	46.78	265	eP	P	03 32 23.5	+0.6
	comp=Z,141nm,0.8s						
KZA	Kyzart	46.80	290	P	P	03 32 24.5	+1.4
	SNR=38						
FRU1	Bishkek	46.85	292	IAMs_20	IAMs_20	03 53 47.3	
	comp=Z,1μm,20.0s						
AAK	Ala-Archa	47.02	291	iP	P	03 32 25.0	+0.5
	SNR=21						
AAK	Ala-Archa	47.02	291	P	P	03 32 24.9	+0.4
	SNR=18						
AAK	Ala-Archa	47.02	291	P	P	03 32 25.0	+0.5
AAK						03 33 56.3	
AAK				pmax	pmax		
	comp=Z,56nm,1.4s						
AAK				MLR	MLR		
	comp=Z,800nm,20.0s						
AAK	Ala-Archa	47.02	291	P	P	03 32 24.9	+0.4
	comp=Z,12nm,0.6s,baz=101,slow=5.6,SNR=27						
AAK				pP	pP	03 32 31.7	-0.2
	comp=Z,14nm,0.8s,baz=56,slow=9.5,SNR=11						
AAK	Ala-Archa	47.02	291	P	P	03 32 25.0	+0.5
	SNR=16						
AAK	Ala-Archa	47.02	291	P	P	03 32 25.0	+0.5
AAK				IAmb	IAmb	03 32 32.9	
	comp=Z,56nm,1.4s						
AAK				PcP	PcP	03 33 56.3	-0.1
AAK	Ala-Archa	47.02	291	IAMs_20	IAMs_20	03 51 29.7	
	comp=Z,796nm,20.0s						
JIRN	Jiri	47.12	267	eP	P	03 32 26.6	+0.9
	comp=Z,452nm,0.8s						
GUN	Gumba	47.19	268	eP	P	03 32 26.7	+0.5
	comp=Z,252nm,0.8s						
UCH	Uchtor	47.21	291	P	P	03 32 26.9	+0.6
	SNR=15						
HYT	Haines Junctio	47.24	41	IAMs_20	IAMs_20	03 52 58.8	
	comp=Z,1μm,21.0s						
RAMN	Ramite	47.28	266	eP	P	03 32 27.5	+0.7
	comp=Z,375nm,0.8s						
SWI	Sorong	47.45	194	P	P	03 32 24.5	-3.3
EKS2	Erkin-Say	47.48	292	P	P	03 32 28.6	+0.6
	SNR=24						
KSH	Kashi	47.57	287	P	P	03 32 33.3	+4.5
KSH				pP	sP	03 32 43.6	+4.6
KSH				PcP	PcP	03 34 02.5	+4.1
KSH				S	S	03 39 26.1	+3.5
KSH				sS	sS	03 39 42.4	+7.8
KSH				SS	SS	03 42 48.9	-1.4
KSH				pmax	pmax		
	comp=Z,84nm,1.0s						
KSH				pmax	pmax		
	comp=Z,660nm,6.4s						
KSH				LR	LR		
	comp=Z,2μm,13.3s						
KSH				LR	LR		
	comp=Z,4μm,11.3s						
KSH				LR	LR		
	comp=Z,3μm,11.3s						
SRDT	SRDT	47.62	243	P	P	03 32 36.3	+7.1
PATY	Pattaya	47.65	240	P	P	03 32 34.5	+5.1
	comp=Z,50μm,0.9s						
RKPI	Ransiki, Papua	47.65	190	P	P	03 32 26.7	-2.7
KKN	Kakani	47.68	268	eP	P	03 32 30.5	+0.6
	comp=Z,238nm,0.8s						
SMPI	Sarmi	47.72	184	P	P	03 32 29.5	-0.4
	comp=Z,113nm,1.0s						
PKI	Pulchoki	47.72	268	eP	P	03 32 30.7	+0.4
	comp=Z,202nm,1.1s						
PKIN	Phulchoki	47.73	268	eP	P	03 32 30.7	+0.4
	comp=Z,160nm,1.0s						
AML	Almayashu	47.79	291	P	P	03 32 31.5	+0.8
	SNR=14						
DMN	Daman	47.91	268	eP	P	03 32 32.4	+0.7
	comp=Z,198nm,0.9s						
GKN	Gorkha	48.00	269	eP	P	03 32 32.9	+0.6
	comp=Z,272nm,0.7s						
DANN	Dangsing	48.40	270	eP	P	03 32 36.8	+1.3
	comp=Z,1μm,0.8s						
PHET	Kaeng Krachan	48.41	241	P	P	03 32 37.3	+2.0
	comp=Z,74μm,0.9s						
KOLN	Koldanda	48.87	269	eP	P	03 32 40.0	+1.0
	comp=Z,397nm,0.9s						
SVE	Sverdlovsk	48.97	314d	iP	P	03 32 39.8	+0.7
SVE				pmax	pmax		
	comp=Z,285nm,0.9s						
SVE				MLR	MLR		
	comp=Z,2μm,14.0s						
FAKI	Fak Fak	49.30	193	P	P	03 32 40.9	-1.2
FAKI	Fak Fak	49.30	193	P	P	03 32 41.4	-0.7
FAKI				IAmb	IAmb	03 32 42.3	
	comp=Z,62nm,0.9s						
KK31	Karatay Array	49.37	294	iP	P	03 32 42.2	-0.2
KK31				pmax	pmax		
	comp=Z,34nm,0.8s						
KK31	Karatay Array	49.37	294	IAmb	IAmb	03 32 43.5	
	comp=Z,40nm,0.8s						
KKAR	Karatay Array	49.37	294	P	P	03 32 42.1	-0.3
KKAR	Karatay Array	49.37	294	P	P	03 32 42.1	-0.3
KKAR	Karatay Array	49.37	294	IAmb	IAmb	03 32 43.5	
	comp=Z,40nm,0.8s						
C36M	Paulatuk	49.39	28	P	P	03 32 41.4	-0.8
	baz=293,SNR=16						
LUWI	Luwuk	49.64	205	P	P	03 32 42.5	-2.2
SANI	Sanana	49.72	201	P	P	03 32 43.4	-1.9
ARU	Arti	50.17	314c	iP	P	03 32 48.5	+0.2
ARU				AP	sP	03 33 01.4	+2.9
ARU				PP	PP	03 34 38.9	-4.4
ARU				S	S	03 39 59.3	+0.8
ARU				pmax	pmax		
	comp=Z,219nm,1.1s						
ARU	Arti	50.17	314	P	P	03 32 48.6	+0.2
	comp=Z,30nm,0.8s,baz=62,slow=4.4,SNR=97						
ARU	Arti	50.17	314	P	P	03 32 48.0	-0.4
MSAI	Masohi	50.31	197	P	P	03 32 50.8	+1.1
NLAI	Namlea	50.60	199	P	P	03 32 51.0	-0.9
BTK	Batken	50.71	290	IAmb	IAmb	03 32 53.9	
	comp=Z,44nm,0.9s						
AAI	Ambon	50.79	198	P	P	03 32 53.1	-0.3
SMKI	Samarinda	50.96	212	P	P	03 32 54.8	+0.1
BNDI	Bandanaira	51.27	195	P	P	03 32 53.3	-3.6
GAR	Garm	51.59	289	IAmb	IAmb	03 33 00.7	
	comp=Z,136nm,1.1s						
DLBC	Dease Lake	51.68	42	P	P	03 33 00.7	+0.9
	comp=Z,20nm,0.9s,baz=292,slow=5.5,SNR=7.3						
SPITS	Spitsbergen Ar	51.95	348	LR	LR	03 58 00.1	
	comp=Z,887nm,18.2s,baz=40,slow=39						
SURT	Suratani	52.01	239	P	P	03 33 04.8	+2.2
	comp=Z,53nm,1.1s						
KBS	Kingsbay	52.03	349ce	P	P	03 33 02.3	+0.3
KBS				pmax	pmax		
	comp=Z,598nm,2.5s						
SKLT	Songkhla	52.37	236	P	P	03 33 07.2	+2.0
	comp=Z,29nm,1.7s,comp=Z,388nm						
TRTT	Trang	52.37	237	P	P	03 33 07.0	+1.7
	comp=Z,66nm,1.4s						
KDI	Kendari	52.45	204	P	P	03 33 06.6	+0.8
TTSI	Tana Toraja	52.45	208	P	P	03 33 08.8	+3.0
NIL	Nilore	52.58	282	P	P	03 33 07.7	+0.9
NIL	Nilore	52.58	282	P	P	03 33 07.6	+0.9
NIL				pmax	pmax		
	comp=Z,144nm,0.9s						
NIL				MLR	MLR		
	comp=Z,800nm,18.0s						
NIL	Nilore	52.58	282	P	P	03 33 07.6	+0.9
NIL	Nilore	52.58	282	IAMs_20	IAMs_20	03 58 54.9	
	comp=Z,811nm,18.0s						
AB31	Akbulak array	52.76	305	iP	P	03 33 07.9	+0.1
AB31				pmax	pmax		
	comp=Z,54nm,0.8s						
ABKAR	Akbulak array	52.76	305	IAmb	IAmb	03 33 09.0	
	comp=Z,83nm,1.0s						
NDI	New Delhi	52.77	275	ex	P	03 33 07.5	-0.6
HSPB	Hornsund (broa	52.91	347	eP	P	03 33 09.5	+1.0
PKDT	Phuket	53.13	238	P	P	03 33 13.2	+2.3
AKTO	Aktyubinsk	53.25	307	P	P	03 33 11.1	-0.3
AKTO				pmax	pmax		
	comp=Z,37nm,0.9s						
AKTO	Aktyubinsk	53.25	307	P	P	03 33 11.2	-0.2
	comp=Z,32nm,1.1s,baz=68,slow=7.7,SNR=43						
AKTO				PcP	PcP	03 34 18.5	-0.5
	comp=Z,24nm,0.9s,baz=86,slow=5.0,SNR=4.8						
KIRV	Kirov	53.55	319	P	P	03 33 13.8	+0.4
	comp=Z,197nm,0.8s,baz=67,slow=3.2,SNR=60						
KIRV				PcP	PcP	03 34 19.4	-0.5
	comp=Z,42nm,0.7s,baz=168,slow=0.9,SNR=2.4						
BNSI	Bone	53.63	207	P	P	03 33 14.4	-0.1
PRGR	Permogore	53.66	324⇑	iP	P	03 33 14.6	+0.4
PRGR				i		03 33 21.9	
PRGR				pmax	pmax		
	comp=Z,357nm,0.9s						
KULM	Kulim	53.88	234	IAmb	IAmb	03 33 26.9	
	comp=Z,46nm,0.9s						
RES	Resolute Bay	54.01	16	IAmb	IAmb	03 33 17.2	
	comp=Z,78nm,0.9s						
LVZ	Lovozero	54.26	334ce	P	P	03 33 17.7	-0.9
LVZ				pmax	pmax		
	comp=Z,152nm,2.5s						
LVZ	Lovozero	54.26	334	P	P	03 33 18.9	+0.3
LVZ				IAmb	IAmb	03 33 27.2	
	comp=Z,55nm,0.9s						
KIP	Kipapa	54.30	95	iP	P	03 33 19.3	-0.2
KIP				pmax	pmax		
	comp=Z,81nm,1.2s						
KAPI	Kappang	54.32	207	P	P	03 33 29.4	+10
	SNR=6.0						
KAPI	Kappang	54.32	207	P	P	03 33 19.4	-0.2
KAPI				pmax	pmax		
	comp=Z,105nm,1.2s						
KAPI	Kappang	54.32	207	P	P	03 33 19.4	-0.2
KAPI				IAmb	IAmb	03 33 30.5	
	comp=Z,105nm,1.2s						
IPM	Ipoh	54.33	233	P	P	03 33 20.0	+0.3
APA	Apatity	54.84	334⇓	iP	P	03 33 20.5	-2.2
APA				pmax	pmax		
	comp=Z,44nm,0.8s						
APA				MLR	MLR		
	comp=Z,2μm,17.0s						
KBL	Kabul	54.92	286	P	P	03 33 23.8	-0.3
KBL	Kabul	54.92	286	P	P	03 33 22.4	-1.7
KBL				pmax	pmax		
	comp=Z,107nm,1.0s						
KBL				MLR	MLR		
	comp=Z,2μm,18.0s						
KBL	Kabul	54.92	286	P	P	03 33 22.4	-1.7
PMG	Port Moresby	55.22	174	iP	P	03 33 24.0	-2.0
PMG				pmax	pmax		
	comp=Z,72nm,0.9s						
TMCR	Tamitsa	55.24	329	eP	P	03 33 25.2	-0.5
TMCR				pmax	pmax		
	comp=Z,216nm,1.1s						
KEV	Kevo	55.35	337	P	P	03 33 26.9	+0.5
KEV				pmax	pmax		
	comp=Z,92nm,0.8s						
KEV	Kevo	55.35	337	P	P	03 33 26.9	+0.5
TPRI	Tanjung Pinang	55.43	227	P	P	03 33 28.2	+0.6
BBB	Bella Bella	55.74	48	P	P	03 33 29.9	+0.5
	comp=Z,35nm,1.0s,baz=311,slow=7.4,SNR=6.4						
BBB	Bella Bella	55.74	48	IAmb	IAmb	03 33 30.9	
	comp=Z,50nm,1.1s						
ARCES	ARCESS Array B	55.90	338	P	P	03 33 31.1	+0.8
	comp=Z,38nm,0.9s,baz=52,slow=7.9,SNR=26						
ARCES				LR	LR	04 03 22.9	
	comp=Z,726nm,18.1s,baz=44,slow=42						
ARE0	ARCESS Array S	55.90	338	eP	P	03 33 30.4	0.0
YKW3	Yellowknife Ar	56.09	33	IAmb	IAmb	03 33 32.2	
	comp=Z,66nm,1.6s						
YKA	Yellowknife Ar	56.14	33	P	P	03 33 31.2	-0.9
	comp=Z,8.8nm,0.7s,baz=305,slow=6.8,SNR=37						
YKA				PcP	PcP	03 34 29.7	0.0
	comp=Z,5.9nm,0.7s,baz=316,slow=3.5,SNR=8.7						
YKA	Yellowknife Ar	56.14	33	P	P	03 33 30.4	-1.7
TULEG	Thule	56.33	8	IAmb	IAmb	03 33 33.4	
	comp=Z,65nm,1.1s						
KLMR	Klimovskoe	56.57	325	eP	P	03 33 33.4	-1.8
KLMR				e		03 35 38.8	
KLMR				pmax	pmax		
	comp=Z,175nm,1.2s						
KLMR	Klimovskoe	56.57	325	eP	P	03 33 33.5	-1.8
KLMR				AMP		03 33 36.6	
	comp=Z,175nm,1.2s						
KLMR				ePP	PP	03 35 38.8	-1.9
KLMR				LQ	LQ	03 53 41.6	
KLMR				LQ	LQ	03 53 41.6	
KLMR				LR	LR	03 58 08.3	
KTK1	Kautokeino	56.85	338	eP	P	03 33 37.9	+0.8
DAG	Danmarks Havn	57.02	355⇑	iP	P	03 33 38.0	-0.2
DAG				pmax	pmax		
	comp=Z,82nm,0.9s						
DAG	Danmarks Havn	57.02	355⇑	iP	P	03 33 38.0	-0.2
	comp=Z,98nm,0.9s						
POHA	Pohakuloa	57.14	95	P	P	03 33 40.6	+0.5
MLSI	Meulaboh, Aceh	57.16	238	P	P	03 33 40.7	+0.7
HNR	Honiara	57.40	159	IAMs_20	IAMs_20	03 56 19.1	
	comp=Z,601nm,22.0s						
KHU	Kahuku	57.43	96	P	P	03 33 43.5	+1.3
KHU	Kahuku	57.43	96	P	P	03 33 43.5	+1.3
TRO	Tromso	57.51	340	eP	P	03 33 42.2	+0.5
TPTI		57.52	236	P	P	03 33 44.6	+2.1
SOEI	Soe	57.56	201	P	P	03 33 44.0	+1.2
BKNI	Bangkinang	57.77	231	P	P	03 33 45.0	+0.8
SDSI	Sungai Dareh	58.61	229	P	P	03 33 51.5	+1.3
TWSI	Taliwang, Sumb	58.76	209	P	P	03 33 50.6	-0.5
GSI	Gunungsitoli	58.88	235	P	P	03 33 52.4	+0.4
HYB	Hyderabad	59.13	263	iP	P	03 33 52.0	-1.8
H

MOS	Moscow	60.45	321	eP	P	03 34 01.0	-1.4
MOS				e		03 34 49.4	
MOS				e		03 36 16.7	
MOS				e		03 37 41.8	
MOS				eS	S	03 42 15.1	-0.8
MOS				pmax	pmax		
	comp=Z,600nm,2.5s						
MOS				pmax	pmax		
	comp=Z,183nm,1.8s						
MOS				MLR	MLR		
	comp=N,700nm,15.0s						
MOS				MLR	MLR		
	comp=E,1μm,15.0s						
MOS				MLR	MLR		
	comp=Z,2μm,15.0s						
BLSI	Bandar Lampung	60.50	223	P	P	03 34 05.7	+2.6
A04D	Lummi Island	60.55	49	P	P	03 34 03.6	+0.5
	baz=307						
NLWA	Neilton Lookou	60.73	51	IAmb	IAmb	03 34 06.5	
	comp=Z,59nm,1.1s						
LWLI	Liwa	60.76	224	P	P	03 34 03.7	-1.4
PUL	Pulkovo	60.82	327	i P	P	03 34 03.8	-1.0
PUL				pmax	pmax		
	comp=Z,85nm,0.9s						
PPSI	Pulau Pagai	60.91	230	P	P	03 34 04.1	-1.8
D03D	Eldon	61.06	50	P	P	03 34 07.4	+0.8
	baz=308,SNR=16						
B05A	Bryant	61.15	49	P	P	03 34 07.7	+0.5
	baz=308,SNR=20						
FINES	FINESS Array B	61.21	330	P	P	03 34 07.5	0.0
	comp=Z,62nm,0.7s,baz=45,slow=8.0,SNR=110						
FINES				pP	pP	03 34 14.3	-0.6
	comp=Z,77nm,0.8s,baz=48,slow=7.2,SNR=16						
FINES				PcP	PcP	03 34 48.8	-1.1
	comp=Z,23nm,0.8s,baz=76,slow=2.0,SNR=5.1						
FINES				LR	LR	04 03 16.1	
	comp=Z,1μm,18.0s,baz=50,slow=39						
FINES	FINESS Array B	61.21	330	P	P	03 34 07.1	-0.3
MOR8	Moi Rana	61.23	338	eP	P	03 34 06.2	-1.3
OBN	Obninsk	61.32	321	c iP	P	03 34 07.4	-0.8
OBN				e		03 34 51.4	
OBN				e		03 36 23.0	
OBN				ePPP	PPP	03 37 51.2	
OBN				eS	S	03 42 15.6	-11
OBN				pmax	pmax		
	comp=Z,162nm,1.7s						
OBN				MLR	MLR		
	comp=Z,2μm,15.0s						
OBN	Obninsk	61.32	321	P	P	03 34 08.3	+0.1
	comp=Z,5.3nm,0.5s,baz=84,slow=3.2,SNR=14						
OBN				LR	LR	04 01 39.5	
	comp=Z,162nm,18.8s,baz=70,slow=37						
OBN	Obninsk	61.32	321	P	P	03 34 07.5	-0.7
B06A	Marblemount	61.32	49	IAmb	IAmb	03 34 09.5	
	comp=Z,39nm,1.1s						
VRH	Novokhopyorsk	61.38	315	eP	P	03 34 07.5	-1.2
VRH				e*PP	pP	03 34 14.6	-1.6
VRH				pmax	pmax		
	comp=Z,80nm,0.8s						
VRH				MLR	MLR		
	comp=Z,2μm,10.0s						
E03A	Lebam	61.41	52	IAmb	IAmb	03 34 11.1	
	comp=Z,68nm,1.0s						
D04E	Lakebay	61.45	51	P	P	03 34 10.4	+1.2
	baz=308,SNR=6.2						
POO	Poona	61.65	268	⇓iP	P	03 34 17.0	+5.9
	comp=Z,110nm,1.0s						
POO				⇓iP	P	03 34 17.0	+5.9
	comp=Z,110nm,1.0s						
LPSR	Galich'ya Gora	61.84	318	eP	P	03 34 11.1	-0.7
LPSR				e*PP	pP	03 34 18.1	-1.2
LPSR				pmax	pmax		
	comp=Z,80nm,1.0s						
D05A	Enumclaw	61.87	50	IAmb	IAmb	03 34 13.8	
	comp=Z,38nm,1.0s						
SUMG	Summit	61.87	0	⇑iP	P	03 34 12.5	+0.3
SUMG				pmax	pmax		
	comp=Z,230nm,0.9s						
SUMG	Summit	61.87	0	⇑iP	P	03 34 12.5	+0.3
	comp=Z,232nm,0.9s						
E04D	Cinebar	61.94	51	P	P	03 34 13.8	+1.1
	baz=308,SNR=16						
F04D	Rainier, OR	61.99	52	P	P	03 34 13.6	+0.7
	baz=308						
C06D	Leavenworth	62.00	49	P	P	03 34 13.2	+0.1
	baz=308						
KAD	Karad	62.24	267	eP	P	03 34 14.9	-0.2
VORR	Voronezh	62.30	317	P	P	03 34 13.0	-1.9
VORR				pmax	pmax		
	comp=Z,250nm,1.6s						
G03D	McMinnville, O	62.39	53	P	P	03 34 16.7	+1.1
	baz=308,SNR=9.3						
B08A	Colville Reser	62.54	48	IAmb	IAmb	03 34 18.0	
	comp=Z,39nm,1.2s						
VSR	Storozhevoye	62.62	316	eP	P	03 34 15.4	-1.6
VSR				e*PP	pP	03 34 23.6	-0.9
VSR				pmax	pmax		
	comp=Z,70nm,0.9s						
VSR				MLR	MLR		
	comp=Z,2μm,17.0s						
I02D	Swisshome	62.75	54	P	P	03 34 19.5	+1.4
	baz=309,SNR=8.5						
COR	Corvallis	62.76	53	P	P	03 34 19.7	+1.6
COR				pmax	pmax		
	comp=Z,149nm,1.0s						
COR	Corvallis	62.76	53	P	P	03 34 19.7	+1.6
F05D	White Salmon	62.96	51	P	P	03 34 20.4	+0.9
	baz=309,SNR=6.9						
VSU	Vasula	63.07	328	ceP	P	03 34 19.4	-0.5
VSU				pmax	pmax		
	comp=Z,114nm,1.0s						
VSU	Vasula	63.07	328	eP	P	03 34 19.9	0.0
H04D	Lebanon	63.11	53	P	P	03 34 21.8	+1.4
	baz=309,SNR=14						
NSS	Namsos	63.17	338	eP	P	03 34 19.7	-0.8
I03D	Drain, OR	63.29	54	P	P	03 34 23.1	+1.5
	baz=309						
J01E	Myrtle Point	63.29	55	P	P	03 34 22.9	+1.2
	baz=309,SNR=11						
SCO	Scoresbysund	63.37	354	i P	P	03 34 21.9	+0.2
SCO				pmax	pmax		
	comp=Z,45nm,1.1s						
SCO	Scoresbysund	63.37	354	i P	P	03 34 21.9	+0.2
	comp=Z,45nm,1.1s						
SCO	Scoresbysund	63.37	354	IAmb	IAmb	03 34 23.1	
	comp=Z,34nm,0.9s						
E07A	Sunnyside	63.40	50	IAmb	IAmb	03 34 24.2	
	comp=Z,41nm,1.2s						
C09A	Chrisman Ranch	63.45	48	IAmb	IAmb	03 34 23.8	
	comp=Z,32nm,1.1s						
G05D	Wamic, OR	63.45	52	P	P	03 34 23.7	+1.0
	baz=309,SNR=11						
HAWA	Hanford	63.68	50	IAmb	IAmb	03 34 25.9	
	comp=Z,58nm,1.4s						
K02D	Willamette Mer	63.73	55	P	P	03 34 25.7	+0.9
	baz=309,SNR=22						
NEW	Newport	63.74	47	P	P	03 34 24.5	-0.1
	baz=310,SNR=16						
NEW	Newport	63.74	47	IAmb	IAmb	03 34 25.8	
	comp=Z,42nm,1.3s						
F07A	Phinny Hill Vi	63.79	50	IAmb	IAmb	03 34 26.9	
	comp=Z,61nm,1.1s						
E08A	Dider Farm, El	63.87	49	IAmb	IAmb	03 34 27.0	
	comp=Z,48nm,1.3s						
I05D	Terrebonne, OR	64.01	52	P	P	03 34 27.2	+0.8
	baz=310,SNR=26						
L02E	Cave Junction	64.11	55	P	P	03 34 28.3	+1.2
	baz=310,SNR=16						
HUMO	Hull Mountain	64.20	55	IAmb	IAmb	03 34 30.3	
	comp=Z,64nm,1.4s						
AKT	Akhty	64.23	304	eP	P	03 34 28.0	-0.1
AKT				e		03 35 02.8	
AKT				pmax	pmax		
	comp=Z,38nm,0.7s						
GROC	Groznyy	64.25	306	eP	P	03 34 27.4	-0.6
GROC				e		03 35 02.1	
GROC				pmax	pmax		
	comp=Z,12nm,0.4s						
J04D	Umpqua Nationa	64.27	54	P	P	03 34 29.5	+1.1
	baz=310,SNR=37						
KRMB	Red Mountain	64.34	56	IAmb	IAmb	03 34 31.2	
	comp=Z,62nm,1.3s						
GOF	Gofitskoye	64.58	309	⇓iP	P	03 34 30.8	+0.7
GOF				pmax	pmax		
	comp=Z,54nm,0.6s						
TBLU	Trondheim	64.65	338	eP	P	03 34 29.3	-0.9
J05D	Fort Rock, OR	64.74	53	P	P	03 34 32.6	+1.2
	baz=310,SNR=66						
L04D	Klamath Falls	64.82	55	P	P	03 34 32.8	+0.9
	baz=310,SNR=64						
WALA	Waterton Lakes	64.83	45	IAmb	IAmb	03 34 33.1	
	comp=Z,66nm,1.3s						
PALK	Pallekele	64.85	254	i P	P	03 34 32.7	+0.4
	SNR=12						
K04D	Chiloquin, OR	64.87	54	P	P	03 34 33.2	+1.0
	baz=310,SNR=7.3						
YBH	Yreka Blue Hor	64.89	55	IAmb	IAmb	03 34 34.8	
	comp=Z,65nm,1.1s						
M02C	Callahan	65.03	56	P	P	03 34 34.6	+1.4
	baz=310,SNR=50						
IZAR	Zarasai	65.19	326	eP	P	03 34 34.0	0.0
KMRM	Mail Ridge	65.28	57	IAmb	IAmb	03 34 37.4	
	comp=Z,62nm,1.0s						
NCK	Nalchik	65.29	308	i P	P	03 34 33.7	-1.1
NCK				pmax	pmax		
	comp=Z,18nm,1.0s						
IDID	Didziasalis	65.31	325	eP	P	03 34 34.7	0.0
M04C	Macdoel	65.36	55	P	P	03 34 36.4	+1.0
	baz=310,SNR=77						
ISAL	Salakas	65.37	326	eP	P	03 34 35.0	0.0
ISAL				IAmb	IAmb	03 34 44.3	
	comp=Z,23nm,1.0s						
N02D	Trinity Center	65.38	56	P	P	03 34 36.7	+1.2
	baz=310,SNR=51						
IIGN	Ignalina	65.49	326	eP	P	03 34 35.8	-0.1
IIGN				IAmb	IAmb	03 34 45.0	
	comp=Z,34nm,0.7s						
KIV	Kislovodsk	65.49	308	i P	P	03 34 37.1	+0.9
	SNR=16						
KIV	Kislovodsk	65.49	308	P	P	03 34 37.3	+1.1
	SNR=22						
KIV	Kislovodsk	65.49	308	eP	P	03 34 36.4	+0.2
KIV				pmax	pmax		
	comp=Z,163nm,1.0s						
KIV				MLR	MLR		
	comp=Z,3μm,17.0s						
KIV	Kislovodsk	65.49	308	⇓P	P	03 34 37.2	+0.9
KIV				mb		03 34 38.9	
KIV	Kislovodsk	65.49	308	P	P	03 34 37.1	+0.9
KIV				IAmb	IAmb	03 34 37.9	
	comp=Z,52nm,0.9s						
KIV				IAMs_20	IAMs_20	04 07 47.1	
	comp=Z,1μm,21.0s						
JTMT	Jette	65.52	46	IAmb	IAmb	03 34 38.1	
	comp=Z,37nm,1.1s						
KBZ	Khabaz	65.53	308	P	P	03 34 36.5	+0.3
	comp=Z,12nm,0.8s,baz=32,slow=6.0,SNR=39						
ZEI	Tsey	65.58	307	eP	P	03 34 33.7	-3.2
ZEI				pmax	pmax		
	comp=Z,23nm,0.9s						
NACGM	Naroch	65.59	325	e	P	03 34 36.0	-0.5
KCPM	Cahto Peak	65.70	58	IAmb	IAmb	03 34 39.7	
	comp=Z,70nm,1.1s						
WDC	Whiskeytown Da	65.73	56	IAmb	IAmb	03 34 39.7	
	comp=Z,52nm,1.1s						
TBLG	Delisi	65.79	305	IAmb	IAmb	03 34 40.7	
	comp=Z,50nm,0.9s						
WRAB	Tennant Creek	65.83	188	i P	P	03 34 37.3	-1.0
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s						
WRAB	Tennant Creek	65.83	188	P	P	03 34 37.5	-0.8
WRA	Warramunga Arr	65.83	188	P	P	03 34 36.7	-1.7
WRA	Warramunga Arr	65.83	188	P	P	03 34 37.0	-1.4
	comp=Z,12nm,0.9s,baz=5.3,slow=6.6,SNR=60						
WRA				PKPPKP	P'P'df	04 03 17.2	+8.6
	comp=Z,4.1nm,1.2s,baz=181,slow=2.7,SNR=7.6						
WRA				LR	LR	04 03 23.8	
	comp=Z,145nm,21.9s,baz=350,slow=36						
WRA	Warramunga Arr	65.83	188	P	P	03 34 36.6	-1.7
O02D	Mt. Diablo Mer	65.85	57	P	P	03 34 39.6	+1.1
	baz=310,SNR=46						
BMO	Blue Mountains	65.87	50	IAmb	IAmb	03 34 40.5	
	comp=Z,54nm,1.4s						
BMO				IAMs_20	IAMs_20	04 06 32.0	
	comp=Z,562nm,18.0s						
MOL	Molde	65.91	339	eP	P	03 34 38.3	-0.2
NEY	Neytrino	65.94	308	i P	P	03 34 40.0	+0.8
DOMB	Dombas	65.96	338	eP	P	03 34 38.6	-0.2
MOD	Modoc Plateau	66.16	54	IAmb	IAmb	03 34 42.5	
	comp=Z,77nm,1.4s						
NB2	NORSAR Subarra	66.20	336	P	P	03 34 40.1	-0.3
	comp=Z,21nm,0.7s,baz=36,slow=6.5						
NB2	NORSAR Subarra	66.20	336	P	P	03 34 40.1	-0.3
	baz=36,slow=6.5						
NOA	NORSAR Array B	66.20	336	P	P	03 34 39.9	-0.5
	comp=Z,41nm,0.8s,baz=35,slow=6.2,SNR=104						
NOA				pP	pP	03 34 46.8	-1.1
	comp=Z,41nm,0.8s,baz=37,slow=5.9,SNR=19						
NOA				LR	LR	04 07 12.9	
	comp=Z,658nm,18.0s,baz=25,slow=39						
FFC	Flin Flon	66.20	35	P	P	03 34 39.9	-0.6
FFC				pmax	pmax		
	comp=Z,48nm,1.2s						
FFC	Flin Flon	66.20	35	P	P	03 34 39.9	-0.6
FFC				IAmb	IAmb	03 34 41.0	
	comp=Z,48nm,1.2s						
HFS	Hagfors	66.21	335	LR	LR	04 06 33.5	
	comp=Z,921nm,18.1s,baz=40,slow=39						
PABE	Paberze	66.26	327	eP	P	03 34 40.6	-0.2
PABE				IAmb	IAmb	03 34 49.2	
	comp=Z,58nm,1.0s						
MSO	Missoula	66.31	47	P	P	03 34 41.5	+0.1
	baz=312,SNR=26						
MSO	Missoula	66.31	47	IAmb	IAmb	03 34 42.7	
	comp=Z,67nm,1.2s						
O03E	Paynes Creek	66.35	56	P	P	03 34 41.8	+0.1
	baz=311,SNR=73						
NC602	NORSAR Array S	66.36	336	eP	P	03 34 41.2	-0.2
AKN	Aaknes	66.38	339	eP	P	03 34 42.1	+0.6
PLID	Pearl Lake	66.41	49	IAmb	IAmb	03 34 43.4	
	comp=Z,40nm,1.1s						
HOPS	Hopland Field	66.45	58	IAmb	IAmb	03 34 44.1	
	comp=Z,56nm,1.2s						
NAO01	NORSAR Array S	66.45	336	IAmb	IAmb	03 34 51.6	
	comp=Z,55nm,0.8s						
PBUR	Paburg	66.64	328	eP	P	03 34 41.6	-1.6
AKH	Akhalkalaki	66.71	306	P	P	03 34 44.8	+0.7
AKH	Akhalkalaki	66.71	306	⇑P	P	03 34 44.9	+0.7
AKH	Akhalkalaki	66.71	306	IAMs_20	IAMs_20	04 05 47.5	
	comp=Z,452nm,20.0s						
GDXM	Geysers	66.73	58	IAmb	IAmb	03 34 46.6	
	comp=Z,62nm,1.1s						
WVOR	Wild Horse Val	66.74	53	IAmb	IAmb	03 34 46.3	
	comp=Z,67nm,1.1s						
GNI	Garni	66.82	304	i P	P	03 34 47.0	+2.1
	SNR=8.7						
GNI	Garni	66.82	304	P	P	03 34 46.1	+1.2
	SNR=10.0						
GNI	Garni	66.82	304	P	P	03 34 46.1	+1.2
GNI				pmax	pmax		
	comp=Z,120nm,1.8s						
GNI				MLR	MLR		
	comp=Z,500nm,19.0s						
GNI	Garni	66.82	304	P	P	03 34 46.1	+1.2
GNI				IAmb	IAmb	03 34 54.6	
	comp=Z,120nm,1.8s						
GNI	Garni	66.82	304	IAMs_20	IAMs_20	04 04 27.7	
	comp=Z,483nm,19.0s						
ORV	Oroville	67.01	57	IAmb	IAmb	03 34 46.9	
	comp=Z,37nm,1.0s						
SFJD	Kangerlussuaq	67.08	5	i P	P	03 34 43.8	-2.0
SFJD	Kangerlussuaq	67.08	5	i P	P	03 34 43.8	-2.0
SFJD	Kangerlussuaq	67.08	5	LR	LR	04 06 39.3	
	comp=Z,644nm,19.0s,baz=352,slow=38						
MCCM	Marconi Confer	67.12	58	IAmb	IAmb	03 34 47.7	
	comp=Z,45nm,1.1s						
SOC	Sochi	67.35	310	eP	P	03 34 46.5	-1.5
SOC				e		03 37 13.5	
SOC				ePPP	PPP	03 38 56.2	
SOC				eS	S	03 43 41.2	-0.7
SOC				eSS	SS	03 48 03.0	+1.9
SOC				pmax	pmax		
	comp=Z,30nm,1.2s						
SOC				MLR	MLR		
	comp=Z,1μm,16.0s						
HYA	Hoyanger	67.45	338	eP	P	03 34 48.7	+0.5
BEKR	Beckworth	67.46	56	IAmb	IAmb	03 34 50.5	
	comp=Z,78nm,1.1s						
EGMT	Eagleton	67.56	44	P	P	03 34 49.4	+0.1
	baz=314,SNR=28						
AKASG	Malin Array Be	67.58	321	P	P	03 34 48.0	-1.3
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKASG	Malin Array Be	67.58	321	P	P	03 34 48.3	-1.0
	comp=Z,16nm,0.7s,baz=40,slow=6.7,SNR=46						
AKASG				pP	pP	03 34 55.8	-1.0
	comp=Z,29nm,0.8s,baz=42,slow=7.2,SNR=27						
AKASG				PP	PP	03 37 16.4	-1.4
	comp=Z,3.3nm,0.8s,baz=40,slow=8.1,SNR=4.2						
AKASG				LR	LR	04 07 44.3	
	comp=Z,535nm,18.5s,baz=75,slow=39						
AKASG	Malin Array Be	67.58	321	P	P	03 34 48.0	-1.3
MFID	Camas Ranch	67.62	50	IAmb	IAmb	03 34 51.6	
	comp=Z,58nm,1.1s						
SUW	Suwalki	67.67	326	P	P	03 34 48.8	-1.0
SUW				pmax	pmax		
	comp=Z,51nm,0.8s						
SUW	Suwalki	67.67	326	P	P	03 34 48.8	-1.0
SUW				IAmb	IAmb	03 35 16.9	
	comp=Z,51nm,0.8s						
AFDM	Forest Hills D	67.71	57	IAmb	IAmb	03 34 52.0	
	comp=Z,65nm,1.3s						
ANN	Anapa	67.74	312	eP	P	03 34 46.8	-3.5
ANN				e*PP	pP	03 34 58.0	+0.1
ANN				e		03 37 16.5	
ANN				eS	S	03 43 40.6	-5.8
ANN				pmax	pmax		
	comp=Z,78nm,1.7s						
ANN				MLR	MLR		
	comp=E,590nm,17.0s						
ANN				MLR	MLR		
	comp=Z,2μm,17.0s						
ANN				MLR	MLR		
	comp=N,872nm,17.0s						
BCA	Borcka	67.74	307	⇓P	P	03 34 50.6	+0.2
BCA				mb		03 34 52.6	
KONO	Kongsberg	67.80	336	i P	P	03 34 49.8	-0.7
KONO				pmax	pmax		
	comp=Z,25nm,0.9s						
KONO	Kongsberg	67.80	336	eP	P	03 34 49.9	-0.7
DLMT	Dillon	67.99	47	IAmb	IAmb	03 34 53.7	
	comp=Z,79nm,1.1s						
FRB	Frobisher Bay	68.14	14	LR	LR	04 08 27.0	
	comp=Z,2μm,18.1s,baz=1.5,slow=39						
VCNR	Virginia City	68.25	56	IAmb	IAmb	03 34 55.9	
	comp=Z,41nm,1.0s						
ASK	Askoy	68.29	339	eP	P	03 34 54.2	+0.7
BOZ	Bozeman (W)	68.32	46	P	P	03 34 54.5	+0.3
	baz=314,SNR=40						
KLNR	Kaliningrad	68.36	328	i P	P	03 34 55.5	+1.4
KLNR				pmax	pmax		
	comp=Z,116nm,0.9s						
ODD1	Odda	68.40	338	eP	P	03 34 54.4	0.0
CMB	Columbia Colle	68.66	57	IAmb	IAmb	03 34 58.1	
	comp=Z,71nm,1.1s						
BANOM	Banah	68.88	286	P	P	03 34 58.0	+0.1
BANOM	Banah	68.88	286	P	P	03 34 58.1	+0.3
	SNR=11						
SAO	San Andreas Ge	68.88	59	IAmb	IAmb	03 34 59.3	
	comp=Z,51nm,1.5s						
SHME	Shamm	68.90	286	i P	P	03 34 57.6	-0.4
	SNR=12						
WAKR	Walker	68.90	56	IAmb	IAmb	03 35 00.2	
	comp=Z,56nm,1.1s						
BORG	Borgarnes	68.95	352	LR	LR	04 03 27.2	
	comp=Z,269nm,22.0s,baz=356,slow=34						
WSAR	Wadi Sarin	69.08	282	P	P	03 34 59.8	+0.7
WSAR	Wadi Sarin	69.08	282	P	P	03 34 59.6	+0.5
	comp=Z,19nm,1.0s,baz=77,slow=6.1,SNR=7.3						
BIDO	Bidbid	69.23	283	P	P	03 35 01.5	+1.5
WBK	Wadi Bani Khal	69.27	281	P	P	03 35 01.5	+1.2
	SNR=9.5						
JLN	Jalan Bani Buh	69.27	281	P	P	03 35 01.1	+0.8
	SNR=6.8						
MDH	Madha	69.29	285	i P	P	03 34 59.8	-0.6
	SNR=7.5						
MDH	Madha	69.29	285	P	P	03 35 00.8	+0.4
	SNR=6.0						
SIM	Simferopol'	69.34	314	deP	P	03 35 00.7	+0.3
SIM				pmax	pmax		
	comp=Z,26nm,1.0s						
SIM				MLR	MLR		
	comp=Z,900nm,11.0s						
MSFE	Esma-Masafi	69.34	285	i P	P	03 35 00.1	-0.6
	SNR=16						
RYN	Ryan	69.35	56	IAmb	IAmb	03 35 02.7	
	comp=Z,60nm,1.1s						
ASAR	Alice Springs	69.56	188	P	P	03 35 01.6	-0.3
	comp=Z,12nm,0.8s,baz=7.9,slow=5.9,SNR=98						
ASAR				PKPPKP	P'P'df	04 03 07.8	+5.4
	comp=Z,2.0nm,0.9s,baz=177,slow=2.9,SNR=12						
ASAR				LR	LR	04 05 49.3	
	comp=Z,218nm,20.5s,baz=3.5,slow=36						
SNART	Snartemo	69.58	336	eP	P	03 35 02.4	+0.7
UOSS	Minazif	69.59	285	i P	P	03 35 01.8	-0.5
	SNR=11						
UOSS	Minazif	69.59	285	P	P	03 35 02.1	-0.1
	SNR=15						
UOSS	Minazif	69.59	285	P	P	03 35 02.0	-0.2
SMDO	Samad	69.60	282	P	P	03 35 03.5	+1.0
	SNR=14						
NVAR	Mina Array Bea	69.61	56	P	P	03 35 03.2	+0.7
	comp=Z,41nm,0.9s,baz=292,slow=5.7,SNR=263						
NVAR				PKPPKP	P'P'df	04 03 05.4	-9.0
	comp=Z,1.8nm,0.9s,baz=150,slow=3.8,SNR=11						
PMPB	Monarch Peak	69.64	59	IAmb	IAmb	03 35 09.8	
	comp=Z,35nm,1.1s						
LKWY	Lake	69.67	47	IAmb	IAmb	03 35 05.7	
	comp=Z,37nm,1.1s						
NV11	Mina Array Sit	69.69	56	IAmb	IAmb	03 35 04.8	
	comp=Z,68nm,1.2s						
H17A	Grant Village	69.70	47	P	P	03 35 04.7	+1.7
	baz=315,SNR=59						
H17A	Grant Village	69.70	47	IAmb	IAmb	03 35 06.1	
	comp=Z,67nm,1.1s						
HATD	Hatta, Dubai	69.72	285	i P	P	03 35 03.3	+0.2
	SNR=32						
HATD	Hatta, Dubai	69.72	285	P	P	03 35 03.2	+0.2
	SNR=24						
HOQ	Hoqain	69.75	283	P	P	03 35 03.4	+0.1
	SNR=12						
SORM	Soroca	69.83	319	⇑P	P	03 35 02.5	-0.8
SORM	Soroca	69.83	319	⇑P	P	03 35 02.5	-0.8
DGMT	Dagmar	69.84	40	P	P	03 35 03.1	-0.3
	baz=317,SNR=22						
RLMT	Red Lodge	69.84	46	P	P	03 35 04.1	+0.3
	baz=315,SNR=24						
RLMT	Red Lodge	69.84	46	IAmb	IAmb	03 35 05.6	
	comp=Z,94nm,1.4s						
MLAC	Mammoth, Mammo	69.84	57	P	P	03 35 05.1	+1.2
	baz=313,SNR=16						
BSD	Bornholm Skovb	69.85	331	i P	P	03 35 08.0	+4.7
BSD				pmax	pmax		
	comp=Z,43nm,0.9s						
BSD	Bornholm Skovb	69.85	331	i P	P	03 35 08.0	+4.7
	comp=Z,43nm,0.9s						
ASHO	Ashiyiah	69.86	285	i P	P	03 35 04.0	+0.1
	SNR=34						
ASHO	Ashiyiah	69.86	285	P	P	03 35 04.1	+0.1
	SNR=23						
FXWY	Fox Creek	70.00	48	IAmb	IAmb	03 35 07.0	
	comp=Z,48nm,1.4s						
JMDO	Jabal Madar	70.02	282	P	P	03 35 05.2	+0.3
	SNR=12						
PSAC3	Pilbara Seismi	70.06	202	IAMs_20	IAMs_20	04 04 33.6	
	comp=Z,562nm,22.0s						
MOOW	Moose Ponds	70.06	47	IAmb	IAmb	03 35 07.3	
	comp=Z,56nm,1.2s						
TPAW	Teton Pass	70.14	48	IAmb	IAmb	03 35 08.0	
	comp=Z,75nm,1.2s						
LAO	LASA Array	70.20	43	P	P	03 35 05.7	0.0
	baz=317,SNR=25						
LAO	LASA Array	70.20	43	IAmb	IAmb	03 35 07.2	
	comp=Z,77nm

ASUD Al Ashush, Dub 70.39 285 P P 03 35 07.5 +0.3
SNR=7.0
VOG Valley Oaks Go 70.41 58 P P 03 35 07.2 +0.1
baz=313
KIS Kishinev 70.44 318 *e*P P 03 35 07.0 -0.1
KIS LRM MLR 04 09 18.0
comp=Z,2μm,14.0s
KIS Kishinev 70.44 318 *e*P P 03 35 07.0 -0.1
KIS *e* 03 35 14.0
KIS MLR MLR
comp=Z,2μm,14.0s
ARQ Araqi 70.45 284 P P 03 35 08.1 +0.5
SNR=12
LVV L'vov 70.48 323 *e*P P 03 35 06.7 -0.6
LVV *e* 03 35 30.7
LVV *e*S S 03 44 19.1 +0.3
LVV MLR MLR
comp=E,1μm,15.0s
LVV MLR MLR
comp=N,500nm,14.0s
LVV MLR MLR
comp=Z,2μm,16.0s
ALNE Al Ain 70.49 285 *i* P P 03 35 08.0 +0.2
SNR=9.1
MILM Milestii Mici 70.51 318 ⇓P P 03 35 06.4 -1.0
TIN Tinemaha, Big 70.59 57 P P 03 35 09.2 +0.8
baz=313,SNR=10
MUD Monsted U'grnd 70.60 334 *i* P P 03 35 07.8 -0.1
MUD pmax pmax
comp=Z,46nm,1.1s
MUD Monsted U'grnd 70.60 334 *i* P P 03 35 07.8 -0.1
comp=Z,46nm,1.1s
SMMC Simmler 70.73 59 P P 03 35 09.9 +0.8
baz=313,SNR=18
VES Vestal, Richgr 70.91 58 P P 03 35 09.8 -0.4
baz=313,SNR=28
CWC Cottonwood Cre 71.10 57 P P 03 35 11.8 +0.3
baz=314
PKM Mcpherson Peak 71.13 59 P P 03 35 12.5 +0.7
baz=313,SNR=24
GRAC Grapevine Rang 71.13 56 P P 03 35 12.6 +1.0
baz=314,SNR=49
HWUT Hardware Ranch 71.15 49 IAmb IAmb 03 35 13.5
comp=Z,53nm,0.9s
KWP Kalwaria Pacla 71.19 323 *e*P P 03 35 11.9 +0.3
KWP Kalwaria Pacla 71.19 323 *e*P P 03 35 11.9 +0.3
KWP *e*P P 03 35 11.9 +0.3
DZM Mont Dzumac 71.22 156 IAmb IAmb 03 35 14.7
comp=Z,74nm,1.3s
R11A Troy Canyon, C 71.22 54 P P 03 35 12.7 +0.4
baz=314,SNR=53
R11A Troy Canyon, C 71.22 54 IAmb IAmb 03 35 14.0
comp=Z,74nm,1.5s
MSVF Nonsavu 71.30 143 *i* P P 03 35 13.3 +0.7
MSVF pmax pmax
comp=Z,10.0nm,1.1s
BW06 Boulder Array 71.37 47 P P 03 35 13.1 -0.1
baz=316,SNR=64
PD31 Pinedale Array 71.37 47 IAmb IAmb 03 35 14.2
comp=Z,49nm,0.9s
PDAR Pinedale Array 71.37 47 P P 03 35 13.0 -0.2
comp=Z,39nm,0.9s,baz=321,slow=1.9,SNR=193
PDAR LR LR 04 08 11.6
comp=Z,189nm,20.1s,baz=350,slow=37
ISA Isabella, Lake 71.40 58 P P 03 35 12.8 -0.4
baz=314,SNR=30
ISA Isabella, Lake 71.40 58 IAmb IAmb 03 35 14.0
comp=Z,57nm,1.3s
DUG Dugway, Tooele 71.47 51 P P 03 35 14.4 +0.7
baz=315,SNR=46
DUG Dugway, Tooele 71.47 51 IAmb IAmb 03 35 15.6
comp=Z,75nm,1.1s
SBC Santa Barbara 71.49 60 P P 03 35 14.1 +0.4
baz=313
ARVC Arvin 71.55 58 P P 03 35 13.8 -0.2
baz=314,SNR=10
BURAR Bucovina Array 71.63 320 P P 03 35 15.6 +1.1
BURAR Bucovina Array 71.63 320 ⇑P P 03 35 14.4 -0.1
BURAR mb 03 35 15.6
MPMC Manual Prospec 71.70 57 P P 03 35 15.6 +0.3
baz=314,SNR=74
BIZ Bicaz 71.74 319 ⇓P P 03 35 14.6 -0.4
FURC Furnace Creek, 71.79 56 P P 03 35 16.2 +0.8
baz=314,SNR=66
TESR Tescani 71.81 319 ⇑P P 03 35 15.2 -0.3
TPNV Topopah Spring 71.81 56 P P 03 35 16.5 +0.7
baz=314,SNR=94
SCZ2 Santa Cruz Isl 71.84 60 P P 03 35 15.8 -0.1
baz=314
KOLS Kolonicke sedl 71.91 323 *e*P P 03 35 16.9 +0.9
KOLS Kolonicke sedl 71.91 323 *e*P P 03 35 16.9 +0.9
OJC Ojcow 71.92 325 *e*P P 03 35 15.7 -0.3
OJC Ojcow 71.92 325 *e*P P 03 35 15.7 -0.3
OJC *e*P P 03 35 15.7 -0.3
OSI Osito Audit: C 71.97 59 P P 03 35 16.8 +0.2
baz=314
LRMC Laurel Mtn Rad 71.99 58 P P 03 35 17.1 +0.2
baz=314,SNR=40
ULM Lac du Bonnet 72.03 35 P P 03 35 15.5 -1.2
comp=Z,23nm,0.7s,baz=316,slow=6.4,SNR=27
ULM LR LR 04 11 56.9
comp=Z,612nm,18.2s,baz=327,slow=40
ULM Lac du Bonnet 72.03 35 IAmb IAmb 03 35 16.5
comp=Z,35nm,0.9s
CFR Carcaliu 72.11 317 ⇓P P 03 35 16.3 -0.9
CFR Carcaliu 72.11 317 ⇓P P 03 35 16.3 -0.9
BLG Laguna Peak, P 72.11 59 P P 03 35 17.5 +0.1
baz=314,SNR=8.1
UZH Uzhgorod 72.13 323 *e*P P 03 35 15.9 -1.4
UZH *e* 03 35 23.7
ODBI Odobesti 72.18 318 ⇓P P 03 35 18.6 +0.9
ODBI mb 03 35 20.3
EDW2 Edwards Air Fo 72.22 58 P P 03 35 18.8 +0.6
baz=314,SNR=62
VRI Vrincioaia 72.26 318 ⇓P P 03 35 17.5 -0.6
VRI Vrincioaia 72.26 318 ⇓P P 03 35 17.5 -0.6
ILGA Ilgaz 72.31 311 IAmb IAmb 03 35 21.0
comp=Z,95nm,1.4s
MDND Maddock 72.34 38 P P 03 35 18.1 -0.5
baz=320,SNR=8.4
NIE Niedzica 72.35 324 *e*P P 03 35 19.2 +0.5
NIE Niedzica 72.35 324 *e*P P 03 35 19.2 +0.5
NIE *e*P P 03 35 19.2 +0.5
TRPA Tarpa 72.41 322 ⇑P P 03 35 19.4 +0.5
TRPA mb 03 35 20.6
SNCC San Nicolas Is 72.42 60 P P 03 35 19.7 +0.4
baz=314,SNR=11
SNCC San Nicolas Is 72.42 60 IAmb IAmb 03 35 20.9
comp=Z,93nm,1.1s
DECC Green Verdugo 72.45 59 P P 03 35 19.6 +0.1
baz=314,SNR=6.9
OZUR 72.52 319 ⇑P P 03 35 20.3 +0.6
SHOC Shoshone, Teco 72.52 56 P P 03 35 20.3 +0.4
baz=314,SNR=7.3
PASC Pasadena Art C 72.59 59 IAmb IAmb 03 35 21.6
comp=Z,71nm,1.4s
GSC Goldstone, Bar 72.63 57 P P 03 35 21.0 +0.4
baz=314,SNR=58
GSC Goldstone, Bar 72.63 57 IAmb IAmb 03 35 22.2
comp=Z,61nm,1.1s
MWC Mount Wilson 72.64 59 IAmb IAmb 03 35 22.3
comp=Z,105nm,1.4s
SHPR Sheep Range 72.75 55 IAmb IAmb 03 35 23.6
comp=Z,96nm,1.3s
KSP Ksiaz 72.79 327 *e*P P 03 35 21.2 0.0
KSP Ksiaz 72.79 327 *e*P P 03 35 21.2 0.0
KSP *e*P P 03 35 21.2 0.0
DOPR Dopca 72.80 319 ⇑P P 03 35 22.0 +0.6
RRX Edison Barstow 72.81 58 P P 03 35 22.1 +0.5
baz=314
FMP Fort Macarthur 72.85 59 P P 03 35 21.8 0.0
baz=314
BFSC Mount Baldy Ra 72.86 58 P P 03 35 22.2 +0.1
baz=314,SNR=40
OKC Ostrava-Krasne 72.88 326 *e*P P 03 35 23.1 +1.4
OKC *e* 03 35 30.3
OKC Ostrava-Krasne 72.88 326 *e*P P 03 35 23.1 +1.4
OKC *e*pP pP 03 35 30.3 +0.9
LANS Liptovska Anna 72.90 325 *e*P P 03 35 23.4 +1.5
LANS pmax pmax
comp=Z,15nm,1.0s
LANS Liptovska Anna 72.90 325 *e*P P 03 35 23.4 +1.5
MLR Muntele Rosu 72.90 319 ⇑P P 03 35 22.9 +0.8
MLR Muntele Rosu 72.90 319 P P 03 35 22.7 +0.5
comp=Z,9.8nm,1.0s,baz=311,slow=5.1,SNR=8.5
MLR Muntele Rosu 72.90 319 ⇑P P 03 35 22.9 +0.8

CIS Catalina Islan 72.99 60 P P 03 35 22.7 0.0
baz=314,SNR=6.2
K22A Casper 73.00 46 P P 03 35 22.3 -0.5
baz=317,SNR=13
K22A Casper 73.00 46 IAmb IAmb 03 35 23.7
comp=Z,66nm,1.4s
CJR Cluj-Napoca 73.03 321 ⇓P P 03 35 23.1 +0.3
CJR Cluj-Napoca 73.03 321 ⇓P P 03 35 23.1 +0.3
TUQ Turquoise Moun 73.05 57 P P 03 35 23.8 +0.6
baz=315,SNR=79
ICOR Ion Corvin 73.05 317 ⇓P P 03 35 23.2 +0.3
CHVC Chvalec 73.09 327 *e*P P 03 35 23.3 +0.3
CHVC *ex* x 03 35 29.3
RSSD Black Hills 73.13 43 P P 03 35 23.3 -0.4
baz=318
RSSD Black Hills 73.13 43 P P 03 35 23.2 -0.4
RSSD pmax pmax
comp=Z,96nm,1.1s
RSSD Black Hills 73.13 43 P P 03 35 23.2 -0.4
RSSD IAmb IAmb 03 35 24.5
comp=Z,96nm,1.1s
MORC Moravsky Berou 73.17 326 P P 03 35 25.1 +1.6
MORC Moravsky Berou 73.17 326 ⇑P P 03 35 23.6 0.0
MORC mb 03 35 25.1
MORC Moravsky Berou 73.17 326 *e*P P 03 35 23.5 0.0
MORC Moravsky Berou 73.17 326 IAmb IAmb 03 35 33.8
comp=Z,45nm,1.1s
UPC Upice 73.17 327 *e*P P 03 35 23.9 +0.4
UPC MLR MLR
comp=Z,1μm,12.9s
UPC Upice 73.17 327 *e*P P 03 35 23.9 +0.4
UPC AMS AMS 04 10 50.0
comp=Z,1μm,12.9s
DPC Dobruska-Polom 73.18 327 *e*P P 03 35 24.1 +0.5
DPC *e* 03 35 30.0
DPC MLR MLR
comp=Z,1μm,17.0s
DPC Dobruska-Polom 73.18 327 *e*P P 03 35 24.1 +0.5
DPC *e*pP pP 03 35 30.0 -1.2
DPC AMS AMS 04 11 00.0
comp=Z,1μm,17.0s
SCI2 San Clemente I 73.20 60 P P 03 35 24.0 +0.1
baz=314
KRLC Kraliky 73.22 327 *e*P P 03 35 24.4 +0.6
KRLC Kraliky 73.22 327 *e*P P 03 35 24.4 +0.6
HEC Hector,Ludlow 73.23 57 P P 03 35 24.7 +0.5
baz=315,SNR=71
BBRC Big Bear Solar 73.28 58 P P 03 35 25.0 +0.3
baz=314,SNR=9.7
BR131 Keskin Array S 73.30 310 P P 03 35 25.3 +0.7
SNR=11
BRTR Keskin Array B 73.30 310 P P 03 35 24.3 -0.3
comp=Z,6.6nm,0.9s,baz=68,slow=4.4,SNR=41
BRTR PP PP 03 37 53.9 -14
comp=Z,1.1nm,0.3s,baz=54,slow=14,SNR=26
BRTR LR LR 04 13 33.1
comp=Z,514nm,18.2s,baz=52,slow=41
VOIR 73.35 319 ⇓P P 03 35 25.3 +0.6
VOIR 73.35 319 ⇓P P 03 35 25.3 +0.6
RWWY Rawlins 73.36 47 IAmb IAmb 03 35 26.0
comp=Z,71nm,1.0s
DRGR 73.37 321 ⇓P P 03 35 24.7 -0.1
DRGR 73.37 321 ⇓P P 03 35 24.7 -0.1
KAC Achnashellach 73.42 342 *e*P P 03 35 24.7 -0.1
AGMN Agassiz Nation 73.57 36 P P 03 35 24.2 -1.7
baz=322,SNR=7.3
MURC Murrieta 73.58 59 P P 03 35 26.3 0.0
baz=315,SNR=17
ARR Arges 73.60 319 ⇑P P 03 35 26.9 +0.7
CLL Collm 73.62 329 ⇑*i*P P 03 35 25.4 -0.7
CLL pmax pmax
comp=Z,59nm,1.1s
CLL MLR MLR
comp=Z,1μm,16.8s
CLL Collm 73.62 329 ⇑*i*P P 03 35 25.4 -0.7
comp=Z,59nm,1.1s
CLL *i* sP sP 03 35 35.1 -1.4
CLL *i* PcP PcP 03 35 41.5 -0.4
CLL LmH 04 04 00.0
comp=N,400nm,21.4s
CLL LmH 04 04 00.0
comp=E,1μm,21.4s
CLL Collm 73.62 329 IAmb IAmb 03 35 27.3
comp=Z,37nm,0.8s
BRG Berggiesshubel 73.64 329 *i* P P 03 35 25.9 -0.3
comp=Z,32nm,1.4s
BRG *i* pP sP 03 35 36.2 -0.5
comp=Z,14nm,0.9s
BRG *i* sP PcP 03 35 41.5 -0.5
comp=Z,10nm,0.9s
BRG *e*PP PP 03 38 06.0 -3.8
comp=Z,7.2nm,0.9s
comp=N,1μm,15.6s
comp=E,1μm,15.1s
comp=Z,2μm,16.5s
BRG Berggiesshubel 73.64 329 *i* P P 03 35 25.9 -0.3
BRG *i* *PP sP 03 35 36.2 -0.5
BRG *i* *SP PcP 03 35 41.5 -0.5
BRG *e* 03 38 06.0
BRG pmax pmax
comp=Z,32nm,1.4s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=N,1μm,15.6s
BRG MLR MLR
comp=E,1μm,15.1s
BRG MLR MLR
comp=Z,2μm,16.5s
KPL Plockton 73.65 342 *e*P P 03 35 25.8 -0.3
ANTO Ankara 73.65 311 P P 03 35 27.1 +0.6
SNR=8.4
ANTO Ankara 73.65 311 P P 03 35 26.8 +0.2
ANTO pmax pmax
comp=Z,40nm,1.2s
ANTO Ankara 73.65 311 ⇑P P 03 35 26.3 -0.3
ANTO mb 03 35 28.1
ANTO Ankara 73.65 311 P P 03 35 26.8 +0.2
ANTO Ankara 73.65 311 IAMs_20 IAMs_20 04 14 02.8
comp=Z,637nm,18.0s
GMRC Granite Mounta 73.66 57 P P 03 35 27.4 +0.6
baz=315,SNR=52
VYHS Vyhne 73.67 324 *e*P P 03 35 27.3 +0.8
VYHS pmax pmax
comp=Z,37nm,1.2s
VYHS Vyhne 73.67 324 *e*P P 03 35 27.3 +0.8
PSZ Piszkesteto 73.69 323 P P 03 35 28.4 +1.7
PSZ Piszkesteto 73.69 323 ⇓P P 03 35 27.5 +0.8
PSZ mb 03 35 28.4
PVCC Panska Ves 73.69 328 *e*P P 03 35 27.6 +1.1
PVCC Panska Ves 73.69 328 *e*P P 03 35 27.6 +1.1
JAVC Velka Javorina 73.85 325 *e*P P 03 35 28.7 +1.1
VRAC Vranov 73.91 326 P P 03 35 29.7 +1.8
VRAC Vranov 73.91 326 P P 03 35 28.7 +0.9
comp=Z,19nm,0.8s,baz=46,slow=5.8,SNR=23
VRAC Vranov 73.91 326 ⇑P P 03 35 28.6 +0.7
VRAC mb 03 35 29.7
VRAC Vranov 73.91 326 *e*P P 03 35 28.1 +0.2
O20A White River Ci 73.96 49 P P 03 35 28.4 -0.1
baz=317,SNR=30
O20A White River Ci 73.96 49 IAmb IAmb 03 35 29.7
comp=Z,49nm,0.9s
BELC Belle Mtn. Jos 74.01 58 P P 03 35 28.8 -0.1
baz=315,SNR=16
PFO Pinyon Flats O 74.01 58 P P 03 35 28.9 0.0
baz=315,SNR=34
PFO Pinyon Flats O 74.01 58 P P 03 35 28.9 0.0
PFO pmax pmax
comp=Z,86nm,1.4s
PFO Pinyon Flats O 74.01 58 P P 03 35 28.9 0.0
PFO IAmb IAmb 03 35 30.3
comp=Z,86nm,1.4s
GOPC GO Pecny, Ondr 74.11 328 *e*P P 03 35 29.2 +0.2
GOPC *e* 03 35 38.4
GOPC GO Pecny, Ondr 74.11 328 *e*P P 03 35 29.2 +0.2
GOPC *e*pP sP 03 35 38.4 -1.1
PRA Prague 74.12 328 AMS AMS 04 10 50.0
comp=Z,1μm,19.2s
109C Camp Elliot, M 74.13 59 P P 03 35 29.6 +0.2
baz=315,SNR=5.8
109C Camp Elliot, M 74.13 59 IAmb IAmb 03 35 30.8
comp=Z,53nm,1.1s
PRU Pruhonice 74.14 328 *e*P P 03 35 29.2 0.0
PRU *e* 03 35 35.9
PRU MLR MLR

comp=Z,1μm,15.2s
PRU Pruhonice 74.14 328 *e*P P 03 35 29.2 0.0
PRU *e*pP pP 03 35 35.9 -0.9
PRU AMS AMS 04 11 00.0
comp=Z,1μm,15.2s
KRUC Moravsky 74.19 326 *e*P P 03 35 29.4 -0.1
SIRR Siria 74.23 321 ⇓P P 03 35 30.1 +0.3
COPA Copaceanca 74.27 318 ⇑P P 03 35 29.4 -0.6
TREC Trest 74.35 327 AMS AMS 04 13 10.0
comp=Z,2μm,11.8s
MODS Modra-Piesok 74.39 325 *e*P P 03 35 30.7 0.0
MODS pmax pmax
comp=Z,38nm,1.1s
MODS Modra-Piesok 74.39 325 *e*P P 03 35 30.7 0.0
IRM Iron Mountain 74.41 57 P P 03 35 31.8 +0.8
baz=315,SNR=53
GZR Gura Zlata 74.42 320 ⇓P P 03 35 30.5 -0.4
GZR Gura Zlata 74.42 320 ⇓P P 03 35 30.5 -0.4
EAB Aberfoyle 74.42 341 *e*P P 03 35 30.2 -0.4
U15A North Rim 74.43 54 IAmb IAmb 03 35 33.7
comp=Z,123nm,1.4s
W13A Hualapai Mount 74.47 56 IAmb IAmb 03 35 33.4
comp=Z,60nm,1.2s
BAR Barrett 74.54 59 IAmb IAmb 03 35 33.1
comp=Z,46nm,1.1s
MONP2 Monument Peak 74.54 59 P P 03 35 32.1 0.0
baz=315,SNR=20
BC3 Big Chuckawall 74.58 58 P P 03 35 32.5 +0.3
baz=315,SNR=39
N23A Red Feather La 74.58 47 P P 03 35 32.5 +0.3
baz=318,SNR=15
LAWE Loan Awe, Argy 74.59 342 *e*P P 03 35 30.9 -0.7
SHAO Shalim 74.67 280 P P 03 35 33.2 +0.4
NKC Novy Kostel 74.71 329 *e*P P 03 35 33.0 +0.5
NKC MLR MLR
comp=Z,1μm,14.9s
NKC Novy Kostel 74.71 329 *e*P P 03 35 33.0 +0.5
NKC AMS AMS 04 12 40.0
comp=Z,1μm,14.9s
BZS Buzias 74.76 321 ⇑P P 03 35 32.3 -0.5
BZS Buzias 74.76 321 ⇑P P 03 35 32.3 -0.5
SWSC Sam W. Stewart 74.87 58 P P 03 35 33.6 -0.1
baz=315,SNR=22
PV04 Paradox Valley 74.88 50 IAmb IAmb 03 35 35.5
comp=Z,80nm,1.0s
PV20 West Nyswonger 74.88 50 IAmb IAmb 03 35 35.4
comp=Z,103nm,1.1s
PV19 Morning Glory 74.89 50 IAMs_20 IAMs_20 04 13 19.3
comp=Z,823nm,22.0s
IKP In-Ko-Pah, Jac 74.90 59 P P 03 35 34.4 +0.4
baz=315,SNR=33
HERR Herculane 74.97 320 ⇑P P 03 35 33.4 -0.7
PV18 Skein Mesa, Pa 74.98 50 IAmb IAmb 03 35 36.0
comp=Z,104nm,1.2s
PV07 Paradox Valley 74.98 50 IAmb IAmb 03 35 35.9
comp=Z,48nm,1.0s
PV12 Saucer Basin, 74.98 50 IAmb IAmb 03 35 48.0
comp=Z,41nm,0.9s
PV03 Paradox Valley 75.01 50 IAmb IAmb 03 35 36.2
comp=Z,94nm,1.3s
Y12C Blythe 75.06 57 P P 03 35 35.5 +0.8
baz=316,SNR=56
PLVB Pleven 75.11 318 ⇑P P 03 35 33.7 -1.2
WTSB Winterswijk 75.16 333 *i* P P 03 35 34.8 -0.2
KHC Kasperske Hory 75.21 328 *e*P P 03 35 35.4 0.0
KHC *e* 03 35 43.2
KHC MLR MLR
comp=Z,2μm,16.4s
KHC Kasperske Hory 75.21 328 *e*P P 03 35 35.4 0.0
KHC *e*pP pP 03 35 43.2 +0.2
KHC AMS AMS 04 12 20.0
comp=Z,2μm,16.4s
KHC Kasperske Hory 75.21 328 IAMs_20 IAMs_20 04 11 49.9
comp=Z,416nm,18.0s
PV01 Paradox Valley 75.24 50 IAMs_20 IAMs_20 04 13 03.5
comp=Z,659nm,19.0s
SUSD Miller 75.25 40 P P 03 35 35.2 -0.6
baz=321,SNR=12
CONA Conrad Observa 75.31 326 *i* P P 03 35 36.6 +0.5
comp=Z,46nm,1.1s,SNR=17
SMCO Snowmass 75.32 49 IAmb IAmb 03 35 38.1
comp=Z,36nm,0.8s
MDVR Moldovita 75.37 320 ⇑P P 03 35 35.6 -0.8
GLA Glamis 75.37 58 P P 03 35 37.3 +0.6
baz=316,SNR=14
GLA Glamis 75.37 58 IAmb IAmb 03 35 38.5
comp=Z,125nm,1.3s
GERES GERESS Array B 75.40 328 P P 03 35 36.3 -0.3
comp=Z,12nm,0.9s,baz=40,slow=5.2,SNR=31
GERES pP pP 03 35 43.2 -1.0
comp=Z,4.8nm,0.6s,baz=23,slow=5.0,SNR=10.0
GERES PP PP 03 38 16.6 -8.3
comp=Z,5.2nm,1.0s,baz=43,slow=8.0,SNR=4.7
GERES LR LR 04 11 26.4
comp=Z,654nm,20.3s,baz=44,slow=38
MPEP Malo Peshtene 75.55 318 *i* P P 03 35 37.5 +0.1
ISCO Idaho Springs 75.57 47 P P 03 35 38.4 +0.4
baz=318,SNR=21
KESW Keswick, Cumbr 75.59 340 *e*P P 03 35 37.4 -0.1
KESW IAmb IAmb 03 35 38.4
comp=Z,127nm,1.3s
GRA1 Grafenberg Arr 75.60 329 IAmb IAmb 03 35 39.7
comp=Z,65nm,0.9s
EYMN Ely 75.60 34 P P 03 35 36.4 -1.2
baz=325,SNR=6.7
EYMN Ely 75.60 34 P P 03 35 36.5 -1.2
EYMN IAmb IAmb 03 35 37.5
comp=Z,67nm,0.9s
WUAZ Wupatki 75.60 54 P P 03 35 38.9 +0.8
baz=316,SNR=20
WUAZ Wupatki 75.60 54 IAmb IAmb 03 35 40.3
comp=Z,90nm,1.4s
DIM Dimitrovgrad 75.70 316 *i* P P 03 35 38.0 -0.3
GAL1 Galloway 75.72 341 *e*P P 03 35 37.5 -0.7
GAL1 IAmb IAmb 03 35 38.8
comp=Z,56nm,1.2s
CLGH Cloghs, Cushen 75.83 342 *e*P P 03 35 38.3 -0.5
CLGH IAmb IAmb 03 35 39.7
comp=Z,94nm,1.2s
FRGS Fruska Gora 75.91 322 ⇑*i*P P 03 35 38.8 -0.7
MVCO Mesa Verde 75.96 51 P P 03 35 40.7 +0.5
baz=318,SNR=36
MVCO Mesa Verde 75.96 51 IAmb IAmb 03 35 41.7
comp=Z,80nm,1.1s
ARSA Arzberg 76.00 326 *i* P P 03 35 40.1 +0.2
comp=Z,23nm,1.1s,SNR=6.7
MOA Molln 76.00 327 *i* P P 03 35 40.0 0.0
comp=Z,16nm,0.9s,SNR=7.2
WHFO Wadi Hawf 76.02 281 P P 03 35 39.7 -0.8
PLD Plovdiv 76.06 317 *i* P P 03 35 40.1 -0.2
IDGL Inch Island, C 76.14 342 *e*P P 03 35 40.4 -0.2
LBWR Ladybower, Pea 76.33 339 *e*P P 03 35 41.3 -0.4
LBWR IAmb IAmb 03 35 42.6
comp=Z,142nm,1.2s
ISP Isparta 76.35 311 ⇓P P 03 35 41.7 -0.5
ISP Isparta 76.35 311 ⇓P P 03 35 41.7 -0.5
VTS Vitosha 76.36 318 *i* P P 03 35 42.2 0.0
VTS Vitosha 76.36 318 ⇓P P 03 35 42.8 +0.6
VTS Vitosha 76.36 318 ⇓P P 03 35 42.8 +0.6
VTS mb 03 35 43.9
VTS Vitosha 76.36 318 IAmb IAmb 03 35 43.8
comp=Z,48nm,1.0s
X16A Lo Mia Camp, P 76.36 55 IAmb IAmb 03 35 44.7
comp=Z,69nm,1.1s
RZN Rozhen 76.37 317 *i* P P 03 35 42.8 +0.4
Q24A Divide 76.43 48 P P 03 35 42.7 -0.2
baz=319,SNR=18
S22A 4UR Ranch, Cre 76.46 49 P P 03 35 43.5 +0.4
baz=318,SNR=42
S22A 4UR Ranch, Cre 76.46 49 IAmb IAmb 03 35 45.1
comp=Z,52nm,1.1s
HGN Heimansgroeve 76.47 333 *i* P P 03 35 41.9 -0.6
OGNE Ogallala 76.50 44 P P 03 35 42.8 -0.2
baz=320,SNR=16
BEBN Eben Emael 76.52 333 P P 03 35 42.7 -0.1
comp=Z,61nm,1.0s
GMM Mts of Mourne 76.58 341 *e*P P 03 35 42.4 -0.7
MEM Membach 76.58 333 ⇑P P 03 35 42.3 -0.8
comp=Z,34nm,1.0s
SOKA Soboth 76.66 325 *i* P P 03 35 43.9 +0.1
comp=Z,34nm,0.9s,SNR=10
PERS Pernice 76.66 325 *i* P P 03 35 43.6 -0.1
DIVS Divibare 76.67 321 ⇑*i*P P 03 35 43.1 -0.8
E38A The Farm, Brul 76.67 35 P P 03 35 42.8 -1.0
baz=325,SNR=12
STNC Stoke 76.73 339 *e*P P 03 35 44.1 +0.2

BSTI	Sart Tilman	76.74	333	P		P	03 35 44.1	+0.1
SCHQ	Schefferville	76.79	17	P		P	03 35 43.5	-0.7
	comp=Z,16nm,0.8s,baz=12,slow=8.9,SNR=6.2							
SCHQ				LR		LR	04 13 38.8	
	comp=Z,627nm,18.1s,baz=358,slow=39							
BHOU	Houvegnez	76.80	333	⇑P		P	03 35 44.0	-0.4
	comp=Z,25nm,1.3s							
W18A	Petrified Fore	76.81	53	P		P	03 35 45.5	+0.5
	baz=317,SNR=11							
CWF	Charnwood Fore	76.82	338	*e*P		P	03 35 43.9	-0.5
CWF				IAmb		IAmb	03 35 45.1	
	comp=Z,60nm,1.4s							
ECSD	EROS Data Cent	76.86	39	P		P	03 35 44.1	-0.8
	baz=322,SNR=37							
ECSD	EROS Data Cent	76.86	39	IAmb		IAmb	03 35 45.1	
	comp=Z,72nm,0.9s							
KSDI	Kefar Szold	76.89	304	P		P	03 35 45.5	+0.3
ASF	Jabal al Asfar	76.90	303	P		P	03 35 45.8	+0.4
MMB	Musomiste	76.92	317	*i* P		P	03 35 45.2	-0.1
CSS	Mathiatis	76.93	307	IAmb		IAmb	03 35 46.3	
	comp=Z,47nm,1.2s							
UCC	Uccle	76.93	334	P		P	03 35 44.1	-1.0
BCLA	Clavier	76.97	333	⇑P		P	03 35 44.9	-0.5
	comp=Z,27nm,1.1s							
KBA	Koelnbreinsper	76.99	327	*i* P		P	03 35 46.4	+0.6
	comp=Z,86nm,1.1s,SNR=8.9							
OBKA	Obir	76.99	326	*i* P		P	03 35 45.9	+0.2
	comp=Z,24nm,0.9s							
KKB	Krupnik	77.01	318	*i* P		P	03 35 45.6	-0.2
STU	Stuttgart	77.09	330	IAmb		IAmb	03 35 47.5	
	comp=Z,66nm,0.8s							
BBLS	Lazići	77.11	321	⇑*i*P		P	03 35 46.3	-0.1
X18A	Snowflake	77.12	54	IAmb		IAmb	03 35 48.8	
	comp=Z,51nm,1.2s							
HAPS	Han Pijesak,BI	77.13	322	⇑*i*P		P	03 35 45.5	-1.0
SDCO	Great Sand Dun	77.16	49	P		P	03 35 47.5	+0.4
	baz=319,SNR=33							
FOEL	Foel Wylfa	77.17	339	*e*P		P	03 35 46.3	-0.1
FOEL				IAmb		IAmb	03 35 47.4	
	comp=Z,92nm,1.2s							
YLL	Llanberis	77.17	340	*e*P		P	03 35 45.9	-0.6
CRES	Cresnjev	77.19	325	⇑*i*P		P	03 35 46.1	-0.6
SNF	Seneffe	77.21	334	P		P	03 35 46.1	-0.6
	comp=Z,38nm,1.2s							
BMRD	Maredsous	77.24	333	⇑P		P	03 35 46.4	-0.5
	comp=Z,60nm,1.1s							
MYKA	Terra Mystica	77.25	326	*i* P		P	03 35 46.7	-0.4
	comp=Z,41nm,1.0s,SNR=7.8							
SPMN	Marine on St.	77.29	36	P		P	03 35 46.1	-1.2
	baz=324,SNR=12							
SPMN	Marine on St.	77.29	36	IAmb		IAmb	03 35 47.2	
	comp=Z,47nm,0.9s							
LLW	Llanuwychllyn	77.32	339	*e*P		P	03 35 47.1	-0.2
LLW				IAmb		IAmb	03 35 48.2	
	comp=Z,34nm,1.1s							
RUDO	Rudo	77.32	321	*e*P		P	03 35 45.8	-1.7
214A	Organ Pipe Nat	77.34	57	P		P	03 35 48.4	+0.5
	baz=317,SNR=20							
214A	Organ Pipe Nat	77.34	57	IAmb		IAmb	03 35 49.6	
	comp=Z,78nm,1.2s							
WLF	Walferdange	77.35	332	P		P	03 35 47.7	+0.2
BLY	Banja Luka	77.35	323	*e*P		P	03 35 41.8	-5.8
BLY	Banja Luka	77.35	323	⇓P		P	03 35 48.4	+0.8
BLY	Banja Luka	77.35	323	IAMs_20		IAMs_20	04 08 28.9	
	comp=Z,534nm,20.0s							
STKA	Stephens Creek	77.37	180	P		P	03 35 48.1	+0.6
	comp=Z,2.2nm,0.7s,baz=328,slow=9.7,SNR=6.8							
STKA				LR		LR	04 11 01.7	
	comp=Z,191nm,20.3s,baz=15,slow=36							
LJU	Ljubljana	77.38	325	*e*P		P	03 35 46.9	-0.9
WATA	Walderalm	77.44	328	*i* P		P	03 35 48.4	+0.1
	comp=Z,42nm,0.6s,SNR=31							
D41A	Chassel	77.45	33	P		P	03 35 48.0	-0.2
	baz=327							
DOU	Dourbes	77.47	333	⇑P		P	03 35 47.5	-0.6
WTTA	Wattenberg	77.48	328	*i* P		P	03 35 48.6	+0.1
	comp=Z,95nm,1.0s,SNR=25							
BOJS	Bojanci	77.53	325	*i* P		P	03 35 48.1	-0.5
STIP	Stip	77.56	318	*i* P		P	03 35 47.9	-1.0
MMLI	Mount Malkishu	77.57	304	P		P	03 35 49.8	+0.7
ABTA	Abfaltersbach	77.58	327	*i* P		P	03 35 47.7	-1.3
	comp=Z,26nm,1.3s,SNR=5.4							
MOTA	Moosalm	77.61	328	*i* P		P	03 35 49.3	+0.1
	comp=Z,142nm,1.0s,SNR=37							
RETA	Reutte	77.62	328	*i* P		P	03 35 49.3	+0.2
	comp=Z,54nm,1.1s,SNR=14							
MGRS	Mrkonjic Grad	77.66	323	⇑*i*P		P	03 35 49.6	+0.2
CEY	Cerknica	77.67	325	⇑*i*P		P	03 35 48.7	-0.7
VAY	Valandovo	77.67	318	*i* P		P	03 35 49.9	+0.4
SQTA	Sankt Quirin	77.68	328	*i* P		P	03 35 49.6	+0.1
	comp=Z,71nm,0.8s,SNR=22							
KSCO	Kaye Shedlock'	77.68	46	P		P	03 35 49.3	-0.5
	baz=320,SNR=6.1							
KSCO	Kaye Shedlock'	77.68	46	IAmb		IAmb	03 35 50.5	
	comp=Z,71nm,1.3s							
SKO	Skopje	77.69	319	*i* P		P	03 35 50.3	+0.7
BFO	Black Forest	77.77	330	P		P	03 35 49.9	0.0
BFO				pmax		pmax		
	comp=Z,36nm,1.0s							
BFO	Black Forest	77.77	330	P		P	03 35 49.9	0.0
UPM	Unac-Piva	77.86	321	*e*P		P	03 35 51.4	+0.7
STAL	STALIGIAL	77.91	327	IAmb		IAmb	03 35 50.5	
	comp=Z,32nm,0.8s							
STRD	Stroud	77.92	338	*e*P		P	03 35 50.7	+0.1
STRD				IAmb		IAmb	03 35 51.3	
	comp=Z,199nm,1.3s							
MCH1	Michaelchurch	77.93	339	*e*P		P	03 35 50.5	-0.2
MCH1				IAmb		IAmb	03 35 51.4	
	comp=Z,62nm,1.3s							
TRI	Trieste	77.96	326	IAmb		IAmb	03 35 51.0	
	comp=Z,37nm,0.9s							
WALJ	Wala	77.98	303	P		P	03 35 52.5	+1.2
BGNE	Belgrade	77.99	42	P		P	03 35 50.4	-0.9
	baz=322,SNR=8.3							
FETA	Feichten	78.02	328	*i* P		P	03 35 51.4	-0.2
	comp=Z,54nm,1.0s,SNR=16							
MONM	Monmouth	78.02	338	*e*P		P	03 35 50.7	-0.5
MONM				IAmb		IAmb	03 35 52.2	
	comp=Z,86nm,1.3s							
SWN1	Swindon	78.06	338	*e*P		P	03 35 51.3	-0.1
SWN1				IAmb		IAmb	03 35 52.5	
	comp=Z,112nm,1.0s							
WOL	Wolverton	78.08	337	*e*P		P	03 35 51.2	-0.4
WOL				IAmb		IAmb	03 35 52.1	
	comp=Z,73nm,0.9s							
DAVA	Damuels	78.11	329	*i* P		P	03 35 51.7	-0.3
	comp=Z,71nm,0.8s,SNR=20							
MORW	Morawa	78.16	203	P		P	03 35 52.0	0.0
MORW				IAmb		IAmb	03 36 00.4	
	comp=Z,72nm,1.6s							
T25A	Trinidad	78.19	48	P		P	03 35 52.6	0.0
	baz=319,SNR=24							
T25A	Trinidad	78.19	48	IAmb		IAmb	03 35 53.9	
	comp=Z,69nm,1.1s							
BRY	Bratogost	78.26	321	*e*P		P	03 35 51.7	-1.2
TUC	Tucson	78.27	56	P		P	03 35 53.7	+0.6
	baz=317							
TUC	Tucson	78.27	56	P		P	03 35 53.6	+0.6
TUC				pmax		pmax		
	comp=Z,45nm,1.2s							
TUC	Tucson	78.27	56	P		P	03 35 53.6	+0.6
TUC				IAmb		IAmb	03 35 54.9	
	comp=Z,45nm,1.1s							
ECH	Echery	78.27	331	IAmb		IAmb	03 35 53.8	
	comp=Z,41nm,0.9s							
G40A	Rib Lake	78.31	35	P		P	03 35 51.9	-1.1
	baz=326,SNR=16							
PDG	Podgorica	78.32	320	⇑*i*P		P	03 35 52.3	-0.7
PDG	Podgorica	78.32	320	⇑P		P	03 35 52.4	-0.7
PDG				mb			03 35 53.7	
PDG	Podgorica	78.32	320	IAmb		IAmb	03 35 54.7	
PDG				IAMs_20		IAMs_20	04 14 24.6	
	comp=Z,546nm,19.0s							
LISJ	El Lisan	78.41	303	P		P	03 35 54.6	+1.0
TREB	Trebinje	78.49	321	*e*P		P	03 35 51.4	-2.6
IWEX	Carrickbyrne,	78.49	341	*e*P		P	03 35 53.1	-0.6
CTI	Castel Tesino	78.50	327	IAmb		IAmb	03 35 54.4	
	comp=Z,55nm,1.1s							
AMAZ	Amatzia	78.53	304	P		P	03 35 54.7	+0.3
DAVOX	Davos/Dischmat	78.54	329	P		P	03 35 54.4	0.0
	comp=Z,27nm,0.9s							
DRME	Dracevica, Mon	78.54	320	⇑*i*P		P	03 35 53.7	-0.6
MAKA	Makarska	78.60	322	*i* P		P	03 35 53.5	-1.1
DBRK	Dubrovnik	78.61	321	*i* P		P	03 35 52.6	-2.0
E43A	Lone Tree Farm	78.62	32	P		P	03 35 53.3	-1.3
	baz=328							
FNA	Florina	78.66	318	IAMs_20		IAMs_20	04 09 32.4	
	comp=Z,584nm,19.0s							
LIT	Litokhoron	78.67	317	IAMs_20		IAMs_20	04 15 16.6	
	comp=Z,539nm,20.0s							
F42A	Maple Grove Fa	78.71	33	P		P	03 35 54.1	-1.0
	baz=327							
ANMO	Albuquerque	78.75	51	P		P	03 35 56.4	+0.7
	baz=319							
ANMO	Albuquerque	78.75	51	*c i* P		P	03 35 56.2	+0.4
ANMO				pmax		pmax		
	comp=Z,57nm,1.2s							
ANMO	Albuquerque	78.75	51	P		P	03 35 56.5	+0.7
ANMO				IAmb		IAmb	03 35 57.8	
	comp=Z,62nm,1.2s							
MATQ	Matagami	78.79	25	P		P	03 35 54.2	-1.2
	baz=333							
E44A	Grand Marais A	78.80	31	P		P	03 35 54.3	-1.3
	baz=328							
DUGI	Dugi Otok	78.85	324	*i* P		P	03 35 54.6	-1.4
TIR	Tirane	78.91	319	⇓P		P	03 35 56.4	+0.1
TIR	Tirane	78.91	319	⇓P		P	03 35 56.4	+0.1
TIR	Tirane	78.91	319	IAmb		IAmb	03 35 58.6	
	comp=Z,75nm,1.0s							
TUE	Stuetta	78.99	329	IAmb		IAmb	03 35 58.0	
	comp=Z,37nm,0.9s							
HSNJ	Maan	79.00	302	P		P	03 35 58.5	+1.3
TEOL	Teolo	79.06	327	IAmb		IAmb	03 35 58.0	
	comp=Z,62nm,0.8s							
Y22D	IRIS PASSCAL I	79.14	52	P		P	03 35 58.8	+0.9
	baz=319							
D46A	Sault St. Mari	79.25	30	P		P	03 35 56.7	-1.4
	baz=330							
CBKS	Cedar Bluff	79.26	44	P		P	03 35 57.4	-0.9
	baz=322,SNR=7.1							
CBKS	Cedar Bluff	79.26	44	IAmb		IAmb	03 35 58.4	
	comp=Z,99nm,1.3s							
D47A	Chapleau	79.43	29	P		P	03 35 57.3	-1.7
	baz=330							
CHGQ	Chibougamau	79.57	23	P		P	03 35 58.3	-1.5
	baz=335							
E46A	Sault Ste Mari	79.60	30	P		P	03 35 58.5	-1.5
	baz=329							
LSQQ	Lebel-sur-Quev	79.61	25	P		P	03 35 58.6	-1.4
	baz=334							
F45A	CMU Biological	79.75	32	P		P	03 35 59.5	-1.3
	baz=329							
D48A	Paudash Townsh	79.76	29	P		P	03 35 59.1	-1.8
	baz=331							
AQBJ	Aqaba	79.76	302	P		P	03 36 11.0	+10
121A	Cookes Peak, D	79.81	54	P		P	03 36 02.6	+1.0
	baz=318,SNR=36							
121A	Cookes Peak, D	79.81	54	IAmb		IAmb	03 36 03.8	
	comp=Z,90nm,1.1s							
SCIA	State Center	79.81	38	P		P	03 36 00.6	-0.6
	baz=325							
SCIA	State Center	79.81	38	IAmb		IAmb	03 36 01.7	
	comp=Z,67nm,0.9s							
D49A	Beulah Townshi	79.83	28	P		P	03 35 59.4	-1.8
	baz=331							
SOCY	Socotra	79.86	277	P		P	03 36 00.1	-1.9
SOCY	Socotra	79.86	277	P		P	03 36 00.3	-1.7
SOCY				IAmb		IAmb	03 36 01.1	
	comp=Z,63nm,1.0s							
H43A	Windswept, Lux	79.93	34	P		P	03 36 01.4	-0.4
	baz=328							
I42A	Draeger Farm,	79.97	35	P		P	03 36 01.0	-1.0
	baz=327,SNR=5.7							
CLF	Chambon-Foret	80.02	334	IAmb		IAmb	03 36 04.8	
	comp=Z,55nm,1.0s							
ZCCA	Zocca	80.18	327	IAmb		IAmb	03 36 24.4	
	comp=Z,58nm,1.0s							
JFWS	Jewell Farm	80.24	36	P		P	03 36 02.2	-1.4
	baz=326							
E48A	Lockeyer	80.25	29	P		P	03 36 01.7	-1.8
	baz=331							
G45A	Suttons Bay	80.25	32	P		P	03 36 02.3	-1.2
	baz=329							
G46A	Petoskey	80.30	31	P		P	03 36 02.6	-1.2
	baz=329							
VLDQ	Val d'Or	80.31	25	IAmb		IAmb	03 36 02.8	
	comp=Z,77nm,0.9s							
SGRT	San Giovanni R	80.40	322	IAMs_20		IAMs_20	04 17 02.6	
	comp=Z,535nm,18.0s							
D50A	G1974 Best Tow	80.41	27	P		P	03 36 02.8	-1.5
	baz=332							
H45A	Beulah	80.46	32	P		P	03 36 03.4	-1.2
	baz=328							
SSF	Saint Saulge	80.48	333	*e*P		P	03 36 03.6	-1.2
SSF				pmax		pmax		
	comp=Z,26nm,0.8s							
MURB	Monte Urbino	80.49	325	IAmb		IAmb	03 36 16.2	
	comp=Z,80nm,1.1s							
KSU1	Kansas State U	80.54	42	P		P	03 36 04.0	-1.2
	baz=323,SNR=12							
L40A	Anamosa	80.54	37	P		P	03 36 03.8	-1.3
	baz=326,SNR=11							
VLC	Villacollemand	80.57	327	IAmb		IAmb	03 36 06.7	
	comp=Z,55nm,1.0s							
NRCA	Norcia	80.61	324	IAmb		IAmb	03 36 06.8	
	comp=Z,70nm,0.8s							
D51A	Lot 18 Range I	80.63	27	P		P	03 36 04.1	-1.5
	baz=332							
F48A	Evansville	80.66	30	P		P	03 36 04.3	-1.4
	baz=330							
LPL	La Plagne	80.75	330	*e*P		P	03 36 05.8	-0.7
LPL				pmax		pmax		
	comp=Z,46nm,0.9s							
MSSA	Maissana	80.77	327	IAmb		IAmb	03 36 06.8	
	comp=Z,56nm,1.0s							
OSSC	Osservatorio P	80.77	326	IAMs_20		IAMs_20	04 18 34.3	
	comp=Z,760nm,21.0s							
E50A	Wahnapitae	80.78	28	P		P	03 36 04.6	-1.8
	baz=332							
G47A	Hillman	80.79	31	P		P	03 36 04.7	-1.7
	baz=330							
GLMI	Grayling	80.81	31	P		P	03 36 05.0	-1.6
	baz=329							
H46A	Fife Lake	80.84	32	P		P	03 36 05.4	-1.3
	baz=329,SNR=6.1							
MATE	Matera	80.88	321	⇑P		P	03 36 05.9	-1.0
AQU	L'Aquila	80.89	324	⇑*i*P		P	03 36 06.4	-0.7
AQU	L'Aquila	80.89	324	IAmb		IAmb	03 36 08.3	
	comp=Z,85nm,1.0s							
F49A	Sandfield	80.91	29	P		P	03 36 05.4	-1.7
	baz=331							
INTR	Introdacqua	80.96	323	IAmb		IAmb	03 36 08.7	
	comp=Z,79nm,1.1s							
D52A	ZEK Kipawa Sen	81.03	27	P		P	03 36 06.1	-1.6
	baz=333							
E51A	G1948 Merrick	81.08	27	P		P	03 36 06.3	-1.7
	baz=332							
ACER	Acerenza	81.11	321	IAmb		IAmb	03 36 09.3	
	comp=Z,102nm,1.1s							
H47A	Mio	81.16	31	P		P	03 36 07.1	-1.3
	baz=330							
D53A	Lac Vacive, Po	81.16	26	P		P	03 36 07.0	-1.4
	baz=333							
D53A	Lac Vacive, Po	81.16	26	IAmb		IAmb	03 37 05.7	
	comp=Z,101nm,1.9s							
K43A	Burlington	81.19	35	P		P	03 36 07.4	-1.2
	baz=327							
I46A	Reed City	81.26	32	P		P	03 36 08.0	-1.0
	baz=329							
AMTX	Amarillo	81.33	48	P		P	03 36 09.8	+0.1
	baz=321							
AMTX	Amarillo	81.33	48	IAmb		IAmb	03 36 10.9	
	comp=Z,78nm,1.0s							
D54A	Lac Fusel, La	81.42	25	P		P	03 36 08.3	-1.4
	baz=334							
MSTX	Muleshoe	81.46	49	P		P	03 36 10.0	-0.4
	baz=321,SNR=16							
F51A	Arnstein	81.48	28	P		P	03 36 08.5	-1.6
	baz=332							
PAOL	Paolisi	81.50	322	IAMs_20		IAMs_20	04 18 59.6	
	comp=Z,596nm,20.0s							
J46A	Howard City	81.69	33	P		P	03 36 10.4	-0.8
	baz=329							
MNTX	Cornudas Mount	81.78	53	P		P	03 36 12.4	+0.5
	baz=320,SNR=56							
MNTX	Cornudas Mount	81.78	53	IAmb		IAmb	03 36 13.7	
	comp=Z,65nm,1.2s							
MNTX				IAMs_20		IAMs_20	04 07 37.3	
	comp=Z,389nm,18.0s							
F52A	Sundridge	81.79	28	P		P	03 36 10.3	-1.5
	baz=332							
E53A	Dumoine, Ponti	81.80	26	P		P	03 36 10.5	-1.3
	baz=334							
L44A	Lake County Fo	81.80	35	P		P	03 36 10.7	-1.2
	baz=328							
D55A	Sainte-Anne-du	81.89	25	P		P	03 36 10.8	-1.4
	baz=335							
E54A	Lac Daplat, Po	81.90	26	P		P	03 36 10.6	-1.7
	baz=334							
MFF	Saint Martin d	82.03	335	*e*P		P	03 36 12.3	-0.7
MFF				pmax		pmax		
	comp=Z,60nm,1.1s							
TIP	Timpagrande	82.06	320	⇑P		P	03 36 13.3	-0.1
TIP				mb			03 36 14.3	
TIP	Timpagrande	82.06	320	IAMs_20		IAMs_20	04 17 08.7	
	comp=Z,572nm,18.0s							
ALGO	Algonquin Park	82.06	27	P		P	03 36 11.7	-1.5
	baz=333							
D56A	ZEC Mazanza, M	82.07	24	P		P	03 36 11.7	-1.5
	baz=335							
J47A	Sunmer	82.10	32	P		P	03 36 12.4	-1.0
	baz=329							
J47A	Sunmer	82.10	32	IAmb		IAmb	03 36 13.9	
	comp=Z,38nm,0.7s							
K46A	Dorr	82.21	33	P		P	03 36 12.9	-1.0
	baz=329,SNR=6.6							
E55A	Montcerf-Lytto	82.22	25	P		P	03 36 12.6	-1.3
	baz=334							
I49A	Point Hope	82.22	31	P		P	03 36 12.9	-1.2
	baz=330							
D57A	Chemin Vers le	82.34	24	P		P	03 36 13.2	-1.4
	baz=336							
J48A	Bridge Port	82.43	32	P		P	03 36 14.2	-1.0
	baz=330							
K47A	Vermontville	82.52	33	P		P	03 36 14.8	-0.8
	baz=329							
G54A	Lake Saint Pet	82.54	27	P		P	03 36 14.8	-0.9
	baz=333							
D58A	Chemin du LacG	82.55	23	P		P	03 36 14.5	-1.2
	baz=336							
L46A	Eue Claire	82.58	34	P		P	03 36 14.8	-1.2
	baz=328,SNR=5.3							
L46A	Eue Claire	82.58	34	IAmb		IAmb	03 36 16.2	
	comp=Z,75nm,0.9s							
HDIL	Hopedale	82.60	37	P		P	03 36 15.0	-1.1
	baz=327,SNR=8.5							
HDIL	Hopedale	82.60	37	IAmb		IAmb	03 36 16.2	
	comp=Z,60nm,0.8s							
G53A	Haliburton	82.62	28	P		P	03 36 14.7	-1.4
	baz=333							
H52A	Wyevale	82.63	29	P		P	03 36 14.5	-1.6
	baz=332							
K48A	Perry	82.74	32	P		P	03 36 16.2	-0.5
	baz=330,SNR=5.8							
WMOK	Wichita Mounta	82.93	46	P		P	03 36 17.8	-0.1
	baz=322,SNR=40							
WMOK	Wichita Mounta	82.93	46	IAmb		IAmb	03 36 19.0	
	comp=Z,63nm,1.1s							
I51A	Listowel	82.98	30	P		P	03 36 17.1	-0.8
	baz=332							
K49A	Clarkson	83.00	32	P		P	03 36 17.3	-0.8
	baz=330							
L47A	Sherwood	83.04	33	P		P	03 36 17.3	-1.0
	baz=329,SNR=9.0							
E58A	La Victoria	83.10	24	P		P	03 36 17.7	-0.9
	baz=336							
G55A	Calabogie	83.10	26	P		P	03 36 17.2	-1.4
	baz=334							
D60A	Saint Jean D'O	83.24	22	P		P	03 36 18.0	-1.2
	baz=338							
LFF	La Frestale	83.25	333	*e*P		P	03 36 18.9	-0.4
LFF				pmax		pmax		
	comp=Z,41nm,0.9s							
K50A	Casco	83.31	31	P		P	03 36 19.0	-0.7
	baz=331							
K50A	Casco	83.31	31	IAmb		IAmb	03 36 20.6	
	comp=Z,48nm,1.0s							
L48A	N Adams	83.36	33	P		P	03 36 19.1	-0.8
	baz=330,SNR=14							
M47A	Cromwell	83.40	34	P		P	03 36 19.5	-0.7
	baz=329,SNR=9.1							
I53A	Kortright Cn E	83.45	29	P		P	03 36 19.0	-1.4
	baz=332							
L49A	Milan	83.47	32	P		P	03 36 20.0	-0.5
	baz=330,SNR=14							
TUL1	Leonard	83.48	44	P		P	03 36 20.6	-0.1
	baz=324,SNR=30							
D62A	Allapoint, All	83.56	21	P		P	03 36 19.6	-1.3
	baz=339							
H55A	Tweed	83.59	27	P		P	03 36 20.2	-0.9
	baz=334							
E60A	Ste Agathe de	83.61	22	P		P	03 36 19.9	-1.2
	baz=337							
M48A	Edgerton	83.64	33	P		P	03 36 20.8	-0.7
	baz=330							
SFIN	Lafayette	83.65	35	P		P	03 36 20.5	-1.0
	baz=328,SNR=10							
SFIN	Lafayette	83.65	35	IAmb		IAmb	03 36 21.6	
	comp=Z,48nm,0.9s							
J52A	Paris	83.66	30	P		P	03 36 20.4	-1.1
	baz=332							
F59A	Saint Guilaume	83.72	24	P		P	03 36 20.1	-1.6
	baz=337							
I55A	Frankford	83.73	27	P		P	03 36 20.4	-1.4
	baz=334							
K51A	Iona Station	83.76	31	P		P	03 36 21.4	-0.6
	baz=331							
G57A	Newington	83.77	25	P		P	03 36 20.6	-1.3
	baz=335							
N47A	Urbana	83.78	34	P		P	03 36 21.0	-1.2
	baz=329,SNR=18							
CCM	Cathedral Cave	83.83	39	P		P	03 36 21.5	-1.0
	baz=326							
CCM	Cathedral Cave	83.83	39	P		P	03 36 21.9	-0.6
CCM				pmax		pmax		
	comp=Z,46nm,1.1s							
CCM	Cathedral Cave	83.83	39	P		P	03 36 21.9	-0.6
CCM				IAmb		IAmb	03 36 22.9	
	comp=Z,46nm,1.1s							
H56A	Elgin	83.84	26	P		P	03 36 21.0	-1.3
	baz=334							
E62A	Clayton Lake	83.87	21	P		P	03 36 21.0	-1.5
	baz=339							
L50A	Kingsville	83.88	32	P		P	03 36 21.8	-0.8
	baz=331,SNR=5.7							
M49A	Liberty Center	83.94	33	P		P	03 36 22.0	-0.9
	baz=330,SNR=8.0							
K52A	Tillsonburg	83.98	30	P		P	03 36 22.6	-0.6
	baz=332							
G58A	Ormstown	84.00	25	P		P	03 36 21.7	-1.5
	baz=336							
N48A	Decatur	84.06

G61A	St-Isidore-de-	84.59	23	P	P	03 36 25.4	-0.8
	baz=337						
I57A	Carthage	84.62	26	P	P	03 36 24.9	-1.4
	baz=335						
OLIL	Olney	84.63	37	IAmb	IAmb	03 36 26.5	
	comp=Z,34nm,0.9s						
H58A	Gabriels	84.63	25	P	P	03 36 25.4	-1.0
	baz=336						
M51A	Elyria	84.73	32	P	P	03 36 25.4	-1.5
	baz=331						
ERPA	Erie	84.82	30	P	P	03 36 26.5	-0.9
	baz=332						
K54A	Basiliko Farm,	84.83	29	P	P	03 36 25.9	-1.5
	baz=333						
N50A	Nevada	84.86	33	P	P	03 36 27.0	-0.6
	baz=330,SNR=7.5						
F64A	Sherman	84.87	21	P	P	03 36 26.2	-1.3
	baz=340						
L53A	Girard	84.87	30	P	P	03 36 26.6	-1.1
	baz=332						
O49A	Covington	84.91	34	P	P	03 36 26.8	-1.1
	baz=330,SNR=6.5						
O49A	Covington	84.91	34	IAmb	IAmb	03 36 28.1	
	comp=Z,50nm,1.1s						
H60A	Morristown	84.93	24	P	P	03 36 26.6	-1.3
	baz=337						
K55A	Perry	84.93	28	P	P	03 36 26.6	-1.4
	baz=333						
L54A	Sinclairville	84.95	29	P	P	03 36 26.1	-2.0
	baz=333						
J57A	Williamstown	84.99	27	P	P	03 36 26.4	-1.8
	baz=335						
S44A	Carbondale	85.01	38	P	P	03 36 27.9	-0.5
	baz=327,SNR=22						
W39A	Magazine	85.01	43	P	P	03 36 28.0	-0.5
	baz=325,SNR=12						
N51A	Ashland	85.02	32	P	P	03 36 27.4	-1.1
	baz=331,SNR=5.7						
N51A	Ashland	85.02	32	IAmb	IAmb	03 36 29.1	
	comp=Z,58nm,1.0s						
WVNY	West Valley, N	85.04	29	IAmb	IAmb	03 36 28.4	
	comp=Z,37nm,1.0s						
P48A	Milroy	85.10	35	P	P	03 36 27.9	-1.0
	baz=329,SNR=13						
H61A	Lyndonville	85.17	23	P	P	03 36 27.9	-1.2
	baz=337						
M53A	WI Miller and	85.18	31	P	P	03 36 28.6	-0.7
	baz=332,SNR=5.1						
K56A	Middlesex	85.20	28	P	P	03 36 28.2	-1.2
	baz=334						
O50A	Cable	85.22	33	P	P	03 36 28.8	-0.6
	baz=330,SNR=15						
J58A	Remsen	85.25	26	P	P	03 36 28.3	-1.3
	baz=335						
J58A	Remsen	85.25	26	IAmb	IAmb	03 36 29.2	
	comp=Z,29nm,1.1s						
I59A	Olmsteadville	85.28	25	P	P	03 36 28.6	-1.1
	baz=336						
P49A	Miami Univ. Ec	85.32	34	P	P	03 36 29.1	-0.8
	baz=330,SNR=12						
G64A	Maxfield	85.34	21	P	P	03 36 29.0	-0.9
	baz=339						
H62A	Milan	85.34	23	P	P	03 36 29.0	-1.0
	baz=338						
N52A	McGinn's Farm,	85.36	32	P	P	03 36 29.2	-0.9
	baz=331,SNR=6.3						
ACSO	Alum Creek Sta	85.39	33	P	P	03 36 29.4	-0.8
	baz=331,SNR=10						
J59A	Piesco	85.40	26	P	P	03 36 29.0	-1.3
	baz=336						
I60A	Shoreham	85.41	25	P	P	03 36 29.1	-1.2
	baz=336						
Q48A	North Vernon	85.44	35	P	P	03 36 29.8	-0.7
	baz=329,SNR=8.5						
USIN	University of	85.46	37	IAmb	IAmb	03 36 31.3	
	comp=Z,55nm,1.1s						
M54A	Oil Creek Stat	85.47	30	P	P	03 36 29.9	-0.8
	baz=332						
M54A	Oil Creek Stat	85.47	30	IAmb	IAmb	03 36 31.9	
	comp=Z,46nm,1.1s						
LCAR	Lake Charles	85.52	40	IAmb	IAmb	03 36 31.8	
	comp=Z,37nm,0.9s						
O51A	Pataskala	85.60	33	P	P	03 36 30.4	-0.9
	baz=331,SNR=7.8						
P50A	Jamestown	85.61	34	P	P	03 36 30.5	-0.9
	baz=330,SNR=13						
L56A	Greenwood	85.63	28	P	P	03 36 30.4	-1.1
	baz=334						
I61A	Oroboro, Fairl	85.64	24	P	P	03 36 30.7	-0.8
	baz=337						
MIAR	Mount Ida	85.64	43	P	P	03 36 31.4	-0.2
	baz=325,SNR=24						
N53A	Lisbon	85.68	31	P	P	03 36 30.9	-0.8
	baz=332,SNR=5.9						
N53A	Lisbon	85.68	31	IAmb	IAmb	03 36 32.1	
	comp=Z,78nm,1.2s						
K58A	Earlville	85.68	27	P	P	03 36 30.7	-1.0
	baz=335						
G65A	Princeton	85.69	20	P	P	03 36 30.6	-1.0
	baz=340						
Q49A	Aurora	85.70	35	P	P	03 36 31.2	-0.7
	baz=330,SNR=8.9						
JCT	Junction City	85.75	50	P	P	03 36 32.1	-0.2
	baz=322,SNR=20						
W41B	Gary Mavity, V	85.75	42	P	P	03 36 31.7	-0.5
	baz=326,SNR=20						
WHTX	Lake Whitney,	85.78	47	P	P	03 36 32.4	0.0
	baz=323,SNR=19						
WCI	Wyandotte Cave	85.80	36	P	P	03 36 31.6	-0.8
	baz=329						
WCI	Wyandotte Cave	85.80	36	P	P	03 36 31.9	-0.5
WCI				pmax	pmax		
	comp=Z,40nm,1.1s						
WCI	Wyandotte Cave	85.80	36	P	P	03 36 31.9	-0.5
WCI				IAmb	IAmb	03 36 33.0	
	comp=Z,40nm,1.1s						
M55A	Ridgway	85.82	29	P	P	03 36 31.5	-0.9
	baz=333						
M55A	Ridgway	85.82	29	IAmb	IAmb	03 36 32.7	
	comp=Z,65nm,1.4s						
N54A	Moraine State	85.84	30	P	P	03 36 31.7	-0.9
	baz=332,SNR=7.7						
O52A	Adamsville	85.92	32	P	P	03 36 32.1	-0.9
	baz=331,SNR=12						
K59A	Cooperstown	85.92	26	P	P	03 36 31.7	-1.2
	baz=335						
L57A	Andrews Acres	85.98	28	P	P	03 36 31.8	-1.5
	baz=334						
M56A	Emporium	86.00	29	P	P	03 36 32.1	-1.2
	baz=333						
P51A	Williamsport	86.01	33	P	P	03 36 32.3	-1.0
	baz=331,SNR=9.0						
P51A	Williamsport	86.01	33	IAmb	IAmb	03 36 33.4	
	comp=Z,50nm,1.0s						
O53A	New Philadelph	86.03	32	P	P	03 36 32.8	-0.7
	baz=332,SNR=8.9						
X40A	Basin Creek Fa	86.04	42	P	P	03 36 33.4	-0.2
	baz=325,SNR=32						
BINY	Binghamton	86.08	27	P	P	03 36 32.1	-1.6
	baz=335						
Q50A	Georgetown	86.21	34	P	P	03 36 33.8	-0.6
	baz=330,SNR=8.0						
R49A	Shelbyville	86.21	35	P	P	03 36 33.6	-0.8
	baz=329						
P52A	Corning	86.23	32	P	P	03 36 33.3	-1.2
	baz=331,SNR=6.0						
L58A	Harry Jones Me	86.27	27	P	P	03 36 32.9	-1.7
	baz=335						
Q51A	Peebles	86.30	34	P	P	03 36 34.1	-0.7
	baz=330,SNR=19						
N55A	Marion Center	86.36	30	P	P	03 36 34.1	-1.1
	baz=333,SNR=5.4						
L59A	Walton	86.39	27	P	P	03 36 34.1	-1.2
	baz=335						
O54A	Avella	86.39	31	P	P	03 36 34.6	-0.7
	baz=332,SNR=6.7						
O54A	Avella	86.39	31	IAmb	IAmb	03 36 35.8	
	comp=Z,72nm,1.4s						
N56A	West Decatur	86.47	29	P	P	03 36 34.7	-1.0
	baz=333						
M57A	Sunshine Farm,	86.49	28	P	P	03 36 34.8	-1.0
	baz=334						
M57A	Sunshine Farm,	86.49	28	IAmb	IAmb	03 36 35.8	
	comp=Z,40nm,1.1s						
T47A	Sharon Grove	86.52	37	P	P	03 36 35.6	-0.3
	baz=328,SNR=11						
R50A	Paris	86.55	35	P	P	03 36 35.4	-0.7
	baz=330,SNR=7.1						
R50A	Paris	86.55	35	IAmb	IAmb	03 36 36.8	
	comp=Z,53nm,1.1s						
S49A	Springfield	86.59	36	P	P	03 36 35.8	-0.5
	baz=329,SNR=9.6						
P53A	Whipple	86.63	32	P	P	03 36 35.5	-1.0
	baz=332,SNR=5.5						
P53A	Whipple	86.63	32	IAmb	IAmb	03 36 37.0	
	comp=Z,66nm,1.2s						
M58A	Price's Panora	86.68	28	P	P	03 36 35.5	-1.1
	baz=334						
435B	Jarrell	86.68	48	P	P	03 36 36.3	-0.5
	baz=323						
435B	Jarrell	86.68	48	IAmb	IAmb	03 36 37.7	
	comp=Z,57nm,1.4s						
O55A	Ligonier	86.75	30	P	P	03 36 36.0	-1.1
	baz=333						
Q52A	Bidwell	86.76	33	P	P	03 36 36.1	-1.0
	baz=331,SNR=5.5						
R51A	Hillsboro	86.83	34	P	P	03 36 37.0	-0.5
	baz=330,SNR=7.1						
SSPA	Standing Stone	86.86	29	P	P	03 36 36.3	-1.3
	baz=334						
P54A	Burton	86.87	31	P	P	03 36 36.9	-0.8
	baz=332						
N57A	Milroy	86.87	29	P	P	03 36 36.3	-1.3
	baz=334						
X43A	Marvell	86.93	41	P	P	03 36 38.0	+0.1
	baz=326,SNR=6.7						
WVT	Waverly	86.94	38	P	P	03 36 37.6	-0.4
	baz=328						
WVT	Waverly	86.94	38	P	P	03 36 37.7	-0.3
WVT				pmax	pmax		
	comp=Z,105nm,1.5s						
WVT	Waverly	86.94	38	P	P	03 36 37.7	-0.3
O56A	Blue Knob Stat	86.96	30	P	P	03 36 37.3	-0.8
	baz=333						
S50A	Richmond	87.04	35	P	P	03 36 37.9	-0.6
	baz=330,SNR=7.1						
MCWV	Mont Chateau	87.05	31	P	P	03 36 37.9	-0.6
	baz=332						
Z41A	Richland Creek	87.06	43	P	P	03 36 38.8	+0.2
	baz=325,SNR=7.0						
T49A	Edmonton	87.08	36	P	P	03 36 38.2	-0.4
	baz=329,SNR=6.6						
T49A	Edmonton	87.08	36	IAmb	IAmb	03 36 39.5	
	comp=Z,75nm,1.5s						
Q53A	Leroy	87.13	32	P	P	03 36 38.5	-0.4
	baz=332,SNR=12						
R52A	Catlettsburg	87.16	33	P	P	03 36 38.4	-0.7
	baz=331						
P55A	Reedsville	87.19	31	P	P	03 36 38.9	-0.3
	baz=332,SNR=10						
Q54A	Coxs Mills	87.28	32	P	P	03 36 39.2	-0.4
	baz=332,SNR=7.3						
M60A	Port Jervis	87.31	27	P	P	03 36 38.8	-0.8
	baz=336						
N59A	State Game Lan	87.31	28	P	P	03 36 38.8	-0.9
	baz=335						
N59A	State Game Lan	87.31	28	IAmb	IAmb	03 36 40.2	
	comp=Z,72nm,1.4s						
O57A	Amberson	87.33	29	P	P	03 36 38.8	-1.0
	baz=334						
NATX	Nacogdoches	87.38	45	P	P	03 36 40.4	+0.2
	baz=324						
S51A	Beattyville	87.40	34	P	P	03 36 39.4	-0.8
	baz=330,SNR=5.3						
S51A	Beattyville	87.40	34	IAmb	IAmb	03 36 40.7	
	comp=Z,48nm,1.2s						
T50A	Nancy	87.43	36	P	P	03 36 39.8	-0.6
	baz=330,SNR=11						
R53A	Hurricane	87.44	33	P	P	03 36 39.4	-1.0
	baz=331						
U49A	Red Boiling Sp	87.48	37	P	P	03 36 40.1	-0.6
	baz=329,SNR=11						
P56A	Dayton Farm, R	87.54	30	P	P	03 36 40.4	-0.5
	baz=333,SNR=10						
Q55A	Buckhannon	87.55	31	P	P	03 36 40.1	-0.8
	baz=332						
S52A	Salyersville	87.57	34	P	P	03 36 40.4	-0.7
	baz=331,SNR=6.4						
OXF	Oxford	87.60	40	P	P	03 36 40.8	-0.4
	baz=327						
O58A	Lewisberry	87.65	29	P	P	03 36 40.3	-1.1
	baz=334						
833A	Chaparral WMA,	87.67	51	P	P	03 36 41.7	+0.1
	baz=322,SNR=5.7						
V48A	Smith Brothers	87.70	38	P	P	03 36 41.1	-0.6
	baz=328,SNR=24						
T51A	Gray	87.84	35	P	P	03 36 41.4	-0.9
	baz=330						
R54A	Victor	87.93	32	P	P	03 36 42.2	-0.6
	baz=332,SNR=5.7						
S53A	Williamson	87.94	33	P	P	03 36 41.8	-1.0
	baz=331						
U50A	Jamestown	87.95	36	P	P	03 36 42.5	-0.5
	baz=330,SNR=8.0						
ATD	Arta Tunnel	87.97	284	P	P	03 36 45.1	+1.8
	comp=Z,8.4nm,0.4s,baz=343,slow=2.7,SNR=8.5						
ATD	Arta Tunnel	87.97	284	IAmb	IAmb	03 36 45.8	
	comp=Z,44nm,1.1s						
ATD				IAMs_20	IAMs_20	04 21 57.6	
	comp=Z,509nm,18.0s						
O60A	Telford	87.97	28	P	P	03 36 41.8	-1.0
	baz=335						
V49A	McMinnville	88.07	37	P	P	03 36 42.7	-0.8
	baz=329,SNR=7.3						
P58A	Pank, Wackersv	88.09	29	P	P	03 36 42.8	-0.7
	baz=334						
T52A	Hallie	88.10	34	P	P	03 36 43.2	-0.4
	baz=331,SNR=5.5						
Q57A	Strasburg	88.11	30	P	P	03 36 42.9	-0.7
	baz=333						
S54A	Dingess, Beckl	88.14	33	P	P	03 36 43.3	-0.5
	baz=332						
S54A	Dingess, Beckl	88.14	33	IAmb	IAmb	03 36 44.0	
	comp=Z,40nm,1.1s						
KEST	Kesra	88.16	323	P	P	03 36 43.5	-0.5
	comp=Z,30nm,0.8s,baz=321,slow=3.1,SNR=23						
KEST				LR	LR	04 20 54.1	
	comp=Z,568nm,18.6s,baz=350,slow=39						
KEST	Kesra	88.16	323	IAmb	IAmb	03 36 44.7	
	comp=Z,36nm,0.9s						
R55A	Marlinton	88.16	32	P	P	03 36 43.4	-0.5
	baz=332						
R55A	Marlinton	88.16	32	IAmb	IAmb	03 36 44.8	
	comp=Z,44nm,1.2s						
P59A	Jarrettsville	88.27	29	P	P	03 36 43.3	-1.0
	baz=334						
R56A	Bull Pasture M	88.31	31	P	P	03 36 43.7	-1.0
	baz=333						
PBRG	Braganca	88.32	337	eP	P	03 36 43.8	-0.8
U51A	La Follette	88.32	35	P	P	03 36 44.0	-0.7
	baz=330,SNR=5.6						
TZTN	Tazewell	88.36	35	P	P	03 36 44.5	-0.4
	baz=330,SNR=5.3						
TZTN	Tazewell	88.36	35	IAmb	IAmb	03 36 45.8	
	comp=Z,65nm,1.3s						
PPT	Papeete	88.37	117	P	P	03 36 48.6	+3.7
	comp=Z,28nm,0.9s,baz=72,slow=12,SNR=3.6						
PPT				LR	LR	04 14 44.7	
	comp=Z,286nm,18.1s,baz=289,slow=34						
T53A	Wise	88.39	34	P	P	03 36 44.3	-0.7
	baz=331						
Q58A	Fox Den Farm,	88.45	30	P	P	03 36 44.4	-0.7
	baz=334						
W49A	Belvidere	88.47	38	P	P	03 36 44.9	-0.4
	baz=329,SNR=20						
S55A	Lewisburg	88.47	32	P	P	03 36 44.8	-0.6
	baz=332						
V50A	Pikevile	88.48	36	P	P	03 36 44.9	-0.5
	baz=330						
U52A	Thorn Hill	88.57	35	P	P	03 36 45.4	-0.4
	baz=330,SNR=11						
V51A	Loudon	88.68	36	P	P	03 36 45.7	-0.6
	baz=330,SNR=5.3						
V51A	Loudon	88.68	36	IAmb	IAmb	03 36 47.1	
	comp=Z,40nm,1.1s						
T54A	Tazewell	88.69	33	P	P	03 36 46.2	-0.2
	baz=332,SNR=9.0						
X48A	Hartselle	88.70	38	P	P	03 36 45.7	-0.7
	baz=328,SNR=14						
R57A	Stanardsville	88.73	31	P	P	03 36 45.7	-0.8
	baz=333						
W50A	Signal Mountai	88.80	37	P	P	03 36 46.5	-0.5
	baz=329,SNR=9.8						
W50A	Signal Mountai	88.80	37	IAmb	IAmb	03 36 47.5	
	comp=Z,48nm,1.0s						
S56A	Natural Bridge	88.90	32	P	P	03 36 46.7	-0.6
	baz=333						
U53A	Fall Branch	88.91	34	P	P	03 36 47.0	-0.4
	baz=331,SNR=7.7						
T55A	Pulaski	88.94	33	P	P	03 36 47.4	-0.3
	baz=332,SNR=7.1						
V52A	Sevierville	88.95	35	P	P	03 36 47.1	-0.5
	baz=330,SNR=7.1						
V52A	Sevierville	88.95	35	IAmb	IAmb	03 36 48.5	
	comp=Z,43nm,1.1s						
MVO	Moncorvo	88.99	337	eP	P	03 36 47.1	-0.7
	comp=Z,38nm,1.2s						
BLA	Blacksburg	89.00	32	P	P	03 36 47.3	-0.6
	baz=332						
BLA	Blacksburg	89.00	32	IAmb	IAmb	03 36 48.6	
	comp=Z,36nm,1.2s						
VBMS	Vicksburg	89.00	42	P	P	03 36 48.5	+0.6
	baz=327,SNR=8.7						
TKL	Tuckaleechee C	89.04	36	LR	LR	04 19 08.3	
	comp=Z,271nm,18.9s,baz=338,slow=37						
S57A	Dark Hollow, R	89.05	31	P	P	03 36 47.5	-0.5
	baz=333						
W51A	Cleveland	89.06	37	P	P	03 36 47.7	-0.5
	baz=330,SNR=6.9						
U54A	Nelsons Funny	89.07	34	P	P	03 36 47.9	-0.3
	baz=331,SNR=5.2						
U54A	Nelsons Funny	89.07	34	IAmb	IAmb	03 36 49.0	
	comp=Z,42nm,1.0s						
PVRL	Vila Real	89.08	338	eP	P	03 36 47.1	-1.1
	comp=Z,56nm,1.7s						
HIZ	Hauiti	89.09	155	IAMs_20	IAMs_20	04 12 32.6	
	comp=Z,401nm,19.0s						
CBN	Corbin Frederi	89.21	30	P	P	03 36 47.7	-1.1
	baz=334						
FPAL	Fort Paine	89.24	37	IAmb	IAmb	03 36 49.6	
	comp=Z,42nm,1.3s						
R58B	Mineral	89.25	30	P	P	03 36 48.4	-0.6
	baz=334						
T56A	Rocky Mt	89.30	32	P	P	03 36 48.6	-0.7
	baz=332						
R59A	King George, V	89.31	30	P	P	03 36 48.3	-0.9
	baz=334						
U55A	TA2, Sparta	89.38	33	P	P	03 36 49.4	-0.3
	baz=332,SNR=5.0						
V53A	Saluda	89.42	35	P	P	03 36 49.3	-0.6
	baz=331						
W52A	Murphy	89.47	36	P	P	03 36 49.7	-0.3
	baz=330						
W52A	Murphy	89.47	36	IAmb	IAmb	03 36 51.0	
	comp=Z,34nm,1.1s						
Y49A	Blount Mountai	89.48	38	P	P	03 36 49.4	-0.7
	baz=329,SNR=9.0						
ESBB	Sonseca Array	89.49	334	IAmb	IAmb	03 36 50.6	
	comp=Z,19nm,0.8s						
ESDC	Sonseca Array	89.49	334	P	P	03 36 49.6	-0.5
	comp=Z,14nm,0.7s,baz=18,slow=4.1,SNR=83						
ESDC				LR	LR	04 22 09.6	
	comp=Z,466nm,18.6s,baz=0.0,slow=39						
ESDC	Sonseca Array	89.49	334	P	P	03 36 49.5	-0.7
S58A	Poland Farm, P	89.50	31	P	P	03 36 49.4	-0.8
	baz=334						
X51A	Calhoun	89.53	37	P	P	03 36 49.7	-0.6
	baz=330						
X51A	Calhoun	89.53	37	IAmb	IAmb	03 36 50.6	
	comp=Z,33nm,1.0s						
URZ	Urewera	89.55	153	IAmb	IAmb	03 36 50.4	
	comp=Z,27nm,0.9s						
T57A	Hurt	89.62	32	P	P	03 36 49.9	-0.8
	baz=333						
S59A	Mechanicsville	89.64	30	P	P	03 36 50.1	-0.6
	baz=334						
PVIS	Viseu	89.65	337	eP	P	03 36 47.8	-3.1
	comp=Z,45nm,1.6s						
V54A	Nebo	89.67	34	P	P	03 36 50.5	-0.5
	baz=331						
W53A	Cullowhee	89.71	35	P	P	03 36 50.7	-0.7
	baz=331,SNR=6.0						
PAB	San Pablo	89.72	334	P	P	03 36 51.1	-0.2
PAB				pmax	pmax		
	comp=Z,18nm,0.9s						
PAB	San Pablo	89.72	334	P	P	03 36 51.1	-0.2
U56A	King	89.77	33	P	P	03 36 51.0	-0.5
	baz=332						
U56A	King	89.77	33	IAmb	IAmb	03 36 52.2	
	comp=Z,37nm,0.9s						
MTE	Manteigas	89.85	337	eP	P	03 36 51.4	-0.4
MTE	Manteigas	89.85	337	eLR	LR	04 17 43.6	
	comp=Z,564nm,18.0s						
V55A	Taylorsville	89.89	34	P	P	03 36 51.5	-0.5
	baz=332						
X52A	Dahlonega	89.90	36	P	P	03 36 51.6	-0.5
	baz=330,SNR=8.0						
S60A	Water View	89.91	30	P	P	03 36 52.0	0.0
	baz=334						
LRAL	Lakeview Retre	89.92	39	P	P	03 36 51.6	-0.6
	baz=328,SNR=6.7						
T58A	Grand View Acr	89.93	31	P	P	03 36 51.5	-0.7
	baz=333						
Y51A	Rockmart	90.02	37	P	P	03 36 52.2	-0.5
	baz=330,SNR=14						
U57A	Blanch	90.09	32	P	P	03 36 52.4	-0.5
	baz=333,SNR=6.5						
W54A	Cherokee Point	90.18	35	P	P	03 36 52.5	-0.9
	baz=331						
BKZ	Black Stump Fm	90.19	154	IAmb	IAmb	03 36 54.8	
	comp=Z,39nm,1.0s						
V56A	Mocksville	90.20	33	P	P	03 36 53.1	-0.3
	baz=332,SNR=5.5						
Z50A	Ashland	90.20	38	P	P	03 36 53.4	-0.1
	baz=329,SNR=32						
X53A	Estanollee	90.23	36	P	P	03 36 53.8	+0.2
	baz=330,SNR=12						
T59A	Double "B" Far	90.25	31	P	P	03 36 53.1	-0.5
	baz=334						
PCBR	Castelo Branco	90.35	337	eP	P	03 36 53.6	-0.5
	comp=Z,27nm,1.6s						
V57A	Coltrane Farms	90.41	33	P	P	03 36 53.8	-0.6
	baz=332,SNR=6.2						
U58A	Oxford	90.41	31	P	P	03 36 53.8	-0.7
	baz=333						
KMSC	Kings Mountain	90.46	34	P	P	03 36 54.2	-0.5
	baz=332,SNR=5.3						
KMSC	Kings Mountain	90.46	34	IAmb	IAmb	03 36 55.3	
	comp=Z,40nm,1.1s						
Y52A	Lilburn	90.47	37	P	P	03 36 54.7	-0.1
	baz=330,SNR=7.3						
Y52A	Lilburn	90.47	37	IAmb	IAmb	03 36 55.4	
	comp=Z,31nm,0.9s						
Z51A	Franklin	90.47	38	P	P	03 36 54.3	-0.5
	baz=330,SNR=6.8						
PAULI	Pauline	90.56	35	IAmb	IAmb	03 36 55.7	
	comp=Z,25nm,1.0s						
X54A	Belton	90.57	35	P	P	03 36 55.0	-0.2
	baz=331,SNR=5.6						
Y53A	Monroe	90.68	36	P	P	03 36 55.8	+0.1
	baz=330,SNR=11						
PMRV	Marv??o	90.71	337	eP	P	03 36 54.6	-1.2
	comp=Z,31nm,1.4s						
U59A	Littleton	90.72	31	P	P	03 36 55.3	-0.6
	baz=334						
V58A	Windy Hill, Pi	90.74	32	P	P	03 36 55.4	-0.6
	baz=333						
MSEY	Mahe Island	90.75	264	IAMs_20	IAMs_20	04 23 01.6	
	comp=Z,237nm,18.0s						
W56A	Indian Trail	90.76	34	P	P	03 36 55.5	-0.6
	baz=332						
PTOM	Tomar	90.81	337	eP	P	03 36 55.7	-0.5
	comp=Z,49nm,1.5s						
U60A	Pendleton	90.84	30	P	P	03 36 55.6	-0.8
	baz=334						
Z52A	Williamson	90.90	37	P	P	03 36 56.7	-0.1
	baz=330,SNR=7.3						
X55A	Gracelyn & Ava	90.93	35	P	P	03 36 56.3	-0.6
	baz=332						
W57A	Gilead	90.97	33	P	P	03 36 56.6	-0.5
	baz=332,SNR=7.1						
Y54A	Tignall	91.04	36	P	P	03 36 57.4	0.0
	baz=331,SNR=10						
V59A	Middlesex	91.08	32	P	P	03 36 57.1	-0.5
	baz=333						
GOGA	Godfrey	91.11	36	P	P	03 36 57.4	-0.3
	baz=330,SNR=5.8						
250A	Grady	91.14	39	P	P	03 36 57.8	-0.1
	baz=329,SNR=10						
X56A	White Oak	91.15	34	P	P	03 36 57.4	-0.5
	baz=332,SNR=5.1						
Z53A	Monticello	91.18	37	P	P	03 36 58.0	-0.1
	baz=330,SNR=9.3						
152A	Waverly Hall	91.22	38	P	P	03 36 57

	baz=330					
152A	**Waverly Hall**	91.22	38	IAmb	IAmb	03 36 59.0
	comp=Z,32nm,1.2s					
JSC	**Jenkinsville**	91.25	34	IAmb	IAmb	03 36 59.2
	comp=Z,44nm,1.6s					
PMTG	**Montargil**	91.28	337	*e*P	P	03 36 57.3 -1.1
	comp=Z,35nm,1.8s					
PESTR	**Estremoz**	91.29	337	IAMs_20	IAMs_20	04 10 08.1
	comp=Z,524nm,22.0s					
Y55A	**Saluda**	91.31	35	P	P	03 36 58.5 -0.2
	baz=331,SNR=5.0					
W58A	**Raeford**	91.38	33	P	P	03 36 58.5 -0.5
	baz=333,SNR=6.1					
BFZ	**Birch Farm**	91.50	155	IAmb	IAmb	03 37 00.7
	comp=Z,38nm,1.0s					
Z54A	**Sparta**	91.52	36	P	P	03 36 59.3 -0.3
	baz=331					
X57A	**Johnson Farm,**	91.54	33	P	P	03 36 59.4 -0.3
	baz=332					
W59A	**Clinton**	91.54	32	P	P	03 36 59.5 -0.2
	baz=333					
THZ	**Tophouse**	91.55	157	IAmb	IAmb	03 37 01.2
	comp=Z,32nm,0.8s					
153A	**Fort Valley**	91.62	37	P	P	03 36 59.9 -0.2
	baz=330					
CNNC	**Cliffs of the**	91.68	32	P	P	03 36 59.7 -0.6
	baz=334					
EVO	**Evora**	91.72	337	*e*P	P	03 37 00.0 -0.5
	comp=Z,31nm,1.6s					
X58A	**Rowland**	91.75	33	P	P	03 36 59.8 -0.9
	baz=333					
252A	**Lumpkin**	91.79	38	P	P	03 37 00.6 -0.3
	baz=330					
Y57A	**Sumter**	91.82	34	P	P	03 37 00.6 -0.4
	baz=332					
Z55A	**Blythe**	91.82	36	P	P	03 37 00.6 -0.4
	baz=331					
W60A	**Pink Hill**	91.91	31	P	P	03 37 00.9 -0.5
	baz=334					
154A	**Montrose**	91.95	37	P	P	03 37 01.5 -0.2
	baz=331					
253A	**Americus**	92.00	38	P	P	03 37 01.6 -0.3
	baz=330,SNR=6.0					
PLWZ	**Palliser**	92.02	156	P	P	03 37 02.1 +0.7
Z56A	**Williston**	92.04	35	P	P	03 37 01.3 -0.7
	baz=332					
352A	**Blakely**	92.16	38	P	P	03 37 02.6 0.0
	baz=330,SNR=5.1					
Y58A	**Scranton**	92.20	33	P	P	03 37 02.4 -0.3
	baz=333					
155A	**Kite**	92.21	36	P	P	03 37 02.6 -0.2
	baz=331					
Z57A	**Bowman**	92.33	34	P	P	03 37 02.7 -0.7
	baz=332					
Y59A	**Loris**	92.43	33	P	P	03 37 03.3 -0.4
	baz=333					
254A	**Abbeville**	92.45	37	P	P	03 37 03.7 -0.2
	baz=330					
PCVE	**Castro Verde**	92.57	336	*e*P	P	03 37 04.0 -0.4
	comp=Z,51nm,1.7s					
353A	**Camilla**	92.58	38	P	P	03 37 04.6 +0.1
	baz=330					
FURI	**Furi**	92.69	286	IAMs_20	IAMs_20	04 23 24.5
	comp=Z,279nm,20.0s					
PVAQ	**Vaqueiros**	92.69	336	*e*P	P	03 37 04.4 -0.6
	comp=Z,85nm,1.8s					
PVAQ	**Vaqueiros**	92.69	336	*e*LR	LR	04 16 03.1
	comp=Z,570nm,18.0s					
TIGA	**Tifton**	92.77	38	P	P	03 37 05.4 0.0
	baz=330					
255A	**Hazlehurst**	92.81	36	P	P	03 37 05.5 -0.1
	baz=331					
SFS	**San Fernando**	93.12	335	IAMs_20	IAMs_20	04 22 14.9
	comp=Z,453nm,18.0s					
355A	**Pearson**	93.16	37	P	P	03 37 07.2 0.0
	baz=331					
PFVI	**Vila Bisbo**	93.25	337	*e*S	S	03 48 18.1 +4.8
LBZ	**Lake Benmore**	93.31	160	P	P	03 37 09.1 +1.7
KMBO	**Kilima Mbogo**	100.92	280	P	Pdif	03 37 43.2 +0.3
	comp=Z,0.8nm,0.4s,baz=142,slow=5.3,SNR=3.7					
KMBO				PP	PP	03 41 51.0 0.0
	comp=Z,0.7nm,0.4s,baz=46,slow=9.2,SNR=4.1					
KMBO	**Kilima Mbogo**	100.92	280	IAMs_20	IAMs_20	04 29 26.3
	comp=Z,368nm,18.0s					
TAM	**Tamanrasset**	100.99	319	IAMs_20	IAMs_20	04 30 08.9
	comp=Z,364nm,18.0s					
MBAR	**Mbarara**	104.99	285	IAMs_20	IAMs_20	04 32 02.5
	comp=Z,361nm,18.0s					
TORD	**Torodi Ar. Bea**	111.14	318	Pdiff	Pdif	03 38 27.8 -0.2
	comp=Z,1.1nm,1.0s,baz=20,slow=10.0,SNR=3.1					
TORD				PKIKP	PKiKP	03 42 25.2 -1.7
	comp=Z,0.9nm,0.8s,baz=26,slow=1.5,SNR=8.2					
TORD				PP	PP	03 43 00.7 -4.5
	comp=Z,16nm,0.9s,baz=20,slow=5.4,SNR=23					
TORD				PKKPbc	PKKPbc	03 53 22.6 +1.2
	comp=Z,2.0nm,0.9s,baz=196,slow=3.2,SNR=8.0					
SDV	**Santo Domingo**	118.23	37		PKPdf	03 42 39.8 -1.0
DBIC	**Dimbokro**	119.83	321	PKP	PKPdf	03 42 41.7 -1.9
	comp=Z,2.8nm,0.6s,baz=84,slow=0.2,SNR=6.5					
DBIC				PP	PP	03 44 04.7 -1.6
	comp=Z,9.2nm,1.0s,baz=39,slow=9.7,SNR=4.3					
ROSC	**El Rosal**	120.17	43	PKP	PKPdf	03 42 42.9 -1.9
	comp=Z,4.0nm,0.6s,baz=325,slow=20,SNR=4.1					
LBTB	**Lobatse**	125.50	269	PKIKP	PKPdf	03 42 54.4 +0.2
LBTB	**Lobatse**	125.50	269		PKPdf	03 42 54.4 +0.2
MAW	**Mawson**	127.53	208	PKP	PKiKP	03 42 57.0 -0.1
	comp=Z,14nm,0.9s,baz=313,slow=3.6,SNR=19					
BOSA	**Boshof**	127.98	266	PKP	PKiKP	03 43 01.0 +1.5
	comp=Z,2.4nm,0.8s,baz=13,slow=5.3,SNR=4.7					
ATAH	**Atahualpa**	128.17	55	PKP	PKiKP	03 43 00.7 0.0
	comp=Z,11nm,0.8s,baz=297,slow=3.0,SNR=8.5					
NNA	**Nana**	132.98	57	*i* PKIKP	PKiKP	03 43 10.1 +0.3
NNA	**Nana**	132.98	57	PKP	PKPdf	03 43 08.7 0.0
	comp=Z,8.8nm,0.9s,baz=148,slow=21,SNR=3.6					
SYO	**Syowa Base**	136.09	211⇑	*e*X	PKPdf	03 43 09.6 -3.1
SYO	**Syowa Base**	136.09	211⇓	*e*X	PKiKP	03 43 27.0 +13
LPAZ	**La Paz**	141.35	50	PKP	PKPdf	03 43 24.2 -0.6
	comp=Z,6.6nm,0.8s,baz=312,slow=2.8,SNR=20					
LPAZ				PP	PP	03 46 33.8 +6.8
	comp=Z,2.6nm,1.0s,baz=264,slow=3.8,SNR=4.3					
LPAZ	**La Paz**	141.35	50		PKPdf	03 43 23.9 -0.8
PB11	**IPOC Station P**	143.31	55		PKPbc	03 43 24.8 +0.1
SIV	**San Ignacio**	144.60	40	PKP	PKPbc	03 43 28.5 0.0
	comp=Z,29nm,0.7s,baz=318,slow=2.2,SNR=156					
SIV				PP	PP	03 46 44.5 -1.2
	comp=Z,6.1nm,1.1s,baz=352,slow=5.1,SNR=5.5					
LVC	**Limon Verde**	145.96	57	PKPbc	PKPbc	03 43 33.2 +0.1
	comp=Z,39nm,0.9s,baz=296,slow=3.5,SNR=38					
LVC	**Limon Verde**	145.96	57		PKPab	03 43 34.2 +0.5
BDFB	**Brasilia**	148.77	18	PKPbc	PKPbc	03 43 40.3 -0.4
	comp=Z,33nm,0.8s,baz=27,slow=4.9,SNR=47					
SNAA	**Sanae**	149.19	201	PKPdf	PKPdf	03 43 35.1 -0.7
SNAA	**Sanae**	149.19	201	PKIKP	PKPdf	03 43 35.2 -0.7
SNAA						03 43 39.6
SNAA	**Sanae**	149.19	201		PKPdf	03 43 35.2 -0.7
SNAA				PKPbc	PKPbc	03 43 39.6 -0.5
VNA2	**Neumayer--Watz**	150.79	200	PKPbc	PKPbc	03 43 43.9 0.0
VNA2	**Neumayer--Watz**	150.79	200	PKPdf	PKPdf	03 43 38.4 +0.1
VNA3	**Neumayer Olymp**	151.10	199	PKPbc	PKPbc	03 43 44.3 -0.4
VNA3	**Neumayer Olymp**	151.10	199	PKPdf	PKPdf	03 43 38.0 -0.8
VNA1	**Neumayer--Stat**	151.19	200	PKPbc	PKPbc	03 43 44.9 0.0
VNA1	**Neumayer--Stat**	151.19	200	PKPdf	PKPdf	03 43 39.1 +0.2
CFA	**Coronel Fontan**	152.78	69	PKPbc	PKPbc	03 43 49.0 -0.8
	comp=Z,34nm,0.8s,baz=287,slow=0.9,SNR=14					
CFA				PKPab	PKPab	03 44 03.1 +2.4
	comp=Z,23nm,0.4s,baz=215,slow=13,SNR=8.5					
CPUP	**Villa Florida**	155.24	45	PKP	PKPdf	03 43 45.1 -1.1
	comp=Z,3.8nm,1.0s,baz=53,slow=6.0,SNR=5.3					
CPUP				PKPab	PKPab	03 44 11.1 -0.1
	comp=Z,19nm,0.9s,baz=333,slow=5.0,SNR=18					
PLCA	**Paso Flores**	156.00	89	PKIKP	PKPdf	03 43 45.7 -1.2
PLCA						03 44 12.2
PLCA	**Paso Flores**	156.00	89	PKPbc	PKPbc	03 43 56.3
	comp=Z,4.9nm,0.8s,baz=276,slow=2.5,SNR=11					
PLCA				PKPab	PKPab	03 44 15.2 +0.9
	comp=Z,16nm,1.0s,baz=318,slow=4.3,SNR=13					
PLCA	**Paso Flores**	156.00	89		PKPdf	03 43 45.7 -1.2
PLCA					PKPab	03 44 12.2 -2.1
PMSA	**Palmer Station**	156.32	152	PKP	PKPdf	03 43 43.9 -2.4
	comp=Z,6.4nm,0.7s,baz=307,slow=5.1					
PMSA				PKPab	PKPab	03 44 15.4 +0.7
	comp=Z,12nm,0.7s,baz=228,slow=7.9,SNR=3.4					

*IDC **25** 03:34:06.7±1.2,35°.64N×143°.74E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/38, mbtmp3.9/7, ML3.6/3, Error*

ellipse: s-maj=28.4km s-min=21.1km az=116.0
*ISCJB **25** 03:34:09.6±0.8,35°.64N±0°.04×143°.50E±0°.06, h33km, mb3.6/3, Error ellipse: s-maj=7.3km s-min=5.6km az=3.4*
*JMA **25** 03:34:11.6±0.3,35°.68N×143°.39E, h86km, M3.4*

ISC 25 03:34:11.0±1.0,35°.64N±0°.05×143°.58E±0°.08, h35km, n26, σ1♀48/31, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	2.21	273	P	Pn	03 34 45.3	0.0
BSO1	**Boso 1**	2.34	246	P	Pn	03 34 46.5	-0.1
BSO1				*e*S	Sn	03 35 13.7	-0.2
JHYU	**Hitachinakayam**	2.53	287	P	Pn	03 34 49.1	-0.4
JHYU				*e*S	Sn	03 35 17.3	-1.8
JHO	**Hitachi**	2.62	293	P	Pn	03 34 50.0	-0.9
JHO				*e*S	Sn	03 35 19.1	-2.4
JFT	**Otama**	3.21	307	P	Pn	03 34 59.2	+0.1
JFT				S	Sn	03 35 34.8	-1.3
JAG	**Ashikaga**	3.44	284	P	Pn	03 35 02.0	-0.1
JOD2	**Odawara 2**	3.68	266	P	Pn	03 35 05.5	0.0
JOD2				S	Sn	03 35 45.5	-2.2
JMK	**Ichinoseki**	3.81	331	P	Pn	03 35 06.4	-0.8
JMK				S	Sn	03 35 48.9	-1.8
JRY	**Ryogami san**	3.82	277	P	Pn	03 35 07.9	+0.5
JHJ2	**Mitsune**	4.00	232	P	Pn	03 35 09.4	-0.5
JHJ2				*e*S	Sn	03 35 52.9	-2.6
JHJ	**Hachijo jima 2**	4.02	232	Pn	Pn	03 35 10.1	0.0
	14nm,0.3s,baz=339,slow=20,SNR=8.2						
JHJ				Sn	Sn	03 35 53.4	-2.5
	59nm,0.3s,baz=50,slow=22,SNR=12						
JYN	**Shimob**	4.11	270	P	Pn	03 35 11.8	+0.4
JYK	**Kaneyama**	4.16	323	P	Pn	03 35 11.6	-0.5
JYK				S	Sn	03 35 58.0	-1.5
MJAR	**Matsushiro Arr**	4.44	283	Pn	Pn	03 35 17.1	+1.2
	0.6nm,0.3s,baz=85,slow=12,SNR=27						
MJAR				Sn	Sn	03 36 10.1	+3.7
	0.2nm,0.3s,baz=150,slow=33,SNR=4.5						
MAT	**Matsushiro**	4.44	283	P	Pn	03 35 15.5	-0.4
MAT				S	Sn	03 36 06.5	+0.1
JCJ	**Chichijima**	8.60	188	Pn	Pn	03 36 11.7	-1.3
	2.5nm,0.3s,baz=287,slow=20,SNR=2.5						
JCJ				Sn	Sn	03 37 39.6	-9.1
	3.1nm,0.3s,baz=287,slow=20,SNR=3.4						
PETK	**Petropavlovsk-**	20.11	25	P	P	03 38 39.8	-1.8
	5.0nm,1.0s,baz=191,slow=14,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	25.93	121	T	T	04 06 29.2	
	baz=313,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	25.94	122	T	T	04 06 39.8	
	baz=313,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	25.95	121	T	T	04 06 30.6	
	baz=313,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	26.63	124	T	T	04 07 32.5	
	baz=315,slow=75,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	26.63	124	T	T	04 07 29.6	
	baz=315,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	26.65	124	T	T	04 07 33.9	
	baz=315,slow=75,SNR=6.2						
KURBB	**Kurchatov Arra**	48.24	309	P	P	03 42 49.8	+1.6
	0.2nm,0.3s,baz=92,slow=5.7,SNR=3.4						
ILAR	**Eielson Array**	49.75	32	P	P	03 43 00.3	+0.8
	0.5nm,0.8s,baz=265,slow=5.4,SNR=5.2						
WRA	**Warramunga Arr**	55.96	191	P	P	03 43 47.2	+1.3
	0.3nm,0.5s,baz=9.2,slow=7.1,SNR=4.1						

*NNC **25** 03:47:11.2±1.7,43°.81N×83°.60E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=14.6km s-min=7.2km az=135.0*
*SOME **25** 03:47:17.9,43°.68N×83°.10E, h15km*

ISC 25 03:47:12.0±2.2,43°.81N±0°.08×83°.6E±0°.1, h10km, n22, σ2♀23/34, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	2.77	282	Pg	Pb	03 48 02.9	+1.4
	15nm,0.2s						
DJR				Lg	Lg	03 48 39.2	
	79nm,0.5s						
DJR	**Jarkent**	2.77	282	*e*P	Pb	03 48 03.0	+1.4
	23nm,0.2s						
DJR				*e*S	Sg	03 48 39.7	-1.2
	66nm,0.4s						
PDGK	**Podgornoye**	3.00	262	Pg	Pb	03 48 06.6	+1.1
	5.0nm,0.3s						
PDGK				Lg	Lg	03 48 45.7	
	33nm,0.3s						
PDGK	**Podgornoye**	3.00	262	⇑Pn	Pn	03 48 00.2	+0.5
	4.5nm,0.3s						
PDGK				⇑Sn	Sb	03 48 40.3	-1.8
	72nm,0.5s						
SHLS	**Shalkode**	3.05	259	Pg	Pn	03 48 02.9	+2.5
SHLS				Lg	Lg	03 48 38.6	
SHLS	**Shalkode**	3.05	259	*e*P	Pn	03 48 02.8	+2.5
	14nm,0.5s						
SHLS				*e*S	Sn	03 48 38.7	+1.7
	210nm,0.5s						
MK31	**Makanchi Array**	3.12	344	Pn	Pn	03 48 00.2	-1.0
	0.3nm,0.2s,baz=46,slow=11,SNR=182						
MK31				Pg	Pb	03 48 08.3	+0.8
	3.8nm,0.4s,baz=159,slow=17,SNR=26						
MK31				⇑Lg	Lg	03 48 50.0	
	6.7nm,0.2s,baz=162,slow=29,SNR=12						
KAPS	**Kapalarasan**	3.35	298	Pg	Pg	03 48 15.1	-1.0
	14nm,0.3s						
KAPS				Lg	Lg	03 49 00.9	
	35nm,0.5s						
KAPS	**Kapalarasan**	3.35	298	*e*P	Pg	03 48 15.1	-1.0
	9.1nm,0.3s						
KAPS				*e*S	Sg	03 49 00.9	+1.4
	40nm,0.4s						
UZB	**Uzynbulak**	3.37	260	Pg	Pb	03 48 13.2	+1.4
	7.0nm,0.2s						
UZB				Lg	Lg	03 48 57.4	
	19nm,0.3s						
UZB	**Uzynbulak**	3.37	260	*e*P	Pb	03 48 13.1	+1.2
	5.6nm,0.2s						
UZB				*e*S	Sg	03 48 57.4	-2.7
	28nm,0.3s						
KPKS	**Kokpek**	3.56	266	*e*P	Pb	03 48 16.0	+1.0
	16nm,0.1s						
KPKS				*e*S	Sb	03 49 02.1	+3.8
	89nm,0.3s						
ZHN	**Zhinishke**	3.78	262	Pg	Pg	03 48 21.6	-2.8
	9.5nm,0.3s						
ZHN				Lg	Lg	03 49 11.7	
	39nm,0.3s						
ZHN	**Zhinishke**	3.78	262	*e*P	Pg	03 48 21.6	-2.8
	8.9nm,0.2s						
ZHN				*e*S	Sg	03 49 11.7	-1.8
	33nm,0.2s						
SATY	**Saty**	3.83	261	Pg	Pb	03 48 21.5	+1.8
	22nm,0.3s						
SATY				Lg	Lg	03 49 12.2	
	52nm,0.3s						
SATY	**Saty**	3.83	261	*e*P	Pb	03 48 21.4	+1.8
	14nm,0.1s						
SATY				*e*S	Sg	03 49 12.2	-2.6
	43nm,0.1s						
ARXS	**Arharly**	4.16	278	Pg	Pg	03 48 28.8	-2.8
	14nm,0.4s						
ARXS				Lg	Lg	03 49 25.8	
	72nm,0.7s						
ARXS	**Arharly**	4.16	278	*e*P	Pg	03 48 28.9	-2.7
	14nm,0.4s						
ARXS				*e*S	Sg	03 49 25.9	+0.5
	72nm,0.7s						
KOTS	**Kotyrbulak**	4.72	265	Pg	Pb	03 48 36.8	+1.9
	18nm,0.2s						
KOTS				Lg	Lg	03 49 39.2	
	93nm,0.5s						
KOTS	**Kotyrbulak**	4.72	265	*e*P	Pb	03 48 37.0	+2.0
	18nm,0.2s						
KOTS				*e*S	Sg	03 49 39.2	-4.3
	93nm,0.5s						
IZV	**Izvestkoviy**	5.12	264	Pg	Pb	03 48 44.4	+2.7
	2.7nm,0.4s						
IZV				Lg	Lg	03 49 53.5	
	20nm,0.7s						
IZV	**Izvestkoviy**	5.12	264	*e*P	Pb	03 48 44.5	+2.7
	3.1nm,0.3s						
IZV				*e*S	Sg	03 49 53.4	-2.8
	20nm,0.5s						

*NEIC **25** 03:55:00.7±2.8, 80°.9N±0°.1×3°.8W±0°.6, h10km±2km, mb4.5/14*
*IDC **25** 03:55:04.4±0.6, 80°.50N×4°.43W, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/43, mbtmp3.8/15, ML4.5/1, Error ellipse: s-maj=24.8km s-min=12.4km az=28.0*
*BER **25** 03:55:05.3±3.3, 80°.92N×2°.22W, h11km±28km, ML3.1, ML3.5(NAO), Confirmed Earthquake*
*IEPN **25** 03:55:05.0, 80°.85N×1°.58W, h15km*

ISC 25 03:55:03.7±0.5, 80°.52N±0°.07×3°.93W±0°.04, h10km, n66, σ2♀97/76, mb4.0/18, 2C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	3.26	111	Pn	Pn	03 55 54.2	-0.4
KBS				Sn	Sn	03 56 30.2	-3.1
KBS	**Kingsbay**	3.26	111	⇑*i* P	Pn	03 55 54.0	-0.6
KBS				*e*S	Sn	03 56 28.1	-5.2
KBS	**Kingsbay**	3.26	111	*e*P	Pn	03 55 53.6	-1.1
KBS				*e*S	Sn	03 56 27.9	-5.5
KBS				IAML		03 56 43.1	
	comp=Z,26nm,0.5s						
KBS	**Kingsbay**	3.26	111	Pn	Pn	03 55 54.0	-0.6
BRBB	**Barentsburg B**	4.15	117	Pn	Pn	03 56 07.3	+0.4
BRBB	**Barentsburg B**	4.15	117	Pn	Pn	03 56 07.3	+0.4
SPA0	**Spitsbergen Ar**	4.42	112	Pn	Pn	03 56 09.8	-0.7
	baz=325,slow=11						
SPA0				Sn	Sn	03 56 57.3	-4.7
SPA0	**Spitsbergen Ar**	4.42	112	⇑*i* P	Pn	03 56 09.9	-0.7
SPA0				*e*S	Sn	03 56 56.8	-5.2
SPA0	**Spitsbergen Ar**	4.42	112	Pn	Pn	03 56 09.8	-0.7
	baz=325,slow=11						
SPA0				Sn	Sn	03 56 57.3	-4.7
SPA0	**Spitsbergen Ar**	4.42	112	Pn	Pn	03 56 10.3	-0.3
SPA0				Sn	Sn	03 56 57.1	-4.8
SPITS	**Spitsbergen Ar**	4.42	112	Pn	Pn	03 56 10.1	-0.5
	baz=318,slow=8.2,SNR=182						
DAG	**Danmarks Havn**	4.74	225	*i* P	Pn	03 56 16.8	+1.8
DAG				*i* S	Sn	03 57 08.1	-1.8
DAG	**Danmarks Havn**	4.74	225	*e*	Pn	03 56 16.1	+1.1
	baz=38,slow=16						
DAG				*i* P	Pb	03 56 16.9	-10
DAG				*i* S	Sn	03 57 08.2	-1.8
DAG				IAML		03 57 12.8	
	comp=Z,63nm,0.4s						
HSPB	**Hornsund (broa**	5.16	123	Pn	Pn	03 56 21.5	+0.7
HSPB	**Hornsund (broa**	5.16	123	*e*P	Pn	03 56 21.3	+0.5
HSPB				*e*S	Sn	03 57 18.8	-1.4
HSPB	**Hornsund (broa**	5.16	123	*e*P	Pn	03 56 21.7	+0.9
HOPEN	**Hopen**	6.95	110	*e*P	Pn	03 56 41.8	-3.5
HOPEN				*e*S	Sn	03 57 55.4	-8.7
ZFI2	**Zemlya Franca-**	8.15	63	*e*P	Pn	03 56 58.5	-3.3
ZFI2				*e*S	Sn	03 58 20.4	-13
	comp=Z,23nm,0.4s						
SCO	**Scoresbysund**	10.96	213	*i* P	Pn	03 57 43.0	+2.9
SCO				*e*S	Sn	03 59 40.2	-2.3
SCO	**Scoresbysund**	10.96	213	*i* P	Pn	03 57 43.0	+2.9
SCO				*e*S	Sn	03 59 40.2	-2.3
SCO	**Scoresbysund**	10.96	213		Pn	03 57 43.1	+3.0
SCO				Sn	Sn	03 59 39.4	-3.1
SUMG	**Summit**	11.04	243	*i* P	Pn	03 57 42.3	+0.6
SUMG				*i* S	Sn	03 59 40.2	-5.0
SUMG	**Summit**	11.04	243	*i* P	Pn	03 57 42.4	+0.6
SUMG				*i* S	Sn	03 59 40.2	-5.0
SUMG				IAML		03 59 44.8	
	comp=Z,19nm,0.4s						
SUMG	**Summit**	11.04	243		Pn	03 57 41.3	-0.4
KULLO	**Kullorsuaq**	12.39	271	*i* P	Pn	03 57 56.3	-3.3
KULLO				*e*S	Sn	04 00 05.7	-12
KULLO	**Kullorsuaq**	12.39	271	*i* P	Pn	03 57 56.4	-3.3
KULLO				*e*S	Sn	04 00 05.7	-12
TULEG	**Thule**	12.79	287	*i* P	Pn	03 58 02.4	-2.8
TULEG				*i* S	Sn	04 00 15.3	-12
TULEG				IAML		04 00 30.4	
	comp=Z,7.0nm,0.4s						
TULEG	**Thule**	12.79	287	Pn	Pn	03 58 01.8	-3.3
TULEG					Sn	04 00 14.6	-13
KEV	**Kevo**	13.10	128	Pn	Pn	03 58 05.3	-4.1
ARA0	**ARCESS Array S**	13.11	130	Pn	Pn	03 58 09.5	-0.1
	baz=313,slow=18						
ARA0	**ARCESS Array S**	13.11	130	Pn	Pn	03 58 09.5	-0.1
	baz=313,slow=18						
ARCES	**ARCESS Array B**	13.11	130	Pn	Pn	03 58 13.3	+3.8
LVZ	**Lovozero**	15.88	120	Pn	Pn	03 58 44.8	-2.0
LVZ				IAmb	IAmb	03 58 58.0	
	comp=Z,36nm,1.4s						
SFJD	**Kangerlussuaq**	17.92	248	P	Pn	03 59 10.3	-2.2
	comp=Z,0.9nm,0.3s,baz=26,slow=13,SNR=5.0						
SFJD				S	Sn	04 02 18.5	-13
	comp=Z,1.8nm,0.3s,baz=117,slow=11,SNR=6.6						
SFJD	**Kangerlussuaq**	17.92	248		Pn	03 59 09.9	-2.5
SFJD				IAmb	IAmb	03 59 16.4	
	comp=Z,47nm,1.3s						
RES	**Resolute Bay**	18.20	302	P	Pn	03 59 12.9	-3.0
	comp=Z,0.3nm,0.3s,baz=49,slow=18,SNR=4.2						
RES				S	Sn	04 02 23.1	-16
	comp=Z,0.3nm,0.3s,baz=132,slow=23,SNR=5.6						
RES	**Resolute Bay**	18.20	302	P	Pn	03 59 11.9	-4.0
FIA0	**FINESS Array S**	20.96	138	P	P	03 59 49.9	+3.6
	baz=343,slow=16						
FIA0	**FINESS Array S**	20.96	138	P	P	03 59 49.9	+3.6
	baz=343,slow=16						
FINES	**FINESS Array B**	20.96	138	P	P	03 59 49.2	+2.9
	comp=Z,1.6nm,0.8s,baz=328,slow=14,SNR=4.2						
HFS	**Hagfors**	21.12	155	P	P	03 59 51.0	+3.0
	baz=0.3,slow=9.3						
HFS	**Hagfors**	21.12	155	P	P	03 59 51.3	+3.3
	comp=Z,5.6nm,0.8s,baz=359,slow=12,SNR=6.0						
HFS	**Hagfors**	21.12	155	P	P

DBBC	**Dabeiba**	**0.60**	**83**	*eP*	**Pn**	**04 01 26.3**	**+0.4**
DBBC				*eS*	**Sn**	**04 01 34.9**	**-0.9**
DBBC				*i*		04 01 37.3	
	comp=Z,1μm,0.4s						
DBBC				*i*		04 01 39.2	
	comp=Z,1μm,0.8s						
PTAC	**Punta Ardita,**	**1.01**	**282**	*eP*	**Pn**	**04 01 32.8**	**+1.4**
PTAC				*eS*	**Sn**	**04 01 46.7**	**+1.1**
PTAC				*i*		04 01 49.7	
	comp=Z,4μm,0.2s						
CBOC	**Ciudad Bolivar**	**1.33**	**143**	*eP*	**Pb**	**04 01 36.8**	**+0.4**
CBOC				*eS*	**Sb**	**04 01 53.8**	**+0.2**
CBOC				*i*		04 01 57.5	
	comp=Z,233nm,0.7s						
HELC	**Santa Helena**	**1.48**	**120**	*eP*	**Pg**	**04 01 40.3**	**+0.6**
HELC				*i*		04 02 01.5	
	comp=Z,111nm,0.3s						
HELC	**Santa Helena**	**1.48**	**120**	*i* P	**Pg**	**04 01 40.3**	**+0.6**
HELC				*i* S	**Sg**	**04 01 58.9**	**0.0**
LCBC	**Los crdobas,**	**1.96**	**13**	*eP*	**Pb**	**04 01 47.0**	**+0.1**
LCBC				*eS*	**Sg**	**04 02 13.1**	**-1.1**
UPD2	**Meteti**	**1.99**	**323**	*eP*	**Pb**	**04 01 46.7**	**-0.9**
UPD2				*eS*	**Sb**	**04 02 11.2**	**-1.2**
UPD2				*i*		04 02 17.1	
	comp=Z,179nm,0.3s						
UPD2	**Meteti**	**1.99**	**323**	*i* P	**Pb**	**04 01 46.9**	**-0.6**
UPD2				*i* S	**Sn**	**04 02 10.9**	**+1.0**
ZARC	**Zaragoza, Cauc**	**2.02**	**74**	*eP*	**Pb**	**04 01 47.5**	**-0.5**
ZARC				*eS*	**Sn**	**04 02 11.4**	**+0.8**
ZARC				*i*		04 02 24.5	
	comp=Z,108nm,0.4s						
PLMC	**San Jos del P**	**2.09**	**165**	*eP*	**Pn**	**04 01 46.1**	**-0.3**
PLMC				*eS*	**Sn**	**04 02 08.4**	**-4.1**
PLMC				*i*		04 02 10.4	
	comp=Z,606nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.23**	**140**	*eP*	**Pb**	**04 01 51.3**	**-0.6**
GUY2C				*i*		04 02 26.1	
	comp=Z,76nm,0.6s						
NORC	**Norcasia**	**2.37**	**125**	*eP*	**Pb**	**04 01 53.6**	**-0.4**
NORC				*i*		04 02 23.9	
	comp=Z,56nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.38**	**99**	*eP*	**Pb**	**04 01 53.1**	**-1.1**
PTBC				*eS*	**Sb**	**04 02 22.8**	**-0.7**
PTBC				*i*		04 02 26.7	
	comp=Z,54nm,1.2s						
RREF	**El Recreo**	**2.50**	**144**	*eP*	**Pb**	**04 01 55.6**	**-0.9**
RREF				*i*		04 02 35.2	
	comp=Z,35nm,0.4s						
YOTC	**Yotoco, Valle**	**2.97**	**171**	*eP*	**Pn**	**04 01 58.2**	**-0.3**
YOTC				*eS*	**Sn**	**04 02 30.6**	**-3.8**
YOTC				*i*		04 02 32.2	
	comp=Z,40nm,0.8s						
SPBC	**San Pablo de B**	**3.01**	**115**	*eP*	**Pb**	**04 02 02.6**	**-2.4**
SPBC				*eS*	**Sb**	**04 02 42.2**	**+0.3**
SPBC				*i*		04 02 49.3	
	comp=Z,16nm,1.0s						
BRRC	**Barranca, Sant**	**3.08**	**87**	*eP*	**Pb**	**04 02 06.2**	**-0.1**
BRRC				*eS*	**Sn**	**04 02 40.2**	**+3.3**
BRRC				*i*		04 02 56.4	
	comp=Z,23nm,0.6s						
CHPO	**Chepo, Panama**	**3.18**	**314**	*eP*	**Pn**	**04 02 02.6**	**+1.3**
CHPO				*eS*	**Sn**	**04 02 39.3**	**+0.1**
ROSC	**El Rosal**	**3.24**	**130**	*eP*	**Pb**	**04 02 06.7**	**-2.4**
ROSC				*i*		04 02 56.6	
	comp=Z,26nm,0.6s						
SMLC	**San Martn de**	**3.29**	**56**	*eP*	**Pn**	**04 02 05.1**	**+2.4**
SMLC				*eS*	**Sn**	**04 02 41.7**	**-0.3**
SMLC				*i*		04 03 03.4	
	comp=Z,24nm,0.5s						
SJCC	**San Jacinto, C**	**3.35**	**29**	*eP*	**Pn**	**04 02 04.8**	**+1.0**
SJCC				*eS*	**Sn**	**04 02 41.1**	**-2.5**
SJCC				*i*		04 02 43.6	
	comp=Z,15nm,1.5s						
SJCC	**San Jacinto, C**	**3.35**	**29**	*eP*	**Pn**	**04 02 04.8**	**+1.0**
SJCC				*eS*	**Sn**	**04 02 42.0**	**-1.6**
UPA	**Univ. de Panam**	**3.37**	**307**	*eP*	**Pn**	**04 02 06.4**	**+2.5**
UPA				*eS*	**Sn**	**04 02 40.9**	**-3.1**
UPA				*i*		04 02 53.2	
	comp=Z,14nm,0.6s						
UPA	**Univ. de Panam**	**3.37**	**307**	*i* P	**Pn**	**04 02 04.8**	**+0.9**
UPA				*eS*	**Sn**	**04 02 42.8**	**-1.2**
ORTC	**Ortega, Tolima**	**3.39**	**153**	*eP*	**Pn**	**04 02 08.0**	**+3.8**
ORTC				*eS*	**Sn**	**04 02 48.7**	**+4.1**
ORTC				*i*		04 03 08.5	
	comp=Z,17nm,0.6s						
CHOR3	**La Chorrera**	**3.51**	**304**	*eP*	**Pn**	**04 02 06.9**	**+1.1**
CHOR3				*eS*	**Sn**	**04 02 48.0**	**+0.5**
AZU	**Azuero**	**3.53**	**284**	*i* P	**Pn**	**04 02 07.8**	**+1.7**
AZU				*eS*	**Sn**	**04 02 47.6**	**-0.4**
ZANG	**Zanguenga, Cho**	**3.63**	**304**	*i* P	**Pn**	**04 02 09.0**	**+1.5**
ZANG				*eS*	**Sn**	**04 02 51.6**	**+1.3**
VTON	**El Valle, Cocl**	**3.67**	**297**	*eP*	**Pn**	**04 02 09.2**	**+1.1**
VTON				*eS*	**Sn**	**04 02 51.6**	**+0.2**
FRIJ	**El Hiral**	**3.67**	**308**	*i* P	**Pn**	**04 02 08.5**	**+0.5**
FRIJ				*eS*	**Sn**	**04 02 50.8**	**-0.5**
OCAC	**Ocana**	**3.70**	**69**	*eP*	**Pb**	**04 02 13.8**	**-3.0**
OCAC				*eS*	**Sn**	**04 02 52.8**	**+0.5**
OCAC				*i*		04 03 18.9	
	comp=Z,17nm,0.5s						
BCIP	**Isla Barro Col**	**3.72**	**307**	*eP*	**Pn**	**04 02 09.0**	**+0.3**
BCIP				*eS*	**Sn**	**04 02 51.3**	**-1.3**
BCIP				*i*		04 02 54.0	
	comp=Z,29nm,0.5s						
GMAL	**Guarumal, Vera**	**4.46**	**281**	*i* P	**Pn**	**04 02 21.0**	**+2.1**
GMAL				*eS*	**Sn**	**04 03 10.6**	**-0.3**

*IGQ **25** 04:09:52.4±0.9, 1°N±8°×7°8W±°, h1km, Mjma3.6, ML4.3, MLv3.8*
*ISCJB **25** 04:09:54.2±0.5, 0°80N±0°05×77°97W±0°05, h8km±5km, Error ellipse: s-maj=10.5km s-min=3.5km az=42.9*
ISC 25 04:09:53.7±0.9,**0°81N**±0°04×**77°94W**±0°04,**h11**km±6km, **n25**,σ0°90/32,**Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECEN	**Cerro Negro**	**0.04**	**287**	P	**Pg**	**04 09 55.4**	**-1.1**
CMBC	**Cumbal**	**0.17**	**41**	*eP*	**Pg**	**04 09 58.4**	**+0.6**
CMBC				*eS*	**Sg**	**04 10 01.9**	**+1.3**
TULM	**Tulcn-Chalpat**	**0.18**	**123**	P	**Pg**	**04 09 57.6**	**-0.4**
ATUL	**Tulcn**	**0.21**	**101**	P	**Pg**	**04 09 58.7**	**+0.2**
YAHU	**Yahuarcocha**	**0.46**	**197**	P	**Pg**	**04 10 03.0**	**+0.1**
URCU	**Urcuqui**	**0.49**	**221**	P	**Pg**	**04 10 03.4**	**-0.1**
AIB2	**Ibarra (Univer**	**0.50**	**200**	P	**Pg**	**04 10 04.1**	**+0.6**
IMBA	**Imbabura, San**	**0.59**	**206**	P	**Pb**	**04 10 06.2**	**-0.3**
ACOT	**Cotacachi (Cas**	**0.62**	**213**	P	**Pg**	**04 10 06.2**	**+0.4**
ACOT				S	**Sb**	**04 10 15.8**	**+0.3**
CUIC	**Cuicocha-Domo**	**0.66**	**220**	P	**Pg**	**04 10 06.4**	**-0.2**
CUSW	**Cuicocha Oeste**	**0.67**	**219**	P	**Pg**	**04 10 06.9**	**+0.1**
CUSE	**Cuicocha Este**	**0.69**	**223**	P	**Pg**	**04 10 06.7**	**-0.4**
CUSE				S	**Sg**	**04 10 17.6**	**+1.4**
GCUF	**Volcan Galeras**	**0.72**	**55**	*eP*	**Pb**	**04 10 08.2**	**-0.3**
GCUF				*eS*	**Sn**	**04 10 21.4**	**-0.2**
CAYA	**Cayambe**	**0.74**	**184**	P	**Pg**	**04 10 08.0**	**-0.2**
OTAV	**Otavalo**	**0.77**	**222**	*eP*	**Pg**	**04 10 08.3**	**-0.4**
OTAV				*eS*	**Sg**	**04 10 18.9**	**0.0**
OTAV	**Otavalo**	**0.77**	**222**	P	**Pg**	**04 10 08.1**	**-0.6**
PULU	**Pululahua**	**0.97**	**216**	P	**Pg**	**04 10 11.7**	**-0.8**
PAC1	**Pacto, Paraso**	**1.01**	**238**	P	**Pg**	**04 10 12.3**	**-1.0**
YANA	**Yana**	**1.12**	**215**	P	**Pg**	**04 10 14.4**	**-1.0**
CRUC	**La Cruz**	**1.24**	**53**	*eP*	**Pn**	**04 10 18.3**	**+1.0**
CRUC				*i*		04 10 25.8	
	comp=Z,190nm,0.5s						
TUMC	**Tumaco**	**1.28**	**322**	*eP*	**Pn**	**04 10 18.4**	**+0.9**
BBAC	**Balboa, Cauca**	**1.38**	**30**	*eP*	**Pn**	**04 10 20.2**	**+1.0**
BBAC				*eS*	**Sb**	**04 10 35.7**	**-1.8**
PCON	**Cinco Dias**	**2.15**	**46**	*eP*	**Pg**	**04 10 36.5**	**+1.4**
FLOC	**Florencia**	**2.41**	**71**	*eP*	**Pg**	**04 10 38.1**	**-1.8**
FLOC				*eS*	**Sg**	**04 11 09.9**	**-1.3**
YOTC	**Yotoco, Valle**	**3.53**	**27**	*eP*	**Pb**	**04 10 55.8**	**-0.5**

IDC 25 04:10:20.1±9.3,**17°00S**×**175°66W**,**h138**km±162km, **mb3.5**/3,**mb1 3.6**/4,**mb1mx3.3**/28,**mbtmp3.9**/4,**ML3.4**/1, **Error ellipse: s-maj=212.5km s-min=84.6km az=127.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.84**	**51**	P	Pn	04 11 31.9	+0.6
	1.5nm,0.3s,baz=305,slow=12,SNR=5.0						
AFI				S	Sn	04 12 26.8	+0.1
	5.0nm,0.3s,baz=20,slow=20,SNR=5.6						
STKA	**Stephens Creek**	**41.37**	**241**	P	P	04 17 52.7	0.0
	2.3nm,0.8s,baz=96,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**47.38**	**258**	P	P	04 18 40.5	-0.2
	0.5nm,0.8s,baz=96,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	**47.57**	**253**	P	P	04 18 42.0	-0.2
	1.8nm,0.6s,baz=88,slow=9.2,SNR=22						

*IDC **25** 04:24:51.3±1.2, 2°53N×126°99E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/41, mbtmp3.7/6, Error ellipse: s-maj=93.3km s-min=18.6km az=72.0*
ISC 25 04:25:00.1±1.2,**2°4N**±0°2×**127°4E**±0°5,**h64**km,**n7**,σ2°27/8, **mb3.8**/5,**1D**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**5.12**	**334**	*eP*	**Pn**	**04 26 16.9**	**+2.6**
KCP				*i* S	**Sn**	**04 27 13.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.43**	**185**	P	**P**	**04 29 32.2**	**-0.1**
	1.1nm,0.5s,baz=28,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**23.23**	**163**	P	**P**	**04 30 02.1**	**+0.2**
	1.6nm,0.5s,baz=342,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.67**	**167**	P	**P**	**04 30 33.9**	**+0.5**
	0.5nm,0.5s,baz=346,slow=6.8,SNR=7.9						
STKA	**Stephens Creek**	**36.66**	**159**	P	**P**	**04 32 02.4**	**+1.6**
	1.2nm,0.5s,baz=339,slow=10,SNR=4.3						
SONM	**Songino Array**	**48.76**	**341**	P	**P**	**04 33 36.8**	**-1.8**
	0.3nm,0.5s,baz=174,slow=4.3,SNR=3.3						
MKAR	**Makanchi Array**	**59.01**	**325**	P	**P**	**04 34 50.0**	**-3.4**
	0.3nm,0.4s,baz=112,slow=9.2,SNR=4.7						

*NIC **25** 04:34:16.8±0.0, 34°52N×31°96E, h33km±14km, Md3.7/6, Ml3.7/5*
*ISK **25** 04:34:16.6, 34°49N×32°08E, h21km, ML3.3/17*
*ISCJB **25** 04:34:18.7±0.3, 34°53N±0°03×32°11E±0°04, h44km±14km, Error ellipse: s-maj=6.9km s-min=3.3km az=136.0*
*GII **25** 04:34:20.0±0.0, 34°53N×32°37E, h10km, MD3.0/3*
ISC 25 04:34:19.8±1.1,**34°57N**±0°04×**32°14E**±0°04,**h31**km±10km, **n58**,σ0°89/79,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.41**	**60**	P	**Pb**	**04 34 28.0**	**-0.8**
NATA				S	**Sb**	**04 34 35.9**	**+0.9**
NATA				AML	AML	04 34 38.1	
	26nm,0.6s						
NATA				AML	AML	04 34 38.1	
	26nm,0.6s						
NATA				AML	AML	04 34 39.3	
	32nm,0.6s						
NATA				AML	AML	04 34 39.3	
	32nm,0.6s						
NATA				AMd		04 36 15.8	
NATA				AMd		04 36 15.8	
AKMS	**Akamas**	**0.47**	**20**	P	**Pb**	**04 34 28.6**	**-1.3**
AKMS				AML	AML	04 34 37.5	
	11nm,0.3s						
AKMS				AML	AML	04 34 37.5	
	11nm,0.3s						
AKMS				S	**Sb**	**04 34 37.7**	**+1.0**
AKMS				AML	AML	04 34 38.0	
	17nm,0.3s						
AKMS				AML	AML	04 34 38.0	
	17nm,0.3s						
AKMS				AMd		04 36 00.3	
AKMS				AMd		04 36 00.3	
SZAC	**Souni**	**0.64**	**73**	P	**Pb**	**04 34 31.4**	**-1.0**
SZAC				S	**Sb**	**04 34 42.5**	**+1.3**
SZAC				AML	AML	04 34 44.3	
	12nm,0.3s						
SZAC				AML	AML	04 34 44.3	
	12nm,0.3s						
SZAC				AMd		04 36 07.1	
SZAC				AMd		04 36 07.1	
ALFC	**Alefka**	**0.69**	**33**	P	**Pb**	**04 34 32.0**	**-1.5**
ALFC				S	**Sb**	**04 34 43.4**	**+0.6**
ALFC				AML	AML	04 34 45.2	
	6.9nm,0.4s						
ALFC				AML	AML	04 34 45.2	
	6.9nm,0.4s						
ALFC				AML	AML	04 34 45.7	
	8.2nm,0.4s						
ALFC				AML	AML	04 34 45.7	
	8.2nm,0.4s						
ALFC				AMd		04 35 57.0	
ALFC				AMd		04 35 57.0	
LEF	**Lefka**	**0.82**	**48**	PG	**Pn**	**04 34 34.9**	**-0.3**
ASGA	**Asgata**	**0.94**	**77**	P	**Pn**	**04 34 35.9**	**-0.9**
ASGA				S	**Sn**	**04 34 49.8**	**+0.6**
ASGA				AML	AML	04 34 52.1	
	3.9nm,0.7s						
ASGA				AML	AML	04 34 52.1	
	3.9nm,0.7s						
ASGA				AMd		04 36 02.1	
ASGA				AMd		04 36 02.1	
AKDN	**Akdeniz- Kıbrı**	**0.99**	**43**	PN	**Pn**	**04 34 37.9**	**+0.3**
CSS	**Mathiatis**	**1.05**	**68**	Pg	**Pn**	**04 34 37.6**	**-0.9**
CSS	**Mathiatis**	**1.05**	**68**	PN	**Pn**	**04 34 37.5**	**-0.9**
CSS				SN	**Sn**	**04 34 53.2**	**+1.1**
CSS	**Mathiatis**	**1.05**	**68**	P	**Pn**	**04 34 37.7**	**-0.7**
CSS	**Mathiatis**	**1.05**	**68**	P	**Pn**	**04 34 37.6**	**-0.9**
CSS				S	**Sn**	**04 34 53.0**	**+0.9**
AKIN	**Akıncılar- Kıb**	**1.18**	**68**	PN	**Pn**	**04 34 40.0**	**-0.1**
ATHAL	**Athalassa**	**1.18**	**61**	P	**Pn**	**04 34 40.4**	**+0.3**
ATHAL				S	**Sb**	**04 34 58.7**	**+2.3**
MVOU	**Mavrovouni**	**1.30**	**70**	P	**Pn**	**04 34 41.9**	**+0.1**
MVOU				AMd		04 36 04.1	
GAZI	**Gazipasa**	**1.67**	**5**	PN	**Pn**	**04 34 46.2**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.76**	**27**	PN	**Pn**	**04 34 47.7**	**-0.4**
EREN	**Erenkoy**	**1.92**	**60**	PN	**Pn**	**04 34 49.6**	**-0.7**
IKL	**Isikli**	**2.09**	**37**	PN	**Pn**	**04 34 52.6**	**0.0**
TEVE	**Tevekalti-Mers**	**2.14**	**29**	PN	**Pn**	**04 34 53.4**	**-0.1**
KEBE	**Keben-Mersin**	**2.27**	**34**	PN	**Pn**	**04 34 55.9**	**+0.7**
SILI	**Silifke-Mersin**	**2.31**	**39**	PN	**Pn**	**04 34 55.9**	**+0.2**
KIZK	**Mersin**	**2.51**	**40**	PN	**Pn**	**04 34 57.8**	**-0.6**
AKAS	**Kas**	**2.65**	**309**	PN	**Pn**	**04 34 59.4**	**-1.2**
KORT	**Korkueli**	**2.83**	**329**	PN	**Pn**	**04 35 02.7**	**-0.3**
ELL	**Elmali**	**2.83**	**321**	PN	**Pn**	**04 35 02.6**	**-0.4**
HNTI	**Hanita**	**2.93**	**120**	Pn	**Pn**	**04 35 05.1**	**+0.9**
MMA0B	**Mount Meron ar**	**3.13**	**119**	Pn	**Pn**	**04 35 07.7**	**+0.7**
MMA0B				Sn	**Sn**	**04 35 42.5**	**-0.9**
GEM	**Giv'at Ha'Em**	**3.23**	**114**	Pn	**Pn**	**04 35 08.1**	**-0.2**
FETY	**Fethiye**	**3.23**	**310**	PN	**Pn**	**04 35 08.6**	**+0.2**
KSDI	**Kefar Szold**	**3.23**	**114**	Pn	**Pn**	**04 35 07.4**	**-1.0**
KSDI				Sn	**Sn**	**04 35 44.4**	**-1.4**
KSDI	**Kefar Szold**	**3.23**	**114**	P	**Pn**	**04 35 08.2**	**-0.2**
KSDI	**Kefar Szold**	**3.23**	**114**	P	**Pn**	**04 35 07.4**	**-1.0**
KSDI				S	**Sn**	**04 35 44.2**	**-1.7**
NATI	**Neve Ativ**	**3.26**	**113**	Pn	**Pn**	**04 35 08.2**	**-0.6**
NATI				Sn	**Sn**	**04 35 45.5**	**-1.0**
KONT	**Konya--Tatoy**	**3.37**	**3**	PN	**Pn**	**04 35 10.8**	**+0.5**
KSHT	**Keshet**	**3.44**	**116**	Pn	**Pn**	**04 35 11.1**	**-0.2**
MMLI	**Mount Malkishu**	**3.47**	**127**	Pn	**Pn**	**04 35 12.4**	**+0.7**
MMLI				Sn	**Sn**	**04 35 51.4**	**-0.4**
MMLI	**Mount Malkishu**	**3.47**	**127**	PN	**Pn**	**04 35 11.2**	**-0.5**
SHMJ	**Saham**	**3.54**	**120**	P	**Pn**	**04 35 11.2**	**-1.4**
KARA	**Karaisali**	**3.58**	**41**	PN	**Pn**	**04 35 13.7**	**+0.6**
DALY	**Dalyan (Mula)**	**3.62**	**309**	PN	**Pn**	**04 35 13.7**	**0.0**
LADK	**Ladik-KONYA**	**3.62**	**3**	PN	**Pn**	**04 35 14.6**	**+0.7**
HMDT	**Nahal Hemdat**	**3.65**	**128**	Pn	**Pn**	**04 35 14.7**	**+0.5**
HMDT				Sn	**Sn**	**04 35 55.0**	**-1.3**
TURN	**Turunc**	**3.68**	**310**	PN	**Pn**	**04 35 16.9**	**+2.3**
YER	**Yerkesik**	**4.05**	**310**	PN	**Pn**	**04 35 19.5**	**-0.1**
YTIR	**Yattir**	**4.06**	**141**	Pn	**Pn**	**04 35 20.6**	**+0.7**
YTIR				Sn	**Sn**	**04 36 07.0**	**+0.6**
KZIT	**Kziot**	**4.12**	**152**	Pn	**Pn**	**04 35 21.6**	**+1.0**
KZIT	**Kziot**	**4.12**	**152**	PN	**Pn**	**04 35 19.8**	**-0.8**
SHUT	**Suhut-Afyon**	**4.17**	**343**	PN	**Pn**	**04 35 22.6**	**+1.1**
KARP	**Karpathos**	**4.20**	**285**	PN	**Pn**	**04 35 20.6**	**-1.1**
MZDA	**Masada**	**4.23**	**139**	Pn	**Pn**	**04 35 21.5**	**-0.6**
MZDA				Sn	**Sn**	**04 36 10.9**	**+0.5**
DAT	**Datca**	**4.29**	**301**	PN	**Pn**	**04 35 22.4**	**-0.7**
WALJ	**Wala**	**4.30**	**133**	P	**Pn**	**04 35 23.8**	**+0.7**
ASF	**Jabal al Asfar**	**4.64**	**120**	P	**Pn**	**04 35 27.6**	**-0.3**
PRNI	**Paran**	**4.85**	**149**	Pn	**Pn**	**04 35 31.3**	**+0.6**
PRNI				Sn	**Sn**	**04 36 25.7**	**-0.2**
KRMI	**Paran Flat**	**4.95**	**153**	Pn	**Pn**	**04 35 32.6**	**+0.5**
KRMI				Sn	**Sn**	**04 36 29.4**	**+1.1**
HRFI	**Mount Harif**	**5.14**	**151**	Pn	**Pn**	**04 35 35.9**	**+1.2**
HRFI				Sn	**Sn**	**04 36 33.1**	**0.0**
MBRI	**Mt Berech**	**5.31**	**153**	Pn	**Pn**	**04 35 38.1**	**+1.0**
MBRI				Sn	**Sn**	**04 36 38.1**	**+0.8**
EIL	**Elat**	**5.44**	**153**	Pn	**Pn**	**04 35 39.5**	**+0.8**
EIL				Sn	**Sn**	**04 36 40.7**	**+0.4**

*ISK **25** 04:48:38.8, 34°52N×32°08E, h17km, ML3.1/15*
*NIC **25** 04:48:39.5±0.0, 34°54N×32°02E, h26km, Ml3.2/4*
*ISCJB **25** 04:48:41.0±0.5, 34°52N±0°04×32°10E±0°04, h36km±29km, Error ellipse: s-maj=7.9km s-min=4.2km az=29.7*
*GII **25** 04:48:43.8±0.0, 34°44N×32°61E, h1km, MD2.0/1*
ISC 25 04:48:40.9±1.6,**34°57N**±0°04×**32°14E**±0°04,**h17**km±11km, **n39**,σ1°08/52,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.41**	**59**	P	**Pb**	**04 48 50.2**	**+0.5**
NATA				S	**Sn**	**04 48 58.3**	**-1.1**
NATA				AML	AML	04 49 00.4	
	10nm,0.6s						
NATA				AML	AML	04 49 00.4	
	10nm,0.6s						
NATA				AML	AML	04 49 01.6	
	12nm,0.7s						
NATA				AML	AML	04 49 01.6	
	12nm,0.7s						
AKMS	**Akamas**	**0.48**	**19**	P	**Pb**	**04 48 50.9**	**0.0**
AKMS				AML	AML	04 48 59.9	
	5.2nm,0.3s						
AKMS				AML	AML	04 48 59.9	
	5.2nm,0.3s						
AKMS				S	**Sn**	**04 48 59.9**	**-1.1**
AKMS				AML	AML	04 49 00.5	
	6.1nm,0.3s						
AKMS				AML	AML	04 49 00.5	
	6.1nm,0.3s						
SZAC	**Souni**	**0.64**	**73**	P	**Pb**	**04 48 53.9**	**+0.2**
SZAC				S	**Sn**	**04 49 04.9**	**-0.2**
ALFC	**Alefka**	**0.70**	**32**	P	**Pb**	**04 48 54.4**	**-0.3**
ALFC				S	**Sn**	**04 49 05.9**	**-0.7**
ALFC				AML	AML	04 49 07.3	
	2.9nm,0.4s						
ALFC				AML	AML	04 49 07.3	
	2.9nm,0.4s						
LEF	**Lefka**	**0.82**	**48**	PG	**Pb**	**04 48 56.1**	**-0.7**
LEF				SG	**Sg**	**04 49 08.2**	**+0.3**
ASGA	**Asgata**	**0.94**	**76**	P	**Pb**	**04 48 58.3**	**-0.5**
ASGA				S	**Sn**	**04 49 12.3**	**0.0**
ASGA				AML	AML	04 49 15.1	
	2.0nm,0.2s						
ASGA				AML	AML	04 49 15.1	
	2.0nm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**0.99**	**43**	PG	**Pg**	**04 48 59.9**	**-0.3**
CSS	**Mathiatis**	**1.05**	**68**	Pg	**Pb**	**04 48 59.8**	**-1.0**
CSS				Sg	**Sb**	**04 49 13.0**	**-1.3**
CSS	**Mathiatis**	**1.05**	**68**	PN	**Pb**	**04 49 00.1**	**-0.6**
CSS				SN	**Sn**	**04 49 15.6**	**+0.3**
CSS	**Mathiatis**	**1.05**	**68**	P	**Pb**	**04 49 00.2**	**-0.6**
CSS				S	**Sn**	**04 49 15.9**	**+0.6**
AKIN	**Akıncılar- Kıb**	**1.18**	**67**	PN	**Pb**	**04 49 02.5**	**-0.3**
GAZI	**Gazipasa**	**1.67**	**5**	PN	**Pn**	**04 49 08.6**	**-0.9**
TEKE	**Tekeli-Mersin**	**1.76**	**27**	PN	**Pn**	**04 49 10.3**	**-0.4**
EREN	**Erenkoy**	**1.92**	**59**	PN	**Pn**	**04 49 13.5**	**+0.6**
IKL	**Isikli**	**2.09**	**37**	PN	**Pn**	**04 49 14.9**	**-0.3**
TEVE	**Tevekalti-Mers**	**2.14**	**29**	PN	**Pn**	**04 49 16.1**	**+0.1**
KEBE	**Keben-Mersin**	**2.27**	**34**	PN	**Pn**	**04 49 17.9**	**+0.1**
KIZK	**Mersin**	**2.51**	**40**	PN	**Pn**	**04 49 21.2**	**+0.2**
AKAS	**Kas**	**2.66**	**309**	PN	**Pn**	**04 49 22.1**	**-1.0**
KORT	**Korkueli**	**2.83**	**330**	PN	**Pn**	**04 49 24.6**	**-0.9**
ELL	**Elmali**	**2.84**	**321**	PN	**Pn**	**04 49 25.0**	**-0.6**
MMA0B	**Mount Meron ar**	**3.12**	**119**	Pn	**Pn**	**04 49 30.1**	**+0.6**
MMA0B				Sn	**Sn**	**04 50 04.0**	**-2.5**
GEM	**Giv'at Ha'Em**	**3.23**	**114**	Pn	**Pn**	**04 49 30.2**	**-0.6**
GEM				Sn	**Sn**	**04 50 05.9**	**-3.0**
FETY	**Fethiye**	**3.24**	**310**	PN	**Pn**	**04 49 29.8**	**-1.2**
NATI	**Neve Ativ**	**3.26**	**113**	Pn	**Pn**	**04 49 31.1**	**-0.2**
MMLI	**Mount Malkishu**	**3.47**	**127**	Pn	**Pn**	**04 49 34.2**	**0.0**
MMLI	**Mount Malkishu**	**3.47**	**127**	PN	**Pn**	**04 49 33.3**	**-0.9**
KARA	**Karaisali**	**3.58**	**40**	PN	**Pn**	**04 49 36.8**	**+1.1**
DALY	**Dalyan (Mula)**	**3.62**	**309**	PN	**Pn**	**04 49 36.1**	**-0.1**
HMDT	**Nahal Hemdat**	**3.65**	**128**	Pn	**Pn**	**04 49 36.7**	**0.0**
HMDT				Sn	**Sn**	**04 50 18.1**	**-1.3**
TURN	**Turunc**	**3.69**	**310**	PN	**Pn**	**04 49 38.8**	**+1.7**
DSI	**Dead Sea**	**4.04**	**137**	Pn	**Pn**	**04 49 43.1**	**+1.1**
DSI				Sn	**Sn**	**04 50 28.5**	**-0.5**
YER	**Yerkesik**	**4.05**	**310**	PN	**Pn**	**04 49 42.5**

comp=Z,0.4nm,0.3s,baz=127,slow=4.5,SNR=3.7
ZALV Zalesovo Beam 53.98 331 P P 04 58 46.6 -2.2
KURK Kurchatov 55.53 325 P P 04 59 00.9 +0.8
BTK Batken 56.92 311 P P 04 59 12.8 +2.4
BRVK Borovoye 61.20 325 P P 04 59 39.4 -0.3
BRVK IAmb IAmb 04 59 42.6
comp=Z,6.8nm,0.9s
ABKAR Akbulak array 66.45 319 P P 05 00 13.3 -1.1
ABKAR Akbulak array 66.45 319 P P 05 00 14.6 +0.2
ABKAR IAmb IAmb 05 00 25.3
comp=Z,2.1nm,0.9s
RPZ Rata Peaks 67.95 147 LR LR 05 28 21.2
comp=Z,51nm,19.1s,baz=34,slow=34
BSWZ Blackbirch Sta 68.22 144 P P 05 00 23.8 -1.8
RSO Redoubt South 75.51 30 P P 05 01 06.5 -3.0
ILAR Eielson Array 78.26 26 P P 05 01 24.9 +0.2
comp=Z,0.5nm,0.8s,baz=245,slow=5.1,SNR=9.3
ILAR Eielson Array 78.26 26 P P 05 01 23.9 -0.8
FINES FINESS Array B 85.23 332 P P 05 02 03.1 +1.6
comp=Z,3.0nm,1.0s,baz=96,slow=3.8,SNR=3.8
BRTR Keskin Array B 85.30 309 P P 05 02 02.2 -0.2
comp=Z,0.7nm,0.8s,baz=57,slow=4.6,SNR=4.6

ISCJB ***25*** *05:57:19.1±0.6, 18°.9N±0°.1×69°.43W±0°.04, h90km±10km, Error ellipse: s-maj=18.2km s-min=4.0km az=14.2*
NEIC ***25*** *05:57:20.7±1.9, 18°.6N±0°.3×69°.51W±0°.08, h75km±10km, Md4.1(RSPR)*
OSPL ***25*** *05:57:20.8±1.9, 19°.06N×69°.40W, h3km±11km, MD3.9, ML2.9*
RSPR ***25*** *05:57:22.2, 19°.19N×68°.86W, h182km±6km, MD4.0/11*
ISC 25 05:57:19.9±1.3, 18°.89N±0°.09×69°.44W±0°.04, h83km±12km, n51, σ1s55/65, 9C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.11**	**153**				**Pn**	**04 57 31.6**	**-0.2**
SDD	**Santo Domingo**	**0.62**	**227**	*i*	P		**Pn**	**04 57 33.9**	**-1.1**
SDD				*e*	S		**Sn**	**04 57 44.9**	**-1.3**
SDD	**Santo Domingo**	**0.62**	**227**				**Pn**	**04 57 33.9**	**-1.1**
BON1	**Bonao**	**0.91**	**273**	*i*	P		**Pn**	**04 57 38.4**	**+0.2**
BON1				*e*	S		**Sn**	**04 57 51.8**	**+0.1**
BANI	**BANI**	**1.00**	**241**				**Pn**	**04 57 38.8**	**-0.5**
PCDR	**Punta Cana, DR**	**1.07**	**110**	*i*	P		**Pn**	**04 57 40.3**	**+0.5**
PCDR				*e*	S		**Sn**	**04 57 56.0**	**+1.1**
PCDR				IAML				04 58 01.8	
comp=Z,145nm,0.1s									
PCDR	**Punta Cana, DR**	**1.07**	**110**	Pn			**Pn**	**04 57 40.0**	**+0.1**
SC01	**Santiago de lo**	**1.33**	**294**	*i*	P		**Pn**	**04 57 44.3**	**+1.1**
SC01				*e*	S		**Sn**	**04 58 01.9**	**+1.1**
SC01				IAML				04 58 06.8	
comp=Z,182nm,0.4s									
SC01	**Santiago de lo**	**1.33**	**294**				**Pn**	**04 57 44.0**	**+0.8**
SDDR	**Presa de Saban**	**1.76**	**273**	*i*	P		**Pn**	**04 57 49.5**	**+0.8**
SDDR				*e*	S		**Sn**	**04 58 12.6**	**+2.1**
SDDR				IAML				04 58 15.2	
comp=Z,107nm,0.6s									
SDDR	**Presa de Saban**	**1.76**	**273**				**Pn**	**04 57 49.2**	**+0.5**
AGPR	**Aguadilla, PR**	**2.24**	**100**	↑*e*	P		**Pn**	**04 57 57.9**	**+2.9**
AGPR	**Aguadilla, PR**	**2.24**	**100**	*i*	P		**Pn**	**04 57 55.8**	**+0.8**
AGPR				*e*	S		**Sn**	**04 58 24.5**	**+2.5**
AGPR				IAML				04 58 32.5	
comp=Z,75nm,0.1s									
AGPR	**Aguadilla, PR**	**2.24**	**100**				**Pn**	**04 57 56.1**	**+1.0**
AGPR	**Aguadilla, PR**	**2.24**	**100**				**Sn**	**04 58 24.9**	**+2.9**
MPR	**Mayaguez**	**2.28**	**107**	Pn			**Pn**	**04 57 57.0**	**+1.5**
MPR							**Sn**	**04 58 23.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.38**	**111**	↓*e*	P		**Pn**	**04 57 59.6**	**+2.8**
CRPR	**Cabo Rojo, PR**	**2.38**	**111**	*e*	S		**Sn**	**04 58 30.4**	**+5.2**
CRPR	**Cabo Rojo, PR**	**2.38**	**111**				**Pn**	**04 57 58.0**	**+1.2**
CRPR							**Sn**	**04 58 24.1**	**-1.1**
MLPR	**Magueyes Islan**	**2.45**	**112**	Pn			**Pn**	**04 57 58.2**	**+0.4**
AOPR	**Arecibo Observ**	**2.60**	**102**	↑*e*	P		**Pn**	**04 58 01.7**	**+1.9**
AOPR				*e*	S		**Sn**	**04 58 32.0**	**+1.3**
AOPR	**Arecibo Observ**	**2.60**	**102**				**Pn**	**04 58 01.7**	**+1.9**
AOPR	**Arecibo Observ**	**2.60**	**102**				**Sn**	**04 58 30.3**	**-0.4**
OBIP	**Obispado Ponce**	**2.81**	**107**	↑*e*	P		**Pn**	**04 58 04.2**	**+1.4**
OBIP				*e*	S		**Sn**	**04 58 37.0**	**+1.3**
OBIP	**Obispado Ponce**	**2.81**	**107**				**Pn**	**04 58 03.5**	**+0.7**
LGNH	**Logne**	**3.03**	**263**	Pn			**Pn**	**04 58 05.1**	**-0.5**
GRTK	**Grand Turk**	**3.06**	**329**	Pn			**Pn**	**04 58 05.1**	**-0.9**
SJG	**San Juan**	**3.21**	**103**	Pn			**Pn**	**04 58 09.3**	**+1.2**
SJG							**Sn**	**04 58 44.5**	**-0.9**
GCPR	**Guaynabo City**	**3.23**	**100**	Pn			**Pn**	**04 58 09.4**	**+1.1**
IGPR	**InterUniversit**	**3.29**	**106**	↑*e*	P		**Pn**	**04 58 10.3**	**+1.1**
IGPR	**InterUniversit**	**3.29**	**106**	*e*	S		**Sn**	**04 58 47.5**	**+0.2**
IGPR	**InterUniversit**	**3.29**	**106**	Pn			**Pn**	**04 58 10.5**	**+1.3**
IGPR							**Sn**	**04 58 46.8**	**-0.5**
PDPR	**Patillas Dam,**	**3.35**	**104**	↑*e*	P		**Pn**	**04 58 10.2**	**+0.1**
PDPR	**Patillas Dam,**	**3.35**	**104**	*e*	S		**Sn**	**04 58 48.9**	**0.0**
PDPR	**Patillas Dam,**	**3.35**	**104**				**Pn**	**04 58 10.2**	**+0.1**
PDPR							**Sn**	**04 58 48.9**	**0.0**
CBYP	**Canovanas**	**3.45**	**100**	↑*e*	P		**Pn**	**04 58 10.5**	**-0.9**
CBYP	**Canovanas**	**3.45**	**100**	*e*	S		**Sn**	**04 58 49.6**	**-1.6**
CBYP	**Canovanas**	**3.45**	**100**				**Pn**	**04 58 10.5**	**-0.9**
CBYP							**Sn**	**04 58 49.6**	**-1.6**
HUMP	**Col San Antoni**	**3.48**	**102**	↓*e*	P		**Pn**	**04 58 12.9**	**+1.1**
HUMP	**Col San Antoni**	**3.48**	**102**	*e*	S		**Sn**	**04 58 51.1**	**-0.8**
HUMP	**Col San Antoni**	**3.48**	**102**				**Sn**	**04 58 51.1**	**-0.8**
HUMP	**Col San Antoni**	**3.48**	**102**				Pn	04 58 07.4	-4.4
MTP	**Monte Pirata**	**3.77**	**101**	↑*e*	P		**Pn**	**04 58 15.2**	**-0.5**
MTP	**Monte Pirata**	**3.77**	**101**	*e*	S		**Sn**	**04 58 56.8**	**-2.1**
MTP	**Monte Pirata**	**3.77**	**101**				**Pn**	**04 58 15.2**	**-0.5**
MTP							**Sn**	**04 58 56.8**	**-2.1**
STVI	**Saint Thomas**	**4.28**	**96**	↑*e*	P		**Pn**	**04 58 21.8**	**-0.8**
STVI	**Saint Thomas**	**4.28**	**96**	*e*	S		**Sn**	**04 59 08.0**	**-3.5**
STVI	**Saint Thomas**	**4.28**	**96**				**Pn**	**04 58 21.8**	**-0.8**
VGBI	**Virgin Gorda,**	**4.79**	**94**	↑*e*	P		**Pn**	**04 58 28.8**	**-0.7**
VGBI	**Virgin Gorda,**	**4.79**	**94**	*e*	S		**Sn**	**04 59 20.1**	**-3.7**
VGBI	**Virgin Gorda,**	**4.79**	**94**				**Pn**	**04 58 28.8**	**-0.7**

ISCJB ***25*** *05:10:06.6±0.3, 54°.19S±0°.05×55°.05W±0°.09, h10km, mb4.7/22, MS5.0/12, Error ellipse: s-maj=8.9km s-min=5.7km az=143.9*
IDC ***25*** *05:10:06.9±0.5, 54°.04S×54°.82W, h0km, mb4.6/19, mb1 4.7/21, mb1mx4.6/32, mbtmp4.7/21, ML4.8/2, MS5.1/12, Ms1 5.0/12, ms1mx5.0/16, Error ellipse: s-maj=21.0km s-min=11.4km az=60.0*
NEIC ***25*** *05:10:07.8±2.5, 54°.34S±0°.08×55°.3W±0°.1, h12km±1km, mb5.2/29, Mwc5.4(GCMT)*
GCMT ***25*** *05:10:12.8±0.1, 54°.15S±0°.01×54°.93W±0°.02, h15km, MW5.4/100, Moment Tensor Solution. s79,c133; s100,c179; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.00±.02; Mθθ-0.71±.02; Mφφ0.70±.03; Mrθ-0.32±.07; Mrφ1.44±.02; Mθφ0.06±.07; Best double couple: M0 1.63800×10^17 NP1:φs77.00000°, δ86.00000°, λ-10.00000°. NP2:φs167.00000°, δ80.00000°, λ-176.00000°. Principal axes: T 1.6130, Plg4.0000°, Azm122.0000°; N 0.0500, Plg79.0000°, Azm234.0000°; P -1.6620, Plg10.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***25*** *05:10:12.0±0.0, 54°.00S×54°.90W, h15km, mB5.6/3, Ms5.3/3, Ms7 5.4/2*
NEIC ***25*** *05:10:12, 54°.10S×54°.90W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.06; Mθθ-0.78; Mφφ0.72; Mrθ-0.35; Mrφ1.41; Mθφ0.19; Fault plane solution: M0 1.65000×10^17 NP1:φs75.00000°, δ82.00000°, λ-10.00000°. NP2:φs167.00000°, δ81.00000°, λ-172.00000°. Principal axes: T 1.5676, Plg1.0000°, Azm121.0000°; N 0.1505, Plg77.0000°, Azm214.0000°; P -1.7182, Plg13.0000°, Azm31.0000°;*
ISC 25 05:10:07.9±0.3, 54°.26S±0°.06×55°.36W±0°.05, h10km, n193, σ1s34/193, mb4.9/28, MS5.1/12, 1C-1D, Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**3.06**	**327**				**Pn**	**05 10 58.5**	**+2.2**
USHA	**Ushuaia**	**7.63**	**260**				**Pn**	**05 11 58.5**	**-0.4**
30nm,0.3s,baz=102,slow=12,SNR=220									
USHA					Sn		**Sn**	**05 13 25.4**	**0.0**
301nm,0.3s,baz=80,slow=7.4,SNR=25									
GO10	**Punta Arenas**	**9.38**	**270**	Pn			**Pn**	**05 12 21.2**	**-1.7**
GO10					Sn		**Sn**	**05 14 05.1**	**-3.3**
GO09	**Cerro Castillo**	**10.71**	**279**				**Pn**	**05 12 40.0**	**-1.2**
GO09					Sn		**Sn**	**05 14 37.9**	**-3.3**
HOPE	**Hope Point**	**11.04**	**98**				**Pn**	**05 12 45.3**	**-0.3**
PMSA	**Palmer Station**	**11.42**	**199**	Pn			Pn	05 12 57.3	+6.6
4.7nm,0.3s,baz=29,slow=8.0,SNR=21									
PMSA	**Palmer Station**	**11.42**	**199**	*e*P			Pn	05 12 57.3	+6.6
PMSA	**Palmer Station**	**11.42**	**199**	*e*P			Pn	05 12 57.3	+6.6
TRQA	**Tornquist**	**16.83**	**342**	*e*P			**Pn**	**05 14 03.2**	**-0.2**
TRQA	**Tornquist**	**16.83**	**342**	*e*P			**Pn**	**05 14 03.2**	**-0.2**
TRQA	**Tornquist**	**16.83**	**342**				**Pn**	**05 14 03.5**	**0.0**
TRQA						IAmb	IAmb	05 14 54.7	
comp=Z,108nm,1.0s									
PLCA	**Paso Flores**	**16.93**	**317**	Pn			**Pn**	**05 14 06.7**	**-0.1**
comp=Z,0.8nm,0.3s,baz=166,slow=12,SNR=41									
PLCA						LR	LR	05 22 00.4	
comp=Z,6μm,18.7s,baz=165,slow=42									
PLCA	**Paso Flores**	**16.93**	**317**	*e*P			**Pn**	**05 14 06.9**	**+0.1**
PLCA	**Paso Flores**	**16.93**	**317**	*e*P			**Pn**	**05 14 06.9**	**+0.1**
PLCA	**Paso Flores**	**16.93**	**317**				**Pn**	**05 14 06.7**	**-0.1**
PLCA						IAmb	IAmb	05 14 24.8	
comp=Z,480nm,1.6s									
GO06	**Curarrehue**	**18.28**	**317**	P			**Pn**	**05 14 23.8**	**+2.1**
GO06						IAmb	IAmb	05 14 50.6	
comp=Z,96nm,0.9s									
LPA	**La Plata**	**19.43**	**354**	*e*P			**Pn**	**05 14 37.6**	**+2.2**
LPA						PPP	PPP	05 14 59.5	
LPA						PPP	PPP	05 16 17.5	
LPA						S	**S**	**05 18 12.8**	**-0.9**
LPA						SSS	SSS	05 20 00.8	
OGAUY	**Aigu**	**19.93**	**2**	*e*P			**Pn**	**05 14 40.4**	**-0.9**
OGAUY	**Aigu**	**19.93**	**2**	*e*P			**Pn**	**05 14 40.4**	**-0.9**
GO05	**Huala**	**22.47**	**322**	P			**P**	**05 15 08.6**	**+1.5**
GO05						IAmb	IAmb	05 15 48.4	
comp=Z,71nm,0.9s									
PLTB	**Pedras Altas**	**22.52**	**4**	*e*P			**P**	**05 15 07.9**	**+0.3**
PLTB	**Pedras Altas**	**22.52**	**4**	*e*P			**P**	**05 15 07.9**	**+0.3**
PEL	**Peldehue**	**23.74**	**327**	P			**P**	**05 15 21.2**	**+1.1**
ROC1	**El Roble**	**24.00**	**326**	P			**P**	**05 15 23.3**	**+0.5**
CFA	**Coronel Fontan**	**24.45**	**333**	P			**P**	**05 15 25.4**	**-1.3**
comp=Z,7.9nm,0.6s,baz=162,slow=10,SNR=10									
CFA						LR	LR	05 26 19.3	
comp=Z,3μm,18.1s,baz=156,slow=40									
CNLB	**Canela**	**25.14**	**9**	*e*P			**P**	**05 15 33.9**	**+0.9**
CNLB	**Canela**	**25.14**	**9**	*e*P			**P**	**05 15 33.9**	**+0.9**
VNA3	**Neumayer Olymp**	**26.00**	**148**	P			**P**	**05 15 42.0**	**+1.6**
VNA1	**Neumayer--Stat**	**26.28**	**147**	P			**P**	**05 15 44.8**	**+1.9**
GO04	**Tololo Observa**	**26.53**	**329**	P			**P**	**05 15 46.7**	**+0.9**
GO04						IAmb	IAmb	05 16 34.8	
comp=Z,78nm,0.9s									
VNA2	**Neumayer--Watz**	**26.63**	**147**	P			**P**	**05 15 47.6**	**+1.5**
baz=288,slow=9.3									
ITAB	**Concordia**	**27.10**	**6**	*e*P			**P**	**05 15 50.0**	**-0.7**
ITAB	**Concordia**	**27.10**	**6**	*e*P			**P**	**05 15 50.0**	**-0.7**
CPUP	**Villa Florida**	**27.93**	**356**	P			**P**	**05 15 57.1**	**-1.1**
comp=Z,6.5nm,0.7s,baz=185,slow=8.5,SNR=24									
CPUP						LR	LR	05 28 54.3	
comp=Z,3μm,18.2s,baz=177,slow=41									
CPUP	**Villa Florida**	**27.93**	**356**	*e*P			**P**	**05 15 57.4**	**-0.8**
CPUP	**Villa Florida**	**27.93**	**356**	*e*P			**P**	**05 15 57.4**	**-0.8**
CPUP	**Villa Florida**	**27.93**	**356**	P			**P**	**05 15 57.4**	**-0.8**
SNAA	**Sanae**	**28.22**	**148**	P			**P**	**05 16 01.7**	**+1.3**
SNAA	**Sanae**	**28.22**	**148**	P			**P**	**05 16 01.7**	**+1.3**
comp=Z,11nm,0.8s,baz=285,slow=8.9,SNR=54									
SNAA	**Sanae**	**28.22**	**148**	P			**P**	**05 16 01.1**	**+0.7**
SNAA						IAmb	IAmb	05 16 12.4	
comp=Z,33nm,1.1s									
PTGB	**Pitanga**	**29.61**	**6**	*e*P			**P**	**05 16 13.1**	**-0.1**
PTGB	**Pitanga**	**29.61**	**6**	*e*P			**P**	**05 16 13.1**	**-0.1**
VAS01	**Vassouras-RJ**	**33.18**	**20**	*e*P			**P**	**05 16 44.7**	**+0.2**
VAS01	**Vassouras-RJ**	**33.18**	**20**	*e*P			**P**	**05 16 44.7**	**+0.2**
BB19B	**Bebedouro**	**33.54**	**12**	*e*P			**P**	**05 16 45.6**	**-2.1**
BB19B	**Bebedouro**	**33.54**	**12**	*e*P			**P**	**05 16 45.6**	**-2.1**
AQDB	**Aquidauana**	**33.73**	**359**	*e*P			**P**	**05 16 49.6**	**+0.3**
AQDB	**Aquidauana**	**33.73**	**359**	*e*P			**P**	**05 16 49.6**	**+0.3**
BSCB	**Bom Sucesso**	**34.17**	**18**	*e*P			**P**	**05 16 54.0**	**+0.8**
BSCB	**Bom Sucesso**	**34.17**	**18**	*e*P			**P**	**05 16 54.0**	**+0.8**
ITRB	**Iturama**	**34.70**	**8**	*e*P			**P**	**05 16 56.4**	**-1.5**
ITRB	**Iturama**	**34.70**	**8**	*e*P			**P**	**05 16 56.4**	**-1.5**
QSPA	**South Pole Qui**	**35.99**	**180**	P			**P**	**05 17 11.2**	**+2.6**
comp=Z,16nm,0.7s,baz=161,slow=3.5,SNR=4.1									
QSPA						LR	LR	05 32 45.9	
comp=Z,1μm,21.6s,baz=168,slow=38									
QSPA	**South Pole Qui**	**35.99**	**180**	P			**P**	**05 17 10.2**	**+1.5**
GO01	**Chusmiza**	**36.12**	**338**	P			**P**	**05 17 11.6**	**+1.1**
PB11	**IPOC Station P**	**36.13**	**337**	P			**P**	**05 17 11.0**	**+0.7**
PP1B	**Ponte de Pedra**	**36.59**	**1**	*e*P			**P**	**05 17 13.1**	**-0.8**
PP1B	**Ponte de Pedra**	**36.59**	**1**	*e*P			**P**	**05 17 13.1**	**-0.8**
IPMB	**Ipameri, GO**	**36.62**	**11**	*e*P			**P**	**05 17 15.2**	**+0.9**
IPMB	**Ipameri, GO**	**36.62**	**11**	*e*P			**P**	**05 17 15.2**	**+0.9**
MNMC	**Minye Minye**	**36.73**	**337**	P			**P**	**05 17 17.0**	**+1.5**
MNMC						IAmb	IAmb	05 17 40.2	
comp=Z,50nm,0.8s									
BSFB	**Barra de Sao F**	**37.08**	**23**	*e*P			**P**	**05 17 16.8**	**-1.3**
BSFB	**Barra de Sao F**	**37.08**	**23**	*e*P			**P**	**05 17 16.8**	**-1.3**
SJMB	**Sao Joao De Ma**	**37.13**	**23**	*e*P			**P**	**05 17 19.2**	**+0.7**
SJMB	**Sao Joao De Ma**	**37.13**	**23**	*e*P			**P**	**05 17 19.2**	**+0.7**
SIV	**San Ignacio**	**38.44**	**351**	P			**P**	**05 17 28.8**	**-0.9**
comp=Z,4.8nm,0.7s,baz=178,slow=8.1,SNR=14									
SIV						LR	LR	05 35 42.9	
comp=Z,5μm,18.5s,baz=192,slow=40									
ARAG	**Araguaiana, MT**	**38.57**	**5**	*e*P			**P**	**05 17 29.9**	**-0.8**
ARAG	**Araguaiana, MT**	**38.57**	**5**	*e*P			**P**	**05 17 29.9**	**-0.8**
BDFB	**Brasilia**	**38.96**	**11**	P			**P**	**05 17 33.2**	**-0.9**
comp=Z,13nm,0.9s,baz=178,slow=6.7,SNR=16									
BDFB						LR	LR	05 33 17.5	
comp=Z,3μm,21.4s,baz=186,slow=36									
BDFB	**Brasilia**	**38.96**	**11**	P			**P**	**05 17 33.4**	**-0.8**
LPAZ	**La Paz**	**39.17**	**340**	P			**P**	**05 17 37.1**	**+0.6**
comp=Z,2.8nm,0.7s,baz=179,slow=7.5,SNR=5.2									
LPAZ						LR	LR	05 34 18.1	
comp=Z,3μm,21.2s,baz=180,slow=37									
LPAZ	**La Paz**	**39.17**	**340**	*e*P			**P**	**05 17 37.4**	**+0.9**
LPAZ	**La Paz**	**39.17**	**340**	*e*P			**P**	**05 17 37.4**	**+0.9**
LPAZ	**La Paz**	**39.17**	**340**	P			**P**	**05 17 37.6**	**+1.1**
NBIT	**Itapeh - BA**	**41.17**	**24**	*e*P			**P**	**05 17 51.2**	**-1.1**
NBIT	**Itapeh - BA**	**41.17**	**24**	*e*P			**P**	**05 17 51.2**	**-1.1**
SYO	**Syowa Base**	**42.51**	**148**	↓*e*pP			**P**	**05 18 02.0**	**-0.8**
SYO	**Syowa Base**	**42.51**	**148**	↑*i*sP			**P**	**05 18 03.2**	**+0.4**
NBPN	**Ponto Novo - B**	**44.95**	**21**	*e*P			**P**	**05 18 21.1**	**-1.9**
NBPN	**Ponto Novo - B**	**44.95**	**21**	*e*P			**P**	**05 18 21.1**	**-1.9**
NBLA	**Lagarto - SE**	**45.36**	**25**	*e*P			**P**	**05 18 24.8**	**-1.4**
NBLA	**Lagarto - SE**	**45.36**	**25**	*e*P			**P**	**05 18 24.8**	**-1.4**
NNA	**Nana**	**45.47**	**330**	P			**P**	**05 18 27.7**	**+0.5**
comp=Z,10nm,1.0s,baz=209,slow=7.7,SNR=4.2									
NNA	**Nana**	**45.47**	**330**	P			**P**	**05 18 29.3**	**+2.2**
NNA						IAmb	IAmb	05 18 30.9	
comp=Z,35nm,1.3s									
SAML	**Samuel**	**45.62**	**349**	*e*P			**P**	**05 18 29.2**	**+0.9**
SAML	**Samuel**	**45.62**	**349**	*e*P			**P**	**05 18 29.2**	**+0.9**
SAML	**Samuel**	**45.62**	**349**	P			**P**	**05 18 28.6**	**+0.3**
SMTB	**Santa Maria do**	**45.70**	**11**	*e*P			**P**	**05 18 28.5**	**-0.5**
SMTB	**Santa Maria do**	**45.70**	**11**	*e*P			**P**	**05 18 28.5**	**-0.5**
NBAN	**Anadia - AL**	**47.01**	**26**	*e*P			**P**	**05 18 38.4**	**-0.8**
NBAN	**Anadia - AL**	**47.01**	**26**	*e*P			**P**	**05 18 38.4**	**-0.8**
NBTA	**Tacaratu-PE**	**47.10**	**24**	*e*P			**P**	**05 18 37.9**	**-2.0**
NBTA	**Tacaratu-PE**	**47.10**	**24**	*e*P			**P**	**05 18 37.9**	**-2.0**
NBMA	**Muriti-CE**	**48.64**	**22**	*e*P			**P**	**05 18 51.2**	**-0.7**
NBMA	**Muriti-CE**	**48.64**	**22**	*e*P			**P**	**05 18 51.2**	**-0.7**
NBLI	**Livramento-PB**	**49.06**	**24**	*e*P			**P**	**05 18 54.0**	**-1.2**
NBLI	**Livramento-PB**	**49.06**	**24**	*e*P			**P**	**05 18 54.0**	**-1.2**
MAW	**Mawson**	**50.09**	**154**	P			**P**	**05 19 03.2**	**+0.9**
comp=Z,3.5nm,0.7s,baz=197,slow=8.0,SNR=7.3									
NBPB	**Pedra_Branca-C**	**50.23**	**21**	*e*P			**P**	**05 19 03.1**	**-0.9**
NBPB	**Pedra_Branca-C**	**50.23**	**21**	*e*P			**P**	**05 19 03.1**	**-0.9**
NBPV	**Pedro Velho**	**50.38**	**26**	*e*P			**P**	**05 19 05.5**	**+0.4**
NBPV	**Pedro Velho**	**50.38**	**26**	*e*P			**P**	**05 19 05.5**	**+0.4**
ATAH	**Atahualpa**	**50.53**	**330**	P			**P**	**05 19 05.2**	**-1.5**
comp=Z,4.2nm,0.7s,baz=177,slow=5.2,SNR=3.5									
NBPA	**Parau_RN**	**50.58**	**24**	*e*P			**P**	**05 19 06.2**	**-0.4**
NBPA	**Parau_RN**	**50.58**	**24**	*e*P			**P**	**05 19 06.2**	**-0.4**
NBPS	**Pedro II - PI**	**50.99**	**18**	*e*P			**P**	**05 19 10.1**	**+0.3**
NBPS	**Pedro II - PI**	**50.99**	**18**	*e*P			**P**	**05 19 10.1**	**+0.3**
NBCL	**Cascavel-CE**	**51.78**	**22**	*e*P			**P**	**05 19 15.8**	**+0.2**
NBCL	**Cascavel-CE**	**51.78**	**22**	*e*P			**P**	**05 19 15.8**	**+0.2**
H10S3	**ASCENSION HYDR**	**55.62**	**51**	T			T	06 19 38.7	
baz=208,slow=74,SNR=48									
H10S2	**ASCENSION HYDR**	**55.62**	**51**	T			T	06 19 39.0	
baz=12,slow=74,SNR=159									
SUR	**Sutherland**	**56.61**	**100**	P			**P**	**05 19 50.4**	**-0.6**
comp=Z,4.5nm,0.5s,baz=210,slow=8.1,SNR=16									
SUR	**Sutherland**	**56.61**	**100**	P			**P**	**05 19 50.3**	**-0.7**
SUR						IAmb	IAmb	05 20 09.3	
comp=Z,49nm,1.2s									
H10N3	**ASCENSION HYDR**	**56.67**	**51**	T			T	06 20 54.5	
baz=206,slow=76,SNR=114									
H10N1	**ASCENSION HYDR**	**56.68**	**51**	T			T	06 20 54.9	
baz=206,slow=76,SNR=89									
H10N2	**ASCENSION HYDR**	**56.69**	**51**	T			T	06 20 55.8	
baz=206,slow=76,SNR=149									
OTAV	**Otavalo**	**57.56**	**332**	*e*P			**P**	**05 19 58.1**	**0.0**
OTAV	**Otavalo**	**57.56**	**332**	*e*P			**P**	**05 19 58.1**	**0.0**
OTAV	**Otavalo**	**57.56**	**332**	P			**P**	**05 19 58.4**	**+0.3**
MDP	**Montagnes des**	**59.19**	**3**	P			**P**	**05 20 07.3**	**-1.6**
comp=Z,8.8nm,0.8s,baz=153,slow=4.5,SNR=3.1									
ROSC	**El Rosal**	**60.98**	**338**	P			**P**	**05 20 23.1**	**+1.4**
comp=Z,14nm,0.9s,baz=207,slow=4.0,SNR=6.8									
ROSC	**El Rosal**	**60.98**	**338**	P			**P**	**05 20 22.1**	**+0.4**
ROSC						IAmb	IAmb	05 21 14.1	
comp=Z,12nm,0.9s									
BOSA	**Boshof**	**61.97**	**101**	P			**P**	**05 20 27.0**	**-1.0**
comp=Z,2.6nm,0.6s,baz=223,slow=6.8,SNR=6.2									
BOSA						LR	LR	05 43 29.4	
comp=Z,1μm,21.5s,baz=226,slow=32									
BOSA	**Boshof**	**61.97**	**101**	P			**P**	**05 20 27.0**	**-1.0**
BOSA						IAmb	IAmb	05 20 45.1	
comp=Z,18nm,0.9s									
SDV	**Santo Domingo**	**64.21**	**343**	*e*P			**P**	**05 20 43.8**	**+0.8**
SDV	**Santo Domingo**	**64.21**	**343**	*e*P			**P**	**05 20 43.8**	**+0.8**
PLCV	**Puerto La Cruz**	**64.65**	**350**	P			**P**	**05 20 47.6**	**+2.0**
PCRV	**Puerto La Cruz**	**64.66**	**350**	P			**P**	**05 20 47.6**	**+1.9**
comp=Z,9.2nm,0.8s,baz=158,slow=11,SNR=3.6									
TSUM	**Tsumeb**	**64.70**	**88**	P			**P**	**05 20 44.6**	**-1.6**
TSUM						IAmb	IAmb	05 20 55.0	
comp=Z,15nm,1.0s									
LBTB	**Lobatse**	**64.90**	**98**	P			**P**	**05 20 46.1**	**-1.4**
comp=Z,10nm,0.5s,baz=212,slow=7.7,SNR=17									
LBTB	**Lobatse**	**64.90**	**98**	P			**P**	**05 20 45.9**	**-1.5**
JTS	**Las Juntas de**	**69.00**	**329**	P			**P**	**05 21 14.4**	**+1.0**
JTS						IAmb	IAmb	05 22 07.0	
comp=Z,32nm,1.1s									
**LI

mb3.5/1, Error ellipse: s-maj=8.0km s-min=4.6km az=178.1
GUC ***25*** *05:14:18.3±0.9, 22°.01S×68°.66W, h114km±6km, ML3.5*
IDC ***25*** *05:14:18.8±1.2, 22°.11S×68°.14W, h81km±26km, mb3.6/1, mb1 3.8/4, mb1mx3.5/30, mbtmp3.9/4, Error ellipse: s-maj=64.4km s-min=20.2km az=117.0*
SJA ***25*** *05:14:18.6±0.5, 22°.02S×68°.60W, h100km±4km, ML2.6, MW2.9*

ISC 25 05:14:19.7±1.0, 22°.01S±0°.03×68°.66W±0°.05, h105km±8km, n36, σ0°67/52, 11C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**292**	⇑*i*P	**Pn**	**05 14 37.1**	**+0.3**
PB09				*i* S	**Sn**	**05 14 50.6**	**+0.9**
PB09				IAML		05 14 51.6	
	comp=N,867nm,0.3s						
PB09	**IPOC Station P**	**0.58**	**292**	*i* P	**Pn**	**05 14 36.2**	**-0.6**
PB09				*i* Sg	**Sn**	**05 14 49.6**	**-0.1**
LVC	**Limon Verde**	**0.64**	**201**	*e*P	**Pn**	**05 14 36.8**	**-0.7**
LVC				*i* S	**Sn**	**05 14 50.5**	**-0.4**
LVC	**Limon Verde**	**0.64**	**201**	P	**Pn**	**05 14 36.8**	**-0.7**
	comp=N,54nm,0.3s,baz=48,slow=8.4,SNR=938						
LVC				S	**Sn**	**05 14 50.9**	**+0.1**
	comp=N,120nm,0.3s,baz=217,slow=19,SNR=85						
LVC	**Limon Verde**	**0.64**	**201**	⇓*i*P	**Pn**	**05 14 36.9**	**-0.7**
PB03	**IPOC Station P**	**1.02**	**268**	⇑*i*P	**Pn**	**05 14 40.7**	**-0.1**
PB03				*i* S	**Sn**	**05 14 57.9**	**+1.1**
PB03				IAML		05 14 59.3	
	comp=E,826nm,0.3s						
PB06	**IPOC Station P**	**1.09**	**231**	*i* P	**Pn**	**05 14 41.6**	**0.0**
PB06				*i* S	**Sn**	**05 14 59.0**	**+0.8**
PB06				IAML		05 15 01.0	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**1.09**	**231**	*i* P	**Pn**	**05 14 41.6**	**0.0**
PB06				*i* Sg	**Sn**	**05 14 58.3**	**0.0**
PB07	**IPOC Station P**	**1.18**	**284**	*i* P	**Pn**	**05 14 42.6**	**0.0**
PB07				*i* S	**Sn**	**05 15 01.0**	**+1.1**
PB07				IAML		05 15 02.0	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.24**	**321**	⇑*i*P	**Pn**	**05 14 42.9**	**-0.3**
PB01				*i* S	**Sn**	**05 15 01.5**	**+0.5**
PB01				IAML		05 15 04.5	
	comp=E,565nm,0.3s						
PB02	**IPOC Station P**	**1.34**	**301**	⇑*i*P	**Pn**	**05 14 44.2**	**-0.2**
PB02				*i* S	**Sn**	**05 15 03.7**	**+0.5**
PB02				IAML		05 15 06.0	
	comp=N,667nm,0.3s						
PB15	**IPOC Station P**	**1.41**	**212**	⇑*i*P	**Pn**	**05 14 45.1**	**-0.2**
PB15				*i* S	**Sn**	**05 15 06.1**	**+1.4**
PB15	**IPOC Station P**	**1.41**	**212**	*i* P	**Pn**	**05 14 45.4**	**+0.1**
PB04	**IPOC Station P**	**1.42**	**257**	⇑*i*P	**Pn**	**05 14 45.1**	**-0.3**
PB04				*i* S	**Sn**	**05 15 05.5**	**+0.6**
PB04				IAML		05 15 08.6	
	comp=N,717nm,0.4s						
PB04	**IPOC Station P**	**1.42**	**257**	*i* P	**Pn**	**05 14 45.7**	**+0.3**
PB04				*i* Sg	**Sn**	**05 15 06.0**	**+1.1**
PB05	**IPOC Station P**	**1.66**	**239**	⇑*i*P	**Pn**	**05 14 47.6**	**-0.7**
PB05				*i* S	**Sn**	**05 15 10.3**	**+0.4**
PB05				IAML		05 15 15.9	
	comp=N,473nm,0.4s						
PB05	**IPOC Station P**	**1.66**	**239**	*i* P	**Pn**	**05 14 48.6**	**+0.4**
PB08	**IPOC Station P**	**1.92**	**346**	⇑*i*P	**Pn**	**05 14 52.4**	**+0.5**
PB08				*i* S	**Sn**	**05 15 17.4**	**+1.1**
PB08				IAML		05 15 19.5	
	comp=E,208nm,0.5s						
TA01	**Diego Aracena**	**2.02**	**315**	⇑*i*P	**Pn**	**05 14 51.9**	**-0.9**
TA01				*i* S	**Sn**	**05 15 18.5**	**+0.5**
TA01				IAML		05 15 20.1	
	comp=N,410nm,0.3s						
PB10	**IPOC Station P**	**2.30**	**229**	*e*P	**Pn**	**05 14 55.8**	**-0.6**
PB10				*i* S	**Sn**	**05 15 24.7**	**+0.3**
PB10	**IPOC Station P**	**2.30**	**229**	*i* P	**Pn**	**05 14 56.8**	**+0.4**
GO01	**Chusmiza**	**2.39**	**348**	⇑*i*P	**Pn**	**05 14 58.3**	**+0.3**
GO01				*i* S	**Sn**	**05 15 28.0**	**+0.8**
GO01				IAML		05 15 36.2	
	comp=N,305nm,0.1s						
PB11	**IPOC Station P**	**2.43**	**337**	⇑*i*P	**Pn**	**05 14 57.0**	**-1.2**
PB11				*i* S	**Sn**	**05 15 26.7**	**-1.0**
PB11				IAML		05 15 30.8	
	comp=N,505nm,0.8s						
PSGC	**Pisagua**	**2.77**	**330**	IAML		05 15 35.3	
	comp=N,191nm,0.4s						
YJA	**Yavi**	**2.92**	**94**	*i* P	**Pn**	**05 15 05.3**	**+0.4**
YJA				IAML		05 15 06.4	
	comp=Z,9.8nm,0.4s						
MNMC	**Minye Minye**	**3.00**	**343**	IAML		05 15 53.5	
	comp=E,200nm,0.4s						
PB14	**IPOC Station P**	**3.06**	**211**	*i* P	**Pn**	**05 15 07.1**	**+0.5**
HJA	**Humahuaca**	**3.23**	**112**	*i* P	**Pn**	**05 15 09.6**	**+0.6**
HJA				IAML		05 15 10.1	
	comp=Z,22nm,0.5s						
AZAP	**Zapla**	**3.97**	**124**	*i* P	**Pn**	**05 15 18.3**	**-0.5**
AHML	**Horco Molle**	**5.63**	**148**	*i* P	**Pn**	**05 15 41.0**	**-0.1**
LPAZ	**La Paz**	**5.72**	**5**	P	**Pn**	**05 15 44.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=204,slow=7.4,SNR=9.7						
LPAZ	**La Paz**	**5.72**	**5**	*i* P	**Pn**	**05 15 42.7**	**-0.1**
VCA	**Vinchina**	**6.71**	**177**	*i* P	**Pn**	**05 15 55.5**	**-0.3**
SIV	**San Ignacio**	**9.35**	**51**	P	Pn	05 16 26.4	-5.2
	comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=22						
PLCA	**Paso Flores**	**18.73**	**184**	P	**Pn**	**05 18 32.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=355,slow=13,SNR=2.1						
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P	**P**	**05 26 02.1**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=259,slow=5.6,SNR=3.1						

ISCJB ***25*** *05:24:55.1±1.3, 60°.5S±0°.3×44°.3W±0°.9, h10km, mb3.6/3, Error ellipse: s-maj=77.6km s-min=13.5km az=147.4*
IDC ***25*** *05:24:55.9±1.5, 60°.33S×44°.06W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.6/20, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=76.2km s-min=26.9km az=51.0*

ISC 25 05:24:56.8±1.2, 60°.5S±0°.3×44°.2W±0°.4, h10km, n10, σ2°02/10, mb3.7/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.41**	**142**	P	**Pn**	**05 28 55.8**	**-3.7**
VNA1	**Neumayer–Stat**	**17.66**	**140**	P	**Pn**	**05 29 00.2**	**-2.2**
VNA2	**Neumayer–Watz**	**18.01**	**140**	P	**P**	**05 29 08.9**	**+1.6**
	baz=295,slow=13						
SNAA	**Sanae**	**19.62**	**142**	P	**Pn**	**05 29 27.5**	**+1.0**
SNAA	**Sanae**	**19.62**	**142**	P	**P**	**05 29 27.0**	**+1.9**
	0.1nm,0.3s,baz=284,slow=12,SNR=8.0						
SIV	**San Ignacio**	**46.11**	**337**	P	**P**	**05 33 19.6**	**-1.5**
	0.4nm,0.5s,baz=176,slow=14,SNR=3.0						
LPAZ	**La Paz**	**47.43**	**328**	P	**P**	**05 33 32.6**	**+0.5**
	0.2nm,0.4s,baz=153,slow=6.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**81.99**	**45**	P	**P**	**05 37 17.1**	**+0.5**
	1.3nm,1.0s,baz=201,slow=3.9,SNR=4.8						
ILAR	**Eielson Array**	**146.29**	**311**	PKPbc	**PKPbc**	**05 44 35.7**	**-0.3**
	0.9nm,0.8s,baz=155,slow=1.4,SNR=8.2						
MKAR	**Makanchi Array**	**146.45**	**89**	PKPbc	**PKPdf**	**05 44 36.3**	**+0.7**
	1.2nm,0.6s,baz=225,slow=2.3,SNR=8.8						

IDC 25 05:35:09.9±2.5, 6°.80S×129°.26E, h0km, mb3.8/1, mb1 3.4/3, mb1mx3.3/24, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=203.1km s-min=32.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**160**	Pn	Pn	05 38 28.4	-0.9
	0.1nm,0.3s,baz=334,slow=15,SNR=6.1						
WRA				Sn	Sn	05 40 47.2	-18
	0.3nm,0.3s,baz=352,slow=21,SNR=7.7						
ASAR	**Alice Springs**	**17.35**	**166**	P	Pn	05 39 14.4	+0.7
	baz=340,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	05 46 08.9	0.0
	0.5nm,0.4s,baz=142,slow=7.3,SNR=5.0						

NEIC ***25*** *05:52:59.1±2.8, 23°.82N±0°.03×122°.50E±0°.04, h17km±5km, mb4.2/11*
NIED ***25*** *05:53:00, 24°.00N×122°.40E, h20km, Mw4.1 Best double couple: M₀1.87000×10¹⁵ NP1:φ=288.00000°, δ10.00000°, λ141.00000°. NP2:φ=56.00000°, δ84.00000°, λ82.00000°.*
ISCJB ***25*** *05:53:01.0±0.3, 23°.94N±0°.01×122°.44E±0°.01, h15km±2km, mb4.0/12, Error ellipse: s-maj=2.4km s-min=1.7km az=151.4*
TAP ***25*** *05:53:01.7, 24°.03N×122°.41E, h24km, ML4.2, D*
JMA ***25*** *05:53:01.2±0.2, 23°.97N×122°.40E, h16km±4km, M4.1*
IDC ***25*** *05:53:05.5±5.4, 24°.13N×122°.44E, h57km±53km, mb3.8/11, mb1 3.9/12, mb1mx3.6/61, mbtmp4.1/12, ML3.7/1, Error ellipse: s-maj=36.8km s-min=16.4km az=67.0*

ISC 25 05:53:01.5±1.0, 23°.98N±0°.02×122°.42E±0°.02, h25km±8km, n162, σ1°12/259, mb4.1/16, 13C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.62**	**334**	*e*P	**Pb**	**05 53 13.5**	**-0.3**
	baz=326						
EOS1				*e*S	**Sn**	**05 53 22.6**	**-1.3**
	baz=326						
JYNG	**Yonagunijimaku**	**0.67**	**46**	P	**Pb**	**05 53 14.5**	**0.0**
JYNG				S	**Sb**	**05 53 23.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.72**	**48**	P	**Pn**	**05 53 15.4**	**-0.7**
	baz=60						
YOJ				S	**Sb**	**05 53 24.3**	**-0.5**
	baz=60						
YOJ	**Yonaguni jima**	**0.72**	**48**	P	**Pn**	**05 53 15.5**	**-0.5**
YOJ				S	**Sb**	**05 53 24.5**	**-0.3**
YOJ	**Yonaguni jima**	**0.72**	**48**	Pg	**Pn**	**05 53 15.5**	**-0.5**
YOJ				Sg	**Sb**	**05 53 23.9**	**-0.9**
ENLB	**Shoufeng**	**0.76**	**264**	*e*P	**Pb**	**05 53 15.6**	**-0.5**
	baz=247						
ENLB				*e*S	**Sb**	**05 53 26.1**	**+0.2**
	baz=247						
NANB	**Nanao**	**0.76**	**306**	*e*P	**Pb**	**05 53 15.5**	**-0.5**
	baz=303						
NANB				*e*S	**Sb**	**05 53 25.8**	**-0.2**
	baz=303						
TWD	**Chiawan**	**0.76**	**277**	⇑*e*P	**Pb**	**05 53 15.8**	**-0.4**
	baz=273						
TWD				*e*S	**Sb**	**05 53 26.1**	**0.0**
	baz=273						
ENA	**Nanau**	**0.77**	**305**	*e*P	**Pb**	**05 53 15.5**	**-0.7**
	baz=303						
ENA				*e*S	**Sb**	**05 53 25.8**	**-0.4**
	baz=303						
NACB	**Ninganchiao**	**0.78**	**284**	⇑P	**Pb**	**05 53 16.1**	**-0.4**
	baz=266						
NACB				*e*S	**Sb**	**05 53 27.0**	**+0.4**
	baz=266						
NACB	**Ninganchiao**	**0.78**	**284**	Pg	**Pb**	**05 53 15.8**	**-0.7**
NACB				Sg	**Sb**	**05 53 25.8**	**-0.8**
TWC	**Suao**	**0.81**	**320**	⇓P	**Pb**	**05 53 16.1**	**-1.0**
	baz=319						
TWC				*e*S	**Sb**	**05 53 25.8**	**-1.8**
	baz=319						
ETLH	**Xiulin Townshi**	**0.89**	**285**	*e*P	**Pb**	**05 53 17.9**	**-0.4**
	baz=268						
ETLH				*e*S	**Sb**	**05 53 29.5**	**-0.3**
	baz=268						
ESL	**Shilin**	**0.92**	**260**	*e*P	**Pb**	**05 53 17.7**	**-1.1**
	baz=245						
ESL				*e*S	**Sb**	**05 53 29.2**	**-1.5**
	baz=245						
EGFH	**Guangfu**	**0.96**	**251**	*e*P	**Pn**	**05 53 18.8**	**-0.6**
	baz=247						
EGFH				*e*S	**Sb**	**05 53 31.7**	**-0.2**
	baz=247						
EGS		**0.97**	**332**	*e*P	**Pb**	**05 53 19.0**	**-0.6**
	baz=332						
ILA	**Ilan**	**0.99**	**322**	*e*P	**Pb**	**05 53 19.9**	**-0.1**
	baz=320						
ILA				*e*S	**Sn**	**05 53 34.3**	**+1.2**
	baz=320						
TWE	**Neicheng**	**1.01**	**317**	P	**Pn**	**05 53 19.8**	**-0.3**
	baz=315						
ENTT	**Nioudou**	**1.02**	**310**	P	**Pn**	**05 53 20.2**	**-0.1**
	baz=307						
NTC	**Toucheng**	**1.02**	**328**	*e*P	**Pb**	**05 53 20.3**	**-0.2**
	baz=327						
NTC				*e*S	**Sn**	**05 53 34.9**	**+1.1**
	baz=327						
NDT	**Datong Townshi**	**1.03**	**307**	*e*P	**Pn**	**05 53 20.5**	**+0.1**
	baz=304						
NDT				*e*S	**Sn**	**05 53 36.3**	**+2.2**
	baz=304						
HGSD	**Ruisui**	**1.04**	**242**	*e*P	**Pn**	**05 53 20.8**	**+0.3**
	baz=238						
HGSD				*e*S	**Sb**	**05 53 32.4**	**-1.6**
	baz=238						
NNSB	**Datong**	**1.05**	**295**	⇑P	**Pn**	**05 53 20.4**	**-0.3**
	baz=292						
NNSB				*e*S	**Sb**	**05 53 34.0**	**-0.4**
	baz=292						
NNS	**Nan Shan**	**1.06**	**296**	⇑P	**Pn**	**05 53 20.8**	**-0.1**
	baz=292						
NNS				*e*S	**Sb**	**05 53 34.9**	**+0.1**
	baz=292						
WHF	**Hehuan Shan**	**1.07**	**279**	⇑*i*P	**Pn**	**05 53 20.8**	**-0.6**
	baz=262						
WHF				S	**Sb**	**05 53 34.7**	**-0.7**
	baz=262						
TWB1	**Santiao Chiao**	**1.09**	**339**	*e*P	**Pb**	**05 53 21.2**	**-0.5**
	baz=356						
TWB1				*e*S	**Sn**	**05 53 36.9**	**+1.3**
	baz=356						
EHY	**Hungye**	**1.12**	**245**	*e*P	**Pn**	**05 53 21.8**	**+0.2**
	baz=255						
EHY				*e*S	**Sn**	**05 53 35.6**	**-0.6**
	baz=255						
TIPB	**Shuangxi**	**1.12**	**331**	⇑P	**Pn**	**05 53 21.7**	**0.0**
	baz=330						
TIPB				*e*S	**Sn**	**05 53 36.2**	**-0.2**
	baz=330						
NWLT	**Wulai**	**1.15**	**313**	⇑P	**Pn**	**05 53 22.4**	**+0.3**
	baz=310						
TWT	**Tachien**	**1.17**	**283**	*e*P	**Pn**	**05 53 22.9**	**+0.4**
	baz=268						
TWT				*e*S	**Sb**	**05 53 38.4**	**+0.3**
	baz=268						
YHNB	**Yeheng**	**1.18**	**306**	⇑*e*P	**Pn**	**05 53 22.5**	**0.0**
	baz=302						
YHNB	**Yeheng**	**1.18**	**306**		**Pn**	**05 53 22.7**	**+0.3**
YHNB				Sg	**Sb**	**05 53 41.8**	**+3.7**
TDCB	**Techi**	**1.19**	**283**	P	**Pn**	**05 53 22.9**	**+0.2**
	baz=268						
TDCB				*e*S	**Sn**	**05 53 38.3**	**+0.2**
	baz=268						
YULB	**Yu-li**	**1.19**	**241**	P	**Pn**	**05 53 22.6**	**0.0**
	baz=253						
YULB				*e*S	**Sn**	**05 53 37.2**	**-0.8**
	baz=253						
YULB	**Yu-li**	**1.19**	**241**		**Pn**	**05 53 22.6**	**0.0**
YULB					**Sn**	**05 53 37.0**	**-1.0**
NSK	**Sanguang**	**1.19**	**306**	⇑P	**Pn**	**05 53 22.7**	**+0.1**
	baz=303						
NSK				*e*S	**Sn**	**05 53 38.0**	**-0.1**
	baz=303						
VWDT	**VWDT**	**1.20**	**259**	⇑P	**Pn**	**05 53 22.8**	**+0.2**
	baz=255						
VWDT				*e*S	**Sn**	**05 53 38.2**	**+0.2**
	baz=255						
TWF1	**Yuli**	**1.21**	**239**	*e*P	**Pn**	**05 53 23.3**	**+0.4**
	baz=235						
TWF1				*e*S	**Sn**	**05 53 38.2**	**-0.3**
	baz=235						
NWF	**Wu-fen Shan**	**1.23**	**332**	*e*P	**Pn**	**05 53 23.3**	**+0.1**
	baz=331						
NWF				*e*S	**Sb**	**05 53 40.9**	**+1.2**
	baz=331						
WFSB	**Wu-fen Shan**	**1.23**	**332**	*e*P	**Pb**	**05 53 23.4**	**-0.6**
	baz=330						
WFSB				*e*S	**Sb**	**05 53 40.9**	**+1.4**
	baz=330						
IRIF	**Iriomote-Funau**	**1.24**	**73**	P	**Pb**	**05 53 25.0**	**+0.7**
IRIF				S	**Sb**	**05 53 41.4**	**+1.5**
TWA	**Mucha**	**1.25**	**323**	*e*P	**Pb**	**05 53 24.4**	**0.0**
	baz=321						
TWA				*e*S	**Sb**	**05 53 42.3**	**+2.1**
	baz=321						
HATJ	**Hateruma jima**	**1.27**	**86**	P	**Pb**	**05 53 24.9**	**+0.3**
HATJ				S	**Sb**	**05 53 42.3**	**+1.8**
NHDH	**Xindian Distri**	**1.27**	**320**	*e*P	**Pb**	**05 53 24.7**	**-0.1**
	baz=318						
NHDH				*e*S	**Sb**	**05 53 41.1**	**+0.3**
	baz=318						
FULB	**Fuli**	**1.30**	**233**	P	**Pn**	**05 53 23.7**	**-0.3**
	baz=216						
FULB				*e*S	**Sn**	**05 53 40.2**	**-0.5**
	baz=216						
TATO	**Taipei**	**1.30**	**319**	*e*P	**Pb**	**05 53 25.2**	**-0.2**
	baz=317						
TATO				*e*S	**Sb**	**05 53 42.6**	**+1.0**
	baz=317						
TATO	**Taipei**	**1.30**	**319**		**Pb**	**05 53 25.3**	**0.0**
TATO				Sn	**Sb**	**05 53 44.6**	**+3.0**
CHKT	**Chengkung**	**1.31**	**228**	*e*P	**Pn**	**05 53 23.2**	**-1.0**
	baz=224						
CHKT				*e*S	**Sn**	**05 53 38.9**	**-2.0**
	baz=224						
TAP	**Taipei**	**1.34**	**322**	*e*P	**Pb**	**05 53 26.5**	**+0.5**
	baz=320						
TAP				*e*S	**Sb**	**05 53 44.0**	**+1.3**
	baz=320						
SSLB	**Suanglung**	**1.36**	**262**	*e*P	**Pn**	**05 53 25.5**	**+0.5**
	baz=248						
SSLB				*e*S	**Sn**	**05 53 41.9**	**-0.4**
	baz=248						
SSLB	**Suanglung**	**1.36**	**262**		**Pn**	**05 53 25.1**	**+0.1**
SSLB				Sn	**Sb**	**05 53 43.7**	**+0.4**
DPDB	**Guoxing**	**1.37**	**272**	⇑P	**Pn**	**05 53 25.6**	**+0.4**
	baz=260						
DPDB				*e*S	**Sn**	**05 53 43.4**	**+0.9**
	baz=260						
WLTB	**Daxi**	**1.38**	**309**	*e*P	**Pb**	**05 53 26.3**	**-0.2**
	baz=306						
WHP	**Taichung City**	**1.38**	**283**	*e*P	**Pn**	**05 53 26.2**	**+1.0**
	baz=268						
YM01	**YM01**	**1.40**	**326**	*e*P	**Pb**	**05 53 26.4**	**-0.5**
	baz=324						
YM01				*e*S	**Sb**	**05 53 45.7**	**+1.4**
	baz=324						
YM10	**YM10**	**1.41**	**326**	*e*P	**Pn**	**05 53 26.1**	**+0.5**
	baz=325						
YM11	**YM11**	**1.41**	**327**	*e*P	**Pn**	**05 53 25.8**	**+0.2**
	baz=324						
YM05	**YM05**	**1.41**	**327**	*e*P	**Pn**	**05 53 25.8**	**+0.1**
	baz=324						
YM04	**YM04**	**1.42**	**325**	*e*P	**Pn**	**05 53 25.8**	**+0.1**
	baz=340						
YM04				*e*S	**Sb**	**05 53 45.7**	**+0.8**
	baz=340						
YM08	**YM08**	**1.42**	**328**	*e*P	**Pb**	**05 53 26.6**	**-0.8**
	baz=325						
TYC	**Yuchr**	**1.44**	**267**	*e*P	**Pn**	**05 53 25.9**	**0.0**
	baz=263						
TYC				*e*S	**Sb**	**05 53 45.6**	**+0.1**
	baz=263						
YUS	**Yu-Shan**	**1.44**	**250**	*e*P	**Pn**	**05 53 27.6**	**+1.2**
	baz=246						
YUS				*e*S	**Sn**	**05 53 44.2**	**-0.5**
	baz=246						
TWS1	**Kuangyinshan**	**1.44**	**321**	*e*P	**Pb**	**05 53 27.2**	**-0.5**
	baz=336						
TWS1				*e*S	**Sb**	**05 53 46.3**	**+0.7**
	baz=336						
NSTT	**Nanjuang**	**1.45**	**297**	⇑P	**Pb**	**05 53 27.3**	**-0.5**
	baz=293						
NSTT				*e*S	**Sb**	**05 53 46.0**	**+0.2**
	baz=293						
ANP	**Anpu**	**1.45**	**326**	*e*P	**Pb**	**05 53 27.3**	**-0.7**
	baz=324						
WHYT	**Xinyi Township**	**1.47**	**259**	*e*P	**Pn**	**05 53 27.2**	**+0.8**
	baz=256						
JKRS	**Kuro-shima**	**1.47**	**80**	P	**Pb**	**05 53 28.0**	**-0.1**
JKRS				*e*S	**Sb**	**05 53 47.0**	**+0.6**
NTST	**Danshui**	**1.47**	**323**	*e*P	**Pb**	**05 53 27.9**	**-0.3**
	baz=337						
TWY	**Chenhua**	**1.49**	**330**	*e*P	**Pb**	**05 53 28.4**	**0.0**
	baz=328						
NCU	**National Centr**	**1.50**	**311**	*e*P	**Pn**	**05 53 27.6**	**+0.8**
	baz=308						
NCU				*e*S	**Sb**	**05 53 47.4**	**+0.3**
	baz=308						
NCUH	**Zhongli**	**1.50**	**311**	*e*P	**Pb**	**05 53 27.9**	**-0.7**
	baz=308						
ELDTW	**Lidau**	**1.51**	**239**	*e*P	**Pn**	**05 53 27.1**	**0.0**
	baz=235						
ELDTW				*e*S	**Sn**	**05 53 45.2**	**-0.9**
	baz=235						
SBCB	**Hsinchu**	**1.54**	**302**	*e*P	**Pb**	**05 53 29.1**	**-0.2**
	baz=298						
TWQ1	**Liyutan**	**1.55**	**284**	*e*P	**Pb**	**05 53 29.2**	**-0.3**
	baz=280						
TWQ1				*e*S	**Sb**	**05 53 49.5**	**+0.7**
	baz=280						
WJS	**Zhushan**	**1.56**	**264**	*e*P	**Pb**	**05 53 29.9**	**+0.2**
	baz=261						
WJS				*e*S	**Sb**	**05 53 50.5**	**+1.4**
	baz=261						
NSY	**Sanyi**	**1.58**	**286**	*e*P	**Pb**	**05 53 29.9**	**-0.1**
	baz=283						
NSY				*e*S	**Sb**	**05 53 50.7**	**+1.2**
	baz=283						
NMLH	**Miaoli**	**1.59**	**291**	*e*P	**Pb**	**05 53 29.9**	**-0.3**
	baz=287						
NMLH				*e*S	**Sb**	**05 53 50.2**	**+0.3**
	baz=287						
WNT	**Mingjian**	**1.60**	**267**	*e*P	**Pb**	**05 53 30.6**	**+0.3**
	baz=263						
WNT				*e*S	**Sb**	**05 53 50.5**	**+0.5**
	baz=263						
TCU	**Taichung**	**1.61**	**276**	*e*P	**Pb**	**05 53 30.2**	**-0.2**
	baz=272						
TCU				*e*S	**Sb**	**05 53 51.4**	**+1.1**
	baz=272						
JIJ	**Ishigaki jima**	**1.61**	**76**	P	**Pn**	**05 53 29.3**	**+0.9**
JIJ				*e*S	**Sb**	**05 53 49.3**	**-1.3**
PTSB	**Yuanli**	**1.64**	**287**	*e*P	**Pb**	**05 53 30.6**	**-0.4**
	baz=283						
PTSB				*e*S	**Sb**	**05 53 52.3**	**+1.1**
	baz=283						
CHN5	**Tsauling**	**1.65**	**257**	*e*P	**Pn**	**05 53 30.5**	**+1.6**
	baz=242						
CHN5				*e*S	**Sn**	**05 53 51.1**	**+1.8**
	baz=242						
WDJ	**Dajia District**	**1.67**	**283**	*e*P	**Pb**	**05 53 30.7**	**-0.8**
	baz=279						
WDJ				*e*S	**Sb**	**05 53 53.0**	**+0.8**
	baz=279						
TWGBT	**Beinan**	**1.69**	**227**	*e*P	**Pn**	**05 53 29.3**	**-0.2**
	baz=237						
TWGBT				*e*S	**Sn**	**05 53 49.7**	**-0.7**
	baz=237						
TTN	**Taitung**	**1.70**	**224**	*e*S	**Sn**	**05 53 50.1**	**-0.3**
	baz=220						
TWG	**Pinlang**	**1.70**	**227**		**Pn**	**05 53 29.3**	**-0.3**
TWG				Sn	**Sn**	**05 53 50.5**	**0.0**
WCHH	**Zhanghua**	**1.71**	**274**	*e*P	**Pb**	**05 53 31.6**	**-0.6**
	baz=270						
WCHH				*e*S	**Sb**	**05 53 53.9**	**+0.6**
	baz=270						
WGK	**Gukeng**	**1.73**	**261**	*e*S	**Sb**	**05 53 54.5**	**+0.6**
	baz=257						
STYT	**Tauyuan**	**1.73**	**242**	*e*P	**Pn**	**05 53 31.3**	**+1.2**
	baz=228						
STYT				*e*S	**Sn**	**05 53 52.9**	**+1.4**
	baz=228						
WDLH	**Douliu**	**1.75**	**261**	*e*P	**Pn**	**05 53 32.2**	**+1.9**
	baz=257						
WDLH				*e*S	**

	baz=229						
SGST				*e*S	**Sb**	**05 53 59.1**	**-0.1**
	baz=229						
TWK	**Hsinying**	**1.91 248**		P	**Pb**	**05 53 35.2**	**-0.5**
	baz=245						
TWK				S	**Sb**	**05 53 59.3**	**0.0**
	baz=245						
SNST	**Tainan City**	**1.92 247**		*e*P	**Pb**	**05 53 35.9**	**0.0**
	baz=243						
SNST				*e*S	**Sb**	**05 53 59.4**	**-0.1**
	baz=243						
ECL	**Taimali**	**1.93 225**		*e*P	**Pn**	**05 53 32.0**	**-0.8**
	baz=221						
ECL				*e*S	**Sn**	**05 53 54.9**	**-1.4**
	baz=221						
WSF	**Szhu**	**2.05 261**		*e*S	**Sb**	**05 54 02.8**	**-0.2**
	baz=257						
SSD	**Sandimen**	**2.06 234**		*e*P	**Pn**	**05 53 36.5**	**+2.1**
	baz=223						
SSD				*e*S	**Sn**	**05 54 02.2**	**+2.8**
	baz=223						
CHN8	**Yiju**	**2.13 253**		*e*S	**Sn**	**05 54 03.8**	**+2.7**
	baz=249						
MASBT	**Mashibuluo**	**2.14 231**		*e*P	**Pn**	**05 53 36.5**	**+0.9**
	baz=221						
MASBT				*e*S	**Sn**	**05 54 04.3**	**+2.9**
	baz=221						
TAW	**Tawu**	**2.14 221**		*e*P	**Pn**	**05 53 37.3**	**+1.7**
	baz=228						
TAW				*e*S	**Sn**	**05 54 00.4**	**-1.1**
	baz=228						
EAST	**Anshuo**	**2.15 223**		*e*P	**Pn**	**05 53 35.7**	**-0.1**
	baz=220						
TWM1	**Shoushan**	**2.17 238**		*e*S	**Sb**	**05 54 09.0**	**+2.4**
	baz=236						
JTJ	**Tarama**	**2.18 72**		P	**Pb**	**05 53 38.7**	**-1.5**
JTJ				*e*S	**Sb**	**05 54 06.1**	**-0.7**
SCLT	**Jiali**	**2.20 249**		*e*S	**Sb**	**05 54 06.4**	**-0.9**
	baz=245						
SNJT	**Kaohsiung City**	**2.28 238**		*e*S	**Sb**	**05 54 09.9**	**+0.2**
	baz=234						
SCZT	**Fangliau**	**2.31 226**		*e*P	**Pn**	**05 53 40.5**	**+2.6**
	baz=216						
SCZT				*e*S	**Sn**	**05 54 08.4**	**+2.8**
	baz=216						
TSEB	**Hengchuen, Pin**	**2.50 214**		*e*S	**Sn**	**05 54 12.8**	**+2.4**
	baz=212						
HEN	**Hengchun**	**2.51 219**		*e*P	**Pn**	**05 53 43.7**	**+3.0**
	baz=215						
HEN				*e*S	**Sn**	**05 54 10.9**	**+0.5**
	baz=215						
TWKBT	**Hengchun**	**2.52 216**		*e*P	**Pn**	**05 53 41.6**	**+0.8**
	baz=214						
TWKBT				*e*S	**Sn**	**05 54 11.1**	**+0.3**
	baz=214						
TWK1	**Hengchun**	**2.52 217**		*e*P	**Pn**	**05 53 42.3**	**+1.5**
	baz=214						
TWK1				*e*S	**Sn**	**05 54 11.7**	**+0.9**
	baz=214						
JIRB	**Irabujima**	**2.64 71**		*e*S	**Sn**	**05 54 16.2**	**+2.4**
PHUB	**P'eng-hu**	**2.66 260**		*e*P	**Pn**	**05 53 43.8**	**+1.1**
	baz=257						
PHUB				*e*S	**Sn**	**05 54 14.9**	**+0.8**
	baz=257						
PNG	**Penghu**	**2.66 262**		*e*P	**Pn**	**05 53 43.6**	**+0.8**
	baz=258						
PNG				*e*S	**Sn**	**05 54 15.5**	**+1.3**
	baz=258						
JIKM	**Ikemajima**	**2.74 69**		S	**Sn**	**05 54 18.8**	**+2.6**
JMJ	**Miyako jima 2**	**2.74 72**		*e*P	**Pb**	**05 53 46.8**	**-3.1**
	baz=76						
JMJ				*e*S	**Sn**	**05 54 19.1**	**+2.8**
	baz=76						
VCHM	**Qimei**	**2.85 255**		*e*P	**Pn**	**05 53 46.2**	**+0.8**
	baz=252						
VCHM				*e*S	**Sn**	**05 54 19.9**	**+0.9**
	baz=252						
XPSS	**Dashiqiu**	**3.56 326**		*e*P	**Pn**	**05 53 55.1**	**-0.1**
	baz=321						
QZH	**Quanzhou**	**3.62 286**	⇑	*i*Pn	**Pn**	**05 53 55.8**	**-0.2**
QZH				Sn	**Sn**	**05 54 35.9**	**-2.0**
QZH				smax	smax		
	comp=N,97nm,0.7s						
QZH				smax	smax		
	comp=E,56nm,0.4s						
KNM	**Kinmen**	**3.67 278**		*e*P	**Pn**	**05 53 58.5**	**+1.8**
	baz=273						
KNM				*e*S	**Sn**	**05 54 39.8**	**+0.6**
	baz=273						
KNMB	**Chin-men Tao**	**3.71 278**		*e*P	**Pn**	**05 53 57.6**	**+0.3**
	baz=274						
KNMB				*e*S	**Sn**	**05 54 38.5**	**-1.8**
	baz=274						
KNMB	**Chin-men Tao**	**3.71 278**		Pn	**Pn**	**05 53 57.3**	**0.0**
KNMB				Sn	**Sn**	**05 54 40.6**	**+0.3**
MHZQ	**Yeshan**	**3.73 305**		*e*P	**Pn**	**05 53 57.3**	**-0.2**
	baz=301						
AXDP	**Jialang**	**4.16 284**		*e*P	**Pn**	**05 54 03.6**	**+0.2**
	baz=280						
ZPLA	**Ao Xicun**	**4.28 270**		*e*P	**Pn**	**05 54 05.5**	**+0.5**
	baz=265						
ZPLA				*e*S	**Sn**	**05 54 52.3**	**-1.8**
	baz=265						
KSRS	**Korea Array**	**14.23 18**		P	**Pn**	**05 56 23.4**	**+2.0**
	comp=E,0.3nm,0.3s,baz=202,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**22.56 260**		P	**P**	**05 58 01.6**	**+1.6**
	comp=E,0.8nm,0.3s,baz=70,slow=7.8,SNR=5.7						
GTA	**Gaotai**	**24.53 314**		*e*P	**P**	**05 58 20.3**	**+1.0**
GTA				pP	pP	05 58 24.4	-1.3
GTA				sP	sP	05 58 27.3	-1.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**27.00 336**		P	**P**	**05 58 40.5**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=154,slow=9.9,SNR=15						
SONM	**Songino Array**	**27.00 336**		P	**P**	**05 58 40.4**	**-1.2**
MK31	**Makanchi Array**	**39.27 316**		P	**P**	**06 00 27.4**	**-0.8**
MKAR	**Makanchi Array**	**39.27 316**		P	**P**	**06 00 27.8**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=102,slow=11,SNR=25						
MKAR	**Makanchi Array**	**39.27 316**		P	**P**	**06 00 27.6**	**-0.6**
ZAA0	**Zalesovo Array**	**41.03 327**		P	**P**	**06 00 41.0**	**-1.6**
ZAA0				IAmb	IAmb	06 00 41.7	
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**41.03 327**		P	**P**	**06 00 41.2**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=109,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**41.03 327**		P	**P**	**06 00 40.8**	**-1.8**
NRN	**Naryn**	**42.22 306**		P	**P**	**06 00 53.9**	**+1.0**
NRN				IAmb	IAmb	06 00 54.9	
	comp=Z,3.9nm,0.9s						
KURK	**Kurchatov**	**42.97 320**		P	**P**	**06 00 57.9**	**-0.6**
KURK				IAmb	IAmb	06 00 58.9	
	comp=Z,4.7nm,1.2s						
KURBB	**Kurchatov Arra**	**42.99 320**		P	**P**	**06 00 57.3**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=111,slow=8.6,SNR=7.1						
WRAB	**Tennant Creek**	**45.17 164**		P	P	06 01 11.6	-4.8
WRA	**Warramunga Arr**	**45.18 164**		P	**P**	**06 01 17.2**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=344,slow=8.2,SNR=7.2						
WRA	**Warramunga Arr**	**45.18 164**		P	P	06 01 11.6	-4.9
BVAR	**Borovoye Array**	**48.55 321**		P	**P**	**06 01 41.9**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=119,slow=8.8,SNR=9.3						
BRVK	**Borovoye**	**48.62 321**		P	**P**	**06 01 42.4**	**-0.6**
ASAR	**Alice Springs**	**48.66 166**		P	**P**	**06 01 45.2**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=346,slow=6.7,SNR=6.2						
ABKAR	**Akbulak array**	**54.39 314**		P	**P**	**06 02 26.3**	**0.0**
ABKAR	**Akbulak array**	**54.39 314**		P	**P**	**06 02 26.3**	**0.0**
ABKAR				IAmb	IAmb	06 02 27.9	
	comp=Z,2.3nm,0.8s						
STKA	**Stephens Creek**	**58.49 161**		P	**P**	**06 02 51.4**	**-4.2**
KBZ	**Khabaz**	**66.49 309**		P	**P**	**06 03 49.6**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=203,slow=2.5,SNR=4.6						
FINES	**FINESS Array B**	**72.19 330**		P	**P**	**06 04 23.4**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=75,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**72.19 330**		P	**P**	**06 04 23.1**	**-0.9**
BR131	**Keskin Array S**	**74.20 307**		P	**P**	**06 04 36.5**	**0.0**
BR131				IAmb	IAmb	06 04 37.7	
	comp=Z,3.7nm,1.1s						
BRTR	**Keskin Array B**	**74.20 307**		P	**P**	**06 04 36.5**	**0.0**
	comp=Z,1.9nm,0.8s,baz=107,slow=3.7,SNR=11						
BRTR	**Keskin Array B**	**74.20 307**		P	**P**	**06 04 36.2**	**-0.3**

NIED ***25*** *05:56:00, 45°.60N×151°.20E, h35km, Mw5.8 Best double couple: M0 6.21000×10^17 NP1:φs244.00000°, δ39.00000°, λ172.00000°. NP2:φs340.00000°, δ85.00000°, λ52.00000°.*
ISCJB ***25*** *05:56:48.5±0.3, 45°.54N±0°.02×150°.94E±0°.02, h35km±2km, mb5.8/271, MS5.8/139, Error ellipse: s-maj=2.9km s-min=1.5km az=155.4*

JMA ***25*** *05:56:48.2±0.6, 45°.58N×151°.20E, h30km, M6.0*
SKHL ***25*** *05:56:48.2±1.1, 45°.27N×151°.31E, h52km±9km, mb6.7/1, Ms5.6/6, msh6.1/4*
BJI ***25*** *05:56:48.2±0.0, 45°.60N×150°.97E, h37km, mb5.8/80, mB5.8/67, Ms5.9/94, Ms7 5.8/83*
IDC ***25*** *05:56:49.2±2.2, 45°.64N×150°.89E, h26km±13km, mb5.4/44, mb1 5.5/50, mb1mx5.4/56, mbtmp5.5/50, ML4.8/5, MS5.7/30, Ms1 5.7/30, ms1mx5.5/52, Error ellipse: s-maj=10.3km s-min=8.8km az=130.0*
MOS ***25*** *05:56:49.7±1.0, 45°.56N×150°.95E, h47km, mb6.0/150, MS5.7/103, Error ellipse: s-maj=4.5km s-min=3.4km az=102.9*
NEIC ***25*** *05:56:50.1±1.3, 45°.56N±0°.07×151°.01E±0°.09, h34km±1km, mb5.8/656, Ms_20 5.8/651, Mwb5.8, Mww6.0, Mwc6.0(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr5.52; Mθθ-2.74; Mφφ-2.79; Mrθ1.79; Mθφ-2.67; Mφr3.37; Fault plane solution: M0 6.68000×10^17 NP1:φs35.49000°, δ62.49000°, λ81.56000°. NP2:φs233.30000°, δ28.68000°, λ105.74000°. Principal axes: T 6.7959, Plg71.0000°, Azm287.0000°; N -0.2417, Plg7.0000°, Azm39.0000°; P -6.5542, Plg17.0000°, Azm132.0000°;*
GCMT ***25*** *05:56:53.1±0.1, 45°.57N±0°.01×151°.20E±0°.01, h36km, MW6.0/120, Moment Tensor Solution. s120,c262; s114,c359; Duration: 2≥3 Moment tensor: Scale 10^18 Nm; Mrr0.90±.01; Mθθ-0.36±.01; Mφφ-0.53±.01; Mrθ0.14±.01; Mθφ-0.53±.01; Mφr0.49±.01; Best double couple: M0 1.07200×10^18 NP1:φs28.00000°, δ59.00000°, λ77.00000°. NP2:φs233.00000°, δ33.00000°, λ111.00000°. Principal axes: T 1.0520, Plg73.0000°, Azm266.0000°; N 0.0410, Plg11.0000°, Azm35.0000°; P -1.0920, Plg13.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *05:56:54, 45°.51N×151°.08E, h36km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.65; Mθθ-0.27; Mφφ-0.38; Mrθ0.42; Mθφ-0.34; Mφr0.78; Fault plane solution: M0 1.10000×10^18 NP1:φs31.00000°, δ72.00000°, λ84.00000°. NP2:φs230.00000°, δ19.00000°, λ108.00000°. Principal axes: T 1.1027, Plg63.0000°, Azm291.0000°; N 0.0032, Plg6.0000°, Azm33.0000°; P -1.1060, Plg27.0000°, Azm126.0000°;*
NEIC ***25*** *05:56:54, 45°.50N×151°.23E, h37km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.84; Mθθ-0.35; Mφφ-0.49; Mrθ0.21; Mθφ-0.56; Mφr0.53; Fault plane solution: M0 1.09000×10^18 NP1:φs30.00000°, δ61.00000°, λ78.00000°. NP2:φs235.00000°, δ31.00000°, λ111.00000°. Principal axes: T 1.0268, Plg71.0000°, Azm272.0000°; N 0.1107, Plg11.0000°, Azm36.0000°; P -1.1375, Plg15.0000°, Azm129.0000°;*

ISC 25 05:56:50.8±0.3, 45°.48N±0°.03×150°.96E±0°.03, h43km±2km, h43km:pP-P, n2408, σ1°34/2565, mb5.8/571, MS5.8/425, 236C-42D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.20 265**		⇓ *i*PN	**Pn**	**05 57 25.3**	**+0.6**
KUR				*i* S	**Sn**	**05 57 53.7**	**+3.0**
KUR				pmax	pmax		
	comp=Z,7μm,0.3s						
KUR	**Kuril'sk**	**2.20 265**		*i* P	**Pn**	**05 57 25.0**	**+0.3**
KUR				AMB	AMB	05 57 28.0	
	comp=Z,7μm,0.2s						
KUR				*e*S	**Sn**	**05 57 52.0**	**+1.4**
KUR				A	A	05 57 57.0	
	comp=Z,14μm,0.9s						
KUR				A	A	05 57 57.0	
	comp=Z,25μm,0.9s						
KUR				AMS	AMS	05 58 57.4	
	comp=Z,111μm,15.0s						
KUR				AMS	AMS	05 58 57.4	
	comp=Z,121μm,15.0s						
KUR				AMS	AMS	05 58 57.4	
	comp=Z,189μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**3.91 250**	⇑	*i*PN	**Pn**	**05 57 49.7**	**+1.4**
YUK				*e*S	**Sn**	**05 58 34.9**	**+2.0**
YUK				pmax	pmax		
	comp=Z,5μm,0.6s						
YUK				pmax	pmax		
	comp=N,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,9μm,0.6s						
YUK				smax	smax		
	comp=E,18μm,0.6s						
YUK				smax	smax		
	comp=E,10μm,1.3s						
YUK				smax	smax		
	comp=N,31μm,2.4s						
YUK	**Yuzh-Kuril'sk**	**3.91 250**		*i* P	**Pn**	**05 57 49.0**	**+0.7**
YUK				AMB	AMB	05 58 00.0	
	comp=N,5μm,0.3s						
YUK				*e*S	**Sn**	**05 58 34.0**	**+1.1**
YUK				A	A	05 58 37.0	
	comp=N,31μm,3.0s						
YUK				A	A	05 58 37.0	
	comp=N,10μm,3.0s						
YUK				A	A	05 58 38.0	
	comp=N,9μm,0.6s						
YUK				A	A	05 58 38.0	
	comp=N,18μm,0.6s						
YUK				AMS	AMS	05 59 41.4	
	comp=N,77μm,15.0s						
YUK				AMS	AMS	05 59 41.4	
	comp=N,98μm,15.0s						
YUK				AMS	AMS	05 59 41.4	
	comp=N,54μm,15.0s						
GRPR	**Tuman**	**3.99 250**		*e*PN	**Pn**	**05 57 49.8**	**+0.5**
GRPR				*i* S	**Sn**	**05 58 36.3**	**+1.5**
GRPR				pmax	pmax		
	comp=N,3μm,0.3s						
GRPR				pmax	pmax		
	comp=Z,3μm,0.3s						
GRPR				pmax	pmax		
	comp=E,1μm,0.2s						
GRPR				smax	smax		
	comp=N,16μm,4.4s						
GRPR				smax	smax		
	comp=N,5μm,0.3s						
GRPR				smax	smax		
	comp=E,14μm,0.6s						
GRPR	**Tuman**	**3.99 250**		*e*P	**Pn**	**05 57 50.4**	**+1.1**
GRPR				AMB	AMB	05 57 57.0	
	comp=E,3μm,0.3s						
GRPR				*i* S	**Sn**	**05 58 36.0**	**+1.2**
GRPR				A	A	05 58 41.0	
	comp=E,16μm,4.4s						
GRPR				AMS	AMS	05 58 42.0	
	comp=E,11μm,8.0s						
GRPR				AMS	AMS	05 58 42.0	
	comp=E,7μm,8.0s						
GRPR				A	A	05 58 42.0	
	comp=E,5μm,0.4s						
GRPR				A	A	05 58 42.0	
	comp=E,14μm,0.4s						
GLVR	**Golovnino**	**4.26 248**		*e*PN	**Pn**	**05 57 53.7**	**+0.6**
GLVR				*e*S	**Sn**	**05 58 42.8**	**+1.3**
GLVR				pmax	pmax		
	comp=N,558nm,0.4s						
GLVR				pmax	pmax		
	comp=Z,4μm,0.4s						
GLVR				smax	smax		
	comp=N,9μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GLVR				smax	smax		
	comp=E,16μm,1.4s						
GLVR				smax	smax		
	comp=N,25μm,4.3s						
GLVR	**Golovnino**	**4.26 248**		*e*P	**Pn**	**05 57 53.0**	**-0.1**
GLVR				AMB	AMB	05 57 56.0	
	comp=N,558nm,0.4s						
GLVR				AMB	AMB	05 57 56.0	
	comp=N,4μm,0.4s						
GLVR				*e*S	**Sn**	**05 58 42.0**	**+0.5**
GLVR				A	A	05 58 47.0	
	comp=N,9μm,0.3s						
GLVR				A	A	05 58 47.0	
	comp=N,2μm,0.3s						
GLVR				A	A	05 58 57.0	
	comp=N,25μm,4.3s						
GLVR				A	A	05 58 57.0	
	comp=N,16μm,4.3s						
NEM2	**Nemuro 2**	**4.30 242**		P	**Pn**	**05 57 52.9**	**-0.7**
NEM2				*e*S	**Sn**	**05 58 41.3**	**-1.1**
NMR	**Nemuro--Hokkai**	**4.30 242**	⇓	*i*PN	**Pn**	**05 57 52.9**	**-0.8**
NMR	**Nemuro--Hokkai**	**4.30 242**		*i* P	**Pn**	**05 57 52.0**	**-1.7**
NMR				*e*S	**Sn**	**05 58 41.0**	**-1.6**
JRA	**Rausu**	**4.44 252**		P	**Pn**	**05 57 57.3**	**+1.8**
JRA				*e*S	**Sn**	**05 58 49.9**	**+4.0**
JNK	**Nakash**	**4.85 249**		P	**Pn**	**05 58 02.3**	**+1.1**
JNK				*e*S	**Sn**	**05 58 57.1**	**+1.1**
JAK	**Akkeshi**	**5.14 243**		P	**Pn**	**05 58 05.2**	**0.0**
JAK				*e*S	**Sn**	**05 59 02.0**	**-1.2**
JTKR	**Abashiri--Toko**	**5.25 256**		P	**Pn**	**05 58 08.4**	**+1.8**
JAR	**Ashorobuto**	**5.60 250**		P	**Pn**	**05 58 13.5**	**+2.1**
JAR				*e*S	**Sn**	**05 59 16.0**	**+1.5**
JMP	**Maruseppu**	**5.61 257**		P	**Pn**	**05 58 13.7**	**+2.0**
JOB	**Onbets**	**5.74 246**		P	**Pn**	**05 58 14.4**	**+1.1**
JOB				*e*S	**Sn**	**05 59 17.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**5.88 287**	κ	*i*PN	**Pn**	**05 58 18.0**	**+2.7**
YSS				*e*S	**Sn**	**05 59 23.8**	**+2.4**
YSS				pmax	pmax		
	comp=Z,940nm,0.6s						
YSS				smax	smax		
	comp=E,730nm,0.8s						
YSS				MLR	MLR		
	comp=N,23μm,15.0s						
YSS				MLR	MLR		
	comp=Z,85μm,15.0s						
YSS				MLR	MLR		
	comp=E,55μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.88 287**		*i* P	**Pn**	**05 58 18.0**	**+2.7**
YSS				AMB	AMB	05 58 19.0	
	comp=E,940nm,0.6s						
YSS				*e*S	**Sn**	**05 59 25.9**	**+4.5**
YSS				A	A	05 59 28.0	
	comp=E,730nm,0.8s						
YSS				AMS	AMS	06 00 37.0	
	comp=E,23μm,17.0s						
YSS				AMS	AMS	06 00 37.0	
	comp=E,55μm,17.0s						
YSS				AMS	AMS	06 00 37.0	
	comp=E,85μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.88 287**			**Pn**	**05 58 17.6**	**+2.3**
JKK2	**Kamakawa 2**	**6.08 258**		P	**Pn**	**05 58 20.6**	**+2.6**
JKA	**Kamikawa-asahi**	**6.11 260**			**Pn**	**05 58 22.2**	**+3.8**
JKA					**Sn**	**05 59 27.6**	**+0.6**
ASAJ	**Asahikawa**	**6.11 260**		P	**Pn**	**05 58 21.2**	**+2.8**
ASAJ	**Asahikawa**	**6.11 260**		Pn	**Pn**	**05 58 22.2**	**+3.8**
	comp=E,29nm,0.3s,baz=94,slow=17,SNR=141						
ASAJ				Sn	**Sn**	**05 59 27.6**	**+0.6**
	baz=283,slow=32,SNR=1.2						
ASAJ				LR	LR	06 00 49.2	
	comp=E,96μm,20.6s,baz=84,slow=39						
JCH	**Churui**	**6.18 245**		P	**Pn**	**05 58 20.2**	**+0.8**
JCH				*e*S	**Sn**	**05 59 27.9**	**-0.9**
SKR	**Severo-Kuril's**	**6.24 32**		*e*PN	**Pn**	**05 58 20.4**	**+0.2**
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				MLR	MLR		
	comp=Z,32μm,18.0s						
SKR				MLR	MLR		
	comp=Z,37μm,17.0s						
SKR	**Severo-Kuril's**	**6.24 32**		*e*P	**Pn**	**05 58 20.0**	**-0.2**
SKR				AMB	AMB	05 58 24.0	
	comp=Z,2μm,1.0s						
SKR				*e*S	**Sn**	**05 59 27.2**	**-3.0**
SKR				A	A	06 00 06.0	
	comp=Z,3μm,0.9s						
SKR				A	A	06 00 06.0	
	comp=Z,3μm,0.9s						
SKR				AMS	AMS	06 00 30.0	
	comp=Z,37μm,18.0s						
SKR				AMS	AMS	06 00 30.0	
	comp=Z,32μm,18.0s						
JWK2	**Keihoku**	**6.38 272**		P	**Pn**	**05 58 26.7**	**+4.5**
JFR	**Furan**	**6.43 252**		P	**Pn**	**05 58 25.8**	**+2.9**
JAB	**Ashibetsu**	**6.56 256**		P	**Pn**	**05 58 28.9**	**+4.3**
JSS	**Shosan**	**6.56 264**		P	Pn	05 58 29.2	+4.6
ERM	**Erimo**	**6.63 241**		PN	**Pn**	**05 58 27.0**	**+1.4**
ERM	**Erimo**	**6.63 241**			**Pn**	**05 58 27.0**	**+1.4**
ERM				Sn	**Sn**	**05 59 39.1**	**-0.7**
JEM	**Erimo**	**6.63 241**		*e*S	**Sn**	**05 59 39.8**	**0.0**
JNBK	**Urakawa-nobuka**	**6.74 245**		P	**Pn**	**05 58 27.0**	**-0.1**
JNBK				*e*S	**Sn**	**05 59 41.3**	**-1.2**
JBT2	**Biratori 2**	**6.75 249**	⇑	P	**Pn**	**05 58 28.6**	**+1.3**
JHR	**Hokuryu**	**6.82 258**		P	**Pn**	**05 58 32.6**	**+4.4**
JRBN	**Rebuntou**	**6.96 273**		P	**Pn**	**05 58 34.3**	**+4.2**
UGL	**Uglegorsk**	**7.04 304**		*e*PN	**Pn**	**05 58 34.3**	**+3.2**
UGL				pmax	pmax		
	comp=Z,4μm,2.0s						
UGL				pmax	pmax		
	comp=Z,2μm,0.8s						
UGL				MLR	MLR		
	comp=Z,81μm,15.0s						
UGL				MLR	MLR		
	comp=N,51μm,18.0s						
UGL	**Uglegorsk**	**7.04 304**		*e*P	**Pn**	**05 58 34.0**	**+2.9**
UGL				AMB	AMB	05 58 36.1	
	comp=N,4μm,2.0s						
UGL				AMB	AMB	05 58 45.0	
	comp=N,2μm,0.8s						
UGL				*e*S	**Sn**	**05 59 55.0**	**+5.2**
JEW	**Eniwo**	**7.33 252**		P	**Pn**	**05 58 37.8**	**+2.6**
TYV	**Tymovskoe**	**7.73 317**		*e*PN	**Pn**	**05 58 43.4**	**+2.8**
TYV				pmax	pmax		
	comp=Z,1μm,2.3s						
TYV				pmax	pmax		
	comp=Z,507nm,0.8s						
JNB	**Noboribetsu**	**7.77 251**		P	**Pn**	**05 58 43.1**	**+1.9**
JNB				*e*S	**Sn**	**06 00 07.6**	**-0.1**
JKB	**Kayabe**	**8.04 247**		P	**Pn**	**05 58 45.4**	**+0.5**
JKB				*e*S	**Sn**	**06 00 10.9**	**-3.6**
JYM2	**Yakumo 2**	**8.37 250**		P	**Pn**	**05 58 50.4**	**+1.0**
JANG	**Nango**	**8.61 237**		P	**Pn**	**05 58 50.9**	**-1.8**
JANG				*e*S	**Sn**	**06 00 21.0**	**-7.4**
JSR	**Shiriuchi**	**8.62 246**		P	**Pn**	**05 58 53.5**	**+0.6**
JTM	**Tenmabayashi**	**8.62 240**		P	**Pn**	**05 58 52.2**	**-0.7**
JTH	**Tanohata**	**8.69 234**		P	**Pn**	**05 58 51.4**	**-2.4**
JTH				*e*S	**Sn**	**06 00 22.3**	**-8.2**
PEA0B	**Petropavlovsk-**	**8.80 28**		PN	**Pn**	**05 58 55.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**8.80 28**			**Pn**	**05 58 55.2**	**-0.1**
PEA0B				Sn	**Sn**	**06 00 32.5**	**-0.7**
PETK	**Petropavlovsk-**	**8.80 28**		Pn	**Pn**	**05 58 55.2**	**-0.1**
	comp=Z,17nm,0.3s,baz=182,slow=11,SNR=216						
PETK				LR	LR	06 02 24.8	
	comp=Z,33μm,19.8s,baz=222,slow=39						
JSI2	**Shiura 2**	**8.88 244**		P	**Pn**	**05 58 56.3**	**-0.1**
JOSM	**Okushiri--Mats**	**8.98 252**		P	**Pn**	**05 58 58.4**	**+0.6**
PET	**Petropavlovsk**	**9.06 31**		*e*PN	**Pn**	**05 58 58.3**	**-0.6**
PET				pmax	pmax		
	comp=Z,139nm,0.7s						
PET				pmax	pmax		
	comp=Z,1μm,11.6s						
PET				MLR	MLR		
	comp=Z,28μm,15.0s						
PET				MLR	MLR		
	comp=Z,28μm,16.0s						
PET	**Petropavlovsk**	**9.06 31**		*e*P	**Pn**	**05 58 58.6**	**-0.3**
PET	**Petropavlovsk**	**9.06 31**			**Pn**	**05 58 57.8**	**-1.1**
PET				Sn	**Sn**	**06 00 33.2**	**-6.3**
OFUJ	**Ofunato**	**9.40 230**		P	**Pn**	**05 59 01.2**	**-2.3**
OFUJ				*e*S	**Sn**	**06 00 40.0**	**-7.8**
OKH	**Okha**	**9.61 330**	*d*	*i*PN	**Pn**	**05 59 07.8**	**+1.5**
OKH				pm

comp=N,7μm,7.2s
TEY smax smax
comp=E,5μm,8.2s
TEY MLR MLR
comp=E,32μm,17.0s
TEY MLR MLR
comp=Z,43μm,17.0s
TEY MLR MLR
comp=N,19μm,16.0s
TEY Ternei 10.14 273 *i* P **Pn 05 59 16.0 +2.4**
TEY AMB AMB 05 59 20.8
comp=N,840nm,0.8s
TEY *e*S **Sn 06 01 07.0 +1.1**
TEY A A 06 01 18.8
comp=N,7μm,7.2s
TEY A A 06 01 18.8
comp=N,5μm,7.2s
TEY AMS AMS 06 03 10.6
comp=N,19μm,17.0s
TEY AMS AMS 06 03 10.6
comp=N,32μm,17.0s
TEY AMS AMS 06 03 10.6
comp=N,43μm,17.0s
NKL Nikolayevsk 10.19 323 *e*PN **Pn 05 59 16.6 +2.4**
NKL *e*S **Sn 06 01 13.6 +6.7**
NKL pmax pmax
comp=N,22nm,1.6s
NKL pmax pmax
comp=Z,901nm,1.6s
NKL pmax pmax
comp=E,513nm,1.4s
JYA Atsumi 10.83 234 P **Pn 05 59 21.8 -1.3**
GRNR Gornyy 11.06 304⇑ *i*PN **Pn 05 59 30.0 +3.8**
GRNR *e*S Sn 06 01 37.6 +9.2
GRNR pmax pmax
comp=Z,160nm,0.7s
GRNR smax smax
comp=E,30nm,0.7s
GRNR MLR MLR
comp=Z,34μm,15.0s
JFK Kawauchi 11.09 227 P **Pn 05 59 24.7 -2.0**
JFK *e*S **Sn 06 01 20.8 -8.5**
JFY Yanaizu 11.67 230 P **Pn 05 59 33.6 -1.1**
MJAR Matsushiro Arr 13.12 232 Pn **Pn 05 59 53.1 -1.4**
comp=Z,0.5nm,0.3s,baz=26,slow=12,SNR=39
MJAR Sn **Sn 06 02 22.4 +3.4**
comp=Z,0.2nm,0.3s,baz=30,slow=10,SNR=3.5
MJAR Matsushiro Arr 13.12 232 Pn 05 59 51.9 -2.6
MJB9 Matsu-Tunnel 13.12 232 Pn 05 59 52.6 -1.8
MAJO Matsushiro 13.12 232*c i*PN **Pn 05 59 52.6 -1.9**
MAJO Matsushiro 13.12 232 Pn 05 59 52.6 -1.9
MAT Matsushiro 13.12 232 P **Pn 05 59 53.0 -1.5**
MAT S **Sn 06 02 21.0 +2.0**
USA0B Ussuriysk Arra 13.53 271 P **Pn 06 00 00.4 +0.5**
USA0B Ussuriysk Arra 13.53 271 Pn 06 00 00.4 +0.5
USRK Ussuriysk Ar. 13.53 271 P **Pn 06 00 00.4 +0.5**
USRK Ussuriysk Ar. 13.53 271 Pn **Pn 06 00 01.4 +1.5**
baz=82,slow=13,SNR=58
USRK LR LR 06 05 26.6
comp=Z,41μm,18.1s,baz=70,slow=38
USRK Ussuriysk Ar. 13.53 271 Pn 06 00 00.4 +0.5
KLR Kul'dur 13.55 293 Pn **Pn 06 00 03.6 +3.4**
comp=Z,2.9nm,0.3s,baz=96,slow=13,SNR=51
KLR Sn **Sn 06 02 34.8 +5.6**
baz=69,slow=11,SNR=2.1
KLR PcP **PcP 06 05 25.4 +1.3**
comp=Z,1.3nm,0.3s,baz=133,slow=3.4,SNR=7.1
KLR LR LR 06 05 34.1
comp=Z,40μm,19.2s,baz=106,slow=39
KLR ScP **ScP 06 08 55.1 +1.3**
comp=Z,0.1nm,0.3s,baz=358,slow=4.4,SNR=5.1
VLA Vladivostok 13.87 267⇑ *e*P **Pn 06 00 05.8 +1.3**
VLA pmax pmax
comp=Z,345nm,1.0s
VLA Vladivostok 13.87 267 *e*P **Pn 06 00 05.8 +1.3**
MA2 Magadan 14.12 360*d i*P **Pn 06 00 08.1 +0.3**
MA2 pmax pmax
comp=Z,433nm,1.9s
MA2 Magadan 14.12 360 Pn **Pn 06 00 08.2 +0.4**
comp=Z,18nm,0.3s,baz=187,slow=9.9,SNR=37
MA2 Sn **Sn 06 02 48.6 +5.7**
comp=Z,0.7nm,0.3s,baz=174,slow=22,SNR=1.9
MA2 LR LR 06 05 25.6
comp=Z,19μm,19.8s,baz=180,slow=37
MA2 Magadan 14.12 360 Pn 06 00 07.7 -0.2
MSHR Mys Shultsa 14.54 266⇑ *e*P **Pn 06 00 14.8 +1.2**
INU Inuyama 14.65 231 Pn 06 00 13.7 -1.5
JHJ2 Mitsune 15.05 219 Pn 06 00 22.6 +2.2
JHJ2 IAmb IAmb 06 00 28.6
comp=Z,1μm,1.2s
JHJ Hachijo jima 2 15.06 219 Pn **P 06 00 26.8 +1.6**
comp=Z,18nm,0.3s,baz=322,slow=0.9,SNR=9.1
MDJ Mudanjiang 15.13 274 P **Pn 06 00 22.6 +1.2**
MDJ pP P 06 00 29.8 +3.9
MDJ sP pP 06 00 34.3 -1.7
MDJ S **S 06 03 15.8 -7.5**
MDJ SS **SnSn 06 03 30.5 +10**
MDJ LR LR
comp=Z,22μm,17.0s
MDJ LR LR
comp=Z,36μm,19.8s
MDJ LR LR
comp=Z,57μm,19.9s
MDJ Mudanjiang 15.13 274 Pn 06 00 21.9 +0.5
SMY Shemya 16.75 56 P **Pn 06 00 41.2 -0.8**
SMY pmax pmax
comp=Z,729nm,1.2s
SMY Shemya 16.75 56 Pn **Pn 06 00 41.2 -0.8**
SMY IAmb IAmb 06 01 10.2
comp=Z,729nm,1.2s
ZEA Zeya 17.38 307⇑ *e*P **P 06 00 50.5 -0.3**
ZEA *e*S **S 06 04 08.0 -1.1**
ZEA pmax pmax
comp=N,330nm,1.0s
ZEA pmax pmax
comp=E,330nm,1.0s
ZEA pmax pmax
comp=Z,560nm,1.0s
ZEA pmax pmax
comp=N,3μm,13.0s
ZEA pmax pmax
comp=E,9μm,13.0s
ZEA pmax pmax
comp=Z,13μm,13.0s
ZEA smax smax
comp=E,2μm,9.0s
ZEA smax smax
comp=N,4μm,8.0s
ZEA MLR MLR
comp=Z,46μm,15.0s
ZEA MLR MLR
comp=E,29μm,16.0s
ZEA MLR MLR
comp=N,14μm,13.0s
SEY Seymchan 17.50 2*c e*P **Pn 06 00 50.0 -1.3**
SEY Seymchan 17.50 2 P **Pn 06 00 49.4 -1.9**
comp=N,0.7nm,0.3s,baz=181,slow=8.6,SNR=32
SEY Sn **Sn 06 04 04.0 -1.0**
baz=34,slow=16,SNR=1.4
SEY LR LR 06 07 34.3
comp=N,21μm,20.5s,baz=183,slow=37
SEY Seymchan 17.50 2 *e*P **Pn 06 00 50.0 -1.3**
CN2 Changchun 18.21 274 *e*P **P 06 00 59.1 -0.9**
CN2 *e*S **Sn 06 04 20.8 -1.6**
CN2 pmax pmax
comp=N,90nm,1.0s
CN2 pmax pmax
comp=N,4μm,11.0s
CN2 LR LR
comp=N,25μm,21.0s
CN2 LR LR
comp=N,23μm,21.0s
CN2 LR LR
comp=N,31μm,21.0s
KSRS Korea Array 18.99 253 P **P 06 01 08.4 -0.1**
comp=N,7.9nm,0.3s,baz=64,slow=9.7,SNR=96
KSRS PcP **PcP 06 05 34.0 +1.6**
comp=N,0.3nm,0.3s,baz=330,slow=0.3,SNR=9.1
KSRS LR LR 06 08 23.4
comp=N,16μm,19.0s,baz=60,slow=36
KSRS ScP **ScP 06 09 05.7 +1.2**
baz=66,slow=1.5,SNR=4.7
KS19 Wonju Array Si 19.01 253 P **Pn 06 01 10.4 +0.6**
KSAR Wonju Array Be 19.03 253 P **P 06 01 07.8 -1.2**
KSAR Wonju Array Be 19.03 253 P **P 06 01 07.8 -1.2**
KSAR **PcP 06 05 34.4 +1.9**

JCJ Chichijima 19.64 204 P **Pn 06 01 17.6 +0.1**
comp=N,4.0nm,0.3s,baz=360,slow=7.3,SNR=7.9
JCJ S **S 06 04 52.2 -2.8**
comp=N,21nm,0.3s,baz=275,slow=20,SNR=6.2
JCJ LR LR 06 08 10.1
comp=N,3μm,21.4s,baz=2.0,slow=34
JNU Nakatsue 19.78 238 P **Pn 06 01 18.7 -0.4**
comp=N,6.6nm,0.3s,baz=36,slow=4.8,SNR=13
JNU S **S 06 04 55.8 -2.1**
comp=N,0.3nm,0.3s,baz=186,slow=2.0,SNR=2.2
JNU LR LR 06 09 20.3
comp=N,13μm,21.3s,baz=44,slow=38
JNU Nakatsue 19.78 238 P **Pn 06 01 19.1 0.0**
JNU IAmb IAmb 06 01 34.4
comp=Z,502nm,1.1s
INCN Inchon 19.85 255 P **Pn 06 01 19.1 -0.8**
SNR=5.0
INCN P **Pn 06 01 19.1 -0.8**
SNR=5.0
INCN Inchon 19.85 255 P **Pn 06 01 19.2 -0.6**
INCN pmax pmax
comp=Z,369nm,0.9s
INCN Inchon 19.85 255 P **Pn 06 01 19.2 -0.6**
INCN IAmb IAmb 06 01 25.9
comp=Z,369nm,0.9s
TJN Taejon 19.96 251*c e*P **Pn 06 01 20.4 -0.7**
SNY Shenyang 20.11 269⇑ P **P 06 01 20.8 +0.1**
SNY S **S 06 05 02.0 -2.1**
SNY pmax pmax
comp=Z,260nm,1.2s
SNY pmax pmax
comp=Z,6μm,12.2s
SNY LR LR
comp=Z,11μm,15.3s
SNY LR LR
comp=Z,29μm,16.5s
SNY LR LR
comp=Z,42μm,17.3s
YAK Yakutsk 20.64 331 *e*P **P 06 01 25.2 -1.1**
YAK *e* 06 01 39.5
YAK *e*S **S 06 05 13.6 -0.7**
YAK *e**SS **sS 06 05 34.3 +4.0**
YAK *e*SS SnSn 06 05 50.3 +15
YAK pmax pmax
comp=Z,377nm,1.0s
YAK pmax pmax
comp=N,82nm,1.0s
YAK pmax pmax
comp=E,55nm,0.9s
YAK smax smax
comp=N,1μm,2.6s
YAK smax smax
comp=E,534nm,2.8s
YAK MLR MLR
comp=Z,20μm,21.0s
YAK MLR MLR
comp=E,10μm,20.0s
YAK MLR MLR
comp=N,19μm,20.0s
YAK Yakutsk 20.64 331 P **P 06 01 25.5 -0.8**
comp=N,167nm,0.6s,baz=58,slow=1.7,SNR=48
YAK S **S 06 05 05.9 -8.4**
comp=N,6.3nm,0.3s,baz=11,slow=2.1,SNR=1.7
YAK LR LR 06 09 13.7
comp=N,20μm,21.9s,baz=144,slow=36
YAK Yakutsk 20.64 331 P **P 06 01 24.7 -1.6**
YAK IAMs_20 IAMs_20 06 09 02.0
comp=Z,20μm,22.0s
HIA Hailar 21.40 291 P **P 06 01 32.6 -2.0**
HIA pmax pmax
comp=Z,110nm,0.8s
HIA MLR MLR
comp=Z,26μm,19.0s
HIA Hailar 21.40 291 P **P 06 01 32.6 -2.0**
HIA Hailar 21.40 291 IAMs_20 IAMs_20 06 10 18.2
comp=Z,26μm,19.0s
KIWB Kanaga Island 21.88 62 P **P 06 01 37.9 -1.8**
ADK Adak 22.17 62 P **P 06 01 41.6 -1.2**
ADK pmax pmax
comp=Z,232nm,1.1s
ADK MLR MLR
comp=Z,14μm,22.0s
ADK Adak 22.17 62 P **P 06 01 41.6 -1.2**
DL2 Dalian 22.62 264 P **P 06 01 48.1 +0.3**
DL2 pP **pP 06 02 00.3 +2.1**
DL2 S **S 06 05 50.5 -2.1**
DL2 pmax pmax
comp=Z,370nm,1.2s
DL2 pmax pmax
comp=Z,4μm,6.8s
DL2 LR LR
comp=Z,5μm,14.7s
DL2 LR LR
comp=Z,7μm,17.1s
DL2 LR LR
comp=Z,10μm,23.3s
ATKA Atka Island 23.72 61 P **P 06 01 57.8 -0.8**
ATKA IAmb IAmb 06 02 10.9
comp=Z,221nm,1.0s
BILL Bilibino 23.97 14*c i*P **P 06 01 58.8 -2.0**
BILL *e* 06 02 34.2
BILL *i* S S 06 06 02.7 -12
BILL pmax pmax
comp=Z,152nm,1.3s
BILL MLR MLR
comp=Z,23μm,17.0s
BILL Biibino 23.97 14 *e*P **P 06 01 59.4 -1.4**
BILL Biibino 23.97 14 P **P 06 01 59.3 -1.4**
BILL IAMs_20 IAMs_20 06 11 50.1
comp=Z,25μm,19.0s
CIT Chita 25.30 299 *e*P **P 06 02 13.1 0.0**
CIT *e* 06 02 29.4
CIT *e* 06 03 03.7
BOD Bodaibo 25.68 312 *e*P **P 06 02 13.3 -3.1**
BOD pmax pmax
comp=Z,153nm,1.6s
JOW Kunigami 25.97 232 P **P 06 02 20.0 +0.8**
comp=Z,10nm,0.9s,baz=106,slow=16,SNR=7.2
BJI Beijing 25.98 270⇑ *i*P **P 06 02 19.8 +0.6**
BJI sP **sP 06 02 33.8 -1.8**
BJI S **S 06 06 46.4 -0.3**
BJI pmax pmax
comp=Z,250nm,1.0s
BJI pmax pmax
comp=Z,3μm,7.6s
BJI LR LR
comp=Z,9μm,13.1s
BJT Baijiatuau 25.99 270 P **P 06 02 19.1 -0.3**
BJT pmax pmax
comp=Z,311nm,1.0s
BJT MLR MLR
comp=Z,24μm,19.0s
BJT Baijiatuau 25.99 270 P **P 06 02 19.1 -0.3**
BJT IAmb IAmb 06 02 25.1
comp=Z,311nm,1.0s
BJT Baijiatuau 25.99 270 IAMs_20 IAMs_20 06 13 03.7
comp=Z,24μm,19.0s
SPIA Saint Paul Isl 26.53 50 P **P 06 02 22.9 -1.1**
SPIA IAmb IAmb 06 02 33.3
comp=Z,554nm,1.3s
TIA Tai'an 27.05 262 P **P 06 02 29.5 +0.5**
TIA S **S 06 07 02.1 -1.7**
TIA pmax pmax
comp=Z,130nm,1.5s
TIA pmax pmax
comp=Z,2μm,7.4s
TIA LR LR
comp=Z,4μm,18.6s
TIA LR LR
comp=Z,6μm,17.7s
TIA LR LR
comp=Z,8μm,18.6s
SSE Sheshan 27.25 249 P **P 06 02 32.4 +1.7**
SSE S **S 06 07 10.0 +3.2**
SSE pmax pmax
comp=Z,88nm,0.9s
SSE pmax pmax
comp=Z,1μm,5.2s
SSE LR LR
comp=Z,4μm,22.0s
SSE Sheshan 27.25 249 P **P 06 02 32.0 +1.3**
NJ2 Nanjing 28.19 253⇑ *i*P **P 06 02 40.0 +0.8**
NJ2 sP **pP 06 02 50.1 -0.3**
NJ2 S **S 06 07 27.1 +5.3**
NJ2 sS **sS 06 07 38.8 -1.4**
NJ2 pmax pmax

comp=Z,86nm,1.1s
NJ2 pmax pmax
comp=Z,1μm,5.7s
NJ2 LR LR
comp=Z,17μm,15.6s
NJ2 LR LR
comp=Z,20μm,18.5s
NJ2 LR LR
comp=Z,19μm,18.5s
TIXI Tiksi 28.29 345*c i*P **P 06 02 36.3 -3.3**
TIXI pmax pmax
comp=Z,53nm,1.5s
TIXI MLR MLR
comp=Z,15μm,16.0s
TIXI Tiksi 28.29 345 P **P 06 02 36.4 -3.3**
comp=Z,24nm,0.5s,baz=360,slow=24,SNR=32
TIXI PcP **PcP 06 05 51.5 -0.1**
comp=Z,33nm,0.9s,baz=180,slow=24,SNR=7.0
TIXI LR LR 06 14 36.6
comp=Z,10μm,18.0s,baz=136,slow=38
TIXI Tiksi 28.29 345 P **P 06 02 36.1 -3.6**
TIXI **PcP 06 05 51.1 -0.4**
TIXI IAMs_20 IAMs_20 06 15 00.3
comp=Z,15μm,18.0s
H11N2 WAKE ISLAND Hy 28.87 148 T T 06 33 21.1
baz=338,slow=75,SNR=7263
H11N1 WAKE ISLAND Hy 28.88 148 T T 06 33 26.9
baz=338,slow=75,SNR=6855
H11N3 WAKE ISLAND Hy 28.88 148 T T 06 33 32.1
baz=338,slow=75,SNR=4826
HHC Hu-ho-hao-te 28.90 275 *e*P **P 06 02 45.9 +0.3**
WAKE Wake Island 29.18 148 IAMs_20 IAMs_20 06 11 35.8
comp=Z,12μm,22.0s
TIY Taiyuan 29.61 269 *e*P **P 06 02 53.4 +1.5**
TIY S **S 06 07 45.1 +0.9**
TIY SS **SnSn 06 09 18.1 +2.9**
TIY ScS **ScS 06 13 29.8 +1.0**
TIY pmax pmax
comp=Z,140nm,0.7s
TIY pmax pmax
comp=Z,1μm,7.6s
TIY LR LR
comp=Z,3μm,13.0s
TIY LR LR
comp=Z,9μm,14.5s
TIY LR LR
comp=Z,12μm,16.9s
H11S1 WAKE ISLAND Hy 29.91 149 T T 06 34 53.1
baz=338,slow=76,SNR=3411
H11S3 WAKE ISLAND Hy 29.92 149 T T 06 34 47.6
baz=338,slow=76,SNR=4400
ULN Ulaanbaatar 29.92 291 P **P 06 02 54.8 +0.2**
SNR=16
ULN P **P 06 02 54.8 +0.2**
SNR=16
ULN P **P 06 02 54.8 +0.2**
SNR=16
ULN Ulaanbaatar 29.92 291*c e*P **P 06 02 54.2 -0.4**
ULN pmax pmax
comp=Z,68nm,1.2s
ULN MLR MLR
comp=Z,22μm,16.0s
ULN Ulaanbaatar 29.92 291 *e*P **P 06 02 54.2 -0.4**
ULN Ulaanbaatar 29.92 291 P **P 06 02 54.8 +0.2**
ULN Ulaanbaatar 29.92 291 IAMs_20 IAMs_20 06 15 32.8
comp=Z,16μm,20.0s
H11S2 WAKE ISLAND Hy 29.93 149 T T 06 34 43.0
baz=338,slow=76,SNR=3568
BTO Baotou 30.08 275 *e*P **P 06 02 56.8 +0.8**
BTO S **S 06 07 43.6 -7.9**
SONM Songino Array 30.36 291 P **P 06 02 57.3 -1.2**
SONM 06 05 58.3
SONM pmax pmax
comp=Z,18nm,1.0s
SONM Songino Array 30.36 291 P **P 06 02 57.4 -1.1**
comp=Z,11nm,0.7s,baz=75,slow=8.4,SNR=53
SONM PcP **PcP 06 05 58.3 +0.8**
comp=Z,24nm,0.9s,baz=114,slow=2.7,SNR=11
SONM LR LR 06 16 08.8
comp=Z,19μm,19.1s,baz=82,slow=38
SONM Songino Array 30.36 291 P **P 06 02 57.3 -1.2**
ANM Nome 30.60 36 P **P 06 02 59.7 -0.5**
ANM pmax pmax
comp=Z,105nm,1.2s
ANM MLR MLR
comp=Z,8μm,20.0s
ANM Nome 30.60 36 P **P 06 02 59.7 -0.5**
YOJ Yonaguni jima 30.80 237 IAMs_20 IAMs_20 06 16 10.5
comp=Z,10μm,21.0s
TATO Taipei 31.32 239 IAMs_20 IAMs_20 06 15 58.2
comp=Z,14μm,20.0s
TLY Talaya 31.45 299 P **P 06 03 07.0 -0.9**
SNR=7.6
TLY P **P 06 03 07.0 -0.9**
SNR=7.6
TLY Talaya 31.45 299*c i*P **P 06 03 07.0 -0.9**
TLY *e* 06 04 12.7
TLY *e*PPP PPP 06 04 21.9
TLY *e*S **S 06 08 15.1 +2.5**
TLY 06 13 31.4
TLY pmax pmax
comp=Z,34nm,0.6s
TLY MLR MLR
comp=Z,55μm,14.0s
TLY Talaya 31.45 299 P **P 06 03 07.9 0.0**
comp=Z,13nm,0.6s,baz=16,slow=5.6,SNR=7.4
TLY PcP **PcP 06 06 01.3 +1.2**
comp=Z,25nm,0.9s,baz=77,slow=2.1,SNR=5.3
TLY Talaya 31.45 299 *e*P **P 06 03 07.2 -0.7**
TLY Talaya 31.45 299 P **P 06 03 06.7 -1.2**
TLY IAMs_20 IAMs_20 06 16 50.6
comp=Z,28μm,18.0s
YHNB Yeheng 31.62 239 P **P 06 03 09.0 -0.6**
YHNB IAmb IAmb 06 04 02.9
comp=Z,121nm,1.2s
YHNB IAMs_20 IAMs_20 06 16 09.1
comp=Z,16μm,21.0s
NACB Ninganchiao 31.86 238 IAMs_20 IAMs_20 06 15 59.3
comp=Z,22μm,22.0s
ZAK Zakamensk 31.88 296 *e*P **P 06 03 11.7 0.0**
ZAK pmax pmax
comp=Z,22nm,1.5s
WHN Wuhan 32.16 255 P **P 06 03 14.8 +0.5**
WHN S **S 06 08 24.3 +0.3**
WHN pmax pmax
comp=Z,360nm,0.9s
WHN LR LR
comp=Z,16μm,16.0s
WHN LR LR
comp=Z,28μm,19.2s
WHN LR LR
comp=Z,28μm,17.9s
CNBA Chernabura Isl 32.41 55 P **P 06 03 15.3 -0.8**
CNBA IAmb IAmb 06 03 17.4
comp=Z,102nm,1.0s
CNBA IAMs_20 IAMs_20 06 15 59.3
comp=Z,10μm,22.0s
SSLB Suanglung 32.53 238 P **P 06 03 19.1 +1.4**
SSLB IAmb IAmb 06 03 23.7
comp=Z,107nm,1.2s
SSLB IAMs_20 IAMs_20 06 16 20.4
comp=Z,15μm,22.0s
YULB Yu-li 32.62 238 P **P 06 03 19.9 +1.5**
YULB IAMs_20 IAMs_20 06 16 34.9
comp=Z,11μm,22.0s
RDOG Red Dog Mine 32.66 30 P **P 06 03 17.9 -0.5**
MOY Mondy 33.09 299 *e*P P 06 03 28.3 +6.0
MOY pmax pmax
comp=Z,41nm,1.8s
TPUB Ta-pu 33.09 238 P **P 06 03 21.9 -0.6**
TPUB IAMs_20 IAMs_20 06 16 38.2
comp=Z,20μm,22.0s
QZH Quanzhou 33.13 243⇑ *i*P **P 06 03 24.3 +1.6**
QZH sP **sP 06 03 39.0 +0.1**
QZH S **S 06 08 41.6 +2.5**
QZH pmax pmax
comp=Z,140nm,1.4s
QZH pmax pmax
comp=Z,1μm,6.0s
QZH LR LR
comp=Z,2μm,18.9s
QZH LR LR
comp=Z,7μm,20.0s
QZH LR LR
comp=Z,7μm,20.4s
TWG Pinlang 33.20 237 P **P 06 03 22.8 -0.6**

TWG IAMs_20 IAMs_20 06 17 26.9
comp=Z,30µm,21.0s
KNMB Chin-men Tao 33.60 242 P **P** **06 03 25.8 -1.1**
XAN Xi'an 33.92 265 P **P** **06 03 30.3 +0.6**
XAN pP pP 06 03 40.8 -0.3
XAN sP sP 06 03 47.5 +1.3
XAN PP **PP** **06 04 48.0 +1.1**
XAN S **S** **06 08 43.5 -7.8**
XAN sS sS 06 09 07.8 -2.1
XAN pmax pmax
comp=Z,220nm,1.2s
XAN pmax pmax
comp=Z,1µm,8.1s
XAN LR LR
comp=Z,8µm,15.7s
XAN LR LR
comp=Z,8µm,17.4s
XAN LR LR
comp=Z,12µm,16.8s
XAN Xi'an 33.92 265 P **P** **06 03 30.3 +0.6**
XAN pmax pmax
comp=Z,554nm,1.5s
XAN MLR MLR
comp=Z,11µm,18.0s
XAN Xi'an 33.92 265 P **P** **06 03 30.3 +0.6**
XAN Xi'an 33.92 265 IAMs_20 IAMs_20 06 18 21.9
comp=Z,11µm,18.0s
TTA Tatalina 34.36 40 P **P** **06 03 33.6 +0.4**
TTA pmax pmax
comp=Z,71nm,1.1s
TTA Tatalina 34.36 40 P **P** **06 03 33.6 +0.4**
SVW2 Sparrevohn 34.44 44 P **P** **06 03 34.3 +0.5**
CHIR Chirikof Islan 34.58 53 P **P** **06 03 34.6 -0.5**
SII Sitkinak Islan 35.31 52 IAMs_20 IAMs_20 06 18 35.0
comp=Z,9µm,21.0s
ENH Enshi 35.66 259 P **P** **06 03 44.5 -0.2**
ENH Enshi 35.66 259 IAMs_20 IAMs_20 06 20 22.1
comp=Z,8µm,18.0s
IMAR Indian Mountai 35.67 35 P **P** **06 03 44.4 +0.1**
OHAK Old Harbor 35.73 50 P **P** **06 03 43.6 -1.4**
OHAK IAmb IAmb 06 03 45.9
comp=Z,193nm,1.2s
OHAK IAMs_20 IAMs_20 06 19 42.2
comp=Z,8µm,20.0s
RSO Redoubt South 35.83 45 P **P** **06 03 46.3 +0.4**
KDAK Kodiak Island 36.06 49 P **P** **06 03 47.3 -0.5**
KDAK pmax pmax
comp=Z,156nm,1.0s
KDAK MLR MLR
comp=Z,7µm,22.0s
KDAK Kodiak Island 36.06 49 P **P** **06 03 47.0 -0.8**
comp=Z,146nm,0.9s,baz=292,slow=4.0,SNR=25
KDAK Kodiak Island 36.06 49 P **P** **06 03 47.3 -0.5**
KDAK IAmb IAmb 06 03 49.1
comp=Z,156nm,0.9s
PPLA Purkeypile 36.10 41 P **P** **06 03 48.2 -0.1**
PPLA IAmb IAmb 06 04 00.7
comp=Z,285nm,1.3s
CAST Castle Rocks 36.17 40 P **P** **06 03 49.5 +0.9**
SKT Skwentna 36.40 42 P **P** **06 03 50.3 -0.4**
LZH Lanzhou 36.44 272 ⇑P **P** **06 03 52.9 +1.5**
LZH sP sP 06 04 08.0 0.0
LZH PP **PP** **06 05 16.9 +2.2**
LZH S **S** **06 09 29.9 -0.3**
LZH sS sS 06 09 47.8 -1.0
LZH SS **SnSn** **06 11 59.5 -1.3**
LZH pmax pmax
comp=Z,680nm,1.1s
LZH pmax pmax
comp=Z,3µm,5.4s
LZH LR LR
comp=Z,15µm,13.2s
LZH LR LR
comp=Z,15µm,13.2s
LZH LR LR
comp=Z,21µm,16.8s
CNPM China Poot 36.63 46 P **P** **06 03 52.5 -0.1**
CNPM IAmb IAmb 06 03 53.5
comp=Z,61nm,0.6s
BPAW Bear Paw Mtn. 36.68 39 P **P** **06 03 53.6 +0.6**
KTH Kantishna Hill 36.69 40 P **P** **06 03 53.9 +0.7**
SUA Susitna One 36.78 43 P **P** **06 03 52.5 -1.5**
BRLK Bradley Lake 36.79 46 P **P** **06 03 52.7 -1.3**
BRLK PcP **PcP** **06 06 15.5 +0.3**
MLY Manley 36.83 37 P **P** **06 03 54.6 +0.2**
TRF Thorofare Moun 36.97 40 P **P** **06 03 55.8 +0.1**
COLD Coldfoot 37.22 33 P **P** **06 03 57.4 -0.1**
RC01 Rabbit Creek A 37.28 44 P **P** **06 03 57.1 -1.1**
BWN Browne 37.35 39 P **P** **06 03 59.9 +1.2**
BWN IAMs_20 IAMs_20 06 21 30.0
comp=Z,8µm,18.0s
SEW Seward 37.49 45 P **P** **06 03 58.8 -1.0**
NEA Nenana 37.52 38 P **P** **06 03 59.7 -0.5**
NEA IAmb IAmb 06 04 01.6
comp=Z,164nm,1.4s
NEA IAMs_20 IAMs_20 06 21 12.8
comp=Z,8µm,19.0s
PMR Palmer 37.55 43 P **P** **06 03 59.9 -0.5**
PMR pmax pmax
comp=Z,51nm,0.9s
PMR MLR MLR
comp=Z,4µm,21.0s
PMR Palmer 37.55 43 P **P** **06 03 59.9 -0.5**
MCK McKinley 37.58 39 P **P** **06 04 00.5 -0.2**
MCK pmax pmax
comp=Z,119nm,1.0s
MCK MLR MLR
comp=Z,6µm,20.0s
MCK McKinley 37.58 39 P **P** **06 04 00.5 -0.2**
MCK IAmb IAmb 06 04 02.9
comp=Z,119nm,1.0s
TOLK Toolik Lake Re 37.61 31 P **P** **06 04 01.2 +0.3**
baz=263,SNR=117
TOLK S **S** **06 09 47.1 0.0**
baz=263
TOLK Toolik Lake Re 37.61 31 P **P** **06 04 01.1 +0.2**
TOLK IAmb IAmb 06 04 02.4
comp=Z,186nm,1.1s
RND Reindeer 37.62 40 P **P** **06 04 00.7 -0.4**
RND pmax pmax
comp=Z,118nm,1.0s
RND MLR MLR
comp=Z,6µm,21.0s
RND Reindeer 37.62 40 P **P** **06 04 00.7 -0.4**
RND IAmb IAmb 06 04 02.5
comp=Z,118nm,1.0s
GHO Glory Hole Cre 37.64 42 P **P** **06 04 00.3 -0.9**
GTA Gaotai 37.70 279 ⇑P **P** **06 04 02.9 +0.8**
GTA pP pP 06 04 12.1 -1.5
GTA sP sP 06 04 16.5 -2.2
GTA PcP **PcP** **06 06 20.4 +1.9**
GTA S **S** **06 09 49.0 -0.2**
GTA sS ScP 06 10 04.6 +2.3
GTA PcS **PcS** **06 10 08.9 +1.6**
GTA ScS **ScS** **06 14 11.9 +0.8**
GTA pmax pmax
comp=Z,95nm,1.2s
GTA pmax pmax
comp=Z,1µm,7.4s
GTA LR LR
comp=Z,7µm,15.8s
GTA LR LR
comp=Z,9µm,15.5s
GTA LR LR
comp=Z,14µm,14.1s
GZH Guangzhou 37.79 247 P P 06 03 57.6 -5.2
GZH S **S** **06 09 41.9 -8.7**
GZH LR LR
comp=Z,10µm,17.8s
GZH LR LR
comp=Z,6µm,17.7s
HKPS Hong Kong Po S 37.86 245 P **P** **06 04 04.5 +1.0**
HKPS IAmb IAmb 06 04 06.4
comp=Z,276nm,1.3s
HKPS IAMs_20 IAMs_20 06 18 52.1
comp=Z,10µm,22.0s
KNK Knik Glacier 37.88 43 P **P** **06 04 02.9 -0.3**
KNK IAmb IAmb 06 04 04.3
comp=Z,167nm,1.0s
MDM Murphy Dome 37.89 37 P **P** **06 04 02.8 -0.5**
SML Sawmill 37.92 42 P **P** **06 04 03.3 -0.2**
WRH Wood River Hil 37.95 38 P **P** **06 04 03.7 0.0**
WRH IAMs_20 IAMs_20 06 21 44.9
comp=Z,7µm,19.0s
TCOL CIGO, UAF Yank 38.05 37 P **P** **06 04 05.0 +0.5**
baz=270,SNR=56
COLA College 38.05 37 *d* iP **P** **06 04 03.5 -1.1**
COLA pmax pmax
comp=Z,206nm,1.2s
COLA MLR MLR
comp=Z,5µm,19.0s
COLA College 38.05 37 P **P** **06 04 04.9 +0.3**
COLA IAmb IAmb 06 04 07.2
comp=Z,136nm,0.8s
CCB Clear Creek Bu 38.07 38 P **P** **06 04 04.7 0.0**
CCB IAMs_20 IAMs_20 06 21 46.2
comp=Z,7µm,19.0s
POKR Poker Plat Res 38.23 37 P **P** **06 04 06.9 +0.7**
baz=270,SNR=66
DHY Denali Highway 38.30 40 P **P** **06 04 06.2 -0.6**
DHY IAmb IAmb 06 04 07.9
comp=Z,223nm,1.4s
SCM Sheep Creek Mo 38.39 42 P **P** **06 04 07.7 +0.1**
SCM pmax pmax
comp=Z,108nm,1.0s
SCM MLR MLR
comp=Z,5µm,22.0s
SCM Sheep Creek Mo 38.39 42 P **P** **06 04 07.7 +0.1**
SCM IAmb IAmb 06 04 21.2
comp=Z,108nm,1.0s
HDA Harding Lake 38.45 38 P **P** **06 04 07.3 -0.7**
baz=271,SNR=64
HDA Harding Lake 38.45 38 P **P** **06 04 07.3 -0.7**
HDA IAMs_20 IAMs_20 06 21 42.1
comp=Z,9µm,20.0s
IL31 38.47 38 P **P** **06 04 07.5 -0.6**
IL31 IAmb IAmb 06 04 09.8
comp=Z,157nm,1.4s
ILAR Eielson Array 38.47 38 P **P** **06 04 07.2 -0.9**
ILAR Eielson Array 38.47 38 P **P** **06 04 07.6 -0.5**
comp=Z,101nm,1.2s,baz=259,slow=7.3,SNR=178
ILAR ScP **ScP** **06 10 03.1 -1.5**
comp=Z,1.0nm,0.9s,baz=294,slow=2.8,SNR=4.3
ILAR LR LR 06 21 51.8
comp=Z,4µm,19.0s,baz=276,slow=39
ILAR P3KPbc 06 34 15.6
comp=Z,0.3nm,0.8s,baz=101,slow=3.3,SNR=4.3
ILAR Eielson Array 38.47 38 P **P** **06 04 07.2 -0.9**
GLI Glacier Island 38.58 44 P **P** **06 04 08.5 -0.6**
SMPP San Manuel, Pa 38.71 231 *e*P **P** **06 04 09.2 -1.5**
SMPP *e*S **S** **06 10 03.2 -1.5**
FID Port Fidalgo 38.90 44 P **P** **06 04 11.1 -0.6**
HIN Hinchinbrook I 38.92 45 P **P** **06 04 11.9 0.0**
HIN IAmb IAmb 06 04 14.2
comp=Z,110nm,0.9s
PATS Pohnpei 39.02 168 IAMs_20 IAMs_20 06 16 57.6
comp=Z,8µm,21.0s
PRP Porcupine Dome 39.03 36 P **P** **06 04 12.9 -0.1**
NRIK Noril'sk 39.09 330 P **P** **06 04 13.8 +0.6**
comp=Z,35nm,1.0s,baz=76,slow=6.3,SNR=17
NRIK PcP **PcP** **06 06 22.9 +0.8**
comp=Z,48nm,1.0s,baz=95,slow=3.1,SNR=6.5
NRIK ScP **ScP** **06 10 07.9 +1.1**
comp=Z,12nm,1.0s,baz=111,slow=11,SNR=4.2
NRIK LR LR 06 21 05.4
comp=Z,9µm,19.1s,baz=104,slow=37
FYU Fort Yukon 39.14 35 P **P** **06 04 14.8 +1.1**
FYU IAmb IAmb 06 04 16.7
comp=Z,341nm,1.1s
PAX Paxson 39.17 40 P **P** **06 04 14.1 0.0**
PAX pmax pmax
comp=Z,50nm,1.0s
PAX MLR MLR
comp=Z,8µm,22.0s
PAX Paxson 39.17 40 P **P** **06 04 14.1 0.0**
PAX IAMs_20 IAMs_20 06 21 04.4
comp=Z,8µm,22.0s
KWAJ Kwajalein Atol 39.27 153 IAMs_20 IAMs_20 06 21 05.2
comp=Z,13µm,19.0s
EYAK Cordova Ski Ar 39.27 44 P **P** **06 04 14.9 0.0**
EYAK IAMs_20 IAMs_20 06 21 17.2
comp=Z,7µm,22.0s
CD2 Chengdu 39.28 265 ⇑ *i*P **P** **06 04 16.3 +1.0**
CD2 sP sP 06 04 29.8 -2.2
CD2 PP **PnPn** **06 05 48.8 -0.1**
CD2 S **S** **06 10 12.3 -0.8**
CD2 sS sS 06 10 34.3 +2.4
CD2 pmax pmax
comp=Z,780nm,0.9s
CD2 pmax pmax
comp=Z,3µm,6.0s
CD2 LR LR
comp=Z,9µm,15.6s
CD2 LR LR
comp=Z,10µm,22.6s
CD2 LR LR
comp=Z,13µm,16.8s
RIDG Independent Ri 39.40 39 P **P** **06 04 15.2 -0.8**
RIDG IAMs_20 IAMs_20 06 22 43.3
comp=Z,8µm,20.0s
BMAR Burnt Mountain 39.40 33 P **P** **06 04 16.5 +0.6**
DOT Dot Lake 39.75 39 P **P** **06 04 18.2 -0.7**
DOT IAMs_20 IAMs_20 06 23 02.6
comp=Z,6µm,19.0s
SCRK Sand Creek 39.76 39 P **P** **06 04 18.4 -0.6**
SCRK IAMs_20 IAMs_20 06 22 32.8
comp=Z,7µm,19.0s
RAGM Ragged Mountai 39.82 44 P **P** **06 04 20.5 +0.9**
RAGM IAmb IAmb 06 04 23.2
comp=Z,157nm,1.0s
LQP Lukban 39.94 228 *e*P **P** **06 04 20.9 -0.2**
MENT Mentasta 39.97 40 P **P** **06 04 21.4 +0.7**
GYA Guiyang 39.98 257 ⇑ *i*P **P** **06 04 21.4 +0.1**
GYA pP pP 06 04 32.0 -0.9
GYA sP sP 06 04 38.6 +0.7
GYA PP **PP** **06 05 54.8 +1.2**
GYA PcP **PcP** **06 06 26.8 +0.9**
GYA S **S** **06 10 21.8 -2.0**
GYA pmax pmax
comp=Z,140nm,1.0s
GYA pmax pmax
comp=Z,290nm,6.1s
GYA LR LR
comp=Z,7µm,16.6s
GYA LR LR
comp=Z,5µm,17.7s
GYA LR LR
comp=Z,8µm,18.8s
GLB Gilahina Butte 40.10 43 P **P** **06 04 21.9 +0.1**
VRDI Verde Repeater 40.30 43 P **P** **06 04 24.1 +0.5**
MCARA McCarthy VSAT 40.48 43 P **P** **06 04 25.8 +0.9**
CRQM Cirque 40.52 44 P **P** **06 04 25.5 0.0**
TGL Tana Glacier 40.67 44 P **P** **06 04 26.4 -0.2**
TGL IAmb IAmb 06 04 28.7
comp=Z,208nm,1.2s
BCAR Beaver Creek A 40.83 40 P **P** **06 04 28.4 +0.5**
BALM Baldy 40.86 43 P **P** **06 04 28.9 +0.7**
BALM IAmb IAmb 06 04 30.1
comp=Z,160nm,1.1s
EGAK Eagle 40.92 37 P **P** **06 04 28.1 -0.3**
EGAK IAmb IAmb 06 04 29.4
comp=Z,182nm,1.1s
LUBP Lubang 40.94 229 *e*P **P** **06 04 27.2 -1.9**
BARN Barnard Glacie 41.19 43 P **P** **06 04 31.9 +1.0**
BARN IAmb IAmb 06 04 33.1
comp=Z,217nm,1.0s
CTGM Chitina Glacie 41.36 43 P **P** **06 04 33.3 +1.0**
CTGM IAmb IAmb 06 04 34.4
comp=Z,223nm,0.9s
DGZ Jazzator, Alta 41.92 300 ⇓ *e*P **P** **06 04 36.5 -0.5**
PCA Pinnacle 42.04 44 P **P** **06 04 38.2 +0.4**
PCA IAmb IAmb 06 04 39.5
comp=Z,160nm,1.1s
ZAA0 Zalesovo Array 42.15 306 P **P** **06 04 37.1 -1.5**
ZAA0 IAMs_20 IAMs_20 06 23 10.9
comp=Z,19µm,19.0s
ZALV Zalesovo Beam 42.15 306 P **P** **06 04 35.9 -2.7**
comp=Z,11nm,0.6s,baz=78,slow=6.3,SNR=20
ZALV PcP **PcP** **06 06 32.8 +0.5**
comp=Z,98nm,0.9s,baz=81,slow=2.5,SNR=30
ZALV ScP **ScP** **06 10 19.1 -0.1**
comp=Z,2.9nm,0.7s,baz=74,slow=5.4,SNR=3.6
ZALV PKiKP **PKiKP** **06 13 36.5 -1.1**
comp=Z,2.6nm,0.9s,baz=86,slow=2.2,SNR=3.7
ZALV LR LR 06 23 21.8
comp=Z,18µm,18.9s,baz=72,slow=38
EPYK Eagle Plains 42.56 35 P **P** **06 04 42.7 +0.7**
baz=278,SNR=84
EPYK Eagle Plains 42.56 35 P **P** **06 04 42.5 +0.6**
EPYK IAmb IAmb 06 04 44.0
comp=Z,278nm,1.1s
QIZ Qiongzhong 42.97 246 P **P** **06 04 45.4 -0.3**
QIZ S **S** **06 11 09.0 +1.0**
QIZ sS **sS** **06 11 22.3 -4.6**
QIZ ScS **ScS** **06 14 44.0 +1.3**
QIZ pmax pmax
comp=Z,1µm,5.9s
QIZ LR LR
comp=Z,5µm,21.6s
QIZ LR LR
comp=Z,6µm,21.6s
QIZ LR LR
comp=Z,8µm,15.7s
QIZ Qiongzhong 42.97 246 IAMs_20 IAMs_20 06 23 49.4
comp=Z,10µm,18.0s
HYT Haines Junctio 43.22 43 P **P** **06 04 49.1 +1.6**
HYT IAmb IAmb 06 04 50.9
comp=Z,219nm,0.9s
DHAK Deception Hill 43.28 45 P **P** **06 04 49.2 +1.4**
INK Inuvik 43.52 32 P **P** **06 04 50.3 +0.8**
INK pmax pmax
comp=Z,239nm,1.1s
INK MLR MLR
comp=Z,7µm,20.0s
INK Inuvik 43.52 32 P **P** **06 04 49.6 +0.1**
comp=Z,182nm,1.0s,baz=280,slow=6.7,SNR=256
INK Inuvik 43.52 32 P **P** **06 04 50.4 +0.8**
INK IAmb IAmb 06 04 51.5
comp=Z,239nm,1.1s
INK IAMs_20 IAMs_20 06 26 13.7
comp=Z,7µm,20.0s
KMI Kunming 43.53 259 P **P** **06 04 51.4 +0.9**
KMI pP pP 06 05 03.8 +1.6
KMI PP **PP** **06 06 31.1 -1.1**
KMI PcP **PcP** **06 06 39.0 +1.3**
KMI S **S** **06 11 12.0 -4.6**
KMI sS sS 06 11 35.8 +0.2
KMI SS **SS** **06 14 25.5 -6.6**
KMI pmax pmax
comp=Z,230nm,1.2s
KMI pmax pmax
comp=Z,2µm,7.0s
KMI LR LR
comp=Z,5µm,16.4s
KMI LR LR
comp=Z,3µm,16.8s
KMI LR LR
comp=Z,7µm,16.8s
KMI Kunming 43.53 259 IAMs_20 IAMs_20 06 25 14.8
comp=Z,7µm,18.0s
JOHN Johnston Islan 43.66 118 IAMs_20 IAMs_20 06 18 17.1
comp=Z,11µm,22.0s
WMQ Urumqi 43.99 291 P **P** **06 04 55.8 +2.0**
WMQ pmax pmax
comp=Z,61nm,0.7s
WMQ MLR MLR
comp=Z,13µm,19.0s
WMQ Urumqi 43.99 291 P **P** **06 04 55.8 +2.0**
WMQ Urumqi 43.99 291 IAMs_20 IAMs_20 06 24 18.9
comp=Z,13µm,19.0s
DAV Davao City (W) 44.13 218 ⇑ *e*P P 06 05 00.7 +5.6
ZSN Zaisan 44.32 297 *e*P **P** **06 04 55.0 -1.4**
ZSN *e*LR LR 06 24 10.4
comp=Z,6µm,15.2s
ZSN Zaisan 44.32 297 *e*P **P** **06 04 54.9 -1.4**
ZSN MLR MLR
comp=Z,6µm,15.0s
KCP Kidapawan 44.40 218 ⇑ *i*P **P** **06 04 59.9 +2.6**
WHY Whitehorse 44.51 43 P **P** **06 04 59.2 +1.4**
WHY IAmb IAmb 06 05 00.5
comp=Z,115nm,0.9s
CTBH Cotabato--PC H 44.58 219 ⇑ *i*P **P** **06 05 00.7 +2.0**
SKAG Skagway 44.62 44 P **P** **06 04 58.8 +0.3**
BESE Bessie Mountai 45.10 45 P **P** **06 05 03.9 +1.5**
BESE IAmb IAmb 06 05 05.2
comp=Z,196nm,1.4s
SLVN Son La 45.26 254 P **P** **06 05 04.9 +0.8**
SLVN IAmb IAmb 06 05 07.9
comp=Z,97nm,1.1s
SLVN IAMs_20 IAMs_20 06 25 12.9
comp=Z,8µm,19.0s
JIS Juneau Island 45.43 46 P **P** **06 05 06.7 +1.8**
JIS IAmb IAmb 06 05 08.9
comp=Z,154nm,0.9s
MK31 Makanchi Array 46.20 298 *i* P **P** **06 05 09.9 -1.3**
MK31 pmax pmax
comp=Z,166nm,1.2s
MK31 Makanchi Array 46.20 298 P **P** **06 05 10.1 -1.1**
MKAR Makanchi Array 46.20 298 P **P** **06 05 10.0 -1.2**
comp=Z,42nm,0.8s,baz=71,slow=7.9,SNR=86
MKAR PcP **PcP** **06 06 46.8 +0.5**
comp=Z,30nm,0.7s,baz=145,slow=0.2,SNR=9.7
MKAR ScP **ScP** **06 10 37.4 +1.4**
comp=Z,4.7nm,1.1s,baz=32,slow=5.6,SNR=3.0
MKAR LR LR 06 25 49.0
comp=Z,25µm,18.1s,baz=69,slow=38
MKAR P4KPbc 06 42 58.3
comp=Z,0.8nm,0.7s,baz=60,slow=4.3,SNR=9.5
MKAR Makanchi Array 46.20 298 P **P** **06 05 09.8 -1.4**
MKAR PcP **PcP** **06 06 47.2 +0.8**
BATP Bataraza 46.37 228 *e*P **P** **06 05 13.4 +0.7**
C36M Paulatuk 46.66 29 P **P** **06 05 14.9 +0.5**
baz=286,SNR=116
KURK Kurchatov 46.82 304 P **P** **06 05 14.3 -1.7**
SNR=26
KURK P **P** **06 05 14.3 -1.7**
SNR=26
KURK Kurchatov 46.82 304 *c* *i*P **P** **06 05 13.9 -2.1**
KURK pmax pmax
comp=Z,69nm,0.8s
KURK MLR MLR
comp=Z,3µm,15.0s
KURK Kurchatov 46.82 304 *e*P **P** **06 05 13.9 -2.1**
KURK Kurchatov 46.82 304 P **P** **06 05 13.8 -2.1**
KURK IAmb IAmb 06 05 18.2
comp=Z,69nm,0.8s
KURK Kurchatov 46.82 304 IAMs_20 IAMs_20 06 25 40.8
comp=Z,4µm,18.0s
KURBB Kurchatov Arra 46.91 304 P **P** **06 05 14.7 -2.0**
comp=Z,48nm,0.7s,baz=70,slow=8.6,SNR=63
KURBB PcP **PcP** **06 06 49.4 +0.7**
comp=Z,39nm,0.9s,baz=64,slow=3.2,SNR=14
KURBB P4KPbc 06 43 01.1
comp=Z,1.2nm,0.9s,baz=74,slow=4.0,SNR=7.0
WRAK Wrangell Islan 47.09 48 P **P** **06 05 19.8 +1.8**
WRAK IAmb IAmb 06 05 21.1
comp=Z,74nm,1.0s
MANU Manus Island 47.43 185 P **P** **06 05 21.9 +0.9**
DIBR DIBRUGARH 47.53 268 ⇑ *i*P **P** **06 05 22.4 +0.6**
DLBC Dease Lake 47.55 44 P **P** **06 05 23.7 +2.1**
comp=Z,86nm,1.0s,baz=290,slow=8.5,SNR=26
DLBC Dease Lake 47.55 44 P **P** **06 05 23.5 +1.8**
DLBC IAmb IAmb 06 05 24.9
comp=Z,134nm,1.1s
KIP Kipapa 47.90 103 ⇓ *e*P **P** **06 05 24.5 -0.2**
KIP pmax pmax
comp=Z,233nm,3.0s
KIP MLR MLR
comp=Z,2µm,16.0s
TARA Tarawa 48.01 150 IAMs_20 IAMs_20 06 21 20.3
comp=Z,13µm,22.0s
DIB Dawson Inlet, 48.23 52 P **P** **06 05 27.9 +1.0**
DIB IAmb IAmb 06 05 40.8
comp=Z,86nm,1.0s
ZIRO ZIRO 48.24 269 ⇑ *i*P **P** **06 05 29.2 +1.6**
ZIRO IAmb IAmb 06 05 31.6
comp=Z,653nm,0.1s
BAKI Biak 48.30 200 P **P** **06 05 29.4 +1.6**
SMPI Sarmi 48.51 196 P **P** **06 05 29.5 +0.2**
UBPT Khong Chiam 48.54 247 P **P** **06 05 31.1 +1.4**
comp=Z,28nm,1.3s,comp=Z,968nm
UBPT Khong Chiam 48.54 247 P **P** **06 05 30.5 +0.8**
UBPT IAMs_20 IAMs_20 06 29 44.1
comp=Z,4µm,19.0s
ITAN ITANAGAR 48.57 268 ⇑ *i*P **P** **06 05 31.5 +1.7**
ITAN IAmb IAmb 06 05 36.9
comp=Z,314nm,1.2s
JAY Jayapura 48.65 194 P **P** **06 05 31.4 +0.9**
LSA Lhasa 48.84 273 P **P** **06 05 34.4 +1.9**
LSA S **S** **06 12 28.6 -4.6**
LSA LR LR
comp=Z,12µm,21.4s
LSA LR LR
comp=Z,20µm,22.1s
LSA LR LR
comp=Z,32µm,22.8s

LSA	**Lhasa**	**48.84 273**	P	**P**	**06 05 34.2 +1.8**	
LSA	**Lhasa**	**48.84 273**	P	**P**	**06 05 34.6 +2.1**	
LSA			pmax	pmax		
	comp=Z,165nm,0.8s					
LSA			MLR	MLR		
	comp=Z,8μm,18.0s					
LSA	**Lhasa**	**48.84 273**	P	**P**	**06 05 34.6 +2.1**	
LSA			IAMs_20	IAMs_20	06 27 59.0	
	comp=Z,8μm,18.0s					
RKPI	**Ranshi, Papua**	**49.10 202**	P	**P**	**06 05 35.3 +1.4**	
TNTI	**Ternate**	**49.15 212**	P	**P**	**06 05 36.0 +1.7**	
TNTI	**Ternate**	**49.15 212**	P	**P**	**06 05 35.0 +0.7**	
TNTI			IAmb	IAmb	06 06 04.1	
	comp=Z,136nm,1.7s					
DLV	**T Lat**	**49.16 241**	P	**P**	**06 05 36.8 +2.1**	
KOHI	**KOHIMA**	**49.18 266⇑**	*i*P	**P**	**06 05 35.7 +1.0**	
KOHI			IAmb	IAmb	06 05 38.1	
	comp=Z,462nm,0.8s					
SWI	**Sorong**	**49.34 206**	P	**P**	**06 05 36.6 +0.9**	
PAYA	**Payao**	**49.36 256**	P	**P**	**06 05 37.5 +1.6**	
	comp=Z,184μm,1.0s					
TDK	**Taldyqorghan**	**49.42 297**	*e*P	**P**	**06 05 36.0 -0.2**	
	comp=Z,302nm,1.2s					
TDK			*e*LR	LR	06 26 44.8	
	comp=Z,22μm,17.9s					
TDK	**Taldyqorghan**	**49.42 297**	*e*P	**P**	**06 05 36.0 -0.2**	
TDK			pmax	pmax		
	comp=Z,302nm,1.2s					
TDK			MLR	MLR		
	comp=Z,22μm,18.0s					
PDGK	**Podgornoye**	**49.53 295**	P	**P**	**06 05 36.3 -0.9**	
PDGK			pmax	pmax		
	comp=Z,61nm,1.0s					
PHRA	**Phrae**	**49.71 254**	P	**P**	**06 05 39.9 +1.3**	
	comp=Z,23nm,1.0s,comp=Z,920nm					
IMP	**Imphal**	**49.85 266⇑**	*i*P	**P**	**06 05 39.5 -0.2**	
IMP			IAmb	IAmb	06 05 44.0	
	comp=Z,136nm,1.1s					
IMP			IAMs_20	IAMs_20	06 25 28.1	
	comp=Z,5μm,30.6s					
UZB	**Uzynbulak**	**49.92 295**	*e*P	**P**	**06 05 38.9 -1.2**	
	comp=Z,74nm,1.7s					
UZB			*e*LR	LR	06 27 52.5	
	comp=Z,2μm,17.2s					
UZB	**Uzynbulak**	**49.92 295**	*e*P	**P**	**06 05 38.9 -1.2**	
UZB			pmax	pmax		
	comp=Z,74nm,1.7s					
UZB			MLR	MLR		
	comp=Z,2μm,17.0s					
KPKS	**Kokpek**	**49.98 295**	*e*P	**P**	**06 05 39.6 -1.0**	
KPKS			*e*LR	LR	06 27 52.1	
	comp=Z,134nm,1.6s					
	comp=Z,4μm,14.5s					
KPKS	**Kokpek**	**49.98 295**	*e*P	**P**	**06 05 39.5 -1.0**	
KPKS			pmax	pmax		
	comp=Z,134nm,1.6s					
KPKS			MLR	MLR		
	comp=Z,4μm,14.0s					
LAMP	**Lampang**	**50.10 255**	P	**P**	**06 05 43.5 +1.9**	
	comp=Z,244μm,0.9s					
SATY	**Saty**	**50.35 295**	*e*P	**P**	**06 05 42.7 -0.8**	
	comp=Z,118nm,1.5s					
SATY			*e*LR	LR	06 28 06.0	
	comp=Z,2μm,15.1s					
SATY	**Saty**	**50.35 295**	*e*P	**P**	**06 05 42.6 -0.8**	
SATY			pmax	pmax		
	comp=Z,118nm,1.5s					
SATY			MLR	MLR		
	comp=Z,2μm,15.0s					
CMMT	**Chiang Mai**	**50.36 256**	P	**P**	**06 05 44.6 +1.0**	
	comp=Z,91nm,1.2s,comp=Z,1μm					
CHTO	**Chiang Mai**	**50.36 256**	P	**P**	**06 05 45.2 +1.6**	
	SNR=44					
CHTO			P	**P**	**06 05 45.2 +1.6**	
	SNR=44					
CHTO			P	**P**	**06 05 45.2 +1.6**	
	SNR=44					
CHTO	**Chiang Mai**	**50.36 256**	P	**P**	**06 05 44.1 +0.5**	
CHTO			pmax	pmax		
	comp=Z,144nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,7μm,19.0s					
CHTO	**Chiang Mai**	**50.36 256**	P	**P**	**06 05 44.1 +0.5**	
CHTO			IAmb	IAmb	06 05 46.3	
	comp=Z,144nm,1.0s					
CHTO	**Chiang Mai**	**50.36 256**	IAMs_20	IAMs_20	06 28 52.8	
	comp=Z,7μm,19.0s					
CHAI	**Chaiyaphum**	**50.37 250**	P	**P**	**06 05 44.5 +0.9**	
	comp=Z,127μm,1.0s					
HPAH	**Hawaii Prepara**	**50.44 102**	IAMs_20	IAMs_20	06 22 03.6	
	comp=Z,5μm,21.0s					
BVAR	**Borovoye Array**	**50.51 309**	P	**P**	**06 05 42.5 -1.8**	
	comp=Z,11nm,0.6s,baz=60,slow=8.8,SNR=29					
BVAR			PcP	**PcP**	**06 07 02.2 +0.5**	
	comp=Z,60nm,0.9s,baz=70,slow=4.9,SNR=12					
BVAR			P4KPbc		06 43 16.5	
	comp=Z,1.0nm,0.5s,baz=73,slow=5.1,SNR=4.5					
BRVK	**Borovoye**	**50.55 310**	P	**P**	**06 05 43.9 -0.6**	
	SNR=13					
BRVK			P	**P**	**06 05 43.9 -0.6**	
	SNR=13					
BRVK	**Borovoye**	**50.55 310⇓**	*i*P	**P**	**06 05 43.0 -1.6**	
BRVK			pmax	pmax		
	comp=Z,32nm,0.9s					
BRVK			MLR	MLR		
	comp=Z,14μm,17.0s					
BRVK	**Borovoye**	**50.55 310**	*e*P	**P**	**06 05 43.0 -1.6**	
BRVK	**Borovoye**	**50.55 310**	P	**P**	**06 05 42.3 -2.3**	
BRVK			IAmb	IAmb	06 07 03.5	
	comp=Z,114nm,1.1s					
PBKT	**Sadao Pong**	**50.57 252**	P	**P**	**06 05 46.3 +1.2**	
	comp=Z,31nm,1.4s,comp=Z,898nm					
PBKT	**Sadao Pong**	**50.57 252**	P	**P**	**06 05 45.9 +0.8**	
PBKT			PcP	**PcP**	**06 07 04.2 +1.8**	
PBKT			IAmb	IAmb	06 07 05.1	
	comp=Z,82nm,0.9s					
PBKT			IAMs_20	IAMs_20	06 28 52.4	
	comp=Z,4μm,19.0s					
BRZS	**Berezniki**	**50.58 305**	*e*P	**P**	**06 05 42.7 -2.2**	
	comp=Z,27nm,0.6s					
BRZS			*e*LR	LR	06 27 26.1	
BRZS	**Berezniki**	**50.58 305**	*e*P	**P**	**06 05 42.7 -2.2**	
BRZS			pmax	pmax		
	comp=Z,27nm,0.6s					
GUWA	**GUWAHATI**	**50.58 269⇑**	*i*P	**P**	**06 05 45.7 +0.6**	
GUWA			IAmb	IAmb	06 05 48.8	
	comp=Z,273nm,0.9s					
KHLU	**Kahalu`u**	**50.60 103**	IAMs_20	IAMs_20	06 21 33.0	
	comp=Z,4μm,21.0s					
CM31	**Chiang Mai Arr**	**50.61 255**	P	**P**	**06 05 47.2 +1.8**	
	SNR=32					
CM31	**Chiang Mai Arr**	**50.61 255**	P	**P**	**06 05 47.0 +1.6**	
CM31			IAmb	IAmb	06 05 50.8	
	comp=Z,67nm,0.8s					
CMAR	**Chiang Mai Arr**	**50.61 255**	P	**P**	**06 05 46.4 +0.9**	
CMAR					06 07 04.2	
CMAR	**Chiang Mai Arr**	**50.61 255**	P	**P**	**06 05 47.0 +1.5**	
	comp=Z,37nm,0.9s,baz=35,slow=8.0,SNR=156					
CMAR			PcP	**PcP**	**06 07 04.5 +1.9**	
	comp=Z,22nm,0.8s,baz=1.6,slow=2.0,SNR=7.9					
CMAR			LR	LR	06 30 03.4	
	comp=Z,6μm,19.4s,baz=52,slow=39					
CMAR			PKP2bc		06 36 47.6	
	comp=Z,0.8nm,0.3s,baz=204,slow=3.2,SNR=4.4					
CMAR	**Chiang Mai Arr**	**50.61 255**	P	**P**	**06 05 46.4 +0.9**	
CMAR				**PcP**	**06 07 04.2 +1.6**	
PRZ	**Przheval'sk**	**50.64 294**	P	**P**	**06 05 46.1 +0.4**	
PRZ			pmax	pmax		
	comp=Z,77nm,0.8s					
PRZ			MLR	MLR		
	comp=Z,10μm,18.0s					
PRZ	**Przheval'sk**	**50.64 294**	P	**P**	**06 05 46.1 +0.4**	
PRZ			IAmb	IAmb	06 05 49.5	
	comp=Z,77nm,0.8s					
PRZ			IAMs_20	IAMs_20	06 29 44.7	
	comp=Z,10μm,18.0s					
POHA	**Pohakuloa**	**50.74 102**	IAMs_20	IAMs_20	06 21 49.5	
	comp=Z,5μm,22.0s					
SHL	**Shillong**	**50.84 268**	P	**P**	**06 05 47.9 +0.7**	
	SNR=180					
SHL			S	**S**	**06 12 52.3 -8.2**	
SHL	**Shillong**	**50.84 268**	P	**P**	**06 05 48.0 +0.7**	
SHL	**Shillong**	**50.84 268⇑**	*i*P	**P**	**06 05 47.8 +0.5**	
SHL			IAmb	IAmb	06 05 48.5	
	comp=Z,439nm,0.8s					
SHL			*e*S	**S**	**06 12 53.4 -7.1**	
SHL	**Shillong**	**50.84 268**	P	**P**	**06 05 48.0 +0.7**	
FAKI	**Fak Fak**	**50.99 204**	P	**P**	**06 05 48.2 0.0**	
FAKI	**Fak Fak**	**50.99 204**	P	**P**	**06 05 50.0 +1.8**	
FAKI			IAmb	IAmb	06 05 50.1	
	comp=Z,114nm,1.0s					
KHU	**Kahuku**	**51.03 103**	IAMs_20	IAMs_20	06 21 45.3	
	comp=Z,5μm,22.0s					
MDOK	**Medeo**	**51.17 296**	*e*P	**P**	**06 05 48.9 -0.7**	
MDOK			*e*LR	LR	06 27 43.6	
	comp=Z,6μm,18.6s					
MDOK	**Medeo**	**51.17 296**	*e*P	**P**	**06 05 48.8 -0.7**	
MDOK			MLR	MLR		
	comp=Z,6μm,19.0s					
AAA	**Alma-Ata**	**51.23 296**	*e*P	**P**	**06 05 48.3 -1.6**	
AAA			*e*LR	LR	06 27 51.8	
	comp=Z,6μm,19.5s					
AAA	**Alma-Ata**	**51.23 296**	*e*P	**P**	**06 05 48.9 -1.0**	
AAA			*e*S	S	06 12 53.7 -12	
AAA			pmax	pmax		
	comp=Z,800nm,7.9s					
AAA			MLR	MLR		
	comp=Z,8μm,18.0s					
AAA	**Alma-Ata**	**51.23 296**	*e*P	**P**	**06 05 48.9 -1.0**	
TNSS	**Tian-Shan**	**51.29 295**	*e*P	**P**	**06 05 51.0 +0.2**	
TNSS	**Tian-Shan**	**51.29 295**	*e*P	**P**	**06 05 51.0 +0.2**	
TARG	**Taragay, Kyrgy**	**51.40 294**	P	**P**	**06 05 51.6 -0.1**	
TARG			IAmb	IAmb	06 07 08.4	
	comp=Z,128nm,1.0s					
AZL	**Aizawl**	**51.43 266⇑**	*i*P	**P**	**06 05 52.6 +1.0**	
MHMT	**Maesarieng**	**51.50 256**	P	**P**	**06 05 53.9 +1.8**	
	comp=Z,326nm,1.3s,comp=Z,4μm					
MTBS	**Maitube**	**51.58 296**	*e*P	**P**	**06 05 52.1 -0.4**	
MTBS	**Maitube**	**51.58 296**	*e*P	**P**	**06 05 52.1 -0.4**	
KDJ	**Kajisay**	**51.60 294**	P	**P**	**06 05 51.6 -1.3**	
KDJ			pmax	pmax		
	comp=Z,73nm,1.0s					
KDJ			MLR	MLR		
	comp=Z,11μm,18.0s					
KDJ	**Kajisay**	**51.60 294**	P	**P**	**06 05 51.6 -1.3**	
KDJ			IAMs_20	IAMs_20	06 30 09.1	
	comp=Z,11μm,18.0s					
DHUB	**DHUBRI**	**51.88 270⇑**	*i*P	**P**	**06 05 54.5 -0.4**	
SAIH	**SAIHA**	**52.02 264⇑**	*i*P	**P**	**06 05 56.9 +0.7**	
GTK	**Tadong**	**52.06 272⇑**	*i*P	**P**	**06 05 58.3 +1.8**	
GTK			IAmb	IAmb	06 06 10.1	
	comp=Z,259nm,1.2s					
GTK			IAMs_20	IAMs_20	06 28 53.6	
	comp=Z,9μm,21.4s					
BTLS	**Baital**	**52.11 299**	*e*P	**P**	**06 05 56.7 +0.3**	
BTLS	**Baital**	**52.11 299**	*e*P	**P**	**06 05 56.6 +0.3**	
ULHL	**Ulahol**	**52.14 295**	P	**P**	**06 05 58.6 +1.7**	
	SNR=21					
TKM2	**Tokmak 2**	**52.21 296**	P	**P**	**06 05 59.0 +1.6**	
	SNR=57					
BOOM	**Boomskoye usch**	**52.21 295**	P	**P**	**06 05 57.6 +0.2**	
BOOM			pmax	pmax		
	comp=Z,72nm,0.8s					
BOOM			MLR	MLR		
	comp=Z,15μm,18.0s					
BOOM	**Boomskoye usch**	**52.21 295**	P	**P**	**06 05 57.6 +0.2**	
BOOM			IAmb	IAmb	06 06 02.9	
	comp=Z,72nm,0.8s					
UMPA	**Umpang Tak**	**52.24 254**	P	**P**	**06 06 00.9 +3.2**	
	comp=Z,198μm,1.1s					
SANI	**Sanana**	**52.26 212**	P	**P**	**06 05 57.1 -0.6**	
UTHA	**Uthaitani**	**52.31 252**	P	**P**	**06 06 00.1 +1.9**	
	comp=Z,113μm,1.1s,comp=Z,877μm					
AGT	**Agartala**	**52.34 267⇑**	*i*P	**P**	**06 06 00.1 +1.8**	
AGT			IAmb	IAmb	06 06 02.5	
	comp=Z,287nm,0.8s					
MSAI	**Masohi**	**52.42 208**	P	**P**	**06 06 00.8 +1.9**	
RES	**Resolute Bay**	**52.51 18**	P	**P**	**06 05 58.6 -0.3**	
RES			pmax	pmax		
	comp=Z,95nm,0.9s					
RES			MLR	MLR		
	comp=Z,6μm,19.0s					
RES	**Resolute Bay**	**52.51 18**	P	**P**	**06 05 58.5 -0.3**	
	comp=Z,80nm,0.8s,baz=310,slow=6.5,SNR=72					
RES	**Resolute Bay**	**52.51 18**	P	**P**	**06 05 58.6 -0.3**	
RES			IAmb	IAmb	06 06 02.2	
	comp=Z,95nm,0.8s					
RES			IAMs_20	IAMs_20	06 30 03.7	
	comp=Z,6μm,19.0s					
SGDS	**Sogindy**	**52.55 297**	*e*P	**P**	**06 05 58.8 -1.0**	
	comp=Z,78nm,1.2s					
SGDS			*e*LR	LR	06 29 11.3	
	comp=Z,8μm,16.4s					
BELO	**BELONIA**	**52.61 266⇑**	*i*P	**P**	**06 06 01.7 +1.4**	
TAPN	**Taplejung**	**52.67 273**	*e*P	**P**	**06 06 02.5 +1.4**	
	comp=Z,544nm,0.9s					
CHMS	**Chumysh**	**52.70 296**	P	**P**	**06 06 00.8 0.0**	
	SNR=15					
NRN	**Naryn**	**52.72 294**	P	**P**	**06 06 01.0 -0.3**	
NRN			MLR	MLR		
	comp=Z,11μm,19.0s					
NRN	**Naryn**	**52.72 294**	P	**P**	**06 06 00.9 -0.3**	
NRN			IAMs_20	IAMs_20	06 29 49.0	
	comp=Z,11μm,19.0s					
USP	**Ospenovka**	**52.72 297**	P	**P**	**06 06 03.3 +2.3**	
	SNR=91					
KBK	**Karagaybulak**	**52.75 296**	P	**P**	**06 06 03.7 +2.3**	
	SNR=30					
YKW3	**Yellowknife Ar**	**52.79 35**	P	**P**	**06 06 01.4 +0.3**	
YKW3			IAmb	IAmb	06 06 02.6	
	comp=Z,87nm,1.0s					
YKA	**Yellowknife Ar**	**52.83 36**	P	**P**	**06 06 00.7 -0.7**	
YKA	**Yellowknife Ar**	**52.83 36**	P	**P**	**06 06 01.6 +0.2**	
	comp=Z,51nm,0.9s,baz=299,slow=7.1,SNR=69					
YKA			LR	LR	06 30 11.8	
	comp=Z,330nm,21.6s,baz=296,slow=38					
YKA	**Yellowknife Ar**	**52.83 36**	P	**P**	**06 06 00.7 -0.7**	
KZA	**Kyzart**	**52.86 295**	P	**P**	**06 06 04.8 +2.3**	
	SNR=11					
FRU1	**Bishkek**	**52.88 296**	P	**P**	**06 06 02.7 +0.5**	
FRU1			MLR	MLR		
	comp=Z,14μm,19.0s					
FRU1	**Bishkek**	**52.88 296**	P	**P**	**06 06 02.7 +0.5**	
FRU1			IAmb	IAmb	06 07 13.0	
	comp=Z,75nm,0.8s					
AAK	**Ala-Archa**	**53.05 296**	*i* P	**P**	**06 06 03.9 +0.3**	
	SNR=60					
AAK	**Ala-Archa**	**53.05 296**	P	**P**	**06 06 03.5 -0.1**	
	SNR=34					
AAK			P	**P**	**06 06 03.5 -0.1**	
	SNR=34					
AAK			P	**P**	**06 06 03.5 -0.1**	
	SNR=34					
AAK	**Ala-Archa**	**53.05 296**	*c i*P	**P**	**06 06 03.1 -0.4**	
AAK			pmax	pmax		
	comp=Z,52nm,0.8s					
AAK			MLR	MLR		
	comp=Z,12μm,18.0s					
AAK	**Ala-Archa**	**53.05 296**	P	**P**	**06 06 03.2 -0.4**	
	comp=Z,40nm,0.8s,baz=104,slow=3.9,SNR=72					
AAK			LR	LR	06 30 10.6	
	comp=Z,13μm,18.1s,baz=54,slow=38					
AAK			P4KPbc		06 43 27.8	
	comp=Z,0.7nm,0.3s,baz=82,slow=4.7,SNR=5.2					
AAK	**Ala-Archa**	**53.05 296**	P	**P**	**06 06 05.6 +2.0**	
	SNR=46					
AAK	**Ala-Archa**	**53.05 296**	P	**P**	**06 06 03.1 -0.4**	
AAK	**Ala-Archa**	**53.05 296**	IAMs_20	IAMs_20	06 29 48.2	
	comp=Z,13μm,20.0s					
ODAN	**Odare**	**53.20 272**	*e*P	**P**	**06 06 06.0 +1.1**	
	comp=Z,453nm,1.1s					
BNDI	**Bandanaira**	**53.21 207**	P	**P**	**06 06 06.6 +1.9**	
UCH	**Uchtor**	**53.25 296**	P	**P**	**06 06 03.9 -1.5**	
	SNR=14					
PATY	**Pattaya**	**53.28 249**	P	**P**	**06 06 08.0 +2.7**	
	comp=Z,68μm,1.1s					
SRDT	**SRDT**	**53.40 252**	P	**P**	**06 06 08.5 +2.3**	
	comp=Z,29nm,1.5s,comp=Z,5μm					
EKS2	**Erkin-Say**	**53.49 297**	P	**P**	**06 06 09.0 +2.3**	
	SNR=72					
KBS	**Kingsbay**	**53.52 351**	P	**P**	**06 06 06.2 -0.1**	
KBS			MLR	MLR		
	comp=Z,7μm,19.0s					
KBS	**Kingsbay**	**53.52 351**	*e*P	**P**	**06 06 05.8 -0.5**	
KBS			IVmB_BB		06 06 10.5	
	comp=Z,1μm,2.5s					
KBS			*e*S	**S**	**06 13 30.5 -5.0**	
KBS			IVMs_BB	IVMs_BB	06 29 15.5	
	comp=Z,3μm,21.1s					
KBS	**Kingsbay**	**53.52 351**	P	**P**	**06 06 06.2 -0.1**	
KBS	**Kingsbay**	**53.52 351**	IAMs_20	IAMs_20	06 29 26.4	
	comp=Z,7μm,19.0s					
JIRN	**Jiri**	**53.55 274**	*e*P	**P**	**06 06 09.0 +1.3**	
	comp=Z,2μm,1.0s					
HOPEN	**Hopen**	**53.57 346**	*e*P	**P**	**06 06 07.5 +0.9**	
SPA0	**Spitsbergen Ar**	**53.59 349**	*e*P	**P**	**06 06 06.1 -0.8**	
SPA0			IVmBBB		06 06 14.3	
	comp=Z,3μm,5.0s					
SPA0			*e*S	**S**	**06 13 37.4 +0.8**	
SPA0			IVMsBB		06 35 13.5	
	comp=Z,4μm,5.0s					
SPITS	**Spitsbergen Ar**	**53.59 349**	P	**P**	**06 06 05.6 -1.2**	
	comp=Z,16nm,0.7s,baz=69,slow=8.1,SNR=15					
SPITS			PcP	**PcP**	**06 07 13.0 +0.1**	
	comp=Z,59nm,0.9s,baz=69,slow=9.9,SNR=5.2					
GUN	**Gumba**	**53.61 274**	*e*P	**P**	**06 06 09.2 +1.1**	
	comp=Z,1μm,1.0s					
SIMRM	**Sittwe**	**53.65 262**	P	**P**	**06 06 09.6 +1.6**	
SIMRM			IAmb	IAmb	06 06 10.7	
	comp=Z,217nm,1.5s					
RAMN	**Ramite**	**53.70 273**	*e*P	**P**	**06 06 09.6 +1.0**	
	comp=Z,583nm,0.6s					
SVE	**Sverdlovsk**	**53.74 317⇑**	*e*P	**P**	**06 06 06.8 -1.4**	
SVE			*e*S	**S**	**06 13 41.4 +2.3**	
SVE			pmax	pmax		
	comp=Z,137nm,0.7s					
SVE			MLR	MLR		
	comp=Z,7μm,20.0s					
KSH	**Kashi**	**53.75 292**	P	**P**	**06 06 12.9 +4.2**	
KSH			sP	sP	06 06 30.5 +4.9	
KSH			PP	**PP**	**06 08 15.1 +5.5**	
KSH			S	**S**	**06 13 43.8 +3.9**	
KSH			sS	sS	06 14 03.9 +3.5	
KSH			ScS	**ScS**	**06 15 54.5 0.0**	
KSH			pmax	pmax		
	comp=Z,320nm,1.3s					
KSH			pmax	pmax		
	comp=Z,3μm,9.1s					
KSH			LR	LR		
	comp=Z,9μm,13.7s					
KSH			LR	LR		
	comp=Z,19μm,17.8s					
KSH			LR	LR		
	comp=Z,15μm,15.6s					
AML	**Almayashu**	**53.82 296**	P	**P**	**06 06 12.0 +2.5**	
	SNR=35					
PHET	**Kaeng Krachan**	**54.10 250**	P	**P**	**06 06 13.5 +2.2**	
	comp=Z,127μm,0.8s					
KKN	**Kakani**	**54.11 275**	*e*P	**P**	**06 06 12.6 +1.0**	
	comp=Z,988nm,1.1s					
PKI	**Pulchoki**	**54.15 274**	*e*P	**P**	**06 06 12.9 +0.9**	
	comp=Z,770nm,1.1s					
PKIN	**Phulchoki**	**54.16 274**	*e*P	**P**	**06 06 12.8 +0.8**	
	comp=Z,472nm,1.1s					
DMN	**Daman**	**54.34 275**	*e*P	**P**	**06 06 14.6 +1.3**	
	comp=Z,2μm,1.2s					
GKN	**Gorkha**	**54.43 275**	*e*P	**P**	**06 06 14.9 +1.1**	
	comp=Z,1μm,1.1s					
HSPB	**Hornsund (broa**	**54.63 349**	*e*P	**P**	**06 06 14.5 +0.1**	
HSPB			*e*S	**S**	**06 13 51.4 +0.8**	
HSPB			IVMs_BB	IVMs_BB	06 28 24.9	
	comp=Z,4μm,4.2s					
SBUM	**Sibu**	**54.66 230**	P	**P**	**06 06 16.4 +1.0**	
ARSB	**Arslanbob**	**54.70 295**	P	**P**	**06 06 15.8 +0.1**	
ARSB			IAmb	IAmb	06 06 21.1	
	comp=Z,185nm,1.3s					
PMG	**Port Moresby**	**54.74 185**	P	**P**	**06 06 17.4 +1.5**	
PMG					06 07 19.5	
PMG			pmax	pmax		
	comp=Z,47nm,1.1s					
PMG	**Port Moresby**	**54.74 185**	P	**P**	**06 06 17.4 +1.5**	
PMG			PcP	**PcP**	**06 07 19.5 +1.5**	
PMG	**Port Moresby**	**54.74 185**	IAMs_20	IAMs_20	06 25 01.0	
	comp=Z,4μm,22.0s					
DANN	**Dangsing**	**54.83 276**	*e*P	**P**	**06 06 18.4 +1.5**	
	comp=Z,2μm,1.0s					
ARU	**Arti**	**54.93 317**	*c i*P	**P**	**06 06 14.6 -2.3**	
ARU					06 07 17.9	
ARU			S	**S**	**06 13 50.5 -4.6**	
ARU			SS	**SS**	**06 17 35.4 -2.9**	
ARU			pmax	pmax		
	comp=Z,109nm,0.7s					
ARU			MLR	MLR		
	comp=Z,11μm,21.0s					
ARU	**Arti**	**54.93 317**	P	**P**	**06 06 14.9 -1.9**	
	comp=Z,42nm,0.6s,baz=53,slow=3.9,SNR=39					
ARU			PcP	**PcP**	**06 07 18.4 +0.1**	
	comp=Z,20nm,0.7s,baz=5.2,slow=5.2,SNR=5.3					
ARU			LR	LR	06 31 37.1	
	comp=Z,11μm,21.6s,baz=34,slow=38					
ARU	**Arti**	**54.93 317**	*e*P	**P**	**06 06 14.6 -2.3**	
ARU	**Arti**	**54.93 317**	P	**P**	**06 06 14.6 -2.3**	
ARU			IAmb	IAmb	06 06 19.3	
	comp=Z,114nm,0.7s					
ARU				**PcP**	**06 07 18.7 +0.4**	
ARU			IAMs_20	IAMs_20	06 31 34.2	
	comp=Z,10μm,20.0s					
HNR	**Honiara**	**55.26 169**	IAMs_20	IAMs_20	06 26 58.8	
	comp=Z,6μm,21.0s					
KK31	**Karatay Array**	**55.29 299**	*i* P	**P**	**06 06 18.5 -1.2**	
KK31			pmax	pmax		
	comp=Z,27nm,0.7s					
KK31	**Karatay Array**	**55.29 299**	P	**P**	**06 06 18.8 -1.0**	
KKAR	**Karatay Array**	**55.29 299**	P	**P**	**06 06 18.8 -0.9**	
KKAR			pmax	pmax		
	comp=Z,37nm,0.8s					
KKAR	**Karatay Array**	**55.29 299**	P	**P**	**06 06 18.9 -0.8**	
KKAR	**Karatay Array**	**55.29 299**	P	**P**	**06 06 18.8 -0.9**	
KKAR			IAmb	IAmb	06 06 22.0	
	comp=Z,37nm,0.8s					
KOLN	**Koldanda**	**55.30 276**	*e*P	**P**	**06 06 21.5 +1.3**	
	comp=Z,1μm,1.1s					
KDI	**Kendari**	**55.32 215**	P	**P**	**06 06 21.5 +1.4**	
PGC	**Sidney**	**55.40 53**	P	**P**	**06 06 20.5 +0.2**	
BKB	**Balikpapan**	**55.45 223**	P	**P**	**06 06 21.8 +0.7**	
BKB	**Balikpapan**	**55.45 223**	P	**P**	**06 06 21.7 +0.6**	
JBG	**Jabagly**	**55.64 298**	*c i*P	**P**	**06 06 23.3 +0.9**	
JBG			*e*S	**S**	**06 14 09.0 +3.7**	
JBG			pmax	pmax		
	comp=Z,77nm,1.6s					
JBG			MLR	MLR		
	comp=Z,4μm,17.0s					
TULEG	**Thule**	**55.65 10**	P	**P**	**06 06 20.5 -1.2**	
TULEG			IAMs_20	IAMs_20	06 31 17.8	
	comp=Z,5μm,21.0s					
A04D	**Lummi Island**	**55.78 53**	P	**P**	**06 06 23.8 +0.7**	
	baz=302,SNR=8.3					
NLWA	**Neilton Lookou**	**55.83 55**	P	**P**	**06 06 23.0 -0.4**	
NLWA			IAmb	IAmb	06 06 37.6	
	comp=Z,76nm,1.0s					
SAUI	**Saumlaki**	**56.08 204**	P	**P**	**06 06 27.6 +2.1**	
SAUI	**Saumlaki**	**56.08 204**	P	**P**	**06 06 28.3 +2.8**	
IUG	**Iuzhnay**	**56.11 298**	*e*P	**P**	**06 06 24.6 -1.1**	
IUG			*e*LR	LR	06 30 41.0	
IUG	**Iuzhnay**	**56.11 298**	*e*P	**P**	**06 06 24.6 -1.1**	
BOK	**Bokaro**	**56.17 271⇑**	*i*P	**P**	**06 06 26.5 +0.3**	
BOK			IAmb	IAmb	06 06 29.9	
	comp=Z,115nm,1.1s					
D03D	**Eldon**	**56.20 54**	P	**P**	**06 06 27.1 +1.0**	
	baz=303,SNR=19					
B05A	**Bryant**	**56.37 53**	P	**P**	**06 06 27.8 +0.5**	
	baz=303,SNR=19					
E03A	**Lebam**	**56.46 56**	P	**P**	**06 06 28.9 +1.0**	
E03A			IAmb	IAmb	06 07 27.5	
	comp=Z,70nm,1.0s					

TAS	**Tashkent**	**57.03**	**297**	P	**P**	**06 06 32.6**	**+0.5**
TAS				pmax	pmax		
	comp=Z,194nm,1.1s						
TAS				MLR	MLR		
	comp=Z,18μm,19.0s						
TAS	**Tashkent**	**57.03**	**297**	P	**P**	**06 06 32.6**	**+0.5**
TAS				IAmb	IAmb	06 07 28.9	
	comp=Z,194nm,1.1s						
F04D	**Rainier, OR**	**57.03**	**56**	P	**P**	**06 06 32.7**	**+0.7**
	baz=303						
STKI	**Sintang**	**57.06**	**229**	P	**P**	**06 06 34.1**	**+1.5**
	comp=Z,146nm,1.1s						
C06D	**Leavenworth**	**57.23**	**53**	P	**P**	**06 06 34.0**	**+0.5**
	baz=304,SNR=6.3						
LVZ	**Lovozero**	**57.33**	**336⇑**	*i*P	**P**	**06 06 34.3**	**+0.5**
LVZ				pmax	pmax		
	comp=Z,40nm,0.9s						
LVZ				MLR	MLR		
	comp=Z,5μm,18.0s						
LVZ	**Lovozero**	**57.33**	**336**	P	**P**	**06 06 34.0**	**+0.2**
LVZ					**PcP**	**06 07 28.0**	**+0.5**
LVZ				IAmb	IAmb	06 07 29.9	
	comp=Z,146nm,1.5s						
LVZ				IAMs_20	IAMs_20	06 33 04.3	
	comp=Z,8μm,22.0s						
LON	**Longmire**	**57.36**	**55**	P	**P**	**06 06 33.7**	**-0.7**
LON				pmax	pmax		
	comp=Z,27nm,1.1s						
LON	**Longmire**	**57.36**	**55**	P	**P**	**06 06 33.6**	**-0.7**
G03D	**McMinnville, O**	**57.36**	**57**	P	**P**	**06 06 35.5**	**+1.1**
	baz=304						
F04A	**Amboy**	**57.46**	**56**	P	**P**	**06 06 35.9**	**+0.8**
KAPI	**Kappang**	**57.47**	**218**	P	**P**	**06 06 36.3**	**+0.9**
	SNR=17						
KAPI				P	**P**	**06 06 36.3**	**+0.9**
	SNR=17						
KAPI				S	**S**	**06 14 36.9**	**+7.2**
KAPI				S	**S**	**06 14 36.9**	**+7.2**
KAPI	**Kappang**	**57.47**	**218**	P	**P**	**06 06 36.1**	**+0.7**
KAPI	**Kappang**	**57.47**	**218**	P	**P**	**06 06 36.1**	**+0.7**
KAPI				IAmb	IAmb	06 06 37.6	
	comp=Z,127nm,1.2s						
SURT	**Suratani**	**57.57**	**248**	P	**P**	**06 06 38.4**	**+2.2**
	comp=Z,69nm,1.4s,comp=Z,2μm						
KBKI	**Kotabaru**	**57.58**	**222**	P	**P**	**06 06 36.3**	**+0.1**
BKSI	**Bulukumba**	**57.59**	**217**	P	**P**	**06 06 36.4**	**+0.2**
DDI	**Dehra Dun**	**57.60**	**282⇑**	*i*P	**P**	**06 06 37.6**	**+1.2**
PRGR	**Permogore**	**57.62**	**327**	*e*P	**P**	**06 06 33.1**	**-2.8**
PRGR				*e**PP	**pP**	**06 06 45.6**	**-2.3**
PRGR				pmax	pmax		
	comp=Z,124nm,0.9s						
I02D	**Swisshome**	**57.63**	**58**	P	**P**	**06 06 37.7**	**+1.5**
	baz=304,SNR=7.4						
DHRM	**DHARAMSHALA**	**57.65**	**285⇑**	*i*P	**P**	**06 06 37.2**	**+0.3**
DHRM				IAmb	IAmb	06 06 46.9	
	comp=Z,653nm,1.0s						
COR	**Corvallis**	**57.69**	**57**	P	**P**	**06 06 38.4**	**+1.8**
COR				pmax	pmax		
	comp=Z,125nm,1.0s						
COR	**Corvallis**	**57.69**	**57**	P	**P**	**06 06 38.4**	**+1.8**
COR				IAmb	IAmb	06 06 50.1	
	comp=Z,125nm,0.9s						
GAR	**Garm**	**57.69**	**295**	P	**P**	**06 06 36.7**	**-0.2**
LTY	**Liberty**	**57.73**	**54**	P	**P**	**06 06 37.3**	**+0.3**
LTY				IAMs_20	IAMs_20	06 27 13.7	
	comp=Z,4μm,22.0s						
SMLA	**Simla**	**57.73**	**283⇑**	*i*P	**P**	**06 06 37.8**	**+0.7**
SMLA				*e*S	S	06 14 20.3	-12
SKLT	**Songkhla**	**57.75**	**245**	P	**P**	**06 06 39.3**	**+1.9**
	comp=Z,62nm,1.3s,comp=Z,1μm						
TRTT	**Trang**	**57.84**	**246**	P	**P**	**06 06 39.8**	**+1.7**
	comp=Z,63nm,1.2s,comp=Z,2μm						
DAG	**Danmarks Havn**	**57.84**	**357⇑**	*i*P	**P**	**06 06 36.3**	**-1.0**
DAG				*i*		06 07 28.7	
DAG				pmax	pmax		
	comp=Z,42nm,0.8s						
DAG	**Danmarks Havn**	**57.84**	**357⇑**	*i*P	**P**	**06 06 36.3**	**-1.0**
	comp=Z,56nm,0.8s						
DAG				*i*		06 07 28.7	
B08A	**Colville Reser**	**57.86**	**52**	P	**P**	**06 06 38.2**	**+0.3**
KIRV	**Kirov**	**57.88**	**323**	P	**P**	**06 06 37.5**	**-0.3**
	comp=Z,42nm,0.5s,baz=80,slow=1.3,SNR=9.2						
				PcP	**PcP**	**06 07 30.0**	**+0.3**
KIRV							
	comp=Z,104nm,0.7s,baz=76,slow=2.3,SNR=11						
				LR	LR	06 34 10.5	
KIRV							
	comp=Z,22μm,18.5s,baz=53,slow=39						
APA	**Apatity**	**57.90**	**336⇑**	*i*P	**P**	**06 06 37.7**	**-0.1**
APA				pmax	pmax		
	comp=Z,26nm,0.9s						
APA				MLR	MLR		
	comp=Z,8μm,17.0s						
KEBM	**Edson Butte**	**58.03**	**60**	P	**P**	**06 06 40.9**	**+1.7**
KEBM				IAmb	IAmb	06 06 53.2	
	comp=Z,125nm,1.1s						
KEV	**Kevo**	**58.03**	**340**	IAMs_20	IAMs_20	06 34 39.8	
	comp=Z,8μm,20.0s						
F05D	**White Salmon**	**58.04**	**55**	P	**P**	**06 06 40.0**	**+0.9**
	baz=304,SNR=10.0						
H04D	**Lebanon**	**58.05**	**57**	P	**P**	**06 06 40.7**	**+1.4**
	baz=304,SNR=11						
AB31	**Akbulak array**	**58.08**	**309**	*i*P	**P**	**06 06 37.9**	**-1.5**
AB31				pmax	pmax		
	comp=Z,75nm,0.7s						
ABKAR	**Akbulak array**	**58.08**	**309**	P	**P**	**06 06 38.2**	**-1.2**
ABKAR	**Akbulak array**	**58.08**	**309**	P	**P**	**06 06 38.1**	**-1.2**
ABKAR				IAmb	IAmb	06 06 42.1	
	comp=Z,80nm,0.7s						
J01E	**Myrtle Point**	**58.11**	**59**	P	**P**	**06 06 41.0**	**+1.4**
	baz=305,SNR=6.7						
HAMF	**Hammerfest**	**58.13**	**342**	*e*P	**P**	**06 06 39.3**	**-0.1**
HAMF				*e*S	**S**	**06 14 39.1**	**+2.0**
HAMF				*e*SS	**SS**	**06 18 34.1**	**+6.0**
HAMF				IVMs_BB	IVMs_BB	07 09 38.3	
	comp=Z,4μm,5.2s						
I03D	**Drain, OR**	**58.16**	**58**	P	**P**	**06 06 41.6**	**+1.7**
	baz=305						
JMU	**Jammu**	**58.32**	**286**	*e*P	**P**	**06 06 38.5**	**-2.8**
KNTN	**Kanton**	**58.35**	**135**	IAMs_20	IAMs_20	06 26 07.8	
	comp=Z,6μm,22.0s						
AKTO	**Aktyubinsk**	**58.45**	**311**	P	**P**	**06 06 40.6**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,29nm,0.7s						
AKTO	**Aktyubinsk**	**58.45**	**311**	P	**P**	**06 06 40.2**	**-1.7**
	comp=Z,28nm,0.6s,baz=72,slow=5.9,SNR=51						
				PcP	**PcP**	**06 07 32.4**	**+0.2**
AKTO							
	comp=Z,41nm,0.9s,baz=102,slow=4.5,SNR=8.4						
				LR	LR	06 34 06.6	
AKTO							
	comp=Z,24μm,18.9s,baz=51,slow=38						
G05D	**Wamic, OR**	**58.48**	**56**	P	**P**	**06 06 43.6**	**+1.3**
	baz=305,SNR=27						
BWNR	**Bhubaneshwar**	**58.50**	**267⇑**	*i*P	**P**	**06 06 43.4**	**+0.7**
BWNR				*e*S	**S**	**06 14 39.5**	**-3.7**
K02D	**Willamette Mer**	**58.53**	**59**	P	**P**	**06 06 43.9**	**+1.1**
	baz=305,SNR=13						
ARCES	**ARCESS Array B**	**58.55**	**340**	P	**P**	**06 06 41.4**	**-0.9**
ARCES						06 07 32.6	
ARCES	**ARCESS Array B**	**58.55**	**340**	P	**P**	**06 06 41.9**	**-0.5**
	comp=Z,7.4nm,0.7s,baz=36,slow=6.9,SNR=15						
				PcP	**PcP**	**06 07 32.9**	**+0.6**
ARCES							
	comp=Z,68nm,0.9s,baz=36,slow=4.8,SNR=12						
				LR	LR	06 36 59.6	
ARCES							
	comp=Z,6μm,18.6s,baz=36,slow=41						
ARCES	**ARCESS Array B**	**58.55**	**340**	P	**P**	**06 06 41.4**	**-0.9**
ARCES					**PcP**	**06 07 32.6**	**+0.3**
ARE0	**ARCESS Array S**	**58.55**	**340**	*e*P	**P**	**06 06 42.7**	**+0.4**
ARE0				*e*S	**S**	**06 14 43.8**	**+1.2**
ARE0				*e*ScS	**ScS**	**06 16 29.8**	**+1.8**
ARE0				IVMs_BB	IVMs_BB	06 28 59.9	
	comp=Z,4μm,4.3s						
ARE0	**ARCESS Array S**	**58.55**	**340**	P	**P**	**06 06 40.7**	**-1.7**
ARE0					**PcP**	**06 07 32.7**	**+0.5**
E07A	**Sunnyside**	**58.58**	**54**	IAMs_20	IAMs_20	06 27 16.3	
	comp=Z,4μm,22.0s						
CHGR	**Chuyangaron**	**58.62**	**295**	P	**P**	**06 06 42.6**	**-0.9**
PKDT	**Phuket**	**58.67**	**247**	P	**P**	**06 06 46.2**	**+2.3**
	comp=Z,110nm,1.2s,comp=Z,5μm						
KULLO	**Kullorsuaq**	**58.74**	**8⇑**	*i*P	**P**	**06 06 42.4**	**-1.2**
KULLO				pmax	pmax		
	comp=Z,340nm,0.9s						
KULLO	**Kullorsuaq**	**58.74**	**8⇑**	*i*P	**P**	**06 06 42.4**	**-1.2**
	comp=Z,345nm,0.9s						
TMCR	**Tamitsa**	**58.75**	**332**	*e*P	**P**	**06 06 42.0**	**-1.8**
TMCR				pmax	pmax		
	comp=Z,107nm,0.6s						
C09A	**Chrisman Ranch**	**58.76**	**52**	P	**P**	**06 06 44.4**	**+0.2**
C09A				IAmb	IAmb	06 06 45.7	
	comp=Z,85nm,1.4s						
HAWA	**Hanford**	**58.86**	**54**	P	**P**	**06 06 44.8**	**0.0**
HAWA				IAMs_20	IAMs_20	06 27 26.6	
	comp=Z,4μm,21.0s						
L02E	**Cave Junction**	**58.88**	**60**	P	**P**	**06 06 46.4**	**+1.3**
	baz=305,SNR=9.5						
NIL	**Nilore**	**58.88**	**288**	P	**P**	**06 06 46.5**	**+1.3**
NIL				pmax	pmax		
	comp=Z,735nm,0.9s						
NIL				MLR	MLR		
	comp=Z,5μm,20.0s						
NIL	**Nilore**	**58.88**	**288**	P	**P**	**06 06 46.5**	**+1.3**
NIL	**Nilore**	**58.88**	**288**	IAMs_20	IAMs_20	06 35 23.9	
	comp=Z,5μm,20.0s						
F07A	**Phinny Hill Vi**	**58.92**	**55**	P	**P**	**06 06 45.3**	**0.0**
F07A				IAmb	IAmb	06 06 59.4	
	comp=Z,88nm,0.9s						
I05D	**Terrebonne, OR**	**58.98**	**57**	P	**P**	**06 06 46.9**	**+1.1**
	baz=305,SNR=13						
HUMO	**Hull Mountain**	**59.01**	**59**	P	**P**	**06 06 46.8**	**+0.8**
KRMB	**Red Mountain**	**59.05**	**61**	P	**P**	**06 06 46.7**	**+0.2**
KRMB				IAmb	IAmb	06 06 59.6	
	comp=Z,88nm,1.5s						
E08A	**Dider Farm, El**	**59.07**	**54**	P	**P**	**06 06 46.9**	**+0.6**
NEW	**Newport**	**59.13**	**51**	P	**P**	**06 06 47.1**	**+0.4**
	baz=305,SNR=28						
NEW	**Newport**	**59.13**	**51**	P	**P**	**06 06 46.9**	**+0.1**
NEW				pmax	pmax		
	comp=Z,32nm,0.9s						
NEW	**Newport**	**59.13**	**51**	P	**P**	**06 06 46.9**	**+0.1**
J04D	**Unnpqua Nationa**	**59.16**	**58**	P	**P**	**06 06 48.4**	**+1.2**
	baz=305,SNR=21						
KULM	**Kulim**	**59.17**	**243**	P	**P**	**06 06 49.1**	**+1.7**
KULM				IAmb	IAmb	06 06 50.3	
	comp=Z,112nm,1.0s						
KULM				IAMs_20	IAMs_20	06 31 29.9	
	comp=Z,4μm,22.0s						
NDI	**New Delhi**	**59.18**	**281**	*e*P	**P**	**06 06 46.8**	**-0.5**
NDI				*e*P	**P**	**06 06 46.8**	**-0.5**
NDI				*e*S	**S**	**06 14 51.5**	**-0.3**
NDI				*e*S	**S**	**06 14 51.5**	**-0.3**
PBKI	**Pangkalan Bun**	**59.30**	**227**	P	**P**	**06 06 49.6**	**+1.4**
JCC	**Jacoby Creek,**	**59.39**	**61**	P	**P**	**06 06 49.9**	**+1.4**
JCC				IAmb	IAmb	06 07 02.7	
	comp=Z,109nm,1.2s						
KTK1	**Kautokeino**	**59.48**	**341**	*e*P	**P**	**06 06 49.0**	**+0.3**
PINE	**Pine Mountain**	**59.53**	**57**	P	**P**	**06 06 50.0**	**+0.2**
PINE				IAmb	IAmb	06 07 03.0	
	comp=Z,74nm,0.9s						
KHMM	**Horse Mountain**	**59.54**	**61**	P	**P**	**06 06 49.9**	**+0.1**
KHMM				IAmb	IAmb	06 07 05.0	
	comp=Z,104nm,1.1s						
IPM	**Ipoh**	**59.56**	**242**	P	**P**	**06 06 51.0**	**+0.9**
IPM				IAmb	IAmb	06 06 51.7	
	comp=Z,53nm,1.0s						
COEN	**Coen**	**59.58**	**189**	P	**P**	**06 06 51.1**	**+1.1**
L04D	**Klamath Falls**	**59.63**	**59**	P	**P**	**06 06 51.4**	**+1.0**
	baz=306,SNR=35						
J05D	**Fort Rock, OR**	**59.65**	**58**	P	**P**	**06 06 52.0**	**+1.4**
	baz=306,SNR=35						
YBH	**Yreka Blue Hor**	**59.67**	**60**	P	**P**	**06 06 50.5**	**-0.1**
YBH				pmax	pmax		
	comp=Z,60nm,1.3s						
YBH	**Yreka Blue Hor**	**59.67**	**60**	P	**P**	**06 06 50.5**	**-0.1**
K04D	**Chiloquin, OR**	**59.73**	**59**	P	**P**	**06 06 52.0**	**+0.9**
	baz=306						
M02C	**Callahan**	**59.78**	**60**	P	**P**	**06 06 53.0**	**+1.6**
	baz=306,SNR=18						
G08A	**Pilot Rock**	**59.82**	**55**	P	**P**	**06 06 52.2**	**+0.5**
KMRM	**Mail Ridge**	**59.93**	**62**	P	**P**	**06 06 54.2**	**+1.7**
TRO	**Tromso**	**59.95**	**343**	*e*P	**P**	**06 06 50.9**	**-1.0**
TRO				*e*S	**S**	**06 15 03.5**	**+3.0**
TRO				IVMs_BB	IVMs_BB	06 42 13.8	
	comp=Z,7μm,4.2s						
MYKOM	**Kota Tinggi**	**59.96**	**238**	P	**P**	**06 06 54.8**	**+2.0**
MYKOM				IAmb	IAmb	06 06 56.2	
	comp=Z,160nm,1.2s						
SOEI	**Soe**	**60.01**	**211**	P	**P**	**06 06 52.6**	**-0.5**
SOEI	**Soe**	**60.01**	**211**	P	**P**	**06 06 51.9**	**-1.2**
SOEI				IAmb	IAmb	06 07 41.0	
	comp=Z,128nm,1.1s						
N02D	**Trinity Center**	**60.11**	**61**	P	**P**	**06 06 55.1**	**+1.4**
	baz=306,SNR=25						
M04C	**Macdoel**	**60.17**	**59**	P	**P**	**06 06 55.3**	**+1.2**
	baz=306,SNR=28						
TPRI	**Tanjung Pinang**	**60.26**	**237**	P	**P**	**06 06 55.4**	**+0.6**
KCPM	**Cahto Peak**	**60.33**	**62**	P	**P**	**06 06 56.7**	**+1.5**
KCPM				IAmb	IAmb	06 07 10.0	
	comp=Z,68nm,1.0s						
F10A	**Beach Ranch, E**	**60.41**	**53**	P	**P**	**06 06 56.3**	**+0.7**
KLMR	**Klimovskoe**	**60.41**	**328**	*e*P	**P**	**06 06 52.5**	**-2.7**
KLMR				pmax	pmax		
	comp=Z,84nm,1.5s						
KLMR	**Klimovskoe**	**60.41**	**328**	*e*P	**P**	**06 06 52.6**	**-2.7**
KLMR				AMP		06 07 10.0	
	comp=Z,84nm,1.5s						
WDC	**Whiskeytown Da**	**60.45**	**61**	P	**P**	**06 06 56.0**	**+0.2**
WDC				pmax	pmax		
	comp=Z,95nm,1.2s						
WDC	**Whiskeytown Da**	**60.45**	**61**	P	**P**	**06 06 56.0**	**+0.2**
WDC				IAmb	IAmb	06 07 11.1	
	comp=Z,95nm,1.2s						
O02D	**Mt. Diablo Mer**	**60.53**	**61**	P	**P**	**06 06 57.8**	**+1.3**
	baz=306,SNR=27						
BATI	**Baumata**	**60.64**	**211**	P	**P**	**06 06 59.2**	**+1.8**
MTN	**Manton Dam**	**60.76**	**202**	P	**P**	**06 06 58.7**	**+0.6**
JTMT	**Jette**	**60.98**	**50**	P	**P**	**06 07 00.3**	**+0.8**
MOD	**Modoc Plateau**	**61.02**	**59**	P	**P**	**06 07 00.3**	**+0.3**
BMO	**Blue Mountains**	**61.02**	**54**	P	**P**	**06 06 59.3**	**-0.5**
BMO				pmax	pmax		
	comp=Z,29nm,0.9s						
BMO	**Blue Mountains**	**61.02**	**54**	P	**P**	**06 06 59.3**	**-0.5**
HOPS	**Hopland Field**	**61.06**	**63**	P	**P**	**06 07 00.7**	**+0.7**
HOPS				IAmb	IAmb	06 07 12.6	
	comp=Z,72nm,1.2s						
O03E	**Paynes Creek**	**61.07**	**61**	P	**P**	**06 07 00.5**	**+0.4**
	baz=307,SNR=59						
KBL	**Kabul**	**61.13**	**291**	P	**P**	**06 07 00.3**	**-0.6**
KBL				P	**P**	**06 07 00.3**	**-0.6**
KBL				P	**P**	**06 07 00.3**	**-0.6**
KBL				S	**S**	**06 15 13.4**	**-3.9**
KBL				S	**S**	**06 15 13.4**	**-3.9**
KBL				S	**S**	**06 15 13.4**	**-3.9**
KBL	**Kabul**	**61.13**	**291**	P	**P**	**06 07 00.5**	**-0.4**
KBL				pmax	pmax		
	comp=Z,271nm,0.8s						
KBL				MLR	MLR		
	comp=Z,13μm,20.0s						
KBL	**Kabul**	**61.13**	**291**	P	**P**	**06 07 00.5**	**-0.4**
GDXM	**Geysers**	**61.34**	**63**	P	**P**	**06 07 03.0**	**+1.0**
GDXM				IAmb	IAmb	06 07 15.1	
	comp=Z,65nm,1.2s						
DSRI	**Dabo**	**61.36**	**236**	P	**P**	**06 07 04.1**	**+1.8**
WSI	**Waingapu**	**61.44**	**215**	P	**P**	**06 07 04.0**	**+1.2**
TPI	**Tanjungpandan**	**61.49**	**231**	P	**P**	**06 07 04.1**	**+1.0**
BWJI	**Bawean**	**61.49**	**225**	P	**P**	**06 07 04.6**	**+1.4**
LHMI	**Lhok Sumawe**	**61.58**	**246**	IAMs_20	IAMs_20	06 33 02.5	
	comp=Z,4μm,22.0s						
PLID	**Pearl Lake**	**61.63**	**54**	P	**P**	**06 07 04.4**	**+0.3**
PLID				IAmb	IAmb	06 07 05.7	
	comp=Z,70nm,1.1s						
MCCM	**Marconi Confer**	**61.69**	**63**	P	**P**	**06 07 04.4**	**+0.2**
ORV	**Oroville**	**61.70**	**61**	P	**P**	**06 07 04.4**	**+0.1**
ORV				pmax	pmax		
	comp=Z,52nm,1.3s						
ORV	**Oroville**	**61.70**	**61**	P	**P**	**06 07 04.4**	**+0.1**
WVOR	**Wild Horse Val**	**61.70**	**57**	P	**P**	**06 07 05.3**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,60nm,1.0s						
WVOR	**Wild Horse Val**	**61.70**	**57**	P	**P**	**06 07 05.3**	**+0.8**
WVOR				IAmb	IAmb	06 07 19.9	
	comp=Z,60nm,0.9s						
MSO	**Missoula**	**61.72**	**51**	P	**P**	**06 07 05.0**	**+0.5**
	baz=308,SNR=30						
MSO	**Missoula**	**61.72**	**51**	P	**P**	**06 07 04.2**	**-0.4**
MSO				IAmb	IAmb	06 07 06.3	
	comp=Z,111nm,1.2s						
WBSI	**Waikabubak, Su**	**61.79**	**216**	P	**P**	**06 07 03.2**	**-1.9**
PPBI	**Pangkal Pinang**	**61.84**	**233**	P	**P**	**06 07 07.1**	**+1.6**
TWSI	**Taliwang, Sumb**	**62.05**	**219**	P	**P**	**06 07 05.5**	**-1.4**
SUMG	**Summit**	**62.06**	**3⇑**	*i*P	**P**	**06 07 06.9**	**+0.2**
SUMG	**Summit**	**62.06**	**3⇑**	*i*P	**P**	**06 07 06.9**	**+0.2**
	comp=Z,2μm,0.9s						
SUMG	**Summit**	**62.06**	**3**	P	**P**	**06 07 06.9**	**+0.2**
SUMG				IAMs_20	IAMs_20	06 35 39.2	
	comp=Z,7μm,20.0s						
STEI	**Steigen**	**62.12**	**343**	*e*P	**P**	**06 07 05.5**	**-1.1**
PSI	**Prapat**	**62.18**	**243**	P	**P**	**06 07 08.7**	**+0.7**
PSI				pmax	pmax		
	comp=Z,62nm,1.0s						
BEKR	**Beckworth**	**62.21**	**60**	P	**P**	**06 07 08.3**	**+0.3**
BEKR				IAmb	IAmb	06 07 20.3	
	comp=Z,70nm,1.1s						
RPSI	**Rantau Prapat**	**62.26**	**243**	P	**P**	**06 07 08.7**	**+0.3**
RPSI				IAmb	IAmb	06 07 49.7	
	comp=Z,62nm,1.0s						
LOF	**Lofoten**	**62.30**	**343**	IVmBBB		06 07 06.2	
	comp=Z,4μm,4.9s						
LOF				*e*P	**P**	**06 07 06.9**	**-1.0**
LOF				*e*S	**S**	**06 15 31.2**	**+0.7**
LOF				*e*ScS	**ScS**	**06 16 57.5**	**+1.7**
AJM	**Ajmer**	**62.34**	**280**	*e*P	**P**	**06 07 09.0**	**+0.2**
AFDM	**Forest Hills D**	**62.39**	**62**	P	**P**	**06 07 09.4**	**+0.4**
AFDM				IAmb	IAmb	06 07 23.8	
	comp=Z,64nm,1.2s						
BHPL	**Bhopal**	**62.47**	**276⇑**	*i*P	**P**	**06 07 09.4**	**-0.4**
BHPL				IAmb	IAmb	06 07 11.1	
	comp=Z,146nm,0.8s						
BHPL				*e*S	**S**	**06 15 31.9**	**-2.1**
BHPL				IAMs_20	IAMs_20	06 34 52.4	
	comp=Z,8μm,20.3s						
XMAS	**Kiritimati**	**62.49**	**118**	IAMs_20	IAMs_20	06 28 25.0	
	comp=Z,8μm,22.0s						
MLSI	**Meulaboh, Aceh**	**62.66**	**246**	P	**P**	**06 07 10.1**	**-0.9**
FFC	**Flin Flon**	**62.67**	**39**	P	**P**	**06 07 10.2**	**-0.4**
FFC				pmax	pmax		
	comp=Z,165nm,1.1s						
FFC	**Flin Flon**	**62.67**	**39**	P	**P**	**06 07 10.2**	**-0.4**
NGP	**Nagpur**	**62.69**	**273**	*e*S	**S**	**06 15 28.9**	**-7.8**
MFID	**Camas Ranch**	**62.74**	**55**	P	**P**	**06 07 12.0**	**+0.5**
BKNI	**Bangkinang**	**62.81**	**239**	P	**P**	**06 07 13.2**	**+1.2**
BKNI	**Bangkinang**	**62.81**	**239**	P	**P**	**06 07 14.1**	**+2.1**
PAHR	**Pah Rah Range**	**62.90**	**60**	P	**P**	**06 07 13.1**	**+0.5**
PAHR				IAmb	IAmb	06 07 27.4	
	comp=Z,75nm,1.2s						
TPTI		**62.93**	**245**	P	**P**	**06 07 13.5**	**+0.7**
HRY	**Holter Researc**	**62.94**	**50**	P	**P**	**06 07 13.5**	**+0.8**
VCNR	**Virginia City**	**62.99**	**61**	P	**P**	**06 07 14.2**	**+0.9**
VCNR				IAmb	IAmb	06 07 27.8	
	comp=Z,50nm,0.9s						
FCC	**Fort Churchill**	**63.13**	**32**	P	**P**	**06 07 13.5**	**0.0**
FCC				pmax	pmax		
	comp=Z,105nm,0.8s						
FCC				MLR	MLR		
	comp=Z,4μm,20.0s						
FCC	**Fort Churchill**	**63.13**	**32**	P	**P**	**06 07 13.6**	**0.0**
FCC				IAmb	IAmb	06 07 14.0	
	comp=Z,105nm,0.8s						
FCC				IAMs_20	IAMs_20	06 36 39.9	
	comp=Z,4μm,20.0s						
PNTR	**Pine Nut**	**63.15**	**61**	P	**P**	**06 07 13.7**	**-0.7**
PNTR				IAmb	IAmb	06 07 31.4	
	comp=Z,51nm,0.9s						
LRM	**Limekiln Ridge**	**63.15**	**51**	P	**P**	**06 07 14.8**	**+0.6**
GMJI	**Gumukmas**	**63.21**	**222**	P	**P**	**06 07 13.7**	**-0.9**
EGMT	**Eagleton**	**63.22**	**48**	P	**P**	**06 07 15.0**	**+0.5**
	baz=309,SNR=39						
EGMT	**Eagleton**	**63.22**	**48**	P	**P**	**06 07 14.8**	**+0.4**
EGMT				IAmb	IAmb	06 07 16.1	
	comp=Z,136nm,1.1s						
EGMT				IAMs_20	IAMs_20	06 37 30.2	
	comp=Z,3μm,21.0s						
CMB	**Columbia Colle**	**63.31**	**62**	P	**P**	**06 07 15.4**	**+0.2**
CMB				pmax	pmax		
	comp=Z,74nm,1.4s						
CMB	**Columbia Colle**	**63.31**	**62**	P	**P**	**06 07 15.4**	**+0.2**
CMB				IAmb	IAmb	06 07 54.9	
	comp=Z,74nm,1.4s						
DLMT	**Dillon**	**63.36**	**52**	P	**P**	**06 07 15.9**	**+0.4**
NGJI	**Ngawi**	**63.39**	**225**	P	**P**	**06 07 17.0**	**+1.2**
SAO	**San Andreas Ge**	**63.43**	**64**	P	**P**	**06 07 16.2**	**+0.3**
SAO				pmax	pmax		
	comp=Z,27nm,1.0s						
SAO	**San Andreas Ge**	**63.43**	**64**	P	**P**	**06 07 16.2**	**+0.3**
YERR	**Yerington**	**63.43**	**61**	P	**P**	**06 07 16.8**	**+0.6**
YERR				IAmb	IAmb	06 07 29.5	
	comp=Z,129nm,1.3s						
MCMT	**McKenzie Canyo**	**63.55**	**52**	P	**P**	**06 07 17.0**	**0.0**
SDSI	**Sungai Dareh**	**63.58**	**238**	P	**P**	**06 07 18.0**	**+0.9**
WAKR	**Walker**	**63.61**	**61**	P	**P**	**06 07 18.4**	**+1.0**
SMRI	**Semarang**	**63.63**	**226**	P	**P**	**06 07 18.0**	**+0.6**
SMRI	**Semarang**	**63.63**	**226**	P	**P**	**06 07 18.6**	**+1.2**
BOZ	**Bozeman (W)**	**63.74**	**51**	P	**P**	**06 07 18.9**	**+0.8**
	baz=309,SNR=51						
BOZ	**Bozeman (W)**	**63.74**	**51**	P	**P**	**06 07 18.7**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,37nm,0.8s						
BOZ				MLR	MLR		
	comp=Z,2μm,18.0s						
BOZ	**Bozeman (W)**	**63.74**	**51**	P	**P**	**06 07 18.7**	**+0.6**
BMN	**Battle Mountai**	**63.76**	**58**	P	**P**	**06 07 19.0**	**+0.7**
BMN				MLR	MLR		
	comp=Z,2μm,20.0s						
**BMN

MOS e 06 07 35.1
MOS pmax pmax
comp=Z,76nm,1.3s
MOS MLR MLR
comp=Z,4μm,17.0s
LHSI Lahat 64.68 234 P P 06 07 24.6 +0.3
YHH Holmes Hill 64.68 51 P P 06 07 25.0 +0.6
GCMT Greycliff 64.68 50 P P 06 07 25.0 +0.8
YMR Madison River 64.69 51 P P 06 07 25.3 +0.9
KLSI 64.70 233 P P 06 07 24.6 +0.1
ELK Elko 64.74 57 P P 06 07 25.3 +0.5
ELK pmax pmax
comp=Z,21nm,1.1s
ELK Elko 64.74 57 P P 06 07 25.3 +0.5
YNR Norris Junctio 64.82 51 P P 06 07 26.7 +1.4
PAGB Antelope Grade 64.83 64 P P 06 07 25.9 +0.8
PAGB IAmb IAmb 06 08 00.1
comp=Z,69nm,1.0s
MASI Maura Aman, Be 64.87 236 P P 06 07 26.9 +1.3
LEM Lembang 64.91 229 P P 06 07 27.0 +1.0
YUF Upper Falls 64.92 51 P P 06 07 26.9 +1.0
YNE Yellowstone No 65.00 51 P P 06 07 27.1 +0.6
VOG Valley Oaks Go 65.00 63 P P 06 07 26.5 +0.2
baz=309
YPP Pitchstone Pla 65.04 52 P P 06 07 28.1 +1.4
LKWY Lake 65.07 51 P P 06 07 29.0 +2.1
LKWY pmax pmax
comp=Z,37nm,1.0s
LKWY Lake 65.07 51 P P 06 07 29.0 +2.1
H17A Grant Village 65.08 51 P P 06 07 29.2 +2.2
baz=310,SNR=41
H17A Grant Village 65.08 51 P P 06 07 29.2 +2.2
H17A IAmb IAmb 06 07 30.6
comp=Z,75nm,1.1s
YMP Mirror Lake Pl 65.09 51 P P 06 07 28.2 +1.1
IMW Indian Meadow 65.20 52 P P 06 07 29.0 +1.2
FLWY Flagg Ranch 65.22 52 P P 06 07 29.2 +1.4
SMMC Simmler 65.25 64 P P 06 07 28.8 +0.8
baz=310
TIN Tinemaha, Big 65.26 62 P P 06 07 28.9 +0.8
baz=310,SNR=11
SISI Saibi 65.30 240 P P 06 07 29.1 +0.7
FXWY Fox Creek 65.32 52 P P 06 07 29.7 +1.2
RLMT Red Lodge 65.33 50 P P 06 07 29.4 +0.9
baz=310,SNR=37
RLMT Red Lodge 65.33 50 P P 06 07 29.1 +0.5
RLMT IAmb IAmb 06 07 30.8
comp=Z,82nm,1.2s
CTA Charters Tower 65.40 185 P P 06 07 29.1 +0.3
CTA pmax pmax
comp=Z,27nm,1.1s
MOOW Moose Ponds 65.41 52 P P 06 07 30.0 +0.9
CISI Cisompet, Garu 65.42 228 P P 06 07 28.3 -0.9
CISI IAmb IAmb 06 07 41.3
comp=Z,145nm,1.5s
TPAW Teton Pass 65.46 52 P P 06 07 30.6 +1.2
TPAW IAmb IAmb 06 07 32.1
comp=Z,129nm,1.2s
VES Vestal, Richgr 65.50 63 P P 06 07 29.2 -0.3
baz=310,SNR=13
OBN Obninsk 65.50 325⇓ iP P 06 07 27.6 -1.5
OBN e 06 08 00.0
OBN e 06 10 00.6
OBN eS S **06 16 12.0 +1.6**
OBN pmax pmax
comp=Z,103nm,1.0s
OBN MLR MLR
comp=Z,5μm,17.0s
OBN Obninsk 65.50 325 P P 06 07 27.8 -1.2
comp=Z,7.6nm,0.4s,baz=49,slow=4.2,SNR=9.6
OBN LR LR 06 38 16.4
comp=Z,1μm,18.7s,baz=38,slow=38
OBN Obninsk 65.50 325 eP P 06 07 27.7 -1.4
OBN Obninsk 65.50 325 P P 06 07 28.8 -0.3
OBN IAmb IAmb 06 07 31.6
comp=Z,90nm,1.0s
OBN IAMs_20 IAMs_20 06 38 04.0
comp=Z,6μm,19.0s
HYB Hyderabad 65.52 270 i P **P 06 07 29.0 -0.9**
comp=Z,220nm,1.0s
HYB epP **pP 06 07 40.5 -1.6**
HYB ePcP **PcP 06 08 01.0 -0.4**
HYB eS **S 06 16 10.0 -1.9**
HYB Hyderabad 65.52 270⇑ iP **P 06 07 30.2 +0.3**
HYB IAmb IAmb 06 07 31.1
comp=Z,94nm,0.5s
HVU Hansel Valley 65.52 55 P P 06 07 30.5 +0.8
HVU pmax pmax
comp=Z,31nm,1.0s
HVU Hansel Valley 65.52 55 P P 06 07 30.5 +0.8
SNOW Snow King Moun 65.58 52 P P 06 07 31.0 +0.7
SNOW IAmb IAmb 06 07 32.9
comp=Z,75nm,1.2s
REDW Red Top Meadow 65.59 52 P P 06 07 31.3 +1.1
REDW IAmb IAmb 06 07 32.8
comp=Z,106nm,1.2s
HRA Herat 65.63 295 P P 06 07 30.9 +0.3
PKM Mcpherson Peak 65.64 64 P P 06 07 31.4 +0.7
baz=310,SNR=16
NSS Namsos 65.72 342 eP **P 06 07 29.7 -0.6**
NSS eS **S 06 16 13.8 +0.9**
NSS IVMs_BB IVMs_BB 06 35 42.1
comp=Z,7μm,5.0s
CWC Cottonwood Cre 65.74 62 P P 06 07 31.6 +0.3
baz=310
CGJI Cibinong 65.76 231 P P 06 07 29.2 -2.1
DGMT Dagmar 65.76 45 P P 06 07 31.2 +0.2
baz=312,SNR=28
DGMT Dagmar 65.76 45 P P 06 07 31.1 +0.1
DGMT IAmb IAmb 06 07 32.5
comp=Z,168nm,1.1s
DGMT Dagmar 65.76 45 IAMs_20 IAMs_20 06 35 18.2
comp=Z,4μm,22.0s
ASHT Ashkhabad 65.79 300 IAMs_20 IAMs_20 06 38 19.9
comp=Z,3μm,21.0s
GRAC Grapevine Rang 65.83 61 P P 06 07 32.7 +1.0
baz=310,SNR=8.9
AHID Auburn Hatcher 65.84 53 P P 06 07 32.5 +0.7
AHID IAMs_20 IAMs_20 06 31 50.6
comp=Z,4μm,22.0s
PPSI Pulau Pagai 65.88 238 P P 06 07 33.3 +1.2
LAO LASA Array 65.92 47 P P 06 07 32.9 +0.8
baz=312,SNR=55
LAO LASA Array 65.92 47 P P 06 07 32.9 +0.8
LAO IAmb IAmb 06 07 34.1
comp=Z,127nm,1.0s
LAO IAMs_20 IAMs_20 06 39 29.9
comp=Z,3μm,20.0s
BGU Big Grassy Mou 65.92 56 P P 06 07 32.8 +0.5
GEYT Alibeck 65.96 300 P P 06 07 33.2 +0.7
comp=Z,50nm,0.4s,baz=29,slow=3.4,SNR=26
GEYT LR LR 06 39 32.4
comp=Z,7μm,18.3s,baz=55,slow=39
GEYT P4KPbc 06 44 29.2
comp=Z,15nm,0.7s,baz=316,slow=6.2,SNR=6.6
GEYT Alibeck 65.96 300 P P 06 07 33.1 +0.6
GYA0B ALIBECK ARRAY 65.96 300 P P 06 07 33.1 +0.6
GYA0B IAmb IAmb 06 07 37.8
comp=Z,134nm,0.9s
GYA0B IAMs_20 IAMs_20 06 38 47.4
comp=Z,7μm,20.0s
SBC Santa Barbara 65.99 65 P P 06 07 33.4 +0.8
baz=310
ISA Isabella, Lake 65.99 63 P P 06 07 32.3 -0.5
baz=310,SNR=10
ISA Isabella, Lake 65.99 63 P P 06 07 32.3 -0.5
ISA pmax pmax
comp=Z,31nm,1.3s
ISA Isabella, Lake 65.99 63 P P 06 07 32.3 -0.5
VRH Novokhopyorsk 66.01 319 eP **P 06 07 30.8 -1.7**
VRH pmax pmax
comp=Z,70nm,0.6s
VRH MLR MLR
comp=Z,12μm,17.0s
SPUT South Promonto 66.01 55 P P 06 07 33.1 +0.2
R11A Troy Canyon, C 66.06 59 P P 06 07 33.7 +0.4
baz=310,SNR=42
R11A Troy Canyon, C 66.06 59 P P 06 07 32.9 -0.4
ARVC Arvin 66.11 64 P P 06 07 33.3 -0.1
baz=310,SNR=8.1
LPSR Galich'ya Gora 66.28 322 eP **P 06 07 32.5 -1.7**
LPSR pmax pmax
comp=Z,80nm,1.0s
LPSR MLR MLR
comp=Z,15μm,17.0s

SCZ2 Santa Cruz Isl 66.32 65 P P 06 07 34.9 +0.1
baz=310
HWUT Hardware Ranch 66.33 54 P P 06 07 35.2 +0.3
MPMC Manual Prospec 66.36 62 P P 06 07 35.6 +0.4
baz=310,SNR=42
FURC Furnace Creek, 66.48 61 P P 06 07 36.5 +0.7
baz=310,SNR=44
OSI Osito Audit: C 66.50 64 P P 06 07 36.6 +0.5
baz=310,SNR=5.4
OSI Osito Audit: C 66.50 64 P P 06 07 36.8 +0.8
OSI IAmb IAmb 06 07 48.4
comp=Z,64nm,1.1s
DUG Dugway, Tooele 66.52 56 P P 06 07 37.0 +0.8
baz=311,SNR=45
DUG Dugway, Tooele 66.52 56 P P 06 07 36.9 +0.8
DUG pmax pmax
comp=Z,56nm,1.1s
DUG MLR MLR
comp=Z,2μm,21.0s
DUG Dugway, Tooele 66.52 56 P P 06 07 36.9 +0.8
TPNV Topopah Spring 66.55 61 P P 06 07 37.0 +0.6
baz=310,SNR=40
TPNV Topopah Spring 66.55 61 P P 06 07 35.9 -0.5
TPNV pmax pmax
comp=Z,83nm,1.2s
TPNV Topopah Spring 66.55 61 P P 06 07 35.9 -0.5
TPNV IAmb IAmb 06 07 48.9
comp=Z,83nm,1.1s
LRMC Laurel Mtn Rad 66.60 63 P P 06 07 36.9 +0.1
baz=310,SNR=17
BLG Laguna Peak, P 66.61 65 P P 06 07 36.7 +0.1
baz=310,SNR=5.4
VSU Vasula 66.63 332⇑ eP **P 06 07 35.7 -0.6**
VSU pmax pmax
comp=Z,128nm,0.6s
VSU Vasula 66.63 332 eP **P 06 07 34.7 -1.6**
SFJD Kangerlussuaq 66.65 9 i P **P 06 07 35.5 -0.8**
SFJD Kangerlussuaq 66.65 9 i P **P 06 07 35.5 -0.8**
SFJD Kangerlussuaq 66.65 9 P P 06 07 35.7 -0.6
comp=Z,75nm,1.0s,baz=343,slow=6.8,SNR=14
SFJD Kangerlussuaq 66.65 9 P P 06 07 35.5 -0.8
SFJD IAmb IAmb 06 07 36.9
comp=Z,132nm,1.1s
SFJD Kangerlussuaq 66.65 9 IAMs_20 IAMs_20 06 37 20.4
comp=Z,6μm,19.0s
WB0 Warramunga Arr 66.67 197 P P 06 07 36.8 -0.2
WB0 IAmb IAmb 06 07 38.5
comp=Z,136nm,0.9s
BW06 Boulder Array 66.70 52 P P 06 07 37.8 +0.4
baz=311,SNR=42
BW06 Boulder Array 66.70 52 P P 06 07 37.5 +0.1
PD31 Pinedale Array 66.70 52 P P 06 07 37.6 +0.2
PDAR Pinedale Array 66.70 52 P P 06 07 37.6 +0.2
comp=Z,30nm,0.9s,baz=318,slow=2.0,SNR=164
PDAR PKPPKP **P'P'df 06 36 07.9 -4.1**
comp=Z,1.8nm,0.9s,baz=105,slow=3.4,SNR=4.2
PDAR Pinedale Array 66.70 52 P P 06 07 37.5 +0.1
EDW2 Edwards Air Fo 66.79 63 P P 06 07 38.3 +0.5
baz=310,SNR=34
CTU Camp Tracy 66.81 55 P P 06 07 38.4 +0.3
WR0 Warramunga Arr 66.82 197 P P 06 07 38.3 +0.4
WR0 IAmb IAmb 06 07 39.5
comp=Z,86nm,0.9s
WRAB Tennant Creek 66.83 197 c iP **P 06 07 38.3 +0.3**
WRAB pmax pmax
comp=Z,133nm,0.9s
WRAB MLR MLR
comp=Z,650nm,18.0s
WRAB Tennant Creek 66.83 197 P P 06 07 38.4 +0.3
WRAB IAmb IAmb 06 07 39.6
comp=Z,120nm,0.9s
WB2 Warramunga Arr 66.84 197 P P 06 07 38.3 +0.2
WRA Warramunga Arr 66.85 197 P P 06 07 37.7 -0.4
WRA pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 66.85 197 P P 06 07 38.1 0.0
comp=Z,84nm,0.8s,baz=16,slow=6.7,SNR=132
WRA PKP2bc 06 36 09.6
comp=Z,5.0nm,0.9s,baz=196,slow=2.9,SNR=9.9
WRA Warramunga Arr 66.85 197 P P 06 07 37.6 -0.4
SNCC San Nicolas Is 66.87 66 P P 06 07 38.7 +0.4
baz=310
SNCC San Nicolas Is 66.87 66 P P 06 07 39.3 +1.0
SNCC IAmb IAmb 06 07 50.6
comp=Z,99nm,1.2s
PSUT Pine Spring 66.98 58 P P 06 07 39.6 +0.4
DECC Green Verdugo 66.98 64 P P 06 07 39.0 0.0
baz=310
JLU Jordanelle 67.05 55 P P 06 07 40.2 +0.6
NLU North Lily Min 67.11 56 P P 06 07 40.5 +0.5
PASC Pasadena Art C 67.13 64 P P 06 07 40.4 +0.4
VSR Storozhevoye 67.16 321 eP **P 06 07 38.3 -1.5**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR MLR MLR
comp=Z,11μm,17.0s
MWC Mount Wilson 67.17 64 P P 06 07 40.8 +0.3
MWC Mount Wilson 67.17 64 P P 06 07 40.8 +0.3
MWC IAmb IAmb 06 07 52.6
comp=Z,83nm,1.4s
TBLU Trondheim 67.20 342 eP **P 06 07 38.4 -1.5**
TBLU eS **S 06 16 30.1 -0.8**
TBLU eSKSac **SKSac 06 17 33.3 0.0**
SHOC Shoshone, Teco 67.21 62 P P 06 07 40.7 +0.2
baz=311
GSC Goldstone, Bar 67.27 62 P P 06 07 41.1 +0.2
baz=311,SNR=20
GSC Goldstone, Bar 67.27 62 P P 06 07 41.6 +0.7
GSC pmax pmax
comp=Z,31nm,1.1s
GSC Goldstone, Bar 67.27 62 P P 06 07 41.6 +0.7
MDRS Chennai 67.29 266⇑ iP **P 06 07 42.0 +0.9**
MDRS IAmb IAmb 06 07 47.0
comp=Z,133nm,1.1s
FITZ Fitzroy Crossi 67.33 206 P P 06 07 42.3 +1.1
FITZ IAmb IAmb 06 07 43.6
comp=Z,63nm,0.9s
FMP Fort Macarthur 67.36 65 P P 06 07 41.4 +0.1
baz=311
BFSC Mount Baldy Ra 67.42 64 P P 06 07 42.0 +0.1
baz=311,SNR=14
RRX Edison Barstow 67.42 63 P P 06 07 42.1 +0.3
baz=311
CIS Catalina Islan 67.48 65 P P 06 07 42.2 0.0
baz=311
SHPR Sheep Range 67.50 60 P P 06 07 42.6 +0.1
MSVF Nonsavu 67.56 152 IAMs_20 IAMs_20 06 31 08.2
comp=Z,9μm,21.0s
SCI2 San Clemente I 67.67 65 P P 06 07 43.5 +0.1
baz=311
TUQ Turquoise Moun 67.73 62 P P 06 07 44.4 +0.5
baz=311,SNR=21
BHUJ Bhuj 67.87 281⇑ iP **P 06 07 44.7 0.0**
BHUJ IAmb IAmb 06 07 58.6
comp=Z,874nm,1.9s
HEC Hector,Ludlow 67.87 63 P P 06 07 45.2 +0.5
baz=311,SNR=37
BBRC Big Bear Solar 67.87 63 P P 06 07 45.0 +0.1
baz=311,SNR=8.3
CCUT Cedar City 67.91 59 P P 06 07 45.7 +0.5
MSU Marysvale 67.99 57 P P 06 07 46.5 +0.9
MSU Marysvale 67.99 57 P P 06 07 46.5 +0.9
AFI Afiamalu 68.04 141 LR LR 06 31 43.9
comp=Z,4μm,21.6s,baz=350,slow=31
AFI Afiamalu 68.04 141 IAMs_20 IAMs_20 06 30 59.4
comp=Z,5μm,22.0s
TMUT Trail Mountain 68.04 56 P P 06 07 46.4 +0.4
SZCU Shurtz Canyon 68.05 58 P P 06 07 46.4 +0.4
POO Poona 68.08 274⇓ iP P 06 07 52.8 +6.6
comp=Z,270nm,1.0s
POO ⇓iP P 06 07 52.8 +6.6
comp=Z,270nm,1.0s
MURC Murrieta 68.12 64 P P 06 07 46.3 0.0
baz=311,SNR=12
P17A Butcher Ranch, 68.20 56 P P 06 07 46.9 +0.1
MTPU Mount Pierson 68.29 58 P P 06 07 48.7 +1.0
Q16A Castle Valley 68.31 56 P P 06 07 48.0 +0.4
GMRC Granite Mounta 68.32 62 P P 06 07 47.9 +0.4
baz=311,SNR=29
LCMT Little Creek M 68.34 59 P P 06 07 48.3 +0.6
MOL Molde 68.39 343 eP **P 06 07 47.2 -0.2**
MOL eS **S 06 16 48.0 +2.8**
MDND Maddock 68.43 43 P P 06 07 48.3 +0.4
baz=315,SNR=7.8
MDND Maddock 68.43 43 P P 06 07 48.0 +0.1

K22A Casper 68.45 51 P P 06 07 48.4 0.0
baz=313,SNR=24
K22A Casper 68.45 51 P P 06 07 48.2 -0.1
ULM Lac du Bonnet 68.45 39 P P 06 07 47.5 -0.5
ULM pmax pmax
comp=Z,98nm,1.3s
ULM Lac du Bonnet 68.45 39 P P 06 07 47.5 -0.5
comp=Z,38nm,0.8s,baz=314,slow=6.7,SNR=43
ULM PKP2bc 06 35 59.2
comp=Z,3.1nm,0.8s,baz=117,slow=9.5,SNR=3.3
ULM Lac du Bonnet 68.45 39 P P 06 07 47.5 -0.5
ULM IAmb IAmb 06 07 48.8
comp=Z,98nm,1.3s
DOMB Dombas 68.54 342 eP **P 06 07 47.8 -0.6**
DOMB eS **S 06 16 47.8 +0.7**
DOMB IVMs_BB IVMs_BB 07 07 18.0
comp=Z,3μm,8.9s
SRU San Rafael Swe 68.56 56 P P 06 07 49.5 +0.4
SRU pmax pmax
comp=Z,67nm,1.1s
SRU San Rafael Swe 68.56 56 P P 06 07 49.5 +0.4
PFO Pinyon Flats O 68.58 64 P P 06 07 49.3 +0.1
baz=311,SNR=12
PFO Pinyon Flats O 68.58 64 P P 06 07 48.9 -0.3
PFO pmax pmax
comp=Z,49nm,1.4s
PFO Pinyon Flats O 68.58 64 P P 06 07 48.9 -0.3
KNB Kanab 68.59 59 P P 06 07 50.3 +1.0
KNB pmax pmax
comp=Z,74nm,1.0s
KNB Kanab 68.59 59 P P 06 07 50.3 +1.0
PKCU Pink Cliffs 68.61 58 P P 06 07 50.7 +1.1
BELC Belle Mtn. Jos 68.62 63 P P 06 07 49.2 -0.3
baz=311,SNR=9.9
109C Camp Elliot, M 68.65 65 P P 06 07 49.7 +0.2
baz=311,SNR=6.3
109C Camp Elliot, M 68.65 65 P P 06 07 49.8 +0.3
DZM Mont Dzumac 68.69 165 P P 06 07 51.5 +1.7
DZM IAmb IAmb 06 10 20.4
comp=Z,89nm,0.7s
DZM IAMs_20 IAMs_20 06 41 24.6
comp=Z,6μm,18.0s
RWWY Rawlins 68.72 52 P P 06 07 49.8 -0.4
RWWY IAmb IAmb 06 07 51.4
comp=Z,61nm,1.0s
NC303 NORSAR Array S 68.73 340 P P 06 07 49.1 -0.4
SLIT Slitere, Latvi 68.74 333 eP **P 06 07 48.4 -1.2**
NC405 NORSAR Array S 68.75 340 P P 06 07 48.9 -0.7
MAK Makhachkala 68.75 310 eP **P 06 07 49.2 -0.7**
MAK eS **S 06 16 50.7 +0.7**
MAK pmax pmax
comp=Z,139nm,0.8s
MAK MLR MLR
comp=Z,5μm,15.0s
RSSD Black Hills 68.78 48 P P 06 07 50.4 -0.1
baz=313
RSSD Black Hills 68.78 48 P P 06 07 50.0 -0.4
RSSD pmax pmax
comp=Z,136nm,1.2s
RSSD MLR MLR
comp=Z,3μm,21.0s
RSSD Black Hills 68.78 48 P P 06 07 50.0 -0.4
RSSD IAmb IAmb 06 07 51.6
comp=Z,136nm,1.2s
RSSD Black Hills 68.78 48 IAMs_20 IAMs_20 06 41 36.1
comp=Z,3μm,21.0s
NC204 NORSAR Array S 68.83 341 P P 06 07 49.7 -0.5
AKN Aaknes 68.86 343 eP **P 06 07 50.4 +0.1**
AKN eS **S 06 16 54.6 +3.8**
AKN IVMs_BB IVMs_BB 07 06 24.4
comp=Z,6μm,5.2s
NB201 NORSAR Array S 68.90 340 P P 06 07 50.2 -0.5
IZAR Zarasai 68.92 330 eP **P 06 07 50.5 -0.3**
NB2 NORSAR Subarra 68.93 340 P P 06 07 50.2 -0.6
comp=Z,24nm,0.5s,baz=28,slow=6.2
NB2 NORSAR Subarra 68.93 340 P P 06 07 50.2 -0.6
baz=28,slow=6.2
NOA NORSAR Array B 68.93 340 P P 06 07 50.2 -0.6
comp=Z,42nm,0.6s,baz=28,slow=6.4,SNR=184
NOA LR LR 06 43 14.0
comp=Z,3μm,18.6s,baz=45,slow=40
NEE2 Needles Airpor 68.97 62 P P 06 07 51.6 +0.1
baz=312
XMIS Christmas Isla 69.01 228 P P 06 07 51.9 0.0
XMIS IAmb IAmb 06 07 53.1
comp=Z,105nm,0.9s
ANGG Ammassalik, Gr 69.04 4 P P 06 07 51.0 -0.3
NBO00 NORSAR Array S 69.04 340 P P 06 07 51.2 -0.3
IRM Iron Mountain 69.05 62 P P 06 07 52.5 +0.5
baz=312,SNR=45
BAR Barrett 69.06 64 P P 06 07 52.2 +0.1
MONP2 Monument Peak 69.08 64 P P 06 07 52.5 0.0
baz=312,SNR=9.8
IDID Didziasalis 69.09 330 eP **P 06 07 51.3 -0.6**
ISAL Salakas 69.10 330 eP **P 06 07 52.0 +0.1**
ISAL IAmb IAmb 06 07 54.3
comp=Z,20nm,0.7s
HFS Hagfors 69.11 339 P P 06 07 51.0 -0.9
comp=Z,61nm,0.6s,baz=45,slow=4.6,SNR=181
NC602 NORSAR Array S 69.12 340 eP **P 06 07 51.2 -0.7**
NC602 ePP **PP 06 10 24.3 0.0**
NC602 eS **S 06 16 56.1 +2.2**
NC602 eSKSac **ScS 06 17 49.3 +0.6**
NC602 IVmBBB 06 37 37.1
comp=Z,4μm,6.6s
NC602 NORSAR Array S 69.12 340 P P 06 07 51.0 -0.9
NAO01 NORSAR Array S 69.18 340 P P 06 07 51.6 -0.8
BC3 Big Chuckawall 69.19 63 P P 06 07 53.0 0.0
baz=312,SNR=18
O20A White River Ci 69.19 54 P P 06 07 53.0 0.0
baz=313,SNR=28
O20A White River Ci 69.19 54 P P 06 07 52.6 -0.4
W13A Hualapai Mount 69.21 61 P P 06 07 53.5 +0.3
IIGN Ignalina 69.24 330 eP **P 06 07 52.4 -0.5**
IIGN IAmb IAmb 06 07 54.2
comp=Z,30nm,0.5s
U15A North Rim 69.30 59 P P 06 07 54.6 +0.8
MICGM Minsk 69.31 329 eP **P 06 07 53.0 -0.2**
MICGM epP **pP 06 08 05.0 -0.5**
MICGM eS **S 06 16 50.0 -6.3**
MICGM eSS **pS 06 17 12.0 +0.8**
MICGM eSS **SS 06 21 22.0 -0.5**
MICGM eLR LR 06 35 40.0
MICGM LRM MLR 06 41 18.0
comp=Z,18nm,17.0s
MICGM LRM MLR 06 41 18.0
comp=Z,22nm,18.0s
MNK Minsk 69.31 329 eP **P 06 07 53.0 -0.2**
MNK e 06 08 05.0
MNK eS **S 06 16 50.0 -6.3**
MNK e 06 21 22.0
MNK MLR MLR
comp=Z,18μm,17.0s
MNK MLR MLR
comp=Z,22μm,18.0s
NACGM Naroch 69.39 329 e **P 06 07 51.0 -2.7**
IKP In-Ko-Pah, Jac 69.43 64 P P 06 07 54.6 +0.2
baz=312,SNR=12
SWSC Sam W. Stewart 69.44 64 P P 06 07 54.1 -0.2
baz=312,SNR=9.3
GROC Groznyy 69.50 311 eP **P 06 07 54.7 +0.1**
GROC e 06 08 17.4
GROC e 06 10 28.6
GROC pmax pmax
comp=Z,82nm,1.0s
AKT Akhty 69.64 309 eP **P 06 07 56.4 +0.8**
AKT e 06 08 17.5
AKT pmax pmax
comp=Z,212nm,0.8s
GOF Gofitskoye 69.64 314⇓ iP **P 06 07 55.2 -0.2**
GOF pmax pmax
comp=Z,460nm,0.9s
Y12C Blythe 69.70 62 P P 06 07 56.4 +0.4
baz=312,SNR=23
Y12C Blythe 69.70 62 P P 06 07 56.2 +0.2
PV09 Paradox Valley 69.78 55 P P 06 07 57.6 +0.8
FOO Floro 69.78 343 eP **P 06 07 55.8 -0.2**
FOO eS **S 06 17 07.7 +6.1**
FOO IVMs_BB IVMs_BB 07 07 41.3
comp=Z,5μm,23.5s
PV21 Cone Mtn., Par 69.83 55 P P 06 07 58.0 +1.0
PV21 IAmb IAmb 06 07 58.8
comp=Z,69nm,1.1s
AGMN Agassiz Nation 69.87 41 P P 06 07 56.3 -0.5
baz=317,SNR=28

AGMN	**Agassiz Nation**	**69.87**	**41**	P	**P**	**06 07 56.3**	**-0.5**
AGMN				IAmb	IAmb	06 07 57.6	
	comp=Z,149nm,1.2s						
PABE	**Paberze**	**69.90**	**331**	*e*P	**P**	**06 07 55.8**	**-1.1**
PABE				IAmb	IAmb	06 07 59.0	
	comp=Z,91nm,0.8s						
SKAR	**Skarslia**	**69.92**	**341**	*e*P	**P**	**06 07 56.4**	**-0.6**
SKAR				IVmBBB		06 07 57.3	
	comp=Z,2μm,3.1s						
SKAR				*e*S	**S**	**06 17 06.5**	**+3.1**
SKAR				IVMs_BB	IVMs_BB	07 10 33.4	
	comp=Z,4μm,5.5s						
PV14	**Lion Creek, Pa**	**69.93**	**55**	IAMs_20	IAMs_20	06 42 55.7	
	comp=Z,3μm,20.0s						
HYA	**Hoyanger**	**69.94**	**343**	*e*P	**P**	**06 07 56.9**	**-0.1**
HYA				*e*S	**S**	**06 17 02.8**	**-0.6**
BORG	**Borgarnes**	**69.94**	**356**	P	**P**	**06 07 58.5**	**+1.5**
BORG				pmax	pmax		
	comp=Z,187nm,0.9s						
BORG	**Borgarnes**	**69.94**	**356**	P	**P**	**06 07 57.7**	**+0.8**
	comp=Z,148nm,0.8s,baz=20,slow=3.7,SNR=39						
BORG	**Borgarnes**	**69.94**	**356**	P	**P**	**06 07 58.5**	**+1.5**
PHWY	**Pilot Hill**	**69.95**	**51**	P	**P**	**06 07 57.7**	**-0.1**
N23A	**Red Feather La**	**69.96**	**52**	P	**P**	**06 07 58.5**	**+0.7**
	baz=313,SNR=43						
N23A	**Red Feather La**	**69.96**	**52**	P	**P**	**06 07 58.5**	**+0.7**
N23A				IAmb	IAmb	06 07 59.8	
	comp=Z,88nm,1.1s						
GLA	**Glamis**	**69.98**	**63**	P	**P**	**06 07 58.4**	**+0.6**
	baz=312,SNR=8.0						
GLA	**Glamis**	**69.98**	**63**	P	**P**	**06 07 58.3**	**+0.6**
GLA				pmax	pmax		
	comp=Z,37nm,1.0s						
GLA	**Glamis**	**69.98**	**63**	P	**P**	**06 07 58.3**	**+0.6**
OSL	**Oslo**	**70.02**	**340**	*e*P	**P**	**06 07 57.3**	**-0.1**
OSL				*e*S	**S**	**06 17 07.1**	**+2.7**
PV17	**East Wray Mesa**	**70.03**	**56**	IAMs_20	IAMs_20	06 42 57.3	
	comp=Z,4μm,22.0s						
PV16	**Nyswonger Mesa**	**70.03**	**55**	IAMs_20	IAMs_20	06 33 22.4	
	comp=Z,3μm,22.0s						
PV11	**David Mesa, Pa**	**70.06**	**55**	P	**P**	**06 07 58.5**	**+0.1**
PV11				IAmb	IAmb	06 08 00.2	
	comp=Z,85nm,0.9s						
PV07	**Paradox Valley**	**70.10**	**55**	IAMs_20	IAMs_20	06 33 37.5	
	comp=Z,3μm,22.0s						
SEKA	**Sheki**	**70.11**	**309**	P	**P**	**06 07 59.0**	**+0.5**
ZKTA	**Zakatala**	**70.13**	**309**	P	**P**	**06 07 59.1**	**+0.5**
GOA	**Goa**	**70.15**	**272⇑**	*i*P	**P**	**06 07 59.3**	**+0.4**
GOA				IAmb	IAmb	06 08 02.6	
	comp=Z,334nm,1.6s						
PBUR	**Paburg**	**70.16**	**332**	*e*P	**P**	**06 07 57.8**	**-0.6**
PBUR				IAmb	IAmb	06 07 59.4	
	comp=Z,82nm,0.7s						
SUE	**Sulen**	**70.33**	**343**	*e*P	**P**	**06 07 59.4**	**0.0**
SUE				*e*S	**S**	**06 17 08.3**	**+0.3**
SUE				IVMs_BB	IVMs_BB	07 09 59.1	
	comp=Z,6μm,35.5s						
NCK	**Nalchik**	**70.45**	**313⇑**	*i*P	**P**	**06 08 01.4**	**+0.9**
NCK				pmax	pmax		
	comp=Z,308nm,1.2s						
NCK				MLR	MLR		
	comp=Z,13μm,21.0s						
WUAZ	**Wupatki**	**70.46**	**59**	P	**P**	**06 08 01.6**	**+0.7**
	baz=312,SNR=20						
WUAZ	**Wupatki**	**70.46**	**59**	P	**P**	**06 08 01.6**	**+0.7**
MNGR	**Mingechevir, A**	**70.48**	**309**	P	**P**	**06 08 02.2**	**+1.6**
EIDS	**Eidsvold**	**70.51**	**180**	P	**P**	**06 08 03.2**	**+2.4**
EIDS				IAmb	IAmb	06 08 04.2	
	comp=Z,190nm,1.9s						
EIDS				IAMs_20	IAMs_20	06 33 32.9	
	comp=Z,4μm,22.0s						
KONO	**Kongsberg**	**70.54**	**340**	P	**P**	**06 08 00.3**	**-0.4**
KONO				pmax	pmax		
	comp=Z,26nm,0.9s						
KONO				MLR	MLR		
	comp=Z,5μm,20.0s						
KONO	**Kongsberg**	**70.54**	**340**	*e*P	**P**	**06 07 59.9**	**-0.7**
KONO				*e*S	**S**	**06 17 12.0**	**+1.5**
KONO				IVMsBB		06 37 04.4	
	comp=Z,4μm,5.8s						
KONO	**Kongsberg**	**70.54**	**340**	P	**P**	**06 08 00.3**	**-0.4**
KONO	**Kongsberg**	**70.54**	**340**	IAMs_20	IAMs_20	06 40 37.5	
	comp=Z,5μm,20.0s						
AS31	**Alice Springs**	**70.55**	**197**	P	**P**	**06 08 02.5**	**+1.4**
ASAR	**Alice Springs**	**70.55**	**197**	P	**P**	**06 08 02.1**	**+1.0**
	comp=Z,63nm,0.8s,baz=14,slow=6.0,SNR=346						
ASAR				PKPPKP	**P'P'df**	**06 35 57.7**	**+2.5**
	comp=Z,2.5nm,1.0s,baz=186,slow=3.0,SNR=8.5						
ASAR	**Alice Springs**	**70.55**	**197**	P	**P**	**06 08 02.3**	**+1.1**
SMCO	**Snowmass**	**70.56**	**54**	P	**P**	**06 08 01.9**	**+0.3**
KVAR	**Kislovodsk Arr**	**70.59**	**313**	LR	LR	06 43 35.1	
	comp=Z,11μm,19.4s,baz=302,slow=40						
KIV	**Kislovodsk**	**70.59**	**313**	*i* P	**P**	**06 08 01.9**	**+0.5**
	SNR=32						
KIV	**Kislovodsk**	**70.59**	**313**	P	**P**	**06 08 01.7**	**+0.3**
	SNR=79						
KIV				P	**P**	**06 08 01.7**	**+0.3**
	SNR=79						
KIV	**Kislovodsk**	**70.59**	**313**	*e*P	**P**	**06 08 01.4**	**0.0**
KIV				*e*S	**S**	**06 17 11.8**	**-0.1**
KIV				pmax	pmax		
	comp=Z,764nm,1.1s						
KIV				pmax	pmax		
	comp=Z,885nm,4.8s						
KIV				MLR	MLR		
	comp=Z,27μm,17.0s						
KIV	**Kislovodsk**	**70.59**	**313**	⇑P	**P**	**06 08 02.4**	**+1.0**
KIV	**Kislovodsk**	**70.59**	**313**	*e*P	**P**	**06 08 01.4**	**0.0**
KIV	**Kislovodsk**	**70.59**	**313**	P	**P**	**06 08 02.1**	**+0.6**
KBZ	**Khabaz**	**70.65**	**313**	P	**P**	**06 08 02.1**	**+0.5**
	comp=Z,223nm,1.0s,baz=57,slow=3.5,SNR=254						
KBZ				LR	LR	06 42 54.6	
	comp=Z,20μm,19.6s,baz=52,slow=39						
ASK	**Askoy**	**70.77**	**343**	*e*P	**P**	**06 08 01.8**	**-0.2**
ZEI	**Tsey**	**70.79**	**312**	*e*P	**P**	**06 07 58.7**	**-4.1**
ZEI				pmax	pmax		
	comp=Z,120nm,1.1s						
BER	**Bergen**	**70.83**	**343**	*e*P	**P**	**06 08 02.5**	**+0.1**
BER				*e*S	**S**	**06 17 17.3**	**+3.4**
BER				IVMs_BB	IVMs_BB	07 07 39.0	
	comp=Z,4μm,11.7s						
ISCO	**Idaho Springs**	**70.90**	**52**	P	**P**	**06 08 04.2**	**+0.6**
	baz=314,SNR=47						
ISCO	**Idaho Springs**	**70.90**	**52**	P	**P**	**06 08 04.2**	**+0.6**
ISCO				pmax	pmax		
	comp=Z,51nm,1.0s						
ISCO	**Idaho Springs**	**70.90**	**52**	P	**P**	**06 08 04.2**	**+0.6**
ISCO				IAMs_20	IAMs_20	06 35 21.5	
	comp=Z,3μm,22.0s						
LKRN	**Lenkeran, Azer**	**70.94**	**306**	P	**P**	**06 08 04.3**	**+0.8**
ODD1	**Odda**	**70.98**	**342**	*e*P	**P**	**06 08 03.5**	**0.0**
ODD1				*e*SKSac	**SKSac**	**06 18 02.8**	**+0.8**
GANJ	**Ganja**	**70.98**	**309**	P	**P**	**06 08 04.5**	**+0.7**
MVCO	**Mesa Verde**	**71.02**	**56**	P	**P**	**06 08 04.7**	**+0.4**
	baz=313,SNR=31						
MVCO	**Mesa Verde**	**71.02**	**56**	P	**P**	**06 08 04.6**	**+0.2**
PALK	**Pallekele**	**71.03**	**261**	*i* P	**P**	**06 08 05.0**	**+0.7**
	SNR=23						
PALK	**Pallekele**	**71.03**	**261**	P	**P**	**06 08 05.1**	**+0.7**
PALK				pmax	pmax		
	comp=Z,201nm,1.2s						
PALK				MLR	MLR		
	comp=Z,3μm,21.0s						
PALK	**Pallekele**	**71.03**	**261**	P	**P**	**06 08 05.1**	**+0.7**
PALK				IAMs_20	IAMs_20	06 41 02.2	
	comp=Z,3μm,21.0s						
NEY	**Neytrino**	**71.08**	**313⇓**	*i*P	**P**	**06 08 05.6**	**+1.1**
NEY				pmax	pmax		
	comp=Z,20nm,0.8s						
NEY				MLR	MLR		
	comp=Z,7μm,19.0s						
TBLG	**Delisi**	**71.08**	**311**	P	**P**	**06 08 05.0**	**+0.6**
TBLG				pmax	pmax		
	comp=Z,309nm,0.8s						
TBLG	**Delisi**	**71.08**	**311**	P	**P**	**06 08 05.0**	**+0.6**
X16A	**Lo Mia Camp, P**	**71.16**	**60**	P	**P**	**06 08 05.7**	**+0.6**
SUSD	**Miller**	**71.16**	**45**	P	**P**	**06 08 04.4**	**-0.4**
	baz=316,SNR=11						
SUSD	**Miller**	**71.16**	**45**	P	**P**	**06 08 04.5**	**-0.2**
SUSD				IAmb	IAmb	06 08 05.5	
	comp=Z,175nm,1.1s						
SUSD				IAMs_20	IAMs_20	06 42 58.5	
	comp=Z,4μm,20.0s						
SUW	**Suwalki**	**71.38**	**331**	P	**P**	**06 08 05.2**	**-0.7**
SUW				pmax	pmax		
	comp=Z,153nm,1.1s						
SUW	**Suwalki**	**71.38**	**331**	*e*P	**P**	**06 08 04.7**	**-1.1**
SUW				*e*P	**P**	**06 08 04.7**	**-1.1**
SUW	**Suwalki**	**71.38**	**331**	P	**P**	**06 08 05.2**	**-0.7**
SUW				IAmb	IAmb	06 08 09.1	
	comp=Z,153nm,1.1s						
SUW				IAMs_20	IAMs_20	06 45 19.1	
	comp=Z,5μm,19.0s						
BLS5	**Blasjo**	**71.46**	**342**	*e*P	**P**	**06 08 06.3**	**0.0**
BLS5				IVmBBB		06 08 06.7	
	comp=Z,1μm,4.5s						
BLS5				*e*S	**S**	**06 17 21.7**	**+0.4**
BLS5				*e*SKSac	**ScS**	**06 18 06.9**	**-0.5**
BLS5				IVMsBB		07 10 06.2	
	comp=Z,3μm,9.5s						
S22A	**4UR Ranch, Cre**	**71.62**	**55**	P	**P**	**06 08 08.8**	**+0.8**
	baz=314,SNR=76						
S22A	**4UR Ranch, Cre**	**71.62**	**55**	P	**P**	**06 08 08.8**	**+0.8**
W18A	**Petrified Fore**	**71.71**	**58**	P	**P**	**06 08 09.2**	**+0.7**
	baz=313,SNR=14						
W18A	**Petrified Fore**	**71.71**	**58**	P	**P**	**06 08 09.2**	**+0.7**
Q24A	**Divide**	**71.73**	**53**	P	**P**	**06 08 09.0**	**+0.3**
	baz=314,SNR=20						
Q24A	**Divide**	**71.73**	**53**	P	**P**	**06 08 08.9**	**+0.3**
AKASG	**Malin Array Be**	**71.75**	**325**	P	**P**	**06 08 06.6**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,19nm,0.7s						
AKASG	**Malin Array Be**	**71.75**	**325**	P	**P**	**06 08 05.2**	**-2.9**
	comp=Z,36nm,0.5s,baz=35,slow=6.4,SNR=12						
AKASG				LR	LR	06 42 11.9	
	comp=Z,8μm,18.7s,baz=30,slow=38						
AKASG	**Malin Array Be**	**71.75**	**325**	P	**P**	**06 08 06.6**	**-1.6**
AKBB	**Malin Array Si**	**71.75**	**325**	P	**P**	**06 08 05.9**	**-2.2**
AKBB				pmax	pmax		
	comp=Z,177nm,1.4s						
AKBB				MLR	MLR		
	comp=Z,11μm,22.0s						
AKBB	**Malin Array Si**	**71.75**	**325**	P	**P**	**06 08 05.9**	**-2.2**
AKBB				IAmb	IAmb	06 08 09.3	
	comp=Z,177nm,1.4s						
KLNR	**Kaliningrad**	**71.89**	**332⇑**	*e*P	**P**	**06 08 08.5**	**-0.4**
KLNR				pmax	pmax		
	comp=Z,155nm,0.6s						
KLNR				MLR	MLR		
	comp=Z,6μm,21.0s						
YEL1	**Yell**	**71.89**	**346⇑**	*i*P	**P**	**06 08 09.6**	**+0.8**
KMY	**Karmoy**	**71.91**	**342**	*e*P	**P**	**06 08 09.5**	**+0.5**
214A	**Organ Pipe Nat**	**71.97**	**63**	P	**P**	**06 08 10.4**	**+0.5**
	baz=313,SNR=9.7						
214A	**Organ Pipe Nat**	**71.97**	**63**	P	**P**	**06 08 10.0**	**+0.1**
AKH	**Akhalkalaki**	**71.97**	**311**	P	**P**	**06 08 11.1**	**+1.2**
AKH				pmax	pmax		
	comp=Z,117nm,0.9s						
AKH				MLR	MLR		
	comp=Z,9μm,21.0s						
AKH	**Akhalkalaki**	**71.97**	**311**	⇓P	**P**	**06 08 11.2**	**+1.2**
AKH	**Akhalkalaki**	**71.97**	**311**	P	**P**	**06 08 11.1**	**+1.2**
AKH				IAmb	IAmb	06 08 12.6	
	comp=Z,117nm,0.9s						
AKH				IAMs_20	IAMs_20	06 42 47.6	
	comp=Z,9μm,21.0s						
X18A	**Snowflake**	**71.98**	**59**	P	**P**	**06 08 10.7**	**+0.6**
HOMB	**Homborsund**	**72.03**	**340**	*e*P	**P**	**06 08 09.2**	**-0.5**
HOMB				*e*S	**S**	**06 17 27.6**	**-0.1**
HOMB				IVMs_BB	IVMs_BB	07 00 00.2	
	comp=Z,4μm,20.8s						
OGNE	**Ogallala**	**72.06**	**50**	P	**P**	**06 08 10.6**	**+0.3**
	baz=315,SNR=78						
OGNE	**Ogallala**	**72.06**	**50**	P	**P**	**06 08 10.6**	**+0.3**
OGNE				IAMs_20	IAMs_20	06 43 44.8	
	comp=Z,3μm,20.0s						
EYMN	**Ely**	**72.10**	**39**	P	**P**	**06 08 09.8**	**-0.5**
	baz=319,SNR=9.4						
EYMN	**Ely**	**72.10**	**39**	P	**P**	**06 08 10.0**	**-0.3**
EYMN				IAmb	IAmb	06 08 11.2	
	comp=Z,110nm,1.0s						
MBWA	**Marble Bar**	**72.16**	**211**	P	**P**	**06 08 11.5**	**+0.7**
	SNR=5.5						
MBWA				P	**P**	**06 08 11.5**	**+0.7**
	SNR=5.5						
GNI	**Garni**	**72.19**	**309**	*i* P	**P**	**06 08 12.5**	**+1.1**
	SNR=28						
GNI	**Garni**	**72.19**	**309**	P	**P**	**06 08 12.4**	**+1.1**
GNI				P	**P**	**06 08 12.4**	**+1.1**
	SNR=49						
GNI	**Garni**	**72.19**	**309**	*c i*P	**P**	**06 08 12.8**	**+1.6**
GNI				pmax	pmax		
	comp=Z,851nm,1.5s						
GNI				MLR	MLR		
	comp=Z,25μm,24.0s						
GNI	**Garni**	**72.19**	**309**	P	**P**	**06 08 13.1**	**+1.8**
GNI	**Garni**	**72.19**	**309**	IAMs_20	IAMs_20	06 43 07.6	
	comp=Z,5μm,19.0s						
WAL1	**Walls**	**72.26**	**346⇑**	*e*P	**P**	**06 08 11.3**	**+0.2**
SNART	**Snartemo**	**72.27**	**341**	*e*P	**P**	**06 08 11.1**	**0.0**
LRW	**Lerwick**	**72.30**	**346⇑**	*e*P	**P**	**06 08 10.7**	**-0.6**
SOC	**Sochi**	**72.36**	**315***c*	*i*P	**P**	**06 08 11.0**	**-1.0**
SOC				*e**PP	**pP**	**06 08 23.4**	**-0.9**
SOC				*e**SP	**PcP**	**06 08 31.7**	**+2.0**
SOC				*e*		06 10 50.0	
SOC				*e*PPP	PPP	06 12 37.5	
SOC				*e*S	**S**	**06 17 31.4**	**-0.7**
SOC				*e**SS	**sS**	**06 17 56.2**	**+3.5**
SOC				pmax	pmax		
	comp=Z,80nm,0.9s						
SOC				MLR	MLR		
	comp=Z,7μm,21.0s						
SDCO	**Great Sand Dun**	**72.38**	**54**	P	**P**	**06 08 13.0**	**+0.4**
	baz=314,SNR=31						
SDCO	**Great Sand Dun**	**72.38**	**54**	P	**P**	**06 08 13.0**	**+0.4**
SDCO				IAMs_20	IAMs_20	06 45 54.5	
	comp=Z,3μm,19.0s						
PSAD1	**Pilbara Seismi**	**72.39**	**210**	P	**P**	**06 08 12.7**	**+0.4**
PSAD1				IAmb	IAmb	06 08 14.1	
	comp=Z,92nm,1.1s						
SAN1	**Sandwick**	**72.42**	**346⇑**	*e*P	**P**	**06 08 12.4**	**+0.4**
NAX	**Nakhchivan**	**72.47**	**308**	P	**P**	**06 08 13.6**	**+0.8**
PSAC2	**Pilbara Seismi**	**72.47**	**210**	P	**P**	**06 08 12.2**	**-0.5**
PSAC2				IAmb	IAmb	06 08 14.5	
	comp=Z,107nm,1.1s						
PSAC1	**Pilbara Seismi**	**72.47**	**210**	P	**P**	**06 08 12.9**	**+0.2**
PSAC1				IAmb	IAmb	06 08 14.0	
	comp=Z,64nm,0.9s						
PSAB2	**Pilbara Seismi**	**72.47**	**210**	P	**P**	**06 08 13.1**	**+0.4**
PSA00	**Pilbara Seismi**	**72.49**	**210**	P	**P**	**06 08 13.4**	**+0.5**
PSA00				IAmb	IAmb	06 08 14.7	
	comp=Z,96nm,1.2s						
PSAB3	**Pilbara Seismi**	**72.51**	**210**	P	**P**	**06 08 13.6**	**+0.6**
PSAB3				IAmb	IAmb	06 08 14.8	
	comp=Z,108nm,1.2s						
IVI	**Ivigtut**	**72.54**	**10**	P	**P**	**06 08 12.8**	**+0.1**
PSAD3	**Pilbara Seismi**	**72.58**	**210**	P	**P**	**06 08 13.8**	**+0.4**
PSAD3				IAmb	IAmb	06 08 14.6	
	comp=Z,68nm,0.9s						
ANN	**Anapa**	**72.59**	**317**	*e*P	**P**	**06 08 10.3**	**-3.0**
ANN				*e**PP	**pP**	**06 08 25.0**	**-0.7**
ANN				*e*PPP	PPP	06 12 36.9	
ANN				*e*S	**S**	**06 17 29.7**	**-5.0**
ANN				*e*SS	**SS**	**06 22 10.8**	**-2.5**
ANN				*e*SSS	SSS	06 25 18.7	
ANN				pmax	pmax		
	comp=Z,213nm,1.5s						
ANN	**Anapa**	**72.59**	**317**	*e*P	**P**	**06 08 12.0**	**-1.3**
TRD	**Trivandrum**	**72.77**	**265**	*e*S	**S**	**06 17 35.4**	**-2.1**
ECSD	**EROS Data Cent**	**72.84**	**45**	P	**P**	**06 08 14.6**	**-0.3**
	baz=317,SNR=78						
ECSD	**EROS Data Cent**	**72.84**	**45**	P	**P**	**06 08 13.8**	**-1.1**
ECSD				IAmb	IAmb	06 08 15.6	
	comp=Z,180nm,1.1s						
ECSD	**EROS Data Cent**	**72.84**	**45**	IAMs_20	IAMs_20	06 46 36.4	
	comp=Z,4μm,20.0s						
NRS	**Narsarsuaq**	**72.88**	**8**	*i* P	**P**	**06 08 14.3**	**-0.4**
NRS	**Narsarsuaq**	**72.88**	**8**	*i* P	**P**	**06 08 14.3**	**-0.4**
BCA	**Borcka**	**72.93**	**312**	⇑P	**P**	**06 08 15.9**	**+0.5**
TUC	**Tucson**	**72.99**	**61**	P	**P**	**06 08 16.5**	**+0.5**
	baz=314						
TUC	**Tucson**	**72.99**	**61**	P	**P**	**06 08 16.3**	**+0.3**
TUC				pmax	pmax		
	comp=Z,32nm,1.1s						
TUC				MLR	MLR		
	comp=Z,2μm,20.0s						
TUC	**Tucson**	**72.99**	**61**	P	**P**	**06 08 16.3**	**+0.3**
TUC	**Tucson**	**72.99**	**61**	IAMs_20	IAMs_20	06 45 29.2	
	comp=Z,2μm,20.0s						
E38A	**The Farm, Brul**	**73.08**	**40**	P	**P**	**06 08 15.6**	**-0.6**
	baz=320,SNR=15						
E38A	**The Farm, Brul**	**73.08**	**40**	P	**P**	**06 08 15.6**	**-0.6**
BSD	**Bornholm Skovb**	**73.10**	**335**	*i* P	**P**	**06 08 15.4**	**-0.7**
BSD				pmax	pmax		
	comp=Z,64nm,0.8s						
BSD	**Bornholm Skovb**	**73.10**	**335**	*i* P	**P**	**06 08 15.4**	**-0.7**
	comp=Z,64nm,0.8s						
KSCO	**Kaye Shedlock'**	**73.10**	**51**	P	**P**	**06 08 16.6**	**-0.1**
	baz=315,SNR=20						
KSCO	**Kaye Shedlock'**	**73.10**	**51**	P	**P**	**06 08 16.7**	**+0.1**
KSCO				IAmb	IAmb	06 08 20.0	
	comp=Z,97nm,1.0s						
KSCO				IAMs_20	IAMs_20	06 36 56.7	
	comp=Z,2μm,22.0s						
COP	**Copenhagen**	**73.31**	**337**	*i* P	**P**	**06 08 17.1**	**-0.2**
COP				pmax	pmax		
	comp=Z,41nm,0.8s						
COP	**Copenhagen**	**73.31**	**337**	*i* P	**P**	**06 08 17.1**	**-0.2**
	comp=Z,41nm,0.8s						
NIUE	**Niue**	**73.42**	**142**	IAMs_20	IAMs_20	06 33 16.9	
	comp=Z,7μm,22.0s						
T25A	**Trinidad**	**73.42**	**54**	P	**P**	**06 08 19.0**	**+0.3**
	baz=315,SNR=35						
T25A	**Trinidad**	**73.42**	**54**	P	**P**	**06 08 19.0**	**+0.3**
T25A				IAmb	IAmb	06 08 20.1	
	comp=Z,89nm,1.0s						
T25A				IAMs_20	IAMs_20	06 47 00.1	
	comp=Z,2μm,19.0s						
MUD	**Monsted U'grnd**	**73.49**	**339**	*i* P	**P**	**06 08 17.8**	**-0.5**
MUD				pmax	pmax		
	comp=Z,41nm,0.9s						
MUD	**Monsted U'grnd**	**73.49**	**339**	*i* P	**P**	**06 08 17.8**	**-0.5**
	comp=Z,41nm,0.9s						
SPMN	**Marine on St.**	**73.56**	**41**	P	**P**	**06 08 18.5**	**-0.5**
	baz=319,SNR=19						
SPMN	**Marine on St.**	**73.56**	**41**	P	**P**	**06 08 18.7**	**-0.3**
SPMN				IAmb	IAmb	06 08 19.8	
	comp=Z,94nm,1.0s						
SPMN				IAMs_20	IAMs_20	06 46 55.2	
	comp=Z,3μm,21.0s						
BGNE	**Belgrade**	**73.76**	**47**	P	**P**	**06 08 19.6**	**-0.7**
	baz=317,SNR=15						
BGNE	**Belgrade**	**73.76**	**47**	P	**P**	**06 08 19.8**	**-0.5**
BGNE				IAmb	IAmb	06 08 22.3	
	comp=Z,166nm,0.9s						
BGNE				IAMs_20	IAMs_20	06 42 44.5	
	comp=Z,3μm,20.0s						
ANMO	**Albuquerque**	**73.78**	**57**	P	**P**	**06 08 21.4**	**+0.6**
	baz=315						
ANMO	**Albuquerque**	**73.78**	**57***c*	*i*P	**P**	**06 08 21.3**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,30nm,0.9s						
ANMO				MLR	MLR		
	comp=Z,1μm,18.0s						
ANMO	**Albuquerque**	**73.78**	**57**	P	**P**	**06 08 21.3**	**+0.6**
ANMO	**Albuquerque**	**73.78**	**57**	IAMs_20	IAMs_20	06 35 41.4	
	comp=Z,2μm,22.0s						
GKP	**Gorka Klasztor**	**73.97**	**333**	*e*P	**P**	**06 08 20.8**	**-0.5**
GKP	**Gorka Klasztor**	**73.97**	**333**	*e*P	**P**	**06 08 20.8**	**-0.5**
GKP				*e*P	**P**	**06 08 20.8**	**-0.5**
BEL	**Belsk**	**73.99**	**330**	*e*P	**P**	**06 08 21.7**	**+0.3**
BEL	**Belsk**	**73.99**	**330**	*e*P	**P**	**06 08 21.7**	**+0.3**
BEL				*e*P	**P**	**06 08 21.7**	**+0.3**
LENM	**Lemitar**	**74.02**	**58**	P	**P**	**06 08 22.5**	**+0.4**
SIM	**Simferopol'**	**74.05**	**319***c*	*e*P	**P**	**06 08 21.8**	**-0.1**
SIM				*e*S	**S**	**06 17 53.0**	**+1.8**
SIM				pmax	pmax		
	comp=Z,135nm,1.0s						
SIM				MLR	MLR		
	comp=N,8μm,17.0s						
D41A	**Chassel**	**74.05**	**38**	P	**P**	**06 08 21.7**	**-0.2**
	baz=321,SNR=8.5						
D41A	**Chassel**	**74.05**	**38**	P	**P**	**06 08 21.9**	**0.0**
D41A				IAmb	IAmb	06 08 24.5	
	comp=Z,259nm,1.4s						
Y22D	**IRIS PASSCAL I**	**74.11**	**58**	P	**P**	**06 08 24.3**	**+1.7**
Y22D				IAMs_20	IAMs_20	06 36 11.9	
	comp=Z,3μm,22.0s						
SORM	**Soroca**	**74.11**	**324**	⇓P	**P**	**06 08 21.8**	**-0.4**
SORM	**Soroca**	**74.11**	**324**	⇓P	**P**	**06 08 21.8**	**-0.4**
LPM	**Los Pinos Moun**	**74.12**	**57**	P	**P**	**06 08 23.6**	**+0.8**
BNM	**Barren Site**	**74.23**	**57**	P	**P**	**06 08 23.9**	**+0.4**
BIGH	**Upper Bighouse**	**74.32**	**347⇑**	*e*P	**P**	**06 08 22.8**	**-0.4**
BIGH				IAmb	IAmb	06 08 23.9	
	comp=Z,307nm,1.4s						
MLA1	**Latheron**	**74.41**	**346⇑**	*i*P	**P**	**06 08 23.4**	**-0.3**
LVV	**L'vov**	**74.47**	**327**	*e*P	**P**	**06 08 24.0**	**-0.3**
LVV				*e*		06 08 46.8	
LVV				*e*S	**S**	**06 17 54.6**	**-1.2**
LVV				*e*PS	**PnS**	**06 18 25.0**	**-8.9**
LVV				*e*SS	**SS**	**06 22 37.1**	**-4.6**
LVV				*e*SSS	SSS	06 25 49.9	
LVV				MLR	MLR		
	comp=N,10μm,22.0s						
LVV				MLR	MLR		
	comp=E,5μm,22.0s						
LVV				MLR	MLR		
	comp=Z,10μm,22.0s						
COWI	**Conover**	**74.55**	**39**	P	**P**	**06 08 24.3**	**-0.5**
319A	**Douglas**	**74.56**	**61**	P	**P**	**06 08 26.1**	**+0.8**
319A				IAmb	IAmb	06 08 27.2	
	comp=Z,138nm,1.0s						
RSC	**Scourie**	**74.66**	**347⇑**	*e*P	**P**	**06 08 24.9**	**-0.3**
121A	**Cookes Peak, D**	**74.67**	**59**	P	**P**	**06 08 26.9**	**+1.0**
	baz=315,SNR=41						
121A	**Cookes Peak, D**	**74.67**	**59**	P	**P**	**06 08 26.9**	**+1.0**
121A				IAmb	IAmb	06 08 28.2	
	comp=Z,90nm,1.1s						
G40A	**Rib Lake**	**74.72

E43A	**Lone Tree Farm**	**75.26 37**	P	**P**	**06 08 28.5**	**-0.4**
E43A			IAmb	IAmb	06 08 31.8	
	comp=Z,134nm,1.4s					
E43A			IAMs_20	IAMs_20	06 41 43.9	
	comp=Z,3μm,21.0s					
WSAR	**Wadi Sarin**	**75.37 288**	P	**P**	**06 08 31.2**	**+1.2**
	SNR=14					
WSAR			S	**S**	**06 18 11.6**	**+4.9**
MDO	**Dochfour**	**75.39 347**⇑	*e*P	**P**	**06 08 29.0**	**-0.5**
KAC	**Achnashellach**	**75.49 347**⇑	*e*P	**P**	**06 08 29.7**	**-0.3**
MDH	**Madha**	**75.51 291**	*i* P	**P**	**06 08 30.3**	**-0.4**
	SNR=15					
MDH	**Madha**	**75.51 291**	P	**P**	**06 08 30.4**	**-0.2**
	SNR=12					
MDH			P	**P**	**06 08 30.4**	**-0.2**
	SNR=12					
E44A	**Grand Marais A**	**75.52 37**	P	**P**	**06 08 30.1**	**-0.2**
	baz=323					
E44A	**Grand Marais A**	**75.52 37**	P	**P**	**06 08 29.6**	**-0.8**
E44A			IAmb	IAmb	06 08 31.4	
	comp=Z,253nm,1.3s					
ARMA	**Armidale**	**75.54 179**	P	**P**	**06 08 33.0**	**+2.4**
ARMA			IAmb	IAmb	06 08 34.5	
	comp=Z,130nm,1.6s					
ARMA			IAMs_20	IAMs_20	06 36 59.1	
	comp=Z,5μm,22.0s					
MSFE	**Esma-Masafi**	**75.56 291**	*i* P	**P**	**06 08 31.5**	**+0.5**
	SNR=28					
DRUM	**Mains of Drumt**	**75.58 345**⇑	*e*P	**P**	**06 08 29.8**	**-0.7**
DRUM			IAmb	IAmb	06 08 32.4	
	comp=Z,169nm,1.2s					
WBK	**Wadi Bani Khal**	**75.58 288**	P	**P**	**06 08 32.9**	**+1.8**
	SNR=22					
GIRL	**Giralia**	**75.59 215**	P	**P**	**06 08 32.5**	**+1.6**
JLN	**Jalan Bani Buh**	**75.60 287**	P	**P**	**06 08 32.7**	**+1.5**
	SNR=27					
JLN			P	**P**	**06 08 32.7**	**+1.5**
	SNR=27					
PRAR	**RASCA**	**75.60 325**	⇑P	**P**	**06 08 30.7**	**-0.1**
MNCI	**Minicoy**	**75.66 267**	P	**P**	**06 08 32.3**	**+0.7**
OJC	**Ojcow**	**75.69 330**	P	**P**	**06 08 30.2**	**-1.1**
OJC			pmax	pmax		
	comp=Z,269nm,1.2s					
OJC	**Ojcow**	**75.69 330**	*e*P	**P**	**06 08 31.4**	**+0.1**
OJC			*e*P	**P**	**06 08 31.4**	**+0.1**
OJC	**Ojcow**	**75.69 330**	P	**P**	**06 08 30.2**	**-1.1**
KPL	**Plockton**	**75.70 347**⇑	*e*P	**P**	**06 08 31.0**	**-0.2**
KPL			IAmb	IAmb	06 08 31.9	
	comp=Z,224nm,0.9s					
RUE	**Ruedersdorf**	**75.72 335**	*e*P	**P**	**06 08 31.4**	**0.0**
UMQ	**Umm Al-Quwin**	**75.77 292**	P	**P**	**06 08 33.4**	**+1.3**
BUR08	**Bucovina Ar. S**	**75.78 326**	P	**P**	**06 08 31.4**	**-0.6**
BUR08			IAmb	IAmb	06 08 33.2	
	comp=Z,115nm,1.0s					
BURAR	**Bucovina Array**	**75.80 325**	⇑P	**P**	**06 08 31.8**	**-0.3**
BURAR	**Bucovina Array**	**75.80 325**	⇑P	**P**	**06 08 31.8**	**-0.3**
BURAR	**Bucovina Array**	**75.80 325**	P	**P**	**06 08 31.4**	**-0.7**
UOSS	**Minazif**	**75.81 291**	*i* P	**P**	**06 08 32.5**	**+0.1**
	SNR=88					
UOSS	**Minazif**	**75.81 291**	P	**P**	**06 08 32.6**	**+0.2**
	SNR=48					
UOSS			P	**P**	**06 08 32.6**	**+0.2**
	SNR=48					
UOSS	**Minazif**	**75.81 291**	P	**P**	**06 08 32.5**	**+0.1**
UOSS	**Minazif**	**75.81 291**	IAMs_20	IAMs_20	06 45 38.4	
	comp=Z,3μm,21.0s					
KOLS	**Kolonicke sedl**	**75.86 328**	*e*P	**P**	**06 08 32.8**	**+0.5**
KOLS			pmax	pmax		
	comp=Z,131nm,1.0s					
KOLS	**Kolonicke sedl**	**75.86 328**	*e*P	**P**	**06 08 32.8**	**+0.5**
SCIA	**State Center**	**75.87 44**	P	**P**	**06 08 32.4**	**0.0**
	baz=319,SNR=14					
SCIA	**State Center**	**75.87 44**	P	**P**	**06 08 32.4**	**0.0**
SCIA			IAMs_20	IAMs_20	06 39 10.5	
	comp=Z,5μm,22.0s					
SMDO	**Samad**	**75.89 288**	P	**P**	**06 08 34.0**	**+1.0**
	SNR=22					
SMDO			S	**S**	**06 18 14.1**	**+1.6**
BIR	**Birlad**	**75.90 323**	⇑P	**P**	**06 08 32.9**	**+0.4**
BIR	**Birlad**	**75.90 323**	⇑P	**P**	**06 08 32.9**	**+0.4**
HATD	**Hatta, Dubai**	**75.94 291**	*i* P	**P**	**06 08 33.9**	**+0.7**
	SNR=36					
HATD			*i* P	**P**	**06 08 34.0**	**+0.8**
	SNR=70					
HATD	**Hatta, Dubai**	**75.94 291**	P	**P**	**06 08 33.8**	**+0.7**
	SNR=59					
HATD			P	**P**	**06 08 33.8**	**+0.7**
	SNR=59					
HATD			S	**S**	**06 18 11.4**	**-1.4**
HATD			S	**S**	**06 18 11.4**	**-1.4**
EPT	**El Paso**	**75.97 59**	IAMs_20	IAMs_20	06 46 14.0	
	comp=Z,2μm,19.0s					
BIZ	**Bicaz**	**75.99 325**	⇑P	**P**	**06 08 33.5**	**+0.5**
DIKM	**Dikmen**	**76.00 316**	⇑P	**P**	**06 08 34.1**	**+0.9**
HOQ	**Hoqain**	**76.02 289**	P	**P**	**06 08 34.3**	**+0.6**
	SNR=28					
HOQ			P	**P**	**06 08 34.3**	**+0.6**
	SNR=28					
D46A	**Sault St. Mari**	**76.09 35**	P	**P**	**06 08 32.6**	**-1.0**
	baz=324,SNR=15					
ASHO	**Ashiyiah**	**76.09 291**	*i* P	**P**	**06 08 34.4**	**+0.4**
	SNR=59					
ASHO	**Ashiyiah**	**76.09 291**	P	**P**	**06 08 34.6**	**+0.6**
	SNR=44					
ASHO			P	**P**	**06 08 34.6**	**+0.6**
	SNR=44					
UZH	**Uzhgorod**	**76.10 328**	*e*P	**P**	**06 08 33.3**	**-0.3**
UZH			*e*		06 08 46.9	
UZH			*e*S	**S**	**06 18 10.3**	**-3.5**
UZH			*e*		06 18 39.3	
UZH			MLR	MLR		
	comp=N,2μm,18.0s					
UZH			MLR	MLR		
	comp=E,1μm,18.0s					
UZH			MLR	MLR		
	comp=Z,1μm,18.0s					
TESR	**Tescani**	**76.11 324**	⇓P	**P**	**06 08 33.4**	**-0.3**
MATQ	**Matagami**	**76.16 30**	P	**P**	**06 08 33.2**	**-0.7**
	baz=327,SNR=23					
NIE	**Niedzica**	**76.18 329**	*e*P	**P**	**06 08 34.4**	**+0.2**
NIE	**Niedzica**	**76.18 329**	*e*P	**P**	**06 08 34.4**	**+0.2**
NIE			*e*P	**P**	**06 08 34.4**	**+0.2**
KSU1	**Kansas State U**	**76.26 48**	P	**P**	**06 08 33.6**	**-1.1**
	baz=318,SNR=30					
KSU1	**Kansas State U**	**76.26 48**	IAMs_20	IAMs_20	06 42 32.8	
	comp=Z,3μm,22.0s					
INVG	**Invergeldie, C**	**76.31 346**⇑	*e*P	**P**	**06 08 34.0**	**-0.6**
INVG			IAmb	IAmb	06 08 35.1	
	comp=Z,109nm,0.8s					
JMDO	**Jabal Madar**	**76.32 288**	P	**P**	**06 08 36.5**	**+1.1**
	SNR=33					
JMDO			P	**P**	**06 08 36.5**	**+1.1**
	SNR=33					
JMDO			S	**S**	**06 18 17.8**	**+0.6**
JMDO			S	**S**	**06 18 17.8**	**+0.6**
D47A	**Chapleau**	**76.33 35**	P	**P**	**06 08 33.8**	**-1.2**
	baz=324,SNR=13					
KSP	**Ksiaz**	**76.35 332**⇑	*e*P	**P**	**06 08 35.1**	**+0.1**
KSP	**Ksiaz**	**76.35 332**	*e*P	**P**	**06 08 35.1**	**+0.1**
KSP			*e*P	**P**	**06 08 35.1**	**+0.1**
FAQ	**Al Faqa, Dubai**	**76.35 291**	*i* P	**P**	**06 08 36.0**	**+0.5**
	SNR=8.0					
FAQ	**Al Faqa, Dubai**	**76.35 291**	P	**P**	**06 08 35.7**	**+0.2**
	SNR=6.3					
FAQ			P	**P**	**06 08 35.7**	**+0.2**
	SNR=6.3					
FAQ			S	**S**	**06 18 14.6**	**-2.7**
FAQ			S	**S**	**06 18 14.6**	**-2.7**
RAC	**Raciborz**	**76.36 331**	*e*P	**P**	**06 08 35.8**	**+0.7**
I42A	**Draeger Farm,**	**76.36 40**	P	**P**	**06 08 34.7**	**-0.5**
	baz=321,SNR=6.7					
BZK	**Bozkurt**	**76.38 317**	⇑P	**P**	**06 08 35.8**	**+0.5**
E46A	**Sault Ste Mari**	**76.40 36**	P	**P**	**06 08 34.5**	**-0.9**
	baz=324,SNR=6.9					
E46A	**Sault Ste Mari**	**76.40 36**	P	**P**	**06 08 34.5**	**-0.9**
E46A			IAmb	IAmb	06 08 35.7	
	comp=Z,132nm,1.2s					
TRPA	**Tarpa**	**76.42 327**	⇑P	**P**	**06 08 35.8**	**+0.4**
H43A	**Windswept, Lux**	**76.42 39**	P	**P**	**06 08 35.1**	**-0.4**
	baz=322					
H43A	**Windswept, Lux**	**76.42 39**	P	**P**	**06 08 34.8**	**-0.8**
H43A			IAmb	IAmb	06 08 36.3	
	comp=Z,177nm,1.1s					
BMR	**Baia Mare**	**76.43 327**	⇑P	**P**	**06 08 35.7**	**+0.2**
BMR	**Baia Mare**	**76.43 327**	⇑P	**P**	**06 08 35.7**	**+0.2**
F45A	**CMU Biological**	**76.44 37**	P	**P**	**06 08 35.1**	**-0.5**
	baz=323					
PETR	**Petresti**	**76.50 323**	⇑P	**P**	**06 08 37.0**	**+1.1**
JFWS	**Jewell Farm**	**76.51 41**	P	**P**	**06 08 35.0**	**-1.0**
	baz=321,SNR=5.6					
JFWS	**Jewell Farm**	**76.51 41**	P	**P**	**06 08 35.1**	**-1.0**
JFWS			pmax	pmax		
	comp=Z,31nm,1.0s					
JFWS			MLR	MLR		
	comp=Z,3μm,19.0s					
JFWS	**Jewell Farm**	**76.51 41**	P	**P**	**06 08 35.1**	**-1.0**
JFWS	**Jewell Farm**	**76.51 41**	IAMs_20	IAMs_20	06 46 30.3	
	comp=Z,3μm,19.0s					
ODBI	**Odobesti**	**76.54 323**	⇑P	**P**	**06 08 36.3**	**+0.1**
ESY	**Stoneypath**	**76.54 345**	*e*P	**P**	**06 08 35.7**	**-0.3**
ESY			⇑*i*P	**P**	**06 08 35.7**	**-0.3**
CFR	**Carcaliu**	**76.55 322**	⇑P	**P**	**06 08 36.0**	**-0.2**
CFR	**Carcaliu**	**76.55 322**	⇑P	**P**	**06 08 36.0**	**-0.2**
JURR	**Jurilovca**	**76.55 322**	⇑P	**P**	**06 08 36.1**	**-0.1**
ARCR	**ARCALIA**	**76.58 326**	⇑P	**P**	**06 08 36.6**	**+0.2**
AMTX	**Amarillo**	**76.58 54**	P	**P**	**06 08 37.1**	**+0.4**
	baz=317					
AMTX	**Amarillo**	**76.58 54**	P	**P**	**06 08 36.9**	**+0.2**
AMTX			IAMs_20	IAMs_20	06 48 24.6	
	comp=Z,2μm,21.0s					
OKC	**Ostrava-Krasne**	**76.58 331**⇑	*i*P	**P**	**06 08 36.5**	**+0.1**
OKC			MLR	MLR		
	comp=Z,7μm,18.1s					
OKC	**Ostrava-Krasne**	**76.58 331**⇑	*i*P	**P**	**06 08 36.5**	**+0.1**
OKC			AMS	AMS	06 49 00.0	
	comp=Z,7μm,18.1s					
EAB	**Aberfoyle**	**76.59 346**⇑	*i*P	**P**	**06 08 35.9**	**-0.4**
VRI	**Vrincioaia**	**76.59 324**	⇑P	**P**	**06 08 36.7**	**+0.2**
VRI	**Vrincioaia**	**76.59 324**	⇑P	**P**	**06 08 36.7**	**+0.2**
ASUD	**Al Ashush, Dub**	**76.61 291**	*i* P	**P**	**06 08 37.3**	**+0.4**
	SNR=31					
ASUD	**Al Ashush, Dub**	**76.61 291**	P	**P**	**06 08 37.7**	**+0.8**
	SNR=10					
ASUD			P	**P**	**06 08 37.7**	**+0.8**
	SNR=10					
ASUD			S	**S**	**06 18 18.0**	**-2.1**
ASUD			S	**S**	**06 18 18.0**	**-2.1**
MSTX	**Muleshoe**	**76.61 55**	P	**P**	**06 08 36.9**	**0.0**
	baz=316,SNR=46					
MSTX	**Muleshoe**	**76.61 55**	P	**P**	**06 08 36.9**	**0.0**
MSTX			IAmb	IAmb	06 08 38.2	
	comp=Z,98nm,1.0s					
MSTX			IAMs_20	IAMs_20	06 46 55.9	
	comp=Z,3μm,18.0s					
HMDM	**Hanimaadhoo**	**76.64 266**	P	**P**	**06 08 38.3**	**+1.2**
	SNR=13					
HMDM	**Hanimaadhoo**	**76.64 266**	P	**P**	**06 08 37.7**	**+0.5**
HMDM			IAMs_20	IAMs_20	06 47 53.4	
	comp=Z,4μm,18.0s					
PLOR	**Plostina**	**76.64 324**	⇓P	**P**	**06 08 37.1**	**+0.3**
PLOR	**Plostina**	**76.64 324**	⇓P	**P**	**06 08 37.1**	**+0.3**
EDI	**Edinburgh**	**76.64 345**	*e*P	**P**	**06 08 36.1**	**-0.5**
EDI			IAmb	IAmb	06 08 37.1	
	comp=Z,69nm,0.9s					
CHVC	**Chvalec**	**76.64 332**⇑	*i*P	**P**	**06 08 36.8**	**+0.1**
CHVC			AMS	AMS	06 46 00.0	
	comp=Z,7μm,18.8s					
BSY	**Bisya**	**76.67 289**	P	**P**	**06 08 38.3**	**+1.0**
	SNR=37					
BSY			P	**P**	**06 08 38.3**	**+1.0**
	SNR=37					
BSY			S	**S**	**06 18 21.7**	**+0.8**
BSY			S	**S**	**06 18 21.7**	**+0.8**
TOPG	**Topolog**	**76.68 322**	⇑P	**P**	**06 08 36.5**	**-0.5**
LAWE	**Loch Awe, Argy**	**76.69 347**⇑	*e*P	**P**	**06 08 36.6**	**-0.2**
LAWE			IAmb	IAmb	06 08 37.9	
	comp=Z,366nm,1.3s					
MNTX	**Cornudas Mount**	**76.70 58**	P	**P**	**06 08 37.7**	**+0.4**
	baz=316,SNR=65					
MNTX	**Cornudas Mount**	**76.70 58**	P	**P**	**06 08 37.6**	**+0.2**
LANS	**Liptovska Anna**	**76.70 330**	*e*P	**P**	**06 08 38.2**	**+1.1**
LANS			pmax	pmax		
	comp=Z,140nm,1.1s					
LANS	**Liptovska Anna**	**76.70 330**	*e*P	**P**	**06 08 38.2**	**+1.1**
L40A	**Anamosa**	**76.71 43**	P	**P**	**06 08 36.2**	**-1.0**
	baz=320,SNR=12					
L40A	**Anamosa**	**76.71 43**	P	**P**	**06 08 36.2**	**-1.0**
L40A			IAmb	IAmb	06 08 37.6	
	comp=Z,105nm,1.1s					
ARQ	**Araqi**	**76.71 290**	P	**P**	**06 08 38.4**	**+0.9**
	SNR=31					
ALNE	**Al Ain**	**76.72 291**	*i* P	**P**	**06 08 37.9**	**+0.3**
	SNR=15					
UPC	**Upice**	**76.73 332**	*e*P	**P**	**06 08 37.2**	**0.0**
UPC			MLR	MLR		
	comp=Z,7μm,19.2s					
UPC	**Upice**	**76.73 332**⇑	*e*P	**P**	**06 08 37.2**	**0.0**
UPC			AMS	AMS	06 46 10.0	
	comp=Z,7μm,19.2s					
E47A	**Iron Bridge**	**76.75 35**	P	**P**	**06 08 36.2**	**-1.2**
	baz=324,SNR=15					
D48A	**Paudash Townsh**	**76.75 34**	P	**P**	**06 08 36.1**	**-1.3**
	baz=325,SNR=12					
EBL	**Broad Law**	**76.76 345**⇑	*i*P	**P**	**06 08 37.0**	**-0.2**
DPC	**Dobruska-Polom**	**76.76 332**⇑	*i*P	**P**	**06 08 37.8**	**+0.4**
DPC			MLR	MLR		
	comp=Z,6μm,18.1s					
DPC	**Dobruska-Polom**	**76.76 332**⇑	*i*P	**P**	**06 08 37.8**	**+0.4**
DPC			AMS	AMS	06 50 20.0	
	comp=Z,6μm,18.1s					
OZUR		**76.80 324**	⇑P	**P**	**06 08 37.6**	**-0.1**
MORC	**Moravsky Berou**	**76.84 331**	P	**P**	**06 08 37.9**	**0.0**
MORC			pmax	pmax		
	comp=Z,266nm,1.1s					
MORC	**Moravsky Berou**	**76.84 331**	⇑P	**P**	**06 08 38.2**	**+0.3**
MORC	**Moravsky Berou**	**76.84 331**	*e*P	**P**	**06 08 38.1**	**+0.3**
MORC	**Moravsky Berou**	**76.84 331**	P	**P**	**06 08 37.9**	**0.0**
D49A	**Beulah Townshi**	**76.84 34**	P	**P**	**06 08 36.9**	**-1.0**
	baz=325,SNR=15					
KRLC	**Kraliky**	**76.84 332**⇑	*i*P	**P**	**06 08 38.0**	**+0.1**
KRLC			MLR	MLR		
	comp=Z,6μm,16.2s					
KRLC	**Kraliky**	**76.84 332**⇑	*i*P	**P**	**06 08 38.0**	**+0.1**
KRLC			AMS	AMS	06 50 10.0	
	comp=Z,6μm,16.2s					
AJN	**Ajban**	**76.87 292**	*i* P	**P**	**06 08 38.4**	**0.0**
	SNR=6.4					
AJN	**Ajban**	**76.87 292**	P	**P**	**06 08 38.6**	**+0.2**
	SNR=5.4					
AJN			P	**P**	**06 08 38.6**	**+0.2**
	SNR=5.4					
GRER		**76.88 323**	⇑P	**P**	**06 08 39.0**	**+0.9**
G45A	**Suttons Bay**	**76.89 37**	P	**P**	**06 08 37.6**	**-0.6**
	baz=323					
G45A	**Suttons Bay**	**76.89 37**	P	**P**	**06 08 37.0**	**-1.2**
G45A			IAMs_20	IAMs_20	06 42 32.1	
	comp=Z,3μm,22.0s					
KECS	**Kecovo**	**76.90 329**	*e*P	**P**	**06 08 38.8**	**+0.6**
KECS			pmax	pmax		
	comp=Z,72nm,1.2s					
KECS	**Kecovo**	**76.90 329**	*e*P	**P**	**06 08 38.8**	**+0.6**
GDL2	**Guadalupe Moun**	**76.95 57**	P	**P**	**06 08 39.0**	**+0.1**
PGBU	**Glenifferbraes**	**76.97 346**⇑	*e*P	**P**	**06 08 38.5**	**+0.1**
PGBU			IAmb	IAmb	06 08 39.4	
	comp=Z,333nm,0.9s					
CLL	**Collm**	**76.98 334**⇑	*i*P	**P**	**06 08 38.2**	**-0.4**
CLL			*e*S	**SKSac**	**06 18 44.0**	**-3.2**
CLL			pmax	pmax		
	comp=Z,294nm,1.2s					
CLL			MLR	MLR		
	comp=Z,6μm,18.6s					
CLL	**Collm**	**76.98 334**⇑	*i*P	**P**	**06 08 38.2**	**-0.4**
	comp=Z,294nm,1.2s					
CLL			*e*S	**S**	**06 18 28.0**	**+4.6**
CLL			*e*PS		06 19 07.0	
CLL			*e*SS	SS	06 23 48.0	+29
CLL			L	L	06 45 00.0	
	comp=Z,6μm,18.6s					
CLL	**Collm**	**76.98 334**	P	**P**	**06 08 37.6**	**-0.9**
CLL			IAMs_20	IAMs_20	06 45 47.0	
	comp=Z,7μm,19.0s					
LSQG	**Lebel-sur-Quev**	**76.98 30**	P	**P**	**06 08 37.9**	**-0.7**
	baz=328					
U32A	**Winter Ranch,**	**76.99 51**	IAMs_20	IAMs_20	06 46 56.5	
	comp=Z,4μm,19.0s					
LHI	**Lord Howe Isla**	**76.99 173**	IAMs_20	IAMs_20	06 36 07.5	
	comp=Z,3μm,20.0s					
TIRR	**Tirgusor**	**77.00 322**	P	**P**	**06 08 38.9**	**+0.1**
TIRR			pmax	pmax		
	comp=Z,386nm,1.1s					
TIRR			MLR	MLR		
	comp=Z,32μm,18.0s					
TIRR	**Tirgusor**	**77.00 322**	⇑P	**P**	**06 08 39.1**	**+0.3**
TIRR	**Tirgusor**	**77.00 322**	⇑P	**P**	**06 08 39.1**	**+0.3**
TIRR	**Tirgusor**	**77.00 322**	P	**P**	**06 08 38.9**	**+0.1**
G46A	**Petoskey**	**77.01 37**	P	**P**	**06 08 38.3**	**-0.6**
	baz=324,SNR=8.6					
HARR	**Harsova**	**77.02 322**	⇑P	**P**	**06 08 39.4**	**+0.5**
HARR	**Harsova**	**77.02 322**	⇑P	**P**	**06 08 39.4**	**+0.5**
TLB	**Topalu**	**77.06 322**	⇓P	**P**	**06 08 39.1**	**0.0**
TLB	**Topalu**	**77.06 322**	⇓P	**P**	**06 08 39.1**	**0.0**
H45A	**Beulah**	**77.06 38**	P	**P**	**06 08 38.7**	**-0.4**
	baz=323					
DOPR	**Dopca**	**77.06 324**	⇓P	**P**	**06 08 39.7**	**+0.5**
BRG	**Berggiesshubel**	**77.07 334**	*i* P	**P**	**06 08 38.8**	**-0.3**
	comp=Z,134nm,1.3s					
BRG			*e*PP	PP	06 11 15.8	-16
	comp=Z,22nm,1.3s					
BRG			S	**SKSac**	**06 18 46.0**	**-1.9**
BRG			SS	**SS**	**06 23 30.0**	**+9.2**
	comp=N,6μm,19.0s					
	comp=E,3μm,16.8s					
	comp=Z,7μm,17.6s					
BRG	**Berggiesshubel**	**77.07 334**	*i* P	**P**	**06 08 38.8**	**-0.3**
BRG			S	**SKSac**	**06 18 46.0**	**-1.9**
BRG			SS	**SS**	**06 23 30.0**	**+9.2**
BRG			pmax	pmax		
	comp=Z,134nm,1.3s					
BRG			MLR	MLR		
	comp=N,6μm,19.0s					
BRG			MLR	MLR		
	comp=E,3μm,16.8s					
BRG			MLR	MLR		
	comp=Z,7μm,17.6s					
CHGQ	**Chibougamau**	**77.14 28**	P	**P**	**06 08 38.9**	**-0.6**
	baz=329,SNR=38					
E48A	**Lockeyer**	**77.17 35**	P	**P**	**06 08 38.8**	**-1.0**
	baz=325,SNR=7.1					
PVCC	**Panska Ves**	**77.17 333**	*e*P	**P**	**06 08 39.8**	**+0.1**
PVCC			MLR	MLR		
	comp=Z,12μm,18.8s					
PVCC	**Panska Ves**	**77.17 333**⇑	*e*P	**P**	**06 08 39.8**	**+0.1**
PVCC			AMS	AMS	06 46 10.0	
	comp=Z,12μm,18.8s					
CJR	**Cluj-Napoca**	**77.18 326**	⇑P	**P**	**06 08 40.6**	**+0.8**
CJR	**Cluj-Napoca**	**77.18 326**	⇑P	**P**	**06 08 40.6**	**+0.8**
CLNB	**Carlsbad**	**77.19 57**	P	**P**	**06 08 40.4**	**+0.2**
EKA	**Eskdalemuir Ar**	**77.20 345**	P	**P**	**06 08 39.5**	**-0.2**
	comp=Z,84nm,0.8s,baz=19,slow=5.8,SNR=140					
ILGA	**Ilgaz**	**77.21 316**	P	**P**	**06 08 41.9**	**+1.5**
ILGA			IAMs_20	IAMs_20	06 47 42.7	
	comp=Z,4μm,20.0s					
MFTR	**Murfatlar**	**77.22 322**	⇑P	**P**	**06 08 39.8**	**-0.2**
MLR	**Muntele Rosu**	**77.22 324**	⇑P	**P**	**06 08 40.5**	**+0.3**
MLR	**Muntele Rosu**	**77.22 324**	P	**P**	**06 08 40.3**	**+0.1**
	comp=Z,116nm,0.8s,baz=342,slow=4.9,SNR=83					
MLR	**Muntele Rosu**	**77.22 324**	⇑P	**P**	**06 08 40.5**	**+0.3**
MLR	**Muntele Rosu**	**77.22 324**	P	**P**	**06 08 40.3**	**+0.1**
ESK	**Eskdalemuir**	**77.22 345**⇑	*e*P	**P**	**06 08 39.6**	**-0.2**
ESK			IAmb	IAmb	06 08 40.6	
	comp=Z,222nm,1.3s					
ESK	**Eskdalemuir**	**77.22 345**	P	**P**	**06 08 39.8**	**0.0**
ESK			pmax	pmax		
	comp=Z,166nm,1.2s					
ESK	**Eskdalemuir**	**77.22 345**	P	**P**	**06 08 39.8**	**0.0**
ESK			IAmb	IAmb	06 08 40.8	
	comp=Z,166nm,1.1s					
ISR	**Istrita**	**77.27 323**	⇑P	**P**	**06 08 41.2**	**+0.8**
ISR	**Istrita**	**77.27 323**	⇑P	**P**	**06 08 41.2**	**+0.8**
MDB	**Medias**	**77.33 325**	⇑P	**P**	**06 08 42.0**	**+1.3**
MDB	**Medias**	**77.33 325**	⇑P	**P**	**06 08 42.0**	**+1.3**
AMRR	**Amara**	**77.34 322**	⇓P	P	06 08 45.5	+4.8
AMRR	**Amara**	**77.34 322**	⇓P	P	06 08 45.5	+4.8
I45A	**Fountain**	**77.44 38**	P	**P**	**06 08 41.0**	**-0.3**
	baz=323					
EDMD	**Edmundbyers**	**77.45 344**⇑	*e*P	**P**	**06 08 40.9**	**-0.3**
EDMD			IAmb	IAmb	06 08 41.3	
	comp=Z,121nm,1.0s					
DRGR		**77.46 326**	⇑P	**P**	**06 08 41.6**	**+0.2**
DRGR		**77.46 326**	⇑P	**P**	**06 08 41.6**	**+0.2**
STKA	**Stephens Creek**	**77.47 188**	P	**P**	**06 08 42.9**	**+1.6**
STKA			pmax	pmax		
	comp=Z,9.0nm,1.0s					
STKA			MLR	MLR		
	comp=Z,800nm,19.0s					
STKA	**Stephens Creek**	**77.47 188**	P	**P**	**06 08 42.7**	**+1.4**
	comp=Z,24nm,0.8s,baz=345,slow=7.3,SNR=46					
STKA	**Stephens Creek**	**77.47 188**	P	**P**	**06 08 42.9**	**+1.6**
VYHS	**Vyhne**	**77.48 330**	*e*P	**P**	**06 08 42.1**	**+0.6**
VYHS			pmax	pmax		
	comp=Z,195nm,1.2s					
VYHS	**Vyhne**	**77.48 330**	*e*P	**P**	**06 08 42.1**	**+0.6**
H46A	**Fife Lake**	**77.49 37**	P	**P**	**06 08 41.3**	**-0.3**
	baz=323,SNR=23					
GLMI	**Grayling**	**77.51 37**	P	**P**	**06 08 41.5**	**-0.2**
	baz=324,SNR=12					
GLMI	**Grayling**	**77.51 37**	P	**P**	**06 08 41.4**	**-0.3**
D50A	**G1974 Best Tow**	**77.51 33**	P	**P**	**06 08 40.5**	**-1.2**
	baz=326,SNR=9.7					
F48A	**Evansville**	**77.52 35**	P	**P**	**06 08 40.8**	**-0.9**
	baz=325,SNR=7.2					
G47A	**Hillman**	**77.55 36**	P	**P**	**06 08 41.3**	**-0.6**
	baz=324,SNR=5.8					
K43A	**Burlington**	**77.56 40**	P	**P**	**06 08 41.1**	**-0.9**
	baz=322,SNR=6.3					
K43A	**Burlington**	**77.56 40**	P	**P**	**06 08 41.4**	**-0.5**
K43A			IAmb	IAmb	06 08 42.7	
	comp=Z,126nm,1.1s					
VRAC	**Vranov**	**77.56 331**	P	**P**	**06 08 42.5**	**+0.6**
	comp=Z,186nm,0.9s,baz=33,slow=5.5,SNR=111					
VRAC	**Vranov**	**77.56 331**	⇑P	**P**	**06 08 42.4**	**+0.5**
VRAC	**Vranov**	**77.56 331**	*e*P	**P**	**06 08 42.5**	**+0.6**
JAVC	**Velka Javorina**	**77.58 331**	*e*P	**P**	**06 08 43.4**	**+1.3**
PSZ	**Piszkesteto**	**77.58 329**	P	**P**	**06 08 42.2**	**+0.1**
PSZ			pmax	pmax		
	comp=Z,200nm,1.1s					
PSZ			MLR	MLR		

comp=Z,3μm,20.0s
CLGH Cloghs, Cushen 77.94 347⇑ eP P 06 08 43.6 -0.2
CLGH IAmb IAmb 06 08 44.6
comp=Z,198nm,0.9s
TREC Trest 77.94 332 ⇑AMS AMS 06 45 50.0
comp=Z,8μm,22.0s
SMOL Smolenice 77.96 330 eP P 06 08 45.3 +1.1
SMOL pmax pmax
comp=Z,144nm,0.8s
SMOL Smolenice 77.96 330 eP P 06 08 45.2 +1.1
PBCC Pribram 78.09 333⇑ iP P 06 08 44.9 +0.1
NKC Novy Kostel 78.09 334⇑ iP P 06 08 44.4 -0.4
NKC MLR MLR
comp=Z,8μm,17.8s
NKC Novy Kostel 78.09 334⇑ iP P 06 08 44.4 -0.4
NKC AMS AMS 06 47 20.0
comp=Z,8μm,17.8s
KDZE Karadeniz Ereo 78.09 318 ⇓P P 06 08 44.4 -0.6
MODS Modra-Piesok 78.13 330 eP P 06 08 45.2 +0.1
MODS pmax pmax
comp=Z,265nm,1.1s
MODS Modra-Piesok 78.13 330 eP P 06 08 45.2 +0.1
DEV Deva 78.14 326 ⇓P P 06 08 45.8 +0.7
DEV Deva 78.14 326 ⇓P P 06 08 45.8 +0.7
WTSB Winterswijk 78.14 338 i P P 06 08 44.8 -0.1
H48A Harrisville 78.15 36 P P 06 08 44.9 -0.4
baz=324,SNR=6.4
H48A Harrisville 78.15 36 P P 06 08 45.1 -0.1
H48A IAms_20 IAms_20 06 43 24.3
comp=Z,4μm,22.0s
L44A Lake County Fo 78.16 41 P P 06 08 44.7 -0.7
baz=322
IDGL Inch Island, C 78.17 348⇑ eP P 06 08 44.8 -0.3
IDGL IAmb IAmb 06 08 45.8
comp=Z,192nm,0.9s
E51A G1948 Merrick 78.17 33 P P 06 08 44.1 -1.3
baz=326,SNR=12
I47A Gladwin 78.20 37 P P 06 08 45.5 -0.1
baz=324,SNR=8.6
I47A Gladwin 78.20 37 P P 06 08 45.5 -0.1
I47A IAmb IAmb 06 08 48.4
comp=Z,117nm,1.1s
D52A ZEK Kipawa Sen 78.21 32 P P 06 08 44.6 -0.9
baz=327
HPK Haverah Park 78.21 344⇑ eP P 06 08 45.7 +0.3
HPK IAmb IAmb 06 08 46.5
comp=Z,365nm,0.8s
SRO Srobarova 78.24 330 eP P 06 08 47.0 +1.3
SRO pmax pmax
comp=Z,287nm,0.7s
SRO Srobarova 78.24 330 eP P 06 08 47.0 +1.3
J46A Howard City 78.25 38 P P 06 08 45.6 -0.2
baz=323,SNR=13
BR131 Keskin Array S 78.27 316 P P 06 08 46.6 +0.4
SNR=68
BR131 S S 06 18 36.4 -1.6
BR131 Keskin Array S 78.27 316 P P 06 08 46.4 +0.3
BR131 pmax pmax
comp=Z,131nm,1.0s
BR131 Keskin Array S 78.27 316 P P 06 08 46.4 +0.3
BR131 IAmb IAmb 06 08 47.8
comp=Z,132nm,1.0s
BRTR Keskin Array B 78.27 316 P P 06 08 46.6 +0.4
comp=Z,100nm,1.0s,baz=65,slow=3.7,SNR=300
SIRR Siria 78.30 327 ⇑P P 06 08 46.5 +0.5
WMOK Wichita Mounta 78.31 52 P P 06 08 46.4 0.0
baz=318,SNR=67
WMOK Wichita Mounta 78.31 52 P P 06 08 46.3 0.0
WMOK pmax pmax
comp=Z,87nm,1.0s
WMOK MLR MLR
comp=Z,3μm,20.0s
WMOK Wichita Mounta 78.31 52 P P 06 08 46.3 0.0
WMOK IAmb IAmb 06 08 47.4
comp=Z,87nm,0.9s
WMOK Wichita Mounta 78.31 52 IAms_20 IAms_20 06 47 46.8
comp=Z,3μm,20.0s
D53A Lac Vacive, Po 78.39 32 P P 06 08 45.7 -0.8
baz=328,SNR=12
D53A Lac Vacive, Po 78.39 32 P P 06 08 45.4 -1.1
D53A IAmb IAmb 06 08 46.8
comp=Z,66nm,0.9s
GAZ Gaziantep 78.39 312 P P 06 08 47.7 +0.9
HUMR Humele 78.40 324 ⇑P P 06 08 45.8 -0.8
I48A Sherman Twp 78.41 37 P P 06 08 46.6 -0.1
baz=324,SNR=5.7
F51A Arnstein 78.51 34 P P 06 08 45.8 -1.4
baz=326,SNR=5.4
RAZG Razgrad 78.53 322 ⇑P P 06 08 46.8 -0.6
OKCSW OKLAHOMA CITY 78.56 51 P P 06 08 48.1 +0.4
ANTO Ankara 78.57 316 P P 06 08 48.7 +1.0
SNR=35
ANTO P P 06 08 48.7 +1.0
SNR=35
ANTO Ankara 78.57 316 P P 06 08 48.6 +0.9
ANTO pmax pmax
comp=Z,225nm,0.8s
ANTO MLR MLR
comp=Z,5μm,20.0s
ANTO Ankara 78.57 316 ⇑P P 06 08 47.8 +0.1
ANTO Ankara 78.57 316 P P 06 08 48.6 +1.0
ANTO Ankara 78.57 316 IAms_20 IAms_20 06 48 21.7
comp=Z,5μm,20.0s
GZR Gura Zlata 78.59 326 ⇑P P 06 08 47.7 0.0
GZR Gura Zlata 78.59 326 ⇑P P 06 08 47.7 0.0
WIM Isle of Man 78.60 346⇑ iP P 06 08 47.4 -0.1
BR231 Keskin MP Arra 78.60 316 P P 06 08 48.6 +0.7
COPA Copaceanca 78.62 323 ⇓P P 06 08 47.5 -0.3
FNO Franklin 78.69 51 P P 06 08 49.0 +0.6
J47A Sunmer 78.70 38 P P 06 08 48.2 0.0
baz=324,SNR=20
J47A Sunmer 78.70 38 P P 06 08 48.3 0.0
E52A Mattawa 78.70 33 P P 06 08 46.9 -1.4
baz=327,SNR=6.6
KHC Kasperske Hory 78.71 333c iP P 06 08 48.7 +0.4
KHC pmax pmax
comp=Z,565nm,0.9s
KHC MLR MLR
comp=Z,22μm,18.0s
KHC Kasperske Hory 78.71 333⇑ iP P 06 08 48.6 +0.3
KHC ex x 06 09 10.0
KHC AMS AMS 06 47 10.0
comp=Z,13μm,18.2s
KHC Kasperske Hory 78.71 333 P P 06 08 48.7 +0.4
KHC IAmb IAmb 06 08 49.8
comp=Z,98nm,0.9s
KHC IAms_20 IAms_20 06 47 35.8
comp=Z,5μm,18.0s
D54A Lac Fusel, La 78.71 31 P P 06 08 47.3 -1.0
baz=328,SNR=13
K46A Dorr 78.72 39 P P 06 08 47.8 -0.5
baz=323
GMM Mts of Mourne 78.73 346 eP P 06 08 47.7 -0.4
LBWR Ladybower, Pea 78.76 344⇑ eP P 06 08 48.6 +0.2
LBWR IAmb IAmb 06 08 50.0
comp=Z,739nm,1.1s
HDIL Hopedale 78.79 42 P P 06 08 48.4 -0.4
baz=322,SNR=34
HDIL Hopedale 78.79 42 P P 06 08 48.5 -0.3
F52A Sundridge 78.85 33 P P 06 08 48.3 -0.8
baz=327,SNR=8.4
BZS Buzias 78.86 326 ⇑P P 06 08 49.0 -0.1
BZS Buzias 78.86 326 ⇑P P 06 08 49.0 -0.1
WACR West Acre 78.91 342⇑ eP P 06 08 49.1 -0.1
WACR IAmb IAmb 06 08 50.4
comp=Z,629nm,0.9s
GEC2 GERESS Array S 78.92 333 P P 06 08 49.4 -0.1
GEC2 IAmb IAmb 06 08 50.5
comp=Z,82nm,0.8s
GERES GERESS Array B 78.92 333 P P 06 08 49.2 -0.3
GERES GERESS Array B 78.92 333 P P 06 08 49.4 -0.1
comp=Z,49nm,0.7s,baz=34,slow=5.2,SNR=308
GERES GERESS Array B 78.92 333 P P 06 08 49.2 -0.3
X34A Smith Ranch, M 78.94 52 P P 06 08 50.1 +0.3
X34A IAmb IAmb 06 08 51.3
comp=Z,118nm,0.9s
GRA1 Grafenberg Arr 78.94 335 P P 06 08 49.9 +0.4
GRF Grafenberg Arr 78.94 335 P P 06 08 49.9 +0.4
GRF pmax pmax
comp=Z,241nm,0.8s
GRF MLR MLR
comp=Z,7μm,19.0s
MZR Muzera 78.95 291 i P P 06 08 50.3 +0.3
SNR=18
MZR Muzera 78.95 291 P P 06 08 50.5 +0.5
SNR=25
ZIMR 78.95 323 ⇓P P 06 08 49.4 -0.2
ZIMR 78.95 323 ⇓P P 06 08 49.4 -0.2
I49A Point Hope 78.98 36 P P 06 08 49.6 -0.2
baz=325
I49A Point Hope 78.98 36 IAms_20 IAms_20 06 43 38.2
comp=Z,4μm,20.0s
E53A Dumoine, Ponti 78.99 32 P P 06 08 48.6 -1.2
baz=328,SNR=6.3
CONA Conrad Observa 79.00 331 i P P 06 08 50.6 +0.6
comp=Z,92nm,0.6s,SNR=64
SZH Strazhica 79.02 322 i P P 06 08 50.1 0.0
L46A Eue Claire 79.03 40 P P 06 08 49.5 -0.5
baz=323,SNR=6.5
L46A Eue Claire 79.03 40 P P 06 08 50.0 0.0
L46A IAmb IAmb 06 08 50.8
comp=Z,148nm,1.1s
W35A Tecumseh 79.05 51 P P 06 08 50.3 -0.1
TUL1 Leonard 79.07 49 P P 06 08 50.1 -0.3
baz=319,SNR=20
TUL1 Leonard 79.07 49 P P 06 08 50.4 -0.1
TUL1 IAmb IAmb 06 08 51.5
comp=Z,133nm,1.3s
TUL1 IAms_20 IAms_20 06 45 11.5
comp=Z,3μm,21.0s
VLAD Vladila 79.07 324 ⇑P P 06 08 49.5 -0.8
K47A Vermontville 79.08 38 P P 06 08 49.8 -0.6
baz=324,SNR=7.6
BBOO Buckleboo 79.09 193 P P 06 08 51.5 +1.3
BBOO IAms_20 IAms_20 06 45 04.0
comp=Z,4μm,18.0s
J48A Bridge Port 79.09 37 P P 06 08 50.3 -0.2
baz=324,SNR=8.6
J48A Bridge Port 79.09 37 P P 06 08 50.4 -0.1
J48A IAmb IAmb 06 08 51.5
comp=Z,102nm,0.9s
E54A Lac Daplat, Po 79.12 32 P P 06 08 49.3 -1.2
baz=328,SNR=9.1
HERR Herculane 79.16 326 ⇑P P 06 08 50.3 -0.5
ALGO Algonquin Park 79.21 32 P P 06 08 49.7 -1.3
baz=327,SNR=8.1
D55A Sainte-Anne-du 79.25 30 P P 06 08 50.5 -0.7
baz=329,SNR=12
WME Myndd Eilian 79.25 345⇑ iP P 06 08 50.6 -0.4
WPS Cemaes, Angles 79.28 345⇑ eP P 06 08 50.2 -1.0
WPS IAmb IAmb 06 08 52.2
comp=Z,72nm,1.1s
CWF Charnwood Fore 79.30 343⇑ eP P 06 08 51.2 -0.2
CWF IAmb IAmb 06 08 52.2
comp=Z,465nm,1.7s
J49A Marlette 79.32 37 P P 06 08 51.5 -0.2
baz=325,SNR=6.1
ELND Elena 79.32 322 ⇑P P 06 08 51.8 +0.1
K48A Perry 79.35 38 P P 06 08 51.8 0.0
baz=324,SNR=12
WLF1 Llynfaes 79.37 345⇑ eP P 06 08 51.4 -0.3
WLF1 IAmb IAmb 06 08 52.4
comp=Z,209nm,1.2s
ABTX Abilene, Hawle 79.39 54 P P 06 08 52.3 +0.1
baz=318,SNR=26
ABTX Abilene, Hawle 79.39 54 P P 06 08 52.1 -0.2
ABTX IAms_20 IAms_20 06 47 55.0
comp=Z,2μm,20.0s
TX31 Lajitas Ar. Si 79.42 59 P P 06 08 52.8 +0.2
TX32 Lajitas Array 79.42 59 P P 06 08 52.9 +0.3
TX32 IAmb IAmb 06 08 54.1
comp=Z,78nm,0.9s
TXAR Lajitas Array 79.42 59 P P 06 08 52.8 +0.2
comp=Z,68nm,0.8s,baz=296,slow=4.1,SNR=660
TXAR PKKPbc **PKKPbc 06 27 42.2 +2.9**
comp=Z,2.3nm,0.8s,baz=140,slow=5.1,SNR=18
CTYL Yalikoy Yolu 79.42 320 ⇑P P 06 08 52.4 +0.1
YRC Rhoscolyn 79.44 345⇑ eP P 06 08 51.5 -0.6
PUNG Punghina 79.45 325 ⇑P P 06 08 52.2 -0.2
HGN Heimansgroeve 79.46 338 i P P 06 08 52.2 -0.1
YLL Llanberis 79.47 345⇑ eP P 06 08 52.2 -0.1
D56A ZEC Mazanza, M 79.47 30 P P 06 08 52.0 -0.4
baz=329
PLVB Pleven 79.48 323 ⇑P P 06 08 52.5 0.0
O44A Mansfield 79.50 42 P P 06 08 52.3 -0.4
O44A IAmb IAmb 06 08 52.8
comp=Z,74nm,0.7s
O44A IAms_20 IAms_20 06 42 35.5
comp=Z,4μm,22.0s
MDVR Moldovita 79.52 326 ⇑P P 06 08 52.5 -0.3
E55A Montcerf-Lytto 79.52 31 P P 06 08 51.8 -0.9
baz=329,SNR=9.8
FOEL Foel Wylfa 79.53 344⇑ eP P 06 08 52.9 +0.2
FOEL IAmb IAmb 06 08 53.8
comp=Z,200nm,0.9s
L47A Sherwood 79.55 39 P P 06 08 52.1 -0.8
baz=324,SNR=13
RAO Raoul Island 79.58 153 IAms_20 IAms_20 06 38 01.3
comp=Z,5μm,21.0s
H52A Wyevale 79.59 34 P P 06 08 52.2 -1.0
baz=326,SNR=16
MOA Molln 79.60 332 i P P 06 08 53.2 0.0
comp=Z,49nm,0.8s,SNR=28
K49A Clarkson 79.65 37 P P 06 08 53.6 +0.1
baz=325,SNR=15
LLW Llanuwychllyn 79.66 345⇑ eP P 06 08 53.2 -0.1
LLW IAmb IAmb 06 08 54.3
comp=Z,80nm,0.8s
G54A Lake Saint Pet 79.66 33 P P 06 08 52.4 -1.1
baz=328,SNR=5.1
G53A Haliburton 79.69 33 P P 06 08 52.8 -0.8
baz=327,SNR=13
ARSA Arzberg 79.70 331 i P P 06 08 54.1 +0.4
comp=Z,28nm,0.7s,SNR=23
DSB Dublin 79.75 346 P P 06 08 53.7 -0.1
DSB IAmb IAmb 06 08 55.0
comp=Z,193nm,1.0s
HHAR Hobbs 79.77 48 P P 06 08 53.5 -0.7
HHAR IAmb IAmb 06 08 54.8
comp=Z,132nm,1.1s
HHAR IAms_20 IAms_20 06 46 30.8
comp=Z,4μm,20.0s
SADO Sadowa 79.78 34 IAms_20 IAms_20 06 45 22.3
comp=Z,4μm,20.0s
CCM Cathedral Cave 79.79 45 P P 06 08 54.0 -0.3
baz=321
CCM Cathedral Cave 79.79 45 P P 06 08 53.7 -0.6
CCM pmax pmax
comp=Z,163nm,1.0s
CCM Cathedral Cave 79.79 45 P P 06 08 53.7 -0.6
CCM IAmb IAmb 06 08 55.0
comp=Z,163nm,0.9s
CCM Cathedral Cave 79.79 45 IAms_20 IAms_20 06 49 28.7
comp=Z,3μm,18.0s
D57A Chemin Vers le 79.80 29 P P 06 08 53.9 -0.3
baz=330
E56A St. Veronique 79.81 30 P P 06 08 53.6 -0.7
baz=329,SNR=14
HLM1 Long Mynd 79.82 344⇑ eP P 06 08 54.1 -0.2
HLM1 IAmb IAmb 06 08 55.3
comp=Z,308nm,1.2s
UCC Uccle 79.83 339 IAms_20 IAms_20 06 50 06.4
comp=Z,6μm,19.0s
I51A Listowel 79.83 35 P P 06 08 54.1 -0.3
baz=326,SNR=7.8
SLM Saint Louis 79.83 44 P P 06 08 54.2 -0.4
SLM pmax pmax
comp=Z,167nm,1.0s
SLM Saint Louis 79.83 44 P P 06 08 54.2 -0.4
SLM IAmb IAmb 06 08 55.4
comp=Z,167nm,1.0s
SLM IAms_20 IAms_20 06 41 41.6
comp=Z,4μm,22.0s
M47A Cromwell 79.85 40 P P 06 08 54.2 -0.4
baz=324,SNR=15
LATQ La Tuque 79.86 29 P P 06 08 53.9 -0.6
baz=330,SNR=5.9
LATQ La Tuque 79.86 29 P P 06 08 54.5 0.0
MPEP Malo Peshtene 79.88 324 i P P 06 08 55.2 +0.5
L48A N Adams 79.91 39 P P 06 08 54.7 -0.2
baz=324,SNR=19
HPIG 79.92 62 P P 06 08 55.6 +0.2
HPIG IAms_20 IAms_20 06 48 02.9
comp=Z,3μm,20.0s
FRGS Fruska Gora 79.94 327⇑ iP P 06 08 54.6 -0.4
F55A Otter Lake 79.94 31 P P 06 08 53.8 -1.2
baz=328,SNR=7.3
AAM Ann Arbor 79.96 38 P P 06 08 55.2 0.0
AAM pmax pmax
comp=Z,119nm,1.0s
AAM MLR MLR
comp=Z,4μm,20.0s
AAM Ann Arbor 79.96 38 P P 06 08 55.2 0.0
AAM IAmb IAmb 06 08 56.2
comp=Z,118nm,1.0s
AAM IAms_20 IAms_20 06 47 07.9
comp=Z,4μm,20.0s
SFIN Lafayette 79.96 41 P P 06 08 54.7 -0.5
baz=323,SNR=16
SFIN Lafayette 79.96 41 P P 06 08 54.6 -0.6
SFIN IAmb IAmb 06 08 56.0
comp=Z,151nm,1.3s
SFIN IAms_20 IAms_20 06 42 28.6
comp=Z,4μm,20.0s
MGMO Mountain Grove 79.97 46 P P 06 08 54.5 -0.8
MGMO IAmb IAmb 06 08 55.7
comp=Z,131nm,1.2s
MGMO IAms_20 IAms_20 06 48 18.6
comp=Z,3μm,20.0s
K50A Casco 80.01 37 P P 06 08 55.2 -0.3
baz=325,SNR=6.4
K50A Casco 80.01 37 P P 06 08 55.4 -0.1
K50A IAmb IAmb 06 08 56.4
comp=Z,170nm,1.2s
IGLA Glengowla, Co 80.05 348⇑ eP P 06 08 54.2 -1.2
IGLA IAmb IAmb 06 08 55.1
comp=Z,138nm,0.9s
L49A Milan 80.07 38 P P 06 08 55.6 -0.2
baz=324,SNR=16
D58A Chemin du LacG 80.08 29 P P 06 08 55.2 -0.6
baz=330,SNR=11
KOGS Kog 80.14 330 i P P 06 08 55.7 -0.3
SSW Stow on the Wo 80.14 343⇑ eP P 06 08 56.4 +0.4
M48A Edgerton 80.16 39 P P 06 08 55.7 -0.6
baz=324,SNR=16
M48A Edgerton 80.16 39 P P 06 08 55.9 -0.4
M48A IAmb IAmb 06 08 57.0
comp=Z,133nm,0.9s
H53A Bobcaygeon 80.16 34 P P 06 08 55.4 -0.8
baz=327,SNR=9.2
N47A Urbana 80.20 40 P P 06 08 55.7 -0.8
baz=324,SNR=20
N47A Urbana 80.20 40 P P 06 08 55.7 -0.8
N47A IAmb IAmb 06 08 56.9
comp=Z,216nm,1.2s
ELSH Elham, Standar 80.28 341⇑ eP P 06 08 56.3 -0.4
ELSH IAmb IAmb 06 08 57.9
comp=Z,571nm,0.9s
U40A Yellville 80.28 47 P P 06 08 56.5 -0.6
baz=320,SNR=150
U40A Yellville 80.28 47 P P 06 08 56.4 -0.6
U40A IAms_20 IAms_20 06 45 37.9
comp=Z,4μm,18.0s
G55A Calabogie 80.30 32 P P 06 08 56.0 -0.9
baz=328,SNR=11
MCH1 Michaelchurch 80.34 344⇑ eP P 06 08 57.0 0.0
MCH1 IAmb IAmb 06 08 58.1
comp=Z,418nm,1.1s
KALN Kalnik 80.34 330 i P P 06 08 56.8 -0.4
PLVO Plevna 80.35 32 P P 06 08 56.3 -0.9
PLVO IAmb IAmb 06 08 57.8
comp=Z,65nm,0.8s
SOKA Soboth 80.36 331 i P P 06 08 57.4 +0.1
comp=Z,87nm,0.7s,SNR=66
STU Stuttgart 80.36 335 P P 06 08 56.6 -0.6
STU pmax pmax
comp=Z,146nm,0.9s
STU Stuttgart 80.36 335 P P 06 08 56.6 -0.6
STU IAmb IAmb 06 08 58.4
comp=Z,146nm,0.9s
STU IAms_20 IAms_20 06 50 07.5
comp=Z,4μm,18.0s
STRD Stroud 80.39 343⇑ eP P 06 08 57.3 0.0
STRD IAmb IAmb 06 08 59.0
comp=Z,719nm,1.0s
I53A Kortright Cn E 80.39 35 P P 06 08 57.2 -0.3
baz=327,SNR=12
WLF Walferdange 80.41 338 P P 06 08 57.6 +0.2
WLF pmax pmax
comp=Z,63nm,0.7s
WLF MLR MLR
comp=Z,6μm,20.0s
WLF Walferdange 80.41 338 P P 06 08 57.6 +0.2
WLF IAmb IAmb 06 08 59.7
comp=Z,63nm,0.7s
WLF IAms_20 IAms_20 06 48 18.7
comp=Z,6μm,20.0s
CAN Canberra 80.45 182 P P 06 08 59.3 +1.6
CAN pmax pmax
comp=Z,46nm,1.2s
CAN Canberra 80.45 182 P P 06 08 59.3 +1.6
CAN IAms_20 IAms_20 06 41 05.1
comp=Z,6μm,18.0s
MONM Monmouth 80.45 344⇑ eP P 06 08 57.9 +0.3
MONM IAmb IAmb 06 08 59.0
comp=Z,403nm,0.9s
M49A Liberty Center 80.49 39 P P 06 08 57.7 -0.3
baz=324,SNR=12
PLD Plovdiv 80.50 323 i P P 06 08 57.8 -0.2
D59A Saint-Raymond 80.51 28 P P 06 08 57.6 -0.4
baz=331
P46A Rosedale 80.52 42 P P 06 08 58.0 -0.2
baz=323,SNR=34
N48A Decatur 80.52 40 P P 06 08 57.7 -0.5
baz=324,SNR=34
J52A Paris 80.52 35 P P 06 08 58.0 -0.2
baz=326,SNR=9.8
K51A Iona Station 80.53 36 P P 06 08 58.3 +0.1
baz=326,SNR=14
L50A Kingsville 80.53 38 P P 06 08 57.9 -0.3
baz=325,SNR=8.9
KDZ Kurdzhali 80.56 322 i P P 06 08 58.6 +0.2
F57A Harrington 80.56 30 P P 06 08 57.3 -1.0
baz=330
TEKS Tekeris 80.56 327⇑ iP P 06 08 58.2 -0.2
SWN1 Swindon 80.56 343⇑ eP P 06 08 58.6 +0.4
SWN1 IAmb IAmb 06 08 59.6
comp=Z,671nm,0.9s
E58A La Victoria 80.57 29 P P 06 08 57.9 -0.5
baz=330,SNR=18
OLDB Oldbury-Upon-S 80.57 344⇑ eP P 06 08 58.0 -0.2
OLDB IAmb IAmb 06 08 59.1
comp=Z,140nm,0.8s
KBA Koelnbreinsper 80.58 332 i P P 06 08 58.8 +0.2
comp=Z,138nm,0.7s,SNR=78
DELO Deloro Mine 80.58 33 P P 06 08 57.6 -0.9
DELO IAmb IAmb 06 08 58.8
comp=Z,118nm,1.2s
WOL Wolverton 80.63 343⇑ eP P 06 08 58.5 -0.1
WOL IAmb IAmb 06 08 59.4
comp=Z,455nm,0.7s
IWEX Carrickbyrne, 80.66 346⇑ eP P 06 08 58.1 -0.6
IWEX IAmb IAmb 06 09 00.1
comp=Z,353nm,1.2s
OBKA Obir 80.68 331 i P P 06 08 58.9 -0.1
comp=Z,55nm,0.7s,SNR=13
W39A Magazine 80.68 49 P P 06 08 58.8 -0.3
baz=320,SNR=36
W39A Magazine 80.68 49 P P 06 08 58.8 -0.3
W39A IAmb IAmb 06 08 59.9
comp=Z,126nm,1.1s
W39A IAms_20 IAms_20 06 45 33.0
comp=Z,5μm,22.0s
VTS Vitosha 80.69 324 P P 06 08 59.2 -0.1
VTS Vitosha 80.69 324 i P P 06 08 59.9 +0.6
VTS Vitosha 80.69 324 ⇓P P 06 08 59.7 +0.4
VTS Vitosha 80.69 324 ⇓P P 06 08 59.7 +0.4
VTS Vitosha 80.69 324 P P 06 08 59.7 +0.4
PTJ Puntijarka 80.71 330 i P P 06 08 59.1 -0.1
MORW Morawa 80.71 211 P P 06 08 59.8 +0.7
MORW IAms_20 IAms_20 06 51 47.4
comp=Z,2μm,20.0s
RSBS Rosebush, Pemb 80.71 345⇑ eP P 06 08 58.8 -0.3
RSBS IAmb IAmb 06 09 00.7
comp=Z,131nm,1.2s
HMNX Herstmonceux 80.72 342⇑ eP P 06 08 60.0 +0.9
HMNX IAmb IAmb 06 09 01.4
comp=Z,751nm,0.8s
H55A Tweed 80.72 33 P P 06 08 58.5 -0.7
baz=328,SNR=11
E59A St. Maurice 80.74 29 P P 06 08 59.0 -0.3
baz=331
DIVS Divibare 80.76 327⇑ iP P 06 08 58.7 -0.9
ZAG Zagreb 80.77 330 i P P 06 09 00.7 +1.2
ZAG Zagreb 80.77 330⇑ iP P 06 08 59.4 0.0
OLIL Olney 80.79 43 P P 06 08 59.6 -0.1
OLIL IAmb IAmb 06 09 13.0

comp=Z,111nm,1.1s
K52A Tillsonburg 80.81 36 P P 06 08 59.5 -0.2
baz=326,SNR=10
I55A Frankford 80.81 33 P P 06 08 58.8 -0.9
baz=328,SNR=7.4
F58A St-Lin Laurent 80.82 30 P P 06 08 58.9 -0.8
baz=330
RZN Rozhen 80.83 322 *i* P **P 06 09 00.8 +0.7**
N49A Columbus Grove 80.85 39 P P 06 08 59.7 -0.3
baz=324,SNR=21
N49A Columbus Grove 80.85 39 P P 06 08 59.7 -0.3
N49A IAmb IAmb 06 09 00.8
comp=Z,170nm,1.1s
N49A IAms_20 IAms_20 06 47 55.9
comp=Z,4μm,21.0s
D61A St Aubert, Com 80.87 27 P P 06 08 59.6 -0.3
baz=332
JCT Junction City 80.87 56 P P 06 09 00.3 -0.1
baz=318,SNR=55
JCT Junction City 80.87 56 P P 06 09 00.3 -0.1
JCT pmax pmax
comp=Z,170nm,1.3s
JCT MLR MLR
comp=Z,3μm,20.0s
JCT Junction City 80.87 56 P P 06 09 00.3 -0.1
JCT IAmb IAmb 06 09 01.5
comp=Z,170nm,1.2s
JCT IAms_20 IAms_20 06 45 10.5
comp=Z,3μm,20.0s
MYKA Terra Mystica 80.88 332 *i* P **P 06 08 59.8 -0.3**
comp=Z,40nm,0.7s,SNR=16
D60A Saint Jean D'O 80.89 28 P P 06 08 59.5 -0.5
baz=332,SNR=6.9
ALN Alexandroupoli 80.89 321 P P 06 09 00.1 -0.1
ALN Alexandroupoli 80.89 321 P P 06 09 00.5 +0.3
ALN pmax pmax
comp=Z,210nm,1.2s
ALN MLR MLR
comp=Z,4μm,19.0s
ALN Alexandroupoli 80.89 321 P P 06 09 00.5 +0.3
ALN IAmb IAmb 06 09 01.6
comp=Z,210nm,1.2s
ALN IAms_20 IAms_20 06 47 54.7
comp=Z,4μm,19.0s
RDO Rodhopi 80.92 321 P P 06 09 00.5 +0.2
WATA Walderalm 80.92 333 *i* P **P 06 09 00.7 +0.3**
comp=Z,121nm,0.6s,SNR=67
DOB Doboj 80.94 328⇑ *i* P **P 06 08 59.5 -0.9**
M50A Fremont 80.95 38 P P 06 08 60.0 -0.6
baz=325,SNR=8.9
M50A Fremont 80.95 38 P P 06 09 00.1 -0.4
M50A IAmb IAmb 06 09 01.1
comp=Z,104nm,0.9s
M50A IAms_20 IAms_20 06 50 43.6
comp=Z,4μm,20.0s
CRES Cresnjev 80.96 330⇑ *i* P **P 06 08 59.8 -0.7**
WTTA Wattenberg 80.97 333 *i* P **P 06 09 01.2 +0.4**
comp=Z,157nm,0.5s,SNR=84
SHAO Shalim 81.01 286 *i* P **P 06 09 01.8 +0.6**
SNR=8.6
FCAR Ozark Folk Cen 81.01 47 P P 06 09 00.1 -0.8
FCAR IAmb IAmb 06 09 01.3
comp=Z,139nm,0.8s
FCAR IAms_20 IAms_20 06 45 23.4
comp=Z,3μm,18.0s
BFO Black Forest 81.01 336 P P 06 09 00.4 -0.3
BFO pmax pmax
comp=Z,144nm,0.9s
BFO MLR MLR
comp=Z,4μm,20.0s
BFO Black Forest 81.01 336 P P 06 09 00.4 -0.3
BFO IAmb IAmb 06 09 01.9
comp=Z,144nm,0.9s
BFO IAms_20 IAms_20 06 47 47.6
comp=Z,4μm,20.0s
H56A Elgin 81.03 32 P P 06 08 60.0 -0.9
baz=329,SNR=7.5
RETA Reutte 81.04 334 *i* P **P 06 09 01.2 +0.2**
comp=Z,58nm,0.7s,SNR=51
S44A Carbondale 81.05 44 P P 06 09 00.9 -0.2
baz=322,SNR=48
SIUC Southern Illin 81.06 44 P P 06 09 01.0 -0.1
SIUC IAms_20 IAms_20 06 42 42.7
comp=Z,3μm,22.0s
G57A Newington 81.06 31 P P 06 09 00.1 -0.9
baz=329,SNR=14
MOTA Moosalm 81.06 334 *i* P **P 06 09 01.4 +0.2**
comp=Z,142nm,0.8s,SNR=109
LJU Ljubljana 81.09 331 *i* P **P 06 09 00.4 -0.7**
LJU Ljubljana 81.09 331⇑ *i* P **P 06 09 00.2 -1.0**
WHTX Lake Whitney, 81.09 53 P P 06 09 01.5 +0.2
baz=319,SNR=53
WHTX Lake Whitney, 81.09 53 P P 06 09 01.6 +0.2
WHTX IAmb IAmb 06 09 02.6
comp=Z,164nm,0.9s
WHTX IAms_20 IAms_20 06 49 27.5
comp=Z,4μm,22.0s
SQTA Sankt Quirin 81.14 334 *i* P **P 06 09 01.9 +0.4**
comp=Z,102nm,0.7s,SNR=65
ABTA Abfaltersbach 81.14 333 *i* P **P 06 09 01.0 -0.6**
comp=Z,49nm,1.1s,SNR=22
HAPS Han Pijesak,BI 81.17 327⇑ *i* P **P 06 09 01.0 -0.8**
BBLS Lazići 81.19 327⇑ *i* P **P 06 09 01.9 +0.1**
PBMO Poplar Bluff 81.19 46 P P 06 09 01.6 -0.2
PBMO IAms_20 IAms_20 06 41 30.5
comp=Z,3μm,18.0s
BLO Bloomington 81.19 42 P P 06 09 01.5 -0.3
BLO pmax pmax
comp=Z,43nm,0.8s
BLO MLR MLR
comp=Z,4μm,20.0s
BLO Bloomington 81.19 42 P P 06 09 01.5 -0.3
BLO IAms_20 IAms_20 06 45 41.8
comp=Z,4μm,20.0s
E60A Ste Agathe de 81.19 28 P P 06 09 01.0 -0.7
baz=332,SNR=6.9
F59A Saint Guilaume 81.19 29 P P 06 09 01.5 -0.1
baz=331,SNR=10
KAAM Kaadhehdhoo 81.22 262 P P 06 09 03.5 +1.2
KAAM IAms_20 IAms_20 06 49 39.1
comp=Z,3μm,22.0s
J54A Appleton 81.23 34 P P 06 09 01.7 -0.2
baz=327,SNR=10
J54A Appleton 81.23 34 P P 06 09 01.6 -0.4
J54A IAmb IAmb 06 09 02.6
comp=Z,162nm,0.9s
HWQ Hawqa 81.25 311 *eP* **P 06 09 02.4 +0.1**
BLY Banja Luka 81.27 329⇑ *i* P **P 06 09 01.5 -0.6**
BLY Banja Luka 81.27 329 P P 06 09 01.6 -0.6
BLY IAmb IAmb 06 09 03.7
comp=Z,48nm,0.6s
ISP Isparta 81.27 316 IAms_20 IAms_20 06 51 10.9
comp=Z,5μm,20.0s
MIAR Mount Ida 81.28 49 P P 06 09 02.4 0.0
baz=320,SNR=80
MIAR Mount Ida 81.28 49 P P 06 09 01.8 -0.6
MIAR pmax pmax
comp=Z,190nm,1.0s
MIAR MLR MLR
comp=Z,4μm,18.0s
MIAR Mount Ida 81.28 49 P P 06 09 01.8 -0.6
MIAR IAms_20 IAms_20 06 47 23.1
comp=Z,4μm,18.0s
BOJS Bojanci 81.31 330 *i* P **P 06 09 01.9 -0.4**
MMB Musomiste 81.33 323 *i* P **P 06 09 03.7 +1.1**
D62A Allapoint, All 81.34 26 P P 06 09 02.1 -0.3
baz=333,SNR=6.5
D62A Allapoint, All 81.34 26 P P 06 09 02.4 -0.1
D62A IAmb IAmb 06 09 02.8
comp=Z,53nm,0.8s
G58A Ormstown 81.36 30 P P 06 09 01.8 -0.7
baz=330,SNR=15
LCAR Lake Charles 81.37 46 P P 06 09 02.2 -0.6
LCAR IAms_20 IAms_20 06 41 28.8
comp=Z,3μm,21.0s
O49A Covington 81.37 40 P P 06 09 02.3 -0.4
baz=324,SNR=15
O49A Covington 81.37 40 P P 06 09 02.4 -0.4
O49A IAmb IAmb 06 09 03.5
comp=Z,92nm,0.9s
O49A IAms_20 IAms_20 06 47 59.8
comp=Z,3μm,19.0s
F60A Warwick 81.38 29 P P 06 09 01.9 -0.8
baz=331
KKB Krupnik 81.38 323 *i* P **P 06 09 03.0 +0.2**
HEX Exmoor 81.38 344⇑ *eP* **P 06 09 02.7 +0.1**

M51A Elyria 81.38 38 P P 06 09 02.1 -0.7
baz=326,SNR=6.7
WHAR Wooly Hollow 81.39 48 P P 06 09 02.5 -0.4
WHAR IAms_20 IAms_20 06 45 28.7
comp=Z,4μm,22.0s
CEY Cerknica 81.39 331⇑ *i* P **P 06 09 02.0 -0.8**
MEDO Medina 81.40 34 P P 06 09 02.1 -0.7
MEDO IAmb IAmb 06 09 03.5
comp=Z,175nm,1.1s
MEDO IAms_20 IAms_20 06 51 39.1
comp=Z,4μm,20.0s
RUDO Rudo 81.41 327⇑ *i* P **P 06 09 02.0 -0.9**
N50A Nevada 81.42 38 P P 06 09 02.8 -0.3
baz=325,SNR=28
ECH Echery 81.45 336 P P 06 09 02.5 -0.6
ECH pmax pmax
comp=Z,149nm,0.9s
ECH MLR MLR
comp=Z,3μm,19.0s
ECH Echery 81.45 336 P P 06 09 02.5 -0.6
ECH IAmb IAmb 06 09 04.0
comp=Z,149nm,0.9s
ECH IAms_20 IAms_20 06 48 42.1
comp=Z,3μm,19.0s
E61A Lac Etchemin 81.45 28 P P 06 09 02.8 -0.4
baz=332
H57A Richville 81.47 32 P P 06 09 02.4 -0.8
baz=329,SNR=9.9
P48A Milroy 81.47 41 P P 06 09 02.7 -0.6
baz=324,SNR=20
P48A Milroy 81.47 41 P P 06 09 02.2 -1.1
P48A IAmb IAmb 06 09 04.0
comp=Z,160nm,1.2s
P48A IAms_20 IAms_20 06 44 32.4
comp=Z,2μm,20.0s
FETA Feichten 81.47 334 *i* P **P 06 09 03.6 +0.3**
comp=Z,65nm,1.1s,SNR=29
NVR Nevrokopi 81.47 323 P P 06 09 03.4 +0.1
KAVA Kavala 81.48 322 P P 06 09 03.3 0.0
DAVA Damuels 81.49 334 *i* P **P 06 09 03.5 0.0**
comp=Z,74nm,0.7s,SNR=36
W41B Gary Mavity, V 81.50 48 P P 06 09 03.2 -0.3
baz=321,SNR=56
W41B Gary Mavity, V 81.50 48 P P 06 09 02.8 -0.7
W41B IAmb IAmb 06 09 04.3
comp=Z,159nm,0.9s
STAL STALIGIAL 81.51 332 P P 06 09 02.1 -1.3
STAL IAmb IAmb 06 09 03.2
comp=Z,112nm,0.8s
STAL IAms_20 IAms_20 06 49 04.0
comp=Z,6μm,20.0s
J55A Hilton 81.56 34 P P 06 09 03.0 -0.6
baz=328,SNR=8.4
J55A Hilton 81.56 34 P P 06 09 03.1 -0.6
J55A IAmb IAmb 06 09 04.1
comp=Z,141nm,0.8s
M52A Chesterland 81.56 37 P P 06 09 03.6 -0.2
baz=326,SNR=16
M52A Chesterland 81.56 37 P P 06 09 03.5 -0.2
HTL Hartland 81.58 345⇑ *eP* **P 06 09 03.9 +0.2**
HTL IAmb IAmb 06 09 04.8
comp=Z,315nm,1.2s
MGRS Mrkonjic Grad 81.59 329⇑ *i* P **P 06 09 04.3 +0.4**
E62A Clayton Lake 81.60 27 P P 06 09 03.4 -0.5
baz=333,SNR=11
E62A Clayton Lake 81.60 27 P P 06 09 03.6 -0.3
E62A IAmb IAmb 06 09 04.6
comp=Z,99nm,1.0s
E62A IAms_20 IAms_20 06 49 15.8
comp=Z,3μm,21.0s
USIN University of 81.61 43 P P 06 09 04.1 +0.1
USIN IAmb IAmb 06 09 05.3
comp=Z,176nm,1.0s
USIN IAms_20 IAms_20 06 43 02.0
comp=Z,4μm,22.0s
PARMO Parma 81.61 45 P P 06 09 04.3 +0.3
PARMO IAms_20 IAms_20 06 49 24.1
comp=Z,4μm,21.0s
LONY Lake Ozonia 81.63 31 P P 06 09 03.1 -1.0
baz=330,SNR=6.5
LONY Lake Ozonia 81.63 31 P P 06 09 03.0 -1.0
N51A Ashland 81.64 38 P P 06 09 03.6 -0.6
baz=325,SNR=19
N51A Ashland 81.64 38 P P 06 09 03.8 -0.4
N51A IAmb IAmb 06 09 04.8
comp=Z,158nm,1.0s
N51A IAms_20 IAms_20 06 51 56.8
comp=Z,3μm,21.0s
PMOR Pomariorio Ree 81.65 121 *eT* T 07 38 46.4
comp=Z,35nm,0.2s
ERPA Erie 81.66 36 P P 06 09 04.1 -0.2
baz=327,SNR=11
ERPA Erie 81.66 36 P P 06 09 04.0 -0.2
ERPA IAms_20 IAms_20 06 50 45.6
comp=Z,4μm,20.0s
D63A Stockholm 81.67 26 P P 06 09 03.5 -0.7
baz=334,SNR=5.4
L53A Girard 81.68 36 P P 06 09 04.3 -0.1
baz=326,SNR=22
MANT Manisa 81.68 318 P P 06 09 04.9 +0.2
F61A St Evariste 81.69 28 P P 06 09 04.5 +0.1
baz=332
BHL Bhannes 81.69 311 *eP* **P 06 09 05.0 +0.3**
HENM Henderson Moun 81.71 45 P P 06 09 04.6 0.0
HENM IAms_20 IAms_20 06 42 01.3
comp=Z,3μm,19.0s
X40A Basin Creek Fa 81.72 48 P P 06 09 04.5 -0.2
baz=321,SNR=37
X40A Basin Creek Fa 81.72 48 P P 06 09 04.3 -0.4
X40A IAmb IAmb 06 09 05.8
comp=Z,112nm,1.1s
X40A IAms_20 IAms_20 06 48 05.5
comp=Z,5μm,21.0s
O50A Cable 81.73 39 P P 06 09 04.4 -0.3
baz=325,SNR=32
P49A Miami Univ. Ec 81.73 40 P P 06 09 04.1 -0.5
baz=324,SNR=26
RIY Rijeka 81.73 331 *i* P **P 06 09 03.9 -0.7**
RIY Rijeka 81.73 331⇑ *i* P **P 06 09 03.5 -1.0**
Q48A North Vernon 81.75 41 P P 06 09 04.5 -0.2
baz=324,SNR=15
UALR University of 81.76 48 P P 06 09 04.5 -0.4
UALR IAms_20 IAms_20 06 48 04.4
comp=Z,4μm,18.0s
K54A Basiliko Farm, 81.77 35 P P 06 09 04.4 -0.4
baz=327,SNR=24
FRNY Flat Rock 81.80 30 IAms_20 IAms_20 06 50 54.4
comp=Z,4μm,18.0s
I57A Carthage 81.81 32 P P 06 09 04.0 -1.0
baz=329,SNR=5.8
L54A Sinclairville 81.83 35 P P 06 09 04.9 -0.3
baz=327,SNR=12
PVMO Portageville 81.84 45 P P 06 09 05.7 +0.4
PVMO IAms_20 IAms_20 06 50 39.0
comp=Z,4μm,18.0s
PENMO Penman 81.84 45 IAms_20 IAms_20 06 50 40.2
comp=Z,4μm,20.0s
TAOE Nuku Hiva Isla 81.85 111 IAms_20 IAms_20 06 50 03.9
comp=Z,7μm,20.0s
STIP Stip 81.89 324 *i* PKP **P 06 09 04.6 -0.9**
K55A Perry 81.92 34 P P 06 09 05.1 -0.6
baz=328,SNR=24
435B Jarrell 81.92 54 P P 06 09 05.6 -0.2
baz=319,SNR=6.8
435B Jarrell 81.92 54 P P 06 09 05.8 0.0
435B IAms_20 IAms_20 06 50 26.1
comp=Z,4μm,21.0s
H59A Cadyville 81.92 30 P P 06 09 04.6 -1.0
baz=330,SNR=7.6
J56A Wolcott 81.93 33 P P 06 09 04.9 -0.7
baz=328
J56A Wolcott 81.93 33 P P 06 09 04.8 -0.8
J56A IAmb IAmb 06 09 05.7
comp=Z,90nm,0.8s
J56A IAms_20 IAms_20 06 45 49.0
comp=Z,5μm,22.0s
M53A WI Miller and 81.94 37 P P 06 09 05.6 -0.1
baz=326,SNR=15
ACSO Alum Creek Sta 81.94 39 P P 06 09 05.6 -0.2
baz=325,SNR=21
ACSO Alum Creek Sta 81.94 39 P P 06 09 05.6 -0.2
ACSO IAmb IAmb 06 09 06.6
comp=Z,129nm,0.9s
ACSO IAms_20 IAms_20 06 50 35.7
comp=Z,4μm,19.0s
UPM Unac-Piva 81.94 327⇑ *i* P **P 06 09 05.7 -0.3**

DAVOX Davos/Dischmat 81.95 334 P P 06 09 06.1 +0.2
comp=Z,73nm,0.7s,baz=222,slow=1.8
H58A Gabriels 81.95 31 P P 06 09 05.0 -0.7
baz=330,SNR=12
HICK Hickman 81.97 45 P P 06 09 05.9 -0.1
HICK IAms_20 IAms_20 06 47 09.2
comp=Z,3μm,19.0s
SKO Skopje 81.97 324 *i* PKP **P 06 09 06.4 +0.5**
UDBI Udbina 81.97 329 *i* P **P 06 09 05.4 -0.6**
WVNY West Valley, N 81.97 35 P P 06 09 05.5 -0.4
WVNY IAms_20 IAms_20 06 51 58.4
comp=Z,4μm,22.0s
MMNY Mt. Morris Dam 81.98 34 P P 06 09 05.4 -0.5
ALLY Alegheny Colle 81.98 36 P P 06 09 05.8 -0.1
PEBM Pemiscott Bayo 81.99 46 P P 06 09 06.3 +0.3
PEBM IAms_20 IAms_20 06 44 49.1
comp=Z,3μm,20.0s
HBAR Harrisburg 82.02 46 IAms_20 IAms_20 06 50 44.1
comp=Z,4μm,20.0s
N52A McGinn's Farm, 82.02 38 P P 06 09 05.7 -0.5
baz=326,SNR=9.3
PQI Presque Isle 82.03 26 IAms_20 IAms_20 06 52 03.3
comp=Z,5μm,19.0s
GNAR Gosnell 82.03 46 P P 06 09 06.8 +0.5
GNAR IAms_20 IAms_20 06 48 30.1
comp=Z,4μm,20.0s
SBD Saint Breward 82.03 345⇑ *eP* **P 06 09 05.8 -0.2**
KNT Kendrikon 82.04 323 P P 06 09 06.1 -0.2
CTI Castel Tesino 82.04 333 P P 06 09 05.4 -0.9
CTI pmax pmax
comp=Z,91nm,0.8s
CTI MLR MLR
comp=Z,7μm,20.0s
CTI Castel Tesino 82.04 333 P P 06 09 05.4 -0.9
CTI IAmb IAmb 06 09 06.4
comp=Z,91nm,0.8s
CTI IAms_20 IAms_20 06 49 46.0
comp=Z,7μm,20.0s
VAY Valandovo 82.05 323 *i* PKP **P 06 09 06.7 +0.4**
WCI Wyandotte Cave 82.05 42 P P 06 09 06.4 0.0
baz=324
WCI Wyandotte Cave 82.05 42 P P 06 09 06.3 0.0
WCI pmax pmax
comp=Z,193nm,1.3s
WCI Wyandotte Cave 82.05 42 P P 06 09 06.3 0.0
WCI IAmb IAmb 06 09 07.5
comp=Z,193nm,1.2s
WCI IAms_20 IAms_20 06 50 44.6
comp=Z,4μm,18.0s
SHBL Chebaa 82.07 310 *eP* **P 06 09 07.4 +0.7**
Q49A Aurora 82.08 41 P P 06 09 06.4 -0.1
baz=324,SNR=16
P50A Jamestown 82.08 40 P P 06 09 06.3 -0.2
baz=325,SNR=23
F62A Pittston Farm, 82.10 28 P P 06 09 06.4 -0.1
baz=332,SNR=14
CSS Mathiatis 82.10 313 P P 06 09 06.9 +0.2
CSS Mathiatis 82.10 313 P P 06 09 06.6 -0.1
CSS IAmb IAmb 06 09 08.2
comp=Z,142nm,0.8s
G61A St-Isidore-de- 82.12 29 P P 06 09 06.5 -0.1
baz=332,SNR=12
E63A Oxbow 82.12 26 P P 06 09 05.8 -0.8
baz=333,SNR=6.9
SOH Sokhos 82.13 323 P P 06 09 06.3 -0.5
PRK Paraskevi 82.13 320 P P 06 09 05.7 -1.1
J57A Williamstown 82.14 33 P P 06 09 05.9 -0.8
baz=329,SNR=7.1
J57A Williamstown 82.14 33 IAms_20 IAms_20 06 52 33.6
comp=Z,5μm,21.0s
GLAT Glass 82.16 45 P P 06 09 07.5 +0.6
GLAT IAms_20 IAms_20 06 48 31.1
comp=Z,4μm,18.0s
LPAR Lepanto 82.17 46 P P 06 09 07.7 +0.7
LPAR IAms_20 IAms_20 06 45 24.9
comp=Z,3μm,20.0s
O51A Pataskala 82.17 38 P P 06 09 06.6 -0.4
baz=325,SNR=18
LNXT Lenox 82.19 45 P P 06 09 07.4 +0.3
LNXT IAms_20 IAms_20 06 52 10.2
comp=Z,4μm,18.0s
WLAR White Oak Lake 82.19 49 P P 06 09 07.5 +0.4
WLAR IAms_20 IAms_20 06 48 02.0
comp=Z,4μm,20.0s
LEF Lefka 82.20 313⇑ *i* P **P 06 09 07.1 -0.1**
L55A Hinsdale 82.23 35 P P 06 09 06.8 -0.5
baz=328,SNR=6.2
K56A Middlesex 82.23 34 P P 06 09 06.7 -0.6
baz=328,SNR=9.1
NVLJ Novalja 82.26 330 *i* P **P 06 09 06.3 -1.0**
I58A Old Forge 82.28 32 P P 06 09 06.5 -1.0
baz=330
M54A Oil Creek Stat 82.30 36 P P 06 09 07.4 -0.2
baz=327,SNR=17
M54A Oil Creek Stat 82.30 36 P P 06 09 06.8 -0.8
M54A IAmb IAmb 06 09 08.5
comp=Z,193nm,1.1s
E64A Bridgewater 82.31 26 P P 06 09 07.0 -0.6
baz=334,SNR=13
NCB Newcomb 82.32 31 P P 06 09 07.0 -0.7
NCB IAms_20 IAms_20 06 47 28.2
comp=Z,3μm,19.0s
WHFO Wadi Hawf 82.33 288 P P 06 09 08.3 +0.1
SNR=13
WHFO P P 06 09 08.3 +0.1
SNR=13
WHFO S S 06 19 18.1 -2.9
WHFO S S 06 19 18.1 -2.9
RBK Rabkut 82.33 287 P P 06 09 08.3 +0.1
SNR=8.4
RBK P P 06 09 08.3 +0.1
SNR=8.4
RBK S S 06 19 21.5 +0.5
RBK S S 06 19 21.5 +0.5
BRY Bratogost 82.34 327⇑ *i* P **P 06 09 07.0 -1.0**
H60A Morristown 82.35 30 P P 06 09 07.3 -0.5
baz=331
TUE Stuetta 82.39 334 P P 06 09 08.5 +0.3
TUE IAmb IAmb 06 09 09.7
comp=Z,121nm,0.8s
TUE IAms_20 IAms_20 06 48 53.0
comp=Z,6μm,21.0s
N53A Lisbon 82.39 37 P P 06 09 08.0 -0.1
baz=326,SNR=25
N53A Lisbon 82.39 37 P P 06 09 08.1 -0.1
HALT Halls 82.41 45 P P 06 09 08.2 0.0
HALT IAms_20 IAms_20 06 45 24.2
comp=Z,4μm,21.0s
GRG Griva 82.42 323 P P 06 09 08.1 -0.2
ELL Elmali 82.42 316 P P 06 09 08.6 +0.1
ELL pmax pmax
comp=Z,471nm,0.8s
ELL Elmali 82.42 316 P P 06 09 08.6 +0.1
HORT Hortiatis 82.42 323 P P 06 09 07.7 -0.7
DRLN Deer Lake 82.43 18 P P 06 09 08.5 +0.4
DRLN IAmb IAmb 06 09 09.7
comp=Z,184nm,1.1s
J58A Remsen 82.45 32 P P 06 09 07.7 -0.7
baz=329,SNR=17
J58A Remsen 82.45 32 P P 06 09 08.0 -0.4
J58A IAmb IAmb 06 09 08.8
comp=Z,148nm,1.1s
PLG Polygyros 82.46 322 P P 06 09 08.1 -0.4
PDG Podgorica 82.46 326⇑ *i* P **P 06 09 07.9 -0.5**
PDG Podgorica 82.46 326⇑ P **P 06 09 08.2 -0.2**
PDG Podgorica 82.46 326 P P 06 09 08.0 -0.4
CCA1 Carnmenellis 82.49 345⇑ *eP* **P 06 09 08.1 -0.4**
CCA1 IAmb IAmb 06 09 09.4
comp=Z,363nm,1.3s
G62A West of Eustis 82.51 28 P P 06 09 09.0 +0.3
baz=332,SNR=11
G62A West of Eustis 82.51 28 P P 06 09 08.8 +0.2
G62A IAmb IAmb 06 09 10.1
comp=Z,146nm,1.1s
P51A Williamsport 82.52 39 P P 06 09 08.3 -0.5
baz=325,SNR=11
P51A Williamsport 82.52 39 P P 06 09 08.2 -0.5
P51A IAmb IAmb 06 09 09.3
comp=Z,119nm,1.0s
K57A Scipio Center 82.52 33 P P 06 09 08.1 -0.7
baz=329,SNR=7.1
R49A Shelbyville 82.53 41 P P 06 09 09.0 +0.1
baz=324,SNR=8.6
R49A Shelbyville 82.53 41 P P 06 09 08.9 +0.1
R49A IAmb IAmb 06 09 21.9
comp=Z,108nm,1.5s

R49A IAMs_20 IAMs_20 06 45 05.0
comp=Z,4μm,20.0s
VT1 Waterbury 82.53 30 P **P 06 09 08.5 -0.3**
VT1 IAmb IAmb 06 09 09.6
comp=Z,119nm,1.3s
VT1 IAMs_20 IAMs_20 06 50 58.9
comp=Z,4μm,18.0s
O52A Adamsville 82.53 38 P **P 06 09 08.6 -0.3**
baz=326,SNR=21
O52A Adamsville 82.53 38 P **P 06 09 08.6 -0.3**
O52A IAmb IAmb 06 09 09.7
comp=Z,162nm,1.0s
O52A IAMs_20 IAMs_20 06 51 41.4
comp=Z,3μm,19.0s
F63A Nahmakanta, Br 82.55 27 P **P 06 09 08.6 -0.2**
baz=333,SNR=5.1
F63A Nahmakanta, Br 82.55 27 IAMs_20 IAMs_20 06 49 00.4
comp=Z,5μm,20.0s
TREB Trebinje 82.57 327⇑ *i*P **P 06 09 07.6 -1.4**
MAKA Makarska 82.58 328 *i*P **P 06 09 07.8 -1.2**
PHP Peshkopia 82.62 325 P **P 06 09 08.7 -0.6**
L56A Greenwood 82.62 34 P **P 06 09 08.8 -0.5**
baz=328,SNR=14
L56A Greenwood 82.62 34 P **P 06 09 09.0 -0.3**
L56A IAmb IAmb 06 09 09.4
comp=Z,86nm,0.8s
L56A IAMs_20 IAMs_20 06 51 57.4
comp=Z,4μm,18.0s
N54A Moraine State 82.62 36 P **P 06 09 09.2 -0.1**
baz=327,SNR=29
N54A Moraine State 82.62 36 P **P 06 09 09.3 -0.1**
N54A IAMs_20 IAMs_20 06 46 57.5
comp=Z,4μm,19.0s
Q50A Georgetown 82.62 40 P **P 06 09 09.3 -0.1**
baz=325,SNR=15
H61A Lyndonville 82.64 29 P **P 06 09 09.5 +0.1**
baz=331,SNR=12
F64A Sherman 82.64 27 P **P 06 09 09.1 -0.3**
baz=333,SNR=8.4
F64A Sherman 82.64 27 P **P 06 09 09.0 -0.3**
F64A IAmb IAmb 06 09 10.1
comp=Z,87nm,0.9s
TEOL Teolo 82.64 332 P **P 06 09 08.4 -1.0**
TEOL IAMs_20 IAMs_20 06 49 31.9
comp=Z,5μm,20.0s
J59A Piesco 82.65 32 P **P 06 09 08.7 -0.8**
baz=330,SNR=12
J59A Piesco 82.65 32 P **P 06 09 08.7 -0.8**
J59A IAmb IAmb 06 09 09.8
comp=Z,91nm,1.0s
J59A IAMs_20 IAMs_20 06 46 42.1
comp=Z,3μm,21.0s
T47A Sharon Grove 82.66 43 P **P 06 09 09.7 +0.2**
baz=323,SNR=28
T47A Sharon Grove 82.66 43 IAMs_20 IAMs_20 06 41 52.2
comp=Z,3μm,21.0s
PPT2 Papeete2 82.67 124 *e*T T 07 40 06.6
comp=Z,8.3nm,0.3s
PPTF Pamatai, Papee 82.68 124 IAMs_20 IAMs_20 06 40 17.6
comp=Z,6μm,19.0s
Z41A Richland Creek 82.68 49 P **P 06 09 09.8 +0.1**
baz=321,SNR=14
Z41A Richland Creek 82.68 49 P **P 06 09 09.7 0.0**
Z41A IAmb IAmb 06 09 11.2
comp=Z,100nm,1.0s
Z41A IAMs_20 IAMs_20 06 48 19.1
comp=Z,4μm,21.0s
DBRK Dubrovnik 82.69 327 *i*P **P 06 09 08.4 -1.2**
DUGI Dugi Otok 82.69 330 *i*P **P 06 09 08.6 -1.0**
O53A New Philadelph 82.69 38 P **P 06 09 09.4 -0.3**
baz=326,SNR=22
DRME Dracevica, Mon 82.69 326⇑ *i*P **P 06 09 09.2 -0.5**
M55A Ridgway 82.70 35 P **P 06 09 09.7 -0.1**
baz=327,SNR=25
M55A Ridgway 82.70 35 P **P 06 09 09.7 -0.1**
M55A IAMs_20 IAMs_20 06 46 58.6
comp=Z,6μm,22.0s
833A Chaparral WMA, 82.71 57 P **P 06 09 10.3 +0.4**
baz=318,SNR=7.0
833A Chaparral WMA, 82.71 57 P **P 06 09 10.4 +0.4**
833A IAMs_20 IAMs_20 06 41 46.2
comp=Z,3μm,20.0s
X43A Marvell 82.72 47 P **P 06 09 10.0 +0.2**
baz=322,SNR=26
X43A Marvell 82.72 47 P **P 06 09 10.1 +0.2**
X43A IAMs_20 IAMs_20 06 52 13.5
comp=Z,3μm,19.0s
CCAR Cane Creek 82.72 48 P **P 06 09 10.3 +0.4**
CCAR IAMs_20 IAMs_20 06 45 18.0
comp=Z,4μm,22.0s
PAIG Paliouri 82.72 322 P **P 06 09 09.4 -0.4**
MET Memphis--Engin 82.73 46 IAMs_20 IAMs_20 06 47 57.0
comp=Z,4μm,19.0s
PAE Paea 82.73 124 *e*T T 07 40 10.0
comp=Z,3.1nm,0.3s
HCY Herceg Novi 82.74 327⇑ *i*P **P 06 09 08.7 -1.2**
I60A Shoreham 82.76 31 P **P 06 09 09.5 -0.5**
baz=330,SNR=5.7
Q51A Peebles 82.76 40 P **P 06 09 10.0 -0.1**
baz=325,SNR=25
Q51A Peebles 82.76 40 P **P 06 09 10.1 -0.1**
ZIRJ Zirje 82.77 329 *i*P **P 06 09 08.9 -1.1**
TIAR Tiarei 82.78 124 *e*T T 07 40 14.0
comp=Z,6.6nm,0.3s
P52A Corning 82.80 38 P **P 06 09 09.7 -0.5**
baz=326,SNR=10
JRS Jersey 82.82 343 *e*P **P 06 09 10.4 +0.3**
JVM Valle D.L. Mar 82.82 343 *e*P **P 06 09 10.4 +0.2**
NATX Nacogdoches 82.82 51 P **P 06 09 11.2 +0.7**
baz=320,SNR=35
NATX Nacogdoches 82.82 51 P **P 06 09 11.2 +0.7**
NATX IAMs_20 IAMs_20 06 52 52.1
comp=Z,4μm,20.0s
K58A Earlville 82.83 33 P **P 06 09 09.9 -0.4**
baz=329,SNR=14
K58A Earlville 82.83 33 P **P 06 09 09.9 -0.4**
K58A IAmb IAmb 06 09 11.0
comp=Z,151nm,1.1s
JSA Saint Aubin 82.84 343⇑ *e*P **P 06 09 10.3 +0.1**
JSA IAmb IAmb 06 09 11.3
comp=Z,344nm,1.1s
H62A Milan 82.87 29 P **P 06 09 10.6 +0.1**
baz=332,SNR=14
H62A Milan 82.87 29 P **P 06 09 10.8 +0.3**
H62A IAMs_20 IAMs_20 06 48 56.6
comp=Z,5μm,19.0s
S49A Springfield 82.88 42 P **P 06 09 10.7 0.0**
baz=324,SNR=28
LBNH Lisbon 82.90 30 P **P 06 09 10.7 0.0**
baz=331
LBNH Lisbon 82.90 30 IAMs_20 IAMs_20 06 51 43.6
comp=Z,5μm,18.0s
G63A Kingsbury 82.90 28 P **P 06 09 10.7 0.0**
baz=333,SNR=5.3
CLF Chambon-Foret 82.92 339 P **P 06 09 11.2 +0.5**
M56A Emporium 82.92 35 P **P 06 09 10.5 -0.3**
baz=328,SNR=11
M56A Emporium 82.92 35 P **P 06 09 10.6 -0.3**
M56A IAmb IAmb 06 09 11.1
comp=Z,71nm,0.8s
R50A Paris 82.92 41 P **P 06 09 11.0 +0.1**
baz=325,SNR=13
R50A Paris 82.92 41 P **P 06 09 10.8 -0.1**
R50A IAmb IAmb 06 09 12.1
comp=Z,71nm,1.1s
R50A IAMs_20 IAMs_20 06 50 24.0
comp=Z,3μm,18.0s
CHOS Chios island 82.93 320 P **P 06 09 10.0 -1.0**
WVT Waverly 82.99 44 P **P 06 09 11.2 0.0**
baz=323
WVT Waverly 82.99 44 P **P 06 09 11.1 -0.2**
WVT pmax pmax
comp=Z,89nm,1.0s
WVT Waverly 82.99 44 P **P 06 09 11.1 -0.2**
WVT IAmb IAmb 06 09 12.4
comp=Z,89nm,1.0s
WVT Waverly 82.99 44 IAMs_20 IAMs_20 06 43 16.0
comp=Z,4μm,22.0s
FNA Florina 82.99 324 P **P 06 09 10.7 -0.6**
FNA Florina 82.99 324 P **P 06 09 10.9 -0.4**
FNA pmax pmax
comp=Z,165nm,0.9s
FNA Florina 82.99 324 P **P 06 09 10.9 -0.4**
L57A Andrews Acres 83.01 34 P **P 06 09 10.7 -0.7**
baz=328,SNR=8.3
TVO Taravao 83.02 124 *e*T T 07 40 31.6
comp=Z,0.9nm,0.3s
ACCN Adirondack Com 83.03 31 P **P 06 09 10.9 -0.4**
ACCN IAmb IAmb 06 09 12.0
comp=Z,121nm,1.3s
ABTO Aybut 83.05 288 P **P 06 09 12.4 +0.5**
SNR=14
ABTO P **P 06 09 12.4 +0.5**
SNR=14
ABTO S **S 06 19 25.7 -2.6**
ABTO S **S 06 19 25.7 -2.6**
G64A Maxfield 83.06 27 P **P 06 09 11.5 0.0**
baz=333,SNR=6.9
I61A Oroboro, Fairl 83.07 30 P **P 06 09 11.3 -0.2**
baz=331,SNR=7.5
LIT Litokhoron 83.09 323 P **P 06 09 10.8 -1.0**
LIT Litokhoron 83.09 323 P **P 06 09 11.3 -0.5**
LIT pmax pmax
comp=Z,273nm,1.2s
LIT MLR MLR
comp=Z,6μm,19.0s
LIT Litokhoron 83.09 323 P **P 06 09 11.3 -0.5**
LIT IAMs_20 IAMs_20 06 49 41.7
comp=Z,6μm,19.0s
SENIN Lac Senin/Sane 83.09 336 P **P 06 09 12.0 0.0**
SENIN IAmb IAmb 06 09 16.8
comp=Z,143nm,1.1s
SENIN IAMs_20 IAMs_20 06 47 23.6
comp=Z,4μm,20.0s
O54A Avella 83.10 37 P **P 06 09 11.8 0.0**
baz=327,SNR=17
O54A Avella 83.10 37 P **P 06 09 11.8 0.0**
O54A IAmb IAmb 06 09 12.9
comp=Z,175nm,1.2s
O54A IAMs_20 IAMs_20 06 45 30.4
comp=Z,4μm,19.0s
K59A Cooperstown 83.11 32 P **P 06 09 11.4 -0.5**
baz=330,SNR=26
TIR Tirane 83.13 325 P **P 06 09 11.8 -0.2**
TIR pmax pmax
comp=Z,232nm,0.8s
TIR MLR MLR
comp=Z,10μm,18.0s
TIR Tirane 83.13 325 ⇓P **P 06 09 11.4 -0.6**
TIR Tirane 83.13 325 P **P 06 09 11.8 -0.2**
H63A New Sharon 83.17 28 P **P 06 09 12.1 0.0**
baz=332,SNR=9.0
BINY Binghamton 83.18 33 P **P 06 09 11.6 -0.6**
baz=329,SNR=9.8
BINY Binghamton 83.18 33 P **P 06 09 11.6 -0.6**
BINY IAmb IAmb 06 09 12.8
comp=Z,85nm,1.2s
BINY IAMs_20 IAMs_20 06 52 06.2
comp=Z,4μm,20.0s
N55A Marion Center 83.19 36 P **P 06 09 12.1 -0.2**
baz=327,SNR=23
KZN Kozani 83.22 323 P **P 06 09 11.6 -0.9**
J60A Lant Hill Farm 83.24 31 P **P 06 09 11.9 -0.5**
baz=330,SNR=6.3
HNH Hanover 83.24 30 P **P 06 09 12.5 +0.1**
HNH IAmb IAmb 06 09 13.1
comp=Z,59nm,0.9s
HNH IAMs_20 IAMs_20 06 51 31.6
comp=Z,3μm,19.0s
P53A Whipple 83.25 38 P **P 06 09 12.3 -0.2**
baz=326,SNR=8.6
P53A Whipple 83.25 38 P **P 06 09 12.2 -0.4**
P53A IAmb IAmb 06 09 12.9
comp=Z,52nm,0.9s
R51A Hillsboro 83.25 40 P **P 06 09 12.6 0.0**
baz=325,SNR=22
AOS Alonisos 83.26 321 P **P 06 09 12.0 -0.6**
Q52A Bidwell 83.30 39 P **P 06 09 12.4 -0.4**
baz=326,SNR=11
T49A Edmonton 83.31 42 P **P 06 09 12.9 0.0**
baz=324,SNR=18
T49A Edmonton 83.31 42 P **P 06 09 12.9 0.0**
T49A IAmb IAmb 06 09 14.3
comp=Z,189nm,1.6s
T49A IAMs_20 IAMs_20 06 44 19.4
comp=Z,5μm,22.0s
N56A West Decatur 83.35 35 P **P 06 09 13.1 -0.1**
baz=328,SNR=17
L58A Harry Jones Me 83.36 33 P **P 06 09 12.8 -0.4**
baz=329,SNR=11
S50A Richmond 83.38 41 P **P 06 09 13.2 -0.1**
baz=325,SNR=16
WVL Waterville 83.38 28 P **P 06 09 13.2 +0.1**
WVL IAmb IAmb 06 09 14.3
comp=Z,90nm,0.9s
XOR Xorichti 83.40 322 P **P 06 09 12.1 -1.3**
I62A Tamworth 83.42 29 P **P 06 09 13.3 -0.1**
baz=332
I62A Tamworth 83.42 29 P **P 06 09 13.8 +0.4**
I62A IAmb IAmb 06 10 19.6
comp=Z,180nm,1.8s
NEO Neokhori 83.44 322 P **P 06 09 12.7 -0.9**
NEST Nestorio 83.44 324 P **P 06 09 13.2 -0.5**
SKIA Skiathos 83.45 322 P **P 06 09 12.8 -0.8**
H64A Troy 83.45 28 P **P 06 09 13.2 -0.3**
baz=333
J61A Chester 83.46 30 P **P 06 09 13.5 -0.1**
baz=331,SNR=5.9
M57A Sunshine Farm, 83.47 34 P **P 06 09 13.6 -0.1**
baz=328,SNR=20
M57A Sunshine Farm, 83.47 34 P **P 06 09 13.7 0.0**
OXF Oxford 83.48 46 P **P 06 09 13.7 -0.1**
baz=322,SNR=38
OXF Oxford 83.48 46 P **P 06 09 13.8 -0.1**
OXF pmax pmax
comp=Z,296nm,1.1s
OXF Oxford 83.48 46 P **P 06 09 13.8 -0.1**
OXF IAMs_20 IAMs_20 06 53 49.5
comp=Z,5μm,18.0s
G65A Princeton 83.48 26 P **P 06 09 13.7 0.0**
baz=334,SNR=6.3
G65A Princeton 83.48 26 P **P 06 09 13.7 0.0**
G65A IAmb IAmb 06 09 14.2
comp=Z,71nm,0.8s
G65A IAMs_20 IAMs_20 06 45 56.9
comp=Z,4μm,21.0s
SSF Saint Saulge 83.50 338 *e*P **P 06 09 12.7 -1.0**
SSF pmax pmax
comp=Z,83nm,0.8s
I63A Otisfield 83.53 29 P **P 06 09 14.3 +0.4**
baz=332,SNR=15
I63A Otisfield 83.53 29 P **P 06 09 13.9 0.0**
I63A IAMs_20 IAMs_20 06 49 34.1
comp=Z,5μm,21.0s
O55A Ligonier 83.53 36 P **P 06 09 13.8 -0.3**
baz=327,SNR=14
HKT Hockley 83.54 53 P **P 06 09 14.2 +0.1**
HKT pmax pmax
comp=Z,50nm,1.5s
HKT Hockley 83.54 53 P **P 06 09 14.2 +0.1**
P54A Burton 83.54 37 P **P 06 09 14.1 0.0**
baz=327,SNR=17
L59A Walton 83.55 33 P **P 06 09 13.8 -0.3**
baz=330,SNR=15
L59A Walton 83.55 33 P **P 06 09 13.9 -0.2**
L59A IAMs_20 IAMs_20 06 53 16.9
comp=Z,3μm,20.0s
PENT Pentalofos 83.58 324 P **P 06 09 13.6 -0.8**
TRY Troy 83.59 31 P **P 06 09 14.0 -0.3**
TRY IAMs_20 IAMs_20 06 52 23.4
comp=Z,4μm,18.0s
K60A Five Rivers En 83.61 32 P **P 06 09 13.9 -0.5**
baz=330,SNR=7.6
PRMA PARMA 83.61 333 P **P 06 09 14.6 +0.3**
PRMA IAMs_20 IAMs_20 06 49 33.6
comp=Z,6μm,20.0s
R52A Catlettsburg 83.64 40 P **P 06 09 14.2 -0.4**
baz=326,SNR=16
FFD Franklin Falls 83.67 30 P **P 06 09 14.9 +0.2**
FFD IAmb IAmb 06 09 15.4
comp=Z,89nm,0.8s
FFD IAMs_20 IAMs_20 06 48 39.9
comp=Z,4μm,22.0s
U49A Red Boiling Sp 83.67 43 P **P 06 09 14.9 0.0**
baz=324,SNR=32
KPRO Kipourio 83.69 323 P **P 06 09 13.0 -1.9**
M58A Price's Panora 83.70 34 P **P 06 09 14.5 -0.4**
baz=329,SNR=11
Q53A Leroy 83.71 39 P **P 06 09 15.1 +0.1**
baz=326,SNR=23
T50A Nancy 83.71 42 P **P 06 09 15.0 0.0**
baz=324,SNR=36
H65A Eastbrook 83.72 27 P **P 06 09 14.7 -0.1**
baz=334
LMN Caledonia Moun 83.72 24 P **P 06 09 14.9 0.0**
LMN IAmb IAmb 06 09 15.8
comp=Z,116nm,1.0s
CLTN Cedars of Leba 83.75 43 P **P 06 09 15.1 -0.1**
CLTN IAmb IAmb 06 09 16.5
comp=Z,71nm,1.0s
SSPA Standing Stone 83.76 35 P **P 06 09 15.1 -0.1**
baz=328
SSPA Standing Stone 83.76 35 P **P 06 09 15.0 -0.1**
SSPA IAmb IAmb 06 09 16.3
comp=Z,181nm,1.4s
SSPA Standing Stone 83.76 35 IAMs_20 IAMs_20 06 45 32.6
comp=Z,4μm,20.0s
MCWV Mont Chateau 83.77 37 P **P 06 09 15.6 +0.4**
baz=327,SNR=11
MCWV Mont Chateau 83.77 37 P **P 06 09 14.9 -0.4**
ZCCA Zocca 83.77 332 P **P 06 09 16.1 +0.8**
MRKA Markates 83.77 321 P **P 06 09 14.5 -0.8**
PLAL Pickwick Lake 83.78 45 P **P 06 09 14.9 -0.5**
PLAL IAmb IAmb 06 09 16.0
comp=Z,63nm,0.9s
PLAL IAMs_20 IAMs_20 06 53 50.5
comp=Z,5μm,21.0s
GGN Saint George 83.78 26 P **P 06 09 14.9 -0.2**
GGN IAmb IAmb 06 09 16.1
comp=Z,126nm,1.1s
S51A Beattyville 83.78 41 P **P 06 09 15.1 -0.3**
baz=325,SNR=9.2
S51A Beattyville 83.78 41 P **P 06 09 15.3 -0.1**
S51A IAmb IAmb 06 09 15.7
comp=Z,50nm,0.8s
S51A IAMs_20 IAMs_20 06 52 13.7
comp=Z,4μm,20.0s
MEH Mehetia 83.78 123 *e*T T 07 41 27.9
comp=Z,25nm,0.3s
O56A Blue Knob Stat 83.79 36 P **P 06 09 15.3 -0.1**
baz=328,SNR=14
O56A Blue Knob Stat 83.79 36 P **P 06 09 15.3 -0.1**
O56A IAmb IAmb 06 09 15.8
comp=Z,83nm,0.8s
O56A IAMs_20 IAMs_20 06 47 43.5
comp=Z,4μm,21.0s
V48A Smith Brothers 83.79 44 P **P 06 09 15.2 -0.2**
baz=323,SNR=22
V48A Smith Brothers 83.79 44 IAMs_20 IAMs_20 06 44 17.7
comp=Z,4μm,21.0s
K61A Williamstown 83.79 31 P **P 06 09 15.2 -0.2**
baz=331,SNR=12
N57A Milroy 83.79 35 P **P 06 09 15.2 -0.1**
baz=328,SNR=27
KSPA Keystone Colle 83.81 33 P **P 06 09 15.0 -0.4**
KSPA IAmb IAmb 06 09 15.5
comp=Z,56nm,0.7s
NWAO Narrogin (SRO) 83.82 208 P **P 06 09 16.0 +0.7**
NWAO pmax pmax
comp=Z,91nm,1.1s
NWAO Narrogin (SRO) 83.82 208 P **P 06 09 16.0 +0.7**
NWAO IAmb IAmb 06 09 17.4
comp=Z,91nm,1.1s
NWAO Narrogin (SRO) 83.82 208 P **P 06 09 16.0 +0.7**
NWAO IAmb IAmb 06 09 17.4
comp=Z,80nm,1.1s
NWAO Narrogin (SRO) 83.82 208 IAMs_20 IAMs_20 06 54 14.9
comp=Z,6μm,20.0s
J62A Henniker 83.83 30 P **P 06 09 15.8 +0.3**
baz=331,SNR=6.8
P55A Reedsville 83.90 37 P **P 06 09 16.3 +0.3**
baz=327,SNR=33
Q54A Coxs Mills 83.91 38 P **P 06 09 16.0 +0.1**
baz=326,SNR=13
Q54A Coxs Mills 83.91 38 P **P 06 09 16.1 +0.1**
Q54A IAmb IAmb 06 09 16.7
comp=Z,86nm,0.9s
Q54A IAMs_20 IAMs_20 06 53 42.7
comp=Z,4μm,20.0s
H66A Whiting 83.93 26 P **P 06 09 15.7 -0.3**
baz=334
KARY Karystos 83.95 320 P **P 06 09 14.8 -1.4**
R53A Hurricane 83.95 39 P **P 06 09 16.1 -0.1**
baz=326,SNR=8.4
R53A Hurricane 83.95 39 P **P 06 09 15.5 -0.7**
R53A IAmb IAmb 06 09 17.4
comp=Z,86nm,1.1s
M59A Waymart 83.96 33 P **P 06 09 15.5 -0.7**
baz=329,SNR=11
EMMW East Machias 83.96 26 P **P 06 09 15.7 -0.4**
EMMW IAMs_20 IAMs_20 06 53 37.4
comp=Z,3μm,19.0s
I64A Boothbay 83.96 28 P **P 06 09 16.2 +0.1**
baz=333
S52A Salyersville 83.98 40 P **P 06 09 16.3 -0.1**
baz=325,SNR=21
LPL La Plagne 84.03 336 *e*P **P 06 09 17.2 +0.4**
LPL pmax pmax
comp=Z,180nm,1.0s
L60A Shokan 84.03 32 P **P 06 09 16.0 -0.5**
baz=330,SNR=14
J63A Strafford 84.03 29 P **P 06 09 16.9 +0.4**
baz=332,SNR=5.3
N58A Sunbury 84.05 34 P **P 06 09 16.5 -0.2**
baz=329,SNR=14
N58A Sunbury 84.05 34 P **P 06 09 16.1 -0.6**
N58A IAmb IAmb 06 09 17.5
comp=Z,129nm,1.1s
AGG Agios Georgios 84.06 322 P **P 06 09 14.9 -1.9**
AGG Agios Georgios 84.06 322 P **P 06 09 15.2 -1.6**
AGG pmax pmax
comp=Z,82nm,0.9s
AGG MLR MLR
comp=Z,8μm,21.0s
AGG Agios Georgios 84.06 322 P **P 06 09 15.2 -1.6**
AGG IAmb IAmb 06 09 16.3
comp=Z,82nm,0.9s
LKR Lokris 84.08 322 P **P 06 09 15.6 -1.2**
L61A Hillsdale 1, H 84.10 32 P **P 06 09 16.7 -0.2**
baz=330
VLC Villacollemand 84.13 333 P **P 06 09 16.8 -0.3**
VLC IAMs_20 IAMs_20 06 49 53.3
comp=Z,6μm,20.0s
MAKR Makrakomi, Fth 84.15 322 P **P 06 09 16.0 -1.3**
JAN Janina 84.16 324 P **P 06 09 17.2 -0.1**
K62A Royalston 84.17 30 P **P 06 09 17.2 -0.1**
baz=331
K62A Royalston 84.17 30 P **P 06 09 17.4 +0.1**
K62A IAmb IAmb 06 09 18.4
comp=Z,71nm,1.1s
K62A IAMs_20 IAMs_20 06 45 21.2
comp=Z,4μm,20.0s
T51A Gray 84.17 41 P **P 06 09 17.2 -0.2**
baz=325,SNR=10
U50A Jamestown 84.19 42 P **P 06 09 17.6 0.0**
baz=324,SNR=28
L61B Northampton 84.20 31 P **P 06 09 17.0 -0.4**
baz=331
MURB Monte Urbino 84.21 331 P **P 06 09 18.2 +0.6**
V49A McMinnville 84.21 43 P **P 06 09 17.3 -0.3**
baz=324,SNR=13
O57A Amberson 84.22 35 P **P 06 09 17.6 +0.1**
baz=328,SNR=21
Q55A Buckhannon 84.22 38 P **P 06 09 17.8 +0.1**
baz=327,SNR=13
MSSA Maissana 84.27 333 P **P 06 09 17.2 -0.6**
P56A Dayton Farm, R 84.32 36 P **P 06 09 18.3 +0.2**
baz=328,SNR=42
SRN Sarande 84.32 324 P **P 06 09 16.6 -1.4**
VILL Villia 84.34 321 P **P 06 09 16.6 -1.7**
N59A State Game Lan 84.36 34 P **P 06 09 18.2 -0.1**
baz=329,SNR=14
N59A State Game Lan 84.36 34 P **P 06 09 18.1 -0.1**
N59A IAMs_20 IAMs_20 06 45 40.5
comp=Z,4μm,20.0s
SGRT San Giovanni R 84.38 328 P **P 06 09 18.0 -0.4**
NRCA Norcia 84.39 330 P **P 06 09 18.5 +0.1**
K63A Dunstable 84.40 30 P **P 06 09 18.5 +0.2**
baz=332,SNR=7.0
S53A Williamson 84.41 40 P **P 06 09 18.5 -0.1**
baz=326,SNR=10
OSSC Osservatorio P 84.42 332 P **P 06 09 17.9 -0.6**
OSSC IAmb IAmb 06 09 19.1
comp=Z,100nm,0.8s
OSSC IAMs_20 IAMs_20 06 51 39.9
comp=Z,4μm,18.0s
M60A Port Jervis 84.45 33 P **P 06 09 18.3 -0.4**
baz=330,SNR=10

BNI	Bardonecchia	84.47	335	P	P	06 09 18.9	0.0	
BNI				pmax	pmax			
	comp=Z,64nm,0.8s							
BNI				MLR	MLR			
	comp=Z,5μm,19.0s							
BNI	Bardonecchia	84.47	335	P	P	06 09 18.9	0.0	
BNI				IAmb	IAmb	06 09 20.6		
	comp=Z,64nm,0.8s							
BNI				IAMs_20	IAMs_20	06 50 56.0		
	comp=Z,5μm,19.0s							
T52A	Hallie	84.49	40	P	P	06 09 19.2	+0.2	
	baz=325,SNR=11							
T52A	Hallie	84.49	40	P	P	06 09 18.9	-0.1	
T52A				IAmb	IAmb	06 09 20.4		
	comp=Z,141nm,1.4s							
T52A				IAMs_20	IAMs_20	06 54 08.5		
	comp=Z,6μm,21.0s							
R54A	Victor	84.50	39	P	P	06 09 19.0	-0.1	
	baz=326,SNR=15							
BAI	Bari	84.51	327	eP	P	06 09 18.3	-0.7	
KSCT	Kent School, K	84.53	32	P	P	06 09 19.0	0.0	
KSCT				IAmb	IAmb	06 09 22.0		
	comp=Z,81nm,1.3s							
KSCT				IAMs_20	IAMs_20	06 53 07.9		
	comp=Z,5μm,21.0s							
HRV	Adam Dziewonsk	84.55	30	P	P	06 09 19.0	-0.1	
	baz=332							
HRV	Adam Dziewonsk	84.55	30	P	P	06 09 18.8	-0.3	
HRV	Adam Dziewonsk	84.55	30	P	P	06 09 18.8	-0.3	
HRV				IAmb	IAmb	06 09 20.4		
	comp=Z,114nm,1.1s							
HRV	Adam Dziewonsk	84.55	30	IAMs_20	IAMs_20	06 49 40.2		
	comp=Z,4μm,20.0s							
W49A	Belvidere	84.56	44	P	P	06 09 19.2	-0.2	
	baz=324,SNR=24							
Q56A	Snyder Ridge,	84.56	37	P	P	06 09 19.2	-0.1	
	baz=327,SNR=13							
Q56A	Snyder Ridge,	84.56	37	P	P	06 09 19.3	-0.1	
Q56A				IAmb	IAmb	06 09 20.5		
	comp=Z,99nm,1.0s							
L62A	Suffield	84.57	31	P	P	06 09 19.0	-0.2	
	baz=331							
PAGS	Pennsylvania G	84.57	35	P	P	06 09 18.8	-0.5	
PAGS				IAmb	IAmb	06 09 20.0		
	comp=Z,129nm,1.1s							
PAGS				IAMs_20	IAMs_20	06 54 33.6		
	comp=Z,5μm,20.0s							
O58A	Lewisberry	84.58	35	P	P	06 09 19.0	-0.3	
	baz=329,SNR=25							
LTK	Loutraki	84.61	321	P	P	06 09 17.6	-2.0	
U51A	La Follette	84.61	42	P	P	06 09 19.5	-0.2	
	baz=325,SNR=14							
LOUT	Loutraki	84.64	321	P	P	06 09 17.7	-2.0	
SWET	Sewanee	84.64	44	P	P	06 09 19.4	-0.4	
SWET				IAMs_20	IAMs_20	06 53 17.8		
	comp=Z,4μm,18.0s							
N60A	Cedar Hill Far	84.66	33	P	P	06 09 19.3	-0.4	
	baz=330							
KALE	Kalithea	84.67	322	P	P	06 09 18.6	-1.3	
ODNJ	Ogdensburg	84.67	33	P	P	06 09 19.3	-0.4	
ODNJ				IAmb	IAmb	06 09 20.2		
	comp=Z,76nm,1.1s							
ODNJ				IAMs_20	IAMs_20	06 54 40.9		
	comp=Z,5μm,18.0s							
V50A	Pikevile	84.67	43	P	P	06 09 19.9	-0.1	
	baz=324,SNR=18							
S54A	Dingess, Beckl	84.68	39	P	P	06 09 19.8	-0.1	
	baz=326,SNR=14							
S54A	Dingess, Beckl	84.68	39	P	P	06 09 19.9	-0.1	
S54A				IAmb	IAmb	06 09 21.0		
	comp=Z,86nm,1.0s							
P57A	Homestead Farm	84.68	36	P	P	06 09 19.7	-0.2	
	baz=328,SNR=10							
P57A	Homestead Farm	84.68	36	P	P	06 09 19.8	0.0	
P57A				IAmb	IAmb	06 09 21.0		
	comp=Z,77nm,1.0s							
P57A				IAMs_20	IAMs_20	06 54 22.0		
	comp=Z,5μm,19.0s							
SERG	Sergoula	84.68	322	P	P	06 09 18.1	-1.8	
TZTN	Tazewell	84.70	41	P	P	06 09 20.1	0.0	
	baz=325,SNR=13							
TZTN	Tazewell	84.70	41	P	P	06 09 20.0	0.0	
TZTN				IAmb	IAmb	06 09 21.3		
	comp=Z,138nm,1.3s							
TZTN				IAMs_20	IAMs_20	06 54 03.5		
	comp=Z,5μm,20.0s							
VBMS	Vicksburg	84.70	48	P	P	06 09 20.7	+0.6	
	baz=322,SNR=20							
VBMS	Vicksburg	84.70	48	P	P	06 09 20.7	+0.6	
VBMS				IAMs_20	IAMs_20	06 54 22.4		
	comp=Z,6μm,20.0s							
X48A	Hartselle	84.71	45	P	P	06 09 19.6	-0.6	
	baz=323,SNR=17							
X48A	Hartselle	84.71	45	IAMs_20	IAMs_20	06 53 41.2		
	comp=Z,5μm,21.0s							
AQU	L'Aquila	84.71	330	P	P	06 09 20.3	+0.2	
AQU				pmax	pmax			
	comp=Z,263nm,1.0s							
AQU	L'Aquila	84.71	330	⇑iP	P	06 09 20.2	+0.2	
AQU	L'Aquila	84.71	330	P	P	06 09 20.3	+0.2	
AQU				IAMs_20	IAMs_20	06 52 13.8		
	comp=Z,7μm,21.0s							
KARP	Karpathos	84.71	317	P	P	06 09 18.4	-1.7	
KARP	Karpathos	84.71	317	P	P	06 09 19.3	-0.8	
O59A	Robesonia	84.72	34	P	P	06 09 19.7	-0.3	
	baz=329,SNR=11							
TRIZ	Trizonia	84.72	322	P	P	06 09 18.8	-1.2	
EFP	Efpalio	84.74	322	P	P	06 09 17.8	-2.4	
WES	Weston	84.74	30	P	P	06 09 20.3	+0.3	
WES				pmax	pmax			
	comp=Z,151nm,1.0s							
WES	Weston	84.74	30	P	P	06 09 20.4	+0.3	
WES				IAMs_20	IAMs_20	06 53 10.2		
	comp=Z,4μm,21.0s							
SCTE	Santa Cesarea	84.78	325	P	P	06 09 20.1	-0.3	
M61A	Granite Spring	84.79	32	P	P	06 09 20.0	-0.4	
	baz=330,SNR=6.9							
LUPA	Lehigh Univers	84.79	34	P	P	06 09 20.2	-0.2	
R55A	Marlinton	84.80	38	P	P	06 09 20.7	+0.1	
	baz=327,SNR=23							
R55A	Marlinton	84.80	38	P	P	06 09 20.7	+0.1	
T53A	Wise	84.80	40	P	P	06 09 20.8	+0.2	
	baz=326,SNR=11							
MASS	Massafra	84.82	327	eP	P	06 09 19.3	-1.2	
SG1	Sgolgore (BA)	84.82	327	eP	P	06 09 19.6	-1.0	
MFF	Saint Martin d	84.83	340	eP	P	06 09 20.0	-0.5	
MFF				pmax	pmax			
	comp=Z,183nm,1.1s							
BCX	Boston College	84.83	30	IAMs_20	IAMs_20	06 54 38.1		
	comp=Z,7μm,22.0s							
SANT	Santorini	84.84	319	IAMs_20	IAMs_20	06 51 41.5		
	comp=Z,4μm,18.0s							
TAR1	Taranto	84.86	326	eP	P	06 09 20.1	-0.6	
LAKA	Lakka	84.86	322	P	P	06 09 20.0	-0.9	
SSB	Saint Sauveur	84.87	337	IAMs_20	IAMs_20	06 54 35.7		
	comp=Z,4μm,18.0s							
ZAIG	Zacatecas	84.87	63	P	P	06 09 21.9	+0.4	
ZAIG				IAmb	IAmb	06 09 34.1		
	comp=Z,53nm,1.1s							
ZAIG				IAMs_20	IAMs_20	06 53 40.5		
	comp=Z,6μm,20.0s							
Q57A	Strasburg	84.89	36	P	P	06 09 20.6	-0.3	
	baz=328,SNR=8.4							
PDO	Prodromos	84.90	323	P	P	06 09 20.4	-0.6	
U52A	Thorn Hill	84.90	41	P	P	06 09 21.2	+0.1	
	baz=325,SNR=27							
MVL	Millersville	84.92	35	P	P	06 09 21.0	0.0	
MVL				IAmb	IAmb	06 09 22.0		
	comp=Z,81nm,0.9s							
MVL				IAMs_20	IAMs_20	06 50 23.2		
	comp=Z,4μm,19.0s							
DID	Didima	84.92	321	P	P	06 09 18.0	-3.2	
V51A	Loudon	84.92	42	P	P	06 09 21.2	0.0	
	baz=325,SNR=17							
V51A	Loudon	84.92	42	P	P	06 09 21.1	-0.1	
V51A				IAmb	IAmb	06 09 22.2		
	comp=Z,99nm,1.1s							
V51A				IAMs_20	IAMs_20	06 53 58.1		
	comp=Z,5μm,21.0s							
KLV	Kalavryta, Ach	84.95	322	P	P	06 09 20.0	-1.3	
W50A	Signal Mountai	84.95	43	P	P	06 09 21.1	-0.3	
	baz=324,SNR=15							
W50A	Signal Mountai	84.95	43	P	P	06 09 21.2	-0.2	
W50A				IAmb	IAmb	06 09 21.8		
	comp=Z,56nm,0.8s							
W50A				IAMs_20	IAMs_20	06 53 54.5		
	comp=Z,5μm,22.0s							
P58A	Pank, Wackersv	84.97	35	P	P	06 09 21.4	+0.1	
	baz=328,SNR=24							
PAL	Palisades	85.00	32	P	P	06 09 21.2	-0.2	
	baz=330,SNR=9.1							
PAL	Palisades	85.00	32	P	P	06 09 21.3	-0.2	
PAL				pmax	pmax			
	comp=Z,213nm,1.4s							
PAL	Palisades	85.00	32	P	P	06 09 21.3	-0.2	
PAL				IAMs_20	IAMs_20	06 54 45.3		
	comp=Z,5μm,20.0s							
R56A	Bull Pasture M	85.00	37	P	P	06 09 21.4	-0.3	
	baz=327,SNR=11							
O60A	Telford	85.02	34	P	P	06 09 21.2	-0.3	
	baz=329,SNR=9.7							
BRNJ	Basking Ridge	85.03	33	P	P	06 09 21.3	-0.3	
BRNJ				IAmb	IAmb	06 09 22.7		
	comp=Z,98nm,0.8s							
LATE	Laterza	85.03	331	P	P	06 09 21.3	-0.4	
GBN	Guysborough	85.05	22	P	P	06 09 22.4	+0.8	
GBN				IAmb	IAmb	06 09 23.4		
	comp=Z,144nm,1.2s							
S55A	Lewisburg	85.06	38	P	P	06 09 21.8	-0.1	
	baz=327,SNR=7.3							
N61A	South Mountain	85.07	33	P	P	06 09 21.9	+0.2	
	baz=330,SNR=6.3							
BRYW	Bryant College	85.07	30	P	P	06 09 21.9	+0.1	
BRYW				IAmb	IAmb	06 09 22.3		
	comp=Z,87nm,0.8s							
BRYW				IAMs_20	IAMs_20	06 45 34.1		
	comp=Z,4μm,21.0s							
YLE	Yale	85.09	32	IAMs_20	IAMs_20	06 54 45.7		
	comp=Z,5μm,21.0s							
L63A	North Scituate	85.09	30	P	P	06 09 21.6	-0.3	
	baz=332,SNR=5.0							
EVGI	Lefkada island	85.11	323	P	P	06 09 21.2	-0.8	
CPCT	Cooper Cave	85.13	42	P	P	06 09 22.2	-0.1	
CPCT				IAmb	IAmb	06 09 23.2		
	comp=Z,113nm,1.1s							
CPCT				IAMs_20	IAMs_20	06 45 24.6		
	comp=Z,4μm,20.0s							
ACER	Acerenza	85.15	327	P	P	06 09 22.3	0.0	
CPNY	Central Park	85.16	33	P	P	06 09 22.2	0.0	
CPNY				IAMs_20	IAMs_20	06 54 42.1		
	comp=Z,5μm,19.0s							
T54A	Tazewell	85.17	40	P	P	06 09 22.6	+0.1	
	baz=326,SNR=23							
CASP	Castiglione de	85.19	332	IAMs_20	IAMs_20	06 52 05.5		
	comp=Z,5μm,18.0s							
P59A	Jarrettsville	85.22	35	P	P	06 09 22.5	-0.1	
	baz=329,SNR=18							
DRO	Drossia	85.22	322	P	P	06 09 21.9	-0.7	
SDMD	Soldier's Deli	85.22	35	P	P	06 09 22.3	-0.3	
SDMD				IAmb	IAmb	06 09 23.6		
	comp=Z,56nm,1.0s							
SDMD				IAMs_20	IAMs_20	06 49 21.3		
	comp=Z,2μm,20.0s							
N62A	Caumsett State	85.23	32	P	P	06 09 22.3	-0.3	
	baz=331							
RLS	Riolos of Patr	85.23	322	P	P	06 09 22.3	-0.4	
V52A	Sevierville	85.25	42	P	P	06 09 22.9	+0.1	
	baz=325,SNR=21							
V52A	Sevierville	85.25	42	P	P	06 09 23.0	+0.1	
V52A				IAmb	IAmb	06 09 24.1		
	comp=Z,117nm,1.1s							
V52A				IAMs_20	IAMs_20	06 46 29.1		
	comp=Z,4μm,20.0s							
W51A	Cleveland	85.25	43	P	P	06 09 22.8	0.0	
	baz=324,SNR=14							
Q58A	Fox Den Farm,	85.28	36	P	P	06 09 22.9	0.0	
	baz=328,SNR=23							
U53A	Fall Branch	85.29	41	P	P	06 09 23.0	-0.1	
	baz=326,SNR=19							
L64A	Middleborough	85.30	30	P	P	06 09 23.1	+0.2	
	baz=332,SNR=6.5							
PSUB	Penn St. - Bra	85.33	34	P	P	06 09 22.7	-0.4	
PSUB				IAmb	IAmb	06 09 23.8		
	comp=Z,89nm,1.0s							
PSUB				IAMs_20	IAMs_20	06 45 23.2		
	comp=Z,6μm,21.0s							
M63A	Gales Ferry	85.34	31	P	P	06 09 22.8	-0.4	
	baz=331,SNR=6.4							
FPAL	Fort Paine	85.34	44	P	P	06 09 22.9	-0.5	
FPAL				IAMs_20	IAMs_20	06 53 48.3		
	comp=Z,3μm,21.0s							
P60A	Greenville	85.36	34	P	P	06 09 23.0	-0.3	
	baz=329,SNR=16							
P60A	Greenville	85.36	34	P	P	06 09 22.9	-0.3	
P60A				IAmb	IAmb	06 09 24.3		
	comp=Z,112nm,1.0s							
P60A				IAMs_20	IAMs_20	06 45 24.4		
	comp=Z,5μm,21.0s							
VLX	Vlachokerasia	85.41	321	P	P	06 09 22.2	-1.5	
PAOL	Paolisi	85.45	328	P	P	06 09 23.1	-0.7	
PAOL				IAmb	IAmb	06 09 24.1		
	comp=Z,112nm,1.1s							
R57A	Stanardsville	85.47	37	P	P	06 09 24.1	+0.3	
	baz=328,SNR=23							
T55A	Pulaski	85.48	39	P	P	06 09 24.1	+0.2	
	baz=327,SNR=20							
KFL	Anninata	85.48	323	P	P	06 09 23.1	-0.8	
Y49A	Blount Mountai	85.50	45	P	P	06 09 23.8	-0.3	
	baz=324,SNR=15							
Y49A	Blount Mountai	85.50	45	IAMs_20	IAMs_20	06 53 30.5		
	comp=Z,4μm,21.0s							
STIA	Sitia Lasithi	85.50	318	P	P	06 09 24.4	+0.4	
U54A	Nelsons Funny	85.51	40	P	P	06 09 24.1	-0.1	
	baz=326,SNR=14							
U54A	Nelsons Funny	85.51	40	P	P	06 09 24.2	+0.1	
U54A				IAmb	IAmb	06 09 25.3		
	comp=Z,104nm,1.0s							
U54A				IAMs_20	IAMs_20	06 53 59.8		
	comp=Z,6μm,20.0s							
VLS	Valsamata	85.51	323	P	P	06 09 23.0	-1.1	
ZKR	Zakros	85.51	317	P	P	06 09 23.3	-0.8	
O61A	Allentown	85.54	33	P	P	06 09 24.0	-0.2	
	baz=330,SNR=10.0							
S56A	Natural Bridge	85.54	38	P	P	06 09 24.2	-0.1	
	baz=327,SNR=15							
BLA	Blacksburg	85.56	39	P	P	06 09 24.4	0.0	
	baz=327,SNR=21							
BLA	Blacksburg	85.56	39	P	P	06 09 24.5	+0.1	
BLA				pmax	pmax			
	comp=Z,183nm,1.1s							
BLA	Blacksburg	85.56	39	P	P	06 09 24.4	+0.1	
BLA				IAMs_20	IAMs_20	06 54 04.1		
	comp=Z,6μm,22.0s							
AMT	Artemida-Makis	85.57	322	P	P	06 09 23.7	-0.7	
NPS	Neapolis	85.68	318	P	P	06 09 23.6	-1.4	
R58A	Rapidan	85.68	37	P	P	06 09 25.0	+0.1	
	baz=328,SNR=20							
X51A	Calhoun	85.69	43	P	P	06 09 24.9	-0.1	
	baz=324,SNR=7.4							
X51A	Calhoun	85.69	43	IAMs_20	IAMs_20	06 53 45.9		
	comp=Z,6μm,19.0s							
M65A	Busby, Falmout	85.70	30	P	P	06 09 24.6	-0.3	
	baz=332							
W52A	Murphy	85.70	42	P	P	06 09 25.0	-0.1	
	baz=325,SNR=8.0							
W52A	Murphy	85.70	42	P	P	06 09 25.1	-0.1	
W52A				IAmb	IAmb	06 09 38.0		
	comp=Z,59nm,1.1s							
W52A				IAMs_20	IAMs_20	06 45 19.2		
	comp=Z,5μm,22.0s							
VLI	Veliai	85.71	321	P	P	06 09 21.3	-3.8	
S57A	Dark Hollow, R	85.74	37	P	P	06 09 25.4	+0.1	
	baz=328,SNR=18							
S57A	Dark Hollow, R	85.74	37	P	P	06 09 25.3	+0.1	
S57A				IAmb	IAmb	06 09 26.5		
	comp=Z,72nm,0.9s							
S57A				IAMs_20	IAMs_20	06 53 34.6		
	comp=Z,5μm,21.0s							
V53A	Saluda	85.75	41	P	P	06 09 25.4	0.0	
	baz=326,SNR=10.0							
V53A	Saluda	85.75	41	P	P	06 09 25.5	0.0	
V53A				IAmb	IAmb	06 09 26.6		
	comp=Z,78nm,1.2s							
V53A				IAMs_20	IAMs_20	06 53 52.5		
	comp=Z,5μm,19.0s							
Q59A	Harwood	85.76	35	P	P	06 09 25.6	+0.3	
	baz=329,SNR=7.0							
ITM	Ithomi	85.77	322	P	P	06 09 23.3	-2.1	
ITM	Ithomi	85.77	322	P	P	06 09 23.7	-1.7	
ITM				IAMs_20	IAMs_20	06 51 16.7		
	comp=Z,5μm,20.0s							
P61A	Hammonton	85.81	34	P	P	06 09 25.2	-0.3	
	baz=330							
P61A	Hammonton	85.81	34	IAMs_20	IAMs_20	06 46 56.8		
	comp=Z,5μm,22.0s							
CAF	Calviac	85.86	338	eP	P	06 09 25.7	0.0	
CAF				pmax	pmax			
	comp=Z,262nm,1.0s							
LRAL	Lakeview Retre	85.86	46	P	P	06 09 25.4	-0.5	
	baz=324,SNR=12							
LRAL	Lakeview Retre	85.86	46	P	P	06 09 24.5	-1.4	
LRAL				IAMs_20	IAMs_20	06 53 23.7		
	comp=Z,4μm,20.0s							
U55A	TA2, Sparta	85.87	40	P	P	06 09 25.8	-0.2	
	baz=326,SNR=14							
T56A	Rocky Mt	85.88	39	P	P	06 09 25.6	-0.3	
	baz=327,SNR=12							
Q60A	Greensboro	85.97	35	P	P	06 09 26.0	-0.3	
	baz=329							
W53A	Cullowhee	86.00	42	P	P	06 09 26.7	0.0	
	baz=325,SNR=17							
R58B	Mineral	86.02	37	P	P	06 09 26.6	0.0	
	baz=328,SNR=14							
R58B	Mineral	86.02	37	P	P	06 09 26.4	-0.1	
R58B				IAmb	IAmb	06 09 27.7		
	comp=Z,77nm,1.0s							
R58B				IAMs_20	IAMs_20	06 48 07.1		
	comp=Z,6μm,21.0s							
CBN	Corbin Frederi	86.03	36	P	P	06 09 26.7	+0.1	
	baz=328,SNR=16							
CBN	Corbin Frederi	86.03	36	P	P	06 09 26.5	-0.1	
CBN				IAMs_20	IAMs_20	06 54 05.7		
	comp=Z,6μm,20.0s							
V54A	Nebo	86.06	41	P	P	06 09 26.8	-0.1	
	baz=326,SNR=10.0							
PYL	PYLOS	86.09	322	P	P	06 09 24.7	-2.2	
X52A	Dahlonega	86.12	43	P	P	06 09 27.3	+0.2	
	baz=325,SNR=13							
Y51A	Rockmart	86.13	44	P	P	06 09 27.0	-0.2	
	baz=324,SNR=25							
R59A	King George, V	86.14	36	P	P	06 09 27.3	+0.2	
	baz=329,SNR=12							
LFF	La Frestale	86.18	339	eP	P	06 09 27.1	-0.1	
LFF				pmax	pmax			
	comp=Z,139nm,1.0s							
TIP	Timpagrande	86.22	326	P	P	06 09 27.2	-0.4	
TIP	Timpagrande	86.22	326	⇑P	P	06 09 27.6	-0.1	
TIP	Timpagrande	86.22	326	P	P	06 09 27.4	-0.2	
Z50A	Ashland	86.22	45	P	P	06 09 27.6	-0.1	
	baz=324,SNR=44							
Z50A	Ashland	86.22	45	P	P	06 09 26.9	-0.8	
Z50A				IAMs_20	IAMs_20	06 53 23.3		
	comp=Z,5μm,22.0s							
SOCY	Socotra	86.24	283	P	P	06 09 27.3	-0.8	
	SNR=8.6							
SOCY	Socotra	86.24	283	P	P	06 09 26.3	-1.8	
SOCY				IAMs_20	IAMs_20	06 51 35.3		
	comp=Z,3μm,19.0s							
S58A	Poland Farm, P	86.25	37	P	P	06 09 27.4	-0.3	
	baz=328,SNR=12							
S58A	Poland Farm, P	86.25	37	P	P	06 09 27.6	-0.1	
S58A				IAmb	IAmb	06 09 28.6		
	comp=Z,81nm,0.9s							
S58A				IAMs_20	IAMs_20	06 54 01.1		
	comp=Z,6μm,20.0s							
T57A	Hurt	86.25	38	P	P	06 09 27.6	-0.1	
	baz=327,SNR=20							
T57A	Hurt	86.25	38	P	P	06 09 27.0	-0.7	
T57A				IAmb	IAmb	06 09 28.7		
	comp=Z,90nm,0.9s							
BG3	Lake Jocassee	86.25	42	P	P	06 09 28.1	+0.3	
BG3				IAmb	IAmb	06 09 29.3		
	comp=Z,127nm,1.2s							
BG3				IAMs_20	IAMs_20	06 46 51.2		
	comp=Z,3μm,21.0s							
SIVA	Sivas	86.25	318	P	P	06 09 26.5	-1.3	
IMMV	Iera Moni Meta	86.27	319	P	P	06 09 26.6	-1.3	
Q61A	Milford	86.28	34	P	P	06 09 28.1	+0.3	
	baz=330							
U56A	King	86.30	39	P	P	06 09 28.1	+0.1	
	baz=327,SNR=14							
U56A	King	86.30	39	P	P	06 09 27.7	-0.3	
U56A				IAmb	IAmb	06 09 29.1		
	comp=Z,77nm,0.8s							
U56A				IAMs_20	IAMs_20	06 54 52.6		
	comp=Z,5μm,19.0s							
R60A	Leonardtown, M	86.30	36	P	P	06 09 28.3	+0.4	
	baz=329							
V55A	Taylorsville	86.33	40	P	P	06 09 28.1	-0.1	
	baz=326,SNR=9.5							
S59A	Mechanicsville	86.44	36	P	P	06 09 28.8	+0.2	
	baz=328,SNR=25							
X53A	Estanollee	86.48	42	P	P	06 09 29.5	+0.6	
	baz=325,SNR=40							
W54A	Cherokee Point	86.52	41	P	P	06 09 29.2	+0.1	
	baz=326,SNR=12							
Z51A	Franklin	86.54	44	P	P	06 09 28.9	-0.3	
	baz=324,SNR=16							
T58A	Grand View Acr	86.60	38	P	P	06 09 29.4	-0.1	
	baz=328,SNR=15							
Y52A	Lilburn	86.64	43	P	P	06 09 30.0	+0.3	
	baz=325,SNR=12							
Y52A	Lilburn	86.64	43	P	P	06 09 29.9	+0.3	
Y52A				IAmb	IAmb	06 09 30.6		
	comp=Z,52nm,0.9s							
U57A	Blanch	86.69	38	P	P	06 09 29.9	0.0	
	baz=327,SNR=14							
V56A	Mocksville	86.69	40	P	P	06 09 29.9	0.0	
	baz=327,SNR=13							
R61A	Willards	86.75	35	IAMs_20	IAMs_20	06 50 49.2		
	comp=Z,6μm,22.0s							
S60A	Water View	86.75	36	P	P	06 09 30.3	+0.1	
	baz=329,SNR=9.5							
KMSC	Kings Mountain	86.87	40	P	P	06 09 30.6	-0.3	
	baz=326,SNR=18							
KMSC	Kings Mountain	86.87	40	P	P	06 09 30.5	-0.3	
KMSC				IAmb	IAmb	06 09 31.9		
	comp=Z,124nm,1.1s							
KMSC				IAMs_20	IAMs_20	06 55 12.9		
	comp=Z,5μm,20.0s							
Y53A	Monroe	86.88	43	P	P	06 09 31.0	+0.2	
	baz=325,SNR=12							
X54A	Belton	86.88	42	P	P	06 09 31.2	+0.3	
	baz=326,SNR=17							
PAULI	Pauline	86.91	41	P	P	06 09 31.2	+0.2	
PAULI				IAmb	IAmb	06 09 32.0		
	comp=Z,80nm,1.1s							
PAULI				IAMs_20	IAMs_20	06 46 48.1		
	comp=Z,5μm,19.0s							
V57A	Coltrane Farms	86.95	39	P	P	06 09 31.1	-0.1	
	baz=327,SNR=5.4							
T59A	Double "B" Far	87.00	37	P	P	06 09 31.5	+0.1	
	baz=328,SNR=14							
T59A	Double "B" Far	87.00	37	P	P	06 09 31.3	0.0	
T59A				IAmb	IAmb	06 09 32.7		
	comp=Z,101nm,1.1s							
T59A				IAMs_20	IAMs_20	06 48 26.0

TBI	Tubuai	87.29	127	*e*LR	LR	06 37 03.3	
	comp=Z,9μm,23.5s						
TBI	Tubuai	87.29	127	*e*T	T	07 45 54.3	
	comp=Z,30nm,0.3s						
152A	Waverly Hall	87.29	44	P	P	06 09 32.7	-0.2
	baz=325,SNR=12						
152A	Waverly Hall	87.29	44	P	P	06 09 32.7	-0.2
152A				IAmb	IAmb	06 09 33.9	
	comp=Z,86nm,1.1s						
152A				IAMs_20	IAMs_20	06 54 35.5	
	comp=Z,3μm,19.0s						
GOGA	Godfrey	87.29	43	P	P	06 09 32.9	+0.1
	baz=325,SNR=8.0						
GOGA	Godfrey	87.29	43	P	P	06 09 33.2	+0.3
GOGA				pmax	pmax		
	comp=Z,62nm,1.2s						
GOGA	Godfrey	87.29	43	P	P	06 09 33.2	+0.3
GOGA				IAmb	IAmb	06 09 34.4	
	comp=Z,62nm,1.2s						
GOGA	Godfrey	87.29	43	IAMs_20	IAMs_20	06 46 29.4	
	comp=Z,4μm,19.0s						
Y54A	Tignall	87.30	42	P	P	06 09 33.4	+0.5
	baz=326,SNR=46						
V58A	Windy Hill, Pi	87.32	39	P	P	06 09 33.0	0.0
	baz=328,SNR=15						
V58A	Windy Hill, Pi	87.32	39	P	P	06 09 33.0	0.0
V58A				IAmb	IAmb	06 09 34.2	
	comp=Z,106nm,1.0s						
V58A				IAMs_20	IAMs_20	06 53 49.6	
	comp=Z,6μm,20.0s						
BRAL	Brewton	87.33	47	P	P	06 09 33.9	+0.8
	baz=324,SNR=12						
BRAL	Brewton	87.33	47	IAMs_20	IAMs_20	06 55 06.8	
	comp=Z,5μm,19.0s						
Z53A	Monticello	87.35	43	P	P	06 09 33.1	0.0
	baz=325,SNR=14						
U59A	Littleton	87.42	37	P	P	06 09 33.5	+0.1
	baz=328,SNR=16						
U59A	Littleton	87.42	37	P	P	06 09 33.2	-0.3
U59A				IAmb	IAmb	06 09 34.8	
	comp=Z,95nm,1.1s						
U59A				IAMs_20	IAMs_20	06 53 48.2	
	comp=Z,6μm,21.0s						
W57A	Gilead	87.47	40	P	P	06 09 33.6	-0.1
	baz=327,SNR=13						
W57A	Gilead	87.47	40	P	P	06 09 33.7	+0.1
W57A				IAmb	IAmb	06 09 34.8	
	comp=Z,116nm,1.1s						
W57A				IAMs_20	IAMs_20	06 55 20.6	
	comp=Z,5μm,20.0s						
X56A	White Oak	87.55	41	P	P	06 09 34.2	+0.1
	baz=326,SNR=13						
U60A	Pendleton	87.59	37	P	P	06 09 34.3	+0.1
	baz=329,SNR=8.1						
JSC	Jenkinsville	87.61	41	P	P	06 09 34.5	+0.1
JSC				pmax	pmax		
	comp=Z,44nm,1.1s						
JSC				MLR	MLR		
	comp=Z,3μm,18.0s						
JSC	Jenkinsville	87.61	41	P	P	06 09 34.5	+0.1
JSC				IAmb	IAmb	06 09 35.7	
	comp=Z,44nm,1.1s						
JSC				IAMs_20	IAMs_20	06 52 08.7	
	comp=Z,3μm,18.0s						
Y55A	Saluda	87.62	42	P	P	06 09 34.8	+0.3
	baz=326,SNR=15						
BIRD	Birdtown, Kers	87.68	40	P	P	06 09 34.5	-0.2
BIRD				IAmb	IAmb	06 09 36.0	
	comp=Z,110nm,1.1s						
BIRD				IAMs_20	IAMs_20	06 54 49.3	
	comp=Z,5μm,18.0s						
V59A	Middlesex	87.72	38	P	P	06 09 35.1	+0.2
	baz=328,SNR=18						
Z54A	Sparta	87.74	43	P	P	06 09 35.4	+0.4
	baz=326,SNR=12						
153A	Fort Valley	87.74	44	P	P	06 09 35.2	+0.2
	baz=325,SNR=9.8						
252A	Lumpkin	87.83	45	P	P	06 09 35.4	-0.1
	baz=325,SNR=7.1						
W58A	Raeford	87.92	39	P	P	06 09 35.9	0.0
	baz=328,SNR=17						
X57A	Johnson Farm,	88.00	40	P	P	06 09 36.5	+0.3
	baz=327,SNR=12						
Y56A	Pelion	88.00	41	P	P	06 09 36.5	+0.2
	baz=326,SNR=6.5						
U61A	Possum Corner	88.01	37	P	P	06 09 36.4	+0.2
	baz=329,SNR=9.7						
U61A	Possum Corner	88.01	37	IAMs_20	IAMs_20	06 53 34.7	
	comp=Z,5μm,19.0s						
253A	Americus	88.07	44	P	P	06 09 36.9	+0.2
	baz=325,SNR=14						
253A	Americus	88.07	44	IAMs_20	IAMs_20	06 53 59.2	
	comp=Z,5μm,20.0s						
Z55A	Blythe	88.08	42	P	P	06 09 37.2	+0.6
	baz=326,SNR=8.1						
154A	Montrose	88.12	43	P	P	06 09 37.4	+0.5
	baz=326,SNR=18						
154A	Montrose	88.12	43	P	P	06 09 37.8	+0.9
154A				IAMs_20	IAMs_20	06 52 45.3	
	comp=Z,5μm,20.0s						
W59A	Clinton	88.14	38	P	P	06 09 37.2	+0.3
	baz=328,SNR=11						
V60A	Jim Taylor Roa	88.14	37	P	P	06 09 36.9	0.0
	baz=328,SNR=8.6						
V60A	Jim Taylor Roa	88.14	37	P	P	06 09 36.2	-0.7
352A	Blakely	88.15	45	P	P	06 09 37.4	+0.4
	baz=325,SNR=17						
352A	Blakely	88.15	45	P	P	06 09 37.4	+0.4
352A				IAMs_20	IAMs_20	06 53 31.4	
	comp=Z,5μm,19.0s						
Y57A	Sumter	88.23	40	P	P	06 09 37.5	+0.1
	baz=327,SNR=5.4						
Y57A	Sumter	88.23	40	IAMs_20	IAMs_20	06 52 53.0	
	comp=Z,6μm,21.0s						
X58A	Rowland	88.26	39	P	P	06 09 37.6	+0.1
	baz=327,SNR=13						
X58A	Rowland	88.26	39	P	P	06 09 37.6	+0.1
X58A				IAMs_20	IAMs_20	06 53 53.6	
	comp=Z,6μm,21.0s						
CNNC	Cliffs of the	88.32	38	P	P	06 09 38.1	+0.3
	baz=328,SNR=9.5						
Z56A	Williston	88.36	42	P	P	06 09 38.4	+0.5
	baz=326,SNR=8.5						
Z56A	Williston	88.36	42	P	P	06 09 38.5	+0.5
Z56A				IAMs_20	IAMs_20	06 47 29.4	
	comp=Z,5μm,21.0s						
V61A	Roper	88.41	37	P	P	06 09 38.2	+0.1
	baz=329						
V61A	Roper	88.41	37	IAMs_20	IAMs_20	06 53 28.5	
	comp=Z,5μm,20.0s						
155A	Kite	88.42	43	P	P	06 09 38.8	+0.6
	baz=326,SNR=10						
451A	Vernon	88.44	46	P	P	06 09 39.1	+0.8
	baz=324						
W60A	Pink Hill	88.56	38	P	P	06 09 38.9	+0.1
	baz=328,SNR=9.5						
X59A	McDuffie Farm,	88.57	39	P	P	06 09 38.9	0.0
	baz=328,SNR=5.4						
254A	Abbeville	88.58	44	P	P	06 09 39.5	+0.5
	baz=325,SNR=17						
353A	Camilla	88.61	45	P	P	06 09 39.9	+0.7
	baz=325,SNR=12						
Y58A	Scranton	88.66	40	P	P	06 09 39.6	+0.2
	baz=327,SNR=7.7						
Y58A	Scranton	88.66	40	P	P	06 09 39.5	+0.1
Y58A				IAMs_20	IAMs_20	06 53 00.2	
	comp=Z,6μm,21.0s						
Z57A	Bowman	88.69	41	P	P	06 09 39.9	+0.4
	baz=327,SNR=11						
W61A	Ground Anchor	88.76	37	P	P	06 09 39.7	-0.1
	baz=329						
X60A	Albert Glenn T	88.84	38	P	P	06 09 40.3	+0.1
	baz=328,SNR=7.0						
TIGA	Tifton	88.85	44	P	P	06 09 40.8	+0.5
	baz=325,SNR=5.7						
TIGA	Tifton	88.85	44	IAMs_20	IAMs_20	06 57 23.7	
	comp=Z,5μm,20.0s						
156A	Sylvania	88.85	42	P	P	06 09 41.2	+1.0
	baz=326,SNR=8.7						
V62A	Hyde County Ai	88.87	37	P	P	06 09 41.0	+0.7
	baz=329						
Y59A	Loris	88.94	39	P	P	06 09 40.7	+0.1
	baz=328,SNR=6.9						
Y59A	Loris	88.94	39	P	P	06 09 40.2	-0.4
453A	Whigham	88.96	45	P	P	06 09 41.5	+0.6
	baz=325						
255A	Hazlehurst	88.99	43	P	P	06 09 41.7	+0.7
	baz=326,SNR=6.9						
255A	Hazlehurst	88.99	43	P	P	06 09 41.3	+0.4
255A				IAMs_20	IAMs_20	06 57 23.3	
	comp=Z,6μm,20.0s						
THZ	Tophouse	89.05	164	P	P	06 09 41.1	+0.4
Z58A	St. Stephen	89.07	40	P	P	06 09 41.6	+0.3
	baz=327,SNR=7.1						
157A	Early Branch	89.07	42	P	P	06 09 42.2	+1.0
	baz=327,SNR=6.0						
NHSC	New Hope	89.09	41	P	P	06 09 41.9	+0.5
	baz=327						
Y60A	Bolivia	89.22	39	P	P	06 09 42.0	+0.1
	baz=328						
256A	Glennville	89.22	43	P	P	06 09 42.8	+0.8
	baz=326,SNR=5.4						
RGRS	Roger Stewart	89.25	41	P	P	06 09 42.4	+0.3
355A	Pearson	89.28	44	P	P	06 09 42.9	+0.5
	baz=326,SNR=7.4						
Z59A	Georgetown, SC	89.39	40	P	P	06 09 43.3	+0.6
	baz=328						
553A	Crawfordville	89.45	45	P	P	06 09 43.7	+0.5
	baz=325						
257A	Skidaway Islan	89.64	42	IAMs_20	IAMs_20	06 47 29.4	
	comp=Z,6μm,20.0s						
356A	Blackshear	89.65	43	P	P	06 09 44.4	+0.4
	baz=326						
455A	Stateville	89.69	44	P	P	06 09 44.5	+0.2
	baz=326						
LTZ	Lake Taylor	89.91	164	P	P	06 09 46.2	+1.5
LTZ				IAmb	IAmb	06 10 02.0	
	comp=Z,41nm,0.9s						
OXZ	Oxford	90.39	165	P	P	06 09 47.7	+0.8
RPZ	Rata Peaks	90.59	166	P	P	06 09 50.2	+2.4
RPZ				IAmb	IAmb	06 10 06.3	
	comp=Z,63nm,0.9s						
PBRG	Braganca	90.84	344	*e*P	P	06 09 48.3	-1.2
	comp=Z,44nm,1.5s						
656A	Willston	91.06	45	IAMs_20	IAMs_20	06 56 56.4	
	comp=Z,5μm,19.0s						
LBZ	Lake Benmore	91.10	166	P	P	06 09 51.9	+1.7
LBZ				IAmb	IAmb	06 10 18.5	
	comp=Z,104nm,1.4s						
MVO	Moncorvo	91.52	344	*e*P	P	06 09 51.4	-1.3
	comp=Z,48nm,1.3s						
PVRL	Vila Real	91.54	344	*e*P	P	06 09 51.7	-1.1
	comp=Z,52nm,0.8s						
KEST	Kesra	92.03	330	P	P	06 09 55.0	-0.1
	comp=Z,60nm,1.0s,baz=316,slow=3.7,SNR=21						
KEST	Kesra	92.03	330	P	P	06 09 55.1	-0.1
PVIS	Viseu	92.12	344	*e*P	P	06 09 54.2	-1.2
ESBB	Sonseca Array	92.28	341	P	P	06 09 55.1	-1.2
ESDC	Sonseca Array	92.28	341	P	P	06 09 55.0	-1.2
	comp=Z,4.9nm,0.7s,baz=12,slow=4.1,SNR=27						
ESDC	Sonseca Array	92.28	341	P	P	06 09 54.8	-1.5
MTE	Manteigas	92.35	344	*e*P	P	06 09 55.5	-1.1
	comp=Z,62nm,1.5s						
MTE	Manteigas	92.35	344	P	P	06 09 55.1	-1.5
MTE				IAmb	IAmb	06 09 56.4	
	comp=Z,37nm,0.9s						
PAB	San Pablo	92.50	341	P	P	06 09 55.9	-1.4
PAB				pmax	pmax		
	comp=Z,33nm,1.3s						
PAB	San Pablo	92.50	341	P	P	06 09 55.9	-1.4
COI	Coimbra	92.71	344	*e*P	P	06 09 57.2	-0.9
COI	Coimbra	92.71	344	P	P	06 09 57.1	-1.0
COI				pmax	pmax		
	comp=Z,63nm,1.0s						
COI	Coimbra	92.71	344	P	P	06 09 57.1	-1.0
COI				IAmb	IAmb	06 09 59.1	
	comp=Z,63nm,1.0s						
PCAS	Casmilo, Conde	92.87	344	*e*P	P	06 09 57.1	-1.8
	comp=Z,73nm,2.3s						
PCBR	Castelo Branco	92.88	344	*e*P	P	06 09 57.4	-1.5
	comp=Z,34nm,1.4s						
PMRV	Marv??o	93.26	343	*e*P	P	06 09 59.3	-1.4
	comp=Z,33nm,1.3s						
PTOM	Tomar	93.28	344	*e*P	P	06 09 59.5	-1.2
	comp=Z,61nm,1.3s						
PMTG	Montargil	93.77	344	*e*P	P	06 10 01.9	-1.1
	comp=Z,39nm,1.4s						
PESTR	Estremoz	93.84	343	IAMs_20	IAMs_20	06 55 03.5	
	comp=Z,4μm,19.0s						
ATD	Arta Tunnel	94.20	291	P	P	06 10 07.3	+1.9
	SNR=6.2						
EVO	Evora	94.25	344	*e*P	P	06 10 04.0	-1.2
	comp=Z,32nm,1.4s						
PBEJ	Beja	94.71	343	*e*P	P	06 10 06.7	-0.6
	comp=Z,36nm,1.4s						
PNCL	Nicolau / Gran	94.76	344	*e*P	P	06 10 06.8	-0.7
	comp=Z,50nm,1.8s						
MORF	Marmelete	95.56	344	*e*P	P	06 10 10.6	-0.7
MORF				AMb	AMB	06 10 15.7	
	comp=Z,65nm,0.3s						
MORF				*e*SKSac	SKSac	06 20 43.5	-0.4
MORF	Marmelete	95.56	344	*e*P	P	06 10 10.6	-0.7
MORF				*e*		06 20 43.5	
MSEY	Mahe Island	97.15	271	P	Pdif	06 10 19.1	+0.1
MSEY	Mahe Island	97.15	271	P	Pdif	06 10 19.4	+0.5
MSEY				pmax	pmax		
	comp=Z,17nm,0.9s						
MSEY	Mahe Island	97.15	271	P	Pdif	06 10 19.4	+0.5
MDT	Midelt	98.98	339	P	P	06 10 25.8	-1.1
	comp=Z,5.2nm,1.0s,baz=68,slow=3.0,SNR=8.3						
KMBO	Kilima Mbogo	107.26	287	Pdiff	Pdif	06 11 07.0	+2.8
	comp=Z,0.6nm,0.3s,baz=5.7,slow=4.1,SNR=3.9						
KMBO				PKiKP	PKiKP	06 15 14.5	+1.5
	comp=Z,0.7nm,0.2s,baz=53,slow=3.0,SNR=4.4						
TORD	Torodi Ar. Bea	115.37	327	Pdiff	Pdif	06 11 40.5	+0.6
	comp=Z,0.8nm,0.9s,baz=32,slow=1.8,SNR=3.5						
TORD				PKP	PKiKP	06 15 27.5	-0.5
	comp=Z,6.4nm,0.7s,baz=19,slow=1.7,SNR=41						
TORD				PP	PP	06 16 36.9	+8.4
	comp=Z,7.1nm,0.9s,baz=46,slow=4.6,SNR=6.0						
TORD				PKKPbc	PKKPab	06 26 08.1	-1.8
	comp=Z,2.5nm,0.8s,baz=198,slow=3.3,SNR=8.1						
TORD	Torodi Ar. Bea	115.37	327		PKiKP	06 15 26.5	-1.5
ROSC	El Rosal	115.70	52	PKP	PKiKP	06 15 29.8	+0.6
	comp=Z,3.5nm,0.5s,baz=97,slow=2.2,SNR=4.3						
ATAH	Atahualpa	122.85	64	PKP	PKiKP	06 15 43.4	+0.3
	comp=Z,17nm,0.9s,baz=5.4,slow=4.3						
ATAH				PKKPbc	PKKPab	06 25 38.3	+1.9
	comp=Z,8.9nm,1.0s,baz=171,slow=2.6,SNR=4.7						
LSZ	Lusaka	123.62	283	PKIKP	PKiKP	06 15 44.4	+0.3
LSZ	Lusaka	123.62	283	PKPdf	PKiKP	06 15 44.4	+0.3
DBIC	Dimbokro	123.74	331	PKP	PKPdf	06 15 43.8	-0.4
	comp=Z,40nm,0.9s,baz=18,slow=1.9,SNR=29						
TIC	Toumodi	123.82	331	*e*PKIKP	PKPdf	06 15 43.8	-0.5
	comp=Z,94nm,0.9s						
KIC	Kosan Boka	123.99	330	*e*PKIKP	PKPdf	06 15 44.1	-0.5
	comp=Z,48nm,0.8s						
LIC	Lamto	124.22	331	*e*PKIKP	PKPdf	06 15 44.5	-0.6
	comp=Z,57nm,0.6s						
NNA	Nana	127.52	66	PKIKP	PKPdf	06 15 49.4	-1.9
NNA	Nana	127.52	66	PKP	PKPdf	06 15 51.0	-0.3
	comp=Z,25nm,0.9s,baz=328,slow=4.7,SNR=11						
NNA	Nana	127.52	66		PKPdf	06 15 49.4	-1.9
MAW	Mawson	130.35	210	PKIKP	PKPdf	06 15 54.5	-0.5
MAW	Mawson	130.35	210	PKP	PKiKP	06 15 55.7	-0.1
	comp=Z,8.7nm,0.8s,baz=89,slow=3.6,SNR=18						
MAW				SKPab	SKPbc	06 19 16.7	+2.2
	comp=Z,13nm,1.1s,baz=59,slow=5.2,SNR=6.1						
MAW	Mawson	130.35	210		PKPdf	06 15 54.5	-0.5
LBTB	Lobatse	131.94	276	PKIKP	PKPdf	06 15 59.8	+0.3
LBTB	Lobatse	131.94	276	PKP	PKiKP	06 16 00.2	-0.3
	comp=Z,17nm,0.7s,baz=60,slow=1.8,SNR=11						
LBTB				PP	PP	06 18 18.6	-2.6
	comp=Z,13nm,0.9s,baz=33,slow=8.5,SNR=5.6						
LBTB	Lobatse	131.94	276		PKPdf	06 15 59.8	+0.3
SAML	Samuel	133.24	50	PKIKP	PKPdf	06 16 01.0	-1.2
SAML	Samuel	133.24	50		PKPdf	06 16 01.0	-1.2
TSUM	Tsumeb	133.55	289	PKhKP	PKPpre	06 15 50.5	
	comp=Z,4.9nm,1.1s,baz=76,slow=1.6,SNR=5.8						
TSUM				PKP	PKPdf	06 16 02.8	+0.1
	comp=Z,10nm,0.9s,baz=74,slow=3.0,SNR=11						
TSUM				PP	PP	06 18 29.4	-2.0
	comp=Z,7.4nm,0.9s,baz=54,slow=5.7,SNR=4.3						
TSUM	Tsumeb	133.55	289		PKPdf	06 16 02.6	-0.1
BOSA	Boshof	134.39	272	PKIKP	PKPdf	06 16 04.1	+0.1
BOSA	Boshof	134.39	272	PKP	PKPdf	06 16 04.8	+0.7
	comp=Z,9.6nm,0.9s,baz=147,slow=1.0,SNR=7.4						
BOSA				PP	PP	06 18 33.4	-3.5
	comp=Z,5.9nm,0.8s,baz=105,slow=8.4,SNR=3.8						
BOSA	Boshof	134.39	272		PKPdf	06 16 04.1	+0.1
QSPA	South Pole Qui	135.22	180	PKPdf	PKPdf	06 16 03.8	-0.5
LPAZ	La Paz	136.26	61	PKIKP	PKPdf	06 16 08.4	-0.1
LPAZ	La Paz	136.26	61	PKhKP	PKPpre	06 15 54.8	
	comp=Z,3.5nm,0.8s,baz=1.9,slow=3.1,SNR=7.6						
LPAZ				PKP	PKPdf	06 16 08.7	+0.3
	comp=Z,12nm,0.9s,baz=35,slow=4.9,SNR=19						
LPAZ	La Paz	136.26	61		PKPdf	06 16 08.4	-0.1
MNMC	Minye Minye	137.46	65	PKPdf	PKPdf	06 16 10.9	+0.7
PB11	IPOC Station P	137.88	66	PKPdf	PKPdf	06 16 10.3	-0.5
GO01	Chusmiza	138.11	66	PKPdf	PKPdf	06 16 11.8	+0.2
SYO	Syowa Base	139.05	211	∥*j*X	PKPdf	06 16 10.2	-1.0
SYO	Syowa Base	139.05	211	∥*j*X	PKiKP	06 16 12.7	-0.7
SUR	Sutherland	139.69	271	PKhKP	PKPpre	06 16 07.4	
	comp=Z,15nm,1.2s,baz=190,slow=11,SNR=5.1						
SUR				PKP	PKPdf	06 16 14.5	+0.7
	comp=Z,15nm,0.9s,baz=183,slow=8.4,SNR=5.7						
RCBR	Riachuelo	140.05	11	PKIKP	PKPdf	06 16 13.7	-1.2
RCBR	Riachuelo	140.05	11		PKPdf	06 16 13.7	-1.2
SIV	San Ignacio	140.19	53	PKhKP	PKPpre	06 16 06.3	
	comp=Z,5.6nm,1.0s,baz=332,slow=1.8,SNR=16						
SIV				PKP	PKPdf	06 16 14.8	-0.2
	comp=Z,17nm,0.8s,baz=1.5,slow=1.7,SNR=18						
LVC	Limon Verde	140.41	68	PKIKP	PKPdf	06 16 13.6	-2.0
LVC	Limon Verde	140.41	68	PKP	PKPdf	06 16 16.6	+1.0
	comp=Z,8.9nm,0.9s,baz=292,slow=0.8,SNR=9.1						
LVC	Limon Verde	140.41	68		PKPdf	06 16 13.6	-2.0
SHEL	Horse Pasture	144.66	319	PKIKP	PKPdf	06 16 22.5	-0.4
SHEL	Horse Pasture	144.66	319		PKPdf	06 16 22.5	-0.4
ROC1	El Roble	145.55	84		PKPdf	06 16 23.8	-0.5
PEL	Peldehue	145.87	84	PKP2	PKPdf	06 16 24.2	-0.3
PEL	Peldehue	145.87	84		PKPdf	06 16 24.2	-0.3
GO05	Huala	145.99	87		PKPdf	06 16 24.7	0.0
BDFB	Brasilia	146.24	34	PKP2	PKPdf	06 16 26.0	+0.3
BDFB	Brasilia	146.24	34	PKPbc	PKPbc	06 16 26.3	-0.5
	comp=Z,44nm,0.9s,baz=281,slow=1.8,SNR=49						
BDFB	Brasilia	146.24	34		PKPdf	06 16 26.0	+0.3
GO06	Curarrehue	148.46	95	PKPbc	PKPbc	06 16 32.4	0.0
PLCA	Paso Flores	149.57	96	PKP	PKPdf	06 16 29.7	-0.7
	comp=Z,63nm,0.9s,baz=271,slow=2.6,SNR=57						
PLCA				PKPbc	PKPbc	06 16 35.2	+0.1
	comp=Z,63nm,0.9s,baz=298,slow=2.9,SNR=70						
PLCA	Paso Flores	149.57	96	PKPdf	PKPdf	06 16 29.6	-0.9
PLCA				PKPbc	PKiKP	06 16 35.7	-0.4
CPUP	Villa Florida	150.40	59	PKP	PKPdf	06 16 31.9	-0.2
	comp=Z,95nm,0.8s,baz=321,slow=2.4,SNR=73						
CPUP				PKPbc	PKPbc	06 16 37.2	-0.2
	comp=Z,95nm,0.8s,baz=340,slow=4.3,SNR=96						
CPUP	Villa Florida	150.40	59		PKPbc	06 16 37.7	+0.3
SNAA	Sanae	150.91	197	PKPbc	PKPbc	06 16 37.5	+0.2
SNAA	Sanae	150.91	197	PKPdf	PKPdf	06 16 31.1	-0.5
SNAA	Sanae	150.91	197	PKP	PKPdf	06 16 30.9	-0.7
	comp=Z,7.7nm,1.1s,baz=114,slow=0.9,SNR=12						
SNAA				PKPbc	PKPbc	06 16 37.4	+0.1
	comp=Z,110nm,0.9s,baz=185,slow=3.0,SNR=219						
GO09	Cerro Castillo	151.00	117		PKiKP	06 16 38.5	-0.1
GO10	Punta Arenas	151.90	121		PKiKP	06 16 41.0	+0.5
VNA2	Neumayer--Watz	152.40	195	PKPbc	PKiKP	06 16 41.1	+0.2
VNA2	Neumayer--Watz	152.40	195	PKPdf	PKPdf	06 16 33.7	0.0
VNA3	Neumayer Olymp	152.52	193	PKPbc	PKiKP	06 16 41.2	0.0
VNA3	Neumayer Olymp	152.52	193	PKPdf	PKPdf	06 16 33.5	-0.5
PMSA	Palmer Station	152.75	148		PKPbc	06 16 41.5	-0.1
VNA1	Neumayer--Stat	152.78	195	PKPbc	PKiKP	06 16 41.8	+0.2
VNA1	Neumayer--Stat	152.78	195	PKPdf	PKPdf	06 16 34.7	+0.4

DRS ***25*** *06:10:46.1±0.0, 42°.08N×46°.14E, h2km*
NORS ***25*** *06:10:49.1±0.0, 41°.90N×46°.16E, h18km, MPVA3.6*
ISC 25 06:10:49.5±1.2, 41°.90N±0°.03×46°.11E±0°.04, h16km±11km, n17, σ1°.91/33, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	Dedoflistskaro	0.46	179	P	Pn	06 11 01.3	-0.2
DDFL				S	Sn	06 11 12.8	+3.5
DGRG	David-gareji	0.71	231	P	Pb	06 11 02.9	-0.7
DGRG				S	Sb	06 11 11.9	-1.3
DGRG	David-gareji	0.71	231	*i*Pg	Pb	06 11 03.2	-0.4
DGRG				*e*Sg	Sb	06 11 13.1	-0.1
GNBR	Gunib	0.80	52	*e*Pg	Pn	06 11 05.5	-0.7
GNBR				*e*Sg	Sn	06 11 17.4	-0.5
BTNK	Botanikuri	1.00	258	P	Pb	06 11 07.7	-0.9
TBLG	Delisi	1.04	261	P	Pb	06 11 08.0	-1.2
TBLG				S	Sb	06 11 22.6	0.0
DBC	Dubki	1.24	25	*e*Pg	Pg	06 11 13.1	-0.3
DBC				*e*Sg	Sg	06 11 30.9	+1.3
AKT	Akhty	1.28	109	*e*Pg	Pg	06 11 13.8	-0.4
AKT				*e*Sg	Sg	06 11 31.3	+0.3
GROC	Groznyy	1.32	350	*e*Pg	Pb	06 11 14.1	+0.1
GROC				*e*Sg	Sg	06 11 33.7	+1.5
GUDG	Gudauri	1.34	295	P	Pn	06 11 13.3	-0.5
GUDG				S	Sn	06 11 31.4	0.0
GUDG	Gudauri	1.34	295	*e*Pg	Pn	06 11 13.2	-0.6
GUDG				*e*Sg	Sn	06 11 31.1	-0.3
ZEI	Tsey	1.86	299	*e*Pg	Pb	06 11 22.1	-1.2
ZEI				*e*Sg	Sb	06 11 47.0	+0.6
KORR	Kora	1.92	309	*e*Pg	Pb	06 11 23.3	-0.9
KORR				*e*Sg	Sb	06 11 48.2	+0.3
AKH	Akhalkalaki	2.02	257	*e*Pg	Pn	06 11 23.5	+0.4
A

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DBIC  Dimbokro        65.35 324  P     P     06 25 43.4 -0.4
      comp=Z,4.0nm,0.9s,baz=138,slow=13,SNR=3.1
DBIC  Dimbokro        65.35 324  P     P     06 25 43.8  0.0
DBIC                             IAmb  IAmb  06 25 51.2
      comp=Z,9.2nm,1.1s
CPUP  Villa Florida   66.65 257  P     P     06 25 51.3 -0.9
      comp=Z,2.5nm,0.7s,baz=148,slow=5.3,SNR=7.2
CPUP  Villa Florida   66.65 257  P     P     06 25 51.9 -0.3
CPUP                             IAmb  IAmb  06 26 02.4
      comp=Z,10nm,1.4s
CFA   Coronel Fontan  68.95 245  P     P     06 26 06.2 -0.5
      comp=Z,2.3nm,0.7s,baz=119,slow=4.5,SNR=5.1
TOA0  Torodi Ar. Sit  69.35 333  P     P     06 26 08.0 -1.2
TOA0                             IAmb  IAmb  06 26 14.8
      comp=Z,7.2nm,1.1s
TORD  Torodi Ar. Bea  69.35 333  P     P     06 26 10.6 +1.4
      comp=Z,4.5nm,1.0s,baz=174,slow=5.6,SNR=8.2
TORD  Torodi Ar. Bea  69.35 333  P     P     06 26 07.3 -1.9
SIV   San Ignacio     76.78 261  P     P     06 26 53.0 -0.3
      comp=Z,1.1nm,0.7s,baz=188,slow=11,SNR=5.8
STKA  Stephens Creek  77.97 127  P     P     06 27 00.4 +0.6
      comp=Z,1.0nm,0.8s,baz=208,slow=4.2,SNR=2.9
STKA  Stephens Creek  77.97 127  P     P     06 26 58.4 -1.3
FITZ  Fitzroy Crossi  80.43 107  P     P     06 27 14.0 +0.7
ASAR  Alice Springs   80.66 117  P     P     06 27 15.2 +0.5
      comp=Z,0.8nm,0.7s,baz=205,slow=5.3,SNR=8.9
ASAR  Alice Springs   80.66 117  P     P     06 27 14.9 +0.2
QRZ   Quartz Range    81.95 154  P     P     06 27 20.6 -0.5
WRA   Warramunga Arr  83.89 115  P     P     06 27 30.8 -0.7
      comp=Z,1.0nm,0.8s,baz=213,slow=4.0,SNR=5.8
WR0   Warramunga Arr  83.99 115  P     P     06 27 31.1 -1.0
WR0                              IAmb  IAmb  06 27 37.9
      comp=Z,4.9nm,1.2s
WB0   Warramunga Arr  84.07 115  P     P     06 27 33.0 +0.5
TXAR  Lajitas Array   137.62 256 PKP   PKiKP 06 34 26.5 -0.9
      comp=Z,0.1nm,0.5s,baz=162,slow=6.6,SNR=3.2
TIXI  Tiksi           142.16  30 PKhKP PKPpre 06 34 26.0
      comp=Z,1.3nm,0.6s,baz=180,slow=24,SNR=5.2
ULM   Lac du Bonnet   145.61 289 PKPbc PKPab 06 34 39.2 -0.3
      comp=Z,6.2nm,0.9s,baz=344,slow=9.5,SNR=5.1
ISCO  Idaho Springs   145.91 267       PKPbc 06 34 40.6 -0.4
RSSD  Black Hills     147.45 274       PKPbc 06 34 45.2  0.0
W13A  Hualapai Mount  147.75 252       PKPab 06 34 48.6  0.0
PDAR  Pinedale Array  150.06 268 PKPbc PKPbc 06 34 50.4 -1.5
      comp=Z,0.3nm,0.5s,baz=72,slow=2.9,SNR=2.9
PDAR  Pinedale Array  150.06 268       PKPbc 06 34 50.9 -0.9
PETK  Petropavlovsk-  150.27  69 PKPbc PKPbc 06 34 51.8  0.0
      comp=Z,1.3nm,0.6s,baz=249,slow=6.1,SNR=4.5
PETK  Petropavlovsk-  150.27  69       PKiKP 06 34 52.5  0.0
FXWY  Fox Creek       151.44 268       PKiKP 06 34 55.1 -0.4
NVAR  Mina Array Bea  152.61 252 PKPbc PKiKP 06 34 58.7 +0.5
      comp=Z,0.6nm,0.6s,baz=146,slow=3.5,SNR=8.7
NVAR  Mina Array Bea  152.61 252       PKiKP 06 34 58.2 +0.1
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ISCJB ***25*** *06:25:09.2±0.7, 54°.18S±0°.07×55°.3W±0°.1, h10km, mb3.8/3, Error ellipse: s-maj=10.9km s-min=8.3km az=36.2*
IDC ***25*** *06:25:10.3±1.3, 54°.08S×54°.40W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/34, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=51.8km s-min=28.7km az=82.0*
NEIC ***25*** *06:25:11.3±2.0, 54°.04S±0°.09×55°.4W±0°.2, h15km±4km, mb4.0/5*
ISC 25 06:25:10.7±0.8, 54°.14S±0°.08×55°.34W±0°.08, h10km, n19, σ2§03/20, mb3.9/4, Falkland Islands region

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC       h m s    ISC
EFI   East Falkland   2.97 325     Pn    Pn     06 25 57.8  0.0
EFI                                Sn    Sn     06 26 34.6 +1.2
USHA  Ushuaia         7.66 260     Pn    Pn     06 27 01.0 -1.2
      3.0nm,0.3s,baz=72,slow=12,SNR=27
USHA                               Sn    Sn     06 28 32.1 +3.2
      6.4nm,0.3s,baz=310,slow=19,SNR=15
GO10  Punta Arenas    9.38 270     Pn    Pn     06 27 23.7 -2.1
GO09  Cerro Castillo 10.70 279     Pn    Pn     06 27 39.4 -4.6
HOPE  Hope Point     11.04  98           Pn     06 27 40.9 -7.7
TRQA  Tornquist      16.72 342           P      06 29 06.3 -0.9
TRQA                               IAmb  IAmb   06 29 11.8
      comp=Z,11nm,1.2s
PLCA  Paso Flores    16.85 317     P     P      06 29 13.5 +4.7
      comp=Z,0.1nm,0.3s,baz=167,slow=11,SNR=8.1
PLCA  Paso Flores    16.85 317           P      06 29 07.5 -1.2
SNAA  Sanae          28.32 148     P     P      06 31 04.2  0.0
      comp=Z,1.4nm,1.1s,baz=320,slow=16,SNR=2.2
SNAA  Sanae          28.32 148     P     P      06 31 04.8 +0.7
SNAA                               IAmb  IAmb   06 31 22.4
      comp=Z,4.9nm,1.4s
QSPA  South Pole Qui 36.11 180     P     P      06 32 13.9 +1.4
      comp=Z,1.6nm,0.8s,baz=173,slow=4.6,SNR=3.2
QSPA  South Pole Qui 36.11 180     P     P      06 32 13.1 +0.6
SUR   Sutherland     56.63 100     P     P      06 34 54.1 +0.1
TOA0  Torodi Ar. Sit 82.58  56     P     P      06 37 33.5 -0.3
TOA0                               IAmb  IAmb   06 37 36.9
      comp=Z,1.0nm,0.9s
TORD  Torodi Ar. Bea 82.58  56     P     P      06 37 33.1 -0.7
      comp=Z,0.5nm,0.6s,baz=190,slow=7.3,SNR=3.1
KURBB Kurchatov Arra 152.01  78 PKPbc PKPbc 06 45 04.4 -0.6
      comp=Z,0.7nm,0.8s,baz=234,slow=2.8,SNR=5.1
KURK  Kurchatov      152.11  78 PKPbc PKPbc 06 45 05.5 +0.3
MKAR  Makanchi Array 152.40  88 PKPbc PKPbc 06 45 04.6 -1.4
      comp=Z,0.5nm,0.9s,baz=252,slow=3.6,SNR=4.6
MKAR  Makanchi Array 152.40  88 PKPbc PKPbc 06 45 05.1 -0.9
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ISCJB ***25*** *06:27:08.0±0.1, 54°.05S±0°.03×54°.83W±0°.07, h10km, mb5.3/53, Error ellipse: s-maj=5.8km s-min=4.0km az=166.9*
IDC ***25*** *06:27:07.3±0.4, 54°.07S×54°.70W, h0km, mb5.2/24, mb1 5.2/25, mb1mx5.2/28, mbtmp5.2/25, ML5.1/1, Error ellipse: s-maj=17.3km s-min=10.6km az=57.0*
MOS ***25*** *06:27:08.3±1.2, 53°.98S×55°.00W, h10km, mb5.7/37, Error ellipse: s-maj=20.2km s-min=7.5km az=102.7*
NEIC ***25*** *06:27:09.0±1.5, 54°.03S±0°.07×55°.0W±0°.1, h10km±2km, mb5.6/130*
BJI ***25*** *06:27:10.9±0.0, 53°.98S×54°.97W, h10km, mB6.8/10, Ms7.2/28, Ms7 7.2/23*
ISC 25 06:27:09.6±0.2, 54°.05S±0°.04×55°.08W±0°.05, h10km, n847, σ1§51/831, mb5.5/95, 12C-10D, Falkland Islands region

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Code  Station Name      Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC       h m s    ISC
EFI   East Falkland   2.99 322c  iP    Pn     06 27 57.3 +0.3
EFI   East Falkland   2.99 322           Pn     06 27 57.8 +0.8
USHA  Ushuaia         7.83 259     Pn    Pn     06 28 58.0 -5.3
      92nm,0.3s,baz=86,slow=14,SNR=42
USHA                               Sn    Sn     06 30 28.6 -3.3
      1μm,0.3s,baz=21,slow=7.4,SNR=13
GO10  Punta Arenas    9.54 269           Pn     06 29 20.9 -6.0
GO09  Cerro Castillo 10.85 278     Pn    Pn     06 29 39.8 -5.0
HOPE  Hope Point     10.90  99           Pn     06 29 45.4 -0.1
PMSA  Palmer Station 11.67 199     Pn    Pn     06 29 57.9 +2.0
      10.0nm,0.3s,baz=13,SNR=42
PMSA  Palmer Station 11.67 199     eP    Pn     06 29 57.5 +1.7
PMSA  Palmer Station 11.67 199     eP    Pn     06 29 57.5 +1.7
PMSA  Palmer Station 11.67 199           Pn     06 29 57.1 +1.2
TRQA  Tornquist      16.69 341     P     Pn     06 31 03.6 +0.2
TRQA                               pmax  pmax
      comp=Z,733nm,1.6s
TRQA  Tornquist      16.69 341     eP    P      06 31 04.8 -0.9
TRQA  Tornquist      16.69 341     eP    P      06 31 04.8 -0.9
TRQA  Tornquist      16.69 341           Pn     06 31 03.6 +0.2
TRQA                               IAmb  IAmb   06 31 10.2
      comp=Z,733nm,1.6s
PLCA  Paso Flores    16.90 316     P     Pn     06 31 06.4 +0.3
PLCA  Paso Flores    16.90 316     Pn    Pn     06 31 06.3 +0.3
      comp=Z,1.5nm,0.3s,baz=166,slow=12,SNR=49
PLCA  Paso Flores    16.90 316     eP    Pn     06 31 06.7 +0.6
PLCA  Paso Flores    16.90 316     eP    Pn     06 31 06.7 +0.6
PLCA  Paso Flores    16.90 316     P     Pn     06 31 06.4 +0.3
PLCA                               IAmb  IAmb   06 31 13.3
      comp=Z,339nm,0.8s
GO06  Curarrehue     18.24 316           P      06 31 23.2 +0.2
GO06                               IAmb  IAmb   06 31 30.1
      comp=Z,329nm,1.1s
OGAUY Aigu           19.72  1     eP    Pn     06 31 40.8 +0.2
OGAUY Aigu           19.72  1     eP    Pn     06 31 40.8 +0.2
PLTB  Pedras Altas   22.30  3     eP    P      06 32 08.5 +1.4
PLTB  Pedras Altas   22.30  3     eP    P      06 32 08.5 +1.4
GO05  Huala          22.41 321     P     P      06 32 08.4 +0.2
GO05                               IAmb  IAmb   06 32 13.2
      comp=Z,290nm,1.2s
PEL   Peldehue       23.66 326     P     P      06 32 18.1 -2.9
PEL                                pmax  pmax
      comp=Z,223nm,0.9s
PEL   Peldehue       23.66 326     P     P      06 32 18.1 -2.9
PEL                                IAmb  IAmb   06 32 24.4
      comp=Z,223nm,0.9s
CPSB  Cacapava Do Su 23.66   4     eP    P      06 32 21.9 +0.9
CPSB  Cacapava Do Su 23.66   4     eP    P      06 32 21.9 +0.9
ROC1  El Roble       23.92 325     P     P      06 32 24.4 +0.6
CFA   Coronel Fontan 24.34 332     P     P      06 32 25.4 -2.1
      comp=Z,48nm,0.8s,baz=167,slow=9.5,SNR=29
VNA3  Neumayer Olymp 26.08 148     P     P      06 32 41.8 -1.1
VNA1  Neumayer--Stat 26.36 147     P     P      06 32 45.0 -0.4
GO04  Tololo Observa 26.44 328     P     P      06 32 45.2 -1.5
VNA2  Neumayer--Watz 26.71 147     P     P      06 32 47.4 -1.2
      baz=290,slow=10
ITAB  Concordia      26.88   6     eP    P      06 32 52.0 +1.6
ITAB  Concordia      26.88   6     eP    P      06 32 52.0 +1.6
CPUP  Villa Florida  27.74 356     P     P      06 32 57.5 -0.6
CPUP                               pmax  pmax
      comp=Z,27nm,0.7s
CPUP  Villa Florida  27.74 356     P     P      06 32 57.1 -1.0
      comp=Z,13nm,0.6s,baz=173,slow=7.8,SNR=36
CPUP  Villa Florida  27.74 356     eP    P      06 32 57.1 -1.0
CPUP  Villa Florida  27.74 356     eP    P      06 32 57.1 -1.0
CPUP  Villa Florida  27.74 356     P     P      06 32 57.5 -0.6
SNAA  Sanae          28.31 148     P     P      06 33 01.0 -1.9
SNAA  Sanae          28.31 148     P     P      06 33 02.2 -0.7
SNAA                               pmax  pmax
      comp=Z,77nm,0.9s
SNAA  Sanae          28.31 148     P     P      06 33 01.3 -1.6
      comp=Z,26nm,0.8s,baz=268,slow=8.8,SNR=92
SNAA  Sanae          28.31 148     P     P      06 33 02.2 -0.7
SNAA                               IAmb  IAmb   06 33 14.4
      comp=Z,77nm,0.9s
GO03  Copiap         28.69 331     P     P      06 33 06.9 +0.2
PTGB  Pitanga        29.39   6     eP    P      06 33 12.6 -0.3
PTGB  Pitanga        29.39   6     eP    P      06 33 12.6 -0.3
GO02  Mina Guanaco   30.82 334     P     P      06 33 26.1 +0.3
SPB   Sao Paulo      30.96  14     eP    P      06 33 26.9 +0.3
SPB   Sao Paulo      30.96  14     eP    P      06 33 26.9 +0.3
TRCB  Terra Rica     31.27   4     eP    P      06 33 31.4 +1.9
TRCB  Terra Rica     31.27   4     eP    P      06 33 31.4 +1.9
RCLB  Rio Claro- Sao 32.10  13     eP    P      06 33 37.7 +0.9
RCLB  Rio Claro- Sao 32.10  13     eP    P      06 33 37.7 +0.9
PB10  IPOC Station P 32.64 333     P     P      06 33 40.4 -1.1
PB10                               IAmb  IAmb   06 33 44.2
      comp=Z,58nm,0.9s
LVC   Limon Verde    33.09 336     P     P      06 33 46.3 +0.4
LVC                                pmax  pmax
      comp=Z,39nm,1.0s
LVC   Limon Verde    33.09 336     P     P      06 33 45.8 -0.1
      comp=Z,22nm,0.8s,baz=183,slow=6.0,SNR=19
LVC   Limon Verde    33.09 336     eP    P      06 33 46.3 +0.4
LVC   Limon Verde    33.09 336     eP    P      06 33 46.3 +0.4
LVC   Limon Verde    33.09 336     P     P      06 33 46.3 +0.4
BB19B Bebedouro      33.31  11     eP    P      06 33 47.1 -0.3
BB19B Bebedouro      33.31  11     eP    P      06 33 47.1 -0.3
AQDB  Aquidauana     33.52 359     eP    P      06 33 48.2 -1.0
AQDB  Aquidauana     33.52 359     eP    P      06 33 48.2 -1.0
PB04  IPOC Station P 33.66 334     P     P      06 33 49.8 -0.9
PB04                               IAmb  IAmb   06 33 54.2
      comp=Z,153nm,1.5s
BSCB  Bom Sucesso    33.92  17     eP    P      06 33 54.4 +1.6
BSCB  Bom Sucesso    33.92  17     eP    P      06 33 54.4 +1.6
ITRB  Iturama        34.48   8     eP    P      06 33 57.5 -0.1
ITRB  Iturama        34.48   8     eP    P      06 33 57.5 -0.1
PB01  IPOC Station P 34.74 336     P     P      06 33 59.4 -0.5
PB01                               IAmb  IAmb   06 34 03.0
      comp=Z,54nm,1.0s
GO01  Chusmiza       35.99 337     P     P      06 34 11.1  0.0
PB11  IPOC Station P 36.01 336     P     P      06 34 10.3 -0.6
PMNB  Patos De Minas 36.07  14     eP    P      06 34 11.5 +0.1
PMNB  Patos De Minas 36.07  14     eP    P      06 34 11.5 +0.1
QSPA  South Pole Qui 36.20 180     P     P      06 34 11.1 -1.0
      comp=Z,187nm,0.9s,baz=167,slow=3.4,SNR=87
QSPA  South Pole Qui 36.20 180     P     P      06 34 11.0 -1.2
PP1B  Ponte de Pedra 36.38   0     eP    P      06 34 13.2 -0.7
PP1B  Ponte de Pedra 36.38   0     eP    P      06 34 13.2 -0.7
IPMB  Ipameri, GO    36.39  11     eP    P      06 34 14.6 +0.5
IPMB  Ipameri, GO    36.39  11     eP    P      06 34 14.6 +0.5
MNMC  Minye Minye    36.60 337     P     P      06 34 16.0 -0.1
BSFB  Barra de Sao F 36.83  23     eP    P      06 34 18.1 +0.4
BSFB  Barra de Sao F 36.83  23     eP    P      06 34 18.1 +0.4
SJMB  Sao Joao De Ma 36.87  22     eP    P      06 34 17.7 -0.4
SJMB  Sao Joao De Ma 36.87  22     eP    P      06 34 17.7 -0.4
SIV   San Ignacio    38.27 351     P     P      06 34 28.5 -1.5
      comp=Z,29nm,0.8s,baz=203,slow=8.0,SNR=104
ARAG  Araguaiana, MT 38.35   5     eP    P      06 34 29.2 -1.4
ARAG  Araguaiana, MT 38.35   5     eP    P      06 34 29.2 -1.4
BDFB  Brasilia       38.73  11     P     P      06 34 33.8 -0.1
BDFB                               pmax  pmax
      comp=Z,118nm,1.2s
BDFB  Brasilia       38.73  11     P     P      06 34 33.4 -0.4
      comp=Z,64nm,1.1s,baz=154,slow=8.3,SNR=37
BDFB  Brasilia       38.73  11     P     P      06 34 33.8 -0.1
BDFB                               IAmb  IAmb   06 34 36.8
      comp=Z,118nm,1.2s
LPAZ  La Paz         39.04 340     P     P      06 34 37.0 -0.1
LPAZ                               pmax  pmax
      comp=Z,34nm,1.0s
LPAZ  La Paz         39.04 340     P     P      06 34 36.8 -0.2
      comp=Z,16nm,0.7s,baz=90,slow=4.5,SNR=33
LPAZ  La Paz         39.04 340     eP    P      06 34 37.4 +0.4
LPAZ  La Paz         39.04 340     eP    P      06 34 37.4 +0.4
LPAZ  La Paz         39.04 340     P     P      06 34 37.0 -0.1
SYO   Syowa Base     42.60 148↑    eP    P      06 35 02.0 -3.2
SYO   Syowa Base     42.60 148↑    iP    P      06 35 05.4 +0.2
NBPN  Ponto Novo - B 44.70  21     eP    P      06 35 21.8 -0.9
NBPN  Ponto Novo - B 44.70  21     eP    P      06 35 21.8 -0.9
NBLA  Lagarto - SE   45.10  24     eP    P      06 35 24.8 -1.1
NBLA  Lagarto - SE   45.10  24     eP    P      06 35 24.8 -1.1
NNA   Nana           45.37 329     P     P      06 35 27.6 -0.5
NNA                                pmax  pmax
      comp=Z,238nm,1.6s
NNA   Nana           45.37 329     P     P      06 35 28.1  0.0
      comp=Z,78nm,1.2s,baz=184,slow=4.6,SNR=14
NNA   Nana           45.37 329     P     P      06 35 27.6 -0.5
SAML  Samuel         45.45 349     P     P      06 35 27.6 -1.0
SAML                               pmax  pmax
      comp=Z,57nm,1.0s
SAML  Samuel         45.45 349     eP    P      06 35 28.3 -0.3
SAML  Samuel         45.45 349     eP    P      06 35 28.3 -0.3
SAML  Samuel         45.45 349     P     P      06 35 27.6 -1.0
SAML                               IAmb  IAmb   06 35 31.7
      comp=Z,57nm,1.0s
SMTB  Santa Maria do 45.47  10     eP    P      06 35 28.8  0.0
SMTB  Santa Maria do 45.47  10     eP    P      06 35 28.8  0.0
SBA   Scott Base     45.87 191     P     P      06 35 32.3 +1.0
SBA                                pmax  pmax
      comp=Z,178nm,1.4s
SBA   Scott Base     45.87 191     P     P      06 35 32.3 +1.0
NBAN  Anadia - AL    46.76  26     eP    P      06 35 37.5 -1.5
NBAN  Anadia - AL    46.76  26     eP    P      06 35 37.5 -1.5
NBTA  Tacaratu-PE    46.84  23     eP    P      06 35 38.5 -1.2
NBTA  Tacaratu-PE    46.84  23     eP    P      06 35 38.5 -1.2
RPN   Rapa Nui       47.68 282     P     P      06 35 45.3 -0.8
RPN   Rapa Nui       47.68 282     P     P      06 35 45.3 -0.8
      comp=Z,129nm,1.0s,baz=340,slow=22,SNR=3.7
RPN   Rapa Nui       47.68 282     P     P      06 35 45.3 -0.8
NBRF  Rio Formoso -  48.01  27     eP    P      06 35 48.2 -0.4
NBRF  Rio Formoso -  48.01  27     eP    P      06 35 48.2 -0.4
NBMA  Muriti-CE      48.38  22     eP    P      06 35 51.2 -0.5
NBMA  Muriti-CE      48.38  22     eP    P      06 35 51.2 -0.5
NBLI  Livramento-PB  48.80  24     eP    P      06 35 53.5 -1.4
NBLI  Livramento-PB  48.80  24     eP    P      06 35 53.5 -1.4
NBPB  Pedra_Branca-C 49.98  20     eP    P      06 36 02.7 -1.1
NBPB  Pedra_Branca-C 49.98  20     eP    P      06 36 02.7 -1.1
NBPV  Pedro Velho    50.13  26     eP    P      06 36 06.3 +1.4
NBPV  Pedro Velho    50.13  26     eP    P      06 36 06.3 +1.4
MAW   Mawson         50.20 154     P     P      06 36 04.7 -0.2
MAW                                pmax  pmax
      comp=Z,6.0nm,0.9s
MAW   Mawson         50.20 154     P     P      06 36 05.4 +0.6
      comp=Z,14nm,0.9s,baz=224,slow=8.2,SNR=8.4
MAW   Mawson         50.20 154     P     P      06 36 04.7 -0.2
NBPA  Parau_RN       50.32  24     eP    P      06 36 06.3  0.0
NBPA  Parau_RN       50.32  24     eP    P      06 36 06.3  0.0
ATAH  Atahualpa      50.43 329     P     P      06 36 09.0 +1.3
      comp=Z,52nm,0.8s,baz=168,slow=6.5,SNR=24
RCBR  Riachuelo      50.54  25     P     P      06 36 06.9 -1.2
RCBR                               pmax  pmax
      comp=Z,24nm,1.1s
RCBR  Riachuelo      50.54  25     eP    P      06 36 08.3 +0.2
RCBR  Riachuelo      50.54  25     eP    P      06 36 08.3 +0.2
RCBR  Riachuelo      50.54  25     P     P      06 36 06.9 -1.2
NBPS  Pedro II - PI  50.74  18     eP    P      06 36 10.0 +0.4
NBPS  Pedro II - PI  50.74  18     eP    P      06 36 10.0 +0.4
NBCL  Cascavel-CE    51.53  22     eP    P      06 36 15.3 -0.1
NBCL  Cascavel-CE    51.53  22     eP    P      06 36 15.3 -0.1
NBMO  Morrinhos-CE   52.06  19     eP    P      06 36 18.7 -0.7
NBMO  Morrinhos-CE   52.06  19     eP    P      06 36 18.7 -0.7
SHEL  Horse Pasture  53.82  65     P     P      06 36 31.5 -1.0
SHEL                               pmax  pmax
      comp=Z,380nm,1.8s
SHEL  Horse Pasture  53.82  65     P     P      06 36 31.5 -1.0
ASCN  Ascension      56.40  51     P     P      06 36 49.5 -1.6
PTLC  Puerto Leguiza 56.45 336     eP    P      06 36 48.8 -2.6
PTLC  Puerto Leguiza 56.45 336     eP    P      06 36 48.8 -2.6
SUR   Sutherland     56.49 100     P     P      06 36 50.2 -1.6
      comp=Z,10.0nm,0.6s,baz=210,slow=8.3,SNR=15
SUR   Sutherland     56.49 100     P     P      06 36 50.6 -1.2
SUR                                IAmb  IAmb   06 36 53.9
      comp=Z,142nm,1.8s
OTAV  Otavalo        57.46 332     eP    P      06 36 59.4 +0.3
OTAV  Otavalo        57.46 332     eP    P      06 36 59.4 +0.3
OTAV  Otavalo        57.46 332     P     P      06 36 59.8 +0.7
OTAV                               pmax  pmax
      comp=Z,411nm,1.0s
OTAV  Otavalo        57.46 332     eP    P      06 37 00.8 +1.7
OTAV  Otavalo        57.46 332     eP    P      06 37 00.8 +1.7
OTAV  Otavalo        57.46 332     P     P      06 36 59.9 +0.7
FLOC  Florencia      58.02 336     eP    P      06 37 02.1 -0.4
FLOC  Florencia      58.02 336     eP    P      06 37 02.1 -0.4
GCUF  Volcan Galeras 58.10 333     eP    P      06 37 03.4 -0.3
GCUF  Volcan Galeras 58.10 333     eP    P      06 37 03.4 -0.3
MACC  Macarena, Meta 58.14 338     eP    P      06 37 02.2 -1.2
MACC  Macarena, Meta 58.14 338     eP    P      06 37 02.2 -1.2
GUVC  San Jose del G 58.26 339     eP    P      06 37 04.0 -0.2
GUVC  San Jose del G 58.26 339     eP    P      06 37 04.0 -0.2
CRUC  La Cruz        58.33 334     eP    P      06 37 05.6 +0.5
CRUC  La Cruz        58.33 334     eP    P      06 37 05.6 +0.5
SOTA  Rioblanco      58.79 335     eP    P      06 37 09.7 +1.2
SOTA  Rioblanco      58.79 335     eP    P      06 37 09.7 +1.2
BBAC  Balboa, Cauca  58.84 334     eP    P      06 37 07.5 -1.0
BBAC  Balboa, Cauca  58.84 334     eP    P      06 37 07.5 -1.0
PCON  Cinco Dias     58.92 335     eP    P      06 37 11.0 +1.6
PCON  Cinco Dias     58.92 335     eP    P      06 37 11.0 +1.6
MDP   Montagnes des  58.97   3     P     P      06 37 08.3 -0.8
      comp=Z,55nm,1.1s,baz=179,slow=9.4,SNR=20
CASY  Casey          59.50 173     P     P      06 37 12.1 -0.1
PTGC  Puerto Gaitan, 59.77 340     eP    P      06 37 13.1 -1.6
PTGC  Puerto Gaitan, 59.77 340     eP    P      06 37 13.1 -1.6
VILC  Villavicencio, 60.01 338     eP    P      06 37 15.8 -0.7
VILC  Villavicencio, 60.01 338     eP    P      06 37 15.8 -0.7
ORTC  Ortega, Tolima 60.16 337     eP    P      06 37 16.9 -0.5
ORTC  Ortega, Tolima 60.16 337     eP    P      06 37 16.9 -0.5
CHIC  Chingaza       60.52 339     eP    P      06 37 19.9 -0.4
CHIC                               eP    P      06 37 21.9 +1.6
CHIC  Chingaza       60.52 339     eP    P      06 37 19.9 -0.4
CHIC                               eP    P      06 37 21.9 +1.6
PAYG  Puerto Ayora   60.58 319     P     P      06 37 20.0 -0.3
ANIL  Santa Ana      60.76 337     eP    P      06 37 22.8 +1.0
ANIL  Santa Ana      60.76 337     eP    P      06 37 22.8 +1.0
TOLC  Tolima         60.84 337     eP    P      06 37 22.2 -0.1
TOLC  Tolima         60.84 337     eP    P      06 37 22.2 -0.1
ROSC  El Rosal       60.85 338     P     P      06 37 23.0 +0.5
      comp=Z,70nm,0.9s,baz=167,slow=6.1,SNR=24
ROSC  El Rosal       60.85 338     P     P      06 37 22.9 +0.3
ROSC                               IAmb  IAmb   06 37 26.7
      comp=Z,53nm,0.9s
GUY2C Guyana, Caldas 61.46 337     eP    P      06 37 26.0 -0.7
GUY2C                              eP    P      06 37 27.0 +0.2
GUY2C Guyana, Caldas 61.46 337     eP    P      06 37 26.0 -0.7
GUY2C                              eP    P      06 37 27.0 +0.2
RUSC  La Rusia       61.61 340     eP    P      06 37 26.5 -1.3
RUSC  La Rusia       61.61 340     eP    P      06 37 26.5 -1.3
NORC  Norcasia       61.68 337     eP    P      06 37 26.0 -1.7
NORC  Norcasia       61.68 337     eP    P      06 37 26.0 -1.7
BOSA  Boshof         61.85 101     iP    P      06 37 23.8 -5.1
BOSA                               iS    PcP    06 38 11.0 +1.2
BOSA  Boshof         61.85 101     P     P      06 37 26.8 -2.1
BOSA                               pmax  pmax
      comp=Z,88nm,1.5s
BOSA  Boshof         61.85 101     P     P      06 37 25.6 -3.3
      comp=Z,7.6nm,0.6s,baz=202,slow=6.4,SNR=18
BOSA  Boshof         61.85 101     iP    P      06 37 23.8 -5.1
BOSA                               iS    PcP    06 38 11.0 +1.2
BOSA  Boshof         61.85 101     P     P      06 37 26.8 -2.1
BOSA                               IAmb  IAmb   06 37 39.6
      comp=Z,88nm,1.5s
TAMC  Tame, Arauca   61.88 341     eP    P      06 37 27.8 -1.2
TAMC  Tame, Arauca   61.88 341     eP    P      06 37 27.8 -1.2
CBOC  Ciudad Bolivar 62.23 336     eP    P      06 37 30.1 -1.5
CBOC  Ciudad Bolivar 62.23 336     eP    P      06 37 30.1 -1.5
PTBC  PUERTO BERRIO, 62.53 338     eP    P      06 37 30.1 -3.3
PTBC  PUERTO BERRIO, 62.53 338     eP    P      06 37 30.1 -3.3
BRRC  Barranca, Sant 62.92 339     eP    P      06 37 32.2 -3.8
BRRC  Barranca, Sant 62.92 339     eP    P      06 37 32.2 -3.8
PAMC  Pamplona, Colo 62.94 340     eP    P      06 37 34.2 -2.4
PAMC  Pamplona, Colo 62.94 340     eP    P      06 37 34.2 -2.4
DBBC  Dabeiba        63.39 336     eP    P      06 37 38.3 -0.9
DBBC  Dabeiba        63.39 336     eP    P      06 37 38.3 -0.9
PTAC  Punta Ardita,  63.91 335     eP    P      06 37 42.4 -0.1
PTAC  Punta Ardita,  63.91 335     eP    P      06 37 42.4 -0.1
OCAC  Ocana          63.94 340     eP    P      06 37 42.4 -0.5
OCAC  Ocana          63.94 340     eP    P      06 37 42.4 -0.5
SDV   Santo Domingo  64.06 343     eP    P      06 37 40.4 -3.4
SDV   Santo Domingo  64.06 343     eP    P      06 37 40.4 -3.4
SDV   Santo Domingo  64.06 343     P     P      06 37 43.5 -0.2
      comp=Z,41nm,0.8s,baz=198,slow=7.5,SNR=16
SDV   Santo Domingo  64.06 343     eP    P      06 37 44.0 +0.3
SDV   Santo Domingo  64.06 343     eP    P      06 37 44.0 +0.3
SDV   Santo Domingo  64.06 343     P     P      06 37 42.7 -1.0
SDV                                IAmb  IAmb   06 37 46.5
      comp=Z,48nm,0.9s
PLCV  Puerto La Cruz 64.47 350     P     P      06 37 46.7 +0.5
PCRV  Puerto La Cruz 64.49 350     P     P      06 37 46.7 +0.4
      comp=Z,56nm,0.8s,baz=199,slow=2.5,SNR=16
TSUM  Tsumeb         64.53  88     P     P      06 37 44.8 -1.9
      comp=Z,14nm,0.9s,baz=203,slow=7.4,SNR=14
TSUM  Tsumeb         64.53  88     P     P      06 37 44.9 -1.9
TSUM                               IAmb  IAmb   06 37 58.0
      comp=Z,40nm,1.1s
SMLC  San Martn de   64.64 339     eP    P      06 37 44.5 -2.7
SMLC  San Martn de   64.64 339     eP    P      06 37 44.5 -2.7
LBTB  Lobatse        64.77  98     P     P      06 37 46.3 -2.0
LBTB                               pmax  pmax
      comp=Z,77nm,1.1s
LBTB  Lobatse        64.77  98     P     P      06 37 45.5 -2.8
      comp=Z,22nm,0.9s,baz=214,slow=7.3,SNR=18
LBTB  Lobatse        64.77  98     P     P      06 37 46.3 -2.0
SJCC  San Jacinto, C 65.94 338     eP    P      06 37 54.3 -1.4
SJCC  San Jacinto, C 65.94 338     eP    P      06 37 54.3 -1.4
UPA   Univ. de Panam 66.11 333     eP    P      06 37 59.0 +2.2
ZANG  Zanguenga, Cho 66.17 333     eP    P      06 37 57.2  0.0
BCIP  Isla Barro Col 66.37 333     eP    P      06 38 00.9 +2.4
BCIP  Isla Barro Col 66.37 333     eP    P      06 38 00.9 +2.4
BCIP  Isla Barro Col 66.37 333     P     P      06 37 57.7 -0.7
BCIP                               pmax  pmax
      comp=Z,51nm,0.9s
BCIP  Isla Barro Col 66.37 333     P     P      06 37 57.7 -0.7
BCIP                               IAmb  IAmb   06 38 01.7
      comp=Z,51nm,0.9s
BRU2  Volcan         66.81 330     eP    P      06 38 03.0 +1.6
SMRC  Santa Marta, M 66.97 340     eP    P      06 38 02.9 +0.7
SMRC  Santa Marta, M 66.97 340     eP    P      06 38 02.9 +0.7
EDPN  Palmar Norte   67.20 329     eP    P      06 38 05.0 +1.3
SVB   Belmont        67.26 353     P     P      06 38 03.5 -0.7
EDLM  Las Mercedes   67.54 329     eP    P      06 38 08.7 +2.7
LCR2  La Lucha 2     68.10 329     eP    P      06 38 09.4 -0.3
CVTR  Volcan Turrial 68.29 329     eP    P      06 38 10.1 -1.0
HDC   Heredia        68.38 329     eP    P      06 38 11.7 +0.3
SRA1  San Ramn       68.57 329     eP    P      06 38 12.7 +0.2
JTS   Las Juntas de  68.91 328c    iP    P      06 38 14.9 +0.4
JTS                                pmax  pmax
      comp=Z,99nm,1.1s
JTS   Las Juntas de  68.91 328     eP    P      06 38 14.5  0.0
ARE1  Arenal 1       69.00 329     eP    P      06 38 17.0 +1.9
CEDE  Laguna Cedeo   69.02 329     eP    P      06 38 15.7 +0.5
BUEV  Buena Vista    69.53 328     eP    P      06 38 19.1 +0.6
ESPN  Las Esperanzas 70.51 330     eP    P      06 38 22.8 -1.6
ESPN  Las Esperanzas 70.51 330     P     P      06 38 23.9 -0.4
ACON  Acoyapa        70.56 329     eP    P      06 38 24.7 +0.1
ACON  Acoyapa        70.56 329     P     P      06 38 23.7 -1.0
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MATN	Matagalpa	71.70	328	eP	P	06 38 30.4 -1.3
CRIN	San Cristobal	71.84	327	eP	P	06 38 33.7 +1.2
ESTN	Estel	72.00	328	eP	P	06 38 29.8 -3.6
ESTN	Estel	72.00	328	P	P	06 38 32.4 -1.1
ESTN				IAmb	IAmb	06 38 36.1
	comp=Z,42nm,0.9s					
ITZ	Itezhi-Tezhi	72.20	92	i P	P	06 38 45.3 +10
PDPR	Patillas Dam,	72.39	349	P	P	06 38 35.2 -0.4
PDPR				IAmb	IAmb	06 38 37.1
	comp=Z,30nm,0.9s					
MTP	Monte Pirata	72.42	350	P	P	06 38 34.5 -1.2
MTP				IAmb	IAmb	06 38 38.4
	comp=Z,108nm,1.9s					
MLPR	Magueyes Islan	72.46	348	P	P	06 38 35.0 -1.0
OBIP	Obispado Ponce	72.48	348	P	P	06 38 34.8 -1.4
OBIP				IAmb	IAmb	06 38 37.9
	comp=Z,72nm,1.1s					
HUMP	Col San Antoni	72.49	349	P	P	06 38 35.3 -0.9
SJG	San Juan	72.50	349	P	P	06 38 34.8 -1.4
SJG				pmax	pmax	
	comp=Z,33nm,1.1s					
SJG	San Juan	72.50	349	P	P	06 38 34.8 -1.4
SJG				IAmb	IAmb	06 38 37.7
	comp=Z,33nm,1.1s					
CRPR	Cabo Rojo, PR	72.50	348	P	P	06 38 35.3 -1.0
CUPR	Culebra, Puert	72.59	350	P	P	06 38 36.5 -0.3
STVI	Saint Thomas	72.61	350	P	P	06 38 35.8 -1.0
CBYP	Canovanas	72.62	349	P	P	06 38 35.8 -1.3
CBYP				IAmb	IAmb	06 38 38.7
	comp=Z,49nm,1.0s					
GCPR	Guaynabo City	72.68	349	P	P	06 38 35.6 -1.7
GCPR				IAmb	IAmb	06 38 38.7
	comp=Z,135nm,1.9s					
MPR	Mayaguez	72.71	348	P	P	06 38 36.8 -0.7
MPR				IAmb	IAmb	06 38 39.7
	comp=Z,40nm,1.0s					
AOPR	Arecibo Observ	72.80	348	P	P	06 38 36.8 -1.2
AOPR				IAmb	IAmb	06 38 46.3
	comp=Z,86nm,1.6s					
PACA	Pacayal	72.97	326	eP	P	06 38 39.0 -0.3
COEB	Comit de Eme	73.07	326	eP	P	06 38 32.0 -7.8
LIC	Lamto	73.18	53	eP	P	06 38 38.8 -1.6
	comp=Z,40nm,0.7s					
TGUH	Tegucigalpa,Un	73.19	327	P	P	06 38 39.7 -0.8
TGUH				IAmb	IAmb	06 38 43.2
	comp=Z,58nm,1.0s					
KIC	Kosan Boka	73.43	53	eP	P	06 38 40.4 -1.5
	comp=Z,13nm,0.6s					
TIC	Toumodi	73.55	53	eP	P	06 38 41.0 -1.7
	comp=Z,2.1nm,0.3s					
DBIC	Dimbokro	73.65	53	P	P	06 38 42.1 -1.1
DBIC				pmax	pmax	
	comp=Z,37nm,1.0s					
DBIC	Dimbokro	73.65	53	P	P	06 38 42.1 -1.1
	comp=Z,10nm,0.8s,baz=187,slow=7.2,SNR=8.6					
DBIC	Dimbokro	73.65	53	P	P	06 38 42.1 -1.1
DBIC				IAmb	IAmb	06 38 55.0
	comp=Z,37nm,0.9s					
LGNH	Logne	73.82	343	P	P	06 38 44.4 +0.3
LSZ	Lusaka	73.85	94	P	P	06 38 43.1 -1.5
LSZ				pmax	pmax	
	comp=Z,119nm,1.5s					
LSZ	Lusaka	73.85	94	P	P	06 38 43.1 -1.5
LSZ				IAmb	IAmb	06 38 56.2
	comp=Z,119nm,1.5s					
ODZ	Otahua Downs	73.87	212	P	P	06 38 45.1 +0.9
WHZ	Wether Hill Ro	73.92	210	P	P	06 38 44.3 -0.2
SDDR	Presa de Saban	74.06	344	P	P	06 38 45.5 0.0
RPZ	Rata Peaks	74.94	213	P	P	06 38 49.7 -0.7
RPZ				IAmb	IAmb	06 39 02.1
	comp=Z,68nm,1.2s					
LTZ	Lake Taylor	75.38	214	P	P	06 38 53.3 +0.2
MSWZ	Moikau Station	75.57	217	P	P	06 38 53.0 -1.1
GTBY	Guantanamo Bay	75.67	341	P	P	06 38 53.9 -0.8
GTBY				IAmb	IAmb	06 38 57.9
	comp=Z,73nm,0.9s					
BHW	Baring Head	75.71	216	P	P	06 38 54.9 0.0
BSWZ	Blackbirch Sta	75.79	216	P	P	06 38 55.0 -0.4
BFZ	Birch Farm	75.86	218	P	P	06 38 56.6 +0.8
THZ	Tophouse	76.07	215	P	P	06 38 57.5 +0.4
THZ				IAmb	IAmb	06 39 06.1
	comp=Z,44nm,1.2s					
FSCY	Frank Sound, G	76.44	335	P	P	06 38 59.4 +0.3
CCIG	Comitan	76.89	324	P	P	06 39 01.9 -0.1
CCIG				IAmb	IAmb	06 39 05.2
	comp=Z,59nm,0.9s					
QRZ	Quartz Range	77.04	215	P	P	06 39 01.2 -1.3
QRZ				IAmb	IAmb	06 39 13.0
	comp=Z,106nm,1.4s					
BKZ	Black Stump Fm	77.11	219	P	P	06 39 02.5 -0.4
URZ	Urewera	77.67	220	P	P	06 39 10.0 +3.9
	comp=Z,14nm,0.9s,baz=48,slow=6.6,SNR=3.3					
URZ	Urewera	77.67	220	P	P	06 39 05.6 -0.5
TEIG	Tepich	79.30	328	P	P	06 39 14.0 -1.0
TEIG				IAmb	IAmb	06 39 18.0
	comp=Z,75nm,0.9s					
TLIG	Tlapa	80.45	318	P	P	06 39 21.3 -0.2
RAR	Rarotonga	81.32	246	P	P	06 39 25.4 -0.7
RAR				pmax	pmax	
	comp=Z,143nm,1.5s					
RAR	Rarotonga	81.32	246	P	P	06 39 25.6 -0.5
	comp=Z,34nm,1.1s,baz=331,slow=12,SNR=4.0					
RAR	Rarotonga	81.32	246	P	P	06 39 25.4 -0.7
TAU	Tasmania Unive	81.52	196	P	P	06 39 25.8 -1.1
TAU				pmax	pmax	
	comp=Z,80nm,1.4s					
TAU	Tasmania Unive	81.52	196	P	P	06 39 25.8 -1.1
TAU				IAmb	IAmb	06 39 34.5
	comp=Z,80nm,1.4s					
OUZ	Omahuta	81.67	218	P	P	06 39 27.0 -0.8
OUZ				IAmb	IAmb	06 39 31.6
	comp=Z,59nm,1.4s					
ABPO	Ambohimpanom	81.79	111	P	P	06 39 28.4 -0.5
ABPO				pmax	pmax	
	comp=Z,62nm,1.5s					
ABPO	Ambohimpanom	81.79	111	P	P	06 39 28.4 -0.5
ABPO				IAmb	IAmb	06 39 41.3
	comp=Z,62nm,1.4s					
TOA0	Torodi Ar. Sit	82.40	55	P	P	06 39 30.5 -1.3
TOA0				IAmb	IAmb	06 39 43.5
	comp=Z,47nm,0.8s					
TORD	Torodi Ar. Bea	82.40	55	P	P	06 39 30.1 -1.7
	comp=Z,19nm,0.9s,baz=207,slow=6.3,SNR=44					
TORD	Torodi Ar. Bea	82.40	55	P	P	06 39 29.4 -2.4
RER	Riviere de l'E	84.59	119	P	P	06 39 42.9 -0.4
ZAIG	Zacatecas	86.74	317	P	P	06 39 52.5 -1.4
ZAIG				IAmb	IAmb	06 39 58.2
	comp=Z,23nm,1.0s					
TOO	Toolangi	87.03	196	P	P	06 39 54.6 -0.5
TOO				pmax	pmax	
	comp=Z,20nm,1.0s					
TOO	Toolangi	87.03	196	P	P	06 39 54.6 -0.5
456A	Hilliard	87.59	337	P	P	06 39 59.0 +1.6
	baz=164					
553A	Crawfordville	87.66	335	P	P	06 39 59.4 +1.7
	baz=163					
455A	Stateville	87.84	336	P	P	06 39 59.8 +1.2
	baz=164					
454A	Quitman	87.96	336	P	P	06 40 01.3 +2.1
	baz=164					
357A	Townsend	88.14	338	P	P	06 40 01.9 +1.9
	baz=165					
356A	Blackshear	88.19	337	P	P	06 40 02.7 +2.4
	baz=164					
453A	Whigham	88.27	335	P	P	06 40 03.0 +2.4
	baz=163					
355A	Pearson	88.38	336	P	P	06 40 02.5 +1.3
	baz=164					
451A	Vernon	88.40	334	P	P	06 40 03.5 +2.2
	baz=162					
CAN	Canberra	88.59	199	P	P	06 40 03.4 +0.8
CAN				pmax	pmax	
	comp=Z,28nm,2.2s					
TIGA	Tifton	88.64	336	P	P	06 40 04.5 +2.1
	baz=164					
353A	Camilla	88.71	335	P	P	06 40 04.6 +1.9
	baz=163					
255A	Hazlehurst	88.85	337	P	P	06 40 05.2 +1.9
	baz=164					
352A	Blakely	89.01	335	P	P	06 40 05.5 +1.3
	baz=163					
352A	Blakely	89.01	335	P	P	06 40 03.4 -0.7
254A	Abbeville	89.06	336	P	P	06 40 05.7 +1.3
	baz=164					
158A	Hollywood	89.12	339	P	P	06 40 05.5 +0.8
	baz=165					
157A	Early Branch	89.24	338	P	P	06 40 06.3 +1.1
	baz=165					
BRAL	Brewton	89.27	333	P	P	06 40 06.7 +1.3
	baz=162					
156A	Sylvania	89.33	338	P	P	06 40 07.2 +1.6
	baz=165					
253A	Americus	89.37	336	P	P	06 40 06.6 +0.8
	baz=163					
252A	Lumpkin	89.46	335	P	P	06 40 07.5 +1.3
	baz=163					
NHSC	New Hope	89.48	339	P	P	06 40 07.7 +1.4
	baz=165					
NHSC	New Hope	89.48	339	P	P	06 40 06.2 0.0
155A	Kite	89.52	337	P	P	06 40 07.3 +0.8
	baz=164					
Z58A	St. Stephen	89.62	339	P	P	06 40 08.3 +1.4
	baz=166					
154A	Montrose	89.66	337	P	P	06 40 08.7 +1.6
	baz=164					
Z57A	Bowman	89.78	339	P	P	06 40 08.5 +0.8
	baz=165					
250A	Grady	89.83	334	P	P	06 40 09.0 +1.0
	baz=162					
153A	Fort Valley	89.86	336	P	P	06 40 09.2 +1.1
	baz=164					
Z56A	Williston	89.95	338	P	P	06 40 09.3 +0.8
	baz=165					
Z55A	Blythe	90.02	338	P	P	06 40 10.2 +1.4
	baz=164					
Y59A	Loris	90.07	340	P	P	06 40 10.9 +1.9
	baz=166					
152A	Waverly Hall	90.09	335	P	P	06 40 10.0 +0.8
	baz=163					
152A	Waverly Hall	90.09	335	P	P	06 40 07.5 -1.7
152A				IAmb	IAmb	06 40 12.2
	comp=Z,26nm,0.8s					
Y58A	Scranton	90.15	340	P	P	06 40 10.7 +1.3
	baz=166					
Z54A	Sparta	90.19	337	P	P	06 40 10.4 +0.8
	baz=164					
Y57A	Sumter	90.40	339	P	P	06 40 12.2 +1.6
	baz=165					
Y57A	Sumter	90.40	339	P	P	06 40 10.5 -0.1
Y57A				IAmb	IAmb	06 40 14.4
	comp=Z,38nm,0.9s					
Z53A	Monticello	90.40	336	P	P	06 40 12.0 +1.3
	baz=164					
X60A	Albert Glenn T	90.46	341	P	P	06 40 12.5 +1.7
	baz=167					
KMBO	Kilima Mbogo	90.47	93	P	P	06 40 10.6 -1.2
KMBO				pmax	pmax	
	comp=Z,12nm,1.8s					
KMBO	Kilima Mbogo	90.47	93	P	P	06 40 09.0 -2.9
	comp=Z,0.4nm,0.3s,baz=141,slow=18,SNR=1.9					
KMBO	Kilima Mbogo	90.47	93	P	P	06 40 10.6 -1.2
GOGA	Godfrey	90.50	337	P	P	06 40 12.2 +1.1
	baz=164					
GOGA	Godfrey	90.50	337	P	P	06 40 10.5 -0.6
GOGA				pmax	pmax	
	comp=Z,27nm,1.0s					
GOGA	Godfrey	90.50	337	P	P	06 40 10.5 -0.6
GOGA				IAmb	IAmb	06 40 14.4
	comp=Z,27nm,1.0s					
Z52A	Williamson	90.52	336	P	P	06 40 12.2 +1.1
	baz=163					
833A	Chaparral WMA,	90.53	322	P	P	06 40 12.0 +0.6
	baz=156					
833A	Chaparral WMA,	90.53	322	P	P	06 40 10.9 -0.5
833A				IAmb	IAmb	06 40 14.6
	comp=Z,31nm,0.8s					
X59A	McDuffie Farm,	90.58	341	P	P	06 40 11.7 +0.3
	baz=166					
Y55A	Saluda	90.64	338	P	P	06 40 12.5 +0.8
	baz=164					
X58A	Rowland	90.71	340	P	P	06 40 13.1 +1.1
	baz=166					
Y54A	Tignall	90.76	337	P	P	06 40 12.3 0.0
	baz=164					
X57A	Johnson Farm,	90.77	340	P	P	06 40 12.9 +0.6
	baz=166					
HKT	Hockley	90.78	325	P	P	06 40 10.5 -1.8
HKT				pmax	pmax	
	comp=Z,17nm,1.2s					
HKT	Hockley	90.78	325	P	P	06 40 10.5 -1.8
Z51A	Franklin	90.83	335	P	P	06 40 13.1 +0.5
	baz=163					
JSC	Jenkinsville	90.84	339	P	P	06 40 12.3 -0.3
JSC				pmax	pmax	
	comp=Z,10.0nm,1.0s					
JSC	Jenkinsville	90.84	339	P	P	06 40 12.3 -0.3
Z50A	Ashland	90.95	335	P	P	06 40 14.0 +0.8
	baz=162					
Z50A	Ashland	90.95	335	P	P	06 40 13.3 +0.1
Z50A				IAmb	IAmb	06 40 16.2
	comp=Z,38nm,1.1s					
Y53A	Monroe	90.96	337	P	P	06 40 14.8 +1.6
	baz=164					
X56A	White Oak	91.00	339	P	P	06 40 14.7 +1.4
	baz=165					
HODGE	Hodges	91.01	338	P	P	06 40 13.2 -0.2
LRAL	Lakeview Retre	91.02	334	P	P	06 40 14.8 +1.3
	baz=162					
LRAL	Lakeview Retre	91.02	334	P	P	06 40 12.8 -0.8
LRAL				IAmb	IAmb	06 40 16.6
	comp=Z,18nm,1.0s					
Y52A	Lilburn	91.08	336	P	P	06 40 14.0 +0.3
	baz=163					
CNNC	Cliffs of the	91.09	341	P	P	06 40 14.3 +0.5
	baz=167					
X55A	Gracelyn & Ava	91.11	338	P	P	06 40 15.0 +1.1
	baz=165					
W59A	Clinton	91.13	341	P	P	06 40 15.4 +1.5
	baz=166					
W58A	Raeford	91.14	340	P	P	06 40 15.6 +1.7
	baz=166					
VBMS	Vicksburg	91.22	331	P	P	06 40 15.2 +0.8
	baz=160					
X54A	Belton	91.34	338	P	P	06 40 15.5 +0.6
	baz=164					
Y51A	Rockmart	91.35	335	P	P	06 40 15.5 +0.4
	baz=163					
PAULI	Pauline	91.48	338	P	P	06 40 14.7 -0.9
X53A	Estanollee	91.51	337	P	P	06 40 17.1 +1.4
	baz=164					
Y49A	Blount Mountai	91.65	334	P	P	06 40 17.2 +0.8
	baz=162					
V59A	Middlesex	91.67	341	P	P	06 40 17.3 +0.9
	baz=166					
KMSC	Kings Mountain	91.69	339	P	P	06 40 17.4 +0.8
	baz=165					
HPIG		91.70	316	P	P	06 40 16.6 -0.5
X52A	Dahlonega	91.74	337	P	P	06 40 17.4 +0.5
	baz=163					
W54A	Cherokee Point	91.82	338	P	P	06 40 17.5 +0.3
	baz=164					
U61A	Possum Corner	91.89	343	P	P	06 40 17.2 -0.3
	baz=168					
BG3	Lake Jocassee	91.90	337	P	P	06 40 16.5 -1.1
X51A	Calhoun	91.94	336	P	P	06 40 18.3 +0.6
	baz=163					
NATX	Nacogdoches	92.06	327	P	P	06 40 18.8 +0.5
	baz=158					
NATX	Nacogdoches	92.06	327	P	P	06 40 17.5 -0.9
V57A	Coltrane Farms	92.08	340	P	P	06 40 18.2 -0.2
	baz=166					
FPAL	Fort Paine	92.10	335	P	P	06 40 18.0 -0.5
W53A	Cullowhee	92.12	337	P	P	06 40 18.8 +0.1
	baz=164					
435B	Jarrell	92.13	324	P	P	06 40 19.1 +0.4
	baz=156					
U59A	Littleton	92.15	342	P	P	06 40 19.5 +0.9
	baz=167					
V56A	Mocksville	92.16	340	P	P	06 40 19.0 +0.3
	baz=165					
W52A	Murphy	92.22	337	P	P	06 40 19.3 +0.2
	baz=163					
V55A	Taylorsville	92.35	339	P	P	06 40 19.5 -0.1
	baz=165					
X48A	Hartselle	92.38	334	P	P	06 40 20.3 +0.5
	baz=162					
V54A	Nebo	92.43	338	P	P	06 40 20.0 0.0
	baz=164					
W51A	Cleveland	92.48	336	P	P	06 40 19.7 -0.5
	baz=163					
V53A	Saluda	92.52	338	P	P	06 40 20.2 -0.3
	baz=164					
U57A	Blanch	92.52	341	P	P	06 40 20.9 +0.5
	baz=166					
JCT	Junction City	92.64	323	P	P	06 40 20.9 -0.2
	baz=155					
JCT	Junction City	92.64	323	P	P	06 40 20.7 -0.4
JCT				pmax	pmax	
	comp=Z,35nm,0.9s					
JCT	Junction City	92.64	323	P	P	06 40 20.7 -0.4
U56A	King	92.65	340	P	P	06 40 21.1 +0.1
	baz=165					
W50A	Signal Mountai	92.65	336	P	P	06 40 21.2 +0.2
	baz=163					
W50A	Signal Mountai	92.65	336	P	P	06 40 19.9 -1.2
W50A				IAmb	IAmb	06 40 23.6
	comp=Z,22nm,0.8s					
CPCT	Cooper Cave	92.70	336	P	P	06 40 21.0 -0.3
CPCT				IAmb	IAmb	06 40 24.2
	comp=Z,20nm,0.9s					
W49A	Belvidere	92.81	335	P	P	06 40 22.3 +0.5
	baz=162					
SWET	Sewanee	92.82	335	P	P	06 40 21.1 -0.7
SWET				IAmb	IAmb	06 40 24.6
	comp=Z,13nm,0.9s					
V52A	Sevierville	92.86	337	P	P	06 40 22.5 +0.6
	baz=164					
Z41A	Richland Creek	92.87	329	P	P	06 40 22.6 +0.5
	baz=159					
Z41A	Richland Creek	92.87	329	P	P	06 40 22.0 -0.1
U55A	TA2, Sparta	92.94	339	P	P	06 40 22.9 +0.5
	baz=165					
V51A	Loudon	93.00	337	P	P	06 40 22.7 +0.1
	baz=163					
TX31	Lajitas Ar. Si	93.05	319	P	P	06 40 22.5 -0.6
TX32	Lajitas Array	93.05	319	P	P	06 40 22.6 -0.5
TXAR	Lajitas Array	93.05	319	P	P	06 40 22.8 -0.3
TXAR	Lajitas Array	93.05	319	P	P	06 40 22.8 -0.3
	comp=Z,2.8nm,0.7s,baz=151,slow=7.1,SNR=20					
TXAR	Lajitas Array	93.05	319	P	P	06 40 22.5 -0.6
V50A	Pikevile	93.05	336	P	P	06 40 23.0 +0.1
	baz=163					
T57A	Hurt	93.06	341	P	P	06 40 22.9 +0.1
	baz=166					
OXF	Oxford	93.06	332	P	P	06 40 22.9 0.0
	baz=160					
OXF	Oxford	93.06	332	P	P	06 40 22.5 -0.4
OXF				pmax	pmax	
	comp=Z,26nm,0.9s					
OXF	Oxford	93.06	332	P	P	06 40 22.5 -0.4
OXF				IAmb	IAmb	06 40 25.0
	comp=Z,26nm,0.9s					
U53A	Fall Branch	93.13	338	P	P	06 40 23.0 -0.3
	baz=164					
PLAL	Pickwick Lake	93.15	333	P	P	06 40 21.8 -1.5
PLAL				IAmb	IAmb	06 40 25.8
	comp=Z,23nm,0.9s					
WHTX	Lake Whitney,	93.19	325	P	P	06 40 23.4 -0.2
	baz=156					
WHTX	Lake Whitney,	93.19	325	P	P	06 40 22.4 -1.2
WHTX				IAmb	IAmb	06 40 26.4
	comp=Z,22nm,0.8s					
STKA	Stephens Creek	93.22	194	P	P	06 40 23.7 -0.4
STKA				pmax	pmax	
	comp=Z,7.0nm,2.0s					
STKA	Stephens Creek	93.22	194	P	P	06 40 24.6 +0.5
	comp=Z,2.5nm,0.9s,baz=178,slow=17,SNR=3.9					
STKA	Stephens Creek	93.22	194	P	P	06 40 23.7 -0.4
T56A	Rocky Mt	93.24	340	P	P	06 40 24.5 +0.8
	baz=166					
U52A	Thorn Hill	93.34	337	P	P	06 40 25.0 +0.8
	baz=164					
V49A	McMinnville	93.34	335	P	P	06 40 23.7 -0.5
	baz=162					
WLAR	White Oak Lake	93.36	329	P	P	06 40 23.8 -0.5
S58A	Poland Farm, P	93.43	342	P	P	06 40 24.9 +0.4
	baz=167					
S59A	Mechanicsville	93.44	343	P	P	06 40 25.4 +0.9
	baz=167					
U51A	La Follette	93.47	337	P	P	06 40 24.8 0.0
	baz=163					
T55A	Pulaski	93.48	340	P	P	06 40 25.6 +0.8
	baz=165					
X43A	Marvell	93.48	331	P	P	06 40 24.9 +0.1
	baz=160					
X43A	Marvell	93.48	331	P	P	06 40 24.2 -0.7
BLA	Blacksburg	93.49	340	P	P	06 40 25.2 +0.3
	baz=165					
TZTN	Tazewell	93.52	337	P	P	06 40 25.6 +0.6
	baz=164					
V48A	Smith Brothers	93.54	335	P	P	06 40 24.9 -0.2
	baz=162					
T54A	Tazewell	93.59	339	P	P	06 40 25.3 -0.1
	baz=165					
U50A	Jamestown	93.70	336	P	P	06 40 26.9 +1.1
	baz=163					
R58B	Mineral	93.74	342	P	P	06 40 27.2 +1.3
	baz=167					
S57A	Dark Hollow, R	93.74	341	P	P	06 40 26.6 +0.6
	baz=166					
CLTN	Cedars of Leba	93.75	335	P	P	06 40 24.4 -1.7
S56A	Natural Bridge	93.78	341	P	P	06 40 27.0 +0.8
	baz=166					
CBN	Corbin Frederi	93.88	343	P	P	06 40 27.0 +0.4
	baz=167					
U49A	Red Boiling Sp	94.02	336	P	P	06 40 26.8 -0.5
	baz=162					
X40A	Basin Creek Fa	94.02	330	P	P	06 40 28.1 +0.8
	baz=159					
WVT	Waverly	94.17	334	P	P	06 40 27.7 -0.2
	baz=161					
WVT	Waverly	94.17	334	P	P	06 40 27.0 -1.0
WVT				pmax	pmax	
	comp=Z,11nm,0.9s					
WVT	Waverly	94.17	334	P	P	06 40 27.0 -1.0
R57A	Stanardsville	94.18	342	P	P	06 40 27.9 -0.1
	baz=166					
T50A	Nancy	94.28	337	P	P	06 40 28.0 -0.5
	baz=163					
MIAR	Mount Ida	94.30	329	P	P	06 40 28.7 0.0
	baz=158					
MIAR	Mount Ida	94.30	329	P	P	06 40 28.7 0.0
MIAR				pmax	pmax	
	comp=Z,15nm,1.1s					
MIAR	Mount Ida	94.30	329	P	P	06 40 28.6 0.0
R56A	Bull Pasture M	94.45	341	P	P	06 40 29.0 -0.3
	baz=166					
R55A	Marlinton	94.47	340	P	P	06 40 29.6 +0.2
	baz=165					
W41B	Gary Mavity, V	94.49	330	P	P	06 40 29.7 +0.3
	baz=159					
W41B	Gary Mavity, V	94.49	330	P	P	06 40 28.8 -0.6
W41B				IAmb	IAmb	06 40 39.5
	comp=Z,63nm,1.9s					
S52A	Salyersville	94.50	338	P	P	06 40 29.8 +0.3
	baz=164					
T49A	Edmonton	94.52	336	P	P	06 40 29.6 0.0
	baz=162					
T49A	Edmonton	94.52	336	P	P	06 40 28.7 -0.9
T49A				IAmb	IAmb	06 40 31.7
	comp=Z,16nm,0.9s					
ABTX	Abilene, Hawle	94.52	324	P	P	06 40 30.1 +0.4
	baz=155					
ABTX	Abilene, Hawle	94.52	324	P	P	06 40 29.1 -0.7
ABTX				IAmb	IAmb	06 40 32.6
	comp=Z,18nm,0.9s					
R54A	Victor	94.55	340	P	P	06 40 29.5 -0.2
	baz=165					
S51A	Beattyville	94.58	338	P	P	06 40 30.3 +0.5
	baz=164					
WHAR	Wooly Hollow	94.61	330	P	P	06 40 29.8 -0.3
WHAR				IAmb	IAmb	06 40 32.7
	comp=Z,17nm,0.8s					
T47A	Sharon Grove	94.80	335	P	P	06 40 31.1 +0.3
	baz=162					
S50A	Richmond	94.80	337	P	P	06 40 31.4 +0.6
	baz=163					
Q57A	Strasburg	94.87	342	P	P	06 40 32.3 +1.1
	baz=166					
W39A	Magazine	94.97	329	P	P	06 40 32.7 +1.0
	baz=158					
W39A	Magazine	94.97	329	P	P	06 40 31.5 -0.2
W39A				IAmb	IAmb	06 40 35.0
	comp=Z,19nm,0.9s					
LCAR	Lake Charles	95.01	331	P	P	06 40 31.5 -0.4
LCAR				IAmb	IAmb	06 40 34.2
	comp=Z,14nm,1.0s					
Q56A	Snyder Ridge,	95.02	341	P	P	06 40 33.2 +1.4
	baz=166					

S49A	Springfield	95.11	336	P	P	06 40 32.3	0.0
	baz=163						
P58A	Pank, Wackersv	95.12	343	P	P	06 40 33.1	+0.9
	baz=167						
Q55A	Buckhannon	95.15	341	P	P	06 40 33.3	+0.8
	baz=165						
P60A	Greenville	95.15	344	P	P	06 40 33.3	+0.9
	baz=168						
R51A	Hillsboro	95.21	338	P	P	06 40 33.5	+0.8
	baz=164						
R50A	Paris	95.36	337	P	P	06 40 34.8	+1.4
	baz=163						
P56A	Dayton Farm, R	95.41	342	P	P	06 40 34.6	+1.1
	baz=166						
Q52A	Bidwell	95.56	339	P	P	06 40 35.7	+1.4
	baz=164						
R49A	Shelbyville	95.57	337	P	P	06 40 34.9	+0.6
	baz=163						
P55A	Reedsville	95.60	341	P	P	06 40 35.0	+0.6
	baz=166						
O60A	Telford	95.61	345	P	P	06 40 35.9	+1.4
	baz=168						
X34A	Smith Ranch, M	95.71	326	P	P	06 40 34.9	-0.2
X34A				IAmb	IAmb	06 40 38.7	
	comp=Z,32nm,1.1s						
O59A	Robesonia	95.73	344	P	P	06 40 36.2	+1.2
	baz=168						
MCWV	Mont Chateau	95.75	341	P	P	06 40 35.4	+0.3
	baz=166						
U40A	Yellville	95.77	330	P	P	06 40 35.3	-0.1
	baz=159						
U40A	Yellville	95.77	330	P	P	06 40 34.8	-0.5
WCI	Wyandotte Cave	95.77	336	P	P	06 40 35.0	-0.2
	baz=162						
P54A	Burton	95.81	341	P	P	06 40 36.1	+0.7
	baz=165						
MNTX	Cornudas Mount	95.81	319	P	P	06 40 34.9	-0.8
	baz=153						
MNTX	Cornudas Mount	95.81	319	P	P	06 40 34.8	-0.9
Q51A	Peebles	95.86	338	P	P	06 40 36.2	+0.6
	baz=164						
P53A	Whipple	95.89	340	P	P	06 40 36.3	+0.6
	baz=165						
HHAR	Hobbs	96.02	329	P	P	06 40 36.0	-0.5
O56A	Blue Knob Stat	96.10	342	P	P	06 40 37.6	+0.8
	baz=166						
N60A	Cedar Hill Far	96.11	345	P	P	06 40 37.3	+0.6
	baz=168						
WMOK	Wichita Mounta	96.15	325	P	P	06 40 37.8	+0.6
	baz=156						
WMOK	Wichita Mounta	96.15	325	P	P	06 40 36.6	-0.5
WMOK				pmax	pmax		
	comp=Z,40nm,1.6s						
WMOK	Wichita Mounta	96.15	325	P	P	06 40 36.6	-0.5
WMOK				IAmb	IAmb	06 40 40.0	
	comp=Z,40nm,1.6s						
O55A	Ligonier	96.17	342	P	P	06 40 38.2	+1.1
	baz=166						
P52A	Corning	96.18	339	P	P	06 40 38.5	+1.4
	baz=164						
DZM	Mont Dzumac	96.19	218	P	P	06 40 38.2	+0.3
	comp=Z,2.9nm,1.0s,baz=143,slow=5.1,SNR=2.7						
DZM	Mont Dzumac	96.19	218	P	P	06 40 37.0	-0.9
TUL1	Leonard	96.25	328	P	P	06 40 38.0	+0.5
	baz=157						
Q48A	North Vernon	96.31	336	P	P	06 40 38.2	+0.6
	baz=162						
N58A	Sunbury	96.33	344	P	P	06 40 38.7	+1.0
	baz=167						
MGMO	Mountain Grove	96.34	331	P	P	06 40 38.5	+0.5
MGMO				IAmb	IAmb	06 40 40.4	
	comp=Z,14nm,1.0s						
O54A	Avella	96.36	341	P	P	06 40 38.5	+0.6
	baz=165						
N57A	Milroy	96.39	343	P	P	06 40 38.2	+0.1
	baz=167						
M60A	Port Jervis	96.48	345	P	P	06 40 38.8	+0.4
	baz=168						
P50A	Jamestown	96.51	338	P	P	06 40 39.4	+0.8
	baz=163						
O52A	Adamsville	96.58	340	P	P	06 40 39.2	+0.3
	baz=164						
O53A	New Philadelph	96.58	340	P	P	06 40 38.9	0.0
	baz=165						
P49A	Miami Univ. Ec	96.65	337	P	P	06 40 39.0	-0.2
	baz=163						
BLO	Bloomington	96.72	336	P	P	06 40 39.6	0.0
BLO				pmax	pmax		
	comp=Z,17nm,0.8s						
BLO	Bloomington	96.72	336	P	P	06 40 39.6	0.0
BLO				IAmb	IAmb	06 40 42.1	
	comp=Z,17nm,0.8s						
P48A	Milroy	96.74	337	P	P	06 40 40.2	+0.5
	baz=162						
O51A	Pataskala	96.77	339	P	P	06 40 40.1	+0.3
	baz=164						
M58A	Price's Panora	96.81	344	P	P	06 40 40.2	+0.3
	baz=167						
MSTX	Muleshoe	96.86	322	P	P	06 40 39.9	-0.6
	baz=154						
MSTX	Muleshoe	96.86	322	P	P	06 40 41.3	+0.8
MSTX				IAmb	IAmb	06 40 53.8	
	comp=Z,9.8nm,0.9s						
CCM	Cathedral Cave	96.89	332	P	P	06 40 40.3	-0.1
	baz=159						
CCM	Cathedral Cave	96.89	332	P	P	06 40 39.7	-0.7
CCM				pmax	pmax		
	comp=Z,75nm,2.0s						
CCM	Cathedral Cave	96.89	332	P	P	06 40 39.7	-0.7
ACSO	Alum Creek Sta	96.93	339	P	P	06 40 40.0	-0.5
	baz=164						
N53A	Lisbon	97.05	341	P	P	06 40 40.9	-0.1
	baz=165						
O49A	Covington	97.19	338	P	Pdif	06 40 42.4	+0.7
	baz=163						
M56A	Emporium	97.21	343	P	Pdif	06 40 43.1	+1.2
	baz=166						
N52A	McGinn's Farm,	97.22	340	P	Pdif	06 40 42.5	+0.6
	baz=166						
AMTX	Amarillo	97.28	323	P	Pdif	06 40 43.1	+0.6
	baz=154						
K62A	Royalston	97.46	347	P	Pdif	06 40 43.3	+0.4
	baz=170						
N51A	Ashland	97.47	339	P	Pdif	06 40 43.7	+0.7
	baz=164						
N50A	Nevada	97.48	339	P	Pdif	06 40 43.8	+0.7
	baz=164						
M54A	Oil Creek Stat	97.50	342	P	Pdif	06 40 43.3	+0.2
	baz=166						
M53A	WI Miller and	97.63	341	P	Pdif	06 40 44.0	+0.4
	baz=165						
M51A	Elyria	97.82	340	P	Pdif	06 40 44.8	+0.2
	baz=164						
L54A	Sinclairville	98.14	342	P	Pdif	06 40 46.2	+0.2
	baz=166						
N47A	Urbana	98.15	337	P	P	06 40 45.4	-0.6
	baz=162						
M49A	Liberty Center	98.34	338	P	Pdif	06 40 47.0	+0.2
	baz=163						
I64A	Boothbay	98.39	349	P	Pdif	06 40 47.1	+0.1
	baz=171						
K55A	Perry	98.40	343	P	Pdif	06 40 47.3	+0.2
	baz=166						
TUC	Tucson	98.53	315	P	P	06 40 47.8	-0.2
	baz=150						
M47A	Cromwell	98.59	337	P	Pdif	06 40 48.2	+0.2
	baz=162						
L50A	Kingsville	98.64	339	P	Pdif	06 40 48.6	+0.5
	baz=164						
I61A	Oroboro, Fairl	98.70	348	P	Pdif	06 40 49.2	+0.8
	baz=170						
HDIL	Hopedale	98.72	334	P	Pdif	06 40 49.0	+0.5
	baz=160						
L48A	N Adams	98.89	338	P	Pdif	06 40 50.0	+0.8
	baz=163						
L49A	Milan	98.90	339	P	Pdif	06 40 49.8	+0.5
	baz=163						
L47A	Sherwood	99.08	338	P	Pdif	06 40 50.5	+0.4
	baz=162						
ANMO	Albuquerque	99.10	319	P	Pdif	06 40 50.9	+0.3
	baz=152						
ANMO	Albuquerque	99.10	319⇑	eP	Pdif	06 40 51.1	+0.4
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANMO	Albuquerque	99.10	319	P	Pdif	06 40 50.2	-0.5
H62A	Milan	99.21	348	P	Pdif	06 40 52.2	+1.6
	baz=170						
AAE	Adis Abeba	99.50	88	eP	Pdif	06 40 57.2	+4.1
G64A	Maxfield	99.62	350	P	Pdif	06 40 54.5	+2.2
	baz=172						
K48A	Perry	99.64	339	P	Pdif	06 40 54.4	+1.8
	baz=163						
H53A	Bobcaygeon	100.28	343	P	Pdif	06 40 57.0	+1.6
	baz=166						
L40A	Anamosa	100.63	333	P	Pdif	06 40 58.6	+1.6
	baz=159						
G53A	Haliburton	100.82	343	P	Pdif	06 40 59.4	+1.6
	baz=166						
JFWS	Jewell Farm	101.18	334	P	Pdif	06 41 00.5	+1.0
	baz=160						
KSCO	Kaye Shedlock'	101.32	324	P	Pdif	06 41 01.3	+1.0
	baz=154						
F49A	Sandfield	102.06	341	P	Pdif	06 41 05.1	+1.9
	baz=164						
ASAR	Alice Springs	102.22	188	P	Pdif	06 41 03.1	-1.8
ASAR	Alice Springs	102.22	188	P	Pdif	06 41 03.0	-1.8
	comp=Z,1.3nm,0.6s,baz=170,slow=3.8,SNR=12						
ASAR				PP	PP	06 45 17.4	+1.7
	comp=Z,4.1nm,0.9s,baz=173,slow=9.0,SNR=4.5						
E44A	Grand Marais A	103.66	339	P	Pdif	06 41 12.0	+1.7
	baz=162						
GSC	Goldstone, Bar	103.66	312	P	Pdif	06 41 11.4	+0.6
	baz=148						
R11A	Troy Canyon, C	105.71	315	P	PKiKP	06 45 32.8	+0.1
	baz=148						
WRA	Warramunga Arr	105.86	189	P	Pdif	06 41 18.9	-2.2
WRA	Warramunga Arr	105.86	189	Pdiff	Pdif	06 41 20.3	-0.8
	comp=Z,0.8nm,0.7s,baz=181,slow=6.7,SNR=11						
WRA				PKiKP	PKiKP	06 45 33.4	-0.1
	comp=Z,3.0nm,0.9s,baz=183,slow=3.6,SNR=4.6						
WRA				PP	PP	06 45 44.0	+1.1
	comp=Z,6.9nm,0.8s,baz=183,slow=6.3,SNR=6.2						
WRA	Warramunga Arr	105.86	189		Pdif	06 41 18.9	-2.2
WRA					PKiKP	06 45 33.4	-0.1
EYMN	Ely	106.19	335	P	PKiKP	06 45 33.7	+0.6
	baz=158						
NVAR	Mina Array Bea	106.94	313	PP	PP	06 45 43.3	-8.9
	comp=Z,3.2nm,1.1s,baz=133,slow=6.3,SNR=4.1						
H17A	Grant Village	108.89	321	P	PKiKP	06 45 38.7	+0.1
	baz=149						
ULM	Lac du Bonnet	109.43	334	PKiKP	PKiKP	06 45 39.1	+0.1
	comp=Z,6.2nm,1.0s,baz=190,slow=3.1,SNR=2.9						
N02D	Trinity Center	110.96	311	P	PKiKP	06 45 42.6	+0.3
	baz=144						
MSO	Missoula	112.20	321	P	PKiKP	06 45 45.3	+0.7
	baz=147						
J04D	Umpqua Nationa	112.53	313	P	PKiKP	06 45 46.2	+0.7
	baz=144						
J01E	Myrtle Point	113.26	312	P	PKiKP	06 45 47.6	+1.1
	baz=143						
PMG	Port Moresby	114.04	204⇓	iPKIKP	PKiKP	06 45 48.3	-0.7
NEW	Newport	114.60	320	P	PKiKP	06 45 49.4	+0.4
	baz=145						
DAVA	Damuels	114.94	43	i pPKiKP	PKiKP	06 45 52.7	+2.9
	comp=Z,12nm,0.8s						
DAVA				i PKKPbc	PKKPbc	06 56 23.5	-2.1
	comp=Z,6.1nm,1.2s						
FETA	Feichten	115.07	44	i PKiKP	PKiKP	06 45 51.2	+1.1
	comp=Z,14nm,1.8s						
FETA				i PKKPab	PKKPab	06 56 29.8	+1.0
	comp=Z,11nm,1.2s						
SQTA	Sankt Quirin	115.43	44	i pPKiKP	PKiKP	06 45 53.8	+3.1
	comp=Z,8.0nm,0.7s						
SQTA				i PKKPbc	PKKPbc	06 56 23.6	-0.3
	comp=Z,17nm,1.7s						
RETA	Reutte	115.46	43	i pPKiKP	PKiKP	06 45 54.8	+4.1
	comp=Z,12nm,1.0s						
RETA				i PKKPbc	PKKPbc	06 56 24.1	+0.4
	comp=Z,7.0nm,0.9s						
MOTA	Moosalm	115.48	44	i PKPdf	PKiKP	06 45 51.0	+0.2
	comp=Z,15nm,1.2s						
MOTA				i PKKPbc	PKKPbc	06 56 22.0	-1.7
	comp=Z,12nm,1.8s						
ABTA	Abfaltersbach	115.58	45	i pPKiKP	PKiKP	06 45 54.6	+3.6
	comp=Z,6.5nm,1.0s						
ABTA				i PKKPab	PKKPab	06 56 28.5	+2.0
	comp=Z,7.4nm,1.0s						
WTTA	Wattenberg	115.64	44	i PKPdf	PKPdf	06 45 50.7	-0.5
	comp=Z,16nm,1.2s						
WTTA				i PKKPbc	PKKPbc	06 56 22.4	-0.8
	comp=Z,16nm,1.7s						
WATA	Walderalm	115.67	44	i PKKPab	PKKPab	06 56 26.3	+0.2
	comp=Z,19nm,1.6s						
MYKA	Terra Mystica	115.96	46	i PKPdf	PKiKP	06 45 52.7	+1.0
	comp=Z,11nm,1.2s						
KBA	Koelnbreinsper	116.19	45	i pPKiKP	PKiKP	06 45 55.6	+3.3
	comp=Z,11nm,0.9s						
OBKA	Obir	116.25	46	i pPKiKP	PKiKP	06 45 56.5	+4.2
	comp=Z,36nm,1.9s						
D03D	Eldon	116.38	315	P	PKiKP	06 45 52.8	+0.4
	baz=142						
SOKA	Soboth	116.59	46	i pPKiKP	PKiKP	06 45 54.9	+2.0
	comp=Z,19nm,1.5s						
MOA	Molln	117.19	45	i PKiKP	PKiKP	06 45 55.3	+1.3
	comp=Z,26nm,1.6s						
MOA				i PKKPbc	PKKPbc	06 56 18.2	+0.7
	comp=Z,7.5nm,1.3s						
ARSA	Arzberg	117.25	46	i pPKiKP	PKiKP	06 45 57.7	+3.6
	comp=Z,11nm,1.0s						
ARSA				i PKKPab	PKKPab	06 56 19.9	+0.7
	comp=Z,7.6nm,1.2s						
GERES	GERESS Array B	117.73	44	PKIKP	PKPdf	06 45 53.4	-1.7
GERES	GERESS Array B	117.73	44	PKP	PKPdf	06 45 53.9	-1.2
	comp=Z,0.8nm,0.8s,baz=230,slow=6.1,SNR=3.0						
GERES	GERESS Array B	117.73	44		PKPdf	06 45 53.4	-1.7
KHC	Kasperske Hory	117.91	44⇑	iPKIKP	PKiKP	06 45 58.6	+3.2
CONA	Conrad Observa	117.92	46	i pPKiKP	PKiKP	06 45 57.8	+2.3
	comp=Z,5.6nm,0.8s						
CONA				i PKKPdf	PKKPdf	06 56 41.8	-2.3
VYHS	Vyhne	119.63	47	eP	Pdif	06 42 25.1	+3.7
VYHS	Vyhne	119.63	47	ePDIFF	Pdif	06 42 25.1	+3.7
BRTR	Keskin Array B	120.26	63	PKIKP	PKPdf	06 45 59.2	-1.1
BRTR	Keskin Array B	120.26	63	PKP	PKPdf	06 45 58.7	-1.6
	comp=Z,0.8nm,0.7s,baz=210,slow=4.3,SNR=3.5						
BRTR	Keskin Array B	120.26	63		PKPdf	06 45 59.2	-1.1
MLR	Muntele Rosu	120.62	54	PKIKP	PKPdf	06 46 00.5	-0.3
MLR	Muntele Rosu	120.62	54	PKP	PKPdf	06 45 59.6	-1.1
	comp=Z,1.3nm,0.7s,baz=165,slow=20,SNR=2.0						
MLR	Muntele Rosu	120.62	54		PKPdf	06 46 00.5	-0.3
UZH	Uzhgorod	121.25	49	ePKIKP	PKiKP	06 46 02.3	+0.5
UZH				e		06 46 08.3	
UZH				e		06 47 35.9	
UZH				e		06 50 06.7	
PALK	Pallekele	121.39	126	PKIKP	PKPdf	06 46 02.4	-0.8
PALK	Pallekele	121.39	126	PKP	PKPdf	06 46 02.4	-0.8
	comp=Z,2.1nm,0.3s,baz=116,slow=3.9,SNR=2.4						
PALK	Pallekele	121.39	126		PKPdf	06 46 02.0	-1.1
WSAR	Wadi Sarin	122.34	95	PKP	PKPdf	06 46 03.9	-0.7
	comp=Z,1.6nm,0.4s,baz=186,slow=13,SNR=2.7						
LVV	L'vov	122.90	49	i PKIKP	PKiKP	06 46 09.0	+3.9
LVV				ePPP	PPP	06 53 03.5	
LVV				e		06 59 06.4	
LVV				MLR	MLR		
	comp=N,22μm,20.0s						
LVV				MLR	MLR		
	comp=E,42μm,20.0s						
LVV				MLR	MLR		
	comp=Z,47μm,20.0s						
HOMB	Homborsund	123.17	34	eSKSac	SKSac	06 53 06.5	+0.8
HOMB				eSS	SS	07 04 33.4	+2.6
HOMB				IVMs_BB	IVMs_BB	07 41 35.3	
	comp=Z,24μm,21.1s						
BLS5	Blasjo	123.40	33	eSKSac	SKSac	06 53 08.3	+1.7
BLS5				ePS	PS	06 57 48.0	+4.4
BLS5				eSS	SS	07 04 35.9	+2.1
BLS5				IVMs_BB	IVMs_BB	07 41 38.5	
	comp=Z,25μm,19.7s						
BER	Bergen	123.81	31	ePdif	Pdif	06 42 38.8	-0.8
BER				ePKPdf	PKiKP	06 46 07.0	+0.5
BER				eSS	SS	07 04 47.4	+8.5
BER				IVMs_BB	IVMs_BB	07 36 28.2	
	comp=Z,18μm,21.1s						
SUE	Sulen	124.17	31	IVMs_BB	IVMs_BB	07 37 09.1	
	comp=Z,21μm,20.8s						
RPSI	Rantau Prapat	124.55	148		PKiKP	06 46 09.6	+0.1
KONO	Kongsberg	124.59	34⇓	iPKIKP	PKPdf	06 46 07.6	-0.1
KONO	Kongsberg	124.59	34	eSP	SP	06 57 53.9	+1.4
KONO				eSS	SS	07 04 49.6	+0.8
PSI	Prapat	124.65	148	PKIKP	PKPdf	06 46 09.6	0.0
PSI	Prapat	124.65	148	PKP	PKPdf	06 46 09.6	0.0
	comp=Z,2.5nm,0.6s,baz=4,9,slow=14,SNR=1.4						
SKAR	Skarslia	124.96	32	eSS	SS	07 04 56.6	+3.0
SKAR				IVMs_BB	IVMs_BB	07 41 35.8	
	comp=Z,25μm,20.3s						
YKA	Yellowknife Ar	125.21	331	PKIKP	PKPdf	06 46 08.0	-0.8
YKA	Yellowknife Ar	125.21	331	PKP	PKPdf	06 46 08.0	-0.8
	comp=Z,4.2nm,0.7s,baz=149,slow=2.0,SNR=21						
YKA	Yellowknife Ar	125.21	331		PKPdf	06 46 05.2	-3.6
AKN	Aaknes	125.71	31	eSKSac	SKSac	06 53 16.1	+2.3
AKN				IVMs_BB	IVMs_BB	07 36 22.7	
	comp=Z,19μm,27.9s						
AKASG	Malin Array Be	125.88	51	PKIKP	PKiKP	06 46 11.0	+0.1
AKASG	Malin Array Be	125.88	51	PKP	PKiKP	06 46 11.0	+0.1
	comp=Z,2.5nm,0.7s,baz=250,slow=2.2,SNR=4.9						
AKASG	Malin Array Be	125.88	51		PKPdf	06 46 08.6	-1.9
AKBB	Malin Array Si	125.88	51	PKIKP	PKPdf	06 46 08.8	-1.7
AKBB	Malin Array Si	125.88	51		PKPdf	06 46 08.8	-1.7
NC602	NORSAR Array S	126.05	34	eSP	SP	06 58 05.2	-0.1
NC602				eSS	SS	07 05 09.7	+2.6
NC602				IVMs_BB	IVMs_BB	07 35 15.1	
	comp=Z,19μm,20.6s						
NOA	NORSAR Array B	126.17	34	PKIKP	PKiKP	06 46 11.3	+0.1
NOA	NORSAR Array B	126.17	34	PKP	PKiKP	06 46 11.3	+0.1
	comp=Z,1.7nm,0.9s,baz=230,slow=2.4,SNR=2.6						
DOMB	Dombas	126.24	32	eSKSac	SKSac	06 53 18.8	+3.3
DOMB				eSP	SP	06 58 06.9	-0.1
DOMB				eSS	SS	07 05 16.4	+6.8
DOMB				IVMs_BB	IVMs_BB	07 44 26.1	
	comp=Z,25μm,20.3s						
TBLU	Trondheim	127.51	31	eSS	SS	07 05 29.2	+3.9
TBLU				IVMs_BB	IVMs_BB	07 41 20.5	
	comp=Z,23μm,17.6s						
NEY	Neytrino	127.58	66⇓	iPKIKP	PKiKP	06 46 15.0	+0.2
MNK	Minsk	127.87	47	ePKIKP	PKiKP	06 46 19.0	+4.2
ZEI	Tsey	127.91	67	ePKIKP	PKPdf	06 46 13.5	-1.5
KBZ	Khabaz	128.00	66	PKIKP	PKiKP	06 46 15.8	+0.4
KBZ	Khabaz	128.00	66	PKP	PKiKP	06 46 15.8	+0.4
	comp=Z,1.2nm,0.6s,baz=225,slow=5.7,SNR=3.8						
KIV	Kislovodsk	128.04	65	ePKIKP	PKiKP	06 46 15.8	+0.2
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
HYB	Hyderabad	128.96	117	i PKP	PKiKP	06 46 24.0	+5.8
JMI	Jan Mayen	128.98	18	ePKPdf	PKiKP	06 46 16.8	+0.3
AKT	Akhty	129.14	71	ePKIKP	PKiKP	06 46 18.4	+0.5
AKT				e		06 48 27.6	
AKT				pmax	pmax		
	comp=Z,14nm,1.1s						
VSU	Vasula	130.01	43⇓	ePKIKP	PKiKP	06 46 18.5	-0.4
VSR	Storozhevoye	130.95	56⇓	ePKIKP	PKPdf	06 46 19.1	-1.0
FINES	FINESS Array B	131.66	39	PKIKP	PKPdf	06 46 18.5	-2.7
FINES	FINESS Array B	131.66	39	PKP	PKPdf	06 46 18.1	-3.1
	comp=Z,1.9nm,0.8s,baz=256,slow=5.6,SNR=2.8						
FINES	FINESS Array B	131.66	39		PKPdf	06 46 18.5	-2.7
LOF	Lofoten	131.94	28	eSKSac	SKSac	06 53 33.8	+2.3
LOF				eSS	SS	07 06 23.0	+3.4
LOF				IVMs_BB	IVMs_BB	07 41 11.7	
	comp=Z,15μm,17.6s						
OBN	Obninsk	132.13	51⇑	iPKIKP	PKiKP	06 46 22.8	-0.5
OBN				e		06 48 43.1	
OBN				ePPP	PPP	06 51 38.2	
OBN				eSS	SS	07 06 16.5	-5.9
OBN				pmax	pmax		
	comp=Z,56nm,2.0s						
OBN				MLR	MLR		
	comp=Z,70μm,22.0s						
MOS	Moscow	132.99	51	i PKIKP	PKiKP	06 46 33.0	+8.0
MOS				pmax	pmax		
	comp=Z,105nm,1.5s						
VRDI	Verde Repeater	134.33	317		PKPdf	06 46 24.4	-2.1
BCAR	Beaver Creek A	134.72	320		PKPdf	06 46 26.7	-0.3
EPYK	Eagle Plains	134.80	326	P	PKPdf	06 46 27.2	+0.2
	baz=124						
EPYK	Eagle Plains	134.80	326		PKiKP	06 46 28.1	-0.4
EGAK	Eagle	135.44	322		PKPdf	06 46 28.8	+0.6
DOT	Dot Lake	135.90	320		PKPdf	06 46 29.0	-0.1
SCM	Sheep Creek Mo	136.22	317	PKIKP	PKPdf	06 46 28.4	-1.5
SCM	Sheep Creek Mo	136.22	317		PKPdf	06 46 28.4	-1.5
ARCES	ARCESS Array B	136.23	30	PKhKP	PKPpre	06 46 22.6	
	comp=Z,5.5nm,0.9s,baz=288,slow=4.6,SNR=3.5						
ARE0	ARCESS Array S	136.23	30	eSS	SS	07 07 13.5	+2.1
ARE0				IVMs_BB	IVMs_BB	07 38 18.1	
	comp=Z,18μm,19.5s						
RIDG	Independent Ri	136.25	320		PKPdf	06 46 28.4	-1.4
HAMF	Hammerfest	136.31	28	eSS	SS	07 07 15.1	+2.9
HDA	Harding Lake	137.38	320	P	PKPdf	06 46 32.2	+0.4
	baz=119						
IL31		137.54	321	PKPdf	PKPdf	06 46 32.2	+0.1
ILAR	Eielson Array	137.54	321	PKIKP	PKPdf	06 46 31.9	-0.2
ILAR	Eielson Array	137.54	321	PKhKP	PKPpre	06 46 22.6	
	comp=Z,1.1nm,0.8s,baz=144,slow=0.8,SNR=17						
ILAR				PKP	PKPdf	06 46 31.7	-0.4
	comp=Z,8.0nm,0.9s,baz=163,slow=1.9,SNR=18						
ILAR	Eielson Array	137.54	321		PKPdf	06 46 31.9	-0.2
APA	Apatity	137.72	35⇑	iPKIKP	PKiKP	06 46 34.2	-0.1
APA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
FYU	Fort Yukon	137.81	323		PKPdf	06 46 32.7	+0.2
MCK	McKinley	137.81	319	PKIKP	PKPdf	06 46 32.4	-0.3
MCK	McKinley	137.81	319		PKPdf	06 46 32.4	-0.3
CCB	Clear Creek Bu	137.82	320	PKPdf	PKPdf	06 46 32.3	-0.3
WRH	Wood River Hil	137.84	320		PKPdf	06 46 32.5	-0.2
COLA	College	137.95	320⇓	ePKIKP	PKPdf	06 46 32.6	-0.2
COLA				i		06 46 35.6	
COLA	College	137.95	320		PKPdf	06 46 31.7	-1.1
TCOL	CIGO, UAF Yank	137.95	320	P	PKPdf	06 46 30.3	-2.5
	baz=118						
SKT	Skwentna	138.01	315		PKPdf	06 46 32.5	-0.6
TRF	Thorofare Moun	138.21	318		PKPdf	06 46 33.4	-0.2
BWN	Browne	138.23	319		PKPdf	06 46 33.7	+0.4
KBS	Kingsbay	138.41	16	eSKPdf	SKiKP	06 50 09.8	-1.5
KBS				eSP	SP	06 59 52.5	+1.8
KBS				eSS	SS	07 07 38.7	+1.8
KBS				IVMs_BB	IVMs_BB	07 34 06.4	
	comp=Z,16μm,33.6s						
KTH	Kantishna Hill	138.51	318		PKPdf	06 46 33.8	-0.2
PPLA	Purkeypile	138.71	316		PKPdf	06 46 34.7	+0.2
BPAW

AAK	**Ala-Archa**	**145.31**	**88**	PKPbc	**PKPbc**	**06 46 45.4**	**-1.4**
	comp=Z,31nm,0.9s,baz=189,slow=3.4,SNR=34						
AAK	**Ala-Archa**	**145.31**	**88**	P	**PKPbc**	**06 46 45.5**	**-1.4**
	SNR=21						
AAK	**Ala-Archa**	**145.31**	**88**		**PKPbc**	**06 46 45.0**	**-1.9**
GSMY	**Great Sitkin M**	**145.35**	**291**		**PKPbc**	**06 46 45.8**	**-0.6**
GSTR	**Great Sitkin T**	**145.38**	**291**	Pn	**PKPbc**	**06 46 46.3**	**-0.2**
GSTD	**Great Sitkin T**	**145.41**	**291**		**PKPdf**	**06 46 46.0**	**-0.7**
GSTD						06 47 18.4	
KZA	**Kyzart**	**145.42**	**90**	P	**PKPdf**	**06 46 46.1**	**-1.3**
	SNR=18						
NRN	**Naryn**	**145.47**	**91**	PKIKP	**PKPdf**	**06 46 47.0**	**-0.5**
NRN	**Naryn**	**145.47**	**91**		**PKPdf**	**06 46 47.0**	**-0.5**
LSA	**Lhasa**	**145.55**	**121**	PKPbc	**PKPdf**	**06 46 46.3**	**-1.9**
LSA				LR	LR		
	comp=Z,115μm,27.8s						
KBK	**Karagaybulak**	**145.59**	**88**	P	**PKPdf**	**06 46 46.4**	**-1.1**
	SNR=10						
ADK	**Adak**	**145.62**	**291**	PKIKP	**PKPdf**	**06 46 46.2**	**-0.7**
ADK	**Adak**	**145.62**	**291**		**PKPdf**	**06 46 46.2**	**-0.7**
ADK	**Adak**	**145.62**	**291**	Pn	**PKPdf**	**06 46 45.8**	**-1.1**
CHMS	**Chumysh**	**145.68**	**88**	P	**PKPdf**	**06 46 46.0**	**-1.4**
	SNR=14						
USP	**Ospenovka**	**145.69**	**87**	P	**PKPdf**	**06 46 46.0**	**-1.4**
	SNR=7.4						
KIWB	**Kanaga Island**	**145.87**	**290**	Pn	**PKPdf**	**06 46 46.7**	**-0.6**
KIMD	**Kanaga Island**	**145.87**	**290**		**PKPdf**	**06 46 46.9**	**-0.4**
KIMD						06 47 19.8	
SGDS	**Sogindy**	**145.88**	**87**	*e*PKP	**PKPdf**	**06 46 47.5**	**-0.3**
KIKV	**Kanaga Island**	**145.89**	**291**		**PKPdf**	**06 46 47.6**	**+0.2**
TKM2	**Tokmak 2**	**146.13**	**89**	P	**PKPdf**	**06 46 47.3**	**-1.1**
	SNR=6.1						
BTLS	**Baital**	**146.45**	**84**	*e*PKP2	**PKiKP**	**06 46 57.8**	**+4.9**
BTLS	**Baital**	**146.45**	**84**	*e*PKP	**PKiKP**	**06 46 57.8**	**+4.9**
KDJ	**Kajisay**	**146.59**	**91**	PKP2	**PKPdf**	**06 46 49.1**	**-0.1**
KDJ	**Kajisay**	**146.59**	**91**	PKPbc	**PKPdf**	**06 46 49.1**	**-0.1**
TARG	**Taragay, Kyrgy**	**146.71**	**92**	PKPbc	**PKPdf**	**06 46 49.9**	**+0.2**
KMI	**Kunming**	**146.72**	**141**	P	**PKiKP**	**06 47 00.3**	**+5.9**
KMI				pmax	pmax		
	comp=Z,46nm,1.6s						
MTBS	**Maitube**	**146.75**	**89**	*e*PKP	**PKiKP**	**06 46 57.3**	**+3.5**
MTBS	**Maitube**	**146.75**	**89**	*e*PKP2	**PKiKP**	**06 46 57.2**	**+3.5**
TNSS	**Tian-Shan**	**147.00**	**90**	*e*PKP	**PKPdf**	**06 46 49.4**	**-0.8**
TNSS	**Tian-Shan**	**147.00**	**90**	*e*PKIKP	**PKPdf**	**06 46 49.3**	**-0.8**
MDOK	**Medeo**	**147.13**	**89**	*e*PKP	**PKiKP**	**06 47 00.5**	**+5.9**
MDOK	**Medeo**	**147.13**	**89**	*e*PKP2	**PKiKP**	**06 47 00.5**	**+5.9**
KUU	**Kurty**	**147.14**	**88**	*e*PKP	**PKiKP**	**06 46 59.5**	**+5.0**
KUU	**Kurty**	**147.14**	**88**	*e*PKP2	**PKiKP**	**06 46 59.4**	**+5.0**
CHKK	**Chushkaly**	**147.50**	**88**	*e*PKP	**PKPab**	**06 46 58.6**	**+3.5**
CHKK	**Chushkaly**	**147.50**	**88**	*e*PKP2	**PKPab**	**06 46 58.6**	**+3.5**
PRZ	**Przheval'sk**	**147.52**	**92**	PKP2	**PKPbc**	**06 46 54.2**	**+0.8**
PRZ	**Przheval'sk**	**147.52**	**92**	PKPbc	**PKPbc**	**06 46 54.2**	**+0.8**
GZH	**Guangzhou**	**147.87**	**160**	PKPbc	**PKPbc**	**06 46 54.3**	**-0.3**
GZH				LR	LR		
	comp=Z,13μm,21.0s						
GZH				LR	LR		
	comp=Z,19μm,22.0s						
SATY	**Saty**	**147.87**	**91**	*e*PKP	**PKPbc**	**06 46 53.1**	**-1.2**
SATY	**Saty**	**147.87**	**91**	*e*PKP2	**PKPbc**	**06 46 53.0**	**-1.2**
ZHN	**Zhinishke**	**147.95**	**91**	*e*PKP2	**PKPab**	**06 47 02.9**	**+5.8**
ZHN	**Zhinishke**	**147.95**	**91**	*e*PKP	**PKPab**	**06 47 03.0**	**+5.8**
BRZS	**Berezniki**	**148.20**	**76**	*e*PKP	**PKPbc**	**06 46 54.3**	**-0.5**
BRZS	**Berezniki**	**148.20**	**76**	*e*PKP2	**PKPbc**	**06 46 54.2**	**-0.5**
BRVK	**Borovoye**	**148.20**	**69**	*e*PKIKP	**PKPdf**	**06 46 52.4**	**+1.2**
BRVK	**Borovoye**	**148.20**	**69**		**PKPbc**	**06 46 55.1**	**+0.5**
BVAR	**Borovoye Array**	**148.25**	**69**	PKIKP	**PKPdf**	**06 46 51.7**	**+0.3**
BVAR	**Borovoye Array**	**148.25**	**69**	PKPbc	**PKPdf**	**06 46 51.7**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=253,slow=1.5,SNR=15						
KPKS	**Kokpek**	**148.28**	**90**	*e*PKP	**PKPbc**	**06 46 55.5**	**+0.3**
KPKS	**Kokpek**	**148.28**	**90**	*e*PKP2	**PKPbc**	**06 46 55.5**	**+0.3**
UZB	**Uzynbulak**	**148.29**	**91**	*e*PKP2	**PKPbc**	**06 46 54.2**	**-1.1**
UZB	**Uzynbulak**	**148.29**	**91**	*e*PKP	**PKPbc**	**06 46 54.3**	**-1.1**
PDGK	**Podgornoye**	**148.67**	**91**	PKIKP	**PKPdf**	**06 46 52.6**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,372nm,1.0s						
YULB	**Yu-li**	**149.26**	**173**		**PKPbc**	**06 46 56.9**	**-1.3**
GYA	**Guiyang**	**149.30**	**147**	PKPbc	**PKiKP**	**06 46 59.0**	**-0.6**
GYA				PKPab	**sPKPab**	**06 47 12.0**	**+5.4**
SSLB	**Suanglung**	**149.63**	**173**		**PKPbc**	**06 46 58.1**	**-1.1**
KURBB	**Kurchatov Arra**	**151.84**	**78**	PKP	**PKPdf**	**06 46 57.1**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=240,slow=3.2,SNR=7.9						
KURBB				PKPbc	**PKPbc**	**06 47 01.9**	**-1.6**
	comp=Z,9.3nm,0.7s,baz=243,slow=2.7,SNR=54						
KURK	**Kurchatov**	**151.94**	**78**	PKIKP	**PKPdf**	**06 46 57.1**	**-0.1**
KURK						06 47 01.9	
KURK	**Kurchatov**	**151.94**	**78**		**PKPbc**	**06 47 01.8**	**-1.9**
MK31	**Makanchi Array**	**152.24**	**88**	*i* PKIKP	**PKPdf**	**06 47 00.7**	**+2.9**
MK31				pmax	pmax		
	comp=Z,170nm,1.0s						
MK31	**Makanchi Array**	**152.24**	**88**	PKPbc	**PKPbc**	**06 47 02.1**	**-2.5**
MKAR	**Makanchi Array**	**152.24**	**88**	PKIKP	**PKPdf**	**06 46 56.2**	**-1.6**
MKAR					**PKPbc**	**06 47 02.2**	**-2.4**
MKAR	**Makanchi Array**	**152.24**	**88**	PKP	**PKPdf**	**06 46 56.2**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=281,slow=2.2,SNR=5.7						
MKAR				PKPbc	**PKPbc**	**06 47 02.2**	**-2.4**
	comp=Z,6.9nm,0.6s,baz=242,slow=2.6,SNR=21						
MKAR	**Makanchi Array**	**152.24**	**88**		**PKPbc**	**06 47 02.4**	**-2.2**
SEM	**Semipalatinsk**	**152.75**	**79**	*e*PKIKP	**PKPbc**	**06 47 05.8**	**0.0**
SEM	**Semipalatinsk**	**152.75**	**79**	*e*PKP	**PKPbc**	**06 47 05.9**	**0.0**
ZSN	**Zaisan**	**154.09**	**88**	*e*PKP	**PKiKP**	**06 47 08.8**	**+0.1**
ZSN	**Zaisan**	**154.09**	**88**	*e*PKIKP	**PKiKP**	**06 47 08.7**	**+0.1**
BILL	**Bilibino**	**156.19**	**322**	*e*PKIKP	**PKPdf**	**06 47 01.6**	**-1.1**
BILL				*e*		06 51 15.3	
BILL				*e*SSS	SSS	07 16 49.4	
BILL				pmax	pmax		
	comp=Z,22nm,3.4s						
DGZ	**Jazzator, Alta**	**156.64**	**85**	*e*PKIKP	**PKPdf**	**06 47 03.6**	**-0.4**
ZAA0	**Zalesovo Array**	**156.64**	**74**	PKPab	**PKPab**	**06 47 32.8**	**-0.2**
ZALV	**Zalesovo Beam**	**156.64**	**74**	PKIKP	**PKPdf**	**06 47 01.1**	**-2.6**
ZALV	**Zalesovo Beam**	**156.64**	**74**	PKP	**PKPdf**	**06 47 01.1**	**-2.6**
	comp=Z,0.4nm,0.4s,baz=325,slow=1.8,SNR=2.6						
ZALV				PKPbc	PKPbc	06 47 13.0	
	comp=Z,1.3nm,0.6s,baz=267,slow=3.0,SNR=7.3						
LZH	**Lanzhou**	**156.82**	**132**	PKP	**PKPdf**	**06 47 03.5**	**-1.2**
LZH				pPKP	pPKPdf	06 47 06.5	-1.0
LZH				sPKP		06 47 07.8	
LZH				LR	LR		
	comp=Z,23μm,18.3s						
LZH				LR	LR		
	comp=Z,25μm,18.5s						
LZH				LR	LR		
	comp=Z,40μm,20.1s						
GTA	**Gaotai**	**157.57**	**121**	PKP	**PKPdf**	**06 47 04.0**	**-1.5**
NJ2	**Nanjing**	**157.58**	**166**	*e*PKP	**PKPdf**	**06 47 04.8**	**-0.8**
MAT	**Matsushiro**	**160.21**	**213**	PKP	PKPab	06 47 41.0	-7.9
PETK	**Petropavlovsk-**	**160.61**	**281**	PKP	**PKPdf**	**06 47 12.5**	**+4.0**
	comp=Z,5.8nm,1.0s,baz=90,slow=3.0,SNR=4.6						
TIY	**Taiyuan**	**161.54**	**147**	*e*PKP	**PKPdf**	**06 47 11.3**	**+1.2**
TIY				PKPab	**sPKPab**	**06 47 58.0**	**-0.4**
TIY				PP	**PP**	**06 51 42.8**	**+4.7**
TIY				SS	SS	07 11 56.5	+1.8
TIY				AMB	AMB		
	comp=Z,2μm,12.2s						
TIY				LR	LR		
	comp=Z,18μm,19.3s						
TIY				LR	LR		
	comp=Z,13μm,20.0s						
TIY				LR	LR		
	comp=Z,34μm,21.3s						
TIXI	**Tiksi**	**162.25**	**356**	*e*PKIKP	**PKPdf**	**06 47 13.7**	**+4.1**
KUR	**Kuril'sk**	**162.78**	**249**	PKIKP	**PKPdf**	**06 47 15.4**	**+4.5**
SEY	**Seymchan**	**163.25**	**313**	*e*PKIKP	**PKPdf**	**06 47 12.3**	**+1.5**
YSS	**Yuzh-Sakhalins**	**166.63**	**245**	*e*PKIKP	**PKPdf**	**06 47 08.3**	**-5.9**
SONM	**Songino Array**	**166.78**	**111**	PKP	**PKPdf**	**06 47 19.8**	**+5.3**
	comp=Z,2.0nm,0.9s,baz=190,slow=1.1,SNR=8.6						
TLY	**Talaya**	**166.94**	**92**	*e*PKIKP	PKPdf	06 47 22.2	+7.8
TLY				pmax	pmax		
	comp=Z,26nm,1.6s						
ULN	**Ulaanbaatar**	**167.16**	**112**	*de*PKIKP	**PKPdf**	**06 47 17.0**	**+2.2**
YAK	**Yakutsk**	**171.61**	**344**	*e*PKIKP	**PKPdf**	**06 47 22.8**	**+6.0**
BOD	**Bodaibo**	**172.80**	**54**	*e*PKIKP	**PKPdf**	**06 47 20.8**	**+3.3**
BOD				pmax	pmax		
	comp=Z,60nm,1.5s						
KLR	**Kul'dur**	**173.57**	**224**	*e*PKIKP	**PKPdf**	**06 47 21.2**	**+3.1**
ZEA	**Zeya**	**178.59**	**258**	*i* PKIKP	**PKPdf**	**06 47 20.0**	**+0.9**
ZEA				pmax	pmax		
	comp=N,150nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,180nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,3μm,9.0s						
ZEA				pmax	pmax		
	comp=E,1μm,12.0s						

ISCJB ***25*** *06:27:31.6±0.2, 53°.91S±0°.03×54°.76W±0°.07, h10km, mb5.8/54, MS7.1/38, Error ellipse: s-maj=6.3km s-min=4.2km az=174.8*

MOS ***25*** *06:27:32.6±1.9, 53°.87S×54°.68W, h10km, mb6.3/32, MS7.0/31, Error ellipse: s-maj=19.8km s-min=7.6km az=100.9*

IDC ***25*** *06:27:33.6±0.4, 53°.97S×54°.48W, h0km, mb5.5/24, mb1 5.5/26, mb1mx5.5/27, mbtmp5.5/26, ML5.6/2, MS6.4/1, Ms1 6.4/1, ms1mx6.1/3, Error ellipse: s-maj=14.1km s-min=11.4km az=67.0*

NEIC ***25*** *06:27:33.3±2.2, 53°.95S±0°.04×55°.0W±0°.1, h12km±2km, mb6.3/163, Ms_20 7.1/860, Mwb6.9, Mwc7.0, Mww7.0, Mwc6.9(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^19^Nm; M_{rr}-0.09; $M_{\theta\theta}$-2.89; $M_{\phi\phi}$2.97; $M_{r\theta}$0.56; $M_{\theta\phi}$0.67; $M_{\phi r}$0.14; Fault plane solution: $M_0$3.06000×10^19^ NP1:ϕ_s231.01000°, δ85.34000°, λ-9.90000°. NP2:ϕ_s321.83000°, δ80.13000°, λ-175.27000°. Principal axes: T 3.0627, Plg4.0000°, Azm277.0000°; N -0.0047, Plg79.0000°, Azm26.0000°; P -3.0580, Plg10.0000°, Azm186.0000°;*

NEIC ***25*** *06:27:43.54°.00S×54°.61W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^19^Nm; M_{rr}0.17; $M_{\theta\theta}$-2.07; $M_{\phi\phi}$1.90; $M_{r\theta}$-0.73; $M_{\theta\phi}$1.89; $M_{\phi r}$0.11; Fault plane solution: $M_0$2.84000×10^19^ NP1:ϕ_s66.00000°, δ84.00000°, λ-12.00000°. NP2:ϕ_s158.00000°, δ78.00000°, λ-174.00000°. Principal axes: T 2.6694, Plg4.0000°, Azm112.0000°; N 0.3195, Plg76.0000°, Azm220.0000°; P -2.9889, Plg13.0000°, Azm21.0000°;*

GCMT ***25*** *06:27:44.3±0.0, 54°.05S×54°.59W, h16km, MW6.9/144, Moment Tensor Solution. s143,c369; s144,c668; Duration: 7s1 Moment tensor: Scale 10^19^Nm; M_{rr}0.19±.01; $M_{\theta\theta}$-2.20±.01; $M_{\phi\phi}$2.02±.01; $M_{r\theta}$-0.75±.03; $M_{\theta\phi}$2.08±.01; $M_{\phi r}$0.26±.03; Best double couple: $M_0$3.05600×10^19^ NP1:ϕ_s67.00000°, δ81.00000°, λ-10.00000°. NP2:ϕ_s158.00000°, δ80.00000°, λ-171.00000°. Principal axes: T 2.8740, Plg1.0000°, Azm112.0000°; N 0.3710, Plg77.0000°, Azm206.0000°; P -3.2380, Plg13.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

NEIC ***25*** *06:27:44.3, 53°.98S×54°.54W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^19^Nm; M_{rr}-0.10; $M_{\theta\theta}$-2.04; $M_{\phi\phi}$2.14; $M_{r\theta}$-1.33; $M_{\theta\phi}$2.34; $M_{\phi r}$-0.70; Fault plane solution: $M_0$3.48000×10^19^ NP1:ϕ_s249.10000°, δ88.93000°, λ25.36000°. NP2:ϕ_s158.59000°, δ64.64000°, λ178.82000°. Principal axes: T 3.5824, Plg18.0000°, Azm117.0000°; N -0.2090, Plg65.0000°, Azm251.0000°; P -3.3734, Plg17.0000°, Azm21.0000°;*

ISC 25 06:27:34.7±0.2, 53°.97S±0°.04×54°.97W±0°.04, h10km, n1424, σ3.955/638, mb6.2/117, MS7.1/915, 34C-6D, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**2.97**	**319**	*ce*P	**Pn**	**06 28 23.6**	**+1.8**	
EFI	**East Falkland**	**2.97**	**319**	Pn	Pn	06 28 17.1	-4.8	
I02AR	**USHUAIA INFRAS**	**7.26**	**260**	Pn	**Pn**	**06 29 23.8**	**+3.2**	
I02AR	baz=68,slow=34,SNR=2.2			*i*		07 00 50.0		
	baz=87,slow=333,SNR=1.2							
I02AR	**USHUAIA INFRAS**	**7.26**	**260**		**Pn**	**06 29 23.8**	**+3.2**	
USHA	**Ushuaia**	**7.91**	**258**	Pn	**Pn**	**06 29 26.1**	**-3.5**	
	412nm,0.3s,baz=63,slow=14,SNR=15							
USHA				Sn	**Sn**	**06 30 54.7**	**-4.3**	
	1μm,0.3s,baz=111,slow=6.9,SNR=6.2							
USHA	**Ushuaia**	**7.91**	**258**		**Pn**	**06 29 26.1**	**-3.5**	
USHA					**Sn**	**06 30 54.7**	**-4.3**	
GO10	**Punta Arenas**	**9.61**	**268**	Pn	Pn	06 29 47.3	-5.6	
HOPE	**Hope Point**	**10.85**	**99**	Pn	**Pn**	**06 30 08.0**	**-1.9**	
GO09	**Cerro Castillo**	**10.90**	**277**	Pn	Pn	06 30 06.9	-3.7	
PMSA	**Palmer Station**	**11.77**	**199**	Pn	**Pn**	**06 30 24.2**	**+1.9**	
	18nm,0.3s,baz=26,slow=12,SNR=8.5							
PMSA	**Palmer Station**	**11.77**	**199**		**Pn**	**06 30 20.5**	**-1.8**	
TRQA	**Tornquist**	**16.63**	**340**	P	**Pn**	**06 31 26.4**	**-1.4**	
TRQA				pmax	pmax			
	comp=Z,2μm,1.0s							
TRQA	**Tornquist**	**16.63**	**340**	Pn	**Pn**	**06 31 26.4**	**-1.4**	
TRQA				IAmb	IAmb	06 32 00.0		
	comp=Z,2μm,0.9s							
PLCA	**Paso Flores**	**16.89**	**315**	P	**Pn**	**06 31 30.7**	**-0.3**	
PLCA				pmax	pmax			
	comp=Z,4μm,1.5s							
PLCA	**Paso Flores**	**16.89**	**315**	Pn	**P**	**06 31 34.4**	**+1.3**	
	comp=Z,7.4nm,0.3s,baz=164,slow=11,SNR=9.1							
PLCA	**Paso Flores**	**16.89**	**315**		**Pn**	**06 31 30.7**	**-0.3**	
PLCA				IAmb	IAmb	06 32 09.3		
	comp=Z,4μm,1.5s							
GO06	**Curarrehue**	**18.23**	**315**	P	**Pn**	**06 31 47.2**	**-0.6**	
GO05	**Huala**	**22.39**	**321**	P	**P**	**06 32 32.1**	**-0.9**	
GO05				IAmb	IAmb	06 32 56.7		
	comp=Z,1μm,1.1s							
GO05				IAMs_20	IAMs_20	06 41 44.8		
	comp=Z,181μm,20.0s							
PEL	**Peldehue**	**23.63**	**325**	P	**P**	**06 32 45.1**	**-0.8**	
PEL				pmax	pmax			
	comp=Z,6μm,1.8s							
PEL				MLR	MLR			
	comp=Z,236μm,20.0s							
PEL	**Peldehue**	**23.63**	**325**	P	**P**	**06 32 45.1**	**-0.8**	
PEL				IAMs_20	IAMs_20	06 42 55.8		
	comp=Z,236μm,20.0s							
ROC1	**El Roble**	**23.89**	**325**	P	**P**	**06 32 47.7**	**-1.0**	
CFA	**Coronel Fontan**	**24.30**	**332**	P	**P**	**06 32 50.6**	**-1.6**	
	comp=Z,114nm,0.9s,baz=165,slow=10,SNR=12							
CFA	**Coronel Fontan**	**24.30**	**332**	P	**P**	**06 32 50.6**	**-1.6**	
GO04	**Tololo Observa**	**26.41**	**328**	P	**P**	**06 33 09.3**	**-2.2**	
GO04				IAMs_20	IAMs_20	06 45 19.7		
	comp=Z,240μm,18.0s							
CPUP	**Villa Florida**	**27.67**	**355**	P	**P**	**06 33 20.3**	**-2.3**	
CPUP				pmax	pmax			
	comp=Z,290nm,1.0s							
CPUP	**Villa Florida**	**27.67**	**355**	P	**P**	**06 33 22.7**	**+0.1**	
	comp=Z,39nm,0.6s,baz=182,slow=11,SNR=7.3							
CPUP	**Villa Florida**	**27.67**	**355**	P	**P**	**06 33 20.3**	**-2.3**	
SNAA	**Sanae**	**28.34**	**148**	P	**P**	**06 33 27.8**	**-0.5**	
SNAA				pmax	pmax			
	comp=Z,675nm,1.3s							
SNAA				MLR	MLR			
	comp=Z,184μm,20.0s							
SNAA	**Sanae**	**28.34**	**148**	P	**P**	**06 33 24.1**	**-4.2**	
	comp=Z,77nm,1.0s,baz=259,slow=15,SNR=5.9							
SNAA				LR	LR	06 43 09.8		
	comp=Z,77μm,21.0s,baz=290,slow=33							
SNAA	**Sanae**	**28.34**	**148**	P	**P**	**06 33 27.8**	**-0.5**	
SNAA				IAmb	IAmb	06 34 23.4		
	comp=Z,675nm,1.3s							
SNAA				IAMs_20	IAMs_20	06 44 44.3		
	comp=Z,184μm,20.0s							
GO03	**Copiap**	**28.65**	**331**	P	**P**	**06 33 30.0**	**-1.5**	
GO03				IAmb	IAmb	06 34 08.0		
	comp=Z,373nm,0.8s							
GO03				IAMs_20	IAMs_20	06 45 42.9		
	comp=Z,305μm,19.0s							
GO02	**Mina Guanaco**	**30.77**	**333**	P	**P**	**06 33 49.4**	**-1.1**	
GO02				IAmb	IAmb	06 34 14.4		
	comp=Z,1μm,1.7s							
GO02				IAMs_20	IAMs_20	06 47 04.3		
	comp=Z,428μm,22.0s							
PB10	**IPOC Station P**	**32.60**	**333**	P	**P**	**06 34 04.2**	**-2.0**	
PB10				IAmb	IAmb	06 34 30.1		
	comp=Z,701nm,1.3s							
PB10				IAMs_20	IAMs_20	06 48 05.7		
	comp=Z,290μm,20.0s							
LVC	**Limon Verde**	**33.05**	**336**	P	**P**	**06 34 09.9**	**-0.7**	
LVC				pmax	pmax			
	comp=Z,191nm,0.9s							
LVC				MLR	MLR			
	comp=Z,236μm,22.0s							
LVC	**Limon Verde**	**33.05**	**336**	P	**P**	**06 34 10.8**	**+0.2**	
	comp=Z,28nm,0.6s,baz=144,slow=3.8,SNR=11							
LVC	**Limon Verde**	**33.05**	**336**	P	**P**	**06 34 09.9**	**-0.7**	
LVC	**Limon Verde**	**33.05**	**336**	IAMs_20	IAMs_20	06 48 22.4		
	comp=Z,236μm,22.0s							
PB04	**IPOC Station P**	**33.62**	**334**	P	**P**	**06 34 13.9**	**-1.5**	
PB04				IAmb	IAmb	06 34 43.5		
	comp=Z,368nm,1.1s							
PB04				IAMs_20	IAMs_20	06 48 41.6		
	comp=Z,362μm,21.0s							
TRIS	**Tristan da Cun**	**33.72**	**78**	P	**P**	**06 34 15.2**	**-0.7**	
TRIS				IAmb	IAmb	06 34 35.0		
	comp=Z,588nm,1.1s							
TRIS	**Tristan da Cun**	**33.72**	**78**	IAMs_20	IAMs_20	06 49 57.9		
	comp=Z,181μm,19.0s							
PB01	**IPOC Station P**	**34.69**	**336**	P	**P**	**06 34 23.6**	**-1.0**	
PB01				IAmb	IAmb	06 34 49.0		
	comp=Z,1μm,1.8s							
PB01				IAMs_20	IAMs_20	06 48 34.0		
	comp=Z,322μm,22.0s							
GO01	**Chusmiza**	**35.94**	**337**	P	**P**	**06 34 33.8**	**-2.0**	
GO01				IAMs_20	IAMs_20	06 49 26.2		
	comp=Z,298μm,22.0s							
PB11	**IPOC Station P**	**35.96**	**336**	P	**P**	**06 34 34.9**	**-0.7**	
PB11				IAMs_20	IAMs_20	06 50 10.8		
	comp=Z,225μm,22.0s							
QSPA	**South Pole Qui**	**36.28**	**180**	P	**P**	**06 34 36.8**	**-1.1**	
	comp=Z,505nm,1.0s,baz=177,slow=2.6,SNR=14							
QSPA	**South Pole Qui**	**36.28**	**180**	P	**P**	**06 34 37.1**	**-0.8**	
QSPA	**South Pole Qui**	**36.28**	**180**	IAMs_20	IAMs_20	06 49 04.6		
	comp=Z,180μm,22.0s							
MNMC	**Minye Minye**	**36.56**	**336**	P	**P**	**06 34 38.5**	**-2.3**	
MNMC				IAMs_20	IAMs_20	06 51 44.5		
	comp=Z,195μm,19.0s							
SIV	**San Ignacio**	**38.20**	**350**	P	**P**	**06 34 52.9**	**-1.6**	
	comp=Z,27nm,0.6s,baz=154,slow=9.6,SNR=4.1							
SIV				PKPPKP	P'P'df	07 07 40.0	+12	
	comp=Z,1.9nm,1.0s,baz=26,slow=5.9,SNR=3.5							
SIV	**San Ignacio**	**38.20**	**350**	P	**P**	**06 34 52.9**	**-1.6**	
BDFB	**Brasilia**	**38.63**	**11**	P	**P**	**06 34 56.0**	**-2.2**	
BDFB				pmax	pmax			
	comp=Z,263nm,0.8s							
BDFB				MLR	MLR			
	comp=Z,449μm,22.0s							
BDFB	**Brasilia**	**38.63**	**11**	P	**P**	**06 34 57.9**	**-0.3**	
	comp=Z,107nm,1.0s,baz=132,slow=6.3,SNR=7.5							
BDFB	**Brasilia**	**38.63**	**11**	P	**P**	**06 34 56.0**	**-2.2**	
BDFB				IAMs_20	IAMs_20	06 49 51.7		
	comp=Z,449μm,22.0s							
LPAZ	**La Paz**	**38.98**	**340**	P	**P**	**06 34 59.4**	**-2.3**	
LPAZ				pmax	pmax			
	comp=Z,680nm,1.5s							
LPAZ	**La Paz**	**38.98**	**340**	P	**P**	**06 35 03.4**	**+1.7**	
	comp=Z,19nm,0.7s,baz=69,slow=10,SNR=6.2							
LPAZ				PKPPKP	P'P'df	07 07 51.0	+22	
	comp=Z,2.4nm,0.9s,baz=291,slow=4.8,SNR=3.7							
LPAZ	**La Paz**	**38.98**	**340**	P	**P**	**06 34 59.4**	**-2.3**	
LPAZ				IAmb	IAmb	06 35 28.5		
	comp=Z,680nm,1.5s							
NNA	**Nana**	**45.34**	**329**	P	**P**	**06 35 51.6**	**-1.3**	
NNA				pmax	pmax			
	comp=Z,655nm,1.4s							
NNA				MLR	MLR			
	comp=Z,135μm,19.0s							
NNA	**Nana**	**45.34**	**329**	P	**P**	**06 35 53.5**	**+0.6**	
	comp=Z,114nm,1.3s,baz=224,slow=12,SNR=6.1							
NNA	**Nana**	**45.34**	**329**	P	**P**	**06 35 51.6**	**-1.3**	
NNA				IAmb	IAmb	06 36 05.1		
	comp=Z,655nm,1.4s							
NNA	**Nana**	**45.34**	**329**	IAMs_20	IAMs_20	06 55 41.0		
	comp=Z,135μm,19.0s							
SAML	**Samuel**	**45.38**	**349**	P	**P**	**06 35 52.1**	**-1.1**	
SAML				pmax	pmax			
	comp=Z,345nm,1.3s							
SAML				MLR	MLR			
	comp=Z,263μm,22.0s							
SAML	**Samuel**	**45.38**	**349**	P	**P**	**06 35 52.1**	**-1.1**	
SAML				IAmb	IAmb	06 36 15.1		
	comp=Z,345nm,1.3s							
SAML	**Samuel**	**45.38**	**349**	IAMs_20	IAMs_20	06 55 27.5		
	comp=Z,263μm,22.0s							
SBA	**Scott Base**	**45.96**	**191**	P	**P**	**06 35 55.8**	**-1.3**	
SBA				pmax	pmax			
	comp=Z,2μm,1.9s							
**SBA

BOSA Boshof 61.80 101 P **P 06 37 54.9 +1.2**
comp=Z,20nm,0.7s,baz=228,slow=6.5,SNR=5.3
BOSA S S 06 46 07.3 -10
comp=Z,3.0nm,0.8s,baz=276,slow=0.8,SNR=3.0
BOSA PKPPKP P'P'df 07 07 23.3 +16
comp=Z,4.3nm,1.0s,baz=352,slow=3.8,SNR=3.1
BOSA Boshof 61.80 101 P **P 06 37 52.6 -1.1**
CRZF Crozet Islands 62.33 132 P **P 06 37 56.5 -0.3**
CRZF IAmb IAmb 06 38 25.3
comp=Z,180nm,1.1s
CRZF IAMs_20 IAMs_20 07 00 15.4
comp=Z,82μm,22.0s
SDV Santo Domingo 64.01 343 P **P 06 38 08.7 +0.3**
comp=Z,41nm,0.8s,baz=217,slow=9.7,SNR=6.0
SDV Santo Domingo 64.01 343 P **P 06 38 05.9 -2.6**
SDV IAmb IAmb 06 38 30.2
comp=Z,324nm,1.2s
SDV Santo Domingo 64.01 343 P **P 06 38 08.7 +0.3**
SDV Santo Domingo 64.01 343 IAMs_20 IAMs_20 07 08 24.0
comp=Z,161μm,20.0s
PLCV Puerto La Cruz 64.41 349 P **P 06 38 12.0 +1.2**
PCRV Puerto La Cruz 64.42 349 P **P 06 38 12.0 +1.0**
comp=Z,130nm,1.0s,baz=152,slow=2.9,SNR=9.8
PCRV S S 06 46 59.7 +10
comp=Z,45nm,1.2s,baz=12,slow=11,SNR=2.5
TSUM Tsumeb 64.45 88 P **P 06 38 07.0 -4.4**
comp=Z,19nm,0.8s,baz=268,slow=8.1,SNR=5.8
TSUM S **S 06 46 48.0 -2.4**
comp=Z,7.5nm,1.2s,baz=316,slow=23,SNR=1.7
TSUM Tsumeb 64.45 88 P **P 06 38 10.8 -0.7**
TSUM IAmb IAmb 06 38 50.0
comp=Z,254nm,1.2s
TSUM Tsumeb 64.45 88 IAMs_20 IAMs_20 07 01 35.5
comp=Z,152μm,22.0s
LBTB Lobatse 64.71 98 P **P 06 38 11.5 -1.5**
LBTB pmax pmax
comp=Z,517nm,1.2s
LBTB Lobatse 64.71 98 P **P 06 38 11.3 -1.7**
comp=Z,38nm,0.5s,baz=217,slow=6.8,SNR=16
LBTB Lobatse 64.71 98 P **P 06 38 11.5 -1.5**
TOSP Speyside 65.19 354 P **P 06 38 14.6 -1.2**
TOSP IAmb IAmb 06 39 14.8
comp=Z,181nm,1.3s
GRGR Grenville 66.09 353 P **P 06 38 19.8 -1.9**
GRGR IAMs_20 IAMs_20 07 08 33.3
comp=Z,147μm,22.0s
BCIP Isla Barro Col 66.33 333 P **P 06 38 21.5 -1.8**
BCIP pmax pmax
comp=Z,402nm,1.3s
BCIP MLR MLR
comp=Z,98μm,22.0s
BCIP Isla Barro Col 66.33 333 P **P 06 38 21.5 -1.8**
BCIP IAmb IAmb 06 39 19.1
comp=Z,402nm,1.2s
BCIP IAMs_20 IAMs_20 07 08 59.4
comp=Z,98μm,22.0s
BBGH Gun Hill 66.96 355 IAMs_20 IAMs_20 07 11 18.5
comp=Z,192μm,22.0s
SVB Belmont 67.19 353 P **P 06 38 26.5 -2.3**
MCLT Moule a Chique 67.60 354 P **P 06 38 29.8 -1.5**
MCQ Macquarie Isla 68.32 201 P **P 06 38 36.8 +1.3**
MCQ pmax pmax
comp=Z,1μm,1.8s
MCQ Macquarie Isla 68.32 201 P **P 06 38 36.8 +1.3**
MCQ IAMs_20 IAMs_20 07 05 09.6
comp=Z,40μm,18.0s
HDC Heredia 68.35 329 P **P 06 38 34.8 -1.4**
HDC IAMs_20 IAMs_20 07 12 46.8
comp=Z,43μm,19.0s
FDF Fort de France 68.63 354 P **P 06 38 37.3 -0.6**
FDF pmax pmax
comp=Z,1μm,1.9s
FDF MLR MLR
comp=Z,120μm,21.0s
FDF Fort de France 68.63 354 P **P 06 38 37.3 -0.6**
FDF IAMs_20 IAMs_20 07 12 53.5
comp=Z,120μm,21.0s
JTS Las Juntas de 68.88 328 *ceP* **P 06 38 38.0 -1.4**
JTS pmax pmax
comp=Z,169nm,1.4s
JTS Las Juntas de 68.88 328 IAMs_20 IAMs_20 07 11 10.9
comp=Z,60μm,21.0s
ESPN Las Esperanzas 70.48 329 P **P 06 38 48.1 -1.1**
ESPN IAmb IAmb 06 39 00.2
comp=Z,358nm,1.2s
ESPN IAMs_20 IAMs_20 07 11 38.3
comp=Z,97μm,22.0s
ACON Acoyapa 70.53 329 P **P 06 38 48.7 -0.8**
ACON IAmb IAmb 06 39 02.1
comp=Z,208nm,1.0s
ACON IAMs_20 IAMs_20 07 11 39.6
comp=Z,58μm,20.0s
SKI Saint Kitts 71.33 352 P **P 06 38 53.2 -1.1**
SKI pmax pmax
comp=Z,642nm,1.3s
SKI Saint Kitts 71.33 352 P **P 06 38 53.2 -1.1**
SEUS St. Eustatius 71.50 352 P **P 06 38 54.1 -1.2**
SEUS IAMs_20 IAMs_20 07 13 05.8
comp=Z,112μm,21.0s
ANWB Willy Bob 71.59 353 P **P 06 38 54.0 -1.9**
ANWB IAmb IAmb 06 39 22.4
comp=Z,242nm,0.9s
ANWB IAMs_20 IAMs_20 07 14 06.0
comp=Z,89μm,22.0s
SABA Saba 71.65 352 P **P 06 38 55.3 -1.0**
SABA IAmb IAmb 06 39 18.6
comp=Z,552nm,1.4s
SABA IAMs_20 IAMs_20 07 13 07.8
comp=Z,141μm,21.0s
ESTN Estel 71.97 328 P **P 06 38 57.4 -1.0**
ESTN IAmb IAmb 06 39 48.4
comp=Z,284nm,1.1s
ESTN IAMs_20 IAMs_20 07 13 26.8
comp=Z,72μm,20.0s
PDPR Patillas Dam, 72.32 349 P **P 06 38 58.2 -2.0**
MTP Monte Pirata 72.35 349 P **P 06 38 58.8 -1.7**
MLPR Magueyes Islan 72.39 348 P **P 06 38 59.2 -1.5**
MLPR IAmb IAmb 06 39 22.5
comp=Z,282nm,1.1s
OBIP Obispado Ponce 72.41 348 P **P 06 38 58.6 -2.2**
OBIP IAmb IAmb 06 40 10.8
comp=Z,460nm,1.6s
OBIP IAMs_20 IAMs_20 07 12 18.9
comp=Z,127μm,22.0s
HUMP Col San Antoni 72.42 349 P **P 06 38 59.2 -1.6**
SJG San Juan 72.43 349 P **P 06 38 59.3 -1.6**
SJG pmax pmax
comp=Z,188nm,1.4s
SJG MLR MLR
comp=Z,123μm,22.0s
SJG San Juan 72.43 349 P **P 06 38 59.3 -1.6**
SJG San Juan 72.43 349 IAMs_20 IAMs_20 07 12 44.3
comp=Z,123μm,22.0s
CRPR Cabo Rojo, PR 72.44 348 P **P 06 38 58.8 -2.1**
CRPR IAmb IAmb 06 40 05.5
comp=Z,302nm,1.1s
STVI Saint Thomas 72.54 350 P **P 06 39 00.6 -0.9**
STVI IAmb IAmb 06 40 00.7
comp=Z,294nm,1.1s
CBYP Canovanas 72.55 349 P **P 06 38 59.9 -1.9**
GCPR Guaynabo City 72.62 349 P **P 06 38 59.9 -2.2**
MPR Mayaguez 72.65 348 P **P 06 38 59.9 -2.3**
AOPR Arecibo Observ 72.73 348 P **P 06 39 00.5 -2.2**
ABVI Anegada Island 72.85 351 P **P 06 39 01.5 -1.9**
AGPR Aguadilla, PR 72.89 348 P **P 06 39 01.2 -2.5**
AGPR IAmb IAmb 06 41 25.5
comp=Z,318nm,1.4s
PCDR Punta Cana, DR 73.11 347 P **P 06 39 03.7 -1.2**
PCDR IAmb IAmb 06 39 37.4
comp=Z,286nm,0.8s
TGUH Tegucigalpa,Un 73.15 327 P **P 06 39 04.4 -1.1**
TGUH IAmb IAmb 06 39 36.9
comp=Z,446nm,1.3s
TGUH IAMs_20 IAMs_20 07 13 56.2
comp=Z,76μm,21.0s
SDD Santo Domingo 73.27 345 IAMs_20 IAMs_20 07 13 31.7
comp=Z,203μm,22.0s
BANI BANI 73.27 345 P **P 06 39 04.7 -1.3**
SNET Serv Nac Est T 73.45 325 P **P 06 39 06.3 -0.8**
SNET IAmb IAmb 06 40 10.4
comp=Z,670nm,1.6s
SNET IAMs_20 IAMs_20 07 11 36.0
comp=Z,76μm,20.0s
DR12 Loma Pena Alta 73.52 346 P **P 06 39 05.5 -2.0**
DBIC Dimbokro 73.55 53 P **P 06 39 06.9 -0.8**
DBIC pmax pmax
comp=Z,574nm,1.6s
DBIC Dimbokro 73.55 53 P **P 06 39 06.7 -1.0**
comp=Z,20nm,0.7s,baz=184,slow=5.8,SNR=7.8
DBIC S **SKiKP 06 48 44.5 +6.5**
comp=Z,3.0nm,0.8s,baz=91,slow=12,SNR=2.7
DBIC Dimbokro 73.55 53 P **P 06 39 06.9 -0.8**
DBIC IAmb IAmb 06 39 31.3
comp=Z,574nm,1.6s
SACV Santiago Islan 73.71 32 IAMs_20 IAMs_20 07 06 48.1
comp=Z,46μm,21.0s
LGNH Logne 73.76 343 P **P 06 39 10.3 +1.5**
LSZ Lusaka 73.78 94 *i* P **P 06 39 08.2 -1.2**
LSZ Lusaka 73.78 94 P **P 06 39 09.5 +0.1**
LSZ pmax pmax
comp=Z,1μm,1.8s
LSZ Lusaka 73.78 94 *i* P **P 06 39 08.2 -1.2**
LSZ Lusaka 73.78 94 P **P 06 39 09.5 +0.1**
LSZ Lusaka 73.78 94 IAMs_20 IAMs_20 07 10 07.3
comp=Z,155μm,20.0s
ODZ Otahua Downs 73.97 212 P **P 06 39 08.3 -1.7**
ODZ IAmb IAmb 06 39 49.5
comp=Z,422nm,1.6s
ODZ IAMs_20 IAMs_20 07 07 44.6
comp=Z,36μm,18.0s
SDDR Presa de Saban 74.00 344 P **P 06 39 08.9 -1.4**
SDDR IAmb IAmb 06 39 48.1
comp=Z,349nm,1.5s
SDDR IAMs_20 IAMs_20 07 14 10.9
comp=Z,95μm,21.0s
TBI Tubuai 74.01 252 *eP* **P 06 39 11.5 +1.0**
comp=Z,721nm,1.2s
TBI *eS* **S 06 48 41.4 -1.5**
comp=Z,33μm,32.0s
TBI Tubuai 74.01 252 *eLQ* LQ 06 58 50.3
comp=Z,46μm,32.5s
TBI *eLR* LR 07 01 49.7
comp=Z,176μm,23.5s,baz=147
WHZ Wether Hill Ro 74.02 210 P **P 06 39 08.4 -1.8**
WHZ IAmb IAmb 06 39 38.3
comp=Z,253nm,1.1s
WHZ IAMs_20 IAMs_20 07 16 09.7
comp=Z,33μm,19.0s
SC01 Santiago de Io 74.35 345 P **P 06 39 11.6 -0.7**
SC01 IAmb IAmb 06 39 40.3
comp=Z,404nm,1.2s
SC01 IAMs_20 IAMs_20 07 13 34.1
comp=Z,74μm,22.0s
MLZ Mavora Lakes 74.45 210 P **P 06 39 12.6 -0.2**
MLZ IAMs_20 IAMs_20 07 14 22.1
comp=Z,43μm,18.0s
MTDJ Mount Denham 74.47 338 IAMs_20 IAMs_20 07 15 58.4
comp=Z,80μm,21.0s
MQZ McQueen's Vall 74.53 214 IAMs_20 IAMs_20 07 07 43.4
comp=Z,57μm,18.0s
DCZ Deep Cove 74.64 209 P **P 06 39 13.0 -0.8**
DCZ IAmb IAmb 06 39 28.9
comp=Z,284nm,1.2s
DCZ IAMs_20 IAMs_20 07 16 05.1
comp=Z,30μm,20.0s
CRLZ Canterbury Las 74.66 214 IAMs_20 IAMs_20 07 07 47.7
comp=Z,59μm,18.0s
WKZ Wanaka 74.67 211 P **P 06 39 15.1 +1.1**
WKZ IAMs_20 IAMs_20 07 07 52.9
comp=Z,44μm,20.0s
LBZ Lake Benmore 74.71 212 P **P 06 39 15.0 +0.8**
LBZ IAmb IAmb 06 39 29.5
comp=Z,321nm,1.4s
LBZ IAMs_20 IAMs_20 07 08 07.0
comp=Z,39μm,19.0s
RPZ Rata Peaks 75.04 213 P **P 06 39 14.3 -1.8**
RPZ IAmb IAmb 06 39 55.7
comp=Z,623nm,1.5s
RPZ IAMs_20 IAMs_20 07 14 01.8
comp=Z,47μm,18.0s
OXZ Oxford 75.07 214 P **P 06 39 14.4 -1.9**
OXZ IAmb IAmb 06 39 55.7
comp=Z,492nm,1.6s
OXZ IAMs_20 IAMs_20 07 07 59.7
comp=Z,41μm,18.0s
KHZ Kahutara 75.38 215 P **P 06 39 19.7 +1.6**
KHZ IAmb IAmb 06 39 57.1
comp=Z,566nm,1.9s
KHZ IAMs_20 IAMs_20 07 08 09.0
comp=Z,57μm,19.0s
LTZ Lake Taylor 75.48 214 P **P 06 39 17.9 -0.8**
LTZ IAmb IAmb 06 39 58.2
comp=Z,799nm,1.9s
LTZ IAMs_20 IAMs_20 07 08 13.5
comp=Z,59μm,19.0s
PLWZ Palliser 75.54 217 P **P 06 39 18.4 -0.7**
FOZ Fox Glacier 75.59 212 IAMs_20 IAMs_20 07 11 55.5
comp=Z,51μm,19.0s
GTBY Guantanamo Bay 75.61 340 P **P 06 39 17.8 -1.7**
GTBY IAmb IAmb 06 39 36.3
comp=Z,276nm,1.1s
GTBY IAMs_20 IAMs_20 07 16 00.3
comp=Z,61μm,21.0s
MSWZ Moikau Station 75.68 217 P **P 06 39 17.8 -2.0**
CMWZ Cape Campbell 75.74 216 P **P 06 39 18.5 -1.7**
BHW Baring Head 75.82 216 P **P 06 39 18.4 -2.3**
BSWZ Blackbirch Sta 75.89 216 P **P 06 39 19.2 -1.9**
SNZO South Karori 75.96 216 IAMs_20 IAMs_20 07 08 41.4
comp=Z,38μm,20.0s
BFZ Birch Farm 75.97 218 P **P 06 39 19.2 -2.3**
BFZ IAmb IAmb 06 39 50.4
comp=Z,178nm,1.0s
BFZ IAMs_20 IAMs_20 07 12 41.9
comp=Z,54μm,18.0s
TUWZ Tuamarina 76.12 216 P **P 06 39 19.7 -2.7**
THZ Tophouse 76.18 215 P **P 06 39 21.1 -1.7**
THZ IAmb IAmb 06 40 14.0
comp=Z,612nm,1.6s
THZ IAMs_20 IAMs_20 07 08 37.0
comp=Z,74μm,20.0s
FSCY Frank Sound, G 76.39 335 P **P 06 39 20.6 -3.4**
CBCY The Bluff, Cay 76.45 336 P **P 06 39 21.3 -3.0**
GRTK Grand Turk 76.45 345 IAMs_20 IAMs_20 07 15 58.7
comp=Z,66μm,22.0s
NNZ Nelson 76.50 215 P **P 06 39 22.3 -2.3**
NNZ IAMs_20 IAMs_20 07 09 12.7
comp=Z,38μm,20.0s
CCIG Comitan 76.86 323 P **P 06 39 24.5 -2.5**
CCIG IAmb IAmb 06 39 46.2
comp=Z,238nm,0.9s
CCIG IAMs_20 IAMs_20 07 12 12.4
comp=Z,116μm,22.0s
QRZ Quartz Range 77.14 215 P **P 06 39 26.3 -1.9**
QRZ IAmb IAmb 06 39 42.0
comp=Z,488nm,1.3s
QRZ IAMs_20 IAMs_20 07 09 17.6
comp=Z,53μm,20.0s
BKZ Black Stump Fm 77.21 219 P **P 06 39 25.6 -3.1**
BKZ IAMs_20 IAMs_20 07 07 50.6
comp=Z,47μm,20.0s
MEH Mehetia 77.54 257 *eP* **P 06 39 31.6 +0.9**
comp=Z,70nm,1.1s
URZ Urewera 77.78 219 P **P 06 39 33.1 +1.4**
comp=Z,30nm,0.9s,baz=327,slow=10,SNR=4.7
URZ Urewera 77.78 219 P **P 06 39 31.9 +0.1**
URZ IAMs_20 IAMs_20 07 14 08.6
comp=Z,51μm,19.0s
MXZ Matakaoa Point 77.93 221 IAMs_20 IAMs_20 07 14 20.8
comp=Z,59μm,19.0s
TVO Taravao 78.30 256 *eP* **P 06 39 35.9 +0.9**
comp=Z,154nm,1.2s
HIZ Hauiti 78.39 218 P **P 06 39 32.5 -2.6**
HIZ IAmb IAmb 06 40 01.2
comp=Z,311nm,1.2s
HIZ IAMs_20 IAMs_20 07 08 21.6
comp=Z,33μm,20.0s
TIAR Tiarei 78.53 256 *eP* **P 06 39 37.2 +1.0**
comp=Z,62nm,1.1s
PAE Paea 78.58 256 *eP* **P 06 39 37.4 +0.9**
comp=Z,12nm,0.8s
PPTF Pamatai, Papee 78.63 256 IAMs_20 IAMs_20 07 08 03.7
comp=Z,128μm,22.0s
PPT2 Papeete2 78.64 256 *eP* **P 06 39 37.3 +0.4**
comp=Z,108nm,1.1s
PPT Papeete 78.65 256 P P 06 39 46.2 +9.3
comp=Z,39nm,0.7s,baz=150,slow=7.8,SNR=5.8
PPT Papeete 78.65 256 P P 06 39 46.2 +9.3
TEIG Tepich 79.26 328 P **P 06 39 38.7 -1.2**
TEIG IAmb IAmb 06 40 08.8
comp=Z,415nm,1.0s
TEIG Tepich 79.26 328 IAMs_20 IAMs_20 07 20 55.0
comp=Z,32μm,20.0s
VAH Vaihoa 79.38 259 *eP* **P 06 39 41.5 +0.6**
comp=Z,446nm,1.2s
PMOR Pomariorio Ree 79.72 259 *eP* **P 06 39 43.4 +0.7**
comp=Z,250nm,1.3s
TAOE Nuku Hiva Isla 80.07 269 *eP* **P 06 39 45.4 +0.6**
comp=Z,1μm,1.5s
TAOE Nuku Hiva Isla 80.07 269 *eS* **S 06 49 47.2 -2.1**
comp=Z,10μm,30.8s
TAOE Nuku Hiva Isla 80.07 269 *eLQ* LQ 07 01 18.2
comp=Z,129μm,36.6s
TAOE *eLR* LR 07 04 48.0
comp=Z,217μm,24.0s
TAOE Nuku Hiva Isla 80.07 269 IAMs_20 IAMs_20 07 10 00.9
comp=Z,73μm,20.0s
TLIG Tlapa 80.44 318 P **P 06 39 45.1 -1.4**
TLIG IAmb IAmb 06 40 10.3
comp=Z,437nm,1.6s
TLIG IAMs_20 IAMs_20 07 14 46.9
comp=Z,100μm,19.0s
RAR Rarotonga 81.41 246 P **P 06 39 49.9 -1.8**
RAR pmax pmax
comp=Z,896nm,1.7s
RAR MLR MLR
comp=Z,36μm,19.0s
RAR Rarotonga 81.41 246 P **P 06 39 54.2 +2.5**
comp=Z,34nm,0.9s,baz=153,slow=15,SNR=3.9
RAR Rarotonga 81.41 246 P **P 06 39 49.9 -1.8**
RAR Rarotonga 81.41 246 IAMs_20 IAMs_20 07 17 14.7
comp=Z,36μm,19.0s
TAU Tasmania Unive 81.62 196 P **P 06 39 50.6 -1.9**
TAU pmax pmax
comp=Z,315nm,1.3s
TAU MLR MLR
comp=Z,35μm,18.0s
TAU Tasmania Unive 81.62 196 P **P 06 39 50.6 -1.9**
TAU IAmb IAmb 06 40 50.4
comp=Z,315nm,1.3s
TAU Tasmania Unive 81.62 196 IAMs_20 IAMs_20 07 19 12.3
comp=Z,35μm,18.0s
ABPO Ambohimpanom 81.76 111 IAMs_20 IAMs_20 07 08 38.5
comp=Z,130μm,22.0s
OUZ Omahuta 81.77 218 P **P 06 39 51.1 -2.4**
OUZ IAmb IAmb 06 40 08.2
comp=Z,224nm,1.0s
OUZ IAMs_20 IAMs_20 07 16 46.3
comp=Z,38μm,18.0s
TOC5 Torodi Ar. Sit 82.28 55 IAMs_20 IAMs_20 07 09 46.5
comp=Z,217μm,22.0s
TOC4 Torodi Ar. Sit 82.28 55 IAMs_20 IAMs_20 07 09 35.6
comp=Z,200μm,22.0s
TOB4 Torodi Ar. Sit 82.29 55 IAMs_20 IAMs_20 07 09 35.8
comp=Z,197μm,22.0s
TOA3 Torodi Ar. Sit 82.30 55 IAMs_20 IAMs_20 07 09 25.0
comp=Z,190μm,22.0s
TOB3 Torodi Ar. Sit 82.30 55 IAMs_20 IAMs_20 07 09 25.1
comp=Z,190μm,22.0s
TOB5 Torodi Ar. Sit 82.30 55 IAMs_20 IAMs_20 07 09 25.1
comp=Z,202μm,22.0s
TOA0 Torodi Ar. Sit 82.30 55 IAMs_20 IAMs_20 07 09 48.2
comp=Z,189μm,22.0s
TORD Torodi Ar. Bea 82.30 55 P **P 06 39 55.8 -0.5**
comp=Z,31nm,0.7s,baz=212,slow=5.2,SNR=11
TORD PKKPbc PKKPbc 06 58 33.8 +12
comp=Z,2.7nm,0.8s,baz=52,slow=1.4,SNR=4.2
TORD PKPPKP P'P'df 07 06 46.7 +21
comp=Z,3.3nm,1.2s,baz=1.6,slow=2.9,SNR=4.3
TORD Torodi Ar. Bea 82.30 55 P **P 06 39 53.9 -2.5**
TOA1 Torodi Ar. Sit 82.31 55 IAMs_20 IAMs_20 07 09 47.5
comp=Z,187μm,22.0s
TOA2 Torodi Ar. Sit 82.31 55 IAMs_20 IAMs_20 07 09 24.2
comp=Z,193μm,22.0s
TOC3 Torodi Ar. Sit 82.31 55 IAMs_20 IAMs_20 07 09 24.3
comp=Z,193μm,22.0s
TOC7 Torodi Ar. Sit 82.31 55 IAMs_20 IAMs_20 07 09 45.3
comp=Z,191μm,22.0s
TOB1 Torodi Ar. Sit 82.31 55 IAMs_20 IAMs_20 07 10 09.5
comp=Z,787nm,20.0s
TOB2 Torodi Ar. Sit 82.31 55 IAMs_20 IAMs_20 07 09 47.5
comp=Z,192μm,22.0s
TOC2 Torodi Ar. Sit 82.32 55 IAMs_20 IAMs_20 07 09 36.9
comp=Z,200μm,22.0s
TOC1 Torodi Ar. Sit 82.33 55 IAMs_20 IAMs_20 07 09 36.0
comp=Z,232μm,22.0s
061Z Ochoppi 82.61 337 IAMs_20 IAMs_20 07 23 01.0
comp=Z,48μm,22.0s
RAO Raoul Island 83.60 228 IAMs_20 IAMs_20 07 14 45.7
comp=Z,21μm,21.0s
060A Indiantown 83.61 337 IAMs_20 IAMs_20 07 21 27.5
comp=Z,76μm,20.0s
RER Riviere de l'E 84.58 119 IAMs_20 IAMs_20 07 13 00.0
comp=Z,53μm,20.0s
DWPF Disney Wildern 84.89 337 IAMs_20 IAMs_20 07 22 52.4
comp=Z,56μm,20.0s
658A Bunnell 86.11 337 IAMs_20 IAMs_20 07 16 28.7
comp=Z,57μm,22.0s
656A Willston 86.36 336 IAMs_20 IAMs_20 07 19 57.3
comp=Z,41μm,22.0s
BBSR BB Station 86.40 352 IAMs_20 IAMs_20 07 18 55.4
comp=Z,77μm,22.0s
ZAIG Zacatecas 86.72 317 IAMs_20 IAMs_20 07 22 01.4
comp=Z,95μm,18.0s
MBAR Mbarara 86.98 87 IAMs_20 IAMs_20 07 14 40.5
comp=Z,231μm,21.0s
TOO Toolangi 87.13 196 IAMs_20 IAMs_20 07 19 53.1
comp=Z,44μm,19.0s
456A Hilliard 87.54 337 IAMs_20 IAMs_20 07 25 16.6
comp=Z,67μm,19.0s
453A Whigham 88.22 335 P **P 06 40 25.5 0.0**
453A IAMs_20 IAMs_20 07 20 20.4
comp=Z,34μm,22.0s
451A Vernon 88.36 334 IAMs_20 IAMs_20 07 22 01.1
comp=Z,54μm,22.0s
NIUE Niue 88.49 239 IAMs_20 IAMs_20 07 13 42.7
comp=Z,51μm,22.0s
257A Skidaway Islan 88.52 338 IAMs_20 IAMs_20 07 27 20.4
comp=Z,64μm,20.0s
TIGA Tifton 88.60 336 P **P 06 40 27.2 -0.1**
TIGA IAMs_20 IAMs_20 07 22 27.5
comp=Z,59μm,22.0s
CAN Canberra 88.69 199 IAMs_20 IAMs_20 07 17 03.4
comp=Z,28μm,19.0s
255A Hazlehurst 88.80 337 P **P 06 40 27.7 -0.5**
255A IAMs_20 IAMs_20 07 24 13.9
comp=Z,59μm,21.0s
352A Blakely 88.97 335 P **P 06 40 27.9 -1.1**
352A IAMs_20 IAMs_20 07 21 50.2
comp=Z,29μm,22.0s
BRAL Brewton 89.23 333 P **P 06 40 28.8 -1.5**
BRAL IAMs_20 IAMs_20 07 23 09.1
comp=Z,54μm,22.0s
RGRS Roger Stewart 89.24 339 P **P 06 40 28.2 -2.1**
KVTX Kingsville 89.26 323 IAMs_20 IAMs_20 07 28 06.8
comp=Z,47μm,18.0s
253A Americus 89.32 336 P **P 06 40 29.6 -1.1**
253A IAMs_20 IAMs_20 07 26 32.7
comp=Z,80μm,20.0s
NHSC New Hope 89.43 339 IAMs_20 IAMs_20 07 22 29.5
comp=Z,50μm,21.0s
154A Montrose 89.61 337 P **P 06 40 31.0 -1.0**
154A IAmb IAmb 06 40 48.0
comp=Z,267nm,1.1s
154A IAMs_20 IAMs_20 07 25 03.2
comp=Z,59μm,21.0s
250A Grady 89.78 334 IAMs_20 IAMs_20 07 25 29.9
comp=Z,52μm,20.0s
Z56A Williston 89.89 338 P **P 06 40 31.6 -1.7**
Z56A IAmb IAmb 06 41 10.9
comp=Z,327nm,1.5s
Z56A IAMs_20 IAMs_20 07 21 19.8
comp=Z,89μm,22.0s
Y60A Bolivia 89.90 341 IAMs_20 IAMs_20 07 21 04.0
comp=Z,70μm,21.0s
LHI Lord Howe Isla 89.91 209 IAMs_20 IAMs_20 07 22 39.2
comp=Z,16μm,20.0s
Y59A Loris 90.01 340 IAMs_20 IAMs_20 07 23 01.0
comp=Z,68μm,22.0s
152A Waverly Hall 90.05 335 IAMs_20 IAMs_20 07 26 56.9
comp=Z,80μm,20.0s
Y58A Scranton 90.09 340 IAMs_20 IAMs_20 07 21 29.1
comp=Z,66μm,21.0s
Y57A Sumter 90.35 339 IAMs_20 IAMs_20 07 29 24.8
comp=Z,43μm,20.0s
KMBO Kilima Mbogo 90.41 92 P **P 06 40 35.8 -0.9**
KMBO pmax pmax
comp=Z,120nm,1.7s
KMBO MLR MLR
comp=Z,163μm,20.0s

KMBO	Kilima Mbogo	90.41	92	eP	P	06 40 45.9	+9.2
KMBO				eS	PP	06 44 20.1	+9.2
KMBO	Kilima Mbogo	90.41	92	P	P	06 40 36.7	0.0
	comp=Z,1.5nm,0.5s,baz=183,slow=9.8,SNR=3.2						
KMBO	Kilima Mbogo	90.41	92	P	P	06 40 35.8	-0.9
KMBO	Kilima Mbogo	90.41	92	IAms_20	IAms_20	07 20 36.9	
	comp=Z,163µm,20.0s						
GOGA	Godfrey	90.46	336	IAms_20	IAms_20	07 25 35.7	
	comp=Z,48µm,20.0s						
833A	Chaparral WMA,	90.51	322	IAms_20	IAms_20	07 21 54.9	
	comp=Z,31µm,21.0s						
X58A	Rowland	90.65	340	IAms_20	IAms_20	07 23 30.0	
	comp=Z,74µm,20.0s						
HKT	Hockley	90.75	325	eP	P	06 40 38.2	+0.9
HKT				pmax	pmax		
	comp=Z,95nm,1.8s						
HKT	Hockley	90.75	325	IAms_20	IAms_20	07 27 44.6	
	comp=Z,36µm,22.0s						
JSC	Jenkinsville	90.79	338	P	P	06 40 35.5	-2.0
JSC				pmax	pmax		
	comp=Z,238nm,2.0s						
JSC				MLR	MLR		
	comp=Z,34µm,21.0s						
JSC	Jenkinsville	90.79	338	P	P	06 40 35.5	-2.0
JSC				IAmb	IAmb	06 40 53.2	
	comp=Z,238nm,2.0s						
JSC				IAms_20	IAms_20	07 24 29.6	
	comp=Z,33µm,21.0s						
Z50A	Ashland	90.91	334	IAms_20	IAms_20	07 25 04.6	
	comp=Z,52µm,21.0s						
HODGE	Hodges	90.96	338	IAms_20	IAms_20	07 25 17.1	
	comp=Z,67µm,20.0s						
BIRD	Birdtown, Kers	90.97	339	P	P	06 40 37.2	-1.2
BIRD				IAmb	IAmb	06 40 58.4	
	comp=Z,108nm,1.1s						
BIRD				IAms_20	IAms_20	07 19 43.4	
	comp=Z,59µm,22.0s						
LRAL	Lakeview Retre	90.98	334	IAms_20	IAms_20	07 25 57.5	
	comp=Z,50µm,20.0s						
V62A	Hyde County Ai	91.00	343	IAms_20	IAms_20	07 27 06.1	
	comp=Z,47µm,21.0s						
Y52A	Lilburn	91.03	336	P	P	06 40 37.5	-1.2
Y52A				IAmb	IAmb	06 41 05.5	
	comp=Z,212nm,1.6s						
Y52A				IAms_20	IAms_20	07 27 24.9	
	comp=Z,79µm,22.0s						
CNNC	Cliffs of the	91.03	341	P	P	06 40 36.7	-1.9
CNNC				IAmb	IAmb	06 40 58.6	
	comp=Z,149nm,1.1s						
CNNC				IAms_20	IAms_20	07 22 04.1	
	comp=Z,49µm,21.0s						
VBMS	Vicksburg	91.19	330	IAms_20	IAms_20	07 27 22.9	
	comp=Z,30µm,20.0s						
V61A	Roper	91.33	343	IAms_20	IAms_20	07 23 22.9	
	comp=Z,57µm,22.0s						
W57A	Gilead	91.36	340	P	P	06 40 37.6	-2.6
W57A				IAmb	IAmb	06 40 55.7	
	comp=Z,318nm,1.8s						
W57A				IAms_20	IAms_20	07 24 23.8	
	comp=Z,91µm,21.0s						
V60A	Jim Taylor Roa	91.43	342	IAms_20	IAms_20	07 22 21.2	
	comp=Z,55µm,21.0s						
PAULI	Pauline	91.43	338	P	P	06 40 37.3	-3.1
PAULI				IAmb	IAmb	06 40 56.7	
	comp=Z,119nm,1.0s						
PAULI				IAms_20	IAms_20	07 22 25.3	
	comp=Z,68µm,21.0s						
Y49A	Blount Mountai	91.61	334	IAms_20	IAms_20	07 28 04.1	
	comp=Z,45µm,19.0s						
KMSC	Kings Mountain	91.64	339	P	P	06 40 38.6	-2.9
KMSC				IAms_20	IAms_20	07 27 34.9	
	comp=Z,51µm,20.0s						
HPIG		91.69	316	IAms_20	IAms_20	07 20 47.0	
	comp=Z,91µm,19.0s						
V58A	Windy Hill, Pi	91.81	341	P	P	06 40 40.8	-1.4
V58A				IAms_20	IAms_20	07 22 00.5	
	comp=Z,60µm,22.0s						
U61A	Possum Corner	91.84	343	IAms_20	IAms_20	07 27 42.3	
	comp=Z,56µm,20.0s						
BG3	Lake Jocassee	91.85	337	IAms_20	IAms_20	07 25 24.5	
	comp=Z,42µm,21.0s						
X51A	Calhoun	91.89	336	P	P	06 40 40.2	-2.4
X51A				IAmb	IAmb	06 41 19.8	
	comp=Z,102nm,1.1s						
X51A				IAms_20	IAms_20	07 29 12.4	
	comp=Z,54µm,21.0s						
NATX	Nacogdoches	92.03	327	IAms_20	IAms_20	07 24 26.2	
	comp=Z,31µm,21.0s						
FPAL	Fort Paine	92.05	335	IAms_20	IAms_20	07 28 06.9	
	comp=Z,42µm,21.0s						
U59A	Littleton	92.10	342	P	P	06 40 42.2	-1.3
U59A				IAms_20	IAms_20	07 22 53.2	
	comp=Z,47µm,21.0s						
435B	Jarrell	92.11	324	IAms_20	IAms_20	07 27 30.2	
	comp=Z,26µm,22.0s						
W52A	Murphy	92.17	337	P	P	06 40 43.1	-0.9
W52A				IAms_20	IAms_20	07 25 53.9	
	comp=Z,55µm,21.0s						
V55A	Taylorsville	92.29	339	IAms_20	IAms_20	07 25 32.4	
	comp=Z,51µm,22.0s						
X48A	Hartselle	92.33	334	IAms_20	IAms_20	07 20 47.3	
	comp=Z,64µm,22.0s						
PMOZ	Porto Moniz, M	92.41	31	eS	SKSac	06 51 25.3	+7.0
PMOZ	Porto Moniz, M	92.41	31	eLR	LR	07 09 56.4	
	comp=Z,58µm,22.0s						
TAM	Tamanrasset	92.42	53	P	P	06 40 43.9	-1.7
TAM				pmax	pmax		
	comp=Z,96nm,1.2s						
TAM	Tamanrasset	92.42	53	P	P	06 40 43.9	-1.7
TAM				IAms_20	IAms_20	07 15 37.3	
	comp=Z,200µm,22.0s						
V53A	Saluda	92.47	338	P	P	06 40 41.9	-3.4
V53A				IAms_20	IAms_20	07 28 04.0	
	comp=Z,66µm,20.0s						
U56A	King	92.60	340	P	P	06 40 42.1	-3.7
U56A				IAmb	IAmb	06 41 02.4	
	comp=Z,93nm,1.0s						
U56A				IAms_20	IAms_20	07 24 58.4	
	comp=Z,69µm,21.0s						
W50A	Signal Mountai	92.61	336	IAms_20	IAms_20	07 26 39.4	
	comp=Z,52µm,20.0s						
JCT	Junction City	92.61	322	IAms_20	IAms_20	07 28 20.5	
	comp=Z,19µm,19.0s						
CPCT	Cooper Cave	92.65	336	P	P	06 40 44.6	-1.5
CPCT				IAms_20	IAms_20	07 30 59.5	
	comp=Z,43µm,20.0s						
T59A	Double "B" Far	92.66	342	P	P	06 40 44.4	-1.7
T59A				IAms_20	IAms_20	07 24 26.0	
	comp=Z,56µm,22.0s						
T60A	Surry	92.67	343	IAms_20	IAms_20	07 25 26.4	
	comp=Z,59µm,22.0s						
SWET	Sewanee	92.78	335	IAms_20	IAms_20	07 28 38.1	
	comp=Z,76µm,21.0s						
V52A	Sevierville	92.81	337	P	P	06 40 44.1	-2.7
V52A				IAmb	IAmb	06 41 08.8	
	comp=Z,113nm,1.4s						
V52A				IAms_20	IAms_20	07 26 06.1	
	comp=Z,73µm,21.0s						
Z41A	Richland Creek	92.84	329	IAms_20	IAms_20	07 25 03.6	
	comp=Z,27µm,22.0s						
ARMA	Armidale	92.86	203	P	P	06 40 46.7	-1.0
ARMA				IAmb	IAmb	06 41 33.5	
	comp=Z,147nm,1.4s						
ARMA				IAms_20	IAms_20	07 27 02.0	
	comp=Z,26µm,19.0s						
PMPST	Porto Santo, M	92.91	32	eS	SKSac	06 51 35.0	+14
V51A	Loudon	92.95	336	IAms_20	IAms_20	07 26 16.7	
	comp=Z,57µm,21.0s						
T57A	Hurt	93.00	341	IAms_20	IAms_20	07 23 38.1	
	comp=Z,80µm,21.0s						
S61A	Accomac	93.02	344	IAms_20	IAms_20	07 29 58.6	
	comp=Z,49µm,20.0s						
OXF	Oxford	93.02	332	IAms_20	IAms_20	07 27 40.6	
	comp=Z,52µm,22.0s						
TXAR	Lajitas Array	93.03	319	P	P	06 40 48.3	+0.2
	comp=Z,2.6nm,0.6s,baz=148,slow=7.4,SNR=8.1						
TXAR				PKKPbc	PKKPbc	06 57 58.7	+2.3
	comp=Z,1.4nm,0.8s,baz=44,slow=1.7,SNR=3.8						
TXAR				PKPPKP		07 06 19.9	
	comp=Z,0.6nm,0.9s,baz=116,slow=2.9,SNR=4.3						
TXAR	Lajitas Array	93.03	319	P	P	06 40 47.3	-0.9
BBOO	Buckleboo	93.05	189	P	P	06 40 46.5	-1.9
BBOO				IAmb	IAmb	06 41 05.6	
	comp=Z,116nm,1.3s						
BBOO				IAms_20	IAms_20	07 25 44.7	
	comp=Z,50µm,21.0s						
U54A	Nelsons Funny	93.07	339	P	P	06 40 44.9	-3.2
U54A				IAmb	IAmb	06 41 04.0	
	comp=Z,98nm,1.1s						
U54A				IAms_20	IAms_20	07 25 45.8	
	comp=Z,56µm,20.0s						
PLAL	Pickwick Lake	93.11	333	IAms_20	IAms_20	07 27 02.6	
	comp=Z,62µm,22.0s						
CCAR	Cane Creek	93.14	330	IAms_20	IAms_20	07 29 40.9	
	comp=Z,32µm,20.0s						
WHTX	Lake Whitney,	93.17	325	IAms_20	IAms_20	07 24 44.2	
	comp=Z,57µm,22.0s						
NWAO	Narrogin (SRO)	93.20	173	P	P	06 40 46.8	-2.3
NWAO				pmax	pmax		
	comp=Z,231nm,1.5s						
NWAO				MLR	MLR		
	comp=Z,51µm,20.0s						
NWAO	Narrogin (SRO)	93.20	173	P	P	06 40 46.8	-2.3
NWAO				IAmb	IAmb	06 41 07.9	
	comp=Z,231nm,1.5s						
NWAO	Narrogin (SRO)	93.20	173	P	P	06 40 48.3	-0.8
NWAO				IAmb	IAmb	06 41 07.9	
	comp=Z,204nm,1.6s						
NWAO	Narrogin (SRO)	93.20	173	IAms_20	IAms_20	07 22 09.6	
	comp=Z,51µm,20.0s						
STKA	Stephens Creek	93.31	194	P	P	06 40 47.4	-2.2
STKA				pmax	pmax		
	comp=Z,40nm,1.9s						
STKA	Stephens Creek	93.31	194	P	P	06 40 50.2	+0.6
	comp=Z,10nm,1.1s,baz=140,slow=7.5,SNR=7.0						
STKA				PKKPbc	PKKPbc	06 58 05.4	+11
	comp=Z,1.3nm,0.6s,baz=17,slow=4.8,SNR=4.2						
STKA	Stephens Creek	93.31	194	P	P	06 40 47.4	-2.2
STKA				IAms_20	IAms_20	07 18 34.7	
	comp=Z,6µm,20.0s						
WLAR	White Oak Lake	93.33	329	IAms_20	IAms_20	07 29 16.7	
	comp=Z,33µm,20.0s						
S58A	Poland Farm, P	93.37	342	P	P	06 40 48.2	-1.1
S58A				IAms_20	IAms_20	07 23 31.9	
	comp=Z,52µm,22.0s						
BLA	Blacksburg	93.44	340	IAms_20	IAms_20	07 25 23.7	
	comp=Z,52µm,20.0s						
X43A	Marvell	93.44	331	IAms_20	IAms_20	07 26 04.7	
	comp=Z,37µm,22.0s						
TZTN	Tazewell	93.47	337	P	P	06 40 47.4	-2.5
TZTN				IAmb	IAmb	06 42 15.6	
	comp=Z,146nm,1.3s						
TZTN				IAms_20	IAms_20	07 28 23.6	
	comp=Z,82µm,22.0s						
V48A	Smith Brothers	93.50	335	P	P	06 40 47.1	-2.9
V48A				IAms_20	IAms_20	07 29 04.2	
	comp=Z,82µm,22.0s						
R61A	Willards	93.60	344	IAms_20	IAms_20	07 28 10.0	
	comp=Z,50µm,20.0s						
R58B	Mineral	93.68	342	IAms_20	IAms_20	07 26 14.1	
	comp=Z,62µm,21.0s						
S57A	Dark Hollow, R	93.68	341	IAms_20	IAms_20	07 25 49.1	
	comp=Z,79µm,21.0s						
CLTN	Cedars of Leba	93.71	335	IAms_20	IAms_20	07 29 04.7	
	comp=Z,31µm,22.0s						
MET	Memphis--Engin	93.74	332	IAms_20	IAms_20	07 28 57.5	
	comp=Z,49µm,20.0s						
AFI	Afiamalu	93.79	240	IAms_20	IAms_20	07 25 26.1	
	comp=Z,33µm,19.0s						
HDBT	Hernando Brdge	93.81	332	IAms_20	IAms_20	07 28 58.3	
	comp=Z,42µm,21.0s						
CBN	Corbin Frederi	93.82	342	IAms_20	IAms_20	07 28 47.9	
	comp=Z,35µm,20.0s						
T52A	Hallie	93.89	338	IAms_20	IAms_20	07 30 55.5	
	comp=Z,53µm,20.0s						
X40A	Basin Creek Fa	93.99	329	IAms_20	IAms_20	07 30 14.1	
	comp=Z,24µm,21.0s						
UALR	University of	94.11	330	IAms_20	IAms_20	07 29 01.3	
	comp=Z,35µm,22.0s						
WVT	Waverly	94.12	334	IAms_20	IAms_20	07 29 29.8	
	comp=Z,56µm,21.0s						
S54A	Dingess, Beckl	94.19	339	IAms_20	IAms_20	07 23 53.6	
	comp=Z,65µm,22.0s						
PSMN	Pico do Norte,	94.22	24	eP	P	06 40 46.0	-7.3
PSMN	Pico do Norte,	94.22	24	ePP	PP	06 44 41.8	+1.1
PSMN				eSKS	SKSac	06 51 37.0	+9.2
PSMN	Pico do Norte,	94.22	24	eLR	LR	07 10 57.1	
	comp=Z,13µm,24.0s						
MIAR	Mount Ida	94.27	329	IAms_20	IAms_20	07 30 21.5	
	comp=Z,28µm,19.0s						
LPAR	Lepanto	94.29	332	IAms_20	IAms_20	07 29 31.2	
	comp=Z,45µm,21.0s						
HALT	Halls	94.32	333	IAms_20	IAms_20	07 28 01.9	
	comp=Z,55µm,22.0s						
Q60A	Greensboro	94.34	344	IAms_20	IAms_20	07 28 21.5	
	comp=Z,48µm,20.0s						
HBAR	Harrisburg	94.35	332	IAms_20	IAms_20	07 29 27.7	
	comp=Z,46µm,20.0s						
R55A	Marlinton	94.41	340	P	P	06 40 51.9	-2.4
R55A				IAmb	IAmb	06 41 36.4	
	comp=Z,131nm,1.5s						
R55A				IAms_20	IAms_20	07 23 51.5	
	comp=Z,55µm,22.0s						
W41B	Gary Mavity, V	94.45	330	IAms_20	IAms_20	07 29 15.4	
	comp=Z,27µm,22.0s						
T49A	Edmonton	94.47	336	IAms_20	IAms_20	07 30 30.0	
	comp=Z,60µm,20.0s						
ABTX	Abilene, Hawle	94.50	323	IAms_20	IAms_20	07 27 21.5	
	comp=Z,25µm,22.0s						
S51A	Beattyville	94.53	338	P	P	06 40 52.0	-2.7
S51A				IAmb	IAmb	06 41 32.2	
	comp=Z,106nm,1.2s						
S51A				IAms_20	IAms_20	07 23 49.6	
	comp=Z,70µm,22.0s						
LNXT	Lenox	94.54	333	P	P	06 40 52.7	-2.1
LNXT				IAms_20	IAms_20	07 28 20.7	
	comp=Z,43µm,21.0s						
GNAR	Gosnell	94.56	332	P	P	06 40 53.3	-1.5
GNAR				IAms_20	IAms_20	07 28 05.0	
	comp=Z,44µm,22.0s						
WHAR	Wooly Hollow	94.57	330	IAms_20	IAms_20	07 26 58.6	
	comp=Z,22µm,20.0s						
GLAT	Glass	94.64	333	IAms_20	IAms_20	07 28 09.5	
	comp=Z,56µm,22.0s						
PEBM	Pemiscott Bayo	94.65	332	IAms_20	IAms_20	07 28 05.7	
	comp=Z,44µm,22.0s						
T47A	Sharon Grove	94.75	335	P	P	06 40 53.5	-2.2
T47A				IAms_20	IAms_20	07 29 48.4	
	comp=Z,47µm,21.0s						
P61A	Hammonton	94.83	345	IAms_20	IAms_20	07 29 03.4	
	comp=Z,55µm,20.0s						
SRIG	Santa Rosalia	94.83	311	IAms_20	IAms_20	07 22 26.1	
	comp=Z,33µm,20.0s						
CMLA	Cha da Macela	94.84	23	eP	P	06 40 57.9	+1.8
CMLA	Cha da Macela	94.84	23	ePP	PP	06 44 48.7	+3.2
CMLA				eSKS	SKSac	06 51 37.0	+5.9
CMLA	Cha da Macela	94.84	23	eLR	LR	07 11 20.7	
	comp=Z,17µm,20.7s						
CMLA	Cha da Macela	94.84	23	IAms_20	IAms_20	07 21 10.7	
	comp=Z,58µm,20.0s						
R53A	Hurricane	94.84	339	IAms_20	IAms_20	07 24 25.7	
	comp=Z,62µm,22.0s						
PSET	Sete Cidades	94.85	23	eP	P	06 40 59.2	+3.0
PSET	Sete Cidades	94.85	23	ePP	PP	06 44 48.1	+2.5
PSET				eSKS	SKSac	06 51 37.0	+5.8
PSET	Sete Cidades	94.85	23	eLR	LR	07 11 25.7	
	comp=Z,16µm,22.3s						
HICK	Hickman	94.88	333	IAms_20	IAms_20	07 28 15.8	
	comp=Z,42µm,20.0s						
PVMO	Portageville	94.89	333	IAms_20	IAms_20	07 28 31.0	
	comp=Z,49µm,22.0s						
SDMD	Soldier's Deli	94.90	343	IAms_20	IAms_20	07 30 58.5	
	comp=Z,34µm,20.0s						
PENMO	Penman	94.91	333	IAms_20	IAms_20	07 28 30.4	
	comp=Z,47µm,22.0s						
BART	Pico Bartolome	94.93	23	eP	P	06 40 47.3	-9.4
BART	Pico Bartolome	94.93	23	ePP	PP	06 44 48.1	+1.8
BART				eSKS	SKSac	06 51 36.9	+5.1
W39A	Magazine	94.93	329	IAms_20	IAms_20	07 29 27.1	
	comp=Z,27µm,22.0s						
Q56A	Snyder Ridge,	94.97	341	P	P	06 40 56.1	-0.6
Q56A				IAms_20	IAms_20	07 27 08.2	
	comp=Z,40µm,21.0s						
LCAR	Lake Charles	94.97	331	IAms_20	IAms_20	07 30 07.0	
	comp=Z,48µm,21.0s						
FCAR	Ozark Folk Cen	95.08	330	P	P	06 40 54.4	-2.9
FCAR				IAms_20	IAms_20	07 30 03.1	
	comp=Z,43µm,20.0s						
P60A	Greenville	95.09	344	IAms_20	IAms_20	07 29 16.5	
	comp=Z,53µm,20.0s						
HENM	Henderson Moun	95.11	333	IAms_20	IAms_20	07 28 33.9	
	comp=Z,41µm,21.0s						
PARMO	Parma	95.14	333	IAms_20	IAms_20	07 28 36.4	
	comp=Z,42µm,21.0s						
ROSA	Rosais	95.16	21	eP	P	06 40 54.3	-3.3
ROSA	Rosais	95.16	21	ePP	PP	06 44 47.9	-0.1
ROSA				eSKS	SKSac	06 51 38.4	+5.6
ROSA	Rosais	95.16	21	eLR	LR	07 11 45.5	
	comp=Z,16µm,25.6s						
ROSA	Rosais	95.16	21	IAms_20	IAms_20	07 16 26.2	
	comp=Z,58µm,22.0s						
PSUB	Penn St. - Bra	95.18	344	IAms_20	IAms_20	07 24 46.7	
	comp=Z,63µm,21.0s						
P57A	Homestead Farm	95.18	342	IAms_20	IAms_20	07 26 13.8	
	comp=Z,71µm,22.0s						
Q54A	Coxs Mills	95.23	340	IAms_20	IAms_20	07 26 17.2	
	comp=Z,51µm,20.0s						
R50A	Paris	95.31	337	IAms_20	IAms_20	07 25 01.3	
	comp=Z,80µm,22.0s						
MVL	Millersville	95.39	344	IAms_20	IAms_20	07 24 06.5	
	comp=Z,55µm,22.0s						
MSVF	Nonsavu	95.42	230	IAms_20	IAms_20	07 20 02.3	
	comp=Z,30µm,21.0s						
PBMO	Poplar Bluff	95.43	332	IAms_20	IAms_20	07 28 51.4	
	comp=Z,50µm,22.0s						
PGRA	Graciosa	95.51	21	eP	P	06 41 02.6	+3.5
PGRA	Graciosa	95.51	21	ePP	PP	06 44 51.9	+1.2
PGRA				eSKS	SKSac	06 51 32.9	-1.7
PGRA	Graciosa	95.51	21	eLR	LR	07 11 41.8	
	comp=Z,17µm,25.6s						
R49A	Shelbyville	95.52	337	IAms_20	IAms_20	07 25 01.7	
	comp=Z,63µm,21.0s						
X34A	Smith Ranch, M	95.68	326	IAms_20	IAms_20	07 25 30.8	
	comp=Z,38µm,22.0s						
PAGS	Pennsylvania G	95.68	343	IAms_20	IAms_20	07 31 41.0	
	comp=Z,44µm,20.0s						
MCWV	Mont Chateau	95.69	341	P	P	06 40 57.5	-2.5
MCWV				IAms_20	IAms_20	07 24 58.3	
	comp=Z,41µm,22.0s						
WCI	Wyandotte Cave	95.73	336	IAms_20	IAms_20	07 29 57.2	
	comp=Z,72µm,22.0s						
U40A	Yellville	95.73	330	IAms_20	IAms_20	07 30 45.2	
	comp=Z,48µm,21.0s						
HSIG		95.74	313	P	P	06 40 58.2	-2.3
HSIG				IAms_20	IAms_20	07 18 14.1	
	comp=Z,35µm,22.0s						
BRNJ	Basking Ridge	95.78	345	IAms_20	IAms_20	07 26 29.7	
	comp=Z,61µm,21.0s						
CPNY	Central Park	95.79	346	IAms_20	IAms_20	07 23 11.1	
	comp=Z,69µm,22.0s						
MNTX	Cornudas Mount	95.80	319	IAms_20	IAms_20	07 23 36.9	
	comp=Z,61µm,20.0s						
Q51A	Peebles	95.80	338	IAms_20	IAms_20	07 29 43.3	
	comp=Z,40µm,19.0s						
USIN	University of	95.82	335	P	P	06 40 58.4	-2.2
USIN				IAms_20	IAms_20	07 28 22.6	
	comp=Z,55µm,21.0s						
LUPA	Lehigh Univers	95.82	345	IAms_20	IAms_20	07 29 34.8	
	comp=Z,4µm,20.0s						
P53A	Whipple	95.83	340	P	P	06 40 59.4	-1.2
P53A				IAms_20	IAms_20	07 26 25.0	
	comp=Z,77µm,21.0s						
SIUC	Southern Illin	95.98	333	IAms_20	IAms_20	07 30 39.0	
	comp=Z,51µm,21.0s						
HHAR	Hobbs	95.98	329	IAms_20	IAms_20	07 31 43.8	
	comp=Z,26µm,21.0s						
PAL	Palisades	96.00	346	IAms_20	IAms_20	07 30 29.4	
	comp=Z,58µm,20.0s						
O56A	Blue Knob Stat	96.04	342	IAms_20	IAms_20	07 26 28.6	
	comp=Z,55µm,22.0s						
M65A	Busby, Falmout	96.11	348	IAms_20	IAms_20	07 28 10.4	
	comp=Z,73µm,20.0s						
WMOK	Wichita Mounta	96.12	325	IAms_20	IAms_20	07 27 38.5	
	comp=Z,31µm,22.0s						
YLE	Yale	96.16	346	IAms_20	IAms_20	07 28 01.8	
	comp=Z,98µm,21.0s						
ODNJ	Ogdensburg	96.18	345	IAms_20	IAms_20	07 23 25.2	
	comp=Z,65µm,22.0s						
P51A	Williamsport	96.18	338	P	P	06 41 00.1	-2.0
P51A				IAms_20	IAms_20	07 26 16.2	
	comp=Z,62µm,22.0s						
N59A	State Game Lan	96.19	344	IAms_20	IAms_20	07 29 47.7	
	comp=Z,60µm,20.0s						
TUL1	Leonard	96.21	328	P	P	06 41 00.9	-1.6
TUL1				IAms_20	IAms_20	07 30 55.0	
	comp=Z,38µm,22.0s						
N58A	Sunbury	96.27	344	IAms_20	IAms_20	07 24 42.8	
	comp=Z,63µm,22.0s						
SSPA	Standing Stone	96.28	343	IAms_20	IAms_20	07 30 36.8	
	comp=Z,50µm,20.0s						
DZM	Mont Dzumac	96.29	218	eP	P	06 41 05.0	+1.5
	comp=Z,107nm,1.4s						
DZM	Mont Dzumac	96.29	218	ePP	PP	06 44 56.7	+0.7
	comp=Z,6µm,32.0s						
DZM				eSKSac	SKSac	06 51 39.3	-1.0
	comp=Z,16µm,30.8s						
DZM	Mont Dzumac	96.29	218	ePS	PS	06 53 45.2	+2.1
	comp=Z,11µm,24.9s						
DZM				eSS	SS	06 58 59.8	+5.6
	comp=Z,44µm,27.4s						
DZM				eLQ	LQ	07 08 10.9	
	comp=Z,133µm,34.9s						
DZM				eLR	LR	07 12 05.6	
	comp=Z,85µm,25.9s						
DZM	Mont Dzumac	96.29	218	P	P	06 41 04.4	+0.9
	comp=Z,14nm,1.1s,baz=92,slow=12,SNR=5.7						
DZM				PKKPbc	PKKPbc	06 57 59.3	+13
	comp=Z,3.0nm,0.8s,baz=44,slow=8.8,SNR=4.9						
DZM	Mont Dzumac	96.29	218	P	P	06 41 01.3	-2.2
DZM				IAms_20	IAms_20	07 22 36.8	
	comp=Z,28µm,19.0s						
O54A	Avella	96.30	341	IAms_20	IAms_20	07 25 18.4	
	comp=Z,87µm,22.0s						
MGMO	Mountain Grove	96.30	331	P	P	06 41 01.3	-1.6
MGMO				IAms_20	IAms_20	07 33 26.3	
	comp=Z,38µm,21.0s						
EPT	El Paso	96.31	318	IAms_20	IAms_20	07 22 32.3	
	comp=Z,97µm,19.0s						
O52A	Adamsville	96.53	340	P	P	06 41 00.8	-3.0
O52A				IAmb	IAmb	06 41 22.5	
	comp=Z,97nm,1.2s						
O52A				IAms_20	IAms_20	07 27 40.5	
	comp=Z,82µm,22.0s						
BRYW	Bryant College	96.57	348	IAms_20	IAms_20	07 27 23.6	
	comp=Z,72µm,21.0s						
KSCT	Kent School, K	96

comp=Z,43µm,21.0s
IFR Ifrane 97.19 40 Pdif Pdif 06 41 21.2 +14
IFR SKS **SKSac 06 51 54.2 +10**
M55A Ridgway 97.24 342 IAMs_20 IAMs_20 07 27 11.4
comp=Z,56µm,22.0s
AMTX Amarillo 97.26 323 IAMs_20 IAMs_20 07 25 18.6
comp=Z,45µm,22.0s
L59A Walton 97.33 345 IAMs_20 IAMs_20 07 31 12.3
comp=Z,50µm,21.0s
K62A Royalston 97.39 347 IAMs_20 IAMs_20 07 27 49.5
comp=Z,69µm,21.0s
N51A Ashland 97.41 339 P **P 06 41 06.3 -1.5**
N51A IAmb IAmb 06 41 27.0
comp=Z,83nm,0.9s
N51A IAMs_20 IAMs_20 07 25 39.9
comp=Z,64µm,22.0s
M54A Oil Creek Stat 97.44 342 IAMs_20 IAMs_20 07 27 14.8
comp=Z,47µm,22.0s
BINY Binghamton 97.48 344 IAMs_20 IAMs_20 07 27 06.5
comp=Z,46µm,20.0s
121A Cookes Peak, D 97.48 317 P **P 06 41 04.5 -4.1**
121A IAMs_20 IAMs_20 07 24 28.5
comp=Z,80µm,20.0s
TRY Troy 97.65 346 IAMs_20 IAMs_20 07 28 48.3
comp=Z,75µm,20.0s
L56A Greenwood 97.68 343 IAMs_20 IAMs_20 07 27 59.0
comp=Z,61µm,21.0s
U32A Winter Ranch, 97.69 326 IAMs_20 IAMs_20 07 28 29.3
comp=Z,36µm,21.0s
N49A Columbus Grove 97.80 338 IAMs_20 IAMs_20 07 26 55.2
comp=Z,80µm,22.0s
M52A Chesterland 97.80 340 IAMs_20 IAMs_20 07 26 04.9
comp=Z,68µm,22.0s
EIDS Eidsvold 97.84 204 IAMs_20 IAMs_20 07 20 42.0
comp=Z,31µm,20.0s
SFIN Lafayette 97.96 336 IAMs_20 IAMs_20 07 31 32.3
comp=Z,39µm,20.0s
K58A Earlville 97.98 345 IAMs_20 IAMs_20 07 28 23.9
comp=Z,39µm,22.0s
M50A Fremont 98.02 339 IAMs_20 IAMs_20 07 30 48.9
comp=Z,59µm,20.0s
MSEY Mahe Island 98.07 109 IAMs_20 IAMs_20 07 16 32.7
comp=Z,123µm,22.0s
O44A Mansfield 98.09 335 P **P 06 41 08.1 -2.7**
O44A IAmb IAmb 06 41 31.6
comp=Z,60nm,0.8s
O44A IAMs_20 IAMs_20 07 29 37.6
comp=Z,59µm,22.0s
ERPA Erie 98.10 341 IAMs_20 IAMs_20 07 27 45.0
comp=Z,42µm,22.0s
N47A Urbana 98.10 337 IAMs_20 IAMs_20 07 26 12.2
comp=Z,49µm,22.0s
FFD Franklin Falls 98.11 348 IAMs_20 IAMs_20 07 29 10.5
comp=Z,82µm,21.0s
WVNY West Valley, N 98.12 343 IAMs_20 IAMs_20 07 27 04.4
comp=Z,40µm,20.0s
ACCN Adirondack Com 98.30 346 IAMs_20 IAMs_20 07 29 05.3
comp=Z,68µm,20.0s
MMNY Mt. Morris Dam 98.32 343 IAMs_20 IAMs_20 07 27 56.8
comp=Z,67µm,22.0s
HNH Hanover 98.42 347 IAMs_20 IAMs_20 07 29 43.7
comp=Z,80µm,20.0s
BNM Barren Site 98.45 319 P **P 06 41 09.0 -4.0**
M48A Edgerton 98.46 338 IAMs_20 IAMs_20 07 29 03.5
comp=Z,70µm,21.0s
I62A Tamworth 98.47 348 P **P 06 41 08.9 -3.5**
I62A IAmb IAmb 06 41 53.6
comp=Z,125nm,1.6s
I62A IAMs_20 IAMs_20 07 28 56.0
comp=Z,68µm,21.0s
J59A Piesco 98.49 346 IAMs_20 IAMs_20 07 29 26.5
comp=Z,80µm,21.0s
Y22D IRIS PASSCAL I 98.50 319 IAMs_20 IAMs_20 07 24 14.3
comp=Z,75µm,19.0s
J58A Remsen 98.51 345 IAMs_20 IAMs_20 07 29 42.9
comp=Z,52µm,20.0s
HAL Halifax 98.51 354 IAMs_20 IAMs_20 07 25 51.7
comp=Z,55µm,22.0s
TUC Tucson 98.52 315 IAMs_20 IAMs_20 07 30 12.8
comp=Z,51µm,18.0s
I63A Otisfield 98.56 349 IAMs_20 IAMs_20 07 28 44.2
comp=Z,60µm,21.0s
LPM Los Pinos Moun 98.59 319 P **P 06 41 10.8 -2.7**
J57A Williamstown 98.67 345 IAMs_20 IAMs_20 07 32 04.0
comp=Z,36µm,21.0s
J56A Wolcott 98.67 344 IAMs_20 IAMs_20 07 34 49.4
comp=Z,37µm,20.0s
HDIL Hopedale 98.68 334 IAMs_20 IAMs_20 07 31 50.3
comp=Z,61µm,21.0s
J55A Hilton 98.82 343 IAMs_20 IAMs_20 07 31 44.2
comp=Z,76µm,20.0s
MEDO Medina 98.83 343 IAMs_20 IAMs_20 07 28 35.5
comp=Z,68µm,20.0s
EMMW East Machias 98.88 351 IAMs_20 IAMs_20 07 26 08.8
comp=Z,85µm,22.0s
LBNH Lisbon 98.91 348 IAMs_20 IAMs_20 07 29 23.4
comp=Z,66µm,20.0s
NCB Newcomb 98.95 346 IAMs_20 IAMs_20 07 29 27.6
comp=Z,66µm,20.0s
WVL Waterville 98.96 349 IAMs_20 IAMs_20 07 25 39.9
comp=Z,148µm,22.0s
J54A Appleton 98.97 343 IAMs_20 IAMs_20 07 28 30.1
comp=Z,70µm,21.0s
PVLZ Peæn de 98.97 40 Pdif Pdif 06 41 27.0 +12
PVLZ SKS SKSac 06 52 04.7 +12
XMAS Kiritimati 98.99 261 IAMs_20 IAMs_20 07 17 52.6
comp=Z,113µm,22.0s
AAM Ann Arbor 99.01 339 IAMs_20 IAMs_20 07 26 54.1
comp=Z,70µm,22.0s
214A Organ Pipe Nat 99.07 313 IAMs_20 IAMs_20 07 31 14.5
comp=Z,50µm,22.0s
PFVI Vila Bisbo 99.08 36 *e*PP PP 06 45 30.6 +12
PFVI *e*S **SKSac 06 51 56.4 +3.3**
PFVI *e*SS SS 06 59 20.7 -14
PFVI Vila Bisbo 99.08 36 IAMs_20 IAMs_20 07 31 50.0
comp=Z,52µm,19.0s
ANMO Albuquerque 99.09 319 PKKPbc PKKPbc 06 57 49.2 +9.0
comp=Z,5.2nm,0.9s,baz=281,slow=1.5,SNR=5.7
ANMO Albuquerque 99.09 319 IAMs_20 IAMs_20 07 26 45.9
comp=Z,71µm,19.0s
VT1 Waterbury 99.10 347 IAMs_20 IAMs_20 07 30 04.3
comp=Z,77µm,20.0s
H62A Milan 99.14 348 IAMs_20 IAMs_20 07 29 23.7
comp=Z,59µm,21.0s
GBN Guysborough 99.16 355 IAMs_20 IAMs_20 07 24 27.2
comp=Z,116µm,22.0s
CEU Ceuta 99.21 39 Pdif **Pdif 06 41 27.8 +12**
CEU SKS **SKSac 06 51 56.3 +2.5**
N41A Harden Midland 99.23 333 IAMs_20 IAMs_20 07 30 54.8
comp=Z,54µm,20.0s
K50A Casco 99.25 340 IAMs_20 IAMs_20 07 27 04.4
comp=Z,71µm,22.0s
FURI Furi 99.27 88 *e*P Pdif 06 41 38.3 +21
FURI *e*S PP 06 45 38.6 +19
FURI Furi 99.27 88 IAMs_20 IAMs_20 07 23 05.1
comp=Z,147µm,21.0s
MORF Marmelete 99.30 36 *e*PP **PP 06 45 18.0 -1.9**
MORF *e*SKSac **SKSac 06 51 53.9 -0.4**
MORF *e*SS **SS 06 59 37.1 -1.0**
MORF AMS AMS 07 18 19.3
comp=Z,43µm,22.5s
MORF Marmelete 99.30 36 *e*PP PP 06 45 28.3 +8.4
MORF *e*S SKSac 06 52 05.4 +11
MORF *e*SS SS 06 59 52.6 +15
L46A Eue Claire 99.32 337 IAMs_20 IAMs_20 07 30 50.3
comp=Z,54µm,22.0s
G65A Princeton 99.38 351 IAMs_20 IAMs_20 07 26 33.7
comp=Z,90µm,21.0s
KSU1 Kansas State U 99.40 328 IAMs_20 IAMs_20 07 33 18.3
comp=Z,31µm,21.0s
SFS San Fernando 99.41 38 SKS SKKSac 06 52 13.5 -13
SFS San Fernando 99.41 38 IAMs_20 IAMs_20 07 31 20.7
comp=Z,43µm,21.0s
AAE Adis Abeba 99.42 88 *e*S PKiKP 06 45 38.9 -8.5
PBDV Barranco-do-Ve 99.49 36 *e*PP PP 06 45 32.5 +11
PBDV *e*S **SKSac 06 52 02.8 +7.6**
PBDV *e*SS **SS 06 59 42.3 +1.6**
MELI Melilla 99.60 41 Pdif **Pdif 06 41 27.9 +10**
MELI SKS SKSac 06 52 07.2 +11
LONY Lake Ozonia 99.64 346 IAMs_20 IAMs_20 07 29 57.8
comp=Z,80µm,20.0s
G62A West of Eustis 99.70 349 IAMs_20 IAMs_20 07 26 15.6
comp=Z,119µm,21.0s
FRNY Flat Rock 99.71 347 IAMs_20 IAMs_20 07 29 20.7
comp=Z,67µm,21.0s
PVAQ Vaqueiros 99.71 36 *e*PP PP 06 45 06.9 -16
PVAQ *e*S **SKSac 06 52 03.9 +7.7**
PVAQ Vaqueiros 99.71 36 *e*LQ LQ 07 08 48.7
PVAQ *e*LR LR 07 13 14.9
comp=Z,41µm,24.0s
PVAQ Vaqueiros 99.71 36 IAMs_20 IAMs_20 07 32 16.7
comp=Z,40µm,20.0s
LMN Caledonia Moun 99.80 353 IAMs_20 IAMs_20 07 26 46.1
comp=Z,63µm,22.0s
PCVE Castro Verde 99.80 36 *e*PP **PP 06 45 30.5 +6.8**
PCVE *e*S **SKSac 06 51 58.5 +1.8**
PCVE *e*SS **SS 06 59 48.6 +3.6**
L44A Lake County Fo 99.86 336 IAMs_20 IAMs_20 07 33 48.6
comp=Z,47µm,20.0s
J48A Bridge Port 99.99 339 IAMs_20 IAMs_20 07 27 44.1
comp=Z,82µm,22.0s
DELO Deloro Mine 100.01 344 IAMs_20 IAMs_20 07 25 47.5
comp=Z,43µm,21.0s
F63A Nahmakanta, Br 100.03 350 IAMs_20 IAMs_20 07 24 49.1
comp=Z,111µm,22.0s
PNCL Nicolau / Gran 100.06 35 *e*PP PP 06 45 36.2 +11
PNCL *e*S **SKSac 06 52 01.4 +3.5**
PNCL *e*SS **SS 06 59 42.9 -5.7**
X18A Snowflake 100.10 317 IAMs_20 IAMs_20 07 25 00.8
comp=Z,58µm,21.0s
F64A Sherman 100.11 351 IAMs_20 IAMs_20 07 24 24.3
comp=Z,79µm,22.0s
L42A Oliver, Polo 100.13 334 IAMs_20 IAMs_20 07 30 38.8
comp=Z,68µm,21.0s
CBKS Cedar Bluff 100.14 326 IAMs_20 IAMs_20 07 30 38.9
comp=Z,43µm,21.0s
J47A Sunmer 100.16 338 IAMs_20 IAMs_20 07 31 35.4
comp=Z,56µm,22.0s
PBEJ Beja 100.22 36 *e*PP PP 06 45 39.6 +13
T25A Trinidad 100.26 322 IAMs_20 IAMs_20 07 26 13.0
comp=Z,47µm,22.0s
F62A Pittston Farm, 100.31 349 IAMs_20 IAMs_20 07 26 07.6
comp=Z,135µm,21.0s
EMAL Malaga-Limoner 100.33 39 Pdif Pdif 06 41 40.8 +20
EMAL SKS SKSac 06 52 09.9 +11
LIS Lisbon 100.40 35 *e*PP **PP 06 45 26.6 -1.6**
LIS *e*SKSac **SKSac 06 51 59.5 0.0**
LIS *e*SS **SS 06 59 52.1 -1.1**
LIS AMS AMS 07 35 13.4
comp=Z,59µm,20.5s
I49A Point Hope 100.41 340 IAMs_20 IAMs_20 07 28 06.1
comp=Z,58µm,22.0s
PLVO Plevna 100.42 344 IAMs_20 IAMs_20 07 31 19.6
comp=Z,43µm,22.0s
K43A Burlington 100.46 336 IAMs_20 IAMs_20 07 34 15.5
comp=Z,55µm,20.0s
W18A Petrified Fore 100.53 317 IAMs_20 IAMs_20 07 26 27.0
comp=Z,70µm,21.0s
PMAFR Mafra 100.57 35 *e*PP PP 06 45 37.0 +7.5
PMAFR *e*S SKSac 06 52 13.2 +13
PMAFR *e*SS **SS 06 59 46.1 -10**
L40A Anamosa 100.59 333 IAMs_20 IAMs_20 07 31 22.9
comp=Z,72µm,21.0s
X16A Lo Mia Camp, P 100.62 315 IAMs_20 IAMs_20 07 30 13.4
comp=Z,56µm,19.0s
EVO Evora 100.62 36 *e*PP PP 06 45 41.1 +11
E63A Oxbow 100.67 351 IAMs_20 IAMs_20 07 24 29.2
comp=Z,85µm,22.0s
J45A Montague 100.69 337 IAMs_20 IAMs_20 07 30 55.7
comp=Z,71µm,22.0s
I47A Gladwin 100.83 339 IAMs_20 IAMs_20 07 27 58.4
comp=Z,104µm,22.0s
PQI Presque Isle 100.88 351 IAMs_20 IAMs_20 07 27 07.7
comp=Z,84µm,22.0s
E62A Clayton Lake 100.98 350 IAMs_20 IAMs_20 07 25 17.3
comp=Z,112µm,22.0s
SCIA State Center 100.99 332 IAMs_20 IAMs_20 07 36 24.0
comp=Z,35µm,20.0s
PMTG Montargil 101.03 35 *e*PP PP 06 45 41.2 +8.2
PMTG *e*S **SKSac 06 52 12.4 +10**
PMTG *e*SS **SS 06 59 52.3 -10**
PESTR Estremoz 101.06 36 *e*S **SKSac 06 52 09.2 +6.4**
PESTR *e*SS SS 06 59 50.0 -13
PESTR Estremoz 101.06 36 IAMs_20 IAMs_20 07 24 34.6
comp=Z,30µm,22.0s
JFWS Jewell Farm 101.14 334 IAMs_20 IAMs_20 07 31 19.1
comp=Z,77µm,21.0s
SDCO Great Sand Dun 101.20 321 IAMs_20 IAMs_20 07 28 28.8
comp=Z,52µm,19.0s
I45A Fountain 101.23 338 IAMs_20 IAMs_20 07 30 34.8
comp=Z,75µm,21.0s
H48A Harrisville 101.24 340 IAMs_20 IAMs_20 07 29 41.1
comp=Z,48µm,22.0s
KSCO Kaye Shedlock' 101.29 324 IAMs_20 IAMs_20 07 28 38.4
comp=Z,49µm,20.0s
BATG Bathurst New B 101.31 352 IAMs_20 IAMs_20 07 26 34.1
comp=Z,89µm,22.0s
Y12C Blythe 101.35 313 IAMs_20 IAMs_20 07 26 03.8
comp=Z,46µm,20.0s
BAR Barrett 101.39 311 IAMs_20 IAMs_20 07 26 11.7
comp=Z,30µm,19.0s
D62A Allapoint, All 101.39 350 IAMs_20 IAMs_20 07 25 15.1
comp=Z,74µm,22.0s
WUAZ Wupatki 101.54 316 IAMs_20 IAMs_20 07 27 04.8
comp=Z,46µm,21.0s
GLMI Grayling 101.62 339 IAMs_20 IAMs_20 07 28 41.3
comp=Z,83µm,22.0s
PMRV Marv??o 101.64 36 *e*PP **PP 06 45 34.6 -3.0**
PMRV *e*S SKSac 06 52 16.0 +10
PMRV Marv??o 101.64 36 *e*LQ LQ 07 09 34.7
PMRV *e*LR LR 07 14 12.9
comp=Z,50µm,20.0s
S22A 4UR Ranch, Cre 101.69 320 IAMs_20 IAMs_20 07 28 06.9
comp=Z,60µm,19.0s
I42A Draeger Farm, 101.72 336 IAMs_20 IAMs_20 07 27 54.8
comp=Z,68µm,22.0s
109C Camp Elliot, M 101.76 311 IAMs_20 IAMs_20 07 21 44.5
comp=Z,41µm,22.0s
PCAS Casmilo, Conde 101.82 35 *e*PP **PP 06 45 46.0 +7.0**
PCAS *e*S **SKSac 06 52 05.1 -1.3**
MVCO Mesa Verde 101.86 319 IAMs_20 IAMs_20 07 26 23.0
comp=Z,78µm,19.0s
PCBR Castelo Branco 101.97 35 *e*PP PP 06 45 51.6 +11
BGNE Belgrade 101.98 328 IAMs_20 IAMs_20 07 31 19.7
comp=Z,47µm,22.0s
COI Coimbra 101.99 35 *e*PP **PP 06 45 38.0 -2.2**
COI *e*S **SKSac 06 52 08.2 +1.1**
COI *e*SS **SS 07 00 11.3 -4.0**
COI Coimbra 101.99 35 IAMs_20 IAMs_20 07 33 22.0
comp=Z,77µm,18.0s
H43A Windswept, Lux 101.99 337 IAMs_20 IAMs_20 07 31 17.0
comp=Z,71µm,21.0s
G45A Suttons Bay 102.05 338 IAMs_20 IAMs_20 07 29 22.7
comp=Z,109µm,22.0s
PFO Pinyon Flats O 102.08 311 PKKPbc PKKPbc 06 57 42.6 +11
comp=Z,4.2nm,1.1s,baz=266,slow=3.7,SNR=3.9
PFO Pinyon Flats O 102.08 311 IAMs_20 IAMs_20 07 21 56.0
comp=Z,33µm,20.0s
LATQ La Tuque 102.11 348 IAMs_20 IAMs_20 07 27 58.1
comp=Z,34µm,21.0s
Q24A Divide 102.15 322 IAMs_20 IAMs_20 07 35 48.0
comp=Z,45µm,22.0s
W13A Hualapai Mount 102.23 314 IAMs_20 IAMs_20 07 31 57.0
comp=Z,38µm,20.0s
ASAR Alice Springs 102.31 188 P **Pdif 06 41 29.1 -1.3**
comp=Z,8.9nm,1.1s,baz=167,slow=4.7,SNR=9.6
ASAR PP **PP 06 45 40.8 -0.7**
comp=Z,11nm,0.9s,baz=168,slow=8.1,SNR=5.9
ASAR PKKPbc **PKKPdf 06 57 38.6 +3.3**
comp=Z,4.3nm,0.8s,baz=351,slow=2.7,SNR=8.6
ASAR Alice Springs 102.31 188 **Pdif 06 41 28.4 -1.9**
AS31 Alice Springs 102.31 188 IAMs_20 IAMs_20 07 36 12.9
comp=Z,705nm,18.0s
CART Cartagena 102.36 41 IAMs_20 IAMs_20 07 26 30.6
comp=Z,90µm,20.0s
MTE Manteigas 102.45 35 *e*PP **PP 06 45 43.2 -0.6**
MTE *e*S SKSac 06 52 22.3 +13
MTE *e*SS SS 07 00 35.6 +14
MTE Manteigas 102.45 35 *e*LR LR 07 14 37.1
comp=Z,57µm,18.0s
MTE Manteigas 102.45 35 IAMs_20 IAMs_20 07 36 01.3
comp=Z,71µm,18.0s
D53A Lac Vacive, Po 102.51 344 IAMs_20 IAMs_20 07 32 16.8
comp=Z,74µm,20.0s
PVIS Viseu 102.62 35 *e*PP PP 06 46 09.0 +24
PV01 Paradox Valley 102.69 319 IAMs_20 IAMs_20 07 28 55.4
comp=Z,80µm,18.0s
U15A North Rim 102.70 316 IAMs_20 IAMs_20 07 27 54.5
comp=Z,56µm,22.0s
PV13 Radium Mtn., P 102.81 319 IAMs_20 IAMs_20 07 24 50.6
comp=Z,59µm,20.0s
PAB San Pablo 102.82 38 IAMs_20 IAMs_20 07 34 40.8
comp=Z,48µm,19.0s
OGNE Ogallala 102.82 325 IAMs_20 IAMs_20 07 29 42.9
comp=Z,35µm,21.0s
PV02 Paradox Valley 102.82 319 IAMs_20 IAMs_20 07 27 05.8
comp=Z,63µm,18.0s
PV05 Paradox Valley 102.85 319 IAMs_20 IAMs_20 07 30 42.8
comp=Z,57µm,20.0s
FUNA Funafuti 102.90 235 IAMs_20 IAMs_20 07 19 31.3
comp=Z,62µm,22.0s
PV03 Paradox Valley 102.91 319 IAMs_20 IAMs_20 07 24 54.0
comp=Z,57µm,20.0s
PV18 Skein Mesa, Pa 102.92 319 IAMs_20 IAMs_20 07 24 53.5
comp=Z,57µm,20.0s
PV12 Saucer Basin, 102.94 319 IAMs_20 IAMs_20 07 29 04.1
comp=Z,86µm,18.0s
PV11 David Mesa, Pa 102.95 319 IAMs_20 IAMs_20 07 29 03.3
comp=Z,75µm,18.0s
PV17 East Wray Mesa 102.97 319 IAMs_20 IAMs_20 07 24 54.8
comp=Z,67µm,21.0s
PV16 Nyswonger Mesa 102.98 319 IAMs_20 IAMs_20 07 29 05.0
comp=Z,61µm,19.0s
PV07 Paradox Valley 102.99 320 IAMs_20 IAMs_20 07 29 14.3
comp=Z,94µm,18.0s
SMCO Snowmass 103.00 321 IAMs_20 IAMs_20 07 29 28.6
comp=Z,69µm,18.0s
PV19 Morning Glory 103.01 319 IAMs_20 IAMs_20 07 29 04.7
comp=Z,54µm,18.0s
PV20 West Nyswonger 103.03 319 IAMs_20 IAMs_20 07 29 05.3
comp=Z,59µm,18.0s
E46A Sault Ste Mari 103.03 340 IAMs_20 IAMs_20 07 30 52.6
comp=Z,44µm,21.0s
PV04 Paradox Valley 103.05 319 IAMs_20 IAMs_20 07 29 06.4
comp=Z,79µm,19.0s
ISCO Idaho Springs 103.05 322 IAMs_20 IAMs_20 07 33 54.0
comp=Z,40µm,18.0s
ESDC Sonseca Array 103.07 38 Pdiff **Pdif 06 41 32.5 -0.6**
comp=Z,0.6nm,0.6s,baz=197,slow=4.6,SNR=4.1
ESDC PP **PP 06 45 42.2 -6.2**
comp=Z,8.9nm,1.2s,baz=205,slow=4.7,SNR=4.1
ESDC Sonseca Array 103.07 38 Pdif **Pdif 06 41 31.6 -1.5**
ESBB Sonseca Array 103.07 38 IAMs_20 IAMs_20 07 34 39.6
comp=Z,65µm,19.0s
PV14 Lion Creek, Pa 103.08 319 IAMs_20 IAMs_20 07 29 06.6
comp=Z,65µm,18.0s
KNTN Kanton 103.11 246 IAMs_20 IAMs_20 07 29 09.8
comp=Z,34µm,18.0s
PV22 Blue Mesa, Par 103.13 319 IAMs_20 IAMs_20 07 29 18.9
comp=Z,87µm,18.0s
GIRL Giralia 103.14 170 IAMs_20 IAMs_20 07 28 58.9
comp=Z,69µm,19.0s
PV23 Carpenter Ridg 103.14 319 IAMs_20 IAMs_20 07 29 09.3
comp=Z,70µm,19.0s
SNCC San Nicolas Is 103.16 309 IAMs_20 IAMs_20 07 23 18.5
comp=Z,50µm,19.0s
PV21 Cone Mtn., Par 103.22 319 IAMs_20 IAMs_20 07 29 21.4
comp=Z,69µm,19.0s
F42A Maple Grove Fa 103.29 337 IAMs_20 IAMs_20 07 34 57.5
comp=Z,54µm,20.0s
MWC Mount Wilson 103.31 311 IAMs_20 IAMs_20 07 22 31.5
comp=Z,27µm,21.0s
MVO Moncorvo 103.31 35 *e*PP PP 06 45 34.6 -16
MVO *e*S **SKSac 06 52 22.4 +8.9**
MVO Moncorvo 103.31 35 *e*LQ LQ 07 10 23.1
MVO *e*LR LR 07 14 51.6
comp=Z,45µm,18.0s
PASC Pasadena Art C 103.32 310 IAMs_20 IAMs_20 07 34 57.9
comp=Z,33µm,19.0s
G40A Rib Lake 103.33 335 IAMs_20 IAMs_20 07 37 06.4
comp=Z,38µm,20.0s
E44A Grand Marais A 103.61 339 IAMs_20 IAMs_20 07 31 12.9
comp=Z,51µm,22.0s
E43A Lone Tree Farm 103.62 338 IAMs_20 IAMs_20 07 30 10.0
comp=Z,104µm,22.0s
ECSD EROS Data Cent 103.64 330 IAMs_20 IAMs_20 07 33 38.6
comp=Z,51µm,20.0s
GSC Goldstone, Bar 103.66 312 IAMs_20 IAMs_20 07 32 46.9
comp=Z,37µm,21.0s
ATD Arta Tunnel 103.82 89 IAMs_20 IAMs_20 07 24 22.8
comp=Z,147µm,22.0s
COWI Conover 103.85 336 IAMs_20 IAMs_20 07 32 32.2
comp=Z,60µm,20.0s
OSI Osito Audit: C 103.93 310 IAMs_20 IAMs_20 07 27 59.1
comp=Z,45µm,19.0s
SPMN Marine on St. 103.95 333 IAMs_20 IAMs_20 07 35 11.9
comp=Z,48µm,22.0s
SHPR Sheep Range 103.96 314 IAMs_20 IAMs_20 07 28 07.9
comp=Z,51µm,19.0s
PBRG Braganca 103.98 35 *e*PP **PP 06 45 56.2 +1.0**
PBRG *e*S SKSac 06 52 32.8 +16
CTAO Charters Tower 104.01 201 IAMs_20 IAMs_20 07 26 37.4
comp=Z,24µm,19.0s
N23A Red Feather La 104.14 323 IAMs_20 IAMs_20 07 28 20.6
comp=Z,42µm,21.0s
O20A White River Ci 104.31 321 IAMs_20 IAMs_20 07 27 40.3
comp=Z,62µm,20.0s
PHWY Pilot Hill 104.32 323 IAMs_20 IAMs_20 07 29 04.5
comp=Z,25µm,22.0s
H08S1 Diego Carcia H 104.44 126 T T 08 39 34.6
SNR=4.2
PSAD3 Pilbara Seismi 104.56 175 IAMs_20 IAMs_20 07 29 31.0
comp=Z,71µm,20.0s
PSAC3 Pilbara Seismi 104.59 175 IAMs_20 IAMs_20 07 29 31.3
comp=Z,70µm,20.0s
PSAD2 Pilbara Seismi 104.60 175 IAMs_20 IAMs_20 07 29 32.5
comp=Z,70µm,19.0s
PSAB3 Pilbara Seismi 104.62 175 IAMs_20 IAMs_20 07 29 33.0
comp=Z,72µm,20.0s
D41A Chassel 104.62 337 IAMs_20 IAMs_20 07 30 35.6
comp=Z,51µm,22.0s
DGAR Diego Garcia 104.63 126 IAMs_20 IAMs_20 07 20 57.3
comp=Z,51µm,20.0s
PSAA1 Pilbara Seismi 104.63 175 IAMs_20 IAMs_20 07 29 32.4
comp=Z,70µm,20.0s
PSAA3 Pilbara Seismi 104.63 175 IAMs_20 IAMs_20 07 29 32.4
comp=Z,71µm,20.0s
PSA00 Pilbara Seismi 104.64 175 IAMs_20 IAMs_20 07 29 42.9
comp=Z,71µm,20.0s
PSAB1 Pilbara Seismi 104.64 175 IAMs_20 IAMs_20 07 29 32.6
comp=Z,69µm,20.0s
PSAA2 Pilbara Seismi 104.65 175 IAMs_20 IAMs_20 07 29 33.2
comp=Z,69µm,20.0s
PSAC2 Pilbara Seismi 104.65 175 IAMs_20 IAMs_20 07 29 33.9
comp=Z,72µm,20.0s
PSAB2 Pilbara Seismi 104.66 175 IAMs_20 IAMs_20 07 29 44.1
comp=Z,72µm,20.0s
PSAC1 Pilbara Seismi 104.67 175 IAMs_20 IAMs_20 07 29 44.8
comp=Z,74µm,20.0s
ISA Isabella, Lake 104.70 311 IAMs_20 IAMs_20 07 35 11.4
comp=Z,42µm,20.0s
PSAD1 Pilbara Seismi 104.75 175 IAMs_20 IAMs_20 07 29 46.7
comp=Z,72µm,20.0s
TPNV Topopah Spring 104.81 313 IAMs_20 IAMs_20 07 28 11.2
comp=Z,52µm,19.0s
DAC Darwin (Calif) 104.82 312 IAMs_20 IAMs_20 07 34 10.7
comp=Z,39µm,22.0s
H08N3 Diego Garcia H 104.84 124 T T 08 39 27.2
baz=217,slow=76,SNR=17
H08N1 Diego Carcia H 104.86 124 T T 08 39 30.3
baz=217,slow=76,SNR=16
H08N2 Diego Garcia H 104.87 124 T T 08 39 40.9
baz=217,slow=76,SNR=19
E38A The Farm, Brul 104.92 335 IAMs_20 IAMs_20 07 29 43.4
comp=Z,76µm,22.0s
SUSD Miller 104.98 329 IAMs_20 IAMs_20 07 34 32.2
comp=Z,47µm,20.0s
MBWA Marble Bar 105.04 175 IAMs_20 IAMs_20 07 29 54.3
comp=Z,47µm,21.0s
KEST Kesra 105.11 49 PKKPbc PKKPbc 06 57 37.1 +15
comp=Z,14nm,1.2s,baz=304,slow=8.1,SNR=3.5
KEST Kesra 105.11 49 IAMs_20 IAMs_20 07 25 58.6
comp=Z,257µm,21.0s
RWWY Rawlins 105.29 322 IAMs_20 IAMs_20 07 31 07.2
comp=Z,52µm,20.0s
PAGB Antelope Grade 105.55 310 IAMs_20 IAMs_20 07 26 59.0
comp=Z,73µm,18.0s
R11A Troy Canyon, C 105.70 315 IAMs_20 IAMs_20 07 28 39.0
comp=Z,56µm,19.0s
K22A Casper 105.88 323 IAMs_20 IAMs_20 07 27 16.9
comp=Z,48µm,22.0s
WR9 Warramunga Arr 105.92 189 IAMs_20 IAMs_20 07 34 32.7
comp=Z,47µm,20.0s
WR8 Warramunga Arr 105.93 189 IAMs_20 IAMs_20 07 34 32.8
comp=Z,49µm,20.0s
WR7 Warramunga Arr 105.93 189 IAMs_20 IAMs_20 07 34 32.9
comp=Z,49µm,20.0s
WR6 Warramunga Arr 105.93 189 IAMs_20 IAMs_20 07 34 33.0
comp=Z,50µm,20.0s
WC3 Warramunga Arr 105.94 189 IAMs_20 IAMs_20 07 34 32.0
comp=Z,50µm,20.0s

WC4 Warramunga Arr 105.94 189 IAMs_20 IAMs_20 07 34 32.0
comp=Z,52µm,20.0s
WR5 Warramunga Arr 105.94 189 IAMs_20 IAMs_20 07 34 33.1
comp=Z,50µm,20.0s
WB1 Warramunga Ar. 105.94 189 IAMs_20 IAMs_20 07 34 32.1
comp=Z,49µm,20.0s
WR4 Warramunga Arr 105.94 189 IAMs_20 IAMs_20 07 34 33.2
comp=Z,48µm,19.0s
WR3 Warramunga Arr 105.95 189 IAMs_20 IAMs_20 07 34 32.3
comp=Z,50µm,20.0s
WR2 Warramunga Arr 105.95 189 IAMs_20 IAMs_20 07 34 32.4
comp=Z,43µm,20.0s
WB2 Warramunga Arr 105.95 189 IAMs_20 IAMs_20 07 34 32.5
comp=Z,50µm,19.0s
WR1 Warramunga Arr 105.96 189 IAMs_20 IAMs_20 07 34 32.5
comp=Z,42µm,20.0s
WRA Warramunga Arr 105.96 189 Pdiff **Pdif** **06 41 43.5 -3.0**
comp=Z,5.4nm,1.0s,baz=180,slow=4.0,SNR=7.7
WRA PP **PP** **06 46 08.1 -0.6**
comp=Z,15nm,1.0s,baz=200,slow=1.3,SNR=6.9
WRA Warramunga Arr 105.96 189 **Pdif** **06 41 43.6 -3.0**
WRAB Tennant Creek 105.96 189 IAMs_20 IAMs_20 07 34 32.7
comp=Z,50µm,20.0s
WB3 Warramunga Arr 105.97 189 IAMs_20 IAMs_20 07 34 33.0
comp=Z,51µm,20.0s
WC1 Warramunga Arr 105.97 189 IAMs_20 IAMs_20 07 34 33.0
comp=Z,49µm,20.0s
WB4 Warramunga Arr 105.99 189 IAMs_20 IAMs_20 07 34 33.5
comp=Z,50µm,19.0s
WB7 Warramunga Arr 106.05 189 IAMs_20 IAMs_20 07 34 35.9
comp=Z,45µm,19.0s
WB8 Warramunga Arr 106.08 189 IAMs_20 IAMs_20 07 34 35.8
comp=Z,52µm,20.0s
WB9 Warramunga Arr 106.10 189 IAMs_20 IAMs_20 07 34 36.4
comp=Z,52µm,20.0s
DUG Dugway, Tooele 106.13 318 IAMs_20 IAMs_20 07 35 15.5
comp=Z,40µm,18.0s
EYMN Ely 106.15 335 IAMs_20 IAMs_20 07 31 01.0
comp=Z,52µm,22.0s
PMPB Monarch Peak 106.20 310 IAMs_20 IAMs_20 07 27 17.2
comp=Z,59µm,18.0s
RSSD Black Hills 106.32 325 IAMs_20 IAMs_20 07 34 43.5
comp=Z,58µm,22.0s
MAHO Mahon 106.44 44 SKS **SKSac** **06 52 34.2 +6.6**
OMMB Old Mammoth Mi 106.56 312 IAMs_20 IAMs_20 07 35 51.6
comp=Z,42µm,21.0s
MDPB Devils Postpil 106.61 312 IAMs_20 IAMs_20 07 35 52.9
comp=Z,38µm,22.0s
HWUT Hardware Ranch 106.85 319 IAMs_20 IAMs_20 07 29 41.4
comp=Z,51µm,20.0s
NV11 Mina Array Sit 106.87 313 IAMs_20 IAMs_20 07 32 31.9
comp=Z,45µm,22.0s
NVAR Mina Array Bea 106.93 313 Pdiff **Pdif** **06 42 04.8 +14**
NVAR PP **PP** **06 46 16.9 -0.5**
comp=Z,4.9nm,1.0s,baz=182,slow=2.4,SNR=7.5
NVAR PKKPbc **PKKPab** **06 57 23.9 -6.1**
comp=Z,3.1nm,0.8s,baz=288,slow=3.0,SNR=6.9
NVAR Mina Array Bea 106.93 313 Pdif **Pdif** **06 41 50.2 -0.3**
SAO San Andreas Ge 106.95 310 IAMs_20 IAMs_20 07 28 04.9
comp=Z,46µm,18.0s
BW06 Boulder Array 107.09 321 IAMs_20 IAMs_20 07 32 05.7
comp=Z,69µm,18.0s
PDAR Pinedale Array 107.09 321 Pdiff **Pdif** **06 41 52.5 +1.4**
comp=Z,0.3nm,0.6s,baz=134,slow=8.6,SNR=3.6
PDAR PP **PP** **06 46 14.2 -4.3**
comp=Z,3.7nm,0.9s,baz=140,slow=4.5,SNR=5.2
PDAR PKKPbc **PKKPab** **06 57 26.1 -2.9**
comp=Z,1.0nm,0.6s,baz=45,slow=0.4,SNR=5.6
DAMY Dhamar 107.14 89 IAMs_20 IAMs_20 07 31 58.7
comp=Z,106µm,19.0s
RYN Ryan 107.19 313 IAMs_20 IAMs_20 07 32 06.4
comp=Z,40µm,21.0s
KVN Kaiserville 107.36 313 IAMs_20 IAMs_20 07 31 00.9
comp=Z,55µm,21.0s
WAKR Walker 107.49 312 IAMs_20 IAMs_20 07 33 01.2
comp=Z,39µm,20.0s
CMB Columbia Colle 107.52 311 IAMs_20 IAMs_20 07 28 45.0
comp=Z,31µm,19.0s
ELK Elko 107.58 316 PKKPbc PKKPbc 06 57 16.1 +1.1
comp=Z,1.9nm,0.8s,baz=352,slow=6.3,SNR=3.9
ELK Elko 107.58 316 IAMs_20 IAMs_20 07 33 24.7
comp=Z,51µm,18.0s
WDD Wied Dalam 107.58 53 IAMs_20 IAMs_20 07 25 03.9
comp=Z,139µm,22.0s
AGMN Agassiz Nation 107.60 333 IAMs_20 IAMs_20 07 38 39.5
comp=Z,62µm,20.0s
AHID Auburn Hatcher 107.66 320 IAMs_20 IAMs_20 07 30 05.0
comp=Z,59µm,20.0s
YERR Yerington 107.80 312 IAMs_20 IAMs_20 07 34 57.5
comp=Z,40µm,20.0s
PNTR Pine Nut 108.04 312 IAMs_20 IAMs_20 07 30 19.9
comp=Z,38µm,19.0s
REDW Red Top Meadow 108.08 321 IAMs_20 IAMs_20 07 30 40.1
comp=Z,58µm,20.0s
SNOW Snow King Moun 108.13 321 IAMs_20 IAMs_20 07 30 41.4
comp=Z,50µm,20.0s
BMN Battle Mountai 108.14 315 IAMs_20 IAMs_20 07 29 56.5
comp=Z,48µm,21.0s
FITZ Fitzroy Crossi 108.22 181 IAMs_20 IAMs_20 07 33 04.5
comp=Z,52µm,20.0s
TPAW Teton Pass 108.23 321 IAMs_20 IAMs_20 07 32 29.9
comp=Z,45µm,19.0s
VCNR Virginia City 108.23 312 IAMs_20 IAMs_20 07 30 26.0
comp=Z,33µm,18.0s
MDND Maddock 108.25 330 IAMs_20 IAMs_20 07 38 29.6
comp=Z,45µm,20.0s
RUBR Rubicon Trail 108.25 312 IAMs_20 IAMs_20 07 36 46.5
comp=Z,49µm,20.0s
MOOW Moose Ponds 108.37 321 IAMs_20 IAMs_20 07 31 00.8
comp=Z,53µm,20.0s
FXWY Fox Creek 108.38 321 IAMs_20 IAMs_20 07 32 34.1
comp=Z,39µm,19.0s
CLTB Caltabellotta 108.39 51 IAMs_20 IAMs_20 07 34 39.3
comp=Z,76µm,20.0s
PAHR Pah Rah Range 108.46 313 IAMs_20 IAMs_20 07 31 39.1
comp=Z,43µm,20.0s
AFDM Forest Hills D 108.53 311 IAMs_20 IAMs_20 07 30 13.7
comp=Z,41µm,18.0s
IMW Indian Meadow 108.57 321 IAMs_20 IAMs_20 07 32 52.1
comp=Z,45µm,20.0s
RAFF Raffo Rosso 108.63 52 IAMs_20 IAMs_20 07 26 29.7
comp=Z,111µm,22.0s
FLWY Flagg Ranch 108.64 321 IAMs_20 IAMs_20 07 30 46.9
comp=Z,64µm,19.0s
CORL Corleone 108.69 51 IAMs_20 IAMs_20 07 29 18.2
comp=Z,131µm,20.0s
MCCM Marconi Confer 108.73 310 IAMs_20 IAMs_20 07 28 12.1
comp=Z,43µm,19.0s
H17A Grant Village 108.86 321 IAMs_20 IAMs_20 07 31 05.8
comp=Z,146µm,20.0s
LKWY Lake 108.94 322 IAMs_20 IAMs_20 07 31 07.9
comp=Z,97µm,21.0s
RLMT Red Lodge 109.01 323 IAMs_20 IAMs_20 07 32 54.7
comp=Z,40µm,19.0s
BEKR Beckworth 109.02 312 IAMs_20 IAMs_20 07 29 35.7
comp=Z,35µm,20.0s
GDXM Geysers 109.23 310 IAMs_20 IAMs_20 07 37 24.4
comp=Z,45µm,20.0s
ORV Oroville 109.26 311 IAMs_20 IAMs_20 07 31 05.2
comp=Z,54µm,18.0s
LAO LASA Array 109.31 325 IAMs_20 IAMs_20 07 40 07.7
comp=Z,34µm,22.0s
ULM Lac du Bonnet 109.39 334 PKKPbc PKKPbc 06 57 14.2 +5.0
comp=Z,10nm,0.8s,baz=334,slow=2.9,SNR=5.9
ULM Lac du Bonnet 109.39 334 IAMs_20 IAMs_20 07 36 29.8
comp=Z,64µm,22.0s
HOPS Hopland Field 109.51 310 IAMs_20 IAMs_20 07 28 15.7
comp=Z,42µm,18.0s
COCO West Island 109.86 151 IAMs_20 IAMs_20 07 37 19.0
comp=Z,0.9nm,20.0s
MFID Camas Ranch 110.06 317 IAMs_20 IAMs_20 07 35 17.3
comp=Z,35µm,19.0s
DGMT Dagmar 110.21 328 IAMs_20 IAMs_20 07 35 09.5
comp=Z,45µm,21.0s
BOZ Bozeman (W) 110.28 321 IAMs_20 IAMs_20 07 32 08.2
comp=Z,57µm,19.0s
HNR Honiara 110.28 217 IAMs_20 IAMs_20 07 33 22.3
comp=Z,18µm,20.0s
KCPM Cahto Peak 110.30 310 IAMs_20 IAMs_20 07 25 43.7
comp=Z,34µm,21.0s
WVOR Wild Horse Val 110.39 315 IAMs_20 IAMs_20 07 32 10.1
comp=Z,51µm,19.0s
DLMT Dillon 110.44 321 IAMs_20 IAMs_20 07 32 14.5
comp=Z,49µm,21.0s
WDC Whiskeytown Da 110.56 311 IAMs_20 IAMs_20 07 29 51.5
comp=Z,33µm,21.0s
KNRA Kununurra 110.56 184 IAMs_20 IAMs_20 07 38 24.5
comp=Z,44µm,20.0s
COEN Coen 110.59 199 IAMs_20 IAMs_20 07 30 54.6
comp=Z,27µm,20.0s
MOD Modoc Plateau 110.66 314 IAMs_20 IAMs_20 07 33 04.2
comp=Z,41µm,20.0s
KMRM Mail Ridge 110.79 310 IAMs_20 IAMs_20 07 29 12.3
comp=Z,51µm,18.0s
SOCY Socotra 110.91 98 IAMs_20 IAMs_20 07 30 12.9
comp=Z,85µm,21.0s
SSB Saint Sauveur 111.08 41 IAMs_20 IAMs_20 07 27 18.7
comp=Z,80µm,22.0s
TIP Timpagrande 111.33 52 IAMs_20 IAMs_20 07 37 12.9
comp=Z,100µm,19.0s
KHMM Horse Mountain 111.33 311 IAMs_20 IAMs_20 07 29 41.9
comp=Z,43µm,19.0s
JCC Jacoby Creek, 111.42 310 IAMs_20 IAMs_20 07 34 15.2
comp=Z,36µm,21.0s
PLID Pearl Lake 111.52 318 IAMs_20 IAMs_20 07 36 57.0
comp=Z,44µm,22.0s
KHU Kahuku 111.56 273 IAMs_20 IAMs_20 07 28 15.7
comp=Z,41µm,19.0s
YBH Yreka Blue Hor 111.57 312 PKKPbc PKKPbc 06 57 08.1 +6.2
comp=Z,2.5nm,1.0s,baz=65,slow=11,SNR=4.2
YBH Yreka Blue Hor 111.57 312 IAMs_20 IAMs_20 07 38 41.2
comp=Z,38µm,21.0s
CASP Castiglione de 111.60 46 IAMs_20 IAMs_20 07 28 02.2
comp=Z,70µm,22.0s
EGMT Eagleton 111.68 324 IAMs_20 IAMs_20 07 40 21.2
comp=Z,35µm,20.0s
BNI Bardonecchia 111.73 42 IAMs_20 IAMs_20 07 31 18.7
comp=Z,92µm,20.0s
KAAM Kaadhehdhoo 111.73 122 IAMs_20 IAMs_20 07 24 28.8
comp=Z,52µm,20.0s
MLOA Mauna Loa Obse 111.77 273 IAMs_20 IAMs_20 07 25 18.1
comp=Z,45µm,21.0s
PAOL Paolisi 111.80 50 IAMs_20 IAMs_20 07 30 30.5
comp=Z,151µm,20.0s
BMO Blue Mountains 111.84 317 IAMs_20 IAMs_20 07 37 08.6
comp=Z,42µm,22.0s
CCA1 Carnmenellis 111.88 32 *e*P **PKiKP** **06 46 10.1 +1.4**
CCA1 IAMs_20 IAMs_20 07 28 10.2
comp=Z,70µm,21.3s
POHA Pohakuloa 111.91 274 IAMs_20 IAMs_20 07 25 44.0
comp=Z,45µm,21.0s
KRMB Red Mountain 111.93 311 IAMs_20 IAMs_20 07 29 15.8
comp=Z,29µm,20.0s
JSA Saint Aubin 112.00 34 IAMs_20 IAMs_20 07 42 04.7
comp=Z,57µm,17.5s
KHLU Kahalu`u 112.00 273 IAMs_20 IAMs_20 07 28 28.2
comp=Z,46µm,20.0s
MSO Missoula 112.18 321 IAMs_20 IAMs_20 07 33 01.5
comp=Z,56µm,19.0s
HPAH Hawaii Prepara 112.22 274 IAMs_20 IAMs_20 07 25 52.2
comp=Z,49µm,20.0s
ITM Ithomi 112.24 57 IAMs_20 IAMs_20 07 35 21.0
comp=Z,38µm,21.0s
MSSA Maissana 112.27 44 IAMs_20 IAMs_20 07 29 46.1
comp=Z,104µm,21.0s
INTR Introdacqua 112.29 49 IAMs_20 IAMs_20 07 29 03.5
comp=Z,175µm,22.0s
AQU L'Aquila 112.34 48 IAMs_20 IAMs_20 07 30 34.9
comp=Z,139µm,20.0s
OSSC Osservatorio P 112.35 46 IAMs_20 IAMs_20 07 30 57.2
comp=Z,67µm,21.0s
HUMO Hull Mountain 112.38 312 IAMs_20 IAMs_20 07 39 07.8
comp=Z,44µm,22.0s
PINE Pine Mountain 112.47 314 IAMs_20 IAMs_20 07 32 24.2
comp=Z,58µm,20.0s
DYA Yadsworthy 112.50 33 IAMs_20 IAMs_20 07 26 33.8
comp=Z,38µm,22.2s
VLC Villacollemand 112.51 45 IAMs_20 IAMs_20 07 28 24.3
comp=Z,70µm,22.0s
CLF Chambon-Foret 112.54 38 IAMs_20 IAMs_20 07 35 26.2
comp=Z,87µm,19.0s
NRCA Norcia 112.60 48 IAMs_20 IAMs_20 07 31 51.8
comp=Z,109µm,20.0s
KBO Bosley Butte 112.62 311 IAMs_20 IAMs_20 07 34 37.2
comp=Z,38µm,19.0s
MURB Monte Urbino 112.69 47 IAMs_20 IAMs_20 07 29 26.2
comp=Z,51µm,21.0s
F10A Beach Ranch, E 112.74 318 IAMs_20 IAMs_20 07 33 49.2
comp=Z,53µm,19.0s
HTL Hartland 112.81 32 IAMs_20 IAMs_20 07 28 37.2
comp=Z,80µm,21.4s
SCTE Santa Cesarea 112.84 53 IAMs_20 IAMs_20 07 31 57.9
comp=Z,65µm,20.0s
G08A Pilot Rock 112.87 316 IAMs_20 IAMs_20 07 36 33.7
comp=Z,46µm,21.0s
SGRT San Giovanni R 112.91 50 IAMs_20 IAMs_20 07 30 02.9
comp=Z,156µm,22.0s
ZCCA Zocca 112.91 45 IAMs_20 IAMs_20 07 30 17.8
comp=Z,94µm,21.0s
PRMA PARMA 112.97 45 IAMs_20 IAMs_20 07 30 40.5
comp=Z,158µm,21.0s
SENIN Lac Senin/Sane 113.06 42 IAMs_20 IAMs_20 07 31 35.9
comp=Z,126µm,20.0s
JTMT Jette 113.08 321 IAMs_20 IAMs_20 07 39 36.2
comp=Z,59µm,21.0s
HLK Haleakala 113.11 274 IAMs_20 IAMs_20 07 26 27.7
comp=Z,45µm,20.0s
KEBM Edson Butte 113.20 312 IAMs_20 IAMs_20 07 39 36.4
comp=Z,39µm,20.0s
MTN Manton Dam 113.25 186 IAMs_20 IAMs_20 07 38 18.7
comp=Z,40µm,19.0s
KHLH Kahului Airpor 113.32 274 IAMs_20 IAMs_20 07 26 23.3
comp=Z,50µm,20.0s
EIL Elat 113.37 71 PP **PP** **06 47 02.5 -1.1**
comp=Z,5.0nm,0.7s,baz=147,slow=5.7,SNR=3.9
EIL Elat 113.37 71 **PP** **06 47 02.5 -1.1**
SANT Santorini 113.39 60 IAMs_20 IAMs_20 07 38 57.6
comp=Z,26µm,22.0s
RSBS Rosebush, Pemb 113.57 31 IAMs_20 IAMs_20 07 29 07.4
comp=Z,30µm,21.4s
KARP Karpathos 113.64 62 IAMs_20 IAMs_20 07 40 06.0
comp=Z,54µm,21.0s
XMIS Christmas Isla 113.72 159 IAMs_20 IAMs_20 07 31 19.8
comp=Z,27µm,22.0s
F07A Phinny Hill Vi 113.76 316 IAMs_20 IAMs_20 07 35 29.2
comp=Z,34µm,19.0s
AGG Agios Georgios 113.87 56 IAMs_20 IAMs_20 07 35 50.4
comp=Z,59µm,21.0s
E08A Dider Farm, El 113.89 317 IAMs_20 IAMs_20 07 34 29.7
comp=Z,33µm,20.0s
TUE Stuetta 113.96 43 IAMs_20 IAMs_20 07 29 33.8
comp=Z,69µm,22.0s
HAWA Hanford 114.00 317 IAMs_20 IAMs_20 07 38 34.7
comp=Z,33µm,20.0s
OLDB Oldbury-Upon-S 114.00 33 IAMs_20 IAMs_20 07 28 16.0
comp=Z,67µm,21.1s
TEOL Teolo 114.02 45 IAMs_20 IAMs_20 07 36 26.3
comp=Z,46µm,20.0s
MONM Monmouth 114.07 32 IAMs_20 IAMs_20 07 27 45.1
comp=Z,66µm,22.1s
SWN1 Swindon 114.12 33 IAMs_20 IAMs_20 07 27 30.2
comp=Z,58µm,23.1s
COR Corvallis 114.12 313 IAMs_20 IAMs_20 07 32 21.8
comp=Z,44µm,20.0s
WOL Wenvoe 114.13 34 IAMs_20 IAMs_20 07 27 34.6
comp=Z,48µm,21.2s
PMG Port Moresby 114.14 204 PKP PKPdf 06 46 16.8 +2.5
comp=Z,10nm,0.6s,baz=259,slow=16,SNR=1.9
PMG Port Moresby 114.14 204 IAMs_20 IAMs_20 07 42 35.0
comp=Z,30µm,18.0s
MCH1 Michaelchurch 114.15 32 *e*P PKPdf 06 46 12.3 -0.7
MCH1 IAMs_20 IAMs_20 07 29 27.9
comp=Z,73µm,21.9s
DSB Dublin 114.21 30 IAMs_20 IAMs_20 07 27 28.3
comp=Z,100µm,22.0s
STRD Stroud 114.22 33 IAMs_20 IAMs_20 07 28 33.9
comp=Z,63µm,21.3s
E07A Sunnyside 114.27 317 IAMs_20 IAMs_20 07 34 11.7
comp=Z,40µm,18.0s
HMNX Herstmonceux 114.27 35 IAMs_20 IAMs_20 07 35 50.5
comp=Z,65µm,19.9s
DAVOX Davos/Dischmat 114.43 43 PKKPbc PKKPbc 06 57 03.5 +11
comp=Z,2.8nm,0.7s,baz=281,slow=5.3,SNR=3.5
TIR Tirane 114.49 53 IAMs_20 IAMs_20 07 37 55.8
comp=Z,74µm,18.0s
TARA Tarawa 114.52 235 IAMs_20 IAMs_20 07 31 51.2
comp=Z,15µm,20.0s
ECH Echery 114.53 41 IAMs_20 IAMs_20 07 31 26.7
comp=Z,47µm,21.0s
CTI Castel Tesino 114.56 45 IAMs_20 IAMs_20 07 32 42.7
comp=Z,64µm,20.0s
NEW Newport 114.58 319 PKKPbc PKKPbc 06 56 44.8 -7.1
comp=Z,4.3nm,1.0s,baz=40,slow=4.0,SNR=3.6
NEW Newport 114.58 319 IAMs_20 IAMs_20 07 43 59.9
comp=Z,46µm,20.0s
HON Honolulu 114.58 273 IAMs_20 IAMs_20 07 33 56.4
comp=Z,67µm,18.0s
HLM1 Long Mynd 114.64 32 IAMs_20 IAMs_20 07 29 41.9
comp=Z,79µm,21.8s
C09A Chrisman Ranch 114.64 318 IAMs_20 IAMs_20 07 44 19.7
comp=Z,45µm,21.0s
KIP Kipapa 114.66 273 IAMs_20 IAMs_20 07 33 57.7
comp=Z,59µm,18.0s
FNA Florina 114.78 54 IAMs_20 IAMs_20 07 40 34.3
comp=Z,62µm,20.0s
ELSH Elham, Standar 114.78 35 IAMs_20 IAMs_20 07 29 21.2
comp=Z,57µm,23.7s
LIT Litokhoron 114.79 56 IAMs_20 IAMs_20 07 35 42.5
comp=Z,69µm,20.0s
F04A Amboy 114.82 315 IAMs_20 IAMs_20 07 37 46.3
comp=Z,30µm,20.0s
WLF1 Llynfaes 114.83 31 IAMs_20 IAMs_20 07 27 30.8
comp=Z,121µm,22.2s
FOEL Foel Wylfa 114.85 32 IAMs_20 IAMs_20 07 29 37.8
comp=Z,67µm,21.8s
OPA Opana 114.86 273 IAMs_20 IAMs_20 07 29 58.2
comp=Z,53µm,20.0s
WPS Cemaes, Angles 114.90 31 IAMs_20 IAMs_20 07 27 43.9
comp=Z,67µm,22.7s
IVI Ivigtut 114.96 4 IAMs_20 IAMs_20 07 30 33.0
comp=Z,75µm,22.0s
NRS Narsarsuaq 115.04 5 IAMs_20 IAMs_20 07 29 34.1
comp=Z,65µm,21.0s
PDG Podgorica 115.05 52 IAMs_20 IAMs_20 07 32 36.6
comp=Z,93µm,21.0s
FFC Flin Flon 115.06 332 IAMs_20 IAMs_20 07 39 14.7
comp=Z,57µm,20.0s
BFO Black Forest 115.07 41 IAMs_20 IAMs_20 07 30 09.1
comp=Z,66µm,22.0s
LTY Liberty 115.16 317 IAMs_20 IAMs_20 07 34 36.2
comp=Z,39µm,22.0s
STAL STALIGIAL 115.17 45 IAMs_20 IAMs_20 07 35 23.9
comp=Z,59µm,21.0s
TRI Trieste 115.18 46 IAMs_20 IAMs_20 07 30 39.0
comp=Z,117µm,22.0s
LON Longmire 115.22 316 IAMs_20 IAMs_20 07 34 09.9
comp=Z,37µm,19.0s
CWF Charnwood Fore 115.32 33 *e* 07 20 13.5
CWF IAMs_20 IAMs_20 07 29 17.0
comp=Z,49µm,20.1s
WLF Walferdange 115.33 39 IAMs_20 IAMs_20 07 36 37.1
comp=Z,49µm,21.0s
STNC Stoke 115.34 32 IAMs_20 IAMs_20 07 30 02.9
comp=Z,69µm,22.0s
B08A Colville Reser 115.51 318 IAMs_20 IAMs_20 07 44 56.7
comp=Z,49µm,21.0s
UCC Uccle 115.61 37 IAMs_20 IAMs_20 07 35 29.5
comp=Z,83µm,20.0s
D05A Enumclaw 115.64 316 IAMs_20 IAMs_20 07 46 20.1
comp=Z,32µm,20.0s
LBWR Ladybower, Pea 115.75 32 *e* 07 20 44.8
LBWR IAMs_20 IAMs_20 07 30 16.5
comp=Z,62µm,20.6s
STU Stuttgart 115.77 41 IAMs_20 IAMs_20 07 33 26.5
comp=Z,63µm,21.0s
E03A Lebam 115.79 314 IAMs_20 IAMs_20 07 38 15.9
comp=Z,36µm,22.0s
CLGH Cloghs, Cushen 115.89 29 *e* 07 20 43.2
CLGH IAMs_20 IAMs_20 07 28 33.6
comp=Z,54µm,21.7s
BLY Banja Luka 115.92 49 IAMs_20 IAMs_20 07 30 49.5
comp=Z,83µm,22.0s
WACR West Acre 115.94 34 IAMs_20 IAMs_20 07 28 38.6
comp=Z,59µm,21.5s
ELL Elmali 115.99 63 IAMs_20 IAMs_20 07 37 40.3
comp=Z,141µm,21.0s
KEKH Kekaha 116.09 272 IAMs_20 IAMs_20 07 29 47.7
comp=Z,61µm,19.0s
GAL1 Galloway 116.11 30 IAMs_20 IAMs_20 07 28 38.8
comp=Z,83µm,21.8s
MMAI Mount Meron Ar 116.15 69 PP **PP** **06 47 17.3 -6.0**
comp=Z,4.2nm,0.8s,baz=237,slow=7.7,SNR=3.8
MMAI Mount Meron Ar 116.15 69 **PP** **06 47 17.3 -6.0**
LMK Market Rasen 116.25 33 *e* 07 21 03.2
LMK IAMs_20 IAMs_20 07 30 44.4
comp=Z,61µm,21.7s
HPK Haverah Park 116.26 32 IAMs_20 IAMs_20 07 30 30.1
comp=Z,80µm,22.0s
KESW Keswick, Cumbr 116.34 31 IAMs_20 IAMs_20 07 28 26.2
comp=Z,60µm,22.6s
ASF Jabal al Asfar 116.35 71 PKP **PKiKP** **06 46 24.3 +6.2**
comp=Z,2.0nm,0.7s,baz=154,slow=5.7,SNR=4.7
ASF PP **PP** **06 47 31.6 +6.8**
comp=Z,3.7nm,0.9s,baz=154,slow=6.3,SNR=3.3
ASF Jabal al Asfar 116.35 71 **PKiKP** **06 46 24.3 +6.2**
CSS Mathiatis 116.48 67 IAMs_20 IAMs_20 07 37 58.7
comp=Z,56µm,21.0s
B06A Marblemount 116.50 317 IAMs_20 IAMs_20 07 45 49.7
comp=Z,46µm,21.0s
SOEI Soe 116.52 179 IAMs_20 IAMs_20 07 42 52.3
comp=Z,57µm,20.0s
NLWA Neilton Lookou 116.58 315 IAMs_20 IAMs_20 07 40 14.2
comp=Z,39µm,20.0s
MANT Manisa 116.60 61 IAMs_20 IAMs_20 07 38 18.5
comp=Z,101µm,21.0s
ESK Eskdalemuir 116.94 30 *e*P **PKiKP** **06 46 18.3 0.0**
ESK IAMs_20 IAMs_20 07 28 41.8
comp=Z,94µm,21.8s
ESK Eskdalemuir 116.94 30 IAMs_20 IAMs_20 07 28 57.5
comp=Z,96µm,22.0s
PGBU Glenifferbraes 116.99 29 *e* 07 21 09.7
PGBU IAMs_20 IAMs_20 07 29 14.9
comp=Z,71µm,20.8s
CISI Cisompet, Garu 117.00 161 IAMs_20 IAMs_20 07 30 02.7
comp=Z,42µm,22.0s
VTS Vitosha 117.08 54 ⇑PKIKP **PKiKP** **06 46 21.2 +2.0**
VTS Vitosha 117.08 54 ⇑P **PKiKP** **06 46 21.2 +2.0**
VTS Vitosha 117.08 54 IAMs_20 IAMs_20 07 33 37.1
comp=Z,62µm,22.0s
LAWE Loch Awe, Argy 117.11 28 *e* 07 21 00.8
LAWE IAMs_20 IAMs_20 07 35 10.6
comp=Z,47µm,22.6s
JAGI Jajag, Banyuwa 117.12 168 IAMs_20 IAMs_20 07 41 09.5
comp=Z,18µm,19.0s
ISP Isparta 117.12 62 IAMs_20 IAMs_20 07 39 15.4
comp=Z,25µm,22.0s
UGM Wanagama 117.14 164 IAMs_20 IAMs_20 07 33 38.3
comp=Z,43µm,21.0s
ALN Alexandroupoli 117.14 57 IAMs_20 IAMs_20 07 40 49.2
comp=Z,25µm,21.0s
HMDM Hanimaadhoo 117.19 119 IAMs_20 IAMs_20 07 29 08.7
comp=Z,54µm,20.0s
GRA1 Grafenberg Arr 117.30 42 IAMs_20 IAMs_20 07 33 44.1
comp=Z,56µm,21.0s
PGC Sidney 117.40 316 IAMs_20 IAMs_20 07 38 30.6
comp=Z,38µm,20.0s
EDI Edinburgh 117.46 30 *e* 07 21 39.4
EDI IAMs_20 IAMs_20 07 29 18.6
comp=Z,87µm,22.1s
GEC2 GERESS Array S 117.63 44 IAMs_20 IAMs_20 07 32 24.6
comp=Z,91µm,21.0s
GERES GERESS Array B 117.63 44 PKIKP **PKPdf** **06 46 19.0 -1.0**
GERES GERESS Array B 117.63 44 PKP **PKiKP** **06 46 24.2 +4.2**
comp=Z,5.4nm,0.7s,baz=219,slow=1.7,SNR=9.9
GERES PKKPbc **PKKPab** **06 56 43.2 +0.6**
comp=Z,0.8nm,0.6s,baz=11,slow=1.4,SNR=3.8
GERES GERESS Array B 117.63 44 PKPdf **PKPdf** **06 46 19.0 -1.0**
INVG Invergeldie, C 117.64 29 IAMs_20 IAMs_20 07 29 44.2
comp=Z,68µm,21.1s
JOHN Johnston Islan 117.79 260 IAMs_20 IAMs_20 07 29 13.8
comp=Z,57µm,21.0s
KHC Kasperske Hory 117.80 44 *e*PKIKP **PKiKP** **06 46 25.6 +5.3**
KHC *e*SP SP 06 57 23.8 +6.1
KHC MLR MLR
comp=Z,107µm,21.7s
KHC Kasperske Hory 117.80 44 *e*PKP **PKiKP** **06 46 25.6 +5.3**
KHC *e*x x 06 46 39.0
KHC *e*x x 06 47 45.0
KHC *e*PKKP **PKKPab** **06 56 44.5 +2.7**
KHC *e*SP SP 06 57 23.8 +6.1
KHC AMS AMS 07 31 40.0
comp=Z,107µm,21.7s
KHC Kasperske Hory 117.80 44 IAMs_20 IAMs_20 07 31 57.4
comp=Z,44µm,22.0s
KPL Plockton 117.97 28 *e* 07 21 30.9
KPL IAMs_20 IAMs_20 07 32 50.0
comp=Z,73µm,22.3s
SMRI Semarang 117.97 164 IAMs_20 IAMs_20 07 31 21.3
comp=Z,53µm,22.0s
SAUI Saumlaki 118.06 187 IAMs_20 IAMs_20 07 34 17.1
comp=Z,61µm,21.0s
NKC Novy Kostel 118.21 42 AMS AMS 07 34 30.0

comp=Z,60µm,21.4s
MNCY Minicoy 118.37 118 IAMs_20 IAMs_20 07 25 09.5
comp=Z,94µm,24.4s
MNCI Minicoy 118.40 118 IAMs_20 IAMs_20 07 28 25.9
comp=Z,76µm,21.0s
HERR Herculane 118.40 52 ⇑P **PKiKP 06 46 27.1 +5.6**
DRUM Mains of Drumt 118.51 30 IAMs_20 IAMs_20 07 30 05.2
comp=Z,81µm,21.4s
TREC Trest 118.72 45 eSP SP 06 57 29.1 +3.2
TREC AMS AMS 07 36 40.0
comp=Z,57µm,20.5s
PRU Pruhonice 118.86 44 eSP SP 06 57 26.9 -0.3
PRU AMS AMS 07 33 10.0
comp=Z,96µm,21.3s
PRA Prague 118.88 44 eSP SP 06 57 28.6 +1.3
PRA AMS AMS 07 31 50.0
comp=Z,91µm,22.6s
GOPC GO Pecny, Ondr 118.91 44 ePKIKP **PKiKP 06 46 29.5 +7.1**
GOPC MLR MLR
comp=Z,104µm,21.5s
GOPC GO Pecny, Ondr 118.91 44 ePKP **PKiKP 06 46 29.5 +7.1**
GOPC AMS AMS 07 33 10.0
comp=Z,104µm,21.5s
KRUC Moravsky 118.92 45 ePKP **PKiKP 06 46 29.1 +6.7**
GZR Gura Zlata 118.96 52 ⇑PKIKP **PKiKP 06 46 29.4 +6.7**
GZR Gura Zlata 118.96 52 ⇑P **PKiKP 06 46 29.4 +6.7**
MNAI Manna 119.01 155 IAMs_20 IAMs_20 07 37 36.2
comp=Z,26µm,19.0s
SIRR Siria 119.10 51 ⇑P **PKiKP 06 46 26.0 +3.2**
VRAC Vranov 119.19 45 ePKP **PKiKP 06 46 29.1 +6.2**
CLL Collm 119.27 42 ePKIKP **PKiKP 06 46 27.0 +4.0**
CLL pmax pmax
comp=Z,39nm,1.4s
CLL MLR MLR
comp=Z,68µm,21.6s
CLL Collm 119.27 42 ePKPdf **PKiKP 06 46 27.0 +4.0**
comp=Z,39nm,1.4s
CLL ePP PP 06 48 11.0 +26
CLL ePKKPab **PKKPab 06 56 42.0 +6.8**
comp=Z,8.0nm,0.8s
CLL ePS **PS 06 57 41.0 +9.0**
CLL eSS SS 07 04 13.0 +6.6
CLL eSSS SSS 07 08 36.0
CLL Lm MLR 07 34 00.0
comp=Z,68µm,21.6s
CLL Collm 119.27 42 IAMs_20 IAMs_20 07 34 20.3
comp=Z,67µm,21.0s
PVCC Panska Ves 119.29 43 AMS AMS 07 31 50.0
comp=Z,76µm,22.1s
BRG Berggiesshubel 119.31 43 ePDIFF **Pdif 06 42 55.3 +10**
comp=Z,4.4nm,1.1s
BRG Berggiesshubel 119.31 43 i PKP **PKiKP 06 46 30.1 +7.0**
comp=Z,13nm,1.2s
BRG PP **PP 06 47 51.0 +6.0**
BRG SDIFF 06 55 47.0
BRG ePKKP **PKKPab 06 56 39.3 +4.2**
comp=Z,36nm,1.8s
BRG ePKKS 07 00 48.6
comp=Z,16nm,1.4s
BRG SS **SS 07 03 59.0 -7.9**
comp=N,31µm,20.6s
comp=E,16µm,19.1s
comp=Z,43µm,20.1s
BRG Berggiesshubel 119.31 43 i PKIKP **PKiKP 06 46 30.1 +7.0**
BRG **PP 06 47 51.0 +6.0**
BRG SS SS 07 03 59.0 -7.9
BRG pmax pmax
comp=Z,13nm,1.2s
BRG MLR MLR
comp=N,31µm,20.6s
BRG MLR MLR
comp=E,16µm,19.1s
BRG MLR MLR
comp=Z,43µm,20.1s
BIGH Upper Bighouse 119.45 28 e 07 22 40.3
BIGH IAMs_20 IAMs_20 07 33 41.6
comp=Z,49µm,21.4s
VYHS Vyhne 119.53 47 ePKP PKPpre 06 46 09.1
PSZ Piszkesteto 119.55 48 ⇑PKIKP **PKPdf 06 46 23.4 -0.3**
PSZ Piszkesteto 119.55 48 ⇑P **PKPdf 06 46 23.4 -0.3**
PSZ Piszkesteto 119.55 48 IAMs_20 IAMs_20 07 37 39.7
comp=Z,55µm,20.0s
ANTO Ankara 119.83 62 IAMs_20 IAMs_20 07 42 30.8
comp=Z,32µm,21.0s
KRLC Kraliky 119.86 45 AMS AMS 07 32 20.0
comp=Z,70µm,22.7s
UPC Upice 119.87 44 AMS AMS 07 38 00.0
comp=Z,86µm,19.9s
DPC Dobruska-Polom 119.88 44 ePKIKP **PKiKP 06 46 31.5 +7.2**
DPC MLR MLR
comp=Z,60µm,20.2s
DPC Dobruska-Polom 119.88 44 ePKP **PKiKP 06 46 31.5 +7.2**
DPC AMS AMS 07 36 00.0
comp=Z,60µm,20.2s
CHVC Chvalec 119.95 44 eSP SP 06 57 49.2 +12
CHVC AMS AMS 07 38 00.0
comp=Z,80µm,19.8s
MORC Moravsky Berou 119.95 46 ⇑PKIKP **PKiKP 06 46 31.3 +6.9**
MORC Moravsky Berou 119.95 46 ⇑P **PKiKP 06 46 31.3 +6.9**
MORC Moravsky Berou 119.95 46 ePKP **PKiKP 06 46 31.4 +7.0**
MORC Moravsky Berou 119.95 46 IAMs_20 IAMs_20 07 37 43.1
comp=Z,51µm,21.0s
DRGR 119.97 51 ⇑PKIKP **PKiKP 06 46 25.8 +1.2**
DRGR 119.97 51 ⇑P **PKiKP 06 46 25.8 +1.2**
ANGG Ammassalik, Gr 119.99 8 IAMs_20 IAMs_20 07 29 35.1
comp=Z,105µm,22.0s
VOIR 120.06 53 ⇓PKIKP **PKPdf 06 46 19.9 -4.8**
VOIR 120.06 53 ⇓P **PKPdf 06 46 19.9 -4.8**
BRTR Keskin Array B 120.17 63 PKIKP **PKPdf 06 46 20.2 -5.0**
BRTR Keskin Array B 120.17 63 PKP **PKiKP 06 46 27.6 +2.3**
comp=Z,4.0nm,0.7s,baz=214,slow=3.5,SNR=6.3
BRTR PKKPbc PKKPab 06 56 41.8 +9.2
comp=Z,6.8nm,1.1s,baz=129,slow=1.8,SNR=5.4
BRTR Keskin Array B 120.17 63 **PKPdf 06 46 20.2 -5.0**
OKC Ostrava-Krasne 120.25 46 AMS AMS 07 37 20.0
comp=Z,33µm,20.8s
MLR Muntele Rosu 120.52 54 PKIKP **PKPdf 06 46 22.7 -3.0**
MLR MLR MLR
comp=Z,150µm,22.0s
MLR Muntele Rosu 120.52 54 **PKPdf 06 46 22.7 -3.0**
MLR IAMs_20 IAMs_20 07 35 12.3
comp=Z,150µm,22.0s
SFJD Kangerlussuaq 120.69 2 IAMs_20 IAMs_20 07 35 31.5
comp=Z,58µm,22.0s
PMBI Palembang 120.83 156 IAMs_20 IAMs_20 07 33 06.6
comp=Z,41µm,22.0s
TLB Topalu 120.87 56 ⇑PKIKP **PKiKP 06 46 29.7 +3.4**
TLB Topalu 120.87 56 ⇑P **PKiKP 06 46 29.7 +3.4**
TIRR Tirgusor 120.96 56 IAMs_20 IAMs_20 07 42 12.8
comp=Z,117µm,19.0s
KAPI Kappang 121.06 174 PKIKP **PKPdf 06 46 24.4 -3.2**
KAPI MLR MLR
comp=Z,44µm,22.0s
KAPI Kappang 121.06 174 **PKPdf 06 46 24.4 -3.2**
KAPI Kappang 121.06 174 IAMs_20 IAMs_20 07 35 32.9
comp=Z,44µm,22.0s
PLOR Plostina 121.12 54 ⇑PKIKP **PKiKP 06 46 31.2 +4.4**
PLOR Plostina 121.12 54 ⇑P **PKiKP 06 46 31.2 +4.4**
MANU Manus Island 121.17 206 IAMs_20 IAMs_20 07 46 33.3
comp=Z,16µm,18.0s
VRI Vrincioaia 121.17 54 ⇑PKIKP **PKiKP 06 46 32.9 +6.0**
VRI Vrincioaia 121.17 54 ⇑P **PKiKP 06 46 32.9 +6.0**
ILGA Ilgaz 121.17 62 IAMs_20 IAMs_20 07 38 54.4
comp=Z,33µm,22.0s
BORG Borgarnes 121.19 16 IAMs_20 IAMs_20 07 33 49.8
comp=Z,56µm,21.0s
CFR Carcaliu 121.34 55 ⇑PKIKP **PKiKP 06 46 33.3 +6.1**
CFR Carcaliu 121.34 55 ⇑P **PKiKP 06 46 33.3 +6.1**
PALK Pallekele 121.38 126 PKIKP **PKPdf 06 46 26.3 -2.0**
PALK Pallekele 121.38 126 PKP **PKiKP 06 46 33.0 +4.6**
comp=Z,12nm,0.8s,baz=294,slow=1.5,SNR=7.0
PALK Pallekele 121.38 126 **PKPdf 06 46 26.3 -2.0**
PALK IAMs_20 IAMs_20 07 26 38.6
comp=Z,67µm,22.0s
LRW Lerwick 121.59 28 eP **PKiKP 06 46 28.4 +1.2**
LRW IAMs_20 IAMs_20 07 37 02.0
comp=Z,55µm,22.0s
TESR Tescani 121.60 53 ⇑P **PKPdf 06 46 23.0 -4.6**
BURAR Bucovina Array 121.73 52 ⇑PKIKP **PKPdf 06 46 23.3 -4.6**
BURAR Bucovina Array 121.73 52 ⇑P **PKPdf 06 46 23.3 -4.6**
BUR08 Bucovina Ar. S 121.75 52 **PKPdf 06 46 24.3 -3.7**
MUD Monsted U'grnd 121.87 36 i P PKiKP 06 46 44.4 +17
RGN Rugen 121.90 40 IAMs_20 IAMs_20 07 42 56.8
comp=Z,65µm,19.0s
BBB Bella Bella 122.03 316 IAMs_20 IAMs_20 07 46 44.0
comp=Z,30µm,22.0s
KWP Kalwaria Pacla 122.07 49 IAMs_20 IAMs_20 07 37 34.3
comp=Z,468µm,22.0s
UOSS Minazif 122.15 91 IAMs_20 IAMs_20 07 37 06.1
comp=Z,85µm,21.0s
JAY Jayapura 122.22 199 PKKPbc PKKPbc 06 56 41.1 +17
comp=Z,19nm,1.0s,baz=360,slow=6.2,SNR=3.7
JAY Jayapura 122.22 199 PKKPab 06 56 41.1 +13
WSAR Wadi Sarin 122.28 94 PKP **PKiKP 06 46 30.5 +0.7**
comp=Z,6.5nm,0.8s,baz=301,slow=4.7,SNR=3.9
WSAR PKKPbc PKKPab 06 56 36.5 +11
comp=Z,9.4nm,0.9s,baz=90,slow=6.2,SNR=5.6
WSAR Wadi Sarin 122.28 94 **PKiKP 06 46 30.5 +0.7**
WSAR PKKPab 06 56 36.5 +11
GSI Gunungsitoli 122.84 147 IAMs_20 IAMs_20 07 37 45.2
comp=Z,44µm,19.0s
ILULI Ilulissat 122.91 2 IAMs_20 IAMs_20 07 36 49.1
comp=Z,61µm,21.0s
MILM Milestii Mici 122.93 54 ⇑P **PKiKP 06 46 35.9 +5.6**
KIS Kishinev 122.98 54 ePKP **PKPdf 06 46 29.0 -1.2**
KIS Kishinev 122.98 54 ePP PP 06 48 28.0 +18
KIS eSKS SKSdf 06 54 02.0 +20
KIS eSKSP 06 55 32.0
KIS Kishinev 122.98 54 ePS PS 06 58 20.0 +15
KIS Kishinev 122.98 54 ePKIKP **PKPdf 06 46 29.0 -1.2**
KIS ePPS PPS 06 59 32.0
KIS eSS SS 07 04 56.0 +2.0
KIS MLR MLR
comp=Z,53µm,22.0s
FAKI Fak Fak 122.99 189 IAMs_20 IAMs_20 07 48 07.0
comp=Z,21µm,18.0s
KWAJ Kwajalein Atol 123.55 233 IAMs_20 IAMs_20 07 41 11.3
comp=Z,19µm,18.0s
SIM Simferopol' 124.15 59 i PKIKP **PKiKP 06 46 38.7 +5.9**
SIM eSS SS 07 05 00.0 -8.9
SIM pmax pmax
comp=Z,48nm,0.9s
KONO Kongsberg 124.49 34 IAMs_20 IAMs_20 07 37 47.1
comp=Z,69µm,22.0s
FOO Floro 124.57 30 e SS 07 05 24.9 +11
FOO IVMs_BB IVMs_BB 07 37 22.9
comp=Z,20µm,21.4s
RPSI Rantau Prapat 124.58 148 **PKiKP 06 46 35.6 +0.9**
RPSI Sdif 06 56 29.3 +9.3
RPSI Rantau Prapat 124.58 148 IAMs_20 IAMs_20 07 39 17.3
comp=Z,53µm,19.0s
DIB Dawson Inlet, 124.59 314 IAMs_20 IAMs_20 07 50 26.7
comp=Z,36µm,20.0s
PSI Prapat 124.68 148 PKP **PKiKP 06 46 35.6 +0.6**
comp=Z,21nm,0.7s,baz=197,slow=5.4,SNR=8.4
PSI PKKPbc PKKPab 06 56 29.3 +12
comp=Z,5.6nm,0.8s,baz=293,slow=1.1,SNR=3.5
GOA Goa 124.82 114 eP **PKiKP 06 46 36.7 +1.7**
GOA i PP **PP 06 48 21.4 -1.0**
GOA ex x 06 59 45.6
GOA IAMs_20 IAMs_20 07 26 16.5
comp=Z,44µm,28.6s
MYKOM Kota Tinggi 125.14 154 IAMs_20 IAMs_20 07 39 29.8
comp=Z,26µm,21.0s
LUWI Luwuk 125.14 177 IAMs_20 IAMs_20 07 43 11.0
comp=Z,19µm,19.0s
YKA Yellowknife Ar 125.17 331 PKP **PKiKP 06 46 34.2 0.0**
comp=Z,4.5nm,0.5s,baz=134,slow=2.4,SNR=6.3
YKA PKKPbc PKKPbc 06 56 30.4 +18
comp=Z,1.5nm,0.8s,baz=299,slow=0.8,SNR=4.1
YKA Yellowknife Ar 125.17 331 **PKPdf 06 46 31.9 -1.9**
YKW3 Yellowknife Ar 125.22 331 **PKPdf 06 46 31.9 -2.1**
BCA Borcka 125.66 67 ⇑P **PKPdf 06 46 31.6 -4.0**
ANN Anapa 125.75 61 i PKIKP **PKPdf 06 46 32.7 -2.8**
ANN e 06 53 35.1
ANN pmax pmax
comp=Z,67nm,1.3s
AKASG Malin Array Be 125.78 51 PKP **PKiKP 06 46 37.2 +1.4**
comp=Z,15nm,0.7s,baz=247,slow=2.2,SNR=8.9
AKASG SKKPbc SKKPbc 06 59 59.9 -2.3
comp=Z,0.2nm,0.3s,baz=33,slow=5.2,SNR=4.4
AKASG Malin Array Be 125.78 51 **PKPdf 06 46 30.7 -4.7**
AKBB Malin Array Si 125.78 51 IAMs_20 IAMs_20 07 37 38.4
comp=Z,86µm,22.0s
PATS Pohnpei 125.86 222 IAMs_20 IAMs_20 07 32 04.8
comp=Z,20µm,22.0s
NB2 NORSAR Subarra 126.06 33 PKPdf **PKiKP 06 46 42.7 +6.6**
comp=Z,107nm,1.4s,baz=222,slow=2.0
NB2 NORSAR Subarra 126.06 33 e **PKiKP 06 46 42.7 +6.6**
baz=222,slow=2.0
NOA NORSAR Array B 126.06 33 PKP **PKiKP 06 46 38.1 +2.0**
comp=Z,11nm,1.0s,baz=213,slow=1.9,SNR=3.9
MOL Molde 126.07 31 e SS 07 06 08.8 +36
MOL IVMs_BB IVMs_BB 07 41 13.0
comp=Z,21µm,26.2s
SOC Sochi 126.11 64 i PKIKP **PKiKP 06 46 40.4 +3.7**
SOC e 06 48 35.3
SOC ePS PS 06 58 31.2 -1.6
SOC eSS SS 07 05 25.6 -7.9
SOC eSSS SSS 07 10 15.2
SOC pmax pmax
comp=Z,42nm,1.1s
MDRS Chennai 126.14 122 ex **PKiKP 06 46 40.8 +3.2**
MDRS i x **SP 06 58 34.5 +1.6**
MDRS IAMs_20 IAMs_20 07 26 37.0
comp=Z,110µm,32.0s
KSM Kuching 126.28 162 IAMs_20 IAMs_20 07 38 32.6
comp=Z,22µm,22.0s
LHMI Lhok Sumawe 126.31 144 IAMs_20 IAMs_20 07 34 39.2
comp=Z,52µm,21.0s
SCO Scoresbysund 126.40 13 PKIKP **PKPdf 06 46 34.7 -1.3**
SCO Scoresbysund 126.40 13 i P PKiKP 06 46 44.4 +7.9
SCO Scoresbysund 126.40 13 **PKPdf 06 46 34.7 -1.3**
SCO IAMs_20 IAMs_20 07 34 45.5
comp=Z,65µm,22.0s
CRAG Craig 126.46 316 IAMs_20 IAMs_20 07 47 45.1
comp=Z,59µm,22.0s
GNI Garni 126.48 70 PKIKP **PKPdf 06 46 35.0 -2.3**
GNI MLR MLR
comp=Z,35µm,22.0s
GNI Garni 126.48 70 PKP **PKPdf 06 46 35.1 -2.3**
comp=Z,8.0nm,0.3s,baz=233,slow=12,SNR=3.3
GNI Garni 126.48 70 **PKPdf 06 46 35.0 -2.3**
GNI Garni 126.48 70 IAMs_20 IAMs_20 07 40 50.7
comp=Z,35µm,22.0s
AKH Akhalkalaki 126.66 68 IAMs_20 IAMs_20 07 44 12.5
comp=Z,38µm,21.0s
SUMG Summit 126.78 6 ePKIKP **PKiKP 06 46 42.4 +4.7**
SUMG Summit 126.78 6 i P **PKiKP 06 46 42.4 +4.7**
SUMG Summit 126.78 6 IAMs_20 IAMs_20 07 37 28.4
comp=Z,59µm,22.0s
WRAK Wrangell Islan 126.80 317 IAMs_20 IAMs_20 07 49 33.3
comp=Z,69µm,21.0s
IPM Ipoh 126.92 150 IAMs_20 IAMs_20 07 40 15.0
comp=Z,41µm,19.0s
TNTI Ternate 126.94 183 IAMs_20 IAMs_20 07 43 36.7
comp=Z,8µm,22.0s
DLBC Dease Lake 127.31 320 IAMs_20 IAMs_20 07 44 20.7
comp=Z,51µm,22.0s
POO Poona 127.31 112 ex PKPdf 06 46 31.0 -8.4
NEY Neytrino 127.49 66⇑ ePKIKP **PKPdf 06 46 36.1 -3.1**
NEY MLR MLR
comp=Z,16µm,20.0s
KULM Kulim 127.57 149 **PKPdf 06 46 39.0 -1.1**
KULM IAMs_20 IAMs_20 07 39 03.4
comp=Z,31µm,20.0s
NACGM Naroch 127.57 46 ePKP PKPdf 06 46 25.0 -14
NACGM eSKS SKSdf 06 53 20.0 -30
NACGM eSS **SS 07 05 42.0 -9.4**
NACGM eSSS SSS 07 10 56.0
NACGM eLQ LQ 07 27 43.0
NACGM eLR LR 07 35 54.0
NACGM LRM MLR 07 47 30.0
comp=Z,55nm,22.0s
SBUM Sibu 127.58 164 PKPdf **PKPdf 06 46 38.0 -2.1**
SBUM IAMs_20 IAMs_20 07 36 58.8
comp=Z,24µm,22.0s
IIGN Ignalina 127.63 45 eP **PKiKP 06 46 45.1 +5.7**
IIGN IAmb IAmb 06 46 48.7
comp=Z,25nm,1.0s
ISAL Salakas 127.74 45 eP **PKiKP 06 46 45.9 +6.3**
ISAL IAmb IAmb 06 46 55.7
comp=Z,26nm,0.9s
MICGM Minsk 127.77 47 ePKP1 **PKiKP 06 46 45.0 +5.3**
MICGM ePKP2 sPKPdf 06 47 00.0 +17
MICGM ePP **PP 06 48 48.0 +6.1**
MICGM ePPP PPP 06 51 40.0
MICGM eSKKS 06 55 36.0
MICGM ePS **PS 06 58 38.0 -9.1**
MICGM eSS **SS 07 05 50.0 -3.9**
MICGM eSSS SSS 07 10 36.0
MICGM eLR LR 07 28 10.0
MICGM LRM MLR 07 38 22.0
comp=Z,159nm,22.0s
MICGM LRM MLR 07 38 24.0
comp=N,77nm,22.0s
MICGM LRM MLR 07 38 24.0
comp=E,50nm,22.0s
MICGM LRM MLR 07 38 30.0
comp=N,42nm,22.0s
MICGM LRM MLR 07 38 30.0
comp=Z,115nm,21.0s
MICGM LRM MLR 07 38 30.0
comp=E,35nm,22.0s
MNK Minsk 127.77 47 ePKIKP **PKiKP 06 46 45.0 +5.3**
MNK e 06 48 48.0
MNK e 06 58 38.0
MNK e 07 05 50.0
MNK e 07 10 36.0
IDID Didziasalis 127.83 46 eP **PKiKP 06 46 45.9 +6.2**
KBZ Khabaz 127.91 66 PKP **PKiKP 06 46 45.8 +5.6**
comp=E,14nm,0.9s,baz=209,slow=4.2,SNR=7.8
KBZ Khabaz 127.91 66 **PKiKP 06 46 45.8 +5.6**
IZAR Zarasai 127.91 45 eP **PKiKP 06 46 46.3 +6.4**
IZAR IAmb IAmb 06 47 02.1
comp=Z,45nm,1.0s
IZAR ePP PP 06 48 17.0 -26
KIV Kislovodsk 127.94 65 i PKIKP **PKiKP 06 46 47.5 +7.0**
KIV e 06 48 49.6
KIV pmax pmax
comp=Z,129nm,1.0s
KIV MLR MLR
comp=Z,71µm,23.0s
KIV Kislovodsk 127.94 65 ⇑P **PKPdf 06 46 37.4 -2.5**
KIV Kislovodsk 127.94 65 IAMs_20 IAMs_20 07 44 19.6
comp=Z,19µm,20.0s
BHUJ Bhuj 128.71 104 i x **PP 06 48 54.9 +6.6**
BHUJ ex SS 07 06 20.0 +14
NSS Namsos 128.86 31 e SS 07 06 20.8 +14
NSS IVMs_BB IVMs_BB 07 44 45.9
comp=Z,23µm,18.8s
GOF Gofitskoye 128.87 64⇑ ePKIKP **PKiKP 06 46 49.2 +7.0**
GOF pmax pmax
comp=Z,54nm,0.9s
JIS Juneau Island 128.88 318 IAMs_20 IAMs_20 07 52 57.7
comp=Z,54µm,21.0s
HYB Hyderabad 128.93 117 i PKP PKiKP 06 46 58.0 +15
HYB ePP **PP 06 48 54.0 +4.4**
HYB e 06 50 16.0
HYB Hyderabad 128.93 117 i x PP 06 49 04.0 +14
JMIC Jan Mayen 128.97 18 e SS 07 06 45.2 +37
AKT Akhty 129.05 71 ePKIKP **PKPdf 06 46 40.6 -1.6**
AKT e 06 48 50.8
AKT pmax pmax
comp=Z,120nm,1.1s
GROC Groznyy 129.13 68 i PKIKP **PKPdf 06 46 41.5 -0.6**
GROC e 06 48 46.9
GROC e 06 53 52.2
GROC pmax pmax
comp=Z,101nm,1.3s
BESE Bessie Mountai 129.27 318 IAMs_20 IAMs_20 07 51 55.2
comp=Z,42µm,21.0s
MAK Makhachkala 129.91 69 i PKIKP **PKPdf 06 46 39.6 -3.9**
MAK e 06 48 50.5
MAK ePPP PPP 06 51 37.8
MAK e 06 53 49.6
MAK pmax pmax
comp=Z,324nm,1.6s
MAK pmax pmax
comp=Z,7µm,12.3s
VSU Vasula 129.91 43 eP **PKPdf 06 46 36.5 -6.5**
VSU IAmb IAmb 06 47 04.8
comp=Z,272nm,1.0s
SKAG Skagway 130.03 319 IAMs_20 IAMs_20 07 53 23.6
comp=Z,51µm,20.0s
TULEG Thule 130.54 356 **PKPdf 06 46 43.1 -0.7**
TULEG IAMs_20 IAMs_20 07 41 23.9
comp=Z,33µm,22.0s
WHY Whitehorse 130.64 320 IAMs_20 IAMs_20 07 46 01.6
comp=Z,38µm,22.0s
VORD Divnogorie 130.75 56 i PKIKP **PKPdf 06 46 40.2 -4.7**
MOR8 Moi Rana 130.75 30 e **PKiKP 06 46 47.7 +2.4**
MOR8 eSKPdf SKPbc 06 49 56.7 -11
MOR8 eSP SP 06 58 49.9 -21
MOR8 eSS SS 07 06 12.9 -17
MOR8 IVMs_BB IVMs_BB 07 38 16.2
comp=Z,19µm,27.2s
VSR Storozhevoye 130.85 56 i PKIKP **PKPdf 06 46 40.4 -4.7**
VSR pmax pmax
comp=Z,70nm,1.4s
DHAK Deception Hill 130.93 317 IAMs_20 IAMs_20 07 54 20.5
comp=Z,57µm,21.0s
RES Resolute Bay 131.10 347 **PKPdf 06 46 44.5 -0.4**
RES IAMs_20 IAMs_20 07 44 33.8
comp=Z,123µm,22.0s
VORR Voronezh 131.15 56 PKIKP **PKPdf 06 46 44.0 -1.6**
VORR pmax pmax
comp=Z,300nm,1.2s
MIDW Midway 131.21 262 IAMs_20 IAMs_20 07 36 00.6
comp=Z,36µm,20.0s
FINES FINESS Array B 131.56 39 PKIKP **PKPdf 06 46 42.3 -3.7**
FINES FINESS Array B 131.56 39 PKP **PKiKP 06 46 50.0 +3.0**
comp=Z,9.8nm,0.7s,baz=146,slow=3.7,SNR=6.1
FINES FINESS Array B 131.56 39 **PKPdf 06 46 42.4 -3.7**
LPSR Galich'ya Gora 131.59 54 i PKIKP **PKPdf 06 46 42.8 -3.6**
LPSR eSS SS 07 06 32.6 -8.5
LPSR eSSS SSS 07 11 25.6
LPSR pmax pmax
comp=Z,150nm,1.8s
LPSR MLR MLR
comp=Z,62µm,20.0s
VIS Vishakhapatnam 131.64 122 i x PKPdf 06 46 32.9 -15
VIS ex x 06 46 36.8
comp=Z,195nm,0.9s
KKM Kota Kinabalu 131.68 168 IAMs_20 IAMs_20 07 43 35.4
comp=Z,21µm,21.0s
YKU2 Yakutat 131.78 317 IAMs_20 IAMs_20 07 51 00.9
comp=Z,29µm,22.0s
OBN Obninsk 132.03 51 c iPKIKP **PKiKP 06 46 53.4 +5.2**
OBN e 06 49 13.5
OBN eSS SS 07 07 04.1 +18
OBN pmax pmax
comp=Z,226nm,1.5s
OBN Obninsk 132.03 51 PKP **PKiKP 06 46 52.2 +4.0**
comp=Z,6.9nm,0.5s,baz=328,slow=0.8,SNR=10
OBN Obninsk 132.03 51 **PKPdf 06 46 41.3 -5.8**
OBN IAMs_20 IAMs_20 07 41 20.6
comp=Z,66µm,22.0s
BCPM Bancas Point 132.04 318 IAMs_20 IAMs_20 07 53 42.7
comp=Z,50µm,21.0s
VRH Novokhopyorsk 132.10 57 i PKIKP **PKPdf 06 46 42.7 -4.7**
VRH eSS SS 07 06 45.9 -1.4
VRH eSSS SSS 07 11 33.2
VRH pmax pmax
comp=Z,110nm,1.6s
VRH MLR MLR
comp=Z,46µm,22.0s
STEI Steigen 132.18 29 e SS 07 07 20.3 +33
STEI IVMs_BB IVMs_BB 07 41 57.6
comp=Z,19µm,22.1s
NGP Nagpur 132.27 115 ePP PP 06 49 10.4 -0.8
NGP ex x 06 59 43.0
H11S2 WAKE ISLAND Hyl 132.31 239 T T 09 12 31.0
baz=148,slow=75,SNR=32
H11S3 WAKE ISLAND Hyl 132.32 239 T T 09 12 40.6
baz=148,slow=75,SNR=34
H11S1 WAKE ISLAND Hyl 132.33 239 T T 09 12 43.4
baz=148,slow=75,SNR=36
PCA Pinnacle 132.37 317 IAMs_20 IAMs_20 07 50 45.5
comp=Z,50µm,21.0s
DAG Danmarks Havn 132.49 11 ePKIKP **PKiKP 06 46 53.7 +5.1**
DAG Danmarks Havn 132.49 11 i P **Pdif 06 43 52.3 +9.3**
DAG i S **Pdif 06 43 53.5 +10**
DAG Danmarks Havn 132.49 11 i P **PKiKP 06 46 53.7 +5.1**
HRA Herat 132.61 88 **PKPdf 06 46 46.5 -2.8**
HRA IAMs_20 IAMs_20 07 47 37.4
comp=Z,80µm,19.0s
GEYT Alibeck 132.61 81 SKKPbc SKKPbc 06 59 34.4 -2.1
comp=Z,1.6nm,0.4s,baz=2.9,slow=12,SNR=3.8
GYA0B ALIBECK ARRAY 132.61 81 PKPdf **PKPdf 06 46 43.2 -5.8**
GYA0B IAMs_20 IAMs_20 07 40 55.7
comp=Z,61µm,22.0s
ASHT Ashkhabad 132.78 81 IAMs_20 IAMs_20 07 40 51.1
comp=Z,51µm,22.0s
MOS Moscow 132.88 50 i PKIKP **PKiKP 06 46 54.1 +4.2**

MOS e 06 49 22.4
MOS ePS PS 06 59 33.6 +2.2
MOS eSS SS 07 06 48.4 -8.3
MOS pmax pmax
comp=Z,209nm,1.6s
WAKE Wake Island 133.00 239 IAMs_20 IAMs_20 07 34 32.4
comp=Z,44μm,22.0s
BHPL Bhopal 133.07 112 i x **PP 06 49 16.9 +0.5**
DAV Davao City (W) 133.23 181 IAMs_20 IAMs_20 07 42 41.4
comp=Z,19μm,22.0s
H11N3 WAKE ISLAND Hyl 133.24 240 T T 09 14 18.1
baz=146,slow=76,SNR=18
H11N1 WAKE ISLAND Hyl 133.24 240 T T 09 14 19.3
baz=146,slow=76,SNR=42
H11N2 WAKE ISLAND Hyl 133.25 240 T T 09 14 19.8
baz=146,slow=76,SNR=19
CTGM Chitina Glacie 133.32 318 IAMs_20 IAMs_20 07 48 18.7
comp=Z,62μm,22.0s
BARN Barnard Glacie 133.50 318 PKPdf 06 46 47.5 -2.6
BALM Baldy 133.76 318 IAMs_20 IAMs_20 07 54 10.3
comp=Z,33μm,21.0s
TGL Tana Glacier 133.79 317 IAMs_20 IAMs_20 07 54 45.2
comp=Z,45μm,20.0s
CRQM Cirque 133.92 317 PKPdf 06 46 50.0 -0.8
CRQM IAMs_20 IAMs_20 07 54 48.9
comp=Z,41μm,20.0s
MCARA McCarthy VSAT 134.23 318 IAMs_20 IAMs_20 07 49 06.7
comp=Z,59μm,22.0s
TRO Tromso 134.30 28 e **SS 07 07 09.3 -3.9**
TRO IVMs_BB IVMs_BB 07 41 35.8
comp=Z,21μm,18.4s
VRDI Verde Repeater 134.31 317 IAMs_20 IAMs_20 07 49 00.9
comp=Z,65μm,22.0s
RAGM Ragged Mountai 134.33 316 IAMs_20 IAMs_20 07 55 14.4
comp=Z,62μm,19.0s
PHET Kaeng Krachan 134.38 144 P PKiKP 06 47 02.6 +8.3
comp=Z,52μm,1.0s
GLB Gilahina Butte 134.58 318 IAMs_20 IAMs_20 07 49 17.8
comp=Z,41μm,21.0s
EPYK Eagle Plains 134.77 326 IAMs_20 IAMs_20 07 53 48.8
comp=Z,70μm,20.0s
EYAK Cordova Ski Ar 134.86 316 IAMs_20 IAMs_20 07 52 47.4
comp=Z,68μm,21.0s
INK Inuvik 134.87 329 PKIKP **PKPdf 06 46 50.9 -1.2**
INK Inuvik 134.87 329 SKKPbc SKKPbc 06 59 22.8 -7.8
comp=Z,12nm,1.1s,baz=301,slow=5.2,SNR=3.5
INK Inuvik 134.87 329 PKPdf **PKPdf 06 46 50.9 -1.2**
INK IAMs_20 IAMs_20 07 49 37.3
comp=Z,109μm,20.0s
BWNR Bhubaneshwar 135.05 123 ex **PKPdf 06 47 00.6 +6.6**
HIN Hinchinbrook I 135.09 315 IAMs_20 IAMs_20 07 56 02.5
comp=Z,57μm,21.0s
FID Port Fidalgo 135.28 316 IAMs_20 IAMs_20 07 53 08.3
comp=Z,56μm,21.0s
MENT Mentasta 135.37 319 IAMs_20 IAMs_20 07 52 44.4
comp=Z,31μm,20.0s
EGAK Eagle 135.41 322 IAMs_20 IAMs_20 07 48 33.9
comp=Z,44μm,22.0s
SRDT SRDT 135.54 143 P **PKiKP 06 47 02.4 +5.8**
GLI Glacier Island 135.60 316 IAMs_20 IAMs_20 07 55 05.9
comp=Z,30μm,20.0s
DOT Dot Lake 135.88 320 IAMs_20 IAMs_20 07 54 56.3
comp=Z,54μm,20.0s
SCRK Sand Creek 136.03 321 IAMs_20 IAMs_20 07 55 44.1
comp=Z,61μm,20.0s
PAX Paxson 136.06 319 PKIKP **PKPdf 06 46 51.3 -3.3**
PAX Paxson 136.06 319 PKPdf 06 46 51.4 -3.3
PAX IAMs_20 IAMs_20 07 55 43.1
comp=Z,37μm,21.0s
DLV T Lat 136.06 156 IAMs_20 IAMs_20 07 47 28.2
comp=Z,41μm,19.0s
ARCES ARCESS Array B 136.13 30 PKIKP **PKPdf 06 46 53.4 -1.1**
ARCES ARCESS Array B 136.13 30 PKPdf 06 46 53.4 -1.1
ARE0 ARCESS Array S 136.13 30 IAMs_20 IAMs_20 07 42 41.8
comp=Z,3μm,22.0s
SEW Seward 136.18 314 IAMs_20 IAMs_20 07 57 29.1
comp=Z,64μm,21.0s
SCM Sheep Creek Mo 136.20 317 IAMs_20 IAMs_20 07 54 58.8
comp=Z,39μm,20.0s
RIDG Independent Ri 136.23 320 IAMs_20 IAMs_20 07 56 26.4
comp=Z,51μm,19.0s
KDAK Kodiak Island 136.32 310 IAMs_20 IAMs_20 07 57 49.1
comp=Z,51μm,21.0s
OHAK Old Harbor 136.35 309 IAMs_20 IAMs_20 07 42 33.7
comp=Z,45μm,19.0s
SII Sitkinak Islan 136.41 308 IAMs_20 IAMs_20 07 37 53.4
comp=Z,43μm,20.0s
KNK Knik Glacier 136.44 316 PKPdf 06 46 51.7 -3.6
KNK IAMs_20 IAMs_20 07 59 08.2
comp=Z,40μm,20.0s
SML Sawmill 136.60 316 PKPdf 06 46 53.3 -2.3
SML IAMs_20 IAMs_20 07 56 32.2
comp=Z,35μm,21.0s
BRLK Bradley Lake 136.61 313 IAMs_20 IAMs_20 07 58 00.8
comp=Z,47μm,22.0s
CNPM China Poot 136.64 312 IAMs_20 IAMs_20 07 55 11.5
comp=Z,54μm,20.0s
KEV Kevo 136.69 30 IAMs_20 IAMs_20 07 43 07.7
comp=Z,58μm,22.0s
CHIR Chirikof Islan 136.70 306 IAMs_20 IAMs_20 07 38 11.0
comp=Z,40μm,20.0s
KBL Kabul 136.73 93 IAMs_20 IAMs_20 07 45 24.3
comp=Z,39μm,22.0s
UTHA Uthaitani 136.77 143 P **PKPdf 06 46 55.7 -1.6**
comp=Z,68μm,0.9s,comp=Z,629μm
GUMO Guam 136.78 209 IAMs_20 IAMs_20 07 54 48.3
comp=Z,14μm,21.0s
RC01 Rabbit Creek A 136.81 315 IAMs_20 IAMs_20 07 50 27.8
comp=Z,54μm,22.0s
PMR Palmer 136.81 316 IAMs_20 IAMs_20 08 00 29.0
comp=Z,36μm,19.0s
GHO Glory Hole Cre 136.82 316 PKPdf **PKPdf 06 46 53.2 -2.9**
GHO IAMs_20 IAMs_20 07 54 38.1
comp=Z,40μm,20.0s
DHY Denali Highway 136.86 318 IAMs_20 IAMs_20 07 56 02.6
comp=Z,38μm,21.0s
HOM Homer 136.89 312 IAMs_20 IAMs_20 07 55 27.0
comp=Z,31μm,21.0s
UMPA Umpang Tak 137.15 141 P **PKPdf 06 46 58.5 +0.5**
BJO1 Bjornoya 137.16 22 e **SS 07 07 54.0 +6.7**
BJO1 IVMs_BB IVMs_BB 07 38 43.3
comp=Z,12μm,18.6s
NDI New Delhi 137.21 107 ex PKPdf 06 46 37.5 -20
HDA Harding Lake 137.36 320 IAMs_20 IAMs_20 07 55 22.4
comp=Z,54μm,22.0s
PRP Porcupine Dome 137.38 322 IAMs_20 IAMs_20 07 56 12.8
comp=Z,56μm,20.0s
SUA Susitna One 137.42 315 IAMs_20 IAMs_20 07 53 04.0
comp=Z,40μm,22.0s
ILAR Eielson Array 137.52 321 PKIKP **PKPdf 06 46 57.7 +0.5**
ILAR Eielson Array 137.52 321 SKKPbc SKKPbc 06 59 01.6 -19
comp=Z,2.0nm,0.9s,baz=298,slow=4.8,SNR=4.1
ILAR Eielson Array 137.52 321 PKPdf **PKPdf 06 46 57.7 +0.5**
RND Reindeer 137.61 318 IAMs_20 IAMs_20 07 53 41.0
comp=Z,48μm,22.0s
APA Apatity 137.61 35⇑ i PKIKP **PKiKP 06 46 58.9 -0.3**
APA pmax pmax
comp=Z,27nm,0.9s
TMCR Tamitsa 137.63 40 e PKIKP **PKPdf 06 46 55.1 -2.2**
TMCR pmax pmax
comp=Z,54nm,1.0s
FYU Fort Yukon 137.78 323 IAMs_20 IAMs_20 07 55 32.5
comp=Z,47μm,20.0s
MCK McKinley 137.80 319 IAMs_20 IAMs_20 07 50 08.9
comp=Z,62μm,22.0s
CCB Clear Creek Bu 137.80 320 IAMs_20 IAMs_20 07 54 03.0
comp=Z,34μm,20.0s
WRH Wood River Hil 137.83 320 IAMs_20 IAMs_20 07 56 27.7
comp=Z,46μm,20.0s
HSPB Hornsund (broa 137.84 19 e SS 07 08 15.3 +20
HSPB IVMs_BB IVMs_BB 07 38 06.2
comp=Z,10μm,24.5s
COLA College 137.93 320⇓ e PKIKP **PKPdf 06 46 56.7 -1.2**
COLA College 137.93 320 IAMs_20 IAMs_20 07 53 07.5
comp=Z,59μm,21.0s
SKT Skwentna 138.00 315 IAMs_20 IAMs_20 07 57 44.3
comp=Z,49μm,20.0s
BOK Bokaro 138.02 120 i x SS 07 08 34.4 +36
CNBA Chernabura Isl 138.10 303 IAMs_20 IAMs_20 07 42 43.2
comp=Z,52μm,21.0s
MDM Murphy Dome 138.11 320 IAMs_20 IAMs_20 07 53 22.2
comp=Z,49μm,20.0s
LVZ Lovozero 138.19 35 PKIKP **PKPdf 06 46 56.6 -1.8**
LVZ Lovozero 138.19 35 PKPdf 06 46 56.6 -1.8
LVZ IAMs_20 IAMs_20 07 42 31.3
comp=Z,56μm,21.0s
TRF Thorofare Moun 138.19 318 IAMs_20 IAMs_20 07 57 07.5
comp=Z,66μm,21.0s
BWN Browne 138.21 319 IAMs_20 IAMs_20 07 51 27.2
comp=Z,52μm,21.0s
PBKT Sadao Pong 138.24 144 P **PKPdf 06 46 59.1 -0.9**
comp=Z,33nm,1.2s,comp=Z,980nm
PBKT Sadao Pong 138.24 144 PKPdf 06 46 56.0 -4.0
PBKT IAMs_20 IAMs_20 07 37 56.7
comp=Z,20μm,22.0s
SIMRM Sittwe 138.25 131 IAMs_20 IAMs_20 07 46 53.8
comp=Z,13μm,18.0s
NEA Nenana 138.25 320 IAMs_20 IAMs_20 07 51 37.1
comp=Z,37μm,20.0s
KBS Kingsbay 138.32 16 IAMs_20 IAMs_20 07 53 46.2
comp=Z,26μm,20.0s
UBPT Khong Chiam 138.46 151 PKPdf **PKPdf 06 46 58.4 -2.0**
UBPT IAMs_20 IAMs_20 07 43 12.9
comp=Z,37μm,20.0s
KTH Kantishna Hill 138.49 318 IAMs_20 IAMs_20 07 58 02.4
comp=Z,52μm,20.0s
NIL Nilore 138.58 98 IAMs_20 IAMs_20 07 46 50.2
comp=Z,39μm,22.0s
PPLA Purkeypile 138.70 316 IAMs_20 IAMs_20 07 58 15.8
comp=Z,55μm,20.0s
BPAW Bear Paw Mtn. 138.77 318 IAMs_20 IAMs_20 07 56 48.7
comp=Z,50μm,21.0s
SDPT Sand Point 138.81 303 IAMs_20 IAMs_20 07 43 40.8
comp=Z,26μm,21.0s
CAST Castle Rocks 138.90 317 IAMs_20 IAMs_20 07 56 34.0
comp=Z,31μm,20.0s
DDI Dehra Dun 138.92 106 i x PP 06 50 01.6 +8.3
SMLA Simla 139.02 104 i x PP 06 50 03.0 +9.2
MLY Manley 139.09 320 IAMs_20 IAMs_20 07 57 41.2
comp=Z,47μm,20.0s
ANA2 Anatahan 139.14 211 IAMs_20 IAMs_20 07 41 15.8
comp=Z,10μm,21.0s
CM31 Chiang Mai Arr 139.25 140 PKPdf 06 46 58.5 -3.4
CMAR Chiang Mai Arr 139.25 140 PKIKP **PKPdf 06 46 57.7 -4.1**
CMAR Chiang Mai Arr 139.25 140 PKP **PKPdf 06 47 01.6 -0.2**
comp=Z,5.6nm,0.6s,baz=226,slow=3.5,SNR=7.4
CMAR Chiang Mai Arr 139.25 140 PKPdf 06 46 57.7 -4.1
SVW2 Sparrevohn 139.30 313 PKPdf 06 46 59.7 -0.9
SVW2 IAMs_20 IAMs_20 07 52 38.3
comp=Z,54μm,22.0s
DHRM DHARAMSHALA 139.34 102 e P **PKPdf 06 47 00.9 -0.9**
DHRM i x x 06 50 09.2
PRGR Permogore 139.53 46 e PKHKP PKPpre 06 46 52.2
PRGR pmax pmax
comp=Z,41nm,0.7s
CHTO Chiang Mai 139.57 140 IAMs_20 IAMs_20 07 46 33.1
comp=Z,22μm,19.0s
CMMT Chiang Mai 139.57 140 P PKPdf 06 46 47.9 -15
comp=Z,24nm,0.9s,comp=Z,844nm
CHGR Chuyangaron 139.59 89 IAMs_20 IAMs_20 07 47 28.1
comp=Z,237μm,21.0s
KIRV Kirov 139.83 52 PKP **PKiKP 06 47 02.7 -1.3**
comp=Z,22nm,0.5s,baz=78,slow=4.4,SNR=5.6
KIRV Kirov 139.83 52 PKiKP 06 47 02.7 -1.3
COLD Coldfoot 139.83 323 IAMs_20 IAMs_20 07 54 07.7
comp=Z,75μm,21.0s
FALS False Pass 140.03 301 IAMs_20 IAMs_20 07 45 24.2
comp=Z,43μm,22.0s
AKTO Aktyubinsk 140.16 67 PKP **PKPdf 06 47 02.1 -0.4**
comp=Z,6.8nm,0.6s,baz=213,slow=5.9,SNR=5.8
AKTO Aktyubinsk 140.16 67 PKPdf 06 47 02.1 -0.4
TOLK Toolik Lake Re 140.19 325 IAMs_20 IAMs_20 07 52 59.0
comp=Z,62μm,22.0s
NANT Nan 140.21 142 P **PKPdf 06 47 03.3 -0.2**
comp=Z,683μm,0.7s
SAIH SAIHA 140.35 130 i x **PP 06 50 06.1 +4.2**
PAYA Payao 140.42 141 P **PKPdf 06 47 03.7 -0.2**
GAR Garm 140.50 89 IAMs_20 IAMs_20 07 45 41.1
comp=Z,113μm,21.0s
AKUT Akutan 140.88 299 IAMs_20 IAMs_20 07 41 32.6
comp=Z,32μm,21.0s
UNV Unalaska Valle 141.12 299 IAMs_20 IAMs_20 07 48 24.9
comp=Z,54μm,21.0s
AZL Aizawl 141.29 128 i x SKPdf 06 50 27.0 -13
TAS Tashkent 141.37 86 IAMs_20 IAMs_20 07 51 05.6
comp=Z,45μm,21.0s
BTK Batken 141.47 88 IAMs_20 IAMs_20 07 49 57.1
comp=Z,63μm,21.0s
TURI Tura 141.71 124 ex PP 06 50 25.6 +16
DHUB DHUBRI 141.93 123 e P **PKPdf 06 47 00.6 -5.8**
DHUB i x x 06 50 17.2
NIKH Nikolski High 141.93 296 IAMs_20 IAMs_20 07 41 05.4
comp=Z,34μm,22.0s
GTK Tadong 142.30 120 ex PKPdf 06 46 59.0 -8.3
GTK i x PP 06 50 28.0 +14
IUG luzhnay 142.31 85 e PKP **PKiKP 06 47 15.8 +5.9**
IUG e PP PP 06 50 31.4 +17
IUG luzhnay 142.31 85 e PKIKP **PKiKP 06 47 15.7 +5.9**
JBG Jabagly 142.78 85 e PKIKP **PKiKP 06 47 13.0 +2.2**
JBG e 06 50 20.4
IMP Imphal 142.81 129 ex SS 07 09 21.1 +27
QIZ Qiongzhong 143.21 156 PKP PKPbc 06 47 06.0 +0.1
QIZ PP **PP 06 50 16.8 -1.9**
QIZ Qiongzhong 143.21 156 PKPbc 06 47 06.8 +1.0
QIZ Qiongzhong 143.21 156 IAMs_20 IAMs_20 07 46 43.5
comp=Z,31μm,20.0s
ARU Arti 143.31 58 i PKIKP PKPbc 06 47 04.9 -0.2
ARU PPP PPP 06 53 27.6
ARU MLR MLR
comp=Z,63μm,23.0s
ARU Arti 143.31 58 IAMs_20 IAMs_20 07 50 39.1
comp=Z,58μm,21.0s
DZA Taraz 143.53 85 e PKP **PKiKP 06 47 10.8 -1.4**
DZA Taraz 143.53 85 e PKIKP **PKiKP 06 47 10.8 -1.4**
SLVN Son La 143.66 145 IAMs_20 IAMs_20 07 49 31.0
comp=Z,38μm,20.0s
KSH Kashi 144.17 93 PKP **PKPdf 06 47 11.0 +0.8**
KSH PP **PP 06 50 27.3 +1.8**
KSH PKS 06 50 44.8
MOKO MOKOCHONG 144.35 129 i x **PKiKP 06 47 17.5 +3.0**
MOKO ex x 06 51 18.2
ATKA Atka Island 144.44 293 IAMs_20 IAMs_20 07 41 38.7
comp=Z,44μm,21.0s
ATKA Atka Island 144.44 293 Sn **PKPdf 06 47 11.5 +1.6**
SPIA Saint Paul Isl 144.50 302 IAMs_20 IAMs_20 07 50 29.3
comp=Z,65μm,20.0s
SVE Sverdlovsk 144.52 59 i PKIKP **PKiKP 06 47 17.7 +4.0**
SVE pmax pmax
comp=Z,551nm,1.5s
SVE MLR MLR
comp=Z,57μm,22.0s
SVE MLR MLR
comp=N,17μm,20.0s
SVE MLR MLR
comp=E,46μm,21.0s
RDOG Red Dog Mine 144.69 322 IAMs_20 IAMs_20 07 55 24.2
comp=Z,78μm,22.0s
ANM Nome 144.75 315 PKIKP **PKPdf 06 47 10.5 +0.3**
ANM Nome 144.75 315 PKPdf 06 47 10.5 +0.3
ANM IAMs_20 IAMs_20 08 01 03.9
comp=Z,44μm,20.0s
AAK Ala-Archa 145.24 88 i PKP2 **PKPbc 06 47 08.8 -2.9**
AAK Ala-Archa 145.24 88 PKP **PKiKP 06 47 14.9 -1.0**
comp=Z,99nm,0.7s,baz=242,slow=7.0,SNR=7.1
AAK Ala-Archa 145.24 88 PKPbc 06 47 08.9 -2.8
AAK Ala-Archa 145.24 88 IAMs_20 IAMs_20 07 49 38.8
comp=Z,64μm,22.0s
NRN Naryn 145.40 91 IAMs_20 IAMs_20 07 57 00.3
comp=Z,47μm,20.0s
GSTR Great Sitkin T 145.41 291 Sn **PKPdf 06 47 15.3 +3.6**
FRU1 Bishkek 145.43 88 IAMs_20 IAMs_20 07 50 08.7
comp=Z,72μm,22.0s
DIBR DIBRUGARH 145.51 128 i x **PKiKP 06 47 19.7 +3.1**
LSA Lhasa 145.53 121 IAMs_20 IAMs_20 07 48 48.2
comp=Z,32μm,21.0s
ADK Adak 145.66 291 IAMs_20 IAMs_20 07 42 53.9
comp=Z,46μm,22.0s
ADK Adak 145.66 291 Sn **PKPab 06 47 15.7 +2.9**
LKP Lekhapani 145.82 129 i x **PKiKP 06 47 20.9 +3.6**
KIWB Kanaga Island 145.90 291 Sn **PKPab 06 47 19.5 +5.7**
BOOM Boomskoye usch 146.01 89 IAMs_20 IAMs_20 07 59 56.0
comp=Z,46μm,22.0s
BTLS Baital 146.37 84 e PP **PP 06 50 43.0 +4.6**
KDJ Kajisay 146.52 91 IAMs_20 IAMs_20 07 50 37.4
comp=Z,45μm,22.0s
TARG Taragay, Kyrgy 146.65 92 IAMs_20 IAMs_20 07 53 23.8
comp=Z,57μm,22.0s
KMI Kunming 146.74 141 IAMs_20 IAMs_20 07 40 46.8
comp=Z,30μm,22.0s
KMI Kunming 146.74 141 PKPbc **PKiKP 06 47 25.0 +5.4**
AAA Alma-Ata 147.01 89 e PKHKP PKPpre 06 47 04.6
AAA pmax pmax
comp=Z,7μm,4.6s
GAMB Gambell 147.24 313 IAMs_20 IAMs_20 07 55 51.2
comp=Z,43μm,20.0s
HKPS Hong Kong Po S 147.29 161 IAMs_20 IAMs_20 07 53 35.4
comp=Z,27μm,19.0s
ZHN Zhinishke 147.89 90 e PP PP 06 50 52.2 +4.7
BRVK Borovoye 148.11 69 e e PKP2 **PKPdf 06 47 16.5 +0.3**
BRVK MLR MLR
comp=Z,47μm,21.0s
BRVK Borovoye 148.11 69 IAMs_20 IAMs_20 07 59 02.1
comp=Z,57μm,21.0s
BVAR Borovoye Array 148.16 69 PKPbc **PKPbc 06 47 19.2 -0.4**
comp=Z,44nm,1.0s,baz=183,slow=3.0,SNR=8.0
BVAR Borovoye Array 148.16 69 PKPbc 06 47 19.2 -0.4
UZB Uzynbulak 148.22 91 e PP **PP 06 50 55.5 +6.1**
SHLS Shalkode 148.49 91 e PKP **PKPdf 06 47 10.4 -6.9**
TWG Pinlang 148.75 173 PKPbc **PKiKP 06 47 23.4 0.0**
TWG PKPab **PKPab 06 47 29.1 +3.4**
TDK Taldyqorghan 148.92 87 e PKP PKPdf 06 47 07.5 -10
TDK e PP PP 06 51 02.1 +8.8
YULB Yu-li 149.33 173 IAMs_20 IAMs_20 07 55 27.1
comp=Z,14μm,22.0s
SSLB Suanglung 149.70 173 IAMs_20 IAMs_20 07 58 19.8
comp=Z,16μm,20.0s
KNMB Chin-men Tao 150.11 168 PKPbc **PKPbc 06 47 22.9 -2.4**
KNMB PKPab **PKPab 06 47 30.9 -0.3**
KNMB IAMs_20 IAMs_20 07 56 19.8
comp=Z,25μm,20.0s
NACB Ninganchiao 150.13 174 PKPab 06 47 30.7 -0.6
NACB IAMs_20 IAMs_20 07 55 39.2
comp=Z,24μm,22.0s
JCJ Chichijima 150.32 212 PKPbc **PKPab 06 47 30.2 -1.8**
comp=Z,248nm,0.8s,baz=270,slow=22,SNR=4.8
JCJ Chichijima 150.32 212 PKPab 06 47 30.2 -1.8
YOJ Yonaguni jima 150.49 176 IAMs_20 IAMs_20 07 57 13.8
comp=Z,11μm,20.0s
YHNB Yeheng 150.61 173 IAMs_20 IAMs_20 07 52 29.8
comp=Z,22μm,22.0s
QZH Quanzhou 150.61 168⇑ PKPbc **PKPdf 06 47 18.3 -2.8**
QZH PKPab **PKPab 06 47 34.3 +1.0**
QZH e PP **PP 06 51 00.0 -2.2**
TATO Taipei 150.92 173 IAMs_20 IAMs_20 07 50 20.3
comp=Z,21μm,22.0s
SMY Shemya 151.15 288 IAMs_20 IAMs_20 07 48 18.2
comp=Z,43μm,20.0s
KURBB Kurchatov Arra 151.76 78 PKPbc **PKiKP 06 47 31.6 +2.8**
comp=Z,40nm,0.7s,baz=237,slow=2.5,SNR=8.9
KURK Kurchatov 151.85 77 PKIKP **PKPbc 06 47 26.7 -1.9**
KURK **PKPab 06 47 36.4 -1.4**
KURK Kurchatov 151.85 77 PKPbc 06 47 26.7 -1.9
KURK PKPab **PKPab 06 47 36.4 -1.4**
KURK Kurchatov 151.85 77 IAMs_20 IAMs_20 08 00 37.0
comp=Z,47μm,20.0s
MKAR Makanchi Array 152.17 87 PKIKP **PKiKP 06 47 29.8 -0.1**
MKAR Makanchi Array 152.17 87 PKPbc **PKiKP 06 47 31.1 +1.3**
comp=Z,28nm,0.7s,baz=253,slow=4.5,SNR=7.3
MKAR Makanchi Array 152.17 87 PKiKP 06 47 29.8 -0.1
MKAR PKPab **PKPab 06 47 38.6 -0.7**
CD2 Chengdu 152.32 138 PKPbc **PKPdf 06 47 20.3 -3.3**
CD2 PP **PP 06 51 19.0 +6.6**
CD2 SKS **SKSdf 06 54 28.8 -2.0**
SEM Semipalatinsk 152.67 79 e PP **PP 06 51 14.1 -1.0**
JOW Kunigami 152.78 186 PKPab 06 47 38.9 -3.4
WMQ Urumqi 153.72 97 IAMs_20 IAMs_20 08 04 27.9
comp=Z,52μm,21.0s
WHN Wuhan 155.34 157 PKP PKPdf 06 47 18.5 -9.3
WHN PP PP 06 51 37.5 +8.4
WHN Wuhan 155.34 157 SS SS 07 11 05.8 -7.7
WHN LR LR
comp=N,27μm,17.2s
WHN LR LR
comp=E,33μm,22.1s
WHN LR LR
comp=Z,82μm,23.8s
BILL Bilibino 156.16 322 d e PKIKP **PKPdf 06 47 29.8 +2.1**
BILL e 06 51 31.4
BILL eSS SS 07 11 15.4 -7.4
BILL eSSS SSS 07 17 14.3
BILL pmax pmax
comp=Z,43nm,1.0s
BILL Bilibino 156.16 322 IAMs_20 IAMs_20 07 56 04.3
comp=Z,51μm,20.0s
ZAA0 Zalesovo Array 156.56 74 IAMs_20 IAMs_20 08 14 15.9
comp=Z,56μm,22.0s
ZALV Zalesovo Beam 156.56 74 PKIKP **PKPdf 06 47 35.8 +7.1**
ZALV 06 47 54.8
ZALV Zalesovo Beam 156.56 74 PKPbc PKPbc 06 47 38.5
comp=Z,9.7nm,0.7s,baz=262,slow=3.2,SNR=9.8
ZALV PKPab **PKPab 06 47 55.6 -2.1**
comp=Z,8.4nm,0.5s,baz=269,slow=2.7,SNR=6.6
ZALV Zalesovo Beam 156.56 74 PKPdf 06 47 35.8 +7.1
ZALV **PKPab 06 47 54.8 -2.9**
JHJ2 Mitsune 156.65 213 IAMs_20 IAMs_20 08 08 14.9
comp=Z,12μm,21.0s
LZH Lanzhou 156.83 132⇓ PKP **PKPdf 06 47 30.3 +0.4**
LZH sPKP 06 47 35.0
LZH PKP **pPKPab 06 48 02.3 +0.1**
LZH PP **PP 06 51 41.0 +3.1**
SSE Sheshan 156.97 172 PKP PKPdf 06 47 44.5 +15
SSE PP PP 06 51 48.5 +11
SSE Sheshan 156.97 172 IAMs_20 IAMs_20 08 00 54.3
comp=Z,20μm,20.0s
NRIK Noril'sk 157.03 34 PKP **PKPdf 06 47 27.4 -1.4**
comp=Z,1.0nm,0.3s,baz=255,slow=2.9,SNR=4.6
NRIK Noril'sk 157.03 34 PKPdf 06 47 27.4 -1.4
XAN Xi'an 157.05 144 PKP **PKPdf 06 47 27.0 -3.1**
XAN pPKP sPKPdf 06 47 37.5 +3.8
XAN sPKP 06 47 41.0
XAN PP **PP 06 51 36.0 -2.8**
XAN SKS **SKSdf 06 54 31.5 -4.4**
XAN Xi'an 157.05 144 SS SS 07 11 15.8 -17
XAN AMB AMB
comp=Z,3μm,13.3s
XAN LR LR
comp=N,18μm,24.7s
XAN LR LR
comp=E,16μm,24.9s
XAN LR LR
comp=Z,34μm,24.4s
XAN Xi'an 157.05 144 IAMs_20 IAMs_20 07 55 49.6
comp=Z,26μm,22.0s
GTA Gaotai 157.55 120 PKP **PKPdf 06 47 31.8 +1.2**
GTA PP **PP 06 51 47.3 +5.2**
NJ2 Nanjing 157.65 166 e PKPbc **PKPdf 06 47 30.5 -0.3**
NJ2 PKPab **sPKPab 06 48 07.8 +1.3**
NJ2 PP **PP 06 51 39.8 -2.0**
JNU Nakatsue 158.75 194 PKP **PKPdf 06 47 35.3 +3.1**
comp=Z,11nm,1.0s,baz=101,slow=10,SNR=2.1
INU Inuyama 159.57 209 IAMs_20 IAMs_20 08 02 43.0
comp=Z,17μm,21.0s
PET Petropavlovsk 160.08 281 i PKIKP **PKPdf 06 47 37.9 +5.0**
PET e 06 48 10.6
PET e 06 51 50.5
PET e PPP PPP 06 55 44.2
MJAR Matsushiro Arr 160.31 213 PKP **PKPdf 06 47 41.3 +7.5**
comp=Z,7.9nm,1.0s,baz=188,slow=2.2,SNR=7.6
PETK Petropavlovsk- 160.66 281 PKP **PKPdf 06 47 37.6 +4.0**
comp=Z,28nm,1.0s,baz=114,slow=3.6,SNR=7.3
PETK PKPab **PKPab 06 48 15.4 -0.2**
comp=Z,45nm,0.9s,baz=80,slow=5.7,SNR=7.3
PETK Petropavlovsk- 160.66 281 PKPab 06 48 15.6 0.0
SKR Severo-Kuril's 160.80 273 i PKP2 **PKPab 06 48 21.8 +5.5**
SKR e 06 51 56.6
SKR eSS SS 07 12 11.9 -1.2
SKR pmax pmax
comp=Z,126nm,1.1s
TIA Tai'an 161.41 160 PKP PKPdf 06 47 43.5 +8.5
TIA PP **PP 06 52 09.0 +6.8**
KUR Kuril'sk 162.88 249 PKIKP **PKPdf 06 47 32.8 -3.3**
KUR e PKP **PKPab 06 48 25.4 -0.1**
KUR eSKS **SKSdf 06 54 31.1 -9.3**
KUR pmax pmax
comp=Z,3426μm,7.4s
BTO Baotou 163.24 137 e P **PKPdf 06 47 41.5 +4.7**
KSRS Korea Array 163.36 188 PKP **PKPdf 06 47 36.5 -0.3**
comp=Z,5.3nm,1.0s,baz=124,slow=0.9,SNR=5.5
KSRS Korea Array 163.36 188 PKPdf 06 47 36.5 -0.3
HHC Hu-ho-hao-te 164.06 140 e PKP **PKPdf 06 47 38.0 +0.4**
HHC PP **PP 06 52 21.0 +4.3**
HHC Hu-ho-hao-te 164.06 140 SS SS 07 12 48.3 +2.1
HHC AMB AMB
comp=Z,16nm,6.3s
HHC LR LR
comp=N,45nm,19.4s

HHC LR LR
comp=E,38nm,17.5s
HHC LR LR
comp=Z,51nm,19.4s
DL2 Dalian 164.75 170 PKP **PKPdf** 06 47 38.5 +0.4
DL2 PP **PP** 06 52 19.8 0.0
BJI Beijing 164.83 153 *e*PKP PKPdf 06 47 22.5 -16
BJI PP PP 06 52 53.3 +33
BJI Beijing 164.83 153 *i* PKP PKPdf 06 47 46.0 +7.9
BJI PKP sPKPab 06 48 39.8 +2.2
BJI PP PP 06 52 53.5 +33
MOY Mondy 165.30 89 *e*PKIKP **PKPdf** 06 47 36.4 -1.9
MOY pmax pmax
comp=Z,139nm,2.2s
YSS Yuzh-Sakhalins 166.73 245 *e*PKIKP PKPdf 06 47 51.9 +13
YSS *e* 06 52 28.0
SONM Songino Array 166.75 110 PKPab **PKPab** 06 48 40.0 -2.7
comp=Z,9.5nm,1.0s,baz=224,slow=5.0,SNR=2.8
SONM PKKPbc PKKPbc 06 52 52.6
comp=Z,14nm,1.1s,baz=216,slow=5.0,SNR=3.8
TLY Talaya 166.87 91 *e*PKIKP **PKPdf** 06 47 46.9 +7.5
TLY *e*SS SS 07 13 09.0 -6.7
TLY pmax pmax
comp=Z,122nm,1.5s
TLY Talaya 166.87 91 PKKPbc PKKPbc 06 52 50.4
comp=Z,9.4nm,0.9s,baz=288,slow=3.4,SNR=3.6
TLY Talaya 166.87 91 PKPdf **PKPdf** 06 47 34.9 -4.6
TLY PKPab **PKPab** 06 48 38.1 -4.9
IRK Irkutsk 167.41 89 *e*PKIKP **PKPdf** 06 47 37.3 -2.5
IRK pmax pmax
comp=Z,232nm,2.1s
SNY Shenyang 167.81 175 ||PKP PKPdf 06 47 51.3 +11
SNY PP **PP** 06 52 33.8 -1.8
SNY SKS **SKSdf** 06 54 49.0 +5.2
USRK Ussuriysk Ar. 169.22 208 PKP2 **PKPab** 06 48 50.2 -3.2
USRK Ussuriysk Ar. 169.22 208 PKPab **PKPab** 06 48 55.7 +2.3
comp=Z,6.4nm,1.0s,baz=139,slow=11,SNR=2.7
USRK Ussuriysk Ar. 169.22 208 **PKPab** 06 48 50.2 -3.2
CN2 Changchun 169.82 182 *e*PKP **PKPdf** 06 47 34.5 -7.1
CN2 *e*PP PP 06 52 55.5 +10
CN2 AMB AMB
comp=Z,200nm,3.0s
MDJ Mudanjiang 170.18 199 PKP **PKPdf** 06 47 48.0 +6.2
MDJ PP PP 06 53 07.0 +19
MDJ SKS **SKSdf** 06 54 45.8 +0.9
MDJ AMB AMB
comp=Z,4μm,18.9s
MDJ LR LR
comp=Z,26μm,21.9s
NKL Nikolayevsk 170.65 271 *e*PKIKP PKPdf 06 47 55.2 +13
NKL *e* 06 52 49.4
NKL *e*PPP PPP 06 57 01.5
NKL *e*SS SS 07 13 48.0 -5.3
YAK Yakutsk 171.55 345 *e*PKIKP **PKPdf** 06 47 45.3 +3.4
YAK *e* 06 52 59.0
YAK pmax pmax
comp=Z,21nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=Z,2μm,3.8s
YAK pmax pmax
comp=N,531nm,3.8s
YAK pmax pmax
comp=E,510nm,3.7s
CIT Chita 172.80 101 *e*PKIKP **PKPdf** 06 47 48.5 +5.6
KLR Kul'dur 173.67 224 PKPab **PKPab** 06 49 16.6 +3.5
comp=E,13nm,1.1s,baz=250,slow=3.4,SNR=1.9
KLR Kul'dur 173.67 224 **PKPab** 06 49 16.6 +3.5

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*ISCJB **25** 06:37:34.2±0.5, 54°.35S±0°.07×54°.87W±0°.09, h10km, mb4.4/6, Error ellipse: s-maj=10.0km s-min=6.5km az=26.0*
*NEIC **25** 06:37:35.9±1.8, 54°.44S±0°.07×54°.92W±0°.05, h12km±4km, mb4.9/12*
*IDC **25** 06:37:36.9±0.9, 53°.95S×54°.25W, h0km, mb4.5/6, mb1 4.6/8, mb1mx4.3/32, mbtmp4.6/8, ML4.7/2, Error ellipse: s-maj=36.9km s-min=20.8km az=82.0*
ISC 25 06:37:35.7±0.5, **54°.39S**±0°.07×**54°.92W**±0°.06, **h10**km, **n47,** σ1**9**/**96**/48, **mb4.9**/11, **South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**3.31**	**324**	Pn	**Pn**	06 38 28.0	+0.5
EFI				Sn	**Sn**	06 39 05.8	-1.1
USHA	**Ushuaia**	**7.86**	**261**	Pn	**Pn**	06 39 29.9	0.0
	9.3nm,0.3s,baz=82,slow=11,SNR=6.3						
USHA				Sn	**Sn**	06 41 03.0	+4.1
	21nm,0.3s,baz=328,slow=18,SNR=9.0						
GO10	**Punta Arenas**	**9.63**	**271**	Pn	**Pn**	06 39 52.8	-1.4
GO10				Sn	**Sn**	06 41 41.4	-1.1
HOPE	**Hope Point**	**10.76**	**97**	Pn	**Pn**	06 40 08.9	-0.7
GO09	**Cerro Castillo**	**10.99**	**279**	Pn	**Pn**	06 40 12.3	-0.5
PMSA	**Palmer Station**	**11.38**	**200**	Pn	Pn	06 40 29.7	+12
	2.1nm,0.3s,baz=23,slow=12,SNR=4.6						
PMSA	**Palmer Station**	**11.38**	**200**		**Pn**	06 40 16.4	-1.7
TRQA	**Tornquist**	**17.03**	**341**	Pn	**Pn**	06 41 34.1	+0.3
PLCA	**Paso Flores**	**17.20**	**316**	P	**P**	06 41 39.2	+1.7
	0.9nm,0.3s,baz=144,slow=14,SNR=1.6						
PLCA	**Paso Flores**	**17.20**	**316**		**Pn**	06 41 36.3	+0.3
GO06	**Curarrehue**	**18.55**	**316**	P	**Pn**	06 41 54.4	+1.7
GO05	**Huala**	**22.73**	**322**	P	**P**	06 42 37.9	+0.2
PEL	**Peldehue**	**23.99**	**326**	P	**P**	06 42 50.5	+0.2
ROC1	**El Roble**	**24.25**	**325**	P	**P**	06 42 53.5	+0.5
VNA3	**Neumayer Olymp**	**25.75**	**148**	P	**P**	06 43 11.2	+5.2
VNA1	**Neumayer--Stat**	**26.03**	**146**	P	**P**	06 43 10.3	+1.8
VNA2	**Neumayer--Watz**	**26.38**	**147**	P	**P**	06 43 16.1	+4.4
	baz=293,slow=9.2						
GO04	**Tololo Observa**	**26.77**	**328**	P	**P**	06 43 15.3	-0.6
SNAA	**Sanae**	**27.97**	**148**	P	**P**	06 43 30.5	+4.5
SNAA	**Sanae**	**27.97**	**148**	P	**P**	06 43 29.9	+3.9
	16nm,1.3s,baz=287,slow=14,SNR=1.7						
SNAA	**Sanae**	**27.97**	**148**	P	**P**	06 43 28.2	+2.1
SNAA				IAmb	IAmb	06 43 39.5	
	comp=Z,9.8nm,0.8s						
PB10	**IPOC Station P**	**32.98**	**333**	P	**P**	06 44 10.3	-0.4
QSPA	**South Pole Qui**	**35.86**	**180**	P	P	06 44 40.7	+5.3
	comp=Z,24nm,0.7s,baz=178,slow=1.0,SNR=14						
QSPA	**South Pole Qui**	**35.86**	**180**	P	**P**	06 44 30.9	-4.5
QSPA				IAmb	IAmb	06 44 43.6	
	comp=Z,20nm,0.9s						
GO01	**Chusmiza**	**36.34**	**337**	P	**P**	06 44 40.2	0.0
GO01				IAmb	IAmb	06 44 50.1	
	comp=Z,17nm,0.8s						
PB11	**IPOC Station P**	**36.35**	**336**	P	**P**	06 44 38.5	-1.4
PB11				IAmb	IAmb	06 44 51.5	
	comp=Z,30nm,1.1s						
MNMC	**Minye Minye**	**36.95**	**337**	P	**P**	06 44 45.5	+0.4
MNMC				IAmb	IAmb	06 44 46.7	
	comp=Z,25nm,0.8s						
LPAZ	**La Paz**	**39.38**	**340**	P	**P**	06 45 06.0	-0.1
	comp=Z,2.0nm,0.6s,baz=154,slow=7.9,SNR=1.3						
LPAZ	**La Paz**	**39.38**	**340**	P	**P**	06 45 04.4	-1.7
H10S3	**ASCENSION HYDR**	**55.50**	**51**	T	T	07 46 39.2	
	baz=208,slow=74,SNR=4.3						
H10S2	**ASCENSION HYDR**	**55.50**	**51**	T	T	07 46 48.3	
	baz=12,slow=74,SNR=4.6						
SUR	**Sutherland**	**56.34**	**100**	P	**P**	06 47 16.9	0.0
OTAV	**Otavalo**	**57.80**	**332**	P	**P**	06 47 27.1	-0.5
MDP	**Montagnes des**	**59.30**	**3**	P	**P**	06 47 36.2	-1.3
	comp=Z,9.3nm,1.0s,baz=206,slow=11,SNR=1.8						
TSUM	**Tsumeb**	**64.45**	**88**	P	**P**	06 48 12.4	0.0
	comp=Z,2.1nm,0.8s,baz=249,slow=17,SNR=1.8						
TSUM	**Tsumeb**	**64.45**	**88**	P	**P**	06 48 12.1	-0.2
LBTB	**Lobatse**	**64.63**	**98**	P	**P**	06 48 13.8	+0.3
LBTB				IAmb	IAmb	06 48 22.9	
	comp=Z,7.1nm,0.9s						
CCIG	**Comitan**	**77.21**	**323**	P	**P**	06 49 30.5	+0.7
CCIG				IAmb	IAmb	06 49 35.3	
	comp=Z,6.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.52**	**55**	P	**P**	06 49 58.0	-0.5
	comp=Z,1.0nm,0.8s,baz=233,slow=4.7,SNR=1.1						
TORD	**Torodi Ar. Bea**	**82.52**	**55**	P	**P**	06 49 58.8	+0.3
AAK	**Ala-Archa**	**145.23**	**89**	PKP	**PKiKP**	06 57 18.3	+1.5
	comp=Z,5.8nm,0.7s,baz=213,slow=5.0,SNR=7.3						
AAK	**Ala-Archa**	**145.23**	**89**		**PKPdf**	06 57 13.1	+0.1
BVAR	**Borovoye Array**	**148.28**	**70**	PKPbc	**PKPbc**	06 57 21.3	+0.4
	comp=Z,3.4nm,0.9s,baz=90,slow=2.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**151.82**	**78**	PKPbc	**PKiKP**	06 57 31.9	+2.0
	comp=Z,0.6nm,0.3s,baz=238,slow=2.9,SNR=2.0						
KURK	**Kurchatov**	**151.91**	**78**	PKPbc	**PKiKP**	06 57 30.1	0.0
MKAR	**Makanchi Array**	**152.16**	**88**	PKPbc	**PKiKP**	06 57 34.7	+3.9
	comp=Z,2.5nm,0.9s,baz=244,slow=2.3,SNR=2.0						
MKAR	**Makanchi Array**	**152.16**	**88**	PKPdf	**PKPdf**	06 57 24.1	+0.3
MKAR				PKPbc	**PKPbc**	06 57 29.5	-1.0
MKAR				PKPab	**PKPab**	06 57 39.5	-0.8

IDC 25 06:41:12.9±16.0, **30°.80S**×**77°.92E, h0**km, **mb4.2**/4, **mb1 4.4**/4, **mb1mx3.8**/64, **mbtmp4.2**/4, **Error ellipse: s-maj=538.1km s-min=35.4km az=39.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**23.59**	**346**	T	T	07 12 22.0	
	baz=171,slow=76,SNR=292						
H08S1	**Diego Garcia H**	**23.59**	**346**	T	T	07 12 22.4	
	baz=171,slow=76,SNR=267						
H08S3	**Diego Garcia H**	**23.61**	**346**	T	T	07 12 23.6	
	baz=171,slow=76,SNR=341						
H08N1	**Diego Carcia H**	**25.18**	**344**	T	T	07 14 22.2	
	baz=334,slow=77,SNR=4.2						
H08N3	**Diego Carcia H**	**25.18**	**344**	T	T	07 14 26.7	
	baz=334,slow=77,SNR=4.5						
H08N2	**Diego Garcia H**	**25.20**	**344**	T	T	07 14 32.8	
	baz=334,slow=77,SNR=4.8						
H01W2	**Cape Leeuwin H**	**30.59**	**107**	T	T	07 19 29.7	
	baz=264,slow=74,SNR=56						
H01W3	**Cape Leeuwin H**	**30.59**	**107**	T	T	07 19 29.9	
	baz=264,slow=74,SNR=68						
H01W1	**Cape Leeuwin H**	**30.61**	**107**	T	T	07 19 30.9	
	baz=264,slow=74,SNR=8.2						
ASAR	**Alice Springs**	**49.85**	**96**	P	P	06 50 07.3	-0.9
	1.7nm,0.8s,baz=251,slow=4.8,SNR=4.1						
WRA	**Warramunga Arr**	**51.65**	**92**	P	P	06 50 22.1	+0.4
	1.8nm,0.8s,baz=248,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**77.33**	**3**	P	P	06 53 08.7	-0.4
	3.4nm,0.7s,baz=196,slow=5.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**84.61**	**4**	P	P	06 53 48.3	+0.7
	2.4nm,0.7s,baz=164,slow=5.8,SNR=1.5						

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*ISCJB **25** 06:41:48.5±0.3, 54°.21S±0°.04×55°.16W±0°.08, h10km, mb5.0/34, MS7.0/1, Error ellipse: s-maj=7.5km s-min=4.9km az=152.9*
*IDC **25** 06:41:48.5±0.5, 54°.21S×55°.07W, h0km, mb4.9/21, mb1 4.9/22, mb1mx4.8/34, mbtmp4.9/22, ML5.2/1, Error ellipse: s-maj=22.0km s-min=11.2km az=60.0*
*MOS **25** 06:41:49.2±1.1, 54°.16S×55°.09W, h10km, mb5.5/25, Error ellipse: s-maj=20.4km s-min=8.3km az=103.0*
*NEIC **25** 06:41:50.7±1.5, 54°.23S±0°.07×55°.3W±0°.1, h16km±2km, mb5.4/46*
*BJI **25** 06:41:54.0±0.0, 54°.40S×55°.60W, h30km, mB6.1/1*
ISC 25 06:41:49.6±0.3, **54°.28S**±0°.05×**55°.39W**±0°.05, **h10**km, **n326,** σ1**9**/**29**/325, **mb5.3**/45, **2C-7D, Falkland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**3.07**	**327**	P	**Pn**	06 42 39.2	+1.0
EFI	**East Falkland**	**3.07**	**327**		**Pn**	06 42 39.1	+1.0
USHA	**Ushuaia**	**7.61**	**261**	Pn	**Pn**	06 43 37.4	-3.0
	38nm,0.3s,baz=90,slow=12,SNR=18						
USHA				Sn	**Sn**	06 45 06.0	-0.5
	125nm,0.3s,baz=217,slow=22,SNR=11						
GO10	**Punta Arenas**	**9.36**	**271**	Pn	**Pn**	06 44 00.5	-4.0
GO10				Sn	**Sn**	06 45 44.2	-5.4
GO09	**Cerro Castillo**	**10.70**	**279**	Pn	**Pn**	06 44 20.2	-2.6
GO09				Sn	**Sn**	06 46 17.1	-5.4
HOPE	**Hope Point**	**11.05**	**98**	*e*P	**Pn**	06 44 27.7	+0.2
HOPE	**Hope Point**	**11.05**	**98**	Pn	**Pn**	06 44 27.4	-0.1
HOPE				Sn	**Sn**	06 46 24.7	-6.3
PMSA	**Palmer Station**	**11.39**	**199**	Pn	Pn	06 44 38.0	+6.0
	9.2nm,0.3s,baz=41,slow=8.4,SNR=25						
PMSA	**Palmer Station**	**11.39**	**199**	*e*P	Pn	06 44 38.3	+6.2
PMSA	**Palmer Station**	**11.39**	**199**	*e*P	Pn	06 44 38.3	+6.2
PMSA	**Palmer Station**	**11.39**	**199**	Pn	**Pn**	06 44 35.1	+3.0
TRQA	**Tornquist**	**16.85**	**342**	P	**Pn**	06 45 46.3	+0.9
TRQA				pmax	pmax		
	comp=Z,429nm,1.5s						
TRQA	**Tornquist**	**16.85**	**342**	*e*P	**P**	06 45 47.9	+0.4
TRQA	**Tornquist**	**16.85**	**342**	*e*P	**P**	06 45 47.9	+0.4
TRQA	**Tornquist**	**16.85**	**342**	P	**Pn**	06 45 46.3	+0.9
TRQA				IAmb	IAmb	06 46 00.5	
	comp=Z,429nm,1.4s						
PLCA	**Paso Flores**	**16.94**	**317**	P	**Pn**	06 45 47.4	+0.8
PLCA				pmax	pmax		
	comp=Z,342nm,1.5s						
PLCA	**Paso Flores**	**16.94**	**317**	P	**P**	06 45 49.3	+0.7
	comp=Z,2.1nm,0.3s,baz=176,slow=9.9,SNR=11						
PLCA	**Paso Flores**	**16.94**	**317**	*e*P	**P**	06 45 50.2	+1.6
PLCA	**Paso Flores**	**16.94**	**317**	*e*P	**P**	06 45 50.2	+1.6
PLCA	**Paso Flores**	**16.94**	**317**	P	**Pn**	06 45 47.4	+0.8
PLCA				IAmb	IAmb	06 46 07.8	
	comp=Z,342nm,1.4s						
GO06	**Curarrehue**	**18.29**	**317**	P	**P**	06 46 04.3	+0.8
GO06				IAmb	IAmb	06 46 22.8	
	comp=Z,123nm,0.8s						
OGAUY	**Aigu**	**19.95**	**2**	*e*P	**Pn**	06 46 23.0	-0.3
OGAUY	**Aigu**	**19.95**	**2**	*e*P	**Pn**	06 46 23.0	-0.3
GO05	**Huala**	**22.48**	**322**	P	**P**	06 46 48.8	-0.1
GO05				IAmb	IAmb	06 47 07.2	
	comp=Z,93nm,0.9s						
PLTB	**Pedras Altas**	**22.55**	**4**	*e*P	**P**	06 46 51.0	+1.3
PLTB	**Pedras Altas**	**22.55**	**4**	*e*P	**P**	06 46 51.0	+1.3
PEL	**Peldehue**	**23.75**	**327**	P	**P**	06 47 01.7	-0.3
PEL				pmax	pmax		
	comp=Z,167nm,1.0s						
PEL	**Peldehue**	**23.75**	**327**	P	**P**	06 47 01.7	-0.3
PEL				IAmb	IAmb	06 47 18.9	
	comp=Z,167nm,1.0s						
CPSB	**Cacapava Do Su**	**23.91**	**4**	*e*P	**P**	06 47 04.1	+0.7
CPSB	**Cacapava Do Su**	**23.91**	**4**	*e*P	**P**	06 47 04.1	+0.7
ROC1	**El Roble**	**24.01**	**326**	P	**P**	06 47 05.7	+1.0
CFA	**Coronel Fontan**	**24.46**	**333**	P	**P**	06 47 08.6	0.0
	comp=Z,17nm,0.6s,baz=167,slow=8.0,SNR=13						
CNLB	**Canela**	**25.17**	**9**	*e*P	**P**	06 47 15.6	+0.6
CNLB	**Canela**	**25.17**	**9**	*e*P	**P**	06 47 15.6	+0.6
VNA3	**Neumayer Olymp**	**25.98**	**148**	P	**P**	06 47 23.5	+1.4
VNA1	**Neumayer--Stat**	**26.27**	**147**	P	**P**	06 47 26.5	+1.9
GO04	**Tololo Observa**	**26.54**	**329**	P	**P**	06 47 27.9	+0.3
GO04				IAmb	IAmb	06 47 47.8	
	comp=Z,134nm,0.9s						
VNA2	**Neumayer--Watz**	**26.62**	**147**	P	**P**	06 47 29.2	+1.4
	baz=290,slow=9.0						
ITAB	**Concordia**	**27.13**	**6**	*e*P	**P**	06 47 33.9	+1.2
ITAB	**Concordia**	**27.13**	**6**	*e*P	**P**	06 47 33.9	+1.2
CPUP	**Villa Florida**	**27.96**	**356**	P	**P**	06 47 39.9	-0.2
CPUP				pmax	pmax		
	comp=Z,63nm,1.4s						
CPUP	**Villa Florida**	**27.96**	**356**	P	**P**	06 47 41.1	+1.0
	comp=Z,7.4nm,0.7s,baz=173,slow=8.2,SNR=5.7						
CPUP	**Villa Florida**	**27.96**	**356**	*e*P	**P**	06 47 41.1	+1.0
CPUP	**Villa Florida**	**27.96**	**356**	*e*P	**P**	06 47 41.1	+1.0
CPUP	**Villa Florida**	**27.96**	**356**	P	**P**	06 47 39.9	-0.2
CPUP				IAmb	IAmb	06 47 47.7	
	comp=Z,63nm,1.4s						
SNAA	**Sanae**	**28.21**	**148**	P	**P**	06 47 43.2	+1.1
SNAA	**Sanae**	**28.21**	**148**	P	**P**	06 47 43.0	+0.9
SNAA				pmax	pmax		
	comp=Z,40nm,1.1s						
SNAA	**Sanae**	**28.21**	**148**	P	**P**	06 47 43.3	+1.2
	comp=Z,18nm,0.8s,baz=283,slow=9.9,SNR=16						
SNAA				PcP	**PcP**	06 50 54.7	-0.4
	comp=Z,3.2nm,0.7s,baz=283,slow=14,SNR=5.7						
SNAA	**Sanae**	**28.21**	**148**	P	**P**	06 47 43.0	+0.9
GO03	**Copiap**	**28.80**	**332**	P	**P**	06 47 46.1	-1.6
PTGB	**Pitanga**	**29.64**	**6**	*e*P	**P**	06 47 56.6	+1.4
PTGB	**Pitanga**	**29.64**	**6**	*e*P	**P**	06 47 56.6	+1.4
GO02	**Mina Guanaco**	**30.95**	**334**	P	**P**	06 48 06.6	-0.4
SPB	**Sao Paulo**	**31.23**	**14**	*e*P	**P**	06 48 09.7	+0.6
SPB	**Sao Paulo**	**31.23**	**14**	*e*P	**P**	06 48 09.7	+0.6
RCLB	**Rio Claro- Sao**	**32.37**	**14**	*e*P	**P**	06 48 19.2	0.0
RCLB	**Rio Claro- Sao**	**32.37**	**14**	*e*P	**P**	06 48 19.2	0.0
PB10	**IPOC Station P**	**32.77**	**334**	P	**P**	06 48 22.7	0.0
PB10				IAmb	IAmb	06 48 29.7	
	comp=Z,55nm,1.3s						
VAS01	**Vassouras-RJ**	**33.21**	**20**	*e*P	**P**	06 48 26.9	+0.3
VAS01	**Vassouras-RJ**	**33.21**	**20**	*e*P	**P**	06 48 26.9	+0.3
LVC	**Limon Verde**	**33.23**	**337**	P	**P**	06 48 26.2	-0.9
LVC				pmax	pmax		
	comp=Z,12nm,0.8s						
LVC	**Limon Verde**	**33.23**	**337**	*e*P	**P**	06 48 28.3	+1.2
LVC	**Limon Verde**	**33.23**	**337**	*e*P	**P**	06 48 28.3	+1.2
LVC	**Limon Verde**	**33.23**	**337**	P	**P**	06 48 26.2	-0.9
LVC				IAmb	IAmb	06 48 45.6	
	comp=Z,12nm,0.8s						
BSCB	**Bom Sucesso**	**34.20**	**18**	*e*P	**P**	06 48 35.0	-0.2
BSCB	**Bom Sucesso**	**34.20**	**18**	*e*P	**P**	06 48 35.0	-0.2
PB01	**IPOC Station P**	**34.88**	**337**	P	**P**	06 48 40.5	-0.6
QSPA	**South Pole Qui**	**35.97**	**180**	P	**P**	06 48 51.1	+0.9
	comp=Z,37nm,0.9s,baz=143,slow=2.2,SNR=14						
QSPA	**South Pole Qui**	**35.97**	**180**	P	**P**	06 48 51.1	+0.9
GO01	**Chusmiza**	**36.13**	**338**	P	**P**	06 48 53.3	+1.0
PB11	**IPOC Station P**	**36.15**	**337**	P	**P**	06 48 52.5	+0.4
PP1B	**Ponte de Pedra**	**36.61**	**1**	*e*P	**P**	06 48 57.5	+1.6
PP1B	**Ponte de Pedra**	**36.61**	**1**	*e*P	**P**	06 48 57.5	+1.6
IPMB	**Ipameri, GO**	**36.65**	**11**	*e*P	**P**	06 48 56.6	+0.3
IPMB	**Ipameri, GO**	**36.65**	**11**	*e*P	**P**	06 48 56.6	+0.3
MNMC	**Minye Minye**	**36.74**	**337**	P	**P**	06 48 57.8	+0.5
MNMC				IAmb	IAmb	06 49 01.6	
	comp=Z,80nm,0.7s						
BSFB	**Barra de Sao F**	**37.11**	**23**	*e*P	**P**	06 49 00.3	+0.2
BSFB	**Barra de Sao F**	**37.11**	**23**	*e*P	**P**	06 49 00.3	+0.2
SJMB	**Sao Joao De Ma**	**37.16**	**23**	*e*P	**P**	06 48 59.8	-0.7
SJMB	**Sao Joao De Ma**	**37.16**	**23**	*e*P	**P**	06 48 59.8	-0.7
SIV	**San Ignacio**	**38.47**	**351**	P	**P**	06 49 10.2	-1.5
	comp=Z,6.8nm,0.7s,baz=202,slow=8.0,SNR=13						
BDFB	**Brasilia**	**38.99**	**11**	P	**P**	06 49 15.4	-0.7
BDFB				pmax	pmax		
	comp=Z,86nm,1.2s						
BDFB	**Brasilia**	**38.99**	**11**	P	**P**	06 49 16.2	+0.1
	comp=Z,19nm,0.8s,baz=175,slow=5.6,SNR=5.8						
BDFB	**Brasilia**	**38.99**	**11**	P	**P**	06 49 15.4	-0.7
BDFB				IAmb	IAmb	06 49 25.6	
	comp=Z,86nm,1.2s						
LPAZ	**La Paz**	**39.19**	**340**	P	**P**	06 49 18.3	-0.1
LPAZ				pmax	pmax		
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**39.19**	**340**	P	**P**	06 49 18.2	-0.1
	comp=Z,7.4nm,0.5s,baz=103,slow=5.5,SNR=24						
LPAZ	**La Paz**	**39.19**	**340**	*e*P	**P**	06 49 20.5	+2.1
LPAZ	**La Paz**	**39.19**	**340**	*e*P	**P**	06 49 20.5	+2.1
LPAZ	**La Paz**	**39.19**	**340**	P	**P**	06 49 18.3	-0.1
NBIT	**Itapeh - BA**	**41.20**	**24**	*e*P	**P**	06 49 34.5	+0.2
NBIT	**Itapeh - BA**	**41.20**	**24**	*e*P	**P**	06 49 34.5	+0.2
CLDB	**Colider**	**43.30**	**359**	*e*P	**P**	06 49 52.3	+0.8
CLDB	**Colider**	**43.30**	**359**	*e*P	**P**	06 49 52.3	+0.8
NBPN	**Ponto Novo - B**	**44.98**	**21**	*e*P	**P**	06 50 05.0	0.0
NBPN	**Ponto Novo - B**	**44.98**	**21**	*e*P	**P**	06 50 05.0	0.0
NBLA	**Lagarto - SE**	**45.39**	**25**	*e*P	**P**	06 50 07.5	-0.7
NBLA	**Lagarto - SE**	**45.39**	**25**	*e*P	**P**	06 50 07.5	-0.7
NNA	**Nana**	**45.48**	**330**	P	**P**	06 50 10.3	+1.4
	comp=Z,11nm,0.7s,baz=179,slow=7.3,SNR=6.4						
SBA	**Scott Base**	**45.61**	**191**	P	**P**	06 50 10.8	+1.5
SBA				pmax	pmax		
	comp=Z,83nm,1.3s						
SBA	**Scott Base**	**45.61**	**191**	P	**P**	06 50 10.8	+1.5
SBA				IAmb	IAmb	06 50 31.0	
	comp=Z,83nm,1.2s						
SAML	**Samuel**	**45.64**	**349**	P	**P**	06 50 09.9	-0.3
SAML				pmax	pmax		
	comp=Z,14nm,0.9s						
SAML	**Samuel**	**45.64**	**349**	*e*P	**P**	06 50 12.1	+1.9
SAML	**Samuel**	**45.64**	**349**	*e*P	**P**	06 50 12.1	+1.9
SAML	**Samuel**	**45.64**	**349**	P	**P**	06 50 09.9	-0.3
SMTB	**Santa Maria do**	**45.73**	**11**	*e*P	**P**	06 50 09.3	-1.6
SMTB	**Santa Maria do**	**45.73**	**11**	*e*P	**P**	06 50 09.3	-1.6
NBAN	**Anadia - AL**	**47.05**	**26**	*e*P	**P**	06 50 21.5	+0.2
NBAN	**Anadia - AL**	**47.05**	**26**	*e*P	**P**	06 50 21.5	+0.2
NBTA	**Tacaratu-PE**	**47.13**	**24**	*e*P	**P**	06 50 22.0	+0.1
NBTA	**Tacaratu-PE**	**47.13**	**24**	*e*P	**P**	06 50 22.0	+0.1
NBRF	**Rio Formoso -**	**48.30**	**27**	*e*P	**P**	06 50 30.7	-0.2
NBRF	**Rio Formoso -**	**48.30**	**27**	*e*P	**P**	06 50 30.7	-0.2
NBMA	**Muriti-CE**	**48.67**	**22**	*e*P	**P**	06 50 33.0	-0.8
NBMA	**Muriti-CE**	**48.67**	**22**	*e*P	**P**	06 50 33.0	-0.8
NBLI	**Livramento-PB**	**49.09**	**25**	*e*P	**P**	06 50 36.4	-0.7
NBLI	**Livramento-PB**	**49.09**	**25**	*e*P	**P**	06 50 36.4	-0.7
MAW	**Mawson**	**50.07**	**154**	P	**P**	06 50 43.4	-0.5
MAW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAW	**Mawson**	**50.07**	**154**	P	**P**	06 50 44.2	+0.2
	comp=Z,6.8nm,0.9s,baz=189,slow=8.5,SNR=4.4						
MAW	**Mawson**	**50.07**	**154**	P	**P**	06 50 43.4	-0.5
NBPB	**Pedra_Branca-C**	**50.26**	**21**	*e*P	**P**	06 50 46.1	+0.1
NBPB	**Pedra_Branca-C**	**50.26**	**21**	*e*P	**P**	06 50 46.1	+0.1
NBPV	**Pedro Velho**	**50.42**	**26**	*e*P	**P**	06 50 47.2	0.0
NBPV	**

SDV	Santo Domingo	64.23	343	P	P	06 52 24.2	-0.7
SDV				IAmb	IAmb	06 52 44.5	
comp=Z,40nm,1.1s							
PLCV	Puerto La Cruz	64.67	350	P	P	06 52 28.6	+1.2
PCRV	Puerto La Cruz	64.69	350	P	P	06 52 28.6	+1.0
comp=Z,15nm,0.7s,baz=203,slow=5.2,SNR=7.7							
TSUM	Tsumeb	64.72	88	P	P	06 52 27.3	-0.8
TSUM				IAmb	IAmb	06 52 46.6	
comp=Z,67nm,1.4s							
SMLC	San Martn de	64.79	340	eP	P	06 52 26.2	-2.1
SMLC	San Martn de	64.79	340	eP	P	06 52 26.2	-2.1
LBTB	Lobatse	64.91	98	P	P	06 52 27.8	-1.5
LBTB				pmax	pmax		
comp=Z,93nm,1.3s							
LBTB	Lobatse	64.91	98	P	P	06 52 27.8	-1.5
SJCC	San Jacinto, C	66.09	339	eP	P	06 52 38.8	+2.0
SJCC	San Jacinto, C	66.09	339	eP	P	06 52 38.8	+2.0
GRGR	Grenville	66.37	353	P	P	06 52 38.9	+0.5
JTS	Las Juntas de	69.01	329‖	eP	P	06 52 56.2	+1.0
JTS				pmax	pmax		
comp=Z,49nm,2.1s							
ESPN	Las Esperanzas	70.62	330	P	P	06 53 06.0	+1.0
ESPN				IAmb	IAmb	06 53 18.8	
comp=Z,59nm,1.4s							
LIC	Lamto	73.46	53	eP	P	06 53 21.8	-0.4
comp=Z,76nm,0.7s							
KIC	Kosan Boka	73.72	53	eP	P	06 53 23.2	-0.5
comp=Z,44nm,0.8s							
TIC	Toumodi	73.83	53	eP	P	06 53 23.9	-0.5
comp=Z,11nm,0.4s							
DBIC	Dimbokro	73.93	53	P	P	06 53 24.7	-0.2
DBIC				pmax	pmax		
comp=Z,25nm,1.0s							
DBIC	Dimbokro	73.93	53	P	P	06 53 24.9	-0.1
comp=Z,7.0nm,0.7s,baz=186,slow=8.7,SNR=9.0							
DBIC	Dimbokro	73.93	53	P	P	06 53 24.7	-0.2
DBIC				IAmb	IAmb	06 53 35.3	
comp=Z,24nm,1.0s							
LSZ	Lusaka	74.01	94	P	P	06 53 25.4	-0.2
LSZ				pmax	pmax		
comp=Z,43nm,1.0s							
LSZ	Lusaka	74.01	94	P	P	06 53 25.1	-0.5
comp=Z,7.5nm,0.7s,baz=190,slow=5.9,SNR=8.7							
LSZ	Lusaka	74.01	94	P	P	06 53 25.4	-0.2
LSZ				IAmb	IAmb	06 53 44.8	
comp=Z,43nm,0.9s							
CCIG	Comitan	76.97	324	P	P	06 53 42.3	-0.1
CCIG				IAmb	IAmb	06 54 05.2	
comp=Z,56nm,1.3s							
OUZ	Omahuta	81.37	219	P	P	06 54 07.4	+1.1
OUZ				IAmb	IAmb	06 54 30.1	
comp=Z,50nm,1.4s							
OPO	Ambohidratompo	82.22	111	P	P	06 54 10.9	-0.3
comp=Z,3.0nm,0.6s,baz=169,slow=5.2,SNR=3.8							
TOA0	Torodi Ar. Sit	82.69	56	P	P	06 54 13.0	-0.3
TOA0				IAmb	IAmb	06 54 22.3	
comp=Z,31nm,1.0s							
TORD	Torodi Ar. Bea	82.69	56	P	P	06 54 12.8	-0.5
comp=Z,10nm,0.8s,baz=198,slow=4.6,SNR=16							
TORD				PP	PP	06 57 20.4	-2.9
comp=Z,6.8nm,1.1s,baz=212,slow=7.8,SNR=3.9							
TORD	Torodi Ar. Bea	82.69	56	P	P	06 54 11.9	-1.3
TOO	Toolangi	86.76	196	P	P	06 54 34.0	+0.3
TOO				pmax	pmax		
comp=Z,14nm,1.3s							
TOO	Toolangi	86.76	196	P	P	06 54 34.0	+0.3
ZAIG	Zacatecas	86.78	317	P	P	06 54 34.8	+0.7
ZAIG				IAmb	IAmb	06 54 49.2	
comp=Z,17nm,1.1s							
KMBO	Kilima Mbogo	90.64	93	P	P	06 54 52.4	-0.3
KMBO				pmax	pmax		
comp=Z,10.0nm,1.4s							
KMBO	Kilima Mbogo	90.64	93	P	P	06 54 57.2	+4.5
comp=Z,0.5nm,0.3s,baz=144,slow=1.3,SNR=2.3							
KMBO	Kilima Mbogo	90.64	93	P	P	06 54 52.4	-0.3
435B	Jarrell	92.22	325	P	P	06 54 59.5	+0.3
JCT	Junction City	92.71	323	P	P	06 55 01.3	-0.2
JCT				pmax	pmax		
comp=Z,30nm,1.0s							
JCT	Junction City	92.71	323	P	P	06 55 01.2	-0.2
STKA	Stephens Creek	92.94	194	P	P	06 55 03.5	+0.6
STKA				pmax	pmax		
comp=Z,1.0nm,1.2s							
STKA	Stephens Creek	92.94	194	P	P	06 55 04.7	+1.8
comp=Z,2.4nm,0.8s,baz=133,slow=7.8,SNR=3.2							
STKA	Stephens Creek	92.94	194	P	P	06 55 03.5	+0.6
TXAR	Lajitas Array	93.10	319	P	P	06 55 03.9	+0.4
comp=Z,1.0nm,0.7s,baz=147,slow=7.1,SNR=5.9							
TXAR	Lajitas Array	93.10	319	P	P	06 55 03.2	-0.2
TX31	Lajitas Ar. Si	93.10	319	P	P	06 55 03.0	-0.5
PLAL	Pickwick Lake	93.27	334	P	P	06 55 03.6	-0.3
PLAL				IAmb	IAmb	06 55 16.2	
comp=Z,8.2nm,0.9s							
MSVF	Nonsavu	95.03	230⇑	eP	P	06 55 13.5	+0.8
MSVF				pmax	pmax		
comp=Z,26nm,3.2s							
ASAR	Alice Springs	101.96	189	P	Pdif	06 55 44.9	+1.1
comp=Z,1.9nm,0.9s,baz=172,slow=4.6,SNR=5.3							
ASAR				PP	PP	06 59 55.1	+1.3
comp=Z,2.1nm,0.9s,baz=161,slow=7.4,SNR=6.2							
ASAR	Alice Springs	101.96	189		Pdif	06 55 43.6	-0.2
PMG	Port Moresby	113.75	204‖	iPKIKP	PKiKP	07 00 29.6	+1.1
BRTR	Keskin Array B	120.53	64	PKIKP	PKiKP	07 00 40.9	-0.1
BRTR	Keskin Array B	120.53	64	PKP	PKPdf	07 00 40.0	-0.9
comp=Z,1.4nm,0.6s,baz=231,slow=4.2,SNR=4.9							
BRTR	Keskin Array B	120.53	64		PKiKP	07 00 40.9	-0.1
YKA	Yellowknife Ar	125.32	331	PKIKP	PKPdf	07 00 49.2	+0.1
YKA	Yellowknife Ar	125.32	331	PKP	PKPdf	07 00 49.0	-0.1
comp=Z,3.0nm,0.7s,baz=150,slow=2.2,SNR=16							
YKA	Yellowknife Ar	125.32	331		PKPdf	07 00 49.2	+0.1
AKASG	Malin Array Be	126.17	52	PKIKP	PKPdf	07 00 51.2	+0.1
AKASG	Malin Array Be	126.17	52	PKP	PKPdf	07 00 50.2	-0.9
comp=Z,1.2nm,0.4s,baz=251,slow=2.1,SNR=8.4							
AKASG	Malin Array Be	126.17	52		PKPdf	07 00 51.2	+0.1
SUMG	Summit	127.11	6	iPKIKP	PKiKP	07 00 53.6	+0.3
SUMG				pmax	pmax		
comp=Z,120nm,1.4s							
SUMG	Summit	127.11	6	iP	PKiKP	07 00 53.6	+0.3
comp=Z,116nm,1.4s							
KIV	Kislovodsk	128.30	66	ePKIKP	PKPdf	07 00 54.7	-0.8
KIV				pmax	pmax		
comp=Z,39nm,1.1s							
NCK	Nalchik	128.48	67‖	iPKIKP	PKiKP	07 00 57.1	+0.7
VSR	Storozhevoye	131.23	56	ePKIKP	PKPdf	07 01 00.6	-0.1
VSR				pmax	pmax		
comp=Z,20nm,1.9s							
FINES	FINESS Array B	131.96	40	PKIKP	PKPdf	07 01 01.7	-0.1
FINES	FINESS Array B	131.96	40	PKP	PKPdf	07 01 01.4	-0.4
comp=Z,2.5nm,0.7s,baz=113,slow=2.9,SNR=4.4							
FINES				SKPbc	SKPbc	07 04 24.8	-2.8
comp=Z,2.0nm,0.7s,baz=270,slow=0.4,SNR=3.6							
FINES				PKKPbc	PKKPbc	07 10 05.9	
comp=Z,1.0nm,0.6s,baz=47,slow=6.5,SNR=4.6							
FINES	FINESS Array B	131.96	40		PKPdf	07 01 01.7	-0.1
LPSR	Galich'ya Gora	131.98	55	ePKIKP	PKiKP	07 01 03.9	+0.8
LPSR				pmax	pmax		
comp=Z,10.0nm,0.6s							
OBN	Obninsk	132.42	51‖	iPKIKP	PKiKP	07 01 04.9	+1.0
OBN				e		07 03 26.8	
OBN				pmax	pmax		
comp=Z,56nm,1.3s							
OBN				MLR	MLR		
comp=Z,28μm,18.0s							
VRH	Novokhopyorsk	132.48	58	ePKIKP	PKPdf	07 01 03.5	+0.4
VRH				pmax	pmax		
comp=Z,10.0nm,1.0s							
DAG	Danmarks Havn	132.85	11	iPKIKP	PKPdf	07 01 02.0	-1.1
DAG				pmax	pmax		
comp=Z,6.0nm,0.9s							
DAG	Danmarks Havn	132.85	11	iP	PKPdf	07 01 02.0	-1.1
comp=Z,6.5nm,0.9s							
GEYT	Alibeck	132.91	82	SKPbc	SKPbc	07 04 29.3	-2.4
comp=Z,3.0nm,0.5s,baz=270,slow=3.0,SNR=4.5							
BCAR	Beaver Creek A	134.78	320		PKPdf	07 01 07.2	+0.1
INK	Inuvik	135.00	329	PKIKP	PKPdf	07 01 07.8	+0.5
INK	Inuvik	135.00	329	PKP	PKPdf	07 01 07.2	-0.1
comp=Z,5.1nm,0.9s,baz=51,slow=2.8,SNR=3.8							
INK	Inuvik	135.00	329	PKPdf	PKPdf	07 01 07.8	+0.5
ILAR	Eielson Array	137.60	321	PKIKP	PKPdf	07 01 12.8	+0.6
ILAR	Eielson Array	137.60	321	PKhKP	PKPpre	07 01 06.6	
comp=Z,0.9nm,0.7s,baz=167,slow=1.0,SNR=6.1							
ILAR				PKP	PKPdf	07 01 12.7	+0.4
comp=Z,6.2nm,1.0s,baz=209,slow=0.6,SNR=12							
ILAR	Eielson Array	137.60	321	PKPdf	PKPdf	07 01 12.8	+0.6
CCB	Clear Creek Bu	137.88	320		PKPdf	07 01 12.8	+0.1
WRH	Wood River Hil	137.90	320		PKPdf	07 01 13.0	+0.2
COLA	College	138.01	320⇑	ePKIKP	PKPdf	07 01 13.2	+0.2
APA	Apatity	138.01	35‖	iPKIKP	PKPdf	07 01 12.7	-0.2
APA				pmax	pmax		
comp=Z,11nm,1.1s							
TRF	Thorofare Moun	138.26	318		PKPdf	07 01 14.1	+0.4
BWN	Browne	138.28	319		PKPdf	07 01 14.3	+0.7
BPAW	Bear Paw Mtn.	138.84	318		PKPdf	07 01 14.9	+0.3
CMAR	Chiang Mai Arr	139.16	141	PKIKP	PKPdf	07 01 17.0	+0.4
CMAR	Chiang Mai Arr	139.16	141	PKP	PKPdf	07 01 17.0	+0.4
comp=Z,1.7nm,0.4s,baz=232,slow=3.5,SNR=6.2							
CMAR	Chiang Mai Arr	139.16	141		PKPdf	07 01 16.2	-0.4
TOLK	Toolik Lake Re	140.30	325		PKiKP	07 01 18.6	-1.1
AKTO	Aktyubinsk	140.51	67	PKP	PKiKP	07 01 19.6	-1.0
comp=Z,1.9nm,0.6s,baz=5.6,slow=1.2,SNR=3.6							
IMAR	Indian Mountai	140.71	320		PKiKP	07 01 19.4	-1.2
ABKAR	Abkulak array	140.93	70	PKPdf	PKPdf	07 01 19.5	+0.7
ABKAR	Abkulak array	140.93	70	PKPdf	PKPdf	07 01 19.2	+0.5
ARU	Arti	143.69	59	iPKIKP	PKPbc	07 01 21.0	-0.1
ARU	Arti	143.69	59	PKP	PKPbc	07 01 22.0	+0.9
comp=Z,2.1nm,0.2s,baz=204,slow=1.3,SNR=4.4							
ATKA	Atka Island	144.33	292		PKPdf	07 01 25.0	+0.3
KSH	Kashi	144.40	94	PKP	PKPab	07 01 22.8	-0.9
AML	Almayashu	144.72	89	P	PKPbc	07 01 25.2	-0.1
SNR=14							
SVE	Sverdlovsk	144.90	59	ePKIKP	PKPbc	07 01 25.1	+0.3
SVE				pmax	pmax		
comp=Z,92nm,1.2s							
EKS2	Erkin-Say	145.10	88	P	PKPbc	07 01 26.0	-0.1
SNR=9.5							
UCH	Uchtor	145.26	89	P	PKPbc	07 01 26.7	-0.4
SNR=33							
AAK	Ala-Archa	145.50	89	dePKIKP	PKPab	07 01 27.5	-0.2
AAK	Ala-Archa	145.50	89	PKPbc	PKPdf	07 01 27.3	0.0
comp=Z,47nm,0.7s,baz=191,slow=3.3,SNR=52							
AAK	Ala-Archa	145.50	89	P	PKPdf	07 01 27.3	0.0
SNR=30							
ADK	Adak	145.53	291	PKIKP	PKPab	07 01 27.3	0.0
ADK	Adak	145.53	291	PKPdf	PKPab	07 01 27.3	0.0
KZA	Kyzart	145.60	90	P	PKPdf	07 01 27.8	-0.1
SNR=17							
KIWB	Kanaga Island	145.78	290	PKPdf	PKPab	07 01 28.3	+0.1
KBK	Karagaybulak	145.78	89	P	PKPbc	07 01 28.1	-0.2
SNR=13							
CHMS	Chumysh	145.87	88	P	PKPdf	07 01 27.5	-0.3
SNR=12							
USP	Ospenovka	145.88	88	P	PKPbc	07 01 28.1	-0.4
SNR=8.3							
BOOM	Boomskoye usch	146.26	90	PKP2	PKPbc	07 01 29.4	-0.4
BOOM	Boomskoye usch	146.26	90	PKPdf	PKPbc	07 01 29.4	-0.4
TKM2	Tokmak 2	146.32	89	P	PKPdf	07 01 29.1	+0.4
SNR=9.8							
KMI	Kunming	146.65	142	P	PKiKP	07 01 40.0	+5.7
KMI				pmax	pmax		
comp=Z,33nm,2.0s							
KDJ	Kajisay	146.77	92	PKP2	PKPbc	07 01 30.9	-0.4
KDJ	Kajisay	146.77	92		PKPbc	07 01 30.9	-0.4
TARG	Taragay, Kyrgy	146.88	93	PKPbc	PKPbc	07 01 31.1	-0.8
PRZ	Przheval'sk	147.70	92	PKP2	PKPbc	07 01 32.9	-1.0
PRZ	Przheval'sk	147.70	92	PKPbc	PKPbc	07 01 32.9	-1.0
BRVK	Borovoye	148.46	70	diPKP2	PKiKP	07 01 36.0	-0.8
BRVK	Borovoye	148.46	70		PKPbc	07 01 35.1	-0.2
BVAR	Borovoye Array	148.50	70	PKPbc	PKPbc	07 01 35.2	-0.2
comp=Z,8.5nm,0.6s,baz=256,slow=2.4,SNR=22							
GYA	Guiyang	149.21	147	ePKPbc	PKPbc	07 01 37.0	-1.2
GYA				PKPab	sPKPab	07 01 50.3	+3.9
KURK	Kurchatov	152.16	78	iPKIKP	PKPbc	07 01 43.4	-0.8
KURK	Kurchatov	152.16	78		PKPbc	07 01 43.6	-0.6
KURK				PKPab	PKPab	07 01 52.6	-1.4
CD2	Chengdu	152.25	139	PKPbc	PKPdf	07 01 37.8	-0.6
MK31	Makanchi Array	152.43	88	PKIKP	PKPbc	07 01 44.0	-1.0
MK31						07 01 53.3	
MK31	Makanchi Array	152.43	88		PKPbc	07 01 44.0	-1.0
MK31				PKPab	PKPab	07 01 53.3	-2.1
MKAR	Makanchi Array	152.43	88	PKIKP	PKPbc	07 01 44.0	-1.1
MKAR						07 01 54.7	
MKAR	Makanchi Array	152.43	88	PKPbc	PKPbc	07 01 43.9	-1.1
comp=Z,9.2nm,0.7s,baz=248,slow=2.7,SNR=23							
MKAR	Makanchi Array	152.43	88		PKPbc	07 01 44.0	-1.1
MKAR				PKPab	PKPab	07 01 54.7	-0.6
WHN	Wuhan	155.15	159	PKP	PKPab	07 02 07.0	-0.2
BILL	Bilibino	156.25	322	PKP2	PKPab	07 02 09.7	-1.3
BILL	Bilibino	156.25	322		PKPab	07 02 09.7	-1.3
LZH	Lanzhou	156.80	133	ePKP	PKPdf	07 01 44.0	-0.7
ZALV	Zalesovo Beam	156.88	74	PKP2	PKPab	07 02 12.1	-2.0
ZALV	Zalesovo Beam	156.88	74	PKPab	PKPab	07 02 11.5	-2.6
comp=Z,3.0nm,0.6s,baz=260,slow=4.7,SNR=5.0							
ZALV	Zalesovo Beam	156.88	74		PKPab	07 02 12.1	-2.0
NJ2	Nanjing	157.40	167	ePKP	PKPdf	07 01 46.0	+0.6
GTA	Gaotai	157.61	121	PKP	PKPdf	07 01 55.0	+9.4
PETK	Petropavlovsk-	160.47	280	PKPab	PKPab	07 02 29.9	+0.2
comp=Z,5.4nm,0.8s,baz=122,slow=6.5,SNR=5.5							
PETK	Petropavlovsk-	160.47	280		PKPab	07 02 28.2	-1.5
ERM	Erimo	162.64	233	PKIKP	PKPdf	07 01 50.8	-0.1
ERM	Erimo	162.64	233		PKPdf	07 01 50.9	-0.1
HHC	Hu-ho-hao-te	163.97	142	ePKP	PKPdf	07 01 54.8	+2.4
SONM	Songino Array	166.87	112	PKPab	PKPab	07 02 58.2	0.0
comp=Z,1.0nm,0.8s,baz=225,slow=3.9,SNR=5.3							

*IDC **25** 06:47:29.1±8.3, 11°.26S×163°.26E, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/57, mbtmp4.3/5, ML4.3/2, Error ellipse: s-maj=147.8km s-min=34.4km az=52.0*
*ISCJB **25** 06:47:31.3±1.9, 11°.7S±0°.2×162°.9E±0°.2, h10km, mb3.9/3, Error ellipse: s-maj=36.4km s-min=7.9km az=141.5*
*NEIC **25** 06:47:32.7±2.2, 11°.6S±0°.1×162°.9E±0°.2, h10km±2km, mb4.4/11*

ISC 25 06:47:32.3±2.2, 11°.5S±0°.2×163°.0E±0°.3, h10km, n25, σ1°52/23, mb4.3/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.63	305	Pn	Pn	06 48 29.3	+0.7
48nm,0.3s,baz=190,slow=6.1,SNR=11							
HNR				Sn	Sb	06 49 18.4	-2.2
46nm,0.3s,baz=234,slow=12,SNR=4.3							
HNR	Honiara	3.63	305	eP	Pn	06 48 29.0	+0.5
HNR	Honiara	3.63	305		Pn	06 48 28.8	+0.3
HNR				Sn	Sn	06 49 10.9	-0.5
DZM	Mont Dzumac	10.99	163	Pn	Pn	06 50 09.8	0.0
1.3nm,0.3s,baz=346,slow=17,SNR=56							
DZM				Sn	Sn	06 52 11.6	-1.4
0.7nm,0.3s,baz=313,slow=22,SNR=5.6							
DZM	Mont Dzumac	10.99	163		Pn	06 50 10.2	+0.3
DZM					Sn	06 52 11.6	-1.4
STKA	Stephens Creek	28.25	221	P	P	06 53 29.2	+3.6
1.7nm,0.7s,baz=48,slow=14,SNR=2.9							
STKA	Stephens Creek	28.25	221	P	P	06 53 27.2	+1.5
WB0	Warramunga Arr	28.66	250	P	P	06 53 30.1	+0.5
WB0				IAmb	IAmb	06 53 37.1	
comp=Z,8.6nm,0.9s							
WRAB	Tennant Creek	28.74	250	P	P	06 53 30.4	+0.2
WRAB				IAmb	IAmb	06 53 36.4	
comp=Z,6.2nm,0.7s							
WB2	Warramunga Arr	28.74	250	P	P	06 53 31.2	+1.0
WB2				IAmb	IAmb	06 53 32.6	
comp=Z,5.3nm,0.8s							
WRA	Warramunga Arr	28.75	250	P	P	06 53 31.4	+1.0
comp=Z,3.1nm,0.6s,baz=79,slow=8.9,SNR=19							
WRA	Warramunga Arr	28.75	250	P	P	06 53 30.3	-0.1
BKZ	Black Stump Fm	30.04	159	P	P	06 53 43.0	+1.5
BKZ				IAmb	IAmb	06 53 49.8	
comp=Z,6.0nm,1.1s							
H11S2	WAKE ISLAND Hy	30.06	7	T	T	07 24 35.7	
baz=188,slow=76,SNR=15							
H11S3	WAKE ISLAND Hy	30.07	7	T	T	07 24 16.6	
baz=188,slow=76,SNR=13							
H11S1	WAKE ISLAND Hy	30.08	7	T	T	07 24 31.4	
baz=188,slow=76,SNR=9.3							
AS31	Alice Springs	30.14	242	P	P	06 53 41.1	-1.5
ASAR	Alice Springs	30.14	242	P	P	06 53 43.5	+0.8
comp=Z,1.2nm,0.6s,baz=62,slow=10,SNR=15							
QRZ	Quartz Range	30.37	166	P	P	06 53 40.8	-3.6
H11N1	WAKE ISLAND Hy	31.29	7	T	T	07 25 39.6	
baz=184,slow=76,SNR=8.7							
H11N3	WAKE ISLAND Hy	31.30	7	T	T	07 25 41.3	
baz=184,slow=76,SNR=9.0							
H11N2	WAKE ISLAND Hy	31.31	7	T	T	07 25 42.3	
baz=184,slow=76,SNR=9.9							
BBOO	Buckleboo	32.52	225	P	P	06 54 04.4	+0.9
BBOO				IAmb	IAmb	06 54 06.2	
comp=Z,6.9nm,1.1s							
KNRA	Kununurra	33.47	259	P	P	06 54 12.1	+0.2
FITZ	Fitzroy Crossi	36.61	255	P	P	06 54 39.0	-0.1
FITZ				IAmb	IAmb	06 54 39.5	
comp=Z,3.1nm,0.7s							

*ISCJB **25** 06:53:27.5±0.6, 54°.19S±0°.08×54°.9W±0°.2, h10km, mb3.9/5, Error ellipse: s-maj=19.8km s-min=8.0km az=155.5*
*IDC **25** 06:53:27.2±1.0, 54°.17S×54°.78W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/21, mbtmp4.0/6, ML4.0/13, Error ellipse: s-maj=50.5km s-min=24.2km az=75.0*
*NEIC **25** 06:53:28.8±2.1, 54°.13S±0°.07×54°.8W±0°.2, h10km±1km, mb4.1/9*

ISC 25 06:53:28.8±0.6, 54°.12S±0°.09×54°.8W±0°.1, h10km, n23, σ0°91/26, mb4.0/8, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	East Falkland	3.13	320	Pn	Pn	06 54 18.8	+0.6
EFI				Sn	Sn	06 54 54.6	-1.0
PMSA	Palmer Station	11.65	200	Pn	Pn	06 56 15.5	+0.6
TRQA	Tornquist	16.80	340		P	06 57 25.6	-0.6
TRQA				IAmb	IAmb	06 58 00.5	
comp=Z,33nm,1.6s							
PLCA	Paso Flores	17.05	315	P	P	06 57 28.8	-0.2
comp=Z,0.1nm,0.3s,baz=186,slow=9.0,SNR=3.4							
PLCA	Paso Flores	17.05	315	P	P	06 57 28.4	-0.6
GO06	Curarrehue	18.39	315	P	P	06 57 45.0	+1.1
CPUP	Villa Florida	27.82	355	P	P	06 59 19.0	+0.9
comp=Z,3.8nm,1.0s,baz=160,slow=12,SNR=2.8							
CPUP	Villa Florida	27.82	355	P	P	06 59 18.0	-0.1
SNAA	Sanae	28.17	148	P	P	06 59 20.9	0.0
SNAA				IAmb	IAmb	06 59 35.2	
comp=Z,1.0nm,0.8s							
GO02	Mina Guanaco	30.94	333	P	P	06 59 43.6	-2.6
GO02				IAmb	IAmb	06 59 58.6	
comp=Z,1.0nm,0.6s							
GO01	Chusmiza	36.11	337	P	P	07 00 31.7	+0.4
QSPA	South Pole Qui	36.13	180	P	P	07 00 30.7	-0.1
comp=Z,2.1nm,0.9s,baz=196,slow=3.5,SNR=5.0							
QSPA	South Pole Qui	36.13	180	P	P	07 00 29.8	-1.1
QSPA				IAmb	IAmb	07 00 59.3	
comp=Z,10nm,1.2s							
MNMC	Minye Minye	36.72	336	P	P	07 00 37.4	+1.0
MNMC				IAmb	IAmb	07 01 35.9	
comp=Z,6.4nm,1.2s							
LPAZ	La Paz	39.15	340	P	P	07 00 57.7	+0.5
comp=Z,0.9nm,0.6s,baz=165,slow=8.7,SNR=4.1							
LPAZ	La Paz	39.15	340	P	P	07 00 57.6	+0.3
OTAV	Otavalo	57.59	332	P	P	07 03 21.1	+1.9
TORD	Torodi Ar. Bea	82.32	55	P	P	07 05 50.7	+0.1
comp=Z,1.0nm,0.9s,baz=231,slow=5.5,SNR=4.0							
TXAR	Lajitas Array	93.19	319	P	P	07 06 42.0	-1.1
comp=Z,0.8nm,0.9s,baz=141,slow=8.1,SNR=3.7							
YKA	Yellowknife Ar	125.33	331	PKP	PKPdf	07 12 28.0	-0.3
comp=Z,0.7nm,0.6s,baz=148,slow=2.5,SNR=5.5							
AAK	Ala-Archa	145.17	88	PKPbc	PKPdf	07 13 06.3	+0.3
MKAR	Makanchi Array	152.10	87	PKPbc	PKPbc	07 13 23.4	-0.2
comp=Z,0.7nm,0.5s,baz=246,slow=1.6,SNR=6.9							
MKAR	Makanchi Array	152.10	87	PKPdf	PKPdf	07 13 16.4	-0.5
MKAR				PKPbc	PKPbc	07 13 23.2	-0.2
MKAR				PKPab	PKPab	07 13 32.9	-0.3

*DDA **25** 06:54:25.7, 36°.27N×27°.97E, h6km±10km, ML3.0*
*ISCJB **25** 06:54:26.0±0.6, 36°.28N±0°.03×27°.97E±0°.03, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.4km az=173.0*
*ATH **25** 06:54:26.9, 36°.30N×27°.93E, h31km±2km, ML2.8/2, Error ellipse: s-maj=2.9km s-min=1.4km az=306.0*
*ISK **25** 06:54:26.2, 36°.30N×28°.01E, h6km, ML3.0/13*
*THE **25** 06:54:29.8, 36°.22N×27°.72E, h0km±6km, ML2.8/2, Error ellipse: s-maj=15.8km s-min=0.6km az=81.0*

ISC 25 06:54:25.8±1.2, 36°.33N±0°.03×27°.99E±0°.02, h0km±11km, n37, σ1°98/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	Marmaris-Mugla	0.42	23	PG	Pg	06 54 35.5	+1.6
MRSB				SG	Sg	06 54 41.9	+2.5
DAT	Datca	0.52	321	PG	Pb	06 54 37.9	0.0
DALY	Dalyan (Mula)	0.72	47	PG	Pg	06 54 40.4	+0.7
TURN	Turunc	0.74	42	iP	P

KUR			A	A	07 00 03.0	
	3μm,0.4s					
KUR			A	A	07 00 03.0	
	1μm,0.4s					
YUK	**Yuzh-Kuril'sk**	**1.99 261**	*e*P	**Pn**	**07 00 04.0**	**+0.4**
YUK			AMB	AMB	07 00 07.0	
	719nm,0.4s					
YUK			*e*S	**Sn**	**07 00 25.0**	**-2.3**
YUK			A	A	07 00 26.0	
	409nm,0.4s					
YUK			A	A	07 00 26.0	
	1μm,0.4s					
GRPR	**Tuman**	**2.06 260**	*e*P	**Pn**	**07 00 05.0**	**+0.4**
GRPR			AMB	AMB	07 00 07.0	
	362nm,0.4s					
GRPR			*e*S	**Sn**	**07 00 27.0**	**-2.1**
GRPR			A	A	07 00 32.0	
	758nm,0.4s					
GRPR			A	A	07 00 32.0	
	1μm,0.4s					
NEM2	**Nemuro 2**	**2.29 245**	P	**Pn**	**07 00 08.2**	**+0.4**
NEM2			*e*S	**Sn**	**07 00 31.7**	**-3.1**
NMR	**Nemuro--Hokkai**	**2.30 245**	*e*P	**Pn**	**07 00 08.0**	**+0.1**
GLVR	**Golovnino**	**2.30 255**	*e*P	**Pn**	**07 00 09.2**	**+1.3**
GLVR			AMB	AMB	07 00 11.0	
	303nm,0.3s					
GLVR			*e*S	**Sn**	**07 00 34.0**	**-1.0**
GLVR			A	A	07 00 39.0	
	2μm,0.3s					
GLVR			A	A	07 00 39.0	
	967nm,0.3s					
JRA	**Rausu**	**2.53 261**	P	**Pn**	**07 00 13.0**	**+1.9**
JNSB	**Nemuroshibetsu**	**2.65 258**	P	**Pn**	**07 00 14.7**	**+2.0**
JNK	**Nakash**	**2.90 255**	P	**Pn**	**07 00 17.7**	**+1.5**
JNK			*e*S	**Sn**	**07 00 49.1**	**-0.8**
JAK	**Akkeshi**	**3.14 245**	P	**Pn**	**07 00 20.5**	**+1.0**
JAK			*e*S	**Sn**	**07 00 53.8**	**-1.9**
JTKR	**Abashiri--Toko**	**3.39 265**	P	**Pn**	**07 00 26.1**	**+3.2**
JAR	**Ashorobuto**	**3.65 254**	P	**Pn**	**07 00 29.0**	**+2.5**
JAR			*e*S	**Sn**	**07 01 08.9**	**+0.6**
JCH	**Churui**	**4.19 247**	P	**Pn**	**07 00 35.6**	**+1.7**
JCH			*e*S	**Sn**	**07 01 19.2**	**-2.4**
JKK2	**Kamakawa 2**	**4.23 265**	P	**Pn**	**07 00 38.5**	**+4.0**
JNBK	**Urakawa-nobuka**	**4.75 246**	P	**Pn**	**07 00 43.6**	**+2.1**
JNBK			*e*S	**Sn**	**07 01 34.9**	**-0.4**
JKB	**Kayabe**	**6.06 248**	P	**Pn**	**07 01 01.5**	**+1.9**
JKB			*e*S	**Sn**	**07 02 05.6**	**-2.1**
JOT	**Ohata**	**6.30 244**	P	**Pn**	**07 01 04.2**	**+1.4**
JOT			*e*S	**Sn**	**07 02 10.5**	**-3.0**

IDC ***25*** *07:21:16.3±0.5,53˙.83S×53˙.72W,h0km,mb4.9/19, mb1 4.9/20,mb1mx4.8/24,mbtmp4.9/20,ML5.4/2,MS5.7/11, Ms1 5.7/11,ms1mx5.6/17,Error ellipse: s-maj=17.8km s-min=11.5km az=66.0*

MOS ***25*** *07:21:16.9±1.2,53˙.84S×53˙.87W,h10km,mb5.6/31,Error ellipse: s-maj=20.0km s-min=8.3km az=105.2*

ISCJB ***25*** *07:21:16.9±0.2,53˙.90S±0˙.03×53˙.79W±0˙.07,h10km, mb5.1/38,MS5.7/11,Error ellipse: s-maj=5.9km s-min=4.0km az=174.7*

NEIC ***25*** *07:21:18.4±1.5,53˙.87S±0˙.08×53˙.9W±0˙.1,h15km±3km, mb5.5/74,Mwc6.0(GCMT)*

BJI ***25*** *07:21:21.5±0.0,54˙.00S×54˙.10W,h10km,Ms5.8/3, Ms7 5.6/2*

NEIC ***25*** *07:21:21,53˙.84S×53˙.84W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr0.26; Mθθ-0.74; Mφφ0.49; Mrθ0.39; Mφθ0.85; Mφr-0.14; Fault plane solution: M0 1.15000×10^18^ NP1:φs252.00000°, δ83.00000°,λ-14.00000°. NP2:φs343.00000°,δ76.00000°, λ-173.00000°. Principal axes: T 0.9267, Plg5.0000°, Azm298.0000°; N 0.3603, Plg74.0000°, Azm47.0000°; P -1.2871, Plg15.0000°, Azm207.0000°;*

GCMT ***25*** *07:21:22.4±0.3,53˙.97S±0˙.02×53˙.95W±0˙.03,h18km±1km, MW5.9/93,Moment Tensor Solution. s20,c25; s93,c173; Duration: 2≥3 Moment tensor: Scale 10^18^Nm; Mrr0.04±.04; Mθθ-0.56±.03; Mφφ0.51±.03; Mrθ0.32±.10; Mφθ0.81±.03; Mφr0.04±.09; Best double couple: M0 1.01900×10^18^ NP1:φs253.00000°,δ88.00000°, λ-18.00000°. NP2:φs344.00000°,δ72.00000°, λ-178.00000°. Principal axes: T 0.9850, Plg11.0000°, Azm300.0000°; N 0.0670, Plg72.0000°, Azm68.0000°; P -1.0520, Plg14.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 25 07:21:18.2±0.2,53˙.89S±0˙.04×53˙.95W±0˙.05,h10km,n433, σ1§56/425,mb5.5/63,MS5.6/11,10C-6D,South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**3.34**	**310**	P	**Pn**	**07 22 10.5**	**+0.1**
EFI						07 22 48.2	
EFI	**East Falkland**	**3.34**	**310**	Pn	**Pn**	**07 22 10.5**	**+0.1**
EFI				Sn	**Sn**	**07 22 48.2**	**-1.9**
USHA	**Ushuaia**	**8.51**	**258**	Pn	Pn	07 23 14.6	-6.8
	35nm,0.3s,baz=89,slow=13,SNR=72						
USHA				Sn	**Sn**	**07 24 50.0**	**-7.4**
	349nm,0.3s,baz=9.2,slow=4.1,SNR=22						
HOPE	**Hope Point**	**10.27**	**99**	*e*P	**Pn**	**07 23 46.0**	**+0.6**
HOPE	**Hope Point**	**10.27**	**99**		**Pn**	**07 23 46.2**	**+0.7**
HOPE				Sn	**Sn**	**07 25 37.5**	**-3.0**
GO09	**Cerro Castillo**	**11.49**	**276**	Pn	Pn	07 23 56.9	-5.2
PMSA	**Palmer Station**	**12.05**	**201**	Pn	**Pn**	**07 24 11.7**	**+2.0**
	17nm,0.3s,baz=49,slow=6.9,SNR=62						
PMSA				Sn	**Sn**	**07 26 24.5**	**+0.6**
	0.8nm,0.3s,baz=270,slow=20,SNR=2.6						
PMSA				LR	LR	07 27 56.6	
	comp=Z,35μm,21.7s,baz=22,slow=33						
PMSA	**Palmer Station**	**12.05**	**201**	*e*P	**Pn**	**07 24 13.0**	**+3.3**
PMSA	**Palmer Station**	**12.05**	**201**	*e*P	**Pn**	**07 24 13.0**	**+3.3**
PMSA	**Palmer Station**	**12.05**	**201**		**Pn**	**07 24 11.4**	**+1.7**
TRQA	**Tornquist**	**16.77**	**338**	P	**Pn**	**07 25 13.6**	**+0.5**
TRQA				pmax	pmax		
	comp=Z,306nm,1.0s						
TRQA	**Tornquist**	**16.77**	**338**	*e*P	**Pn**	**07 25 13.0**	**-0.1**
TRQA	**Tornquist**	**16.77**	**338**	*e*P	**Pn**	**07 25 13.0**	**-0.1**
TRQA	**Tornquist**	**16.77**	**338**	P	**Pn**	**07 25 13.6**	**+0.5**
TRQA				IAmb	IAmb	07 25 32.0	
	comp=Z,306nm,1.0s						
PLCA	**Paso Flores**	**17.26**	**313**	P	**P**	**07 25 20.2**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,843nm,1.2s						
PLCA	**Paso Flores**	**17.26**	**313**	P	**Pn**	**07 25 19.1**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=168,slow=12,SNR=63						
PLCA				S	Sn	07 28 17.9	-13
	comp=Z,7.6nm,0.3s,baz=207,slow=4.5,SNR=8.5						
PLCA				LR	LR	07 31 46.6	
	comp=Z,39μm,21.6s,baz=165,slow=36						
PLCA	**Paso Flores**	**17.26**	**313**	*e*P	**Pn**	**07 25 19.8**	**+0.5**
PLCA	**Paso Flores**	**17.26**	**313**	*e*P	**Pn**	**07 25 19.8**	**+0.5**
PLCA	**Paso Flores**	**17.26**	**313**	P	**P**	**07 25 20.1**	**-0.6**
PLCA				Sn	Sn	07 28 17.8	-13
GO06	**Curarrehue**	**18.61**	**313**	P	**Pn**	**07 25 36.1**	**+0.2**
GO06				IAmb	IAmb	07 25 51.1	
	comp=Z,369nm,1.1s						
OGAUY	**Aigu**	**19.56**	**358**	*e*P	**Pn**	**07 25 47.2**	**-0.1**
OGAUY	**Aigu**	**19.56**	**358**	*e*P	**Pn**	**07 25 47.2**	**-0.1**
PLTB	**Pedras Altas**	**22.12**	**1**	*e*P	**P**	**07 26 13.9**	**+0.3**
PLTB	**Pedras Altas**	**22.12**	**1**	*e*P	**P**	**07 26 13.9**	**+0.3**
GO05	**Huala**	**22.71**	**319**	P	**P**	**07 26 19.4**	**-0.6**
CPSB	**Cacapava Do Su**	**23.47**	**1**	*e*P	**P**	**07 26 28.4**	**+0.5**
CPSB	**Cacapava Do Su**	**23.47**	**1**	*e*P	**P**	**07 26 28.4**	**+0.5**
PEL	**Peldehue**	**23.91**	**323**	P	**P**	**07 26 31.3**	**-0.8**
PEL				pmax	pmax		
	comp=Z,261nm,1.0s						
PEL	**Peldehue**	**23.91**	**323**	P	**P**	**07 26 31.3**	**-0.8**
ROC1	**El Roble**	**24.18**	**323**	P	**P**	**07 26 34.8**	**-0.1**
CFA	**Coronel Fontan**	**24.53**	**330**	P	**P**	**07 26 36.3**	**-1.5**
	comp=Z,12nm,0.5s,baz=175,slow=8.8,SNR=24						
CFA				LR	LR	07 37 41.4	
	comp=Z,15μm,18.8s,baz=123,slow=40						
CNLB	**Canela**	**24.66**	**6**	*e*P	**P**	**07 26 40.4**	**+1.4**
CNLB	**Canela**	**24.66**	**6**	*e*P	**P**	**07 26 40.4**	**+1.4**
VNA3	**Neumayer Olymp**	**25.88**	**149**	P	**P**	**07 26 49.4**	**-0.2**
VNA1	**Neumayer--Stat**	**26.14**	**147**	P	**P**	**07 26 52.3**	**+0.4**
VNA2	**Neumayer--Watz**	**26.49**	**148**	P	**P**	**07 26 55.0**	**-0.2**
	baz=293,slow=12						
ITAB	**Concordia**	**26.66**	**4**	*e*P	**P**	**07 26 58.8**	**+1.7**
ITAB	**Concordia**	**26.66**	**4**	*e*P	**P**	**07 26 58.8**	**+1.7**
GO04	**Tololo Observa**	**26.66**	**326**	P	**P**	**07 26 56.8**	**-0.6**
CPUP	**Villa Florida**	**27.64**	**353**	P	**P**	**07 27 05.3**	**-0.6**
CPUP				pmax	pmax		
	comp=Z,20nm,1.0s						
CPUP	**Villa Florida**	**27.64**	**353**	P	**P**	**07 27 04.5**	**-1.4**
	comp=Z,6.6nm,0.6s,baz=183,slow=7.7,SNR=19						
CPUP				LR	LR	07 37 59.1	
	comp=Z,18μm,21.4s,baz=139,slow=36						
CPUP	**Villa Florida**	**27.64**	**353**	*e*P	**P**	**07 27 07.5**	**+1.6**
CPUP	**Villa Florida**	**27.64**	**353**	*e*P	**P**	**07 27 07.5**	**+1.6**
CPUP	**Villa Florida**	**27.64**	**353**	P	**P**	**07 27 05.3**	**-0.6**
SNAA	**Sanae**	**28.09**	**148**	P	**P**	**07 27 08.9**	**-0.7**
SNAA	**Sanae**	**28.09**	**148**	P	**P**	**07 27 09.0**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,89nm,1.5s						
SNAA	**Sanae**	**28.09**	**148**	P	**P**	**07 27 08.9**	**-0.7**
	comp=Z,10nm,0.6s,baz=254,slow=8.7,SNR=53						
SNAA				ScP	**ScP**	**07 34 01.2**	**-2.9**
	comp=Z,5.0nm,0.8s,baz=286,slow=4.6,SNR=5.9						
SNAA				LR	LR	07 37 05.3	
	comp=Z,8μm,20.6s,baz=294,slow=34						
SNAA	**Sanae**	**28.09**	**148**	P	**P**	**07 27 09.1**	**-0.6**
SNAA					**ScP**	**07 34 01.9**	**-2.2**
GO03	**Copiap**	**28.88**	**329**	P	**P**	**07 27 16.7**	**-0.3**
PTGB	**Pitanga**	**29.17**	**4**	*e*P	**P**	**07 27 21.2**	**+1.5**
PTGB	**Pitanga**	**29.17**	**4**	*e*P	**P**	**07 27 21.2**	**+1.5**
SPB	**Sao Paulo**	**30.65**	**12**	*e*P	**P**	**07 27 33.8**	**+1.2**
SPB	**Sao Paulo**	**30.65**	**12**	*e*P	**P**	**07 27 33.8**	**+1.2**
FRTB	**Fartura**	**30.68**	**8**	*e*P	**P**	**07 27 34.9**	**+1.9**
FRTB	**Fartura**	**30.68**	**8**	*e*P	**P**	**07 27 34.9**	**+1.9**
GO02	**Mina Guanaco**	**30.98**	**332**	P	**P**	**07 27 35.3**	**-0.6**
RCLB	**Rio Claro- Sao**	**31.80**	**11**	*e*P	**P**	**07 27 44.6**	**+1.7**
RCLB	**Rio Claro- Sao**	**31.80**	**11**	*e*P	**P**	**07 27 44.6**	**+1.7**
VAS01	**Vassouras-RJ**	**32.55**	**18**	*e*P	**P**	**07 27 50.6**	**+1.2**
VAS01	**Vassouras-RJ**	**32.55**	**18**	*e*P	**P**	**07 27 50.6**	**+1.2**
PB10	**IPOC Station P**	**32.81**	**331**	P	**P**	**07 27 51.9**	**+0.3**
BB19B	**Bebedouro**	**33.03**	**9**	*e*P	**P**	**07 27 53.5**	**-0.1**
BB19B	**Bebedouro**	**33.03**	**9**	*e*P	**P**	**07 27 53.5**	**-0.1**
LVC	**Limon Verde**	**33.23**	**334**	P	**P**	**07 27 55.3**	**-0.4**
LVC				pmax	pmax		
	comp=Z,29nm,1.1s						
LVC	**Limon Verde**	**33.23**	**334**	P	**P**	**07 27 55.5**	**-0.2**
	comp=Z,8.0nm,0.5s,baz=177,slow=6.9,SNR=14						
LVC	**Limon Verde**	**33.23**	**334**	*e*P	**P**	**07 27 56.8**	**+1.1**
LVC	**Limon Verde**	**33.23**	**334**	*e*P	**P**	**07 27 56.8**	**+1.1**
LVC	**Limon Verde**	**33.23**	**334**	P	**P**	**07 27 55.3**	**-0.4**
AQDB	**Aquidauana**	**33.38**	**357**	*e*P	**P**	**07 27 57.1**	**+0.4**
AQDB	**Aquidauana**	**33.38**	**357**	*e*P	**P**	**07 27 57.1**	**+0.4**
BSCB	**Bom Sucesso**	**33.58**	**16**	*e*P	**P**	**07 28 00.1**	**+1.7**
BSCB	**Bom Sucesso**	**33.58**	**16**	*e*P	**P**	**07 28 00.1**	**+1.7**
PB04	**IPOC Station P**	**33.82**	**332**	P	**P**	**07 28 00.2**	**-0.4**
ITRB	**Iturama**	**34.24**	**6**	*e*P	**P**	**07 28 04.0**	**-0.1**
ITRB	**Iturama**	**34.24**	**6**	*e*P	**P**	**07 28 04.0**	**-0.1**
PB01	**IPOC Station P**	**34.87**	**334**	P	**P**	**07 28 09.7**	**+0.1**
PMNB	**Patos De Minas**	**35.76**	**12**	*e*P	**P**	**07 28 17.4**	**0.0**
PMNB	**Patos De Minas**	**35.76**	**12**	*e*P	**P**	**07 28 17.4**	**0.0**
IPMB	**Ipameri, GO**	**36.11**	**9**	*e*P	**P**	**07 28 20.2**	**-0.1**
IPMB	**Ipameri, GO**	**36.11**	**9**	*e*P	**P**	**07 28 20.2**	**-0.1**
GO01	**Chusmiza**	**36.12**	**335**	P	**P**	**07 28 20.9**	**+0.1**
PB11	**IPOC Station P**	**36.14**	**334**	P	**P**	**07 28 21.1**	**+0.4**
PP1B	**Ponte de Pedra**	**36.23**	**359**	*e*P	**P**	**07 28 21.8**	**+0.6**
PP1B	**Ponte de Pedra**	**36.23**	**359**	*e*P	**P**	**07 28 21.8**	**+0.6**
QSPA	**South Pole Qui**	**36.36**	**180**	P	**P**	**07 28 21.9**	**-0.2**
	comp=Z,108nm,0.9s,baz=167,slow=2.0,SNR=130						
QSPA				LR	LR	07 45 04.2	
	comp=Z,5μm,18.2s,baz=174,slow=39						
QSPA	**South Pole Qui**	**36.36**	**180**	P	**P**	**07 28 21.9**	**-0.2**
BSFB	**Barra de Sao F**	**36.43**	**21**	*e*P	**P**	**07 28 23.0**	**0.0**
BSFB	**Barra de Sao F**	**36.43**	**21**	*e*P	**P**	**07 28 23.0**	**0.0**
SJMB	**Sao Joao De Ma**	**36.48**	**21**	*e*P	**P**	**07 28 22.7**	**-0.7**
SJMB	**Sao Joao De Ma**	**36.48**	**21**	*e*P	**P**	**07 28 22.7**	**-0.7**
MNMC	**Minye Minye**	**36.73**	**335**	P	**P**	**07 28 26.4**	**+0.6**
ARAG	**Araguaiana, MT**	**38.14**	**3**	*e*P	**P**	**07 28 37.7**	**+0.2**
ARAG	**Araguaiana, MT**	**38.14**	**3**	*e*P	**P**	**07 28 37.7**	**+0.2**
SIV	**San Ignacio**	**38.23**	**349**	P	**P**	**07 28 36.5**	**-1.7**
	comp=Z,6.3nm,0.5s,baz=189,slow=8.3,SNR=24						
BDFB	**Brasilia**	**38.45**	**9**	P	**P**	**07 28 39.5**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,77nm,1.0s						
BDFB	**Brasilia**	**38.45**	**9**	P	**P**	**07 28 39.3**	**-0.9**
	comp=Z,59nm,0.9s,baz=192,slow=6.6,SNR=32						
BDFB				LR	LR	07 44 33.3	
	comp=Z,11μm,21.9s,baz=172,slow=36						
BDFB	**Brasilia**	**38.45**	**9**	P	**P**	**07 28 39.5**	**-0.7**
BDFB				IAmb	IAmb	07 28 43.4	
	comp=Z,77nm,1.0s						
LPAZ	**La Paz**	**39.12**	**338**	P	**P**	**07 28 45.9**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,79nm,1.3s						
LPAZ	**La Paz**	**39.12**	**338**	P	**P**	**07 28 46.4**	**0.0**
	comp=Z,10nm,0.6s,baz=164,slow=6.3,SNR=37						
LPAZ	**La Paz**	**39.12**	**338**	*e*P	**P**	**07 28 47.2**	**+0.8**
LPAZ	**La Paz**	**39.12**	**338**	*e*P	**P**	**07 28 47.2**	**+0.8**
LPAZ	**La Paz**	**39.12**	**338**	P	**P**	**07 28 45.9**	**-0.5**
NBIT	**Itapeh - BA**	**40.51**	**22**	*e*P	**P**	**07 28 57.2**	**0.0**
NBIT	**Itapeh - BA**	**40.51**	**22**	*e*P	**P**	**07 28 57.2**	**0.0**
SYO	**Syowa Base**	**42.38**	**148**∥	*e*P	**P**	**07 29 09.2**	**-2.9**
SYO	**Syowa Base**	**42.38**	**148**∥	*i*pP	**P**	**07 29 13.2**	**+1.1**
SYO	**Syowa Base**	**42.38**	**148**∥	*es*P	sP	07 29 15.2	-0.5
CLDB	**Colider**	**42.93**	**357**	*e*P	**P**	**07 29 15.2**	**-1.9**
CLDB	**Colider**	**42.93**	**357**	*e*P	**P**	**07 29 15.2**	**-1.9**
NBPN	**Ponto Novo - B**	**44.32**	**20**	*e*P	**P**	**07 29 27.5**	**-0.7**
NBPN	**Ponto Novo - B**	**44.32**	**20**	*e*P	**P**	**07 29 27.5**	**-0.7**
NBLA	**Lagarto - SE**	**44.69**	**23**	*e*P	**P**	**07 29 31.5**	**+0.3**
NBLA	**Lagarto - SE**	**44.69**	**23**	*e*P	**P**	**07 29 31.5**	**+0.3**
SAML	**Samuel**	**45.43**	**347**	P	**P**	**07 29 35.5**	**-1.6**
SAML				pmax	pmax		
	comp=Z,27nm,1.3s						
SAML	**Samuel**	**45.43**	**347**	*e*P	**P**	**07 29 38.6**	**+1.5**
SAML	**Samuel**	**45.43**	**347**	*e*P	**P**	**07 29 38.6**	**+1.5**
SAML	**Samuel**	**45.43**	**347**	P	**P**	**07 29 35.5**	**-1.6**
NNA	**Nana**	**45.58**	**328**	P	**P**	**07 29 38.0**	**-0.4**
NNA				pmax	pmax		
	comp=Z,82nm,1.2s						
NNA	**Nana**	**45.58**	**328**	P	**P**	**07 29 38.0**	**-0.4**
NNA				IAmb	IAmb	07 29 55.2	
	comp=Z,82nm,1.2s						
SBA	**Scott Base**	**46.16**	**191**	P	**P**	**07 29 42.3**	**+0.1**
SBA				pmax	pmax		
	comp=Z,100nm,1.2s						
SBA	**Scott Base**	**46.16**	**191**	P	**P**	**07 29 42.3**	**+0.1**
SBA				IAmb	IAmb	07 29 54.6	
	comp=Z,100nm,1.2s						
NBAN	**Anadia - AL**	**46.33**	**24**	*e*P	**P**	**07 29 44.0**	**-0.2**
NBAN	**Anadia - AL**	**46.33**	**24**	*e*P	**P**	**07 29 44.0**	**-0.2**
NBTA	**Tacaratu-PE**	**46.44**	**22**	*e*P	**P**	**07 29 44.5**	**-0.6**
NBTA	**Tacaratu-PE**	**46.44**	**22**	*e*P	**P**	**07 29 44.5**	**-0.6**
NBRF	**Rio Formoso -**	**47.56**	**26**	*e*P	**P**	**07 29 54.5**	**+0.6**
NBRF	**Rio Formoso -**	**47.56**	**26**	*e*P	**P**	**07 29 54.5**	**+0.6**
NBMA	**Muriti-CE**	**47.99**	**20**	*e*P	**P**	**07 29 56.1**	**-1.2**
NBMA	**Muriti-CE**	**47.99**	**20**	*e*P	**P**	**07 29 56.1**	**-1.2**
NBLI	**Livramento-PB**	**48.39**	**23**	*e*P	**P**	**07 29 59.3**	**-1.0**
NBLI	**Livramento-PB**	**48.39**	**23**	*e*P	**P**	**07 29 59.3**	**-1.0**
NBPB	**Pedra_Branca-C**	**49.60**	**19**	*e*P	**P**	**07 30 09.3**	**-0.3**
NBPB	**Pedra_Branca-C**	**49.60**	**19**	*e*P	**P**	**07 30 09.3**	**-0.3**
NBPV	**Pedro Velho**	**49.70**	**25**	*e*P	**P**	**07 30 12.1**	**+1.8**
NBPV	**Pedro Velho**	**49.70**	**25**	*e*P	**P**	**07 30 12.1**	**+1.8**
NBPA	**Parau_RN**	**49.91**	**22**	*e*P	**P**	**07 30 12.6**	**+0.6**
NBPA	**Parau_RN**	**49.91**	**22**	*e*P	**P**	**07 30 12.6**	**+0.6**
MAW	**Mawson**	**50.05**	**154**	P	**P**	**07 30 11.9**	**-0.5**
	comp=Z,10.0nm,1.0s,baz=220,slow=7.5,SNR=7.8						
MAW				LR	LR	07 49 06.1	
	comp=Z,6μm,18.8s,baz=242,slow=33						
MAW	**Mawson**	**50.05**	**154**	P	**P**	**07 30 11.9**	**-0.5**
RCBR	**Riachuelo**	**50.12**	**24**	P	**P**	**07 30 12.5**	**-1.0**
RCBR				pmax	pmax		
	comp=Z,97nm,1.5s						
RCBR	**Riachuelo**	**50.12**	**24**	P	**P**	**07 30 12.8**	**-0.8**
	comp=Z,37nm,0.7s,baz=202,slow=2.1,SNR=3.6						
RCBR	**Riachuelo**	**50.12**	**24**	*e*P	**P**	**07 30 14.5**	**+0.9**
RCBR	**Riachuelo**	**50.12**	**24**	*e*P	**P**	**07 30 14.5**	**+0.9**
RCBR	**Riachuelo**	**50.12**	**24**	P	**P**	**07 30 12.5**	**-1.0**
RCBR				IAmb	IAmb	07 30 28.2	
	comp=Z,97nm,1.4s						
NBPS	**Pedro II - PI**	**50.39**	**16**	*e*P	**P**	**07 30 16.8**	**+1.2**
NBPS	**Pedro II - PI**	**50.39**	**16**	*e*P	**P**	**07 30 16.8**	**+1.2**
NBCL	**Cascavel-CE**	**51.14**	**20**	*e*P	**P**	**07 30 22.4**	**+1.2**
NBCL	**Cascavel-CE**	**51.14**	**20**	*e*P	**P**	**07 30 22.4**	**+1.2**
NBMO	**Morrinhos-CE**	**51.70**	**18**	*e*P	**P**	**07 30 24.9**	**-0.4**
NBMO	**Morrinhos-CE**	**51.70**	**18**	*e*P	**P**	**07 30 24.9**	**-0.4**
H10N3	**ASCENSION HYDR**	**55.80**	**50**	T	T	08 31 20.4	
	baz=206,slow=75,SNR=42						
H10N1	**ASCENSION HYDR**	**55.81**	**50**	T	T	08 31 21.4	
	baz=206,slow=75,SNR=119						
H10N2	**ASCENSION HYDR**	**55.82**	**50**	T	T	08 31 21.7	
	baz=206,slow=75,SNR=143						
SUR	**Sutherland**	**55.86**	**99**	P	**P**	**07 30 55.0**	**-1.0**
	comp=Z,14nm,1.1s,baz=215,slow=7.7,SNR=11						
SUR	**Sutherland**	**55.86**	**99**	P	**P**	**07 30 54.9**	**-1.1**
SUR				IAmb	IAmb	07 31 07.4	
	comp=Z,30nm,0.7s						
OTAV	**Otavalo**	**57.64**	**331**	P	**P**	**07 31 08.7**	**-0.3**
OTAV				pmax	pmax		
	comp=Z,86nm,1.1s						
OTAV	**Otavalo**	**57.64**	**331**	*e*P	**P**	**07 31 11.6**	**+2.6**
OTAV	**Otavalo**	**57.64**	**331**	*e*P	**P**	**07 31 11.6**	**+2.6**
OTAV	**Otavalo**	**57.64**	**331**	P	**P**	**07 31 08.7**	**-0.3**
MACC	**Macarena, Meta**	**58.25**	**336**	*e*P	**P**	**07 31 14.4**	**+1.6**
MACC	**Macarena, Meta**	**58.25**	**336**	*e*P	**P**	**07 31 14.4**	**+1.6**
CASY	**Casey**	**59.58**	**173**	P	**P**	**07 31 21.8**	**+0.4**
CASY				IAmb	IAmb	07 31 33.1	
	comp=Z,47nm,0.9s						
ORTC	**Ortega, Tolima**	**60.29**	**335**	*e*P	**P**	**07 31 29.0**	**+2.1**
ORTC	**Ortega, Tolima**	**60.29**	**335**	*e*P	**P**	**07 31 29.0**	**+2.1**
CHIC	**Chingaza**	**60.62**	**337**	*e*P	**P**	**07 31 28.4**	**-1.2**
CHIC	**Chingaza**	**60.62**	**337**	*e*P	**P**	**07 31 28.4**	**-1.2**
YOTC	**Yotoco, Valle**	**60.64**	**334**	*e*P	**P**	**07 31 28.6**	**-0.8**
YOTC	**Yotoco, Valle**	**60.64**	**334**	*e*P	**P**	**07 31 28.6**	**-0.8**
ROSC	**El Rosal**	**60.96**	**337**	P	**P**	**07 31 31.9**	**+0.1**
	comp=Z,10nm,1.0s,baz=89,slow=2.7,SNR=6.3						
ROSC	**El Rosal**	**60.96**	**337**	P	**P**	**07 31 30.9**	**-1.0**
BOSA	**Boshof**	**61.22**	**100**	P	**P**	**07 31 32.8**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,39nm,1.0s						
BOSA	**Boshof**	**61.22**	**100**	P	**P**	**07 31 31.5**	**-1.8**
	comp=Z,5.9nm,0.9s,baz=204,slow=10,SNR=5.6						
BOSA				LR	LR	07 55 00.8	
	comp=Z,9μm,19.2s,baz=273,slow=33						
BOSA	**Boshof**	**61.22**	**100**	P	**P**	**07 31 32.8**	**-0.5**
BOSA				IAmb	IAmb	07 31 42.9	
	comp=Z,39nm,0.9s						
RREF	**El Recreo**	**61.27**	**336**	*e*P	**P**	**07 31 33.7**	**-0.6**
RREF	**El Recreo**	**61.27**	**336**	*e*P	**P**	**07 31 33.7**	**-0.6**
GUY2C	**Guyana, Caldas**	**61.58**	**336**	*e*P	**P**	**07 31 39.0**	**+2.8**
GUY2C	**Guyana, Caldas**	**61.58**	**336**	*e*P	**P**	**07 31 39.0**	**+2.8**
RUSC	**La Rusia**	**61.70**	**338**	*e*P	**P**	**07 31 37.7**	**+0.7**
RUSC	**La Rusia**	**61.70**	**338**	*e*P	**P**	**07 31 37.7**	**+0.7**
TAMC	**Tame, Arauca**	**61.95**	**340**	*e*P	**P**	**07 31 39.0**	**+0.8**
TAMC	**Tame, Arauca**	**61.95**	**340**	*e*P	**P**	**07 31 39.0**	**+0.8**
CBOC	**Ciudad Bolivar**	**62.36**	**335**	*e*P	**P**	**07 31 40.3**	**-0.7**
CBOC	**Ciudad Bolivar**	**62.36**	**335**	*e*P	**P**	**07 31 40.3**	**-0.7**
HELC	**Santa Helena**	**62.55**	**336**	*e*P	**P**	**07 31 43.6**	**+1.1**
HELC	**Santa Helena**	**62.55**	**336**	*e*P	**P**	**07 31 43.6**	**+1.1**
PTBC	**PUERTO BERRIO,**	**62.63**	**337**	*e*P	**P**	**07 31 41.7**	**-1.0**
PTBC	**PUERTO BERRIO,**	**62.63**	**337**	*e*P	**P**	**07 31 41.7**	**-1.0**
TSUM	**Tsumeb**	**63.85**	**87**	P	**P**	**07 31 49.9**	**

TORD LR LR 08 03 49.7
comp=Z,10μm,21.5s,baz=310,slow=31
TORD Torodi Ar. Bea 81.77 54 P **P 07 33 35.5 -1.6**
TAU Tasmania Unive 81.86 196 P **P 07 33 37.7 +0.4**
TAU pmax pmax
comp=Z,86nm,1.3s
TAU Tasmania Unive 81.86 196 P **P 07 33 37.7 +0.4**
TAU IAmb IAmb 07 33 56.4
comp=Z,86nm,1.2s
RAR Rarotonga 81.99 245 P **P 07 33 37.9 -0.4**
comp=Z,30nm,1.0s,baz=103,slow=14,SNR=3.2
OUZ Omahuta 82.20 218 P **P 07 33 38.4 -0.8**
OUZ IAmb IAmb 07 33 49.7
comp=Z,63nm,1.1s
DWPF Disney Wildern 85.06 336 P **P 07 33 56.7 +3.0**
baz=164
MBAR Mbarara 86.38 86⇑ *e*P **P 07 34 02.6 +1.7**
MBAR pmax pmax
comp=Z,9.0nm,1.3s
TOO Toolangi 87.37 195 P **P 07 34 05.0 -0.3**
TOO pmax pmax
comp=Z,21nm,0.9s
TOO Toolangi 87.37 195 P **P 07 34 05.0 -0.3**
TOO IAmb IAmb 07 34 20.3
comp=Z,21nm,0.8s
457A Yulee 87.50 336 P **P 07 34 08.8 +3.2**
baz=164
356A Blackshear 88.31 336 P **P 07 34 12.9 +3.4**
baz=164
355A Pearson 88.50 336 P **P 07 34 13.6 +3.2**
baz=163
255A Hazlehurst 88.97 336 P **P 07 34 15.0 +2.5**
baz=164
352A Blakely 89.16 334 P **P 07 34 16.6 +3.2**
baz=162
Z59A Georgetown, SC 89.51 339 P **P 07 34 18.2 +3.1**
baz=165
252A Lumpkin 89.60 334 P **P 07 34 18.2 +2.7**
baz=162
Z58A St. Stephen 89.71 339 P **P 07 34 17.3 +1.3**
baz=165
250A Grady 89.98 333 P **P 07 34 18.8 +1.5**
baz=162
Y58A Scranton 90.23 339 P **P 07 34 20.5 +2.1**
baz=165
152A Waverly Hall 90.23 334 P **P 07 34 20.2 +1.7**
baz=162
Y57A Sumter 90.49 338 P **P 07 34 22.7 +3.0**
baz=165
Z53A Monticello 90.53 336 P **P 07 34 20.8 +1.0**
baz=163
GOGA Godfrey 90.62 336 P **P 07 34 21.8 +1.5**
baz=163
Z52A Williamson 90.65 335 P **P 07 34 22.4 +2.0**
baz=162
Y55A Saluda 90.75 337 P **P 07 34 22.9 +2.0**
baz=164
833A Chaparral WMA, 90.82 321 P **P 07 34 23.6 +2.3**
baz=155
Y54A Tignall 90.87 336 P **P 07 34 24.2 +2.8**
baz=163
Z51A Franklin 90.96 334 P **P 07 34 24.6 +2.7**
baz=162
HKT Hockley 91.03 325 P **P 07 34 20.9 -1.2**
HKT pmax pmax
comp=Z,42nm,1.4s
HKT Hockley 91.03 325 P **P 07 34 20.9 -1.2**
HKT IAmb IAmb 07 34 35.4
comp=Z,42nm,1.4s
Y53A Monroe 91.08 336 P **P 07 34 25.4 +3.0**
baz=163
Z50A Ashland 91.10 334 P **P 07 34 24.7 +2.2**
baz=162
LRAL Lakeview Retre 91.18 333 P **P 07 34 25.3 +2.5**
baz=161
W59A Clinton 91.19 340 P **P 07 34 25.7 +2.8**
baz=166
Y51A Rockmart 91.49 335 P **P 07 34 27.3 +3.0**
baz=162
W56A Indian Trail 91.61 338 P **P 07 34 28.4 +3.5**
baz=165
KMSC Kings Mountain 91.78 338 P **P 07 34 27.7 +2.0**
baz=164
Y49A Blount Mountai 91.80 333 P **P 07 34 27.7 +2.0**
baz=161
W54A Cherokee Point 91.92 337 P **P 07 34 28.8 +2.5**
baz=164
V58A Windy Hill, Pi 91.94 340 P **P 07 34 29.1 +2.8**
baz=165
U61A Possum Corner 91.94 342 P **P 07 34 29.6 +3.3**
baz=167
V56A Mocksville 92.24 339 P **P 07 34 29.5 +1.8**
baz=165
NATX Nacogdoches 92.29 326 P **P 07 34 30.0 +1.9**
baz=157
435B Jarrell 92.39 324 P **P 07 34 30.9 +2.3**
baz=156
U58A Oxford 92.40 340 P **P 07 34 31.5 +3.1**
baz=166
X48A Hartselle 92.53 333 P **P 07 34 30.3 +1.3**
baz=161
V54A Nebo 92.53 338 P **P 07 34 31.1 +2.0**
baz=164
W50A Signal Mountai 92.79 335 P **P 07 34 32.8 +2.4**
baz=162
JCT Junction City 92.92 322 P **P 07 34 33.0 +2.0**
baz=155
JCT Junction City 92.92 322 P **P 07 34 29.7 -1.4**
Z41A Richland Creek 93.08 328 P **P 07 34 33.6 +1.9**
baz=158
U52A Thorn Hill 93.45 337 P **P 07 34 35.3 +2.0**
baz=163
WHTX Lake Whitney, 93.45 324 P **P 07 34 32.0 -1.4**
V49A McMinnville 93.47 334 P **P 07 34 34.2 +0.8**
baz=162
STKA Stephens Creek 93.53 193 P **P 07 34 33.2 -0.9**
STKA pmax pmax
comp=Z,4.0nm,1.4s
STKA Stephens Creek 93.53 193 P **P 07 34 33.8 -0.3**
comp=Z,2.7nm,0.7s,baz=80,slow=3.0,SNR=5.9
STKA Stephens Creek 93.53 193 P **P 07 34 33.2 -0.9**
WLAR White Oak Lake 93.57 328 P **P 07 34 32.5 -1.5**
BLA Blacksburg 93.57 339 P **P 07 34 35.7 +1.7**
baz=165
U51A La Follette 93.59 336 P **P 07 34 35.7 +1.7**
baz=163
ABTX Abilene, Hawle 94.79 323 P **P 07 34 40.4 +0.8**
baz=155
ABTX Abilene, Hawle 94.79 323 P **P 07 34 40.6 +1.0**
ABTX IAmb IAmb 07 34 52.6
comp=Z,35nm,1.1s
LCAR Lake Charles 95.19 331 P **P 07 34 40.4 -0.9**
LCAR IAmb IAmb 07 34 53.8
comp=Z,19nm,1.1s
FCAR Ozark Folk Cen 95.31 330 P **P 07 34 43.4 +1.6**
FCAR IAmb IAmb 07 34 46.5
comp=Z,14nm,0.9s
U40A Yellville 95.96 329 P **P 07 34 40.7 -4.2**
U40A IAmb IAmb 07 34 43.3
comp=Z,22nm,0.8s
S44A Carbondale 96.17 333 P **P 07 34 47.0 +1.2**
baz=160
WMOK Wichita Mounta 96.40 324 P **P 07 34 46.1 -0.8**
WMOK pmax pmax
comp=Z,46nm,1.7s
WMOK Wichita Mounta 96.40 324 P **P 07 34 46.1 -0.8**
Q48A North Vernon 96.43 336 P **P 07 34 48.6 +1.8**
baz=162
P50A Jamestown 96.62 337 P **P 07 34 50.0 +2.2**
baz=163
DZM Mont Dzumac 96.72 217 *e*P **P 07 34 50.4 +1.4**
comp=Z,41nm,1.3s
DZM Mont Dzumac 96.72 217 P **P 07 34 49.0 0.0**
DZM IAmb IAmb 07 35 00.7
comp=Z,21nm,1.2s
N54A Moraine State 97.10 340 P Pdif 07 34 52.4 +2.4
baz=165
N53A Lisbon 97.12 340 P Pdif 07 34 52.2 +2.2
baz=164
M54A Oil Creek Stat 97.56 341 P **P 07 34 52.0 0.0**
baz=165
K59A Cooperstown 97.95 345 P Pdif 07 34 55.2 +1.4
baz=168
J56A Wolcott 98.76 343 P Pdif 07 34 57.8 +0.5
baz=166
ANMO Albuquerque 99.42 319⇑ *e*P **Pdif 07 35 01.2 +0.5**
ANMO pmax pmax
comp=Z,3.0nm,1.4s
ASAR Alice Springs 102.47 187 P **Pdif 07 35 13.1 -1.5**
ASAR 07 39 25.6
ASAR Alice Springs 102.47 187 Pdiff **Pdif 07 35 13.8 -0.8**
comp=Z,3.5nm,0.8s,baz=170,slow=4.2,SNR=26
ASAR PP **PP 07 39 25.0 -1.2**
comp=Z,2.7nm,0.9s,baz=177,slow=8.1,SNR=7.3
ASAR Alice Springs 102.47 187 Pdif 07 35 13.1 -1.5
ASAR **PP 07 39 25.6 -0.6**
AS31 Alice Springs 102.47 187 Pdif 07 35 13.5 -1.1
WRA Warramunga Arr 106.12 188 P **Pdif 07 35 29.9 -1.0**
WRA Warramunga Arr 106.12 188 Pdiff **Pdif 07 35 29.8 -1.1**
comp=Z,0.5nm,0.3s,baz=181,slow=6.8,SNR=16
WRA PP **PP 07 39 52.0 -1.4**
comp=Z,2.3nm,0.8s,baz=181,slow=6.6,SNR=8.2
WRA Warramunga Arr 106.12 188 Pdif 07 35 29.9 -1.0
WRA **PP 07 39 49.2 -4.3**
NVAR Mina Array Bea 107.32 312 PP **PP 07 40 02.7 -1.0**
comp=Z,2.5nm,1.1s,baz=145,slow=7.7,SNR=5.9
J05D Fort Rock, OR 112.56 313 P **PKiKP 07 39 54.4 +0.4**
baz=144
GERES GERESS Array B 117.16 43 *i* PKIKP **PKPdf 07 40 00.3 -2.3**
GERES GERESS Array B 117.16 43 PKP **PKPdf 07 40 02.3 -0.3**
comp=Z,0.7nm,0.6s,baz=223,slow=2.4,SNR=5.2
VYHS Vyhne 119.03 47 *e*PKIKP PKiKP 07 40 16.1 +10
VYHS Vyhne 119.03 47 *e*PKP PKiKP 07 40 16.1 +10
BRTR Keskin Array B 119.60 62 *i* PKIKP **PKiKP 07 40 08.7 +1.0**
BRTR Keskin Array B 119.60 62 PKP **PKPdf 07 40 07.2 -0.4**
comp=Z,1.3nm,1.0s,baz=232,slow=4.7,SNR=4.7
KLNR Kaliningrad 124.16 43⇓ *i* PKIKP **PKPdf 07 40 15.5 -0.2**
AKASG Malin Array Be 125.26 51 PKP **PKPdf 07 40 16.4 -1.6**
comp=Z,2.5nm,0.6s,baz=247,slow=1.8,SNR=7.4
AKBB Malin Array Si 125.26 51 PKIKP **PKPdf 07 40 17.8 -0.1**
AKBB Malin Array Si 125.26 51 PKPdf 07 40 17.8 -0.1
YKA Yellowknife Ar 125.39 330 PKP **PKPdf 07 40 17.6 -0.2**
comp=Z,2.2nm,0.5s,baz=148,slow=2.0,SNR=22
NB2 NORSAR Subarra125.67 33 PKPdf **PKiKP 07 40 18.8 -0.1**
comp=Z,1.3nm,0.7s,baz=222,slow=2.0
NOA NORSAR Array B125.67 33 PKP **PKPdf 07 40 18.2 -0.3**
comp=Z,2.7nm,0.9s,baz=219,slow=2.0,SNR=4.2
SUMG Summit 126.64 6 *e*PKIKP PKiKP 07 40 31.0 +10
SUMG Summit 126.64 6 *i* P PKiKP 07 40 31.0 +10
NEY Neytrino 126.91 65⇓ *e*PKIKP **PKPdf 07 40 20.4 -1.2**
KBZ Khabaz 127.33 65 PKP **PKPdf 07 40 21.8 -0.4**
comp=Z,3.1nm,0.9s,baz=202,slow=2.2,SNR=6.0
KIV Kislovodsk 127.37 65 *i* PKIKP **PKiKP 07 40 23.5 +0.6**
KIV pmax pmax
comp=Z,55nm,1.1s
VSU Vasula 129.44 42⇓ *e*PKIKP **PKPdf 07 40 25.4 -0.3**
VORD Divnogorie 130.21 56 *e*PKIKP **PKiKP 07 40 28.4 +0.2**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VSR Storozhevoye 130.31 55 *e*PKIKP **PKiKP 07 40 29.0 +0.6**
VSR pmax pmax
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 131.06 54 *e*PKIKP **PKiKP 07 40 32.0 +2.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 131.12 39 PKP **PKiKP 07 40 29.4 -0.3**
comp=Z,1.4nm,0.5s,baz=145,slow=2.7,SNR=12
FINES FINESS Array B 131.12 39 PKiKP 07 40 29.7 0.0
OBN Obninsk 131.51 50⇑ *i* PKIKP **PKiKP 07 40 32.6 +1.9**
OBN *e* 07 42 56.4
OBN pmax pmax
comp=Z,29nm,1.2s
OBN MLR MLR
comp=Z,7μm,19.0s
VRH Novokhopyorsk 131.55 57 *e*PKIKP **PKiKP 07 40 31.1 +0.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
DAG Danmarks Havn 132.31 10 *e*PKIKP **PKPdf 07 40 30.7 +0.1**
DAG Danmarks Havn 132.31 10 *i* P **PKPdf 07 40 30.7 +0.1**
KCP Kidapawan 133.25 179⇑ *e*P **PKiKP 07 40 43.1 +7.5**
EPYK Eagle Plains 135.04 326 P **PKiKP 07 40 37.7 +0.1**
baz=124
EPYK Eagle Plains 135.04 326 PKPdf **PKPdf 07 40 35.8 -0.3**
INK Inuvik 135.11 329 PKP **PKPdf 07 40 35.7 -0.4**
comp=Z,2.8nm,0.8s,baz=107,slow=3.6,SNR=8.7
INK Inuvik 135.11 329 PKPdf 07 40 34.2 -1.8
ARCES ARCESS Array B 135.76 30 PKP **PKPdf 07 40 37.0 -0.3**
comp=Z,14nm,1.0s,baz=318,slow=1.6,SNR=10
ARCES ARCESS Array B 135.76 30 PKPdf 07 40 36.4 -0.9
APA Apatity 137.21 34⇓ *i* PKIKP **PKiKP 07 40 43.2 +1.3**
APA pmax pmax
comp=Z,10.0nm,1.1s
LVZ Lovozero 137.78 34⇑ *i* PKIKP **PKiKP 07 40 44.0 +0.9**
ILAR Eielson Array 137.84 320 PKhKP PKPpre 07 40 30.6
comp=Z,0.6nm,0.7s,baz=143,slow=1.7,SNR=10.0
ILAR PKP **PKPdf 07 40 40.0 -1.3**
comp=Z,3.9nm,0.9s,baz=193,slow=1.9,SNR=12
ILAR SKPbc **SKPbc 07 44 14.6 -0.3**
comp=Z,3.3nm,0.9s,baz=168,slow=2.1,SNR=4.8
RND Reindeer 137.95 318 PKIKP **PKPdf 07 40 41.2 -0.4**
RND Reindeer 137.95 318 PKPdf 07 40 41.2 -0.4
PBKT Sadao Pong 137.95 143 P PKiKP 07 40 55.2 +10
CCB Clear Creek Bu 138.12 320 PKPdf 07 40 39.4 -2.4
WRH Wood River Hil 138.15 320 PKPdf 07 40 41.6 -0.2
UBPT Khong Chiam 138.24 149 P PKiKP 07 40 55.9 +10
COLA College 138.25 320⇑ *e*PKIKP **PKPdf 07 40 42.6 +0.6**
TRF Thorofare Moun 138.54 318 PKPdf 07 40 43.6 +0.7
CMAR Chiang Mai Arr 138.92 139 *e*PKIKP **PKiKP 07 40 47.3 +0.4**
CMAR Chiang Mai Arr 138.92 139 PKP **PKPdf 07 40 45.2 +0.5**
comp=Z,1.1nm,0.4s,baz=233,slow=4.0,SNR=8.1
PRGR Permogore 139.04 46 *e*PKIKP **PKPdf 07 40 38.3 -5.2**
PRGR pmax pmax
comp=Z,24nm,0.9s
BPAW Bear Paw Mtn. 139.11 318 PKPdf 07 40 43.4 -0.3
CMMT Chiang Mai 139.24 139 P **PKiKP 07 40 55.2 +7.6**
comp=Z,5.3nm,1.2s
PHRA Phrae 139.45 141 P PKiKP 07 40 57.1 +9.1
AB31 Akbulak array 140.00 69 PKHKP PKPpre 07 40 36.2
AB31 pmax pmax
comp=Z,15nm,0.9s
ABKAR Akbulak array 140.00 69 PKPdf **PKPdf 07 40 43.7 -2.0**
TOLK Toolik Lake Re 140.46 325 P **PKiKP 07 40 47.7 -0.9**
baz=112
TOLK Toolik Lake Re 140.46 325 PKPdf 07 40 45.2 -0.9
IMAR Indian Mountai 140.95 320 PKPdf 07 40 46.0 -1.0
ARU Arti 142.76 58 *i* PKIKP **PKPdf 07 40 47.8 -2.6**
ARU SS SS 08 02 40.4 +3.1
ARU Arti 142.76 58 PKPdf **PKPdf 07 40 49.6 -0.8**
ARSB Arslanbob 142.95 88 PKPdf 07 40 49.5 -2.0
KSH Kashi 143.58 92 PKP **PKiKP 07 40 55.0 -1.0**
KSH PP **PP 07 44 10.8 +5.4**
KSH PKS **PKSdf 07 44 26.5 -1.9**
KSH SKKS 07 50 57.3
KSH SS **SS 08 02 44.3 -3.1**
SVE Sverdlovsk 143.97 58 *e*PKIKP **PKPdf 07 40 52.3 -0.3**
SVE pmax pmax
comp=Z,60nm,1.1s
EKS2 Erkin-Say 144.23 86 P **PKPdf 07 40 53.0 -0.7**
SNR=5.5
UCH Uchtor 144.41 88 P **PKPdf 07 40 54.8 +0.4**
SNR=29
AAK Ala-Archa 144.64 87 PKIKP **PKPab 07 40 51.9 -1.2**
AAK pmax pmax
comp=Z,56nm,0.9s
AAK Ala-Archa 144.64 87 P PKPbc 07 40 53.7 +0.4
SNR=38
AAK Ala-Archa 144.64 87 PKPab 07 40 52.6 -0.5
KZA Kyzart 144.75 88 P PKPbc 07 40 54.2 +0.2
SNR=26
NRN Naryn 144.80 90 PKIKP **PKPab 07 40 53.6 -0.4**
NRN Naryn 144.80 90 PKPab 07 40 53.6 -0.4
KBK Karagaybulak 144.92 87 P PKPbc 07 40 54.4 +0.2
SNR=28
ATKA Atka Island 144.96 292 PKPdf 07 40 54.2 -0.2
RDOG Red Dog Mine 145.00 322 PKPdf 07 40 55.4 +1.3
CHMS Chumysh 145.01 87 P **PKPab 07 40 54.4 0.0**
SNR=21
USP Ospenovka 145.02 86 P **PKPbc 07 40 54.2 -0.1**
SNR=21
LSA Lhasa 145.06 120 PKP2 **PKPbc 07 40 53.4 -2.0**
LSA Lhasa 145.06 120 PKPbc 07 40 53.4 -2.0
BOOM Boomskoye usch145.41 88 PKP2 **PKPbc 07 40 53.5 -2.3**
BOOM Boomskoye usch145.41 88 PKPbc 07 40 53.5 -2.3
ULHL Ulahol 145.44 89 P **PKPab 07 40 56.3 +0.1**
SNR=11
TKM2 Tokmak 2 145.46 88 P **PKPdf 07 40 54.5 -1.4**
SNR=14
KDJ Kajisay 145.93 90 PKP2 **PKPdf 07 40 56.0 -0.7**
KDJ Kajisay 145.93 90 PKPdf 07 40 56.0 -0.7
TARG Taragay, Kyrgy 146.05 91 PKPbc **PKPdf 07 40 57.5 +0.3**
ADK Adak 146.19 290 PKP2 **PKPbc 07 40 57.9 +0.3**
ADK Adak 146.19 290 PKPbc 07 40 57.9 +0.3
KMI Kunming 146.42 140 PKPbc **PKiKP 07 41 06.0 +3.6**
BRVK Borovoye 147.52 68⇓ *e*PKP2 **PKPbc 07 41 00.7 -0.7**
BRVK Borovoye 147.52 68 PKPbc 07 41 01.0 -0.4
BVAR Borovoye Array 147.57 68 PKPbc **PKPbc 07 41 00.6 -1.0**
comp=Z,27nm,0.8s,baz=269,slow=2.8,SNR=35
GZH Guangzhou 147.78 158 P PKPab 07 41 14.0 +8.7
PDGK Podgornoye 148.01 90 PKP2 **PKPbc 07 41 02.2 -1.0**
PDGK pmax pmax
comp=Z,87nm,1.2s
GYA Guiyang 149.06 145 PKPbc **PKPbc 07 41 05.5 -0.9**
KURBB Kurchatov Arra 151.16 77 PKPbc **PKPbc 07 41 10.1 -0.4**
comp=Z,12nm,0.7s,baz=239,slow=2.7,SNR=8.6
KURK Kurchatov 151.25 77⇓ *e*PKIKP **PKPdf 07 41 05.9 +1.1**
KURK *i* 07 41 10.5
KURK Kurchatov 151.25 77 PKPbc 07 41 10.1 -0.6
KURK PKPab **PKPab 07 41 19.1 +0.3**
MK31 Makanchi Array 151.57 86 *i* PKIKP **PKiKP 07 41 12.1 0.0**
MK31 pmax pmax
comp=Z,39nm,1.2s
MKAR Makanchi Array 151.57 86 PKPbc **PKPbc 07 41 11.7 0.0**
comp=Z,4.7nm,0.7s,baz=222,slow=1.6,SNR=8.8
MKAR PKPab **PKPab 07 41 19.8 -0.6**
comp=Z,18nm,0.9s,baz=254,slow=4.0,SNR=26
MKAR Makanchi Array 151.57 86 PKPbc 07 41 11.5 -0.2
CD2 Chengdu 151.97 136 PKPbc **PKPdf 07 41 06.0 -0.6**
WHN Wuhan 155.18 155 PKP PKPdf 07 41 22.5 +11
ZALV Zalesovo Beam 155.96 73 PKPab **PKPab 07 41 36.8 -1.9**
comp=Z,4.8nm,0.7s,baz=265,slow=5.4,SNR=7.5
LZH Lanzhou 156.43 130 *e*PKP **PKPdf 07 41 12.3 -0.6**
LZH pPKP pPKPdf 07 41 15.5 -0.2
LZH sPKP 07 41 17.0
LZH LR LR
comp=Z,200nm,18.2s
LZH LR LR
comp=Z,220nm,18.1s
LZH LR LR
comp=Z,280nm,20.0s
GTA Gaotai 157.07 118 PKP PKPdf 07 41 22.3 +8.8
NJ2 Nanjing 157.57 164 *e*PKP **PKPdf 07 41 14.5 +0.3**
MJAR Matsushiro Arr 160.70 211 PKPab **PKPab 07 41 59.9 +0.2**
comp=Z,7.5nm,0.9s,baz=134,slow=4.7,SNR=8.4
PETK Petropavlovsk- 161.23 280 PKPab **PKPab 07 42 01.8 +0.2**
comp=Z,8.3nm,0.9s,baz=74,slow=11,SNR=5.9
HHC Hu-ho-hao-te 163.72 137 *e*PKP **PKPdf 07 41 22.5 +1.7**
BOD Bodaibo 172.16 55 *e*PKIKP **PKPdf 07 41 32.4 +6.5**
BOD pmax pmax
comp=Z,10.0nm,1.4s

MOS ***25*** *07:22:03.8±0.9, 44°.56N×147°.47E, h109km, mb4.6/63, Error ellipse: s-maj=5.7km s-min=4.7km az=79.9*
MOS Felt (II-III) at Malokuril'skoye, Goryachie Klyuchi, Gornyy.
ISCJB ***25*** *07:22:04.0±0.2, 44°.57N±0°.02×147°.45E±0°.02, h108km±2km, mb4.8/119, Error ellipse: s-maj=4.1km s-min=2.4km az=149.7*
SKHL ***25*** *07:22:04.7±0.4, 44°.55N×147°.51E, h106km±6km, mb6.1/4, msh6.8/4*
SKHL Felt (II-III) at Gornyi, Goryachie Kluchi, Malokuril'skoe.
IDC ***25*** *07:22:05.1±0.5, 44°.75N×147°.42E, h106km±4km, mb4.2/22, mb1 4.4/30, mb1mx4.3/39, mbtmp4.6/30, Error ellipse: s-maj=11.8km s-min=7.9km az=157.0*
BJI ***25*** *07:22:05.0±0.0, 44°.80N×147°.20E, h100km, mb5.0/48, mB5.2/2*
JMA ***25*** *07:22:05.1±0.3, 44°.31N×147°.62E, h99km, M4.7*
JMA Felt I J1.
NEIC ***25*** *07:22:05.6±1.7, 44°.58N±0°.06×147°.41E±0°.10, h110km±5km, mb4.6/225*
ISC 25 07:22:04.7±0.4,**44°.57N**±0°.04×**147°.52E**±0°.04,**h103**km±3km, **h103**km:**pP-P,n743,**σ1**9**13/794,**mb4.6**/198,**21C-25D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.71**	**20**	*d*	*i* PN	**Pn**	**07 22 22.3**	**-0.1**
KUR					*i* S	**Sn**	**07 22 35.7**	**-0.1**
KUR					pmax	pmax		
	comp=N,2μm,0.4s							
KUR					pmax	pmax		
	comp=E,2μm,0.4s							
KUR					pmax	pmax		
	comp=Z,10μm,0.4s							
KUR					smax	smax		
	comp=E,20μm,0.7s							
KUR					smax	smax		
	comp=N,12μm,0.5s							
KUR					smax	smax		
	comp=E,76μm,1.4s							
KUR					smax	smax		
	comp=N,50μm,1.5s							
KUR	**Kuril'sk**	**0.71**	**20**	*i*	P	**Pn**	**07 22 22.0**	**-0.4**
KUR					AMB	AMB	07 22 22.0	
	comp=N,1μm,0.4s							
KUR					AMB	AMB	07 22 22.0	
	comp=N,1μm,0.4s							
KUR					AMB	AMB	07 22 22.0	
	comp=N,7μm,0.4s							
KUR				*i*	S	**Sn**	**07 22 35.0**	**-0.8**
KUR					A	A	07 22 37.0	
	comp=N,19μm,0.4s							
KUR					A	A	07 22 37.0	
	comp=N,8μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.31**	**247**	*c*	*i* PN	**Pn**	**07 22 28.9**	**+0.2**
YUK					*e* S	**Sn**	**07 22 46.7**	**-0.2**
YUK					pmax	pmax		
	comp=Z,10μm,0.2s							
YUK					pmax	pmax		
	comp=N,2μm,0.1s							
YUK					pmax	pmax		
	comp=E,2μm,0.1s							
YUK					smax	smax		
	comp=N,17μm,0.4s							
YUK					smax	smax		
	comp=E,35μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.31**	**247**	*i*	P	**Pn**	**07 22 28.0**	**-0.7**
YUK					AMB	AMB	07 22 29.0	
	comp=E,10μm,0.4s							
YUK					*e* S	**Sn**	**07 22 46.0**	**-0.9**
YUK					A	A	07 22 47.0	
	comp=E,17μm,0.5s							
YUK					A	A	07 22 47.0	
	comp=E,35μm,0.5s							
GRPR	**Tuman**	**1.38**	**246**	*i*	PN	**Pn**	**07 22 29.8**	**+0.2**
GRPR				*i*	S	**Sn**	**07 22 47.9**	**-0.6**
GRPR					pmax	pmax		
	comp=E,3μm,0.3s							
GRPR					pmax	pmax		
	comp=Z,5μm,0.3s							
GRPR					pmax	pmax		
	comp=N,4μm,0.2s							
GRPR					smax	smax		
	comp=N,37μm,0.4s							
GRPR					smax	smax		
	comp=E,16μm,0.3s							
GRPR	**Tuman**	**1.38**	**246**	*i*	P	**Pn**	**07 22 29.0**	**-0.6**
GRPR					AMB	AMB	07 22 31.0	
	comp=E,5μm,0.4s							
GRPR				*i*	S	**Sn**	**07 22 47.0**	**-1.5**
GRPR					A	A	07 22 49.0	
	comp=E,37μm,0.6s							
GRPR					A	A	07 22 49.0	
	comp=E,16μm,0.6s							
GLVR	**Golovnino**	**1.66**	**241**	*c*	*i* PN	**Pn**	**07 22 33.4**	**+0.3**
GLVR					*e* S	**Sn**	**07 22 54.4**	**-0.2**
GLVR					pmax	pmax		
	comp=Z,5μm,0.2s							
GLVR					pmax	pmax		
	comp=E,420nm,0.3s							
GLVR					pmax	pmax		
	comp=N,143nm,0.1s							
GLVR					smax	smax		
	comp=N,9μm,0.4s							
GLVR					smax	smax		
	comp=E,12μm,0.3s							
GLVR	**Golovnino**	**1.66**	**241**	*i*	P	**Pn**	**07 22 33.0**	**-0.1**
GLVR					AMB	AMB	07 22 33.0	
	comp=E,5μm,0.4s							
GLVR					*e* S	**Sn**	**07 22 54.0**	**-0.6**
GLVR					A	A	07 22 55.0	
	comp=E,9μm,0.6s							
GLVR					A	A	07 22 55.0	
	comp=E,12μm,0.6s							
NEM2	**Nemuro 2**	**1.76**	**228**		P	**Pn**	**07 22 33.5**	**-0.8**

NEM2 eS Sn 07 22 54.2 -2.6
NMR Nemuro--Hokkai 1.76 228⇑ iPN Pn 07 22 33.5 -0.8
NMR i S Sn 07 22 54.2 -2.7
NMR Nemuro--Hokkai 1.76 228 i P Pn 07 22 33.0 -1.3
NMR i S Sn 07 22 54.0 -2.9
JRA Rausu 1.84 251 P Pn 07 22 35.8 +0.6
JNSB Nemuroshibetsu 1.98 247 P Pn 07 22 37.8 +0.8
JNSB eS Sn 07 23 03.3 +1.6
JNK Nakash 2.25 245 P Pn 07 22 41.2 +0.7
JNK eS Sn 07 23 08.1 +0.1
JKHN Kushirohamanak 2.26 230 P Pn 07 22 40.3 -0.4
JKHN eS Sn 07 23 06.0 -2.3
JAK Akkeshi 2.58 234 P Pn 07 22 44.4 -0.5
JAK eS Sn 07 23 13.6 -2.1
JTKR Abashiri--Toko 2.66 258 P Pn 07 22 46.8 +0.8
JTKR eS Sn 07 23 18.5 +0.8
JAR Ashorobuto 2.99 246 P Pn 07 22 51.5 +1.1
JAR eS Sn 07 23 26.8 +1.2
JOB Onbets 3.15 239 P Pn 07 22 53.0 +0.6
JOB eS Sn 07 23 28.1 -1.2
JKK2 Kamakawa 2 3.50 260 P Pn 07 22 58.6 +1.4
JSE Soyaes 3.54 278 P Pn 07 22 58.9 +1.3
JKA Kamikawa-asahi 3.56 264 Pn 07 22 59.1 +1.2
JKA Sn 07 23 40.5 +1.4
ASAJ Asahikawa 3.56 264 P Pn 07 22 59.1 +1.1
comp=E,63nm,0.3s,baz=75,slow=20,SNR=187
ASAJ S Sn 07 23 40.5 +1.3
comp=E,16nm,0.3s,baz=94,slow=24,SNR=4.3
JCH Churui 3.60 239 P Pn 07 22 58.3 -0.2
JCH eS Sn 07 23 37.8 -2.2
JWK2 Keihoku 4.06 283 P Pn 07 23 07.2 +2.5
ERM Erimo 4.08 233 PN Pn 07 23 05.6 +0.6
ERM 07 23 50.1
ERM Erimo 4.08 233 Pn 07 23 05.6 +0.6
ERM Sn Sn 07 23 50.1 -1.6
YSS Yuzh-Sakhalins 4.10 307⇓ iPN Pn 07 23 06.5 +1.3
YSS eS Sn 07 23 51.6 -0.6
YSS pmax pmax
comp=Z,490nm,0.5s
YSS smax smax
comp=N,400nm,0.8s
YSS smax smax
comp=E,550nm,0.8s
YSS Yuzh-Sakhalins 4.10 307 i P Pn 07 23 06.5 +1.3
YSS AMB AMB 07 23 07.0
comp=E,490nm,0.5s
YSS eS Sn 07 23 51.6 -0.6
YSS A A 07 23 53.1
comp=E,400nm,0.8s
YSS A A 07 23 53.1
comp=E,550nm,0.8s
YSS Yuzh-Sakhalins 4.10 307 Pn 07 23 06.3 +1.1
YSS Sn Sn 07 23 52.4 +0.2
JNBK Urakawa-nobuka 4.16 238 P Pn 07 23 05.3 -0.7
JNBK eS Sn 07 23 52.2 -1.4
JHR Hokuryu 4.25 261 P Pn 07 23 09.4 +2.1
JYG Yagishiri 4.36 270 P Pn 07 23 10.8 +2.0
JEW Eniwo 4.73 251 P Pn 07 23 15.6 +1.9
JEW eS Sn 07 24 10.8 +3.4
JKB Kayabe 5.45 243 P Pn 07 23 22.9 -0.5
JKB eS Sn 07 24 21.2 -3.5
UGL Uglegorsk 5.86 322⇓ iPN Pn 07 23 30.9 +1.9
UGL eS Sn 07 24 36.9 +2.1
UGL pmax pmax
comp=Z,437nm,1.0s
UGL smax smax
comp=E,210nm,1.5s
UGL Uglegorsk 5.86 322 i P Pn 07 23 30.0 +1.0
UGL AMB AMB 07 23 32.0
comp=E,437nm,0.8s
UGL eS Sn 07 24 36.0 +1.2
UGL A A 07 24 39.0
comp=E,210nm,0.8s
TYV Tymovskoe 7.10 334 ePN Pn 07 23 47.3 +1.5
TYV eS Sn 07 25 03.8 -1.1
TYV pmax pmax
comp=Z,24nm,1.1s
TYV smax smax
comp=E,23nm,0.9s
TEY Ternei 7.78 277⇓ iPN Pn 07 23 57.6 +2.5
TEY pmax pmax
comp=E,180nm,1.1s
TEY pmax pmax
comp=Z,180nm,1.1s
SKR Severo-Kuril's 8.43 40 ePN Pn 07 24 03.9 0.0
SKR eS Sn 07 25 36.9 -0.3
SKR pmax pmax
comp=Z,167nm,0.7s
SKR smax smax
comp=N,48nm,0.7s
SKR smax smax
comp=E,57nm,0.6s
SKR MLR MLR
comp=Z,2μm,14.0s
SKR Severo-Kuril's 8.43 40 eP Pn 07 24 03.0 -0.9
SKR AMB AMB 07 24 07.0
comp=Z,167nm,0.5s
SKR eS Sn 07 25 36.0 -1.2
SKR A A 07 25 50.0
comp=Z,48nm,0.5s
SKR A A 07 25 50.0
comp=Z,57nm,0.5s
GRNR Gornyy 9.72 314⇓ iPN Pn 07 24 23.1 +1.7
GRNR eS Sn 07 26 13.5 +4.9
GRNR pmax pmax
comp=Z,80nm,1.1s
GRNR smax smax
comp=E,5.0nm,0.6s
MJB9 Matsu-Tunnel 10.69 225 Pn 07 24 32.4 -2.3
MAJO Matsushiro 10.69 225 PN Pn 07 24 33.2 -1.5
MAJO 07 26 31.7
MAJO Matsushiro 10.69 225 Pn 07 24 33.2 -1.5
MAJO Sn Sn 07 26 31.7 -0.7
MAT Matsushiro 10.69 225 P Pn 07 24 32.2 -2.5
MAT S Sn 07 26 28.7 -3.7
MJAR Matsushiro Arr 10.69 225 PN Pn 07 24 32.2 -2.5
MJAR 07 26 30.8
MJAR Matsushiro Arr 10.69 225 P Pn 07 24 32.4 -2.3
comp=E,1.0nm,0.3s,baz=29,slow=14,SNR=40
MJAR S Sn 07 26 28.9 -3.5
comp=E,0.1nm,0.3s,baz=35,slow=15,SNR=3.2
MJAR Matsushiro Arr 10.69 225 Pn 07 24 32.2 -2.5
MJAR Sn Sn 07 26 30.9 -1.6
PEA0B Petropavlovsk- 10.86 34 PN Pn 07 24 36.3 -0.5
PEA0B Petropavlovsk- 10.86 34 Pn 07 24 36.3 -0.5
PETK Petropavlovsk- 10.86 34 P Pn 07 24 35.7 -1.1
comp=E,4.7nm,0.3s,baz=194,slow=9.0,SNR=70
PETK Petropavlovsk- 10.86 34 Pn 07 24 35.3 -1.5
USA0B Ussuriysk Arra 11.13 274 PN Pn 07 24 41.0 +0.5
USA0B Ussuriysk Arra 11.13 274 Pn 07 24 41.0 +0.5
USRK Ussuriysk Ar. 11.13 274 P Pn 07 24 40.6 +0.1
baz=89,slow=13,SNR=38
USRK Ussuriysk Ar. 11.13 274 Pn 07 24 40.1 -0.5
PET Petropavlovsk 11.19 37 ePN Pn 07 24 39.1 -2.2
PET pmax pmax
comp=Z,19nm,1.1s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 11.19 37 eP Pn 07 24 40.7 -0.6
PET Petropavlovsk 11.19 37 Pn 07 24 39.5 -1.8
KLR Kul'dur 11.75 299⇓ iPN Pn 07 24 50.0 +1.2
KLR Kul'dur 11.75 299 P Pn 07 24 49.1 +0.3
comp=Z,0.2nm,0.3s,baz=100,slow=15,SNR=16
KLR Kul'dur 11.75 299 eP Pn 07 24 50.0 +1.2
INU Inuyama 12.22 225 Pn Pn 07 24 54.0 -1.2
JHJ2 Mitsune 12.91 210 Pn Pn 07 25 01.5 -2.8
JHJ Hachijo jima 2 12.91 210 P Pn 07 25 07.0 +2.7
comp=Z,16nm,0.3s,baz=94,slow=13,SNR=5.1
JHJ S Sn 07 27 15.1 -11
comp=Z,34nm,0.3s,baz=18,slow=23,SNR=10.0
MA2 Magadan 15.16 6 P Pn 07 25 30.8 -2.2
comp=Z,0.7nm,0.3s,baz=186,slow=11,SNR=2.0
MA2 Magadan 15.16 6 Pn Pn 07 25 32.6 -0.4
MA2 IAmb IAmb 07 25 40.3
comp=Z,29nm,0.8s
CN2 Changchun 15.85 275 eP P 07 25 43.3 -0.2
CN2 pmax pmax
comp=Z,20nm,0.8s
ZEA Zeya 16.08 312 eP Pn 07 25 43.9 -0.6
ZEA pmax pmax
comp=N,130nm,1.8s
ZEA pmax pmax
comp=E,96nm,1.8s
ZEA pmax pmax
comp=Z,130nm,2.0s
KSRS Korea Array 16.39 251 P Pn 07 25 46.6 -1.9
comp=Z,1.0nm,0.3s,baz=59,slow=13,SNR=24
KSAR Wonju Array Be 16.42 251 P Pn 07 25 46.2 -2.7
KSAR Wonju Array Be 16.42 251 Pn Pn 07 25 46.2 -2.7
JNU Nakatsue 17.25 234 P Pn 07 26 00.1 +1.0
comp=Z,1.2nm,0.3s,baz=31,slow=6.2,SNR=11
JNU Nakatsue 17.25 234 P P 07 25 58.6 -0.4
JNU IAmb IAmb 07 26 02.3
comp=Z,48nm,0.8s
TJN Taejon 17.35 249⇓ eP Pn 07 26 01.5 +1.2
SEY Seymchan 18.62 7⇓ iP Pn 07 26 14.7 -0.5
SEY Seymchan 18.62 7 P P 07 26 11.7 -2.1
comp=Z,1.9nm,0.3s,baz=191,slow=9.0,SNR=38
SEY Seymchan 18.62 7 eP Pn 07 26 14.7 -0.5
YAK Yakutsk 20.36 335 eP P 07 26 27.9 -4.7
YAK e*PP pP 07 26 52.1 +0.9
YAK eS S 07 30 07.7 -7.1
YAK pmax pmax
comp=Z,11nm,1.0s
YAK smax smax
comp=N,1μm,7.2s
YAK smax smax
comp=E,161nm,3.6s
YAK Yakutsk 20.36 335 eP P 07 26 33.5 +0.9
YAK Yakutsk 20.36 335 P P 07 26 31.5 -1.2
YAK IAmb IAmb 07 26 36.2
comp=Z,21nm,0.6s
BJI Beijing 23.54 270 eP P 07 27 04.8 -0.7
BJI pmax pmax
comp=Z,24nm,1.0s
BJT Baijiatuau 23.55 270 P P 07 27 04.8 -0.9
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 23.55 270 P P 07 27 04.8 -0.9
BJT IAmb IAmb 07 27 07.2
comp=Z,17nm,0.8s
BOD Bodaibo 24.54 315 eP P 07 27 10.0 -4.4
BOD pmax pmax
comp=Z,9.0nm,1.9s
BILL Bilibino 25.50 16⇓ eP P 07 27 23.5 +0.5
BILL e*PP pP 07 27 47.9 +2.2
BILL e 07 28 07.7
BILL pmax pmax
comp=Z,12nm,2.5s
BILL Bilibino 25.50 16 eP P 07 27 23.8 +0.8
NJ2 Nanjing 25.59 251 eP P 07 27 24.8 +0.6
NJ2 pmax pmax
comp=Z,17nm,0.8s
HHC Hu-ho-hao-te 26.55 275 eP P 07 27 33.0 +0.1
HHC pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 27.97 291⇑ eP P 07 27 45.2 -0.4
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 27.97 291 eP P 07 27 45.2 -0.4
ULN Ulaanbaatar 27.97 291 P P 07 27 44.5 -1.1
SONM Songino Array 28.41 291 P P 07 27 49.0 -0.5
SONM 07 30 59.2
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 28.41 291 P P 07 27 48.0 -1.5
comp=Z,4.2nm,0.7s,baz=80,slow=8.5,SNR=17
SONM pP pP 07 28 13.4 +1.3
comp=Z,3.9nm,0.7s,baz=82,slow=9.0,SNR=4.7
SONM PcP PcP 07 30 59.2 +0.1
comp=Z,1.7nm,0.8s,baz=125,slow=3.6,SNR=3.6
SONM Songino Array 28.41 291 P P 07 27 49.0 -0.5
SONM PcP 07 30 59.2 +0.1
H11N2 WAKE ISLAND Hy 29.55 141 T T 07 58 56.6
baz=332,slow=76,SNR=1309
H11N1 WAKE ISLAND Hy 29.56 141 T T 07 59 00.6
baz=332,slow=76,SNR=1440
WHN Wuhan 29.57 253 P P 07 27 59.5 -0.2
H11N3 WAKE ISLAND Hy 29.57 141 T T 07 59 01.0
baz=332,slow=76,SNR=1274
TLY Talaya 29.77 300⇑ eP P 07 28 01.4 +0.1
TLY pmax pmax
comp=Z,7.0nm,1.5s
TLY Talaya 29.77 300 eP P 07 28 01.4 +0.1
H11S1 WAKE ISLAND Hy 30.54 142 T T 08 00 08.8
baz=333,slow=76,SNR=1213
H11S3 WAKE ISLAND Hy 30.54 142 T T 08 00 09.3
baz=333,slow=76,SNR=305
TPUB Ta-pu 30.55 235 P P 07 28 08.6 +0.2
H11S2 WAKE ISLAND Hy 30.55 142 T T 08 00 10.2
baz=333,slow=76,SNR=388
XAN Xi'an 31.40 264 P P 07 28 15.5 -0.4
XAN pmax pmax
comp=Z,36nm,0.7s
XAN Xi'an 31.40 264 P P 07 28 15.5 -0.4
XAN pmax pmax
comp=Z,27nm,0.7s
XAN Xi'an 31.40 264 P P 07 28 15.5 -0.4
ENH Enshi 33.09 258 P P 07 28 30.2 -0.4
GTA Gaotai 35.43 279⇓ P P 07 28 51.0 +0.1
GTA pP pP 07 29 17.0 +2.9
GTA sP sP 07 29 27.3 +1.4
GTA PcP PcP 07 31 19.8 +1.4
GTA ScS ScS 07 38 59.5 0.0
GTA pmax pmax
comp=Z,12nm,1.3s
TTA Tatalina 36.63 40 P P 07 29 00.4 -0.4
TTA pmax pmax
comp=Z,10.0nm,1.2s
TTA Tatalina 36.63 40 P P 07 29 00.4 -0.4
TTA IAmb IAmb 07 29 19.0
comp=Z,10.0nm,1.2s
CD2 Chengdu 36.76 263 P P 07 29 01.5 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SVW2 Sparrevohn 36.78 43 P P 07 29 03.3 +1.3
SVW2 IAmb IAmb 07 29 04.1
comp=Z,12nm,0.8s
SII Sitkinak Islan 37.78 50 P P 07 29 10.3 -0.2
IMAR Indian Mountai 37.82 35 P P 07 29 10.9 +0.2
OHAK Old Harbor 38.19 49 P P 07 29 13.8 -0.1
PPLA Purkeypile 38.38 40 P P 07 29 16.4 +0.8
PPLA IAmb IAmb 07 29 20.5
comp=Z,9.2nm,1.0s
KDAK Kodiak Island 38.50 48 P P 07 29 16.0 -0.5
KDAK pmax pmax
comp=Z,21nm,0.8s
KDAK Kodiak Island 38.50 48 P P 07 29 16.0 -0.5
SKT Skheena 38.71 41 P P 07 29 18.6 +0.4
BPAW Bear Paw Mtn. 38.91 38 P P 07 29 19.9 0.0
KTH Kantishna Hill 38.94 39 P P 07 29 21.4 +1.1
KTH IAmb IAmb 07 29 22.1
comp=Z,13nm,0.8s
CNPM China Poot 39.02 45 P P 07 29 20.4 -0.5
CNPM IAmb IAmb 07 29 24.0
comp=Z,5.9nm,0.7s
MLY Manley 39.02 36 P P 07 29 21.9 +1.0
SUA Susitna One 39.10 42 P P 07 29 21.7 +0.1
SUA IAmb IAmb 07 29 24.9
comp=Z,12nm,0.9s
BRLK Bradley Lake 39.17 45 P P 07 29 21.7 -0.4
BRLK IAmb IAmb 07 29 24.6
comp=Z,11nm,0.8s
TRF Thorofare Moun 39.23 39 P P 07 29 22.6 -0.2
TRF IAmb IAmb 07 29 39.0
comp=Z,7.4nm,1.1s
COLD Coldfoot 39.32 33 P P 07 29 23.3 +0.1
BWN Browne 39.58 38 P P 07 29 26.1 +0.7
RC01 Rabbit Creek A 39.62 43 P P 07 29 25.7 0.0
TOLK Toolik Lake Re 39.65 31 P P 07 29 25.8 -0.2
baz=266,SNR=7.9
TOLK Toolik Lake Re 39.65 31 P P 07 29 25.6 -0.4
TOLK IAmb IAmb 07 29 26.4
comp=Z,6.6nm,0.7s
NEA Nenana 39.74 37 P P 07 29 27.3 +0.6
NEA IAmb IAmb 07 29 28.5
comp=Z,12nm,1.2s
MCK McKinley 39.83 38 P P 07 29 27.9 +0.4
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 39.83 38 P P 07 29 27.9 +0.4
MCK IAmb IAmb 07 29 30.1
comp=Z,6.5nm,0.9s
SEW Seward 39.85 44 P P 07 29 27.8 +0.1
PMR Palmer 39.87 42 P P 07 29 28.3 +0.5
PMR pmax pmax
comp=Z,10.0nm,1.0s
PMR Palmer 39.87 42 P P 07 29 28.3 +0.5
PMR IAmb IAmb 07 29 29.8
comp=Z,9.9nm,1.0s
RND Reindeer 39.88 39 P P 07 29 27.7 -0.3
RND pmax pmax
comp=Z,5.0nm,0.8s
RND Reindeer 39.88 39 P P 07 29 27.7 -0.3
RND IAmb IAmb 07 29 30.5
comp=Z,5.3nm,0.8s
GHO Glory Hole Cre 39.95 42 P P 07 29 29.1 +0.5
GHO IAmb IAmb 07 29 29.8
comp=Z,14nm,0.8s
MDM Murphy Dome 40.09 37 P P 07 29 29.3 -0.4
MDM IAmb IAmb 07 29 32.1
comp=Z,5.3nm,0.8s
WRH Wood River Hil 40.17 37 P P 07 29 30.2 0.0
KNK Knik Glacier 40.20 42 P P 07 29 30.8 +0.2
SML Sawmill 40.23 41 P P 07 29 31.7 +0.8
DGZ Jazzator, Alta 40.25 299⇓ eP P 07 29 31.1 -0.2
TCOL CIGO, UAF Yank 40.25 37 P P 07 29 32.0 +1.0
baz=272
COLA College 40.26 37⇑ iP P 07 29 31.6 +0.6
COLA pmax pmax
comp=Z,18nm,1.1s
COLA College 40.26 37 P P 07 29 31.9 +0.9
COLA IAmb IAmb 07 29 32.9
comp=Z,17nm,1.0s
CCB Clear Creek Bu 40.28 37 P P 07 29 32.4 +1.2
POKR Poker Plat Res 40.42 36 P P 07 29 33.6 +1.2
baz=272,SNR=6.2
DHY Denali Highway 40.57 39 P P 07 29 33.6 -0.1
DHY IAmb IAmb 07 29 34.6
comp=Z,11nm,0.9s
HDA Harding Lake 40.67 37 P P 07 29 34.0 -0.4
baz=273
HDA Harding Lake 40.67 37 P P 07 29 34.5 +0.1
HDA IAmb IAmb 07 29 39.7
comp=Z,9.0nm,1.2s
IL31 40.67 37 P P 07 29 34.4 0.0
IL31 IAmb IAmb 07 29 36.3
comp=Z,11nm,1.1s
ILAR Eielson Array 40.67 37 P P 07 29 33.8 -0.7
comp=Z,5.7nm,0.9s,baz=267,slow=6.3,SNR=45
ILAR pP pP 07 29 58.2 +0.1
comp=Z,4.4nm,0.9s,baz=263,slow=7.6,SNR=6.6
ILAR Eielson Array 40.67 37 P P 07 29 34.2 -0.3
SCM Sheep Creek Mo 40.70 41 P P 07 29 35.0 +0.2
SCM pmax pmax
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 40.70 41 P P 07 29 35.0 +0.2
SCM IAmb IAmb 07 29 36.6
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 40.73 306 P P 07 29 32.7 -2.3
ZALV Zalesovo Beam 40.73 306 i P P 07 29 33.7 -1.3
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 40.73 306 P P 07 29 32.9 -2.1
comp=Z,2.0nm,0.6s,baz=71,slow=6.7,SNR=6.6
ZALV PcP PcP 07 31 34.4 +0.1
comp=Z,6.1nm,0.5s,baz=85,slow=2.2,SNR=9.0
ZALV Zalesovo Beam 40.73 306 P P 07 29 33.5 -1.5
GLI Glacier Island 40.92 43 P P 07 29 36.4 -0.1
GLI IAmb IAmb 07 29 45.9
comp=Z,21nm,1.1s
KMI Kunming 40.96 257 P P 07 29 38.0 +0.5
KMI pmax pmax
comp=Z,59nm,0.9s
KMI Kunming 40.96 257 P P 07 29 37.0 -0.5
KMI pmax pmax
comp=Z,57nm,1.0s
KMI Kunming 40.96 257 P P 07 29 37.0 -0.5
PRP Porcupine Dome 41.21 36 P P 07 29 39.6 +0.6
PRP IAmb IAmb 07 29 40.9
comp=Z,13nm,1.0s
FID Port Fidalgo 41.24 43 P P 07 29 38.5 -0.6
FYU Fort Yukon 41.28 34 P P 07 29 40.3 +1.0
FYU IAmb IAmb 07 29 41.0
comp=Z,12nm,0.7s
HIN Hinchinbrook I 41.28 43 P P 07 29 39.7 +0.2
BMAR Burnt Mountain 41.50 33 P P 07 29 41.9 +0.6
EYAK Cordova Ski Ar 41.62 43 P P 07 29 43.4 +1.2
EYAK IAmb IAmb 07 29 48.3
comp=Z,15nm,1.2s
RIDG Independent Ri 41.64 38 P P 07 29 42.8 +0.3
RIDG IAmb IAmb 07 29 46.6
comp=Z,9.2nm,1.1s
SCRK Sand Creek 41.99 38 P P 07 29 45.5 +0.1
DOT Dot Lake 42.00 38 P P 07 29 45.0 -0.3
RAGM Ragged Mountai 42.17 43 P P 07 29 48.2 +1.4
MENT Mentasta 42.24 39 P P 07 29 48.3 +1.0
MENT IAmb IAmb 07 29 55.0
comp=Z,7.6nm,0.9s
GLB Gilahina Butte 42.42 42 P P 07 29 48.7 -0.1
VRDI Verde Repeater 42.62 42 P P 07 29 51.2 +0.6
VRDI IAmb IAmb 07 29 52.3
comp=Z,8.2nm,0.9s
SLVN Son La 42.66 252 P P 07 29 53.0 +1.8
SLVN IAmb IAmb 07 29 53.4
comp=Z,19nm,1.0s
MCARA McCarthy VSAT 42.80 42 P P 07 29 53.0 +1.2
MCARA IAmb IAmb 07 29 56.7
comp=Z,12nm,1.0s
CRQM Cirque 42.86 42 P P 07 29 53.5 +1.0
TGL Tana Glacier 43.01 42 P P 07 29 53.0 -0.5
TGL IAmb IAmb 07 29 56.2
comp=Z,14nm,1.1s
BCAR Beaver Creek A 43.09 39 P P 07 29 55.5 +1.2
EGAK Eagle 43.12 36 P P 07 29 53.5 -0.8
EGAK IAmb IAmb 07 29 56.3
comp=Z,4.4nm,0.6s
BALM Baldy 43.19 42 P P 07 29 56.0 +1.0
BALM IAmb IAmb 07 29 56.8
comp=Z,15nm,0.9s
BARN Barnard Glacie 43.51 42 P P 07 29 58.7 +1.0
BARN IAmb IAmb 07 29 59.8
comp=Z,13nm,0.9s
CTGM Chitina Glacie 43.68 42 P P 07 30 00.2 +1.1
CTGM IAmb IAmb 07 30 02.0
comp=Z,15nm,0.9s
PCA Pinnacle 44.39 43 P P 07 30 04.6 -0.1
PCA IAmb IAmb 07 30 12.8
comp=Z,13nm,1.0s
MK31 Makanchi Array 44.45 297 P P 07 30 04.2 -1.1
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 44.45 297 P P 07 30 04.2 -1.1
MK31 IAmb IAmb 07 30 06.3
comp=Z,6.1nm,0.7s
MKAR Makanchi Array 44.45 297 P P 07 30 04.4 -0.9
comp=Z,7.5nm,0.8s,baz=77,slow=8.2,SNR=54
MKAR PcP PcP 07 31 47.0 -0.1
comp=Z,4.6nm,0.7s,baz=66,slow=4.8,SNR=8.6
MKAR Makanchi Array 44.45 297 P P 07 30 03.7 -1.6
MKAR PcP 07 31 47.4 +0.3
EPYK Eagle Plains 44.69 34 P P 07 30 07.7 +0.8
baz=280,SNR=11
EPYK Eagle Plains 44.69 34 P P 07 30 07.7 +0.8
BCPM Bancas Point 44.73 43 P P 07 30 08.1 +0.9
BCPM IAmb IAmb 07 30 20.3
comp=Z,22nm,1.1s
KURK Kurchatov 45.30 303⇓ eP P 07 30 10.2 -1.7
KURK pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 45.30 303 P P 07 30 10.3 -1.5
KURK IAmb IAmb 07 30 13.2
comp=Z,8.4nm,0.8s
HYT Haines Junctio 45.54 42 P P 07 30 15.1 +1.3
INK Inuvik 45.56 31 P P 07 30 13.5 -0.2
INK pmax pmax
comp=Z,9.0nm,0.5s
INK Inuvik 45.56 31 P P 07 30 13.5 -0.2
UBPT Khong Chiam 45.94 244 P P 07 30 18.8 +1.5
comp=Z,13nm,1.0s
UBPT Khong Chiam 45.94 244 P P 07 30 17.6 +0.3
LSA Lhasa 46.44 271 P P 07 30 22.7 +1.0
LSA pmax pmax
comp=Z,26nm,1.1s
LSA Lhasa 46.44 271 P P 07 30 22.7 +1.0
BAKI Biak 46.68 196 P P 07 30 22.7 -0.3
PAYA Payao 46.76 253 P P 07 30 25.2 +1.5
comp=Z,61μm,1.0s
WHY Whitehorse 46.82 41 P P 07 30 25.8 +2.0
WHY IAmb IAmb 07 30 26.2
comp=Z,8.9nm,0.9s
SMPI Sarmi 47.01 192 P P 07 30 25.4 -0.2

PHRA	Phrae	47.11	252	P	P	07 30 27.3 +0.9
	comp=Z,6.6nm,1.1s					
LAMP	Lampang	47.50	253	P	P	07 30 31.6 +2.1
	comp=Z,72µm,0.9s					
CHAI	Chaiyaphum	47.76	248	P	P	07 30 31.8 +0.3
	comp=Z,88µm,0.6s					
CMMT	Chiang Mai	47.77	254	P	P	07 30 32.2 +0.7
	comp=Z,18nm,1.0s					
CHTO	Chiang Mai	47.77	254	P	P	07 30 32.3 +0.8
	SNR=7.1					
CHTO	Chiang Mai	47.77	254	P	P	07 30 32.0 +0.4
CHTO				pmax	pmax	
	comp=Z,29nm,1.0s					
CHTO	Chiang Mai	47.77	254	P	P	07 30 32.0 +0.4
JIS	Juneau Island	47.80	44	P	P	07 30 33.2 +2.0
JIS				IAmb	IAmb	07 30 44.7
	comp=Z,9.8nm,1.2s					
PBKT	Sadao Pong	47.96	250	P	P	07 30 33.8 +0.8
	comp=Z,9.9nm,0.7s					
PBKT	Sadao Pong	47.96	250	P	P	07 30 34.1 +1.0
PBKT				IAmb	IAmb	07 30 34.5
	comp=Z,10nm,0.8s					
CM31	Chiang Mai Arr	48.02	253	P	P	07 30 34.9 +1.4
	SNR=5.1					
CMAR	Chiang Mai Arr	48.02	253	*ce*P	P	07 30 34.2 +0.8
CMAR				pmax	pmax	
	comp=Z,6.0nm,0.7s					
CMAR	Chiang Mai Arr	48.02	253	P	P	07 30 33.8 +0.4
	comp=Z,6.7nm,0.8s,baz=37,slow=7.3,SNR=38					
C36M	Paulatuk	48.63	28	P	P	07 30 36.7 -0.8
	baz=288					
MHMT	Maesarieng	48.90	254	P	P	07 30 42.3 +2.1
BRVK	Borovoye	49.24	309⇑	*i*P	P	07 30 43.2 +0.8
BRVK				pmax	pmax	
	comp=Z,9.0nm,1.1s					
BRVK	Borovoye	49.24	309	*e*P	P	07 30 43.2 +0.8
TARG	Taragay, Kyrgy	49.52	293	P	P	07 30 43.9 -1.3
TARG				IAmb	IAmb	07 30 50.3
	comp=Z,4.8nm,0.8s					
UMPA	Umpang Tak	49.64	251	P	P	07 30 48.9 +3.0
	comp=Z,38µm,1.2s					
UTHA	Uthaitani	49.71	250	P	P	07 30 48.0 +1.6
	comp=Z,27µm,0.9s,comp=Z,629µm					
KDJ	Kajisay	49.74	293	P	P	07 30 45.8 -0.8
KDJ				pmax	pmax	
	comp=Z,11nm,1.0s					
KDJ	Kajisay	49.74	293	P	P	07 30 45.8 -0.8
KDJ				IAmb	IAmb	07 30 53.8
	comp=Z,11nm,1.0s					
OPA	Opana	49.96	99	P	P	07 30 50.6 +2.3
OPA				pmax	pmax	
	comp=Z,37nm,0.9s					
OPA	Opana	49.96	99	P	P	07 30 50.6 +2.3
SANI	Sanana	50.23	209	P	P	07 30 50.4 +0.1
	comp=Z,9.3nm,0.4s					
TAPN	Taplejung	50.26	271	*e*P	P	07 30 51.2 +0.3
	comp=Z,62nm,0.8s					
ULHL	Ulahol	50.30	294	P	P	07 30 50.9 0.0
	SNR=5.6					
BOOM	Boomskoye usch	50.38	294	P	P	07 30 51.1 -0.3
BOOM				pmax	pmax	
	comp=Z,10.0nm,0.7s					
BOOM	Boomskoye usch	50.38	294	P	P	07 30 51.1 -0.3
TKM2	Tokmak 2	50.40	295	P	P	07 30 51.2 -0.4
	SNR=9.6					
NRN	Naryn	50.85	293	P	P	07 30 54.4 -0.7
NRN				pmax	pmax	
	comp=Z,2.0nm,0.8s					
NRN	Naryn	50.85	293	P	P	07 30 54.4 -0.7
USP	Ospenovka	50.95	296	P	P	07 30 55.2 -0.3
	SNR=7.4					
KBK	Karagaybulak	50.95	295	P	P	07 30 55.5 -0.2
	SNR=8.1					
KZA	Kyzart	51.03	294	P	P	07 30 57.1 +0.5
	SNR=8.3					
JIRN	Jiri	51.16	272	*e*P	P	07 30 58.0 +0.3
GUN	Gumba	51.24	273	*e*P	P	07 30 58.4 +0.2
	comp=Z,138nm,0.7s					
AAK	Ala-Archa	51.25	295	*i* P	P	07 30 57.8 -0.1
	SNR=5.9					
AAK	Ala-Archa	51.25	295	P	P	07 30 58.5 +0.6
	SNR=5.3					
AAK	Ala-Archa	51.25	295	*d i*P	P	07 30 56.8 -1.1
AAK				pmax	pmax	
	comp=Z,19nm,2.5s					
AAK	Ala-Archa	51.25	295	*e*P	P	07 30 56.8 -1.1
RAMN	Ramite	51.29	271	*e*P	P	07 30 58.6 +0.1
	comp=Z,223nm,0.6s					
PHET	Kaeng Krachan	51.49	248	P	P	07 31 01.7 +1.9
	comp=Z,77µm,0.8s					
EKS2	Erkin-Say	51.70	296	P	P	07 31 02.0 +0.8
	SNR=7.0					
KKN	Kakani	51.74	273	*e*P	P	07 31 02.0 +0.2
PKI	Pulchoki	51.77	273	*e*P	P	07 31 02.1 -0.1
	comp=Z,57nm,0.7s					
KSH	Kashi	51.82	291	P	P	07 31 06.0 +3.9
KSH				sP	sP	07 31 44.5 +6.5
KSH				PP	PP	07 33 07.0 +6.4
KSH				ScS	ScS	07 40 41.0 -1.1
KSH				pmax	pmax	
	comp=Z,13nm,0.7s					
KSH				LR	LR	
	comp=Z,18µm,19.6s					
KSH				LR	LR	
	comp=Z,25µm,18.8s					
KSH				LR	LR	
	comp=Z,36µm,19.7s					
DMN	Daman	51.97	273	*e*P	P	07 31 03.9 +0.3
	comp=Z,122nm,0.8s					
GKN	Gorkha	52.07	274	*e*P	P	07 31 04.3 +0.1
	comp=Z,90nm,0.6s					
DANN	Dangsing	52.49	275	*e*P	P	07 31 08.0 +0.5
	comp=Z,319nm,0.8s					
ARSB	Arslanbob	52.88	294	P	P	07 31 09.9 -0.1
KOLN	Koldanda	52.95	274	*e*P	P	07 31 11.0 +0.3
	comp=Z,135nm,0.9s					
AIN	Ainahou	53.28	99	P	P	07 31 14.9 +1.7
KK31	Karatay Array	53.57	298	P	P	07 31 13.8 -1.1
KK31				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KK31	Karatay Array	53.57	298	P	P	07 31 13.8 -1.1
KK31				IAmb	IAmb	07 31 14.5
	comp=Z,5.1nm,0.8s					
KKAR	Karatay Array	53.57	298	P	P	07 31 13.7 -1.2
KKAR				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KKAR	Karatay Array	53.57	298	P	P	07 31 13.7 -1.2
KKAR	Karatay Array	53.57	298	P	P	07 31 13.8 -1.2
KKAR				IAmb	IAmb	07 31 14.5
	comp=Z,5.1nm,0.8s					
ARU	Arti	53.94	317	*d i*P	P	07 31 17.6 +0.3
ARU				S	S	07 38 45.9 +1.3
ARU				pmax	pmax	
	comp=Z,10.0nm,0.9s					
ARU	Arti	53.94	317	*e*P	P	07 31 17.6 +0.3
SPA0	Spitsbergen Ar	54.03	349	P	P	07 31 17.6 -0.1
YKW3	Yellowknife Ar	54.94	34	P	P	07 31 25.0 +0.6
BTK	Batken	54.94	294	P	P	07 31 24.6 -0.3
BTK				pmax	pmax	
	comp=Z,7.0nm,0.9s					
BTK	Batken	54.94	294	P	P	07 31 24.6 -0.3
BTK				IAmb	IAmb	07 31 30.2
	comp=Z,7.1nm,0.9s					
YKA	Yellowknife Ar	54.98	34	P	P	07 31 25.0 +0.3
	comp=Z,8.8nm,0.8s,baz=303,slow=7.2,SNR=36					
YKA				pP	pP	07 31 48.5 -0.9
	comp=Z,2.8nm,0.7s,baz=303,slow=7.4,SNR=4.6					
YKA	Yellowknife Ar	54.98	34	P	P	07 31 25.2 +0.5
SKLT	Songkhla	55.16	242	P	P	07 31 28.9 +2.3
	comp=Z,9.8nm,1.2s					
GAR	Garm	55.83	293	P	P	07 31 30.5 -0.9
ABKAR	Akbulak array	56.76	308	P	P	07 31 36.1 -1.5
ABKAR	Akbulak array	56.76	308	P	P	07 31 36.5 -1.2
ABKAR				IAmb	IAmb	07 31 38.8
	comp=Z,5.1nm,0.8s					
LVZ	Lovozero	57.17	335⇑	*e*P	P	07 31 42.2 +1.9
LVZ				pmax	pmax	
	comp=Z,75nm,1.6s					
A04D	Lummi Island	58.27	51	P	P	07 31 49.5 +1.3
	baz=303					
ARCES	ARCESS Array B	58.58	340	P	P	07 31 47.6 -2.5
	comp=Z,2.6nm,0.7s,baz=47,slow=7.1,SNR=7.8					
ARCES				PcP	PcP	07 32 38.5 -0.7
	comp=Z,5.1nm,0.8s,baz=47,slow=5.3,SNR=5.6					
ARCES	ARCESS Array B	58.58	340	P	P	07 31 48.1 -1.9
D03D	Eldon	58.70	52	P	P	07 31 52.6 +1.4
	baz=303					
B05A	Bryant	58.86	51	P	P	07 31 53.1 +0.8
	baz=304					
D04E	Lakebay	59.08	53	P	P	07 31 54.9 +1.1
	baz=304					
KBL	Kabul	59.17	290	P	P	07 31 53.7 -1.2
KBL				pmax	pmax	
	comp=Z,36nm,1.2s					
KBL	Kabul	59.17	290	P	P	07 31 53.7 -1.2
E04D	Cinebar	59.54	53	P	P	07 31 59.1 +2.1
	baz=304					
PSI	Prapat	59.59	240	P	P	07 31 58.2 +0.2
PSI				pmax	pmax	
	comp=Z,15nm,1.0s					
RPSI	Rantau Prapat	59.68	240	P	P	07 31 58.2 -0.1
LTY	Liberty	60.22	52	P	P	07 32 02.9 +1.1
LTY				IAmb	IAmb	07 32 03.3
	comp=Z,3.6nm,0.8s					
B08A	Colville Reser	60.34	50	P	P	07 32 03.5 +1.0
B08A				IAmb	IAmb	07 32 04.2
	comp=Z,4.1nm,0.8s					
F05D	White Salmon	60.56	53	P	P	07 32 05.6 +1.6
	baz=305					
H04D	Lebanon	60.59	55	P	P	07 32 06.1 +1.8
	baz=305					
I03D	Drain, OR	60.70	56	P	P	07 32 07.0 +2.0
	baz=305					
G05D	Wamic, OR	61.01	54	P	P	07 32 08.9 +1.8
	baz=305					
E07A	Sunnyside	61.08	52	P	P	07 32 09.4 +1.9
E07A				IAmb	IAmb	07 32 09.9
	comp=Z,4.9nm,0.7s					
F07A	Phinny Hill Vi	61.42	53	P	P	07 32 12.0 +2.2
L02E	Cave Junction	61.44	58	P	P	07 32 11.9 +1.8
	baz=306					
I05D	Terrebonne, OR	61.52	55	P	P	07 32 12.3 +1.6
	baz=306					
HUMO	Hull Mountain	61.57	57	P	P	07 32 09.5 -1.4
NEW	Newport	61.59	49	P	P	07 32 11.8 +0.8
	baz=306,SNR=8.0					
NEW	Newport	61.59	49	P	P	07 32 11.9 +0.8
NEW				pmax	pmax	
	comp=Z,5.0nm,0.8s					
NEW	Newport	61.59	49	P	P	07 32 11.9 +0.8
NEW				IAmb	IAmb	07 32 13.3
	comp=Z,4.9nm,0.8s					
J04D	Umpqua Nationa	61.70	56	P	P	07 32 13.8 +1.7
	baz=306,SNR=8.1					
L04D	Klamath Falls	62.19	57	P	P	07 32 16.6 +1.4
	baz=306,SNR=9.0					
J05D	Fort Rock, OR	62.20	56	P	P	07 32 16.8 +1.5
	baz=306,SNR=9.2					
M02C	Callahan	62.34	58	P	P	07 32 18.3 +2.1
	baz=306,SNR=6.2					
N02D	Trinity Center	62.68	58	P	P	07 32 20.0 +1.6
	baz=307,SNR=5.8					
M04C	Macdoel	62.72	57	P	P	07 32 19.9 +1.1
	baz=307,SNR=8.4					
WALA	Waterton Lakes	62.83	47	P	P	07 32 20.3 +0.9
WALA				IAmb	IAmb	07 32 21.3
	comp=Z,4.0nm,0.7s					
F10A	Beach Ranch, E	62.90	51	P	P	07 32 19.3 -0.5
KCPM	Cahto Peak	62.91	60	P	P	07 32 20.2 +0.2
KCPM				IAmb	IAmb	07 32 35.4
	comp=Z,8.0nm,1.0s					
SUMG	Summit	63.09	2	P	P	07 32 19.5 -1.5
SUMG				pmax	pmax	
	comp=Z,3.0nm,0.6s					
SUMG	Summit	63.09	2	P	P	07 32 19.5 -1.5
O02D	Mt. Diablo Mer	63.10	59	P	P	07 32 22.8 +1.6
	baz=307,SNR=6.0					
JTMT	Jette	63.43	48	P	P	07 32 24.6 +1.2
BMO	Blue Mountains	63.53	52	P	P	07 32 24.8 +0.8
BMO				pmax	pmax	
	comp=Z,3.0nm,1.0s					
BMO	Blue Mountains	63.53	52	P	P	07 32 24.8 +0.8
MOD	Modoc Plateau	63.57	56	P	P	07 32 25.5 +1.0
O03E	Paynes Creek	63.64	59	P	P	07 32 26.1 +1.3
	baz=307,SNR=7.2					
PUL	Pulkovo	64.03	330⇓	*e*P	P	07 32 28.7 +1.8
PUL				pmax	pmax	
	comp=Z,36nm,0.6s					
PUL	Pulkovo	64.03	330	*e*P	P	07 32 28.7 +1.8
PLID	Pearl Lake	64.12	51	P	P	07 32 29.2 +1.1
PLID				IAmb	IAmb	07 32 29.8
	comp=Z,7.6nm,0.6s					
MSO	Missoula	64.18	49	P	P	07 32 29.1 +0.8
	baz=308,SNR=11					
MSO	Missoula	64.18	49	P	P	07 32 29.3 +1.0
MSO				IAmb	IAmb	07 32 30.3
	comp=Z,5.6nm,0.8s					
WVOR	Wild Horse Val	64.23	55	P	P	07 32 30.0 +1.3
WVOR				pmax	pmax	
	comp=Z,5.0nm,1.2s					
WVOR	Wild Horse Val	64.23	55	P	P	07 32 30.0 +1.3
FIA1	FINESS Array S	64.27	333	P	P	07 32 26.0 -2.5
ORV	Oroville	64.27	59	P	P	07 32 28.7 -0.1
ORV				pmax	pmax	
	comp=Z,2.0nm,0.8s					
ORV	Oroville	64.27	59	P	P	07 32 28.7 -0.1
FINES	FINESS Array B	64.27	333	P	P	07 32 25.8 -2.7
	comp=Z,8.6nm,0.7s,baz=41,slow=5.8,SNR=18					
BEKR	Beckworth	64.78	58	P	P	07 32 32.7 +0.3
BEKR				IAmb	IAmb	07 32 34.1
	comp=Z,4.3nm,0.8s					
FFC	Flin Flon	64.89	37	P	P	07 32 33.0 +0.4
FFC				pmax	pmax	
	comp=Z,4.0nm,1.0s					
FFC	Flin Flon	64.89	37	P	P	07 32 33.0 +0.4
WB0	Warramunga Arr	65.14	194	P	P	07 32 34.9 +0.4
WR0	Warramunga Arr	65.30	193	P	P	07 32 35.9 +0.3
WR0				IAmb	IAmb	07 32 36.5
	comp=Z,7.9nm,0.9s					
WRAB	Tennant Creek	65.30	194⇓	*e*P	P	07 32 36.2 +0.6
WRAB				pmax	pmax	
	comp=Z,10.0nm,1.0s					
WRAB	Tennant Creek	65.30	194	P	P	07 32 33.6 -2.0
WRAB				IAmb	IAmb	07 32 39.8
	comp=Z,8.1nm,0.8s					
WB2	Warramunga Arr	65.31	194	P	P	07 32 35.3 -0.3
WB2				IAmb	IAmb	07 32 40.4
	comp=Z,8.9nm,0.9s					
WRA	Warramunga Arr	65.31	194	*i* P	P	07 32 35.7 0.0
WRA				pmax	pmax	
	comp=Z,8.0nm,0.9s					
WRA	Warramunga Arr	65.31	194	P	P	07 32 35.5 -0.1
	comp=Z,8.3nm,0.9s,baz=10,slow=6.6,SNR=27					
WRA				pP	pP	07 33 03.1 +1.8
	comp=Z,1.6nm,0.8s,baz=8.4,slow=6.6,SNR=1.8					
HRY	Holter Researc	65.38	48	P	P	07 32 37.3 +1.2
EGMT	Eagleton	65.63	46	P	P	07 32 38.5 +0.8
	baz=310,SNR=6.4					
EGMT	Eagleton	65.63	46	P	P	07 32 38.0 +0.4
EGMT				IAmb	IAmb	07 32 39.1
	comp=Z,7.9nm,0.6s					
POO	Poona	65.70	272	*e*P	P	07 32 44.5 +6.1
PNTR	Pine Nut	65.72	59	P	P	07 32 38.8 +0.3
PNTR				IAmb	IAmb	07 32 41.8
	comp=Z,3.4nm,0.6s					
DLMT	Dillon	65.83	50	P	P	07 32 40.2 +1.2
DLMT				IAmb	IAmb	07 32 41.1
	comp=Z,6.1nm,1.1s					
YERR	Yerington	66.00	58	P	P	07 32 41.2 +0.9
YERR				IAmb	IAmb	07 32 42.5
	comp=Z,4.4nm,0.8s					
MCMT	McKenzie Canyo	66.03	50	P	P	07 32 39.9 -0.6
WAKR	Walker	66.18	59	P	P	07 32 41.8 +0.4
BOZ	Bozeman (W)	66.20	49	P	P	07 32 42.7 +1.3
	baz=310,SNR=6.7					
BOZ	Bozeman (W)	66.20	49	P	P	07 32 42.8 +1.4
BOZ				pmax	pmax	
	comp=Z,12nm,0.6s					
BOZ	Bozeman (W)	66.20	49	P	P	07 32 42.8 +1.4
VSR	Storozhevoye	66.29	319⇑	*i*P	P	07 32 40.6 -1.1
VSR				pmax	pmax	
	comp=Z,14nm,0.6s					
KVN	Kaiserville	66.65	58	P	P	07 32 44.3 -0.1
KVN				pmax	pmax	
	comp=Z,5.0nm,0.8s					
KVN	Kaiserville	66.65	58	P	P	07 32 44.3 -0.1
KVN				IAmb	IAmb	07 32 46.6
	comp=Z,4.5nm,0.8s					
NVAR	Mina Array Bea	66.92	58	P	P	07 32 47.2 +1.0
	comp=Z,2.5nm,0.6s,baz=291,slow=6.6,SNR=24					
NVAR				pP	pP	07 33 11.5 -0.4
	comp=Z,6.7nm,0.7s,baz=293,slow=6.9,SNR=21					
NVAR	Mina Array Bea	66.92	58	P	P	07 32 46.9 +0.7
YHL	Hebgen Lake	66.92	49	P	P	07 32 47.2 +1.0
YHB	Horse Butte	66.98	49	P	P	07 32 48.0 +1.5
NV11	Mina Array Sit	67.01	58	P	P	07 32 47.3 +0.6
YHH	Holmes Hill	67.14	49	P	P	07 32 48.6 +1.0
YMR	Madison River	67.16	49	P	P	07 32 48.2 +0.6
YNE	Yellowstone No	67.45	49	P	P	07 32 50.6 +1.1
YPP	Pitchstone Pla	67.51	50	P	P	07 32 48.7 -1.2
LKWY	Lake	67.53	49	P	P	07 32 52.4 +2.4
LKWY				pmax	pmax	
	comp=Z,2.0nm,0.8s					
LKWY	Lake	67.53	49	P	P	07 32 52.4 +2.4
H17A	Grant Village	67.55	49	P	P	07 32 52.8 +2.7
	baz=311,SNR=12					
H17A	Grant Village	67.55	49	P	P	07 32 52.7 +2.5
YMP	Mirror Lake Pl	67.55	49	P	P	07 32 51.7 +1.5
IMW	Indian Meadow	67.68	50	P	P	07 32 53.2 +2.2
IMW				IAmb	IAmb	07 32 53.8
	comp=Z,6.7nm,1.0s					
FLWY	Flagg Ranch	67.69	50	P	P	07 32 52.7 +1.8
FLWY				IAmb	IAmb	07 32 57.3
	comp=Z,4.2nm,0.8s					
RLMT	Red Lodge	67.78	48	P	P	07 32 52.5 +1.0
	baz=311,SNR=6.8					
RLMT	Red Lodge	67.78	48	P	P	07 32 52.9 +1.4
RLMT				IAmb	IAmb	07 33 11.7
	comp=Z,1.9nm,1.1s					
FXWY	Fox Creek	67.80	50	P	P	07 32 53.3 +1.6
FXWY				IAmb	IAmb	07 32 54.3
	comp=Z,3.9nm,0.7s					
MOOW	Moose Ponds	67.88	50	P	P	07 32 53.2 +1.1
TPAW	Teton Pass	67.94	50	P	P	07 32 54.1 +1.6
TPAW				IAmb	IAmb	07 32 55.4
	comp=Z,8.1nm,0.9s					
HVU	Hansel Valley	68.03	53	P	P	07 32 54.6 +1.5
HVU				pmax	pmax	
	comp=Z,5.0nm,0.8s					
HVU	Hansel Valley	68.03	53	P	P	07 32 54.6 +1.5
SNOW	Snow King Moun	68.06	50	P	P	07 32 55.1 +1.7
SNOW				IAmb	IAmb	07 32 56.0
	comp=Z,5.1nm,0.7s					
REDW	Red Top Meadow	68.07	50	P	P	07 32 55.1 +1.7
REDW				IAmb	IAmb	07 32 55.9
	comp=Z,5.0nm,0.8s					
VES	Vestal, Richgr	68.08	61	P	P	07 32 53.9 +0.7
	baz=310,SNR=5.4					
DGMT	Dagmar	68.11	43	P	P	07 32 53.7 +0.4
	baz=313,SNR=7.4					
DGMT	Dagmar	68.11	43	P	P	07 32 54.0 +0.7
LAO	LASA Array	68.31	45	P	P	07 32 55.7 +1.1
	baz=312,SNR=9.1					
LAO	LASA Array	68.31	45	P	P	07 32 55.8 +1.1
LAO				IAmb	IAmb	07 32 56.7
	comp=Z,8.3nm,0.9s					
CWC	Cottonwood Cre	68.32	60	P	P	07 32 55.8 +0.8
	baz=310					
GRAC	Grapevine Rang	68.41	59	P	P	07 32 56.7 +1.4
	baz=310					
PALK	Pallekele	68.47	259	P	P	07 32 55.9 -0.1
PALK				pmax	pmax	
	comp=Z,20nm,1.0s					
PALK	Pallekele	68.47	259	P	P	07 32 55.9 -0.1
SPUT	South Promonto	68.52	53	P	P	07 32 57.9 +1.8
DZM	Mont Dzumac	68.53	161	P	P	07 32 58.9 +2.7
DZM				IAmb	IAmb	07 33 07.5
	comp=Z,4.8nm,0.8s					
R11A	Troy Canyon, C	68.61	57	P	P	07 32 57.4 +0.6
	baz=310,SNR=8.5					
R11A	Troy Canyon, C	68.61	57	P	P	07 32 57.3 +0.6
HWUT	Hardware Ranch	68.83	52	P	P	07 32 58.8 +0.7
MPMC	Manual Prospec	68.93	60	P	P	07 32 59.6 +0.8
	baz=310,SNR=6.8					
NB2	NORSAR Subarra	68.94	339	P	P	07 32 56.2 -2.0
	comp=Z,0.6nm,0.5s,baz=30,slow=6.2					
NOA	NORSAR Array B	68.94	339	P	P	07 32 56.0 -2.2
	comp=Z,1.4nm,0.4s,baz=40,slow=7.5,SNR=12					
AS31	Alice Springs	69.03	193	P	P	07 33 00.4 +1.2
ASAR	Alice Springs	69.03	193	P	P	07 32 59.8 +0.7
	comp=Z,2.4nm,0.8s,baz=8.1,slow=5.2,SNR=21					
ASAR	Alice Springs	69.03	193	P	P	07 32 59.9 +0.8
DUG	Dugway, Tooele	69.04	54	P	P	07 33 00.7 +1.3
	baz=311,SNR=9.2					
DUG	Dugway, Tooele	69.04	54	P	P	07 32 59.9 +0.6
DUG				pmax	pmax	
	comp=Z,5.0nm,0.7s					
DUG	Dugway, Tooele	69.04	54	P	P	07 32 59.9 +0.6
DUG				IAmb	IAmb	07 33 01.6
	comp=Z,5.0nm,0.7s					
FURC	Furnace Creek,	69.05	59	P	P	07 33 00.8 +1.5
	baz=310,SNR=6.8					
TPNV	Topopah Spring	69.12	58	P	P	07 33 00.9 +1.0
	baz=311,SNR=5.8					
TPNV	Topopah Spring	69.12	58	P	P	07 32 59.7 -0.2
TPNV				pmax	pmax	
	comp=Z,5.0nm,1.0s					
TPNV	Topopah Spring	69.12	58	P	P	07 32 59.7 -0.2
BW06	Boulder Array	69.18	50	P	P	07 33 00.9 +0.6
	baz=312,SNR=8.1					
BW06	Boulder Array	69.18	50	P	P	07 33 00.9 +0.6
BW06				IAmb	IAmb	07 33 01.9
	comp=Z,5.3nm,0.7s					
PD31	Pinedale Array	69.18	50	P	P	07 33 00.9 +0.7
PDAR	Pinedale Array	69.18	50	P	P	07 33 01.0 +0.7
	comp=Z,3.5nm,0.6s,baz=275,slow=1.6,SNR=35					
PDAR				pP	pP	07 33 26.1 0.0
	comp=Z,10nm,0.9s,baz=318,slow=2.0,SNR=14					
PDAR	Pinedale Array	69.18	50	P	P	07 33 00.8 +0.6
LRMC	Laurel Mtn Rad	69.19	60	P	P	07 33 01.2 +0.9
	baz=310					
CTU	Camp Tracy	69.33	53	P	P	07 33 02.2 +1.1
EDW2	Edwards Air Fo	69.38	61	P	P	07 33 02.1 +0.7
	baz=311,SNR=7.7					
KIV	Kislovodsk	69.42	312	*e*P	P	07 33 02.1 +0.6
KIV				pmax	pmax	
	comp=Z,45nm,1.0s					
KIV	Kislovodsk	69.42	312	*e*P	P	07 33 02.1 +0.6
KIV	Kislovodsk	69.42	312	P	P	07 33 01.4 -0.2
KBZ	Khabaz	69.46	311	P	P	07 33 01.4 -0.3
	comp=Z,3.8nm,0.6s,baz=70,slow=6.5,SNR=11					
ZEI	Tsey	69.55	310	*e*P	P	07 33 02.0 -0.5
ZEI				pmax	pmax	
	comp=Z,5.0nm,0.6s					
TBLG	Delisi	69.80	309	P	P	07 33 03.7 -0.1
TBLG				pmax	pmax	
	comp=Z,17nm,1.0s					
TBLG	Delisi	69.80	309	P	P	07 33 03.7 -0.1
NEY	Neytrino	69.88	311⇓	*e*P	P	07 33 05.9 +1.4
TUQ	Turquoise Moun	70.30	60	P	P	07 33 08.3 +1.2
	baz=311,SNR=7.2					
HEC	Hector,Ludlow	70.45	60	P	P	07 33 08.8 +0.8
	baz=311					
BBRC	Big Bear Solar	70.45	61	P	P	07 33 09.4 +1.2
	baz=311					
MSU	Marysvale	70.53	55	P	P	07 33 09.6 +1.0
MSU	Marysvale	70.53	55	P	P	07 33 09.6 +1.0
ULM	Lac du Bonnet	70.69	37	P	P	07 33 08.8 -0.3
ULM				pmax	pmax	
	comp=Z,5.0nm,0.7s					
ULM	Lac du Bonnet	70.69	37	P	P	07 33 08.5 -0.5
	comp=Z,5.1nm,0.5s,baz=316,slow=6.7,SNR=14					
ULM	Lac du Bonnet	70.69	37	P	P	07 33 08.8 -0.3
ULM				IAmb	IAmb	07 33 09.6
	comp=Z,5.4nm,0.7s					
P17A	Butcher Ranch,	70.72	53	P	P	07 33 09.9 +0.3
MDND	Maddock	70.75	41

comp=Z,9.0nm,0.8s
SRU San Rafael Swe 71.08 54 P **P 07 33 13.0 +1.1**
KNB Kanab 71.14 56 P **P 07 33 14.1 +1.9**
KNB pmax pmax
comp=Z,2.0nm,1.1s
KNB Kanab 71.14 56 P **P 07 33 14.1 +1.9**
PFO Pinyon Flats O 71.17 61 P **P 07 33 13.7 +1.2**
baz=312
RSSD Black Hills 71.20 46 P **P 07 33 13.2 +0.7**
baz=314
RSSD Black Hills 71.20 46 P **P 07 33 13.2 +0.7**
RSSD Black Hills 71.20 46 P **P 07 33 13.2 +0.7**
IRM Iron Mountain 71.63 60 P **P 07 33 16.0 +1.0**
baz=312,SNR=6.9
MONP2 Monument Peak 71.67 62 P **P 07 33 16.3 +0.8**
baz=312
O20A White River Ci 71.69 52 P **P 07 33 16.3 +0.8**
baz=313
O20A White River Ci 71.69 52 P **P 07 33 16.4 +0.8**
BC3 Big Chuckawall 71.77 61 P **P 07 33 16.5 +0.5**
baz=312
U15A North Rim 71.85 57 P **P 07 33 18.2 +1.6**
AGMN Agassiz Nation 72.14 39 P **P 07 33 17.0 -0.8**
baz=318
Y12C Blythe 72.28 60 P **P 07 33 19.6 +0.7**
baz=312,SNR=5.5
PV23 Carpenter Ridg 72.40 53 P **P 07 33 21.3 +1.4**
PV23 IAmb IAmb 07 33 21.9
comp=Z,5.6nm,0.7s
N23A Red Feather La 72.43 50 P **P 07 33 20.8 +0.7**
baz=314
N23A Red Feather La 72.43 50 P **P 07 33 20.7 +0.7**
PV22 Blue Mesa, Par 72.47 53 P **P 07 33 19.5 -0.7**
PV22 IAmb IAmb 07 33 22.1
comp=Z,5.4nm,0.7s
GLA Glamis 72.56 61 P **P 07 33 21.8 +1.1**
baz=312
PV11 David Mesa, Pa 72.58 53 P **P 07 33 21.5 +0.6**
PV11 IAmb IAmb 07 33 22.8
comp=Z,8.1nm,0.7s
WUAZ Wupatki 73.01 57 P **P 07 33 24.3 +0.9**
baz=313
SMCO Snowmass 73.05 52 P **P 07 33 25.0 +1.1**
BANOM Banah 73.12 290 *i* P **P 07 33 24.2 +0.1**
SNR=10
SHME Shamm 73.15 290 P **P 07 33 23.6 -0.6**
ISCO Idaho Springs 73.37 50 P **P 07 33 26.8 +1.1**
baz=315,SNR=5.2
ISCO Idaho Springs 73.37 50 P **P 07 33 26.8 +1.1**
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 73.37 50 P **P 07 33 26.8 +1.1**
MVCO Mesa Verde 73.55 54 P **P 07 33 27.5 +0.9**
baz=314
MVCO Mesa Verde 73.55 54 P **P 07 33 26.6 0.0**
MSFE Esma-Masafi 73.59 289 *i* P **P 07 33 27.0 +0.2**
SNR=6.0
X16A Lo Mia Camp, P 73.72 58 P **P 07 33 27.2 -0.5**
UOSS Minazif 73.84 289 *i* P **P 07 33 27.8 -0.4**
SNR=16
UOSS Minazif 73.84 289 P **P 07 33 28.2 0.0**
SNR=6.0
UOSS Minazif 73.84 289 P **P 07 33 28.0 -0.2**
HATD Hatta, Dubai 73.97 289 *i* P **P 07 33 28.9 0.0**
SNR=15
HATD Hatta, Dubai 73.97 289 P **P 07 33 29.2 +0.3**
SNR=7.5
ASHO Ashiyiah 74.11 289 P **P 07 33 29.6 -0.2**
S22A 4UR Ranch, Cre 74.13 53 P **P 07 33 31.1 +1.0**
baz=314,SNR=7.1
S22A 4UR Ranch, Cre 74.13 53 P **P 07 33 31.3 +1.2**
Q24A Divide 74.22 51 P **P 07 33 31.4 +0.7**
baz=315
W18A Petrified Fore 74.26 56 P **P 07 33 31.3 +0.5**
baz=314
EYMN Ely 74.32 37 P **P 07 33 30.3 -0.4**
EYMN IAmb IAmb 07 33 30.7
comp=Z,8.9nm,0.8s
OGNE Ogallala 74.49 47 P **P 07 33 32.4 +0.5**
baz=316
214A Organ Pipe Nat 74.55 60 P **P 07 33 31.9 -0.5**
baz=313
BSY Bisya 74.63 287 P **P 07 33 33.2 +0.4**
SNR=5.3
ASUD Al Ashush, Dub 74.64 289 P **P 07 33 33.0 +0.1**
ASUD P **P 07 33 33.0 +0.1**
SDCO Great Sand Dun 74.88 52 P **P 07 33 35.2 +0.8**
baz=315
SDCO Great Sand Dun 74.88 52 P **P 07 33 35.7 +1.3**
BUR08 Bucovina Ar. S 75.12 324 P **P 07 33 35.0 -0.4**
BUR08 IAmb IAmb 07 33 35.7
comp=Z,6.7nm,0.7s
BURAR Bucovina Array 75.14 324 ⇑P **P 07 33 35.1 -0.4**
BURAR Bucovina Array 75.14 324 ⇑P **P 07 33 35.1 -0.4**
BURAR mb 07 33 36.8
BURAR Bucovina Array 75.14 324 P **P 07 33 35.0 -0.4**
ECSD EROS Data Cent 75.18 42 P **P 07 33 36.0 +0.2**
baz=318,SNR=8.4
ECSD EROS Data Cent 75.18 42 P **P 07 33 35.9 +0.2**
ECSD IAmb IAmb 07 33 50.1
comp=Z,2.1nm,1.1s
BIZ Bicaz 75.28 323 ⇑P **P 07 33 35.4 -0.8**
KOLS Kolonicke sedl 75.31 326 *e*P **P 07 33 36.4 +0.1**
KOLS Kolonicke sedl 75.31 326 *e*P **P 07 33 36.4 +0.1**
E38A The Farm, Brul 75.33 38 P **P 07 33 35.7 -0.7**
baz=321
TESR Tescani 75.38 322 ⇑P **P 07 33 36.0 -0.8**
SPMN Marine on St. 75.84 39 P **P 07 33 39.4 0.0**
baz=320
VRI Vrincioaia 75.84 322 ⇓P **P 07 33 39.3 -0.2**
VRI Vrincioaia 75.84 322 ⇓P **P 07 33 39.3 -0.2**
T25A Trinidad 75.92 52 P **P 07 33 41.6 +1.3**
baz=316
LANS Liptovska Anna 76.22 328 *e*P **P 07 33 41.0 -0.6**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 76.22 328 *e*P **P 07 33 41.0 -0.6**
D41A Chassel 76.25 36 P **P 07 33 42.7 +1.0**
baz=322
STKA Stephens Creek 76.27 185 P **P 07 33 41.6 -0.2**
STKA Stephens Creek 76.27 185 P **P 07 33 42.5 +0.8**
comp=Z,3.4nm,1.0s,baz=346,slow=9.7,SNR=4.0
STKA Stephens Creek 76.27 185 P **P 07 33 41.6 -0.2**
ANMO Albuquerque 76.31 54 P **P 07 33 43.8 +1.3**
baz=315
ANMO Albuquerque 76.31 54 ⇓*i*P **P 07 33 44.0 +1.5**
ANMO pmax pmax
comp=Z,19nm,2.5s
DPC Dobruska-Polom 76.39 330 *e*P **P 07 33 42.3 -0.2**
DPC Dobruska-Polom 76.39 330 *e*P **P 07 33 42.3 -0.2**
MORC Moravsky Berou 76.42 329 P **P 07 33 43.5 +0.8**
MORC Moravsky Berou 76.42 329 ⇓P **P 07 33 41.2 -1.5**
MORC mb 07 33 43.5
KRLC Kraliky 76.45 330 *e*P **P 07 33 42.8 -0.1**
KRLC Kraliky 76.45 330 *e*P **P 07 33 42.8 -0.1**
MLR Muntele Rosu 76.48 322 P **P 07 33 42.9 -0.3**
MLR pmax pmax
comp=Z,5.0nm,0.7s
MLR Muntele Rosu 76.48 322 ⇓P **P 07 33 43.0 -0.2**
MLR Muntele Rosu 76.48 322 P **P 07 33 42.9 -0.3**
MLR IAmb IAmb 07 33 44.6
comp=Z,5.2nm,0.7s
CLL Collm 76.72 333 *i* P **P 07 33 43.6 -0.6**
CLL pmax pmax
comp=Z,17nm,0.9s
CLL Collm 76.72 333 *i* P **P 07 33 43.6 -0.6**
comp=Z,17nm,0.9s
CLL Lm MLR 08 37 00.0
comp=Z,11µm,21.1s
SCHQ Schefferville 76.76 20 P **P 07 33 43.7 -0.8**
comp=Z,5.2nm,0.7s,baz=191,slow=10,SNR=3.6
BRG Berggiesshubel 76.77 332 *i* P **P 07 33 43.9 -0.7**
comp=Z,8.1nm,1.1s
BRG Berggiesshubel 76.77 332 *i* P **P 07 33 43.9 -0.7**
BRG pmax pmax
comp=Z,8.0nm,1.1s
VOIR 76.92 322 ⇑P **P 07 33 44.6 -1.0**
VOIR 76.92 322 ⇑P **P 07 33 44.6 -1.0**
VYHS Vyhne 77.00 328 *e*P **P 07 33 46.1 +0.2**
VYHS Vyhne 77.00 328 *e*P **P 07 33 46.1 +0.2**
ARR Arges 77.15 323 ⇓P **P 07 33 47.1 +0.2**
BR131 Keskin Array S 77.17 314 P **P 07 33 47.9 +0.7**
BRTR Keskin Array B 77.18 314 *i* P **P 07 33 47.4 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 77.18 314 P **P 07 33 46.3 -0.9**
comp=Z,3.4nm,0.7s,baz=73,slow=4.0,SNR=19
BRTR Keskin Array B 77.18 314 P **P 07 33 47.9 +0.7**
GOPC GO Pecny, Ondr 77.29 331 *e*P **P 07 33 47.3 -0.3**
GOPC GO Pecny, Ondr 77.29 331 *e*P **P 07 33 47.3 -0.3**
PRU Pruhonice 77.32 331 *e*P **P 07 33 47.9 +0.3**
PRU Pruhonice 77.32 331 *e*P **P 07 33 47.9 +0.3**
GZR Gura Zlata 77.93 324 ⇓P **P 07 33 50.0 -1.2**
GZR Gura Zlata 77.93 324 ⇓P **P 07 33 50.0 -1.2**
MATQ Matagami 78.14 28 P **P 07 33 53.2 +0.9**
baz=329
KHC Kasperske Hory 78.38 331 P **P 07 33 53.3 -0.3**
KHC pmax pmax
comp=Z,7.0nm,0.7s
KHC Kasperske Hory 78.38 331 *e*P **P 07 33 53.6 0.0**
KHC *ex* x 07 34 11.5
KHC Kasperske Hory 78.38 331 P **P 07 33 53.3 -0.3**
KHC IAmb IAmb 07 33 54.3
comp=Z,6.6nm,0.7s
HERR Herculane 78.49 324 ⇑P **P 07 33 53.7 -0.6**
GEC2 GERESS Array S 78.58 331 P **P 07 33 54.7 0.0**
GERES GERESS Array B 78.58 331 P **P 07 33 54.0 -0.8**
comp=Z,3.8nm,0.7s,baz=31,slow=6.2,SNR=17
GERES GERESS Array B 78.58 331 P **P 07 33 54.4 -0.4**
CONA Conrad Observa 78.58 329 *i* P **P 07 33 55.1 +0.3**
comp=Z,8.2nm,0.7s,SNR=5.0
SHAO Shalim 78.90 284 P **P 07 33 57.2 +0.3**
LSQQ Lebel-sur-Quev 78.97 28 P **P 07 33 56.5 -0.3**
baz=329
CHGQ Chibougamau 79.07 26 P **P 07 33 57.0 -0.3**
baz=331
MSTX Muleshoe 79.13 53 P **P 07 33 59.5 +1.4**
baz=317
MOA Molln 79.22 330 *i* P **P 07 33 57.8 -0.4**
comp=Z,4.8nm,0.8s
MNTX Cornudas Mount 79.25 56 P **P 07 33 59.8 +1.1**
baz=316
MEM Membach 79.48 336 P **P 07 33 59.4 -0.2**
SOKA Soboth 79.94 329 *i* P **P 07 34 01.4 -0.8**
comp=Z,12nm,0.8s
VTS Vitosha 79.95 322 ⇑P **P 07 34 02.4 0.0**
VTS Vitosha 79.95 322 ⇑P **P 07 34 02.4 0.0**
VTS mb 07 34 03.7
VTS Vitosha 79.95 322 P **P 07 34 02.4 0.0**
VTS IAmb IAmb 07 34 03.0
comp=Z,9.3nm,0.8s
BMRD Maredsous 80.11 337 P **P 07 34 02.2 -0.7**
KBA Koelnbreinsper 80.21 330 *i* P **P 07 34 03.5 -0.3**
comp=Z,21nm,0.8s
OBKA Obir 80.26 329 *i* P **P 07 34 01.6 -2.3**
comp=Z,8.4nm,0.7s
MYKA Terra Mystica 80.49 330 *i* P **P 07 34 03.9 -1.2**
comp=Z,4.7nm,0.8s
WATA Walderalm 80.61 331 *i* P **P 07 34 05.1 -0.7**
comp=Z,11nm,0.6s
WTTA Wattenberg 80.65 331 *i* P **P 07 34 05.7 -0.5**
comp=Z,14nm,0.5s
D54A Lac Fusel, La 80.72 29 P **P 07 34 04.3 -2.0**
baz=330
RETA Reutte 80.75 332 *i* P **P 07 34 06.5 -0.1**
comp=Z,9.4nm,0.9s
MOTA Moosalm 80.76 332 *i* P **P 07 34 06.5 -0.2**
comp=Z,20nm,0.9s
WMOK Wichita Mounta 80.79 50 P **P 07 34 07.4 +0.5**
baz=319
WMOK Wichita Mounta 80.79 50 P **P 07 34 08.0 +1.1**
WMOK pmax pmax
comp=Z,2.0nm,0.6s
WMOK Wichita Mounta 80.79 50 P **P 07 34 08.0 +1.1**
BFO Black Forest 80.81 334 *i* P **P 07 34 06.7 0.0**
SQTA Sankt Quirin 80.83 332 *i* P **P 07 34 06.8 -0.2**
comp=Z,13nm,0.7s
HDIL Hopedale 81.09 40 P **P 07 34 08.5 +0.1**
baz=323
HDIL Hopedale 81.09 40 P **P 07 34 09.3 +1.0**
STAL STALIGIAL 81.14 330 P **P 07 34 07.0 -1.5**
STAL IAmb IAmb 07 34 07.2
comp=Z,18nm,1.2s
FETA Feichten 81.17 332 *i* P **P 07 34 08.5 -0.4**
comp=Z,11nm,1.2s
DAVA Damuels 81.22 332 *i* P **P 07 34 08.6 -0.5**
comp=Z,15nm,0.9s,SNR=4.1
ALGO Algonquin Park 81.26 30 P **P 07 34 07.2 -2.0**
baz=329
ECH Echery 81.27 334 P **P 07 34 08.4 -0.8**
ECH pmax pmax
comp=Z,12nm,0.9s
ECH Echery 81.27 334 P **P 07 34 08.4 -0.8**
ECH IAmb IAmb 07 34 09.3
comp=Z,12nm,0.9s
D56A ZEC Mazanza, M 81.45 28 P **P 07 34 08.5 -1.7**
baz=331
TUL1 Leonard 81.50 47 P **P 07 34 10.8 +0.2**
baz=320
TUL1 Leonard 81.50 47 P **P 07 34 11.4 +0.8**
K48A Perry 81.55 36 P **P 07 34 10.8 +0.1**
baz=326
D57A Chemin Vers le 81.77 27 P **P 07 34 11.6 -0.2**
baz=332
L47A Sherwood 81.77 37 P **P 07 34 11.5 -0.4**
baz=325
E56A St. Veronique 81.80 28 P **P 07 34 11.7 -0.3**
baz=331
PDG Podgorica 81.82 324 P **P 07 34 11.8 -0.3**
TX31 Lajitas Ar. Si 81.97 57 P **P 07 34 14.7 +1.4**
TX32 Lajitas Array 81.97 57 P **P 07 34 14.2 +0.8**
TXAR Lajitas Array 81.97 57 P **P 07 34 14.3 +1.0**
comp=Z,3.3nm,0.6s,baz=298,slow=4.0,SNR=68
TXAR pP **pP 07 34 40.0 +0.1**
comp=Z,3.5nm,0.6s,baz=197,slow=2.0,SNR=11
TXAR Lajitas Array 81.97 57 P **P 07 34 14.1 +0.8**
TUE Stuetta 82.11 332 P **P 07 34 13.3 -0.6**
TUE IAmb IAmb 07 34 14.5
comp=Z,11nm,0.7s
CCM Cathedral Cave 82.14 43 P **P 07 34 13.8 -0.2**
baz=322
HHAR Hobbs 82.18 46 P **P 07 34 14.3 +0.1**
K50A Casco 82.19 35 P **P 07 34 13.4 -0.7**
baz=326
FNA Florina 82.25 322 P **P 07 34 14.8 +0.3**
FNA pmax pmax
comp=Z,9.0nm,0.7s
FNA Florina 82.25 322 P **P 07 34 14.8 +0.3**
FNA IAmb IAmb 07 34 15.0
comp=Z,9.1nm,0.7s
N47A Urbana 82.45 38 P **P 07 34 15.3 -0.2**
baz=325
U40A Yellville 82.67 45 P **P 07 34 16.7 -0.1**
baz=321,SNR=9.0
U40A Yellville 82.67 45 P **P 07 34 17.1 +0.3**
M49A Liberty Center 82.70 36 P **P 07 34 16.3 -0.5**
baz=326
N48A Decatur 82.76 37 P **P 07 34 17.1 0.0**
baz=325
P46A Rosedale 82.80 39 P **P 07 34 16.9 -0.4**
baz=324
N49A Columbus Grove 83.07 37 P **P 07 34 18.2 -0.5**
baz=326
J54A Appleton 83.34 32 P **P 07 34 19.5 -0.5**
baz=329
S44A Carbondale 83.39 42 P **P 07 34 20.6 +0.3**
baz=323,SNR=8.2
SIUC Southern Illin 83.39 42 P **P 07 34 20.6 +0.2**
JCT Junction City 83.39 53 P **P 07 34 20.8 +0.2**
baz=319
JCT Junction City 83.39 53 P **P 07 34 21.2 +0.6**
JCT IAmb IAmb 07 34 35.9
comp=Z,21nm,1.1s
SSF Saint Saulge 83.40 336 *e*P **P 07 34 19.2 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.8s
FCAR Ozark Folk Cen 83.41 45 P **P 07 34 20.6 +0.1**
FCAR IAmb IAmb 07 34 21.0
comp=Z,6.1nm,1.0s
PBMO Poplar Bluff 83.55 43 P **P 07 34 22.0 +0.8**
PBMO IAmb IAmb 07 34 23.8
comp=Z,5.5nm,0.8s
WHTX Lake Whitney, 83.58 51 P **P 07 34 22.0 +0.5**
baz=320
N50A Nevada 83.64 36 P **P 07 34 21.9 +0.3**
baz=326
KARP Karpathos 83.68 315 P **P 07 34 21.8 -0.2**
MIAR Mount Ida 83.71 47 P **P 07 34 22.9 +0.8**
baz=321
MIAR Mount Ida 83.71 47 P **P 07 34 22.1 0.0**
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR Mount Ida 83.71 47 P **P 07 34 22.1 0.0**
MIAR IAmb IAmb 07 34 23.8
comp=Z,5.2nm,0.8s
LCAR Lake Charles 83.75 44 P **P 07 34 21.7 -0.5**
VLC Villacollemand 83.78 330 P **P 07 34 22.5 +0.2**
WHAR Wooly Hollow 83.79 45 P **P 07 34 22.8 +0.3**
LPL La Plagne 83.81 333 *e*P **P 07 34 22.1 -0.6**
LPL pmax pmax
comp=Z,12nm,0.8s
W41B Gary Mavity, V 83.90 45 P **P 07 34 24.0 +1.0**
W41B IAmb IAmb 07 34 42.1
comp=Z,5.2nm,1.0s
O50A Cable 83.95 37 P **P 07 34 23.5 +0.3**
baz=326
P49A Miami Univ. Ec 83.98 38 P **P 07 34 23.1 -0.2**
baz=326
Q48A North Vernon 84.03 39 P **P 07 34 23.3 -0.3**
baz=325
X40A Basin Creek Fa 84.14 46 P **P 07 34 24.7 +0.4**
baz=322
ACSO Alum Creek Sta 84.15 36 P **P 07 34 24.0 -0.3**
baz=326
BNI Bardonecchia 84.24 333 P **P 07 34 24.6 -0.2**
BNI pmax pmax
comp=Z,7.0nm,0.9s
BNI Bardonecchia 84.24 333 P **P 07 34 24.6 -0.2**
BNI IAmb IAmb 07 34 33.4
comp=Z,6.5nm,0.9s
P50A Jamestown 84.32 37 P **P 07 34 25.2 +0.1**
baz=326
WCI Wyandotte Cave 84.34 40 P **P 07 34 25.0 -0.2**
baz=325
WCI Wyandotte Cave 84.34 40 P **P 07 34 25.0 -0.2**
WCI pmax pmax
comp=Z,4.0nm,0.9s
WCI Wyandotte Cave 84.34 40 P **P 07 34 25.0 -0.2**
O51A Pataskala 84.38 36 P **P 07 34 25.1 -0.3**
baz=327
M54A Oil Creek Stat 84.44 34 P **P 07 34 25.5 -0.2**
baz=328
M54A Oil Creek Stat 84.44 34 P **P 07 34 25.7 -0.1**
M54A IAmb IAmb 07 34 28.3
comp=Z,15nm,1.1s
J58A Remsen 84.49 30 P **P 07 34 25.6 -0.3**
baz=331
J58A Remsen 84.49 30 P **P 07 34 25.7 -0.2**
J58A IAmb IAmb 07 34 26.1
comp=Z,14nm,1.1s
F64A Sherman 84.52 24 P **P 07 34 26.0 0.0**
N53A Lisbon 84.56 35 P **P 07 34 26.4 0.0**
baz=328
J59A Piesco 84.68 29 P **P 07 34 26.8 -0.1**
J59A IAmb IAmb 07 34 27.0
comp=Z,3.7nm,0.6s
SSB Saint Sauveur 84.70 335 P **P 07 34 26.7 -0.3**
SSB pmax pmax
comp=Z,10.0nm,0.9s
SSB Saint Sauveur 84.70 335 P **P 07 34 26.7 -0.3**
SSB IAmb IAmb 07 34 27.9
comp=Z,10nm,0.9s
L56A Greenwood 84.72 32 P **P 07 34 26.9 -0.3**
baz=330
L56A Greenwood 84.72 32 P **P 07 34 27.3 +0.2**
L56A IAmb IAmb 07 34 31.5
comp=Z,12nm,1.0s
P51A Williamsport 84.74 37 P **P 07 34 27.1 -0.1**
baz=326
N54A Moraine State 84.78 34 P **P 07 34 27.4 0.0**
baz=328
N54A Moraine State 84.78 34 P **P 07 34 28.0 +0.6**
N54A IAmb IAmb 07 34 39.3
comp=Z,10nm,1.1s
PKME Peaks-Kenny Pk 84.78 25 P **P 07 34 27.4 +0.1**
baz=335
R49A Shelbyville 84.80 39 P **P 07 34 27.7 +0.2**
baz=325
H62A Milan 84.82 27 P **P 07 34 28.1 +0.6**
M55A Ridgway 84.83 33 P **P 07 34 27.8 +0.1**
baz=329
M55A Ridgway 84.83 33 P **P 07 34 27.9 +0.2**
M55A IAmb IAmb 07 34 42.1
comp=Z,9.8nm,1.1s
MFF Saint Martin d 84.83 338 *e*P **P 07 34 27.1 -0.4**
MFF pmax pmax
comp=Z,25nm,1.1s
LBNH Lisbon 84.87 27 P **P 07 34 28.2 +0.4**
LBNH pmax pmax
comp=Z,21nm,1.1s
LBNH Lisbon 84.87 27 P **P 07 34 28.2 +0.4**
Q50A Georgetown 84.87 38 P **P 07 34 27.9 0.0**
baz=326
O53A New Philadelph 84.88 35 P **P 07 34 28.2 +0.3**
baz=328
K58A Earlville 84.88 30 P **P 07 34 27.9 0.0**
K58A IAmb IAmb 07 34 36.4
comp=Z,11nm,1.1s
ITM Ithomi 84.92 319 P **P 07 34 27.6 -0.6**
T47A Sharon Grove 84.97 41 P **P 07 34 28.3 -0.1**
baz=324
Q51A Peebles 85.00 37 P **P 07 34 28.6 +0.1**
baz=326
K59A Cooperstown 85.16 30 P **P 07 34 29.1 -0.1**
baz=331
S49A Springfield 85.16 39 P **P 07 34 29.2 -0.1**
baz=325
R50A Paris 85.18 38 P **P 07 34 29.3 -0.1**
baz=326
O54A Avella 85.28 35 P **P 07 34 30.3 +0.4**
baz=328
WVT Waverly 85.32 42 P **P 07 34 30.6 +0.4**
baz=324
L58A Harry Jones Me 85.44 31 P **P 07 34 31.0 +0.3**
baz=331
R51A Hillsboro 85.50 38 P **P 07 34 31.1 +0.1**
baz=326
M57A Sunshine Farm, 85.57 32 P **P 07 34 31.2 -0.1**
baz=330
T49A Edmonton 85.61 40 P **P 07 34 31.8 +0.2**
baz=325
S50A Richmond 85.65 39 P **P 07 34 31.9 +0.1**
baz=326
O55A Ligonier 85.69 34 P **P 07 34 32.2 +0.2**
baz=329
P54A Burton 85.73 35 P **P 07 34 32.4 +0.3**
baz=328
H66A Whiting 85.80 24 P **P 07 34 32.5 +0.1**
baz=336
OXF Oxford 85.85 44 P **P 07 34 33.0 +0.2**
baz=323
R52A Catlettsburg 85.88 37 P **P 07 34 33.2 +0.3**
baz=327
N57A Milroy 85.91 33 P **P 07 34 33.1 0.0**
baz=330
Q53A Leroy 85.92 36 P **P 07 34 33.2 +0.1**
baz=327
O56A Blue Knob Stat 85.93 34 P **P 07 34 33.3 +0.1**
baz=329
U49A Red Boiling Sp 85.98 40 P **P 07 34 34.0 +0.6**
baz=325
T50A Nancy 85.99 39 P **P 07 34 33.9 +0.4**
baz=326
S51A Beattyville 86.04 38 P **P 07 34 33.9 +0.2**
baz=326
P55A Reedsville 86.08 35 P **P 07 34 34.2 +0.4**
baz=328
Q54A Coxs Mills 86.10 36 P **P 07 34 34.4 +0.4**
baz=328
V48A Smith Brothers 86.12 41 P **P 07 34 34.5 +0.4**
baz=324
LFF La Frestale 86.12 337 *e*P **P 07 34 34.0 0.0**
LFF pmax pmax
comp=Z,7.0nm,0.5s
PLAL Pickwick Lake 86.13 43 P **P 07 34 34.2 0.0**
S52A Salyersville 86.23 38 P **P 07 34 35.0 +0.3**
baz=326
Q55A Buckhannon 86.41 35 P **P 07 34 35.9 +0.3**
baz=328
T51A Gray 86.44 39 P **P 07 34 36.0 +0.3**
baz=326
P56A Dayton Farm, R 86.48 34 P **P 07 34 36.1 +0.3**
baz=329
U50A Jamestown 86.49 40 P **P 07 34 36.2 +0.2**
baz=326
R54A Victor 86.71 36 P **P 07 34 37.4 +0.3**
baz=328
W49A Belvidere 86.89 41 P **P 07 34 40.4 +2.5**

	baz=325							
S54A	**Dingess, Beckl**	**86.90**	**37**	P	**P**	**07 34 38.1**	**+0.1**
	baz=328							
SWET	**Sewanee**	**86.96**	**41**	P	**P**	**07 34 38.0**	**-0.3**
V50A	**Pikevile**	**86.98**	**40**	P	**P**	**07 34 37.0**	**-1.3**
	baz=326							
R55A	**Marlinton**	**86.99**	**36**	P	**P**	**07 34 38.4**	**0.0**
	baz=328							
W50A	**Signal Mountai**	**87.27**	**41**	P	**P**	**07 34 40.1**	**+0.3**
T54A	**Tazewell**	**87.41**	**37**	P	**P**	**07 34 41.0**	**+0.6**
	baz=327							
V52A	**Sevierville**	**87.53**	**39**	P	**P**	**07 34 41.5**	**+0.6**
	baz=326							
R60A	**Leonardtown, M**	**88.44**	**33**	P	**P**	**07 34 45.3**	**+0.1**
	baz=330							
T57A	**Hurt**	**88.44**	**36**	P	**P**	**07 34 45.2**	**0.0**
	baz=329							
Y51A	**Rockmart**	**88.45**	**41**	P	**P**	**07 34 45.4**	**0.0**
	baz=326							
Z50A	**Ashland**	**88.57**	**42**	P	**P**	**07 34 45.9**	**-0.1**
	baz=325							
X53A	**Estanollee**	**88.77**	**40**	P	**P**	**07 34 47.2**	**+0.3**
	baz=326,SNR=5.4							
Y54A	**Tignall**	**89.59**	**40**	P	**P**	**07 34 51.6**	**+0.9**
	baz=327,SNR=7.8							
ESDC	**Sonseca Array**	**92.30**	**338**	P	**P**	**07 35 02.7**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=3.7,slow=4.1,SNR=5.2							
ESDC	**Sonseca Array**	**92.30**	**338**	P	**P**	**07 35 03.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**114.71**	**323**	PKiKP	**PKiKP**	**07 40 32.0**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=19,slow=1.6,SNR=7.1							
TORD	**Torodi Ar. Bea**	**114.71**	**323**		**PKiKP**	**07 40 32.5**	**-0.8**
DBIC	**Dimbokro**	**123.26**	**327**	PKIKP	**PKPdf**	**07 40 49.0**	**-0.8**
DBIC	**Dimbokro**	**123.26**	**327**	PKP	**PKPdf**	**07 40 48.6**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=326,slow=2.9,SNR=3.5							
DBIC	**Dimbokro**	**123.26**	**327**		**PKPdf**	**07 40 49.0**	**-0.8**
QSPA	**South Pole Qui**	**134.30**	**180**	PKP	**PKiKP**	**07 41 10.0**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=278,slow=4.0,SNR=4.6							
QSPA	**South Pole Qui**	**134.30**	**180**		**PKiKP**	**07 41 10.7**	**+0.1**
BDFB	**Brasilia**	**148.31**	**29**	PKP2	**PKPbc**	**07 41 39.0**	**-0.3**
BDFB	**Brasilia**	**148.31**	**29**	PKPbc	**PKPbc**	**07 41 38.4**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=254,slow=1.9,SNR=3.6							
BDFB	**Brasilia**	**148.31**	**29**	PKPbc	**PKPbc**	**07 41 39.0**	**-0.3**
SNAA	**Sanae**	**149.31**	**198**	PKPbc	**PKPbc**	**07 41 39.7**	**-0.4**
SNAA	**Sanae**	**149.31**	**198**	PKPbc	**PKPbc**	**07 41 40.2**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=233,slow=4.6,SNR=9.1							
SNAA	**Sanae**	**149.31**	**198**		**PKPbc**	**07 41 40.4**	**+0.3**
VNA2	**Neumayer--Watz**	**150.84**	**197**	PKPbc	**PKiKP**	**07 41 44.5**	**+0.2**
VNA3	**Neumayer Olymp**	**151.03**	**195**	PKPbc	**PKiKP**	**07 41 44.7**	**0.0**
VNA1	**Neumayer--Stat**	**151.24**	**197**	PKPbc	**PKiKP**	**07 41 45.4**	**+0.3**
PLCA	**Paso Flores**	**151.91**	**96**	PKPbc	**PKiKP**	**07 41 47.8**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=291,slow=2.7,SNR=9.6							
PLCA	**Paso Flores**	**151.91**	**96**		**PKiKP**	**07 41 48.1**	**+0.6**
CPUP	**Villa Florida**	**152.95**	**56**	PKPbc	**PKPbc**	**07 41 49.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=330,slow=1.8,SNR=4.0							
CPUP	**Villa Florida**	**152.95**	**56**		**PKPbc**	**07 41 49.8**	**0.0**

HLW ***25*** *07:28:11.5, 34°.83N×31°.86E, h31km±28km, Md4.0, Ml3.7*
ISK ***25*** *07:28:12.7, 34°.41N×32°.16E, h13km, ML3.5/15*
NIC ***25*** *07:28:13.7±0.0, 34°.52N×31°.97E, h33km±21km, Md3.7/3, Ml3.7/3*
ISCJB ***25*** *07:28:14.9±0.6, 34°.46N±0°.02×32°.11E±0°.04, h29km±5km, Error ellipse: s-maj=5.4km s-min=3.9km az=160.9*
GII ***25*** *07:28:17.1±0.0, 34°.53N×32°.35E, h15km, MD2.9/3*
ISC 25 07:28:14.9±1.5,**34°.49N**±0°.04×**32°.14E**±0°.04,**h19**km±4km,
n54,σ0**88**/71,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.46**	**51**	P	**Pb**	**07 28 24.7**	**+0.2**
NATA				S	**Sn**	**07 28 32.7**	**-1.5**
NATA				AMd		07 29 27.2	
NATA				AMd		07 29 27.2	
AKMS	**Akamas**	**0.55**	**17**	P	**Pb**	**07 28 25.4**	**-0.5**
AKMS				AML	AML	07 28 34.3	
	22nm,0.3s						
AKMS				AML	AML	07 28 34.3	
	22nm,0.3s						
AKMS				S	**S**	**07 28 34.3**	**+1.0**
AKMS				AML	AML	07 28 35.1	
	16nm,0.2s						
AKMS				AML	AML	07 28 35.1	
	16nm,0.2s						
AKMS				AMd		07 30 26.5	
AKMS				AMd		07 30 26.5	
SZAC	**Souni**	**0.67**	**67**	P	**Pg**	**07 28 28.3**	**+0.2**
SZAC				S	**Sn**	**07 28 39.4**	**0.0**
ALFC	**Alefka**	**0.76**	**30**	P	**Pb**	**07 28 28.8**	**-0.9**
ALFC				S	**Sg**	**07 28 40.3**	**+0.2**
ALFC				AML	AML	07 28 42.0	
	16nm,0.4s						
ALFC				AML	AML	07 28 42.0	
	16nm,0.4s						
ALFC				AML	AML	07 28 42.5	
	15nm,0.3s						
ALFC				AML	AML	07 28 42.5	
	15nm,0.3s						
LEF	**Lefka**	**0.88**	**45**	PG	**Pb**	**07 28 30.9**	**-0.7**
LEF				SG	**Sg**	**07 28 43.4**	**-0.4**
ASGA	**Asgata**	**0.96**	**72**	P	**Pb**	**07 28 32.7**	**-0.3**
ASGA				S	**Sn**	**07 28 46.2**	**-0.5**
ASGA				AMd		07 29 53.7	
ASGA				AMd		07 29 53.7	
AKDN	**Akdeniz- Kıbrı**	**1.05**	**40**	PN	**Pb**	**07 28 34.4**	**-0.2**
CSS	**Mathiatis**	**1.09**	**64**	Pg	**Pb**	**07 28 34.3**	**-0.8**
CSS	**Mathiatis**	**1.09**	**64**	PN	**Pb**	**07 28 34.4**	**-0.8**
CSS				SN	**Sg**	**07 28 49.9**	**-0.4**
CSS	**Mathiatis**	**1.09**	**64**	P	**Pb**	**07 28 34.4**	**-0.8**
CSS				S	**Sg**	**07 28 50.0**	**-0.4**
AKIN	**Akıncılar- Kıb**	**1.21**	**64**	PN	**Pn**	**07 28 36.4**	**-0.5**
MVOU	**Mavrovouni**	**1.34**	**67**	P	**Pn**	**07 28 38.6**	**0.0**
MVOU				AML	AML	07 29 00.8	
	2.7nm,0.3s						
MVOU				AML	AML	07 29 01.7	
	3.1nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.83**	**26**	PN	**Pn**	**07 28 45.5**	**+0.1**
YORU	**Yoruktepe-Mers**	**1.96**	**32**	PN	**Pn**	**07 28 47.3**	**+0.2**
EREN	**Erenkoy**	**1.96**	**58**	PN	**Pn**	**07 28 47.4**	**+0.2**
AKK2	**Akkuyu-Mersin**	**2.01**	**35**	PN	**Pn**	**07 28 47.9**	**+0.1**
OREN	**Orenkoy-Mersin**	**2.02**	**32**	PN	**Pn**	**07 28 48.4**	**+0.4**
AKKU	**Akkuyu-Mersin**	**2.02**	**34**	PN	**Pn**	**07 28 48.3**	**+0.3**
ALAN	**Alanya-ANTALYA**	**2.06**	**358**	PN	**Pn**	**07 28 49.0**	**+0.5**
TISA	**Tisan-Mersin**	**2.09**	**37**	PN	**Pn**	**07 28 49.3**	**+0.4**
YESI	**Yesilovacik-Me**	**2.10**	**36**	PN	**Pn**	**07 28 49.3**	**+0.3**
KARG	**Kargicak-Mersi**	**2.14**	**37**	PN	**Pn**	**07 28 49.9**	**+0.3**
IKL	**Isikli**	**2.15**	**36**	PN	**Pn**	**07 28 49.4**	**-0.4**
TEVE	**Tevekalti-Mers**	**2.21**	**28**	PN	**Pn**	**07 28 50.9**	**+0.2**
KEBE	**Keben-Mersin**	**2.34**	**33**	PN	**Pn**	**07 28 52.9**	**+0.5**
SILI	**Silifke-Mersin**	**2.37**	**37**	PN	**Pn**	**07 28 53.2**	**+0.4**
SLFK	**Silifke-Mersin**	**2.40**	**37**	PN	**Pn**	**07 28 53.7**	**+0.5**
KIZK	**Mersin**	**2.57**	**39**	PN	**Pn**	**07 28 56.0**	**+0.4**
AKAS	**Kas**	**2.70**	**311**	PN	**Pn**	**07 28 57.9**	**+0.5**
KORT	**Korkueli**	**2.89**	**330**	PN	**Pn**	**07 29 01.0**	**+0.9**
HNTI	**Hanita**	**2.90**	**118**	Pn	**Pn**	**07 29 01.3**	**+1.3**
HNTI				Sn	**Sn**	**07 29 33.6**	**-0.7**
OFRI	**`Ofer**	**3.02**	**127**	Pn	**Pn**	**07 29 02.7**	**+0.9**
MMA0B	**Mount Meron ar**	**3.10**	**118**	Pn	**Pn**	**07 29 04.0**	**+1.2**
MMA0B				Sn	**Sn**	**07 29 39.1**	**-0.3**
GEM	**Giv'at Ha'Em**	**3.20**	**113**	Pn	**Pn**	**07 29 04.7**	**+0.5**
GEM				Sn	**Sn**	**07 29 41.1**	**-0.8**
KSDI	**Kefar Szold**	**3.21**	**113**	Pn	**Pn**	**07 29 04.1**	**-0.2**
KSDI				Sn	**Sn**	**07 29 40.8**	**-1.2**
KSDI	**Kefar Szold**	**3.21**	**113**	P	**Pn**	**07 29 04.3**	**+0.1**
KSDI				S	**Sn**	**07 29 40.8**	**-1.2**
NATI	**Neve Ativ**	**3.24**	**111**	Pn	**Pn**	**07 29 05.5**	**+0.8**
NATI				Sn	**Sn**	**07 29 42.3**	**-0.4**
KRTS	**Karatas**	**3.36**	**51**	PN	**Pn**	**07 29 07.2**	**+0.8**
MMLI	**Mount Malkishu**	**3.43**	**126**	Pn	**Pn**	**07 29 08.7**	**+1.3**
MMLI				Sn	**Sn**	**07 29 48.1**	**+0.6**
KONT	**Konya--Tatoy**	**3.45**	**3**	PN	**Pn**	**07 29 08.9**	**+1.2**
ISP	**Isparta**	**3.57**	**339**	PN	**Pn**	**07 29 10.7**	**+1.3**
HMDT	**Nahal Hemdat**	**3.61**	**127**	Pn	**Pn**	**07 29 10.8**	**+0.9**
HMDT				Sn	**Sn**	**07 29 52.6**	**+0.6**
KARA	**Karaisali**	**3.64**	**40**	PN	**Pn**	**07 29 11.2**	**+0.9**
YURE	**YUREGIR**	**3.68**	**50**	PN	**Pn**	**07 29 11.7**	**+0.9**
DSI	**Dead Sea**	**3.99**	**136**	Pn	**Pn**	**07 29 16.3**	**+1.2**
SUZ	**Suez**	**4.68**	**173**	P	**Pn**	**07 29 25.1**	**+0.6**
	baz=170						
PRNI	**Paran**	**4.79**	**149**	Pn	**Pn**	**07 29 28.8**	**+2.7**
PRNI				Sn	**Sn**	**07 30 22.1**	**+1.0**
HNAT	**Natroun**	**5.01**	**195**	P	**Pn**	**07 29 29.4**	**+0.2**
	baz=192						
HNAT				AMP		07 30 00.0	
	baz=192						
HNAT				S	**Sn**	**07 30 24.4**	**-2.2**
	baz=192						
ZAF	**Zafarana**	**5.21**	**176**	P	**Pn**	**07 29 32.5**	**+0.7**
	baz=173						
MBRI	**Mt Berech**	**5.24**	**153**	Pn	**Pn**	**07 29 34.2**	**+1.8**
HDHB	**Dhahab**	**6.13**	**159**	P	**Pn**	**07 29 45.4**	**+0.9**
	baz=158						
HKAT	**Jabal Katrina**	**6.16**	**165**	P	**Pn**	**07 29 45.5**	**+0.4**
	baz=163						
HKAT				AMP		07 31 00.0	
	baz=163						
SWA2		**7.72**	**229**	P	Pn	07 30 03.2	-3.1
	baz=226						
SWA2				AMP		07 31 00.0	
	baz=226						
HFRF	**Wahat Farafira**	**8.03**	**205**	P	**Pn**	**07 30 08.5**	**-2.0**
	baz=203						

ISCJB ***25*** *07:43:02.0±0.7, 32°.93N±0°.02×97°.61W±0°.02, h11km±5km, Error ellipse: s-maj=3.2km s-min=2.9km az=143.3*
NEIC ***25*** *07:43:03.0±1.3, 32°.92N±0°.03×97°.62W±0°.01, h5km±2km, mb_Lg3.4/18*
ANF ***25*** *07:43:02.8±0.8, 32°.95N×97°.53W, h5km±6km, ML3.9/6, Error ellipse: s-maj=5.1km s-min=2.8km az=95.0*
ISC 25 07:43:03.0±1.3,**32°.91N**±0°.03×**97°.62W**±0°.03,**h8**km±11km,
n52,σ0**88**/84,**Central Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**0.93**	**171**	P	**Pb**	**07 43 21.3**	**-0.1**
	baz=351						
WHTX				S	**Sb**	**07 43 33.7**	**-0.2**
	baz=351						
WHTX	**Lake Whitney,**	**0.93**	**171**	Pg	**Pg**	**07 43 21.1**	**+0.2**
WHTX				Sg	**Sg**	**07 43 33.0**	**+0.1**
X34A	**Smith Ranch, M**	**1.69**	**354**	Pn	**Pn**	**07 43 33.1**	**+0.2**
X34A				Sn	**Sg**	**07 43 56.9**	**-0.5**
ABTX	**Abilene, Hawle**	**1.73**	**261**	P	**Pb**	**07 43 35.6**	**+0.5**
	baz=80						
ABTX				S	**Sg**	**07 43 58.8**	**+0.1**
	baz=80						
ABTX	**Abilene, Hawle**	**1.73**	**261**	Pn	**Pn**	**07 43 32.5**	**-1.0**
ABTX				Sn	**Sn**	**07 43 55.5**	**-0.2**
WMOK	**Wichita Mounta**	**2.06**	**332**	P	**Pn**	**07 43 38.5**	**+0.5**
	baz=152						
WMOK				S	**Sn**	**07 44 04.6**	**+0.7**
	baz=152						
WMOK	**Wichita Mounta**	**2.06**	**332**	Pn	**Pn**	**07 43 38.5**	**+0.5**
WMOK				Sn	**Sn**	**07 44 04.1**	**+0.1**
435B	**Jarrell**	**2.12**	**179**	P	**Pn**	**07 43 39.7**	**+0.9**
	baz=359						
435B				Sb	**Sg**	**07 44 11.4**	**+0.1**
	baz=359						
435B	**Jarrell**	**2.12**	**179**		**Pn**	**07 43 39.6**	**+0.7**
435B				Sn	**Sn**	**07 44 05.6**	**+0.1**
435B				IAmb_Lg		07 44 12.1	
	comp=Z,212nm,0.9s						
W35A	**Tecumseh**	**2.32**	**15**	Pn	**Pn**	**07 43 41.9**	**+0.3**
W35A				Sn	**Sn**	**07 44 10.7**	**+0.4**
FNO	**Franklin**	**2.34**	**4**		**Pn**	**07 43 42.0**	**0.0**
FNO				Sn	**Sn**	**07 44 11.2**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**2.49**	**3**	Pn	**Pn**	**07 43 45.9**	**+2.0**
OKCSW				Sn	**Sn**	**07 44 16.0**	**+1.4**
NATX	**Nacogdoches**	**2.76**	**114**	Pn	**Pn**	**07 43 47.4**	**-0.1**
NATX				Sn	**Sn**	**07 44 21.8**	**+0.7**
NATX				IAmb_Lg		07 44 37.9	
	comp=Z,93nm,1.0s						
JCT	**Junction City**	**3.06**	**218**	P	**Pn**	**07 43 52.9**	**+1.1**
	baz=37						
JCT				Sb	**Sg**	**07 44 40.1**	**-1.2**
	baz=37						
JCT	**Junction City**	**3.06**	**218**	Pn	**Pn**	**07 43 52.3**	**+0.5**
JCT				Sn	**Sn**	**07 44 29.1**	**+0.5**
JCT				IAmb_Lg		07 44 48.9	
	comp=Z,134nm,0.7s						
HKT	**Hockley**	**3.33**	**152**	Pn	**Pn**	**07 43 55.8**	**+0.4**
HKT					**Sn**	**07 44 35.3**	**+0.2**
TUL1	**Leonard**	**3.35**	**26**		**Pn**	**07 43 55.6**	**-0.2**
TUL1				Sn	**Sn**	**07 44 35.5**	**-0.2**
U32A	**Winter Ranch,**	**3.64**	**342**	Pn	**Pn**	**07 44 00.2**	**+0.4**
U32A				Sn	**Sn**	**07 44 45.1**	**+2.2**
MIAR	**Mount Ida**	**3.74**	**63**		**Pn**	**07 44 01.4**	**+0.3**
MIAR				Sn	**Sn**	**07 44 46.6**	**+1.2**
WLAR	**White Oak Lake**	**3.85**	**77**		**Pn**	**07 44 02.0**	**-0.6**
WLAR				Sn	**Sn**	**07 44 49.2**	**+1.1**
AMTX	**Amarillo**	**3.91**	**301**		**Pn**	**07 44 04.0**	**+0.6**
AMTX				Sn	**Sn**	**07 44 49.4**	**-0.2**
W39A	**Magazine**	**3.91**	**53**		**Pn**	**07 44 03.8**	**+0.3**
W39A				Sn	**Sn**	**07 44 47.8**	**-1.8**
Z41A	**Richland Creek**	**4.06**	**84**		**Pn**	**07 44 06.0**	**+0.6**
Z41A				Sn	**Sn**	**07 44 53.0**	**-0.1**
X40A	**Basin Creek Fa**	**4.29**	**67**	Pn	**Pn**	**07 44 09.3**	**+0.7**
X40A				Sn	**Sn**	**07 44 58.9**	**+0.1**
MSTX	**Muleshoe**	**4.43**	**285**		**Pn**	**07 44 11.6**	**+0.8**
MSTX				Sn	**Sn**	**07 45 01.3**	**-1.4**
HHAR	**Hobbs**	**4.53**	**41**	Pn	**Pn**	**07 44 11.9**	**-0.1**
HHAR				Sn	**Sn**	**07 45 04.1**	**-0.7**
UALR	**University of**	**4.77**	**66**	Pn	**Pn**	**07 44 15.9**	**+0.7**
UALR				Sn	**Sn**	**07 45 09.8**	**-0.9**
833A	**Chaparral WMA,**	**4.82**	**199**	P	**Pn**	**07 44 17.7**	**+1.7**
	baz=18						
833A	**Chaparral WMA,**	**4.82**	**199**		**Pn**	**07 44 16.3**	**+0.3**
833A				Sn	**Sn**	**07 45 13.0**	**+0.9**
CCAR	**Cane Creek**	**4.99**	**77**	IAmb_Lg		07 45 47.9	
	comp=Z,47nm,0.9s						
W41B	**Gary Mavity, V**	**5.00**	**62**	P	**Pn**	**07 44 17.2**	**-1.1**
	baz=244						
W41B	**Gary Mavity, V**	**5.00**	**62**	Pn	**Pn**	**07 44 17.7**	**-0.7**
W41B				Sn	**Sn**	**07 45 16.3**	**-0.1**
WHAR	**Wooly Hollow**	**5.02**	**60**	Pn	**Pn**	**07 44 17.9**	**-0.7**
WHAR				Sn	**Sn**	**07 45 17.5**	**+0.6**
U40A	**Yellville**	**5.22**	**48**	Pn	**Pn**	**07 44 20.8**	**-0.6**
U40A				Sn	**Sn**	**07 45 19.9**	**-1.9**
CLNB	**Carlsbad**	**5.32**	**265**	Pn	**Pn**	**07 44 23.8**	**+0.8**
CLNB				Sn	**Sn**	**07 45 23.8**	**-0.8**
FCAR	**Ozark Folk Cen**	**5.43**	**55**	Pn	**Pn**	**07 44 23.9**	**-0.4**
GDL2	**Guadalupe Moun**	**5.74**	**265**	Pn	**Pn**	**07 44 29.0**	**+0.3**
CBKS	**Cedar Bluff**	**6.13**	**344**	Pn	**Pn**	**07 44 33.5**	**-0.5**
CBKS				Sn	**Sn**	**07 45 45.0**	**+0.6**
LCAR	**Lake Charles**	**6.20**	**58**	Pn	**Pn**	**07 44 34.8**	**0.0**
LCAR				Sn	**Sn**	**07 45 44.2**	**-1.7**
TX31	**Lajitas Ar. Si**	**6.29**	**237**		**Pn**	**07 44 36.7**	**+0.4**
TX32	**Lajitas Array**	**6.29**	**237**		**Pn**	**07 44 36.6**	**+0.3**
TXAR	**Lajitas Array**	**6.29**	**237**		**Pn**	**07 44 36.7**	**+0.4**
MNTX	**Cornudas Mount**	**6.68**	**262**		**Pn**	**07 44 42.8**	**+1.3**
MNTX				IAmb_Lg		07 46 39.2	
	comp=Z,38nm,0.8s						
T25A	**Trinidad**	**6.99**	**309**	Pn	**Pn**	**07 44 46.4**	**+0.5**
T25A				IAmb_Lg		07 46 49.3	
	comp=Z,54nm,1.0s						
PARMO	**Parma**	**7.47**	**58**	IAmb_Lg		07 47 07.4	
	comp=Z,47nm,1.0s						
ANMO	**Albuquerque**	**7.62**	**288**	Pn	**Pn**	**07 44 54.0**	**-0.5**
BNM	**Barren Site**	**7.62**	**282**	Pn	**Pn**	**07 44 52.1**	**-2.6**
LPM	**Los Pinos Moun**	**7.65**	**283**	Pn	**Pn**	**07 44 52.9**	**-2.0**
SDCO	**Great Sand Dun**	**8.04**	**309**	Pn	**Pn**	**07 45 00.4**	**0.0**
WVT	**Waverly**	**8.69**	**66**	Pn	**Pn**	**07 45 07.6**	**-1.4**
ISCO	**Idaho Springs**	**9.42**	**319**	Pn	**Pn**	**07 45 19.2**	**-0.1**
N23A	**Red Feather La**	**10.38**	**322**	Pn	**Pn**	**07 45 32.7**	**+0.2**

JMA ***25*** *07:44:42.7±0.3, 45°.98N×141°.80E, h19km±2km, M3.7*
SKHL ***25*** *07:44:42.7±0.7, 45°.87N×141°.82E, h10km, mb4.7/9*
ISCJB ***25*** *07:44:45.2±0.7, 45°.84N±0°.04×141°.78E±0°.08, h21km±8km, Error ellipse: s-maj=9.5km s-min=5.7km az=11.8*
ISC 25 07:44:44.0±1.1,**45°.85N**±0°.06×**141°.82E**±0°.08,**h14**km±14km,
n9,σ0**65**/16,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.54**	**174**	P	**Pb**	**07 44 55.5**	**+0.3**
JWK2				*e*S	**Sb**	**07 45 04.1**	**+1.3**
JRBN	**Rebuntou**	**0.68**	**231**	P	**Pg**	**07 44 56.7**	**-0.5**
JRBN				*e*S	**Sg**	**07 45 06.1**	**-0.1**
JRR	**Rishiri**	**0.80**	**207**	P	**Pg**	**07 44 59.6**	**+0.1**
JRR				*e*S	**Sn**	**07 45 11.9**	**-0.6**
JSE	**Soyaes**	**1.04**	**148**	P	**Pb**	**07 45 03.5**	**-0.4**
JSE				*e*S	**Sb**	**07 45 17.8**	**+0.4**
KHLM	**Kholmsk**	**1.22**	**8**	*e*Pg	**Pg**	**07 45 07.7**	**+0.2**
KHLM				AMB	AMB	07 45 08.7	
	750nm,0.2s						
KHLM				*e*Sg	**Sg**	**07 45 24.4**	**+1.1**
KHLM				A	A	07 45 27.0	
	4μm,0.4s						
KHLM				A	A	07 45 27.0	
	3μm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.28**	**30**	*e*Pg	**Pg**	**07 45 07.9**	**-0.8**
YSS				AMB	AMB	07 45 08.6	
	400nm,0.4s						
YSS				*e*Sg	**Sg**	**07 45 25.2**	**-0.2**
YSS				A	A	07 45 26.7	
	900nm,0.7s						
YSS				A	A	07 45 26.7	
	2μm,0.7s						
JYG	**Yagishiri**	**1.45**	**191**	P	**Pn**	**07 45 09.5**	**-0.4**
JYG				*e*S	**Sn**	**07 45 28.5**	**-0.2**
JSS	**Shosan**	**1.45**	**179**	P	**Pn**	**07 45 09.8**	**-0.1**
JSS				*e*S	**Sb**	**07 45 29.6**	**+0.5**
EKMR	**Ekimchan**	**9.24**	**325**	*e*S	Sn	07 48 50.0	+9.3
EKMR				A	A	07 48 56.8	
	8.0nm,0.6s						

THE ***25*** *07:44:55.7, 43°.07N×18°.76E, h7km±18km, ML3.6/1, Error ellipse: s-maj=23.8km s-min=2.2km az=324.0*
PRU ***25*** *07:44:59.1±0.0, 42°.64N×19°.37E, h0km*
ISCJB ***25*** *07:44:60.0±0.2, 42°.74N±0°.01×19°.34E±0°.01, h10km±1km, mb3.5/3, Error ellipse: s-maj=2.1km s-min=1.8km az=176.6*
LDG ***25*** *07:44:59.9±0.1, 42°.70N×19°.36E, h14km±1km, Ml3.7/4, Error ellipse: s-maj=2.4km s-min=1.9km az=149.0*
IDC ***25*** *07:45:00.5±1.9, 42°.75N×19°.39E, h0km, mb3.7/3, mb1 4.0/7, mb1mx3.6/39, mbtmp3.7/7, ML3.9/4, Error ellipse: s-maj=27.8km s-min=12.2km az=13.0*
PDG ***25*** *07:45:00.3±0.3, 42°.72N×19°.35E, h11km, MD3.6/12, ML3.5/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
RHSSO ***25*** *07:45:00.5±0.3, 42°.71N×19°.39E, h3km±1km, ML3.5/1*
SKO ***25*** *07:45:00.9, 42°.73N×19°.15E, h0km*
BEO ***25*** *07:45:01.2±0.2, 42°.69N×19°.40E, h6km±1km, ML3.3/22*
ISC 25 07:45:00.4±1.0,**42°.72N**±0°.01×**19°.35E**±0°.01,**h5**km±7km,
n147,σ1**38**/226,**mb3.6**/3,**29C-13D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOME	**Kolasin**	**0.17**	**42**	*e*Pg	**Pg**	**07 45 04.1**	**+0.2**
KOME				*e*Sg	**Sg**	**07 45 07.3**	**+1.1**
NKY	**Niksic**	**0.28**	**289**	⇓*i*Pg	**Pg**	**07 45 06.2**	**+0.3**
NKY				*e*Sg	**Sg**	**07 45 10.5**	**+0.9**
NKME	**Niksic**	**0.30**	**279**	⇑*i*Pg	**Pg**	**07 45 06.3**	**+0.1**
NKME				*e*Sg	**Sg**	**07 45 11.2**	**+1.0**
PDG	**Podgorica**	**0.30**	**194**	*e*Pg	**Pg**	**07 45 05.8**	**-0.4**
PDG				*e*Sg	**Sg**	**07 45 10.7**	**+0.6**
PDG	**Podgorica**	**0.30**	**194**	⇑*i*Pg	**Pg**	**07 45 05.9**	**-0.4**
PDG				*i* Sg	**Sg**	**07 45 10.7**	**+0.6**
PDG	**Podgorica**	**0.30**	**194**	⇑*i*Pg	**Pg**	**07 45 05.7**	**-0.4**
PDG				*e*Sg	**Sg**	**07 45 10.4**	**+0.3**
PDG	**Podgorica**	**0.30**	**194**	⇑P	**Pg**	**07 45 05.9**	**-0.4**
PDG				⇓S	**Sg**	**07 45 10.5**	**+0.3**
PDG				AML	AML	07 45 12.1	
TTG	**Podgorica**	**0.30**	**194**	⇑*i*Pg	**Pg**	**07 45 05.8**	**-0.4**
TTG				*e*Sg	**Sg**	**07 45 10.9**	**+0.8**
IVA	**Berane**	**0.42**	**69**	⇓*i*Pg	**Pg**	**07 45 08.4**	**-0.2**
IVA				*e*Sg	**Sg**	**07 45 15.3**	**+1.2**
PVY	**Plav**	**0.46**	**106**	⇓*i*Pg	**Pg**	**07 45 08.8**	**-0.5**
PVY				*e*Sg	**Sg**	**07 45 16.4**	**+1.0**
BUM	**Brajici-Budva**	**0.54**	**219**	⇑*i*Pg	**Pg**	**07 45 10.1**	**-0.7**
BUM				*e*Sg	**Sb**	**07 45 19.2**	**-1.3**
DRME	**Dracevica, Mon**	**0.55**	**193**	*e*Pg	**Pg**	**07 45 10.1**	**-0.8**
DRME				*e*Sg	**Sg**	**07 45 18.4**	**+0.4**
DRME	**Dracevica, Mon**	**0.55**	**193**	⇑*i*Pg	**Pg**	**07 45 10.7**	**-0.2**
DRME				*e*Sg	**Sg**	**07 45 19.0**	**+1.0**
UPM	**Unac-Piva**	**0.58**	**326**	⇑*i*Pg	**Pg**	**07 45 11.5**	**-0.1**
UPM				*e*Sg	**Sg**	**07 45 20.3**	**+1.1**
UPM	**Unac-

ZAPS Zavoj 2.47 76 *e*Pn **Pn 07 45 42.4 +1.1**
ZAPS *e*Sn **Sn 07 46 11.3 -0.5**
BLY Banja Luka 2.57 323 *e*Pn **Pn 07 45 44.3 +1.7**
BLY *e*Sn **Sb 07 46 17.1 -1.6**
BLY Banja Luka 2.57 323 *e*Pn **Pn 07 45 43.0 +0.4**
BLY *e*Sn **Sn 07 46 16.0 +1.8**
BLY Banja Luka 2.57 323 ⇑P **Pn 07 45 44.5 +1.9**
BLY ⇓S **Sb 07 46 17.2 -1.6**
BLY AML AML 07 46 39.5
BLKB Belogradchik 2.59 69 ⇓S **Sn 07 46 15.3 +0.5**
BLKB AML AML 07 46 17.9
NEST Nestorio 2.63 151 P **Pb 07 45 46.0 -2.1**
MDVR Moldovita 2.68 39 ⇓P **Pn 07 45 44.3 +0.1**
MDVR ⇑S **Sn 07 46 19.1 +2.1**
SG1 Sgolgore (BA) 2.75 228 *e*Pn **Pn 07 45 44.8 -0.3**
VAY Valandovo 2.77 119 *e*Pn **Pn 07 45 45.6 +0.2**
VAY *e*Sn **Sn 07 46 17.9 -1.4**
VAY Valandovo 2.77 119 *i*Pn **Pb 07 45 48.5 -1.9**
PENT Pentalofos 2.86 151 P **Pn 07 45 48.4 +1.7**
VTS Vitosha 2.86 91 *e*Pn **Pn 07 45 47.4 +0.6**
VTS *e*Sn **Sn 07 46 21.2 -0.6**
VTS Vitosha 2.86 91 *i*Pn **Pn 07 45 47.4 +0.6**
VTS Vitosha 2.86 91 ⇑P **Pn 07 45 47.6 +0.8**
VTS ⇑S **Sn 07 46 21.6 -0.1**
VTS AML AML 07 46 40.8
MATE Matera 2.87 225 ⇑P **Pn 07 45 47.1 +0.4**
MATE AML AML 07 46 52.0
ZIRJ Zirje 2.87 290 *i*Pn **Pn 07 45 48.5 +1.7**
ZIRJ Sn **Sb 07 46 26.7 -0.7**
GRG Griva 2.88 127 P **Pn 07 45 49.1 +2.2**
GRG Griva 2.88 127 *i*Pn **Pb 07 45 49.9 -2.4**
SRN Sarande 2.88 170 P **Pn 07 45 47.5 +0.6**
KNT Kendrikon 3.07 119 *i*Pn **Pb 07 45 52.5 -2.9**
HERR Herculane 3.09 45 ⇓P **Pn 07 45 50.1 +0.3**
UDBI Udbina 3.17 306 *e*Pn **Pb 07 45 54.4 -2.8**
BZS Buzias 3.32 29 *e*Pn **Pn 07 45 53.6 +0.6**
BZS Buzias 3.32 29 ⇑P **Pn 07 45 53.0 0.0**
BZS AML AML 07 46 56.3
DUGI Dugi Otok 3.38 294 *e*Pn **Pn 07 45 55.8 +2.0**
DUGI Sn **Sb 07 46 39.5 -2.7**
SRE Strehaia 3.40 54 ⇓P **Pn 07 45 55.4 +1.4**
SRE AML AML 07 47 21.0
MMB Musomiste 3.44 108 *i*Pn **Pb 07 45 59.5 -2.4**
LIT Litokhoron 3.52 137 *i*Pn **Pn 07 45 58.3 +2.5**
LIT *i*Pn **Pb 07 45 59.4 -3.8**
GZR Gura Zlata 3.64 42 ⇑P **Pn 07 45 57.3 -0.1**
NVLJ Novalja 3.74 301 *i*Pn **Pn 07 46 00.7 +2.0**
THL Klokotos Trika 3.74 147 P **Pn 07 46 01.0 +2.3**
SIRR Siria 3.91 24 ⇑P **Pn 07 46 01.0 -0.1**
KALN Kalnik 3.99 330 *e*Pn **Pn 07 46 02.9 +0.7**
TIP Timpagrande 4.05 210 ⇓P **Pn 07 46 02.0 -1.0**
CRES Cresnjev 4.18 319 *e*Pn **Pn 07 46 05.8 +1.0**
CRES *e*Sn **Sn 07 46 54.1 +0.1**
RIY Rijeka 4.37 308 *e*Sn **Sn 07 46 58.4 -0.3**
ARR Arges 4.63 53 ⇑P **Pn 07 46 12.3 +1.2**
CEY Cerknica 4.65 312 *e*Pn **Pn 07 46 12.8 +1.5**
CEY Cerknica 4.65 312 *e*Pn **Pn 07 46 11.8 +0.5**
CEY *e*Sn **Sn 07 47 05.0 -0.7**
DRGR 4.72 29 *e*Pn **Pn 07 46 12.6 +0.3**
DRGR 4.72 29 ⇓P **Pn 07 46 12.6 +0.3**
SKDS Skadanscina 4.77 308 *e*Pn **Pn 07 46 14.2 +1.3**
LJU Ljubljana 4.80 315 *e*Pn **Pn 07 46 13.7 +0.5**
VOIR 4.92 55 ⇑P **Pn 07 46 15.8 +0.8**
SOKA Soboth 5.01 324 *i*Pn **Pn 07 46 17.7 +1.4**
1.9nm,0.3s,SNR=4.5
SOKA *i*Sn **Sn 07 47 14.4 -0.2**
2.5nm,0.4s
OBKA Obir 5.11 319 *i*Pn **Pn 07 46 15.0 -2.6**
0.4nm,0.2s
OBKA *i*Sg **Sg 07 47 50.2 +5.8**
41nm,0.7s
PSZ Piszkesteto 5.21 4 ⇓P **Pn 07 46 19.2 +0.2**
ARSA Arzberg 5.28 330 *i*Pn **Pn 07 46 21.5 +1.6**
4.9nm,0.3s
ARSA *i*Sn **Sn 07 47 19.9 -1.3**
8.8nm,0.7s
MLR Muntele Rosu 5.49 57 Pn **Pn 07 46 24.2 +1.2**
0.7nm,0.3s,baz=274,slow=13,SNR=5.9
MLR Sn **Sn 07 47 28.0 +1.5**
0.8nm,0.3s,baz=168,slow=19,SNR=4.8
MLR Muntele Rosu 5.49 57 ⇑P **Pn 07 46 22.1 -0.9**
MYKA Terra Mystica 5.64 316 *i*Pn **Pn 07 46 23.3 -1.7**
1.2nm,0.3s
MYKA *i*Sn **Sn 07 47 31.6 +1.5**
3.2nm,0.4s
CONA Conrad Observa 5.76 336 *i*Pn **Pn 07 46 25.2 -1.4**
1.5nm,0.4s
CONA *i*Sn **Sn 07 47 32.1 -0.9**
4.5nm,0.5s
VYHS Vyhne 5.79 357 *e*PN **Pn 07 46 27.7 +0.9**
VYHS *e*SN **Sn 07 47 32.7 -0.8**
KECS Kecovo 5.82 7 *e*SN **Sn 07 47 32.4 -1.9**
MODS Modra-Piesok 5.84 346 *e*PN **Pn 07 46 26.7 -0.9**
MODS *e*SN **Sn 07 47 32.4 -2.5**
KBA Koelnbreinsper 6.10 318 *i*Pn **Pn 07 46 30.9 -0.4**
4.1nm,0.4s
MOA Molln 6.26 327 *e*Pn **Pn 07 46 34.8 +1.5**
MOA Molln 6.26 327 *i*Pn **Pn 07 46 32.8 -0.5**
2.6nm,0.4s
MOA *i*Sn **Sn 07 47 45.4 +0.1**
0.1nm,0.0s
ABTA Abfaltersbach 6.32 312 *i*Pn **Pn 07 46 36.9 +2.7**
18nm,0.7s
ABTA *i*Sn **Sn 07 47 46.3 -0.5**
3.1nm,0.2s
BURAR Bucovina Array 6.41 38 ⇑P **Pn 07 46 37.1 +1.6**
LANS Liptovska Anna 6.43 1 *e*PN Pn 07 46 40.8 +5.1
WTTA Wattenberg 7.11 312 *i*Pn **Pn 07 46 43.3 -1.9**
11nm,0.4s,SNR=9.2
WTTA *i*Sn **Sn 07 48 06.4 0.0**
12nm,0.7s
WATA Walderalm 7.18 313 *i*Pn **Pn 07 46 44.0 -2.2**
2.8nm,0.2s
WATA *i*Sn **Sn 07 48 07.9 -0.3**
4.8nm,0.4s
GERES GERESS Array B 7.29 329 Pn **Pn 07 46 49.7 +2.2**
0.5nm,0.3s,baz=155,slow=14,SNR=7.1
GERES Sn **Sn 07 48 09.6 -1.0**
0.5nm,0.3s,baz=149,slow=25,SNR=3.8
SQTA Sankt Quirin 7.32 311 *i*Pn **Pn 07 46 47.9 -0.1**
3.3nm,0.2s
SQTA *i*Sn **Sn 07 48 10.4 -1.1**
13nm,0.6s
MOTA Moosalm 7.45 311 *i*Pn **Pn 07 46 48.1 -1.7**
6.6nm,0.5s,SNR=5.0
MOTA *i*Sn **Sn 07 48 14.3 -0.4**
8.0nm,0.6s
FETA Feichten 7.48 308 *i*Pn **Pn 07 46 49.8 -0.5**
4.0nm,0.7s
FETA *i*Sn **Sn 07 48 14.8 -0.8**
5.2nm,0.6s
KHC Kasperske Hory 7.57 330 *e*PN **Pn 07 46 53.7 +2.4**
KHC *ex* x 07 47 07.5
KHC *e*SN **Sn 07 48 14.7 -2.8**
PGF Pioggiola 7.64 272 *e*Pn **Pn 07 46 49.0 -3.4**
PGF Pioggiola 7.64 272 *e*P **Pn 07 46 53.9 +1.5**
DAVOX Davos/Dischmat 7.87 304 Pn **Pn 07 46 58.1 +2.5**
1.3nm,0.3s,baz=271,slow=19,SNR=5.9
DAVOX Sn **Sn 07 48 27.5 +2.4**
0.6nm,0.3s,baz=317,slow=19,SNR=3.2
DAVA Damuels 8.12 307 *i*Pn **Pn 07 46 59.0 0.0**
0.5nm,0.2s
DAVA *i*Sn **Sn 07 48 30.7 -0.5**
3.7nm,0.4s
SBF Sospel 8.77 282 *e*Pn **Pn 07 47 04.2 -3.6**
SBF Sospel 8.77 282 *e*P **Pn 07 47 09.3 +1.5**
FRF La Foret Royal 9.33 279 *e*P **Pn 07 47 16.9 +1.4**
MBDF Montbardon 9.33 287 *e*P **Pn 07 47 16.2 +0.6**
MBDF *e*Sn Sn 07 48 51.5 -9.5
4.6nm,0.5s
LMR La Mourre 9.43 278 *e*Pn **Pn 07 47 13.0 -3.8**
LPG La Plagne 9.48 291 *e*P **Pn 07 47 19.8 +2.0**
LPG *e*Sn Sn 07 48 54.2 -11
5.1nm,0.4s
LPL La Plagne 9.50 291 *e*P **Pn 07 47 20.0 +2.0**
LPL *e*Sn Sn 07 48 54.5 -11
4.7nm,0.4s
ORIF Oris-en-Rattie 9.98 287 *e*P **Pn 07 47 26.4 +1.9**
ORIF *e*Sn Sn 07 49 06.1 -11
6.6nm,0.6s
CABF La Chapelle 10.22 297 *e*P **Pn 07 47 28.7 +1.0**
VIVF Saint-Julien-l 10.83 286 *e*P **Pn 07 47 37.6 +1.6**
AVF Avril sur Loir 12.08 295 *e*P **Pn 07 47 53.4 +0.3**

EKA Eskdalemuir Ar 19.31 319 P **Pn 07 49 27.1 0.0**
baz=114,slow=8.9,SNR=13
ZALV Zalesovo Beam 43.44 51 P **P 07 53 03.8 -0.1**
0.5nm,0.4s,baz=283,slow=13,SNR=2.0
MKAR Makanchi Array 43.82 62 P **P 07 53 07.5 +0.4**
0.4nm,0.5s,baz=280,slow=8.4,SNR=5.9
TXAR Lajitas Array 91.21 313 P **P 07 58 07.8 +0.9**
0.1nm,0.3s,baz=92,slow=7.2,SNR=3.8

ISCJB ***25*** *07:56:07.5±0.4, 54°.33S±0°.05×55°.36W±0°.08, h10km, mb4.0/8, MS4.7/1, Error ellipse: s-maj=7.7km s-min=5.7km az=32.0*
IDC ***25*** *07:56:07.9±0.9, 54°.06S×54°.75W, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML4.2/2, Error ellipse: s-maj=35.2km s-min=18.0km az=66.0*
NEIC ***25*** *07:56:08.9±2.7, 54°.30S±0°.05×55°.3W±0°.1, h10km±1km, mb4.6/20*
ISC 25 07:56:09.1±0.4, 54°.25S±0°.06×55°.29W±0°.06, h10km, n54, σ1ş27/58, mb4.5/16, 1C, Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFI	**East Falkland**	**3.08**	**326**	Pn	**Pn**	**07 56 59.5**	**+1.8**
EFI				Sn	**Sn**	**07 57 35.9**	**+1.4**
USHA	**Ushuaia**	**7.67**	**260**	Pn	**Pn**	**07 57 59.1**	**-1.6**
	6.8nm,0.3s,baz=95,slow=12,SNR=21						
USHA				Sn	**Sn**	**07 59 28.3**	**+0.8**
	19nm,0.3s,baz=11,slow=10,SNR=18						
GO10	**Punta Arenas**	**9.41**	**270**	Pn	**Pn**	**07 58 22.2**	**-2.5**
GO10				Sn	**Sn**	**08 00 10.5**	**0.0**
GO09	**Cerro Castillo**	**10.75**	**279**	Pn	**Pn**	**07 58 40.2**	**-2.8**
HOPE	**Hope Point**	**11.00**	**98**	Pn	**Pn**	**07 58 46.6**	**+0.3**
PMSA	**Palmer Station**	**11.44**	**199**	Pn	**Pn**	**07 58 56.8**	**+4.6**
	0.5nm,0.3s,baz=17,slow=15,SNR=3.7						
PMSA	**Palmer Station**	**11.44**	**199**	Pn	**Pn**	**07 58 52.8**	**+0.6**
TRQA	**Tornquist**	**16.84**	**341**	Pn	**Pn**	**08 00 05.3**	**+0.5**
TRQA				IAmb	IAmb	08 00 08.6	
	comp=Z,62nm,1.4s						
PLCA	**Paso Flores**	**16.95**	**317**	P	**P**	**08 00 08.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=177,slow=7.3,SNR=17						
PLCA	**Paso Flores**	**16.95**	**317**	P	**P**	**08 00 09.2**	**+1.0**
GO06	**Curarrehue**	**18.30**	**317**	P	**P**	**08 00 24.5**	**+1.4**
GO05	**Huala**	**22.49**	**322**	P	**P**	**08 01 09.7**	**+1.3**
GO05				IAmb	IAmb	08 01 23.4	
	comp=Z,21nm,1.0s						
PEL	**Peldehue**	**23.75**	**326**	P	**P**	**08 01 22.9**	**+1.4**
PEL				IAmb	IAmb	08 01 24.0	
	comp=Z,12nm,0.7s						
CFA	**Coronel Fontan**	**24.46**	**333**	P	**P**	**08 01 27.2**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=212,slow=7.0,SNR=7.0						
VNA3	**Neumayer Olymp**	**25.98**	**148**	P	**P**	**08 01 43.0**	**+1.5**
GO04	**Tololo Observa**	**26.55**	**329**	P	**P**	**08 01 47.1**	**-0.1**
VNA2	**Neumayer--Watz**	**26.61**	**147**	P	**P**	**08 01 48.5**	**+1.3**
	baz=290,slow=12						
CPUP	**Villa Florida**	**27.93**	**356**	P	**P**	**08 01 58.9**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=187,slow=12,SNR=6.0						
CPUP	**Villa Florida**	**27.93**	**356**	P	**P**	**08 01 59.4**	**0.0**
CPUP				IAmb	IAmb	08 02 03.5	
	comp=Z,7.3nm,1.1s						
SNAA	**Sanae**	**28.20**	**148**	P	**P**	**08 02 02.8**	**+1.3**
SNAA	**Sanae**	**28.20**	**148**	P	**P**	**08 02 02.0**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=278,slow=9.3,SNR=6.0						
SNAA	**Sanae**	**28.20**	**148**	P	**P**	**08 02 02.6**	**+1.1**
PB01	**IPOC Station P**	**34.87**	**336**	P	**P**	**08 03 01.2**	**+0.7**
PB01				IAmb	IAmb	08 03 21.0	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**36.00**	**180**	P	**P**	**08 03 11.5**	**+1.6**
QSPA				IAmb	IAmb	08 03 12.7	
	comp=Z,8.1nm,0.8s						
GO01	**Chusmiza**	**36.13**	**337**	P	**P**	**08 03 12.6**	**+0.8**
PB11	**IPOC Station P**	**36.15**	**337**	P	**P**	**08 03 12.8**	**+1.2**
PB11				IAmb	IAmb	08 03 13.7	
	comp=Z,14nm,0.9s						
MNMC	**Minye Minye**	**36.74**	**337**	P	**P**	**08 03 18.2**	**+1.5**
SIV	**San Ignacio**	**38.45**	**351**	P	**P**	**08 03 30.3**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=187,slow=7.3,SNR=16						
BDFB	**Brasilia**	**38.95**	**11**	P	**P**	**08 03 33.2**	**-2.1**
	comp=Z,6.8nm,1.0s,baz=139,slow=5.8,SNR=6.3						
BDFB	**Brasilia**	**38.95**	**11**	P	**P**	**08 03 34.3**	**-0.9**
BDFB				IAmb	IAmb	08 03 35.9	
	comp=Z,7.3nm,0.9s						
LPAZ	**La Paz**	**39.18**	**340**	P	**P**	**08 03 37.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=168,slow=5.6,SNR=6.8						
LPAZ	**La Paz**	**39.18**	**340**	P	**P**	**08 03 38.0**	**+0.2**
SYO	**Syowa Base**	**42.49**	**148**	⇑*ep*P	**P**	**08 04 03.0**	**-0.8**
H10N3	**ASCENSION HYDR**	**56.64**	**51**	T	T	09 06 58.5	
	baz=206,slow=75,SNR=13						
H10N1	**ASCENSION HYDR**	**56.65**	**51**	T	T	09 06 56.6	
	baz=206,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**56.66**	**51**	T	T	09 06 59.8	
	baz=206,slow=75,SNR=13						
OTAV	**Otavalo**	**57.58**	**332**	P	**P**	**08 05 59.9**	**+0.5**
BOSA	**Boshof**	**61.93**	**101**	P	**P**	**08 06 28.5**	**-0.5**
BOSA				IAmb	IAmb	08 06 51.6	
	comp=Z,4.0nm,1.3s						
LBTB	**Lobatse**	**64.86**	**98**	P	**P**	**08 06 48.0**	**-0.4**
LBTB				IAmb	IAmb	08 07 06.9	
	comp=Z,4.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**82.62**	**55**	P	**P**	**08 08 32.0**	**-0.4**
TOA0				IAmb	IAmb	08 08 33.0	
	comp=Z,5.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.62**	**55**	P	**P**	**08 08 31.3**	**-1.1**
	comp=Z,3.7nm,0.9s,baz=224,slow=5.0,SNR=12						
TORD	**Torodi Ar. Bea**	**82.62**	**55**	P	**P**	**08 08 31.3**	**-1.1**
TXAR	**Lajitas Array**	**93.11**	**319**	P	**P**	**08 09 23.6**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=146,slow=6.6,SNR=3.0						
TXAR	**Lajitas Array**	**93.11**	**319**	P	**P**	**08 09 22.8**	**-0.1**
YKA	**Yellowknife Ar**	**125.32**	**331**	PKP	**PKPdf**	**08 15 08.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=143,slow=2.1,SNR=3.8						
BCAR	**Beaver Creek A**	**134.79**	**320**		**PKiKP**	**08 15 27.9**	**-0.1**
ILAR	**Eielson Array**	**137.61**	**321**	PKP	**PKPdf**	**08 15 31.5**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=200,slow=0.3,SNR=13						
ILAR	**Eielson Array**	**137.61**	**321**		**PKPdf**	**08 15 31.7**	**-0.1**
KSH	**Kashi**	**144.34**	**94**	*e*PKP	**PKiKP**	**08 15 48.0**	**-0.5**
CD2	**Chengdu**	**152.24**	**139**	PKPbc	**PKPdf**	**08 15 58.5**	**+0.6**
MKAR	**Makanchi Array**	**152.37**	**88**	PKPbc	**PKPbc**	**08 16 03.7**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=248,slow=2.5,SNR=26						
MKAR				PKPab	**PKPab**	**08 16 12.9**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=231,slow=2.1,SNR=3.7						
MKAR	**Makanchi Array**	**152.37**	**88**	PKPdf	**PKPdf**	**08 15 56.6**	**-1.0**
MKAR				PKPbc	**PKPbc**	**08 16 03.5**	**-0.9**
MKAR					**PKPab**	**08 16 12.8**	**-1.8**
LZH	**Lanzhou**	**156.78**	**133**	*e*PKP	**PKPdf**	**08 16 05.0**	**+0.8**
LZH				pPKP	sPKPdf	08 16 08.3	+0.3
LZH				sPKP		08 16 09.5	
LZH				PKP	**sPKPab**	**08 16 37.0**	**-0.6**
LZH				LR	LR		
	comp=N,69nm,18.0s						
LZH				LR	LR		
	comp=E,75nm,18.2s						
LZH				LR	LR		
	comp=Z,92nm,20.3s						
ZALV	**Zalesovo Beam**	**156.82**	**74**	PKPab	**PKPab**	**08 16 31.5**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=240,slow=4.8,SNR=3.3						

IDC ***25*** *08:12:40.9±5.0, 9°.19S×128°.38E, h102km±50km, mb3.0/2, mb1 3.2/6, mb1mx3.1/36, mbtmp3.5/6, Error ellipse: s-maj=57.0km s-min=21.2km az=52.0*
ISC 25 08:12:38.0±2.2, 9°.2S±0°.1×128°.5E±0°.1, h35km, n6, σ2ş29/9, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.89**	**258**	P	**Pn**	**08 13 51.3**	**+2.2**
	3.6nm,0.3s,baz=106,slow=15,SNR=2.8						
BATI				S	**Sn**	**08 14 41.4**	**-3.2**
	6.4nm,0.3s,baz=252,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**9.29**	**197**	P	**Pn**	**08 14 51.1**	**+1.6**
	0.3nm,0.3s,baz=13,slow=9.6,SNR=14						
FITZ				S	**Sn**	**08 16 33.6**	**+0.8**
	0.5nm,0.3s,baz=105,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**12.08**	**153**	P	**Pn**	**08 15 29.4**	**+1.5**
	0.5nm,0.3s,baz=328,slow=14,SNR=16						
WRA				S	**Sn**	**08 17 39.9**	**-1.5**
	2.3nm,0.3s,baz=325,slow=22,SNR=12						
ASAR	**Alice Springs**	**15.29**	**161**	P	**Pn**	**08 16 12.6**	**+1.2**
	0.2nm,0.3s,baz=329,slow=10,SNR=9.3						
ASAR				S	**Sn**	**08 18 58.4**	**-1.4**
	0.3nm,0.3s,baz=231,slow=22,SNR=5.4						
STKA	**Stephens Creek**	**25.63**	**154**	P	**P**	**08 18 02.0**	**-2.4**
	0.3nm,0.4s,baz=0.0,slow=4.0,SNR=2.6						
MKAR	**Makanchi Array**	**69.27**	**328**	P	P	08 23 36.4	-5.2
	0.1nm,0.4s,baz=125,slow=5.4,SNR=3.2						

SJA ***25*** *08:21:11.9±0.8, 36°.80S×73°.81W, h7km±9km, ML4.2, MW3.7*
IDC ***25*** *08:21:14.5±1.8, 36°.71S×73°.47W, h0km, mb3.4/3, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML3.9/3, Error ellipse: s-maj=35.2km s-min=25.1km az=121.0*
GUC ***25*** *08:21:17.1±0.6, 36°.84S×73°.56W, h12km±2km, ML4.0*
NEIC ***25*** *08:21:18.2±1.9, 36°.77S±0°.05×73°.5W±0°.1, h25km±3km, mb3.9/8, ML4.0(GUC)*
ISC 25 08:21:14.5±2.0, 36°.74S±0°.03×73°.56W±0°.07, h3km±11km, n49, σ1ş79/66, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.38**	**106**	⇓*i*P	**Pb**	**08 21 23.9**	**+0.1**
CCSP				*i* S	**Sb**	**08 21 29.3**	**-0.8**
CCSP				IAML		08 21 30.4	
	comp=N,34μm,0.3s						
COCH	**Cobquecura**	**0.87**	**46**	⇑*i*P	**Pn**	**08 21 33.2**	**-0.3**
COCH				*i* S	**Sn**	**08 21 45.9**	**-0.8**
COCH				IAML		08 21 48.3	
	comp=N,5μm,0.2s						
COCH	**Cobquecura**	**0.87**	**46**	*i* P	**Pn**	**08 21 33.2**	**-0.3**
COCH				*i* S	**Sn**	**08 21 46.0**	**-0.8**
CCHI	**Chillan**	**1.20**	**84**	⇓*i*P	**Pg**	**08 21 38.1**	**+0.6**
CCHI				*i* S	**Sn**	**08 21 53.1**	**-1.8**
CCHI				IAML		08 22 03.1	
	comp=N,5μm,0.4s						
CCHI	**Chillan**	**1.20**	**84**	*i* P	**Pg**	**08 21 38.3**	**+0.8**
CCHI				*i* S	**Sn**	**08 21 58.6**	**+3.7**
GO05	**Huala**	**2.17**	**38**	IAML		08 22 38.9	
	comp=E,1μm,0.9s						
GO05	**Huala**	**2.17**	**38**	*i* P	**Pn**	**08 21 53.3**	**+1.7**
GO05				*i* S	**Sg**	**08 22 25.7**	**+1.4**
GO05	**Huala**	**2.17**	**38**		**Pn**	**08 21 52.0**	**+0.4**
GO05				Sn	**Sb**	**08 22 20.3**	**-1.5**
CANA	**Caviahue**	**2.30**	**121**	*i* P	**Pb**	**08 21 55.5**	**-1.3**
CANA				IAML		08 22 02.5	
	comp=Z,411nm,0.5s						
CANA				*i* S	**Sg**	**08 22 26.5**	**-1.9**
GO06	**Curarrehue**	**3.29**	**151**	*e*P	**Pn**	**08 22 06.9**	**0.0**
GO06				IAML		08 23 01.2	
	comp=N,168nm,0.6s						
GO06	**Curarrehue**	**3.29**	**151**	*i* P	**Pn**	**08 22 07.5**	**+0.6**
GO06				*i* S	**Sb**	**08 22 54.0**	**+0.1**
GO06	**Curarrehue**	**3.29**	**151**		**Pn**	**08 22 07.6**	**+0.6**
GO06				Sn	**Sn**	**08 22 43.0**	**-3.6**
PEL	**Peldehue**	**4.29**	**34**		**Pn**	**08 22 21.3**	**+0.5**
PEL				Sn	**Sn**	**08 23 14.1**	**+2.8**
ROC1	**El Roble**	**4.30**	**30**	⇑*i*P	**Pn**	**08 22 21.2**	**+0.3**
ROC1				*i* S	**Sg**	**08 23 35.4**	**+2.8**
ROC1	**El Roble**	**4.30**	**30**		**Pn**	**08 22 21.3**	**+0.4**
ROC1				Sn	**Sn**	**08 23 12.6**	**+0.9**
PLCA	**Paso Flores**	**4.63**	**150**	Pn	**Pn**	**08 22 25.9**	**+0.4**
	comp=N,1.0nm,0.3s,baz=2.4,slow=8.8,SNR=14						
PLCA				Lg	Lg	08 23 37.1	
	comp=N,2.7nm,0.3s,baz=210,slow=21,SNR=3.5						
PLCA	**Paso Flores**	**4.63**	**150**	*i* P	**Pn**	**08 22 26.4**	**+0.9**
PLCA				*i* S	**Sb**	**08 23 36.5**	**+3.9**
PLCA	**Paso Flores**	**4.63**	**150**		**Pn**	**08 22 26.3**	**+0.9**
RTLS	**Leoncito**	**6.06**	**37**	⇑*i*P	**Pn**	**08 22 46.9**	**+1.6**
RTLS				*i* S	**Sg**	**08 24 21.9**	**-7.2**
RTLS				IAML		08 24 37.2	
	comp=Z,84nm,0.8s						
RTCV	**Cerro Valdivia**	**6.40**	**42**	*i* P	**Pn**	**08 22 50.2**	**+0.5**
CFA	**Coronel Fontan**	**6.76**	**42**	Pn	**Pn**	**08 22 54.1**	**-0.5**
	comp=Z,3.6nm,0.3s,baz=215,slow=13,SNR=35						
CFA				Sn	**Sn**	**08 24 11.1**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=225,slow=14,SNR=2.3						
CFA				Lg	Lg	08 24 47.8	
	comp=Z,1.1nm,0.3s,baz=142,slow=12,SNR=3.0						
CFA	**Coronel Fontan**	**6.76**	**42**	*i* P	**Pn**	**08 22 54.6**	**0.0**
RTLL	**Cerro Villicun**	**6.85**	**40**	*i* P	**Pn**	**08 22 56.2**	**+0.4**
RTLL				IAML		08 24 00.0	
	comp=Z,200nm,0.5s						
GO04	**Tololo Observa**	**6.94**	**20**	*i* P	**Pn**	**08 22 56.5**	**-0.8**
GO04				*i* S	**Sn**	**08 24 13.6**	**-3.3**
GO04	**Tololo Observa**	**6.94**	**20**		**Pn**	**08 22 56.5**	**-0.8**
GO04				Sn	**Sn**	**08 24 12.9**	**-4.0**
ACCO	**Cerro Coronel**	**7.19**	**33**	*i* P	**Pn**	**08 23 01.4**	**+0.7**
ACCO				*i* S	**Sb**	**08 24 48.1**	**+1.7**
MRA	**San Martin**	**7.77**	**59**	*i* P	Pn	08 23 15.6	+7.0
MRA				IAML		08 23 16.5	
	comp=Z,9.7nm,0.6s						
AGUA	**GUANDACOL**	**8.39**	**32**	*i* P	**Pn**	**08 23 16.8**	**-0.3**
AGUA				IAML		08 23 34.1	
	comp=Z,14nm,0.6s						
APLL	**PUNTA DE LOS L**	**8.63**	**45**	*i* P	**Pn**	**08 23 19.2**	**-1.1**
VCA	**Vinchina**	**9.16**	**31**	*i* P	**Pn**	**08 23 28.7**	**+1.0**
VCA				IAML		08 23 50.6	
	comp=Z,14nm,0.5s						
TCA	**Tanti**	**9.18**	**57**	*i* P	**Pn**	**08 23 27.8**	**-0.2**
TCA				IAML		08 23 36.2	
	comp=Z,7.0nm,0.6s						
TRQA	**Tornquist**	**9.31**	**102**	Pn	**Pn**	**08 23 30.0**	**+0.4**
GO03	**Copiap**	**9.54**	**18**	Pn	**Pn**	**08 23 33.2**	**+0.4**
CYA	**Choya**	**10.54**	**41**	*i* P	**Pn**	**08 23 42.8**	**-3.7**
CYA				IAML		08 23 57.9	
	comp=Z,4.8nm,0.7s						
GO02	**Mina Guanaco**	**12.03**	**18**	Pn	**Pn**	**08 24 05.2**	**-1.9**
PB11	**IPOC Station P**	**17.26**	**12**		**P**	**08 25 18.8**	**+0.6**
PB11				IAmb	IAmb	08 25 22.9	
	comp=Z,12nm,1.1s						
CPUP	**Villa Florida**	**17.27**	**58**	P	**Pn**	**08 25 17.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=81,slow=1.6,SNR=2.8						
CPUP	**Villa Florida**	**17.27**	**58**	P	**P**	**08 25 18.8**	**+0.6**
CPUP				IAmb	IAmb	08 25 23.8	
	comp=Z,13nm,1.4s						
GO01	**Chusmiza**	**17.43**	**14**		**P**	**08 25 21.1**	**+0.6**
MNMC	**Minye Minye**	**17.88**	**12**	

comp=Z,0.3nm,0.7s,baz=222,slow=3.9,SNR=2.7
MKAR Makanchi Array 152.56 89 PKPbc **PKiKP 08 48 13.3 +1.3**
comp=Z,0.2nm,0.5s,baz=258,slow=4.3,SNR=2.8

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*ISCJB **25** 08:37:43.7±0.5,54.°04S±0.°06×55.°00W±0.°09,h10km, mb3.7/8,MS4.6/1,Error ellipse: s-maj=8.6km s-min=7.6km az=6.3*
*NEIC **25** 08:37:44.1±1.7,54.°16S±0.°05×54.°7W±0.°1,h14km±3km, mb4.5/15*
*IDC **25** 08:37:44.5±0.9,53.°85S×54.°11W,h0km,mb3.9/8, mb1 4.1/10,mb1mx4.0/19,mbtmp4.0/10,ML4.3/2,Error ellipse: s-maj=38.1km s-min=18.5km az=67.0*
ISC 25 08:37:45.7±0.5,53.°93S±0.°06×54.°83W±0.°06,h10km,n53, σ2§07/54,mb4.2/15,South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**2.99**	**318**	Pn	**Pn**	**08 38 33.6**	**+0.4**
EFI				Sn	**Sb**	**08 39 16.1**	**+0.5**
USHA	**Ushuaia**	**8.00**	**258**	Pn	**Pn**	**08 39 40.0**	**-1.8**
8.7nm,0.3s,baz=90,slow=13,SNR=39							
USHA				Sn	**Sn**	**08 41 12.6**	**+0.4**
24nm,0.3s,baz=135,slow=11,SNR=15							
GO10	**Punta Arenas**	**9.69**	**268**	Pn	**Pn**	**08 40 02.9**	**-2.2**
GO10				Sn	**Sn**	**08 41 50.6**	**-3.3**
HOPE	**Hope Point**	**10.78**	**99**	Pn	**Pn**	**08 40 16.9**	**-2.9**
GO09	**Cerro Castillo**	**10.98**	**277**	Pn	**Pn**	**08 40 22.3**	**-0.3**
GO09					**Sn**	**08 42 22.5**	**-2.9**
PMSA	**Palmer Station**	**11.83**	**200**	Pn	**Pn**	**08 40 37.9**	**+3.7**
0.8nm,0.3s,baz=26,slow=6.6,SNR=6.0							
PMSA	**Palmer Station**	**11.83**	**200**	Pn	Pn	08 40 26.9	-7.3
TRQA	**Tornquist**	**16.62**	**340**		**Pn**	**08 41 41.7**	**+3.0**
TRQA				IAmb	IAmb	08 41 56.0	
comp=Z,24nm,1.1s							
PLCA	**Paso Flores**	**16.91**	**315**	Pn	**P**	**08 41 45.6**	**+1.2**
comp=Z,0.4nm,0.3s,baz=171,slow=11,SNR=11							
PLCA	**Paso Flores**	**16.91**	**315**		**Pn**	**08 41 44.4**	**+1.9**
GO06	**Curarrehue**	**18.26**	**315**	P	**Pn**	**08 41 59.7**	**+0.5**
GO05	**Huala**	**22.41**	**321**	P	**P**	**08 42 44.1**	**-0.2**
GO05				IAmb	IAmb	08 42 53.5	
comp=Z,35nm,1.5s							
PEL	**Peldehue**	**23.64**	**325**	P	**P**	**08 42 57.1**	**+0.1**
PEL				IAmb	IAmb	08 43 08.8	
comp=Z,17nm,0.8s							
ROC1	**El Roble**	**23.91**	**325**	P	**P**	**08 42 59.9**	**+0.1**
CFA	**Coronel Fontan**	**24.31**	**331**	P	**P**	**08 43 03.9**	**+0.6**
comp=Z,1.7nm,0.4s,baz=145,slow=15,SNR=4.2							
VNA3	**Neumayer Olymp**	**26.11**	**149**	P	**P**	**08 43 20.0**	**+0.7**
VNA1	**Neumayer--Stat**	**26.39**	**147**	P	**P**	**08 43 24.7**	**+3.0**
GO04	**Tololo Observa**	**26.41**	**328**	P	**P**	**08 43 22.4**	**-0.2**
GO04				IAmb	IAmb	08 43 36.4	
comp=Z,13nm,0.8s							
VNA2	**Neumayer--Watz**	**26.73**	**147**	P	**P**	**08 43 23.8**	**-1.0**
baz=308,slow=6.3							
CPUP	**Villa Florida**	**27.63**	**355**	P	**P**	**08 43 33.2**	**-0.1**
comp=Z,2.4nm,0.8s,baz=148,slow=3.6,SNR=3.7							
CPUP	**Villa Florida**	**27.63**	**355**	P	**P**	**08 43 33.8**	**+0.5**
CPUP				IAmb	IAmb	08 43 34.6	
comp=Z,7.4nm,1.1s							
SNAA	**Sanae**	**28.33**	**148**	P	**P**	**08 43 38.8**	**-0.4**
SNAA	**Sanae**	**28.33**	**148**	P	**P**	**08 43 38.5**	**-0.7**
comp=Z,1.2nm,0.9s,baz=302,slow=13,SNR=3.7							
SNAA	**Sanae**	**28.33**	**148**	P	P	08 43 32.0	-7.2
GO02	**Mina Guanaco**	**30.78**	**333**	P	**P**	**08 44 00.7**	**-0.9**
GO02				IAmb	IAmb	08 44 02.1	
comp=Z,12nm,1.5s							
GO01	**Chusmiza**	**35.94**	**337**	P	**P**	**08 44 47.5**	**+0.7**
PB11	**IPOC Station P**	**35.96**	**336**	P	**P**	**08 44 45.6**	**-1.0**
QSPA	**South Pole Qui**	**36.32**	**180**	P	**P**	**08 44 49.3**	**0.0**
QSPA				IAmb	IAmb	08 44 59.9	
comp=Z,9.0nm,0.8s							
MNMC	**Minye Minye**	**36.55**	**336**	P	**P**	**08 44 51.4**	**-0.4**
SIV	**San Ignacio**	**38.17**	**350**	P	**P**	**08 45 04.6**	**-0.6**
comp=Z,1.0nm,0.7s,baz=160,slow=8.3,SNR=4.1							
BDFB	**Brasília**	**38.58**	**11**	P	**P**	**08 45 09.1**	**+0.3**
comp=Z,2.8nm,0.6s,baz=201,slow=4.7,SNR=4.0							
LPAZ	**La Paz**	**38.97**	**339**	P	**P**	**08 45 14.2**	**+1.6**
comp=Z,1.5nm,0.7s,baz=185,slow=7.2,SNR=5.8							
LPAZ	**La Paz**	**38.97**	**339**	P	**P**	**08 45 11.3**	**-1.3**
H10N3	**ASCENSION HYDR**	**56.22**	**50**	T	T	09 47 55.4	
baz=207,slow=75							
H10N1	**ASCENSION HYDR**	**56.23**	**51**	T	T	09 47 58.9	
baz=207,slow=75							
H10N2	**ASCENSION HYDR**	**56.24**	**50**	T	T	09 47 57.5	
baz=207,slow=75							
OTAV	**Otavalo**	**57.42**	**332**	P	**P**	**08 47 33.2**	**-1.8**
OTAV				IAmb	IAmb	08 47 45.3	
comp=Z,2.7nm,0.9s							
ROSC	**El Rosal**	**60.80**	**338**	P	**P**	**08 47 57.6**	**-0.6**
ROSC				IAmb	IAmb	08 48 05.8	
comp=Z,2.4nm,0.6s							
BANI	**BANI**	**73.26**	**345**	P	**P**	**08 49 16.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**82.21**	**55**	P	**P**	**08 50 04.9**	**-2.0**
comp=Z,0.5nm,0.6s,baz=200,slow=7.2,SNR=3.2							
TXAR	**Lajitas Array**	**93.05**	**319**	P	**P**	**08 51 01.2**	**+1.9**
comp=Z,0.1nm,0.6s,baz=159,slow=7.7,SNR=2.8							
ILAR	**Eielson Array**	**137.54**	**321**	PKP	**PKPdf**	**08 57 07.4**	**-0.8**
comp=Z,0.2nm,0.5s,baz=45,slow=0.6,SNR=3.0							
ILAR	**Eielson Array**	**137.54**	**321**		**PKPdf**	**08 57 06.6**	**-1.6**
KSH	**Kashi**	**144.09**	**93**	*e*PKP	**PKPab**	**08 57 18.5**	**-0.1**
AAK	**Ala-Archa**	**145.16**	**88**	PKP	**PKPbc**	**08 57 21.9**	**-0.6**
comp=Z,2.7nm,0.6s,baz=190,slow=2.7,SNR=9.5							
AAK	**Ala-Archa**	**145.16**	**88**		**PKPbc**	**08 57 19.4**	**-3.0**
BVAR	**Borovoye Array**	**148.07**	**69**	PKPbc	**PKPbc**	**08 57 30.3**	**0.0**
comp=Z,1.1nm,0.6s,baz=300,slow=3.3,SNR=5.2							
KURBB	**Kurchatov Arra**	**151.68**	**77**	PKPbc	**PKPbc**	**08 57 38.2**	**-1.0**
comp=Z,0.8nm,0.2s,baz=237,slow=3.2,SNR=2.7							
KURK	**Kurchatov**	**151.77**	**77**		**PKPdf**	**08 57 37.2**	**+4.2**
MKAR	**Makanchi Array**	**152.09**	**87**	PKPbc	**PKPbc**	**08 57 38.7**	**-1.6**
comp=Z,0.2nm,0.6s,baz=256,slow=5.8,SNR=1.9							
MKAR	**Makanchi Array**	**152.09**	**87**		**PKPbc**	**08 57 38.3**	**-2.0**
MKAR				PKPab	**sPKPbc**	**08 57 46.2**	**+2.2**
CD2	**Chengdu**	**152.30**	**138**	PKPbc	**PKPdf**	**08 57 28.8**	**-5.8**
LZH	**Lanzhou**	**156.79**	**132**	*e*PKP	**PKPdf**	**08 57 46.5**	**+5.7**
LZH				pPKP	sPKPdf	08 57 49.8	+5.3
LZH				sPKP		08 57 50.3	
LZH				PKP	**sPKPab**	**08 58 17.8**	**+3.7**
LZH				LR	LR		
comp=N,65nm,18.0s							
LZH				LR	LR		
comp=E,71nm,17.9s							
LZH				LR	LR		
comp=Z,86nm,20.1s							

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*SOME **25** 08:39:24.6,40.°95N×74.°63E,h15km*
KRNET 25 08:39:25.2±0.1,41.°07N×74.°61E,h18km,mb2.1,26C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.82**	**345**	⇑*i*P	Pg	08 39 41.2	-0.1
baz=45							
ARLS				⇑*i*S	Sg	08 39 52.8	+0.6
baz=45							
NRN	**Naryn**	**1.11**	**70**	⇑*i*P	Pn	08 39 46.2	0.0
baz=71							
NRN				⇑*i*S	Sg	08 40 01.3	-0.1
baz=71							
KZA	**Kyzart**	**1.11**	**25**	⇑*i*P	Pn	08 39 46.4	0.0
baz=25							
KZA				⇑*i*S	Sg	08 40 02.4	+0.8
baz=25							
UCH	**Uchtor**	**1.16**	**356**	⇑*i*P	Pb	08 39 47.1	+0.1
baz=56							
UCH				⇑*i*S	Sg	08 40 03.8	+0.8
baz=56							
ARSB	**Arslanbob**	**1.25**	**282**	⇑*i*P	Pg	08 39 49.5	0.0
baz=82							
ARSB				⇑*i*S	Sg	08 40 06.6	+0.6
baz=82							
AML	**Almayashu**	**1.26**	**327**	⇓*i*P	Pb	08 39 49.1	+0.3
baz=27							
AML				⇓*i*S	Sg	08 40 07.1	+0.8
baz=27							
KBK	**Karagaybulak**	**1.60**	**9**	⇑*i*P	Pg	08 39 55.5	-0.7
baz=9.0							
KBK				⇑*i*S	Sg	08 40 17.5	+0.4
baz=9.0							
ULHL	**Ulahol**	**1.69**	**46**	⇑*i*P	Pb	08 39 56.4	+0.4
baz=46							
ULHL				⇑*i*S	Sg	08 40 19.2	-0.8
baz=46							
EKS2	**Erkin-Say**	**1.71**	**339**	⇑*i*P	Pb	08 39 57.0	+0.8
baz=39							
EKS2				⇑*i*S	Sg	08 40 20.4	0.0
baz=39							
BOOM	**Boomskoye usch**	**1.73**	**35**	⇑*e*P	Pb	08 39 57.5	+0.9
baz=35							
BOOM				⇑*i*S	Sg	08 40 21.2	+0.1
baz=35							
FRU1	**Bishkek**	**1.74**	**0**	⇑*i*P	Pb	08 39 57.6	+0.9
baz=0.0							
FRU1				⇑*i*S	Sg	08 40 21.4	+0.1
baz=0.0							
MRKS	**Merke**	**1.97**	**329**	*e*P	Pg	08 40 02.8	-0.2
1.5nm,0.2s							
MRKS				*e*S	Sg	08 40 30.4	+1.8
8.9nm,0.4s							
TKM2	**Tokmak 2**	**1.99**	**21**	⇑*i*P	Pb	08 40 02.2	+1.2
baz=21							
TKM2				⇑*i*S	Sg	08 40 29.3	-0.1
baz=21							
TKM2	**Tokmak 2**	**1.99**	**21**	⇓S	Sg	08 40 29.7	+0.3
2.3nm,0.3s							
ARK	**Arkit**	**2.12**	**291**	⇑*i*P	Pb	08 40 03.8	+0.6
baz=91							
ARK				⇑*i*S	Sg	08 40 31.8	-1.7
baz=91							
KDJ	**Kajisay**	**2.20**	**60**	⇑*i*P	Pb	08 40 04.6	0.0
baz=61							
KDJ				⇑*i*S	Sg	08 40 34.0	-2.0
baz=61							
KST	**Kastek**	**2.21**	**27**	*e*P	Pg	08 40 06.6	-1.1
1.6nm,0.2s							
KST				*e*S	Sg	08 40 37.2	+0.7
11nm,0.3s							
KST	**Kastek**	**2.21**	**27**	S	Sg	08 40 37.4	+0.9
12nm,0.3s							
IZV	**Izvestkoviy**	**2.47**	**37**	*e*P	Pg	08 40 11.7	-0.8
1.4nm,0.3s							
IZV				*e*S	Sg	08 40 45.5	+1.0
8.2nm,0.5s							
IZV	**Izvestkoviy**	**2.47**	**37**	S	Sg	08 40 45.4	+0.9
6.1nm,0.4s							
TARG	**Taragay, Kyrgy**	**2.49**	**74**	⇓*i*P	Pb	08 40 09.0	-0.7
baz=74							
TARG				⇓*i*S	Sb	08 40 41.2	+1.0
baz=74							
TNSS	**Tian-Shan**	**2.62**	**41**	*e*P	Pb	08 40 13.7	+1.7
1.1nm,0.2s							
TNSS				*e*S	Sg	08 40 48.8	-0.9
4.7nm,0.4s							
TNSS	**Tian-Shan**	**2.62**	**41**	S	Sg	08 40 49.1	-0.6
4.8nm,0.4s							
KOTS	**Kotyrbulak**	**2.85**	**40**	*e*P	Pg	08 40 17.9	-2.1
4.9nm,0.2s							
KOTS				*e*S	Sg	08 40 56.5	-0.4
16nm,0.5s							
KOTS	**Kotyrbulak**	**2.85**	**40**	S	Sg	08 40 56.8	-0.1
18nm,0.5s							
KTBS	**Karatobe**	**3.05**	**29**	*e*P	Pg	08 40 21.9	-1.8
1.1nm,0.4s							
KTBS				*e*S	Sg	08 41 03.0	-0.4
12nm,0.4s							
KTBS	**Karatobe**	**3.05**	**29**	Lg	Lg	08 41 03.4	
12nm,0.3s							
KPKS	**Kokpek**	**3.86**	**50**	*e*P	Pb	08 40 35.3	+2.5
1.6nm,0.1s							
KPKS				*e*S	Sg	08 41 26.2	-2.8
2.7nm,0.3s							

NNC 25 08:39:58.0±2.2,42.°05N×75.°14E,h0km,mb2.7,mpv2.5, 1C,Error ellipse: s-maj=14.5km s-min=10.7km az=14.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.93**	**21**	⇑P	Pg	08 40 15.2	-0.7
0.5nm,0.3s							
KST	**Kastek**	**1.16**	**31**	P	Pb	08 40 21.1	+0.1
1.9nm,0.3s							
SGDS	**Sogindy**	**1.45**	**345**	P	Pn	08 40 24.7	-0.9
SGDS				S	Sg	08 40 43.4	-1.2
IZV	**Izvestkoviy**	**1.47**	**47**	P	Pn	08 40 25.8	-0.1
1.5nm,0.5s							
TNSS	**Tian-Shan**	**1.66**	**53**	P	Pn	08 40 28.2	-0.5
1.4nm,0.3s							
KOTS	**Kotyrbulak**	**1.87**	**50**	P	Pb	08 40 32.6	-0.7
3.9nm,0.3s							
KTBS	**Karatobe**	**2.01**	**34**	Pg	Pg	08 40 36.4	-0.2
0.5nm,0.3s							
ARXS	**Arharly**	**2.92**	**41**	Pg	Pb	08 40 51.8	+0.7
0.7nm,0.4s							
ARXS				Lg	Lg	08 41 29.8	
4.4nm,0.4s							

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*UCR **25** 08:47:40.4±1.0,7.°10N×79.°99W,h1km±14km,MW3.6*
*ISCJB **25** 08:47:41.4±0.9,7.°18N±0.°04×79.°99W±0.°03,h7km±5km, Error ellipse: s-maj=7.4km s-min=4.7km az=165.2*
*UPA **25** 08:47:42.3±1.6,7.°25N×80.°06W,h0km±5km,MW4.6*
ISC 25 08:47:41.4±2.0,7.°16N±0.°07×80.°03W±0.°04,h10km±9km, n48,σ1§09/76,15C-11D,Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSI3	**Tonosi**	**0.48**	**302**	⇑*i*P	**Pb**	**08 47 51.9**	**0.0**
TOSI3				*i* S	**Sb**	**08 47 59.5**	**+0.5**
AZU	**Azuero**	**0.68**	**339**	*e*P	**Pg**	**08 47 54.6**	**+0.1**
AZU				*e*S	**Sg**	**08 48 03.6**	**+0.2**
AZU				*i*		08 48 04.2	
comp=Z,955nm,0.1s							
AZU	**Azuero**	**0.68**	**339**	*e*P	**Pg**	**08 47 54.6**	**+0.1**
AZU				*e*S	**Sg**	**08 48 03.6**	**+0.2**
AZU				*i*		08 48 04.2	
comp=Z,955nm,0.1s							
AZU	**Azuero**	**0.68**	**339**	*e*P	**Pg**	**08 47 54.6**	**+0.1**
AZU	**Azuero**	**0.68**	**339**	⇑*i*P	**Pg**	**08 47 54.6**	**+0.1**
baz=172,slow=10							
AZU				*i* S	**Sg**	**08 48 03.8**	**+0.4**
CACAO	**El Cacao, Vera**	**0.84**	**283**	⇑*e*P	**Pg**	**08 47 57.9**	**+0.2**
CACAO				*i* S	**Sb**	**08 48 09.9**	**+0.3**
CHIT3	**Chitre**	**0.88**	**334**	⇑*i*P	**Pg**	**08 47 58.0**	**-0.5**
PESE3	**Pese, Herrera**	**0.94**	**322**	⇑*e*P	**Pg**	**08 47 59.2**	**-0.4**
PESE3				*i* S	**Sg**	**08 48 12.2**	**+0.3**
OCU3	**Ocu, Herrera**	**1.08**	**317**	⇑*i*P	**Pb**	**08 48 01.6**	**-0.6**
PONU3	**Ponuga, Veragu**	**1.19**	**308**	⇓*i*P	**Pn**	**08 48 04.0**	**-0.1**
CRIS3	**El Cristo, Coc**	**1.24**	**332**	⇑*e*P	**Pn**	**08 48 03.9**	**-0.8**
STIA3	**Santiago, Vera**	**1.32**	**315**	⇑*e*P	**Pn**	**08 48 05.5**	**-0.4**
STIA3				*i* S	**Sb**	**08 48 23.7**	**+0.4**
GMAL	**Guarumal, Vera**	**1.34**	**297**	⇓*e*P	**Pb**	**08 48 06.7**	**+0.1**
GMAL				*i* S	**Sg**	**08 48 25.6**	**+1.2**
PNME	**Penonome**	**1.35**	**348**	*e*P	**Pn**	**08 48 05.6**	**-0.8**
PNME				*e*S	**Sn**	**08 48 23.2**	**-1.2**
PNME	**Penonome**	**1.35**	**348**	*e*P	**Pn**	**08 48 05.6**	**-0.8**
PNME				*e*S	**Sn**	**08 48 23.2**	**-1.2**
PNME	**Penonome**	**1.35**	**348**	⇓*i*P	**Pn**	**08 48 05.6**	**-0.8**
PNME				*i* S	**Sn**	**08 48 23.2**	**-1.2**
RSUS3	**Rio de Jesus,**	**1.39**	**306**	⇓*e*P	**Pn**	**08 48 07.1**	**+0.2**
CALO3	**Calobre, Verag**	**1.41**	**325**	⇑*i*P	**Pn**	**08 48 06.8**	**-0.3**
CALO3				*e*S	**Sn**	**08 48 24.5**	**-1.3**
SFRA3	**San Francisco,**	**1.43**	**319**	⇓*e*P	**Pn**	**08 48 07.4**	**0.0**
SFRA3				*e*S	**Sb**	**08 48 27.3**	**+0.8**
VTON	**El Valle, Cocl**	**1.45**	**357**	⇓*i*P	**Pn**	**08 48 07.3**	**-0.5**
VTON				*i* S	**Sn**	**08 48 26.8**	**-0.1**
CNAZ3	**Canazas, Verag**	**1.66**	**316**	⇓*e*P	**Pn**	**08 48 10.9**	**+0.3**
TABO3	**Taboga, Panama**	**1.69**	**16**	⇓*e*P	**Pn**	**08 48 11.0**	**0.0**
TABO3				*e*S	**Sn**	**08 48 31.6**	**-1.2**
CHOR3	**La Chorrera**	**1.75**	**9**	⇑*i*P	**Pn**	**08 48 12.2**	**+0.4**
CHOR3				*i* S	**Sn**	**08 48 34.9**	**+0.7**
ZANG	**Zanguenga, Cho**	**1.80**	**5**	*e*P	**Pn**	**08 48 13.1**	**+0.7**
ZANG				*e*S	**Sb**	**08 48 37.1**	**+0.1**
ZANG	**Zanguenga, Cho**	**1.80**	**5**	⇓*e*P	**Pn**	**08 48 13.2**	**+0.7**
ZANG				*i* S	**Sn**	**08 48 35.9**	**+0.5**
PVID3	**Puerto Vidal,**	**1.80**	**300**	*e*P	**Pn**	**08 48 09.2**	**-3.2**
FLAM	**Flamenco Islan**	**1.81**	**16**	*e*P	**Pn**	**08 48 12.8**	**+0.1**
FLAM				*e*S	**Sn**	**08 48 35.3**	**-0.4**
UPA	**Univ. de Panam**	**1.88**	**15**	*e*P	**Pn**	**08 48 13.9**	**+0.4**
UPA				*e*S	**Sn**	**08 48 37.7**	**+0.3**
UPA	**Univ. de Panam**	**1.88**	**15**	*e*P	**Pn**	**08 48 13.9**	**+0.4**
UPA				*e*S	**Sn**	**08 48 37.7**	**+0.3**
UPA	**Univ. de Panam**	**1.88**	**15**	*e*P	**Pn**	**08 48 14.0**	**+0.4**
UPA	**Univ. de Panam**	**1.88**	**15**	⇓*e*P	**Pn**	**08 48 13.9**	**+0.4**
UPA				*i* S	**Sn**	**08 48 37.6**	**+0.2**
MFS3	**Miraflores**	**1.88**	**13**	*e*P	**Pb**	**08 48 14.5**	**-1.4**
NANC3	**Nancito, Chiri**	**2.00**	**303**	*e*P	**Pb**	**08 48 17.5**	**-0.4**
BCIP	**Isla Barro Col**	**2.01**	**5**	*e*P	**Pn**	**08 48 16.0**	**+0.7**
BCIP				*e*S	**Sn**	**08 48 41.3**	**+0.8**
BCIP	**Isla Barro Col**	**2.01**	**5**	*e*P	**Pn**	**08 48 16.0**	**+0.7**
BCIP				*e*S	**Sn**	**08 48 41.3**	**+0.8**
BCIP	**Isla Barro Col**	**2.01**	**5**	*e*P	**Pn**	**08 48 16.5**	**+1.1**
BCIP	**Isla Barro Col**	**2.01**	**5**	⇓*e*P	**Pn**	**08 48 16.4**	**+1.1**
BCIP				*i* S	**Sn**	**08 48 41.4**	**+0.8**
FRIJ	**El Hiral**	**2.08**	**8**	⇑*i*P	**Pn**	**08 48 17.5**	**+1.2**
FRIJ				*i* S	**Sn**	**08 48 43.0**	**+0.8**
REME3	**Remedios, Chir**	**2.08**	**301**	*e*P	**Pn**	**08 48 17.4**	**+1.1**
PINA	**Piqa, Costa Ab**	**2.08**	**359**	⇑*e*P	**Pb**	**08 48 18.1**	**-1.2**
CHPO	**Chepo, Panama**	**2.20**	**24**	⇑*e*P	**Pn**	**08 48 18.6**	**+0.7**
CHPO				*i* S	**Sn**	**08 48 46.3**	**+1.1**
UPD2	**Meteti**	**2.43**	**55**	*e*P	**Pn**	**08 48 21.1**	**-0.1**
CHIR3	**Chiriqui UPA,**	**2.59**	**299**	*e*P	**Pn**	**08 48 25.2**	**+1.8**
LOCO3	**Loma Colorada,**	**2.67**	**298**	*e*P	**Pn**	**08 48 21.3**	**-3.2**
DVD	**David**	**2.71**	**298**	*e*P	**Pn**	**08 48 21.6**	**-3.5**
CHGR2	**Aguacate**	**2.74**	**310**	⇑*e*P	**Pb**	**08 48 28.6**	**-1.9**
CHGR2				*e*S	**Sn**	**08 49 01.5**	**+2.8**
BCO2	**Palmira**	**2.92**	**302**	⇑*e*P	**Pn**	**08 48 30.6**	**+2.5**
BRU2	**Volcan**	**3.10**	**302**	*e*P	**Pn**	**08 48 31.2**	**+0.8**

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*ISCJB **25** 08:54:55.4±0.3,6.°85N±0.°02×73.°09W±0.°03,h154km±2km, mb3.4/5,Error ellipse: s-maj=5.3km s-min=3.6km az=15.6*
*NEIC **25** 08:54:56.4±1.2,6.°7N±0.°2×72.°9W±0.°2,h161km±12km, mb4.0/15*
*IDC **25** 08:54:56.9±1.5,6.°80N×72.°99W,h164km±14km,mb3.2/5, mb1 3.6/7,mb1mx3.3/29,mbtmp3.8/7,Error ellipse: s-maj=30.8km s-min=20.3km az=111.0*
*RSNC **25** 08:54:57.5±1.0,6.°83N×73.°15W,h144km±4km,ML3.5, Mw3.6*
ISC 25 08:54:56.2±0.7,6.°84N±0.°03×73.°08W±0.°04,h152km±5km, n60,σ1§19/90,mb4.0/13,2C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**202**	⇓*i*P	**Pn**	**08 55 17.2**	**-0.1**
BARC				*e*S	**Sn**	**08 55 31.9**	**-1.4**
BARC				*i*		08 55 34.4	
comp=Z,837nm,0.2s							
PAMC	**Pamplona, Colo**	**0.62**	**37**	⇑*e*P	**Pn**	**08 55 20.0**	**+0.9**
PAMC				*e*S	**Sn**	**08 55 36.5**	**0.0**
PAMC				*e*S	**Sn**	**08 55 36.8**	**+0.2**
PAMC				*i*		08 55 39.2	
comp=Z,688nm,0.3s							
BRRC	**Barranca, Sant**	**0.68**	**293**	*i* P	**Pn**	**08 55 19.0**	**+0.2**
BRRC				*e*S	**Sn**	**08 55 35.7**	**-0.4**
BRRC				*e*S	**Sn**	**08 55 35.7**	**-0.4**
BRRC				*i*		08 55 38.9	
comp=Z,474nm,0.4s							
BRRC				*i*		08 55 39.1	
comp=Z,423nm,0.3s							
RUSC	**La Rusia**	**0.94**	**180**	*e*P	**Pn**	**08 55 21.1**	**-0.2**
RUSC				*e*S	**Sn**	**08 55 39.4**	**-1.1**
RUSC				*i*		08 55 41.0	
comp=Z,231nm,0.2s							
RUSC				*i*		08 55 41.4	
comp=Z,226nm,0.3s							
TAMC	**Tame, Arauca**	**1.34**	**107**	⇑*i*P	**Pn**	**08 55 25.6**	**+1.2**
TAMC				*e*S	**Sn**	**08 55 46.6**	**+0.6**
TAMC				*i*		08 55 56.3	
comp=Z,268nm,0.7s							
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	*e*P	**Pn**	**08 55 23.8**	**-1.2**
PTBC				*e*S	**Sn**	**08 55 44.5**	**-2.4**
PTBC				*i*		08 55 50.6	
comp=Z,449nm,0.4s							
OCAC	**Ocana**	**1.41**	**350**	*e*P	**Pn**	**08 55 25.3**	**+0.1**
OCAC				*e*S	**Sn**	**08 55 46.8**	**-0.7**
OCAC				*i*		08 55 50.2	
comp=Z,356nm,0.3s							
SPBC	**San Pablo de B**	**1.54**	**220**	*e*P	**Pn**	**08 55 26.2**	**-0.3**
SPBC				*i*		08 55 54.5	
comp=Z,534nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	*e*P	**Pn**	**08 55 30.1**	**0.0**
ZARC				*e*S	**Sn**	**08 55 55.0**	**-1.1**
ZARC				*i*		08 56 01.8	
comp=Z,601nm,0.4s							
SMLC	**San Martn de**	**2.18**	**333**	*e*P	**Pn**	**08 55 33.4**	**-0.2**
SMLC				*e*S	**Sn**	**08 56 01.4**	**-1.0**
SMLC				*i*		08 56 09.8	
comp=Z,137nm,0.2s							
NORC	**Norcasia**	**2.18**	**235**	⇓*e*P	**Pn**	**08 55 33.2**	**-0.5**
NORC				*e*S	**Sn**	**08 56 01.2**	**-1.4**
NORC				*i*		08 56 05.0	
comp=Z,418nm,0.4s							
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**08 55 35.5**	**+0.1**
CHIC				*e*S	**Sn**	**08 56 05.0**	**-0.5**
CHIC				*i*		08 56 12.4	
comp=Z,99nm,0.3s							
ROSC	**El Rosal**	**2.34**	**212**	*e*S	**Sn**	**08 56 07.3**	**+0.9**
ROSC	**El Rosal**

CCM IAmb IAmb 09 01 53.4
comp=Z,1.5nm,1.1s
SFIN Lafayette 35.68 342 P **P 09 01 41.3 +1.5**
TXAR Lajitas Array 36.48 312 P **P 09 01 47.5 +0.6**
comp=Z,0.2nm,0.4s,baz=124,slow=8.1,SNR=8.5
TXAR PcP **PcP 09 04 08.7 +1.1**
comp=Z,0.1nm,0.5s,baz=120,slow=5.4,SNR=3.7
TXAR Lajitas Array 36.48 312 P **P 09 01 47.0 0.0**
TX31 Lajitas Ar. Si 36.48 312 P **P 09 01 48.0 +1.1**
TX32 Lajitas Array 36.48 312 P **P 09 01 48.1 +1.2**
MNTX Cornudas Mount 38.99 314 P **P 09 02 09.2 +1.4**
MNTX IAmb IAmb 09 02 15.6
comp=Z,2.7nm,1.4s
EYMN Ely 43.86 342 P **P 09 02 47.6 +0.3**
ULM Lac du Bonnet 47.28 340 P **P 09 03 13.3 -0.8**
comp=Z,1.6nm,0.4s,baz=158,slow=6.4,SNR=5.3
ULM Lac du Bonnet 47.28 340 P **P 09 03 13.5 -0.6**
ULM IAmb IAmb 09 03 26.2
comp=Z,11nm,1.4s
PDAR Pinedale Array 48.09 324 P **P 09 03 20.6 -0.1**
comp=Z,0.2nm,0.4s,baz=119,slow=9.4,SNR=2.8
REDW Red Top Meadow 49.20 324 P **P 09 03 30.2 +0.9**
REDW IAmb IAmb 09 03 34.7
comp=Z,1.5nm,1.2s
TPAW Teton Pass 49.34 324 P **P 09 03 31.0 +0.7**
RLMT Red Lodge 49.39 327 P **P 09 03 31.5 +0.9**
RLMT IAmb IAmb 09 03 33.4
comp=Z,4.6nm,1.4s
F10A Beach Ranch, E 54.43 323 P **P 09 04 08.1 +0.4**
YKA Yellowknife Ar 63.26 340 P **P 09 05 08.3 +0.1**
comp=Z,0.9nm,0.5s,baz=132,slow=6.6,SNR=11
SUMG Summit 68.96 11 P **P 09 05 45.5 +0.6**
SUMG IAmb IAmb 09 05 47.6
comp=Z,5.0nm,1.0s
EPYK Eagle Plains 73.38 338 **P 09 06 11.7 +0.5**
EPYK IAmb IAmb 09 06 26.1
comp=Z,8.1nm,1.4s
ILAR Eielson Array 76.96 335 P **P 09 06 31.6 -0.1**
comp=Z,0.2nm,0.5s,baz=89,slow=4.5,SNR=3.5
RND Reindeer 77.56 333 P **P 09 06 36.1 +1.0**
RND IAmb IAmb 09 06 53.2
comp=Z,5.5nm,1.3s
PPLA Purkeypile 78.98 333 P **P 09 06 43.5 +0.4**
MKAR Makanchi Array 122.29 20 PKP **PKPdf 09 13 31.8 -1.5**
comp=Z,0.2nm,0.4s,baz=22,slow=1.6,SNR=2.8
ASAR Alice Springs 149.15 234 PKPbc **PKPbc 09 14 26.4 -1.1**
comp=Z,0.8nm,0.5s,baz=115,slow=3.9,SNR=4.7
ASAR Alice Springs 149.15 234 PKPbc **PKPbc 09 14 26.1 -1.5**
WRA Warramunga Arr 150.38 241 PKPbc **PKPbc 09 14 29.6 -0.9**
comp=Z,0.8nm,0.4s,baz=109,slow=2.8,SNR=6.8
WRA Warramunga Arr 150.38 241 **PKPbc 09 14 29.8 -0.7**

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*ISCJB **25** 09:01:26.7±0.3, 7°.63S±0°.03×128°.47E±0°.04, h151km, mb3.9/9, Error ellipse: s-maj=5.8km s-min=4.0km az=5.9*
*NEIC **25** 09:01:27.4±2.7, 7°.57S±0°.06×128°.45E±0°.07, h153km±4km, mb4.1/8*
*IDC **25** 09:01:28.0±1.6, 7°.48S×128°.30E, h148km±15km, mb3.7/9, mb1 3.9/12, mb1mx3.7/37, mbtmp4.3/12, Error ellipse: s-maj=17.8km s-min=10.9km az=106.0*
*DJA **25** 09:01:29.1±0.3, 8°.S±2°.×12°.8E±°, h177km±8km, M4.4/13, mb4.3/6, mB5.6/2, MLv4.5/13, Mw(mB)5.2/2*
ISC 25 09:01:27.4±0.5, 7°.69S±0°.04×128°.46E±0°.05, h151km, n48, σ2°51/55, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.83**	**96**	P	Pn	09 02 18.6	+5.9
SAUI				S	**Sn**	**09 02 55.4**	**+7.8**
SAUI	**Saumlaki**	**2.83**	**96**	Pn	**Pn**	**09 02 14.0**	**+1.3**
MSAI	**Masohi**	**4.34**	**6**	P	Pn	09 02 36.9	+4.7
NLAI	**Namlea**	**4.62**	**343**	P	**Pn**	**09 02 38.9**	**+3.0**
SOEI	**Soe**	**4.62**	**243**	P	**Pn**	**09 02 38.3**	**+2.3**
SOEI				S	**Sn**	**09 03 30.7**	**+1.2**
SOEI	**Soe**	**4.62**	**243**		**Pn**	**09 02 38.4**	**+2.4**
BATI	**Baumata**	**5.36**	**242**	P	**Pn**	**09 02 46.2**	**+0.6**
	28nm,0.3s,baz=284,slow=1.1,SNR=20						
BATI				S	**Sn**	**09 03 47.1**	**+0.4**
	27nm,0.3s,baz=11,slow=23,SNR=13						
BATI	**Baumata**	**5.36**	**242**	P	**Pn**	**09 02 47.9**	**+2.3**
	41nm,0.7s,0.5nm						
BATI				S	**Sn**	**09 03 48.5**	**+1.8**
	41nm,0.7s,0.5nm						
MTN	**Manton Dam**	**5.76**	**153**		**Pn**	**09 02 54.8**	**+3.9**
MTN				Sn	**Sn**	**09 03 56.9**	**+0.6**
FAKI	**Fak Fak**	**6.06**	**39**	P	**Pn**	**09 02 55.6**	**+0.7**
FAKI	**Fak Fak**	**6.06**	**39**	Pn	**Pn**	**09 02 52.2**	**-2.7**
FAKI				Sn	**Sn**	**09 03 58.9**	**-4.5**
SANI	**Sanana**	**6.12**	**336**	P	**Pn**	**09 02 58.3**	**+2.5**
SIJI	**Sorong**	**7.33**	**23**	P	**Pn**	**09 03 10.4**	**-1.5**
	3.5nm,0.3s,baz=233,slow=20,SNR=6.0						
SIJI				S	**Sn**	**09 04 31.6**	**-2.4**
	3.5nm,0.3s,baz=286,slow=23,SNR=6.0						
SWI	**Sorong**	**7.33**	**23**	P	**Pn**	**09 03 15.1**	**+3.1**
SWI				S	**Sn**	**09 04 35.6**	**+1.6**
KNRA	**Kununurra**	**7.94**	**178**		**Pn**	**09 03 22.2**	**+2.2**
KNRA				Sn	**Sn**	**09 04 48.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.70**	**195**	P	**Pn**	**09 03 56.0**	**-0.7**
	4.0nm,0.3s,baz=24,slow=10,SNR=109						
FITZ				S	**Sn**	**09 05 49.9**	**-5.3**
	8.6nm,0.3s,baz=82,slow=16,SNR=8.5						
FITZ	**Fitzroy Crossi**	**10.70**	**195**		**Pn**	**09 03 56.5**	**-0.2**
WB0	**Warramunga Arr**	**13.31**	**155**	Pn	**Pn**	**09 04 31.4**	**+0.8**
WRAB	**Tennant Creek**	**13.44**	**155**		**Pn**	**09 04 33.3**	**+1.0**
WRA	**Warramunga Arr**	**13.45**	**156**	P	**Pn**	**09 04 33.0**	**+0.6**
	3.3nm,0.3s,baz=324,slow=14,SNR=33						
WRA				S	**Sn**	**09 06 54.5**	**-6.8**
	7.4nm,0.3s,baz=324,slow=24,SNR=14						
WRA	**Warramunga Arr**	**13.45**	**156**	Pn	**Pn**	**09 04 32.5**	**+0.1**
WB2	**Warramunga Arr**	**13.45**	**155**		**Pn**	**09 04 32.6**	**+0.1**
WR0	**Warramunga Arr**	**13.55**	**155**	Pn	**Pn**	**09 04 33.5**	**-0.1**
COEN	**Coen**	**15.73**	**115**		**P**	**09 05 03.1**	**+1.3**
COEN				IAmb	IAmb	09 05 08.0	
	2.8,5nm,1.1s						
PSA00	**Pilbara Seismi**	**16.11**	**210**		**P**	**09 05 06.9**	**+1.0**
PSA00				IAmb	IAmb	09 05 20.4	
	2,16nm,1.1s						
AS31	**Alice Springs**	**16.72**	**162**	P	**Pn**	**09 05 15.6**	**+2.6**
AS31				IAmb	IAmb	09 05 17.8	
	2,11nm,0.6s						
ASAR	**Alice Springs**	**16.72**	**162**	P	**Pn**	**09 05 15.6**	**+2.6**
	comp=Z,3.2nm,0.3s,baz=340,slow=10,SNR=340						
ASAR				S	**S**	**09 08 13.4**	**-5.5**
	comp=Z,2.2nm,0.3s,baz=327,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**16.72**	**162**	P	**Pn**	**09 05 16.2**	**+3.2**
STKA	**Stephens Creek**	**27.00**	**155**	P	**P**	**09 06 58.5**	**+3.2**
	comp=Z,1.1nm,0.4s,baz=334,slow=8.8,SNR=6.7						
NWAO	**Narrogin (SRO)**	**27.19**	**201**	P	**P**	**09 06 58.4**	**+1.5**
	comp=Z,5.5nm,0.8s,baz=32,slow=9.5,SNR=2.5						
NWAO	**Narrogin (SRO)**	**27.19**	**201**	IAmb	IAmb	09 07 03.4	
	2,25nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.03**	**312**	P	**P**	**09 08 38.9**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=153,slow=8.1,SNR=3.7						
WHN	**Wuhan**	**40.35**	**341**	P	P	09 08 55.8	+5.4
KSRS	**Korea Array**	**44.91**	**359**	P	**P**	**09 09 27.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=178,slow=8.3,SNR=2.8						
USRK	**Ussuriysk Ar.**	**51.74**	**3**	P	**P**	**09 10 18.2**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=176,slow=6.1,SNR=5.3						
SONM	**Songino Array**	**58.62**	**343**	P	**P**	**09 11 07.2**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=173,slow=7.9,SNR=5.7						
PETK	**Petropavlovsk-**	**65.46**	**19**	P	**P**	**09 11 54.4**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=191,slow=6.6,SNR=6.3						
PETK	**Petropavlovsk-**	**65.46**	**19**	P	**P**	**09 11 52.7**	**-1.3**
MK31	**Makanchi Array**	**67.97**	**328**	IAmb	IAmb	09 12 11.1	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**67.97**	**328**	P	**P**	**09 12 09.4**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=118,slow=8.1,SNR=21						
MKAR	**Makanchi Array**	**67.97**	**328**	P	**P**	**09 12 09.2**	**-0.9**
ZALV	**Zalesovo Beam**	**71.53**	**335**	P	**P**	**09 12 30.2**	**-1.5**
	comp=Z,2.5nm,0.5s,baz=123,slow=5.1,SNR=14						
KURK	**Kurchatov**	**72.32**	**329**	P	**P**	**09 12 36.2**	**-0.3**
ABKAR	**Abkulak array**	**82.10**	**322**	P	**P**	**09 13 30.2**	**-0.9**
QSPA	**South Pole Qui**	**82.29**	**180**	P	**P**	**09 13 33.1**	**+1.2**
TXAR	**Lajitas Array**	**126.59**	**59**	PKP	**PKiKP**	**09 20 14.7**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=270,slow=1.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**127.44**	**281**	PKP	**PKPdf**	**09 20 15.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=114,slow=2.5,SNR=5.1						
LPAZ	**La Paz**	**151.07**	**145**	PKPbc	**PKiKP**	**09 21 06.3**	**+1.4**
	comp=Z,2.1nm,0.4s,baz=6.4,slow=1.8,SNR=20						

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*IDC **25** 09:15:48.1±3.3, 59°.73N×153°.55W, h73km±22km, mb3.3/1, mb1 3.8/5, mb1mx3.2/40, mbtmp3.7/5, Error ellipse:*
s-maj=57.2km s-min=10.9km az=94.0
*ISCJB **25** 09:15:50.2±0.3, 59°.57N±0°.02×152°.93W±0°.05, h122km±3km, mb3.3/1, Error ellipse: s-maj=4.6km s-min=3.3km az=38.2*
*NEIC **25** 09:15:50.4±1.8, 59°.54N±0°.05×153°.0W±0°.1, h125km±5km*
*AEIC **25** 09:15:52.5±2.1, 59°.55N±0°.05×153°.0W±0°.1, h111km±5km, ML3.3*
ISC 25 09:15:51.3±0.9, 59°.57N±0°.03×153°.02W±0°.04, h118km±6km, n116, σ1°37/133, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.29**	**228**		**Pn**	**09 16 07.9**	**0.0**
AUL					**Sn**	**09 16 19.6**	**-0.8**
AUP	**Augustine Pinn**	**0.30**	**224**		**Pn**	**09 16 08.0**	**-0.1**
AUH	**Augustine H**	**0.30**	**226**		**Pn**	**09 16 08.1**	**+0.1**
ILS	**Iliamna Low So**	**0.39**	**356**		**Pn**	**09 16 08.2**	**-0.2**
ILW	**Iliamna West**	**0.49**	**353**		**Pn**	**09 16 08.9**	**-0.2**
ILW					**Sn**	**09 16 22.1**	**-0.5**
HOM	**Homer**	**0.70**	**83**		**Pn**	**09 16 10.9**	**+0.5**
HOM				Sn	**Sn**	**09 16 24.8**	**-0.1**
FOSS	**Fourpeaked Sta**	**0.85**	**204**		**Pn**	**09 16 11.6**	**-0.1**
RSO	**Redoubt South**	**0.90**	**8**		**Pn**	**09 16 12.3**	**-0.1**
RSO				Sn	**Sn**	**09 16 27.9**	**-0.4**
CNPM	**China Poot**	**0.91**	**92**		**Pn**	**09 16 12.4**	**+0.2**
CNPM				Sn	**Sn**	**09 16 27.3**	**-0.7**
RDWB	**Redoubt West**	**0.92**	**5**		**Pn**	**09 16 12.4**	**-0.1**
DFR	**Drift River**	**1.03**	**9**		**Pn**	**09 16 13.6**	**+0.1**
BRLK	**Bradley Lake**	**1.10**	**79**		**Pn**	**09 16 14.0**	**-0.1**
BRLK	**Bradley Lake**	**1.10**	**79**	Sn	**Sn**	**09 16 30.4**	**-1.0**
BRSE	**Bradley Lake S**	**1.17**	**81**		**Pn**	**09 16 14.7**	**-0.1**
BRSE					**Sn**	**09 16 31.5**	**-1.1**
KAHG	**Katmai Hook Gl**	**1.34**	**217**		**Pn**	**09 16 16.9**	**+0.2**
CKL	**Chakachamna La**	**1.66**	**11**		**Pn**	**09 16 20.7**	**+0.2**
KAKN	**Katmai Knife C**	**1.66**	**220**		**Pn**	**09 16 20.6**	**+0.1**
SPWE	**Spurr West**	**1.72**	**7**		**Pn**	**09 16 22.1**	**+0.9**
CGLM	**Capps Glacier**	**1.81**	**16**		**Pn**	**09 16 22.9**	**+0.6**
KDAK	**Kodiak Island**	**1.81**	**173**	P	**Pn**	**09 16 21.2**	**-1.0**
	24nm,0.3s,baz=38,slow=8.2,SNR=197						
KDAK				S	**Sn**	**09 16 44.6**	**-1.3**
	41nm,0.3s,baz=133,slow=23,SNR=12						
KDAK	**Kodiak Island**	**1.81**	**173**		**Pn**	**09 16 21.5**	**-0.7**
KDAK	**Kodiak Island**	**1.81**	**173**		**Pn**	**09 16 21.7**	**-0.5**
KDAK	**Kodiak Island**	**1.81**	**173**		**Pn**	**09 16 24.3**	**+2.1**
KDAK				Sn	**Sn**	**09 16 44.5**	**-1.3**
SEW	**Seward**	**1.88**	**72**		**Pn**	**09 16 23.0**	**0.0**
SEW					**Sn**	**09 16 45.3**	**-1.9**
SEW	**Seward**	**1.88**	**72**	Sn	**Sn**	**09 16 45.5**	**-1.7**
SVW2	**Sparrevohn**	**1.99**	**321**		**Pn**	**09 16 24.1**	**-0.3**
SUA	**Susitna One**	**2.20**	**30**	Pn	**Pn**	**09 16 28.0**	**+0.8**
SUA				Sn	**Sn**	**09 16 55.0**	**+0.2**
RC01	**Rabbit Creek A**	**2.23**	**46**		**Pn**	**09 16 27.7**	**+0.3**
RC01				Sn	**Sn**	**09 16 54.2**	**-1.0**
OHAK	**Old Harbor**	**2.36**	**184**	Pn	**Pn**	**09 16 28.0**	**-1.2**
OHAK	**Old Harbor**	**2.36**	**184**		**Sn**	**09 16 55.1**	**-3.1**
SKT	**Skwentna**	**2.52**	**16**		**Pn**	**09 16 31.4**	**+0.2**
PMR	**Palmer**	**2.79**	**42**		**Pn**	**09 16 34.2**	**-0.3**
KNK	**Knik Glacier**	**2.91**	**49**		**Pn**	**09 16 36.1**	**-0.2**
KNK				Sn	**Sn**	**09 17 09.1**	**-2.0**
GHO	**Glory Hole Cre**	**2.99**	**41**		**Pn**	**09 16 36.9**	**-0.4**
GHO	**Glory Hole Cre**	**2.99**	**41**		**Sn**	**09 17 10.7**	**-2.1**
GHO	**Glory Hole Cre**	**2.99**	**41**		**Pn**	**09 16 37.3**	**0.0**
SII	**Sitkinak Islan**	**3.09**	**192**	Pn	**Pn**	**09 16 38.8**	**+0.2**
SII				Sn	**Sn**	**09 17 12.2**	**-2.8**
SML	**Sawmill**	**3.21**	**44**		**Pn**	**09 16 39.7**	**-0.6**
SML	**Sawmill**	**3.21**	**44**	Sn	**Sn**	**09 17 17.0**	**-1.1**
GLI	**Glacier Island**	**3.23**	**64**		**Pn**	**09 16 39.5**	**-1.0**
PPLA	**Purkeypile**	**3.36**	**6**		**Pn**	**09 16 43.2**	**+0.9**
HIN	**Hinchinbrook I**	**3.38**	**73**		**Pn**	**09 16 42.3**	**-0.1**
HIN	**Hinchinbrook I**	**3.38**	**73**	Sn	**Sn**	**09 17 18.4**	**-3.5**
FID	**Port Fidalgo**	**3.48**	**67**		**Pn**	**09 16 42.6**	**-1.1**
JPK	**Jack Peak**	**3.52**	**62**		**Pn**	**09 16 44.0**	**-0.3**
SCM	**Sheep Creek Mo**	**3.60**	**49**		**Pn**	**09 16 45.1**	**-0.2**
SCM	**Sheep Creek Mo**	**3.60**	**49**	Sn	**Sn**	**09 17 27.0**	**-0.3**
TT01	**Tatalina**	**3.65**	**338**		**Pn**	**09 16 45.9**	**0.0**
TTA	**Tatalina**	**3.67**	**338**		**Pn**	**09 16 46.1**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.77**	**72**		**Pn**	**09 16 47.2**	**-0.3**
HUR	**Hurricane**	**3.79**	**24**		**Pn**	**09 16 48.5**	**+0.7**
WAT1	**Susitna Watana**	**3.92**	**32**		**Pn**	**09 16 49.5**	**-0.1**
WAT6	**Susitna Watana**	**3.96**	**38**		**Pn**	**09 16 50.0**	**-0.3**
CHIR	**Chirikof Islan**	**4.01**	**201**	Pn	**Pn**	**09 16 49.9**	**-1.0**
CHIR				Sn	**Sn**	**09 17 34.9**	**-2.1**
WAT2	**Susitna Watana**	**4.02**	**30**		**Pn**	**09 16 50.8**	**-0.2**
TRF	**Thorofare Moun**	**4.10**	**17**		**Pn**	**09 16 52.4**	**+0.3**
KTH	**Kantishna Hill**	**4.12**	**13**		**Pn**	**09 16 51.9**	**-0.3**
KTH	**Kantishna Hill**	**4.12**	**13**	Sn	**Sn**	**09 17 38.5**	**-1.0**
RAGM	**Ragged Mountai**	**4.27**	**75**	Pn	**Pn**	**09 16 55.4**	**+1.1**
RND	**Reindeer**	**4.33**	**26**		**Pn**	**09 16 55.1**	**-0.1**
DHY	**Denali Highway**	**4.44**	**35**		**Pn**	**09 16 56.5**	**-0.2**
DHY	**Denali Highway**	**4.44**	**35**	Sn	**Sn**	**09 17 47.0**	**-0.5**
MCK	**McKinley**	**4.60**	**23**		**Pn**	**09 16 59.0**	**+0.3**
BPAW	**Bear Paw Mtn.**	**4.64**	**11**		**Pn**	**09 16 59.4**	**+0.2**
BWN	**Browne**	**4.91**	**18**		**Pn**	**09 17 03.2**	**+0.4**
GLB	**Gilahina Butte**	**4.92**	**64**		**Pn**	**09 17 03.0**	**-0.1**
GLB	**Gilahina Butte**	**4.92**	**64**	Sn	**Sn**	**09 17 56.2**	**-2.7**
PAX	**Paxson**	**4.99**	**44**		**Pn**	**09 17 04.2**	**+0.2**
VRDI	**Verde Repeater**	**5.03**	**67**		**Pn**	**09 17 04.8**	**+0.2**
VRDI	**Verde Repeater**	**5.03**	**67**	Sn	**Sn**	**09 17 58.8**	**-2.8**
CRQM	**Cirque**	**5.08**	**72**	Sn	**Sn**	**09 17 56.9**	**-5.9**
TGL	**Tana Glacier**	**5.22**	**73**	Pn	**Pn**	**09 17 07.4**	**+0.6**
MCARA	**McCarthy VSAT**	**5.27**	**66**		**Pn**	**09 17 08.4**	**+0.8**
MCARA				Sn	**Sn**	**09 18 06.5**	**-0.7**
NEA	**Nenana**	**5.35**	**19**		**Pn**	**09 17 08.6**	**-0.1**
WRH	**Wood River Hil**	**5.43**	**23**		**Pn**	**09 17 09.6**	**-0.3**
KIAG	**Kiagna River**	**5.48**	**71**		**Pn**	**09 17 11.2**	**+0.5**
PTPK	**Patty Peak**	**5.48**	**68**		**Pn**	**09 17 10.9**	**+0.2**
BALM	**Baldy**	**5.51**	**70**		**Pn**	**09 17 11.4**	**+0.5**
BALM	**Baldy**	**5.51**	**70**	Sn	**Sn**	**09 18 10.3**	**-2.8**
MLY	**Manley**	**5.58**	**10**		**Pn**	**09 17 11.7**	**-0.2**
HDA	**Harding Lake**	**5.63**	**28**		**Pn**	**09 17 12.4**	**-0.1**
HDA	**Harding Lake**	**5.63**	**28**	Sn	**Sn**	**09 18 14.4**	**-1.5**
CCB	**Clear Creek Bu**	**5.65**	**23**		**Pn**	**09 17 12.0**	**-0.7**
RIDG	**Independent Ri**	**5.71**	**39**		**Pn**	**09 17 14.1**	**+0.5**
TCOL	**CIGO, UAF Yank**	**5.84**	**22**		**Pn**	**09 17 14.9**	**-0.3**
COLA	**College**	**5.84**	**22**		**Pn**	**09 17 15.2**	**0.0**
COLA	**College**	**5.84**	**22**		**Pn**	**09 17 15.4**	**+0.2**
SDPT	**Sand Point**	**5.84**	**227**	Pn	**Pn**	**09 17 14.5**	**-0.9**
MDM	**Murphy Dome**	**5.85**	**20**		**Pn**	**09 17 15.2**	**-0.2**
IL31		**5.95**	**26**		**Pn**	**09 17 16.1**	**-0.7**
IL31		**5.95**	**26**	Sn	**Sn**	**09 18 19.3**	**-4.2**
ILAR	**Eielson Array**	**5.95**	**26**	P	**Pn**	**09 17 14.7**	**-2.2**
	2.0nm,0.3s,baz=217,slow=14,SNR=87						
ILAR				S	**Sn**	**09 18 19.1**	**-4.5**
	2.7nm,0.3s,baz=218,slow=29,SNR=12						
ILAR	**Eielson Array**	**5.95**	**26**	Pn	**Pn**	**09 17 16.2**	**-0.6**
CTGM	**Chitina Glacie**	**5.98**	**72**	Sn	**Sn**	**09 18 20.8**	**-3.8**
CTGM	**Chitina Glacie**	**5.98**	**72**		**Pn**	**09 17 18.2**	**+0.8**
POKR	**Poker Plat Res**	**6.14**	**23**		**Pn**	**09 17 19.0**	**-0.4**
SCRK	**Sand Creek**	**6.15**	**40**		**Pn**	**09 17 18.9**	**-0.7**
YUK2	**White River**	**6.38**	**64**		**Pn**	**09 17 23.1**	**+0.4**
BC03		**6.44**	**52**		**Pn**	**09 17 23.8**	**+0.4**
BCAR	**Beaver Creek A**	**6.44**	**52**	Pn	**Pn**	**09 17 23.6**	**+0.1**
IM03		**6.44**	**357**		**Pn**	**09 17 23.5**	**+0.1**
IMAR	**Indian Mountai**	**6.44**	**357**	Pn	**Pn**	**09 17 24.2**	**+0.7**
PCA	**Pinnacle**	**6.46**	**80**	Pn	**Pn**	**09 17 25.0**	**+1.2**
PCA				Sn	**Sn**	**09 18 34.3**	**-1.6**
YUK3	**Moose Creek**	**6.55**	**65**		**Pn**	**09 17 25.9**	**+0.7**
YUK1	**Sand Pete Hill**	**6.62**	**62**		**Pn**	**09 17 27.0**	**+1.0**
PNL	**Peninsula**	**6.91**	**83**		**Pn**	**09 17 29.8**	**-0.1**
YUK4	**Talbot Arm**	**7.32**	**70**		**Pn**	**09 17 36.8**	**+1.2**
COLD	**Coldfoot**	**7.79**	**8**		**Pn**	**09 17 41.5**	**-0.1**
HYT	**Haines Junctio**	**7.83**	**74**	Pn	**Pn**	**09 17 44.6**	**+2.2**
BMAR	**Burnt Mountain**	**8.73**	**22**	Pn	**Pn**	**09 17 53.8**	**-0.6**
UNV	**Unalaska Valle**	**9.37**	**238**	Pn	**Pn**	**09 18 02.9**	**-0.1**
JIS	**Juneau Island**	**9.72**	**90**	Pn	**Pn**	**09 18 11.2**	**+3.4**
INK	**Inuvik**	**12.19**	**36**	P	**Pn**	**09 18 39.5**	**-1.1**
	0.2nm,0.3s,baz=229,slow=15,SNR=11						
INK	**Inuvik**	**12.19**	**36**		**Pn**	**09 18 40.6**	**+0.1**
YKA	**Yellowknife Ar**	**18.64**	**64**	P	**Pn**	**09 20 00.8**	**-0.2**
	0.3nm,0.3s,baz=277,slow=9.9,SNR=11						
NVAR	**Mina Array Bea**	**30.53**	**118**	P	**P**	**09 21 57.2**	**+3.9**
	0.6nm,0.8s,baz=322,slow=7.1,SNR=4.7						

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*ISCJB **25** 09:28:34.6±0.3, 24°.22S±0°.03×67°.28W±0°.03, h189km±5km, mb4.1/2, Error ellipse: s-maj=5.6km s-min=3.6km az=150.5*
*IDC **25** 09:28:35.0±1.5, 24°.19S×67°.04W, h162km±26km, mb3.3/1, mb1 3.3/7, mb1mx3.2/26, mbtmp3.7/7, Error ellipse:*
s-maj=30.8km s-min=15.2km az=108.0
*SJA **25** 09:28:35.2±0.8, 24°.19S×67°.22W, h187km±6km, ML2.3*
*GUC **25** 09:28:37.3±0.5, 24°.13S×67°.57W, h193km±7km, ML3.6*
ISC 25 09:28:35.0±0.8, 24°.20S±0°.04×67°.25W±0°.04, h183km±10km, n44, σ1°61/81, 8C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.96**	**60**	*i* P	**Pn**	**09 29 13.1**	**+0.8**
HJA				*i* S	**Sn**	**09 29 41.6**	**+0.5**
AZAP	**Zapla**	**2.00**	**91**	*i* P	**Pn**	**09 29 13.1**	**+0.6**
AZAP				IAML		09 29 14.0	
	comp=Z,24nm,0.5s						
AZAP				*i* S	**Sn**	**09 29 42.3**	**+0.8**
LVC	**Limon Verde**	**2.20**	**316**	*e*P	**Pn**	**09 29 16.5**	**+1.6**
LVC				*i* S	**Sn**	**09 29 46.0**	**+0.3**
LVC	**Limon Verde**	**2.20**	**316**	P	**Pn**	**09 29 16.1**	**+1.3**
	comp=Z,4.2nm,0.3s,baz=157,slow=7.7,SNR=73						
LVC				S	**Sn**	**09 29 46.0**	**+0.3**
	comp=Z,12nm,0.3s,baz=93,slow=16,SNR=25						
LVC	**Limon Verde**	**2.20**	**316**	*i* P	**Pn**	**09 29 16.6**	**+1.8**
LVC				*i* S	**Sn**	**09 29 46.4**	**+0.7**
PB15	**IPOC Station P**	**2.26**	**296**	⇑*i*P	**Pn**	**09 29 17.1**	**+1.7**
PB15				*i* S	**Sn**	**09 29 46.9**	**+0.2**
PB15	**IPOC Station P**	**2.26**	**296**	*i* P	**Pn**	**09 29 17.1**	**+1.7**
PB15				*i* S	**Sn**	**09 29 47.6**	**+1.0**
GO02	**Mina Guanaco**	**2.33**	**245**	⇑*i*P	**Pn**	**09 29 17.8**	**+1.6**
GO02				*i* S	**Sn**	**09 29 49.6**	**+1.3**
GO02				IAML		09 29 50.5	
	comp=N,441nm,0.2s						
PB06	**IPOC Station P**	**2.60**	**305**	⇑*i*P	**Pn**	**09 29 20.7**	**+1.5**
PB06				*i* S	**Sn**	**09 29 53.2**	**-0.3**
PB06				IAML		09 29 56.2	
	comp=N,213nm,0.4s						
PB06	**IPOC Station P**	**2.60**	**305**	*i* P	**Pn**	**09 29 20.7**	**+1.5**
PB06				*i* S	**Sn**	**09 29 53.4**	**-0.2**
PB09	**IPOC Station P**	**3.02**	**322**	⇑*i*P	**Pn**	**09 29 26.1**	**+1.9**
PB09				*i* S	**Sn**	**09 30 03.2**	**+0.7**
PB09				IAML		09 30 04.3	
	comp=N,154nm,0.6s						
PB09	**IPOC Station P**	**3.02**	**322**	*i* P	**Pn**	**09 29 26.2**	**+2.1**
PB09				*i* S	**Sn**	**09 30 03.4**	**+0.8**
PB05	**IPOC Station P**	**3.02**	**296**	⇑*i*P	**Pn**	**09 29 25.2**	**+1.0**
PB05				*i* S	**Sn**	**09 30 01.1**	**-1.4**
PB05				IAML		09 30 05.4	
	comp=E,77nm,0.5s						
PB05	**IPOC Station P**	**3.02**	**296**	*i* P	**Pn**	**09 29 25.4**	**+1.2**
PB05				*i* S	**Sn**	**09 30 01.6**	**-0.9**
PB10	**IPOC Station P**	**3.10**	**282**	*i* P	**Pn**	**09 29 26.1**	**+1.1**
PB10				*i* S	**Sn**	**09 30 02.8**	**-1.2**
PB10				IAML		09 30 07.5	
	comp=E,46nm,0.7s						
PB10	**IPOC Station P**	**3.10**	**282**	*i* P	**Pn**	**09 29 26.4**	**+1.5**
PB10				*i* S	**Sn**	**09 30 04.2

YUK3				Sg	Sg	09 37 52.8	-6.6
BVCY	**Beaver Creek**	**6.02**	**274**	Sn	Sn	09 37 23.3	-4.7
BVCY				Sg	Sg	09 37 55.6	-5.9
YKW3	**Yellowknife Ar**	**6.12**	**85**	Pn	Pn	09 36 17.8	-1.9
YKW3				Sn	Sn	09 37 24.9	-5.4
YUK2	**White River**	**6.13**	**268**	Pn	Pn	09 36 18.2	-1.8
YUK2				Sg	Sg	09 37 57.7	-7.3
INK	**Inuvik**	**6.18**	**340**	Pn	Pn	09 36 19.1	-1.4
YKW1	**Yellowknife Ar**	**6.18**	**85**	Pn	Pn	09 36 19.1	-1.4
YKW1				Sn	Sn	09 37 25.5	-6.2
CTGM	**Chitina Glacie**	**6.60**	**261**	Sg	Sg	09 38 13.2	-6.8
SAMH	**Samovar Hills**	**6.69**	**254**	Sg	Sg	09 38 16.1	-6.8
BALM	**Baldy**	**7.04**	**263**	Sg	Sg	09 38 27.2	-6.9
PTPK	**Patty Peak**	**7.04**	**265**	Sg	Sg	09 38 27.4	-6.9
KIAG	**Kiagna River**	**7.08**	**263**	Sg	Sg	09 38 28.3	-7.2
DOT	**Dot Lake**	**7.41**	**285**	Sg	Sb	09 38 36.0	+10
KUKN	**Kugluktuk,NWT**	**7.47**	**40**	Pn	Pn	09 36 37.5	-0.8
KUKN				Sn	Sn	09 37 57.3	-6.3
NBC4	**NorthernBC 4**	**7.87**	**149**	Sn	Sn	09 38 06.3	-7.2

*ISK **25** 09:37:56.8, 33°52′N×25°74′E, h33km, ML3.9/6*
*HLW **25** 09:37:56.9, 33°98′N×25°68′E, h19km±15km, Md3.5, Ml3.5*
*ISCJB **25** 09:37:57.5±0.4, 33°75′N±0°03×25°71′E±0°05, h17km, Error ellipse: s-maj=6.2km s-min=4.0km az=1.3*
*ATH **25** 09:38:03.0, 34°15′N×25°57′E, h67km±16km, ML2.8/2, Error ellipse: s-maj=18.0km s-min=2.3km az=357.0*
*THE **25** 09:38:06.3, 34°31′N×25°51′E, h23km±4km, ML2.6/2, Error ellipse: s-maj=5.7km s-min=1.0km az=167.0*

ISC 25 09:37:58.2±1.2, 33°83′N±0°04×25°60′E±0°05, h17km, n31, σ1°51/37, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.19**	**5**	P	**Pn**	**09 38 20.1**	**+0.1**
SIVA	**Sivas**	**1.35**	**331**	P	**Pn**	**09 38 22.9**	**+0.6**
SIVA				S	**Sn**	**09 38 34.8**	**-5.0**
	560nm,0.5s						
SIVA	**Sivas**	**1.35**	**331**	P	**Pn**	**09 38 23.0**	**+0.7**
SIVA				AML	AML	09 38 57.8	
	comp=N,962μm,0.5s						
SIVA				AML	AML	09 38 58.2	
	comp=E,1222μm,0.6s						
ZKR	**Zakros**	**1.38**	**21**	P	**Pn**	**09 38 23.2**	**+0.5**
ZKR				S	**Sn**	**09 38 37.0**	**-3.5**
	comp=E,272nm,0.7s						
ZKR	**Zakros**	**1.38**	**21**	P	**Pn**	**09 38 23.6**	**+1.0**
ZKR				AML	AML	09 38 57.4	
	comp=E,790μm,0.9s						
ZKR				AML	AML	09 38 58.7	
	comp=N,286μm,0.5s						
ZKR	**Zakros**	**1.38**	**21**	PN	**Pn**	**09 38 23.8**	**+1.1**
ZKR				SN	**Sg**	**09 38 44.2**	**+1.4**
STIA	**Sitia Lasithi**	**1.43**	**16**	P	**Pn**	**09 38 24.2**	**+0.9**
NPS	**Neapolis**	**1.43**	**0**	P	**Pn**	**09 38 23.7**	**+0.3**
GVD	**Gavdhos**	**1.61**	**309**	P	**Pn**	**09 38 27.5**	**+1.7**
GVD	**Gavdhos**	**1.61**	**309**	P	**Pn**	**09 38 27.7**	**+1.9**
GVDS	**Gavdos**	**1.61**	**309**	P	**Pn**	**09 38 27.8**	**+2.0**
VAM	**Vamos**	**1.95**	**324**	P	**Pn**	**09 38 31.2**	**+0.7**
VAM	**Vamos**	**1.95**	**324**	P	**Pn**	**09 38 31.8**	**+1.3**
IMMV	**Iera Moni Meta**	**2.10**	**321**	P	**Pn**	**09 38 33.9**	**+1.2**
KARP	**Karpathos**	**2.14**	**36**	P	**Pn**	**09 38 34.7**	**+1.6**
KARP	**Karpathos**	**2.14**	**36**	PN	**Pn**	**09 38 34.1**	**+0.9**
KARP				SN	**Sn**	**09 39 00.9**	**+1.5**
SLUM	**Salum**	**2.35**	**188**	P	**Pn**	**09 38 35.9**	**-0.1**
	baz=190						
SLUM				AMP		09 39 00.0	
	baz=190						
SLUM				S	**Sn**	**09 39 04.8**	**+0.2**
	baz=190						
KTHA	**Kythira Island**	**3.19**	**320**	P	**Pn**	**09 38 49.0**	**+1.4**
VLI	**Veliai**	**3.61**	**324**	P	**Pn**	**09 38 54.7**	**+1.3**
DALY	**Dalyan (Mula)**	**3.89**	**39**	PN	**Pn**	**09 38 58.6**	**+1.5**
FETY	**Fethiye**	**3.99**	**45**	PN	**Pn**	**09 38 59.8**	**+1.2**
AKAS	**Kas**	**4.07**	**53**	PN	**Pn**	**09 39 00.3**	**+0.6**
ELL	**Elmali**	**4.57**	**49**	PN	**Pn**	**09 39 07.6**	**+1.0**
SWA2		**4.58**	**182**	P	**Pn**	**09 39 07.7**	**+1.1**
	baz=183						
SWA2				S	**Sn**	**09 39 58.4**	**-1.0**
	baz=183						
SWA2				AMP		09 40 00.0	
	baz=183						
KORT	**Korkueli**	**5.00**	**49**	PN	**Pn**	**09 39 13.8**	**+1.2**
HNAT	**Natroun**	**5.98**	**133**	P	**Pn**	**09 39 25.4**	**-0.5**
	baz=134						
HNAT				AMP		09 40 00.0	
	baz=134						
TEKE	**Tekeli-Mersin**	**6.58**	**67**	PN	**Pn**	**09 39 33.4**	**-0.8**
TEVE	**Tevekalti-Mers**	**6.93**	**66**	PN	**Pn**	**09 39 39.4**	**+0.4**
HFRF	**Wahat Farafira**	**7.06**	**160**	P	**Pn**	**09 39 40.7**	**0.0**
	baz=160						
NBNS	**Bani Suef**	**7.12**	**135**	P	**Pn**	**09 39 41.6**	**0.0**
	baz=136						
SUZ	**Suez**	**7.33**	**121**	P	**Pn**	**09 39 43.7**	**-0.7**
	baz=122						

SNET 25 09:38:53.7±0.6, 12°99N×89°39W, h20km±7km, ML2.5,3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.71**	**13**	*e*P	Pb	09 39 06.4	-1.1
SNET				*e*S	Sb	09 39 17.5	+0.7
SNET				IAML		09 39 18.8	
	comp=Z,179nm,0.1s						
SNET	**Serv Nac Est T**	**0.71**	**13**	*e*P	Pb	09 39 07.1	-0.3
SNET				*e*S	Sb	09 39 17.6	+0.8
SNET				IAML		09 39 20.9	
	comp=Z,187nm,0.2s						
UEES	**Universidad Ev**	**0.73**	**12**	*e*P	Pb	09 39 07.4	-0.5
UEES				*e*S	Sb	09 39 18.5	+1.0
UEES				IAML		09 39 20.0	
	comp=Z,254nm,0.3s						
UEES	**Universidad Ev**	**0.73**	**12**	*e*P	Pb	09 39 07.5	-0.4
UEES				*e*S	Sb	09 39 18.4	+0.9
UEES				IAML		09 39 20.1	
	comp=Z,266nm,0.3s						
OPAM	**Oficina de Pla**	**0.74**	**15**	*e*P	Pb	09 39 07.7	-0.3
OPAM				IAML		09 39 20.9	
	comp=Z,263nm,0.3s						
UESS	**Universidad de**	**0.75**	**14**	*e*S	Sn	09 39 19.2	-0.8
COEG	**Centro de Oper**	**0.80**	**39**	*e*P	Pb	09 39 08.6	-0.3
COEG				*e*S	Sb	09 39 20.2	+0.9
COEG				IAML		09 39 22.3	
	comp=Z,134nm,0.2s						
COEG	**Centro de Oper**	**0.80**	**39**	*e*P	Pb	09 39 08.6	-0.4
COEG				IAML		09 39 22.3	
	comp=Z,140nm,0.2s						
LFU	**La Fuente**	**0.80**	**20**	*e*P	Pb	09 39 08.9	0.0
PAVA	**Las Pavas**	**0.84**	**32**	*e*P	Pb	09 39 09.5	-0.2
PAVA				*e*S	Sn	09 39 22.1	-0.3
PAVA	**Las Pavas**	**0.84**	**32**	*e*P	Pb	09 39 09.5	-0.2
PAVA				IAML		09 39 23.3	
	comp=Z,249nm,0.2s						
UESV	**Universidad de**	**0.87**	**43**	*e*S	Sb	09 39 21.9	+0.6
SBLS	**San Blas**	**0.87**	**345**	*e*P	Pb	09 39 10.2	-0.1
COEB	**Comit de Eme**	**0.98**	**59**	*e*P	Pb	09 39 11.5	-0.6
COEB				*e*S	Sn	09 39 25.6	-0.1
COEB				IAML		09 39 26.9	
	comp=Z,70nm,0.2s						
COEB	**Comit de Eme**	**0.98**	**59**	*e*P	Pb	09 39 11.6	-0.5
COEB				*e*S	Sn	09 39 25.4	-0.3
COEB				IAML		09 39 26.9	
	comp=Z,74nm,0.2s						
FAME	**Alcalda de S**	**1.04**	**324**	*e*S	Sb	09 39 22.8	-3.5
PACA	**Pacayal**	**1.14**	**65**	*e*P	Pn	09 39 14.4	-0.3
PACA				*e*S	Sn	09 39 29.9	+0.2
PACA				IAML		09 39 33.0	
	comp=Z,23μm,0.2s						
PACA	**Pacayal**	**1.14**	**65**	*e*P	Pn	09 39 14.3	-0.3
LCY	**Lacayo**	**1.15**	**68**	*e*P	Pn	09 39 14.5	-0.3
LCND	**La Caada**	**1.50**	**78**	*e*S	Sb	09 39 38.9	-0.5
LCND	**La Caada**	**1.50**	**78**	*e*P	Pn	09 39 19.2	-0.2
LCND				IAML		09 39 42.3	
	comp=Z,78nm,0.3s						

*GCG **25** 09:54:54.2±0.8, 13°03N×92°02W, h33km, MD5.0*
*IDC **25** 09:54:56.6±0.5, 13°63N×91°32W, h0km, mb4.7/23, mb1 4.9/25, mb1mx4.7/37, mbtmp4.7/25, ML4.2/2, MS4.5/9, Ms1 4.5/9, ms1mx4.1/43, Error ellipse: s-maj=24.7km s-min=10.6km az=56.0*
*MEX **25** 09:54:57.3±0.5, 13°16N×91°66W, h20km, MD4.4*
*SNET **25** 09:55:00.5±0.9, 13°63N×91°74W, h35km±999km, ML4.3*
*NEIC **25** 09:55:02.5±2.4, 13°53N±0°07×91°63W±0°06, h39km±5km, mb4.9/275, Md4.4(MEX)*
*MOS **25** 09:55:04.3±1.4, 13°69N×91°28W, h64km, mb5.1/11, Error ellipse: s-maj=12.8km s-min=6.3km az=113.2*
*ISCJB **25** 09:55:04.2±0.4, 13°67N±0°02×91°42W±0°02, h69km±3km, mb4.7/38, Error ellipse: s-maj=4.6km s-min=2.6km az=135.4*

ISC 25 09:55:02.2±0.3, 13°54N±0°05×91°63W±0°05, h40km±2km, n806, σ1°31/729, mb4.9/143, MS4.8/7, 7C-8D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**1.17**	**3**	*i*P	**Pn**	**09 55 22.5**	**+0.3**
FUG	**Fuego 3**	**1.18**	**40**	*e*P	**Pn**	**09 55 23.5**	**+1.0**
PCG	**Pacaya**	**1.30**	**49**	*e*P	**Pn**	**09 55 25.5**	**+1.3**
IXG	**Ixpaco**	**1.31**	**61**	*i*P	**Pn**	**09 55 24.8**	**+0.6**
THIG		**1.50**	**336**	*e*P	**Pn**	**09 55 25.1**	**-1.5**
THIG				*i* S	**Sn**	**09 55 46.0**	**+1.1**
THIG		**1.50**	**336**		**Pn**	**09 55 25.1**	**-1.5**
THIG					**Sn**	**09 55 44.9**	**0.0**
NBG	**Las Nubes**	**1.62**	**50**	*e*P	**Pn**	**09 55 30.9**	**+2.3**
APG	**El Apazote**	**1.84**	**38**	Pg	**Pn**	**09 55 33.6**	**+2.0**
	99nm,0.3s,baz=204,slow=9.3,SNR=358						
APG				Lg	Lg	09 55 54.1	
	145nm,0.3s,baz=285,slow=15,SNR=6.6						
RTR	**El Retiro**	**1.96**	**79**	*e*P	**Pn**	**09 55 33.4**	**+0.3**
CEVE	**Cerro Verde**	**1.97**	**81**	*e*P	**Pn**	**09 55 33.8**	**+0.4**
SBLS	**San Blas**	**1.97**	**81**	*e*P	**Pn**	**09 55 33.1**	**-0.3**
SNJE	**San Jose**	**1.99**	**80**	*e*P	**Pn**	**09 55 33.5**	**-0.1**
UEES	**Universidad Ev**	**2.33**	**85**	*e*P	**Pn**	**09 55 38.2**	**+0.1**
UEES				IAML		09 56 22.7	
	comp=Z,2μm,0.5s						
SNET	**Serv Nac Est T**	**2.33**	**86**	*e*P	**Pn**	**09 55 38.1**	**-0.1**
SNET				*e*S	**Sn**	**09 56 07.7**	**+2.0**
SNET				IAML		09 56 23.4	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**2.33**	**86**		**Pn**	**09 55 37.7**	**-0.5**
SNET				Sn	**Sn**	**09 56 09.2**	**+3.5**
OPAM	**Oficina de Pla**	**2.37**	**86**	*e*P	**Pn**	**09 55 39.0**	**+0.3**
MRL	**Marmol**	**2.43**	**51**	*e*P	**Pn**	**09 55 42.3**	**+2.7**
LFU	**La Fuente**	**2.45**	**85**	*e*P	**Pn**	**09 55 40.4**	**+0.6**
PAVA	**Las Pavas**	**2.62**	**86**	*e*P	**Pn**	**09 55 42.7**	**+0.6**
PCIG		**2.65**	**325**	*e*P	**Pn**	**09 55 40.5**	**-2.0**
PCIG				*e*S	**Sn**	**09 56 14.1**	**+0.8**
PCIG		**2.65**	**325**		**Pn**	**09 55 40.5**	**-2.0**
COEG	**Centro de Oper**	**2.67**	**88**	*e*P	**Pn**	**09 55 43.4**	**+0.5**
COEG				IAML		09 56 32.6	
	comp=Z,1μm,0.7s						
CCIG	**Comitan**	**2.77**	**350**	Sn	**Sn**	**09 56 12.0**	**-4.6**
ALJI	**Alcalda de J**	**2.98**	**94**	*e*P	**Pn**	**09 55 46.8**	**-0.3**
COEB	**Comit de Eme**	**3.01**	**90**	*e*P	**Pn**	**09 55 47.6**	**+0.1**
COEB				IAML		09 56 36.0	
	comp=Z,801nm,0.5s						
TECA	**Tecapa**	**3.04**	**90**	*e*P	**Pn**	**09 55 48.2**	**+0.2**
PACA	**Pacayal**	**3.21**	**91**	*e*P	**Pn**	**09 55 50.5**	**+0.1**
TGIG		**3.53**	**336**	*e*P	**Pn**	**09 55 54.3**	**-0.4**
TGIG				*i* S	**Sn**	**09 56 37.8**	**+2.6**
TGIG		**3.53**	**336**		**Pn**	**09 55 55.0**	**+0.3**
LCND	**La Caada**	**3.64**	**93**	*e*P	**Pn**	**09 55 56.3**	**+0.2**
TGUH	**Tegucigalpa,Un**	**4.26**	**83**		**Pn**	**09 56 05.2**	**+0.4**
CMIG	**Matias Romero**	**4.73**	**319**	Pn	**Pn**	**09 56 09.4**	**-1.6**
	comp=Z,3.9nm,0.3s,baz=148,slow=12,SNR=36						
CMIG				Sn	**Sn**	**09 57 02.9**	**-1.7**
	comp=Z,10nm,0.3s,baz=84,slow=15,SNR=4.2						
CMIG				LR	LR	09 58 15.6	
	comp=Z,2μm,21.9s,baz=144,slow=41						
CMIG	**Matias Romero**	**4.73**	**319**	*e*P	**Pn**	**09 56 09.0**	**-2.0**
CMIG				*i* S	**Sn**	**09 57 05.4**	**+0.7**
CMIG	**Matias Romero**	**4.73**	**319**		**Pn**	**09 56 09.0**	**-2.0**
ESTN	**Estel**	**5.14**	**94**	Pn	**Pn**	**09 56 16.3**	**-0.5**
ESTN				Sn	**Sn**	**09 57 15.2**	**+0.3**
ACON	**Acoyapa**	**6.49**	**103**		**Pn**	**09 56 33.6**	**-1.6**
ESPN	**Las Esperanzas**	**7.27**	**100**		**Pn**	**09 56 45.7**	**-0.3**
JTS	**Las Juntas de**	**7.29**	**116**	*e*P	**Pn**	**09 56 47.2**	**+1.0**
JTS	**Las Juntas de**	**7.29**	**116**	Pn	**Pn**	**09 56 47.4**	**+1.2**
	comp=Z,32μm,0.3s,baz=128,slow=0.0,SNR=23						
JTS				Sn	**Sn**	**09 58 04.5**	**-3.2**
	baz=359,slow=0.0,SNR=2.1						
TEIG	**Tepich**	**7.38**	**25**	Pn	**Pn**	**09 56 48.4**	**+0.8**
	comp=Z,17nm,0.3s,baz=322,slow=0.5,SNR=102						
TEIG				LR	LR	10 00 15.1	
	comp=Z,7μm,18.2s,baz=75,slow=44						
TEIG	**Tepich**	**7.38**	**25**		**Pn**	**09 56 49.3**	**+1.7**
TEIG				Sn	**Sn**	**09 58 15.3**	**+5.3**
TLIG	**Tlapa**	**7.79**	**302**	Pn	**Pn**	**09 56 53.4**	**+0.1**
TLIG				Sn	**Sn**	**09 58 25.4**	**+5.0**
HDC	**Heredia**	**8.15**	**115**	Pn	**Pn**	**09 56 58.5**	**+0.3**
BCIP	**Isla Barro Col**	**12.35**	**109**	P	**Pn**	**09 57 56.1**	**+0.5**
BCIP	**Isla Barro Col**	**12.35**	**109**		**Pn**	**09 57 56.1**	**+0.5**
MTDJ	**Mount Denham**	**14.33**	**69**	P	**P**	**09 58 28.2**	**-0.9**
833A	**Chaparral WMA,**	**16.39**	**335**	P	**Pn**	**09 58 50.5**	**+1.0**
	baz=152,SNR=7.4						
833A	**Chaparral WMA,**	**16.39**	**335**		**Pn**	**09 58 50.1**	**+0.6**
HKT	**Hockley**	**16.79**	**347**	P	**P**	**09 58 57.0**	**+0.9**
HKT				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HKT	**Hockley**	**16.79**	**347**	P	**P**	**09 58 57.0**	**+0.9**
CBOC	**Ciudad Bolivar**	**17.17**	**115**	*e*P	**Pn**	**09 58 58.1**	**-1.4**
CBOC	**Ciudad Bolivar**	**17.17**	**115**	*e*P	**Pn**	**09 58 58.1**	**-1.4**
PLMC	**San Jos del P**	**17.39**	**118**	*e*P	**Pn**	**09 59 00.8**	**-1.4**
PLMC	**San Jos del P**	**17.39**	**118**	*e*P	**Pn**	**09 59 00.8**	**-1.4**
HELC	**Santa Helena**	**17.45**	**113**	*e*P	**Pn**	**09 59 03.5**	**+0.4**
HELC	**Santa Helena**	**17.45**	**113**	*e*P	**Pn**	**09 59 03.5**	**+0.4**
435B	**Jarrell**	**18.02**	**343**	P	**P**	**09 59 10.4**	**+0.6**
	baz=161,SNR=6.3						
435B	**Jarrell**	**18.02**	**343**		**P**	**09 59 10.5**	**+0.6**
GUY2C	**Guyana, Caldas**	**18.03**	**116**	*e*P	**P**	**09 59 15.8**	**+5.1**
GUY2C	**Guyana, Caldas**	**18.03**	**116**	*e*P	**P**	**09 59 15.8**	**+5.1**
BRAL	**Brewton**	**18.05**	**13**	P	**P**	**09 59 10.6**	**+0.5**
	baz=194						
BBAC	**Balboa, Cauca**	**18.25**	**128**	*e*P	**Pn**	**09 59 19.8**	**+6.9**
BBAC	**Balboa, Cauca**	**18.25**	**128**	*e*P	**Pn**	**09 59 19.8**	**+6.9**
PTBC	**PUERTO BERRIO,**	**18.27**	**111**	*e*P	**P**	**09 59 10.3**	**-2.4**
PTBC	**PUERTO BERRIO,**	**18.27**	**111**	*e*P	**P**	**09 59 10.3**	**-2.4**
NORC	**Norcasia**	**18.32**	**114**	*e*P	**Pn**	**09 59 17.1**	**+3.6**
NORC	**Norcasia**	**18.32**	**114**	*e*P	**Pn**	**09 59 17.1**	**+3.6**
NATX	**Nacogdoches**	**18.35**	**352**	P	**Pn**	**09 59 14.8**	**+1.1**
	baz=170,SNR=6.5						
NATX	**Nacogdoches**	**18.35**	**352**	P	**Pn**	**09 59 14.2**	**+0.5**
NATX				IAmb	IAmb	09 59 16.1	
	comp=Z,43nm,0.8s						
JCT	**Junction City**	**18.47**	**337**	P	**Pn**	**09 59 16.2**	**+0.9**
	baz=154,SNR=16						
JCT	**Junction City**	**18.47**	**337**	P	**Pn**	**09 59 16.2**	**+0.9**
JCT				pmax	pmax		
	comp=Z,34nm,1.0s						
JCT	**Junction City**	**18.47**	**337**	P	**Pn**	**09 59 16.2**	**+0.9**
453A	**Whigham**	**18.50**	**20**	P	**P**	**09 59 15.4**	**+0.3**
	baz=203						
OTAV	**Otavalo**	**18.57**	**134**	*e*P	**Pn**	**09 59 18.5**	**+1.5**
OTAV	**Otavalo**	**18.57**	**134**	*e*P	**Pn**	**09 59 18.5**	**+1.5**
OTAV	**Otavalo**	**18.57**	**134**	P	**P**	**09 59 16.6**	**+0.1**
OTAV				pmax	pmax		
	comp=Z,13nm,1.1s						
OTAV	**Otavalo**	**18.57**	**134**	P	**P**	**09 59 16.6**	**+0.1**
454A	**Quitman**	**18.62**	**22**	P	**P**	**09 59 17.0**	**+0.6**
	baz=205						
VBMS	**Vicksburg**	**18.62**	**3**	P	**Pn**	**09 59 17.5**	**+0.5**
	baz=183						
VBMS	**Vicksburg**	**18.62**	**3**	P	**P**	**09 59 16.6**	**+0.2**
VBMS				IAmb	IAmb	09 59 25.5	
	comp=Z,65nm,0.9s						
GCUF	**Volcan Galeras**	**18.69**	**130**	*e*P	**Pn**	**09 59 19.8**	**+1.3**
GCUF	**Volcan Galeras**	**18.69**	**130**	*e*P	**Pn**	**09 59 19.8**	**+1.3**
OCAC	**Ocana**	**18.73**	**104**	*e*P	**Pn**	**09 59 21.2**	**+2.6**
OCAC	**Ocana**	**18.73**	**104**	*e*P	**Pn**	**09 59 21.2**	**+2.6**
PCON	**Cinco Dias**	**18.73**	**125**	*e*P	**Pn**	**09 59 19.8**	**+0.8**
PCON	**Cinco Dias**	**18.73**	**125**	*e*P	**Pn**	**09 59 19.8**	**+0.8**
ORTC	**Ortega, Tolima**	**18.79**	**119**	*e*P	**Pn**	**09 59 19.8**	**+0.6**
ORTC	**Ortega, Tolima**	**18.79**	**119**	*e*P	**Pn**	**09 59 19.8**	**+0.6**
352A	**Blakely**	**18.89**	**18**	P	**Pn**	**09 59 20.3**	**0.0**
	baz=200						
352A	**Blakely**	**18.89**	**18**	P	**Pn**	**09 59 20.2**	**0.0**
352A				IAmb	IAmb	09 59 27.9	
	comp=Z,80nm,1.0s						
353A	**Camilla**	**18.99**	**20**	P	**P**	**09 59 20.9**	**+0.4**
	baz=202						
250A	**Grady**	**19.00**	**14**	P	**P**	**09 59 21.3**	**+0.7**
	baz=196						
WHTX	**Lake Whitney,**	**19.13**	**345**	P	**P**	**09 59 22.5**	**+0.5**
	baz=162,SNR=13						
WHTX	**Lake Whitney,**	**19.13**	**345**	P	**P**	**09 59 22.6**	**+0.6**
ROSC	**El Rosal**	**19.13**	**115**	P	**Pn**	**09 59 23.7**	**0.0**
	comp=Z,1.7nm,0.3s,baz=347,slow=10,SNR=20						
ROSC	**El Rosal**	**19.13**	**115**	P	**Pn**	**09 59 25.3**	**+1.7**
TXAR	**Lajitas Array**	**19.28**	**327**	P	**Pn**	**09 59 26.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=156,slow=10.0,SNR=160						
TXAR				LR	LR	10 07 23.7	
	comp=Z,441nm,20.4s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**19.28**	**327**		**Pn**	**09 59 25.4**	**+0.4**
TX32	**Lajitas Array**	**19.28**	**327**	IAmb	IAmb	09 59 36.1	
	comp=Z,41nm,1.0s						
TIGA	**Tifton**	**19.29**	**21**	P	**P**	**09 59 24.6**	**+0.8**
	baz=204						
TIGA	**Tifton**	**19.29**	**21**	P	**P**	**09 59 23.5**	**-0.3**
TIGA				IAmb	IAmb	09 59 31.8	
	comp=Z,69nm,0.9s						
252A	**Lumpkin**	**19.43**	**18**	P	**P**	**09 59 26.0**	**+0.7**
	baz=200						
PAMC	**Pamplona, Colo**	**19.60**	**106**	*e*P	**P**	**09 59 25.3**	**-2.5**
PAMC	**Pamplona, Colo**	**19.60**	**106**	*e*P	**P**	**09 59 25.3**	**-2.5**
Z41A	**Richland Creek**	**19.66**	**357**	P	**P**	**09 59 28.7**	**+0.9**
	baz=176						
Z41A	**Richland Creek**	**19.66**	**357**	IAmb	IAmb	09 59 40.6	
	comp=Z,59nm,0.9s						
253A	**Americus**	**19.68**	**19**	P	**P**	**09 59 28.3**	**+0.3**
	baz=202,SNR=5.5						
CHIC	**Chingaza**	**19.75**	**115**	*e*P	**P**	**09 59 25.3**	**-4.1**
CHIC	**Chingaza**	**19.75**	**115**	*e*P	**P**	**09 59 25.3**	**-4.1**
FLOC	**Florencia**	**19.77**	**126**	*e*P	**P**	**09 59 29.3**	**+0.1**
FLOC	**Florencia**	**19.77**	**126**	*e*P	**P**	**09 59 29.3**	**+0.1**
254A	**Abbeville**	**19.85**	**21**	P	**P**	**09 59 29.6**	**-0.3**
	baz=204						
LRAL	**Lakeview Retre**	**19.86**	**12**	P	**P**	**09 59 30.1**	**+0.1**
	baz=193						
LRAL	**Lakeview Retre**	**19.86**	**12**	P	**Pn**	**09 59 31.4**	**-0.5**
LRAL				IAmb	IAmb	09 59 39.7	
	comp=Z,54nm,1.1s						
152A	**Waverly Hall**	**20.06**	**17**	P	**P**	**09 59 32.9**	**+0.7**
	baz=200,SNR=18						
152A	**Waverly Hall**	**20.06**	**17**	IAmb	IAmb	09 59 38.8	
	comp=Z,58nm,0.9s						
WLAR	**White Oak Lake**	**20.10**	**356**	P	**P**	**09 59 33.7**	**+1.1**
WLAR				IAmb	IAmb	09 59 43.0	
	comp=Z,102nm,1.2s						
255A	**Hazlehurst**	**20.14**	**23**	P	**P**	**09 59 33.1**	**+0.1**
	baz=206						
SDDR	**Presa de Saban**	**20.25**	**72**	P	**P**	**09 59 34.7**	**+0.2**
CCAR	**Cane Creek**	**20.29**	**360**	P	**P**	**09 59 35.5**	**+0.9**
CCAR				IAmb	IAmb	09 59 39.6	
	comp=Z,35nm,0.6s						
Z50A	**Ashland**	**20.30**	**14**	P	**P**	**09 59 35.6**	**+0.8**
	baz=196,SNR=7.5						
Z50A	**Ashland**	**20.30**	**14**	P	**P**	**09 59 35.9**	**+1.1**
Z50A				IAmb	IAmb	09 59 39.4	
	comp=Z,31nm,0.9s						
153A	**Fort Valley**	**20.32**	**19**	P	**P**	**09 59 35.4**	**+0.5**
	baz=202,SNR=5.4						
ABTX	**Abilene, Hawle**	**20.36**	**340**	P	**P**	**09 59 36.2**	**+0.7**
	baz=157,SNR=55						
ABTX	**Abilene, Hawle**	**20.36**	**340**	P	**P**	**09 59 36.4**	**+0.9**
154A	**Montrose**	**20.52**	**21**	P	**P**	**09 59 37.0**	**-0.1**
	baz=204,SNR=8.8						
154A	**Montrose**	**20.52**	**21**	P	**P**	**09 59 38.2**	**+1.0**
Z51A	**Franklin**	**20.55**	**16**	P	**P**	**09 59 37.2**	**-0.2**
	baz=198,SNR=12						
Z52A	**Williamson**	**20.64**	**17**	P	**P**	**09 59 38.9**	**+0.5**
	baz=200,SNR=6.8						
155A	**Kite**	**20.76**	**22**	P	**P**	**09 59 40.7**	**+1.0**
	baz=206,SNR=8.9						
Y49A	**Blount Mountai**	**20.78**	**12**	P	**P**	**09 59 40.5**	**+0.5**
	baz=194,SNR=6.4						
SC01	**Santiago de lo**	**20.87**	**71**	P	**P**	**09 59 42.0**	**+0.9**
X40A	**Basin Creek Fa**	**20.89**	**357**	P	**P**	**09 59 41.9**	**+0.8**
	baz=176						
X43A	**Marvell**	**20.90**	**2**	P	**P**	**09 59 42.0**	**+0.8**
	baz=182						
X43A	**Marvell**	**20.90**	**2**	P	**P**	**

MNTX	Cornudas Mount	22.05	327	IAmb	IAmb	10 00 00.4	
	comp=Z,60nm,1.1s						
WMOK	Wichita Mounta	22.08	344	P	P	09 59 54.3	+0.4
	baz=161,SNR=18						
NHSC	New Hope	22.10	26	P	P	09 59 54.2	+0.1
	baz=211						
NHSC	New Hope	22.10	26	P	P	09 59 54.9	+0.8
NHSC				IAmb	IAmb	09 59 58.4	
	comp=Z,97nm,1.1s						
X52A	Dahlonega	22.11	17	P	P	09 59 54.1	-0.2
	baz=200,SNR=14						
Y55A	Saluda	22.16	22	P	P	09 59 54.5	-0.3
	baz=206						
SWET	Sewanee	22.19	12	IAmb	IAmb	10 00 13.6	
	comp=Z,26nm,0.8s						
X53A	Estanollee	22.19	18	P	P	09 59 55.1	-0.1
	baz=202						
W50A	Signal Mountai	22.31	14	P	P	09 59 56.5	+0.1
	baz=196						
W50A	Signal Mountai	22.31	14	P	P	09 59 56.2	-0.2
W50A				IAmb	IAmb	10 00 14.7	
	comp=Z,39nm,0.9s						
GNAR	Gosnell	22.38	3	IAmb	IAmb	09 59 58.0	
	comp=Z,72nm,0.9s						
W51A	Cleveland	22.40	15	P	P	09 59 57.3	-0.1
	baz=198,SNR=5.8						
Z58A	St. Stephen	22.45	27	P	P	09 59 57.5	-0.4
	baz=211						
V48A	Smith Brothers	22.53	10	P	P	09 59 58.4	-0.3
	baz=192,SNR=17						
V48A	Smith Brothers	22.53	10	P	P	09 59 57.9	-0.8
V48A				IAmb	IAmb	09 59 59.9	
	comp=Z,46nm,0.9s						
X54A	Belton	22.53	20	P	P	09 59 58.4	-0.4
	baz=204						
LNXT	Lenox	22.55	5	P	P	09 59 58.7	-0.2
W52A	Murphy	22.56	17	P	P	09 59 58.6	-0.5
	baz=200,SNR=5.1						
TUL1	Leonard	22.59	351	P	P	09 59 59.4	+0.1
	baz=169						
TUL1	Leonard	22.59	351	P	P	09 59 59.3	-0.1
Z59A	Georgetown, SC	22.61	28	P	P	09 59 58.7	-0.9
	baz=212						
MSTX	Muleshoe	22.72	335	P	P	10 00 00.3	-0.6
	baz=151,SNR=40						
MSTX	Muleshoe	22.72	335	P	P	10 00 00.0	-0.9
MSTX				IAmb	IAmb	10 00 02.5	
	comp=Z,63nm,0.8s						
X55A	Gracelyn & Ava	22.72	22	P	P	10 00 00.1	-0.6
	baz=206						
V49A	McMinnville	22.73	12	P	P	10 00 00.2	-0.6
	baz=194,SNR=15						
CPCT	Cooper Cave	22.74	15	IAmb	IAmb	10 00 12.0	
	comp=Z,37nm,1.1s						
HHAR	Hobbs	22.74	355	P	P	09 59 58.8	-2.2
U40A	Yellville	22.75	357	P	P	10 00 00.5	-0.5
	baz=177,SNR=12						
U40A	Yellville	22.75	357	P	P	09 59 59.0	-2.0
U40A				IAmb	IAmb	10 00 02.4	
	comp=Z,33nm,0.9s						
WVT	Waverly	22.75	8	P	P	10 00 00.4	-0.7
	baz=189						
WVT	Waverly	22.75	8	P	P	10 00 00.4	-0.7
WVT				pmax	pmax		
	comp=Z,23nm,1.0s						
WVT	Waverly	22.75	8	P	P	10 00 00.4	-0.7
WVT				IAmb	IAmb	10 00 02.1	
	comp=Z,23nm,0.9s						
Y57A	Sumter	22.80	25	P	P	10 00 00.9	-0.7
	baz=209						
Y57A	Sumter	22.80	25	P	P	10 00 00.4	-1.1
Y57A				IAmb	IAmb	10 00 02.4	
	comp=Z,44nm,0.8s						
V50A	Pikevile	22.81	14	P	P	10 00 01.3	-0.4
	baz=196,SNR=8.6						
W53A	Cullowhee	22.85	18	P	P	10 00 01.9	-0.4
	baz=201,SNR=7.8						
CLTN	Cedars of Leba	22.96	11	P	P	10 00 02.4	-0.8
X56A	White Oak	22.96	23	P	P	10 00 02.8	-0.5
	baz=207						
PAULI	Pauline	22.97	21	P	P	10 00 02.6	-0.8
HICK	Hickman	23.01	5	P	P	10 00 02.6	-1.1
W54A	Cherokee Point	23.09	20	P	P	10 00 04.5	0.0
	baz=204,SNR=8.1						
PARMO	Parma	23.09	4	P	P	10 00 03.8	-0.7
AMTX	Amarillo	23.12	339	P	P	10 00 05.0	+0.1
	baz=154						
V51A	Loudon	23.12	15	P	P	10 00 04.6	-0.2
	baz=198,SNR=9.9						
V51A	Loudon	23.12	15	P	P	10 00 04.5	-0.4
V51A				IAmb	IAmb	10 00 06.0	
	comp=Z,69nm,1.1s						
TKL	Tuckaleechee C	23.13	16	P	P	10 00 04.4	-0.6
	comp=Z,86nm,1.1s,baz=191,slow=9.3,SNR=28						
TKL				LR	LR	10 10 15.7	
	comp=Z,1μm,19.6s,baz=222,slow=40						
HENM	Henderson Moun	23.16	4	P	P	10 00 04.7	-0.6
PBMO	Poplar Bluff	23.17	2	P	P	10 00 03.2	-2.1
BIRD	Birdtown, Kers	23.32	24	P	P	10 00 05.9	-0.9
BIRD				IAmb	IAmb	10 00 24.3	
	comp=Z,35nm,1.2s						
V52A	Sevierville	23.36	17	P	P	10 00 06.8	-0.4
	baz=200,SNR=11						
V52A	Sevierville	23.36	17	P	P	10 00 06.5	-0.7
V52A				IAmb	IAmb	10 00 08.3	
	comp=Z,70nm,1.1s						
V53A	Saluda	23.42	18	P	P	10 00 07.8	-0.1
	baz=202,SNR=11						
V53A	Saluda	23.42	18	IAmb	IAmb	10 00 09.2	
	comp=Z,65nm,1.1s						
Y59A	Loris	23.42	27	P	P	10 00 07.2	-0.7
	baz=212						
KMSC	Kings Mountain	23.43	22	P	P	10 00 07.3	-0.7
	baz=206						
KMSC	Kings Mountain	23.43	22	P	P	10 00 06.9	-1.0
KMSC				IAmb	IAmb	10 00 14.1	
	comp=Z,21nm,0.9s						
U49A	Red Boiling Sp	23.47	12	P	P	10 00 07.6	-0.7
	baz=194,SNR=16						
MGMO	Mountain Grove	23.52	359	P	P	10 00 07.4	-1.4
MGMO				IAmb	IAmb	10 00 09.9	
	comp=Z,56nm,1.0s						
U50A	Jamestown	23.58	14	P	P	10 00 08.6	-0.8
	baz=196,SNR=20						
HSIG		23.64	314	P	P	10 00 11.1	+1.1
T47A	Sharon Grove	23.70	9	P	P	10 00 09.7	-0.8
	baz=191,SNR=21						
T47A	Sharon Grove	23.70	9	P	P	10 00 09.5	-1.0
W56A	Indian Trail	23.70	23	P	P	10 00 09.6	-0.9
	baz=207						
U51A	La Follette	23.75	15	P	P	10 00 10.2	-0.7
	baz=198,SNR=9.0						
V54A	Nebo	23.80	20	P	P	10 00 11.1	-0.3
	baz=204,SNR=8.0						
U52A	Thorn Hill	23.93	17	P	P	10 00 12.1	-0.6
	baz=200						
W57A	Gilead	23.95	24	P	P	10 00 11.9	-0.8
	baz=209						
121A	Cookes Peak, D	23.99	325	P	P	10 00 13.9	+0.4
	baz=138,SNR=18						
121A	Cookes Peak, D	23.99	325	P	P	10 00 15.6	+2.2
121A				IAmb	IAmb	10 00 17.4	
	comp=Z,49nm,1.1s						
TZTN	Tazewell	24.03	16	P	P	10 00 13.1	-0.5
	baz=199,SNR=13						
TZTN	Tazewell	24.03	16	P	P	10 00 13.2	-0.3
319A	Douglas	24.05	320	IAmb	IAmb	10 00 29.0	
	comp=Z,55nm,1.1s						
T49A	Edmonton	24.09	12	P	P	10 00 13.2	-0.9
	baz=194,SNR=13						
T49A	Edmonton	24.09	12	IAmb	IAmb	10 00 14.9	
	comp=Z,47nm,1.1s						
V55A	Taylorsville	24.11	21	P	P	10 00 14.1	-0.2
	baz=205,SNR=8.2						
V55A	Taylorsville	24.11	21	IAmb	IAmb	10 00 15.5	
	comp=Z,33nm,0.8s						
U53A	Fall Branch	24.14	18	P	P	10 00 14.0	-0.5
	baz=202,SNR=8.7						
W58A	Raeford	24.14	26	P	P	10 00 13.6	-1.0
	baz=210						
S44A	Carbondale	24.15	5	P	P	10 00 13.4	-1.2
	baz=185,SNR=31						
T50A	Nancy	24.16	13	P	P	10 00 13.8	-0.9
	baz=196,SNR=9.5						
T51A	Gray	24.32	15	P	P	10 00 15.7	-0.5
	baz=198,SNR=16						
V56A	Mocksville	24.33	22	P	P	10 00 15.8	-0.5
	baz=207						
ATAH	Atahualpa	24.38	147	P	P	10 00 19.4	+2.0
	comp=Z,13nm,0.8s,baz=42,slow=2.9,SNR=7.6						
CCM	Cathedral Cave	24.42	1	P	P	10 00 16.0	-1.1
	baz=181						
CCM	Cathedral Cave	24.42	1	P	P	10 00 15.8	-1.3
CCM				pmax	pmax		
	comp=Z,110nm,1.0s						
CCM	Cathedral Cave	24.42	1	P	P	10 00 15.8	-1.3
U54A	Nelsons Funny	24.52	19	P	P	10 00 16.9	-1.2
	baz=203,SNR=9.6						
U54A	Nelsons Funny	24.52	19	IAmb	IAmb	10 00 19.4	
	comp=Z,43nm,0.8s						
V57A	Coltrane Farms	24.68	24	P	P	10 00 18.4	-1.1
	baz=208						
T52A	Hallie	24.71	17	P	P	10 00 19.4	-0.4
	baz=200,SNR=9.2						
T52A	Hallie	24.71	17	IAmb	IAmb	10 00 20.4	
	comp=Z,63nm,1.1s						
Y22D	IRIS PASSCAL I	24.71	328	P	P	10 00 22.1	+2.2
	baz=142						
Y22D	IRIS PASSCAL I	24.71	328	P	P	10 00 21.2	+1.2
T53A	Wise	24.72	18	P	P	10 00 19.4	-0.6
	baz=201,SNR=5.4						
U55A	TA2, Sparta	24.76	21	P	P	10 00 19.8	-0.5
	baz=205,SNR=7.2						
S49A	Springfield	24.80	12	P	P	10 00 19.5	-1.0
	baz=195,SNR=10						
W60A	Pink Hill	24.84	28	P	P	10 00 19.7	-1.2
	baz=214						
U56A	King	24.85	22	P	P	10 00 20.1	-0.9
	baz=207						
U56A	King	24.85	22	IAmb	IAmb	10 00 22.6	
	comp=Z,31nm,1.0s						
V58A	Windy Hill, Pi	24.86	25	P	P	10 00 20.1	-1.0
	baz=210						
S50A	Richmond	24.89	14	P	P	10 00 20.3	-1.0
	baz=197,SNR=13						
CNNC	Cliffs of the	24.91	27	P	P	10 00 20.8	-0.8
	baz=213						
WCI	Wyandotte Cave	25.04	10	P	P	10 00 21.9	-0.8
	baz=192						
WCI	Wyandotte Cave	25.04	10	P	P	10 00 22.1	-0.6
WCI				pmax	pmax		
	comp=Z,53nm,0.9s						
WCI	Wyandotte Cave	25.04	10	P	P	10 00 22.1	-0.6
S51A	Beattyville	25.05	15	P	P	10 00 22.1	-0.7
	baz=198,SNR=7.4						
S51A	Beattyville	25.05	15	IAmb	IAmb	10 00 23.2	
	comp=Z,36nm,0.9s						
T54A	Tazewell	25.09	19	P	P	10 00 22.2	-1.0
	baz=203,SNR=6.1						
ANMO	Albuquerque	25.18	330	P	P	10 00 25.6	+1.3
	baz=144						
ANMO	Albuquerque	25.18	330	⇑iP	P	10 00 25.6	+1.3
ANMO				pmax	pmax		
	comp=Z,12nm,1.1s						
ANMO	Albuquerque	25.18	330	P	P	10 00 25.3	+1.1
	comp=Z,4.2nm,0.7s,baz=144,slow=12,SNR=27						
ANMO	Albuquerque	25.18	330	P	P	10 00 25.1	+0.9
V59A	Middlesex	25.20	26	P	P	10 00 23.2	-1.0
	baz=212						
S52A	Salyersville	25.22	16	P	P	10 00 23.6	-0.8
	baz=200,SNR=9.7						
R49A	Shelbyville	25.31	12	P	P	10 00 24.2	-1.0
	baz=195,SNR=9.5						
R49A	Shelbyville	25.31	12	IAmb	IAmb	10 00 25.5	
	comp=Z,44nm,1.1s						
U57A	Blanch	25.32	24	P	P	10 00 24.1	-1.2
	baz=209						
T55A	Pulaski	25.40	21	P	P	10 00 25.2	-0.9
	baz=205						
R50A	Paris	25.48	13	P	P	10 00 25.5	-1.2
	baz=196,SNR=6.5						
R50A	Paris	25.48	13	IAmb	IAmb	10 00 26.8	
	comp=Z,32nm,0.9s						
S53A	Williamson	25.49	18	P	P	10 00 26.0	-0.8
	baz=202,SNR=10						
T56A	Rocky Mt	25.59	22	P	P	10 00 26.8	-0.9
	baz=207						
BLA	Blacksburg	25.61	21	P	P	10 00 27.6	-0.4
	baz=206						
BLA	Blacksburg	25.61	21	IAmb	IAmb	10 00 28.9	
	comp=Z,38nm,1.1s						
TUC	Tucson	25.62	320	P	P	10 00 29.7	+1.6
	baz=132						
TUC	Tucson	25.62	320	P	P	10 00 30.3	+2.1
TUC				pmax	pmax		
	comp=Z,11nm,0.9s						
TUC	Tucson	25.62	320	P	P	10 00 30.3	+2.1
V60A	Jim Taylor Roa	25.63	28	P	P	10 00 27.5	-0.6
	baz=214						
R51A	Hillsboro	25.68	15	P	P	10 00 27.4	-1.0
	baz=198,SNR=7.0						
Q48A	North Vernon	25.82	11	P	P	10 00 28.5	-1.3
	baz=193						
KSU1	Kansas State U	25.84	351	P	P	10 00 28.7	-1.3
	baz=169						
S54A	Dingess, Beckl	25.85	19	P	P	10 00 29.5	-0.6
	baz=203,SNR=5.1						
U59A	Littleton	25.89	26	P	P	10 00 28.2	-2.2
	baz=212						
R52A	Catlettsburg	25.95	16	P	P	10 00 29.6	-1.4
	baz=200						
Q49A	Aurora	26.06	12	P	P	10 00 30.6	-1.3
	baz=195,SNR=7.6						
V62A	Hyde County Ai	26.08	30	P	P	10 00 29.7	-2.5
	baz=216						
T58A	Grand View Acr	26.09	24	P	P	10 00 30.5	-1.7
	baz=210						
S55A	Lewisburg	26.09	20	P	P	10 00 30.7	-1.6
	baz=205						
Q50A	Georgetown	26.10	14	P	P	10 00 31.2	-1.1
	baz=197						
T25A	Trinidad	26.13	336	P	P	10 00 33.0	0.0
	baz=151,SNR=16						
T25A	Trinidad	26.13	336	P	P	10 00 34.5	+1.6
T25A				IAmb	IAmb	10 00 37.8	
	comp=Z,30nm,1.0s						
R53A	Hurricane	26.14	17	P	P	10 00 31.7	-1.0
	baz=202						
U60A	Pendleton	26.27	27	P	P	10 00 32.4	-1.5
	baz=213						
P46A	Rosedale	26.27	8	P	P	10 00 33.2	-0.6
	baz=190						
R54A	Victor	26.30	19	P	P	10 00 33.3	-0.9
	baz=204						
S56A	Natural Bridge	26.33	22	P	P	10 00 33.1	-1.4
	baz=207						
P48A	Milroy	26.39	11	P	P	10 00 33.4	-1.6
	baz=193,SNR=8.1						
P48A	Milroy	26.39	11	IAmb	IAmb	10 00 34.4	
	comp=Z,50nm,1.1s						
Q51A	Peebles	26.42	15	P	P	10 00 34.2	-1.0
	baz=198,SNR=12						
U61A	Possum Corner	26.47	28	P	P	10 00 34.2	-1.5
	baz=215						
T59A	Double "B" Far	26.51	26	P	P	10 00 34.3	-1.8
	baz=212						
P49A	Miami Univ. Ec	26.60	12	P	P	10 00 35.4	-1.4
	baz=195						
S57A	Dark Hollow, R	26.63	23	P	P	10 00 35.5	-1.7
	baz=208						
Q52A	Bidwell	26.64	16	P	P	10 00 36.3	-1.0
	baz=200,SNR=8.2						
R55A	Marlinton	26.68	20	P	P	10 00 37.0	-0.7
	baz=205,SNR=7.1						
R55A	Marlinton	26.68	20	IAmb	IAmb	10 00 39.1	
	comp=Z,53nm,1.1s						
214A	Organ Pipe Nat	26.70	317	P	P	10 00 37.4	-0.4
	baz=128						
Q53A	Leroy	26.76	18	P	P	10 00 37.4	-0.9
	baz=202,SNR=5.2						
S58A	Poland Farm, P	26.86	24	P	P	10 00 37.7	-1.5
	baz=210						
P50A	Jamestown	26.87	13	P	P	10 00 37.9	-1.3
	baz=197						
P51A	Williamsport	26.93	15	P	P	10 00 38.6	-1.1
	baz=198,SNR=6.7						
P51A	Williamsport	26.93	15	IAmb	IAmb	10 00 39.9	
	comp=Z,36nm,0.8s						
HDIL	Hopedale	26.99	4	P	P	10 00 39.1	-1.2
	baz=185,SNR=5.9						
HDIL	Hopedale	26.99	4	IAmb	IAmb	10 00 40.5	
	comp=Z,42nm,1.1s						
W18A	Petrified Fore	27.00	326	P	P	10 00 41.6	+0.9
	baz=138,SNR=6.7						
W18A	Petrified Fore	27.00	326	P	P	10 00 42.8	+2.1
W18A				IAmb	IAmb	10 00 46.7	
	comp=Z,34nm,1.1s						
SFIN	Lafayette	27.03	8	P	P	10 00 39.7	-1.0
	baz=190						
R56A	Bull Pasture M	27.04	21	P	P	10 00 40.4	-0.5
	baz=207						
Q54A	Coxs Mills	27.08	19	P	P	10 00 40.6	-0.6
	baz=203,SNR=8.8						
Q54A	Coxs Mills	27.08	19	IAmb	IAmb	10 00 41.9	
	comp=Z,54nm,1.0s						
SDCO	Great Sand Dun	27.09	335	P	P	10 00 41.6	0.0
	baz=149,SNR=13						
SDCO	Great Sand Dun	27.09	335	P	P	10 00 41.8	+0.2
KSCO	Kaye Shedlock'	27.17	341	P	P	10 00 41.8	-0.3
	baz=156						
KSCO	Kaye Shedlock'	27.17	341	P	P	10 00 41.6	-0.6
KSCO				IAmb	IAmb	10 00 44.0	
	comp=Z,17nm,0.9s						
R58B	Mineral	27.23	24	P	P	10 00 42.0	-0.5
	baz=210						
R57A	Stanardsville	27.27	23	P	P	10 00 42.3	-0.6
	baz=208						
P52A	Corning	27.31	16	P	P	10 00 41.9	-1.3
	baz=200						
O49A	Covington	27.31	12	P	P	10 00 41.7	-1.5
	baz=195						
Q55A	Buckhannon	27.34	20	P	P	10 00 42.9	-0.7
	baz=205						
P53A	Whipple	27.38	17	P	P	10 00 43.3	-0.5
	baz=202,SNR=7.1						
P53A	Whipple	27.38	17	IAmb	IAmb	10 00 44.6	
	comp=Z,42nm,1.0s						
O50A	Cable	27.42	13	P	P	10 00 43.6	-0.7
	baz=197						
R58A	Rapidan	27.47	24	P	P	10 00 44.3	-0.3
	baz=210						
CBN	Corbin Frederi	27.64	25	P	P	10 00 46.4	+0.2
	baz=211						
S22A	4UR Ranch, Cre	27.65	333	P	P	10 00 47.4	+0.8
	baz=146,SNR=23						
S22A	4UR Ranch, Cre	27.65	333	IAmb	IAmb	10 00 50.2	
	comp=Z,21nm,1.1s						
ACSO	Alum Creek Sta	27.65	14	P	P	10 00 45.2	-1.1
	baz=198,SNR=8.1						
O51A	Pataskala	27.67	15	P	P	10 00 45.3	-1.2
	baz=199,SNR=8.6						
Q56A	Snyder Ridge,	27.68	21	P	P	10 00 45.9	-0.7
	baz=207						
R59A	King George, V	27.74	25	P	P	10 00 46.5	-0.6
	baz=211						
P54A	Burton	27.76	19	P	P	10 00 46.6	-0.7
	baz=204,SNR=7.7						
N48A	Decatur	27.82	11	P	P	10 00 46.2	-1.6
	baz=194						
O52A	Adamsville	27.84	16	P	P	10 00 47.0	-1.0
	baz=200,SNR=7.8						
P55A	Reedsville	27.88	20	P	P	10 00 48.6	+0.2
	baz=205						
Q57A	Strasburg	27.96	22	P	P	10 00 48.7	-0.3
	baz=208						
MVCO	Mesa Verde	27.98	330	P	P	10 00 51.0	+1.5
	baz=143,SNR=18						
MVCO	Mesa Verde	27.98	330	IAmb	IAmb	10 00 54.1	
	comp=Z,26nm,1.1s						
MCWV	Mont Chateau	28.01	20	P	P	10 00 49.2	-0.4
	baz=205						
N49A	Columbus Grove	28.05	12	P	P	10 00 48.3	-1.5
	baz=195						
N50A	Nevada	28.13	14	P	P	10 00 50.3	-0.2
	baz=198						
O53A	New Philadelph	28.14	17	P	P	10 00 49.8	-0.9
	baz=202,SNR=5.3						
WUAZ	Wupatki	28.20	324	P	P	10 00 52.8	+1.4
	baz=136,SNR=12						
WUAZ	Wupatki	28.20	324	IAmb	IAmb	10 00 54.9	
	comp=Z,18nm,1.0s						
P56A	Dayton Farm, R	28.22	21	P	P	10 00 51.4	+0.1
	baz=207						
O54A	Avella	28.32	18	P	P	10 00 51.1	-1.1
	baz=203						
L40A	Anamosa	28.42	1	P	P	10 00 52.2	-0.9
	baz=181						
N51A	Ashland	28.45	15	P	P	10 00 52.4	-1.0
	baz=199						
P57A	Homestead Farm	28.50	22	P	P	10 00 53.6	-0.2
	baz=208						
N52A	McGinn's Farm,	28.53	16	P	P	10 00 52.9	-1.2
	baz=200,SNR=7.4						
O55A	Ligonier	28.69	20	P	P	10 00 54.8	-0.7
	baz=205						
M50A	Fremont	28.75	13	P	P	10 00 55.1	-1.0
	baz=197						
N53A	Lisbon	28.76	17	P	P	10 00 55.4	-0.7
	baz=202,SNR=5.5						
N53A	Lisbon	28.76	17	IAmb	IAmb	10 00 56.3	
	comp=Z,42nm,0.8s						
L47A	Sherwood	28.88	10	P	P	10 00 55.9	-1.2
	baz=193						
M51A	Elyria	28.89	15	P	P	10 00 55.9	-1.3
	baz=199						
L48A	N Adams	28.98	11	P	P	10 00 56.6	-1.5
	baz=194						
O56A	Blue Knob Stat	28.99	21	P	P	10 00 57.7	-0.6
	baz=207,SNR=5.8						
N54A	Moraine State	29.15	18	P	P	10 00 58.8	-0.9
	baz=204,SNR=7.5						
K43A	Burlington	29.20	5	P	P	10 00 59.4	-0.7
	baz=186						
P59A	Jarrettsville	29.22	25	P	P	10 00 59.3	-0.9
	baz=211						
L49A	Milan	29.27	12	P	P	10 00 59.9	-0.8
	baz=196						
O57A	Amberson	29.27	22	P	P	10 00 59.8	-0.9
	baz=208						
JFWS	Jewell Farm	29.30	2	P	P	10 01 00.3	-0.6
	baz=182						
M52A	Chesterland	29.30	16	P	P	10 01 00.2	-0.7
	baz=200						
N55A	Marion Center	29.31	20	P	P	10 00 59.8	-1.3
	baz=206						
IKP	In-Ko-Pah, Jac	29.35	315	P	P	10 01 03.2	+1.5
	baz=124						
BC3	Big Chuckawall	29.50	317	P	P	10 01 04.8	+1.8
	baz=127,SNR=12						
SSPA	Standing Stone	29.56	21	P	P	10 01 02.8	-0.4
	baz=208						
N56A	West Decatur	29.66	21	P	P	10 01 03.8	-0.4
	baz=207						
P60A	Greenville	29.72	25	P	P	10 01 05.7	+1.1
	baz=212						
M54A	Oil Creek Stat	29.75	18	P	P	10 01 03.5	-1.5
	baz=204						
N57A	Milroy	29.78	22	P	P	10 01 04.6	-0.6
	baz=208						
K48A	Perry	29.87	11	P	P	10 01 04.2	-1.8
	baz=194						
K49A	Clarkson	29.98	12	P	P	10 01 06.3	-0.7
	baz=196						
L53A	Girard	29.98	17	P	P	10 01 05.9	-1.1
	baz=202						
N23A	Red Feather La	29.99	338	P	P	10 01 07.2	-0.2
	baz=151						
M55A	Ridgway	30.00	20	P	P	10 01 06.2	-0.9
	baz=205						
BELC	Belle Mtn. Jos	30.07	317	P	P	10 01 08.3	+0.3
	baz=127						
PFO	Pinyon Flats O	30.15	316	P	P	10 01 09.3	+0.6
	baz=125						
PFO	Pinyon Flats O	30.15	316	P	P	10 01 09.5	+0.8
PFO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PFO	Pinyon Flats O	30.15	316	P	P	10 01 09.5	+0.8
K50A	Casco	30.15	13	P	P	10 01 07.5	-0.9
	baz=197						
M56A	Emporium	30.21	20	P	P	10 01 08.6	-0.4
	baz=206						
O60A	Telford	30.24	25	P	P	10 01 08.8	-0.5
	baz=212						
O20A	White River Ci	30.25	334	P	P	10 01 10.7	+1.1
	baz=146,SNR=8.4						
O20A	White River Ci	30.25	334	IAmb	IAmb	10 01 13.5	
	comp=Z,20nm,1.1s						
GMRC	Granite Mounta	30.32	318	P	P	10 01 12.3	+2.0
	baz=128,SNR=9.0						
ECSD	EROS Data Cent	30.39	353	P	P	10 01 10.1	-0.5
	baz=170						
M57A	Sunshine Farm,	30.45	22	P	P	10 01 10.6	-0.5
	baz=208						

L54A	Sinclairville	30.52	18	P	P	10 01 11.0	-0.8
	baz=204						
N59A	State Game Lan	30.60	24	P	P	10 01 11.6	-0.8
	baz=211						
J49A	Marlette	30.60	12	P	P	10 01 10.5	-1.9
	baz=196						
M58A	Price's Panora	30.72	23	P	P	10 01 12.6	-0.9
	baz=210						
I45A	Fountain	30.74	8	P	P	10 01 13.7	+0.1
	baz=190						
L55A	Hinsdale	30.75	19	P	P	10 01 12.6	-1.2
	baz=206						
I46A	Reed City	30.76	9	P	P	10 01 12.3	-1.5
	baz=192						
HEC	Hector,Ludlow	30.79	318	P	P	10 01 16.6	+2.3
	baz=127,SNR=10						
N60A	Cedar Hill Far	30.83	25	P	P	10 01 13.9	-0.6
	baz=212						
TUQ	Turquoise Moun	30.89	319	P	P	10 01 17.2	+1.9
	baz=129						
L56A	Greenwood	31.00	21	P	P	10 01 15.5	-0.5
	baz=207						
K54A	Basiliko Farm,	31.05	19	P	P	10 01 15.9	-0.6
	baz=205						
N61A	South Mountain	31.06	26	P	P	10 01 15.6	-1.0
	baz=214						
J52A	Paris	31.12	16	P	P	10 01 15.3	-1.7
	baz=201						
L57A	Andrews Acres	31.13	22	P	P	10 01 16.5	-0.7
	baz=208						
RWWY	Rawlins	31.15	337	IAmb	IAmb	10 01 24.4	
	comp=Z,13nm,0.9s						
I49A	Point Hope	31.22	12	P	P	10 01 16.5	-1.4
	baz=196						
M59A	Waymart	31.26	24	P	P	10 01 17.6	-0.7
	baz=211						
BFSC	Mount Baldy Ra	31.32	316	P	P	10 01 20.9	+1.8
	baz=125						
K55A	Perry	31.36	19	P	P	10 01 18.7	-0.5
	baz=206						
GSC	Goldstone, Bar	31.38	318	P	P	10 01 21.6	+2.1
	baz=127						
M60A	Port Jervis	31.41	25	P	P	10 01 19.5	0.0
	baz=213						
SHOC	Shoshone, Teco	31.41	319	P	P	10 01 21.0	+1.4
	baz=129						
I51A	Listowel	31.50	15	P	P	10 01 19.0	-1.4
	baz=200						
L58A	Harry Jones Me	31.53	23	P	P	10 01 19.9	-0.8
	baz=210						
K56A	Middlesex	31.58	20	P	P	10 01 20.3	-0.7
	baz=207,SNR=6.3						
SPMN	Marine on St.	31.60	358	P	P	10 01 19.8	-1.3
	baz=178						
SPMN	Marine on St.	31.60	358	IAmb	IAmb	10 01 20.6	
	comp=Z,17nm,0.8s						
BINY	Binghamton	31.61	22	P	P	10 01 20.7	-0.7
	baz=210,SNR=5.2						
K22A	Casper	31.74	339	P	P	10 01 23.2	+0.5
	baz=152						
H48A	Harrisville	31.86	11	P	P	10 01 22.3	-1.1
	baz=195						
K57A	Scipio Center	31.89	21	P	P	10 01 22.9	-0.9
	baz=208						
I53A	Kortright Cn E	31.90	17	P	P	10 01 23.0	-0.8
	baz=202						
EDW2	Edwards Air Fo	31.92	316	P	P	10 01 25.0	+0.8
	baz=125						
J55A	Hilton	31.92	19	P	P	10 01 23.5	-0.5
	baz=206						
L59A	Walton	31.97	24	P	P	10 01 23.8	-0.7
	baz=211,SNR=5.7						
LRMC	Laurel Mtn Rad	32.06	318	P	P	10 01 27.0	+1.4
	baz=126,SNR=5.8						
TPNV	Topopah Spring	32.06	321	P	P	10 01 26.6	+1.1
	baz=130						
FURC	Furnace Creek,	32.13	320	P	P	10 01 28.1	+2.1
	baz=129,SNR=8.6						
BLG	Laguna Peak, P	32.22	314	P	P	10 01 28.4	+1.6
	baz=123						
K58A	Earlville	32.23	22	P	P	10 01 26.3	-0.5
	baz=210,SNR=7.1						
J56A	Wolcott	32.25	20	P	P	10 01 26.4	-0.5
	baz=208,SNR=6.3						
OSI	Osito Audit: C	32.26	315	P	P	10 01 28.6	+1.4
	baz=124						
OSI	Osito Audit: C	32.26	315	P	P	10 01 28.4	+1.2
OSI				IAmb	IAmb	10 01 37.3	
	comp=Z,11nm,1.1s						
MPMC	Manual Prospec	32.28	319	P	P	10 01 29.2	+1.7
	baz=127,SNR=9.0						
RSSD	Black Hills	32.28	343	P	P	10 01 28.1	+0.7
	baz=157						
DUG	Dugway, Tooele	32.42	329	P	P	10 01 30.0	+1.4
	baz=139						
K59A	Cooperstown	32.54	23	P	P	10 01 29.0	-0.5
	baz=211						
R11A	Troy Canyon, C	32.59	324	P	P	10 01 32.5	+2.3
	baz=133,SNR=23						
R11A	Troy Canyon, C	32.59	324	IAmb	IAmb	10 01 36.8	
	comp=Z,13nm,1.1s						
ARVC	Arvin	32.62	316	P	P	10 01 32.8	+2.5
	baz=124						
J57A	Williamstown	32.66	21	P	P	10 01 29.7	-0.8
	baz=209						
ISA	Isabella, Lake	32.69	317	P	P	10 01 33.3	+2.3
	baz=126						
K60A	Five Rivers En	32.78	25	P	P	10 01 31.7	+0.1
	baz=213						
I55A	Frankford	32.82	19	P	P	10 01 31.3	-0.6
	baz=205,SNR=7.1						
H53A	Bobcaygeon	32.87	17	P	P	10 01 31.4	-1.0
	baz=204,SNR=8.4						
J58A	Remsen	32.88	22	P	P	10 01 31.4	-1.0
	baz=210						
HWUT	Hardware Ranch	32.91	332	IAmb	IAmb	10 01 36.9	
	comp=Z,21nm,0.9s						
BW06	Boulder Array	32.99	335	P	P	10 01 34.6	+0.9
	baz=146						
PDAR	Pinedale Array	32.99	335	P	P	10 01 33.5	-0.2
	comp=Z,4.3nm,0.9s,baz=134,slow=8.5,SNR=15						
PDAR				PcP	PcP	10 04 17.8	+0.7
	comp=Z,2.3nm,0.9s,baz=137,slow=3.3,SNR=6.5						
PDAR				ScP	ScP	10 08 04.8	+6.4
	comp=Z,1.1nm,0.8s,baz=138,slow=5.6,SNR=5.4						
PDAR	Pinedale Array	32.99	335	P	P	10 01 33.9	+0.2
PKM	Mcpherson Peak	33.16	315	P	P	10 01 35.9	+0.6
	baz=123						
VES	Vestal, Richgr	33.20	317	P	P	10 01 37.8	+2.5
	baz=125,SNR=9.5						
J59A	Piesco	33.26	23	P	P	10 01 35.0	-0.8
	baz=211						
H55A	Tweed	33.28	19	P	P	10 01 35.1	-0.8
	baz=206						
I58A	Old Forge	33.28	22	P	P	10 01 35.1	-0.8
	baz=210,SNR=9.5						
G53A	Haliburton	33.37	17	P	P	10 01 35.5	-1.2
	baz=203						
J60A	Lant Hill Farm	33.50	24	P	P	10 01 36.6	-1.2
	baz=213						
H56A	Elgin	33.62	20	P	P	10 01 37.8	-1.0
	baz=208						
AHID	Auburn Hatcher	33.63	334	IAmb	IAmb	10 01 41.5	
	comp=Z,22nm,1.1s						
HRV	Adam Dziewonsk	33.68	27	P	P	10 01 38.4	-1.0
	baz=217						
G54A	Lake Saint Pet	33.77	17	P	P	10 01 39.2	-1.0
	baz=204,SNR=5.5						
E48A	Lockeyer	33.79	12	P	P	10 01 38.8	-1.5
	baz=196						
F52A	Sundridge	33.80	16	P	P	10 01 38.4	-2.0
	baz=202						
H57A	Richville	33.80	21	P	P	10 01 38.8	-1.6
	baz=209						
NCB	Newcomb	33.80	23	IAmb	IAmb	10 01 40.4	
	comp=Z,19nm,0.9s						
D46A	Sault St. Mari	33.85	9	P	P	10 01 39.4	-1.5
	baz=193,SNR=6.3						
PAGB	Antelope Grade	33.92	316	IAmb	IAmb	10 01 48.6	
	comp=Z,14nm,1.1s						
I60A	Shoreham	34.05	24	P	P	10 01 41.9	-0.7
	baz=213,SNR=5.3						
G55A	Calabogie	34.05	19	P	P	10 01 41.7	-0.9
	baz=206,SNR=5.1						
J62A	Henniker	34.15	26	P	P	10 01 42.7	-0.8
	baz=216						
TPAW	Teton Pass	34.16	335	IAmb	IAmb	10 01 47.8	
	comp=Z,21nm,0.9s						
NV11	Mina Array Sit	34.17	321	IAmb	IAmb	10 01 54.1	
	comp=Z,15nm,1.1s						
D47A	Chapleau	34.17	10	P	P	10 01 41.9	-1.8
	baz=195						
H58A	Gabriels	34.20	22	P	P	10 01 42.9	-1.1
	baz=211,SNR=5.3						
LONY	Lake Ozonia	34.22	22	P	P	10 01 43.2	-0.9
	baz=210,SNR=9.1						
MDPB	Devils Postpil	34.25	319	IAmb	IAmb	10 01 51.2	
	comp=Z,11nm,1.1s						
NVAR	Mina Array Bea	34.26	321	P	P	10 01 46.4	+1.6
	comp=Z,7.4nm,0.8s,baz=135,slow=8.2,SNR=54						
NVAR				PcP	PcP	10 04 22.1	+1.3
	comp=Z,4.1nm,0.8s,baz=138,slow=4.3,SNR=8.6						
NVAR				ScP	ScP	10 08 09.3	+6.5
	comp=Z,0.2nm,0.7s,baz=104,slow=3.8,SNR=2.5						
NVAR	Mina Array Bea	34.26	321	P	P	10 01 47.5	+2.7
MOOW	Moose Ponds	34.29	335	IAmb	IAmb	10 01 47.2	
	comp=Z,11nm,1.1s						
ALGO	Algonquin Park	34.29	17	P	P	10 01 43.5	-1.2
	baz=204						
E51A	G1948 Merrick	34.44	15	P	P	10 01 44.8	-1.2
	baz=201						
G57A	Newington	34.50	21	P	P	10 01 46.0	-0.5
	baz=209						
J63A	Strafford	34.51	27	P	P	10 01 46.3	-0.4
	baz=217						
D48A	Paudash Townsh	34.53	12	P	P	10 01 45.4	-1.3
	baz=197						
KVN	Kaiserville	34.53	322	IAmb	IAmb	10 01 53.6	
	comp=Z,19nm,1.1s						
FLWY	Flagg Ranch	34.54	335	IAmb	IAmb	10 02 02.8	
	comp=Z,12nm,1.1s						
PMPB	Monarch Peak	34.56	316	P	P	10 01 49.2	+1.9
PMPB				IAmb	IAmb	10 02 07.7	
	comp=Z,13nm,1.1s						
H59A	Cadyville	34.57	23	P	P	10 01 46.1	-1.1
	baz=212						
F55A	Otter Lake	34.69	19	P	P	10 01 47.3	-0.8
	baz=207						
D49A	Beulah Townshi	34.71	12	P	P	10 01 47.2	-1.1
	baz=198						
E53A	Dumoine, Ponti	34.79	17	P	P	10 01 47.8	-1.2
	baz=204						
AGMN	Agassiz Nation	34.83	355	P	P	10 01 49.3	-0.1
	baz=173						
MDND	Maddock	34.85	351	P	P	10 01 49.4	-0.1
	baz=166						
G58A	Ormstown	34.87	22	P	P	10 01 48.8	-0.9
	baz=211						
RLMT	Red Lodge	34.87	338	P	P	10 01 50.3	+0.3
	baz=149						
I62A	Tamworth	34.88	26	P	P	10 01 49.2	-0.6
	baz=216						
H60A	Morristown	34.88	24	P	P	10 01 49.1	-0.8
	baz=213						
BMN	Battle Mountai	34.93	325	IAmb	IAmb	10 01 55.3	
	comp=Z,14nm,0.8s						
D50A	G1974 Best Tow	34.95	14	P	P	10 01 50.0	-0.4
	baz=200						
E54A	Lac Daplat, Po	34.97	18	P	P	10 01 49.4	-1.2
	baz=205,SNR=8.2						
D51A	Lot 18 Range I	34.99	15	P	P	10 01 49.2	-1.5
	baz=201						
D52A	ZEK Kipawa Sen	35.13	16	P	P	10 01 50.8	-1.1
	baz=202						
G59A	Clarenceville	35.13	23	P	P	10 01 51.3	-0.7
	baz=212						
H61A	Lyndonville	35.17	25	P	P	10 01 51.4	-0.9
	baz=214						
YERR	Yerington	35.17	321	IAmb	IAmb	10 01 55.8	
	comp=Z,9.3nm,1.1s						
F57A	Harrington	35.22	21	P	P	10 01 51.9	-0.7
	baz=209						
CMB	Columbia Colle	35.32	319	P	P	10 01 55.9	+2.2
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMB	Columbia Colle	35.32	319	P	P	10 01 55.9	+2.2
E55A	Montcerf-Lytto	35.33	19	P	P	10 01 52.6	-1.0
	baz=207						
D53A	Lac Vacive, Po	35.42	16	P	P	10 01 53.6	-0.8
	baz=204						
PNTR	Pine Nut	35.46	321	IAmb	IAmb	10 02 09.7	
	comp=Z,9.6nm,0.8s						
G60A	Masonville	35.47	24	P	P	10 01 54.2	-0.8
	baz=213						
I64A	Boothbay	35.66	28	P	P	10 01 57.8	+1.3
	baz=218						
PAHR	Pah Rah Range	35.71	322	IAmb	IAmb	10 02 03.6	
	comp=Z,8.5nm,0.9s						
E56A	St. Veronique	35.74	20	P	P	10 01 56.1	-1.1
	baz=208,SNR=6.2						
D54A	Lac Fusel, La	35.78	18	P	P	10 01 56.4	-1.2
	baz=205,SNR=7.4						
F59A	Saint Guilaume	35.93	23	P	P	10 01 57.7	-1.1
	baz=212						
SAML	Samuel	36.01	127	P	P	10 01 58.7	-1.1
SAML				pmax	pmax		
	comp=Z,18nm,1.1s						
SAML	Samuel	36.01	127	eP	P	10 01 58.8	-1.0
SAML	Samuel	36.01	127	eP	P	10 01 58.8	-1.0
SAML	Samuel	36.01	127	P	P	10 01 58.7	-1.1
SAML				IAmb	IAmb	10 02 05.7	
	comp=Z,18nm,1.1s						
D55A	Sainte-Anne-du	36.02	19	P	P	10 01 58.7	-0.8
	baz=207,SNR=7.6						
H63A	New Sharon	36.07	26	P	P	10 01 59.5	-0.5
	baz=217						
BOZ	Bozeman (W)	36.17	336	P	P	10 02 01.8	+0.7
	baz=146						
E58A	La Victoria	36.20	22	P	P	10 02 00.1	-1.0
	baz=211						
D56A	ZEC Mazanza, M	36.28	20	P	P	10 02 00.9	-0.9
	baz=208						
G62A	West of Eustis	36.30	25	P	P	10 02 01.0	-1.1
	baz=216						
F60A	Warwick	36.35	23	P	P	10 02 01.3	-1.1
	baz=213						
DGMT	Dagmar	36.35	346	P	P	10 02 02.2	-0.3
	baz=159						
DLMT	Dillon	36.37	335	IAmb	IAmb	10 02 05.8	
	comp=Z,19nm,1.1s						
BEKR	Beckworth	36.40	321	IAmb	IAmb	10 02 09.7	
	comp=Z,8.9nm,1.0s						
D57A	Chemin Vers le	36.54	20	P	P	10 02 03.1	-0.9
	baz=210						
ULM	Lac du Bonnet	36.77	355	P	P	10 02 04.0	-2.0
ULM	Lac du Bonnet	36.77	355	P	P	10 02 04.0	-2.0
	comp=Z,7.4nm,0.7s,baz=174,slow=8.3,SNR=9.5						
ULM	Lac du Bonnet	36.77	355	IAmb	IAmb	10 02 05.2	
	comp=Z,8.3nm,0.7s						
E60A	Ste Agathe de	36.88	23	P	P	10 02 06.1	-0.7
	baz=214						
H65A	Eastbrook	36.89	28	P	P	10 02 05.9	-1.1
	baz=220						
D58A	Chemin du LacG	36.95	21	P	P	10 02 06.5	-1.0
	baz=211,SNR=6.8						
F62A	Pittston Farm,	37.09	25	P	P	10 02 07.5	-1.2
	baz=216						
G64A	Maxfield	37.09	27	P	P	10 02 07.8	-1.0
	baz=219						
LATQ	La Tuque	37.24	21	P	P	10 02 08.9	-1.0
	baz=211,SNR=5.7						
LATQ	La Tuque	37.24	21	IAmb	IAmb	10 02 09.9	
	comp=Z,17nm,0.9s						
D59A	Saint-Raymond	37.26	23	P	P	10 02 08.7	-1.4
	baz=213						
F63A	Nahmakanta, Br	37.30	26	P	P	10 02 09.3	-1.2
	baz=218						
LSQQ	Lebel-sur-Quev	37.42	16	P	P	10 02 09.9	-1.6
	baz=204						
D60A	Saint Jean D'O	37.53	23	P	P	10 02 11.6	-0.8
	baz=214						
O03E	Paynes Creek	37.54	321	P	P	10 02 14.0	+1.3
	baz=126						
EGMT	Eagleton	37.54	340	P	P	10 02 13.3	+0.7
	baz=150						
EGMT	Eagleton	37.54	340	IAmb	IAmb	10 02 19.6	
	comp=Z,11nm,0.9s						
G65A	Princeton	37.59	28	P	P	10 02 12.2	-0.8
	baz=220						
MOD	Modoc Plateau	37.65	324	IAmb	IAmb	10 02 17.5	
	comp=Z,18nm,1.1s						
LPAZ	La Paz	37.65	141	eP	P	10 02 13.6	-0.9
LPAZ	La Paz	37.65	141	P	P	10 02 13.4	-1.0
	comp=Z,3.7nm,0.9s,baz=345,slow=7.6,SNR=11						
LPAZ	La Paz	37.65	141	eP	P	10 02 14.1	-0.4
LPAZ	La Paz	37.65	141	eP	P	10 02 14.1	-0.4
PLID	Pearl Lake	37.65	331	IAmb	IAmb	10 02 20.3	
	comp=Z,34nm,1.1s						
F64A	Sherman	37.75	27	P	P	10 02 13.9	-0.4
	baz=219						
E62A	Clayton Lake	37.85	25	P	P	10 02 14.8	-0.4
	baz=216						
MATQ	Matagami	37.90	15	P	P	10 02 14.3	-1.2
	baz=202,SNR=9.2						
D61A	St Aubert, Com	38.05	24	P	P	10 02 16.0	-0.9
	baz=215						
O02D	Mt. Diablo Mer	38.08	320	P	P	10 02 17.6	+0.3
	baz=125						
BMO	Blue Mountains	38.10	330	IAmb	IAmb	10 02 19.6	
	comp=Z,21nm,1.1s						
MSO	Missoula	38.10	335	P	P	10 02 18.6	+1.2
	baz=143,SNR=5.9						
MSO	Missoula	38.10	335	IAmb	IAmb	10 02 19.6	
	comp=Z,14nm,1.1s						
E63A	Oxbow	38.16	26	P	P	10 02 17.1	-0.6
	baz=218						
E64A	Bridgewater	38.41	27	P	P	10 02 19.8	-0.1
	baz=219						
D62A	Allapoint, All	38.41	25	P	P	10 02 19.4	-0.5
	baz=217,SNR=5.8						
M04C	Macdoel	38.47	323	P	P	10 02 23.0	+2.5
	baz=128,SNR=10						
KMRM	Mail Ridge	38.69	319	IAmb	IAmb	10 02 25.8	
	comp=Z,20nm,1.1s						
D63A	Stockholm	38.77	26	P	P	10 02 22.0	-0.8
	baz=218						
CHGQ	Chibougamau	38.93	18	P	P	10 02 23.0	-1.2
	baz=207						
K04D	Chiloquin, OR	38.94	324	P	P	10 02 26.2	+1.7
	baz=129						
JTMT	Jette	38.98	336	IAmb	IAmb	10 02 26.9	
	comp=Z,15nm,1.1s						
L04D	Klamath Falls	39.01	323	P	P	10 02 26.6	+1.5
	baz=128,SNR=9.4						
MNMC	Minye Minye	39.05	146	IAmb	IAmb	10 02 31.7	
	comp=Z,20nm,0.9s						
J05D	Fort Rock, OR	39.07	325	P	P	10 02 27.4	+1.8
	baz=130,SNR=7.6						
KHMM	Horse Mountain	39.07	320	IAmb	IAmb	10 02 28.7	
	comp=Z,12nm,0.9s						
PINE	Pine Mountain	39.24	326	IAmb	IAmb	10 02 31.0	
	comp=Z,23nm,0.9s						
PB11	IPOC Station P	39.53	146	P	P	10 02 30.4	+0.7
PB11				IAmb	IAmb	10 02 33.9	
	comp=Z,18nm,0.9s						
J04D	Umpqua Nationa	39.53	324	P	P	10 02 32.1	+2.6
	baz=129,SNR=16						
GO01	Chusmiza	39.71	146	P	P	10 02 32.6	+1.1
L02E	Cave Junction	39.74	322	P	P	10 02 31.9	+0.9
	baz=126						
I05D	Terrebonne, OR	39.81	326	P	P	10 02 34.4	+2.7
	baz=131						
K02D	Willamette Mer	40.10	323	P	P	10 02 35.5	+1.3
	baz=127						
E08A	Dider Farm, El	40.13	330	IAmb	IAmb	10 02 39.3	
	comp=Z,20nm,1.2s						
KBO	Bosley Butte	40.15	322	IAmb	IAmb	10 02 37.4	
	comp=Z,35nm,1.1s						
G05D	Wamic, OR	40.40	327	P	P	10 02 39.1	+2.6
	baz=132,SNR=7.3						
I03D	Drain, OR	40.52	324	P	P	10 02 39.6	+2.2
	baz=128,SNR=17						
J01E	Myrtle Point	40.53	323	P	P	10 02 39.4	+1.8
	baz=127,SNR=12						
E07A	Sunnyside	40.57	330	IAmb	IAmb	10 02 48.8	
	comp=Z,15nm,0.9s						
NEW	Newport	40.57	334	P	P	10 02 39.0	+1.1
	baz=140,SNR=6.3						
H04D	Lebanon	40.70	325	P	P	10 02 40.2	+1.2
	baz=130,SNR=8.2						
C09A	Chrisman Ranch	40.73	332	IAmb	IAmb	10 02 41.7	
	comp=Z,30nm,1.0s						
F05D	White Salmon	40.91	328	P	P	10 02 43.6	+2.9
	baz=132,SNR=8.6						
I02D	Swisshome	41.06	324	P	P	10 02 44.0	+2.2
	baz=128						
G03D	McMinnville, O	41.42	326	P	P	10 02 47.0	+2.1
	baz=129,SNR=6.1						
LTY	Liberty	41.45	330	IAmb	IAmb	10 02 52.2	
	comp=Z,22nm,1.1s						
LON	Longmire	41.67	329	IAmb	IAmb	10 02 50.8	
	comp=Z,22nm,0.9s						
F04D	Rainier, OR	41.85	327	P	P	10 02 50.7	+2.4
	baz=130						
E04D	Cinebar	41.93	328	P	P	10 02 50.6	+1.6
	baz=131						
C06D	Leavenworth	42.03	331	P	P	10 02 51.6	+1.8
	baz=135						
SIV	San Ignacio	42.11	133	P	P	10 02 50.3	-0.6
	comp=Z,15nm,0.9s,baz=309,slow=7.8,SNR=60						
LVC	Limon Verde	42.26	148	eP	P	10 02 53.4	+1.0
LVC	Limon Verde	42.26	148	P	P	10 02 52.4	0.0
	comp=Z,6.9nm,0.8s,baz=302,slow=5.9,SNR=2.8						
LVC	Limon Verde	42.26	148	eP	P	10 02 53.8	+1.4
LVC	Limon Verde	42.26	148	eP	P	10 02 53.8	+1.4
D04E	Lakebay	42.45	328	P	P	10 02 54.7	+1.5
	baz=132						
B06A	Marblemount	42.73	331	IAmb	IAmb	10 03 05.1	
	comp=Z,30nm,1.0s						
D03D	Eldon	42.84	329	P	P	10 02 57.6	+1.1
	baz=132						
B05A	Bryant	42.85	330	P	P	10 02 57.0	+0.6
	baz=133						
NLWA	Neilton Lookou	43.15	328	IAmb	IAmb	10 03 02.0	
	comp=Z,26nm,0.9s						
A04D	Lummi Island	43.45	330	P	P	10 03 03.2	+1.8
	baz=133,SNR=14						
PGC	Sidney	43.77	330	IAmb	IAmb	10 03 10.8	
	comp=Z,39nm,1.1s						
SCHQ	Schefferville	45.53	20	P	P	10 03 16.2	-1.7
	comp=Z,39nm,0.9s,baz=202,slow=5.4,SNR=11						
SCHQ				LR	LR	10 23 29.7	
	comp=Z,1µm,19.1s,baz=184,slow=38						
PP1B	Ponte de Pedra	47.67	129	eP	P	10 03 34.8	-0.3
PP1B	Ponte de Pedra	47.67	129	eP	P	10 03 34.8	-0.3
AQDB	Aquidauana	48.89	133	eP	P	10 03 43.9	-0.5
AQDB	Aquidauana	48.89	133	eP	P	10 03 43.9	-0.5
ARAG	Araguaiana, MT	48.93	125	eP	P	10 03 43.9	-0.9
ARAG	Araguaiana, MT	48.93	125	eP	P	10 03 43.9	-0.9
YKA	Yellowknife Ar	51.56	347	P	P	10 04 03.6	-0.5
	comp=Z,20nm,0.8s,baz=147,slow=7.8,SNR=45						
YKA				PcP	PcP	10 05 18.9	+1.3
	comp=Z,3.1nm,0.8s,baz=147,slow=3.6,SNR=5.9						
CPUP	Villa Florida	51.80	140	P	P	10 04 04.5	-1.9
	comp=Z,4.3nm,0.9s,baz=314,slow=9.9,SNR=7.0						
BDFB	Brasilia	51.97	122	P	P	10 04 06.5	-1.5
	comp=Z,3.1nm,0.7s,baz=255,slow=12,SNR=4.1						
BDFB	Brasilia	51.97	122	IAmb	IAmb	10 04 19.5	
	comp=Z,7.4nm,0.9s						
NBPS	Pedro II - PI	52.89	106	eP	P	10 04 13.7	-1.2
NBPS	Pedro II - PI	52.89	106	eP	P	10 04 13.7	-1.2
IPMB	Ipameri, GO	53.06	125	eP	P	10 04 17.2	+1.2
IPMB	Ipameri, GO	53.06	125	eP	P	10 04 17.2	+1.2
DLBC	Dease Lake	53.22	336	P	P	10 04 17.6	+1.1
NBMO	Morrinhos-CE	53.84	104	eP	P	10 04 22.6	+0.8
NBMO	Morrinhos-CE	53.84	104	eP	P	10 04 22.6	+0.8
BB19B	Bebedouro	54.54	128	eP	P	10 04 26.4	-0.3
BB19B	Bebedouro	54.54	128	eP	P	10 04 26.4	-0.3
NBPB	Pedra_Branca-C	55.03	107	eP	P	10 04 29.5	-0.9
NBPB	Pedra_Branca-C	55.03	107	eP	P	10 04 29.5	-0.9
NBCL	Cascavel-CE	55.79	105	eP	P	10 04 36.8	+0.9
NBCL	Cascavel-CE	55.79	105	eP	P	10 04 36.8	+0.9
NBMA	Muriti-CE	56.44	108	eP	P	10 04 40.8	+0.3
NBMA	Muriti-CE	56.44

NBLI	Livramento-PB	58.12 108	*e*P		P	10 04 52.8 +0.4
RCBR	Riachuelo	58.57 106	*e*P		P	10 04 56.2 +0.7
RCBR	Riachuelo	58.57 106	*e*P		P	10 04 56.2 +0.7
NBLA	Lagarto - SE	58.71 112	*e*P		P	10 04 55.8 -0.6
NBLA	Lagarto - SE	58.71 112	*e*P		P	10 04 55.8 -0.6
NBIT	Itapeh - BA	58.88 117	*e*P		P	10 04 58.3 +0.7
NBIT	Itapeh - BA	58.88 117	*e*P		P	10 04 58.3 +0.7
NBPV	Pedro Velho	59.34 106	*e*P		P	10 05 01.2 +0.4
NBPV	Pedro Velho	59.34 106	*e*P		P	10 05 01.2 +0.4
CTGM	Chitina Glacie	59.34 334	P		P	10 04 58.9 -1.4
CTGM			IAmb	IAmb		10 05 12.5
	comp=Z,7.6nm,1.0s					
C36M	Paulatuk	59.42 347	P		P	10 05 00.4 -0.1
	baz=143					
BSFB	Barra de Sao F	59.48 122	*e*P		P	10 05 02.3 +0.6
BSFB	Barra de Sao F	59.48 122	*e*P		P	10 05 02.3 +0.6
BARN	Barnard Glacie	59.53 334	IAmb	IAmb		10 05 16.6
	comp=Z,11nm,1.0s					
NBAN	Anadia - AL	59.58 110	*e*P		P	10 05 02.6 +0.1
NBAN	Anadia - AL	59.58 110	*e*P		P	10 05 02.6 +0.1
BALM	Baldy	59.81 334	IAmb	IAmb		10 05 22.2
	comp=Z,7.8nm,1.2s					
DUB01	Friburgo-RJ	59.88 126	*e*P		P	10 05 05.8 +1.4
DUB01	Friburgo-RJ	59.88 126	*e*P		P	10 05 05.8 +1.4
TGL	Tana Glacier	59.88 334	P		P	10 05 04.3 +0.4
NBRF	Rio Formoso -	60.27 108	*e*P		P	10 05 07.2 -0.1
NBRF	Rio Formoso -	60.27 108	*e*P		P	10 05 07.2 -0.1
VRDI	Verde Repeater	60.37 334	P		P	10 05 08.4 +1.0
VRDI			IAmb	IAmb		10 05 09.7
	comp=Z,14nm,1.2s					
BCAR	Beaver Creek A	60.60 336	P		P	10 05 10.1 +1.3
EPYK	Eagle Plains	60.68 341	P		P	10 05 09.3 0.0
	baz=128					
EPYK	Eagle Plains	60.68 341	IAmb	IAmb		10 05 11.6
	comp=Z,9.3nm,1.1s					
INK	Inuvik	60.98 344	P		P	10 05 11.3 +0.1
	comp=Z,14nm,0.8s,baz=120,slow=7.1,SNR=58					
MENT	Mentasta	61.30 336	IAmb	IAmb		10 05 19.4
	comp=Z,11nm,1.0s					
SCRK	Sand Creek	61.92 337	IAmb	IAmb		10 05 35.1
	comp=Z,8.6nm,1.0s					
DHY	Denali Highway	62.85 335	IAmb	IAmb		10 05 29.4
	comp=Z,11nm,1.2s					
HDA	Harding Lake	63.27 336	P		P	10 05 27.6 +1.0
	baz=116,SNR=18					
ILAR	Eielson Array	63.40 337	P		P	10 05 28.0 +0.5
	comp=Z,29nm,1.0s,baz=124,slow=4.9,SNR=129					
ILAR	Eielson Array	63.40 337	P		P	10 05 27.9 +0.4
CCB	Clear Creek Bu	63.70 336	IAmb	IAmb		10 05 35.2
	comp=Z,18nm,1.1s					
WRH	Wood River Hil	63.74 336	IAmb	IAmb		10 05 34.6
	comp=Z,12nm,1.0s					
POKR	Poker Plat Res	63.77 337	P		P	10 05 30.7 +0.8
	baz=116,SNR=6.2					
COLA	College	63.82 337	*c i*P		P	10 05 30.3 +0.1
COLA			pmax	pmax		
	comp=Z,30nm,1.0s					
COLA	College	63.82 337	P		P	10 05 31.1 +0.9
TCOL	CIGO, UAF Yank	63.82 337	P		P	10 05 30.7 +0.5
	baz=116,SNR=10					
BMAR	Burnt Mountain	63.85 340	P		P	10 05 31.0 +0.6
PPLA	Purkeypile	64.80 334	IAmb	IAmb		10 05 46.2
	comp=Z,19nm,1.0s					
TOLK	Toolik Lake Re	66.08 340	P		P	10 05 45.7 +0.8
	baz=116,SNR=12					
IMAR	Indian Mountai	66.52 337	P		P	10 05 47.7 -0.1
SUMG	Summit	66.58 15	*i* P		P	10 05 47.3 -1.2
SUMG			pmax	pmax		
	comp=Z,21nm,0.8s					
SUMG	Summit	66.58 15	*i* P		P	10 05 47.3 -1.2
	comp=Z,21nm,0.8s					
RDOG	Red Dog Mine	70.56 338	IAmb	IAmb		10 06 14.9
	comp=Z,19nm,1.1s					
DAG	Danmarks Havn	73.03 13⇑	*i*P		P	10 06 25.8 -1.7
DAG			pmax	pmax		
	comp=Z,6.0nm,0.8s					
DAG	Danmarks Havn	73.03 13⇑	*i*P		P	10 06 25.8 -1.7
	comp=Z,7.8nm,0.8s					
JMIC	Jan Mayen	75.05 20	LR	LR		10 40 45.7
	comp=Z,406nm,18.3s,baz=237,slow=37					
ESK	Eskdalemuir	78.10 36	*e*P		P	10 06 54.4 -2.6
ESDC	Sonseca Array	79.72 52	P		P	10 07 04.5 -1.8
	comp=Z,1.0nm,0.6s,baz=287,slow=6.0,SNR=8.1					
ESDC	Sonseca Array	79.72 52	P		P	10 07 04.5 -1.8
BILL	Bilibino	82.02 338	*c i*P		P	10 07 18.9 +1.0
BILL			*e*			10 10 29.0
BILL			*e*S		S	10 17 32.9 +3.8
BILL			pmax	pmax		
	comp=Z,56nm,1.1s					
BILL	Bilibino	82.02 338	P		P	10 07 19.2 +1.3
NOA	NORSAR Array B	84.38 28	P		P	10 07 29.3 -1.0
	comp=Z,1.5nm,1.0s,baz=294,slow=5.5,SNR=3.7					
NOA			LR	LR		10 46 55.2
	comp=Z,79nm,18.4s,baz=220,slow=37					
TIC	Toumodi	85.19 84	*e*P		P	10 07 34.9 -0.3
	comp=Z,1.8nm,0.2s					
LIC	Lamto	85.27 85	*e*P		P	10 07 35.3 -0.3
	comp=Z,80nm,1.1s					
DBIC	Dimbokro	85.34 84	P		P	10 07 36.8 +0.9
DBIC			pmax	pmax		
	comp=Z,17nm,1.0s					
DBIC	Dimbokro	85.34 84	P		P	10 07 34.5 -1.4
	comp=Z,11nm,0.9s,baz=242,slow=4.5,SNR=7.9					
DBIC	Dimbokro	85.34 84	P		P	10 07 36.9 +0.9
KIC	Kosan Boka	85.52 85	*e*P		P	10 07 36.5 -0.4
	comp=Z,6.4nm,0.7s					
ARCES	ARCESS Array B	86.46 18	LR	LR		10 47 02.8
	comp=Z,345nm,19.6s,baz=246,slow=36					
CLL	Collm	88.46 37	*e*P		P	10 07 50.0 -0.4
SEY	Seymchan	89.32 336	‖ *i*P		P	10 07 55.9 +1.7
KHC	Kasperske Hory	89.55 39	‖ *e*P		P	10 07 52.9 -2.8
TORD	Torodi Ar. Bea	90.13 77	P		P	10 07 57.3 -1.7
	comp=Z,2.9nm,1.0s,baz=293,slow=6.1,SNR=8.1					
TORD	Torodi Ar. Bea	90.13 77	P		P	10 07 57.6 -1.4
FINES	FINESS Array B	90.76 25	LR	LR		10 48 35.9
	comp=Z,435nm,19.2s,baz=236,slow=36					
TIXI	Tiksi	90.78 348	P		P	10 08 00.6 -0.3
	comp=Z,15nm,1.0s,baz=47,slow=5.4,SNR=20					
KEST	Kesra	90.88 53	P		P	10 08 01.8 -0.4
	comp=Z,22nm,1.2s,baz=288,slow=3.8,SNR=3.3					
KEST	Kesra	90.88 53	IAmb	IAmb		10 08 06.3
	comp=Z,20nm,1.1s					
PETK	Petropavlovsk-	91.23 326	P		P	10 08 04.4 +1.1
	comp=Z,4.6nm,1.0s,baz=99,slow=8.9,SNR=4.2					
YAK	Yakutsk	98.01 342	*e*P		P	10 08 33.9 -0.2
YAK			pmax	pmax		
	comp=Z,5.0nm,0.5s					
KURK	Kurchatov	115.45 7⇑	*i*PKIKP		PKPdf	10 13 41.4 +1.5
KURK	Kurchatov	115.45 7			PKiKP	10 13 40.0 +0.1
KURBB	Kurchatov Arra	115.53 7	PKP		PKiKP	10 13 40.0 0.0
	comp=Z,0.7nm,0.7s,baz=352,slow=1.7,SNR=4.3					
ULN	Ulaanbaatar	116.64 346	‖ *i*PKIKP		PKiKP	10 13 44.2 +1.7
SONM	Songino Array	116.82 346	PKP		PKiKP	10 13 43.6 +0.8
	comp=Z,1.1nm,0.9s,baz=108,slow=3.2,SNR=2.9					
DGZ	Jazzator, Alta	117.03 1	‖ *i*PKIKP		PKPdf	10 13 42.8 -0.4
MKAR	Makanchi Array	119.70 5	PKIKP		PKPdf	10 13 48.0 -0.3
MKAR	Makanchi Array	119.70 5	PKP		PKPdf	10 13 48.0 -0.3
	comp=Z,0.8nm,0.8s,baz=28,slow=3.4,SNR=2.8					
BOSA	Boshof	119.83 115	PKP		PKPdf	10 13 48.8 -0.3
	comp=Z,5.9nm,0.9s,baz=171,slow=4.1,SNR=6.0					
HHC	Hu-ho-hao-te	121.78 339	*e*PKP		PKiKP	10 13 53.3 +0.6
KSH	Kashi	125.97 12	*e*PKP		PKiKP	10 14 01.3 +0.3
NJ2	Nanjing	126.08 328	*e*PKP		PKPdf	10 14 00.3 -0.5
GTA	Gaotai	126.26 349	*e*PKP		PKiKP	10 14 02.0 +0.4
STKA	Stephens Creek	128.15 240	PKP		PKPdf	10 14 04.4 -0.3
	comp=Z,2.2nm,0.9s,baz=21,slow=3.9,SNR=4.6					
LZH	Lanzhou	128.52 344	*e*PKP		PKPdf	10 14 05.5 -0.2
LZH			sPKP			10 14 24.0
LZH			LR	LR		
	comp=Z,120nm,17.8s					
LZH			LR	LR		
	comp=Z,130nm,18.0s					
LZH			LR	LR		
	comp=Z,160nm,20.2s					
XAN	Xi'an	128.80 338	PKP		PKiKP	10 14 07.0 +0.2
CD2	Chengdu	133.40 342	PKP		PKPdf	10 14 13.3 -1.6
WRA	Warramunga Arr	135.63 255	PKIKP		PKPdf	10 14 19.8 +0.6
WRA	Warramunga Arr	135.63 255	PKP		PKPdf	10 14 18.9 -0.3
	comp=Z,1.4nm,0.9s,baz=89,slow=2.1,SNR=7.0					
WRA	Warramunga Arr	135.63 255			PKPdf	10 14 19.8 +0.6
ASAR	Alice Springs	135.85 250	PKIKP		PKPdf	10 14 19.8 +0.2
ASAR	Alice Springs	135.85 250	PKP		PKPdf	10 14 18.5 -1.1
	comp=Z,1.0nm,0.8s,baz=121,slow=2.3,SNR=9.1					
ASAR	Alice Springs	135.85 250			PKPdf	10 14 19.8 +0.2
KNRA	Kununurra	140.90 262			PKiKP	10 14 31.9 +0.3
NONG	Nongkai	145.38 335	P		PKPab	10 14 37.5 +0.6
	comp=Z,0.8nm,0.9s					
PHRA	Phrae	146.09 340	P		PKPab	10 14 39.9 +0.4
	comp=Z,4.3nm,1.0s,comp=Z,923nm					
CMMT	Chiang Mai	146.21 342	P		PKPbc	10 14 39.8 +0.5
	comp=Z,8.6nm,1.1s					
MSEY	Mahe Island	146.39 78	PKP2		PKPab	10 14 41.3 +0.4
MSEY	Mahe Island	146.39 78			PKPab	10 14 41.3 +0.4
CMAR	Chiang Mai Arr	146.54 342	PKPbc		PKPbc	10 14 40.9 +0.6
	comp=Z,13nm,0.7s,baz=335,slow=3.6,SNR=53					
CMAR	Chiang Mai Arr	146.54 342			PKPbc	10 14 40.0 -0.3
UTTA	Uttaradit	146.67 339	P		PKPab	10 14 41.5 -0.2
UBPT	Khong Chiam	146.74 329			PKPab	10 14 42.7 +0.7
MHMT	Maesarieng	147.11 343	P		PKiKP	10 14 44.7 +0.3
	comp=Z,29nm,1.0s					
PBKT	Sadao Pong	147.60 337			PKPbc	10 14 42.7 -0.5
HYB	Hyderabad	147.75 18	*i* PKP		PKPdf	10 14 41.5 +0.6

TIR 25 10:27:07.7, 41°88N×20°16E, h7km, Md1.9/2, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	Puka	0.26	309	*i* PG	Pg	10 27 13.2	+0.4
PUK				*i* SG	Sg	10 27 17.3	+1.0
PHP	Peshkopia	0.29	133	*i* PG	Pg	10 27 13.9	+0.5
PHP				*i* SG	Sg	10 27 18.5	+1.3

ROM 25 10:28:14.2±0.1, 40°258N±0°005×15°887E±0°006, h10km, ML0.8/2, Error ellipse: s-maj=0.7km s-min=0.3km az=33.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRI	Monte Sirino -	0.08	191	P	Pg	10 28 16.8	+0.2
SIRI				S	Sg	10 28 19.1	+0.7
SIRI				AML	AML		
	comp=E,77μm,0.2s						
SIRI				AML	AML		
	comp=N,101μm,0.2s						
SIRI				AML	AML		
	comp=N,101μm,0.2s						
SIRI				AML	AML		
	comp=E,77μm,0.2s						
MCEL	Monticello	0.09	316	P	Pg	10 28 16.9	0.0
MCEL				S	Sg	10 28 19.4	+0.7
MTSN	Montesano sull	0.10	275	P	Pg	10 28 17.2	+0.2
MTSN				S	Sg	10 28 19.3	+0.4
MTSN				AML	AML		
	comp=E,76μm,1.4s						
MTSN				AML	AML		
	comp=N,57μm,0.5s						
SCHR	S. Chirico Rap	0.16	112	P	Pg	10 28 17.9	+0.2
SCHR				S	Sg	10 28 21.3	+1.1
SLCN	Sala Consilina	0.23	304	P	Pb	10 28 19.9	-0.7
SLCN				S	Sg	10 28 23.9	+1.6
MGR	Morigerati	0.28	245	P	Pg	10 28 20.5	+0.6
MGR				S	Sb	10 28 25.1	-1.0
PAOL	Paolisi	1.27	308	P	Pn	10 28 27.8	-10
ATN	Antennamare	2.12	189	P	Pn	10 28 37.6	-12
ATN				S	Sn	10 29 01.0	-15
LPEL	Lama dei Pelig	2.20	325	S	Sn	10 29 10.0	-8.2
TERO	Teramo	2.92	325	P	Pn	10 28 53.4	-7.3
MTCE	Montecelio	2.96	308	P	Pn	10 28 47.8	-13
NRCA	Norcia	3.31	322	P	Pn	10 28 56.3	-10
CESX	Cesi	3.42	314	S	Sn	10 29 39.0	-9.2
LEOD	Capriano del C	6.70	323	P	Pn	10 29 41.7	-11

IDC 25 10:31:19.6±1.4, 15°48S×175°25W, h271km±26km, mb3.1/5, mb1 3.5/6, mb1mx3.2/37, mbtmp3.8/6, Error ellipse: s-maj=128.9km s-min=16.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.71	65	P	Pn	10 32 22.6	+1.5
	5.8nm,0.3s,baz=112,slow=2.0,SNR=16						
AFI				S	S	10 33 09.8	-0.3
	1.8nm,0.3s,baz=41,slow=19,SNR=3.6						
WRA	Warramunga Arr	48.09	257	P	P	10 39 32.0	-0.7
	0.5nm,0.6s,baz=92,slow=6.9,SNR=2.9						
ASAR	Alice Springs	48.39	252	P	P	10 39 35.1	+0.1
	6.8nm,0.6s,baz=87,slow=8.0,SNR=141						
NVAR	Mina Array Bea	75.59	43	P	P	10 42 35.6	+0.5
	0.5nm,0.8s,baz=243,slow=7.7,SNR=4.0						
ILAR	Eielson Array	82.88	12	P	P	10 43 13.7	+0.2
	0.1nm,0.7s,baz=208,slow=5.0,SNR=3.9						
PDAR	Pinedale Array	83.52	42	P	P	10 43 17.1	-0.6
	0.2nm,0.5s,baz=233,slow=7.5,SNR=2.7						

NSSP ***25*** *10:36:11.7, 40°82N×46°65E, h10km, Ms3.1*
DDA ***25*** *10:36:12.7, 41°35N×46°87E, h3km±9km, ML2.9*
TIF ***25*** *10:36:12.5, 40°86N×46°86E, h42km±2km*
ISCJB ***25*** *10:36:14.4±0.8, 40°85N±0°04×46°76E±0°04, h16km±7km, Error ellipse: s-maj=7.0km s-min=4.5km az=141.0*
DRS ***25*** *10:36:16.4±0.0, 41°00N×46°61E, h16km*

ISC 25 10:36:16.2±1.3, 40°95N±0°04×46°86E±0°04, h30km±13km, n28, σ1°86/54, 3C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	Dedoflistskaro	0.75	312	P	Pn	10 36 31.1	+0.3
DDFL				S	Sn	10 36 45.2	+4.0
DDFL	Dedoflistskaro	0.75	312	*i* P	Pn	10 36 30.9	0.0
AKT	Akhty	0.85	51	*e*Pg	Pb	10 36 31.6	-0.9
AKT				*e*Sg	Sn	10 36 44.8	+1.1
LGD	Lagodekhi	1.00	333	P	Pb	10 36 32.9	-2.1
LGD				S	Sn	10 36 47.9	+0.5
DGRG	David-gareji	1.23	295	P	Pn	10 36 35.7	-1.6
DGRG				S	Sb	10 36 53.1	-1.2
DGRG	David-gareji	1.23	295	*i* P	Pn	10 36 35.8	-1.6
DGRG				*i* S	Sn	10 36 52.1	-0.9
DGRG				IAML		10 36 54.0	
	comp=N,119nm,0.3s						
DGRG				IAML		10 36 54.0	
	comp=E,150nm,0.2s						
DGRG	David-gareji	1.23	295	*e*Pg	Pn	10 36 35.8	-1.6
DGRG				*e*Sg	Sb	10 36 53.7	-0.6
URKR	Urkarakh	1.35	25	*e*Pg	Pb	10 36 40.4	-0.6
URKR				*e*Sg	Sb	10 37 00.4	+2.6
GNBR	Gunib	1.44	3	*e*Pg	Pb	10 36 41.6	-0.8
GNBR				*e*Sg	Sb	10 37 02.0	+1.5
BTNK	Botanikuri	1.72	296	P	Pn	10 36 42.8	-1.3
BTNK				S	Sn	10 37 04.7	-0.3
BTNK	Botanikuri	1.72	296	*i* P	Pn	10 36 41.9	-2.2
BTNK				*i* S	Sn	10 37 04.7	-0.3
BTNK				IAML		10 37 06.0	
	comp=N,358nm,0.4s						
BTNK				IAML		10 37 06.0	
	comp=E,252nm,0.4s						
KAPZ	Kaputan	1.76	250	*i* P	Pn	10 36 43.0	-1.8
KAPZ				*i* S	Sn	10 37 04.4	-1.9
TBLG	Delisi	1.78	297	P	Pn	10 36 43.4	-1.5
TBLG				S	Sn	10 37 06.3	-0.2
GNI	Garni	1.80	244	*i* P	Pn	10 36 43.7	-1.6
GNI				⇑ *i* S	Sn	10 37 06.3	-1.0
STEZ	Stepenevan	1.86	272	*e*P	Pn	10 36 43.0	-3.2
STEZ				*e*S	Sn	10 37 04.0	-4.8
KZRT	Kazreti	1.91	284	P	Pn	10 36 44.5	-2.2
KZRT				S	Sn	10 37 08.2	-1.6
NRKZ	NAREK	1.93	241	*i* P	Pn	10 36 45.9	-1.2
NRKZ				⇑ *i* S	Sn	10 37 09.6	-0.7
DBC	Dubki	2.07	359	*e*Pg	Pb	10 36 51.4	-1.8
DBC				*e*Sg	Sb	10 37 18.2	-0.3
ARUZ	Aruch	2.21	253	*e*P	Pb	10 36 58.4	+2.8
ARUZ				*e*S	Sb	10 37 31.6	+9.1
METS	Metsamor	2.26	250	*i* P	Pb	10 36 55.6	-0.8
METS				⇑ *i* S	Sb	10 37 26.8	+2.8
GUDG	Gudauri	2.34	311	P	Pn	10 36 52.5	-0.4
GUDG				S	Sn	10 37 20.2	-0.5
GUDG	Gudauri	2.34	311	*i* Pn	Pn	10 36 52.4	-0.4
GUDG				*e*Sn	Sn	10 37 22.6	+1.9
VNNZ	Vanand	2.46	251	*i* P	Pb	10 37 00.5	+0.7
VNNZ				*i* S	Sb	10 37 35.2	+5.5
AKH	Akhalkalaki	2.58	281	*e*Pn	Pn	10 36 56.7	+0.5
AKH				*e*Sn	Sn	10 37 28.4	+1.8
LACR	Lac	2.68	315	*e*Pn	Pn	10 36 56.9	-0.5
LACR				*e*Sn	Sn	10 37 30.5	+1.6
ZEI	Tsey	2.87	311	*e*Pn	Pn	10 37 00.1	0.0
ZEI				*e*Sn	Sn	10 37 36.0	+2.1
ONI	Oni	3.03	304	*e*Pn	Pn	10 37 01.5	-0.7
ONI				*e*Sn	Sn	10 37 38.8	+1.3
DIGR	Digorskoe uzhe	3.13	310	*e*Pn	Pn	10 37 03.7	+0.1
DIGR				*e*Sn	Sn	10 37 40.8	+0.7

ISCJB ***25*** *10:37:53.6±0.4, 53°94S±0°05×54°76W±0°07, h10km, mb4.1/10, MS4.2/5, Error ellipse: s-maj=7.6km s-min=5.6km az=31.9*
NEIC ***25*** *10:37:55.5±2.3, 53°88S±0°06×54°6W±0°1, h10km±1km, mb4.6/15*
IDC ***25*** *10:37:57.5±0.7, 53°58S×55°07W, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, ML4.5/2, MS4.1/6, Ms1 4.1/6, ms1mx3.9/18, Error ellipse: s-maj=23.6km s-min=18.0km az=58.0*

ISC 25 10:37:56.1±0.5, 53°81S±0°06×54°65W±0°06, h10km, n52, σ2°24/53, mb4.3/12, MS4.2/5, 1D, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	East Falkland	2.98	314	Pn	Pn	10 38 43.9	+0.5
EFI				Sn	Sn	10 39 18.4	-0.8
USHA	Ushuaia	8.13	257	Pn	Pn	10 39 53.1	-1.0
	20nm,0.3s,baz=90,slow=12,SNR=69						
USHA				Sn	Sn	10 41 25.7	-0.1
	36nm,0.3s,baz=191,slow=21,SNR=11						
GO10	Punta Arenas	9.80	267		Pn	10 40 15.9	-1.2
GO10					Sn	10 42 07.0	-0.1
HOPE	Hope Point	10.69	100	Pn	Pn	10 40 26.4	-2.8
GO09	Cerro Castillo	11.07	276		Pn	10 40 33.9	-0.4
PMSA	Palmer Station	11.98	200	Pn	Pn	10 40 50.5	+3.8
	1.0nm,0.3s,baz=38,slow=9.3,SNR=4.9						
PMSA				LR	LR	10 44 31.4	
	comp=Z,373nm,20.0s,baz=314,slow=32						
PMSA	Palmer Station	11.98	200		Pn	10 40 44.1	-2.6
TRQA	Tornquist	16.55	339		P	10 41 50.4	-0.3
TRQA				IAmb	IAmb	10 41 55.3	
	comp=Z,67nm,0.8s						
PLCA	Paso Flores	16.91	314	Pn	P	10 41 57.8	+3.0
	comp=Z,1.2nm,0.3s,baz=173,slow=11,SNR=42						
PLCA				Sn	Sn	10 44 56.5	-4.0
	comp=Z,1.4nm,0.3s,baz=239,slow=4.7,SNR=8.6						
PLCA	Paso Flores	16.91	314		P	10 41 58.7	+4.0
PLCA					Sn	10 44 58.3	-2.2
GO06	Curarrehue	18.25	314	P	Pn	10 42 08.6	-0.9
GO06				IAmb	IAmb	10 42 26.0	
	comp=Z,28nm,1.3s						
ROC1	El Roble	23.87	324	P	P	10 43 05.8	-4.1
CFA	Coronel Fontan	24.25	331	P	P	10 43 13.1	-0.1
	comp=Z,1.6nm,0.3s,baz=206,slow=14,SNR=5.1						
CFA				LR	LR	10 54 47.3	
	comp=Z,671nm,18.9s,baz=204,slow=42						
VNA3	Neumayer Olymp	26.16	149	P	P	10 43 28.3	-1.8
VNA1	Neumayer--Stat	26.43	147	P	P	10 43 30.9	-1.6
VNA2	Neumayer--Watz	26.78	148	P	P	10 43 33.9	-1.8
	baz=297,slow=11						
CPUP	Villa Florida	27.52	355	P	P	10 43 43.2	+0.4
	comp=Z,2.1nm,0.9s,baz=161,slow=4.4,SNR=4.8						
CPUP				LR	LR	10 54 25.3	
	comp=Z,382nm,21.8s,baz=139,slow=36						
CPUP	Villa Florida	27.52	355	IAmb	IAmb	10 43 51.0	
	comp=Z,8.7nm,1.4s						
SNAA	Sanae	28.38	148	P	P	10 43 48.7	-1.4
SNAA	Sanae	28.38	148	P	P	10 43 47.7	-2.4
	comp=Z,2.6nm,0.8s,baz=303,slow=7.9,SNR=8.7						
SNAA	Sanae	28.38	148	P	P	10 43 49.1	-1.0
SNAA				IAmb	IAmb	10 43 58.1	
	comp=Z,7.2nm,1.0s						
GO01	Chusmiza	35.87	336	P	P	10 44 57.6	+0.9
GO01				IAmb	IAmb	10 45 10.9	
	comp=Z,9.4nm,0.7s						
PB11	IPOC Station P	35.90	335	P	P	10 44 55.2	-1.3
QSPA	South Pole Qui	36.44	180	P	P	10 45 00.8	0.0
MNMC	Minye Minye	36.49	336	P	P	10 45 01.6	0.0
BDFB	Brasilia	38.44	10	P	P	10 45 17.6	-0.5
	comp=Z,6.8nm,0.8s,baz=181,slow=6.3,SNR=9.6						
BDFB				LR	LR	11 00 43.2	
	comp=Z,289nm,21.4s,baz=159,slow=36						
LPAZ	La Paz	38.90	339	P	P	10 45 23.6	+1.1
	comp=Z,2.3nm,0.7s,baz=174,slow=9.2,SNR=11						
LPAZ	La Paz	38.90	339	P	P	10 45 24.2	+1.7
SYO	Syowa Base	42.67	148	‖ *e*pP	P	10 45 50.0	-2.3
MAW	Mawson	50.30	154	P	P	10 46 56.7	+4.5
	comp=Z,7.5nm,1.0s,baz=243,slow=8.8,SNR=6.0						
H10N3	ASCENSION HYDR	56.06	50	T	T	11 48 03.7	
	baz=206,slow=75,SNR=22						
H10N1	ASCENSION HYDR	56.07	50	T	T	11 48 04.2	
	baz=206,slow=75,SNR=20						
H10N2	ASCENSION HYDR	56.08	50	T	T	11 48 05.4	
	baz=206,slow=75,SNR=24						
SUR	Sutherland	56.28	100	P	P	10 47 40.4	+3.5
	comp=Z,2.8nm,0.7s,baz=180,slow=15,SNR=2.4						
SUR	Sutherland	56.28	100	P	P	10 47 36.6	-0.3
BOSA	Boshof	61.64	100	P	P	10 48 18.4	+4.7
	comp=Z,2.5nm,0.7s,baz=250,slow=2.5,SNR=5.6						
BOSA				LR	LR	11 11 27.8	
	comp=Z,236nm,20.7s,baz=217,slow=32						
BOSA	Boshof	61.64	100	P	P	10 48 13.3	-0.8
BOSA				IAmb	IAmb	10 48 25.8	
	comp=Z,5.3nm,0.8s						
LBTB	Lobatse	64.55	98	P	P	10 48 32.4	-1.0
LBTB				IAmb	IAmb	10 48 40.2	
	comp=Z,8.0nm,0.8s						
SJG	San Juan	72.31	349	P	P	10 49 19.6	-2.0
PPT	Papeete	78.88	256	LR	LR	11 18 14.7	
	comp=Z,158nm,18.2s,baz=136

0.1nm,0.3s,baz=147,slow=11,SNR=5.7
MAJO Matsushiro 5.77 331 Pn Pn 11 07 20.5 -0.1
MAJO Sn Sn 11 08 27.3 +1.7
MJB9 Matsu-Tunnel 5.78 331 Pn Pn 11 07 20.6 -0.1
MJB9 Sn Sn 11 08 27.2 +1.6
ERM Erimo 10.56 6 Pn **Pn 11 08 25.3 -0.8**
JKA Kamikawa-asahi 12.61 3 Pn Pn 11 08 50.2 -3.9
ASAJ Asahikawa 12.61 3 Pn **Pn 11 08 50.2 -3.9**
0.7nm,0.3s,baz=223,slow=11,SNR=4.9
USA0B Ussuriysk Arra 14.77 332 Pn **Pn 11 09 23.6 +0.1**
USRK Ussuriysk Ar. 14.77 332 Pn **Pn 11 09 22.8 -0.7**
KLR Kul'dur 19.21 340 P P 11 10 17.0 -0.8
0.3nm,0.3s,baz=171,slow=6.0,SNR=6.6
HIA Hailar 24.20 323 P P 11 11 08.8 -1.4
HIA IAmb IAmb 11 11 13.2
comp=Z,7.1nm,0.9s
QIZ Qiongzhong 31.21 254 P **P 11 12 12.9 -0.2**
SONM Songino Array 31.32 312 P P 11 12 14.8 +0.9
comp=Z,0.5nm,0.6s,baz=118,slow=11,SNR=2.6
SONM Songino Array 31.32 312 P **P 11 12 14.2 +0.3**
ZAA0 Zalesovo Array 45.91 316 P **P 11 14 16.5 +0.6**
ZALV Zalesovo Beam 45.91 316 P P 11 14 17.1 +1.2
comp=Z,0.5nm,0.3s,baz=101,slow=7.6,SNR=3.2
ZALV Zalesovo Beam 45.91 316 P P 11 14 16.5 +0.6
MK31 Makanchi Array 47.39 307 P P 11 14 28.2 +0.5
MKAR Makanchi Array 47.39 307 P P 11 14 27.8 +0.1
comp=Z,0.8nm,0.5s,baz=85,slow=9.6,SNR=8.8
MKAR Makanchi Array 47.39 307 P P 11 14 28.2 +0.5
KURK Kurchatov 49.62 312 P P 11 14 44.5 -0.2
KURBB Kurchatov Arra 49.69 312 P P 11 14 45.1 -0.1
comp=Z,2.5nm,0.8s,baz=88,slow=7.3,SNR=12
IMAR Indian Mountai 51.36 28 P **P 11 14 58.0 +0.4**
WB0 Warramunga Arr 51.45 189 P P 11 14 59.0 +0.2
WB0 IAmb IAmb 11 15 02.0
comp=Z,10nm,1.5s
WB2 Warramunga Arr 51.63 189 P P 11 15 00.4 +0.3
WB2 IAmb IAmb 11 15 19.3
comp=Z,11nm,1.5s
WRA Warramunga Arr 51.63 189 P P 11 15 00.8 +0.7
comp=Z,2.2nm,0.3s,baz=4.9,slow=7.6,SNR=25
WRA Warramunga Arr 51.63 189 P P 11 15 00.0 -0.1
ILAR Eielson Array 54.11 30 P P 11 15 18.2 +0.3
comp=Z,0.2nm,0.7s,baz=258,slow=6.1,SNR=2.8
AS31 Alice Springs 55.36 189 P P 11 15 27.8 +0.3
ASAR Alice Springs 55.36 189 P P 11 15 28.1 +0.7
comp=Z,0.8nm,0.5s,baz=4.6,slow=6.6,SNR=20
ASAR Alice Springs 55.36 189 P P 11 15 27.9 +0.4
SCRK Sand Creek 55.37 31 P P 11 15 28.7 +1.4
SCRK IAmb IAmb 11 15 43.5
comp=Z,2.9nm,1.3s
KK31 Karatay Array 56.19 303 P P 11 15 33.8 +0.5
KK31 IAmb IAmb 11 15 38.1
comp=Z,5.0nm,1.2s
KKAR Karatay Array 56.19 303 P **P 11 15 33.5 +0.2**
KKAR Karatay Array 56.19 303 P P 11 15 33.9 +0.6
KKAR IAmb IAmb 11 15 38.1
comp=Z,5.0nm,1.2s
CHGR Chuyangaron 58.34 299 P P 11 15 48.8 +0.1
ABKAR Akbulak array 61.73 313 P P 11 16 11.5 0.0
ABKAR Akbulak array 61.73 313 P P 11 16 11.8 +0.2
ABKAR IAmb IAmb 11 16 15.5
comp=Z,1.5nm,0.7s
TXAR Lajitas Array 93.33 53 P P 11 19 09.2 +0.6
comp=Z,0.3nm,0.6s,baz=268,slow=2.7,SNR=3.8
TXAR Lajitas Array 93.33 53 P **P 11 19 09.3 +0.7**

IDC 25 11:10:20.7±5.7, 25°.83S×69°.25E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, Error ellipse: s-maj=159.0km s-min=43.3km az=57.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.35**	**10**	T	T	11 32 48.4	
baz=188,slow=76,SNR=32							
H08S2	**Diego Garcia H**	**18.35**	**10**	T	T	11 32 47.8	
baz=188,slow=76,SNR=52							
H08S3	**Diego Garcia H**	**18.37**	**10**	T	T	11 32 46.1	
baz=188,slow=76,SNR=39							
CMAR	**Chiang Mai Arr**	**52.65**	**36**	P	P	11 19 36.7	-0.2
0.4nm,0.3s,baz=224,slow=6.3,SNR=4.4							
ASAR	**Alice Springs**	**58.21**	**103**	P	P	11 20 17.1	0.0
0.6nm,0.6s,baz=250,slow=6.6,SNR=11							
MKAR	**Makanchi Array**	**73.24**	**9**	P	P	11 21 53.6	+0.1
0.5nm,0.7s,baz=185,slow=5.4,SNR=5.9							

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*IDC **25** 11:10:30.6±2.1, 60°.51S×45°.98W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/23, mbtmp4.0/3, Error ellipse: s-maj=80.3km s-min=36.2km az=29.0*
*ISCJB **25** 11:10:31.8±0.6, 60°.16S±0°.07×45°.4W±0°.2, h10km, mb3.9/3, Error ellipse: s-maj=13.4km s-min=9.5km az=153.8*
*NEIC **25** 11:10:34.0±1.2, 60°.12S±0°.06×45°.5W±0°.2, h10km±1km, mb4.3/6*
ISC 25 11:10:33.7±0.7, 60°.15S±0°.09×45°.5W±0°.1, h10km, n20, σ0§91/19, mb4.2/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.63**	**44**	Pn	**Pn**	11 12 24.9	+0.2
PMSA	**Palmer Station**	**9.76**	**234**	Pn	**Pn**	11 12 54.5	+0.7
VNA3	**Neumayer Olymp**	**18.09**	**142**	P	**Pn**	11 14 43.7	-1.0
VNA1	**Neumayer--Stat**	**18.35**	**140**	P	**Pn**	11 14 47.3	-0.5
VNA2	**Neumayer--Watz**	**18.70**	**141**	P	**Pn**	11 14 51.8	-0.4
baz=294,slow=13							
SNAA	**Sanae**	**20.31**	**142**	P	Pn	11 15 13.5	+2.1
SNAA	**Sanae**	**20.31**	**142**	P	**P**	11 15 09.9	+0.5
SNAA				IAmb	IAmb	11 15 14.4	
comp=Z,9.7nm,0.9s							
TRQA	**Tornquist**	**24.47**	**327**	P	**P**	11 15 52.7	0.0
PLCA	**Paso Flores**	**24.89**	**310**	P	**P**	11 15 55.6	-0.9
comp=Z,1.8nm,0.9s,baz=169,slow=10,SNR=3.3							
PLCA	**Paso Flores**	**24.89**	**310**	P	**P**	11 15 55.9	-0.6
QSPA	**South Pole Qui**	**30.09**	**180**	P	**P**	11 16 42.0	-1.0
QSPA				IAmb	IAmb	11 16 45.8	
comp=Z,8.0nm,1.1s							
SIV	**San Ignacio**	**45.53**	**339**	P	**P**	11 18 53.6	+0.2
comp=Z,2.0nm,0.6s,baz=162,slow=8.7,SNR=10							
SAML	**Samuel**	**52.80**	**338**	P	**P**	11 19 48.4	-0.6
SAML				IAmb	IAmb	11 19 49.8	
comp=Z,3.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.20**	**46**	P	**P**	11 22 55.6	+0.9
comp=Z,2.0nm,1.0s,baz=197,slow=4.4,SNR=5.9							
TORD	**Torodi Ar. Bea**	**82.20**	**46**	P	**P**	11 22 54.7	0.0
STKA	**Stephens Creek**	**88.13**	**186**	P	**P**	11 23 25.6	+1.2
ILAR	**Eielson Array**	**145.56**	**312**	PKPbc	**PKPdf**	11 30 08.2	-2.1
comp=Z,2.0nm,0.9s,baz=135,slow=2.5,SNR=14							
ILAR	**Eielson Array**	**145.56**	**312**		**PKPdf**	11 30 09.8	-0.6
MKAR	**Makanchi Array**	**147.10**	**90**	PKPbc	**PKPdf**	11 30 14.6	+1.0
comp=Z,0.6nm,0.7s,baz=242,slow=1.8,SNR=5.5							
MKAR	**Makanchi Array**	**147.10**	**90**		**PKPdf**	11 30 14.4	+0.8

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*PGC **25** 11:58:25.1±2.2, 50°.01N×130°.01W, h10km, MLSn3.0/29, Mw3.6/29, 199km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*ISCJB **25** 11:58:26.9±1.3, 50°.10N±0°.03×129°.67W±0°.07, h16km±15km, mb3.5/3, MS3.3/1, Error ellipse: s-maj=8.7km s-min=4.6km az=153.5*
*IDC **25** 11:58:27.0±2.1, 50°.09N×129°.60W, h0km, mb3.6/3, mb1 3.8/11, mb1mx3.6/51, mbtmp3.5/11, ML3.3/7, MS3.4/4, Ms1 3.4/4, ms1mx2.9/35, Error ellipse: s-maj=33.2km s-min=12.1km az=78.0*
ISC 25 11:58:26.4±2.2, 50°.10N±0°.05×129°.79W±0°.06, h9km±14km, n71, σ1§56/80, mb3.4/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.19**	**62**	Pn	**Pg**	11 58 48.3	-1.0
PACB	**Port Alice, BC**	**1.52**	**76**	Pn	**Pn**	11 58 51.9	-1.8
PACB				Sn	**Sn**	11 59 11.7	-1.8
PHC	**Port Hardy**	**1.63**	**67**	Pn	**Pn**	11 58 54.2	-1.0
PHC				Sn	**Sb**	11 59 15.8	-1.5
MAYB	**Maynard**	**1.71**	**79**	Pn	**Pn**	11 58 55.0	-1.5
EDB	**Eliza Dome**	**1.74**	**96**	Pn	**Pn**	11 58 54.2	-2.6
EDB				Sn	**Sn**	11 59 16.9	-2.3
WOSB	**Woss**	**2.08**	**87**	Pn	**Pn**	11 59 00.2	-1.3
BBB	**Bella Bella**	**2.34**	**26**	Pn	**Pn**	11 59 04.5	-0.6
22nm,0.3s,baz=227,slow=7.4,SNR=192							
BBB				Sn	**Sn**	11 59 33.0	-0.9
24nm,0.3s,baz=308,slow=21,SNR=7.7							
BBB	**Bella Bella**	**2.34**	**26**	Pn	**Pn**	11 59 04.3	-0.7
BBB				Sn	**Sn**	11 59 32.9	-0.9
NCRB	**Newcastle Ridg**	**2.42**	**81**	Pn	**Pn**	11 59 05.8	-0.5
GDR	**Gold River**	**2.45**	**96**	Pn	**Pn**	11 59 05.1	-1.5
SPLB	**Strathcona Par**	**2.68**	**93**	Pn	**Pn**	11 59 08.8	-0.9
HG3B	**Hotspring**	**2.69**	**338**	Pn	**Pn**	11 59 06.9	-2.9
HG3B				Sn	**Sn**	11 59 37.5	-5.0
TOFB	**Tofino**	**2.70**	**109**	Sn	**Sn**	11 59 40.0	-2.7
BNB	**Barry Inlet**	**2.77**	**334**	Pn	**Pn**	11 59 08.1	-2.9
BTB	**Buttle Lake**	**2.84**	**101**	Pn	**Pn**	11 59 11.2	-0.9
BTB				Sn	**Sn**	11 59 44.4	-2.1
CBB	**Campbell River**	**2.85**	**90**	Pn	**Pn**	11 59 11.6	-0.6
CBB				Sn	**Sn**	11 59 46.2	-0.4
BCBC	**Bella Coola**	**2.97**	**39**	Pn	**Pn**	11 59 14.9	+1.2
BCBC				Sn	**Sn**	11 59 48.4	-1.0
B012	**Ucluelet**	**3.01**	**111**	Sn	**Sn**	11 59 47.9	-2.5
OZB	**Mount Ozzard**	**3.02**	**111**	Pn	**Pn**	11 59 13.2	-1.3
OZB				Sn	**Sn**	11 59 48.0	-2.9
TXB	**Texada**	**3.49**	**95**	Pn	**Pn**	11 59 20.8	-0.1
MGB	**Mount Grey**	**3.50**	**106**	Pn	**Pn**	11 59 20.6	-0.6
MGB				Sn	**Sn**	11 59 59.8	-2.9
DIB	**Dawson Inlet,**	**3.53**	**333**	Pn	**Pn**	11 59 19.4	-1.9
GHNB	**Nanoose**	**3.69**	**100**	Pn	**Pn**	11 59 24.1	+0.5
PFB	**Port Renfrew**	**3.82**	**112**	Pn	**Pn**	11 59 24.9	-0.6
OCP	**Olym-Cheeka Pk**	**3.84**	**116**	Pn	**Pn**	11 59 25.6	-0.1
SHB	**Sechelt**	**3.86**	**95**	Pn	**Pn**	11 59 26.6	+0.5
SHB				Sn	**Sn**	12 00 11.6	-0.1
NLLB	**Nanaimo Lost L**	**3.87**	**101**	Pn	**Pn**	11 59 26.2	+0.2
NLLB				Sn	**Sn**	12 00 09.6	-2.1
LZB	**Mount Lazard**	**4.18**	**109**	Pn	**Pn**	11 59 30.1	-0.3
RUBB	**Prince Rupert**	**4.24**	**356**	Pn	**Pn**	11 59 29.6	-1.5
GOBB	**Galiano Island**	**4.25**	**103**	Pn	**Pn**	11 59 32.6	+1.3
BIB	**Bowen Island**	**4.26**	**97**	Pn	**Pn**	11 59 31.7	+0.3
WPB	**Watts Point**	**4.28**	**93**	Pn	**Pn**	11 59 32.1	+0.4
OBC	**Olympics--Boni**	**4.29**	**117**	Pn	**Pn**	11 59 32.2	+0.3
SOKB	**Sooke**	**4.36**	**111**	Pn	**Pn**	11 59 32.2	-0.5
B010	**North Saanich**	**4.39**	**107**	Pn	**Pn**	11 59 33.6	+0.4
PGC	**Sidney**	**4.39**	**107**	Pn	**Pn**	11 59 33.5	+0.3
B011	**North Saanich**	**4.39**	**107**	Pn	**Pn**	11 59 33.6	+0.3
PA12	**PA12 Sannich**	**4.39**	**107**	Pn	**Pn**	11 59 33.7	+0.5
WSLR	**Whistler**	**4.42**	**87**	Pn	**Pn**	11 59 34.8	+1.1
SNB	**Saturna Island**	**4.52**	**105**	Pn	**Pn**	11 59 35.4	+0.3
UBRB	**Upper Baezaeko**	**4.53**	**50**	Pn	**Pn**	11 59 36.7	+1.4
UBRB				Sn	**Sn**	12 00 26.9	-1.2
VGZ	**Gonzales**	**4.56**	**109**	Pn	**Pn**	11 59 34.9	-0.6
OSD	**Olympics--Snow**	**4.62**	**117**	Pn	**Pn**	11 59 35.6	-0.9
BLN	**Blyn Mountain**	**4.95**	**112**	Pn	**Pn**	11 59 41.0	0.0
HDW	**Hoodsport**	**5.08**	**116**	Pn	**Pn**	11 59 43.1	+0.3
VDB	**Vedder Mountai**	**5.12**	**99**	Pn	**Pn**	11 59 43.9	+0.6
GNW	**Green Mountain**	**5.25**	**116**	Pn	**Pn**	11 59 46.2	+1.1
MBW	**Mount Baker**	**5.32**	**101**	Pn	**Pn**	11 59 47.0	+0.9
FSB	**Fort Saint Jam**	**5.52**	**35**	Pn	**Pn**	11 59 49.9	+1.1
FMW	**Mount Fremont**	**6.26**	**117**	Pn	**Pn**	12 00 00.1	+1.0
LON	**Longmire**	**6.28**	**119**	Pn	**Pn**	12 00 01.1	+1.9
LTY	**Liberty**	**6.68**	**112**	Pn	**Pn**	12 00 06.2	+1.5
B08A	**Colville Reser**	**7.07**	**100**	Pn	**Pn**	12 00 11.6	+1.6
BMBC	**Bull Mountain**	**7.53**	**35**	Pn	**Pn**	12 00 18.2	+1.9
NBC4	**NorthernBC 4**	**7.86**	**41**	Pn	**Pn**	12 00 23.1	+2.3
NEW	**Newport**	**8.50**	**98**	Pn	**Pn**	12 00 28.5	-1.3
0.2nm,0.3s,baz=299,slow=13,SNR=4.7							
NEW				LR	LR	12 03 48.7	
comp=Z,272nm,18.3s,baz=335,slow=38							
NBC5	**NorthernBC 5**	**8.54**	**27**	Pn	**Pn**	12 00 33.2	+3.0
YBH	**Yreka Blue Hor**	**9.71**	**147**	Pn	**Pn**	12 00 49.3	+3.0
0.0nm,0.3s,baz=329,slow=7.4,SNR=4.8							
YBH				LR	LR	12 04 04.8	
comp=Z,171nm,19.3s,baz=351,slow=35							
NVAR	**Mina Array Bea**	**14.26**	**141**	Pn	**Pn**	12 01 49.8	+1.2
baz=339,slow=9.7,SNR=4.1							
YKA	**Yellowknife Ar**	**14.95**	**28**	Pn	**Pn**	12 01 56.8	-0.9
0.1nm,0.3s,baz=217,slow=12,SNR=3.5							
KDAK	**Kodiak Island**	**15.41**	**309**	LR	LR	12 06 14.1	
comp=Z,167nm,18.8s,baz=125,slow=30							
PDAR	**Pinedale Array**	**15.73**	**110**	Pn	**P**	12 02 11.9	-0.4
0.1nm,0.3s,baz=312,slow=9.8,SNR=6.3							
ILAR	**Eielson Array**	**17.25**	**335**	P	**P**	12 02 30.1	+1.4
0.0nm,0.3s,baz=150,slow=12,SNR=8.4							
INK	**Inuvik**	**18.36**	**356**	P	**P**	12 02 42.6	+1.7
0.0nm,0.3s,baz=168,slow=14,SNR=4.8							
ULM	**Lac du Bonnet**	**21.62**	**76**	P	**P**	12 03 18.1	+1.5
6.7nm,0.8s,baz=287,slow=12,SNR=4.8							
ANMO	**Albuquerque**	**22.78**	**123**	P	**P**	12 03 30.3	+1.0
1.2nm,0.9s,baz=312,slow=12,SNR=5.3							
TXAR	**Lajitas Array**	**28.63**	**127**	P	**P**	12 04 24.0	+0.8
0.2nm,0.6s,baz=323,slow=7.4,SNR=4.1							
H11N2	**WAKE ISLAND Hy**	**58.05**	**263**	T	T	13 10 48.7	
baz=42,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hy**	**58.05**	**263**	T	T	13 10 46.8	
baz=42,slow=75,SNR=56							
H11N1	**WAKE ISLAND Hy**	**58.06**	**263**	T	T	13 10 47.2	
baz=42,slow=75,SNR=32							
MJAR	**Matsushiro Arr**	**64.19**	**297**	LR	LR	12 35 58.3	
comp=Z,20nm,20.6s,baz=270,slow=35							

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*IDC **25** 12:23:34.1±2.2, 22°.80N×11°.60W, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/42, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=66.6km s-min=24.5km az=75.0*
ISC 25 12:23:33.6±1.6, 22°.5N±0°.1×11°.7W±0°.3, h10km, n7, σ1§38/9, mb3.9/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.78**	**124**	Pn	**P**	12 27 19.8	-0.2
0.4nm,0.3s,baz=314,slow=11,SNR=15							
TORD				Sn	**Sn**	12 30 12.0	+0.8
0.1nm,0.3s,baz=311,slow=26,SNR=3.8							
TORD				Lg	Lg	12 31 58.2	
0.0nm,0.3s,baz=318,slow=27,SNR=2.2							
DBIC	**Dimbokro**	**17.09**	**156**	P	**P**	12 27 36.2	+1.7
0.3nm,0.3s,baz=331,slow=15,SNR=3.4							
DBIC				S	**Sn**	12 30 40.6	-2.3
0.2nm,0.3s,baz=132,slow=12,SNR=2.3							
DBIC				Lg	Lg	12 32 42.7	
0.2nm,0.3s,baz=288,slow=19,SNR=2.9							
GERES	**GERESS Array B**	**33.09**	**31**	P	**P**	12 30 08.9	-0.8
0.5nm,0.7s,baz=198,slow=6.1,SNR=4.2							
FINES	**FINESS Array B**	**46.74**	**24**	P	**P**	12 32 02.1	-0.6
3.2nm,1.0s,baz=241,slow=7.8,SNR=5.5							
MKAR	**Makanchi Array**	**76.54**	**45**	P	**P**	12 35 25.2	+1.0
0.5nm,0.5s,baz=296,slow=5.6,SNR=13							
WRA	**Warramunga Arr**	**148.27**	**92**	PKPbc	**PKiKP**	12 43 21.9	-0.5
0.5nm,0.7s,baz=287,slow=2.7,SNR=5.0							
ASAR	**Alice Springs**	**148.37**	**99**	PKPbc	**PKiKP**	12 43 22.9	+0.3
0.7nm,0.7s,baz=283,slow=2.4,SNR=12							

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*ISCJB **25** 12:34:52.5±0.3, 60°.41S±0°.05×47°.4W±0°.1, h10km, mb4.3/15, MS4.2/16, Error ellipse: s-maj=10.3km s-min=5.8km az=142.3*
*IDC **25** 12:34:52.7±0.6, 60°.31S×47°.22W, h0km, mb4.3/13, mb1 4.3/15, mb1mx4.3/20, mbtmp4.3/15, ML3.5/2, MS4.2/17, Ms1 4.2/17, ms1mx4.2/20, Error ellipse: s-maj=21.0km s-min=13.9km az=54.0*
*NEIC **25** 12:34:53.9±1.2, 60°.37S±0°.07×47°.36W±0°.08, h10km±1km, mb4.9/28*
*BJI **25** 12:34:54.0±0.0, 60°.30S×47°.20W, h10km, mB5.2/1, Ms5.1/2, Ms7 4.8/2*
ISC 25 12:34:54.3±0.3, 60°.31S±0°.06×47°.19W±0°.07, h10km, n129, σ1§29/117, mb4.8/23, MS4.2/16, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.36**	**48**	Pn	**Pn**	12 36 54.1	-1.3
PMSA	**Palmer Station**	**8.97**	**233**	Pn	**Pn**	12 37 03.6	0.0
1.1nm,0.3s,baz=40,slow=10,SNR=7.0							
PMSA				LR	LR	12 40 02.7	
comp=Z,4μm,20.0s,baz=34,slow=35							
PMSA	**Palmer Station**	**8.97**	**233**	*e*P	**Pn**	12 37 07.7	+4.0
PMSA	**Palmer Station**	**8.97**	**233**	*e*P	**Pn**	12 37 07.7	+4.0
PMSA	**Palmer Station**	**8.97**	**233**	Pn	**Pn**	12 37 00.7	-2.9
EFI	**East Falkland**	**10.57**	**320**	Pn	**Pn**	12 37 25.5	-0.1
USHA	**Ushuaia**	**12.62**	**286**	Pn	**Pn**	12 37 53.6	0.0
0.1nm,0.3s,baz=72,slow=20,SNR=2.1							
USHA				LR	LR	12 41 28.2	
comp=Z,2μm,20.3s,baz=126,slow=31							
GO09	**Cerro Castillo**	**16.69**	**292**	Pn	**Pn**	12 38 46.4	-1.6
VNA3	**Neumayer Olymp**	**18.49**	**142**	P	**Pn**	12 39 11.2	+1.0
VNA1	**Neumayer--Stat**	**18.78**	**139**	P	**Pn**	12 39 16.9	+3.3
VNA2	**Neumayer--Watz**	**19.12**	**140**	P	**P**	12 39 17.3	+0.3
baz=288,slow=13							
SNAA	**Sanae**	**20.71**	**141**	P	**P**	12 39 33.7	-0.7
SNAA	**Sanae**	**20.71**	**141**	P	**P**	12 39 34.8	+0.4
7.2nm,0.9s,baz=289,slow=9.5,SNR=12							
SNAA				LR	LR	12 46 49.6	
comp=Z,686nm,18.8s,baz=300,slow=35							
SNAA	**Sanae**	**20.71**	**141**		**P**	12 39 33.8	-0.6
TRQA	**Tornquist**	**24.17**	**331**	*e*P	**P**	12 40 13.3	+2.8
TRQA	**Tornquist**	**24.17**	**331**	*e*P	**P**	12 40 13.3	+2.8
TRQA	**Tornquist**	**24.17**	**331**	P	**P**	12 40 10.7	+0.2
PLCA	**Paso Flores**	**24.35**	**313**	P	**P**	12 40 12.3	+0.1
12nm,0.8s,baz=182,slow=8.3,SNR=22							
PLCA				LR	LR	12 49 25.5	
comp=Z,706nm,20.7s,baz=175,slow=36							
PLCA	**Paso Flores**	**24.35**	**313**	*e*P	**P**	12 40 13.0	+0.7
PLCA	**Paso Flores**	**24.35**	**313**	*e*P	**P**	12 40 13.0	+0.7
PLCA	**Paso Flores**	**24.35**	**313**	P	**P**	12 40 11.6	-0.6
PLCA				IAmb	IAmb	12 40 31.7	
comp=Z,46nm,1.1s							
GO06	**Curarrehue**	**25.70**	**313**	P	**P**	12 40 23.4	-1.1
GO06				IAmb	IAmb	12 40 29.8	
comp=Z,24nm,1.2s							
OGAUY	**Aigu**	**26.45**	**346**	*e*P	**P**	12 40 31.6	+0.4
OGAUY	**Aigu**	**26.45**	**346**	*e*P	**P**	12 40 31.6	+0.4
PLTB	**Pedras Altas**	**28.87**	**349**	*e*P	**P**	12 40 55.4	+2.5
PLTB	**Pedras Altas**	**28.87**	**349**	*e*P	**P**	12 40 55.4	+2.5
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	12 41 02.9	+0.8
comp=Z,8.2nm,0.9s,baz=192,slow=2.1,SNR=14							
QSPA	**South Pole Qui**	**29.93**	**180**		**P**	12 41 01.6	-0.6
CPSB	**Cacapava Do Su**	**30.20**	**349**	*e*P	**P**	12 41 07.1	+2.5
CPSB	**Cacapava Do Su**	**30.20**	**349**	*e*P	**P**	12 41 07.1	+2.5
CNLB	**Canela**	**31.09**	**354**	*e*P	**P**	12 41 15.2	+2.5
CNLB	**Canela**	**31.09**	**354**	*e*P	**P**	12 41 15.2	+2.5
CFA	**Coronel Fontan**	**31.93**	**325**	P	**P**	12 41 20.2	+0.3
comp=Z,1.0nm,0.3s,baz=190,slow=6.1,SNR=2.7							
GO04	**Tololo Observa**	**34.03**	**322**	P	**P**	12 41 38.1	-0.4
CPUP	**Villa Florida**	**34.68**	**344**	LR	LR	12 58 01.0	
comp=Z,202nm,18.6s,baz=172,slow=40							
PTGB	**Pitanga**	**35.74**	**352**	*e*P	**P**	12 41 54.3	+1.2
PTGB	**Pitanga**	**35.74**	**352**	*e*P	**P**	12 41 54.3	+1.2
TRCB	**Terra Rica**	**37.68**	**352**	*e*P	**P**	12 42 10.9	+1.2
TRCB	**Terra Rica**	**37.68**	**352**	*e*P	**P**	12 42 10.9	+1.2
GO02	**Mina Guanaco**	**38.39**	**326**	P	**P**	12 42 15.5	-0.4
GO02				IAmb	IAmb	12 42 34.2	
comp=Z,38nm,1.6s							
SBA	**Scott Base**	**40.52**	**190**	P	**P**	12 42 32.4	-0.3
SBA				IAmb	IAmb	12 42 50.6	
comp=Z,38nm,1.3s							
ITRB	**Iturama**	**40.63**	**355**	*e*P	**P**	12 42 35.6	+1.4
ITRB	**Iturama**	**40.63**	**355**	*e*P	**P**	12 42 35.6	+1.4
LVC	**Limon Verde**	**40.64**	**328**	P	**P**	12 42 33.7	-1.0
comp=Z,1.4nm,0.5s,baz=150,slow=12,SNR=2.7							
LVC	**Limon Verde**	**40.64**	**328**	P	**P**	12 42 33.9	-0.8
IPMB	**Ipameri, GO**	**42.28**	**359**	*e*P	**P**	12 42 49.4	+1.5
IPMB	**Ipameri, GO**	**42.28**	**359**	*e*P	**P**	12 42 49.4	+1.5
PB01	**IPOC Station P**	**42.28**	**328**	P	**P**	12 42 47.5	-0.4
PB01				IAmb	IAmb	12 43 09.8	
comp=Z,41nm,1.5s							
MAW	**Mawson**	**42.64**	**148**	P	**P**	12 42 50.7	+0.6
comp=Z,1.3nm,0.6s,baz=277,slow=17,SNR=2.2							
MAW				LR	LR	13 00 25.0	
comp=Z,668nm,18.2s,baz=233,slow=36							
MAW	**Mawson**	**42.64**	**148**	P	**P**	12 42 49.8	-0.3
PP1B	**Ponte de Pedra**	**43.02**	**349**	*e*P	**P**	12 42 55.5	+1.7
PP1B	**Ponte de Pedra**	**43.02**	**349**	*e*P	**P**	12 42 55.5	+1.7
GO01	**Chusmiza**	**43.52**	**329**	P	**P**	12 42 57.7	-0.7
MNMC	**Minye Minye**	**44.14**	**329**	P	**P**	12 43 03.4	+0.3
MNMC				IAmb	IAmb	12 43 06.4	
comp=Z,14nm,0.7s							
BDFB	**Brasilia**	**44.61**	**359**	P	**P**	12 43 07.0	+0.3
comp=Z,4.9nm,0.7s,baz=193,slow=6.9,SNR=6.2							
BDFB				LR	LR	12 59 15.6	
comp=Z,252nm,21.8s,baz=149,slow=33							
BDFB	**Brasilia**	**44.61**	**359**	P	**P**	12 43 07.3	+0.6
BDFB				IAmb	IAmb	12 43 15.0	
comp=Z,10nm,0.9s							
LPAZ	**La Paz**	**46.51**	**332**	P	**P**	12 43 22.4	0.0
comp=

AKASG	Malin Array Be	126.51	50		PKPdf	12 53 56.2	0.0
CMAR	Chiang Mai Arr	131.70	135	PKP	PKiKP	12 54 08.9	+0.7
	comp=Z,0.5nm,0.5s,baz=235,slow=3.2,SNR=4.3						
CMAR	Chiang Mai Arr	131.70	135		PKPdf	12 54 06.8	-0.4
ARCES	ARCESS Array B	139.45	31	PKhKP	PKPpre	12 54 10.0	
	comp=Z,8.1nm,1.1s,baz=204,slow=2.7,SNR=5.7						
KSH	Kashi	139.49	95	*e*PKP	PKiKP	12 54 22.5	-1.0
CD2	Chengdu	144.82	134	PKP	PKPab	12 54 29.5	-0.4
PRP	Porcupine Dome	144.93	314		PKPab	12 54 28.8	-0.6
IL31		145.04	313		PKPbc	12 54 28.4	-1.0
ILAR	Eielson Array	145.04	313	PKPbc	PKPbc	12 54 28.9	-0.6
	comp=Z,2.2nm,0.7s,baz=156,slow=1.6,SNR=29						
ILAR	Eielson Array	145.04	313		PKPbc	12 54 28.3	-1.3
RND	Reindeer	145.06	310		PKPbc	12 54 28.5	-1.3
CCB	Clear Creek Bu	145.31	312		PKPbc	12 54 29.1	-1.3
COLA	College	145.45	312		PKPdf	12 54 30.2	-0.5
BMAR	Burnt Mountain	145.57	317		PKPdf	12 54 30.6	-0.4
BRVK	Borovoye	146.11	74		PKPdf	12 54 32.0	-0.2
WHN	Wuhan	147.77	149	PKPbc	PKPbc	12 54 38.0	-0.7
MK31	Makanchi Array	147.96	92		PKPdf	12 54 36.5	+0.9
MKAR	Makanchi Array	147.96	92	PKPbc	PKPbc	12 54 37.4	-1.4
	comp=Z,4.0nm,0.6s,baz=241,slow=3.6,SNR=34						
IMAR	Indian Mountai	148.15	312		PKPbc	12 54 38.2	-0.4
KURK	Kurchatov	148.72	83		PKPbc	12 54 39.4	-1.1
XAN	Xi'an	149.45	139	PKPbc	PKPbc	12 54 43.0	0.0
LZH	Lanzhou	149.47	129	*e*PKPbc	PKPdf	12 54 38.0	-0.6
LZH				pPKP	pPKPdf	12 54 41.3	-0.1
LZH				sPKP		12 54 42.5	
LZH				LR	LR		
	comp=Z,100nm,18.3s						
LZH				LR	LR		
	comp=Z,160nm,20.1s						
NJ2	Nanjing	150.26	156	*e*PKPbc	PKPdf	12 54 39.5	-0.3
GTA	Gaotai	150.68	121	PKPbc	PKiKP	12 54 46.3	-0.2
ZALV	Zalesovo Beam	153.70	82	PKPbc	PKPbc	12 54 50.9	-1.1
	comp=Z,0.7nm,0.4s,baz=248,slow=7.4,SNR=4.9						
ZALV	Zalesovo Beam	153.70	82		PKPbc	12 54 51.2	-0.8
HHC	Hu-ho-hao-te	156.50	136	*e*PKP	PKPdf	12 54 49.5	+0.9

IDC 25 12:55:54.6±999.0, 56°.83N×1°.77W, h0km, Error ellipse: s-maj=532.6km s-min=218.0km az=107.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	12.28	124	*i*		14 15 00.0	
	baz=316,slow=326,SNR=1.5						
I43RU	DUBNA INFRASON	21.17	74	*i*		15 04 40.0	
	baz=286,slow=320,SNR=1.8						
I31KZ	AKTYUBINSK INF	35.03	74	*i*		16 30 00.0	
	baz=304,slow=322,SNR=1.1						

SOME ***25*** *13:10:47.9, 42°.53N×79°.62E, h15km*
KRNET ***25*** *13:10:48.3±0.1, 42°.55N×79°.58E, h16km, mb2.7*
NNC ***25*** *13:10:53.1±1.0, 42°.74N×79°.50E, h0km, mb2.9, mpv2.8,*
Error ellipse: s-maj=6.8km s-min=3.5km az=153.0

ISC 25 13:10:48.2±1.5, 42°.54N±0°.04×79°.58E±0°.04, h13km±10km, n61, σ1°.05/112, 18C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	0.62	352	P	Pn	13 11 02.6	-0.3
SHLS	4.4nm,0.2s			S	Sb	13 11 09.7	0.0
	45nm,0.2s						
SHLS	Shalkode	0.62	352	⇑*e*P	Pb	13 11 01.1	+0.1
SHLS	baz=20			⇓*i*S	Sb	13 11 10.1	+0.5
	baz=20						
SHLS	Shalkode	0.62	352	*e*P	Pb	13 11 00.9	0.0
SHLS	6.5nm,0.1s			⇓*i*S	Sb	13 11 10.1	+0.5
	45nm,0.2s						
UZB	Uzynbulak	0.73	326	P	Pn	13 11 04.4	+0.1
UZB	2.1nm,0.1s			S	Sb	13 11 12.5	-0.3
	24nm,0.3s						
UZB	Uzynbulak	0.73	326	⇑*i*P	Pg	13 11 02.3	-0.1
UZB	baz=26			⇑*i*S	Sb	13 11 12.6	-0.3
	baz=26						
UZB	Uzynbulak	0.73	326	⇑*i*P	Pg	13 11 02.3	-0.1
UZB	6.5nm,0.1s			⇑*i*S	Sb	13 11 12.6	-0.3
	24nm,0.3s						
PDGK	Podgornoye	0.79	355	P	Pn	13 11 04.8	-0.3
PDGK	1.8nm,0.1s			S	Sg	13 11 13.6	-0.3
	5.8nm,0.2s						
PDGK	Podgornoye	0.79	355	⇓P	Pg	13 11 02.9	-0.6
PDGK	2.2nm,0.2s			⇑S	Sg	13 11 13.2	-0.7
	2.2nm,0.3s						
PRZ	Przheval'sk	0.87	266	⇑*i*P	Pb	13 11 04.6	-0.7
PRZ	baz=66			⇑*i*S	Sn	13 11 18.0	-1.1
	baz=66						
SATY	Saty	1.01	301	P	Pn	13 11 09.2	+1.0
SATY	1.3nm,0.1s			S	Sg	13 11 21.1	+0.4
	48nm,0.1s						
SATY	Saty	1.01	301	*e*P	Pn	13 11 07.9	-0.2
SATY	1.7nm,0.2s			*e*S	Sn	13 11 21.5	-0.8
	50nm,0.1s						
ZHN	Zhinishke	1.05	307	P	Pn	13 11 10.0	+1.3
ZHN	2.5nm,0.1s			S	Sg	13 11 22.2	+0.1
	18nm,0.2s						
ZHN	Zhinishke	1.05	307	⇓*i*P	Pn	13 11 08.8	+0.1
ZHN	baz=7.0			⇓*e*S	Sg	13 11 22.2	+0.1
	baz=7.0						
ZHN	Zhinishke	1.05	307	*e*P	Pb	13 11 08.3	+0.1
ZHN	1.1nm,0.1s			*e*S	Sg	13 11 22.2	+0.1
	18nm,0.2s						
KPKS	Kokpek	1.13	325	⇓*e*P	Pb	13 11 09.4	-0.3
KPKS	baz=23			⇑*e*S	Sg	13 11 24.7	0.0
	baz=23						
KPKS	Kokpek	1.13	325	⇓*e*P	Pb	13 11 09.4	-0.3
KPKS	11nm,0.1s			⇑*e*S	Sg	13 11 24.7	0.0
	20nm,0.4s						
KURS	Kuram	1.40	313	P	Pg	13 11 16.3	+1.2
KURS	1.2nm,0.2s			S	Sg	13 11 33.1	-0.2
	5.6nm,0.4s						
KURS	Kuram	1.40	313	*e*P	Pg	13 11 14.8	-0.3
KURS	baz=13			*e*S	Sg	13 11 33.7	+0.4
	baz=13						
KURS	Kuram	1.40	313	*e*P	Pg	13 11 14.8	-0.3
KURS	1.2nm,0.2s			*e*S	Sg	13 11 33.6	+0.4
	5.6nm,0.4s						
ANVS	Anan'yevo	1.43	280	⇑*i*P	Pb	13 11 15.1	+0.3
ANVS	baz=80			⇑*i*S	Sg	13 11 35.9	+1.6
	baz=80						
TARG	Taragay, Kyrgy	1.55	239	⇓*i*P	Pb	13 11 16.5	-0.5
TARG	baz=39			⇓*i*S	Sg	13 11 38.4	+0.2
	baz=39						
DJR	Jarkent	1.79	5	P	Pg	13 11 23.1	+0.4
DJR	2.7nm,0.2s			S	Sg	13 11 44.6	-1.3
	7.5nm,0.2s						
DJR	Jarkent	1.79	5	*e*P	Pb	13 11 20.7	-0.2
DJR	10.0nm,0.3s			*e*S	Sb	13 11 44.3	+0.9
	7.5nm,0.2s						
KDJ	Kajisay	1.83	258	⇑*i*P	Pb	13 11 21.9	+0.3
KDJ	baz=57			⇑*i*S	Sg	13 11 47.1	+0.2
	baz=57						
KOTS	Kotyrbulak	1.94	292	P	Pg	13 11 26.8	+1.4
KOTS	6.3nm,0.4s			S	Sg	13 11 51.0	+0.5
	33nm,0.3s						
KOTS	Kotyrbulak	1.94	292	*e*P	Pg	13 11 24.5	-0.9
KOTS	baz=91			*e*S	Sg	13 11 51.1	+0.5
	baz=91						
KOTS	Kotyrbulak	1.94	292	*e*P	Pg	13 11 24.5	-0.9
KOTS	6.8nm,0.2s			*e*S	Sg	13 11 51.0	+0.5
	33nm,0.3s						
MDOK	Medeo	1.96	289	Pg	Pg	13 11 26.7	+0.8
MDOK	2.1nm,0.3s			Lg	Lg	13 11 50.6	
	10.0nm,0.3s						
MDOK	Medeo	1.96	289	*e*P	Pb	13 11 24.4	+0.5
MDOK	baz=89			*e*S	Sg	13 11 50.5	-0.8
	baz=89						
MDOK	Medeo	1.96	289	*e*P	Pb	13 11 24.4	+0.5
MDOK	1.8nm,0.2s			*e*S	Sg	13 11 50.5	-0.8
	10.0nm,0.3s						
TNSS	Tian-Shan	2.00	285	P	Pg	13 11 27.8	+1.2
TNSS	2.4nm,0.4s			S	Sg	13 11 52.6	+0.1
	11nm,0.2s						
TNSS	Tian-Shan	2.00	285	*e*P	Pb	13 11 25.3	+0.7
TNSS	baz=85			*e*S	Sg	13 11 52.6	+0.1
	baz=85						
TNSS	Tian-Shan	2.00	285	*e*P	Pb	13 11 25.3	+0.7
TNSS	2.2nm,0.2s			*e*S	Sg	13 11 52.6	+0.1
	11nm,0.2s						
ARXS	Arharly	2.10	323	Pg	Pg	13 11 28.6	+0.2
ARXS	1.1nm,0.3s			Lg	Lg	13 11 54.1	
	12nm,0.4s						
ARXS	Arharly	2.10	323	*e*P	Pb	13 11 25.8	-0.4
ARXS	1.6nm,0.5s			*e*S	Sb	13 11 53.5	+1.3
	9.5nm,0.5s						
CHKK	Chushkaly	2.30	306	Pg	Pg	13 11 32.5	+0.1
CHKK	1.4nm,0.1s			Lg	Lg	13 12 00.5	
	10nm,0.3s						
CHKK	Chushkaly	2.30	306	*e*P	Pg	13 11 31.0	-1.4
CHKK	baz=6.0			*e*S	Sg	13 12 01.4	-0.8
	baz=6.0						
CHKK	Chushkaly	2.30	306	*e*P	Pg	13 11 31.0	-1.4
CHKK	1.3nm,0.1s			*e*S	Sg	13 12 01.4	-0.8
	10nm,0.3s						
MTBS	Maitube	2.39	285	Pg	Pg	13 11 33.9	-0.1
MTBS	2.0nm,0.1s			Lg	Lg	13 12 03.0	
	10nm,0.3s						
MTBS	Maitube	2.39	285	*e*P	Pb	13 11 31.7	+0.6
MTBS	baz=85			*e*S	Sg	13 12 03.7	-1.3
	baz=85						
MTBS	Maitube	2.39	285	*e*P	Pb	13 11 31.7	+0.6
MTBS	2.8nm,0.1s			*e*S	Sg	13 12 03.7	-1.3
	10nm,0.3s						
KTBS	Karatobe	2.42	300	Pg	Pg	13 11 34.6	0.0
KTBS	1.3nm,0.2s			Lg	Lg	13 12 04.2	
	27nm,0.3s						
KTBS	Karatobe	2.42	300	*e*P	Pb	13 11 32.5	+0.9
KTBS	baz=99			*e*S	Sg	13 12 04.2	-1.8
	baz=99						
KTBS	Karatobe	2.42	300	*e*P	Pb	13 11 32.5	+0.9
KTBS	1.3nm,0.2s			*e*S	Sg	13 12 04.2	-1.8
	27nm,0.3s						
ULHL	Ulahol	2.49	264	⇓*i*P	Pb	13 11 31.3	-1.6
ULHL	baz=64			⇓*i*S	Sb	13 12 03.9	+0.3
	baz=64						
BOOM	Boomskoye usch	2.69	270	⇑*i*P	Pb	13 11 34.6	-1.7
BOOM	baz=70			⇑*i*S	Sb	13 12 08.9	-0.4
	baz=70						
KST	Kastek	2.71	282	Pg	Pg	13 11 40.2	+0.2
KST	2.4nm,0.3s			Lg	Lg	13 12 13.9	
	6.7nm,0.4s						
KST	Kastek	2.71	282	*e*P	Pb	13 11 37.8	+1.3
KST	baz=82			*e*S	Sg	13 12 13.5	-1.7
	baz=82						
KST	Kastek	2.71	282	*e*P	Pb	13 11 37.8	+1.3
KST	2.6nm,0.2s			*e*S	Sg	13 12 13.6	-1.7
	6.7nm,0.4s						
KUU	Kurty	2.73	301	Pg	Pg	13 11 39.1	-1.3
KUU	0.6nm,0.3s			Lg	Lg	13 12 11.8	
	7.9nm,0.4s						
KUU	Kurty	2.73	301	*e*P	Pb	13 11 38.3	+1.5
KUU	baz=1.0			*e*S	Sg	13 12 13.9	-1.9
	baz=1.0						
KUU	Kurty	2.73	301	*e*P	Pb	13 11 38.2	+1.5
KUU	0.6nm,0.3s			*e*S	Sg	13 12 13.8	-1.9
	7.9nm,0.4s						
KAPS	Kapalarasan	2.75	357	Pg	Pg	13 11 39.7	-1.1
KAPS	0.7nm,0.3s			Lg	Lg	13 12 13.2	
	2.3nm,0.2s						
KAPS	Kapalarasan	2.75	357	*e*P	Pb	13 11 37.8	+0.6
KAPS	0.8nm,0.2s			*e*S	Sb	13 12 13.2	+2.4
	2.3nm,0.2s						
DGS	Degeres	2.88	285	Pg	Pg	13 11 42.9	-0.5
DGS	1.3nm,0.4s			Lg	Lg	13 12 18.6	
	11nm,0.7s						
DGS	Degeres	2.88	285	*e*P	Pb	13 11 40.7	+1.2
DGS	baz=85			*e*S	Sg	13 12 18.5	-2.3
	baz=85						
DGS	Degeres	2.88	285	*e*P	Pb	13 11 40.7	+1.2
DGS	1.3nm,0.4s			*e*S	Sg	13 12 18.4	-2.3
	11nm,0.7s						
NRN	Naryn	2.89	249	⇓*i*P	Pn	13 11 36.8	+2.6
NRN	baz=49			⇓*e*S	Sb	13 12 13.7	-1.4
	baz=49						
TKM2	Tokmak 2	2.96	279	⇓Pn	Pg	13 11 43.9	-1.0
TKM2	0.3nm,0.3s			⇓Sn	Sb	13 12 18.7	+1.7
	2.1nm,0.4s						
TKM2	Tokmak 2	2.96	279	⇑*i*P	Pn	13 11 37.8	+2.7
TKM2	baz=79			⇑*i*S	Sb	13 12 15.6	-1.4
	baz=79						
SGDS	Sogindy	3.74	286	Pg	Pg	13 11 57.8	-2.1
SGDS	0.7nm,0.2s			Lg	Lg	13 12 44.0	
	2.0nm,0.6s						

ROM 25 13:50:27.6±0.3, 39°.210N±0°.008×17°.01E±0°.02, h27km±1km, Md1.1/2, Error ellipse: s-maj=1.1km s-min=1.0km az=313.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	San Nicola del	0.08	344	P	Pb	13 50 32.5	0.0
LADO				S	Sb	13 50 36.2	+0.4
LADO				AML	AML		
	comp=N,2505μm,0.2s						
LADO				AML	AML		
	comp=E,2950μm,1.2s						
LADO				END			
LADO				END			
TIP	Timpagrande	0.20	261	P	Pb	13 50 33.6	0.0
TIP				S	Sb	13 50 37.6	0.0
TIP				AML	AML		
	comp=N,926μm,0.6s						
TIP				AML	AML		
	comp=E,1855μm,0.2s						
TIP				AML	AML		
	comp=E,1545μm,0.2s						
TIP				AML	AML		
	comp=N,1146μm,0.6s						
TIP				END			
TIP				END			
SERS	Sersale	0.30	235	P	Pb	13 50 35.2	+0.3
SERS				S	Sb	13 50 40.5	+0.6
SERS				AML	AML		
	comp=N,886μm,0.4s						
SERS				AML	AML		
	comp=N,726μm,0.3s						
SERS				AML	AML		
	comp=N,888μm,0.4s						
SERS				AML	AML		
	comp=E,946μm,0.4s						
SERS				AML	AML		
	comp=E,750μm,0.9s						
SERS				END			
PIPA	Pietrapaola	0.31	332	P	Pb	13 50 35.0	0.0
PIPA				S	Sb	13 50 41.0	+0.9
PIPA				AML	AML		
	comp=N,1365μm,0.3s						
PIPA				AML	AML		
	comp=N,1415μm,0.3s						
PIPA				AML	AML		
	comp=E,1660μm,0.3s						
PIPA				AML	AML		
	comp=E,1645μm,0.4s						
PIPA				END			
CELI	Celico	0.43	297	P	Pb	13 50 36.7	-0.2
CELI				S	Sb	13 50 43.7	+0.5
CELI				AML	AML		
	comp=E,809μm,0.6s						
CELI				AML	AML		
	comp=N,920μm,0.6s						
CELI				AML	AML		
	comp=N,919μm,0.6s						
CELI				END			

ROM 25 13:51:10.0±0.1, 39°.211N±0°.004×16°.98E±0°.01, h24km, ML2.4/9, Error ellipse: s-maj=1.0km s-min=0.2km az=105.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	San Nicola del	0.07	358	*i* P	Pb	13 51 14.2	-0.1
LADO				S	Sb	13 51 17.6	+0.4
TIP	Timpagrande	0.18	260	P	Pb	13 51 15.3	0.0
TIP				S	Sb	13 51 19.2	+0.4
TIP				AML	AML		
	comp=E,1545μm,0.2s						
TIP				AML	AML		
	comp=N,926μm,0.6s						
TIP				AML	AML		
	comp=E,1855μm,0.2s						
TIP				AML	AML		
	comp=N,1146μm,0.6s						
TIP				AML	AML		
	comp=E,1540μm,0.2s						
TIP				AML	AML		
	comp=N,924μm,0.6s						
SERS	Sersale	0.29	233	P	Pb	13 51 16.9	+0.1
SERS				S	Sb	13 51 21.6	+0.1
SERS				AML	AML		
	comp=E,750μm,0.9s						
SERS				AML	AML		
	comp=E,946μm,0.4s						
SERS				AML	AML		
	comp=E,750μm,0.9s						
SERS				AML	AML		
	comp=N,886μm,0.4s						
SERS				AML	AML		
	comp=N,888μm,0.4s						
SERS				AML	AML		
	comp=N,726μm,0.3s						
PIPA	Pietrapaola	0.30	335	P	Pb	13 51 16.7	-0.3
PIPA				S	Sb	13 51 22.6	+0.9
PIPA				AML	AML		
	comp=E,1660μm,0.3s						
PIPA				AML	AML		
	comp=E,1645μm,0.4s						
PIPA				AML	AML		
	comp=N,1365μm,0.3s						
PIPA				AML	AML		
	comp=N,1415μm,0.3s						
CELI	Celico	0.41	298	P	Pb	13 51 18.5	-0.3
CELI				S	Sb	13 51 25.4	+0.6
CELI				AML	AML		
	comp=N,920μm,0.6s						
CELI				AML	AML		
	comp=N,919μm,0.6s						
CELI				AML	AML		
	comp=E,809μm,0.6s						
GRI	Girifalco	0.59	229	P	Pb	13 51 21.7	+0.1
GRI				S	Sb	13 51 30.3	+0.8
GRI				AML	AML		
	comp=E,252μm,0.4s						
GRI				AML	AML		
	comp=N,324μm,1.6s						
GRI				AML	AML		
	comp=N,325μm,1.6s						
CAR1	CAROLEI	0.60	274	P	Pb	13 51 21.7	-0.2
CAR1				S	Sb	13 51 30.9	+0.9
CAR1				AML	AML		
	comp=E,325μm,0.6s						
CAR1				AML	AML		
	comp=N,308μm,0.7s						
SALB	San Lorenzo Be	0.83	324	P	Pb	13 51 25.4	-0.4
SALB				AML	AML		
	comp=E,114μm,0.6s						
SALB				AML	AML		
	comp=N,88μm,0.6s						
SALB				AML	AML		
	comp=E,107μm,0.3s						
SALB				AML	AML		
	comp=N,92μm,0.6s						
SALB				AML	AML		
	comp=N,92μm,0.6s						
SALB				AML	AML		
	comp=E,107μm,0.3s						
CET2	Cetraro	0.86	292	P	Pb	13 51 25.8	-0.4
T0702	Acquaformosa (	0.86	306	P	Pb	13 51 25.9	-0.4
PLAC	Placanica	0.87	209	P	Pn	13 51 26.8	0.0
PLAC				S	Sn	13 51 38.5	-0.3
ORI	Oriolo Calabro	0.95	334	P	Pb	13 51 27.7	-0.1
ORI				S	Sn	13 51 40.5	-0.1
JOPP	Joppolo	1.05	235	P	Pb	13 51 29.6	+0.2
JOPP				S	Sn	13 51 43.9	+0.8
JOPP				AML	AML		
	comp=E,98μm,1.6s						
JOPP				AML	AML		
	comp=N,103μm,1.2s						
SCHR	S. Chirico Rap	1.21	325	P	Pb	13 51 32.4	+0.1
MPNC	Port Mandanici	1.66	231	P	Pn	13 51 37.8	+0.1
AMUR	Altamura	1.72	350	P	Pn	13 51 39.2	+0.7
AMUR				AML	AML		
	comp=N,78μm,0.9s						
AMUR				AML	AML		
	comp=E,78μm,0.9s						
MCSR	Castroreale	1.78	230	P	Pn	13 51 40.3	+1.0
CORL	Corleone	3.17	247	P	Pb	13 52 08.5	+2.9
CLTB	Caltabellotta	3.38	242	S	Sn	13 52 39.0	-1.8

JMA ***25*** *14:06:36.9±0.3, 45°.97N×141°.77E, h16km±2km, M3.2*
SKHL ***25*** *14:06:37.1±0.9, 45°.89N×141°.88E, h10km, mb4.4/8*
ISCJB ***25*** *14:06:39.2±0.7, 45°.85N±0°.03×141°.77E±0°.08, h23km±9km,*
Error ellipse: s-maj=9.9km s-min=5.5km az=9.1

ISC 25 14:06:38.8±1.2, 45°.84N±0°.04×141°.77E±0°.06, h23km±16km, n7, σ0°.89/14, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.53	170	P	Pb	14 06 49.5	0.0
JWK2				*e*S	Sn	14 06 58.2	-1.0
JRBN	Rebuntou	0.65	230	P	Pb	14 06 50.5	-1.0
JRBN				*e*S	Sb	14 06 59.8	-0.3
JRR	Rishiri	0.77	205	P	Pb	14 06 53.6	0.0
JRR				*e*S	Sn	14 07 05.8	+0.6
JSE	Soyaes	1.05	147	P	Pb	14 06 57.8	-0.5
JSE				*e*S	Sn	14 07 11.8	-0.2
KHLM	Kholmsk	1.23	9	*e*Pg	Pb	14 07 01.6	+0.2
KHLM				AMB	AMB	14 07 02.3	
	360nm,0.2s						
KHLM				*e*Sg	Sb	14 07 18.3	+1.5
KHLM				A	A	14 07 20.4	
	2μm,0.3s						
KHLM				A	A	14 07 20.4	
	2μm,0.3s						

YSS	**Yuzh-Sakhalins**	**1.30**	**31⇑**	*e*Pg	**Pb**	**14 07 01.7**	**-1.0**
YSS				AMB	AMB	14 07 02.3	
	90nm,0.4s						
YSS				*e*Sg	**Sb**	**14 07 18.5**	**-0.5**
YSS				A	A	14 07 20.2	
	500nm,0.7s						
YSS				A	A	14 07 20.2	
	1μm,0.7s						
JSS	**Shosan**	**1.44**	**178**	P	**Pn**	**14 07 03.7**	**+0.2**
JSS				*e*S	**Sb**	**14 07 24.2**	**+1.3**

BJI 25 14:09:41.1±0.0, 44°.67N×124°.07E, h8km, mb4.0/4, mB4.1/1, ML4.2/16, Ms4.0/6, Ms7 3.7/5, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**2.86**	**187**	Pn	Pn	14 10 26.5	-0.5
SNY				Pg	Pg	14 10 35.5	-0.5
SNY				Sn	Sn	14 11 00.8	-0.8
SNY				Sg	Sb	14 11 09.8	+2.2
SNY				smax	smax		
	comp=N,850nm,0.5s						
SNY				smax	smax		
	comp=E,750nm,0.6s						
MDJ	**Mudanjiang**	**3.94**	**89**	Pg	Pb	14 10 53.3	+2.5
MDJ				Sg	Sg	14 11 43.5	-4.1
MDJ				smax	smax		
	comp=N,470nm,0.7s						
MDJ				smax	smax		
	comp=E,330nm,0.7s						
BJI	**Beijing**	**7.45**	**234**	*e*Pg	Pg	14 12 02.5	-1.3
BJI				Sg	Sg	14 13 42.5	+2.2
BJI				smax	smax		
	comp=N,55nm,1.0s						
BJI				smax	smax		
	comp=E,69nm,0.9s						
WHN	**Wuhan**	**16.05**	**212**	P	P	14 13 33.5	+3.0
GTA	**Gaotai**	**18.74**	**262**	*e*P	P	14 13 58.0	-2.4
GTA				pP	sP	14 14 05.0	+1.3
GTA				sP	pP	14 14 08.5	+5.8

ISCJB ***25*** *14:11:15.8±0.3, 22°.11S±0°.02×69°.08W±0°.04, h118km±4km, mb3.4/1, Error ellipse: s-maj=6.8km s-min=3.7km az=179.4*
SJA ***25*** *14:11:15.9±1.0, 22°.08S×69°.03W, h107km±5km, ML3.7, MW3.7*
IDC ***25*** *14:11:16.9±0.9, 22°.34S×68°.46W, h92km±16km, mb3.4/1, mb1 3.4/4, mb1mx3.3/35, mbtmp3.7/4, Error ellipse: s-maj=48.4km s-min=19.7km az=99.0*
NEIC ***25*** *14:11:16.4±2.3, 22°.09S±0°.05×68°.95W±0°.10, h102km±7km, mb4.5/4, ML3.7(GUC)*
GUC ***25*** *14:11:16.5±0.8, 22°.07S×69°.04W, h104km±3km, ML3.6*
ISC 25 14:11:16.3±0.7, 22°.11S±0°.03×69°.05W±0°.04, h108km±5km, n63, σ1§69/97, 13C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.36**	**330⇑**	*i*P	**Pn**	**14 11 32.5**	**+0.2**
PB09				*i*S	**Sn**	**14 11 44.1**	**-0.2**
PB09				IAML		14 11 45.3	
	comp=N,9μm,0.2s						
PB09	**IPOC Station P**	**0.36**	**330**	*i*P	**Pn**	**14 11 32.6**	**+0.3**
PB09				*i*S	**Sn**	**14 11 44.2**	**-0.2**
PB09				IAML		14 11 44.6	
	comp=Z,5μm,0.6s						
LVC	**Limon Verde**	**0.51**	**166**	P	**Pn**	**14 11 33.5**	**+0.1**
	baz=19,slow=7.0						
LVC				S	**Sn**	**14 11 45.3**	**-1.0**
	comp=Z,1μm,0.3s,baz=126,slow=19,SNR=184						
LVC	**Limon Verde**	**0.51**	**166**	*i*P	**Pn**	**14 11 33.4**	**-0.1**
LVC				*i*S	**Sn**	**14 11 45.7**	**-0.6**
LVC	**Limon Verde**	**0.51**	**166**		**Pn**	**14 11 33.4**	**-0.1**
LVC				Sn	**Sn**	**14 11 44.4**	**-1.9**
PB03	**IPOC Station P**	**0.66**	**275⇑**	*i*P	**Pn**	**14 11 34.8**	**+0.5**
PB03				*i*S	**Sn**	**14 11 48.1**	**+0.3**
PB03	**IPOC Station P**	**0.66**	**275**	*i*P	**Pn**	**14 11 34.9**	**+0.5**
PB03				*i*S	**Sn**	**14 11 48.3**	**+0.5**
PB06	**IPOC Station P**	**0.76**	**219⇑**	*i*P	**Pn**	**14 11 35.9**	**+0.7**
PB06				*i*S	**Sn**	**14 11 50.1**	**+0.7**
PB06				IAML		14 11 51.1	
	comp=E,3μm,0.5s						
PB06	**IPOC Station P**	**0.76**	**219**	*i*P	**Pn**	**14 11 36.0**	**+0.8**
PB06				*i*S	**Sn**	**14 11 50.6**	**+1.1**
PB06				IAML		14 11 52.6	
	comp=Z,1μm,0.1s						
PB07	**IPOC Station P**	**0.87**	**296⇑**	*i*P	**Pn**	**14 11 36.9**	**+0.7**
PB07				*i*S	**Sn**	**14 11 51.6**	**+0.5**
PB07				IAML		14 11 52.1	
	comp=N,5μm,0.3s						
PB07	**IPOC Station P**	**0.87**	**296**	*i*P	**Pn**	**14 11 36.9**	**+0.7**
PB07				*i*S	**Sn**	**14 11 51.7**	**+0.5**
PB04	**IPOC Station P**	**1.04**	**258⇑**	*i*P	**Pn**	**14 11 38.8**	**+0.8**
PB04				*i*S	**Sn**	**14 11 55.5**	**+1.2**
PB04				IAML		14 11 57.2	
	comp=N,2μm,0.7s						
PB04	**IPOC Station P**	**1.04**	**258**	*i*P	**Pn**	**14 11 38.9**	**+0.9**
PB04				*i*S	**Sn**	**14 11 55.6**	**+1.2**
PB04				IAML		14 12 01.1	
	comp=Z,1μm,0.3s						
PB04	**IPOC Station P**	**1.04**	**258**		**Pn**	**14 11 38.6**	**+0.6**
PB02	**IPOC Station P**	**1.11**	**315⇑**	*i*P	**Pn**	**14 11 39.2**	**+0.6**
PB02				*i*S	**Sn**	**14 11 55.9**	**+0.4**
PB02				IAML		14 11 57.2	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.11**	**315**	*i*P	**Pn**	**14 11 39.3**	**+0.6**
PB02				*i*S	**Sn**	**14 11 56.5**	**+0.9**
PB01	**IPOC Station P**	**1.14**	**339⇑**	*i*P	**Pn**	**14 11 39.0**	**0.0**
PB01				*i*S	**Sn**	**14 11 55.6**	**-0.4**
PB01				IAML		14 11 58.2	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.14**	**339**	*i*P	**Pn**	**14 11 39.0**	**0.0**
PB01				*i*S	**Sn**	**14 11 55.9**	**-0.2**
PB01	**IPOC Station P**	**1.14**	**339**		**Pn**	**14 11 38.9**	**0.0**
PB15	**IPOC Station P**	**1.16**	**200⇑**	*i*P	**Pn**	**14 11 40.2**	**+0.9**
PB15				*i*S	**Sn**	**14 11 58.3**	**+1.7**
PB15	**IPOC Station P**	**1.16**	**200**	*i*P	**Pn**	**14 11 40.4**	**+1.1**
PB15				*i*S	**Sn**	**14 11 59.5**	**+2.9**
PB15				IAML		14 12 02.4	
	comp=Z,4μm,0.1s						
PB05	**IPOC Station P**	**1.30**	**235⇑**	*e*P	**Pn**	**14 11 41.6**	**+0.9**
PB05				*i*S	**Sn**	**14 12 00.6**	**+1.3**
PB05				IAML		14 12 02.1	
	comp=N,644nm,0.5s						
PB05	**IPOC Station P**	**1.30**	**235**	*i*P	**Pn**	**14 11 41.8**	**+1.1**
PB05				*i*S	**Sn**	**14 12 00.7**	**+1.5**
TA01	**Diego Aracena**	**1.87**	**325⇑**	*i*P	**Pn**	**14 11 47.3**	**-0.2**
TA01				*i*S	**Sn**	**14 12 11.6**	**+0.3**
TA01				IAML		14 12 17.9	
	comp=E,549nm,0.6s						
PB08	**IPOC Station P**	**1.96**	**357⇑**	*e*P	**Pn**	**14 11 49.6**	**+0.5**
PB08				*i*S	**Sn**	**14 12 14.7**	**+0.6**
PB08				IAML		14 12 20.7	
	comp=N,250nm,0.3s						
PB08	**IPOC Station P**	**1.96**	**357**	*i*P	**Pn**	**14 11 49.7**	**+0.5**
PB08				*i*S	**Sn**	**14 12 14.5**	**+0.4**
PB10	**IPOC Station P**	**1.97**	**225**	*e*P	**Pn**	**14 11 50.3**	**+1.5**
PB10				*i*S	**Sn**	**14 12 14.8**	**+1.1**
PB10	**IPOC Station P**	**1.97**	**225**	*i*P	**Pn**	**14 11 50.5**	**+1.7**
PB10				*i*S	**Sn**	**14 12 12.0**	**-1.6**
PB10				IAML		14 12 14.7	
	comp=Z,120nm,0.2s						
PB10	**IPOC Station P**	**1.97**	**225**		**Pn**	**14 11 50.7**	**+1.9**
PB11	**IPOC Station P**	**2.41**	**346⇑**	*i*P	**Pn**	**14 11 54.0**	**-0.6**
PB11				*i*S	**Sn**	**14 12 21.4**	**-2.6**
PB11				IAML		14 12 31.7	
	comp=N,360nm,0.7s						
PB11	**IPOC Station P**	**2.41**	**346**	*i*P	**Pn**	**14 11 54.2**	**-0.4**
PB11				*i*S	**Sn**	**14 12 25.1**	**+1.2**
PB11	**IPOC Station P**	**2.41**	**346**		**Pn**	**14 11 54.0**	**-0.6**
GO01	**Chusmiza**	**2.44**	**357⇑**	*i*P	**Pn**	**14 11 55.5**	**+0.2**
GO01				*i*S	**Sn**	**14 12 26.3**	**+1.2**
GO01	**Chusmiza**	**2.44**	**357**		**Pn**	**14 11 55.3**	**0.0**
PSGCX	**Pisagua**	**2.70**	**338**	*i*P	**Pn**	**14 11 57.0**	**-1.3**
PSGCX				*i*S	**Sn**	**14 12 23.6**	**-7.1**
PB14	**IPOC Station P**	**2.79**	**206**	*i*P	Pn	14 12 05.4	+5.6
PB14				*i*S	**Sn**	**14 12 28.7**	**-4.6**
PB14				IAML		14 12 29.7	
	comp=Z,136nm,0.3s						
MNMC	**Minye Minye**	**3.01**	**350**		**Pn**	**14 12 02.1**	**-0.5**
MNMCX	**Minye Minye**	**3.01**	**350**	*i*P	**Pn**	**14 12 02.2**	**-0.5**
GO02	**Mina Guanaco**	**3.08**	**189**		**Pn**	**14 12 03.8**	**+0.2**
YJA	**Yavi**	**3.28**	**92**	*i*P	**Pn**	**14 12 08.2**	**+1.9**
YJA				*i*S	**Sn**	**14 12 47.0**	**+2.2**
SLA	**San Lorenzo**	**4.16**	**129**	*i*P	**Pn**	**14 12 20.3**	**+2.4**
SLA				IAML		14 12 22.1	
	comp=Z,31nm,0.6s						
AZAP	**Zapla**	**4.22**	**121⇑**	*i*P	**Pn**	**14 12 19.8**	**+1.0**
AZAP				IAML		14 12 20.6	
	comp=Z,32nm,0.3s						
GO03	**Copiap**	**5.56**	**191**	*i*P	**Pn**	**14 12 35.7**	**-1.1**
GO03				*i*S	**Sn**	**14 13 40.3**	**+0.8**
GO03	**Copiap**	**5.56**	**191**	Pn	**Pn**	**14 12 35.5**	**-1.2**
LPAZ	**La Paz**	**5.86**	**9**	P	**Pn**	**14 12 42.5**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=191,slow=9.0,SNR=8.7						
LPAZ	**La Paz**	**5.86**	**9**		**Pn**	**14 12 41.7**	**+0.4**
ACLC	**CERRO LA CRUZ**	**7.52**	**166**	*i*P	**Pn**	**14 13 04.4**	**+1.0**
GO04	**Tololo Observa**	**8.18**	**191**	Pn	**Pn**	**14 13 09.6**	**-2.8**
ACCO	**Cerro Coronel**	**8.44**	**180**	*i*P	**Pn**	**14 13 16.9**	**+0.8**
APLL	**PUNTA DE LOS L**	**8.55**	**165**	*i*P	**Pn**	**14 13 16.5**	**-0.8**
RTLL	**Cerro Villicun**	**9.20**	**177**	*i*P	**Pn**	**14 13 24.2**	**-1.8**
RTLL				IAML		14 13 55.8	
	comp=Z,10nm,0.4s						
CFA	**Coronel Fontan**	**9.48**	**176**	P	**Pn**	**14 13 27.3**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=355,slow=12,SNR=15						
CFA				S	**Sn**	**14 15 07.2**	**-7.4**
	comp=Z,1.4nm,0.3s,baz=178,slow=22,SNR=26						
CFA	**Coronel Fontan**	**9.48**	**176**	*i*P	**Pn**	**14 13 27.9**	**-2.0**
SIV	**San Ignacio**	**9.69**	**52**	P	**Pn**	**14 13 29.5**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=248,slow=16,SNR=3.6						
TCA	**Tanti**	**10.01**	**158**	*i*P	**Pn**	**14 13 35.0**	**-2.1**
TCA				IAML		14 13 41.1	
	comp=Z,1.6nm,0.2s						
TRQA	**Tornquist**	**17.02**	**161**		**P**	**14 15 08.8**	**+1.1**
TRQA				IAmb	IAmb	14 15 53.2	
	comp=Z,68nm,1.8s						
GO06	**Curarrehue**	**17.54**	**186**	P	**Pn**	**14 15 15.5**	**+1.5**
ROSC	**El Rosal**	**27.28**	**348**	P	**P**	**14 16 53.2**	**+2.0**
ROSC				IAmb	IAmb	14 16 57.4	
	comp=Z,7.0nm,0.5s						
PDPR	**Patillas Dam,**	**39.99**	**4**	P	**P**	**14 18 38.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**77.68**	**70**	P	**P**	**14 23 02.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=248,slow=5.6,SNR=5.1						
MKAR	**Makanchi Array**	**146.20**	**36**	PKPbc	**PKPab**	**14 30 45.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=320,slow=3.2,SNR=6.1						
LZH	**Lanzhou**	**164.76**	**22**	*e*PKP	**PKPdf**	**14 31 07.5**	**-0.4**
LZH				pPKP	pPKPdf	14 31 35.8	-2.7
LZH				sPKP		14 31 48.0	
LZH				PKP	**PKPab**	**14 32 06.5**	**+2.5**
LZH				LR	LR		
	comp=N,52nm,18.3s						
LZH				LR	LR		
	comp=E,61nm,18.5s						
LZH				LR	LR		
	comp=Z,78nm,20.1s						
CD2	**Chengdu**	**169.13**	**35**	PKP	**PKPdf**	**14 31 10.5**	**-0.7**

ISCJB ***25*** *14:36:46.2±0.2, 36°.09N±0°.02×70°.98E±0°.03, h102km, mb3.8/19, Error ellipse: s-maj=3.8km s-min=3.0km az=160.2*
NEIC ***25*** *14:36:47.9±1.9, 36°.14N±0°.06×70°.80E±0°.09, h113km±8km, mb4.2/12*
MOS ***25*** *14:36:47.1±1.6, 36°.13N×70°.91E, h105km, mb4.0/8, Error ellipse: s-maj=9.4km s-min=5.1km az=86.1*
NNC ***25*** *14:36:51.4±2.9, 36°.51N×70°.51E, h87km±74km, mb4.3, mpv4.5, Error ellipse: s-maj=30.5km s-min=13.7km az=146.0*
IDC ***25*** *14:36:51.2±3.4, 36°.21N×70°.96E, h142km±32km, mb3.5/14, mb1 3.5/19, mb1mx3.4/48, mbtmp3.9/19, MS3.3/2, Ms1 3.3/2, ms1mx2.6/36, Error ellipse: s-maj=21.4km s-min=13.6km az=21.0*
ISC 25 14:36:47.0±0.4, 36°.12N±0°.04×70°.85E±0°.04, h102km, n127, σ2§13/135, mb3.7/18, 8C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.16**	**224**	PN	**Pn**	**14 37 23.6**	**+1.7**
KBL						14 37 49.3	
KBL	**Kabul**	**2.16**	**224**		**Pn**	**14 37 23.6**	**+1.7**
KBL				Sn	**Sn**	**14 37 49.3**	**+0.7**
CEP	**Cherat**	**2.45**	**159**	P	**Pn**	**14 37 27.7**	**+2.1**
CEP				S	**Sn**	**14 37 57.0**	**+1.8**
CHGR	**Chuyangaron**	**2.87**	**332**		**Pn**	**14 37 31.9**	**+0.7**
GAR	**Garm**	**2.91**	**352**		**Pn**	**14 37 33.2**	**+1.5**
CHCP	**Chirah Chowk**	**3.15**	**140**	P	**Pn**	**14 37 36.9**	**+2.0**
NIL	**Nilore**	**3.15**	**141**	PN	**Pn**	**14 37 37.0**	**+2.1**
NIL	**Nilore**	**3.15**	**141**		**Pn**	**14 37 37.0**	**+2.1**
THW	**Thamme Wali**	**3.39**	**167**	P	**Pn**	**14 37 39.3**	**+1.2**
BTK	**Batken**	**3.94**	**360**	PN	**Pn**	**14 37 47.7**	**+2.3**
BTK	**Batken**	**3.94**	**360**		**Pn**	**14 37 47.7**	**+2.3**
SARP	**Sargodha**	**4.45**	**160**	P	**Pn**	**14 37 52.5**	**+0.2**
JMU	**Jammu**	**4.76**	**134**	*ex*	**Pn**	**14 37 53.0**	**-3.5**
TAS	**Tashkent**	**5.35**	**347**	PN	**Pn**	**14 38 03.7**	**-0.7**
TAS	**Tashkent**	**5.35**	**347**	Pn	**Pn**	**14 38 03.7**	**-0.7**
ARSB	**Arslanbob**	**5.46**	**17**		**Pn**	**14 38 06.0**	**0.0**
DHRM	**DHARAMSHALA**	**5.94**	**129**	*e*P	**Pn**	**14 38 12.8**	**+0.2**
DHRM				*e*S	**Sn**	**14 39 18.6**	**-0.8**
DHRM				IAML		14 39 21.1	
	comp=N,456nm,0.3s						
DHRM				IAML		14 39 21.6	
	comp=E,486nm,0.1s						
AML	**Almayashu**	**6.40**	**19**	P	**Pn**	**14 38 20.1**	**+1.1**
	SNR=76						
NRN	**Naryn**	**6.66**	**36**	PN	**Pn**	**14 38 21.9**	**-0.6**
NRN	**Naryn**	**6.66**	**36**	Pn	**Pn**	**14 38 21.9**	**-0.6**
UCH	**Uchtor**	**6.73**	**24**	P	**Pn**	**14 38 25.0**	**+1.4**
	SNR=42						
KZA	**Kyzart**	**6.86**	**29**	P	**Pn**	**14 38 28.1**	**+2.7**
	SNR=5.8						
EKS2	**Erkin-Say**	**6.92**	**18**	P	**Pn**	**14 38 27.1**	**+1.3**
	SNR=21						
KK31	**Karatay Array**	**6.98**	**358**	P	**Pn**	**14 38 26.8**	**+0.1**
	comp=E,14nm,0.3s,baz=188,slow=14,SNR=207						
KK31				⇓S	**Sn**	**14 39 40.8**	**-3.7**
	comp=E,22nm,0.5s,baz=185,slow=21,SNR=9.8						
KK31	**Karatay Array**	**6.98**	**358**	*e*PN	**Pn**	**14 38 26.7**	**+0.1**
KK31				pmax	pmax		
	comp=Z,15nm,0.4s						
KK31	**Karatay Array**	**6.98**	**358**		**Pn**	**14 38 26.3**	**-0.3**
KKAR	**Karatay Array**	**6.98**	**358**	PN	**Pn**	**14 38 26.6**	**0.0**
KKAR	**Karatay Array**	**6.98**	**358**		**Pn**	**14 38 26.6**	**0.0**
KKAR	**Karatay Array**	**6.98**	**358**		**Pn**	**14 38 26.8**	**+0.2**
AAK	**Ala-Archa**	**7.10**	**22**	P	**Pn**	**14 38 29.9**	**+1.7**
	comp=Z,27nm,0.5s						
AAK				S	**Sn**	**14 39 44.9**	**-2.5**
	comp=Z,87nm,0.6s						
AAK	**Ala-Archa**	**7.10**	**22**	PN	**Pn**	**14 38 29.6**	**+1.3**
AAK	**Ala-Archa**	**7.10**	**22**	P	**Pn**	**14 38 29.9**	**+1.7**
	comp=Z,11nm,0.3s,baz=183,slow=6.0,SNR=133						
AAK				S	**Sn**	**14 39 44.5**	**-2.9**
	comp=Z,7.8nm,0.3s,baz=336,slow=21,SNR=23						
AAK	**Ala-Archa**	**7.10**	**22**	P	**Pn**	**14 38 29.8**	**+1.6**
	SNR=56						
AAK	**Ala-Archa**	**7.10**	**22**		**Pn**	**14 38 29.6**	**+1.3**
SMLA	**Simla**	**7.24**	**132**	*e*P	**Pn**	**14 38 30.3**	**+0.1**
SMLA				*e*S	**Sn**	**14 39 47.8**	**-3.0**
SMLA				IAML		14 39 51.1	
	comp=N,158nm,0.2s						
SMLA				IAML		14 39 52.9	
	comp=E,174nm,0.6s						
HRA	**Herat**	**7.25**	**259**		**Pn**	**14 38 31.9**	**+1.4**
KBK	**Karagaybulak**	**7.26**	**25**	P	**Pn**	**14 38 32.1**	**+1.6**
	SNR=18						
FRU1	**Bishkek**	**7.29**	**22**	PN	**Pn**	**14 38 31.8**	**+0.9**
FRU1	**Bishkek**	**7.29**	**22**	Pn	**Pn**	**14 38 31.8**	**+0.9**
CHMS	**Chumysh**	**7.50**	**22**	P	**Pn**	**14 38 35.0**	**+1.3**
	SNR=48						
USP	**Ospenovka**	**7.67**	**20**	P	**Pn**	**14 38 37.5**	**+1.4**
	SNR=20						
TKM2	**Tokmak 2**	**7.72**	**27**	⇑P	**Pn**	**14 38 38.2**	**+1.4**
	comp=E,14nm,0.6s						
TKM2				⇓S	**Sn**	**14 40 01.1**	**-1.5**
	comp=E,66nm,0.8s						
TKM2	**Tokmak 2**	**7.72**	**27**	PN	**Pn**	**14 38 38.2**	**+1.4**
TKM2	**Tokmak 2**	**7.72**	**27**	P	**Pn**	**14 38 38.2**	**+1.4**
	SNR=36						
KDJ	**Kajisay**	**7.76**	**37**	PN	**Pn**	**14 38 38.1**	**+0.8**
KDJ	**Kajisay**	**7.76**	**37**	Pn	**Pn**	**14 38 38.1**	**+0.8**
TARG	**Taragay, Kyrgy**	**7.79**	**42**		**Pn**	**14 38 39.1**	**+1.1**
DDI	**Dehra Dun**	**8.35**	**132**	*e*P	**Pn**	**14 38 45.9**	**+0.6**
PRZ	**Przheval'sk**	**8.64**	**40**	PN	**Pn**	**14 38 51.2**	**+1.9**
PRZ	**Przheval'sk**	**8.64**	**40**		**Pn**	**14 38 51.2**	**+1.9**
JOSI	**Joshimath**	**9.15**	**125**	*e*P	**Pn**	**14 38 55.7**	**-0.7**
JOSI				*i*x	x	14 38 57.0	
JOSI				*e*S	**Sn**	**14 40 31.7**	**-5.9**
JOSI				IAML		14 40 33.5	
	comp=E,84nm,0.6s						
JOSI				IAML		14 40 44.3	
	comp=N,102nm,0.6s						
NDI	**New Delhi**	**9.15**	**142**	*e*P	**Pn**	**14 38 56.0**	**-0.2**
NDI				*e*S	**Sn**	**14 40 32.0**	**-5.4**
KUDL	**Kundal**	**9.27**	**147**	*e*P	**Pn**	**14 38 54.8**	**-3.0**
KUDL				*i*x	x	14 38 55.6	
KUDL				*e*S	Sn	14 40 30.8	-9.5
GEYT	**Alibeck**	**10.34**	**284**	P	**Pn**	**14 39 11.1**	**-1.2**
	comp=N,1.9nm,0.3s,baz=106,slow=9.3,SNR=5.9						
GEYT				S	**Sn**	**14 41 00.7**	**-5.7**
	comp=N,4.0nm,0.3s,baz=78,slow=12,SNR=7.7						
GYA0B	**ALIBECK ARRAY**	**10.34**	**284**	⇑P	**Pn**	**14 39 11.9**	**-0.4**
GYA0B				⇑S	**Sn**	**14 41 00.4**	**-5.9**
GYA0B	**ALIBECK ARRAY**	**10.34**	**284**		**Pn**	**14 39 11.9**	**-0.4**
DANN	**Dangsing**	**13.38**	**122**	*e*P	**Pn**	**14 39 49.9**	**-3.2**
	comp=N,44nm,0.4s						
KOLN	**Koldanda**	**13.64**	**124**	*e*P	**Pn**	**14 39 53.2**	**-3.2**
	comp=N,30nm,0.5s						
MK31	**Makanchi Array**	**13.67**	**35**	P	**Pn**	**14 39 57.2**	**+0.7**
MK31	**Makanchi Array**	**13.67**	**35**		**Pn**	**14 39 57.2**	**+0.7**
MKAR	**Makanchi Array**	**13.67**	**35**	P	**Pn**	**14 39 57.0**	**+0.5**
MKAR	**Makanchi Array**	**13.67**	**35**	P	**Pn**	**14 39 56.0**	**-0.5**
	comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**13.67**	**35**	Pn	**Pn**	**14 39 57.0**	**+0.5**
GKN	**Gorkha**	**14.20**	**121**	*e*P	**Pn**	**14 40 00.3**	**-3.3**
	comp=N,37nm,0.2s						
DMN	**Daman**	**14.77**	**121**	*e*P	**Pn**	**14 40 08.1**	**-2.9**
	comp=N,82nm,0.8s						
DMN				*e*S	Sn	14 42 42.9	-11
KKN	**Kakani**	**14.78**	**120**	*e*P	**Pn**	**14 40 08.2**	**-2.9**
	comp=N,26nm,0.4s						
PKIN	**Phulchoki**	**14.99**	**121**	*e*P	**Pn**	**14 40 10.9**	**-2.9**
	comp=N,32nm,0.5s						
PKI	**Pulchoki**	**15.01**	**121**	*e*P	**Pn**	**14 40 12.0**	**-2.0**
	comp=N,37nm,0.5s						
GUN	**Gumba**	**15.13**	**118**	*e*P	**Pn**	**14 40 12.8**	**-2.9**
	comp=N,22nm,0.3s						
AB31	**Akbulak array**	**15.37**	**332**	P	**Pn**	**14 40 17.3**	**-0.8**
	comp=N,5.2nm,0.3s,baz=143,slow=11,SNR=372						
AB31	**Akbulak array**	**15.37**	**332**	*i*P	**Pn**	**14 40 17.3**	**-0.8**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ABKAR	**Akbulak array**	**15.37**	**332**		**Pn**	**14 40 17.2**	**-0.9**
ABKAR				IAmb	IAmb	14 40 18.8	
	comp=Z,52nm,1.4s						
ABKAR	**Akbulak array**	**15.37**	**332**		**Pn**	**14 40 16.9**	**-1.2**
JIRN	**Jiri**	**15.50**	**119**	*e*P	**Pn**	**14 40 17.9**	**-2.4**
	comp=Z,80nm,0.4s						
JIRN				*e*S	Sn	14 43 00.0	-12
KURBB	**Kurchatov Arra**	**15.52**	**19**	P	**Pn**	**14 40 19.2**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=208,slow=10,SNR=3.9						
KURK	**Kurchatov**	**15.63**	**19⇑**	*e*P	**P**	**14 40 24.3**	**+0.9**
KURK	**Kurchatov**	**15.63**	**19**	P	**P**	**14 40 23.3**	**-0.1**
BANOM	**Banah**	**16.07**	**235**	P	**P**	**14 40 28.6**	**+0.1**
RAMN	**Ramite**	**16.22**	**120**	*e*P	**Pn**	**14 40 27.2**	**-2.0**
	comp=Z,43nm,0.6s						
MDH	**Madha**	**16.50**	**233**	P	**P**	**14 40 33.7**	**+0.5**
TAPN	**Taplejung**	**16.77**	**117**	*e*P	**Pn**	**14 40 34.6**	**-1.4**
	comp=Z,39nm,0.4s						
ODAN	**Odare**	**16.84**	**119**	*e*P	**Pn**	**14 40 35.5**	**-1.2**
	comp=Z,43nm,0.6s						
BVAR	**Borovoye Array**	**16.91**	**359**	P	**P**	**14 40 37.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=165,slow=12,SNR=12						
BRVK	**Borovoye**	**16.95**	**359**	*ce*P	**P**	**14 40 40.5**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BRVK	**Borovoye**	**16.95**	**359**		**Pn**	**14 40 37.5**	**-0.1**
AKTO	**Aktyubinsk**	**17.06**	**331**	⇑P	**P**	**14 40 40.0**	**+0.8**
	comp=Z,14nm,0.8s						
AKTO	**Aktyubinsk**	**17.06**	**331**	P	**P**	**14 40 39.1**	**0.0**
	comp=Z,1.1nm,0.3s,baz=141,slow=14,SNR=29						
AKTO				S	**Sn**	**14 43 40.0**	**-8.5**
	comp=Z,0.2nm,0.3s,baz=135,slow=19,SNR=3.4						
ASHO	**Ashiyiah**	**17.09**	**232**	P	**P**	**14 40 41.6**	**+1.9**
	SNR=5.4						
DGZ	**Jazzator, Alta**	**18.16**	**36⇓**	*e*P	**P**	**14 40 50.9**	**-0.6**
LSA	**Lhasa**	**18.19**	**105**	P	**Pn**	**14 40 53.7**	**+0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**18.19**	**105**		**Pn**	**14 40 53.7**	**+0.4**
LSA				IAmb	IAmb	14 40 57.0	
	comp=Z,5.8nm,0.7s						
ZAA0	**Zalesovo Array

BOSA	Boshof	77.38	220	P	P	14 48 31.3 +0.5
	comp=Z,4.2nm,0.7s,baz=46,slow=5.9,SNR=6.1					
WRA	Warramunga Arr	81.89	122	*i* P	P	14 48 54.9 -0.4
WRA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
WRA	Warramunga Arr	81.89	122	P	P	14 48 54.6 -0.7
	comp=Z,0.7nm,0.9s,baz=323,slow=4.8,SNR=4.9					
ASAR	Alice Springs	84.13	125	P	P	14 49 06.3 -0.6
	comp=Z,0.4nm,1.0s,baz=297,slow=4.9,SNR=5.2					

*NEIC **25** 14:45:10.1±2.1, 8°.19S±0°.06×75°.81W±0°.07, h107km±7km, mb4.7/11*
*ISCJB **25** 14:45:13.0±0.4, 8°.36S±0°.05×75°.94W±0°.08, h150km, mb3.5/7, Error ellipse: s-maj=12.0km s-min=6.3km az=162.5*
*IDC **25** 14:45:13.6±1.7, 8°.41S×75°.90W, h130km±17km, mb3.4/7, mb1 3.6/13, mb1mx3.5/33, mbtmp3.9/13, MS2.2/1, Ms1 2.2/1, ms1mx2.1/15, Error ellipse: s-maj=21.7km s-min=13.0km az=64.0*
ISC 25 14:45:14.2±0.5, **8°.38S**±0°.06×**76°.04W**±0°.09, **h150**km, **n43,** σ1§**75/41, mb4.0/11, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.64	298	P	Pn	14 45 57.9	+0.4
	21nm,0.3s,baz=100,slow=4.3,SNR=46						
ATAH				S	Sn	14 46 26.1	-4.6
	30nm,0.3s,baz=111,slow=21,SNR=21						
NNA	Nana	3.67	192	P	Pn	14 46 10.1	-0.2
	30nm,0.3s,baz=349,slow=7.3,SNR=24						
NNA				S	Sn	14 46 51.9	-1.8
	134nm,0.3s,baz=233,slow=14,SNR=25						
NNA				LR	LR	14 48 06.5	
	comp=Z,31nm,18.8s,baz=46,slow=47						
NNA	Nana	3.67	192		Pn	14 46 10.5	+0.2
LPAZ	La Paz	11.02	136	P	Pn	14 47 46.0	-2.3
	0.2nm,0.3s,baz=289,slow=7.5,SNR=3.9						
LPAZ	La Paz	11.02	136		Pn	14 47 45.5	-2.8
MNMC	Minye Minye	12.38	150		Pn	14 48 02.5	-3.3
SAML	Samuel	12.73	93		Pn	14 48 03.8	-6.2
PB11	IPOC Station P	12.89	152	Pn	Pn	14 48 11.4	-0.9
PB04	IPOC Station P	14.99	158	Pn	Pn	14 48 37.5	-1.1
PB04				IAmb	IAmb	14 48 57.1	
	comp=Z,9.4nm,0.7s						
LVC	Limon Verde	15.72	155	P	P	14 48 47.7	-1.2
	comp=Z,0.3nm,0.3s,baz=308,slow=18,SNR=1.9						
LVC	Limon Verde	15.72	155	IAmb	IAmb	14 48 53.2	
	comp=Z,6.0nm,0.7s						
SIV	San Ignacio	16.46	119	P	P	14 48 55.0	-1.7
	comp=Z,0.2nm,0.3s,baz=293,slow=12,SNR=6.2						
SDV	Santo Domingo	17.98	18	P	Pn	14 49 14.3	-0.8
	comp=Z,1.4nm,0.3s,baz=293,slow=7.4,SNR=3.7						
CFA	Coronel Fontan	24.22	164	P	P	14 50 19.3	+2.1
	comp=Z,3.3nm,0.6s,baz=335,slow=10,SNR=8.1						
CPUP	Villa Florida	25.19	137	P	P	14 50 26.7	+0.7
	comp=Z,2.4nm,0.9s,baz=324,slow=9.7,SNR=3.2						
CPUP	Villa Florida	25.19	137	P	P	14 50 26.4	+0.4
TRQA	Tornquist	32.16	159	P	P	14 51 29.0	+1.3
TRQA				IAmb	IAmb	14 52 30.3	
	comp=Z,33nm,1.7s						
PLCA	Paso Flores	32.59	172	P	P	14 51 32.2	+0.8
PLCA				IAmb	IAmb	14 52 40.6	
	comp=Z,32nm,2.0s						
250A	Grady	41.30	347	P	P	14 52 43.3	-1.7
GOGA	Godfrey	42.16	351	P	P	14 52 50.0	-2.0
GOGA				IAmb	IAmb	14 54 16.3	
	comp=Z,32nm,1.5s						
Y60A	Bolivia	42.20	357	P	P	14 52 50.5	-1.8
TXAR	Lajitas Array	45.98	326	P	P	14 53 24.7	+2.0
	comp=Z,0.2nm,0.5s,baz=151,slow=9.2,SNR=3.9						
TXAR				PcP	PcP	14 54 58.9	+2.0
	comp=Z,0.1nm,0.3s,baz=149,slow=5.3,SNR=4.0						
TXAR	Lajitas Array	45.98	326	P	P	14 53 23.3	+0.7
HWUT	Hardware Ranch	59.46	330	P	P	14 55 02.7	+1.2
HWUT				IAmb	IAmb	14 55 55.9	
	comp=Z,8.2nm,1.7s						
NVAR	Mina Array Bea	60.95	323	P	P	14 55 14.7	+2.9
	comp=Z,0.1nm,0.5s,baz=138,slow=7.3,SNR=3.6						
NVAR				pP	pP	14 55 45.8	-1.9
	comp=Z,0.5nm,0.7s,baz=155,slow=6.1,SNR=3.8						
NVAR	Mina Array Bea	60.95	323	P	P	14 55 12.3	+0.5
DBIC	Dimbokro	72.53	80	P	P	14 56 26.0	+0.6
	comp=Z,3.9nm,0.9s,baz=242,slow=2.2,SNR=3.2						
DBIC	Dimbokro	72.53	80	IAmb	IAmb	14 58 21.2	
	comp=Z,25nm,1.5s						
VNA3	Neumayer Olymp	74.61	162	P	P	14 56 45.0	+8.4
VNA1	Neumayer--Stat	74.86	161	P	P	14 56 41.8	+3.9
VNA2	Neumayer--Watz	75.22	162	P	P	14 56 42.5	+2.6
	baz=334,slow=7.0						
SNAA	Sanae	76.83	162	P	P	14 56 51.6	+2.5
TORD	Torodi Ar. Bea	80.10	75	P	P	14 57 08.7	+0.6
	comp=Z,1.1nm,0.8s,baz=283,slow=5.3,SNR=5.6						
TORD	Torodi Ar. Bea	80.10	75	P	P	14 57 07.3	-0.8
ILAR	Eielson Array	89.52	336	P	P	14 57 55.5	+1.3
	comp=Z,0.3nm,1.1s,baz=150,slow=3.8,SNR=4.3						
ILAR	Eielson Array	89.52	336	P	P	14 57 55.4	+1.2
ZALV	Zalesovo Beam	132.02	15	PKP	PKiKP	15 04 11.7	+0.7
	comp=Z,0.6nm,0.4s,baz=241,slow=4.5,SNR=3.9						
ZALV	Zalesovo Beam	132.02	15		PKiKP	15 04 11.4	+0.4
ASAR	Alice Springs	136.74	222	PKP	PKiKP	15 04 20.6	-0.9
	comp=Z,0.2nm,0.4s,baz=125,slow=2.1,SNR=7.7						
ASAR	Alice Springs	136.74	222		PKiKP	15 04 20.4	-1.1
WRA	Warramunga Arr	138.93	226	PKP	PKiKP	15 04 25.4	-0.6
	comp=Z,0.5nm,0.4s,baz=137,slow=1.3,SNR=5.6						
FITZ	Fitzroy Crossi	146.08	219	PKPbc	PKPab	15 04 38.0	-0.3
	comp=Z,2.5nm,0.6s,baz=147,slow=3.3,SNR=7.2						
WHN	Wuhan	155.90	338	PKP	PKPdf	15 05 00.0	+8.9

*ISCJB **25** 15:02:12.7±0.6, 9°.58N±0°.05×79°.47W±0°.03, h51km±6km, Error ellipse: s-maj=8.8km s-min=5.3km az=5.0*
*UCR **25** 15:02:13.2±0.9, 9°.58N×79°.45W, h34km±4km, MW3.6*
*UPA **25** 15:02:14.5±1.3, 9°.53N×79°.50W, h41km±3km, MW3.8*
ISC 25 15:02:12.8±1.4, **9°.60N**±0°.07×**79°.45W**±0°.04, **h46**km±12km, **n58,** σ1§**08/76, 13C-8D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAD3	Madden Dam	0.42	203	⇓*i* P	Pn	15 02 23.1	+0.2
MAD3				*i* S	Sn	15 02 29.5	-0.5
FRIJ	El Hiral	0.47	216	⇑*i* P	Pn	15 02 23.3	-0.1
FRIJ				*i* S	Sn	15 02 30.2	-0.7
CHPO	Chepo, Panama	0.54	142	⇓*i* P	Pn	15 02 25.1	+0.7
CHPO				*i* S	Sn	15 02 33.0	+0.4
GAMB1	Gamboa	0.54	208	⇑*i* P	Pn	15 02 24.2	-0.2
GAMB1				*i* S	Sn	15 02 31.6	-1.0
BCIP	Isla Barro Col	0.58	222	*e* P	Pn	15 02 24.9	+0.1
BCIP	Isla Barro Col	0.58	222	*e* P	Pn	15 02 24.9	+0.1
BCIP	Isla Barro Col	0.58	222	⇑*i* P	Pn	15 02 24.9	+0.1
BCIP				*e* S	Sn	15 02 32.6	-0.8
BCIP	Isla Barro Col	0.58	222	⇑*i* P	Pn	15 02 24.9	+0.1
BCIP				*i* S	Sn	15 02 32.3	-1.1
SPIL	Cristobal, Col	0.58	235	⇓*e* P	Pn	15 02 25.4	+0.6
SPIL				*i* S	Sn	15 02 33.6	+0.2
PML3	Paraiso	0.60	196	⇓*i* P	Pn	15 02 25.2	+0.2
PML3				*i* S	Sn	15 02 33.4	-0.5
MFS3	Miraflores	0.61	193	⇑*i* P	Pn	15 02 25.6	+0.3
MFS3				*i* S	Sn	15 02 33.8	-0.4
UPA	Univ. de Panam	0.62	188	*e* P	Pn	15 02 25.5	+0.2
UPA				*e* S	Sn	15 02 33.7	-0.7
UPA	Univ. de Panam	0.62	188	*e* P	Pn	15 02 25.6	+0.2
UPA				*i* S	Sn	15 02 33.5	-0.9
FLAM	Flamenco Islan	0.69	187	⇓*i* P	Pn	15 02 26.8	+0.5
FLAM				*i* S	Sn	15 02 36.3	+0.4
PINA	Piqa, Costa Ab	0.70	240	⇑*i* P	Pn	15 02 26.9	+0.5
PINA				*i* S	Sn	15 02 36.5	+0.4
ZANG	Zanguenga, Cho	0.76	213	⇑*i* P	Pn	15 02 27.4	+0.2
ZANG				*e* S	Sn	15 02 38.8	+1.1
ZANG	Zanguenga, Cho	0.76	213	⇑*i* P	Pn	15 02 27.4	+0.2
ZANG				*i* S	Sn	15 02 37.3	-0.4
CHOR3	La Chorrera	0.76	204	*e* P	Pn	15 02 27.7	+0.5
TABO3	Taboga, Panama	0.81	187	⇑*i* P	Pn	15 02 28.2	+0.4
TABO3				*i* S	Sn	15 02 39.2	+0.4
VTON	El Valle, Cocl	1.18	214	⇑*i* P	Pn	15 02 33.5	+0.6
VTON				*i* S	Sn	15 02 48.2	+0.3
PNME	Penonome	1.41	218	*i* P	Pn	15 02 36.6	+0.6
UPD2	Meteti	1.76	126	*e* P	Pn	15 02 42.8	+1.9
CALO3	Calobre, Verag	1.87	227	*e* P	Pn	15 02 43.4	+1.0
CHIT3	Chitre	1.89	210	*e* P	Pn	15 02 42.2	-0.5
AZU	Azuero	1.97	204	*e* P	Pn	15 02 43.4	-0.4
AZU	Azuero	1.97	204	⇑*e* P	Pn	15 02 43.6	-0.1
AZU				*i* S	Sn	15 03 06.3	-1.0

SFRA3	San Francisco,	2.02	228	*e* P	Pn	15 02 45.9	+1.6
PESE3	Pese, Herrera	2.04	214	*e* P	Pn	15 02 44.9	+0.3
OCU3	Ocu, Herrera	2.10	219	*e* P	Pn	15 02 44.0	-1.5
STIA3	Santiago, Vera	2.12	225	*e* P	Pn	15 02 47.3	+1.5
PONU3	Ponuga, Veragu	2.28	222	⇓*e* P	Pn	15 02 48.5	+0.5
RSUS3	Rio de Jesus,	2.33	227	*e* P	Pn	15 02 44.1	-4.6
GMAL	Guarumal, Vera	2.54	224	⇓*e* P	Pn	15 02 52.5	+0.9
CACAO	El Cacao, Vera	2.64	212	*i* P	Pn	15 02 53.7	+0.8
REME3	Remedios, Chir	2.72	240	*e* P	Pn	15 02 52.0	-2.0
CHGR2	Aguacate	2.74	256	⇓*i* P	Pn	15 02 55.1	+0.8
PTAC	Punta Ardita,	2.93	146	*e* P	Pn	15 02 56.5	-0.4
PTAC	Punta Ardita,	2.93	146	*e* P	Pn	15 02 56.5	-0.4
CHIR3	Chiriqui UPA,	3.09	247	*e* P	Pn	15 02 59.1	+0.1
LOMA3	Las Lomas, Chi	3.13	248	*e* P	Pn	15 02 59.4	-0.2
PTAR3	Potrerillos Ar	3.14	254	*e* P	Pn	15 03 00.8	+0.9
BCO2	Palmira	3.16	254	*e* P	Pn	15 03 01.6	+1.4
DVD	David	3.18	249	*e* P	Pn	15 02 59.0	-1.3
BRU2	Volcan	3.30	256	*e* P	Pn	15 03 03.4	+1.3
LESP3	La Esperanza,	3.51	250	*e* P	Pn	15 03 02.1	-2.7
DRK0	Durika	3.76	265	*e* P	Pn	15 03 08.7	+0.3
DRK0	Durika	3.76	265	*e* P	Pn	15 03 08.9	+0.4
SJCC	San Jacinto, C	4.22	86	*e* P	Pn	15 03 16.5	+1.9
SJCC	San Jacinto, C	4.22	86	*e* P	Pn	15 03 16.5	+1.9
SJCC	San Jacinto, C	4.22	86	⇑*i* P	Pn	15 03 16.6	+1.9
SJCC				*i* S	Sn	15 03 59.3	-3.5
LCR2	La Lucha 2	4.49	272	*e* P	Pn	15 03 20.2	+1.7
ZARC	Zaragoza, Cauc	5.00	114	*e* P	Pn	15 03 27.0	+1.7
ZARC	Zaragoza, Cauc	5.00	114	*e* P	Pn	15 03 27.0	+1.7
CEDE	Laguna Cedeo	5.25	280	*e* P	Pn	15 03 30.1	+1.2
SMLC	San Martn de	5.37	98	*e* P	Pn	15 03 30.6	+0.2
SMLC	San Martn de	5.37	98	*e* P	Pn	15 03 30.6	+0.2
JTS	Las Juntas de	5.46	278	⇑*e* P	Pn	15 03 33.6	+1.9
JTS	Las Juntas de	5.46	278	*e* P	Pn	15 03 33.6	+1.9

WEL 25 15:06:53.5±1.6, **37°S**±12°×**17°9E**±°, **h12**km, **M3.3**/14, **ML3.6**/6, **MLv3.3**/14, **Error ellipse: s-maj=0.0km s-min=0.0km az=175.8, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	0.80	244	P	Pb	15 07 09.7	+0.3
MXZ	Matakaoa Point	0.82	263	P	Pg	15 07 09.0	-0.3
MXZ				S	Sb	15 07 21.4	+0.8
PUZ	Puketiti	1.04	234	P	Pb	15 07 13.2	-0.3
PUZ				S	Sg	15 07 27.1	0.0
PKGZ	Pakihiroa	1.08	247	P	Pb	15 07 13.5	-0.6
PKGZ				S	Sb	15 07 28.1	-0.1
HAZ	Te Kaha	1.26	256	P	Pn	15 07 16.5	-0.4
HAZ				S	Sb	15 07 33.4	0.0
CNGZ	Carnagh Statio	1.34	221	P	Pn	15 07 18.2	+0.1
RUGZ	Raukumara Rang	1.40	249	P	Pn	15 07 18.6	-0.4
RUGZ				S	Sb	15 07 37.6	+0.1
TKGZ	Te Karaka	1.52	230	P	Pn	15 07 19.7	-0.8
TKGZ				S	Sb	15 07 40.5	-0.3
MWZ	Matawai	1.67	238	P	Pn	15 07 21.6	-1.0
RIGZ	Rimuhau	1.75	225	P	Pn	15 07 22.8	-0.8
RIGZ				S	Sn	15 07 45.6	-0.3
RAGZ	Rawiri	1.83	235	P	Pn	15 07 24.0	-0.8
RAGZ				S	Sn	15 07 47.5	-0.4
PRGZ	Paritu Road	1.84	218	P	Pn	15 07 24.3	-0.7
WHRZ	Whale Island	1.91	258	P	Pn	15 07 26.1	+0.2
URZ	Urewera	1.92	245	P	Pn	15 07 25.7	-0.3
URZ				S	Sn	15 07 50.2	+0.1
KNZ	Kokohu	2.02	220	P	Pn	15 07 26.1	-1.4
KNZ				S	Sn	15 07 51.7	-1.0
SNGZ	Shannon Statio	2.04	230	P	Pn	15 07 26.7	-1.1
EDRZ	Edgecumbe	2.15	252	P	Pn	15 07 28.6	-0.6
MARZ	Manawahe	2.17	255	P	Pn	15 07 28.5	-0.9
RTZ	Ruatahuna	2.18	238	P	Pn	15 07 29.1	-0.5
RTZ				S	Sn	15 07 56.3	-0.3
OPRZ	Ohinepanea	2.23	260	P	Pn	15 07 29.2	-1.1
MUGZ	Murupara	2.26	243	P	Pn	15 07 30.0	-0.7
RAHZ	Arahi	2.28	230	P	Pn	15 07 30.2	-0.8
RAHZ				S	Sn	15 07 58.9	-0.2
WHHZ	Waihua	2.30	225	P	Pn	15 07 30.1	-1.1
WHHZ				S	Sn	15 07 59.2	-0.3
TARZ	Mount Tarawera	2.36	250	P	Pn	15 07 31.8	-0.4
RRRZ	Republican Roa	2.39	248	P	Pn	15 07 31.7	-0.8
MTHZ	Maungataniwha	2.40	234	P	Pn	15 07 31.8	-0.8
MTHZ				S	Sn	15 08 02.2	+0.3
OMRZ	Omania	2.43	254	P	Pn	15 07 32.9	-0.2
KARZ	Kaharoa	2.50	256	P	Pn	15 07 33.2	-0.9
ARHZ	Aropaoanui	2.56	225	P	Pn	15 07 33.9	-1.0
ARHZ				S	Sn	15 08 06.1	+0.2
NMHZ	Naumai	2.56	230	P	Pn	15 07 34.0	-1.0
NMHZ				S	Sn	15 08 06.3	+0.2
MRHZ	Matea Rd	2.67	238	P	Pn	15 07 35.5	-0.9
KMRZ	Kaimai	2.71	261	P	Pn	15 07 35.9	-1.1
BKZ	Black Stump Fm	2.80	232	P	Pn	15 07 37.0	-1.2
BKZ				S	Sn	15 08 10.8	-1.1
CKHZ	Cape Kidnapper	2.81	218	P	Pn	15 07 36.6	-1.7
MCHZ	McNeill Hill	2.85	226	P	Pn	15 07 37.7	-1.1
MCHZ				S	Sn	15 08 12.5	-0.7
HATZ	Hinemaiaia	2.92	240	P	Pn	15 07 38.5	-1.2
KUZ	Kuautunu	2.97	283	P	Pn	15 07 38.6	-1.9
KWHZ	Kaweka Forest	3.00	229	P	Pn	15 07 39.4	-1.5
KAHZ	Kahuranaki	3.01	219	P	Pn	15 07 39.2	-1.9
TOZ	Tahuroa Road	3.05	264	P	Pn	15 07 40.4	-1.1
TLZ	Tolley Road	3.12	253	P	Pn	15 07 41.5	-1.1
RITZ	Rihia Road	3.12	240	P	Pn	15 07 41.9	-0.7
KRHZ	Kereru	3.18	226	P	Pn	15 07 41.4	-1.9
PXZ	Pawanui	3.20	216	P	Pn	15 07 41.2	-2.4
BHHZ	Black Hill Sta	3.26	231	P	Pn	15 07 43.0	-1.5
KRVZ	Karewarewa	3.32	240	P	Pn	15 07 44.1	-1.4
GRZ	Great Barrier	3.33	290	P	Pn	15 07 44.4	-1.1
MKAZ	Moumakai	3.34	275	P	Pn	15 07 44.6	-1.0
WTVZ	West Tongariro	3.37	240	P	Pn	15 07 45.3	-0.8
MOVZ	Moawhango	3.41	234	P	Pn	15 07 46.2	-0.4
WPHZ	Waipukurau	3.44	220	P	Pn	15 07 44.6	-2.2
PNHZ	Pukenui	3.46	224	P	Pn	15 07 44.6	-2.5
FWVZ	Far West T-bar	3.46	238	P	Pn	15 07 46.3	-1.2
TRVZ	Turoa	3.49	237	P	Pn	15 07 46.9	-0.8
PRHZ	Porangahau	3.50	216	P	Pn	15 07 44.9	-2.8
ETAZ	East Tamaki Re	3.55	277	P	Pn	15 07 47.9	-0.6
MBAZ	Motutapu North	3.61	280	P	Pn	15 07 49.1	-0.1
HIZ	Hauiti	3.68	252	P	Pn	15 07 50.0	-0.2
TSZ	Takapari Road	3.69	224	P	Pn	15 07 47.7	-2.7
ANWZ	Angora Road	3.72	216	P	Pn	15 07 47.8	-3.0
DVHZ	Dannevirke	3.75	220	P	Pn	15 07 48.3	-2.9
VRZ	Vera Road	3.96	244	P	Pn	15 07 53.7	-0.3
BFZ	Birch Farm	4.00	216	P	Pn	15 07 51.0	-3.7
POWZ	Post Office Ro	4.03	222	P	Pn	15 07 52.2	-2.8
PRWZ	Pori Road	4.04	219	P	Pn	15 07 52.4	-2.7
WAZ	Wanganui	4.09	235	P	Pn	15 07 55.4	-0.6
CPWZ	Castlepoint	4.21	214	P	Pn	15 07 54.2	-3.3
TIWZ	Tintock	4.25	218	P	Pn	15 07 55.1	-3.0
WCZ	Waipu Caves	4.29	289	P	Pn	15 07 58.3	-0.2
MRZ	Mangatainoka R	4.32	221	P	Pn	15 07 55.4	-3.7
HOWZ	Holdsworth Sta	4.53	220	P	Pn	15 07 58.2	-3.7
PKE	Pukeiti	4.54	246	P	Pn	15 08 02.8	+0.8
OGWZ	Otaki Gorge	4.65	223	P	Pn	15 08 00.0	-3.5
KIW	Kapiti Island	4.82	224	P	Pn	15 08 02.3	-3.6
OUZ	Omahuta	5.14	294	P	Pn	15 08 09.4	-0.9
DUWZ	D'Urville Isla	5.36	230	P	Pn	15 08 09.9	-3.4
CTZ	Chatham Island	6.98	155	P	Pn	15 08 34.2	-1.3

ROM 25 15:07:26.0±0.3, **39°.226N**±0°.008×**16°.96E**±0°.01, **h26**km±1km, **Md1.5**/2, **Error ellipse: s-maj=1.0km s-min=0.9km az=113.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	San Nicola del	0.06	18	P	Pb	15 07 30.4	-0.2
LADO				S	Sb	15 07 34.0	+0.3
LADO				END			
TIP	Timpagrande	0.16	253	P	Pb	15 07 31.4	-0.1
TIP				S	Sb	15 07 35.2	+0.1
TIP				END			
PIPA	Pietrapaola	0.28	337	P	Pb	15 07 33.2	+0.3
PIPA				S	Sb	15 07 38.3	+0.8
SERS	Sersale	0.28	228	P	Pb	15 07 33.0	+0.1
SERS				S	Sb	15 07 38.5	+0.8
CELI	Celico	0.39	297	P	Pb	15 07 34.6	0.0
CELI				S	Sb	15 07 40.7	+0.3

*ISCJB **25** 15:10:10.1±0.2, 37°.94N±0°.02×22°.08E±0°.02, h78km±2km, mb3.7/11, Error ellipse: s-maj=3.0km s-min=2.3km az=42.2*
*ATH **25** 15:10:10.8, 37°.93N×22°.15E, h66km±1km, ML3.7/34, Error ellipse: s-maj=1.6km s-min=0.7km az=297.0*
*NEIC **25** 15:10:11.5±2.2, 37°.90N±0°.07×22°.01E±0°.08, h69km±7km, mb4.4/6*
*THE **25** 15:10:11.9, 37°.93N×22°.16E, h64km±1km, ML3.8/23, Error ellipse: s-maj=1.8km s-min=0.7km az=292.0*
*IDC **25** 15:10:11.1±2.1, 37°.84N×22°.02E, h62km±21km, mb3.6/12, mb1 3.8/17, mb1mx3.6/40, mbtmp3.9/17, Error ellipse: s-maj=16.3km s-min=13.9km az=110.0*
*BEO **25** 15:10:12.8±0.7, 38°.16N×21°.50E, h3km±4km, ML3.5/13*
*HLW **25** 15:10:16.8, 37°.42N×22°.77E, h30km±48km, Md4.5, Ml4.4*
ISC 25 15:10:11.4±0.6, **37°.95N**±0°.03×**22°.05E**±0°.03, **h72**km±4km, **n195,** σ1§**63/259, mb4.1/13, 10C-9D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	Kalavryta, Ach	0.12	39	P	Pn	15 10 20.7	-1.4
KLV				S	Sn	15 10 28.2	-1.8
	6μm,0.6s						
KLV	Kalavryta, Ach	0.12	39	P	Pn	15 10 20.8	-1.4
KLV				S	Sn	15 10 28.0	-2.0
KLV				AML	AML	15 10 28.5	
	comp=E,12256μm,0.5s						
KLV				AML	AML	15 10 28.7	
	comp=N,11896μm,0.6s						
DRO	Drossia	0.27	271	P	Pn	15 10 22.1	-0.6
DRO				S	Sn	15 10 30.8	-0.2
DRO	Drossia	0.27	271	P	Pn	15 10 22.1	-0.6
DRO				S	Sn	15 10 30.8	-0.2
DRO				AML	AML	15 10 33.7	
	comp=N,24530μm,0.7s						
DRO				AML	AML	15 10 34.9	
	comp=E,30030μm,0.3s						
LAKA	Lakka	0.30	348	P	Pn	15 10 22.2	-0.7
LAKA				S	Sn	15 10 30.8	-0.5
	comp=E,5μm,0.5s						
LAKA	Lakka	0.30	348	P	Pn	15 10 22.2	-0.7
LAKA				S	Sn	15 10 30.5	-0.8
LAKA				AML	AML	15 10 31.9	
	comp=N,11696μm,0.6s						
LAKA				AML	AML	15 10 32.2	
	comp=E,9819μm,0.5s						
UPR	University Cam	0.40	328	P	Pn	15 10 23.8	+0.2
UPR				S	Sn	15 10 33.6	+1.1
UPR	University Cam	0.40	328	P	Pn	15 10 23.8	+0.2
TRIZ	Trizonia	0.42	2	P	Pn	15 10 23.2	-0.5
TRIZ				S	Sn	15 10 31.5	-1.3
	comp=E,5μm,0.4s						
TRIZ	Trizonia	0.42	2	P	Pn	15 10 23.3	-0.5
TRIZ				S	Sn	15 10 32.4	-0.4
KALE	Kalithea	0.45	9	P	Pn	15 10 23.6	-0.5
KALE				S	Sn	15 10 32.2	-1.2
	comp=E,7μm,0.5s						
KALE	Kalithea	0.45	9	P	Pn	15 10 23.6	-0.5
KALE				S	Sn	15 10 32.0	-1.4
KALE				AML	AML	15 10 32.9	
	comp=E,12624μm,0.7s						
KALE				AML	AML	15 10 33.9	
	comp=N,18200μm,0.3s						
SERG	Sergoula	0.46	0	P	Pn	15 10 23.8	-0.4
SERG	Sergoula	0.46	0	P	Pn	15 10 23.8	-0.4
SERG				S	Sn	15 10 32.9	-0.7
SERG				AML	AML	15 10 33.6	
	comp=N,7204μm,0.3s						
SERG				AML	AML	15 10 34.2	
	comp=E,9740μm,0.3s						
RLS	Riolos of Patr	0.48	283	P	Pn	15 10 24.2	0.0
RLS				S	Sn	15 10 35.6	+1.9
	comp=E,5μm,0.5s						
RLS	Riolos of Patr	0.48	283	P	Pn	15 10 24.2	0.0
RLS				AML	AML	15 10 37.5	
	comp=E,9933μm,0.5s						
RLS				AML	AML	15 10 39.5	
	comp=N,10675μm,0.4s						
EFP	Efpalio	0.49	346	P	Pn	15 10 24.1	-0.3
EFP				S	Sn	15 10 35.2	+1.3
	comp=N,4μm,0.6s						
EFP	Efpalio	0.49	346	P	Pn	15 10 24.1	-0.3
EFP				S	Sn	15 10 34.2	+0.3
EFP				AML	AML	15 10 37.2	
	comp=N,8252μm,0.5s						
EFP

EVR			S	Sn	15 10 45.4	+1.6
	comp=E,3μm,0.4s					
EVR	**Evrytania**	**0.99 349**	P	**Pn**	**15 10 30.8**	**+0.9**
EVR			AML	AML	15 10 51.6	
	comp=E,6330μm,0.4s					
EVR			AML	AML	15 10 52.4	
	comp=N,5227μm,0.6s					
VIL2	**Platees**	**0.99 74**	P	**Pn**	**15 10 29.3**	**-0.7**
VIL2			S	**Sn**	**15 10 42.5**	**-1.3**
VIL2			AML	AML	15 10 43.8	
	comp=N,9586μm,0.4s					
VIL2			AML	AML	15 10 47.6	
	comp=E,11100μm,0.6s					
KFL	**Anninata**	**1.01 280**	P	**Pn**	**15 10 30.8**	**+0.6**
KFL			S	**Sn**	**15 10 45.3**	**+1.1**
	comp=E,3μm,0.4s					
KFL	**Anninata**	**1.01 280**	P	**Pn**	**15 10 30.8**	**+0.6**
KFL			AML	AML	15 10 52.5	
	comp=N,6601μm,0.5s					
KFL			AML	AML	15 10 53.2	
	comp=E,5171μm,0.4s					
VILL	**Villia**	**1.02 77**	P	**Pn**	**15 10 29.0**	**-1.3**
LKR	**Lokris**	**1.02 46**	P	**Pn**	**15 10 29.6**	**-0.7**
LKR			S	**Sn**	**15 10 43.4**	**-1.0**
LKR			AML	AML	15 10 47.3	
	comp=E,5652μm,0.2s					
LKR			AML	AML	15 10 48.8	
	comp=N,3638μm,0.2s					
DID	**Didima**	**1.04 115**	P	**Pn**	**15 10 29.3**	**-1.3**
DID			S	**Sn**	**15 10 43.7**	**-1.1**
	comp=N,8μm,0.3s					
DID	**Didima**	**1.04 115**	P	**Pn**	**15 10 29.2**	**-1.3**
DID			S	**Sn**	**15 10 43.1**	**-1.7**
DID			AML	AML	15 10 47.9	
	comp=E,17217μm,0.3s					
DID			AML	AML	15 10 48.8	
	comp=N,14314μm,0.3s					
KRND	**KRANIDI**	**1.04 123**	P	**Pn**	**15 10 29.4**	**-1.1**
KRND			S	**Sn**	**15 10 43.5**	**-1.2**
	comp=N,7μm,0.3s					
KRND	**KRANIDI**	**1.04 123**	P	**Pn**	**15 10 29.5**	**-0.9**
KRND			S	**Sn**	**15 10 42.7**	**-2.0**
KRND			AML	AML	15 10 47.2	
	comp=N,16154μm,0.3s					
KRND			AML	AML	15 10 47.4	
	comp=E,12252μm,0.3s					
MAKR	**Makrakomi, Fth**	**1.06 3**	P	**Pn**	**15 10 31.8**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.06 3**	P	**Pn**	**15 10 31.7**	**+0.9**
MAKR			AML	AML	15 10 51.5	
	comp=N,5179μm,0.5s					
MAKR			AML	AML	15 10 52.6	
	comp=E,5183μm,0.6s					
PYL	**PYLOS**	**1.08 193**	P	**Pn**	**15 10 30.7**	**-0.3**
PYL			S	**Sn**	**15 10 45.5**	**-0.2**
PYL	**PYLOS**	**1.08 193**	P	**Pn**	**15 10 30.7**	**-0.3**
AGG	**Agios Georgios**	**1.09 11**	P	**Pn**	**15 10 31.3**	**0.0**
AGG	**Agios Georgios**	**1.09 11**	P	**Pn**	**15 10 31.3**	**0.0**
AGG			AML	AML	15 10 52.7	
	comp=E,3584μm,0.4s					
AGG			AML	AML	15 10 53.0	
	comp=N,3053μm,0.4s					
AGG	**Agios Georgios**	**1.09 11**		**Pn**	**15 10 31.1**	**-0.1**
VLMS	**Volimes, Zakyn**	**1.10 267**	P	**Pn**	**15 10 32.0**	**+0.6**
VLMS			AML	AML	15 10 56.4	
	comp=N,7023μm,0.4s					
VLMS			AML	AML	15 10 59.0	
	comp=E,7833μm,0.3s					
VLS	**Valsamata**	**1.18 282**	P	**Pn**	**15 10 32.6**	**+0.3**
VLS	**Valsamata**	**1.18 282**	P	**Pn**	**15 10 32.6**	**+0.3**
VLS			AML	AML	15 10 53.6	
	comp=E,3263μm,0.5s					
VLS			AML	AML	15 10 58.2	
	comp=N,3518μm,0.4s					
MGNA	**Meganis**	**1.22 306**	P	**Pn**	**15 10 33.5**	**+0.7**
MGNA			AML	AML	15 10 55.4	
	comp=E,2207μm,0.5s					
MGNA			AML	AML	15 10 58.8	
	comp=N,1538μm,0.5s					
YDRA	**Hydra**	**1.27 118**	P	**Pn**	**15 10 32.7**	**-0.7**
FSK	**Fiskardo**	**1.28 294**	P	**Pn**	**15 10 34.5**	**+0.9**
EVGI	**Lefkada island**	**1.29 302**	P	**Pn**	**15 10 34.0**	**+0.3**
EVGI	**Lefkada island**	**1.29 302**	P	**Pn**	**15 10 34.2**	**+0.5**
ATH	**Athens Observa**	**1.31 88**	P	**Pn**	**15 10 33.2**	**-0.8**
ATH			S	**Sn**	**15 10 49.4**	**-1.6**
	comp=N,7μm,0.3s					
ATH	**Athens Observa**	**1.31 88**	P	**Pn**	**15 10 33.2**	**-0.8**
ATH			S	**Sn**	**15 10 49.3**	**-1.6**
ATH			AML	AML	15 10 53.0	
	comp=E,15604μm,0.3s					
ATH			AML	AML	15 10 54.1	
	comp=N,12331μm,0.3s					
ATHU	**Athens Univers**	**1.37 89**	P	**Pn**	**15 10 33.8**	**-0.9**
ATHU			S	**Sn**	**15 10 50.5**	**-1.8**
	comp=N,2μm,0.3s					
ATHU	**Athens Univers**	**1.37 89**	P	**Pn**	**15 10 33.8**	**-0.9**
VLY	**Voula,Athens**	**1.38 93**	P	**Pn**	**15 10 33.8**	**-1.1**
VLY	**Voula,Athens**	**1.38 93**	P	**Pn**	**15 10 33.9**	**-1.0**
VLI	**Veliai**	**1.42 150**	P	**Pn**	**15 10 34.7**	**-0.7**
VLI			S	**Sn**	**15 10 51.8**	**-1.6**
	comp=N,3μm,0.4s					
VLI	**Veliai**	**1.42 150**	P	**Pn**	**15 10 34.7**	**-0.7**
VLI			S	**Sn**	**15 10 52.6**	**-0.7**
VLI			AML	AML	15 10 53.8	
	comp=E,6115μm,0.5s					
VLI			AML	AML	15 10 54.9	
	comp=N,3703μm,0.4s					
MRKA	**Markates**	**1.42 57**	P	**Pn**	**15 10 35.0**	**-0.5**
MRKA			S	**Sn**	**15 10 52.8**	**-0.8**
	comp=N,3μm,0.5s					
MRKA	**Markates**	**1.42 57**	P	**Pn**	**15 10 34.9**	**-0.5**
PTL	**Penteli**	**1.43 85**	P	**Pn**	**15 10 34.8**	**-0.8**
PTL			S	**Sn**	**15 10 51.1**	**-2.7**
	comp=N,3μm,0.3s					
PTL	**Penteli**	**1.43 85**	P	**Pn**	**15 10 34.8**	**-0.8**
PTL			AML	AML	15 10 53.3	
	comp=E,6827μm,0.4s					
PTL			AML	AML	15 10 53.4	
	comp=N,6452μm,0.4s					
MNVA	**Monemvasia**	**1.48 148**	P	**Pn**	**15 10 35.5**	**-0.7**
MNVA			AML	AML	15 11 00.9	
	comp=E,2855μm,0.4s					
MNVA			AML	AML	15 11 01.5	
	comp=N,2250μm,0.4s					
EREA	**Eretria**	**1.55 72**	P	**Pn**	**15 10 36.8**	**-0.4**
THL	**Klokotos Trika**	**1.61 359**	P	**Pn**	**15 10 38.6**	**+0.6**
NEO	**Neokhori**	**1.64 34**	P	**Pn**	**15 10 38.1**	**-0.2**
NEO			AML	AML	15 11 03.4	
	comp=E,3676μm,0.3s					
NEO			AML	AML	15 11 03.9	
	comp=N,6535μm,0.3s					
SKIA	**Skiathos**	**1.64 42**	P	**Pn**	**15 10 38.3**	**-0.1**
SKIA			AML	AML	15 10 58.2	
	comp=E,1664μm,0.5s					
SKIA			AML	AML	15 11 00.3	
	comp=N,971μm,0.3s					
ALNA	**Alonissos**	**1.86 49**	P	**Pn**	**15 10 40.9**	**-0.3**
KTHA	**Kythira Island**	**1.87 154**	P	**Pn**	**15 10 41.4**	**0.0**
AOS	**Alonnisos**	**1.88 49**	P	**Pn**	**15 10 41.1**	**-0.4**
KARY	**Karystos**	**1.88 87**	P	**Pn**	**15 10 41.1**	**-0.5**
JAN	**Janina**	**1.95 332**	P	**Pn**	**15 10 44.2**	**+1.7**
IGT	**Igoumenitsa**	**2.08 320**	*e*Pn	**Pn**	**15 10 43.6**	**-0.6**
IGT			*e*Sn	**Sn**	**15 11 04.3**	**-4.8**
SERI	**Serifos**	**2.09 111**	P	**Pn**	**15 10 43.4**	**-0.9**
SERI			AML	AML	15 11 09.9	
	comp=E,2384μm,0.4s					
SERI			AML	AML	15 11 10.0	
	comp=N,3081μm,0.2s					
LIT	**Litokhoron**	**2.18 9**		**Pn**	**15 10 45.9**	**+0.4**
TNSA	**Tinos**	**2.50 98**	P	**Pn**	**15 10 49.8**	**0.0**
FNA	**Florina**	**2.88 350**	*e*Pn	**Pn**	**15 10 56.6**	**+1.5**
FNA			*e*Sn	**Sn**	**15 11 29.4**	**+0.8**
FNA	**Florina**	**2.88 350**		**Pn**	**15 10 55.5**	**+0.4**
APE	**Apeiranthos**	**2.90 107**	⇑P	**Pn**	**15 10 54.7**	**-0.6**
APE			⇑S	**Sn**	**15 11 28.0**	**-1.1**
APE			AML	AML	15 11 29.8	
SANT	**Santorini**	**3.14 119**	⇑P	**Pn**	**15 10 58.1**	**-0.6**
SANT			⇑S	**Sn**	**15 11 35.1**	**0.0**
SANT	**Santorini**	**3.14 119**		**Pn**	**15 10 58.7**	**+0.1**
VAY	**Valandovo**	**3.39 7**	*e*Pn	**Pn**	**15 11 05.3**	**+3.3**
VAY			*e*Sn	**Sn**	**15 11 43.5**	**+2.5**
VAY	**Valandovo**	**3.39 7**	*i* Pn	**Pn**	**15 11 03.4**	**+1.4**
SCTE	**Santa Cesarea**	**3.51 308**	Pn	**Pn**	**15 11 02.5**	**-1.1**
TIR	**Tirane**	**3.79 334**	*e*Pn	**Pn**	**15 11 07.0**	**-0.5**
TIR			*e*Sn	**Sn**	**15 11 48.5**	**-2.3**
TIR	**Tirane**	**3.79 334**	⇓P	**Pn**	**15 11 07.4**	**0.0**
TIR			AML	AML	15 12 35.9	
TIR	**Tirane**	**3.79 334**	Pn	**Pn**	**15 11 06.9**	**-0.5**
EZN	**Ezine**	**3.82 59**	⇓P	**Pn**	**15 11 08.0**	**+0.2**
SKO	**Skopje**	**4.05 353**	*e*Pn	**Pn**	**15 11 12.7**	**+1.8**
SKO			*e*Sn	**Sn**	**15 11 56.9**	**-0.1**
ALN	**Alexandroupoli**	**4.27 45**		**Pn**	**15 11 14.1**	**+0.2**
TIP	**Timpagrande**	**4.33 288**	⇑P	**Pn**	**15 11 14.9**	**+0.1**
TIP			AML	AML	15 12 05.0	
TIP	**Timpagrande**	**4.33 288**		**Pn**	**15 11 14.5**	**-0.3**
MASS	**Massafra**	**4.66 307**	⇓*i*P	**Pn**	**15 11 18.5**	**-0.7**
MASS			(S)	**Sn**	**15 12 08.5**	**-3.5**
KARP	**Karpathos**	**4.75 119**		**Pn**	**15 11 21.4**	**+0.8**
VTS	**Vitosha**	**4.75 11**	*e*Pn	**Pn**	**15 11 22.9**	**+2.3**
VTS			*e*Sn	**Sn**	**15 12 15.7**	**+1.2**
VTS	**Vitosha**	**4.75 11**	⇓P	**Pn**	**15 11 21.9**	**+1.2**
VTS			AML	AML	15 12 28.6	
VTS	**Vitosha**	**4.75 11**		**Pn**	**15 11 21.5**	**+0.9**
DRME	**Dracevica, Mon**	**4.77 333**	*e*Pn	**Pn**	**15 11 20.1**	**-0.7**
BARS	**Barje**	**4.87 358**	*e*Pn	**Pn**	**15 11 24.0**	**+1.9**
BARS			*e*Sg	Sn	15 12 40.9	+24
MATE	**Matera**	**4.95 305**	⇑P	**Pn**	**15 11 22.8**	**-0.3**
MATE			AML	AML	15 12 38.9	
PDG	**Podgorica**	**4.96 335**	*e*Pn	**Pn**	**15 11 23.3**	**-0.1**
PDG			*e*Sn	**Sn**	**15 12 15.5**	**-3.9**
PDG	**Podgorica**	**4.96 335**	*e*Pn	**Pn**	**15 11 24.2**	**+0.9**
PDG	**Podgorica**	**4.96 335**	⇑P	**Pn**	**15 11 24.3**	**+0.9**
PDG			AML	AML	15 12 23.2	
SG1	**Sgolgore (BA)**	**5.07 306**	*e*P	**Pn**	**15 11 24.3**	**-0.5**
SG1			S	**Sn**	**15 12 17.2**	**-4.8**
HCY	**Herceg Novi**	**5.25 330**	*e*Pn	**Pn**	**15 11 26.1**	**-1.3**
SELS	**Selova**	**5.31 353**	*e*Pn	**Pn**	**15 11 29.9**	**+1.7**
ZAPS	**Zavoj**	**5.34 5**	*e*Pn	**Pn**	**15 11 30.2**	**+1.6**
ACER	**Acerenza**	**5.52 303**		**Pn**	**15 11 30.8**	**-0.3**
SJES	**Sjenica**	**5.54 344**	*e*Pn	**Pn**	**15 11 30.6**	**-0.8**
SJES			*e*Sn	**Sn**	**15 12 29.8**	**-3.9**
TREB	**Trebinje**	**5.54 330**	*e*Pn	**Pn**	**15 11 29.8**	**-1.5**
TREB			*e*Sn	**Sn**	**15 12 28.3**	**-5.3**
TREB	**Trebinje**	**5.54 330**	*e*Pn	**Pn**	**15 11 29.7**	**-1.5**
DBRK	**Dubrovnik**	**5.58 329**	*e*Pn	**Pn**	**15 11 30.0**	**-1.9**
DBRK			Sn	**Sn**	**15 12 30.1**	**-4.5**
BRY	**Bratogost**	**5.63 333**	*e*Pn	**Pn**	**15 11 31.8**	**-0.8**
BOVS	**Bovan**	**5.69 357**	*e*Pn	**Pn**	**15 11 34.9**	**+1.6**
BOVS			*e*Sn	**Sn**	**15 12 36.9**	**-0.2**
ELND	**Elena**	**5.76 29**	⇓P	**Pn**	**15 11 35.2**	**+0.8**
IVAS	**Ivanjica**	**5.80 346**	*e*Pn	**Pn**	**15 11 34.6**	**-0.3**
IVAS			*e*Sn	**Sn**	**15 12 37.1**	**-3.0**
ZAGS	**Zajecar**	**5.86 1**	*e*Pn	**Pn**	**15 11 37.2**	**+1.6**
STON	**Ston**	**5.93 327**	*e*Pn	**Pn**	**15 11 33.8**	**-2.8**
GRUS	**Gruza**	**6.02 351**	*e*Pn	**Pn**	**15 11 38.4**	**+0.6**
RAFF	**Raffo Rosso**	**6.15 266**	Pn	**Pn**	**15 11 38.0**	**-1.7**
SGRT	**San Giovanni R**	**6.17 310**	Pn	**Pn**	**15 11 38.8**	**-1.1**
BBLS	**Lazići**	**6.24 342**	*e*Pn	**Pn**	**15 11 39.9**	**-1.0**
BBLS			*e*Sn	**Sn**	**15 12 46.8**	**-4.1**
BBLS	**Lazići**	**6.24 342**	*e*Pn	**Pn**	**15 11 40.1**	**-0.8**
DIVS	**Divibare**	**6.34 346**	*e*Pn	**Pn**	**15 11 42.1**	**-0.2**
DIVS			*e*Sn	**Sn**	**15 12 49.3**	**-3.9**
DIVS	**Divibare**	**6.34 346**	*e*Pn	**Pn**	**15 11 41.9**	**-0.4**
ELL	**Elmali**	**6.37 98**		**Pn**	**15 11 45.4**	**+2.6**
TRUS	**Trudelj**	**6.39 349**	*e*Pn	**Pn**	**15 11 43.1**	**+0.2**
PAOL	**Paolisi**	**6.56 300**	Pn	**Pn**	**15 11 46.3**	**+1.1**
HAPS	**Han Pijesak,BI**	**6.56 340**	*e*Pn	**Pn**	**15 11 43.2**	**-2.2**
MAKA	**Makarska**	**6.56 326**	*e*Pn	**Pn**	**15 11 42.9**	**-2.3**
MDVR	**Moldovita**	**6.83 358**	⇑P	**Pn**	**15 11 49.6**	**+0.7**
CORL	**Corleone**	**6.92 272**	Pn	**Pn**	**15 11 50.1**	**-0.1**
HERR	**Herculane**	**6.93 2**	⇑P	**Pn**	**15 11 50.5**	**+0.2**
SLUM	**Salum**	**6.95 157**	P	**Pn**	**15 11 48.3**	**-2.2**
	baz=160					
SLUM			S	Sn	15 12 53.1	-15
	baz=160					
SLUM			AMP		15 13 00.0	
	baz=160					
CLTB	**Caltabellotta**	**7.01 270**	Pn	**Pn**	**15 11 52.0**	**+0.5**
FRGS	**Fruska Gora**	**7.40 348**	*e*Pn	**Pn**	**15 11 56.0**	**-0.7**
INTR	**Introdacqua**	**7.46 306**	Pn	**Pn**	**15 11 58.5**	**+0.9**
ZIRJ	**Zirje**	**7.49 322**	Sn	**Sn**	**15 13 13.7**	**-7.5**
BZS	**Buzias**	**7.67 358**	⇓P	**Pn**	**15 12 01.0**	**+0.7**
BLY	**Banja Luka**	**7.72 333**	*e*Pn	**Pn**	**15 11 57.7**	**-3.3**
BLY	**Banja Luka**	**7.72 333**	⇓P	**Pn**	**15 12 01.2**	**+0.2**
VOIR		**7.81 16**	⇑P	**Pn**	**15 12 03.8**	**+1.4**
MATC	**Matruh**	**7.84 146**	P	**Pn**	**15 11 59.9**	**-2.9**
	baz=147					
MATC			AMP		15 13 00.0	
	baz=147					
DUGI	**Dugi Otok**	**8.03 321**	*e*Pn	**Pn**	**15 12 03.6**	**-1.6**
MLR	**Muntele Rosu**	**8.08 20**	P	**Pn**	**15 12 08.9**	**+2.8**
	comp=N,0.4nm,0.3s,baz=176,slow=16,SNR=4.0					
MLR	**Muntele Rosu**	**8.08 20**	⇓P	**Pn**	**15 12 06.8**	**+0.8**
MLR	**Muntele Rosu**	**8.08 20**	Pn	**Pn**	**15 12 07.7**	**+1.6**
UDBI	**Udbina**	**8.10 326**	*e*Pn	**Pn**	**15 12 05.1**	**-1.2**
NRCA	**Norcia**	**8.38 308**	Pn	**Pn**	**15 12 10.5**	**+0.3**
DOPR	**Dopca**	**8.39 16**	⇓P	**Pn**	**15 12 11.1**	**+1.0**
NVLJ	**Novalja**	**8.54 323**	*e*Pn	**Pn**	**15 12 10.3**	**-1.8**
NVLJ			Sn	**Sn**	**15 13 39.6**	**-7.3**
MURB	**Monte Urbino**	**8.98 309**	Pn	**Pn**	**15 12 18.2**	**-0.1**
SWA2		**9.13 161**	P	**Pn**	**15 12 16.5**	**-3.9**
	baz=163					
SWA2			AMP		15 13 00.0	
	baz=163					
SWA2			S	Sn	15 13 46.1	-15
	baz=163					
BR131	**Keskin Array S**	**9.21 75**		**Pn**	**15 12 23.0**	**+1.4**
BRTR	**Keskin Array B**	**9.21 75**	P	**Pn**	**15 12 23.9**	**+2.3**
	comp=N,0.9nm,0.3s,baz=256,slow=13,SNR=26					
BRTR	**Keskin Array B**	**9.21 75**		**Pn**	**15 12 23.5**	**+1.9**
CRES	**Cresnjev**	**9.28 330**	*e*Pn	**Pn**	**15 12 19.7**	**-2.6**
CEY	**Cerknica**	**9.64 326**	*e*Pn	**Pn**	**15 12 25.4**	**-1.9**
HNAT	**Natroun**	**10.93 137**	P	**Pn**	**15 12 41.6**	**-3.3**
	baz=137					
HNAT			AMP		15 14 00.0	
	baz=137					
MMAI	**Mount Meron Ar**	**11.94 110**	P	**Pn**	**15 12 56.8**	**-1.9**
	comp=N,2.5nm,0.3s,baz=328,slow=16,SNR=5.1					
SUZ	**Suez**	**12.06 129**	P	**Pn**	**15 12 57.7**	**-2.7**
	baz=129					
NBNS	**Bani Suef**	**12.09 138**	P	**Pn**	**15 12 57.6**	**-3.1**
	baz=138					
GERES	**GERESS Array B**	**12.46 334**	P	**Pn**	**15 13 05.6**	**-0.2**
	comp=N,0.2nm,0.3s,baz=154,slow=14,SNR=3.1					
EIL	**Elat**	**13.52 124**	P	**Pn**	**15 13 18.4**	**-1.7**
	comp=N,0.6nm,0.3s,baz=204,slow=0.7,SNR=7.9					
EIL			S	Sn	15 15 36.9	-12
	comp=N,0.9nm,0.3s,baz=190,slow=18,SNR=5.0					
ESDC	**Sonseca Array**	**20.33 283**	P	**P**	**15 14 42.4**	**+0.7**
	comp=N,1.5nm,0.7s,baz=85,slow=12,SNR=7.0					
ESDC	**Sonseca Array**	**20.33 283**	IAmb	IAmb	15 14 42.9	
	comp=Z,1.9nm,1.2s					
HFS	**Hagfors**	**22.83 349**	P	**P**	**15 15 08.1**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=160,slow=18,SNR=4.5					
NOA	**NORSAR Array B**	**24.10 347**	P	**P**	**15 15 21.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=153,slow=9.6,SNR=2.7					
EKA	**Eskdalemuir Ar**	**24.32 324**	P	**P**	**15 15 23.3**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=128,slow=9.1,SNR=5.5					
TORD	**Torodi Ar. Bea**	**30.64 222**	P	**P**	**15 16 19.3**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=34,slow=9.4,SNR=12					
TORD	**Torodi Ar. Bea**	**30.64 222**	IAmb	IAmb	15 16 20.1	
	comp=Z,0.8nm,0.8s					
ARCES	**ARCESS Array B**	**31.70 2**	P	**P**	**15 16 29.7**	**+2.0**
	comp=Z,3.5nm,0.9s,baz=178,slow=9.9,SNR=3.7					
DBIC	**Dimbokro**	**39.56 225**	P	**P**	**15 17 35.1**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=10.0,slow=11,SNR=4.0					
MK31	**Makanchi Array**	**44.39 58**	P	**P**	**15 18 14.1**	**-0.6**
MK31			IAmb	IAmb	15 18 18.6	
	comp=Z,14nm,2.0s					
MKAR	**Makanchi Array**	**44.39 58**	P	**P**	**15 18 14.8**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=271,slow=7.0,SNR=25					
ZAA0	**Zalesovo Array**	**44.94 48**	P	**P**	**15 18 20.4**	**+1.5**
ZAA0			IAmb	IAmb	15 18 23.1	
	comp=Z,4.2nm,0.8s					
ZALV	**Zalesovo Beam**	**44.94 48**	P	**P**	**15 18 21.1**	**+2.2**
	comp=Z,3.1nm,0.5s,baz=274,slow=9.3,SNR=12					
ZALV	**Zalesovo Beam**	**44.94 48**	P	**P**	**15 18 19.8**	**+0.9**
BOSA	**Boshof**	**66.28 177**	P	**P**	**15 20 52.2**	**+0.1**
	comp=Z,3.3nm,1.0s,baz=10.0,slow=5.9,SNR=3.4					
USRK	**Ussuriysk Ar.**	**76.61 44**	P	**P**	**15 21 55.9**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=138,slow=6.7,SNR=2.6					
ILAR	**Eielson Array**	**77.25 355**	P	**P**	**15 21 58.9**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=335,slow=3.0,SNR=3.6					
ASAR	**Alice Springs**	**120.94 97**	PKP	**PKPdf**	**15 28 55.5**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=305,slow=1.9,SNR=4.5					

*ISCJB **25** 15:21:19.8±0.5, 40°.18N±0°.03×20°.68E±0°.03, h7km±7km,*

Error ellipse: s-maj=5.5km s-min=3.6km az=149.5
*THE **25** 15:21:19.8, 40°.18N×20°.68E, h13km±6km, ML2.4/9, Error ellipse: s-maj=6.1km s-min=0.6km az=78.0*
*ATH **25** 15:21:19.4, 40°.17N×20°.68E, h14km±4km, ML2.4/7, Error ellipse: s-maj=4.5km s-min=1.0km az=87.0*
*TIR **25** 15:21:19.6, 40°.17N×20°.77E, h5km, Md2.8/5*

ISC 25 15:21:19.9±0.9, 40°.16N±0°.02×20.70E±0°.02, h14km±8km, n28, σ0.96/46, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENT	**Pentalofos**	**0.34**	**83**	P	**Pg**	**15 21 26.4**	**-0.5**
PENT				S	**Sg**	**15 21 32.1**	**+0.4**
935nm,0.5s							
PENT	**Pentalofos**	**0.34**	**83**	P	**Pg**	**15 21 26.4**	**-0.5**
PENT				S	**Sg**	**15 21 32.0**	**+0.3**
NEST	**Nestorio**	**0.37**	**46**	P	**Pg**	**15 21 27.1**	**-0.4**
NEST				S	**Sb**	**15 21 33.6**	**-0.4**
1μm,0.6s							
NEST	**Nestorio**	**0.37**	**46**	P	**Pg**	**15 21 27.2**	**-0.4**
NEST				S	**Sg**	**15 21 32.3**	**-0.3**
NEST				AML	AML	15 21 34.1	
comp=E,1991μm,0.6s							
NEST				AML	AML	15 21 34.6	
comp=N,2893μm,0.4s							
JAN	**Janina**	**0.51**	**167**	P	**Pg**	**15 21 30.2**	**+0.2**
JAN				S	**Sb**	**15 21 38.4**	**+0.4**
comp=N,445nm,0.5s							
JAN	**Janina**	**0.51**	**167**	P	**Pg**	**15 21 30.1**	**+0.2**
JAN				S	**Sg**	**15 21 37.5**	**+0.6**
JAN				AML	AML	15 21 44.8	
comp=E,1000μm,0.8s							
JAN				AML	AML	15 21 44.9	
comp=N,666μm,0.4s							
TPE	**Tepelena**	**0.54**	**285**	P	**Pg**	**15 21 29.6**	**-1.0**
TPE				S	**Sb**	**15 21 37.8**	**-1.0**
comp=N,680nm,0.9s							
TPE	**Tepelena**	**0.54**	**285**	*i* PG	**Pb**	**15 21 30.6**	**-0.6**
TPE				*i* SG	**Sn**	**15 21 41.1**	**-1.0**
KPRO	**Kipourio**	**0.55**	**111**	P	**Pg**	**15 21 30.0**	**-0.7**
KPRO				S	**Sb**	**15 21 40.0**	**+0.9**
comp=N,445nm,1.1s							
KPRO	**Kipourio**	**0.55**	**111**	P	**Pg**	**15 21 29.9**	**-0.8**
KPRO				AML	AML	15 21 48.7	
comp=N,567μm,0.4s							
KPRO				AML	AML	15 21 51.4	
comp=E,1072μm,0.6s							
SRN	**Sarande**	**0.60**	**243**	P	**Pg**	**15 21 31.4**	**-0.3**
SRN	**Sarande**	**0.60**	**243**	*i* PG	**Pb**	**15 21 32.4**	**+0.2**
SRN				*i* SG	**Sn**	**15 21 44.4**	**+0.9**
IGT	**Igoumenitsa**	**0.68**	**204**	P	**Pb**	**15 21 33.5**	**-0.1**
IGT				S	**Sb**	**15 21 42.9**	**+0.1**
comp=E,228nm,0.5s							
IGT	**Igoumenitsa**	**0.68**	**204**	*i* PG	**Pn**	**15 21 34.4**	**-0.7**
IGT				*i* SG	**Sn**	**15 21 46.6**	**+1.1**
IGT	**Igoumenitsa**	**0.68**	**204**	P	**Pg**	**15 21 32.6**	**-0.6**
IGT				AML	AML	15 21 49.4	
comp=N,407μm,0.5s							
IGT				AML	AML	15 21 49.5	
comp=E,501μm,0.5s							
FNA	**Florina**	**0.81**	**39**	P	**Pg**	**15 21 34.2**	**-1.5**
FNA				S	**Sb**	**15 21 47.0**	**+0.3**
comp=E,468nm,0.5s							
FNA	**Florina**	**0.81**	**39**	*i* PG	**Pg**	**15 21 34.7**	**-1.0**
FNA				*i* SG	**Sb**	**15 21 46.6**	**-0.1**
FNA	**Florina**	**0.81**	**39**	P	**Pg**	**15 21 34.2**	**-1.5**
FNA				S	**Sb**	**15 21 46.5**	**-0.1**
FNA				AML	AML	15 21 47.9	
comp=E,986μm,0.6s							
FNA				AML	AML	15 21 50.2	
comp=N,896μm,0.3s							
KEK	**Kerkira**	**0.82**	**238**	P	**Pb**	**15 21 35.7**	**-0.2**
KEK				S	**Sn**	**15 21 48.0**	**-0.9**
comp=N,158nm,0.9s							
KEK	**Kerkira**	**0.82**	**238**	P	**Pg**	**15 21 35.0**	**-0.8**
KZN	**Kozani**	**0.84**	**79**	P	**Pg**	**15 21 35.5**	**-0.6**
KZN				S	**Sn**	**15 21 48.9**	**-0.5**
comp=N,298nm,0.4s							
KZN	**Kozani**	**0.84**	**79**	P	**Pg**	**15 21 35.0**	**-1.1**
KZN				AML	AML	15 21 52.0	
comp=E,666μm,0.4s							
KZN				AML	AML	15 21 52.6	
comp=N,503μm,0.5s							
THL	**Klokotos Trika**	**1.17**	**120**	P	**Pn**	**15 21 41.5**	**-0.3**
THL				AML	AML	15 22 03.2	
comp=N,138μm,0.6s							
THL				AML	AML	15 22 05.5	
comp=E,125μm,0.5s							
LIT	**Litokhoron**	**1.38**	**92**	P	**Pg**	**15 21

IKAZ	Kazeroun	7.01	128	*e*Pn	Pn	15 29 02.6	+2.1
AKASG	Malin Array Be	20.25	329	P	Pn	15 31 58.2	+3.5
	comp=Z,0.3nm,0.3s,baz=135,slow=10,SNR=1.9						
MKAR	Makanchi Array	30.36	55	P	P	15 33 29.7	+0.3
	comp=Z,0.4nm,0.7s,baz=247,slow=7.7,SNR=2.9						
ZALV	Zalesovo Beam	33.82	42	P	P	15 34 02.5	+2.9
	comp=Z,0.5nm,0.4s,baz=253,slow=8.8,SNR=2.9						
TORD	Torodi Ar. Bea	44.84	253	P	P	15 35 31.5	-0.5
	comp=Z,0.4nm,0.6s,baz=71,slow=6.2,SNR=2.9						
CMAR	Chiang Mai Arr	49.88	94	P	P	15 36 09.2	-2.0
	comp=Z,0.6nm,0.3s,baz=298,slow=8.1,SNR=1.9						

IDC 25 15:35:14.3±7.5, 7°.63S×127°.09E, h182km±81km, mb2.7/1, mb1 3.1/5, mb1mx2.9/52, mbtmp3.5/5, Error ellipse: s-maj=84.7km s-min=23.8km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	4.24	233	P	Pn	15 36 19.6	+0.9
	1.3nm,0.3s,baz=292,slow=5.4,SNR=4.0						
BATI				S	Sn	15 37 09.2	+0.1
	6.3nm,0.3s,baz=233,slow=17,SNR=9.1						
FITZ	Fitzroy Crossi	10.50	188	P	Pn	15 37 39.6	-0.8
	0.1nm,0.3s,baz=11,slow=10,SNR=2.1						
FITZ				S	Sn	15 39 30.0	-7.3
	0.3nm,0.3s,baz=164,slow=18,SNR=4.3						
WRA	Warramunga Arr	14.11	151	P	Pn	15 38 24.9	-1.6
	0.2nm,0.3s,baz=327,slow=14,SNR=5.0						
WRA				S	Sn	15 40 51.8	-12
	0.3nm,0.3s,baz=324,slow=21,SNR=6.9						
ASAR	Alice Springs	17.23	158	P	Pn	15 39 04.8	+0.4
	0.3nm,0.3s,baz=339,slow=12,SNR=49						
MKAR	Makanchi Array	67.20	328	P	P	15 45 48.8	-0.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=2.9						

BJI ***25*** *15:42:59.6±0.0, 38°.41N×141°.93E, h58km, mb5.0/72, mB5.0/41, Ms4.5/49, Ms7 4.3/41*
MOS ***25*** *15:43:00.4±0.9, 38°.57N×141°.82E, h45km, mb5.3/93, Error ellipse: s-maj=5.5km s-min=3.7km az=102.8*
NIED ***25*** *15:43:00, 38°.50N×141°.80E, h50km, Mw4.9 Best double couple: M₀2.53000×10¹⁶ NP1:φs211.00000°, δ16.00000°, λ97.00000°. NP2:φs24.00000°, δ75.00000°, λ88.00000°.*
ISCJB ***25*** *15:43:01.7±0.2, 38°.53N±0°.02×141°.78E±0°.02, h55km±2km, mb5.0/170, MS4.1/37, Error ellipse: s-maj=3.6km s-min=2.4km az=140.9*
JMA ***25*** *15:43:02.6±0.1, 38°.53N×141°.82E, h51km±1km, M4.9 Broadband fault plane solution: P waves. NP1: φs25.00000°, δ73.00000°, λ93.00000°. NP2:φs193.00000°, δ17.00000°, λ79.00000°. Principal axes: T Plg62.0000°, Azm300.0000°; N Plg3.0000°, Azm204.0000°; P Plg28.0000°, Azm112.0000°;*
JMA Felt IV J1.
IDC ***25*** *15:43:02.9±1.5, 38°.52N×141°.76E, h53km±13km, mb4.5/43, mb1 4.6/49, mb1mx4.5/61, mbtmp4.8/49, ML4.1/6, MS4.0/31, Ms1 4.0/31, ms1mx3.9/36 Error ellipse: s-maj=11.7km s-min=7.9km az=101.0*
NEIC ***25*** *15:43:02.5±2.1, 38°.482N±0°.008×141°.94E±0°.10, h53km±5km, mb5.0/209*
GCMT ***25*** *15:43:04.5±0.3, 38°.63N±0°.02×141°.92E±0°.03, h55km±2km, MW5.0/80, Moment Tensor Solution. s37,c47; s80,c120; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.86±.20; Mθθ-0.56±.14; Mφφ-2.30±.14; Mrθ0.98±.10; Mφθ-1.28±.12; Mφr1.95±.10; Best double couple: M₀3.64400×10¹⁶ NP1:φs27.00000°, δ63.00000°, λ89.00000°. NP2: φs209.00000°, δ27.00000°, λ91.00000°. Principal axes: T 3.5860, Plg72.0000°, Azm296.0000°; N 0.1200, Plg1.0000°, Azm27.0000°; P -3.7030, Plg18.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 15:43:02.4±0.4, 38°.53N±0°.03×141°.85E±0°.04, h53km±3km, h53km:pP-P, n793, σ1§19/837, mb5.0/240, MS4.2/41, 40C-47D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.37	235	⇓P	Pn	15 43 12.2	-0.2
JIKH				S	Sn	15 43 18.8	-0.8
JIO	Ouri	0.40	260	⇓P	Pn	15 43 12.5	-0.2
JIO				S	Sn	15 43 19.1	-1.0
JKMT	Kesennumamotoy	0.41	314	⇓P	Pn	15 43 12.7	-0.1
JKMT				*i*S	Sn	15 43 19.6	-0.7
OFUJ	Ofunato	0.57	346	⇓P	Pn	15 43 14.6	-0.1
OFUJ				S	Sn	15 43 23.0	-0.6
JMK	Ichinoseki	0.65	311	⇓P	Pn	15 43 15.7	+0.1
JMK				S	Sn	15 43 25.0	-0.2
JOU	Okura	0.94	261	⇓P	Pn	15 43 19.2	-0.3
JOU				S	Sn	15 43 31.8	-0.2
JOM	Ohasama	1.04	336	⇓P	Pn	15 43 20.9	+0.2
JMM	Marumori	1.06	232	⇓P	Pn	15 43 20.4	-0.6
JMM				S	Sn	15 43 34.0	-0.7
JYK	Kaneyama	1.23	289	⇓P	Pn	15 43 23.3	0.0
JYK				*e*S	Sn	15 43 38.7	-0.1
JRG	Rokugo	1.29	313	⇓P	Pn	15 43 24.1	+0.1
JFK	Kawauchi	1.39	214	⇓P	Pn	15 43 25.1	-0.4
JFK				*e*S	Sn	15 43 41.7	-1.1
JYS	Shirataka	1.44	258	P	Pn	15 43 26.1	+0.1
MJAR	Matsushiro Arr	3.51	237	P	Pn	15 43 55.8	+1.4
	10.0nm,0.3s,baz=39,slow=14,SNR=264						
MJAR				LR	LR	15 45 30.1	
	comp=Z,2μm,20.8s,baz=45,slow=43						
MJAR	Matsushiro Arr	3.51	237		Pn	15 43 55.4	+1.0
MAJO	Matsushiro	3.51	237	*d i*P	Pn	15 43 56.0	+1.6
MAJO	Matsushiro	3.51	237		Pn	15 43 55.8	+1.4
MAT	Matsushiro	3.51	237	P	Pn	15 43 56.0	+1.6
MAT				S	Sn	15 44 36.7	+2.0
MJB9	Matsu-Tunnel	3.51	237		Pn	15 43 55.8	+1.4
ERM	Erimo	3.63	16	*de*P	Pn	15 43 55.9	-0.1
ERM	Erimo	3.63	16		Pn	15 43 55.8	-0.1
INU	Inuyama	5.00	232		Pn	15 44 16.8	+1.9
ASAJ	Asahikawa	5.61	6	P	Pn	15 44 23.4	+0.2
	13nm,0.3s,baz=215,slow=9.9,SNR=107						
ASAJ				S	Sn	15 45 27.5	+1.1
	16nm,0.3s,baz=213,slow=10,SNR=4.1						
JKA	Kamikawa-asahi	5.61	6		Pn	15 44 23.4	+0.2
JKA					Sn	15 45 27.4	+1.1
JHJ2	Mitsune	5.65	198	Pn	Pn	15 44 23.0	-0.7
JHJ	Hachijo jima 2	5.65	198	P	Pn	15 44 22.9	-0.8
	56nm,0.3s,baz=68,slow=13,SNR=5.9						
JHJ				S	Sn	15 45 26.6	-0.7
	197nm,0.3s,baz=215,slow=21,SNR=7.9						
NMR	Nemuro--Hokkai	5.66	30	*e*P	Pn	15 44 22.1	-1.7
NMR				*e*S	Sn	15 45 21.4	-6.1
GLVR	Golovnino	5.90	27	*e*P	Pn	15 44 26.1	-1.0
GLVR				*e*S	Sn	15 45 28.3	-5.0
GLVR				smax	smax		
	comp=N,2μm,0.4s						
GLVR				smax	smax		
	comp=E,2μm,0.7s						
GRPR	Tuman	6.21	27	*e*P	Pn	15 44 30.0	-1.4
GRPR				*e*S	Sn	15 45 35.1	-5.9
GRPR				pmax	pmax		
	comp=Z,191nm,0.2s						
GRPR				pmax	pmax		
	comp=N,88nm,0.1s						
GRPR				pmax	pmax		
	comp=E,86nm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.5s						
GRPR				smax	smax		
	comp=E,3μm,0.6s						
YUK	Yuzh-Kuril'sk	6.28	27	*e*P	Pn	15 44 31.2	-1.1
YUK				*e*S	Sn	15 45 37.8	-4.8
YUK				pmax	pmax		
	comp=Z,278nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
TEY	Ternei	7.59	331	⇑*i*P	Pn	15 44 54.8	+4.5
TEY				pmax	pmax		
	comp=Z,400nm,1.2s						
TEY				pmax	pmax		
	comp=E,130nm,1.2s						
TEY				pmax	pmax		
	comp=N,230nm,1.3s						
TEY				pmax	pmax		
	comp=Z,280nm,1.0s						
KUR	Kuril'sk	8.06	32	*e*P	Pn	15 44 55.9	-0.9
KUR				*i*S	Sn	15 46 21.6	-4.9
KUR				pmax	pmax		
	comp=Z,147nm,0.7s						
KUR				pmax	pmax		
	comp=N,55nm,0.4s						
KUR				smax	smax		
	comp=E,540nm,0.4s						
KUR				smax	smax		
	comp=N,157nm,0.3s						
YSS	Yuzh-Sakhalins	8.45	4	⇑*e*P	Pn	15 45 02.4	+0.4
YSS				*e*S	Sn	15 46 32.2	-3.7
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,700nm,17.0s						
YSS	Yuzh-Sakhalins	8.45	4		Pn	15 45 01.2	-0.9
VLA	Vladivostok	8.84	304	*d i*P	Pn	15 45 11.7	+4.3
VLA				pmax	pmax		
	comp=Z,323nm,1.0s						
MSHR	Mys Shultsa	9.09	300	⇑*e*P	Pn	15 45 12.5	+1.7
USA0B	Ussuriysk Arra	9.33	311	P	Pn	15 45 14.8	+0.7
USA0B	Ussuriysk Arra	9.33	311		Pn	15 45 14.8	+0.7
USRK	Ussuriysk Ar.	9.33	311	P	Pn	15 45 15.1	+1.0
	baz=119,slow=14,SNR=61						
USRK				LR	LR	15 48 50.5	
	comp=Z,1μm,18.1s,baz=110,slow=38						
USRK	Ussuriysk Ar.	9.33	311		Pn	15 45 15.0	+0.9
JNU	Nakatsue	10.41	242	P	Pn	15 45 30.5	+1.6
	comp=Z,2.3nm,0.3s,baz=180,slow=1.3,SNR=17						
JNU				LR	LR	15 49 51.2	
	comp=Z,1μm,21.3s,baz=46,slow=40						
JNU	Nakatsue	10.41	242		Pn	15 45 30.3	+1.3
MDJ	Mudanjiang	11.01	307		Pn	15 45 38.8	+1.7
KSRS	Korea Array	11.04	269	P	Pn	15 45 41.2	+3.7
	comp=Z,2.0nm,0.3s,baz=87,slow=14,SNR=25						
KSRS				LR	LR	15 49 34.0	
	comp=Z,984nm,20.9s,baz=74,slow=36						
KSAR	Wonju Array Be	11.08	269	P	Pn	15 45 40.8	+2.8
KSAR	Wonju Array Be	11.08	269		Pn	15 45 40.8	+2.8
KS19	Wonju Array Si	11.08	269		Pn	15 45 41.0	+2.9
JCJ	Chichijima	11.40	178	P	Pn	15 45 40.4	-2.2
	comp=Z,16nm,0.3s,baz=291,slow=20,SNR=11						
JCJ				S	Sn	15 47 38.3	-10
	comp=Z,22nm,0.3s,baz=338,slow=22,SNR=4.5						
TJN	Taejon	11.71	264	⇓*i*P	Pn	15 45 51.0	+4.3
INCN	Inchon	12.05	270	P	Pn	15 45 53.4	+2.0
INCN	Inchon	12.05	270	Pn	Pn	15 45 53.4	+2.0
GRNR	Gornyy	12.83	344	⇑*i*P	Pn	15 45 55.8	-6.1
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GRNR				MLR	MLR		
	comp=Z,670nm,16.0s						
KLR	Kul'dur	12.93	329	⇓*e*P	Pn	15 46 02.8	-0.5
KLR				pmax	pmax		
	comp=Z,13nm,1.1s						
KLR	Kul'dur	12.93	329	P	Pn	15 46 03.0	-0.3
	comp=Z,0.1nm,0.3s,baz=132,slow=16,SNR=5.2						
KLR				LR	LR	15 51 07.8	
	comp=Z,1μm,18.4s,baz=142,slow=38						
CN2	Changchun	13.43	298	*e*P	Pn	15 46 11.0	+0.9
CN2				*es*P	P	15 46 27.3	+9.4
CN2				pmax	pmax		
	comp=Z,20nm,1.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,620nm,17.0s						
CN2				LR	LR		
	comp=Z,890nm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,19.0s						
DL2	Dalian	15.79	278	P	P	15 46 42.8	-1.4
DL2				S	Sn	15 49 36.8	+1.7
DL2				pmax	pmax		
	comp=Z,120nm,1.1s						
DL2				pmax	pmax		
	comp=Z,480nm,5.4s						
DL2				LR	LR		
	comp=Z,450nm,20.0s						
DL2				LR	LR		
	comp=Z,620nm,18.8s						
SKR	Severo-Kuril's	15.81	35	*e*P	Pn	15 46 35.5	-5.8
SKR				pmax	pmax		
	comp=Z,28nm,1.6s						
SKR				MLR	MLR		
	comp=Z,200nm,12.0s						
ZEA	Zeya	18.21	331	*e*P	P	15 47 10.8	-0.1
ZEA				pmax	pmax		
	comp=E,49nm,0.9s						
ZEA				pmax	pmax		
	comp=N,78nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,110nm,0.8s						
PEA0B	Petropavlovsk-	18.23	32	P	P	15 47 09.9	-1.2
PEA0B				pmax	pmax		
	comp=Z,22nm,1.0s						
PEA0B	Petropavlovsk-	18.23	32	P	P	15 47 09.9	-1.2
PETK	Petropavlovsk-	18.23	32	P	P	15 47 09.5	-1.6
PETK	Petropavlovsk-	18.23	32	P	P	15 47 09.7	-1.3
	comp=Z,0.1nm,0.3s,baz=206,slow=9.4,SNR=6.1						
PETK				LR	LR	15 55 20.7	
	comp=Z,218nm,19.0s,baz=234,slow=40						
PETK	Petropavlovsk-	18.23	32	P	P	15 47 09.5	-1.6
PET	Petropavlovsk	18.57	33	*e*P	P	15 47 16.3	+1.5
PET				*e*S	Sn	15 50 41.1	-1.1
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
TIA	Tai'an	19.77	271	P	P	15 47 27.0	-1.1
TIA				pmax	pmax		
	comp=Z,48nm,1.2s						
NJ2	Nanjing	19.83	258	*e*P	Pn	15 47 29.8	-0.8
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
NJ2				LR	LR		
	comp=Z,550nm,5.2s						
NJ2				LR	LR		
	comp=Z,740nm,15.2s						
NJ2				LR	LR		
	comp=Z,700nm,12.3s						
BJI	Beijing	19.91	282	⇑*i*P	P	15 47 28.5	-1.1
BJI				pmax	pmax		
	comp=Z,20nm,1.3s						
BJI				LR	LR		
	comp=Z,350nm,11.4s						
BJI				LR	LR		
	comp=Z,370nm,17.1s						
BJT	Baijiatuau	19.92	282	P	P	15 47 28.5	-1.2
BJT				pmax	pmax		
	comp=Z,36nm,1.1s						
BJT	Baijiatuau	19.92	282	P	P	15 47 28.5	-1.2
MA2	Magadan	21.82	12	*ce*P	P	15 47 50.1	+0.2
MA2				pmax	pmax		
	comp=Z,78nm,1.7s						
MA2	Magadan	21.82	12	P	P	15 47 50.2	+0.2
	comp=Z,45nm,0.8s,baz=198,slow=9.3,SNR=12						
MA2				LR	LR	15 56 59.2	
	comp=Z,161nm,20.1s,baz=202,slow=38						
MA2	Magadan	21.82	12	P	P	15 47 49.8	-0.1
MA2				IAmb	IAmb	15 48 09.1	
	comp=Z,74nm,0.8s						
YHNB	Yeheng	22.18	237	P	P	15 47 52.4	-1.8
YHNB				IAmb	IAmb	15 48 12.0	
	comp=Z,41nm,0.9s						
NACB	Ninganchiao	22.38	236	P	P	15 47 54.5	-1.8
NACB				IAmb	IAmb	15 48 12.7	
	comp=Z,40nm,1.1s						
SSLB	Suanglung	23.07	236	P	P	15 48 00.6	-2.8
TIY	Taiyuan	23.12	277	*e*P	P	15 48 05.0	+1.1
TIY				S	S	15 52 09.5	-1.7
TIY				pmax	pmax		
	comp=Z,81nm,1.1s						
TIY				pmax	pmax		
	comp=Z,170nm,6.1s						
TIY				LR	LR		
	comp=Z,110nm,5.5s						
TIY				LR	LR		
	comp=Z,380nm,14.0s						
TIY				LR	LR		
	comp=Z,520nm,20.5s						
YULB	Yu-li	23.12	235	P	P	15 48 00.7	-3.3
HHC	Hu-ho-hao-te	23.37	285	*e*P	P	15 48 05.3	-1.0
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TPUB	Ta-pu	23.62	236	P	P	15 48 05.2	-3.5
TWG	Pinlang	23.68	235	P	P	15 48 07.1	-2.0
CIT	Chita	23.87	314	*e*P	P	15 48 11.4	+0.6
CIT				*e*		15 48 25.3	
CIT				pmax	pmax		
	comp=Z,156nm,1.3s						
WHN	Wuhan	23.95	259	P	P	15 48 11.5	-0.1
WHN				S	S	15 52 20.0	-4.6
WHN				LR	LR		
	comp=Z,720nm,12.1s						
WHN				LR	LR		
	comp=Z,1μm,14.3s						
WHN				LR	LR		
	comp=Z,1μm,19.3s						
BTO	Baotou	24.56	285	*e*P	P	15 48 16.8	-0.5
YAK	Yakutsk	24.70	346	*e*P	P	15 48 16.7	-1.4
YAK				*e*		15 48 54.6	
YAK				*e*S	S	15 52 33.7	-2.3
YAK				*e**SS	sS	15 52 57.6	-0.8
YAK				pmax	pmax		
	comp=Z,137nm,1.2s						
YAK				pmax	pmax		
	comp=N,107nm,1.4s						
YAK				pmax	pmax		
	comp=E,28nm,1.3s						
YAK				pmax	pmax		
	comp=Z,47nm,0.9s						
YAK				pmax	pmax		
	comp=N,41nm,1.0s						
YAK				pmax	pmax		
	comp=E,71nm,1.8s						
YAK				smax	smax		
	comp=N,68nm,1.8s						
YAK				smax	smax		
	comp=E,68nm,1.6s						
YAK	Yakutsk	24.70	346	P	P	15 48 17.9	-0.2
	comp=E,19nm,0.4s,baz=190,slow=1.2,SNR=52						
YAK				LR	LR	15 58 20.0	
	comp=E,306nm,19.5s,baz=166,slow=37						
YAK	Yakutsk	24.70	346	P	P	15 48 16.5	-1.6
SEY	Seymchan	25.26	11	⇑*e*P	P	15 48 23.8	+0.5
SEY	Seymchan	25.26	11	P	P	15 48 24.6	+1.3
	comp=E,63nm,0.9s,baz=198,slow=6.5,SNR=68						
BOD	Bodaibo	26.47	326	*e*P	P	15 48 34.0	-0.3
BOD				pmax	pmax		
	comp=Z,51nm,1.0s						
XAN	Xi'an	26.83	271	P	P	15 48 37.0	-0.9
XAN				pP	pP	15 48 54.3	+3.1
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
XAN				pmax	pmax		
	comp=Z,190nm,4.9s						
XAN				LR	LR		
	comp=Z,300nm,18.7s						
XAN				LR	LR		
	comp=Z,300nm,19.0s						
XAN				LR	LR		
	comp=Z,360nm,15.7s						
XAN	Xi'an	26.83	271	P	P	15 48 36.7	-1.2
XAN				pmax	pmax		
	comp=Z,59nm,1.5s						
XAN	Xi'an	26.83	271	P	P	15 48 36.7	-1.2
XAN				IAmb	IAmb	15 48 56.1	
	comp=Z,59nm,1.5s						
ULN	Ulaanbaatar	26.84	302	P	P	15 48 39.5	+1.6
	SNR=6.7						
ULN	Ulaanbaatar	26.84	302	⇓*e*P	P	15 48 38.4	+0.5
ULN				pmax	pmax		
	comp=Z,24nm,1.1s						
ULN	Ulaanbaatar	26.84	302	P	P	15 48 37.9	0.0
SONM	Songino Array	27.27	301	P	P	15 48 40.5	-1.2
SONM				pmax	pmax		
	comp=Z,16nm,1.4s						
SONM	Songino Array	27.27	301	P	P	15 48 41.2	-0.6
	comp=Z,5.3nm,0.7s,baz=87,slow=8.5,SNR=16						
SONM				LR	LR	15 59 58.3	
	comp=Z,293nm,19.6s,baz=106,slow=37						
SONM	Songino Array	27.27	301	P	P	15 48 40.5	-1.2
ENH	Enshi	27.84	263	P	P	15 48 45.6	-1.3
H11N2	WAKE ISLAND Hy	28.65	124	T	T	16 19 16.8	
	baz=316,slow=75						
H11N1	WAKE ISLAND Hy	28.66	124	T	T	16 19 11.0	
	baz=316,slow=75						
H11N3	WAKE ISLAND Hy	28.67	124	T	T	16 19 18.1	
	baz=316,slow=75						
H11S1	WAKE ISLAND Hy	29.41	126	T	T	16 20 06.8	
	baz=318,slow=76,SNR=349						
H11S3	WAKE ISLAND Hy	29.41	126	T	T	16 20 06.0	
	baz=318,slow=76,SNR=1625						
H11S2	WAKE ISLAND Hy	29.43	126	T	T	16 20 19.2	
	baz=318,slow=76,SNR=925						
TLY	Talaya	29.64	309	P	P	15 49 02.8	+0.1
TLY				P	P	15 49 02.8	+0.1
TLY	Talaya	29.64	309	*e*P	P	15 49 02.9	+0.3
TLY				*e*S	S	15 53 59.7	+5.4
TLY				*e*SS	SnSn	15 55 34.3	+7.4
TLY				pmax	pmax		
	comp=Z,46nm,1.4s						
TLY				MLR	MLR		
	comp=Z,881nm,14.0s						
TLY	Talaya	29.64	309	P	P	15 49 02.8	+0.1
	comp=Z,10nm,0.9s,baz=245,slow=22,SNR=5.0						
TLY				LR	LR	16 01 36.6	
	comp=Z,437nm,19.1s,baz=112,slow=38						
TLY	Talaya	29.64	309	P	P	15 49 02.4	-0.2
ZAK	Zakamensk	29.64	306	*e*P	P	15 48 54.7	-8.1
ZAK				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH	Lanzhou	30.19	277	*e*P	P	15 49 08.0	+0.2
LZH				pP	pP	15 49 22.0	+0.7
LZH				sP	sP	15 49 29.0	+1.4
LZH				pmax	pmax		
	comp=Z,36nm,1.2s						
LZH				pmax	pmax		
	comp=Z,210nm,5.4s						
LZH				LR	LR		
	comp=Z,420nm,13.1s						
LZH				LR	LR		
	comp=Z,480nm,13.4s						
LZH				LR	LR		
	comp=Z,670nm,16.3s						
TGY	Tagaytay City	30.56	223	P	P	15 49 11.3	+0.2
	comp=Z,106nm,0.3s,baz=310,slow=12,SNR=3.9						
GYA	Guiyang	31.84	258	⇑*i*P	P	15 49 21.3	-1.1
GYA				pP	pP	15 49 36.3	+0.4
GYA				sP	sP	15 49 43.5	+1.3
GYA				PP	PnPn	15 50 29.0	+0.6
GYA				S	S	15 54 25.8	-3.5
GYA				sS	sS	15 54 51.5	-0.5
GYA				SS	SnSn	15 56 20.0	-1.0
CD2	Chengdu	32.04	268	⇓*i*P	P	15 49 23.5	-0.6
CD2				S	S	15 54 34.0	+1.6
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
CD2				pmax	pmax		
	comp=Z,120nm,5.9s						
CD2				LR	LR		
	comp=Z,400nm,13.8s						
CD2				LR	LR		
	comp=Z,430nm,20.6s						
CD2				LR	LR		
	comp=Z,570nm,19.6s						
GTA	Gaotai	32.48	285	P	P	15 49 28.3	+0.4
GTA				pP	pP	15 49 39.3	-2.2
GTA				sP	sP	15 49 44.5	-3.2
GTA				PcP	PcP	15 52 14.5	+0.6
GTA				S	S	15 54 39.5	+0.3
GTA				ScP	ScP	15 55 53.5	+0.4
GTA				PcS	PcS	15 56 00.3	+1.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,160nm,5.4s						
GTA				LR	LR		
	comp=Z,240nm,17.9s						
GTA				LR	LR		
	comp=Z,540nm,17.9s						
GTA				LR	LR		
	comp=Z,750nm,18.9s						
BILL	Bilibino	32.50	17	*d i*P	P	15 49 28.3	+0.7
BILL				*e*		15 50 34.7	
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
BILL				MLR	MLR		
	comp=Z,125nm,20.0s						

BILL	**Bilibino**	**32.50**	**17**	P	**P**	**15 49 27.3 -0.3**
BILL				IAmb	IAmb	15 49 47.9
	comp=Z,21nm,1.1s					
TIXI	**Tiksi**	**33.85**	**353**	*c i* P	**P**	**15 49 38.7 -0.6**
TIXI				pmax	pmax	
	comp=Z,21nm,1.3s					
TIXI	**Tiksi**	**33.85**	**353**	P	**P**	**15 49 38.4 -0.9**
TIXI				IAmb	IAmb	15 49 39.9
	comp=Z,12nm,0.8s					
QIZ	**Qiongzhong**	**33.87**	**244**	P	**P**	**15 49 40.5 +0.4**
QIZ				S	**S**	**15 55 03.0 +2.2**
QIZ				LR	LR	
	comp=Z,380nm,20.1s					
KMI	**Kunming**	**35.55**	**260**	P	**P**	**15 49 54.5 -0.3**
KMI				pP	pP	15 50 07.0 -1.4
KMI				sP	sP	15 50 12.3 -2.3
KMI				pmax	pmax	
	comp=Z,20nm,0.9s					
SLVN	**Son La**	**36.77**	**253**	P	**P**	**15 50 05.6 +0.5**
DGZ	**Jazzator, Alta**	**39.82**	**304**	*c i* P	**P**	**15 50 31.5 +1.0**
SIJI	**Sorong**	**40.40**	**196**	P	**P**	**15 50 36.1 +0.7**
	comp=Z,4.0nm,0.6s,baz=63,slow=9.6,SNR=4.4					
WMQ	**Urumqi**	**40.49**	**295**	P	**P**	**15 50 36.1 +0.1**
WMQ				pmax	pmax	
	comp=Z,69nm,0.9s					
WMQ	**Urumqi**	**40.49**	**295**	P	**P**	**15 50 36.1 +0.1**
PAYA	**Payao**	**40.98**	**254**	P	P	15 50 49.7 +9.5
ZAA0	**Zalesovo Array**	**41.18**	**311**	P	**P**	**15 50 41.0 -0.5**
ZAA0				IAmb	IAmb	15 50 42.5
	comp=Z,42nm,1.0s					
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**15 50 41.2 -0.2**
	comp=Z,8.6nm,0.4s,baz=87,slow=6.8,SNR=78					
ZALV				PcP	**PcP**	**15 52 39.8 +0.2**
	comp=Z,5.1nm,0.4s,baz=101,slow=2.9,SNR=8.2					
ZALV				LR	LR	16 08 31.8
	comp=Z,314nm,18.9s,baz=78,slow=37					
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**15 50 40.9 -0.5**
PHRA	**Phrae**	**41.23**	**253**	P	**P**	**15 50 43.8 +1.5**
	comp=Z,2.0nm,0.8s					
UTTA	**Uttaradit**	**41.45**	**252**	P	**P**	**15 50 45.4 +1.3**
	comp=Z,18μm,1.0s,comp=Z,180μm					
CHAI	**Chaiyaphum**	**41.56**	**248**	P	**P**	**15 50 45.4 +0.4**
	comp=Z,13μm,0.8s					
PBKT	**Sadao Pong**	**41.88**	**250**	P	**P**	**15 50 48.4 +0.8**
	comp=Z,7.0nm,1.1s					
PBKT	**Sadao Pong**	**41.88**	**250**	P	**P**	**15 50 47.5 0.0**
CMMT	**Chiang Mai**	**42.01**	**254**	P	**P**	**15 50 49.4 +0.8**
	comp=Z,8.3nm,0.9s					
CHTO	**Chiang Mai**	**42.01**	**254**	P	**P**	**15 50 48.7 0.0**
CHTO				P	**P**	**15 50 48.7 0.0**
CHTO	**Chiang Mai**	**42.01**	**254**	P	**P**	**15 50 47.7 -0.9**
CHTO				pmax	pmax	
	comp=Z,9.0nm,0.7s					
CHTO	**Chiang Mai**	**42.01**	**254**	P	**P**	**15 50 47.7 -0.9**
RDOG	**Red Dog Mine**	**42.02**	**27**	P	**P**	**15 50 48.4 +0.2**
NRIK	**Noril'sk**	**42.06**	**335**	P	**P**	**15 50 48.2 -0.3**
	comp=Z,11nm,0.9s,baz=104,slow=9.1,SNR=19					
NRIK				LR	LR	16 09 23.4
	comp=Z,563nm,19.0s,baz=103,slow=38					
FAKI	**Fak Fak**	**42.18**	**194**	P	**P**	**15 50 49.8 -0.2**
FAKI				IAmb	IAmb	15 51 41.6
	comp=Z,39nm,1.4s					
CMAR	**Chiang Mai Arr**	**42.22**	**254**	P	**P**	**15 50 50.3 -0.1**
	comp=Z,1.0nm,0.6s,baz=40,slow=7.8,SNR=12					
CMAR				PcP	**PcP**	**15 52 44.8 +1.0**
	comp=Z,2.9nm,0.9s,baz=22,slow=1.8,SNR=7.6					
CMAR				LR	LR	16 08 31.1
	comp=Z,48nm,19.3s,baz=21,slow=36					
CMAR	**Chiang Mai Arr**	**42.22**	**254**	P	**P**	**15 50 50.0 -0.4**
CMAR					**PcP**	**15 52 43.9 +0.2**
LSA	**Lhasa**	**42.44**	**274**	*i* P	**P**	**15 50 53.6 +1.0**
	SNR=11					
LSA	**Lhasa**	**42.44**	**274**	P	**P**	**15 50 53.6 +1.0**
LSA				P	**P**	**15 50 53.6 +1.0**
LSA	**Lhasa**	**42.44**	**274**	P	**P**	**15 50 51.7 -0.9**
LSA				pmax	pmax	
	comp=Z,27nm,1.0s					
LSA	**Lhasa**	**42.44**	**274**	P	**P**	**15 50 51.7 -0.9**
LSA				IAmb	IAmb	15 51 14.5
	comp=Z,27nm,1.0s					
SANI	**Sanana**	**42.95**	**204**	P	**P**	**15 50 55.9 -0.3**
	comp=Z,18nm,0.8s					
MHMT	**Maesarieng**	**43.16**	**255**	P	**P**	**15 51 00.1 +2.2**
	comp=Z,17nm,1.1s					
MK31	**Makanchi Array**	**43.64**	**301**	*i* P	**P**	**15 51 01.6 +0.1**
MK31				pmax	pmax	
	comp=Z,41nm,0.9s					
MK31	**Makanchi Array**	**43.64**	**301**	P	**P**	**15 51 01.4 -0.1**
MK31				IAmb	IAmb	15 51 02.8
	comp=Z,34nm,0.9s					
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**15 51 01.6 +0.1**
	comp=Z,30nm,0.8s,baz=86,slow=9.2,SNR=174					
MKAR				LR	LR	16 09 35.8
	comp=Z,168nm,21.6s,baz=64,slow=37					
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**15 51 01.5 -0.1**
UTHA	**Uthaitani**	**43.65**	**250**	P	**P**	**15 51 03.6 +1.7**
	comp=Z,11μm,1.0s					
UMPA	**Umpang Tak**	**43.67**	**252**	P	**P**	**15 51 04.6 +2.4**
	comp=Z,36μm,1.1s					
SHL	**Shillong**	**43.79**	**268**	P	**P**	**15 51 03.3 +0.2**
	SNR=7.0					
SHL	**Shillong**	**43.79**	**268**	P	**P**	**15 51 02.1 -1.1**
SHL				pmax	pmax	
	comp=Z,19nm,0.9s					
SHL	**Shillong**	**43.79**	**268**	P	**P**	**15 51 02.1 -1.1**
SHL				IAmb	IAmb	15 51 08.0
	comp=Z,19nm,0.9s					
AAI	**Ambon**	**43.86**	**200**	P	**P**	**15 51 04.2 +0.6**
SRDT	**SRDT**	**44.67**	**249**	P	**P**	**15 51 12.1 +2.0**
	comp=Z,8.8nm,1.6s,comp=Z,9μm					
IMAR	**Indian Mountai**	**45.20**	**31**	P	**P**	**15 51 14.7 +1.0**
PHET	**Kaeng Krachan**	**45.24**	**247**	P	**P**	**15 51 16.0 +1.3**
	comp=Z,34μm,0.9s					
KURK	**Kurchatov**	**45.30**	**307**	P	**P**	**15 51 14.9 +0.2**
KURK	SNR=43			P	**P**	**15 51 14.9 +0.2**
	SNR=43					
KURK	**Kurchatov**	**45.30**	**307**	P	**P**	**15 51 14.5 -0.2**
KURK				pmax	pmax	
	comp=Z,97nm,0.8s					
KURK	**Kurchatov**	**45.30**	**307**	P	**P**	**15 51 14.4 -0.2**
KURBB	**Kurchatov Arra**	**45.37**	**307**	P	**P**	**15 51 15.2 0.0**
	comp=Z,36nm,0.3s,baz=82,slow=8.1,SNR=364					
TAPN	**Taplejung**	**46.20**	**273**	*eP*	**P**	**15 51 22.9 +0.4**
TAPN	**Taplejung**	**46.20**	**273**	*eP*	**P**	**15 51 22.9 +0.4**
	comp=Z,75nm,1.1s					
BPAW	**Bear Paw Mtn.**	**46.29**	**34**	P	**P**	**15 51 23.5 +1.1**
BPAW				IAmb	IAmb	15 51 47.6
	comp=Z,38nm,1.7s					
KTH	**Kantishna Hill**	**46.32**	**35**	P	**P**	**15 51 24.3 +1.6**
KTH					**pP**	**15 51 38.5 +1.9**
KTH				IAmb	IAmb	15 51 47.8
	comp=Z,28nm,1.1s					
PDGK	**Podgornoye**	**46.40**	**297**	P	**P**	**15 51 23.0 -0.6**
PDGK				pmax	pmax	
	comp=Z,20nm,1.0s					
MLY	**Manley**	**46.41**	**33**	P	**P**	**15 51 24.7 +1.4**
MLY				IAmb	IAmb	15 51 45.2
	comp=Z,14nm,1.0s					
SUA	**Susitna One**	**46.46**	**38**	P	**P**	**15 51 24.8 +0.9**
TRF	**Thorofare Moun**	**46.61**	**35**	P	**P**	**15 51 25.1 0.0**
TRF				IAmb	IAmb	15 51 47.9
	comp=Z,13nm,1.0s					
ODAN	**Odare**	**46.68**	**272**	*eP*	**P**	**15 51 26.3 +0.1**
	comp=Z,113nm,1.1s					
ODAN	**Odare**	**46.68**	**272**	*eP*	**P**	**15 51 26.4 +0.2**
	comp=Z,107nm,1.1s					
BWN	**Browne**	**46.96**	**34**	P	**P**	**15 51 28.5 +0.9**
RC01	**Rabbit Creek A**	**46.97**	**38**	P	**P**	**15 51 28.0 +0.3**
RC01				IAmb	IAmb	15 51 29.5
	comp=Z,24nm,1.2s					
TOLK	**Toolik Lake Re**	**46.99**	**28**	P	**P**	**15 51 29.6 +1.8**
	baz=267,SNR=8.9					
TOLK	**Toolik Lake Re**	**46.99**	**28**	P	**P**	**15 51 28.8 +1.0**
TOLK				IAmb	IAmb	15 51 49.5
	comp=Z,17nm,0.9s					
NEA	**Nenana**	**47.12**	**33**	P	**P**	**15 51 29.2 +0.3**
NEA				IAmb	IAmb	15 51 51.3
	comp=Z,44nm,1.5s					
MCK	**McKinley**	**47.21**	**35**	P	**P**	**15 51 30.3 +0.7**
MCK				pmax	pmax	
	comp=Z,13nm,1.0s					
MCK	**McKinley**	**47.21**	**35**	P	**P**	**15 51 30.3 +0.7**
MCK				IAmb	IAmb	15 51 53.2
	comp=Z,13nm,1.0s					
BNSI	**Bone**	**47.22**	**210**	P	**P**	**15 51 31.1 +1.0**
	comp=Z,25nm,1.2s					
PMR	**Palmer**	**47.23**	**37**	P	**P**	**15 51 30.6 +0.9**
PMR				pmax	pmax	
	comp=Z,15nm,1.1s					
PMR	**Palmer**	**47.23**	**37**	P	**P**	**15 51 30.6 +0.9**
PMR				IAmb	IAmb	15 51 31.9
	comp=Z,15nm,1.1s					
JIRN	**Jiri**	**47.24**	**274**	*eP*	**P**	**15 51 31.1 +0.4**
	comp=Z,38nm,0.4s					
JIRN	**Jiri**	**47.24**	**274**	*eP*	**P**	**15 51 31.2 +0.5**
	comp=Z,38nm,0.4s					
RND	**Reindeer**	**47.26**	**35**	P	**P**	**15 51 31.0 +1.0**
RND				*PP	**pP**	**15 51 44.1 +0.2**
RND				pmax	pmax	
	comp=Z,18nm,1.2s					
RND	**Reindeer**	**47.26**	**35**	P	**P**	**15 51 31.0 +1.0**
RND				IAmb	IAmb	15 51 31.8
	comp=Z,18nm,1.2s					
RND					**pP**	**15 51 44.1 +0.2**
RAMN	**Ramite**	**47.26**	**273**	*eP*	**P**	**15 51 30.9 +0.3**
	comp=Z,170nm,0.9s					
RAMN	**Ramite**	**47.26**	**273**	*eP*	**P**	**15 51 31.0 +0.3**
	comp=Z,181nm,0.9s					
GHO	**Glory Hole Cre**	**47.31**	**37**	P	**P**	**15 51 31.3 +0.8**
GHO					**pP**	**15 51 44.8 +0.3**
GHO				IAmb	IAmb	15 51 51.4
	comp=Z,20nm,0.8s					
GUN	**Gumba**	**47.37**	**275**	*eP*	**P**	**15 51 32.0 +0.3**
GUN	**Gumba**	**47.37**	**275**	*eP*	**P**	**15 51 32.0 +0.3**
PRZ	**Przheval'sk**	**47.41**	**296**	P	**P**	**15 51 32.2 +0.6**
PRZ				pmax	pmax	
	comp=Z,27nm,0.9s					
PRZ	**Przheval'sk**	**47.41**	**296**	P	**P**	**15 51 32.2 +0.6**
PRZ				IAmb	IAmb	15 51 33.7
	comp=Z,27nm,0.9s					
MDM	**Murphy Dome**	**47.47**	**33**	P	**P**	**15 51 32.3 +0.7**
MDM				IAmb	IAmb	15 51 53.3
	comp=Z,17nm,1.1s					
WRH	**Wood River Hil**	**47.55**	**34**	P	**P**	**15 51 32.2 +0.1**
WRH					**PcP**	**15 53 01.7 +0.4**
WRH				IAmb	IAmb	15 53 03.3
	comp=Z,12nm,1.0s					
KNK	**Knik Glacier**	**47.56**	**38**	P	**P**	**15 51 32.1 -0.2**
KNK				IAmb	IAmb	15 52 10.8
	comp=Z,32nm,1.2s					
TCOL	**CIGO, UAF Yank**	**47.63**	**33**	P	**P**	**15 51 34.4 +1.7**
	baz=272					
COLA	**College**	**47.64**	**33⇑**	*eP*	**P**	**15 51 34.1 +1.3**
COLA				pmax	pmax	
	comp=Z,12nm,2.1s					
POKR	**Poker Plat Res**	**47.81**	**33**	P	**P**	**15 51 36.0 +1.8**
	baz=272					
KKN	**Kakani**	**47.89**	**275**	*eP*	**P**	**15 51 35.8 +0.2**
	comp=Z,143nm,0.9s					
KKN	**Kakani**	**47.89**	**275**	*eP*	**P**	**15 51 35.8 +0.2**
	comp=Z,143nm,0.9s					
PKI	**Pulchoki**	**47.89**	**274**	*eP*	**P**	**15 51 35.6 -0.1**
	comp=Z,52nm,0.8s					
PKI	**Pulchoki**	**47.89**	**274**	*eP*	**P**	**15 51 35.7 0.0**
PKIN	**Phulchoki**	**47.90**	**274**	*eP*	**P**	**15 51 35.5 -0.2**
	comp=Z,33nm,0.8s					
PKIN	**Phulchoki**	**47.90**	**274**	*eP*	**P**	**15 51 35.5 -0.2**
	comp=Z,14nm,0.5s					
DHY	**Denali Highway**	**47.94**	**35**	P	**P**	**15 51 35.5 +0.1**
DHY				IAmb	IAmb	15 52 11.7
	comp=Z,9.0nm,0.8s					
HDA	**Harding Lake**	**48.05**	**34**	P	**P**	**15 51 36.7 +0.7**
	baz=273					
HDA	**Harding Lake**	**48.05**	**34**	P	**P**	**15 51 36.2 +0.2**
HDA					**pP**	**15 51 50.5 +0.5**
HDA				IAmb	IAmb	15 52 25.8
	comp=Z,36nm,1.6s					
IL31		**48.05**	**33**	P	**P**	**15 51 36.2 +0.2**
IL31				IAmb	IAmb	15 51 58.4
	comp=Z,11nm,0.8s					
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**15 51 36.9 +0.8**
	comp=Z,4.9nm,0.8s,baz=270,slow=6.3,SNR=55					
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**15 51 36.4 +0.3**
SCM	**Sheep Creek Mo**	**48.06**	**37**	P	**P**	**15 51 35.7 -0.6**
SCM				pmax	pmax	
	comp=Z,57nm,1.6s					
SCM	**Sheep Creek Mo**	**48.06**	**37**	P	**P**	**15 51 35.7 -0.6**
TARG	**Taragay, Kyrgy**	**48.06**	**295**	P	**P**	**15 51 37.0 0.0**
DMN	**Daman**	**48.11**	**275**	*eP*	**P**	**15 51 37.5 +0.2**
	comp=Z,42nm,0.8s					
DMN	**Daman**	**48.11**	**275**	*eP*	**P**	**15 51 37.5 +0.2**
GKN	**Gorkha**	**48.30**	**275**	*eP*	**P**	**15 51 38.7 +0.1**
	comp=Z,293nm,1.2s					
GKN	**Gorkha**	**48.30**	**275**	*eP*	**P**	**15 51 38.7 +0.1**
	comp=Z,293nm,1.2s					
KDJ	**Kajisay**	**48.38**	**296**	P	**P**	**15 51 38.7 -0.5**
KDJ				pmax	pmax	
	comp=Z,12nm,0.9s					
KDJ	**Kajisay**	**48.38**	**296**	P	**P**	**15 51 38.7 -0.5**
KDJ				IAmb	IAmb	15 51 40.5
	comp=Z,12nm,0.8s					
SKLT	**Songkhla**	**48.53**	**241**	P	**P**	**15 51 42.0 +1.7**
	comp=Z,15nm,1.2s					
SURT	**Suratani**	**48.53**	**244**	P	**P**	**15 51 42.6 +2.3**
	comp=Z,23nm,1.2s					
PRP	**Porcupine Dome**	**48.59**	**32**	P	**P**	**15 51 40.8 +0.5**
PRP					**pP**	**15 51 52.6 -1.7**
PRP				IAmb	IAmb	15 52 00.6
	comp=Z,12nm,1.1s					
FYU	**Fort Yukon**	**48.65**	**31**	P	**P**	**15 51 40.2 -0.4**
TRTT	**Trang**	**48.69**	**242**	P	**P**	**15 51 43.3 +1.7**
	comp=Z,20nm,1.1s					
DANN	**Dangsing**	**48.82**	**276**	*eP*	**P**	**15 51 43.3 +0.5**
	comp=Z,267nm,0.9s					
DANN	**Dangsing**	**48.82**	**276**	*eP*	**P**	**15 51 43.3 +0.5**
	comp=Z,267nm,0.9s					
BMAR	**Burnt Mountain**	**48.86**	**29**	P	**P**	**15 51 43.8 +1.5**
RIDG	**Independent Ri**	**49.02**	**34**	P	**P**	**15 51 43.6 +0.1**
RIDG				IAmb	IAmb	15 52 40.0
	comp=Z,14nm,1.2s					
KOLN	**Koldanda**	**49.21**	**276**	*eP*	**P**	**15 51 45.8 +0.1**
	comp=Z,251nm,1.3s					
KOLN	**Koldanda**	**49.21**	**276**	*eP*	**P**	**15 51 45.9 +0.2**
	comp=Z,187nm,1.1s					
TKM2	**Tokmak 2**	**49.24**	**297**	P	**P**	**15 51 46.4 +0.7**
TKM2				pmax	pmax	
	comp=Z,45nm,1.1s					
TKM2	**Tokmak 2**	**49.24**	**297**	P	**P**	**15 51 46.6 +0.9**
	SNR=46					
SCRK	**Sand Creek**	**49.38**	**34**	P	**P**	**15 51 46.5 +0.1**
SCRK				IAmb	IAmb	15 52 22.0
	comp=Z,8.8nm,0.7s					
DOT	**Dot Lake**	**49.38**	**34**	P	**P**	**15 51 46.6 +0.4**
DOT				IAmb	IAmb	15 52 10.2
	comp=Z,31nm,1.8s					
NRN	**Naryn**	**49.44**	**295**	P	**P**	**15 51 47.2 -0.2**
NRN				pmax	pmax	
	comp=Z,9.0nm,0.9s					
NRN	**Naryn**	**49.44**	**295**	P	**P**	**15 51 47.2 -0.2**
NRN				IAmb	IAmb	15 51 53.8
	comp=Z,8.9nm,0.9s					
PKDT	**Phuket**	**49.60**	**244**	P	**P**	**15 51 49.8 +1.3**
	comp=Z,60nm,1.1s					
MENT	**Mentasta**	**49.62**	**35**	P	**P**	**15 51 49.0 +0.8**
KZA	**Kyzart**	**49.76**	**296**	P	**P**	**15 51 51.2 +1.2**
	SNR=17					
KBK	**Karagaybulak**	**49.77**	**297**	P	**P**	**15 51 50.4 +0.6**
	SNR=33					
GLB	**Gilahina Butte**	**49.78**	**37**	P	**P**	**15 51 49.4 0.0**
GLB				IAmb	IAmb	15 52 31.7
	comp=Z,12nm,1.0s					
CHMS	**Chumysh**	**49.80**	**298**	P	**P**	**15 51 50.1 +0.3**
	SNR=5.9					
BVAR	**Borovoye Array**	**49.84**	**311**	P	**P**	**15 51 49.9 +0.1**
	comp=Z,5.3nm,0.5s,baz=79,slow=8.4,SNR=56					
BVAR				PcP	**PcP**	**15 53 10.3 +0.5**
	comp=Z,8.4nm,0.7s,baz=72,slow=4.8,SNR=6.8					
KULM	**Kulim**	**49.87**	**239**	P	**P**	**15 51 51.0 +0.4**
USP	**Ospenovka**	**49.89**	**298**	P	**P**	**15 51 50.4 -0.1**
	SNR=16					
BRVK	**Borovoye**	**49.89**	**312**	P	**P**	**15 51 50.8 +0.6**
	SNR=7.5					
BRVK				P	**P**	**15 51 50.8 +0.6**
	SNR=7.5					
BRVK	**Borovoye**	**49.89**	**312**	*c i* P	**P**	**15 51 50.2 0.0**
BRVK				pmax	pmax	
	comp=Z,22nm,1.0s					
BRVK	**Borovoye**	**49.89**	**312**	P	**P**	**15 51 50.3 0.0**
BRVK				IAmb	IAmb	15 51 51.5
	comp=Z,18nm,0.9s					
FRU1	**Bishkek**	**49.95**	**298**	P	**P**	**15 51 51.1 +0.2**
FRU1				pmax	pmax	
	comp=Z,28nm,1.1s					
FRU1	**Bishkek**	**49.95**	**298**	P	**P**	**15 51 51.1 +0.2**
FRU1				IAmb	IAmb	15 51 52.5
	comp=Z,28nm,1.1s					
AAK	**Ala-Archa**	**50.10**	**297**	*i* P	**P**	**15 51 52.3 +0.1**
	SNR=19					
AAK	**Ala-Archa**	**50.10**	**297**	P	**P**	**15 51 52.3 +0.1**
AAK				P	**P**	**15 51 52.3 +0.1**
AAK	**Ala-Archa**	**50.10**	**297**	*de* P	**P**	**15 51 52.5 +0.3**
AAK				pmax	pmax	
	comp=Z,8.0nm,0.7s					
AAK	**Ala-Archa**	**50.10**	**297**	P	**P**	**15 51 52.4 +0.1**
	comp=Z,5.0nm,0.3s,baz=108,slow=4.4,SNR=27					
AAK	**Ala-Archa**	**50.10**	**297**	P	**P**	**15 51 51.9 -0.3**
	SNR=11					
AAK	**Ala-Archa**	**50.10**	**297**	P	**P**	**15 51 51.9 -0.3**
AAK				IAmb	IAmb	15 51 53.5
	comp=Z,12nm,1.0s					
KSH	**Kashi**	**50.13**	**293**	P	**P**	**15 51 56.5 +4.1**
KSH				pP	sP	15 52 12.3 -0.4
KSH				PcP	**PcP**	**15 53 15.0 +3.7**
KSH				S	**S**	**15 59 03.5 +3.2**
KSH				sS	sS	15 59 30.0 +6.1
KSH				SS	**SS**	**16 02 34.3 +0.6**
KSH				pmax	pmax	
	comp=Z,51nm,1.2s					
KSH				pmax	pmax	
	comp=Z,430nm,4.7s					
KSH				LR	LR	
	comp=Z,280nm,13.4s					
KSH				LR	LR	
	comp=Z,300nm,8.8s					
KSH				LR	LR	
	comp=Z,250nm,12.4s					
MCARA	**McCarthy VSAT**	**50.16**	**37**	P	**P**	**15 51 52.1 -0.2**
MCARA				IAmb	IAmb	15 52 10.8
	comp=Z,23nm,1.2s					
CRQM	**Cirque**	**50.21**	**38**	P	**P**	**15 51 52.9 0.0**
CRQM				IAmb	IAmb	15 52 39.0
	comp=Z,18nm,0.8s					
IPM	**Ipoh**	**50.22**	**238**	P	**P**	**15 51 52.6 -0.6**
UCH	**Uchtor**	**50.22**	**297**	P	**P**	**15 51 54.0 +0.5**
	SNR=9.5					
TGL	**Tana Glacier**	**50.36**	**38**	P	**P**	**15 51 55.4 +1.6**
TGL				IAmb	IAmb	15 52 22.1
	comp=Z,26nm,1.2s					
BCAR	**Beaver Creek A**	**50.47**	**35**	P	**P**	**15 51 56.1 +1.5**
EGAK	**Eagle**	**50.50**	**33**	P	**P**	**15 51 55.0 +0.3**
EGAK				IAmb	IAmb	15 52 30.6
	comp=Z,9.0nm,0.8s					
EKS2	**Erkin-Say**	**50.59**	**298**	P	**P**	**15 51 56.0 +0.1**
	SNR=12					
HNR	**Honiara**	**50.61**	**157**	P	**P**	**15 51 56.1 +0.1**
HNR				pmax	pmax	
	comp=Z,30nm,0.9s					
HNR	**Honiara**	**50.61**	**157**	P	**P**	**15 51 56.1 +0.1**
SOEI	**Soe**	**50.76**	**203**	P	**P**	**15 51 57.2 -0.1**
AML	**Almayashu**	**50.83**	**297**	P	**P**	**15 51 58.6 +0.6**
	SNR=24					
CTGM	**Chitina Glacie**	**51.04**	**38**	P	**P**	**15 51 59.8 +0.7**
CTGM				IAmb	IAmb	15 53 14.7
	comp=Z,26nm,1.4s					
ARSB	**Arslanbob**	**51.61**	**296**	P	**P**	**15 52 04.4 +0.8**
EPYK	**Eagle Plains**	**52.06**	**30**	P	**P**	**15 52 08.1 +1.6**
	baz=280,SNR=11					
EPYK	**Eagle Plains**	**52.06**	**30**	P	**P**	**15 52 08.0 +1.6**
MTN	**Manton Dam**	**52.07**	**193**	P	**P**	**15 52 07.4 +0.4**
COEN	**Coen**	**52.22**	**178**	P	**P**	**15 52 09.2 +1.1**
KK31	**Karatay Array**	**52.69**	**299**	*i* P	**P**	**15 52 11.1 -0.3**
KK31				pmax	pmax	
	comp=Z,27nm,1.0s					
KK31	**Karatay Array**	**52.69**	**299**	P	**P**	**15 52 10.8 -0.6**
KKAR	**Karatay Array**	**52.69**	**299**	P	**P**	**15 52 10.7 -0.7**
KKAR				pmax	pmax	
	comp=Z,28nm,1.0s					
KKAR	**Karatay Array**	**52.69**	**299**	P	**P**	**15 52 10.8 -0.7**
KKAR	**Karatay Array**	**52.69**	**299**	P	**P**	**15 52 10.7 -0.7**
KKAR				IAmb	IAmb	15 52 12.5
	comp=Z,28nm,1.0s					
PSI	**Prapat**	**52.86**	**239**	P	**P**	**15 52 12.8 -0.3**
PSI				pmax	pmax	
	comp=Z,26nm,1.0s					
PSI	**Prapat**	**52.86**	**239**	P	**P**	**15 52 13.4 +0.3**
	comp=Z,23nm,0.9s,baz=45,slow=1.4,SNR=6.3					
INK	**Inuvik**	**52.90**	**28**	P	**P**	**15 52 13.5 +1.0**
INK				pmax	pmax	
	comp=Z,17nm,0.9s					
INK	**Inuvik**	**52.90**	**28**	P	**P**	**15 52 13.5 +1.0**
INK				IAmb	IAmb	15 52 33.9
	comp=Z,17nm,0.9s					
RPSI	**Rantau Prapat**	**52.94**	**238**	P	**P**	**15 52 12.8 -0.7**
RPSI				IAmb	IAmb	15 52 14.2
	comp=Z,26nm,1.0s					
RPSI	**Rantau Prapat**	**52.94**	**238**	P	**P**	**15 52 13.4 -0.1**
BKNI	**Bangkinang**	**53.33**	**235**	P	**P**	**15 52 16.5 +0.1**
BTK	**Batken**	**53.61**	**296**	P	**P**	**15 52 17.9 -0.4**
BTK				pmax	pmax	
	comp=Z,18nm,1.2s					
BTK	**Batken**	**53.61**	**296**	P	**P**	**15 52 17.9 -0.4**
BTK				IAmb	IAmb	15 52 42.5
	comp=Z,18nm,1.1s					
SDSI	**Sungai Dareh**	**54.05**	**233**	P	**P**	**15 52 21.7 0.0**
SDSI				pP	**pP**	**15 52 36.4 +0.5**
PWJI	**Pagerwojo**	**54.10**	**218**	P	**P**	**15 52 21.0 -0.9**
	comp=Z,44nm,0.8s					
SVE	**Sverdlovsk**	**54.27**	**318⇓**	*eP*	**P**	**15 52 23.3 +0.6**
SVE				pmax	pmax	
	comp=Z,73nm,1.0s					
GAR	**Garm**	**54.38**	**295**	P	**P**	**15 52 23.7 -0.3**
GAR				IAmb	IAmb	15 52 24.4
	comp=Z,28nm,1.1s					
NIL	**Nilore**	**54.49**	**287**	P	**P**	**15 52 25.4 +0.6**
NIL				P	**P**	**15 52 25.4 +0.6**
NIL	**Nilore**	**54.49**	**287**	P	**P**	**15 52 25.0 +0.3**
NIL				pmax	pmax	
	comp=Z,42nm,0.9s					
NIL	**Nilore**	**54.49**	**287**	P	**P**	**15 52 25.1 +0.3**
UGM	**Wanagama**	**54.63**	**219**	P	**P**	**15 52 24.7 -1.1**
GSI	**Gunungsitoli**	**54.87**	**239**	P	**P**	**15 52 28.2 +0.6**
	comp=Z,70nm,1.1s,comp=Z,968nm					
GSI	**Gunungsitoli**	**54.87**	**239**	P	**P**	**15 52 27.5 -0.1**
KLSI		**55.04**	**227**	P	**P**	**15 52 28.9 +0.1**
KNRA	**Kununurra

comp=Z,21nm,1.2s
WB2 Warramunga Arr 58.58 188 P **P 15 52 53.1 -0.7**
WB2 IAmb IAmb 15 53 07.6
comp=Z,13nm,0.9s
WRA Warramunga Arr 58.58 188 P **P 15 52 52.4 -1.3**
WRA Warramunga Arr 58.58 188 P **P 15 52 53.4 -0.3**
comp=Z,6.0nm,0.6s,baz=5.4,slow=7.0,SNR=36
WRA LR LR 16 15 27.3
comp=Z,49nm,21.7s,baz=275,slow=33
WRA Warramunga Arr 58.58 188 P **P 15 52 52.4 -1.3**
WC3 Warramunga Arr 58.60 188 P **P 15 52 53.4 -0.4**
HYB Hyderabad 58.60 268 *i* P **P 15 52 52.0 -2.1**
KIRV Kirov 59.27 322 P **P 15 52 58.3 +0.2**
comp=Z,30nm,0.8s,baz=62,slow=22,SNR=14
PRGR Permogore 59.71 327 *e*P **P 15 52 57.6 -3.5**
PRGR *e**SP **pP 15 53 19.3 +3.8**
PRGR *e* 15 55 09.1
PRGR pmax pmax
comp=Z,36nm,1.0s
RES Resolute Bay 61.07 15 P **P 15 53 09.8 -0.4**
RES pmax pmax
comp=Z,15nm,0.9s
RES Resolute Bay 61.07 15 P **P 15 53 09.8 -0.4**
RES IAmb IAmb 15 53 11.0
comp=Z,15nm,0.9s
APA Apatity 61.47 336⇑ *i*P P 15 53 21.7 +8.7
APA pmax pmax
comp=Z,8.0nm,1.0s
TMCR Tamitsa 61.61 331 *e*P **P 15 53 14.0 +0.1**
TMCR pmax pmax
comp=Z,41nm,0.9s
AS31 Alice Springs 62.31 188 P **P 15 53 19.1 -0.1**
ASAR Alice Springs 62.31 188 P **P 15 53 19.1 0.0**
comp=Z,3.4nm,0.7s,baz=356,slow=4.6,SNR=77
ASAR LR LR 16 20 05.9
comp=Z,52nm,21.8s,baz=352,slow=36
ASAR Alice Springs 62.31 188 P **P 15 53 18.9 -0.3**
YKA Yellowknife Ar 62.35 31 P **P 15 53 19.8 +0.8**
comp=Z,5.7nm,0.9s,baz=302,slow=6.7,SNR=13
YKA Yellowknife Ar 62.35 31 P **P 15 53 18.5 -0.5**
KLMR Klimovskoe 62.68 327 *e*P **P 15 53 19.4 -1.8**
KLMR *e* 15 55 37.5
KLMR pmax pmax
comp=Z,45nm,1.4s
KLMR Klimovskoe 62.68 327 *e*P **P 15 53 19.4 -1.8**
KLMR AMP 15 53 22.3
comp=Z,45nm,1.4s
KLMR *e*PP **PP 15 55 37.5 -1.6**
ARCES ARCESS Array B 62.73 339 P **P 15 53 21.7 +0.3**
comp=Z,8.9nm,0.9s,baz=44,slow=6.6,SNR=7.7
ARCES LR LR 16 25 45.9
comp=Z,108nm,19.7s,baz=36,slow=41
GEYT Alibeck 63.42 298 P **P 15 53 26.5 -0.1**
comp=Z,5.1nm,0.7s,baz=39,slow=3.0,SNR=6.3
GEYT LR LR 16 22 10.7
comp=Z,161nm,21.8s,baz=320,slow=37
GYA0B ALIBECK ARRAY 63.42 298 P **P 15 53 25.8 -0.8**
GYA0B IAmb IAmb 15 53 27.7
comp=Z,8.0nm,0.8s
TULEG Thule 63.58 8 P **P 15 53 26.7 -0.2**
DAG Danmarks Havn 64.32 355 *i* P **P 15 53 31.8 0.0**
DAG pmax pmax
comp=Z,18nm,1.0s
DAG Danmarks Havn 64.32 355 *i* P **P 15 53 31.8 0.0**
comp=Z,18nm,1.0s
DZM Mont Dzumac 64.54 155 *e*LR LR 16 12 57.2
comp=Z,326nm,21.7s
A04D Lummi Island 65.45 46 P **P 15 53 40.9 +1.4**
baz=301
D03D Eldon 65.84 48 P **P 15 53 43.4 +1.3**
baz=301
B05A Bryant 66.03 47 P **P 15 53 44.4 +1.1**
baz=301
MOS Moscow 66.26 323 *e*P **P 15 53 43.5 -1.2**
MOS *e* 15 53 58.7
MOS pmax pmax
comp=Z,75nm,1.5s
E04D Cinebar 66.65 48 P **P 15 53 48.4 +1.1**
baz=302
VRH Novokhopyorsk 66.71 318 *e*P **P 15 53 46.6 -1.0**
VRH pmax pmax
comp=Z,30nm,0.9s
SUF Sumiainen 66.81 333 P **P 15 53 47.8 -0.2**
SUF pmax pmax
comp=Z,39nm,2.5s
C06D Leavenworth 66.90 47 P **P 15 53 50.5 +1.6**
baz=302
OBN Obninsk 67.11 323⇓ *e*P **P 15 53 50.3 +0.2**
OBN *e* 15 54 15.6
OBN *e* 15 56 20.1
OBN *e*PPP PPP 15 57 50.9
OBN *e*S **S 16 02 33.4 -6.6**
OBN pmax pmax
comp=Z,35nm,1.4s
OBN MLR MLR
comp=Z,119nm,16.0s
LPSR Galich'ya Gora 67.38 320 *e*P **P 15 53 50.7 -1.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
B08A Colville Reser 67.54 45 P **P 15 53 53.3 +0.3**
B08A IAmb IAmb 15 54 14.7
comp=Z,12nm,1.3s
FIA1 FINESS Array S 67.66 332 P **P 15 53 53.0 -0.4**
FINES FINESS Array B 67.66 332 P **P 15 53 53.6 +0.1**
comp=Z,26nm,1.0s,baz=53,slow=7.4,SNR=23
FINES LR LR 16 25 17.3
comp=Z,156nm,20.0s,baz=62,slow=38
FINES FINESS Array B 67.66 332 P **P 15 53 53.1 -0.4**
I03D Drain, OR 67.70 51 P **P 15 53 55.9 +1.9**
baz=302
VSR Storozhevoye 68.04 319 *e*P **P 15 53 54.3 -1.7**
VSR pmax pmax
comp=Z,20nm,0.8s
K02D Willamette Mer 68.05 52 P **P 15 53 57.8 +1.4**
baz=302
G05D Wamic, OR 68.09 49 P **P 15 53 58.3 +1.7**
baz=303
L02E Cave Junction 68.37 53 P **P 15 54 00.3 +2.0**
baz=303
C09A Chrisman Ranch 68.44 46 P **P 15 53 59.1 +0.4**
C09A IAmb IAmb 15 54 01.1
comp=Z,9.2nm,0.9s
I05D Terrebonne, OR 68.58 50 P **P 15 54 01.4 +1.8**
baz=303
J04D Umpqua Nationa 68.71 51 P **P 15 54 01.9 +1.3**
baz=303
NEW Newport 68.82 45 P **P 15 54 02.4 +1.4**
baz=304
SEKA Sheki 68.95 306 P **P 15 54 02.0 0.0**
ZKTA Zakatala 69.08 307 P **P 15 54 02.9 +0.1**
PINE Pine Mountain 69.12 50 P **P 15 54 03.9 +0.8**
PINE IAmb IAmb 15 54 06.5
comp=Z,14nm,1.0s
L04D Klamath Falls 69.15 52 P **P 15 54 05.1 +1.8**
baz=303
YBH Yreka Blue Hor 69.16 53 P **P 15 54 03.9 +0.6**
YBH pmax pmax
comp=Z,10.0nm,1.3s
YBH Yreka Blue Hor 69.16 53 P **P 15 54 03.9 +0.6**
SUMG Summit 69.20 0 *i* P **P 15 54 03.7 +0.3**
SUMG pmax pmax
comp=Z,75nm,0.9s
SUMG Summit 69.20 0 *i* P **P 15 54 03.7 +0.3**
comp=Z,75nm,0.9s
SUMG Summit 69.20 0 P **P 15 54 04.0 +0.7**
J05D Fort Rock, OR 69.22 51 P **P 15 54 05.4 +1.7**
baz=304
M02C Callahan 69.26 53 P **P 15 54 06.3 +2.3**
baz=303
MNGR Mingechevir, A 69.27 306 P **P 15 54 04.3 +0.5**
K04D Chiloquin, OR 69.27 52 P **P 15 54 05.9 +1.9**
baz=304
LKRN Lenkeran, Azer 69.30 303 P **P 15 54 03.9 -0.2**
VSU Vasula 69.35 329⇑ *e*P **P 15 54 04.1 +0.1**
VSU pmax pmax
comp=Z,89nm,1.7s
VSU Vasula 69.35 329 *e*P **P 15 54 04.6 +0.6**
VSU IAmb IAmb 15 54 05.2
comp=Z,61nm,0.9s
N02D Trinity Center 69.58 54 P **P 15 54 07.8 +1.9**
baz=304
M04C Macdoel 69.68 52 P **P 15 54 07.9 +1.4**
baz=304
GANJ Ganja 69.82 306 P **P 15 54 07.1 -0.2**
WDC Whiskeytown Da 69.91 54 P **P 15 54 08.8 +1.0**
WDC pmax pmax
comp=Z,7.0nm,1.1s
WDC Whiskeytown Da 69.91 54 P **P 15 54 08.8 +1.0**
NCK Nalchik 69.91 310⇓ *e*P **P 15 54 08.3 +0.5**
NCK pmax pmax
comp=Z,10.0nm,0.4s
O02D Mt. Diablo Mer 69.97 54 P **P 15 54 10.3 +2.0**
baz=304
STKA Stephens Creek 70.04 180 P **P 15 54 08.9 +0.4**
comp=Z,0.7nm,0.4s,baz=355,slow=7.9,SNR=4.3
STKA LR LR 16 26 26.7
comp=Z,46nm,19.0s,baz=25,slow=37
WALA Waterton Lakes 70.10 43 P **P 15 54 09.9 +0.9**
ZEI Tsey 70.12 309 *e*P **P 15 54 06.2 -3.2**
ZEI pmax pmax
comp=Z,12nm,1.0s
KVAR Kislovodsk Arr 70.19 311 P **P 15 54 11.1 +1.5**
comp=Z,21nm,1.0s,baz=270,slow=20,SNR=15
KIV Kislovodsk 70.19 311 *i* P **P 15 54 10.1 +0.4**
SNR=18
KIV Kislovodsk 70.19 311 P **P 15 54 10.5 +0.9**
SNR=19
KIV Kislovodsk 70.19 311 *e*P **P 15 54 10.2 +0.6**
KIV pmax pmax
comp=Z,202nm,1.1s
KIV MLR MLR
comp=Z,198nm,18.0s
KIV Kislovodsk 70.19 311⇑ P **P 15 54 10.1 +0.4**
KIV mb 15 54 12.2
KIV Kislovodsk 70.19 311 P **P 15 54 09.8 +0.1**
KBZ Khabaz 70.20 310 P **P 15 54 10.1 +0.6**
comp=Z,21nm,0.9s,baz=51,slow=3.3,SNR=46
KBZ LR LR 16 30 03.0
comp=Z,120nm,18.7s,baz=43,slow=40
O03E Paynes Creek 70.53 54 P **P 15 54 12.9 +1.1**
baz=304
MOD Modoc Plateau 70.56 52 P **P 15 54 12.7 +0.7**
NEY Neytrino 70.58 310⇓ *e*P **P 15 54 13.2 +1.1**
NEY pmax pmax
comp=Z,3.0nm,0.8s
SCO Scoresbysund 70.67 354 *i* P **P 15 54 12.9 +1.0**
SCO pmax pmax
comp=Z,13nm,1.1s
SCO Scoresbysund 70.67 354 *i* P **P 15 54 12.9 +1.0**
comp=Z,13nm,1.1s
SCO Scoresbysund 70.67 354 P **P 15 54 12.7 +0.8**
SCO IAmb IAmb 15 54 13.9
comp=Z,16nm,1.2s
JTMT Jette 70.68 44 P **P 15 54 13.9 +1.3**
JTMT IAmb IAmb 15 54 16.1
comp=Z,13nm,1.0s
WSAR Wadi Sarin 70.82 285 P **P 15 54 14.8 +1.1**
WSAR Wadi Sarin 70.82 285 P **P 15 54 14.4 +0.8**
comp=Z,13nm,1.0s,baz=42,slow=7.4,SNR=4.8
WBK Wadi Bani Khal 70.92 284 P **P 15 54 14.8 +0.5**
BANOM Banah 71.06 288 P **P 15 54 14.4 -0.8**
BANOM Banah 71.06 288 P **P 15 54 15.5 +0.4**
GNI Garni 71.09 306 *de*P **P 15 54 13.3 -2.0**
GNI pmax pmax
comp=Z,45nm,1.0s
SHME Shamm 71.11 289 P **P 15 54 15.5 +0.1**
ORV Oroville 71.14 54 P **P 15 54 15.5 +0.1**
ORV pmax pmax
comp=Z,4.0nm,0.9s
ORV Oroville 71.14 54 P **P 15 54 15.5 +0.1**
AKH Akhalkalaki 71.16 308 P **P 15 54 15.8 +0.2**
AKH pmax pmax
comp=Z,11nm,0.9s
AKH Akhalkalaki 71.16 308⇓ P **P 15 54 16.7 +1.1**
AKH Akhalkalaki 71.16 308 P **P 15 54 15.8 +0.2**
AKH IAmb IAmb 15 54 17.6
comp=Z,11nm,0.9s
WVOR Wild Horse Val 71.27 50 P **P 15 54 16.5 +0.2**
WVOR Wild Horse Val 71.27 50 P **P 15 54 16.5 +0.2**
IZAR Zarasai 71.34 327 *e*P **P 15 54 17.0 +0.8**
SMDO Samad 71.36 285 P **P 15 54 18.5 +1.4**
MSO Missoula 71.41 45 P **P 15 54 18.2 +1.2**
baz=307
IDID Didziasalis 71.42 327 *e*P **P 15 54 16.5 -0.2**
MSFE Esma-Masafi 71.48 288 P **P 15 54 18.1 +0.4**
ISAL Salakas 71.51 327 *e*P **P 15 54 18.2 +0.9**
ISAL IAmb IAmb 15 54 19.3
comp=Z,25nm,1.1s
IIGN Ignalina 71.61 327 *e*P **P 15 54 18.3 +0.4**
IIGN IAmb IAmb 15 54 19.9
comp=Z,15nm,1.1s
HOQ Hoqain 71.62 286 P **P 15 54 19.2 +0.7**
HOQ P **P 15 54 19.2 +0.7**
UOSS Minazif 71.69 288 P **P 15 54 18.9 0.0**
UOSS Minazif 71.69 288 P **P 15 54 19.5 +0.6**
BEKR Beckworth 71.69 53 P **P 15 54 19.3 +0.4**
JMDO Jabal Madar 71.71 284 P **P 15 54 19.8 +0.7**
HATD Hatta, Dubai 71.81 287 *i* P **P 15 54 19.7 +0.1**
SNR=8.0
HATD Hatta, Dubai 71.81 287 P **P 15 54 20.1 +0.5**
SNR=6.0
HATD P **P 15 54 20.1 +0.5**
SNR=6.0
ASHO Ashiyiah 71.94 287 *i* P **P 15 54 19.0 -1.4**
SNR=8.8
ASHO Ashiyiah 71.94 287 P **P 15 54 21.1 +0.6**
SNR=5.1
SOC Sochi 72.16 312 *e*P **P 15 54 20.3 -1.1**
SOC *e**SP **sP 15 54 43.1 +1.0**
SOC *e* 15 56 56.7
SOC *e*S **S 16 03 37.5 -2.2**
SOC *e*SS **SS 16 08 12.2 -4.9**
SOC pmax pmax
comp=Z,44nm,1.2s
SOC MLR MLR
comp=Z,211nm,19.0s
BSY Bisya 72.18 285 P **P 15 54 22.2 +0.3**
BSY P **P 15 54 22.2 +0.3**
FFC Flin Flon 72.27 33 P **P 15 54 22.2 +0.3**
FFC pmax pmax
comp=Z,17nm,1.0s
FFC Flin Flon 72.27 33 P **P 15 54 22.1 +0.3**
FFC IAmb IAmb 15 54 24.1
comp=Z,17nm,1.0s
BCA Borcka 72.28 309⇓ P **P 15 54 22.4 +0.2**
BCA mb 15 54 23.1
PABE Paberze 72.45 328 *e*P **P 15 54 23.3 +0.4**
PABE IAmb IAmb 15 54 24.6
comp=Z,50nm,0.9s
ASUD Al Ashush, Dub 72.52 288 P **P 15 54 24.1 +0.3**
HRY Holter Researc 72.64 44 P **P 15 54 25.2 +0.8**
CMB Columbia Colle 72.73 55 P **P 15 54 25.5 +0.6**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 72.73 55 P **P 15 54 25.6 +0.6**
NC405 NORSAR Array S 72.74 337 P **P 15 54 24.7 +0.1**
ANN Anapa 72.75 314 *e*P **P 15 54 21.5 -3.3**
ANN *e**PP **pP 15 54 36.5 -3.2**
ANN *e*PPP PPP 15 58 49.0
ANN *e*S **S 16 03 41.0 -5.3**
ANN pmax pmax
comp=Z,42nm,1.0s
NC303 NORSAR Array S 72.75 337 P **P 15 54 24.7 0.0**
HFS Hagfors 72.87 336 P **P 15 54 25.7 +0.3**
comp=Z,24nm,0.9s,baz=47,slow=6.5,SNR=26
NC204 NORSAR Array S 72.90 338 P **P 15 54 25.6 +0.1**
NB201 NORSAR Array S 72.92 337 P **P 15 54 25.5 -0.1**
EGMT Eagleton 72.93 42 P **P 15 54 26.8 +0.8**
baz=309,SNR=7.9
EGMT Eagleton 72.93 42 P **P 15 54 26.3 +0.3**
EGMT IAmb IAmb 15 54 28.7
comp=Z,16nm,0.8s
NB2 NORSAR Subarra 72.95 337 P **P 15 54 25.7 -0.1**
comp=Z,9.0nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.95 337 P **P 15 54 26.0 +0.2**
NOA NORSAR Array B 72.95 337 P **P 15 54 26.0 +0.2**
comp=Z,17nm,0.8s,baz=38,slow=5.9,SNR=40
NOA LR LR 16 29 05.6
comp=Z,225nm,21.4s,baz=35,slow=38
DLMT Dillon 73.04 45 P **P 15 54 27.0 +0.1**
NBO00 NORSAR Array S 73.08 337 P **P 15 54 25.7 -0.9**
NAO01 NORSAR Array S 73.20 337 P **P 15 54 27.1 -0.2**
AKASG Malin Array Be 73.33 322 P **P 15 54 27.0 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 73.33 322 P **P 15 54 27.9 -0.2**
comp=Z,3.8nm,0.4s,baz=47,slow=6.1,SNR=42
AKASG LR LR 16 29 37.1
comp=Z,186nm,18.9s,baz=35,slow=38
AKASG Malin Array Be 73.33 322 P **P 15 54 27.0 -1.2**
AKBB Malin Array Si 73.33 322 P **P 15 54 27.4 -0.8**
AKBB pmax pmax
comp=Z,21nm,0.9s
AKBB Malin Array Si 73.33 322 P **P 15 54 27.4 -0.8**
AKBB IAmb IAmb 15 54 29.0
comp=Z,21nm,0.8s
BOZ Bozeman (W) 73.44 45 P **P 15 54 30.2 +1.0**
baz=308,SNR=8.6
BOZ Bozeman (W) 73.44 45 P **P 15 54 29.9 +0.8**
BOZ pmax pmax
comp=Z,12nm,1.1s
BOZ Bozeman (W) 73.44 45 P **P 15 54 29.9 +0.8**
BOZ IAmb IAmb 15 54 31.6
comp=Z,12nm,1.1s
KVN Kaiserville 73.58 53 P **P 15 54 31.2 +1.0**
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 73.58 53 P **P 15 54 31.1 +1.0**
MDPB Devils Postpil 73.80 55 P **P 15 54 31.5 0.0**
NVAR Mina Array Bea 73.82 54 P **P 15 54 33.5 +1.8**
comp=Z,3.6nm,0.8s,baz=281,slow=6.1,SNR=21
NVAR LR LR 16 21 13.4
comp=Z,52nm,21.1s,baz=292,slow=31
NVAR Mina Array Bea 73.82 54 P **P 15 54 32.5 +0.9**
YHL Hebgen Lake 74.15 45 P **P 15 54 34.5 +1.0**
PAGB Antelope Grade 74.16 57 P **P 15 54 34.9 +1.5**
YHB Horse Butte 74.20 45 P **P 15 54 34.9 +1.1**
ELK Elko 74.33 50 P **P 15 54 35.3 +0.7**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 74.33 50 P **P 15 54 35.2 +0.7**
SFJD Kangerlussuaq 74.37 5 *i* P **P 15 54 34.2 +0.2**
SFJD Kangerlussuaq 74.37 5 *i* P **P 15 54 34.2 +0.2**
GCMT Greycliff 74.38 44 P **P 15 54 36.1 +1.4**
SIM Simferopol' 74.51 315 *e*P **P 15 54 35.6 +0.4**
YNE Yellowstone No 74.70 44 P **P 15 54 38.0 +1.4**
H17A Grant Village 74.77 45 P **P 15 54 40.1 +3.0**
baz=309,SNR=12
VES Vestal, Richgr 74.86 56 P **P 15 54 39.2 +1.8**
baz=307
IMW Indian Meadow 74.88 46 P **P 15 54 39.7 +1.9**
PKM Mcpherson Peak 74.95 57 P **P 15 54 40.0 +1.8**
baz=307
FXWY Fox Creek 75.00 46 P **P 15 54 40.0 +1.6**
RLMT Red Lodge 75.03 44 P **P 15 54 40.0 +1.5**
baz=310
RLMT Red Lodge 75.03 44 P **P 15 54 39.2 +0.7**
RLMT IAmb IAmb 15 54 41.9
comp=Z,16nm,1.2s
MOOW Moose Ponds 75.08 46 P **P 15 54 40.5 +1.6**
TPAW Teton Pass 75.13 46 P **P 15 54 40.4 +1.2**
CWC Cottonwood Cre 75.15 55 P **P 15 54 40.5 +1.2**
baz=307
HVU Hansel Valley 75.16 48 P **P 15 54 40.4 +1.2**
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU Hansel Valley 75.16 48 P **P 15 54 40.4 +1.2**
REDW Red Top Meadow 75.27 46 P **P 15 54 41.4 +1.5**
REDW IAmb IAmb 15 54 45.9
comp=Z,21nm,1.7s
ISA Isabella, Lake 75.36 56 P **P 15 54 41.3 +0.9**
baz=307
DGMT Dagmar 75.46 39 P **P 15 54 41.6 +0.9**
baz=312
BGU Big Grassy Mou 75.54 49 P **P 15 54 42.7 +1.2**
R11A Troy Canyon, C 75.58 52 P **P 15 54 42.4 +0.7**
baz=308,SNR=7.7
R11A Troy Canyon, C 75.58 52 P **P 15 54 42.7 +1.0**
LAO LASA Array 75.62 41 P **P 15 54 43.2 +1.5**
baz=311,SNR=5.8
LAO LASA Array 75.62 41 P **P 15 54 42.9 +1.2**
LAO IAmb IAmb 15 54 44.8
comp=Z,22nm,1.1s
MPMC Manual Prospec 75.76 55 P **P 15 54 44.1 +1.2**
baz=307
FURC Furnace Creek, 75.92 55 P **P 15 54 45.0 +1.6**
baz=308
DIKM Dikmen 75.95 312⇓ P **P 15 54 44.8 +1.3**
HWUT Hardware Ranch 75.97 48 P **P 15 54 44.7 +0.8**
LRMC Laurel Mtn Rad 75.99 56 P **P 15 54 45.5 +1.4**
baz=307
TPNV Topopah Spring 76.01 54 P **P 15 54 45.7 +1.5**
baz=308,SNR=5.5
TPNV Topopah Spring 76.01 54 P **P 15 54 45.4 +1.2**
TPNV pmax pmax
comp=Z,27nm,1.9s
TPNV Topopah Spring 76.01 54 P **P 15 54 45.4 +1.2**
TPNV IAmb IAmb 15 55 02.2
comp=Z,26nm,1.9s
DUG Dugway, Tooele 76.12 50 P **P 15 54 46.5 +1.7**
baz=309,SNR=6.8
DUG Dugway, Tooele 76.12 50 P **P 15 54 45.4 +0.6**
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 76.12 50 P **P 15 54 45.4 +0.6**
EDW2 Edwards Air Fo 76.15 56 P **P 15 54 45.7 +0.8**
baz=307,SNR=5.2
BSD Bornholm Skovb 76.30 332 *e*P **P 15 54 45.2 0.0**
BSD pmax pmax
comp=Z,31nm,0.9s
BSD Bornholm Skovb 76.30 332 *i* P **P 15 54 45.2 0.0**
comp=Z,31nm,0.9s
BW06 Boulder Array 76.38 46 P **P 15 54 46.9 +0.6**
baz=310,SNR=6.9
BW06 Boulder Array 76.38 46 P **P 15 54 46.8 +0.6**
PD31 Pinedale Array 76.38 46 P **P 15 54 46.7 +0.5**
PDAR Pinedale Array 76.38 46 P **P 15 54 47.2 +0.9**
comp=Z,3.8nm,0.8s,baz=279,slow=2.5,SNR=30
PDAR LR LR 16 28 27.9
comp=Z,12nm,20.1s,baz=355,slow=36
PDAR Pinedale Array 76.38 46 P **P 15 54 46.8 +0.5**
PSUT Pine Spring 76.53 51 P **P 15 54 48.1 +0.9**
GSC Goldstone, Bar 76.66 56 P **P 15 54 49.0 +1.1**
baz=308
NLU North Lily Min 76.71 49 P **P 15 54 49.9 +1.7**
SHPR Sheep Range 76.98 54 P **P 15 54 51.2 +1.5**
KWP Kalwaria Pacla 77.12 324 *e*P **P 15 54 51.5 +1.4**
KWP Kalwaria Pacla 77.12 324 *e*P **P 15 54 51.5 +1.4**
KWP *e*P **P 15 54 51.5 +1.4**
KWP Kalwaria Pacla 77.12 324 P **P 15 54 50.6 +0.6**
TUQ Turquoise Moun 77.15 55 P **P 15 54 51.9 +1.2**
baz=308,SNR=5.9
MUD Monsted U'grnd 77.25 335 *i* P **P 15 54 50.9 +0.4**
MUD pmax pmax
comp=Z,41nm,1.1s
MUD Monsted U'grnd 77.25 335 *i* P **P 15 54 50.9 +0.4**
comp=Z,41nm,1.1s
BUR08 Bucovina Ar. S 77.34 322 P **P 15 54 51.9 +0.4**
BUR08 IAmb IAmb 15 54 53.1
comp=Z,12nm,0.9s
BURAR Bucovina Array 77.36 322⇑ P **P 15 54 51.8 +0.3**
BURAR Bucovina Array 77.36 322⇑ P **P 15 54 51.8 +0.3**
BURAR mb 15 54 53.2
BURAR Bucovina Array 77.36 322 P **P 15 54 51.6 +0.1**
BIZ Bicaz 77.39 321⇓ P **P 15 54 52.4 +0.8**
TESR Tescani 77.41 320⇓ P **P 15 54 52.0 +0.3**
CCUT Cedar City 77.45 52 P **P 15 54 53.6 +1.2**
CFR Carcaliu 77.56 318⇑ P **P 15 54 53.0 +0.5**
CFR Carcaliu 77.56 318⇑ P **P 15 54 53.0 +0.5**
GAZ Gaziantep 77.59 308 P **P 15 54 53.3 +0.3**
GAZ IAmb IAmb 15 54 55.2
comp=Z,20nm,0.9s
GMRC Granite Mounta 77.72 55 P **P 15 54 55.0 +1.2**
baz=308
RDMU Red Mountain 77.79 48 P **P 15 54 54.7 +0.5**
VRI Vrincioaia 77.81 320⇓ P **P 15 54 55.8 +1.8**
VRI Vrincioaia 77.81 320⇓ P **P 15 54 55.8 +1.8**
KOLS Kolonicke sedl 77.82 324 *e*P **P 15 54 55.0 +1.0**
KOLS pmax pmax
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 77.82 324 *e*P **P 15 54 55.0 +1.0**
LCMT Little Creek M 77.86 52 P **P 15 54 55.3 +0.8**
MTPU Mount Pierson 77.86 51 P **P 15 54 56.2 +1.4**
OJC Ojcow 78.00 326 P **P 15 54 54.8 -0.1**
OJC pmax pmax
comp=Z,26nm,0.9s
OJC Ojcow 78.00 326 *e*P **P 15 54 55.5 +0.7**
OJC *e*P **P 15 54 55.5 +0.7**
OJC Ojcow 78.00 326 P **P 15 54 54.8 -0.1**
OJC IAmb IAmb 15 54 56.7
comp=Z,26nm,0.9s
TLB Topalu 78.01 318⇑ P **P 15 54 55.7 +0.7**
TLB Topalu 78.01 318⇑ P **P 15 54 55.7 +0.7**
ULM Lac du Bonnet 78.07 34 P **P 15 54 55.7 +0.4**

ULM pmax pmax
comp=Z,78nm,2.0s
ULM Lac du Bonnet 78.07 34 P P 15 54 55.6 +0.4
comp=Z,6.8nm,1.0s,baz=302,slow=12,SNR=3.9
MDND Maddock 78.11 37 P P 15 54 57.2 +1.6
baz=315
BR131 Keskin Array S 78.12 312 P P 15 54 55.9 -0.1
BR131 pmax pmax
comp=Z,12nm,1.2s
BR131 Keskin Array S 78.12 312 P P 15 54 55.9 -0.1
BR131 lAmb lAmb 15 54 57.5
comp=Z,12nm,1.1s
BRTR Keskin Array B 78.12 312 P P 15 54 56.2 +0.2
comp=Z,2.3nm,0.5s,baz=92,slow=4.0,SNR=22
BRTR LR LR 16 33 58.8
comp=Z,57nm,18.5s,baz=74,slow=39
BRTR Keskin Array B 78.12 312 P P 15 54 55.6 -0.4
K22A Casper 78.14 44 P P 15 54 57.1 +1.0
baz=312
ARCR ARCALIA 78.15 322 ⇓P P 15 54 57.4 +1.6
SRU San Rafael Swe 78.17 49 P P 15 54 56.6 +0.3
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 78.17 49 P P 15 54 56.6 +0.3
TRPA Tarpa 78.27 323 ⇓P P 15 54 56.5 0.0
TRPA mb 15 54 58.5
NIE Niedzica 78.36 325 *eP* **P 15 54 58.0 +1.0**
NIE Niedzica 78.36 325 *eP* **P 15 54 58.0 +1.0**
NIE *eP* **P 15 54 58.0 +1.0**
DOPR Dopca 78.42 320 ⇓P P 15 54 58.9 +1.5
ISR Istrita 78.42 319 ⇓P P 15 54 59.0 +1.6
ISR Istrita 78.42 319 ⇓P P 15 54 59.0 +1.6
ICOR Ion Corvin 78.46 318 ⇓P P 15 54 58.9 +1.4
MLR Muntele Rosu 78.47 320 P P 15 54 58.7 +1.0
comp=Z,5.9nm,0.9s,baz=85,slow=5.7,SNR=4.6
MLR Muntele Rosu 78.47 320 ⇓P P 15 54 58.5 +0.7
RSSD Black Hills 78.49 42 P P 15 54 59.2 +1.1
baz=313
ANTO Ankara 78.52 312 ⇑P P 15 54 59.1 +1.0
ANTO Ankara 78.52 312 ⇑P P 15 54 59.1 +1.0
ANTO mb 15 54 59.9
BC3 Big Chuckawall 78.56 56 P P 15 54 59.8 +1.3
baz=309
IKP In-Ko-Pah, Jac 78.75 57 P P 15 55 01.2 +1.7
baz=309
CJR Cluj-Napoca 78.78 322 ⇑P P 15 55 01.1 +1.8
CJR Cluj-Napoca 78.78 322 ⇑P P 15 55 01.1 +1.8
U15A North Rim 78.82 52 P P 15 55 01.5 +1.5
O20A White River Ci 78.84 47 P P 15 55 01.3 +1.3
baz=311
O20A White River Ci 78.84 47 P P 15 54 59.0 -1.0
O20A lAmb lAmb 15 55 56.2
comp=Z,14nm,1.2s
LANS Liptovska Anna 78.93 326 *eP* **P 15 55 01.8 +1.7**
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 78.93 326 *eP* **P 15 55 01.8 +1.7**
VOIR 78.96 320 ⇑P P 15 55 01.8 +1.4
VOIR 78.96 320 ⇑P P 15 55 01.8 +1.4
OKC Ostrava-Krasne 78.99 327 *eP* **P 15 55 01.8 +1.4**
OKC Ostrava-Krasne 78.99 327 *eP* **P 15 55 01.8 +1.4**
KSP Ksiaz 79.02 328 *eP* **P 15 55 01.6 +1.1**
KSP Ksiaz 79.02 328 *eP* **P 15 55 01.6 +1.1**
KSP *eP* **P 15 55 01.6 +1.1**
Y12C Blythe 79.10 56 P P 15 55 03.1 +1.8
baz=309
DRGR 79.15 322 ⇓P P 15 55 02.0 +0.6
DRGR 79.15 322 ⇓P P 15 55 02.0 +0.6
ARR Arges 79.22 320 ⇑P P 15 55 03.4 +1.6
MORC Moravsky Berou 79.30 327 P P 15 55 02.5 +0.4
MORC pmax pmax
comp=Z,20nm,1.0s
MORC Moravsky Berou 79.30 327 ⇑P P 15 55 03.0 +0.9
MORC mb 15 55 04.0
MORC Moravsky Berou 79.30 327 *eP* **P 15 55 02.8 +0.7**
MORC Moravsky Berou 79.30 327 P P 15 55 02.5 +0.4
MORC lAmb lAmb 15 55 04.0
comp=Z,20nm,1.0s
DPC Dobruska-Polom 79.38 328 *eP* **P 15 55 03.4 +0.8**
DPC Dobruska-Polom 79.38 328 *eP* **P 15 55 03.4 +0.8**
UPC Upice 79.39 328 *eP* **P 15 55 03.8 +1.2**
UPC Upice 79.39 328 *eP* **P 15 55 03.8 +1.2**
KRLC Kraliky 79.40 328 *eP* **P 15 55 03.5 +0.8**
KRLC Kraliky 79.40 328 *eP* **P 15 55 03.5 +0.8**
PV09 Paradox Valley 79.40 49 P P 15 55 04.3 +1.1
PV23 Carpenter Ridg 79.50 49 P P 15 55 04.6 +0.8
PV23 lAmb lAmb 15 55 25.9
comp=Z,12nm,0.9s
PV14 Lion Creek, Pa 79.55 49 P P 15 55 04.9 +1.0
PV14 lAmb lAmb 15 55 06.5
comp=Z,16nm,1.0s
PV22 Blue Mesa, Par 79.58 49 P P 15 55 05.7 +1.6
PV20 West Nyswonger 79.60 49 P P 15 55 05.2 +1.1
PV20 lAmb lAmb 15 55 07.2
comp=Z,12nm,0.9s
PV04 Paradox Valley 79.60 49 P P 15 55 05.1 +1.0
PV04 lAmb lAmb 15 55 07.5
comp=Z,12nm,1.1s
PV19 Morning Glory 79.61 49 P P 15 55 04.9 +0.7
PV19 lAmb lAmb 15 55 06.8
comp=Z,16nm,1.0s
N23A Red Feather La 79.64 46 P P 15 55 06.2 +1.8
baz=312
N23A Red Feather La 79.64 46 P P 15 55 05.1 +0.7
PV17 East Wray Mesa 79.64 49 P P 15 55 05.9 +1.5
PV17 lAmb lAmb 15 55 07.0
comp=Z,20nm,1.0s
PSZ Piszkesteto 79.64 325 P P 15 55 03.9 -0.2
PSZ pmax pmax
comp=Z,23nm,1.1s
PSZ Piszkesteto 79.64 325 ⇑P P 15 55 04.8 +0.7
PSZ mb 15 55 06.2
PSZ Piszkesteto 79.64 325 P P 15 55 03.9 -0.2
PSZ lAmb lAmb 15 55 06.1
comp=Z,23nm,1.1s
PV16 Nyswonger Mesa 79.65 49 P P 15 55 05.1 +0.7
PV16 lAmb lAmb 15 55 07.1
comp=Z,11nm,1.0s
PV11 David Mesa, Pa 79.68 49 P P 15 55 05.9 +1.3
PV11 lAmb lAmb 15 55 07.3
comp=Z,16nm,1.1s
PV05 Paradox Valley 79.69 49 P P 15 55 06.0 +1.2
PV05 lAmb lAmb 15 55 07.5
comp=Z,15nm,0.9s
VYHS Vyhne 79.69 325 *eP* **P 15 55 05.1 +0.8**
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 79.69 325 *eP* **P 15 55 05.1 +0.8**
PV18 Skein Mesa, Pa 79.70 49 P P 15 55 06.1 +1.4
PV03 Paradox Valley 79.73 49 P P 15 55 06.1 +1.2
COPA Copaceanca 79.79 319 ⇑P P 15 55 06.1 +1.3
PV13 Radium Mtn., P 79.81 49 P P 15 55 06.7 +1.3
PV02 Paradox Valley 79.82 49 P P 15 55 06.7 +1.2
JAVC Velka Javorina 79.93 326 *eP* **P 15 55 07.1 +1.5**
BRG Berggiesshubel 79.95 329 *eP* **P 15 55 05.9 +0.3**
comp=Z,17nm,1.1s
BRG Berggiesshubel 79.95 329 *eP* **P 15 55 05.9 +0.3**
BRG pmax pmax
comp=Z,17nm,1.1s
PVCC Panska Ves 79.96 329 *eP* **P 15 55 06.8 +1.2**
PVCC Panska Ves 79.96 329 *eP* **P 15 55 06.8 +1.2**
PV01 Paradox Valley 79.97 49 P P 15 55 06.4 +0.2
PV01 lAmb lAmb 15 55 30.4
comp=Z,41nm,1.9s
CLL Collm 79.98 330 *i P* **P 15 55 05.8 +0.1**
CLL pmax pmax
comp=Z,26nm,1.0s
CLL Collm 79.98 330 *i P* **P 15 55 05.8 +0.1**
comp=Z,26nm,1.0s
CLL *i* sP **sP 15 55 26.3 -0.3**
CLL L L 16 33 00.0
comp=Z,200nm,18.9s
CLL Collm 79.98 330 P P 15 55 05.6 -0.1
CLL lAmb lAmb 15 55 07.0
comp=Z,27nm,1.0s
WUAZ Wupatki 79.98 52 P P 15 55 08.3 +2.0
baz=310
SIRR Siria 80.03 322 ⇓P P 15 55 07.0 +0.9
VRAC Vranov 80.06 327 ⇓P P 15 55 07.1 +0.9
VRAC Vranov 80.06 327 P P 15 55 06.7 +0.5
comp=Z,13nm,0.9s,baz=23,slow=5.9,SNR=11
VRAC Vranov 80.06 327 ⇓P P 15 55 07.1 +0.9
VRAC mb 15 55 08.3
VRAC Vranov 80.06 327 *eP* **P 15 55 06.9 +0.7**

GZR Gura Zlata 80.12 321 ⇑P P 15 55 06.9 +0.2
GZR Gura Zlata 80.12 321 ⇑P P 15 55 06.9 +0.2
KRUC Moravsky 80.33 327 *eP* **P 15 55 08.2 +0.5**
GOPC GO Pecny, Ondr 80.35 328 *eP* **P 15 55 08.2 +0.4**
GOPC GO Pecny, Ondr 80.35 328 *eP* **P 15 55 08.2 +0.4**
PRU Pruhonice 80.39 329 *eP* **P 15 55 08.9 +0.9**
PRU Pruhonice 80.39 329 *eP* **P 15 55 08.9 +0.9**
MODS Modra-Piesok 80.47 326 *eP* **P 15 55 09.2 +0.7**
MODS pmax pmax
comp=Z,19nm,1.1s
MODS Modra-Piesok 80.47 326 *eP* **P 15 55 09.2 +0.7**
BZS Buzias 80.52 322 ⇑P P 15 55 08.8 +0.1
BZS Buzias 80.52 322 ⇑P P 15 55 08.8 +0.1
ISCO Idaho Springs 80.57 46 P P 15 55 11.2 +1.7
baz=313
PLVB Pleven 80.62 319 ⇓P P 15 55 10.1 +0.8
MVCO Mesa Verde 80.62 50 P P 15 55 11.8 +2.0
baz=312
MVCO Mesa Verde 80.62 50 P P 15 55 10.8 +1.1
X16A Lo Mia Camp, P 80.64 53 P P 15 55 09.1 -0.8
HERR Herculane 80.67 321 ⇑P P 15 55 09.6 +0.1
PUNG Punghina 80.84 320 ⇑P P 15 55 12.4 +1.9
ASF Jabal al Asfar 80.96 304 P P 15 55 11.7 +0.2
comp=Z,5.4nm,0.9s,baz=1.0,slow=1.5,SNR=8.2
MOX Moxa 81.04 331 P P 15 55 12.3 +0.9
MOX pmax pmax
comp=Z,13nm,1.2s
NKC Novy Kostel 81.04 330 *eP* **P 15 55 11.5 0.0**
NKC Novy Kostel 81.04 330 *eP* **P 15 55 11.5 0.0**
MDVR Moldovita 81.08 321 ⇓P P 15 55 12.0 +0.2
S22A 4UR Ranch, Cre 81.25 48 P P 15 55 15.2 +2.0
baz=312
S22A 4UR Ranch, Cre 81.25 48 P P 15 55 12.4 -0.8
S22A lAmb lAmb 15 55 50.3
comp=Z,26nm,1.9s
MMAI Mount Meron Ar 81.39 305 P P 15 55 14.3 +0.6
comp=Z,1.3nm,0.3s,baz=43,slow=6.2,SNR=16
Q24A Divide 81.40 47 P P 15 55 14.6 +0.7
baz=313
CONA Conrad Observa 81.43 327 *eP* **P 15 55 14.8 +1.1**
comp=Z,24nm,1.5s,SNR=7.2
KHC Kasperske Hory 81.45 329 P P 15 55 13.8 +0.1
KHC pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 81.45 329 *eP* **P 15 55 14.2 +0.5**
KHC Kasperske Hory 81.45 329 P P 15 55 13.8 +0.1
GEC2 GERESS Array S 81.63 328 P P 15 55 14.7 0.0
GEC2 lAmb lAmb 15 55 16.0
comp=Z,15nm,1.1s
GERES GERESS Array B 81.63 328 P P 15 55 14.9 +0.2
comp=Z,9.4nm,1.0s,baz=35,slow=4.9,SNR=23
GERES LR LR 16 34 21.1
comp=Z,250nm,18.2s,baz=51,slow=38
GERES GERESS Array B 81.63 328 P P 15 55 14.7 0.0
VTS Vitosha 81.88 319 P P 15 55 16.4 +0.2
VTS pmax pmax
comp=Z,16nm,0.9s
VTS Vitosha 81.88 319 ⇑P P 15 55 17.2 +1.0
VTS mb 15 55 18.2
VTS Vitosha 81.88 319 P P 15 55 16.4 +0.2
VTS lAmb lAmb 15 55 18.2
comp=Z,16nm,0.9s
GRA1 Grafenberg Arr 81.95 330 P P 15 55 16.1 -0.2
GRF Grafenberg Arr 81.95 330 P P 15 55 16.1 -0.2
GRF pmax pmax
comp=Z,31nm,0.9s
SDCO Great Sand Dun 82.03 48 P P 15 55 18.7 +1.4
baz=313
SDCO Great Sand Dun 82.03 48 P P 15 55 17.1 -0.2
ARSA Arzberg 82.09 326 *eP* **P 15 55 17.7 +0.6**
comp=Z,8.8nm,0.8s
MOA Molln 82.17 327 *ePcP* **P 15 55 19.1 +1.6**
comp=Z,12nm,1.1s,SNR=5.1
ECSD EROS Data Cent 82.53 39 P P 15 55 20.4 +0.9
baz=318
ECSD EROS Data Cent 82.53 39 P P 15 55 19.3 -0.2
PERS Pernice 82.75 326 *i P* **P 15 55 20.8 +0.2**
SOKA Soboth 82.75 326 *eP* **P 15 55 21.1 +0.5**
comp=Z,38nm,1.1s,SNR=8.8
GOLS Golise 83.00 325 *i P* **P 15 55 21.8 0.0**
T25A Trinidad 83.08 47 P P 15 55 24.1 +1.5
baz=314
MEM Membach 83.13 333 P P 15 55 22.8 +0.4
comp=Z,14nm,0.8s
ANMO Albuquerque 83.37 50 P P 15 55 25.9 +1.8
baz=313
ANMO Albuquerque 83.37 50⇓ *eP* **P 15 55 25.1 +0.9**
MYKA Terra Mystica 83.39 327 *eP* **P 15 55 23.2 -0.7**
comp=Z,12nm,1.0s
BCLA Clavier 83.54 334 P P 15 55 24.3 -0.2
WATA Walderalm 83.69 329 *i P* **P 15 55 25.7 +0.1**
comp=Z,11nm,1.2s
WTTA Wattenberg 83.73 328 *eP* **P 15 55 26.0 +0.2**
comp=Z,17nm,1.2s
ABTA Abfaltersbach 83.77 328 *eP* **P 15 55 25.7 -0.2**
comp=Z,11nm,0.8s
BMRD Maredsous 83.82 334 P P 15 55 26.4 +0.5
comp=Z,25nm,1.3s
EIL Elat 83.85 303 P P 15 55 26.8 +0.3
comp=Z,9.6nm,1.0s,baz=46,slow=3.4,SNR=15
MOTA Moosalm 83.88 329 *ePcP* **P 15 55 26.8 +0.3**
comp=Z,26nm,1.1s,SNR=6.8
RETA Reutte 83.90 329 *ePcP* **P 15 55 27.0 +0.5**
comp=Z,41nm,1.2s,SNR=9.1
SQTA Sankt Quirin 83.94 329 *eP* **P 15 55 26.9 +0.2**
comp=Z,9.8nm,1.0s
PDG Podgorica 84.02 321 P P 15 55 27.1 0.0
STAL STALIGIAL 84.08 327 P P 15 55 26.3 -1.0
LIT Litokhoron 84.09 318 P P 15 55 26.8 -0.7
LIT pmax pmax
comp=Z,32nm,0.9s
LIT Litokhoron 84.09 318 P P 15 55 26.8 -0.7
BFO Black Forest 84.17 331 P P 15 55 27.5 -0.3
BFO pmax pmax
comp=Z,32nm,1.0s
BFO Black Forest 84.17 331 P P 15 55 27.6 -0.3
121A Cookes Peak, D 84.18 53 P P 15 55 29.8 +1.5
baz=312
FETA Feichten 84.29 329 *ePcP* **P 15 55 28.9 +0.3**
comp=Z,24nm,1.1s,SNR=5.9
DAVA Damuels 84.42 329 *ePcP* **P 15 55 29.5 +0.3**
comp=Z,41nm,1.0s,SNR=7.9
PMOR Pomariorio Ree 84.46 114 *eT* T 17 28 36.3
comp=Z,110nm,0.3s
DSB Dublin 84.55 341 P P 15 55 29.7 +0.2
CTI Castel Tesino 84.69 328 P P 15 55 29.4 -1.2
CTI pmax pmax
comp=Z,12nm,0.9s
CTI Castel Tesino 84.69 328 P P 15 55 29.4 -1.2
CTI lAmb lAmb 15 55 30.6
comp=Z,12nm,0.9s
ECH Echery 84.71 331 P P 15 55 30.4 -0.1
ECH Echery 84.71 331 P P 15 55 30.4 -0.1
ECH lAmb lAmb 15 55 31.7
comp=Z,20nm,1.0s
DAVOX Davos/Dischmat 84.83 329 P P 15 55 31.0 -0.4
DAVOX Davos/Dischmat 84.83 329 P P 15 55 31.0 -0.4
comp=Z,15nm,0.9s,baz=73,slow=3.1,SNR=12
PPT Papeete 85.00 117 LR LR 16 25 58.0
comp=Z,51nm,21.8s,baz=312,slow=30
PPT2 Papeete2 85.01 117 *eT* T 17 29 17.5
comp=Z,15nm,0.3s
PAE Paea 85.06 117 *eT* T 17 29 20.2
comp=Z,3.9nm,0.3s
TIAR Tiarei 85.15 117 *eT* T 17 29 27.3
comp=Z,6.7nm,0.3s
TUE Stuetta 85.29 329 P P 15 55 33.1 -0.6
TUE lAmb lAmb 15 55 37.0
comp=Z,16nm,0.9s
TVO Taravao 85.37 117 *eT* T 17 29 43.6
comp=Z,1.4nm,0.3s
E46A Sault Ste Mari 85.91 30 P P 15 55 36.8 +0.3
baz=325
H43A Windswept, Lux 86.03 33 P P 15 55 36.2 -0.9
baz=323
SENIN Lac Senin/Sane 86.19 330 P P 15 55 37.9 -0.3
SENIN lAmb lAmb 15 55 39.2
comp=Z,14nm,0.9s
TAOE Nuku Hiva Isla 86.20 104 *eLR* LR 16 23 08.0
comp=Z,513nm,25.4s
TAOE Nuku Hiva Isla 86.20 104 *eT* T 17 30 47.4
comp=Z,26nm,0.2s
AMTX Amarillo 86.23 48 P P 15 55 39.5 +1.1
baz=315
MNTX Cornudas Mount 86.24 52 P P 15 55 39.3 +0.9
baz=314
MNTX Cornudas Mount 86.24 52 P P 15 55 38.4 0.0
MNTX lAmb lAmb 15 56 31.3
comp=Z,16nm,2.0s
MEH Mehetia 86.26 116 *eT* T 17 30 50.7
comp=Z,97nm,0.2s
CLF Chambon-Foret 86.62 334 P P 15 55 40.3 +0.3
SSF Saint Saulge 87.02 333 *eP* **P 15 55 42.1 +0.2**
SSF pmax pmax
comp=Z,18nm,1.0s
LATE Laterza 87.37 326 P P 15 55 43.1 -0.6
WMOK Wichita Mounta 87.99 46 P P 15 55 47.7 +0.8
baz=317
MFF Saint Martin d 88.67 335 *eP* **P 15 55 50.4 +0.6**
MFF pmax pmax
comp=Z,19nm,1.0s
K48A Perry 88.93 32 P P 15 55 52.3 +1.3
baz=326
TX31 Lajitas Ar. Si 88.94 53 P 15 55 52.6 +1.0
TX32 Lajitas Array 88.94 53 P 15 55 52.4 +0.9
TXAR Lajitas Array 88.94 53 P P 15 55 52.7 +1.2
comp=Z,2.2nm,0.8s,baz=293,slow=3.6,SNR=28
TXAR LR LR 16 33 51.7
comp=Z,34nm,20.5s,baz=0.0,slow=34
TXAR Lajitas Array 88.94 53 P P 15 55 51.5 -0.1
TBI Tubuai 89.00 121 *e*LR LR 16 24 05.6
comp=Z,149nm,24.8s
TBI Tubuai 89.00 121 *eT* T 17 34 15.0
comp=Z,128nm,0.3s
D57A Chemin Vers le 89.04 24 P P 15 55 52.9 +1.4
baz=333
CAF Calviac 89.36 333 *eP* **P 15 55 53.9 +0.7**
CAF pmax pmax
comp=Z,16nm,1.1s
CCM Cathedral Cave 89.49 39 P P 15 55 54.7 +0.9
baz=321
CCM Cathedral Cave 89.49 39 P P 15 55 54.1 +0.3
CCM pmax pmax
comp=Z,23nm,1.5s
CCM Cathedral Cave 89.49 39 P P 15 55 54.1 +0.3
L48A N Adams 89.50 33 P P 15 55 54.6 +0.8
baz=326
E58A La Victoria 89.81 23 P P 15 55 56.2 +1.0
baz=333
LFF La Frestale 89.82 334 *eP* **P 15 55 55.9 +0.7**
LFF pmax pmax
comp=Z,21nm,1.1s
U40A Yellville 89.98 41 P P 15 55 56.7 +0.6
baz=320
U40A Yellville 89.98 41 P P 15 55 56.2 0.0
U40A lAmb lAmb 15 55 57.6
comp=Z,11nm,1.0s
H55A Tweed 90.11 27 P P 15 55 58.5 +1.9
baz=330
JCT Junction City 90.48 49 P P 15 55 59.7 +1.0
baz=316
F60A Warwick 90.58 23 P P 15 55 59.3 +0.6
baz=334
E61A Lac Etchemin 90.59 22 P P 15 55 58.8 -0.1
baz=335
S44A Carbondale 90.75 38 P P 15 56 00.7 +1.0
baz=322
WHTX Lake Whitney, 90.75 47 P P 15 56 01.1 +1.3
baz=318
LONY Lake Ozonia 90.94 25 P P 15 56 01.3 +0.9
baz=332
MIAR Mount Ida 90.99 43 P P 15 56 02.0 +1.2
baz=320
L53A Girard 91.20 30 P P 15 56 02.8 +1.1
baz=328
H59A Cadyville 91.21 25 P P 15 56 02.4 +0.6
baz=333
F62A Pittston Farm, 91.23 22 P P 15 56 03.1 +1.3
baz=336
H58A Gabriels 91.26 25 P P 15 56 02.0 0.0
baz=332
K55A Perry 91.37 28 P P 15 56 03.1 +0.6
baz=330
KEST Kesra 94.04 323 LR LR 16 43 35.8
comp=Z,210nm,19.1s,baz=304,slow=39
ESDC Sonseca Array 96.10 334 P P 15 56 23.1 -1.3
comp=Z,0.2nm,0.3s,baz=8.6,slow=4.6,SNR=4.1
ESDC LR LR 16 44 52.0
comp=Z,134nm,18.8s,baz=0.0,slow=39
ESDC Sonseca Array 96.10 334 lAmb lAmb 15 56 24.7
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 116.52 316 PKP **PKPdf 16 01 39.9 -1.0**
comp=Z,1.4nm,1.1s,baz=0.0,slow=3.0,SNR=3.5
TORD Torodi Ar. Bea 116.52 316 PKPdf 16 01 39.6 -1.2
QSPA South Pole Qui 128.27 180 PKP **PKPdf 16 02 01.2 -0.6**
comp=Z,3.2nm,1.0s,baz=331,slow=1.2,SNR=6.5
QSPA South Pole Qui 128.27 180 PKPdf 16 02 01.4 -0.4
SNAA Sanae 142.27 197 PKPdf **PKPdf 16 02 23.1 -4.7**
VNA2 Neumayer--Watz 143.84 197 PKPdf PKPbc 16 02 28.3 0.0
baz=96,slow=2.4
VNA3 Neumayer Olymp 144.09 195 PKPdf PKPbc 16 02 29.0 -0.1
VNA1 Neumayer--Stat 144.24 197 PKPdf PKPbc 16 02 29.7 +0.2
LPAZ La Paz 145.63 58 PKPbc **PKPdf 16 02 36.7 +0.7**
comp=Z,11nm,0.9s,baz=342,slow=4.6,SNR=13
LPAZ La Paz 145.63 58 PKPdf 16 02 36.2 +0.3
PB11 IPOC Station P 146.96 65 PKPbc 16 02 39.3 -0.3
GO01 Chusmiza 147.23 64 PKPbc **PKPdf 16 02 39.3 +0.9**
SIV San Ignacio 149.84 48 PKPbc **PKPbc 16 02 47.7 +0.7**
comp=Z,5.3nm,0.8s,baz=331,slow=1.7,SNR=9.9

IDC ***25*** *15:57:46.7±0.9,21°.36S×67°.24W,h163km±9km,mb3.6/4, mb1 3.7/8,mb1mx3.5/25,mbtmp4.1/8,Error ellipse: s-maj=19.7km s-min=9.3km az=110.0*
NEIC ***25*** *15:57:47.0±2.1,21°.35S±0°.05×67°.39W±0°.10,h171km±7km, mb4.4/6*
SJA ***25*** *15:57:46.1±0.9,21°.27S×67°.54W,h203km±7km,ML3.4, MW3.5*
ISCJB ***25*** *15:57:47.1±0.3,21°.36S±0°.02×67°.57W±0°.03,h188km±4km, Error ellipse: s-maj=5.2km s-min=3.7km az=174.9*
GUC ***25*** *15:57:48.3±0.7,21°.24S×67°.99W,h210km±6km,ML4.0*
SCB ***25*** *15:57:48.9±0.8,21°.34S×67°.51W,h193km±6km,ML3.7/2, Error ellipse: s-maj=5.5km s-min=5.0km az=0.0*
ISC 25 15:57:47.3±0.7,21°.30S±0°.04×67°.50W±0°.04,h179km±7km, n90,σ1°49/119,5C-12D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.70**	**253**	⇓*i*P	**Pn**	**15 58 22.5**	**+1.3**
PB09				*i* S	**Sn**	**15 58 48.4**	**+0.9**
PB09	**IPOC Station P**	**1.70**	**253**	*i* P	**Pn**	**15 58 22.6**	**+1.3**
PB09				*e*S	**Sn**	**15 58 49.0**	**+1.4**
PB09				IAML		15 58 50.2	
LVC	**Limon Verde**	**1.85**	**225**	P	**Pn**	**15 58 24.3**	**+1.3**
LVC				S	**Sn**	**15 58 50.9**	**+0.2**
LVC	**Limon Verde**	**1.85**	**225**	*i* P	**Pn**	**15 58 24.3**	**+1.3**
LVC				⇓*e*S	**Sn**	**15 58 52.8**	**+2.0**
LVC				IAML		15 58 54.7	
LVC	**Limon Verde**	**1.85**	**225**		**Pn**	**15 58 24.2**	**+1.2**
PB01	**IPOC Station P**	**1.88**	**278**	⇓*i*P	**Pn**	**15 58 23.3**	**+0.2**
PB01				*i* S	**Sn**	**15 58 49.8**	**-0.9**
PB01	**IPOC Station P**	**1.88**	**278**	P	**Pn**	**15 58 23.0**	**0.0**
PB01				S	**Sn**	**15 58 50.0**	**-0.7**
PB01				AML	AML	15 58 50.5	
PB01	**IPOC Station P**	**1.88**	**278**		**Pn**	**15 58 23.2**	**+0.2**
PB08	**IPOC Station P**	**1.94**	**306**	⇓*i*P	**Pn**	**15 58 25.2**	**+1.3**
PB08				*i* S	**Sn**	**15 58 52.9**	**+0.5**
PB08				IAML		15 58 53.8	
PB08	**IPOC Station P**	**1.94**	**306**	P	**Pn**	**15 58 24.8**	**+0.8**
PB08				S	**Sn**	**15 58 52.7**	**+0.4**
YJA	**Yavi**	**2.04**	**116**	P	**Pn**	**15 58 26.6**	**+1.5**
YJA				S	**Sn**	**15 58 53.9**	**-0.5**
YJA				AML	AML	15 58 54.9	
YJA	**Yavi**	**2.04**	**116**	*i* P	**Pn**	**15 58 26.9**	**+1.8**
YJA				IAML		15 58 59.8	
PB03	**IPOC Station P**	**2.23**	**250**	⇓*i*P	**Pn**	**15 58 27.4**	**+0.4**
PB03				*e*S	**Sn**	**15 58 56.6**	**-1.1**
PB02	**IPOC Station P**	**2.24**	**269**	⇓*i*P	**Pn**	**15 58 27.2**	**+0.2**
PB02				*i* S	**Sn**	**15 58 56.3**	**-1.5**
PB02	**IPOC Station P**	**2.24**	**269**	P	**Pn**	**15 58 27.1**	**+0.1**
PB02				S	**Sn**	**15 58 56.6**	**-1.2**

PB07	**IPOC Station P**	**2.27 259**	⇓*i*P	**Pn**	**15 58 27.7**	**+0.3**
PB07			*i* S	**Sn**	**15 58 57.1**	**-1.4**
PB07			IAML		15 58 59.0	
	comp=E,560nm,0.6s					
GO01	**Chusmiza**	**2.27 315**	⇑*i*P	**Pn**	**15 58 28.9**	**+1.1**
GO01			*i* S	**Sn**	**15 58 59.7**	**+0.5**
GO01	**Chusmiza**	**2.27 315**		**Pn**	**15 58 28.6**	**+0.7**
PB06	**IPOC Station P**	**2.38 234**	⇑*i*P	**Pn**	**15 58 29.5**	**+0.8**
PB06			*i* S	**Sn**	**15 59 00.3**	**-0.6**
PB06			IAML		15 59 01.9	
	comp=E,926nm,0.3s					
PB06	**IPOC Station P**	**2.38 234**	⇑*i*P	**Pn**	**15 58 29.5**	**+0.8**
PB06			⇓*e*S	**Sn**	**15 59 00.8**	**0.0**
PB06			IAML		15 59 01.9	
	comp=Z,203nm,0.2s					
PB11	**IPOC Station P**	**2.54 307**	⇓*i*P	**Pn**	**15 58 30.8**	**+0.2**
PB11			*i* S	**Sn**	**15 59 02.6**	**-1.6**
PB11	**IPOC Station P**	**2.54 307**		**Pn**	**15 58 30.7**	**+0.2**
PB11			Sn	**Sn**	**15 59 02.2**	**-1.9**
TA01	**Diego Aracena**	**2.62 286**	*e*P	**Pn**	**15 58 30.6**	**-0.6**
TA01			*i* S	**Sn**	**15 59 02.6**	**-2.7**
TA01			IAML		15 59 05.0	
	comp=E,675nm,0.3s					
PB15	**IPOC Station P**	**2.64 224**	⇓*i*P	**Pn**	**15 58 32.7**	**+1.0**
PB15	**IPOC Station P**	**2.64 224**	*i* P	**Pn**	**15 58 32.9**	**+1.2**
PB04	**IPOC Station P**	**2.67 247**	⇓*i*P	**Pn**	**15 58 32.3**	**+0.2**
PB04			*i* S	**Sn**	**15 59 05.2**	**-1.8**
PB04			IAML		15 59 06.5	
	comp=E,422nm,0.3s					
PB04	**IPOC Station P**	**2.67 247**	P	**Pn**	**15 58 32.3**	**+0.2**
PB04	**IPOC Station P**	**2.67 247**	*i* P	**Pn**	**15 58 32.3**	**+0.2**
PB04			*e*S	**Sn**	**15 59 05.9**	**-1.1**
PB04	**IPOC Station P**	**2.67 247**		**Pn**	**15 58 32.0**	**-0.1**
PB04			Sn	**Sn**	**15 59 04.5**	**-2.5**
HJA	**Humahuaca**	**2.71 135**	*i* P	**Pn**	**15 58 35.1**	**+2.4**
HJA			IAML		15 59 14.5	
	comp=Z,96nm,0.3s					
MNMC	**Minye Minye**	**2.92 317**	⇑*i*P	**Pn**	**15 58 36.1**	**+0.8**
MNMC			*i* S	**Sn**	**15 59 11.9**	**-0.7**
MNMC	**Minye Minye**	**2.92 317**	P	**Pn**	**15 58 36.1**	**+0.8**
MNMC			S	**Sn**	**15 59 11.8**	**-0.8**
MNMC	**Minye Minye**	**2.92 317**		**Pn**	**15 58 36.0**	**+0.8**
PSGC	**Pisagua**	**2.99 304**	*e*P	**Pn**	**15 58 35.5**	**-0.4**
PSGC			*i* S	**Sn**	**15 59 11.2**	**-2.5**
PSGC	**Pisagua**	**2.99 304**	P	**Pn**	**15 58 35.4**	**-0.4**
PSGC			S	**Sn**	**15 59 10.1**	**-3.6**
PB16	**IPOC Station P**	**3.51 327**	⇑*i*P	**Pn**	**15 58 44.0**	**+1.3**
PB16			*i* S	**Sn**	**15 59 26.3**	**+0.4**
BS03	**Mojotorillo**	**3.53 57**	P	**Pn**	**15 58 43.0**	**+0.1**
BS03			S	**Sn**	**15 59 23.4**	**-2.8**
PB10	**IPOC Station P**	**3.58 232**	⇑*i*P	**Pn**	**15 58 43.3**	**+0.2**
PB10	**IPOC Station P**	**3.58 232**	P	**Pn**	**15 58 43.0**	**-0.1**
PB10	**IPOC Station P**	**3.58 232**	*i* P	**Pn**	**15 58 43.3**	**+0.2**
PB10			IAML		15 59 32.6	
	comp=Z,53nm,0.6s					
PB10	**IPOC Station P**	**3.58 232**		**Pn**	**15 58 43.2**	**+0.2**
AZAP	**Zapla**	**3.67 143**	*i* P	**Pn**	**15 58 45.4**	**+1.0**
AZAP			IAML		15 59 33.0	
	comp=Z,62nm,0.5s					
ASTB	**Santa Barbara**	**3.85 134**	⇓*i*P	**Pn**	**15 58 47.7**	**+1.1**
ASTB			IAML		15 59 35.8	
	comp=Z,125nm,0.4s					
SLA	**San Lorenzo**	**3.87 152**	*i* P	**Pn**	**15 58 49.1**	**+2.3**
SLA			IAML		15 59 40.8	
	comp=Z,23nm,0.8s					
BS06	**Camiri**	**3.93 72**	P	**Pn**	**15 58 47.7**	**+0.1**
BS08	**Valle Grande**	**4.23 49**	P	**Pn**	**15 58 51.8**	**+0.2**
BS05	**Cuyupaya**	**4.30 7**	P	**Pn**	**15 58 54.9**	**+2.3**
GO02	**Mina Guanaco**	**4.30 206**		**Pn**	**15 58 52.6**	**+0.2**
BBOJ	**La Paz, Jacaqu**	**4.35 351**	P	**Pn**	**15 58 55.4**	**+2.0**
BBOE	**La Paz, Chanca**	**4.49 354**	P	**Pn**	**15 58 57.1**	**+1.9**
BBOD	**La Paz, Gloria**	**4.76 347**	P	**Pn**	**15 59 00.4**	**+1.8**
LPAZ	**La Paz**	**5.02 353**	P	**Pn**	**15 59 03.2**	**+1.0**
LPAZ	**La Paz**	**5.02 353**	P	**Pn**	**15 59 03.7**	**+1.5**
	comp=Z,9.4nm,0.3s,baz=155,slow=6.6,SNR=147					
LPAZ			S	**Sn**	**16 00 01.9**	**+1.0**
	baz=358,slow=18,SNR=1.3					
BBOB	**La Paz, Bander**	**5.17 353**	P	**Pn**	**15 59 05.0**	**+1.0**
BB02	**La Guardia**	**5.19 50**	P	**Pn**	**15 59 04.6**	**+0.8**
BS09	**Huarina**	**5.19 348**	P	**Pn**	**15 59 06.1**	**+1.8**
AHML	**Horco Molle**	**5.80 161**	P	**Pn**	**15 59 12.6**	**+0.9**
AHML	**Horco Molle**	**5.80 161**	*i* P	**Pn**	**15 59 13.9**	**+2.2**
AHML			IAML		16 00 47.5	
	comp=Z,5.6nm,3.5s					
GO03	**Copiap**	**6.74 201**	*i* P	**Pn**	**15 59 22.2**	**-1.8**
GO03	**Copiap**	**6.74 201**		**Pn**	**15 59 21.7**	**-2.3**
CYA	**Choya**	**7.27 168**	*i* P	**Pn**	**15 59 31.9**	**+0.9**
CYA			IAML		16 01 11.6	
	comp=Z,3.8nm,2.8s					
VCA	**Vinchina**	**7.43 185**	*i* P	**Pn**	**15 59 33.7**	**+0.5**
VCA			IAML		16 01 43.3	
	comp=Z,13nm,2.4s					
SIV	**San Ignacio**	**8.06 50**	P	**Pn**	**15 59 39.3**	**-2.2**
	comp=Z,6.6nm,0.3s,baz=267,slow=10,SNR=70					
SIV			S	**Sn**	**16 01 06.2**	**-5.7**
	comp=Z,1.1nm,0.3s,baz=118,slow=17,SNR=5.8					
ACLC	**CERRO LA CRUZ**	**8.10 177**	*i* P	**Pn**	**15 59 42.0**	**-0.1**
AROD	**Rodeo**	**9.01 191**	*i* P	**Pn**	**15 59 54.1**	**0.0**
APLL	**PUNTA DE LOS L**	**9.10 175**	*i* P	**Pn**	**15 59 53.7**	**-1.4**
GO04	**Tololo Observa**	**9.32 198**	*i* P	**Pn**	**15 59 55.1**	**-3.1**
GO04	**Tololo Observa**	**9.32 198**	Pn	**Pn**	**15 59 54.7**	**-3.4**
ACCO	**Cerro Coronel**	**9.36 188**	*i* P	**Pn**	**15 59 57.8**	**-0.9**
RTLL	**Cerro Villicun**	**10.03 185**	*i* P	**Pn**	**16 00 05.6**	**-1.6**
CFA	**Coronel Fontan**	**10.28 184**	P	**Pn**	**16 00 09.3**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=6.6,slow=17,SNR=44					
CFA			S	**Sn**	**16 01 59.4**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=307,slow=23,SNR=3.0					
TCA	**Tanti**	**10.33 166**	*i* P	**Pn**	**16 00 09.5**	**-1.6**
RTCV	**Cerro Valdivia**	**10.56 185**	*i* P	**Pn**	**16 00 12.6**	**-1.6**
RTLS	**Leoncito**	**10.58 188**	*i* P	**Pn**	**16 00 14.2**	**-0.4**
TRQA	**Tornquist**	**17.36 165**	Pn	**Pn**	**16 01 39.2**	**+0.3**
TRQA			IAmb	IAmb	16 02 11.0	
	comp=Z,22nm,1.5s					
GO06	**Curarrehue**	**18.54 190**	P	**Pn**	**16 01 53.3**	**+0.5**
PLCA	**Paso Flores**	**19.54 187**	P	**P**	**16 02 00.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=328,slow=14,SNR=3.1					
PLCA	**Paso Flores**	**19.54 187**	IAmb	IAmb	16 02 48.4	
	comp=Z,28nm,1.9s					
SNAA	**Sanae**	**62.04 161**	P	**P**	**16 07 49.4**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=242,slow=7.5,SNR=7.4					
SNAA	**Sanae**	**62.04 161**	IAmb	IAmb	16 08 42.7	
	comp=Z,12nm,1.8s					
PDAR	**Pinedale Array**	**74.61 329**	P	**P**	**16 09 08.1**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=116,slow=8.1,SNR=2.9					
TOA0	**Torodi Ar. Sit**	**76.05 70**	P	**P**	**16 09 14.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.05 70**	P	**P**	**16 09 15.6**	**0.0**
	comp=Z,4.5nm,0.4s,baz=250,slow=5.5,SNR=47					
TORD	**Torodi Ar. Bea**	**76.05 70**	P	**P**	**16 09 14.5**	**-1.0**
YKA	**Yellowknife Ar**	**91.44 340**	P	**P**	**16 10 33.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=130,slow=5.0,SNR=4.9					
ASAR	**Alice Springs**	**130.68 206**	PKP	**PKiKP**	**16 16 38.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=127,slow=2.0,SNR=5.1					
WRA	**Warramunga Arr**	**133.78 209**	PKP	**PKiKP**	**16 16 45.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=155,slow=1.7,SNR=5.5					
ZALV	**Zalesovo Beam**	**141.21 26**	PKP	**PKPdf**	**16 16 56.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=299,slow=4.4,SNR=3.4					
MKAR	**Makanchi Array**	**144.69 37**	PKP	**PKPdf**	**16 17 03.4**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=337,slow=2.7,SNR=29					
MKAR	**Makanchi Array**	**144.69 37**		**PKPdf**	**16 17 03.1**	**+0.4**

*ISK **25** 16:12:18.2, 35°.85N×29°.16E, h11km, ML2.7/7*
*DDA **25** 16:12:24.9, 36°.30N×29°.64E, h20km±1km, ML1.4*
ISC 25 16:12:17.1±3.9, 35°.8N±0°.2×29°.21E±0°.09, h10km±23km, n11, σ0°87/14, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.57**	**34**	*i* P	**Pg**	**16 12 28.9**	**+0.6**
AKAS				*i* S	**Sg**	**16 12 36.7**	**+0.8**
AKAS				IAML		16 12 38.0	
	comp=E,96nm,0.5s						
AKAS				IAML		16 12 39.0	
	comp=N,210nm,0.3s						
AKAS	**Kas**	**0.57**	**34**	PG	**Pg**	**16 12 28.9**	**+0.6**
FETY	**Fethiye**	**0.88**	**354**	*i* P	**Pg**	**16 12 34.0**	**-0.1**
FETY				*i* S	**Sg**	**16 12 44.6**	**-1.0**
FETY				IAML		16 12 47.0	
	comp=N,31nm,0.6s						
FETY				IAML		16 12 50.0	
	comp=E,14nm,0.2s						
FETY	**Fethiye**	**0.88**	**354**	PG	**Pg**	**16 12 33.7**	**-0.4**
FETY				SG	**Sg**	**16 12 45.3**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.08**	**58**	*i* P	**Pb**	**16 12 36.1**	**-1.8**
ELL	**Elmali**	**1.14**	**30**	PN	**Pb**	**16 12 39.7**	**+0.7**
DALY	**Dalyan (Mula)**	**1.15**	**337**	PG	**Pn**	**16 12 39.0**	**-0.2**
DAT	**Datca**	**1.63**	**307**	PN	**Pn**	**16 12 46.7**	**+0.7**
BODT	**Bodrum**	**2.01**	**311**	PN	**Pn**	**16 12 51.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.42**	**335**	PN	**Pn**	**16 12 57.4**	**+0.5**
GCAM	**G?zelcaml?**	**2.50**	**321**	PN	**Pn**	**16 12 58.3**	**+0.4**

*NIED **25** 16:38:00, 30°.00N×131°.40E, h20km, Mw4.7 Best double couple: M0 1.12000×10^16 NP1:φs213.00000°, δ31.00000°, λ93.00000°. NP2:φs29.00000°, δ59.00000°, λ88.00000°.*
*IDC **25** 16:38:44.5±0.7, 30°.09N×131°.11E, h0km, mb4.2/18, mb1 4.3/23, mb1mx4.2/36, mbtmp4.1/23, ML3.2/6, MS4.0/15, Ms1 4.0/15, ms1mx3.7/32, Error ellipse: s-maj=19.1km s-min=14.1km az=98.0*
*BJI **25** 16:38:45.6±0.0, 29°.80N×131°.30E, h34km, mb4.4/38, mB4.8/30, Ms4.5/34, Ms7 4.4/33*
*JMA **25** 16:38:46.6±0.2, 29°.98N×131°.40E, h32km±2km, M4.4*
*MOS **25** 16:38:47.1±1.1, 30°.15N×131°.04E, h29km, mb4.6/16, Error ellipse: s-maj=10.8km s-min=6.5km az=115.2*
*ISCJB **25** 16:38:47.8±0.5, 29°.99N±0°.02×131°.25E±0°.04, h47km±3km, mb4.3/43, MS4.2/19, Error ellipse: s-maj=6.8km s-min=3.2km az=26.0*
*NEIC **25** 16:38:49.5±1.3, 30°.06N±0°.06×131°.1E±0°.1, h38km±6km, mb4.7/40*
ISC 25 16:38:48.3±0.7, 30°.01N±0°.04×131°.24E±0°.05, h33km±2km, h33km:pP-P, n165, σ1s29/190, mb4.6/50, MS4.1/21, 5C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.48**	**323**	P	**Pn**	**16 38 58.3**	**-0.7**
JMTN				*e*S	**Sb**	**16 39 06.7**	**+0.9**
JYAK	**Yakushimahirau**	**0.67**	**290**	P	**Pb**	**16 39 01.7**	**0.0**
JYAK				*e*S	**Sb**	**16 39 12.9**	**+2.1**
JTN	**Tanegashima 3**	**0.68**	**341**	P	**Pn**	**16 39 01.2**	**-0.4**
JTN				*e*S	**Sb**	**16 39 11.4**	**+0.3**
JKC	**Kuchinoerabu**	**1.01**	**297**	P	**Pb**	**16 39 07.0**	**-0.3**
JKC				*e*S	**Sb**	**16 39 21.2**	**+1.0**
JTSR	**Tashiro 2**	**1.18**	**347**	P	**Pn**	**16 39 08.3**	**-0.3**
JTSR				*e*S	**Sb**	**16 39 24.6**	**-0.7**
JNN	**Nakanoshima**	**1.19**	**262**	P	**Pb**	**16 39 09.8**	**-0.7**
JNN				S	**Sb**	**16 39 25.6**	**0.0**
JNAR	**Kushima--Naru**	**1.51**	**1**	P	**Pn**	**16 39 12.9**	**-0.2**
JNAR				*e*S	**Sn**	**16 39 32.0**	**+0.4**
JSU	**Suzuyama**	**1.64**	**336**	P	**Pn**	**16 39 14.9**	**+0.1**
JSU				*e*S	**Sb**	**16 39 36.5**	**-1.7**
JNKG	**Nichinankitago**	**1.65**	**4**	P	**Pn**	**16 39 15.0**	**0.0**
JNKG				*e*S	**Sn**	**16 39 35.2**	**+0.1**
JTAJ	**Takarajima**	**1.97**	**245**	P	**Pn**	**16 39 20.7**	**+1.4**
JAM	**Amami Oshima**	**2.14**	**222**	P	**Pn**	**16 39 22.4**	**+0.7**
JAM				*e*S	**Sn**	**16 39 48.2**	**+1.1**
JAMN	**Amaminishikomi**	**2.52**	**226**	P	**Pn**	**16 39 27.6**	**+0.6**
JAMN				*e*S	**Sn**	**16 39 57.8**	**+1.3**
JTK	**Tokunoshima**	**2.99**	**223**	P	**Pn**	**16 39 34.2**	**+0.8**
JNU	**Nakatsue**	**3.12**	**354**	Pn	**Pn**	**16 39 35.3**	**+0.1**
	11nm,0.3s,baz=202,slow=9.6,SNR=79						
JNU				Sn	**Sn**	**16 40 10.4**	**-0.9**
	7.9nm,0.3s,baz=162,slow=6.4,SNR=4.6						
JNU	**Nakatsue**	**3.12**	**354**		**Pn**	**16 39 35.5**	**+0.3**
JYRO	**Yoronjima**	**3.85**	**220**	P	**Pn**	**16 39 45.5**	**+0.2**
JOW	**Kunigami**	**4.10**	**220**	P	**Pn**	**16 39 49.3**	**+0.6**
JOW	**Kunigami**	**4.10**	**220**	Pn	**Pn**	**16 39 49.4**	**+0.6**
	0.9nm,0.3s,baz=94,slow=18,SNR=16						
JOW				Sn	**Sn**	**16 40 35.0**	**-0.6**
	6.0nm,0.3s,baz=239,slow=30,SNR=9.7						
JOW	**Kunigami**	**4.10**	**220**		**Pn**	**16 39 49.5**	**+0.7**
JIH	**Iheya**	**4.13**	**225**	S	**Sn**	**16 40 35.5**	**-0.8**
JMZ	**Minamidaito 2**	**4.18**	**180**	S	**Sn**	**16 40 33.5**	**-3.9**
JNTH	**Nagotoyohara**	**4.49**	**220**	P	**Pn**	**16 39 54.0**	**0.0**
JNTH				S	**Sn**	**16 40 43.9**	**-1.2**
JKE	**Kume jima 2**	**5.38**	**228**	P	**Pn**	**16 40 06.0**	**-0.2**
JKE				S	**Sn**	**16 41 05.8**	**-1.2**
INU	**Inuyama**	**7.21**	**41**		**Pn**	**16 40 34.0**	**+2.5**
KSRS	**Korea Array**	**7.92**	**340**	Pn	**Pn**	**16 40 41.4**	**+0.3**
	0.3nm,0.3s,baz=154,slow=15,SNR=4.3						
MJAR	**Matsushiro Arr**	**8.74**	**40**	Pn	**Pn**	**16 40 53.2**	**+0.8**
	0.1nm,0.3s,baz=246,slow=13,SNR=6.6						
JCJ	**Chichijima**	**10.05**	**104**	LR	LR	16 44 27.3	
	comp=Z,297nm,19.7s,baz=170,slow=34						
NJ2	**Nanjing**	**10.81**	**284**	*e*P	**Pn**	**16 41 20.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				LR	LR		
	comp=N,1μm,15.6s						
NJ2				LR	LR		
	comp=E,2μm,13.3s						
NJ2				LR	LR		
	comp=Z,2μm,13.7s						
USRK	**Ussuriysk Ar.**	**14.18**	**2**	Pn	**P**	**16 42 15.4**	**+1.7**
	baz=167,slow=9.4,SNR=8.3						
USRK				LR	LR	16 47 48.0	
	comp=Z,383nm,19.6s,baz=166,slow=38						
CN2	**Changchun**	**14.52**	**343**	*e*P	**P**	**16 42 17.8**	**+0.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				LR	LR		
	comp=N,2μm,16.0s						
CN2				LR	LR		
	comp=E,2μm,16.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
BJI	**Beijing**	**15.86**	**313**	*e*P	**Pn**	**16 42 28.0**	**-1.1**
BJI				LR	LR		
	comp=N,1μm,14.5s						
BJI				LR	LR		
	comp=E,1μm,13.3s						
BJI				LR	LR		
	comp=Z,900nm,15.3s						
ASAJ	**Asahikawa**	**16.72**	**30**	P	**P**	**16 42 42.0**	**0.0**
ASAJ	**Asahikawa**	**16.72**	**30**	Pn	**P**	**16 42 42.0**	**0.0**
	0.3nm,0.3s,baz=21,slow=33,SNR=11						
JKA	**Kamikawa-asahi**	**16.72**	**30**	P	**P**	**16 42 42.0**	**0.0**
ENH	**Enshi**	**18.81**	**276**	P	**Pn**	**16 43 04.9**	**-1.0**
KLR	**Kul'dur**	**19.20**	**1**	P	**P**	**16 43 09.5**	**+0.2**
	0.3nm,0.3s,baz=203,slow=6.7,SNR=9.0						
HHC	**Hu-ho-hao-te**	**19.29**	**309**	*e*P	**Pn**	**16 43 11.5**	**-0.2**
XAN	**Xi'an**	**19.33**	**288**	P	**Pn**	**16 43 11.0**	**-1.2**
XAN				pP	pP	16 43 19.8	+0.5
XAN				pmax	pmax		
	comp=Z,95nm,4.3s						
XAN				LR	LR		
	comp=N,870nm,14.6s						
XAN				LR	LR		
	comp=E,700nm,14.1s						
XAN				LR	LR		
	comp=Z,710nm,13.8s						
XAN	**Xi'an**	**19.33**	**288**	P	**Pn**	**16 43 11.0**	**-1.2**
XAN				pmax	pmax		
	comp=Z,21nm,1.4s						
XAN	**Xi'an**	**19.33**	**288**		**Pn**	**16 43 11.1**	**-1.2**
HIA	**Hailar**	**21.12**	**339**	P	**P**	**16 43 28.4**	**-1.8**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HIA	**Hailar**	**21.12**	**339**	P	**P**	**16 43 28.4**	**-1.8**
GYA	**Guiyang**	**21.93**	**267**	⇑*i*P	**P**	**16 43 40.3**	**+1.2**
GYA				pP	pP	16 43 49.5	+1.8
GYA				sP	sP	16 43 56.5	+5.3
GYA				PP	**PnPn**	**16 44 06.8**	**+5.7**
GYA				S	**S**	**16 47 33.5**	**-6.1**
GYA				sS	sS	16 47 52.0	-1.6
GYA				SS	**SnSn**	**16 48 12.0**	**+6.0**
QIZ	**Qiongzhong**	**22.29**	**246**	P	**P**	**16 43 43.5**	**+0.6**
QIZ				S	**S**	**16 47 46.5**	**+0.3**
QIZ				pmax	pmax		
	comp=Z,200nm,4.1s						
QIZ				LR	LR		
	comp=Z,430nm,15.7s						
QIZ				LR	LR		
	comp=Z,560nm,16.7s						
QIZ				LR	LR		
	comp=Z,670nm,18.6s						
CD2	**Chengdu**	**23.68**	**279**	P	**P**	**16 43 57.5**	**+0.3**
CD2				S	**S**	**16 48 06.3**	**-3.7**
CD2				pmax	pmax		
	comp=Z,50nm,1.4s						
CD2				pmax	pmax		
	comp=Z,130nm,8.2s						
CD2				LR	LR		
	comp=Z,1μm,17.8s						
CD2				LR	LR		
	comp=Z,1μm,10.4s						
CD2				LR	LR		
	comp=Z,2μm,13.3s						
LZH	**Lanzhou**	**23.70**	**292**	*e*P	**P**	**16 43 55.3**	**-2.1**
LZH				pP	pP	16 44 05.5	-0.9
LZH				sP	sP	16 44 10.0	+0.3
LZH				PP	**PnPn**	**16 44 27.3**	**+1.9**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,4.6s						
LZH				LR	LR		
	comp=Z,680nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,14.7s						
ULN	**Ulaanbaatar**	**25.75**	**321**	⇓*e*P	**P**	**16 44 15.4**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ULN	**Ulaanbaatar**	**25.75**	**321**	P	**P**	**16 44 14.4**	**-1.6**
SONM	**Songino Array**	**26.09**	**320**	*e*P	**P**	**16 44 18.0**	**-1.1**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**26.09**	**320**	P	**P**	**16 44 18.4**	**-0.7**
	comp=Z,6.2nm,1.1s,baz=134,slow=7.0,SNR=14						
SONM				LR	LR	16 55 41.4	
	comp=Z,287nm,21.6s,baz=137,slow=39						
SONM	**Songino Array**	**26.09**	**320**	P	**P**	**16 44 17.5**	**-1.6**
GTA	**Gaotai**	**27.36**	**299**	P	**P**	**16 44 30.8**	**+0.2**
GTA				pP	pP	16 44 38.3	-1.3
GTA				sP	sP	16 44 42.0	-1.2
GTA				pmax	pmax		
	comp=Z,80nm,6.2s						
GTA				LR	LR		
	comp=Z,330nm,15.5s						
GTA				LR	LR		
	comp=Z,640nm,14.1s						
GTA				LR	LR		
	comp=Z,920nm,13.7s						
TLY	**Talaya**	**29.77**	**324**	⇓*e*P	**P**	**16 44 49.6**	**-2.2**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.6s						
CHTO	**Chiang Mai**	**31.34**	**257**	P	**P**	**16 45 05.8**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**31.34**	**257**	P	**P**	**16 45 05.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.51**	**256**	P	**P**	**16 45 07.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=50,slow=7.8,SNR=9.3						
CMAR				PcP	**PcP**	**16 48 02.3**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=34,slow=3.2,SNR=6.6						
CMAR				LR	LR	17 00 54.3	
	comp=Z,250nm,18.2s,baz=53,slow=42						
CMAR	**Chiang Mai Arr**	**31.51**	**256**	P	**P**	**16 45 07.5**	**0.0**
CMAR					**PcP**	**16 47 59.1**	**-0.8**
CM31	**Chiang Mai Arr**	**31.51**	**256**	P	**P**	**16 45 07.7**	**+0.3**
YAK	**Yakutsk**	**32.04**	**359**	*e*P	**P**	**16 45 11.3**	**-0.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**33.81**	**99**	T	T	17 21 43.6	
	baz=296,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**33.81**	**99**	T	T	17 21 32.5	
	baz=296,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**33.83**	**99**	T	T	17 21 38.5	
	baz=296,slow=75,SNR=23						
SHL	**Shillong**	**34.98**	**272**	P	**P**	**16 45 36.7**	**-1.2**
SHL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SHL	**Shillong**	**34.98**	**272**	P	**P**	**16 45 36.7**	**-1.2**
SHL				IAmb	IAmb	16 45 38.6	
	comp=Z,8.8nm,0.6s						
KAPI	**Kappang**	**36.52**	**199**	P	**P**	**16 45 50.6**	**-0.3**
KAPI				pmax	pmax		
	comp=Z,24nm,1.2s						
KAPI	**Kappang**	**36.52**	**199**	P	**P**	**16 45 50.6**	**-0.3**
TAPN	**Taplejung**	**38.11**	**277**	*e*P	**P**	**16 46 04.7**	**0.0**
	comp=Z,17nm,1.0s						
ODAN	**Odare**	**38.51**	**276**	*e*P	**P**	**16 46 07.1**	**-0.9**
JIRN	**Jiri**	**39.34**	**278**	*e*P	**P**	**16 46 15.3**	**+0.2**
GUN	**Gumba**	**39.55**	**279**	*e*P	**P**	**16 46 17.0**	**+0.2**
	comp=Z,52nm,0.8s						
PKI	**Pulchoki**	**40.03**	**278**	*e*P	**P**	**16 46 20.5**	**-0.3**
	comp=Z,29nm,1.0s						
PKIN	**Phulchoki**	**40.04**	**278**	*e*P	**P**	**16 46 20.6**	**-0.2**
	comp=Z,9.0nm,0.6s						
KKN	**Kakani**	**40.09**	**279**	*e*P	**P**	**16 46 20.9**	**-0.2**
DMN	**Daman**	**40.28**	**278**	*e*P	**P**	**16 46 22.6**	**-0.2**
GKN	**Gorkha**	**40.59**	**279**	*e*P	**P**	**16 46 24.9**	**-0.3**
ZAA0	**Zalesovo Array**	**40.99**	**319**	P	**P**	**16 46 27.1**	**-0.8**
ZALV	**Zalesovo Beam**	**40.99**	**319**	P	**P**	**16 46 27.2**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=111,slow=7.0,SNR=7.6						
ZALV				PcP	**PcP**	**16 48 28.1**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=111,slow=3.3,SNR=7.0						
ZALV				LR	LR	17 04 46.4	
	comp=Z,218nm,21.2s,baz=120,slow=38	

BRVK	**Borovoye**	**49.39 316**⇓	*e*P	**P**	**16 47 34.8**	**+0.2**
BRVK			pmax	pmax		
comp=Z,12nm,1.3s						
BRVK	**Borovoye**	**49.39 316**	P	**P**	**16 47 33.5**	**-1.1**
BRVK			IAmb	IAmb	16 47 45.6	
comp=Z,10nm,0.8s						
KK31	**Karatay Array**	**49.50 303**	P	**P**	**16 47 35.1**	**-0.6**
KK31			pmax	pmax		
comp=Z,18nm,1.3s						
KK31	**Karatay Array**	**49.50 303**	P	**P**	**16 47 35.1**	**-0.6**
KKAR	**Karatay Array**	**49.50 303**	P	**P**	**16 47 34.9**	**-0.8**
KKAR			*PP	**pP**	**16 47 45.9**	**+0.9**
KKAR	**Karatay Array**	**49.50 303**	P	**P**	**16 47 35.4**	**-0.3**
KKAR			pP	**pP**	**16 47 46.0**	**+1.0**
KKAR	**Karatay Array**	**49.50 303**	P	**P**	**16 47 34.9**	**-0.8**
KKAR			pP	**pP**	**16 47 45.9**	**+0.9**
BTK	**Batken**	**49.63 299**	P	**P**	**16 47 36.4**	**-0.4**
BTK			pmax	pmax		
comp=Z,5.0nm,1.0s						
BTK	**Batken**	**49.63 299**	P	**P**	**16 47 36.4**	**-0.4**
BTK			IAmb	IAmb	16 47 51.4	
comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**49.75 176**	*e*P	P	16 47 42.9	+5.2
WRA			pmax	pmax		
comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**49.75 176**	P	**P**	**16 47 38.4**	**+0.7**
comp=Z,1.1nm,1.0s,baz=355,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**49.75 176**	P	**P**	**16 47 38.0**	**+0.3**
GAR	**Garm**	**50.18 298**	P	**P**	**16 47 41.1**	**+0.1**
CHGR	**Chuyangaron**	**51.13 297**	P	**P**	**16 47 48.0**	**-0.1**
KBL	**Kabul**	**52.06 292**	P	**P**	**16 47 54.3**	**-1.0**
KBL			pmax	pmax		
comp=Z,7.0nm,1.2s						
KBL	**Kabul**	**52.06 292**	P	**P**	**16 47 54.3**	**-1.0**
KBL			IAmb	IAmb	16 47 56.5	
comp=Z,6.8nm,1.1s						
ASAR	**Alice Springs**	**53.43 177**	P	**P**	**16 48 07.1**	**+1.9**
comp=Z,0.4nm,0.5s,baz=13,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**53.43 177**	P	**P**	**16 48 06.3**	**+1.1**
SVE	**Sverdlovsk**	**54.96 321**	*e*P	**P**	**16 48 16.2**	**+0.2**
ABKAR	**Akbulak array**	**56.07 312**	P	**P**	**16 48 23.2**	**-0.8**
ABKAR	**Akbulak array**	**56.07 312**	P	**P**	**16 48 23.8**	**-0.3**
ABKAR			pP	**pP**	**16 48 33.9**	**+0.2**
ABKAR			IAmb	IAmb	16 48 35.0	
comp=Z,6.0nm,0.9s						
ARU	**Arti**	**56.13 320***c i*P		**P**	**16 48 24.2**	**-0.2**
ARU					16 49 22.1	
ARU					16 50 25.8	
ARU			S	**S**	**16 56 12.7**	**+1.7**
ARU			SS	**SS**	**16 59 53.0**	**-4.2**
ARU			pmax	pmax		
comp=Z,15nm,1.2s						
ARU	**Arti**	**56.13 320**	P	**P**	**16 48 23.6**	**-0.8**
ARU				**pP**	**16 48 34.2**	**+0.2**
ARU			IAmb	IAmb	16 48 35.1	
comp=Z,18nm,1.2s						
HRA	**Herat**	**57.52 294**	P	**P**	**16 48 35.6**	**+0.7**
HRA			IAmb	IAmb	16 48 36.8	
comp=Z,7.3nm,0.8s						
PPLA	**Purkeypile**	**57.68 32**	P	**P**	**16 48 36.3**	**+0.9**
GEYT	**Alibeck**	**59.75 299**	P	**P**	**16 48 50.7**	**+0.6**
comp=Z,4.8nm,0.5s,baz=77,slow=3.1,SNR=5.6						
GEYT	**Alibeck**	**59.75 299**	P	**P**	**16 48 49.6**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**59.75 299**	P	**P**	**16 48 49.8**	**-0.4**
GYA0B			IAmb	IAmb	16 48 51.8	
comp=Z,5.6nm,0.7s						
IL31		**59.86 29**	P	**P**	**16 48 50.7**	**+0.4**
IL31			IAmb	IAmb	16 49 03.8	
comp=Z,12nm,1.6s						
ILAR	**Eielson Array**	**59.86 29**	*e*P	**P**	**16 48 53.2**	**+2.8**
ILAR			pmax	pmax		
comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**59.86 29**	P	**P**	**16 48 50.6**	**+0.3**
comp=Z,0.5nm,0.7s,baz=289,slow=7.5,SNR=6.4						
ILAR	**Eielson Array**	**59.86 29**	P	**P**	**16 48 50.3**	**-0.1**
PRGR	**Permogore**	**62.03 327**	*e*P	**P**	**16 49 03.4**	**-1.7**
PRGR			pmax	pmax		
comp=Z,9.0nm,0.9s						
EGAK	**Eagle**	**62.28 29**	P	**P**	**16 49 07.4**	**+0.6**
STKA	**Stephens Creek**	**62.33 170**	LR	LR	17 15 01.2	
comp=Z,24nm,21.9s,baz=17,slow=35						
EPYK	**Eagle Plains**	**63.71 27**	P	**P**	**16 49 17.7**	**+1.4**
EPYK			IAmb	IAmb	16 49 18.2	
comp=Z,9.0nm,1.0s						
INK	**Inuvik**	**64.37 24**	P	**P**	**16 49 21.0**	**+0.5**
INK			pmax	pmax		
comp=Z,25nm,2.0s						
INK	**Inuvik**	**64.37 24**	P	**P**	**16 49 21.6**	**+1.1**
comp=Z,3.8nm,1.0s,baz=283,slow=7.5,SNR=6.3						
INK	**Inuvik**	**64.37 24**	P	**P**	**16 49 21.0**	**+0.5**
INK			IAmb	IAmb	16 49 56.8	
comp=Z,25nm,2.0s						
ARCES	**ARCESS Array B**	**67.47 338**	P	**P**	**16 49 41.6**	**+1.1**
comp=Z,5.3nm,1.0s,baz=61,slow=9.4,SNR=3.2						
ARCES			LR	LR	17 25 16.4	
comp=Z,359nm,18.0s,baz=62,slow=41						
JOF	**Joensuu**	**68.03 331**	P	**P**	**16 49 44.2**	**+0.1**
JOF			pmax	pmax		
comp=Z,10.0nm,1.1s						
ZEI	**Tsey**	**68.50 308**	*e*P	**P**	**16 49 47.0**	**-0.7**
ZEI			pmax	pmax		
comp=Z,8.0nm,0.8s						
KBZ	**Khabaz**	**68.84 309**	P	**P**	**16 49 50.5**	**+1.0**
comp=Z,9.1nm,0.9s,baz=102,slow=4.8,SNR=27						
KBZ			LR	LR	17 21 49.8	
comp=Z,113nm,18.3s,baz=80,slow=38						
KIV	**Kislovodsk**	**68.90 309**	*e*P	**P**	**16 49 51.0**	**+1.0**
KIV			pmax	pmax		
comp=Z,52nm,1.1s						
KIV			MLR	MLR		
comp=Z,367nm,17.0s						
KIV	**Kislovodsk**	**68.90 309**	P	**P**	**16 49 48.9**	**-1.1**
NEY	**Neytrino**	**69.13 309**⇑	*e*P	**P**	**16 49 53.6**	**+2.0**
NEY			pmax	pmax		
comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**70.89 331**	P	**P**	**16 50 02.1**	**+0.4**
comp=Z,3.2nm,0.6s,baz=62,slow=6.2,SNR=14						
FINES			LR	LR	17 24 45.4	
comp=Z,329nm,18.6s,baz=63,slow=39						
AKASG	**Malin Array Be**	**74.38 320**	*e*P	**P**	**16 50 23.0**	**+0.3**
AKASG			pmax	pmax		
comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**74.38 320**	P	**P**	**16 50 22.3**	**-0.4**
comp=Z,1.3nm,0.5s,baz=55,slow=6.5,SNR=7.0						
BR131	**Keskin Array S**	**76.80 308**	P	**P**	**16 50 36.2**	**-0.8**
BR131			pmax	pmax		
comp=Z,7.0nm,0.9s						
BR131	**Keskin Array S**	**76.80 308**	P	**P**	**16 50 36.2**	**-0.8**
BR131			IAmb	IAmb	16 50 39.1	
comp=Z,6.9nm,0.9s						
BRTR	**Keskin Array B**	**76.80 308**	*e*P	**P**	**16 50 38.3**	**+1.3**
BRTR			pmax	pmax		
comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**76.80 308**	P	**P**	**16 50 38.1**	**+1.0**
comp=Z,5.3nm,0.9s,baz=94,slow=5.9,SNR=26						
BRTR			LR	LR	17 29 08.2	
comp=Z,63nm,18.2s,baz=81,slow=39						
BRTR	**Keskin Array B**	**76.80 308**	P	**P**	**16 50 37.3**	**+0.3**
NB2	**NORSAR Subarra**	**77.08 334**	P	**P**	**16 50 38.4**	**+0.3**
comp=Z,1.2nm,0.6s,baz=48,slow=5.6						
NOA	**NORSAR Array B**	**77.08 334**	*e*P	**P**	**16 50 38.1**	**0.0**
NOA			pmax	pmax		
comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**77.08 334**	P	**P**	**16 50 38.5**	**+0.5**
comp=Z,1.7nm,0.7s,baz=50,slow=5.6,SNR=7.4						
NOA			LR	LR	17 29 44.7	
comp=Z,115nm,18.3s,baz=30,slow=40						
VYHS	**Vyhne**	**81.27 322**	*e*P	P	16 51 07.2	+6.0
VYHS	**Vyhne**	**81.27 322**	*e*P	P	16 51 07.2	+6.0
CLL	**Collm**	**82.54 326**	*e*(pP)	**pP**	**16 51 15.0**	**-2.6**
CLL			L	L	17 32 00.0	
comp=Z,200nm,20.9s						
NVAR	**Mina Array Bea**	**85.99 48**	P	**P**	**16 51 27.8**	**+1.9**
comp=Z,1.0nm,0.9s,baz=284,slow=3.6,SNR=5.6						
NVAR			LR	LR	17 23 28.6	
comp=Z,46nm,19.3s,baz=12,slow=31						
NVAR	**Mina Array Bea**	**85.99 48**	P	**P**	**16 51 26.6**	**+0.8**
PDAR	**Pinedale Array**	**88.57 40**	P	**P**	**16 51 39.9**	**+1.6**
comp=Z,0.9nm,0.9s,baz=280,slow=2.6,SNR=4.2						
PPT	**Papeete**	**89.66 110**	LR	LR	17 26 22.6	
comp=Z,29nm,20.1s,baz=336,slow=32						

*ISCJB **25** 16:56:58.0±0.7,51°.42N±0°.03×16°.11E±0°.04,h0km, Error ellipse: s-maj=4.7km s-min=2.9km az=31.2*
*IPEC **25** 16:56:58.6±0.2,51°.50N×16°.18E,h1km,ML2.0/3,Error ellipse: s-maj=2.0km s-min=0.9km az=42.0*
*PRU **25** 16:56:59.9±0.0,51°.46N×16°.10E,h0km*
*VIE **25** 16:57:02.0±1.1,51°.25N×16°.27E,h0km,mb1.9/2,ml2.6/4, Error ellipse: s-maj=10.7km s-min=7.3km az=44.0 54 km WNW of Wroclaw Suspected Mining induced.*

ISC 25 16:56:58.0±1.0,51°.52N±0°.04×16°.13E±0°.03,h0km,n25, σ0§84/55,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg	**Pg**	**16 57 11.6**	**+0.5**
KSP				*e*Pg	**Pg**	**16 57 11.6**	**+0.5**
KSP				*i* Sg	**Sg**	**16 57 20.1**	**+0.1**
KSP				*i* Sg	**Sg**	**16 57 20.1**	**+0.1**
CHVC	**Chvalec**	**0.93**	**183**	*e*PG	**Pg**	**16 57 16.3**	**+0.5**
CHVC				*e*SG	**Sg**	**16 57 28.3**	**+0.4**
comp=Z,22nm,0.4s							
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**16 57 17.6**	**+0.2**
UPC				*e*SG	**Sg**	**16 57 30.5**	**-0.1**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG	**Pg**	**16 57 20.4**	**-0.1**
DPC				*e*SG	**Sg**	**16 57 35.0**	**-0.7**
comp=Z,13nm,0.3s							
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	**Pg**	**16 57 24.9**	**+0.2**
PVCC				*e*SG	**Sn**	**16 57 43.5**	**-0.3**
comp=Z,56nm,0.2s							
KRLC	**Kraliky**	**1.50**	**164**	*e*PG	**Pn**	**16 57 26.0**	**-0.2**
KRLC				*e*SG	**Sg**	**16 57 45.4**	**-0.9**
comp=Z,20nm,0.3s							
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pn**	**16 57 26.5**	**+0.1**
BRG				PG	**Pb**	**16 57 27.4**	**+0.4**
BRG				SG	**Sn**	**16 57 47.3**	**+0.5**
17nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	*e*PN	**Pn**	**16 57 30.3**	**-0.2**
GOPC				*e*Pb	**Pb**	**16 57 32.0**	**-0.1**
GOPC				*e*SG	**Sg**	**16 57 56.0**	**-0.3**
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**16 57 29.9**	**-0.8**
PRU				*e*PG	**Pb**	**16 57 31.6**	**-0.8**
PRU				*e*SG	**Sb**	**16 57 55.1**	**-0.7**
comp=Z,9.1nm,0.2s							
MORC	**Moravsky Berou**	**1.96**	**152**	*e*PN	**Pn**	**16 57 32.5**	**-0.1**
MORC				*e*SG	**Sb**	**16 57 59.2**	**-0.4**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**16 57 32.4**	**-0.1**
baz=334							
MORC				*e*Sg	**Sb**	**16 57 59.1**	**-0.5**
9.6nm,0.3s,baz=334							
CLL	**Collm**	**1.97**	**265**	*i* Pn	**Pn**	**16 57 33.0**	**+0.4**
CLL				*i* Pg	**Pg**	**16 57 36.2**	**+0.5**
CLL				*i*		16 57 39.7	
CLL				*i* Sg	**Sg**	**16 58 03.1**	**+2.0**
comp=Z,11nm,0.4s							
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG	**Pb**	**16 57 37.6**	**+0.4**
VRAC	**Vranov**	**2.23**	**172**	*e*PN	**Pn**	**16 57 37.0**	**+0.8**
VRAC				*e*SG	**Sg**	**16 58 08.5**	**-1.2**
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**16 57 37.0**	**+0.8**
baz=353							
VRAC				*e*Sg	**Sg**	**16 58 08.4**	**-1.2**
comp=Z,9.5nm,0.3s,baz=353							
KRUC	**Moravsky**	**2.47**	**176**	*e*PN	**Pn**	**16 57 40.3**	**+0.8**
KRUC				*e*SG	**Sb**	**16 58 14.9**	**+0.9**
KRUC	**Moravsky**	**2.47**	**176**	*e*Pn	**Pn**	**16 57 40.2**	**+0.8**
baz=357							
KRUC				*e*Sg	**Sb**	**16 58 14.8**	**+0.8**
comp=Z,5.0nm,0.3s,baz=357							
NKC	**Novy Kostel**	**2.66**	**243**	*e*PG	**Pg**	**16 57 48.4**	**-0.6**
NKC				*e*SG	**Sg**	**16 58 24.6**	**+1.2**
comp=Z,13nm,0.3s							
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**16 57 45.7**	**+0.3**
KHC				*e*PG	**Pb**	**16 57 51.1**	**+0.6**
KHC				*e*SN	**Sn**	**16 58 19.6**	**-1.3**
KHC				*e*SG	**Sg**	**16 58 29.8**	**-1.1**
comp=Z,4.9nm,0.4s							
LANS	**Liptovska Anna**	**3.19**	**137**	*e*SG	**Sg**	**16 58 41.0**	**+0.5**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*SG	**Sg**	**16 58 41.8**	**-0.1**
VYHS	**Vyhne**	**3.50**	**149**	*e*PG	**Pg**	**16 58 06.3**	**+1.3**
VYHS				*e*SG	**Sg**	**16 58 50.9**	**+0.7**
CONA	**Conrad Observa**	**3.60**	**183**	*i* Pn	**Pn**	**16 57 56.1**	**+1.1**
comp=Z,0.4nm,0.1s							
CONA				Sg	**Sg**	**16 58 52.3**	**-1.3**
comp=Z,7.6nm,0.4s							
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**16 57 56.3**	**+0.3**
BSD				*i* S	**Sn**	**16 58 37.0**	**-3.0**
MOA	**Molln**	**3.87**	**199**	*i* Pn	**Pn**	**16 57 59.5**	**+0.8**
comp=Z,0.5nm,0.1s							
MOA				Sg	**Sg**	**16 59 01.6**	**-0.6**
comp=Z,3.5nm,0.3s							

NNC 25 16:57:18.8±9.9,38°.43N×68°.81E,h0km,mb3.5,mpv3.1, 3C-2D,Error ellipse: s-maj=87.3km s-min=65.6km az=157.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.84**	**15**	Pn	Pn	16 58 34.6	+1.6
0.4nm,0.3s,baz=245,slow=3.1,SNR=6.8							
KK31				Pg	Pb	16 58 46.9	+2.4
1.3nm,0.5s,baz=199,slow=14,SNR=9.4							
KK31				⇑Lg	Lg	16 59 51.0	
4.5nm,0.6s,baz=204,slow=32,SNR=7.6							
AAK	**Ala-Archa**	**6.03**	**44**	⇑Pg	Pb	16 59 03.5	-1.4
2.2nm,0.6s							
AAK				⇑Sn	Sn	17 00 03.3	+4.0
2.7nm,0.8s							
TKM2	**Tokmak 2**	**6.83**	**47**	⇓Pn	Pn	16 59 01.3	+0.8
1.8nm,0.7s							
TKM2				⇓Sn	Sn	17 00 18.6	-0.4
3.1nm,0.8s							

*ISCJB **25** 17:08:04.3±1.2,14°.43N±0°.09×92°.35W±0°.06,h64km±7km, Error ellipse: s-maj=16.5km s-min=5.7km az=33.1*
*NEIC **25** 17:08:04.4±1.4,14°.51N±0°.03×92°.19W±0°.09,h77km±5km*
*MEX **25** 17:08:04.7±0.5,14°.45N×92°.20W,h81km±6km,MD3.9*
*GCG **25** 17:08:06.3±0.4,14°.24N×92°.15W,h21km±11km,MD3.7*

ISC 25 17:08:05.4±1.5,14°.59N±0°.09×92°.22W±0°.06,h75km±8km, n16,σ1§12/26,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.32**	**353**	*e*P	**Pn**	**17 08 16.7**	**-0.6**
THIG				*e*S	**Sn**	**17 08 26.9**	**+0.9**
THIG		**0.32**	**353**		**Pn**	**17 08 16.7**	**-0.6**
THIG					**Sn**	**17 08 26.9**	**+0.9**
STG3	**Santiaguito 3,**	**0.64**	**79**	*e*P	**Pn**	**17 08 20.5**	**+0.2**
FUG	**Fuego 3**	**1.34**	**96**	*e*P	**Pn**	**17 08 29.2**	**+0.5**
FUG				*e*S	**Sn**	**17 08 47.4**	**+1.2**
PCIG		**1.47**	**319**	*e*P	**Pn**	**17 08 30.0**	**-0.1**
PCIG				*i* S	**Sn**	**17 08 49.3**	**+0.6**
PCIG		**1.47**	**319**		**Pn**	**17 08 30.0**	**-0.1**
PCIG					**Sn**	**17 08 49.3**	**+0.6**
CCIG	**Comitan**	**1.68**	**3**	*e*P	**Pn**	**17 08 33.3**	**+0.1**
CCIG				*i* S	**Sn**	**17 08 55.3**	**+1.2**
CCIG	**Comitan**	**1.68**	**3**		**Pn**	**17 08 33.3**	**+0.1**
CCIG					**Sn**	**17 08 55.3**	**+1.2**
IXG	**Ixpaco**	**1.78**	**103**	*e*P	**Pn**	**17 08 34.7**	**+0.4**
IXG				*e*S	**Sn**	**17 08 56.6**	**+0.2**
TGIG		**2.34**	**338**	*i* P	**Pn**	**17 08 41.3**	**-0.5**
TGIG				*i* S	**Sn**	**17 09 11.5**	**+1.8**
CMIG	**Matias Romero**	**3.57**	**315**	*e*P	**Pn**	**17 08 59.2**	**+0.7**
CMIG				*e*S	**Sn**	**17 09 41.0**	**+1.5**
CMIG	**Matias Romero**	**3.57**	**315**		**Pn**	**17 08 59.2**	**+0.7**
CMIG					**Sn**	**17 09 41.0**	**+1.5**
LRAL	**Lakeview Retre**	**18.97**	**14**		**Sn**	**17 15 53.7**	**-0.5**
255A	**Hazlehurst**	**19.42**	**26**		pP	17 12 42.7	+1.2
NQBME	**Bureau des Min**	**19.50**	**76**		**S**	**17 16 04.4**	**+1.2**
GLAT	**Glass**	**21.75**	**6**	P	**P**	**17 12 47.6**	**-3.1**

*UPA **25** 17:11:23.3±2.6,10°.02N×83°.28W,h20km±18km,MD4.1, MW4.2*
*UCR **25** 17:11:23.1±1.7,9°.95N×83°.33W,h10km,MW4.1*

ISC 25 17:11:21.8±1.2,10°.01N±0°.04×83°.28W±0°.03,h25km±13km, n57,σ1§30/83,12C-11D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.48**	**272**	⇑*i*P	**Pb**	**17 11 31.8**	**-0.1**
CVTR				*e*S	**Sb**	**17 11 38.7**	**0.0**
DRK0	**Durika**	**0.74**	**178**	⇓*i*P	**Pb**	**17 11 35.6**	**-0.6**
DRK0				*e*S	**Sb**	**17 11 45.4**	**-0.6**
DRK0	**Durika**	**0.74**	**178**	⇓*i*P	**Pb**	**17 11 35.6**	**-0.6**
DRK0				*i* S	**Sb**	**17 11 45.3**	**-0.7**
LCR2	**La Lucha 2**	**0.76**	**250**	⇓*i*P	**Pb**	**17 11 36.3**	**-0.2**
LCR2				*e*S	**Sb**	**17 11 46.3**	**-0.4**
SJS	**Escuela Geolog**	**0.77**	**265**	*e*P	**Pb**	**17 11 36.5**	**-0.1**
SJS				*e*S	**Sn**	**17 11 47.0**	**-1.1**
EDLM	**Las Mercedes**	**0.79**	**203**	⇓*i*P	**Pb**	**17 11 36.3**	**-0.6**
EDLM				*e*S	**Sn**	**17 11 46.7**	**-1.8**
HDC	**Heredia**	**0.82**	**270**	⇑*i*P	**Pn**	**17 11 37.6**	**-0.4**
HDC				*e*S	**Sn**	**17 11 49.2**	**-0.3**
HDC	**Heredia**	**0.82**	**270**	⇑*i*P	**Pn**	**17 11 37.6**	**-0.4**
EDBA	**Buenos Aires**	**0.84**	**180**	⇓*i*P	**Pb**	**17 11 37.3**	**-0.5**
EDBA				*e*S	**Sn**	**17 11 48.7**	**-1.0**
EDDO	**Dominical**	**0.95**	**218**	⇓*i*P	**Pb**	**17 11 39.7**	**+0.2**
EDDO				*e*S	**Sn**	**17 11 53.5**	**+1.2**
EDPN	**Palmar Norte**	**1.05**	**190**	⇓*i*P	**Pb**	**17 11 41.9**	**+0.5**
EDPN				*e*S	**Sb**	**17 11 57.4**	**+2.6**
SRA1	**San Ramn**	**1.19**	**274**	⇑*i*P	**Pb**	**17 11 43.3**	**-0.5**
EDSV	**San Vito**	**1.22**	**166**	*e*P	**Pb**	**17 11 44.9**	**+0.7**
MLIR3	**Monte Lirio, C**	**1.29**	**160**	⇑*i*P	**Pb**	**17 11 45.6**	**+0.2**
MLIR3				*i* S	**Sb**	**17 12 02.2**	**+0.7**
BRU2	**Volcan**	**1.34**	**154**	⇑*e*P	**Pb**	**17 11 45.6**	**-0.7**
BRU2	**Volcan**	**1.34**	**154**	⇑*i*P	**Pb**	**17 11 45.7**	**-0.7**
baz=310,slow=3.8							
BRU2				*i* S	**Sb**	**17 12 03.6**	**+0.5**
BCO2	**Palmira**	**1.48**	**150**	⇓*i*P	**Pb**	**17 11 48.0**	**-0.8**
BCO2				*i* S	**Sb**	**17 12 07.5**	**+0.3**
CEDE	**Laguna Cedeo**	**1.48**	**289**	⇑*i*P	**Pb**	**17 11 48.5**	**-0.3**
CEDE				*e*S	**Sb**	**17 12 08.7**	**+1.5**
ARE1	**Arenal 1**	**1.49**	**288**	⇑*e*P	**Pb**	**17 11 48.4**	**-0.4**
ARE1				*e*S	**Sb**	**17 12 08.2**	**+0.8**
PTAR3	**Potrerillos Ar**	**1.52**	**149**	⇓*i*P	**Pb**	**17 11 48.7**	**-0.6**
PTAR3				*i* S	**Sb**	**17 12 07.8**	**-0.4**
CHGR2	**Aguacate**	**1.54**	**133**	*i* P	**Pn**	**17 11 48.1**	**+0.3**
CHGR2				*i* S	**Sn**	**17 12 07.5**	**+0.5**
JTS	**Las Juntas de**	**1.67**	**280**	⇑*i*P	**Pb**	**17 11 51.2**	**-0.8**
JTS	**Las Juntas de**	**1.67**	**280**	⇑*i*P	**Pb**	**17 11 51.2**	**-0.8**
BAGA3	**Bagala, Chiriq**	**1.70**	**154**	*i* P	**Pb**	**17 11 52.3**	**-0.1**
BAGA3				*i* S	**Sb**	**17 12 15.0**	**+1.6**
DVD	**David**	**1.76**	**152**	*e*P	**Pb**	**17 11 52.1**	**-1.4**
DVD				*i* S	**Sb**	**17 12 14.0**	**-1.1**
LOMA3	**Las Lomas, Chi**	**1.79**	**151**	*i* P	**Pb**	**17 11 52.9**	**-1.1**
LOCO3	**Loma Colorada,**	**1.80**	**152**	*i* P	**Pb**	**17 11 53.3**	**-0.8**
PEDE3	**Pedregal, Chir**	**1.82**	**152**	*e*P	**Pn**	**17 11 50.7**	**-0.9**
PEDE3				*i* S	**Sb**	**17 12 18.2**	**+1.4**
CHIR3	**Chiriqui UPA,**	**1.85**	**150**	⇓*e*P	**Pb**	**17 11 54.0**	**-1.0**
GB1A	**Borinquen Arri**	**2.24**	**291**	*e*P	**Pb**	**17 12 00.5**	**-1.1**
BUEV	**Buena Vista**	**2.24**	**291**	*e*P	**Pb**	**17 12 00.3**	**-1.4**
BUEV				*e*S	**Sb**	**17 12 29.5**	**+0.5**
REME3	**Remedios, Chir**	**2.27**	**141**	*e*P	**Pb**	**17 12 00.5**	**-1.7**
REME3				*i* S	**Sb**	**17 12 29.8**	**-0.1**
NANC3	**Nancito, Chiri**	**2.33**	**139**	*e*P	**Pb**	**17 12 01.3**	**-1.8**
PVID3	**Puerto Vidal,**	**2.55**	**140**	*e*P	**Pn**	**17 12 01.1**	**-0.5**
CNAZ3	**Canazas, Verag**	**2.62**	**129**	*i* P	**Pn**	**17 12 05.0**	**+2.4**
CNAZ3				*i* S	**Sb**	**17 12 37.3**	**-2.7**
SAFE3	**Santa Fe, Vera**	**2.63**	**124**	*e*P	**Pb**	**17 12 09.9**	**+1.6**
SFRA3	**San Francisco,**	**2.87**	**127**	⇓*i*P	**Pb**	**17 12 07.8**	**+1.8**
RSUS3	**Rio de Jesus,**	**2.90**	**134**	*e*P	**Pb**	**17 12 10.9**	**-2.0**
CALO3	**Calobre, Verag**	**2.93**	**125**	*e*P	**Pn**	**17 12 08.0**	**+1.1**
STIA3	**Santiago, Vera**	**2.96**	**130**	*e*P	**Pn**	**17 12 09.2**	**+1.9**
GMAL	**Guarumal, Vera**	**3.01**	**138**	*i* P	**Pn**	**17 12 10.3**	**+2.3**
GMAL				*i* S	**Sb**	**17 12 48.0**	**-3.0**
PONU3	**Ponuga, Veragu**	**3.10**	**133**	*e*P	**Pn**	**17 12 11.5**	**+2.3**
CRIS3	**El Cristo, Coc**	**3.15**	**123**	*e*P	**Pb**	**17 12 16.4**	**-0.8**
OCU3	**Ocu, Herrera**	**3.21**	**129**	*e*P	**Pb**	**17 12 18.2**	**0.0**
BCIP	**Isla Barro Col**	**3.49**	**104**	⇑*e*P	**Pn**	**17 12 14.9**	**+0.3**
BCIP	**Isla Barro Col**	**3.49**	**104**	*i* P	**Pn**	**17 12 14.9**	**+0.3**
BCIP				*i* S	**Sn**	**17 12 55.1**	**-0.1**
ZANG	**Zanguenga, Cho**	**3.52**	**107**	*e*P	**Pn**	**17 12 15.7**	**+0.7**
ZANG	**Zanguenga, Cho**	**3.52**	**107**	*i* P	**Pn**	**17 12 15.8**	**+0.8**
CACAO	**El Cacao, Vera**	**3.56**	**138**	*i* P	**Pn**	**17 12 19.3**	**+3.7**
FRIJ	**El Hiral**	**3.59**	**102**	*i* P	**Pn**	**17 12 16.2**	**+0.3**
FRIJ				*e*S	**Sn**	**17 12 56.7**	**-0.8**
CHOR3	**La Chorrera**	**3.64**	**107**	*e*P	**Pn**	**17 12 17.7**	**+1.1**
AZU	**Azuero**	**3.69**	**126**	*e*P	**Pn**	**17 12 18.7**	**+1.3**
TOSI3	**Tonosi**	**3.81**	**132**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.39**	**360**	P	**Pg**	**17 59 23.3**	**-0.2**
PHP				S	**Sg**	**17 59 30.1**	**+1.5**
PHP	**Peshkopia**	**0.39**	**360**	*i* PG	**Pg**	**17 59 23.5**	**0.0**
PHP				*i* SG	**Sg**	**17 59 30.0**	**+1.5**
TIR	**Tirane**	**0.44**	**277**	*e*Pg	**Pb**	**17 59 25.6**	**-0.6**
TIR				*e*Sg	**Sg**	**17 59 31.4**	**+1.2**
TIR	**Tirane**	**0.44**	**277**	P	**Pg**	**17 59 23.4**	**-1.0**
TIR				S	**Sg**	**17 59 30.6**	**+0.4**
	170nm,0.2s						
TIR	**Tirane**	**0.44**	**277**	*i* Pg	**Pg**	**17 59 23.8**	**-0.6**
TIR	**Tirane**	**0.44**	**277**	*i* PG	**Pg**	**17 59 24.5**	**+0.1**
TIR				*i* SG	**Sb**	**17 59 31.9**	**-1.2**
TIR	**Tirane**	**0.44**	**277**	P	**Pg**	**17 59 23.2**	**-1.2**
TIR				S	**Sg**	**17 59 30.6**	**+0.4**
TIR				AML	AML	17 59 32.1	
	comp=E,887μm,0.2s						
TIR				AML	AML	17 59 34.5	
	comp=N,807μm,0.4s						
FNA	**Florina**	**0.87**	**126**	P	**Pg**	**17 59 32.0**	**-0.7**
FNA				S	**Sb**	**17 59 45.7**	**+0.2**
	comp=N,298nm,0.3s						
FNA	**Florina**	**0.87**	**126**	*i* Pg	**Pg**	**17 59 31.9**	**-0.7**
FNA	**Florina**	**0.87**	**126**	*i* PG	**Pg**	**17 59 32.0**	**-0.7**
FNA				*i* SG	**Sb**	**17 59 45.2**	**-0.3**
FNA	**Florina**	**0.87**	**126**	P	**Pg**	**17 59 31.9**	**-0.7**
FNA				S	**Sb**	**17 59 44.9**	**-0.7**
FNA				AML	AML	17 59 48.8	
	comp=N,540μm,0.3s						
FNA				AML	AML	17 59 50.8	
	comp=E,640μm,0.3s						
NEST	**Nestorio**	**0.99**	**152**	P	**Pg**	**17 59 34.2**	**-0.8**
NEST				S	**Sb**	**17 59 49.5**	**+0.4**
	comp=E,68nm,0.3s						
NEST	**Nestorio**	**0.99**	**152**	P	**Pg**	**17 59 34.1**	**-0.9**
NEST				AML	AML	17 59 53.7	
	comp=N,117μm,0.3s						
NEST				AML	AML	17 59 53.8	
	comp=E,152μm,0.4s						
SKO	**Skopje**	**1.00**	**48**	*e*Pg	**Pb**	**17 59 35.5**	**-0.3**
SKO				*e*Sg	**Sb**	**17 59 50.0**	**+0.6**
SKO	**Skopje**	**1.00**	**48**	*i* Pg	**Pg**	**17 59 35.2**	**-0.1**
SKO				*i* Sg	**Sb**	**17 59 49.5**	**+0.1**
SKO				*e*Lg	Lg	17 59 50.2	
	comp=N,9.5nm,0.4s						
SKO				*e*Lg	Lg	17 59 50.2	
	comp=E,8.5nm,0.8s						
BCI	**Bajram Curri**	**1.10**	**345**	*i* PG	**Pn**	**17 59 38.0**	**-0.1**
BCI				*i* SG	**Sn**	**17 59 54.6**	**+0.9**
ULC	**Ulcinj**	**1.12**	**307**	⇑*i* Pg	**Pg**	**17 59 35.7**	**-1.7**
ULC				*e*Sg	**Sg**	**17 59 51.8**	**-0.1**
PENT	**Pentalofos**	**1.22**	**154**	P	**Pg**	**17 59 39.0**	**-0.3**
DRME	**Dracevica, Mon**	**1.30**	**314**	⇓*i* Pg	**Pn**	**17 59 39.2**	**-1.5**
DRME				*e*Sg	**Sn**	**17 59 58.2**	**-0.2**
PVY	**Plav**	**1.35**	**345**	⇓*i* Pg	**Pn**	**17 59 41.2**	**-0.3**
PVY				*e*Sg	**Sn**	**18 00 01.8**	**+2.0**
KZN	**Kozani**	**1.41**	**134**	P	**Pb**	**17 59 42.7**	**-0.1**
KZN				S	**Sg**	**18 00 03.5**	**+2.2**
	comp=E,55nm,0.5s						
PDG	**Podgorica**	**1.44**	**322**	*e*Pn	**Pg**	**17 59 44.1**	**+0.6**
PDG				*e*Sn	**Sg**	**18 00 05.7**	**+3.5**
PDG	**Podgorica**	**1.44**	**322**	*i* Pg	**Pn**	**17 59 42.2**	**-0.4**
TTG	**Podgorica**	**1.44**	**322**	⇓*i* Pg	**Pn**	**17 59 42.2**	**-0.4**
TTG				*i* Sg	**Sg**	**18 00 04.3**	**+2.1**
GRG	**Griva**	**1.52**	**102**	P	**Pn**	**17 59 43.5**	**-0.3**
GRG				S	**Sg**	**18 00 04.8**	**+0.1**
	comp=E,45nm,0.7s						
GRG	**Griva**	**1.52**	**102**	*i* Pg	**Pn**	**17 59 43.5**	**-0.3**
GRG				*i* Sg	**Sg**	**18 00 05.7**	**+1.0**
GRG	**Griva**	**1.52**	**102**	P	**Pn**	**17 59 43.4**	**-0.3**
BUM	**Brajici-Budva**	**1.53**	**311**	⇑*i* Pg	**Pn**	**17 59 43.4**	**-0.6**
BUM				*e*Sg	**Sg**	**18 00 06.2**	**+1.0**
KTI	**Kastanea**	**1.56**	**125**	P	**Pb**	**17 59 44.7**	**-0.6**
VAY	**Valandovo**	**1.60**	**88**	*e*Pg	**Pb**	**17 59 46.0**	**0.0**
VAY				*e*Sg	**Sg**	**18 00 07.5**	**+0.1**
VAY	**Valandovo**	**1.60**	**88**	*i* Pg	**Pb**	**17 59 46.0**	**0.0**
VAY				*i* Sg	**Sg**	**18 00 07.7**	**+0.3**
VAY				*e*Lg	Lg	18 00 07.8	
	comp=N,16nm,0.6s						
VAY				*e*Lg	Lg	18 00 08.0	
	comp=E,16nm,0.5s						
IVA	**Berane**	**1.63**	**346**	⇑*i*Pn	**Pb**	**17 59 46.1**	**-0.4**
IVA				*e*Sn	**Sg**	**18 00 10.7**	**+2.5**
KEK	**Kerkira**	**1.66**	**197**	P	**Pb**	**17 59 46.4**	**-0.5**
KOME	**Kolasin**	**1.70**	**336**	⇑*i*Pn	**Pb**	**17 59 47.6**	**-0.1**
KOME				*e*Sn	**Sg**	**18 00 12.0**	**+1.4**
IGT	**Igoumenitsa**	**1.77**	**183**	P	**Pb**	**17 59 49.1**	**+0.3**
NKME	**Niksic**	**1.84**	**323**	⇑*i*Pn	**Pn**	**17 59 49.0**	**+0.8**
NKME				*e*Sn	**Sg**	**18 00 14.9**	**-0.2**
HCY	**Herceg Novi**	**1.85**	**309**	⇓*i*Pn	**Pn**	**17 59 49.0**	**+0.6**
HCY				*i* Sn	**Sb**	**18 00 14.5**	**+0.7**
KNT	**Kendrikon**	**1.86**	**93**	*i* Pg	**Pn**	**17 59 48.7**	**+0.3**
KNT	**Kendrikon**	**1.86**	**93**	P	**Pn**	**17 59 48.5**	**+0.2**
SELS	**Selova**	**1.98**	**14**	*e*Pn	**Pb**	**17 59 52.6**	**+0.1**
SELS				*e*Sn	**Sg**	**18 00 19.3**	**-0.4**
SJES	**Sjenica**	**1.99**	**350**	*e*Pn	**Pb**	**17 59 52.1**	**-0.6**
SJES				*e*Sn	**Sb**	**18 00 18.8**	**+0.9**
TREB	**Trebinje**	**2.11**	**313**	*e*Pn	**Pb**	**17 59 53.8**	**-0.8**
TREB				*e*Sn	**Sb**	**18 00 22.1**	**+1.0**
BRY	**Bratogost**	**2.14**	**319**	⇑*i*Pn	**Pn**	**17 59 53.3**	**+0.9**
BRY				*i* Sn	**Sb**	**18 00 21.8**	**-0.3**
UPM	**Unac-Piva**	**2.22**	**330**	⇓*i*Pn	**Pn**	**17 59 54.3**	**+0.7**
UPM				*e*Sn	**Sb**	**18 00 24.8**	**+0.3**
IVAS	**Ivanjica**	**2.29**	**355**	*e*Pn	**Pb**	**17 59 56.1**	**-1.6**
IVAS				*e*Sn	**Sb**	**18 00 25.8**	**-0.5**
VTS	**Vitosha**	**2.46**	**57**	*e*Pn	**Pn**	**17 59 57.6**	**+0.7**
VTS				*e*Sn	**Sn**	**18 00 28.1**	**+0.7**
BOVS	**Bovan**	**2.52**	**21**	*e*Pn	**Pb**	**18 00 00.3**	**-1.3**
BOVS				*e*Sn	**Sb**	**18 00 31.8**	**-1.0**
ZAPS	**Zavoj**	**2.56**	**39**	*e*Pn	**Pb**	**18 00 02.5**	**-1.8**
GRUS	**Gruza**	**2.60**	**4**	*e*Pn	**Pb**	**18 00 01.2**	**-1.8**
GRUS				*e*Sn	**Sb**	**18 00 33.7**	**-1.5**
DIVS	**Divibare**	**2.82**	**353**	*e*Pn	**Pb**	**18 00 04.8**	**-2.0**
DIVS				*e*Sn	**Sb**	**18 00 40.2**	**-1.4**
ZAGS	**Zajecar**	**2.84**	**27**	*e*Pn	**Pb**	**18 00 04.8**	**-2.3**
ZAGS				*e*Sn	**Sb**	**18 00 40.2**	**-1.9**

*ISCJB **25** 18:05:14.2±0.5, 27°.08N±0°.05×140°.27E±0°.10, h443km, mb3.4/13, Error ellipse: s-maj=11.7km s-min=6.7km az=164.7*
*IDC **25** 18:05:15.8±1.1, 27°.12N×140°.33E, h451km±12km, mb3.1/13, mb1 3.3/16, mb1mx3.1/35, mbtmp3.9/16, Error ellipse: s-maj=19.9km s-min=11.2km az=79.0*
*JMA **25** 18:05:16.7±0.1, 27°.38N×140°.94E, h453km, M3.9*
ISC 25 18:05:15.2±0.7, 27°.14N±0°.08×140°.5E±0°.1, h443km, n32, σ1°38/37, mb3.5/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.52**	**91**	P	**P**	**18 06 13.9**	**+1.2**
CBIJ				*e*S	**S**	**18 06 58.8**	**-0.4**
JCJ	**Chichijima**	**1.52**	**91**	P	**P**	**18 06 13.9**	**+1.3**
	34nm,0.3s,baz=316,slow=21,SNR=18						
JCJ				S	**S**	**18 06 59.1**	**-0.1**
	28nm,0.3s,baz=288,slow=19,SNR=6.5						
JHH2	**Haha-jima-NKT2**	**1.59**	**108**	P	**P**	**18 06 14.9**	**+1.9**
JHH2				S	**S**	**18 07 01.0**	**+1.2**
BSO1	**Boso 1**	**7.51**	**3**	P	**P**	**18 07 06.7**	**+2.2**
BSO1				*e*S	**S**	**18 08 34.6**	**+0.4**
BSO3	**Boso 3**	**7.64**	**0**	P	**P**	**18 07 07.6**	**+1.3**
BSO3				*e*S	**S**	**18 08 37.1**	**-0.3**
BSO4	**Boso 4**	**7.83**	**359**	*e*S	**S**	**18 08 41.1**	**-0.3**
JIE	**Ise**	**7.93**	**337**	P	**P**	**18 07 12.3**	**+2.7**
JKN2	**Miekihoku**	**7.95**	**334**	P	**P**	**18 07 13.9**	**+4.0**
JWY	**Kouya**	**8.22**	**330**	P	**P**	**18 07 15.8**	**+2.9**
JRY	**Ryogami san**	**8.96**	**352**	P	**P**	**18 07 20.9**	**+0.1**
JAG	**Ashikaga**	**9.30**	**355**	P	**P**	**18 07 24.5**	**-0.1**
JHO	**Hitachi**	**9.45**	**0**	P	**P**	**18 07 26.9**	**+0.8**
MJAR	**Matsushiro Arr**	**9.57**	**349**	P	**P**	**18 07 27.7**	**+0.1**
	0.3nm,0.3s,baz=164,slow=10.0,SNR=12						
MAT	**Matsushiro**	**9.58**	**349**	P	**P**	**18 07 28.7**	**+1.1**
JNU	**Nakatsue**	**10.23**	**308**	P	**P**	**18 07 36.5**	**+1.7**
	0.9nm,0.3s,baz=357,slow=3.6,SNR=10						
USRK	**Ussuriysk Ar.**	**18.35**	**340**	P	**P**	**18 09 01.7**	**+0.2**
	baz=150,slow=9.9,SNR=5.0						
WRA	**Warramunga Arr**	**47.18**	**188**	P	**P**	**18 13 05.7**	**-0.6**
	0.7nm,0.4s,baz=2.4,slow=7.6,SNR=29						
ZALV	**Zalesovo Beam**	**48.47**	**319**	P	**P**	**18 13 14.5**	**-1.2**
	0.5nm,0.3s,baz=108,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**49.28**	**310**	P	**P**	**18 13 21.4**	**-0.5**
	0.2nm,0.3s,baz=88,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**50.90**	**188**	P	**P**	**18 13 33.9**	**-0.3**
	0.1nm,0.3s,baz=355,slow=4.2,SNR=13						
NRIK	**Noril'sk**	**52.06**	**339**	P	**P**	**18 13 41.9**	**0.0**
	1.0nm,0.3s,baz=90,slow=10,SNR=3.4						
ILAR	**Eielson Array**	**58.40**	**29**	P	**P**	**18 14 26.8**	**+0.3**
	0.3nm,0.5s,baz=245,slow=5.8,SNR=5.7						
YKA	**Yellowknife Ar**	**72.82**	**28**	P	**P**	**18 15 57.7**	**+0.5**
	0.6nm,0.5s,baz=296,slow=6.1,SNR=3.4						
ARCES	**ARCESS Array B**	**73.00**	**341**	P	**P**	**18 15 58.3**	**+0.1**
	1.5nm,0.5s,baz=61,slow=7.3,SNR=6.0						
KBZ	**Khabaz**	**76.87**	**312**	P	**P**	**18 16 20.0**	**-0.4**
	1.4nm,0.8s,baz=102,slow=5.9,SNR=4.4						
FINES	**FINESS Array B**	**77.24**	**333**	P	**P**	**18 16 21.6**	**-0.5**
	2.9nm,0.4s,baz=73,slow=4.5,SNR=32						
NVAR	**Mina Array Bea**	**81.68**	**51**	P	**P**	**18 16 47.5**	**+1.1**
	0.5nm,0.7s,baz=292,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**81.68**	**323**	P	**P**	**18 16 44.6**	**-1.3**
	0.5nm,0.4s,baz=54,slow=5.1,SNR=8.2						
NB2	**NORSAR Subarra**	**83.00**	**338**	P	**P**	**18 16 51.1**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=47,slow=4.6						
NOA	**NORSAR Array B**	**83.00**	**338**	P	**P**	**18 16 51.3**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=44,slow=4.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**123.40**	**310**	PKP	**PKPdf**	**18 23 19.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=103,slow=1.4,SNR=3.9						
PLCA	**Paso Flores**	**151.07**	**126**	PKPbc	**PKiKP**	**18 24 18.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=275,slow=4.3,SNR=6.0						

*SKHL **25** 18:51:43.4±0.6, 50°.77N×149°.78E, h431km±9km, mb4.7/3, msh5.1/3*
*NEIC **25** 18:51:44.4±1.7, 50°.39N±0°.09×149°.8E±0°.2, h460km±9km, mb4.2/12*
*ISCJB **25** 18:51:45.2±0.3, 50°.45N±0°.05×150°.29E±0°.06, h500km, mb3.5/27, Error ellipse: s-maj=7.8km s-min=3.9km az=153.9*
*MOS **25** 18:51:45.1±1.0, 50°.51N×150°.15E, h489km, mb3.9/12, Error ellipse: s-maj=9.2km s-min=6.3km az=65.6*
*IDC **25** 18:51:46.1±1.1, 50°.50N×150°.12E, h486km±14km, mb3.1/22, mb1 3.3/29, mb1mx3.2/49, mbtmp4.0/29, Error ellipse: s-maj=13.2km s-min=9.1km az=130.0*
*KRSC **25** 18:51:46.2±1.9, 50°.40N×150°.80E, h503km±40km, ML4.5*
ISC 25 18:51:45.6±0.5, 50°.41N±0°.07×150°.39E±0°.06, h500km, n134, σ2°.05/150, mb3.7/33, 9C-3D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**84**	*e*P	**P**	**18 53 02.0**	**+0.8**
SKR	**Severo-Kuril's**	**3.66**	**84**	⇓*e*PN	**P**	**18 53 01.5**	**+0.3**
SKR	**Severo-Kuril's**	**3.66**	**84**	*e*P	**P**	**18 52 57.7**	**-3.5**
SKR				AMB	AMB	18 53 04.0	
	190nm,4.0s						
SKR				*e*S	**S**	**18 53 55.5**	**-7.5**
SKR				A	A	18 54 05.0	
	380nm,3.0s						
SKR				A	A	18 54 05.0	
	410nm,3.0s						
APC	**Apacha**	**4.91**	**57**	*e*P	**P**	**18 53 11.3**	**-0.2**
APC	**Apacha**	**4.91**	**57**	PN	**P**	**18 53 11.3**	**-0.2**
KDTR	**Khodutka, Kamc**	**5.04**	**71**	*e*P	**P**	**18 53 11.9**	**-0.9**
KDTR				*e*S	**S**	**18 54 17.4**	**-6.7**
KDTR	**Khodutka, Kamc**	**5.04**	**71**	PN	**P**	**18 53 11.9**	**-0.9**
PEA0B	**Petropavlovsk-**	**5.28**	**56**	PN	**P**	**18 53 14.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**5.28**	**56**	P	**P**	**18 53 14.5**	**-0.5**
PETK	**Petropavlovsk-**	**5.28**	**56**	P	**P**	**18 53 15.1**	**+0.1**
	1.2nm,0.3s,baz=199,slow=7.4,SNR=36						
PETK				S	**S**	**18 54 24.7**	**-3.5**
	0.1nm,0.3s,baz=180,slow=12,SNR=4.1						
PETK	**Petropavlovsk-**	**5.28**	**56**	P	**P**	**18 53 14.7**	**-0.3**
KUR	**Kuril'sk**	**5.45**	**199**	*e*P	**P**	**18 53 15.0**	**-1.7**
KUR				AMB	AMB	18 54 17.5	
	3μm,3.0s						
KUR				AMB	AMB	18 54 17.5	
	129nm,0.8s						
KUR				*e*S	**S**	**18 54 25.9**	**-5.2**
KUR				A	A	18 54 43.0	
	3μm,3.0s						
KUR				A	A	18 54 43.0	
	3μm,3.0s						
KUR				A	A	18 54 44.0	
	126nm,0.9s						
KUR				A	A	18 54 44.0	
	143nm,0.9s						
RUS	**Russkaya**	**5.47**	**65**	*e*P	**P**	**18 53 16.6**	**-0.1**
RUS				*e*S	**S**	**18 54 27.3**	**-4.0**
RUS	**Russkaya**	**5.47**	**65**	PN	**P**	**18 53 16.6**	**-0.1**
RUS				S	**S**	**18 54 27.3**	**-4.0**
GNL	**Ganaly**	**5.70**	**52**	*e*P	**P**	**18 53 19.5**	**+0.5**
GNL	**Ganaly**	**5.70**	**52**	PN	**P**	**18 53 19.5**	**+0.5**
PET	**Petropavlovsk**	**5.76**	**60**	*e*P	**P**	**18 53 20.7**	**+1.3**
PET	**Petropavlovsk**	**5.76**	**60**	PN	**P**	**18 53 20.7**	**+1.3**
PET	**Petropavlovsk**	**5.76**	**60**	*e*P	**P**	**18 53 17.6**	**-1.8**
PET				AMB	AMB	18 53 22.9	
	24nm,0.4s						
PET				AMB	AMB	18 53 22.9	
	130nm,4.0s						
PET				*e*S	**S**	**18 54 31.2**	**-5.2**
PET				A	A	18 54 32.3	
	63nm,0.8s						
PET				A	A	18 54 32.3	
	17nm,0.8s						
PET				A	A	18 54 33.7	
	81nm,2.0s						
PET				A	A	18 54 33.7	
	350nm,2.0s						
PET	**Petropavlovsk**	**5.76**	**60**	P	**P**	**18 53 19.7**	**+0.2**
KOK	**Koryaka**	**5.87**	**57**	*e*P	**P**	**18 53 21.9**	**+1.3**
KOK	**Koryaka**	**5.87**	**57**	PN	**P**	**18 53 21.9**	**+1.3**
KRX	**Arik**	**5.91**	**57**	*e*P	**P**	**18 53 22.2**	**+1.2**
KRX	**Arik**	**5.91**	**57**	PN	**P**	**18 53 22.2**	**+1.2**
AVH	**Avacha**	**5.91**	**58**	*e*P	**P**	**18 53 22.2**	**+1.2**
AVH	**Avacha**	**5.91**	**58**	PN	**P**	**18 53 22.2**	**+1.2**
KRER	**Koryakskii**	**5.93**	**58**	*e*P	**P**	**18 53 23.3**	**+2.0**
KRER	**Koryakskii**	**5.93**	**58**	PN	**P**	**18 53 23.3**	**+2.0**
UGLR	**Uglovaya**	**5.93**	**59**	*e*P	**P**	**18 53 22.5**	**+1.3**
UGLR	**Uglovaya**	**5.93**	**59**	PN	**P**	**18 53 22.5**	**+1.3**
SMAR	**Somma**	**5.95**	**58**	*e*P	**P**	**18 53 22.7**	**+1.3**
SMAR	**Somma**	**5.95**	**58**	PN	**P**	**18 53 22.7**	**+1.3**
SDLR	**Sedlovina**	**6.00**	**58**	*e*P	**P**	**18 53 22.8**	**+1.0**
SDLR	**Sedlovina**	**6.00**	**58**	PN	**P**	**18 53 22.8**	**+1.0**
SPN	**Mys Shipunski**	**6.56**	**62**	*i* P	**P**	**18 53 26.0**	**-1.2**
SPN				*e*S	**S**	**18 54 43.7**	**-6.8**
SPN	**Mys Shipunski**	**6.56**	**62**	PN	**P**	**18 53 26.0**	**-1.2**
KZV	**Kizimen**	**7.63**	**48**	*i* P	**P**	**18 53 39.1**	**+1.0**
KZV	**Kizimen**	**7.63**	**48**	PN	**P**	**18 53 39.1**	**+1.0**
TUMR	**Tumrok**	**7.66**	**47**	*e*P	**P**	**18 53 40.8**	**+2.4**
TUMR	**Tumrok**	**7.66**	**47**	PN	**P**	**18 53 41.3**	**+2.9**
TUMD	**Tumrok D**	**7.73**	**48**	*e*P	**P**	**18 53 41.3**	**+2.3**
KMNR	**Kamenistaya**	**7.99**	**44**	*e*P	**P**	**18 53 44.0**	**+2.3**
KMNR	**Kamenistaya**	**7.99**	**44**	PN	**P**	**18 53 44.0**	**+2.3**
SRDR	**Sredinnyy**	**8.13**	**40**	*e*P	**P**	**18 53 45.8**	**+2.7**
SRDR	**Sredinnyy**	**8.13**	**40**	PN	**P**	**18 53 45.8**	**+2.7**
JKA	**Kamikawa-asahi**	**8.22**	**223**	P	**P**	**18 53 44.1**	**-0.2**
ASAJ	**Asahikawa**	**8.23**	**223**	P	**P**	**18 53 44.1**	**-0.3**
	1.1nm,0.3s,baz=17,slow=8.9,SNR=11						
MA2	**Magadan**	**9.19**	**1**	P	**P**	**18 53 54.5**	**+0.4**
	1.1nm,0.3s,baz=173,slow=9.0,SNR=6.0						
MA2	**Magadan**	**9.19**	**1**	P	**P**	**18 53 53.4**	**-0.7**
KBG	**Krutoberegovo**	**9.40**	**47**	*e*P	**P**	**18 53 58.3**	**+1.9**
KBG				*e*S	**S**	**18 55 38.9**	**-5.1**
KBG	**Krutoberegovo**	**9.40**	**47**	PN	**P**	**18 53 58.3**	**+1.9**
KBG				S	**S**	**18 55 38.9**	**-5.1**
KBG	**Krutoberegovo**	**9.40**	**47**	*e*P	**P**	**18 53 56.0**	**-0.4**
KBG				*e*S	**S**	**18 55 40.0**	**-4.0**
KBG				A	A	18 55 44.0	
	500nm,3.0s						
KBG				A	A	18 55 44.0	
	520nm,3.0s						
KBG				A	A	18 55 45.0	
	80nm,0.5s						
KBG				A	A	18 55 45.0	
	105nm,0.5s						
KBTR	**Krutoberegovo**	**9.43**	**47**	*e*P	**P**	**18 53 55.4**	**-1.3**
KBTR				*e*S	**S**	**18 55 37.3**	**-7.2**
KBTR	**Krutoberegovo**	**9.43**	**47**	PN	**P**	**18 53 55.4**	**-1.3**
ERM	**Erimo**	**9.77**	**214**	⇑*e*PN	**P**	**18 54 00.0**	**-0.6**
BKI	**Bering**	**10.58**	**57**	*e*P	**P**	**18 54 11.6**	**+2.8**
BKI				*e*S	**S**	**18 56 06.0**	**-0.7**
BKI	**Bering**	**10.58**	**57**	PN	**P**	**18 54 11.6**	**+2.8**
BKI				S	**S**	**18 56 06.0**	**-0.7**
KLR	**Kul'dur**	**12.10**	**272**	⇓*i*PN	**P**	**18 54 24.9**	**-0.2**
KLR	**Kul'dur**	**12.10**	**272**	P	**P**	**18 54 25.3**	**+0.2**
	0.2nm,0.3s,baz=80,slow=11,SNR=7.3						
SEY	**Seymchan**	**12.60**	**4**	P	**P**	**18 54 31.2**	**+1.1**
	0.1nm,0.3s,baz=202,slow=16,SNR=5.6						
YAK	**Yakutsk**	**16.28**	**324**	*e*P	**P**	**18 55 06.1**	**-2.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK	**Yakutsk**	**16.28**	**324**	P	**P**	**18 55 06.8**	**-2.0**
	comp=N,0.2nm,0.3s,baz=72,slow=2.8,SNR=12						
YAK	**Yakutsk**	**16.28**	**324**	P	**P**	**18 55 05.9**	**-2.9**
YAK				IAmb	IAmb	18 55 07.8	
	comp=Z,17nm,0.7s						
MAJO	**Matsushiro**	**16.41**	**217**	⇑*e*P	**P**	**18 55 11.3**	**+0.7**
MJAR	**Matsushiro Arr**	**16.41**	**217**	P	**P**	**18 55 09.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=14,slow=9.5,SNR=5.6						
HIA	**Hailar**	**19.74**	**279**	⇑*e*P	**P**	**18 55 41.3**	**-0.4**
HIA				pmax	pmax		
	comp=Z,23nm,0.6s						
KSRS	**Korea Array**	**20.62**	**240**	P	**P**	**18 55 49.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=40,slow=11,SNR=2.9						
JNU	**Nakatsue**	**22.47**	**227**	P	**P**	**18 56 07.6**	**+1.0**
	comp=Z,6.2nm,0.8s,baz=355,slow=11,SNR=3.3						
TIXI	**Tiksi**	**23.44**	**343**	⇑*e*P	**P**	**18 56 14.3**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**23.44**	**343**	P	**P**	**18 56 14.5**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=180,slow=24,SNR=5.0						
TIXI	**Tiksi**	**23.44**	**343**	*e*P	**P**	**18 56 14.3**	**-0.3**
TIXI	**Tiksi**	**23.44**	**343**	P	**P**	**18 56 14.1**	**-0.5**
TIXI				IAmb	IAmb	18 57 11.2	
	comp=Z,8.0nm,1.8s						
ULN	**Ulaanbaatar**	**28.17**	**282**	⇑*e*P	**P**	**18 56 55.9**	**-1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULN	**Ulaanbaatar**	**28.17**	**282**	*e*P	**P**	**18 56 55.9**	**-1.1**
ILAR	**Eielson Array**	**34.91**	**42**	P	**P**	**18 57 55.9**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=250,slow=6.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**39.08**	**301**	P	**P**	**18 58 27.2**	**-1.4**
ZALV						19 00 26.4	
ZALV	**Zalesovo Beam**	**39.08**	**301**	P	**P**	**18 58 28.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=56,slow=5.8,SNR=6.3						
ZALV				PcP	**PcP**	**19 00 26.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=80,slow=3.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**39.08**	**301**	P	**P**	**18 58 27.1**	**-1.4**
DGZ	**Jazzator, Alta**	**39.34**	**294**	⇑*e*P	**P**	**18 58 31.6**	**+0.6**
INK	**Inuvik**	**39.59**	**34**	P	**P**	**18 58 33.8**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=271,slow=6.5,SNR=7.7						
MK31	**Makanchi Array**	**43.75**	**293**	P	**P**	**18 59 05.5**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**43.75**	**293**	P	**P**	**18 59 05.5**	**-0.3**
MK31				IAmb	IAmb	18 59 06.6	
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**43.75**	**293**	P	**P**	**18 59 05.8**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=67,slow=8.6,SNR=14						
MKAR				PcP	**PcP**	**19 00 42.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=60,slow=4.6,SNR=3.4						
MKAR	**Makanchi Array**	**43.75**	**293**	P	**P**	**18 59 04.9**	**-1.0**
KURK	**Kurchatov**	**43.91**	**299**	P	**P**	**18 59 06.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**43.91**	**299**	*e*P	**P**	**18 59 06.9**	**0.0**
KURK	**Kurchatov**	**43.91**	**299**	P	**P**	**18 59 06.4**	**-0.6**
KURK				IAmb	IAmb	18 59 07.7	
	comp=Z,3.4nm,0.7s						
BRVK	**Borovoye**	**

*ISCJB **25** 18:55:33.6±1.4, 23°.99S±0°.08×66°.91W±0°.06, h199km±19km, Error ellipse: s-maj=12.8km s-min=8.6km az=14.9*
*GUC **25** 18:55:33.8±0.5, 24°.02S×67°.26W, h247km±9km, ML3.4*
ISC 25 18:55:32.6±3.1, 24°.02S±0°.09×66°.86W±0°.07, h204km±29km, n16, σ1§06/25, 6C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.56	59	*i* P	Pn	18 56 07.9	+0.3
HJA				IAML		18 56 48.6	
	comp=Z,7.1nm,2.4s						
AZAP	Zapla	1.65	97	*i* P	Pn	18 56 08.3	0.0
YJA	Yavi	2.22	34	*i* P	Pn	18 56 15.2	+1.0
LVC	Limon Verde	2.35	306	⇑ *i* P	Pn	18 56 16.6	+1.0
LVC				*i* S	Sn	18 56 49.6	+0.6
LVC	Limon Verde	2.35	306	*i* P	Pn	18 56 16.6	+1.0
LVC				IAML		18 56 52.8	
	comp=Z,8.3nm,0.8s						
PB15	IPOC Station P	2.53	288	⇑ *i* P	Pn	18 56 18.2	+0.9
PB15				*i* S	Sn	18 56 51.5	-0.6
PB15	IPOC Station P	2.53	288	*i* P	Pn	18 56 18.2	+0.9
PB15				*i* Sg	Sn	18 56 51.8	-0.4
GO02	Mina Guanaco	2.73	245	⇑ *i* P	Pn	18 56 20.2	+0.5
GO02				*i* S	Sn	18 56 56.4	-0.1
PB06	IPOC Station P	2.82	297	⇑ *i* P	Pn	18 56 21.2	+0.7
PB06				*i* S	Sn	18 56 57.1	-0.8
PB09	IPOC Station P	3.12	315	⇑ *i* P	Pn	18 56 25.5	+1.4
PB09				*i* S	Sn	18 57 04.4	0.0
PB09	IPOC Station P	3.12	315	*i* P	Pn	18 56 24.8	+0.7
PB09				IAML		18 57 07.7	
	comp=Z,11nm,1.2s						
PB03	IPOC Station P	3.31	306	⇑ *i* P	Pn	18 56 26.8	+0.4
PB03				*i* S	Sn	18 57 07.0	-1.5
PB03				IAML		18 57 09.6	
	comp=E,39nm,0.1s						
PB10	IPOC Station P	3.42	278	*i* P	Pn	18 56 28.0	+0.5
PB10				IAML		18 57 11.3	
	comp=Z,17nm,0.9s						
PB04	IPOC Station P	3.46	298	*e*P	Pn	18 56 28.8	+0.6
PB04				*i* S	Sn	18 57 09.3	-2.4
PB04				IAML		18 57 12.3	
	comp=N,32nm,0.4s						
PB04	IPOC Station P	3.46	298	*i* P	Pn	18 56 29.3	+1.1
PB07	IPOC Station P	3.61	309	⇓ *i* P	Pn	18 56 30.1	+0.1
PB07				*i* S	Sn	18 57 12.8	-2.0
PB07				IAML		18 57 14.7	
	comp=E,25nm,0.3s						

*IDC **25** 19:36:57.6±0.8, 25°.48S×70°.02E, h0km, mb4.1/12, mb1 4.2/12, mb1mx3.8/53, mbtmp4.1/12, MS3.5/8, Ms1 3.5/8, ms1mx3.2/39, Error ellipse: s-maj=26.5km s-min=20.4km az=46.0*
*ISCJB **25** 19:36:59.3±0.7, 25°.5S±0°.1×70°.1E±0°.1, h21km, mb4.0/12, MS3.5/8, Error ellipse: s-maj=21.8km s-min=15.5km az=44.2*
*NEIC **25** 19:36:59.4±1.4, 25°.5S±0°.1×70°.0E±0°.2, h10km±1km, mb4.6/12*
ISC 25 19:37:01.1±0.8, 25°.5S±0°.2×70°.0E±0°.2, h21km, n39, σ0§65/32, mb4.3/20, MS3.5/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.88	8	T	T	19 59 18.7	
	baz=188,slow=76,SNR=13						
H08S2	Diego Garcia H	17.88	8	T	T	19 59 17.8	
	baz=188,slow=76,SNR=26						
H08S3	Diego Garcia H	17.89	8	T	T	19 59 20.6	
	baz=188,slow=76,SNR=21						
BOSA	Boshof	39.84	255	LR	LR	19 57 54.7	
	comp=Z,135nm,18.8s,baz=69,slow=32						
MAW	Mawson	42.38	184	LR	LR	19 58 10.6	
	comp=Z,65nm,19.8s,baz=52,slow=30						
CMAR	Chiang Mai Arr	51.94	36	P	P	19 46 08.3	-0.4
	2.2nm,1.0s,baz=227,slow=7.0,SNR=14						
CMAR				LR	LR	20 04 11.0	
	comp=Z,33nm,21.8s,baz=185,slow=31						
CMAR	Chiang Mai Arr	51.94	36	P	P	19 46 09.0	+0.3
SOEI	Soe	53.64	83	P	P	19 46 22.4	+0.8
SOEI				IAmb	IAmb	19 46 25.6	
	comp=Z,31nm,1.1s						
SHL	Shillong	54.95	24	P	P	19 46 31.6	+0.6
SHL				IAmb	IAmb	19 46 38.7	
	comp=Z,7.4nm,1.1s						
ASAR	Alice Springs	57.61	103	P	P	19 46 50.6	+0.7
	comp=Z,1.5nm,0.9s,baz=251,slow=6.3,SNR=13						
ASAR				PcP	PcP	19 47 42.9	-0.2
	comp=Z,0.5nm,0.7s,baz=248,slow=4.0,SNR=3.1						
ASAR				LR	LR	20 08 33.0	
	comp=Z,43nm,19.6s,baz=290,slow=33						
ASAR	Alice Springs	57.61	103	P	P	19 46 49.6	-0.3
WRA	Warramunga Arr	59.09	99	P	P	19 46 59.8	-0.5
	comp=Z,1.3nm,1.0s,baz=253,slow=6.7,SNR=4.8						
WRA	Warramunga Arr	59.09	99	P	P	19 47 01.1	+0.8
WRA				IAmb	IAmb	19 47 03.1	
	comp=Z,0.6nm,1.7s						
STKA	Stephens Creek	62.09	114	LR	LR	20 10 57.6	
	comp=Z,34nm,20.2s,baz=200,slow=33						
DAV	Davao City (W)	62.91	67	LR	LR	20 13 02.0	
	comp=Z,8.7nm,19.9s,baz=229,slow=34						
SIJI	Sorong	63.80	78	P	P	19 47 31.5	-0.8
	comp=Z,5.7nm,0.8s,baz=301,slow=5.1,SNR=6.7						
SIJI				LR	LR	20 15 13.8	
	comp=Z,54nm,19.4s,baz=178,slow=36						
QSPA	South Pole Qui	64.66	180	P	P	19 47 36.9	-0.4
	comp=Z,3.9nm,0.8s,baz=280,slow=2.7,SNR=7.1						
QSPA	South Pole Qui	64.66	180	P	P	19 47 37.5	+0.2
QSPA				IAmb	IAmb	19 47 39.1	
	comp=Z,8.5nm,1.1s						
AAK	Ala-Archa	67.89	4	P	P	19 47 58.5	+0.4
AAK				IAmb	IAmb	19 48 07.0	
	comp=Z,6.9nm,1.6s						
KK31	Karatay Array	68.23	0	P	P	19 47 59.9	-0.2
KK31				IAmb	IAmb	19 48 08.1	
	comp=Z,5.6nm,1.4s						
KKAR	Karatay Array	68.23	0	P	P	19 48 00.2	+0.2
KKAR	Karatay Array	68.23	0	P	P	19 47 59.9	-0.2
KKAR				IAmb	IAmb	19 48 08.1	
	comp=Z,5.6nm,1.4s						
MKAR	Makanchi Array	72.77	9	P	P	19 48 27.4	-0.3
	comp=Z,1.3nm,0.8s,baz=200,slow=5.3,SNR=10.0						
MKAR	Makanchi Array	72.77	9	P	P	19 48 26.7	-1.1
BRTR	Keskin Array B	73.21	331	P	P	19 48 31.1	+0.5
	comp=Z,1.6nm,0.9s,baz=142,slow=6.3,SNR=7.9						
BRTR	Keskin Array B	73.21	331	P	P	19 48 30.8	+0.2
MANT	Manisa	74.55	327	P	P	19 48 40.7	+2.1
MANT				IAmb	IAmb	19 50 22.7	
	comp=Z,43nm,0.4s						
ABKAR	Akbulak array	74.93	353	P	P	19 48 39.7	-0.6
ABKAR	Akbulak array	74.93	353	P	P	19 48 39.8	-0.5
ABKAR				IAmb	IAmb	19 48 43.1	
	comp=Z,7.4nm,1.6s						
KURBB	Kurchatov Arra	76.13	6	P	P	19 48 47.2	+0.2
	comp=Z,0.8nm,0.7s,baz=188,slow=5.6,SNR=4.0						
KURK	Kurchatov	76.23	6	P	P	19 48 46.5	-1.1
KURK				IAmb	IAmb	19 48 48.9	
	comp=Z,4.9nm,1.3s						
TORD	Torodi Ar. Bea	76.80	292	P	P	19 48 51.5	-0.3
	comp=Z,2.4nm,1.0s,baz=117,slow=7.4,SNR=9.3						
TORD	Torodi Ar. Bea	76.80	292	P	P	19 48 51.8	+0.1
TORD				IAmb	IAmb	19 48 53.1	
	comp=Z,2.6nm,1.1s						
SONM	Songino Array	79.95	24	P	P	19 49 08.9	+0.3
	comp=Z,1.5nm,1.0s,baz=219,slow=3.8,SNR=7.3						
SONM	Songino Array	79.95	24	P	P	19 49 08.1	-0.5
SONM				IAmb	IAmb	19 49 16.5	
	comp=Z,2.2nm,1.0s						
ZALV	Zalesovo Beam	80.11	9	P	P	19 49 09.1	0.0
	comp=Z,1.1nm,0.6s,baz=191,slow=3.0,SNR=5.9						
ZALV	Zalesovo Beam	80.11	9	P	P	19 49 08.7	-0.4
KRVT	Keravat (AS076	80.94	90	LR	LR	20 25 13.5	
	comp=Z,24nm,18.1s,baz=251,slow=36						
AKASG	Malin Array Be	83.97	335	P	P	19 49 28.8	-0.7
	comp=Z,0.9nm,0.8s,baz=135,slow=3.9,SNR=4.0						

*ISCJB **25** 19:42:55.2±0.2, 3°.32S±0°.02×80°.17W±0°.02, h48km, mb4.4/21, MS3.7/3, Error ellipse: s-maj=3.6km s-min=2.6km az=154.4*
*VAO **25** 19:42:56.3±0.7, 3°.37S×79°.60W, h10km, mb4.9*
*IGQ **25** 19:42:58.0±0.4, 3°S±2°×8°0W±°, h39km, mb4.5, Mjma5.1, ML5.7, MLv5.5*

*IDC **25** 19:43:00.3±1.8, 3°.19S×79°.98W, h75km±17km, mb4.2/21, mb1 4.4/26, mb1mx4.2/35, mbtmp4.5/26, MS3.8/8, Ms1 3.8/8, ms1mx3.5/31, Error ellipse: s-maj=16.9km s-min=9.0km az=68.0*
*NEIC **25** 19:43:01.1±1.6, 3°.17S±0°.06×79°.89W±0°.09, h85km±4km, mb5.0/172, ML4.8(ARE)*
*BJI **25** 19:43:03.0±0.0, 3°.10S×80°.00W, h60km, mB5.0/1, Ms4.9/1, Ms7 4.5/1*
ISC 25 19:42:57.2±0.3, 3°.24S±0°.04×80°.06W±0°.06, h48km, n389, σ1§47/390, mb4.9/94, MS3.8/3, 1C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORR	Playas El Morr	0.66	335	P	Pn	19 43 10.9	+0.6
MORR				S	Sn	19 43 20.9	+1.1
GONZ	Gonzanam	1.19	146	P	Pn	19 43 19.8	+2.0
GONZ				S	Sn	19 43 36.1	+3.0
SALI	Salinas	1.40	318	P	Pn	19 43 20.0	-0.4
BOSC	San Juan Bosco	1.56	87	P	Pn	19 43 25.8	+3.2
ZUMB	Zumba	1.85	151	P	Pn	19 43 29.5	+2.9
ARIO	Riobamba	2.08	41	P	Pn	19 43 31.6	+1.7
ISPT	Isla de la Pla	2.21	333	P	Pn	19 43 30.9	-0.5
BMAS	Trigal station	2.34	42	P	Pn	19 43 35.4	+1.9
BPAT	Tungurahua Vol	2.37	43	P	Pn	19 43 36.2	+2.2
BULB	Ulba Tungurahu	2.43	43	P	Pn	19 43 37.2	+2.4
AAM2	Ambato 2 (Merc	2.43	36	P	Pn	19 43 38.3	+3.5
BRUN	Tungurahua Vol	2.44	42	P	Pn	19 43 37.2	+2.3
SAGO	Sagoatoa	2.50	34	P	Pn	19 43 38.3	+2.5
ALAT	Latacunga	2.71	32	P	Pn	19 43 42.4	+3.8
APUY	Puyo	2.71	49	P	Pn	19 43 41.5	+3.1
PIS1	Pisayambo	2.73	38	P	Pn	19 43 42.1	+3.1
PISA	Pisayambo	2.73	38	P	Pn	19 43 42.2	+3.1
PAST	Pastocalle	2.90	29	P	Pn	19 43 44.6	+3.3
BNAS	Cotopaxi Volca	3.00	32	P	Pn	19 43 45.7	+3.0
BREF	Cotopaxi Volca	3.02	32	P	Pn	19 43 46.2	+3.1
BTAM	Cotopaxi Volca	3.04	33	P	Pn	19 43 46.2	+2.9
BVC2	Cotopaxi Volca	3.05	33	P	Pn	19 43 46.4	+2.9
VC1	Cotopaxi 1	3.06	33	P	Pn	19 43 46.5	+2.9
MAG1	Magdalena	3.16	5	P	Pn	19 43 45.1	+0.7
NINA	Atacazo Ninahu	3.17	27	P	Pn	19 43 48.0	+2.9
ANTI	Antisana	3.36	34	P	Pn	19 43 50.7	+3.0
GGPC	Guagua Pichinc	3.37	26	P	Pn	19 43 50.7	+2.8
TERV	Terraza Guagua	3.37	25	P	Pn	19 43 50.7	+2.8
GGP	Refugio Guagua	3.38	26	P	Pn	19 43 50.5	+2.6
YANA	Yana	3.44	26	P	Pn	19 43 51.3	+2.6
PULU	Pululahua	3.59	26	P	Pn	19 43 53.5	+2.8
PAC1	Pacto, Paraso	3.70	20	P	Pn	19 43 53.4	+1.3
OTAV	Otavalo	3.81	25	P	Pn	19 43 56.1	+2.3
OTAV	Otavalo	3.81	25	*e*P	Pn	19 43 55.3	+1.5
OTAV	Otavalo	3.81	25	*e*P	Pn	19 43 55.3	+1.5
OTAV	Otavalo	3.81	25		Pn	19 43 55.6	+1.8
CAYA	Cayambe	3.88	32	P	Pn	19 43 57.8	+2.9
CUSE	Cuicocha Este	3.89	25	P	Pn	19 43 57.3	+2.4
CUSW	Cuicocha Oeste	3.90	26	P	Pn	19 43 57.9	+3.0
CUIC	Cuicocha-Domo	3.91	26	P	Pn	19 43 57.7	+2.6
REVS	Reventador Sur	3.95	38	P	Pn	19 43 58.1	+2.5
IMBA	Imbabura, San	3.96	28	P	Pn	19 43 59.1	+3.4
LAV4	Lava4-Reventad	3.96	38	P	Pn	19 43 58.4	+2.7
AIB2	Ibarra (Univer	4.06	29	P	Pn	19 44 00.8	+3.8
URCU	Urcuqui	4.07	26	P	Pn	19 44 00.3	+2.9
YAHU	Yahuarcocha	4.10	29	P	Pn	19 44 00.9	+3.2
ATAH	Atahualpa	4.21	157	P	Pn	19 44 02.2	+3.0
	30nm,0.3s,baz=0.9,slow=7.6,SNR=44						
ATAH				S	Sn	19 44 51.6	+4.3
	87nm,0.3s,baz=18,slow=20,SNR=4.6						
ATAH				LR	LR	19 46 03.8	
	comp=Z,1μm,18.5s,baz=326,slow=44						
CASC	Dorado de Casc	4.32	39	P	Pn	19 44 02.9	+2.4
TULM	Tulcn-Chalpat	4.54	30	P	Pn	19 44 06.6	+2.8
ATUL	Tulcn	4.62	30	P	Pn	19 44 08.3	+3.5
TUMC	Tumaco	5.20	15	*e*P	Pn	19 44 13.5	+1.0
TUMC	Tumaco	5.20	15	*e*P	Pn	19 44 13.5	+1.0
CRUC	La Cruz	5.70	33	*e*P	Pn	19 44 21.5	+1.9
CRUC	La Cruz	5.70	33	*e*P	Pn	19 44 21.5	+1.9
BBAC	Balboa, Cauca	5.93	28	*e*P	Pn	19 44 23.8	+1.0
BBAC	Balboa, Cauca	5.93	28	*e*P	Pn	19 44 23.8	+1.0
PTLC	Puerto Leguiza	6.25	57	*e*P	Pn	19 44 24.3	-2.7
PTLC	Puerto Leguiza	6.25	57	*e*P	Pn	19 44 24.3	-2.7
SOTA	Rioblanco	6.35	33	*e*P	Pn	19 44 30.6	+1.9
SOTA	Rioblanco	6.35	33	*e*P	Pn	19 44 30.6	+1.9
GRGC	Isla de Gorgon	6.48	17	*e*P	Pn	19 44 30.2	+0.1
GRGC	Isla de Gorgon	6.48	17	*e*P	Pn	19 44 30.2	+0.1
FLOC	Florencia	6.50	43	*e*P	Pn	19 44 30.3	-0.1
FLOC	Florencia	6.50	43	*e*P	Pn	19 44 30.3	-0.1
POPC	Popayan, Colom	6.66	31	*e*P	Pn	19 44 32.8	0.0
POPC	Popayan, Colom	6.66	31	*e*P	Pn	19 44 32.8	0.0
MALC	Bahia Malaga	7.70	21	*e*P	Pn	19 44 45.4	-1.4
MALC	Bahia Malaga	7.70	21	*e*P	Pn	19 44 45.4	-1.4
YOTC	Yotoco, Valle	8.08	27	*e*P	Pn	19 44 49.4	-2.7
YOTC	Yotoco, Valle	8.08	27	*e*P	Pn	19 44 49.4	-2.7
MACC	Macarena, Meta	8.19	49	*e*P	Pn	19 44 53.2	-0.3
MACC	Macarena, Meta	8.19	49	*e*P	Pn	19 44 53.2	-0.3
ORTC	Ortega, Tolima	8.57	34	*e*P	Pn	19 45 01.7	+2.9
ORTC	Ortega, Tolima	8.57	34	*e*P	Pn	19 45 01.7	+2.9
PRAC	Prado	8.62	37	*e*P	Pn	19 44 59.6	+0.1
PRAC	Prado	8.62	37	*e*P	Pn	19 44 59.6	+0.1
NNA	Nana	9.26	160	P	Pn	19 45 10.2	+2.0
	9.9nm,0.3s,baz=340,slow=9.1,SNR=9.5						
NNA				S	Sn	19 46 44.2	-6.8
	5.6nm,0.3s,baz=274,slow=16,SNR=2.6						
NNA	Nana	9.26	160	P	Pn	19 45 09.9	+1.7
NNA	Nana	9.26	160		Pn	19 45 08.6	+0.5
GUY2C	Guyana, Caldas	9.62	29	*e*P	Pn	19 45 10.6	-3.0
GUY2C	Guyana, Caldas	9.62	29	*e*P	Pn	19 45 10.6	-3.0
ROSC	El Rosal	9.86	36	P	Pn	19 45 17.1	+0.4
	3.8nm,0.3s,baz=228,slow=14,SNR=2.9						
ROSC				LR	LR	19 49 40.5	
	comp=Z,2μm,18.0s,baz=227,slow=41						
ROSC	El Rosal	9.86	36		Pn	19 45 16.2	-0.6
CBOC	Ciudad Bolivar	9.90	24	*e*P	Pn	19 45 15.1	-2.0
CBOC	Ciudad Bolivar	9.90	24	*e*P	Pn	19 45 15.1	-2.0
PAYG	Puerto Ayora	10.54	284	Pn	Pn	19 45 27.7	+2.0
BCIP	Isla Barro Col	12.33	1		Pn	19 45 53.1	+3.0
JTS	Las Juntas de	14.30	340	P	Pn	19 46 12.8	-4.2
	2.3nm,0.3s,baz=162,slow=19,SNR=12						
JTS				LR	LR	19 51 04.4	
	comp=Z,415nm,19.8s,baz=234,slow=34						
JTS	Las Juntas de	14.30	340	Pn	Pn	19 46 19.0	+2.0
SDV	Santo Domingo	15.28	38	P	Pn	19 46 28.9	-1.0
	1.0nm,0.3s,baz=243,slow=13,SNR=6.8						
SDV				LR	LR	19 53 01.5	
	comp=Z,697nm,21.3s,baz=247,slow=40						
SDV	Santo Domingo	15.28	38	*e*P	Pn	19 46 29.0	-1.0
SDV	Santo Domingo	15.28	38	*e*P	Pn	19 46 29.0	-1.0
SDV	Santo Domingo	15.28	38	P	Pn	19 46 28.3	-1.7
SDV				IAmb	IAmb	19 46 35.7	
	comp=Z,102nm,1.1s						
ESPN	Las Esperanzas	15.90	345	Pn	Pn	19 46 36.7	-1.2
ESPN				IAmb	IAmb	19 47 31.9	
	comp=Z,54nm,0.9s						
ACON	Acoyapa	15.94	341	P	P	19 46 40.6	-0.6
LPAZ	La Paz	17.48	139	P	P	19 47 00.2	+1.2
	comp=Z,2.7nm,0.3s,baz=328,slow=12,SNR=56						
LPAZ				LR	LR	19 54 28.7	
	comp=Z,73nm,20.2s,baz=306,slow=39						
LPAZ	La Paz	17.48	139	*e*P	Pn	19 46 56.4	-1.9
LPAZ	La Paz	17.48	139	*e*P	Pn	19 46 56.4	-1.9
LPAZ	La Paz	17.48	139	P	Pn	19 46 57.9	-0.3
LPAZ				IAmb	IAmb	19 47 03.2	
	comp=Z,40nm,0.7s						
SAML	Samuel	17.70	109	*e*P	Pn	19 46 56.8	-3.6
SAML	Samuel	17.70	109	*e*P	Pn	19 46 56.8	-3.6
SAML	Samuel	17.70	109	P	Pn	19 46 58.7	-1.7
MNMC	Minye Minye	18.82	148	P	Pn	19 47 14.3	+0.1
MNMC				IAmb	IAmb	19 47 16.6	
	comp=Z,51nm,0.9s						
PB11	IPOC Station P	19.31	149	P	P	19 47 17.5	-1.1
GO01	Chusmiza	19.47	148	P	Pn	19 47 22.5	+0.3
GO01				IAmb	IAmb	19 47 29.0	
	comp=Z,67nm,1.2s						
PCRV	Puerto La Cruz	20.33	49	P	P	19 47 31.3	+1.7
	comp=Z,51nm,0.6s,baz=260,slow=3.8,SNR=16						
PLCV	Puerto La Cruz	20.36	49		P	19 47 31.3	+1.4
PB01	IPOC Station P	20.47	151	P	P	19 47 31.5	+0.4
PB04	IPOC Station P	21.27	154	P	P	19 47 41.0	+1.2
PB04				IAmb	IAmb	19 47 46.0	
	comp=Z,49nm,0.8s						
MTDJ	Mount Denham	21.47	7	P	P	19 47 43.3	+1.4
LVC	Limon Verde	22.08	152	P	P	19 47 50.6	+1.9
	comp=Z,12nm,0.5s,baz=330,slow=13,SNR=19						
LVC	Limon Verde	22.08	152	*e*P	P	19 47 50.2	+1.5
LVC	Limon Verde	22.08	152	*e*P	P	19 47 50.2	+1.5
LVC	Limon Verde	22.08	152	P	P	19 47 49.7	+1.0
LVC				IAmb	IAmb	19 47 51.9	
	comp=Z,83nm,1.6s						
PB10	IPOC Station P	22.15	156	P	P	19 47 50.1	+1.1
PB10				IAmb	IAmb	19 47 52.3	
	comp=Z,64nm,1.3s						
SIV	San Ignacio	22.57	125	P	P	19 47 53.7	+0.1
	comp=Z,20nm,0.8s,baz=306,slow=9.6,SNR=44						
LGNH	Logne	22.82	18	P	P	19 47 56.1	-0.2
GTBY	Guantanamo Bay	23.53	12	P	P	19 48 04.5	+1.3
GTBY				IAmb	IAmb	19 48 05.9	
	comp=Z,64nm,0.7s						
SDDR	Presa de Saban	23.71	21	P	P	19 48 04.6	-0.3
GO02	Mina Guanaco	24.01	156	P	P	19 48 09.1	+1.1
TOSP	Speyside	24.20	53	P	P	19 48 09.4	-0.1
CRPR	Cabo Rojo, PR	24.67	31	P	P	19 48 14.6	+1.0
CRPR				IAmb	IAmb	19 48 19.1	
	comp=Z,66nm,0.8s						
MLPR	Magueyes Islan	24.67	31	P	P	19 48 13.6	-0.1
MLPR				IAmb	IAmb	19 48 23.7	
	comp=Z,86nm,1.4s						
TEIG	Tepich	24.68	341	P	P	19 48 14.4	+0.7
	comp=Z,20nm,0.6s,baz=140,slow=1.1,SNR=15						
TEIG	Tepich	24.68	341	P	P	19 48 13.7	0.0
TEIG				IAmb	IAmb	19 48 15.4	
	comp=Z,93nm,1.4s						
MPR	Mayaguez	24.83	30	P	P	19 48 15.5	+0.4
CMIG	Matias Romero	24.95	325	P	P	19 48 17.6	+1.4
	comp=Z,2.8nm,0.8s,baz=142,slow=16,SNR=3.6						
CMIG				LR	LR	19 56 24.2	
	comp=Z,109nm,21.6s,baz=186,slow=32						
OBIP	Obispado Ponce	24.96	32	P	P	19 48 16.2	-0.1
OBIP				IAmb	IAmb	19 48 19.3	
	comp=Z,67nm,0.8s						
AOPR	Arecibo Observ	25.14	31	P	P	19 48 18.2	+0.3
CLDB	Colider	25.22	109	*e*P	P	19 48 18.2	-0.6
CLDB	Colider	25.22	109	*e*P	P	19 48 18.2	-0.6
PDPR	Patillas Dam,	25.25	33	P	P	19 48 19.1	+0.2
SJG	San Juan	25.26	32	P	P	19 48 19.7	+0.6
	comp=Z,104nm,0.7s,baz=210,slow=6.0,SNR=26						
SJG	San Juan	25.26	32	P	P	19 48 19.0	0.0
HUMP	Col San Antoni	25.45	33	P	P	19 48 20.1	-0.6
GCPR	Guaynabo City	25.46	32	P	P	19 48 20.7	-0.1
CBYP	Canovanas	25.55	33	P	P	19 48 21.6	-0.2
MTP	Monte Pirata	25.57	33	P	P	19 48 21.4	-0.5
FDF	Fort de France	25.88	46	P	P	19 48 23.0	-1.8
FDF				IAmb	IAmb	19 49 05.6	
	comp=Z,79nm,1.0s						
CUPR	Culebra, Puert	25.89	34	P	P	19 48 23.9	-0.9
GO03	Copiap	25.97	160	P	P	19 48 26.3	+0.8
STVI	Saint Thomas	26.11	34	P	P	19 48 25.7	-1.0
STVI				IAmb	IAmb	19 48 29.3	
	comp=Z,104nm,1.5s						
ANWB	Willy Bob	27.50	40	P	P	19 48 38.0	-1.3
PP1B	Ponte de Pedra	28.52	122	*e*P	P	19 48 49.1	+0.7
PP1B	Ponte de Pedra	28.52	122	*e*P	P	19 48 49.1	+0.7
MDP	Montagnes des	28.61	73	P	P	19 48 48.9	-0.4
	comp=Z,9.8nm,0.7s,baz=256,slow=7.5,SNR=9.0						
AQDB	Aquidauana	29.27	128	*e*P	P	19 48 55.2	+0.1
AQDB	Aquidauana	29.27	128	*e*P	P	19 48 55.2	+0.1
CFA	Coronel Fontan	30.33	160	P	P	19 49 05.8	+1.4
	comp=Z,17nm,0.7s,baz=332,slow=9.1,SNR=35						
ARAG	Araguaiana, MT	30.43	116	*e*P	P	19 49 05.2	-0.2
ARAG	Araguaiana, MT	30.43	116	*e*P	P	19 49 05.2	-0.2
CPUP	Villa Florida	31.66	139	P	P	19 49 16.3	+0.2
	comp=Z,4.2nm,0.7s,baz=316,slow=9.7,SNR=11						
CPUP	Villa Florida	31.66	139	*e*P	P	19 49 15.6	-0.5
CPUP	Villa Florida	31.66	139	*e*P	P	19 49 15.6	-0.5
TRCB	Terra Rica	32.91	129	*e*P	P	19 49 27.0	-0.2
TRCB	Terra Rica	32.91	129	*e*P	P	19 49 27.0	-0.2
ITRB	Iturama	33.28	122	*e*P	P	19 49 29.8	-0.7
ITRB	Iturama	33.28	122	*e*P	P	19 49 29.8	-0.7
BDFB	Brasilia	33.86	113	P	P	19 49 35.9	+0.3
	comp=Z,10nm,1.0s,baz=268,slow=5.7,SNR=10						
BDFB	Brasilia	33.86	113	P	P	19 49 35.8	+0.2
PTGB	Pitanga	34.40	131	*e*P	P	19 49 40.0	-0.2
PTGB	Pitanga	34.40	131	*e*P	P	19 49 40.0	-0.2

comp=Z,16nm,0.8s
ESAR Angra dos Reis 39.68 123 *e*P **P 19 50 25.2 +0.3**
ESAR Angra dos Reis 39.68 123 *e*P **P 19 50 25.2 +0.3**
MIAR Mount Ida 39.68 342 P **P 19 50 24.4 -0.3**
MIAR IAmb IAmb 19 50 50.8
comp=Z,32nm,1.8s
WHAR Wooly Hollow 40.01 344 P **P 19 50 27.1 -0.3**
WHAR IAmb IAmb 19 50 27.8
comp=Z,15nm,0.7s
T57A Hurt 40.04 1 P **P 19 50 26.8 -0.9**
T57A IAmb IAmb 19 50 28.1
comp=Z,21nm,1.1s
ABTX Abilene, Hawle 40.21 334 P **P 19 50 29.7 +0.4**
ABTX IAmb IAmb 19 50 31.3
comp=Z,12nm,0.8s
NBPN Ponto Novo - B 40.23 103 *e*P **P 19 50 29.5 -0.2**
NBPN Ponto Novo - B 40.23 103 *e*P **P 19 50 29.5 -0.2**
T52A Hallie 40.23 356 P **P 19 50 28.7 -0.6**
X37A Clayton 40.29 340 P **P 19 50 30.7 +0.8**
X37A IAmb IAmb 19 50 32.1
comp=Z,16nm,0.5s
W39A Magazine 40.35 343 P **P 19 50 30.7 +0.4**
NBPB Pedra_Branca-C 40.41 95 *e*P **P 19 50 30.3 -0.9**
NBPB Pedra_Branca-C 40.41 95 *e*P **P 19 50 30.3 -0.9**
LCAR Lake Charles 40.46 346 P **P 19 50 30.3 -0.9**
LCAR IAmb IAmb 19 50 31.4
comp=Z,14nm,0.7s
T49A Edmonton 40.46 353 P **P 19 50 30.1 -1.1**
T49A IAmb IAmb 19 50 30.9
comp=Z,14nm,0.7s
FCAR Ozark Folk Cen 40.53 345 P **P 19 50 31.1 -0.6**
S51A Beattyville 40.80 356 P **P 19 50 32.8 -1.2**
S51A IAmb IAmb 19 50 34.5
comp=Z,48nm,1.4s
S54A Dingess, Beckl 40.85 358 P **P 19 50 33.6 -0.8**
S54A IAmb IAmb 19 50 35.4
comp=Z,17nm,1.0s
PBMO Poplar Bluff 40.97 347 P **P 19 50 34.0 -1.4**
PBMO IAmb IAmb 19 50 35.7
comp=Z,17nm,1.2s
SJMB Sao Joao De Ma 41.00 115 *e*P **P 19 50 35.4 -0.6**
SJMB Sao Joao De Ma 41.00 115 *e*P **P 19 50 35.4 -0.6**
R58B Mineral 41.05 3 P **P 19 50 35.7 -0.2**
R58B IAmb IAmb 19 50 36.8
comp=Z,15nm,0.9s
DUB01 Friburgo-RJ 41.07 120 *e*P **P 19 50 36.6 +0.1**
DUB01 Friburgo-RJ 41.07 120 *e*P **P 19 50 36.6 +0.1**
U40A Yellville 41.17 344 P **P 19 50 36.6 -0.4**
U40A IAmb IAmb 19 50 38.0
comp=Z,29nm,0.8s
X34A Smith Ranch, M 41.19 338 P **P 19 50 38.6 +1.4**
NBMA Muriti-CE 41.30 97 *e*P **P 19 50 39.4 +0.9**
NBMA Muriti-CE 41.30 97 *e*P **P 19 50 39.4 +0.9**
R55A Marlinton 41.31 360 P **P 19 50 37.6 -0.7**
R55A IAmb IAmb 19 50 39.0
comp=Z,14nm,0.8s
W35A Tecumseh 41.33 339 P **P 19 50 38.8 +0.4**
BSFB Barra de Sao F 41.34 115 *e*P **P 19 50 38.6 -0.2**
BSFB Barra de Sao F 41.34 115 *e*P **P 19 50 38.6 -0.2**
HHAR Hobbs 41.40 343 P **P 19 50 38.7 -0.2**
HHAR IAmb IAmb 19 50 39.7
comp=Z,19nm,0.5s
R50A Paris 41.50 355 P **P 19 50 38.5 -1.2**
R50A IAmb IAmb 19 50 39.2
comp=Z,13nm,0.6s
CAM01 Campos-RJ 41.60 120 *e*P **P 19 50 40.6 -0.2**
CAM01 Campos-RJ 41.60 120 *e*P **P 19 50 40.6 -0.2**
FNO Franklin 41.61 338 P **P 19 50 41.5 +0.8**
SIUC Southern Illin 41.63 349 P **P 19 50 39.8 -0.9**
SIUC IAmb IAmb 19 50 40.8
comp=Z,22nm,1.1s
TUL1 Leonard 41.64 341 P **P 19 50 40.9 +0.1**
WCI Wyandotte Cave 41.66 353 P **P 19 50 39.6 -1.4**
WCI IAmb IAmb 19 50 40.4
comp=Z,26nm,1.0s
NBIT Itapeh - BA 41.67 109 *e*P **P 19 50 42.0 +0.5**
NBIT Itapeh - BA 41.67 109 *e*P **P 19 50 42.0 +0.5**
WMOK Wichita Mounta 41.68 337 P **P 19 50 40.3 -1.0**
MGMO Mountain Grove 41.77 345 P **P 19 50 39.6 -2.3**
MGMO IAmb IAmb 19 50 42.6
comp=Z,14nm,1.1s
RIB01 Linhares ES 41.90 115 *e*P **P 19 50 43.2 -0.1**
RIB01 Linhares ES 41.90 115 *e*P **P 19 50 43.2 -0.1**
ALF01 Guarapari-ES 42.01 117 *e*P **P 19 50 44.1 0.0**
ALF01 Guarapari-ES 42.01 117 *e*P **P 19 50 44.1 0.0**
NBTA Tacaratu-PE 42.13 100 *e*P **P 19 50 45.7 +0.5**
NBTA Tacaratu-PE 42.13 100 *e*P **P 19 50 45.7 +0.5**
Q51A Peebles 42.17 356 P **P 19 50 43.5 -1.6**
Q51A IAmb IAmb 19 50 45.6
comp=Z,32nm,1.1s
MNTX Cornudas Mount 42.28 327 P **P 19 50 46.5 +0.3**
CCM Cathedral Cave 42.38 347 P **P 19 50 45.5 -1.4**
CCM IAmb IAmb 19 51 06.1
comp=Z,41nm,1.8s
OLIL Olney 42.42 351 P **P 19 50 45.4 -1.8**
NBLA Lagarto - SE 42.60 103 *e*P **P 19 50 48.3 -0.8**
NBLA Lagarto - SE 42.60 103 *e*P **P 19 50 48.3 -0.8**
MSTX Muleshoe 42.76 332 P **P 19 50 50.4 +0.2**
MSTX IAmb IAmb 19 50 52.1
comp=Z,21nm,1.1s
AMTX Amarillo 43.02 334 P **P 19 50 52.5 +0.2**
AMTX IAmb IAmb 19 50 53.8
comp=Z,18nm,1.1s
NBLI Livramento-PB 43.10 97 *e*P **P 19 50 54.2 +1.0**
NBLI Livramento-PB 43.10 97 *e*P **P 19 50 54.2 +1.0**
MVL Millersville 43.16 4 P **P 19 50 53.4 +0.2**
MVL IAmb IAmb 19 50 55.1
comp=Z,27nm,1.3s
O56A Blue Knob Stat 43.32 2 P **P 19 50 54.0 -0.5**
ACSO Alum Creek Sta 43.34 357 P **P 19 50 52.9 -1.7**
LUPA Lehigh Univers 43.84 5 P **P 19 50 59.1 +0.5**
NBAN Anadia - AL 43.94 101 *e*P **P 19 50 60.0 +0.1**
NBAN Anadia - AL 43.94 101 *e*P **P 19 50 60.0 +0.1**
N58A Sunbury 43.97 4 P **P 19 50 59.1 -0.6**
N59A State Game Lan 44.12 5 P **P 19 51 00.4 -0.6**
N59A IAmb IAmb 19 51 02.2
comp=Z,27nm,0.9s
121A Cookes Peak, D 44.24 326 P **P 19 51 01.6 -0.6**
HDIL Hopedale 44.40 350 P **P 19 51 01.3 -1.8**
M57A Sunshine Farm, 44.45 3 P **P 19 51 02.7 -0.8**
M56A Emporium 44.54 2 P **P 19 51 03.6 -0.6**
M56A IAmb IAmb 19 51 04.2
comp=Z,15nm,0.6s
ANMO Albuquerque 45.36 329 P **P 19 51 12.0 +0.9**
ANMO IAmb IAmb 19 51 13.4
comp=Z,11nm,0.8s
BINY Binghamton 45.38 4 P **P 19 51 11.7 +0.8**
BINY IAmb IAmb 19 51 11.8
comp=Z,26nm,0.7s
TRY Troy 46.12 7 P **P 19 51 17.9 +1.2**
T25A Trinidad 46.12 333 P **P 19 51 18.2 +1.1**
T25A IAmb IAmb 19 51 19.6
comp=Z,52nm,1.7s
J47A Sunmer 46.46 355 P **P 19 51 16.6 -2.8**
SCIA State Center 46.50 346 P **P 19 51 18.9 -0.8**
SCIA IAmb IAmb 19 51 20.0
comp=Z,19nm,0.7s
J59A Piesco 46.76 6 P **P 19 51 21.4 -0.4**
ACCN Adirondack Com 46.77 6 P **P 19 51 21.9 +0.1**
JFWS Jewell Farm 46.86 350 P **P 19 51 21.3 -1.2**
X18A Snowflake 46.93 326 P **P 19 51 24.6 +1.2**
SDCO Great Sand Dun 47.12 332 P **P 19 51 25.8 +0.7**
X16A Lo Mia Camp, P 47.70 324 P **P 19 51 30.8 +1.3**
S22A 4UR Ranch, Cre 47.75 331 P **P 19 51 30.8 +0.9**
MVCO Mesa Verde 48.16 329 P **P 19 51 31.5 -1.5**
FRNY Flat Rock 48.21 6 P **P 19 51 32.4 -0.6**
FRNY IAmb IAmb 19 51 57.7
comp=Z,46nm,1.5s
WUAZ Wupatki 48.45 325 P **P 19 51 36.4 +1.2**
PV01 Paradox Valley 48.91 330 P **P 19 51 39.1 +0.3**
SMCO Snowmass 48.96 332 P **P 19 51 39.5 +0.2**
SMCO IAmb IAmb 19 51 57.4
comp=Z,18nm,1.6s
G62A West of Eustis 48.99 9 P **P 19 51 39.7 +0.8**
PV02 Paradox Valley 49.05 330 P **P 19 51 40.9 +1.1**
PV02 IAmb IAmb 19 51 41.8
comp=Z,14nm,0.7s
PV13 Radium Mtn., P 49.05 330 P **P 19 51 40.6 +0.7**
PV13 IAmb IAmb 19 51 41.8
comp=Z,14nm,0.7s
ECSD EROS Data Cent 49.08 344 P **P 19 51 39.0 -0.7**
PV05 Paradox Valley 49.13 330 P **P 19 51 40.3 -0.2**
PV03 Paradox Valley 49.14 330 P **P 19 51 41.1 +0.6**
PV03 IAmb IAmb 19 51 42.3
comp=Z,9.0nm,0.7s
PV18 Skein Mesa, Pa 49.16 330 P **P 19 51 41.2 +0.5**
PV18 IAmb IAmb 19 51 42.5
comp=Z,11nm,0.9s
PV12 Saucer Basin, 49.16 330 P **P 19 51 41.3 +0.6**
PV12 IAmb IAmb 19 51 42.7
comp=Z,17nm,0.8s
PV07 Paradox Valley 49.18 330 P **P 19 51 41.7 +0.9**
PV17 East Wray Mesa 49.21 330 P **P 19 51 41.7 +0.6**
PV17 IAmb IAmb 19 51 42.8
comp=Z,11nm,1.0s
PV16 Nyswonger Mesa 49.22 330 P **P 19 51 40.9 -0.2**
PV16 IAmb IAmb 19 51 43.7
comp=Z,23nm,1.6s
PV20 West Nyswonger 49.26 330 P **P 19 51 41.4 0.0**
PV20 IAmb IAmb 19 52 15.0
comp=Z,32nm,1.9s
PV04 Paradox Valley 49.27 330 P **P 19 51 41.7 +0.2**
PV04 IAmb IAmb 19 51 43.6
comp=Z,27nm,1.5s
PV22 Blue Mesa, Par 49.32 330 P **P 19 51 42.4 +0.5**
W13A Hualapai Mount 49.61 323 P **P 19 51 44.8 +0.6**
U15A North Rim 49.62 326 P **P 19 51 45.3 +1.1**
KNB Kanab 50.33 326 P **P 19 51 51.0 +1.4**
SRU San Rafael Swe 50.64 329 P **P 19 51 52.7 +0.9**
SZCU Shurtz Canyon 50.89 326 P **P 19 51 52.4 -1.5**
CCUT Cedar City 51.02 326 P **P 19 51 56.0 +1.2**
MSU Marysvale 51.06 328 P **P 19 51 55.1 +0.1**
GSC Goldstone, Bar 51.53 321 P **P 19 51 59.8 +1.3**
GSC IAmb IAmb 19 52 18.5
comp=Z,18nm,1.7s
RSSD Black Hills 51.83 338 P **P 19 52 01.3 +0.6**
PSUT Pine Spring 51.98 326 P **P 19 52 02.5 +0.5**
TPNV Topopah Spring 52.27 323 P **P 19 52 05.7 +1.6**
USHA Ushuaia 52.30 172 LR LR 20 11 19.1
comp=Z,114nm,19.1s,baz=346,slow=32
TCUT Toone Canyon 52.60 330 P **P 19 52 07.5 +0.9**
DUG Dugway, Tooele 52.62 329 P **P 19 52 07.8 +1.2**
DUG IAmb IAmb 19 52 55.2
comp=Z,17nm,1.8s
R11A Troy Canyon, C 52.83 325 P **P 19 52 09.4 +1.2**
BW06 Boulder Array 52.99 333 P **P 19 52 09.1 -0.3**
PD31 Pinedale Array 52.99 333 P **P 19 52 09.2 -0.2**
PDAR Pinedale Array 52.99 333 P **P 19 52 09.6 +0.2**
comp=Z,2.0nm,0.6s,baz=126,slow=9.4,SNR=18
PDAR Pinedale Array 52.99 333 P **P 19 52 08.8 -0.6**
HWUT Hardware Ranch 53.04 331 P **P 19 52 09.6 -0.2**
HWUT IAmb IAmb 19 52 11.1
comp=Z,8.2nm,0.7s
AGMN Agassiz Nation 53.15 347 P **P 19 52 09.9 -0.3**
MDND Maddock 53.68 344 P **P 19 52 14.0 -0.1**
HVU Hansel Valley 53.77 330 P **P 19 52 15.5 +0.4**
REDW Red Top Meadow 54.05 333 P **P 19 52 17.7 +0.6**
REDW IAmb IAmb 19 53 40.7
comp=Z,16nm,1.6s
ELK Elko 54.30 327 P **P 19 52 19.9 +0.8**
OMMB Old Mammoth Mi 54.37 322 P **P 19 52 20.4 +0.8**
NV11 Mina Array Sit 54.39 323 P **P 19 52 19.8 +0.2**
NVAR Mina Array Bea 54.47 323 P **P 19 52 21.9 +1.6**
comp=Z,2.9nm,0.6s,baz=133,slow=7.4,SNR=36
NVAR Mina Array Bea 54.47 323 P **P 19 52 21.4 +1.1**
IMW Indian Meadow 54.50 333 P **P 19 52 20.0 -0.5**
ULM Lac du Bonnet 54.99 348 P **P 19 52 23.0 -0.6**
comp=Z,15nm,0.5s,baz=159,slow=7.6,SNR=25
ULM Lac du Bonnet 54.99 348 P **P 19 52 22.8 -0.7**
ULM IAmb IAmb 19 52 23.8
comp=Z,15nm,0.7s
YHL Hebgen Lake 55.36 333 P **P 19 52 27.8 +1.1**
GCMT Greycliff 55.44 335 P **P 19 52 26.8 -0.2**
BOZ Bozeman (W) 56.13 334 P **P 19 52 32.7 +0.7**
MFID Camas Ranch 56.51 329 P **P 19 52 35.4 +0.7**
MFID IAmb IAmb 19 52 53.1
comp=Z,7.7nm,0.9s
BEKR Beckworth 56.62 323 P **P 19 52 36.0 +0.3**
ORV Oroville 57.11 322 P **P 19 52 39.4 +0.4**
ORV IAmb IAmb 19 53 01.6
comp=Z,11nm,1.2s
WVOR Wild Horse Val 57.31 327 P **P 19 52 40.9 +0.4**
YBH Yreka Blue Hor 59.18 324 P **P 19 52 53.0 -0.4**
G08A Pilot Rock 59.42 329 P **P 19 52 55.3 +0.2**
G08A IAmb IAmb 19 53 12.9
comp=Z,9.4nm,1.1s
PINE Pine Mountain 59.48 327 P **P 19 52 57.0 +1.4**
PINE IAmb IAmb 19 53 13.8
comp=Z,9.9nm,0.9s
WALA Waterton Lakes 59.79 335 P **P 19 52 58.0 +0.4**
WALA IAmb IAmb 19 53 05.2
comp=Z,31nm,1.9s
YKA Yellowknife Ar 70.61 344 P **P 19 54 06.6 -0.5**
comp=Z,0.5nm,0.5s,baz=142,slow=6.4,SNR=5.6
DBIC Dimbokro 75.71 82 P **P 19 54 38.4 0.0**
comp=Z,4.7nm,0.8s,baz=170,slow=3.7,SNR=4.7
INK Inuvik 80.28 342 P **P 19 55 02.0 -0.5**
comp=Z,1.0nm,0.5s,baz=106,slow=3.8,SNR=8.3
INK Inuvik 80.28 342 P **P 19 54 58.5 -4.1**
VNA3 Neumayer Olymp 80.70 162 P **P 19 55 05.2 +0.3**
VNA1 Neumayer--Stat 80.97 161 P **P 19 55 07.2 +0.9**
VNA2 Neumayer--Watz 81.33 161 P **P 19 55 08.4 +0.2**
baz=298,slow=5.4
TORD Torodi Ar. Bea 82.71 76 P **P 19 55 16.1 -0.5**
comp=Z,0.6nm,0.4s,baz=282,slow=5.8,SNR=14
TORD Torodi Ar. Bea 82.71 76 P **P 19 55 15.6 -1.0**
SNAA Sanae 82.93 162 P **P 19 55 16.8 +0.2**
SNAA Sanae 82.93 162 P **P 19 55 16.4 -0.2**
SNAA IAmb IAmb 19 55 17.7
comp=Z,19nm,1.1s
ILAR Eielson Array 83.25 337 P **P 19 55 17.9 -0.5**
comp=Z,0.7nm,0.8s,baz=85,slow=5.3,SNR=6.4
ILAR PP **PP 19 58 32.6 +2.3**
comp=Z,0.7nm,0.8s,baz=103,slow=7.8,SNR=6.5
ILAR Eielson Array 83.25 337 P **P 19 55 17.4 -0.9**
BMAR Burnt Mountain 83.45 339 P **P 19 55 19.4 0.0**
QSPA South Pole Qui 86.83 180 P **P 19 55 37.0 +0.5**
QSPA IAmb IAmb 19 55 37.6
comp=Z,9.4nm,0.8s
KEST Kesra 91.38 54 P **P 19 55 58.2 -0.3**
comp=Z,4.4nm,0.9s,baz=278,slow=17,SNR=3.1
SPITS Spitsbergen Ar 94.47 12 LR LR 20 38 12.1
comp=Z,32nm,20.8s,baz=215,slow=35
SYO Syowa Base 97.22 162‖ *e*P **P 19 56 22.0 -2.4**
SYO Syowa Base 97.22 162⇑ *e*PcP **P 19 56 23.4 -1.0**
STKA Stephens Creek 127.24 225 PKP **PKPdf 20 01 55.2 -1.9**
comp=Z,1.1nm,0.6s,baz=185,slow=23,SNR=3.9
ZALV Zalesovo Beam 127.95 11 PKP **PKPdf 20 01 57.4 -0.3**
comp=Z,0.3nm,0.4s,baz=311,slow=6.8,SNR=3.5
MKAR Makanchi Array 133.99 17 PKP **PKPdf 20 02 08.5 -0.9**
comp=Z,0.3nm,0.6s,baz=345,slow=2.9,SNR=4.1
MKAR Makanchi Array 133.99 17 PKPdf **PKPdf 20 02 09.0 -0.4**
ASAR Alice Springs 137.47 229 PKhKP PKPpre 20 02 07.6
comp=Z,0.5nm,0.5s,baz=123,slow=3.3,SNR=10.0
ASAR PKP **PKPdf 20 02 15.8 -0.8**
comp=Z,1.1nm,0.7s,baz=117,slow=1.9,SNR=14
ASAR Alice Springs 137.47 229 PKPdf **PKPdf 20 02 15.7 -1.0**
KSH Kashi 137.84 28 *e*PKP **PKiKP 20 02 21.8 +2.8**
WRA Warramunga Arr 139.12 234 PKhKP PKPpre 20 02 11.7
comp=Z,0.9nm,1.1s,baz=118,slow=2.7,SNR=7.0
WRA PKP **PKPdf 20 02 18.4 -1.3**
comp=Z,1.8nm,0.8s,baz=116,slow=1.8,SNR=16
GTA Gaotai 144.00 0 *e*P PKiKP 20 02 48.8 +17
GTA pP sPKPdf 20 02 52.8 +4.8
GTA sP pPKPdf 20 02 55.8 +13
GTA pmax pmax
comp=Z,2.0nm,1.1s
XAN Xi'an 148.23 346 P PKPab 20 02 50.0 +8.4
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,130nm,4.3s
WHN Wuhan 149.62 335 PKP PKPab 20 02 58.3 +11

ISCJB ***25*** *20:06:53.8±0.4, 32°.41N±0°.06×131°.13E±0°.06, h146km±3km, mb3.5/8, Error ellipse: s-maj=11.7km s-min=6.9km az=143.6*
IDC ***25*** *20:06:54.6±0.6, 32°.46N×131°.08E, h139km±5km, mb3.3/8, mb1 3.4/10, mb1mx3.2/45, mbtmp3.7/10, Error ellipse: s-maj=27.3km s-min=14.8km az=65.0*
JMA ***25*** *20:06:56.5±0.1, 32°.46N×131°.10E, h136km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs334.00000°, δ79.00000°, λ47.00000°. NP2: φs232.00000°, δ44.00000°, λ164.00000°. Principal axes: T Plg40.0000°, Azm205.0000°; N Plg42.0000°, Azm344.0000°; P Plg22.0000°, Azm95.0000°;*
ISC 25 20:06:54.8±0.7, 32°.40N±0°.06×131°.11E±0°.06, h146km±5km, n19, σ1≋80/29, mb3.5/8, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.29**	**300**	⇑P	**Pn**	**20 07 15.4**	**+0.5**
JIU3				S	**Sn**	**20 07 29.5**	**-0.6**
JKIT	**Kitakata**	**0.36**	**53**	⇑P	**Pn**	**20 07 15.8**	**+0.7**
JKIT				S	**Sn**	**20 07 29.9**	**-0.6**
JTZ	**Takazaki**	**0.50**	**182**	⇓P	**Pn**	**20 07 16.5**	**+0.7**
JTZ				*e*S	**Sn**	**20 07 31.4**	**-0.2**
JNU	**Nakatsue**	**0.74**	**345**	P	**Pn**	**20 07 17.7**	**+0.4**
62nm,0.3s,baz=155,slow=0.7,SNR=1285							
JNU				S	**Sn**	**20 07 33.0**	**-1.4**
54nm,0.3s,baz=221,slow=23,SNR=17							
JSJ	**Shimokoshiki**	**1.39**	**239**	⇓P	**Pn**	**20 07 23.5**	**+0.6**
JSJ				S	**Sn**	**20 07 44.0**	**-0.4**
JTO	**Tosashimizu**	**1.50**	**72**	⇑P	**Pn**	**20 07 23.8**	**-0.2**
JTO				S	**Sn**	**20 07 44.6**	**-1.8**
JNA	**Nagahama**	**1.62**	**45**	⇑P	**Pn**	**20 07 25.1**	**-0.3**
JNA				S	**Sn**	**20 07 47.0**	**-1.9**
KSRS	**Korea Array**	**5.68**	**333**	P	**Pn**	**20 08 16.8**	**-0.3**
0.5nm,0.3s,baz=150,slow=14,SNR=5.9							
JOW	**Kunigami**	**6.08**	**205**	S	**Sn**	**20 09 26.7**	**-4.4**
0.7nm,0.3s,baz=84,slow=21,SNR=11							
MAT	**Matsushiro**	**7.17**	**53**	P	**Pn**	**20 08 41.1**	**+4.0**
MAT				S	**Sn**	**20 09 58.2**	**+1.0**
MJAR	**Matsushiro Arr**	**7.17**	**53**	P	**Pn**	**20 08 38.3**	**+1.2**
0.3nm,0.3s,baz=230,slow=19,SNR=27							
MJAR				S	**Sn**	**20 09 52.6**	**-4.6**
0.1nm,0.3s,baz=237,slow=21,SNR=2.9							
SONM	**Songino Array**	**24.24**	**317**	P	**P**	**20 11 58.4**	**+0.1**
0.5nm,0.7s,baz=120,slow=11,SNR=2.8							
CMAR	**Chiang Mai Arr**	**32.06**	**252**	P	**P**	**20 13 08.9**	**+1.0**
0.4nm,0.6s,baz=46,slow=7.7,SNR=5.3							
MKAR	**Makanchi Array**	**39.63**	**306**	P	**P**	**20 14 12.6**	**+0.5**
0.4nm,0.5s,baz=88,slow=12,SNR=7.9							
MKAR				PcP	**PcP**	**20 16 13.6**	**-2.6**
0.2nm,0.5s,baz=79,slow=3.8,SNR=2.7							
FITZ	**Fitzroy Crossi**	**50.49**	**187**	P	**P**	**20 15 38.8**	**+0.8**
1.1nm,0.4s,baz=7.1,slow=8.1,SNR=4.6							
WRA	**Warramunga Arr**	**52.14**	**176**	P	**P**	**20 15 51.1**	**+0.8**
0.3nm,0.4s,baz=354,slow=7.7,SNR=6.0							
ASAR	**Alice Springs**	**55.82**	**177**	P	**P**	**20 16 17.2**	**+0.3**
0.6nm,0.6s,baz=360,slow=6.0,SNR=6.9							
STKA	**Stephens Creek**	**64.70**	**170**	P	**P**	**20 17 17.8**	**+0.6**
0.6nm,0.6s,baz=336,slow=21,SNR=3.0							
FINES	**FINESS Array B**	**68.76**	**330**	P	**P**	**20 17 42.6**	**0.0**
3.7nm,0.9s,baz=58,slow=3.4,SNR=4.9							

VAO ***25*** *20:06:43.1±0.6, 12°.40S×76°.79W, h10km, mb5.6*
MOS ***25*** *20:06:53.9±1.0, 12°.58S×76°.22W, h73km, mb5.6/7, Error ellipse: s-maj=9.8km s-min=4.8km az=115.2*
ISCJB ***25*** *20:06:53.6±0.4, 12°.63S±0°.02×76°.21W±0°.02, h76km±3km, mb5.3/105, Error ellipse: s-maj=4.2km s-min=2.1km az=151.5*
NEIC ***25*** *20:06:55.6±1.5, 12°.60S±0°.07×76°.20W±0°.07, h77km±3km, mb5.6/432, Mwb5.5, ML5.8(ARE), Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.31; Mθθ-0.47; Mφφ0.77; Mrθ0.56; Mrφ-1.84; Mθφ1.02; Fault plane solution: M0 2.28000×10^17 NP1: φs186.77000°, δ79.90000°, λ-29.62000°. NP2: φs282.46000°, δ60.88000°, λ-168.42000°. Principal axes: T 2.2079, Plg13.0000°, Azm238.0000°; N 0.1387, Plg59.0000°, Azm350.0000°; P -2.3466, Plg28.0000°, Azm141.0000°;*
IDC ***25*** *20:06:55.9±0.4, 12°.61S×76°.26W, h79km±3km, mb4.9/21, mb1 5.0/25, mb1mx4.9/30, mbtmp5.2/25, MS4.4/26, Ms1 4.4/26, ms1mx4.3/34 Error ellipse: s-maj=13.2km s-min=7.1km az=49.0*
GCMT ***25*** *20:06:58.6±0.1, 12°.68S±0°.01×76°.40W±0°.01, h98km±1km, MW5.5/115, Moment Tensor Solution. s115,c197; s110,c207; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr0.32±.03; Mθθ-0.52±.03; Mφφ0.20±.04; Mrθ-0.10±.02; Mrφ-1.14±.03; Mθφ1.81±.02; Best double couple: M0 2.16700×10^17 NP1:φs8.00000°, δ85.00000°, λ56.00000°. NP2:φs271.00000°, δ35.00000°, λ171.00000°. Principal axes: T 2.3470, Plg40.0000°, Azm247.0000°; N -0.3600, Plg34.0000°, Azm12.0000°; P -1.9870, Plg31.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *20:06:59, 12°.80S×76°.32W, h96km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.47; Mθθ-0.41; Mφφ-0.05; Mrθ-0.15; Mrφ-1.35; Mθφ1.78; Fault plane solution: M0 2.28000×10^17 NP1:φs7.00000°, δ82.00000°, λ52.00000°. NP2:φs267.00000°, δ38.00000°, λ168.00000°. Principal axes: T 2.3895, Plg40.0000°, Azm242.0000°; N -0.2324, Plg37.0000°, Azm12.0000°; P -2.1571, Plg27.0000°, Azm126.0000°;*
ISC 25 20:06:55.1±0.3, 12°.71S±0°.04×76°.26W±0°.05, h77km±2km, h77km:pP-P, n1408, σ1≋27/1423, mb5.5/285, 7C-60D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.91**	**321**	P	**Pn**	**20 07 13.1**	**+0.1**
19μm,0.3s,baz=160,slow=11,SNR=9044							
NNA				S	**Sn**	**20 07 26.5**	**+0.1**
19μm,0.3s,baz=60,slow=20,SNR=66							
NNA	**Nana**	**0.91**	**321**		**Pn**	**20 07 13.0**	**-0.1**
ATAH	**Atahualpa**	**5.92**	**339**	P	**Pn**	**20 08 21.6**	**+0.9**
78nm,0.3s,baz=159,slow=4.5,SNR=171							
ATAH				S	**Sn**	**20 09 25.4**	**-2.0**
67nm,0.3s,baz=120,slow=20,SNR=2.3							
AP01	**Chacalluta**	**8.01**	**135**	*e*P	**Pn**	**20 08 47.1**	**-1.8**
AP01				*i* S	**Sn**	**20 10 21.3**	**+3.3**
PB12	**IPOC Station P**	**8.19**	**137**	*e*P	**Pn**	**20 08 48.2**	**-3.2**
PB12	**IPOC Station P**	**8.19**	**137**	*e*P	**Pn**	**20 08 50.8**	**-0.7**
LPAZ	**La Paz**	**8.64**	**115**	‖ *i*P	**Pn**	**20 08 59.6**	**+1.7**
LPAZ	**La Paz**	**8.64**	**115**	P	**Pn**	**20 08 59.7**	**+1.7**
13nm,0.3s,baz=303,slow=12,SNR=132							
LPAZ				LR	LR	20 12 59.9	
comp=Z,10μm,18.9s,baz=306,slow=42							
LPAZ	**La Paz**	**8.64**	**115**	*e*P	**Pn**	**20 08 59.6**	**+1.7**
LPAZ	**La Paz**	**8.64**	**115**		**Pn**	**20 08 59.5**	**+1.5**
PSGC	**Pisagua**	**9.04**	**140**	*e*P	**Pn**	**20 09 00.8**	**-2.2**
PSGCX	**Pisagua**	**9.04**	**140**	*e*P	**Pn**	**20 09 01.7**	**-1.3**
MNMC	**Minye Minye**	**9.05**	**136**	*e*P	**Pn**	**20 09 01.2**	**-2.0**
MNMC				*i* S	**Sn**	**20 10 48.3**	**+4.6**
MNMC	**Minye Minye**	**9.05**	**136**		**Pn**	**20 09 00.8**	**-2.5**
MNMCX	**Minye Minye**	**9.05**	**136**	*e*P	**Pn**	**20 09 03.3**	**+0.1**
MNMCX				*e*S	Sn	20 11 03.0	+19
PB11	**IPOC Station P**	**9.46**	**139**	*e*P	**Pn**	**20 09 05.5**	**-3.2**
PB11	**IPOC Station P**	**9.46**	**139**	*e*P	**Pn**	**20 09 07.7**	**-1.0**
PB11	**IPOC Station P**	**9.46**	**139**		**Pn**	**20 09 05.5**	**-3.2**
GO01	**Chusmiza**	**9.69**	**136**	*e*P	**Pn**	**20 09 11.1**	**-1.2**
GO01	**Chusmiza**	**9.69**	**136**		**Pn**	**20 09 10.4**	**-1.8**
TA01	**Diego Aracena**	**9.75**	**144**	*e*P	**Pn**	**20 09 10.9**	**-1.6**
PB08	**IPOC Station P**	**10.05**	**138**	⇑ *i*P	**Pn**	**20 09 16.9**	**-0.2**
PB08	**IPOC Station P**	**10.05**	**138**	*e*P	**Pn**	**20 09 16.9**	**-0.2**
PB02	**IPOC Station P**	**10.51**	**145**	*e*P	**Pn**	**20 09 22.1**	**-0.9**
PB02	**IPOC Station P**	**10.51**	**145**	*e*P	**Pn**	**20 09 22.8**	**-0.2**
PB01	**IPOC Station P**	**10.52**	**143**	*e*P	**Pn**	**20 09 22.2**	**-1.0**
PB01	**IPOC Station P**	**10.52**	**143**		**Pn**	**20 09 22.0**	**-1.2**
PB07	**IPOC Station P**	**10.84**	**147**	*e*P	**Pn**	**20 09 26.8**	**-0.8**
PB07	**IPOC Station P**	**10.84**	**147**	*e*P	**Pn**	**20 09 27.2**	**-0.4**
PB03	**IPOC Station P**	**11.17**	**147**	*e*P	**Pn**	**20 09 31.1**	**-1.0**
PB03	**IPOC Station P**	**11.17**	**147**	*e*P	**Pn**	**20 09 32.4**	**+0.3**
PB04	**IPOC Station P**	**11.21**	**150**	*e*P	**Pn**	**20 09 31.2**	**-1.4**
PB04	**IPOC Station P**	**11.21**	**150**	*e*P	**Pn**	**20 09 32.6**	**0.0**
PB04	**IPOC Station P**	**11.21**	**150**		**Pn**	**20 09 30.7**	**-1.9**
PB09	**IPOC Station P**	**11.25**	**144**	*e*P	**Pn**	**20 09 31.8**	**-1.4**
PB09	**IPOC Station P**	**11.25**	**144**	*e*P	**Pn**	**20 09 29.4**	**-3.8**
PB05	**IPOC Station P**	**11.62**	**151**	*e*P	**Pn**	**20 09 36.6**	**-1.6**
PB05	**IPOC Station P**	**11.62**	**151**	*e*P	**Pn**	**20 09 37.5**	**-0.7**
PB06	**IPOC Station P**

4.5nm,0.3s,baz=55,slow=12,SNR=6.5
LVC LR LR 20 14 51.4
comp=Z,2µm,18.9s,baz=318,slow=39
LVC Limon Verde 12.08 146 Pn 20 09 44.5 -0.2
PB15 IPOC Station P 12.28 149 eP **Pn 20 09 46.4 -0.8**
PB15 IPOC Station P 12.28 149 eP **Pn 20 09 47.2 0.0**
PTLC Puerto Leguiza 12.88 7 eP Pn 20 09 46.0 -9.2
PTLC Puerto Leguiza 12.88 7 eP Pn 20 09 46.0 -9.2
OTAV Otavalo 13.04 350 P **Pn 20 09 58.2 +0.4**
OTAV Otavalo 13.04 350 Pn 20 09 58.2 +0.4
PB14 IPOC Station P 13.09 156 eP **Pn 20 09 56.8 -1.5**
PB14 IAmb IAmb 20 09 58.3
comp=Z,75nm,0.6s
SAML Samuel 13.37 75 P **Pn 20 09 58.8 -3.0**
SAML Samuel 13.37 75 eP **Pn 20 09 59.2 -2.6**
SAML Samuel 13.37 75 eP **Pn 20 09 59.2 -2.6**
SAML Samuel 13.37 75 Pn 20 09 58.8 -3.0
GCUF Volcan Galeras 13.88 355 eP **Pn 20 10 07.7 -1.2**
GCUF Volcan Galeras 13.88 355 eP **Pn 20 10 07.7 -1.2**
GO02 Mina Guanaco 13.90 154 ||P **Pn 20 10 09.8 +0.8**
GO02 Mina Guanaco 13.90 154 Pn 20 10 09.3 +0.4
YJA Yavi 13.91 134 eP **Pn 20 10 10.0 +0.7**
CRUC La Cruz 14.20 357 eP **Pn 20 10 11.0 -2.0**
CRUC La Cruz 14.20 357 eP **Pn 20 10 11.0 -2.0**
FLOC Florencia 14.21 2 eP **Pn 20 10 08.9 -3.9**
FLOC Florencia 14.21 2 eP **Pn 20 10 08.9 -3.9**
TUMC Tumaco 14.64 350 eP **Pn 20 10 16.8 -1.5**
TUMC Tumaco 14.64 350 eP **Pn 20 10 16.8 -1.5**
BBAC Balboa, Cauca 14.66 356 eP **Pn 20 10 19.1 +0.2**
BBAC Balboa, Cauca 14.66 356 eP **Pn 20 10 19.1 +0.2**
HJA Humahuaca 14.68 137 eP **Pn 20 10 19.1 0.0**
SOTA Rioblanco 14.75 359 ||P **Pn 20 10 21.1 +0.8**
SOTA Rioblanco 14.75 359 ||P **Pn 20 10 21.1 +0.8**
PCON Cinco Dias 14.94 359 eP **Pn 20 10 21.3 -1.4**
PCON Cinco Dias 14.94 359 eP **Pn 20 10 21.3 -1.4**
MACC Macarena, Meta 14.95 9 eP **Pn 20 10 19.3 -3.1**
MACC Macarena, Meta 14.95 9 eP **Pn 20 10 19.3 -3.1**
SIV San Ignacio 15.07 104 P **Pn 20 10 23.4 -0.5**
comp=Z,1.3nm,0.3s,baz=262,slow=14,SNR=30
POPC Popayan, Colom 15.15 358 eP **P 20 10 26.9 -1.7**
POPC Popayan, Colom 15.15 358 eP **P 20 10 26.9 -1.7**
BETC Betania 15.31 3 eP **P 20 10 28.8 -1.4**
BETC Betania 15.31 3 eP **P 20 10 28.8 -1.4**
GUVC San Jose del G 15.57 14 eP **Pn 20 10 27.4 -3.0**
GUVC San Jose del G 15.57 14 eP **Pn 20 10 27.4 -3.0**
AZAP Zapla 15.61 139 eP **Pn 20 10 32.0 +1.1**
SLA San Lorenzo 15.69 141 ||P **Pn 20 10 32.4 +0.5**
SLA San Lorenzo 15.69 141 eP **Pn 20 10 31.9 0.0**
SLA eP **P 20 10 32.5 -1.9**
GRGC Isla de Gorgon 15.72 353 eP **P 20 10 34.6 0.0**
GRGC Isla de Gorgon 15.72 353 eP **P 20 10 34.6 0.0**
GO03 Copiap 15.85 160 ||P **P 20 10 35.4 -0.7**
GO03 IAmb IAmb 20 10 37.4
comp=Z,554nm,1.2s
GO03 Copiap 15.85 160 P 20 10 35.3 -0.8
GO03 IAmb IAmb 20 10 37.1
comp=Z,524nm,1.2s
PRAC Prado 16.37 5 eP **P 20 10 43.2 +1.3**
PRAC Prado 16.37 5 eP **P 20 10 43.2 +1.3**
ORTC Ortega, Tolima 16.54 4 eP **Pn 20 10 39.8 -2.6**
ORTC Ortega, Tolima 16.54 4 eP **Pn 20 10 39.8 -2.6**
YOTC Yotoco, Valle 16.58 360 ||P **P 20 10 44.7 +0.4**
YOTC Yotoco, Valle 16.58 360 ||P **P 20 10 44.7 +0.4**
MALC Bahia Malaga 16.64 356 eP **P 20 10 48.7 +3.8**
MALC Bahia Malaga 16.64 356 eP **P 20 10 48.7 +3.8**
VILC Villavicencio, 16.90 9 eP **P 20 10 48.5 +0.6**
VILC Villavicencio, 16.90 9 eP **P 20 10 48.5 +0.6**
ANIL Santa Ana 17.11 3 eP **Pn 20 10 49.8 +0.1**
ANIL Santa Ana 17.11 3 eP **Pn 20 10 49.8 +0.1**
TOLC Tolima 17.20 3 eP **P 20 10 53.2 +1.8**
TOLC Tolima 17.20 3 eP **P 20 10 53.2 +1.8**
CVER Cruz Verde, Cu 17.25 7 eP **P 20 10 54.6 +2.5**
CVER Cruz Verde, Cu 17.25 7 eP **P 20 10 54.6 +2.5**
PTGC Puerto Gaitan, 17.29 14 eP **Pn 20 10 51.4 -0.2**
PTGC eP **P 20 10 53.1 +1.1**
PTGC Puerto Gaitan, 17.29 14 eP **Pn 20 10 51.4 -0.2**
PTGC eP **P 20 10 53.1 +1.1**
AHML Horco Molle 17.36 145 eP **P 20 10 54.1 +1.3**
CHIC Chingaza 17.40 8 ||P **P 20 10 54.1 +0.3**
CHIC Chingaza 17.40 8 ||P **P 20 10 54.1 +0.3**
PLMC San Jos del P 17.50 360 eP **Pn 20 10 53.9 -0.3**
PLMC San Jos del P 17.50 360 eP **Pn 20 10 53.9 -0.3**
RREF El Recreo 17.52 3 eP **Pn 20 10 54.8 -0.3**
RREF El Recreo 17.52 3 eP **Pn 20 10 54.8 -0.3**
ROSC El Rosal 17.54 6 P **Pn 20 10 54.5 -0.5**
comp=Z,1.3nm,0.3s,baz=250,slow=12,SNR=4.2
ROSC LR LR 20 17 38.9
comp=Z,3µm,18.1s,baz=212,slow=37
ROSC El Rosal 17.54 6 P **P 20 10 56.8 +1.6**
ROSC IAmb IAmb 20 11 18.0
comp=Z,342nm,1.4s
VCA Vinchina 17.63 156 eP **Pn 20 10 58.0 +2.1**
GUY2C Guyana, Caldas 17.83 3 ||P **P 20 10 58.5 -0.1**
GUY2C Guyana, Caldas 17.83 3 ||P **P 20 10 58.5 -0.1**
GO04 Tololo Observa 18.10 165 P **Pn 20 11 03.0 +1.2**
GO04 IAmb IAmb 20 11 04.4
comp=Z,227nm,0.9s
AGUA GUANDACOL 18.19 158 eP **Pn 20 11 04.8 +2.1**
NORC Norcasia 18.20 4 ||P **Pn 20 11 04.1 +1.2**
NORC Norcasia 18.20 4 ||P **Pn 20 11 04.1 +1.2**
PAYG Puerto Ayora 18.34 310 Pn 20 11 05.2 +0.7
PAYG IAmb IAmb 20 11 34.8
comp=Z,297nm,1.2s
SPBC San Pablo de B 18.37 7 ||P **Pn 20 11 05.3 +0.5**
SPBC San Pablo de B 18.37 7 ||P **Pn 20 11 05.3 +0.5**
CYA Choya 18.45 150 eP **Pn 20 11 06.8 +1.2**
CBOC Ciudad Bolivar 18.45 1 ||P **Pn 20 11 05.9 -0.1**
CBOC Ciudad Bolivar 18.45 1 ||P **Pn 20 11 05.9 -0.1**
AROD Rodeo 18.48 161 eP **Pn 20 11 08.6 +2.3**
RUSC La Rusia 18.74 10 ||P **Pn 20 11 10.9 +1.1**
RUSC La Rusia 18.74 10 ||P **Pn 20 11 10.9 +1.1**
ACLC CERRO LA CRUZ 18.75 154 eP **Pn 20 11 10.4 +0.9**
HELC Santa Helena 18.79 2 ||P **Pn 20 11 09.7 -0.4**
HELC Santa Helena 18.79 2 ||P **Pn 20 11 09.7 -0.4**
ACCO Cerro Coronel 19.00 161 eP **Pn 20 11 13.2 +0.6**
PTBC PUERTO BERRIO, 19.20 5 ||P **Pn 20 11 14.0 -0.8**
PTBC PUERTO BERRIO, 19.20 5 ||P **Pn 20 11 14.0 -0.8**
BARC Barichara 19.41 9 eP **Pn 20 11 17.5 +0.1**
BARC Barichara 19.41 9 eP **Pn 20 11 17.5 +0.1**
AMOG MOGNA 19.51 160 eP **Pn 20 11 18.4 0.0**
TAMC Tame, Arauca 19.53 13 ||P **Pn 20 11 18.6 0.0**
TAMC Tame, Arauca 19.53 13 ||P **Pn 20 11 18.6 0.0**
DBBC Dabeiba 19.59 0 eP **Pn 20 11 18.9 -0.5**
DBBC Dabeiba 19.59 0 eP **Pn 20 11 18.9 -0.5**
APLL PUNTA DE LOS L 19.77 154 eP **Pn 20 11 20.6 -0.8**
BRRC Barranca, Sant 19.84 7 ||P **P 20 11 20.8 +0.7**
BRRC Barranca, Sant 19.84 7 ||P **P 20 11 20.8 +0.7**
RTLS Leoncito 20.05 162 eP Pn 20 11 24.1 -0.8
CLDB Colider 20.11 87 eP **P 20 11 22.4 -0.6**
CLDB eS Sn 20 15 15.2 +3.4
CLDB Colider 20.11 87 eP **P 20 11 22.4 -0.6**
CLDB eS Sn 20 15 15.2 +3.4
ZARC Zaragoza, Cauc 20.11 4 ||P **P 20 11 24.1 +1.1**
ZARC Zaragoza, Cauc 20.11 4 ||P **P 20 11 24.1 +1.1**
CFA Coronel Fontan 20.21 160 P Pn 20 11 25.6 -0.8
comp=Z,384nm,0.9s,baz=338,slow=10,SNR=92
CFA Coronel Fontan 20.21 160 eP Pn 20 11 25.7 -0.8
PAMC Pamplona, Colo 20.23 10 eP **P 20 11 25.5 +0.8**
PAMC Pamplona, Colo 20.23 10 eP **P 20 11 25.5 +0.8**
ELOV Elorza 20.70 19 ||P **P 20 11 29.8 +0.5**
ELOV Elorza 20.70 19 ||P **P 20 11 29.8 +0.5**
ROC1 El Roble 20.74 167 P **P 20 11 30.8 +0.9**
AZU Azuero 20.75 349 ||P Pn 20 11 31.5 -1.4
AZU Azuero 20.75 349 ||P Pn 20 11 31.5 -1.4
AZU Azuero 20.75 349 eP **P 20 11 30.8 +1.0**
CAPV Capacho 20.81 11 ||P **P 20 11 31.1 +0.4**
CAPV Capacho 20.81 11 ||P **P 20 11 31.1 +0.4**
PEL Peldehue 20.97 167 P **P 20 11 33.8 +1.6**
PEL pmax pmax
comp=Z,296nm,0.9s
PEL Peldehue 20.97 167 P **P 20 11 33.8 +1.6**
PEL IAmb IAmb 20 11 39.4
comp=Z,296nm,0.9s
OCAC Ocana 21.01 8 ||P **P 20 11 32.5 -0.3**
OCAC Ocana 21.01 8 ||P **P 20 11 32.5 -0.3**
AQDB Aquidauana 21.15 114 eP **P 20 11 35.0 +0.9**
AQDB Aquidauana 21.15 114 eP **P 20 11 35.0 +0.9**
UPD2 Meteti 21.19 355 eP **P 20 11 35.0 +0.5**
UPD2 Meteti 21.19 355 eP **P 20 11 35.0 +0.5**
PP1B Ponte de Pedra 21.20 106 eP **P 20 11 34.5 -0.1**
PP1B Ponte de Pedra 21.20 106 eP **P 20 11 34.5 -0.1**

LCBC Los crdobas, 21.42 360 ||P **P 20 11 39.8 +2.8**
LCBC Los crdobas, 21.42 360 ||P **P 20 11 39.8 +2.8**
TCA Tanti 21.43 152 eP **P 20 11 36.5 -0.6**
SMLC San Martn de 21.48 6 ||P **P 20 11 37.4 -0.2**
SMLC San Martn de 21.48 6 ||P **P 20 11 37.4 -0.2**
SOCV Socops 21.53 15 ||P **P 20 11 38.3 +0.1**
SOCV Socops 21.53 15 ||P **P 20 11 38.3 +0.1**
UPA Univ. de Panam 21.79 351 eP **P 20 11 42.1 +1.2**
UPA Univ. de Panam 21.79 351 eP **P 20 11 42.1 +1.2**
UPA Univ. de Panam 21.79 351 eP **P 20 11 42.5 +1.5**
ZANG Zanguenga, Cho 21.82 350 eP **P 20 11 42.5 +1.2**
BCIP Isla Barro Col 22.02 351 P **P 20 11 44.8 +1.5**
BCIP pmax pmax
comp=Z,305nm,1.2s
BCIP Isla Barro Col 22.02 351 eP **P 20 11 44.6 +1.2**
BCIP Isla Barro Col 22.02 351 P **P 20 11 44.9 +1.5**
BCIP IAmb IAmb 20 12 06.2
comp=Z,305nm,1.2s
SDV Santo Domingo 22.17 15 ||P **P 20 11 45.2 0.0**
SDV Santo Domingo 22.17 15 ||P **P 20 11 45.2 0.0**
SDV Santo Domingo 22.17 15 P **P 20 11 45.2 0.0**
comp=Z,93nm,1.0s,baz=200,slow=8.8,SNR=64
SDV LR LR 20 21 48.8
comp=Z,2µm,20.3s,baz=192,slow=40
SDV Santo Domingo 22.17 15 P **P 20 11 45.2 0.0**
SDV IAmb IAmb 20 12 05.9
comp=Z,179nm,0.9s
BRU2 Volcan 22.30 343 eP **P 20 11 49.1 +2.6**
CPUP Villa Florida 22.36 130 P **P 20 11 47.1 0.0**
CPUP pmax pmax
comp=Z,296nm,1.3s
CPUP Villa Florida 22.36 130 P **P 20 11 47.3 +0.3**
comp=Z,126nm,1.1s,baz=311,slow=10,SNR=52
CPUP Villa Florida 22.36 130 eP **P 20 11 48.0 +0.9**
CPUP Villa Florida 22.36 130 eP **P 20 11 48.0 +0.9**
CPUP Villa Florida 22.36 130 P **P 20 11 47.1 0.0**
CPUP IAmb IAmb 20 11 50.6
comp=Z,296nm,1.2s
SJCC San Jacinto, C 22.48 3 ||P **P 20 11 50.0 +1.6**
SJCC San Jacinto, C 22.48 3 ||P **P 20 11 50.0 +1.6**
GO05 Huala 22.55 171 P **P 20 11 50.4 +1.4**
CODC Agustn Codazz 22.67 7 ||P **P 20 11 49.6 -0.7**
CODC Agustn Codazz 22.67 7 ||P **P 20 11 49.6 -0.7**
DRK0 Durika 22.90 342 eP **P 20 11 55.3 +2.4**
LCR2 La Lucha 2 23.59 341 eP **P 20 12 01.3 +1.8**
CVTR Volcan Turrial 23.77 341 eP **P 20 12 03.8 +2.4**
SMRC Santa Marta, M 23.80 5 eP **P 20 12 00.9 -0.2**
SMRC Santa Marta, M 23.80 5 eP **P 20 12 00.9 -0.2**
HDC Heredia 23.87 341 P **P 20 12 03.4 +1.5**
ARAG Araguaiana, MT 23.88 100 eP **P 20 12 01.3 -0.6**
ARAG Araguaiana, MT 23.88 100 eP **P 20 12 01.3 -0.6**
DABV Dabajuro 24.13 14 eP **P 20 12 03.5 -0.5**
DABV Dabajuro 24.13 14 eP **P 20 12 03.5 -0.5**
JTS Las Juntas de 24.42 339 P **P 20 12 07.2 +0.5**
JTS pmax pmax
comp=Z,166nm,1.3s
JTS Las Juntas de 24.42 339 P **P 20 12 06.3 -0.4**
comp=Z,17nm,0.8s,baz=162,slow=19,SNR=3.1
JTS Las Juntas de 24.42 339 eP **P 20 12 10.6 +3.9**
JTS Las Juntas de 24.42 339 P **P 20 12 07.2 +0.5**
ARE1 Arenal 1 24.50 340 eP **P 20 12 12.0 +4.6**
TRCB Terra Rica 24.60 117 eP **P 20 12 09.7 +1.3**
TRCB Terra Rica 24.60 117 eP **P 20 12 09.7 +1.3**
URIC Uribia, Colomb 24.61 10 ||P **P 20 12 06.1 -2.3**
URIC Uribia, Colomb 24.61 10 ||P **P 20 12 06.1 -2.3**
CUI Cuipilapa 24.84 339 eP **P 20 12 11.3 +0.8**
GB1A Borinquen Arri 25.07 338 eP **P 20 12 16.3 +3.5**
PCRV Puerto La Cruz 25.50 27 P **P 20 12 16.6 0.0**
comp=Z,110nm,1.2s,baz=196,slow=4.8,SNR=8.4
PCRV LR LR 20 23 02.2
comp=Z,3µm,21.3s,slow=38
PLCV Puerto La Cruz 25.50 28 P **P 20 12 16.6 0.0**
PTGB Pitanga 25.79 121 eP **P 20 12 19.9 +0.6**
PTGB Pitanga 25.79 121 eP **P 20 12 19.9 +0.6**
ITRB Iturama 25.80 109 eP **P 20 12 19.9 +0.6**
ITRB Iturama 25.80 109 eP **P 20 12 19.9 +0.6**
ESPN Las Esperanzas 25.99 342 eP **P 20 12 24.0 +3.1**
ESPN Las Esperanzas 25.99 342 P **P 20 12 22.3 +1.3**
ESPN IAmb IAmb 20 12 44.3
comp=Z,175nm,1.2s
ACON Acoyapa 26.06 340 eP **P 20 12 22.4 +0.9**
ACON Acoyapa 26.06 340 P **P 20 12 21.3 -0.3**
PRVC Isla de Provid 26.40 349 eP **P 20 12 26.4 +1.8**
PRVC Isla de Provid 26.40 349 eP **P 20 12 26.4 +1.8**
ITAB Concordia 26.82 126 eP **P 20 12 28.6 +0.2**
ITAB epP pP 20 12 32.6 -15
ITAB Concordia 26.82 126 eP **P 20 12 28.6 +0.2**
ITAB epP pP 20 12 32.6 -15
GO06 Curarrehue 27.11 172 P **P 20 12 31.1 +0.1**
FRTB Fartura 27.45 116 eP **P 20 12 34.2 +0.1**
FRTB Fartura 27.45 116 eP **P 20 12 34.2 +0.1**
CPSB Cacapava Do Su 27.48 133 eP **P 20 12 34.7 +0.4**
CPSB Cacapava Do Su 27.48 133 eP **P 20 12 34.7 +0.4**
BDFB Brasilia 27.53 99 P **P 20 12 35.0 0.0**
BDFB pmax pmax
comp=Z,108nm,1.3s
BDFB Brasilia 27.53 99 P **P 20 12 34.8 -0.2**
comp=Z,36nm,1.0s,baz=273,slow=11,SNR=32
BDFB LR LR 20 24 21.6
comp=Z,4µm,20.9s,baz=275,slow=38
BDFB Brasilia 27.53 99 P **P 20 12 35.0 0.0**
IPMB Ipameri, GO 27.53 105 eP **P 20 12 34.3 -0.7**
IPMB epP pP 20 12 38.2 -16
IPMB Ipameri, GO 27.53 105 eP **P 20 12 34.3 -0.7**
IPMB epP pP 20 12 38.2 -16
BB19B Bebedouro 27.77 111 eP **P 20 12 37.4 +0.3**
BB19B Bebedouro 27.77 111 eP **P 20 12 37.4 +0.3**
PLTB Pedras Altas 28.17 136 eP **P 20 12 40.7 +0.3**
PLTB Pedras Altas 28.17 136 eP **P 20 12 40.7 +0.3**
TRQA Tornquist 28.28 156 P **P 20 12 41.5 +0.2**
TRQA pmax pmax
comp=Z,69nm,1.1s
TRQA Tornquist 28.28 156 eP **P 20 12 41.7 +0.4**
TRQA Tornquist 28.28 156 eP **P 20 12 41.7 +0.4**
TRQA Tornquist 28.28 156 P **P 20 12 41.5 +0.2**
PLCA Paso Flores 28.37 171 P **P 20 12 43.2 +1.1**
PLCA pmax pmax
comp=Z,36nm,1.1s
PLCA Paso Flores 28.37 171 P **P 20 12 42.4 +0.3**
comp=Z,11nm,0.8s,baz=7.2,slow=9.8,SNR=21
PLCA Paso Flores 28.37 171 eP **P 20 12 41.6 -0.5**
PLCA Paso Flores 28.37 171 eP **P 20 12 41.6 -0.5**
PLCA Paso Flores 28.37 171 P **P 20 12 43.2 +1.1**
TOSP Speyside 28.50 34 P **P 20 12 44.6 +1.2**
TOSP IAmb IAmb 20 12 46.0
comp=Z,166nm,1.2s
GRGR Grenville 28.62 31 P **P 20 12 44.3 -0.2**
TGUH Tegucigalpa,Un 28.74 337 P **P 20 12 47.1 +1.4**
CNLB Canela 28.80 129 eP **P 20 12 46.8 +0.6**
CNLB Canela 28.80 129 eP **P 20 12 46.8 +0.6**
RCLB Rio Claro- Sao 28.99 113 eP **P 20 12 48.4 +0.5**
RCLB Rio Claro- Sao 28.99 113 eP **P 20 12 48.4 +0.5**
OGAUY Aigu 29.10 141 eP **P 20 12 49.4 +0.8**
OGAUY Aigu 29.10 141 eP **P 20 12 49.4 +0.8**
MDP Montagnes des 29.39 54 P **P 20 12 50.8 -0.6**
comp=Z,22nm,0.7s,baz=231,slow=9.3,SNR=13
MDP LR LR 20 25 10.5
comp=Z,2µm,19.1s,baz=289,slow=37
SPB Sao Paulo 29.39 116 eP **P 20 12 51.9 +0.5**
SPB Sao Paulo 29.39 116 eP **P 20 12 51.9 +0.5**
MCLT Moule a Chique 30.32 31 P **P 20 12 57.8 -1.7**
MTDJ Mount Denham 30.76 358 P **P 20 13 02.6 -0.9**
MTDJ IAmb IAmb 20 13 47.0
comp=Z,168nm,1.1s
APG El Apazote 30.92 333 LR LR 20 23 24.3
comp=Z,521nm,19.2s,baz=128,slow=32
FDF Fort de France 31.10 29 P **P 20 13 04.0 -2.5**
FDF pmax pmax
comp=Z,222nm,1.0s
FDF Fort de France 31.10 29 P **P 20 13 04.0 -2.5**
BSCB Bom Sucesso 31.19 110 eP **P 20 13 08.2 +0.8**
BSCB Bom Sucesso 31.19 110 eP **P 20 13 08.2 +0.8**
BANI BANI 31.44 11 P **P** 20 13 03.9 -5.6
DLPL La Plaine 31.57 29 P **P 20 13 07.5 -3.1**
MLPR Magueyes Islan 31.81 17 P **P 20 13 12.0 -0.6**
MLPR IAmb IAmb 20 13 14.1
comp=Z,137nm,1.1s
CRPR Cabo Rojo, PR 31.82 17 P **P 20 13 12.0 -0.8**
CRPR IAmb IAmb 20 13 14.2
comp=Z,125nm,1.1s
ESAR Angra dos Reis 31.91 113 eP **P 20 13 14.5 +1.0**
ESAR Angra dos Reis 31.91 113 eP **P 20 13 14.5 +1.0**

OBIP Obispado Ponce 32.00 18 P **P 20 13 13.3 -1.0**
MPR Mayaguez 32.01 17 P **P 20 13 14.8 +0.4**
PDPR Patillas Dam, 32.16 19 P **P 20 13 15.1 -0.6**
PDPR IAmb IAmb 20 13 51.2
comp=Z,102nm,1.1s
SJG San Juan 32.20 18 P **P 20 13 15.7 -0.4**
SJG pmax pmax
comp=Z,61nm,1.0s
SJG San Juan 32.20 18 P **P 20 13 15.7 -0.4**
SJG IAmb IAmb 20 13 45.9
comp=Z,61nm,0.9s
AOPR Arecibo Observ 32.25 17 P **P 20 13 16.6 +0.1**
AGPR Aguadilla, PR 32.26 16 P **P 20 13 14.6 -2.0**
MAN01 Angra dos Reis 32.30 113 eP **P 20 13 18.0 +0.9**
MAN01 Angra dos Reis 32.30 113 eP **P 20 13 18.0 +0.9**
MTP Monte Pirata 32.38 19 P **P 20 13 17.5 -0.2**
MTP IAmb IAmb 20 13 18.3
comp=Z,59nm,0.9s
SC01 Santiago de lo 32.39 10 P **P 20 13 18.2 +0.5**
SC01 IAmb IAmb 20 14 15.8
comp=Z,129nm,1.0s
GCPR Guaynabo City 32.41 18 P **P 20 13 16.8 -1.1**
CBYP Canovanas 32.45 19 P **P 20 13 17.8 -0.5**
VAS01 Vassouras-RJ 32.65 112 eP **P 20 13 21.0 +0.9**
VAS01 Vassouras-RJ 32.65 112 eP **P 20 13 21.0 +0.9**
CUPR Culebra, Puert 32.66 20 P **P 20 13 19.5 -0.6**
CUPR IAmb IAmb 20 13 20.6
comp=Z,116nm,1.0s
STVI Saint Thomas 32.81 20 P **P 20 13 20.7 -0.7**
ABVI Anegada Island 33.38 21 P **P 20 13 25.4 -0.9**
ANWB Willy Bob 33.39 26 P **P 20 13 25.0 -1.5**
DUB01 Friburgo-RJ 33.59 111 eP **P 20 13 29.2 +0.9**
DUB01 Friburgo-RJ 33.59 111 eP **P 20 13 29.2 +0.9**
RPN Rapa Nui 34.12 240 P **P 20 13 33.7 +1.0**
comp=Z,78nm,0.6s,baz=59,slow=5.0,SNR=4.3
CAM01 Campos-RJ 34.20 110 eP **P 20 13 34.5 +1.0**
CAM01 Campos-RJ 34.20 110 eP **P 20 13 34.5 +1.0**
SJMB Sao Joao De Ma 34.25 105 eP **P 20 13 33.6 -0.4**
SJMB Sao Joao De Ma 34.25 105 eP **P 20 13 33.6 -0.4**
BSFB Barra de Sao F 34.58 105 eP **P 20 13 36.6 -0.3**
BSFB Barra de Sao F 34.58 105 eP **P 20 13 36.6 -0.3**
TEIG Tepich 34.80 340 LR LR 20 27 00.1
comp=Z,437nm,20.4s,baz=228,slow=35
TEIG Tepich 34.80 340 P **P 20 13 38.6 0.0**
ALF01 Guarapari-ES 34.88 108 eP **P 20 13 39.9 +0.5**
ALF01 Guarapari-ES 34.88 108 eP **P 20 13 39.9 +0.5**
RIB01 Linhares ES 35.05 106 eP **P 20 13 40.7 -0.2**
RIB01 Linhares ES 35.05 106 eP **P 20 13 40.7 -0.2**
NBPN Ponto Novo - B 35.33 91 eP **P 20 13 43.2 -0.2**
NBPN Ponto Novo - B 35.33 91 eP **P 20 13 43.2 -0.2**
NBPS Pedro II - PI 35.37 80 eP **P 20 13 43.8 0.0**
NBPS Pedro II - PI 35.37 80 eP **P 20 13 43.8 0.0**
NBIT Itapeh - BA 35.80 98 eP **P 20 13 47.6 +0.2**
NBIT Itapeh - BA 35.80 98 eP **P 20 13 47.6 +0.2**
NBPB Pedra_Branca-C 36.87 82 eP **P 20 13 56.4 -0.1**
NBPB Pedra_Branca-C 36.87 82 eP **P 20 13 56.4 -0.1**
NBMA Muriti-CE 37.27 85 eP **P 20 14 00.4 +0.4**
NBMA Muriti-CE 37.27 85 eP **P 20 14 00.4 +0.4**
TLIG Tlapa 37.28 323 P **P 20 14 00.6 +0.6**
NBTA Tacaratu-PE 37.65 89 eP **P 20 14 02.7 -0.5**
NBTA Tacaratu-PE 37.65 89 eP **P 20 14 02.7 -0.5**
NBLA Lagarto - SE 37.67 92 eP **P 20 14 02.4 -0.9**
NBLA Lagarto - SE 37.67 92 eP **P 20 14 02.4 -0.9**
NBCL Cascavel-CE 38.44 81 eP **P 20 14 09.9 +0.1**
NBCL Cascavel-CE 38.44 81 eP **P 20 14 09.9 +0.1**
NBLI Livramento-PB 39.04 86 eP **P 20 14 15.2 +0.3**
NBLI Livramento-PB 39.04 86 eP **P 20 14 15.2 +0.3**
NBAN Anadia - AL 39.31 90 eP **P 20 14 16.7 -0.5**
NBAN Anadia - AL 39.31 90 eP **P 20 14 16.7 -0.5**
RCBR Riachuelo 40.37 84 P **P 20 14 25.6 -0.4**
RCBR pmax pmax
comp=Z,234nm,1.9s
RCBR Riachuelo 40.37 84 P **P 20 14 25.6 -0.4**
NBRF Rio Formoso - 40.58 89 eP **P 20 14 27.8 +0.2**
NBRF Rio Formoso - 40.58 89 eP **P 20 14 27.8 +0.2**
NBPV Pedro Velho 40.84 85 eP **P 20 14 29.0 -0.8**
NBPV Pedro Velho 40.84 85 eP **P 20 14 29.0 -0.8**
USHA Ushuaia 42.48 173 P **P 20 14 44.4 +1.9**
comp=Z,14nm,0.8s,baz=325,slow=8.7,SNR=3.3
553A Crawfordville 43.37 350 P **P 20 14 50.3 +0.4**
baz=168
ZAIG Zacatecas 43.67 324 P **P 20 14 54.3 +1.4**
353A Camilla 44.46 350 P **P 20 14 58.7 0.0**
baz=169
KVTX Kingsville 45.18 333 P **P 20 15 06.5 +2.0**
252A Lumpkin 45.18 350 P **P 20 15 04.1 -0.4**
baz=168
156A Sylvania 45.38 354 P **P 20 15 06.4 +0.4**
baz=173
155A Kite 45.46 353 P **P 20 15 07.3 +0.7**
baz=171
154A Montrose 45.53 352 P **P 20 15 07.1 -0.1**
baz=170
NHSC New Hope 45.71 355 P **P 20 15 08.8 +0.3**
baz=174
NHSC New Hope 45.71 355 P **P 20 15 07.8 -0.8**
152A Waverly Hall 45.84 350 P **P 20 15 09.2 -0.4**
baz=168
152A Waverly Hall 45.84 350 P **P 20 15 08.7 -0.9**
152A **pP 20 15 28.1 -1.3**
Z57A Bowman 45.94 355 P **P 20 15 10.3 -0.1**
baz=174
Z56A Williston 46.03 354 P **P 20 15 10.9 -0.2**
baz=173
Z54A Sparta 46.11 352 P **P 20 15 11.1 -0.6**
baz=171
BBSR BB Station 46.17 14 P **P 20 15 09.0 -3.2**
Z53A Monticello 46.26 352 P **P 20 15 12.1 -0.8**
baz=170
Z52A Williamson 46.30 351 P **P 20 15 12.5 -0.7**
baz=169
GOGA Godfrey 46.37 352 P **P 20 15 13.5 -0.3**
baz=170
GOGA Godfrey 46.37 352 P **P 20 15 13.6 -0.2**
GOGA pmax pmax
comp=Z,52nm,1.2s
GOGA Godfrey 46.37 352 P **P 20 15 13.6 -0.2**
HKT Hockley 46.41 336 eP **P 20 15 14.6 +0.5**
HKT pmax pmax
comp=Z,36nm,2.0s
Y58A Scranton 46.46 356 P **P 20 15 11.6 -2.9**
Y58A IAmb IAmb 20 15 43.4
comp=Z,128nm,1.4s
Y60A Bolivia 46.49 358 P **P 20 15 15.0 +0.3**
baz=177
Y60A Bolivia 46.49 358 P **P 20 15 14.1 -0.6**
Y60A IAmb IAmb 20 15 44.6
comp=Z,93nm,1.1s
833A Chaparral WMA, 46.53 331 P **P 20 15 15.8 +0.7**
baz=148
833A Chaparral WMA, 46.53 331 P **P 20 15 14.7 -0.4**
833A IAmb IAmb 20 15 46.5
comp=Z,147nm,1.6s
Z51A Franklin 46.55 350 P **P 20 15 15.0 -0.2**
baz=168
Z50A Ashland 46.62 349 P **P 20 15 15.0 -0.8**
baz=167,SNR=5.1
Z50A Ashland 46.62 349 P **P 20 15 14.9 -0.8**
LRAL Lakeview Retre 46.62 348 P **P 20 15 15.5 -0.3**
baz=165,SNR=5.1
LRAL Lakeview Retre 46.62 348 P **P 20 15 15.2 -0.6**
LRAL IAmb IAmb 20 15 44.7
comp=Z,57nm,1.2s
Y57A Sumter 46.63 355 P **P 20 15 15.5 -0.3**
baz=174
Y57A Sumter 46.63 355 P **P 20 15 15.3 -0.5**
Y57A IAmb IAmb 20 16 10.5
comp=Z,56nm,1.0s
Y55A Saluda 46.69 354 P **P 20 15 16.0 -0.3**
baz=172,SNR=8.7
Y54A Tignall 46.71 353 P **P 20 15 16.0 -0.5**
baz=171,SNR=8.0
Y53A Monroe 46.82 352 P **P 20 15 16.8 -0.6**
baz=170,SNR=5.3
Y52A Lilburn 46.90 351 P **P 20 15 17.7 -0.2**
baz=169
Y52A Lilburn 46.90 351 P **P 20 15 16.1 -1.8**
JSC Jenkinsville 46.97 354 P **P 20 15 17.8 -0.6**
JSC pmax pmax
comp=Z,52nm,1.8s
JSC Jenkinsville 46.97 354 P **P 20 15 17.8 -0.6**
HODGE Hodges 47.02 353 P **P 20 15 18.4 -0.4**
X60A Albert Glenn T 47.05 358 P **P 20 15 19.6 +0.6**
baz=178

X58A	Rowland	47.09 357	P	P	20 15 19.4	0.0
	baz=176					
X58A	Rowland	47.09 357	P	P	20 15 19.1	-0.3
X58A			IAmb	IAmb	20 16 04.8	
	comp=Z,109nm,1.7s					
Y51A	Rockmart	47.10 350	P	P	20 15 18.9	-0.6
	baz=168,SNR=5.9					
X56A	White Oak	47.16 355	P	P	20 15 19.7	-0.2
	baz=174					
X55A	Gracelyn & Ava	47.19 354	P	P	20 15 20.1	-0.1
	baz=173,SNR=5.6					
BIRD	Birdtown, Kers	47.26 355	P	P	20 15 20.4	-0.3
BIRD				pP	20 15 40.1	-0.4
BIRD			IAmb	IAmb	20 16 05.9	
	comp=Z,75nm,1.5s					
Y49A	Blount Mountai	47.30 348	P	P	20 15 20.6	-0.5
	baz=166					
Y49A	Blount Mountai	47.30 348	P	P	20 15 20.4	-0.7
X54A	Belton	47.35 353	P	P	20 15 21.1	-0.3
	baz=172,SNR=7.5					
X53A	Estanollee	47.42 352	P	P	20 15 21.8	-0.2
	baz=170					
W60A	Pink Hill	47.52 358	P	P	20 15 23.5	+0.8
	baz=178					
W58A	Raeford	47.55 357	P	P	20 15 22.7	-0.2
	baz=176,SNR=9.7					
PAULI	Pauline	47.56 354	P	P	20 15 22.8	-0.2
NATX	Nacogdoches	47.60 339	P	P	20 15 23.6	+0.1
NATX				pP	20 15 44.4	+1.0
X52A	Dahlonega	47.60 351	P	P	20 15 23.1	-0.3
	baz=170					
W61A	Ground Anchor	47.62 359	P	P	20 15 24.6	+1.1
	baz=179					
CNNC	Cliffs of the	47.71 358	P	P	20 15 24.5	+0.4
CNNC			IAmb	IAmb	20 15 25.5	
	comp=Z,48nm,0.9s					
X51A	Calhoun	47.71 350	P	P	20 15 24.4	+0.1
	baz=168					
X51A	Calhoun	47.71 350	P	P	20 15 24.0	-0.2
X51A			IAmb	IAmb	20 15 54.2	
	comp=Z,132nm,1.8s					
W57A	Gilead	47.73 356	P	P	20 15 24.2	-0.1
	baz=175,SNR=9.3					
W57A	Gilead	47.73 356	P	P	20 15 24.0	-0.3
W56A	Indian Trail	47.75 355	P	P	20 15 24.2	-0.4
	baz=174					
FPAL	Fort Paine	47.82 350	P	P	20 15 23.8	-1.3
KMSC	Kings Mountain	47.83 354	P	P	20 15 24.9	-0.2
	baz=173,SNR=7.7					
KMSC	Kings Mountain	47.83 354	P	P	20 15 24.6	-0.5
KMSC				pP	20 15 43.5	-1.5
435B	Jarrell	47.85 335	P	P	20 15 25.9	+0.5
	baz=151					
435B	Jarrell	47.85 335	P	P	20 15 25.9	+0.5
435B			IAmb	IAmb	20 15 56.3	
	comp=Z,86nm,1.4s					
BG3	Lake Jocassee	47.86 353	P	P	20 15 25.3	-0.1
W54A	Cherokee Point	47.86 353	P	P	20 15 25.4	0.0
	baz=172,SNR=5.8					
X48A	Hartselle	48.00 348	P	P	20 15 26.1	-0.4
	baz=166					
X48A	Hartselle	48.00 348	P	P	20 15 24.9	-1.6
X48A			IAmb	IAmb	20 15 55.3	
	comp=Z,123nm,1.8s					
W53A	Cullowhee	48.06 352	P	P	20 15 26.9	-0.2
	baz=171,SNR=12					
W52A	Murphy	48.09 352	P	P	20 15 27.2	0.0
	baz=170					
W52A	Murphy	48.09 352	P	P	20 15 26.1	-1.1
W52A			IAmb	IAmb	20 16 14.5	
	comp=Z,57nm,1.2s					
V60A	Jim Taylor Roa	48.22 359	P	P	20 15 28.5	+0.4
V60A			IAmb	IAmb	20 15 59.0	
	comp=Z,136nm,1.5s					
V59A	Middlesex	48.24 358	P	P	20 15 28.4	+0.2
	baz=177,SNR=8.1					
W51A	Cleveland	48.28 351	P	P	20 15 28.5	-0.1
	baz=169					
V58A	Windy Hill, Pi	48.31 357	P	P	20 15 28.4	-0.4
	baz=176,SNR=7.1					
V58A	Windy Hill, Pi	48.31 357	P	P	20 15 28.4	-0.4
V58A			IAmb	IAmb	20 15 29.9	
	comp=Z,55nm,1.1s					
W50A	Signal Mountai	48.41 350	P	P	20 15 29.2	-0.5
	baz=168,SNR=6.6					
W50A	Signal Mountai	48.41 350	P	P	20 15 29.2	-0.5
W50A			IAmb	IAmb	20 16 02.8	
	comp=Z,52nm,1.1s					
V56A	Mocksville	48.42 355	P	P	20 15 29.6	0.0
	baz=174,SNR=7.1					
V57A	Coltrane Farms	48.44 356	P	P	20 15 29.7	-0.2
	baz=175,SNR=6.5					
W49A	Belvidere	48.50 349	P	P	20 15 29.6	-0.7
	baz=167					
V53A	Saluda	48.51 353	P	P	20 15 30.1	-0.3
	baz=171,SNR=5.7					
V53A	Saluda	48.51 353	P	P	20 15 29.9	-0.5
V54A	Nebo	48.52 354	P	P	20 15 30.3	-0.2
	baz=172,SNR=7.9					
V55A	Taylorsville	48.52 355	P	P	20 15 30.3	-0.2
	baz=173					
V55A	Taylorsville	48.52 355	P	P	20 15 28.4	-2.0
V55A			IAmb	IAmb	20 16 00.2	
	comp=Z,73nm,1.6s					
CPCT	Cooper Cave	48.53 351	P	P	20 15 29.2	-1.3
SWET	Sewanee	48.53 349	P	P	20 15 30.0	-0.6
SWET			IAmb	IAmb	20 15 52.1	
	comp=Z,102nm,1.7s					
JCT	Junction City	48.55 333	P	P	20 15 31.1	+0.3
	baz=149					
JCT	Junction City	48.55 333	P	P	20 15 30.7	-0.1
JCT			pmax	pmax		
	comp=Z,29nm,1.0s					
JCT	Junction City	48.55 333	P	P	20 15 30.7	-0.1
OXF	Oxford	48.59 345	P	P	20 15 30.5	-0.5
	baz=163					
TKL	Tuckaleechee C	48.62 352	LR	LR	20 36 04.1	
	comp=Z,497nm,21.8s,baz=161,slow=36					
HPIG		48.66 324	P	P	20 15 32.8	+0.9
PLAL	Pickwick Lake	48.73 347	P	P	20 15 30.7	-1.4
V52A	Sevierville	48.78 352	P	P	20 15 31.9	-0.6
	baz=170,SNR=8.7					
V52A	Sevierville	48.78 352	P	P	20 15 31.7	-0.7
V52A			IAmb	IAmb	20 16 02.3	
	comp=Z,44nm,0.9s					
U59A	Littleton	48.81 358	P	P	20 15 33.1	+0.4
	baz=178					
U59A	Littleton	48.81 358	P	P	20 15 32.9	+0.3
U59A			IAmb	IAmb	20 16 03.6	
	comp=Z,70nm,1.3s					
V50A	Pikevile	48.84 350	P	P	20 15 32.8	-0.1
	baz=168					
V51A	Loudon	48.85 351	P	P	20 15 32.4	-0.5
	baz=169					
V51A	Loudon	48.85 351	P	P	20 15 32.1	-0.8
V51A			IAmb	IAmb	20 16 20.8	
	comp=Z,65nm,1.4s					
WLAR	White Oak Lake	48.85 341	P	P	20 15 33.8	+0.8
WHTX	Lake Whitney,	48.86 336	P	P	20 15 33.9	+0.7
	baz=152,SNR=7.1					
WHTX	Lake Whitney,	48.86 336	P	P	20 15 33.6	+0.5
U58A	Oxford	48.88 358	P	P	20 15 33.3	+0.1
	baz=177					
U56A	King	48.94 356	P	P	20 15 33.8	+0.1
	baz=174,SNR=8.1					
U56A	King	48.94 356	P	P	20 15 33.8	+0.1
U56A			IAmb	IAmb	20 15 35.1	
	comp=Z,56nm,0.8s					
U57A	Blanch	48.96 357	P	P	20 15 33.5	-0.2
	baz=176,SNR=12					
V49A	McMinnville	49.06 350	P	P	20 15 33.8	-0.8
	baz=167,SNR=6.7					
U55A	TA2, Sparta	49.15 355	P	P	20 15 35.1	-0.2
	baz=174					
U53A	Fall Branch	49.17 353	P	P	20 15 35.2	-0.2
	baz=172					
V48A	Smith Brothers	49.21 349	P	P	20 15 35.0	-0.7
	baz=166,SNR=11					
V48A	Smith Brothers	49.21 349	P	P	20 15 34.6	-1.1
V48A			IAmb	IAmb	20 15 36.0	
	comp=Z,29nm,0.7s					
U54A	Nelsons Funny	49.24 354	P	P	20 15 35.9	-0.1
	baz=173					
U54A	Nelsons Funny	49.24 354	P	P	20 15 36.0	0.0
U52A	Thorn Hill	49.29 352	P	P	20 15 35.7	-0.7
	baz=171,SNR=6.5					
U51A	La Follette	49.36 352	P	P	20 15 36.3	-0.6
	baz=170					
T59A	Double "B" Far	49.42 359	P	P	20 15 37.7	+0.4
	baz=178,SNR=9.9					
T59A	Double "B" Far	49.42 359	P	P	20 15 37.4	+0.1
T59A			IAmb	IAmb	20 16 07.5	
	comp=Z,96nm,1.3s					
T58A	Grand View Acr	49.43 358	P	P	20 15 37.5	+0.1
	baz=177,SNR=14					
CLTN	Cedars of Leba	49.46 349	P	P	20 15 36.6	-1.0
TZTN	Tazewell	49.46 352	P	P	20 15 37.8	+0.1
	baz=170					
TZTN	Tazewell	49.46 352	P	P	20 15 36.6	-1.0
TZTN			IAmb	IAmb	20 16 09.2	
	comp=Z,65nm,1.1s					
TX32	Lajitas Array	49.47 328	P	P	20 15 38.3	+0.4
TXAR	Lajitas Array	49.47 328	P	P	20 15 38.4	+0.5
	comp=Z,12nm,0.7s,baz=148,slow=9.0,SNR=120					
TXAR			pP	pP	20 15 58.9	+1.3
	comp=Z,13nm,0.9s,baz=154,slow=9.7,SNR=5.7					
TXAR			LR	LR	20 34 29.1	
	comp=Z,147nm,19.1s,baz=0.0,slow=34					
TXAR	Lajitas Array	49.47 328	P	P	20 15 38.1	+0.2
TX31	Lajitas Ar. Si	49.47 328	P	P	20 15 38.2	+0.3
T57A	Hurt	49.52 357	P	P	20 15 38.1	0.0
	baz=176,SNR=24					
T57A	Hurt	49.52 357	P	P	20 15 37.8	-0.2
U50A	Jamestown	49.52 351	P	P	20 15 37.1	-1.1
	baz=169,SNR=7.2					
T56A	Rock Mt	49.59 356	P	P	20 15 38.9	+0.2
	baz=175,SNR=6.8					
UALR	University of	49.63 343	P	P	20 15 38.8	-0.1
UALR			IAmb	IAmb	20 16 09.3	
	comp=Z,92nm,1.2s					
T55A	Pulaski	49.74 355	P	P	20 15 39.9	+0.1
	baz=174,SNR=8.3					
T54A	Tazewell	49.75 354	P	P	20 15 39.3	-0.6
	baz=173,SNR=5.6					
U49A	Red Boiling Sp	49.77 350	P	P	20 15 39.2	-0.7
	baz=168					
T53A	Wise	49.77 353	P	P	20 15 39.5	-0.6
	baz=172,SNR=5.7					
WVT	Waverly	49.78 348	P	P	20 15 38.4	-1.7
WVT			pmax	pmax		
	comp=Z,78nm,1.9s					
WVT	Waverly	49.78 348	P	P	20 15 38.4	-1.7
WVT			IAmb	IAmb	20 16 27.6	
	comp=Z,78nm,1.9s					
MIAR	Mount Ida	49.79 341	P	P	20 15 40.3	+0.2
	baz=158,SNR=7.5					
MIAR	Mount Ida	49.79 341	P	P	20 15 40.1	0.0
MIAR			pmax	pmax		
	comp=Z,56nm,1.0s					
MIAR	Mount Ida	49.79 341	P	P	20 15 40.1	0.0
MIAR			IAmb	IAmb	20 16 10.8	
	comp=Z,56nm,0.9s					
BLA	Blacksburg	49.80 356	P	P	20 15 40.5	+0.2
	baz=175,SNR=5.5					
BLA	Blacksburg	49.80 356	P	P	20 15 40.2	-0.1
BLA			pmax	pmax		
	comp=Z,58nm,1.2s					
BLA	Blacksburg	49.80 356	P	P	20 15 40.2	-0.1
BLA			IAmb	IAmb	20 16 10.2	
	comp=Z,58nm,1.1s					
LPAR	Lepanto	49.85 345	P	P	20 15 40.2	-0.4
T51A	Gray	49.93 352	P	P	20 15 40.9	-0.3
	baz=170,SNR=9.7					
T52A	Hallie	49.95 353	P	P	20 15 41.0	-0.4
	baz=171,SNR=6.3					
T52A	Hallie	49.95 353	P	P	20 15 41.0	-0.4
T52A			IAmb	IAmb	20 16 37.2	
	comp=Z,70nm,1.1s					
W41B	Gary Mavity, V	49.97 343	P	P	20 15 41.2	-0.3
	baz=159,SNR=5.2					
W41B	Gary Mavity, V	49.97 343	P	P	20 15 41.3	-0.2
W41B			IAmb	IAmb	20 16 11.2	
	comp=Z,80nm,1.4s					
S58A	Poland Farm, P	50.08 358	P	P	20 15 42.5	+0.2
	baz=178					
S58A	Poland Farm, P	50.08 358	P	P	20 15 42.6	+0.3
S58A			IAmb	IAmb	20 15 43.5	
	comp=Z,43nm,0.9s					
WHAR	Wooly Hollow	50.09 343	P	P	20 15 42.3	-0.2
T50A	Nancy	50.11 351	P	P	20 15 42.2	-0.4
	baz=169					
GNAR	Gosnell	50.12 345	P	P	20 15 42.2	-0.5
GNAR			IAmb	IAmb	20 16 04.5	
	comp=Z,58nm,0.9s					
S56A	Natural Bridge	50.21 357	P	P	20 15 43.5	+0.2
	baz=176,SNR=5.3					
S57A	Dark Hollow, R	50.26 357	P	P	20 15 43.6	0.0
	baz=176,SNR=8.9					
S57A	Dark Hollow, R	50.26 357	P	P	20 15 43.9	+0.2
S57A			IAmb	IAmb	20 15 45.0	
	comp=Z,76nm,1.1s					
T49A	Edmonton	50.31 350	P	P	20 15 43.4	-0.6
	baz=168,SNR=11					
T49A	Edmonton	50.31 350	P	P	20 15 43.5	-0.5
T49A			IAmb	IAmb	20 16 16.2	
	comp=Z,34nm,0.8s					
ABTX	Abilene, Hawle	50.31 334	P	P	20 15 44.7	+0.5
	baz=150,SNR=15					
ABTX	Abilene, Hawle	50.31 334	P	P	20 15 44.5	+0.2
S55A	Lewisburg	50.37 356	P	P	20 15 44.6	0.0
	baz=174,SNR=11					
X37A	Clayton	50.42 339	P	P	20 15 44.7	-0.2
R58B	Mineral	50.42 358	P	P	20 15 45.2	+0.3
	baz=178,SNR=11					
R58B	Mineral	50.42 358	P	P	20 15 44.9	0.0
W39A	Magazine	50.45 341	P	P	20 15 45.9	+0.8
	baz=158,SNR=5.4					
W39A	Magazine	50.45 341	P	P	20 15 45.2	0.0
S54A	Dingess, Beckl	50.46 355	P	P	20 15 45.0	-0.3
	baz=174,SNR=7.0					
S54A	Dingess, Beckl	50.46 355	P	P	20 15 44.8	-0.4
S54A			IAmb	IAmb	20 16 14.6	
	comp=Z,94nm,1.2s					
T47A	Sharon Grove	50.47 349	P	P	20 15 44.4	-0.8
	baz=166					
T47A	Sharon Grove	50.47 349	P	P	20 15 44.2	-1.1
T47A			IAmb	IAmb	20 17 03.2	
	comp=Z,28nm,0.8s					
LCAR	Lake Charles	50.51 344	P	P	20 15 45.2	-0.4
LCAR			IAmb	IAmb	20 16 15.3	
	comp=Z,144nm,1.8s					
S52A	Salyersville	50.52 353	P	P	20 15 45.3	-0.4
	baz=171					
S51A	Beattyville	50.55 352	P	P	20 15 45.3	-0.5
	baz=171,SNR=6.7					
S51A	Beattyville	50.55 352	P	P	20 15 45.7	-0.2
FCAR	Ozark Folk Cen	50.61 343	P	P	20 15 45.7	-0.6
FCAR			IAmb	IAmb	20 16 15.5	
	comp=Z,100nm,1.6s					
R59A	King George, V	50.64 359	P	P	20 15 47.4	+0.9
	baz=179					
S50A	Richmond	50.70 352	P	P	20 15 46.7	-0.3
	baz=170,SNR=14					
PARMO	Parma	50.72 346	P	P	20 15 46.7	-0.5
R58A	Rapidan	50.76 358	P	P	20 15 47.9	+0.5
	baz=178,SNR=8.3					
R57A	Stanardsville	50.78 358	P	P	20 15 48.0	+0.5
	baz=177,SNR=7.4					
R54A	Victor	50.81 355	P	P	20 15 47.3	-0.5
	baz=174,SNR=5.4					
R55A	Marlinton	50.85 356	P	P	20 15 48.5	+0.3
	baz=175					
R55A	Marlinton	50.85 356	P	P	20 15 48.4	+0.3
R55A			IAmb	IAmb	20 16 27.3	
	comp=Z,43nm,1.1s					
R56A	Bull Pasture M	50.93 357	P	P	20 15 48.7	-0.1
	baz=176					
S49A	Springfield	50.93 351	P	P	20 15 47.9	-0.8
	baz=168,SNR=6.9					
PBMO	Poplar Bluff	51.00 345	P	P	20 15 48.5	-0.7
PBMO			IAmb	IAmb	20 16 18.1	
	comp=Z,89nm,1.4s					
R53A	Hurricane	51.05 354	P	P	20 15 49.0	-0.6
	baz=173					
R53A	Hurricane	51.05 354	P	P	20 15 48.9	-0.7
R52A	Catlettsburg	51.12 354	P	P	20 15 49.8	-0.4
	baz=172					
R51A	Hillsboro	51.20 353	P	P	20 15 50.2	-0.5
	baz=171,SNR=10					
U40A	Yellville	51.25 343	P	P	20 15 51.0	-0.1
	baz=159,SNR=12					
U40A	Yellville	51.25 343	P	P	20 15 50.7	-0.4
U40A			IAmb	IAmb	20 16 16.2	
	comp=Z,73nm,1.1s					
R50A	Paris	51.28 352	P	P	20 15 51.0	-0.3
	baz=170,SNR=9.4					
R50A	Paris	51.28 352	P	P	20 15 50.3	-1.0
R50A			IAmb	IAmb	20 16 20.3	
	comp=Z,85nm,1.4s					
X34A	Smith Ranch, M	51.31 337	P	P	20 15 52.1	+0.5
Q58A	Fox Den Farm,	51.39 359	P	P	20 15 52.5	+0.4
	baz=178,SNR=6.0					
R49A	Shelbyville	51.41 351	P	P	20 15 51.4	-0.9
	baz=169,SNR=5.1					
R49A	Shelbyville	51.41 351	P	P	20 15 51.9	-0.4
R49A			IAmb	IAmb	20 16 21.1	
	comp=Z,90nm,1.3s					
HHAR	Hobbs	51.50 342	P	P	20 15 52.1	-0.9
HHAR			IAmb	IAmb	20 16 23.5	
	comp=Z,122nm,1.5s					
Q57A	Strasburg	51.51 358	P	P	20 15 53.8	+0.7
	baz=177,SNR=9.8					
USIN	University of	51.52 348	P	P	20 15 51.9	-1.3
USIN			IAmb	IAmb	20 16 25.4	
	comp=Z,128nm,1.6s					
Q53A	Leroy	51.53 355	P	P	20 15 52.8	-0.4
	baz=173,SNR=7.4					
WCI	Wyandotte Cave	51.53 350	P	P	20 15 52.2	-1.0
WCI			pmax	pmax		
	comp=Z,171nm,0.5s					
WCI	Wyandotte Cave	51.53 350	P	P	20 15 52.2	-1.0
Q56A	Snyder Ridge,	51.55 357	P	P	20 15 54.1	+0.7
	baz=176,SNR=7.1					
Q56A	Snyder Ridge,	51.55 357	P	P	20 15 54.0	+0.7
Q56A			IAmb	IAmb	20 16 23.8	
	comp=Z,93nm,1.1s					
Q55A	Buckhannon	51.55 356	P	P	20 15 53.8	+0.4
	baz=175					
S44A	Carbondale	51.59 347	P	P	20 15 53.2	-0.5
	baz=164,SNR=9.3					
Q54A	Coxs Mills	51.60 355	P	P	20 15 53.4	-0.2
	baz=174					
Q54A	Coxs Mills	51.60 355	P	P	20 15 53.4	-0.2
Q54A				pP	20 16 12.3	-1.5
Q54A			IAmb	IAmb	20 16 24.2	
	comp=Z,47nm,0.8s					
SIUC	Southern Illin	51.61 347	P	P	20 15 52.7	-1.1
SIUC			IAmb	IAmb	20 15 54.2	
	comp=Z,48nm,0.9s					
SIUC				pP	20 16 12.6	-1.4
Q52A	Bidwell	51.70 354	P	P	20 15 54.4	-0.1
	baz=172					
FNO	Franklin	51.74 338	P	P	20 15 54.6	-0.2
FNO				pP	20 16 13.2	-1.7
TUL1	Leonard	51.76 340	P	P	20 15 55.1	+0.2
	baz=155,SNR=5.3					
TUL1	Leonard	51.76 340	P	P	20 15 54.6	-0.3
Q50A	Georgetown	51.78 352	P	P	20 15 54.4	-0.6
	baz=170,SNR=9.1					
WMOK	Wichita Mounta	51.80 336	P	P	20 15 55.0	-0.3
	baz=152					
WMOK	Wichita Mounta	51.80 336	P	P	20 15 54.5	-0.8
WMOK			pmax	pmax		
	comp=Z,104nm,1.7s					
WMOK	Wichita Mounta	51.80 336	P	P	20 15 54.5	-0.8
WMOK			IAmb	IAmb	20 16 25.4	
	comp=Z,104nm,1.6s					
MGMO	Mountain Grove	51.83 344	P	P	20 15 55.0	-0.5
SDMD	Soldier's Deli	51.85 359	P	P	20 15 56.0	+0.5
Q51A	Peebles	51.88 353	P	P	20 15 54.7	-1.2
	baz=171					
Q51A	Peebles	51.88 353	P	P	20 15 55.4	-0.4
Q51A			IAmb	IAmb	20 16 24.8	
	comp=Z,100nm,1.4s					
P58A	Pank, Wackersv	51.93 359	P	P	20 15 56.7	+0.5
	baz=179,SNR=6.1					
P57A	Homestead Farm	51.94 358	P	P	20 15 56.4	+0.1
	baz=178					
CLNB	Carlsbad	51.95 330	P	P	20 15 55.5	-1.1
P56A	Dayton Farm, R	51.99 357	P	P	20 15 57.2	+0.5
	baz=177					
P59A	Jarrettsville	52.04 360	P	P	20 15 57.0	0.0
	baz=180					
P55A	Reedsville	52.05 356	P	P	20 15 56.8	-0.2
	baz=176					
Q48A	North Vernon	52.12 351	P	P	20 15 56.6	-0.9
	baz=168,SNR=7.4					
GDL2	Guadalupe Moun	52.13 330	P	P	20 15 58.7	+0.8
P53A	Whipple	52.14 355	P	P	20 15 57.4	-0.3
	baz=174					
P53A	Whipple	52.14 355	P	P	20 15 57.1	-0.6
P53A			IAmb	IAmb	20 16 27.1	
	comp=Z,70nm,1.1s					
P54A	Burton	52.18 356	P	P	20 15 57.8	-0.2
	baz=175,SNR=5.8					
MNTX	Cornudas Mount	52.24 328	P	P	20 15 58.4	-0.2
	baz=143,SNR=28					
MNTX	Cornudas Mount	52.24 328	P	P	20 15 58.2	-0.5
MNTX			IAmb	IAmb	20 16 23.4	
	comp=Z,58nm,1.3s					
P60A	Greenville	52.25 1	P	P	20 15 59.1	+0.7
	baz=181					
P51A	Williamsport	52.30 353	P	P	20 15 58.1	-0.8
	baz=172					
P51A	Williamsport	52.30 353	P	P	20 15 57.6	-1.3
P51A			IAmb	IAmb	20 16 27.7	
	comp=Z,89nm,1.3s					
OLIL	Olney	52.35 348	P	P	20 15 58.5	-0.8
OLIL			IAmb	IAmb	20 15 59.5	
	comp=Z,47nm,0.9s					
P52A	Corning	52.35 354	P	P	20 15 59.2	-0.1
	baz=173					
PSUB	Penn St. - Bra	52.37 1	P	P	20 15 59.1	-0.3
PSUB			IAmb	IAmb	20 16 29.9	
	comp=Z,109nm,2.0s					
CCM	Cathedral Cave	52.41 345	P	P	20 15 59.3	-0.4
CCM			pmax	pmax		
	comp=Z,28nm,0.8s					
CCM	Cathedral Cave	52.41 345	P	P	20 15 59.3	-0.4
MVL	Millersville	52.43 360	P	P	20 16 00.8	+1.0
MVL			IAmb	IAmb	20 16 30.6	
	comp=Z,60nm,1.1s					
BLO	Bloomington	52.49 350	P	P	20 15 59.5	-0.8
BLO			pmax	pmax		
	comp=Z,119nm,1.5s					
BLO	Bloomington	52.49 350	P	P	20 15 59.5	-0.8
BLO			IAmb	IAmb	20 16 28.0	
	comp=Z,119nm,1.4s					
P50A	Jamestown	52.52 353	P	P	20 15 59.8	-0.7
	baz=171,SNR=6.0					
O58A	Lewisberry	52.56 359	P	P	20 16 01.7	+0.9
	baz=179,SNR=6.8					
P49A	Miami Univ. Ec	52.56 352	P	P	20 15 59.9	-0.9
	baz=170,SNR=8.8					
CPRX	Cap Rock	52.57 331	P	P	20 16 01.5	+0.3
P48A	Milroy	52.59 351	P	P	20 16 00.1	-1.0
	baz=169					
P48A	Milroy	52.59 351	P	P	20 15 59.4	-1.6
P48A			IAmb	IAmb	20 16 29.5	
	comp=Z,95nm,1.2s					
O57A	Amberson	52.66 359	P	P	20 16 02.0	+0.5
	baz=178,SNR=11					
PAGS	Pennsylvania G	52.66 360	P	P	20 16 01.2	-0.3
PMSA	Palmer Station	52.69 173	eP	P	20 15 59.8	-1.6
PMSA	Palmer Station	52.69 173	eP	P	20 15 59.8	-1.6
O55A	Ligonier	52.72 357	P	P	20 16 02.0	+0.1
	baz=176					
O56A	Blue Knob Stat	52.74 358	P	P	20 16 02.4	+0.2
	baz=177,SNR=5.8					
O56A	Blue Knob Stat	52.74 358	P	P	20 16 02.6	+0.4
O56A			IAmb	IAmb	20 16 32.5	
	comp=Z,118nm,1.6s					
O59A	Robesonia	52.74 0	P	P	20 16 02.6	+0.5
	baz=180					
O60A	Telford	52.76 1	P	P	20 16 02.8	+0.6
	baz=181,SNR=5.5					
O52A	Adamsville	52.80 355	P	P	20 16 02.2	-0.4
O52A			IAmb	IAmb	20 16 32.3	
	comp=Z,56nm,1.1s					
MSTX	Muleshoe	52.83 332	P	P	20 16 02.9	-0.2
	baz=147,SNR=5.4					
MSTX	Muleshoe	52.83 332	P	P	20 16 02.6	-0.5
MSTX			IAmb	IAmb	20 16 32.7	
	comp=Z,67nm,1.2s					
O51A	Pataskala	52.91 354	P	P	20 16 02.8	-0.6
	baz=172					
O50A	Cable	53.02 353	P	P	20 16 03.3	-0.9
	baz=171,SNR=6.6					

ACSO	Alum Creek Sta	53.03	354	P	P	20 16 03.4 -0.9
	baz=172,SNR=5.1					
ACSO	Alum Creek Sta	53.03	354	P	P	20 16 03.4 -0.9
ACSO				IAmb	IAmb	20 16 33.3
	comp=Z,65nm,1.1s					
LUPA	Lehigh Univers	53.04	1	P	P	20 16 05.7 +1.3
P46A	Rosedale	53.04	349	P	P	20 16 03.0 -1.3
	baz=166,SNR=8.7					
SSPA	Standing Stone	53.09	358	P	P	20 16 04.6 -0.1
SSPA				IAmb	IAmb	20 16 35.7
	comp=Z,54nm,1.0s					
AMTX	Amarillo	53.12	334	P	P	20 16 04.7 -0.4
AMTX					pP	20 16 24.1 -0.9
AMTX				IAmb	IAmb	20 16 35.3
	comp=Z,66nm,1.2s					
O49A	Covington	53.15	352	P	P	20 16 04.5 -0.7
	baz=170					
O49A	Covington	53.15	352	P	P	20 16 04.5 -0.7
O49A				IAmb	IAmb	20 16 34.6
	comp=Z,101nm,1.3s					
N57A	Milroy	53.20	359	P	P	20 16 05.3 -0.2
	baz=178,SNR=5.3					
N61A	South Mountain	53.22	2	P	P	20 16 06.0 +0.4
	baz=182					
N55A	Marion Center	53.27	357	P	P	20 16 06.1 0.0
	baz=177,SNR=5.7					
N58A	Sunbury	53.27	360	P	P	20 16 06.7 +0.6
	baz=179,SNR=5.4					
N58A	Sunbury	53.27	360	P	P	20 16 05.9 -0.1
N58A				IAmb	IAmb	20 16 37.4
	comp=Z,100nm,1.5s					
N60A	Cedar Hill Far	53.31	1	P	P	20 16 07.3 +0.9
	baz=181					
HSIG		53.33	322	P	P	20 16 06.7 0.0
O48A	Farmland	53.34	352	P	P	20 16 05.8 -0.8
	baz=169,SNR=13					
N59A	State Game Lan	53.35	0	P	P	20 16 07.7 +1.0
	baz=180,SNR=8.1					
N59A	State Game Lan	53.35	0	P	P	20 16 07.4 +0.8
N59A					pP	20 16 25.2 -1.8
N59A				IAmb	IAmb	20 16 37.5
	comp=Z,56nm,1.1s					
N56A	West Decatur	53.38	358	P	P	20 16 06.9 0.0
	baz=177,SNR=6.0					
N52A	McGinn's Farm,	53.48	355	P	P	20 16 07.1 -0.5
	baz=173					
PAL	Palisades	53.48	2	P	P	20 16 07.8 +0.2
	baz=183					
N54A	Moraine State	53.51	356	P	P	20 16 07.9 +0.2
	baz=175					
N54A	Moraine State	53.51	356	P	P	20 16 07.4 -0.3
N54A				IAmb	IAmb	20 16 37.5
	comp=Z,85nm,1.1s					
P43A	Skaggs, Pawnee	53.52	347	P	P	20 16 07.1 -0.8
N50A	Nevada	53.59	353	P	P	20 16 07.9 -0.4
	baz=172					
N51A	Ashland	53.65	354	P	P	20 16 08.3 -0.5
	baz=172					
N51A	Ashland	53.65	354	P	P	20 16 07.8 -1.0
SFIN	Lafayette	53.76	350	P	P	20 16 08.3 -1.3
	baz=167					
SFIN	Lafayette	53.76	350	P	P	20 16 08.0 -1.6
M57A	Sunshine Farm,	53.77	359	P	P	20 16 09.8 +0.1
	baz=179,SNR=7.2					
M57A	Sunshine Farm,	53.77	359	P	P	20 16 09.8 +0.1
M60A	Port Jervis	53.78	2	P	P	20 16 09.8 +0.1
	baz=182					
M61A	Granite Spring	53.79	2	P	P	20 16 10.2 +0.4
	baz=183					
M58A	Price's Panora	53.80	360	P	P	20 16 10.3 +0.4
	baz=180,SNR=6.5					
YLE	Yale	53.84	3	P	P	20 16 08.4 -1.7
N49A	Columbus Grove	53.86	353	P	P	20 16 10.2 -0.1
	baz=170,SNR=8.1					
N49A	Columbus Grove	53.86	353	P	P	20 16 09.2 -1.1
N48A	Decatur	53.91	352	P	P	20 16 10.0 -0.7
	baz=169					
M56A	Emporium	53.95	358	P	P	20 16 10.9 -0.1
	baz=178					
M56A	Emporium	53.95	358	P	P	20 16 11.1 +0.1
M56A				IAmb	IAmb	20 16 41.0
	comp=Z,77nm,1.3s					
M55A	Ridgway	53.95	358	P	P	20 16 10.8 -0.2
	baz=177					
M55A	Ridgway	53.95	358	P	P	20 16 11.0 0.0
M55A				IAmb	IAmb	20 16 40.8
	comp=Z,63nm,1.1s					
M62A	Hamden	53.96	3	P	P	20 16 11.6 +0.6
	baz=184					
M59A	Waymart	53.98	1	P	P	20 16 11.9 +0.7
	baz=181,SNR=6.9					
KSPA	Keystone Colle	53.99	0	P	P	20 16 12.2 +0.9
KSPA					pP	20 16 31.6 0.0
KSPA				IAmb	IAmb	20 16 42.0
	comp=Z,111nm,1.3s					
N47A	Urbana	54.02	351	P	P	20 16 10.7 -0.8
	baz=168					
N47A	Urbana	54.02	351	P	P	20 16 10.6 -0.9
M54A	Oil Creek Stat	54.03	357	P	P	20 16 11.2 -0.4
	baz=176					
M54A	Oil Creek Stat	54.03	357	P	P	20 16 11.6 0.0
M51A	Elyria	54.04	354	P	P	20 16 11.3 -0.3
	baz=173					
319A	Douglas	54.08	325	P	P	20 16 13.2 +0.9
319A				IAmb	IAmb	20 16 14.6
	comp=Z,82nm,1.1s					
121A	Cookes Peak, D	54.15	327	P	P	20 16 13.9 +1.1
	baz=141,SNR=22					
121A	Cookes Peak, D	54.15	327	P	P	20 16 13.8 +1.0
121A				IAmb	IAmb	20 16 15.2
	comp=Z,76nm,1.2s					
M50A	Fremont	54.20	354	P	P	20 16 12.3 -0.5
	baz=172					
M50A	Fremont	54.20	354	P	P	20 16 11.7 -1.1
KSCT	Kent School, K	54.22	3	P	P	20 16 10.7 -2.2
KSCT				IAmb	IAmb	20 16 44.2
	comp=Z,107nm,1.6s					
HDIL	Hopedale	54.35	348	P	P	20 16 12.5 -1.4
	baz=164					
HDIL	Hopedale	54.35	348	P	P	20 16 12.4 -1.5
HDIL				IAmb	IAmb	20 16 43.1
	comp=Z,66nm,1.1s					
M49A	Liberty Center	54.38	353	P	P	20 16 13.3 -0.7
	baz=171					
L57A	Andrews Acres	54.44	359	P	P	20 16 14.9 +0.3
	baz=179,SNR=5.5					
L60A	Shokan	54.45	2	P	P	20 16 15.3 +0.7
	baz=182					
L63A	North Scituate	54.46	4	P	P	20 16 15.4 +0.8
	baz=185					
L58A	Harry Jones Me	54.48	0	P	P	20 16 15.6 +0.8
	baz=180,SNR=6.0					
M47A	Cromwell	54.48	351	P	P	20 16 14.3 -0.5
	baz=169					
BRYW	Bryant College	54.52	4		pP	20 16 36.7 +1.0
L56A	Greenwood	54.58	359	P	P	20 16 15.6 0.0
	baz=178,SNR=6.6					
L56A	Greenwood	54.58	359	P	P	20 16 15.9 +0.3
L56A				IAmb	IAmb	20 16 45.6
	comp=Z,56nm,1.0s					
BINY	Binghamton	54.63	0	P	P	20 16 16.5 +0.6
	baz=180,SNR=6.0					
BINY	Binghamton	54.63	0	P	P	20 16 16.8 +0.8
L59A	Walton	54.63	1	P	P	20 16 16.6 +0.6
	baz=181,SNR=11					
L59A	Walton	54.63	1	P	P	20 16 16.1 +0.1
L55A	Hinsdale	54.65	358	P	P	20 16 16.2 +0.1
	baz=177,SNR=6.0					
ERPA	Erie	54.66	357	P	P	20 16 16.0 -0.1
	baz=175					
L61A	Hillsdale 1, H	54.68	2	P	P	20 16 17.0 +0.7
	baz=183					
L54A	Sinclairville	54.74	357	P	P	20 16 16.3 -0.4
	baz=176					
BNM	Barren Site	54.82	329	P	P	20 16 18.3 +0.5
N41A	Harden Midland	54.84	346	P	P	20 16 15.8 -1.6
WVNY	West Valley, N	54.88	358	P	P	20 16 18.1 +0.3
L48A	N Adams	54.90	353	P	P	20 16 16.9 -1.0
	baz=170					
L49A	Milan	54.98	353	P	P	20 16 18.1 -0.3
	baz=171					
L61B	Northampton	54.98	3	P	P	20 16 19.2 +0.8
	baz=184					
LENM	Lemitar	55.01	329	P	P	20 16 18.9 -0.2
L47A	Sherwood	55.03	352	P	P	20 16 18.3 -0.5
	baz=169					
K54A	Basiliko Farm,	55.09	358	P	P	20 16 19.3 +0.1
	baz=177					
K56A	Middlesex	55.14	359	P	P	20 16 19.5 -0.1
	baz=179					
K57A	Scipio Center	55.16	360	P	P	20 16 20.2 +0.4
	baz=180					
K61A	Williamstown	55.17	3	P	P	20 16 20.5 +0.7
	baz=183					
K55A	Perry	55.18	358	P	P	20 16 19.8 -0.1
	baz=178					
MMNY	Mt. Morris Dam	55.18	359	P	P	20 16 20.0 +0.1
K58A	Earlville	55.20	1	P	P	20 16 20.5 +0.5
	baz=181					
K58A	Earlville	55.20	1	P	P	20 16 20.5 +0.5
TRY	Troy	55.21	2	P	P	20 16 21.1 +1.1
TRY				IAmb	IAmb	20 16 51.3
	comp=Z,84nm,1.2s					
K59A	Cooperstown	55.22	1	P	P	20 16 20.9 +0.7
	baz=182,SNR=6.6					
ANMO	Albuquerque	55.37	330	P	P	20 16 22.0 +0.3
ANMO				pmax	pmax	
	comp=Z,64nm,1.4s					
ANMO	Albuquerque	55.37	330	P	P	20 16 22.0 +0.3
ANMO				IAmb	IAmb	20 16 52.7
	comp=Z,64nm,1.4s					
TUC	Tucson	55.63	324	P	P	20 16 24.0 +0.6
TUC				pmax	pmax	
	comp=Z,38nm,1.1s					
TUC	Tucson	55.63	324	P	P	20 16 24.0 +0.6
L44A	Lake County Fo	55.65	350	P	P	20 16 22.6 -0.6
	baz=166					
K47A	Vermontville	55.68	352	P	P	20 16 22.7 -0.8
	baz=170					
K48A	Perry	55.70	353	P	P	20 16 22.5 -1.2
	baz=171,SNR=5.3					
J56A	Wolcott	55.71	359	P	P	20 16 23.9 +0.2
	baz=179					
J56A	Wolcott	55.71	359	P	P	20 16 23.8 +0.2
J55A	Hilton	55.72	359	P	P	20 16 23.6 0.0
	baz=178					
J60A	Lant Hill Farm	55.73	3	P	P	20 16 24.6 +0.8
	baz=183					
CBKS	Cedar Bluff	55.75	338	P	P	20 16 24.1 0.0
	baz=152					
CBKS	Cedar Bluff	55.75	338	P	P	20 16 24.4 +0.3
CBKS				pmax	pmax	
	comp=Z,59nm,1.0s					
CBKS	Cedar Bluff	55.75	338	P	P	20 16 24.4 +0.3
CBKS				IAmb	IAmb	20 16 54.6
	comp=Z,59nm,1.0s					
J58A	Remsen	55.80	1	P	P	20 16 24.4 0.0
	baz=181					
J52A	Paris	55.80	356	P	P	20 16 23.7 -0.6
	baz=175					
K46A	Dorr	55.81	352	P	P	20 16 23.4 -0.9
	baz=169					
ACCN	Adirondack Com	55.87	2	P	P	20 16 25.6 +0.9
J61A	Chester	55.88	3	P	P	20 16 25.5 +0.6
	baz=184					
J59A	Piesco	55.92	2	P	P	20 16 25.5 +0.3
	baz=182					
J59A	Piesco	55.92	2	P	P	20 16 25.0 -0.1
J59A				IAmb	IAmb	20 16 55.9
	comp=Z,106nm,1.6s					
I58A	Old Forge	56.13	1	P	P	20 16 26.8 +0.1
	baz=181					
J48A	Bridge Port	56.15	353	P	P	20 16 24.0 -2.8
T25A	Trinidad	56.21	333	P	P	20 16 28.3 +0.6
	baz=146,SNR=5.3					
T25A	Trinidad	56.21	333	P	P	20 16 28.0 +0.3
T25A				IAmb	IAmb	20 16 58.6
	comp=Z,69nm,1.2s					
L40A	Anamosa	56.21	347	P	P	20 16 26.6 -0.7
	baz=162					
L40A	Anamosa	56.21	347	P	P	20 16 25.8 -1.4
J47A	Sunmer	56.22	352	P	P	20 16 26.3 -1.0
	baz=170,SNR=5.0					
J47A	Sunmer	56.22	352	P	P	20 16 26.2 -1.0
HNH	Hanover	56.25	3	P	P	20 16 26.4 -1.1
HNH				IAmb	IAmb	20 16 59.7
	comp=Z,104nm,1.3s					
I59A	Olmsteadville	56.27	2	P	P	20 16 28.2 +0.6
	baz=183,SNR=7.3					
I60A	Shoreham	56.34	3	P	P	20 16 28.7 +0.6
	baz=183					
PECO	Prince Edward	56.37	359	P	P	20 16 28.1 -0.2
I57A	Carthage	56.37	1	P	P	20 16 28.5 +0.2
	baz=181					
NCB	Newcomb	56.43	2	P	P	20 16 29.5 +0.7
I61A	Oroboro, Fairl	56.48	4	P	P	20 16 30.6 +1.4
	baz=185					
SCIA	State Center	56.54	345	P	P	20 16 29.1 -0.5
	baz=160					
SCIA	State Center	56.54	345	P	P	20 16 29.1 -0.5
214A	Organ Pipe Nat	56.55	323	P	P	20 16 31.1 +1.1
	baz=136,SNR=22					
214A	Organ Pipe Nat	56.55	323	P	P	20 16 30.5 +0.5
214A				IAmb	IAmb	20 16 32.2
	comp=Z,71nm,1.1s					
I55A	Frankford	56.66	359	P	P	20 16 30.6 +0.2
	baz=178					
LBNH	Lisbon	56.81	4	P	P	20 16 32.2 +0.8
	baz=185					
LBNH	Lisbon	56.81	4		pP	20 16 53.3 +1.2
X18A	Snowflake	56.84	327	P	P	20 16 32.5 +0.4
X18A				IAmb	IAmb	20 16 34.2
	comp=Z,41nm,1.2s					
H58A	Gabriels	56.88	2	P	P	20 16 32.2 +0.2
	baz=182,SNR=5.4					
H57A	Richville	56.90	1	P	P	20 16 32.1 0.0
	baz=181					
DELO	Deloro Mine	56.96	359	P	P	20 16 31.9 -0.6
H55A	Tweed	56.99	359	P	P	20 16 32.6 -0.1
	baz=179					
I46A	Reed City	56.99	352	P	P	20 16 31.7 -1.1
	baz=169					
I48A	Sherman Twp	57.02	354	P	P	20 16 31.8 -1.1
	baz=171					
H56A	Elgin	57.02	360	P	P	20 16 33.4 +0.4
	baz=180					
KSCO	Kaye Shedlock'	57.03	336	P	P	20 16 33.4 +0.1
	baz=149					
KSCO	Kaye Shedlock'	57.03	336	P	P	20 16 33.5 +0.1
H53A	Bobcaygeon	57.04	358	P	P	20 16 32.7 -0.4
	baz=177					
LONY	Lake Ozonia	57.07	1	P	P	20 16 33.5 +0.1
	baz=182					
LONY	Lake Ozonia	57.07	1	P	P	20 16 33.6 +0.3
LONY				IAmb	IAmb	20 17 04.5
	comp=Z,54nm,1.1s					
H60A	Morristown	57.08	3	P	P	20 16 33.8 +0.4
	baz=184					
H61A	Lyndonville	57.10	4	P	P	20 16 34.6 +1.1
	baz=185					
H59A	Cadyville	57.12	2	P	P	20 16 34.7 +1.0
	baz=183					
W18A	Petrified Fore	57.17	327	P	P	20 16 35.5 +1.0
	baz=140,SNR=15					
W18A	Petrified Fore	57.17	327	P	P	20 16 35.2 +0.7
I45A	Fountain	57.20	351	P	P	20 16 35.5 +1.3
	baz=168					
I45A	Fountain	57.20	351	P	P	20 16 34.7 +0.5
SDCO	Great Sand Dun	57.20	333	P	P	20 16 34.9 +0.2
	baz=145,SNR=15					
SDCO	Great Sand Dun	57.20	333	P	P	20 16 34.6 -0.1
SDCO				IAmb	IAmb	20 17 05.7
	comp=Z,88nm,1.4s					
FRNY	Flat Rock	57.32	2	P	P	20 16 36.0 +1.0
H48A	Harrisville	57.49	354	P	P	20 16 36.0 -0.2
	baz=172					
I42A	Draeger Farm,	57.49	349	P	P	20 16 35.5 -0.8
	baz=165,SNR=5.2					
BGNE	Belgrade	57.51	341	P	P	20 16 35.9 -0.6
G57A	Newington	57.55	1	P	P	20 16 36.8 +0.2
	baz=181					
H46A	Fife Lake	57.55	352	P	P	20 16 35.4 -1.3
	baz=170,SNR=5.1					
X16A	Lo Mia Camp, P	57.56	326	P	P	20 16 37.9 +0.7
X16A				IAmb	IAmb	20 16 39.5
	comp=Z,45nm,1.1s					
G59A	Clarenceville	57.58	3	P	P	20 16 37.4 +0.5
	baz=183					
H65A	Eastbrook	57.59	7	P	P	20 16 38.0 +1.1
	baz=189					
G53A	Haliburton	57.59	358	P	P	20 16 36.6 -0.4
	baz=177					
G58A	Ormstown	57.61	2	P	P	20 16 37.4 +0.4
	baz=182					
G60A	Masonville	57.64	3	P	P	20 16 38.2 +0.9
	baz=184					
G55A	Calabogie	57.69	360	P	P	20 16 38.0 +0.4
	baz=179					
S22A	4UR Ranch, Cre	57.80	332	P	P	20 16 39.0 0.0
	baz=144,SNR=7.7					
S22A	4UR Ranch, Cre	57.80	332	P	P	20 16 39.2 +0.2
H43A	Windswept, Lux	57.86	350	P	P	20 16 38.0 -0.8
	baz=167					
G63A	Kingsbury	57.86	6	P	P	20 16 39.8 +0.9
	baz=188					
G61A	St-Isidore-de-	57.87	4	P	P	20 16 40.1 +1.2
	baz=185					
G62A	West of Eustis	57.88	5	P	P	20 16 39.5 +0.5
	baz=186					
G62A	West of Eustis	57.88	5	P	P	20 16 38.7 -0.3
G47A	Hillman	58.01	354	P	P	20 16 39.6 -0.3
	baz=171					
PKME	Peaks-Kenny Pk	58.04	6	P	P	20 16 41.4 +1.4
	baz=188					
PKME	Peaks-Kenny Pk	58.04	6	P	P	20 16 39.9 -0.2
PKME				IAmb	IAmb	20 17 02.3
	comp=Z,53nm,1.1s					
Q24A	Divide	58.05	334	P	P	20 16 41.0 +0.3
	baz=146,SNR=6.8					
Q24A	Divide	58.05	334	P	P	20 16 40.6 -0.1
Q24A				IAmb	IAmb	20 17 11.6
	comp=Z,64nm,1.3s					
G64A	Maxfield	58.08	6	P	P	20 16 41.1 +0.7
	baz=188					
G65A	Princeton	58.17	7	P	P	20 16 42.0 +1.0
	baz=190					
MVCO	Mesa Verde	58.17	330	P	P	20 16 41.8 +0.3
	baz=142,SNR=6.5					
MVCO	Mesa Verde	58.17	330	P	P	20 16 41.4 -0.1
MVCO				IAmb	IAmb	20 17 11.6
	comp=Z,80nm,1.7s					
F57A	Harrington	58.26	1	P	P	20 16 41.9 +0.3
	baz=182					
WUAZ	Wupatki	58.35	327	P	P	20 16 44.4 +1.7
	baz=139,SNR=29					
WUAZ	Wupatki	58.35	327	P	P	20 16 43.0 +0.4
WUAZ				IAmb	IAmb	20 16 45.6
	comp=Z,62nm,1.1s					
F59A	Saint Guilaume	58.37	3	P	P	20 16 43.1 +0.8
	baz=184					
F51A	Arnstein	58.45	357	P	P	20 16 43.6 +0.7
	baz=176					
OGNE	Ogallala	58.47	337	P	P	20 16 43.9 +0.6
	baz=150					
OGNE	Ogallala	58.47	337	P	P	20 16 43.0 -0.3
GLA	Glamis	58.52	322	P	P	20 16 44.6 +0.8
	baz=134,SNR=7.6					
GLA	Glamis	58.52	322	P	P	20 16 44.1 +0.3
GLA				pmax	pmax	
	comp=Z,90nm,1.7s					
GLA	Glamis	58.52	322	P	P	20 16 44.1 +0.3
GLA				IAmb	IAmb	20 16 45.9
	comp=Z,90nm,1.7s					
F60A	Warwick	58.53	4	P	P	20 16 44.4 +0.9
	baz=185					
F61A	St Evariste	58.60	4	P	P	20 16 44.5 +0.5
	baz=186					
F62A	Pittston Farm,	58.60	5	P	P	20 16 45.3 +1.3
	baz=187					
F64A	Sherman	58.73	6	P	P	20 16 45.5 +0.6
	baz=189					
Y12C	Blythe	58.83	323	P	P	20 16 46.8 +1.0
	baz=135,SNR=15					
Y12C	Blythe	58.83	323	P	P	20 16 46.7 +0.8
Y12C				IAmb	IAmb	20 16 48.2
	comp=Z,56nm,1.1s					
E58A	La Victoria	58.86	2	P	P	20 16 46.2 +0.4
	baz=183					
E55A	Montcerf-Lytto	58.88	0	P	P	20 16 46.7 +0.7
	baz=180					
PV01	Paradox Valley	58.94	331	P	P	20 16 47.2 +0.4
ISCO	Idaho Springs	58.94	334	P	P	20 16 47.3 +0.5
	baz=146,SNR=6.5					
ISCO	Idaho Springs	58.94	334	P	P	20 16 46.8 -0.1
ISCO				pmax	pmax	
	comp=Z,30nm,1.2s					
ISCO	Idaho Springs	58.94	334	P	P	20 16 46.8 -0.1
E60A	Ste Agathe de	58.96	4	P	P	20 16 46.8 +0.3
	baz=185					
E56A	St. Veronique	58.98	1	P	P	20 16 47.1 +0.4
	baz=181,SNR=7.2					
IKP	In-Ko-Pah, Jac	59.02	321	P	P	20 16 48.5 +1.1
	baz=133,SNR=5.8					
SMCO	Snowmass	59.03	332	P	P	20 16 48.2 +0.6
SMCO				IAmb	IAmb	20 17 18.2
	comp=Z,52nm,1.2s					
SWSC	Sam W. Stewart	59.04	321	P	P	20 16 48.5 +1.2
	baz=134					
G40A	Rib Lake	59.06	349	P	P	20 16 46.4 -0.9
	baz=164					
PV02	Paradox Valley	59.08	330	P	P	20 16 47.6 -0.1
PV13	Radium Mtn., P	59.08	330	P	P	20 16 47.4 -0.4
PV13				IAmb	IAmb	20 17 18.8
	comp=Z,83nm,1.3s					
E61A	Lac Etchemin	59.09	5	P	P	20 16 48.5 +1.1
	baz=186					
PV05	Paradox Valley	59.15	330	P	P	20 16 47.7 -0.6
PV05				IAmb	IAmb	20 17 19.1
	comp=Z,91nm,1.4s					
E48A	Lockeyer	59.15	355	P	P	20 16 48.0 +0.2
	baz=173					
ECSD	EROS Data Cent	59.16	343	P	P	20 16 47.3 -0.7
	baz=157,SNR=6.2					
ECSD	EROS Data Cent	59.16	343	P	P	20 16 47.3 -0.7
PV03	Paradox Valley	59.17	330	P	P	20 16 48.6 +0.3
PV03				IAmb	IAmb	20 17 19.4
	comp=Z,87nm,1.5s					
PV18	Skein Mesa, Pa	59.19	330	P	P	20 16 48.4 -0.1
PV18				IAmb	IAmb	20 17 19.6
	comp=Z,120nm,1.8s					
LMN	Caledonia Moun	59.19	9	P	P	20 16 46.2 -1.9
PV12	Saucer Basin,	59.19	330	P	P	20 16 47.8 -0.8
PV12				IAmb	IAmb	20 17 19.9
	comp=Z,68nm,1.2s					
PV11	David Mesa, Pa	59.21	330	P	P	20 16 48.8 +0.2
PV07	Paradox Valley	59.22	331	P	P	20 16 48.9 +0.2
PV07				IAmb	IAmb	20 17 20.0
	comp=Z,76nm,1.5s					
PV17	East Wray Mesa	59.24	330	P	P	20 16 48.6 -0.2
PV17				IAmb	IAmb	20 17 19.8
	comp=Z,68nm,1.5s					
E46A	Sault Ste Mari	59.24	354	P	P	20 16 47.8 -0.6
	baz=171					
PV16	Nyswonger Mesa	59.24	330	P	P	20 16 48.4 -0.5
PV16				IAmb	IAmb	20 17 20.0
	comp=Z,82nm,1.5s					
E63A	Oxbow	59.27	6	P	P	20 16 49.3 +0.6
	baz=189					
PV19	Morning Glory	59.27	330	P	P	20 16 48.2 -0.9
PV19				IAmb	IAmb	20 17 20.1
	comp=Z,62nm,1.6s					
PV20	West Nyswonger	59.29	330	P	P	20 16 48.1 -1.1
PV20				IAmb	IAmb	20 17 19.4
	comp=Z,61nm,1.6s					
PV04	Paradox Valley	59.30	330	P	P	20 16 48.8 -0.5
PV04				IAmb	IAmb	20 17 20.6
	comp=Z,86nm,1.6s					
BC3	Big Chuckawall	59.32	322	P	P	20 16 50.7 +1.3
	baz=134,SNR=12					
E64A	Bridgewater	59.34	7	P	P	20 16 50.2 +1.1
	baz=189					
PV14	Lion Creek, Pa	59.34	330	P	P	20 16 48.2 -1.4
PV14				IAmb	IAmb	20 17 19.8
	comp=Z,68nm,1.5s					
PV22	Blue Mesa, Par	59.36	331	P	P	20 16 49.0 -0.6
PV22				IAmb	IAmb	20 17 19.9
	comp=Z,51nm,1.7s					
E62A	Clayton Lake	59.36	5	P	P	20 16 48.7 -0.6
E62A				IAmb	IAmb	20 17 20.9
	comp=Z,85nm,1.4s					
MONP2	Monument Peak	59.38	321	P	P	20 16 51.1 +1.1
	baz=133,SNR=7.4					
BAR	Barrett	59.39	321	P	P	20 16 49.3 -0.5
BAR				IAmb	IAmb	20 17 21.4
	comp=Z,55nm,1.6s					
W13A	Hualapai Mount	59.43	324	P	P	20 16 50.5 +0.3
W13A				IAmb	IAmb	20 16 52.8
	comp=Z,42nm,1.1s					
D52A	ZEK Kipawa Sen	59.44	358	P	P	20 16 49.5 -0.3
	baz=177					

D55A	Sainte-Anne-du	59.45	1	P	P	20 16 50.4 +0.5
	baz=181					
PV21	Cone Mtn., Par	59.47	331	P	P	20 16 50.6 +0.1
PV21				IAmb	IAmb	20 17 21.7
	comp=Z,55nm,1.5s					
IRM	Iron Mountain	59.49	323	P	P	20 16 52.1 +1.6
	baz=135,SNR=49					
D56A	ZEC Mazanza, M	59.49	1	P	P	20 16 50.6 +0.4
	baz=182					
U15A	North Rim	59.52	327	P	P	20 16 51.4 +0.5
U15A				IAmb	IAmb	20 16 53.3
	comp=Z,45nm,1.2s					
D53A	Lac Vacive, Po	59.52	359	P	P	20 16 49.5 -0.8
D53A				IAmb	IAmb	20 17 20.3
	comp=Z,74nm,1.2s					
SPMN	Marine on St.	59.57	347	P	P	20 16 50.5 -0.2
	baz=161					
SPMN	Marine on St.	59.57	347	P	P	20 16 49.2 -1.5
D51A	Lot 18 Range I	59.59	358	P	P	20 16 50.8 0.0
	baz=176					
D58A	Chemin du LacG	59.60	3	P	P	20 16 51.7 +0.8
	baz=184,SNR=7.2					
E44A	Grand Marais A	59.69	352	P	P	20 16 53.4 +2.0
	baz=169					
109C	Camp Elliot, M	59.80	320	P	P	20 16 53.9 +1.4
	baz=132					
109C	Camp Elliot, M	59.80	320	P	P	20 16 52.9 +0.3
109C				IAmb	IAmb	20 16 54.8
	comp=Z,40nm,1.2s					
D62A	Allapoint, All	59.86	6	P	P	20 16 53.8 +1.2
	baz=188					
D61A	St Aubert, Com	59.88	5	P	P	20 16 53.9 +1.1
	baz=187					
BELC	Belle Mtn. Jos	59.88	322	P	P	20 16 54.3 +1.0
	baz=134,SNR=10					
LATQ	La Tuque	59.90	3	P	P	20 16 53.6 +0.7
PFO	Pinyon Flats O	59.90	321	P	P	20 16 54.9 +1.6
	baz=133,SNR=18					
PFO	Pinyon Flats O	59.90	321	P	P	20 16 54.2 +0.8
PFO				pmax	pmax	
	comp=Z,53nm,1.2s					
PFO	Pinyon Flats O	59.90	321	P	P	20 16 54.1 +0.8
PFO				IAmb	IAmb	20 16 55.8
	comp=Z,53nm,1.2s					
D63A	Stockholm	59.92	6	P	P	20 16 54.8 +1.8
	baz=189					
N23A	Red Feather La	59.99	334	P	P	20 16 54.7 +0.6
	baz=146					
N23A	Red Feather La	59.99	334	P	P	20 16 54.5 +0.4
PHWY	Pilot Hill	60.12	335	P	P	20 16 55.0 0.0
PHWY				IAmb	IAmb	20 17 26.0
	comp=Z,45nm,1.4s					
GMRC	Granite Mounta	60.23	323	P	P	20 16 57.1 +1.4
	baz=134,SNR=23					
KNB	Kanab	60.24	327	P	P	20 16 56.7 +1.0
KNB				pmax	pmax	
	comp=Z,76nm,1.2s					
KNB	Kanab	60.24	327	P	P	20 16 56.7 +1.0
PKCU	Pink Cliffs	60.29	327	P	P	20 16 57.2 +1.0
MURC	Murrieta	60.34	321	P	P	20 16 57.6 +1.4
	baz=133,SNR=6.8					
O20A	White River Ci	60.38	332	P	P	20 16 57.0 +0.4
	baz=144					
O20A	White River Ci	60.38	332	P	P	20 16 56.7 0.0
O20A				IAmb	IAmb	20 17 35.0
	comp=Z,88nm,1.6s					
LCMT	Little Creek M	60.47	326	P	P	20 16 57.9 +0.7
SUSD	Miller	60.50	341	P	P	20 16 57.0 -0.2
	baz=154					
SUSD	Miller	60.50	341	P	P	20 16 56.7 -0.4
E38A	The Farm, Brul	60.62	348	P	P	20 16 57.0 -0.8
	baz=163					
SRU	San Rafael Swe	60.65	330	P	P	20 16 58.8 +0.3
SRU				pmax	pmax	
	comp=Z,59nm,1.3s					
SRU	San Rafael Swe	60.65	330	P	P	20 16 58.8 +0.3
HEC	Hector,Ludlow	60.66	323	P	P	20 17 00.0 +1.5
	baz=134,SNR=28					
MTPU	Mount Pierson	60.67	328	P	P	20 16 58.8 -0.1
SCI2	San Clemente I	60.77	320	P	P	20 17 00.2 +1.0
	baz=131,SNR=6.4					
SZCU	Shurtz Canyon	60.81	327	P	P	20 17 00.1 +0.5
Q16A	Castle Valley	60.82	329	P	P	20 16 59.8 +0.1
TUQ	Turquoise Moun	60.84	323	P	P	20 17 00.9 +1.1
	baz=134,SNR=10.0					
CCUT	Cedar City	60.93	327	P	P	20 17 01.7 +1.2
CIS	Catalina Islan	60.96	320	P	P	20 17 01.6 +1.1
	baz=132,SNR=8.3					
MSU	Marysvale	61.02	328	P	P	20 17 01.7 +0.6
MSU	Marysvale	61.02	328	P	P	20 17 01.7 +0.6
P17A	Butcher Ranch,	61.04	330	P	P	20 17 01.1 0.0
BFSC	Mount Baldy Ra	61.05	321	P	P	20 17 02.3 +1.1
	baz=132,SNR=22					
FMP	Fort Macarthur	61.09	320	P	P	20 17 02.5 +1.2
	baz=132					
TMUT	Trail Mountain	61.13	329	P	P	20 17 01.0 -0.9
SHPR	Sheep Range	61.16	325	P	P	20 17 02.8 +0.9
SHPR				IAmb	IAmb	20 17 04.2
	comp=Z,34nm,1.0s					
RWWY	Rawlins	61.18	334	P	P	20 17 02.2 +0.1
TCRU	Three Creeks R	61.23	328	P	P	20 17 02.1 -0.4
GSC	Goldstone, Bar	61.26	323	P	P	20 17 03.9 +1.3
	baz=134,SNR=18					
GSC	Goldstone, Bar	61.26	323	P	P	20 17 03.4 +0.8
GSC				pmax	pmax	
	comp=Z,33nm,1.3s					
GSC	Goldstone, Bar	61.26	323	P	P	20 17 03.4 +0.8
MWC	Mount Wilson	61.29	321	P	P	20 17 03.4 +0.5
MWC				pmax	pmax	
	comp=Z,78nm,1.1s					
MWC	Mount Wilson	61.29	321	P	P	20 17 03.4 +0.5
PASC	Pasadena Art C	61.33	321	P	P	20 17 03.9 +1.0
RDMU	Red Mountain	61.34	332	P	P	20 17 03.1 0.0
SHOC	Shoshone, Teco	61.37	324	P	P	20 17 04.2 +1.1
	baz=134					
DECC	Green Verdugo	61.48	321	P	P	20 17 05.8 +1.9
	baz=132					
SNCC	San Nicolas Is	61.56	319	P	P	20 17 05.4 +0.8
	baz=130					
SNCC	San Nicolas Is	61.56	319	P	P	20 17 04.5 -0.1
SNCC				IAmb	IAmb	20 17 06.6
	comp=Z,56nm,1.1s					
K22A	Casper	61.69	335	P	P	20 17 06.0 +0.6
	baz=146,SNR=11					
K22A	Casper	61.69	335	P	P	20 17 05.2 -0.2
K22A				IAmb	IAmb	20 17 36.2
	comp=Z,75nm,1.2s					
EDW2	Edwards Air Fo	61.69	322	P	P	20 17 06.2 +0.7
	baz=132,SNR=24					
BLG	Laguna Peak, P	61.83	320	P	P	20 17 07.4 +1.0
	baz=131					
EYMN	Ely	61.89	348	P	P	20 17 06.1 -0.3
	baz=163					
EYMN	Ely	61.89	348	P	P	20 17 06.1 -0.3
EYMN				IAmb	IAmb	20 17 59.0
	comp=Z,48nm,1.2s					
MPU	Maple Canyon	61.89	330	P	P	20 17 07.4 +0.5
LRMC	Laurel Mtn Rad	61.91	322	P	P	20 17 08.1 +1.1
	baz=133,SNR=12					
PSUT	Pine Spring	61.91	327	P	P	20 17 08.1 +1.0
RSSD	Black Hills	61.95	338	P	P	20 17 07.2 0.0
RSSD				pmax	pmax	
	comp=Z,37nm,1.1s					
RSSD	Black Hills	61.95	338	P	P	20 17 07.2 0.0
RSSD				IAmb	IAmb	20 17 38.2
	comp=Z,37nm,1.1s					
NLU	North Lily Min	62.07	329	P	P	20 17 08.4 +0.4
TPNV	Topopah Spring	62.09	324	P	P	20 17 09.8 +1.6
	baz=135,SNR=43					
TPNV	Topopah Spring	62.09	324	P	P	20 17 09.0 +0.8
TPNV				pmax	pmax	
	comp=Z,33nm,1.0s					
TPNV	Topopah Spring	62.09	324	P	P	20 17 09.0 +0.8
TPNV				IAmb	IAmb	20 17 10.7
	comp=Z,32nm,0.9s					
FURC	Furnace Creek,	62.10	324	P	P	20 17 09.6 +1.5
	baz=134,SNR=19					
SCZ2	Santa Cruz Isl	62.12	320	P	P	20 17 09.3 +1.0
	baz=131					
MPMC	Manual Prospec	62.19	323	P	P	20 17 09.8 +0.9
	baz=133,SNR=24					
MATQ	Matagami	62.20	359	P	P	20 17 08.3 -0.1
	baz=178					
JLU	Jordanelle	62.26	330	P	P	20 17 10.1 +0.8
DAC	Darwin (Calif)	62.40	323	P	P	20 17 12.8 +2.5
DAC				pmax	pmax	
	comp=Z,19nm,1.0s					
DAC	Darwin (Calif)	62.40	323	P	P	20 17 12.8 +2.5
SBC	Santa Barbara	62.46	320	P	P	20 17 11.6 +1.1
	baz=131					
CTU	Camp Tracy	62.47	330	P	P	20 17 10.3 -0.4
ISA	Isabella, Lake	62.51	322	P	P	20 17 12.1 +1.2
	baz=132,SNR=21					
ISA	Isabella, Lake	62.51	322	P	P	20 17 11.5 +0.6
ISA				pmax	pmax	
	comp=Z,21nm,0.9s					
ISA	Isabella, Lake	62.51	322	P	P	20 17 11.4 +0.6
DUG	Dugway, Tooele	62.62	329	P	P	20 17 12.8 +1.2
	baz=139,SNR=25					
DUG	Dugway, Tooele	62.62	329	P	P	20 17 12.5 +0.9
DUG				pmax	pmax	
	comp=Z,104nm,1.4s					
DUG	Dugway, Tooele	62.62	329	P	P	20 17 12.5 +0.9
DUG				IAmb	IAmb	20 17 43.4
	comp=Z,104nm,1.4s					
TCUT	Toone Canyon	62.63	331	P	P	20 17 12.4 +0.6
R11A	Troy Canyon, C	62.71	326	P	P	20 17 13.6 +1.3
	baz=136,SNR=39					
R11A	Troy Canyon, C	62.71	326	P	P	20 17 13.3 +1.0
TAOE	Nuku Hiva Isla	62.75	267	eT	T	21 24 16.3
	comp=Z,31nm,0.2s					
GRAC	Grapevine Rang	62.76	324	P	P	20 17 14.0 +1.5
	baz=134,SNR=6.1					
CWC	Cottonwood Cre	62.80	323	P	P	20 17 14.1 +1.2
	baz=133					
PKM	Mcpherson Peak	62.81	320	P	P	20 17 14.2 +1.1
	baz=131,SNR=19					
VES	Vestal, Richgr	62.99	322	P	P	20 17 15.4 +1.3
	baz=132,SNR=7.9					
BW06	Boulder Array	63.08	333	P	P	20 17 14.5 -0.2
	baz=143,SNR=11					
BW06	Boulder Array	63.08	333	P	P	20 17 14.2 -0.6
PD31	Pinedale Array	63.08	333	P	P	20 17 14.0 -0.8
PDAR	Pinedale Array	63.08	333	P	P	20 17 14.6 -0.2
	comp=Z,9.4nm,1.0s,baz=142,slow=7.5,SNR=19					
PDAR				pP	pP	20 17 35.7 +0.4
	comp=Z,4.6nm,0.8s,baz=142,slow=7.4,SNR=6.3					
PDAR				sP	sP	20 17 44.1 0.0
	comp=Z,11nm,1.0s,baz=134,slow=6.4,SNR=6.2					
PDAR				LR	LR	20 46 22.4
	comp=Z,84nm,19.5s,baz=152,slow=38					
PDAR	Pinedale Array	63.08	333	P	P	20 17 14.1 -0.7
HWUT	Hardware Ranch	63.09	331	P	P	20 17 14.7 -0.1
HWUT				IAmb	IAmb	20 17 16.0
	comp=Z,45nm,1.0s					
AGMN	Agassiz Nation	63.18	345	P	P	20 17 14.9 -0.1
	baz=158,SNR=9.8					
AGMN	Agassiz Nation	63.18	345	P	P	20 17 14.9 -0.1
AGMN				IAmb	IAmb	20 17 45.5
	comp=Z,44nm,0.8s					
SMMC	Simmler	63.20	321	P	P	20 17 17.0 +1.5
	baz=131,SNR=8.0					
BGU	Big Grassy Mou	63.28	329	P	P	20 17 16.2 +0.2
SPUT	South Promonto	63.28	330	P	P	20 17 15.1 -1.0
TIN	Tinemaha, Big	63.30	323	P	P	20 17 17.5 +1.2
	baz=133					
MDND	Maddock	63.77	343	P	P	20 17 19.4 +0.4
	baz=154					
MDND	Maddock	63.77	343	P	P	20 17 19.2 +0.2
AHID	Auburn Hatcher	63.77	332	P	P	20 17 19.1 -0.2
HVU	Hansel Valley	63.80	330	P	P	20 17 19.2 -0.2
HVU				pmax	pmax	
	comp=Z,32nm,1.0s					
HVU	Hansel Valley	63.80	330	P	P	20 17 19.2 -0.2
MLAC	Mammoth, Mammo	64.05	323	P	P	20 17 22.5 +1.2
	baz=133					
REDW	Red Top Meadow	64.13	333	P	P	20 17 21.8 +0.1
OMMB	Old Mammoth Mi	64.13	323	P	P	20 17 22.6 +0.7
OMMB				IAmb	IAmb	20 17 24.0
	comp=Z,60nm,0.9s					
SNOW	Snow King Moun	64.16	333	P	P	20 17 21.1 -0.8
SNOW				IAmb	IAmb	20 17 52.3
	comp=Z,130nm,1.8s					
NV11	Mina Array Sit	64.20	324	P	P	20 17 22.9 +0.7
ELK	Elko	64.26	328	P	P	20 17 23.0 +0.4
ELK				pmax	pmax	
	comp=Z,26nm,1.1s					
ELK	Elko	64.26	328	P	P	20 17 23.0 +0.4
TPAW	Teton Pass	64.27	333	P	P	20 17 22.5 -0.2
NVAR	Mina Array Bea	64.29	324	P	P	20 17 23.7 +0.9
	comp=Z,19nm,0.8s,baz=140,slow=6.6,SNR=154					
NVAR				LR	LR	20 43 49.4
	comp=Z,135nm,21.1s,baz=108,slow=34					
NVAR	Mina Array Bea	64.29	324	P	P	20 17 23.1 +0.3
MOOW	Moose Ponds	64.39	333	P	P	20 17 23.2 -0.1
FXWY	Fox Creek	64.42	333	P	P	20 17 23.4 -0.2
RYN	Ryan	64.55	324	P	P	20 17 24.7 +0.3
IMW	Indian Meadow	64.59	333	P	P	20 17 24.7 0.0
KVN	Kaiserville	64.60	325	P	P	20 17 25.2 +0.4
KVN				pmax	pmax	
	comp=Z,83nm,2.0s					
KVN	Kaiserville	64.60	325	P	P	20 17 25.2 +0.4
FLWY	Flagg Ranch	64.63	333	P	P	20 17 25.5 +0.6
FLWY				IAmb	IAmb	20 17 56.4
	comp=Z,117nm,1.2s					
H17A	Grant Village	64.82	333	P	P	20 17 26.6 +0.4
YPP	Pitchstone Pla	64.83	333	P	P	20 17 26.8 +0.5
RLMT	Red Lodge	64.85	335	P	P	20 17 26.8 +0.4
	baz=144,SNR=8.4					
RLMT	Red Lodge	64.85	335	P	P	20 17 26.2 -0.1
LKWY	Lake	64.88	334	P	P	20 17 27.8 +1.2
LKWY	Lake	64.88	334	P	P	20 17 27.8 +1.2
YMP	Mirror Lake Pl	64.92	334	P	P	20 17 26.8 -0.1
LAO	LASA Array	64.95	338	P	P	20 17 27.3 +0.6
	baz=147					
LAO	LASA Array	64.95	338	P	P	20 17 27.0 +0.3
LAO				IAmb	IAmb	20 17 57.5
	comp=Z,69nm,1.2s					
WAKR	Walker	64.99	324	P	P	20 17 28.4 +1.1
ULM	Lac du Bonnet	65.00	346	P	P	20 17 26.4 -0.5
	comp=Z,43nm,0.8s,baz=153,slow=6.0,SNR=33					
ULM	Lac du Bonnet	65.00	346	P	P	20 17 26.4 -0.5
SAO	San Andreas Ge	65.04	321	P	P	20 17 28.0 +0.6
SAO				pmax	pmax	
	comp=Z,49nm,1.7s					
SAO	San Andreas Ge	65.04	321	P	P	20 17 28.0 +0.6
YUF	Upper Falls	65.05	334	P	P	20 17 28.3 +0.7
YNE	Yellowstone No	65.07	334	P	P	20 17 27.5 -0.3
BMN	Battle Mountai	65.08	327	P	P	20 17 28.8 +0.9
BMN				pmax	pmax	
	comp=Z,20nm,1.0s					
BMN	Battle Mountai	65.08	327	P	P	20 17 28.8 +0.9
YNR	Norris Junctio	65.12	334	P	P	20 17 29.0 +0.9
YERR	Yerington	65.20	324	P	P	20 17 29.6 +0.9
YMR	Madison River	65.21	333	P	P	20 17 29.4 +0.8
CMB	Columbia Colle	65.23	323	P	P	20 17 29.0 +0.3
CMB				pmax	pmax	
	comp=Z,29nm,1.2s					
CMB	Columbia Colle	65.23	323	P	P	20 17 29.0 +0.3
YHH	Holmes Hill	65.25	334	P	P	20 17 29.5 +0.5
YHB	Horse Butte	65.38	333	P	P	20 17 30.2 +0.5
YHL	Hebgen Lake	65.45	333	P	P	20 17 31.5 +1.2
PNTR	Pine Nut	65.48	324	P	P	20 17 31.9 +1.3
PNTR				IAmb	IAmb	20 17 33.0
	comp=Z,49nm,0.9s					
QLMT	Earthquake Lak	65.54	333	P	P	20 17 31.7 +0.9
GCMT	Greycliff	65.56	335	P	P	20 17 31.3 +0.5
VCNR	Virginia City	65.64	324	P	P	20 17 32.6 +1.1
VCNR				IAmb	IAmb	20 17 34.0
	comp=Z,44nm,0.8s					
DGMT	Dagmar	65.76	340	P	P	20 17 33.0 +1.1
	baz=150,SNR=8.0					
DGMT	Dagmar	65.76	340	P	P	20 17 32.4 +0.5
DGMT				IAmb	IAmb	20 18 03.3
	comp=Z,128nm,1.2s					
RUBR	Rubicon Trail	65.77	324	P	P	20 17 32.7 +0.3
PAHR	Pah Rah Range	65.77	325	P	P	20 17 33.5 +1.2
PAHR				IAmb	IAmb	20 17 34.8
	comp=Z,74nm,0.9s					
MCMT	McKenzie Canyo	66.17	332	P	P	20 17 35.5 +0.7
BOZ	Bozeman (W)	66.23	334	P	P	20 17 35.9 +0.7
	baz=142,SNR=18					
BOZ	Bozeman (W)	66.23	334	P	P	20 17 33.9 -1.3
BOZ				pmax	pmax	
	comp=Z,37nm,1.1s					
BOZ	Bozeman (W)	66.23	334	P	P	20 17 33.9 -1.3
BEKR	Beckworth	66.43	324	P	P	20 17 36.2 -0.4
DLMT	Dillon	66.47	333	P	P	20 17 36.7 0.0
MFID	Camas Ranch	66.52	330	P	P	20 17 37.6 +0.6
MFID				IAmb	IAmb	20 17 39.1
	comp=Z,80nm,1.1s					
MCCM	Marconi Confer	66.80	321	P	P	20 17 39.1 +0.4
MCCM				IAmb	IAmb	20 17 40.8
	comp=Z,56nm,0.9s					
ORV	Oroville	66.88	323	P	P	20 17 40.0 +0.7
ORV				pmax	pmax	
	comp=Z,97nm,0.9s					
ORV	Oroville	66.88	323	P	P	20 17 40.0 +0.7
HRY	Holter Researc	67.19	334	P	P	20 17 41.3 +0.1
WVOR	Wild Horse Val	67.25	327	P	P	20 17 41.8 +0.2
WVOR				pmax	pmax	
	comp=Z,33nm,1.3s					
WVOR	Wild Horse Val	67.25	327	P	P	20 17 41.8 +0.2
EGMT	Eagleton	67.40	336	P	P	20 17 42.9 +0.5
	baz=144,SNR=6.8					
EGMT	Eagleton	67.40	336	P	P	20 17 42.4 0.0
HOPS	Hopland Field	67.45	322	P	P	20 17 43.6 +0.8
O03E	Paynes Creek	67.55	324	P	P	20 17 43.6 +0.1
	baz=131,SNR=12					
SCHQ	Schefferville	67.75	6	P	P	20 17 44.5 +0.2
	comp=Z,11nm,0.9s,baz=197,slow=7.1,SNR=4.1					
SCHQ				pP	pP	20 18 05.6 +0.2
	comp=Z,16nm,1.0s,baz=232,slow=2.5,SNR=3.6					
SCHQ				LR	LR	20 47 34.0
	comp=Z,117nm,21.9s,baz=155,slow=36					
MOD	Modoc Plateau	67.78	326	P	P	20 17 45.6 +0.6
MOD				IAmb	IAmb	20 17 47.0
	comp=Z,62nm,0.9s					
PLID	Pearl Lake	67.83	331	P	P	20 17 45.0 -0.4
O02D	Mt. Diablo Mer	68.04	323	P	P	20 17 47.0 +0.4
	baz=130,SNR=14					
WDC	Whiskeytown Da	68.16	324	P	P	20 17 46.5 -0.7
WDC				pmax	pmax	
	comp=Z,17nm,0.7s					
WDC	Whiskeytown Da	68.16	324	P	P	20 17 46.5 -0.7
MSO	Missoula	68.20	333	P	P	20 17 48.6 +1.1
	baz=140					
MSO	Missoula	68.20	333	P	P	20 17 48.1 +0.6
MSO				IAmb	IAmb	20 18 19.9
	comp=Z,70nm,1.2s					
BMO	Blue Mountains	68.29	330	P	P	20 17 47.7 -0.4
BMO				pmax	pmax	
	comp=Z,23nm,1.2s					
BMO	Blue Mountains	68.29	330	P	P	20 17 47.7 -0.4
N02D	Trinity Center	68.51	324	P	P	20 17 49.4 -0.1
	baz=130,SNR=17					
M04C	Macdoel	68.55	325	P	P	20 17 50.7 +0.9
	baz=132,SNR=28					
M02C	Callahan	68.86	324	P	P	20 17 52.0 +0.2
	baz=130,SNR=17					
YBH	Yreka Blue Hor	69.00	324	P	P	20 17 52.1 -0.5
YBH				pmax	pmax	
	comp=Z,30nm,0.9s					
YBH	Yreka Blue Hor	69.00	324	P	P	20 17 52.1 -0.5
VAH	Vaihoa	69.02	258	eP	P	20 17 53.9 +0.8
	comp=Z,148nm,1.2s					
JTMT	Jette	69.05	334	P	P	20 17 53.5 +0.7
K04D	Chiloquin, OR	69.06	326	P	P	20 17 53.8 +0.8
	baz=132,SNR=7.0					
F10A	Beach Ranch, E	69.07	331	P	P	20 17 53.9 +1.0
F10A				IAmb	IAmb	20 18 31.6
	comp=Z,79nm,1.4s					
L04D	Klamath Falls	69.09	325	P	P	20 17 53.9 +0.7
	baz=131,SNR=18					
MEH	Mehetia	69.10	256	eP	P	20 17 54.4 +0.8
	comp=Z,24nm,1.2s					
MEH	Mehetia	69.10	256	eT	T	21 32 20.4
	comp=Z,9.5nm,0.2s					
JCC	Jacoby Creek,	69.18	323	P	P	20 17 54.7 +1.1
JCC				IAmb	IAmb	20 17 55.9
	comp=Z,54nm,0.9s					
J05D	Fort Rock, OR	69.22	326	P	P	20 17 55.4 +1.4
	baz=132,SNR=28					
PMOR	Pomariorio Ree	69.31	259	eP	P	20 17 55.9 +1.0
	comp=Z,259nm,1.1s					
PINE	Pine Mountain	69.41	327	P	P	20 17 56.0 +0.8
PINE				IAmb	IAmb	20 17 57.6
	comp=Z,64nm,0.9s					
G08A	Pilot Rock	69.42	329	P	P	20 17 55.9 +0.7
J04D	Umpqua Nationa	69.66	326	P	P	20 17 57.9 +1.1
	baz=132,SNR=31					
HUMO	Hull Mountain	69.71	325	P	P	20 17 56.5 -0.4
L02E	Cave Junction	69.79	324	P	P	20 17 58.6 +1.3
	baz=130,SNR=14					
TBI	Tubuai	69.80	250	eS	S	20 27 01.4 -0.2
	comp=Z,307nm,27.2s					
TBI				eLQ	LQ	20 35 31.7
	comp=Z,390nm,29.8s					
TBI				eLR	LR	20 38 59.3
	comp=Z,1μm,30.2s					
TBI	Tubuai	69.80	250	eT	T	21 33 18.9
	comp=Z,20nm,0.2s					
WALA	Waterton Lakes	69.90	335	P	P	20 17 58.3 +0.2
I05D	Terrebonne, OR	69.99	327	P	P	20 17 60.0 +1.4
	baz=133,SNR=27					
K02D	Willamette Mer	70.17	325	P	P	20 18 01.3 +1.5
	baz=130,SNR=33					
TVO	Taravao	70.23	256	eP	P	20 18 01.8 +1.2
	comp=Z,16nm,0.9s					
E08A	Dider Farm, El	70.33	330	P	P	20 18 00.8 +0.3
F07A	Phinny Hill Vi	70.33	329	P	P	20 18 01.6 +1.0
F07A				IAmb	IAmb	20 18 03.2
	comp=Z,51nm,1.0s					
TIAR	Tiarei	70.35	256	eT	T	21 33 54.1
	comp=Z,5.2nm,0.2s					
HAWA	Hanford	70.49	330	P	P	20 18 02.1 +0.6
PAE	Paea	70.55	256	eP	P	20 18 03.5 +1.0
	comp=Z,14nm,1.3s					
PPT2	Papeete2	70.56	256	eS	S	20 27 09.8 -1.0
	comp=Z,234nm,28.2s					
PPT2	Papeete2	70.56	256	eLR	LR	20 39 14.7
	comp=Z,2μm,31.8s					
PPT	Papete	70.56	256	LR	LR	20 42 58.8
	comp=Z,114nm,18.7s,baz=124,slow=31					
G05D	Wamic, OR	70.59	328	P	P	20 18 04.0 +1.8
	baz=133,SNR=10					
VNA3	Neumayer Olymp	70.60	162	P	P	20 18 02.8 +0.9
FFC	Flin Flon	70.61	345	ceP	P	20 18 01.4 -0.7
FFC				pmax	pmax	
	comp=Z,36nm,1.3s					
J01E	Myrtle Point	70.62	325	P	P	20 18 04.0 +1.7
	baz=130,SNR=7.1					
I03D	Drain, OR	70.64	326	P	P	20 18 03.7 +1.2
	baz=131,SNR=13					
NEW	Newport	70.70	332	P	P	20 18 03.3 +0.5
	baz=137					
NEW	Newport	70.70	332	P	P	20 18 02.8 0.0
NEW				pmax	pmax	
	comp=Z,31nm,1.1s					
NEW	Newport	70.70	332	LR	LR	20 50 04.5
	comp=Z,311nm,20.8s,baz=58,slow=37					
NEW	Newport	70.70	332	P	P	20 18 02.8 0.0
E07A	Sunnyside	70.76	330	P	P	20 18 04.0 +0.8
E07A				IAmb	IAmb	20 18 05.7
	comp=Z,62nm,1.0s					
H04D	Lebanon	70.86	327	P	P	20 18 04.1 +0.4
	baz=132					
VNA1	Neumayer--Stat	70.86	161	P	P	20 18 03.2 -0.2
C09A	Chrisman Ranch	70.89	331	P	P	20 18 05.2 +1.2
C09A				IAmb	IAmb	20 18 06.4
	comp=Z,102nm,1.6s					
F05D	White Salmon	71.10	328	P	P	20 18 06.4 +1.2
	baz=133,SNR=5.3					
I02D	Swisshome	71.18	326	P	P	20 18 06.8 +1.0
	baz=130					
COR	Corvallis	71.20	326	P	P	20 18 07.4 +1.6
COR				pmax	pmax	
	comp=Z,

E04D	**Cinebar**	**72.12**	**328**	P	**P**	**20 18 12.2**	**+0.9**
	baz=132,SNR=8.3						
C06D	**Leavenworth**	**72.22**	**330**	P	**P**	**20 18 12.9**	**+1.0**
	baz=134						
D05A	**Enumclaw**	**72.26**	**329**	P	**P**	**20 18 12.8**	**+0.7**
D05A				IAmb	IAmb	20 18 14.0	
	comp=Z,88nm,0.9s						
E03A	**Lebam**	**72.63**	**328**	P	**P**	**20 18 15.6**	**+1.2**
E03A				IAmb	IAmb	20 18 16.7	
	comp=Z,69nm,1.1s						
D04E	**Lakebay**	**72.64**	**329**	P	**P**	**20 18 15.1**	**+0.7**
	baz=132						
SNAA	**Sanae**	**72.82**	**161**	P	**P**	**20 18 16.2**	**+1.0**
SNAA	**Sanae**	**72.82**	**161**	P	**P**	**20 18 16.2**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,67nm,1.6s						
SNAA	**Sanae**	**72.82**	**161**	P	**P**	**20 18 16.2**	**+1.0**
B06A	**Marblemount**	**72.92**	**330**	P	**P**	**20 18 16.6**	**+0.6**
B06A				IAmb	IAmb	20 18 17.5	
	comp=Z,61nm,0.9s						
B05A	**Bryant**	**73.04**	**330**	P	**P**	**20 18 17.6**	**+0.8**
	baz=133,SNR=20						
D03D	**Eldon**	**73.04**	**329**	P	**P**	**20 18 18.3**	**+1.5**
	baz=132,SNR=9.9						
LIC	**Lamto**	**73.22**	**79**	*e*P	**P**	**20 18 18.0**	**-0.6**
	comp=Z,83nm,0.9s						
TIC	**Toumodi**	**73.34**	**79**	*e*P	**P**	**20 18 18.3**	**-1.0**
NLWA	**Neilton Lookou**	**73.34**	**328**	P	**P**	**20 18 20.1**	**+1.5**
DBIC	**Dimbokro**	**73.51**	**79**	P	**P**	**20 18 20.6**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,118nm,1.5s						
DBIC	**Dimbokro**	**73.51**	**79**	P	**P**	**20 18 20.1**	**-0.2**
	comp=Z,29nm,0.8s,baz=230,slow=6.0,SNR=42						
DBIC				LR	LR	20 48 57.1	
	comp=Z,889nm,19.9s,baz=227,slow=34						
DBIC	**Dimbokro**	**73.51**	**79**	P	**P**	**20 18 20.6**	**+0.4**
DBIC				IAmb	IAmb	20 18 21.6	
	comp=Z,118nm,1.4s						
KIC	**Kosan Boka**	**73.53**	**79**	*e*P	**P**	**20 18 19.9**	**-0.5**
	comp=Z,132nm,0.9s						
A04D	**Lummi Island**	**73.65**	**330**	P	**P**	**20 18 21.7**	**+1.4**
	baz=132,SNR=19						
PGC	**Sidney**	**73.97**	**330**	P	**P**	**20 18 23.2**	**+1.0**
PGC				IAmb	IAmb	20 18 24.6	
	comp=Z,72nm,0.9s						
QSPA	**South Pole Qui**	**77.43**	**180**	P	**P**	**20 18 43.6**	**+1.6**
RAR	**Rarotonga**	**79.55**	**251**	LR	LR	20 45 51.8	
	comp=Z,37nm,21.5s,baz=108,slow=29						
PFVI	**Vila Bisbo**	**80.33**	**48**	*e*S	**S**	**20 29 02.3**	**+4.4**
MORF	**Marmelete**	**80.53**	**48**	*e*P	**P**	**20 18 59.0**	**-0.3**
MORF				AMb	AMB	20 19 06.5	
	comp=Z,114nm,1.6s						
MORF	**Marmelete**	**80.53**	**48**	*e*P	**P**	**20 19 01.3**	**+2.0**
	comp=Z,114nm,1.7s						
MORF				*e*pP	**pP**	**20 19 16.9**	**-4.2**
MORF				*e*sP	**sP**	**20 19 23.6**	**-6.3**
MORF				*e*S	**S**	**20 29 01.1**	**+1.0**
MORF	**Marmelete**	**80.53**	**48**	*e*P	**P**	**20 18 58.9**	**-0.3**
YKA	**Yellowknife Ar**	**80.69**	**343**	P	**P**	**20 18 59.4**	**0.0**
	comp=Z,22nm,0.8s,baz=137,slow=5.6,SNR=92						
YKA				pP	**pP**	**20 19 21.3**	**+0.7**
	comp=Z,12nm,1.0s,baz=137,slow=5.7,SNR=4.0						
YKA				sP	**sP**	**20 19 29.5**	**+0.4**
	comp=Z,14nm,1.0s,baz=137,slow=5.5,SNR=3.2						
YKA	**Yellowknife Ar**	**80.69**	**343**	P	**P**	**20 18 59.0**	**-0.4**
YKW3	**Yellowknife Ar**	**80.75**	**343**	P	**P**	**20 18 59.4**	**-0.4**
YKW3				IAmb	IAmb	20 19 00.5	
	comp=Z,41nm,0.8s						
PMAFR	**Mafra**	**80.75**	**47**	*e*S	**S**	**20 29 09.4**	**+7.1**
PNCL	**Nicolau / Gran**	**80.94**	**48**	*e*P	**P**	**20 19 03.5**	**+2.1**
	comp=Z,64nm,1.7s						
PNCL				*e*pP	**pP**	**20 19 25.8**	**+2.6**
PNCL				*e*sP	**sP**	**20 19 34.1**	**+2.1**
PBDV	**Barranco-do-Ve**	**81.03**	**49**	*e*P	**P**	**20 19 04.3**	**+2.4**
	comp=Z,96nm,1.5s						
PBDV				*e*pP	**pP**	**20 19 21.5**	**-2.3**
PBDV				*e*S	**S**	**20 29 12.1**	**+6.8**
PCVE	**Castro Verde**	**81.11**	**48**	*e*P	**P**	**20 19 04.8**	**+2.5**
	comp=Z,80nm,1.6s						
PCVE				*e*sP	**pP**	**20 19 27.9**	**+3.8**
PVAQ	**Vaqueiros**	**81.25**	**49**	*e*P	**P**	**20 19 04.4**	**+1.4**
PVAQ				*e*sP	**sP**	**20 19 33.2**	**-0.5**
PVAQ				*e*S	**S**	**20 29 08.3**	**+0.8**
PVAQ	**Vaqueiros**	**81.25**	**49**	*e*LR	LR	20 44 55.2	
	comp=Z,281nm,22.0s						
DIB	**Dawson Inlet,**	**81.27**	**330**	P	**P**	**20 19 04.0**	**+1.3**
DIB				IAmb	IAmb	20 19 04.8	
	comp=Z,46nm,1.0s						
PBEJ	**Beja**	**81.39**	**48**	*e*P	**P**	**20 19 05.8**	**+2.1**
	comp=Z,84nm,1.8s						
PBEJ				*e*sP	**pP**	**20 19 29.7**	**+4.1**
TOA0	**Torodi Ar. Sit**	**81.43**	**74**	P	**P**	**20 19 04.3**	**-0.2**
TOA0				IAmb	IAmb	20 19 06.0	
	comp=Z,68nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.43**	**74**	P	**P**	**20 19 04.7**	**+0.2**
	comp=Z,48nm,0.7s,baz=259,slow=4.9,SNR=224						
TORD				LR	LR	20 53 39.8	
	comp=Z,520nm,20.7s,baz=300,slow=34						
TORD	**Torodi Ar. Bea**	**81.43**	**74**	P	**P**	**20 19 02.6**	**-1.8**
EVO	**Evora**	**81.48**	**47**	*e*P	**P**	**20 19 06.1**	**+1.9**
	comp=Z,65nm,1.5s						
EVO				*e*pP	**pP**	**20 19 27.5**	**+1.4**
EVO				*e*sP	**sP**	**20 19 36.0**	**+1.1**
PMTG	**Montargil**	**81.55**	**47**	*e*P	**P**	**20 19 06.3**	**+1.8**
	comp=Z,121nm,1.7s						
PMTG				*e*sP	**pP**	**20 19 28.7**	**+2.3**
PTOM	**Tomar**	**81.64**	**46**	*e*P	**P**	**20 19 06.6**	**+1.6**
	comp=Z,109nm,1.3s						
PTOM				*e*pP	**pP**	**20 19 29.2**	**+2.3**
PCAS	**Casmilo, Conde**	**81.75**	**46**	*e*P	**P**	**20 19 07.5**	**+1.9**
	comp=Z,111nm,1.6s						
PCAS				*e*sP	**pP**	**20 19 30.6**	**+3.1**
COI	**Coimbra**	**81.88**	**46**	*e*P	**P**	**20 19 08.2**	**+2.0**
	comp=Z,176nm,1.9s						
COI				*e*sP	**pP**	**20 19 31.5**	**+3.4**
COI	**Coimbra**	**81.88**	**46**	P	**P**	**20 19 07.3**	**+1.1**
COI				pmax	pmax		
	comp=Z,146nm,1.2s						
COI	**Coimbra**	**81.88**	**46**	P	**P**	**20 19 07.3**	**+1.1**
PESTR	**Estremoz**	**81.92**	**47**	*e*S	**S**	**20 29 21.1**	**+6.7**
PESTR	**Estremoz**	**81.92**	**47**	P	**P**	**20 19 08.1**	**+1.5**
PMRV	**Marv??o**	**82.28**	**47**	*e*P	**P**	**20 19 09.1**	**+0.7**
	comp=Z,33nm,1.5s						
PMRV				*e*pP	**pP**	**20 19 28.4**	**-2.0**
PMRV				*e*S	**S**	**20 29 24.6**	**+6.5**
PMRV	**Marv??o**	**82.28**	**47**	*e*LR	LR	20 45 48.7	
	comp=Z,389nm,22.0s						
PCBR	**Castelo Branco**	**82.39**	**46**	*e*P	**P**	**20 19 10.3**	**+1.4**
	comp=Z,49nm,2.0s						
PCBR				*e*sP	**pP**	**20 19 33.2**	**+2.4**
PVIS	**Viseu**	**82.44**	**45**	*e*P	**P**	**20 19 10.5**	**+1.2**
	comp=Z,115nm,1.7s						
PVIS				*e*sP	**pP**	**20 19 33.2**	**+2.0**
MTE	**Manteigas**	**82.56**	**46**	*e*P	**P**	**20 19 11.4**	**+1.5**
	comp=Z,82nm,1.6s						
MTE				*e*pP	**pP**	**20 19 33.0**	**+1.2**
MTE				*e*S	**S**	**20 29 19.9**	**-1.1**
MTE	**Manteigas**	**82.56**	**46**	*e*LR	LR	20 45 14.8	
	comp=Z,364nm,22.0s						
MTE	**Manteigas**	**82.56**	**46**	P	**P**	**20 19 11.2**	**+1.3**
MTE				IAmb	IAmb	20 19 34.9	
	comp=Z,69nm,1.1s						
PVRL	**Vila Real**	**82.79**	**45**	*e*P	**P**	**20 19 12.4**	**+1.3**
	comp=Z,75nm,1.7s						
PVRL				*e*sP	**pP**	**20 19 35.2**	**+2.2**
MVO	**Moncorvo**	**83.22**	**45**	*e*P	**P**	**20 19 14.9**	**+1.6**
	comp=Z,91nm,1.8s						
MVO				*e*sP	**pP**	**20 19 37.2**	**+1.9**
MVO	**Moncorvo**	**83.22**	**45**	*e*LR	LR	20 45 48.7	
	comp=Z,241nm,22.0s						
PBRG	**Braganca**	**83.67**	**45**	*e*P	**P**	**20 19 17.1**	**+1.5**
	comp=Z,82nm,1.7s						
PBRG				*e*pP	**pP**	**20 19 39.0**	**+1.4**
PBRG				*e*S	**S**	**20 29 31.2**	**-1.0**
ESDC	**Sonseca Array**	**84.83**	**48**	P	**P**	**20 19 22.7**	**+1.2**
	comp=Z,3.5nm,0.5s,baz=253,slow=5.5,SNR=18						
ESDC				LR	LR	20 53 37.6	
	comp=Z,274nm,20.5s,baz=255,slow=33						
ESDC	**Sonseca Array**	**84.83**	**48**	P	**P**	**20 19 22.4**	**+0.9**
BESE	**Bessie Mountai**	**85.40**	**333**	P	**P**	**20 19 24.1**	**+0.1**
BESE				IAmb	IAmb	20 19 26.0	
	comp=Z,37nm,0.9s						
KIP	**Kipapa**	**87.08**	**293⇓**	*e*P	**P**	**20 19 32.2**	**-0.7**
KIP				pmax	pmax		
	comp=Z,129nm,1.8s						
SYO	**Syowa Base**	**87.10**	**161⇑**	*e*P	**P**	**20 19 31.0**	**-1.1**
SYO	**Syowa Base**	**87.10**	**161⇑**	*e*PcP	**P**	**20 19 32.4**	**+0.3**
TAM	**Tamanrasset**	**87.45**	**66**	P	**P**	**20 19 35.9**	**+1.0**
TAM				pmax	pmax		
	comp=Z,48nm,1.4s						
TAM	**Tamanrasset**	**87.45**	**66**	P	**P**	**20 19 35.9**	**+1.0**
TAM				IAmb	IAmb	20 19 37.8	
	comp=Z,48nm,1.4s						
HYT	**Haines Junctio**	**87.74**	**335**	P	**P**	**20 19 36.2**	**+0.8**
RES	**Resolute Bay**	**87.99**	**355**	P	**P**	**20 19 36.3**	**+0.2**
RES				pmax	pmax		
	comp=Z,28nm,1.3s						
RES	**Resolute Bay**	**87.99**	**355**	P	**P**	**20 19 36.3**	**+0.2**
C36M	**Paulatuk**	**88.39**	**345**	P	**P**	**20 19 37.2**	**-0.9**
	baz=134						
PCA	**Pinnacle**	**88.55**	**333**	P	**P**	**20 19 39.3**	**+0.1**
SUMG	**Summit**	**88.63**	**11**	*i* P	**P**	**20 19 40.0**	**+0.3**
SUMG				*i*		20 20 01.8	
SUMG				pmax	pmax		
	comp=Z,170nm,1.2s						
SUMG	**Summit**	**88.63**	**11**	*i* P	**P**	**20 19 40.0**	**+0.3**
	comp=Z,169nm,1.2s						
SUMG				*i*		20 20 01.8	
SUMG	**Summit**	**88.63**	**11**	P	**P**	**20 19 39.9**	**+0.1**
TULEG	**Thule**	**89.18**	**2**	P	**P**	**20 19 42.6**	**+0.9**
CTGM	**Chitina Glacie**	**89.44**	**334**	P	**P**	**20 19 43.8**	**+0.3**
CTGM				IAmb	IAmb	20 19 45.3	
	comp=Z,48nm,0.9s						
TSUM	**Tsumeb**	**89.45**	**109**	P	**P**	**20 19 44.6**	**+0.2**
TSUM				IAmb	IAmb	20 19 46.1	
	comp=Z,44nm,1.6s						
BARN	**Barnard Glacie**	**89.62**	**334**	P	**P**	**20 19 44.8**	**+0.4**
BARN				IAmb	IAmb	20 19 46.2	
	comp=Z,43nm,1.0s						
MFF	**Saint Martin d**	**89.82**	**42**	*e*P	**P**	**20 19 45.0**	**-0.3**
MFF				pmax	pmax		
	comp=Z,15nm,1.0s						
BALM	**Baldy**	**89.91**	**334**	P	**P**	**20 19 46.1**	**+0.5**
BALM				IAmb	IAmb	20 19 47.2	
	comp=Z,28nm,1.0s						
TGL	**Tana Glacier**	**89.99**	**333**	P	**P**	**20 19 46.4**	**+0.4**
TGL				IAmb	IAmb	20 19 47.5	
	comp=Z,51nm,1.0s						
CRQM	**Cirque**	**90.13**	**333**	P	**P**	**20 19 46.9**	**+0.2**
CRQM				IAmb	IAmb	20 19 48.5	
	comp=Z,53nm,1.0s						
EPYK	**Eagle Plains**	**90.35**	**339**	P	**P**	**20 19 47.3**	**-0.1**
	baz=122						
EPYK	**Eagle Plains**	**90.35**	**339**	P	**P**	**20 19 47.6**	**+0.1**
EPYK				IAmb	IAmb	20 20 18.6	
	comp=Z,72nm,1.5s						
MCARA	**McCarthy VSAT**	**90.36**	**334**	P	**P**	**20 19 48.0**	**+0.5**
INK	**Inuvik**	**90.38**	**342**	P	**P**	**20 19 47.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,51nm,1.1s						
INK	**Inuvik**	**90.38**	**342**	P	**P**	**20 19 47.1**	**-0.3**
INK				IAmb	IAmb	20 19 49.2	
	comp=Z,51nm,1.1s						
VRDI	**Verde Repeater**	**90.47**	**334**	P	**P**	**20 19 48.6**	**+0.3**
VRDI				IAmb	IAmb	20 19 49.6	
	comp=Z,42nm,1.0s						
BCAR	**Beaver Creek A**	**90.60**	**336**	P	**P**	**20 19 48.9**	**+0.2**
GLB	**Gilahina Butte**	**90.72**	**334**	P	**P**	**20 19 49.7**	**+0.4**
GLB				IAmb	IAmb	20 20 21.7	
	comp=Z,41nm,1.2s						
SCO	**Scoresbysund**	**90.83**	**16**	*i* P	**P**	**20 19 50.4**	**+0.9**
SCO				*i*		20 20 12.1	
SCO	**Scoresbysund**	**90.83**	**16**	*i* P	**P**	**20 19 50.4**	**+0.9**
SCO				*i*		20 20 12.1	
EGAK	**Eagle**	**91.15**	**337**	P	**P**	**20 19 50.7**	**-0.4**
MENT	**Mentasta**	**91.33**	**335**	P	**P**	**20 19 51.8**	**-0.2**
FID	**Port Fidalgo**	**91.61**	**332**	P	**P**	**20 19 53.2**	**-0.2**
DOT	**Dot Lake**	**91.78**	**336**	P	**P**	**20 19 54.0**	**-0.1**
DOT				IAmb	IAmb	20 19 55.2	
	comp=Z,28nm,1.0s						
SCRK	**Sand Creek**	**91.89**	**336**	P	**P**	**20 19 54.4**	**-0.4**
SCRK				IAmb	IAmb	20 19 55.8	
	comp=Z,20nm,1.0s						
GLI	**Glacier Island**	**91.94**	**332**	P	**P**	**20 19 54.8**	**-0.1**
GLI				IAmb	IAmb	20 19 55.8	
	comp=Z,25nm,1.0s						
PAX	**Paxson**	**92.07**	**335**	P	**P**	**20 19 55.2**	**-0.3**
PAX				pmax	pmax		
	comp=Z,36nm,0.9s						
PAX	**Paxson**	**92.07**	**335**	P	**P**	**20 19 55.2**	**-0.3**
RIDG	**Independent Ri**	**92.13**	**336**	P	**P**	**20 19 56.0**	**+0.2**
AFI	**Afiamalu**	**92.23**	**255**	LR	LR	20 52 11.3	
	comp=Z,98nm,21.0s,baz=107,slow=29						
SCM	**Sheep Creek Mo**	**92.42**	**333**	P	**P**	**20 19 57.3**	**+0.1**
SCM				pmax	pmax		
	comp=Z,71nm,1.6s						
SCM	**Sheep Creek Mo**	**92.42**	**333**	P	**P**	**20 19 57.3**	**+0.1**
SML	**Sawmill**	**92.85**	**333**	P	**P**	**20 19 59.0**	**-0.2**
DHY	**Denali Highway**	**92.91**	**334**	P	**P**	**20 19 59.1**	**-0.4**
DHY				IAmb	IAmb	20 20 00.4	
	comp=Z,18nm,1.0s						
GHO	**Glory Hole Cre**	**93.10**	**333**	P	**P**	**20 19 60.0**	**-0.3**
PRP	**Porcupine Dome**	**93.14**	**337**	P	**P**	**20 20 00.3**	**-0.2**
PRP				IAmb	IAmb	20 20 01.6	
	comp=Z,22nm,1.0s						
RC01	**Rabbit Creek A**	**93.22**	**332**	P	**P**	**20 19 60.0**	**-0.8**
RC01				IAmb	IAmb	20 20 06.2	
	comp=Z,27nm,1.2s						
HDA	**Harding Lake**	**93.25**	**336**	P	**P**	**20 20 00.6**	**-0.3**
	baz=113						
HDA	**Harding Lake**	**93.25**	**336**	P	**P**	**20 20 00.3**	**-0.6**
HDA				IAmb	IAmb	20 20 32.6	
	comp=Z,22nm,1.2s						
IL31		**93.37**	**336**	P	**P**	**20 20 01.0**	**-0.3**
ILAR	**Eielson Array**	**93.37**	**336**	P	**P**	**20 20 00.8**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=155,slow=3.6,SNR=37						
ILAR				pP	**pP**	**20 20 22.5**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=126,slow=2.2,SNR=4.0						
ILAR				PP	**PP**	**20 23 54.0**	**+7.5**
	comp=Z,1.6nm,0.9s,baz=117,slow=6.1,SNR=4.3						
ILAR				LR	LR	21 06 41.5	
	comp=Z,98nm,20.7s,baz=112,slow=38						
ILAR	**Eielson Array**	**93.37**	**336**	P	**P**	**20 20 00.4**	**-0.9**
FYU	**Fort Yukon**	**93.45**	**338**	P	**P**	**20 20 01.5**	**-0.2**
BMAR	**Burnt Mountain**	**93.58**	**339**	P	**P**	**20 20 02.6**	**+0.2**
RND	**Reindeer**	**93.66**	**335**	P	**P**	**20 20 03.0**	**+0.2**
RND				pmax	pmax		
	comp=Z,64nm,1.2s						
RND	**Reindeer**	**93.66**	**335**	P	**P**	**20 20 03.0**	**+0.2**
CCB	**Clear Creek Bu**	**93.68**	**336**	P	**P**	**20 20 02.9**	**+0.1**
CCB				IAmb	IAmb	20 20 03.6	
	comp=Z,14nm,0.9s						
POKR	**Poker Plat Res**	**93.72**	**336**	P	**P**	**20 20 02.9**	**-0.1**
	baz=112						
WRH	**Wood River Hil**	**93.73**	**336**	P	**P**	**20 20 03.1**	**+0.1**
WRH				IAmb	IAmb	20 20 03.9	
	comp=Z,15nm,0.8s						
COLA	**College**	**93.79**	**336⇓**	*i* P	**P**	**20 20 03.7**	**+0.4**
COLA				pmax	pmax		
	comp=Z,41nm,1.1s						
COLA	**College**	**93.79**	**336**	P	**P**	**20 20 03.4**	**+0.1**
TCOL	**CIGO, UAF Yank**	**93.79**	**336**	P	**P**	**20 20 03.4**	**+0.1**
	baz=112						
KEST	**Kesra**	**93.80**	**54**	LR	LR	21 00 22.8	
	comp=Z,135nm,21.9s,baz=240,slow=34						
MCK	**McKinley**	**93.81**	**335**	P	**P**	**20 20 03.4**	**-0.1**
MCK				pmax	pmax		
	comp=Z,53nm,1.6s						
MCK	**McKinley**	**93.81**	**335**	P	**P**	**20 20 03.4**	**-0.1**
MCK				IAmb	IAmb	20 20 36.4	
	comp=Z,53nm,1.6s						
BOSA	**Boshof**	**93.85**	**120**	LR	LR	21 00 38.0	
	comp=Z,250nm,18.6s,baz=228,slow=34						
MDM	**Murphy Dome**	**93.97**	**336**	P	**P**	**20 20 04.3**	**+0.2**
LPL	**La Plagne**	**94.11**	**44**	*e*P	**P**	**20 20 06.0**	**+0.5**
LPL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BWN	**Browne**	**94.18**	**335**	P	**P**	**20 20 05.0**	**-0.2**
TRF	**Thorofare Moun**	**94.28**	**334**	P	**P**	**20 20 05.4**	**-0.4**
SKT	**Skwentna**	**94.33**	**333**	P	**P**	**20 20 05.7**	**-0.2**
SKT				IAmb	IAmb	20 20 06.7	
	comp=Z,33nm,1.1s						
KTH	**Kantishna Hill**	**94.58**	**334**	P	**P**	**20 20 06.7**	**-0.4**
KTH				IAmb	IAmb	20 20 08.1	
	comp=Z,24nm,1.0s						
WLF	**Walferdange**	**94.72**	**40**	P	**P**	**20 20 08.8**	**+0.8**
BPAW	**Bear Paw Mtn.**	**94.79**	**335**	P	**P**	**20 20 07.8**	**-0.2**
BPAW				IAmb	IAmb	20 20 08.5	
	comp=Z,30nm,1.0s						
MEM	**Membach**	**94.86**	**39**	P	**P**	**20 20 08.8**	**+0.3**
PPLA	**Purkeypile**	**94.91**	**334**	P	**P**	**20 20 08.4**	**-0.3**
MLY	**Manley**	**94.99**	**336**	P	**P**	**20 20 07.8**	**-1.1**
ECH	**Echery**	**95.03**	**42**	P	**P**	**20 20 09.5**	**+0.1**
ECH				pmax	pmax		
	comp=Z,21nm,1.3s						
ECH	**Echery**	**95.03**	**42**	P	**P**	**20 20 09.5**	**+0.1**
ECH				IAmb	IAmb	20 20 33.3	
	comp=Z,21nm,1.3s						
DAG	**Danmarks Havn**	**95.29**	**11**	*e*P	**P**	**20 20 09.2**	**-0.8**
DAG				*e*		20 20 31.2	
DAG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DAG	**Danmarks Havn**	**95.29**	**11**	*i* P	**P**	**20 20 09.2**	**-0.8**
	comp=Z,2.8nm,0.9s						
DAG				*e*		20 20 31.2	
COLD	**Coldfoot**	**95.52**	**338**	P	**P**	**20 20 11.6**	**+0.4**
TOLK	**Toolik Lake Re**	**95.78**	**339**	P	**P**	**20 20 12.6**	**+0.1**
	baz=110						
TOLK	**Toolik Lake Re**	**95.78**	**339**	P	**P**	**20 20 12.1**	**-0.3**
IMAR	**Indian Mountai**	**96.48**	**336**	P	**P**	**20 20 15.1**	**-0.5**
DAVA	**Damuels**	**96.62**	**43**	*e*PcP	**P**	**20 20 17.7**	**+0.9**
	comp=Z,12nm,1.2s						
DAVA				*i* pP	**pP**	**20 20 40.4**	**+1.2**
	comp=Z,21nm,1.4s						
FETA	**Feichten**	**97.14**	**44**	*e*PcP	Pdif	20 20 19.9	+0.6
	comp=Z,12nm,1.3s						
FETA				*e*pP	pP	20 20 42.5	+0.9
	comp=Z,15nm,1.2s						
RETA	**Reutte**	**97.25**	**43**	*e*PcP	Pdif	20 20 20.4	+0.8
	comp=Z,12nm,1.1s						
RETA				*i* pP	pP	20 20 43.2	+1.3
	comp=Z,20nm,1.5s						
MOTA	**Moosalm**	**97.45**	**43**	*e*PcP	Pdif	20 20 21.3	+0.6
	comp=Z,13nm,1.0s,SNR=6.3						
MOTA				*i* pP	pP	20 20 43.7	+0.8
	comp=Z,16nm,1.1s						
SQTA	**Sankt Quirin**	**97.50**	**43**	*e*PcP	Pdif	20 20 21.7	+0.8
	comp=Z,16nm,1.1s,SNR=4.8						
SQTA				*e*pP	pP	20 20 44.3	+1.2
	comp=Z,23nm,1.2s						
CTI	**Castel Tesino**	**97.59**	**45**	P	Pdif	20 20 21.7	+0.5
CTI				pmax	pmax		
	comp=Z,27nm,1.1s						
CTI	**Castel Tesino**	**97.59**	**45**	P	Pdif	20 20 21.7	+0.4
CTI				IAmb	IAmb	20 20 45.2	
	comp=Z,27nm,1.1s						
WATA	**Walderalm**	**97.77**	**43**	*i* PcP	**P**	**20 20 21.6**	**-0.4**
	comp=Z,20nm,1.7s						
WTTA	**Wattenberg**	**97.79**	**43**	*e*PcP	Pdif	20 20 22.6	+0.3
	comp=Z,36nm,1.6s						
WTTA				*e*pP	pP	20 20 45.6	+1.1
	comp=Z,31nm,1.2s						
ABTA	**Abfaltersbach**	**98.30**	**44**	*e*Pdiff	Pdif	20 20 25.2	+0.9
	comp=Z,22nm,1.1s						
ABTA				*e*pP	pP	20 20 48.0	+1.4
	comp=Z,33nm,1.2s						
MYKA	**Terra Mystica**	**99.04**	**44**	*e*Pdiff	**Pdif**	**20 20 27.9**	**+0.2**
	comp=Z,11nm,1.0s						
MYKA				*e*pPdiff	**pP**	**20 20 51.0**	**+1.1**
	comp=Z,17nm,1.5s						
CLL	**Collm**	**99.34**	**39**	*e*P	**Pdif**	**20 20 31.0**	**+2.3**
CLL				*e*SKSac	**SKSac**	**20 30 59.0**	**-1.2**
CLL				*e*pSKSKSac		20 32 02.0	
CLL				*e*sPS		20 33 55.0	
CLL				*e*SS	**SS**	**20 38 49.0**	**+3.5**
KHC	**Kasperske Hory**	**99.38**	**42⇑**	*e*P	**Pdif**	**20 20 29.9**	**+0.8**
KHC				pmax	pmax		
	comp=Z,20nm,1.9s						
GERES	**GERESS Array B**	**99.42**	**42**	P	**Pdif**	**20 20 30.1**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=241,slow=2.4,SNR=6.5						
GERES				LR	LR	21 03 07.9	
	comp=Z,132nm,19.6s,baz=249,slow=34						
GERES	**GERESS Array B**	**99.42**	**42**	P	**Pdif**	**20 20 28.7**	**-0.6**
MOA	**Molln**	**99.64**	**43**	*e*Pdiff	**Pdif**	**20 20 31.0**	**+0.8**
	comp=Z,16nm,1.6s,SNR=4.7						
MOA				*e*pPdiff	**pP**	**20 20 53.2**	**+0.6**
	comp=Z,24nm,1.4s						
NOA	**NORSAR Array B**	**99.79**	**30**	LR	LR	21 03 17.5	
	comp=Z,198nm,19.6s,baz=260,slow=34						
BRG	**Berggiesshubel**	**99.86**	**40**	*e*P	pP	20 20 54.3	+0.9
	comp=Z,3.1nm,0.8s						
CONA	**Conrad Observa**	**100.72**	**43**	*e*Pdiff	**Pdif**	**20 20 36.2**	**+1.1**
	comp=Z,8.6nm,1.4s						
CONA				*e*pPdiff	pP	20 20 58.8	+1.3
	comp=Z,12nm,1.3s						
MODS	**Modra-Piesok**	**101.71**	**43**	*e*P	**Pdif**	**20 20 39.5**	**+0.1**
MODS	**Modra-Piesok**	**101.71**	**43**	*e*PDIFF	**Pdif**	**20 20 39.5**	**+0.1**
VYHS	**Vyhne**	**102.76**	**43**	*e*P	**Pdif**	**20 20 45.3**	**+1.2**
VYHS	**Vyhne**	**102.76**	**43**	*e*PDIFF	**Pdif**	**20 20 45.3**	**+1.2**
DZM	**Mont Dzumac**	**109.48**	**241**	*e*PS	PS	20 35 14.8	-3.1
	comp=Z,126nm,26.7s						
DZM	**Mont Dzumac**	**109.48**	**241**	*e*LR	LR	20

ZALV	**Zalesovo Beam**	**136.21**	**16**	PKhKP	PKPpre	20 26 02.9			
	comp=N,1.9nm,0.7s,baz=260,slow=2.3,SNR=9.0								
ZALV				PKP	**PKPdf**	**20 26 08.1**	**+0.5**		
	comp=N,12nm,0.8s,baz=297,slow=2.9,SNR=22								
ZALV				pPKP	pPKPdf	20 26 30.9	+0.4		
	comp=N,15nm,1.0s,baz=287,slow=2.5,SNR=5.1								
ZALV	**Zalesovo Beam**	**136.21**	**16**		**PKPdf**	**20 26 07.8**	**+0.2**		
KLR	**Kul'dur**	**136.87**	**333**	⇑*i* PKIKP	**PKPdf**	**20 26 09.1**	**+0.1**		
KLR	**Kul'dur**	**136.87**	**333**	PKP	**PKPdf**	**20 26 07.9**	**-1.1**		
	comp=N,5.1nm,0.8s,baz=63,slow=3.9,SNR=12								
KURK	**Kurchatov**	**136.92**	**23**	*d i* PKIKP	**PKiKP**	**20 26 10.0**	**-0.8**		
KURK	**Kurchatov**	**136.92**	**23**		**PKiKP**	**20 26 10.4**	**-0.4**		
USRK	**Ussuriysk Ar.**	**140.36**	**328**	PKhKP	PKPpre	20 26 06.5			
	comp=N,3.1nm,0.7s,baz=46,slow=2.1,SNR=9.4								
USRK				PKP	**PKPdf**	**20 26 15.8**	**+0.3**		
	comp=N,7.3nm,1.0s,baz=24,slow=2.9,SNR=6.5								
USRK	**Ussuriysk Ar.**	**140.36**	**328**		PKPpre	20 26 08.4			
DGZ	**Jazzator, Alta**	**140.74**	**17**	⇓*i* PKIKP	**PKPdf**	**20 26 12.6**	**-3.7**		
AAK	**Ala-Archa**	**140.88**	**35**	⇓*e* PKIKP	**PKPdf**	**20 26 14.6**	**-2.2**		
MJAR	**Matsushiro Arr**	**141.03**	**314**	PKHKP	**PKPdf**	**20 26 10.5**	**-6.5**		
MJAR	**Matsushiro Arr**	**141.03**	**314**	PKhKP	PKPdf	20 26 08.1	-8.9		
	comp=N,16nm,0.8s,baz=38,slow=0.5,SNR=26								
MJAR				SKPbc	**SKPbc**	**20 29 47.0**	**-0.2**		
	comp=N,5.3nm,1.0s,baz=83,slow=2.0,SNR=4.7								
MJAR	**Matsushiro Arr**	**141.03**	**314**		**PKPdf**	**20 26 10.6**	**-6.5**		
MAJO	**Matsushiro**	**141.03**	**314**	PKHKP	**PKPdf**	**20 26 10.4**	**-6.6**		
MAJO	**Matsushiro**	**141.03**	**314**		**PKPdf**	**20 26 10.4**	**-6.6**		
MAT	**Matsushiro**	**141.03**	**314**	PKP	**PKPdf**	**20 26 10.2**	**-6.8**		
MJB9	**Matsu-Tunnel**	**141.03**	**314**		**PKPdf**	**20 26 10.5**	**-6.6**		
MKAR	**Makanchi Array**	**141.52**	**24**	PKHKP	**PKPdf**	**20 26 11.5**	**-6.1**		
MKAR	**Makanchi Array**	**141.52**	**24**	PKhKP	**PKPdf**	**20 26 11.0**	**-6.6**		
	comp=N,2.1nm,0.8s,baz=328,slow=3.7,SNR=12								
MKAR	**Makanchi Array**	**141.52**	**24**		**PKPdf**	**20 26 11.5**	**-6.1**		
NRN	**Naryn**	**142.51**	**35**	PKIKP	**PKPdf**	**20 26 17.6**	**-2.4**		
NRN	**Naryn**	**142.51**	**35**		**PKPdf**	**20 26 17.6**	**-2.4**		
TARG	**Taragay, Kyrgy**	**143.30**	**33**		**PKPdf**	**20 26 20.4**	**-1.0**		
KSH	**Kashi**	**143.75**	**38**	PKP	**PKPdf**	**20 26 21.0**	**-0.9**		
KSH				pPKP	pPKPdf	20 26 45.5	+0.8		
KSH				PP	**PP**	**20 29 35.3**	**+0.5**		
KSH				PKS	**PKSdf**	**20 29 53.8**	**-3.9**		
KSH				SKS	**SKSdf**	**20 33 16.0**	**-9.0**		
KSH				SS	**SS**	**20 48 07.5**	**-4.1**		
KSH				LR	LR				
	comp=N,170nm,8.6s								
KSH				LR	LR				
	comp=N,130nm,10.2s								
ULN	**Ulaanbaatar**	**144.84**	**356**	PKIKP	**PKPdf**	**20 26 23.4**	**-0.2**		
ULN	**Ulaanbaatar**	**144.84**	**356**		**PKPdf**	**20 26 23.4**	**-0.2**		
SONM	**Songino Array**	**144.91**	**357**	PKP	**PKPdf**	**20 26 23.6**	**-0.1**		
	comp=N,45nm,0.8s,baz=329,slow=2.3,SNR=291								
SONM				pPKP	**pPKPdf**	**20 26 45.3**	**-0.7**		
	comp=N,25nm,0.9s,baz=64,slow=3.4,SNR=6.8								
SONM				PP	PP	20 30 01.4	+20		
	comp=N,1.6nm,1.0s,baz=356,slow=6.5,SNR=2.4								
SONM	**Songino Array**	**144.91**	**357**		**PKPab**	**20 26 22.9**	**0.0**		
NIL	**Nilore**	**145.28**	**48**	PKIKP	**PKPbc**	**20 26 24.3**	**-0.2**		
NIL	**Nilore**	**145.28**	**48**		**PKPbc**	**20 26 24.3**	**-0.2**		
KS19	**Wonju Array Si**	**147.22**	**323**		**PKPdf**	**20 26 28.6**	**+0.8**		
KSRS	**Korea Array**	**147.22**	**323**	PKPbc	**PKPdf**	**20 26 28.6**	**+0.9**		
	comp=N,18nm,0.9s,baz=42,slow=1.6,SNR=27								
KSRS				pPKPbc	**pPKPbc**	**20 26 52.0**	**-0.1**		
	comp=N,15nm,1.1s,baz=38,slow=1.9,SNR=3.3								
KSAR	**Wonju Array Be**	**147.25**	**323**	PKIKP	**PKPdf**	**20 26 28.0**	**+0.2**		
KSAR	**Wonju Array Be**	**147.25**	**323**		**PKPdf**	**20 26 28.1**	**+0.2**		
FAKI	**Fak Fak**	**147.71**	**243**		**PKPdf**	**20 26 29.0**	**-0.2**		
JNU	**Nakatsue**	**147.95**	**314**		**PKPdf**	**20 26 29.7**	**+0.5**		
SOEI	**Soe**	**149.77**	**223**		**PKiKP**	**20 26 38.9**	**+0.4**		
BJI	**Beijing**	**150.65**	**340**	*i* PKPbc	**PKPbc**	**20 26 38.5**	**-0.2**		
BJI				LR	LR				
	comp=N,630nm,35.8s								
POO	**Poona**	**150.66**	**75**	*eP*	**PKPab**	**20 26 47.0**	**+0.5**		
BJT	**Baijiatuan**	**150.67**	**340**	PKIKP	**PKPbc**	**20 26 38.0**	**-0.8**		
BJT	**Baijiatuan**	**150.67**	**340**		**PKPbc**	**20 26 38.0**	**-0.8**		
HHC	**Hu-ho-hao-te**	**151.13**	**348**	*e* PKPbc	**PKPdf**	**20 26 30.5**	**-3.6**		
BTO	**Baotou**	**151.66**	**350**	*eP*	**PKPbc**	**20 26 41.0**	**-0.2**		
GTA	**Gaotai**	**153.18**	**7**	PKPbc	**PKPdf**	**20 26 37.8**	**+0.6**		
GTA				pPKP	PKPab	20 26 56.8	+0.4		
GTA				sPKP		20 27 07.5			
GTA				LR	LR				
	comp=N,90nm,19.9s								
GTA				LR	LR				
	comp=N,130nm,19.6s								
GTA				LR	LR				
	comp=N,260nm,21.6s								
TIA	**Tai'an**	**153.67**	**335**	PKPbc	**PKPdf**	**20 26 31.5**	**-6.3**		
HYB	**Hyderabad**	**155.24**	**76**	*i* PKP	PKPdf	20 26 49.0	+8.4		
HYB				*e*		20 27 05.0			
HYB				*e*		20 27 29.0			
DANN	**Dangsing**	**155.72**	**47**	*eP*	**PKPdf**	**20 26 42.5**	**+1.2**		
KOLN	**Koldanda**	**155.94**	**48**	*eP*	**PKPdf**	**20 26 41.7**	**+0.2**		
NJ2	**Nanjing**	**156.26**	**327**	*e* PKP	**PKPdf**	**20 26 41.0**	**-0.5**		
GKN	**Gorkha**	**156.55**	**47**	*eP*	**PKPdf**	**20 26 43.0**	**+0.8**		
LZH	**Lanzhou**	**156.72**	**360**	*e* PKP	**PKPdf**	**20 26 40.3**	**-1.9**		
LZH				pPKP	pPKPdf	20 27 01.5	-3.1		
LZH				sPKP		20 27 09.8			
LZH				LR	LR				
	comp=N,300nm,17.8s								
LZH				LR	LR				
	comp=N,260nm,18.0s								
LZH				LR	LR				
	comp=N,280nm,20.1s								
DMN	**Daman**	**157.12**	**47**	*eP*	**PKPdf**	**20 26 43.7**	**+0.6**		
KKN	**Kakani**	**157.13**	**46**	*eP*	**PKPdf**	**20 26 43.7**	**+0.7**		
PKIN	**Phulchoki**	**157.34**	**46**	*eP*	**PKPdf**	**20 26 43.6**	**+0.2**		
PKI	**Pulchoki**	**157.35**	**46**	*eP*	**PKPdf**	**20 26 43.9**	**+0.4**		
GUN	**Gumba**	**157.47**	**45**	*eP*	**PKPdf**	**20 26 44.4**	**+0.8**		
JIRN	**Jiri**	**157.85**	**45**	*eP*	**PKPdf**	**20 26 44.6**	**+0.5**		
XAN	**Xi'an**	**158.24**	**348**	PKP	**PKPdf**	**20 26 44.5**	**+0.5**		
RAMN	**Ramite**	**158.57**	**46**	*eP*	**PKPdf**	**20 26 45.7**	**+0.8**		
TAPN	**Taplejung**	**159.08**	**43**	*eP*	**PKPdf**	**20 26 46.2**	**+0.7**		
ODAN	**Odare**	**159.18**	**45**	*eP*	**PKPdf**	**20 26 46.2**	**+0.6**		
WHN	**Wuhan**	**159.72**	**333**	PKP	**PKPab**	**20 27 21.0**	**-3.6**		
CD2	**Chengdu**	**161.88**	**360**	PKP	**PKPdf**	**20 26 46.8**	**-1.4**		
SHL	**Shillong**	**163.01**	**39**	PKP2	**PKPab**	**20 27 39.5**	**+0.1**		
SHL	**Shillong**	**163.01**	**39**		**PKPab**	**20 27 39.5**	**+0.1**		
CHTO	**Chiang Mai**	**172.37**	**37**	PKIKP	**PKPdf**	**20 26 57.1**	**+1.0**		
CHTO	**Chiang Mai**	**172.37**	**37**		**PKPdf**	**20 26 57.1**	**+1.0**		
CMAR	**Chiang Mai Arr**	**172.65**	**38**	PKP	**PKPdf**	**20 26 56.5**	**+0.2**		
	comp=N,2.4nm,0.8s,baz=294,slow=1.9,SNR=23								
CMAR	**Chiang Mai Arr**	**172.65**	**38**		**PKPdf**	**20 26 56.2**	**-0.1**		
PBKT	**Sadao Pong**	**175.31**	**35**		**PKPdf**	**20 26 57.8**	**+0.7**		

UCR ***25*** *20:21:39.8±1.2, 8°.84N×80°.93W, h6km±7km*
ISCJB ***25*** *20:21:40.3±0.4, 8°.82N±0°.02×80°.93W±0°.01, h21km±4km, Error ellipse: s-maj=3.9km s-min=2.2km az=165.5*
UPA ***25*** *20:21:40.9±1.1, 8°.79N×80°.93W, h17km±2km, MW4.2*
ISC 25 20:21:39.3±1.1, 8°.86N±0°.02×80°.94W±0°.02, h19km±2km, n63, σ0°.67/108, 12C-33D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAFE3	**Santa Fe, Vera**	**0.36**	**202**	⇓*iP*	**Pb**	**20 21 47.8**	**+0.5**
SAFE3				*i* S	**Sb**	**20 21 52.2**	**-0.4**
CALO3	**Calobre, Verag**	**0.54**	**169**	⇓*iP*	**Pb**	**20 21 50.8**	**+0.6**
CALO3				*i* S	**Sb**	**20 21 58.3**	**+0.8**
CNAZ3	**Canazas, Verag**	**0.57**	**207**	⇓*iP*	**Pg**	**20 21 51.2**	**+0.5**
CNAZ3				*i* S	**Sb**	**20 21 59.2**	**+1.0**
SFRA3	**San Francisco,**	**0.60**	**183**	⇓*iP*	**Pg**	**20 21 51.5**	**+0.2**
SFRA3				*i* S	**Sg**	**20 21 59.4**	**-0.1**
CRIS3	**El Cristo, Coc**	**0.68**	**152**	⇓*iP*	**Pn**	**20 21 53.5**	**-0.5**
CRIS3				*i* S	**Sg**	**20 22 02.3**	**+0.5**
PNME	**Penonome**	**0.71**	**121**	*eP*	**Pg**	**20 21 53.6**	**+0.3**
PNME				*eS*	**Sg**	**20 22 02.8**	**-0.1**
PNME	**Penonome**	**0.71**	**121**	*eP*	**Pg**	**20 21 53.6**	**+0.3**
PNME				*eS*	**Sg**	**20 22 02.8**	**-0.1**
PNME	**Penonome**	**0.71**	**121**	⇓*iP*	**Pg**	**20 21 53.4**	**+0.1**
PNME				*i* S	**Sg**	**20 22 03.3**	**+0.5**
STIA3	**Santiago, Vera**	**0.75**	**182**	⇑*eP*	**Pg**	**20 21 54.0**	**-0.1**
STIA3				*eS*	**Sg**	**20 22 03.7**	**-0.4**
VTON	**El Valle, Cocl**	**0.86**	**106**	⇓*iP*	**Pn**	**20 21 56.1**	**-0.3**
VTON				*i* S	**Sg**	**20 22 07.7**	**+0.2**
RSUS3	**Rio de Jesus,**	**0.89**	**194**	⇓*iP*	**Pb**	**20 21 56.1**	**-0.1**
RSUS3				*i* S	**Sb**	**20 22 07.5**	**-0.2**
OCU3	**Ocu, Herrera**	**0.92**	**170**	⇑*iP*	**Pg**	**20 21 57.0**	**-0.3**
PINA	**Piqa, Costa Ab**	**0.95**	**65**	⇑*eP*	**Pg**	**20 21 58.3**	**+0.4**
PONU3	**Ponuga, Veragu**	**0.97**	**182**	*eP*	**Pb**	**20 21 57.3**	**-0.2**
NANC3	**Nancito, Chiri**	**0.99**	**232**	⇓*iP*	**Pb**	**20 21 57.6**	**-0.3**
NANC3				*eS*	**Sb**	**20 22 10.8**	**+0.2**
PESE3	**Pese, Herrera**	**1.00**	**161**	*eP*	**Pb**	**20 21 58.0**	**0.0**
PESE3				*i* S	**Sb**	**20 22 10.4**	**-0.4**
CHIT3	**Chitre**	**1.03**	**150**	⇑*eP*	**Pn**	**20 21 58.7**	**-0.1**
CHIT3				*i* S	**Sn**	**20 22 12.3**	**-0.4**
PVID3	**Puerto Vidal,**	**1.04**	**219**	⇓*iP*	**Pb**	**20 21 58.1**	**-0.6**
PVID3				*i* S	**Sb**	**20 22 11.6**	**-0.3**
ZANG	**Zanguenga, Cho**	**1.07**	**85**	*eP*	**Pn**	**20 21 59.3**	**+0.1**
ZANG	**Zanguenga, Cho**	**1.07**	**85**	⇓*iP*	**Pn**	**20 21 59.4**	**+0.1**
ZANG				*eS*	**Sb**	**20 22 12.8**	**0.0**
REME3	**Remedios, Chir**	**1.08**	**235**	⇓*iP*	**Pn**	**20 21 59.4**	**0.0**
SPIL	**Cristobal, Col**	**1.08**	**68**	⇓*iP*	**Pg**	**20 22 00.3**	**0.0**
GMAL	**Guarumal, Vera**	**1.12**	**195**	⇓*iP*	**Pn**	**20 21 59.1**	**-0.9**
GMAL				*i* S	**Sb**	**20 22 12.9**	**-1.5**
BCIP	**Isla Barro Col**	**1.14**	**74**	⇓*iP*	**Pb**	**20 22 00.5**	**+0.1**
BCIP				*eS*	**Sb**	**20 22 14.8**	**+0.1**
BCIP	**Isla Barro Col**	**1.14**	**74**	⇓*iP*	**Pb**	**20 22 00.5**	**+0.1**
BCIP				*eS*	**Sb**	**20 22 14.8**	**+0.1**
CHOR3	**La Chorrera**	**1.17**	**88**	⇓*eP*	**Pg**	**20 22 01.3**	**-0.6**
CHOR3				*i* S	**Sg**	**20 22 16.9**	**-0.2**
CHGR2	**Aguacate**	**1.19**	**274**	⇑*iP*	**Pb**	**20 22 01.5**	**+0.3**
CHGR2				*i* S	**Sg**	**20 22 17.8**	**-0.2**
MARI3	**Mariato, Verag**	**1.20**	**182**	⇓*iP*	**Pb**	**20 22 01.2**	**-0.2**
MARI3				*i* S	**Sb**	**20 22 15.3**	**-1.3**
GAMB1	**Gamboa**	**1.25**	**78**	⇓*eP*	**Pb**	**20 22 02.2**	**0.0**
AZU	**Azuero**	**1.25**	**148**	⇑*iP*	**Pb**	**20 22 01.9**	**-0.4**
AZU				*eS*	**Sn**	**20 22 18.1**	**+0.1**
AZU				*i*		20 22 20.0	
	comp=Z,2μm,0.3s						
AZU	**Azuero**	**1.25**	**148**	⇑*iP*	**Pb**	**20 22 01.9**	**-0.4**
AZU				*eS*	**Sn**	**20 22 18.1**	**+0.1**
AZU				*i*		20 22 20.0	
	comp=Z,2μm,0.3s						
AZU	**Azuero**	**1.25**	**148**	*eP*	**Pb**	**20 22 01.9**	**-0.4**
AZU				*eS*	**Sn**	**20 22 18.5**	**+0.5**
AZU	**Azuero**	**1.25**	**148**	⇑*iP*	**Pb**	**20 22 01.9**	**-0.4**
	baz=327,slow=14						
AZU				*i* S	**Sn**	**20 22 18.3**	**+0.3**
FRIJ	**El Hiral**	**1.26**	**73**	⇓*eP*	**Pb**	**20 22 02.2**	**-0.1**
FRIJ				*eS*	**Sn**	**20 22 18.9**	**+0.6**
PML3	**Paraiso**	**1.32**	**83**	*eP*	**Pb**	**20 22 03.4**	**-0.2**
MFS3	**Miraflores**	**1.34**	**84**	⇑*iP*	**Pb**	**20 22 03.6**	**-0.2**
MAD3	**Madden Dam**	**1.36**	**75**	⇓*iP*	**Pb**	**20 22 04.0**	**-0.1**
TABO3	**Taboga, Panama**	**1.37**	**92**	⇓*iP*	**Pb**	**20 22 04.2**	**-0.2**
TABO3				*i* S	**Sb**	**20 22 22.3**	**+0.7**
FLAM	**Flamenco Islan**	**1.39**	**88**	⇑*iP*	**Pb**	**20 22 04.9**	**+0.2**
FLAM				*i* S	**Sb**	**20 22 22.4**	**+0.3**
UPA	**Univ. de Panam**	**1.40**	**85**	*eP*	**Pb**	**20 22 04.4**	**-0.4**
UPA				*eS*	**Sb**	**20 22 21.9**	**-0.3**
UPA				*i*		20 22 23.5	
	comp=Z,306nm,0.1s						
UPA	**Univ. de Panam**	**1.40**	**85**	*eP*	**Pb**	**20 22 04.4**	**-0.4**
UPA				*eS*	**Sb**	**20 22 21.9**	**-0.3**
UPA				*i*		20 22 23.5	
	comp=Z,306nm,0.1s						
UPA	**Univ. de Panam**	**1.40**	**85**	*eP*	**Pb**	**20 22 04.4**	**-0.4**
UPA				*eS*	**Sb**	**20 22 22.4**	**+0.1**
UPA	**Univ. de Panam**	**1.40**	**85**	⇓*eP*	**Pb**	**20 22 04.3**	**-0.4**
UPA				*i* S	**Sb**	**20 22 22.2**	**-0.1**
CHIR3	**Chiriqui UPA,**	**1.45**	**252**	⇓*iP*	**Pb**	**20 22 05.5**	**-0.1**
CHIR3				*i* S	**Sb**	**20 22 24.7**	**+1.1**
LOMA3	**Las Lomas, Chi**	**1.49**	**254**	⇓*eP*	**Pb**	**20 22 06.5**	**+0.1**
CACAO	**El Cacao, Vera**	**1.50**	**177**	⇓*iP*	**Pb**	**20 22 06.0**	**-0.6**
CACAO				*eS*	**Sn**	**20 22 23.3**	**-1.0**
TOSI3	**Tonosi**	**1.52**	**161**	⇓*iP*	**Pb**	**20 22 06.6**	**-0.4**
TOSI3				*eS*	**Sn**	**20 22 24.6**	**-0.2**
LOCO3	**Loma Colorada,**	**1.52**	**253**	⇓*eP*	**Pb**	**20 22 06.9**	**0.0**
PEDE3	**Pedregal, Chir**	**1.54**	**252**	*eP*	**Pb**	**20 22 07.2**	**+0.1**
PTAR3	**Potrerillos Ar**	**1.54**	**264**	⇓*iP*	**Pb**	**20 22 07.2**	**-0.2**
PTAR3				*i* S	**Sb**	**20 22 27.1**	**+0.5**
DVD	**David**	**1.55**	**254**	⇓*eP*	**Pb**	**20 22 07.3**	**-0.1**
DVD				*eS*	**Sb**	**20 22 27.0**	**+0.4**
BCO2	**Palmira**	**1.57**	**265**	⇓*iP*	**Pb**	**20 22 07.6**	**-0.3**
BCO2				*i* S	**Sg**	**20 22 28.9**	**-1.3**
BAGA3	**Bagala, Chiriq**	**1.61**	**256**	⇑*iP*	**Pb**	**20 22 08.8**	**+0.3**
BRU2	**Volcan**	**1.73**	**268**	*eP*	**Pb**	**20 22 10.1**	**-0.5**
BRU2				*eS*	**Sb**	**20 22 33.2**	**+1.3**
BRU2	**Volcan**	**1.73**	**268**	⇓*iP*	**Pb**	**20 22 09.8**	**-0.7**
BRU2				*eS*	**Sb**	**20 22 31.7**	**-0.3**
CHPO	**Chepo, Panama**	**1.83**	**80**	⇓*eP*	**Pb**	**20 22 11.5**	**-0.7**
DRK0	**Durika**	**2.31**	**280**	*eP*	**Pb**	**20 22 18.8**	**-1.6**
DRK0	**Durika**	**2.31**	**280**	⇑*eP*	**Pn**	**20 22 18.1**	**+1.6**
DRK0				*i* S	**Sn**	**20 22 46.1**	**+1.6**
EDLM	**Las Mercedes**	**2.65**	**279**	*eP*	**Pn**	**20 22 20.7**	**-0.4**
UPD2	**Meteti**	**2.91**	**96**	*eP*	**Pn**	**20 22 26.5**	**+1.9**
UPD2				*eS*	**Sn**	**20 23 00.3**	**+1.1**
LCR2	**La Lucha 2**	**3.15**	**286**	*eP*	**Pn**	**20 22 30.2**	**+2.1**
PRVC	**Isla de Provid**	**4.51**	**355**	*eP*	**Pn**	**20 22 46.2**	**-0.5**
PRVC				*eS*	**Sn**	**20 23 36.8**	**-1.8**
PRVC	**Isla de Provid**	**4.51**	**355**	*eP*	**Pn**	**20 22 46.2**	**-0.5**
PRVC				*eS*	**Sn**	**20 23 36.8**	**-1.8**

ISCJB ***25*** *20:22:00.9±0.2, 15°.70N±0°.02×61°.34W±0°.03, h130km±1km, mb4.1/26, Error ellipse: s-maj=5.7km s-min=2.4km az=153.8*
TRN ***25*** *20:22:00.6, 15°.70N×61°.35W, h127km, MD3.9*
NEIC ***25*** *20:22:01.7±1.8, 15°.73N±0°.04×61°.26W±0°.06, h128km±3km*
IDC ***25*** *20:22:01.1±0.3, 15°.73N×61°.37W, h116km±2km, mb4.0/25, mb1 4.2/27, mb1mx3.9/64, mbtmp4.4/27, Error ellipse: s-maj=9.3km s-min=4.9km az=79.0*
ISC 25 20:22:01.9±0.5, 15°.70N±0°.03×61°.33W±0°.04, h126km±4km, n190, σ0°97/240, mb4.5/45, 12C-10D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.14**	**174**	⇓*iP*	**Pn**	**20 22 18.4**	**-0.7**
DWS				*eS*	**Sn**	**20 22 32.9**	**+0.8**
DWS	**Wesley**	**0.14**	**174**		**Pn**	**20 22 18.4**	**-0.7**
DWS					**Sn**	**20 22 32.9**	**+0.8**
BBL	**Barber's Block**	**0.22**	**218**	⇓*iP*	**Pn**	**20 22 19.4**	**0.0**
BBL				*eS*	**Sn**	**20 22 32.8**	**+0.3**
BBL	**Barber's Block**	**0.22**	**218**		**Pn**	**20 22 19.4**	**0.0**
BBL					**Sn**	**20 22 32.8**	**+0.3**
DLPL	**La Plaine**	**0.38**	**168**	⇓*iP*	**Pn**	**20 22 19.7**	**-0.2**
DLPL				*eS*	**Sn**	**20 22 34.3**	**+0.8**
DLPL	**La Plaine**	**0.38**	**168**		**Pn**	**20 22 19.5**	**-0.4**
DLPL					**Sn**	**20 22 33.7**	**+0.2**
MDN	**Morne-Daniel**	**0.39**	**189**	*eP*	**Pn**	**20 22 21.0**	**+1.1**
MDN				*eS*	**Sn**	**20 22 34.1**	**+0.5**
MDN	**Morne-Daniel**	**0.39**	**189**		**Pn**	**20 22 21.0**	**+1.1**
MDN					**Sn**	**20 22 34.1**	**+0.5**
DBCT	**Belle View Cho**	**0.43**	**182**	*eP*	**Pn**	**20 22 21.2**	**+1.0**
DBCT				*eS*	**Sn**	**20 22 34.6**	**+0.6**
DBCT	**Belle View Cho**	**0.43**	**182**		**Pn**	**20 22 21.2**	**+1.0**
DBCT					**Sn**	**20 22 34.6**	**+0.6**
DPMT	**Pointe Michel**	**0.44**	**186**	⇓*iP*	**Pn**	**20 22 21.3**	**+1.1**
DPMT				*eS*	**Sn**	**20 22 34.1**	**+0.1**
DPMT	**Pointe Michel**	**0.44**	**186**		**Pn**	**20 22 21.3**	**+1.1**
DPMT					**Sn**	**20 22 34.1**	**+0.1**
DEG	**La Desirade**	**0.66**	**23**	*eP*	**Pn**	**20 22 20.9**	**-0.7**
DEG				*eS*	**Sn**	**20 22 36.2**	**-0.3**
DEG	**La Desirade**	**0.66**	**23**		**Pn**	**20 22 20.9**	**-0.7**
DEG					**Sn**	**20 22 36.2**	**-0.3**
H05N1	**Guadeloupe/Mar**	**0.66**	**23**	P	**Pn**	**20 22 21.3**	**-0.3**
H05N1				S	**Sn**	**20 22 35.0**	**-1.5**
SVN	**Savane Anatole**	**0.87**	**170**	⇓*eP*	**Pn**	**20 22 23.0**	**-0.3**
PCM	**Pelee Case Pet**	**0.89**	**173**	⇓*eP*	**Pn**	**20 22 23.1**	**-0.4**
PCM	**Pelee Case Pet**	**0.89**	**173**	⇓*eP*	**Pn**	**20 22 23.4**	**-0.1**
BAMF	**Morne Balai**	**0.90**	**169**	⇓*eP*	**Pn**	**20 22 23.4**	**-0.3**
CXM	**Morne La Croix**	**0.90**	**170**	*eP*	**Pn**	**20 22 23.5**	**-0.2**
GBMF	**Grand Be**	**0.91**	**170**	⇓*eP*	**Pn**	**20 22 23.4**	**-0.3**
PML	**Morne Lenard**	**0.93**	**171**	⇓*eP*	**Pn**	**20 22 23.4**	**-0.4**
FDF	**Fort de France**	**0.98**	**170**	⇓*iP*	**Pn**	**20 22 24.0**	**-0.4**
FDF				*eS*	**Sn**	**20 22 40.8**	**-0.5**
FDF	**Fort de France**	**0.98**	**170**		**Pn**	**20 22 23.8**	**-0.6**
FDF					**Sn**	**20 22 39.1**	**-2.2**
ILAM	**Ilet Lapin Mar**	**1.02**	**155**	*eP*	**Pn**	**20 22 24.0**	**-0.7**
ZAM	**Aeronautique**	**1.16**	**166**	*eP*	**Pn**	**20 22 25.4**	**-0.7**
LPMF	**Morne Lapointe**	**1.18**	**163**	*eP*	**Pn**	**20 22 25.3**	**-0.9**
TRMF	**Trois Ilets**	**1.19**	**167**	*eP*	**Pn**	**20 22 26.2**	**-0.1**
BIM	**Bigot**	**1.21**	**168**	⇓*eP*	**Pn**	**20 22 26.5**	**-0.1**
MVM	**Montagne Vaucl**	**1.22**	**160**	*eP*	**Pn**	**20 22 26.1**	**-0.5**
MLYT	**Lee's Yard**	**1.31**	**321**	*eP*	**Pn**	**20 22 27.9**	**+0.2**
MLYT				*eS*	**Sn**	**20 22 47.1**	**-0.1**
H05S1	**Guadeloupe/Mar**	**1.36**	**160**	P	**Pn**	**20 22 28.1**	**0.0**
H05S1				S	**Sn**	**20 22 46.4**	**-1.6**
SLBI	**Saint Lucia, B**	**1.71**	**168**	⇑*iP*	**Pn**	**20 22 31.5**	**-0.6**
SLBI				*eS*	**Sn**	**20 22 54.5**	**-0.7**
SLBI	**Saint Lucia, B**	**1.71**	**168**		**Pn**	**20 22 31.5**	**-0.6**
SLBI					**Sn**	**20 22 54.5**	**-0.7**
NVDO	**Nevis, Disaste**	**1.88**	**319**	*eP*	**Pn**	**20 22 34.5**	**+0.3**
NVDO				*eS*	**Sn**	**20 22 58.4**	**-0.4**
SLPA	**Patience**	**1.88**	**168**	*eP*	**Pn**	**20 22 35.2**	**+0.9**
SLPA				*eS*	**Sn**	**20 22 58.6**	**-0.3**
SLPA	**Patience**	**1.88**	**168**		**Pn**	**20 22 35.2**	**+0.9**
SLPA					**Sn**	**20 22 58.6**	**-0.3**
SLB	**Belfond**	**1.89**	**172**	⇑*iP*	**Pn**	**20 22 35.0**	**+0.6**
SLB				*eS*	**Sn**	**20 22 59.0**	**-0.1**
SLB	**Belfond**	**1.89**	**172**		**Pn**	**20 22 35.0**	**+0.6**
SLB					**Sn**	**20 22 59.0**	**-0.1**
SLDE	**Delcer**	**1.91**	**172**	*eP*	**Pn**	**20 22 35.2**	**+0.6**
SLDE				*eS*	**Sn**	**20 22 59.6**	**0.0**
SLDE	**Delcer**	**1.91**	**172**		**Pn**	**20 22 35.2**	**+0.6**
SLDE					**Sn**	**20 22 59.6**	**0.0**
ANWB	**Willy Bob**	**2.00**	**347**	⇑*eP*	**Pn**	**20 22 35.0**	**-0.7**
ANWB				*eS*	**Sn**	**20 22 59.7**	**-1.9**
ANWB	**Willy Bob**	**2.00**	**347**		**Pn**	**20 22 34.4**	**-1.2**
MCLT	**Moule a Chique**	**2.02**	**169**	⇑*iP*	**Pn**	**20 22 35.7**	**-0.2**
MCLT				*eS*	**Sn**	**20 23 01.7**	**-0.2**
MCLT	**Moule a Chique**	**2.02**	**169**	Pn	**Pn**	**

EGMT	Eagleton	51.07	320	P		P	20 30 51.5 +0.1
BGU	Big Grassy Mou	51.11	310	P		P	20 30 52.4 +0.4
HVU	Hansel Valley	51.13	311	P		P	20 30 52.1 -0.1
PSUT	Pine Spring	51.21	307	P		P	20 30 54.1 +1.2
H10N3	ASCENSION HYDR	51.94	113	T		T	21 26 35.3
	baz=296,slow=75,SNR=64						
H10N2	ASCENSION HYDR	51.95	113	T		T	21 26 34.3
	baz=296,slow=75,SNR=62						
H10N1	ASCENSION HYDR	51.96	113	T		T	21 26 36.8
	baz=296,slow=75,SNR=59						
ELK	Elko	52.70	309	P		P	20 31 04.4 +0.5
ELK				IAmb		IAmb	20 31 05.4
	comp=Z,17nm,1.9s						
TPNV	Topopah Spring	52.81	305	P		P	20 31 05.9 +1.3
BMN	Battle Mountai	54.13	309	P		P	20 31 14.8 +0.6
BMN				IAmb		IAmb	20 31 15.7
	comp=Z,5.4nm,0.9s						
PLID	Pearl Lake	54.24	315	P		P	20 31 13.7 -1.4
PLID				IAmb		IAmb	20 31 15.9
	comp=Z,5.6nm,0.9s						
NV11	Mina Array Sit	54.52	306	P		P	20 31 17.4 +0.3
NV11				IAmb		IAmb	20 31 18.6
	comp=Z,7.1nm,1.2s						
NVAR	Mina Array Bea	54.64	306	P		P	20 31 18.8 +0.8
	comp=Z,2.4nm,0.7s,baz=95,slow=7.3,SNR=23						
NVAR				PcP		PcP	20 32 19.7 +0.2
	comp=Z,1.3nm,0.8s,baz=128,slow=4.6,SNR=5.1						
NVAR	Mina Array Bea	54.64	306	P		P	20 31 17.9 -0.1
OMMB	Old Mammoth Mi	55.08	305	P		P	20 31 22.4 +1.1
ESDC	Sonseca Array	55.12	52	P		P	20 31 22.1 +0.9
	comp=Z,0.3nm,0.3s,baz=285,slow=17,SNR=6.5						
ESDC	Sonseca Array	55.12	52	P		P	20 31 21.3 +0.1
WAKR	Walker	55.53	306	P		P	20 31 25.4 +1.0
WAKR				IAmb		IAmb	20 31 31.3
	comp=Z,9.4nm,1.6s						
NEW	Newport	55.81	318	P		P	20 31 25.7 -0.4
	comp=Z,9.5nm,0.7s,baz=117,slow=5.4,SNR=18						
NEW	Newport	55.81	318	P		P	20 31 26.3 +0.2
DBIC	Dimbokro	55.98	93	P		P	20 31 28.8 +1.2
	comp=Z,3.5nm,0.6s,baz=266,slow=8.6,SNR=6.2						
ORV	Oroville	57.25	307	P		P	20 31 36.8 +0.5
ORV				IAmb		IAmb	20 31 37.8
	comp=Z,3.8nm,0.8s						
EKA	Eskdalemuir Ar	59.27	34	P		P	20 31 50.7 +0.7
	comp=Z,1.9nm,0.7s,baz=260,slow=6.0,SNR=8.2						
YKA	Yellowknife Ar	59.63	334	P		P	20 31 52.1 -0.2
	comp=Z,3.2nm,0.6s,baz=106,slow=7.5,SNR=20						
TORD	Torodi Ar. Bea	60.89	84	P		P	20 32 02.6 +0.8
	comp=Z,3.2nm,0.8s,baz=270,slow=6.2,SNR=16						
RES	Resolute Bay	61.80	350	P		P	20 32 06.9 0.0
	comp=Z,1.5nm,0.6s,baz=164,slow=11,SNR=4.0						
KEST	Kesra	65.43	58	P		P	20 32 32.8 +1.2
	comp=Z,11nm,0.9s,baz=164,slow=0.9,SNR=6.6						
DAVOX	Davos/Dischmat	65.88	45	P		P	20 32 34.6 +0.2
	comp=Z,2.2nm,0.7s,baz=313,slow=12,SNR=3.6						
NB2	NORSAR Subarra	67.94	30	P		P	20 32 48.6 +1.7
	comp=Z,16nm,1.2s,baz=260,slow=6.5						
NOA	NORSAR Array B	67.94	30	P		P	20 32 47.0 +0.1
	comp=Z,2.7nm,0.8s,baz=261,slow=6.1,SNR=6.7						
CLL	Collm	68.12	41	*i* P(2)		P	20 32 50.1 +1.9
GERES	GERESS Array B	68.51	43	P		P	20 32 51.3 +0.4
	comp=Z,0.7nm,0.6s,baz=262,slow=4.0,SNR=7.4						
GERES	GERESS Array B	68.51	43	P		P	20 32 50.2 -0.6
BRG	Berggiesshubel	68.70	41	*i* P		P	20 32 53.3 +1.5
	comp=Z,5.6nm,1.0s						
BRG				*e*			20 34 51.0
	comp=Z,4.5nm,1.1s						
INK	Inuvik	68.95	338	P		P	20 32 51.5 -1.5
	comp=Z,4.3nm,0.8s,baz=90,slow=6.6,SNR=12						
INK	Inuvik	68.95	338	P		P	20 32 52.7 -0.3
INK				IAmb		IAmb	20 32 53.8
	comp=Z,6.2nm,0.9s						
VRAC	Vranov	70.41	43	P		P	20 33 02.6 +0.2
	comp=Z,1.8nm,0.5s,baz=294,slow=5.8,SNR=3.8						
VYHS	Vyhne	71.92	44	*e*PN		P	20 33 12.9 +1.4
PRP	Porcupine Dome	73.44	334	P		P	20 33 20.5 +0.2
IL31		74.04	334	P		P	20 33 23.1 -0.5
IL31				IAmb		IAmb	20 34 28.7
	comp=Z,17nm,1.9s						
ILAR	Eielson Array	74.04	334	P		P	20 33 23.6 0.0
	comp=Z,2.4nm,0.9s,baz=101,slow=3.9,SNR=20						
ILAR	Eielson Array	74.04	334	P		P	20 33 22.3 -1.3
ARCES	ARCESS Array B	74.31	21	P		P	20 33 26.2 +1.1
	comp=Z,8.6nm,0.8s,baz=328,slow=4.3,SNR=4.9						
ARCES	ARCESS Array B	74.31	21	P		P	20 33 25.3 +0.2
TRF	Thorofare Moun	75.63	332	P		P	20 33 33.2 +0.1
KTH	Kantisha Hill	75.90	333	P		P	20 33 35.2 +0.8
KTH				IAmb		IAmb	20 33 35.9
	comp=Z,15nm,1.1s						
MLR	Muntele Rosu	77.09	46	P		P	20 33 42.7 +1.1
	comp=Z,3.6nm,1.0s,baz=226,slow=3.6,SNR=3.2						
AKASG	Malin Array Be	78.36	40	P		P	20 33 48.9 +0.5
	comp=Z,0.5nm,0.4s,baz=270,slow=5.2,SNR=4.3						
BR131	Keskin Array S	83.86	51	P		P	20 34 16.4 -1.5
BRTR	Keskin Array B	83.86	51	P		P	20 34 19.1 +1.1
	comp=Z,2.5nm,0.7s,baz=267,slow=4.3,SNR=12						
TIXI	Tiksi	92.59	357	P		P	20 34 59.0 +0.3
	comp=Z,2.3nm,0.8s,baz=58,slow=3.6,SNR=4.6						
TIXI	Tiksi	92.59	357	P		P	20 34 57.7 -1.1
KSH	Kashi	112.15	34	*e*PKP		PKiKP	20 40 26.5 +3.4
WHN	Wuhan	133.83	5	PKP		PKPdf	20 41 00.3 -4.3
ASAR	Alice Springs	163.62	239	PKP		PKPdf	20 41 50.5 -0.2
	comp=Z,1.0nm,0.9s,baz=93,slow=1.9,SNR=6.0						
ASAR				PKPab		PKPab	20 42 42.4 -0.6
	comp=Z,0.7nm,0.7s,baz=109,slow=4.0,SNR=7.1						
ASAR	Alice Springs	163.62	239			PKPdf	20 41 49.1 -1.5
WRA	Warramunga Arr	164.50	252	PKP		PKPdf	20 41 50.8 -0.7
	comp=Z,2.3nm,1.1s,baz=110,slow=0.4,SNR=7.3						
WRA	Warramunga Arr	164.50	252			PKPdf	20 41 50.3 -1.2

IDC 25 20:22:29.4±1.5, 25°.90S×69°.34E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/51, mbtmp3.6/5, Error ellipse: s-maj=70.4km s-min=26.0km az=23.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	18.40	10	T	T	20 44 57.6	
	baz=188,slow=76,SNR=6.4						
H08S2	Diego Garcia H	18.40	10	T	T	20 44 59.1	
	baz=188,slow=76,SNR=12						
H08S3	Diego Garcia H	18.42	10	T	T	20 45 01.9	
	baz=188,slow=76,SNR=9.8						
ASAR	Alice Springs	58.12	103	P		P	20 32 24.3 -0.8
	0.5nm,0.9s,baz=253,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	59.64	99	P		P	20 32 36.8 +1.0
	0.6nm,1.0s,baz=241,slow=12,SNR=3.6						
BRTR	Keskin Array B	73.29	332	P		P	20 34 03.8 +1.0
	0.8nm,0.9s,baz=149,slow=5.0,SNR=3.7						
TORD	Torodi Ar. Bea	76.38	292	P		P	20 34 20.8 -0.2
	0.9nm,1.1s,baz=133,slow=4.5,SNR=3.5						
SONM	Songino Array	80.60	24	P		P	20 34 43.1 -0.7
	0.4nm,0.7s,baz=205,slow=6.4,SNR=2.6						

*ISCJB **25** 20:29:35.7±0.3, 73°.77N±0°.03×8°.8E±0°.1, h10km, mb3.9/26, MS3.6/15, Error ellipse: s-maj=4.9km s-min=3.7km az=162.1*

*MOS **25** 20:29:35.5±1.2, 73°.69N×8°.49E, h10km, mb4.5/7, Error ellipse: s-maj=25.4km s-min=6.7km az=96.0*

*IDC **25** 20:29:36.9±0.6, 73°.75N×8°.65E, h0km, mb3.7/19, mb1 3.9/25, mb1mx3.8/64, mbtmp3.8/25, ML3.5/5, MS3.6/19, Ms1 3.6/19, ms1mx3.4/49, Error ellipse: s-maj=12.5km s-min=8.8km az=70.0*

*NEIC **25** 20:29:38.2±3.0, 73°.79N±0°.06×8°.6E±0°.3, h10km±1km, mb4.6/9*

*NAO **25** 20:29:39.8±1.6, 73°.87N×10°.16E, ML4.3*

*BER **25** 20:29:41.1±4.1, 73°.87N×8°.95E, h24km±34km, ML2.5, ML4.3(NAO), Confirmed Earthquake*

*IEPN **25** 20:29:41.0, 73°.83N×9°.69E, h15km*

*HEL **25** 20:29:46.3±0.4, 73°.73N×11°.32E, h10km, ML3.3, Confirmed Earthquake*

ISC 25 20:29:38.0±0.4, 73°.75N±0°.04×8°.98E±0°.05, h10km, n133, σ3°.21/159, mb4.0/28, MS3.6/15, 4C-3D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	Bjornoya	2.86	70	Pn	Pn	20 30 22.7	-0.8
BJO1				Sn	Sn	20 30 53.1	-4.8
BJO1	Bjornoya	2.86	70	*e*P	Pn	20 30 22.5	-1.0
BJO1				*e*S	Sn	20 30 53.2	-4.8
BJO1				IAML		20 31 05.6	
	comp=Z,76nm,0.6s						
HSPB	Hornsund (broa	3.67	24	Pn	Pn	20 30 32.5	-2.2
HSPB				Sn	Sn	20 31 16.8	-1.1
HSPB	Hornsund (broa	3.67	24	*e*P	Pn	20 30 33.3	-1.4
HSPB	Hornsund (broa	3.67	24	*e*P	Pn	20 30 33.3	-1.4
HSPB				*e*P	Pn	20 30 33.3	-1.4
HSPB	Hornsund (broa	3.67	24	*e*P	Pn	20 30 33.2	-1.4
HSPB				*e*S	Sn	20 31 12.1	-5.9
HSPB				IAML		20 31 17.9	
	comp=Z,11nm,0.4s						
BRBB	Barentsburg B	4.55	14	Pn	Pn	20 30 45.5	-1.4
BRBB	Barentsburg B	4.55	14	Pn	Pn	20 30 45.5	-1.4
SPA0	Spitsbergen Ar	4.80	18	Pn	Pn	20 30 49.7	-0.5
	baz=180,slow=14						
SPA0	Spitsbergen Ar	4.80	18	Pn	Pn	20 30 49.7	-0.5
	baz=180,slow=14						
SPA0				IAML		20 32 03.2	
	comp=Z,13nm,0.6s						
SPA0	Spitsbergen Ar	4.80	18		Pn	20 30 49.4	-0.8
SPITS	Spitsbergen Ar	4.80	18	Pn	Pn	20 30 49.8	-0.5
	baz=182,slow=14,SNR=1765						
SPITS				Sn	Sn	20 31 42.9	-2.9
	baz=218,slow=27,SNR=1.1						
HOPEN	Hopen	4.96	49	Pn	Pn	20 30 51.5	-0.9
HOPEN	Hopen	4.96	49	*e*P	Pn	20 30 51.4	-1.1
HOPEN				*e*S	Sn	20 31 43.3	-6.5
HOPEN				IAML		20 31 47.4	
	comp=Z,25nm,0.6s						
TRO	Tromso	5.18	138	*e*P	Pn	20 30 56.5	+1.1
TRO				*e*S	Sn	20 31 50.9	-4.3
TRO				IAML		20 31 55.6	
	comp=Z,47nm,0.8s						
KBS	Kingsbay	5.26	6	Pn	Pn	20 30 54.7	-1.7
KBS				Sn	Sn	20 31 52.7	-4.3
KBS	Kingsbay	5.26	6	*c*eP	Pn	20 30 54.8	-1.7
KBS	Kingsbay	5.26	6	*e*P	Pn	20 30 54.7	-1.7
KBS				*e*S	Sn	20 31 51.7	-5.3
KBS				IAML		20 31 55.8	
	comp=Z,12nm,0.5s						
KBS	Kingsbay	5.26	6		Pn	20 30 54.4	-2.1
HAMF	Hammerfest	5.47	117	*e*P	Pn	20 30 58.6	-0.9
HAMF				*e*S	Sn	20 31 56.7	-5.7
HAMF				IAML		20 31 59.9	
	comp=Z,17nm,0.5s						
LOF	Lofoten	5.84	163	*e*P	Pn	20 31 04.0	-0.4
LOF				*e*S	Sn	20 32 06.2	-5.0
LOF				IAML		20 32 07.4	
	comp=Z,23nm,0.5s						
JNE	Jan Mayen East	5.92	251	*e*P	Pn	20 31 04.0	-1.5
JNW	Jan Mayen West	5.93	251	*e*P	Pn	20 31 04.1	-1.7
JMIC	Jan Mayen	5.98	251	Pn	Pn	20 31 03.3	-3.0
	comp=Z,13nm,0.3s,baz=13,slow=7.5,SNR=3.6						
JMIC				LR	LR	20 32 51.4	
	comp=Z,400nm,21.2s,baz=8.0,slow=33						
JMI	Jan Mayen	6.07	251	*e*P	Pn	20 31 06.2	-1.5
KIF	Kilpisjarvi	6.07	136	*e*P	Pn	20 31 09.1	+1.4
KIF				*e*S	Sn	20 32 11.0	-6.1
KIF				MSN		20 32 18.2	
	comp=Z,19nm,0.3s						
KIF	Kilpisjarvi	6.07	136	*e*P	Pn	20 31 09.1	+1.4
KIF				*e*S	Sn	20 32 11.0	-6.1
KIF				MSN		20 32 18.2	
	comp=Z,19nm,0.3s						
STEI	Steigen	6.19	158	*e*P	Pn	20 31 10.3	+1.0
STEI				IAML		20 32 21.0	
	comp=Z,5.9nm,0.5s						
KTK1	Kautokeino	6.57	129	*e*P	Pn	20 31 15.8	+1.2
KTK1				*e*S	Sn	20 32 23.7	-5.7
KTK1				IAML		20 32 38.8	
	comp=Z,5.9nm,0.4s						
ARA0	ARCESS Array S	6.70	121	Pn	Pn	20 31 17.2	+1.0
	baz=319,slow=12						
ARA0				Sn	Sn	20 32 26.7	-5.8
	baz=330,slow=18						
ARA0	ARCESS Array S	6.70	121	Pn	Pn	20 31 17.2	+1.0
	baz=319,slow=12						
ARA0				Sn	Sn	20 32 26.7	-5.8
	baz=330,slow=18						
ARCES	ARCESS Array B	6.70	121	Pn	Pn	20 31 17.1	+0.9
	comp=Z,5.9nm,0.3s,baz=320,slow=11,SNR=84						
ARCES				Sn	Sn	20 32 25.6	-6.9
	comp=Z,2.5nm,0.3s,baz=321,slow=24,SNR=4.1						
ARCES				LR	LR	20 34 12.7	
	comp=Z,473nm,19.7s,baz=342,slow=41						
ARCES	ARCESS Array B	6.70	121		Pn	20 31 16.9	+0.7
KEV	Kevo	6.91	116	*e*P	Pn	20 31 19.2	+0.1
KEV				*e*S	Sn	20 32 28.7	-9.0
KEV				MSN		20 32 36.9	
	comp=Z,8.0nm,0.2s						
KEV	Kevo	6.91	116	*e*P	Pn	20 31 19.2	+0.1
KEV				*e*S	Sn	20 32 28.7	-9.0
KEV				MSN		20 32 36.9	
	comp=Z,8.0nm,0.2s						
HEF	Hetta	7.16	131	*e*P	Pn	20 31 23.3	+0.8
HEF				*e*S	Sn	20 32 36.6	-7.1
HEF	Hetta	7.16	131	*e*P	Pn	20 31 23.3	+0.8
HEF				*e*S	Sn	20 32 36.6	-7.1
KONS	Konsvik	7.42	167	*e*P	Pn	20 31 27.3	+1.2
KONS				*e*S	Sn	20 32 43.4	-6.8
KONS				IAML		20 32 53.7	
	comp=Z,4.8nm,0.7s						
STOK	Stokkvaagen	7.58	168	*e*P	Pn	20 31 29.5	+1.2
DAG	Danmarks Havn	7.61	306	*i* P	Pn	20 31 27.0	-1.7
DAG	Danmarks Havn	7.61	306	*i* P	Pn	20 31 27.0	-1.7
DAG				*e*S	Sn	20 32 37.5	-17
DAG	Danmarks Havn	7.61	306	*i* P	Pn	20 31 27.0	-1.7
DAG				*e*S	Sn	20 32 37.5	-17
DAG				IAML		20 32 43.3	
	comp=Z,4.6nm,0.3s						
MOR8	Moi Rana	7.83	164	*e*P	Pn	20 31 32.1	+0.3
MOR8				IAML		20 32 57.5	
	comp=Z,6.3nm,0.5s						
VRF	Varrio	9.04	121	*e*P	Pn	20 31 47.4	-0.9
VRF				*e*S	Sn	20 33 19.8	-10
VRF	Varrio	9.04	121	*e*P	Pn	20 31 47.4	-0.9
VRF				*e*S	Sn	20 33 19.8	-10
TOF	Tornio	9.29	138	*e*P	Pn	20 31 52.9	+1.1
TOF				*e*S	Sn	20 33 29.0	-7.2
TOF	Tornio	9.29	138	*e*P	Pn	20 31 52.9	+1.1
TOF				*e*S	Sn	20 33 29.0	-7.2
NSS	Namsos	9.32	172	*e*P	Pn	20 31 52.6	+0.4
NSS				IAML		20 33 37.9	
	comp=Z,3.1nm,1.3s						
SCO	Scoresbysund	9.97	266	*i* P	Pn	20 31 57.6	-3.4
SCO	Scoresbysund	9.97	266	*i* P	Pn	20 31 57.6	-3.4
SCO	Scoresbysund	9.97	266	*i* P	Pn	20 31 57.7	-3.4
SCO	Scoresbysund	9.97	266		Pn	20 31 57.3	-3.7
APA0	Apatity Array	9.98	116	Pn	Pn	20 32 00.9	-0.3
	baz=321,slow=16						
APA0	Apatity Array	9.98	116	Pn	Pn	20 32 00.9	-0.3
	baz=321,slow=16						
MSF	Maaselka	10.40	129	P	Pn	20 32 07.8	+0.8
ZFI2	Zemlya Franca-	10.77	33	*e*P	Pn	20 32 09.9	-2.1
	comp=Z,17nm,0.4s						
ZFI2				*i* S	Sn	20 34 01.3	-11
OUF	Merijarvi	10.92	141	*e*P	Pn	20 32 14.2	+0.1
OUF				*e*S	Sn	20 34 08.0	-8.1
OUF	Merijarvi	10.92	141	*e*P	Pn	20 32 14.2	+0.1
OUF				*e*S	Sn	20 34 08.0	-8.1
SUF	Sumiainen	12.69	142	P	Pn	20 32 39.5	+1.3
NOA	NORSAR Array B	12.79	175	Pn	Pn	20 32 40.3	+0.6
	comp=Z,0.0nm,0.3s,baz=355,slow=13,SNR=3.4						
NOA				LR	LR	20 36 45.2	
	comp=Z,56nm,19.7s,baz=0.0,slow=33						
JOF	Joensuu	13.50	132	P	Pn	20 32 47.9	-1.4
HFS	Hagfors	13.79	170	Pn	Pn	20 32 55.8	+2.5
	baz=349,slow=14						
HFS	Hagfors	13.79	170	Pn	Pn	20 32 52.7	-0.5
	baz=7.7,slow=12,SNR=3.2						
HFS				Sn	Sn	20 35 18.5	-7.7
	comp=Z,0.4nm,0.3s,baz=265,slow=32,SNR=7.7						
HFS	Hagfors	13.79	170	Pn	Pn	20 32 55.8	+2.5
	baz=349,slow=14						
BORG	Borgarnes	13.82	245	LR	LR	20 36 50.7	
	comp=Z,193nm,18.9s,baz=285,slow=32						
FIA0	FINESS Array S	13.87	144	Pn	Pn	20 32 53.8	-0.5
	baz=350,slow=16						
FIA0	FINESS Array S	13.87	144	Pn	Pn	20 32 53.8	-0.5
	baz=350,slow=16						
FINES	FINESS Array B	13.87	144	P	Pn	20 32 54.0	-0.3
FINES	FINESS Array B	13.87	144	Pn	Pn	20 32 53.4	-0.9
	comp=Z,0.6nm,0.3s,baz=345,slow=11,SNR=20						
FINES				Sn	Sn	20 35 16.6	-12
	comp=Z,0.1nm,0.3s,baz=333,slow=20,SNR=2.2						
FINES				LR	LR	20 37 03.7	
	comp=Z,74nm,19.2s,baz=344,slow=32						
FINES	FINESS Array B	13.87	144	Pn	Pn	20 32 54.0	-0.3
LSH	Leshukonskoye	15.41	106	*e*P	Pn	20 33 10.0	-5.1
	comp=Z,165nm,4.0s						
LSH				*e*S	Sn	20 35 48.4	-17
KLMR	Klimovskoe	17.17	123	*e*P	Pn	20 33 36.3	-1.3
KLMR				*e*		20 36 50.0	
KLMR				pmax	pmax		
	comp=Z,58nm,1.3s						
KLMR	Klimovskoe	17.17	123	*e*P	Pn	20 33 34.7	-2.9
KLMR	Klimovskoe	17.17	123	*e*Pn	Pn	20 33 36.3	-1.3
KLMR				AMP		20 33 42.6	
	comp=Z,58nm,1.3s						
KLMR				*e*Sn	Sn	20 36 50.0	+1.7
KLMR				*e*Sn	Sn	20 36 50.0	+1.7
PRGR	Permogore	18.02	113	*e*P	P	20 33 50.2	+1.6
PRGR				pmax	pmax		
	comp=Z,11nm,0.6s						
PRGR	Permogore	18.02	113	*e*P	P	20 33 50.3	+1.6
	comp=Z,11nm,0.7s						
EKA	Eskdalemuir Ar	19.13	202	P	P	20 34 01.2	+0.3
	baz=8.0,slow=11,SNR=4.1						
SFJD	Kangerlussuaq	20.23	281	LR	LR	20 40 59.7	
	comp=Z,342nm,18.2s,baz=15,slow=34						
SUW	Suwalki	20.66	156	P	P	20 34 18.7	+1.2
SUW				pmax	pmax		
	comp=Z,103nm,1.6s						
SUW	Suwalki	20.66	156	P	P	20 34 18.6	+1.2
SUW				IAmb	IAmb	20 34 25.9	
	comp=Z,102nm,1.6s						
MOS	Moscow	21.39	132	*e*P	P	20 34 25.2	-0.1
MOS				pmax	pmax		
	comp=Z,51nm,1.4s						
KIRV	Kirov	21.62	113	P	P	20 34 28.9	+1.1
	comp=Z,17nm,0.7s,baz=295,slow=3.5,SNR=8.1						
KIRV				LR	LR	20 43 12.9	
	comp=Z,212nm,19.8s,baz=338,slow=38						
OBN	Obninsk	21.76	134	*e*P	P	20 34 33.3	+4.0
OBN				*e*		20 34 55.2	
OBN				pmax	pmax		
	comp=Z,49nm,2.5s						
OBN				MLR	MLR		
	comp=Z,163nm,19.0s						
NRIK	Noril'sk	23.53	61	P	P	20 34 46.9	-0.8
	comp=Z,0.8nm,0.4s,baz=330,slow=8.1,SNR=2.0						
NRIK				LR	LR	20 45 57.9	
	comp=Z,75nm,20.1s,baz=349,slow=42						
OJC	Ojcow	24.07	163	P	P	20 34 56.2	+3.1
OJC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OJC	Ojcow	24.07	163		P	20 34 56.2	+3.1
MORC	Moravsky Berou	24.34	166	P	P	20 35 01.8	+6.2
MORC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MORC	Moravsky Berou	24.34	166	P	P	20 35 01.8	+6.2
AKASG	Malin Array Be	24.69	148	P	P	20 34 58.5	-0.2
	comp=Z,0.5nm,0.5s,baz=340,slow=7.2,SNR=3.0						
AKASG				LR	LR	20 44 37.3	
	comp=Z,149nm,19.6s,baz=275,slow=36						
RES	Resolute Bay	24.90	322	P	P	20 35 00.4	0.0
	comp=Z,1.3nm,0.3s,baz=10,slow=16,SNR=18						
RES				LR	LR	20 44 37.1	
	comp=Z,178nm,19.8s,baz=48,slow=36						
GERES	GERESS Array B	25.07	173	*e*P	P	20 35 06.8	+4.5
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES	GERESS Array B	25.07	173	P	P	20 35 04.0	+1.7
	comp=Z,0.5nm,0.6s,baz=344,slow=8.3,SNR=4.3						
GERES	GERESS Array B	25.07	173	P	P	20 35 00.9	-1.4
VYHS	Vyhne	25.71	165	*e*P	P	20 35 14.8	+6.8
VYHS	Vyhne	25.71	165	*e*P	P	20 35 14.8	+6.8
ARU	Arti	25.94	105	*e*P	P	20 35 11.2	+1.2
ARU				pmax	pmax		
	comp=Z,14nm,1.4s						
ARU	Arti	25.94	105	P	P	20 35 12.4	+2.4
	comp=Z,0.3nm,0.3s,baz=260,slow=19,SNR=2.7						
ARU				LR	LR	20 45 37.1	
	comp=Z,144nm,19.3s,baz=315,slow=37						
ARU	Arti	25.94	105	P	P	20 35 12.0	+2.0
ARU					S	20 39 40.2	+0.4
DAVOX	Davos/Dischmat	27.06	179	LR	LR	20 47 16.5	
	comp=Z,45nm,21.1s,baz=280,slow=39						
TIXI	Tiksi	30.04	33	P	P	20 35 47.9	+1.4
TIXI				pmax	pmax		
	comp=Z,11nm,1.8s						
TIXI	Tiksi	30.04	33	P	P	20 35 46.6	+0.1
	comp=Z,1.3nm,0.3s,baz=0.0,slow=24,SNR=5.3						
TIXI	Tiksi	30.04	33	P	P	20 35 47.9	+1.4
TIXI				IAmb	IAmb	20 36 16.3	
	comp=Z,11nm,1.8s						
AKTO	Aktyubinsk	31.16	111	P	P	20 35 57.3	+0.8
	comp=Z,1.6nm,0.6s,baz=329,slow=11,SNR=6.2						
AKTO				LR	LR	20 49 15.9	
	comp=Z,183nm,20.6s,baz=341,slow=38						
BRVK	Borovoye	32.15	96	*e*P	P	20 36 06.7	+1.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	32.21	96	P	P	20 36 08.2	+2.5
	comp=Z,1.4nm,0.7s,baz=322,slow=6.0,SNR=8.0						
GOF	Gofitskoye	32.62	133	*e*P	P	20 35 58.8	-11
ABKAR	Akbulak array	32.74	110	P	P	20 36 12.6	+2.1
ABKAR	Akbulak array	32.74	110	P	P	20 36 12.1	+1.6
ABKAR				IAmb	IA

*IDC **25** 20:39:36.4±3.1, 31°.60S×177°.81W, h0km, mb4.2/3, mb1 4.3/5, mb1mx4.0/27, mbtmp4.2/5, ML3.6/2, Error ellipse: s-maj=71.9km s-min=29.0km az=117.0*
*NEIC **25** 20:39:37.2±0.4, 31°.6S±0°.2×177°.8W±°.1, h10km±39km, mb4.7/5*
ISC 25 20:39:38.7±2.6, **31°.6S**±0°.1×**177°.8W**±0°.4, **h26**km, **n15**, σ1§**32**/17, **mb4.5**/5, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.30**	**356**	Pn	**Pn**	**20 40 16.3**	**+1.3**
	43nm,0.3s,baz=270,slow=19,SNR=5.9						
RAO				Sn	**Sn**	**20 40 39.0**	**-3.4**
	169nm,0.3s,baz=240,slow=23,SNR=7.8						
RAO	**Raoul Island**	**2.30**	**356**		**Pn**	**20 40 15.5**	**+0.5**
URZ	**Urewera**	**7.90**	**211**	Pn	**Pn**	**20 41 31.3**	**-0.5**
	0.3nm,0.3s,baz=18,slow=13,SNR=3.6						
URZ				Sn	**Sn**	**20 42 58.6**	**-1.8**
	1.0nm,0.3s,baz=271,slow=5.4,SNR=5.2						
URZ	**Urewera**	**7.90**	**211**		**Pn**	**20 41 30.8**	**-1.1**
STKA	**Stephens Creek**	**34.44**	**259**	P	**P**	**20 46 26.1**	**+1.9**
	1.1nm,0.5s,baz=114,slow=10.0,SNR=4.3						
AS31	**Alice Springs**	**43.27**	**268**	P	**P**	**20 47 38.7**	**+0.4**
ASAR	**Alice Springs**	**43.27**	**268**	P	**P**	**20 47 39.1**	**+0.8**
	1.8nm,0.5s,baz=107,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**43.27**	**268**	P	**P**	**20 47 38.6**	**+0.3**
WR0	**Warramunga Arr**	**44.18**	**273**	P	**P**	**20 47 45.8**	**+0.1**
WR0				IAmb	IAmb	20 47 47.1	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**44.35**	**273**	P	**P**	**20 47 47.1**	**+0.1**
WB2				IAmb	IAmb	20 47 49.1	
	comp=Z,28nm,1.7s						
WRAB	**Tennant Creek**	**44.35**	**273**	P	**P**	**20 47 46.9**	**-0.2**
WRA	**Warramunga Arr**	**44.36**	**273**	P	**P**	**20 47 47.9**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=111,slow=8.0,SNR=100						
WRA	**Warramunga Arr**	**44.36**	**273**	P	**P**	**20 47 47.4**	**+0.3**
WB0	**Warramunga Arr**	**44.39**	**273**		**P**	**20 47 48.0**	**+0.7**
FINES	**FINESS Array B**	**146.30**	**340**	PKPbc	**PKPab**	**20 59 17.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=43,slow=3.6,SNR=4.7						

*IDC **25** 20:58:41.8±0.6, 25°.43S×70°.00E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/35, mbtmp4.1/14, Error ellipse: s-maj=19.5km s-min=18.2km az=49.0*
*ISCJB **25** 20:58:43.0±0.5, 25°.44S±0°.09×70°.1E±0°.1, h21km, mb4.0/14, Error ellipse: s-maj=15.6km s-min=12.6km az=12.9*
*NEIC **25** 20:58:43.5±0.9, 25°.4S±0°.1×70°.1E±0°.1, h10km±1km, mb4.7/10*
ISC 25 20:58:45.3±0.6, **25°.4S**±0°.1×**70°.0E**±0°.1, **h21**km, **n41**, σ1§**12**/35, **mb4.2**/18, **2C, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.84**	**8**	T	T	21 21 04.8	
	baz=189,slow=76,SNR=24						
H08S2	**Diego Garcia H**	**17.84**	**8**	T	T	21 21 03.4	
	baz=189,slow=76,SNR=56						
H08S3	**Diego Garcia H**	**17.86**	**8**	T	T	21 21 01.9	
	baz=189,slow=76,SNR=39						
H08N3	**Diego Garcia H**	**19.00**	**3**	T	T	21 22 26.9	
	baz=184						
H08N1	**Diego Carcia H**	**19.00**	**3**	T	T	21 22 20.8	
	baz=184						
H08N2	**Diego Garcia H**	**19.02**	**3**	T	T	21 22 27.0	
	baz=184						
KMBO	**Kilima Mbogo**	**39.76**	**302**	P	**P**	**21 06 16.3**	**-0.8**
	1.3nm,0.5s,baz=169,slow=4.0,SNR=5.3						
BOSA	**Boshof**	**39.81**	**255**	P	**P**	**21 06 18.1**	**+0.8**
	6.3nm,1.1s,baz=96,slow=6.8,SNR=4.5						
BOSA	**Boshof**	**39.81**	**255**	P	**P**	**21 06 17.5**	**+0.1**
SYO	**Syowa Base**	**47.21**	**194**‖	eP	**P**	**21 07 15.6**	**-0.6**
SYO	**Syowa Base**	**47.21**	**194**‖	epP	pP	21 07 18.5	-3.2
CMAR	**Chiang Mai Arr**	**51.92**	**36**	P	**P**	**21 07 53.6**	**+0.9**
	1.6nm,0.7s,baz=226,slow=6.8,SNR=8.7						
CMAR	**Chiang Mai Arr**	**51.92**	**36**	P	**P**	**21 07 52.6**	**-0.2**
ASAR	**Alice Springs**	**57.65**	**103**	P	**P**	**21 08 34.4**	**-0.1**
	1.4nm,0.7s,baz=249,slow=6.5,SNR=14						
ASAR				PcP	**PcP**	**21 09 27.2**	**-0.3**
	0.5nm,0.7s,baz=270,slow=2.8,SNR=3.4						
ASAR	**Alice Springs**	**57.65**	**103**	P	**P**	**21 08 33.9**	**-0.5**
LSA	**Lhasa**	**58.45**	**22**	P	**P**	**21 08 41.0**	**+0.8**
WRA	**Warramunga Arr**	**59.13**	**99**	P	**P**	**21 08 44.4**	**-0.3**
	1.5nm,0.8s,baz=253,slow=7.0,SNR=6.1						
SNAA	**Sanae**	**60.69**	**200**	P	**P**	**21 08 54.2**	**-0.6**
	0.8nm,0.8s,baz=117,slow=4.5,SNR=3.1						
QSPA	**South Pole Qui**	**64.70**	**180**	P	**P**	**21 09 21.4**	**-0.3**
	4.7nm,0.9s,baz=279,slow=4.4,SNR=7.0						
QSPA	**South Pole Qui**	**64.70**	**180**	P	**P**	**21 09 21.9**	**+0.2**
KK31	**Karatay Array**	**68.19**	**0**		**P**	**21 09 43.9**	**-0.1**
KK31				IAmb	IAmb	21 09 51.9	
	comp=Z,8.1nm,1.4s						
KKAR	**Karatay Array**	**68.19**	**0**	P	**P**	**21 09 43.8**	**-0.2**
KKAR	**Karatay Array**	**68.19**	**0**		**P**	**21 09 43.5**	**-0.5**
KKAR				IAmb	IAmb	21 09 51.9	
	comp=Z,8.1nm,1.4s						
MK31	**Makanchi Array**	**72.74**	**9**		**P**	**21 10 10.6**	**-1.1**
MKAR	**Makanchi Array**	**72.74**	**9**	P	**P**	**21 10 11.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=192,slow=5.7,SNR=12						
MKAR	**Makanchi Array**	**72.74**	**9**	P	**P**	**21 10 10.7**	**-1.0**
BR131	**Keskin Array S**	**73.16**	**331**		**P**	**21 10 14.6**	**+0.1**
BRTR	**Keskin Array B**	**73.16**	**331**	P	**P**	**21 10 14.9**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=149,slow=6.1,SNR=11						
BRTR	**Keskin Array B**	**73.16**	**331**	P	**P**	**21 10 14.7**	**+0.3**
KBZ	**Khabaz**	**73.18**	**340**	P	**P**	**21 10 14.3**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=209,slow=7.7,SNR=3.8						
KIV	**Kislovodsk**	**73.45**	**340**	P	**P**	**21 10 16.2**	**+0.1**
KIV				IAmb	IAmb	21 10 17.9	
	comp=Z,10nm,1.3s						
ABKAR	**Akbulak array**	**74.89**	**353**	P	**P**	**21 10 23.6**	**-0.5**
ABKAR				IAmb	IAmb	21 10 25.0	
	comp=Z,17nm,1.9s						
KURK	**Kurchatov**	**76.19**	**6**	P	**P**	**21 10 31.8**	**+0.2**
TOA0	**Torodi Ar. Sit**	**76.75**	**292**		**P**	**21 10 35.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.75**	**292**	P	**P**	**21 10 35.6**	**0.0**
	comp=Z,2.7nm,1.0s,baz=106,slow=6.0,SNR=11						
TORD	**Torodi Ar. Bea**	**76.75**	**292**	P	**P**	**21 10 34.7**	**-0.9**
SONM	**Songino Array**	**79.93**	**24**	P	**P**	**21 10 52.9**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=224,slow=6.2,SNR=3.6						
SONM	**Songino Array**	**79.93**	**24**	P	**P**	**21 10 52.1**	**-0.6**
ZALV	**Zalesovo Beam**	**80.08**	**9**	P	**P**	**21 10 52.1**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=184,slow=5.9,SNR=6.9						
AKASG	**Malin Array Be**	**83.92**	**335**	P	**P**	**21 11 12.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=142,slow=4.2,SNR=4.7						
LRAL	**Lakeview Retre**	**158.57**	**296**		**PKPdf**	**21 18 47.0**	**+5.5**

IDC 25 21:06:11.8±429.0, **47°.31N**×**66°.65E**, **h0**km, **Error ellipse: s-maj=180.3km s-min=146.6km az=172.0, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.47**	**302**	*i*		21 44 20.0	
	baz=111,slow=259,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**13.29**	**53**	*i*		22 30 40.0	
	baz=246,slow=334,SNR=1.8						
I34MN	**SONGINO INFRAS**	**26.64**	**74**	*i*		23 50 30.0	
	baz=275,slow=334,SNR=1.1						

*IDC **25** 21:17:03.6±1.4, 25°.42S×70°.00E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/37, mbtmp4.0/10, MS4.1/2, Ms1 4.1/2, ms1mx3.2/47, Error ellipse: s-maj=45.1km s-min=23.0km az=28.0*
*NEIC **25** 21:17:04.7±1.7, 25°.30S±0°.06×70°.0E±0°.2, h10km±1km, mb4.5/18*
*ISCJB **25** 21:17:05.2±0.8, 25°.2S±0°.2×70°.1E±0°.1, h21km, mb3.9/10, MS4.0/2, Error ellipse: s-maj=22.4km s-min=16.2km az=176.1*
ISC 25 21:17:06.5±1.0, **25°.3S**±0°.2×**70°.0E**±0°.1, **h21**km, **n42**, σ1§**31**/35, **mb4.3**/18, **Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.70**	**8**	T	T	21 39 29.3	
	baz=189,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**17.70**	**8**	T	T	21 39 28.5	
	baz=189,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**17.72**	**8**	T	T	21 39 31.4	
	baz=189,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**39.12**	**115**	T	T	22 06 23.9	
	baz=272						
H01W3	**Cape Leeuwin H**	**39.12**	**115**	T	T	22 06 41.7	
	baz=272						
H01W1	**Cape Leeuwin H**	**39.13**	**115**	T	T	22 06 30.5	
	baz=272						
LBTB	**Lobatse**	**40.04**	**261**	LR	LR	21 38 10.7	
	comp=Z,214nm,19.0s,baz=84,slow=32						
LBTB	**Lobatse**	**40.04**	**261**	P	**P**	**21 24 42.7**	**+2.2**
LSZ	**Lusaka**	**40.31**	**276**	P	**P**	**21 24 40.3**	**-2.5**
SUR	**Sutherland**	**43.35**	**249**	LR	LR	21 40 10.2	
	comp=Z,212nm,19.1s,baz=108,slow=32						
PBKT	**Sadao Pong**	**51.40**	**39**	P	**P**	**21 26 10.7**	**+0.7**
PBKT				IAmb	IAmb	21 26 12.9	
	comp=Z,5.0nm,1.0s						
CM31	**Chiang Mai Arr**	**51.81**	**36**	P	**P**	**21 26 13.6**	**+0.4**
CM31				IAmb	IAmb	21 26 22.3	
	comp=Z,5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**51.81**	**36**	P	**P**	**21 26 14.8**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=224,slow=6.7,SNR=13						
CMAR	**Chiang Mai Arr**	**51.81**	**36**	P	**P**	**21 26 13.2**	**+0.1**
CMAR				PcP	**PcP**	**21 27 24.1**	**-2.0**
SHL	**Shillong**	**54.80**	**24**	P	**P**	**21 26 35.4**	**+0.2**
ASAR	**Alice Springs**	**57.69**	**103**	P	**P**	**21 26 55.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=253,slow=6.0,SNR=14						
ASAR	**Alice Springs**	**57.69**	**103**	P	**P**	**21 26 56.0**	**+0.1**
LSA	**Lhasa**	**58.32**	**22**	P	**P**	**21 26 57.3**	**-3.2**
LSA				IAmb	IAmb	21 27 09.5	
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**59.16**	**99**	P	**P**	**21 27 06.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=255,slow=7.0,SNR=6.9						
WRA	**Warramunga Arr**	**59.16**	**99**	P	**P**	**21 27 06.2**	**+0.1**
KBL	**Kabul**	**59.50**	**359**	P	**P**	**21 27 08.0**	**-0.3**
BTK	**Batken**	**65.01**	**1**	P	**P**	**21 27 45.4**	**+0.4**
AAK	**Ala-Archa**	**67.71**	**4**	P	**P**	**21 28 02.4**	**0.0**
AAK				IAmb	IAmb	21 28 11.5	
	comp=Z,7.3nm,1.5s						
KK31	**Karatay Array**	**68.05**	**0**	P	**P**	**21 28 04.8**	**+0.5**
KK31				IAmb	IAmb	21 28 13.6	
	comp=Z,7.7nm,1.5s						
KKAR	**Karatay Array**	**68.05**	**0**	P	**P**	**21 28 05.5**	**+1.2**
KKAR	**Karatay Array**	**68.05**	**0**	P	**P**	**21 28 04.0**	**-0.2**
KKAR				IAmb	IAmb	21 28 13.6	
	comp=Z,7.7nm,1.5s						
MK31	**Makanchi Array**	**72.59**	**9**	P	**P**	**21 28 30.3**	**-1.7**
MK31				IAmb	IAmb	21 28 41.1	
	comp=Z,4.1nm,1.2s						
MKAR	**Makanchi Array**	**72.59**	**9**	P	**P**	**21 28 33.0**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=197,slow=6.4,SNR=12						
MKAR	**Makanchi Array**	**72.59**	**9**	P	**P**	**21 28 32.8**	**+0.8**
BR131	**Keskin Array S**	**73.02**	**331**	P	**P**	**21 28 34.4**	**-0.5**
BR131				IAmb	IAmb	21 28 43.2	
	comp=Z,4.6nm,1.2s						
BRTR	**Keskin Array B**	**73.02**	**331**	P	**P**	**21 28 36.3**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=150,slow=4.9,SNR=7.4						
KBZ	**Khabaz**	**73.04**	**340**	P	**P**	**21 28 36.2**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=98,slow=12,SNR=3.6						
ABKAR	**Akbulak array**	**74.74**	**353**	P	**P**	**21 28 44.8**	**+0.3**
ABKAR	**Akbulak array**	**74.74**	**353**	P	**P**	**21 28 45.6**	**+1.1**
ABKAR				IAmb	IAmb	21 28 52.4	
	comp=Z,3.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.69**	**292**	P	**P**	**21 28 57.8**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=99,slow=4.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.69**	**292**	P	**P**	**21 28 53.9**	**-2.6**
SONM	**Songino Array**	**79.80**	**24**	P	**P**	**21 29 14.6**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=222,slow=4.0,SNR=5.5						
SONM	**Songino Array**	**79.80**	**24**	P	**P**	**21 29 12.2**	**-0.9**
ZALV	**Zalesovo Beam**	**79.94**	**9**	P	**P**	**21 29 14.5**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=183,slow=5.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**79.94**	**9**	P	**P**	**21 29 13.1**	**-0.5**
ULN	**Ulaanbaatar**	**80.07**	**24**	P	**P**	**21 29 14.2**	**-0.4**
ULN				IAmb	IAmb	21 29 23.1	
	comp=Z,11nm,1.4s						
AKASG	**Malin Array Be**	**83.78**	**335**	P	**P**	**21 29 34.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=156,slow=5.7,SNR=1.9						

*ISCJB **25** 21:20:00.4±0.4, 54°.01S±0°.07×54°.2W±0°.1, h10km, mb4.1/13, MS4.0/8, Error ellipse: s-maj=11.4km s-min=6.3km az=39.5*
*NEIC **25** 21:20:01.4±2.6, 54°.12S±0°.07×54°.20W±0°.07, h10km±1km, mb4.3/11*
*IDC **25** 21:20:01.4±0.7, 53°.85S×53°.69W, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/26, mbtmp4.1/13, ML4.3/2, MS4.1/10, Ms1 4.1/10, ms1mx3.8/23, Error ellipse: s-maj=26.0km s-min=15.7km az=64.0*
*GCMT **25** 21:20:06.4±0.4, 53°.99S±0°.02×53°.90W±0°.05, h24km±2km, MW4.9/67, Moment Tensor Solution. s16,c19; s67,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 0.09±.23; Mθθ -1.65±.16; Mφφ 1.56±.17; Mrθ 0.78±.28; Mrφ 2.29±.15; Mθφ -0.32±.25; Best double couple: M=2.91100×10^16 NP1:φs252.00000°, δ81.00000°, λ-12.00000°. NP2: φs344.00000°, δ78.00000°, λ-170.00000°. Principal axes: T 2.7540, Plg2.0000°, Azm298.0000°; N 0.3150, Plg75.0000°, Azm34.0000°; P -3.0680, Plg15.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 21:20:02.3±0.5, **54°.00S**±0°.07×**54°.14W**±0°.06, **h10**km, **n58**, σ1§**53**/51, **mb4.5**/15, **MS4.1**/8, **South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**3.33**	**313**		**Pn**	**21 20 56.8**	**+2.4**
EFI					**Sn**	**21 21 33.5**	**-0.5**
USHA	**Ushuaia**	**8.38**	**259**	Pn	**Pn**	**21 22 01.6**	**-2.1**
	3.4nm,0.3s,baz=91,slow=11,SNR=14						
USHA				Sn	**Sn**	**21 23 34.7**	**-3.6**
	3.3nm,0.3s,baz=40,slow=9.1,SNR=2.8						
GO10	**Punta Arenas**	**10.10**	**268**	Pn	Pn	21 22 24.8	-2.5
HOPE	**Hope Point**	**10.36**	**99**	Pn	**Pn**	**21 22 30.2**	**-0.6**
GO09	**Cerro Castillo**	**11.39**	**277**		**Pn**	**21 22 44.9**	**0.0**
GO09				Sn	**Sn**	**21 24 48.8**	**-3.3**
PMSA	**Palmer Station**	**11.90**	**201**	Pn	**Pn**	**21 22 56.4**	**+4.6**
	0.9nm,0.3s,baz=44,slow=15,SNR=13						
PMSA				LR	LR	21 26 43.0	
	comp=Z,947nm,20.9s,baz=26,slow=33						
TRQA	**Tornquist**	**16.83**	**338**	P	**P**	**21 23 59.6**	**-0.5**
TRQA				IAmb	IAmb	21 24 04.2	
	comp=Z,12nm,0.8s						
TRQA				S	Sn	21 26 47.9	-17
PLCA	**Paso Flores**	**17.25**	**314**	P	**P**	**21 24 06.3**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=172,slow=7.9,SNR=19						
PLCA				S	Sn	21 27 01.9	-13
	comp=Z,0.1nm,0.3s,baz=224,slow=14,SNR=1.8						
PLCA				LR	LR	21 31 15.8	
	comp=Z,644nm,20.0s,baz=162,slow=39						
PLCA	**Paso Flores**	**17.25**	**314**	P	**P**	**21 24 06.6**	**+1.8**
GO06	**Curarrehue**	**18.60**	**314**		**Pn**	**21 24 22.4**	**+2.4**
GO06				IAmb	IAmb	21 24 35.8	
	comp=Z,11nm,1.1s						
CFA	**Coronel Fontan**	**24.57**	**330**	P	**P**	**21 25 22.0**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=175,slow=12,SNR=3.6						
CFA				LR	LR	21 36 56.1	
	comp=Z,546nm,18.2s,baz=174,slow=41						
VNA3	**Neumayer Olymp**	**25.84**	**149**	P	**P**	**21 25 34.5**	**+1.1**
VNA1	**Neumayer--Stat**	**26.11**	**147**	P	**P**	**21 25 38.0**	**+2.2**
VNA2	**Neumayer--Watz**	**26.46**	**147**	P	**P**	**21 25 40.3**	**+1.3**
	baz=282,slow=8.0						
GO04	**Tololo Observa**	**26.70**	**326**	P	**P**	**21 25 40.4**	**-1.3**
CPUP	**Villa Florida**	**27.74**	**354**	LR	LR	21 36 54.2	
	comp=Z,309nm,21.3s,baz=176,slow=37						
SNAA	**Sanae**	**28.06**	**148**	P	**P**	**21 25 54.3**	**+0.8**
SNAA	**Sanae**	**28.06**	**148**	P	**P**	**21 25 54.2**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=294,slow=9.2,SNR=7.5						
SNAA	**Sanae**	**28.06**	**148**	P	**P**	**21 25 53.1**	**-0.4**
SNAA				IAmb	IAmb	21 25 55.9	
	comp=Z,4.9nm,1.3s						
GO01	**Chusmiza**	**36.17**	**335**	P	**P**	**21 27 06.0**	**+0.6**
GO01				IAmb	IAmb	21 27 10.4	
	comp=Z,6.6nm,1.1s						
QSPA	**South Pole Qui**	**36.25**	**180**	P	**P**	**21 27 07.1**	**+1.7**
	comp=Z,3.5nm,0.6s,baz=160,slow=2.5,SNR=9.0						
QSPA				LR	LR	21 42 00.7	
	comp=Z,106nm,20.1s,baz=168,slow=36						
QSPA	**South Pole Qui**	**36.25**	**180**	P	**P**	**21 27 05.5**	**+0.1**
QSPA				IAmb	IAmb	21 27 20.6	
	comp=Z,7.6nm,0.7s						
MNMC	**Minye Minye**	**36.78**	**335**	P	**P**	**21 27 11.0**	**+0.6**
MNMC				IAmb	IAmb	21 27 24.9	
	comp=Z,8.5nm,0.6s						
SIV	**San Ignacio**	**38.31**	**349**	P	**P**	**21 27 21.9**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=169,slow=8.4,SNR=3.8						
BDFB	**Brasilia**	**38.58**	**9**	P	**P**	**21 27 24.6**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=173,slow=6.0,SNR=4.7						
BDFB				LR	LR	21 42 51.3	
	comp=Z,430nm,21.6s,baz=144,slow=36						
BDFB	**Brasilia**	**38.58**	**9**	IAmb	IAmb	21 27 29.2	
	comp=Z,5.9nm,1.0s						
LPAZ	**La Paz**	**39.19**	**338**	P	**P**	**21 27 31.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=188,slow=5.4,SNR=5.2						
LPAZ				LR	LR	21 44 26.2	
	comp=Z,227nm,21.1s,baz=194,slow=37						
LPAZ	**La Paz**	**39.19**	**338**	P	**P**	**21 27 32.0**	**+1.0**
H10S3	**ASCENSION HYDR**	**54.90**	**50**	T	T	22 28 36.1	
	baz=207,slow=74,SNR=110						
H10S2	**ASCENSION HYDR**	**54.90**	**50**	T	T	22 28 36.3	
	baz=13,slow=74,SNR=129						
SUR	**Sutherland**	**55.95**	**100**	P	**P**	**21 29 39.6**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=215,slow=16,SNR=2.6						
SUR	**Sutherland**	**55.95**	**100**	IAmb	IAmb	21 29 44.8	
	comp=Z,35nm,1.5s						
H10N3	**ASCENSION HYDR**	**55.96**	**50**	T	T	22 29 55.4	
	baz=206,slow=75,SNR=165						
H10N1	**ASCENSION HYDR**	**55.96**	**50**	T	T	22 29 55.9	
	baz=206,slow=75,SNR=143						
H10N2	**ASCENSION HYDR**	**55.98**	**50**	T	T	22 29 56.9	
	baz=206,slow=75,SNR=196						
ROSC	**El Rosal**	**61.02**	**337**	LR	LR	21 59 36.9	
	comp=Z,142nm,20.2s,baz=191,slow=39						
BOSA	**Boshof**	**61.31**	**100**	P	**P**	**21 30 17.0**	**-1.1**
	comp=Z,3.9nm,1.1s,baz=213,slow=11,SNR=3.2						
LBTB	**Lobatse**	**64.22**	**98**	P	**P**	**21 30 35.9**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=228,slow=6.7,SNR=4.4						
LIC	**Lamto**	**72.71**	**52**	*eP*	**P**	**21 31 29.8**	**-0.6**
	comp=Z,1.2nm,0.2s						
KIC	**Kosan Boka**	**72.96**	**52**	*eP*	**P**	**21 31 31.9**	**0.0**
	comp=Z,6.2nm,0.7s						
TIC	**Toumodi**	**73.08**	**52**	*eP*	**P**	**21 31 31.6**	**-1.0**
DBIC	**Dimbokro**	**73.18**	**52**	P	**P**	**21 31 33.4**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=192,slow=9.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**81.92**	**54**	P	**P**	**21 32 21.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=222,slow=5.1,SNR=4.0						
LPIG	**La Paz**	**91.57**	**311**	LR	LR	22 07 44.1	
	comp=Z,149nm,21.5s,baz=214,slow=31						
TXAR	**Lajitas Array**	**93.37**	**318**	LR	LR	22 12 20.3	
	comp=Z,57nm,18.5s,baz=0.0,slow=34						
YKA	**Yellowknife Ar**	**125.43**	**330**	PKP	**PKPdf**	**21 39 02.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=144,slow=2.0,SNR=4.1						
FINES	**FINESS Array B**	**131.28**	**39**	PKP	**PKPdf**	**21 39 13.7**	**+0.5**
	comp=Z,3.2nm,1.1s,baz=237,slow=4.8,SNR=2.7						
ILAR	**Eielson Array**	**137.85**	**320**	PKP	**PKPdf**	**21 39 26.6**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=114,slow=2.2,SNR=4.8						
PBKT	**Sadao Pong**	**137.93**	**143**		**PKPdf**	**21 39 23.8**	**-3.2**
CMAR	**Chiang Mai Arr**	**138.91**	**139**		**PKPdf**	**21 39 26.8**	**-2.0**
SHL	**Shillong**	**142.06**	**125**		**PKPdf**	**21 39 33.2**	**-1.3**
AAK	**Ala-Archa**	**144.76**	**87**	PKP	**PKPab**	**21 39 37.3**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=232,slow=5.7,SNR=8.5						
AAK	**Ala-Archa**	**144.76**	**87**		**PKPab**	**21 39 37.8**	**+0.2**
BRVK	**Borovoye**	**147.67**	**69**		**PKiKP**	**21 39 48.0**	**0.0**
BVAR	**Borovoye Array**	**147.71**	**69**	PKPbc	**PKPbc**	**21 39 46.2**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=261,slow=4.8,SNR=14						
KURBB	**Kurchatov Arra**	**151.29**	**77**	PKPbc	**PKPbc**	**21 39 54.2**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=243,slow=3.1,SNR=9.1						
KURK	**Kurchatov**	**151.38**	**77**		**PKPbc**	**21 39 55.1**	**-0.1**
KURK				PKPab	**PKPab**	**21 40 04.5**	**+1.0**
MKAR	**Makanchi Array**	**151.69**	**87**	PKPbc	**PKPbc**	**21 39 55.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=248,slow=3.4,SNR=5.8						
MKAR				PKPab	**PKPab**	**21 40 04.0**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=240,slow=3.3,SNR=6.6						

*ISCJB **25** 21:26:33.3±0.4, 25°.34S±0°.07×70°.18E±0°.07, h10km, mb4.1/22, MS4.2/20, Error ellipse: s-maj=10.7km s-min=9.4km az=25.1*
*IDC **25** 21:26:33.4±0.5, 25°.33S×70°.12E, h0km, mb4.1/22, mb1 4.2/22, mb1mx4.1/53, mbtmp4.1/22, MS4.2/20, Ms1 4.2/20, ms1mx4.0/46, Error ellipse: s-maj=16.5km s-min=14.1km az=15.0*
*NEIC **25** 21:26:35.2±2.0, 25°.3S±0°.1×70°.1E±0°.1, h10km±4km, mb4.6/33*
*GCMT **25** 21:26:37.2±0.2

comp=Z,0.9nm,0.5s,baz=338,slow=11,SNR=2.8
STKA LR LR 22 00 11.1
comp=Z,310nm,20.8s,baz=220,slow=32
STKA Stephens Creek 62.11 114 IAmb IAmb 21 37 03.3
comp=Z,0.7nm,1.2s
CHGR Chuyangaron 63.64 359 P **P** **21 37 06.5 +0.1**
CHGR IAmb IAmb 21 37 08.8
comp=Z,13nm,1.5s
SIJI Sorong 63.72 78 P **P** **21 37 07.0 -0.4**
comp=Z,11nm,0.7s,baz=281,slow=5.3,SNR=11
GEYT Alibeck 63.90 349 LR LR 22 01 28.7
comp=Z,155nm,20.3s,baz=190,slow=33
QSPA South Pole Qui 64.82 180 P **P** **21 37 14.1 +0.1**
comp=Z,2.4nm,0.8s,baz=279,slow=3.1,SNR=3.5
QSPA South Pole Qui 64.82 180 IAmb IAmb 21 37 21.4
comp=Z,8.4nm,0.9s
BTK Batken 65.03 1 P **P** **21 37 15.8 +0.3**
BTK IAmb IAmb 21 37 23.5
comp=Z,6.0nm,1.2s
NRN Naryn 66.63 5 P **P** **21 37 27.4 +1.3**
SBA Scott Base 66.84 167 P **P** **21 37 27.2 +0.6**
ENH Enshi 66.93 37 P **P** **21 37 28.6 +0.8**
AAK Ala-Archa 67.73 4 P **P** **21 37 33.4 +0.6**
comp=Z,0.2nm,0.2s,baz=190,slow=4.5,SNR=4.7
AAK Ala-Archa 67.73 4 P **P** **21 37 34.8 +1.9**
AAK IAmb IAmb 21 37 37.2
comp=Z,6.0nm,1.5s
FRU1 Bishkek 67.91 4 P **P** **21 37 36.1 +2.3**
KK31 Karatay Array 68.08 0 P **P** **21 37 35.8 +1.0**
KK31 IAmb IAmb 21 37 37.4
comp=Z,6.2nm,1.3s
KKAR Karatay Array 68.08 0 P **P** **21 37 35.2 +0.4**
KKAR Karatay Array 68.08 0 P **P** **21 37 35.7 +0.9**
KKAR IAmb IAmb 21 37 37.4
comp=Z,6.2nm,1.3s
GNI Garni 69.27 339 P **P** **21 37 44.4 +1.8**
WMQ Urumqi 70.67 13 P **P** **21 37 50.5 -0.4**
AKH Akhalkalaki 70.82 339 ⇑P **P** **21 37 48.5 -3.5**
JAY Jayapura 71.42 84 LR LR 22 08 18.4
comp=Z,149nm,20.1s,baz=124,slow=35
MK31 Makanchi Array 72.61 9 P **P** **21 38 01.9 -0.6**
MK31 IAmb IAmb 21 38 10.0
comp=Z,3.7nm,1.1s
MKAR Makanchi Array 72.61 9 P **P** **21 38 01.9 -0.5**
comp=Z,1.9nm,0.6s,baz=192,slow=6.0,SNR=15
MKAR LR LR 22 08 59.2
comp=Z,164nm,18.3s,baz=172,slow=35
MKAR Makanchi Array 72.61 9 P **P** **21 38 01.5 -1.0**
BRTR Keskin Array B 73.09 331 P **P** **21 38 05.9 +0.3**
comp=Z,1.8nm,0.7s,baz=160,slow=7.2,SNR=11
BRTR LR LR 22 09 20.1
comp=Z,42nm,18.0s,baz=104,slow=35
BRTR Keskin Array B 73.09 331 P **P** **21 38 05.6 0.0**
BR131 Keskin Array S 73.09 331 P **P** **21 38 06.1 +0.4**
BR131 IAmb IAmb 21 38 15.1
comp=Z,4.1nm,1.0s
KBZ Khabaz 73.10 340 P **P** **21 38 06.3 +0.9**
comp=Z,2.4nm,0.9s,baz=196,slow=5.9,SNR=5.4
KBZ LR LR 22 08 53.3
comp=Z,73nm,18.9s,baz=147,slow=35
KIV Kislovodsk 73.37 340 ⇑P **P** **21 38 08.9 +1.8**
KIV Kislovodsk 73.37 340 P **P** **21 38 06.6 -0.5**
KIV IAmb IAmb 21 38 16.1
comp=Z,6.8nm,1.0s
PMG Port Moresby 74.40 93 LR LR 22 07 28.8
comp=Z,318nm,21.8s,baz=330,slow=33
ABKAR Akbulak array 74.78 353 P **P** **21 38 13.2 -1.9**
ABKAR Akbulak array 74.78 353 IAmb IAmb 21 38 22.2
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 75.97 6 P **P** **21 38 22.0 +0.1**
comp=Z,1.5nm,0.7s,baz=200,slow=6.4,SNR=10
KURK Kurchatov 76.06 6 P **P** **21 38 24.3 +1.8**
KURK IAmb IAmb 21 38 35.2
comp=Z,6.5nm,1.2s
AKTO Aktyubinsk 76.16 352 P **P** **21 38 24.0 +0.9**
comp=Z,2.3nm,0.7s,baz=164,slow=6.2,SNR=8.3
TORD Torodi Ar. Bea 76.79 292 P **P** **21 38 26.9 -0.5**
comp=Z,1.2nm,0.7s,baz=104,slow=6.1,SNR=7.2
TORD Torodi Ar. Bea 76.79 292 P **P** **21 38 27.5 +0.1**
BVAR Borovoye Array 78.00 0 P **P** **21 38 32.8 -0.5**
comp=Z,1.1nm,0.7s,baz=163,slow=6.2,SNR=9.0
DBIC Dimbokro 79.37 283 LR LR 22 12 03.9
comp=Z,202nm,18.3s,baz=118,slow=34
SONM Songino Array 79.79 24 P **P** **21 38 44.0 +0.6**
comp=Z,1.5nm,1.0s,baz=198,slow=6.4,SNR=8.6
SONM LR LR 22 12 41.7
comp=Z,189nm,21.6s,baz=200,slow=35
SONM Songino Array 79.79 24 P **P** **21 38 45.1 +1.6**
CFR Carcaliu 79.89 331 ⇓P **P** **21 38 45.4 +1.6**
ZAA0 Zalesovo Array 79.95 9 P **P** **21 38 42.8 -1.2**
ZALV Zalesovo Beam 79.95 9 P **P** **21 38 43.5 -0.5**
comp=Z,1.8nm,0.6s,baz=193,slow=5.8,SNR=7.6
ZALV Zalesovo Beam 79.95 9 P **P** **21 38 45.1 +1.1**
ULN Ulaanbaatar 80.06 24 P **P** **21 38 43.8 -1.2**
ULN IAmb IAmb 21 38 52.9
comp=Z,12nm,1.4s
VRI Vrincioaia 81.05 331 ⇓P **P** **21 38 51.9 +1.8**
PLOR Plostina 81.07 331 ⇑P **P** **21 38 50.7 +0.4**
MLR Muntele Rosu 81.10 330 ⇓P **P** **21 38 47.9 -2.6**
VOIR 81.47 330 ⇓P **P** **21 38 54.0 +1.6**
ARR Arges 81.61 329 ⇑P **P** **21 38 54.2 +1.0**
GZR Gura Zlata 82.49 329 ⇓P **P** **21 39 00.7 +3.0**
KSRS Korea Array 82.76 43 LR LR 22 14 22.5
comp=Z,108nm,19.4s,baz=230,slow=35
BURAR Bucovina Array 83.06 331 P **P** **21 39 00.9 +0.1**
BZS Buzias 83.21 328 ⇑P **P** **21 39 03.2 +1.8**
AKASG Malin Array Be 83.85 335 P **P** **21 39 04.6 +0.1**
comp=Z,0.9nm,0.5s,baz=138,slow=3.8,SNR=4.6
CONA Conrad Observa 87.64 327 *e*PcP **P** **21 39 25.9 +2.3**
comp=Z,7.3nm,1.2s
MOA Molln 88.38 326 *e*pP P 21 39 30.7 +3.6
comp=Z,9.2nm,1.4s
ABTA Abfaltersbach 88.57 325 *e*pP P 21 39 32.2 +4.2
comp=Z,8.5nm,1.0s
MJAR Matsushiro Arr 88.88 48 LR LR 22 19 32.3
comp=Z,100nm,18.5s,baz=265,slow=36
USRK Ussuriysk Ar. 89.36 39 LR LR 22 19 16.4
comp=Z,106nm,19.0s,baz=227,slow=35
WTTA Wattenberg 89.36 325 *e*PcP **P** **21 39 33.8 +1.9**
comp=Z,14nm,1.6s
KLMR Klimovskoe 89.38 346 *e* **P** **21 39 31.0 -0.4**
KLMR AMP 21 39 40.0
comp=Z,27nm,1.4s
WATA Walderalm 89.44 325 *e*PcP **P** **21 39 34.0 +1.9**
comp=Z,8.7nm,1.6s
FETA Feichten 89.69 324 *e*PcP **P** **21 39 35.8 +2.4**
comp=Z,10nm,1.5s
MOTA Moosalm 89.69 324 *e*PcP **P** **21 39 36.2 +2.8**
comp=Z,6.5nm,1.0s
RETA Reutte 89.96 324 *e*PcP **P** **21 39 36.7 +2.1**
comp=Z,11nm,1.7s

ISCJB ***25*** *21:30:16.4±0.6,25°.3S±0°.1×70°.0E±0°.1,h10km,mb3.9/15, Error ellipse: s-maj=20.9km s-min=13.3km az=35.4*
IDC ***25*** *21:30:17.0±0.8,25°.28S×69°.93E,h0km,mb4.0/15, mb1 4.1/15,mb1mx3.9/56,mbtmp4.0/15,Error ellipse: s-maj=26.9km s-min=19.2km az=33.0*
NEIC ***25*** *21:30:20.5±1.7,24°.8S±0°.2×70°.5E±0°.1,h10km±2km, mb4.4/7*

ISC 25 21:30:18.4±0.9,25°.3S±0°.2×70°.0E±0°.2,h10km,n35, σ0°.78/28,mb4.0/16,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.69**	**8**	T	T	21 52 38.4	
baz=189,slow=76,SNR=16							
H08S2	**Diego Garcia H**	**17.69**	**8**	T	T	21 52 37.2	
baz=189,slow=76,SNR=22							
H08S3	**Diego Garcia H**	**17.71**	**8**	T	T	21 52 39.8	
baz=189,slow=76,SNR=15							
H01W2	**Cape Leeuwin H**	**39.13**	**115**	T	T	22 19 33.7	
baz=272							
H01W3	**Cape Leeuwin H**	**39.13**	**115**	T	T	22 19 35.8	
baz=272							
H01W1	**Cape Leeuwin H**	**39.14**	**115**	T	T	22 19 39.6	
baz=272							
KMBO	**Kilima Mbogo**	**39.66**	**302**	P	**P**	**21 37 50.5**	**-0.7**
0.6nm,0.4s,baz=90,slow=10,SNR=2.6							
CMAR	**Chiang Mai Arr**	**51.81**	**36**	P	**P**	**21 39 27.7**	**+0.9**
2.0nm,0.7s,baz=228,slow=7.0,SNR=10							
FITZ	**Fitzroy Crossi**	**51.91**	**94**	P	**P**	**21 39 28.9**	**+1.2**
4.2nm,0.8s,baz=233,slow=8.7,SNR=4.9							
ASAR	**Alice Springs**	**57.70**	**103**	P	**P**	**21 40 09.4**	**-0.2**
1.1nm,0.7s,baz=253,slow=6.6,SNR=9.7							
WRA	**Warramunga Arr**	**59.17**	**99**	P	**P**	**21 40 20.0**	**+0.1**
1.8nm,0.9s,baz=255,slow=6.8,SNR=7.1							
WRAB	**Tennant Creek**	**59.18**	**99**	P	**P**	**21 40 19.9**	**-0.1**
WR0	**Warramunga Arr**	**59.34**	**99**	P	**P**	**21 40 19.3**	**-1.9**
SNAA	**Sanae**	**60.83**	**200**	P	**P**	**21 40 30.9**	**+0.3**
1.1nm,0.8s,baz=160,slow=7.6,SNR=3.6							
KKAR	**Karatay Array**	**68.04**	**0**	P	**P**	**21 41 18.2**	**+0.3**
KKAR	**Karatay Array**	**68.04**	**0**	P	**P**	**21 41 17.9**	**0.0**
KKAR				IAmb	IAmb	21 41 24.1	
comp=Z,2.5nm,0.8s							
MKAR	**Makanchi Array**	**72.59**	**9**	P	**P**	**21 41 45.4**	**-0.3**
comp=Z,1.2nm,0.6s,baz=196,slow=6.6,SNR=7.7							
MKAR	**Makanchi Array**	**72.59**	**9**	P	**P**	**21 41 44.7**	**-1.0**
BR131	**Keskin Array S**	**73.01**	**331**	P	**P**	**21 41 49.6**	**+1.1**
BR131				IAmb	IAmb	21 41 56.5	
comp=Z,2.9nm,0.9s							
BRTR	**Keskin Array B**	**73.01**	**331**	P	**P**	**21 41 48.8**	**+0.3**
comp=Z,1.2nm,0.8s,baz=166,slow=7.8,SNR=6.9							
BRTR	**Keskin Array B**	**73.01**	**331**	P	**P**	**21 41 48.6**	**+0.1**
KBZ	**Khabaz**	**73.03**	**340**	P	**P**	**21 41 48.9**	**+0.6**
comp=Z,1.5nm,0.9s,baz=209,slow=5.2,SNR=4.2							
KIV	**Kislovodsk**	**73.30**	**340**	P	**P**	**21 41 49.2**	**-0.8**
ABKAR	**Akbulak array**	**74.73**	**353**	P	**P**	**21 41 58.4**	**+0.2**
ABKAR	**Akbulak array**	**74.73**	**353**	P	**P**	**21 41 57.2**	**-0.9**
ABKAR				IAmb	IAmb	21 41 59.2	
comp=Z,3.2nm,0.9s							
KURBB	**Kurchatov Arra**	**75.94**	**6**	P	**P**	**21 42 05.5**	**+0.4**
comp=Z,1.1nm,0.8s,baz=198,slow=6.3,SNR=6.4							
KURK	**Kurchatov**	**76.04**	**6**	P	**P**	**21 42 05.5**	**-0.2**
KURK	**Kurchatov**	**76.04**	**6**	IAmb	IAmb	21 42 13.6	
comp=Z,6.1nm,1.1s							
AKTO	**Aktyubinsk**	**76.11**	**352**	P	**P**	**21 42 06.3**	**+0.2**
comp=Z,2.2nm,0.9s,baz=205,slow=3.2,SNR=4.9							
TORD	**Torodi Ar. Bea**	**76.68**	**292**	P	**P**	**21 42 10.5**	**+0.4**
comp=Z,0.7nm,0.7s,baz=105,slow=4.8,SNR=5.0							
BVAR	**Borovoye Array**	**77.97**	**0**	P	**P**	**21 42 16.7**	**+0.2**
comp=Z,0.6nm,0.8s,baz=168,slow=4.0,SNR=4.0							
SONM	**Songino Array**	**79.80**	**24**	P	**P**	**21 42 28.1**	**+1.3**
comp=Z,0.4nm,0.5s,baz=194,slow=5.6,SNR=4.7							
SONM	**Songino Array**	**79.80**	**24**	P	**P**	**21 42 25.6**	**-1.3**
ZALV	**Zalesovo Beam**	**79.93**	**9**	P	**P**	**21 42 27.2**	**-0.1**
comp=Z,0.9nm,0.6s,baz=190,slow=6.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**79.93**	**9**	P	**P**	**21 42 26.2**	**-1.0**

IDC 25 21:34:19.6±1.5,25°.34S×70°.07E,h0km,mb3.7/10, mb1 3.8/10,mb1mx3.6/54,mbtmp3.7/10,MS4.0/2, Ms1 4.0/2,ms1mx3.3/39,Error ellipse: s-maj=48.4km s-min=26.5km az=31.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.75**	**8**	T	T	21 56 45.3	
baz=189,slow=76,SNR=19							
H08S2	**Diego Garcia H**	**17.75**	**8**	T	T	21 56 40.8	
baz=189,slow=76,SNR=32							
H08S3	**Diego Garcia H**	**17.77**	**8**	T	T	21 56 45.3	
baz=189,slow=76,SNR=24							
H01W2	**Cape Leeuwin H**	**39.02**	**115**	T	T	22 23 41.4	
baz=272							
H01W3	**Cape Leeuwin H**	**39.02**	**115**	T	T	22 23 32.0	
baz=272							
H01W1	**Cape Leeuwin H**	**39.04**	**115**	T	T	22 23 25.9	
baz=272							
KAPI	**Kappang**	**51.67**	**76**	LR	LR	22 03 23.9	
comp=Z,94nm,18.7s,baz=116,slow=34							
CMAR	**Chiang Mai Arr**	**51.82**	**36**	P	P	21 43 29.3	-0.3
0.6nm,0.6s,baz=224,slow=7.7,SNR=5.8							
ASAR	**Alice Springs**	**57.60**	**103**	P	P	21 44 12.1	+0.3
0.2nm,0.5s,baz=243,slow=6.9,SNR=4.5							
WRA	**Warramunga Arr**	**59.08**	**99**	P	P	21 44 21.9	-0.2
1.4nm,0.9s,baz=255,slow=6.3,SNR=6.5							
MKAR	**Makanchi Array**	**72.64**	**9**	P	P	21 45 48.8	0.0
0.5nm,0.6s,baz=196,slow=5.9,SNR=9.9							
BRTR	**Keskin Array B**	**73.11**	**331**	P	P	21 45 52.2	+0.2
0.4nm,0.6s,baz=133,slow=12,SNR=3.6							
KURBB	**Kurchatov Arra**	**76.00**	**6**	P	P	21 46 09.6	+1.3
0.1nm,0.3s,baz=200,slow=5.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**76.78**	**292**	P	P	21 46 13.4	-0.1
0.3nm,0.5s,baz=104,slow=5.6,SNR=3.9							
BVAR	**Borovoye Array**	**78.03**	**0**	P	P	21 46 19.7	-0.1
0.3nm,0.7s,baz=187,slow=5.8,SNR=2.6							
SONM	**Songino Array**	**79.83**	**24**	P	P	21 46 29.6	-0.2
0.8nm,1.1s,baz=202,slow=6.2,SNR=3.6							
ZALV	**Zalesovo Beam**	**79.99**	**9**	P	P	21 46 29.6	-0.7
0.4nm,0.4s,baz=184,slow=6.7,SNR=3.7							
GERES	**GERESS Array B**	**89.34**	**327**	LR	LR	22 24 33.7	
comp=Z,107nm,21.5s,baz=232,slow=34							

IDC 25 21:36:11.8±1.6,24°.92S×70°.49E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/49,mbtmp3.8/5,Error ellipse: s-maj=56.9km s-min=31.6km az=22.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.28**	**7**	T	T	21 58 33.1	
baz=189							
H08S2	**Diego Garcia H**	**17.28**	**7**	T	T	21 58 31.2	
baz=189							
H08S3	**Diego Garcia H**	**17.30**	**7**	T	T	21 58 33.1	
baz=189							
CMAR	**Chiang Mai Arr**	**51.25**	**35**	P	P	21 45 18.3	+0.8
0.6nm,0.3s,baz=218,slow=5.7,SNR=2.9							
ASAR	**Alice Springs**	**57.33**	**103**	P	P	21 46 01.4	-0.6
0.5nm,1.0s,baz=254,slow=5.7,SNR=2.7							
WRA	**Warramunga Arr**	**58.77**	**99**	P	P	21 46 12.3	+0.2
2.9nm,1.1s,baz=251,slow=7.8,SNR=6.3							
MKAR	**Makanchi Array**	**72.17**	**8**	P	P	21 47 37.2	-1.0
0.3nm,0.7s,baz=180,slow=4.3,SNR=2.0							
TORD	**Torodi Ar. Bea**	**76.98**	**291**	P	P	21 48 07.2	+0.3
1.7nm,1.1s,baz=116,slow=4.5,SNR=4.5							

IDC ***25*** *21:45:37.1±3.5,36°.17N×141°.74E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.3/41,mbtmp3.4/3,ML2.4/1,Error ellipse: s-maj=87.8km s-min=36.8km az=53.0*
ISCJB ***25*** *21:45:47.6±0.9,35°.68N±0°.07×140°.8E±0°.1,h63km±7km, mb3.5/2,Error ellipse: s-maj=17.2km s-min=9.6km az=149.9*
JMA ***25*** *21:45:49.2±0.1,35°.65N×140°.66E,h46km±1km,M2.8*

ISC 25 21:45:48.3±1.2,35°.67N±0°.06×140°.84E±0°.09,h54km±8km, n17,σ1°.84/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.04**	**24**	P	**Pn**	**21 45 56.8**	**+0.3**
CHOJ				*e*S	**Sn**	**21 46 02.4**	**0.0**
JCN	**Nagara**	**0.58**	**245**	P	**Pn**	**21 46 00.1**	**-0.6**
JYT	**Yasato**	**0.77**	**317**	P	**Pn**	**21 46 02.6**	**-0.5**
BSO4	**Boso 4**	**0.79**	**211**	P	**Pn**	**21 46 03.4**	**+0.1**
BSO3	**Boso 3**	**0.91**	**197**	P	**Pn**	**21 46 04.9**	**+0.2**
JHO	**Hitachi**	**0.96**	**347**	P	**Pn**	**21 46 06.4**	**+0.7**
BSO1	**Boso 1**	**1.02**	**174**	P	**Pn**	**21 46 06.9**	**+1.0**
MJAR	**Matsushiro Arr**	**2.30**	**293**	Pn	**Pn**	**21 46 24.3**	**+0.5**
0.5nm,0.3s,baz=100,slow=12,SNR=21							
MJAR				Sn	**Sn**	**21 46 55.8**	**+4.7**
0.5nm,0.3s,baz=85,slow=30,SNR=4.7							
MAT	**Matsushiro**	**2.30**	**293**	P	**Pn**	**21 46 25.0**	**+1.1**
MAT				*e*S	**Sn**	**21 46 49.0**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	22 20 47.1	
baz=310,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	22 20 50.3	
baz=310							
H11N3	**WAKE ISLAND Hy**	**27.90**	**118**	T	T	22 20 46.5	
baz=310,slow=75							
H11S3	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	22 21 32.3	
baz=312,slow=75,SNR=6.3							
H11S1	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	22 21 34.0	
baz=312,slow=75,SNR=8.7							
H11S2	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	22 21 39.5	
baz=312,slow=75,SNR=5.7							
MKAR	**Makanchi Array**	**44.46**	**303**	P	**P**	**21 53 52.2**	**-1.8**
0.6nm,0.9s,baz=77,slow=8.9,SNR=3.6							
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**21 55 19.2**	**+0.4**
0.5nm,0.7s,baz=360,slow=7.5,SNR=0.3							

IDC 25 21:53:00.9±3.2,6°.98N×103°.85W,h0km,mb3.2/3, mb1 3.9/4,mb1mx3.6/34,mbtmp3.6/4,ML4.1/1,MS3.6/4, Ms1 3.6/4,ms1mx3.1/19,Error ellipse: s-maj=74.6km s-min=55.1km az=128.0,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**13.61**	**330**	T	T	22 09 03.9	
APG	**El Apazote**	**15.36**	**58**	Pn	Pn	21 56 39.3	-0.1
0.8nm,0.3s,baz=232,slow=19,SNR=15							
APG				LR	LR	22 01 01.6	
comp=Z,343nm,21.7s,baz=300,slow=31							
TXAR	**Lajitas Array**	**22.24**	**0**	P	P	21 58 00.1	+0.5
1.4nm,0.9s,baz=180,slow=12,SNR=12							
ATAH	**Atahualpa**	**29.00**	**118**	LR	LR	22 08 45.3	
comp=Z,100nm,20.6s,baz=279,slow=33							
TKL	**Tuckaleechee C**	**33.97**	**30**	LR	LR	22 15 33.0	
comp=Z,104nm,19.0s,baz=164,slow=40							
PDAR	**Pinedale Array**	**36.00**	**353**	P	P	22 00 02.7	-1.3
0.2nm,0.5s,baz=162,slow=9.2,SNR=1.7							
SADO	**Sadowa**	**43.36**	**26**	LR	LR	22 19 58.5	
comp=Z,40nm,18.2s,baz=172,slow=37							
ILAR	**Eielson Array**	**65.17**	**341**	P	P	22 03 44.3	+0.7
0.3nm,1.0s,baz=159,slow=5.3,SNR=2.0							
CMAR	**Chiang Mai Arr**	**146.18**	**319**	PKPbc	PKPdf	22 12 43.3	0.0
0.5nm,0.5s,baz=20,slow=2.4,SNR=2.8							

DJA 25 22:01:14.2±0.5,8°.S±3°.×12°.0E±°,h33km±8km,M4.3/17, mb4.5/5,mB5.3/2,MLv4.1/17,Mw(mB)4.7/2,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.35**	**188**	P	Pn	22 01 37.7	+0.9
WBSI	**Waikabubak, Su**	**1.70**	**220**	P	Pn	22 01 41.8	+0.1
BASI	**Baing, Sumba**	**1.89**	**177**	P	Pn	22 01 43.9	-0.3
PLAI	**Plampang**	**2.73**	**259**	P	Pn	22 01 56.8	+1.0
BKSI	**Bulukumba**	**3.00**	**353**	P	Pn	22 01 59.4	-0.1
BBSI	**Bau Bau**	**3.49**	**36**	P	Pn	22 02 06.1	-0.1
TWSI	**Taliwang, Sumb**	**3.59**	**263**	P	Pn	22 02 07.5	-0.1
BNSI	**Bone**	**3.91**	**354**	P	Pn	22 02 13.0	+1.0
SOEI	**Soe**	**3.99**	**111**	P	Pb	22 02 32.7	+8.7
SPSI	**Sidrap Palu**	**4.39**	**351**	P	Pn	22 02 19.3	+0.8
SRBI	**Singaraja**	**5.23**	**272**	P	Pn	22 02 29.1	-1.0
18nm,0.9s							
IGBI	**Denpasar**	**5.31**	**264**	P	Pn	22 02 30.7	-0.5
152nm,0.5s,7μm							
JAGI	**Jajag, Banyuwa**	**6.27**	**268**	P	Pn	22 02 44.4	-0.1

NEIC ***25*** *22:07:01.1±2.7,16°.82N±0°.10×94°.00W±0°.05,h166km±7km*
MEX 25 22:07:03.2±1.0,16°.89N×93°.99W,h163km±7km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.84**	**98**	*e*P	Pn	22 07 26.9	-1.2
TGIG				*e*S	Sn	22 07 44.2	-2.9
TGIG		**0.84**	**98**		Pn	22 07 26.9	-1.2
TGIG					Sn	22 07 43.9	-3.2
CMIG	**Matias Romero**	**0.88**	**283**	*e*P	Pn	22 07 27.5	-0.8
CMIG				*i* S	Sn	22 07 45.7	-1.7
CMIG	**Matias Romero**	**0.88**	**283**		Pn	22 07 27.5	-0.8
CMIG					Sn	22 07 45.7	-1.7
PCIG		**1.40**	**148**	*e*P	Pn	22 07 32.2	-0.5
PCIG				*i* S	Sn	22 07 53.6	-1.8
PCIG		**1.40**	**148**		Pn	22 07 32.2	-0.5
PCIG					Sn	22 07 53.6	-1.8
CCIG	**Comitan**	**1.88**	**109**	*i* P	Pn	22 07 36.7	-1.3
CCIG				*i* S	Sn	22 08 02.7	-2.0
CCIG	**Comitan**	**1.88**	**109**		Pn	22 07 36.7	-1.3
CCIG					Sn	22 08 02.7	-2.0
CCIG	**Comitan**	**1.88**	**109**	Pn	Pn	22 07 35.5	-2.5
HUIG	**Huatulco**	**2.32**	**241**	*e*P	Pn	22 07 40.4	-2.4
HUIG				*e*S	Sn	22 08 11.6	-1.8
HUIG	**Huatulco**	**2.32**	**241**		Pn	22 07 40.4	-2.4
HUIG					Sn	22 08 11.6	-1.8
VHO	**Vista Hermosa**	**2.63**	**274**	*i* P	Pn	22 07 46.0	-0.7
VHO				*e*S	Sn	22 08 18.8	-1.6
TPIG	**Tehuac#an**	**3.55**	**296**	*i* P	Pn	22 07 56.6	-1.6
TPIG				*i* S	Sn	22 08 39.9	-1.1
TPIG	**Tehuac#an**	**3.55**	**296**		Pn	22 07 58.2	0.0
TPIG					Sn	22 08 37.7	-3.3
PNIG	**Pinotepa**	**3.99**	**263**	*e*P	Pn	22 08 02.3	-1.5
PNIG				*i* S	Sn	22 08 49.2	-1.8
PNIG	**Pinotepa**	**3.99**	**263**		Pn	22 08 01.9	-1.9
PNIG					Sn	22 08 47.6	-3.3
TLIG	**Tlapa**	**4.42**	**279**	Pn	Pn	22 08 06.5	-2.9
TLIG				Sn	Sn	22 08 53.9	-7.2
TEIG	**Tepich**	**6.36**	**58**	Pn	Pn	22 08 31.9	-2.9
MNTX	**Cornudas Mount**	**18.01**	**327**	P	P	22 11 01.3	-0.4
MNTX				IAmb	IAmb	22 11 02.0	
comp=Z,13nm,1.9s							

ISCJB ***25*** *22:07:22.8±0.5,25°.2S±0°.1×70°.24E±0°.09,h10km, mb4.0/14,MS4.3/25,Error ellipse: s-maj=15.5km s-min=10.1km az=26.6*
IDC ***25*** *22:07:22.7±0.7,25°.26S×70°.18E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.0/48,mbtmp4.1/14,MS4.2/25, Ms1 4.2/25,ms1mx4.1/39,Error ellipse: s-maj=20.7km s-min=17.8km az=34.0*
NEIC ***25*** *22:07:24.6±1.6,25°.2S±0°.1×70°.2E±0°.1,h10km±1km, mb4.6/13*
GCMT ***25*** *22:07:27.6±0.2,25°.09S±0°.02×69°.88E±0°.01,h12km, MW5.1/104,Moment Tensor Solution. s50,c58; s104,c162; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.67±.09; Mθθ0.37±.08; Mφφ3.31±.08; Mrθ1.40±.28; Mθφ-1.49±.06; Mφr2.99±.28; Best double couple: Mo4.99800×1016 NP1:φs184.00000°,δ66.00000°, λ-66.00000°. NP2:φs317.00000°,δ34.00000°, λ-132.00000°. Principal axes: T 4.6290, Plg17.0000°, Azm256.0000°; N 0.7460, Plg22.0000°, Azm353.0000°; P -5.3680, Plg62.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 22:07:24.4±0.6,25°.1S±0°.1×70°.2E±0°.1,h10km,n59, σ1°.32/35,mb4.2/17,MS4.3/25,3C-2D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.52**	**8**	T	T	22 29 44.3	
baz=189,slow=76,SNR=23							
H08S2	**Diego Garcia H**	**17.52**	**8**	T	T	22 29 40.1	
baz=189,slow=76,SNR=26							
H08S3	**Diego Garcia H**	**17.54**	**8**	T	T	22 29 48.2	
baz=189,slow=76,SNR=12							

ASAR				LR	LR	22 40 15.3	
	comp=Z,256nm,18.2s,baz=275,slow=34						
ASAR	**Alice Springs**	**57.56**	**103**	P	**P**	**22 17 17.0**	**+2.4**
WRA	**Warramunga Arr**	**59.01**	**99**	P	**P**	**22 17 24.0**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=255,slow=7.0,SNR=18						
WRA				LR	LR	22 40 37.1	
	comp=Z,552nm,19.3s,baz=265,slow=34						
WRA	**Warramunga Arr**	**59.01**	**99**	P	**P**	**22 17 24.7**	**-0.2**
WRAB	**Tennant Creek**	**59.03**	**99**	P	**P**	**22 17 23.9**	**-1.0**
SNAA	**Sanae**	**61.03**	**200**	P	**P**	**22 17 37.2**	**-0.8**
	comp=Z,1.8nm,1.1s,baz=102,slow=12,SNR=5.4						
SNAA	**Sanae**	**61.03**	**200**	IAmb	IAmb	22 17 44.4	
	comp=Z,4.1nm,1.2s						
STKA	**Stephens Creek**	**62.12**	**114**	LR	LR	22 41 02.2	
	comp=Z,400nm,20.6s,baz=230,slow=32						
GEYT	**Alibeck**	**63.73**	**349**	LR	LR	22 42 48.4	
	comp=Z,128nm,20.5s,baz=140,slow=33						
QSPA	**South Pole Qui**	**65.00**	**180**	P	**P**	**22 18 03.6**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=273,slow=4.8,SNR=4.8						
QSPA	**South Pole Qui**	**65.00**	**180**	IAmb	IAmb	22 18 19.7	
	comp=Z,9.2nm,1.1s						
JAY	**Jayapura**	**71.32**	**84**	LR	LR	22 49 09.2	
	comp=Z,159nm,20.3s,baz=190,slow=35						
MKAR	**Makanchi Array**	**72.41**	**9**	P	**P**	**22 18 51.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=194,slow=5.2,SNR=10						
MKAR				LR	LR	22 49 48.8	
	comp=Z,127nm,18.4s,baz=164,slow=35						
KBZ	**Khabaz**	**72.95**	**340**	P	**P**	**22 18 54.3**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=160,slow=6.5,SNR=3.2						
KBZ				LR	LR	22 48 21.0	
	comp=Z,67nm,20.1s,baz=164,slow=34						
BR131	**Keskin Array S**	**72.97**	**331**	P	**P**	**22 18 55.4**	**+1.2**
BR131				IAmb	IAmb	22 19 04.2	
	comp=Z,5.7nm,1.2s						
BRTR	**Keskin Array B**	**72.97**	**331**	P	**P**	**22 18 55.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=161,slow=7.8,SNR=6.5						
BRTR				LR	LR	22 48 13.8	
	comp=Z,61nm,20.6s,baz=102,slow=34						
BRTR	**Keskin Array B**	**72.97**	**331**	P	**P**	**22 18 55.3**	**+1.0**
BRTR				PP	**PP**	**22 21 34.4**	**-2.7**
ABKAR	**Akbulak array**	**74.60**	**353**	P	**P**	**22 19 04.5**	**+1.1**
ABKAR				PP	**PP**	**22 21 46.7**	**-4.0**
KURBB	**Kurchatov Arra**	**75.77**	**5**	P	**P**	**22 19 11.4**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=202,slow=6.3,SNR=6.0						
KURK	**Kurchatov**	**75.87**	**6**	P	**P**	**22 19 11.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**76.79**	**291**	P	**P**	**22 19 16.3**	**-0.5**
	comp=Z,1.9nm,1.1s,baz=116,slow=5.8,SNR=4.7						
TORD				LR	LR	22 51 44.4	
	comp=Z,192nm,20.2s,baz=0.0,slow=35						
DBIC	**Dimbokro**	**79.41**	**283**	LR	LR	22 52 52.8	
	comp=Z,194nm,18.9s,baz=104,slow=34						
SONM	**Songino Array**	**79.59**	**24**	P	**P**	**22 19 32.0**	**+0.3**
	comp=Z,2.4nm,1.1s,baz=217,slow=7.2,SNR=7.4						
SONM				LR	LR	22 53 31.0	
	comp=Z,210nm,21.7s,baz=196,slow=35						
ZALV	**Zalesovo Beam**	**79.76**	**9**	P	**P**	**22 19 32.7**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=212,slow=5.5,SNR=3.7						
ZALV				LR	LR	22 54 55.3	
	comp=Z,145nm,18.4s,baz=204,slow=36						
KRVT	**Keravat (AS076**	**80.81**	**90**	LR	LR	22 55 48.6	
	comp=Z,137nm,19.1s,baz=234,slow=36						
VRI	**Vrincioaia**	**80.92**	**331**	⇑P	**P**	**22 19 40.0**	**+1.2**
PLOR	**Plostina**	**80.94**	**331**	⇑P	**P**	**22 19 40.3**	**+1.4**
MLR	**Muntele Rosu**	**80.98**	**330**	⇑P	**P**	**22 19 40.8**	**+1.6**
VOIR		**81.35**	**330**	⇓P	**P**	**22 19 42.3**	**+1.2**
KSRS	**Korea Array**	**82.57**	**43**	LR	LR	22 55 59.3	
	comp=Z,105nm,18.5s,baz=236,slow=35						
KEST	**Kesra**	**83.45**	**314**	LR	LR	22 56 36.9	
	comp=Z,97nm,19.7s,baz=350,slow=35						
MJAR	**Matsushiro Arr**	**88.69**	**48**	LR	LR	23 00 22.0	
	comp=Z,109nm,18.6s,baz=45,slow=36						
USRK	**Ussuriysk Ar.**	**89.16**	**39**	LR	LR	22 58 29.7	
	comp=Z,145nm,21.0s,baz=261,slow=34						
KLMR	**Klimovskoe**	**89.22**	**346**	*e*	**P**	**22 20 19.8**	**-0.2**
KLMR				AMP		22 20 22.8	
	comp=Z,21nm,1.2s						
KLR	**Kul'dur**	**92.06**	**35**	LR	LR	23 00 44.0	
	comp=Z,88nm,20.9s,baz=198,slow=35						
FINES	**FINESS Array B**	**93.30**	**340**	LR	LR	23 01 20.1	
	comp=Z,44nm,18.6s,baz=166,slow=35						
NRIK	**Noril'sk**	**95.03**	**6**	LR	LR	23 04 45.6	
	comp=Z,137nm,18.6s,baz=215,slow=36						
ARCES	**ARCESS Array B**	**99.70**	**345**	LR	LR	23 06 01.3	
	comp=Z,64nm,18.3s,baz=98,slow=35						

*ISCJB **25** 22:25:53.3±0.6, 25°.57N±0°.03×99°.50W±0°.08, h10km, Error ellipse: s-maj=10.1km s-min=4.8km az=177.0*
*NEIC **25** 22:25:54.9±1.7, 25°.53N±0°.03×99°.49W±0°.07, h10km±1km, ML3.6/8, Md4.0(MEX)*
*MEX **25** 22:25:56.6±0.4, 25°.51N×99°.47W, h10km, MD4.0*
ISC 25 22:25:54.6±1.0, **25°.55N**±0°.05×**99°.42W**±0°.08, **h10**km, **n17**, σ1§**44**/22, **Northern Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**0.65**	**183**	*e*P	**Pg**	**22 26 07.1**	**0.0**
LNIG				*e*S	**Sg**	**22 26 15.8**	**+0.3**
LNIG	**Linares**	**0.65**	**183**		**Pg**	**22 26 07.1**	**0.0**
LNIG					**Sg**	**22 26 15.8**	**+0.3**
KVTX	**Kingsville**	**2.42**	**34**	Pn	**Pn**	**22 26 34.8**	**+0.6**
KVTX				IAML		22 27 35.4	
	251nm,2.8s						
KVTX				IAML		22 27 49.3	
	164nm,2.5s						
833A	**Chaparral WMA,**	**2.77**	**1**		**Pn**	**22 26 41.7**	**+2.7**
833A				IAML		22 27 24.5	
	comp=E,244nm,0.7s						
833A				IAML		22 27 31.1	
	comp=N,320nm,0.7s						
ZAIG	**Zacatecas**	**3.98**	**227**	Pn	**Pn**	**22 26 54.6**	**-1.4**
JCT	**Junction City**	**4.93**	**356**	*e*P	**Pn**	**22 27 09.7**	**+1.0**
JCT				*i* S	**Sn**	**22 28 05.4**	**-0.5**
JCT	**Junction City**	**4.93**	**356**		**Pn**	**22 27 10.2**	**+1.4**
TXAR	**Lajitas Array**	**5.33**	**316**		**Pn**	**22 27 15.7**	**+1.3**
TX31	**Lajitas Ar. Si**	**5.34**	**316**		**Pn**	**22 27 13.8**	**-0.6**
TX32	**Lajitas Array**	**5.34**	**316**		**Pn**	**22 27 16.2**	**+1.9**
TX32				Sn	**Sn**	**22 28 16.0**	**0.0**
435B	**Jarrell**	**5.46**	**17**	Pn	**Pn**	**22 27 15.8**	**-0.3**
435B					**Sn**	**22 28 16.0**	**-3.0**
HPIG		**5.77**	**285**		**Pn**	**22 27 17.5**	**-3.0**
WHTX	**Lake Whitney,**	**6.65**	**15**	Pn	**Pn**	**22 27 33.7**	**+1.3**
ABTX	**Abilene, Hawle**	**7.06**	**358**	Pn	**Pn**	**22 27 38.5**	**+0.6**
MNTX	**Cornudas Mount**	**8.06**	**321**	Pn	**Pn**	**22 27 52.2**	**+0.4**
MSTX	**Muleshoe**	**8.88**	**342**	Pn	**Pn**	**22 28 03.2**	**0.0**
WMOK	**Wichita Mounta**	**9.18**	**3**	Pn	**Pn**	**22 28 07.3**	**+0.2**

IDC 25 22:35:41.0±1.5, **25°.43S**×**69°.84E, h0**km, **mb3.8**/5, **mb1 4.0**/5, **mb1mx3.6**/41, **mbtmp3.8**/5, **MS3.5**/1, **Ms1 3.4**/1, **ms1mx2.8**/34, **Error ellipse: s-maj=51.1km s-min=29.6km az=20.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.86**	**9**	T	T	22 58 09.3	
	baz=189,slow=76,SNR=8.0						
H08S2	**Diego Garcia H**	**17.87**	**9**	T	T	22 58 16.1	
	baz=189,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**17.88**	**9**	T	T	22 58 07.5	
	baz=189,slow=76,SNR=9.6						
H01W2	**Cape Leeuwin H**	**39.18**	**115**	T	T	23 24 51.5	
	baz=272						
H01W3	**Cape Leeuwin H**	**39.18**	**115**	T	T	23 24 39.5	
	baz=272						
H01W1	**Cape Leeuwin H**	**39.19**	**115**	T	T	23 24 54.9	
	baz=272						
BOSA	**Boshof**	**39.67**	**255**	LR	LR	22 57 46.0	
	comp=Z,64nm,19.2s,baz=46,slow=33						
CMAR	**Chiang Mai Arr**	**52.01**	**36**	P	P	22 44 52.6	+0.2
	0.8nm,0.3s,baz=217,slow=7.3,SNR=4.5						
ASAR	**Alice Springs**	**57.79**	**103**	P	P	22 45 34.9	+0.5
	0.7nm,0.7s,baz=250,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**59.27**	**99**	P	P	22 45 43.9	-0.9
	0.7nm,0.9s,baz=257,slow=7.1,SNR=2.3						
MKAR	**Makanchi Array**	**72.76**	**9**	P	P	22 47 10.9	-0.1
	0.3nm,0.6s,baz=191,slow=5.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.62**	**292**	P	P	22 47 34.0	0.0
	1.2nm,1.0s,baz=109,slow=4.7,SNR=4.5						

*TEH **25** 22:38:20.9, 34°.35N×45°.60E, h10km, ML3.1*
*ISN **25** 22:38:20.1±1.1, 34°.38N×45°.54E, h0km±6km, ML3.5*
ISC 25 22:38:20.6±1.3, **34°.39N**±0°.03×**45°.58E**±0°.03, **h2**km±12km, **n21**, σ0§**88**/29, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.74**	**65**	*e*Pg	**Pg**	**22 38 35.2**	**+0.5**
IDHR				*e*Sg	**Sb**	**22 38 46.0**	**-1.0**
IDHR				IAMB	IAmb	22 38 48.5	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.82**	**94**	*e*Pg	**Pg**	**22 38 36.9**	**+0.5**
IGHG				IAMB	IAmb	22 38 39.6	
	comp=Z,10μm,0.2s						
KCHF	**Cheshme Sefid,**	**1.22**	**95**	*e*Pg	**Pg**	**22 38 43.9**	**0.0**
KCHF				IAMB	IAmb	22 38 45.8	
	comp=Z,0.0nm,0.2s						
KCHF				*e*Sg	**Sn**	**22 39 01.8**	**-0.3**
ILIN	**Lien**	**1.26**	**65**	*e*Pg	**Pg**	**22 38 45.0**	**+0.3**
ILIN				IAMB	IAmb	22 38 46.5	
	comp=Z,3μm,0.3s						
ILIN				*e*Sg	**Sn**	**22 39 03.7**	**+0.5**
IBDR	**Badra**	**1.31**	**167**	*e*Pn	**Pb**	**22 38 45.7**	**-0.3**
IBDR				AML	AML	22 38 46.8	
	comp=Z,2μm,0.4s						
IBDR				*e*Sn	**Sn**	**22 39 04.9**	**+0.8**
IKRK	**Kirkuk**	**1.43**	**315**	*e*Pn	**Pg**	**22 38 48.2**	**+0.2**
IKRK				AML	AML	22 38 49.1	
	comp=Z,894nm,0.4s						
IKRK				*e*Sn	**Sg**	**22 39 07.5**	**+0.9**
BHD	**Baghdad**	**1.50**	**222**	*e*Pn	**Pb**	**22 38 48.4**	**-0.7**
BHD				AML	AML	22 38 51.2	
	comp=Z,10μm,0.2s						
BHD				*e*Sn	**Sg**	**22 39 08.3**	**-0.4**
IKOM	**Komasi**	**1.61**	**97**	*e*Pn	**Pg**	**22 38 51.3**	**-0.3**
IKOM				IAMB	IAmb	22 38 53.1	
	comp=Z,0.0nm,0.6s						
IBZA	**Bozab**	**1.89**	**87**	*e*Pn	**Pb**	**22 38 55.5**	**-0.5**
IBZA				IAMB	IAmb	22 38 57.1	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**2.08**	**114**	*e*Pn	**Pn**	**22 38 57.1**	**+0.6**
IKFM				IAMB	IAmb	22 39 38.9	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.24**	**105**	*e*Pn	**Pn**	**22 38 59.4**	**+0.4**
MAHB	**Mahabad**	**2.37**	**2**	*e*Pn	**Pb**	**22 39 03.1**	**-1.1**
MAHB				IAMB	IAmb	22 39 38.6	
	comp=Z,0.0nm,0.4s						
HSRG	**Sareghieh**	**2.38**	**68**	IAMB	IAmb	22 39 08.8	
	comp=Z,0.0nm,0.2s						
HSRG				*e*Pn	**Pb**	**22 39 02.6**	**-1.8**
IKMR	**Kamar-syah**	**2.49**	**110**	*e*Pn	**Pn**	**22 39 03.0**	**+0.8**
HSAM	**Samen**	**2.51**	**93**	IAMB	IAmb	22 39 09.1	
	comp=Z,0.0nm,0.6s						
HSAM				*e*Pn	**Pn**	**22 39 03.3**	**+0.5**
BDRS	**Dareh Seyedi**	**2.77**	**98**	IAMB	IAmb	22 39 13.6	
	comp=Z,0.0nm,0.3s						
BDRS				*e*Pn	**Pn**	**22 39 07.0**	**+0.6**
MSL	**Mosul**	**2.84**	**316**	*e*Pn	**Pn**	**22 39 07.4**	**+0.3**
MSL				AML	AML	22 39 14.1	
	comp=Z,90nm,0.3s						
MSL				*e*Sn	**Sn**	**22 39 41.7**	**-0.2**
HAGD	**Aghdareh**	**2.97**	**81**	*e*Pn	**Pn**	**22 39 10.3**	**+1.3**
HAGD				IAMB	IAmb	22 39 19.6	
	comp=Z,0.0nm,0.2s						
NSR	**Nassriya**	**3.40**	**172**	*e*Pn	**Pn**	**22 39 15.6**	**+0.9**
NSR				AML	AML	22 39 17.5	
	comp=Z,164nm,0.3s						
NSR				*e*Sn	**Sn**	**22 39 55.5**	**-0.2**
QABG	**Abgarm-Qazvin**	**3.54**	**67**	*e*Pn	**Pn**	**22 39 19.3**	**+2.4**
JHBN	**Jahan bin**	**4.77**	**115**	*e*Pn	**Pn**	**22 39 33.6**	**-0.3**

*ISCJB **25** 22:41:44.8±1.2, 23°.1N±0°.1×141°.7E±0°.3, h250km, mb3.5/6, Error ellipse: s-maj=35.9km s-min=13.3km az=11.1*
*IDC **25** 22:41:47.2±1.7, 23°.20N×141°.88E, h262km±16km, mb3.3/6, mb1 3.4/7, mb1mx3.1/49, mbtmp3.9/7, Error ellipse: s-maj=30.4km s-min=16.4km az=84.0*
ISC 25 22:41:46.2±1.3, **23°.1N**±0°.1×**141°.8E**±0°.3, **h250**km, **n7**, σ0§**95**/8, **mb3.3**/6, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.99**	**5**	P	**Pn**	**22 42 51.4**	**+1.5**
	6.9nm,0.3s,baz=15,slow=22,SNR=14						
JCJ				S	**S**	**22 43 40.3**	**-0.2**
	11nm,0.3s,baz=292,slow=23,SNR=7.4						
SONM	**Songino Array**	**37.43**	**320**	P	P	**22 48 35.8**	**0.0**
	0.7nm,1.0s,baz=108,slow=4.7,SNR=3.3						
WRA	**Warramunga Arr**	**43.40**	**190**	P	P	**22 49 25.1**	**+0.5**
	0.4nm,0.3s,baz=6.2,slow=8.8,SNR=28						
ZALV	**Zalesovo Beam**	**52.31**	**321**	P	P	**22 50 31.3**	**-0.9**
	2.8nm,0.8s,baz=103,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**52.80**	**312**	P	P	**22 50 36.2**	**+0.1**
	0.9nm,0.7s,baz=89,slow=8.9,SNR=7.7						
ILAR	**Eielson Array**	**61.39**	**28**	P	P	**22 51 34.7**	**-1.0**
	0.4nm,0.7s,baz=270,slow=5.1,SNR=3.2						
FINES	**FINESS Array B**	**81.36**	**334**	P	P	**22 53 34.4**	**-0.3**
	8.1nm,1.1s,baz=69,slow=4.6,SNR=4.7						

*NEIC **25** 22:46:05.1±2.3, 13°.77N±0°.09×93°.07W±0°.05, h37km±42km*
*GCG **25** 22:46:07.8±0.4, 16°.17N×92°.21W, h103km±427km, MD3.9*
*MEX **25** 22:46:07.4±0.6, 13°.81N×93°.12W, h20km, MD3.9*
*ISCJB **25** 22:46:09.2±1.5, 14°.06N±0°.09×93°.08W±0°.07, h37km, Error ellipse: s-maj=14.4km s-min=6.9km az=29.1*
ISC 25 22:46:07.3±2.0, **13°.9N**±0°.1×**93°.10W**±0°.07, **h37**km, **n13**, σ1§**75**/21, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.31**	**38**	*e*P	**Pn**	**22 46 27.7**	**-1.4**
THIG				*i* S	**Sn**	**22 46 44.2**	**-1.0**
THIG		**1.31**	**38**		**Pn**	**22 46 27.7**	**-1.4**
THIG					**Sn**	**22 46 44.2**	**-1.0**
STG3	**Santiaguito 3,**	**1.70**	**60**	*e*P	**Pn**	**22 46 36.1**	**+1.5**
PCIG		**1.83**	**356**	*e*P	**Pn**	**22 46 34.7**	**-1.5**
PCIG				*i* S	**Sn**	**22 46 57.7**	**-0.4**
PCIG		**1.83**	**356**		**Pn**	**22 46 34.7**	**-1.5**
PCIG					**Sn**	**22 46 57.7**	**-0.4**
FUG	**Fuego 3**	**2.26**	**75**	*e*P	**Pn**	**22 46 44.8**	**+2.5**
FUG				*e*S	**Sn**	**22 47 11.4**	**+2.4**
CCIG	**Comitan**	**2.57**	**21**		**Pn**	**22 46 49.0**	**+2.4**
IXG	**Ixpaco**	**2.59**	**83**	*e*P	**Pn**	**22 46 49.7**	**+2.8**
CMIG	**Matias Romero**	**3.64**	**332**	*i* P	**Pn**	**22 47 01.5**	**+0.4**
CMIG				*i* S	**Sn**	**22 47 43.5**	**+0.8**
CMIG	**Matias Romero**	**3.64**	**332**		**Pn**	**22 47 01.5**	**+0.4**
CMIG					**Sn**	**22 47 43.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**5.66**	**87**	Pn	**Pn**	**22 47 25.7**	**-3.2**
TEIG	**Tepich**	**7.82**	**35**	Pn	**Pn**	**22 47 59.2**	**+0.7**
TEIG				Sn	**Sn**	**22 49 25.5**	**-0.4**
HDC	**Heredia**	**9.59**	**113**	Pn	**Pn**	**22 48 21.0**	**-1.9**

NNC 25 22:53:55.4±5.7, **36°.71N**×**69°.31E, h0**km, **mb3.7, mpv3.6, 1C-2D, Error ellipse: s-maj=53.7km s-min=34.0km az=162.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.45**	**8**	⇓P	Pn	22 55 32.9	+1.2
	1.5nm,0.4s,baz=188,slow=13,SNR=21						
KK31				S	Sn	22 56 47.9	+1.9
	1.4nm,0.4s,baz=189,slow=22,SNR=7.2						
AAK	**Ala-Archa**	**7.14**	**32**	⇑P	Pn	22 55 41.3	0.0
	2.2nm,0.5s						
AAK				⇓S	Sn	22 57 03.6	+0.4
	1.4nm,0.7s						
AB31	**Akbulak array**	**14.27**	**334**	P	Pn	22 57 16.0	-2.7
	0.2nm,0.3s,baz=154,slow=11,SNR=13						

*IDC **25** 22:59:15.3±2.5, 60°.83S×43°.08W, h0km, mb4.1/1, mb1 4.1/1, mb1mx3.6/16, mbtmp4.1/1, Error ellipse: s-maj=138.4km s-min=7.1km az=170.0*
ISC 25 22:59:16.3±2.0, **60°.9S**±0°.3×**43°.3W**±0°.5, **h10**km, **n10**, σ1§**10**/7, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.87**	**142**	P	**Pn**	**23 03 10.8**	**-1.4**
VNA1	**Neumayer--Stat**	**17.12**	**139**	P	**Pn**	**23 03 15.3**	**+0.1**
VNA2	**Neumayer--Watz**	**17.47**	**140**	P	**P**	**23 03 20.8**	**-0.1**
	baz=288,slow=15						
SNAA	**Sanae**	**19.09**	**141**	P	**Pn**	**23 03 41.1**	**+1.6**
H10N3	**ASCENSION HYDR**	**57.12**	**35**	T	T	00 10 24.7	
	baz=204,slow=75						
H10N1	**ASCENSION HYDR**	**57.12**	**35**	T	T	00 10 21.4	
	baz=204,slow=75						
H10N2	**ASCENSION HYDR**	**57.14**	**35**	T	T	00 10 21.3	
	baz=204,slow=75						
TORD	**Torodi Ar. Bea**	**81.97**	**44**	P	**P**	**23 11 36.1**	**+0.1**
	1.3nm,0.8s,baz=207,slow=5.6,SNR=6.7						
MKAR	**Makanchi Array**	**146.05**	**89**	PKPbc	**PKPbc**	**23 18 54.8**	**-0.5**
	0.6nm,0.6s,baz=231,slow=2.3,SNR=4.0						
ILAR	**Eielson Array**	**146.83**	**310**	PKPbc	**PKPbc**	**23 18 57.1**	**+0.1**
	0.5nm,0.6s,baz=140,slow=2.2,SNR=7.0						

*ISCJB **25** 23:06:19.9±0.3, 7°.40S±0°.03×129°.49E±0°.04, h150km, mb3.7/5, Error ellipse: s-maj=5.9km s-min=4.0km az=170.8*
*NEIC **25** 23:06:21.0±1.9, 7°.32S±0°.10×129°.42E±0°.08, h159km±14km, mb4.0/7*
*DJA **25** 23:06:21.3±0.7, 7°.S±7°.×12°.9E±°, h172km±17km, M4.3/9, mb4.3/7, mB4.8/5, MLv4.5/9, Mw(mB)4.0/5*
*IDC **25** 23:06:22.5±2.3, 7°.22S×129°.46E, h141km±22km, mb3.5/5, mb1 3.7/8, mb1mx3.5/27, mbtmp4.1/8, Error ellipse: s-maj=30.7km s-min=17.6km az=75.0*
ISC 25 23:06:20.6±0.6, **7°.42S**±0°.04×**129°.46E**±0°.05, **h150**km, **n42**, σ3§**23**/59, **mb3.8**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**107**	P	**Pn**	**23 06 58.2**	**+3.6**
SAUI				S	**Sn**	**23 07 25.9**	**+5.1**
SAUI	**Saumlaki**	**1.91**	**107**		**Pn**	**23 06 58.3**	**+3.7**
SAUI				Sn	**Sn**	**23 07 19.0**	**-1.8**
BNDI	**Bandanaira**	**2.91**	**9**	P	**Pn**	**23 07 07.8**	**+1.0**
FAKI	**Fak Fak**	**5.26**	**32**	P	**Pn**	**23 07 36.6**	**-0.9**
	54nm,0.7s,2μm0.4nm						
FAKI				S	**Sn**	**23 08 33.5**	**-4.1**
	54nm,0.7s,2μm0.4nm						
FAKI	**Fak Fak**	**5.26**	**32**		**Pn**	**23 07 36.7**	**-0.8**
FAKI				Sn	**Sn**	**23 08 31.8**	**-5.8**
SOEI	**Soe**	**5.64**	**245**	P	**Pn**	**23 07 44.6**	**+2.0**
	152nm,0.9s,1μm1.2nm						
SOEI				S	**Sn**	**23 08 46.5**	**-0.1**
	152nm,0.9s,1μm1.2nm						
SOEI	**Soe**	**5.64**	**245**		**Pn**	**23 07 44.8**	**+2.2**
SOEI					**Sn**	**23 08 42.4**	**-4.2**
MTN	**Manton Dam**	**5.64**	**163**		**Pn**	**23 07 46.4**	**+3.9**
MTN				Sn	**Sn**	**23 08 47.5**	**+0.9**
BATI	**Baumata**	**6.36**	**244**	P	**Pn**	**23 07 55.2**	**+3.0**
	32nm,0.3s,baz=94,slow=3.8,SNR=22						
BATI				S	**Sn**	**23 09 04.5**	**+0.6**
	35nm,0.3s,baz=100,slow=22,SNR=17						
BATI	**Baumata**	**6.36**	**244**	P	**Pn**	**23 07 55.0**	**+2.8**
SIJI	**Sorong**	**6.75**	**16**	P	**Pn**	**23 07 56.9**	**-0.5**
	2.9nm,0.3s,baz=196,slow=23,SNR=8.2						
SIJI				S	**Sn**	**23 09 06.5**	**-6.7**
	5.2nm,0.3s,baz=261,slow=23,SNR=9.8						
SWI	**Sorong**	**6.75**	**15**	P	**Pn**	**23 07 56.4**	**-1.0**
	15nm,0.7s,0.3nm						
RKPI	**Ransiki, Papua**	**7.52**	**39**	P	**Pn**	**23 08 06.8**	**-0.8**
KNRA	**Kununurra**	**8.24**	**185**		**Pn**	**23 08 19.0**	**+1.8**
KNRA				Sn	**Sn**	**23 09 46.0**	**-2.9**
FITZ	**Fitzroy Crossi**	**11.25**	**199**	P	**Pn**	**23 08 56.9**	**-0.2**
	3.5nm,0.3s,baz=30,slow=10,SNR=72						
FITZ				S	**Sn**	**23 10 53.9**	**-7.6**
	1.1nm,0.3s,baz=70,slow=17,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.25**	**199**		**Pn**	**23 08 57.5**	**+0.5**
FITZ					**Sn**	**23 10 58.7**	**-2.8**
WB0	**Warramunga Arr**	**13.18**	**159**	Pn	**Pn**	**23 09 22.8**	**+0.7**
WRAB	**Tennant Creek**	**13.31**	**160**		**Pn**	**23 09 25.0**	**+1.1**
WRAB				Sn	**Sn**	**23 11 46.2**	**-5.1**
WRA	**Warramunga Arr**	**13.32**	**160**	P	**Pn**	**23 09 24.5**	**+0.6**
	1.2nm,0.3s,baz=326,slow=14,SNR=46						
WRA				S	**Sn**	**23 11 44.4**	**-7.1**
	3.1nm,0.3s,baz=334,slow=23,SNR=18						
WRA	**Warramunga Arr**	**13.32**	**160**	Pn	**Pn**	**23 09 24.7**	**+0.8**
WB2	**Warramunga Arr**	**13.32**	**160**	Pn	**Pn**	**23 09 24.4**	**+0.4**
WB2				S	**Sn**	**23 11 46.7**	**-4.8**
COEN	**Coen**	**14.96**	**117**		**P**	**23 09 47.6**	**+1.2**
COEN				IAmb	IAmb	23 09 49.9	
	comp=Z,7.7nm,1.1s						
JAGI	**Jajag, Banyuwa**	**15.20**	**265**	Pn	**Pn**	**23 09 47.2**	**-0.4**
JAGI				IAmb	IAmb	23 09 53.3	
	comp=Z,26nm,1.5s						
AS31	**Alice Springs**	**16.71**	**166**	P	**Pn**	**23 10 06.6**	**+0.6**
AS31				IAmb	IAmb	23 10 14.4	
	comp=Z,3.3nm,0.4s						
AS31					**S**	**23 13 06.5**	**-5.4**
ASAR	**Alice Springs**	**16.71**	**166**	P	**Pn**	**23 10 09.8**	**+3.7**
	comp=Z,1.5nm,0.3s,baz=334,slow=9.4,SNR=35						
ASAR				S	**S**	**23 13 05.0**	**-6.9**

NIED ***25*** *23:25:00,42°.20N×142°.60E,h50km,Mw3.7 Best double couple: M0=4.49000×10^14 NP1:φ0=319.00000°,δ=44.00000°,λ=71.00000°. NP2:φ0=164.00000°,δ=49.00000°,λ=107.00000°.*
ISCJB ***25*** *23:25:15.7±0.5,42°.15N±0°.05×142°.63E±0°.04,h65km±3km, mb3.4/8,Error ellipse: s-maj=7.6km s-min=5.3km az=170.3*
IDC ***25*** *23:25:17.7±2.0,42°.17N×142°.58E,h70km±16km,mb3.3/8, mb1 3.6/11,mb1mx3.3/65,mbtmp3.6/11,MS3.2/1, Ms1 3.2/1,ms1mx2.3/23,Error ellipse: s-maj=22.3km s-min=13.3km az=116.0*
JMA ***25*** *23:25:17.4±0.2,42°.23N×142°.63E,h52km±2km,M3.6*
JMA Felt I J1.

ISC 25 23:25:16.7±0.8,42°.17N±0°.05×142°.63E±0°.04,h58km±6km, n33,σ0°73/37,mb3.5/8,4C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.14	41	⇑P	Pn	23 25 25.2	-0.4
JNBK				eS	Sn	23 25 31.9	-0.1
JSHD	Hidakashinhida	0.27	333	⇑P	Pn	23 25 26.1	-0.2
JEM	Erimo	0.42	111	⇑P	Pn	23 25 28.3	+0.7
JTHR	Tokachihiroo	0.51	76	⇓P	Pn	23 25 28.9	+0.4
JTHR				eS	Sn	23 25 37.7	+0.5
JBT2	Biratori 2	0.64	342	⇑P	Pn	23 25 29.6	-0.4
JBT2				eS	Sn	23 25 39.6	-0.1
JIAM	Iburiatsuma	0.69	311	P	Pn	23 25 30.6	0.0
JCH	Churui	0.70	51	⇓P	Pn	23 25 30.8	0.0
JCH				eS	Sn	23 25 40.9	-0.2
JFR	Furan	0.99	359	P	Pn	23 25 34.2	-0.3
JEW	Eniwo	1.10	308	P	Pn	23 25 36.3	+0.4
JEW				eS	Sn	23 25 50.9	+0.7
JOB	Onbets	1.15	50	⇓P	Pn	23 25 37.4	+0.8
JNB	Noboribetsu	1.22	285	P	Pn	23 25 37.2	-0.2
JNB				eS	Sn	23 25 52.4	-0.6
JKB	Kayabe	1.22	257	⇓P	Pn	23 25 37.6	+0.1
JKB				eS	Sn	23 25 53.1	0.0
JAB	Ashibetsu	1.36	348	P	Pn	23 25 40.0	+0.5
JAR	Ashorobuto	1.40	36	⇓P	Pn	23 25 39.8	-0.2
JAR				eS	Sn	23 25 56.5	-1.0
JISS	Ishikarishitsu	1.42	321	P	Pn	23 25 40.6	+0.4
JISS				eS	Sn	23 25 58.8	+1.0
ASAJ	Asahikawa 35nm,0.3s,baz=218,slow=12,SNR=52	1.94	359	P	Pn	23 25 48.3	+1.0
ASAJ				S	Sn	23 26 12.6	+2.0
	15nm,0.3s,baz=178,slow=33,SNR=6.8						
MJAR	Matsushiro Arr	6.58	213	P	Pn	23 26 51.7	+0.8
	0.2nm,0.3s,baz=24,slow=15,SNR=4.3						
USRK	Ussuriysk Ar.	8.04	288	P	Pn	23 27 10.3	-0.3
	baz=108,slow=18,SNR=2.3						
KSRS	Korea Array	12.25	252	P	Pn	23 28 10.1	+1.9
	0.3nm,0.3s,baz=65,slow=14,SNR=2.8						
H11N2	WAKE ISLAND Hy 30.36	130		T	T	00 02 55.7	
	baz=324,slow=75,SNR=29						
H11N1	WAKE ISLAND Hy 30.37	130		T	T	00 02 56.7	
	baz=324,slow=75,SNR=35						
H11N3	WAKE ISLAND Hy 30.38	130		T	T	00 02 57.0	
	baz=324,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy 31.23	132		T	T	00 04 07.7	
	baz=325,slow=76,SNR=29						
H11S3	WAKE ISLAND Hy 31.23	132		T	T	00 04 09.3	
	baz=325,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy 31.25	132		T	T	00 04 11.1	
	baz=325,slow=76,SNR=19						
ZALV	Zalesovo Beam	39.32	308	P	P	23 32 39.6	-0.2
	0.7nm,0.7s,baz=102,slow=6.7,SNR=3.9						
MKAR	Makanchi Array	42.37	298	P	P	23 33 04.7	-0.4
	0.1nm,0.5s,baz=80,slow=9.6,SNR=2.8						
MKAR				LR	LR	23 51 04.1	
	comp=Z,36nm,21.9s,baz=54,slow=36						
ILAR	Eielson Array	44.70	35	P	P	23 33 24.1	+0.6
	0.6nm,0.7s,baz=250,slow=6.4,SNR=6.7						
FINES	FINESS Array B	64.73	332	P	P	23 35 48.1	-0.3
	1.3nm,0.6s,baz=60,slow=11,SNR=8.6						
NOA	NORSAR Array B	69.82	337	P	P	23 36 19.6	-1.1
	0.4nm,0.6s,baz=35,slow=6.3,SNR=2.4						
NVAR	Mina Array Bea	71.22	55	P	P	23 36 29.8	+0.1
	0.2nm,0.5s,baz=302,slow=5.1,SNR=2.2						
STKA	Stephens Creek	73.69	181	P	P	23 36 43.4	-0.6
	2.2nm,0.6s,baz=352,slow=9.8,SNR=6.8						
TXAR	Lajitas Array	86.27	53	P	P	23 37 51.7	-0.6
	0.2nm,0.8s,baz=288,slow=3.7,SNR=2.4						

IDC ***25*** *23:25:53.7±1.3,4°.05S×122°.75E,h0km,mb3.8/3, mb1 4.1/5,mb1mx3.7/45,mbtmp3.9/5,ML3.8/2,MS3.2/7, Ms1 3.2/7,ms1mx2.9/40,Error ellipse: s-maj=44.5km s-min=22.9km az=56.0*
ISCJB ***25*** *23:25:54.1±0.4,4°.12S±0°.05×122°.68E±0°.04,h10km, mb3.9/3,MS3.0/2,Error ellipse: s-maj=6.9km s-min=5.0km az=170.1*
DJA ***25*** *23:25:56.8±0.2,4°S±2°×12°3E±°,h10km,M4.3/15,mb4.6/7, mB5.1/4,MLv4.2/15,Mw(mB)4.5/4*
NEIC ***25*** *23:25:59±2.5,4°.06S±0°.08×122°.64E±0°.08,h42km±12km, mb4.3/6*

ISC 25 23:25:54.9±0.6,4°.13S±0°.05×122°.60E±0°.06,h10km,n41, σ2°35/39,mb4.1/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	Kendari	0.17	8	P	Pg	23 25 59.6	+1.0
BBSI	Bau Bau	1.35	181	P	Pg	23 26 21.4	+0.6
BNSI	Bone	2.50	264	P	Pn	23 26 37.0	+1.4
BNSI				S	Sn	23 27 07.5	+1.4
BKSI	Bulukumba	2.73	244	P	Pn	23 26 40.8	+1.9
SPSI	Sidrap Palu	2.82	273	P	Pn	23 26 42.2	+2.1
KAPI	Kappang 29nm,0.3s,baz=87,slow=9.3,SNR=70	2.97	253	Pn	Pn	23 26 44.3	+2.2
KAPI				Sn	Sn	23 27 18.7	+0.9
	2.4nm,0.3s,baz=127,slow=24,SNR=0.9						
KAPI				LR	LR	23 27 41.1	
	comp=Z,206nm,18.0s,baz=296,slow=34						
KAPI	Kappang	2.97	253		Pn	23 26 44.7	+2.7
TTSI	Tana Toraja	2.97	291	P	Pn	23 26 46.0	+3.9
LUWI	Luwuk	3.07	3	P	Pn	23 26 44.8	+1.2
LUWI	Luwuk	3.07	3		Pn	23 26 44.8	+1.2
SANI	Sanana	3.97	59	P	Pn	23 26 54.5	-1.4
NLAI	Namlea	4.58	79	P	Pn	23 26 54.7	-10
SOEI	Soe 63nm,0.8s	5.83	164	P	Pn	23 27 25.9	+4.3
SOEI	Soe	5.83	164		Pn	23 27 26.1	+4.5
BATI	Baumata 5.8nm,0.3s,baz=324,slow=8.7,SNR=5.8	6.13	170	Pn	Pn	23 27 30.0	+4.4
BATI				LR	LR	23 30 04.2	
	comp=Z,352nm,19.3s,baz=36,slow=40						
BATI	Baumata 24nm,0.8s	6.13	170	P	Pn	23 27 29.3	+3.7
MSAI	Masohi 12nm,0.7s,771nm	6.37	83	P	Pn	23 27 31.0	+2.1
PLAI	Plampang 28nm,0.9s	6.69	225	P	Pn	23 27 35.9	+2.7
TNTI	Ternate	6.82	45	P	Pn	23 27 37.0	+2.0
TNTI	Ternate	6.82	45		Pn	23 27 34.7	-0.3
FAKI	Fak Fak	9.71	83	Pn	Pn	23 28 15.8	+1.0
FITZ	Fitzroy Crossi 0.1nm,0.3s,baz=351,slow=13,SNR=3.1	14.20	168	Pn	Pn	23 29 13.3	-2.9
FITZ				LR	LR	23 35 40.0	
	comp=Z,94nm,18.4s,baz=344,slow=41						
FITZ	Fitzroy Crossi	14.20	168		Pn	23 29 14.0	-2.2
LEM	Lembang	15.15	259	LR	LR	23 35 50.3	
	comp=Z,142nm,19.4s,baz=86,slow=39						
WRAB	Tennant Creek	19.44	145	P	Pn	23 30 23.3	+0.3
WRAB				IAmb	IAmb	23 30 27.7	
	comp=Z,9.1nm,1.1s						
WRA	Warramunga Arr	19.44	145	P	P	23 30 21.4	-0.4
	comp=Z,0.2nm,0.3s,baz=315,slow=13,SNR=21						
WRA				LR	LR	23 38 22.5	
	comp=Z,60nm,18.7s,baz=320,slow=39						
WRA	Warramunga Arr	19.44	145	P	P	23 30 19.7	-2.1
AS31	Alice Springs	22.28	152	P	P	23 30 51.6	-0.9
ASAR	Alice Springs	22.28	152	P	P	23 30 53.1	+0.6
	comp=Z,7.0nm,1.0s,baz=334,slow=12,SNR=22						
ASAR				LR	LR	23 40 35.4	
	comp=Z,61nm,19.0s,baz=320,slow=40						
ASAR	Alice Springs	22.28	152	P	P	23 30 52.8	+0.3
COEN	Coen	22.52	117	P	P	23 30 55.4	+0.3
COEN				IAmb	IAmb	23 31 00.6	
	comp=Z,13nm,1.4s						
GSI	Gunungsitoli	25.58	282	P	P	23 31 22.7	-1.7
BBOO	Buckleboo	31.19	158	P	P	23 32 12.9	-1.5
BBOO				IAmb	IAmb	23 32 17.2	
	comp=Z,7.9nm,1.0s						
CMAR	Chiang Mai Arr	32.36	315	LR	LR	23 47 54.7	
	comp=Z,28nm,19.9s,baz=95,slow=41						
XAN	Xi'an	40.10	342	P	P	23 33 27.4	-3.5
XAN				IAmb	IAmb	23 33 30.0	
	comp=Z,8.3nm,1.3s						
KSH	Kashi	61.02	320	P	P	23 36 15.8	+6.8
KSH				PP	PP	23 38 32.0	+8.5
KSH				S	S	23 44 33.0	+5.1
KSH				sS	sS	23 44 40.3	+7.1
KSH	Kashi	61.02	320	SS	SS	23 48 34.8	+7.1
KSH				pmax	pmax		
	comp=Z,230nm,5.7s						
MKAR	Makanchi Array	61.92	330	P	P	23 36 15.5	+0.7
	comp=Z,0.4nm,0.6s,baz=132,slow=7.0,SNR=4.5						
MKAR	Makanchi Array	61.92	330	P	P	23 36 15.2	+0.3
ZALV	Zalesovo Beam	65.90	337	P	P	23 36 40.9	+0.1
	comp=Z,0.3nm,0.3s,baz=157,slow=4.7,SNR=2.5						
ABKAR	Akbulak array	75.75	323	P	P	23 37 40.0	-0.9

IDC ***25*** *23:37:00.7±2.2,14°.55S×166°.96E,h27km±13km,mb4.5/26, mb1 4.6/28,mb1mx4.5/39,mbtmp4.7/28,ML4.7/2,MS3.7/17, Ms1 3.7/17,ms1mx3.5/27,Error ellipse: s-maj=17.1km s-min=13.1km az=98.0*
ISCJB ***25*** *23:37:03.9±0.2,14°.64S±0°.04×166°.86E±0°.05,h67km, mb4.5/43,Error ellipse: s-maj=8.1km s-min=4.0km az=155.1*
NEIC ***25*** *23:37:04.0±2.4,14°.57S±0°.08×166°.9E±0°.1,h59km±5km, mb4.8/40*
BJI ***25*** *23:37:04.2±0.0,13°.98S×167°.15E,h52km,mb4.9/37, mB5.0/24,Ms5.0/4,Ms7 4.8/4*
MOS ***25*** *23:37:05.6±1.5,14°.50S×166°.67E,h69km,mb5.1/12,Error ellipse: s-maj=12.2km s-min=8.6km az=40.5*

ISC 25 23:37:05.6±0.3,14°.66S±0°.05×166°.80E±0°.07,h67km,n239, σ1°47/237,mb4.7/51,29C-15D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.38	183	Pn	Pn	23 38 49.4	-1.4
	3.7nm,0.3s,baz=32,slow=19,SNR=6.6						
DZM				Sn	Sn	23 40 09.8	-3.4
	4.7nm,0.3s,baz=316,slow=22,SNR=1.4						
DZM				LR	LR	23 41 33.8	
	comp=Z,596nm,19.1s,baz=345,slow=36						
DZM	Mont Dzumac	7.38	183	Sn	Sn	23 40 09.0	-4.1
HNR	Honiara	8.48	307	P	Pn	23 39 05.8	0.0
HNR						23 40 33.0	
HNR	Honiara	8.48	307	Pn	Pn	23 39 02.2	-3.6
	33nm,0.3s,baz=86,slow=15,SNR=3.9						
HNR				Sn	Sn	23 40 33.0	-7.0
	16nm,0.3s,baz=193,slow=16,SNR=2.1						
HNR				LR	LR	23 42 15.1	
	comp=Z,652nm,21.2s,baz=152,slow=37						
HNR	Honiara	8.48	307	P	Pn	23 39 07.0	+1.2
HNR	Honiara	8.48	307		Pn	23 39 05.8	0.0
MSVF	Nonsavu	11.23	107	P	Pn	23 39 45.3	+1.8
MSVF	Nonsavu	11.23	107		Pn	23 39 45.3	+1.8
EIDS	Eidsvold	18.19	232	P	Pn	23 41 16.5	+2.8
PMG	Port Moresby 67nm,1.0s,baz=102,slow=4.7,SNR=17	19.90	283	P	P	23 41 31.8	-0.1
PMG	Port Moresby	19.90	283	P	Pn	23 41 34.9	+0.8
CTA	Charters Tower 29nm,0.9s,baz=76,slow=13,SNR=36	20.33	252	P	P	23 41 36.1	-0.5
AFI	Afiamalu	20.78	91	LR	LR	23 47 56.7	
	comp=Z,122nm,20.4s,baz=295,slow=32						
OUZ	Omahuta	21.37	165	P	P	23 41 45.8	-1.7
OUZ				IAmb	IAmb	23 41 53.2	
	comp=Z,25nm,0.9s						
TOZ	Tahuroa Road	24.24	163	P	P	23 42 16.0	-0.2
HIZ	Hauiti	24.80	165	P	P	23 42 22.5	+1.1
HAZ	Te Kaha	24.98	159	P	P	23 42 24.4	+1.4
MXZ	Matakaoa Point	25.00	158	P	P	23 42 23.4	+0.2
RUGZ	Raukumara Rang	25.14	159	P	P	23 42 24.5	0.0
PKGZ	Pakihiroa	25.21	159	P	P	23 42 25.5	+0.3
URZ	Urewera comp=Z,10nm,0.5s,baz=280,slow=3.2,SNR=7.5	25.22	161	P	P	23 42 24.7	-0.5
URZ				LR	LR	23 51 13.4	
	comp=Z,192nm,18.6s,baz=350,slow=34						
URZ	Urewera	25.22	161	P	P	23 42 25.8	+0.7
URZ	Urewera	25.22	161	P	P	23 42 24.5	-0.7
URZ				IAmb	IAmb	23 42 29.6	
	comp=Z,20nm,0.8s						
WMGZ	Waiomatatini S	25.27	158	P	P	23 42 25.6	0.0
MWZ	Matawai	25.42	160	P	P	23 42 27.6	+0.6
PUZ	Puketiti	25.43	159	P	P	23 42 26.8	-0.3
RTZ	Ruatahuna	25.50	161	P	P	23 42 28.2	+0.4
NGZ	Ngauruhoe	25.62	164	P	P	23 42 31.9	+2.9
SNGZ	Shannon Statio	25.77	161	P	P	23 42 29.5	-0.7
RAHZ	Arahi	25.81	161	P	P	23 42 31.0	+0.4
BKZ	Black Stump Fm	25.86	163	P	P	23 42 30.9	-0.2
BKZ				S	S	23 46 59.8	+3.6
BKZ	Black Stump Fm	25.86	163	P	P	23 42 30.6	-0.5
BHHZ	Black Hill Sta	26.04	164	P	P	23 42 33.2	+0.5
BHHZ				S	S	23 47 00.3	+1.3
KWHZ	Kaweka Forest	26.08	163	P	P	23 42 34.2	+1.2
KNZ	Kokohu	26.09	160	P	P	23 42 33.0	0.0
ARHZ	Aropaoanui	26.10	162	P	P	23 42 33.0	-0.1
MCHZ	McNeill Hill	26.18	162	P	P	23 42 34.8	+1.0
KRHZ	Kereru	26.27	163	P	P	23 42 35.3	+0.6
PNHZ	Pukenui	26.48	164	P	P	23 42 37.0	+0.4
CKHZ	Cape Kidnapper	26.49	162	P	P	23 42 36.5	-0.1
TSZ	Takapari Road	26.55	164	P	P	23 42 35.5	-1.7
KAHZ	Kahuranaki	26.55	162	P	P	23 42 36.8	-0.5
PXZ	Pawanui	26.77	163	P	P	23 42 39.2	+0.1
MRZ	Mangatainoka R	27.02	165	P	P	23 42 41.4	0.0
BFZ	Birch Farm	27.21	164	P	P	23 42 43.2	+0.2
BFZ	Birch Farm	27.21	164	P	P	23 42 41.5	-1.6
BFZ				IAmb	IAmb	23 42 46.7	
	comp=Z,22nm,0.9s						
THZ	Tophouse	27.52	170	P	P	23 42 45.2	-0.7
LTZ	Lake Taylor	28.42	172	P	P	23 42 52.5	-1.4
LTZ				IAmb	IAmb	23 42 54.4	
	comp=Z,11nm,0.7s						
STKA	Stephens Creek	28.69	229	P	P	23 42 58.3	+1.8
	comp=Z,2.9nm,0.5s,baz=50,slow=9.5,SNR=11						
STKA				PcP	PcP	23 46 05.8	+0.1
	comp=Z,4.0nm,0.8s,baz=34,slow=4.3,SNR=5.3						
STKA				LR	LR	23 53 34.0	
	comp=Z,265nm,21.4s,baz=38,slow=34						
STKA	Stephens Creek	28.69	229	P	P	23 42 58.3	+1.8
OXZ	Oxford	28.92	172	P	P	23 42 58.9	+0.6
OXZ				IAmb	IAmb	23 43 01.8	
	comp=Z,19nm,0.9s						
RPZ	Rata Peaks	29.19	174	P	P	23 43 00.9	+0.2
	comp=Z,13nm,0.8s,baz=60,slow=4.4,SNR=5.5						
RPZ				LR	LR	23 52 37.4	
	comp=Z,224nm,20.8s,baz=13,slow=32						
RPZ	Rata Peaks	29.19	174	P	P	23 43 00.2	-0.5
RPZ	Rata Peaks	29.19	174	P	P	23 43 01.2	+0.5
RPZ				IAmb	IAmb	23 43 12.2	
	comp=Z,15nm,1.0s						
MQZ	McQueen's Vall	29.38	171	P	P	23 43 01.6	-0.8
MQZ				IAmb	IAmb	23 43 01.7	
	comp=Z,31nm,1.1s						
LBZ	Lake Benmore	29.77	175	P	P	23 43 06.1	+0.2
WRAB	Tennant Creek	31.39	256	⇓eP	P	23 43 20.9	+0.4
WRAB				pmax	pmax		
	comp=Z,12nm,2.5s						
WRA	Warramunga Arr	31.40	256	i P	P	23 43 21.5	+0.9
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA	Warramunga Arr	31.40	256	P	P	23 43 20.8	+0.2
	comp=Z,2.9nm,0.5s,baz=86,slow=9.2,SNR=41						
WRA				PcP	PcP	23 46 13.2	+0.2
	comp=Z,2.8nm,0.8s,baz=85,slow=3.2,SNR=9.4						
WRA				LR	LR	23 55 24.9	
	comp=Z,270nm,20.0s,baz=80,slow=35						
AS31	Alice Springs	32.27	249	P	P	23 43 27.2	-1.1
ASAR	Alice Springs	32.27	249	P	P	23 43 28.8	+0.6
	comp=Z,2.8nm,0.9s,baz=76,slow=9.1,SNR=15						
ASAR				PcP	PcP	23 46 15.2	-0.1
	comp=Z,2.2nm,0.8s,baz=82,slow=3.2,SNR=8.3						
ASAR				ScP	ScP	23 49 57.2	+3.9
	comp=Z,1.3nm,0.9s,baz=95,slow=3.1,SNR=4.8						
ASAR				LR	LR	23 55 35.4	
	comp=Z,199nm,21.3s,baz=90,slow=34						
H11S2	WAKE ISLAND Hy 32.94	360		T	T	00 18 06.7	
	baz=184						
H11S3	WAKE ISLAND Hy 32.94	360		T	T	00 18 03.5	
	baz=184						
H11S1	WAKE ISLAND Hy 32.96	360		T	T	00 18 15.2	
	baz=184						
H11N1	WAKE ISLAND Hy 34.16	0		T	T	00 19 35.4	
	baz=181						
H11N3	WAKE ISLAND Hy 34.16	0		T	T	00 19 44.2	
	baz=181						
H11N2	WAKE ISLAND Hy 34.17	0		T	T	00 19 36.4	
	baz=181						
SIJI	Sorong	37.69	288	P	P	23 44 13.9	-1.0
	comp=Z,4.0nm,0.4s,baz=282,slow=20,SNR=2.0						
FITZ	Fitzroy Crossi	39.58	259	P	P	23 44 30.4	-0.3
	comp=Z,6.8nm,0.8s,baz=80,slow=7.5,SNR=7.3						
FITZ				PcP	PcP	23 46 37.9	+0.9
	comp=Z,3.6nm,0.7s,baz=51,slow=6.6,SNR=3.8						
FITZ	Fitzroy Crossi	39.58	259	IAmb	IAmb	23 44 35.5	
	comp=Z,8.1nm,0.8s						
PPT	Papeete	41.95	100	LR	LR	23 58 33.5	
	comp=Z,65nm,20.2s,baz=321,slow=31						
MORW	Morawa	48.89	244	P	P	23 45 46.5	+1.5
MJAR	Matsushiro Arr	57.63	333	P	P	23 46 48.0	-1.0
MJAR	Matsushiro Arr comp=Z,6.2nm,0.6s,baz=163,slow=7.3,SNR=9.7	57.63	333	P	P	23 46 48.0	-1.0
MJAR	Matsushiro Arr comp=Z,2.5nm,0.6s	57.63	333	IAmb	IAmb	23 46 49.0	
MAJO	Matsushiro	57.63	333	⇑eP	P	23 46 48.3	-0.7
MAJO				pmax	pmax		
	comp=Z,78nm,2.9s						
MAT	Matsushiro	57.63	333	P	P	23 46 48.2	-0.8
ASAJ	Asahikawa	62.52	341	LR	LR	00 10 19.0	
	comp=Z,45nm,20.8s,baz=268,slow=32						
KSRS	Korea Array	63.43	326	P	P	23 47 28.8	+0.4
	comp=Z,3.6nm,0.8s,baz=142,slow=6.8,SNR=7.4						
KSRS				LR	LR	00 13 36.2	
	comp=Z,16nm,21.6s,baz=120,slow=35						
YSS	Yuzh-Sakhalins	65.02	342	eP	P	23 47 40.8	+2.2
YSS				pmax	pmax		
	comp=Z,126nm,1.4s						
NJ2	Nanjing	65.31	316	eP	P	23 47 43.0	+2.2
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	Ussuriysk Ar.	66.62	333	P	P	23 47 48.9	0.0
	comp=Z,6.8nm,0.8s,baz=153,slow=5.3,SNR=8.6						
WHN	Wuhan	67.56	312	P	P	23 47 55.5	+0.3
PETK	Petropavlovsk-	67.94	354	P	P	23 47 57.6	+0.5
PETK	Petropavlovsk-	67.94	354	P	P	23 47 56.3	-0.9
	comp=Z,8.0nm,0.9s,baz=151,slow=9.1,SNR=9.5						
PETK				LR	LR	00 15 42.2	
	comp=Z,15nm,18.4s,baz=230,slow=34						
PETK	Petropavlovsk-	67.94	354	P	P	23 47 57.6	+0.5
KLR	Kul'dur	70.76	337	⇓eP	P	23 48 15.7	+1.1
KLR				pmax	pmax		
	comp=Z,27nm,2.0s						
KLR	Kul'dur comp=Z,4.3nm,0.7s,baz=161,slow=2.9,SNR=11	70.76	337	P	P	23 48 15.1	+0.4
BJI	Beijing	71.93	321	eP	P	23 48 22.5	+0.7
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PBKT	Sadao Pong	72.02	293	P	P	23 48 24.9	+2.1
UTTA	Uttaradit	72.82	294	P	P	23 48 30.5	+2.9
XAN	Xi'an	73.31	313	P	P	23 48 30.8	+0.5
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN				pmax	pmax		
	comp=Z,84nm,4.1s						
XAN	Xi'an	73.31	313	IAmb	IAmb	23 48 31.9	
	comp=Z,9.5nm,0.7s						
PHRA	Phrae	73.39	295	P	P	23 48 33.6	+2.6
KMI	Kunming	73.88	302	P	P	23 48 36.0	+1.9
KMI				pP	PcP	23 48 48.3	-0.9
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
LAMP	Lampang	73.92	294	P	P	23 48 40.4	+6.3
CMAR	Chiang Mai Arr	74.50	294	ceP	P	23 48 39.9	+2.4
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	Chiang Mai Arr	74.50	294	P	P	23 48 38.8	+1.3
	comp=Z,5.3nm,0.7s,baz=127,slow=4.3,SNR=21						
CMMT	Chiang Mai	74.63	295	P	P	23 48 40.3	+2.0
CHTO	Chiang Mai	74.64	295	P	P	23 48 38.5	+0.2
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	Chiang Mai	74.64	295	P	P	23 48 38.5	+0.2
CHTO				IAmb	IAmb	23 48 44.2	
	comp=Z,8.7nm,0.8s						
HHC	Hu-ho-hao-te	75.24	320	eP	P	23 48 45.3	+3.9
HHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CD2	Chengdu	75.61	308	P	P	23 48 45.0	+1.3
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
LZH	Lanzhou	77.94	312	eP	P	23 48 58.8	+1.9
LZH				pP	pP	23 49 14.0	-0.8
LZH				sP	sP	23 49 20.0	-2.0
LZH				ePP	PP	23 51 58.0	+4.2
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,82nm,7.6s						
LZH				LR	LR		
	comp=Z,170nm,16.5s						
LZH				LR	LR		
	comp=Z,170nm,16.7s						
LZH				LR	LR		
	comp=Z,280nm,18.6s						
SEY	Seymchan	78.16	353	⇑eP	P	23 48 57.3	+0.1
KDAK	Kodiak Island	79.56	21	LR	LR	00 18 57.5	
	comp=Z,74nm,19.2s,baz=210,slow=32						
MAW	Mawson	81.78	202	P	P	23 49 17.5	+0.6
	comp=Z,3.1nm,0.9s,baz=123,slow=8.4,SNR=3.9						
MAW				LR	LR	00 20 48.6	
	comp=Z,54nm,20.5s,baz=58,slow=32						
MAW	Mawson	81.78	202	IAmb	IAmb	23 49 18.9	
	comp=Z,2.8nm,1.4s						
ULN	Ulaanbaatar	81.81	324	deP	P	23 49 18.4	+0.9
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	Ulaanbaatar	81.81

BWN	Browne	85.40	18	P		P	23 49 33.6	-1.7
IMAR	Indian Mountai	85.62	15	P		P	23 49 35.2	-1.2
TLY	Talaya	85.68	326⇓	*e*P		P	23 49 37.1	+0.1
TLY				pmax	pmax			
	comp=Z,5.0nm,0.7s							
TLY	Talaya	85.68	326	P		P	23 49 36.0	-1.0
	comp=Z,4.7nm,0.7s,baz=277,slow=16,SNR=4.1							
TLY	Talaya	85.68	326	IAmb		IAmb	23 49 43.9	
	comp=Z,6.0nm,0.8s							
HDA	Harding Lake	86.32	18	P		P	23 49 38.6	-1.3
HDA				IAmb		IAmb	23 49 54.5	
	comp=Z,11nm,1.4s							
COLA	College	86.39	18⇑	*e*P		P	23 49 39.4	-0.7
COLA				pmax	pmax			
	comp=Z,20nm,2.1s							
IL31		86.60	18	P		P	23 49 39.3	-1.9
ILAR	Eielson Array	86.60	18	P		P	23 49 39.6	-1.6
	comp=Z,1.8nm,0.7s,baz=239,slow=4.7,SNR=21							
ILAR				LR		LR	00 23 14.8	
	comp=Z,79nm,18.7s,baz=222,slow=32							
NVAR	Mina Array Bea	87.57	49	P		P	23 49 45.7	-1.2
	comp=Z,0.6nm,0.6s,baz=236,slow=6.2,SNR=6.5							
NVAR				LR		LR	00 19 52.8	
	comp=Z,58nm,21.9s,baz=264,slow=29							
GSC	Goldstone, Bar	87.62	53	P		P	23 49 41.7	-5.3
GSC				pmax	pmax			
	comp=Z,6.0nm,1.5s							
GSC	Goldstone, Bar	87.62	53	P		P	23 49 41.7	-5.3
SYO	Syowa Base	88.64	197⇑	*e*P		P	23 49 49.4	-1.7
G08A	Pilot Rock	89.57	43	P		P	23 49 55.5	-0.5
G08A				IAmb		IAmb	23 50 10.4	
	comp=Z,7.7nm,1.4s							
TIXI	Tiksi	89.81	349⇑	*e*P		P	23 49 55.5	-0.8
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.3s							
TIXI	Tiksi	89.81	349	P		P	23 49 55.4	-1.0
	comp=Z,1.5nm,0.4s,baz=180,slow=24,SNR=3.4							
TIXI	Tiksi	89.81	349	P		P	23 49 55.1	-1.2
TIXI				IAmb		IAmb	23 49 58.5	
	comp=Z,5.2nm,1.1s							
SNAA	Sanae	93.59	183	P		P	23 50 13.0	-1.1
SNAA	Sanae	93.59	183	P		P	23 50 12.7	-1.5
SNAA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SNAA	Sanae	93.59	183	P		P	23 50 12.7	-1.5
VNA3	Neumayer Olymp	94.28	181	P		P	23 50 15.9	-1.4
DGZ	Jazzator, Alta	94.32	320⇓	*e*P		P	23 50 17.8	-0.1
VNA2	Neumayer--Watz	94.54	182	P		P	23 50 17.3	-1.1
	baz=186,slow=4.0							
VNA1	Neumayer--Stat	94.84	182	P		P	23 50 18.6	-1.2
MK31	Makanchi Array	96.84	316	P		P	23 50 27.9	-1.4
MK31				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MK31	Makanchi Array	96.84	316	P		P	23 50 27.9	-1.4
MK31				IAmb		IAmb	23 50 32.9	
	comp=Z,3.2nm,0.8s							
MKAR	Makanchi Array	96.84	316	P		P	23 50 29.5	+0.2
	comp=Z,4.3nm,0.8s,baz=100,slow=5.5,SNR=16							
MKAR	Makanchi Array	96.84	316	P		P	23 50 28.1	-1.2
ZAA0	Zalesovo Array	97.07	324	P		P	23 50 28.1	-1.9
ZAA0				IAmb		IAmb	23 50 32.2	
	comp=Z,3.3nm,0.7s							
ZALV	Zalesovo Beam	97.07	324	P		P	23 50 29.2	-0.9
	comp=Z,3.1nm,0.6s,baz=126,slow=5.3,SNR=12							
ZALV				LR		LR	00 31 26.3	
	comp=Z,14nm,21.9s,baz=52,slow=34							
YKA	Yellowknife Ar	97.69	27	P		P	23 50 31.4	-1.3
	comp=Z,0.3nm,0.6s,baz=255,slow=4.6,SNR=5.0							
KSH	Kashi	99.80	308	P		Pdif	23 50 47.8	+4.9
KSH				PP		PP	23 54 54.8	+6.4
NRIK	Noril'sk	99.85	339	P		Pdif	23 50 41.9	-0.3
	comp=Z,0.9nm,0.3s,baz=108,slow=7.1,SNR=4.2							
KURK	Kurchatov	100.05	320⇑	*e*P		Pdif	23 50 41.7	-1.8
KURK				pmax	pmax			
	comp=Z,2.0nm,1.3s							
ARCES	ARCESS Array B	120.07	345	PKP		PKPdf	23 55 47.7	-0.5
	comp=Z,6.4nm,0.8s,baz=67,slow=1.9,SNR=31							
VRH	Novokhopyorsk	123.05	322	*e*PKIKP		PKPdf	23 55 52.6	-1.8
VRH				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BOSA	Boshof	123.13	221	PKP		PKPdf	23 55 55.5	0.0
	comp=Z,2.9nm,0.7s,baz=78,slow=1.2,SNR=6.3							
GNI	Garni	123.73	309⇓	*i*PKIKP		PKPdf	23 55 55.5	-0.8
ZEI	Tsey	123.86	312	*i*PKIKP		PKPdf	23 55 55.7	-0.8
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LPSR	Galich'ya Gora	124.17	324	*e*PKIKP		PKPdf	23 55 55.1	-1.4
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KBZ	Khabaz	124.37	313	PKP		PKiKP	23 55 57.4	0.0
	comp=Z,1.8nm,0.9s,baz=190,slow=6.8,SNR=4.9							
OBN	Obninsk	124.40	328⇑	*i*PKIKP		PKiKP	23 55 57.9	+0.8
OBN				*e*			23 57 39.6	
OBN				*e*PPP		PPP	00 00 23.2	
OBN				*e*			00 02 48.8	
OBN				pmax	pmax			
	comp=Z,46nm,3.0s							
AKH	Akhalkalaki	124.44	310	⇑P		PKiKP	23 55 58.6	+0.6
VSR	Storozhevoye	124.56	323	*e*PKIKP		PKPdf	23 55 55.8	-1.5
VSR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
NEY	Neytrino	124.61	313⇓	*i*PKIKP		PKiKP	23 55 58.1	-0.1
FINES	FINESS Array B	125.49	338	PKP		PKPdf	23 55 58.1	-0.6
	comp=Z,5.2nm,0.8s,baz=44,slow=2.3,SNR=9.2							
VSU	Vasula	127.16	335⇑	*i*PKIKP		PKiKP	23 56 02.2	-0.3
AKASG	Malin Array Be	130.42	326	PKP		PKPdf	23 56 08.0	-0.4
	comp=Z,0.4nm,0.3s,baz=24,slow=2.1,SNR=8.5							
AKASG				SKPbc		SKPbc	23 59 29.6	+3.5
	comp=Z,7.1nm,0.9s,baz=45,slow=4.6,SNR=16							
NB2	NORSAR Subarra	130.44	345	PKPdf		PKPdf	23 56 08.2	-0.1
	comp=Z,1.8nm,0.6s,baz=31,slow=1.9							
NOA	NORSAR Array B	130.44	345	PKP		PKPdf	23 56 08.3	+0.1
	comp=Z,1.9nm,0.7s,baz=32,slow=2.0,SNR=6.8							
NOA				SKPab		SKPbc	23 59 28.6	+2.6
	comp=Z,7.7nm,0.8s,baz=33,slow=2.9,SNR=21							
BRTR	Keskin Array B	132.12	311	PKP		PKPdf	23 56 11.6	-0.6
	comp=Z,1.1nm,0.8s,baz=140,slow=2.7,SNR=6.1							
BRTR				SKPbc		SKPab	23 59 36.3	+2.3
	comp=Z,0.9nm,0.8s,baz=88,slow=4.1,SNR=4.0							
KLNR	Kaliningrad	132.42	334⇓	*e*PKIKP		PKPdf	23 56 10.3	-1.8
CFR	Carcaliu	133.77	320	⇑PKIKP		PKiKP	23 56 17.5	+1.3
CFR	Carcaliu	133.77	320	⇑P		PKiKP	23 56 17.5	+1.3
HARR	Harsova	134.12	319	⇑PKIKP		PKPdf	23 56 13.7	-2.0
HARR	Harsova	134.12	319	⇑P		PKPdf	23 56 13.7	-2.0
BIZ	Bicaz	134.13	323	⇓P		PKPdf	23 56 16.1	+0.5
BUR08	Bucovina Ar. S	134.28	324			PKiKP	23 56 17.8	+0.4
BURAR	Bucovina Array	134.29	324	⇑PKIKP		PKiKP	23 56 18.6	+1.2
BURAR	Bucovina Array	134.29	324	⇑P		PKiKP	23 56 18.6	+1.2
DOPR	Dopca	135.06	322	⇑P		PKiKP	23 56 19.5	+0.6
KOLS	Kolonicke sedl	135.14	327	*e*PKIKP		PKiKP	23 56 18.4	-0.6
KOLS	Kolonicke sedl	135.14	327	*e*PKP		PKiKP	23 56 18.4	-0.6
ARR	Arges	135.83	322	⇑P		PKPdf	23 56 19.2	+0.3
ELND	Elena	136.26	318	⇓P		PKiKP	23 56 20.9	-0.5
LANS	Liptovska Anna	136.44	329	*e*PKIKP		PKiKP	23 56 22.5	+0.9
LANS	Liptovska Anna	136.44	329	*e*PKP		PKiKP	23 56 22.5	+0.9
PLVB	Pleven	136.84	319	⇑P		PKiKP	23 56 22.2	-0.4
GZR	Gura Zlata	136.91	323	⇓PKIKP		PKPdf	23 56 21.6	+0.6
GZR	Gura Zlata	136.91	323	⇓P		PKPdf	23 56 21.6	+0.6
MORC	Moravsky Berou	136.95	331	⇓PKIKP		PKiKP	23 56 23.4	+0.7
MORC	Moravsky Berou	136.95	331	⇓P		PKiKP	23 56 23.4	+0.7
PSZ	Piszkesteto	137.01	327	⇑PKIKP		PKiKP	23 56 22.2	-0.7
PSZ	Piszkesteto	137.01	327	⇑P		PKiKP	23 56 22.2	-0.7
KRLC	Kraliky	137.09	332	*e*PKIKP		PKPdf	23 56 21.1	0.0
KRLC	Kraliky	137.09	332	*e*PKPDF		PKPdf	23 56 21.1	0.0
DPC	Dobruska-Polom	137.11	332	*e*PKIKP		PKiKP	23 56 23.3	+0.3
DPC	Dobruska-Polom	137.11	332	*e*PKPDF		PKiKP	23 56 23.3	+0.3
VYHS	Vyhne	137.18	329	*e*PKIKP		PKiKP	23 56 22.6	-0.5
VYHS	Vyhne	137.18	329	*e*PKP		PKiKP	23 56 22.6	-0.5
HERR	Herculane	137.41	322	⇑P		PKPdf	23 56 21.6	-0.2
BZS	Buzias	137.46	324	⇑PKIKP		PKPdf	23 56 21.4	-0.4
BZS	Buzias	137.46	324	⇑P		PKPdf	23 56 21.4	-0.4
PVCC	Panska Ves	137.75	334	*e*PKIKP		PKiKP	23 56 24.3	+0.1
PVCC	Panska Ves	137.75	334	*e*PKPDF		PKiKP	23 56 24.3	+0.1
BRG	Berggiesshubel	137.75	335	*e*PKP		PKPdf	23 56 22.4	+0.2
	comp=Z,13nm,1.3s							
BRG	Berggiesshubel	137.75	335	*e*PKIKP		PKPdf	23 56 22.4	+0.2
BRG				pmax	pmax			
	comp=Z,13nm,1.3s							
CLL	Collm	137.80	336	*e*PKPdf		PKPdf	23 56 23.0	+0.7
	comp=Z,4.0nm,0.8s							
MDVR	Moldovita	137.88	323	⇑P		PKPdf	23 56 22.7	0.0
MODS	Modra-Piesok	138.04	330	*e*PKIKP		PKiKP	23 56 24.3	-0.6
MODS	Modra-Piesok	138.04	330	*e*PKP		PKiKP	23 56 24.3	-0.6
GOPC	GO Pecny, Ondr	138.10	333	*e*PKIKP		PKiKP	23 56 24.9	-0.1
GOPC	GO Pecny, Ondr	138.10	333	*e*PKPDF		PKiKP	23 56 24.9	-0.1
VTS	Vitosha	138.11	319	⇑PKIKP		PKiKP	23 56 25.2	-0.2
VTS	Vitosha	138.11	319	⇑P		PKiKP	23 56 25.2	-0.2
CONA	Conrad Observa	139.03	330	*e*PKiKP		PKiKP	23 56 27.1	0.0
	comp=Z,3.7nm,0.7s							
KHC	Kasperske Hory	139.22	333	*e*PKIKP		PKPdf	23 56 25.0	0.0
KHC	Kasperske Hory	139.22	333	*e*PKPDF		PKPdf	23 56 25.0	0.0
KHC				*e*pPKP		pPKPdf	23 56 38.8	-5.1
GERES	GERESS Array B	139.37	333	PKP		PKPdf	23 56 26.1	+0.7
	comp=Z,1.6nm,0.7s,baz=64,slow=2.3,SNR=11							
GERES				SKPbc		SKPab	00 00 01.8	-3.6
	comp=Z,1.2nm,0.9s,baz=14,slow=1.6,SNR=5.9							
MOA	Molln	139.84	331	*e*PKiKP		PKiKP	23 56 28.3	-0.3
	comp=Z,7.5nm,1.3s							
FNA	Florina	140.24	318	PKIKP		PKPdf	23 56 27.6	+0.4
FNA	Florina	140.24	318			PKPdf	23 56 27.6	+0.4
WATA	Walderalm	141.45	333	*i* PKiKP		PKiKP	23 56 31.5	-0.6
	comp=Z,6.8nm,1.3s							
ABTA	Abfaltersbach	141.47	331	*e*PKPdf		PKPdf	23 56 28.5	-0.7
	comp=Z,10nm,1.3s							
WTTA	Wattenberg	141.48	333	*i* PKiKP		PKiKP	23 56 31.7	-0.4
	comp=Z,3.4nm,0.6s							
MOTA	Mosalm	141.65	333	*e*PKiKP		PKiKP	23 56 32.0	-0.5
	comp=Z,5.3nm,0.8s							
SQTA	Sankt Quirin	141.70	333	*e*PKiKP		PKiKP	23 56 31.1	-1.5
	comp=Z,9.3nm,1.2s							
TIP	Timpagrande	144.09	319	⇑P		PKPdf	23 56 33.3	-0.8
OSSC	Osservatorio P	144.44	329			PKPab	23 56 32.5	-0.3
MSSA	Maissana	144.68	331			PKPab	23 56 32.8	-1.0
BNI	Bardonecchia	145.34	335	PKIKP		PKPab	23 56 36.9	+0.6
BNI	Bardonecchia	145.34	335			PKPab	23 56 36.9	+0.6
RAFF	Raffo Rosso	146.76	318	PKPdf		PKPdf	23 56 36.4	-2.2
RAFF				PKPab		PKPab	23 56 41.9	+0.1
KEST	Kesra	150.87	320	PKPbc		PKiKP	23 56 51.5	-0.3
	comp=Z,27nm,0.9s,baz=132,slow=2.5,SNR=15							
ESDC	Sonseca Array	153.79	344	PKPbc		PKPbc	23 56 57.5	0.0
	comp=Z,1.1nm,0.7s,baz=13,slow=3.1,SNR=5.9							
ESDC				PKPab		PKPab	23 57 10.4	-0.1
	comp=Z,1.8nm,0.7s,baz=12,slow=3.7,SNR=7.4							
TORD	Torodi Ar. Bea	165.46	266	PKP		PKPdf	23 57 02.6	-0.9
	comp=Z,0.9nm,0.9s,baz=313,slow=0.5,SNR=4.6							
TORD				PKPab		PKPab	23 58 02.4	+0.3
	comp=Z,2.6nm,1.0s,baz=96,slow=2.4,SNR=8.3							

JMA 26 00:04:18.3,36°.00N×137°.29E,h11km,M3.5,3C-1D
Broadband fault plane solution: P waves. NP1: ϕ_s=330.00000°,δ77.00000°,λ14.00000°. **NP2:** ϕ_s=236.00000°,δ76.00000°,λ167.00000°. **Principal axes:** T Plg19.0000°, Azm193.0000°; N Plg71.0000°, Azm10.0000°; P Plg1.0000°, Azm103.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.22	5	⇑P	Pg	00 04 23.1	0.0
JGN				S	Sg	00 04 26.2	-0.1
JTT	Ttatey	0.60	3	⇑P	Pg	00 04 30.1	0.0
JTT				S	Sg	00 04 38.3	+0.2
JYTA	Yamagatataniai	0.61	228	⇑P	Pg	00 04 29.9	-0.2
JYTA				S	Sg	00 04 37.7	-0.4
JKG	Kaga	0.82	290	⇓P	Pg	00 04 34.4	+0.2
JKG				S	Sb	00 04 45.7	0.0
MAT	Matsushiro	0.92	54	P	Pg	00 04 36.1	+0.1
MAT				S	Sg	00 04 48.1	+0.1
MAT	Matsushiro	0.92	54	P	Pg	00 04 36.1	+0.1
MAT				S	Sg	00 04 48.1	+0.1

*ISCJB **26** 00:24:20.1±0.6,23°.45S±0°.07×179°.9W±0°.1,h536km, mb4.5/19 Error ellipse: s-maj=14.6km s-min=7.6km az=160.0*
*NEIC **26** 00:24:21.4±1.8,23°.4S±0°.1×179°.7W±0°.2,h554km±8km, mb4.5/6*
*IDC **26** 00:24:24.4±1.9,23°.38S×179°.92W,h578km±20km, mb3.8/16,mb1 3.9/17,mb1mx3.6/34,mbtmp4.7/17,Error ellipse: s-maj=14.1km s-min=12.5km az=168.0*
ISC 26 00:24:19.9±0.5,23°.45S±0°.07×179°.67W±0°.09,h536km, n81,σ1§44/86,mb4.5/20,15C-7D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.99	165	S	S	00 27 18.0	+0.4
	27nm,0.3s,baz=101,slow=21,SNR=3.6						
RAO	Raoul Island	5.99	165	P	P	00 25 59.9	+2.4
MSVF	Nonsavu	6.08	339	P	P	00 26 00.5	+1.8
DZM	Mont Dzumac	12.88	273	P	P	00 27 10.7	+3.0
	0.5nm,0.3s,baz=76,slow=19,SNR=12						
DZM	Mont Dzumac	12.88	273	P	P	00 27 09.9	+2.2
URZ	Urewera	15.02	190	P	P	00 27 30.7	+1.2
	1.4nm,0.3s,baz=354,slow=1.8,SNR=6.5						
URZ				S	S	00 30 01.8	-4.0
	0.3nm,0.3s,baz=45,slow=20,SNR=2.7						
URZ	Urewera	15.02	190	P	P	00 27 28.8	-0.8
CTA	Charters Tower	31.78	269	P	P	00 30 01.1	+0.5
	27nm,0.6s,baz=94,slow=11,SNR=49						
PMG	Port Moresby	34.64	288	P	P	00 30 24.4	-0.3
	24nm,0.8s,baz=118,slow=5.8,SNR=7.4						
STKA	Stephens Creek	35.17	248	P	P	00 30 29.4	+0.4
	7.0nm,0.6s,baz=90,slow=10.0,SNR=20						
STKA	Stephens Creek	35.17	248	P	P	00 30 29.6	+0.7
ASAR	Alice Springs	42.41	260	P	P	00 31 27.7	0.0
	12nm,0.7s,baz=96,slow=8.0,SNR=98						
ASAR				PcP	PcP	00 33 08.6	+0.1
	1.5nm,0.7s,baz=96,slow=4.5,SNR=4.6						
ASAR				S	S	00 37 08.1	-2.6
	1.6nm,0.7s,baz=97,slow=14,SNR=15						
ASAR	Alice Springs	42.41	260	P	P	00 31 27.0	-0.6
WB2	Warramunga Arr	42.73	266	P	P	00 31 29.6	-0.5
WRAB	Tennant Creek	42.73	266	P	P	00 31 29.6	-0.6
WRAB				IAmb	IAmb	00 31 30.4	
	comp=Z,13nm,0.8s						
WRA	Warramunga Arr	42.74	266	P	P	00 31 29.7	-0.6
	comp=Z,15nm,0.6s,baz=94,slow=8.5,SNR=157						
WRA				S	S	00 37 10.5	-5.0
	comp=Z,2.4nm,1.0s,baz=101,slow=14,SNR=6.5						
WRA	Warramunga Arr	42.74	266	P	P	00 31 29.7	-0.6
JAY	Jayapura	43.62	293	P	P	00 31 37.2	0.0
	comp=Z,12nm,0.6s,baz=173,slow=5.3,SNR=5.1						
FITZ	Fitzroy Crossi	51.16	265	P	P	00 32 34.2	+0.4
	comp=Z,12nm,0.7s,baz=98,slow=6.7,SNR=20						
SIJI	Sorong	52.58	288	P	P	00 32 42.6	-1.5
	comp=Z,34nm,0.8s,baz=85,slow=5.3,SNR=14						
BATI	Baumata	55.50	274	P	P	00 33 06.7	+2.0
	comp=Z,24nm,0.5s,baz=155,slow=6.3,SNR=3.8						
NWAO	Narrogin (SRO)	55.70	245	P	P	00 33 05.5	-0.2
	comp=Z,4.4nm,0.5s,baz=142,slow=6.1,SNR=7.4						
QSPA	South Pole Qui	66.63	180	P	P	00 34 18.6	+1.6
	comp=Z,12nm,0.9s,baz=14,slow=1.2,SNR=30						
QSPA	South Pole Qui	66.63	180	IAmb	IAmb	00 34 19.5	
	comp=Z,15nm,0.9s						
KSRS	Korea Array	78.10	320	P	P	00 35 23.6	+0.1
	comp=Z,0.6nm,0.3s,baz=117,slow=5.2,SNR=4.3						
MAW	Mawson	78.27	200	P	P	00 35 24.9	+0.9
	comp=Z,3.3nm,0.6s,baz=128,slow=7.0,SNR=11						
PETK	Petropavlovsk-	78.74	346	P	P	00 35 26.9	+0.5
	comp=Z,2.7nm,0.6s,baz=115,slow=7.2,SNR=4.7						
USRK	Ussuriysk Ar.	80.55	327	P	P	00 35 35.6	-0.6
	comp=Z,1.9nm,0.6s,baz=165,slow=4.0,SNR=4.6						
SYO	Syowa Base	83.52	193⇓	*i*P	P	00 35 49.6	-1.4
SYO	Syowa Base	83.52	193⇓	*e*PcP	PcP	00 35 55.0	+1.1
PHET	Kaeng Krachan	86.74	285	P	P	00 36 10.1	+2.5
	comp=Z,27μm,0.8s						
CMAR	Chiang Mai Arr	89.66	290	P	P	00 36 22.7	+1.6
	comp=Z,3.5nm,0.8s,baz=136,slow=3.3,SNR=22						
CMAR	Chiang Mai Arr	89.66	290	P	P	00 36 22.2	+1.1
CMMT	Chiang Mai	89.80	291	P	P	00 36 23.8	+2.0
	comp=Z,5.4nm,1.5s						
ILAR	Eielson Array	91.53	13	P	P	00 36 27.3	-1.4
	comp=Z,0.5nm,0.9s,baz=213,slow=7.6,SNR=3.8						
ZALV	Zalesovo Beam	111.80	321	PKiKP	PKiKP	00 41 52.5	-0.9
	comp=Z,0.4nm,0.4s,baz=112,slow=1.6,SNR=3.3						
MKAR	Makanchi Array	112.07	313	PKiKP	PKiKP	00 41 53.4	-0.9
	comp=Z,0.6nm,0.6s,baz=148,slow=1.0,SNR=9.6						
KKAR	Karatay Array	119.83	307		PKPdf	00 42 08.3	-1.0
BVAR	Borovoye Array	120.30	319	PKP	PKPdf	00 42 09.4	-0.5
	comp=Z,1.3nm,0.4s,baz=132,slow=2.2,SNR=6.4						
SCHQ	Schefferville	121.94	39	PKP	PKiKP	00 42 13.4	+0.3
	comp=Z,5.3nm,0.8s,baz=174,slow=10,SNR=2.6						
BOSA	Boshof	122.94	206	PKP	PKiKP	00 42 16.3	+0.1
	comp=Z,3.1nm,1.0s,baz=202,slow=5.4,SNR=2.4						
ARU	Arti	126.70	324	PKP	PKPdf	00 42 22.3	+0.3
	comp=Z,1.0nm,0.5s,baz=37,slow=7.4,SNR=5.3						
ARCES	ARCESS Array B	131.51	348	PKP	PKPdf	00 42 30.2	-0.6
	comp=Z,4.1nm,0.9s,baz=52,slow=2.0,SNR=9.4						
JMIC	Jan Mayen	132.17	4	PKP	PKPdf	00 42 30.9	-1.1
	comp=Z,24nm,0.5s,baz=162,slow=10,SNR=2.7						
FINES	FINESS Array B	138.12	342	PKhKP	PKPpre	00 42 38.9	
	comp=Z,2.1nm,0.8s,baz=1.9,slow=4.2,SNR=3.3						
NB2	NORSAR Subarra	141.69	351	PKP	PKPdf	00 42 45.0	-4.8
	comp=Z,0.7nm,0.5s,baz=12,slow=3.1						
NOA	NORSAR Array B	141.69	351	PKhKP	PKPdf	00 42 44.8	-5.0
	comp=Z,0.5nm,0.6s,baz=60,slow=0.7,SNR=6.3						
HFS	Hagfors	142.16	349	PKhKP	PKPpre	00 42 46.5	
	comp=Z,6.0nm,0.5s,baz=66,slow=3.6,SNR=56						
AKASG	Malin Array Be	144.76	328	PKP	PKPdf	00 42 55.1	-0.3
	comp=Z,5.9nm,0.7s,baz=42,slow=4.0,SNR=28						
AKASG	Malin Array Be	144.76	328		PKPdf	00 42 55.5	+0.1
AKBB	Malin Array Si	144.76	328		PKPdf	00 42 54.9	-0.6
SORM	Soroca	146.81	325	⇓P	PKPbc	00 43 01.6	-0.2
BRTR	Keskin Array B	147.54	308	PKPbc	PKPbc	00 43 03.7	-0.5
	comp=Z,2.1nm,0.7s,baz=140,slow=4.8,SNR=12						
BRTR				PKPab	PKPab	00 43 09.0	+0.8
	comp=Z,3.7nm,0.7s,baz=88,slow=3.6,SNR=14						
EKA	Eskdalemuir Ar	148.05	4	PKPbc	PKPbc	00 43 04.6	-0.2
	comp=Z,1.0nm,0.4s,baz=349,slow=2.6,SNR=17						
TESR	Tescani	148.73	324	⇓P	PKPbc	00 43 05.0	-1.7
BIZ	Bicaz	148.75	325	⇑P	PKiKP	00 43 07.8	0.0
BURAR	Bucovina Array	148.76	327	⇑P	PKiKP	00 43 07.5	-0.4
KOLS	Kolonicke sedl	149.23	331	*e*PKP	PKiKP	00 43 08.8	0.0
TRPA	Tarpa	149.70	330	⇓P	PKPbc	00 43 09.2	+0.2
LANS	Liptovska Anna	150.24	334	*e*PKP	PKiKP	00 43 11.6	+0.7
OSTC	Ostas	150.25	339⇑	*e*PKP	PKiKP	00 43 11.7	+0.9
CHVC	Chvalec	150.27	340⇑	*e*PKP	PKiKP	00 43 10.9	0.0
DPC	Dobruska-Polom	150.39	339⇑	*e*PKP	PKiKP	00 43 11.1	-0.1
MORC	Moravsky Berou	150.46	337	⇑P	PKPbc	00 43 10.8	0.0
KRLC	Kraliky	150.47	338⇑	*e*PKP	PKPbc	00 43 10.0	-0.8
KRLC				*e*PKPAB	PKPab	00 43 20.4	+0.6
CLL	Collm	150.51	344⇓	*i*PKPbc	PKPbc	00 43 11.0	+0.2
	comp=Z,11nm,0.7s						
CLL	Collm	150.51	344	PKPbc	PKiKP	00 43 11.4	+0.1
DRGR		150.57	328	⇑P	PKPbc	00 43 11.4	+0.1
BRG	Berggiesshubel	150.65	342	*i* PKP	PKiKP	00 43 11.5	-0.1
	comp=Z,10nm,0.4s						
PVCC	Panska Ves	150.78	341⇑	*e*PKP	PKiKP	00 43 12.2	+0.3
VYHS	Vyhne	151.02	334	*e*PKP	PKPbc	00 43 12.1	0.0
PSZ	Piszkesteto	151.03	332	⇓P	PKPbc	00 43 11.4	-0.9
VRAC	Vranov	151.19	338	⇑P	PKPab	00 43 23.9	+1.1
GOPC	GO Pecny, Ondr	151.26	340⇑	*e*PKP	PKPbc	00 43 12.5	-0.1
ELND	Elena	151.30	319	⇑P	P

DAVOX LR LR 00 58 10.6
comp=Z,60nm,21.0s,baz=85,slow=32
ANMO Albuquerque 56.13 301 LR LR 00 59 02.7
comp=Z,146nm,19.4s,baz=104,slow=33
GERES GERESS Array B 58.32 42 P **P 00 38 21.9 +0.4**
comp=Z,2.1nm,1.2s,baz=284,slow=5.4,SNR=3.6
GERES GERESS Array B 58.32 42 P **P 00 38 21.3 -0.2**
PDAR Pinedale Array 59.16 310 P **P 00 38 29.4 +1.8**
comp=Z,1.5nm,0.9s,baz=98,slow=9.1,SNR=7.0
PDAR LR LR 01 01 22.8
comp=Z,61nm,21.9s,baz=96,slow=33
PDAR Pinedale Array 59.16 310 P **P 00 38 28.2 +0.5**
TPAW Teton Pass 60.24 311 IAmb IAmb 00 38 44.1
comp=Z,6.1nm,0.9s
FXWY Fox Creek 60.31 311 IAmb IAmb 00 38 50.3
comp=Z,6.9nm,1.4s
HWUT Hardware Ranch 60.55 309 IAmb IAmb 00 38 45.2
comp=Z,7.1nm,1.0s
U15A North Rim 60.92 303 IAmb IAmb 00 38 49.6
comp=Z,4.5nm,1.1s
BGU Big Grassy Mou 61.61 308 P **P 00 38 44.2 -0.1**
ELK Elko 63.28 308 P **P 00 38 54.4 -1.3**
MFID Camas Ranch 63.78 311 IAmb IAmb 00 39 07.2
comp=Z,5.1nm,0.9s
YKA Yellowknife Ar 65.35 332 P **P 00 39 08.6 +0.1**
comp=Z,0.9nm,0.8s,baz=90,slow=7.6,SNR=3.9
NVAR Mina Array Bea 65.67 305 P **P 00 39 14.4 +3.0**
comp=Z,0.3nm,0.6s,baz=96,slow=6.4,SNR=3.1
NVAR LR LR 01 07 09.6
comp=Z,45nm,19.7s,baz=82,slow=35
NVAR Mina Array Bea 65.67 305 P **P 00 39 09.4 -2.0**
FINES FINESS Array B 67.41 30 P **P 00 39 21.0 -0.6**
comp=Z,6.3nm,1.1s,baz=280,slow=15,SNR=3.4
ARCES ARCESS Array B 68.44 21 P **P 00 39 29.1 +1.0**
comp=Z,6.3nm,1.1s,baz=270,slow=3.6,SNR=5.0
ARCES ARCESS Array B 68.44 21 P **P 00 39 27.7 -0.4**
AKASG Malin Array Be 68.50 42 P **P 00 39 28.2 -0.5**
comp=Z,0.2nm,0.3s,baz=273,slow=5.8,SNR=4.1
AKASG Malin Array Be 68.50 42 P **P 00 39 27.6 -1.1**
BRTR Keskin Array B 72.29 53 P **P 00 39 53.4 +1.0**
comp=Z,1.0nm,0.7s,baz=245,slow=6.7,SNR=5.9
BRTR Keskin Array B 72.29 53 P **P 00 39 52.3 -0.1**
MMAI Mount Meron Ar 74.67 60 LR LR 01 12 41.6
comp=Z,12nm,21.0s,baz=220,slow=36
EIL Elat 74.89 63 LR LR 01 13 23.2
comp=Z,42nm,19.3s,baz=292,slow=36
BMAR Burnt Mountain 77.92 337 P **P 00 40 22.7 -1.5**
KBZ Khabaz 78.48 48 P **P 00 40 28.6 +1.0**
comp=Z,2.2nm,1.0s,baz=250,slow=1.3,SNR=4.8
PRP Porcupine Dome 78.77 335 P **P 00 40 28.0 -1.0**
PRP IAmb IAmb 00 40 31.1
comp=Z,6.2nm,1.1s
ILAR Eielson Array 79.52 335 P **P 00 40 33.6 +0.7**
comp=Z,3.0nm,0.8s,baz=75,slow=4.5,SNR=24
ILAR LR LR 01 15 15.0
comp=Z,24nm,18.4s,baz=44,slow=35
ILAR Eielson Array 79.52 335 P **P 00 40 33.3 +0.4**
ARU Arti 84.57 33 LR LR 01 13 51.7
comp=Z,29nm,19.4s,baz=296,slow=32
ATD Arta Tunnel 86.32 79 LR LR 01 20 20.7
comp=Z,34nm,18.4s,baz=128,slow=36
AKTO Aktyubinsk 86.48 38 P **P 00 41 10.4 +1.2**
comp=Z,1.3nm,0.8s,baz=340,slow=4.5,SNR=3.9
ABKAR Abkulak array 88.08 39 P **P 00 41 16.3 -0.7**
ABKAR Abkulak array 88.08 39 IAmb IAmb 00 41 19.1
comp=Z,7.9nm,1.4s
SNAA Sanae 92.79 167 P **P 00 41 37.7 -0.7**
comp=Z,1.0nm,0.9s,baz=18,slow=3.2,SNR=2.8

*NEIC **26** 00:41:00.9±1.6, 60°.6S±0°.1×42°.7W±0°.3, h10km±1km, mb4.0/4*
*ISCJB **26** 00:41:01.0±0.7, 60°.70S±0°.08×42°.0W±0°.3, h10km, mb4.0/5, MS3.5/2, Error ellipse: s-maj=18.9km s-min=10.3km az=160.8*
*IDC **26** 00:41:01.7±0.8, 60°.65S×42°.31W, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.9/30, mbtmp4.0/7, ML3.6/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/22, Error ellipse: s-maj=33.5km s-min=21.4km az=71.0*
ISC 26 00:41:02.2±0.7, 60°.74S±0°.09×42°.3W±0°.1, h10km, n33, σ1§71/23, mb4.1/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.19**	**28**	Pn	**Pn**	**00 42 45.7**	**-1.5**
PMSA	**Palmer Station**	**10.72**	**239**	Pn	**Pn**	**00 43 37.3**	**+1.7**
	0.3nm,0.3s,baz=69,slow=11,SNR=3.8						
PMSA				LR	LR	00 47 19.9	
	comp=Z,93nm,19.6s,baz=128,slow=35						
PMSA	**Palmer Station**	**10.72**	**239**		**Pn**	**00 43 32.4**	**-3.2**
VNA3	**Neumayer Olymp**	**16.67**	**145**	P	**Pn**	**00 44 53.7**	**-1.8**
VNA1	**Neumayer--Stat**	**16.89**	**140**	P	**Pn**	**00 44 57.4**	**-0.8**
VNA2	**Neumayer--Watz**	**17.25**	**141**	P	**Pn**	**00 45 01.4**	**-1.4**
	baz=296,slow=16						
SNAA	**Sanae**	**18.87**	**142**	P	**Pn**	**00 45 24.8**	**+2.0**
SNAA	**Sanae**	**18.87**	**142**	P	**Pn**	**00 45 24.8**	**+2.0**
	0.3nm,0.3s,baz=296,slow=12,SNR=20						
SNAA	**Sanae**	**18.87**	**142**	P	**Pn**	**00 45 24.6**	**+1.8**
SNAA				IAmb	IAmb	00 45 35.5	
	comp=Z,10nm,1.3s						
QSPA	**South Pole Qui**	**29.50**	**180**	P	**P**	**00 47 08.6**	**+2.4**
	comp=Z,2.1nm,0.6s,baz=191,slow=2.5,SNR=3.8						
QSPA	**South Pole Qui**	**29.50**	**180**	P	**P**	**00 47 03.1**	**-3.2**
QSPA				IAmb	IAmb	00 47 05.5	
	comp=Z,10.0nm,1.4s						
MAW	**Mawson**	**40.96**	**146**	P	**P**	**00 48 46.3**	**+2.0**
	comp=Z,1.6nm,0.7s,baz=225,slow=8.6,SNR=2.2						
MAW	**Mawson**	**40.96**	**146**	P	**P**	**00 48 44.1**	**-0.2**
MAW				IAmb	IAmb	00 48 52.0	
	comp=Z,3.0nm,1.5s						
BDFB	**Brasilia**	**45.22**	**352**	P	**P**	**00 49 20.4**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=146,slow=8.0,SNR=3.5						
LPAZ	**La Paz**	**48.13**	**326**	P	**P**	**00 49 43.9**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=185,slow=9.7,SNR=2.1						
H10N3	**ASCENSION HYDR**	**56.73**	**34**	T	T	01 52 45.4	
	baz=196						
H10N1	**ASCENSION HYDR**	**56.73**	**34**	T	T	01 52 41.7	
	baz=196,slow=74						
H10N2	**ASCENSION HYDR**	**56.75**	**34**	T	T	01 52 41.6	
	baz=196,slow=74						
TSUM	**Tsumeb**	**58.83**	**73**	LR	LR	01 10 27.6	
	comp=Z,31nm,20.0s,baz=162,slow=30						
TORD	**Torodi Ar. Bea**	**81.53**	**43**	P	**P**	**00 53 21.2**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=200,slow=6.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**81.53**	**43**	P	**P**	**00 53 18.7**	**-0.9**
TORD				IAmb	IAmb	00 53 22.2	
	comp=Z,1.1nm,0.8s						
PPT	**Papeete**	**82.98**	**247**	LR	LR	01 21 25.8	
	comp=Z,25nm,20.8s,baz=226,slow=29						
H08S1	**Diego Garcia H**	**95.11**	**115**	T	T	02 40 44.7	
	baz=200						
H08S2	**Diego Garcia H**	**95.12**	**115**	T	T	02 40 30.1	
	baz=200						
H08S3	**Diego Garcia H**	**95.13**	**115**	T	T	02 40 46.2	
	baz=200						
YKA	**Yellowknife Ar**	**134.59**	**322**	PKP	**PKPdf**	**01 00 18.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=140,slow=1.1,SNR=4.2						
INK	**Inuvik**	**144.34**	**320**	PKP	PKPbc	01 00 35.0	-0.1
	comp=Z,4.7nm,0.8s,baz=116,slow=2.3,SNR=13						
INK	**Inuvik**	**144.34**	**320**		PKPbc	01 00 34.8	-0.3
MKAR	**Makanchi Array**	**145.54**	**88**	PKPbc	**PKPab**	**01 00 39.6**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=246,slow=3.0,SNR=10.0						
MKAR	**Makanchi Array**	**145.54**	**88**		**PKPab**	**01 00 40.1**	**+0.2**
ILAR	**Eielson Array**	**147.13**	**310**	PKPbc	**PKPbc**	**01 00 43.9**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=138,slow=2.1,SNR=29						
ILAR	**Eielson Array**	**147.13**	**310**		**PKPbc**	**01 00 43.8**	**0.0**
ZALV	**Zalesovo Beam**	**151.38**	**80**	PKPbc	**PKPbc**	**01 00 53.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=241,slow=4.9,SNR=5.0						

*GCG **26** 00:42:30.5±0.7, 13°.17N×91°.90W, h34km±158km, MD4.2*
*ISCJB **26** 00:42:31.9±0.7, 13°.30N±0°.06×91°.86W±0°.05, h28km, mb3.8/5, Error ellipse: s-maj=8.6km s-min=5.6km az=26.9*
*IDC **26** 00:42:31.2±2.0, 13°.39N×91°.69W, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.8/51, mbtmp3.8/9, ML3.7/4, Error ellipse: s-maj=38.2km s-min=25.9km az=16.0*
*NEIC **26** 00:42:35.8±2.9, 13°.34N±0°.09×91°.67W±0°.07, h51km±11km, mb4.0/8, Md4.0(MEX)*
*MEX **26** 00:42:35.0±0.4, 13°.48N×91°.54W, h26km±13km, MD4.0*
ISC 26 00:42:34.1±0.9, 13°.37N±0°.07×91°.68W±0°.05, h28km, n39, σ1§94/49, mb4.0/8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**1.07**	**6**	*eP*	**Pb**	**00 42 53.9**	**-0.1**
STG3	**Santiaguito 3,**	**1.34**	**5**	*eP*	**Pn**	**00 42 56.5**	**-0.7**
STG3				*i S*	**Sb**	**00 43 16.8**	**+1.2**
FUG	**Fuego 3**	**1.35**	**37**	*eP*	**Pb**	**00 42 58.1**	**-0.8**
FUG				*eS*	**Sb**	**00 43 18.5**	**+2.6**
IXG	**Ixpaco**	**1.45**	**56**	*eP*	**Pn**	**00 42 58.6**	**0.0**
THIG		**1.63**	**340**	*i P*	**Pn**	**00 42 59.8**	**-1.2**
THIG				*i S*	**Sn**	**00 43 17.7**	**-3.5**
APG	**El Apazote**	**2.01**	**36**	Pn	**Pn**	**00 43 07.5**	**+1.1**
	8.4nm,0.3s,baz=203,slow=8.3,SNR=87						
APG				Sn	**Sb**	**00 43 36.4**	**+1.5**
	20nm,0.3s,baz=72,slow=17,SNR=4.2						
SNET	**Serv Nac Est T**	**2.40**	**82**	Pn	**Pn**	**00 43 11.1**	**-0.6**
PCIG		**2.76**	**328**	*eP*	**Pn**	**00 43 15.2**	**-1.3**
PCIG				*i S*	**Sn**	**00 43 46.9**	**-2.1**
CCIG	**Comitan**	**2.93**	**351**	*i P*	**Pn**	**00 43 16.5**	**-2.6**
CCIG				*eS*	**Sn**	**00 43 50.3**	**-3.1**
CCIG	**Comitan**	**2.93**	**351**		**Pn**	**00 43 20.7**	**+1.6**
TGIG		**3.67**	**338**	*i P*	**Pn**	**00 43 27.2**	**-1.9**
TGIG				*eS*	**Sn**	**00 44 09.3**	**-2.2**
TGUH	**Tegucigalpa,Un**	**4.34**	**80**		**Pn**	**00 43 41.0**	**+2.7**
CMIG	**Matias Romero**	**4.82**	**321**	Pn	**Pn**	**00 43 44.9**	**-0.1**
	1.2nm,0.3s,baz=149,slow=8.1,SNR=9.7						
CMIG				Sn	**Sn**	**00 44 47.1**	**+7.2**
	2.5nm,0.3s,baz=221,slow=20,SNR=3.7						
CMIG	**Matias Romero**	**4.82**	**321**	*i P*	**Pn**	**00 43 44.8**	**-0.1**
CMIG				*i S*	**Sn**	**00 44 39.3**	**-0.6**
JTS	**Las Juntas de**	**7.26**	**114**	Pn	**Pn**	**00 44 19.8**	**+1.4**
	0.7nm,0.3s,baz=347,slow=14,SNR=3.7						
JTS				Sn	**Sn**	**00 45 36.3**	**-3.8**
	0.2nm,0.3s,baz=9.0,slow=19,SNR=1.3						
JTS				Lg	Lg	00 46 19.3	
	0.2nm,0.3s,baz=356,slow=19,SNR=2.2						
JTS	**Las Juntas de**	**7.26**	**114**	Pn	**Pn**	**00 44 20.4**	**+1.9**
TEIG	**Tepich**	**7.56**	**25**	Pn	**Pn**	**00 44 23.4**	**+0.8**
	5.5nm,0.3s,baz=319,slow=0.7,SNR=20						
TEIG	**Tepich**	**7.56**	**25**	Pn	**Pn**	**00 44 23.2**	**+0.7**
TLIG	**Tlapa**	**7.84**	**303**	Pn	**Pn**	**00 44 28.2**	**+1.8**
TX31	**Lajitas Ar. Si**	**19.39**	**327**	P	**P**	**00 46 58.7**	**+0.5**
TX32	**Lajitas Array**	**19.39**	**327**	P	**P**	**00 46 57.7**	**-0.4**
TXAR	**Lajitas Array**	**19.39**	**327**	P	**Pn**	**00 47 00.2**	**+0.9**
	0.1nm,0.3s,baz=148,slow=10.0,SNR=7.6						
TXAR	**Lajitas Array**	**19.39**	**327**	P	**Pn**	**00 46 60.0**	**+0.6**
ABTX	**Abilene, Hawle**	**20.51**	**341**	P	**P**	**00 47 09.8**	**-0.4**
ABTX				IAmb	IAmb	00 47 11.7	
	comp=Z,9.5nm,0.9s						
GOGA	**Godfrey**	**21.31**	**19**	P	**P**	**00 47 17.7**	**-1.0**
GOGA				IAmb	IAmb	00 47 19.4	
	comp=Z,12nm,1.4s						
W41B	**Gary Mavity, V**	**21.72**	**359**	P	**P**	**00 47 24.0**	**+0.9**
MNTX	**Cornudas Mount**	**22.16**	**328**	P	**P**	**00 47 29.5**	**+1.5**
MNTX				IAmb	IAmb	00 47 32.2	
	comp=Z,3.7nm,0.7s						
LCAR	**Lake Charles**	**22.61**	**1**	P	**P**	**00 47 32.2**	**-0.5**
LCAR				IAmb	IAmb	00 47 32.6	
	comp=Z,4.9nm,0.8s						
AMTX	**Amarillo**	**23.26**	**339**	P	**P**	**00 47 38.9**	**-0.6**
TKL	**Tuckaleechee C**	**23.31**	**16**	P	**P**	**00 47 39.5**	**-0.4**
	comp=Z,8.7nm,1.1s,baz=186,slow=9.2,SNR=6.0						
CCM	**Cathedral Cave**	**24.59**	**1**	P	**P**	**00 47 49.3**	**-2.6**
LPM	**Los Pinos Moun**	**24.88**	**329**	P	**P**	**00 47 55.0**	**+0.2**
PDAR	**Pinedale Array**	**33.12**	**336**	P	**P**	**00 49 10.9**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=123,slow=11,SNR=1.9						
PDAR	**Pinedale Array**	**33.12**	**336**	P	**P**	**00 49 06.9**	**-1.3**
NVAR	**Mina Array Bea**	**34.36**	**321**	P	**P**	**00 49 20.7**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=135,slow=8.4,SNR=6.0						
NVAR	**Mina Array Bea**	**34.36**	**321**	P	**P**	**00 49 17.2**	**-1.8**
YKA	**Yellowknife Ar**	**51.71**	**347**	P	**P**	**00 51 37.8**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=147,slow=8.0,SNR=9.1						
ILAR	**Eielson Array**	**63.54**	**337**	P	**P**	**00 53 01.9**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=118,slow=4.0,SNR=9.0						
CMAR	**Chiang Mai Arr**	**146.69**	**341**	PKPbc	**PKPab**	**01 02 15.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=348,slow=4.0,SNR=4.3						

*SJA **26** 00:43:46.3±0.5, 34°.70S×73°.24W, h5km±8km, ML3.4, MW3.2*
*ISCJB **26** 00:43:47.8±0.8, 34°.83S±0°.03×73°.25W±0°.09, h10km, mb3.6/4, Error ellipse: s-maj=10.1km s-min=4.9km az=178.6*
*IDC **26** 00:43:48.9±1.3, 34°.80S×72°.97W, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.6/31, mbtmp3.5/7, ML3.4/3, MS2.3/1, Ms1 2.3/1, ms1mx2.3/17, Error ellipse: s-maj=34.9km s-min=19.9km az=90.0*
*GUC **26** 00:43:50.0±0.8, 34°.90S×73°.16W, h30km±5km, ML3.4*
ISC 26 00:43:49.7±1.0, 34°.87S±0°.05×73°.12W±0°.08, h10km, n18, σ1§50/24, mb3.7/4, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.99**	**99**	↑*iP*	**Pg**	**00 44 08.2**	**-0.5**
GO05				*i S*	**Sb**	**00 44 21.7**	**-0.4**
GO05				IAML		00 44 27.6	
	comp=E,3μm,0.4s						
GO05	**Huala**	**0.99**	**99**	*i P*	**Pg**	**00 44 08.1**	**-0.6**
GO05				*i S*	**Sn**	**00 44 24.3**	**+0.6**
COCH	**Cobquecura**	**1.29**	**168**	↓*iP*	**Pn**	**00 44 12.3**	**-1.5**
COCH				*i S*	**Sb**	**00 44 28.5**	**-2.2**
COCH				IAML		00 44 37.4	
	comp=N,435nm,0.5s						
CCHI	**Chillan**	**1.93**	**154**	*eP*	**Pn**	**00 44 22.7**	**+0.1**
CCHI				*i S*	**Sn**	**00 44 47.1**	**+0.2**
CCHI				IAML		00 45 02.8	
	comp=E,749nm,0.6s						
CCHI	**Chillan**	**1.93**	**154**	*i P*	**Pb**	**00 44 24.7**	**-0.2**
CLCH	**Cerro Calan**	**2.60**	**56**	*eP*	**Pn**	**00 44 32.7**	**+0.8**
RTLS	**Leoncito**	**4.43**	**47**	*i P*	**Pn**	**00 44 58.1**	**+0.8**
RTLS				IAML		00 46 13.8	
	comp=Z,25nm,2.5s						
RTCV	**Cerro Valdivia**	**4.87**	**53**	↓*iP*	**Pn**	**00 45 03.9**	**+0.9**
RTCV				IAML		00 46 40.9	
	comp=Z,61nm,1.2s						
GO04	**Tololo Observa**	**5.08**	**23**	*i P*	**Pn**	**00 45 05.5**	**-0.6**
CFA	**Coronel Fontan**	**5.23**	**53**	Pn	**Pn**	**00 45 08.2**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=222,slow=8.4,SNR=15						
CFA				Sn	**Sn**	**00 46 06.0**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=299,slow=19,SNR=2.2						
CFA				Lg	Lg	00 46 28.4	
	comp=Z,1.7nm,0.3s,baz=315,slow=18,SNR=3.3						
AMOG	**MOGNA**	**5.52**	**46**	*i P*	**Pn**	**00 45 12.0**	**0.0**
AMOG				IAML		00 46 48.2	
	comp=Z,25nm,0.6s						
AROD	**Rodeo**	**5.61**	**34**	*i P*	**Pn**	**00 45 13.9**	**+0.4**
AROD				IAML		00 46 59.7	
	comp=Z,10nm,1.2s						
PLCA	**Paso Flores**	**6.20**	**162**	Pn	**Pn**	**00 45 22.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=3.4,slow=11,SNR=7.5						
PLCA				Sn	**Sn**	**00 46 37.2**	**+4.9**
	comp=Z,0.3nm,0.3s,baz=8.1,slow=5.9,SNR=3.1						
PLCA				LR	LR	00 47 03.2	
	comp=Z,30nm,20.9s,baz=28,slow=31						
PLCA				Lg	Lg	00 47 04.5	
	comp=Z,0.1nm,0.3s,baz=290,slow=11,SNR=3.6						
LPAZ	**La Paz**	**19.04**	**15**	P	**P**	**00 48 11.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=323,slow=10,SNR=2.6						
SIV	**San Ignacio**	**21.68**	**33**	P	**P**	**00 48 39.2**	**-1.5**
	comp=Z,2.8nm,0.9s,baz=227,slow=8.0,SNR=6.1						
SNAA	**Sanae**	**51.12**	**158**	P	**P**	**00 52 52.4**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=275,slow=5.7,SNR=3.4						
TXAR	**Lajitas Array**	**70.06**	**332**	P	**P**	**00 55 03.1**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=135,slow=10,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.34**	**71**	P	**P**	**00 56 27.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=264,slow=2.8,SNR=3.2						

*ISCJB **26** 01:04:15.9±0.3, 35°.26N±0°.03×77°.09E±0°.06, h10km, mb3.8/14, MS3.1/7, Error ellipse: s-maj=7.7km s-min=3.8km az=159.6*
*IDC **26** 01:04:16.6±0.7, 35°.24N×76°.90E, h0km, mb3.9/14, mb1 3.9/20, mb1mx3.8/64, mbtmp3.8/20, ML3.5/6, MS3.2/8, Ms1 3.2/8, ms1mx2.8/47, Error ellipse: s-maj=18.8km s-min=13.5km az=51.0*
*BJI **26** 01:04:19.3±0.0, 35°.51N×77°.20E, h5km, mb4.0/12, mB4.4/7, ML4.3/3, Ms3.6/7, Ms7 3.3/4*
*NNC **26** 01:04:26.9±4.7, 35°.94N×77°.10E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=47.7km s-min=30.1km az=131.0*
ISC 26 01:04:18.8±0.5, 35°.41N±0°.04×77°.14E±0°.06, h10km, n52, σ2§46/53, mb3.9/14, MS3.0/7, 8C-8D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**3.23**	**193**	*eP*	**Pb**	**01 05 16.6**	**+0.2**
DHRM				*eS*	**Sn**	**01 05 54.5**	**+6.1**
DHRM				IAML		01 06 05.5	
	comp=E,421nm,0.7s						
DHRM				IAML		01 06 06.1	
	comp=N,275nm,0.5s						
SMLA	**Simla**	**4.27**	**180**	*eS*	**Sn**	**01 06 17.4**	**+3.6**
SMLA				IAML		01 06 34.3	
	comp=E,370nm,0.8s						
SMLA				IAML		01 06 34.9	
	comp=N,211nm,0.4s						
JOSI	**Joshimath**	**5.25**	**157**	*eP*	**Pn**	**01 05 39.8**	**+2.1**
JOSI				*eS*	**Sn**	**01 06 39.3**	**+1.0**
JOSI				IAML		01 06 47.9	
	comp=N,2μm,0.7s						
JOSI				IAML		01 06 48.8	
	comp=E,1μm,0.5s						
KUDL	**Kundal**	**7.27**	**185**	*eP*	**Pn**	**01 06 04.5**	**-0.5**
KUDL				*eS*	**Sn**	**01 07 24.1**	**-3.5**
AAK	**Ala-Archa**	**7.50**	**345**	⇑Pn	**Pn**	**01 06 10.0**	**+1.6**
	comp=E,7.1nm,0.8s						
AAK				⇑Pg	**Pb**	**01 06 31.7**	**+2.6**
	comp=E,15nm,0.9s						
AAK				⇓Lg	Lg	01 08 09.3	
	comp=E,45nm,1.0s						
AAK	**Ala-Archa**	**7.50**	**345**	Pn	Pn	01 06 15.1	+6.7
	comp=E,0.6nm,0.3s,baz=156,slow=20,SNR=6.6						
AAK				Sn	**Sn**	**01 07 38.3**	**+4.8**
	comp=E,0.3nm,0.3s,baz=342,slow=20,SNR=2.1						
AAK				Lg	Lg	01 08 13.0	
	comp=E,0.6nm,0.3s,baz=331,slow=18,SNR=5.1						
AAK				LR	LR	01 09 15.1	
	comp=E,88nm,20.6s,baz=150,slow=39						
TKM2	**Tokmak 2**	**7.59**	**351**	⇓Pn	**Pn**	**01 06 12.4**	**+2.8**
TKM2				⇓Pg	Pb	01 06 36.2	+5.6
	comp=E,16nm,1.2s						
TKM2				⇓Lg	Lg	01 08 12.5	
	comp=E,41nm,1.0s						
MDOK	**Medeo**	**7.74**	**360**	Pn	**Pn**	**01 06 14.2**	**+2.6**
	comp=E,14nm,1.0s						
MDOK				Pg	Pb	01 06 37.3	+4.1
	comp=E,17nm,1.0s						
MDOK				Lg	Lg	01 08 17.8	
	comp=E,264nm,1.5s						
KNDC	**Almaty**	**7.79**	**359**	⇑Pg	Pg	01 06 39.9	-8.1
	comp=E,9.9nm,0.3s						
KNDC				⇓Lg	Lg	01 08 20.4	
	comp=E,35nm,0.6s						
PDGK	**Podgornoye**	**8.11**	**12**	⇓Pn	Pn	01 06 21.6	+4.8
	comp=E,10.0nm,0.8s						
PDGK				⇑Sn	**Sn**	**01 07 49.9**	**+1.3**
	comp=E,31nm,1.1s						
PDGK				⇓Lg	Lg	01 08 27.5	
	comp=E,86nm,1.0s						
DANN	**Dangsing**	**9.01**	**140**	*eP*	**Pn**	**01 06 28.0**	**-1.3**
	comp=E,36nm,0.4s						
KK31	**Karatay Array**	**9.24**	**328**	⇑Pn	**Pn**	**01 06 34.1**	**+2.0**
	comp=E,1.7nm,0.6s,baz=144,slow=13,SNR=14						
KK31				⇑Sn	**Sn**	**01 08 13.7**	**-2.3**
	comp=E,4.8nm,0.6s,baz=136,slow=30,SNR=3.9						
KOLN	**Koldanda**	**9.40**	**142**	*eP*	**Pn**	**01 06 34.3**	**-0.2**
GKN	**Gorkha**	**9.76**	**137**	*eP*	**Pn**	**01 06 38.5**	**-0.9**
	comp=E,45nm,0.4s						
KKN	**Kakani**	**10.29**	**135**	*eP*	**Pn**	**01 06 44.9**	**-1.8**
	comp=E,39nm,0.4s						
PKIN	**Phulchoki**	**10.52**	**136**	*eP*	**Pn**	**01 06 48.2**	**-1.7**
	comp=E,21nm,0.6s						
PKI	**Pulchoki**	**10.53**	**136**	*eP*	**Pn**	**01 06 48.3**	**-1.8**
	comp=E,24nm,0.6s						
GUN	**Gumba**	**10.55**	**133**	*eP*	**Pn**	**01 06 48.1**	**-2.3**
	comp=E,24nm,0.3s						
JIRN	**Jiri**	**10.92**	**133**	*eP*	**Pn**	**01 06 53.2**	**-2.3**
	comp=E,99nm,0.6s						
WMQ	**Urumqi**	**11.69**	**41**	*eP*	Pn	01 07 09.5	+3.9
RAMN	**Ramite**	**11.69**	**134**	*eP*	**Pn**	**01 07 03.0**	**-2.9**
	comp=E,18nm,0.4s						
MK31	**Makanchi Array**	**12.01**	**17**	⇓Pn	**Pn**	**01 07 10.8**	**+0.8**
	comp=E,0.5nm,0.3s,baz=189,slow=45,SNR=34						
MK31				⇑Sn	**Sn**	**01 09 20.8**	**-3.3**
	comp=E,13nm,1.1s,baz=205,slow=23,SNR=17						
MKAR	**Makanchi Array**	**12.01**	**17**	Pn	**Pn**	**01 07 10.6**	**+0.6**
	comp=E,0.6nm,0.3s,baz=195,slow=12,SNR=18						
MKAR				Sn	**Sn**	**01 09 17.2**	**-6.8**
	comp=E,0.4nm,0.3s,baz=200,slow=20,SNR=5.7						
TAPN	**Taplejung**	**12.09**	**129**	*eP*	**Pn**	**01 07 08.0**	**-3.4**
	comp=E,21nm,0.4s						
ODAN	**Odare**	**12.23**	**131**	*eP*	**Pn**	**01 07 10.1**	**-3.2**
	comp=E,12nm,0.4s						
KURBB	**Kurchatov Arra**	**15.24**	**3**	Pn	**Pn**	**01 07 55.0**	**+1.1**
	comp=E,0.0nm,0.3s,baz=22,slow=10,SNR=4.5						
KURBB				Lg	Lg	01 12 20.8	
	baz=186,slow=27,SNR=4.2						
GEYT	**Alibeck**	**15.47**	**285**	Pn	**Pn**	**01 07 52.8**	**-4.3**
	comp=E,0.6nm,0.3s,baz=78,slow=13,SNR=2.4						
GEYT				Sn	Sn	01 10 38.6	-10
	comp=E,0.2nm,0.3s,baz=118,slow=15,SNR=2.4						
BVAR	**Borovoye Array

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.65**	**8**	T	T	01 29 17.7	
	baz=188,slow=76,SNR=43						
H08S2	**Diego Garcia H**	**17.66**	**8**	T	T	01 29 15.5	
	baz=188,slow=76,SNR=99						
H08S3	**Diego Garcia H**	**17.67**	**8**	T	T	01 29 19.3	
	baz=188,slow=76,SNR=68						
H01W2	**Cape Leeuwin H**	**39.16**	**115**	T	T	01 56 05.0	
	baz=270						
H01W3	**Cape Leeuwin H**	**39.16**	**115**	T	T	01 56 03.5	
	baz=270						
H01W1	**Cape Leeuwin H**	**39.18**	**115**	T	T	01 56 16.3	
	baz=270						
CMAR	**Chiang Mai Arr**	**51.79**	**36**	P	P	01 16 03.4	+0.8
	3.1nm,0.3s,baz=224,slow=6.3,SNR=5.1						
ASAR	**Alice Springs**	**57.73**	**103**	P	P	01 16 45.1	-0.7
	0.4nm,0.7s,baz=261,slow=5.5,SNR=3.8						
WRA	**Warrumunga Arr**	**59.19**	**99**	P	P	01 16 56.5	+0.4
	0.5nm,0.9s,baz=256,slow=9.9,SNR=3.0						
MKAR	**Makanchi Array**	**72.55**	**9**	P	P	01 18 21.6	+0.1
	0.3nm,0.7s,baz=193,slow=5.0,SNR=4.9						
BRTR	**Keskin Array B**	**72.97**	**331**	P	P	01 18 23.8	-0.5
	0.4nm,0.6s,baz=153,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.65**	**292**	P	P	01 18 46.6	+0.7
	0.7nm,1.0s,baz=132,slow=2.1,SNR=2.9						
BVAR	**Borovoye Array**	**77.92**	**0**	P	P	01 18 51.7	-0.6
	0.2nm,0.5s,baz=155,slow=4.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**79.89**	**9**	P	P	01 19 03.1	+0.1
	0.4nm,0.4s,baz=160,slow=4.6,SNR=2.3						

*KRSC **26** 01:13:55.4±1.3, 52°.70N×160°.21E, h49km±13km, ML4.1*
*ISCJB **26** 01:13:57.3±0.6, 52°.70N±0°.04×160°.15E±0°.06, h47km±7km, mb3.4/5, Error ellipse: s-maj=7.6km s-min=4.2km az=44.2*
*MOS **26** 01:13:57.1±1.3, 52°.74N×160°.00E, h67km, mb3.7/1, Error ellipse: s-maj=10.7km s-min=7.0km az=92.8*
*IDC **26** 01:14:00.7±3.7, 52°.69N×159°.77E, h83km±24km, mb3.1/5, mb1 3.4/5, mb1mx3.1/37, mbtmp3.4/5, Error ellipse: s-maj=76.5km s-min=27.7km az=2.0*

ISC 26 01:13:57.4±1.1, 52°.70N±0°.04×160°.14E±0°.04, h42km±10km, n65, σ1§23/99, mb3.5/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**350**	*eP*	**Pn**	**01 14 07.2**	**+0.3**
SPN				*eS*	**Sn**	**01 14 14.0**	**+0.3**
SPN	**Mys Shipunski**	**0.40**	**350**	PN	**Pn**	**01 14 07.2**	**+0.3**
SPN				S	**Sn**	**01 14 14.0**	**+0.3**
NLC	**Nalytchevo**	**0.67**	**314**	*eP*	**Pn**	**01 14 10.2**	**-0.2**
NLC				*eS*	**Sn**	**01 14 19.4**	**-0.4**
NLC	**Nalytchevo**	**0.67**	**314**	PN	**Pn**	**01 14 10.2**	**-0.2**
NLC				S	**Sn**	**01 14 19.4**	**-0.4**
DALK	**Dalny**	**0.90**	**292**	*eP*	**Pn**	**01 14 13.5**	**-0.1**
DALK				*eS*	**Sn**	**01 14 25.0**	**-0.4**
DALK	**Dalny**	**0.90**	**292**	PN	**Pn**	**01 14 13.5**	**-0.1**
DALK				S	**Sn**	**01 14 25.0**	**-0.4**
UGLR	**Uglovaya**	**0.94**	**303**	*eP*	**Pn**	**01 14 14.4**	**+0.1**
UGLR				*eS*	**Sn**	**01 14 26.9**	**+0.2**
UGLR	**Uglovaya**	**0.94**	**303**	PN	**Pn**	**01 14 14.4**	**+0.1**
UGLR				S	**Sn**	**01 14 26.9**	**+0.2**
SDLR	**Sedlovina**	**0.95**	**308**	*eP*	**Pn**	**01 14 14.3**	**-0.1**
SDLR				*eS*	**Sn**	**01 14 26.6**	**-0.3**
SDLR	**Sedlovina**	**0.95**	**308**	PN	**Pn**	**01 14 14.3**	**-0.1**
SDLR				S	**Sn**	**01 14 26.6**	**-0.3**
PET	**Petropavlovsk**	**0.96**	**290**	PN	**Pn**	**01 14 14.2**	**-0.1**
PET				S	**Sn**	**01 14 26.1**	**-0.7**
SMAR	**Somma**	**0.99**	**305**	*eP*	**Pn**	**01 14 14.6**	**-0.3**
SMAR	**Somma**	**0.99**	**305**	PN	**Pn**	**01 14 14.6**	**-0.3**
AVH	**Avacha**	**1.02**	**304**	*i* P	**Pn**	**01 14 15.5**	**+0.2**
AVH				*eS*	**Sn**	**01 14 29.2**	**+0.8**
AVH	**Avacha**	**1.02**	**304**	PN	**Pn**	**01 14 15.5**	**+0.2**
AVH				S	**Sn**	**01 14 29.2**	**+0.8**
RUS	**Russkaya**	**1.03**	**255**	*eP*	**Pn**	**01 14 15.1**	**-0.2**
RUS				*eS*	**Sn**	**01 14 28.2**	**-0.3**
RUS	**Russkaya**	**1.03**	**255**	PN	**Pn**	**01 14 15.1**	**-0.2**
RUS				S	**Sn**	**01 14 28.2**	**-0.3**
KRER	**Koryakskii**	**1.03**	**306**	*eP*	**Pn**	**01 14 15.9**	**+0.3**
KRER				*eS*	**Sn**	**01 14 29.5**	**+0.5**
KRER	**Koryakskii**	**1.03**	**306**	PN	**Pn**	**01 14 15.9**	**+0.3**
KRER				S	**Sn**	**01 14 29.5**	**+0.5**
KOK	**Koryaka**	**1.08**	**304**	*i* P	**Pn**	**01 14 16.3**	**+0.1**
KOK	**Koryaka**	**1.08**	**304**	PN	**Pn**	**01 14 16.3**	**+0.1**
KRX	**Arik**	**1.12**	**307**	*eP*	**Pn**	**01 14 16.8**	**+0.2**
KRX				*eS*	**Sn**	**01 14 30.4**	**-0.5**
KRX	**Arik**	**1.12**	**307**	PN	**Pn**	**01 14 16.8**	**+0.2**
KRX				S	**Sn**	**01 14 30.4**	**-0.5**
MTVR	**Mutnovka**	**1.22**	**260**	*eP*	**Pn**	**01 14 18.2**	**+0.2**
MTVR				*eS*	**Sn**	**01 14 33.4**	**+0.1**
MTVR	**Mutnovka**	**1.22**	**260**	PN	**Pn**	**01 14 18.2**	**+0.2**
MTVR				S	**Sn**	**01 14 33.4**	**+0.1**
GRL	**Gorelyy**	**1.27**	**264**	*eP*	**Pn**	**01 14 19.4**	**+0.7**
GRL				*eS*	**Sn**	**01 14 35.4**	**+0.8**
GRL	**Gorelyy**	**1.27**	**264**	PN	**Pn**	**01 14 19.4**	**+0.7**
GRL				S	**Sn**	**01 14 35.4**	**+0.8**
KII	**Karymskiy**	**1.40**	**343**	*eP*	**Pn**	**01 14 21.1**	**+0.6**
KII				*eS*	**Sn**	**01 14 38.4**	**+0.7**
KII	**Karymskiy**	**1.40**	**343**	PN	**Pn**	**01 14 21.1**	**+0.6**
KII				S	**Sn**	**01 14 38.4**	**+0.7**
ASAK	**Asacha**	**1.41**	**258**	*eP*	**Pn**	**01 14 21.2**	**+0.6**
ASAK				*eS*	**Sn**	**01 14 39.2**	**+1.3**
ASAK	**Asacha**	**1.41**	**258**	PN	**Pn**	**01 14 21.2**	**+0.6**
ASAK				S	**Sn**	**01 14 39.2**	**+1.3**
PETK	**Petropavlovsk-**	**1.54**	**286**	P	**Pn**	**01 14 22.7**	**+0.4**
	23nm,0.3s,baz=88,slow=20,SNR=644						
PETK				S	**Sn**	**01 14 41.2**	**+0.3**
	48nm,0.3s,baz=73,slow=40,SNR=22						
KDTR	**Khodutka, Kamc**	**1.55**	**236**	*eP*	**Pn**	**01 14 23.1**	**+0.6**
KDTR				*eS*	**Sn**	**01 14 43.3**	**+1.9**
KDTR	**Khodutka, Kamc**	**1.55**	**236**	PN	**Pn**	**01 14 23.1**	**+0.6**
KDTR				S	**Sn**	**01 14 43.3**	**+1.9**
GNL	**Ganaly**	**1.66**	**308**	*eP*	**Pn**	**01 14 25.1**	**+1.1**
GNL				*eS*	**Sn**	**01 14 46.6**	**+2.5**
GNL	**Ganaly**	**1.66**	**308**	PN	**Pn**	**01 14 25.1**	**+1.1**
GNL				S	**Sn**	**01 14 46.6**	**+2.5**
APC	**Apacha**	**1.82**	**278**	*eP*	**Pn**	**01 14 28.0**	**+1.8**
APC				*eS*	**Sn**	**01 14 50.8**	**+2.7**
APC	**Apacha**	**1.82**	**278**	PN	**Pn**	**01 14 28.0**	**+1.8**
APC				S	**Sn**	**01 14 50.8**	**+2.7**
PAU	**Pauzhetka**	**2.40**	**240**	*eP*	**Pn**	**01 14 35.6**	**+1.5**
PAU	**Pauzhetka**	**2.40**	**240**	PN	**Pn**	**01 14 35.6**	**+1.5**
KZV	**Kizimen**	**2.42**	**2**	*eP*	**Pn**	**01 14 36.1**	**+1.6**
KZV				*eS*	**Sn**	**01 15 04.9**	**+2.0**
KZV	**Kizimen**	**2.42**	**2**	PN	**Pn**	**01 14 36.1**	**+1.6**
KZV				S	**Sn**	**01 15 04.9**	**+2.0**
TUMD	**Tumrok D**	**2.51**	**3**	*eP*	**Pn**	**01 14 36.8**	**+1.2**
TUMD				*eS*	**Sn**	**01 15 06.0**	**+1.0**
TUMD	**Tumrok D**	**2.51**	**3**	*i* P	**Pn**	**01 14 38.8**	**+2.0**
TUMR				*eS*	**Sn**	**01 15 08.9**	**+1.9**
TUMR	**Tumrok**	**2.58**	**0**	PN	**Pn**	**01 14 36.8**	**0.0**
TUMR				S	**Sn**	**01 15 06.0**	**-1.0**
KMNR	**Kamenistaya**	**3.06**	**1**	*eP*	**Pn**	**01 14 46.0**	**+2.7**
KMNR	**Kamenistaya**	**3.06**	**1**	PN	**Pn**	**01 14 46.0**	**+2.7**
SRDR	**Sredinnyy**	**3.63**	**356**	*eP*	**Pn**	**01 14 52.6**	**+1.6**
SRDR	**Sredinnyy**	**3.63**	**356**	PN	**Pn**	**01 14 52.6**	**+1.6**
KBTR	**Krutoberegovo**	**3.84**	**23**	*eP*	**Pn**	**01 14 56.0**	**+2.1**
KBTR	**Krutoberegovo**	**3.84**	**23**	PN	**Pn**	**01 14 56.0**	**+2.1**
BKI	**Bering**	**4.26**	**52**	*eP*	**Pn**	**01 15 00.3**	**+0.7**
BKI				*eS*	**Sn**	**01 15 44.5**	**-3.4**
BKI	**Bering**	**4.26**	**52**	PN	**Pn**	**01 15 00.3**	**+0.7**
ILAR	**Eielson Array**	**29.07**	**45**	P	**P**	**01 19 53.5**	**+0.1**
	0.4nm,0.8s,baz=263,slow=9.5,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**33.33**	**168**	T	T	01 56 14.9	
	baz=353,slow=76,SNR=82						
H11N3	**WAKE ISLAND Hy**	**33.34**	**168**	T	T	01 56 15.9	
	baz=353,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**33.34**	**168**	T	T	01 56 17.4	
	baz=353,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy**	**34.51**	**169**	T	T	01 57 50.4	
	baz=352,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**34.52**	**169**	T	T	01 57 46.0	
	baz=352,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**34.53**	**169**	T	T	01 57 43.4	
	baz=352,slow=76,SNR=10						
YKA	**Yellowknife Ar**	**43.43**	**42**	P	**P**	**01 21 56.4**	**+0.9**
	0.3nm,0.8s,baz=288,slow=6.3,SNR=1.7						
MKAR	**Makanchi Array**	**48.35**	**296**	P	**P**	**01 22 31.6**	**-3.0**
	0.2nm,0.4s,baz=56,slow=11,SNR=2.8						
NOA	**NORSAR Array B**	**63.93**	**344**	P	**P**	**01 24 24.0**	**-1.5**
NOA	**NORSAR Array B**	**63.93**	**344**	P	**P**	**01 24 24.0**	**-1.5**
	0.6nm,0.8s,baz=14,slow=5.5,SNR=2.9						
TXAR	**Lajitas Array**	**70.76**	**67**	P	**P**	**01 25 10.2**	**+0.9**
	0.3nm,0.6s,baz=304,slow=5.0,SNR=4.5						

*NEIC **26** 01:37:33.7±0.8, 2°.18S±0°.09×69°.11E±0°.06, h10km±1km, mb4.0/4*
*IDC **26** 01:37:35.3±1.0, 1°.65S×68°.99E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/54, mbtmp3.8/8, ML4.1/1, MS3.2/7, Ms1 3.3/7, ms1mx2.9/34, Error ellipse: s-maj=32.5km s-min=21.5km az=160.0*

ISC 26 01:37:32.8±0.7, 2°.60S±0°.08×69°.4E±0°.1, h10km, n31, σ2§05/21, mb3.8/8, MS3.2/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.03**	**157**	Pn	**Pb**	**01 38 42.3**	**-1.4**
H08N2				T	T	01 43 32.7	
	baz=336,slow=74,SNR=287						
H08N3	**Diego Garcia H**	**4.04**	**157**	Pn	**Pb**	**01 38 42.2**	**-1.7**
H08N3				T	T	01 43 32.6	
	baz=336,slow=74,SNR=364						
H08N1	**Diego Garcia H**	**4.05**	**157**	Pn	**Pb**	**01 38 42.5**	**-1.5**
H08N1				T	T	01 43 34.3	
	baz=336,slow=74,SNR=286						
KAAM	**Kaadhehdhoo**	**4.71**	**49**		**Pn**	**01 38 44.5**	**+0.5**
DGAR	**Diego Garcia**	**5.66**	**148**	Pn	Pn	01 39 04.7	+7.7
H08S3	**Diego Garcia H**	**5.86**	**149**	Pn	**Pb**	**01 39 13.1**	**-1.9**
H08S1	**Diego Garcia H**	**5.87**	**149**	Pn	**Pb**	**01 39 13.2**	**-1.9**
H08S2	**Diego Garcia H**	**5.88**	**149**	Pn	**Pb**	**01 39 13.3**	**-1.9**
PALK	**Pallekele**	**14.93**	**49**	Pn	**Pn**	**01 41 04.9**	**+0.7**
	0.9nm,0.3s,baz=298,slow=6.7,SNR=4.7						
PALK	**Pallekele**	**14.93**	**49**		**Pn**	**01 41 03.2**	**-1.0**
WSAR	**Wadi Sarin**	**27.75**	**338**	LR	LR	01 51 58.4	
	comp=Z,64nm,19.3s,baz=157,slow=32						
PSI	**Prapat**	**29.98**	**80**	LR	LR	01 54 20.9	
	comp=Z,53nm,19.0s,baz=298,slow=33						
KMBO	**Kilima Mbogo**	**32.18**	**272**	P	**P**	**01 44 02.3**	**+0.7**
	1.0nm,0.4s,baz=51,slow=8.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**35.81**	**53**	P	**P**	**01 44 35.1**	**+2.4**
	0.5nm,0.4s,baz=251,slow=10,SNR=2.4						
CMAR				LR	LR	01 56 50.5	
	comp=Z,19nm,21.2s,baz=205,slow=32						
LEM	**Lembang**	**38.29**	**98**	LR	LR	01 58 09.7	
	comp=Z,67nm,19.4s,baz=232,slow=32						
GEYT	**Alibeck**	**41.66**	**347**	LR	LR	02 02 08.1	
	comp=Z,28nm,18.2s,baz=245,slow=36						
LSZ	**Lusaka**	**42.54**	**250**	P	**P**	**01 45 31.9**	**+2.7**
	1.0nm,0.4s,baz=66,slow=7.6,SNR=5.3						
LSZ	**Lusaka**	**42.54**	**250**	P	**P**	**01 45 29.1**	**-0.1**
LSZ				IAmb	IAmb	01 45 32.1	
	comp=Z,3.8nm,1.1s						
MKAR	**Makanchi Array**	**50.47**	**11**	P	**P**	**01 46 28.7**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=174,slow=7.2,SNR=3.1						
MKAR	**Makanchi Array**	**50.47**	**11**	P	**P**	**01 46 29.6**	**-1.4**
KBZ	**Khabaz**	**51.90**	**336**	LR	LR	02 08 40.2	
	comp=Z,29nm,18.8s,baz=135,slow=37						
ABKAR	**Akbulak array**	**52.29**	**352**	P	**P**	**01 46 41.9**	**-2.6**
ABKAR	**Akbulak array**	**52.29**	**352**	P	**P**	**01 46 42.3**	**-2.2**
ABKAR				IAmb	IAmb	01 46 46.0	
	comp=Z,2.9nm,1.2s						
KURK	**Kurchatov**	**53.69**	**7**	P	**P**	**01 46 53.5**	**-1.3**
ZALV	**Zalesovo Beam**	**57.79**	**11**	P	**P**	**01 47 21.4**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=218,slow=9.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**57.79**	**11**	P	**P**	**01 47 22.4**	**-1.7**
WRA	**Warrumunga Arr**	**65.56**	**111**	P	P	01 48 24.9	+7.6
	comp=Z,0.4nm,0.8s,baz=281,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**65.64**	**115**	P	P	01 48 28.2	+10
	comp=Z,0.3nm,0.4s,baz=273,slow=5.4,SNR=3.0						
ASAR	**Alice Springs**	**65.64**	**115**	P	P	01 48 23.0	+5.2
AS31	**Alice Springs**	**65.64**	**115**	P	**P**	**01 48 21.3**	**+3.5**
NOA	**NORSAR Array B**	**77.47**	**335**	LR	LR	02 23 06.2	
	comp=Z,16nm,21.5s,baz=340,slow=36						

*ISCJB **26** 01:44:20.9±0.7, 29°.06S±0°.04×69°.52W±0°.05, h118km±10km, Error ellipse: s-maj=7.1km s-min=6.2km az=172.6*
*SJA **26** 01:44:21.0±0.7, 29°.05S×69°.46W, h104km±7km, ML3.1, MW3.1*
*GUC **26** 01:44:21.6±0.7, 29°.10S×69°.62W, h109km±14km, ML3.0*

ISC 26 01:44:21.4±1.8, 29°.06S±0°.04×69°.51W±0°.05, h117km±19km, n18, σ0§65/27, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**1.10**	**178**	*i* P	**Pn**	**01 44 45.1**	**+0.6**
AROD				*eS*	**Sn**	**01 45 02.0**	**-0.1**
ACCO	**Cerro Coronel**	**1.57**	**166**	*i* P	**Pn**	**01 44 50.2**	**+0.4**
ACCO				*eS*	**Sn**	**01 45 11.7**	**+0.3**
GO04	**Tololo Observa**	**1.57**	**225**	*i* P	**Pn**	**01 44 49.7**	**-0.1**
GO04				*eS*	**Sn**	**01 45 10.9**	**-0.4**
GO04				IAML		01 45 16.2	
	comp=N,547nm,0.5s						
GO03	**Copiap**	**1.60**	**336**	‖ *i* P	**Pn**	**01 44 50.6**	**+0.7**
GO03				*i* S	**Sn**	**01 45 12.0**	**+0.5**
GO03				IAML		01 45 13.7	
	comp=N,238nm,0.3s						
LSCH	**La Serena**	**1.73**	**240**	*eP*	**Pn**	**01 44 50.9**	**-0.4**
LSCH				*eS*	**Sn**	**01 45 12.8**	**-1.3**
LSCH				IAML		01 45 16.5	
	comp=N,61nm,0.4s						
AMOG	**MOGNA**	**2.07**	**155**	*i* P	**Pn**	**01 44 55.7**	**+0.1**
AMOG				*eS*	**Sn**	**01 45 21.0**	**-0.8**
ACLC	**CERRO LA CRUZ**	**2.27**	**100**	*i* P	**Pn**	**01 44 58.2**	**0.0**
ACLC				*eS*	**Sn**	**01 45 25.6**	**-0.9**
RTLL	**Cerro Villicun**	**2.43**	**159**	*i* P	**Pn**	**01 45 00.6**	**+0.4**
RTLL				IAML		01 45 32.9	
	comp=Z,83nm,0.4s						
CO02	**Combarbal**	**2.49**	**211**	⇑ *i* P	**Pn**	**01 45 01.0**	**-0.1**
CO02				*eS*	**Sn**	**01 45 30.7**	**-0.9**
CO02				IAML		01 45 34.7	
	comp=E,268nm,0.2s						
ZON	**Zonda**	**2.58**	**164**	*i* P	**Pn**	**01 45 03.0**	**+0.8**
RTLS	**Leoncito**	**2.73**	**176**	*i* P	**Pn**	**01 45 05.2**	**+0.9**
RTLS				IAML		01 45 38.3	
	comp=Z,68nm,0.3s						
CFA	**Coronel Fontan**	**2.76**	**157**	*i* P	**Pn**	**01 45 04.7**	**+0.2**
RTCV	**Cerro Valdivia**	**2.91**	**163**	*i* P	**Pn**	**01 45 07.2**	**+0.7**
APLL	**PUNTA DE LOS L**	**2.92**	**118**	*i* P	**Pn**	**01 45 06.3**	**-0.2**
CYA	**Choya**	**3.32**	**80**	*i* P	**Pn**	**01 45 11.7**	**-0.1**
ACAN	**Cantantal**	**3.77**	**149**	*i* P	**Pn**	**01 45 18.5**	**+0.6**
FCH	**Farellones**	**4.30**	**189**	*eP*	**Pn**	**01 45 26.3**	**+1.1**
FCH				*i* S	**Sn**	**01 46 15.2**	**+0.5**
PB10	**IPOC Station P**	**5.61**	**350**	*i* P	**Pn**	**01 45 42.6**	**+0.1**

IDC 26 01:50:55.6±1.3, 28°.40S×65°.77E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/35, mbtmp3.8/5, Error ellipse: s-maj=48.3km s-min=30.5km az=6.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**35.48**	**260**	P	P	01 57 54.1	-0.1
	4.5nm,1.0s,baz=101,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**60.68**	**103**	P	P	02 01 09.7	+0.6
	0.3nm,0.6s,baz=251,slow=6.4,SNR=5.3						
WRA	**Warrumunga Arr**	**62.40**	**99**	P	P	02 01 19.9	-0.9
	0.3nm,0.7s,baz=226,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**76.32**	**12**	P	P	02 02 46.3	+0.1
	0.7nm,0.6s,baz=202,slow=2.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**83.65**	**11**	P	P	02 03 25.6	0.0
	0.6nm,0.4s,baz=177,slow=2.9,SNR=1.7						

*IDC **26** 02:33:13.6±0.8, 12°.30N×125°.45E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.7/44, mbtmp4.0/8, MS2.8/4, Ms1 2.8/4, ms1mx2.5/36, Error ellipse: s-maj=61.5km s-min=16.8km az=70.0*
*MAN **26** 02:33:21.5, 12°.16N×124°.95E, h21km, MS2.9*
*NEIC **26** 02:33:23.6±1.1, 12°.2N±0°.1×125°.4E±0°.1, h96km±12km, mb4.2/6*

ISC 26 02:33:19.3±0.7, 12°.24N±0°.05×125°.11E±0°.07, h35km, n39, σ2§51/36, mb4.2/11, MS2.6/3, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.51**	**302**	*eP*	**Pn**	**02 33 31.7**	**+1.5**
CNP				*eS*	**Sn**	**02 33 40.0**	**+2.2**
BESP	**Borongan**	**0.71**	**153**	*eP*	**Pn**	**02 33 36.0**	**+3.1**
BESP				*eS*	**Sn**	**02 33 47.7**	**+5.1**
PVCP	**Virac**	**1.64**	**325**	*eP*	**Pn**	**02 33 48.4**	**+2.7**
PVCP				*eS*	**Sn**	**02 34 10.7**	**+5.2**
MSLP	**Maasin**	**2.11**	**187**	*eP*	**Pn**	**02 33 55.5**	**+3.4**
LLP	**Lapu-Lapu**	**2.22**	**211**	*eP*	Pn	02 34 07.5	+14
LLP				*eS*	Sn	02 34 32.2	+12
RCP	**Roxas**	**2.41**	**254**	‖ *eP*	**Pn**	**02 33 58.4**	**+2.0**
GUIM	**Jordan**	**2.95**	**237**	*eP*	**Pn**	**02 34 05.5**	**+1.8**
GUIM				*eS*	**Sn**	**02 34 38.9**	**+1.1**
OTRP	**Odiongan**	**3.02**	**273**	*eP*	**Pn**	**02 34 06.1**	**+1.4**
POLP	**Polilio Island**	**3.96**	**309**	*eP*	**Pn**	**02 34 20.6**	**+3.0**
POLP				*eS*	**Sn**	**02 35 07.2**	**+4.6**
BALP	**Baler**	**4.89**	**316**	*eP*	**Pn**	**02 34 35.0**	**+4.6**
BALP				*eS*	**Sn**	**02 35 24.0**	**-1.7**
DAV	**Davao City (W)**	**5.16**	**175**	LR	LR	02 37 21.6	
	comp=Z,50nm,19.1s,baz=26,slow=48						
CM31	**Chiang Mai Arr**	**25.96**	**287**	P	**P**	**02 38 49.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.96**	**287**	LR	LR	02 49 57.3	
	comp=Z,12nm,18.2s,baz=220,slow=38						
MJAR	**Matsushiro Arr**	**26.92**	**24**	LR	LR	02 49 50.4	
	comp=Z,15nm,18.9s,baz=15,slow=37						
PSI	**Prapat**	**27.57**	**252**	LR	LR	02 50 52.0	
	comp=Z,62nm,18.1s,baz=264,slow=38						
USRK	**Ussuriysk Ar.**	**32.39**	**9**	P	**P**	**02 39 44.2**	**-1.5**
WB0	**Warramunga Arr**	**33.09**	**164**	P	**P**	**02 39 49.9**	**-2.2**
WB0				IAmb	IAmb	02 40 04.3	
	comp=Z,3.6nm,1.1s						
WRA	**Warramunga Arr**	**33.24**	**164**	P	**P**	**02 39 52.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=346,slow=9.2,SNR=8.4						
WRA				PcP	**PcP**	**02 42 34.1**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=342,slow=2.9,SNR=5.8						
WRA	**Warramunga Arr**	**33.24**	**164**	P	**P**	**02 39 51.6**	**-1.7**
WB2	**Warramunga Arr**	**33.25**	**164**	P	**P**	**02 39 49.6**	**-3.8**
WB2				IAmb	IAmb	02 39 50.0	
	comp=Z,3.6nm,1.0s						
ASAR	**Alice Springs**	**36.71**	**166**	P	**P**	**02 40 23.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=343,slow=6.7,SNR=11						
ASAR				PcP	**PcP**	**02 42 44.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=351,slow=2.9,SNR=3.4						
ASAR	**Alice Springs**	**36.71**	**166**	P	**P**	**02 40 21.3**	**-1.9**
H11S3	**WAKE ISLAND Hy**	**40.50**	**76**	T	T	03 23 56.3	
	baz=268,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**40.51**	**76**	T	T	03 23 52.5	
	baz=268,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**40.52**	**76**	T	T	03 23 52.8	
	baz=268,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.76**	**74**	T	T	03 24 16.4	
	baz=266,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**40.77**	**74**	T	T	03 24 12.3	
	baz=266,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.78**	**74**	T	T	03 24 20.6	
	baz=266,slow=75,SNR=16						
STKA	**Stephens Creek**	**46.62**	**161**	P	**P**	**02 41 43.5**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=333,slow=9.0,SNR=3.8						
MK31	**Makanchi Array**	**49.78**	**322**	P	**P**	**02 42 05.8**	**-2.7**
MKAR	**Makanchi Array**	**49.78**	**322**	P	**P**	**02 42 09.3**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=119,slow=7.9,SNR=5.2						
MKAR	**Makanchi Array**	**49.78**	**322**	P	**P**	**02 42 08.7**	**+0.2**
ZALV	**Zalesovo Beam**	**52.36**	**331**	P	**P**	**02 42 28.1**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=141,slow=7.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.36**	**331**	P	**P**	**02 42 26.4**	**-1.4**
KURK	**Kurchatov**	**53.81**	**325**	P	**P**	**02 42 37.4**	**-1.1**
KURK				IAmb	IAmb	02 42 40.0	
	comp=Z,3.8nm,0.7s						
KURBB	**Kurchatov Arra**	**53.82**	**325**	P	**P**	**02 42 39.1**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=124,slow=7.5,SNR=15						
ILAR	**Eielson Array**	**78.17**	**26**	P	**P**	**02 45 13.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=242,slow=3.8,SNR=6.0						

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GO02                                    IAmb    IAmb    02 51 05.4
        comp=Z,26nm,1.2s
MAW     Mawson          47.40 149  P                P   02 51 04.2  -0.5
        comp=Z,11nm,0.8s,baz=268,slow=9.2,SNR=11
MAW                                     LR      LR      03 09 07.3
        comp=Z,42nm,18.1s,baz=240,slow=34
MAW     Mawson          47.40 149  P                P   02 51 04.2  -0.5
MAW                                     IAmb    IAmb    02 51 10.7
        comp=Z,3.0nm,0.9s
QSPA    South Pole Qui  47.63 180  P                P   02 51 06.0  -0.8
QSPA                                    IAmb    IAmb    02 51 09.8
        comp=Z,20nm,1.1s
QSPA                                                    PcP 02 52 35.8  -0.4
LVC     Limon Verde     47.84 277  LR               LR  03 11 20.7
        comp=Z,51nm,20.4s,baz=144,slow=36
LIC     Lamto           49.67  15  eP               P   02 51 23.8 +1.1
        comp=Z,60nm,1.5s
KIC     Kosan Boka      49.86  15  eP               P   02 51 24.9 +0.7
        comp=Z,18nm,1.1s
GO01    Chusmiza        49.88 280  P                P   02 51 24.3  -0.7
GO01                                    IAmb    IAmb    02 51 33.0
        comp=Z,32nm,1.6s
TIC     Toumodi         50.08  15  eP               P   02 51 26.6 +0.7
DBIC    Dimbokro        50.14  15  LR               LR  03 07 21.0
        comp=Z,185nm,20.4s,baz=168,slow=30
LPAZ    La Paz          51.30 284  P                P   02 51 35.6  -0.2
        comp=Z,3.2nm,1.2s,baz=134,slow=5.1,SNR=4.3
LPAZ                                    LR      LR      03 12 40.5
        comp=Z,444nm,19.9s,baz=122,slow=35
LPAZ    La Paz          51.30 284  P                P   02 51 34.9  -1.0
LPAZ                                    IAmb    IAmb    02 51 41.8
        comp=Z,6.4nm,1.4s
SAML    Samuel          53.00 295  P                P   02 51 48.1 +0.3
SAML                                    IAmb    IAmb    02 51 50.1
        comp=Z,6.7nm,1.1s
TOA0    Torodi Ar. Sit  57.88  21  P                P   02 52 20.5  -2.3
TOA0                                    IAmb    IAmb    02 52 30.1
        comp=Z,13nm,1.1s
TORD    Torodi Ar. Bea  57.88  21  P                P   02 52 20.5  -2.4
        comp=Z,2.3nm,1.0s,baz=186,slow=5.7,SNR=8.1
TORD                                    LR      LR      03 11 39.7
        comp=Z,198nm,21.7s,baz=280,slow=30
TORD    Torodi Ar. Bea  57.88  21  P                P   02 52 20.3  -2.5
TORD                                    IAmb    IAmb    02 52 30.1
        comp=Z,7.4nm,1.1s
KMBO    Kilima Mbogo    63.09  64  LR               LR  03 17 43.9
        comp=Z,527nm,20.2s,baz=272,slow=34
TAM     Tamanrasset     68.11  22  P                P   02 53 29.1  -1.8
TAM                                     IAmb    IAmb    02 53 39.6
        comp=Z,10nm,1.5s
ROSC    El Rosal        70.61 296  P                P   02 53 47.8 +0.8
        comp=Z,5.8nm,0.5s,baz=354,slow=23,SNR=3.6
ROSC                                    LR      LR      03 23 53.4
        comp=Z,256nm,18.0s,baz=184,slow=35
ROSC    El Rosal        70.61 296  P                P   02 53 45.5  -1.5
ROSC                                    IAmb    IAmb    02 53 49.1
        comp=Z,4.0nm,0.8s
SDV     Santo Domingo   71.29 302  P                P   02 53 49.9  -0.9
SDV                                     IAmb    IAmb    02 53 54.8
        comp=Z,9.6nm,1.1s
KEST    Kesra           81.40  21  LR               LR  03 26 48.8
        comp=Z,188nm,20.6s,baz=207,slow=33
ESDC    Sonseca Array   82.67   9  P                P   02 54 54.6 +0.5
        comp=Z,2.9nm,1.0s,baz=177,slow=5.9,SNR=6.2
ESDC                                    LR      LR      03 28 09.6
        comp=Z,55nm,18.7s,baz=100,slow=33
ESDC    Sonseca Array   82.67   9  P                P   02 54 52.5  -1.6
ESDC                                    IAmb    IAmb    02 55 03.0
        comp=Z,5.0nm,1.1s
H01W2   Cape Leeuwin H  90.48 141  T                T   04 36 46.3
        baz=214
H01W1   Cape Leeuwin H  90.50 141  T                T   04 36 50.6
        baz=214
H01W3   Cape Leeuwin H  90.50 141  T                T   04 36 48.5
        baz=214
BRTR    Keskin Array B  93.58  36  P                P   02 55 47.8 +0.9
        comp=Z,1.4nm,1.1s,baz=200,slow=13,SNR=5.1
BRTR                                    LR      LR      03 36 42.6
        comp=Z,86nm,20.6s,baz=116,slow=35
BRTR    Keskin Array B  93.58  36  P                P   02 55 45.7  -1.2
VYHS    Vyhne           95.85  23  ePDIFF           P   02 56 00.0 +3.2
PALK    Pallekele       99.96  89  LR               LR  03 35 18.0
        comp=Z,118nm,19.5s,baz=116,slow=32
TBI     Tubuai         101.47 223  eLR              LR  03 29 31.3
        comp=Z,198nm,29.5s
PPT2    Papeete2       106.31 226  eLR              LR  03 31 45.5
        comp=Z,122nm,24.8s
TAOE    Nuku Hiva Isla 107.70 239  eLR              LR  03 32 26.0
        comp=Z,122nm,29.7s
DZM     Mont Dzumac    115.58 183  eLR              LR  03 36 04.7
        comp=Z,76nm,23.4s
KSH     Kashi          116.70  60  PKP              PKiKP 03 01 18.8 +3.8
KSH                                     PP      PP      03 02 29.5 +5.9
KSH                                     PKS     PKSdf   03 04 54.0 +2.3
KSH                                     SKS     SKSdf   03 08 29.0 +1.9
KSH                                     LR      LR
        comp=Z,150nm,11.1s
WMQ     Urumqi         126.44  61  ePKP             PKiKP 03 01 34.5 +0.6
WMQ                                     LR      LR
        comp=Z,230nm,28.9s
ZALV    Zalesovo Beam  128.88  48  PKP              PKiKP 03 01 38.0  -0.4
        comp=Z,0.5nm,0.3s,baz=234,slow=4.8,SNR=3.9
YKA     Yellowknife Ar 130.36 323  PKP              PKiKP 03 01 40.7  -0.3
        comp=Z,0.7nm,0.9s,baz=99,slow=1.8,SNR=3.1
CD2     Chengdu        131.43  83  PKP              PKPdf 03 01 43.5 +0.1
GTA     Gaotai         132.65  71  ePKP             PKiKP 03 01 47.0 +0.4
LZH     Lanzhou        134.03  77  ePKP             PKiKP 03 01 50.0 +0.4
LZH                                     LR      LR
        comp=Z,93nm,18.2s
LZH                                     LR      LR
        comp=Z,150nm,20.0s
HHC     Hu-ho-hao-te   141.50  74  ePKP             PKPdf 03 02 02.5 +0.7
NJ2     Nanjing        143.13  92  ePKP             PKiKP 03 02 07.0 -1.0
ILAR    Eielson Array  144.67 326  PKP              PKPbc 03 02 05.4  0.0
        comp=Z,8.1nm,1.0s,baz=93,slow=2.4,SNR=42
COLA    College        145.04 326                   PKPbc 03 02 06.1 -0.4
CCB     Clear Creek Bu 145.08 326                   PKPab 03 02 06.7  0.0
MDM     Murphy Dome    145.17 326                   PKPbc 03 02 06.1 -0.9
COLD    Coldfoot       145.19 331                   PKPdf 03 02 07.3 -0.1
WRH     Wood River Hil 145.25 326                   PKPbc 03 02 06.7 -0.5
DHY     Denali Highway 145.28 323                   PKPbc 03 02 06.1 -1.5
SCM     Sheep Creek Mo 145.51 321                   PKPdf 03 02 07.0 -1.2
GHO     Glory Hole Cre 146.27 321                   PKPbc 03 02 10.7 +0.1
TIXI    Tiksi          146.27  19                   PKPdf 03 02 07.7 -1.3
TRF     Thorofare Moun 146.46 324                   PKPdf 03 02 10.1 +0.3
BPAW    Bear Paw Mtn.  146.56 326                   PKPdf 03 02 09.0 -0.8
KTH     Kantishna Hill 146.70 325                   PKPdf 03 02 10.3 +0.3
IMAR    Indian Mountai 146.98 330                   PKPdf 03 02 09.1 -1.3
```

IDC 26 02:50:59.6±3.3, 13°.07S×66°.75E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/38, mbtmp4.0/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/41, Error ellipse: s-maj=138.1km s-min=37.4km az=49.0, Mid-Indian Ridge

```
Code    Station Name    Δ°   AZ°   Phase ID                Time        Res
                                  Op      ISC             h m s       ISC
H08S1   Diego Carcia H  7.80  47   T       T               03 01 03.0
        baz=226,slow=76,SNR=809
H08S2   Diego Garcia H  7.81  47   T       T               03 01 05.5
        baz=226,slow=76,SNR=677
H08S3   Diego Garcia H  7.81  47   T       T               03 01 09.9
        baz=226,slow=76,SNR=814
H08N3   Diego Garcia H  7.88  32   T       T               03 01 03.6
        baz=211,slow=75,SNR=786
H08N1   Diego Garcia H  7.90  33   T       T               03 01 05.2
        baz=211,slow=75,SNR=781
H08N2   Diego Garcia H  7.90  32   T       T               03 01 05.9
        baz=211,slow=75,SNR=958
OPO     Ambohidratompo 19.59 251   LR      LR              03 01 16.9
        comp=Z,144nm,21.7s,baz=157,slow=32
BOSA    Boshof         41.52 242   LR      LR              03 13 00.9
        comp=Z,98nm,18.6s,baz=100,slow=32
CMAR    Chiang Mai Arr 44.60  46   LR      LR              03 16 56.3
        comp=Z,53nm,18.8s,baz=184,slow=35
H01W3   Cape Leeuwin H 47.91 125   T       T               03 51 00.8
        baz=284,slow=75,SNR=6.2
H01W2   Cape Leeuwin H 47.91 125   T       T               03 51 08.4
        baz=284,slow=75,SNR=6.3
H01W1   Cape Leeuwin H 47.93 125   T       T               03 51 00.4
        baz=284,slow=75,SNR=5.7
ASAR    Alice Springs  64.12 110   P       P               03 01 36.1  -0.2
        0.9nm,0.8s,baz=271,slow=6.4,SNR=10
WRA     Warramunga Arr 64.81 106   P       P               03 01 41.0 +0.2
        1.8nm,1.0s,baz=268,slow=6.1,SNR=7.6
ZALV    Zalesovo Beam  68.51  11   P       P               03 02 03.6  -0.1
        0.6nm,0.4s,baz=190,slow=13,SNR=1.6
YAK     Yakutsk        89.38  25   LR      LR              03 42 53.6
        comp=Z,1μm,21.9s,baz=208,slow=35
PDAR    Pinedale Array 150.24 355   PKPbc   PKPbc           03 10 53.0  -0.3
        0.9nm,0.8s,baz=90,slow=3.0,SNR=6.9
```

*SJA **26** 02:53:29.6±0.4, 34°.48S×72°.62W, h27km±7km, ML2.6, MW2.9*
*GUC **26** 02:53:31.8±0.7, 34°.33S×72°.35W, h35km±3km, ML3.0*

ISC 26 02:53:31.9±2.0, 34°.43S±0°.06×72°.4W±0°.1, h25km±18km, n11, σ1§42/18, 1D, Near coast of central Chile

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Code    Station Name    Δ°   AZ°   Phase ID                Time        Res
                                  Op      ISC             h m s       ISC
GO05    Huala          0.69 146   i P     Pb              02 53 45.6 +0.1
GO05                              i S     Sn              02 53 56.6 +0.4
GO05                                      IAML            02 53 58.3
        comp=E,771nm,0.2s
GO05    Huala          0.69 146   i P     Pb              02 53 45.1  -0.3
GO05                              i S     Sn              02 53 56.6 +0.4
COCH    Cobquecura     1.72 190   eP      Pb              02 54 02.7  -0.2
ROC1    El Roble       1.86  39   i P     Pn              02 54 04.2 +1.8
ROCH    El Roble       1.86  39   eP      Pn              02 54 00.7  -1.8
ROCH                              i S     Sn              02 54 23.4  -1.9
ROCH                                      IAML            02 54 35.1
        comp=N,297nm,0.5s
CLCH    Cerro Calan    1.87  57   eP      Pn              02 54 02.2  -0.1
CLCH                              i S     Sn              02 54 24.6  -0.5
CLCH                                      IAML            02 54 40.8
        comp=N,300nm,0.6s
LMEL    Las Melosas    1.92  73   eP      Pn              02 54 02.9  -0.2
LMEL                              i S     Sn              02 54 27.1 +0.6
PEL     Peldehue       1.93  49⇓  iP      Pn              02 54 04.0 +0.8
PEL                               i S     Sn              02 54 25.7  -0.8
PEL                                       IAML            02 54 38.1
        comp=E,232nm,0.4s
FCH     Farellones     2.08  58   eP      Pn              02 54 03.9  -1.6
FCH                               i S     Sn              02 54 30.0  -0.7
CCHI    Chillan        2.18 173   i P     Pn              02 54 06.2  -0.3
RTLS    Leoncito       3.70  46   i P     Pn              02 54 31.4 +3.6
RTLS                                      IAML            02 55 35.4
        comp=Z,8.2nm,0.6s
```

*KRSC **26** 03:05:32.4±1.6, 52°.64N×160°.88E, h42km±20km, ML4.5*
*MOS **26** 03:05:35.7±1.2, 52°.75N×160°.66E, h49km, mb4.7/19, Error ellipse: s-maj=7.0km s-min=4.3km az=99.9*
*BJI **26** 03:05:35.8±0.0, 52°.9N±0°.1×160°.64E±0°.09, h42km±7km, mb4.4/19, mB4.7/3, Ms7 4.1/1*
*NEIC **26** 03:05:36.3±1.2, 52°.9N±0°.1×160°.64E±0°.09, h42km±7km, mb4.4/19*
*IDC **26** 03:05:38.8±2.3, 52°.90N×160°.49E, h53km±20km, mb3.8/22, mb1 4.0/24, mb1mx3.9/47, mbtmp4.1/24, ML4.0/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/40, Error ellipse: s-maj=16.8km s-min=13.2km az=149.0*

ISC 26 03:05:34.9±1.6, 52°.75N±0°.04×160°.70E±0°.03, h27km±10km, n193, σ1§55/211, mb4.3/45, MS3.6/8, 4C-7D, Off east coast of Kamchatka Peninsula

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Code    Station Name    Δ°   AZ°   Phase ID                Time        Res
                                  Op      ISC             h m s       ISC
SPN     Mys Shipunski  0.54 310   eP      Pn              03 05 45.3  -1.4
SPN     Mys Shipunski  0.54 310   PN      Pn              03 05 45.3  -1.4
NLC     Nalytchevo     0.92 298   eP      Pn              03 05 51.1  -0.9
NLC                               eS      Sn              03 06 03.4  -0.9
NLC     Nalytchevo     0.92 298   PN      Pn              03 05 51.1  -0.9
NLC                               S       Sn              03 06 03.4  -0.9
DALK    Dalny          1.21 284   eP      Pn              03 05 55.8  -0.2
DALK                              eS      Sn              03 06 12.6 +1.1
DALK    Dalny          1.21 284   PN      Pn              03 05 55.8  -0.2
DALK                              S       Sn              03 06 12.6 +1.1
SDLR    Sedlovina      1.22 296   i P     Pn              03 05 56.2   0.0
SDLR    Sedlovina      1.22 296   PN      Pn              03 05 56.2   0.0
UGLR    Uglovaya       1.23 293   eP      Pn              03 05 56.3   0.0
UGLR    Uglovaya       1.23 293   PN      Pn              03 05 56.3   0.0
SMAR    Somma          1.26 295   i P     Pn              03 05 56.6  -0.2
SMAR    Somma          1.26 295   PN      Pn              03 05 56.6  -0.2
PET     Petropavlovsk  1.27 283   eP      Pn              03 05 56.8   0.0
PET                               eS      Sn              03 06 13.7 +0.8
PET     Petropavlovsk  1.27 283⇓  iPN     Pn              03 05 56.7   0.0
PET                               i S     Sn              03 06 13.7 +0.8
PET                                       pmax    pmax
        comp=Z,1μm,0.7s
PET                                       smax    smax
        comp=E,5μm,0.7s
PET                                       smax    smax
        comp=N,3μm,0.7s
PET     Petropavlovsk  1.27 283           Pn              03 05 56.9 +0.1
PET                               Sn      Sn              03 06 12.0  -0.9
AVH     Avacha         1.29 294   eP      Pn              03 05 57.4 +0.2
AVH     Avacha         1.29 294   PN      Pn              03 05 57.4 +0.2
KOK     Koryaka        1.36 294   i P     Pn              03 05 58.3 +0.2
KOK     Koryaka        1.36 294   PN      Pn              03 05 58.3 +0.2
RUS     Russkaya       1.37 257   eP      Pn              03 05 58.5 +0.3
RUS                               eS      Sn              03 06 16.1 +0.7
RUS     Russkaya       1.37 257   PN      Pn              03 05 58.5 +0.3
RUS                               S       Sn              03 06 16.1 +0.7
KRX     Arik           1.38 297   eP      Pn              03 05 58.5 +0.1
KRX     Arik           1.38 297   PN      Pn              03 05 58.5 +0.1
KII     Karymskiy      1.49 330   eP      Pn              03 06 00.6 +0.7
KII     Karymskiy      1.49 330   PN      Pn              03 06 00.6 +0.7
MTVR    Mutnovka       1.56 261   eP      Pn              03 06 01.5 +0.6
MTVR                              eS      Sn              03 06 21.7 +1.4
MTVR    Mutnovka       1.56 261   PN      Pn              03 06 01.5 +0.6
MTVR                              S       Sn              03 06 21.7 +1.4
GRL     Gorelyy        1.61 264   eP      Pn              03 06 02.7 +1.1
GRL     Gorelyy        1.61 264   PN      Pn              03 06 02.7 +1.1
ASAK    Asacha         1.75 259   eP      Pn              03 06 04.7 +1.2
ASAK                              eS      Sn              03 06 27.2 +2.3
ASAK    Asacha         1.75 259   PN      Pn              03 06 04.7 +1.2
ASAK                              S       Sn              03 06 27.2 +2.3
PEA0B   Petropavlovsk- 1.85 282   PN      Pn              03 06 05.8 +1.0
PEA0B                                     03 06 25.6
PEA0B   Petropavlovsk- 1.85 282   Pn      Pn              03 06 05.8 +1.0
PEA0B                             Sn      Sn              03 06 25.6  -1.7
PETK    Petropavlovsk- 1.85 282   PN      Pn              03 06 05.0 +0.2
PETK                                      03 06 25.7
PETK    Petropavlovsk- 1.85 282   P       Pn              03 06 05.8 +1.0
        comp=N,228nm,0.3s,baz=96,slow=18,SNR=449
PETK                              S       Sn              03 06 27.3  0.0
        comp=N,62nm,0.3s,baz=94,slow=20,SNR=6.8
PETK                              LR      LR              03 06 50.6
        comp=N,525nm,22.0s,baz=66,slow=42
PETK    Petropavlovsk- 1.85 282           Pn              03 06 05.0 +0.2
PETK                                      Sn              03 06 25.7  -1.6
GNL     Ganaly         1.91 301   i P     Pn              03 06 07.3 +1.6
GNL     Ganaly         1.91 301   PN      Pn              03 06 07.3 +1.6
APC     Apacha         2.16 276   eP      Pn              03 06 10.9 +1.9
APC                               eS      Sb              03 06 38.5  -1.0
APC     Apacha         2.16 276   PN      Pn              03 06 10.9 +1.9
APC                               S       Sb              03 06 38.5  -1.0
KZV     Kizimen        2.38 354   eP      Pn              03 06 13.7 +1.5
KZV                               eS      Sn              03 06 42.6 +2.1
KZV     Kizimen        2.38 354   PN      Pn              03 06 13.7 +1.5
KZV                               S       Sn              03 06 42.6 +2.1
TUMD    Tumrok D       2.46 356   eP      Pn              03 06 14.4 +1.2
TUMD                              eS      Sn              03 06 44.4 +2.0
TUMR    Tumrok         2.56 353   eP      Pn              03 06 16.6 +2.0
TUMR                              eS      Sn              03 06 46.7 +1.9
TUMR    Tumrok         2.56 353   PN      Pn              03 06 14.4  -0.2
TUMR                              S       Sn              03 06 44.4  -0.4
PAU     Pauzhetka      2.72 243   eP      Pn              03 06 19.2 +2.5
PAU     Pauzhetka      2.72 243   PN      Pn              03 06 19.2 +2.5
KMNR    Kamenistaya    3.02 355   eP      Pn              03 06 24.3 +3.3
KMNR    Kamenistaya    3.02 355   PN      Pn              03 06 24.3 +3.3
BZMR    Bezymyannaya   3.19 358   eP      Pn              03 06 26.8 +3.5
BZMR    Bezymyannaya   3.19 358   PN      Pn              03 06 26.8 +3.5
KIRR    Kirishev       3.21 356   eP      Pn              03 06 27.1 +3.5
KIRR    Kirishev       3.21 356   PN      Pn              03 06 27.1 +3.5
BZWR    Bezymyannyi-We 3.22 358   eP      Pn              03 06 27.1 +3.4
BZWR    Bezymyannyi-We 3.22 358   PN      Pn              03 06 27.1 +3.4
KPT     Kopyto         3.23 355   eP      Pn              03 06 27.5 +3.7
KPT     Kopyto         3.23 355   PN      Pn              03 06 27.5 +3.7
ZLN     Zelenaya       3.27   1   eP      Pn              03 06 28.6 +4.2
ZLN     Zelenaya       3.27   1   PN      Pn              03 06 28.6 +4.2
LGNR    Loginova       3.34 360   eP      Pn              03 06 28.6 +3.1
LGNR    Loginova       3.34 360   PN      Pn              03 06 28.6 +3.1
KOZ     Kozyrevsk      3.35 352   eP      Pn              03 06 28.3 +2.9
KOZ     Kozyrevsk      3.35 352   PN      Pn              03 06 28.3 +2.9
KRSR    Krestovskiy    3.47 359   eP      Pn              03 06 30.3 +3.1
KRSR    Krestovskiy    3.47 359   PN      Pn              03 06 30.3 +3.1
SKR     Severo-Kuril's 3.52 236   eP      Pn              03 06 29.3 +1.6
SKR                               eS      Sn              03 07 08.6 +0.1
SKR     Severo-Kuril's 3.52 236   ePN     Pn              03 06 32.6 +4.9
SKR                               eS      Sn              03 07 08.6 +0.1
SKR                                       pmax    pmax
        comp=Z,41nm,0.4s
SKR                                       smax    smax
        comp=E,258nm,0.7s
SKR                                       smax    smax
        comp=N,230nm,0.4s
SKR                                       MLR     MLR
        comp=Z,400nm,18.0s
SKR                                       MLR     MLR
        comp=Z,200nm,13.0s
SRDR    Sredinnyy      3.62 351   eP      Pn              03 06 31.0 +1.9
SRDR    Sredinnyy      3.62 351   PN      Pn              03 06 31.0 +1.9
KBTR    Krutoberegovo  3.68  19   eP      Pn              03 06 30.6 +0.8
KBTR    Krutoberegovo  3.68  19   PN      Pn              03 06 30.6 +0.8
BKI     Bering         3.96  50   eP      Pn              03 06 33.7  -0.1
BKI                               eS      Sn              03 07 15.6  -3.7
BKI     Bering         3.96  50   PN      Pn              03 06 33.7  -0.1
SMY     Shemya         8.13  85   PN      Pn              03 07 31.9 +0.9
SMY     Shemya         8.13  85   Pn      Pn              03 07 31.9 +0.9
MA2     Magadan        8.79 325   LR      LR              03 11 32.8
        comp=Z,184nm,18.8s,baz=146,slow=41
JKA     Kamikawa-asahi 14.77 241                   Pn      03 09 02.1 +0.4
ASAJ    Asahikawa      14.77 241   P       Pn              03 09 02.1 +0.4
        comp=Z,1.4nm,0.3s,baz=56,slow=20,SNR=5.5
BILL    Bilibino       15.57   8   i P     P               03 09 18.1 +1.9
BILL                                      pmax    pmax
        comp=Z,9.0nm,1.0s
BILL                                      MLR     MLR
        comp=Z,118nm,18.0s
KLR     Kul'dur        18.50 271⇑  eP      Pn              03 09 49.3 +0.3
KLR                                       pmax    pmax
        comp=Z,28nm,2.4s
KLR     Kul'dur        18.50 271   P       Pn              03 09 49.4 +0.4
        comp=Z,0.3nm,0.3s,baz=74,slow=8.4,SNR=7.9
YAK     Yakutsk        18.94 312   eP      P               03 09 52.3  -1.1
YAK                               eS      Sn              03 13 26.1 +1.0
YAK                                       pmax    pmax
        comp=Z,14nm,1.1s
YAK                                       pmax    pmax
        comp=N,7.0nm,1.2s
YAK                                       pmax    pmax
        comp=E,12nm,1.3s
YAK                                       smax    smax
        comp=E,91nm,2.7s
YAK                                       smax    smax
        comp=N,59nm,2.5s
USRK    Ussuriysk Ar.  20.75 257   P       P               03 10 12.9  -0.4
        comp=N,3.5nm,0.6s,baz=60,slow=12,SNR=6.4
MJA0    Matsu Arr-Jizo 22.61 233   P       P               03 10 34.7 +1.4
MJA0                                      pmax    pmax
        comp=Z,17nm,1.0s
MJB9    Matsu-Tunnel   22.63 233   P       P               03 10 34.6 +1.1
MJB9                                      IAmb    IAmb    03 10 40.5
        comp=Z,17nm,0.9s
MAJO    Matsushiro     22.63 233   P       P               03 10 34.7 +1.2
MAJO                                      pmax    pmax
        comp=Z,17nm,1.0s
MAJO    Matsushiro     22.63 233   P       P               03 10 34.7 +1.2
MAJO                                      IAmb    IAmb    03 10 40.5
        comp=Z,17nm,0.9s
MAT     Matsushiro     22.63 233   P       P               03 10 35.5 +2.0
MJAR    Matsushiro Arr 22.63 233   P       P               03 10 33.8 +0.3
MJAR                                      pmax    pmax
        comp=Z,4.0nm,1.1s
MJAR    Matsushiro Arr 22.63 233   P       P               03 10 34.3 +0.8
        comp=Z,5.9nm,0.7s,baz=18,slow=12,SNR=11
MJAR                                      LR      LR      03 19 28.3
        comp=Z,58nm,18.7s,baz=15,slow=37
MJAR    Matsushiro Arr 22.63 233   P       P               03 10 33.8 +0.3
MJAR                                      IAmb    IAmb    03 10 43.5
        comp=Z,4.3nm,1.1s
CNBA    Chernabura Isl 23.34  69   P       P               03 10 42.0 +1.5
TIXI    Tiksi          23.55 335⇓  eP      P               03 10 41.2  -1.2
TIXI                                      pmax    pmax
        comp=Z,5.0nm,1.0s
TIXI    Tiksi          23.55 335   P       P               03 10 40.4  -2.1
        comp=Z,4.1nm,0.6s,baz=180,slow=24,SNR=7.2
TIXI    Tiksi          23.55 335   P       P               03 10 40.8  -1.6
TIXI                                      IAmb    IAmb    03 10 42.1
        comp=Z,4.6nm,0.7s
HIA     Hailar         25.75 279⇓  eP      P               03 11 01.1  -1.9
HIA                                       pmax    pmax
        comp=Z,44nm,1.1s
IMAR    Indian Mountai 26.01  42   P       P               03 11 04.2  -0.9
PPLA    Purkeypile     26.45  49   P       P               03 11 09.5 +0.3
PPLA                                      IAmb    IAmb    03 11 27.2
        comp=Z,4.4nm,1.2s
SUA     Susitna One    27.16  52   P       P               03 11 16.7 +1.1
SUA                                       IAmb    IAmb    03 11 28.1
        comp=Z,3.7nm,1.1s
KSRS    Korea Array    27.43 249   LR      LR              03 21 32.7
        comp=Z,31nm,20.5s,baz=30,slow=35
RND     Reindeer       27.96  48   P       P               03 11 21.2  -1.5
RND                                       pmax    pmax
        comp=Z,2.0nm,0.9s
RND     Reindeer       27.96  48   P       P               03 11 21.2  -1.5
RND                                       IAmb    IAmb    03 11 23.7
        comp=Z,1.8nm,0.9s
ILAR    Eielson Array  28.80  45   P       P               03 11 30.4 +0.3
        comp=Z,0.5nm,0.8s,baz=264,slow=7.2,SNR=6.8
BMAR    Burnt Mountain 29.77  39   P       P               03 11 37.5  -1.2
H11N2   WAKE ISLAND Hy 33.31 169   T       T               03 47 30.1
        baz=353,slow=76,SNR=641
H11N3   WAKE ISLAND Hy 33.32 169   T       T               03 47 32.2
        baz=353,slow=76,SNR=496
H11N1   WAKE ISLAND Hy 33.33 169   T       T               03 47 32.4
        baz=353,slow=76,SNR=392
ULN     Ulaanbaatar    33.94 284   ceP     P               03 12 16.7 +1.1
ULN                                       pmax    pmax
        comp=Z,3.0nm,1.0s
H11S1   WAKE ISLAND Hy 34.49 170   T       T               03 48 59.9
        baz=345
H11S3   WAKE ISLAND Hy 34.51 170   T       T               03 48 58.4
        baz=345
H11S2   WAKE ISLAND Hy 34.51 170   T       T               03 49 01.2
        baz=345
NRIK    Noril'sk       36.40 325   LR      LR              03 29 09.0
        comp=Z,144nm,18.9s,baz=77,slow=39
YKA     Yellowknife Ar 43.16  43   P       P               03 13 32.9 +0.3
        comp=Z,0.7nm,0.9s,baz=301,slow=8.6,SNR=3.3
YKA     Yellowknife Ar 43.16  43   P       P               03 13 32.2  -0.4
ZALV    Zalesovo Beam  43.27 303   P       P               03 13 31.9  -1.7
ZALV    Zalesovo Beam  43.27 303   P       P               03 13 31.1  -2.5
        comp=Z,0.5nm,0.3s,baz=66,slow=3.6,SNR=2.7
ZALV                                      LR      LR      03 31 24.8
        comp=Z,37nm,18.8s,baz=62,slow=36
ZALV    Zalesovo Beam  43.27 303   P       P               03 13 31.9  -1.7
DGZ     Jazzator, Alta 44.15 297⇓  iP      P               03 13 40.5  -0.4
KURK    Kurchatov      48.23 302   ceP     P               03 14 10.9  -1.8
KURK                                      pmax    pmax
        comp=Z,5.0nm,0.7s
KURK    Kurchatov      48.23 302   P       P               03 14 11.4  -1.3
KURK                                      IAmb    IAmb    03 14 12.6
        comp=Z,4.9nm,0.7s
MKAR    Makanchi Array 48.63 296   P       P               03 14 14.3  -1.7
        comp=Z,1.3nm,0.5s,baz=56,slow=7.0,SNR=25
DAG     Danmarks Havn  50.75 360   i P     P               03 14 31.6  0.0
DAG                                       pmax    pmax
        comp=Z,2.0nm,0.6s
DAG     Danmarks Havn  50.75 360   i P     P               03 14 31.6  0.0
        comp=Z,2.8nm,0.6s
BRVK    Borovoye       50.92 309⇓  eP      P               03 14 32.9  -0.3
BRVK                                      pmax    pmax
        comp=Z,7.0nm,1.7s
BRVK    Borovoye       50.92 309   P       P               03 14 32.4  -0.9
BRVK                                      IAmb    IAmb    03 14 34.0
        comp=Z,2.5nm,0.6s
ARCES   ARCESS Array B 53.73 342   eP      P               03 14 53.7  -0.1
ARCES                                     pmax    pmax
        comp=Z,8.0nm,1.0s
ARCES   ARCESS Array B 53.73 342   P       P               03 14 52.8  -1.0
        comp=Z,11nm,1.1s,baz=46,slow=8.7,SNR=7.0
ARCES   ARCESS Array B 53.73 342   P       P               03 14 53.1  -0.7
ARU     Arti           53.90 318   d iP    P               03 14 54.7  -0.5
ARU                                                       03 16 52.1
ARU                                       S       S       03 22 25.6  -2.8
ARU                                       SS      SKiKP   03 26 02.0  -3.8
ARU                                       pmax    pmax
        comp=Z,6.0nm,0.7s
```

SUMG	Summit	54.26	7	*i* P		P	03 14 58.6	+0.5
SUMG	Summit	54.26	7	*i* P		P	03 14 58.6	+0.5
PRGR	Permogore	54.92	328	*eP*		P	03 15 00.8	-1.8
PRGR				pmax		pmax		
	comp=Z,8.0nm,0.6s							
NVAR	Mina Array Bea	55.51	70	P		P	03 15 09.8	+2.3
	comp=Z,0.2nm,0.5s,baz=297,slow=6.6,SNR=3.1							
NVAR	Mina Array Bea	55.51	70	P		P	03 15 07.4	-0.1
AAK	Ala-Archa	55.56	297	P		P	03 15 06.8	-0.9
AAK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AAK	Ala-Archa	55.56	297	P		P	03 15 06.8	-0.9
AAK				IAmb		IAmb	03 15 12.6	
	comp=Z,3.6nm,0.8s							
KSH	Kashi	56.88	293	P		P	03 15 20.3	+3.2
KSH				PcP		PcP	03 16 14.0	+1.6
KSH				S		S	03 23 12.5	+3.6
KSH				SS		SS	03 27 01.3	+4.6
KSH				LR		LR		
	comp=Z,150nm,17.0s							
PDAR	Pinedale Array	57.37	61	P		P	03 15 22.4	+1.7
	comp=Z,0.5nm,0.7s,baz=328,slow=5.3,SNR=4.4							
PDAR	Pinedale Array	57.37	61	P		P	03 15 20.1	-0.6
KK31	Karatay Array	57.37	300	P		P	03 15 19.3	-1.1
KK31				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KK31	Karatay Array	57.37	300	P		P	03 15 19.3	-1.1
KK31				IAmb		IAmb	03 15 25.1	
	comp=Z,2.8nm,0.7s							
KKAR	Karatay Array	57.37	300	P		P	03 15 19.0	-1.5
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KKAR	Karatay Array	57.37	300	P		P	03 15 18.9	-1.5
KKAR				IAmb		IAmb	03 15 25.1	
	comp=Z,2.8nm,0.7s							
KLMR	Klimovskoe	57.43	330	*eP*		P	03 15 19.9	-0.6
KLMR				pmax		pmax		
	comp=Z,34nm,1.4s							
KLMR	Klimovskoe	57.43	330	*eP*		P	03 15 19.9	-0.6
KLMR				AMP			03 15 32.6	
	comp=Z,34nm,1.4s							
ABKAR	Akbulak array	58.30	311	P		P	03 15 25.9	-0.9
ABKAR				IAmb		IAmb	03 15 28.4	
	comp=Z,2.3nm,1.1s							
CMAR	Chiang Mai Arr	58.47	259	P		P	03 15 29.6	+1.2
	comp=Z,1.0nm,0.3s,baz=21,slow=6.5,SNR=6.3							
CMAR	Chiang Mai Arr	58.47	259	P		P	03 15 28.3	-0.1
ULM	Lac du Bonnet	58.79	47	P		P	03 15 29.5	-0.7
ULM				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ULM	Lac du Bonnet	58.79	47	P		P	03 15 31.4	+1.2
	comp=Z,1.4nm,0.5s,baz=323,slow=5.1,SNR=2.1							
ULM	Lac du Bonnet	58.79	47	P		P	03 15 29.5	-0.7
ULM				IAmb		IAmb	03 15 48.5	
	comp=Z,2.4nm,0.9s							
FINES	FINESS Array B	60.58	337	P		P	03 15 42.4	0.0
	comp=Z,6.0nm,0.6s,baz=35,slow=8.5,SNR=39							
FINES				LR		LR	03 46 54.2	
	comp=Z,68nm,18.1s,baz=232,slow=41							
FINES	FINESS Array B	60.58	337	P		P	03 15 41.9	-0.4
NB2	NORSAR Subarra	63.97	344	P		P	03 16 05.0	-0.1
	comp=Z,0.8nm,0.5s,baz=21,slow=6.9							
NOA	NORSAR Array B	63.97	344	P		P	03 16 05.0	-0.1
	comp=Z,0.5nm,0.4s,baz=28,slow=6.0,SNR=8.8							
AKASG	Malin Array Be	69.09	329	*eP*		P	03 16 37.8	-0.1
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.4s							
AKASG	Malin Array Be	69.09	329	P		P	03 16 37.5	-0.4
	comp=Z,3.6nm,0.4s,baz=28,slow=6.3,SNR=12							
AKASG	Malin Array Be	69.09	329	P		P	03 16 37.1	-0.8
AKASG				IAmb		IAmb	03 16 39.4	
	comp=Z,1.2nm,0.8s							
AKBB	Malin Array Si	69.09	329	P		P	03 16 37.4	-0.5
AKBB				pmax		pmax		
	comp=Z,13nm,1.2s							
AKBB	Malin Array Si	69.09	329	P		P	03 16 37.4	-0.5
AKBB				IAmb		IAmb	03 16 38.9	
	comp=Z,13nm,1.1s							
NCK	Nalchik	69.94	316	‖ *iP*		P	03 16 44.7	+1.4
NCK				pmax		pmax		
	comp=Z,5.0nm,0.3s							
KIV	Kislovodsk	69.94	317	*eP*		P	03 16 41.8	-1.6
KIV				pmax		pmax		
	comp=Z,14nm,1.0s							
KBZ	Khabaz	70.04	317	*eP*		P	03 16 44.6	+0.8
KBZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KBZ	Khabaz	70.04	317	P		P	03 16 44.3	+0.5
	comp=Z,6.0nm,0.9s,baz=153,slow=2.5,SNR=11							
ZEI	Tsey	70.39	316	*eP*		P	03 16 37.8	-8.5
ZEI				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TXAR	Lajitas Array	70.43	67	P		P	03 16 48.0	+1.4
	comp=Z,0.5nm,0.6s,baz=296,slow=4.5,SNR=7.7							
TXAR				LR		LR	03 47 08.9	
	comp=Z,23nm,18.8s,baz=0.0,slow=35							
TXAR	Lajitas Array	70.43	67	P		P	03 16 47.3	+0.7
AKH	Akhalkalaki	71.69	315	P		P	03 16 52.8	-1.4
AKH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AKH	Akhalkalaki	71.69	315	P		P	03 16 52.8	-1.4
AKH				IAmb		IAmb	03 16 55.8	
	comp=Z,5.2nm,0.9s							
KOLS	Kolonicke sedl	72.72	333	*eP*		P	03 17 01.0	+1.0
KOLS	Kolonicke sedl	72.72	333	*eP*		P	03 17 01.0	+1.0
CLL	Collm	72.80	339	*eP*		P	03 17 01.0	+0.6
CLL	Collm	72.80	339	*eP*		P	03 17 01.0	+0.6
BUR08	Bucovina Ar. S	73.03	330	P		P	03 17 00.8	-1.3
BUR08				IAmb		IAmb	03 17 03.5	
	comp=Z,7.5nm,1.1s							
LANS	Liptovska Anna	73.28	335	*eP*		P	03 17 05.1	+1.8
LANS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
LANS	Liptovska Anna	73.28	335	*eP*		P	03 17 05.1	+1.8
VYHS	Vyhne	74.05	335	*eP*		P	03 17 08.8	+1.0
VYHS	Vyhne	74.05	335	*eP*		P	03 17 08.8	+1.0
MODS	Modra-Piesok	74.56	336	*eP*		P	03 17 12.3	+1.5
MODS	Modra-Piesok	74.56	336	*eP*		P	03 17 12.3	+1.5
KHC	Kasperske Hory	74.73	338	‖ *eP*		P	03 17 13.8	+2.0
KHC				pmax		pmax		
	comp=Z,10.0nm,1.2s							
GERES	GERESS Array B	74.97	338	P		P	03 17 13.9	+0.7
	comp=Z,0.5nm,0.5s,baz=29,slow=6.2,SNR=4.9							
GERES	GERESS Array B	74.97	338	P		P	03 17 12.2	-1.1
WRA	Warramunga Arr	75.93	206	P		P	03 17 18.4	-0.5
WRA	Warramunga Arr	75.93	206	P		P	03 17 19.8	+1.0
	comp=Z,1.4nm,0.9s,baz=7.3,slow=5.8,SNR=6.1							
WRA	Warramunga Arr	75.93	206	P		P	03 17 18.4	-0.5
WRA				IAmb		IAmb	03 17 20.4	
	comp=Z,0.2nm,1.0s							
BRTR	Keskin Array B	77.12	321	*eP*		P	03 17 26.6	+0.9
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
BRTR	Keskin Array B	77.12	321	P		P	03 17 26.0	+0.2
	comp=Z,1.3nm,0.9s,baz=4.8,slow=1.5,SNR=5.3							
ASAR	Alice Springs	79.60	205	P		P	03 17 40.8	+1.5
	comp=Z,1.1nm,0.6s,baz=15,slow=5.5,SNR=13							
ASAR	Alice Springs	79.60	205	P		P	03 17 39.3	+0.1
ESDC	Sonseca Array	86.99	348	P		P	03 18 16.9	-0.5
	comp=Z,0.8nm,0.8s,baz=18,slow=4.5,SNR=3.5							
ATD	Arta Tunnel	96.93	299	LR		LR	04 08 38.0	
	comp=Z,38nm,18.6s,baz=28,slow=39							
SUR	Sutherland	144.74	289	PKP		PKPdf	03 25 08.2	-0.6
	comp=Z,9.0nm,0.9s,baz=107,slow=1.9,SNR=3.6							

ROM 26 03:14:08.6±0.2, 43°.376N±0°.004×12°.522E±0°.006, h6km±1km, ML1.1/1, Error ellipse: s-maj=0.5km s-min=0.2km az=259.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	Monte Foce - G	0.04	105	P	Pg	03 14 10.0	0.0
ATFO				S	Sg	03 14 11.1	+0.1
ATFO				AML	AML		
	comp=E,390μm,0.3s						
ATFO				AML	AML		
	comp=N,502μm,1.1s						
ATVO	AVT- Monte Val	0.08	274	P	Pg	03 14 10.7	+0.1
ATVO				S	Sg	03 14 12.3	+0.3
MURB	Monte Urbino	0.11	179	P	Pg	03 14 11.4	+0.4
MURB				S	Sg	03 14 13.8	+1.1
ATPI	Pietralunga -	0.12	310	P	Pg	03 14 11.4	+0.3
ATPI				S	Sg	03 14 13.7	+0.9
PIEI	Pieia	0.16	3	P	Pg	03 14 12.4	+0.6
PIEI				S	Sg	03 14 15.5	+1.4
PIEI				AML	AML		
	comp=N,102μm,1.6s						
PIEI				AML	AML		
	comp=E,110μm,0.2s						
NARO	Abbazia di Nar	0.24	10	P	Pg	03 14 13.7	+0.4
NARO				S	Sg	03 14 18.0	+1.5

*ISCJB **26** 03:16:23.0±0.6, 25°.4S±0°.1×70°.2E±0°.1, h10km, mb4.0/8, MS3.6/8, Error ellipse: s-maj=16.2km s-min=14.9km az=35.7*
*IDC **26** 03:16:24.8±0.9, 25°.41S×70°.03E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/55, mbtmp4.0/8, MS3.6/8, Ms1 3.6/8, ms1mx3.2/46, Error ellipse: s-maj=29.0km s-min=23.2km az=52.0*
*NEIC **26** 03:16:24.3±1.6, 25°.5S±0°.1×70°.1E±0°.1, h10km±3km, mb4.9/11*
ISC 26 03:16:24.9±0.6, 25°.4S±0°.1×70°.1E±0°.1, h10km, n34, σ1§26/26, mb4.2/13, MS3.7/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	17.82	8	T	T	03 38 56.1	
	baz=189,slow=76,SNR=24						
H08S2	Diego Garcia H	17.82	8	T	T	03 38 48.7	
	baz=189,slow=76,SNR=41						
H08S3	Diego Garcia H	17.83	8	T	T	03 38 49.7	
	baz=189,slow=76,SNR=26						
BOSA	Boshof	39.92	255	LR	LR	03 36 46.3	
	comp=Z,105nm,18.9s,baz=373,slow=31						
NWAO	Narrogin (SRO)	41.54	112	LR	LR	03 39 45.6	
	comp=Z,66nm,18.0s,baz=282,slow=34						
KULM	Kulim	42.56	48	P	P	03 24 20.1	-1.1
SUR	Sutherland	43.41	249	P	P	03 24 27.2	-1.0
SUR				IAmb	IAmb	03 24 29.6	
	comp=Z,70nm,1.8s						
CMAR	Chiang Mai Arr	51.85	36	P	P	03 25 36.0	+2.4
	comp=Z,0.7nm,0.4s,baz=224,slow=6.2,SNR=6.8						
CMAR				LR	LR	03 44 22.0	
	comp=Z,59nm,20.0s,baz=184,slow=32						
CMAR	Chiang Mai Arr	51.85	36	P	P	03 25 32.7	-0.8
SOEI	Soe	53.56	83	P	P	03 25 44.9	-1.7
SOEI				IAmb	IAmb	03 25 50.9	
	comp=Z,25nm,1.2s						
SHL	Shillong	54.88	24	P	P	03 25 54.9	-1.0
SHL				IAmb	IAmb	03 26 05.2	
	comp=Z,10.0nm,1.2s						
ASAR	Alice Springs	57.55	103	P	P	03 26 17.2	+2.2
	comp=Z,1.3nm,0.7s,baz=251,slow=6.5,SNR=13						
ASAR	Alice Springs	57.55	103	P	P	03 26 15.4	+0.4
WRA	Warramunga Arr	59.02	99	P	P	03 26 26.9	+1.6
	comp=Z,0.9nm,0.7s,baz=254,slow=6.8,SNR=4.7						
WRA				LR	LR	03 49 28.7	
	comp=Z,66nm,18.8s,baz=265,slow=34						
WRA	Warramunga Arr	59.02	99	P	P	03 26 25.2	-0.2
KBL	Kabul	59.64	359	P	P	03 26 28.0	-1.4
KBL				IAmb	IAmb	03 26 35.8	
	comp=Z,3.6nm,0.7s						
SNAA	Sanae	60.74	200	P	P	03 26 34.9	-1.6
SNAA				IAmb	IAmb	03 26 52.6	
	comp=Z,14nm,2.0s						
GYA0B	ALIBECK ARRAY	64.01	349	P	P	03 26 58.2	-0.4
QSPA	South Pole Qui	64.71	180	P	P	03 27 04.8	+1.7
	comp=Z,1.5nm,0.4s,baz=285,slow=3.4,SNR=8.5						
KKAR	Karatay Array	68.18	0	P	P	03 27 26.1	+0.8
MKAR	Makanchi Array	72.71	9	P	P	03 27 54.1	+1.3
	comp=Z,0.7nm,0.6s,baz=204,slow=6.8,SNR=5.6						
MKAR	Makanchi Array	72.71	9	P	P	03 27 52.8	-0.1
BRTR	Keskin Array B	73.20	331	P	P	03 27 57.6	+1.5
	comp=Z,1.1nm,0.7s,baz=154,slow=9.6,SNR=7.4						
BRTR	Keskin Array B	73.20	331	P	P	03 27 55.9	-0.2
ABKAR	Akbulak array	74.89	353	P	P	03 28 05.9	+0.3
ABKAR	Akbulak array	74.89	353	P	P	03 28 06.3	+0.9
ABKAR				IAmb	IAmb	03 28 18.8	
	comp=Z,8.5nm,1.5s						
TORD	Torodi Ar. Bea	76.85	292	P	P	03 28 18.8	+1.3
	comp=Z,2.4nm,1.0s,baz=104,slow=6.6,SNR=9.0						
TORD				LR	LR	04 00 14.6	
	comp=Z,20nm,18.9s,baz=320,slow=34						
TORD	Torodi Ar. Bea	76.85	292	P	P	03 28 17.2	-0.3
DBIC	Dimbokro	79.42	283	LR	LR	04 00 13.1	
	comp=Z,27nm,21.5s,baz=79,slow=33						
ZALV	Zalesovo Beam	80.05	9	P	P	03 28 35.4	+1.0
	comp=Z,0.9nm,0.5s,baz=190,slow=7.5,SNR=4.9						
ZALV	Zalesovo Beam	80.05	9	P	P	03 28 34.9	+0.5
TIP	Timpagrande	81.32	321	P	P	03 28 41.5	-0.1
JNU	Nakatsue	82.04	48	LR	LR	04 02 35.9	
	comp=Z,45nm,21.1s,baz=200,slow=34						
KSRS	Korea Array	82.82	43	LR	LR	04 04 54.6	
	comp=Z,32nm,19.3s,baz=280,slow=35						

*MAN **26** 03:29:01.6, 4°.83N×126°.10E, h13km, MS3.4*
*ISCJB **26** 03:29:09.9±0.7, 5°.24N±0°.04×125°.88E±0°.06, h57km±6km, mb4.1/18, MS3.5/2, Error ellipse: s-maj=10.6km s-min=6.0km az=165.3*
*NEIC **26** 03:29:10.5±1.3, 5°.30N±0°.06×125°.72E±0°.10, h48km±3km, mb4.6/14*
*IDC **26** 03:29:12.2±2.8, 5°.31N×125°.78E, h52km±26km, mb3.9/18, mb1 4.0/18, mb1mx3.8/44, mbtmp4.1/18, MS3.4/4, Ms1 3.4/4, ms1mx2.8/42, Error ellipse: s-maj=22.7km s-min=11.4km az=82.0*
ISC 26 03:29:11.6±1.1, 5°.26N±0°.05×125°.83E±0°.07, h56km±10km, n70, σ1§66/66, mb4.2/24, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.85	352	*eP*	Pn	03 29 24.2	-3.3
DDMP				*eS*	Sn	03 29 44.0	+4.8
GSPH	General Santos	1.20	313	‖ *iP*	Pn	03 29 45.1	+13
SKMP	Bagumbayan, Su	1.79	314	*eP*	Pn	03 29 40.0	-0.2
SKMP				*eS*	Sn	03 30 02.8	+0.9
DAV	Davao City (W)	1.81	352	P	Pn	03 29 39.3	-1.2
	103nm,0.3s,baz=255,slow=12,SNR=2.2						
DAV				S	Sn	03 30 05.5	+3.1
	232nm,0.3s,baz=254,slow=22,SNR=7.7						
DAV	Davao City (W)	1.81	352		Pn	03 29 38.6	-1.9
DAV					Sn	03 29 59.5	-3.0
DMPH	Davao City--Mi	1.84	350	‖ *eP*	Pn	03 29 40.2	-0.7
DMPH				*eS*	Sn	03 30 02.4	-0.6
KCP	Kidapawan	1.89	337	‖ *iP*	Pn	03 29 41.2	-0.4
KCP				*i S*	Sn	03 30 10.7	+6.4
CTBH	Cotabato--PC H	2.51	321	‖ *iP*	Pn	03 29 50.8	+0.9
CTBH				*i S*	Sn	03 30 22.4	+3.1
BUKP	Musuan	2.71	344	*eP*	Pn	03 29 52.5	-0.3
BUKP				*eS*	Sn	03 30 34.8	+10
CGP	Cagayan de Oro	3.37	340	‖ *eP*	Pn	03 30 13.0	+11
CGP				*eS*	Sn	03 30 42.7	+2.2
PAGZ	Pagadian	3.54	317	*eP*	Pn	03 30 03.6	-0.5
TNTI	Ternate	4.71	161	Pn	Pn	03 30 20.2	0.0
LUWI	Luwuk	6.97	206	Pn	Pn	03 30 50.1	-1.0
KAPI	Kappang	11.88	211	LR	LR	03 37 13.7	
	comp=Z,96nm,18.3s,baz=70,slow=40						
SBUM	Sibu	13.87	259		Pn	03 32 22.8	-2.6
BATI	Baumata	15.52	188	LR	LR	03 40 03.3	
	comp=Z,134nm,18.4s,baz=246,slow=42						
FITZ	Fitzroy Crossi	23.21	180	P	P	03 34 14.9	+1.1
	3.2nm,0.5s,baz=14,slow=9.3,SNR=13						
WB0	Warramunga Arr	26.26	162	P	P	03 34 41.8	+0.1
WB0				IAmb	IAmb	03 35 10.0	
	comp=Z,9.3nm,1.1s						
WRAB	Tennant Creek	26.40	162	P	P	03 34 43.8	+0.7
WRAB				IAmb	IAmb	03 34 55.8	
	comp=Z,20nm,1.5s						
WRA	Warramunga Arr	26.41	162	P	P	03 34 44.9	+1.8
	comp=Z,0.8nm,0.4s,baz=337,slow=10,SNR=13						
WRA	Warramunga Arr	26.41	162	P	P	03 34 43.4	+0.3
WB2	Warramunga Arr	26.41	162	P	P	03 34 42.8	-0.4
SLVN	Son La	26.59	309	P	P	03 34 43.7	-1.2
SLVN				IAmb	IAmb	03 35 38.7	
	comp=Z,17nm,1.7s						
PSI	Prapat	26.95	266	P	P	03 34 48.2	-0.1
	comp=Z,2.4nm,0.4s,baz=47,slow=12,SNR=4.4						
PSI				LR	LR	03 46 40.7	
	comp=Z,94nm,20.1s,baz=346,slow=39						
RPSI	Rantau Prapat	26.96	266	P	P	03 34 48.2	0.0
CMAR	Chiang Mai Arr	29.34	299	P	P	03 35 10.1	+0.7
	comp=Z,1.0nm,0.3s,baz=116,slow=7.1,SNR=7.9						
CMAR	Chiang Mai Arr	29.34	299	P	P	03 35 09.1	-0.3
ASAR	Alice Springs	29.81	165	P	P	03 35 16.2	+2.7
	comp=Z,0.6nm,0.5s,baz=350,slow=7.8,SNR=6.5						
ASAR	Alice Springs	29.81	165	P	P	03 35 12.8	-0.6
KSRS	Korea Array	32.10	3	P	P	03 35 34.8	+1.4
	comp=Z,2.2nm,0.8s,baz=193,slow=9.1,SNR=3.2						
MAJO	Matsushiro	33.14	18	P	P	03 35 42.7	+0.1
MAJO				IAmb	IAmb	03 36 11.4	
	comp=Z,97nm,2.0s						
MJAR	Matsushiro Arr	33.14	18	P	P	03 35 42.2	-0.4
	comp=Z,2.4nm,0.8s,baz=199,slow=10,SNR=5.0						
MJAR	Matsushiro Arr	33.14	18	P	P	03 35 41.4	-1.2
SHL	Shillong	38.26	305	P	P	03 36 27.1	+0.3
SHL				IAmb	IAmb	03 36 29.2	
	comp=Z,13nm,0.9s						
USRK	Ussuriysk Ar.	39.16	7	P	P	03 36 35.5	+1.6
	comp=Z,5.3nm,0.8s,baz=181,slow=8.1,SNR=6.7						
USRK	Ussuriysk Ar.	39.16	7	P	P	03 36 33.8	-0.1
STKA	Stephens Creek	39.87	159	P	P	03 36 41.0	+1.0
	comp=Z,3.0nm,0.7s,baz=3.6,slow=11,SNR=7.5						
STKA	Stephens Creek	39.87	159	P	P	03 36 40.6	+0.6
H11S3	WAKE ISLAND Hy	41.97	68	T	T	04 22 02.2	
	baz=257,slow=70,SNR=5.2						
H11S1	WAKE ISLAND Hy	41.98	68	T	T	04 22 04.9	
	baz=257,slow=70,SNR=4.3						
H11S2	WAKE ISLAND Hy	41.98	68	T	T	04 22 04.5	
	baz=257,slow=70,SNR=9.4						
H11N1	WAKE ISLAND Hy	42.44	66	T	T	04 22 58.2	
	baz=255,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	42.45	66	T	T	04 22 56.6	
	baz=255,slow=75,SNR=8.4						
H11N3	WAKE ISLAND Hy	42.46	66	T	T	04 22 57.9	
	baz=255,slow=75,SNR=9.8						
ODAN	Odare	42.46	305	*eP*	P	03 37 02.5	+0.8
	comp=Z,15nm,0.8s						
JIRN	Jiri	43.76	305	*eP*	P	03 37 13.2	+0.9
	comp=Z,25nm,0.8s						
KLR	Kul'dur	44.10	6	P	P	03 37 15.1	+0.9
	comp=Z,1.2nm,0.3s,baz=164,slow=10,SNR=5.1						
GUN	Gumba	44.11	305	*eP*	P	03 37 15.8	+0.7
	comp=Z,15nm,0.7s						
SONM	Songino Array	45.57	342	P	P	03 37 28.3	+2.2
	comp=Z,0.9nm,0.5s,baz=160,slow=9.2,SNR=2.3						
SONM	Songino Array	45.57	342	P	P	03 37 25.2	-0.9
KOLN	Koldanda	45.93	304	*eP*	P	03 37 30.3	+1.0
DANN	Dangsing	46.01	305	*eP*	P	03 37 30.5	+0.4
	comp=Z,22nm,0.7s						
HMDM	Hanimaadhoo	52.36	274	P	P	03 38 16.6	-1.9
PEA0B	Petropavlovsk-	54.37	23	P	P	03 38 31.6	-1.0
PETK	Petropavlovsk-	54.37	23	P	P	03 38 33.1	+0.5
	comp=Z,7.0nm,0.9s,baz=194,slow=4.3,SNR=5.6						
PETK	Petropavlovsk-	54.37	23	P	P	03 38 32.9	+0.3
MKAR	Makanchi Array	55.80	325	P	P	03 38 42.5	-0.5
	comp=Z,1.1nm,0.6s,baz=122,slow=9.1,SNR=6.7						
MKAR	Makanchi Array	55.80	325	P	P	03 38 41.8	-1.3
ZALV	Zalesovo Beam	58.83	333	P	P	03 39 05.2	+1.0
	comp=Z,0.6nm,0.3s,baz=126,slow=7.3,SNR=3.5						
GAR	Garm	60.24	312	P	P	03 39 12.2	-2.2
GAR				IAmb	IAmb	03 39 17.8	
	comp=Z,5.8nm,0.7s						
SEY	Seymchan	60.76	14	P	P	03 39 17.9	+0.7
	comp=Z,1.2nm,0.3s,baz=135,slow=20,SNR=3.2						
TIXI	Tiksi	66.33	1	P	P	03 39 54.0	0.0
	comp=Z,1.3nm,0.3s,baz=113,slow=7.7,SNR=3.7						
TIXI	Tiksi	66.33	1	IAmb	IAmb	03 40 05.2	
	comp=Z,6.9nm,1.2s						
IMAR	Indian Mountai	81.32	24	P	P	03 41 21.5	-0.2
ILAR	Eielson Array	84.11	25	P	P	03 41 35.9	-0.4
	comp=Z,0.7nm,0.9s,baz=232,slow=6.1,SNR=6.0						
BRTR	Keskin Array B	88.36	310	P	P	03 41 58.5	+0.7
	comp=Z,0.3nm,0.7s,baz=74,slow=5.1,SNR=2.6						
BRTR	Keskin Array B	88.36	310	P	P	03 41 56.6	-1.2
NOA	NORSAR Array B	97.03	334	LR	LR	04 29 19.0	
	comp=Z,22nm,19.2s,baz=285,slow=37						
TORD	Torodi Ar. Bea	121.59	289	PKP	PKiKP	03 47 59.7	-0.5
	comp=Z,0.5nm,0.9s,baz=43,slow=1.5,SNR=2.7						
CFA	Coronel Fontan	150.66	155	PKPbc	PKiKP	03 48 59.1	+0.3
	comp=Z,2.6nm,0.9s,baz=203,slow=4.1,SNR=4.7						

*KRSC **26** 03:47:28.6±1.4, 48°.82N×155°.73E, h272km±16km, ML3.9*
*IDC **26** 03:47:41.9±7.0, 49°.66N×156°.73E, h226km±38km, mb2.8/5, mb1 3.1/6, mb1mx2.9/44, mbtmp3.3/6, Error ellipse: s-maj=90.4km s-min=41.6km az=18.0*
ISC 26 03:47:41.8±1.9, 49°.5N±0°.2×156°.1E±0°.2, h250km, n19, σ2§42/20, mb3.1/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	2.61	27	P	Pn	03 48 27.3	-2.8
KDTR				S	S	03 49 11.8	+3.5
ASAK	Asacha	3.08	20	P	Pn	03 48 32.2	-3.0
RUS	Russkaya	3.29	26	P	Pn	03 48 34.6	-2.7
RUS				S	S	03 49 25.2	+3.8
PETK	Petropavlovsk-	3.73	15	P	Pn	03 48 38.6	-3.7
	0.4nm,0.3s,baz=185,slow=8.8,SNR=4.1						
UGLR	Uglovaya	4.07	23	P	Pn	03 48 44.5	-1.9
AVH	Avacha	4.10	22	P	Pn	03 48 44.9	-1.8
KOK	Koryaka	4.10	21	P	Pn	03 48 43.8	-2.9
SMAR	Somma	4.11	23	P	Pn	03 48 45.3	-1.7
SDLR	Sedlovina	4.15	23	P	Pn	03 48 46.0	-1.3
KRX	Arik	4.16	21	P

comp=Z,0.0nm,0.4s
TVBK TV Kerman 1.50 3 IAMB IAmb 04 29 35.6
comp=Z,0.0nm,0.5s
TVBK *e*Pn **Pb 04 29 07.4 -0.4**
CHMN Cheshme madani 1.57 29 *e*Pn **Pn 04 29 07.9 0.0**
KHGB Koh Gabri 1.90 355 *e*Pn **Pb 04 29 14.1 -0.3**
KHGB IAMB IAmb 04 29 44.5
comp=Z,0.0nm,0.4s
IMEH Mehriz 3.41 329 *e*Pn **Pn 04 29 35.4 +2.4**
SZD1 Zahaedan-tmp 3.81 74 *e*Pn **Pn 04 29 40.7 +2.3**
NHDN Nehbandan 4.13 44 *e*Pn **Pn 04 29 45.9 +3.1**
ISAD Sadrabad 4.29 324 *e*Pn **Pn 04 29 47.5 +2.4**
IKOO Kooshah 4.42 27 *e*Pn **Pn 04 29 49.1 +2.2**
TPRV Parvadeh(Tabas 4.54 0 *e*Pn **Pn 04 29 50.8 +2.4**
ITEG Tejag 4.75 22 *e*Pn **Pn 04 29 53.6 +2.2**
IRAM Ramesheh 4.98 313 *e*Pn **Pn 04 29 56.7 +2.1**
KLNJ Kolanjah 5.08 301 *e*Pn **Pn 04 29 58.2 +2.1**
IZEF Zefreh 5.78 321 *e*Pn **Pn 04 30 07.0 +1.4**
IBRJ Brojen 5.80 307 *e*Pn **Pn 04 30 08.7 +2.8**
ZNGN Zangian 6.20 307 *e*Pn **Pn 04 30 14.0 +2.6**
ROKH ROKH 6.21 310 *e*Pn **Pn 04 30 13.7 +2.2**
BRTR Keskin Array B 22.06 307 P **P 04 33 35.4 +0.7**
comp=Z,1.4nm,0.8s,baz=126,slow=9.5,SNR=8.1
FINES FINESS Array B 38.73 337 P **P 04 36 02.4 -1.1**
comp=Z,2.1nm,0.8s,baz=128,slow=9.0,SNR=3.4
TORD Torodi Ar. Bea 53.17 265 P **P 04 37 55.4 -2.8**
comp=Z,1.9nm,0.6s,baz=57,slow=7.2,SNR=14

IDC 26 04:35:41.7±12.0, 20°.14S×177°.92W, h536km±99km, mb2.9/4, mb1 3.1/5, mb1mx2.8/43, mbtmp3.8/5, Error ellipse: s-maj=229.2km s-min=45.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.72**	**260**	P	P	04 38 48.1	-0.5
0.1nm,0.3s,baz=106,slow=15,SNR=3.0							
CTA	**Charters Tower**	**33.60**	**264**	P	P	04 41 38.5	+0.6
1.7nm,0.4s,baz=95,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**44.67**	**256**	P	P	04 43 06.8	-0.4
0.8nm,0.6s,baz=98,slow=7.9,SNR=8.0							
WRA	**Warramunga Arr**	**44.73**	**262**	P	P	04 43 07.0	-0.5
0.4nm,0.3s,baz=97,slow=7.7,SNR=14							
ILAR	**Eielson Array**	**87.95**	**1**	P	P	04 47 34.0	-0.1
0.3nm,0.8s,baz=216,slow=4.0,SNR=4.3							

IDC 26 04:46:38.5±2.0, 4°.26N×125°.29E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/30, Error ellipse: s-maj=126.6km s-min=25.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.22**	**179**	P	P	04 51 38.0	+1.2
0.8nm,0.4s,baz=0.2,slow=12,SNR=3.7							
WRA	**Warramunga Arr**	**25.64**	**160**	P	P	04 52 09.7	-0.5
0.7nm,0.4s,baz=336,slow=10.0,SNR=7.7							
ASAR	**Alice Springs**	**29.00**	**164**	P	P	04 52 39.9	-0.4
0.3nm,0.3s,baz=342,slow=7.8,SNR=3.8							
SONM	**Songino Array**	**46.35**	**342**	LR	LR	05 15 57.6	
comp=Z,36nm,20.6s,baz=252,slow=38							
MKAR	**Makanchi Array**	**56.31**	**326**	P	P	04 56 21.2	0.0
0.2nm,0.3s,baz=126,slow=7.1,SNR=4.5							

IDC 26 04:47:47.0±2.0, 16°.80S×178°.13W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/39, mbtmp3.7/4, Error ellipse: s-maj=122.2km s-min=27.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.11**	**258**	P	P	04 56 05.4	0.0
0.3nm,0.4s,baz=96,slow=7.4,SNR=8.2							
ASAR	**Alice Springs**	**45.36**	**253**	P	P	04 56 07.2	-0.2
1.6nm,0.5s,baz=87,slow=8.8,SNR=20							
ILAR	**Eielson Array**	**84.75**	**13**	P	P	05 00 22.2	-0.4
0.2nm,0.4s,baz=225,slow=4.5,SNR=6.9							
TXAR	**Lajitas Array**	**85.18**	**58**	P	P	05 00 26.0	+0.3
0.3nm,0.7s,baz=213,slow=6.5,SNR=3.3							

*IDC **26** 04:54:40.1±1.1, 24°.22N×142°.78E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/43, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=38.7km s-min=22.7km az=95.0*
*ISCJB **26** 04:54:43.5±0.9, 24°.22N±0°.09×142°.8E±0°.3, h35km, mb3.8/8, Error ellipse: s-maj=33.4km s-min=11.7km az=172.4*
ISC 26 04:54:45.4±1.1, 24°.2N±0°.1×142°.7E±0°.3, h35km, n9, σ0§60/10, mb3.8/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.89**	**350**	Pn	**Pn**	**04 55 28.1**	**-0.9**
6.9nm,0.3s,baz=181,slow=13,SNR=2.8							
JCJ				Sn	**Sn**	**04 56 03.0**	**+0.4**
9.2nm,0.3s,baz=288,slow=19,SNR=4.5							
KLR	**Kul'dur**	**26.40**	**344**	P	**P**	**05 00 19.0**	**+0.5**
1.3nm,0.6s,baz=146,slow=3.6,SNR=5.3							
WRA	**Warramunga Arr**	**44.66**	**191**	P	**P**	**05 02 54.8**	**-0.2**
2.0nm,0.9s,baz=6.5,slow=9.2,SNR=14							
MKAR	**Makanchi Array**	**52.70**	**311**	P	**P**	**05 03 56.4**	**-0.1**
0.4nm,0.5s,baz=92,slow=8.6,SNR=3.1							
ILAR	**Eielson Array**	**59.99**	**28**	P	**P**	**05 04 47.7**	**-0.5**
0.3nm,0.7s,baz=258,slow=3.8,SNR=5.0							
INK	**Inuvik**	**65.42**	**24**	P	**P**	**05 05 24.7**	**+0.5**
0.5nm,0.5s,baz=306,slow=5.2,SNR=4.7							
YKA	**Yellowknife Ar**	**74.42**	**28**	P	**P**	**05 06 19.6**	**0.0**
0.5nm,0.7s,baz=289,slow=5.7,SNR=3.1							
ARCES	**ARCESS Array B**	**76.40**	**341**	P	**P**	**05 06 31.8**	**+0.9**
3.9nm,0.9s,baz=64,slow=8.1,SNR=3.7							
FINES	**FINESS Array B**	**80.73**	**334**	P	**P**	**05 06 54.9**	**0.0**
0.6nm,0.4s,baz=64,slow=6.3,SNR=8.5							

IDC 26 04:55:08.9±2.3, 60°.64S×46°.09W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/17, mbtmp3.8/1, Error ellipse: s-maj=136.3km s-min=75.8km az=1.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**82.77**	**47**	P	P	05 07 34.4	-0.1
0.7nm,1.0s,baz=203,slow=4.6,SNR=3.6							
ILAR	**Eielson Array**	**145.66**	**312**	PKPbc	PKPdf	05 14 47.0	-0.5
1.0nm,0.9s,baz=130,slow=2.9,SNR=8.5							
MKAR	**Makanchi Array**	**147.40**	**91**	PKPbc	PKPbc	05 14 52.9	-0.6
0.3nm,0.4s,baz=206,slow=1.1,SNR=2.7							

IDC 26 05:08:19.8±0.9, 25°.46S×69°.94E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/38, mbtmp3.9/8, MS3.5/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=31.2km s-min=24.7km az=54.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.88**	**8**	T	T	05 30 50.2	
baz=189,slow=76,SNR=14							
H08S2	**Diego Garcia H**	**17.88**	**8**	T	T	05 30 42.3	
baz=189,slow=76,SNR=23							
H08S3	**Diego Garcia H**	**17.90**	**8**	T	T	05 30 43.5	
baz=189,slow=76,SNR=15							
BOSA	**Boshof**	**39.76**	**255**	LR	LR	05 29 16.0	
comp=Z,175nm,18.9s,baz=121,slow=32							
MAW	**Mawson**	**42.38**	**184**	LR	LR	05 29 44.5	
comp=Z,77nm,19.7s,baz=48,slow=30							
CMAR	**Chiang Mai Arr**	**51.98**	**36**	P	P	05 17 32.1	+1.1
0.8nm,0.3s,baz=221,slow=6.8,SNR=2.8							
CMAR				LR	LR	05 36 59.8	
comp=Z,24nm,18.4s,baz=183,slow=33							
ASAR	**Alice Springs**	**57.69**	**103**	P	P	05 18 11.5	-1.1
0.7nm,0.7s,baz=256,slow=6.2,SNR=6.2							
ASAR				LR	LR	05 39 55.2	
comp=Z,35nm,20.4s,baz=258,slow=33							
WRA	**Warramunga Arr**	**59.17**	**99**	P	P	05 18 23.1	+0.2
0.6nm,0.6s,baz=257,slow=7.3,SNR=3.9							
WRA				LR	LR	05 41 43.3	
comp=Z,80nm,18.4s,baz=265,slow=34							
STKA	**Stephens Creek**	**62.18**	**114**	LR	LR	05 42 08.6	
comp=Z,52nm,20.1s,baz=207,slow=33							
GEYT	**Alibeck**	**64.02**	**350**	LR	LR	05 43 57.8	
comp=Z,21nm,18.4s,baz=320,slow=33							
QSPA	**South Pole Qui**	**64.67**	**180**	P	P	05 18 59.9	+0.6
2.1nm,0.9s,baz=270,slow=2.0,SNR=5.2							

MKAR Makanchi Array 72.78 9 P P 05 19 49.2 -0.6
0.9nm,0.7s,baz=197,slow=6.0,SNR=5.1
BRTR Keskin Array B 73.16 332 P P 05 19 52.9 +0.5
0.5nm,0.6s,baz=188,slow=8.8,SNR=4.1
BRTR LR LR 05 50 08.1
comp=Z,15nm,19.0s,baz=90,slow=34
TORD Torodi Ar. Bea 76.72 292 P P 05 20 13.1 -0.3
0.9nm,0.9s,baz=121,slow=5.9,SNR=4.2
TORD LR LR 05 52 32.1
comp=Z,27nm,20.0s,baz=325,slow=35
DBIC Dimbokro 79.27 283 LR LR 05 52 29.4
comp=Z,42nm,19.4s,baz=96,slow=33
ZALV Zalesovo Beam 80.12 9 P P 05 20 30.9 -0.3
0.7nm,0.5s,baz=192,slow=6.6,SNR=3.3
KSRS Korea Array 82.96 43 LR LR 05 56 38.2
comp=Z,20nm,18.4s,baz=211,slow=35
DZM Mont Dzumac 86.29 113 LR LR 05 54 58.9
comp=Z,42nm,21.2s,baz=204,slow=32
MJAR Matsushiro Arr 89.08 48 LR LR 06 01 11.4
comp=Z,20nm,18.8s,baz=35,slow=36

*ISCJB **26** 05:34:42.3±0.3, 51°.54N±0°.02×16°.10E±0°.02, h0km, Error ellipse: s-maj=2.4km s-min=2.1km az=24.7*
*IPEC **26** 05:34:44.2±0.2, 51°.58N×16°.29E, h0km, ML2.4/5, Error ellipse: s-maj=2.2km s-min=1.3km az=59.0*
*BGR **26** 05:34:45.8±0.5, 51°.51N×16°.11E, h1km, ML3.1/15, Error ellipse: s-maj=5.6km s-min=2.2km az=17.0*
*UPP **26** 05:34:46.6±3.0, 51°.65N×15°.31E, h0km, ML1.9, Suspected explosion*
*IDC **26** 05:34:46.3±1.0, 51°.45N×15°.99E, h0km, mb1 3.6/4, mb1mx3.3/52, mbtmp3.4/4, ML2.9/4, Error ellipse: s-maj=17.6km s-min=8.9km az=128.0*
*VIE **26** 05:34:47.7±0.8, 51°.32N×16°.10E, h0km, mb2.5/4, ml2.9/5, Error ellipse: s-maj=8.9km s-min=5.7km az=73.0 68 km WNW of Wroclaw Suspected Mining induced.*
ISC 26 05:34:43.4±0.7, 51°.62N±0°.03×16°.11E±0°.02, h0km, n63, σ1§37/123, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**171**	*e*Pg	**Pg**	**05 34 58.6**	**+0.2**
KSP				*e*Sg	**Sg**	**05 35 07.9**	**-0.5**
KSP	**Ksiaz**	**0.78**	**171**	*i* Pg	**Pg**	**05 34 58.5**	**+0.2**
KSP				*i* Pg	**Pg**	**05 34 58.5**	**+0.2**
KSP				*i* Sg	**Sg**	**05 35 07.9**	**-0.5**
KSP				*i* Sg	**Sg**	**05 35 07.9**	**-0.5**
CHVC	**Chvalec**	**1.03**	**182**	*e*PG	**Pg**	**05 35 02.7**	**-0.4**
CHVC				*e*SG	**Sg**	**05 35 14.4**	**-2.0**
comp=Z,88nm,0.6s							
UPC	**Upice**	**1.11**	**183**	*e*PG	**Pg**	**05 35 04.6**	**0.0**
UPC				*e*SG	**Sg**	**05 35 17.3**	**-1.7**
comp=Z,159nm,0.2s							
DPC	**Dobruska-Polom**	**1.27**	**174**	*e*Pg	**Pg**	**05 35 07.3**	**-0.4**
DPC				*e*Sg	**Sg**	**05 35 22.9**	**-1.3**
DPC	**Dobruska-Polom**	**1.27**	**174**	*e*PG	**Pg**	**05 35 07.0**	**-0.8**
DPC				*e*SG	**Sg**	**05 35 22.8**	**-1.4**
comp=Z,65nm,0.7s							
PVCC	**Panska Ves**	**1.46**	**222**	*e*PG	**Pn**	**05 35 11.0**	**+0.1**
PVCC				*e*SG	**Sg**	**05 35 30.3**	**+0.1**
comp=Z,218nm,0.7s							
BRG	**Berggiesshubel**	**1.55**	**242**	PN	**Pn**	**05 35 12.9**	**+0.7**
BRG				PG	**Pg**	**05 35 13.9**	**+0.9**
BRG				SG	**Sg**	**05 35 33.9**	**+0.7**
170nm,0.4s							
BRG	**Berggiesshubel**	**1.55**	**242**	*e*Pn	**Pn**	**05 35 12.9**	**+0.7**
BRG				*e*Sg	**Sg**	**05 35 34.1**	**+1.0**
KRLC	**Kraliky**	**1.60**	**164**	*e*PG	**Pn**	**05 35 12.8**	**-0.1**
KRLC				*e*SG	**Sn**	**05 35 33.0**	**-1.3**
comp=Z,76nm,0.2s							
FBE	**Freiberg**	**1.86**	**249**	*e*Sg	**Sg**	**05 35 44.1**	**+0.9**
PRA	**Prague**	**1.88**	**215**	*e*PN	**Pn**	**05 35 16.9**	**+0.2**
PRA				*e*SG	**Sn**	**05 35 41.3**	**+0.3**
comp=Z,49nm,0.8s							
GOPC	**GO Pecny, Ondr**	**1.90**	**207**	*e*PG	**Pn**	**05 35 17.4**	**+0.4**
GOPC				*e*SG	**Sn**	**05 35 42.4**	**+0.8**
comp=Z,43nm,0.6s							
PRU	**Pruhonice**	**1.91**	**212**	*e*PG	**Pb**	**05 35 18.9**	**-0.1**
PRU				*e*SG	**Sb**	**05 35 43.0**	**-0.4**
comp=Z,46nm,0.3s							
CLL	**Collm**	**1.97**	**262**	*e*Pn	**Pn**	**05 35 18.0**	**+0.1**
CLL				*e*Pg	**Pb**	**05 35 21.0**	**+1.0**
CLL				*e*		05 35 25.0	
CLL				*i* Sg	**Sg**	**05 35 47.6**	**+1.1**
comp=Z,48nm,0.3s							
CLL				*i*		05 35 54.1	
CLL	**Collm**	**1.97**	**262**	*e*Pn	**Pn**	**05 35 18.1**	**+0.2**
CLL				*e*Sg	**Sg**	**05 35 47.9**	**+1.4**
MORC	**Moravsky Berou**	**2.06**	**153**	*e*Pn	**Pn**	**05 35 19.0**	**-0.3**
MORC				*e*Sg	**Sb**	**05 35 47.4**	**-0.3**
MORC	**Moravsky Berou**	**2.06**	**153**	*e*PN	**Pn**	**05 35 18.9**	**-0.3**
MORC				*e*SG	**Sn**	**05 35 45.9**	**+0.4**
MORC	**Moravsky Berou**	**2.06**	**153**	*e*Pn	**Pn**	**05 35 18.9**	**-0.3**
baz=337							
MORC				*e*Sg	**Sn**	**05 35 45.9**	**+0.4**
comp=Z,36nm,0.4s,baz=337							
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*Sg	**Sb**	**05 35 52.6**	**+0.8**
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*PG	**Pb**	**05 35 24.6**	**+0.6**
OKC				*e*SG	**Sb**	**05 35 52.1**	**+0.3**
comp=Z,47nm,0.5s							
VRAC	**Vranov**	**2.33**	**172**	*e*PN	**Pn**	**05 35 23.5**	**+0.5**
VRAC				*e*SG	**Sb**	**05 35 55.8**	**+0.2**
VRAC	**Vranov**	**2.33**	**172**	*e*Pn	**Pn**	**05 35 23.4**	**+0.5**
baz=355							
VRAC				*e*Sg	**Sb**	**05 35 55.7**	**+0.2**
comp=Z,16nm,0.2s,baz=355							
PBCC	**Pribram**	**2.35**	**216**	*e*PN	**Pn**	**05 35 23.5**	**+0.2**
PBCC				*e*PG	**Pb**	**05 35 27.1**	**+0.5**
PBCC				*e*SG	**Sb**	**05 35 57.1**	**+0.9**
comp=Z,6.0nm,0.3s							
TREC	**Trest**	**2.36**	**190**	*e*PN	**Pn**	**05 35 24.4**	**+1.1**
TREC				*e*PG	**Pb**	**05 35 26.7**	**0.0**
TREC				*e*SG	**Sb**	**05 35 57.5**	**+1.2**
comp=Z,31nm,0.6s							
KRUC	**Moravsky**	**2.56**	**176**	*e*PN	**Pn**	**05 35 26.5**	**+0.4**
KRUC				*e*SG	**Sb**	**05 36 03.1**	**+0.9**
KRUC	**Moravsky**	**2.56**	**176**	*e*Pn	**Pn**	**05 35 26.5**	**+0.4**
baz=358							
KRUC				*e*Sg	**Sb**	**05 36 03.1**	**+0.9**
comp=Z,12nm,0.2s,baz=358							
TANN	**Tannenbergstha**	**2.60**	**244**	*e*Pn	**Pn**	**05 35 27.3**	**+0.6**
TANN				*e*Sg	**Sg**	**05 36 06.5**	**-0.3**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**05 35 28.9**	**+0.9**
NKC				*e*PG	**Pb**	**05 35 32.8**	**+0.3**
NKC				*e*SG	**Sg**	**05 36 10.5**	**+0.5**
comp=Z,103nm,0.3s							
OJC	**Ojcow**	**2.72**	**119**	*e*Sg	**Sg**	**05 36 10.8**	**0.0**
OJC	**Ojcow**	**2.72**	**119**	*e*Pg	**Pg**	**05 35 36.0**	**+0.5**
OJC				*e*Pg	**Pg**	**05 35 36.0**	**+0.5**
OJC				*e*Sg	**Sg**	**05 36 10.7**	**0.0**
OJC				*e*Sg	**Sg**	**05 36 10.7**	**0.0**
JAVC	**Velka Javorina**	**2.94**	**159**	*e*PN	**Pn**	**05 35 31.3**	**-0.1**
JAVC	**Velka Javorina**	**2.94**	**159**	*e*Pn	**Pn**	**05 35 31.2**	**-0.1**
baz=342							
KHC	**Kasperske Hory**	**2.97**	**214**	*e*PN	**Pn**	**05 35 31.9**	**+0.2**
KHC				*e*PG	**Pb**	**05 35 37.5**	**+0.4**
KHC				*e*SN	**Sn**	**05 36 06.5**	**-1.5**
KHC				*e*SG	**Sb**	**05 36 16.1**	**+2.2**
comp=Z,14nm,0.3s							
MOX	**Moxa**	**2.99**	**253**	*e*Pn	**Pn**	**05 35 32.3**	**+0.3**
MOX				*e*Sg	**Sg**	**05 36 19.0**	**-0.4**
MANZ	**Manzenberg**	**3.02**	**239**	*e*Pn	**Pn**	**05 35 33.1**	**+0.7**
MANZ				*e*Sg	**Sg**	**05 36 20.4**	**+0.2**
ROTZ	**Rotzenmuhle**	**3.09**	**235**	*e*Pn	**Pn**	**05 35 34.1**	**+0.7**
ROTZ				*e*Sg	**Sg**	**05 36 20.7**	**-2.0**
GEC2	**GERESS Array S**	**3.17**	**210**	*e*Pn	**Pn**	**05 35 35.6**	**+0.9**
GERES	**GERESS Array B**	**3.17**	**210**	Pn	**Pn**	**05 35 34.7**	**+0.1**
comp=Z,1.2nm,0.3s,baz=31,slow=12,SNR=28							
GERES				Pg	**Pb**	**05 35 40.8**	**+0.1**
comp=Z,2.2nm,0.3s,baz=25,slow=17,SNR=27							
GERES				Lg	Lg	05 36 21.2	
comp=Z,5.3nm,0.3s,baz=33,slow=29,SNR=15							
SMOL	**Smolenice**	**3.22**	**164**	*e*SG	**Sg**	**05 36 26.6**	**-0.1**
WET	**Wettzell**	**3.22**	**221**	*e*Pn	**Pn**	**05 35 36.2**	**+0.9**
LANS	**Liptovska Anna**	**3.27**	**138**	*e*PG	**Pg**	**05 35 47.0**	**+0.9**
LANS				*e*SG	**Sg**	**05 36 29.0**	**+0.5**
LANS				*e*LG	Lg	05 36 36.1	
MODS	**Modra-Piesok**	**3.33**	**166**	*e*PG	**Pg**	**05 35 45.9**	**-1.3**
MODS				*e*SG	**Sg**	**05 36 28.3**	**-2.0**
NIE	**Niedzica**	**3.46**	**128**	*e*P	**Pg**	**05 35 49.2**	**-0.5**
NIE				*e*P	**Pg**	**05 35 49.2**	**-0.5**
NIE				*e*S	**Sg**	**05 36 34.5**	**-0.1**
NIE				*e*S	**Sg**	**05 36 34.5**	**-0.1**
BSD	**Bornholm Skovb**	**3.58**	**349**	*i* P	**Pn**	**05 35 40.5**	**+0.5**
BSD				*i* S	**Sn**	**05 36 21.0**	**-2.0**
VYHS	**Vyhne**	**3.58**	**150**	*e*PN	**Pn**	**05 35 39.3**	**-0.9**
VYHS				*e*PG	**Pg**	**05 35 53.1**	**+1.1**
VYHS				*e*SG	**Sg**	**05 36 40.2**	**+1.7**
GRF	**Grafenberg Arr**	**3.66**	**240**	*e*Sg	**Sg**	**05 36 40.7**	**-0.1**
CONA	**Conrad Observa**	**3.69**	**183**	*i* Pn	**Pn**	**05 35 42.0**	**+0.3**
comp=Z,1.1nm,0.2s							
CONA				Sg	**Sb**	**05 36 38.3**	**+3.4**
comp=Z,11nm,0.4s							
MOA	**Molln**	**3.95**	**198**	*i* Pn	**Pn**	**05 35 45.8**	**+0.5**
comp=Z,2.8nm,0.3s							
MOA				Sg	**Sg**	**05 36 49.1**	**-1.2**
comp=Z,6.0nm,0.2s							
KECS	**Kecovo**	**4.22**	**136**	*e*PG	**Pg**	**05 36 05.1**	**+1.0**
KECS				*e*SG	**Sg**	**05 37 05.7**	**+6.9**
LUNU	**Lund**	**4.33**	**340**	P	**Pn**	**05 35 51.0**	**+0.7**
LUNU				S	**Sn**	**05 36 38.5**	**-2.9**
ARSA	**Arzberg**	**4.39**	**185**	*e*Pn	**Pn**	**05 35 52.6**	**+1.4**
comp=Z,1.3nm,0.3s							
ARSA				*e*Sg	**Sg**	**05 37 02.3**	**-1.9**
comp=Z,16nm,0.7s							
KOLS	**Kolonicke sedl**	**4.78**	**122**	*e*SG	**Sg**	**05 37 20.5**	**+3.7**
BJUU	**Bjuv**	**4.83**	**339**	P	**Pn**	**05 35 56.8**	**-0.4**
BJUU				S	**Sn**	**05 36 51.2**	**-2.5**
DEL	**Delary**	**5.04**	**346**	P	**Pn**	**05 36 00.5**	**+0.4**
VXJU	**Vaexsjoe**	**5.36**	**353**	P	**Pn**	**05 36 05.9**	**+1.4**
MOTA	**Moosalm**	**5.38**	**219**	*e*Pn	**Pn**	**05 36 05.4**	**+0.5**
comp=Z,0.6nm,0.2s							
MOTA				Sg	**Sg**	**05 37 36.4**	**+0.4**
comp=Z,1.5nm,0.3s							
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	**05 36 09.7**	**+2.0**
BYXU	**Byxelkrok**	**5.71**	**5**	P	**Pn**	**05 36 11.3**	**+2.0**
VSTU	**Vaestervik**	**6.06**	**2**	P	**Pn**	**05 36 15.9**	**+1.8**
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**05 36 45.4**	**+0.5**
comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=3.6							
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**05 37 25.8**	**+0.3**
comp=Z,0.1nm,0.3s,baz=211,slow=10,SNR=2.9							
FINES				Sn	**Sn**	**05 39 24.9**	**-7.0**
comp=Z,0.2nm,0.3s,baz=224,slow=21,SNR=2.7							
ARCES	**ARCESS Array B**	**18.52**	**10**	Pn	**P**	**05 39 01.2**	**+0.3**
comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=3.4							

*NNC **26** 05:36:12.9±4.7, 40°.05N×77°.36E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=35.0km s-min=30.8km az=125.0*
*KRNET **26** 05:36:14.7±0.1, 39°.96N×77°.12E, mb2.9*
*SOME **26** 05:36:16.7, 39°.98N×77°.00E, h20km*
ISC 26 05:36:15.6±1.8, 40°.07N±0°.08×77°.01E±0°.04, h10km, n52, σ1§73/90, 24C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.56**	**331**	⇑*i*P	**Pg**	**05 36 46.4**	**+0.9**
baz=30							
NRN				⇑*i*S	**Sg**	**05 37 09.0**	**+3.2**
baz=30							
TARG	**Taragay, Kyrgy**	**1.76**	**20**	⇓*i*P	**Pg**	**05 36 48.6**	**-0.8**
baz=16							
TARG				⇓*i*S	**Sg**	**05 37 13.9**	**+1.6**
baz=16							
KDJ	**Kajisay**	**2.06**	**4**	⇓*i*P	**Pb**	**05 36 53.6**	**+0.4**
baz=2.0							
KDJ				⇓*i*S	**Sg**	**05 37 22.2**	**+0.4**
baz=2.0							
KZA	**Kyzart**	**2.41**	**327**	⇑*i*P	**Pb**	**05 36 59.1**	**-0.1**
baz=27							
KZA				⇑*i*S	**Sg**	**05 37 31.5**	**-1.4**
baz=27							
BOOM	**Boomskoye usch**	**2.55**	**342**	⇑*i*P	**Pb**	**05 37 00.9**	**-0.6**
baz=41							
BOOM				⇑*i*S	**Sb**	**05 37 34.2**	**+1.3**
baz=41							
PRZ	**Przheval'sk**	**2.63**	**23**	⇑*i*P	**Pb**	**05 37 01.3**	**-1.6**
baz=21							
PRZ				⇑*i*S	**Sb**	**05 37 34.8**	**-0.5**
baz=21							
ANVS	**Anan'yevo**	**2.75**	**10**	⇑*i*P	**Pb**	**05 37 03.2**	**-1.8**
baz=8.0							
ANVS				⇑*i*S	**Sb**	**05 37 38.5**	**-0.4**
baz=8.0							
UCH	**Uchtor**	**2.86**	**320**	⇑*i*P	**Pb**	**05 37 05.2**	**-1.8**
baz=20							
UCH				⇑*i*S	**Sb**	**05 37 42.2**	**0.0**
baz=20							
TNSS	**Tian-Shan**	**2.96**	**359**	*e*P	**Pb**	**05 37 08.0**	**-0.7**
0.6nm,0.1s							
TNSS				*e*S	**Sg**	**05 37 53.1**	**+2.3**
4.2nm,0.1s							
KBK	**Karagaybulak**	**3.01**	**330**	⇑*i*P	**Pb**	**05 37 07.2**	**-2.2**
baz=29							
KBK				⇑*i*S	**Sb**	**05 37 45.7**	**-0.6**
baz=29							
TKM2	**Tokmak 2**	**3.04**	**340**	⇓Pn	**Pn**	**05 37 06.2**	**+2.3**
1.2nm,0.3s							
TKM2				⇓Lg	Lg	05 37 52.8	
4.2nm,0.6s							
TKM2	**Tokmak 2**	**3.04**	**340**	⇑*i*P	**Pb**	**05 37 07.3**	**-2.6**
baz=39							
TKM2				⇑*i*S	**Sb**	**05 37 46.3**	**-0.8**
baz=39							
KST	**Kastek**	**3.07**	**346**	Pg	**Pn**	**05 37 06.

1.8nm,0.3s
DGS eS Sg 05 38 02.9 +1.3
7.1nm,0.5s
ARSB Arslanbob 3.31 294 ⇑iP Pn 05 37 11.3 +3.8
baz=95
ARSB ⇑eS Sb 05 37 52.0 -2.7
baz=95
UZB Uzynbulak 3.42 26 eP Pb 05 37 14.9 -1.5
1.4nm,0.4s
UZB eS Sg 05 38 04.5 -1.1
2.1nm,0.1s
KURS Kuram 3.52 14 eP Pb 05 37 17.1 -1.0
2.3nm,0.3s
KURS eS Sg 05 38 08.1 -0.6
3.7nm,0.3s
KPKS Kokpek 3.62 20 eP Pb 05 37 18.7 -0.9
2.9nm,0.1s
KPKS eS Sg 05 38 10.9 -0.7
11nm,0.4s
KPKS Kokpek 3.62 20 eP Pg 05 37 23.0 -1.8
2.1nm,0.1s
KPKS eS Sg 05 38 11.0 -0.7
12nm,0.4s
KTBS Karatobe 3.65 356 Pg Pb 05 37 16.7 -3.4
1.7nm,0.6s
KTBS Lg Lg 05 38 12.8
7.5nm,0.5s
KTBS Karatobe 3.65 356 eP Pb 05 37 19.4 -0.8
1.0nm,0.2s
KTBS eS Sg 05 38 12.0 -0.7
12nm,0.5s
KTBS Karatobe 3.65 356 eP Pg 05 37 24.1 -1.3
1.2nm,0.3s
KTBS eS Sg 05 38 12.9 +0.2
13nm,0.6s
PDGK Podgornoye 3.75 29 Pg Pb 05 37 17.6 -4.3
0.7nm,0.5s
PDGK Lg Lg 05 38 14.2
2.6nm,0.6s
PDGK Podgornoye 3.75 29 ⇑Pg Pb 05 37 22.4 +0.5
1.7nm,0.6s
PDGK ⇓Lg Lg 05 38 13.3
3.4nm,0.6s
CHKK Chushkaly 3.78 360 eP Pg 05 37 26.6 -1.4
1.7nm,0.1s
CHKK eS Sg 05 38 16.9 0.0
6.7nm,0.2s
KUU Kurty 3.85 353 Pg Pb 05 37 20.1 -3.5
2.4nm,0.1s
KUU Lg Lg 05 38 18.0
2.8nm,0.3s
KUU Kurty 3.85 353 eP Pb 05 37 23.3 -0.3
1.7nm,0.1s
KUU eS Sg 05 38 19.5 +0.3
2.9nm,0.1s
KUU Kurty 3.85 353 eP Pg 05 37 27.9 -1.4
2.0nm,0.1s
KUU eS Sg 05 38 19.1 -0.1
4.9nm,0.4s
MRKS Merke 3.90 314 Pg Pb 05 37 21.4 -3.1
2.8nm,0.5s
MRKS Lg Lg 05 38 20.1
2.6nm,0.4s
MRKS Merke 3.90 314 eP Pb 05 37 24.1 -0.3
0.8nm,0.1s
MRKS eS Sg 05 38 20.9 0.0
2.6nm,0.4s
MRKS Merke 3.90 314 eP Pg 05 37 28.5 -1.8
0.7nm,0.1s
MRKS eS Sg 05 38 20.1 -0.7
2.7nm,0.4s
ARXS Arharly 4.18 8 Pg Pb 05 37 26.0 -3.2
1.0nm,0.4s
ARXS Lg Lg 05 38 28.3
4.1nm,0.6s
ARXS Arharly 4.18 8 eP Pb 05 37 28.7 -0.6
1.0nm,0.4s
ARXS eS Sg 05 38 28.8 -1.1
3.4nm,0.3s
ARXS Arharly 4.18 8 eP Pg 05 37 33.6 -2.1
0.8nm,0.2s
ARXS eS Sg 05 38 28.9 -0.9
4.1nm,0.4s
DJR Jarkent 4.73 25 Pg Pb 05 37 36.6 -2.0
0.8nm,0.4s
DJR Lg Lg 05 38 46.2
2.4nm,0.5s
DJR Jarkent 4.73 25 eP Pb 05 37 39.1 +0.5
0.8nm,0.1s
DJR eS Sg 05 38 46.5 -1.0
2.3nm,0.2s
KK31 Karatay Array 5.74 304 ⇓Pg Pg 05 38 04.4 -1.0
0.2nm,0.3s
KK31 ⇓Lg Lg 05 39 24.2
0.2nm,0.3s

IDC 26 05:43:54.5±1.6, 6°73S×154°85E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.7/31, mbtmp3.6/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=49.6km s-min=27.7km az=123.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.70**	**310**	Pn	Pn	05 44 54.2	+1.2
	5.1nm,0.3s,baz=217,slow=20,SNR=3.0						
KRVT				Sn	Sn	05 45 35.2	-2.1
	17nm,0.3s,baz=19,slow=18,SNR=3.6						
WRA	**Warramunga Arr**	**23.85**	**235**	P	P	05 49 10.2	+0.5
	0.7nm,0.5s,baz=57,slow=10,SNR=4.8						
WRA				LR	LR	05 58 01.6	
	comp=Z,34nm,21.2s,baz=10.0,slow=36						
ASAR	**Alice Springs**	**26.24**	**228**	P	P	05 49 31.6	-0.1
	0.4nm,0.7s,baz=59,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**83.11**	**319**	P	P	05 56 22.6	+0.2
	0.6nm,0.7s,baz=247,slow=5.8,SNR=2.7						
ILAR	**Eielson Array**	**83.18**	**22**	P	P	05 56 22.2	-0.1
	0.3nm,0.9s,baz=247,slow=5.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**152.82**	**286**	PKPbc	PKPbc	06 03 53.8	-0.9
	1.2nm,0.8s,baz=97,slow=1.2,SNR=7.1						

*NEIC **26** 05:48:18.9±1.1, 40°28N±0°01×124°57W±0°05, h17km±3km*
*ANF **26** 05:48:21.9±1.2, 40°50N×124°20W, h10km, ML2.2/6, Error ellipse: s-maj=10.5km s-min=4.6km az=52.0*
ISC 26 05:48:19.0±1.5, 40°28N±0°03×124°56W±0°06, h18km±4km, n58, σ0°85/68, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.26**	**40**		**Pb**	05 48 25.4	+0.3
KCTM					**Sb**	05 48 29.6	+0.4
KSMM	**Slide Mountain**	**0.31**	**107**		**Pg**	05 48 25.8	+0.1
KMPM	**Mount Pierce**	**0.36**	**67**		**Pg**	05 48 26.6	-0.1
KMPM					**Sg**	05 48 31.2	-0.7
KCRM	**Chalk Rock**	**0.58**	**75**		**Pb**	05 48 31.1	+0.4
KMRM	**Mail Ridge**	**0.65**	**95**		**Pb**	05 48 32.4	+0.5
JCC	**Jacoby Creek,**	**0.67**	**36**	Pg	**Pb**	05 48 32.6	+0.5
KBSM	**Bell Springs**	**0.82**	**116**		**Pg**	05 48 35.4	+0.4
KCSM	**Cold Springs**	**0.84**	**72**		**Pg**	05 48 35.8	+0.4
KHMM	**Horse Mountain**	**0.87**	**46**		**Pg**	05 48 36.0	0.0
KHMM	**Horse Mountain**	**0.87**	**46**	Sg	**Sb**	05 48 47.0	+0.1
KPPM	**Pickett Peak**	**0.92**	**85**		**Pn**	05 48 37.5	+0.3
KIPM	**Iron Peak**	**0.95**	**119**		**Pb**	05 48 37.3	+0.3
KCPM	**Cahto Peak**	**0.95**	**128**		**Pb**	05 48 37.3	+0.2
KCPM				Sg	**Sb**	05 48 49.8	+0.4
KRPM	**Rodgers**	**0.97**	**25**		**Pb**	05 48 37.5	+0.2
KFPM	**Farley Peak**	**1.08**	**126**		**Pb**	05 48 39.0	-0.2
KBNM	**Bluenose Ridge**	**1.11**	**110**		**Pb**	05 48 39.8	0.0
GTC	**Three Chop Rid**	**1.17**	**138**		**Pn**	05 48 40.1	-0.3
KRKM	**Rackout Spring**	**1.28**	**124**		**Pn**	05 48 41.8	-0.2
LBPM	**Beegum Peak**	**1.28**	**88**		**Pn**	05 48 42.3	+0.2
GNAM	**Navarro Ridge**	**1.29**	**146**		**Pn**	05 48 42.1	-0.1
KOMM	**Orleans Mounta**	**1.31**	**40**		**Pn**	05 48 42.1	-0.3
KRMB	**Red Mountain**	**1.34**	**21**		**Pn**	05 48 43.0	0.0
KRMB				Sn	**Sn**	05 48 59.5	-0.8
O02D	**Mt. Diablo Mer**	**1.36**	**94**	P	**Pn**	05 48 43.4	+0.3
	baz=276,SNR=129						
O02D				S	**Sn**	05 48 59.1	-1.6
	baz=276						
O02D	**Mt. Diablo Mer**	**1.36**	**94**		**Pn**	05 48 43.4	+0.3
GHOM	**Hamilton Openi**	**1.46**	**147**		**Pn**	05 48 44.3	-0.2
LGPM	**Granite Peak**	**1.46**	**64**		**Pn**	05 48 44.5	-0.1
GHMM	**Hull Mountain**	**1.48**	**121**		**Pn**	05 48 44.5	-0.3
GVV	**Valley View**	**1.53**	**109**		**Pn**	05 48 45.5	0.0
GASB	**Alder Springs**	**1.55**	**113**		**Pn**	05 48 45.5	-0.2
WDC	**Whiskeytown Da**	**1.57**	**78**		**Pn**	05 48 46.2	+0.3
N02D	**Trinity Center**	**1.57**	**63**	P	**Pn**	05 48 45.8	-0.3
	baz=243,SNR=53						
N02D				S	**Sn**	05 49 03.0	-3.0
	baz=243						
N02D	**Trinity Center**	**1.57**	**63**		**Pn**	05 48 45.9	-0.2
KSXB	**Camp Six Broad**	**1.64**	**18**		**Pn**	05 48 46.9	0.0
GGUM	**Gualala**	**1.64**	**150**		**Pn**	05 48 46.6	-0.3
LBKM	**Bonanza King**	**1.65**	**60**		**Pn**	05 48 47.3	+0.1
GSNM	**Snow Mountain**	**1.70**	**141**		**Pn**	05 48 47.7	-0.1
M02C	**Callahan**	**1.71**	**49**	P	**Pn**	05 48 47.8	-0.1
	baz=228,SNR=80						
M02C				S	**Sn**	05 49 06.6	-2.7
	baz=228						
M02C	**Callahan**	**1.71**	**49**		**Pn**	05 48 48.0	+0.1
GHLM	**Highland Sprin**	**1.71**	**136**		**Pn**	05 48 47.8	-0.2
HOPS	**Hopland Field**	**1.72**	**138**		**Pn**	05 48 47.9	-0.2
HOPS	**Hopland Field**	**1.72**	**138**		**Pn**	05 48 48.1	0.0
GTSM	**Trough Springs**	**1.79**	**122**		**Pn**	05 48 49.0	0.0
GDCM	**Dry Creek**	**1.82**	**146**		**Pn**	05 48 50.6	+1.1
GACM	**Adobe Creek**	**1.92**	**136**		**Pn**	05 48 51.0	+0.1
KBO	**Bosley Butte**	**1.95**	**7**	Pn	**Pb**	05 48 54.5	+0.5
GHCM	**House Creek**	**1.97**	**147**		**Pn**	05 48 51.7	+0.1
LSHM	**Sage Hen Hill**	**1.99**	**74**		**Pn**	05 48 52.7	+1.0
GDXM	**Geysers**	**2.00**	**137**	Pn	**Pb**	05 48 55.6	+0.7
L02E	**Cave Junction**	**2.01**	**21**	P	**Pn**	05 48 52.5	+0.4
	baz=198,SNR=20						
L02E				Sb	**Sn**	05 49 16.8	0.0
	baz=198						
YBH	**Yreka Blue Hor**	**2.02**	**43**		**Pn**	05 48 52.9	+0.7
FTR	**Fort Ross**	**2.06**	**148**		**Pn**	05 48 52.9	+0.1
O03E	**Paynes Creek**	**2.11**	**89**	P	**Pn**	05 48 53.4	0.0
	baz=271,SNR=23						
O03E				Sb	**Sn**	05 49 20.4	+1.1
	baz=271						
ORV	**Oroville**	**2.46**	**106**	Pn	**Pn**	05 49 00.0	+1.8
K02D	**Willamette Mer**	**2.51**	**15**	P	**Pn**	05 48 59.7	+0.7
	baz=193,SNR=6.4						
K02D				S	**Sn**	05 49 27.5	-1.6
	baz=193						
L04D	**Klamath Falls**	**2.58**	**40**	Pb	**Pn**	05 49 01.8	+1.9
	baz=220,SNR=13						
HUMO	**Hull Mountain**	**2.62**	**27**	Pn	**Pn**	05 49 01.6	+1.1
AFDM	**Forest Hills D**	**3.07**	**114**	Pn	**Pn**	05 49 07.7	+1.0
BEKR	**Beckworth**	**3.25**	**96**		**Pn**	05 49 11.6	+2.4

IDC 26 06:15:47.2±8.9, 19°46S×176°97W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/32, mbtmp3.9/3, Error ellipse: s-maj=394.7km s-min=37.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.71**	**256**	P	P	06 24 10.4	0.0
	0.8nm,0.8s,baz=95,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	**45.71**	**261**	P	P	06 24 10.2	-0.3
	3.6nm,0.6s,baz=98,slow=8.5,SNR=6.4						
ILAR	**Eielson Array**	**87.10**	**12**	P	P	06 28 34.4	0.0
	0.2nm,0.6s,baz=226,slow=6.1,SNR=3.1						

*ISCJB **26** 06:15:51.9±0.3, 40°77N±0°01×21°36E±0°02, h3km±2km, Error ellipse: s-maj=3.2km s-min=2.5km az=4.6*
*ATH **26** 06:15:51.4, 40°79N×21°32E, h10km±1km, ML2.6/9, Error ellipse: s-maj=2.3km s-min=0.9km az=327.0*
*SKO **26** 06:15:51.6, 40°75N×21°37E, h10km, M2.3, ML2.6*
*THE **26** 06:15:52.0, 40°76N×21°34E, h5km±1km, ML2.6/7, Error ellipse: s-maj=1.7km s-min=0.9km az=27.0*
*BEO **26** 06:15:53.7±0.2, 40°79N×21°38E, h5km±2km, ML2.5/10*
ISC 26 06:15:52.0±0.8, 40°76N±0°02×21°38E±0°02, h6km±4km, n52, σ0°86/86, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.03**	**350**	ePg	**Pg**	06 15 53.6	+0.2
FNA				eSg	**Sg**	06 15 54.6	+0.4
FNA	**Florina**	**0.03**	**350**	P	**Pg**	06 15 53.5	+0.2
FNA				S	**Sg**	06 15 54.6	+0.4
	35μm,0.2s						
FNA	**Florina**	**0.03**	**350**	⇑iPg	**Pg**	06 15 53.6	+0.2
FNA				iSg	**Sg**	06 15 54.6	+0.4
FNA	**Florina**	**0.03**	**350**	P	**Pg**	06 15 53.6	+0.2
FNA				S	**Sg**	06 15 54.6	+0.4
FNA				AML	AML	06 15 54.7	
	comp=E,79157μm,0.3s						
FNA				AML	AML	06 15 55.0	
	comp=N,61851μm,0.2s						
FNA	**Florina**	**0.03**	**350**	iP	**Pg**	06 15 53.5	+0.2
FNA				S	**Sg**	06 15 54.5	+0.4
NEST	**Nestorio**	**0.43**	**216**	P	**Pg**	06 15 59.7	-0.6
NEST				S	**Sg**	06 16 06.2	+0.3
	comp=N,2μm,0.4s						
NEST	**Nestorio**	**0.43**	**216**	P	**Pg**	06 15 59.8	-0.6
NEST				S	**Sg**	06 16 05.4	-0.5
NEST				AML	AML	06 16 07.6	
	comp=E,4323μm,0.2s						
NEST				AML	AML	06 16 08.2	
	comp=N,2652μm,0.3s						
KZN	**Kozani**	**0.54**	**147**	P	**Pg**	06 16 02.4	0.0
KZN				S	**Sg**	06 16 09.9	+0.4
	comp=N,705nm,0.3s						
KZN	**Kozani**	**0.54**	**147**	P	**Pg**	06 16 02.4	0.0
KZN				S	**Sg**	06 16 10.5	+1.0
KZN				AML	AML	06 16 12.5	
	comp=E,1302μm,0.2s						
KZN				AML	AML	06 16 13.3	
	comp=N,1507μm,0.4s						
PENT	**Pentalofos**	**0.59**	**198**	P	**Pg**	06 16 03.0	-0.4
PENT				S	**Sg**	06 16 11.7	+0.5
	comp=N,692nm,0.4s						
PENT	**Pentalofos**	**0.59**	**198**	P	**Pg**	06 16 03.0	-0.4
PENT				S	**Sg**	06 16 12.4	+1.3
KTI	**Kastanea**	**0.67**	**123**	P	**Pg**	06 16 05.1	+0.2
GRG	**Griva**	**0.80**	**75**	P	**Pg**	06 16 07.5	+0.2
GRG				S	**Sb**	06 16 19.8	+0.4
	comp=N,508nm,0.7s						
GRG	**Griva**	**0.80**	**75**	⇓iPg	**Pg**	06 16 07.6	+0.2
GRG	**Griva**	**0.80**	**75**	P	**Pg**	06 16 07.6	+0.3
GRG				S	**Sb**	06 16 18.8	-0.6
GRG				AML	AML	06 16 26.4	
	comp=E,956μm,0.3s						
GRG				AML	AML	06 16 26.6	
	comp=N,994μm,0.4s						
GRG	**Griva**	**0.80**	**75**	P	**Pg**	06 16 07.5	+0.2
KPRO	**Kipourio**	**0.80**	**181**	P	**Pg**	06 16 06.2	-1.3
KPRO	**Kipourio**	**0.80**	**181**	P	**Pg**	06 16 07.5	0.0
KPRO				S	**Sg**	06 16 19.2	+1.3
KPRO				AML	AML	06 16 23.0	
	comp=E,921μm,0.4s						
KPRO				AML	AML	06 16 24.5	
	comp=N,556μm,0.5s						
MEV	**Metsovon**	**0.98**	**187**	P	**Pg**	06 16 10.4	-0.4
VAY	**Valandovo**	**1.06**	**58**	ePg	**Pb**	06 16 12.5	-0.3
VAY				eSg	**Sn**	06 16 27.7	-0.7
VAY	**Valandovo**	**1.06**	**58**	⇓iPg	**Pb**	06 16 12.4	-0.3
VAY				iSg	**Sn**	06 16 27.8	-0.7
VAY				eLg	Lg	06 16 32.5	
	comp=E,122nm,0.5s						
VAY				eLg	Lg	06 16 32.9	
	comp=N,126nm,0.5s						
LIT	**Litokhoron**	**1.07**	**128**	P	**Pg**	06 16 12.4	-0.2
LIT				S	**Sb**	06 16 28.1	+0.9
	comp=N,295nm,0.4s						
LIT	**Litokhoron**	**1.07**	**128**	iPg	**Pg**	06 16 13.0	+0.4
LIT	**Litokhoron**	**1.07**	**128**	P	**Pg**	06 16 13.0	+0.4
LIT				S	**Sn**	06 16 28.3	-0.5
LIT				AML	AML	06 16 30.8	
	comp=N,576μm,0.3s						
LIT				AML	AML	06 16 31.2	
	comp=E,566μm,0.4s						
PHP	**Peshkopia**	**1.17**	**323**	P	**Pb**	06 16 12.9	-1.7
PHP				S	**Sb**	06 16 29.2	-0.8
SKO	**Skopje**	**1.21**	**2**	ePg	**Pg**	06 16 15.7	+0.5
SKO				eSg	**Sn**	06 16 31.7	-0.6
SKO	**Skopje**	**1.21**	**2**	iPg	**Pg**	06 16 15.8	+0.5
KNT	**Kendrikon**	**1.22**	**70**	P	**Pg**	06 16 15.3	-0.1
KNT	**Kendrikon**	**1.22**	**70**	iPg	**Pg**	06 16 15.3	-0.1
KNT	**Kendrikon**	**1.22**	**70**	P	**Pn**	06 16 15.0	-0.6
KNT				S	**Sn**	06 16 32.6	+0.3
KNT				AML	AML	06 16 37.2	
	comp=N,363μm,0.4s						
KNT				AML	AML	06 16 40.0	
	comp=E,216μm,0.5s						
KNT	**Kendrikon**	**1.22**	**70**	P	**Pg**	06 16 15.3	-0.1
THL	**Klokotos Trika**	**1.29**	**158**	P	**Pn**	06 16 15.4	-1.1
THL	**Klokotos Trika**	**1.29**	**158**	P	**Pn**	06 16 15.4	-1.1
THL				S	**Sg**	06 16 35.6	+2.1
THL				AML	AML	06 16 40.5	
	comp=E,288μm,0.4s						
THL				AML	AML	06 16 43.5	
	comp=N,386μm,0.7s						
TIR	**Tirane**	**1.29**	**298**	ePg	**Pg**	06 16 17.3	+0.6
TIR				eSg	**Sn**	06 16 34.4	+0.3
HORT	**Hortiatis**	**1.32**	**96**	P	**Pn**	06 16 16.7	-0.3
HORT				S	**Sg**	06 16 35.7	+1.3
HORT				AML	AML	06 16 38.2	
	comp=N,235μm,1.1s						
HORT				AML	AML	06 16 39.3	
	comp=E,131μm,0.5s						
HORT	**Hortiatis**	**1.32**	**96**	eP	**Pn**	06 16 16.9	-0.1
HORT				S	**Sg**	06 16 34.9	+0.6
SRN	**Sarande**	**1.37**	**231**	P	**Pb**	06 16 18.0	-0.1
IGT	**Igoumenitsa**	**1.47**	**214**	ePg	**Pg**	06 16 21.0	+0.9
IGT				eSg	**Sg**	06 16 41.7	+2.6
IGT	**Igoumenitsa**	**1.47**	**214**	P	**Pn**	06 16 18.8	-0.2
IGT				S	**Sb**	06 16 39.0	+0.4
AGG	**Agios Georgios**	**1.88**	**157**	P	**Pn**	06 16 25.3	+0.5
AGG				S	**Sn**	06 16 49.6	+0.8
	comp=E,60nm,0.4s						
AGG	**Agios Georgios**	**1.88**	**157**	eP	**Pn**	06 16 24.6	-0.2
BOSS	**Bosilegrad**	**1.92**	**25**	ePn	**Pb**	06 16 26.4	-1.1
BARS	**Barje**	**2.08**	**9**	ePn	**Pb**	06 16 28.7	-1.5
BARS				eSn	**Sb**	06 16 55.0	-1.3
PDG	**Podgorica**	**2.31**	**317**	ePn	**Pb**	06 16 32.4	-1.6
PDG				eSn	**Sb**	06 17 01.4	-1.4
VTS	**Vitosha**	**2.32**	**36**	ePn	**Pb**	06 16 32.1	-2.2
VTS				eSn	**Sn**	06 16 59.9	+0.1
SELS	**Selova**	**2.47**	**356**	ePn	**Pn**	06 16 33.5	+0.7
ZAPS	**Zavoj**	**2.68**	**20**	ePn	**Pn**	06 16 37.1	+1.4
ZAPS				eSn	**Sn**	06 17 09.3	+0.8
SJES	**Sjenica**	**2.71**	**338**	ePn	**Pn**	06 16 37.7	+1.5
SJES				eSn	**Sn**	06 17 10.6	+1.2
BOVS	**Bovan**	**2.88**	**5**	ePn	**Pn**	06 16 39.1	+0.6
IVAS	**Ivanjica**	**2.96**	**342**	ePn	**Pn**	06 16 40.5	+0.9
ZAGS	**Zajecar**	**3.12**	**11**	ePn	**Pn**	06 16 42.3	+0.6
GRUS	**Gruza**	**3.17**	**351**	ePn	**Pn**	06 16 43.9	+1.5
GRUS				eSn	**Sn**	06 17 21.0	+0.5

*ISCJB **26** 06:15:56.4±0.9, 9°79N±0°02×123°98E±0°03, h4km±6km, mb4.1/6, MS3.1/7, Error ellipse: s-maj=4.8km s-min=3.8km az=163.9*
*IDC **26** 06:15:56.0±0.9, 9°53N×123°71E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/38, mbtmp4.0/6, MS3.2/8, Ms1 3.2/8, ms1mx2.8/38, Error ellipse: s-maj=72.3km s-min=18.2km az=72.0*
*NEIC **26** 06:15:57.2±1.9, 9°57N±0°09×124°0E±0°1, h10km±4km, mb4.7/6*
*MAN **26** 06:15:57.2, 9°82N×123°97E, h13km, MS3.8*
ISC 26 06:15:56.6±1.3, 9°79N±0°03×123°97E±0°03, h9km±9km, n39, σ1°57/47, mb4.2/8, MS3.0/7, 3C-5D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.52**	**0**	⇓iP	**Pg**	06 16 06.6	-0.2
LLP				iS	**Sg**	06 16 13.9	+0.3
SNPH	**Sibulan**	**0.85**	**238**	⇓eP	**Pg**	06 16 13.9	+1.0
SNPH				iS	**Sn**	06 16 26.8	-0.6
MSLP	**Maasin**	**0.94**	**69**	eP	**Pg**	06 16 14.9	+0.2
MSLP				eS	**Sn**	06 16 29.0	-0.7
DCPH	**Dipolog City**	**1.35**	**207**	⇑iP	**Pn**	06 16 21.5	-0.1
DCPH				iS	**Sb**	06 16 40.7	+1.3
CGP	**Cagayan de Oro**	**1.51**	**152**	⇑iP	**Pn**	06 16 23.2	-0.7
CGP				iS	**Sn**	06 16 41.8	-1.9
GUIM	**Jordan**	**1.59**	**302**	eP	**Pn**	06 16 24.4	-0.5
GUIM				eS	**Sb**	06 16 46.2	-0.2
BUTP	**Butuan**	**1.83**	**116**	eP	**Pn**	06 16 28.9	+0.6
BUTP				eS	**Sb**	06 16 54.0	+0.8
PAGZ	**Pagadian**	**2.02**	**197**	eP	**Pn**	06 16 30.0	-0.9
PAGZ				eS	**Sb**	06 16 58.3	-0.4
RCP	**Roxas**	**2.13**	**326**	⇓eP	**Pn**	06 16 32.8	+0.4
RCP				eS	**Sb**	06 17 01.5	-0.4
BUKP	**Musuan**	**2.19**	**150**	eP	**Pn**	06 16 34.0	+0.7
BUKP				eS	**Sb**	06 17 04.1	+0.4
JAP	**San Jose, Anti**	**2.20**	**296**	⇓eP	**Pb**	06 16 35.9	-0.7
JAP				eS	**Sb**	06 17 04.4	+0.4
CTBH	**Cotabato--PC H**	**2.57**	**174**	⇓iP	**Pn**	06 16 39.5	+1.1
CTBH				iS	**Sn**	06 17 11.5	+1.7
KCP	**Kidapawan**	**2.98**	**158**	⇑iP	**Pn**	06 16 47.5	+3.3
KCP				iS	**Sb**	06 17 26.6	0.0
DAV	**Davao City (W)**	**3.14**	**149**	LR	LR	06 18 12.4	
	comp=Z,523nm,20.6s,baz=342,slow=44						
DAV	**Davao City (W)**	**3.14**	**149**	Pn	**Pn**	06 16 43.2	-3.1
LUWI	**Luwuk**	**10.83**	**186**	Pn	**Pn**	06 18 28.8	-3.1
SBUM	**Sibu**	**13.76**	**239**	Pn	**Pn**	06 19 11.9	-0.2
TPUB	**Ta-pu**	**13.81**	**347**	Pn	**P**	06 19 18.0	-3.2
NACB	**Ninganchiao**	**14.48**	**351**	Pn	**P**	06 19 26.9	-1.8
YHNB	**Yeheng**	**15.00**	**351**	Pn	**Pn**	06 19 29.5	+0.5
GUMO	**Guam**	**20.81**	**78**	LR	LR	06 27 06.1	
	comp=Z,33nm,19.8s,baz=142,slow=32						
LEM	**Lembang**	**23.19**	**225**	LR	LR	06 30 48.4	
	comp=Z,56nm,18.6s,baz=228,slow=39						
BKNI	**Bangkinang**	**24.67**	**249**	P	**P**	06 21 18.3	+0.1
CMAR	**Chiang Mai Arr**	**25.72**	**292**	LR	LR	06 31 33.7	
	comp=Z,42nm,18.4s,baz=185,slow=37						
KSRS	**Korea Array**	**27.77**	**7**	LR	LR	06 33 17.0	
	comp=Z,16nm,19.2s,baz=55,slow=37						
WRA	**Warramunga Arr**	**31.26**	**161**	P	**P**	06 22 17.2	+0.1
	1.2nm,0.8s,baz=336,slow=9.8,SNR=4.5						
WR0	**Warramunga Arr**	**31.34**	**161**	P	**P**	06 22 15.0	-2.7
WR0				IAmb	IAmb	06 22 43.1	
	comp=Z,27nm,1.9s						
ASAR	**Alice Springs**	**34.64**	**164**	P	**P**	06 22 45.5	-1.1
	comp=Z,0.7nm,0.8s,baz=341,slow=6.6,SNR=9.3						
ASAR				PcP	**PcP**	06 25 19.1	-1.8
	comp=Z,0.3nm,0.7s,baz=347,slow=2.9,SNR=3.3						
USRK	**Ussuriysk Ar.**	**34.98**	**10**	P	**P**	06 22 52.1	+2.9
	comp=Z,4.1nm,0.9s,baz=193,slow=12,SNR=5.1						
MK31	**Makanchi Array**	**51.05**	**324**	P	**P**	06 25 02.4	+3.1
MKAR	**Makanchi Array**	**51.05**	**324**	P	**P**	06 25 00.1	+0.7
	comp=Z,2.2nm,0.8s,baz=122,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**51.05**	**324**	P	**P**	06 25 01.2	+1.8
ZALV	**Zalesovo Beam**	**53.98**	**333**	P	**P**	06 25 23.0	+2.2
	comp=Z,0.4nm,0.3s,baz=114,slow=6.5,SNR=3.4						
ZALV				LR	LR	06 49 25.0	
	comp=Z,28nm,19.6s,baz=70,slow=37						
KURK	**Kurchatov**	**55.19**	**327**	P	**P**	06 25 30.0	+0.3
KURK				IAmb	IAmb	06 25 38.5	
	comp=Z,4.9nm,1.0s						
KKAR	**Karatay Array**	**56.98**	**315**	P	**P**	06 25 42.9	+0.2
NRIK	**Noril'sk**	**63.93**	**346**	P	**P**	06 26 32.2	+2.5
	comp=Z,2.5nm,0.4

MPR	Mayaguez	0.96	83			Pn	06 23 44.3	0.0
MPR					Sn	Sn	06 23 56.2	-1.9
CRPR	Cabo Rojo, PR	0.99	95	⇓	eP	Pn	06 23 44.8	+0.2
CRPR	Cabo Rojo, PR	0.99	95		eS	Sn	06 23 59.7	+1.0
CRPR	Cabo Rojo, PR	0.99	95			Pn	06 23 45.0	+0.3
CRPR						Pn	06 23 45.3	+0.7
CRPR						Sn	06 23 59.0	+0.3
LSP	Las Mesas	1.01	86	⇑	eP	Pn	06 23 45.1	+0.1
LSP	Las Mesas	1.01	86		eS	Sn	06 24 00.2	+0.9
LSP	Las Mesas	1.01	86			Pn	06 23 45.1	+0.1
LSP						Sn	06 24 00.2	+0.9
AGPR	Aguadilla, PR	1.05	69	⇑	eP	Pn	06 23 45.8	+0.4
AGPR	Aguadilla, PR	1.05	69		i P	Pn	06 23 45.9	+0.6
AGPR					eS	Sn	06 24 01.8	+1.8
AGPR					IAML		06 24 04.2	
	comp=Z,196nm,0.0s							
AGPR	Aguadilla, PR	1.05	69			Sn	06 24 01.2	+1.2
AGPR	Aguadilla, PR	1.05	69			Pn	06 23 45.8	+0.4
AGPR	Aguadilla, PR	1.05	69			Sn	06 24 02.5	+2.5
AGPR	Aguadilla, PR	1.05	69			Pn	06 23 46.3	+0.9
MLPR	Magueyes Islan	1.05	97	⇑	eP	Pn	06 23 45.6	+0.2
MLPR	Magueyes Islan	1.05	97		eS	Sn	06 24 01.1	+1.0
MLPR	Magueyes Islan	1.05	97			Sn	06 24 01.1	+1.0
MLPR	Magueyes Islan	1.05	97			Pn	06 23 45.6	+0.2
MLPR	Magueyes Islan	1.05	97			Pn	06 23 46.1	+0.6
GBPR	Guanica, Bosqu	1.21	96	⇓	eP	Pn	06 23 47.8	+0.4
GBPR	Guanica, Bosqu	1.21	96		eS	Sn	06 24 04.9	+1.3
GBPR	Guanica, Bosqu	1.21	96			Pn	06 23 47.8	+0.4
GBPR						Sn	06 24 04.9	+1.3
AOPR	Arecibo Observ	1.34	79	⇑	eP	Pn	06 23 49.0	-0.1
AOPR	Arecibo Observ	1.34	79		eS	Sn	06 24 07.0	+0.3
AOPR	Arecibo Observ	1.34	79			Pn	06 23 49.0	-0.1
AOPR	Arecibo Observ	1.34	79			Pn	06 23 49.6	+0.5
AOPR						Sn	06 24 06.4	-0.2
AOPR						Sn	06 24 07.1	+0.4
DR12	Loma Pena Alta	1.36	300		Pn	Pn	06 23 47.0	-2.4
DR12					Sn	Sn	06 24 04.0	-3.0
OBIP	Obispado Ponce	1.46	92	⇑	eP	Pn	06 23 50.9	+0.2
OBIP	Obispado Ponce	1.46	92		eS	Sn	06 24 09.8	+0.5
OBIP	Obispado Ponce	1.46	92			Pn	06 23 50.9	+0.2
OBIP	Obispado Ponce	1.46	92			Sn	06 24 09.8	+0.5
OBIP	Obispado Ponce	1.46	92		Sn	Sn	06 24 10.1	+0.7
OBIP	Obispado Ponce	1.46	92			Pn	06 23 51.1	+0.5
CELP	Cerrillos	1.49	91	⇑	eP	Pn	06 23 51.0	0.0
CELP					eS	Sn	06 24 10.5	+0.6
CELP	Cerrillos	1.49	91			Pn	06 23 51.0	0.0
CELP						Sn	06 24 10.5	+0.6
EMPR	Esperanza - Ma	1.58	76	⇑	eP	Pn	06 23 52.3	+0.2
EMPR	Esperanza - Ma	1.58	76		eS	Sn	06 24 12.0	0.0
EMPR	Esperanza - Ma	1.58	76			Sn	06 24 12.0	0.0
EMPR	Esperanza - Ma	1.58	76			Pn	06 23 52.3	+0.2
EMPR	Esperanza - Ma	1.58	76			Pn	06 23 55.0	+2.8
SDD	Santo Domingo	1.72	282		eS	Sn	06 24 14.7	-0.6
SJG	San Juan	1.90	89		Pn	Pn	06 23 55.8	-0.5
SJG						Sn	06 24 18.7	-0.8
IGPR	InterUniversit	1.94	94	⇓	eP	Pn	06 23 56.4	-0.5
IGPR	InterUniversit	1.94	94		eS	Sn	06 24 20.4	-0.2
IGPR	InterUniversit	1.94	94		Pn	Pn	06 23 56.6	-0.3
IGPR						Sn	06 24 18.4	-2.2
GCPR	Guaynabo City	1.97	84		Pn	Pn	06 23 57.2	-0.1
GCPR						Sn	06 24 21.1	-0.2
PDPR	Patillas Dam,	2.02	92	⇑	eP	Pn	06 23 57.7	-0.2
PDPR	Patillas Dam,	2.02	92		eS	Sn	06 24 21.9	-0.6
PDPR	Patillas Dam,	2.02	92			Sn	06 24 21.9	-0.6
PDPR	Patillas Dam,	2.02	92			Pn	06 23 57.7	-0.2
PDPR	Patillas Dam,	2.02	92		Pn	Pn	06 23 55.3	-2.7
PDPR	Patillas Dam,	2.02	92		Sn	Sn	06 24 22.4	0.0
PDPR	Patillas Dam,	2.02	92			Pn	06 23 58.0	0.0
PDPR						Sn	06 24 20.7	-1.8
BANI	BANI	2.12	278		Pn	Pn	06 23 59.5	0.0
CBYP	Canovanas	2.18	85	⇑	eP	Pn	06 24 00.0	-0.2
CBYP	Canovanas	2.18	85		eS	Sn	06 24 26.1	-0.4
CBYP	Canovanas	2.18	85			Sn	06 24 26.1	-0.4
CBYP	Canovanas	2.18	85			Pn	06 24 00.0	-0.2
CBYP	Canovanas	2.18	85			Pn	06 24 01.0	+0.8
CBYP						Sn	06 24 25.5	-0.9
HUMP	Col San Antoni	2.18	89	⇑	eP	Pn	06 24 00.2	+0.1
HUMP	Col San Antoni	2.18	89		eS	Sn	06 24 26.4	0.0
HUMP	Col San Antoni	2.18	89			Sn	06 24 26.4	0.0
HUMP	Col San Antoni	2.18	89			Pn	06 24 00.2	+0.1
HUMP						Pn	06 24 01.4	+1.3
HUMP						Sn	06 24 25.8	-0.6
MTP	Monte Pirata	2.46	90		eS	Sn	06 24 33.2	0.0
MTP	Monte Pirata	2.46	90	⇑	eP	Pn	06 24 04.0	+0.1
MTP	Monte Pirata	2.46	90			Sn	06 24 33.2	0.0
MTP	Monte Pirata	2.46	90			Pn	06 24 04.0	+0.1
MTP	Monte Pirata	2.46	90			Pn	06 24 04.6	+0.7
MTP						Sn	06 24 32.5	-0.7
CUPR	Culebra, Puert	2.73	85		eS	Sn	06 24 38.8	-0.7
CUPR	Culebra, Puert	2.73	85	⇓	eP	Pn	06 24 07.1	-0.4
CUPR	Culebra, Puert	2.73	85			Pn	06 24 07.1	-0.4
CUPR	Culebra, Puert	2.73	85			Pn	06 24 07.9	+0.4
CUPR						Sn	06 24 38.0	-1.5
CUPR						Sn	06 24 38.9	-0.6
SC01	Santiago de lo	2.78	299		i P	Pn	06 24 09.8	+1.6
SC01					eS	Sn	06 24 43.5	+2.7
SC01					IAML		06 24 56.2	
	comp=Z,29nm,0.6s							
SC01	Santiago de lo	2.78	299		Pn	Pn	06 24 09.8	+1.6
STVI	Saint Thomas	3.04	85	⇑	eP	Pn	06 24 11.5	-0.2
STVI	Saint Thomas	3.04	85		eS	Sn	06 24 46.2	-0.9
STVI	Saint Thomas	3.04	85			Pn	06 24 11.5	-0.2
STVI	Saint Thomas	3.04	85			Sn	06 24 46.2	-0.9
STVI	Saint Thomas	3.04	85			Sn	06 24 41.8	-5.3
STVI	Saint Thomas	3.04	85		Pn	Pn	06 24 10.5	-1.2
SDDR	Presa de Saban	3.11	287		i P	Pn	06 24 14.5	+1.8
SDDR					eS	Sn	06 24 48.6	-0.2
SDDR					IAML		06 24 57.4	
	comp=Z,22nm,0.4s							
SDDR	Presa de Saban	3.11	287		Pn	Pn	06 24 14.0	+1.3

*ISCJB **26** 06:33:49.9±0.2,23°.63N±0°.01×121°.44E±0°.01,h21km±2km,*
Error ellipse: s-maj=2.4km s-min=1.5km az=31.2
*TAP **26** 06:33:49.8,23°.65N×121°.38E,h20km,ML3.6,C*
*JMA **26** 06:33:49.2±0.1,23°.60N×121°.44E,h20km±3km,M3.2*
ISC 26 06:33:49.9±0.8,23°.64N±0°.01×121°.41E±0°.02,h18km±2km,
n108,σ0s56/179,9C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.03	28	⇓ i P	Pg	06 33 53.4	+0.3
	baz=64						
EGFH				S	Sg	06 33 55.8	+0.5
	baz=64						
HGSD	Ruisui	0.15	175	⇓ P	Pg	06 33 54.8	+0.8
	baz=162						
HGSD				S	Sg	06 33 58.3	+1.4
	baz=162						
EHY	Hungye	0.15	211	P	Pg	06 33 54.2	0.0
	baz=189						
EHY				eS	Sg	06 33 56.9	-0.2
	baz=189						
ESL	Shilin	0.18	7	⇑ i P	Pb	06 33 54.6	+0.4
	baz=27						
ESL				S	Sg	06 33 57.6	-0.1
	baz=27						
YULB	Yu-li	0.27	203	⇓ P	Pb	06 33 55.5	-0.6
	baz=190						
YULB				S	Sb	06 33 59.7	-0.5
	baz=190						
VWDT	VWDT	0.27	295	⇑ P	Pg	06 33 56.0	+0.1
	baz=297						
VWDT				S	Sb	06 33 59.7	-0.7
	baz=297						
TWF1	Yuli	0.30	200	⇓ eP	Pg	06 33 56.1	-0.4
	baz=191						
TWF1				S	Sg	06 34 01.1	+0.1
	baz=191						
ENLB	Shoufeng	0.32	34	eP	Pg	06 33 56.4	-0.3
	baz=34						
OWD	Renai	0.38	326	⇓ P	Pg	06 33 57.7	-0.2
	baz=338						
OWD				eS	Sg	06 34 02.2	-1.1
	baz=338						
HWA	Hwalien	0.38	28	eP	Pg	06 33 58.4	+0.6
	baz=28						
HWA				eS	Sb	06 34 04.7	+1.0
	baz=28						
SSLB	Suanglung	0.44	290	⇓ P	Pg	06 33 58.4	-0.6
	baz=298						
SSLB				S	Sg	06 34 03.6	-1.4
	baz=298						
YUS	Yu-Shan	0.45	251	⇑ i P	Pg	06 33 59.2	0.0
	baz=246						
YUS				S	Sg	06 34 04.7	-0.7
	baz=246						
CHGB	Renai	0.47	333	⇓ P	Pg	06 33 59.5	0.0
	baz=344						
CHGB				S	Sg	06 34 05.3	-0.7
	baz=344						
TWD	Chiawan	0.47	21	P	Pg	06 33 59.0	-0.4
	baz=27						
TWD				S	Sg	06 34 06.4	+0.5
	baz=27						
WHYT	Xinyi Township	0.51	277	P	Pg	06 34 00.1	-0.1
	baz=273						
WHYT				S	Sg	06 34 06.6	-0.6
	baz=273						
WHF	Hehuan Shan	0.52	345	⇓ P	Pg	06 34 00.3	-0.2
	baz=351						
WHF				S	Sg	06 34 07.0	-0.7
	baz=351						
CHKT	Chengkung	0.54	184	eP	Pb	06 34 00.5	-0.3
	baz=166						
CHKT				eS	Sb	06 34 09.3	+1.2
	baz=166						
NACB	Ninganchiao	0.56	18	⇑ P	Pb	06 34 00.1	-1.1
	baz=22						
NACB				eS	Sb	06 34 08.2	-0.6
	baz=22						
ETLH	Xiulin Townshi	0.57	7	⇑ eP	Pb	06 34 00.5	-0.9
	baz=19						
ETLH				eS	Sb	06 34 08.7	-0.5
	baz=19						
TYC	Yuchr	0.57	298	⇓ P	Pb	06 34 00.8	-0.5
	baz=306						
TYC				eS	Sb	06 34 07.6	-1.4
	baz=306						
ELDTW	Lidau	0.57	219	⇑ P	Pb	06 34 00.5	-0.9
	baz=208						
ELDTW				S	Sb	06 34 08.2	-1.1
	baz=208						
DPDB	Guoxing	0.59	312	⇓ P	Pb	06 34 01.5	-0.2
	baz=319						
DPDB				eS	Sb	06 34 08.6	-1.2
	baz=319						
TWT	Tachien	0.65	341	⇓ i P	Pb	06 34 02.8	+0.1
	baz=336						
TWT				S	Sb	06 34 10.6	-0.9
	baz=336						
WJS	Zhushan	0.65	286	eP	Pg	06 34 03.4	+0.7
	baz=287						
WJS				eS	Sg	06 34 12.8	+1.3
	baz=287						
TDCB	Techi	0.65	339	⇓ P	Pb	06 34 02.8	0.0
	baz=336						
TDCB				S	Sb	06 34 10.5	-1.1
	baz=336						
CHN5	Tsauling	0.67	267	P	Pb	06 34 03.4	+0.3
	baz=260						
CHN5				S	Sb	06 34 11.8	-0.3
	baz=260						
WNT	Mingjian	0.71	290	eP	Pg	06 34 04.4	+0.6
	baz=291						
WNT				eS	Sn	06 34 14.9	-0.5
	baz=291						
STYT	Tauyuan	0.76	232	eP	Pb	06 34 04.7	+0.1
	baz=227						
STYT				eS	Sb	06 34 14.3	-0.4
	baz=227						
WHP	Taichung City	0.77	326	eP	Pb	06 34 04.6	-0.1
	baz=334						
WHP				eS	Sb	06 34 14.4	-0.4
	baz=334						
WGK	Gukeng	0.78	274	eP	Pb	06 34 05.2	+0.3
	baz=273						
WGK				S	Sn	06 34 16.7	-0.5
	baz=273						
NNSB	Datong	0.79	358	P	Pb	06 34 04.7	-0.5
	baz=13						
NNSB				S	Sb	06 34 14.8	-0.6
	baz=13						
TPUB	Ta-pu	0.79	245	⇑ P	Pb	06 34 05.4	+0.3
	baz=242						
TPUB				S	Sg	06 34 15.8	-0.1
	baz=242						
NNS	Nan Shan	0.80	358	eP	Pb	06 34 04.9	-0.4
	baz=13						
NNS				eS	Sb	06 34 15.4	-0.4
	baz=13						
WDLH	Douliu	0.80	274	eP	Pg	06 34 05.9	+0.4
	baz=273						
WDLH				S	Sn	06 34 17.4	-0.3
	baz=273						
CHN4	Tsaushan	0.80	249	⇑ i P	Pg	06 34 05.8	+0.2
	baz=246						
CHN4				S	Sg	06 34 16.5	+0.3
	baz=246						
WTP	Ta-pu	0.83	242	⇑ i P	Pb	06 34 06.1	+0.3
	baz=247						
WTP				S	Sg	06 34 17.1	+0.1
	baz=247						
TCU	Taichung	0.84	307	eP	Pg	06 34 06.6	+0.3
	baz=309						
ENA	Nanau	0.84	21	eP	Pb	06 34 05.3	-0.7
	baz=25						
ENA				eS	Sb	06 34 16.9	-0.1
	baz=25						
NANB	Nanao	0.84	22	eP	Pb	06 34 04.7	-1.3
	baz=25						
NANB				eS	Sb	06 34 16.6	-0.4
	baz=25						
CHN2	Minshiung	0.86	263	eP	Pn	06 34 07.4	+0.3
	baz=261						
CHN2				eS	Sn	06 34 19.5	+0.2
	baz=261						
TWG	Pinlang	0.87	201	eP	Pb	06 34 06.2	-0.3
	baz=184						
TWG				eS	Sg	06 34 18.4	0.0
	baz=184						
TWGBT	Beinan	0.87	200	eP	Pb	06 34 06.0	-0.4
	baz=184						
TWGBT				eS	Sg	06 34 18.4	0.0
	baz=184						
WCHH	Zhanghua	0.90	300	eP	Pb	06 34 07.4	+0.5
	baz=301						
WCHH				eS	Sn	06 34 20.1	+0.1
	baz=301						
CHY	Chiayi	0.92	261	eP	Pg	06 34 07.7	0.0
	baz=269						
TWQ1	Liyutan	0.92	321	eP	Pn	06 34 08.1	+0.2
	baz=332						
TWQ1				eS	Sg	06 34 20.1	+0.3
	baz=332						
TWK	Hsinying	0.92	247	P	Pg	06 34 07.8	0.0
	baz=243						
TWK				eS	Sg	06 34 20.5	+0.4
	baz=243						
CHN1	Nanshi	0.93	241	eP	Pn	06 34 08.0	0.0
	baz=237						
CHN1				eS	Sn	06 34 21.0	+0.1
	baz=237						
SNST	Tainan City	0.94	244	eP	Pb	06 34 08.0	+0.4
	baz=239						
SNST				eS	Sn	06 34 21.1	0.0
	baz=239						
SGST	Jiashian	0.94	234	eP	Pb	06 34 07.5	-0.2
	baz=229						
SGST				S	Sg	06 34 20.6	+0.1
	baz=229						
SLGT	Liugui	0.95	228	eP	Pb	06 34 08.1	+0.2
	baz=217						
SLGT				eS	Sb	06 34 20.5	+0.4
	baz=217						
NDT	Datong Townshi	0.96	6	eP	Pb	06 34 08.2	+0.1
	baz=17						
NDT				eS	Sb	06 34 20.6	+0.1
	baz=17						
NSY	Sanyi	0.97	323	⇓ P	Pg	06 34 09.7	+0.8
	baz=336						
NSY				S	Sn	06 34 23.2	+1.1
	baz=336						
RLNB	Erlin	0.99	285	eP	Pb	06 34 08.5	-0.1
	baz=284						
WDJ	Dajia District	1.00	315	eP	Pg	06 34 09.6	+0.3
	baz=318						
ENTT	Nioudou	1.01	8	eP	Pb	06 34 08.1	-0.7
	baz=21						
ENTT				eS	Sb	06 34 21.8	+0.1
	baz=21						
YHNB	Yeheng	1.03	358	eP	Pb	06 34 09.1	-0.1
	baz=2.0						
YHNB				eS	Sb	06 34 21.8	-0.6
	baz=2.0						
PTSB	Yuanli	1.03	321	⇓ P	Pg	06 34 10.4	+0.5
	baz=338						
PTSB				eS	Sg	06 34 24.4	+0.9
	baz=338						
WLGB	Puzi	1.03	261	eP	Pb	06 34 08.6	-0.6
	baz=258						
NSK	Sanguang	1.03	357	eP	Pb	06 34 09.1	-0.2
	baz=2.0						
NSK				eS	Sb	06 34 22.7	+0.2
	baz=2.0						
TWC	Suao	1.05	22	eP	Pb	06 34 09.6	+0.2
	baz=18						
TWC				eS	Sn	06 34 24.1	+0.3
	baz=18						
NSTT	Nanjuang	1.06	339	eP	Pb	06 34 09.9	+0.2
	baz=343						
NSTT				eS	Sb	06 34 23.6	+0.5
	baz=343						
NMLH	Miaoli	1.06	328	eP	Pb	06 34 08.9	-0.8
	baz=331						
LIOB	Emei	1.06	340	eP	Pn	06 34 10.5	+0.6
	baz=344						
LIOB				eS	Sn	06 34 24.4	+0.1
	baz=344						
WSF	Szhu	1.09	270	eP	Pn	06 34 10.6	+0.4
	baz=269						
WSF				eS	Sn	06 34 25.1	+0.2
	baz=269						
TWE	Neicheng	1.10	12	eP	Pn	06 34 10.0	-0.4
	baz=31						
ECL	Taimali	1.12	202	eP	Pn	06 34 10.3	-0.3
	baz=189						
ECL				eS	Sb	06 34 24.6	-0.3
	baz=189						
EOS1	EOS1	1.12	36	eP	Pn	06 34 11.0	+0.4
	baz=40						
EOS1				eS	Sg	06 34 27.9	+1.6
	baz=40						
SLBB	Yuanshan	1.13	10	eP	Pn	06 34 10.5	-0.3
	baz=28						
NWLT	Wulai	1.14	4	eP	Pn	06 34 11.1	+0.2
	baz=22						
SSD	Sandimen	1.14	219	P	Pn	06 34 11.0	0.0
	baz=213						
SSD				eS	Sn	06 34 26.2	+0.1
	baz=213						
SBCB	Hsinchu	1.21	341	eP	Pn	06 34 12.2	+0.3
	baz=336						
TWM1	Shoushan	1.22	228	eP	Pg	06 34 13.9	+0.5
	baz=212						
WLTB	Daxi	1.22	353	eP	Pn	06 34 11.4	-0.6
	baz=357						
WLTB				eS	Sg	06 34 29.3	-0.1
	baz=357						
MASBT	Mashibuluo	1.25	215	eP	Pb	06 34 13.0	+0.1
	baz=210						
MASBT				eS	Sn	06 34 29.3	+0.5
	baz=210						
NHDH	Xindian Distri	1.32	5	eP	Pb	06 34 14.6	+0.4
	baz=20						
TATO	Taipei	1.33	3	eP	Pn	06 34 13.7	+0.1
	baz=23						
TWA	Mucha	1.34	7	eP	Pb	06 34 14.8	+0.2
	baz=22						
EAST	Anshuo	1.35	203	eP	Pb	06 34 14.4	-0.3
	baz=185						
TIPB	Shuangxi	1.38	16	eP	Pn	06 34 14.2	-0.1
	baz=23						
SCZT	Fangliau	1.46	210	eP	Pb	06 34 16.4	0.0
	baz=202						
TWS1	Kuangyinshan	1.46	0	eP	Pb	06 34 17.2	+0.7
	baz=31						
TWB1	Santiao Chiao	1.46	21	eP	Pb	06 34 16.6	+0.1
	baz=29						
NWF	Wu-fen Shan	1.47	13	eP	Pn	06 34 16.2	+0.7
	baz=31						
WFSB	Wu-fen Shan	1.47	13	eP	Pn	06 34 16.0	+0.6
	baz=32						
YM10	YM10	1.52	5	eP	Pn	06 34 16.7	+0.5
	baz=34						
YM11	YM11	1.53	6	eP	Pb	06 34 17.9	+0.2
	baz=34						
WDGT	Dungji	1.65	257	eP	Pn	06 34 17.7	-0.2
	baz=253						
YOJ	Yonaguni jima	1.68	60	eP	Pn	06 34 18.8	+0.4
	baz=65						
YOJ	Yonaguni jima	1.68	60	P	Pn	06 34 18.7	+0.4
YOJ				S	Sn	06 34 39.5	+0.1
PHUB	P'eng-hu	1.69	266	eP	Pn	06 34 18.9	+0.4
	baz=245						
PHUB				eS	Sn	06 34 40.0	+0.3
	baz=245						
PNG	Penghu	1.70	268	eP	Pn	06 34 18.9	+0.2
	baz=266						
PNG				eS	Sn	06 34 40.9	+0.9
	baz=266						
VCHM	Qimei	1.87	257	P	Pn	06 34 20.9	-0.1
	baz=252						
HATJ	Hateruma jima	2.23	79	P	Pn	06 34 25.8	-0.1
HATJ				S	Sn	06 34 53.0	-0.1
IRIF	Iriomote-Funau	2.23	71	P	Pn	06 34 25.5	-0.4
IRIF				S	Sn	06 34 52.1	-1.0
VWUC	VWUC	2.24	307	eP	Pn	06 34 25.8	-0.2
	baz=308						
PTTC	Pingtan	2.38	321	eP	Pn	06 34 28.1	+0.1
	baz=323						
JKRS	Kuro-shima	2.45	75	P	Pn	06 34 29.7	+0.7
JKRS				eS	Sn	06 34 58.6	+0.1
PTMZ	Houxiangcun	2.51	304	eP	Pn	06 34 30.0	+0.2
	baz=304						
JIJ	Ishigaki jima	2.60	73	P	Pn	06 34 30.9	-0.1
JIJ				eS	Sn	06 35 00.9	-1.3
JISG	Ishigakijimahi	2.81	70	P	Pn	06 34 33.7	-0.2
JISG				S	Sn	06 35 06.0	-1.4
KNM	Kinmen	2.83	286	eP	Pn	06 34 35.8	+1.6
	baz=284						
MATB	Ma-tsu	2.83	332	eP	Pn	06 34 34.2	0.0
	baz=334						
KNMB	Chin-men Tao	2.88	287	eP	Pn	06 34 34.7	-0.2
	baz=285						
JTJ	Tarama	3.17	71	P	Pn	06 34 38.7	-0.1
JTJ				S	Sn	06 35 16.2	0.0
LYJJ	Jianjiangzhen	3.26	333	eP	Pn	06 34 40.5	+0.4
	baz=335						
MHZQ	Yeshan	3.27	319	eP	Pn	06 34 41.0	+0.8
	baz=319						
AXDP	Jialang	3.38	293	eP	Pn	06 34 41.9	+0.1
	baz=290						
ZZJH	Jiuhuzhen	3.55	284	eP	Pn	06 34 44.1	0.0
	baz=283						

IDC 26 06:36:08.8±2.6,25°.54S×69°.86E,h0km,mb3.9/6,
mb1 4.0/6,mb1mx3.8/34,mbtmp3.9/6,MS3.5/5,Ms1 3.5/5,
ms1mx3.0/40,Error ellipse: s-maj=82.8km
s-min=28.1km az=43.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.97	8	T	T	06 58 33.7	
	baz=188,slow=76,SNR=11						
H08S2	Diego Garcia H	17.98	8	T	T	06 58 33.7	
	baz=188,slow=76,SNR=17						
H08S3	Diego Garcia H	17.99	8	T	T	06 58 35.1	
	baz=188,slow=76,SNR=10						
BOSA	Boshof	39.67	255	LR	LR	06 57 08.1	
	comp=Z,118nm,19.5s,baz=83,slow=32						
CMAR	Chiang Mai Arr	52.09	36	P	P	06 45 21.1	+0.3
	0.9nm,0.3s,baz=222,slow=6.6,SNR=6.0						
CMAR				LR	LR	07 03 32.6	
	comp=Z,21nm,21.7s,baz=196,slow=32						
ASAR	Alice Springs	57.74	103	P	P	06 46 01.8	-0.1
	0.8nm,0.7s,baz=253,slow=6.6,SNR=12						
WRA	Warramunga Arr	59.23	99	P	P	06 46 12.4	+0.1
	0.8nm,0.8s,baz=254,slow=7.2,SNR=3.3						
WRA				LR	LR	07 09 02.7	
	comp=

GUMO	Guam	82.69	71	LR	LR	07 24 06.2	
	comp=Z,17nm,19.6s,baz=102,slow=35						
USRK	Ussuriysk Ar.	89.67	39	LR	LR	07 27 27.6	
	comp=Z,46nm,20.4s,baz=218,slow=34						

*ISCJB **26** 07:06:22.2±0.7,25°.4S±0°.1×69°.8E±0°.1,h10km,mb3.8/7, MS3.5/8,Error ellipse: s-maj=16.4km s-min=14.0km az=20.6*
*IDC **26** 07:06:22.5±1.4,25°.54S×69°.88E,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.8/55,mbtmp3.9/7,MS3.5/8,Ms1 3.5/8, ms1mx3.1/37,Error ellipse: s-maj=46.9km s-min=25.5km az=25.0*
*NEIC **26** 07:06:24.4±1.1,25°.3S±0°.1×69°.8E±0°.1,h10km±1km, mb4.6/12*
ISC 26 07:06:24.2±0.8,25°.3S±0°.1×69°.8E±0°.1,h10km,n35, σ0.77/26,mb4.1/12,MS3.6/8,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	13.59	285	Pn	Pn	07 09 36.8	-0.5
H08S1	Diego Carcia H	17.78	9	T	T	07 28 46.4	
	baz=188,slow=76,SNR=34						
H08S2	Diego Garcia H	17.78	9	T	T	07 28 41.6	
	baz=188,slow=76,SNR=64						
H08S3	Diego Garcia H	17.80	9	T	T	07 28 47.8	
	baz=188,slow=76,SNR=47						
DGAR	Diego Garcia	18.00	8	Pn	Pn	07 10 33.4	-1.3
DGAR				IAmb	IAmb	07 10 43.9	
	comp=Z,53nm,1.0s						
MSEY	Mahe Island	24.74	324	P	P	07 11 44.7	-1.4
PALK	Pallekele	34.10	20	LR	LR	07 23 53.3	
	comp=Z,104nm,18.2s,baz=116,slow=31						
BOSA	Boshof	39.69	255	LR	LR	07 27 52.0	
	comp=Z,108nm,18.4s,baz=56,slow=32						
MAW	Mawson	42.49	184	LR	LR	07 28 49.9	
	comp=Z,45nm,19.6s,baz=58,slow=32						
KAPI	Kappang	51.88	76	LR	LR	07 36 39.0	
	comp=Z,19nm,18.8s,baz=114,slow=35						
CM31	Chiang Mai Arr	51.95	36	P	P	07 15 33.7	+0.1
CM31				IAmb	IAmb	07 15 35.4	
	comp=Z,10nm,1.1s						
CMAR	Chiang Mai Arr	51.95	36	P	P	07 15 34.4	+0.8
	comp=Z,2.9nm,0.9s,baz=213,slow=6.5,SNR=12						
CMAR				LR	LR	07 33 33.5	
	comp=Z,29nm,21.4s,baz=200,slow=31						
CMAR	Chiang Mai Arr	51.95	36	P	P	07 15 33.9	+0.3
SHL	Shillong	54.92	24	P	P	07 15 55.6	+0.1
SHL				IAmb	IAmb	07 15 57.9	
	comp=Z,9.2nm,1.1s						
ASAR	Alice Springs	57.82	103	P	P	07 16 15.5	-0.8
	comp=Z,0.6nm,0.8s,baz=252,slow=6.6,SNR=5.8						
ASAR	Alice Springs	57.82	103	P	P	07 16 15.3	-1.0
WRA	Warramunga Arr	59.29	99	P	P	07 16 25.9	-0.7
	comp=Z,1.1nm,0.9s,baz=257,slow=7.1,SNR=3.6						
WRA				LR	LR	07 39 25.2	
	comp=Z,49nm,19.2s,baz=275,slow=34						
WRA	Warramunga Arr	59.29	99	P	P	07 16 25.6	-1.0
KBL	Kabul	59.56	359	P	P	07 16 28.9	+0.7
STKA	Stephens Creek	62.32	114	LR	LR	07 40 00.9	
	comp=Z,37nm,20.6s,baz=19,slow=32						
QSPA	South Pole Qui	64.79	180	P	P	07 17 03.2	+0.2
KKAR	Karatay Array	68.11	1	P	P	07 17 24.6	+0.4
KKAR	Karatay Array	68.11	1	P	P	07 17 25.0	+0.9
KKAR				IAmb	IAmb	07 17 26.3	
	comp=Z,4.2nm,1.3s						
BR131	Keskin Array S	73.00	332	P	P	07 17 54.4	+0.1
BRTR	Keskin Array B	73.00	332	P	P	07 17 55.7	+1.4
	comp=Z,1.1nm,0.9s,baz=124,slow=6.1,SNR=3.8						
BRTR	Keskin Array B	73.00	332	P	P	07 17 54.3	0.0
ABKAR	Abkulak array	74.78	353	P	P	07 18 04.4	+0.1
ABKAR	Abkulak array	74.78	353	P	P	07 18 04.3	0.0
ABKAR				IAmb	IAmb	07 18 13.0	
	comp=Z,6.4nm,1.4s						
KURBB	Kurchatov Arra	76.02	6	P	P	07 18 12.7	+1.4
	comp=Z,0.4nm,0.4s,baz=195,slow=5.9,SNR=3.0						
KURK	Kurchatov	76.12	6	P	P	07 18 12.1	+0.2
KURK				IAmb	IAmb	07 18 15.3	
	comp=Z,3.1nm,0.9s						
TORD	Torodi Ar. Bea	76.58	292	P	P	07 18 16.0	+0.6
	comp=Z,0.6nm,0.9s,baz=103,slow=6.2,SNR=2.8						
TORD	Torodi Ar. Bea	76.58	292	P	P	07 18 15.3	-0.1
DBIC	Dimbokro	79.14	283	LR	LR	07 51 18.6	
	comp=Z,24nm,18.1s,baz=83,slow=34						
ZALV	Zalesovo Beam	80.02	9	P	P	07 18 34.0	+0.5
	comp=Z,0.8nm,0.4s,baz=185,slow=6.7,SNR=2.1						
ZALV	Zalesovo Beam	80.02	9	P	P	07 18 33.4	-0.1

*ISCJB **26** 07:06:52.9±0.7,24°.95N±0°.05×122°.72E±0°.04,h23km±5km, Error ellipse: s-maj=9.3km s-min=4.5km az=30.5*
*JMA **26** 07:06:52.6±0.2,24°.97N×122°.71E,h29km±4km,M2.2*
*TAP **26** 07:06:53.1,24°.92N×122°.71E,h36km±1km,ML3.3,C*
ISC 26 07:06:53.0±1.2,24°.93N±0°.05×122°.69E±0°.04,h31km±11km, n35,σ0.45/42,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.52	154	P	Pb	07 07 03.5	-0.4
JYNG				eS	Sb	07 07 11.7	+0.4
YOJ	Yonaguni jima	0.54	148	P	Pb	07 07 03.9	-0.3
	baz=143						
YOJ				S	Sb	07 07 12.0	+0.1
	baz=143						
YOJ	Yonaguni jima	0.54	148	P	Pb	07 07 03.8	-0.3
YOJ				S	Sb	07 07 11.5	-0.3
EOS1	EOS1	0.64	234	eP	Pn	07 07 05.8	0.0
	baz=235						
EOS1				S	Sn	07 07 15.4	+0.5
	baz=235						
TWB1	Santiao Chiao	0.65	278	eP	Pn	07 07 05.3	-0.7
	baz=278						
TWB1				S	Sb	07 07 14.8	+0.1
	baz=278						
NTC	Toucheng	0.79	265	eP	Pn	07 07 08.0	0.0
	baz=273						
TIPB	Shuangxi	0.79	274	eP	Pn	07 07 07.7	-0.3
	baz=274						
TIPB				eS	Sn	07 07 18.2	-0.6
	baz=274						
TWC	Suao	0.83	248	P	Pb	07 07 09.0	0.0
	baz=256						
TWC				eS	Sn	07 07 19.2	-0.5
	baz=256						
NWF	Wu-fen Shan	0.84	280	eP	Pb	07 07 09.3	+0.2
	baz=281						
WFSB	Wu-fen Shan	0.84	280	eP	Pb	07 07 09.2	0.0
	baz=280						
PCYT	Pengchaiyu	0.90	321	P	Pb	07 07 10.3	+0.2
	baz=309						
TWE	Neicheng	0.95	258	eP	Pb	07 07 10.9	-0.1
	baz=258						
SLBB	Yuanshan	0.98	260	eP	Pb	07 07 10.7	+0.1
	baz=261						
NANB	Nanao	0.99	240	eP	Pn	07 07 11.1	+0.4
	baz=241						
ENA	Nanau	1.00	240	P	Pn	07 07 11.5	+0.6
	baz=241						
YM11	YM11	1.04	284	eP	Pb	07 07 12.8	+0.3
	baz=294						
TWY	Chenhua	1.05	290	eP	Pb	07 07 12.6	0.0
	baz=290						
YM10	YM10	1.05	283	eP	Pb	07 07 12.6	-0.1
	baz=294						
ENTT	Nioudou	1.06	255	eP	Pb	07 07 12.8	0.0
	baz=255						
YM04	YM04	1.07	282	eP	Pb	07 07 12.6	-0.4
	baz=292						
NWLT	Wulai	1.09	263	eP	Pb	07 07 12.9	-0.4
	baz=263						
IRIF	Iriomote-Funau	1.11	122	P	Pn	07 07 12.4	0.0
NDT	Datong Townshi	1.12	254	P	Pb	07 07 14.0	+0.2
	baz=261						
YHNB	Yeheng	1.23	258	eP	Pb	07 07 15.3	-0.3
	baz=259						
NSK	Sanguang	1.24	259	P	Pb	07 07 15.3	-0.5
	baz=259						
NACB	Ninganchiao	1.25	233	eP	Pn	07 07 15.0	+0.6
	baz=234						
NNSB	Datong	1.29	248	eP	Pn	07 07 15.7	+0.7
	baz=240						
NNS	Nan Shan	1.29	248	eP	Pb	07 07 16.7	-0.2
	baz=241						
TWD	Chiawan	1.31	230	eP	Pb	07 07 16.9	-0.1
	baz=231						
ETLH	Xiulin Townshi	1.31	237	eP	Pb	07 07 16.9	-0.3
	baz=246						
JIJ	Ishigaki jima	1.43	113	P	Pn	07 07 17.3	+0.5
WHF	Hehuan Shan	1.52	239	eP	Pb	07 07 20.0	-0.8
	baz=227						
CHGB	Renai	1.63	238	eP	Pb	07 07 21.7	-0.9
	baz=225						
WHP	Taichung City	1.72	248	eP	Pb	07 07 23.5	-0.5
	baz=239						
VWDT	VWDT	1.83	231	eP	Pn	07 07 23.5	+1.1
	baz=221						

IDC 26 07:13:22.8±2.5,54°.13N×86°.40E,h0km,mb1 3.2/2, mb1mx3.0/53,mbtmp3.2/2,ML3.1/2,Error ellipse: s-maj=20.5km s-min=12.3km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.95	260	i		07 19 02.7	
	baz=78,slow=335,SNR=8.7						
ZALV	Zalesovo Beam	0.95	260	Pg	Pg	07 13 40.0	-1.0
	2.0nm,0.3s,baz=79,slow=17,SNR=14						
ZALV				Lg	Lg	07 13 54.4	
	3.2nm,0.3s,baz=78,slow=30,SNR=15						
KURBB	Kurchatov Arra	5.96	237	Pn	Pn	07 14 53.8	+1.6
	0.3nm,0.3s,baz=55,slow=14,SNR=6.7						
MKAR	Makanchi Array	7.79	201	Pn	Pn	07 15 18.1	+0.7
	0.4nm,0.3s,baz=25,slow=14,SNR=15						

*ISCJB **26** 07:13:55.0±0.5,25°.56N±0°.03×99°.21W±0°.05,h10km,Error ellipse: s-maj=7.5km s-min=4.4km az=24.3*
*MEX **26** 07:13:59.5±0.7,25°.64N×99°.28W,h16km±4,64km,MD4.5*
*NEIC **26** 07:13:59.6±1.6,25°.50N±0°.04×99°.23W±0°.09,h37km±10km, ML3.6/10*
ISC 26 07:13:57.3±0.8,25°.59N±0°.05×99°.29W±0°.07,h10km,n32, σ1.29/38,Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	Linares	0.70	193	eP	Pg	07 14 11.6	+0.7
LNIG				eS	Sg	07 14 20.6	+0.4
LNIG	Linares	0.70	193		Pg	07 14 11.6	+0.7
LNIG					Sg	07 14 20.6	+0.4
KVTX	Kingsville	2.32	32	Pn	Pn	07 14 37.3	+1.8
KVTX				IAML		07 15 13.7	
	234nm,0.8s						
833A	Chaparral WMA,	2.73	358		Pn	07 14 41.9	+0.7
833A				IAML		07 15 35.4	
	comp=E,596nm,1.2s						
833A				IAML		07 15 35.8	
	comp=N,618nm,0.8s						
ZAIG	Zacatecas	4.10	228	eP	Pn	07 15 00.9	+0.5
ZAIG	Zacatecas	4.10	228		Pn	07 15 01.4	+1.0
ZAIG				Sn	Sn	07 15 48.0	-0.7
ZAIG				IAML		07 16 12.2	
	comp=E,53nm,0.8s						
ZAIG	Zacatecas	4.10	228		Pn	07 15 00.9	+0.5
JCT	Junction City	4.89	355	eP	Pn	07 15 14.7	+3.6
JCT	Junction City	4.89	355		Pn	07 15 13.7	+2.6
JCT				Sn	Sn	07 16 08.6	+0.7
HKT	Hockley	5.32	34	Pn	Pn	07 15 18.0	+1.3
HKT				IAML		07 17 29.1	
	comp=E,24nm,4.3s						
HKT				IAML		07 17 44.8	
	comp=E,21nm,4.7s						
435B	Jarrell	5.39	16	Pn	Pn	07 15 17.9	+0.1
435B					Sn	07 16 18.6	-1.4
TXAR	Lajitas Array	5.39	315		Pn	07 15 19.0	+1.1
TX32	Lajitas Array	5.39	315		Pn	07 15 19.6	+1.7
HPIG		5.88	285	eP	Pn	07 15 24.2	-0.5
HPIG				i S	Sn	07 16 30.8	-1.6
HPIG		5.88	285		Pn	07 15 25.7	+0.9
HPIG		5.88	285		Pn	07 15 25.2	+0.4
WHTX	Lake Whitney,	6.58	14	Pn	Pn	07 15 35.9	+1.8
ABTX	Abilene, Hawle	7.02	358		Pn	07 15 41.3	+1.1
MNTX	Cornudas Mount	8.11	320	Pn	Pn	07 15 57.2	+2.1
MSTX	Muleshoe	8.88	341		Pn	07 16 06.0	+0.1
X34A	Smith Ranch, M	9.07	8	Pn	Pn	07 16 09.2	+0.8
WMOK	Wichita Mounta	9.13	3		Pn	07 16 10.1	+0.9
AMTX	Amarillo	9.49	348	Pn	Pn	07 16 15.5	+1.3
121A	Cookes Peak, D	10.15	315	Pn	Pn	07 16 24.3	+1.0
MIAR	Mount Ida	10.20	28	Pn	Pn	07 16 24.1	+0.2
319A	Douglas	10.51	306	Pn	Pn	07 16 29.0	+0.8
W39A	Magazine	10.69	25	Pn	Pn	07 16 30.6	+0.1
WHAR	Wooly Hollow	11.40	30	Pn	Pn	07 16 40.8	+0.6
TEIG	Tepich	11.46	116	Pn	Pn	07 16 40.5	-0.7
HHAR	Hobbs	11.60	22	Pn	Pn	07 16 43.1	0.0
SDCO	Great Sand Dun	13.22	338	Pn	Pn	07 17 05.5	+0.1
Z50A	Ashland	13.92	54	Pn	Pn	07 17 12.5	-2.2

*BJI **26** 07:14:39.0±0.0,1°.20S×127°.30E,h10km,mb4.3/3, mB4.6/1,Ms4.5/1,Ms7 4.3/1*
*ISCJB **26** 07:14:40.6±1.0,1°.16S±0°.03×127°.30E±0°.03,h32km±7km, mb4.4/16,MS3.3/1,Error ellipse: s-maj=4.9km s-min=4.4km az=24.8*
*DJA **26** 07:14:40.2±0.6,1°.S±2°.×12°.7E±°,h11km±4km,M4.4/13, mb4.8/6,mB5.1/5,MLv4.3/13,Mw(mB)4.4/5*
*NEIC **26** 07:14:42.4±1.3,1°.20S±0°.04×127°.30E±0°.06,h36km±7km, mb4.4/18*
*IDC **26** 07:14:44.3±2.9,1°.22S×127°.32E,h55km±29km,mb4.2/15, mb1 4.2/19,mb1mx3.9/52,mbtmp4.4/19,ML4.2/4,MS3.3/2, Ms1 3.3/2,ms1mx2.6/32,Error ellipse: s-maj=19.3km s-min=14.5km az=59.0*
ISC 26 07:14:42.9±0.6,1°.21S±0°.04×127°.34E±0°.04,h36km±1km, n74,σ1.93/83,mb4.4/22,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.59	16	P	Pn	07 14 50.3	-4.6
SANI	Sanana	1.59	238	P	Pn	07 15 06.8	-1.7
SANI				S	Sn	07 15 27.4	-0.4
TNTI	Ternate	1.97	1	P	Pn	07 15 12.7	-1.0
TNTI				S	Sn	07 15 37.8	+0.6
TNTI	Ternate	1.97	1	Pn	Pn	07 15 12.9	-0.8
TNTI				Sn	Sn	07 15 38.2	+1.0
NLAI	Namlea	2.03	187	P	Pn	07 15 14.8	+0.3
NLAI				S	Sn	07 15 40.0	+1.3
AAI	Ambon	2.60	161	P	Pn	07 15 24.0	+1.6
AAI				S	Sn	07 15 56.1	+3.3
MSAI	Masohi	2.65	143	P	Pn	07 15 25.9	+2.8
SWI	Sorong	3.93	85	P	Pn	07 15 41.5	+0.8
SIJI	Sorong	3.94	85	P	Pn	07 15 41.8	+1.0
	43nm,0.3s,baz=232,slow=9.6,SNR=37						
SIJI				S	Sn	07 16 27.7	+1.9
	4.5nm,0.3s,baz=233,slow=20,SNR=6.4						
LUWI	Luwuk	4.57	272	Pn	Pn	07 15 48.5	-1.0
LUWI				Sn	Sn	07 16 40.6	-0.8
FAKI	Fak Fak	5.19	109	P	Pn	07 15 57.3	-0.7
	110nm,0.7s,5μm0.4nm						
FAKI	Fak Fak	5.19	109		Pn	07 15 57.9	-0.1
FAKI				Sn	Sn	07 16 58.2	+1.5
APSI	Ampana	5.70	273	P	Pn	07 16 04.6	-0.4
MPSI	Mapaga	7.60	282	P	Pn	07 16 31.3	+0.1
TTSI	Tana Toraja	7.74	256	P	Pn	07 16 37.2	+4.2
SPSI	Sidrap Palu	8.04	250	P	Pn	07 16 38.6	+1.4
BKSI	Bulukumba	8.28	240	P	Pn	07 16 44.9	+4.4
KAPI	Kappang	8.47	243	P	Pn	07 16 45.8	+2.8
	1.7nm,0.3s,baz=75,slow=6.4,SNR=4.1						
KAPI				S	Sn	07 18 16.4	-1.1
	0.3nm,0.3s,baz=99,slow=19,SNR=1.5						
KAPI	Kappang	8.47	243		Pn	07 16 42.4	-0.7
SOEI	Soe	9.02	200	Pn	Pn	07 16 50.3	-0.5
BATI	Baumata	9.66	202	LR	LR	07 20 49.6	
	comp=Z,201nm,21.5s,baz=314,slow=38						
FITZ	Fitzroy Crossi	16.87	186	P	P	07 18 37.7	-0.3
	0.2nm,0.3s,baz=0.0,slow=11,SNR=5.7						
KSM	Kuching	17.24	279	Pn	Pn	07 18 39.3	-1.7
WRA	Warramunga Arr	19.84	160	P	P	07 19 08.9	-1.8
	0.9nm,0.3s,baz=341,slow=12,SNR=20						
WRA				S	S	07 22 45.5	-6.8
	0.1nm,0.3s,baz=342,slow=21,SNR=4.1						
WRA	Warramunga Arr	19.84	160	P	P	07 19 08.1	-2.6
WB2	Warramunga Arr	19.84	160	P	P	07 19 09.3	-1.5
AS31	Alice Springs	23.21	165	P	P	07 19 44.9	-2.0
ASAR	Alice Springs	23.21	165	P	P	07 19 45.3	-1.5
	5.4nm,0.7s,baz=345,slow=10,SNR=68						
ASAR				S	S	07 23 52.8	-3.7
	0.7nm,0.8s,baz=340,slow=18,SNR=5.9						
ASAR	Alice Springs	23.21	165	P	P	07 19 44.8	-2.0
KRVT	Keravat (AS076	24.84	98	P	P	07 20 03.9	+1.7
	31nm,0.5s,baz=309,slow=6.5,SNR=5.0						
CTA	Charters Tower	26.34	137	P	P	07 20 15.6	-0.2
	3.9nm,0.8s,baz=328,slow=12,SNR=5.3						
RPSI	Rantau Prapat	28.67	278	P	P	07 20 36.6	0.0
PSI	Prapat	28.69	278	P	P	07 20 36.6	-0.3
	2.2nm,0.3s,baz=78,slow=8.4,SNR=4.8						
STKA	Stephens Creek	33.34	158	P	P	07 21 17.9	+0.3
	3.9nm,0.6s,baz=324,slow=8.7,SNR=15						
STKA	Stephens Creek	33.34	158	P	P	07 21 17.2	-0.4
CAN	Canberra	39.47	152	P	P	07 22 09.4	-0.5
CAN				IAmb	IAmb	07 22 27.1	
	comp=Z,5.5nm,1.0s						
SHL	Shillong	43.40	310	P	P	07 22 41.7	-0.8
SHL				IAmb	IAmb	07 22 48.4	
	comp=Z,5.7nm,0.6s						
USRK	Ussuriysk Ar.	45.40	5	P	P	07 22 56.8	-1.1
	comp=Z,2.1nm,0.5s,baz=178,slow=7.2,SNR=8.6						
USRK	Ussuriysk Ar.	45.40	5	P	P	07 22 56.9	-1.0
LSA	Lhasa	46.24	315	P	P	07 23 05.6	+0.2
TAPN	Taplejung	47.52	310	eP	P	07 23 15.8	+0.5
ODAN	Odare	47.53	309	eP	P	07 23 16.5	+1.3
	comp=Z,12nm,0.4s						
GTA	Gaotai	47.66	331	eP	P	07 23 16.5	+0.6
GTA				pP	pP	07 23 21.5	-4.7
GTA				sP	pwP	07 23 23.5	-2.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RAMN	Ramite	48.19	309	eP	P	07 23 21.0	+0.7
	comp=Z,22nm,0.6s						
JIRN	Jiri	48.85	309	eP	P	07 23 26.2	+0.6
	comp=Z,19nm,0.6s						
GUN	Gumba	49.21	309	eP	P	07 23 28.3	0.0
	comp=Z,26nm,0.7s						
KLR	Kul'dur	50.39	4	P	P	07 23 35.4	-1.1
	comp=Z,1.7nm,0.9s,baz=186,slow=14,SNR=4.7						
KOLN	Koldanda	50.93	308	eP	P	07 23 41.8	+0.6
	comp=Z,24nm,0.8s						
DANN	Dangsing	51.07	309	eP	P	07 23 42.5	+0.2
	comp=Z,20nm,0.6s						
SONM	Songino Array	52.15	342	P	P	07 23 51.0	+1.1
BKZ	Black Stump Fm	58.56	136	P	P	07 24 35.9	-0.3
BKZ				IAmb	IAmb	07 24 41.4	
	comp=Z,2.3nm,0.9s						
PETK	Petropavlovsk-	59.78	21	P	P	07 24 44.2	0.0
	comp=Z,3.4nm,0.8s,baz=224,slow=7.6,SNR=3.1						
NIL	Nilore	61.47	310	P	P	07 24 56.3	+0.1
AFI	Afiamalu	61.48	105	LR	LR	07 49 27.6	
	comp=Z,24nm,20.8s,baz=100,slow=34						
MK31	Makanchi Array	61.96	327	P	P	07 24 58.3	-0.9
MK31				IAmb	IAmb	07 25 01.5	
	comp=Z,3.1nm,0.9s						
MKAR	Makanchi Array	61.96	327	P	P	07 24 58.8	-0.4
	comp=Z,2.3nm,0.4s,baz=114,slow=7.6,SNR=27						
MKAR	Makanchi Array	61.96	327	P	P	07 24 58.3	-0.9
KSH	Kashi	62.00	317	P	P	07 25 03.8	+4.1
KSH				pP	pP	07 25 08.5	-1.1
KSH				PP	PP	07 27 22.3	+5.8
KSH				S	S	07 33 27.5	+5.6
KSH				sS	sS	07 33 35.8	-2.9
KSH				SS	SS	07 37 32.0	+7.0
KSH				LR	LR		
	comp=Z,96nm,9.0s						
KSH				LR	LR		
	comp=Z,100nm,9.6s						
GAR	Garm	65.74	314	P	P	07 25 24.1	-0.3
KURBB	Kurchatov Arra	66.22	328	P	P	07 25 25.9	-1.2
	comp=Z,3.6nm,0.6s,baz=128,slow=5.8,SNR=26						
KURK	Kurchatov	66.23	329	P	P	07 25 26.3	-0.8
KKAR	Karatay Array	67.27	318	P	P	07 25 33.5	-0.5
HRA	Herat	70.34	307	P	P	07 25 52.6	-0.9
HRA				IAmb	IAmb	07 25 54.1	
	comp=Z,3.7nm,0.9s						
BVAR	Borovoye Array	71.78	328	P	P	07 26 01.2	-0.4
	comp=Z,1.3nm,0.6s,baz=114,slow=6.6,SNR=5.2						
TIXI	Tiksi	72.74	1	P	P	07 26 07.0	+0.1
	comp=Z,2.5nm,0.5s,baz=205,slow=6.5,SNR=4.2						
TIXI	Tiksi	72.74	1	P	P	07 26 06.0	-0.8
TIXI				IAmb	IAmb	07 26 07.7	
	comp=Z,2.9nm,0.5s						
NRIK	Noril'sk	75.34	346	P	P	07 26 21.1	-1.1
	comp=Z,1.0nm,0.3s,baz=121,slow=8.4,SNR=6.0						
ABKAR	Abkulak array	76.36	322	P	P	07 26 27.4	-0.9
ABKAR				IAmb	IAmb	07 26 28.0	
	comp=Z,2.2nm,1.1s						
ABKAR	Abkulak array	76.36	322	P	P	07 26 27.1	-1.3
AKTO	Aktyubinsk	77.90	322	P	P	07 26 36.0	-1.0
	comp=Z,1.4nm,0.5s,baz=118,slow=8.1,SNR=5.1						
ARU	Arti	79.42	328	P	P	07 26 44.9	-0.4
	comp=Z,1.9nm,0.2s,baz=83,slow=11,SNR=3.5						
ARU	Arti	79.42	328	P	P	07 26 44.8	-0.4
ARU				IAmb	IAmb	07 26 46.0	
	comp=Z,5.0nm,1.0s						
IMAR	Indian Mountai	86.58	24	P	P	07 27 23.3	+1.1
QSPA	South Pole Qui	88.73	180	P	P	07 27 32.8	+0.3

*ISCJB **26** 07:14:46.9±0.5,24°.98N±0°.03×122°.75E±0°.03,h24km±4km, mb3.8/5,MS3.3/8,Error ellipse: s-maj=5.4km s-min=4.2km az=25.8*
*TAP **26** 07:14:46.1,24°.96N×122°.69E,h7km,ML3.5,D*
*NEIC **26** 07:14:46.7±1.1,24°.94N±0°.05×122°.63E±0°.04,h10km±1km, mb4.3/10*
*IDC **26** 07:14:47.4±1.5,24°.33N×121°.58E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.6/55,mbtmp3.9/6,ML3.6/1,MS3.4/9, Ms1 3.4/9,ms1mx3.0/41,Error ellipse: s-maj=68.0km s-min=24.0km az=64.0*
*JMA **26** 07:14:47.4±0.1,24°.94N×122°.73E,h33km±3km,M2.7*
ISC 26 07:14:45.8±1.4,24°.88N±0°.04×122°.76E±0°.03,h6km±9km, n88,σ0.91/87,mb4.1/10,MS3.4/8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.46	158	P	Pn	07 14 58.0	-0.9
JYNG				S	Sb	07 15 05.7	+2.4
YOJ	Yonaguni jima	0.47	151	eP	Pn	07 14 58.1	-1.0
	baz=150						
YOJ				S	Sb	07 15 06.3	+2.5
	baz=150						
YOJ	Yonaguni jima	0.47	151	P	Pn	07 14 58.3	-0.9
YOJ				S	Sb	07 15 06.1	+2.3
YOJ	Yonaguni jima	0.47	151		Pn	07 14 58.2	-0.9
EOS1	EOS1	0.66	240	P	Pb	07 15 00.3	+0.5
	baz=216						
EOS1				S	Sb	07 15 10.2	+1.0

YM10	YM10	1.12 285	eP		Pg	07 15 06.7	-0.7
	baz=281						
TWY	Chenhua	1.12 291	eP		Pg	07 15 07.4	0.0
	baz=288						
YM04	YM04	1.14 284	eP		Pb	07 15 08.0	-0.1
	baz=281						
NWLT	Wulai	1.15 265	eP		Pg	07 15 06.7	-1.2
	baz=261						
TATO	Taipei	1.16 275			Pg	07 15 07.1	-1.0
NDT	Datong Townshi	1.17 257	eP		Pg	07 15 08.0	-0.3
	baz=252						
NACB	Ninganchiao	1.27 237	eP		Pg	07 15 09.2	-1.0
	baz=233						
NACB	Ninganchiao	1.27 237			Pg	07 15 09.7	-0.6
YHNB	Yeheng	1.27 261	eP		Pg	07 15 10.0	-0.3
	baz=257						
YHNB	Yeheng	1.27 261			Pg	07 15 09.3	-1.0
NSK	Sanguang	1.29 261	eP		Pg	07 15 09.2	-1.3
	baz=257						
JKRS	Kuro-shima	1.30 119	P		Pn	07 15 10.4	-0.2
TWD	Chiawan	1.32 233	eP		Pb	07 15 11.6	+0.5
	baz=230						
NNSB	Datong	1.33 251	eP		Pg	07 15 10.3	-1.0
	baz=247						
NNS	Nan Shan	1.33 251	eP		Pg	07 15 10.3	-1.1
	baz=247						
ETLH	Xiulin Townshi	1.34 240	P		Pn	07 15 11.2	+0.1
	baz=237						
JIJ	Ishigaki jima	1.36 112	P		Pb	07 15 11.3	-0.4
TWT	Tachien	1.57 247	eP		Pn	07 15 15.1	+0.7
	baz=244						
TDCB	Techi	1.59 247	eP		Pn	07 15 14.5	-0.1
	baz=244						
LIOB	Emei	1.60 262	eP		Pn	07 15 14.6	-0.2
	baz=259						
CHGB	Renai	1.66 241	eP		Pb	07 15 16.6	-0.4
	baz=220						
WHP	Taichung City	1.76 250	eP		Pb	07 15 18.4	-0.1
	baz=263						
HGSD	Ruisui	1.84 222	eP		Pn	07 15 18.4	+0.4
	baz=204						
VWDT	VWDT	1.85 233	eP		Pn	07 15 18.2	+0.1
	baz=215						
DPDB	Guoxing	1.87 244	eP		Pn	07 15 19.1	+0.7
	baz=225						
TWQ1	Liyutan	1.88 254	eP		Pn	07 15 19.3	+0.7
	baz=252						
SMLT	Sun Moon Lake	1.96 240	eP		Pn	07 15 20.2	+0.4
	baz=221						
SSLB	Suanglung	1.97 237	eP		Pn	07 15 20.8	+0.9
	baz=219						
SSLB	Suanglung	1.97 237			Pn	07 15 20.2	+0.4
TYC	Yuchr	1.99 241	eP		Pn	07 15 20.9	+1.0
	baz=223						
YULB	Yu-li	1.99 222			Pn	07 15 19.6	-0.4
TWF1	Yuli	2.02 222	eP		Pn	07 15 20.2	-0.3
	baz=217						
TWF1			eS		Sn	07 15 46.2	0.0
	baz=217						
CHN4	Tsaushan	2.50 233	eP		Pb	07 15 29.5	-1.6
	baz=215						
TPUB	Ta-pu	2.50 232			Pn	07 15 27.9	+0.8
WTP	Ta-pu	2.55 231	eP		Pn	07 15 29.7	+2.0
	baz=211						
WTP			eS		Sn	07 16 01.0	+1.9
	baz=211						
TWG	Pinlang	2.57 217			Pn	07 15 28.0	0.0
JOW	Kunigami	5.34 67	Pn		Pn	07 16 08.3	+2.2
KSRS	Korea Array	13.29 18	Pn		P	07 18 10.1	+5.2
	0.3nm,0.3s,baz=197,slow=12,SNR=8.7						
KSRS			LR		LR	07 23 42.1	
	comp=Z,222nm,18.4s,baz=190,slow=38						
USRK	Ussuriysk Ar.	20.69 19	P		P	07 19 26.6	-0.1
KLR	Kul'dur	25.31 14	LR		LR	07 30 60.0	
	comp=Z,96nm,18.9s,baz=188,slow=37						
SIJI	Sorong	26.89 161	LR		LR	07 28 46.6	
	comp=Z,31nm,20.9s,baz=159,slow=31						
TLY	Talaya	30.49 336	LR		LR	07 34 17.9	
	comp=Z,53nm,20.0s,baz=138,slow=38						
PETK	Petropavlovsk-	38.49 34	LR		LR	07 38 56.4	
	comp=Z,52nm,18.6s,baz=241,slow=37						
MK31	Makanchi Array	38.86 315	P		P	07 22 10.6	-1.3
MKAR	Makanchi Array	38.86 315	P		P	07 22 11.9	+0.1
	1.9nm,0.9s,baz=102,slow=9.5,SNR=8.5						
MKAR	Makanchi Array	38.86 315	P		P	07 22 11.7	-0.2
ZAA0	Zalesovo Array	40.46 326	P		P	07 22 23.9	-1.2
ZALV	Zalesovo Beam	40.46 326	P		P	07 22 24.6	-0.4
	0.7nm,0.4s,baz=111,slow=8.3,SNR=4.1						
ZALV			LR		LR	07 39 48.8	
	comp=Z,32nm,18.1s,baz=124,slow=37						
ZALV	Zalesovo Beam	40.46 326	P		P	07 22 24.4	-0.6
PMG	Port Moresby	41.56 142	P		P	07 22 35.4	+0.8
PMG			IAmb		IAmb	07 22 38.0	
	comp=Z,14nm,1.1s						
NRN	Naryn	41.95 305	P		P	07 22 37.0	-0.9
NRN			IAmb		IAmb	07 22 40.9	
	comp=Z,3.9nm,0.9s						
KURK	Kurchatov	42.50 319	P		P	07 22 40.1	-1.7
KURK			IAmb		IAmb	07 22 43.6	
	comp=Z,6.5nm,1.4s						
KURBB	Kurchatov Arra	42.52 319	P		P	07 22 42.1	+0.1
	comp=Z,1.0nm,0.7s,baz=110,slow=8.0,SNR=5.7						
AAK	Ala-Archa	43.24 307	LR		LR	07 42 23.3	
	comp=Z,64nm,19.9s,baz=115,slow=39						
WRA	Warramunga Arr	45.95 165	P		P	07 23 10.4	+0.6
	comp=Z,2.0nm,1.0s,baz=346,slow=8.5,SNR=4.6						
WRA	Warramunga Arr	45.95 165	P		P	07 23 09.4	-0.4
TIXI	Tiksi	46.93 3	P		P	07 23 16.8	-0.1
KBL	Kabul	47.17 295	P		P	07 23 18.2	-1.4
BVAR	Borovoye Array	48.06 320	P		P	07 23 26.3	+0.3
	comp=Z,0.9nm,0.7s,baz=106,slow=9.0,SNR=4.0						
BRVK	Borovoye	48.13 320	P		P	07 23 25.5	-1.0
BRVK			IAmb		IAmb	07 23 27.8	
	comp=Z,2.4nm,1.0s						
NRIK	Noril'sk	49.12 344	LR		LR	07 46 32.3	
	comp=Z,66nm,19.0s,baz=151,slow=39						
ASAR	Alice Springs	49.45 167	P		P	07 23 35.5	-1.4
ABKAR	Akbulak array	53.99 314	P		P	07 24 10.2	-0.4
ABKAR	Akbulak array	53.99 314	P		P	07 24 10.3	-0.4
ABKAR			IAmb		IAmb	07 24 11.9	
	comp=Z,2.9nm,0.9s						
NOA	NORSAR Array B	78.28 332	LR		LR	08 04 49.5	
	comp=Z,26nm,19.8s,baz=65,slow=38						

*ISCJB **26** 07:14:59.3±0.7,50°.05N±0°.04×78°.72E±0°.05,h0km, Error ellipse: s-maj=6.6km s-min=3.9km az=34.7*
*NNC **26** 07:14:59.3±0.8,50°.00N×78°.59E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=12.2km s-min=4.0km az=84.0, Suspected Mining explosion.*
*IDC **26** 07:15:00.7±0.8,50°.06N×78°.81E,h0km,mb1 3.1/3, mb1mx3.0/50,mbtmp3.1/3,ML3.0/3,Error ellipse: s-maj=12.9km s-min=6.3km az=58.0*
*ASRS **26** 07:15:02.4±0.6,50°.N±3°.×7°.9E±°.,h9km±3km,MLh3.5/4, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 26 07:15:00.8±0.8,50°.07N±0°.04×78°.70E±0°.06,h0km,n21, σ1§27/33,9C-1D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.56 349		⇑P	Pg	07 15 11.7	0.0
	25nm,0.3s						
KURBB				⇓S	Sg	07 15 20.6	+1.8
	48nm,0.3s						
KURBB	Kurchatov Arra	0.56 349		Pg	Pg	07 15 11.6	0.0
	4.6nm,0.3s,baz=166,slow=19,SNR=44						
KURBB				Lg	Lg	07 15 20.7	
	5.4nm,0.3s,baz=165,slow=32,SNR=45						
KURK	Kurchatov	0.65 356		⇑P	Pg	07 15 13.0	-0.1
	14nm,0.4s						
KURK				⇑S	Sb	07 15 23.5	-1.0
	48nm,0.6s						
KURK	Kurchatov	0.65 356		P	Pg	07 15 13.1	-0.1
KURK				S	Sg	07 15 21.7	+0.1
UKR	Ust'-Kan	3.98 75		P	Pn	07 16 03.3	+0.3
UKR				S	Sn	07 16 49.3	-1.1
MK31	Makanchi Array	4.06 143		⇑Pn	Pn	07 16 04.0	-0.2
	0.2nm,0.3s,baz=277,slow=6.7,SNR=21						
MK31				⇑Pg	Pb	07 16 13.2	+0.1
	1.1nm,0.3s,baz=324,slow=13,SNR=21						
MK31				⇑Lg	Lg	07 17 05.3	
	11nm,0.6s,baz=332,slow=25,SNR=14						
MKAR	Makanchi Array	4.06 143		Pn	Pn	07 16 03.8	-0.4
	0.6nm,0.3s,baz=328,slow=11,SNR=23						
MKAR				Pg	Pb	07 16 09.9	-3.2
	0.8nm,0.3s,baz=325,slow=17,SNR=14						
MKAR				Lg	Lg	07 17 03.9	
	3.5nm,0.3s,baz=330,slow=28,SNR=13						
MKAR	Makanchi Array	4.06 143		P	Pn	07 16 04.1	-0.1
MKAR				S	Sn	07 16 55.4	+3.0
BSTK	Bystrovka, Nov	5.12 27		S	Sn	07 17 16.7	-1.6
ZALV	Zalesovo Beam	5.42 42		Pn	Pn	07 16 23.8	+1.0
	1.5nm,0.3s,baz=231,slow=14,SNR=7.3						
ZALV				Lg	Lg	07 17 48.8	
	1.4nm,0.3s,baz=221,slow=28,SNR=5.8						
I46RU	ZALESOVO INFRA	5.42 42		i		07 49 30.0	
	baz=223,slow=335,SNR=10						
DGZ	Jazzator, Alta	5.66 90		P	Pn	07 16 27.4	+1.2
DGZ				S	Sn	07 17 32.6	+0.6
CHBI	Chibit, Altay	5.66 84		P	Pn	07 16 27.4	+1.1
CHBI				S	Sn	07 17 32.9	+0.9
ELT	Eltsovka	5.68 53		P	Pn	07 16 26.9	+0.6
ELT				S	Sn	07 17 34.2	+2.1
ARTR	Artybash	5.70 69		S	Sn	07 17 30.8	-1.8
AKAR	Aktash	5.74 84		P	Pn	07 16 28.9	+1.6
AKAR				S	Sn	07 17 34.2	+0.4
ULGR	Ulagan, Altay	5.96 81		P	Pn	07 16 30.9	+0.6
ULGR				S	Sn	07 17 38.9	-0.4
BVAR	Borovoye Array	5.97 303		Pn	Pn	07 16 31.5	+1.2
	0.7nm,0.3s,baz=115,slow=13,SNR=6.1						
BVAR				Sn	Sn	07 17 38.9	-0.4
	0.9nm,0.3s,baz=114,slow=25,SNR=7.2						
BVAR				Lg	Lg	07 18 07.4	
	0.6nm,0.3s,baz=135,slow=31,SNR=3.0						
BRVK	Borovoye	6.04 303		⇑Pn	Pn	07 16 31.3	0.0
	1.9nm,0.8s						
BRVK				⇑Sn	Sn	07 17 39.4	-1.6
	2.5nm,0.6s						
BRVK				⇑Lg	Lg	07 18 11.8	
	2.6nm,0.7s						
BRVK	Borovoye	6.04 303		S	Sn	07 17 40.7	-0.4
AAK	Ala-Archa	7.98 203		Lg	Lg	07 19 11.8	
	0.2nm,0.3s,baz=108,slow=20,SNR=2.8						

*SOME **26** 07:19:59.4,40°.92N×71°.00E,h20km*
*NNC **26** 07:20:01.8±4.2,41°.08N×70°.95E,h0km,mb3.0,mpv2.7, Error ellipse: s-maj=33.9km s-min=14.2km az=19.0*
*KRNET **26** 07:20:04.3±0.1,41°.38N×71°.02E,h22km,mb2.5*
ISC 26 07:20:04.5±1.4,41°.31N±0°.04×71°.01E±0°.03,h2km±11km, n17,σ1§16/30,12C-10D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.86	55	⇑iP	Pg	07 20 20.7	-0.4
	baz=60						
ARK				⇑iS	Sg	07 20 32.0	-0.2
	baz=60						
IUG	luzhnay	1.11	319	P	Pg	07 20 25.0	-0.9
	0.6nm,0.2s						
IUG				S	Sb	07 20 40.5	-1.0
	16nm,0.6s						
IUG	luzhnay	1.11	319	eP	Pg	07 20 24.9	-1.0
	0.8nm,0.2s						
IUG				eS	Sb	07 20 41.0	-0.5
	22nm,0.5s						
BTK	Batken	1.26	187	⇑iP	Pg	07 20 28.9	+0.2
	baz=87						
BTK				⇑iS	Sn	07 20 47.8	+1.0
	baz=87						
ARSB	Arslanbob	1.48	89	⇑iP	Pn	07 20 31.0	-1.3
	baz=91						
ARSB				⇑iS	Sb	07 20 51.1	-1.1
	baz=91						
KK31	Karatay Array	1.83	348	⇓Pn	Pb	07 20 38.7	0.0
	3.8nm,0.4s,baz=158,slow=14,SNR=33						
KK31				⇑Sn	Sg	07 21 06.3	+3.0
	16nm,0.6s,baz=153,slow=30,SNR=14						
BRLS	Borolday	1.93	333	Pg	Pn	07 20 37.9	-0.4
	0.4nm,0.2s						
BRLS				Lg	Lg	07 21 03.3	
	15nm,0.4s						
BRLS	Borolday	1.93	333	eP	Pn	07 20 37.9	-0.4
	0.4nm,0.2s						
BRLS				eS	Sb	07 21 04.0	-0.9
	15nm,0.4s						
AML	Almayashu	2.17	67	⇑iP	Pb	07 20 42.5	-2.2
	baz=68						
AML				⇑iS	Sb	07 21 10.8	-1.4
	baz=68						
MRKS	Merke	2.18	48	Pg	Pg	07 20 46.5	+0.1
	4.1nm,0.4s						
MRKS				Lg	Lg	07 21 17.2	
	5.0nm,0.4s						
MRKS	Merke	2.18	48	eP	Pb	07 20 44.8	0.0
	3.0nm,0.4s						
MRKS				eS	Sg	07 21 15.7	+1.1
	5.0nm,0.4s						
EKS2	Erkin-Say	2.46	56	⇓iP	Pn	07 20 46.1	+0.3
	baz=57						
EKS2				⇓iS	Sn	07 21 17.1	+0.6
	baz=57						
UCH	Uchtor	2.77	70	⇓iP	Pn	07 20 50.9	+0.5
	baz=71						
UCH				⇓iS	Sn	07 21 25.6	+1.0
	baz=71						
AAK	Ala-Archa	2.91	62	⇑Pg	Pb	07 20 55.7	-1.6
	2.3nm,0.6s						
AAK				⇓Lg	Lg	07 21 35.8	
	4.8nm,0.8s						
AAK	Ala-Archa	2.91	62	⇓iP	Pn	07 20 52.5	+0.5
	baz=63						
AAK				⇓iS	Sn	07 21 28.4	+0.7
	baz=63						
KZA	Kyzart	3.26	75	⇑eP	Pn	07 20 57.8	+0.7
	baz=76						
KZA				⇑iS	Sn	07 21 37.7	+1.0
	baz=76						
TKM2	Tokmak 2	3.77	63	⇓Pg	Pb	07 21 13.7	+1.8
	2.6nm,0.9s						
TKM2				⇓Lg	Lg	07 22 01.8	
	2.2nm,0.7s						

*NEIC **26** 07:21:44.2±1.3,24°.88N±0°.05×122°.44E±0°.03,h10km±1km, mb4.1/9*
*IDC **26** 07:21:45.4±1.5,24°.33N×121°.59E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.5/44,mbtmp3.7/5,ML3.7/1,Error ellipse: s-maj=69.5km s-min=24.7km az=65.0*
*JMA **26** 07:21:45.4±0.4,24°.97N×122°.69E,h15km±5km,M2.7*
*TAP **26** 07:21:49.2,24°.92N×122°.45E,h13km±1km,ML3.3,C*
ISC 26 07:21:46.2±0.7,24°.88N±0°.04×122°.57E±0°.05,h16km,n69, σ1§59/67,mb3.8/8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.52	231	eP	Pb	07 21 58.7	+1.7
	baz=206						
EOS1				eS	Sn	07 22 07.2	-0.3
	baz=206						
TWB1	Santiao Chiao	0.54	283	eP	Pb	07 21 58.4	+1.0
	baz=282						
TWB1				eS	Sb	07 22 04.8	-0.1
	baz=282						
JYNG	Yonagunijimaku	0.55	142	P	Pg	07 21 56.3	-0.8
JYNG				S	Sg	07 22 04.2	-0.2
YOJ	Yonaguni jima	0.58	136	P	Pg	07 21 56.7	-0.9
YOJ	Yonaguni jima	0.58	136	Pg	Pg	07 21 56.4	-1.3
NTC	Toucheng	0.67	268	eP	Pb	07 22 01.2	+1.6
	baz=264						
TIPB	Shuangxi	0.68	278	eP	Pb	07 22 00.3	+0.6
	baz=275						
TIPB				eS	Sb	07 22 09.0	0.0
	baz=275						
TWC	Suao	0.71	248	P	Pg	07 22 01.3	+1.2
	baz=240						
TWC				eS	Sb	07 22 10.3	+0.5
	baz=240						
WFSB	Wu-fen Shan	0.74	285	eP	Pn	07 22 02.4	+0.4
	baz=284						
ILA	Ilan	0.76	261	eP	Pb	07 22 02.6	+1.6
	baz=256						
TWE	Neicheng	0.84	259	eP	Pb	07 22 03.5	+1.2
	baz=244						
SLBB	Yuanshan	0.86	262	eP	Pn	07 22 05.0	+1.3
	baz=248						
PCYT	Pengchaiyu	0.87	329	eP	Pb	07 22 03.3	+0.3
	baz=335						
NANB	Nanao	0.88	239	eP	Pg	07 22 04.8	+1.6
	baz=232						
ENA	Nanau	0.88	239	eP	Pb	07 22 04.5	+1.4
	baz=232						
TWA	Mucha	0.90	276	eP	Pn	07 22 05.2	+1.0
	baz=275						
ENTT	Nioudou	0.95	255	eP	Pg	07 22 05.8	+1.2
	baz=251						
YM01	YM01	0.95	286	eP	Pn	07 22 06.2	+1.3
	baz=286						
YM11	YM11	0.95	287	eP	Pn	07 22 06.1	+1.1
	baz=287						
YM05	YM05	0.95	287	eP	Pn	07 22 06.1	+1.0
	baz=287						
YM10	YM10	0.96	287	eP	Pn	07 22 05.9	+0.9
	baz=287						
TWY	Chenhua	0.96	294	eP	Pn	07 22 05.9	+0.9
	baz=295						
NWLT	Wulai	0.98	264	eP	Pb	07 22 04.5	-0.2
	baz=261						
YM04	YM04	0.98	286	eP	Pn	07 22 06.5	+1.2
	baz=286						
TATO	Taipei	0.99	276	Pg	Pb	07 21 59.6	-5.3
NDT	Datong Townshi	1.00	254	eP	Pg	07 22 06.5	+0.9
	baz=250						
YHNB	Yeheng	1.11	259	eP	Pn	07 22 09.4	+2.3
	baz=266						
YHNB	Yeheng	1.11	259		Pb	07 22 03.2	-3.8
NACB	Ninganchiao	1.14	232	eP	Pb	07 22 09.2	+1.7
	baz=226						
NACB	Ninganchiao	1.14	232		Pb	07 22 04.0	-3.4
NNSB	Datong	1.17	248	eP	Pg	07 22 10.4	+1.5
	baz=232						
NNS	Nan Shan	1.18	248	eP	Pg	07 22 10.1	+1.2
	baz=244						
ETLH	Xiulin Townshi	1.20	236	eP	Pg	07 22 11.0	+1.6
	baz=231						
WHF	Hehuan Shan	1.40	239	eP	Pg	07 22 14.2	+1.0
	baz=234						
TWT	Tachien	1.42	244	eP	Pg	07 22 15.2	+1.6
	baz=231						
TDCB	Techi	1.43	244	eP	Pg	07 22 16.0	+2.2
	baz=231						
LIOB	Emei	1.43	261	eP	Pb	07 22 13.9	+1.3
	baz=258						
CHGB	Renai	1.51	238	eP	Pb	07 22 16.0	+1.9
	baz=234						
JIJ	Ishigaki jima	1.52	110	P	Pn	07 22 10.8	-1.9
DPDB	Guoxing	1.72	241	eP	Pb	07 22 19.2	+1.7
	baz=238						
TWQ1	Liyutan	1.72	252	eP	Pb	07 22 18.8	+1.3
	baz=265						
SMLT	Sun Moon Lake	1.82	237	eP	Pb	07 22 20.9	+1.7
	baz=219						
SSLB	Suanglung	1.83	234	eP	Pb	07 22 20.6	+1.2
	baz=213						
SSLB	Suanglung	1.83	234		Pn	07 22 14.8	-2.3
TYC	Yuchr	1.84	238	eP	Pb	07 22 21.6	+2.1
	baz=235						
YULB	Yu-li	1.89	218	eP	Pn	07 22 19.2	+1.4
	baz=214						
YULB	Yu-li	1.89	218		Pn	07 22 16.6	-1.1
TPUB	Ta-pu	2.37	229		Pn	07 22 23.0	-1.5
TWG	Pinlang	2.47	214	Pn	Pn	07 22 23.8	-2.0
KNMB	Chin-men Tao	3.83	265	Pn	Pn	07 22 41.9	-2.6
JOW	Kunigami	5.49 68		Pn	Pn	07 23 08.6	+1.2
KSRS	Korea Array	13.34 19		Pn	P	07 25 08.1	+3.7
	0.3nm,0.3s,baz=198,slow=12,SNR=3.6						
MKAR	Makanchi Array	38.73 315		P	P	07 29 10.6	+1.0
	0.7nm,0.7s,baz=110,slow=8.4,SNR=3.7						
MKAR	Makanchi Array	38.73 315		P	P	07 29 07.9	-1.7
ZAA0	Zalesovo Array	40.36 326		P	P	07 29 20.4	-2.7
ZAA0				IAmb	IAmb	07 29 28.0	
	comp=Z,1.6nm,0.6s						
ZALV	Zalesovo Beam	40.36 326		P	P	07 29 23.1	0.0
	comp=Z,1.0nm,0.6s,baz=114,slow=9.1,SNR=2.3						
ZALV	Zalesovo Beam	40.36 326		P	P	07 29 21.8	-1.3
TARG	Taragay, Kyrgy	40.52 306		P	P	07 29 22.8	-2.2
KURK	Kurchatov	42.38 319		P	P	07 29 37.1	-2.5
KURBB	Kurchatov Arra	42.40 319		P	P	07 29 40.2	+0.4
	comp=Z,0.9nm,0.9s,baz=110,slow=8.1,SNR=4.2						
GAR	Garm	45.93 301		P	P	07 30 06.3	-2.2
WRA	Warramunga Arr	46.00 165		P	P	07 30 08.4	-0.6
	comp=Z,0.9nm,0.9s,baz=345,slow=8.2,SNR=3.3						
WRA	Warramunga Arr	46.00 165		P	P	07 30 07.0	-2.0
KK31	Karatay Array	46.06 307		P	P	07 30 07.7	-1.6
KKAR	Karatay Array	46.06 307		P	P	07 30 07.9	-1.4
TIXI	Tiksi	46.93 3		P	P	07 30 14.6	-1.1
TIXI				IAmb	IAmb	07 30 16.3	
	comp=Z,2.3nm,0.9s						
BRVK	Borovoye	48.01 320		P	P	07 30 22.6	-1.7
BRVK				IAmb	IAmb	07 30 25.8	
	comp=Z,2.1nm,0.9s						
ABKAR	Akbulak array	53.86 314		P	P	07 31 07.7	-0.8
ABKAR	Akbulak array	53.86 314		P	P	07 31 07.7	-0.8
ABKAR				IAmb	IAmb	07 31 13.6	
	comp=Z,1.8nm,0.9s						

*JMA **26** 07:24:03.1±0.2,24°.94N×122°.70E,h8km,M2.4*
*TAP **26** 07:24:15.7,24°.65N×121°.99E,h14km±2km,ML2.7,C*
ISC 26 07:24:04.9±1.3,24°.7N±0°.1×122°.64E±0°.04,h27km±11km, n25,σ2§57/31,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.37	131	P	Pb	07 24 13.6	+0.5
JYNG				eS	Sn	07 24 20.8	0.0
YOJ	Yonaguni jima	0.41	124	P	Pb	07 24 13.9	+0.2
YOJ				S	Sn	07 24 21.8	0.0
EOS1	EOS1	0.49	253	eS	Sb	07 24 23.8	+2.1
	baz=127						
TWC	Suao	0.72	264	P	Pb	07 24 19.8	+0.9
	baz=250						
NTC	Toucheng	0.75	282	eP	Pn	07 24 21.5	+1.7
	baz=325						
NANB	Nanao	0.85	252	eP	Pn	07 24 22.5	+1.4
	baz=224						
NANB				eS	Sb	07 24 28.0	-4.1
	baz=224						
ENA	Nanau	0.86	252	eP	Pb	07 24 22.9	+1.7
	baz=224						
TWE	Neicheng	0.89	272	P	Pn	07 24 23.2	+1.6
	baz=284						
TWE				eS	Sb	07 24 27.7	-5.4
	baz=284						
SLBB	Yuanshan	0.92	274	P	Pn	07 24 22.5	+0.5
	baz=288						
ENTT	Nioudou	0.98	267	eP	Pn	07 24 23.9	+1.0
	baz=268						
NDT	Datong Townshi	1.03	265	eP	Pn	07 24 24.4	+0.9
	baz=263						
NWLT	Wulai	1.04	275	eP	Pn	07 24 24.7	+1.0
	baz=286						
NACB	Ninganchiao	1.08	242	P	Pb	07 24 28.0	+3.0
	baz=217						
TATO	Taipei	1.08	285	eP	Pb	07 24 28.4	+3.5
	baz=306						
YHNB	Yeheng	1.15	269	eP	Pn	07 24 27.2	+1.8
	baz=272						
ETLH	Xiulin Townshi	1.16	246	eP	Pb	07 24 28.8	+2.5
	baz=226						
NSK	Sanguang	1.17	269	eP	Pn	07 24 27.5	+2.0
	baz=272						
NSK				S	Sn	07 24 36.3	-4.3
	baz=272						
NNSB	Datong	1.17	257	eP	Pb	07 24 27.9	+1.3
	baz=248						
NNS	Nan Shan	1.18	258	P	Pn	07 24 26.2	+0.5
	baz=249						
NNS				eS	Sn	07 24 35.9	-5.1
	baz=249						
JKRS	Kuro-shima	1.33	110	P	Pn	07 24 28.2	+0.5
CHGB	Renai	1.48	245	eP	Pb

*ISCJB **26** 07:48:19.3±0.8, 23°.90S±0°.09×179°.8W±0°.2, h550km, mb3.6/6, Error ellipse: s-maj=20.4km s-min=11.8km az=174.4*

ISC 26 07:48:20.1±0.9, 24°.0S±0°.1×179°.8W±0°.2, h550km, n11, σ2°18/12, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.52**	**162**	P	**P**	**07 49 55.8**	**+1.6**
	36nm,0.3s,baz=61,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**12.79**	**276**	P	**P**	**07 51 08.2**	**+1.2**
	0.1nm,0.3s,baz=104,slow=19,SNR=3.7						
URZ	**Urewera**	**14.48**	**190**	P	P	07 51 21.2	-2.7
	0.4nm,0.3s,baz=13,slow=18,SNR=3.1						
URZ				S	**S**	**07 53 52.9**	**-2.6**
	0.1nm,0.3s,baz=108,slow=20,SNR=2.3						
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**07 55 25.6**	**+0.4**
	2.2nm,0.7s,baz=94,slow=7.4,SNR=26						
ASAR				ScP	**ScP**	**08 00 09.3**	**+4.2**
	0.5nm,0.8s,baz=101,slow=2.9,SNR=3.1						
WRA	**Warramunga Arr**	**42.57**	**266**	P	**P**	**07 55 27.7**	**-0.5**
	3.0nm,0.3s,baz=97,slow=8.3,SNR=158						
MJAR	**Matsushiro Arr**	**72.05**	**326**	P	**P**	**07 58 47.3**	**-1.5**
	1.0nm,0.5s,baz=128,slow=7.9,SNR=3.5						
KSRS	**Korea Array**	**78.41**	**320**	P	**P**	**07 59 25.0**	**+1.0**
	0.7nm,0.4s,baz=117,slow=5.5,SNR=2.7						
PETK	**Petropavlovsk-**	**79.21**	**346**	P	**P**	**07 59 26.9**	**-1.1**
	3.5nm,0.8s,baz=136,slow=4.2,SNR=4.7						
TXAR	**Lajitas Array**	**90.33**	**58**	P	**P**	**08 00 23.9**	**+0.9**
	0.3nm,0.6s,baz=214,slow=6.1,SNR=4.9						
AKASG	**Malin Array Be**	**145.12**	**327**	PKP	**PKPab**	**08 06 54.4**	**-2.4**
	0.8nm,0.3s,baz=41,slow=4.3,SNR=5.3						
BRTR	**Keskin Array B**	**147.76**	**307**	PKPbc	**PKiKP**	**08 07 03.4**	**-1.6**
	1.0nm,0.7s,baz=106,slow=3.1,SNR=4.4						

*JMA **26** 07:51:54.0±0.2, 23°.27N×121°.51E, h0km, M2.9*
*ISCJB **26** 07:51:55.5±0.3, 23°.25N±0°.02×121°.46E±0°.02, h18km±3km, Error ellipse: s-maj=3.4km s-min=2.3km az=23.3*
*TAP **26** 07:51:56.1, 23°.28N×121°.37E, h14km, ML3.1, B*

ISC 26 07:51:55.7±0.9, 23°.25N±0°.02×121°.44E±0°.02, h18km±3km, n90, σ0°71/121, 9C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	**0.16**	**307**	⇓*i*P	**Pb**	**07 51 59.7**	**-0.1**
	baz=310						
TWF1				S	**Sb**	**07 52 02.4**	**-0.1**
	baz=310						
CHKT	**Chengkung**	**0.17**	**203**	⇓*i*P	**Pg**	**07 52 01.1**	**+1.0**
	baz=163						
CHKT				S	**Sg**	**07 52 04.9**	**+1.8**
	baz=163						
YULB	**Yu-li**	**0.19**	**317**	⇓P	**Pb**	**07 52 00.1**	**-0.3**
	baz=323						
YULB				*e*S	**Sb**	**07 52 03.2**	**-0.3**
	baz=323						
HGSD	**Ruisui**	**0.24**	**357**	⇑P	**Pb**	**07 52 01.4**	**0.0**
	baz=24						
EHY	**Hungye**	**0.27**	**337**	⇓*i*P	**Pg**	**07 52 01.7**	**0.0**
	baz=344						
EHY				S	**Sg**	**07 52 05.7**	**-0.2**
	baz=344						
ELDTW	**Lidau**	**0.39**	**261**	⇑*i*P	**Pg**	**07 52 03.3**	**-0.6**
	baz=260						
ELDTW				S	**Sg**	**07 52 07.9**	**-1.4**
	baz=260						
EGFH	**Guangfu**	**0.41**	**359**	*e*P	**Pg**	**07 52 04.6**	**+0.4**
	baz=358						
EGFH				*e*S	**Sb**	**07 52 10.7**	**+0.2**
	baz=358						
YUS	**Yu-Shan**	**0.50**	**298**	⇓P	**Pg**	**07 52 05.6**	**-0.4**
	baz=293						
YUS				S	**Sg**	**07 52 11.8**	**-1.1**
	baz=293						
TWGBT	**Beinan**	**0.54**	**217**	⇑P	**Pb**	**07 52 06.3**	**-0.4**
	baz=203						
TWGBT				S	**Sg**	**07 52 14.0**	**+0.1**
	baz=203						
TWG	**Pinlang**	**0.55**	**218**	⇑P	**Pb**	**07 52 06.3**	**-0.4**
	baz=203						
TWG				S	**Sg**	**07 52 14.1**	**+0.1**
	baz=203						
ESL	**Shilin**	**0.56**	**360**	*e*P	**Pb**	**07 52 06.0**	**-0.9**
	baz=360						
TTN	**Taitung**	**0.56**	**208**	*e*P	**Pg**	**07 52 07.3**	**+0.4**
	baz=199						
VWDT	**VWDT**	**0.57**	**331**	⇓P	**Pb**	**07 52 06.8**	**-0.2**
	baz=339						
VWDT				S	**Sb**	**07 52 14.0**	**-0.8**
	baz=339						
STYT	**Tauyuan**	**0.63**	**262**	P	**Pb**	**07 52 07.8**	**-0.4**
	baz=255						
STYT				S	**Sb**	**07 52 15.5**	**-1.3**
	baz=255						
ENLB	**Shoufeng**	**0.66**	**13**	*e*P	**Pb**	**07 52 09.1**	**+0.3**
	baz=4.0						
SSLB	**Suanglung**	**0.69**	**320**	P	**Pb**	**07 52 08.7**	**-0.5**
	baz=325						
SSLB				S	**Sb**	**07 52 16.6**	**-1.9**
	baz=325						
WHYT	**Xinyi Township**	**0.69**	**310**	*e*P	**Pb**	**07 52 09.1**	**-0.1**
	baz=318						
WHYT				*e*S	**Sb**	**07 52 17.9**	**-0.6**
	baz=318						
TPUB	**Ta-pu**	**0.74**	**274**	⇑P	**Pb**	**07 52 10.2**	**+0.1**
	baz=270						
TPUB				S	**Sb**	**07 52 19.7**	**-0.3**
	baz=270						
WTP	**Ta-pu**	**0.76**	**270**	P	**Pb**	**07 52 10.4**	**+0.1**
	baz=264						
WTP				*e*S	**Sb**	**07 52 20.0**	**-0.3**
	baz=264						
SLGT	**Liugui**	**0.77**	**251**	*e*P	**Pb**	**07 52 10.5**	**-0.1**
	baz=238						
CHN5	**Tsauling**	**0.78**	**296**	*e*P	**Pb**	**07 52 10.5**	**-0.2**
	baz=296						
CHN4	**Tsaushan**	**0.78**	**277**	⇑P	**Pb**	**07 52 11.0**	**+0.2**
	baz=274						
ECL	**Taimali**	**0.79**	**214**	*e*P	**Pb**	**07 52 10.1**	**-0.8**
	baz=207						
SMLT	**Sun Moon Lake**	**0.80**	**322**	⇓P	**Pb**	**07 52 10.8**	**-0.3**
	baz=327						
SMLT				S	**Sb**	**07 52 20.9**	**-0.7**
	baz=327						
SGST	**Jiashian**	**0.80**	**258**	*e*P	**Pb**	**07 52 10.4**	**-0.7**
	baz=254						
TWD	**Chiawan**	**0.83**	**10**	*e*P	**Pb**	**07 52 11.0**	**-0.7**
	baz=8.0						
TWD				*e*S	**Sn**	**07 52 24.7**	**+0.3**
	baz=8.0						
CHGB	**Renai**	**0.84**	**343**	⇑P	**Pb**	**07 52 11.3**	**-0.5**
	baz=351						
CHGB				S	**Sb**	**07 52 22.2**	**-0.7**
	baz=351						
TYC	**Yuchr**	**0.84**	**321**	⇑P	**Pb**	**07 52 11.6**	**-0.1**
	baz=324						
CHN1	**Nanshi**	**0.84**	**266**	P	**Pg**	**07 52 12.4**	**+0.3**
	baz=256						
CHN1				S	**Sg**	**07 52 23.6**	**+0.4**
	baz=256						
WJS	**Zhushan**	**0.86**	**311**	*e*P	**Pg**	**07 52 12.8**	**+0.3**
	baz=320						
WJS				*e*S	**Sn**	**07 52 25.4**	**+0.3**
	baz=320						
SNST	**Tainan City**	**0.86**	**268**	*e*P	**Pb**	**07 52 12.7**	**+0.6**
	baz=264						
TWK	**Hsinying**	**0.87**	**271**	⇑P	**Pb**	**07 52 12.6**	**+0.3**
	baz=266						
TWK				*e*S	**Sg**	**07 52 24.8**	**+0.5**
	baz=266						
SSD	**Sandimen**	**0.90**	**236**	*e*P	**Pb**	**07 52 12.8**	**+0.1**
	baz=222						
WHF	**Hehuan Shan**	**0.90**	**350**	*e*P	**Pb**	**07 52 12.3**	**-0.7**
	baz=359						
WHF				*e*S	**Sb**	**07 52 24.7**	**-0.2**
	baz=359						
DPDB	**Guoxing**	**0.91**	**329**	P	**Pb**	**07 52 12.8**	**-0.1**
	baz=344						
DPDB				S	**Sb**	**07 52 24.4**	**-0.3**
	baz=344						
WGK	**Gukeng**	**0.91**	**298**	*e*P	**Pg**	**07 52 13.6**	**+0.2**
	baz=300						
WGK				*e*S	**Sn**	**07 52 26.9**	**+0.6**
	baz=300						
NACB	**Ninganchiao**	**0.93**	**9**	P	**Pb**	**07 52 12.0**	**-1.2**
	baz=19						
NACB				*e*S	**Sb**	**07 52 24.8**	**-0.5**
	baz=19						
WNT	**Mingjian**	**0.93**	**312**	*e*P	**Pn**	**07 52 14.1**	**+0.3**
	baz=313						
WDLH	**Douliu**	**0.93**	**298**	*e*P	**Pg**	**07 52 14.4**	**+0.6**
	baz=297						
ETLH	**Xiulin Townshi**	**0.95**	**2**	*e*P	**Pb**	**07 52 12.6**	**-1.1**
	baz=23						
CHY	**Chiayi**	**0.96**	**285**	*e*P	**Pb**	**07 52 13.3**	**-0.5**
	baz=283						
MASBT	**Mashibuluo**	**0.98**	**229**	*e*P	**Pb**	**07 52 13.4**	**-0.7**
	baz=214						
EAST	**Anshuo**	**1.02**	**212**	*e*P	**Pb**	**07 52 13.8**	**-1.0**
	baz=206						
TWT	**Tachien**	**1.02**	**347**	P	**Pb**	**07 52 14.8**	**-0.2**
	baz=342						
TWT				*e*S	**Sb**	**07 52 28.6**	**+0.4**
	baz=342						
TDCB	**Techi**	**1.03**	**346**	*e*P	**Pb**	**07 52 13.4**	**-1.6**
	baz=350						
TWM1	**Shoushan**	**1.03**	**246**	*e*P	**Pb**	**07 52 13.8**	**-1.2**
	baz=240						
SSPT	**Xinbi**	**1.11**	**226**	*e*P	**Pn**	**07 52 15.4**	**-0.9**
	baz=214						
WHP	**Taichung City**	**1.11**	**336**	*e*P	**Pb**	**07 52 17.0**	**+0.5**
	baz=353						
WCHH	**Zhanghua**	**1.15**	**316**	*e*P	**Pb**	**07 52 17.4**	**+0.3**
	baz=306						
SCZT	**Fangliau**	**1.16**	**221**	*e*P	**Pn**	**07 52 17.1**	**+0.1**
	baz=208						
NNSB	**Datong**	**1.17**	**358**	*e*P	**Pn**	**07 52 16.6**	**-0.7**
	baz=18						
RLNB	**Erlin**	**1.18**	**303**	*e*P	**Pb**	**07 52 17.7**	**+0.3**
	baz=302						
NNS	**Nan Shan**	**1.18**	**357**	*e*P	**Pn**	**07 52 17.2**	**-0.3**
	baz=18						
NANB	**Nanao**	**1.20**	**14**	*e*P	**Pn**	**07 52 16.3**	**-1.4**
	baz=8.0						
LAY	**Lan-yu**	**1.21**	**175**	*e*P	**Pn**	**07 52 18.0**	**+0.2**
	baz=160						
TWQ1	**Liyutan**	**1.25**	**331**	*e*P	**Pb**	**07 52 19.4**	**+0.7**
	baz=335						
TWQ1				*e*S	**Sg**	**07 52 36.9**	**+0.8**
	baz=335						
WDJ	**Dajia District**	**1.31**	**326**	*e*P	**Pb**	**07 52 20.2**	**+0.4**
	baz=327						
NSY	**Sanyi**	**1.31**	**332**	*e*P	**Pg**	**07 52 20.8**	**-0.2**
	baz=335						
NDT	**Datong Townshi**	**1.34**	**3**	*e*P	**Pn**	**07 52 20.0**	**+0.4**
	baz=22						
PTSB	**Yuanli**	**1.36**	**331**	*e*P	**Pb**	**07 52 21.1**	**+0.4**
	baz=332						
ENTT	**Nioudou**	**1.39**	**5**	*e*P	**Pb**	**07 52 21.0**	**-0.1**
	baz=12						
TWC	**Suao**	**1.40**	**16**	*e*P	**Pb**	**07 52 21.2**	**-0.1**
	baz=9.0						
YHNB	**Yeheng**	**1.41**	**358**	*e*P	**Pn**	**07 52 20.9**	**+0.4**
	baz=19						
NSK	**Sanguang**	**1.42**	**357**	*e*P	**Pn**	**07 52 20.6**	**0.0**
	baz=20						
TWKBT	**Hengchun**	**1.43**	**204**	*e*P	**Pn**	**07 52 20.8**	**+0.1**
	baz=184						
TWKBT				*e*S	**Sb**	**07 52 39.6**	**0.0**
	baz=184						
TWK1	**Hengchun**	**1.43**	**204**	*e*P	**Pn**	**07 52 21.1**	**+0.3**
	baz=189						
EOS1	**EOS1**	**1.44**	**26**	*e*P	**Pb**	**07 52 22.2**	**+0.3**
	baz=46						
LIOB	**Emei**	**1.44**	**345**	*e*P	**Pb**	**07 52 22.2**	**+0.2**
	baz=347						
SLBB	**Yuanshan**	**1.50**	**7**	*e*P	**Pn**	**07 52 21.8**	**0.0**
	baz=13						
NWLT	**Wulai**	**1.52**	**2**	*e*P	**Pn**	**07 52 22.4**	**+0.4**
	baz=22						
WDGT	**Dungji**	**1.63**	**271**	*e*P	**Pn**	**07 52 24.1**	**+0.6**
	baz=268						
PHUB	**P'eng-hu**	**1.73**	**279**	*e*P	**Pn**	**07 52 24.5**	**-0.4**
	baz=277						
TIPB	**Shuangxi**	**1.75**	**12**	*e*P	**Pn**	**07 52 26.0**	**+0.9**
	baz=18						
PNG	**Penghu**	**1.76**	**281**	*e*P	**Pn**	**07 52 25.3**	**+0.1**
	baz=279						
WFSB	**Wu-fen Shan**	**1.84**	**10**	*e*P	**Pn**	**07 52 27.7**	**+1.4**
	baz=15						
YOJ	**Yonaguni jima**	**1.88**	**50**	P	**Pn**	**07 52 24.8**	**-2.1**
YM05	**YM05**	**1.91**	**4**	*e*P	**Pb**	**07 52 30.2**	**+0.2**
	baz=26						
HATJ	**Hateruma jima**	**2.31**	**69**	*e*S	**Sn**	**07 53 00.5**	**-0.4**
IRIF	**Iriomote-Funau**	**2.36**	**62**	*e*S	**Sn**	**07 53 03.1**	**+1.0**
VWUC	**VWUC**	**2.51**	**314**	*e*P	**Pn**	**07 52 36.1**	**+0.6**
	baz=298						
JKRS	**Kuro-shima**	**2.55**	**67**	P	**Pn**	**07 52 37.5**	**+1.3**
JKRS				*e*S	**Sn**	**07 53 07.5**	**+0.7**
JIJ	**Ishigaki jima**	**2.71**	**65**	P	**Pn**	**07 52 39.0**	**+0.6**
JIJ				*e*S	**Sn**	**07 53 09.6**	**-1.2**
PTMZ	**Houxiangcun**	**2.76**	**311**	*e*P	**Pn**	**07 52 39.5**	**+0.4**
	baz=295						
JISG	**Ishigakijimahi**	**2.95**	**63**	P	**Pn**	**07 52 41.8**	**+0.2**
JISG				*e*S	**Sn**	**07 53 15.9**	**-0.6**
KNM	**Kinmen**	**2.98**	**293**	*e*P	**Pn**	**07 52 44.7**	**+2.6**
	baz=291						
KNMB	**Chin-men Tao**	**3.04**	**294**	*e*P	**Pn**	**07 52 43.0**	**+0.1**
	baz=292						
MATB	**Ma-tsu**	**3.19**	**335**	*e*P	**Pn**	**07 52 44.9**	**0.0**
	baz=346						
JTJ	**Tarama**	**3.29**	**65**	*e*S	**Sn**	**07 53 26.0**	**+1.0**
AXDP	**Jialang**	**3.57**	**298**	*e*P	**Pn**	**07 52 50.3**	**+0.2**
	baz=296						
MHZQ	**Yeshan**	**3.58**	**323**	*e*P	**Pn**	**07 52 50.1**	**-0.2**
	baz=321						

*JMA **26** 08:03:54.6±0.2, 25°.01N×122°.74E, h15km, M2.9*
*ISCJB **26** 08:03:55.2±0.6, 25°.00N±0°.06×122°.81E±0°.10, h16km, mb3.9/7, MS3.4/5, Error ellipse: s-maj=13.7km s-min=5.6km az=152.5*
*IDC **26** 08:03:56.5±1.1, 24°.56N×121°.82E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/51, mbtmp3.9/7, MS3.5/9, Ms1 3.5/9, ms1mx3.2/53, Error ellipse: s-maj=45.8km s-min=18.2km az=67.0*

ISC 26 08:03:57.2±0.9, 24°.83N±0°.08×122°.8E±0°.1, h16km, n22, σ1°58/17, mb3.6/7, MS3.3/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**158**	P	**Pg**	**08 04 05.7**	**+0.2**
JYNG				S	**Sn**	**08 04 14.3**	**-1.4**
YOJ	**Yonaguni jima**	**0.43**	**150**	P	**Pb**	**08 04 06.3**	**0.0**
YOJ				*e*S	**Sb**	**08 04 13.8**	**+1.3**
IRIF	**Iriomote-Funau**	**1.00**	**120**	P	**Pb**	**08 04 15.5**	**-0.6**
HATJ	**Hateruma jima**	**1.21**	**129**	P	**Pn**	**08 04 18.8**	**-0.7**
JKRS	**Kuro-shima**	**1.27**	**118**	P	**Pn**	**08 04 19.0**	**-1.2**
JIJ	**Ishigaki jima**	**1.33**	**110**	P	**Pn**	**08 04 20.1**	**-0.9**
JISG	**Ishigakijimahi**	**1.42**	**100**	P	**Pn**	**08 04 20.4**	**-1.8**
TGY	**Tagaytay City**	**10.81**	**190**	LR	LR	08 10 48.0	
	comp=Z,202nm,19.6s,baz=246,slow=39						
KSRS	**Korea Array**	**13.33**	**18**	Pn	**P**	**08 07 18.4**	**+3.2**
	0.2nm,0.3s,baz=193,slow=14,SNR=4.7						
KSRS				LR	LR	08 12 41.8	
	comp=Z,295nm,20.1s,baz=186,slow=38						
MJAR	**Matsushiro Arr**	**17.65**	**45**	LR	LR	08 17 19.3	
	comp=Z,104nm,18.5s,baz=225,slow=44						
DAV	**Davao City (W)**	**17.87**	**171**	LR	LR	08 14 48.2	
	comp=Z,168nm,19.2s,baz=344,slow=37						
USRK	**Ussuriysk Ar.**	**20.73**	**19**	P	Pn	08 08 46.0	+6.6
	3.5nm,1.0s,baz=226,slow=9.6,SNR=3.6						
USRK				LR	LR	08 16 49.3	
	comp=Z,80nm,21.0s,baz=189,slow=36						
SONM	**Songino Array**	**26.37**	**335**	P	**P**	**08 09 31.6**	**-1.1**
	1.4nm,1.0s,baz=167,slow=13,SNR=3.1						
SONM				LR	LR	08 20 51.8	
	comp=Z,180nm,19.6s,baz=144,slow=39						
SIJI	**Sorong**	**26.84**	**161**	LR	LR	08 18 05.2	
	comp=Z,51nm,21.5s,baz=79,slow=32						
PSI	**Prapat**	**31.76**	**230**	LR	LR	08 22 35.7	
	comp=Z,72nm,20.5s,baz=32,slow=36						
MKAR	**Makanchi Array**	**38.90**	**315**	P	**P**	**08 11 21.3**	**-0.7**
	1.2nm,0.8s,baz=97,slow=9.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**40.51**	**326**	P	**P**	**08 11 33.3**	**-1.9**
	0.6nm,0.5s,baz=140,slow=7.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**42.56**	**319**	P	**P**	**08 11 51.2**	**-0.9**
	2.0nm,0.2s,baz=108,slow=7.9,SNR=4.1						
AAK	**Ala-Archa**	**43.28**	**307**	P	**P**	**08 11 56.7**	**-1.6**
	0.9nm,0.5s,baz=174,slow=23,SNR=6.7						
WRA	**Warramunga Arr**	**45.91**	**165**	P	**P**	**08 12 19.3**	**+0.1**
	18nm,0.8s,baz=345,slow=8.7,SNR=5.6						
ASAR	**Alice Springs**	**49.40**	**167**	P	**P**	**08 12 48.7**	**+2.4**
	0.4nm,0.8s,baz=349,slow=8.9,SNR=3.3						
OPO	**Ambohidratompo**	**85.28**	**247**	LR	LR	08 50 33.8	
	comp=Z,43nm,21.2s,baz=341,slow=33						

*BJI **26** 08:11:20.4±0.0, 51°.79N×174°.51W, h13km, mb5.2/68, mB5.3/49, Ms5.0/54, Ms7 4.7/52*
*IDC **26** 08:11:21.8±1.9, 51°.56N×174°.28W, h13km±11km, mb4.8/43, mb1 4.8/45, mb1mx4.7/57, mbtmp4.8/45, ML4.6/2, MS4.4/32, Ms1 4.4/32, ms1mx4.3/50, Error ellipse: s-maj=13.0km s-min=8.5km az=160.0*
*MOS **26** 08:11:21.0±1.0, 51°.56N×174°.36W, h17km, mb5.2/62, MS4.5/12, Error ellipse: s-maj=7.5km s-min=4.7km az=102.0*
*ISCJB **26** 08:11:24.7±0.4, 51°.52N±0°.03×174°.31W±0°.02, h48km±2km, mb5.1/131, MS4.6/52, Error ellipse: s-maj=4.8km s-min=1.9km az=177.1*
*GCMT **26** 08:11:25.4±0.2, 51°.44N±0°.01×174°.38W±0°.02, h16km, MW5.2/105, Moment Tensor Solution. s72,c104; s105,c161; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}4.61±.15; $M_{\theta\theta}$-4.55±.12; $M_{\phi\phi}$-0.05±.10; $M_{r\theta}$4.16±.34; $M_{\theta\phi}$-1.59±.08; $M_{\phi r}$1.93±.31; Best double couple: $M_0$6.66400×10^16 NP1:ϕ_s67.00000°, δ67.00000°, λ85.00000°. NP2:ϕ_s258.00000°, δ24.00000°, λ100.00000°. Principal axes: T 6.4630, Plg68.0000°, Azm329.0000°; N 0.4090, Plg4.0000°, Azm69.0000°; P -6.8660, Plg22.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **26** 08:11:25.4±1.4, 51°.52N±0°.05×174°.43W±0°.07, h42km±4km, ML4.9, mb5.0/336(NEIC)*
*NEIC **26** 08:11:25.9±1.4, 51°.53N±0°.06×174°.43W±0°.07, h43km±5km*

ISC 26 08:11:23.6±0.5, 51°.42N±0°.04×174°.38W±0°.03, h26km±3km, h26km:pP-P, n1080, σ1°11/1027, mb5.1/242, MS4.6/52, 17C-45D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.79**	**8**		**Pn**	**08 11 39.3**	**+0.3**
ATKA					**Sb**	**08 11 49.2**	**+0.2**
KOFP	**Korovin Flat P**	**0.87**	**11**		**Pb**	**08 11 41.1**	**+1.0**
KOKL	**Mount Kliuchef**	**0.91**	**7**		**Pb**	**08 11 41.6**	**+0.8**
KOSE	**Korovin Southe**	**0.95**	**12**		**Pb**	**08 11 42.4**	**+1.0**
GSMY	**Great Sitkin M**	**1.22**	**301**		**Pn**	**08 11 44.9**	**0.0**
GSTR	**Great Sitkin T**	**1.24**	**303**		**Pn**	**08 11 45.7**	**+0.4**
GSTR				Sn	**Sn**	**08 12 01.1**	**-0.2**
GSTD	**Great Sitkin T**	**1.27**	**301**		**Pn**	**08 11 45.8**	**+0.1**
ADAG	**Mount Adagdak**	**1.49**	**293**		**Pn**	**08 11 49.6**	**+0.8**
ADK	**Adak**	**1.51**	**289**	P	**Pn**	**08 11 49.1**	**+0.2**
ADK						08 12 09.3	
ADK	**Adak**	**1.51**	**289**		**Pn**	**08 11 49.1**	**+0.2**
ADK				Sn	**Sb**	**08 12 09.3**	**-0.3**
KIWB	**Kanaga Island**	**1.78**	**285**	Pn	**Pn**	**08 11 53.2**	**+0.5**
KIKV	**Kanaga Island**	**1.80**	**286**		**Pn**	**08 11 53.5**	**+0.5**
KIMD	**Kanaga Island**	**1.81**	**282**		**Pn**	**08 11 53.4**	**+0.2**
KICM	**Kanaga Island**	**1.82**	**287**		**Pn**	**08 11 54.1**	**+0.9**
TAPA	**Tanaga Point A**	**2.18**	**282**		**Pn**	**08 11 59.0**	**+0.9**
TAFP	**Tanaga Falls P**	**2.30**	**283**		**Pn**	**08 12 01.0**	**+1.3**
TASE	**Tanaga Southea**	**2.32**	**282**		**Pn**	**08 12 01.4**	**+1.3**
GAEA	**Gareloi East**	**2.75**	**279**		**Pn**	**08 12 07.8**	**+1.9**
NIKH	**Nikolski High**	**3.74**	**63**		**Pn**	**08 12 20.6**	**+1.1**
NIKH	**Nikolski High**	**3.74**	**63**		**Sn**	**08 13 03.6**	**+1.0**
OKSP	**Okmok Steeple**	**4.16**	**61**		**Pn**	**08 12 27.0**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**4.35**	**61**		**Pn**	**08 12 30.4**	**+2.4**
MREP	**Makushin Rep't**	**5.23**	**60**		**Pn**	**08 12 41.9**	**+1.8**
UNV	**Unalaska Valle**	**5.37**	**60**		**Pn**	**08 12 43.8**	**+1.8**
UNV				Sn	**Sn**	**08 13 43.5**	**+0.5**
AKBBA	**Akutan Broad B**	**5.79**	**59**		**Pn**	**08 12 50.1**	**+2.4**
AKGG	**Akutan Green G**	**5.80**	**58**		**Pn**	**08 12 50.4**	**+2.5**
AKUT	**Akutan**	**5.89**	**59**		**Pn**	**08 12 51.4**	**+2.3**
SPIA	**Saint Paul Isl**	**6.25**	**21**		**Pn**	**08 12 56.1**	**+2.1**
SPIA				Sn	**Sn**	**08 14 03.3**	**-1.3**
SMY	**Shemya**	**7.22**	**285**	P	**Pn**	**08 13 07.8**	**+0.5**
SMY	**Shemya**	**7.22**	**285**		**Pn**	**08 13 07.8**	**+0.5**
FALS	**False Pass**	**7.43**	**58**	Pn	**Pn**	**08 13 12.6**	**+2.3**
SDPT	**Sand Point**	**9.19**	**59**	Pn	**Pn**	**08 13 35.7**	**+1.4**
CNBA	**Chernabura Isl**	**9.52**	**63**	Pn	**Pn**	**08 13 39.5**	**+0.7**
CHIR	**Chirikof Islan**	**11.96**	**61**	Pn	**Pn**	**08 14 11.7**	**-0.6**
SII	**Sitkinak Islan**	**12.93**	**59**	Pn	**Pn**	**08 14 25.3**	**-0.1**
OHAK	**Old Harbor**	**13.58**	**56**		**Pn**	**08 14 32.3**	**-2.0**
ANM	**Nome**	**13.99**	**16**	P	**Pn**	**08 14 40.2**	**+0.3**
ANM	**Nome**	**13.99**	**16**		**Pn**	**08 14 40.2**	**+0.3**
KDAK	**Kodiak Island**	**14.11**	**55**	*i* P	**Pn**	**08 14 39.7**	**-1.8**
KDAK	**Kodiak Island**	**14.11**	**55**	Pn	**Pn**	**08 14 37.3**	**-4.2**
	2.2nm,0.3s,baz=264,slow=3.9,SNR=33						
KDAK				Sn	**Sn**	**08 17 19.7**	**+2.7**
	0.3nm,0.3s,baz=180,slow=20,SNR=2.3						
KDAK				LR	LR	08 20 19.3	
	comp=Z,3μm,21.4s,baz=245,slow=38						
KDAK	**Kodiak Island**	**14.11**	**55**		**Pn**	**08 14 39.4**	**-2.1**
RSO	**Redoubt South**	**15.05**	**45**		**Pn**	**08 14 54.9**	**+0.4**
HOM	**Homer**	**15.22**	**48**	Pn	**Pn**	**08 14 57.0**	**+0.5**
HOM				IAmb	IAmb	08 15 03.8	
	comp=Z,120nm,0.7s						
CNPM	**China Poot**	**15.36**	**49**		**Pn**	**08 14 57.2**	**-1.1**
CNPM				IAmb	IAmb	08 15 08.3	
	comp=Z,53nm,0.5s						
BRLK	**Bradley Lake**	**15.61**	**49**		**Pn**	**08 15 00.1**	**-1.5**
BRLK				IAmb	IAmb	08 15 07.3	
	comp=Z,54nm,0.6s						
SKT	**Skwentna**	**16.30**	**41**	P	**P**	**08 15 12.6**	**-0.7**
**

SKR pmax pmax
comp=Z,400nm,6.1s
SKR pmax pmax
comp=Z,300nm,12.6s
SKR pmax pmax
comp=Z,95nm,1.2s
SKR MLR MLR
comp=Z,1μm,20.0s
SKR MLR MLR
comp=Z,1μm,16.0s
DHY Denali Highway 18.52 41 IAmb IAmb 08 15 41.0
comp=Z,47nm,0.5s
NEA Nenana 18.62 35 P **P** **08 15 38.0 -0.7**
WRH Wood River Hil 18.92 36 P **P** **08 15 40.9 -1.2**
WRH IAmb IAmb 08 15 52.1
comp=Z,30nm,0.5s
CCB Clear Creek Bu 19.12 36 IAmb IAmb 08 15 47.7
comp=Z,53nm,0.5s
MDM Murphy Dome 19.13 35 IAmb IAmb 08 15 51.4
comp=Z,44nm,0.4s
BILL Bilibino 19.15 338*c iP* **Pn** **08 15 45.8 +0.2**
BILL *i* S **Sn** **08 19 09.1 -10**
BILL pmax pmax
comp=Z,79nm,1.5s
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 19.15 338 P **P** **08 15 43.7 -0.9**
BILL IAmb IAmb 08 15 56.0
comp=Z,83nm,0.9s
TCOL CIGO, UAF Yank 19.22 35 P **P** **08 15 45.0 -0.3**
baz=238,SNR=12
COLA College 19.22 35 *i P* **P** **08 15 45.1 -0.2**
COLA pmax pmax
comp=Z,20nm,0.6s
COLA College 19.22 35 P **P** **08 15 44.5 -0.8**
HDA Harding Lake 19.32 37 P **P** **08 15 46.5 0.0**
baz=241,SNR=57
GLB Gilahina Butte 19.46 47 IAmb IAmb 08 15 53.3
comp=Z,32nm,0.6s
POKR Poker Plat Res 19.50 35 P **P** **08 15 48.4 0.0**
baz=238,SNR=6.7
IL31 19.52 36 P **P** **08 15 47.1 -1.5**
IL31 IAmb IAmb 08 15 54.1
comp=Z,70nm,0.5s
ILAR Eielson Array 19.52 36 P **P** **08 15 46.4 -2.2**
comp=Z,5.9nm,0.3s,baz=239,slow=9.7,SNR=119
ILAR S **S** **08 19 24.9 -2.5**
comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=2.3
ILAR PcP **PcP** **08 20 08.0 0.0**
comp=Z,0.2nm,0.3s,baz=260,slow=2.9,SNR=3.2
ILAR ScP **ScP** **08 23 41.1 -0.9**
comp=Z,0.0nm,0.3s,baz=236,slow=4.2,SNR=5.4
ILAR LR LR 08 23 52.5
comp=Z,1μm,19.7s,baz=245,slow=39
ILAR Eielson Array 19.52 36 P **P** **08 15 47.0 -1.6**
CRQM Cirque 19.59 49 IAmb IAmb 08 16 02.3
comp=Z,38nm,0.7s
TGL Tana Glacier 19.74 50 P **P** **08 15 50.9 -0.2**
TGL IAmb IAmb 08 15 59.5
comp=Z,36nm,0.8s
MCARA McCarthy VSAT 19.81 48 P **P** **08 15 52.4 +0.6**
MCARA IAmb IAmb 08 16 07.7
comp=Z,36nm,0.6s
RIDG Independent Ri 19.84 40 IAmb IAmb 08 16 06.9
comp=Z,72nm,0.5s
MENT Mentasta 20.00 43 P **P** **08 15 54.5 +0.7**
MENT IAmb IAmb 08 16 11.2
comp=Z,42nm,0.6s
BALM Baldy 20.04 49 P **P** **08 15 53.5 -1.0**
DOT Dot Lake 20.12 41 IAmb IAmb 08 16 02.2
comp=Z,47nm,0.5s
SCRK Sand Creek 20.28 40 P **P** **08 15 56.5 -0.6**
PRP Porcupine Dome 20.39 35 IAmb IAmb 08 16 06.9
comp=Z,29nm,0.6s
CTGM Chitina Glacie 20.50 49 P **P** **08 15 58.7 -0.8**
CTGM IAmb IAmb 08 16 04.8
comp=Z,40nm,0.7s
TOLK Toolik Lake Re 20.98 25 P **P** **08 16 04.9 +0.5**
baz=227,SNR=87
TOLK Toolik Lake Re 20.98 25 IAmb IAmb 08 16 20.4
comp=Z,60nm,0.7s
FYU Fort Yukon 21.04 33 IAmb IAmb 08 16 23.5
comp=Z,59nm,1.2s
SEY Seymchan 21.11 316 P **P** **08 16 05.5 -0.4**
comp=Z,9.8nm,0.6s,baz=127,slow=10,SNR=34
SEY PcP **PcP** **08 20 10.4 -0.6**
comp=Z,4.5nm,0.7s,baz=121,slow=6.3,SNR=4.8
SEY ScP **ScP** **08 23 46.4 +0.6**
comp=Z,2.4nm,0.5s,baz=140,slow=3.6,SNR=6.5
SEY LR LR 08 24 44.9
comp=Z,3μm,18.8s,baz=128,slow=38
BCPM Bancas Point 21.14 53 P **P** **08 16 06.4 +0.2**
BCPM IAmb IAmb 08 16 23.4
comp=Z,70nm,0.9s
MA2 Magadan 21.14 306 *i P* **P** **08 16 05.8 -0.5**
MA2 pmax pmax
comp=Z,29nm,1.3s
MA2 Magadan 21.14 306 P **P** **08 16 06.7 +0.5**
comp=Z,9.5nm,0.8s,baz=126,slow=14,SNR=3.5
MA2 Magadan 21.14 306 P **P** **08 16 05.9 -0.4**
BMAR Burnt Mountain 21.72 31 P **P** **08 16 12.3 -0.1**
EGAK Eagle 21.73 39 P **P** **08 16 12.2 -0.3**
DHAK Deception Hill 21.76 55 P **P** **08 16 13.4 +0.4**
DHAK IAmb IAmb 08 16 23.3
comp=Z,77nm,0.7s
SKAG Skagway 23.26 55 IAmb IAmb 08 16 40.0
comp=Z,27nm,0.6s
BESE Bessie Mountai 23.48 57 P **P** **08 16 31.8 +0.8**
BESE IAmb IAmb 08 16 44.0
comp=Z,18nm,0.6s
JIS Juneau Island 23.73 58 IAmb IAmb 08 16 53.3
comp=Z,22nm,0.7s
EPYK Eagle Plains 24.02 37 P **P** **08 16 35.6 -0.5**
baz=250,SNR=18
EPYK Eagle Plains 24.02 37 IAmb IAmb 08 16 42.7
comp=Z,31nm,0.6s
CRAG Craig 24.63 64 P **P** **08 16 43.8 +2.2**
CRAG IAmb IAmb 08 17 00.8
comp=Z,35nm,1.0s
MOBC Moresby Island 25.73 69 P **P** **08 16 53.0 +1.4**
MOBC IAmb IAmb 08 17 08.7
comp=Z,25nm,0.7s
INK Inuvik 25.86 34 P **P** **08 16 51.1 -1.4**
comp=Z,9.5nm,0.6s,baz=256,slow=7.5,SNR=82
INK PcP **PcP** **08 20 20.8 -0.1**
comp=Z,2.3nm,0.6s,baz=279,slow=2.6,SNR=3.3
DLBC Dease Lake 26.02 57 P **P** **08 16 56.3 +2.1**
comp=Z,28nm,0.8s,baz=276,slow=7.7,SNR=25
YSS Yuzh-Sakhalins 28.07 278 *eP* **P** **08 17 15.9 +3.3**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,2μm,17.0s
BBB Bella Bella 28.25 70 LR LR 08 26 52.6
comp=Z,559nm,19.6s,baz=296,slow=33
C36M Paulatuk 29.44 34 P **P** **08 17 24.6 0.0**
baz=259
JKA Kamikawa-asahi 29.47 273 P **P** **08 17 27.4 +2.3**
ASAJ Asahikawa 29.47 273 P **P** **08 17 27.4 +2.2**
comp=Z,18nm,0.8s,baz=66,slow=6.6,SNR=6.7
YAK Yakutsk 31.47 312 *eP* **P** **08 17 40.9 -1.7**
YAK *e**PP **pP** **08 17 49.5 +0.4**
YAK *e* 08 20 35.7
YAK *e*S **S** **08 22 46.8 -1.8**
YAK *e**SS **pS** **08 22 58.1 +2.6**
YAK *e* 08 28 10.4
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK smax smax
comp=N,267nm,3.2s
YAK smax smax
comp=E,240nm,3.5s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK MLR MLR
comp=E,1μm,18.0s
YAK MLR MLR
comp=N,918nm,18.0s
YAK Yakutsk 31.47 312 P **P** **08 17 40.9 -1.7**
comp=N,11nm,0.5s,baz=53,slow=2.4,SNR=4.3
YAK LR LR 08 30 44.0
comp=N,2μm,19.0s,baz=104,slow=37
YAK Yakutsk 31.47 312 P **P** **08 17 41.3 -1.3**

YAK IAmb IAmb 08 17 44.9
comp=Z,22nm,0.7s
TIXI Tiksi 31.98 330 *i P* **P** **08 17 46.4 -0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
TIXI MLR MLR
comp=Z,480nm,18.0s
TIXI Tiksi 31.98 330 P **P** **08 17 45.2 -1.8**
comp=Z,3.4nm,0.3s,baz=107,slow=12,SNR=4.5
TIXI PcP **PcP** **08 20 36.5 +0.3**
comp=Z,7.1nm,0.5s,baz=106,slow=2.2,SNR=7.3
TIXI ScP **ScP** **08 24 18.6 +0.9**
comp=Z,1.4nm,0.3s,baz=80,slow=19,SNR=3.7
TIXI LR LR 08 31 52.5
comp=Z,520nm,18.9s,baz=106,slow=39
TIXI Tiksi 31.98 330 P **P** **08 17 46.9 0.0**
A04D Lummi Island 32.71 74 P **P** **08 17 54.0 +0.4**
baz=295
TEY Ternei 32.76 278 *eP* **P** **08 17 55.1 +1.0**
D03D Eldon 32.99 76 P **P** **08 17 56.9 +0.8**
baz=296
YKW3 Yellowknife Ar 33.17 47 P **P** **08 17 57.9 +0.5**
YKA Yellowknife Ar 33.18 47 P **P** **08 17 55.8 -1.8**
comp=Z,1.3nm,0.4s,baz=274,slow=8.4,SNR=22
YKA PcP **PcP** **08 20 40.4 +0.7**
comp=Z,2.9nm,0.7s,baz=284,slow=3.2,SNR=7.9
YKA LR LR 08 33 13.4
comp=Z,196nm,18.0s,baz=274,slow=40
YKA Yellowknife Ar 33.18 47 P **P** **08 17 57.1 -0.5**
B05A Bryant 33.27 74 P **P** **08 18 00.2 +1.6**
baz=296
D04E Lakebay 33.34 77 P **P** **08 17 59.6 +0.4**
baz=297
E04D Cinebar 33.75 77 P **P** **08 18 03.8 +1.0**
baz=298
KLR Kul'dur 33.82 288*d iP* **P** **08 18 03.2 -0.1**
KLR pmax pmax
comp=Z,26nm,0.6s
KLR MLR MLR
comp=Z,983nm,21.0s
KLR Kul'dur 33.82 288 P **P** **08 18 02.5 -0.8**
comp=Z,33nm,0.5s,baz=70,slow=7.2,SNR=158
KLR LR LR 08 32 00.7
comp=Z,612nm,20.6s,baz=74,slow=37
G03D McMinnville, O 33.97 80 P **P** **08 18 06.3 +1.6**
baz=300
I02D Swisshome 34.16 82 P **P** **08 18 07.3 +1.0**
baz=301
J01E Myrtle Point 34.59 84 P **P** **08 18 11.4 +1.3**
baz=302
H04D Lebanon 34.63 81 P **P** **08 18 11.6 +1.2**
baz=300
I03D Drain, OR 34.67 82 P **P** **08 18 11.6 +0.8**
baz=301
H11N2 WAKE ISLAND Hy 34.89 212 T T 08 55 58.3
baz=20,slow=76,SNR=612
B08A Colville Reser 34.89 73 IAmb IAmb 08 18 29.5
comp=Z,19nm,0.7s
H11N3 WAKE ISLAND Hy 34.90 212 T T 08 56 11.3
baz=20,slow=76,SNR=576
H11N1 WAKE ISLAND Hy 34.91 212 T T 08 56 01.6
baz=20,slow=76,SNR=591
K02D Willamette Mer 35.01 84 P **P** **08 18 14.5 +0.8**
baz=303
G05D Wamic, OR 35.15 79 P **P** **08 18 16.2 +1.3**
baz=300
L02E Cave Junction 35.33 85 P **P** **08 18 17.6 +1.1**
baz=303
HUMO Hull Mountain 35.49 84 P **P** **08 18 18.5 +0.6**
I05D Terrebonne, OR 35.59 80 P **P** **08 18 19.5 +0.8**
baz=301
HAWA Hanford 35.68 76 IAmb IAmb 08 18 40.0
comp=Z,12nm,0.8s
J04D Umpqua Nationa 35.68 82 P **P** **08 18 20.7 +1.0**
baz=302
C09A Chrisman Ranch 35.78 73 IAmb IAmb 08 18 35.9
comp=Z,12nm,0.7s
USA0B Ussuriysk Arra 36.03 280 P **P** **08 18 21.7 -0.7**
USA0B pmax pmax
comp=Z,28nm,0.9s
USA0B Ussuriysk Arra 36.03 280 P **P** **08 18 21.7 -0.7**
USA0B IAmb IAmb 08 18 25.4
comp=Z,28nm,0.8s
USRK Ussuriysk Ar. 36.03 280 P **P** **08 18 22.2 -0.2**
comp=Z,24nm,0.6s,baz=57,slow=9.2,SNR=95
USRK PcP **PcP** **08 20 49.0 +0.7**
comp=Z,3.6nm,0.6s,baz=42,slow=3.1,SNR=4.3
USRK LR LR 08 34 04.2
comp=Z,602nm,19.8s,baz=54,slow=38
USRK Ussuriysk Ar. 36.03 280 P **P** **08 18 21.9 -0.5**
H11S1 WAKE ISLAND Hy 36.09 211 T T 08 57 43.7
baz=20,slow=76,SNR=1399
H11S2 WAKE ISLAND Hy 36.11 211 T T 08 57 32.4
baz=20,slow=76,SNR=406
H11S3 WAKE ISLAND Hy 36.11 212 T T 08 57 32.5
baz=20,slow=76,SNR=218
L04D Klamath Falls 36.11 84 P **P** **08 18 23.9 +0.5**
baz=303
J05D Fort Rock, OR 36.20 82 P **P** **08 18 25.5 +1.4**
baz=302
M02C Callahan 36.22 85 P **P** **08 18 25.0 +0.8**
baz=304
K04D Chiloquin, OR 36.23 83 P **P** **08 18 25.3 +1.0**
baz=303
NEW Newport 36.25 72 P **P** **08 18 25.1 +0.7**
baz=297,SNR=10.0
NEW Newport 36.25 72 IAmb IAmb 08 18 42.2
comp=Z,16nm,0.8s
MJAR Matsushiro Arr 36.54 265 P **P** **08 18 27.8 +0.9**
comp=Z,5.7nm,0.6s,baz=45,slow=7.6,SNR=12
MJAR LR LR 08 31 48.0
comp=Z,521nm,21.7s,baz=75,slow=34
MAJO Matsushiro 36.54 265 P **P** **08 18 27.4 +0.5**
MAJO pmax pmax
comp=Z,24nm,0.7s
MAJO Matsushiro 36.54 265 P **P** **08 18 27.4 +0.5**
MAJO IAmb IAmb 08 18 29.9
comp=Z,24nm,0.7s
MAT Matsushiro 36.54 265 P **P** **08 18 27.9 +1.0**
MJB9 Matsu-Tunnel 36.54 265 P **P** **08 18 27.4 +0.5**
MJB9 IAmb IAmb 08 18 29.9
comp=Z,24nm,0.7s
N02D Trinity Center 36.55 86 P **P** **08 18 28.1 +1.1**
baz=305
M04C Macdoel 36.64 84 P **P** **08 18 29.3 +1.5**
baz=304,SNR=6.9
O02D Mt. Diablo Mer 36.95 87 P **P** **08 18 31.8 +1.3**
baz=306,SNR=8.4
MDJ Mudanjiang 37.28 282 P **P** **08 18 32.6 -0.5**
MDJ IAmb IAmb 08 18 34.9
comp=Z,27nm,0.9s
O03E Paynes Creek 37.50 86 P **P** **08 18 35.0 -0.1**
baz=306,SNR=10.0
MOD Modoc Plateau 37.53 83 IAmb IAmb 08 18 54.8
comp=Z,12nm,0.7s
WALA Waterton Lakes 37.79 69 IAmb IAmb 08 18 53.8
comp=Z,10.0nm,0.8s
ORV Oroville 38.12 87 pwP 08 18 56.2 +3.4
JTMT Jette 38.18 71 IAmb IAmb 08 18 58.8
comp=Z,14nm,1.1s
WVOR Wild Horse Val 38.27 81 P **P** **08 18 42.2 +0.6**
WVOR pmax pmax
comp=Z,12nm,0.9s
WVOR Wild Horse Val 38.27 81 P **P** **08 18 42.2 +0.6**
WVOR IAmb IAmb 08 19 00.7
comp=Z,12nm,0.8s
AFDM Forest Hills D 38.81 87 P **P** **08 18 46.5 +0.4**
MSO Missoula 38.83 72 P **P** **08 18 46.5 +0.2**
baz=300,SNR=11
PAHR Pah Rah Range 39.35 85 IAmb IAmb 08 19 06.5
comp=Z,14nm,0.7s
PNTR Pine Nut 39.59 86 IAmb IAmb 08 19 13.4
comp=Z,23nm,0.8s
CMB Columbia Colle 39.73 88 P **P** **08 18 55.0 +1.3**
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB Columbia Colle 39.73 88 P **P** **08 18 55.0 +1.3**
SAO San Andreas Ge 39.85 90 P **P** **08 18 55.2 +0.5**
SAO pmax pmax
comp=Z,7.0nm,0.8s
SAO San Andreas Ge 39.85 90 P **P** **08 18 55.1 +0.5**
YERR Yerington 39.87 86 IAmb IAmb 08 19 15.7
comp=Z,13nm,0.8s
WAKR Walker 40.04 87 P **P** **08 18 57.6 +1.1**
BOD Bodaibo 40.15 308 *eP* **P** **08 18 56.1 -0.9**
BOD pmax pmax
comp=Z,26nm,1.6s

LRM Limekiln Ridge 40.23 73 P **P** **08 18 54.5 -3.6**
CN2 Changchun 40.25 284 *eP* **P** **08 18 58.0 +0.1**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,870nm,20.0s
CN2 LR LR
comp=Z,1μm,21.0s
PMPB Monarch Peak 40.60 91 P **P** **08 19 02.2 +1.2**
EGMT Eagleton 40.71 68 P **P** **08 19 02.4 +0.7**
baz=300,SNR=11
EGMT Eagleton 40.71 68 P **P** **08 19 02.5 +0.7**
EGMT IAmb IAmb 08 19 18.6
comp=Z,18nm,0.7s
NVAR Mina Array Bea 40.79 86 P **P** **08 19 03.5 +0.7**
comp=Z,4.4nm,0.9s,baz=291,slow=7.7,SNR=27
NVAR ScP **ScP** **08 24 50.7 -0.4**
comp=Z,1.0nm,0.8s,baz=284,slow=3.6,SNR=4.2
NVAR LR LR 08 33 14.4
comp=Z,264nm,19.4s,baz=302,slow=32
NVAR Mina Array Bea 40.79 86 P **P** **08 19 03.3 +0.5**
HIA Hailar 40.82 294 P **P** **08 19 01.9 -0.8**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 40.82 294 P **P** **08 19 01.9 -0.8**
HIA IAmb IAmb 08 19 04.4
comp=Z,12nm,0.7s
BOZ Bozeman (W) 40.84 73 P **P** **08 19 03.1 +0.1**
baz=302,SNR=14
BOZ Bozeman (W) 40.84 73 P **P** **08 19 02.9 -0.1**
BOZ pmax pmax
comp=Z,12nm,0.7s
BOZ Bozeman (W) 40.84 73 P **P** **08 19 02.9 -0.1**
BOZ IAmb IAmb 08 19 22.4
comp=Z,12nm,0.7s
NV11 Mina Array Sit 40.88 86 P **P** **08 19 03.6 +0.2**
PAGB Antelope Grade 41.25 91 P **P** **08 19 06.9 +0.6**
QLMT Earthquake Lak 41.37 74 P **P** **08 19 07.1 -0.4**
SMMC Simmler 41.67 91 P **P** **08 19 09.9 0.0**
baz=310
TIN Tinemaha, Big 41.68 88 P **P** **08 19 11.3 +1.3**
baz=309
FFC Flin Flon 41.85 56 P **P** **08 19 10.9 0.0**
FFC pmax pmax
comp=Z,21nm,0.7s
FFC Flin Flon 41.85 56 P **P** **08 19 10.9 0.0**
FFC IAmb IAmb 08 19 13.7
comp=Z,21nm,0.7s
YNR Norris Junctio 41.88 73 P **P** **08 19 12.2 +0.6**
GCMT Greycliff 41.91 71 P **P** **08 19 12.2 +0.5**
VES Vestal, Richgr 41.91 90 P **P** **08 19 12.7 +1.0**
baz=310
PKM Mcpherson Peak 42.06 91 P **P** **08 19 14.7 +1.5**
baz=311
H17A Grant Village 42.12 74 P **P** **08 19 14.0 +0.3**
baz=303
LKWY Lake 42.13 73 P **P** **08 19 15.0 +1.3**
LKWY pmax pmax
comp=Z,11nm,0.6s
LKWY Lake 42.13 73 P **P** **08 19 15.0 +1.3**
LKWY IAmb IAmb 08 19 35.0
comp=Z,11nm,0.6s
CWC Cottonwood Cre 42.16 88 P **P** **08 19 15.0 +1.1**
baz=309
KSRS Korea Array 42.40 274 P **P** **08 19 17.1 +1.5**
comp=Z,7.5nm,0.7s,baz=54,slow=7.7,SNR=22
KSRS LR LR 08 36 32.7
comp=Z,304nm,20.2s,baz=56,slow=36
ISA Isabella, Lake 42.41 89 P **P** **08 19 16.4 +0.5**
baz=310,SNR=5.4
KS19 Wonju Array Si 42.41 274 P **P** **08 19 17.0 +1.2**
KS19 IAmb IAmb 08 19 24.0
comp=Z,18nm,0.8s
KSAR Wonju Array Be 42.44 274 P **P** **08 19 16.4 +0.4**
KSAR Wonju Array Be 42.44 274 P **P** **08 19 16.4 +0.4**
SNY Shenyang 42.49 282 ⇑P **P** **08 19 17.0 +0.7**
SNY pmax pmax
comp=Z,120nm,1.1s
SNY pmax pmax
comp=Z,600nm,3.1s
SNY LR LR
comp=Z,900nm,18.8s
SNY LR LR
comp=Z,470nm,14.1s
SNY LR LR
comp=Z,1μm,20.1s
RLMT Red Lodge 42.50 72 P **P** **08 19 17.0 +0.2**
baz=303,SNR=8.8
RLMT Red Lodge 42.50 72 IAmb IAmb 08 19 34.8
comp=Z,15nm,0.7s
R11A Troy Canyon, C 42.53 84 P **P** **08 19 17.1 +0.1**
baz=308,SNR=9.7
BGU Big Grassy Mou 42.58 79 P **P** **08 19 17.9 +0.5**
MPMC Manual Prospec 42.77 88 P **P** **08 19 18.7 -0.2**
baz=310
FURC Furnace Creek, 42.90 87 P **P** **08 19 20.8 +1.0**
baz=309
TPNV Topopah Spring 42.98 86 P **P** **08 19 21.0 +0.4**
baz=309,SNR=11
LRMC Laurel Mtn Rad 43.02 89 P **P** **08 19 20.9 0.0**
baz=310
DUG Dugway, Tooele 43.15 80 P **P** **08 19 22.4 +0.6**
baz=307,SNR=10
DUG Dugway, Tooele 43.15 80 IAmb IAmb 08 19 40.7
comp=Z,14nm,0.8s
EDW2 Edwards Air Fo 43.21 90 P **P** **08 19 22.4 0.0**
baz=311
JNU Nakatsue 43.34 267 P **P** **08 19 24.4 +1.0**
comp=Z,23nm,0.8s,baz=56,slow=1.3,SNR=15
JNU LR LR 08 36 17.2
comp=Z,463nm,20.8s,baz=86,slow=34
LAO LASA Array 43.45 68 P **P** **08 19 24.1 -0.1**
baz=303,SNR=8.1
CTU Camp Tracy 43.51 79 P **P** **08 19 25.4 +0.6**
MWC Mount Wilson 43.59 91 P **P** **08 19 26.5 +0.9**
MWC pmax pmax
comp=Z,7.0nm,0.9s
MWC Mount Wilson 43.59 91 P **P** **08 19 26.5 +0.9**
SHOC Shoshone, Teco 43.63 87 P **P** **08 19 26.1 +0.4**
baz=310
BW06 Boulder Array 43.64 75 P **P** **08 19 26.0 +0.1**
baz=305,SNR=17
BW06 Boulder Array 43.64 75 IAmb IAmb 08 19 41.4
comp=Z,21nm,1.1s
PD31 Pinedale Array 43.64 75 IAmb IAmb 08 19 41.4
comp=Z,17nm,1.1s
PDAR Pinedale Array 43.64 75 P **P** **08 19 26.1 +0.1**
comp=Z,6.4nm,0.6s,baz=304,slow=4.3,SNR=49
PDAR LR LR 08 37 44.6
comp=Z,345nm,18.1s,baz=312,slow=36
DGMT Dagmar 43.68 65 P **P** **08 19 25.6 -0.4**
baz=302
DGMT Dagmar 43.68 65 IAmb IAmb 08 19 44.3
comp=Z,31nm,1.1s
GSC Goldstone, Bar 43.68 88 P **P** **08 19 26.7 +0.6**
baz=310,SNR=14
GSC Goldstone, Bar 43.68 88 IAmb IAmb 08 19 43.0
comp=Z,19nm,0.8s
BFSC Mount Baldy Ra 43.84 90 P **P** **08 19 27.9 +0.4**
baz=311,SNR=5.5
SHPR Sheep Range 43.94 86 P **P** **08 19 29.4 +1.1**
TUQ Turquoise Moun 44.15 88 P **P** **08 19 30.6 +0.6**
baz=310
HEC Hector,Ludlow 44.28 89 P **P** **08 19 31.1 +0.1**
baz=311
TCRU Three Creeks R 44.33 82 P **P** **08 19 32.6 +1.0**
MURC Murrieta 44.55 91 P **P** **08 19 34.0 +1.0**
baz=312
GMRC Granite Mounta 44.73 88 P **P** **08 19 34.9 +0.2**
baz=311
PFO Pinyon Flats O 45.00 90 P **P** **08 19 37.1 +0.3**
baz=312
PFO Pinyon Flats O 45.00 90 P **P** **08 19 36.9 +0.1**
PFO pmax pmax
comp=Z,5.0nm,1.1s
PFO Pinyon Flats O 45.00 90 P **P** **08 19 36.9 +0.1**
BELC Belle Mtn. Jos 45.03 89 P **P** **08 19 35.7 -1.3**
baz=311
109C Camp Elliot, M 45.07 91 P **P** **08 19 37.9 +0.7**
baz=312
109C Camp Elliot, M 45.07 91 P **P** **08 19 38.4 +1.2**
DL2 Dalian 45.42 280 P **P** **08 19 40.5 +0.6**
DL2 S **S** **08 26 18.5 -0.9**

DL2 pmax pmax
comp=Z,93nm,1.0s
DL2 pmax pmax
comp=Z,490nm,4.5s
DL2 LR LR
comp=Z,590nm,15.7s
DL2 LR LR
comp=Z,480nm,15.4s
DL2 LR LR
comp=Z,520nm,14.1s
BAR Barrett 45.48 91 P **P 08 19 40.9 +0.4**
MONP2 Monument Peak 45.50 91 P **P 08 19 40.7 -0.2**
baz=312
K22A Casper 45.53 73 P **P 08 19 40.7 -0.3**
baz=306
K22A Casper 45.53 73 IAmb IAmb 08 19 55.9
comp=Z,21nm,1.1s
RWWY Rawlins 45.69 75 IAmb IAmb 08 20 00.5
comp=Z,14nm,0.9s
NRIK Noril'sk 45.75 331 P **P 08 19 40.8 -1.3**
comp=Z,4.9nm,0.6s,baz=78,slow=8.4,SNR=12
NRIK PcP **PcP 08 21 19.0 -0.3**
comp=Z,5.5nm,0.9s,baz=68,slow=6.5,SNR=4.4
NRIK LR LR 08 40 56.8
comp=Z,272nm,18.1s,baz=61,slow=39
U15A North Rim 45.78 84 P **P 08 19 44.3 +1.1**
IKP In-Ko-Pah, Jac 45.85 91 P **P 08 19 43.1 -0.4**
baz=312
O20A White River Ci 45.99 77 P **P 08 19 44.7 +0.1**
baz=308,SNR=13
O20A White River Ci 45.99 77 IAmb IAmb 08 20 02.1
comp=Z,28nm,0.8s
Y12C Blythe 46.12 88 P **P 08 19 45.4 0.0**
baz=312
RSSD Black Hills 46.16 70 P **P 08 19 45.4 -0.6**
baz=305
RSSD Black Hills 46.16 70 P **P 08 19 46.6 +0.6**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 46.16 70 P **P 08 19 46.6 +0.6**
RSSD IAmb IAmb 08 20 03.5
comp=Z,10nm,0.8s
MDND Maddock 46.60 63 P **P 08 19 49.5 +0.4**
baz=304
PV17 East Wray Mesa 46.68 80 IAmb IAmb 08 20 07.5
comp=Z,18nm,0.6s
PV07 Paradox Valley 46.78 79 P **P 08 19 51.1 +0.2**
PV07 IAmb IAmb 08 20 07.8
comp=Z,11nm,0.7s
N23A Red Feather La 46.92 75 P **P 08 19 52.4 +0.4**
baz=307,SNR=5.4
N23A Red Feather La 46.92 75 IAmb IAmb 08 20 12.7
comp=Z,17nm,1.1s
WUAZ Wupatki 46.94 84 P **P 08 19 52.6 +0.5**
baz=310
WUAZ Wupatki 46.94 84 IAmb IAmb 08 20 07.9
comp=Z,8.5nm,0.7s
ULM Lac du Bonnet 47.32 59 *i* P **P 08 19 55.4 +0.7**
ULM Lac du Bonnet 47.32 59 P **P 08 19 54.1 -0.6**
comp=Z,7.5nm,0.5s,baz=311,slow=7.8,SNR=20
ULM LR LR 08 39 55.7
comp=Z,492nm,19.8s,baz=320,slow=36
ULM Lac du Bonnet 47.32 59 IAmb IAmb 08 19 56.7
comp=Z,30nm,1.1s
SMCO Snowmass 47.35 77 IAmb IAmb 08 20 13.4
comp=Z,7.8nm,0.6s
MVCO Mesa Verde 47.64 80 P **P 08 19 57.0 -0.6**
baz=310
MVCO Mesa Verde 47.64 80 P **P 08 19 59.1 +1.4**
MVCO IAmb IAmb 08 20 14.7
comp=Z,8.7nm,0.7s
ISCO Idaho Springs 47.79 76 P **P 08 19 58.8 -0.1**
baz=308
BJI Beijing 48.06 285 P **P 08 20 01.3 +0.8**
BJI pP **pP 08 20 05.8 -1.2**
BJI S **S 08 26 55.3 -1.8**
BJI pmax pmax
comp=Z,26nm,0.9s
BJI LR LR
comp=Z,780nm,20.5s
BJI LR LR
comp=Z,620nm,21.2s
BJI LR LR
comp=Z,880nm,22.4s
BJT Baijiatuau 48.08 285 IAmb IAmb 08 20 03.4
comp=Z,23nm,0.9s
W18A Petrified Fore 48.21 83 P **P 08 20 03.1 +1.0**
baz=311
W18A Petrified Fore 48.21 83 P **P 08 20 04.1 +2.1**
W18A IAmb IAmb 08 20 17.3
comp=Z,9.6nm,0.8s
S22A 4UR Ranch, Cre 48.33 79 P **P 08 20 04.4 +1.4**
baz=310
TLY Talaya 48.35 304 *e*P **P 08 20 03.0 +0.3**
TLY pmax pmax
comp=Z,78nm,1.1s
TLY MLR MLR
comp=Z,1μm,18.0s
TLY Talaya 48.35 304 P **P 08 20 03.0 +0.3**
comp=Z,12nm,0.5s,baz=38,slow=5.0,SNR=21
TLY PcP **PcP 08 21 29.1 +0.2**
comp=Z,4.9nm,0.6s,baz=333,slow=2.6,SNR=3.2
TLY LR LR 08 41 50.1
comp=Z,567nm,19.4s,baz=44,slow=38
TLY Talaya 48.35 304 P **P 08 20 02.1 -0.6**
TLY IAmb IAmb 08 20 05.6
comp=Z,16nm,0.6s
AGMN Agassiz Nation 48.42 61 P **P 08 20 02.8 -0.4**
baz=305,SNR=8.6
AGMN Agassiz Nation 48.42 61 IAmb IAmb 08 20 19.7
comp=Z,20nm,0.8s
X18A Snowflake 48.46 84 P **P 08 20 05.6 +1.6**
Q24A Divide 48.59 76 P **P 08 20 05.3 +0.3**
baz=309
ULN Ulaanbaatar 48.70 299 *ce*P **P 08 20 05.7 +0.1**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 48.70 299 P **P 08 20 05.0 -0.6**
ULN IAmb IAmb 08 20 07.6
comp=Z,8.4nm,0.9s
SUSD Miller 48.93 67 P **P 08 20 07.4 +0.2**
baz=307
SONM Songino Array 49.08 299 P **P 08 20 08.1 -0.4**
SONM 08 21 31.3
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 49.08 299 P **P 08 20 08.6 +0.1**
comp=Z,6.2nm,0.6s,baz=54,slow=8.1,SNR=21
SONM PcP **PcP 08 21 32.2 +0.4**
comp=Z,7.1nm,0.9s,baz=62,slow=2.5,SNR=5.3
SONM ScP **ScP 08 25 29.3 +4.4**
comp=Z,1.1nm,0.6s,baz=29,slow=3.3,SNR=3.3
SONM LR LR 08 42 10.9
comp=Z,919nm,19.3s,baz=58,slow=38
SONM Songino Array 49.08 299 P **P 08 20 08.1 -0.4**
SONM **PcP 08 21 31.3 -0.4**
SDCO Great Sand Dun 49.14 78 P **P 08 20 09.7 +0.4**
baz=310,SNR=7.8
SDCO Great Sand Dun 49.14 78 IAmb IAmb 08 20 27.7
comp=Z,11nm,1.1s
OGNE Ogallala 49.24 72 P **P 08 20 10.1 +0.4**
baz=308
ZAK Zakamensk 49.28 303 *e*P P 08 20 02.8 -7.1
ZAK pmax pmax
comp=Z,34nm,1.3s
TUC Tucson 49.42 87 P **P 08 20 11.4 +0.3**
baz=313
TUC Tucson 49.42 87 P **P 08 20 11.8 +0.7**
TUC pmax pmax
comp=Z,5.0nm,0.8s
TUC Tucson 49.42 87 P **P 08 20 11.8 +0.7**
MOY Mondy 49.72 306 *e*P **P 08 20 14.0 +0.7**
MOY pmax pmax
comp=Z,39nm,1.6s
KBS Kingsbay 49.86 358 *ce*P **P 08 20 14.8 +1.0**
KBS pmax pmax
comp=Z,96nm,1.0s
KBS Kingsbay 49.86 358 P **P 08 20 14.1 +0.3**
KBS IAmb IAmb 08 20 15.8
comp=Z,21nm,0.8s
TIA Tai'an 49.89 280 P **P 08 20 14.8 +0.1**
TIA pmax pmax
comp=Z,38nm,1.5s
KSCO Kaye Shedlock' 50.09 75 P **P 08 20 16.8 +0.6**
baz=309
T25A Trinidad 50.20 78 P **P 08 20 17.8 +0.5**
baz=310,SNR=10
T25A Trinidad 50.20 78 IAmb IAmb 08 20 35.6
comp=Z,23nm,0.9s
HHC Hu-ho-hao-te 50.32 289 *e*P **P 08 20 18.0 0.0**
HHC pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 50.36 81 P **P 08 20 18.6 +0.1**
baz=311
ANMO Albuquerque 50.36 81 P **P 08 20 19.1 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 50.36 81 P **P 08 20 19.1 +0.6**
SPA0 Spitsbergen Ar 50.50 357 *e*P **P 08 20 18.6 -0.1**
SPA0 Spitsbergen Ar 50.50 357 P **P 08 20 18.3 -0.4**
SPITS Spitsbergen Ar 50.50 357 LR LR 08 41 27.8
comp=Z,657nm,19.4s,baz=355,slow=36
ECSD EROS Data Cent 50.70 66 P **P 08 20 20.0 -0.7**
baz=308,SNR=8.9
ECSD EROS Data Cent 50.70 66 IAmb IAmb 08 20 37.4
comp=Z,11nm,0.7s
BNM Barren Site 50.78 82 P **P 08 20 21.9 +0.2**
EYMN Ely 51.00 59 P **P 08 20 23.5 +0.7**
baz=307
121A Cookes Peak, D 51.14 85 P **P 08 20 24.8 +0.5**
baz=313
121A Cookes Peak, D 51.14 85 P **P 08 20 24.8 +0.5**
DAG Danmarks Havn 51.15 7 *i* P **P 08 20 23.0 -0.6**
DAG Danmarks Havn 51.15 7 *i* P **P 08 20 23.0 -0.6**
BGNE Belgrade 51.25 70 P **P 08 20 25.1 +0.3**
baz=309
BTO Baotou 51.39 289 *e*P **P 08 20 27.5 +1.5**
NJ2 Nanjing 51.57 275 *e*P **P 08 20 26.8 -0.5**
NJ2 pmax pmax
comp=Z,19nm,0.5s
E38A The Farm, Brul 51.78 61 P **P 08 20 28.6 -0.1**
baz=308
TIY Taiyuan 51.79 285 *e*P **P 08 20 31.5 +2.5**
TIY S **S 08 27 51.3 +1.9**
TIY pmax pmax
comp=Z,41nm,0.6s
TIY pmax pmax
comp=Z,260nm,8.6s
TIY LR LR
comp=Z,120nm,7.3s
TIY LR LR
comp=Z,680nm,17.7s
TIY LR LR
comp=Z,690nm,21.7s
SPMN Marine on St. 51.94 63 P **P 08 20 29.3 -0.6**
baz=308
SPMN Marine on St. 51.94 63 IAmb IAmb 08 20 45.2
comp=Z,20nm,1.1s
CBKS Cedar Bluff 51.95 73 P **P 08 20 29.7 -0.5**
baz=310,SNR=6.4
SUMG Summit 52.56 15 *i* P **P 08 20 34.0 -0.6**
SUMG pmax pmax
comp=Z,24nm,0.8s
SUMG Summit 52.56 15 *i* P **P 08 20 34.0 -0.6**
comp=Z,24nm,0.8s
SUMG Summit 52.56 15 P **P 08 20 34.5 -0.2**
MNTX Cornudas Mount 53.20 84 P **P 08 20 39.8 +0.3**
baz=313
MSTX Muleshoe 53.28 80 P **P 08 20 40.6 +0.5**
baz=312
MSTX Muleshoe 53.28 80 IAmb IAmb 08 21 00.1
comp=Z,28nm,1.0s
AMTX Amarillo 53.34 78 P **P 08 20 40.1 -0.5**
baz=312
G40A Rib Lake 53.35 61 P **P 08 20 39.9 -0.4**
baz=309
KSU1 Kansas State U 53.63 71 P **P 08 20 41.8 -0.7**
baz=311,SNR=7.7
SCIA State Center 53.80 66 P **P 08 20 43.7 0.0**
baz=310
F42A Maple Grove Fa 54.16 60 P **P 08 20 45.8 -0.5**
baz=310
F42A Maple Grove Fa 54.16 60 P **P 08 20 47.3 +1.0**
E43A Lone Tree Farm 54.38 58 P **P 08 20 47.4 -0.5**
baz=310
SFJD Kangerlussuaq 54.53 24 P **P 08 20 48.3 -0.3**
SFJD pmax pmax
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 54.53 24 P **P 08 20 48.3 -0.3**
SFJD IAmb IAmb 08 21 03.5
comp=Z,16nm,0.9s
JFWS Jewell Farm 54.83 63 P **P 08 20 50.3 -0.8**
baz=311
JFWS Jewell Farm 54.83 63 IAmb IAmb 08 21 01.2
comp=Z,18nm,0.8s
L40A Anamosa 54.83 65 P **P 08 20 51.2 0.0**
baz=311
I42A Draeger Farm, 54.94 62 P **P 08 20 52.3 +0.3**
baz=310
I42A Draeger Farm, 54.94 62 P **P 08 20 51.5 -0.5**
I42A IAmb IAmb 08 20 59.5
comp=Z,30nm,1.0s
H43A Windswept, Lux 55.19 61 P **P 08 20 53.3 -0.4**
baz=311
WMOK Wichita Mounta 55.21 76 P **P 08 20 53.9 -0.1**
baz=313,SNR=7.4
WMOK Wichita Mounta 55.21 76 IAmb IAmb 08 21 11.6
comp=Z,13nm,0.9s
WHN Wuhan 55.41 277 P **P 08 20 56.3 +0.8**
WHN pmax pmax
comp=Z,44nm,0.5s
D46A Sault St. Mari 55.61 56 P **P 08 20 56.6 -0.2**
baz=311
E46A Sault Ste Mari 55.81 57 P **P 08 20 58.2 0.0**
baz=311
E46A Sault Ste Mari 55.81 57 P **P 08 20 58.3 +0.2**
TX31 Lajitas Ar. Si 55.90 84 P **P 08 20 59.0 -0.2**
TX31 IAmb IAmb 08 21 18.2
comp=Z,7.3nm,0.7s
TX32 Lajitas Array 55.90 84 IAmb IAmb 08 21 18.2
comp=Z,7.6nm,0.7s
TXAR Lajitas Array 55.90 84 P **P 08 20 58.2 -1.0**
comp=Z,2.1nm,0.7s,baz=296,slow=4.6,SNR=25
TXAR ScP **ScP 08 25 54.6 -0.1**
comp=Z,0.9nm,1.0s,baz=270,slow=0.9,SNR=4.2
TXAR LR LR 08 44 29.3
comp=Z,119nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 55.90 84 P **P 08 20 58.9 -0.3**
ZALV Zalesovo Beam 55.98 316 P **P 08 20 58.4 -0.8**
comp=Z,1.7nm,0.4s,baz=50,slow=6.2,SNR=4.1
ZALV PcP **PcP 08 21 57.6 +0.2**
comp=Z,5.8nm,0.6s,baz=28,slow=2.8,SNR=7.6
ZALV LR LR 08 46 45.2
comp=Z,650nm,18.1s,baz=54,slow=38
ZALV Zalesovo Beam 55.98 316 P **P 08 20 58.6 -0.7**
SSLB Suanglung 56.07 266 P **P 08 21 00.1 -0.3**
ABTX Abilene, Hawle 56.12 79 P **P 08 21 00.6 0.0**
baz=314
ABTX Abilene, Hawle 56.12 79 IAmb IAmb 08 21 20.4
comp=Z,16nm,1.1s
G46A Petoskey 56.20 58 P **P 08 21 00.7 -0.3**
baz=311
TUL1 Leonard 56.23 73 P **P 08 21 01.1 -0.3**
baz=313
TUL1 Leonard 56.23 73 IAmb IAmb 08 21 17.7
comp=Z,15nm,0.8s
E47A Iron Bridge 56.29 56 P **P 08 21 01.3 -0.3**
baz=311
XAN Xi'an 56.35 284 P **P 08 21 02.5 +0.2**
XAN pP sP 08 21 12.8 +1.3
XAN sP pwP 08 21 17.0 +2.0
XAN pmax pmax
comp=Z,39nm,1.2s
XAN pmax pmax
comp=Z,230nm,9.8s
XAN LR LR
comp=Z,350nm,18.4s
XAN LR LR
comp=Z,440nm,19.5s
XAN LR LR
comp=Z,410nm,20.6s
XAN Xi'an 56.35 284 P **P 08 21 02.1 -0.2**
XAN pmax pmax
comp=Z,42nm,1.1s
XAN Xi'an 56.35 284 P **P 08 21 02.1 -0.2**
H46A Fife Lake 56.53 59 P **P 08 21 03.6 +0.3**
baz=312
D48A Paudash Townsh 56.57 55 P **P 08 21 03.3 -0.4**
baz=312,SNR=13
GLMI Grayling 56.66 58 P **P 08 21 03.1 -1.1**
baz=312
D49A Beulah Townshi 56.73 54 P **P 08 21 04.8 0.0**
baz=312
SCO Scoresbysund 56.78 11 P **P 08 21 04.4 -0.3**
SCO Scoresbysund 56.78 11 *i* P **P 08 21 04.3 -0.4**
SCO Scoresbysund 56.78 11 P **P 08 21 04.4 -0.3**
I46A Reed City 56.80 60 P **P 08 21 04.9 -0.3**
baz=312
E48A Lockeyer 56.85 56 P **P 08 21 06.4 +0.8**
baz=312
HDIL Hopedale 56.92 65 P **P 08 21 05.5 -0.6**
baz=312
MATQ Matagami 56.92 50 P **P 08 21 05.4 -0.6**
baz=312
H47A Mio 57.03 58 P **P 08 21 06.9 0.0**
baz=312
HHAR Hobbs 57.08 72 IAmb IAmb 08 21 22.8
comp=Z,10nm,0.6s
J46A Howard City 57.08 60 P **P 08 21 07.0 -0.3**
baz=312
F49A Sandfield 57.39 56 P **P 08 21 09.1 -0.4**
baz=312
K46A Dorr 57.45 61 P **P 08 21 10.0 +0.1**
baz=312
CCM Cathedral Cave 57.47 68 P **P 08 21 09.4 -0.8**
baz=313
CCM Cathedral Cave 57.47 68 P **P 08 21 09.3 -0.8**
CCM pmax pmax
comp=Z,16nm,0.9s
CCM Cathedral Cave 57.47 68 P **P 08 21 09.3 -0.8**
CCM IAmb IAmb 08 21 23.7
comp=Z,16nm,0.9s
MGMO Mountain Grove 57.48 70 IAmb IAmb 08 21 24.0
comp=Z,14nm,0.8s
D50A G1974 Best Tow 57.57 54 P **P 08 21 10.5 -0.2**
baz=312,SNR=14
J47A Sunmer 57.60 60 P **P 08 21 10.7 -0.3**
baz=312
E50A Wahnapitae 57.62 55 P **P 08 21 11.0 0.0**
baz=312,SNR=7.8
L46A Eue Claire 57.62 62 P **P 08 21 11.0 -0.1**
baz=312
DGZ Jazzator, Alta 57.65 310 *i* P **P 08 21 11.6 +0.2**
U40A Yellville 57.68 71 P **P 08 21 10.5 -1.1**
baz=313
U40A Yellville 57.68 71 IAmb IAmb 08 21 25.4
comp=Z,18nm,0.8s
LSQQ Lebel-sur-Quev 57.71 51 P **P 08 21 11.6 -0.1**
baz=313
D51A Lot 18 Range I 57.86 54 P **P 08 21 12.3 -0.4**
baz=313,SNR=12
K47A Vermontville 57.89 61 P **P 08 21 13.0 0.0**
baz=313
WHTX Lake Whitney, 57.89 78 P **P 08 21 12.8 -0.3**
baz=314
W39A Magazine 57.91 72 P **P 08 21 12.8 -0.4**
baz=313
W39A Magazine 57.91 72 IAmb IAmb 08 21 29.5
comp=Z,18nm,0.8s
LZH Lanzhou 58.01 289 ⇑P **P 08 21 15.3 +1.2**
LZH pP pP 08 21 21.3 +0.5
LZH sP sP 08 21 24.0 +0.7
LZH PP **PP 08 23 20.8 -1.6**
LZH pmax pmax
comp=Z,46nm,1.2s
LZH pmax pmax
comp=Z,250nm,5.7s
LZH LR LR
comp=Z,730nm,17.4s
LZH LR LR
comp=Z,910nm,17.3s
LZH LR LR
comp=Z,1μm,19.0s
GTA Gaotai 58.10 294 ⇑P **P 08 21 14.5 -0.2**
GTA pP pP 08 21 20.5 -0.8
GTA sP sP 08 21 23.5 -0.3
GTA S **S 08 29 12.8 -1.2**
GTA sS pS 08 29 24.0 +1.7
GTA SS **SS 08 33 05.0 0.0**
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,130nm,8.6s
GTA LR LR
comp=Z,530nm,16.2s
GTA LR LR
comp=Z,550nm,17.5s
GTA LR LR
comp=Z,620nm,19.4s
KEV Kevo 58.13 351 P **P 08 21 14.0 -0.2**
KEV pmax pmax
comp=Z,25nm,1.0s
KEV Kevo 58.13 351 P **P 08 21 14.0 -0.2**
KEV IAmb IAmb 08 21 25.1
comp=Z,25nm,1.0s
E51A G1948 Merrick 58.18 54 P **P 08 21 14.8 -0.2**
baz=313,SNR=7.6
SCHQ Schefferville 58.21 40 P **P 08 21 14.2 -0.8**
comp=Z,8.1nm,0.7s,baz=312,slow=6.9,SNR=9.8
SCHQ LR LR 08 48 53.1
comp=Z,822nm,18.6s,baz=340,slow=39
SCHQ Schefferville 58.21 40 IAmb IAmb 08 21 17.2
comp=Z,12nm,0.8s
L47A Sherwood 58.25 61 P **P 08 21 15.2 -0.3**
baz=313
SFIN Lafayette 58.27 64 P **P 08 21 14.8 -0.9**
baz=313
K48A Perry 58.28 60 P **P 08 21 15.0 -0.7**
baz=313
CHGQ Chibougamau 58.36 48 P **P 08 21 15.1 -1.1**
baz=314
F51A Arnstein 58.38 55 P **P 08 21 15.8 -0.6**
baz=313
D52A ZEK Kipawa Sen 58.42 53 P **P 08 21 16.6 0.0**
baz=313,SNR=9.4
ARCES ARCESS Array B 58.48 352 P **P 08 21 15.8 -0.9**
comp=Z,11nm,0.6s,baz=17,slow=6.8,SNR=46
ARCES PcP **PcP 08 22 07.3 +0.3**
comp=Z,20nm,0.6s,baz=19,slow=4.1,SNR=15
ARCES ARCESS Array B 58.48 352 P **P 08 21 16.0 -0.7**
ARE0 ARCESS Array S 58.48 352 *e*P **P 08 21 16.3 -0.5**
ARE0 ARCESS Array S 58.48 352 P **P 08 21 16.1 -0.6**
MIAR Mount Ida 58.48 73 P **P 08 21 16.9 -0.4**
baz=314,SNR=7.2
ENH Enshi 58.61 280 P **P 08 21 17.8 -0.4**
ENH IAmb IAmb 08 21 32.4
comp=Z,19nm,1.0s
K49A Clarkson 58.65 60 P **P 08 21 17.6 -0.7**
baz=313
L48A N Adams 58.69 61 P **P 08 21 18.3 -0.3**
baz=313
D53A Lac Vacive, Po 58.71 53 P **P 08 21 18.2 -0.4**
baz=314
N47A Urbana 58.72 62 P **P 08 21 18.2 -0.6**
baz=313
P46A Rosedale 58.73 65 P **P 08 21 18.7 -0.2**
baz=313
F52A Sundridge 58.77 55 P **P 08 21 18.4 -0.7**
baz=313,SNR=12
E52A Mattawa 58.77 54 P **P 08 21 18.8 -0.3**
baz=313,SNR=5.6
PBMO Poplar Bluff 58.81 69 IAmb IAmb 08 21 34.0
comp=Z,28nm,1.1s
W41B Gary Mavity, V 58.84 71 P **P 08 21 19.1 -0.6**
baz=314,SNR=6.0
W41B Gary Mavity, V 58.84 71 IAmb IAmb 08 21 35.7
comp=Z,14nm,0.8s
M48A Edgerton 58.85 61 P **P 08 21 18.9 -0.7**
baz=313
TRO Tromso 58.87 355 *e*P **P 08 21 19.2 -0.2**
S44A Carbondale 58.87 67 P **P 08 21 19.0 -0.9**
baz=313
L49A Milan 58.94 60 P **P 08 21 19.6 -0.7**
baz=313
X40A Basin Creek Fa 58.97 72 P **P 08 21 20.9 +0.3**
baz=314
LVZ Lovozero 59.03 348 *i* P **P 08 21 20.6 0.0**
LVZ pmax pmax
comp=Z,93nm,2.5s
LVZ Lovozero 59.03 348 P **P 08 21 19.7 -0.9**
N48A Decatur 59.10 62 P **P 08 21 20.2 -1.2**
baz=313
D54A Lac Fusel, La 59.17 52 P **P 08 21 21.3 -0.6**
baz=314,SNR=5.6
KTK1 Kautokeino 59.18 353 *e*P **P 08 21 21.3 -0.3**
E53A Dumoine, Ponti 59.21 53 P **P 08 21 22.1 0.0**
baz=314
I51A Listowel 59.25 57 P **P 08 21 22.3 -0.2**
baz=314
M49A Liberty Center 59.26 61 P **P 08 21 22.7 +0.1**
baz=314

H52A	Wyevale	59.27	56	P	P	08 21 22.8	+0.2
	baz=314						
ALGO	Algonquin Park	59.30	54	P	P	08 21 22.5	-0.3
	baz=314,SNR=7.6						
E54A	Lac Daplat, Po	59.41	53	P	P	08 21 23.4	-0.1
	baz=314						
O48A	Farmland	59.44	63	P	P	08 21 23.0	-0.8
	baz=314						
APA	Apatity	59.51	348⇑	iP	P	08 21 20.9	-2.9
APA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
APA				MLR	MLR		
	comp=Z,900nm,17.0s						
N49A	Columbus Grove	59.53	62	P	P	08 21 24.3	-0.1
	baz=314						
N49A	Columbus Grove	59.53	62	IAmb	IAmb	08 21 33.1	
	comp=Z,12nm,0.7s						
G53A	Haliburton	59.59	55	P	P	08 21 24.9	+0.1
	baz=314,SNR=8.6						
G54A	Lake Saint Pet	59.67	54	P	P	08 21 25.2	-0.1
	baz=314,SNR=5.5						
M50A	Fremont	59.82	60	P	P	08 21 25.9	-0.5
	baz=314						
P48A	Milroy	59.84	64	P	P	08 21 25.6	-0.9
	baz=314,SNR=5.4						
D55A	Sainte-Anne-du	59.85	51	P	P	08 21 26.3	-0.3
	baz=314,SNR=20						
O49A	Covington	59.95	62	P	P	08 21 27.2	-0.1
	baz=314						
E55A	Montcerf-Lytto	59.95	52	P	P	08 21 27.0	-0.2
	baz=314						
H53A	Bobcaygeon	59.99	55	P	P	08 21 27.3	-0.2
	baz=314						
Q48A	North Vernon	60.03	64	P	P	08 21 27.1	-0.8
	baz=314						
X43A	Marvell	60.11	71	P	P	08 21 27.8	-0.6
	baz=314						
D56A	ZEC Mazanza, M	60.18	51	P	P	08 21 28.3	-0.5
	baz=315						
P49A	Miami Univ. Ec	60.19	63	P	P	08 21 28.3	-0.6
	baz=314						
N50A	Nevada	60.20	61	P	P	08 21 28.5	-0.5
	baz=314						
WCI	Wyandotte Cave	60.20	65	P	P	08 21 28.7	-0.4
	baz=314						
WCI	Wyandotte Cave	60.20	65	P	P	08 21 28.5	-0.6
WCI				pmax	pmax		
	comp=Z,23nm,0.8s						
WCI	Wyandotte Cave	60.20	65	P	P	08 21 28.5	-0.6
F55A	Otter Lake	60.24	53	P	P	08 21 28.9	-0.4
	baz=315,SNR=5.8						
O50A	Cable	60.37	62	P	P	08 21 30.1	-0.2
	baz=314,SNR=9.1						
E56A	St. Veronique	60.40	52	P	P	08 21 29.6	-0.7
	baz=315,SNR=12						
Q49A	Aurora	60.45	64	P	P	08 21 30.4	-0.4
	baz=314						
G55A	Calabogie	60.46	54	P	P	08 21 30.7	-0.1
	baz=315,SNR=9.8						
N51A	Ashland	60.52	60	P	P	08 21 31.3	+0.1
	baz=314						
T47A	Sharon Grove	60.60	67	P	P	08 21 31.8	0.0
	baz=314						
D57A	Chemin Vers le	60.62	51	P	P	08 21 31.5	-0.3
	baz=315						
P50A	Jamestown	60.65	62	P	P	08 21 31.8	-0.3
	baz=314,SNR=7.4						
I55A	Frankford	60.70	55	P	P	08 21 32.5	+0.1
	baz=315						
H55A	Tweed	60.72	54	P	P	08 21 32.4	-0.2
	baz=315,SNR=8.8						
WVT	Waverly	60.77	68	P	P	08 21 32.9	-0.2
	baz=314						
WVT	Waverly	60.77	68	P	P	08 21 32.8	-0.2
WVT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WVT	Waverly	60.77	68	P	P	08 21 32.8	-0.2
WVT				IAmb	IAmb	08 21 44.0	
	comp=Z,8.2nm,0.7s						
R49A	Shelbyville	60.79	64	P	P	08 21 33.5	+0.4
	baz=314						
J54A	Appleton	60.87	56	P	P	08 21 34.2	+0.6
	baz=315						
LATQ	La Tuque	60.89	50	P	P	08 21 32.6	-1.0
	baz=316						
LATQ	La Tuque	60.89	50	IAmb	IAmb	08 21 35.7	
	comp=Z,14nm,0.9s						
O51A	Pataskala	60.93	61	P	P	08 21 34.1	+0.1
	baz=314						
KURK	Kurchatov	60.96	316	P	P	08 21 33.9	-0.1
KURK				pmax	pmax		
	comp=Z,24nm,0.6s						
KURK	Kurchatov	60.96	316	P	P	08 21 33.9	-0.1
N52A	McGinn's Farm,	60.97	60	P	P	08 21 33.4	-0.9
	baz=315						
OXF	Oxford	60.98	70	P	P	08 21 34.2	-0.3
	baz=315						
D58A	Chemin du LacG	61.05	50	P	P	08 21 33.7	-1.0
	baz=316,SNR=9.4						
KURBB	Kurchatov Arra	61.06	316	P	P	08 21 34.3	-0.4
	comp=Z,10nm,0.4s,baz=44,slow=6.7,SNR=32						
KURBB				PcP	PcP	08 22 18.4	+0.8
	comp=Z,7.7nm,0.7s,baz=41,slow=4.2,SNR=10						
KURBB				ScP	ScP	08 26 21.2	+4.1
	comp=Z,0.6nm,0.3s,baz=54,slow=4.7,SNR=2.7						
Q50A	Georgetown	61.08	63	P	P	08 21 34.6	-0.4
	baz=315						
F57A	Harrington	61.08	52	P	P	08 21 35.1	+0.2
	baz=315						
S49A	Springfield	61.08	65	P	P	08 21 34.9	-0.2
	baz=315						
P51A	Williamsport	61.14	62	P	P	08 21 35.4	0.0
	baz=315						
H56A	Elgin	61.16	54	P	P	08 21 35.4	-0.1
	baz=315,SNR=16						
R50A	Paris	61.27	64	P	P	08 21 36.5	+0.2
	baz=315						
R50A	Paris	61.27	64	IAmb	IAmb	08 21 49.6	
	comp=Z,19nm,1.1s						
J55A	Hilton	61.30	56	P	P	08 21 36.7	+0.3
	baz=315						
Q51A	Peebles	61.30	63	P	P	08 21 36.5	0.0
	baz=315						
K54A	Basiliko Farm,	61.31	57	P	P	08 21 36.5	0.0
	baz=315						
O52A	Adamsville	61.37	61	P	P	08 21 36.5	-0.5
	baz=315,SNR=6.2						
E58A	La Victoria	61.37	51	P	P	08 21 36.2	-0.7
	baz=316,SNR=6.7						
T49A	Edmonton	61.41	66	P	P	08 21 37.0	-0.4
	baz=315						
N53A	Lisbon	61.43	60	P	P	08 21 37.4	0.0
	baz=315						
G57A	Newington	61.44	53	P	P	08 21 36.8	-0.5
	baz=316,SNR=13						
K55A	Perry	61.55	56	P	P	08 21 38.6	+0.4
	baz=315						
P52A	Corning	61.55	61	P	P	08 21 36.8	-1.4
	baz=315						
M54A	Oil Creek Stat	61.57	58	P	P	08 21 37.6	-0.7
	baz=315						
D59A	Saint-Raymond	61.61	49	P	P	08 21 37.4	-1.1
	baz=316,SNR=6.5						
WMQ	Urumqi	61.61	305	P	P	08 21 39.5	+0.8
WMQ				pP	pP	08 21 44.0	-1.3
WMQ				sP	sP	08 21 49.8	+2.0
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,76nm,3.7s						
WMQ				LR	LR		
	comp=Z,530nm,19.3s						
WMQ				LR	LR		
	comp=Z,510nm,21.7s						
WMQ				LR	LR		
	comp=Z,600nm,21.7s						
O53A	New Philadelph	61.62	60	P	P	08 21 38.5	-0.2
	baz=315						
V48A	Smith Brothers	61.63	67	P	P	08 21 38.3	-0.5
	baz=315						
S50A	Richmond	61.66	64	P	P	08 21 38.9	-0.1
	baz=315						
CD2	Chengdu	61.66	285⇓	iP	P	08 21 40.0	+0.9
CD2				S	S	08 29 58.3	-1.6
CD2				pmax	pmax		
	comp=Z,60nm,0.7s						
CD2				pmax	pmax		
	comp=Z,480nm,7.9s						
CD2				LR	LR		
	comp=Z,520nm,16.8s						
CD2				LR	LR		
	comp=Z,1μm,17.1s						
CD2				LR	LR		
	comp=Z,1μm,17.8s						
E59A	St. Maurice	61.67	50	P	P	08 21 37.9	-1.0
	baz=316						
R51A	Hillsboro	61.68	63	P	P	08 21 39.1	0.0
	baz=315,SNR=20						
U49A	Red Boiling Sp	61.69	66	P	P	08 21 38.3	-0.9
	baz=315						
H57A	Richville	61.69	53	P	P	08 21 38.8	-0.3
	baz=316,SNR=9.3						
L55A	Hinsdale	61.74	57	P	P	08 21 39.3	-0.2
	baz=315						
N54A	Moraine State	61.78	59	P	P	08 21 39.3	-0.5
	baz=315,SNR=6.2						
J56A	Wolcott	61.79	55	P	P	08 21 39.4	-0.3
	baz=315						
G58A	Ormstown	61.87	52	P	P	08 21 39.6	-0.7
	baz=316,SNR=10.0						
T50A	Nancy	61.87	65	P	P	08 21 40.0	-0.4
	baz=315						
I57A	Carthage	61.93	54	P	P	08 21 40.4	-0.3
	baz=316,SNR=8.7						
Q52A	Bidwell	61.95	62	P	P	08 21 40.9	0.0
	baz=315						
K56A	Middlesex	61.96	56	P	P	08 21 40.9	-0.1
	baz=316,SNR=9.5						
LONY	Lake Ozonia	61.98	53	P	P	08 21 40.8	-0.3
	baz=316,SNR=9.8						
F59A	Saint Guilaume	61.99	51	P	P	08 21 40.4	-0.6
	baz=316						
TMCR	Tamitsa	62.01	345	eP	P	08 21 40.1	-0.8
TMCR				pmax	pmax		
	comp=Z,23nm,0.9s						
P53A	Whipple	62.06	61	P	P	08 21 41.8	+0.1
	baz=315						
M55A	Ridgway	62.07	58	P	P	08 21 42.0	+0.2
	baz=315						
D60A	Saint Jean D'O	62.11	49	P	P	08 21 40.8	-1.0
	baz=317						
J57A	Williamstown	62.13	55	P	P	08 21 41.7	-0.4
	baz=316,SNR=8.5						
S51A	Beattyville	62.14	64	P	P	08 21 42.3	+0.1
	baz=315						
MK31	Makanchi Array	62.14	311	P	P	08 21 41.5	-0.6
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	Makanchi Array	62.14	311	P	P	08 21 41.5	-0.6
MKAR	Makanchi Array	62.14	311	iP	P	08 21 41.4	-0.7
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MKAR	Makanchi Array	62.14	311	P	P	08 21 40.9	-1.2
	comp=Z,9.4nm,0.3s,baz=44,slow=7.0,SNR=360						
MKAR				PcP	PcP	08 22 22.7	+0.6
	comp=Z,5.1nm,0.8s,baz=46,slow=4.8,SNR=3.3						
MKAR				LR	LR	08 49 09.3	
	comp=Z,419nm,20.6s,baz=39,slow=36						
MKAR	Makanchi Array	62.14	311	P	P	08 21 41.5	-0.6
V49A	McMinnville	62.14	67	P	P	08 21 42.4	+0.2
	baz=315						
R52A	Catlettsburg	62.18	63	P	P	08 21 42.2	-0.2
	baz=315						
L56A	Greenwood	62.23	57	P	P	08 21 43.1	+0.3
	baz=316,SNR=9.3						
D61A	St Aubert, Com	62.25	48	P	P	08 21 42.1	-0.6
	baz=317						
E60A	Ste Agathe de	62.26	50	P	P	08 21 42.0	-0.8
	baz=317						
KONS	Konsvik	62.27	357	eP	P	08 21 42.6	+0.1
U50A	Jamestown	62.29	66	P	P	08 21 43.1	-0.2
	baz=315						
F60A	Warwick	62.30	50	P	P	08 21 42.6	-0.6
	baz=316						
H58A	Gabriels	62.33	53	P	P	08 21 42.6	-0.8
	baz=316						
G59A	Clarenceville	62.35	52	P	P	08 21 42.5	-1.0
	baz=316						
K57A	Scipio Center	62.35	55	P	P	08 21 43.5	-0.1
	baz=316,SNR=9.2						
M56A	Emporium	62.37	57	P	P	08 21 43.2	-0.6
	baz=316						
W49A	Belvidere	62.39	68	P	P	08 21 43.7	-0.3
	baz=315						
S52A	Salyersville	62.40	64	P	P	08 21 43.3	-0.6
	baz=315						
H59A	Cadyville	62.41	52	P	P	08 21 43.5	-0.4
	baz=316,SNR=7.5						
X48A	Hartselle	62.41	69	P	P	08 21 43.0	-1.1
	baz=315						
T51A	Gray	62.41	65	P	P	08 21 43.9	-0.2
	baz=315						
Q53A	Leroy	62.43	62	P	P	08 21 43.9	-0.3
	baz=315						
N55A	Marion Center	62.44	59	P	P	08 21 43.7	-0.5
	baz=316						
I58A	Old Forge	62.45	54	P	P	08 21 43.7	-0.5
	baz=316,SNR=7.0						
P54A	Burton	62.47	60	P	P	08 21 44.2	-0.2
	baz=315,SNR=6.6						
J58A	Remsen	62.53	54	P	P	08 21 45.0	+0.2
	baz=316,SNR=11						
MOR8	Moi Rana	62.54	356	eP	P	08 21 43.2	-1.3
R53A	Hurricane	62.57	62	P	P	08 21 44.8	-0.2
	baz=315						
BVAR	Borovoye Array	62.60	322	P	P	08 21 45.1	0.0
	comp=Z,18nm,0.5s,baz=52,slow=6.6,SNR=64						
BVAR				PcP	PcP	08 22 24.6	+0.8
	comp=Z,20nm,0.6s,baz=49,slow=3.3,SNR=12						
BRVK	Borovoye	62.62	322	P	P	08 21 44.8	-0.4
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BRVK	Borovoye	62.62	322	P	P	08 21 44.8	-0.4
BRVK				IAmb	IAmb	08 21 48.2	
	comp=Z,10nm,0.6s						
NCB	Newcomb	62.63	53	IAmb	IAmb	08 21 47.0	
	comp=Z,17nm,0.8s						
E61A	Lac Etchemin	62.67	49	P	P	08 21 45.2	-0.4
	baz=317						
V50A	Pikeville	62.67	66	P	P	08 21 45.7	-0.2
	baz=315						
O55A	Ligonier	62.68	59	P	P	08 21 45.1	-0.7
	baz=316						
L57A	Andrews Acres	62.70	56	P	P	08 21 45.9	-0.1
	baz=316,SNR=9.5						
N56A	West Decatur	62.71	58	P	P	08 21 45.5	-0.6
	baz=316						
Q54A	Coxs Mills	62.72	61	P	P	08 21 45.4	-0.6
	baz=316						
F61A	St Evariste	62.76	50	P	P	08 21 45.8	-0.5
	baz=317						
K58A	Earlville	62.77	55	P	P	08 21 46.8	+0.4
	baz=316,SNR=8.7						
MCWV	Mont Chateau	62.78	60	P	P	08 21 46.0	-0.4
	baz=316						
U51A	La Follette	62.79	65	P	P	08 21 46.2	-0.4
	baz=316						
J59A	Piesco	62.85	54	P	P	08 21 46.7	-0.2
	baz=316,SNR=10						
T52A	Hallie	62.86	64	P	P	08 21 46.4	-0.6
	baz=316						
D62A	Allapoint, All	62.86	48	P	P	08 21 46.3	-0.6
	baz=318,SNR=5.3						
PRGR	Permogore	62.87	340	eP	P	08 21 41.2	-5.5
PRGR				e		08 22 24.0	
PRGR				pmax	pmax		
	comp=Z,15nm,0.6s						
W50A	Signal Mountai	62.88	67	P	P	08 21 46.3	-1.0
	baz=316						
W50A	Signal Mountai	62.88	67	IAmb	IAmb	08 22 03.6	
	comp=Z,13nm,0.8s						
P55A	Reedsville	62.90	60	P	P	08 21 46.6	-0.7
	baz=316						
I59A	Olmsteadville	62.93	53	P	P	08 21 46.8	-0.6
	baz=316,SNR=11						
TZTN	Tazewell	62.94	65	P	P	08 21 47.8	+0.2
	baz=316						
H60A	Morristown	62.96	52	P	P	08 21 46.8	-0.8
	baz=317						
E62A	Clayton Lake	62.98	48	P	P	08 21 47.4	-0.3
	baz=317						
BINY	Binghamton	63.01	56	P	P	08 21 48.2	+0.3
	baz=316,SNR=13						
G61A	St-Isidore-de-	63.01	51	P	P	08 21 46.9	-1.0
	baz=317						
V51A	Loudon	63.01	66	P	P	08 21 47.7	-0.4
	baz=316						
M57A	Sunshine Farm,	63.03	57	P	P	08 21 48.0	-0.1
	baz=316						
O56A	Blue Knob Stat	63.03	59	P	P	08 21 47.6	-0.6
	baz=316						
GYA	Guiyang	63.06	279⇑	iP	P	08 21 50.5	+1.8
GYA				pP	sP	08 21 58.3	+0.4
GYA				S	S	08 30 17.8	0.0
GYA				sS	sS	08 30 30.5	+1.7
GYA				SS	SS	08 34 25.5	+2.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.4s						
GYA				LR	LR		
	comp=Z,510nm,18.4s						
GYA				LR	LR		
	comp=Z,540nm,18.0s						
GYA				LR	LR		
	comp=Z,560nm,18.8s						
Q55A	Buckhannon	63.12	61	P	P	08 21 49.0	+0.2
	baz=316,SNR=7.5						
SSPA	Standing Stone	63.13	58	P	P	08 21 48.9	+0.1
	baz=316						
SSPA	Standing Stone	63.13	58	P	P	08 21 48.9	+0.1
U52A	Thorn Hill	63.15	65	P	P	08 21 49.7	+0.7
	baz=316						
K59A	Cooperstown	63.17	54	P	P	08 21 49.2	+0.1
	baz=316,SNR=9.1						
FPAL	Fort Paine	63.18	68	IAmb	IAmb	08 22 03.7	
	comp=Z,17nm,0.7s						
I60A	Shoreham	63.19	53	P	P	08 21 48.5	-0.6
	baz=317						
L58A	Harry Jones Me	63.19	56	P	P	08 21 49.4	+0.2
	baz=316,SNR=17						
T53A	Wise	63.20	64	P	P	08 21 49.3	-0.1
	baz=316						
Y49A	Blount Mountai	63.20	69	P	P	08 21 49.0	-0.3
	baz=316						
R54A	Victor	63.20	62	P	P	08 21 49.5	+0.1
	baz=316,SNR=8.6						
N57A	Milroy	63.22	58	P	P	08 21 49.4	0.0
	baz=316						
W51A	Cleveland	63.23	67	P	P	08 21 49.0	-0.5
	baz=316						
S54A	Dingess, Beckl	63.30	62	P	P	08 21 49.9	-0.1
	baz=316,SNR=10						
F62A	Pittston Farm,	63.30	49	P	P	08 21 49.6	-0.3
	baz=317,SNR=6.1						
F62A	Pittston Farm,	63.30	49	IAmb	IAmb	08 21 52.5	
	comp=Z,23nm,0.9s						
D63A	Stockholm	63.33	47	P	P	08 21 49.7	-0.3
	baz=318						
M58A	Price's Panora	63.35	57	P	P	08 21 50.7	+0.4
	baz=316						
H61A	Lyndonville	63.36	51	P	P	08 21 49.6	-0.7
	baz=317						
V52A	Sevierville	63.41	65	P	P	08 21 50.3	-0.4
	baz=316						
V52A	Sevierville	63.41	65	IAmb	IAmb	08 22 05.5	
	comp=Z,18nm,0.8s						
P56A	Dayton Farm, R	63.43	59	P	P	08 21 50.7	-0.1
	baz=316						
LRAL	Lakeview Retre	63.44	70	P	P	08 21 50.7	-0.2
	baz=316						
L59A	Walton	63.50	55	P	P	08 21 51.5	+0.2
	baz=317,SNR=19						
G62A	West of Eustis	63.53	50	P	P	08 21 51.6	+0.2
	baz=317,SNR=8.0						
J60A	Lant Hill Farm	63.56	53	P	P	08 21 51.8	+0.3
	baz=317,SNR=13						
O57A	Amberson	63.57	58	P	P	08 21 52.0	+0.3
	baz=316						
LBNH	Lisbon	63.57	52	P	P	08 21 51.2	-0.4
	baz=317						
N58A	Sunbury	63.60	57	P	P	08 21 52.0	+0.1
	baz=316						
N58A	Sunbury	63.60	57	IAmb	IAmb	08 22 07.3	
	comp=Z,17nm,0.7s						
R55A	Marlinton	63.61	61	P	P	08 21 52.5	+0.4
	baz=316						
U53A	Fall Branch	63.62	64	P	P	08 21 51.7	-0.4
	baz=316						
E63A	Oxbow	63.64	48	P	P	08 21 51.4	-0.7
	baz=318,SNR=6.1						
I61A	Oroboro, Fairl	63.66	52	P	P	08 21 52.2	0.0
	baz=317						
T54A	Tazewell	63.68	63	P	P	08 21 52.6	+0.1
	baz=316						
H62A	Milan	63.70	51	P	P	08 21 52.2	-0.3
	baz=317,SNR=9.4						
W52A	Murphy	63.76	66	P	P	08 21 52.8	-0.2
	baz=316						
S55A	Lewisburg	63.77	62	P	P	08 21 52.8	-0.3
	baz=316						
M59A	Waymart	63.77	56	P	P	08 21 52.7	-0.3
	baz=317,SNR=12						
K60A	Five Rivers En	63.78	54	P	P	08 21 52.6	-0.3
	baz=317						
F63A	Nahmakanta, Br	63.86	49	P	P	08 21 53.2	-0.3
	baz=318						
P57A	Homestead Farm	63.89	59	P	P	08 21 53.0	-0.9
	baz=316						
R56A	Bull Pasture M	63.91	61	P	P	08 21 54.1	0.0
	baz=316						
J61A	Chester	63.92	53	P	P	08 21 52.9	-1.0
	baz=317						
Z50A	Ashland	63.92	69	P	P	08 21 52.9	-1.1
	baz=316						
Z50A	Ashland	63.92	69	IAmb	IAmb	08 22 08.7	
	comp=Z,18nm,0.7s						
E64A	Bridgewater	63.92	48	P	P	08 21 52.9	-1.0
	baz=318,SNR=7.9						
U54A	Nelsons Funny	63.93	64	P	P	08 21 53.0	-1.2
	baz=316						
Y51A	Rockmart	63.95	68	P	P	08 21 52.9	-1.4
	baz=316						
V53A	Saluda	63.98	65	P	P	08 21 54.5	0.0
	baz=316						
ARU	Arti	63.98	330	c iP	P	08 21 54.7	+0.6
ARU						08 22 27.6	
ARU						08 24 11.9	
ARU				S	S	08 30 32.9	+4.8
ARU				SS	SS	08 34 36.0	+0.1
ARU				pmax	pmax		
	comp=Z,16nm,1.2s						
ARU				MLR	MLR		
	comp=Z,685nm,19.0s						
ARU	Arti	63.98	330	P	P	08 21 53.4	-0.7
	comp=Z,2.9nm,0.2s,baz=27,slow=5.7,SNR=6.4						
ARU				PcP	PcP	08 22 29.4	0.0
	comp=Z,3.8nm,0.2s,baz=31,slow=3.2,SNR=4.2						
ARU	Arti	63.98	330	P	P	08 21 53.5	-0.6
ARU				IAmb	IAmb	08 21 55.1	
	comp=Z,9.2nm,0.9s						
Q57A	Strasburg	64.00	60	P	P	08 21 54.3	-0.3
	baz=316						
O58A	Lewisberry	64.01	58	P	P	08 21 54.9	+0.3
	baz=316						
N59A	State Game Lan	64.04	56	P	P	08 21 54.1	-0.7
	baz=317,SNR=6.4						
G63A	Kingsbury	64.05	50	P	P	08 21 54.5	-0.3
	baz=318						
K61A	Williamstown	64.05	54	P	P	08 21 55.2	+0.4
	baz=317						
L60A	Shokan	64.06	55	P	P	08 21 54.5	-0.4
	baz=317,SNR=7.4						
T55A	Pulaski	64.08	62	P	P	08 21 55.2	0.0
	baz=316						
F64A	Sherman	64.09	48	P	P	08 21 54.2	-0.8
	baz=318						
PKME	Peaks-Kenny Pk	64.09	49	P	P	08 21 55.0	0.0
	baz=318						
X52A	Dahlonega	64.12	66	P	P	08 21 54.5	-1.0
	baz=316						
I62A	Tamworth	64.13	52	P	P	08 21 54.7	-0.6
	baz=318						
W53A	Cullowhee	64.14	66	P	P	08 21 55.9	+0.3
	baz=316						
BLA	Blacksburg	64.21	62	P	P	08 21 56.3	+0.3
	baz=316						
L61A	Hillsdale 1, H	64.25	54	P	P	08 21 55.4	-0.8
	baz=317,SNR=6.9						
O59A	Robesonia	64.26	57	P	P	08 21 55.9	-0.3
	baz=317						
P58A	Pank, Wackersv	64.27	58	P	P	08 21 55.9	-0.4
	baz=317						
Z51A	Franklin	64.31	68	P	P	08 21 56.1	-0.6

baz=316
M60A Port Jervis 64.34 55 P P 08 21 56.7 0.0
baz=317,SNR=18
S56A Natural Bridge 64.35 61 P P 08 21 56.1 -0.8
baz=316,SNR=7.3
G64A Maxfield 64.35 49 P P 08 21 56.5 -0.2
baz=318
I63A Otisfield 64.37 51 P P 08 21 55.7 -1.2
baz=318
J62A Henniker 64.37 52 P P 08 21 55.8 -1.1
baz=318,SNR=5.6
U55A TA2, Sparta 64.37 63 P P 08 21 56.0 -1.1
baz=316
V54A Nebo 64.39 64 P P 08 21 57.1 -0.1
baz=316
MVL Millersville 64.40 58 IAmb IAmb 08 22 05.6
comp=Z,16nm,0.7s
N60A Cedar Hill Far 64.43 56 P P 08 21 57.1 -0.2
baz=317,SNR=8.5
Q58A Fox Den Farm, 64.46 59 P P 08 21 56.7 -0.8
baz=317
R57A Stanardsville 64.47 60 P P 08 21 57.6 -0.1
baz=317
L61B Northampton 64.51 53 P P 08 21 57.4 -0.4
baz=317
X53A Estanollee 64.54 66 P P 08 21 57.6 -0.5
baz=316
Y52A Lilburn 64.56 67 P P 08 21 58.4 +0.1
baz=316
T56A Rocky Mt 64.56 62 P P 08 21 57.6 -0.6
baz=316
K62A Royalston 64.57 53 P P 08 21 57.9 -0.4
baz=318
H64A Troy 64.59 50 P P 08 21 58.1 -0.2
baz=318
S57A Dark Hollow, R 64.62 61 P P 08 21 59.3 +0.6
baz=317
250A Grady 64.63 70 P P 08 21 57.7 -1.0
baz=316
250A Grady 64.63 70 P P 08 21 58.6 -0.2
P59A Jarrettsville 64.64 58 P P 08 21 58.2 -0.5
baz=317
O60A Telford 64.67 57 P P 08 21 58.6 -0.3
baz=317
KIRV Kirov 64.69 336 P P 08 21 57.7 -1.0
comp=Z,16nm,0.5s,baz=89,slow=14,SNR=4.1
KIRV PcP **PcP 08 22 32.6 +0.3**
comp=Z,15nm,0.6s,baz=40,slow=7.9,SNR=3.3
V55A Taylorsville 64.75 64 P P 08 21 58.7 -0.8
baz=316
R58A Rapidan 64.75 60 P P 08 21 59.4 -0.1
baz=317
W54A Cherokee Point 64.75 65 P P 08 21 58.9 -0.6
baz=316
M61A Granite Spring 64.79 55 P P 08 21 59.3 -0.3
baz=317
KLMR Klimovskoe 64.82 342 *e*P **P 08 21 57.4 -2.1**
KLMR pmax pmax
comp=Z,24nm,1.3s
KLMR Klimovskoe 64.82 342 *e*P **P 08 21 57.5 -2.1**
KLMR AMP 08 21 59.8
comp=Z,24nm,1.3s
KLMR LQ LQ 08 49 36.6
KLMR LQ LQ 08 49 36.6
KLMR LR LR 08 52 58.4
L62A Suffield 64.82 54 P P 08 21 59.5 -0.4
baz=318
Z52A Williamson 64.84 68 P P 08 21 59.3 -0.8
baz=316
Y53A Monroe 64.84 67 P P 08 21 59.6 -0.5
baz=316
U56A King 64.86 63 P P 08 21 59.4 -0.8
baz=317
U56A King 64.86 63 IAmb IAmb 08 22 16.7
comp=Z,16nm,0.7s
K63A Dunstable 64.91 53 P P 08 22 00.4 0.0
baz=318
N61A South Mountain 64.93 56 P P 08 22 00.6 0.0
baz=317
PAL Palisades 64.94 55 P P 08 22 00.9 +0.3
baz=317,SNR=5.7
PAL Palisades 64.94 55 P P 08 22 01.3 +0.6
PAL pmax pmax
comp=Z,51nm,1.0s
PAL Palisades 64.94 55 P P 08 22 01.3 +0.6
G65A Princeton 64.95 48 P P 08 22 00.0 -0.6
baz=319
H65A Eastbrook 65.01 49 P P 08 22 00.4 -0.6
baz=319
T57A Hurt 65.01 62 P P 08 22 00.8 -0.4
baz=317
T57A Hurt 65.01 62 IAmb IAmb 08 22 16.6
comp=Z,17nm,0.8s
HRV Adam Dziewonsk 65.03 53 P P 08 22 00.6 -0.6
baz=318
X54A Belton 65.03 65 P P 08 22 01.2 -0.1
baz=317
152A Waverly Hall 65.04 68 P P 08 22 00.1 -1.3
baz=317
R58B Mineral 65.06 60 P P 08 22 00.9 -0.6
baz=317
R58B Mineral 65.06 60 IAmb IAmb 08 22 16.8
comp=Z,12nm,0.8s
V56A Mocksville 65.18 63 P P 08 22 01.9 -0.4
baz=317
KMSC Kings Mountain 65.19 64 P P 08 22 02.1 -0.3
baz=317,SNR=5.4
S58A Poland Farm, P 65.22 60 P P 08 22 03.0 +0.4
baz=317
GOGA Godfrey 65.23 67 P P 08 22 02.0 -0.7
baz=317
GOGA Godfrey 65.23 67 IAmb IAmb 08 22 17.4
comp=Z,19nm,0.8s
Z53A Monticello 65.26 67 P P 08 22 02.4 -0.5
baz=317
O61A Allentown 65.28 56 P P 08 22 01.6 -1.3
baz=317
R59A King George, V 65.30 59 P P 08 22 02.8 -0.2
baz=317
Y54A Tignall 65.35 66 P P 08 22 03.5 +0.1
baz=317
U57A Blanch 65.38 62 P P 08 22 03.5 0.0
baz=317
H66A Whiting 65.38 48 P P 08 22 02.8 -0.6
baz=319
T58A Grand View Acr 65.45 61 P P 08 22 03.4 -0.6
baz=317
X55A Gracelyn & Ava 65.51 65 P P 08 22 04.1 -0.4
baz=317,SNR=5.2
S59A Mechanicsville 65.53 60 P P 08 22 03.9 -0.6
baz=317
V57A Coltrane Farms 65.53 63 P P 08 22 05.0 +0.5
baz=317
153A Fort Valley 65.57 68 P P 08 22 04.2 -0.7
baz=317
M63A Gales Ferry 65.60 54 P P 08 22 04.9 0.0
baz=318
W56A Indian Trail 65.62 64 P P 08 22 05.8 +0.6
baz=317
Z54A Sparta 65.72 67 P P 08 22 04.9 -0.9
baz=317
Y55A Saluda 65.77 66 P P 08 22 05.6 -0.5
baz=317
352A Blakely 65.78 70 P P 08 22 06.2 0.0
baz=317
253A Americus 65.82 69 P P 08 22 06.4 -0.1
baz=317
X56A White Oak 65.84 65 P P 08 22 06.5 0.0
baz=317
W57A Gilead 65.94 63 P P 08 22 07.6 +0.4
baz=317
T59A Double "B" Far 65.96 61 P P 08 22 07.2 -0.1
baz=317,SNR=7.0
T59A Double "B" Far 65.96 61 IAmb IAmb 08 22 09.9
comp=Z,16nm,0.8s
154A Montrose 66.01 67 P P 08 22 07.2 -0.5
baz=317
BIRD Birdtown, Kers 66.05 64 IAmb IAmb 08 22 22.9
comp=Z,18nm,0.8s
T60A Surry 66.28 60 P P 08 22 09.1 -0.2
baz=318
U59A Littleton 66.28 61 P P 08 22 09.2 -0.2
baz=317
FIA1 FINESS Array S 66.30 349 P P 08 22 08.2 -0.8
FIA1 IAmb IAmb 08 22 10.7
comp=Z,8.1nm,0.7s
FINES FINESS Array B 66.30 349 P P 08 22 08.2 -0.9
comp=Z,5.9nm,0.5s,baz=11,slow=7.2,SNR=22
FINES PcP **PcP 08 22 39.3 +0.4**
comp=Z,7.3nm,0.5s,baz=28,slow=3.3,SNR=9.4
FINES LR LR 08 54 10.4
comp=Z,240nm,19.1s,baz=27,slow=39
MOL Molde 66.34 359 *e*P **P 08 22 09.5 +0.2**
155A Kite 66.38 67 P P 08 22 10.2 +0.1
baz=317
X57A Johnson Farm, 66.39 64 P P 08 22 09.6 -0.5
baz=317
KMI Kunming 66.45 281 P P 08 22 12.0 +1.1
KMI pmax pmax
comp=Z,22nm,1.2s
KMI LR LR
comp=Z,410nm,21.6s
KMI LR LR
comp=Z,260nm,20.5s
KMI LR LR
comp=Z,300nm,18.2s
W58A Raeford 66.46 63 P P 08 22 10.6 0.0
baz=317
V59A Middlesex 66.47 62 P P 08 22 10.5 -0.1
baz=318
Z56A Williston 66.50 66 P P 08 22 10.5 -0.3
baz=317
QIZ Qiongzhong 66.53 271 P P 08 22 10.5 -0.7
QIZ S **S 08 30 58.0 -2.4**
QIZ LR LR
comp=Z,1μm,14.7s
QIZ LR LR
comp=Z,790nm,12.7s
QIZ LR LR
comp=Z,1μm,12.7s
U60A Pendleton 66.54 61 P P 08 22 10.8 -0.2
baz=318
Y57A Sumter 66.55 65 P P 08 22 11.0 -0.1
baz=317
AKN Aaknes 66.74 359 *e*P **P 08 22 12.7 +0.8**
TAOE Nuku Hiva Isla 66.90 143 *e*LR LR 08 42 13.3
comp=Z,290nm,23.3s
TAOE Nuku Hiva Isla 66.90 143 *e*T T 09 35 09.9
comp=Z,153nm,0.3s
TAOE *e*T T 09 35 09.9
comp=Z,30nm,0.3s
U61A Possum Corner 67.03 60 P P 08 22 14.5 +0.4
baz=318
Y58A Scranton 67.04 64 P P 08 22 15.1 +0.9
baz=318
X59A McDuffie Farm, 67.14 63 P P 08 22 14.8 0.0
baz=318
PRZ Przheval'sk 67.20 310 P P 08 22 15.5 +0.1
PRZ pmax pmax
comp=Z,16nm,0.6s
PRZ Przheval'sk 67.20 310 P P 08 22 15.5 +0.1
PRZ IAmb IAmb 08 22 17.8
comp=Z,16nm,0.6s
V61A Roper 67.36 61 P P 08 22 15.7 -0.6
baz=318
NC204 NORSAR Array S 67.58 357 P P 08 22 17.0 -0.3
NC204 IAmb IAmb 08 22 18.3
comp=Z,17nm,0.8s
HYA Hoyanger 67.76 360 *e*P **P 08 22 19.7 +1.4**
NB2 NORSAR Subarra 67.80 357 P P 08 22 18.4 -0.3
comp=Z,2.6nm,0.4s,baz=5.1,slow=6.9
NB2 NORSAR Subarra 67.80 357 P P 08 22 18.4 -0.3
baz=5.1,slow=6.9
NOA NORSAR Array B 67.80 357 P P 08 22 18.3 -0.4
comp=Z,9.7nm,0.9s,baz=5.1,slow=6.4,SNR=22
NOA LR LR 08 52 38.7
comp=Z,158nm,18.9s,baz=350,slow=37
KDJ Kajisay 68.05 310 IAmb IAmb 08 22 22.6
comp=Z,15nm,1.0s
TARG Taragay, Kyrgy 68.06 310 IAmb IAmb 08 22 24.8
comp=Z,15nm,0.6s
NC602 NORSAR Array S 68.09 357 *e*P **P 08 22 20.6 +0.1**
TKM2 Tokmak 2 68.19 312 *i* P **P 08 22 21.6 -0.1**
TKM2 pmax pmax
comp=Z,19nm,1.3s
TKM2 Tokmak 2 68.19 312 P P 08 22 22.4 +0.7
SNR=9.2
SKAR Skarslia 68.23 359 *e*P **P 08 22 21.7 +0.3**
BOOM Boomskoye usch 68.36 311 IAmb IAmb 08 22 24.8
comp=Z,16nm,0.6s
ULHL Ulahol 68.41 311 P P 08 22 25.5 +2.4
SNR=6.0
USP Ospenovka 68.43 313 P P 08 22 23.8 +0.9
SNR=14
SLVN Son La 68.53 278 P P 08 22 23.6 -0.2
SLVN IAmb IAmb 08 22 41.1
comp=Z,16nm,1.0s
KBK Karagaybulak 68.70 312 P P 08 22 25.7 +0.9
SNR=10
AAK Ala-Archa 68.92 312 P P 08 22 26.2 0.0
AAK pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 68.92 312 P P 08 22 26.8 +0.6
comp=Z,13nm,0.6s,baz=120,slow=4.6,SNR=23
AAK Ala-Archa 68.92 312 P P 08 22 26.9 +0.6
SNR=15
AAK Ala-Archa 68.92 312 P P 08 22 26.2 0.0
AAK IAmb IAmb 08 22 29.2
comp=Z,12nm,0.7s
KZA Kyzart 69.00 312 P P 08 22 28.0 +1.0
SNR=15
ODD1 Odda 69.02 359 *e*P **P 08 22 26.6 +0.3**
PMG Port Moresby 69.07 221 P P 08 22 27.7 +0.6
PMG pmax pmax
comp=Z,14nm,1.2s
PMG Port Moresby 69.07 221 P P 08 22 27.7 +0.6
PMG IAmb IAmb 08 22 35.9
comp=Z,14nm,1.1s
VSU Vasula 69.13 348 *ce*P **P 08 22 27.3 +0.4**
VSU pmax pmax
comp=Z,145nm,1.7s
NRN Naryn 69.15 311 IAmb IAmb 08 22 30.2
comp=Z,11nm,1.1s
AKTO Aktyubinsk 69.20 327 P P 08 22 27.4 -0.2
AKTO pmax pmax
comp=Z,14nm,0.6s
AKTO Aktyubinsk 69.20 327 P P 08 22 27.6 +0.1
comp=Z,15nm,0.6s,baz=62,slow=7.1,SNR=50
EKS2 Erkin-Say 69.23 313 P P 08 22 29.1 +1.1
SNR=22
UCH Uchtor 69.23 312 P P 08 22 29.6 +1.2
SNR=6.1
KONO Kongsberg 69.24 358 *ce*P **P 08 22 28.4 +0.8**
KONO pmax pmax
comp=Z,12nm,0.7s
KONO Kongsberg 69.24 358 *e*P **P 08 22 27.6 0.0**
SWI Sorong 69.32 240 P P 08 22 28.7 0.0
SIJI Sorong 69.32 240 P P 08 22 29.0 +0.3
comp=Z,36nm,0.9s,baz=28,slow=7.0,SNR=17
AB31 Akbulak array 69.53 325 *e*P **P 08 22 29.4 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
AML Almayashu 69.69 313 P P 08 22 32.5 +1.3
SNR=16
LSA Lhasa 70.01 293 P P 08 22 34.0 +0.5
LSA pmax pmax
comp=Z,69nm,1.0s
LSA Lhasa 70.01 293 P P 08 22 34.0 +0.5
CMIG Matias Romero 70.31 87 LR LR 08 51 34.0
comp=Z,203nm,18.8s,baz=296,slow=34
KK31 Karatay Array 70.35 315 P P 08 22 34.6 -0.2
KK31 pmax pmax
comp=Z,15nm,0.6s
KK31 Karatay Array 70.35 315 P P 08 22 34.6 -0.2
KK31 IAmb IAmb 08 22 36.3
comp=Z,15nm,0.6s
FAKI Fak Fak 70.51 238 P P 08 22 36.2 +0.1
FAKI Fak Fak 70.51 238 P P 08 22 36.1 +0.1
FAKI IAmb IAmb 08 22 49.7
comp=Z,15nm,0.8s
HOMB Homborsund 70.64 358 *e*P **P 08 22 36.4 +0.2**
ARSB Arslanbob 70.65 313 IAmb IAmb 08 22 39.9
comp=Z,12nm,0.6s
KSH Kashi 70.65 309 P P 08 22 40.3 +3.5
KSH sP pwP 08 22 49.3 -0.4
KSH S **S 08 31 51.8 +2.6**
KSH sS sS 08 32 01.8 +1.2
KSH SS **SS 08 36 25.5 +5.3**
KSH pmax pmax
comp=Z,46nm,0.6s
KSH pmax pmax
comp=Z,270nm,5.5s
KSH LR LR
comp=Z,180nm,10.5s
KSH LR LR
comp=Z,630nm,15.0s
KSH LR LR
comp=Z,570nm,19.1s
OBN Obninsk 70.75 342 *i* P **P 08 22 36.7 -0.2**
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,269nm,18.0s
PPT2 Papeete2 72.06 155 *e*S **S 08 31 59.0 -6.5**
comp=Z,587nm,26.5s
PPT2 Papeete2 72.06 155 *e*LR LR 08 44 30.3
comp=Z,411nm,20.8s,baz=341
PPT2 Papeete2 72.06 155 *e*T T 09 41 35.7
comp=Z,5.6nm,0.3s
TIAR Tiarei 72.09 155 *e*T T 09 41 37.8
comp=Z,2.5nm,0.4s
PAE Paea 72.13 155 *e*T T 09 41 40.5
comp=Z,1.5nm,0.3s
MUD Monsted U'grnd 72.45 358 *i* P **P 08 22 47.0 -0.1**
MUD pmax pmax
comp=Z,11nm,0.6s
MUD Monsted U'grnd 72.45 358 *i* P **P 08 22 47.0 -0.1**
comp=Z,11nm,0.6s
LPSR Galich'ya Gora 72.62 339 *e*P **P 08 22 47.3 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BTK Batken 72.65 313 IAmb IAmb 08 22 51.8
comp=Z,11nm,0.6s
SHL Shillong 72.68 289 P **P 08 22 48.7 -0.5**
SHL pmax pmax
comp=Z,79nm,0.8s
SHL Shillong 72.68 289 P **P 08 22 48.7 -0.5**
SANI Sanana 73.22 244 P **P 08 22 51.6 -0.7**
VRH Novokhopyorsk 73.28 337 *e*P **P 08 22 50.4 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 73.48 279 P **P 08 22 53.0 -0.9**
CHTO pmax pmax
comp=Z,16nm,1.2s
CHTO Chiang Mai 73.48 279 P **P 08 22 53.0 -0.9**
CHTO IAmb IAmb 08 23 11.6
comp=Z,16nm,1.1s
BSD Bornholm Skovb 73.55 354 *i* P **P 08 22 54.2 +0.5**
BSD Bornholm Skovb 73.55 354 *i* P **P 08 22 54.2 +0.5**
GAR Garm 73.73 313 P **P 08 22 55.2 0.0**
CM31 Chiang Mai Arr 73.75 279 P **P 08 22 54.4 -1.1**
CM31 IAmb IAmb 08 23 11.8
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 73.75 279 *i* P **P 08 22 57.2 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 73.75 279 P **P 08 22 57.0 +1.5**
comp=Z,2.4nm,0.5s,baz=27,slow=6.7,SNR=15
CMAR Chiang Mai Arr 73.75 279 P **P 08 22 55.8 +0.3**
TAPN Taplejung 73.76 293 *e*P **P 08 22 56.7 +0.9**
comp=Z,223nm,0.8s
CHAI Chaiyaphum 73.79 275 P P 08 23 03.9 +8.2
VSR Storozhevoye 73.86 339 *e*P **P 08 22 54.9 -0.7**
VSR pmax pmax
comp=Z,20nm,0.5s
PBKT Sadao Pong 73.92 276 P **P 08 22 55.8 -0.6**
PBKT IAmb IAmb 08 23 11.7
comp=Z,9.2nm,0.8s
VORD Divnogorie 74.07 339 *e*P **P 08 22 54.8 -2.0**
VORD pmax pmax
comp=Z,30nm,0.5s
LUWI Luwuk 74.24 248 P **P 08 22 58.0 -0.3**
ODAN Odare 74.32 293 *e*P **P 08 22 59.8 +0.8**
GUN Gumba 74.38 295 *e*P **P 08 23 00.4 +0.9**
comp=Z,178nm,0.4s
JIRN Jiri 74.39 295 *e*P **P 08 23 00.6 +1.0**
comp=Z,440nm,0.7s
RAMN Ramite 74.70 294 *e*P **P 08 23 01.8 +0.6**
comp=Z,225nm,0.6s
KKN Kakani 74.81 295 *e*P **P 08 23 02.5 +0.7**
comp=Z,116nm,0.7s
MPSI Mapaga 74.81 251 P **P 08 23 00.6 -1.0**
PKI Pulchoki 74.91 295 *e*P **P 08 23 03.0 +0.5**
comp=Z,189nm,1.0s
PKIN Phulchoki 74.91 295 *e*P **P 08 23 02.9 +0.5**
comp=Z,116nm,1.0s
GKN Gorkha 75.01 296 *e*P **P 08 23 03.5 +0.6**
comp=Z,90nm,0.4s
DMN Daman 75.05 295 *e*P **P 08 23 03.9 +0.7**
comp=Z,140nm,0.8s
DZM Mont Dzumac 75.09 198 *e*LR LR 08 45 54.5
comp=Z,294nm,22.4s
DZM Mont Dzumac 75.09 198 P **P 08 23 04.1 +1.0**
DANN Dangsing 75.23 297 *e*P **P 08 23 05.2 +0.9**
comp=Z,373nm,0.9s
UMPA Umpang Tak 75.51 278 P **P 08 23 09.4 +3.7**
comp=Z,30μm,0.5s
UTHA Uthaitani 75.64 277 P **P 08 23 08.9 +2.5**
comp=Z,20μm,0.6s,comp=Z,450μm
KOLN Koldanda 75.77 297 *e*P **P 08 23 07.8 +0.5**
comp=Z,152nm,0.9s
AKASG Malin Array Be 76.30 345 P **P 08 23 08.6 -1.1**
comp=Z,4.1nm,0.3s,baz=18,slow=6.0,SNR=23
AKASG LR LR 09 01 15.9
comp=Z,280nm,19.0s,baz=30,slow=39
AKBB Malin Array Si 76.30 345 P **P 08 23 08.4 -1.2**
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 76.30 345 P **P 08 23 08.4 -1.2**
AKBB IAmb IAmb 08 23 09.9
comp=Z,12nm,0.8s
NIL Nilore 76.63 308 P **P 08 23 12.2 +0.3**
NIL pmax pmax
comp=Z,54nm,0.7s
NIL Nilore 76.63 308 P **P 08 23 12.2 +0.3**
CLL Collm 77.46 355 *i* P **P 08 23 16.3 +0.1**
CLL pmax pmax
comp=Z,13nm,0.5s
CLL Collm 77.46 355 *i* P **P 08 23 16.3 +0.1**
comp=Z,13nm,0.5s
CLL *e*pP **pwP 08 23 28.0 -1.2**
CLL *e*sP **PcP 08 23 33.0 +6.5**
CLL *e*S **S 08 33 06.0 +1.1**
CLL *e*PS **PnS 08 33 45.0 -0.8**
CLL *e*SS SS 08 38 14.0 +12
CLL *e*SSSS 08 43 48.0
CLL LmV 08 58 00.0
comp=Z,200nm,18.6s
CLL LmH 08 59 00.0
comp=N,200nm,18.8s
CLL LmH 08 59 00.0
comp=E,200nm,21.0s
CLL Collm 77.46 355 IAmb IAmb 08 23 17.5
comp=Z,14nm,0.6s
PHET Kaeng Krachan 77.54 275 P **P 08 23 21.9 +4.7**
comp=Z,22μm,0.9s
TTSI Tana Toraja 77.58 249 P **P 08 23 17.9 +0.6**
TBI Tubuai 77.61 157 *e*S **S 08 33 02.1 -4.8**
comp=Z,287nm,30.2s
TBI Tubuai 77.61 157 *e*LR LR 08 47 10.3
comp=Z,380nm,23.5s,baz=336
TBI Tubuai 77.61 157 *e*T T 09 48 31.2
comp=Z,18nm,0.3s
SBUM Sibu 77.77 258 P **P 08 23 18.5 +0.1**
BRG Berggiesshubel 77.84 355 *e*P **P 08 23 18.3 0.0**
comp=Z,15nm,0.6s
BRG *e*PCP **sP 08 23 29.4 +1.8**
comp=Z,13nm,1.1s
BRG SS SS 08 38 09.0 +0.8
comp=N,206nm,17.6s
comp=E,241nm,15.0s
comp=Z,330nm,11.8s
BRG Berggiesshubel 77.84 355 *e*P **P 08 23 18.3 0.0**
BRG *e* 08 23 29.4
BRG SS SS 08 38 09.0 +0.8
BRG pmax pmax
comp=Z,15nm,0.6s
BRG MLR MLR
comp=N,206nm,17.6s
BRG MLR MLR
comp=E,241nm,15.0s
BRG MLR MLR
comp=Z,330nm,11.8s
KBL Kabul 77.95 311 P **P 08 23 18.4 -1.1**
KBL pmax pmax
comp=Z,38nm,1.0s
KBL Kabul 77.95 311 P **P 08 23 18.4 -1.1**
CHVC Chvalec 77.98 353 *e*P **P 08 23 19.3 +0.1**
UPC Upice 78.06 353 *e*P **P 08 23 19.9 +0.3**
UPC Upice 78.06 353 *e*P **P 08 23 19.9 +0.3**

DPC	Dobruska-Polom	78.20 353	eP	P	08 23 20.8	+0.4
DPC			e		08 23 29.7	
DPC	Dobruska-Polom	78.20 353	eP	P	08 23 20.8	+0.4
DPC			ePCP	PcP	08 23 29.7	-0.1
KWP	Kalwaria Pacla	78.28 349	eP	P	08 23 21.1	+0.3
KWP	Kalwaria Pacla	78.28 349	eP	P	08 23 21.1	+0.3
KWP			eP	P	08 23 21.1	+0.3
MEM	Membach	78.35 360	P	P	08 23 21.0	-0.2
	comp=Z,21nm,1.1s					
MEM	Membach	78.35 360	P	P	08 23 21.8	+0.6
KRLC	Kraliky	78.44 353	eP	P	08 23 21.4	-0.3
KRLC			e		08 23 31.4	
KRLC	Kraliky	78.44 353	eP	P	08 23 21.4	-0.3
KRLC			ePCP	PcP	08 23 31.4	+0.5
SNF	Seneffe	78.44 1	P	P	08 23 21.8	+0.2
BCLA	Clavier	78.54 0	P	P	08 23 22.3	+0.2
NKC	Novy Kostel	78.56 356	eP	P	08 23 22.8	+0.5
NKC			e		08 23 26.6	
NKC	Novy Kostel	78.56 356	eP	P	08 23 22.8	+0.5
NKC			epP	pP	08 23 26.6	-2.6
GOF	Gofitskoye	78.61 334	⇑eP	P	08 23 24.4	+1.7
BMRD	Maredsous	78.65 1	P	P	08 23 23.6	+0.8
MORC	Moravsky Berou	78.67 352	⇓P	P	08 23 20.5	-2.5
MORC	Moravsky Berou	78.67 352	⇓P	P	08 23 20.5	-2.5
MORC	Moravsky Berou	78.67 352	eP	P	08 23 22.7	-0.3
PRU	Pruhonice	78.68 354	eP	P	08 23 23.1	+0.1
PRU	Pruhonice	78.68 354	eP	P	08 23 23.1	+0.1
GOPC	GO Pecny, Ondr	78.74 354	eP	P	08 23 23.7	+0.3
GOPC	GO Pecny, Ondr	78.74 354	eP	P	08 23 23.7	+0.3
DOU	Dourbes	78.86 1	P	P	08 23 24.3	+0.3
SORM	Soroca	78.93 345	⇓P	P	08 23 24.2	-0.2
SORM	Soroca	78.93 345	⇓P	P	08 23 24.2	-0.2
KOLS	Kolonicke sedl	79.02 349	eP	P	08 23 25.4	+0.5
KOLS	Kolonicke sedl	79.02 349	eP	P	08 23 25.4	+0.5
PBCC	Pribram	79.02 354	eP	P	08 23 25.3	+0.4
LANS	Liptovska Anna	79.11 351	eP	P	08 23 26.7	+1.3
LANS			pmax	pmax		
	comp=Z,6.0nm,0.6s					
LANS	Liptovska Anna	79.11 351	eP	P	08 23 26.7	+1.3
KAPI	Kappang	79.20 248	P	P	08 23 25.7	-0.6
KAPI			pmax	pmax		
	comp=Z,10.0nm,1.0s					
KAPI	Kappang	79.20 248	P	P	08 23 25.7	-0.6
KAPI			IAmb	IAmb	08 23 37.0	
	comp=Z,10nm,1.0s					
VRAC	Vranov	79.21 353	⇓P	P	08 23 26.8	+0.8
VRAC	Vranov	79.21 353	⇓P	P	08 23 26.8	+0.8
VRAC	Vranov	79.21 353	eP	P	08 23 26.2	+0.2
BKSI	Bulukumba	79.24 247	P	P	08 23 26.0	-0.5
WLF	Walferdange	79.29 360	IAmb	IAmb	08 23 29.5	
	comp=Z,23nm,0.9s					
UZH	Uzhgorod	79.31 349	eP	P	08 23 19.0	-7.4
UZH			e		08 23 24.9	
UZH			e		08 23 32.7	
KRUC	Moravsky	79.47 353	eP	P	08 23 27.5	+0.1
JAVC	Velka Javorina	79.57 352	eP	P	08 23 29.3	+1.3
KHC	Kasperske Hory	79.60 355	eP	P	08 23 28.4	+0.3
KHC			e		08 23 34.0	
KHC	Kasperske Hory	79.60 355	eP	P	08 23 28.4	+0.3
KHC			epP	pP	08 23 34.0	-0.9
KHC			ex	x	08 23 41.7	
KECS	Kecovo	79.66 350	eP	P	08 23 29.7	+1.3
KECS			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KECS	Kecovo	79.66 350	eP	P	08 23 29.7	+1.3
KSM	Kuching	79.71 259	P	P	08 23 28.8	-0.3
KSM			IAmb	IAmb	08 23 31.9	
	comp=Z,25nm,1.1s					
KIV	Kislovodsk	79.72 334	eP	P	08 23 28.8	-0.1
KIV			pmax	pmax		
	comp=Z,24nm,1.0s					
TRPA	Tarpa	79.77 349	⇓P	P	08 23 29.5	+0.5
VYHS	Vyhne	79.82 351	eP	P	08 23 29.7	+0.4
VYHS	Vyhne	79.82 351	eP	P	08 23 29.7	+0.4
KBZ	Khabaz	79.87 334	P	P	08 23 29.7	+0.2
	comp=Z,3.1nm,0.8s,baz=53,slow=3.8,SNR=7.3					
KBZ			LR	LR	09 05 35.7	
	comp=Z,218nm,18.1s,baz=30,slow=41					
GEC2	GERESS Array S	79.87 355	IAmb	IAmb	08 23 31.7	
	comp=Z,9.0nm,0.9s					
GERES	GERESS Array B	79.87 355	P	P	08 23 29.1	-0.5
	comp=Z,7.1nm,0.8s,baz=33,slow=5.1,SNR=28					
GERES			LR	LR	09 00 34.1	
	comp=Z,152nm,19.2s,baz=23,slow=37					
GEYT	Alibeck	79.87 320	P	P	08 23 29.7	-0.1
	comp=Z,11nm,0.9s,baz=357,slow=5.9,SNR=14					
GEYT			LR	LR	09 03 25.3	
	comp=Z,537nm,18.6s,baz=40,slow=39					
GYA0B	ALIBECK ARRAY	79.87 320	IAmb	IAmb	08 23 32.5	
	comp=Z,22nm,1.1s					
BUR08	Bucovina Ar. S	79.89 347	IAmb	IAmb	08 23 32.5	
	comp=Z,8.2nm,0.7s					
BURAR	Bucovina Array	79.92 347	⇓P	P	08 23 30.1	+0.1
BURAR	Bucovina Array	79.92 347	⇓P	P	08 23 30.1	+0.1
MODS	Modra-Piesok	80.08 352	eP	P	08 23 31.1	+0.4
MODS	Modra-Piesok	80.08 352	eP	P	08 23 31.1	+0.4
ANN	Anapa	80.29 338	eP	P	08 23 30.6	-1.2
ANN			e*PP	PcP	08 23 33.9	-5.0
ANN			e		08 33 50.9	
ANN			pmax	pmax		
	comp=Z,39nm,1.1s					
BIZ	Bicaz	80.45 346	⇓P	P	08 23 32.5	-0.2
ZEI	Tsey	80.45 332	eP	P	08 23 32.0	-1.0
ZEI			pmax	pmax		
	comp=Z,5.0nm,0.6s					
BFO	Black Forest	80.60 358	P	P	08 23 32.3	-1.2
BFO			pmax	pmax		
	comp=Z,15nm,1.0s					
BFO	Black Forest	80.60 358	P	P	08 23 32.3	-1.2
BFO			IAmb	IAmb	08 23 35.8	
	comp=Z,15nm,1.0s					
CONA	Conrad Observa	80.64 353	ePcP	P	08 23 34.8	+1.0
	comp=Z,8.8nm,0.6s					
ECH	Echery	80.73 359	IAmb	IAmb	08 23 37.0	
	comp=Z,21nm,0.9s					
TESR	Tescani	80.78 345	⇑P	P	08 23 34.7	+0.3
MOA	Molln	80.83 354	ePcP	P	08 23 35.3	+0.5
	comp=Z,8.5nm,1.3s					
SOC	Sochi	80.86 336	eP	P	08 23 26.3	-8.6
SOC			e		08 26 41.5	
SOC			ePPP	PPP	08 28 28.4	
SOC			eS	S	08 33 33.9	-7.5
SOC			eSS	SS	08 39 01.4	+7.5
DRGR		81.07 348	⇑P	P	08 23 30.8	-5.3
DRGR		81.07 348	⇑P	P	08 23 30.8	-5.2
HRA	Herat	81.17 316	P	P	08 23 37.2	+0.1
HRA			IAmb	IAmb	08 23 39.6	
	comp=Z,40nm,1.1s					
OZUR		81.32 346	⇓P	P	08 23 37.5	+0.2
RETA	Reutte	81.37 356	ePcP	P	08 23 39.2	+1.6
	comp=Z,10nm,1.1s					
VRI	Vrincioaia	81.39 345	⇓P	P	08 23 38.3	+0.5
VRI	Vrincioaia	81.39 345	⇓P	P	08 23 38.3	+0.5
PLOR	Plostina	81.42 345	⇓P	P	08 23 39.1	+1.2
PLOR	Plostina	81.42 345	⇓P	P	08 23 39.1	+1.2
WATA	Walderalm	81.49 356	ePcP	P	08 23 39.1	+0.7
	comp=Z,27nm,1.4s					
MOTA	Moosalm	81.50 356	ePcP	P	08 23 39.1	+0.6
	comp=Z,17nm,1.0s					
DOPR	Dopca	81.50 346	⇓P	P	08 23 39.7	+1.3
WTTA	Wattenberg	81.56 356	ePcP	P	08 23 39.7	+0.9
	comp=Z,19nm,1.1s					
DAVA	Damuels	81.60 357	ePcP	P	08 23 40.3	+1.3
	comp=Z,10nm,1.0s					
SQTA	Sankt Quirin	81.62 356	i PcP	P	08 23 40.0	+1.0
	comp=Z,9.4nm,0.7s					
KBA	Koelnbreinsper	81.66 355	ePcP	P	08 23 40.5	+1.2
	comp=Z,29nm,0.8s					
TLCR		81.71 344	⇓P	P	08 23 39.4	+0.1
TLCR		81.71 344	⇓P	P	08 23 39.4	+0.1
CFR	Carcaliu	81.83 344	⇓P	P	08 23 40.1	+0.1
CFR	Carcaliu	81.83 344	⇓P	P	08 23 40.1	+0.1
FETA	Feichten	81.84 356	ePcP	P	08 23 41.2	+0.9
	comp=Z,16nm,1.1s					
MLR	Muntele Rosu	81.88 346	⇓P	P	08 23 42.2	+1.7
MLR	Muntele Rosu	81.88 346	⇓P	P	08 23 42.2	+1.7
MLR	Muntele Rosu	81.88 346	IAmb	IAmb	08 23 44.2	
	comp=Z,9.4nm,0.7s					
DEV	Deva	81.94 348	⇓P	P	08 23 37.7	-2.9
DEV	Deva	81.94 348	⇓P	P	08 23 37.7	-2.9
SOKA	Soboth	81.94 353	i PcP	P	08 23 41.5	+0.7
	comp=Z,24nm,1.3s					
ABTA	Abfaltersbach	82.03 355	ePcP	P	08 23 41.7	+0.5
	comp=Z,20nm,1.4s					
VOIR		82.07 346	⇓P	P	08 23 43.8	+2.4
VOIR		82.07 346	⇓P	P	08 23 43.8	+2.4
TOPG	Topolog	82.08 344	⇓P	P	08 23 43.8	+2.4
OBKA	Obir	82.15 354	ePcP	P	08 23 42.7	+0.9
	comp=Z,16nm,0.8s					
ARR	Arges	82.20 347	⇓P	P	08 23 44.4	+2.3
HARR	Harsova	82.34 344	⇓P	P	08 23 43.3	+0.6
HARR	Harsova	82.34 344	⇓P	P	08 23 43.3	+0.6
BZS	Buzias	82.36 349	⇓P	P	08 23 41.9	-0.9
BZS	Buzias	82.36 349	⇓P	P	08 23 41.9	-0.9
TLB	Topalu	82.42 344	⇓P	P	08 23 44.1	+1.0
TLB	Topalu	82.42 344	⇓P	P	08 23 44.1	+1.0
GZR	Gura Zlata	82.43 348	⇓P	P	08 23 43.6	+0.3
GZR	Gura Zlata	82.43 348	⇓P	P	08 23 43.6	+0.3
TIRR	Tirgusor	82.48 344	⇓P	P	08 23 43.2	-0.3
TIRR	Tirgusor	82.48 344	⇓P	P	08 23 43.2	-0.3
ICOR	Ion Corvin	82.92 344	⇓P	P	08 23 47.8	+2.1
MDVR	Moldovita	83.17 349	⇓P	P	08 23 47.1	0.0
WRAB	Tennant Creek	84.01 228	P	P	08 23 49.6	-1.9
WRAB			pmax	pmax		
	comp=Z,16nm,1.0s					
WRAB	Tennant Creek	84.01 228	P	P	08 23 49.6	-1.9
WRAB			IAmb	IAmb	08 23 52.6	
	comp=Z,16nm,1.0s					
WB2	Warramunga Arr	84.02 228	P	P	08 23 49.9	-1.7
WRA	Warramunga Arr	84.03 228	P	P	08 23 51.4	-0.2
	comp=Z,3.4nm,0.7s,baz=33,slow=5.7,SNR=15					
WRA			PKKPbc	PKKPbc	08 42 04.2	-0.6
	comp=Z,1.0nm,0.8s,baz=254,slow=6.7,SNR=3.7					
PLVB	Pleven	84.14 346	⇓P	P	08 23 52.9	+0.9
ELND	Elena	84.39 345	⇓P	P	08 23 53.6	+0.3
VTS	Vitosha	85.10 347	IAmb	IAmb	08 23 58.5	
	comp=Z,9.4nm,0.7s					
PSI	Prapat	85.76 269	P	P	08 24 00.3	-0.4
PSI			pmax	pmax		
	comp=Z,21nm,0.8s					
PSI	Prapat	85.76 269	P	P	08 24 00.6	-0.2
	comp=Z,11nm,0.5s,baz=50,slow=4.4,SNR=15					
PDG	Podgorica	85.78 350	⇓P	P	08 24 00.6	+0.3
RPSI	Rantau Prapat	85.85 269	P	P	08 24 00.3	-0.6
BRTR	Keskin Array B	85.98 339	P	P	08 24 01.9	+0.3
	comp=Z,2.6nm,0.5s,baz=48,slow=2.3,SNR=15					
PBRG	Braganca	86.53 9	eP	P	08 24 04.4	+0.3
	comp=Z,43nm,1.8s					
HYB	Hyderabad	86.76 294	i P	P	08 24 04.0	-1.5
HYB			e		08 24 17.5	
SJG	San Juan	86.87 65	LR	LR	09 02 43.4	
	comp=Z,120nm,21.6s,baz=302,slow=36					
PVRL	Vila Real	86.95 10	eP	P	08 24 06.5	+0.4
	comp=Z,45nm,1.8s					
MVO	Moncorvo	87.14 10	eP	P	08 24 07.5	+0.4
	comp=Z,35nm,1.0s					
AS31	Alice Springs	87.45 226	P	P	08 24 08.3	-0.2
ASAR	Alice Springs	87.45 226	P	P	08 24 08.5	-0.1
ASAR	Alice Springs	87.45 226	P	P	08 24 08.2	-0.3
	comp=Z,10nm,0.9s,baz=30,slow=4.4,SNR=50					
ASAR			PKKP	PKKPdf	08 41 51.7	+0.2
	comp=Z,0.8nm,0.9s,baz=254,slow=6.7,SNR=7.0					
ASAR	Alice Springs	87.45 226	P	P	08 24 08.5	-0.1
PVIS	Viseu	87.48 10	eP	P	08 24 08.8	+0.1
	comp=Z,43nm,1.5s					
MTE	Manteigas	87.84 10	eP	P	08 24 10.8	+0.4
PCBR	Castelo Branco	88.40 10	eP	P	08 24 12.8	-0.2
PTOM	Tomar	88.51 11	eP	P	08 24 13.8	+0.2
	comp=Z,58nm,1.2s					
POO	Poona	88.52 298	eP	P	08 24 20.5	+6.6
PMRV	Marv??o	88.81 10	eP	P	08 24 15.7	+0.7
ESDC	Sonseca Array	88.89 7	P	P	08 24 15.1	-0.3
	comp=Z,6.4nm,0.9s,baz=352,slow=4.6,SNR=22					
ESDC	Sonseca Array	88.89 7	P	P	08 24 14.9	-0.6
OCAC	Ocana	90.45 76	eP	P	08 24 27.8	+4.6
OCAC	Ocana	90.45 76	eP	P	08 24 27.8	+4.6
CBOC	Ciudad Bolivar	90.66 80	eP	P	08 24 25.1	+0.9
CBOC	Ciudad Bolivar	90.66 80	eP	P	08 24 25.1	+0.9
PTBC	PUERTO BERRIO,	91.09 78	eP	P	08 24 25.1	-0.9
PTBC	PUERTO BERRIO,	91.09 78	eP	P	08 24 25.1	-0.9
STKA	Stephens Creek	91.53 216	P	P	08 24 28.5	+1.0
STKA			pmax	pmax		
	comp=Z,2.0nm,1.1s					
STKA	Stephens Creek	91.53 216	P	P	08 24 28.7	+1.2
	comp=Z,3.2nm,0.8s,baz=15,slow=6.9,SNR=3.7					
STKA	Stephens Creek	91.53 216	P	P	08 24 28.5	+1.0
GUY2C	Guyana, Caldas	91.56 80	eP	P	08 24 29.1	+0.4
GUY2C	Guyana, Caldas	91.56 80	eP	P	08 24 29.1	+0.4
SPBC	San Pablo de B	92.02 78	eP	P	08 24 28.4	-1.9
SPBC	San Pablo de B	92.02 78	eP	P	08 24 28.4	-1.9
ORTC	Ortega, Tolima	92.66 80	eP	P	08 24 27.9	-5.3
ORTC	Ortega, Tolima	92.66 80	eP	P	08 24 27.9	-5.3
TORD	Torodi Ar. Bea	115.61 4	PKP	PKiKP	08 30 02.7	-0.8
	comp=Z,0.9nm,0.6s,baz=334,slow=2.4,SNR=5.5					
TORD			PKKPab	PKKPab	08 40 42.4	-1.7
	comp=Z,1.4nm,0.9s,baz=183,slow=4.2,SNR=5.1					
TORD	Torodi Ar. Bea	115.61 4	PKPdf	PKiKP	08 30 02.5	-1.0
DBIC	Dimbokro	121.44 12	PKP	PKPdf	08 30 14.1	-0.6
	comp=Z,1.5nm,0.5s,baz=28,slow=2.6,SNR=4.9					
KMBO	Kilima Mbogo	123.25 321	PKP	PKPdf	08 30 18.5	0.0
	comp=Z,2.3nm,0.6s,baz=19,slow=5.2,SNR=5.0					
CPUP	Villa Florida	126.83 87	PKP	PKPdf	08 30 24.1	-0.5
	comp=Z,0.7nm,0.4s,baz=344,slow=0.8,SNR=2.7					
PLCA	Paso Flores	128.35 110	PKIKP	PKPdf	08 30 27.2	0.0
PLCA	Paso Flores	128.35 110	PKP	PKPdf	08 30 26.8	-0.4
	comp=Z,4.1nm,1.0s,baz=338,slow=1.4,SNR=5.2					
PLCA	Paso Flores	128.35 110		PKPdf	08 30 27.2	0.0
QSPA	South Pole Qui	141.18 180	PKPdf	PKiKP	08 30 51.7	-1.2
MAW	Mawson	148.21 218	PKP2	PKiKP	08 31 06.7	-0.6
MAW	Mawson	148.21 218	PKPbc	PKPbc	08 31 05.1	-0.6
	comp=Z,8.1nm,0.8s,baz=45,slow=2.3,SNR=11					
MAW	Mawson	148.21 218		PKiKP	08 31 06.7	-0.6
BOSA	Boshof	152.87 320	PKP	PKPdf	08 31 11.8	+0.8
	comp=Z,2.2nm,0.7s,baz=45,slow=1.4,SNR=2.7					
BOSA			PKPbc	PKPbc	08 31 17.9	-0.2
	comp=Z,12nm,0.4s,baz=10,slow=1.9,SNR=20					
BOSA	Boshof	152.87 320		PKiKP	08 31 18.9	+0.6
SYO	Syowa Base	156.13 210	⇑ePKPdf	PKPab	08 31 34.0	-7.8
SYO	Syowa Base	156.13 210	⇑ePKPab	PKPab	08 31 43.0	+1.2
VNA3	Neumayer Olymp	158.93 166	PKPdf	PKPdf	08 31 16.0	-1.5
SNAA	Sanae	159.32 172	PKPab	PKPab	08 31 56.0	+0.3
VNA2	Neumayer--Watz	159.54 168	PKPab	PKPab	08 31 55.6	-1.0
	baz=255,slow=1.9					
VNA2	Neumayer--Watz	159.54 168	PKPdf	PKPdf	08 31 17.1	-1.1
	baz=322,slow=1.5					
VNA1	Neumayer--Stat	159.67 167	PKPab	PKPab	08 31 55.4	-1.7

IDC 26 08:14:33.5±2.8, 54°33N×85°98E, $h0^{km}$, mb1 3.2/2, mb1mx3.1/53, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=19.9km s-min=11.2km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.78	241	i		08 19 17.4	
	baz=60,slow=333,SNR=6.2						
ZALV	Zalesovo Beam	0.78	241	Pg	Pg	08 14 47.5	-0.9
	0.7nm,0.3s,baz=59,slow=16,SNR=5.4						
ZALV				Lg	Lg	08 14 59.8	
	3.7nm,0.3s,baz=62,slow=30,SNR=17						
ZALV				Rg	Rg	08 15 05.5	
	3.0nm,0.6s,baz=62,slow=32,SNR=12						
KURBB	Kurchatov Arra	5.87	234	Pn	Pn	08 16 02.5	+0.8
	0.1nm,0.3s,baz=50,slow=14,SNR=2.4						
MKAR	Makanchi Array	7.90	199	Pn	Pn	08 16 30.5	+1.0
	0.1nm,0.3s,baz=23,slow=12,SNR=4.5						

*TAP **26** 08:17:02.6, 24°92N×122°78E, h27km±1km, ML3.4, D*
*ISCJB **26** 08:17:03.4±0.6, 24°92N±0°04×122°73E±0°03, h23km±4km, Error ellipse: s-maj=6.8km s-min=4.5km az=18.8*
*JMA **26** 08:17:03.3±0.2, 24°94N×122°74E, h28km, M2.3*
ISC 26 08:17:01.3±1.4, 25°00N±0°05×122°73E±0°03, h10km±11km, n38, σ0°68/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.57	160	P	Pb	08 17 13.5	+0.1
JYNG				S	Sg	08 17 21.3	+1.3
YOJ	Yonaguni jima	0.59	155	P	Pg	08 17 12.9	+0.2
	baz=147						
YOJ	Yonaguni jima	0.59	155	P	Pb	08 17 14.0	+0.3
TWB1	Santiao Chiao	0.68	271	P	Pn	08 17 15.6	-1.3
	baz=277						
TWB1				eS	Sn	08 17 26.6	-0.9
	baz=277						
EOS1	EOS1	0.71	231	P	Pb	08 17 15.8	+0.1
	baz=231						
EOS1				S	Sb	08 17 26.1	+0.7
	baz=231						
EGS		0.74	259	P	Pn	08 17 17.6	-0.2
	baz=264						
TIPB	Shuangxi	0.82	269	P	Pn	08 17 18.3	-0.7
	baz=273						
TIPB				S	Sb	08 17 28.5	-0.4
	baz=273						
NTC	Toucheng	0.83	260	eP	Pn	08 17 19.2	+0.2
	baz=278						
NTC				eS	Sn	08 17 31.5	+0.2
	baz=278						
NWF	Wu-fen Shan	0.87	275	eP	Pn	08 17 19.2	-0.4
	baz=279						
WFSB	Wu-fen Shan	0.87	275	eP	Pn	08 17 19.0	-0.5
	baz=279						
PCYT	Pengchaiyu	0.87	317	P	Pn	08 17 20.4	+0.9
	baz=318						
PCYT				S	Sn	08 17 34.2	+1.9
	baz=318						
TWC	Suao	0.89	245	P	Pg	08 17 18.4	0.0
	baz=249						
TWC				S	Sg	08 17 30.2	+0.1
	baz=249						
TWE	Neicheng	1.01	254	eP	Pn	08 17 21.4	-0.1
	baz=259						
NANB	Nanao	1.06	238	P	Pg	08 17 20.8	-0.8
	baz=242						
NANB				S	Sg	08 17 34.3	-1.1
	baz=242						
ENA	Nanau	1.06	238	P	Pb	08 17 22.0	+0.2
	baz=242						
ENA				S	Sg	08 17 36.2	+0.6
	baz=242						
YM05	YM05	1.07	279	P	Pn	08 17 22.2	-0.3
	baz=282						
ENTT	Nioudou	1.12	252	eP	Pn	08 17 23.0	0.0
	baz=266						
IRIF	Iriomote-Funau	1.12	126	P	Pn	08 17 22.4	-0.6
NWLT	Wulai	1.14	259	eP	Pn	08 17 23.8	+0.5
	baz=263						
NDT	Datong Townshi	1.18	251	eP	Pg	08 17 24.0	+0.1
	baz=255						
YHNB	Yeheng	1.28	256	P	Pg	08 17 25.7	-0.1
	baz=268						
NSK	Sanguang	1.29	256	P	Pn	08 17 25.0	-0.4
	baz=248						
NSK				S	Sb	08 17 41.4	-0.9
	baz=248						
NACB	Ninganchiao	1.32	232	P	Pn	08 17 25.0	-0.8
	baz=236						
NACB				eS	Sb	08 17 42.9	-0.3
	baz=236						
NNSB	Datong	1.35	246	eP	Pg	08 17 27.0	-0.2
	baz=260						
NNSB				eS	Sb	08 17 43.0	-1.1
	baz=260						
NNS	Nan Shan	1.35	246	P	Pg	08 17 27.2	-0.1
	baz=250						
ETLH	Xiulin Townshi	1.38	236	eP	Pn	08 17 26.8	+0.1
	baz=224						
JIJ	Ishigaki jima	1.43	116	P	Pg	08 17 27.6	-1.1
JISG	Ishigakijimahi	1.49	106	P	Pg	08 17 29.5	-0.4
WHF	Hehuan Shan	1.58	238	P	Pn	08 17 30.3	+0.5
	baz=241						
LIOB	Emei	1.60	258	eP	Pb	08 17 31.0	0.0
	baz=261						
TWT	Tachien	1.60	243	eP	Pg	08 17 32.1	+0.1
	baz=246						
TDCB	Techi	1.61	243	eP	Pb	08 17 31.5	+0.3
	baz=246						
CHGB	Renai	1.70	237	eP	Pn	08 17 31.6	+0.5
	baz=227						
WHP	Taichung City	1.78	247	eP	Pb	08 17 34.4	+0.4
	baz=239						
VWDT	VWDT	1.91	230	eP	Pn	08 17 34.7	+0.9
	baz=221						
HGSD	Ruisui	1.92	219	eP	Pn	08 17 34.4	+0.5
	baz=211						
SMLT	Sun Moon Lake	2.00	237	eP	Pb	08 17 37.1	-0.8
	baz=226						
TYC	Yuchr	2.03	238	eP	Pn	08 17 36.4	+0.9
	baz=227						

*TAP **26** 08:18:03.1, 25°05N×122°75E, h22km±1km, ML3.5, D*
*JMA **26** 08:18:04.0±0.4, 24°99N×122°76E, h22km, M2.5*
ISC 26 08:18:03.6±1.6, 25°00N±0°07×122°75E±0°05, h20km±9km, n44, σ0°66/52, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.57	162	P	Pb	08 18 15.0	+0.1
JYNG				eS	Sb	08 18 22.1	-0.6
YOJ	Yonaguni jima	0.58	156	P	Pb	08 18 15.4	+0.3
	baz=157						
YOJ	Yonaguni jima	0.58	156	P	Pb	08 18 15.0	-0.1
YOJ				eS	Sb	08 18 23.6	+0.6
TWB1	Santiao Chiao	0.69	271	P	Pb	08 18 16.6	-0.4
	baz=258						
TWB1				i S	Sb	08 18 26.7	+0.6
	baz=258						
EOS1	EOS1	0.72	232	P	Pb	08 18 17.5	0.0
	baz=221						
EOS1				S	Sb	08 18 27.4	+0.5
	baz=221						
TIPB	Shuangxi	0.84	268	P	Pb	08 18 19.1	-0.4
	baz=258						
TIPB				S	Sb	08 18 29.9	-0.5
	baz=258						
NTC	Toucheng	0.85	260	eP	Pn	08 18 20.2	-0.1
	baz=257						
NWF	Wu-fen Shan	0.89	275	P	Pb	08 18 19.8	-0.5
	baz=272						
WFSB	Wu-fen Shan	0.89	275	P	Pb	08 18 19.6	-0.7
	baz=272						
TWC	Suao	0.91	245	P	Pb	08 18 19.3	-1.3
	baz=248						
TWC				i S	Sb	08 18 31.8	-0.5
	baz=248						
TWE	Neicheng	1.02	255	P	Pn	08 18 21.9	-0.9
	baz=251						
SLBB	Yuanshan	1.04	257	P	Pn	08 18 22.1	-1.0
	baz=254						
TWA	Mucha	1.06	269	P	Pn	08 18 22.6	-0.8
	baz=266						
YM08	YM08	1.07	280	eP	Pb	08 18 24.2	+0.7
	baz=278		

	baz=246						
WHF	Hehuan Shan	1.60	238	eP		Pn	08 18 31.8 +0.7
	baz=248						
TWT	Tachien	1.62	243	eP		Pb	08 18 33.0 +0.2
	baz=241						
LIOB	Emei	1.62	258	eP		Pn	08 18 31.1 +0.2
	baz=256						
TDCB	Techi	1.63	243	eP		Pn	08 18 31.8 +0.5
	baz=241						
ESL	Shilin	1.69	226	eP		Pn	08 18 31.8 -0.1
	baz=223						
CHGB	Renai	1.72	237	eP		Pb	08 18 34.3 -0.2
	baz=221						
WHP	Taichung City	1.79	247	eP		Pb	08 18 36.1 +0.3
	baz=244						
TWQ1	Liyutan	1.92	251	eP		Pn	08 18 35.7 +0.6
	baz=248						
VWDT	VWDT	1.92	230	eP		Pn	08 18 35.7 +0.6
	baz=216						
HGSD	Ruisui	1.93	219	eP		Pn	08 18 35.4 +0.2
	baz=205						
SMLT	Sun Moon Lake	2.02	237	eP		Pb	08 18 39.1 -0.6
	baz=219						
TYC	Yuchr	2.04	238	eP		Pb	08 18 39.1 -0.8
	baz=221						

IDC 26 08:32:25.5±1.7, 20°.61S×66°.83E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/53, mbtmp3.8/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/33, Error ellipse: s-maj=57.0km s-min=34.7km az=27.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	39.13	57	LR	LR	08 51 53.4	
	comp=Z,119nm,20.8s,baz=132,slow=30						
WSAR	Wadi Sarin	44.31	349	LR	LR	08 54 49.6	
	comp=Z,59nm,18.5s,baz=62,slow=30						
ASAR	Alice Springs	61.69	106	P	P	08 42 46.0	+0.1
	0.4nm,0.8s,baz=239,slow=5.3,SNR=2.8						
MKAR	Makanchi Array	68.53	11	P	P	08 43 30.4	+0.7
	0.8nm,0.9s,baz=190,slow=7.3,SNR=3.4						
TORD	Torodi Ar. Bea	72.26	292	P	P	08 43 53.2	0.0
	1.2nm,1.0s,baz=128,slow=4.8,SNR=4.3						
SONM	Songino Array	76.82	26	P	P	08 44 18.1	-1.1
	0.6nm,0.5s,baz=206,slow=6.3,SNR=3.7						

*SJA **26** 08:33:21.8±0.9, 30°.58S×72°.64W, h51km, ML3.5, MW3.7*
*GUC **26** 08:33:25.9±0.7, 30°.50S×71°.93W, h13km±56km, ML3.6*

ISC 26 08:33:24.4±2.8, 30°.54S±0°.06×72°.1W±0°.1, h11km±12km, n15, σ1°.66/23, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.94	48	eP	Pb	08 33 42.5	-0.2
LSCH				i S	Sb	08 33 54.2	-0.9
CO02	Combarbal	1.12	126	⇑iP	Pg	08 33 46.5	+0.5
CO02				i S	Sn	08 34 02.1	+0.4
CO02				IAML		08 34 06.5	
	comp=N,3μm,0.2s						
GO04	Tololo Observa	1.14	72	⇓iP	Pn	08 33 46.1	-0.4
GO04				i S	Sn	08 34 02.2	-0.2
GO04				IAML		08 34 08.6	
	comp=N,4μm,0.2s						
GO04	Tololo Observa	1.14	72	eP	Pn	08 33 46.5	-0.1
GO04				i S	Sn	08 34 04.5	+2.1
AROD	Rodeo	2.26	81	i P	Pg	08 34 06.4	-1.4
AROD				i S	Sg	08 34 40.6	+3.5
ACDV	Cuesta del Vie	2.56	83	i P	Pb	08 34 10.6	+0.1
ACDV				i S	Sg	08 34 47.5	+0.8
ACDV				IAML		08 34 51.4	
	comp=Z,158nm,0.5s						
ACCO	Cerro Coronel	2.58	92	i P	Pb	08 34 10.9	0.0
ACCO				i S	Sg	08 34 47.3	0.0
ACCO				IAML		08 34 51.0	
	comp=Z,182nm,0.6s						
ROC1	El Roble	2.59	160	eP	Pn	08 34 07.3	+0.9
ROC1				i S	Sn	08 34 38.4	+0.4
RTLS	Leoncito	2.68	119	eP	Pb	08 34 12.3	-0.2
ZON	Zonda	3.07	110	⇓iP	Pb	08 34 17.8	-1.2
ZON				IAML		08 35 10.5	
	comp=Z,73nm,0.7s						
AMOG	MOGNA	3.09	98	i P	Pb	08 34 17.5	-1.9
AMOG				IAML		08 35 19.0	
	comp=Z,79nm,0.5s						
RTLL	Cerro Villicun	3.17	105	i P	Pb	08 34 18.1	-2.7
RTLL				IAML		08 35 15.7	
	comp=Z,88nm,0.5s						
AGUA	GUANDACOL	3.26	72	eP	Pb	08 34 20.2	-2.2
CFA	Coronel Fontan	3.44	109	eP	Pb	08 34 22.1	-3.3
CYA	Choya	5.84	71	i P	Pn	08 34 52.4	+1.5
CYA				IAML		08 36 45.2	
	comp=Z,10nm,0.9s						

*TAP **26** 08:36:02.0, 24°.94N×122°.77E, h49km±1km, ML3.3, D*
*JMA **26** 08:36:02.8±0.4, 24°.96N×122°.75E, h25km, M2.4*
*ISCJB **26** 08:36:03.3±0.7, 24°.91N±0°.05×122°.74E±0°.05, h35km, Error ellipse: s-maj=8.4km s-min=4.8km az=32.0*

ISC 26 08:36:03.6±1.5, 24°.91N±0°.06×122°.74E±0°.04, h35km, n44, σ0°.86/47, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonaguni jima	0.49	158	P	Pn	08 36 13.6	-0.6
JYNG				eS	Sn	08 36 20.8	-0.7
YOJ	Yonaguni jima	0.51	151	eP	Pn	08 36 13.8	-0.6
	baz=153						
YOJ	Yonaguni jima	0.51	151	P	Pn	08 36 13.2	-1.2
EOS1	EOS1	0.66	237	eP	Pn	08 36 16.0	-0.4
	baz=227						
EOS1				eS	Sn	08 36 25.4	-0.2
	baz=227						
TWB1	Santiao Chiao	0.69	278	eP	Pn	08 36 15.6	-1.3
	baz=275						
TWB1				eS	Sn	08 36 27.0	+0.6
	baz=275						
EGS		0.74	265	eP	Pn	08 36 16.5	-1.0
	baz=258						
NTC	Toucheng	0.83	266	eP	Pn	08 36 18.4	-0.4
	baz=269						
TIPB	Shuangxi	0.83	274	eP	Pn	08 36 18.0	-0.9
	baz=269						
TWC	Suao	0.87	250	eP	Pn	08 36 20.2	+0.9
	baz=253						
NWF	Wu-fen Shan	0.89	281	eP	Pn	08 36 19.7	+0.1
	baz=288						
WFSB	Wu-fen Shan	0.89	281	eP	Pn	08 36 19.4	-0.2
	baz=287						
PCYT	Pengchaiyu	0.94	320	eP	Pn	08 36 20.5	+0.2
	baz=317						
TWE	Neicheng	0.99	259	eP	Pn	08 36 20.4	-0.7
	baz=257						
SLBB	Yuanshan	1.02	261	eP	Pn	08 36 19.5	-1.9
	baz=253						
NANB	Nanao	1.02	242	eP	Pn	08 36 20.9	-0.5
	baz=241						
ENA	Nanau	1.03	242	eP	Pn	08 36 20.9	-0.7
	baz=241						
IRIF	Iriomote-Funau	1.07	122	P	Pn	08 36 22.7	+0.7
YM08	YM08	1.08	285	eP	Pn	08 36 21.0	-1.3
	baz=291						
YM01	YM01	1.09	283	eP	Pn	08 36 23.5	+1.1
	baz=289						
YM05	YM05	1.10	284	eP	Pn	08 36 22.2	-0.4
	baz=289						
YM10	YM10	1.10	283	eP	Pn	08 36 20.9	-1.6
	baz=289						
ENTT	Nioudou	1.10	256	eP	Pn	08 36 22.2	-0.4
	baz=254						
NWLT	Wulai	1.13	264	eP	Pn	08 36 22.2	-0.8
	baz=262						
NDT	Datong Townshi	1.16	255	eP	Pn	08 36 23.6	+0.2
	baz=254						
YHNB	Yeheng	1.27	259	eP	Pn	08 36 24.8	-0.1
	baz=258						
NACB	Ninganchiao	1.28	235	eP	Pn	08 36 24.6	-0.3
	baz=234						
NSK	Sanguang	1.28	260	eP	Pn	08 36 25.6	+0.6
	baz=271						
NNSB	Datong	1.33	249	eP	Pn	08 36 26.0	+0.2
	baz=241						
ETLH	Xiulin Townshi	1.34	239	eP	Pn	08 36 26.0	0.0
	baz=226						
JIJ	Ishigaki jima	1.39	113	P	Pn	08 36 26.9	+0.5

WHF	Hehuan Shan	1.55	241	eP		Pn	08 36 29.2 +0.2
	baz=228						
TDCB	Techi	1.58	246	eP		Pn	08 36 29.9 +0.6
	baz=235						
CHGB	Renai	1.66	240	eP		Pn	08 36 31.5 +1.0
	baz=229						
WHP	Taichung City	1.75	249	eP		Pn	08 36 32.7 +1.1
	baz=239						
HGSD	Ruisui	1.86	221	eP		Pn	08 36 32.9 -0.1
	baz=212						
VWDT	VWDT	1.86	232	eP		Pn	08 36 33.4 +0.4
	baz=223						
DPDB	Guoxing	1.87	243	eP		Pn	08 36 35.4 +2.2
	baz=232						
SSLB	Suanglung	1.98	236	eP		Pn	08 36 35.6 +1.0
	baz=225						
YULB	Yu-li	2.01	221	eP		Pn	08 36 35.1 +0.1
	baz=231						
TWF1	Yuli	2.04	221	eP		Pn	08 36 35.6 +0.2
	baz=230						
WHYT	Xinyi Township	2.10	235	eP		Pn	08 36 37.7 +1.3
	baz=226						
ALS	Alishan	2.25	232	eP		Pn	08 36 39.0 +0.4
	baz=223						
TPUB	Ta-pu	2.51	231	eP		Pn	08 36 40.9 -1.0
	baz=221						
MASBT	Mashibuluo	3.00	221	eP		Pn	08 36 49.4 +0.8
	baz=213						

*ISCJB **26** 08:36:24.3±0.3, 25°.37S±0°.07×69°.93E±0°.06, h10km, mb4.3/20, MS4.4/12, Error ellipse: s-maj=9.5km s-min=7.8km az=10.8*
*IDC **26** 08:36:24.6±0.6, 25°.35S×69°.93E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/48, mbtmp4.2/18, MS4.3/12, Ms1 4.3/12, ms1mx4.0/29, Error ellipse: s-maj=19.3km s-min=15.1km az=34.0*
*NEIC **26** 08:36:25.8±0.9, 25°.4S±0°.1×69°.9E±0°.1, h10km±1km, mb4.9/49*
*GCMT **26** 08:36:27.8±0.2, 25°.23S±0°.02×69°.80E±0°.01, h12km±1km, MW5.1/104, Moment Tensor Solution. s35,c42; s104,c144; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.63±.19; Mθθ0.55±.11; Mφφ3.07±.14; Mrθ-0.64±.32; Mθφ-1.46±.07; Mφr4.09±.48; Best double couple: M0:5.54200×10^16 NP1:φs167.00000°, δ69.00000°, λ-82.00000°. NP2:φs324.00000°, δ22.00000°, λ-111.00000°. Principal axes: T 5.5180, Plg24.0000°, Azm250.0000°; N 0.0440, Plg8.0000°, Azm344.0000°; P -5.5670, Plg65.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 08:36:26.2±0.5, 25°.4S±0°.1×69°.87E±0°.08, h10km, n106, σ0°.85/90, mb4.8/39, MS4.4/12, 2C-6D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.86	8	T	T	08 58 47.5	
	baz=188,slow=76,SNR=61						
H08S2	Diego Garcia H	17.86	9	T	T	08 58 57.0	
	baz=188,slow=76,SNR=98						
H08S3	Diego Garcia H	17.88	8	T	T	08 58 51.6	
	baz=188,slow=76,SNR=61						
ABPO	Ambohimpanom	21.89	282	P	P	08 41 19.2	-0.6
OPO	Ambohidratompo	22.09	283	P	P	08 41 23.4	+1.5
	7.6nm,0.9s,baz=126,slow=11,SNR=7.7						
H01W2	Cape Leeuwin H	39.15	115	T	T	09 25 40.6	
	baz=272,slow=75,SNR=5.5						
H01W3	Cape Leeuwin H	39.15	115	T	T	09 25 35.8	
	baz=272,slow=75,SNR=5.5						
H01W1	Cape Leeuwin H	39.17	115	T	T	09 25 21.9	
	baz=272,slow=75,SNR=5.9						
BKNI	Bangkinang	39.53	54	P	P	08 43 57.3	-0.3
KMBO	Kilima Mbogo	39.66	302	P	P	08 43 58.9	0.0
	0.6nm,0.4s,baz=133,slow=5.9,SNR=4.0						
KMBO				LR	LR	08 56 36.2	
	comp=Z,191nm,19.5s,baz=84,slow=30						
KMBO	Kilima Mbogo	39.66	302	P	P	08 43 58.4	-0.6
RPSI	Rantau Prapat	39.68	49	P	P	08 43 59.0	+0.2
BOSA	Boshof	39.70	255	LR	LR	08 57 41.6	
	comp=Z,816nm,19.1s,baz=95,slow=32						
LSZ	Lusaka	40.22	276	P	P	08 44 02.6	-0.8
LEM	Lembang	40.50	69	LR	LR	08 57 08.7	
	comp=Z,431nm,21.5s,baz=217,slow=31						
MAW	Mawson	42.41	184	LR	LR	08 57 49.5	
	comp=Z,366nm,21.3s,baz=18,slow=30						
HYB	Hyderabad	43.42	12	i P	P	08 44 33.0	+3.6
SBUM	Sibu	49.49	62	P	P	08 45 17.3	+0.1
SBUM				IAmb	IAmb	08 45 25.7	
	comp=Z,9.9nm,1.2s						
PBKT	Sadao Pong	51.58	39	P	P	08 45 32.1	-0.8
PBKT				IAmb	IAmb	08 45 40.4	
	comp=Z,11nm,1.1s						
KAPI	Kappang	51.87	76	LR	LR	09 06 41.0	
	comp=Z,202nm,18.7s,baz=121,slow=35						
CM31	Chiang Mai Arr	51.99	36	P	P	08 45 35.9	-0.1
CM31				IAmb	IAmb	08 45 43.3	
	comp=Z,16nm,1.0s						
CMAR	Chiang Mai Arr	51.99	36	P	P	08 45 35.1	-0.8
	comp=Z,1.4nm,0.3s,baz=229,slow=5.5,SNR=12						
CMAR				LR	LR	09 05 11.9	
	comp=Z,147nm,19.4s,baz=164,slow=33						
CMAR	Chiang Mai Arr	51.99	36	P	P	08 45 36.0	+0.1
FITZ	Fitzroy Crossi	52.00	94	P	P	08 45 36.9	+0.7
	baz=234,slow=9.4						
CHTO	Chiang Mai	52.29	36	P	P	08 45 37.9	-0.2
SHL	Shillong	54.98	24	P	P	08 45 58.6	+0.6
ASAR	Alice Springs	57.76	103	P	P	08 46 17.6	-0.3
	comp=Z,2.1nm,0.9s,baz=250,slow=6.8,SNR=15						
ASAR				LR	LR	09 09 25.6	
	comp=Z,258nm,18.5s,baz=302,slow=34						
ASAR	Alice Springs	57.76	103	P	P	08 46 16.5	-1.4
AS31	Alice Springs	57.76	103	P	P	08 46 17.2	-0.7
LSA	Lhasa	58.49	22	P	P	08 46 23.4	+0.1
LSA				IAmb	IAmb	08 46 30.6	
	comp=Z,7.2nm,0.9s						
NIL	Nilore	58.84	3	P	P	08 46 24.8	-0.3
NIL				IAmb	IAmb	08 46 27.4	
	comp=Z,10nm,1.2s						
WRA	Warramunga Arr	59.24	99	P	P	08 46 26.9	-1.3
	comp=Z,4.7nm,1.2s,baz=252,slow=6.3,SNR=11						
WRA				LR	LR	09 09 29.8	
	comp=Z,498nm,19.5s,baz=265,slow=34						
WRA	Warramunga Arr	59.24	99	P	P	08 46 27.8	-0.5
WB2	Warramunga Arr	59.25	99	P	P	08 46 27.5	-0.8
WB2				IAmb	IAmb	08 46 35.6	
	comp=Z,21nm,1.4s						
WRAB	Tennant Creek	59.26	99	P	P	08 46 27.7	-0.6
WRAB				IAmb	IAmb	08 46 35.7	
	comp=Z,18nm,1.2s						
KBL	Kabul	59.65	359	P	P	08 46 30.4	-0.5
KBL				IAmb	IAmb	08 46 38.6	
	comp=Z,13nm,0.9s						
HRA	Herat	59.93	353	P	P	08 46 32.1	-0.6
HRA				IAmb	IAmb	08 46 36.5	
	comp=Z,4.2nm,0.6s						
SNAA	Sanae	60.65	200	P	P	08 46 38.2	+1.0
SNAA	Sanae	60.65	200	P	P	08 46 37.5	+0.4
	comp=Z,1.9nm,0.9s,baz=113,slow=4.9,SNR=6.4						
SNAA	Sanae	60.65	200	P	P	08 46 37.1	-0.1
SNAA				IAmb	IAmb	08 46 56.6	
	comp=Z,12nm,1.6s						
VNA2	Neumayer--Watz	62.04	201	P	P	08 46 48.2	+1.7
	baz=72,slow=9.6						
STKA	Stephens Creek	62.25	114	P	P	08 46 49.0	+0.5
	comp=Z,1.4nm,0.7s,baz=290,slow=10,SNR=3.0						
STKA				LR	LR	09 10 04.5	
	comp=Z,457nm,20.0s,baz=316,slow=32						
VNA3	Neumayer Olymp	62.79	201	P	P	08 46 52.9	+1.4
CHGR	Chuyangaron	63.75	359	P	P	08 46 57.9	-0.4
FAKI	Fak Fak	63.88	80	P	P	08 46 59.5	-0.1
GEYT	Alibeck	63.98	350	P	P	08 47 00.2	+0.4
GYA0B	ALIBECK ARRAY	63.98	350	P	P	08 46 59.5	-0.3
GAR	Garm	64.09	0	P	P	08 46 59.6	-0.9
QSPA	South Pole Qui	64.70	180	P	P	08 47 04.4	+0.1
	comp=Z,6.4nm,1.0s,baz=290,slow=3.8,SNR=12						
QSPA	South Pole Qui	64.70	180	P	P	08 47 04.2	-0.2
QSPA				IAmb	IAmb	08 47 07.3	
	comp=Z,18nm,1.3s						
BTK	Batken	65.16	1	P	P	08 47 07.0	-0.5
BTK				IAmb	IAmb	08 47 14.8	
	comp=Z,8.8nm,1.1s						
ARSB	Arslanbob	66.48	3	P	P	08 47 15.3	-0.7

NRN	Naryn	66.77	5	P	P	08 47 17.5	-0.6
NRN				IAmb	IAmb	08 47 25.3	
	comp=Z,12nm,1.4s						
ENH	Enshi	67.15	37	P	P	08 47 19.7	-0.7
ENH				IAmb	IAmb	08 47 27.3	
	comp=Z,15nm,1.1s						
AAK	Ala-Archa	67.86	4	P	P	08 47 24.3	-0.5
KK31	Karatay Array	68.19	1	P	P	08 47 26.1	-0.7
KK31				IAmb	IAmb	08 47 34.6	
	comp=Z,16nm,1.2s						
KKAR	Karatay Array	68.19	1	P	P	08 47 26.0	-0.7
XAN	Xi'an	69.81	34	P	P	08 47 36.6	-0.3
XAN				IAmb	IAmb	08 47 37.8	
	comp=Z,6.2nm,0.5s						
TBLG	Delisi	70.76	340	P	P	08 47 42.4	-0.2
WMQ	Urumqi	70.83	14	P	P	08 47 43.3	+0.3
AKH	Akhalkalaki	70.86	339	P	P	08 47 43.2	-0.2
AKH				IAmb	IAmb	08 47 51.2	
	comp=Z,8.7nm,1.1s						
MK31	Makanchi Array	72.76	9	P	P	08 47 53.2	-1.3
MKAR	Makanchi Array	72.76	9	P	P	08 47 53.4	-1.1
	comp=Z,2.1nm,0.8s,baz=199,slow=6.3,SNR=12						
MKAR	Makanchi Array	72.76	9	P	P	08 47 53.1	-1.4
BR131	Keskin Array S	73.10	332	P	P	08 47 56.2	-0.7
BR131				IAmb	IAmb	08 48 04.7	
	comp=Z,10nm,1.1s						
BRTR	Keskin Array B	73.10	332	P	P	08 47 56.4	-0.5
	comp=Z,2.1nm,0.7s,baz=157,slow=6.7,SNR=10						
BRTR				LR	LR	09 18 39.1	
	comp=Z,177nm,19.6s,baz=66,slow=35						
BRTR	Keskin Array B	73.10	332	P	P	08 47 56.6	-0.3
KBZ	Khabaz	73.14	340	P	P	08 47 57.4	+0.6
	comp=Z,1.4nm,0.6s,baz=138,slow=3.1,SNR=4.6						
KIV	Kislovodsk	73.41	340	P	P	08 47 58.5	0.0
KIV				IAmb	IAmb	08 48 06.4	
	comp=Z,18nm,1.1s						
MANT	Manisa	74.44	327	P	P	08 48 04.2	-0.6
KURK	Kurchatov	76.20	6	P	P	08 48 14.2	-0.2
KURK				IAmb	IAmb	08 48 21.3	
	comp=Z,23nm,1.6s						
AKTO	Aktyubinsk	76.25	352	P	P	08 48 13.9	-0.8
	comp=Z,1.9nm,0.9s,baz=128,slow=2.4,SNR=5.5						
TOA0	Torodi Ar. Sit	76.64	292	P	P	08 48 17.5	-0.3
TOA0				IAmb	IAmb	08 48 25.2	
	comp=Z,10nm,1.1s						
TORD	Torodi Ar. Bea	76.64	292	P	P	08 48 17.9	+0.1
	comp=Z,4.0nm,1.0s,baz=118,slow=4.4,SNR=14						
TORD				LR	LR	09 20 35.6	
	comp=Z,184nm,20.4s,baz=320,slow=35						
TORD	Torodi Ar. Bea	76.64	292	P	P	08 48 17.0	-0.7
BRVK	Borovoye	78.15	0	P	P	08 48 24.6	-0.8
TAM	Tamanrasset	78.65	302	P	P	08 48 28.7	-0.3
TAM				IAmb	IAmb	08 48 38.0	
	comp=Z,12nm,1.4s						
KIC	Kosan Boka	78.96	282	eP	P	08 48 37.9	+7.2
	comp=Z,79nm,1.6s						
LIC	Lamto	79.15	282	eP	P	08 48 38.9	+7.2
	comp=Z,46nm,1.2s						
DBIC	Dimbokro	79.20	283	LR	LR	09 23 10.2	
	comp=Z,348nm,18.1s,baz=59,slow=35						
TIC	Toumodi	79.33	283	eP	P	08 48 40.1	+7.3
CFR	Carcaliu	79.90	331	⇓iP	P	08 48 34.0	-1.0
SONM	Songino Array	79.98	24	P	P	08 48 34.7	-0.9
	comp=Z,3.1nm,1.0s,baz=212,slow=5.3,SNR=5.8						
SONM	Songino Array	79.98	24	P	P	08 48 34.8	-0.9
ZAA0	Zalesovo Array	80.10	9	P	P	08 48 34.7	-1.3
ZALV	Zalesovo Beam	80.10	9	P	P	08 48 35.1	-0.8
	comp=Z,0.7nm,0.3s,baz=193,slow=6.1,SNR=5.3						
VRI	Vrincioaia	81.05	331	⇓iP	P	08 48 41.4	+0.1
PLOR	Plostina	81.08	331	⇓iP	P	08 48 41.2	-0.3
MLR	Muntele Rosu	81.11	330	⇓iP	P	08 48 41.6	-0.2
VOIR		81.47	330	⇑iP	P	08 48 43.2	-0.4
ARR	Arges	81.61	330	⇓iP	P	08 48 43.8	-0.5
ARU	Arti	82.10	354	P	P	08 48 45.7	-0.8
GZR	Gura Zlata	82.49	329	⇓iP	P	08 48 47.9	-1.0
KSAR	Wonju Array Be	82.95	43	P	P	08 48 51.5	0.0
KSRS	Korea Array	82.98	43	P	P	08 48 52.1	+0.5
	comp=Z,1.3nm,0.9s,baz=249,slow=3.4,SNR=3.3						
BURAR	Bucovina Array	83.06	331	⇑iP	P	08 48 50.6	-1.3
BURAR	Bucovina Array	83.06	331	P	P	08 48 51.5	-0.4
AKASG	Malin Array Be	83.87	335	P	P	08 48 55.1	-0.7
	comp=Z,0.5nm,0.4s,baz=137,slow=4.5,SNR=6.4						
AKASG	Malin Array Be	83.87	335	P	P	08 48 54.8	-1.0
VYHS	Vyhne	86.59	329	eP	P	08 49 16.5	+6.9
KLMR	Klimovskoe	89.45	346	eP	P	08 49 25.4	+2.5
KLMR				AMP		08 49 30.6	
	comp=Z,45nm,1.2s						
ESDC	Sonseca Array	94.43	312	P	P	08 49 47.0	+0.4
	comp=Z,0.2nm,0.3s,baz=120,slow=7.5,SNR=3.4						
CAST	Castle Rocks	133.15	24		PKPpre	08 55 32.4	
FRNY	Flat Rock	144.78	313		PKPab	08 56 01.9	-0.3
NCB	Newcomb	145.51	312		PKPdf	08 56 04.2	-0.5
ANMO	Albuquerque	170.00	342		PKPab	08 57 50.9	+1.3

*GCG **26** 08:47:09.0±0.5, 12°.97N×91°.23W, h3km±93km, MD4.2*
*SNET **26** 08:47:10.9±2.0, 13°.13N×91°.24W, h12km±42km, ML3.4*
*IDC **26** 08:47:10.7±1.1, 13°.11N×91°.13W, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.8/43, mbtmp3.8/11, ML3.8/3, MS3.5/3, Ms1 3.6/3, ms1mx3.0/31, Error ellipse: s-maj=19.1km s-min=16.8km az=58.0*
*NEIC **26** 08:47:14.8±2.0, 13°.15N±0°.07×91°.10W±0°.06, h35km±2km, mb4.1/20*
*MEX **26** 08:47:17.3±0.7, 13°.23N×91°.36W, h20km, MD4.0*

ISC 26 08:47:11.0±2.1, 13°.20N±0°.08×91°.15W±0°.05, h7km±11km, n77, σ1°.51/88, mb4.1/16, MS3.5/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	1.19	36	eP	Pn	08 47 35.2	+1.1
FUG	Fuego 3	1.27	14	eP	Pg	08 47 37.1	+1.7
FUG				eS	Sg	08 47 55.1	+3.1
STG3	Santiaguito 3,	1.55	345	eP	Pg	08 47 40.7	-0.1
NBG	Las Nubes	1.58	30	eP	Pg	08 47 42.1	+0.7
SBLS	San Blas	1.62	67	eP	Pb	08 47 40.4	-0.8
RTR	El Retiro	1.62	65	eP	Pb	08 47 40.7	-0.6
SNJE	San Jose	1.64	66	eP	Pb	08 47 40.9	-0.8
APG	El Apazote	1.91	20	Pn	Pg	08 47 46.6	-1.1
	32nm,0.3s,baz=188,slow=11,SNR=195						
APG				Lg	Lg	08 48 15.1	
	59nm,0.3s,baz=151,slow=22,SNR=12						
SNET	Serv Nac Est T	1.93	75	eP	Pb	08 47 45.7	-0.8
SNET				eS	Sg	08 48 12.1	-1.0
SNET				IAML		08 48 20.1	
	comp=Z,492nm,0.2s						
SNET	Serv Nac Est T	1.93	75		Pn	08 47 44.3	0.0
LOMA	Loma Larga	1.98	77	eP	Pb	08 47 46.4	-1.0
THIG		2.01	328	eP	Pn	08 47 45.4	+0.1
THIG				i

comp=Z,2.8nm,0.3s,baz=187,slow=12,SNR=3.8
CMIG Matias Romero 5.28 317 *e*P **Pn 08 48 32.1 +1.7**
CMIG *e*S **Sn 08 49 29.2 -2.3**
CMIG Matias Romero 5.28 317 Pn 08 48 32.1 +1.7
ACON Acoyapa 5.96 101 Pn **Pn 08 48 38.8 -0.9**
JTS Las Juntas de 6.73 115 Pn **Pn 08 48 51.2 +1.0**
comp=Z,1.0nm,0.3s,baz=11,slow=21,SNR=11
JTS Sn Sn 08 49 55.1 -12
comp=Z,0.4nm,0.3s,baz=11,slow=20,SNR=1.7
JTS Lg Lg 08 50 43.4
baz=3.6,slow=22,SNR=1.3
JTS Las Juntas de 6.73 115 Pn 08 48 49.6 -0.6
JTS **Sn 08 50 05.0 -2.1**
TEIG Tepich 7.51 21 Pn 08 49 03.5 +2.6
TLIG Tlapa 8.36 302 Pn 08 49 17.9 +5.2
DWPF Disney Wildern 17.38 30 P **P 08 51 14.9 -0.5**
ROSC El Rosal 18.57 115 P **Pn 08 51 32.5 +3.2**
comp=Z,1.2nm,0.3s,baz=32,slow=19,SNR=3.6
ROSC El Rosal 18.57 115 P **P 08 51 28.4 -0.7**
TXAR Lajitas Array 19.81 326 P **Pn 08 51 45.3 +1.5**
comp=Z,0.2nm,0.3s,baz=151,slow=14,SNR=11
TXAR Lajitas Array 19.81 326 P **Pn 08 51 43.8 0.0**
TX32 Lajitas Array 19.81 326 P **P 08 51 43.0 +0.7**
SDV Santo Domingo 20.59 100 P **P 08 51 49.9 -1.0**
comp=Z,3.9nm,0.8s,baz=279,slow=8.5,SNR=3.9
MNTX Cornudas Mount 22.58 327 P **P 08 52 12.8 +0.8**
MNTX IAmb IAmb 08 52 20.0
comp=Z,4.6nm,0.8s
U40A Yellville 23.11 357 P **P 08 52 16.9 -0.5**
U40A IAmb IAmb 08 52 18.6
comp=Z,4.2nm,0.8s
TKL Tuckaleechee C 23.33 15 P **P 08 52 20.6 +0.9**
comp=Z,3.7nm,0.7s,baz=225,slow=2.9,SNR=5.5
TKL LR LR 09 02 00.8
comp=Z,184nm,18.0s,baz=280,slow=38
ATAH Atahualpa 23.85 147 LR LR 09 00 21.3
comp=Z,68nm,19.4s,baz=331,slow=33
121A Cookes Peak, D 24.53 324 P **P 08 52 31.6 +0.2**
121A IAmb IAmb 08 52 37.7
comp=Z,5.9nm,0.8s
U54A Nelsons Funny 24.68 18 P **P 08 52 32.7 +0.1**
X16A Lo Mia Camp, P 28.01 322 P **P 08 53 04.0 +1.2**
LCMT Little Creek M 30.86 324 P **P 08 53 30.0 +1.9**
MTPU Mount Pierson 31.02 327 P **P 08 53 31.1 +1.5**
WVNY West Valley, N 31.07 18 P **P 08 53 28.8 -0.9**
PDAR Pinedale Array 33.48 335 P **P 08 53 53.4 +2.3**
comp=Z,0.2nm,0.5s,baz=143,slow=7.9,SNR=2.5
PDAR PcP **PcP 08 56 33.9 +1.7**
comp=Z,0.4nm,0.8s,baz=146,slow=5.5,SNR=3.4
PDAR Pinedale Array 33.48 335 P **P 08 53 51.8 +0.7**
REDW Red Top Meadow 34.51 334 P **P 08 54 01.3 +1.2**
REDW IAmb IAmb 08 54 03.3
comp=Z,3.3nm,0.8s
SNOW Snow King Moun 34.55 334 P **P 08 54 01.1 +0.6**
EYMN Ely 34.64 360 P **P 08 53 59.3 -1.5**
NVAR Mina Array Bea 34.80 321 P **P 08 54 05.3 +2.6**
comp=Z,3.5nm,0.8s,baz=137,slow=8.4,SNR=32
NVAR PcP **PcP 08 56 38.9 +2.9**
comp=Z,0.8nm,0.9s,baz=147,slow=1.8,SNR=4.3
NVAR Mina Array Bea 34.80 321 P **P 08 54 04.2 +1.6**
KVN Kaiserville 35.07 322 P **P 08 54 05.6 +0.7**
KVN IAmb IAmb 08 54 09.8
comp=Z,3.2nm,1.1s
D53A Lac Vacive, Po 35.61 16 P **P 08 54 08.2 -0.9**
PNTR Pine Nut 36.01 321 P **P 08 54 14.8 +1.8**
PNTR IAmb IAmb 08 54 19.7
comp=Z,3.6nm,0.8s
BEKR Beckworth 36.95 321 P **P 08 54 22.2 +1.3**
BEKR IAmb IAmb 08 54 28.7
comp=Z,2.9nm,1.1s
LPAZ La Paz 37.10 141 LR LR 09 10 18.9
comp=Z,79nm,19.6s,baz=343,slow=38
ULM Lac du Bonnet 37.14 355 P **P 08 54 21.1 -1.2**
comp=Z,2.6nm,0.7s,baz=162,slow=14,SNR=3.6
F10A Beach Ranch, E 39.40 331 P **P 08 54 42.3 +0.8**
F10A IAmb IAmb 08 54 48.8
comp=Z,3.7nm,0.8s
YBH Yreka Blue Hor 39.50 322 P **P 08 54 43.6 +1.3**
comp=Z,0.7nm,0.7s,baz=117,slow=2.3,SNR=3.5
YBH Yreka Blue Hor 39.50 322 P **P 08 54 43.0 +0.7**
YKA Yellowknife Ar 51.99 346 P **P 08 56 20.1 -0.5**
comp=Z,1.1nm,0.9s,baz=151,slow=7.7,SNR=3.2
INK Inuvik 61.43 343 P **P 08 57 27.8 +0.2**
comp=Z,1.4nm,0.8s,baz=90,slow=2.3,SNR=4.1
INK Inuvik 61.43 343 P **P 08 57 26.9 -0.7**
INK IAmb IAmb 08 57 28.0
comp=Z,0.9nm,0.6s
ILAR Eielson Array 63.89 337 P **P 08 57 43.9 -0.2**
comp=Z,0.7nm,0.8s,baz=152,slow=4.5,SNR=6.3
CMAR Chiang Mai Arr 147.00 342 PKPbc **PKPab 09 06 56.7 0.0**
comp=Z,1.4nm,0.4s,baz=345,slow=3.2,SNR=6.1
CMAR Chiang Mai Arr 147.00 342 PKPbc 09 06 56.5 +1.2

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*JMA **26** 08:47:25.8±0.6,24°.97N×122°.73E,h11km,M2.0*
*ISCJB **26** 08:47:26.8±0.7,24°.87N±0°.04×122°.69E±0°.03,h19km±6km,*
Error ellipse: s-maj=8.1km s-min=4.1km az=27.4
*TAP **26** 08:47:26.9,24°.85N×122°.68E,h21km±1km,ML2.9,D*
ISC 26 08:47:25.2±1.6,24°.88N±0°.06×122°.69E±0°.04,h12km±10km, n33,σ0°.78/47,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**151**	P	**Pb**	**08 47 36.2**	**+0.4**
JYNG				*e*S	**Sb**	**08 47 43.8**	**+0.9**
YOJ	**Yonaguni jima**	**0.51**	**145**	*e*P	**Pb**	**08 47 36.4**	**+0.2**
	baz=136						
YOJ				*e*S	**Sb**	**08 47 43.5**	**0.0**
	baz=136						
YOJ	**Yonaguni jima**	**0.51**	**145**	P	**Pn**	**08 47 36.9**	**-1.4**
YOJ				*e*S	**Sb**	**08 47 44.7**	**+1.1**
EOS1	**EOS1**	**0.61**	**237**	P	**Pn**	**08 47 38.5**	**-1.1**
	baz=231						
EOS1				S	**Sb**	**08 47 47.0**	**+0.8**
	baz=231						
TWB1	**Santiao Chiao**	**0.65**	**281**	*e*P	**Pn**	**08 47 39.8**	**-0.4**
	baz=284						
TWB1				*e*S	**Sb**	**08 47 47.8**	**+0.3**
	baz=284						
NTC	**Toucheng**	**0.78**	**268**	*e*P	**Pn**	**08 47 42.2**	**+0.2**
	baz=270						
NTC				*e*S	**Sn**	**08 47 52.8**	**-0.8**
	baz=270						
TIPB	**Shuangxi**	**0.79**	**277**	*e*P	**Pb**	**08 47 39.6**	**-1.2**
	baz=279						
TWC	**Suao**	**0.81**	**250**	*e*P	**Pb**	**08 47 40.5**	**-0.7**
	baz=252						
NWF	**Wu-fen Shan**	**0.84**	**283**	*e*P	**Pn**	**08 47 43.3**	**+0.3**
	baz=285						
WFSB	**Wu-fen Shan**	**0.84**	**283**	*e*P	**Pn**	**08 47 43.1**	**+0.2**
	baz=285						
TWE	**Neicheng**	**0.94**	**260**	*e*P	**Pn**	**08 47 44.4**	**+0.1**
	baz=262						
SLBB	**Yuanshan**	**0.96**	**262**	*e*P	**Pn**	**08 47 44.2**	**-0.4**
	baz=264						
NANB	**Nanao**	**0.97**	**242**	*e*P	**Pn**	**08 47 44.0**	**-0.6**
	baz=252						
NANB				*e*S	**Sg**	**08 47 56.5**	**+0.1**
	baz=252						
ENA	**Nanau**	**0.97**	**242**	*e*P	**Pn**	**08 47 44.7**	**0.0**
	baz=252						
ENA				*e*S	**Sb**	**08 47 57.3**	**+0.5**
	baz=252						
YM08	**YM08**	**1.04**	**287**	*e*P	**Pn**	**08 47 46.6**	**+0.9**
	baz=288						
YM08				*e*S	**Sn**	**08 47 60.0**	**-0.2**
	baz=288						
YM01	**YM01**	**1.05**	**285**	*e*P	**Pn**	**08 47 46.4**	**+0.7**
	baz=286						
ENTT	**Nioudou**	**1.05**	**257**	*e*P	**Pn**	**08 47 45.3**	**-0.5**
	baz=258						
YM05	**YM05**	**1.05**	**286**	*e*P	**Pn**	**08 47 47.8**	**+1.9**
	baz=287						
YM05				*e*S	**Sn**	**08 47 59.6**	**-0.9**
	baz=287						
YM10	**YM10**	**1.06**	**285**	*e*P	**Pn**	**08 47 45.8**	**-0.1**
	baz=287						
NWLT	**Wulai**	**1.08**	**265**	*e*P	**Pn**	**08 47 46.9**	**+0.7**
	baz=266						
IRIF	**Iriomote-Funau**	**1.09**	**120**	P	**Pn**	**08 47 45.9**	**-0.4**
NDT	**Datong Townshi**	**1.10**	**256**	*e*P	**Pn**	**08 47 48.2**	**+1.7**
	baz=256						
NDT				*e*S	**Sg**	**08 48 00.5**	**-0.4**
	baz=256						
YHNB	**Yeheng**	**1.21**	**260**	*e*P	**Pg**	**08 47 50.0**	**+1.5**
	baz=260						
YHNB				*e*S	**Sg**	**08 48 03.8**	**-0.5**
	baz=260						
NACB	**Ninganchiao**	**1.22**	**235**	*e*P	**Pb**	**08 47 48.0**	**-0.2**
	baz=235						
NACB				*e*S	**Sn**	**08 48 05.2**	**+0.6**
	baz=235						
NSK	**Sanguang**	**1.23**	**261**	*e*P	**Pg**	**08 47 49.7**	**+0.9**
	baz=261						
NNS	**Nan Shan**	**1.27**	**250**	*e*P	**Pg**	**08 47 49.1**	**-0.6**
	baz=250						
ETLH	**Xiulin Townshi**	**1.29**	**239**	*e*P	**Pg**	**08 47 50.4**	**+0.4**
	baz=222						
WHF	**Hehuan Shan**	**1.49**	**241**	*e*P	**Pg**	**08 47 53.7**	**-0.2**
	baz=239						
WHF				*e*S	**Sn**	**08 48 12.2**	**+0.3**
	baz=239						
TWT	**Tachien**	**1.51**	**246**	*e*P	**Pb**	**08 47 53.0**	**-0.4**
	baz=246						
TDCB	**Techi**	**1.53**	**246**	*e*P	**Pb**	**08 47 53.3**	**-0.2**
	baz=246						
LIOB	**Emei**	**1.54**	**261**	*e*P	**Pg**	**08 47 53.9**	**-0.9**
	baz=262						
CHGB	**Renai**	**1.60**	**240**	*e*P	**Pb**	**08 47 54.4**	**-0.5**
	baz=224						
SSLB	**Suanglung**	**1.92**	**236**	*e*P	**Pn**	**08 47 58.2**	**+0.5**
	baz=220						

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*TAP **26** 08:48:25.8,25°.05N×122°.73E,h6km±1km,ML3.0,D*
*ISCJB **26** 08:48:26.4±1.9,25°.10N±0°.08×122°.77E±0°.07,*
h13km±23km,Error ellipse: s-maj=16.2km s-min=5.6km
az=33.0
*JMA **26** 08:48:26.3±0.2,25°.15N×122°.87E,h22km±3km,M2.1*
ISC 26 08:48:25.8±1.8,25°.07N±0°.07×122°.74E±0°.05,h13km±11km, n24,σ0°.78/31,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.65**	**163**	P	**Pb**	**08 48 39.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.66**	**158**	*e*P	**Pb**	**08 48 39.2**	**+0.1**
	baz=157						
YOJ				*e*S	**Sb**	**08 48 48.4**	**+0.2**
	baz=157						
YOJ	**Yonaguni jima**	**0.66**	**158**	P	**Pb**	**08 48 39.5**	**+0.4**
YOJ				*e*S	**Sb**	**08 48 48.9**	**+0.7**
TWB1	**Santiao Chiao**	**0.68**	**265**	*e*P	**Pb**	**08 48 40.0**	**+0.5**
	baz=266						
EOS1	**EOS1**	**0.76**	**227**	*e*P	**Pb**	**08 48 41.1**	**+0.2**
	baz=212						
EOS1				*e*S	**Sn**	**08 48 52.7**	**-0.8**
	baz=212						
TIPB	**Shuangxi**	**0.83**	**263**	*e*P	**Pb**	**08 48 42.4**	**+0.2**
	baz=265						
TIPB				*e*S	**Sg**	**08 48 51.8**	**-1.1**
	baz=265						
NWF	**Wu-fen Shan**	**0.87**	**270**	*e*P	**Pn**	**08 48 44.3**	**+0.5**
	baz=272						
WFSB	**Wu-fen Shan**	**0.87**	**270**	*e*P	**Pb**	**08 48 43.6**	**+0.9**
	baz=272						
TWC	**Suao**	**0.93**	**240**	*e*P	**Pn**	**08 48 44.7**	**+0.1**
	baz=241						
YM08	**YM08**	**1.05**	**276**	*e*P	**Pn**	**08 48 47.3**	**+1.1**
	baz=278						
YM08				*e*S	**Sn**	**08 49 00.5**	**-0.3**
	baz=278						
YM11	**YM11**	**1.06**	**275**	*e*P	**Pb**	**08 48 45.3**	**-0.7**
	baz=277						
YM11				*e*S	**Sn**	**08 49 00.9**	**-0.2**
	baz=277						
YM05	**YM05**	**1.07**	**275**	*e*P	**Pb**	**08 48 44.7**	**-1.5**
	baz=276						
NANB	**Nanao**	**1.10**	**235**	*e*P	**Pb**	**08 48 46.2**	**-0.5**
	baz=236						
NANB				*e*S	**Sn**	**08 49 00.8**	**-1.3**
	baz=236						
ENA	**Nanau**	**1.11**	**235**	*e*P	**Pn**	**08 48 47.3**	**+0.3**
	baz=236						
IRIF	**Iriomote-Funau**	**1.17**	**129**	P	**Pb**	**08 48 46.6**	**-1.2**
NDT	**Datong Townshi**	**1.21**	**247**	*e*P	**Pg**	**08 48 50.8**	**+1.7**
	baz=249						
YHNB	**Yeheng**	**1.30**	**252**	*e*P	**Pg**	**08 48 50.7**	**-0.1**
	baz=254						
NSK	**Sanguang**	**1.31**	**253**	*e*P	**Pg**	**08 48 51.6**	**+0.5**
	baz=254						
NACB	**Ninganchiao**	**1.37**	**229**	*e*P	**Pg**	**08 48 52.1**	**-0.1**
	baz=231						
ETLH	**Xiulin Townshi**	**1.43**	**233**	*e*P	**Pg**	**08 48 52.8**	**-0.6**
	baz=235						
WHF	**Hehuan Shan**	**1.63**	**236**	*e*P	**Pb**	**08 48 55.3**	**-0.7**
	baz=237						
CHGB	**Renai**	**1.75**	**235**	*e*P	**Pb**	**08 48 57.5**	**-0.3**
	baz=219						
SSLB	**Suanglung**	**2.07**	**232**	*e*P	**Pb**	**08 49 03.5**	**+0.3**
	baz=217						
YULB	**Yu-li**	**2.13**	**218**	*e*P	**Pn**	**08 49 01.9**	**+0.8**
	baz=220						

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*TAP **26** 08:50:08.2,25°.09N×122°.78E,h81km±1km,ML2.9,C*
*ISCJB **26** 08:50:11.6±1.3,25°.00N±0°.10×122°.72E±0°.06,h35km,*
Error ellipse: s-maj=14.7km s-min=6.0km az=22.9
*JMA **26** 08:50:12.7,25°.00N×122°.81E,h31km±1km,M1.8*
ISC 26 08:50:11.7±2.2,25°.0N±0°.1×122°.72E±0°.06,h35km,n12, σ0°.53/16,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.59**	**159**	P	**Pn**	**08 50 23.8**	**+0.1**
JYNG				*e*S	**Sn**	**08 50 31.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.61**	**154**	P	**Pn**	**08 50 24.0**	**+0.1**
	baz=157						
YOJ	**Yonaguni jima**	**0.61**	**154**	P	**Pn**	**08 50 23.8**	**-0.1**
YOJ				S	**Sn**	**08 50 31.7**	**-0.8**
EOS1	**EOS1**	**0.70**	**229**	P	**Pn**	**08 50 25.5**	**+0.4**
	baz=218						
TIPB	**Shuangxi**	**0.81**	**267**	*e*P	**Pn**	**08 50 26.8**	**+0.2**
	baz=263						
WFSB	**Wu-fen Shan**	**0.85**	**274**	*e*P	**Pn**	**08 50 26.7**	**-0.4**
	baz=277						
NANB	**Nanao**	**1.05**	**237**	*e*P	**Pn**	**08 50 29.5**	**-0.4**
	baz=232						
NANB				*e*S	**Sn**	**08 50 44.4**	**+1.0**
	baz=232						
ENA	**Nanau**	**1.06**	**237**	*e*P	**Pn**	**08 50 30.7**	**+0.6**
	baz=229						
IRIF	**Iriomote-Funau**	**1.14**	**126**	P	**Pn**	**08 50 31.7**	**+0.5**
YHNB	**Yeheng**	**1.26**	**255**	*e*P	**Pn**	**08 50 32.5**	**-0.4**
	baz=261						
NACB	**Ninganchiao**	**1.32**	**231**	*e*P	**Pn**	**08 50 32.9**	**-0.7**
	baz=220						
NNSB	**Datong**	**1.34**	**245**	*e*P	**Pn**	**08 50 34.1**	**+0.1**
	baz=242						
NNSB				*e*S	**Sn**	**08 50 50.9**	**+0.1**
	baz=242						

DJA 26 08:52:53.0±0.7,8°S±9°×11°0E±°,h113km±7km,M3.7/7, MLv3.7/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.60**	**73**	P	Pn	08 53 12.3	+1.4
YOGI				S	Sn	08 53 26.8	+2.4
KPJI	**Karang Pucung**	**1.01**	**310**	P	Pn	08 53 15.1	+0.6
KPJI				S	Sn	08 53 31.5	+0.7
SMRI	**Semarang**	**1.18**	**38**	P	Pn	08 53 16.2	-0.2
CMJI	**Cimerak**	**1.27**	**279**	P	Pn	08 53 16.5	-0.8
CMJI				S	Sn	08 53 35.8	+0.1
NGJI	**Ngawi**	**1.84**	**71**	P	Pn	08 53 24.8	+0.7
CISI	**Cisompet, Garu**	**1.93**	**283**	P	Pn	08 53 26.0	+0.7
CISI				S	Sn	08 53 50.7	+0.8
PWJI	**Pagerwojo**	**2.07**	**91**	P	Pn	08 53 27.7	+0.7
PWJI				S	Sn	08 53 54.0	+0.9
GRJI	**Gresik**	**2.95**	**69**	P	Pn	08 53 37.5	-0.9
KDI	**Kendari**	**13.45**	**73**	P	P	08 56 04.1	-0.6

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*ISCJB **26** 08:57:04.9±0.2,44°.60N±0°.02×130°.02W±0°.03,h15km, mb4.3/18,MS3.9/12,Error ellipse: s-maj=4.2km s-min=2.3km az=135.6*
*NEIC **26** 08:57:05.4±1.9,44°.48N±0°.08×130°.1W±0°.1,h10km±1km, mb4.5/90*
*BJI **26** 08:57:05.0±0.0,44°.50N×130°.10W,h30km,mb4.6/9, mB4.6/1,Ms7 4.4/2*

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*IDC **26** 08:57:08.8±3.3,44°.53N×130°.02W,h38km±25km,mb4.0/16, mb1 4.2/23,mb1mx4.0/50,mbtmp4.2/23,ML3.4/7,MS3.8/15, Ms1 3.9/15,ms1mx3.6/35,Error ellipse: s-maj=32.5km s-min=13.5km az=57.0*
ISC 26 08:57:06.4±0.5,44°.51N±0°.06×130°.02W±0°.06,h15km, n395,σ1°.34/361,mb4.5/47,MS4.0/12,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.44**	**110**	Pn	**Pn**	**08 58 12.0**	**-1.3**
KEBM				Sn	**Sn**	**08 59 06.2**	**+1.5**
I02D	**Swisshome**	**4.45**	**93**	P	**Pn**	**08 58 12.4**	**-0.9**
	baz=278,SNR=22						
J01E	**Myrtle Point**	**4.61**	**105**	P	**Pn**	**08 58 15.3**	**-0.2**
	baz=290						
COR	**Corvallis**	**4.80**	**87**		**Pn**	**08 58 18.0**	**-0.1**
COR				Sn	**Sn**	**08 59 13.9**	**+0.4**
G03D	**McMinnville, O**	**4.86**	**79**	P	**Pn**	**08 58 18.5**	**-0.4**
	baz=265,SNR=33						
I03D	**Drain, OR**	**4.88**	**97**	P	**Pn**	**08 58 18.3**	**-0.9**
	baz=283,SNR=21						
K02D	**Willamette Mer**	**4.96**	**109**	P	**Pn**	**08 58 20.8**	**+0.3**
	baz=294,SNR=6.4						
E03A	**Lebam**	**4.98**	**64**		**Pn**	**08 58 20.1**	**-0.4**
NLWA	**Neilton Lookou**	**5.17**	**54**		**Pn**	**08 58 23.9**	**+0.6**
NLWA				Sn	**Sn**	**08 59 22.9**	**+0.3**
F04D	**Rainier, OR**	**5.19**	**70**	P	**Pn**	**08 58 23.4**	**-0.1**
	baz=256,SNR=6.2						
H04D	**Lebanon**	**5.21**	**87**	P	**Pn**	**08 58 23.9**	**+0.2**
	baz=273,SNR=10						
L02E	**Cave Junction**	**5.24**	**114**	P	**Pn**	**08 58 24.7**	**+0.5**
	baz=299						
HUMO	**Hull Mountain**	**5.47**	**108**		**Pn**	**08 58 27.6**	**+0.2**
HUMO				Sn	**Sn**	**08 59 30.3**	**+0.1**
F04A	**Amboy**	**5.56**	**72**		**Pn**	**08 58 28.9**	**+0.3**
F04A				Sn	**Sn**	**08 59 35.3**	**+3.2**
E04D	**Cinebar**	**5.62**	**66**	P	**Pn**	**08 58 29.9**	**+0.5**
	baz=252,SNR=21						
D03D	**Eldon**	**5.70**	**55**	P	**Pn**	**08 58 31.1**	**+0.7**
	baz=241,SNR=11						
D04E	**Lakebay**	**5.73**	**60**	P	**Pn**	**08 58 31.8**	**+1.0**
	baz=246,SNR=30						
J04D	**Umpqua Nationa**	**5.86**	**100**	P	**Pn**	**08 58 34.1**	**+1.2**
	baz=286,SNR=25						
YBH	**Yreka Blue Hor**	**6.03**	**115**	Pn	**Pn**	**08 58 37.3**	**+2.2**
	0.2nm,0.3s,baz=304,slow=9.2,SNR=26						
YBH				Sn	**Sn**	**08 59 41.3**	**-2.5**
	baz=165,slow=20,SNR=0.8						
YBH	**Yreka Blue Hor**	**6.03**	**115**		**Pn**	**08 58 36.8**	**+1.6**
L04D	**Klamath Falls**	**6.07**	**109**	P	**Pn**	**08 58 36.7**	**+0.9**
	baz=295,SNR=14						
M02C	**Callahan**	**6.11**	**118**	P	**Pn**	**08 58 37.4**	**+1.1**
	baz=304						
LON	**Longmire**	**6.18**	**66**		**Pn**	**08 58 37.3**	**+0.1**
F05D	**White Salmon**	**6.21**	**74**	P	**Pn**	**08 58 38.2**	**+0.7**
	baz=261,SNR=49						
D05A	**Enumclaw**	**6.22**	**62**		**Pn**	**08 58 38.3**	**+0.7**
I05D	**Terrebonne, OR**	**6.22**	**89**	P	**Pn**	**08 58 38.3**	**+0.5**
	baz=275						
G05D	**Wamic, OR**	**6.23**	**80**	P	**Pn**	**08 58 38.8**	**+1.0**
	baz=267,SNR=17						
K04D	**Chiloquin, OR**	**6.30**	**105**	P	**Pn**	**08 58 40.2**	**+1.4**
	baz=291						
KMRM	**Mail Ridge**	**6.34**	**130**		**Pn**	**08 58 40.0**	**+0.6**
N02D	**Trinity Center**	**6.44**	**121**	P	**Pn**	**08 58 42.0**	**+1.3**
	baz=306						
J05D	**Fort Rock, OR**	**6.47**	**98**	P	**Pn**	**08 58 42.5**	**+1.3**
	baz=284						
A04D	**Lummi Island**	**6.57**	**48**	P	**Pn**	**08 58 43.2**	**+0.9**
	baz=233,SNR=29						
PINE	**Pine Mountain**	**6.57**	**93**		**Pn**	**08 58 43.1**	**+0.4**
M04C	**Macdoel**	**6.58**	**112**	P	**Pn**	**08 58 43.6**	**+1.0**
	baz=298						
B05A	**Bryant**	**6.64**	**53**	P	**Pn**	**08 58 44.2**	**+0.7**
	baz=239,SNR=50						
WDC	**Whiskeytown Da**	**6.78**	**123**		**Pn**	**08 58 47.5**	**+2.2**
O02D	**Mt. Diablo Mer**	**6.89**	**126**	P	**Pn**	**08 58 49.3**	**+2.4**
	baz=312						
LTY	**Liberty**	**7.08**	**64**		**Pn**	**08 58 50.1**	**+0.5**
B06A	**Marblemount**	**7.13**	**53**		**Pn**	**08 58 50.9**	**+0.8**
C06D	**Leavenworth**	**7.19**	**58**	P	**Pn**	**08 58 52.0**	**+1.0**
	baz=246,SNR=15						
F07A	**Phinny Hill Vi**	**7.27**	**75**		**Pn**	**08 58 53.2**	**+1.2**
O03E	**Paynes Creek**	**7.40**	**122**	P	**Pn**	**08 58 55.4**	**+1.5**
	baz=308						
E07A	**Sunnyside**	**7.43**	**70**		**Pn**	**08 58 54.4**	**+0.2**
MOD	**Modoc Plateau**	**7.56**	**107**		**Pn**	**08 58 57.0**	**+0.7**
BBB	**Bella Bella**	**7.79**	**9**	Pn	**Pn**	**08 59 01.8**	**+2.7**
	0.7nm,0.3s,baz=163,slow=8.9,SNR=5.3						
BBB				LR	LR	09 01 32.8	
	comp=Z,2μm,18.2s,baz=206,slow=34						
ORV	**Oroville**	**8.04**	**125**		**Pn**	**08 59 03.8**	**+1.1**
WVOR	**Wild Horse Val**	**8.54**	**100**		**Pn**	**08 59 09.9**	**+0.4**
BEKR	**Beckworth**	**8.54**	**120**		**Pn**	**08 59 11.3**	**+1.6**
RUBR	**Rubicon Trail**	**9.16**	**123**	Pn	**Pn**	**08 59 20.0**	**+1.8**
PNTR	**Pine Nut**	**9.48**	**121**		**Pn**	**08 59 24.3**	**+1.7**
NEW	**Newport**	**9.67**	**63**	P	**Pn**	**08 59 24.6**	**-0.5**
	baz=252,SNR=5.3						
NEW	**Newport**	**9.67**	**63**	Pn	**Pn**	**08 59 24.3**	**-0.7**
	0.4nm,0.3s,baz=240,slow=11,SNR=11						
NEW				LR	LR	09 02 59.8	
	comp=Z,1μm,20.9s,baz=242,slow=36						
CMB	**Columbia Colle**	**9.71**	**128**		**Pn**	**08 59 27.0**	**+1.3**
YERR	**Yerington**	**9.76**	**121**		**Pn**	**08 59 28.2**	**+1.8**
WAKR	**Walker**	**9.95**	**123**		**Pn**	**08 59 30.6**	**+1.6**
PLID	**Pearl Lake**	**9.99**	**82**		**Pn**	**08 59 29.8**	**+0.3**
RYN	**Ryan**	**10.42**	**120**	Pn	**Pn**	**08 59 36.6**	**+1.2**
NVAR	**Mina Array Bea**	**10.68**	**121**	Pn	**Pn**	**08 59 40.8**	**+1.8**
	0.1nm,0.3s,baz=294,slow=13,SNR=13						
NVAR				LR	LR	09 03 42.8	
	comp=Z,188nm,20.7s,baz=304,slow=37						
NV11	**Mina Array Sit**	**10.77**	**120**		**Pn**	**08 59 42.1**	**+1.9**
MLAC	**Mammoth, Mammo**	**10.88**	**125**	P	**Pn**	**08 59 42.8**	**+1.0**
	baz=313						
MSO	**Missoula**	**11.49**	**73**	P	**Pn**	**08 59 50.4**	**+0.4**
	baz=265,SNR=10						
ELK	**Elko**	**11.52**	**104**	Pn	**Pn**	**08 59 53.9**	**+3.3**
	0.1nm,0.3s,baz=295,slow=9.5,SNR=22						
ELK				LR	LR	09 04 24.7	
	comp=Z,346nm,18.9s,baz=291,slow=38						
ELK	**Elko**	**11.52**	**104**		**Pn**	**08 59 52.7**	**+2.2**
VES	**Vestal, Richgr**	**12.03**	**132**	P	**Pn**	**08 59 59.1**	**+1.8**
	baz=320						
CWC	**Cottonwood Cre**	**12.14**	**127**	P	**Pn**	**09 00 02.3**	**+3.4**
	baz=316						
GRAC	**Grapevine Rang**	**12.17**	**124**	P	**Pn**	**09 00 02.0**	**+2.7**
	baz=312						
R11A	**Troy Canyon, C**	**12.45**	**115**	P	**Pn**	**09 00 06.4**	**+3.2**
	baz=304,SNR=8.1						
R11A	**Troy Canyon, C**	**12.45**	**115**		**Pn**	**09 00 05.5**	**+2.2**
LRM	**Limekiln Ridge**	**12.47**	**78**		**Pn**	**09 00 04.7**	**+1.2**
ISA	**Isabella, Lake**	**12.49**	**131**	P	**Pn**	**09 00 06.6**	**+2.9**
	baz=

baz=278
H17A Grant Village 13.89 84 Pn 09 00 23.9 +1.0
SNOW Snow King Moun 13.92 88 Pn 09 00 23.4 +0.1
DLBC Dease Lake 13.95 360 Pn Pn 09 00 25.9 +2.5
0.1nm,0.3s,baz=171,slow=4.5,SNR=2.1
BFSC Mount Baldy Ra 14.01 133 P Pn 09 00 26.1 +1.7
baz=321,SNR=7.2
TCUT Toone Canyon 14.08 97 Pn 09 00 26.5 +1.1
TUQ Turquoise Moun 14.09 125 P Pn 09 00 28.4 +2.9
baz=314
JLU Jordanelle 14.23 99 Pn Pn 09 00 28.2 +0.6
YNE Yellowstone No 14.23 81 Pn Pn 09 00 28.2 +0.6
HEC Hector,Ludlow 14.28 128 P Pn 09 00 30.7 +2.5
baz=317
CCUT Cedar City 14.36 113 Pn 09 00 30.4 +1.1
TCRU Three Creeks R 14.41 108 Pn Pn 09 00 30.1 0.0
GCMT Greycliff 14.42 78 Pn Pn 09 00 31.1 +1.1
EGMT Eagleton 14.45 69 P Pn 09 00 31.5 +1.1
baz=264,SNR=6.9
SCI2 San Clemente I 14.56 138 P Pn 09 00 33.8 +1.9
baz=326
MSU Marysvale 14.64 108 Pn 09 00 33.9 +0.7
GMRC Granite Mounta 14.70 126 P Pn 09 00 36.1 +2.2
baz=316,SNR=10
LCMT Little Creek M 14.74 115 Pn 09 00 36.4 +1.9
MURC Murrieta 14.74 133 P Pn 09 00 36.6 +2.2
baz=322
RLMT Red Lodge 14.74 80 P Pn 09 00 36.1 +1.5
baz=275,SNR=13
BW06 Boulder Array 14.92 90 P Pn 09 00 38.6 +1.6
baz=284
PDAR Pinedale Array 14.92 90 Pn P 09 00 41.0 -1.5
0.1nm,0.3s,baz=278,slow=10,SNR=7.6
PDAR LR LR 09 06 25.4
comp=Z,710nm,19.5s,baz=283,slow=37
PDAR Pinedale Array 14.92 90 Pn 09 00 38.5 +1.6
TMUT Trail Mountain 14.94 104 Pn 09 00 37.5 +0.3
KNB Kanab 15.01 114 Pn 09 00 38.8 +0.6
BELC Belle Mtn. Jos 15.08 129 P Pn 09 00 41.0 +2.0
baz=318
PKCU Pink Cliffs 15.11 112 Pn 09 00 41.0 +1.4
PFO Pinyon Flats O 15.12 131 P Pn 09 00 41.4 +1.8
baz=320
PFO Pinyon Flats O 15.12 131 Pn Pn 09 00 41.7 +2.1
0.1nm,0.3s,baz=322,slow=10,SNR=7.3
PFO Pinyon Flats O 15.12 131 Pn 09 00 40.9 +1.3
P17A Butcher Ranch, 15.19 103 Pn 09 00 41.4 +1.0
109C Camp Elliot, M 15.35 135 Pn 09 00 44.5 +2.1
109C IAmb IAmb 09 01 00.4
comp=Z,22nm,1.1s
IRM Iron Mountain 15.45 127 P Pn 09 00 45.5 +1.8
baz=317,SNR=27
W13A Hualapai Mount 15.54 122 IAmb IAmb 09 00 53.5
comp=Z,22nm,1.1s
BC3 Big Chuckawall 15.64 129 P Pn 09 00 47.5 +1.2
baz=318,SNR=5.4
MONP2 Monument Peak 15.70 133 P Pn 09 00 48.9 +1.7
baz=322
U15A North Rim 15.70 115 Pn 09 00 48.5 +1.2
U15A IAmb IAmb 09 01 04.8
comp=Z,40nm,1.4s
SWSC Sam W. Stewart 15.99 131 P P 09 00 53.0 -1.1
baz=321,SNR=8.0
IKP In-Ko-Pah, Jac 16.05 133 P P 09 00 54.2 -0.8
baz=322,SNR=9.1
Y12C Blythe 16.10 127 P P 09 00 54.4 -0.9
baz=317,SNR=7.6
Y12C Blythe 16.10 127 Pn 09 00 53.0 +0.9
GLA Glamis 16.44 129 P Pn 09 00 57.8 +1.3
baz=319
O20A White River Ci 16.68 98 P P 09 01 01.2 -0.8
baz=293,SNR=6.6
O20A White River Ci 16.68 98 Pn 09 01 00.1 +0.3
O20A IAmb IAmb 09 01 18.1
comp=Z,25nm,1.1s
LAO LASA Array 16.79 74 P Pn 09 01 00.7 -0.2
baz=272
LAO LASA Array 16.79 74 P P 09 01 02.1 -0.9
PV21 Cone Mtn., Par 16.82 103 Pn 09 01 02.5 +0.9
WUAZ Wupatki 16.84 116 P Pn 09 01 01.8 0.0
baz=308
WUAZ Wupatki 16.84 116 Pn 09 01 02.7 +0.9
K22A Casper 17.12 88 P Pn 09 01 05.0 -0.2
baz=284
PV01 Paradox Valley 17.30 104 Pn 09 01 07.6 0.0
X16A Lo Mia Camp, P 17.50 119 P Pn 09 01 09.7 -0.3
MVCO Mesa Verde 17.81 107 P Pn 09 01 13.8 -0.1
baz=301
MVCO Mesa Verde 17.81 107 P Pn 09 01 14.4 +0.5
SMCO Snowmass 17.96 99 P P 09 01 16.6 +0.2
N23A Red Feather La 18.05 93 P Pn 09 01 16.8 0.0
baz=290
CRQM Cirque 18.06 339 P P 09 01 17.3 +0.2
CRQM IAmb IAmb 09 01 23.2
comp=Z,46nm,1.2s
W18A Petrified Fore 18.15 114 P P 09 01 18.8 +0.5
baz=308
DGMT Dagmar 18.19 68 P P 09 01 19.6 +1.2
baz=267
DGMT Dagmar 18.19 68 P P 09 01 19.0 +0.5
DGMT IAmb IAmb 09 01 30.4
comp=Z,57nm,1.1s
PHWY Pilot Hill 18.26 92 P Pn 09 01 19.6 +0.1
214A Organ Pipe Nat 18.39 127 P Pn 09 01 21.7 +0.9
baz=318
RSSD Black Hills 18.58 82 P P 09 01 22.6 -0.5
baz=281
RSSD Black Hills 18.58 82 P P 09 01 22.4 -0.6
ISCO Idaho Springs 18.67 96 P Pn 09 01 25.9 +1.4
baz=293,SNR=5.9
ISCO Idaho Springs 18.67 96 P P 09 01 23.9 -0.3
S22A 4UR Ranch, Cre 18.70 103 P Pn 09 01 26.6 +1.8
baz=299,SNR=9.7
KDAK Kodiak Island 19.29 322 LR LR 09 07 09.2
comp=Z,171nm,21.1s,baz=124,slow=31
TUC Tucson 19.32 123 P Pn 09 01 32.0 -0.2
baz=315
TUC Tucson 19.32 123 P P 09 01 31.3 +0.2
Q24A Divide 19.34 98 P P 09 01 31.6 +0.2
baz=295
Q24A Divide 19.34 98 P P 09 01 31.8 +0.3
SDCO Great Sand Dun 19.63 102 P Pn 09 01 36.5 +0.5
baz=298,SNR=19
BCAR Beaver Creek A 19.79 344 P P 09 01 35.8 -0.1
MENT Mentasta 20.08 342 P Pn 09 01 39.9 -1.0
MENT IAmb IAmb 09 01 47.6
comp=Z,18nm,1.2s
SCM Sheep Creek Mo 20.10 336 P Pn 09 01 40.1 -1.1
SCM IAmb IAmb 09 01 57.7
comp=Z,20nm,1.2s
YKA Yellowknife Ar 20.12 21 P P 09 01 38.9 -0.5
comp=Z,12nm,1.0s,baz=211,slow=12,SNR=14
YKA Yellowknife Ar 20.12 21 P Pn 09 01 40.0 -1.2
KNK Knik Glacier 20.12 334 P Pn 09 01 40.3 -1.1
YKW3 Yellowknife Ar 20.17 21 P P 09 01 40.4 +0.4
SML Sawmill 20.38 335 P Pn 09 01 43.0 -1.5
SML IAmb IAmb 09 01 46.2
comp=Z,41nm,1.2s
ANMO Albuquerque 20.43 110 P P 09 01 44.5 +1.2
baz=305
ANMO Albuquerque 20.43 110 P P 09 01 44.0 +0.8
comp=Z,8.1nm,1.0s,baz=306,slow=11,SNR=13
ANMO LR LR 09 08 57.6
comp=Z,171nm,18.3s,baz=306,slow=35
ANMO Albuquerque 20.43 110 P P 09 01 43.8 +0.5
GHO Glory Hole Cre 20.54 334 P P 09 01 44.6 +0.5
Y22D IRIS PASSCAL I 20.63 112 P Pn 09 01 47.2 -0.5
baz=307
T25A Trinidad 20.68 102 P Pn 09 01 48.0 -0.3
baz=299,SNR=36
FFC Flin Flon 20.71 50 P P 09 01 46.2 +0.3
BNM Barren Site 20.78 112 P P 09 01 47.8 +0.8
DOT Dot Lake 20.78 342 P P 09 01 47.0 +0.4
319A Douglas 20.89 122 P P 09 01 49.0 +0.8
319A IAmb IAmb 09 02 04.5
comp=Z,42nm,1.1s
SUA Susitna One 20.91 332 P P 09 01 48.4 +0.3
SUA IAmb IAmb 09 01 52.6
comp=Z,38nm,1.2s
121A Cookes Peak, D 21.04 117 P P 09 01 51.8 +2.0
baz=311,SNR=12
121A Cookes Peak, D 21.04 117 IAmb IAmb 09 02 08.5
comp=Z,28nm,1.1s
SCRK Sand Creek 21.05 343 IAmb IAmb 09 01 51.1
comp=Z,18nm,1.2s
DHY Denali Highway 21.11 338 IAmb IAmb 09 01 56.0
comp=Z,43nm,1.4s
KSCO Kaye Shedlock' 21.11 96 P P 09 01 51.1 +0.6
baz=294
KSCO Kaye Shedlock' 21.11 96 IAmb IAmb 09 01 58.7
comp=Z,34nm,1.0s
EGAK Eagle 21.25 347 P P 09 01 51.1 -0.5
MDND Maddock 21.26 70 P P 09 01 52.2 +0.3
baz=272
MDND Maddock 21.26 70 P P 09 01 52.2 +0.3
MCK McKinley 22.05 337 IAmb IAmb 09 02 01.7
comp=Z,19nm,1.2s
HDA Harding Lake 22.09 340 P P 09 02 00.4 -0.3
baz=146,SNR=6.1
HDA Harding Lake 22.09 340 IAmb IAmb 09 02 02.9
comp=Z,41nm,1.5s
SUSD Miller 22.11 79 P P 09 02 01.4 +0.4
baz=281
EPYK Eagle Plains 22.21 353 P P 09 02 01.5 -0.6
baz=167
EPYK Eagle Plains 22.21 353 P P 09 02 01.7 -0.4
EPYK IAmb IAmb 09 02 06.7
comp=Z,28nm,1.5s
TRF Thorofare Moun 22.22 336 IAmb IAmb 09 02 04.6
comp=Z,20nm,1.2s
IL31 22.38 341 P P 09 02 03.0 -0.7
ILAR Eielson Array 22.38 341 P P 09 02 03.8 0.0
comp=Z,13nm,1.2s,baz=153,slow=7.6,SNR=41
ILAR LR LR 09 09 16.1
comp=Z,116nm,18.4s,baz=115,slow=32
CCB Clear Creek Bu 22.50 340 IAmb IAmb 09 02 07.3
comp=Z,25nm,1.2s
COLA College 22.70 340 P P 09 02 06.4 -0.8
COLA IAmb IAmb 09 02 08.3
comp=Z,20nm,1.3s
TCOL CIGO, UAF Yank 22.70 340 P P 09 02 05.8 -1.3
baz=146
PRP Porcupine Dome 22.72 343 IAmb IAmb 09 02 10.2
comp=Z,22nm,1.4s
NEA Nenana 22.77 339 P P 09 02 07.4 -0.4
NEA IAmb IAmb 09 02 11.6
comp=Z,23nm,1.2s
POKR Poker Plat Res 22.80 341 P P 09 02 06.8 -1.5
baz=146
MNTX Cornudas Mount 23.12 115 P P 09 02 12.7 +0.8
baz=311,SNR=8.5
MNTX Cornudas Mount 23.12 115 P P 09 02 12.3 +0.4
MNTX IAmb IAmb 09 02 15.5
comp=Z,10nm,1.1s
CBKS Cedar Bluff 23.25 94 P P 09 02 12.8 -0.4
baz=294
CBKS Cedar Bluff 23.25 94 P P 09 02 13.0 -0.2
CBKS IAmb IAmb 09 02 20.0
comp=Z,17nm,1.1s
BGNE Belgrade 23.45 86 P P 09 02 14.9 -0.2
baz=289
MSTX Muleshoe 23.48 107 P P 09 02 15.4 -0.2
baz=305
MSTX Muleshoe 23.48 107 IAmb IAmb 09 02 22.9
comp=Z,9.6nm,1.1s
FYU Fort Yukon 23.59 345 IAmb IAmb 09 02 25.8
comp=Z,20nm,1.5s
ULM Lac du Bonnet 23.68 64 P P 09 02 16.4 -0.9
comp=Z,11nm,0.9s,baz=260,slow=10,SNR=9.8
ULM LR LR 09 11 03.5
comp=Z,523nm,19.7s,baz=268,slow=35
ULM Lac du Bonnet 23.68 64 P P 09 02 16.7 -0.5
ULM IAmb IAmb 09 02 19.4
comp=Z,17nm,0.9s
AMTX Amarillo 23.73 104 P P 09 02 18.3 +0.3
baz=303
AMTX Amarillo 23.73 104 P P 09 02 18.0 0.0
AGMN Agassiz Nation 23.74 69 P P 09 02 17.2 -0.6
baz=274
AGMN Agassiz Nation 23.74 69 IAmb IAmb 09 02 21.9
comp=Z,24nm,1.1s
ECSD EROS Data Cent 23.91 80 P P 09 02 19.5 0.0
baz=284,SNR=12
ECSD EROS Data Cent 23.91 80 P P 09 02 19.4 0.0
ECSD IAmb IAmb 09 02 22.7
comp=Z,18nm,0.9s
INK Inuvik 23.93 357 P P 09 02 17.9 -1.6
comp=Z,2.6nm,1.1s,baz=163,slow=7.9,SNR=2.9
INK LR LR 09 11 21.8
comp=Z,132nm,20.3s,baz=178,slow=36
BMAR Burnt Mountain 24.25 346 P P 09 02 21.9 -0.6
C36M Paulatuk 25.09 5 P P 09 02 29.2 -0.8
baz=190
IMAR Indian Mountai 25.11 337 P P 09 02 29.3 -0.9
KSU1 Kansas State U 25.37 91 P P 09 02 33.5 +0.6
baz=293,SNR=7.0
TX32 Lajitas Array 25.80 117 P P 09 02 36.6 -0.3
TX32 IAmb IAmb 09 02 54.5
comp=Z,8.7nm,1.1s
TXAR Lajitas Array 25.80 117 P P 09 02 37.3 +0.3
comp=Z,2.8nm,0.7s,baz=296,slow=6.0,SNR=25
TXAR Lajitas Array 25.80 117 P P 09 02 37.0 +0.1
WMOK Wichita Mounta 25.83 101 P P 09 02 37.9 +0.8
baz=302,SNR=20
WMOK Wichita Mounta 25.83 101 P P 09 02 37.4 +0.2
TOLK Toolik Lake Re 26.23 344 P P 09 02 39.5 -0.9
baz=147,SNR=6.9
TOLK Toolik Lake Re 26.23 344 IAmb IAmb 09 02 41.7
comp=Z,6.0nm,1.0s
SPMN Marine on St. 26.24 75 P P 09 02 40.5 -0.3
baz=282
ABTX Abilene, Hawle 26.40 106 P P 09 02 42.4 +0.1
baz=306
ABTX Abilene, Hawle 26.40 106 P P 09 02 41.5 -0.8
ABTX IAmb IAmb 09 02 44.3
comp=Z,6.1nm,0.9s
EYMN Ely 26.69 69 P P 09 02 44.5 -0.3
baz=277
JCT Junction City 27.58 110 P P 09 02 52.9 -0.1
baz=309
JCT Junction City 27.58 110 IAmb IAmb 09 02 54.0
comp=Z,11nm,1.0s
G40A Rib Lake 28.03 74 P P 09 02 56.6 -0.2
baz=283
L40A Anamosa 28.17 81 P P 09 02 58.0 -0.1
baz=288
JFWS Jewell Farm 28.60 79 P P 09 03 01.8 -0.2
baz=287
D41A Chassel 28.78 70 P P 09 03 03.0 -0.5
baz=280
W39A Magazine 29.13 96 P P 09 03 06.7 +0.1
baz=300
U40A Yellville 29.24 93 P P 09 03 07.7 +0.1
baz=298
MIAR Mount Ida 29.61 97 P P 09 03 11.7 +0.8
baz=301
CCM Cathedral Cave 29.64 89 P P 09 03 11.0 -0.1
baz=295
HDIL Hopedale 30.05 83 P P 09 03 14.6 -0.1
baz=291
W41B Gary Mavity, V 30.24 95 P P 09 03 14.4 -2.1
baz=300
E46A Sault Ste Mari 31.79 70 P P 09 03 28.2 -1.9
baz=284
I47A Gladwin 32.28 75 P P 09 03 34.6 +0.2
baz=287
H47A Mio 32.32 73 P P 09 03 33.4 -1.3
baz=286
L47A Sherwood 32.44 78 P P 09 03 36.1 +0.3
baz=290
OXF Oxford 32.59 94 P P 09 03 38.1 +0.9
baz=300
K48A Perry 32.92 77 P P 09 03 40.2 +0.2
baz=289
WVT Waverly 32.94 90 P P 09 03 40.5 +0.3
baz=298
L48A N Adams 32.99 78 P P 09 03 41.4 +0.7
baz=290
T47A Sharon Grove 33.06 88 P P 09 03 40.6 -0.7
baz=297
N49A Columbus Grove 33.53 80 P P 09 03 44.6 -0.7
baz=292
RES Resolute Bay 34.00 16 P P 09 03 49.5 +0.4
comp=Z,6.7nm,1.0s,baz=229,slow=7.7,SNR=6.3
O50A Cable 34.22 81 P P 09 03 50.5 -0.9
baz=293
P50A Jamestown 34.31 82 P P 09 03 51.5 -0.7
baz=294
X48A Hartselle 34.31 92 P P 09 03 53.4 +1.2
baz=300
N50A Nevada 34.32 79 P P 09 03 52.2 0.0
baz=292
R50A Paris 34.48 84 P P 09 03 54.0 +0.3
baz=296
V49A McMinnville 34.49 89 P P 09 03 53.0 -0.8
baz=299
Q50A Georgetown 34.49 83 P P 09 03 53.1 -0.6
baz=295
W49A Belvidere 34.54 90 P P 09 03 54.9 +0.7
baz=299
D50A G1974 Best Tow 34.58 67 P P 09 03 52.5 -1.9
baz=285
S50A Richmond 34.69 85 P P 09 03 55.1 -0.4
baz=296
P51A Williamsport 34.88 82 P P 09 03 56.2 -0.9
baz=294
U50A Jamestown 34.94 87 P P 09 03 57.1 -0.6
baz=298
V50A Pikevile 35.11 89 P P 09 03 58.5 -0.5
baz=299
W50A Signal Mountai 35.18 90 P P 09 04 00.2 +0.4
baz=299
W51A Cleveland 35.60 89 P P 09 04 03.0 -0.3
baz=299
Z50A Ashland 35.73 93 P P 09 04 04.7 +0.2
baz=302
X51A Calhoun 35.82 90 P P 09 04 03.0 -2.2
baz=300
O53A New Philadelph 35.88 79 P P 09 04 05.8 +0.2
baz=294
T52A Hallie 35.95 85 P P 09 04 06.6 +0.3
baz=297
LSQQ Lebel-sur-Quev 35.99 63 P P 09 04 06.6 +0.2
baz=284
U52A Thorn Hill 36.01 87 P P 09 04 06.9 +0.1
baz=298
Y51A Rockmart 36.01 91 P P 09 04 06.1 -0.8
baz=301
W52A Murphy 36.23 89 P P 09 04 07.9 -0.8
baz=300
Z51A Franklin 36.23 92 P P 09 04 08.9 +0.2
baz=302
T53A Wise 36.33 85 P P 09 04 10.1 +0.4
baz=297
X52A Dahlonega 36.49 90 P P 09 04 10.4 -0.6
baz=300
U53A Fall Branch 36.58 86 P P 09 04 11.6 -0.2
baz=298
P54A Burton 36.66 80 P P 09 04 12.5 +0.1
baz=294
Q54A Coxs Mills 36.66 81 P P 09 04 12.6 +0.2
baz=295
W53A Cullowhee 36.73 88 P P 09 04 11.4 -1.8
baz=299
Y52A Lilburn 36.74 91 P P 09 04 10.9 -2.2
baz=301
S54A Dingess, Beckl 36.83 83 P P 09 04 13.1 -0.8
baz=296
Z52A Williamson 36.84 92 P P 09 04 12.0 -1.9
baz=302
T54A Tazewell 36.98 84 P P 09 04 13.4 -1.7
baz=297
M55A Ridgway 37.12 76 P P 09 04 16.1 -0.2
baz=293
M55A Ridgway 37.12 76 IAmb IAmb 09 04 27.6
comp=Z,13nm,1.1s
O55A Ligonier 37.24 78 P P 09 04 17.3 +0.1
baz=294
V54A Nebo 37.31 87 P P 09 04 17.5 -0.4
baz=299
Z53A Monticello 37.39 91 P P 09 04 17.9 -0.8
baz=302
S55A Lewisburg 37.42 83 P P 09 04 19.0 +0.1
baz=297
R55A Marlinton 37.47 82 P P 09 04 19.9 +0.6
baz=296
W54A Cherokee Point 37.47 88 P P 09 04 18.9 -0.4
baz=300
T55A Pulaski 37.52 84 P P 09 04 18.2 -1.5
baz=297
M56A Emporium 37.52 76 P P 09 04 18.5 -1.2
baz=293
X54A Belton 37.60 89 P P 09 04 20.0 -0.4
baz=300
U55A TA2, Sparta 37.61 85 P P 09 04 20.0 -0.6
baz=298
N56A West Decatur 37.66 77 P P 09 04 21.1 +0.3
baz=293
Y54A Tignall 37.73 90 P P 09 04 20.4 -1.0
baz=301
BLA Blacksburg 37.73 83 P P 09 04 21.7 +0.2
baz=297
V55A Taylorsville 37.80 86 P P 09 04 22.3 +0.3
baz=299
P56A Dayton Farm, R 37.85 79 P P 09 04 22.6 +0.1
baz=295
E56A St. Veronique 37.92 67 P P 09 04 22.1 -0.8
baz=288
D56A ZEC Mazanza, M 37.95 66 P P 09 04 23.6 +0.3
baz=287
353A Camilla 37.97 94 P P 09 04 23.9 +0.5
baz=304
SSPA Standing Stone 38.05 77 P P 09 04 23.3 -0.9
baz=294
T56A Rocky Mt 38.09 84 P P 09 04 24.9 +0.4
baz=298
U56A King 38.16 85 P P 09 04 24.3 -0.7
baz=298
X55A Gracelyn & Ava 38.17 88 P P 09 04 24.3 -0.9
baz=300
N57A Milroy 38.24 77 P P 09 04 25.3 -0.4
baz=294
Y55A Saluda 38.28 89 P P 09 04 24.5 -1.6
baz=301
254A Abbeville 38.30 93 P P 09 04 24.6 -1.7
baz=303
M57A Sunshine Farm, 38.30 76 P P 09 04 25.6 -0.7
baz=293
S57A Dark Hollow, R 38.52 82 P P 09 04 28.5 +0.4
baz=297
D57A Chemin Vers le 38.53 66 P P 09 04 28.2 +0.1
baz=288
N58A Sunbury 38.79 76 P P 09 04 29.2 -1.1
baz=294
U57A Blanch 38.86 84 P P 09 04 30.0 -1.0
baz=298
O58A Lewisberry 38.94 77 P P 09 04 31.1 -0.4
baz=295
H58A Gabriels 39.18 70 P P 09 04 33.7 +0.1
baz=291
O59A Robesonia 39.37 77 P P 09 04 34.8 -0.5
baz=295
R59A King George, V 39.63 80 P P 09 04 37.4 +0.1
baz=297
S59A Mechanicsville 39.70 81 P P 09 04 38.0 +0.1
baz=297
Z58A St. Stephen 40.05 88 P P 09 04 41.0 +0.1
baz=302
F60A Warwick 40.13 67 P P 09 04 42.0 +0.5
baz=290
SCHQ Schefferville 40.84 52 LR LR 09 21 38.5
comp=Z,469nm,21.4s,baz=307,slow=36
SUMG Summit 48.68 24 *i* P P 09 05 50.3 +0.4
ESPN Las Esperanzas 50.58 115 P P 09 06 04.1 -0.5
DAG Danmarks Havn 51.70 16 *i* P P 09 06 11.6 -0.6
comp=Z,10nm,1.1s
TAOE Nuku Hiva Isla 53.90 192 *e*T T 10 04 10.6
comp=Z,34nm,0.3s
SCO Scoresbysund 54.31 23 *i* P P 09 06 32.2 +0.7
H11N3 WAKE ISLAND Hy 57.34 266 T T 10 08 44.7
baz=49,slow=75,SNR=614
H11N2 WAKE ISLAND Hy 57.34 266 T T 10 08 44.1
baz=49,slow=75,SNR=449
H11N1 WAKE ISLAND Hy 57.36 266 T T 10 08 45.1
baz=49,slow=75,SNR=308
H11S1 WAKE ISLAND Hy 58.28 265 T T 10 09 57.5
baz=48,slow=75,SNR=130
H11S2 WAKE ISLAND Hy 58.29 265 T T 10 09 59.0
baz=48,slow=75,SNR=94
H11S3 WAKE ISLAND Hy 58.30 265 T T 10 09 58.8
baz=48,slow=75,SNR=80
PMOR Pomariorio Ree 61.42 200 *e*T T 10 13 31.1
comp=Z,19nm,0.2s
VAH Vaihoa 61.58 199 *e*T T 10 13 43.7
comp=Z,11nm,0.5s
OTAV Otavalo 63.41 119 P P 09 07 35.4 -0.7
OTAV IAmb IAmb 09 07 39.2
comp=Z,5.8nm,1.1s
TIAR Tiarei 64.24 201 *e*T T 10 17 01.3
comp=Z,5.7nm,0.3s
PPT Papeete 64.30 201 LR LR 09 31 26.5
comp=Z,48nm,18.5s,baz=342,slow=32

PPT2	Papeete2	64.32	201	eS	S	09 16 26.3	+7.3
	comp=Z,197nm,29.8s						
PPT2	Papeete2	64.32	201	eLR	LR	09 26 49.8	
	comp=Z,247nm,27.0s						
PPT2	Papeete2	64.32	201	eT	T	10 17 08.0	
	comp=Z,3.3nm,0.3s						
PAE	Paea	64.39	201	eT	T	10 17 13.3	
	comp=Z,1.9nm,0.5s						
TVO	Taravao	64.43	200	eT	T	10 17 16.3	
	comp=Z,4.9nm,0.3s						
TBI	Tubuai	69.83	199	eLR	LR	09 29 16.4	
	comp=Z,196nm,30.2s						
TBI	Tubuai	69.83	199	eT	T	10 24 01.4	
	comp=Z,6.3nm,0.3s						
NOA	NORSAR Array B	70.20	19	P	P	09 08 17.6	-0.6
	comp=Z,4.2nm,1.1s,baz=333,slow=5.9,SNR=3.0						
NOA				LR	LR	09 39 26.6	
	comp=Z,67nm,18.3s,baz=65,slow=36						
FINES	FINESS Array B	72.64	12	P	P	09 08 32.0	-0.9
	comp=Z,3.9nm,0.9s,baz=298,slow=10,SNR=4.2						
KLMR	Klimovskoe	74.65	5	eP	P	09 08 42.5	-2.1
KLMR				AMP		09 08 45.5	
	comp=Z,25nm,1.5s						
SONM	Songino Array	75.55	325	P	P	09 08 49.4	-0.9
	comp=Z,2.5nm,0.9s,baz=53,slow=4.4,SNR=5.2						
SONM	Songino Array	75.55	325	P	P	09 08 49.1	-1.1
BJT	Baijiatuan	76.96	314	P	P	09 08 58.3	+0.1
ZAA0	Zalesovo Array	77.50	340	P	P	09 08 59.5	-1.5
ZAA0				IAmb	IAmb	09 09 06.5	
	comp=Z,3.2nm,1.1s						
ZALV	Zalesovo Beam	77.50	340	P	P	09 08 59.6	-1.5
	comp=Z,2.5nm,0.9s,baz=45,slow=4.4,SNR=5.8						
HHC	Hu-ho-hao-te	78.64	317	eP	P	09 09 06.5	-1.3
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARU	Arti	79.17	355	P	P	09 09 09.0	-1.2
ARU				IAmb	IAmb	09 09 26.9	
	comp=Z,2.8nm,0.6s						
CLL	Collm	79.34	23	eP	P	09 09 11.0	-0.2
CLL				LmV		09 52 00.0	
	comp=Z,200nm,19.3s						
BRG	Berggiesshubel	79.99	22	eP	P	09 09 14.1	-0.6
	comp=Z,13nm,1.5s						
BFO	Black Forest	80.59	27	P	P	09 09 18.4	+0.3
BFO				IAmb	IAmb	09 09 28.1	
	comp=Z,4.4nm,1.0s						
BRVK	Borovoye	81.26	348	P	P	09 09 20.8	-0.7
BRVK				IAmb	IAmb	09 09 22.0	
	comp=Z,7.1nm,1.0s						
GEC2	GERESS Array S	81.75	23	P	P	09 09 23.6	-0.7
GEC2				IAmb	IAmb	09 09 39.5	
	comp=Z,3.2nm,1.1s						
GERES	GERESS Array B	81.75	23	P	P	09 09 24.2	-0.2
	comp=Z,0.3nm,0.3s,baz=324,slow=6.6,SNR=4.8						
KURK	Kurchatov	81.95	342	P	P	09 09 24.0	-1.2
KURBB	Kurchatov Arra	82.06	342	P	P	09 09 24.8	-1.0
	comp=Z,3.8nm,1.0s,baz=18,slow=5.1,SNR=12						
LPAZ	La Paz	82.59	121	P	P	09 09 28.1	-1.6
	comp=Z,2.9nm,0.8s,baz=350,slow=9.3,SNR=9.6						
LPAZ	La Paz	82.59	121	P	P	09 09 28.1	-1.6
LPAZ				IAmb	IAmb	09 09 34.6	
	comp=Z,4.0nm,0.8s						
MODS	Modra-Piesok	83.16	21	eP	P	09 09 30.2	-1.4
AKASG	Malin Array Be	83.47	13	P	P	09 09 31.9	-1.3
	comp=Z,0.4nm,0.3s,baz=352,slow=4.6,SNR=7.3						
AKASG	Malin Array Be	83.47	13	P	P	09 09 32.1	-1.0
AKBB	Malin Array Si	83.47	13	P	P	09 09 31.9	-1.3
MNMC	Minye Minye	83.90	124	P	P	09 09 34.9	-1.1
PSZ	Piszkesteto	84.23	20	P	P	09 09 37.3	+0.1
MKAR	Makanchi Array	84.71	338	P	P	09 09 37.0	-2.7
	comp=Z,2.4nm,1.1s,baz=29,slow=5.5,SNR=5.5						
MKAR	Makanchi Array	84.71	338	P	P	09 09 37.5	-2.1
BURAR	Bucovina Array	85.71	17	P	P	09 09 44.5	-0.2
WMQ	Urumqi	85.85	334	eP	P	09 09 46.0	+0.6
LZH	Lanzhou	86.11	319	eP	P	09 09 44.8	-2.1
LZH				pP	pwP	09 09 57.3	+2.9
LZH				sP	sP	09 10 00.3	+7.7
LZH				ePP	PP	09 13 05.8	-0.7
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				pmax	pmax		
	comp=Z,47nm,8.5s						
ABKAR	Akbulak array	86.21	353	P	P	09 09 45.9	-1.1
ABKAR	Akbulak array	86.21	353	P	P	09 09 46.2	-0.8
ABKAR				IAmb	IAmb	09 09 46.7	
	comp=Z,5.6nm,1.1s						
CD2	Chengdu	90.36	316	eP	P	09 10 04.8	-2.3
KEST	Kesra	92.04	32	LR	LR	09 51 46.5	
	comp=Z,90nm,18.2s,baz=296,slow=36						
KSH	Kashi	93.14	340	P	P	09 10 21.8	+1.9
KSH				PP	PP	09 14 08.8	+6.7
KSH				S	S	09 21 22.5	-3.7
KSH				sS	sS	09 21 40.8	+7.6
KSH				SS	SS	09 27 43.8	+4.5
KSH				LR	LR		
	comp=Z,93nm,14.3s						
BRTR	Keskin Array B	94.87	13	LR	LR	09 55 49.4	
	comp=Z,33nm,18.4s,baz=76,slow=37						

ISCJB ***26*** *08:59:12.4±0.2, 24°.94N±0°.02×122°.77E±0°.02, h16km, mb4.2/33, MS4.1/14, Error ellipse: s-maj=3.1km s-min=2.9km az=176.0*
JMA ***26*** *08:59:12.1±0.3, 25°.00N×122°.74E, h20km±4km, M3.6*
TAP ***26*** *08:59:12.6, 24°.96N×122°.68E, h13km±1km, ML4.1, D*
MOS ***26*** *08:59:13.2±1.4, 24°.74N×122°.63E, h28km, mb4.5/19, Error ellipse: s-maj=12.7km s-min=6.8km az=116.0*
BJI ***26*** *08:59:13.2±0.0, 24°.86N×122°.60E, h10km, mb4.4/28, mB4.8/21, Ms4.7/21, Ms7 4.4/19*
NEIC ***26*** *08:59:13.4±1.4, 24°.79N±0°.02×122°.63E±0°.05, h16km±5km, mb4.4/23*
GCMT ***26*** *08:59:15.4±0.4, 24°.88N±0°.02×122°.65E±0°.05, h18km±1km, MW4.8/68, Moment Tensor Solution. s16,c17; s68,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.07±.18; $M_{\theta\theta}$=2.15±.13; $M_{\phi\phi}$=0.08±.11; $M_{r\theta}$=0.04±.25; $M_{\theta\phi}$=0.08±.08; $M_{\phi r}$=0.85±.35; Best double couple: M_0=2.26900×10^{16} NP1:ϕ_s=73.00000°, δ=48.00000°, λ=-118.00000°. NP2: ϕ_s=73.00000°, δ=48.00000°, λ=-118.00000°. Principal axes: T 2.1540, Plg1.0000°, Azm2.0000°; N 0.2310, Plg20.0000°, Azm93.0000°; P -2.3850, Plg70.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***26*** *08:59:22.9±6.5, 24°.92N×122°.69E, h96km±60km, mb3.8/17, mb1 3.9/17, mb1mx3.8/42, mbtmp4.2/17, MS4.0/13, Ms1 4.0/13, ms1mx3.7/29 Error ellipse: s-maj=23.5km s-min=16.1km az=70.0*
ISC 26 08:59:13.7±0.4, 24°.84N±0°.03×122°.71E±0°.02, h16km, n178, σ1°**74**/181**, mb4.2**/39**, MS4.1**/14**, 4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.44	150	P	Pb	08 59 23.1	0.0
JYNG				S	Sn	08 59 31.4	-1.6
YOJ	Yonaguni jima	0.46	143	P	Pn	08 59 24.2	-1.5
	baz=150						
YOJ	Yonaguni jima	0.46	143	P	Pb	08 59 22.8	-0.7
YOJ	Yonaguni jima	0.46	143	P	Pb	08 59 23.4	-0.1
YOJ	Yonaguni jima	0.46	143		Pb	08 59 22.8	-0.7
EOS1	EOS1	0.60	242	eP	Pn	08 59 25.8	-1.7
	baz=217						
EOS1				eS	Sn	08 59 35.5	-1.3
	baz=217						
TWB1	Santiao Chiao	0.68	285	eP	Pg	08 59 25.5	-1.5
	baz=273						
EGS		0.70	271	eP	Pg	08 59 26.5	-0.9
	baz=259						
NTC	Toucheng	0.80	271	eP	Pb	08 59 27.6	-1.5
	baz=261						
TIPB	Shuangxi	0.81	280	eP	Pb	08 59 28.1	-1.4
	baz=257						
TWC	Suao	0.81	254	eP	Pb	08 59 28.2	-1.2
	baz=244						
NWF	Wu-fen Shan	0.87	286	eP	Pb	08 59 29.2	-1.3
	baz=276						
WFSB	Wu-fen Shan	0.87	286	eP	Pb	08 59 29.1	-1.3
	baz=276						
ILA	Ilan	0.88	266	eP	Pn	08 59 30.3	-1.0
	baz=256						
TWE	Neicheng	0.95	263	eP	Pb	08 59 30.6	-1.2
	baz=254						
NANB	Nanao	0.96	245	eP	Pb	08 59 30.8	-1.2
	baz=237						
ENA	Nanau	0.97	245	eP	Pb	08 59 31.2	-0.9
	baz=237						
PCYT	Pengchaiyu	0.98	324	eP	Pb	08 59 30.6	-1.7
	baz=319						
TWA	Mucha	1.03	278	eP	Pb	08 59 32.0	-1.2
	baz=270						
ENTT	Nioudou	1.06	260	eP	Pb	08 59 32.4	-1.2
	baz=252						
IRIF	Iriomote-Funau	1.06	118	P	Pb	08 59 32.5	-1.1
YM08	YM08	1.07	289	eP	Pb	08 59 32.3	-1.6
	baz=281						
YM11	YM11	1.08	288	eP	Pn	08 59 33.5	-0.7
	baz=280						
YM10	YM10	1.09	287	eP	Pb	08 59 32.5	-1.7
	baz=279						
TWY	Chenhua	1.10	294	eP	Pb	08 59 33.1	-1.2
	baz=286						
TAP	Taipei	1.11	281	eP	Pb	08 59 33.4	-1.1
	baz=273						
TATO	Taipei	1.12	277	eP	Pb	08 59 33.0	-1.6
	baz=270						
TATO	Taipei	1.12	277		Pb	08 59 32.9	-1.7
ANP	Anpu	1.13	288	eP	Pn	08 59 34.6	-0.4
	baz=280						
TWS1	Kuangyinshan	1.20	283	eP	Pb	08 59 35.3	-0.8
	baz=275						
NACB	Ninganchiao	1.21	237	eP	Pb	08 59 35.3	-0.9
	baz=231						
NACB	Ninganchiao	1.21	237		Pn	08 59 34.4	-1.6
YHNB	Yeheng	1.22	262	eP	Pn	08 59 34.9	-1.3
	baz=269						
YHNB	Yeheng	1.22	262		Pn	08 59 34.7	-1.5
NSK	Sanguang	1.24	263	eP	Pn	08 59 35.6	-0.8
	baz=269						
TWD	Chiawan	1.26	234	eP	Pg	08 59 37.2	-0.8
	baz=227						
HATJ	Hateruma jima	1.27	128	P	Pn	08 59 36.0	-0.7
NNSB	Datong	1.27	252	eP	Pn	08 59 36.1	-0.8
	baz=245						
NNS	Nan Shan	1.28	252	eP	Pb	08 59 36.6	-0.8
	baz=245						
HWA	Hwalien	1.32	230	eP	Pg	08 59 40.6	+1.5
	baz=224						
JKRS	Kuro-shima	1.33	116	P	Pn	08 59 36.4	-1.1
NCU	National Centr	1.39	276	eP	Pb	08 59 38.5	-0.7
	baz=286						
JIJ	Ishigaki jima	1.39	110	P	Pn	08 59 36.8	-1.6
JISG	Ishigakijimahi	1.48	99	P	Pn	08 59 38.0	-1.6
WHF	Hehuan Shan	1.48	243	eP	Pb	08 59 40.3	-0.8
	baz=237						
TDCB	Techi	1.52	248	eP	Pg	08 59 41.7	-1.4
	baz=242						
ESL	Shilin	1.54	229	eP	Pn	08 59 40.3	-0.3
	baz=224						
NSTT	Nanjuang	1.56	263	eP	Pg	08 59 42.3	-1.5
	baz=257						
CHGB	Renai	1.60	241	eP	Pb	08 59 42.0	-1.0
	baz=221						
HGSD	Ruisui	1.78	221	eP	Pn	08 59 43.8	+0.1
	baz=203						
VWDT	VWDT	1.79	233	eP	Pb	08 59 44.8	-1.3
	baz=214						
DPDB	Guoxing	1.81	244	eP	Pb	08 59 46.0	-0.5
	baz=239						
JTJ	Tarama	1.82	96	P	Pn	08 59 44.1	-0.3
TWQ1	Liyutan	1.83	255	eP	Pg	08 59 46.9	-1.9
	baz=250						
EHY	Hungye	1.83	224	eP	Pn	08 59 44.1	-0.4
	baz=219						
SMLT	Sun Moon Lake	1.90	240	eP	Pb	08 59 46.9	-1.2
	baz=221						
SSLB	Suanglung	1.91	237	eP	Pb	08 59 46.5	-1.7
	baz=216						
SSLB	Suanglung	1.91	237		Pn	08 59 45.0	-0.6
YUCH	Yuchr	1.93	242	eP	Pb	08 59 47.4	-1.0
	baz=221						
YULB	Yu-li	1.93	222	eP	Pn	08 59 45.2	-0.7
	baz=218						
YULB	Yu-li	1.93	222		Pn	08 59 44.2	-1.7
TWF1	Yuli	1.96	221	eP	Pn	08 59 45.9	-0.4
	baz=234						
WJS	Zhushan	2.07	241	eP	Pb	08 59 50.9	0.0
	baz=237						
WNT	Mingjian	2.08	243	eP	Pb	08 59 50.8	-0.2
	baz=238						
YUS	Yu-Shan	2.09	230	eP	Pb	08 59 49.3	-2.2
	baz=226						
CHN5	Tsauling	2.23	237	eP	Pb	08 59 52.5	-1.1
	baz=216						
ELDTW	Lidau	2.25	224	eP	Pn	08 59 50.8	+0.4
	baz=219						
CHN4	Tsaushan	2.43	233	eP	Pb	08 59 55.1	-2.0
	baz=229						
TPUB	Ta-pu	2.44	232	eP	Pb	08 59 55.4	-1.8
	baz=213						
TPUB	Ta-pu	2.44	232		Pn	08 59 52.2	-0.6
STYT	Tauyuan	2.44	227	eP	Pb	08 59 54.2	-3.0
	baz=210						
WTP	Ta-pu	2.48	231	eP	Pb	08 59 55.4	-2.6
	baz=227						
TWGBT	Beinan	2.50	217	eP	Pn	08 59 54.2	+0.5
	baz=213						
TWG	Pinlang	2.50	217	eP	Pn	08 59 53.4	-0.3
	baz=213						
TWG	Pinlang	2.50	217		Pn	08 59 52.6	-1.2
TWK	Hsinying	2.56	233	eP	Pb	08 59 56.5	-2.8
	baz=214						
CHN1	Nanshi	2.58	231	eP	Pb	08 59 57.0	-2.7
	baz=227						
SGST	Jiashian	2.61	228	eP	Pb	08 59 57.5	-2.7
	baz=211						
PTTC	Pingtan	2.74	285	eP	Pn	08 59 56.5	-0.6
	baz=280						
ECL	Taimali	2.75	216	eP	Pn	08 59 57.0	-0.1
	baz=212						
TWM1	Shoushan	2.90	227	eP	Pb	09 00 02.0	-3.0
	baz=223						
MASBT	Mashibuluo	2.92	221	eP	Pb	09 00 01.8	-3.6
	baz=207						
SCZT	Fangliau	3.11	218	eP	Pb	09 00 04.8	-3.8
	baz=203						
LYJJ	Jianjiangzhen	3.16	303	eP	Pn	09 00 01.4	-1.4
	baz=298						
WDGT	Dungji	3.20	241	eP	Pn	09 00 05.0	+1.7
	baz=237						
PTMZ	Houxiangcun	3.26	274	eP	Pn	09 00 03.9	-0.3
	baz=271						
TWKBT	Hengchun	3.37	212	eP	Pn	09 00 07.8	+2.2
	baz=208						
QZH	Quanzhou	3.74	272	P	Pg	09 00 23.8	-1.5
QZH				S	Sg	09 01 16.0	+2.2
QZH				LR	LR		
	comp=N,3μm,8.8s						
QZH				LR	LR		
	comp=E,4μm,9.2s						
QZH				LR	LR		
	comp=Z,3μm,6.9s						
KNMB	Chin-men Tao	3.95	266	Pn	Pn	09 00 13.5	-0.1
NJ2	Nanjing	7.95	336	eP	Pb	09 01 29.0	-2.0
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				smax	smax		
	comp=N,73nm,1.0s						
NJ2				smax	smax		
	comp=E,140nm,1.5s						
NJ2				LR	LR		
	comp=N,3μm,8.5s						
NJ2				LR	LR		
	comp=E,3μm,10.9s						
NJ2				LR	LR		
	comp=Z,2μm,11.4s						
WHN	Wuhan	9.34	309	P	Pn	09 01 33.8	+6.2
WHN				S	Sn	09 03 16.8	+4.5
WHN				LR	LR		
	comp=Z,4μm,7.3s						
WHN				LR	LR		
	comp=Z,6μm,9.1s						
WHN				LR	LR		
	comp=Z,6μm,9.3s						
JNU	Nakatsue	10.92	39	LR	LR	09 06 38.2	
	comp=Z,276nm,21.0s,baz=226,slow=40						
KSAR	Wonju Array Be	13.32	18	P	Pn	09 02 24.5	+2.4
KSAR	Wonju Array Be	13.32	18	Pn	Pn	09 02 24.5	+2.4
KSRS	Korea Array	13.34	18	P	P	09 02 33.2	+1.2
	comp=Z,0.4nm,0.3s,baz=190,slow=12,SNR=17						
KSRS				LR	LR	09 07 59.4	
	comp=Z,947nm,19.6s,baz=185,slow=39						
GYA	Guiyang	14.56	280	eP	Pn	09 02 41.5	+2.2
GYA				PP	PnPn	09 02 54.0	+6.8
GYA				S	Sn	09 05 25.3	+4.8
GYA				SS	S	09 05 41.8	+2.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,110nm,4.5s						
GYA				LR	LR		
	comp=Z,1μm,9.8s						
GYA				LR	LR		
	comp=Z,940nm,10.3s						
GYA				LR	LR		
	comp=Z,1μm,9.3s						
XAN	Xi'an	15.10	311	P	Pn	09 02 45.3	-1.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
XAN	Xi'an	15.10	311	Pn	Pn	09 02 45.3	-1.1
XAN				IAmb	IAmb	09 02 56.0	
	comp=Z,7.4nm,0.5s						
MJAR	Matsushiro Arr	17.69	45	LR	LR	09 10 00.1	
	comp=Z,361nm,19.4s,baz=225,slow=36						
CN2	Changchun	19.05	6	eP	Pn	09 03 37.3	+1.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
CN2				LR	LR		
	comp=Z,630nm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,15.0s						
USRK	Ussuriysk Ar.	20.75	19	P	Pn	09 03 56.1	0.0
	comp=Z,5.8nm,0.8s,baz=207,slow=12,SNR=8.5						
USRK				LR	LR	09 11 21.8	
	comp=Z,359nm,20.3s,baz=185,slow=35						
USRK	Ussuriysk Ar.	20.75	19	P	P	09 03 54.4	+0.8
PBKT	Sadao Pong	21.91	252	P	P	09 04 04.9	-1.5
CHTO	Chiang Mai	22.84	259	P	P	09 04 16.3	-0.1
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	Chiang Mai	22.84	259	P	P	09 04 16.3	-0.1
CMAR	Chiang Mai Arr	22.96	259	iP	P	09 04 21.6	+4.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	22.96	259	LR	LR	09 14 39.9	
	comp=Z,300nm,18.6s,baz=64,slow=40						
GTA	Gaotai	24.14	313	eP	P	09 04 30.5	+1.4
GTA				pP	sP	09 04 34.5	-0.9
GTA				sP	pP	09 04 37.3	+3.7
GTA				S	S	09 08 36.5	-10
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,190nm,6.8s						
GTA				LR	LR		
	comp=Z,1μm,11.7s						
GTA				LR	LR		
	comp=Z,720nm,12.4s						
GTA				LR	LR		
	comp=Z,630nm,15.2s						
TNTI	Ternate	24.34	169	P	P	09 04 30.6	-0.4
SBUM	Sibu	24.45	206	P	P	09 04 30.4	-1.6
SBUM				IAmb	IAmb	09 04 42.6	
	comp=Z,5.9nm,1.1s						
KLR	Kul'dur	25.36	14	iP	P	09 04 42.2	+2.3
KLR				pmax	pmax		
	comp=Z,41nm,2.5s						
KLR	Kul'dur	25.36	14	P	P	09 04 38.9	-1.0
	comp=Z,3.0nm,0.9s,baz=225,slow=1.4,SNR=5.3						
ULN	Ulaanbaatar	26.11	336	ceP	P	09 04 47.2	+0.2
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SONM	Songino Array	26.34	335	P	P	09 04 48.7	-0.3
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	Songino Array	26.34	335	P	P	09 04 49.4	+0.4
	comp=Z,3.1nm,0.8s,baz=149,slow=9.7,SNR=9.7						
SONM				LR	LR	09 16 09.1	
	comp=Z,579nm,20.4s,baz=166,slow=38						
SONM	Songino Array	26.34	335	P	P	09 04 48.6	-0.3
SHL	Shillong	27.87	278	P	P	09 05 00.2	-2.9
SHL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SHL	Shillong	27.87	278	P	P	09 05 00.2	-2.9
SHL				IAmb	IAmb	09 05 06.6	
	comp=Z,10.0nm,1.1s						
TLY	Talaya	30.51	336	eP	P	09 05 29.7	+3.7
TLY				pmax	pmax		
	comp=Z,17nm,1.4s						
TLY				MLR	MLR		
	comp=Z,1μm,12.0s						
DGZ	Jazzator, Alta	36.94	321	iP	P	09 06 24.7	+2.6
YAK	Yakutsk	37.48	5	iP	P	09 06 25.8	-0.5
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MK31	Makanchi Array	38.85	315	P	P	09 06 37.7	-0.4
MK31				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MK31	Makanchi Array	38.85	315	P	P	09 06 37.7	-0.4
MK31				IAmb	IAmb	09 06 49.6	
	comp=Z,6.1nm,1.1s						
MKAR	Makanchi Array	38.85	315	P	P	09 06 38.0	-0.1
	comp=Z,4.0nm,0.8s,baz=105,slow=10,SNR=22						
MKAR	Makanchi Array	38.85	315	P	P	09 06 37.7	-0.4
MA2	Magadan	39.86	22	P	P	09 06 46.8	+0.5
	comp=Z,3.1nm,0.3s,baz=186,slow=20,SNR=4.7						
ZAA0	Zalesovo Array	40.47	326	P	P	09 06 50.1	-1.3
ZAA0				IAmb	IAmb	09 06 51.5	
	comp=Z,4.4nm,1.0s						
ZALV	Zalesovo Beam	40.47	326	P	P	09 06 50.5	-0.9
	comp=Z,2.0nm,0.4s,baz=118,slow=8.1,SNR=11						
ZALV				LR	LR	09 23 39.3	
	comp=Z,244nm,21.6s,baz=120,slow=36						
ZALV	Zalesovo Beam	40.47	326	P	P	09 06 50.1	-1.3
TARG	Taragay, Kyrgy	40.65	306	P	P	09 06 53.9	+0.3
TARG				IAmb	IAmb	09 07 04.8	
	comp=Z,4.8nm,1.0s						
KSH	Kashi	41.72	302	eP	P	09 07 04.5	+2.4
KSH				LR	LR		
	comp=Z,290nm,9.4s						
KSH				LR	LR		
	comp=Z,190nm,9.7s						
NRN	Naryn	41.94	305	P	P	09 07 04.4	+0.3
NRN				pmax	pmax		
	comp=Z,11nm,1.1s						
NRN	Naryn	41.94	305	P	P	09 07 04.4	+0.3
NRN				IAmb	IAmb	09 07 06.2	
	comp=Z,11nm,1.1s						
KURK	Kurchatov	42.50	319	ceP	P	09 07 07.6	-0.5
KURK				pmax	pmax		
	comp=Z,12nm,1.7s						
KURK	Kurchatov	42.50	319	P	P	09 07 07.8	-0.3
KURK				IAmb	IAmb	09 07 08.9	
	comp=Z,7.3nm,1.1s						
KURBB	Kurchatov Arra	42.52	319	P	P	09 07 07.8	-0.4
	comp=Z,3.7nm,0.9s,baz=110,slow=7.9,SNR=15						
AAK	Ala-Archa	43.23	307	P	P	09 07 14.5	+0.1
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	Ala-Archa	43.23	307	P	P	09 07 14.5	+0.1
WB0	Warramunga Arr	45.77	165	P	P	09 07 34.6	0.0
WB0				IAmb	IAmb	09 07 51.4	
	comp=Z,7.7nm,1.1s						
WRAB	Tennant Creek	45.92	165	iP	P	09 07 35.0	-0.8
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	Warramunga Arr	45.93	165	P	P	09 07 35.1	-0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	Warramunga Arr	45.93	165	P	P	09 07 36.0	+0.1
	comp=Z,3.4nm,0.9s,baz=340,slow=8.6,SNR=4.6						
WRA				LR	LR	09 34 07.5	
	comp=Z,26nm,18.0s,baz=280,slow=45						
WRA	Warramunga Arr	45.93	165	P	P	09 07 35.1	-0.8
WB2	Warramunga Arr	45.93	165	P	P	09 07 36

KKAR	**Karatay Array**	**46.19**	**307**	P		**P**	**09 07 37.6**	**-0.2**
TIXI	**Tiksi**	**46.97**	**3**	*e*P		**P**	**09 07 42.6**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,43nm,2.6s							
TIXI	**Tiksi**	**46.97**	**3**	P		**P**	**09 07 43.0**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=194,slow=6.2,SNR=5.9							
TIXI	**Tiksi**	**46.97**	**3**	P		**P**	**09 07 42.8**	**-0.7**
KBL	**Kabul**	**47.14**	**295**	P		**P**	**09 07 45.4**	**-0.3**
KBL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KBL	**Kabul**	**47.14**	**295**	P		**P**	**09 07 45.4**	**-0.3**
BRVK	**Borovoye**	**48.13**	**320**	*c*eP		**P**	**09 07 52.9**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BRVK	**Borovoye**	**48.13**	**320**	P		**P**	**09 07 51.6**	**-1.2**
NRIK	**Noril'sk**	**49.14**	**344**	P		**P**	**09 07 59.8**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=158,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**49.42**	**166**	P		**P**	**09 08 04.3**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=346,slow=9.5,SNR=6.4							
ASAR				LR	LR		09 29 05.1	
	comp=Z,64nm,20.9s,baz=347,slow=36							
ASAR	**Alice Springs**	**49.42**	**166**	P		**P**	**09 08 02.5**	**-0.5**
BILL	**Bilibino**	**50.60**	**20**	*i* P		**P**	**09 08 15.3**	**+3.9**
BILL				*i*			09 10 05.1	
BILL				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BILL				MLR	MLR			
	comp=Z,436nm,18.0s							
ABKAR	**Akbulak array**	**53.98**	**314**	P		**P**	**09 08 36.4**	**-0.5**
ABKAR				IAmb	IAmb		09 08 37.6	
	comp=Z,8.3nm,1.1s							
ABKAR	**Akbulak array**	**53.98**	**314**	P		**P**	**09 08 36.0**	**-0.9**
ARU	**Arti**	**55.43**	**323**	*c i*P		**P**	**09 08 45.2**	**-2.0**
ARU				S		**S**	**09 16 29.3**	**-1.9**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KBZ	**Khabaz**	**66.16**	**309**	LR	LR		09 40 58.6	
	comp=Z,111nm,18.8s,baz=60,slow=38							
KIV	**Kislovodsk**	**66.26**	**309**	*e*P		**P**	**09 10 00.9**	**-0.3**
KIV				pmax	pmax			
	comp=Z,11nm,0.9s							
KIV				MLR	MLR			
	comp=Z,251nm,17.0s							
BMAR	**Burnt Mountain**	**68.36**	**25**	P		**P**	**09 10 14.1**	**0.0**
BCAR	**Beaver Creek A**	**70.60**	**29**	P		**P**	**09 10 28.0**	**0.0**
FINES	**FINESS Array B**	**71.58**	**330**	*i* P		**P**	**09 10 33.5**	**-0.4**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**71.58**	**330**	P		**P**	**09 10 32.8**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=58,slow=5.1,SNR=10.0							
FINES				LR	LR		09 45 08.8	
	comp=Z,378nm,18.0s,baz=62,slow=38							
FINES	**FINESS Array B**	**71.58**	**330**	P		**P**	**09 10 33.0**	**-0.9**
INK	**Inuvik**	**72.10**	**22**	P		**P**	**09 10 35.7**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=290,slow=7.3,SNR=7.0							
INK				LR	LR		09 45 41.0	
	comp=Z,92nm,18.8s,baz=295,slow=39							
AKASG	**Malin Array Be**	**73.31**	**318**	P		**P**	**09 10 43.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=61,slow=5.7,SNR=1.9							
BR131	**Keskin Array S**	**73.90**	**307**	P		**P**	**09 10 47.2**	**-1.1**
BR131				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BR131	**Keskin Array S**	**73.90**	**307**	P		**P**	**09 10 47.2**	**-1.1**
BRTR	**Keskin Array B**	**73.90**	**307**	P		**P**	**09 10 48.2**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=125,slow=4.2,SNR=3.1							
BRTR	**Keskin Array B**	**73.90**	**307**	P		**P**	**09 10 47.5**	**-0.8**
NOA	**NORSAR Array B**	**78.29**	**332**	P		**P**	**09 11 10.9**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=58,slow=5.1,SNR=3.7							
NOA				LR	LR		09 49 17.2	
	comp=Z,197nm,18.5s,baz=325,slow=38							
YKA	**Yellowknife Ar**	**81.83**	**23**	P		**P**	**09 11 31.1**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=304,slow=5.7,SNR=6.3							

ANF 26 09:13:32.0±2.0, 44°.40N×129°.93W, ML3.7/1, Error ellipse: s-maj=21.6km s-min=8.8km az=60.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**4.38**	**92**	P	Pn	09 14 39.2	-0.5
	baz=276						
I02D				S	Sn	09 15 32.0	+0.6
	baz=276						
J01E	**Myrtle Point**	**4.52**	**104**	S	Sn	09 15 35.1	+0.3
	baz=288						
I03D	**Drain, OR**	**4.80**	**96**	P	Pn	09 14 44.9	-0.6
	baz=281,SNR=11						
I03D				S	Sn	09 15 42.7	+1.0
	baz=281						
G03D	**McMinnville, O**	**4.81**	**78**	P	Pn	09 14 45.3	-0.3
	baz=263,SNR=26						
G03D				S	Sn	09 15 42.6	+0.5
	baz=263						
K02D	**Willamette Mer**	**4.86**	**108**	S	Sn	09 15 43.6	+0.1
	baz=293						
H04D	**Lebanon**	**5.15**	**86**	P	Pn	09 14 50.6	+0.3
	baz=271,SNR=6.7						
F04D	**Rainier, OR**	**5.17**	**69**	P	Pn	09 14 50.6	+0.1
	baz=253						
E04D	**Cinebar**	**5.61**	**65**	P	Pn	09 14 56.3	-0.2
	baz=250,SNR=16						
D03D	**Eldon**	**5.71**	**54**	P	Pn	09 14 57.2	-0.7
	baz=239						
D04E	**Lakebay**	**5.72**	**58**	P	Pn	09 14 58.3	+0.2
	baz=244,SNR=12						
F05D	**White Salmon**	**6.17**	**73**	P	Pn	09 15 04.5	+0.2
	baz=259,SNR=16						
G05D	**Wamic, OR**	**6.18**	**79**	P	Pn	09 15 05.1	+0.5
	baz=265						
A04D	**Lummi Island**	**6.59**	**47**	P	Pn	09 15 09.8	-0.3
	baz=232,SNR=7.4						
B05A	**Bryant**	**6.66**	**52**	P	Pn	09 15 10.8	-0.1
	baz=237,SNR=19						
B05A				S	Sn	09 16 28.9	+1.4
	baz=237						

*ISCJB **26** 09:27:27.2±0.8, 5°.64S±0°.07×133°.66E±0°.08, h10km, mb3.9/1, Error ellipse: s-maj=13.4km s-min=8.4km az=145.8*
*DJA **26** 09:27:37.4±0.9, 5°.5S±5°.×13°.3E±°., h10km, M4.4/7, mb4.8/4, mB5.6/1, MLv4.3/7, Mw(mB)5.1/1*
*IDC **26** 09:27:40.7±6.4, 6°.67S×135°.20E, h0km, mb4.1/1, mb1 4.2/3, mb1mx3.7/27, mbtmp4.0/3, ML3.6/2, Error ellipse: s-maj=115.2km s-min=65.3km az=113.0*
ISC 26 09:27:29.0±1.3, 5°.48S±0°.09×133°.64E±0°.09, h10km, n10, σ2§37/11, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.90**	**331**	P	**Pn**	**09 28 16.0**	**+0.7**
FAKI				S	**Sn**	**09 28 46.4**	**-3.8**
BNDI	**Bandanaira**	**3.84**	**284**	P	**Pn**	**09 28 28.0**	**-0.3**
BNDI				S	**Sn**	**09 29 15.0**	**+1.5**
RKPI	**Ransiki, Papua**	**3.98**	**8**	P	**Pn**	**09 28 32.6**	**+2.5**
MSAI	**Masohi**	**5.16**	**294**	P	**Pn**	**09 28 48.9**	**+2.6**
SWI	**Sorong**	**5.16**	**332**	P	**Pn**	**09 28 47.5**	**+1.1**
AAI	**Ambon**	**5.71**	**288**	P	**Pn**	**09 28 57.4**	**+3.4**
	63nm,0.6s						
SANI	**Sanana**	**8.36**	**294**	P	**Pn**	**09 29 29.6**	**-0.8**
WRA	**Warramunga Arr**	**14.40**	**177**	Pn	Pn	09 30 49.3	-3.8
	0.3nm,0.3s,baz=5.3,slow=13,SNR=2.7						
WRA				Sn	Sn	09 33 19.7	-13
	0.3nm,0.3s,baz=6.4,slow=22,SNR=2.0						
ASAR	**Alice Springs**	**18.09**	**179**	Pn	**Pn**	**09 31 39.2**	**-1.4**
	0.3nm,0.3s,baz=0.6,slow=12,SNR=25						
ASAR				Sn	Sn	09 34 50.1	-13
	0.1nm,0.3s,baz=2.0,slow=29,SNR=2.6						
STKA	**Stephens Creek**	**27.30**	**165**	P	**P**	**09 33 13.6**	**-0.4**
	2.6nm,0.7s,baz=341,slow=8.5,SNR=7.2						

IDC 26 09:31:02.7±8.5, 16°.69N×123°.00E, h468km±123km, mb3.1/6, mb1 3.2/6, mb1mx2.8/36, mbtmp4.0/6, Error ellipse: s-maj=29.1km s-min=13.4km az=68.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.00**	**278**	P	P	09 35 30.2	-0.2
	0.7nm,0.3s,baz=105,slow=6.8,SNR=4.7						
USRK	**Ussuriysk Ar.**	**28.46**	**14**	P	P	09 36 18.6	+0.2
	2.1nm,0.8s,baz=160,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**38.07**	**163**	P	P	09 37 38.5	-1.8
	1.1nm,0.5s,baz=348,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**41.50**	**165**	P	P	09 38 09.5	+1.5
	0.2nm,0.3s,baz=343,slow=7.0,SNR=3.9						
MKAR	**Makanchi Array**	**45.05**	**321**	P	P	09 38 36.3	+0.8
	2.6nm,0.6s,baz=115,slow=8.2,SNR=22						
ZALV	**Zalesovo Beam**	**47.51**	**330**	P	P	09 38 52.7	-1.3
	3.1nm,0.7s,baz=113,slow=5.8,SNR=12						

*ISCJB **26** 09:32:20.4±0.7, 44°.44N±0°.06×130°.27W±0°.07, h10km, mb3.9/8, MS3.4/1, Error ellipse: s-maj=8.8km s-min=6.5km az=18.7*
*NEIC **26** 09:32:20.9±2.3, 44°.46N±0°.08×130°.5W±0°.1, h10km±2km, ML3.4/4*
*IDC **26** 09:32:20.3±1.4, 44°.37N×130°.68W, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.6/42, mbtmp3.6/12, ML3.3/3, MS3.2/4, Ms1 3.2/4, ms1mx2.7/35, Error ellipse: s-maj=39.0km s-min=15.1km az=34.0*
*ANF **26** 09:32:40.8±4.3, 44°.72N×128°.35W, h10km, ML3.4/2, Error ellipse: s-maj=47.5km s-min=11.6km az=69.0*
ISC 26 09:32:21.7±0.8, 44°.49N±0°.08×130°.43W±0°.08, h10km, n58, σ1§49/47, mb4.0/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**5.09**	**86**	Pn	**Pn**	**09 33 36.8**	**-1.2**
COR				IAML		09 35 36.4	
	23nm,3.0s						
G03D	**McMinnville, O**	**5.14**	**79**	P	**Pn**	**09 33 37.5**	**-1.2**
	baz=264,SNR=21						
I03D	**Drain, OR**	**5.16**	**96**	P	**Pn**	**09 33 37.7**	**-1.3**
	baz=288						
I03D				S	Sn	09 34 22.2	-16
	baz=288						
K02D	**Willamette Mer**	**5.23**	**108**	S	Sn	09 34 27.7	-13
	baz=302						
E03A	**Lebam**	**5.24**	**65**		**Pn**	**09 33 39.9**	**-0.1**
E03A				IAML		09 35 03.7	
	comp=N,24nm,4.8s						
NLWA	**Neilton Lookou**	**5.41**	**55**	Pn	**Pn**	**09 33 42.3**	**-0.2**
NLWA				Sn	**Sn**	**09 34 44.0**	**-0.8**
L02E	**Cave Junction**	**5.50**	**113**	S	Sn	09 34 35.9	-11
	baz=308						
H04D	**Lebanon**	**5.50**	**87**	P	**Pn**	**09 33 42.6**	**-1.0**
	baz=275						
HUMO	**Hull Mountain**	**5.75**	**107**	Pn	**Pn**	**09 33 46.2**	**-0.8**
HUMO				Sn	**Sn**	**09 34 52.6**	**-0.4**
F04A	**Amboy**	**5.84**	**73**		**Pn**	**09 33 48.0**	**-0.2**
E04D	**Cinebar**	**5.89**	**67**	P	**Pn**	**09 33 48.4**	**-0.6**
	baz=248,SNR=8.5						
D03D	**Eldon**	**5.95**	**57**	P	**Pn**	**09 33 50.4**	**+0.7**
	baz=234						
D04E	**Lakebay**	**5.98**	**61**	P	**Pn**	**09 33 50.3**	**+0.1**
	baz=240,SNR=6.0						
D04E				S	Sn	09 34 44.0	-15
	baz=240						
YBH	**Yreka Blue Hor**	**6.29**	**113**	Pn	**Pn**	**09 33 57.9**	**+3.4**
	comp=N,0.1nm,0.3s,baz=286,slow=15,SNR=5.5						
YBH	**Yreka Blue Hor**	**6.29**	**113**		**Pn**	**09 33 54.9**	**+0.4**
L04D	**Klamath Falls**	**6.34**	**108**	S	Sn	09 34 55.6	-12
	baz=302						
LON	**Longmire**	**6.45**	**67**		**Pn**	**09 33 56.2**	**-0.5**
LON				Sn	**Sn**	**09 35 09.7**	**-0.7**
D05A	**Enumclaw**	**6.48**	**62**		**Pn**	**09 33 57.5**	**+0.5**
G05D	**Wamic, OR**	**6.52**	**80**	P	**Pn**	**09 33 56.7**	**-0.9**
	baz=266						
A04D	**Lummi Island**	**6.79**	**49**	P	**Pn**	**09 34 02.5**	**+1.2**
	baz=226						
M04C	**Macdoel**	**6.84**	**110**	S	Sn	09 35 07.1	-13
	baz=304						
PINE	**Pine Mountain**	**6.86**	**93**		**Pn**	**09 34 02.2**	**-0.3**
B05A	**Bryant**	**6.88**	**54**	P	**Pn**	**09 34 02.7**	**+0.1**
	baz=233,SNR=15						
LTY	**Liberty**	**7.35**	**64**		**Pn**	**09 34 08.9**	**-0.2**
B06A	**Marblemount**	**7.37**	**54**	Pn	**Pn**	**09 34 10.4**	**+1.3**
HOPS	**Hopland Field**	**7.77**	**132**		**Pn**	**09 34 13.8**	**-1.1**
BBB	**Bella Bella**	**7.85**	**10**	LR	LR	09 36 52.8	
	comp=N,215nm,18.6s,baz=277,slow=34						
HAWA	**Hanford**	**7.89**	**72**	Pn	**Pn**	**09 34 17.8**	**+1.3**
G08A	**Pilot Rock**	**8.18**	**80**		**Pn**	**09 34 19.8**	**-0.7**
B08A	**Colville Reser**	**8.58**	**59**	Pn	**Pn**	**09 34 27.3**	**+1.4**
BMO	**Blue Mountains**	**9.36**	**83**	Pn	**Pn**	**09 34 33.6**	**-3.0**
NEW	**Newport**	**9.94**	**63**	LR	LR	09 38 19.1	
	comp=N,96nm,19.5s,baz=232,slow=35						
NVAR	**Mina Array Bea**	**10.92**	**120**	Pn	**Pn**	**09 35 02.2**	**+4.0**
	comp=N,0.0nm,0.3s,baz=297,slow=16,SNR=5.0						
NVAR	**Mina Array Bea**	**10.92**	**120**		**Pn**	**09 34 58.1**	**-0.2**
JTMT	**Jette**	**11.67**	**68**	Pn	**Pn**	**09 35 09.0**	**+0.8**
MSO	**Missoula**	**11.77**	**73**	Pn	**Pn**	**09 35 09.9**	**+0.2**
ELK	**Elko**	**11.80**	**103**	Pn	**Pn**	**09 35 13.4**	**+3.3**
	comp=N,0.1nm,0.3s,baz=286,slow=12,SNR=4.5						
HRY	**Holter Researc**	**13.21**	**74**	Pn	**Pn**	**09 35 27.7**	**-1.6**
PDAR	**Pinedale Array**	**15.21**	**89**	Pn	**P**	**09 36 02.3**	**+0.6**
	comp=N,0.1nm,0.3s,baz=312,slow=7.2,SNR=2.4						
PDAR				LR	LR	09 41 33.0	
	comp=N,52nm,18.8s,baz=329,slow=36						
YKA	**Yellowknife Ar**	**20.23**	**21**	P	Pn	09 36 58.9	+0.3
	comp=N,0.7nm,0.6s,baz=222,slow=9.7,SNR=4.2						
RSO	**Redoubt South**	**20.82**	**328**	P	**P**	**09 36 59.6**	**-3.7**
ILAR	**Eielson Array**	**22.30**	**341**	P	**P**	**09 37 20.7**	**+1.8**
	comp=N,2.7nm,1.1s,baz=155,slow=9.1,SNR=14						
IMAR	**Indian Mountai**	**25.01**	**337**	P	**P**	**09 37 46.8**	**+1.4**
TXAR	**Lajitas Array**	**26.05**	**116**	P	**P**	**09 37 56.4**	**+1.2**
	comp=N,0.3nm,0.5s,baz=325,slow=7.7,SNR=2.8						
TXAR	**Lajitas Array**	**26.05**	**116**	P	**P**	**09 37 54.6**	**-0.6**
RES	**Resolute Bay**	**34.09**	**16**	P	**P**	**09 39 07.4**	**+1.6**
	comp=N,2.4nm,0.9s,baz=214,slow=7.6,SNR=3.6						
SFJD	**Kangerlussuaq**	**46.21**	**32**	P	**P**	**09 40 44.9**	**-1.4**
	comp=N,4.1nm,0.7s,baz=294,slow=10.0,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**57.05**	**266**	T	T	10 43 56.5	
	baz=49,slow=75,SNR=86						
H11N3	**WAKE ISLAND Hy**	**57.05**	**266**	T	T	10 44 03.8	
	baz=49,slow=75,SNR=123						
H11N1	**WAKE ISLAND Hy**	**57.07**	**266**	T	T	10 44 04.4	
	baz=49,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	**57.99**	**265**	T	T	10 45 18.6	
	baz=48,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**58.00**	**265**	T	T	10 45 14.0	
	baz=48,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**58.01**	**265**	T	T	10 45 19.8	
	baz=48,slow=75,SNR=15						
MJAR	**Matsushiro Ar**	**66.40**	**299**	P	**P**	**09 43 10.3**	**-0.6**
	comp=N,0.9nm,0.7s,baz=81,slow=15,SNR=3.2						
AFI	**Afiamalu**	**69.22**	**223**	LR	LR	10 06 21.1	
	comp=N,23nm,21.3s,baz=83,slow=30						
SONM	**Songino Array**	**75.39**	**324**	P	**P**	**09 44 04.1**	**-1.3**
	comp=N,0.8nm,0.4s,baz=46,slow=10,SNR=2.9						
ZALV	**Zalesovo Beam**	**77.42**	**348**	P	**P**	**09 44 17.8**	**+1.2**
	comp=N,0.4nm,0.3s,baz=78,slow=9.0,SNR=2.2						
BRTR	**Keskin Array B**	**94.94**	**12**	P	**P**	**09 45 45.1**	**+0.8**
	comp=N,0.2nm,0.4s,baz=335,slow=6.5,SNR=2.7						

*TAP **26** 09:45:21.5, 24°.95N×122°.67E, h2km, ML3.1, C*
*ISCJB **26** 09:45:22.8±0.7, 24°.94N±0°.05×122°.71E±0°.04, h15km±8km, Error ellipse: s-maj=9.7km s-min=4.8km az=21.8*
*JMA **26** 09:45:23.2±0.2, 24°.93N×122°.69E, h33km, M2.2*
ISC 26 09:45:22.5±1.5, 24°.92N±0°.05×122°.67E±0°.03, h18km±15km, n37, σ0§69/42, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.53**	**152**	P	**Pb**	**09 45 33.7**	**+0.5**
YOJ	**Yonaguni jima**	**0.55**	**145**	*i* P	**Pb**	**09 45 34.1**	**+0.5**
YOJ							
	baz=147						
YOJ				*e*S	**Sb**	**09 45 42.7**	**+1.6**
	baz=147						
YOJ	**Yonaguni jima**	**0.55**	**145**	P	**Pb**	**09 45 34.2**	**+0.6**
YOJ				*e*S	**Sb**	**09 45 42.1**	**+1.0**
EOS1	**EOS1**	**0.61**	**234**	P	**Pb**	**09 45 35.4**	**+0.7**
	baz=216						
EOS1				*e*S	**Sb**	**09 45 43.6**	**+0.6**
	baz=216						
TWB1	**Santiao Chiao**	**0.63**	**279**	P	**Pb**	**09 45 35.0**	**+0.1**
	baz=275						
EGS		**0.67**	**264**	*e*P	**Pn**	**09 45 36.3**	**-0.9**
	baz=261						
EGS				*e*S	**Sb**	**09 45 45.1**	**+0.3**
	baz=261						
TIPB	**Shuangxi**	**0.77**	**274**	P	**Pg**	**09 45 37.4**	**-0.3**
	baz=272						
TIPB				*e*S	**Sb**	**09 45 47.3**	**-0.3**
	baz=272						
TWC	**Suao**	**0.81**	**248**	*e*P	**Pg**	**09 45 38.0**	**-0.3**
	baz=245						

NWF	**Wu-fen Shan**	**0.82**	**281**	*e*P		**Pn**	**09 45 38.5**	**-0.8**
	baz=279							
PCYT	**Pengchaiyu**	**0.90**	**323**	*i* P		**Pn**	**09 45 39.8**	**-0.5**
	baz=322							
TWE	**Neicheng**	**0.93**	**258**	*i* P		**Pn**	**09 45 40.8**	**0.0**
	baz=256							
NANB	**Nanao**	**0.97**	**240**	*e*P		**Pn**	**09 45 41.4**	**+0.1**
	baz=238							
ENA	**Nanau**	**0.97**	**240**	*e*P		**Pb**	**09 45 40.6**	**-0.3**
	baz=238							
YM11	**YM11**	**1.02**	**284**	*e*P		**Pg**	**09 45 43.9**	**+1.4**
	baz=283							
YM05	**YM05**	**1.03**	**284**	*i* P		**Pg**	**09 45 42.8**	**+0.1**
	baz=282							
ENTT	**Nioudou**	**1.04**	**255**	*e*P		**Pg**	**09 45 43.1**	**+0.4**
	baz=253							
YM04	**YM04**	**1.06**	**283**	*e*P		**Pg**	**09 45 43.7**	**+0.6**
	baz=282							
NWLT	**Wulai**	**1.07**	**263**	*e*P		**Pg**	**09 45 42.6**	**-0.7**
	baz=261							
NDT	**Datong Townshi**	**1.10**	**254**	*e*P		**Pg**	**09 45 44.1**	**+0.3**
	baz=252							
IRIF	**Iriomote-Funau**	**1.12**	**121**	P		**Pn**	**09 45 42.5**	**-0.9**
YHNB	**Yeheng**	**1.20**	**259**	*e*P		**Pg**	**09 45 45.7**	**-0.1**
	baz=270							
NSK	**Sanguang**	**1.22**	**259**	*e*P		**Pg**	**09 45 46.0**	**-0.1**
	baz=257							
NACB	**Ninganchiao**	**1.23**	**233**	*e*P		**Pb**	**09 45 45.1**	**-0.1**
	baz=232							
NNSB	**Datong**	**1.27**	**248**	*i* P		**Pg**	**09 45 46.8**	**-0.3**
	baz=246							
NNS	**Nan Shan**	**1.27**	**248**	*i* P		**Pg**	**09 45 46.8**	**-0.4**
	baz=246							
ETLH	**Xiulin Townshi**	**1.29**	**237**	*e*P		**Pg**	**09 45 47.0**	**-0.6**
	baz=236							
JKRS	**Kuro-shima**	**1.39**	**119**	P		**Pn**	**09 45 46.8**	**-0.3**
JIJ	**Ishigaki jima**	**1.45**	**112**	P		**Pb**	**09 45 48.0**	**-1.0**
WHF	**Hehuan Shan**	**1.49**	**239**	*e*P		**Pb**	**09 45 50.2**	**+0.2**
	baz=238							
TDCB	**Techi**	**1.53**	**245**	*e*P		**Pb**	**09 45 50.5**	**+0.1**
	baz=243							
LIOB	**Emei**	**1.53**	**260**	*e*P		**Pg**	**09 45 53.3**	**+1.3**
	baz=259							
NSTT	**Nanjuang**	**1.54**	**260**	*e*P		**Pg**	**09 45 53.7**	**+1.4**
	baz=259							
CHGB	**Renai**	**1.61**	**238**	*e*P		**Pg**	**09 45 53.4**	**-0.2**
	baz=228							
WHP	**Taichung City**	**1.69**	**248**	*e*P		**Pg**	**09 45 55.0**	**-0.2**
	baz=247							
VWDT	**VWDT**	**1.81**	**231**	P		**Pb**	**09 45 54.6**	**-0.6**
	baz=213							
DPDB	**Guoxing**	**1.81**	**241**	*e*P		**Pg**	**09 45 56.4**	**-1.0**
	baz=240							
SSLB	**Suanglung**	**1.93**	**235**	*e*P		**Pg**	**09 45 59.1**	**-0.5**
	baz=217							

*ISCJB **26** 10:15:39.8±0.8, 31°.0S±0°.2×59°.5E±0°.2, h10km, mb3.8/8, Error ellipse: s-maj=28.2km s-min=21.3km az=151.1*
*IDC **26** 10:15:40.3±0.9, 30°.91S×59°.55E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/34, mbtmp3.9/8, Error ellipse: s-maj=31.8km s-min=24.4km az=55.0*
*NEIC **26** 10:15:41.4±2.0, 30°.9S±0°.2×59°.5E±0°.2, h10km±1km, mb4.4/3*
ISC 26 10:15:41.5±0.7, 30°.9S±0°.2×59°.4E±0°.2, h10km, n24, σ0§97/24, mb3.9/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**45.65**	**110**	T	T	11 12 49.4	
	baz=258,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**45.65**	**110**	T	T	11 12 48.1	
	baz=258,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**45.66**	**110**	T	T	11 12 50.0	
	baz=258,slow=75,SNR=15						
QSPA	**South Pole Qui**	**59.23**	**180**	P	**P**	**10 25 44.1**	**+1.3**
	2.2nm,1.1s,baz=278,slow=4.5,SNR=4.8						
QSPA	**South Pole Qui**	**59.23**	**180**	P	**P**	**10 25 43.4**	**+0.6**
QSPA				IAmb	IAmb	10 25 48.2	
	comp=Z,3.7nm,1.2s						
CMAR	**Chiang Mai Arr**	**62.10**	**43**	P	**P**	**10 26 04.0**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=231,slow=7.4,SNR=5.9						
CMAR	**Chiang Mai Arr**	**62.10**	**43**	P	**P**	**10 26 03.1**	**+0.3**
ASAR	**Alice Springs**	**65.50**	**104**	P	**P**	**10 26 23.5**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=247,slow=4.7,SNR=5.9						
ASAR	**Alice Springs**	**65.50**	**104**	P	**P**	**10 26 24.1**	**-1.3**
WRA	**Warramunga Arr**	**67.45**	**100**	P	**P**	**10 26 37.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=244,slow=5.3,SNR=3.9						
WRA	**Warramunga Arr**	**67.45**	**100**	P	**P**	**10 26 37.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**70.63**	**299**	P	**P**	**10 26 58.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=116,slow=8.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**70.63**	**299**	P	**P**	**10 26 57.0**	**-0.5**
BRTR	**Keskin Array B**	**74.26**	**340**	P	**P**	**10 27 19.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=170,slow=7.0,SNR=4.1						
KKAR	**Karatay Array**	**74.38**	**8**	P	**P**	**10 27 19.6**	**+0.3**
MKAR	**Makanchi Array**	**80.08**	**16**	P	**P**	**10 27 51.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=202,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**80.08**	**16**	P	**P**	**10 27 51.6**

comp=Z,3.6nm,0.2s

*NNC **26** 10:33:41.3±3.6,39°.89N×77°.19E,h0km,mb3.4,mpv3.0,*
Error ellipse: s-maj=24.4km s-min=21.9km az=9.0
*SOME **26** 10:33:56.9,40°.37N×77°.07E,h15km*
*KRNET **26** 10:33:57.0±0.1,40°.45N×77°.11E,h13km,mb2.5*
ISC 26 10:33:54.5±2.1,40°.36N±0°.10×77°.09E±0°.04,h10km,n30,
σ1§19/50,18C-7D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=19	**1.35**	**323**	⇑*iP*	**Pg**	**10 34 21.7**	**+1.3**
NRN	baz=19			⇑*iS*	**Sg**	**10 34 39.4**	**+1.4**
TARG	**Taragay, Kyrgy** baz=22	**1.47**	**21**	⇑*iP*	**Pg**	**10 34 23.2**	**+0.5**
TARG	baz=22			⇑*iS*	**Sg**	**10 34 42.6**	**+0.8**
KDJ	**Kajisay** baz=2.0	**1.77**	**2**	⇑*iP*	**Pg**	**10 34 28.6**	**+0.2**
KDJ	baz=2.0			⇑*iS*	**Sg**	**10 34 51.5**	**+0.2**
KZA	**Kyzart** baz=20	**2.21**	**322**	⇑*iP*	**Pb**	**10 34 36.2**	**+1.5**
KZA	baz=20			⇑*iS*	**Sg**	**10 35 04.8**	**-0.6**
BOOM	**Boomskoye usch** baz=37	**2.29**	**338**	⇓*iP*	**Pb**	**10 34 37.0**	**+0.9**
BOOM	baz=37			⇓*iS*	**Sb**	**10 35 06.3**	**+1.7**
PRZ	**Przheval'sk** baz=25	**2.34**	**25**	⇑*iP*	**Pb**	**10 34 37.4**	**+0.6**
PRZ	baz=25			⇑*iS*	**Sb**	**10 35 07.2**	**+1.4**
ANVS	**Anan'yevo** baz=10.0	**2.46**	**10**	⇑*iP*	**Pb**	**10 34 38.9**	**0.0**
ANVS	baz=10.0			⇑*iS*	**Sb**	**10 35 10.0**	**+0.7**
TNSS	**Tian-Shan** 4.5nm,0.5s	**2.67**	**358**	Pg	**Pb**	**10 34 41.0**	**-1.6**
TNSS	11nm,0.4s			Lg	Lg	10 35 22.1	
TNSS	**Tian-Shan** 4.5nm,0.5s	**2.67**	**358**	*eP*	**Pg**	**10 34 45.9**	**+0.1**
TNSS	11nm,0.4s			*eS*	**Sg**	**10 35 21.1**	**+0.7**
UCH	**Uchtor** baz=13	**2.69**	**315**	⇓*iP*	**Pb**	**10 34 43.1**	**+0.1**
UCH	baz=13			⇓*iS*	**Sb**	**10 35 16.8**	**+0.6**
TKM2	**Tokmak 2** 0.7nm,0.4s	**2.79**	**337**	⇓Pg	**Pn**	**10 34 38.9**	**-0.5**
TKM2	2.1nm,0.4s			⇑Lg	Lg	10 35 24.2	
TKM2	**Tokmak 2** baz=38	**2.79**	**337**	⇑*iP*	**Pn**	**10 34 39.2**	**-0.2**
MDOK	**Medeo** 1.2nm,0.2s	**2.80**	**359**	Pg	**Pn**	**10 34 42.6**	**+3.2**
MDOK	14nm,0.7s			Lg	Lg	10 35 24.7	
MDOK	**Medeo** 1.3nm,0.0s	**2.80**	**359**	*eP*	**Pg**	**10 34 47.7**	**-0.4**
MDOK	11nm,0.5s			*eS*	**Sg**	**10 35 24.1**	**-0.3**
KST	**Kastek** 4.9nm,0.3s	**2.81**	**343**	Pg	**Pb**	**10 34 42.8**	**-2.0**
KST	9.9nm,0.6s			Lg	Lg	10 35 25.5	
KST	**Kastek** 1.9nm,0.2s	**2.81**	**343**	*eP*	**Pg**	**10 34 48.5**	**+0.3**
KST	7.8nm,0.3s			*eS*	**Sg**	**10 35 25.9**	**+1.2**
AAK	**Ala-Archa** 1.2nm,0.8s	**2.99**	**320**	Pg	**Pn**	**10 34 41.4**	**-0.8**
AAK	5.7nm,0.6s			Lg	Lg	10 35 31.7	
AAK	**Ala-Archa** baz=19	**2.99**	**320**	⇓*iP*	**Pb**	**10 34 47.1**	**-0.9**
AAK	baz=19			⇓*iS*	**Sb**	**10 35 23.6**	**-1.1**
DGS	**Degeres** 6.6nm,0.4s	**3.04**	**342**	Pg	**Pb**	**10 34 47.4**	**-1.3**
DGS	8.2nm,0.6s			Lg	Lg	10 35 33.1	
DGS	**Degeres** 4.0nm,0.3s	**3.04**	**342**	*eP*	**Pg**	**10 34 52.6**	**-0.1**
DGS	5.5nm,0.3s			*eS*	**Sg**	**10 35 32.5**	**+0.4**
AML	**Almayashu** baz=4.0	**3.11**	**306**	⇑*iP*	**Pb**	**10 34 49.1**	**-1.0**
AML	baz=4.0			⇑*iS*	**Sb**	**10 35 27.2**	**-1.0**
UZB	**Uzynbulak** 2.3nm,0.3s	**3.14**	**27**	*eP*	**Pg**	**10 34 54.0**	**-0.5**
UZB	1.4nm,0.0s			*eS*	**Sg**	**10 35 35.2**	**0.0**
KURS	**Kuram** 2.2nm,0.3s	**3.23**	**14**	*eP*	**Pg**	**10 34 55.5**	**-0.8**
KURS	4.9nm,0.3s			*eS*	**Sg**	**10 35 37.6**	**-0.5**
KPKS	**Kokpek** 3.0nm,0.1s	**3.32**	**20**	*eP*	**Pg**	**10 34 57.1**	**-1.0**
KPKS	11nm,0.4s			*eS*	**Sg**	**10 35 40.3**	**-0.8**
KTBS	**Karatobe** 1.9nm,0.4s	**3.36**	**355**	Pg	**Pb**	**10 34 52.3**	**-1.9**
KTBS	7.1nm,0.6s			Lg	Lg	10 35 41.4	
KTBS	**Karatobe** 0.8nm,0.1s	**3.36**	**355**	*eP*	**Pb**	**10 34 56.7**	**+2.5**
KTBS	7.1nm,0.4s			*eS*	**Sg**	**10 35 40.0**	**-2.4**
PDGK	**Podgornoye** 2.6nm,1.3s	**3.47**	**30**	⇑Pg	**Pn**	**10 34 49.0**	**+0.4**
PDGK	3.9nm,0.7s			⇑Lg	Lg	10 35 43.1	
KUU	**Kurty** 1.7nm,0.1s	**3.57**	**351**	*eP*	**Pg**	**10 35 01.6**	**-1.2**
KUU	7.8nm,0.3s			*eS*	**Sg**	**10 35 48.2**	**-1.0**
ARXS	**Arharly** 0.8nm,0.3s	**3.89**	**8**	Pg	**Pb**	**10 35 02.0**	**-1.1**
ARXS	5.4nm,0.5s			Lg	Lg	10 35 57.8	
ARXS	**Arharly** 0.8nm,0.2s	**3.89**	**8**	*eP*	**Pg**	**10 35 07.2**	**-1.7**
ARXS	22nm,0.3s			*eS*	**Sg**	**10 35 58.0**	**-1.3**

KRNET 26 10:34:26.2±0.1,43°.44N×74°.98E,h11km,mb2.2,7C,
Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka** baz=44	**0.39**	**244**	⇑*iP*	Pg	10 34 33.7	-0.2
USP	baz=44			⇑*iS*	Sg	10 34 39.1	+0.1
CHMS	**Chumysh** baz=1.0	**0.47**	**201**	⇑*iP*	Pg	10 34 35.4	+0.1
CHMS	baz=1.0			⇑*iS*	Sg	10 34 41.9	+0.4
TKM2	**Tokmak 2** baz=38	**0.69**	**138**	⇑*iS*	Sg	10 34 48.7	+0.2
EKS2	**Erkin-Say** baz=29	**1.17**	**229**	⇑*iP*	Pb	10 34 48.4	-0.1
EKS2	baz=29			⇑*iS*	Sg	10 35 04.2	+0.3

KRSC 26 10:55:02.9±2.5,48°.54N×157°.18E,h7km±55km,ML3.8,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.25**	**343**	P	Pn	10 55 39.6	-0.9
SKR				S	Sn	10 56 08.9	+0.4
ASAK	**Asacha**	**3.88**	**7**	P	Pn	10 56 06.1	+3.2
RUS	**Russkaya**	**3.99**	**12**	P	Pn	10 56 08.5	+4.2
RUS				S	Sb	10 56 56.7	-5.1
DALK	**Dalny**	**4.61**	**12**	S	Sn	10 57 12.9	+6.4
KOK	**Koryaka**	**4.85**	**10**	P	Pn	10 56 21.9	+5.7
SDLR	**Sedlovina**	**4.87**	**12**	P	Pn	10 56 21.1	+4.6
KRX	**Arik**	**4.91**	**10**	P	Pn	10 56 21.4	+4.2
GNL	**Ganaly**	**5.18**	**5**	P	Pn	10 56 25.0	+4.1
MKZ	**Mys Kozlova**	**6.66**	**24**	P	Pn	10 56 44.3	+3.3
KBTR	**Krutoberegovo**	**8.42**	**22**	P	Pn	10 57 11.4	+6.3

NNC 26 11:08:03.5±8.5,36°.65N×70°.40E,h80km±192km,mb3.4,
mpv3.5,4C-4D,Error ellipse: s-maj=64.7km
s-min=54.5km az=167.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 1.3nm,0.3s,baz=179,slow=13,SNR=25	**6.45**	**1**	⇑P	Pn	11 09 37.2	+1.4
KK31	0.9nm,0.4s,baz=189,slow=24,SNR=5.5			⇑S	Sn	11 10 50.8	+3.0
AAK	**Ala-Archa** 1.3nm,0.3s	**6.76**	**27**	P	Pn	11 09 39.4	-0.8
AAK	3.0nm,0.6s			S	Sn	11 10 55.8	0.0
TKM2	**Tokmak 2** 2.5nm,0.7s	**7.43**	**31**	⇑P	Pn	11 09 48.8	-0.6
TKM2	1.4nm,0.8s			⇑S	Sn	11 11 10.3	-1.9
AB31	**Akbulak array** 0.6nm,0.3s,baz=167,slow=10,SNR=46	**14.72**	**332**	⇓P	Pn	11 11 27.9	+0.6
AB31	1.2nm,0.8s,baz=155,slow=23,SNR=2.6			⇓S	Sn	11 14 07.9	-1.3
AKTO	**Aktyubinsk** 4.0nm,0.9s	**16.41**	**331**	⇓P	P	11 11 50.4	+0.3
AKTO	1.6nm,0.9s			⇓S	Sn	11 14 49.7	-0.4

*IDC **26** 11:29:46.1±2.3,9°.43S×112°.88E,h0km,mb3.9/7,*
mb1 4.0/8,mb1mx3.7/42,mbtmp3.9/8,ML3.3/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.3/35,Error ellipse: s-maj=130.5km
s-min=17.2km az=51.0
*ISCJB **26** 11:29:50.5±0.5,9°.58S±0°.05×112°.81E±0°.03,h36km,*
mb4.0/7,MS2.9/1,Error ellipse: s-maj=7.0km s-min=4.4km
az=18.7
*DJA **26** 11:29:51.9±0.4,9°.S±4°.×11°.3E±°.,h10km,M4.1/15,mb4.2/3,*
mB5.2/2,MLv4.1/15,Mw(mB)4.6/2
*NEIC **26** 11:29:53.8±1.9,9°.45S±0°.09×112°.93E±0°.06,h61km±9km,*
mb4.0/6
ISC 26 11:29:51.8±0.7,9°.52S±0°.07×112°.88E±0°.04,h36km,n39,
σ1§81/43,mb4.0/10,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.36**	**25**	P	**Pn**	**11 30 14.5**	**+0.3**
GMJI				S	**Sn**	**11 30 30.5**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.63**	**51**	P	**Pn**	**11 30 19.3**	**+1.3**
JAGI				S	**Sn**	**11 30 41.1**	**+3.3**
JAGI	**Jajag, Banyuwa**	**1.63**	**51**	Pn	**Pn**	**11 30 19.5**	**+1.5**
JAGI				Sn	**Sn**	**11 30 37.3**	**-0.5**
PWJI	**Pagerwojo**	**1.82**	**324**	P	**Pn**	**11 30 21.1**	**+0.5**
PWJI				S	**Sn**	**11 30 42.5**	**+0.1**
IGBI	**Denpasar**	**2.35**	**73**	P	**Pn**	**11 30 30.6**	**+2.8**
DNP	**Denpasar**	**2.45**	**70**	P	**Pn**	**11 30 31.7**	**+2.4**
NGJI	**Ngawi**	**2.55**	**327**	P	**Pn**	**11 30 34.4**	**+3.8**
GRJI	**Gresik**	**2.61**	**351**	P	**Pn**	**11 30 30.5**	**-1.0**
KMMI	**Kalianget**	**2.68**	**24**	P	**Pn**	**11 30 32.7**	**+0.3**
SRBI	**Singaraja**	**2.71**	**59**	P	**Pn**	**11 30 35.1**	**+2.3**
TBJI	**Tambak Boyo**	**2.87**	**339**	P	Pn	11 30 40.5	+5.5
YOGI	**Yogyakarta**	**3.06**	**303**	P	**Pn**	**11 30 39.2**	**+1.6**
SMRI	**Semarang**	**3.44**	**315**	P	**Pn**	**11 30 44.0**	**+1.2**
SMRI	**Semarang**	**3.44**	**315**	Pn	**Pn**	**11 30 44.5**	**+1.7**
SMRI				Sn	**Sn**	**11 31 23.9**	**+1.5**
TWSI	**Taliwang, Sumb**	**4.03**	**79**	P	**Pn**	**11 30 54.2**	**+3.2**
KPJI	**Karang Pucung**	**4.46**	**299**	P	**Pn**	**11 30 58.3**	**+1.4**
CMJI	**Cimerak**	**4.70**	**291**	P	**Pn**	**11 31 01.1**	**+0.9**
PLAI	**Plampang**	**4.89**	**82**	P	**Pn**	**11 31 06.6**	**+3.8**
CISI	**Cisompet, Garu**	**5.37**	**291**	P	**Pn**	**11 31 11.4**	**+1.9**
CISI	**Cisompet, Garu**	**5.37**	**291**	Pn	**Pn**	**11 31 13.2**	**+3.8**
CISI				Sn	**Sn**	**11 32 09.6**	**-0.5**
CGJI	**Cibinong**	**7.67**	**292**	P	**Pn**	**11 31 43.2**	**+2.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=294,slow=12,SNR=3.5	**15.04**	**126**	Pn	**Pn**	**11 33 20.4**	**-1.4**
FITZ	0.0nm,0.3s,baz=73,slow=19,SNR=2.1			Sn	Sn	11 35 55.4	-12
WB0	**Warramunga Arr** comp=Z,12nm,1.4s	**23.15**	**119**	P	**P**	**11 34 55.3**	**+0.1**
WB0				IAmb	IAmb	11 34 55.8	
WRA	**Warramunga Arr** comp=Z,0.7nm,0.8s,baz=290,slow=11,SNR=2.4	**23.17**	**119**	P	**P**	**11 34 54.2**	**-1.2**
WRA	**Warramunga Arr**	**23.17**	**119**	P	**P**	**11 34 52.6**	**-2.8**
NWAO	**Narrogin (SRO)** comp=Z,40nm,18.0s,baz=38,slow=40	**23.64**	**171**	LR	LR	11 45 45.2	
ASAR	**Alice Springs** comp=Z,2.0nm,0.7s,baz=304,slow=9.1,SNR=26	**24.53**	**128**	P	**P**	**11 35 08.5**	**+0.3**
ASAR	**Alice Springs**	**24.53**	**128**	P	**P**	**11 35 07.1**	**-1.1**
STKA	**Stephens Creek** comp=Z,0.9nm,0.7s,baz=281,slow=10,SNR=3.8	**34.69**	**134**	P	**P**	**11 36 38.4**	**+0.2**
STKA	**Stephens Creek**	**34.69**	**134**	P	**P**	**11 36 39.7**	**+1.4**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=179,slow=8.5,SNR=2.9	**57.38**	**355**	P	**P**	**11 39 36.3**	**-0.4**
MK31	**Makanchi Array** comp=Z,1.9nm,1.2s	**62.35**	**337**	P	**P**	**11 40 09.7**	**-1.0**
MK31				IAmb	IAmb	11 40 12.6	
MKAR	**Makanchi Array** comp=Z,1.0nm,0.5s,baz=153,slow=7.4,SNR=6.7	**62.35**	**337**	P	**P**	**11 40 10.2**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,2.0nm,0.2s,baz=135,slow=6.4,SNR=3.4	**66.91**	**337**	P	**P**	**11 40 39.2**	**-1.1**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.5s,baz=134,slow=3.7,SNR=3.9	**67.54**	**342**	P	**P**	**11 40 43.2**	**-1.0**
ZALV	**Zalesovo Beam**	**67.54**	**342**	P	**P**	**11 40 42.9**	**-1.3**
ABKAR	**Abkulak array**	**74.60**	**327**	P	**P**	**11 41 26.9**	**-0.2**
ABKAR	**Abkulak array**	**74.60**	**327**	P	**P**	**11 41 25.8**	**-1.3**
ABKAR	comp=Z,2.4nm,0.7s			IAmb	IAmb	11 41 27.6	
QSPA	**South Pole Qui** comp=Z,1.6nm,1.2s	**80.49**	**180**	P	**P**	**11 42 00.1**	**+0.1**
QSPA				IAmb	IAmb	11 42 19.6	

*ISCJB **26** 11:45:42.2±1.1,14°.1S±0°.1×166°.6E±0°.1,h10km,mb3.6/4,*
MS2.9/1,Error ellipse: s-maj=22.2km s-min=13.3km
az=144.9
*IDC **26** 11:45:42.9±1.5,14°.03S×166°.60E,h0km,mb3.7/4,*
mb1 3.9/5,mb1mx3.7/39,mbtmp3.7/5,ML3.3/1,MS2.8/3,
Ms1 2.8/3,ms1mx2.5/38,Error ellipse: s-maj=51.0km
s-min=27.4km az=128.0
*NEIC **26** 11:45:44.3±2.0,14°.15S±0°.09×166°.6E±0°.1,h10km±2km,*
mb4.3/6
ISC 26 11:45:44.2±1.0,14°.24S±0°.09×166°.6E±0°.2,h10km,n18,
σ1§74/19,mb3.9/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=51,slow=5.6,SNR=18	**7.79**	**181**	Pn	**Pn**	**11 47 39.6**	**+1.7**
DZM	baz=336,slow=20,SNR=2.2			Sn	**Sn**	**11 49 01.8**	**-4.5**
DZM	comp=Z,54nm,20.9s,baz=306,slow=36			LR	LR	11 50 31.2	
DZM	**Mont Dzumac**	**7.79**	**181**		**Pn**	**11 47 39.8**	**+1.9**
DZM					**Sn**	**11 49 04.0**	**-2.3**
HNR	**Honiara** comp=Z,45nm,20.7s,baz=153,slow=37	**8.07**	**306**	LR	LR	11 50 39.2	
HNR	**Honiara**	**8.07**	**306**	Pn	**Pn**	**11 47 39.8**	**-1.9**
BKZ	**Black Stump Fm** comp=Z,15nm,1.1s	**26.32**	**162**	P	**P**	**11 51 19.8**	**-0.5**
BKZ				IAmb	IAmb	11 51 21.0	
STKA	**Stephens Creek** comp=Z,1.0nm,0.5s,baz=55,slow=7.5,SNR=5.3	**28.82**	**228**	P	**P**	**11 51 45.3**	**+2.5**
STKA	comp=Z,29nm,19.2s,baz=24,slow=32			LR	LR	12 01 19.1	
STKA	**Stephens Creek**	**28.82**	**228**	P	**P**	**11 51 44.4**	**+1.6**
WR0	**Warramunga Arr**	**31.13**	**255**	P	**P**	**11 52 02.4**	**-1.0**
WR0	comp=Z,5.7nm,1.4s			IAmb	IAmb	11 52 07.9	
WB0	**Warramunga Arr**	**31.25**	**255**	P	**P**	**11 52 04.9**	**+0.4**
WB0	comp=Z,9.8nm,1.4s			IAmb	IAmb	11 52 16.6	
WRAB	**Tennant Creek**	**31.31**	**255**	P	**P**	**11 52 04.8**	**-0.1**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.7s,baz=85,slow=9.1,SNR=4.3	**31.32**	**255**	P	**P**	**11 52 05.4**	**+0.3**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=74,slow=9.3,SNR=5.3	**32.24**	**248**	P	**P**	**11 52 13.6**	**+0.4**
ASAR	**Alice Springs**	**32.24**	**248**	P	**P**	**11 52 14.4**	**+1.3**
QSPA	**South Pole Qui**	**75.79**	**180**	P	**P**	**11 57 30.8**	**+0.4**
QSPA	comp=Z,1.1nm,0.9s			IAmb	IAmb	11 57 37.9	
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=237,slow=5.3,SNR=8.1	**86.26**	**18**	P	**P**	**11 58 25.1**	**-0.7**
ILAR	**Eielson Array** comp=Z,5.7nm,0.9s,baz=58,slow=2.2,SNR=5.0	**86.26**	**18**	P	**P**	**11 58 25.4**	**-0.4**
ARCES	**ARCESS Array B**	**119.61**	**345**	PKP	**PKiKP**	**12 04 33.6**	**-0.3**
ARCES	**ARCESS Array B**	**119.61**	**345**		**PKiKP**	**12 04 34.0**	**+0.1**

*JMA **26** 11:59:43.0±0.3,24°.99N×122°.75E,h17km,M2.6*
*ISCJB **26** 11:59:45.8±0.7,24°.80N±0°.05×122°.70E±0°.04,h21km±4km,*
Error ellipse: s-maj=8.8km s-min=4.5km az=35.6
*TAP **26** 11:59:45.1,24°.73N×122°.78E,h38km±1km,ML3.1,D*
ISC 26 11:59:43.7±1.6,24°.77N±0°.05×122°.75E±0°.04,h19km±4km,
n48,σ0§81/55,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**151**	P	**Pn**	**11 59 53.8**	**-0.2**
JYNG				*eS*	**Sn**	**12 00 01.5**	**+0.9**
YOJ	**Yonaguni jima** baz=138	**0.39**	**143**	P	**Pn**	**11 59 53.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.39**	**143**	P	**Pn**	**11 59 54.2**	**-0.1**
YOJ				*eS*	**Sn**	**12 00 02.2**	**+1.0**
EOS1	**EOS1** baz=242	**0.61**	**249**	*eP*	**Pn**	**11 59 56.7**	**-0.6**
EOS1	baz=242			*eS*	**Sn**	**12 00 06.6**	**0.0**
TWB1	**Santiao Chiao** baz=291	**0.73**	**289**	*eP*	**Pn**	**11 59 59.4**	**+0.4**
TWB1	baz=291			*eS*	**Sn**	**12 00 09.8**	**+0.1**
EGS	baz=276	**0.75**	**276**	*eP*	**Pn**	**11 59 58.9**	**-0.4**
EGS	baz=276			*eS*	**Sn**	**12 00 10.7**	**+0.6**
TWC	**Suao** baz=254	**0.84**	**259**	*eP*	**Pb**	**11 59 59.1**	**-0.6**
NTC	**Toucheng** baz=276	**0.84**	**276**	*eP*	**Pn**	**12 00 01.2**	**+0.7**
NWF	**Wu-fen Shan** baz=291	**0.93**	**289**	*eP*	**Pg**	**12 00 01.2**	**-0.7**
WFSB	**Wu-fen Shan** baz=291	**0.93**	**289**	*eP*	**Pg**	**12 00 03.1**	**+1.3**
NANB	**Nanao** baz=260	**0.97**	**250**	P	**Pg**	**12 00 02.2**	**-0.5**
NANB	baz=260			*eS*	**Sn**	**12 00 15.6**	**0.0**
ENA	**Nanau** baz=260	**0.98**	**250**	P	**Pg**	**12 00 03.0**	**+0.1**
ENA	baz=260			*eS*	**Sb**	**12 00 14.7**	**0.0**
TWE	**Neicheng** baz=261	**0.99**	**267**	*eP*	**Pg**	**12 00 02.4**	**-0.6**
SLBB	**Yuanshan** baz=265	**1.01**	**269**	*eP*	**Pg**	**12 00 03.0**	**-0.5**
PCYT	**Pengchaiyu** baz=314	**1.05**	**324**	*eP*	**Pg**	**12 00 03.5**	**-0.7**
TWA	**Mucha** baz=270	**1.08**	**281**	*eP*	**Pg**	**12 00 05.3**	**+0.6**
ENTT	**Nioudou** baz=253	**1.09**	**263**	P	**Pg**	**12 00 04.6**	**-0.2**
YM08	**YM08** baz=293	**1.13**	**292**	*eP*	**Pb**	**12 00 03.5**	**-1.2**
NWLT	**Wulai** baz=270	**1.14**	**270**	*eP*	**Pg**	**12 00 04.5**	**-1.2**
YM01	**YM01** baz=278	**1.14**	**289**	*eP*	**Pg**	**12 00 04.1**	**-1.7**
NDT	**Datong Townshi** baz=253	**1.14**	**262**	*eP*	**Pb**	**12 00 04.3**	**-0.5**
YM05	**YM05** baz=292	**1.14**	**290**	*eP*	**Pg**	**12 00 06.6**	**+0.7**
YM10	**YM10** baz=280	**1.15**	**290**	*eP*	**Pg**	**12 00 07.8**	**+1.8**
YM04	**YM04** baz=279	**1.17**	**289**	*eP*	**Pg**	**12 00 07.2**	**+0.9**
ANP	**Anpu** baz=292	**1.19**	**291**	*eP*	**Pg**	**12 00 08.6**	**+1.7**
NACB	**Ninganchiao** baz=241	**1.21**	**241**	P	**Pg**	**12 00 07.0**	**-0.2**
YHNB	**Yeheng** baz=265	**1.25**	**266**	*eP*	**Pg**	**12 00 08.4**	**+0.3**
NSK	**Sanguang** baz=265	**1.27**	**266**	*eP*	**Pb**	**12 00 06.1**	**-1.0**
ETLH	**Xiulin Townshi** baz=244	**1.29**	**244**	P	**Pn**	**12 00 06.6**	**-0.1**
NNSB	**Datong** baz=254	**1.29**	**255**	P	**Pg**	**12 00 07.7**	**-1.1**
NNS	**Nan Shan** baz=255	**1.30**	**255**	*eP*	**Pg**	**12 00 08.8**	**0.0**
WHF	**Hehuan Shan** baz=244	**1.49**	**246**	*eP*	**Pg**	**12 00 12.2**	**-0.3**
TWT	**Tachien** baz=238	**1.52**	**251**	*eP*	**Pg**	**12 00 13.6**	**+0.4**
TDCB	**Techi** baz=239	**1.54**	**251**	P	**Pg**	**12 00 12.4**	**-1.0**
LIOB	**Emei** baz=264	**1.58**	**266**	*eP*	**Pg**	**12 00 13.6**	**-0.7**
NSTT	**Nanjuang** baz=263	**1.60**	**265**	*eP*	**Pb**	**12 00 12.6**	**0.0**
CHGB	**Renai** baz=233	**1.60**	**244**	P	**Pb**	**12 00 12.2**	**-0.6**
WHP	**Taichung City** baz=241	**1.72**	**254**	*eP*	**Pb**	**12 00 14.4**	**-0.3**
VWDT	**VWDT** baz=235	**1.79**	**236**	P	**Pb**	**12 00 15.3**	**-0.5**
DPDB	**Guoxing** baz=235	**1.82**	**247**	*eP*	**Pb**	**12 00 17.3**	**+0.8**
SSLB	**Suanglung** baz=227	**1.91**	**239**	*eP*	**Pb**	**12 00 17.3**	**-0.7**
YULB	**Yu-li** baz=215	**1.91**	**224**	*eP*	**Pb**	**12 00 17.5**	**-0.5**
TYC	**Yuchr** baz=231	**1.93**	**244**	*eP*	**Pb**	**12 00 18.4**	**+0.1**
WHYT	**Xinyi Township** baz=227	**2.04**	**239**	*eP*	**Pb**	**12 00 20.2**	**0.0**
CHN5	**Tsauling** baz=236	**2.23**	**239**	*eP*	**Pn**	**12 00 20.6**	**+0.9**
WTP	**Ta-pu** baz=230	**2.48**	**233**	*eP*	**Pb**	**12 00 26.8**	**-0.9**
SLGT	**Liugui** baz=226	**2.62**	**228**	*eP*	**Pn**	**12 00 25.2**	**+0.2**
EAST	**Anshuo** baz=215	**2.95**	**217**	*eP*	**Pn**	**12 00 31.8**	**+2.2**

IDC 26 12:07:24.4±1.1,12°.44N×141°.87E,h0km,mb3.4/5,
mb1 3.6/5,mb1mx3.5/36,mbtmp3.4/5,MS3.4/2,Ms1 3.4/2,
ms1mx2.5/26,Error ellipse: s-maj=36.5km
s-min=24.0km az=94.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** comp=Z,33nm,18.6s,baz=235,slow=33	**14.90**	**185**	LR	LR	12 15 37.9	
JHJ	**Hachijo jima 2** comp=Z,498nm,21.4s,baz=116,slow=30	**20.67**	**355**	LR	LR	12 17 51.3	
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=13,slow=7.7,SNR=2.6	**33.02**	**193**	P	P	12 14 00.2	-1.3
ASAR	**Alice Springs** 0.1nm,0.5s,baz=18,slow=13,SNR=2.7	**36.72**	**192**	P	P	12 14 33.7	+0.2
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=92,slow=6.3,SNR=3.9	**41.73**	**284**	P	P	12 15 16.1	+0.5
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=111,slow=6.9,SNR=3.7	**60.31**	**317**	P	P	12 17 34.5	-0.5
ILAR	**Eielson Array** 0.3nm,0.8s,baz=246,slow=6.0,SNR=4.1	**70.85**	**25**	P	P	12 18 42.1	-0.7
LPAZ	**La Paz** 1.4nm,0.7s,baz=251,slow=3.9,SNR=3.8	**150.70**	**101**	PKPbc	PKiKP	12 27 21.9	+0.9

*IDC **26** 12:21:16.3±1.0,51°.68N×174°.62W,h0km,mb3.8/10,*
mb1 4.0/12,mb1mx3.7/55,mbtmp3.8/12,ML4.1/1,MS3.1/3,
Ms1 3.1/3,ms1mx2.5/62,Error ellipse: s-maj=30.2km
s-min=17.0km az=177.0
*ISCJB **26** 12:21:22.2±0.6,51°.69N±0°.07×174°.48W±0°.05,h60km±4km,*
mb3.8/10,Error ellipse: s-maj=12.3km s-min=3.6km
az=161.7
*AEIC **26** 12:21:22.2±2.5,51°.54N±0°.03×174°.54W±0°.07,h38km±5km,*
mb4.3/42(NEIC)
*NEIC **26** 12:21:22.1±2.3,51°.59N±0°.07×174°.49W±0°.07,h37km±2km*
ISC 26 12:21:21.6±0.6,51°.56N±0°.08×174°.47W±0°.04,h39km±3km,
n97,σ1§35/98,mb4.1/13,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.67**	**15**		**Pn**	**12 21 35.4**	**+0.9**

ATKA Sn **Sn** **12 21 45.0 +1.2**
KOFP Korovin Flat P 0.75 18 Pn Pn 12 21 37.2 +1.4
KOKL Mount Kliuchef 0.78 12 Pn Pn 12 21 37.6 +1.4
KOSE Korovin Southe 0.83 18 Pn Pn 12 21 38.4 +1.6
GSMY Great Sitkin M 1.10 297 Pn Pn 12 21 41.2 +0.8
GSTR Great Sitkin T 1.12 299 Pn Pn 12 21 41.8 +1.0
GSTR Sn **Sn** **12 21 54.1 -1.0**
GSTD Great Sitkin T 1.16 296 Pn Pn 12 21 42.2 +0.9
GSTD **Sn** **12 21 55.9 0.0**
ADAG Mount Adagdak 1.39 289 Pn Pn 12 21 45.6 +1.1
ADK Adak 1.42 284 Pn Pn 12 21 45.2 +0.4
ADK Sn **Sn** **12 21 59.0 -3.1**
KIWB Kanaga Island 1.70 281 Pn Pn 12 21 49.2 +0.6
KIKV Kanaga Island 1.71 282 Pn Pn 12 21 49.7 +0.8
KICM Kanaga Island 1.73 283 Pn Pn 12 21 50.1 +1.0
KIMD Kanaga Island 1.74 278 Pn Pn 12 21 49.5 +0.4
KIMD **Sn** **12 22 11.8 +1.8**
TAPA Tanaga Point A 2.10 278 Pn Pn 12 21 55.1 +0.9
TAFP Tanaga Falls P 2.21 280 Pn Pn 12 21 57.1 +1.3
TASE Tanaga Southea 2.24 279 Pn Pn 12 21 57.4 +1.3
GAEA Gareloi East 2.67 277 Pn Pn 12 22 03.5 +1.5
NIKH Nikolski High 3.73 65 Pn Pn 12 22 15.6 -0.9
NIKH Sn **Sn** **12 22 58.3 -0.8**
UNV Unalaska Vale 5.36 62 Pn Pn 12 22 40.4 +1.6
UNV Sn **Sn** **12 23 40.8 +1.6**
SPIA Saint Paul Isl 6.14 22 Pn Pn 12 22 51.5 +1.9
SPIA Sn **Sn** **12 23 58.3 -0.3**
OHAK Old Harbor 13.55 57 Pn Pn 12 24 31.5 +0.5
KDAK Kodiak Island 14.07 55 Pn Pn 12 24 35.1 -3.0
0.2nm,0.3s,baz=238,slow=1.7,SNR=12
KDAK Sn **S** **12 27 26.7 -6.0**
0.1nm,0.3s,baz=158,slow=19,SNR=3.0
KDAK Kodiak Island 14.07 55 Pn Pn 12 24 37.7 -0.4
SVW2 Sparrevohn 14.12 40 Pn Pn 12 24 39.9 +1.1
TTA Tatalina 15.08 34 Pn Pn 12 24 51.2 -0.4
CNPM China Poot 15.31 50 Pn Pn 12 24 53.4 -1.3
BRLK Bradley Lake 15.56 49 Pn Pn 12 24 59.4 +1.5
SKT Skwentna 16.24 41 Pn Pn 12 25 07.4 +0.9
SKT IAmb IAmb 12 26 00.8
comp=Z,34nm,1.8s
SUA Susitna One 16.32 43 Pn P 12 25 09.1 -1.1
SEW Seward 16.36 49 Pn Pn 12 25 05.3 -2.7
SEW IAmb IAmb 12 25 22.4
comp=Z,55nm,1.4s
PPLA Purkeypile 16.46 38 Pn Pn 12 25 09.9 +0.5
PPLA IAmb IAmb 12 25 15.5
comp=Z,28nm,1.6s
RC01 Rabbit Creek A 16.60 45 Pn Pn 12 25 09.6 -1.5
RC01 IAmb IAmb 12 25 28.4
comp=Z,35nm,1.6s
PETK Petropavlovsk- 17.04 286 Pn Pn 12 25 14.7 -2.0
baz=80,slow=16,SNR=2.4
PETK LR LR 12 30 49.8
comp=Z,27nm,20.4s,baz=53,slow=34
GHO Glory Hole Cre 17.24 44 Pn Pn 12 25 18.4 -0.8
GHO IAmb IAmb 12 25 27.5
comp=Z,31nm,1.6s
KTH Kantishna Hill 17.30 37 P P 12 25 21.3 +0.3
KTH IAmb IAmb 12 25 48.9
comp=Z,30nm,1.7s
KNK Knik Glacier 17.30 45 P Pn 12 25 19.9 +0.1
KNK IAmb IAmb 12 26 10.8
comp=Z,95nm,2.0s
TRF Thorofare Moun 17.48 38 Pn Pn 12 25 22.4 +0.1
TRF IAmb IAmb 12 26 02.2
comp=Z,37nm,1.9s
IMAR Indian Mountai 17.87 28 P P 12 25 29.4 +2.2
SCM Sheep Creek Mo 17.96 45 P Pn 12 25 27.0 -1.0
FID Port Fidalgo 17.97 48 P Pn 12 25 25.1 -2.9
RND Reindeer 18.02 39 P Pn 12 25 27.6 -1.0
RND IAmb IAmb 12 26 03.5
comp=Z,28nm,1.9s
MCK McKinley 18.15 38 P Pn 12 25 30.1 -0.1
MCK IAmb IAmb 12 25 34.1
comp=Z,35nm,1.9s
MLY Manley 18.21 33 P P 12 25 31.0 +0.1
DHY Denali Highway 18.45 41 P P 12 25 34.1 +0.3
DHY IAmb IAmb 12 25 38.7
comp=Z,34nm,1.8s
NEA Nenana 18.54 36 P P 12 25 33.8 -0.7
WRH Wood River Hil 18.84 37 P P 12 25 36.9 -0.9
CCB Clear Creek Bu 19.04 36 P P 12 25 38.3 -1.7
PAX Paxson 19.20 42 P Pn 12 25 42.8 -0.2
PAX IAmb IAmb 12 26 06.0
comp=Z,20nm,1.8s
HDA Harding Lake 19.24 38 P P 12 25 41.3 -0.9
HDA IAmb IAmb 12 26 05.0
comp=Z,28nm,1.9s
GLB Gilahina Butte 19.41 47 P P 12 25 44.3 +0.1
GLB IAmb IAmb 12 26 16.2
comp=Z,35nm,2.0s
IL31 19.44 37 P P 12 25 42.9 -1.4
IL31 IAmb IAmb 12 26 17.1
comp=Z,21nm,1.9s
ILAR Eielson Array 19.44 37 P P 12 25 42.3 -2.1
comp=Z,0.5nm,0.3s,baz=236,slow=9.0,SNR=48
ILAR Eielson Array 19.44 37 P P 12 25 42.7 -1.7
VRDI Verde Repeater 19.52 48 P P 12 25 45.5 0.0
VRDI IAmb IAmb 12 26 13.6
comp=Z,54nm,1.8s
TGL Tana Glacier 19.69 50 P P 12 25 47.7 +0.4
DOT Dot Lake 20.05 41 P P 12 25 50.9 -0.2
SCRK Sand Creek 20.21 40 P P 12 25 51.9 -1.0
PRP Porcupine Dome 20.32 36 P P 12 25 53.8 -0.3
CTGM Chitina Glacie 20.45 50 P P 12 25 56.2 +0.6
CTGM IAmb IAmb 12 26 49.1
comp=Z,30nm,1.4s
BCAR Beaver Creek A 20.81 44 P Pn 12 26 01.4 -0.5
TOLK Toolik Lake Re 20.88 26 P P 12 26 00.3 +0.3
FYU Fort Yukon 20.95 33 P P 12 26 01.4 +0.7
EGAK Eagle 21.66 40 P P 12 26 08.7 +0.4
INK Inuvik 25.77 34 P P 12 26 47.9 -0.3
comp=Z,0.7nm,0.8s,baz=212,slow=9.5,SNR=4.2
INK Inuvik 25.77 34 P P 12 26 48.2 0.0
INK IAmb IAmb 12 27 46.1
comp=Z,15nm,2.0s
KLR Kul'dur 33.72 288 P P 12 27 58.2 -0.7
comp=Z,1.3nm,0.4s,baz=58,slow=7.5,SNR=6.1
H11N2 WAKE ISLAND Hy 34.97 212 T T 13 05 50.8
baz=23
H11N3 WAKE ISLAND Hy 34.98 212 T T 13 05 49.2
baz=23
H11N1 WAKE ISLAND Hy 34.99 212 T T 13 05 52.2
baz=23
JCC Jacoby Creek, 35.86 87 P P 12 28 18.4 +1.0
USRK Ussuriysk Ar. 35.95 280 P P 12 28 16.3 -1.8
comp=Z,1.6nm,0.6s,baz=49,slow=13,SNR=5.0
USRK Ussuriysk Ar. 35.95 280 P P 12 28 17.0 -1.1
H11S1 WAKE ISLAND Hy 36.18 211 T T 13 07 19.5
baz=20,slow=75,SNR=6.7
H11S2 WAKE ISLAND Hy 36.20 211 T T 13 07 20.7
baz=20,slow=75,SNR=6.0
H11S3 WAKE ISLAND Hy 36.20 211 T T 13 07 20.9
baz=20,slow=75,SNR=4.1
MCMT McKenzie Canyo 40.53 74 P P 12 28 57.9 +0.9
PDAR Pinedale Array 43.66 75 P P 12 29 22.8 +0.4
comp=Z,0.2nm,0.3s,baz=307,slow=7.5,SNR=3.2
SPA0 Spitsbergen Ar 50.36 357 P P 12 30 14.9 +0.9
TXAR Lajitas Array 55.94 84 P P 12 30 58.0 +2.2
comp=Z,0.3nm,0.7s,baz=326,slow=4.6,SNR=3.2
TXAR Lajitas Array 55.94 84 P P 12 30 57.2 +1.4
ARCES ARCESS Array B 58.34 352 P P 12 31 09.9 -2.1
comp=Z,2.8nm,0.8s,baz=17,slow=7.5,SNR=3.2
KURK Kurchatov 60.82 316 P P 12 31 30.2 +0.9
KURK IAmb IAmb 12 33 31.9
comp=Z,7.7nm,1.7s
KURBB Kurchatov Arra 60.93 316 P P 12 31 30.4 +0.4
comp=Z,0.3nm,0.3s,baz=45,slow=7.6,SNR=4.5
MK31 Makanchi Array 62.01 311 P P 12 31 37.8 +0.3
MK31 IAmb IAmb 12 32 03.4
comp=Z,4.5nm,1.3s
MKAR Makanchi Array 62.01 311 P P 12 31 37.5 0.0
comp=Z,0.4nm,0.3s,baz=44,slow=6.9,SNR=13
BVAR Borovoye Array 62.46 322 P P 12 31 40.4 0.0
comp=Z,0.7nm,0.4s,baz=69,slow=6.3,SNR=7.3
BVAR PcP **PcP** **12 32 20.3 +0.9**
comp=Z,0.6nm,0.5s,baz=60,slow=3.5,SNR=3.7
KIRV Kirov 64.55 336 LR LR 13 03 09.1
comp=Z,18nm,18.1s,baz=174,slow=39
ABKAR Abkulak array 69.38 325 P P 12 32 25.7 +0.8
ABKAR Abkulak array 69.38 325 P P 12 32 25.7 +0.8
ABKAR IAmb IAmb 12 34 33.1
comp=Z,9.4nm,2.0s
KKAR Karatay Array 70.21 315 P P 12 32 30.9 +0.7

BUR08 Bucovina Ar. S 79.75 347 P P 12 33 26.2 +0.9
WRAB Tennant Creek 84.06 227 P P 12 33 49.5 +1.6
ASAR Alice Springs 87.51 226 P P 12 34 04.6 -0.4
comp=Z,0.3nm,0.8s,baz=8.9,slow=6.6,SNR=3.5
ASAR Alice Springs 87.51 226 P P 12 34 04.8 -0.2
ESDC Sonseca Array 88.77 7 LR LR 13 11 57.8
comp=Z,16nm,21.8s,baz=305,slow=34
PLCA Paso Flores 128.45 110 PKP **PKiKP** **12 40 24.1 0.0**
comp=Z,1.8nm,0.9s,baz=204,slow=9.6,SNR=4.0
PLCA Paso Flores 128.45 110 PKiKP PKiKP 12 40 24.3 +0.2

*IDC **26** 12:46:18.5±1.5, 9°.41S×124°.65E, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.7/36, mbtmp3.8/5, ML3.7/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/40, Error ellipse: s-maj=25.4km s-min=16.1km az=124.0*
*ISCJB **26** 12:46:19.7±0.7, 9°.73S±0°.06×124°.53E±0°.08, h25km, mb3.6/2, MS2.7/1, Error ellipse: s-maj=11.9km s-min=7.5km az=159.3*
*DJA **26** 12:46:20.8±0.6, 10°S±6°×12°4E±°, h29km±5km, M4.0/7, mb4.2/4, mB5.8/1, MLv3.9/7, Mw(mB)5.3/1*
ISC 26 12:46:21.9±0.8, 9°.69S±0°.06×124°.55E±0°.08, h25km, n13, σ2°74/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.29**	**258**	P		**Pb**	**12 46 27.5**	**-1.4**
BATI	**Baumata**	**1.01**	**240**	Pg		**Pb**	**12 46 43.0**	**+2.2**
	111nm,0.3s,baz=49,slow=4.7,SNR=79							
BATI				Lg		Lg	12 46 58.9	
	96nm,0.3s,baz=270,slow=20,SNR=23							
BATI	**Baumata**	**1.01**	**240**	P		**Pb**	**12 46 40.9**	**+0.1**
KAPI	**Kappang**	**6.65**	**314**	LR		LR	12 50 29.9	
	comp=Z,122nm,19.4s,baz=156,slow=38							
BNSI	**Bone**	**6.86**	**320**	P		**Pn**	**12 47 59.5**	**-1.5**
SANI	**Sanana**	**7.73**	**11**	P		**Pn**	**12 48 13.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**8.42**	**173**	Pn		**Pn**	**12 48 26.2**	**+3.8**
	0.6nm,0.3s,baz=359,slow=10,SNR=17							
FITZ				Sn		**Sn**	**12 49 55.5**	**-1.2**
	0.7nm,0.3s,baz=222,slow=19,SNR=5.2							
WRA	**Warramunga Arr**	**13.90**	**138**	Pn		**Pn**	**12 49 38.5**	**+1.0**
	0.5nm,0.3s,baz=313,slow=14,SNR=15							
WRA				Sn		**Sn**	**12 52 06.1**	**-5.0**
	0.1nm,0.3s,baz=323,slow=22,SNR=4.0							
BAKI	**Biak**	**14.26**	**54**	P		**Pn**	**12 49 44.4**	**+1.9**
ASAR	**Alice Springs**	**16.52**	**148**	Pn		**Pn**	**12 50 13.1**	**+0.9**
	0.2nm,0.3s,baz=321,slow=11,SNR=21							
ASAR				Sn		**Sn**	**12 53 10.2**	**-4.7**
	0.1nm,0.3s,baz=312,slow=22,SNR=3.2							
NWAO	**Narrogin (SRO)**	**24.09**	**195**	LR		LR	13 02 03.9	
	comp=Z,24nm,19.8s,baz=273,slow=39							
CMAR	**Chiang Mai Arr**	**37.70**	**318**	P		**P**	**12 53 33.6**	**-2.1**
	0.6nm,0.6s,baz=138,slow=6.9,SNR=4.7							
MKAR	**Makanchi Array**	**67.68**	**330**	P		**P**	**12 57 17.1**	**+0.1**
	0.7nm,0.7s,baz=125,slow=7.2,SNR=5.1							

*IDC **26** 13:16:13.9±0.9, 1°.19S×126°.77E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/57, mbtmp4.0/9, ML4.0/2, MS3.3/3, Ms1 3.3/3, ms1mx2.6/46, Error ellipse: s-maj=25.3km s-min=17.0km az=56.0*
*ISCJB **26** 13:16:17.8±0.4, 1°.17S±0°.05×126°.83E±0°.03, h34km, mb4.0/6, MS3.8/1, Error ellipse: s-maj=6.8km s-min=4.7km az=173.3*
*NEIC **26** 13:16:18.7±1.3, 1°.25S±0°.08×126°.74E±0°.08, h36km±8km, mb4.2/7*
*DJA **26** 13:16:18.2±0.2, 1°S±3°×12°7E±°, h10km, M4.2/15, mb4.6/8, mB4.9/1, MLv4.0/15, Mw(mB)4.1/1*
ISC 26 13:16:19.2±0.7, 1°.20S±0°.05×126°.85E±0°.05, h34km, n37, σ1°51/37, mb3.9/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.85**	**50**	P		**Pn**	**13 16 32.5**	**-2.3**
SANI	**Sanana**	**1.21**	**225**	P		**Pn**	**13 16 38.9**	**-0.8**
SANI				S		**Sn**	**13 16 55.3**	**+0.4**
TNTI	**Ternate**	**2.02**	**15**	P		**Pn**	**13 16 51.7**	**+0.8**
TNTI	**Ternate**	**2.02**	**15**			**Pn**	**13 16 51.5**	**+0.5**
NLAI	**Namlea**	**2.04**	**173**	P		**Pn**	**13 16 51.9**	**+0.7**
AAI	**Ambon**	**2.82**	**152**	P		**Pn**	**13 17 03.4**	**+1.5**
MSAI	**Masohi**	**2.98**	**136**	P		**Pn**	**13 17 05.0**	**+0.9**
KMSI	**Cibinong**	**3.37**	**301**	P		**Pn**	**13 17 11.5**	**+2.1**
SWI	**Sorong**	**4.42**	**86**	P		**Pn**	**13 17 26.4**	**+2.5**
SIJI	**Sorong**	**4.43**	**86**	Pn		**Pn**	**13 17 25.1**	**+1.0**
	4.6nm,0.3s,baz=238,slow=23,SNR=24							
SIJI				Sn		**Sn**	**13 18 18.1**	**+3.6**
	1.1nm,0.3s,baz=141,slow=18,SNR=7.6							
MRSI	**Marisa**	**5.18**	**289**	P		**Pn**	**13 17 34.9**	**+0.5**
APSI	**Ampana**	**5.21**	**273**	P		**Pn**	**13 17 35.4**	**+0.6**
FAKI	**Fak Fak**	**5.66**	**108**	P		**Pn**	**13 17 40.9**	**-0.1**
FAKI	**Fak Fak**	**5.66**	**108**			**Pn**	**13 17 40.9**	**-0.1**
MPSI	**Mapaga**	**7.12**	**282**	P		**Pn**	**13 18 03.1**	**+2.1**
TTSI	**Tana Toraja**	**7.26**	**255**	P		**Pn**	**13 18 04.2**	**+1.2**
	32nm,0.6s							
BNSI	**Bone**	**7.45**	**245**	P		**Pn**	**13 18 07.4**	**+1.8**
SPSI	**Sidrap Palu**	**7.59**	**249**	P		**Pn**	**13 18 09.7**	**+2.2**
	36nm,0.6s,663nm							
BKSI	**Bulukumba**	**7.87**	**238**	P		**Pn**	**13 18 13.1**	**+1.8**
KAPI	**Kappang**	**8.04**	**242**	Pn		**Pn**	**13 18 12.3**	**-1.3**
	2.9nm,0.3s,baz=79,slow=6.2,SNR=9.5							
KAPI				LR		LR	13 21 44.8	
	comp=Z,70nm,20.6s,baz=303,slow=42							
KAPI	**Kappang**	**8.04**	**242**			**Pn**	**13 18 11.8**	**-1.8**
JAY	**Jayapura**	**13.91**	**96**	LR		LR	13 26 12.9	
	comp=Z,79nm,19.2s,baz=220,slow=43							
WB0	**Warramunga Arr**	**19.88**	**159**	P		**P**	**13 20 46.9**	**-0.8**
WB0				IAmb		IAmb	13 21 38.6	
	comp=Z,9.0nm,1.3s							
WRA	**Warramunga Arr**	**20.02**	**159**	P		**P**	**13 20 47.7**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=342,slow=12,SNR=7.2							
WRA	**Warramunga Arr**	**20.02**	**159**	P		**P**	**13 20 47.8**	**-1.6**
WB2	**Warramunga Arr**	**20.02**	**159**	P		**P**	**13 20 48.4**	**-1.0**
WB2				IAmb		IAmb	13 21 26.3	
	comp=Z,16nm,1.4s							
PMG	**Port Moresby**	**21.79**	**113**	P		**P**	**13 21 09.4**	**+0.9**
	comp=Z,8.1nm,0.6s,baz=280,slow=12,SNR=6.7							
PMG	**Port Moresby**	**21.79**	**113**	P		**P**	**13 21 09.8**	**+1.3**
PMG				IAmb		IAmb	13 21 11.5	
	comp=Z,9.4nm,0.8s							
ASAR	**Alice Springs**	**23.36**	**164**	P		**P**	**13 21 23.5**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=340,slow=10.0,SNR=23							
MNAI	**Manna**	**24.07**	**262**	P		**P**	**13 21 29.5**	**-2.2**
MASI	**Maura Aman, Be**	**24.67**	**265**	P		**P**	**13 21 36.7**	**-0.5**
CTA	**Charters Tower**	**26.70**	**136**	LR		LR	13 34 23.8	
	comp=Z,286nm,21.5s,baz=250,slow=41							
STKA	**Stephens Creek**	**33.54**	**157**	P		**P**	**13 22 56.5**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=324,slow=9.8,SNR=4.6							
KSRS	**Korea Array**	**38.47**	**1**	P		**P**	**13 23 37.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=178,slow=8.3,SNR=4.6							
MKAR	**Makanchi Array**	**61.68**	**327**	P		**P**	**13 26 33.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=114,slow=7.9,SNR=5.9							
KURBB	**Kurchatov Arra**	**65.95**	**329**	P		**P**	**13 27 01.2**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=123,slow=6.8,SNR=8.2							
KURK	**Kurchatov**	**65.96**	**329**	P		**P**	**13 27 01.2**	**-0.8**

*IDC **26** 13:17:42.6±1.1, 14°.18N×147°.00E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.8/64, mbtmp4.0/12, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/41, Error ellipse: s-maj=28.6km s-min=18.7km az=102.0*
*ISCJB **26** 13:17:44.8±0.5, 14°.08N±0°.07×147°.11E±0°.06, h33km, mb4.0/11, MS3.5/1, Error ellipse: s-maj=10.2km s-min=8.4km az=174.9*
*NEIC **26** 13:17:46.5±1.0, 14°.05N±0°.08×147°.05E±0°.05, h34km±5km, mb4.6/8*
ISC 26 13:17:46.8±0.7, 14°.06N±0°.08×147°.08E±0°.08, h35km, n33, σ0°96/33, mb4.3/13, 4C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.20**	**258**	Pn		**Pn**	**13 18 20.0**	**-0.9**
	51nm,0.3s,baz=72,slow=3.8,SNR=17							
GUMO				Sn		**Sn**	**13 18 46.9**	**0.0**
	62nm,0.3s,baz=344,slow=20,SNR=7.2							
GUMO				LR		LR	13 19 37.1	
	comp=Z,182nm,20.5s,baz=32,slow=53							
GUMO	**Guam**	**2.20**	**258**			**Pn**	**13 18 19.9**	**-0.9**
ANA2	**Anatahan**	**2.63**	**330**	Pn		**Pn**	**13 18 26.6**	**-0.3**
SARN	**Sarigan**	**2.91**	**335**	Pn		**Pn**	**13 18 30.3**	**-0.5**
PATS	**Pohnpei**	**13.17**	**122**	Pn		**Pn**	**13 20 50.3**	**-1.1**
WAKE	**Wake Island**	**19.45**	**72**	P		**Pn**	**13 22 11.7**	**-0.3**
JNU	**Nakatsue**	**24.04**	**325**	P		**P**	**13 22 58.5**	**-0.2**
	7.5nm,0.9s,baz=91,slow=6.3,SNR=4.9							
JNU	**Nakatsue**	**24.04**	**325**	P		**P**	**13 22 58.2**	**-0.5**
JNU				IAmb		IAmb	13 23 10.8	
	comp=Z,60nm,1.7s							
YOJ	**Yonaguni jima**	**24.93**	**298**	P		**P**	**13 23 06.6**	**-0.3**
KSAR	**Wonju Array Be**	**28.89**	**327**	P		**P**	**13 23 41.8**	**-0.5**
KS19	**Wonju Array Si**	**28.94**	**327**	P		**P**	**13 23 42.2**	**-0.7**
WRA	**Warramunga Arr**	**36.04**	**201**	P		**P**	**13 24 46.9**	**+1.8**
	comp=Z,2.0nm,1.0s,baz=22,slow=9.2,SNR=6.5							
ASAR	**Alice Springs**	**39.65**	**199**	P		**P**	**13 25 16.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=23,slow=8.4,SNR=3.8							
CMAR	**Chiang Mai Arr**	**46.32**	**282**	P		**P**	**13 26 10.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=87,slow=6.2,SNR=5.9							
SONM	**Songino Array**	**47.61**	**324**	P		**P**	**13 26 19.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=134,slow=8.3,SNR=3.2							
ZALV	**Zalesovo Beam**	**62.51**	**324**	P		**P**	**13 28 06.1**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=95,slow=6.6,SNR=5.9							
ZALV	**Zalesovo Beam**	**62.51**	**324**	P		**P**	**13 28 06.4**	**-0.4**
MKAR	**Makanchi Array**	**62.65**	**316**	P		**P**	**13 28 08.5**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=92,slow=8.0,SNR=7.2							
MKAR	**Makanchi Array**	**62.65**	**316**	P		**P**	**13 28 07.8**	**-0.2**
RAR	**Rarotonga**	**62.85**	**123**	LR		LR	13 49 38.0	
	comp=Z,37nm,21.8s,baz=64,slow=30							
KURK	**Kurchatov**	**65.62**	**320**	P		**P**	**13 28 27.2**	**-0.1**
KURK				IAmb		IAmb	13 28 28.1	
	comp=Z,6.1nm,1.1s							
KURBB	**Kurchatov Arra**	**65.66**	**319**	P		**P**	**13 28 27.7**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=98,slow=7.2,SNR=42							
ILAR	**Eielson Array**	**67.23**	**25**	P		**P**	**13 28 38.4**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=258,slow=5.7,SNR=4.2							
BVAR	**Borovoye Array**	**70.90**	**322**	P		**P**	**13 29 00.4**	**0.0**
	comp=Z,1.8nm,0.5s,baz=96,slow=7.0,SNR=10							
ABKAR	**Abkulak array**	**77.64**	**318**	P		**P**	**13 29 39.8**	**+0.1**
ABKAR				IAmb		IAmb	13 31 38.6	
	comp=Z,7.3nm,1.8s							
FINES	**FINESS Array B**	**91.63**	**336**	P		**P**	**13 30 49.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=72,slow=6.2,SNR=8.3							
TRPA	**Tarpa**	**100.92**	**326**	*e*PKiKP		**PKiKP**	**13 35 58.1**	**+0.1**
PSZ	**Piszkesteto**	**102.47**	**327**	*e*PKiKP		**PKiKP**	**13 36 02.0**	**+1.1**
BUD	**Budapest**	**103.20**	**327**⅊	*e*PKiKP		**PKiKP**	**13 36 04.0**	**+1.9**
MPLH	**Magyarpolny**	**104.19**	**327**⅊	*e*PKiKP		**PKiKP**	**13 36 05.1**	**+1.1**
MORH	**Mrgy. Hungar**	**104.19**	**326**⅊	*e*PKiKP		**PKiKP**	**13 36 06.1**	**+2.1**
SOP	**Sopron**	**104.37**	**328**⅊	*e*PKiKP		**PKiKP**	**13 36 05.1**	**+0.8**
DBIC	**Dimbokro**	**145.36**	**305**	PKPbc		**PKiKP**	**13 37 23.7**	**-2.3**
	comp=Z,3.4nm,0.9s,baz=40,slow=6.4,SNR=3.6							

*GII **26** 13:17:58.4±0.0, 34°.50N×35°.75E, h1km, MD2.5/4*
*GRAL **26** 13:17:59.3±0.4, 34°.52N×35°.94E, h0km±4km, MD3.4*
*JSO **26** 13:18:23.5±1.0, 33°N±7°×3°6E±°, h0km, M2.8/12, Mjma3.1/12, ML2.1/6, MLv3.1/12*
ISC 26 13:17:57.0±2.2, 34°.58N±0°.08×35°.92E±0°.08, h3km±11km, n50, σ1°08/62, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.30**	**175**	*e*P		**Pg**	**13 18 03.5**	**+0.6**
HWQ				*e*S		**Sg**	**13 18 06.9**	**+0.1**
BHL	**Bhannes**	**0.71**	**198**	*e*P		**Pg**	**13 18 11.1**	**+0.5**
BHL				*e*S		**Sg**	**13 18 20.1**	**+0.3**
BEYL	**Beirut**	**0.79**	**206**	*e*P		**Pg**	**13 18 12.6**	**+0.5**
DQRL	**Deir Qamar**	**0.92**	**198**	*e*P		**Pg**	**13 18 14.8**	**+0.2**
DQRL				*e*S		**Sg**	**13 18 26.4**	**-0.2**
QRWL	**Qaraoun**	**1.05**	**191**	*e*P		**Pg**	**13 18 17.2**	**+0.1**
QRWL				*e*S		**Sg**	**13 18 30.2**	**-0.5**
RCY	**Rachaya**	**1.09**	**184**	*e*P		**Pg**	**13 18 17.8**	**0.0**
RCY				*e*S		**Sg**	**13 18 31.3**	**-0.5**
SHBL	**Chebaa**	**1.24**	**187**	*e*P		**Pg**	**13 18 20.5**	**-0.2**
SHBL				*e*S		**Sg**	**13 18 36.1**	**-0.7**
NATI	**Neve Ativ**	**1.33**	**187**	Pg		**Pn**	**13 18 22.3**	**-0.1**
NATI				Sg		**Sn**	**13 18 40.8**	**+0.2**
GEM	**Giv'at Ha'Em**	**1.39**	**189**	Pg		**Pn**	**13 18 23.3**	**+0.1**
GEM				Sg		**Sn**	**13 18 42.0**	**-0.1**
KSDI	**Kefar Szold**	**1.40**	**189**	Pn		**Pn**	**13 18 23.3**	**-0.2**
KSDI				Sn		**Sn**	**13 18 42.8**	**+0.3**
KSDI	**Kefar Szold**	**1.40**	**189**	P		**Pn**	**13 18 23.7**	**+0.2**
KSDI	**Kefar Szold**	**1.40**	**189**	P		**Pg**	**13 18 24.6**	**+0.7**
KSHT	**Keshet**	**1.60**	**183**	Pn		**Pb**	**13 18 27.0**	**-0.2**
HNTI	**Hanita**	**1.62**	**203**	Pn		**Pn**	**13 18 26.5**	**0.0**
MMA0B	**Mount Meron ar**	**1.62**	**195**	Pn		**Pn**	**13 18 26.7**	**+0.2**
MMA0B				Sn		**Sn**	**13 18 47.9**	**-0.1**
SHMJ	**Saham**	**1.86**	**184**	P		**Pb**	**13 18 31.9**	**+0.4**
SHMJ	**Saham**	**1.86**	**184**	P		**Pg**	**13 18 32.3**	**-0.2**
BLGI	**Bet Lehem HaGe**	**1.94**	**198**	Pn		**Pn**	**13 18 31.6**	**+0.7**
BLGI				Sn		**Sb**	**13 18 56.7**	**-0.9**
OFRI	**`Ofer**	**2.11**	**202**	Pn		**Pn**	**13 18 33.6**	**+0.4**
CSS	**Mathiatis**	**2.16**	**281**	Pn		**Pn**	**13 18 33.9**	**0.0**
MMLI	**Mount Malkishu**	**2.18**	**191**	Pn		**Pn**	**13 18 35.1**	**+0.9**
MMLI				Sn		**Sb**	**13 19 03.4**	**-1.1**
MMLI	**Mount Malkishu**	**2.18**	**191**	P		**Pb**	**13 18 36.1**	**-1.0**
MMLI	**Mount Malkishu**	**2.18**	**191**	P		**Pn**	**13 18 33.1**	**-1.1**
HSUJ	**Al Zarqa**	**2.48**	**175**	P		**Pg**	**13 18 44.3**	**-0.2**
HSUJ	**Al Zarqa**	**2.48**	**175**	P		**Pb**	**13 18 42.0**	**-0.3**
ASF	**Jabal al Asfar**	**2.54**	**161**	P		**Pb**	**13 18 41.9**	**-1.4**
ASF	**Jabal al Asfar**	**2.54**	**161**	P		**Pb**	**13 18 42.7**	**-0.6**
WALJ	**Wala**	**3.01**	**182**	P		**Pb**	**13 18 52.9**	**+1.7**
	100nm,0.5s,0.6nm0.0nm							

SNPH	Sibulan	3.11 259	⇑ *i* P		Pn	13 23 28.6 +1.3
SNPH			*i* S		Sn	13 24 11.2 +7.8
KCP	Kidapawan	3.16 203	⇓ *i* P		Pn	13 23 31.1 +3.1
KCP			*i* S		Sn	13 24 08.3 +3.7
DCPH	Dipolog City	3.24 246	⇑ *i* P		Pn	13 23 28.9 -0.1
DCPH			*i* S		Sn	13 24 06.6 +0.2
CTBH	Cotabato--PC H	3.40 218	⇓ *i* P		Pn	13 23 31.6 +0.3
PAGZ	Pagadian	3.58 235	*e* P		Pn	13 23 33.8 +0.1
PAGZ			*e* S		Sn	13 24 15.2 +0.4
GUIM	Jordan	3.75 281	*e* P		Pn	13 23 36.2 +0.2
GUIM			*e* S		Sn	13 24 20.8 +1.9
DDMP	Don Marcelino,	3.86 189	*e* P		Pn	13 23 38.1 +0.6
RCP	Roxas	3.88 295	⇑ *e* P		Pn	13 23 38.1 +0.4
JAP	San Jose, Anti	4.39 281	⇑ *e* P		Pn	13 23 46.8 +2.0
TGY	Tagaytay City	6.71 309	LR		LR	13 27 09.8
	comp=Z,154nm,19.8s,baz=164,slow=41					
FAKI	Fak Fak	14.07 155	P		P	13 26 05.5 +2.4
TPUB	Ta-pu	14.36 338	P		P	13 26 05.5 -0.7
YOJ	Yonaguni jima	14.78 348	Pn		Pn	13 26 05.9 -0.4
GUMO	Guam	18.50 77	LR		LR	13 32 32.7
	comp=Z,48nm,20.7s,baz=76,slow=33					
CMAR	Chiang Mai Arr	27.84 291	P		P	13 28 24.6 -0.2
	0.5nm,0.7s,baz=86,slow=5.7,SNR=3.5					
FITZ	Fitzroy Crossi	27.87 181	P		P	13 28 25.6 +0.7
	1.5nm,0.9s,baz=0.0,slow=7.1,SNR=4.4					
MJAR	Matsushiro Arr	28.59 20	P		P	13 28 29.4 -1.7
WRA	Warramunga Arr	30.72 165	P		P	13 28 50.0 -0.3
	0.6nm,0.8s,baz=345,slow=9.4,SNR=3.2					
WRA	Warramunga Arr	30.72 165	IAmb		IAmb	13 28 55.2
	comp=Z,0.2nm,1.2s					
ASAR	Alice Springs	34.21 168	P		P	13 29 21.2 +0.4
	comp=Z,0.5nm,0.3s,baz=352,slow=7.1,SNR=11					
LSA	Lhasa	38.27 306	P		P	13 29 54.4 -1.6
LSA			IAmb		IAmb	13 30 07.1
	comp=Z,9.5nm,1.6s					
H11S3	WAKE ISLAND Hy 39.95	73	T		T	14 13 04.8
	baz=262,slow=75,SNR=39					
H11S1	WAKE ISLAND Hy 39.97	73	T		T	14 13 05.0
	baz=262,slow=75,SNR=24					
H11S2	WAKE ISLAND Hy 39.97	73	T		T	14 13 07.3
	baz=262,slow=75,SNR=36					
H11N1	WAKE ISLAND Hy 40.30	71	T		T	14 13 29.9
	baz=263,slow=74,SNR=76					
H11N2	WAKE ISLAND Hy 40.31	71	T		T	14 13 29.8
	baz=263,slow=74,SNR=79					
H11N3	WAKE ISLAND Hy 40.32	71	T		T	14 13 34.5
	baz=263,slow=74,SNR=86					
STKA	Stephens Creek	44.07 161	P		P	13 30 42.9 0.0
	comp=Z,0.7nm,0.3s,baz=358,slow=6.9,SNR=6.0					
TLY	Talaya	45.56 340	P		P	13 30 53.9 -0.7
TLY			IAmb		IAmb	13 31 15.5
	comp=Z,6.1nm,0.7s					
MKAR	Makanchi Array	52.33 323	P		P	13 31 46.0 -0.4
	comp=Z,0.8nm,0.6s,baz=117,slow=7.8,SNR=5.3					
ARCES	ARCESS Array B	84.52 340	P		P	13 35 06.9 -0.1
	comp=Z,2.2nm,0.9s,baz=72,slow=6.0,SNR=3.1					
INK	Inuvik	84.56 22	P		P	13 35 07.0 0.0
	comp=Z,1.1nm,0.9s,baz=280,slow=3.6,SNR=3.3					
FINES	FINESS Array B	86.21 332	P		P	13 35 15.2 -0.2
	comp=Z,1.9nm,0.7s,baz=90,slow=5.7,SNR=5.6					

*JMA **26** 13:41:29.6±0.3,24°.99N×122°.73E,h28km±4km,M1.9*
*TAP **26** 13:41:33.9,24°.87N×122°.38E,h22km±1km,ML2.7,D*
ISC 26 13:41:28.9±1.2,24°.96N±0°.05×122°.65E±0°.03,h10km±13km, n57,σ1§72/70,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.57 152		P	Pg	13 41 40.7	+0.7
JYNG				S	Sg	13 41 48.7	+1.2
YOJ	Yonaguni jima	0.59 147		P	Pg	13 41 41.0	+0.6
YOJ				S	Sg	13 41 49.2	+1.0
TWB1	Santiao Chiao	0.61 275		*e* P	Pg	13 41 42.9	+2.2
TWB1	baz=291						
				e S	Sg	13 41 49.6	+1.0
EOS1	EOS1	0.63 230		P	Pg	13 41 42.8	+1.7
	baz=215						
EGS		0.67 260		*e* P	Pg	13 41 42.8	+1.1
EGS	baz=266						
				e S	Sg	13 41 50.5	0.0
TIPB	Shuangxi	0.75 271		⇑ *i* P	Pg	13 41 44.7	+1.3
	baz=281						
NWF	Wu-fen Shan	0.80 278		P	Pg	13 41 46.0	+1.7
NWF	baz=290						
				S	Sg	13 41 54.4	-0.3
WFSB	Wu-fen Shan	0.80 278		P	Pg	13 41 46.2	+1.8
WFSB	baz=290						
				S	Sg	13 41 54.4	-0.3
TWC	Suao	0.81 245		P	Pg	13 41 44.5	0.0
	baz=240						
PCYT	Pengchaiyu	0.85 322		*e* P	Pb	13 41 47.4	+1.6
	baz=340						
TWE	Neicheng	0.93 255		P	Pg	13 41 47.5	+0.7
TWE	baz=256						
				e S	Sg	13 41 55.0	-3.8
SLBB	Yuanshan	0.95 258		*e* P	Pg	13 41 47.7	+0.6
	baz=260						
TWA	Mucha	0.97 271		*e* P	Pg	13 41 48.6	+1.0
	baz=278						
NANB	Nanao	0.98 237		*i* P	Pg	13 41 47.6	-0.1
	baz=232						
ENA	Nanau	0.98 238		*e* P	Pg	13 41 48.0	+0.2
	baz=232						
YM08	YM08	0.99 283		*e* P	Pg	13 41 48.6	+0.7
	baz=293						
YM08				*e* S	Sg	13 41 56.7	-4.2
	baz=293						
YM01	YM01	1.00 281		P	Pg	13 41 49.0	+0.8
	baz=290						
YM01				*e* S	Sg	13 41 57.8	-3.4
	baz=290						
YM11	YM11	1.00 282		*e* P	Pg	13 41 48.6	+0.4
	baz=292						
YM11				*e* S	Sg	13 41 57.7	-3.5
	baz=292						
TWY	Chenhua	1.01 288		P	Pg	13 41 49.6	+1.4
	baz=299						
TWY				*e* S	Sg	13 41 57.1	-4.3
	baz=299						
YM05	YM05	1.01 282		*e* P	Pg	13 41 49.4	+1.1
	baz=291						
YM10	YM10	1.01 281		P	Pg	13 41 49.1	+0.8
	baz=291						
YM10				*e* S	Sg	13 41 59.4	-2.1
	baz=291						
NHDH	Xindian Distri	1.02 270		*e* P	Pb	13 41 49.1	+0.3
	baz=276						
NHDH				*e* S	Sg	13 41 56.9	-5.0
	baz=276						
YM04	YM04	1.03 281		*e* P	Pb	13 41 49.9	+1.0
	baz=290						
ENTT	Nioudou	1.04 252		P	Pb	13 41 48.7	-0.3
	baz=252						
ANP	Anpu	1.05 283		*e* S	Sg	13 41 59.7	-3.1
	baz=292						
TATO	Taipei	1.06 271		*e* P	Pb	13 41 49.8	+0.4
	baz=277						
NWLT	Wulai	1.06 260		P	Pb	13 41 49.5	+0.1
	baz=263						
NDT	Datong Townshi	1.10 251		P	Pb	13 41 49.7	-0.4
	baz=251						
IRIF	Iriomote-Funau	1.16 122		P	Pb	13 41 49.2	-1.9
YHNB	Yeheng	1.20 256		P	Pn	13 41 51.9	+0.1
	baz=257						
YHNB				*e* S	Sb	13 42 01.0	-6.4
	baz=257						
NSK	Sanguang	1.21 257		P	Pn	13 41 52.4	+0.4
	baz=257						
NSK				*e* S	Sb	13 42 00.4	-7.4
	baz=257						
NACB	Ninganchiao	1.24 231		P	Pn	13 41 52.7	+0.3
	baz=225						
NNSB	Datong	1.27 246		P	Pn	13 41 53.0	+0.1
	baz=244						
NNS	Nan Shan	1.27 246		*e* P	Pn	13 41 53.7	+0.8
	baz=244						
ETLH	Xiulin Townshi	1.30 235		P	Pn	13 41 53.5	+0.2
	baz=230						
JIJ	Ishigaki jima	1.48 113		P	Pn	13 41 54.7	-0.9
WHF	Hehuan Shan	1.50 238		*e* P	Pn	13 41 56.6	+0.2
	baz=234						
TWT	Tachien	1.52 243		*e* P	Pn	13 41 58.0	+1.6
	baz=240						
LIOB	Emei	1.52 258		*e* P	Pn	13 41 56.7	+0.4
	baz=259						
TDCB	Techi	1.53 243		*e* P	Pn	13 41 57.5	+1.0
	baz=240						
CHGB	Renai	1.62 237		*e* P	Pn	13 41 59.0	+1.3
	baz=233						
WHP	Taichung City	1.70 247		*e* P	Pn	13 42 00.1	+1.4
	baz=245						
TWQ1	Liyutan	1.82 251		*e* P	Pn	13 41 59.9	-0.4
	baz=250						
DPDB	Guoxing	1.82 240		*e* P	Pn	13 42 01.4	+0.9
	baz=237						
VWDT	VWDT	1.83 229		*e* P	Pn	13 41 59.9	-0.6
	baz=225						
HGSD	Ruisui	1.84 218		*e* P	Pn	13 41 59.7	-0.9
	baz=212						
SMLT	Sun Moon Lake	1.93 237		*e* P	Pn	13 42 03.2	+1.3
	baz=233						
SSLB	Suanglung	1.94 233		*e* P	Pn	13 42 04.9	+2.9
	baz=230						
TYC	Yuchr	1.95 238		*e* P	Pn	13 42 03.9	+1.9
	baz=235						
YULB	Yu-li	1.99 219		*e* P	Pn	13 42 02.1	-0.6
	baz=213						
TWF1	Yuli	2.02 218		*e* P	Pn	13 42 03.0	-0.2
	baz=212						
WHYT	Xinyi Township	2.07 233		*e* P	Pn	13 42 06.3	+2.5
	baz=229						
CHN5	Tsauling	2.26 233		*e* P	Pn	13 42 08.5	+2.1
	baz=230						
TPUB	Ta-pu	2.48 229		*e* P	Pn	13 42 11.4	+2.0
	baz=225						
WTP	Ta-pu	2.53 228		*e* P	Pn	13 42 11.4	+1.3
	baz=224						
SLGT	Liugui	2.68 224		*e* P	Pn	13 42 14.4	+2.2
	baz=220						
MASBT	Mashibuluo	2.98 219		*e* P	Pn	13 42 17.6	+1.3
	baz=215						

*ISCJB **26** 13:47:24.5±0.2,10°.77S±0°.04×166°.03E±0°.04,h155km, mb4.1/13,Error ellipse: s-maj=6.4km s-min=5.5km az=154.6*
*NEIC **26** 13:47:25.4±1.5,10°.61S±0°.09×166°.0E±0°.1,h154km±6km, mb4.8/49*
*IDC **26** 13:47:26.9±2.1,10°.68S×166°.01E,h164km±17km, mb3.9/13,mb1 4.1/17,mb1mx3.9/34,mbtmp4.5/17,Error ellipse: s-maj=15.3km s-min=13.5km az=58.0*
ISC 26 13:47:25.8±0.5,10°.73S±0°.07×166°.03E±0°.07,h155km,n92, σ1§20/90,mb4.6/33,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.13 282		P	Pn	13 48 54.7	+0.4
HNR	24nm,0.3s,baz=164,slow=3.5,SNR=12						
				S	Sn	13 50 05.4	+1.8
HNR	baz=195,slow=16,SNR=1.7						
HNR	Honiara	6.13 282		P	Pn	13 48 55.0	+0.7
HNR	Honiara	6.13 282			Pn	13 48 54.4	+0.1
DZM	Mont Dzumac	11.29 178		P	Pn	13 50 05.9	+3.1
DZM	4.3nm,0.3s,baz=320,slow=12,SNR=75						
				S	Sn	13 52 01.0	-6.8
DZM	0.4nm,0.3s,baz=323,slow=20,SNR=1.8						
DZM	Mont Dzumac	11.29 178			Pn	13 50 05.8	+3.0
MSVF	Nonsavu	13.57 122		P	P	13 50 36.9	+1.0
KRVT	Keravat (AS076	15.28 294		P	P	13 50 55.2	+0.4
	1.3nm,0.3s,baz=49,slow=11,SNR=4.4						
PMG	Port Moresby	18.63 272		P	Pn	13 51 32.6	-1.3
	1.8nm,0.3s,baz=69,slow=5.8,SNR=10.0						
PMG	Port Moresby	18.63 272		P	Pn	13 51 32.5	-1.3
PMG				IAmb	IAmb	13 51 33.7	
	comp=Z,39nm,1.1s						
PATS	Pohnpei	19.07 336		Pn	Pn	13 51 37.3	-1.6
PATS				IAmb	IAmb	13 51 56.8	
	comp=Z,90nm,1.1s						
CTA	Charters Tower	21.20 242		P	P	13 52 00.2	+0.9
	comp=Z,10nm,0.8s,baz=71,slow=12,SNR=13						
AFI	Afiamalu	21.91 101		P	P	13 52 06.9	0.0
AFI				IAmb	IAmb	13 52 08.0	
	comp=Z,35nm,1.1s						
OUZ	Omahuta	25.34 165		P	P	13 52 40.2	+2.0
OUZ				IAmb	IAmb	13 52 47.7	
	comp=Z,56nm,1.9s						
JAY	Jayapura	26.43 286		P	P	13 52 48.9	+0.4
	comp=Z,3.8nm,0.6s,baz=171,slow=13,SNR=5.3						
HIZ	Hauiti	28.77 166		P	P	13 53 11.0	+2.0
MXZ	Matakaoa Point	28.91 160		P	P	13 53 09.9	-0.3
MXZ				IAmb	IAmb	13 53 10.9	
	comp=Z,44nm,0.7s						
H11S2	WAKE ISLAND Hy 29.04		1	T	T	14 23 48.3	
	baz=182,slow=76,SNR=40						
H11S3	WAKE ISLAND Hy 29.04		1	T	T	14 23 47.7	
	baz=182,slow=76,SNR=18						
H11S1	WAKE ISLAND Hy 29.06		1	T	T	14 23 48.9	
	baz=182,slow=76,SNR=37						
URZ	Urewera	29.16 162		P	P	13 53 12.8	+0.4
	comp=Z,6.8nm,0.3s,baz=268,slow=2.8,SNR=30						
URZ	Urewera	29.16 162		P	P	13 53 12.7	+0.4
URZ				IAmb	IAmb	13 53 14.5	
	comp=Z,19nm,1.0s						
BKZ	Black Stump Fm	29.82 164		P	P	13 53 18.6	+0.3
BKZ				IAmb	IAmb	13 53 20.2	
	comp=Z,28nm,0.5s						
H11N1	WAKE ISLAND Hy 30.26		2	T	T	14 25 19.2	
	baz=182,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy 30.26		2	T	T	14 25 19.3	
	baz=182,slow=76,SNR=19						
H11N2	WAKE ISLAND Hy 30.28		2	T	T	14 25 20.5	
	baz=182,slow=76,SNR=18						
STKA	Stephens Creek	30.87 223		P	P	13 53 29.1	+1.5
	comp=Z,1.6nm,0.7s,baz=41,slow=12,SNR=5.2						
STKA	Stephens Creek	30.87 223		IAmb	IAmb	13 53 36.2	
	comp=Z,5.1nm,1.9s						
NNZ	Nelson	31.05 169		P	P	13 53 30.9	+1.9
BFZ	Birch Farm	31.17 165		P	P	13 53 29.7	-0.4
TUWZ	Tuamarina	31.36 169		P	P	13 53 32.5	+0.7
SNZO	South Karori	31.41 167		P	P	13 53 33.4	+1.3
THZ	Tophouse	31.50 170		P	P	13 53 34.3	+1.2
MSWZ	Moikau Station	31.63 167		P	P	13 53 34.3	+0.2
CMWZ	Cape Campbell	31.73 168		P	P	13 53 35.7	+0.7
WB0	Warramunga Arr	31.77 250		P	P	13 53 35.1	-0.6
WB0				IAmb	IAmb	13 53 36.5	
	comp=Z,9.8nm,1.1s						
PLWZ	Palliser	31.77 167		P	P	13 53 35.0	-0.4
WB2	Warramunga Arr	31.85 249		P	P	13 53 36.1	-0.2
WB2				IAmb	IAmb	13 54 38.7	
	comp=Z,18nm,1.6s						
WRA	Warramunga Arr	31.86 249		P	P	13 53 36.0	-0.4
	comp=Z,3.6nm,0.8s,baz=79,slow=9.3,SNR=12						
WRA				PcP	PcP	13 56 23.7	+0.1
	comp=Z,0.9nm,0.6s,baz=77,slow=3.3,SNR=5.3						
WRA	Warramunga Arr	31.86 249		P	P	13 53 34.7	-1.7
KHZ	Kahutara	32.24 170		P	P	13 53 38.9	-0.5
LTZ	Lake Taylor	32.40 171		P	P	13 53 41.1	+0.3
LTZ				IAmb	IAmb	13 54 53.4	
	comp=Z,82nm,1.7s						
FOZ	Fox Glacier	32.85 175		P	P	13 53 45.6	+0.9
OXZ	Oxford	32.90 172		P	P	13 53 45.0	-0.1
OXZ				IAmb	IAmb	13 53 45.5	
	comp=Z,20nm,0.9s						
RPZ	Rata Peaks	33.15 173		P	P	13 53 47.7	+0.3
	comp=Z,18nm,0.7s,baz=246,slow=3.1,SNR=11						
RPZ	Rata Peaks	33.15 173		P	P	13 53 47.9	+0.6
RPZ				IAmb	IAmb	13 53 48.9	
	comp=Z,20nm,0.7s						
AS31	Alice Springs	33.19 243		P	P	13 53 47.1	-0.9
ASAR	Alice Springs	33.19 243		P	P	13 53 47.2	-0.8
	comp=Z,1.9nm,0.9s,baz=72,slow=9.4,SNR=11						
ASAR				PcP	PcP	13 56 27.2	-0.1
	comp=Z,1.1nm,0.6s,baz=74,slow=2.3,SNR=14						
ASAR				ScP	ScP	13 59 58.5	+1.2
	comp=Z,0.2nm,0.7s,baz=64,slow=4.2,SNR=4.6						
MQZ	McQueen's Vall	33.36 171		P	P	13 53 49.2	+0.1
LBZ	Lake Benmore	33.73 175		P	P	13 53 52.4	0.0
WKZ	Wanaka	34.08 176		P	P	13 53 55.8	+0.4
ODZ	Otahua Downs	34.42 174		P	P	13 53 58.7	+0.4
MLZ	Mavora Lakes	34.56 177		P	P	13 53 59.5	-0.1
MLZ				IAmb	IAmb	13 54 34.2	
	comp=Z,72nm,1.6s						
DCZ	Deep Cove	34.63 179		P	P	13 54 00.3	+0.2
DCZ				IAmb	IAmb	13 55 14.5	
	comp=Z,91nm,1.8s						
WHZ	Wether Hill Ro	35.08 178		P	P	13 54 03.9	-0.1
WHZ				IAmb	IAmb	13 55 00.6	
	comp=Z,105nm,1.8s						
KKM	Kota Kinabalu	52.32 286		P	P	13 56 21.4	-0.8
KKM				IAmb	IAmb	13 58 02.6	
	comp=Z,62nm,1.3s						
QSPA	South Pole Qui	79.28 180		P	P	13 59 13.9	0.0
WRH	Wood River Hil	82.54 18		P	P	13 59 30.3	-0.6
WRH				IAmb	IAmb	13 59 34.1	
	comp=Z,18nm,1.6s						
HDA	Harding Lake	82.85 19		P	P	13 59 32.2	-0.3
HDA				IAmb	IAmb	13 59 33.3	
	comp=Z,9.1nm,0.8s						
IL31		83.12 18		P	P	13 59 33.3	-0.5
IL31				IAmb	IAmb	14 02 19.8	
	comp=Z,13nm,1.6s						
ILAR	Eielson Array	83.12 18		P	P	13 59 33.5	-0.4
	comp=Z,2.5nm,0.7s,baz=233,slow=5.1,SNR=65						
ILAR	Eielson Array	83.12 18		P	P	13 59 33.1	-0.8
SCRK	Sand Creek	83.52 20		P	P	13 59 35.9	-0.2
SCRK				IAmb	IAmb	13 59 37.1	
	comp=Z,10nm,1.3s						
BCAR	Beaver Creek A	83.70 21		P	P	13 59 36.9	-0.1
AFDM	Forest Hills D	83.78 49		P	P	13 59 37.9	0.0
BEKR	Beckworth	84.53 48		P	P	13 59 41.7	-0.1
WAKR	Walker	84.78 49		P	P	13 59 43.3	+0.2
MDPB	Devils Postpil	84.78 50		P	P	13 59 43.1	-0.1
OMMB	Old Mammoth Mi	84.83 50		P	P	13 59 43.0	-0.6
EGAK	Eagle	84.98 20		P	P	13 59 43.6	+0.4
EGAK				IAmb	IAmb	13 59 44.5	
	comp=Z,7.6nm,0.8s						
MAW	Mawson	85.12 202		P	P	13 59 44.7	+0.7
	comp=Z,1.5nm,0.6s,baz=145,slow=4.5,SNR=7.9						
NVAR	Mina Array Bea	85.60 50		P	P	13 59 47.6	+0.4
	comp=Z,1.8nm,0.9s,baz=236,slow=7.5,SNR=12						
NVAR	Mina Array Bea	85.60 50		P	P	13 59 46.4	-0.9
NV11	Mina Array Sit	85.72 50		P	P	13 59 47.3	-0.5
KVN	Kaiserville	85.94 49		P	P	13 59 48.2	-0.7
G08A	Pilot Rock	87.22 43		P	P	13 59 54.5	-0.3
G08A				IAmb	IAmb	14 02 44.6	
	comp=Z,17nm,1.8s						
CCUT	Cedar City	89.12 52		P	P	14 00 04.8	+0.6
U15A	North Rim	89.69 53		P	P	14 00 07.2	+0.2
U15A				IAmb	IAmb	14 00 08.6	
	comp=Z,3.9nm,0.8s						
HVU	Hansel Valley	90.58 48		P	P	14 00 11.1	+0.2
DLMT	Dillon	91.56 44		P	P	14 00 14.6	-0.6
DLMT				IAmb	IAmb	14 00 16.5	
	comp=Z,4.1nm,0.9s						
PDAR	Pinedale Array	93.13 47		P	P	14 00 23.1	+0.5
	comp=Z,0.2nm,0.3s,baz=255,slow=2.7,SNR=3.2						
PDAR	Pinedale Array	93.13 47		P	P	14 00 22.4	-0.2
MKAR	Makanchi Array	93.48 317		P	P	14 00 23.6	-0.3
	comp=Z,1.0nm,0.7s,baz=99,slow=7.5,SNR=7.8						
MKAR	Makanchi Array	93.48 317		P	P	14 00 23.5	-0.4
TXAR	Lajitas Array	95.43 61		P	P	14 00 35.0	+1.7
	comp=Z,0.2nm,0.7s,baz=215,slow=4.3,SNR=3.1						
ARCES	ARCESS Array B	116.10 346		PKP	PKPdf	14 05 48.8	-1.2
	comp=Z,4.4nm,1.0s,baz=66,slow=2.0,SNR=11						
ARCES	ARCESS Array B	116.10 346		PKPdf	PKPdf	14 05 49.1	-0.8
CPUP	Villa Florida	124.03 132		PKP	PKPdf	14 06 06.2	-0.3
	comp=Z,1.8nm,0.7s,baz=180,slow=2.0,SNR=3.1						
BOSA	Boshof	125.54 223		PKP	PKPdf	14 06 09.4	-0.1
	comp=Z,1.9nm,0.6s,baz=166,slow=4.2,SNR=3.7						
BOSA	Boshof	125.54 223		PKPdf	PKPdf	14 06 07.2	-2.3
NOA	NORSAR Array B	126.47 345		PKP	PKPdf	14 06 09.0	-1.1
	comp=Z,0.6nm,0.6s,baz=31,slow=2.0,SNR=3.0						
ESDC	Sonseca Array	149.83 345		PKPbc	PKPbc	14 06 57.0	-1.0
	comp=Z,0.4nm,0.4s,baz=22,slow=2.8,SNR=3.8						
ESDC	Sonseca Array	149.83 345			PKPbc	14 06 56.6	-1.4

*IDC **26** 14:06:39.2±2.5,59°.79S×45°.79W,h0km,mb3.7/1, mb1 3.7/1,mb1mx3.5/13,mbtmp3.7/1,MS3.0/2,Ms1 3.0/2, ms1mx2.8/23,Error ellipse: s-maj=146.5km s-min=74.9km az=180.0*
ISC 26 14:06:37.3±2.1,59°.9S±0°.3×47°.5W±0°.6,h10km,n9,σ1§19/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	18.89 142		P	P	14 10 56.2	-1.3
VNA1	Neumayer--Stat	19.18 140		P	P	14 11 00.1	-0.4
VNA2	Neumayer--Watz	19.52 141		P	Pn	14 11 05.4	-0.2
	baz=294,slow=9.3						
SNAA	Sanae	21.12 142		P	P	14 11 23.5	+1.8
PLCA	Paso Flores	23.97 313		LR	LR	14 21 27.2	
	comp=Z,56nm,19.1s,baz=170,slow=36						
CPUP	Villa Florida	34.26 344		LR	LR	14 28 50.4	
	comp=Z,18nm,19.1s,baz=206,slow=39						
TORD	Torodi Ar. Bea	82.79 48		P	P	14 19 01.2	-0.1
	0.4nm,0.6s,baz=197,slow=4.5,SNR=2.3						
ILAR	Eielson Array	144.66 313		PKPbc	PKiKP	14 26 15.8	-0.3
	1.6nm,0.9s,baz=132,slow=2.0,SNR=14						
MKAR	Makanchi Array	148.12 91		PKPbc	PKPbc	14 26 22.7	+0.6
	0.8nm,0.6s,baz=232,slow=2.5,SNR=4.8						

*GRAL **26** 14:12:39.5±0.5,34°.51N×35°.99E,h1km±4km,MD3.1*
*GII **26** 14:12:39.3±0.0,34°.47N×35°.93E,h1km,MD2.4/4*
*JSO **26** 14:13:05.3±1.0,33°N±7°×3°6E±°,h0km,M2.7/6,Mjma2.9/6, ML2.3/3,MLv2.9/6*
ISC 26 14:12:39.7±2.9,34°.4N±0°.1×36°.11E±0°.09,h4km±11km,n31, σ0§98/41,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	Hawqa	0.20 224		*e* P	Pg	14 12 43.6	0.0
HWQ				*e* S	Sg	14 12 47.0	+0.7
BHL	Bhannes	0.64 216		*e* P	Pg	14 12 51.5	-0.6
BEYL	Beirut	0.75 223		*e* P	Pg	14 12 53.3	-0.8
DQRL	Deir Qamar	0.85 212		*e* P	Pg	14 12 55.3	-0.7
DQRL				*e* S	Sg	14 13 07.0	+0.1
QRWL	Qaraoun	0.94 202		*e* P	Pg	14 12 57.6	-0.2
RCY	Rachaya	0.95 194		*e* P	Pg	14 12 58.0	0.0
RCY				*e* S	Sg	14 13 11.5	+1.1
SHBL	Chebaa	1.12 196		*e* P	Pg	14 13 00.9	-0.2
NATI	Neve Ativ	1.20 195		Pg	Pn	14 13 02.5	-0.8
NATI				Sg	Sn	14 13 20.4	+0.4
GEM	Giv'at Ha'Em	1.27 197		Pg	Pn	14 13 03.4	-0.8
GEM				Sg	Sn	14 13 22.2	+0.5
KSDI	Kefar Szold	1.28 197		Pg	Pn	14 13 03.5	-1.0
KSDI				Sg	Sn	14 13 23.4	+1.3
KSDI	Kefar Szold	1.28 197		P	Pn	14 13 03.8	-0.7
KSHT	Keshet	1.46 190		Pn	Pb	14 13 07.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.13**	**152**	P	**Pn**	**14 19 42.0**	**-0.9**
	40nm,0.3s,baz=279,slow=23,SNR=14						
JCJ				S	**Sn**	**14 20 05.5**	**-3.3**
	118nm,0.3s,baz=285,slow=23,SNR=13						
MJAR	**Matsushiro Arr**	**7.91**	**343**	P	**Pn**	**14 21 00.5**	**-0.7**
	0.2nm,0.3s,baz=156,slow=11,SNR=8.3						
MJAR				S	**Sn**	**14 22 27.1**	**-1.9**
	0.1nm,0.3s,baz=256,slow=12,SNR=3.5						
MJAR	**Matsushiro Arr**	**7.91**	**343**		**Pn**	**14 20 59.1**	**-2.1**
MAJO	**Matsushiro**	**7.91**	**343**	Pn	**Pn**	**14 20 59.2**	**-2.1**
MJB9	**Matsu-Tunnel**	**7.91**	**343**	Pn	**Pn**	**14 20 59.5**	**-1.8**
JNU	**Nakatsue**	**9.65**	**298**	Pn	**Pn**	**14 21 23.2**	**-1.8**
ASAJ	**Asahikawa**	**15.15**	**4**	P	**Pn**	**14 22 35.6**	**-2.4**
	0.3nm,0.3s,baz=186,slow=19,SNR=2.5						
JKA	**Kamikawa-asahi**	**15.15**	**4**		**Pn**	**14 22 35.6**	**-2.4**
TWG	**Pinlang**	**18.98**	**256**	P	**Pn**	**14 23 24.5**	**-0.6**
KLR	**Kul'dur**	**21.44**	**343**	P	**P**	**14 23 50.6**	**+0.9**
	1.1nm,0.5s,baz=180,slow=6.1,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**25.23**	**106**	T	T	14 50 11.9	
	baz=296,slow=74,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**25.24**	**106**	T	T	14 50 10.2	
	baz=296,slow=74,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**25.25**	**106**	T	T	14 50 11.3	
	baz=296,slow=74,SNR=8.7						
WB0	**Warramunga Arr**	**48.89**	**188**	P	**P**	**14 27 46.8**	**+1.0**
WB0				IAmb	IAmb	14 28 46.8	
	comp=Z,21nm,1.9s						
WR0	**Warramunga Arr**	**49.06**	**188**	P	**P**	**14 27 49.0**	**+1.8**
WR0				IAmb	IAmb	14 29 09.3	
	comp=Z,6.6nm,0.5s						
WB2	**Warramunga Arr**	**49.07**	**188**	P	**P**	**14 27 48.7**	**+1.5**
WB2				IAmb	IAmb	14 28 35.0	
	comp=Z,19nm,1.6s						
WRA	**Warramunga Arr**	**49.07**	**188**	P	**P**	**14 27 48.1**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=6.8,slow=8.1,SNR=22						
WRA	**Warramunga Arr**	**49.07**	**188**	P	**P**	**14 27 48.5**	**+1.2**
ASAR	**Alice Springs**	**52.80**	**188**	P	**P**	**14 28 16.0**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=1.4,slow=5.9,SNR=11						
RSO	**Redoubt South**	**53.56**	**34**	P	**P**	**14 28 18.1**	**-2.5**
IMAR	**Indian Mountai**	**53.82**	**27**	P	**P**	**14 28 22.8**	**+0.7**
PPLA	**Purkeypile**	**54.06**	**31**	P	**P**	**14 28 25.1**	**+0.9**
MLY	**Manley**	**54.93**	**29**	P	**P**	**14 28 30.8**	**+0.5**
MLY				IAmb	IAmb	14 30 00.0	
	comp=Z,14nm,1.9s						
ILAR	**Eielson Array**	**56.55**	**29**	P	**P**	**14 28 40.0**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=264,slow=7.2,SNR=3.3						
ILAR	**Eielson Array**	**56.55**	**29**	P	**P**	**14 28 40.0**	**-1.8**
SCRK	**Sand Creek**	**57.80**	**30**	P	**P**	**14 28 51.8**	**+1.0**
INK	**Inuvik**	**61.74**	**25**	P	**P**	**14 29 17.7**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=283,slow=5.3,SNR=9.4						
ABKAR	**Akbulak array**	**63.07**	**313**	P	**P**	**14 29 27.1**	**+0.4**
ARCES	**ARCESS Array B**	**71.44**	**340**	P	**P**	**14 30 20.3**	**+1.1**
	comp=Z,3.7nm,1.0s,baz=50,slow=8.4,SNR=5.0						
FINES	**FINESS Array B**	**75.82**	**333**	P	**P**	**14 30 45.8**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=54,slow=4.9,SNR=7.6						
KBZ	**Khabaz**	**76.00**	**312**	P	**P**	**14 30 47.6**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=50,slow=7.9,SNR=3.2						
BEKR	**Beckworth**	**78.05**	**51**	P	**P**	**14 30 58.8**	**+0.6**
NVAR	**Mina Array Bea**	**80.14**	**52**	P	**P**	**14 31 10.9**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=294,slow=6.1,SNR=8.8						
NVAR	**Mina Array Bea**	**80.14**	**52**	P	**P**	**14 31 09.9**	**+0.2**
FNA	**Florina**	**90.90**	**319**	P	**P**	**14 32 02.8**	**-0.1**
TXAR	**Lajitas Array**	**95.26**	**52**	P	**P**	**14 32 24.8**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=274,slow=2.6,SNR=5.1						
LPAZ	**La Paz**	**150.34**	**71**	PKPbc	**PKiKP**	**14 38 52.5**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=327,slow=7.0,SNR=7.9						
LPAZ	**La Paz**	**150.34**	**71**		**PKPbc**	**14 38 51.8**	**+0.5**

ATH 26 14:20:59.1, 38.77N×21.65E, h18km±2km, ML1.8/6, Error ellipse: s-maj=2.9km s-min=0.9km az=104.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.18**	**211**	P	Pg	14 21 03.7	0.0
PVO				S	Sg	14 21 06.9	+0.1
PVO				AML	AML	14 21 07.8	
	comp=N,776μm,0.4s						
PVO				AML	AML	14 21 08.3	
	comp=E,381μm,0.2s						
EVR	**Evrytania**	**0.19**	**42**	P	Pg	14 21 03.8	-0.2
EVR				S	Sg	14 21 07.2	-0.1
EVR				AML	AML	14 21 07.6	
	comp=E,1005μm,0.4s						
EVR				AML	AML	14 21 08.1	
	comp=N,980μm,0.1s						
EFP	**Efpalio**	**0.40**	**150**	P	Pg	14 21 07.3	0.0
EFP				S	Sb	14 21 13.4	-0.1
EFP				AML	AML	14 21 15.4	
	comp=E,348μm,0.2s						
EFP				AML	AML	14 21 17.2	
	comp=N,407μm,0.3s						
PDO	**Prodromos**	**0.40**	**244**	P	Pg	14 21 07.2	-0.2
MAKR	**Makrakomi, Fth**	**0.45**	**58**	P	Pb	14 21 08.5	-0.1
MAKR				S	Sb	14 21 14.9	0.0
MAKR				AML	AML	14 21 16.2	
	comp=E,998μm,0.3s						
MAKR				AML	AML	14 21 17.8	
	comp=N,382μm,0.3s						
SERG	**Sergoula**	**0.48**	**138**	P	Pg	14 21 08.5	-0.4
SERG				S	Sb	14 21 15.8	-0.1
SERG				AML	AML	14 21 18.9	
	comp=E,308μm,0.3s						
SERG				AML	AML	14 21 19.5	
	comp=N,386μm,0.2s						
TRIZ	**Trizonia**	**0.53**	**141**	P	Pg	14 21 09.2	-0.5
TRIZ				S	Sb	14 21 17.4	+0.3
KALE	**Kalithea**	**0.54**	**135**	P	Pg	14 21 09.6	-0.4
KALE				AML	AML	14 21 20.7	
	comp=N,185μm,0.3s						
KALE				AML	AML	14 21 21.6	
	comp=E,163μm,0.3s						
AGG	**Agios Georgios**	**0.59**	**65**	P	Pg	14 21 10.7	-0.1
AGG				S	Sb	14 21 19.0	+0.1
LAKA	**Lakka**	**0.59**	**154**	P	Pb	14 21 11.0	0.0
EVGI	**Lefkada island**	**0.79**	**259**	P	Pg	14 21 14.6	+0.1
DRO	**Drossia**	**0.82**	**176**	P	Pb	14 21 15.0	+0.1
KLV	**Kalavryta, Ach**	**0.83**	**151**	P	Pb	14 21 14.7	-0.3
THL	**Klokotos Trika**	**0.84**	**20**	P	Pb	14 21 14.9	-0.3
FSK	**Fiskardo**	**0.91**	**250**	P	Pb	14 21 16.3	0.0
KPRO	**Kipourio**	**1.20**	**350**	P	Pg	14 21 21.9	-0.4

BEO 26 14:22:41.5±0.4, 44.14N×22.15E, h0km, ML1.6/12, 6C-3D, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAGS	**Zajecar**	**0.33**	**170**	*e*Pg	Pg	14 22 46.7	-1.1
ZAGS				*e*Sg	Sg	14 22 52.0	0.0
KUBS	**Kucevo**	**0.44**	**309**	*e*Pg	Pg	14 22 48.1	-1.8
KUBS				*e*Sg	Sg	14 22 54.9	-0.7
BOVS	**Bovan**	**0.60**	**213**	*e*Pg	Pg	14 22 52.0	-0.9
BOVS				*e*Sg	Sg	14 23 01.6	+1.0
BLKB	**Belogradchik**	**0.64**	**143**	⇑S	Sg	14 23 02.6	+0.6
BLKB				AML	AML	14 23 03.8	
MDVR	**Moldovita**	**0.72**	**334**	⇑P	Pg	14 22 54.4	-0.9
MDVR				⇑S	Sg	14 23 04.9	+0.3
MDVR				AML	AML	14 23 09.4	
HERR	**Herculane**	**0.77**	**14**	⇑P	Pg	14 22 55.7	-0.5
HERR				⇓S	Sb	14 23 07.7	-1.1
HERR				AML	AML	14 23 13.3	
ZAPS	**Zavoj**	**0.93**	**158**	*e*Pg	Pg	14 22 58.7	-0.6
ZAPS				*e*Sg	Sg	14 23 11.4	0.0
GRUS	**Gruza**	**1.07**	**257**	*e*Pg	Pg	14 23 01.2	-0.7
GRUS				*e*Sg	Sg	14 23 16.1	+0.4
SELS	**Selova**	**1.18**	**220**	*e*Pg	Pg	14 23 02.7	-1.5
SELS				*e*Sg	Sg	14 23 20.0	+0.5
TRUS	**Trudelj**	**1.26**	**275**	*e*Pg	Pg	14 23 05.2	-0.4
TRUS				*e*Sg	Sg	14 23 22.0	+0.1
GZR	**Gura Zlata**	**1.33**	**19**	⇓P	Pg	14 23 05.9	-1.1
GZR				⇑S	Sn	14 23 25.8	-0.1
GZR				AML	AML	14 23 28.8	
BARS	**Barje**	**1.34**	**191**	*e*Pg	Pg	14 23 05.0	-2.2
BARS				*e*Sg	Sg	14 23 23.9	-0.7
BZS	**Buzias**	**1.53**	**346**	*e*Pg	Pn	14 23 09.3	-0.8
BZS				*e*Sg	Sn	14 23 30.7	+0.1
BZS	**Buzias**	**1.53**	**346**	⇑P	Pn	14 23 09.5	-0.6
BZS				⇓S	Sn	14 23 30.7	0.0
BZS				AML	AML	14 23 31.7	
IVAS	**Ivanjica**	**1.55**	**250**	*e*Pg	Pn	14 23 09.1	-1.3
IVAS				*e*Sg	Sn	14 23 30.7	-0.6
DIVS	**Divibare**	**1.56**	**269**	*e*Pg	Pn	14 23 09.9	-0.6
DIVS				*e*Sg	Sn	14 23 30.9	-0.6
SJES	**Sjenica**	**1.81**	**242**	*e*Pg	Pn	14 23 14.0	0.0
SJES				*e*Sg	Sg	14 23 39.4	-0.1

ANF ***26*** *14:24:02.8±0.6, 32.95N×97.54W, h4km±5km, ML2.9/4, Error ellipse: s-maj=6.6km s-min=3.0km az=82.0*
NEIC ***26*** *14:24:03.9±1.1, 32.91N±0.04×97.56W±0.06, h5km±2km, ML2.7/4*

ISC 26 14:24:03.0±1.8, 32.94N±0.05×97.56W±0.05, h1km±17km, n19, σ0°60/25, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**0.95**	**174**	P	**Pb**	**14 24 21.8**	**-0.5**
	baz=356						
WHTX				S	**Sg**	**14 24 34.2**	**+0.6**
	baz=356						
WHTX	**Lake Whitney,**	**0.95**	**174**		**Pg**	**14 24 21.6**	**+0.4**
WHTX				IAML		14 24 39.9	
	comp=N,96nm,0.4s						
X34A	**Smith Ranch, M**	**1.67**	**352**	Pn	**Pn**	**14 24 33.7**	**+0.3**
ABTX	**Abilene, Hawle**	**1.78**	**260**	Pb	**Pb**	**14 24 36.1**	**-0.4**
	baz=81						
ABTX				S	**Sb**	**14 24 59.3**	**0.0**
	baz=81						
ABTX	**Abilene, Hawle**	**1.78**	**260**	Pn	**Pb**	**14 24 35.9**	**-0.5**
ABTX				Sn	**Sn**	**14 24 58.5**	**+0.4**
ABTX				IAML		14 25 01.0	
	comp=N,174nm,0.3s						
WMOK	**Wichita Mounta**	**2.06**	**331**	P	**Pn**	**14 24 38.7**	**0.0**
	baz=150						
WMOK				S	**Sn**	**14 25 05.0**	**0.0**
	baz=150						
WMOK	**Wichita Mounta**	**2.06**	**331**		**Pn**	**14 24 38.7**	**0.0**
WMOK				Sn	**Sn**	**14 25 04.3**	**-0.7**
435B	**Jarrell**	**2.15**	**180**	Sb	**Sg**	**14 25 11.8**	**-0.4**
	baz=1.3						
W35A	**Tecumseh**	**2.28**	**14**		**Pn**	**14 24 42.9**	**+1.2**
W35A				Sn	**Sn**	**14 25 11.7**	**+1.3**
FNO	**Franklin**	**2.31**	**3**	Pn	**Pb**	**14 24 44.5**	**-1.0**
X37A	**Clayton**	**2.46**	**47**		**Pn**	**14 24 43.3**	**-0.8**
JCT	**Junction City**	**3.11**	**218**	Pn	**Pn**	**14 24 53.1**	**-0.1**
MIAR	**Mount Ida**	**3.69**	**63**		**Pn**	**14 25 01.7**	**+0.6**
AMTX	**Amarillo**	**3.93**	**301**	Pn	**Pn**	**14 25 04.9**	**+0.4**
MSTX	**Muleshoe**	**4.47**	**285**	Pn	**Pn**	**14 25 12.4**	**+0.4**
TXAR	**Lajitas Array**	**6.35**	**237**	Pn	**Pn**	**14 25 37.3**	**-0.5**
TX31	**Lajitas Ar. Si**	**6.35**	**237**	Pn	**Pn**	**14 25 38.0**	**+0.2**
TX32	**Lajitas Array**	**6.35**	**237**	Pn	**Pn**	**14 25 37.6**	**-0.2**
HDBT	**Hernando Brdge**	**6.61**	**68**	Pn	**Pn**	**14 25 41.3**	**+0.1**

NNC ***26*** *14:27:57.5±0.9, 42.91N×78.59E, h0km, mb2.6, mpv1.8, Error ellipse: s-maj=8.8km s-min=2.9km az=174.0*
KRNET ***26*** *14:27:57.5±0.1, 42.83N×78.61E, h30km, mb2.3*
SOME ***26*** *14:27:57.7, 42.92N×78.60E, h5km*

ISC 26 14:27:56.7±1.4, 42.86N±0.06×78.61E±0.03, h7km±12km, n15, σ0°61/29, 5C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.25**	**324**	P	**Pg**	**14 28 01.1**	**-0.5**
	1.7nm,0.2s						
SATY				S	**Sg**	**14 28 04.2**	**-0.7**
	11nm,0.3s						
SATY	**Saty**	**0.25**	**324**	*e*P	**Pg**	**14 28 01.9**	**+0.3**
	2.3nm,0.1s						
SATY				*e*S	**Sg**	**14 28 05.4**	**+0.5**
	38nm,0.1s						
UZB	**Uzynbulak**	**0.42**	**47**	*e*P	**Pg**	**14 28 04.8**	**0.0**
	0.2nm,0.1s						
UZB				*e*S	**Sg**	**14 28 10.7**	**+0.3**
	6.0nm,0.2s						
PDGK	**Podgornoye**	**0.80**	**54**	P	**Pg**	**14 28 12.3**	**+0.3**
	0.2nm,0.5s						
PDGK				S	**Sb**	**14 28 23.4**	**-0.7**
	0.6nm,0.7s						
PDGK	**Podgornoye**	**0.80**	**54**	⇓P	**Pg**	**14 28 12.8**	**+0.7**
	1.1nm,1.0s						
PDGK				⇓S	**Sb**	**14 28 23.6**	**-0.5**
	1.2nm,0.5s						
TARG	**Taragay, Kyrgy**	**1.28**	**208**	⇓*i*P	**Pn**	**14 28 20.5**	**-0.8**
	baz=9.0						
TARG				⇓*i*S	**Sb**	**14 28 37.2**	**-0.9**
	baz=9.0						
KDJ	**Kajisay**	**1.28**	**236**	⇑*i*P	**Pn**	**14 28 20.6**	**-0.6**
	baz=37						
KDJ				⇑*i*S	**Sb**	**14 28 37.5**	**-0.5**
	baz=37						
ARXS	**Arharly**	**1.47**	**338**	*e*P	**Pb**	**14 28 24.4**	**+0.1**
	0.7nm,0.2s						
ARXS				*e*S	**Sg**	**14 28 43.5**	**-0.3**
	1.3nm,0.4s						
KTBS	**Karatobe**	**1.64**	**302**	*e*P	**Pb**	**14 28 28.1**	**+0.8**
	0.8nm,0.1s						
KTBS				*e*S	**Sg**	**14 28 50.0**	**+0.5**
	6.5nm,0.3s						
DJR	**Jarkent**	**1.70**	**30**	P	**Pb**	**14 28 28.7**	**+0.3**
	1.2nm,0.3s						
DJR				S	**Sg**	**14 28 51.7**	**+0.2**
	4.0nm,0.4s						
DJR	**Jarkent**	**1.70**	**30**	*e*P	**Pb**	**14 28 29.0**	**+0.6**
	1.9nm,0.3s						
DJR				*e*S	**Sg**	**14 28 51.7**	**+0.2**
	7.5nm,0.3s						
ULHL	**Ulahol**	**1.85**	**251**	⇑*i*P	**Pn**	**14 28 29.8**	**+0.7**
	baz=52						
ULHL				⇑*i*S	**Sn**	**14 28 53.5**	**+0.7**
	baz=52						
BOOM	**Boomskoye usch**	**2.00**	**260**	⇓*i*P	**Pn**	**14 28 31.5**	**+0.4**
	baz=61						
BOOM				⇓*i*S	**Sn**	**14 28 56.7**	**+0.3**
	baz=61						
TKM2	**Tokmak 2**	**2.21**	**273**	⇑Pg	**Pb**	**14 28 37.5**	**+0.4**
	2.0nm,1.1s						
TKM2				⇓Lg	Lg	14 29 09.0	
	2.3nm,0.9s						
KAPS	**Kapalarasan**	**2.48**	**12**	*e*P	**Pg**	**14 28 43.2**	**-1.1**
	0.5nm,0.1s						
KAPS				*e*S	**Sg**	**14 29 15.7**	**-0.8**
	2.2nm,0.2s						

ISCJB ***26*** *14:30:25.4±0.6, 5.81S±0.02×150.78E±0.02, h43km±5km, mb5.0/82, MS4.8/51, Error ellipse: s-maj=3.7km s-min=3.3km az=162.6*
IDC ***26*** *14:30:26.6±0.9, 5.77S×150.83E, h42km±8km, mb4.6/29, mb1 4.7/33, mb1mx4.7/40, mbtmp4.9/33, ML3.9/4, MS4.8/28, Ms1 4.8/28, ms1mx4.8/33, Error ellipse: s-maj=8.5km s-min=6.3km az=118.0*
BJI ***26*** *14:30:26.0±0.0, 6.33S×150.78E, h69km, mb5.0/68, mB5.3/58, Ms5.2/65, Ms7 5.0/60*
MOS ***26*** *14:30:27.4±1.1, 5.83S×150.72E, h65km, mb5.2/23, MS4.8/5, Error ellipse: s-maj=8.6km s-min=6.4km az=104.4*
NEIC ***26*** *14:30:28.4±2.2, 5.83S±0.07×150.76E±0.06, h61km±4km, mb5.3/112, Mwb5.5, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.34; M_{rt}=0.40; M_{tt}=-0.75; M_{rf}=0.93; M_{tf}=1.84; M_{ff}=0.74; Fault plane solution: M_0=2.29000×10^{17} NP1:ϕ_s=102.71000°, δ=68.58000°, λ=21.16000°. NP2:ϕ_s=4.67000°, δ=70.37000°, λ=157.19000°. Principal axes: T 2.4338, Plg=30.0000°, Azm=323.0000°; N -0.3280, Plg=60.0000°, Azm=146.0000°; P -2.1058, Plg=1.0000°, Azm=54.0000°;*
DJA ***26*** *14:30:28.0±0.8, 6.5S±5.5×15.1E±∗, h52km±6km, M5.2/26, mB5.7/17, mb5.2/26, Mw(mB)5.2/17*
GCMT ***26*** *14:30:28.4±0.1, 5.82S±0.01×150.73E±0.01, h29km, MW5.4/103, Moment Tensor Solution. s96,c162; s103,c176; Duration: 1±2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.74±.02; M_{tt}=0.07±.02; M_{pp}=0.66±.02; M_{rt}=1.01±.04; M_{rp}=0.50±.01; M_{tp}=0.64±.03; Best double couple: M_0=1.47600×10^{17} NP1:ϕ_s=233.00000°, δ=74.00000°, λ=-73.00000°. NP2:ϕ_s=5.00000°, δ=23.00000°, λ=-135.00000°. Principal axes: T 1.4970, Plg=27.0000°, Azm=309.0000°; N -0.0420, Plg=16.0000°, Azm=48.0000°; P -1.4550, Plg=58.0000°, Azm=166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 14:30:28.5±0.4, 5.86S±0.03×150.80E±0.03, h57km±3km, h57km:pP-P, n402, σ1°76/442, mb5.2/120, MS4.9/51, 16C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.97**	**38**	P	**Pn**	**14 30 56.6**	**-2.9**
	516nm,0.3s,baz=41,slow=0.5,SNR=250						
KRVT				S	**Sn**	**14 31 19.1**	**-4.1**
	2μm,0.3s,baz=208,slow=17,SNR=9.3						
KRVT				LR	LR	14 31 47.5	
	comp=Z,22μm,18.8s,baz=196,slow=43						
PMG	**Port Moresby**	**5.04**	**225**	P	**Pn**	**14 31 41.8**	**+0.2**
	123nm,0.3s,baz=51,slow=6.1,SNR=241						
PMG				S	**Sn**	**14 32 39.0**	**+0.5**
	108nm,0.3s,baz=0.0,slow=20,SNR=7.2						
PMG	**Port Moresby**	**5.04**	**225**		**Pn**	**14 31 41.5**	**0.0**
HNR	**Honiara**	**9.74**	**112**	P	**Pn**	**14 32 47.9**	**+2.0**
HNR						14 34 32.5	
HNR	**Honiara**	**9.74**	**112**	P	**Pn**	**14 32 44.4**	**-1.5**
	8.5nm,0.3s,baz=274,slow=13,SNR=3.0						
HNR				S	**Sn**	**14 34 32.5**	**-1.3**
	baz=282,slow=20,SNR=1.4						
HNR				LR	LR	14 35 52.3	
	comp=Z,9μm,21.7s,baz=272,slow=33						
HNR	**Honiara**	**9.74**	**112**		**Pn**	**14 32 47.9**	**+2.0**
JAY	**Jayapura**	**10.60**	**288**	P	**Pn**	**14 32 57.1**	**-0.7**
	0.3nm,0.3s,baz=119,slow=8.9,SNR=31						
JAY				LR	LR	14 36 35.2	
	comp=Z,9μm,20.0s,baz=96,slow=35						
JAY	**Jayapura**	**10.60**	**288**	P	**Pn**	**14 32 58.4**	**+0.6**
MMPI	**Merauke**	**10.65**	**255**	P	**Pn**	**14 32 59.7**	**+1.3**
COEN	**Coen**	**11.00**	**222**	P	**Pn**	**14 33 01.7**	**-1.5**
	baz=11,SNR=97						
GENI	**Genyem**	**11.09**	**287**	P	**Pn**	**14 33 05.2**	**+0.8**
SMPI	**Sarmi**	**12.66**	**287**	P	**Pn**	**14 33 27.4**	**+1.6**
MTSU	**Mount Surprise**	**13.74**	**207**	P	**Pn**	**14 33 40.9**	**+0.3**
	baz=14,SNR=44						
CTA	**Charters Tower**	**14.81**	**197**	P	**Pn**	**14 33 55.6**	**+0.8**
	0.4nm,0.3s,baz=26,slow=15,SNR=11						
CTA				S	**Sn**	**14 36 40.4**	**+2.6**
	0.1nm,0.3s,baz=318,slow=16,SNR=1.7						
CTA				LR	LR	14 39 30.3	
	comp=Z,3μm,18.1s,baz=18,slow=36						
SRPI	**Serui, Papua**	**15.05**	**285**	P	**Pn**	**14 33 55.6**	**-2.3**
BAKI	**Biak**	**15.38**	**287**	P	**Pn**	**14 34 02.3**	**+0.2**
RKPI	**Ransiki, Papua**	**17.14**	**284**	P	**Pn**	**14 34 20.5**	**-3.8**
QIS	**Mount Isa**	**18.20**	**216**	P	**Pn**	**14 34 37.3**	**0.0**
	baz=18,SNR=42						
FAKI	**Fak Fak**	**18.72**	**278**	P	**Pn**	**14 34 46.1**	**+2.5**
FAKI	**Fak Fak**	**18.72**	**278**	Pn	**Pn**	**14 34 44.5**	**+0.9**
KDU	**Kakadu**	**19.30**	**248**	P	**P**	**14 34 48.0**	**-1.0**
	baz=20,SNR=93						
EIDS	**Eidsvold**	**19.40**	**179**	P	**Pn**	**14 34 51.1**	**-0.5**
	baz=20,SNR=12						
SAUI	**Saumlaki**	**19.47**	**263**	P	**P**	**14 34 49.8**	**-1.1**
SAUI				IAmb	IAmb	14 35 22.0	
	comp=Z,172nm,0.9s						
SIJI	**Sorong**	**20.11**	**284**	P	**P**	**14 34 58.3**	**+0.4**
	comp=Z,13nm,0.8s,baz=77,slow=8.3,SNR=7.6						
SIJI				S	**S**	**14 38 41.1**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=188,slow=14,SNR=2.0						
SIJI				ScP	**ScP**	**14 42 44.9**	**+1.7**
	comp=Z,14nm,1.1s,baz=72,slow=1.4,SNR=9.4						
SWI	**Sorong**	**20.12**	**284**	P	Pn	14 34 59.6	-0.6
GUMO	**Guam**	**20.20**	**343**	P	Pn	14 35 00.2	-0.9
GUMO				S	**S**	**14 38 42.7**	**+0.2**
GUMO	**Guam**	**20.20**	**343**	P	**P**	**14 34 57.9**	**-0.8**
	comp=Z,411nm,1.1s,baz=168,slow=6.4,SNR=8.2						
GUMO				S	**S**	**14 38 42.7**	**+0.2**
	comp=Z,35nm,0.5s,baz=299,slow=14,SNR=2.0						
GUMO				LR	LR	14 41 23.7	
	comp=Z,2μm,20.6s,baz=166,slow=33						
GUMO	**Guam**	**20.20**	**343**	P	Pn	14 35 00.2	-0.9
MTN	**Manton Dam**	**20.59**	**249**	P	**P**	**14 35 02.2**	**-0.9**
	baz=21,SNR=63						
RMQ	**Roma**	**20.60**	**185**	P	Pn	14 35 04.8	-1.0
	baz=21,SNR=23						
PALU	**Palau**	**20.91**	**309**	P	**P**	**14 35 06.3**	**-0.2**
	baz=21,SNR=3.7						
WRAB	**Tennant Creek**	**21.24**	**227**	*ce*P	**P**	**14 35 09.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,106nm,1.2s						
WRAB	**Tennant Creek**	**21.24**	**227**	P	**P**	**14 35 09.4**	**-0.6**
WRAB				IAmb	IAmb	14 35 24.8	
	comp=Z,269nm,1.2s						
WB2	**Warramunga Arr**	**21.25**	**227**	P	**P**	**14 35 09.6**	**-0.4**
WRA	**Warramunga Arr**	**21.26**	**227**	P	**P**	**14 35 08.7**	**-1.5**
WRA				S	**S**	**14 39 03.7**	**+0.2**
WRA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**21.26**	**227**	P	**P**	**14 35 10.2**	**0.0**
	comp=Z,38nm,0.4s,baz=50,slow=10,SNR=288						
WRA				S	**S**	**14 39 03.7**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=54,slow=13,SNR=11						
WRA				ScP	**ScP**	**14 42 47.7**	**+1.9**
	comp=Z,9.8nm,0.9s,baz=49,slow=2.4,SNR=10						
WRA				LR	LR	14 45 08.2	
	comp=Z,2μm,18.1s,baz=45,slow=41						
WRA	**Warramunga Arr**	**21.26**	**227**	P	**P**	**14 35 08.7**	**-1.5**
QLP	**Quilpie**	**21.54**	**196**	P	**P**	**14 35 14.1**	**+1.1**
	baz=22,SNR=81						
DZM	**Mont Dzumac**	**22.10**	**138**	*e*P	**P**	**14 35 19.7**	**+0.4**
	comp=Z,311nm,1.1s						
DZM		

STKA LR LR 14 47 33.3
comp=Z,3μm,18.1s,baz=16,slow=38
STKA Stephens Creek 27.27 197 P P 14 36 07.3 -0.3
FITZ Fitzroy Crossi 27.40 241 P P 14 36 08.5 -0.4
baz=28,SNR=124
FITZ Fitzroy Crossi 27.40 241 P P 14 36 08.6 -0.3
comp=Z,35nm,0.5s,baz=48,slow=8.3,SNR=103
FITZ S **S 14 40 41.4 -4.0**
comp=Z,3.4nm,0.7s,baz=252,slow=20,SNR=1.8
FITZ LR LR 14 48 42.6
comp=Z,2μm,18.1s,baz=70,slow=40
DAV Davao City (W) 28.25 297 LR LR 14 47 49.7
comp=Z,1μm,18.6s,baz=116,slow=37
DAV Davao City (W) 28.25 297⇑ *e*P P 14 36 24.7 +8.1
YNG Young 28.38 184 P **P 14 36 18.3 +0.8**
baz=29,SNR=7.3
MMRI Maumere 28.46 263 P **P 14 36 16.7 -1.8**
MMRI IAmb IAmb 14 36 36.4
comp=Z,95nm,0.8s
KCP Kidapawan 28.66 296‖ *e*P P 14 36 26.5 +6.2
WRKA Warakurna 28.78 226 P **P 14 36 20.8 -0.5**
baz=29,SNR=110
MSVF Nonsavu 29.12 116 *i* P **P 14 36 26.7 +2.4**
MSVF pmax pmax
comp=Z,54nm,1.3s
MSVF Nonsavu 29.12 116 P **P 14 36 23.6 -0.7**
MSVF IAmb IAmb 14 36 48.2
comp=Z,94nm,1.4s
CNB Canberra Magne 29.34 182 P **P 14 36 26.4 +0.3**
baz=30,SNR=6.0
CAN Canberra 29.36 183 P **P 14 36 26.3 +0.1**
CAN pmax pmax
comp=Z,32nm,1.1s
CAN Canberra 29.36 183 P **P 14 36 26.3 +0.1**
WAKE Wake Island 29.47 32 P **P 14 36 28.5 +1.3**
APSI Ampana 29.50 279 P **P 14 36 23.6 -4.1**
HTT Hallett 29.57 200 P **P 14 36 28.4 +0.3**
baz=30,SNR=16
BBOO Buckleboo 30.12 205 P **P 14 36 32.4 -0.5**
baz=30,SNR=15
WSI Waingapu 30.45 261 P **P 14 36 37.5 +1.5**
BNSI Bone 30.60 271 P **P 14 36 38.9 +1.5**
TTSI Tana Toraja 31.01 274 P **P 14 36 42.5 +1.5**
WBSI Waikabubak, Su 31.34 261 P **P 14 36 45.3 +1.4**
MPSI Mapaga 31.46 280 P **P 14 36 46.6 +1.7**
ARPS Mount Arapiles 31.84 194 P **P 14 36 48.5 +0.5**
baz=32,SNR=12
TOO Toolangi 31.93 188 P **P 14 36 50.0 +1.1**
baz=32,SNR=10
FORT Forrest 32.72 218 P **P 14 36 55.9 +0.1**
baz=33,SNR=18
PLAI Plampang 32.87 263 P **P 14 36 58.8 +1.4**
MBWA Marble Bar 33.72 240 P **P 14 37 04.1 -0.6**
MBWA IAmb IAmb 14 37 11.3
comp=Z,53nm,0.9s
TWSI Taliwang, Sumb 33.75 263 P **P 14 37 06.4 +1.4**
LQP Lukban 35.17 305 *e*P **P 14 37 15.3 -2.2**
OUZ Omahuta 35.99 147 P **P 14 37 25.5 +1.5**
JAGI Jajag, Banyuwa 36.44 264 P **P 14 37 26.7 -1.5**
JAGI Jajag, Banyuwa 36.44 264 P **P 14 37 26.9 -1.3**
KKM Kota Kinabalu 36.49 288 P **P 14 37 28.2 -0.5**
KKM IAmb IAmb 14 38 13.0
comp=Z,71nm,1.2s
MOO Moorlands 36.57 184 P **P 14 37 30.7 +1.8**
baz=37,SNR=6.0
MEEK Meekatharra 36.98 232 P **P 14 37 32.5 -0.2**
baz=37,SNR=13
TAU Tasmania Unive 37.02 184 P **P 14 37 33.5 +0.8**
TAU pmax pmax
comp=Z,105nm,1.2s
TAU Tasmania Unive 37.02 184 P **P 14 37 33.5 +0.8**
KMBL Kambalda 37.11 223 P **P 14 37 33.8 +0.1**
baz=37,SNR=13
KNTN Kanton 37.50 87 P **P 14 37 38.4 +1.2**
RAO Raoul Island 37.60 132 LR LR 14 49 29.9
comp=Z,470nm,19.3s,baz=313,slow=30
AFI Afiamalu 37.68 105 P **P 14 37 39.6 +0.8**
AFI pmax pmax
comp=Z,153nm,1.1s
AFI Afiamalu 37.68 105 P **P 14 37 38.9 +0.1**
comp=Z,105nm,1.0s,baz=280,slow=23,SNR=7.4
AFI Afiamalu 37.68 105 P **P 14 37 39.6 +0.8**
PWJI Pagerwojo 38.76 265 P **P 14 37 46.1 -1.7**
GIRL Giralia 39.01 241 P **P 14 37 50.6 +0.8**
baz=39,SNR=7.0
NGJI Ngawi 39.09 266 P **P 14 37 50.3 -0.3**
HIZ Hauiti 39.14 150 P **P 14 37 52.5 +1.9**
PCJI Pacitan 39.38 264 P **P 14 37 52.5 -0.5**
URZ Urewera 40.13 147 P **P 14 37 59.3 +0.5**
comp=Z,31nm,0.8s,baz=263,slow=5.0,SNR=27
URZ Urewera 40.13 147 P **P 14 37 59.7 +0.9**
URZ IAmb IAmb 14 38 10.7
comp=Z,77nm,1.2s
KLBR Kellerberrin 40.13 226 P **P 14 37 58.9 -0.1**
baz=40,SNR=11
MORW Morawa 40.13 231 P **P 14 37 58.7 -0.3**
baz=40,SNR=9.2
MXZ Matakaoa Point 40.29 145 P **P 14 38 01.4 +1.2**
BKZ Black Stump Fm 40.47 149 P **P 14 38 02.1 +0.4**
BKZ IAmb IAmb 14 38 17.1
comp=Z,37nm,1.0s
YOJ Yonaguni jima 40.51 319 P **P 14 38 03.0 +0.8**
YOJ pmax pmax
comp=Z,76nm,0.8s
YOJ Yonaguni jima 40.51 319 P **P 14 38 03.0 +0.8**
NNZ Nelson 40.57 154 P **P 14 38 03.4 +0.9**
NNZ IAmb IAmb 14 38 13.4
comp=Z,93nm,1.2s
THZ Tophouse 40.81 154 P **P 14 38 05.0 +0.5**
THZ IAmb IAmb 14 38 06.9
comp=Z,69nm,1.1s
YULB Yu-li 40.93 316 P **P 14 38 05.5 -0.2**
YULB IAmb IAmb 14 38 28.3
comp=Z,49nm,1.1s
TUWZ Tuamarina 40.99 153 P **P 14 38 06.6 +0.6**
KSM Kuching 41.08 279 P **P 14 38 06.3 -0.8**
FOZ Fox Glacier 41.09 159 P **P 14 38 06.5 -0.1**
BSWZ Blackbirch Sta 41.19 154 P **P 14 38 07.6 0.0**
NWAO Narrogin (SRO) 41.23 225 P **P 14 38 07.4 -0.6**
baz=41,SNR=4.3
NWAO Narrogin (SRO) 41.23 225 P **P 14 38 07.4 -0.6**
NWAO pmax pmax
comp=Z,106nm,1.4s
NWAO Narrogin (SRO) 41.23 225 P **P 14 38 07.4 -0.6**
NWAO IAmb IAmb 14 38 15.1
comp=Z,106nm,1.4s
SNZO South Karori 41.25 152 P **P 14 38 06.0 -2.0**
NACB Ninganchiao 41.25 317 P **P 14 38 08.0 -0.3**
NACB IAmb IAmb 14 38 14.0
comp=Z,92nm,1.2s
TPUB Ta-pu 41.34 316 P **P 14 38 07.9 -1.1**
TPUB IAmb IAmb 14 38 30.3
comp=Z,34nm,0.9s
LTZ Lake Taylor 41.39 156 P **P 14 38 10.1 +0.9**
BHW Baring Head 41.40 152 P **P 14 38 10.0 +0.8**
SSLB Suanglung 41.43 316 P **P 14 38 09.9 +0.1**
SSLB IAmb IAmb 14 38 22.9
comp=Z,28nm,0.7s
MUN Mundaring 41.45 227 P **P 14 38 09.9 0.0**
baz=42,SNR=6.0
BFZ Birch Farm 41.49 150 P **P 14 38 10.3 +0.2**
BFZ IAmb IAmb 14 38 14.9
comp=Z,63nm,0.9s
MSWZ Moikau Station 41.58 152 P **P 14 38 10.8 0.0**
KPJI Karang Pucung 41.60 266 P **P 14 38 10.5 -0.9**
KHZ Kahutara 41.62 154 P **P 14 38 11.0 0.0**
RPZ Rata Peaks 41.70 158 P **P 14 38 12.5 +0.7**
comp=Z,38nm,0.8s,baz=288,slow=2.7,SNR=13
RPZ LR LR 14 53 20.7
comp=Z,5μm,20.4s,baz=317,slow=33
RPZ Rata Peaks 41.70 158 P **P 14 38 11.8 +0.1**
RPZ IAmb IAmb 14 38 21.5
comp=Z,83nm,1.0s
PLWZ Palliser 41.70 152 P **P 14 38 11.8 0.0**
YHNB Yeheng 41.73 318 P **P 14 38 12.7 +0.4**
OXZ Oxford 41.75 157 P **P 14 38 12.0 -0.2**
OXZ IAmb IAmb 14 38 25.5
comp=Z,71nm,0.9s
DCZ Deep Cove 41.94 163 P **P 14 38 14.2 +0.7**
DCZ IAmb IAmb 14 38 18.9
comp=Z,63nm,1.1s
WKZ Wanaka 41.95 161 P **P 14 38 14.5 +0.7**
WKZ IAmb IAmb 14 38 18.4
comp=Z,113nm,1.3s
LBZ Lake Benmore 41.96 159 P **P 14 38 13.8 -0.1**
LBZ IAmb IAmb 14 38 31.5
comp=Z,94nm,1.4s
MLZ Mavora Lakes 42.14 162 P **P 14 38 16.1 +0.8**
MLZ IAmb IAmb 14 38 18.1
comp=Z,72nm,1.1s
CRLZ Canterbury Las 42.19 156 P **P 14 38 16.2 +0.5**
MQZ McQueen's Vall 42.31 156 P **P 14 38 17.2 +0.5**
RKGY Rocky Gully 42.35 223 P **P 14 38 17.8 +0.7**
baz=42,SNR=18
WHZ Wether Hill Ro 42.56 162 P **P 14 38 18.7 0.0**
WHZ IAmb IAmb 14 38 21.9
comp=Z,50nm,1.2s
ODZ Otahua Downs 42.70 159 P **P 14 38 19.6 -0.2**
ODZ IAmb IAmb 14 38 27.6
comp=Z,164nm,2.0s
CISI Cisompet, Garu 42.71 265 P **P 14 38 18.3 -2.1**
CISI Cisompet, Garu 42.71 265 P **P 14 38 18.6 -1.9**
JNU Nakatsue 43.14 335 P **P 14 38 23.8 +0.2**
MJAR Matsushiro Arr 43.80 345 P **P 14 38 28.5 -0.4**
comp=Z,3.8nm,0.9s,baz=141,slow=8.1,SNR=6.1
MJAR LR LR 14 56 15.9
comp=Z,1μm,18.7s,baz=170,slow=36
MAJO Matsushiro 43.80 345 P **P 14 38 29.4 +0.6**
MAJO pmax pmax
comp=Z,88nm,1.7s
MAJO Matsushiro 43.80 345 P **P 14 38 29.4 +0.6**
MAJO IAmb IAmb 14 39 13.1
comp=Z,88nm,1.7s
MJB9 Matsu-Tunnel 43.81 345 P **P 14 38 29.4 +0.5**
MJB9 IAmb IAmb 14 39 13.0
comp=Z,82nm,1.6s
QZH Quanzhou 43.81 316⇑ *i*P **P 14 38 29.5 +0.4**
QZH S **S 14 44 59.5 +3.5**
QZH sS **sS 14 45 22.3 +1.2**
QZH LR LR
comp=Z,920nm,17.1s
QZH LR LR
comp=Z,1μm,16.6s
QZH LR LR
comp=Z,2μm,18.9s
CGJI Cibinong 44.83 267 P **P 14 38 38.0 +0.6**
HKPS Hong Kong Po S 45.49 309 P **P 14 38 42.5 -0.1**
HKPS IAmb IAmb 14 38 49.6
comp=Z,43nm,0.7s
KASI Kota Agung 46.06 268 P **P 14 38 46.2 -1.0**
SSE Sheshan 46.39 324 P **P 14 38 51.0 +1.6**
SSE S **S 14 45 35.3 +2.3**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,180nm,4.2s
SSE LR LR
comp=Z,340nm,15.9s
SSE LR LR
comp=Z,460nm,15.9s
QIZ Qiongzhong 47.32 302 P **P 14 38 55.8 -1.1**
QIZ S **S 14 45 42.0 -4.8**
QIZ sS **sS 14 46 12.3 +0.2**
QIZ pmax pmax
comp=Z,240nm,2.6s
QIZ LR LR
comp=Z,680nm,24.5s
QIZ LR LR
comp=Z,1μm,21.6s
QIZ LR LR
comp=Z,2μm,25.0s
KSRS Korea Array 48.09 335 P **P 14 39 02.4 -0.1**
comp=Z,18nm,1.1s,baz=150,slow=9.0,SNR=19
KSRS LR LR 14 57 25.7
comp=Z,573nm,21.7s,baz=161,slow=34
KSAR Wonju Array Be 48.09 335 P **P 14 39 02.4 -0.2**
KSAR Wonju Array Be 48.09 335 P **P 14 39 02.4 -0.2**
KS19 Wonju Array Si 48.15 335 P **P 14 39 03.6 +0.6**
KS19 IAmb IAmb 14 39 21.6
comp=Z,52nm,1.1s
ERM Erimo 48.16 352 P **P 14 39 02.8 -0.2**
ERM pmax pmax
comp=Z,264nm,1.4s
ERM Erimo 48.16 352 P **P 14 39 02.8 -0.2**
NJ2 Nanjing 48.45 323 *e*P **P 14 39 05.8 +0.4**
NJ2 pP **pP 14 39 21.5 +1.1**
NJ2 S **S 14 46 05.8 +3.4**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 pmax pmax
comp=Z,580nm,5.7s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,1μm,17.5s
NJ2 LR LR
comp=Z,2μm,20.4s
INCN Inchon 48.66 334 P **P 14 39 07.2 +0.2**
INCN pmax pmax
comp=Z,109nm,1.1s
INCN Inchon 48.66 334 P **P 14 39 07.2 +0.2**
MCQ Macquarie Isla 48.94 174 P **P 14 39 11.1 +2.3**
baz=49,SNR=6.6
YUK Yuzh-Kuril'sk 49.87 355 *c i*P **P 14 39 16.0 0.0**
YUK *i* 14 41 14.3
YUK *i* S **S 14 46 21.9 +0.1**
YUK MLR MLR
comp=Z,1μm,17.0s
WHN Wuhan 50.28 318 P **P 14 39 20.5 +1.1**
WHN S **S 14 46 30.0 +2.0**
WHN pmax pmax
comp=Z,58nm,1.3s
WHN LR LR
comp=Z,5μm,21.8s
WHN LR LR
comp=Z,7μm,23.4s
WHN LR LR
comp=Z,5μm,17.9s
JKA Kamikawa-asahi 50.30 352 P **P 14 39 18.7 -0.6**
ASAJ Asahikawa 50.30 352 P **P 14 39 18.7 -0.6**
comp=Z,11nm,1.0s,baz=52,slow=19,SNR=2.6
KULM Kulim 51.28 282 P **P 14 39 25.7 -1.6**
DL2 Dalian 52.10 331 P P 14 39 40.5 +7.6
DL2 S S 14 47 06.0 +13
DL2 sS sS 14 47 35.5 +17
DL2 pmax pmax
comp=Z,110nm,1.1s
DL2 pmax pmax
comp=Z,600nm,5.8s
DL2 LR LR
comp=N,570nm,17.0s
DL2 LR LR
comp=E,880nm,18.6s
DL2 LR LR
comp=Z,860nm,17.1s
TIA Tai'an 52.42 326 P **P 14 39 34.5 -0.9**
TIA S **S 14 46 59.8 +2.4**
TIA pmax pmax
comp=Z,18nm,1.3s
TIA pmax pmax
comp=Z,310nm,5.5s
TIA LR LR
comp=Z,520nm,22.6s
TIA LR LR
comp=Z,670nm,20.1s
TIA LR LR
comp=Z,1μm,23.0s
USRK Ussuriysk Ar. 52.64 343 P **P 14 39 36.5 -0.3**
comp=Z,3.9nm,0.9s,baz=169,slow=7.6,SNR=3.2
USRK LR LR 15 01 37.8
comp=Z,594nm,19.1s,baz=150,slow=36
YSS Yuzh-Sakhalins 53.07 353 *e*P **P 14 39 40.1 +0.2**
YSS MLR MLR
comp=Z,1μm,15.0s
ENH Enshi 53.45 315 P **P 14 39 41.5 -1.5**
ENH IAmb IAmb 14 40 21.4
comp=Z,26nm,1.0s
SNY Shenyang 53.58 335 ⇑P **P 14 39 40.5 -3.2**
SNY S **S 14 47 11.0 -1.9**
SNY pmax pmax
comp=Z,22nm,2.4s
SNY pmax pmax
comp=Z,230nm,2.8s
SNY LR LR
comp=N,440nm,22.1s
SNY LR LR
comp=E,880nm,18.6s
SNY LR LR
comp=Z,1μm,19.0s
GSI Gunungsitoli 53.62 276 P **P 14 39 43.7 -0.9**
GSI IAmb IAmb 14 40 01.0
comp=Z,34nm,1.1s
MDJ Mudanjiang 53.75 341 P P 14 39 49.8 +4.9
MDJ S **S 14 47 10.5 -4.6**
MDJ pmax pmax
comp=Z,570nm,5.1s
MDJ LR LR
comp=Z,430nm,6.3s
MDJ LR LR
comp=Z,680nm,5.6s
MDJ LR LR
comp=Z,1μm,19.6s
CN2 Changchun 54.48 338 *e*P P 14 39 57.0 +6.7
CN2 *e*S **S 14 47 27.0 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,880nm,15.0s
CN2 LR LR
comp=Z,570nm,15.0s
CN2 LR LR
comp=Z,860nm,18.0s
UTHA Uthaitani 55.13 293 P P 14 40 08.5 +13
BJI Beijing 55.70 328 P **P 14 40 01.5 +2.3**
BJI pP **pP 14 40 16.8 +2.4**
BJI sP **sP 14 40 24.5 +3.6**
BJI S **S 14 47 43.3 +1.8**
BJI pmax pmax
comp=Z,26nm,2.3s
BJI LR LR
comp=Z,500nm,20.2s
BJI LR LR
comp=Z,540nm,20.6s
BJI LR LR
comp=Z,530nm,24.5s
KMI Kunming 55.95 306 P **P 14 40 05.8 +4.3**
KMI sP sP 14 40 33.0 +10
KMI S **S 14 47 46.0 +0.2**
KMI sS sS 14 48 21.0 +10
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI pmax pmax
comp=Z,220nm,7.4s
KMI LR LR
comp=Z,1μm,21.8s
KMI LR LR
comp=Z,670nm,21.8s
KMI LR LR
comp=Z,740nm,25.6s
PAYA Payao 56.04 298 P P 14 40 09.8 +7.8
XAN Xi'an 56.04 318 P **P 14 40 01.0 -0.8**
XAN pP pP 14 40 17.8 +0.6
XAN sP sP 14 40 26.0 +2.3
XAN S **S 14 47 45.0 -1.4**
XAN ScS **ScS 14 49 44.3 -2.0**
XAN SS **SS 14 51 36.0 +2.4**
XAN pmax pmax
comp=Z,28nm,1.1s
XAN pmax pmax
comp=Z,280nm,6.7s
XAN LR LR
comp=Z,810nm,19.5s
XAN LR LR
comp=Z,710nm,18.4s
XAN LR LR
comp=Z,2μm,18.6s
XAN Xi'an 56.04 318 P **P 14 40 00.8 -1.0**
XAN pmax pmax
comp=Z,21nm,0.8s
XAN Xi'an 56.04 318 P **P 14 40 00.8 -1.0**
XAN IAmb IAmb 14 40 07.4
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 56.54 297 *c e*P **P 14 40 07.1 +1.5**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 56.54 297 P **P 14 40 05.5 -0.1**
comp=Z,0.8nm,0.3s,baz=118,slow=5.8,SNR=15
CMAR LR LR 15 01 48.0
comp=Z,426nm,21.7s,baz=138,slow=33
CMAR PKPPKP 15 09 58.9
comp=Z,0.2nm,0.4s,baz=310,slow=3.4,SNR=4.3
CMAR PKP2bc 15 10 10.1
comp=Z,1.0nm,0.9s,baz=292,slow=3.8,SNR=4.4
CMAR Chiang Mai Arr 56.54 297 P **P 14 40 05.1 -0.5**
CHTO Chiang Mai 56.66 297 P **P 14 40 07.0 +0.5**
CHTO pmax pmax
comp=Z,15nm,1.3s
CHTO Chiang Mai 56.66 297 P **P 14 40 07.0 +0.5**
OPA Opana 57.14 60 P **P 14 40 09.5 -0.3**
OPA pmax pmax
comp=Z,122nm,1.1s
OPA Opana 57.14 60 P **P 14 40 09.5 -0.3**
KLR Kul'dur 57.33 345 *i* P **P 14 40 12.8 +2.2**
KLR pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 57.33 345 P **P 14 40 09.7 -0.9**
comp=Z,2.7nm,0.8s,baz=180,slow=5.1,SNR=3.7
CD2 Chengdu 57.94 312 P **P 14 40 18.3 +3.0**
CD2 PP **PP 14 42 28.8 +4.5**
CD2 S **S 14 48 12.0 +0.5**
CD2 sS sS 14 48 45.3 +8.0
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,550nm,9.6s
CD2 LR LR
comp=Z,3μm,19.0s
CD2 LR LR
comp=Z,4μm,22.0s
CD2 LR LR
comp=Z,5μm,21.6s
HHC Hu-ho-hao-te 58.77 326 *e*P **P 14 40 24.0 +3.0**
HHC pP sP 14 40 46.0 +3.2
HHC pmax pmax
comp=Z,3.0nm,1.1s
PEA0B Petropavlovsk- 59.04 5 P **P 14 40 21.3 -1.1**
PEA0B pmax pmax
comp=Z,97nm,1.5s
PEA0B Petropavlovsk- 59.04 5 P P **14 40 21.3 -1.1**
PETK Petropavlovsk- 59.04 5 P P **14 40 21.4 -1.0**
PETK Petropavlovsk- 59.04 5 P P **14 40 21.1 -1.4**
comp=Z,14nm,0.8s,baz=192,slow=6.6,SNR=9.3
PETK LR LR 15 01 07.3
comp=Z,698nm,21.4s,baz=202,slow=31
PETK Petropavlovsk- 59.04 5 P **P 14 40 21.4 -1.0**
PET Petropavlovsk 59.04 6 *e*P **P 14 40 24.1 +1.7**
PET *e*S **S 14 48 27.8 +2.9**
PET pmax pmax
comp=Z,200nm,15.9s
PET MLR MLR
comp=Z,600nm,20.0s
PET MLR MLR
comp=Z,800nm,15.0s
PPT Papeete 59.32 107 LR LR 15 02 08.9
comp=Z,235nm,20.9s,baz=274,slow=32
PPT2 Papeete2 59.32 107 *e*P **P 14 40 27.6 +2.4**
comp=Z,80nm,1.3s
PPT2 *e*S **S 14 48 30.0 +0.1**
comp=Z,660nm,24.8s
PPT2 *e*LQ LQ 14 55 30.6
comp=Z,838nm,33.2s
PPT2 *e*LR LR 14 57 58.9
comp=Z,349nm,23.0s
PAE Paea 59.32 107 *e*P **P 14 40 27.3 +2.2**
comp=Z,8.8nm,1.1s
TIAR Tiarei 59.53 107 *e*P **P 14 40 29.2 +2.6**
comp=Z,32nm,1.0s
TVO Taravao 59.64 107 *e*P **P 14 40 29.4 +2.0**
comp=Z,46nm,1.5s
TBI Tubuai 59.95 113 *e*S **S 14 48 38.0 +0.2**
comp=Z,891nm,26.8s
TBI *e*LQ LQ 14 55 39.0
comp=Z,684nm,33.2s
TBI *e*LR LR 14 58 17.2
comp=Z,2μm,34.0s
LZH Lanzhou 60.62 317 *e*P **P 14 40 34.5 +0.6**
LZH sP sP 14 41 01.0 +5.1
LZH *e*S **S 14 48 49.5 +3.2**
LZH sS sS 14 49 20.0 +7.9
LZH SS **SS 14 52 45.5 -0.3**
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,280nm,7.3s
LZH LR LR

comp=Z,600nm,16.0s
LZH LR LR
comp=Z,840nm,16.2s
LZH LR LR
comp=Z,1μm,18.0s
MEH Mehetia 60.77 107 *e*P **P 14 40 37.0 +1.9**
comp=Z,30nm,1.0s
PMOR Pomariorio Ree 60.81 104 *e*P **P 14 40 37.8 +2.5**
comp=Z,133nm,1.0s
HIA Hailar 61.21 337 P **P 14 40 37.0 -0.4**
HIA pmax pmax
comp=Z,20nm,0.7s
HIA Hailar 61.21 337 P **P 14 40 37.0 -0.4**
HIA IAmb IAmb 14 40 46.5
comp=Z,20nm,0.7s
GTA Gaotai 65.10 318 ⇑P P 14 41 09.0 +5.4
GTA pP sP 14 41 26.5 +0.9
GTA sP PcP 14 41 33.0 -2.9
GTA S **S 14 49 45.5 +3.3**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,260nm,8.1s
GTA LR LR
comp=Z,300nm,19.0s
GTA LR LR
comp=Z,540nm,20.3s
GTA LR LR
comp=Z,940nm,18.7s
ULN Ulaanbaatar 65.86 329 *ce*P **P 14 41 08.4 +0.1**
ULN pmax pmax
comp=Z,10.0nm,1.3s
SONM Songino Array 66.18 329 P **P 14 41 09.8 -0.5**
SONM 14 43 32.5
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 66.18 329 P **P 14 41 10.1 -0.2**
comp=Z,6.3nm,0.7s,baz=148,slow=4.6,SNR=23
SONM PP **PP 14 43 32.5 -4.2**
comp=Z,2.7nm,1.0s,baz=134,slow=8.3,SNR=3.2
SONM LR LR 15 08 52.8
comp=Z,894nm,21.8s,baz=142,slow=35
SONM PKP2bc 15 09 47.3
comp=Z,1.3nm,0.9s,baz=336,slow=3.2,SNR=4.1
SONM Songino Array 66.18 329 P **P 14 41 09.8 -0.5**
CASY Casey 66.43 197 P **P 14 41 12.0 +0.6**
CASY IAmb IAmb 14 41 14.1
comp=Z,63nm,1.3s
LSA Lhasa 67.21 305 P **P 14 41 16.7 -1.0**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 67.21 305 P **P 14 41 16.7 -1.0**
TAOE Nuku Hiva Isla 68.47 97 *e*LR LR 15 02 16.9
comp=Z,1μm,28.2s
SEY Seymchan 68.61 1 *i*P **P 14 41 24.9 -0.3**
TAPN Taplejung 69.26 302 *e*P **P 14 41 33.4 +3.0**
comp=Z,12nm,0.6s
ODAN Odare 69.38 301 *e*P **P 14 41 34.0 +3.0**
comp=Z,25nm,0.6s
ZAK Zakamensk 69.38 330 *e*P P 14 41 20.5 -10
ZAK pmax pmax
comp=Z,13nm,1.0s
YAK Yakutsk 69.63 350 *e*P **P 14 41 31.8 +0.3**
YAK *e* 14 41 55.0
YAK *e* 14 44 10.5
YAK *e*S **S 14 50 37.1 +1.7**
YAK *e**SS **pS 14 50 54.8 +0.5**
YAK *e*SS **SS 14 55 04.2 -0.3**
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,327nm,3.7s
YAK pmax pmax
comp=E,115nm,3.0s
YAK pmax pmax
comp=N,315nm,3.1s
YAK smax smax
comp=E,565nm,4.3s
YAK smax smax
comp=N,366nm,3.8s
YAK MLR MLR
comp=Z,346nm,20.0s
YAK MLR MLR
comp=E,187nm,22.0s
YAK MLR MLR
comp=N,252nm,15.0s
YAK Yakutsk 69.63 350 P **P 14 41 32.3 +0.8**
YAK IAmb IAmb 14 41 57.8
comp=Z,17nm,0.9s
RAMN Ramite 70.08 301 *e*P **P 14 41 36.8 +1.5**
comp=Z,12nm,0.6s
JIRN Jiri 70.64 302 *e*P **P 14 41 40.2 +1.3**
GUN Gumba 70.98 302 *e*P **P 14 41 40.4 -0.5**
comp=Z,24nm,0.5s
PKI Pulchoki 71.27 302 *e*P **P 14 41 43.0 +0.3**
comp=Z,17nm,0.9s
PKIN Phulchoki 71.28 302 *e*P **P 14 41 43.1 +0.4**
DMN Daman 71.54 302 *e*P **P 14 41 43.7 -0.6**
comp=Z,22nm,0.7s
GKN Gorkha 72.05 302 *e*P **P 14 41 45.6 -1.6**
KOLN Koldanda 72.87 301 *e*P **P 14 41 50.6 -1.5**
DANN Dangsing 72.89 302 *e*P **P 14 41 50.4 -2.0**
BILL Bilibino 74.54 6 *i*P **P 14 41 57.9 -2.9**
BILL *i* 14 42 15.1
BILL *i* 14 42 21.6
BILL *i* 14 44 48.7
BILL *i*S **S 14 51 38.4 +6.9**
BILL pmax pmax
comp=Z,9.0nm,1.1s
BILL MLR MLR
comp=Z,276nm,18.0s
WMQ Urumqi 75.18 318 *e*P **P 14 42 05.5 +0.4**
WMQ pP sP 14 42 24.5 -2.9
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,93nm,3.7s
WMQ LR LR
comp=Z,220nm,23.1s
WMQ LR LR
comp=Z,380nm,21.1s
WMQ LR LR
comp=Z,560nm,21.1s
DGZ Jazzator, Alta 77.74 324 *i*P **P 14 42 18.4 -1.2**
SVW2 Sparrevohn 78.58 24 P **P 14 42 24.3 +0.5**
TIXI Tiksi 78.69 353 *ce*P **P 14 42 27.2 +3.1**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 78.69 353 P **P 14 42 24.8 +0.6**
TTA Tatalina 79.49 22 P **P 14 42 28.0 -0.8**
TTA pmax pmax
comp=Z,28nm,1.5s
TTA Tatalina 79.49 22 P **P 14 42 28.0 -0.8**
TTA IAmb IAmb 14 43 33.0
comp=Z,28nm,1.5s
CNPM China Poot 79.53 26 P **P 14 42 27.6 -1.4**
CNPM IAmb IAmb 14 42 58.7
comp=Z,49nm,0.8s
MK31 Makanchi Array 79.82 319 P **P 14 42 29.3 -1.6**
MK31 pmax pmax
comp=Z,15nm,1.5s
MK31 Makanchi Array 79.82 319 P **P 14 42 29.2 -1.6**
MKAR Makanchi Array 79.82 319 P **P 14 42 29.8 -1.1**
comp=Z,2.7nm,0.8s,baz=98,slow=7.5,SNR=9.4
MKAR LR LR 15 18 23.7
comp=Z,616nm,18.8s,baz=96,slow=36
MKAR Makanchi Array 79.82 319 P **P 14 42 29.4 -1.6**
ZAA0 Zalesovo Array 80.94 327 P **P 14 42 34.2 -2.5**
ZALV Zalesovo Beam 80.94 327 P **P 14 42 33.7 -3.0**
ZALV Zalesovo Beam 80.94 327 P **P 14 42 34.5 -2.2**
comp=Z,3.6nm,0.6s,baz=113,slow=5.6,SNR=15
ZALV LR LR 15 17 46.7
comp=Z,605nm,20.6s,baz=109,slow=35
ZALV Zalesovo Beam 80.94 327 P **P 14 42 33.7 -3.0**
KTH Kantishna Hill 81.75 23 P **P 14 42 39.4 -1.5**
KTH IAmb IAmb 14 43 28.5
comp=Z,55nm,1.8s
KDJ Kajisay 81.90 314 P **P 14 42 41.3 -1.0**
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 81.90 314 P **P 14 42 41.4 -1.0**
IMAR Indian Mountai 82.05 20 P **P 14 42 40.6 -1.7**

KSH Kashi 82.12 311 P **P 14 42 45.3 +1.9**
KSH PP **PP 14 45 57.3 +5.0**
KSH S **S 14 52 50.8 -3.4**
KSH sS sS 14 53 25.8 +4.4
KSH SS **SS 14 58 15.8 +0.9**
KSH pmax pmax
comp=Z,350nm,7.8s
KSH LR LR
comp=Z,470nm,11.5s
KSH LR LR
comp=Z,1μm,17.2s
KSH LR LR
comp=Z,900nm,15.5s
RND Reindeer 82.48 23 P **P 14 42 43.9 -0.8**
RND pmax pmax
comp=Z,16nm,0.8s
RND Reindeer 82.48 23 P **P 14 42 43.9 -0.8**
RND IAmb IAmb 14 43 12.9
comp=Z,16nm,0.8s
NRN Naryn 82.57 313 P **P 14 42 44.6 -1.4**
NRN pmax pmax
comp=Z,6.0nm,1.2s
NRN Naryn 82.57 313 P **P 14 42 44.6 -1.4**
MCK McKinley 82.61 23 P **P 14 42 43.0 -2.3**
MCK pmax pmax
comp=Z,28nm,0.9s
MCK McKinley 82.61 23 P **P 14 42 43.0 -2.3**
MCK IAmb IAmb 14 43 13.6
comp=Z,28nm,0.9s
DHY Denali Highway 82.91 24 P **P 14 42 43.6 -3.4**
NIL Nilore 82.94 305 P **P 14 42 45.0 -2.7**
NIL pmax pmax
comp=Z,17nm,0.6s
NIL Nilore 82.94 305 P **P 14 42 45.0 -2.7**
NIL IAmb IAmb 14 42 53.5
comp=Z,17nm,0.6s
WRH Wood River Hil 83.29 22 P **P 14 42 46.3 -2.5**
KURK Kurchatov 83.38 322 *i*P **P 14 42 47.8 -1.7**
KURK pmax pmax
comp=Z,24nm,1.3s
KURK Kurchatov 83.38 322 P **P 14 42 47.2 -2.4**
KURK IAmb IAmb 14 43 06.9
comp=Z,23nm,1.2s
CCB Clear Creek Bu 83.48 22 P **P 14 42 47.4 -2.4**
HDA Harding Lake 83.70 23 P **P 14 42 48.8 -2.1**
HDA IAmb IAmb 14 43 56.4
comp=Z,20nm,0.4s
MAW Mawson 83.83 203 P **P 14 42 52.1 +0.6**
baz=84,SNR=5.8
MAW Mawson 83.83 203 P **P 14 42 49.2 -2.3**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 83.83 203 P **P 14 42 52.0 +0.6**
comp=Z,15nm,1.1s,baz=79,slow=4.9,SNR=9.4
MAW LR LR 15 17 53.8
comp=Z,1μm,20.9s,baz=61,slow=34
MAW Mawson 83.83 203 P **P 14 42 49.2 -2.3**
IL31 83.89 22 P **P 14 42 48.6 -3.2**
ILAR Eielson Array 83.89 22 P **P 14 42 48.0 -3.9**
ILAR Eielson Array 83.89 22 P **P 14 42 49.3 -2.6**
comp=Z,2.6nm,0.7s,baz=246,slow=4.8,SNR=26
ILAR PKKPbc **PKKPbc 15 01 07.8 -2.7**
comp=Z,0.6nm,0.6s,baz=24,slow=1.2,SNR=4.6
ILAR LR LR 15 15 37.4
comp=Z,576nm,21.8s,baz=265,slow=32
ILAR Eielson Array 83.89 22 P **P 14 42 48.0 -3.9**
AAK Ala-Archa 83.95 314 *ce*P **P 14 42 53.7 +0.8**
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 83.95 314 P **P 14 42 50.3 -2.6**
QSPA South Pole Qui 84.10 180 P **P 14 42 53.8 +0.7**
comp=Z,50nm,1.0s,baz=342,slow=1.4,SNR=116
QSPA South Pole Qui 84.10 180 P **P 14 42 53.5 +0.3**
MENT Mentasta 84.34 25 P **P 14 42 52.6 -1.6**
SCRK Sand Creek 84.67 24 P **P 14 42 54.1 -1.9**
ARSB Arslanbob 84.76 312 P **P 14 42 56.2 -0.8**
TOLK Toolik Lake Re 84.85 19 P **P 14 42 55.9 -0.8**
baz=240
TOLK Toolik Lake Re 84.85 19 P **P 14 42 55.5 -1.2**
BCAR Beaver Creek A 85.20 25 P **P 14 42 57.5 -1.1**
BMAR Burnt Mountain 85.93 20 P **P 14 43 01.2 -0.9**
EGAK Eagle 86.12 23 P **P 14 43 01.1 -2.0**
GAR Garm 86.30 310 P **P 14 43 02.7 -2.0**
GAR IAmb IAmb 14 43 30.2
comp=Z,36nm,1.6s
NRIK Noril'sk 86.33 341 P **P 14 43 02.6 -1.4**
comp=Z,2.8nm,0.5s,baz=117,slow=5.1,SNR=5.8
NRIK LR LR 15 19 53.7
comp=Z,374nm,21.3s,baz=115,slow=34
KK31 Karatay Array 86.91 314 P **P 14 43 05.8 -1.7**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 86.91 314 P **P 14 43 05.8 -1.7**
KKAR Karatay Array 86.91 314 P **P 14 43 05.7 -1.8**
KKAR Karatay Array 86.91 314 P **P 14 43 05.7 -1.8**
EPYK Eagle Plains 88.41 23 P **P 14 43 12.7 -1.4**
baz=252
EPYK Eagle Plains 88.41 23 P **P 14 43 12.8 -1.4**
EPYK IAmb IAmb 14 43 50.5
comp=Z,21nm,1.1s
BRVK Borovoye 88.97 323 *ce*P **P 14 43 16.7 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 88.97 323 P **P 14 43 15.1 -1.9**
BRVK **PcP 14 43 15.3 -3.1**
INK Inuvik 90.16 21 P **P 14 43 21.1 -1.1**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 90.16 21 P **P 14 43 19.8 -2.4**
comp=Z,5.6nm,1.1s,baz=239,slow=6.2,SNR=8.0
INK LR LR 15 20 43.0
comp=Z,351nm,20.3s,baz=285,slow=34
INK Inuvik 90.16 21 P **P 14 43 21.1 -1.1**
HUMO Hull Mountain 91.17 47 P **P 14 43 27.0 -0.6**
HUMO IAmb IAmb 14 43 42.8
comp=Z,16nm,1.1s
O03E Paynes Creek 91.77 50 P **P 14 43 30.4 -0.1**
baz=264
J04D Umpqua Nationa 91.86 47 P **P 14 43 30.8 -0.2**
baz=264
SYO Syowa Base 92.01 200⇑*e*P P 14 43 25.6 -5.2
SYO Syowa Base 92.01 200⇑*i*X P 14 43 45.0 +14
SYO Syowa Base 92.01 200⇑*es*P sP 14 43 54.8 +1.3
AFDM Forest Hills D 92.27 51 P **P 14 43 31.2 -1.5**
AFDM IAmb IAmb 14 43 47.9
comp=Z,8.7nm,1.1s
J05D Fort Rock, OR 92.50 47 P **P 14 43 33.9 0.0**
baz=264
CMB Columbia Colle 92.64 52 P **P 14 43 33.1 -1.4**
CMB pmax pmax
comp=Z,10.0nm,1.4s
CMB Columbia Colle 92.64 52 P **P 14 43 33.1 -1.4**
CMB IAmb IAmb 14 43 47.0
comp=Z,10nm,1.4s
BEKR Beckworth 92.83 50 P **P 14 43 32.9 -2.6**
PNTR Pine Nut 93.35 51 P **P 14 43 36.8 -1.1**
PNTR IAmb IAmb 14 43 45.7
comp=Z,9.0nm,1.0s
MDPB Devils Postpil 93.64 53 P **P 14 43 38.8 -0.6**
MDPB IAmb IAmb 14 43 47.0
comp=Z,7.7nm,1.1s
OMMB Old Mammoth Mi 93.70 53 P **P 14 43 39.2 -0.5**
OMMB IAmb IAmb 14 44 17.0
comp=Z,8.5nm,1.2s
SCI2 San Clemente I 93.70 57 P **P 14 43 40.5 +1.0**
baz=266
CIS Catalina Islan 93.84 57 P **P 14 43 41.0 +0.9**
baz=266
PNT Penticton 94.13 41 P **P 14 43 36.8 -4.2**
PNT pmax pmax
comp=Z,9.0nm,1.0s
RYN Ryan 94.15 52 P **P 14 43 41.0 -0.5**
RYN IAmb IAmb 14 43 56.4
comp=Z,5.6nm,1.0s
EDW2 Edwards Air Fo 94.30 56 P **P 14 43 43.9 +1.7**
baz=266
NVAR Mina Array Bea 94.31 52 P **P 14 43 41.6 -0.7**
comp=Z,1.9nm,0.7s,baz=258,slow=6.2,SNR=12
NVAR LR LR 15 23 05.6
comp=Z,857nm,18.4s,baz=271,slow=34
NVAR Mina Array Bea 94.31 52 P **P 14 43 41.3 -1.0**
CWC Cottonwood Cre 94.34 54 P **P 14 43 42.8 +0.3**
baz=266
NV11 Mina Array Sit 94.42 52 P **P 14 43 41.8 -1.0**
NV11 IAmb IAmb 14 43 59.9

comp=Z,7.1nm,1.1s
KVN Kaiserville 94.51 51 P **P 14 43 42.1 -1.1**
KVN pmax pmax
comp=Z,12nm,1.3s
KVN Kaiserville 94.51 51 P **P 14 43 42.1 -1.1**
KVN IAmb IAmb 14 44 31.2
comp=Z,12nm,1.3s
BFSC Mount Baldy Ra 94.53 56 P **P 14 43 44.4 +1.0**
baz=266
LRMC Laurel Mtn Rad 94.60 55 P **P 14 43 44.5 +0.8**
baz=266
MPMC Manual Prospec 94.79 54 P **P 14 43 45.3 +0.7**
baz=266
ABKAR Akbulak array 94.95 319 P **P 14 43 41.2 -3.6**
FURC Furnace Creek, 95.32 54 P **P 14 43 47.7 +0.9**
baz=267
MONP2 Monument Peak 95.48 58 P **P 14 43 49.7 +1.9**
baz=267
PFO Pinyon Flats O 95.49 57 P **P 14 43 49.1 +1.3**
baz=267
PFO Pinyon Flats O 95.49 57 *ce*P **P 14 43 50.7 +2.9**
PFO Pinyon Flats O 95.49 57 P **P 14 43 48.6 +0.9**
comp=Z,4.6nm,1.0s,baz=164,slow=2.2,SNR=3.7
TPFO Pinon Flats 95.49 57 P **P 14 43 49.4 +1.6**
baz=267
GEYT Alibeck 95.68 307 LR LR 15 29 47.7
comp=Z,403nm,18.1s,baz=80,slow=37
IKP In-Ko-Pah, Jac 95.73 58 P **P 14 43 51.5 +2.7**
baz=267
TPNV Topopah Spring 95.84 54 P **P 14 43 49.1 -0.3**
baz=267
TPNV Topopah Spring 95.84 54 P **P 14 43 48.3 -1.0**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 95.84 54 P **P 14 43 48.3 -1.0**
TPNV IAmb IAmb 14 44 28.9
comp=Z,7.9nm,1.1s
BELC Belle Mtn. Jos 95.89 56 P **P 14 43 51.4 +1.8**
baz=267
ARU Arti 96.08 326 *i*P **P 14 43 53.6 +3.9**
ARU pmax pmax
comp=Z,4.0nm,1.1s
GMRC Granite Mounta 96.21 56 P **P 14 43 52.1 +1.0**
baz=267
BC3 Big Chuckawall 96.33 57 P **P 14 43 53.4 +1.8**
baz=267
IRM Iron Mountain 96.61 56 P **P 14 43 54.2 +1.5**
baz=267
YKA Yellowknife Ar 97.29 28 P Pdif 14 43 55.1 0.0
comp=Z,0.8nm,0.6s,baz=270,slow=5.0,SNR=5.6
YKA LR LR 15 25 08.4
comp=Z,45nm,19.1s,baz=287,slow=34
YHL Hebgen Lake 99.79 46 pP 14 44 22.1 -1.7
SNAA Sanae 100.70 188 Pdiff **Pdif 14 44 10.8 +0.5**
SNAA Sanae 100.70 188 P **Pdif 14 44 10.0 -0.3**
SNAA Sanae 100.70 188 P **Pdif 14 44 10.2 -0.1**
comp=Z,6.9nm,1.2s,baz=163,slow=2.9,SNR=9.0
SNAA Sanae 100.70 188 Pdif 14 44 10.0 -0.3
PDAR Pinedale Array 101.03 48 P **Pdif 14 44 11.6 -1.0**
comp=Z,0.3nm,0.3s,baz=300,slow=1.8,SNR=3.5
PDAR PKKPbc **PKKPbc 15 00 24.5 -0.8**
comp=Z,0.2nm,0.4s,baz=94,slow=3.6,SNR=2.1
VNA3 Neumayer Olymp 101.96 186 Pdiff **Pdif 14 44 16.7 +0.8**
VNA2 Neumayer--Watz 102.00 187 Pdiff **Pdif 14 44 17.2 +1.2**
baz=162,slow=5.4
TXAR Lajitas Array 106.39 61 PKKPab PKKPab 15 00 23.9 -0.2
comp=Z,0.6nm,0.7s,baz=96,slow=5.5,SNR=3.5
ARCES ARCESS Array B 107.29 343 PKIKP **PKiKP 14 48 47.2 -0.9**
comp=Z,4.1nm,1.0s,baz=92,slow=2.7,SNR=3.2
ARCES PKKPbc **PKKPbc 15 00 03.7 -3.3**
comp=Z,3.4nm,0.9s,baz=242,slow=1.9,SNR=6.9
AKASG Malin Array Be 114.18 324 *c i*PKIKP **PKiKP 14 49 02.5 +1.0**
BRTR Keskin Array B 114.51 311 PKKPbc PKKPbc 14 59 41.6 -1.1
comp=Z,0.3nm,0.6s,baz=319,slow=39,SNR=2.5
BRTR PKKPab **PKKPab 14 59 47.8 -0.1**
comp=Z,1.1nm,0.8s,baz=247,slow=5.3,SNR=5.3
PLCA Paso Flores 120.10 145 PKP **PKPdf 14 49 12.6 -0.9**
comp=Z,2.7nm,1.0s,baz=286,slow=3.5,SNR=4.2
VYHS Vyhne 121.21 325 *e*P **Pdif 14 45 42.1 +0.2**
VYHS Vyhne 121.21 325 *e*PDIFF **Pdif 14 45 42.1 +0.2**
MODS Modra-Piesok 122.17 325 *e*PKIKP **PKiKP 14 49 23.4 +6.2**
MODS Modra-Piesok 122.17 325 *e*PKP **PKiKP 14 49 23.4 +6.2**
Q54A Coxs Mills 123.02 47 P **PKPdf 14 49 18.5 -0.4**
baz=292
Q55A Buckhannon 123.56 47 P **PKPdf 14 49 19.8 -0.3**
baz=292
KHC Kasperske Hory 123.79 328 *e*PKIKP **PKPdf 14 49 20.0 -0.2**
KHC *e* 14 49 44.5
KHC Kasperske Hory 123.79 328 *e*PKPDF **PKPdf 14 49 20.0 -0.2**
KHC *ex* x 14 49 30.0
KHC *ex* x 14 49 44.5
R55A Marlinton 123.79 47 P **PKPdf 14 49 20.6 0.0**
baz=292
GERES GERESS Array B 123.89 327 PKIKP **PKPdf 14 49 19.5 -1.0**
GERES GERESS Array B 123.89 327 PKP **PKPdf 14 49 19.9 -0.5**
comp=Z,1.0nm,0.7s,baz=52,slow=2.2,SNR=5.7
GERES PKKPbc **PKKPbc 14 59 15.2 +6.7**
comp=Z,0.3nm,0.6s,baz=224,slow=4.1,SNR=4.2
GERES GERESS Array B 123.89 327 PKPdf 14 49 19.5 -1.0
S58A Poland Farm, P 125.56 47 P **PKiKP 14 49 24.2 0.0**
baz=293
ROSC El Rosal 135.08 89 PKP **PKPdf 14 49 43.0 -0.1**
comp=Z,13nm,0.6s,baz=168,slow=21,SNR=4.2
LPAZ La Paz 135.64 120 PKP **PKPdf 14 49 44.2 -0.1**
comp=Z,2.4nm,0.7s,baz=240,slow=5.4,SNR=7.1
SDV Santo Domingo 138.82 83 PKPdf **PKPdf 14 49 48.4 -1.3**
SAML Samuel 143.07 113 PKIKP PKPbc 14 49 53.4 -0.7
SAML Samuel 143.07 113 PKPpre PKPbc 14 49 53.4 -0.7
TOA0 Torodi Ar. Sit 148.71 286 PKPbc 14 50 08.9 -1.6
TORD Torodi Ar. Bea 148.71 286 PKP **PKPdf 14 50 05.5 -1.2**
comp=Z,10nm,0.6s,baz=56,slow=1.9,SNR=39
TORD PKPbc **PKPbc 14 50 09.8 -0.7**
comp=Z,13nm,0.6s,baz=83,slow=2.7,SNR=54
TORD SKPbc **SKiKP 14 53 44.7 +1.1**
comp=Z,2.6nm,1.0s,baz=90,slow=1.4,SNR=4.1
TORD Torodi Ar. Bea 148.71 286 PKPdf 14 50 05.2 -1.5
TORD PKPbc **PKPbc 14 50 09.3 -1.2**
BDFB Brasilia 151.65 139 PKPbc **PKPbc 14 50 16.0 -1.8**
comp=Z,7.9nm,0.8s,baz=208,slow=3.1,SNR=7.4
KIC Kosan Boka 155.67 272 *e*P **PKPdf 14 50 16.3 -0.8**
comp=Z,19nm,1.0s
DBIC Dimbokro 155.79 273 PKP **PKPdf 14 50 15.4 -1.8**
comp=Z,6.1nm,1.0s,baz=86,slow=10,SNR=3.8
DBIC PKPbc **pPKPdf 14 50 27.5 -6.9**
comp=Z,13nm,1.1s,baz=89,slow=4.9,SNR=5.2
TIC Toumodi 155.95 273 *e*P **PKPdf 14 50 16.7 -0.8**
LIC Lamto 155.96 272 *e*P **PKPdf 14 50 18.0 +0.5**
comp=Z,17nm,1.0s

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*IDC **26** 14:57:22.4±0.6, 25°.35S×70°.04E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/39, mbtmp4.1/15, MS4.3/12, Ms1 4.3/12, ms1mx4.0/43, Error ellipse: s-maj=20.1km s-min=16.7km az=38.0*

*ISCJB **26** 14:57:23.2±0.5, 25°.30S±0°.09×70°.09E±0°.08, h21km, mb4.1/16, MS4.4/12, Error ellipse: s-maj=12.7km s-min=10.4km az=16.5*

*NEIC **26** 14:57:24.2±2.4, 25°.3S±0°.1×70°.0E±0°.1, h15km±4km, mb4.8/23*

*GCMT **26** 14:57:33.0±0.2, 25°.27S±0°.03×69°.88E±0°.02, h22km, MW5.0/96, Moment Tensor Solution. s37,c40; s96,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.31±.24; Mθθ1.34±.13; Mφφ3.97±.15; Mrθ-0.37±.25; Mφφ-0.70±.08; Mφr0.72±.24; Best double couple: M0=4.79500×10^16 NP1:φs164.00000°, δ50.00000°, λ-92.00000°. NP2: φs347.00000°, δ40.00000°, λ-88.00000°. Principal axes: T 4.2090, Plg5.0000°, Azm256.0000°; N 1.1720, Plg2.0000°, Azm166.0000°; P -5.3810, Plg85.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 26 14:57:25.1±0.6, 25°.3S±0°.1×70°.03E±0°.10, h21km, n60, σ1°.24/45, mb4.3/25, MS4.4/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.71**	**8**	T	T	15 19 42.4	
baz=189,slow=76,SNR=137							
H08S2	**Diego Garcia H**	**17.71**	**8**	T	T	15 19 44.2	
baz=189,slow=76,SNR=512							
H08S3	**Diego Garcia H**	**17.73**	**8**	T	T	15 19 40.5	
baz=189,slow=76,SNR=242							
OPO	**Ambohidratompo**	**22.20**	**283**	P	**P**	**15 02 22.3**	**+1.9**

5.9nm,0.9s,baz=240,slow=1.5,SNR=5.7
H01W2 Cape Leeuwin H 39.08 115 T T 15 46 39.2
baz=272,slow=75,SNR=3.7
H01W3 Cape Leeuwin H 39.08 115 T T 15 46 38.3
baz=272,slow=75,SNR=6.5
H01W1 Cape Leeuwin H 39.10 115 T T 15 46 38.0
baz=272,slow=75,SNR=4.9
RPSI Rantau Prapat 39.48 49 P **P 15 04 55.9 +1.5**
RPSI IAmb IAmb 15 05 06.4
comp=Z,30nm,1.9s
KMBO Kilima Mbogo 39.71 302 P **P 15 04 58.2 +1.7**
baz=77,slow=14,SNR=3.6
KMBO Kilima Mbogo 39.71 302 P **P 15 04 56.9 +0.3**
BOSA Boshof 39.87 255 LR LR 15 18 19.8
comp=Z,902nm,21.3s,baz=98,slow=32
CISI Cisompet, Garu 40.12 71 P **P 15 05 00.4 +0.7**
LSZ Lusaka 40.34 276 P **P 15 05 01.8 +0.1**
LSZ IAmb IAmb 15 05 16.7
comp=Z,17nm,1.6s
SIMRM Sittwe 50.33 28 P **P 15 06 20.2 -0.3**
PBKT Sadao Pong 51.38 39 P **P 15 06 27.8 -0.7**
PBKT IAmb IAmb 15 06 38.4
comp=Z,7.8nm,0.9s
KAPI Kappang 51.69 76 LR LR 15 24 59.2
comp=Z,231nm,21.7s,baz=127,slow=32
UOSS Minazif 51.70 344 P **P 15 06 29.7 -1.2**
UOSS IAmb IAmb 15 08 25.6
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 51.80 36 P **P 15 06 33.1 +1.5**
comp=Z,1.8nm,0.8s,baz=224,slow=6.7,SNR=12
CMAR LR LR 15 24 58.6
comp=Z,247nm,21.6s,baz=207,slow=32
CMAR Chiang Mai Arr 51.80 36 P **P 15 06 30.7 -1.0**
CHTO Chiang Mai 52.10 35 P **P 15 06 33.5 -0.3**
CMMT Chiang Mai 52.10 35 P P 15 06 42.8 +8.9
comp=Z,3.0nm,1.3s
PHRA Phrae 52.53 37 P P 15 06 46.6 +10
SLVN Son La 56.84 38 P **P 15 07 08.4 0.0**
ASAR Alice Springs 57.65 103 P **P 15 07 14.8 +0.6**
comp=Z,1.4nm,0.9s,baz=251,slow=6.7,SNR=13
ASAR LR LR 15 30 17.4
comp=Z,230nm,18.0s,baz=288,slow=34
ASAR Alice Springs 57.65 103 P **P 15 07 13.7 -0.6**
AS31 Alice Springs 57.66 103 P **P 15 07 14.0 -0.3**
LSA Lhasa 58.32 22 P **P 15 07 19.9 +0.8**
LSA IAmb IAmb 15 07 28.4
comp=Z,5.7nm,1.0s
WRA Warramunga Arr 59.12 99 P **P 15 07 25.5 +1.0**
comp=Z,0.7nm,0.4s,baz=252,slow=7.3,SNR=4.1
WRA LR LR 15 30 39.0
comp=Z,466nm,19.7s,baz=270,slow=34
WRA Warramunga Arr 59.12 99 P **P 15 07 23.8 -0.8**
WB2 Warramunga Arr 59.13 99 P **P 15 07 24.1 -0.6**
KBL Kabul 59.51 359 P **P 15 07 27.4 +0.3**
KBL IAmb IAmb 15 07 36.6
comp=Z,15nm,1.2s
HRA Herat 59.81 353 P **P 15 07 29.4 +0.3**
HRA IAmb IAmb 15 07 41.1
comp=Z,20nm,1.9s
SNAA Sanae 60.83 200 P **P 15 07 35.6 +0.1**
comp=Z,2.0nm,1.0s,baz=82,slow=8.4,SNR=4.7
SNAA Sanae 60.83 200 IAmb IAmb 15 08 05.8
comp=Z,19nm,1.7s
STKA Stephens Creek 62.17 114 P **P 15 07 45.3 +0.1**
comp=Z,1.3nm,0.7s,baz=335,slow=10,SNR=3.0
STKA LR LR 15 31 02.6
comp=Z,353nm,20.9s,baz=233,slow=32
QSPA South Pole Qui 64.83 180 P **P 15 08 02.5 +0.2**
comp=Z,3.6nm,0.9s,baz=304,slow=1.0,SNR=9.6
QSPA South Pole Qui 64.83 180 P **P 15 08 01.5 -0.8**
QSPA IAmb IAmb 15 08 03.7
comp=Z,8.8nm,1.1s
BTK Batken 65.02 1 P **P 15 08 02.4 -1.3**
BTK IAmb IAmb 15 08 12.8
comp=Z,16nm,1.6s
AAK Ala-Archa 67.72 4 P **P 15 08 21.6 +0.6**
AAK IAmb IAmb 15 08 30.7
comp=Z,13nm,1.6s
KKAR Karatay Array 68.06 0 P **P 15 08 23.6 +0.7**
MKAR Makanchi Array 72.60 9 P **P 15 08 51.4 +0.7**
comp=Z,1.1nm,0.6s,baz=202,slow=6.5,SNR=13
BRTR Keskin Array B 73.05 331 P **P 15 08 54.6 +0.9**
comp=Z,1.5nm,0.8s,baz=166,slow=6.6,SNR=7.9
BRTR LR LR 15 40 16.4
comp=Z,127nm,21.2s,baz=48,slow=35
BRTR Keskin Array B 73.05 331 P **P 15 08 53.5 -0.1**
KBZ Khabaz 73.06 340 P **P 15 08 54.7 +1.3**
comp=Z,1.2nm,0.7s,baz=153,slow=11,SNR=3.2
ABKAR Akbulak array 74.76 353 P **P 15 09 03.2 0.0**
TORD Torodi Ar. Bea 76.73 292 P **P 15 09 15.5 +0.2**
comp=Z,3.7nm,1.0s,baz=112,slow=4.5,SNR=13
TORD Torodi Ar. Bea 76.73 292 P **P 15 09 14.7 -0.6**
DBIC Dimbokro 79.31 283 LR LR 15 44 18.4
comp=Z,199nm,18.1s,baz=88,slow=36
SONM Songino Array 79.80 24 P **P 15 09 33.3 +1.6**
comp=Z,3.7nm,1.1s,baz=197,slow=4.5,SNR=5.1
SONM Songino Array 79.80 24 P **P 15 09 28.8 -3.0**
ZALV Zalesovo Beam 79.94 9 P **P 15 09 32.1 -0.1**
comp=Z,1.0nm,0.5s,baz=219,slow=3.8,SNR=5.9
ZALV Zalesovo Beam 79.94 9 P **P 15 09 29.0 -3.2**
KRVT Keravat (AS076 80.95 90 LR LR 15 45 10.0
comp=Z,167nm,19.2s,baz=235,slow=35
KSRS Korea Array 82.79 43 P **P 15 09 48.2 +0.6**
comp=Z,1.2nm,0.9s,baz=237,slow=5.2,SNR=2.9
KSRS LR LR 15 45 51.9
comp=Z,99nm,19.2s,baz=222,slow=35
BURAR Bucovina Array 83.02 331 P **P 15 09 45.4 -3.4**
AKASG Malin Array Be 83.81 335 P **P 15 09 53.4 +0.8**
comp=Z,0.6nm,0.5s,baz=138,slow=4.3,SNR=5.1
AKASG Malin Array Be 83.81 335 P **P 15 09 50.2 -2.4**
MJAR Matsushiro Arr 88.91 48 LR LR 15 50 24.2
comp=Z,77nm,18.7s,baz=230,slow=36
KLMR Klimovskoe 89.35 346 *e* **P 15 10 18.9 -0.6**
KLMR AMP 15 10 28.5
comp=Z,27nm,1.3s
KLR Kul'dur 92.28 35 LR LR 15 51 57.8
comp=Z,178nm,20.0s,baz=200,slow=36

PGC 26 15:13:19.0±0.6, 48°.88N×129°.47W, h10km, MLSn2.9/28, Mw3.5/28, 251km southwest of Pt. Hardy, Bc
Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.96**	**165**	P	Pg	15 13 35.6	-1.8
KEMF				S	Sg	15 13 47.2	-2.7
BPBC	**Brooks Peninsu**	**1.70**	**40**	Pn	Pn	15 13 46.7	-2.0
EDB	**Eliza Dome**	**1.83**	**56**	Pn	Pn	15 13 48.6	-2.0
EDB				Sn	Sn	15 14 09.3	-4.5
HOLB	**Holberg**	**1.97**	**26**	Pn	Pn	15 13 50.8	-1.6
HOLB				Sn	Sn	15 14 13.7	-3.5
ETB	**Estevan Point**	**1.99**	**74**	Pn	Pn	15 13 51.5	-1.2
PACB	**Port Alice, BC**	**2.02**	**39**	Pn	Pn	15 13 51.0	-2.1
PACB				Sn	Sn	15 14 14.0	-4.4
MAYB	**Maynard**	**2.14**	**44**	Pn	Pn	15 13 53.2	-1.7
MAYB				Sn	Sn	15 14 17.5	-4.0
NCBC	**Barkley Canyon**	**2.23**	**100**	Sn	Sn	15 14 20.9	-2.6
PHC	**Port Hardy**	**2.26**	**35**	Pn	Pn	15 13 54.7	-1.7
PHC				Sn	Sn	15 14 20.0	-4.2
WOSB	**Woss**	**2.29**	**55**	Pn	Pn	15 13 55.8	-1.1
TOFB	**Tofino**	**2.36**	**82**	Pn	Pn	15 13 56.2	-1.6
TOFB				Sn	Sn	15 14 23.1	-3.7
GDR	**Gold River**	**2.43**	**67**	Pn	Pn	15 13 57.2	-1.4
B012	**Ucluelet**	**2.59**	**87**	Pn	Pn	15 13 59.6	-1.4
B012				Sn	Sn	15 14 28.1	-4.4
OZB	**Mount Ozzard**	**2.63**	**87**	Pn	Pn	15 13 59.8	-1.7
OZB				Sn	Sn	15 14 29.5	-3.9
BTB	**Buttle Lake**	**2.66**	**76**	Pn	Pn	15 14 01.1	-1.0
BTB				Sn	Sn	15 14 30.9	-3.6
SPLB	**Strathcona Par**	**2.70**	**66**	Pn	Pn	15 14 01.4	-0.9
SPLB				Sn	Sn	15 14 32.9	-2.2
NCRB	**Newcastle Ridg**	**2.70**	**54**	Pn	Pn	15 14 02.0	-0.5
B928	**Bamfield**	**2.87**	**89**	Pn	Pn	15 14 03.5	-1.2
B928				Sn	Sn	15 14 35.2	-4.0
CBB	**Campbell River**	**2.92**	**65**	Pn	Pn	15 14 04.9	-0.6
MGB	**Mount Grey**	**3.15**	**86**	Pn	Pn	15 14 08.0	-0.9
MGB				Sn	Sn	15 14 42.1	-4.4
OCP	**Olym-Cheeka Pk**	**3.27**	**98**	Pn	Pn	15 14 10.3	0.0
PFB	**Port Renfrew**	**3.35**	**93**	Pn	Pn	15 14 10.8	-0.6
PFB				Sn	Sn	15 14 47.2	-4.0
TXB	**Texada**	**3.40**	**74**	Pn	Pn	15 14 12.0	-0.1
BBB	**Bella Bella**	**3.42**	**14**	Pn	Pn	15 14 11.8	-0.6
BBB				Sn	Sn	15 14 49.0	-4.0
YOUB	**Youbou, Lake C**	**3.44**	**88**	Pn	Pn	15 14 11.9	-0.8
YOUB				Sn	Sn	15 14 49.5	-4.0
B926	**Mesachie Lake**	**3.53**	**89**	Pn	Pn	15 14 13.3	-0.6
B926				Sn	Sn	15 14 52.4	-3.2
SHB	**Sechelt**	**3.74**	**77**	Pn	Pn	15 14 17.0	+0.2
LZB	**Mount Lazard**	**3.75**	**92**	Pn	Pn	15 14 16.4	-0.5
LZB				Sn	Sn	15 14 58.4	-2.8
BCBC	**Bella Coola**	**3.91**	**25**	Pn	Pn	15 14 18.9	-0.1
BCBC				Sn	Sn	15 15 02.5	-2.3
GOBB	**Galiano Island**	**3.93**	**87**	Pn	Pn	15 14 19.7	+0.3
B010	**North Saanich**	**3.99**	**91**	Pn	Pn	15 14 20.1	0.0
B010				Sn	Sn	15 15 05.0	-2.0
PGC	**Sidney**	**3.99**	**91**	Pn	Pn	15 14 19.4	-0.8
PGC				Sn	Sn	15 15 05.1	-1.9
BIB	**Bowen Island**	**4.08**	**80**	Pn	Pn	15 14 21.8	+0.3
VGZ	**Gonzales**	**4.10**	**94**	Sn	Sn	15 15 06.5	-3.2
SNB	**Saturna Island**	**4.17**	**89**	Pn	Pn	15 14 22.6	0.0
SNB				Sn	Sn	15 15 08.1	-3.3
WSLR	**Whistler**	**4.45**	**71**	Pn	Pn	15 14 26.3	-0.3
VDB	**Vedder Mountai**	**4.86**	**85**	Pn	Pn	15 14 32.4	+0.3
MBW	**Mount Baker**	**5.00**	**88**	Pn	Pn	15 14 34.5	+0.2
FSB	**Fort Saint Jam**	**6.46**	**28**	Pn	Pn	15 14 55.3	+1.2

*TAP **26** 15:15:45.0, 24°.97N×122°.75E, h48km, ML3.7, D*
*JMA **26** 15:15:45.5±0.2, 24°.99N×122°.71E, h26km±3km, M2.9*
*ISCJB **26** 15:15:46.0±0.4, 24°.93N±0°.02×122°.72E±0°.02, h25km±2km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=3.9km s-min=2.6km az=14.3*
*IDC **26** 15:16:10.8±5.6, 24°.88N×123°.18E, h233km±59km, mb3.1/7, mb1 3.3/8, mb1mx3.1/37, mbtmp3.6/8, MS3.4/2, Ms1 3.4/2, ms1mx2.9/21, Error ellipse: s-maj=28.7km s-min=15.0km az=70.0*
ISC 26 15:15:46.5±1.1, 24°.91N±0°.03×122°.69E±0°.02, h13km±7km, n93, σ1§42/148, mb3.4/7, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**153**	P	**Pg**	**15 15 56.6**	**+0.1**
JYNG				S	**Sg**	**15 16 04.6**	**+1.3**
YOJ	**Yonaguni jima**	**0.53**	**147**	⇑P	**Pg**	**15 15 57.1**	**+0.1**
	baz=152						
YOJ				S	**Sb**	**15 16 06.7**	**+1.5**
	baz=152						
YOJ	**Yonaguni jima**	**0.53**	**147**	P	**Pg**	**15 15 56.9**	**0.0**
YOJ				S	**Sg**	**15 16 04.8**	**+0.8**
EOS1	**EOS1**	**0.62**	**235**	P	**Pg**	**15 15 59.0**	**+0.3**
	baz=224						
EOS1				S	**Sg**	**15 16 08.0**	**+1.1**
	baz=224						
TWB1	**Santiao Chiao**	**0.65**	**279**	⇑*i*P	**Pg**	**15 15 58.2**	**-0.9**
	baz=273						
TWB1				*i* S	**Sg**	**15 16 08.6**	**+0.9**
	baz=273						
EGS		**0.69**	**265**	P	**Pg**	**15 15 59.0**	**-1.1**
	baz=256						
EGS				*i* S	**Sg**	**15 16 09.1**	**0.0**
	baz=256						
NTC	**Toucheng**	**0.78**	**266**	P	**Pb**	**15 16 01.4**	**-0.6**
	baz=269						
NTC				S	**Sb**	**15 16 12.5**	**0.0**
	baz=269						
TIPB	**Shuangxi**	**0.79**	**275**	*i* P	**Pb**	**15 16 00.6**	**-1.5**
	baz=270						
TIPB				S	**Sb**	**15 16 11.5**	**-1.2**
	baz=270						
TWC	**Suao**	**0.82**	**249**	*e*P	**Pb**	**15 16 00.7**	**-1.9**
	baz=246						
TWC				S	**Sb**	**15 16 13.0**	**-0.6**
	baz=246						
NWF	**Wu-fen Shan**	**0.84**	**281**	⇑*i*P	**Pb**	**15 16 01.6**	**-1.4**
	baz=286						
NWF				S	**Sb**	**15 16 13.7**	**-0.6**
	baz=286						
WFSB	**Wu-fen Shan**	**0.84**	**281**	P	**Pb**	**15 16 01.4**	**-1.6**
	baz=286						
WFSB				S	**Sb**	**15 16 14.1**	**-0.1**
	baz=286						
ILA	**Ilan**	**0.87**	**261**	*e*P	**Pb**	**15 16 04.0**	**+0.5**
	baz=257						
ILA				S	**Sb**	**15 16 14.8**	**-0.2**
	baz=257						
PCYT	**Pengchaiyu**	**0.91**	**322**	*i* P	**Pb**	**15 16 02.9**	**-1.3**
	baz=325						
PCYT				S	**Sb**	**15 16 15.3**	**-1.0**
	baz=325						
TWE	**Neicheng**	**0.95**	**259**	*e*P	**Pb**	**15 16 02.8**	**-2.0**
	baz=256						
TWE				S	**Sb**	**15 16 16.9**	**-0.4**
	baz=256						
SLBB	**Yuanshan**	**0.97**	**261**	*e*P	**Pb**	**15 16 04.1**	**-1.1**
	baz=258						
SLBB				*e*S	**Sb**	**15 16 17.6**	**-0.4**
	baz=258						
NANB	**Nanao**	**0.98**	**241**	P	**Pb**	**15 16 03.3**	**-2.1**
	baz=240						
NANB				S	**Sb**	**15 16 16.6**	**-1.6**
	baz=240						
ENA	**Nanau**	**0.99**	**241**	P	**Pb**	**15 16 04.6**	**-0.8**
	baz=240						
ENA				S	**Sb**	**15 16 18.9**	**+0.5**
	baz=240						
YM08	**YM08**	**1.04**	**286**	P	**Pb**	**15 16 04.4**	**-1.9**
	baz=282						
YM08				*e*S	**Sb**	**15 16 19.6**	**-0.3**
	baz=282						
YM01	**YM01**	**1.04**	**283**	P	**Pb**	**15 16 05.0**	**-1.5**
	baz=287						
YM01				*e*S	**Sb**	**15 16 19.6**	**-0.5**
	baz=287						
YM11	**YM11**	**1.05**	**285**	P	**Pb**	**15 16 05.9**	**-0.7**
	baz=281						
YM11				S	**Sb**	**15 16 19.9**	**-0.3**
	baz=281						
YM05	**YM05**	**1.05**	**284**	P	**Pb**	**15 16 05.0**	**-1.7**
	baz=281						
YM05				S	**Sb**	**15 16 19.1**	**-1.3**
	baz=281						
YM10	**YM10**	**1.05**	**284**	P	**Pb**	**15 16 05.4**	**-1.2**
	baz=280						
YM10				S	**Sb**	**15 16 20.1**	**-0.4**
	baz=280						
TWY	**Chenhua**	**1.06**	**291**	P	**Pb**	**15 16 05.0**	**-1.6**
	baz=286						
TWY				S	**Sb**	**15 16 18.7**	**-1.7**
	baz=286						
ENTT	**Nioudou**	**1.06**	**256**	P	**Pb**	**15 16 05.5**	**-1.2**
	baz=244						
ENTT				S	**Sb**	**15 16 20.1**	**-0.3**
	baz=244						
NHDH	**Xindian Distri**	**1.06**	**273**	*e*P	**Pb**	**15 16 05.6**	**-1.1**
	baz=270						
NHDH				*e*S	**Sb**	**15 16 19.9**	**-0.5**
	baz=270						
YM04	**YM04**	**1.08**	**283**	*e*P	**Pb**	**15 16 05.3**	**-1.7**
	baz=280						
YM04				*e*S	**Sb**	**15 16 21.1**	**+0.1**
	baz=280						
NWLT	**Wulai**	**1.09**	**263**	*e*P	**Pb**	**15 16 05.3**	**-1.9**
	baz=261						
NWLT				*e*S	**Sb**	**15 16 20.2**	**-1.1**
	baz=261						
TATO	**Taipei**	**1.09**	**274**	*e*P	**Pb**	**15 16 05.8**	**-1.5**
	baz=271						
TATO				*e*S	**Sb**	**15 16 19.0**	**-2.4**
	baz=271						
ANP	**Anpu**	**1.10**	**285**	*e*P	**Pb**	**15 16 07.2**	**-0.2**
	baz=281						
ANP				*e*S	**Sb**	**15 16 21.0**	**-0.7**
	baz=281						
IRIF	**Iriomote-Funau**	**1.10**	**121**	P	**Pb**	**15 16 05.4**	**-2.0**
NDT	**Datong Townshi**	**1.11**	**254**	*e*P	**Pb**	**15 16 06.8**	**-0.9**
	baz=252						
NDT				*e*S	**Sb**	**15 16 21.7**	**-0.3**
	baz=252						
NTST	**Danshui**	**1.16**	**283**	*e*P	**Pb**	**15 16 07.1**	**-1.3**
	baz=280						
NTST				*e*S	**Sb**	**15 16 22.1**	**-1.1**
	baz=280						
TWS1	**Kuangyinshan**	**1.17**	**280**	*e*P	**Pn**	**15 16 07.0**	**-1.6**
	baz=283						
TWS1				S	**Sb**	**15 16 23.7**	**0.0**
	baz=283						
YHNB	**Yeheng**	**1.22**	**259**	P	**Pn**	**15 16 07.8**	**-1.5**
	baz=257						
YHNB				S	**Sb**	**15 16 24.9**	**-0.2**
	baz=257						
NSK	**Sanguang**	**1.23**	**260**	*e*P	**Pn**	**15 16 07.4**	**-2.1**
	baz=257						
NSK				*e*S	**Sb**	**15 16 24.0**	**-1.6**
	baz=257						
NACB	**Ninganchiao**	**1.24**	**234**	P	**Pn**	**15 16 08.8**	**-0.7**
	baz=220						
NACB				S	**Sb**	**15 16 26.3**	**+0.7**
	baz=220						
NNSB	**Datong**	**1.28**	**248**	P	**Pn**	**15 16 09.5**	**-0.7**
	baz=252						
NNSB				S	**Sb**	**15 16 26.3**	**-0.7**
	baz=252						
NNS	**Nan Shan**	**1.29**	**249**	*e*P	**Pn**	**15 16 09.2**	**-1.0**
	baz=247						
NNS				S	**Sb**	**15 16 27.0**	**-0.1**
	baz=247						
TWD	**Chiawan**	**1.29**	**231**	P	**Pn**	**15 16 09.9**	**-0.3**
	baz=230						
TWD				S	**Sn**	**15 16 26.8**	**-0.6**
	baz=230						
ETLH	**Xiulin Townshi**	**1.30**	**238**	*e*P	**Pn**	**15 16 09.9**	**-0.5**
	baz=225						
ETLH				*e*S	**Sn**	**15 16 27.7**	**-0.1**
	baz=225						
WLTB	**Daxi**	**1.31**	**268**	*e*S	**Sn**	**15 16 26.3**	**-1.5**
	baz=274						
HATJ	**Hateruma jima**	**1.32**	**130**	P	**Pn**	**15 16 09.9**	**-0.7**
NCUH	**Zhongli**	**1.37**	**273**	*e*S	**Sn**	**15 16 28.6**	**-0.7**
	baz=271						
JKRS	**Kuro-shima**	**1.37**	**119**	P	**Pn**	**15 16 09.6**	**-1.7**
ENLB	**Shoufeng**	**1.41**	**225**	*e*P	**Pn**	**15 16 11.6**	**-0.3**
	baz=225						
ENLB				*e*S	**Sn**	**15 16 30.2**	**0.0**
	baz=225						
JIJ	**Ishigaki jima**	**1.43**	**112**	P	**Pn**	**15 16 10.1**	**-2.0**
WHF	**Hehuan Shan**	**1.50**	**240**	P	**Pn**	**15 16 13.2**	**-0.4**
	baz=227						
WHF				S	**Sn**	**15 16 31.8**	**-1.4**
	baz=227						
JISG	**Ishigakijimahi**	**1.51**	**102**	P	**Pn**	**15 16 11.1**	**-2.1**
TWT	**Tachien**	**1.52**	**245**	*e*P	**Pn**	**15 16 13.6**	**0.0**
	baz=234						
TWT				S	**Sn**	**15 16 32.3**	**-1.1**
	baz=234						
TDCB	**Techi**	**1.54**	**245**	*e*P	**Pn**	**15 16 13.6**	**-0.2**
	baz=234						
TDCB				*e*S	**Sn**	**15 16 33.2**	**-0.5**
	baz=234						
LIOB	**Emei**	**1.54**	**261**	*e*P	**Pn**	**15 16 12.5**	**-1.3**
	baz=259						
LIOB				*e*S	**Sn**	**15 16 33.0**	**-0.7**
	baz=259						
SBCB	**Hsinchu**	**1.55**	**266**	*e*P	**Pn**	**15 16 13.6**	**-0.2**
	baz=275						
NSTT	**Nanjuang**	**1.56**	**260**	P	**Pn**	**15 16 14.1**	**+0.1**
	baz=259						
NSTT				S	**Sn**	**15 16 33.7**	**-0.4**
	baz=259						
ESL	**Shilin**	**1.58**	**227**	P	**Pn**	**15 16 12.0**	**-2.2**
	baz=226						
ESL				S	**Sn**	**15 16 32.1**	**-2.5**
	baz=226						
CHGB	**Renai**	**1.62**	**239**	*e*P	**Pn**	**15 16 14.8**	**-0.2**
	baz=226						
CHGB				*e*S	**Sn**	**15 16 35.0**	**-0.7**
	baz=226						
VWDT	**VWDT**	**1.82**	**231**	*e*P	**Pn**	**15 16 17.3**	**-0.2**
	baz=221						
VWDT				*e*S	**Sn**	**15 16 39.4**	**-1.0**
	baz=221						
HGSD	**Ruisui**	**1.82**	**220**	*e*P	**Pn**	**15 16 15.9**	**-1.6**
	baz=211						
HGSD				*e*S	**Sn**	**15 16 38.1**	**-2.4**
	baz=211						
DPDB	**Guoxing**	**1.83**	**242**	*e*P	**Pn**	**15 16 18.5**	**+0.8**
	baz=231						
DPDB				*e*S	**Sn**	**15 16 40.4**	**-0.4**
	baz=231						
JTJ	**Tarama**	**1.85**	**98**	P	**Pn**	**15 16 16.3**	**-1.6**
EHY	**Hungye**	**1.87**	**222**	*e*P	**Pn**	**15 16 16.9**	**-1.4**
	baz=222						
SSLB	**Suanglung**	**1.94**	**235**	*e*P	**Pn**	**15 16 19.3**	**+0.1**
	baz=225						
SSLB				*e*S	**Sn**	**15 16 41.8**	**-1.6**
	baz=225						
TYC	**Yuchr**	**1.95**	**240**	S	**Sn**	**15 16 41.7**	**-1.8**
	baz=229						
YULB	**Yu-li**	**1.97**	**220**	*e*P	**Pn**	**15 16 18.0**	**-1.6**
	baz=220						
TCU	**Taichung**	**1.98**	**248**	*e*P	**Pn**	**15 16 18.9**	**-0.9**
	baz=247						
TCU				*e*S	**Sn**	**15 16 43.8**	**-0.7**
	baz=247						
TWF1	**Yuli**	**2.00**	**220**	*e*P	**Pn**	**15 16 19.4**	**-0.7**
	baz=220						
TWF1				*e*S	**Sn**	**15 16 43.8**	**-1.2**
	baz=220						
WHYT	**Xinyi Township**	**2.06**	**235**	*e*P	**Pn**	**15 16 21.7**	**+0.8**
	baz=225						
WJS	**Zhushan**	**2.09**	**239**	*e*P	**Pn**	**15 16 21.7**	**+0.4**
	baz=228						
JIRB	**Irabujima**	**2.25**	**91**	P	**Pn**	**15 16 23.3**	**-0.2**
ELDTW	**Lidau**	**2.29**	**222**	*e*P	**Pn**	**15 16 23.1**	**-1.1**
	baz=222						
CHN4	**Tsaushan**	**2.46**	**232**	*e*P	**Pn**	**15 16 27.9**	**+1.5**
	baz=221						
TPUB	**Ta-pu**	**2.47**	**230**	*e*P	**Pn**	**15 16 27.2**	**+0.7**
	baz=220						
STYT	**Tauyuan**	**2.48**	**226**	*e*P	**Pn**	**15 16 27.0**	**+0.4**
	baz=218						
STYT				*e*S	**Sn**	**15 16 55.5**	**-1.2**
	baz=218						
WTP	**Ta-pu**	**2.52**	**229**	*e*P	**Pn**	**15 16 27.9**	**+0.7**
	baz=220						
TWG	**Pinlang**	**2.55**	**216**	P	**Pn**	**15 16 26.3**	**-1.3**
	baz=216						
CHN1	**Nanshi**	**2.62**	**230**	*e*P	**Pn**	**15 16 29.5**	**+1.0**
	baz=230						
CHN1				*e*S	**Sn**	**15 16 59.2**	**-0.9**
	baz=230						
SGST	**Jiashian**	**2.65**	**227**	*e*P	**Pn**	**15 16 30.2**	**+1.3**
	baz=218						
SLGT	**Liugui**	**2.67**	**225**	*e*P	**Pn**	**15 16 30.2**	**+1.0**
	baz=217						
ECL	**Taimali**	**2.80**	**215**	*e*P	**Pn**	**15 16 29.3**	**-1.7**
	baz=223						
ECL				*e*S	**Sn**	**15 17 01.3**	**-3.2**
	baz=223						
SSD	**Sandimen**	**2.86**	**222**	*e*P	**Pn**	**15 16 31.6**	**-0.2**
	baz=221						
MASBT	**Mashibuluo**	**2.96**	**220**	*e*P	**Pn**	**15 16 33.9**	**+0.7**
	baz=213						
EAST	**Anshuo**	**3.03**	**214**	*e*P	**Pn**	**15 16 33.2**	**-1.0**
	baz=214						
EAST				*e*S	**Sn**	**15 17 07.1**	**-3.2**
	baz=214						
PNG	**Penghu**	**3.16**	**246**	*e*P	**Pn**	**15 16 34.8**	**-1.1**
	baz=245						
SCZT	**Fangliau**	**3.16**	**217**	*e*P	**Pn**	**15 16 35.5**	**-0.4**
	baz=208						
SCZT				*e*S	**Sn**	**15 17 11.2**	**-2.3**
	baz=208						
TWK1	**Hengchun**	**3.42**	**211**	*e*P	**Pn**	**15 16 37.6**	**-1.9**
	baz=216						
KSRS	**Korea Array**	**13.28**	**18**	P	P	15 19 08.6	+4.1
	0.1nm,0.3s,baz=190,slow=12,SNR=8.3						
KSRS				LR	LR	15 25 27.5	
	comp=Z,231nm,18.8s,baz=198,slow=42						
CMAR	**Chiang Mai Arr**	**22.96**	**258**	P	P	15 20 59.0	+8.2
	0.3nm,0.4s,baz=55,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**26.27**	**335**	P	**P**	**15 21 27.7**	**+6.1**
	0.5nm,0.6s,baz=147,slow=8.4,SNR=2.7						
MKAR	**Makanchi Array**	**38.79**	**315**	P	**P**	**15 23 15.0**	**+4.1**
	0.6nm,0.8s,baz=108,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.40**	**326**	P	**P**	**15 23 28.0**	**+3.9**
	1.0nm,0.7s,baz=104,slow=12,SNR=2.8						
FITZ	**Fitzroy Crossi**	**42.84**	**176**	LR	LR	15 45 11.5	
	comp=Z

*ISN **26** 15:36:25.6±1.3,34°.47N×45°.46E,h7km±7km,ML3.2*
*TEH **26** 15:36:27.4,34°.43N×45°.55E,h13km,ML3.1*
ISC 26 15:36:26.7±1.5,34°.46N±0°.03×45°.50E±0°.04,h4km±14km, n23,σ1§17/32,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**72**	*e*Pg	**Pg**	**15 36 40.8**	**-0.6**
IDHR				IAMB	IAmb	15 36 55.0	
comp=Z,0.0nm,0.3s							
IGHG	**Ghaleghazi**	**0.89**	**98**	*e*Pg	**Pg**	**15 36 43.9**	**+0.1**
IGHG				IAMB	IAmb	15 37 00.5	
comp=Z,13μm,0.6s							
KCHF	**Cheshme Sefid,**	**1.29**	**98**	*e*Pg	**Pb**	**15 36 50.9**	**-0.6**
KCHF				*e*Sg	**Sg**	**15 37 08.7**	**+0.7**
KCHF				IAMB	IAmb	15 37 12.8	
comp=Z,0.0nm,0.4s							
ILIN	**Lien**	**1.29**	**69**	*e*Pg	**Pn**	**15 36 50.9**	**-0.7**
ILIN				IAMB	IAmb	15 36 54.9	
comp=Z,5μm,0.2s							
ILIN				*e*Sg	**Sg**	**15 37 09.5**	**+1.4**
IKRK	**Kirkuk**	**1.34**	**315**	*e*Pn	**Pn**	**15 36 52.0**	**-0.1**
IKRK				AML	AML	15 36 55.0	
comp=Z,1μm,0.2s							
IKRK				*e*Sn	**Sb**	**15 37 11.0**	**+1.2**
KER	**Kermanshah**	**1.35**	**93**	*e*Pg	**Pg**	**15 36 52.5**	**0.0**
KER				*e*Sg	**Sg**	**15 37 10.9**	**+0.9**
IBDR	**Badra**	**1.39**	**165**	*e*Pg	**Pn**	**15 36 52.0**	**-0.8**
IBDR				AML	AML	15 37 04.4	
comp=Z,1μm,0.3s							
IBDR				*e*Sg	**Sg**	**15 37 13.0**	**+1.6**
BHD	**Baghdad**	**1.51**	**218**	*e*Pn	**Pn**	**15 36 54.0**	**-0.4**
BHD				*e*Sn	**Sb**	**15 37 15.0**	**+0.3**
IKOM	**Komasi**	**1.69**	**99**	*e*Pn	**Pb**	**15 36 58.1**	**-0.2**
IKOM				IAMB	IAmb	15 37 29.3	
comp=Z,0.0nm,0.4s							
IBZA	**Bozab**	**1.95**	**89**	*e*Pn	**Pb**	**15 37 02.0**	**-0.9**
IBZA				IAMB	IAmb	15 37 36.0	
comp=Z,0.0nm,0.3s							
IKFM	**Kafar-mosalman**	**2.16**	**115**	*e*Pn	**Pb**	**15 37 04.4**	**-1.9**
IKFM				IAMB	IAmb	15 37 50.3	
comp=Z,0.0nm,0.6s							
MAHB	**Mahabad**	**2.31**	**4**	IAMB	IAmb	15 37 38.6	
comp=Z,0.0nm,0.4s							
MAHB				*e*Pn	**Pb**	**15 37 07.8**	**-1.1**
IDOB	**Doab**	**2.32**	**106**	IAMB	IAmb	15 37 55.7	
comp=Z,0.0nm,0.8s							
IDOB				*e*Pn	**Pn**	**15 37 06.1**	**+0.3**
HSRG	**Sareghieh**	**2.41**	**70**	IAMB	IAmb	15 37 16.1	
comp=Z,0.0nm,0.4s							
HSRG				*e*Pn	**Pb**	**15 37 08.8**	**-2.0**
IKMR	**Kamar-syah**	**2.57**	**111**	*e*Pn	**Pn**	**15 37 09.9**	**+0.9**
IKMR				IAMB	IAmb	15 38 00.8	
comp=Z,0.0nm,0.4s							
HSAM	**Samen**	**2.58**	**95**	*e*Pn	**Pn**	**15 37 10.1**	**+0.7**
HSAM				IAMB	IAmb	15 37 18.2	
comp=Z,0.0nm,0.4s							
MSL	**Mosul**	**2.75**	**315**	*e*Pn	**Pn**	**15 37 12.0**	**+0.5**
MSL				AML	AML	15 37 22.3	
comp=Z,286nm,0.5s							
MSL				*e*Sn	**Sn**	**15 37 46.0**	**+0.8**
BDRS	**Dareh Seyedi**	**2.84**	**99**	*e*Pn	**Pn**	**15 37 13.6**	**+0.5**
BDRS				IAMB	IAmb	15 38 06.2	
comp=Z,0.0nm,0.3s							
BMDN	**Meydan**	**2.87**	**105**	*e*Pn	**Pn**	**15 37 13.9**	**+0.6**
BMDN				IAMB	IAmb	15 37 25.6	
comp=Z,0.0nm,0.4s							
HAGD	**Aghdareh**	**3.02**	**82**	*e*Pn	**Pb**	**15 37 17.6**	**-3.5**
HAGD				IAMB	IAmb	15 37 25.5	
comp=Z,0.0nm,0.3s							
NSR	**Nassriya**	**3.48**	**171**	*e*Pn	**Pn**	**15 37 22.0**	**+0.4**
NSR				*e*Sn	**Sn**	**15 38 04.0**	**+0.8**
IRAZ	**Razeghan**	**3.76**	**74**	*e*Pn	**Pn**	**15 37 27.0**	**+1.4**
RTB	**Rutbah**	**4.56**	**253**	*e*Pn	**Pn**	**15 37 37.0**	**+0.6**
RTB				AML	AML	15 37 38.3	
comp=Z,16nm,0.1s							
RTB				*e*Sn	**Sn**	**15 38 29.0**	**-0.8**

*BJI **26** 15:37:28.4±0.0,28°.15N×139°.74E,h440km,mb4.3/35, mB4.4/22*
*MOS **26** 15:37:30.9±0.9,28°.38N×139°.50E,h443km,mb4.2/22, Error ellipse: s-maj=11.2km s-min=5.8km az=102.7*
*IDC **26** 15:37:31.9±0.5,28°.42N×139°.52E,h436km±6km,mb3.6/28, mb1 3.6/35,mb1mx3.6/53,mbtmp4.4/35,Error ellipse: s-maj=12.0km s-min=5.7km az=80.0*
*ISCJB **26** 15:37:31.2±0.2,28°.43N±0°.02×139°.59E±0°.04, h445km±2km,mb4.2/64,Error ellipse: s-maj=4.9km s-min=3.8km az=1.4*
*JMA **26** 15:37:32.1±0.1,28°.62N×140°.17E,h464km,M4.4*
*NEIC **26** 15:37:32.5±1.5,28°.41N±0°.08×139°.54E±0°.09, h447km±4km,mb4.4/77*
ISC 26 15:37:32.2±0.5,28°.46N±0°.04×139°.63E±0°.05,h441km±5km, n208,σ1§51/242,mb4.2/82,11C-1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.64**	**120**	P	**P**	**15 38 36.3**	**+0.3**
CBIJ				*e*S	**S**	**15 39 25.5**	**-2.2**
JCJ	**Chichijima**	**2.64**	**120**	P	**P**	**15 38 36.4**	**+0.4**
103nm,0.3s,baz=52,slow=2.3,SNR=26							
JCJ				S	**S**	**15 39 26.6**	**-1.1**
86nm,0.3s,baz=284,slow=23,SNR=10							
JHH2	**Haha-jima-NKT2**	**2.90**	**128**	P	**P**	**15 38 38.4**	**+0.5**
JHH2				*e*S	**S**	**15 39 30.7**	**-0.4**
JHJ2	**Mitsune**	**4.64**	**2**	P	**P**	**15 38 53.5**	**+1.0**
JHJ2	**Mitsune**	**4.64**	**2**	P	**P**	**15 38 53.6**	**+1.0**
JHJ	**Hachijo jima 2**	**4.65**	**2**	P	**P**	**15 38 54.0**	**+1.4**
42nm,0.3s,baz=156,slow=23,SNR=8.9							
JHJ				S	**S**	**15 39 57.2**	**-1.0**
32nm,0.3s,baz=255,slow=20,SNR=2.5							
TTO1	**TONANKAI O.B.S**	**5.70**	**335**	P	**P**	**15 39 06.5**	**+3.9**
BSO1	**Boso 1**	**6.29**	**10**	P	**P**	**15 39 09.5**	**+1.1**
JTNC	**Tanabenakahech**	**6.36**	**328**	P	**P**	**15 39 12.1**	**+2.3**
BSO3	**Boso 3**	**6.37**	**7**	P	**P**	**15 39 09.8**	**+0.2**
BSO3				S	**S**	**15 40 28.4**	**-1.0**
JIE	**Ise**	**6.42**	**338**	P	**P**	**15 39 13.5**	**+3.1**
JKN2	**Miekihoku**	**6.44**	**334**	P	**P**	**15 39 13.6**	**+3.0**
BSO4	**Boso 4**	**6.54**	**5**	P	**P**	**15 39 11.9**	**+0.2**
BSO4				S	**S**	**15 40 30.9**	**-2.1**
HMMJ	**Hamamatsu 2**	**6.58**	**346**	P	**P**	**15 39 13.9**	**+1.7**
JOD2	**Odawara 2**	**6.80**	**356**	P	**P**	**15 39 14.7**	**+0.1**
JOD2				*e*S	**S**	**15 40 34.8**	**-3.5**
INU	**Inuyama**	**7.22**	**343**	P	**P**	**15 39 20.8**	**+1.8**
JYT	**Yasato**	**7.76**	**3**	P	**P**	**15 39 24.0**	**-0.8**
JYT				S	**S**	**15 40 52.7**	**-4.5**
JAG	**Ashikaga**	**7.95**	**359**	P	**P**	**15 39 25.9**	**-0.9**
JAG				*e*S	**S**	**15 40 53.2**	**-7.7**
MJAR	**Matsushiro Arr**	**8.15**	**352**	P	**P**	**15 39 27.9**	**-1.1**
MJAR				S	**S**	**15 41 01.6**	**-3.4**
MJAR	**Matsushiro Arr**	**8.15**	**352**	P	**P**	**15 39 28.8**	**-0.3**
2.8nm,0.3s,baz=168,slow=11,SNR=154							
MJAR				S	**S**	**15 41 01.6**	**-3.4**
0.3nm,0.3s,baz=286,slow=28,SNR=5.2							
MJAR	**Matsushiro Arr**	**8.15**	**352**	P	**P**	**15 39 27.9**	**-1.1**
MAJO	**Matsushiro**	**8.15**	**352**	P	**P**	**15 39 28.9**	**-0.1**
MAJO	**Matsushiro**	**8.15**	**352**	P	**P**	**15 39 28.9**	**-0.1**
MAT	**Matsushiro**	**8.15**	**352**	P	**P**	**15 39 29.0**	**0.0**
MAT				S	**S**	**15 41 02.0**	**-3.0**
MJB9	**Matsu-Tunnel**	**8.16**	**352**	P	**P**	**15 39 28.9**	**-0.1**
JHO	**Hitachi**	**8.17**	**5**	P	**P**	**15 39 29.1**	**-0.1**
JHO				*e*S	**S**	**15 41 00.9**	**-4.4**
JNU	**Nakatsue**	**8.85**	**304**	P	**P**	**15 39 39.3**	**+2.6**
3.6nm,0.3s,baz=178,slow=9.9,SNR=37							
JNU				S	**S**	**15 41 23.5**	**+4.4**
baz=229,slow=15,SNR=2.7							
JNU	**Nakatsue**	**8.85**	**304**	P	**P**	**15 39 38.8**	**+2.1**
JOW	**Kunigami**	**10.20**	**264**	P	**P**	**15 39 53.8**	**+2.2**
2.8nm,0.3s,baz=126,slow=13,SNR=48							
JOW	**Kunigami**	**10.20**	**264**	P	**P**	**15 39 53.3**	**+1.8**
SARN	**Sarigan**	**13.00**	**153**	P	**P**	**15 40 22.3**	**+0.1**
KSRS	**Korea Array**	**13.30**	**315**	P	**P**	**15 40 25.4**	**+0.3**
0.3nm,0.3s,baz=139,slow=11,SNR=7.6							
KS19	**Wonju Array Si**	**13.36**	**315**	P	**P**	**15 40 27.2**	**+1.4**
ERM	**Erimo**	**13.83**	**11**	*i* P	**P**	**15 40 32.0**	**+1.2**
ERM	**Erimo**	**13.83**	**11**	P	**P**	**15 40 32.8**	**+2.0**
YOJ	**Yonaguni jima**	**15.40**	**259**	P	**P**	**15 40 47.8**	**-0.1**
YOJ				pmax	pmax		
comp=Z,80nm,1.0s							
YOJ	**Yonaguni jima**	**15.40**	**259**	P	**P**	**15 40 47.8**	**-0.1**
GUMO	**Guam**	**15.58**	**161**	P	**P**	**15 40 50.5**	**+0.6**
comp=Z,14nm,0.3s,baz=338,slow=15,SNR=5.1							
ASAJ	**Asahikawa**	**15.81**	**8**	P	**P**	**15 40 53.7**	**+1.8**
comp=Z,1.3nm,0.3s,baz=268,slow=29,SNR=8.4							
JKA	**Kamikawa-asahi**	**15.81**	**8**	P	**P**	**15 40 53.7**	**+1.8**
TATO	**Taipei**	**16.57**	**262**	P	**P**	**15 40 59.0**	**-1.3**
NACB	**Ninganchiao**	**16.72**	**259**	P	**P**	**15 40 59.4**	**-2.4**
NACB				IAmb	IAmb	15 41 55.8	
comp=Z,18nm,0.8s							
YHNB	**Yeheng**	**16.76**	**261**	P	**P**	**15 41 00.3**	**-2.0**
USA0B	**Ussuriysk Arra**	**16.86**	**341**	P	**P**	**15 41 03.5**	**+0.4**
USA0B				pmax	pmax		
comp=Z,64nm,1.8s							
USA0B	**Ussuriysk Arra**	**16.86**	**341**	P	**P**	**15 41 03.5**	**+0.4**
USA0B				IAmb	IAmb	15 41 18.3	
comp=Z,64nm,1.8s							
USRK	**Ussuriysk Ar.**	**16.86**	**341**	P	**P**	**15 41 03.6**	**+0.5**
baz=148,slow=10,SNR=38							
USRK				S	**S**	**15 43 55.3**	**-2.1**
baz=153,slow=26,SNR=2.8							
YULB	**Yu-li**	**17.24**	**257**	P	**P**	**15 41 06.3**	**-1.1**
YULB				IAmb	IAmb	15 41 09.1	
comp=Z,28nm,1.3s							
SSLB	**Suanglung**	**17.40**	**259**	P	**P**	**15 41 08.2**	**-0.9**
TWG	**Pinlang**	**17.64**	**256**	P	**P**	**15 41 10.9**	**-0.8**
TPUB	**Ta-pu**	**17.85**	**258**	P	**P**	**15 41 12.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**18.63**	**7**	P	**P**	**15 41 21.9**	**+0.7**
YSS				pmax	pmax		
comp=Z,263nm,1.9s							
YSS	**Yuzh-Sakhalins**	**18.63**	**7**	P	**P**	**15 41 21.9**	**+0.7**
KNMB	**Chin-men Tao**	**19.42**	**263**	P	**P**	**15 41 28.8**	**-0.1**
KLR	**Kul'dur**	**21.61**	**346**	*i* P	**P**	**15 41 49.0**	**+0.5**
KLR				pmax	pmax		
comp=Z,8.0nm,0.5s							
KLR	**Kul'dur**	**21.61**	**346**	P	**P**	**15 41 49.5**	**+1.0**
comp=Z,11nm,0.5s,baz=166,slow=8.0,SNR=53							
WHN	**Wuhan**	**22.09**	**282**	⇑*i* P	**P**	**15 41 53.0**	**-0.1**
WHN				pmax	pmax		
comp=Z,36nm,0.4s							
SKR	**Severo-Kuril's**	**25.47**	**25**	*e*P	**P**	**15 42 25.0**	**+2.0**
SKR				*e*S	**S**	**15 46 25.3**	**+7.9**
SKR				MLR	MLR		
comp=Z,400nm,17.0s							
SKR				MLR	MLR		
comp=Z,600nm,15.0s							
HHC	**Hu-ho-hao-te**	**26.07**	**306**	*e*P	**P**	**15 42 29.0**	**+0.3**
HHC				pmax	pmax		
comp=Z,5.0nm,1.2s							
ENH	**Enshi**	**26.30**	**281**	P	**P**	**15 42 29.7**	**-1.1**
XAN	**Xi'an**	**26.78**	**290**	P	**P**	**15 42 34.1**	**-0.8**
XAN				pmax	pmax		
comp=Z,6.0nm,0.7s							
XAN	**Xi'an**	**26.78**	**290**	P	**P**	**15 42 34.1**	**-0.8**
XAN				IAmb	IAmb	15 42 34.7	
comp=Z,5.9nm,0.7s							
PETK	**Petropavlovsk-**	**28.01**	**23**	P	**P**	**15 42 47.8**	**+2.3**
comp=Z,7.1nm,1.0s,baz=198,slow=4.2,SNR=5.3							
SIJI	**Sorong**	**30.24**	**197**	P	**P**	**15 43 04.6**	**-0.8**
comp=Z,8.1nm,0.8s,baz=42,slow=8.4,SNR=5.1							
LZH	**Lanzhou**	**31.07**	**293**	⇑P	**P**	**15 43 12.5**	**-0.1**
LZH				pP	pP	15 44 29.5	-0.3
LZH				PP	**pwP**	**15 44 39.3**	**+3.5**
LZH				sP	sP	15 45 24.8	+4.3
LZH				pmax	pmax		
comp=Z,20nm,1.1s							
LZH				pmax	pmax		
comp=Z,93nm,4.9s							
CD2	**Chengdu**	**31.18**	**283**	P	**P**	**15 43 11.5**	**-2.0**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
ULN	**Ulaanbaatar**	**31.78**	**316**	*ce*P	**P**	**15 43 19.0**	**+0.4**
ULN				pmax	pmax		
comp=Z,6.0nm,0.7s							
ULN	**Ulaanbaatar**	**31.78**	**316**	P	**P**	**15 43 18.8**	**+0.3**
FAKI	**Fak Fak**	**31.99**	**194**	P	**P**	**15 43 19.6**	**-1.0**
FAKI				IAmb	IAmb	15 44 12.8	
comp=Z,15nm,1.0s							
MA2	**Magadan**	**32.04**	**11**	P	**P**	**15 43 21.1**	**+0.7**
MA2				pmax	pmax		
comp=Z,52nm,1.3s							
MA2	**Magadan**	**32.04**	**11**	P	**P**	**15 43 21.4**	**+1.0**
comp=Z,12nm,0.8s,baz=159,slow=6.9,SNR=3.4							
MA2	**Magadan**	**32.04**	**11**	P	**P**	**15 43 21.1**	**+0.7**
MA2				IAmb	IAmb	15 43 24.0	
comp=Z,52nm,1.3s							
SONM	**Songino Array**	**32.17**	**316**	P	**P**	**15 43 21.5**	**-0.4**
SONM				pmax	pmax		
comp=Z,3.0nm,0.6s							
SONM	**Songino Array**	**32.17**	**316**	P	**P**	**15 43 21.9**	**0.0**
comp=Z,4.0nm,0.4s,baz=126,slow=8.5,SNR=35							
SONM				ScP	**ScP**	**15 48 57.5**	**-1.8**
comp=Z,0.9nm,0.8s,baz=132,slow=2.1,SNR=4.8							
SONM	**Songino Array**	**32.17**	**316**	P	**P**	**15 43 21.5**	**-0.4**
SLVN	**Son La**	**33.08**	**266**	P	**P**	**15 43 29.6**	**-0.3**
YAK	**Yakutsk**	**34.22**	**352**	P	**P**	**15 43 38.5**	**-0.4**
YAK				pmax	pmax		
comp=Z,10.0nm,0.9s							
YAK	**Yakutsk**	**34.22**	**352**	P	**P**	**15 43 39.2**	**+0.3**
comp=Z,2.7nm,0.3s,baz=165,slow=2.8,SNR=4.2							
YAK	**Yakutsk**	**34.22**	**352**	P	**P**	**15 43 38.5**	**-0.4**
YAK				IAmb	IAmb	15 43 39.8	
comp=Z,9.7nm,0.9s							
GTA	**Gaotai**	**34.54**	**299**	*e*P	**P**	**15 43 41.8**	**-0.4**
GTA				S	**S**	**15 48 37.5**	**-1.1**
GTA				pmax	pmax		
comp=Z,6.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,110nm,6.2s							
KRVT	**Keravat (AS076**	**34.69**	**158**	P	**P**	**15 43 43.5**	**0.0**
comp=Z,15nm,0.6s,baz=208,slow=5.7,SNR=4.0							
TLY	**Talaya**	**35.46**	**321**	P	**P**	**15 43 49.9**	**+0.3**
TLY				pmax	pmax		
comp=Z,16nm,1.3s							
TLY	**Talaya**	**35.46**	**321**	P	**P**	**15 43 49.9**	**+0.3**
TLY				IAmb	IAmb	15 44 30.4	
comp=Z,16nm,1.3s							
SEY	**Seymchan**	**35.48**	**10**	*i* P	**P**	**15 43 50.3**	**+0.8**
SEY	**Seymchan**	**35.48**	**10**	P	**P**	**15 43 50.8**	**+1.3**
comp=Z,4.4nm,0.7s,baz=200,slow=6.9,SNR=15							
SBUM	**Sibu**	**36.77**	**230**	P	**P**	**15 44 00.7**	**-0.2**
CHAI	**Chaiyaphum**	**36.88**	**258**	P	**P**	**15 44 01.4**	**-0.4**
comp=Z,50μm,0.7s,comp=Z,697μm							
PBKT	**Sadao Pong**	**37.47**	**260**	P	**P**	**15 44 06.7**	**0.0**
comp=Z,4.8nm,0.7s							
PBKT	**Sadao Pong**	**37.47**	**260**	P	**P**	**15 44 06.4**	**-0.2**
PBKT				IAmb	IAmb	15 44 07.3	
comp=Z,5.8nm,0.6s							
CMMT	**Chiang Mai**	**38.33**	**265**	P	**P**	**15 44 13.5**	**-0.3**
comp=Z,3.6nm,0.7s							
CHTO	**Chiang Mai**	**38.33**	**265**	P	**P**	**15 44 13.1**	**-0.7**
CHTO				pmax	pmax		
comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**38.33**	**265**	P	**P**	**15 44 13.1**	**-0.7**
PMG	**Port Moresby**	**38.34**	**168**	*i* P	**P**	**15 44 13.7**	**0.0**
PMG				pmax	pmax		
comp=Z,18nm,0.4s							
PMG	**Port Moresby**	**38.34**	**168**	P	**P**	**15 44 13.8**	**0.0**
comp=Z,5.2nm,0.4s,baz=31,slow=5.9,SNR=9.1							
PMG	**Port Moresby**	**38.34**	**168**	P	**P**	**15 44 13.8**	**0.0**
PMG				IAmb	IAmb	15 44 14.6	
comp=Z,6.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**38.47**	**264**	P	**P**	**15 44 14.8**	**-0.2**
comp=Z,1.1nm,0.7s,baz=69,slow=5.4,SNR=11							
CMAR				PcP	**PcP**	**15 46 17.5**	**+0.2**
comp=Z,0.3nm,0.3s,baz=54,slow=4.6,SNR=2.9							
CMAR	**Chiang Mai Arr**	**38.47**	**264**	P	**P**	**15 44 14.1**	**-0.8**
UTHA	**Uthaitani**	**39.22**	**260**	P	**P**	**15 44 21.7**	**+0.6**
comp=Z,13μm,0.7s							
SOEI	**Soe**	**40.79**	**204**	P	**P**	**15 44 33.8**	**0.0**
SOEI				IAmb	IAmb	15 46 08.1	
comp=Z,56nm,1.6s							
BILL	**Bilibino**	**42.67**	**14**	*ce*P	**P**	**15 44 48.7**	**+0.7**
BILL				pmax	pmax		
comp=Z,10.0nm,0.8s							
BILL	**Bilibino**	**42.67**	**14**	P	**P**	**15 44 49.1**	**+1.1**
BILL				IAmb	IAmb	15 44 50.3	
comp=Z,10nm,0.8s							
KULM	**Kulim**	**43.53**	**245**	P	**P**	**15 44 55.3**	**-0.2**
KULM				IAmb	IAmb	15 44 56.0	
comp=Z,5.6nm,0.6s							
TIXI	**Tiksi**	**43.65**	**355**	*i* P	**P**	**15 44 57.3**	**+1.7**
TIXI				pmax	pmax		
comp=Z,7.0nm,1.1s							
IPM	**Ipoh**	**43.71**	**244**	P	**P**	**15 44 56.0**	**-0.9**
WMQ	**Urumqi**	**43.94**	**305**	*e*P	**P**	**15 44 59.5**	**+1.0**
WMQ				pmax	pmax		
comp=Z,14nm,0.7s							
WMQ				pmax	pmax		
comp=Z,140nm,5.7s							
DGZ	**Jazzator, Alta**	**44.69**	**313**	*i* P	**P**	**15 45 04.3**	**0.0**
NIKH	**Nikolski High**	**44.86**	**42**	P	**P**	**15 45 05.9**	**+0.6**
ZAA0	**Zalesovo Array**	**46.98**	**319**	P	**P**	**15 45 20.6**	**-0.9**
ZALV	**Zalesovo Beam**	**46.98**	**319**	P	**P**	**15 45 20.9**	**-0.7**
comp=Z,1.5nm,0.3s,baz=109,slow=6.6,SNR=6.9							
ZALV				PcP	**PcP**	**15 46 44.6**	**-0.8**
comp=Z,0.9nm,0.4s,baz=97,slow=3.5,SNR=4.4							
ZALV	**Zalesovo Beam**	**46.98**	**319**	P	**P**	**15 45 20.6**	**-1.0**
ZALV				PcP	**PcP**	**15 46 44.5**	**-1.0**
MK31	**Makanchi Array**	**47.86**	**309**	P	**P**	**15 45 27.7**	**-0.7**
MK31						15 46 48.3	
MK31				pmax	pmax		
comp=Z,4.0nm,1.2s							
MK31	**Makanchi Array**	**47.86**	**309**	P	**P**	**15 45 27.7**	**-0.7**
MK31				PcP	**PcP**	**15 46 48.3**	**-0.6**
MKAR	**Makanchi Array**	**47.86**	**309**	*ce*P	**P**	**15 45 28.0**	**-0.5**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.4s							
MKAR	**Makanchi Array**	**47.86**	**309**	P	**P**	**15 45 27.9**	**-0.5**
comp=Z,2.5nm,0.4s,baz=88,slow=10,SNR=57							
MKAR				PcP	**PcP**	**15 46 48.3**	**-0.6**
comp=Z,0.9nm,0.6s,baz=88,slow=5.8,SNR=4.4							
MKAR				ScP	**ScP**	**15 49 58.4**	**-2.1**
comp=Z,0.4nm,0.3s,baz=82,slow=5.3,SNR=12							
MKAR	**Makanchi Array**	**47.86**	**309**	P	**P**	**15 45 27.7**	**-0.8**
MKAR				PcP	**PcP**	**15 46 48.1**	**-0.8**
JOHN	**Johnston Islan**	**48.06**	**93**	P	**P**	**15 45 30.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**48.22**	**198**	P	**P**	**15 45 30.7**	**-0.7**
comp=Z,3.0nm,0.5s,baz=22,slow=6.7,SNR=13							
WRAB	**Tennant Creek**	**48.38**	**187**	*ce*P	**P**	**15 45 32.2**	**-0.3**
WRAB				pmax	pmax		
comp=Z,14nm,1.2s							
WRAB	**Tennant Creek**	**48.38**	**187**	P	**P**	**15 45 31.5**	**-1.0**
WRAB				IAmb	IAmb	15 45 32.7	
comp=Z,14nm,1.1s							
WB2	**Warramunga Arr**	**48.38**	**187**	P	**P**	**15 45 31.5**	**-1.1**
WB2				IAmb	IAmb	15 45 32.7	
comp=Z,15nm,1.2s							
WRA	**Warramunga Arr**	**48.39**	**187**	P	**P**	**15 45 31.2**	**-1.4**
WRA						15 46 50.8	
WRA	**Warramunga Arr**	**48.39**	**187**	P	**P**	**15 45 31.6**	**-0.9**
comp=Z,3.0nm,0.4s,baz=0.9,slow=7.9,SNR=86							
WRA				PcP	**PcP**	**15 46 51.7**	**+0.7**
comp=Z,1.0nm,0.7s,baz=1.6,slow=4.4,SNR=3.0							
WRA				ScP	**ScP**	**15 50 01.1**	**-1.8**
comp=Z,1.7nm,0.8s,baz=0.8,slow=5.0,SNR=9.8							
WRA	**Warramunga Arr**	**48.39**	**187**	P	**P**	**15 45 31.2**	**-1.4**
WRA				PcP	**PcP**	**15 46 50.8**	**-0.3**
WRA					**ScP**	**15 50 00.8**	**-2.1**
CTA	**Charters Tower**	**48.68**	**172**	P	**P**	**15 45 34.9**	**+0.1**
comp=Z,4.1nm,0.7s,baz=351,slow=6.1,SNR=5.6							
KURK	**Kurchatov**	**50.42**	**314**	*ce*P	**P**	**15 45 46.5**	**-0.8**
KURK				pmax	pmax		
comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**50.42**	**314**	P	**P**	**15 45 46.3**	**-1.0**
KDJ	**Kajisay**	**51.70**	**303**	P	**P**	**15 45 57.0**	**-0.1**
KDJ				pmax	pmax		
comp=Z,4.0nm,0.8s							
KDJ	**Kajisay**	**51.70**	**303**	P	**P**	**15 45 57.0**	**-0.1**
AS31	**Alice Springs**	**52.11**	**187**	P	**P**	**15 45 59.1**	**-0.9**
ASAR	**Alice Springs**	**52.11**	**187**	P	**P**	**15 45 59.2**	**-0.9**
comp=Z,1.6nm,0.5s,baz=2.2,slow=7.1,SNR=71							
ASAR				PcP	**PcP**	**15 47 05.5**	**+0.7**
comp=Z,0.6nm,0.7s,baz=11,slow=5.2,SNR=2.8							
ASAR				ScP	**ScP**	**15 50 17.2**	**-1.7**
comp=Z,0.3nm,0.5s,baz=360,slow=4.4,SNR=8.5							
ASAR	**Alice Springs**	**52.11**	**187**	P	**P**	**15 45 58.9**	**-1.1**
KSH	**Kashi**	**52.94**	**300**	P	**P**	**15 46 09.5**	**+3.4**
KSH				PP	**sP**	**15 48 18.0**	**-2.9**
KSH				S	**S**	**15 53 03.0**	**+1.7**
KSH				ScS	**ScS**	**15 55 07.3**	**-1.7**
KSH				sS	sS	15 55 41.3	+3.4
KSH				SS	**SS**	**15 56 52.3**	**+4.8**
KSH				pmax	pmax		
comp=Z,20nm,0.6s							
KSH				pmax	pmax		
comp=Z,310nm,11.3s							
SVW2	**Sparrevohn**	**53.38**	**33**	P	**P**	**15 46 10.3**	**+1.6**
SVW2				IAmb	IAmb	15 46 47.3	
comp=Z,37nm,1.9s							
TTA	**Tatalina**	**53.43**	**31**	P	**P**	**15 46 10.5**	**+1.4**
TTA				pmax	pmax		
comp=Z,33nm,2.0s							
TTA	**Tatalina**	**53.43**	**31**	P	**P**	**15 46 10.6**	**+1.4**
TTA				IAmb	IAmb	15 47 03.5	

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CCB                                     IAmb    IAmb    15 47 30.9
      comp=Z,20nm,2.0s
GAR   Garm            57.35 300         P       P       15 46 36.7 -0.3
GAR                                     IAmb    IAmb    15 46 37.5
      comp=Z,36nm,1.4s
HDA   Harding Lake    57.58  30         P       P       15 46 38.0  0.0
HDA                                     IAmb    IAmb    15 47 33.7
      comp=Z,31nm,1.9s
IL31                  57.62  29         P       P       15 46 38.3  0.0
IL31                                    IAmb    IAmb    15 47 28.6
      comp=Z,14nm,1.6s
ILAR  Eielson Array   57.62  29         P       P       15 46 38.4 +0.1
      comp=Z,0.9nm,0.5s,baz=251,slow=5.5,SNR=19
ILAR  Eielson Array   57.62  29         P       P       15 46 37.9 -0.4
PRP   Porcupine Dome  58.21  28         P       P       15 46 42.4 -0.1
PRP                                     IAmb    IAmb    15 48 51.5
      comp=Z,18nm,2.0s
CHGR  Chuyangaron     58.31 300         P       P       15 46 43.2 -0.4
BMAR  Burnt Mountain  58.62  26         P       P       15 46 46.7 +1.5
DOT   Dot Lake        58.85  30         P       P       15 46 47.4 +0.6
DOT                                     IAmb    IAmb    15 48 27.7
      comp=Z,28nm,1.4s
SCRK  Sand Creek      58.88  30         P       P       15 46 47.6 +0.5
MENT  Mentasta        59.03  31         P       P       15 46 48.9 +0.9
MENT                                    IAmb    IAmb    15 46 57.0
      comp=Z,23nm,1.8s
PALK  Pallekele       59.30 261         P       P       15 46 49.3 -1.3
PALK                                    pmax    pmax
      comp=Z,54nm,1.7s
PALK  Pallekele       59.30 261         P       P       15 46 49.3 -1.3
PALK                                    IAmb    IAmb    15 48 51.3
      comp=Z,54nm,1.6s
NPOC  North of Pu'u   59.72  83         P       P       15 46 53.6 +0.2
STKA  Stephens Creek  60.03 178         P       P       15 46 54.3 -0.7
STKA                                    pmax    pmax
      comp=Z,1.0nm,0.6s
STKA  Stephens Creek  60.03 178         P       P       15 46 54.5 -0.5
      comp=Z,2.9nm,0.7s,baz=330,slow=9.7,SNR=7.1
STKA  Stephens Creek  60.03 178         P       P       15 46 54.3 -0.7
ARU   Arti            61.96 322d i P    P       P       15 47 06.8 -0.7
ARU                                                     15 47 41.5
ARU                                                     15 49 24.9
ARU                                     S       S       15 54 53.6 -2.7
ARU                                     pmax    pmax
      comp=Z,5.0nm,0.5s
ABKAR Akbulak array   62.52 313         P       P       15 47 10.5 -0.7
ABKAR Akbulak array   62.52 313         P       P       15 47 10.6 -0.7
ABKAR                                   IAmb    IAmb    15 47 11.3
      comp=Z,8.2nm,0.5s
INK   Inuvik          62.74  25         P       P       15 47 12.8 +0.4
      comp=Z,1.2nm,0.5s,baz=301,slow=8.5,SNR=10
CAN   Canberra        64.05 171         P       P       15 47 21.7 +0.4
CAN                                     pmax    pmax
      comp=Z,16nm,1.9s
GEYT  Alibeck         66.86 302         P       P       15 47 39.4 +0.2
      comp=Z,1.4nm,0.6s,baz=202,slow=11,SNR=3.0
ARCES ARCESS Array B  71.51 340         P       P       15 48 07.5 +0.8
      comp=Z,1.6nm,0.6s,baz=62,slow=8.3,SNR=6.4
YKA   Yellowknife Ar  72.02  28         P       P       15 48 10.0 +0.3
YKA   Yellowknife Ar  72.02  28         P       P       15 48 10.0 +0.3
      comp=Z,0.6nm,0.4s,baz=301,slow=6.1,SNR=3.3
OBN   Obninsk         74.12 324 i P     P       P       15 48 35.9 +14
OBN                                     pmax    pmax
      comp=Z,6.0nm,0.9s
KBZ   Khabaz          75.42 312 i P     P       P       15 48 29.3 -0.3
KBZ   Khabaz          75.42 312         P       P       15 48 29.8 +0.3
      comp=Z,5.1nm,0.8s,baz=82,slow=6.6,SNR=16
KIV   Kislovodsk      75.46 312 eP      P       P       15 48 30.9 +0.9
KIV                                     pmax    pmax
      comp=Z,13nm,1.0s
GNI   Garni           75.70 308 i P     P       P       15 48 33.3 +1.8
GNI                                     pmax    pmax
      comp=Z,36nm,1.2s
FINES FINESS Array B  75.72 333         P       P       15 48 30.4 -0.5
      comp=Z,1.2nm,0.3s,baz=72,slow=5.0,SNR=20
AKASG Malin Array Be  80.18 323 ceP     P       P       15 48 55.4 +0.1
AKASG Malin Array Be  80.18 323         P       P       15 48 54.4 -0.9
      comp=Z,0.2nm,0.3s,baz=51,slow=4.0,SNR=5.4
NOA   NORSAR Array B  81.50 337         P       P       15 49 01.3 -0.7
      comp=Z,0.3nm,0.5s,baz=51,slow=6.4,SNR=2.2
BRTR  Keskin Array B  83.42 312 ceP     P       P       15 49 11.8 -0.5
BRTR                                    pmax    pmax
      comp=Z,1.0nm,0.5s
BRTR  Keskin Array B  83.42 312         P       P       15 49 11.9 -0.4
      comp=Z,0.7nm,0.5s,baz=120,slow=3.5,SNR=7.6
KOLS  Kolonicke sedl  84.86 324 eP      P       P       15 49 25.8 +6.6
KOLS  Kolonicke sedl  84.86 324 eP      P       P       15 49 25.8 +6.6
TORD  Torodi Ar. Bea  121.98 310        PKP     PKPdf   15 55 35.2 -1.0
      comp=Z,0.2nm,0.4s,baz=33,slow=1.4,SNR=3.1
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*SKHL **26** 15:44:18.4±0.8, 45.°95N×153.°55E, h43km±8km, mb5.3/3, msh5.0/3*
*ISCJB **26** 15:44:19.9±0.5, 46.°74N±0.°06×152.°91E±0.°07, h56km, mb3.8/17, Error ellipse: s-maj=11.0km s-min=3.7km az=142.4*
*MOS **26** 15:44:19.6±1.1, 46.°76N×152.°97E, h55km, mb4.4/2, Error ellipse: s-maj=11.4km s-min=7.5km az=51.2*
*NEIC **26** 15:44:22.4±1.3, 46.°8N±0.°1×152.°9E±0.°1, h63km±8km, mb4.5/10*
*IDC **26** 15:44:24.0±2.2, 46.°86N×152.°84E, h75km±19km, mb3.5/17, mb1 3.7/24, mb1mx3.6/50, mbtmp3.8/24, Error ellipse: s-maj=20.1km s-min=10.6km az=138.0*

ISC 26 15:44:21.4±0.7, 46.°77N±0.°08×152.°97E±0.°08, h56km, n79, σ1§10/81, mb3.8/18, 1C, Kuril Islands

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Code  Station Name      Δ°   AZ°   Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
KUR   Kuril'sk          3.87 248  ePN   Pn   15 45 18.8 +0.4
KUR                               eS    Sn   15 46 02.5  0.0
KUR                               pmax  pmax
      comp=N,48nm,0.4s
KUR                               pmax  pmax
      comp=Z,94nm,0.4s
KUR                               pmax  pmax
      comp=E,21nm,0.5s
KUR                               smax  smax
      comp=N,234nm,0.6s
KUR                               smax  smax
      comp=E,102nm,0.4s
KUR   Kuril'sk          3.87 248  eP    Pn   15 45 18.8 +0.4
KUR                               AMB   AMB  15 45 20.0
      comp=E,245nm,3.0s
KUR                               AMB   AMB  15 45 20.0
      comp=E,46nm,0.4s
KUR                               eS    Sn   15 46 04.7 +2.2
KUR                               A     A    15 46 07.0
      comp=E,454nm,2.0s
KUR                               A     A    15 46 07.0
      comp=E,366nm,2.0s
KUR                               A     A    15 46 10.0
      comp=E,151nm,0.4s
KUR                               A     A    15 46 10.0
      comp=E,98nm,0.4s
SKR   Severo-Kuril's    4.44  27  ePN   Pn   15 45 44.5 +18
SKR                               eS    Sn   15 46 13.2 -3.2
SKR                               smax  smax
      comp=N,78nm,0.6s
SKR                               smax  smax
      comp=E,60nm,0.5s
SKR   Severo-Kuril's    4.44  27  eP    Pn   15 45 32.3 +6.2
SKR                               AMB   AMB  15 45 35.3
      comp=E,95nm,0.7s
SKR                               AMB   AMB  15 45 36.9
      comp=E,316nm,3.0s
SKR                               eS    Sn   15 46 28.1 +12
SKR                               A     A    15 46 31.5
      comp=E,600nm,3.0s
SKR                               A     A    15 46 31.5
      comp=E,1μm,3.0s
SKR                               A     A    15 46 33.0
      comp=E,69nm,0.7s
SKR                               A     A    15 46 33.0
      comp=E,147nm,0.7s
YUK   Yuzh-Kuril'sk     5.70 244  ePN   Pn   15 45 42.6 -0.8
YUK                               pmax  pmax
      comp=Z,113nm,0.2s
YUK                               pmax  pmax
      comp=Z,616nm,1.6s
YUK   Yuzh-Kuril'sk     5.70 244  eP    Pn   15 45 42.6 -0.8
YUK                               AMB   AMB  15 45 46.0
      comp=Z,53nm,0.5s
YUK                               AMB   AMB  15 45 51.0
      comp=Z,416nm,3.0s
YUK                               eS    Sn   15 46 45.0 -2.5
YUK                               A     A    15 46 51.0
      comp=Z,1μm,2.5s
YUK                               A     A    15 46 51.0
      comp=Z,804nm,2.5s
YUK                               A     A    15 46 54.0
      comp=Z,162nm,0.6s
YUK                               A     A    15 46 54.0
      comp=Z,168nm,0.6s
GRPR  Tuman             5.78 244  ePN   Pn   15 45 44.1 -0.4
GRPR                              pmax  pmax
      comp=Z,62nm,0.4s
GRPR  Tuman             5.78 244  eP    Pn   15 45 44.0 -0.4
GRPR                              AMB   AMB  15 45 47.0
      comp=Z,62nm,0.5s
GRPR                              eS    Sn   15 46 48.0 -1.4
GRPR                              A     A    15 46 56.0
      comp=Z,111nm,0.6s
GRPR                              A     A    15 46 56.0
      comp=Z,117nm,0.6s
GLVR  Golovnino         6.07 243  PN    Pn   15 45 47.4 -1.0
GLVR                              pmax  pmax
      comp=Z,218nm,0.5s
GLVR  Golovnino         6.07 243  eP    Pn   15 45 47.5 -1.0
GLVR                              AMB   AMB  15 45 48.0
      comp=Z,52nm,0.5s
NMR   Nemuro--Hokkai    6.15 239⇑ i PN    Pn   15 45 47.7 -1.9
NMR   Nemuro--Hokkai    6.15 239  i P    Pn   15 45 48.7 -0.9
NMR                               i S    Sn   15 46 55.0 -3.5
YSS   Yuzh-Sakhalins    7.00 275  PN    Pn   15 46 02.7 +1.4
YSS   Yuzh-Sakhalins    7.00 275  Pn    Pn   15 46 02.7 +1.4
PEA0B Petropavlovsk-    7.04  24  PN    Pn   15 46 02.3 +0.5
PEA0B Petropavlovsk-    7.04  24  Pn    Pn   15 46 02.3 +0.5
PETK  Petropavlovsk-    7.04  24  P     Pn   15 46 02.6 +0.8
      comp=Z,0.3nm,0.3s,baz=175,slow=12,SNR=7.7
PETK                              S     Sn   15 47 23.9 +3.5
      baz=198,slow=23,SNR=1.9
PETK  Petropavlovsk-    7.04  24          Pn   15 46 02.4 +0.6
JKA   Kamikawa-asahi    7.76 254          Pn   15 46 13.7 +2.0
JKA                                       Sn   15 47 37.1 -0.9
ASAJ  Asahikawa         7.76 254  P       Pn   15 46 13.7 +2.0
      comp=Z,1.5nm,0.3s,baz=58,slow=18,SNR=10
ASAJ                              S       Sn   15 47 37.1 -0.9
      baz=285,slow=33,SNR=2.2
ERM   Erimo             8.48 239  PN    Pn   15 46 22.5 +1.0
ERM   Erimo             8.48 239  Pn    Pn   15 46 22.5 +1.0
MA2   Magadan          12.90 355          Pn   15 47 21.6 -0.1
MA2   Magadan          12.90 355  P       Pn   15 47 42.4 +0.2
KLR   Kul'dur          14.41 288
      comp=Z,0.1nm,0.3s,baz=47,slow=5.0,SNR=2.1
USA0B Ussuriysk Arra   14.93 268  P       Pn   15 47 49.2 +0.2
USA0B Ussuriysk Arra   14.93 268  Pn      Pn   15 47 49.2 +0.2
USA0B                             P       P    15 47 53.4 -0.1
USRK  Ussuriysk Ar.    14.93 268  P       Pn   15 47 49.1 +0.1
USRK  Ussuriysk Ar.    14.93 268  P       Pn   15 47 49.3 +0.3
      baz=67,slow=13,SNR=6.7
USRK  Ussuriysk Ar.    14.93 268          Pn   15 47 49.1 +0.1
USRK                              P       P    15 47 53.4 -0.1
MAJO  Matsushiro       15.01 232  P       P    15 47 54.6 +0.3
MAJO                              pmax    pmax
      comp=Z,41nm,1.5s
MAJO  Matsushiro       15.01 232  P       P    15 47 54.6 +0.3
MAJO                              IAmb    IAmb 15 48 05.3
      comp=Z,41nm,1.4s
MJAR  Matsushiro Arr   15.01 232  P       Pn   15 47 49.8 -0.2
MJAR  Matsushiro Arr   15.01 232  P       P    15 47 53.1 -1.3
      comp=Z,0.1nm,0.3s,baz=42,slow=9.2,SNR=7.2
MJAR  Matsushiro Arr   15.01 232  Pn      Pn   15 47 49.9 -0.2
MJAR                              P       P    15 47 55.3 +1.0
MJAR                              IAmb    IAmb 15 48 45.6
      comp=Z,8.6nm,1.6s
MJB9  Matsu-Tunnel     15.01 232  P       P    15 47 54.5 +0.2
MJB9                              IAmb    IAmb 15 48 05.3
      comp=Z,38nm,1.4s
SEY   Seymchan         16.20 359  P       P    15 48 06.3 -1.0
      comp=Z,0.7nm,0.3s,baz=146,slow=7.3,SNR=13
KSRS  Korea Array      20.70 252  P       Pn   15 48 59.6 -0.1
      comp=Z,1.7nm,0.6s,baz=53,slow=9.4,SNR=6.4
JNU   Nakatsue         21.64 239  P       P    15 49 07.3 +0.3
      comp=Z,6.4nm,1.0s,baz=212,slow=3.3,SNR=3.9
H11N2 WAKE ISLAND Hy   29.28 152  T       T    16 21 41.4
      baz=340,slow=76,SNR=116
H11N1 WAKE ISLAND Hy   29.30 152  T       T    16 21 37.4
      baz=340,slow=76,SNR=73
H11N3 WAKE ISLAND Hy   29.30 152  T       T    16 21 44.3
      baz=340,slow=76,SNR=63
H11S1 WAKE ISLAND Hy   30.37 154  T       T    16 23 07.3
      baz=341,slow=76,SNR=80
H11S3 WAKE ISLAND Hy   30.38 154  T       T    16 23 10.2
      baz=341,slow=76,SNR=84
H11S2 WAKE ISLAND Hy   30.39 154  T       T    16 23 09.0
      baz=341,slow=76,SNR=106
IMAR  Indian Mountai   33.81  36  P       P    15 50 57.9 +0.2
ILAR  Eielson Array    36.60  39  P       P    15 51 22.4 +0.7
      comp=Z,0.6nm,1.0s,baz=265,slow=9.0,SNR=3.1
BMAR  Burnt Mountain   37.56  34  P       P    15 51 30.9 +1.1
INK   Inuvik           41.69  32  P       P    15 52 04.5 +0.5
INK                               pmax    pmax
      comp=Z,4.0nm,1.1s
INK   Inuvik           41.69  32  P       P    15 52 04.8 +0.8
      comp=Z,1.8nm,0.7s,baz=290,slow=5.7,SNR=7.5
INK   Inuvik           41.69  32  P       P    15 52 04.5 +0.5
ZALV  Zalesovo Beam    42.52 306  P       P    15 52 11.3 +0.3
      comp=Z,0.3nm,0.3s,baz=69,slow=7.9,SNR=1.7
MKAR  Makanchi Array   46.84 297  P       P    15 52 44.9 -0.7
      comp=Z,0.3nm,0.5s,baz=70,slow=8.2,SNR=4.7
CHTO  Chiang Mai       52.02 257  P       P    15 53 25.7 +0.4
CHTO                              pmax    pmax
      comp=Z,4.0nm,1.1s
CHTO  Chiang Mai       52.02 257  P       P    15 53 25.7 +0.4
CHTO                              IAmb    IAmb 15 53 27.1
      comp=Z,4.0nm,1.1s
CMAR  Chiang Mai Arr   52.28 256  P       P    15 53 28.6 +1.3
      comp=Z,1.0nm,0.8s,baz=35,slow=8.1,SNR=9.9
JIRN  Jiri             54.84 274  eP      P    15 53 46.8 +0.4
      comp=Z,7.1nm,0.5s
RAMN  Ramite           55.01 273  eP      P    15 53 47.7 +0.2
      comp=Z,8.4nm,0.5s
PKI   Pulchoki         55.44 275  eP      P    15 53 50.8 +0.2
      comp=Z,3.6nm,0.5s
PKIN  Phulchoki        55.44 275  eP      P    15 53 51.0 +0.5
      comp=Z,1.7nm,0.3s
DMN   Daman            55.62 275  eP      P    15 53 52.5 +0.7
      comp=Z,4.7nm,0.5s
GKN   Gorkha           55.69 276  eP      P    15 53 52.4 +0.2
DANN  Dangsing         56.07 277  eP      P    15 53 55.8 +0.7
PLID  Pearl Lake       59.75  55  P       P    15 54 20.8 +0.3
PLID                              IAmb    IAmb 15 55 05.8
      comp=Z,14nm,1.9s
NVAR  Mina Array Bea   62.52  62  P       P    15 54 40.0 +0.6
      comp=Z,0.4nm,0.7s,baz=293,slow=4.8,SNR=2.6
NVAR  Mina Array Bea   62.52  62  P       P    15 54 38.5 -0.9
FINES FINESS Array B   63.98 335  P       P    15 54 47.5 -0.8
      comp=Z,1.6nm,0.4s,baz=26,slow=6.7,SNR=13
PDAR  Pinedale Array   64.82  54  P       P    15 54 54.9 +0.4
      comp=Z,0.4nm,0.9s,baz=256,slow=3.6,SNR=3.5
PDAR  Pinedale Array   64.82  54  P       P    15 54 52.7 -1.8
NB2   NORSAR Subarra   68.18 341  P       P    15 55 14.6 -0.8
      comp=Z,1.0nm,0.6s,baz=28,slow=6.5
NOA   NORSAR Array B   68.18 341  P       P    15 55 14.8 -0.6
      comp=Z,1.2nm,0.6s,baz=28,slow=6.3,SNR=5.4
WRA   Warramunga Arr   68.50 199  P       P    15 55 17.6 -0.1
      comp=Z,0.5nm,0.9s,baz=8.1,slow=6.7,SNR=3.1
WRA   Warramunga Arr   68.50 199  IAmb    IAmb 15 55 18.3
      comp=Z,0.4nm,1.5s
KBZ   Khabaz           70.78 314  P       P    15 55 31.0 -0.6
KBZ   Khabaz           70.78 314  P       P    15 55 31.0 -0.6
      comp=Z,0.8nm,0.6s,baz=272,slow=6.9,SNR=2.9
AKASG Malin Array Be   71.47 326  P       P    15 55 34.9 -0.8
      comp=Z,2.0nm,0.4s,baz=35,slow=6.1,SNR=7.6
ASAR  Alice Springs    72.19 198  P       P    15 55 41.0 +0.8
      comp=Z,0.5nm,0.7s,baz=11,slow=5.4,SNR=9.2
TXAR  Lajitas Array    77.57  60  P       P    15 56 12.3 +0.7
      comp=Z,0.5nm,0.5s,baz=308,slow=5.6,SNR=7.6
BRTR  Keskin Array B   78.31 317  P       P    15 56 15.9 +0.3
      comp=Z,0.7nm,0.8s,baz=41,slow=6.6,SNR=4.1
```

*SKHL **26** 15:56:43.8±0.6, 48.°86N×142.°29E, h8km±4km, mb4.7/12, Ms3.9/2*
SKHL Felt (II-III) at Ol'shanka, Nikol'skoe. Felt (III) at Shakhtersk, Ol'hovka, Porech'e. Felt (IV) at Medveje, (II-IV) at Krasnopol'e, Uglegorsk.
*MOS **26** 15:56:45.1±1.8, 48.°81N×142.°30E, h9km, mb4.0/1, Error ellipse: s-maj=34.5km s-min=14.8km az=97.1*
MOS Felt (IV) at Medvezh'e; (III-IV) at Uglegorsk, Krasnopol'e; (III) at Shakhtersk, Ol'khovka, Porech'e; (II-III) at Ol'shanka, Nikol'skoye.

ISC 26 15:56:45.5±1.2, 48.°80N±0.°02×142.°22E±0.°05, h2km±11km, n17, σ1§79/30, 2C, Sakhalin Island

```
Code  Station Name      Δ°   AZ°   Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
UGL   Uglegorsk         0.29 341⇑ i PN  Pg   15 56 50.5 -0.6
UGL                               e           15 56 55.6
UGL                               pmax  pmax
      comp=Z,7μm,0.3s
UGL   Uglegorsk         0.29 341  i Pg    Pg   15 56 50.5 -0.6
UGL                               AMB   AMB  15 56 50.7
      comp=Z,4μm,0.2s
UGL                               pP    Pb   15 56 51.9 -1.6
UGL                               eSg   Sg   15 56 54.8 -0.1
UGL                               A     A    15 56 55.2
      comp=Z,49μm,0.3s
UGL                               A     A    15 56 55.2
      comp=Z,121μm,0.3s
KHLM  Kholmsk           1.75 184  ePg   Pn   15 57 16.7 -0.2
KHLM                              AMB   AMB  15 57 16.9
      comp=Z,167nm,0.4s
KHLM                              eSg   Sg   15 57 42.1 +0.4
KHLM                              A     A    15 57 44.4
      comp=Z,720nm,0.4s
YSS   Yuzh-Sakhalins    1.89 169⇑ ePN   Pn   15 57 17.7 -0.9
YSS                               e           15 57 44.2
YSS                               pmax  pmax
      comp=Z,170nm,0.5s
YSS                               smax  smax
      comp=N,260nm,0.7s
YSS                               smax  smax
      comp=E,220nm,0.8s
YSS   Yuzh-Sakhalins    1.89 169  eP    Pn   15 57 17.8 -0.9
YSS                               ePb   Pb   15 57 19.5 -1.1
YSS                               AMB   AMB  15 57 20.6
      comp=E,206nm,0.5s
YSS                               ePg   Pg   15 57 21.7 +0.1
YSS                               AMB   AMB  15 57 21.9
      comp=E,190nm,0.5s
YSS                               eSg   Sg   15 57 46.7 +0.7
YSS                               A     A    15 57 49.3
      comp=E,250nm,0.7s
YSS                               A     A    15 57 49.3
      comp=E,230nm,0.7s
TYV   Tymovskoe         2.08  8   ePN   Pn   15 57 21.2 -0.2
TYV                               eS    Sg   15 57 50.1 -2.3
TYV                               pmax  pmax
      comp=Z,84nm,0.6s
TYV                               smax  smax
      comp=N,87nm,0.9s
TYV   Tymovskoe         2.08  8   ePb   Pn   15 57 21.0 -0.4
TYV                               ePg   Pb   15 57 23.1 -0.9
TYV                               AMB   AMB  15 57 23.6
      comp=N,80nm,0.6s
TYV                               pP    Pg   15 57 25.8 +0.4
TYV                               eSg   Sg   15 57 50.1 -2.3
TYV                               A     A    15 57 52.7
      comp=N,87nm,0.9s
TYV                               A     A    15 57 52.7
      comp=N,116nm,0.9s
GRNR  Gornyy            4.24 300  ePN   Pn   15 57 54.2 +3.1
GRNR                              e           15 58 52.6
GRNR                              pmax  pmax
      comp=Z,8.0nm,0.4s
GRNR                              smax  smax
      comp=E,40nm,0.7s
GRNR  Gornyy            4.24 300  eP    Pn   15 57 50.0 -1.1
GRNR                              ePg   Pg   15 58 05.0 -1.6
GRNR                              AMB   AMB  15 58 05.2
      comp=E,16nm,0.5s
GRNR                              eSg   Sg   15 59 00.5 -1.0
GRNR                              A     A    15 59 01.2
      comp=E,213nm,1.0s
NKL   Nikolayevsk       4.46 348  eP    Pn   15 57 52.6 -1.5
NKL                               ePg   Pg   15 58 13.2 +2.3
NKL                               AMB   AMB  15 58 14.5
      comp=E,218nm,0.9s
NKL                               eS    Sn   15 58 44.2 -2.3
NKL                               eSg   Sg   15 59 13.8 +5.1
NKL                               A     A    15 59 16.2
      comp=E,380nm,0.9s
EKMR  Ekimchan          7.25 310  eSg   Sg   16 00 40.5 +2.5
BMKR  Bomnak           10.18 311  eSg          16 02 09.2
BMKR                              A     A    16 02 12.0
      comp=E,23nm,1.0s
KROS  Kirovskiy        11.02 307  eSg          16 02 40.0
KROS                              A     A    16 02 41.0
      comp=E,18nm,1.0s
PET   Petropavlovsk    11.20  62  i PN  Pn   15 59 27.7 +1.2
PET   Petropavlovsk    11.20  62  eP    Pn   15 59 27.7 +1.2
BILL  Bilibino         22.75  23  i P   P    16 01 49.6 +1.0
FINES FINESS Array B   58.80 330  i P   P    16 06 45.2 +0.5
```

IDC 26 16:15:36.4±6.5, 21.°94N×143.°15E, h298km±59km, mb2.6/4, mb1 2.9/6, mb1mx2.7/45, mbtmp3.5/6, Error ellipse: s-maj=92.4km s-min=19.0km az=78.0, Mariana Islands region

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Code  Station Name      Δ°   AZ°   Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
MJAR  Matsushiro Arr   15.18 345  P     P    16 18 55.4 -0.1
      0.1nm,0.3s,baz=159,slow=9.9,SNR=4.1
JNU   Nakatsue         15.56 318  P     P    16 19 00.2 +0.5
      0.3nm,0.3s,baz=118,slow=13,SNR=3.0
KSRS  Korea Array      20.31 323  P     P    16 19 50.6 +0.1
      1.1nm,0.6s,baz=141,slow=9.2,SNR=5.8
SONM  Songino Array    39.14 320  P     P    16 22 35.2 -0.7
      0.2nm,0.5s,baz=120,slow=12,SNR=3.0
WRA   Warramunga Arr   42.50 192  P     P    16 23 03.1 -0.2
      0.6nm,1.1s,baz=15,slow=9.3,SNR=3.9
MKAR  Makanchi Array   54.52 313  P     P    16 24 34.2 +0.2
      0.1nm,0.4s,baz=99,slow=7.4,SNR=2.5
FINES FINESS Array B   82.95 334  P     P    16 27 28.1 +0.1
      4.5nm,1.1s,baz=32,slow=5.4,SNR=5.3
```

*ISCJB **26** 16:22:24.9±0.3, 10.°97N±0.°03×62.°39W±0.°03, h114km±3km, mb4.0/20, Error ellipse: s-maj=6.2km s-min=3.5km az=33.4*
*NEIC **26** 16:22:24.1±3.1, 10.°82N±0.°06×62.°36W±0.°05, h102km±3km, mb4.7/34, Md4.1(TRN)*
*TRN **26** 16:22:25.7, 10.°81N×62.°19W, h98km, MD4.1*
*IDC **26** 16:22:26.5±1.0, 11.°02N×62.°49W, h111km±8km, mb3.8/20, mb1 3.9/24, mb1mx3.7/50, mbtmp4.2/24, Error ellipse: s-maj=13.5km s-min=7.0km az=133.0*

ISC 26 16:22:24.2±0.6, 10.°82N±0.°04×62.°32W±0.°04, h100km±5km, n163, σ1§53/208, mb4.3/33, 3C, Near coast of Venezuela

```
Code  Station Name      Δ°   AZ°   Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
TBH   Brigand Hill     1.28 105⇑ i P   Pn   16 22 48.2 +0.4
TBH                               eS    Sn   16 23 03.8 -1.8
TBH   Brigand Hill     1.28 105          Pn   16 22 48.2 +0.4
TBH                                      Sn   16 23 03.8 -1.8
GRGR  Grenville        1.46  27⇑ i P   Pn   16 22 50.1 +0.2
GRGR                              eS    Sn   16 23 09.1 -0.4
GRGR  Grenville        1.46  27  Pn    Pn   16 22 50.2 +0.2
GRGR  Grenville        1.46  27          Sn   16 23 08.3 -1.2
GRHS  Sauteurs         1.55  26  eP    Pn   16 22 53.0 +2.0
GRHS                              eS    Sn   16 23 11.7 +0.3
GRSS  Sisters          1.62  25  eP    Pn   16 22 54.5 +2.4
GRSS                              eS    Sn   16 23 14.1 +1.0
GRSS  Sisters          1.62  25          Pn   16 22 53.0 +1.0
GRSS                                     Sn   16 23 11.7 -1.4
GRSS  Sisters          1.62  25          Pn   16 22 54.6 +2.6
GRSS                                     Sn   16 23 12.5 -0.6
TOSP  Speyside         1.82  75⇑ i P   Pn   16 22 54.1 -0.3
TOSP                              eS    Sn   16 23 15.0 -2.5
TOSP  Speyside         1.82  75  Pn    Pn   16 22 53.9 -0.5
TOSP  Speyside         1.82  75          Sn   16 23 15.0 -2.5
PLCV  Puerto La Cruz   2.32 254          Pn   16 23 03.2 +2.2
PLCV                                     Sn   16 23 30.9 +1.7
PCRV  Puerto La Cruz   2.36 254  P       Pn   16 23 03.2 +1.7
      63nm,0.3s,baz=71,slow=3.0,SNR=250
PCRV                              S       Sn   16 23 30.9 +0.7
      61nm,0.3s,baz=341,slow=18,SNR=33
FCV   Fort Charlotte   2.55  24  eP    Pn   16 23 05.2 +1.2
FCV                               eS    Sn   16 23 34.3 -0.3
```

FCV	Fort Charlotte	2.55	24			Pn	16 23 05.2	+1.2
FCV						Sn	16 23 34.3	-0.3
SVB	Belmont	2.65	23	eP		Pn	16 23 06.5	+1.1
SVB				eS		Sn	16 23 36.8	-0.2
SVB	Belmont	2.65	23		Pn	Pn	16 23 05.1	-0.2
SVB	Belmont	2.65	23			Sn	16 23 36.8	-0.2
SVCV	St. Vincent, C	2.69	25	e		Pn	16 23 06.2	+0.3
SVCV	St. Vincent, C	2.69	25	eP		Pn	16 23 08.0	+2.1
SVCV				eS		Sn	16 23 36.8	-1.1
SVCV	St. Vincent, C	2.69	25			Pn	16 23 08.0	+2.1
SVCV						Sn	16 23 36.3	-1.6
SVV	Soufriere Volc	2.71	23	eP		Pn	16 23 07.4	+1.3
SVV				eS		Sn	16 23 38.5	+0.2
SVV	Soufriere Volc	2.71	23			Pn	16 23 07.4	+1.3
SVV						Sn	16 23 38.5	+0.2
SFAN	Fancy Village	2.78	24	eP		Pn	16 23 09.0	+1.9
SFAN				eS		Sn	16 23 39.0	-1.1
SFAN	Fancy Village	2.78	24			Pn	16 23 09.0	+1.9
SFAN						Sn	16 23 39.0	-1.1
MCLT	Moule a Chique	3.17	25	eP		Pn	16 23 13.1	+0.8
MCLT				eS		Sn	16 23 47.7	-1.6
MCLT	Moule a Chique	3.17	25			Pn	16 23 13.1	+0.8
MCLT						Sn	16 23 47.7	-1.6
SLDE	Delcer	3.21	23	eP		Pn	16 23 14.0	+1.2
SLDE				eS		Sn	16 23 49.2	-1.1
SLDE	Delcer	3.21	23			Pn	16 23 14.0	+1.2
SLDE						Sn	16 23 49.2	-1.1
SLB	Belfond	3.24	23	eP		Pn	16 23 14.8	+1.6
SLB				eS		Sn	16 23 49.5	-1.6
SLB	Belfond	3.24	23			Pn	16 23 14.8	+1.6
SLB						Sn	16 23 49.5	-1.6
SLPA	Patience	3.31	24	eP		Pn	16 23 15.7	+1.5
SLPA				eS		Sn	16 23 52.5	-0.2
SLPA	Patience	3.31	24			Pn	16 23 15.7	+1.5
SLPA						Sn	16 23 52.5	-0.2
SLBI	Saint Lucia, B	3.44	22	eP		Pn	16 23 16.9	+1.0
SLBI				eS		Sn	16 23 55.4	-0.4
SLBI	Saint Lucia, B	3.44	22			Pn	16 23 16.9	+1.0
SLBI						Sn	16 23 55.4	-0.4
BCHC	Barbados, Cave	3.50	49	eP		Pn	16 23 18.1	+1.5
BCHC				eS		Sn	16 23 54.7	-2.4
BBGH	Gun Hill	3.56	49	eP		Pn	16 23 19.1	+1.7
BBGH				eS		Sn	16 23 56.8	-1.8
BBGH	Gun Hill	3.56	49		Pn	Pn	16 23 19.4	+2.0
BBGH	Gun Hill	3.56	49			Sn	16 23 56.8	-1.8
BBSP	Saint Philip	3.61	51	eP		Pn	16 23 19.5	+1.4
BBSP				eS		Sn	16 23 57.6	-2.2
BBSP	Saint Philip	3.61	51			Pn	16 23 19.9	+1.9
BBSP						Sn	16 23 57.6	-2.2
H05S1	Guadeloupe/Mar	3.86	22		P	Pn	16 23 23.3	+1.7
H05S1					S	Sn	16 24 05.7	-0.3
	SNR=71							
BIM	Bigot	3.87	18	eP		Pn	16 23 22.4	+0.7
TRMF	Trois Ilets	3.90	18	eP		Pn	16 23 22.6	+0.7
ZAM	Aeronautique	3.94	19	eP		Pn	16 23 23.4	+0.8
LPMF	Morne Lapointe	3.96	19	eP		Pn	16 23 24.7	+1.8
MVM	Montagne Vaucl	3.96	20	eP		Pn	16 23 23.8	+0.8
FDF	Fort de France	4.05	16	eP		Pn	16 23 25.0	+0.9
FDF				eS		Sn	16 24 09.9	-0.7
FDF	Fort de France	4.05	16			Pn	16 23 24.5	+0.3
FDF	Fort de France	4.05	16			Sn	16 24 09.9	-0.7
PML	Morne Lenard	4.09	16	eP		Pn	16 23 25.4	+0.8
GBMF	Grand Be	4.11	16	eP		Pn	16 23 25.7	+0.7
PCM	Pelee Case Pet	4.12	15	eP		Pn	16 23 25.1	+0.2
PCM	Pelee Case Pet	4.12	15	eP		Pn	16 23 25.8	+0.8
CXM	Morne La Croix	4.12	16	eP		Pn	16 23 25.8	+0.6
BAMF	Morne Balai	4.13	16	eP		Pn	16 23 25.8	-0.6
SVN	Savane Anatole	4.15	16	eP		Pn	16 23 26.1	+0.6
DPMT	Pointe Michel	4.51	12	eS		Sn	16 24 20.0	-1.6
DPMT	Pointe Michel	4.51	12			Sn	16 24 20.0	-1.6
MDN	Morne-Daniel	4.56	11	eP		Pn	16 23 33.1	+2.2
MDN	Morne-Daniel	4.56	11	eS		Sn	16 24 20.9	-1.9
MDN	Morne-Daniel	4.56	11			Pn	16 23 33.1	+2.2
MDN						Sn	16 24 20.9	-1.9
DLPL	La Plaine	4.61	13	eP		Pn	16 23 33.7	+2.1
DLPL	La Plaine	4.61	13	eS		Sn	16 24 22.7	-1.3
DLPL	La Plaine	4.61	13			Pn	16 23 34.5	+2.9
DLPL						Sn	16 24 22.7	-1.3
BBL	Barber's Block	4.75	10	eP		Pn	16 23 35.1	+1.5
BBL	Barber's Block	4.75	10	eS		Sn	16 24 26.9	-0.6
BBL	Barber's Block	4.75	10			Pn	16 23 35.1	+1.5
BBL						Sn	16 24 26.9	-0.6
DWS	Wesley	4.82	12	eP		Pn	16 23 36.0	+1.5
DWS	Wesley	4.82	12	eS		Sn	16 24 27.9	-1.3
DWS	Wesley	4.82	12			Pn	16 23 36.0	+1.5
DWS						Sn	16 24 27.9	-1.3
H05N1	Guadeloupe/Mar	5.60	13		P	Pn	16 23 46.8	+1.7
	SNR=18							
H05N1					S	Sn	16 24 43.0	-5.1
MLYT	Lee's Yard	5.87	1	eP		Pn	16 23 50.7	+2.0
MLYT	Lee's Yard	5.87	1	eS		Sn	16 24 52.8	-1.8
BPA	Boggy Peak	6.20	4	eP		Pn	16 23 55.3	+2.0
BPA	Boggy Peak	6.20	4	eS		Sn	16 25 00.6	-2.3
BPA	Boggy Peak	6.20	4			Pn	16 23 55.3	+2.0
BPA						Sn	16 25 00.6	-2.3
NEV	Hard Times	6.28	358	eP		Pn	16 23 56.8	+2.5
NEV	Hard Times	6.28	358	eS		Sn	16 25 03.5	-1.2
NEV	Hard Times	6.28	358			Pn	16 23 57.4	+3.0
NEV						Sn	16 25 03.5	-1.2
SKI	Saint Kitts	6.49	356	eP		Pn	16 23 58.9	+1.8
SKI	Saint Kitts	6.49	356	eS		Sn	16 25 07.7	-2.0
SKI	Saint Kitts	6.49	356			Pn	16 23 58.9	+1.8
SKI						Sn	16 25 08.4	-1.3
SABA	Saba	6.82	353	eP		Pn	16 24 04.1	+2.5
SABA	Saba	6.82	353		Pn	Pn	16 23 59.9	-1.8
SABA	Saba	6.82	353			Sn	16 25 13.5	-4.2
ANWB	Willy Bob	6.83	4	eP		Pn	16 24 04.4	+2.7
ANWB	Willy Bob	6.83	4	eS		Sn	16 25 15.2	-2.8
ANWB	Willy Bob	6.83	4		Pn	Pn	16 24 00.8	-0.9
ANWB	Willy Bob	6.83	4			Sn	16 25 15.2	-2.8
STVI	Saint Thomas	7.91	342		Pn	Pn	16 24 17.3	+0.9
SJG	San Juan	8.14	333		P	Pn	16 24 17.7	-1.9
	0.8nm,0.3s,baz=167,slow=18,SNR=2.1							
SDV	Santo Domingo	8.41	258		P	Pn	16 24 22.7	-0.8
	4.6nm,0.3s,baz=96,slow=9.6,SNR=11							
SDV					S	Sn	16 25 52.9	-4.0
	11nm,0.3s,baz=55,slow=20,SNR=16							
MDP	Montagnes des	11.14	120		P	Pn	16 24 57.0	-3.5
	5.3nm,0.3s,baz=306,slow=15,SNR=20							
MDP					S	Sn	16 26 51.8	-11
	29nm,0.3s,baz=56,slow=19,SNR=22							
ROSC	El Rosal	13.28	244		P	Pn	16 25 31.7	+2.5
	1.0nm,0.3s,baz=78,slow=20,SNR=3.0							
ROSC					S	Sn	16 27 47.4	-8.3
	0.7nm,0.3s,baz=335,slow=23,SNR=1.9							
ROSC	El Rosal	13.28	244			Pn	16 25 29.4	+0.1
OTAV	Otavalo	19.17	238		Pn	Pn	16 26 42.9	+0.4
SAML	Samuel	19.66	183		P	Pn	16 26 47.2	-0.5
ATAH	Atahualpa	23.96	223		P	P	16 27 33.1	+3.2
	10.0nm,0.5s,baz=22,slow=3.9,SNR=7.4							
TEIG	Tepich	26.66	294		P	P	16 27 52.9	-1.0
SIV	San Ignacio	26.67	177		P	P	16 27 56.9	+2.9
	0.7nm,0.6s,baz=25,slow=15,SNR=4.3							
NNA	Nana	26.86	213		P	P	16 27 58.0	+2.2
	8.8nm,0.6s,baz=20,slow=15,SNR=4.9							
NNA	Nana	26.86	213		P	P	16 27 57.5	+1.7
NNA					IAmb	IAmb	16 27 59.1	
	comp=Z,17nm,0.9s							
LPAZ	La Paz	27.54	192		P	P	16 28 05.1	+2.6
	comp=Z,1.3nm,0.8s,baz=359,slow=12,SNR=4.7							
LPAZ	La Paz	27.54	192		P	P	16 28 04.6	+2.1
APG	El Apazote	27.73	282		P	P	16 28 03.2	-0.6
	comp=Z,2.4nm,0.5s,baz=154,slow=19,SNR=2.1							
MNMC	Minye Minye	30.61	194		P	P	16 28 29.7	+0.4
MNMC					IAmb	IAmb	16 28 52.9	
	comp=Z,24nm,1.8s							
TKL	Tuckaleechee C	31.47	325		P	P	16 28 34.9	-1.5
	comp=Z,5.4nm,1.1s,baz=113,slow=7.7,SNR=2.1							
TKL					S	S	16 33 20.1	-17
	comp=Z,2.8nm,0.4s,baz=145,slow=19,SNR=5.8							
WSPT	Westport, CT	31.75	344			PcP	16 31 27.0	-0.9
WHTX	Lake Whitney,	38.64	308		P	P	16 29 37.3	-0.7
833A	Chaparral WMA,	38.82	302		P	P	16 29 39.2	-0.4
H07S1	FLORES T-PHASE	39.67	39		T	T	17 11 55.8	
	SNR=4.4							
X34A	Smith Ranch, M	40.08	312		P	P	16 29 49.6	-0.4
X34A					IAmb	IAmb	16 29 50.6	
	comp=Z,15nm,0.8s							
WMOK	Wichita Mounta	40.84	312		P	P	16 29 55.4	-0.9
WMOK					IAmb	IAmb	16 31 08.5	
	comp=Z,20nm,2.0s							
TXAR	Lajitas Array	42.70	302		P	P	16 30 12.0	+0.5
	comp=Z,0.7nm,0.5s,baz=118,slow=9.3,SNR=12							
TXAR					PcP	PcP	16 32 01.9	+0.2
	comp=Z,0.5nm,0.5s,baz=116,slow=4.1,SNR=5.7							
TX31	Lajitas Ar. Si	42.70	302		P	P	16 30 11.8	+0.2
TX31					IAmb	IAmb	16 30 15.6	
	comp=Z,20nm,1.9s							
MSTX	Muleshoe	43.52	308		P	P	16 30 18.1	-0.1
MSTX					IAmb	IAmb	16 30 18.8	
	comp=Z,5.1nm,0.7s							
MNTX	Cornudas Mount	44.81	304		P	P	16 30 28.0	-0.4
ANMO	Albuquerque	46.72	308		P	P	16 30 43.5	0.0
	comp=Z,0.8nm,0.5s,baz=102,slow=9.3,SNR=2.8							
SDCO	Great Sand Dun	47.03	312		P	P	16 30 45.5	-0.6
ULM	Lac du Bonnet	48.04	331		P	P	16 30 52.2	-1.0
	comp=Z,1.1nm,0.4s,baz=166,slow=9.2,SNR=3.4							
PV03	Paradox Valley	49.67	311		P	P	16 31 07.0	+0.8
PV03					IAmb	IAmb	16 31 34.2	
	comp=Z,12nm,1.9s							
PV11	David Mesa, Pa	49.70	312		P	P	16 31 06.6	+0.1
PV18	Skein Mesa, Pa	49.71	311		P	P	16 31 06.9	+0.4
PV18					IAmb	IAmb	16 31 57.5	
	comp=Z,11nm,1.4s							
PV16	Nyswonger Mesa	49.74	312		P	P	16 31 07.1	+0.3
PV16					IAmb	IAmb	16 31 28.9	
	comp=Z,23nm,1.9s							
PV14	Lion Creek, Pa	49.84	312		P	P	16 31 07.8	+0.2
PV14					IAmb	IAmb	16 31 59.9	
	comp=Z,18nm,1.8s							
PV09	Paradox Valley	49.97	312		P	P	16 31 08.6	0.0
H10N3	ASCENSION HYDR	51.08	109		T	T	17 26 41.4	
	baz=292,slow=75,SNR=46							
H10N2	ASCENSION HYDR	51.09	109		T	T	17 26 42.0	
	baz=292,slow=75,SNR=57							
H10N1	ASCENSION HYDR	51.10	109		T	T	17 26 43.0	
	baz=292,slow=75,SNR=67							
BW06	Boulder Array	51.87	317		P	P	16 31 21.6	-1.2
PD31	Pinedale Array	51.87	317		P	P	16 31 21.7	-1.0
PDAR	Pinedale Array	51.87	317		P	P	16 31 21.9	-0.8
	comp=Z,1.6nm,0.5s,baz=115,slow=9.8,SNR=26							
PDAR					PcP	PcP	16 32 33.6	-0.7
	comp=Z,0.2nm,0.3s,baz=122,slow=4.4,SNR=2.0							
PDAR	Pinedale Array	51.87	317		P	P	16 31 21.6	-1.1
RLMT	Red Lodge	52.66	319		P	P	16 31 27.6	-0.9
RLMT					IAmb	IAmb	16 31 55.3	
	comp=Z,20nm,1.9s							
HWUT	Hardware Ranch	52.81	315		P	P	16 31 30.0	+0.3
HWUT					IAmb	IAmb	16 32 18.3	
	comp=Z,14nm,1.9s							
AHID	Auburn Hatcher	52.92	316		P	P	16 31 29.6	-0.8
AHID					IAmb	IAmb	16 33 29.0	
	comp=Z,18nm,1.9s							
TPAW	Teton Pass	53.09	317		P	P	16 31 31.1	-0.7
TPAW					IAmb	IAmb	16 31 43.7	
	comp=Z,20nm,2.0s							
PSUT	Pine Spring	53.48	310		P	P	16 31 32.6	-2.1
BGU	Big Grassy Mou	53.62	313		P	P	16 31 35.1	-0.4
HVU	Hansel Valley	53.72	314		P	P	16 31 34.9	-1.4
YHB	Horse Butte	53.75	318		P	P	16 31 37.0	+0.5
YHL	Hebgen Lake	53.78	318		P	P	16 31 37.4	+0.6
HRY	Holter Researc	54.95	320		P	P	16 31 44.4	-0.6
NVAR	Mina Array Bea	56.83	309		P	P	16 31 58.4	-0.4
	comp=Z,0.4nm,0.6s,baz=108,slow=6.0,SNR=2.7							
NVAR					PcP	PcP	16 32 53.5	+0.1
	comp=Z,0.4nm,0.6s,baz=103,slow=1.9,SNR=2.7							
DBIC	Dimbokro	56.88	89		P	P	16 32 01.1	+1.9
	comp=Z,1.5nm,0.7s,baz=217,slow=5.1,SNR=2.3							
MDT	Midelt	57.15	58		P	P	16 32 02.5	+1.6
	comp=Z,1.2nm,0.7s,baz=277,slow=6.5,SNR=2.8							
TORD	Torodi Ar. Bea	62.52	81		P	P	16 32 39.4	+1.6
	comp=Z,0.7nm,0.4s,baz=292,slow=6.7,SNR=7.6							
TORD	Torodi Ar. Bea	62.52	81		P	P	16 32 39.1	+1.2
YKA	Yellowknife Ar	63.62	336		P	P	16 32 42.6	-1.7
	comp=Z,0.3nm,0.3s,baz=105,slow=7.2,SNR=2.9							
INK	Inuvik	73.09	338		P	P	16 33 42.6	-0.6
	comp=Z,1.4nm,1.0s,baz=124,slow=3.3,SNR=2.5							
ILAR	Eielson Array	77.97	334		P	P	16 34 10.3	-0.9
	comp=Z,0.5nm,0.6s,baz=96,slow=4.0,SNR=9.5							
ARCES	ARCESS Array B	79.18	21		P	P	16 34 19.5	+1.7
	comp=Z,4.0nm,0.9s,baz=289,slow=5.6,SNR=3.3							
FINES	FINESS Array B	79.82	29		P	P	16 34 22.4	+1.1
	comp=Z,1.4nm,0.3s,baz=266,slow=4.6,SNR=13							
FINES	FINESS Array B	79.82	29		P	P	16 34 22.3	+0.9
KDAK	Kodiak Island	81.08	327		P	P	16 34 28.6	+0.5
	comp=Z,3.9nm,0.8s,baz=186,slow=4.9,SNR=5.7							
KDAK	Kodiak Island	81.08	327		P	P	16 34 28.3	+0.1
CMAR	Chiang Mai Arr	145.53	33		PKPbc	PKPab	16 41 52.6	+0.4
	comp=Z,0.5nm,0.4s,baz=305,slow=5.2,SNR=5.4							
ASAR	Alice Springs	159.94	228		PKP	PKPdf	16 42 12.4	-0.1
	comp=Z,0.4nm,0.9s,baz=119,slow=1.4,SNR=4.4							
ASAR					PKPab	sPKPdf	16 42 51.5	+1.1
	comp=Z,0.2nm,0.6s,baz=125,slow=4.7,SNR=3.4							
ASAR	Alice Springs	159.94	228			PKPdf	16 42 12.3	-0.2
DAV	Davao City (W)	160.56	336		PKP	PKPdf	16 42 11.4	-1.9
	comp=Z,390nm,0.5s,baz=18,slow=9.6,SNR=4.2							
WRA	Warramunga Arr	161.57	239		PKP	PKPdf	16 42 13.7	-0.6
	comp=Z,0.3nm,0.7s,baz=130,slow=2.2,SNR=2.7							
WRA					PKPab	PKPab	16 42 58.2	-1.2
	comp=Z,0.4nm,0.5s,baz=107,slow=3.6,SNR=5.4							

IDC 26 16:30:24.0±2.4, 22°.75N×143°.67E, h180km±22km, mb3.0/5, mb1 3.2/6, mb1mx3.0/37, mbtmp3.6/6, Error ellipse: s-maj=48.4km s-min=17.1km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.54	343	P	Pn	16 31 32.8	+0.8
	9.2nm,0.3s,baz=287,slow=20,SNR=2.8						
JCJ				S	Sn	16 32 25.1	-0.2
	19nm,0.3s,baz=292,slow=22,SNR=4.6						
WRA	Warramunga Arr	43.40	193	P	P	16 38 08.5	-0.3
	0.2nm,0.4s,baz=18,slow=9.0,SNR=13						
ASAR	Alice Springs	47.10	192	P	P	16 38 37.5	-0.5
	0.2nm,0.8s,baz=13,slow=7.1,SNR=4.7						
MKAR	Makanchi Array	54.33	312	P	P	16 39 31.2	-0.7
	0.3nm,0.8s,baz=87,slow=9.5,SNR=2.5						
STKA	Stephens Creek	54.35	182	P	P	16 39 32.9	+0.9
	0.5nm,0.4s,baz=356,slow=13,SNR=2.9						
FINES	FINESS Array B	82.43	335	P	P	16 42 27.5	+1.8
	2.4nm,0.9s,baz=57,slow=5.1,SNR=3.6						
LPAZ	La Paz	149.38	84	PKPbc	PKPbc	16 49 51.9	-1.3
	0.3nm,0.4s,baz=301,slow=5.9,SNR=2.1						

KRSC 26 16:42:42.9±1.4, 55°.05N×164°.36E, h49km±30km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.94	80	eP	Pn	16 43 02.4	+2.7
BKI				eS	Sn	16 43 14.8	+2.8
KBTR	Krutoberegovo	1.45	324	eP	Pn	16 43 07.0	+0.3
KBTR				eS	Sn	16 43 23.0	-1.6
KBG	Krutoberegovo	1.53	323	eP	Pn	16 43 08.6	+0.9
KBG				eS	Sn	16 43 25.6	-0.8
MKZ	Mys Kozlova	1.60	253	eP	Pn	16 43 10.6	+1.8
MKZ				eS	Sn	16 43 29.2	+0.9
ZLN	Zelenaya	2.24	297	eP	Pn	16 43 21.1	+3.5
ZLN				eS	Sn	16 43 47.8	+3.7
TUMD	Tumrok D	2.28	275	eP	Pn	16 43 20.9	+2.8
TUMD				eS	Sn	16 43 48.5	+3.5
BDR	Baidarnaya	2.34	312	eS	Sn	16 43 50.0	+3.5
KZV	Kizimen	2.34	273	eP	Pn	16 43 21.8	+2.8
KZV				eS	Sn	16 43 48.6	+2.0
BZMR	Bezymyannaya	2.38	293	eP	Pn	16 43 23.7	+4.2
BZMR				eS	Sn	16 43 51.1	+3.7
BZWR	Bezymyannyi-We	2.38	294	eP	Pn	16 43 23.4	+3.8
BZWR				eS	Sn	16 43 52.2	+4.6
SRKR	Sorokina	2.41	313	eS	Sn	16 43 53.2	+5.0
TUMR	Tumrok	2.43	277	i P	Pn	16 43 23.6	+3.4
TUMR				eS	Sn	16 43 53.1	+4.3
KRSR	Krestovskiy	2.45	300	eP	Pn	16 43 23.9	+3.4
KRSR				eS	Sn	16 43 51.8	+2.6
KLY	Klyuchi	2.45	303	eP	Pn	16 43 21.9	+1.5
KLY				eS	Sn	16 43 50.0	+0.9
KMNR	Kamenistaya	2.46	288	i P	Pn	16 43 24.8	+4.2
KMNR				eS	Sn	16 43 53.5	+4.1
KIRR	Kirishev	2.46	293	eP	Pn	16 43 24.0	+3.4
KIRR				eS	Sn	16 43 53.6	+4.1
KPT	Kopyto	2.53	293	eP	Pn	16 43 25.4	+3.9
KPT				eS	Sn	16 43 55.2	+4.1
KOZ	Kozyrevsk	2.74	293	eP	Pn	16 43 28.7	+4.3
KOZ				eS	Sn	16 44 01.2	+4.9
SRDR	Sredinnyy	2.92	298	eP	Pn	16 43 31.2	+4.3
SRDR				eS	Sn	16 44 06.4	+5.7
SPN	Mys Shipunski	3.22	234	eP	Pn	16 43 33.2	+2.3
SPN				eS	Sn	16 44 08.0	0.0
NLC	Nalytchevo	3.50	239	eS	Sn	16 44 18.6	+3.6
SDLR	Sedlovina	3.68	243	i P	Pn	16 43 41.4	+4.1
SDLR				eS	Sn	16 44 21.9	+2.4
SMAR	Somma	3.73	244	eP	Pn	16 43 43.0	+4.9
SMAR				eS	Sn	16 44 23.9	+3.0
KRER	Koryakskii	3.74	244	eP	Pn	16 43 42.7	+4.5
KRER				eS	Sn	16 44 23.4	+2.4
KRX	Arik	3.76	246	eP	Pn	16 43 43.1	+4.6
AVH	Avacha	3.76	244	eP	Pn	16 43 43.1	+4.7
AVH				eS	Sn	16 44 25.1	+3.7
KOK	Koryaka	3.80	245	eP	Pn	16 43 43.9	+4.9
GNL	Ganaly	4.00	253	eP	Pn	16 43 46.1	+4.4
OSSR	Ossora	4.27	351	eP	Pn	16 43 47.1	+1.9
KRMR	Karymshinskiy	4.30	241	eP	Pn	16 43 49.8	+4.0
KRMR				eS	Sn	16 44 37.9	+3.3
RUS	Russkaya	4.35	235	eP	Pn	16 43 49.9	+3.5
RUS				eS	Sn	16 44 36.0	+0.2
ASAK	Asacha	4.68	238	eP	Pn	16 43 56.0	+5.0
TILK	Tilichiki	5.49	9	eP	Pn	16 44 06.0	+4.0
KMSK	Kamenskaya	7.50	7	eP	Pn	16 44 33.5	+4.0

DJA 26 16:45:48.9±0.5, 2°.N±4°.×12°.7E±°, h82km±8km, M3.9/8, mb4.5/3, MLv3.7/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.46	182	P	Pn	16 46 13.7	-0.1
SGSI	Sangihe	2.37	307	P	Pn	16 46 24.6	-1.1
KMSI	Cibinong	3.81	244	P	Pn	16 46 45.6	+0.4
SANI	Sanana	4.49	198	P	Pn	16 46 54.1	-0.5

*ISCJB **26** 16:59:45.1±0.4, 60°.40S±0°.07×45°.5W±0°.2, h10km, mb4.0/12, Error ellipse: s-maj=12.6km s-min=7.1km az=141.6*
*IDC **26** 16:59:45.2±0.7, 60°.41S×45°.47W, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.1/35, mbtmp4.1/15, ML3.6/2, MS2.5/1, Ms1 2.5/1, ms1mx2.4/16, Error ellipse: s-maj=23.0km s-min=15.6km az=59.0*
*NEIC **26** 16:59:47.8±1.3, 60°.32S±0°.07×45°.3W±0°.2, h16km±4km, mb4.7/16*

ISC 26 16:59:46.6±0.5, 60°.38S±0°.07×45°.38W±0°.07, h10km, n54, σ0.99/46, mb4.3/19, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.77	42	Pn	Pn	17 01 36.2	-3.4
PMSA	Palmer Station	9.65	235	Pn	Pn	17 02 06.5	+1.1
	1.0nm,0.3s,baz=72,slow=8.1,SNR=6.5						
PMSA				Sn	Sn	17 03 50.5	-3.2
	0.6nm,0.3s,baz=10,slow=11,SNR=4.4						
PMSA				LR	LR	17 05 31.1	
	comp=Z,31nm,20.2s,baz=136,slow=36						
PMSA	Palmer Station	9.65	235		Pn	17 02 05.9	+0.5
USHA	Ushuaia	13.51	284	Pn	Pn	17 02 58.9	+0.9
	0.2nm,0.3s,baz=148,slow=19,SNR=1.4						
VNA3	Neumayer Olymp	17.88	142	P	P	17 03 56.4	+0.7
VNA2	Neumayer--Watz	18.50	140	P	Pn	17 04 02.6	+0.1
	baz=292,slow=14						
SNAA	Sanae	20.10	142	P	Pn	17 04 23.8	+2.0
SNAA	Sanae	20.10	142	P	Pn	17 04 21.1	-0.7
	2.6nm,0.8s,baz=295,slow=12,SNR=5.4						
SNAA	Sanae	20.10	142	P	P	17 04 20.2	+0.2
TRQA	Tornquist	24.69	327	P	P	17 05 07.5	0.0
TRQA				IAmb	IAmb	17 05 09.2	
	comp=Z,21nm,1.1s						
PLCA	Paso Flores	25.07	310	P	P	17 05 10.7	-0.3
	comp=Z,3.7nm,0.9s,baz=182,slow=9.5,SNR=4.6						
PLCA	Paso Flores	25.07	310	P	P	17 05 10.4	-0.5
GO06	Curarrehue	26.41	310	P	P	17 05

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMAS	**Kiritimati**	**29.08**	**51**	P	**P**	**17 07 31.9**	**+0.6**
STKA	**Stephens Creek**	**37.97**	**240**	P	**P**	**17 08 47.7**	**-0.1**
0.9nm,0.8s,baz=100,slow=6.1,SNR=1.8							
STKA	**Stephens Creek**	**37.97**	**240**	P	**P**	**17 08 47.5**	**-0.3**
WR0	**Warramunga Arr**	**43.47**	**259**	P	**P**	**17 09 34.1**	**+1.1**
WR0				IAmb	IAmb	17 09 34.6	
comp=Z,11nm,1.4s							
MWH	**Moku'aweowe**	**43.49**	**34**	P	**P**	**17 09 32.9**	**-0.7**
WB0	**Warramunga Arr**	**43.63**	**259**	P	**P**	**17 09 35.0**	**+0.8**
WB0				IAmb	IAmb	17 09 50.9	
comp=Z,8.2nm,1.3s							
WB2	**Warramunga Arr**	**43.65**	**259**	P	**P**	**17 09 34.4**	**-0.1**
WB2				IAmb	IAmb	17 09 39.8	
comp=Z,10nm,1.4s							
WRAB	**Tennant Creek**	**43.66**	**259**	P	**P**	**17 09 34.7**	**+0.2**
WRAB				IAmb	IAmb	17 09 48.0	
comp=Z,6.8nm,1.2s							
WRA	**Warramunga Arr**	**43.66**	**259**	P	**P**	**17 09 34.8**	**+0.2**
comp=Z,0.2nm,0.3s,baz=96,slow=7.4,SNR=9.6							
WRA	**Warramunga Arr**	**43.66**	**259**	P	**P**	**17 09 34.4**	**-0.2**
AS31	**Alice Springs**	**43.90**	**254**	P	**P**	**17 09 36.6**	**+0.2**
ASAR	**Alice Springs**	**43.90**	**254**	P	**P**	**17 09 36.6**	**+0.2**
comp=Z,1.5nm,0.5s,baz=87,slow=8.9,SNR=50							
ASAR	**Alice Springs**	**43.90**	**254**	P	**P**	**17 09 35.8**	**-0.6**

*ISCJB **26** 17:07:23.6±1.6, 14°.3N±0°.1×92°.02W±0°.06, h35km, Error ellipse: s-maj=20.0km s-min=5.3km az=22.1*
*MEX **26** 17:07:24.2±0.6, 14°.16N×92°.00W, h18km±23km, MD3.9*
*GCG **26** 17:07:27.3±0.5, 14°.48N×91°.67W, h50km±5km, MD3.6*

ISC 26 17:07:24.0±2.2, 14°.3N±0°.2×91°.99W±0°.07, h35km, n7, σ0§85/12, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.45**	**66**	*e*P	**Pn**	**17 07 35.3**	**+1.4**
ERG				*e*S	**Sn**	**17 07 41.3**	**+0.5**
STG3	**Santiaguito 3,**	**0.61**	**42**	‖*e*P	**Pn**	**17 07 36.6**	**+0.3**
THIG		**0.70**	**338**	*i* P	**Pn**	**17 07 37.3**	**0.0**
THIG				*i* S	**Sn**	**17 07 45.6**	**-1.4**
FUG	**Fuego 3**	**1.13**	**80**	*e*P	**Pn**	**17 07 43.2**	**-0.3**
FUG				*e*S	**Sn**	**17 07 56.5**	**-1.4**
IXG	**Ixpaco**	**1.51**	**93**	*e*P	**Pn**	**17 07 48.6**	**0.0**
PCIG		**1.86**	**321**	*e*P	**Pn**	**17 07 53.2**	**-0.1**
PCIG				*i* S	**Sn**	**17 08 16.0**	**+0.3**
CMIG	**Matias Romero**	**3.96**	**316**	*i* P	**Pn**	**17 08 22.8**	**+0.6**
CMIG				*i* S	**Sn**	**17 09 07.9**	**+0.4**

*DJA **26** 17:08:09.5±0.5, 5°.N±4°.×12°.6E±°., h10km, M4.4/7, mB5.5/3, mb4.1/7, MLv4.5/7, Mw(mB)4.9/3*
*MAN **26** 17:08:10.6, 5°.29N×126°.30E, h7km, MS3.5*
*IDC **26** 17:08:22.3±2.9, 4°.64N×125°.40E, h164km±36km, mb3.0/5, mb1 3.2/6, mb1mx3.0/54, mbtmp3.5/6, Error ellipse: s-maj=106.0km s-min=16.3km az=72.0*

ISC 26 17:08:07.3±1.6, 5°.08N±0°.03×126°.28E±0°.09, h10km±11km, n20, σ1§87/26, mb3.5/5, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.17**	**331**	*e*P	**Pg**	**17 08 30.1**	**+0.3**
DDMP				*e*S	**Sg**	**17 08 44.9**	**-0.2**
SGSI	**Sangihe**	**1.57**	**209**	P	**Pg**	**17 08 37.5**	**-0.1**
SGSI				S	**Sn**	**17 08 58.8**	**+3.0**
GSPH	**General Santos**	**1.67**	**307**	‖*i*P	**Pn**	**17 08 37.0**	**+0.2**
GSPH				*i* S	**Sn**	**17 08 55.8**	**-2.5**
MATI	**Mati**	**1.86**	**359**	*e*P	**Pn**	**17 08 39.6**	**+0.4**
MATI				*e*S	**Sb**	**17 09 06.7**	**+2.0**
DAV	**Davao City (W)**	**2.10**	**341**	P	Pg	17 09 03.2	+16
23nm,0.3s,baz=30,slow=20,SNR=2.9							
DMPH	**Davao City--Mi**	**2.14**	**339**	‖*e*P	**Pb**	**17 08 47.2**	**+1.0**
DMPH				*e*S	**Sn**	**17 09 12.2**	**+2.5**
SKMP	**Bagumbayan, Su**	**2.25**	**310**	*e*P	**Pb**	**17 08 47.0**	**-1.1**
SKMP				*e*S	**Sn**	**17 09 14.8**	**+2.2**
KCP	**Kidapawan**	**2.26**	**328**	‖*i*P	**Pb**	**17 08 48.4**	**+0.1**
KCP				*i* S	**Sg**	**17 09 19.0**	**-1.0**
CTBH	**Cotabato--PC H**	**2.94**	**317**	‖*i*P	**Pn**	**17 08 55.8**	**+1.6**
BUKP	**Musuan**	**3.04**	**337**	*e*P	**Pn**	**17 08 57.4**	**+1.8**
BUKP				*e*S	**Sn**	**17 09 32.7**	**+0.6**
TNTI	**Ternate**	**4.41**	**166**	P	**Pn**	**17 09 16.0**	**+1.6**
KMSI	**Cibinong**	**5.03**	**207**	P	**Pn**	**17 09 24.3**	**+1.4**
MRSI	**Marisa**	**6.30**	**224**	P	**Pn**	**17 09 42.5**	**+2.1**
SANI	**Sanana**	**7.08**	**182**	P	**Pn**	**17 09 53.3**	**+2.1**
9.4nm,0.9s,1μm0.7nm							
APSI	**Ampana**	**7.54**	**218**	P	**Pn**	**17 09 59.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**23.04**	**182**	P	**P**	**17 13 09.7**	**-3.2**
2.3nm,0.8s,baz=350,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**26.09**	**163**	P	**P**	**17 13 39.4**	**-2.1**
0.8nm,0.7s,baz=340,slow=10,SNR=3.8							
ASAR	**Alice Springs**	**29.52**	**166**	P	**P**	**17 14 09.9**	**-2.3**
0.4nm,0.9s,baz=342,slow=7.1,SNR=8.3							
SONM	**Songino Array**	**45.89**	**341**	P	**P**	**17 16 30.2**	**0.0**
0.5nm,0.7s,baz=152,slow=6.5,SNR=3.9							
MKAR	**Makanchi Array**	**56.20**	**325**	P	P	17 17 43.6	-4.1
0.2nm,0.5s,baz=128,slow=7.7,SNR=5.4							

*DJA **26** 17:09:54.1±0.2, 0°.S±2°.×12°.5E±°., h10km, M4.1/15, mb4.3/7, mB4.5/4, MLv4.2/15, Mw(mB)3.7/4*
*ISCJB **26** 17:09:56.1±0.3, 0°.25S±0°.04×124°.53E±0°.03, h73km, mb3.7/4, Error ellipse: s-maj=5.9km s-min=4.1km az=171.7*
*NEIC **26** 17:09:58.0±2.0, 0°.25S±0°.08×124°.50E±0°.06, h79km±8km, mb4.2/12*
*IDC **26** 17:09:58.7±2.6, 0°.27S×124°.49E, h78km±26km, mb3.4/4, mb1 3.7/7, mb1mx3.3/53, mbtmp3.9/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/31, Error ellipse: s-maj=23.5km s-min=16.0km az=166.0*

ISC 26 17:09:57.6±0.6, 0°.20S±0°.05×124°.53E±0°.04, h73km, n41, σ1§62/47, mb3.9/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.94**	**325**	P	**Pn**	**17 10 12.7**	**-2.8**
LUWI	**Luwuk**	**1.95**	**244**	P	**Pn**	**17 10 28.5**	**-0.1**
LUWI	**Luwuk**	**1.95**	**244**		**Pn**	**17 10 28.6**	**+0.1**
LUWI				Sn	**Sn**	**17 10 52.6**	**+0.4**
SANI	**Sanana**	**2.35**	**142**	P	**Pn**	**17 10 30.8**	**-3.2**
MRSI	**Marisa**	**2.67**	**285**	P	**Pn**	**17 10 34.5**	**-3.9**
APSI	**Ampana**	**2.96**	**256**	P	**Pn**	**17 10 42.5**	**+0.2**
TNTI	**Ternate**	**3.00**	**71**	P	**Pn**	**17 10 39.1**	**-3.7**
TNTI	**Ternate**	**3.00**	**71**	Pn	**Pn**	**17 10 43.6**	**+0.8**
TNTI				Sn	**Sn**	**17 11 18.7**	**+1.0**
NLAI	**Namlea**	**3.97**	**140**	P	**Pn**	**17 10 54.6**	**-1.4**
SGSI	**Sangihe**	**3.99**	**15**	P	**Pn**	**17 10 56.6**	**+0.3**
MPSI	**Mapaga**	**4.66**	**277**	P	**Pn**	**17 11 06.6**	**+1.1**
AAI	**Ambon**	**5.04**	**133**	P	**Pn**	**17 11 09.1**	**-1.6**
MSAI	**Masohi**	**5.40**	**125**	P	**Pn**	**17 11 13.0**	**-2.6**
TTSI	**Tana Toraja**	**5.49**	**239**	P	**Pn**	**17 11 17.1**	**+0.3**
55nm,0.6s,1μm0.3nm							
SPSI	**Sidrap Palu**	**6.05**	**232**	P	**Pn**	**17 11 24.9**	**+0.4**
21nm,0.6s,464nm0.1nm							
BNSI	**Bone**	**6.08**	**227**	P	**Pn**	**17 11 24.3**	**-0.6**
BKSI	**Bulukumba**	**6.73**	**221**	P	**Pn**	**17 11 33.5**	**-0.3**
KAPI	**Kappang**	**6.75**	**225**	P	**Pn**	**17 11 34.2**	**0.0**
3.9nm,0.3s,baz=48,slow=3.7,SNR=6.3							
KAPI				S	**Sn**	**17 12 49.5**	**-0.2**
1.6nm,0.3s,baz=221,slow=19,SNR=3.9							
KAPI				LR	LR	17 14 35.5	
comp=Z,63nm,21.4s,baz=315,slow=41							
KAPI	**Kappang**	**6.75**	**225**		**Pn**	**17 11 33.3**	**-0.9**
KAPI					**Sn**	**17 12 49.1**	**-0.5**
SIJI	**Sorong**	**6.77**	**96**	P	**Pn**	**17 11 36.3**	**+2.0**
1.0nm,0.3s,baz=270,slow=20,SNR=4.9							
SIJI				S	**Sn**	**17 12 52.2**	**+2.2**
baz=139,slow=13,SNR=2.7							
FAKI	**Fak Fak**	**8.18**	**109**	P	**Pn**	**17 11 51.6**	**-2.0**
FAKI	**Fak Fak**	**8.18**	**109**	Pn	**Pn**	**17 11 51.9**	**-1.7**
FAKI					**Sn**	**17 13 20.8**	**-3.7**
KKM	**Kota Kinabalu**	**10.36**	**307**	Pn	**Pn**	**17 12 24.6**	**+1.1**
JAY	**Jayapura**	**16.33**	**98**	P	**P**	**17 13 44.9**	**+0.6**
0.4nm,0.3s,baz=280,slow=11,SNR=3.9							
WB0	**Warramunga Arr**	**21.72**	**154**	P	**P**	**17 14 41.5**	**-1.4**
WB0				IAmb	IAmb	17 14 47.9	
comp=Z,11nm,1.3s							
WRAB	**Tennant Creek**	**21.85**	**154**	P	**P**	**17 14 43.6**	**-0.6**
WRAB				IAmb	IAmb	17 14 53.3	
comp=Z,7.3nm,1.3s							
WRA	**Warramunga Arr**	**21.85**	**154**	P	**P**	**17 14 43.8**	**-0.6**
comp=Z,1.8nm,0.9s,baz=336,slow=10,SNR=9.9							
WRA	**Warramunga Arr**	**21.85**	**154**	P	**P**	**17 14 43.6**	**-0.7**
WB2	**Warramunga Arr**	**21.86**	**154**	P	**P**	**17 14 43.8**	**-0.6**
WB2				IAmb	IAmb	17 14 53.4	
comp=Z,12nm,1.5s							
WR0	**Warramunga Arr**	**21.95**	**154**	P	**P**	**17 14 45.0**	**-0.4**
TWG	**Pinlang**	**23.13**	**352**	P	**P**	**17 14 58.2**	**+0.6**
TWG				IAmb	IAmb	17 14 59.4	
comp=Z,99nm,1.3s							
IPM	**Ipoh**	**23.93**	**281**	P	**P**	**17 15 02.5**	**-2.7**
IPM				IAmb	IAmb	17 15 05.9	
comp=Z,6.2nm,1.2s							
QIZ	**Qiongzhong**	**23.94**	**324**	P	**P**	**17 15 03.7**	**-1.4**
QIZ				IAmb	IAmb	17 15 09.0	
comp=Z,76nm,1.5s							
AS31	**Alice Springs**	**25.04**	**159**	P	**P**	**17 15 16.3**	**+1.1**
ASAR	**Alice Springs**	**25.04**	**159**	P	**P**	**17 15 15.6**	**+0.4**
comp=Z,1.4nm,0.7s,baz=330,slow=7.2,SNR=13							
ASAR	**Alice Springs**	**25.04**	**159**	P	**P**	**17 15 16.1**	**+0.9**
STKA	**Stephens Creek**	**35.40**	**154**	P	**P**	**17 16 47.5**	**+0.9**
comp=Z,0.9nm,0.5s,baz=342,slow=12,SNR=3.4							
STKA	**Stephens Creek**	**35.40**	**154**	P	**P**	**17 16 45.2**	**-1.3**
STKA				IAmb	IAmb	17 16 48.4	
comp=Z,2.9nm,1.8s							
JHJ2	**Mitsune**	**36.13**	**22**	P	**P**	**17 16 53.2**	**+0.5**
MKAR	**Makanchi Array**	**59.59**	**328**	P	**P**	**17 19 54.5**	**+0.7**
comp=Z,0.7nm,0.6s,baz=120,slow=8.2,SNR=5.2							
BKZ	**Black Stump Fm**	**61.24**	**136**	P	**P**	**17 20 07.2**	**+1.9**

*PRE **26** 17:10:44.9±1.2, 28°.08S×26°.77E, h2km, ML3.5*
*ISCJB **26** 17:10:45.5±1.4, 28°.07S±0°.03×26°.83E±0°.05, h7km±9km, mb4.0/3, Error ellipse: s-maj=7.5km s-min=4.8km az=30.3*
*IDC **26** 17:10:46.4±1.1, 27°.97S×26°.83E, h0km, mb3.8/4, mb1 4.1/8, mb1mx3.8/36, mbtmp4.1/8, ML3.3/3, MS2.6/2, Ms1 2.6/2, ms1mx2.4/33, Error ellipse: s-maj=16.8km s-min=12.3km az=125.0*
*NEIC **26** 17:10:48.1±1.4, 28°.01S±0°.08×26°.7E±0°.1, h9km±5km, mb4.6/8*

ISC 26 17:10:47.1±1.5, 28°.04S±0°.04×26°.77E±0°.05, h11km±9km, n37, σ1§90/55, mb4.5/7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.45**	**247**	*i* P	**Pg**	**17 11 15.1**	**+0.1**
BOSA				*i* S	**Sn**	**17 11 35.3**	**+2.7**
BOSA	**Boshof**	**1.45**	**247**	Pg	**Pg**	**17 11 15.1**	**+0.1**
48nm,0.3s,baz=63,slow=15,SNR=551							
BOSA				Lg	Lg	17 11 34.1	
118nm,0.3s,baz=64,slow=15,SNR=28							
BOSA				LR	LR	17 12 00.7	
comp=Z,68nm,18.3s,baz=1.0,slow=48							
BOSA	**Boshof**	**1.45**	**247**	*e*P	**Pn**	**17 11 12.8**	**-0.7**
BOSA				*e*S	**Sg**	**17 11 32.1**	**-1.8**
BOSA				AML	AML	17 11 39.2	
comp=Z,388nm,0.3s							
BOSA	**Boshof**	**1.45**	**247**	*i* P	**Pg**	**17 11 15.1**	**+0.1**
BOSA				*i* S	**Sn**	**17 11 35.3**	**+2.7**
BOSA	**Boshof**	**1.45**	**247**		**Pg**	**17 11 15.1**	**+0.1**
BOSA				Sn	**Sg**	**17 11 33.5**	**-0.4**
SWZ	**Schweizer**	**1.54**	**304**	*e*P	**Pn**	**17 11 14.3**	**-0.3**
SWZ				*e*S	**Sg**	**17 11 35.6**	**-1.1**
SWZ				AML	AML	17 11 52.6	
comp=Z,548nm,0.7s							
KLOF	**Kloof**	**1.84**	**24**	*e*P	**Pn**	**17 11 19.2**	**+0.3**
KLOF				*e*S	**Sn**	**17 11 42.5**	**+0.1**
KLOF				AML	AML	17 11 47.3	
comp=Z,1μm,0.3s							
ERPM	**east rand prop**	**2.14**	**38**	*e*P	**Pn**	**17 11 23.8**	**+0.8**
ERPM				*e*S	**Sb**	**17 11 51.8**	**-0.8**
ERPM				AML	AML	17 11 55.3	
comp=Z,382nm,0.5s							
KSR	**Koster**	**2.19**	**3**	*e*P	**Pn**	**17 11 23.9**	**+0.3**
KSR				*e*S	**Sn**	**17 11 51.0**	**+0.2**
KSR				AML	AML	17 11 56.6	
comp=Z,282nm,0.6s							
HVD	**Gariep Dam**	**2.79**	**203**	*e*P	**Pn**	**17 11 31.2**	**-0.7**
HVD				*e*S	**Sn**	**17 12 03.3**	**-2.3**
HVD				AML	AML	17 12 21.0	
comp=Z,292nm,0.8s							
LBTB	**Lobatse**	**3.19**	**341**	Pn	**Pn**	**17 11 39.0**	**+1.5**
comp=Z,6.2nm,0.3s,baz=161,slow=15,SNR=158							
LBTB				Pg	**Pb**	**17 11 44.1**	**+0.2**
comp=Z,12nm,0.3s,baz=158,slow=18,SNR=36							
LBTB				Sn	**Sn**	**17 12 16.0**	**+0.5**
comp=Z,24nm,0.3s,baz=250,slow=15,SNR=6.3							
LBTB				Lg	Lg	17 12 25.4	
comp=Z,28nm,0.3s,baz=70,slow=20,SNR=5.4							
LBTB				LR	LR	17 12 47.4	
comp=Z,58nm,20.6s,baz=122,slow=38							
LBTB	**Lobatse**	**3.19**	**341**	*e*P	**Pn**	**17 11 38.1**	**+0.7**
LBTB				*e*S	**Sn**	**17 12 15.0**	**-0.6**
LBTB				AML	AML	17 12 35.2	
comp=Z,564nm,0.4s							
LBTB	**Lobatse**	**3.19**	**341**		**Pn**	**17 11 38.9**	**+1.5**
LBTB					**Sn**	**17 12 15.3**	**-0.2**
BUFB	**Buffelsbos**	**6.33**	**195**	*e*P	**Pn**	**17 12 20.3**	**-0.1**
BUFB				*e*S	**Sn**	**17 13 27.9**	**-4.9**
BUFB				AML	AML	17 14 11.7	
comp=Z,90nm,0.6s							
MSNA	**Messina**	**6.39**	**28**	*e*P	**Pn**	**17 12 20.5**	**-0.8**
MSNA				*e*S	**Sn**	**17 13 29.9**	**-4.5**
MSNA				AML	AML	17 14 13.5	
comp=Z,53nm,0.6s							
SUR	**Sutherland**	**6.73**	**229**	Pn	**Pn**	**17 12 27.9**	**+1.8**
comp=Z,3.4nm,0.3s,baz=58,slow=13,SNR=86							
SUR				Lg	Lg	17 14 14.8	
comp=Z,12nm,0.3s,baz=329,slow=18,SNR=5.0							
SUR				LR	LR	17 14 55.8	
comp=Z,78nm,21.6s,baz=13,slow=37							
SUR	**Sutherland**	**6.73**	**229**		**Pn**	**17 12 27.8**	**+1.8**
SUR					**Sn**	**17 13 40.9**	**-2.0**
TSUM	**Tsumeb**	**12.17**	**314**	Pn	**Pn**	**17 13 40.9**	**+0.2**
comp=Z,1.4nm,0.3s,baz=141,slow=18,SNR=26							
TSUM				Sn	**Sn**	**17 15 49.6**	**-6.9**
comp=Z,0.3nm,0.3s,baz=261,slow=17,SNR=3.6							
TSUM				Lg	Lg	17 17 06.5	
comp=Z,0.7nm,0.3s,baz=19,slow=6.6,SNR=4.9							
TSUM	**Tsumeb**	**12.17**	**314**		**Pn**	**17 13 40.9**	**+0.2**
TSUM					**Sn**	**17 15 51.7**	**-4.8**
LSZ	**Lusaka**	**12.77**	**6**	Pn	**Pn**	**17 13 47.0**	**-1.9**
comp=Z,0.7nm,0.3s,baz=188,slow=13,SNR=9.8							
LSZ				Sn	**Sn**	17 16 01.8	-9.4
comp=Z,1.7nm,0.3s,baz=133,slow=12,SNR=6.5							
LSZ				Lg	Lg	17 17 19.2	
comp=Z,0.8nm,0.3s,baz=265,slow=21,SNR=5.8							
LSZ	**Lusaka**	**12.77**	**6**		**Pn**	**17 13 48.1**	**-0.7**
LSZ					Sn	17 16 01.9	-9.4
OPO	**Ambohidratompo**	**20.96**	**68**	P	**P**	**17 15 29.3**	**-1.2**
comp=Z,3.1nm,0.8s,baz=254,slow=15,SNR=3.6							
DAMY	**Dhamar**	**45.67**	**24**	P	**P**	**17 19 08.7**	**+0.2**
DBIC	**Dimbokro**	**46.08**	**314**	P	**P**	**17 19 12.3**	**+0.9**
DBIC				IAmb	IAmb	17 19 38.2	
comp=Z,21nm,1.6s							
SNAA	**Sanae**	**46.62**	**192**	P	**P**	**17 19 17.0**	**+1.9**
TOA0	**Torodi Ar. Sit**	**47.61**	**326**	P	**P**	**17 19 24.1**	**+0.7**
TOA0				IAmb	IAmb	17 19 25.1	
comp=Z,5.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**47.61**	**326**	P	**P**	**17 19 23.9**	**+0.6**
comp=Z,2.0nm,0.4s,baz=143,slow=5.9,SNR=21							
TORD	**Torodi Ar. Bea**	**47.61**	**326**	P	**P**	**17 19 22.8**	**-0.6**
UOSS	**Minazif**	**59.82**	**31**	P	**P**	**17 20 53.8**	**+1.1**
UOSS				IAmb	IAmb	17 20 57.1	
comp=Z,4.7nm,1.1s							
QSPA	**South Pole Qui**	**62.15**	**180**	P	**P**	**17 21 09.5**	**+1.3**
comp=Z,1.0nm,0.9s,baz=255,slow=5.9,SNR=2.3							
QSPA	**South Pole Qui**	**62.15**	**180**	P	**P**	**17 21 09.9**	**+1.7**
QSPA				IAmb	IAmb	17 21 10.2	
comp=Z,7.3nm,1.5s							
BUR08	**Bucovina Ar. S**	**75.35**	**359**	P	**P**	**17 22 31.9**	**+1.5**
BUR08				IAmb	IAmb	17 22 58.2	
comp=Z,7.2nm,1.6s							
KKAR	**Karatay Array**	**81.41**	**31**	P	**P**	**17 23 05.0**	**+1.1**
MKAR	**Makanchi Array**	**89.77**	**34**	P	**P**	**17 23 46.0**	**+0.6**
comp=Z,0.2nm,0.5s,baz=211,slow=3.3,SNR=4.1							
MKAR	**Makanchi Array**	**89.77**	**34**	P	**P**	**17 23 46.6**	**+1.2**
ELK	**Elko**	**146.44**	**302**	PKPbc	**PKPab**	**17 30 31.0**	**+1.4**
comp=Z,0.5nm,0.3s,baz=130,slow=2.2,SNR=4.1							
NVAR	**Mina Array Bea**	**149.17**	**299**	PKPbc	**PKPbc**	**17 30 35.8**	**-0.3**
comp=Z,0.4nm,0.4s,baz=103,slow=2.9,SNR=4.5							

KRSC 26 17:17:10.1±1.8, 52°.68N×160°.93E, h16km±25km, ML3.8,

Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.69**	**308**	P	Pb	17 17 24.2	+0.4
SPN				S	Sg	17 17 31.9	-1.0
NLC	**Nalytchevo**	**1.08**	**298**	P	Pb	17 17 30.1	-0.3
NLC				S	Sb	17 17 43.5	-0.7
DALK	**Dalny**	**1.36**	**286**	P	Pn	17 17 34.8	+0.4
DALK				S	Sb	17 17 52.3	-0.1
SDLR	**Sedlovina**	**1.38**	**297**	P	Pb	17 17 35.3	-0.2
SDLR				S	Sn	17 17 51.1	-1.5
UGLR	**Uglovaya**	**1.38**	**294**	P	Pb	17 17 35.4	-0.2
UGLR				S	Sn	17 17 52.8	+0.1
SMAR	**Somma**	**1.41**	**295**	P	Pn	17 17 35.4	+0.1
SMAR				S	Sn	17 17 53.6	-0.1
AVH	**Avacha**	**1.45**	**295**	P	Pb	17 17 36.7	0.0
AVH				S	Sb	17 17 55.3	+0.4
KRER	**Koryakskii**	**1.46**	**296**	P	Pb	17 17 36.8	-0.2
KRER				S	Sn	17 17 54.4	-0.4
RUS	**Russkaya**	**1.49**	**262**	P	Pb	17 17 37.2	-0.2
RUS				S	Sn	17 17 54.7	-0.6
KOK	**Koryaka**	**1.52**	**295**	P	Pb	17 17 37.5	-0.4
KOK				S	Sb	17 17 56.7	-0.2
KRX	**Arik**	**1.54**	**297**	P	Pb	17 17 37.7	-0.6
KRX				S	Sn	17 17 56.9	+0.3
KII	**Karymskiy**	**1.62**	**328**	P	Pb	17 17 39.5	-0.2
KII				S	Sb	17 18 00.4	+0.4
MTVR	**Mutnovka**	**1.69**	**265**	P	Pb	17 17 40.4	-0.4
MTVR				S	Sn	17 18 01.0	+0.7
KRMR	**Karymshinskiy**	**1.71**	**276**	P	Pn	17 17 39.6	+0.5
KRMR				S	Sn	17 18 00.0	-0.6
GRL	**Gorelyy**	**1.75**	**267**	P	Pb	17 17 41.6	-0.2
GRL				S	Sn	17 18 02.3	+0.6
ASAK	**Asacha**	**1.87**	**262**	P	Pb	17 17 43.7	-0.2
ASAK				S	Sb	17 18 07.5	+0.4
MKZ	**Mys Kozlova**	**1.94**	**14**	P	Pb	17 17 44.6	-0.5
MKZ				S	Sb	17 18 08.2	-0.8
GNL	**Ganaly**	**2.07**	**301**	P	Pb	17 17 46.4	-0.9
GNL				S	Sb	17 18 12.2	-0.5
APC	**Apacha**	**2.30**	**278**	P	Pb	17 17 50.2	-1.0
APC				S	Sb	17 18 18.6	-0.8
KZV	**Kizimen**	**2.47**	**352**	P	Pb	17 17 52.9	-1.3
KZV				S	Sb	17 18 23.4	-1.0
TUMD	**Tumrok D**	**2.55**	**353**	P	Pb	17 17 53.7	-1.8
TUMD				S	Sn	17 18 22.8	+1.3
TUMR	**Tumrok**	**2.65**	**350**	P	Pb	17 17 55.6	-1.7
TUMR				S	Sn	17 18 26.8	+2.7
KMNR	**Kamenistaya**	**3.11**	**353**	P	Pb	17 18 02.5	-2.6
KMNR				S	Sb	17 18 40.1	-2.7
BZWR	**Bezymyannyi-We**	**3.31**	**356**	P	Pb	17 18 06.2	-2.2
KPT	**Kopyto**	**3.32**	**353**	P	Pn	17 18 02.5	+1.0
KOZ	**Kozyrevsk**	**3.44**	**350**	P	Pn	17 18 05.9	+2.8
ESO	**Esso**	**3.51**	**339**	P	Pn	17 18 06.9	+3.0
ESO				S	Sn	17 18 49.5	+4.5
KLY	**Klyuchi**	**3.65**	**358**	S	Sn	17 18 53.0	+4.6
KBTR	**Krutoberegovo**	**3.71**	**17**	P	Pb	17 18 11.7	-3.5
SRDR	**Sredinnyy**	**3.72**	**350**	P	Pn	17 18 10.5	+3.7
BKI	**Bering**	**3.91**	**48**	P	Pn	17 18 12.3	+2.9
BKI				S	Sn	17 18 55.0	+0.1

*IDC **26** 17:19:10.2±1.8, 52°.58N×172°.82W, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/60, mbtmp3.7/6, ML3.0/3, Error ellipse: s-maj=46.1km s-min=23.6km az=155.0*
*ISCJB **26** 17:19:23.4±0.4, 52°.6N±0°.1×172°.30W±0°.08, h150km, mb3.4/3, Error ellipse: s-maj=19.1km s-min=3.3km az=161.0*
*AEIC **26** 17:19:24.4±1.8, 52°.6N±0°.2×172°.3W±0°.1, h127km±7km, ML3.1*
*NEIC **26** 17:19:24.9±1.4, 52°.6N±0°.2×172°.3W±0°.1, h137km±10km*

ISC 26 17:19:24.3±0.9, 52°.8N±0°.2×172°.35W±0°.06, h150km, n41, σ2§00/45, mb3.4/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.12**	**248**		**Pn**	**17 19 49.3**	**-0.9**
KOSE					**Sn**	**17 20 07.7**	**-2.1**
KOFP	**Korovin Flat P**	**1.18**	**246**		**Pn**	**17 19 49.9**	**-0.8**
KOFP					**Sn**	**17 20 09.3**	**-1.5**
KOKL	**Mount Kliuchef**	**1.22**	**249**		**Pn**	**17 19 50.3**	**-0.7**
**

CMAR	Chiang Mai Arr	20.05	359	P	P	17 30 39.0	-0.2
	0.8nm,0.9s,baz=188,slow=9.3,SNR=6.1						
H08S2	Diego Garcia H	27.20	257	T	T	17 59 49.8	
	baz=77,slow=76,SNR=45						
H08S3	Diego Garcia H	27.20	257	T	T	17 59 49.6	
	baz=77,slow=76,SNR=48						
H08S1	Diego Carcia H	27.21	257	T	T	17 59 49.9	
	baz=77,slow=76,SNR=48						
H01W3	Cape Leeuwin H	35.83	159	T	T	18 10 58.3	
	baz=335,slow=76,SNR=4.1						
H01W2	Cape Leeuwin H	35.84	159	T	T	18 10 56.8	
	baz=335,slow=76,SNR=4.8						
H01W1	Cape Leeuwin H	35.84	159	T	T	18 10 55.4	
	baz=335,slow=76,SNR=6.0						
WRA	Warramunga Arr	38.87	120	P	P	17 33 29.7	-1.9
	0.4nm,0.6s,baz=304,slow=9.1,SNR=5.8						
ASAR	Alice Springs	40.11	126	P	P	17 33 40.6	-1.3
	0.5nm,0.6s,baz=304,slow=7.8,SNR=17						
SONM	Songino Array	49.76	6	P	P	17 35 00.4	+1.9
	0.7nm,0.8s,baz=184,slow=5.8,SNR=2.8						
MKAR	Makanchi Array	50.54	345	P	P	17 35 03.4	-0.8
	1.1nm,0.6s,baz=151,slow=8.5,SNR=12						
ZALV	Zalesovo Beam	56.74	350	P	P	17 35 49.7	+0.1
	0.6nm,0.5s,baz=158,slow=4.7,SNR=3.5						
KBZ	Khabaz	67.54	319	P	P	17 37 02.2	0.0
	1.4nm,0.9s,baz=134,slow=9.9,SNR=3.6						
TXAR	Lajitas Array	144.99	36	PKPbc	PKPdf	17 45 43.1	-1.1
	0.5nm,0.5s,baz=241,slow=0.8,SNR=5.2						

*ISCJB **26** 17:29:22.8±0.7, 18°.2N±0°.1×67°.40W±0°.03, h139km±5km, Error ellipse: s-maj=17.8km s-min=4.3km az=4.8*
*NEIC **26** 17:29:22.6±0.8, 18°.2N±0°.1×67°.42W±0°.06, h145km±5km*
*RSPR **26** 17:29:23.7, 18°.15N×67°.40W, h139km, MD3.0/20*
*OSPL **26** 17:29:25.1±2.7, 17°.93N×67°.32W, h133km±34km, MD3.6, ML2.7*

ISC 26 17:29:23.2±1.5, 18°.2N±0°.1×67°.40W±0°.03, h141km±7km, n73, σ0§48/97, 9C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.23	342	‖eP	Pn	17 29 42.5	0.0
IDE	Isla Desecheo	0.23	342	eS	Sn	17 29 57.5	+0.3
IDE	Isla Desecheo	0.23	342		Pn	17 29 42.5	0.0
IDE					Sn	17 29 57.5	+0.3
MPR	Mayaguez	0.25	80	i P	Pn	17 29 42.4	-0.1
MPR				eS	Sn	17 29 56.3	-0.8
MPR				IAML		17 30 00.1	
	comp=Z,70nm,0.1s						
MPR	Mayaguez	0.25	80	Pn	Pn	17 29 42.4	-0.1
LSP	Las Mesas	0.30	89	‖eP	Pn	17 29 42.5	-0.2
LSP	Las Mesas	0.30	89	eS	Sn	17 29 57.8	+0.3
LSP	Las Mesas	0.30	89		Pn	17 29 42.5	-0.2
LSP					Sn	17 29 57.8	+0.3
CRPR	Cabo Rojo, PR	0.32	120	‖eP	Pn	17 29 42.6	-0.2
CRPR	Cabo Rojo, PR	0.32	120	eS	Sn	17 29 57.1	-0.4
CRPR	Cabo Rojo, PR	0.32	120		Pn	17 29 42.5	-0.2
CRPR				Sn	Sn	17 29 57.3	-0.2
MLPR	Magueyes Islan	0.39	120	⇑eP	Pn	17 29 43.0	0.0
MLPR	Magueyes Islan	0.39	120	eS	Sn	17 29 57.9	-0.1
MLPR	Magueyes Islan	0.39	120	Pn	Pn	17 29 42.9	-0.1
MLPR					Sn	17 29 57.6	-0.3
AGPR	Aguadilla, PR	0.40	42	‖eP	Pn	17 29 42.9	-0.1
AGPR	Aguadilla, PR	0.40	42	i P	Pn	17 29 42.9	-0.1
AGPR				eS	Sn	17 29 58.4	+0.2
AGPR				IAML		17 30 00.6	
	comp=Z,126nm,0.1s						
AGPR	Aguadilla, PR	0.40	42	Pn	Pn	17 29 42.9	-0.1
AGPR					Sn	17 29 58.4	+0.2
GBPR	Guanica, Bosqu	0.53	111	⇑eP	Pn	17 29 43.8	+0.2
GBPR	Guanica, Bosqu	0.53	111	eS	Sn	17 29 59.2	+0.1
GBPR	Guanica, Bosqu	0.53	111		Pn	17 29 43.8	+0.2
GBPR					Sn	17 29 59.2	+0.1
AOPR	Arecibo Observ	0.64	74	⇑eP	Pn	17 29 44.4	+0.1
AOPR	Arecibo Observ	0.64	74	eS	Sn	17 30 00.5	+0.1
AOPR	Arecibo Observ	0.64	74		Pn	17 29 44.5	+0.1
AOPR	Arecibo Observ	0.64	74		Sn	17 30 00.5	+0.1
OBIP	Obispado Ponce	0.76	99	⇑eP	Pn	17 29 45.5	+0.4
OBIP	Obispado Ponce	0.76	99	eS	Sn	17 30 01.9	0.0
OBIP	Obispado Ponce	0.76	99	Pn	Pn	17 29 45.4	+0.2
OBIP					Sn	17 30 01.9	0.0
CELP	Cerrillos	0.78	97	‖eP	Pn	17 29 45.6	+0.3
CELP				eS	Sn	17 30 02.2	0.0
CELP	Cerrillos	0.78	97		Pn	17 29 45.6	+0.3
CELP					Sn	17 30 02.2	0.0
EMPR	Esperanza - Ma	0.88	69	‖eP	Pn	17 29 46.2	+0.1
EMPR	Esperanza - Ma	0.88	69	eS	Sn	17 30 03.9	+0.4
EMPR	Esperanza - Ma	0.88	69	Pn	Pn	17 29 46.2	+0.1
EMPR	Esperanza - Ma	0.88	69		Sn	17 30 03.9	+0.4
PCDR	Punta Cana, DR	0.99	290	⇑eP	Pn	17 29 46.6	-0.5
PCDR	Punta Cana, DR	0.99	290	i P	Pn	17 29 47.0	-0.1
PCDR				eS	Sn	17 30 05.8	+0.5
PCDR				IAML		17 30 11.8	
	comp=Z,80nm,0.2s						
PCDR	Punta Cana, DR	0.99	290	Pn	Pn	17 29 46.9	-0.1
PCDR	Punta Cana, DR	0.99	290		Sn	17 30 05.2	0.0
SJG	San Juan	1.19	93	Pn	Pn	17 29 48.8	0.0
SJG					Sn	17 30 08.7	+0.3
IGPR	InterUniversit	1.25	99	‖eP	Pn	17 29 49.2	-0.2
IGPR	InterUniversit	1.25	99	eS	Sn	17 30 08.9	-0.5
IGPR	InterUniversit	1.25	99	Pn	Pn	17 29 48.8	-0.6
IGPR					Sn	17 30 09.1	-0.2
GCPR	Guaynabo City	1.26	83	Pn	Pn	17 29 49.4	-0.1
GCPR					Sn	17 30 09.6	-0.1
PDPR	Patillas Dam,	1.32	96	‖eP	Pn	17 29 50.1	0.0
PDPR	Patillas Dam,	1.32	96	eS	Sn	17 30 10.6	-0.1
PDPR	Patillas Dam,	1.32	96	Pn	Pn	17 29 50.0	-0.1
PDPR					Sn	17 30 10.4	-0.3
CBYP	Canovanas	1.47	86	‖eP	Pn	17 29 51.8	0.0
CBYP	Canovanas	1.47	86	⇑eP	Pn	17 29 52.0	+0.2
CBYP				eS	Sn	17 30 14.0	+0.4
CBYP	Canovanas	1.47	86	eS	Sn	17 30 13.9	+0.3
CBYP	Canovanas	1.47	86		Pn	17 29 51.8	0.0
CBYP					Sn	17 30 13.5	-0.1
HUMP	Col San Antoni	1.47	91	‖eP	Pn	17 29 51.7	0.0
HUMP	Col San Antoni	1.47	91	eS	Sn	17 30 13.6	0.0
HUMP	Col San Antoni	1.47	91	Pn	Pn	17 29 51.9	+0.1
HUMP				Sn	Sn	17 30 13.9	+0.3
MTP	Monte Pirata	1.76	92	‖eP	Pn	17 29 55.0	+0.1
MTP	Monte Pirata	1.76	92	eS	Sn	17 30 18.5	-0.7
MTP	Monte Pirata	1.76	92	Pn	Pn	17 29 55.0	+0.1
MTP					Sn	17 30 19.6	+0.4
DR12	Loma Pena Alta	1.98	288		Pn	17 29 56.1	-1.4
DR12				Sn	Sn	17 30 22.4	-1.6
CUPR	Culebra, Puert	2.02	86	⇑eP	Pn	17 29 57.8	-0.2
CUPR	Culebra, Puert	2.02	86	eS	Sn	17 30 23.8	-0.8
CUPR	Culebra, Puert	2.02	86	Pn	Pn	17 29 57.7	-0.2
CUPR				Sn	Sn	17 30 24.3	-0.3
STVI	Saint Thomas	2.33	85	⇑eP	Pn	17 30 02.1	+0.3
STVI	Saint Thomas	2.33	85	eS	Sn	17 30 31.3	-0.1
STVI	Saint Thomas	2.33	85	Pn	Pn	17 30 01.4	-0.4
STVI					Sn	17 30 30.8	-0.6
TBVI	Tortola	2.65	84	eS	Sn	17 30 38.2	-0.4
TBVI	Tortola	2.65	84	‖eP	Pn	17 30 05.7	-0.1
TBVI	Tortola	2.65	84		Pn	17 30 05.7	-0.1
TBVI					Sn	17 30 38.2	-0.4
BANI	BANI	2.82	275	Pn	Pn	17 30 08.5	+0.5
ABV	Anegada	2.96	79	⇑eP	Pn	17 30 10.1	+0.4
ABV	Anegada	2.96	79	eS	Sn	17 30 45.5	-0.1
ABVI	Anegada Island	2.96	79	Pn	Pn	17 30 10.0	+0.3
ABVI	Anegada Island	2.96	79		Sn	17 30 45.5	-0.1
SC01	Santiago de lo	3.39	292	Pn	Pn	17 30 15.0	-0.2
SDDR	Presa de Saban	3.78	283	i P	Pn	17 30 23.4	+3.1
SDDR				IAML		17 31 10.8	
	comp=Z,18nm,1.9s						
SDDR	Presa de Saban	3.78	283	Pn	Pn	17 30 20.0	-0.4

*SKHL **26** 17:30:16.4±1.2, 42°.66N×148°.96E, h44km±6km, mb4.2/4*
*JMA **26** 17:30:17.1±0.9, 43°.33N×149°.07E, h30km, M4.4*

ISC 26 17:30:16.8±3.2, 42°.7N±0°.1×148°.9E±0°.2, h35km, n15, σ1§18/25, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.43	287	P	Pn	17 30 54.4	+0.5
NEM2				eS	Sn	17 31 21.7	-0.7
NMR	Nemuro--Hokkai	2.44	287	i P	Pn	17 30 54.0	-0.1
NMR				i S	Sn	17 31 22.0	-0.7
YUK	Yuzh-Kuril'sk	2.61	302	i P	Pn	17 30 56.0	-0.4
YUK				AMB	AMB	17 31 03.0	
	23nm,0.2s						
YUK				i S	Sn	17 31 26.0	-0.8
YUK				A	A	17 31 32.0	
	141nm,0.2s						
YUK				A	A	17 31 32.0	
	96nm,0.2s						
GRPR	Tuman	2.64	301	eP	Pn	17 30 57.0	+0.1
GRPR				AMB	AMB	17 30 58.0	
	24nm,0.2s						
GRPR				i S	Sn	17 31 26.0	-1.7
GRPR				A	A	17 31 28.0	
	211nm,0.2s						
GRPR				A	A	17 31 28.0	
	103nm,0.2s						
KUR	Kuril'sk	2.66	344	i P	Pn	17 30 57.0	-0.1
KUR				AMB	AMB	17 30 58.0	
	17nm,0.3s						
KUR				i S	Sn	17 31 28.0	-0.1
KUR				A	A	17 31 31.0	
	88nm,0.3s						
KUR				A	A	17 31 31.0	
	126nm,0.3s						
GLVR	Golovnino	2.70	294	eP	Pn	17 30 58.0	+0.3
GLVR				AMB	AMB	17 31 00.0	
	45nm,0.4s						
GLVR				i S	Sn	17 31 30.0	+0.9
GLVR				A	A	17 31 37.0	
	288nm,0.4s						
GLVR				A	A	17 31 37.0	
	292nm,0.4s						
JRA	Rausu	3.04	296	P	Pn	17 31 03.3	+0.9
JAK	Akkeshi	3.12	277	P	Pn	17 31 04.4	+0.9
JAK				eS	Sn	17 31 38.9	-0.6
JNK	Nakash	3.20	288	P	Pn	17 31 04.9	+0.3
JOB	Onbets	3.75	275	P	Pn	17 31 13.1	+1.0
JOB				eS	Sn	17 31 55.0	0.0
JAR	Ashorobuto	3.83	281	P	Pn	17 31 14.6	+1.4
JAR				eS	Sn	17 31 56.6	-0.3
JTKR	Abashiri--Toko	3.88	291	P	Pn	17 31 15.5	+1.7
JCH	Churui	4.10	271	P	Pn	17 31 18.2	+1.3
JCH				eS	Sn	17 32 03.3	-0.4
JKB	Kayabe	5.90	265	P	Pn	17 31 43.1	+1.4
JANG	Nango	6.02	250	eS	Sn	17 32 47.3	-3.7

*NEIC **26** 17:34:22.9±2.4, 57°.84N±0°.05×156°.1W±0°.1, h130km±5km*

AEIC 26 17:34:25.2±2.0, 57°.92N±0°.06×156°.1W±0°.1, h119km±5km, ML2.6, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK2	Peulik 2	0.20	220		Pn	17 34 41.3	-0.4
PLK3	Peulik 3	0.25	203		Pn	17 34 41.5	-0.3
PLK1	Peulik 1	0.30	248		Pn	17 34 41.3	-0.6
PLBL	Peulik Blue Cr	0.45	241		Pn	17 34 42.0	-0.7
KABU	Katmai Buttres	0.56	50		Pn	17 34 43.0	-0.4
KABU					Sn	17 34 57.4	+0.1
KELA	Mount Kelaz	0.56	19		Pn	17 34 42.5	-1.0
KELA					Sn	17 34 56.3	-1.0
KAKN	Katmai Knife C	0.67	54		Pn	17 34 43.7	-0.5
KAKN					Sn	17 34 58.4	-0.2
KAHC	Katmai Hardscr	0.93	37		Pn	17 34 45.7	-0.9
KAHG	Katmai Hook Gl	1.00	54		Pn	17 34 46.9	-0.3
ANNE	Aniakchak Nort	1.47	228		Pn	17 34 51.2	-0.9
ANNW	Aniakchak Nort	1.49	231		Pn	17 34 52.3	-0.2
OHAK	Old Harbor	1.66	114		Sn	17 35 15.3	-1.3
OHAK	Old Harbor	1.66	114		Pn	17 34 53.4	-0.9
SII	Sitkinak Islan	1.71	142		Pn	17 34 54.0	-1.0
KDAK	Kodiak Island	1.88	93		Pn	17 34 56.1	-0.9
KDAK	Kodiak Island	1.88	93		Sn	17 35 19.9	-1.4
AUH	Augustine H	2.01	42		Pn	17 34 58.3	-0.4
AUL	Augustine Lava	2.02	42		Pn	17 34 58.2	-0.6
CHIR	Chirikof Islan	2.11	173	Pn	Pn	17 34 56.8	-3.2
CNPM	China Poot	3.00	55		Pn	17 35 10.8	-0.6
RSO	Redoubt South	3.08	32	Pn	Pn	17 35 12.5	-0.1
SVW2	Sparrevohn	3.20	4	Pn	Pn	17 35 11.7	-2.3
BRLK	Bradley Lake	3.28	53	Pn	Pn	17 35 14.5	-0.5
BRSE	Bradley Lake S	3.33	54		Pn	17 35 14.7	-1.0
SLKM	Skilak Lake	3.98	47		Pn	17 35 24.0	-0.3
SUA	Susitna One	4.47	35	Pn	Pn	17 35 30.1	-0.9
RC01	Rabbit Creek A	4.54	43	Pn	Pn	17 35 31.0	-0.7
SKT	Skwentna	4.68	27	Pn	Pn	17 35 33.8	+0.1
PWL	Port Wells	4.94	50		Pn	17 35 34.7	-2.5
TTA	Tatalina	5.03	0	Pn	Pn	17 35 37.3	-1.1
KNK	Knik Glacier	5.22	45		Pn	17 35 39.6	-1.4
GHO	Glory Hole Cre	5.29	40	Pn	Pn	17 35 39.5	-2.4
PPLA	Purkeypile	5.36	19	Pn	Pn	17 35 43.9	+1.0
GLI	Glacier Island	5.47	53	Pn	Pn	17 35 42.8	-1.6
FID	Port Fidalgo	5.68	56		Pn	17 35 44.4	-2.8
SCM	Sheep Creek Mo	5.91	45		Pn	17 35 48.0	-2.2
KTH	Kantishna Hill	6.20	22	Pn	Pn	17 35 52.9	-1.3
TRF	Thorsfare Moun	6.24	25		Pn	17 35 53.0	-1.8
RND	Reindeer	6.55	30	Pn	Pn	17 35 55.4	-3.6
UNV	Unalaska Valle	7.14	240	Pn	Pn	17 36 05.2	-1.6
GLB	Gilahina Butte	7.15	55	Pn	Pn	17 36 06.1	-0.9
CRQM	Cirque	7.21	61	Pn	Pn	17 36 06.6	-1.4
VRDI	Verde Repeater	7.22	57	Pn	Pn	17 36 06.1	-2.0
PAX	Paxson	7.29	42	Pn	Pn	17 36 08.0	-1.0
TGL	Tana Glacier	7.35	62	Pn	Pn	17 36 09.2	-0.6
MCARA	McCarthy VSAT	7.47	57	Pn	Pn	17 36 10.0	-1.3
NEA	Nenana	7.49	24	Pn	Pn	17 36 08.3	-3.2
MLY	Manley	7.58	17	Pn	Pn	17 36 08.9	-3.9
WRH	Wood River Hil	7.62	27	Pn	Pn	17 36 10.3	-3.0
BALM	Baldy	7.66	60	Pn	Pn	17 36 11.9	-2.1
CCB	Clear Creek Bu	7.84	27	Pn	Pn	17 36 13.0	-3.2
MDM	Murphy Dome	8.00	25	Pn	Pn	17 36 15.5	-3.0
CTGM	Chitina Glacie	8.11	62	Pn	Pn	17 36 19.5	-0.6
IL31		8.17	29	Pn	Pn	17 36 17.2	-3.4
ILAR	Eielson Array	8.17	29	Pn	Pn	17 36 18.4	-2.4
IMAR	Indian Mountai	8.17	7	Pn	Pn	17 36 19.4	-1.3
SCRK	Sand Creek	8.45	39	Pn	Pn	17 36 22.0	-2.7
PRP	Porcupine Dome	9.11	29	Pn	Pn	17 36 30.6	-3.0

*BJI **26** 17:50:58.8±0.0, 31°.53N×86°.79E, h7km, ML3.7/1*
*ISCJB **26** 17:50:59.5±0.5, 31°.36N±0°.08×86°.41E±0°.08, h10km, mb3.8/12, MS2.7/1, Error ellipse: s-maj=12.7km s-min=8.7km az=29.1*
*IDC **26** 17:50:59.9±0.7, 31°.32N×86°.40E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.7/65, mbtmp3.8/16, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/31, Error ellipse: s-maj=27.2km s-min=15.6km az=60.0*

ISC 26 17:51:00.5±0.7, 31°.4N±0°.1×86°.61E±0°.08, h10km, n23, σ1§98/21, mb3.9/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	4.28	113	Pg	Pb	17 52 13.0	-3.2
LSA				smax	smax		
	comp=N,190nm,0.8s						
LSA				smax	smax		
	comp=E,120nm,0.6s						
CHCP	Chirah Chowk	11.48	285	P	Pn	17 53 45.1	+0.6
WMQ	Urumqi	12.39	4	eP	Pn	17 53 54.3	-2.6
CEP	Cherat	12.62	285	P	Pn	17 53 58.6	-1.6
THW	Thamme Wali	12.68	280	P	Pn	17 54 00.4	-0.5
AAK	Ala-Archa	14.76	323	Pn	Pn	17 54 27.7	-1.8
	0.0nm,0.3s,baz=176,slow=14,SNR=1.6						
AAK				LR	LR	18 00 59.0	
	comp=Z,34nm,18.5s,baz=238,slow=41						
MKAR	Makanchi Array	15.69	349	Pn	P	17 54 42.0	-3.7
	0.1nm,0.3s,baz=179,slow=12,SNR=2.8						
CMAR	Chiang Mai Arr	17.07	136	P	P	17 55 00.3	-0.9
	0.4nm,0.3s,baz=135,slow=30,SNR=4.5						
XAN	Xi'an	18.94	76	P	Pn	17 55 23.8	+1.4
KURBB	Kurchatov Arra	20.08	345	P	Pn	17 55 35.7	-0.1
	3.2nm,0.7s,baz=161,slow=10,SNR=8.7						
SONM	Songino Array	22.26	37	P	P	17 56 01.1	+3.4
	0.5nm,0.7s,baz=226,slow=9.0,SNR=3.4						
ZALV	Zalesovo Beam	22.53	357	P	P	17 56 02.9	+2.6
	0.5nm,0.4s,baz=184,slow=8.5,SNR=6.2						
BVAR	Borovoye Array	24.57	336	P	P	17 56 21.8	+1.4
	1.0nm,0.6s,baz=155,slow=12,SNR=6.0						
KSRS	Korea Array	34.38	68	LR	LR	18 13 52.3	
	comp=Z,11nm,18.0s,baz=125,slow=40						
FINES	FINESS Array B	48.91	326	P	P	17 59 47.6	+1.3
	4.4nm,0.9s,baz=103,slow=8.4,SNR=7.2						
ARCES	ARCESS Array B	50.86	337	P	P	18 00 02.6	+1.5
	4.0nm,0.9s,baz=100,slow=8.4,SNR=3.5						
NOA	NORSAR Array B	56.06	325	P	P	18 00 40.3	+0.9
	0.8nm,0.6s,baz=85,slow=7.2,SNR=3.5						
GERES	GERESS Array B	56.25	311	P	P	18 00 41.6	+0.5
	1.0nm,0.7s,baz=63,slow=6.3,SNR=7.1						
WRA	Warramunga Arr	68.60	132	P	P	18 02 05.2	+1.3
	0.7nm,0.5s,baz=326,slow=6.5,SNR=5.8						
ASAR	Alice Springs	71.08	135	P	P	18 02 20.4	+1.4
	0.6nm,0.5s,baz=321,slow=6.0,SNR=20						
ILAR	Eielson Array	75.46	21	P	P	18 02 45.7	+1.3
	0.2nm,0.6s,baz=320,slow=5.7,SNR=3.7						
TORD	Torodi Ar. Bea	78.98	279	P	P	18 03 05.0	0.0
	0.5nm,0.6s,baz=46,slow=5.2,SNR=4.4						
BOSA	Boshof	83.52	231	P	P	18 03 29.2	+0.3
	1.7nm,0.6s,baz=75,slow=3.0,SNR=3.2						

IDC 26 17:53:18.6±1.8, 31°.48N×86°.73E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.4/61, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=143.1km s-min=22.2km az=58.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.67	349	Pn	Pn	17 56 58.0	-2.7
	0.0nm,0.3s,baz=172,slow=12,SNR=2.7						
KURBB	Kurchatov Arra	20.07	345	P	P	17 57 53.7	+0.2
	0.8nm,0.5s,baz=163,slow=10,SNR=3.6						
FINES	FINESS Array B	48.93	326	P	P	18 02 05.8	-0.4
	4.2nm,1.1s,baz=123,slow=15,SNR=2.1						
ARCES	ARCESS Array B	50.87	337	P	P	18 02 21.2	+0.3
	5.7nm,1.1s,baz=100,slow=10,SNR=1.6						
WRA	Warramunga Arr	68.55	132	P	P	18 04 23.3	-0.1
	0.3nm,0.5s,baz=324,slow=6.8,SNR=4.7						
ASAR	Alice Springs	71.03	135	P	P	18 04 38.7	+0.1
	0.3nm,0.6s,baz=318,slow=6.0,SNR=6.6						

*IDC **26** 18:03:11.3±0.9, 25°.39S×69°.87E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/43, mbtmp3.8/11, MS3.5/8, Ms1 3.5/8, ms1mx3.2/23, Error ellipse: s-maj=30.0km s-min=21.3km az=40.0*
*ISCJB **26** 18:03:12.5±0.7, 25°.3S±0°.1×70°.0E±0°.1, h21km, mb3.8/11, MS3.5/8, Error ellipse: s-maj=20.9km s-min=14.7km az=136.4*
*NEIC **26** 18:03:13.3±1.2, 25°.4S±0°.1×70°.0E±0°.2, h15km±4km, mb4.6/17*

ISC 26 18:03:14.4±0.8, 25°.3S±0°.2×69°.9E±0°.2, h21km, n45, σ0§79/35, mb4.2/18, MS3.5/8, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.77	8	T	T	18 25 31.5	
	baz=188,slow=76,SNR=28						
H08S2	Diego Garcia H	17.77	8	T	T	18 25 37.3	
	baz=188,slow=76,SNR=65						
H08S3	Diego Garcia H	17.79	8	T	T	18 25 34.1	
	baz=188,slow=76,SNR=41						
H01W2	Cape Leeuwin H	39.14	115	T	T	18 52 25.8	
	baz=272						
H01W3	Cape Leeuwin H	39.14	115	T	T	18 52 24.9	
	baz=272						
H01W1	Cape Leeuwin H	39.15	115	T	T	18 52 09.4	
	baz=272						
BOSA	Boshof	39.78	255	LR	LR	18 23 57.4	
	comp=Z,129nm,20.4s,baz=99,slow=31						
MAW	Mawson	42.50	184	LR	LR	18 25 24.8	
	comp=Z,55nm,18.3s,baz=40,slow=31						
CMAR	Chiang Mai Arr	51.89	36	P	P	18 12 22.7	+1.1
	0.8nm,0.9s,baz=230,slow=6.5,SNR=7.7						
CMAR				LR	LR	18 30 34.9	
	comp=Z,33nm,21.0s,baz=185,slow=32						
CMAR	Chiang Mai Arr	51.89	36	P	P	18 12 21.8	+0.2
FITZ	Fitzroy Crossi	51.95	94	P	P	18 12 24.4	+2.2
	4.3nm,1.1s,baz=216,slow=4.6,SNR=3.1						
CHTO	Chiang Mai	52.19	36	P	P	18 12 23.8	0.0
SHL	Shillong	54.88	24	P	P	18 12 42.5	-1.2
SHL				IAmb	IAmb	18 12 52.1	
	comp=Z,6.4nm,0.9s						
ASAR	Alice Springs	57.73	103	P	P	18 13 03.9	-0.1
	comp=Z,0.6nm,0.7s,baz=254,slow=6.3,SNR=8.9						
ASAR	Alice Springs	57.73	103	P	P	18 13 02.9	-1.2
WRA	Warramunga Arr	59.20	99	P	P	18 13 14.3	-0.1
	comp=Z,1.4nm,1.0s,baz=260,slow=10.0,SNR=4.0						
WRA	Warramunga Arr	59.20	99	P	P	18 13 13.8	-0.5
STKA	Stephens Creek	62.23	114	LR	LR	18 36 50.8	
	comp=Z,54nm,19.9s,baz=207,slow=32						
QSPA	South Pole Qui	64.79	180	P	P	18 13 51.2	0.0
	comp=Z,2.2nm,1.0s,baz=278,slow=2.2,SNR=4.5						
QSPA	South Pole Qui	64.79	180	P	P	18 13 50.8	-0.5
BTK	Batken	65.07	1	P	P	18 13 53.4	+0.1
BTK				IAmb	IAmb	18 14 02.4	
	comp=Z,9.3nm,1.5s						
AAK	Ala-Archa	67.77	4	P	P	18 14 10.2	-0.4
AAK				IAmb	IAmb	18 15 41.5	
	comp=Z,9.6nm,1.9s						
KK31	Karatay Array	68.11	0	P	P	18 14 13.5	+0.9

KPKS *e*S **Sb** **18 38 24.3 +0.8**
42nm,0.2s
ANVS Anan'yevo 0.64 246 ⇑*i*P **Pg** **18 38 20.9 +0.4**
baz=52
ANVS ⇑*i*S **Sb** **18 38 28.9 -0.2**
baz=52
SHLS Shalkode 0.74 81 P Pn 18 38 28.9 +5.6
1.1nm,0.7s
SHLS S Sn 18 38 43.4 +9.2
5.4nm,0.3s
PDGK Podgornoye 0.80 69 P **Pn** **18 38 23.8 -0.4**
0.2nm,0.2s
PDGK S **Sn** **18 38 34.7 -1.1**
1.9nm,0.3s
PDGK Podgornoye 0.80 69 ⇑P **Pn** **18 38 23.6 -0.6**
0.2nm,0.3s
PDGK ⇓S **Sn** **18 38 34.4 -1.3**
1.8nm,0.3s
KOTS Kotyrbulak 1.01 281 P **Pb** **18 38 27.0 +0.3**
1.7nm,0.3s
KOTS S **Sb** **18 38 40.0 +0.4**
7.7nm,0.3s
TNSS Tian-Shan 1.11 270 P **Pb** **18 38 28.1 -0.5**
0.6nm,0.2s
TNSS S **Sb** **18 38 42.0 -0.9**
3.8nm,0.4s
ARXS Arharly 1.25 339 P **Pg** **18 38 31.7 -0.1**
1.3nm,0.5s
ARXS S **Sg** **18 38 48.2 -0.1**
4.8nm,0.5s
KDJ Kajisay 1.32 226 ⇑*i*P **Pg** **18 38 33.0 -0.2**
baz=27
KDJ ⇑*i*S **Sb** **18 38 48.9 +0.2**
baz=27
CHKK Chushkaly 1.34 307 P **Pb** **18 38 32.3 +0.1**
2.0nm,0.3s
CHKK S **Sn** **18 38 49.4 +0.5**
5.3nm,0.4s
TARG Taragay, Kyrgy 1.41 200 ⇑*i*P **Pb** **18 38 34.0 +0.4**
baz=99
TARG ⇑*i*S **Sb** **18 38 51.8 +0.4**
baz=99
KTBS Karatobe 1.46 298 P **Pb** **18 38 34.8 +0.6**
0.9nm,0.3s
KTBS S **Sb** **18 38 53.5 +1.0**
7.5nm,0.3s
ULHL Ulahol 1.83 245 ⇑*i*P **Pb** **18 38 41.7 +1.0**
baz=46
ULHL ⇑*i*S **Sb** **18 39 04.4 +1.2**
baz=46
BOOM Boomskoye usch 1.94 254 ⇑*i*P **Pb** **18 38 43.2 +0.6**
baz=56
BOOM ⇑*i*S **Sb** **18 39 06.9 +0.4**
baz=56
TKM2 Tokmak 2 2.11 267 ⇑Pg **Pb** **18 38 44.0 -1.5**
0.6nm,0.4s
TKM2 ⇓Lg Lg 18 39 14.1
1.0nm,0.5s
TKM2 Tokmak 2 2.11 267 ⇑*i*P **Pb** **18 38 45.9 +0.4**
baz=70
TKM2 ⇑*i*S **Sb** **18 39 12.3 +0.9**
baz=70

*IDC **26** 18:46:52.0±2.2, 15°.26S×174°.62W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/24, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=118.9km s-min=24.9km az=151.0*
*NEIC **26** 18:46:57.1±0.8, 15°.3S±0°.5×174°.6W±0°.3, h34km±14km, mb4.6/3*
ISC 26 18:46:56.4±2.2, 15°.5S±0°.8×174°.4W±0°.4, h35km, n9, σ1§47/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.92**	**59**	Pn	**Pn**	**18 47 42.0**	**+1.6**
AFI	14nm,0.3s,baz=260,slow=6.1,SNR=13			Sn	**Sn**	**18 48 12.4**	**-1.9**
AFI	**Afiamalu**	**2.92**	**59**		**Pn**	**18 47 42.4**	**+2.0**
AFI	30nm,0.3s,baz=252,slow=20,SNR=12				**Sn**	**18 48 12.2**	**-2.1**
WB0	**Warramunga Arr**	**48.91**	**257**	P	**P**	**18 55 39.1**	**-0.2**
WB0				IAmb	IAmb	18 55 57.7	
WRAB	**Tennant Creek**	**48.94**	**257**	P	**P**	**18 55 38.8**	**-0.8**
WRAB	comp=Z,6.2nm,1.1s			IAmb	IAmb	18 55 53.6	
WRA	**Warramunga Arr**	**48.95**	**257**	P	**P**	**18 55 39.1**	**-0.5**
WRA	comp=Z,13nm,1.6s **Warramunga Arr**	**48.95**	**257**	P	**P**	**18 55 39.5**	**-0.1**
ASAR	comp=Z,0.2nm,0.4s,baz=93,slow=6.6,SNR=8.6 **Alice Springs**	**49.23**	**252**	P	**P**	**18 55 40.8**	**-1.0**
ASAR	comp=Z,1.1nm,0.5s,baz=86,slow=7.8,SNR=21 **Alice Springs**	**49.23**	**252**	P	**P**	**18 55 40.9**	**-0.9**
ILAR	**Eielson Array**	**82.67**	**11**	P	**P**	**18 59 16.2**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=218,slow=6.8,SNR=4.3						

ASRS 26 18:50:06.8±0.4, 50°N±4°×9°9E±°, h10km, MLv3.6/10, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**2.09**	**40**	P	Pg	18 50 47.9	+1.0
MOY				S	Sg	18 51 23.0	+9.0
ZAK	**Zakamensk**	**2.86**	**82**	P	Pn	18 50 53.3	+0.7
ZAK				S	Sn	18 51 28.4	+1.3
TDJR	**Todzha**	**2.90**	**324**	P	Pn	18 50 50.1	-2.9
TDJR				S	Sn	18 51 27.8	-0.1
TLY	**Talaya**	**3.44**	**60**	P	Pn	18 50 59.5	-0.9
TEL	**Teeli**	**5.59**	**283**	P	Pn	18 51 30.1	+0.1
TEL				S	Sn	18 52 35.8	+1.4
MINR	**Mina**	**5.60**	**331**	P	Pn	18 51 33.5	+3.4
MINR				S	Sn	18 52 41.5	+7.0
VEH	**Verkhnyaya Baz**	**6.19**	**304**	P	Pn	18 51 35.7	-2.4
VEH				S	Sn	18 52 52.3	+3.4
ULGR	**Ulagan, Altay**	**6.99**	**279**	P	Pn	18 51 50.1	+0.9
ULGR				S	Sn	18 53 10.4	+1.6
AKAR	**Aktash**	**7.21**	**276**	S	Sn	18 53 15.9	+1.6
CHBI	**Chibit, Altay**	**7.29**	**276**	S	Sn	18 53 16.4	+0.3
TASR	**Tashtagol**	**7.37**	**296**	S	Sn	18 53 19.3	+1.4
DGZ	**Jazzator, Alta**	**7.39**	**271**	S	Sn	18 53 20.7	+2.1
TUNR	**Tungur**	**8.05**	**275**	S	Sn	18 53 35.2	+0.4

IDC 26 19:04:50.3±2.1, 52°.40N×152°.78E, h494km±21km, mb2.7/4, mb1 2.9/6, mb1mx2.5/36, mbtmp3.5/6, Error ellipse: s-maj=60.5km s-min=22.3km az=116.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.07**	**75**	P	P	19 06 01.1	0.0
	0.2nm,0.3s,baz=256,slow=6.0,SNR=5.1						
SEY	**Seymchan**	**10.56**	**359**	P	P	19 07 13.2	0.0
	0.2nm,0.3s,baz=197,slow=12,SNR=4.1						
ILAR	**Eielson Array**	**32.43**	**44**	P	P	19 10 38.4	+0.1
	0.2nm,0.3s,baz=259,slow=6.7,SNR=7.2						
INK	**Inuvik**	**37.10**	**36**	P		19 11 16.9	-0.3
	0.6nm,0.3s,baz=276,slow=6.9,SNR=6.6						
YKA	**Yellowknife Ar**	**46.61**	**40**	P	P	19 12 32.4	-0.1
	1.0nm,0.8s,baz=305,slow=6.8,SNR=2.4						
ASAR	**Alice Springs**	**77.52**	**198**	P	P	19 15 54.4	+0.1
	0.3nm,0.6s,baz=14,slow=5.1,SNR=4.7						

*ISN **26** 19:11:35.3±1.1, 34°.23N×45°.50E, h9km±6km, ML3.1*
*TEH **26** 19:11:37.3, 34°.21N×45°.63E, h12km, ML3.0*
ISC 26 19:11:37.0±1.7, 34°.22N±0°.04×45°.56E±0°.03, h14km±14km, n22, σ1§07/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.83**	**55**	*e*Pg	**Pb**	**19 11 52.0**	**-1.3**
IDHR				*e*Sg	**Sb**	**19 12 03.6**	**-0.9**
IGHG	**Ghaleghazi**	**0.84**	**83**	*e*Pg	**Pb**	**19 11 52.9**	**-0.6**
IGHG				*e*Sg	**Sn**	**19 12 05.4**	**-1.5**
IGHG	comp=Z,8μm,0.4s			IAMB	IAmb	19 12 07.5	
IBDR	**Badra**	**1.15**	**164**	*e*Pg	**Pn**	**19 11 58.2**	**-0.4**
IBDR				AML	AML	19 12 09.3	
IBDR	comp=Z,539nm,0.4s			*e*Sg	**Sn**	**19 12 14.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.23**	**87**	*e*Pg	**Pn**	**19 11 59.5**	**-0.4**
KCHF				IAMB	IAmb	19 12 22.2	
	comp=Z,0.0nm,0.3s						
KER	**Kermanshah**	**1.31**	**83**	*e*Pg	**Pb**	**19 12 01.1**	**-0.4**
KER				*e*Sg	**Sg**	**19 12 19.3**	**0.0**
ILIN	**Lien**	**1.35**	**59**	IAMB	IAmb	19 12 03.5	
ILIN	comp=Z,2μm,0.3s			*e*Pg	**Pb**	**19 12 02.1**	**-0.1**
BHD	**Baghdad**	**1.37**	**226**	*e*Pn	**Pn**	**19 12 01.9**	**+0.3**
BHD				*e*Sn	**Sg**	**19 12 21.7**	**+0.6**
IKRK	**Kirkuk**	**1.54**	**320**	*e*Pn	**Pn**	**19 12 04.3**	**+0.2**
IKRK				AML	AML	19 12 07.8	
IKRK	comp=Z,470nm,0.2s			*e*Sn	**Sb**	**19 12 25.8**	**+1.0**
IKOM	**Komasi**	**1.62**	**91**	IAMB	IAmb	19 12 33.2	
IKOM	comp=Z,0.0nm,0.6s			*e*Pn	**Pb**	**19 12 06.6**	**-0.1**
IBZA	**Bozab**	**1.92**	**82**	*e*Pn	**Pb**	**19 12 11.1**	**-0.8**
IBZA				IAMB	IAmb	19 12 12.8	
IKFM	comp=Z,0.0nm,0.4s **Kafar-mosalman**	**2.03**	**110**	*e*Pn	**Pb**	**19 12 12.0**	**-1.6**
IKFM				IAMB	IAmb	19 12 49.7	
IDOB	comp=Z,0.0nm,0.4s **Doab**	**2.22**	**101**	*e*Pn	**Pn**	**19 12 14.7**	**+1.2**
IKMR	**Kamar-syah**	**2.45**	**106**	*e*Pn	**Pn**	**19 12 18.0**	**+1.5**
IKMR				IAMB	IAmb	19 12 18.3	
HSRG	comp=Z,0.0nm,0.3s **Sareghieh**	**2.46**	**65**	*e*Pn	**Pn**	**19 12 18.6**	**+1.7**
HSRG				IAMB	IAmb	19 12 23.7	
HSAM	comp=Z,0.0nm,0.5s **Samen**	**2.52**	**89**	*e*Pn	**Pn**	**19 12 19.0**	**+1.2**
HSAM				IAMB	IAmb	19 12 23.8	
MAHB	comp=Z,0.0nm,0.4s **Mahabad**	**2.54**	**3**	*e*Pn	**Pb**	**19 12 21.4**	**-1.0**
MAHB				IAMB	IAmb	19 13 07.4	
BDRS	comp=Z,0.0nm,0.7s **Dareh Seyedi**	**2.77**	**95**	*e*Pn	**Pn**	**19 12 22.2**	**+1.0**
BDRS				IAMB	IAmb	19 13 11.2	
BMDN	comp=Z,0.0nm,0.6s **Meydan**	**2.77**	**101**	*e*Pn	**Pn**	**19 12 22.4**	**+1.3**
BMDN				IAMB	IAmb	19 13 15.8	
MSL	comp=Z,0.0nm,0.8s **Mosul**	**2.95**	**318**	*e*Pn	**Pn**	**19 12 23.9**	**+0.4**
MSL				AML	AML	19 12 25.4	
MSL	comp=Z,192nm,0.5s			*e*Sn	**Sn**	**19 12 59.2**	**+0.5**
HAGD	**Aghdareh**	**3.02**	**78**	*e*Pn	**Pn**	**19 12 26.0**	**+1.5**
HAGD				IAMB	IAmb	19 12 40.4	
NSR	comp=Z,0.0nm,0.6s **Nassriya**	**3.24**	**171**	*e*Pn	**Pn**	**19 12 27.7**	**+0.3**
NSR				AML	AML	19 12 28.2	
NSR	comp=Z,91nm,0.2s			*e*Sn	**Sn**	**19 13 07.5**	**+1.7**
RTB	**Rutbah**	**4.54**	**256**	*e*Pn	**Pn**	**19 12 46.2**	**+0.9**
RTB				*e*Sn	**Sn**	**19 13 36.4**	**-1.6**

TAP 26 19:16:04.7, 24°.52N×121°.80E, h2km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.10**	**206**	P	Pg	19 16 07.6	+1.0
NANB	baz=205			*i* S	Sg	19 16 09.5	+1.6
ENA	**Nanau**	**0.10**	**210**	P	Pg	19 16 07.5	+0.9
ENA	baz=205			*i* S	Sg	19 16 09.8	+1.7
TWC	**Suao**	**0.10**	**27**	*e*S	Sg	19 16 09.8	+1.8
TWE	baz=31 **Neicheng**	**0.23**	**330**	P	Pg	19 16 10.4	+1.2
TWE	baz=332			S	Sg	19 16 14.4	+2.1
ENTT	**Nioudou**	**0.24**	**300**	*e*P	Pg	19 16 10.2	+0.8
ENTT	baz=300			*e*S	Sg	19 16 14.7	+2.2
SLBB	baz=300 **Yuanshan**	**0.28**	**328**	*e*P	Pb	19 16 11.7	-0.7
SLBB	baz=328			*e*S	Sb	19 16 16.4	-1.1
WHF	baz=328 **Hehuan Shan**	**0.61**	**233**	P	Pb	19 16 18.0	-0.3
WHF	baz=232			*e*S	Sb	19 16 27.9	+0.4
	baz=232						

JMA 26 19:16:24.4±0.2, 23°.95N×123°.17E, h27km±3km, M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**344**	P	Pb	19 16 35.1	-0.1
YOJ				*e*S	Sb	19 16 42.3	-0.2
JYNG	**Yonagunijimaku**	**0.54**	**338**	P	Pb	19 16 35.3	-0.1
JYNG				*e*S	Sb	19 16 42.1	-0.7
HATJ	**Hateruma jima**	**0.59**	**80**	P	Pb	19 16 35.8	-0.4
HATJ				*e*S	Sb	19 16 44.5	+0.3
IRIF	**Iriomote-Funau**	**0.64**	**53**	P	Pb	19 16 36.6	-0.4
IRIF				*e*S	Sb	19 16 46.2	+0.6
JKRS	**Kuro-shima**	**0.82**	**69**	P	Pb	19 16 39.9	-0.1
JKRS				*e*S	Sn	19 16 51.2	-0.2
JIJ	**Ishigaki jima**	**0.98**	**65**	P	Pn	19 16 42.2	-0.2
JIJ				S	Sn	19 16 55.6	+0.2
JISG	**Ishigakijimahi**	**1.22**	**58**	P	Pn	19 16 45.7	0.0
JISG				S	Sn	19 17 01.2	-0.1
JTJ	**Tarama**	**1.56**	**63**	P	Pb	19 16 53.4	+0.8
JTJ				S	Sb	19 17 11.7	-0.2

*BJI **26** 19:22:35.9±0.0, 7°.88S×158°.57E, h59km, mb4.8/42, mB5.1/29, Ms5.0/5, Ms7 4.7/4*
*ISCJB **26** 19:22:37.6±0.2, 7°.84S±0°.05×158°.26E±0°.04, h61km, mb4.5/21, Error ellipse: s-maj=7.1km s-min=5.8km az=38.1*
*NEIC **26** 19:22:38.7±1.6, 7°.84S±0°.09×158°.30E±0°.07, h59km±5km, mb4.7/44*
*IDC **26** 19:22:40.4±1.4, 7°.90S×158°.35E, h76km±14km, mb4.0/13, mb1 4.1/17, mb1mx4.0/36, mbtmp4.3/17, MS3.3/15, Ms1 3.3/15, ms1mx3.2/22, Error ellipse: s-maj=16.8km s-min=10.3km az=33.0*
ISC 26 19:22:39.4±0.4, 7°.81S±0°.06×158°.38E±0°.06, h61km, n100, σ1§41/94, mb4.6/41, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.24**	**136**	P	**Pn**	**19 23 14.4**	**+0.3**
HNR	628nm,0.3s,baz=213,slow=6.2,SNR=111			S	**Sn**	**19 23 41.7**	**+1.1**
HNR	414nm,0.3s,baz=313,slow=20,SNR=8.1 **Honiara**	**2.24**	**136**	*i* P	**Pn**	**19 23 14.0**	**-0.1**
HNR				*i* S	Sn	19 23 30.0	-11
HNR	**Honiara**	**2.24**	**136**		**Pn**	**19 23 13.9**	**-0.1**
KRVT	**Keravat (AS076**	**7.21**	**298**	P	**Pn**	**19 24 23.0**	**+0.8**
KRVT	2.9nm,0.3s,baz=90,slow=2.0,SNR=2.7			S	**Sn**	**19 25 45.8**	**+3.0**
PMG	4.3nm,0.3s,baz=144,slow=19,SNR=1.9 **Port Moresby**	**11.21**	**261**	P	**Pn**	**19 25 18.8**	**+1.9**
PMG	0.3nm,0.3s,baz=202,slow=18,SNR=2.5 **Port Moresby**	**11.21**	**261**	Pn	**Pn**	**19 25 17.2**	**+0.3**
PATS	**Pohnpei**	**14.55**	**360**	Pn	**Pn**	**19 25 58.0**	**-4.0**
DZM	**Mont Dzumac**	**16.17**	**152**	*e*Pn	**P**	**19 26 27.3**	**+2.2**
DZM	2.6nm,0.3s			*e*LR	LR	19 30 15.2	
DZM	comp=Z,475nm,29.4s **Mont Dzumac**	**16.17**	**152**	P	**P**	**19 26 26.1**	**+1.0**
DZM	0.9nm,0.3s,baz=336,slow=20,SNR=11			LR	LR	19 32 28.0	
DZM	comp=Z,236nm,18.3s,baz=12,slow=36 **Mont Dzumac**	**16.17**	**152**		**Pn**	**19 26 22.5**	**-0.4**
CTA	**Charters Tower**	**16.94**	**223**	P	**P**	**19 26 34.6**	**+1.0**
JAY	0.1nm,0.3s,baz=36,slow=16,SNR=4.0 **Jayapura**	**18.36**	**286**	P	**P**	**19 26 48.2**	**-1.2**
MSVF	0.8nm,0.3s,baz=191,slow=8.8,SNR=7.6 **Nonsavu**	**21.55**	**119**	P	**P**	**19 27 24.5**	**+0.5**
WC3	**Warramunga Arr**	**26.20**	**240**	P	**P**	**19 28 07.7**	**-1.0**
WRAB	**Tennant Creek**	**26.21**	**240**	P	**P**	**19 28 07.7**	**-1.1**
WRAB				IAmb	IAmb	19 28 26.8	
WB2	comp=Z,10nm,0.7s **Warramunga Arr**	**26.21**	**240**	P	**P**	**19 28 07.8**	**-1.0**
WRA	**Warramunga Arr**	**26.22**	**240**	P	**P**	**19 28 07.8**	**-1.0**
WRA	comp=Z,1.9nm,0.6s,baz=64,slow=9.1,SNR=20			LR	LR	19 37 54.6	
	comp=Z,98nm,20.5s,baz=340,slow=35						
WRA	**Warramunga Arr**	**26.22**	**240**	P	**P**	**19 28 07.2**	**-1.7**
SAUI	**Saumlaki**	**26.82**	**268**	P	**P**	**19 28 12.5**	**-1.8**
H11S3	**WAKE ISLAND Hy**	**27.39**	**17**	T	T	19 56 34.7	
	baz=198,slow=76,SNR=1753						
H11S2	**WAKE ISLAND Hy**	**27.40**	**17**	T	T	19 56 34.8	
	baz=198,slow=76,SNR=1970						
H11S1	**WAKE ISLAND Hy**	**27.41**	**17**	T	T	19 56 35.9	
	baz=198,slow=76,SNR=1329						
SIJI	**Sorong**	**27.88**	**283**	LR	LR	19 41 19.3	
	comp=Z,35nm,19.0s,baz=30,slow=40						
ASAR	**Alice Springs**	**28.27**	**233**	P	**P**	**19 28 25.4**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=64,slow=9.4,SNR=9.6						
ASAR				LR	LR	19 38 34.0	
	comp=Z,94nm,21.4s,baz=64,slow=34						
ASAR	**Alice Springs**	**28.27**	**233**	P	**P**	**19 28 26.6**	**-0.6**
STKA	**Stephens Creek**	**28.59**	**211**	P	**P**	**19 28 28.9**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=36,slow=13,SNR=5.2						
STKA				LR	LR	19 40 17.0	
	comp=Z,34nm,18.4s,baz=25,slow=37						
STKA	**Stephens Creek**	**28.59**	**211**	P	**P**	**19 28 28.8**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**28.61**	**17**	T	T	19 58 02.2	
	baz=198,slow=76,SNR=482						
H11N3	**WAKE ISLAND Hy**	**28.62**	**17**	T	T	19 58 09.1	
	baz=198,slow=76,SNR=399						
H11N2	**WAKE ISLAND Hy**	**28.63**	**17**	T	T	19 58 03.4	
	baz=198,slow=76,SNR=263						
KNTN	**Kanton**	**30.18**	**82**	P	**P**	**19 28 45.5**	**+1.3**
OUZ	**Omahuta**	**30.65**	**155**	P	**P**	**19 28 49.3**	**+1.3**
RAO	**Raoul Island**	**30.86**	**137**	P	**P**	**19 28 50.5**	**+0.5**
OXZ	**Oxford**	**37.35**	**163**	P	**P**	**19 29 45.0**	**-1.0**
RPZ	**Rata Peaks**	**37.45**	**165**	P	**P**	**19 29 45.8**	**-1.0**
	comp=Z,12nm,0.7s,baz=328,slow=3.4,SNR=5.4						
RPZ	**Rata Peaks**	**37.45**	**165**	P	**P**	**19 29 45.8**	**-1.0**
YULB	**Yu-li**	**47.70**	**312**	P	**P**	**19 31 10.1**	**-0.2**
YULB				IAmb	IAmb	19 31 13.9	
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**48.01**	**338**	P	**P**	**19 31 11.4**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=167,slow=8.4,SNR=4.9						
MJAR				LR	LR	19 50 41.9	
	comp=Z,19nm,21.2s,baz=255,slow=35						
JNU	**Nakatsue**	**48.38**	**329**	P	**P**	**19 31 15.2**	**-0.2**
CISI	**Cisompet, Garu**	**50.08**	**267**	P	**P**	**19 31 26.6**	**-2.2**
PPT2	**Papeete2**	**51.55**	**106**	*e*LR	LR	19 46 38.8	
	comp=Z,40nm,27.8s						
TBI	**Tubuai**	**52.28**	**113**	*e*LR	LR	19 47 03.4	
	comp=Z,100nm,33.5s						
KSRS	**Korea Array**	**53.27**	**330**	P	**P**	**19 31 51.5**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=133,slow=8.7,SNR=5.3						
KSRS				LR	LR	19 52 35.5	
	comp=Z,11nm,21.8s,baz=151,slow=34						
NJ2	**Nanjing**	**54.71**	**319**	*e*P	**P**	**19 32 02.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WHN	**Wuhan**	**56.88**	**314**	P	**P**	**19 32 18.5**	**+0.3**
WHN				pmax	pmax		
	comp=Z,32nm,1.1s						
USRK	**Ussuriysk Ar.**	**57.00**	**338**	LR	LR	19 55 09.2	
	comp=Z,22nm,20.2s,baz=116,slow=34						
ENH	**Enshi**	**60.27**	**311**	P	**P**	**19 32 41.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**60.69**	**360**	P	**P**	**19 32 44.5**	**+0.3**
PETK	**Petropavlovsk-**	**60.69**	**360**	P	**P**	**19 32 44.0**	**-0.1**
	comp=Z,11nm,0.9s,baz=164,slow=8.8,SNR=5.2						
PETK				LR	LR	19 57 20.2	
	comp=Z,49nm,19.5s,baz=50,slow=34						
PETK	**Petropavlovsk-**	**60.69**	**360**	P	**P**	**19 32 44.6**	**+0.5**
XAN	**Xi'an**	**62.64**	**315**	P	**P**	**19 32 57.3**	**-0.5**
XAN				pP	sP	19 33 17.5	-3.4
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,78nm,4.7s						
XAN	**Xi'an**	**62.64**	**315**	P	**P**	**19 32 56.0**	**-1.8**
XAN				IAmb	IAmb	19 32 58.3	
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**64.17**	**295**	P	**P**	**19 33 07.8**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=113,slow=4.8,SNR=16						
CMAR				LR	LR	19 59 13.8	
	comp=Z,7.8nm,21.8s,baz=110,slow=34						
CMAR	**Chiang Mai Arr**	**64.17**	**295**	P	**P**	**19 33 07.4**	**-0.8**
HHC	**Hu-ho-hao-te**	**64.76**	**322**	*e*P	**P**	**19 33 11.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CD2	**Chengdu**	**64.91**	**309**	P	**P**	**19 33 11.8**	**-1.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
LZH	**Lanzhou**	**67.26**	**314**	*e*P	**P**	**19 33 28.8**	**+0.8**
LZH				pP	pP	19 33 45.5	+1.1
LZH				sP	sP	19 33 52.8	+1.6
LZH				*e*PP	**PP**	**19 35 59.5**	**+2.5**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,6.8s						
LZH				LR	LR		
	comp=Z,240nm,16.8s						
LZH				LR	LR		
	comp=Z,250nm,16.7s						
LZH				LR	LR		
	comp=Z,330nm,18.0s						
ULN	**Ulaanbaatar**	**71.51**	**326**	P	**P**	**19 33 54.4**	**+0.4**
ULN				IAmb	IAmb	19 33 55.7	
	comp=Z,6.2nm,1.0s						
GTA	**Gaotai**	**71.64**	**316**	⇓P	**P**	**19 33 55.8**	**+0.9**
GTA				pP	PcP	19 34 14.5	+0.7
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SONM	**Songino Array**	**71.86**	**326**	P	**P**	**19 33 56.3**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=139,slow=6.3,SNR=30						
SONM				LR	LR	20 06 38.5	
	comp=Z,12nm,18.4s,baz=146,slow=37						
SONM	**Songino Array**	**71.86**	**326**	P	**P**	**19 33 56.3**	**+0.3**
BILL	**Bilibino**	**75.87**	**3**	P	**P**	**19 34 19.0**	**+0.1**
BILL				IAmb	IAmb	19 34 20.7	
	comp=Z,14nm,1.2s						
SVW2	**Sparrevohn**	**77.52**	**21**	P	**P**	**19 34 29.3**	**+1.0**
SVW2				IAmb	IAmb	19 34 29.6	
	comp=Z,9.7nm,1.0s						
TTA	**Tatalina**	**78.64**	**19**	P	**P**	**19 34 35.0**	**+0.4**
TTA				IAmb	IAmb	19 34 35.4	
	comp=Z,7.0nm,1.1s						
SUA	**Susitna One**	**79.53**	**22**	P	**P**	**19 34 38.7**	**-0.8**
SUA				IAmb	IAmb	19 34 55.4	
	comp=Z,9.8nm,1.3s						
GHO	**Glory Hole Cre**	**80.40**	**23**	P	**P**	**19 34 43.0**	**-1.2**
GHO				IAmb	IAmb	19 34 43.4	
	comp=Z,29nm,1.5s						
TRF	**Thorofare Moun**	**80.93**	**21**	P	**P**	**19 34 47.0**	**-0.1**
TRF				IAmb	IAmb	19 34 52.9	
	comp=Z,17nm,1.6s						
RND	**Reindeer**	**81.42**	**21**	P	**P**	**19 34 49.3**	**-0.3**
RND				IAmb	IAmb	19 34 49.8	
	comp=Z,21nm,1.5s						
IMAR	**Indian Mountai**	**81.44**	**18**	P	**P**	**19 34 49.2**	**-0.3**
MCK	**McKinley**	**81.58**	**21**	P	**P**	**19 34 49.3**	**-1.1**
MCK				IAmb	IAmb	19 34 50.5	
	comp=Z,12nm,1.0s						
WMQ	**Urumqi**	**81.72**	**316**	*e*P	**P**	**19 34 52.0**	**+0.5**
WMQ				sP	sP	19 35 15.8	+1.0
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,92nm,4.7s						
WMQ				LR	LR		
	comp=Z,520nm,29.3s						
WMQ				LR	LR		
	comp=Z,140nm,29.2s						
WMQ	**Urumqi**	**81.72**	**316**	P	**P**	**19 34 51.6**	**+0.1**
WMQ				IAmb	IAmb	19 34 53.7	
	comp=Z,24nm,1.5s						
MLY	**Manley**	**81.77**	**19**	P	**P**	**19 34 50.9**	**-0.4**
NEA	**Nenana**	**82.05**	**20**	P	**P**	**19 34 52.1**	**-0.6**
NEA				IAmb	IAmb	19 34 53.2	
	comp=Z,7.6nm,1

MAW	**Mawson**	**84.94**	**203**	P	**P**	**19 35 06.9**	**-0.7**
EGAK	**Eagle**	**84.99**	**22**	P	**P**	**19 35 07.4**	**-0.4**
EGAK				IAmb	IAmb	19 35 09.0	
	comp=Z,5.2nm,1.0s						
BMAR	**Burnt Mountain**	**85.21**	**19**	P	**P**	**19 35 09.3**	**+0.3**
KCPM	**Cahto Peak**	**85.84**	**49**	P	**P**	**19 35 14.4**	**+1.7**
MK31	**Makanchi Array**	**86.24**	**318**	P	**P**	**19 35 14.1**	**-0.4**
MK31				IAmb	IAmb	19 35 17.2	
	comp=Z,5.2nm,1.0s						
MKAR	**Makanchi Array**	**86.24**	**318**	P	**P**	**19 35 14.1**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=101,slow=5.7,SNR=19						
ZALV	**Zalesovo Beam**	**86.74**	**325**	P	**P**	**19 35 16.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=100,slow=5.0,SNR=3.4						
ZALV				LR	LR	20 14 09.1	
	comp=Z,7.4nm,20.9s,baz=68,slow=36						
ZALV	**Zalesovo Beam**	**86.74**	**325**	P	**P**	**19 35 15.2**	**-1.4**
SAO	**San Andreas Ge**	**86.83**	**52**	P	**P**	**19 35 18.6**	**+1.0**
SAO				IAmb	IAmb	19 35 46.6	
	comp=Z,7.1nm,1.2s						
KSH	**Kashi**	**89.10**	**310**	P	**P**	**19 35 31.5**	**+3.0**
KSH				PP	**PP**	**19 39 05.8**	**+6.5**
KSH				S	**S**	**19 46 13.3**	**+0.6**
KSH				sS	sS	19 46 42.8	+0.9
KSH				SS	**SS**	**19 52 11.0**	**+3.4**
KSH				pmax	pmax		
	comp=Z,320nm,4.9s						
KSH				LR	LR		
	comp=Z,220nm,10.4s						
KSH				LR	LR		
	comp=Z,280nm,6.6s						
NVAR	**Mina Array Bea**	**89.60**	**51**	P	**P**	**19 35 31.6**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=237,slow=7.2,SNR=6.8						
NVAR				LR	LR	20 09 36.1	
	comp=Z,17nm,19.0s,baz=298,slow=31						
NVAR	**Mina Array Bea**	**89.60**	**51**	P	**P**	**19 35 31.9**	**+0.9**
NRIK	**Noril'sk**	**90.61**	**340**	LR	LR	20 14 46.7	
	comp=Z,37nm,21.9s,baz=96,slow=34						
TPNV	**Topopah Spring**	**90.96**	**53**	P	**P**	**19 35 38.5**	**+1.2**
TPNV				IAmb	IAmb	19 35 39.5	
	comp=Z,4.6nm,0.8s						
R11A	**Troy Canyon, C**	**91.69**	**52**	P	**P**	**19 35 41.7**	**+1.0**
R11A				IAmb	IAmb	19 35 42.7	
	comp=Z,2.6nm,1.0s						
SHPR	**Sheep Range**	**91.76**	**54**	P	**P**	**19 35 42.5**	**+1.5**
SHPR				IAmb	IAmb	19 35 43.6	
	comp=Z,5.6nm,0.9s						
BTK	**Batken**	**93.11**	**310**	P	**P**	**19 35 46.5**	**-0.5**
KKAR	**Karatay Array**	**93.72**	**313**	P	**P**	**19 35 48.2**	**-1.5**
PDAR	**Pinedale Array**	**96.75**	**48**	LR	LR	20 20 43.3	
	comp=Z,20nm,18.2s,baz=37,slow=36						

*ISCJB **26** 19:24:27.7±0.5, 30°.88N±0°.05×130°.38E±0°.08, h149km±3km, mb3.6/6, Error ellipse: s-maj=12.1km s-min=6.5km az=21.8*
*JMA **26** 19:24:29.8±0.1, 30°.89N×130°.36E, h137km±1km, M3.7*
*IDC **26** 19:24:36.1±9.7, 31°.25N×130°.43E, h204km±69km, mb3.4/6, mb1 3.5/7, mb1mx3.1/45, mbtmp3.9/7, MS2.8/2, Ms1 2.8/2, ms1mx2.3/31, Error ellipse: s-maj=121.4km s-min=54.3km az=5.0*

ISC 26 19:24:28.7±0.8, 30°.88N±0°.06×130°.33E±0°.08, h145km±6km, n21, σ0.86/33, mb3.7/6, 10C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.44**	**196**	P	**Pn**	**19 24 49.7**	**+0.5**
JKC				S	**Sn**	**19 25 04.6**	**-0.1**
JTSR	**Tashiro 2**	**0.58**	**61**	↑P	**Pn**	**19 24 50.0**	**0.0**
JTSR				S	**Sn**	**19 25 05.1**	**-1.0**
JTN	**Tanegashima 3**	**0.60**	**112**	↑P	**Pn**	**19 24 50.4**	**+0.3**
JTN				S	**Sn**	**19 25 06.3**	**0.0**
JSU	**Suzuyama**	**0.63**	**9**	↑P	**Pn**	**19 24 50.7**	**+0.4**
JSU				eS	**Sn**	**19 25 06.4**	**-0.3**
JYAK	**Yakushimahirau**	**0.66**	**167**	↑P	**Pn**	**19 24 50.7**	**+0.2**
JYAK				eS	**Sn**	**19 25 06.5**	**-0.4**
JMTN	**Minamitane**	**0.69**	**135**	↑P	**Pn**	**19 24 50.9**	**+0.3**
JMTN				eS	**Sn**	**19 25 07.4**	**+0.2**
JSJ	**Shimokoshiki**	**0.95**	**326**	↓P	**Pn**	**19 24 52.6**	**0.0**
JSJ				S	**Sn**	**19 25 10.5**	**-0.4**
JNAR	**Kushima--Naru**	**1.03**	**51**	↑P	**Pn**	**19 24 53.8**	**+0.6**
JNAR				eS	**Sn**	**19 25 11.7**	**-0.3**
JNN	**Nakanoshima**	**1.11**	**201**	↓P	**Pn**	**19 24 54.6**	**+0.5**
JNN				S	**Sn**	**19 25 13.6**	**+0.3**
JTZ	**Takazaki**	**1.20**	**32**	↑P	**Pn**	**19 24 55.3**	**+0.4**
JTZ				eS	**Sn**	**19 25 14.3**	**-0.6**
JZO	**Okuchi**	**1.27**	**10**	↑P	**Pn**	**19 24 56.2**	**+0.6**
JZO				eS	**Sn**	**19 25 16.5**	**+0.3**
JTSN	**Tsuno**	**1.69**	**36**	↑P	**Pn**	**19 24 59.7**	**-0.2**
JIU3	**Izumi3**	**1.71**	**14**	↑P	**Pn**	**19 25 01.1**	**+0.9**
JIU3				S	**Sn**	**19 25 24.5**	**+0.1**
MJAR	**Matsushiro Arr**	**8.65**	**47**	P	**Pn**	**19 26 34.0**	**+3.3**
	0.1nm,0.3s,baz=240,slow=12,SNR=6.8						
MJAR				S	**Sn**	**19 28 04.6**	**-2.2**
	0.1nm,0.3s,baz=259,slow=29,SNR=3.8						
SONM	**Songino Array**	**24.93**	**320**	P	**P**	**19 29 38.6**	**+0.2**
	0.6nm,0.4s,baz=136,slow=9.6,SNR=5.9						
SONM				LR	LR	19 39 33.1	
	comp=Z,20nm,18.5s,baz=108,slow=36						
KAPI	**Kappang**	**37.10**	**198**	LR	LR	19 47 49.4	
	comp=Z,11nm,19.3s,baz=299,slow=37						
KBZ	**Khabaz**	**67.69**	**308**	P	**P**	**19 35 10.9**	**+0.7**
	0.9nm,0.8s,baz=63,slow=2.3,SNR=4.4						
FINES	**FINESS Array B**	**69.75**	**330**	P	**P**	**19 35 22.1**	**-0.5**
	1.8nm,0.5s,baz=63,slow=6.2,SNR=15						
AKASG	**Malin Array Be**	**73.21**	**319**	P	**P**	**19 35 43.2**	**-0.4**
	0.8nm,0.4s,baz=57,slow=6.3,SNR=3.0						
BRTR	**Keskin Array B**	**75.65**	**308**	P	**P**	**19 35 58.1**	**-0.1**
	1.1nm,0.7s,baz=110,slow=4.1,SNR=6.8						
NOA	**NORSAR Array B**	**75.96**	**334**	P	**P**	**19 35 58.8**	**-0.6**
	0.7nm,0.7s,baz=51,slow=5.7,SNR=2.9						

*ISK **26** 20:07:18.6, 37°.70N×29°.21E, h5km, ML3.5/39*
*DDA **26** 20:07:18.8, 37°.71N×29°.22E, h7km±3km, ML3.0*
*ISCJB **26** 20:07:19.4±0.4, 37°.72N±0°.02×29°.22E±0°.02, h3km±3km, mb3.5/2, Error ellipse: s-maj=2.9km s-min=2.5km az=43.9*
*THE **26** 20:07:19.9, 37°.80N×29°.25E, h0km±3km, ML3.3/2, Error ellipse: s-maj=6.0km s-min=1.2km az=74.0*
*IDC **26** 20:07:19.1±1.5, 37°.62N×29°.45E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/41, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=40.4km s-min=19.4km az=150.0*

ISC 26 20:07:18.9±1.1, 37.72N±0°.02×29°.24E±0°.02, h2km±9km, n73, σ1°.15/85, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.17**	**281**	PG	**Pg**	**20 07 22.2**	**0.0**
DENT				SG	**Sg**	**20 07 25.2**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.36**	**226**	*i* P	**Pg**	**20 07 25.8**	**-0.1**
TAVA				*i* S	**Sg**	**20 07 31.2**	**+0.6**
TAVA				IAML		20 07 32.0	
	comp=N,1μm,0.6s						
GOLH	**Golhisar**	**0.55**	**152**	*i* PA		20 07 29.8	
GOLH				*i* S	**Sb**	**20 07 39.4**	**-0.1**
GOLH				IAML		20 07 47.0	
	comp=E,201nm,0.4s						
GLHS	**Glhisar (BURDU**	**0.60**	**160**	PG	**Pg**	**20 07 30.6**	**+0.2**
GLHS				SG	**Sb**	**20 07 40.7**	**-0.3**
KHL	**Karahalli**	**0.64**	**20**	PG	**Pb**	**20 07 32.9**	**+0.1**
BRDR	**BURDUR-Merkez**	**0.65**	**92**	*i* P	**Pg**	**20 07 31.7**	**+0.4**
BRDR				*i* S	**Sb**	**20 07 42.1**	**-0.4**
BRDR				IAML		20 07 48.0	
	comp=E,914nm,0.4s						
BASM	**Basmaki-Afyon**	**0.67**	**73**	PG	**Pb**	**20 07 33.0**	**-0.3**
BASM				SG	**Sb**	**20 07 43.7**	**+0.6**
KHAL	**Karahalli**	**0.68**	**17**	*i* PA		20 07 31.8	
KHAL				*i* S	**Sg**	**20 07 41.8**	**+1.1**
KHAL				IAML		20 07 42.0	
	comp=N,2μm,0.6s						
KZIL	**AFYON_Kizioren**	**0.89**	**53**	*i* P	**Pg**	**20 07 35.4**	**-0.5**
KZIL				*i* S	**Sb**	**20 07 49.6**	**+0.2**
KZIL				IAML		20 07 54.0	
	comp=N,553nm,0.8s						
KULA	**Kula-Manisa**	**0.92**	**330**	P	**Pb**	**20 07 37.2**	**-0.3**
KULA	**Kula-Manisa**	**0.92**	**330**	PG	**Pb**	**20 07 37.4**	**-0.1**
KULA				SG	**Sn**	**20 07 51.1**	**-1.5**
MANT	**Manisa**	**0.94**	**325**	*i* P	**Pg**	**20 07 36.7**	**-0.2**
MANT				*i* S	**Sb**	**20 07 50.6**	**-0.3**
MANT				IAML		20 07 53.0	
	comp=N,350nm,0.5s						
YER	**Yerkesik**	**0.96**	**233**	P	**Pg**	**20 07 37.0**	**-0.3**
YER	**Yerkesik**	**0.96**	**233**	PG	**Pg**	**20 07 37.4**	**+0.1**
TURN	**Turunc**	**0.99**	**211**	*i* PA		20 07 42.8	
TURN				*i* S	Sn	20 08 03.1	+8.9
TURN				IAML		20 08 07.0	
	comp=N,383nm,0.7s						
TURN	**Turunc**	**0.99**	**211**	PN	**Pn**	**20 07 42.9**	**+3.2**
USAK	**Uak-Merkez**	**1.01**	**350**	*i* PA		20 07 38.1	
DALY	**Dalyan (Mula)**	**1.02**	**208**	*i* P	**Pg**	**20 07 38.5**	**+0.2**
DALY				*i* S	**Sn**	**20 07 55.9**	**+1.0**
DALY				IAML		20 08 00.0	
	comp=E,790nm,0.5s						
DALY	**Dalyan (Mula)**	**1.02**	**208**	PG	**Pb**	**20 07 38.9**	**-0.2**
AYDN	**Tasoluk**	**1.08**	**267**	*i* PA		20 07 40.1	
AYDN				*i* S	**Sb**	**20 07 54.3**	**-0.6**
AYDN				IAML		20 08 01.0	
	comp=E,1μm,0.5s						
FETY	**Fethiye**	**1.09**	**187**	P	**Pn**	**20 07 41.4**	**+0.2**
FETY	**Fethiye**	**1.09**	**187**	*i* P	**Pn**	**20 07 40.3**	**-0.9**
FETY				*i* S	**Sg**	**20 07 53.1**	**-0.8**
FETY				IAML		20 08 02.0	
	comp=N,244nm,0.8s						
FETY	**Fethiye**	**1.09**	**187**	PG	**Pn**	**20 07 40.2**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**282**	PG	**Pb**	**20 07 40.2**	**-0.4**
BCK	**Bucak**	**1.10**	**103**	PN	**Pn**	**20 07 41.3**	**0.0**
ELL	**Elmali**	**1.11**	**151**	PN	**Pn**	**20 07 40.8**	**-0.7**
KORT	**Korkueli**	**1.14**	**129**	PN	**Pn**	**20 07 41.6**	**-0.3**
MLSB	**Milas**	**1.24**	**250**	PN	**Pg**	**20 07 43.3**	**+0.7**
SHAP	**Saphane-Kutahy**	**1.30**	**359**	PN	**Pg**	**20 07 45.0**	**+1.2**
MRSB	**Marmaris-Mugla**	**1.30**	**220**	PN	**Pg**	**20 07 44.8**	**+0.9**
SHUT	**Suhut-Afyon**	**1.32**	**51**	PN	**Pg**	**20 07 45.4**	**+1.1**
GEDZ	**Gediz**	**1.33**	**6**	PN	**Pg**	**20 07 45.6**	**+1.3**
AFYO	**Afyonkarahisar**	**1.35**	**38**	*i* P	**Pg**	**20 07 45.2**	**+0.5**
GDZ	**Gediz**	**1.38**	**8**	*i* P	**Pn**	**20 07 44.6**	**-0.6**
GDZ				*i* S	**Sg**	**20 08 03.7**	**+0.5**
GDZ				IAML		20 08 09.0	
	comp=E,174nm,0.5s						
DEMI	**Demirci**	**1.38**	**343**	*i* P	**Pn**	**20 07 44.6**	**-0.7**
ANTB	**Antalya**	**1.39**	**126**	PN	**Pg**	**20 07 46.4**	**+0.9**
SMAA	**Simav-Kutahya**	**1.39**	**352**	PN	**Pg**	**20 07 46.4**	**+0.8**
AKAS	**Kas**	**1.51**	**169**	*i* P	**Pg**	**20 07 49.0**	**+1.2**
AKAS	**Kas**	**1.51**	**169**	PN	**Pg**	**20 07 47.9**	**0.0**
DATC	**Datca-Mugla**	**1.59**	**233**	PN	**Pb**	**20 07 48.6**	**-0.3**
GCAM	**G?zelcaml?**	**1.59**	**270**	*i* P	**Pn**	**20 07 47.7**	**-0.3**
GCAM	**G?zelcaml?**	**1.59**	**270**	PN	**Pb**	**20 07 48.6**	**-0.4**
AKHS	**Akhisar**	**1.61**	**316**	*i* P	**Pn**	**20 07 47.0**	**-1.4**
DAT	**Datca**	**1.66**	**234**	PN	**Pb**	**20 07 49.6**	**-0.5**
BODT	**Bodrum**	**1.67**	**247**	P	**Pb**	**20 07 49.2**	**-1.2**
BODT				S	**Sg**	**20 08 12.9**	**+0.3**
BODT	**Bodrum**	**1.67**	**247**	PN	**Pb**	**20 07 50.0**	**-0.4**
TVSB	**Tavsanli**	**1.73**	**6**	PN	**Pn**	**20 07 49.8**	**-0.3**
SMG	**Samos**	**1.91**	**270**	P	**Pn**	**20 07 52.1**	**-0.3**
SMG				S	**Sb**	**20 08 17.0**	**-1.6**
	comp=E,472nm,0.6s						
STEP	**BALIKESIR_Sava**	**2.04**	**325**	*i* PA		20 07 52.5	
ZEDA	**zmir-Bergama**	**2.11**	**307**	*i* P	**Pn**	**20 07 54.5**	**-0.6**
CIFT	**Cifteler, Eski**	**2.17**	**41**	PN	**Pb**	**20 07 58.0**	**-0.9**
URLA	**Izmir**	**2.19**	**288**	PN	**Pb**	**20 07 57.4**	**-1.7**
BALB	**Balikesir**	**2.19**	**331**	PN	**Pb**	**20 07 58.1**	**-1.1**
DKL	**Dikili**	**2.28**	**307**	PN	**Pn**	**20 07 58.4**	**+1.0**
BORA	**Eskisehir**	**2.35**	**23**	PN	**Pb**	**20 08 00.1**	**-1.9**
KIZT	**Kizilcal**	**2.38**	**60**	PN	**Pb**	**20 08 00.8**	**-1.6**
KONT	**Konya--Tatoy**	**2.48**	**84**	PN	**Pb**	**20 08 02.3**	**-1.8**
SVRH	**Sivrihisar-ESK**	**2.48**	**45**	PN	**Pb**	**20 08 02.2**	**-2.0**
AUSIV	**SIVRIHISAR**	**2.49**	**46**	PN	**Pb**	**20 08 02.6**	**-1.7**
LADK	**Ladik-KONYA**	**2.51**	**78**	PN	**Pb**	**20 08 02.7**	**-2.1**
CAVI	**Cavuskoy**	**2.52**	**11**	PN	**Pb**	**20 08 02.5**	**-2.3**
SRCK	**Saricakaya, Es**	**2.56**	**25**	PN	**Pb**	**20 08 03.3**	**-2.1**
CHOS	**Chios island**	**2.60**	**286**	PN	**Pn**	**20 08 03.2**	**+1.2**
KCTX	**Karacabey (Bur**	**2.63**	**345**	PN	**Pn**	**20 08 03.7**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.66**	**354**	PN	**Pb**	**20 08 04.6**	**-2.6**
KARP	**Karpathos**	**2.74**	**218**	P	**Pb**	**20 08 05.7**	**-2.9**
KARP				S	**Sb**	**20 08 40.1**	**-2.5**
	comp=E,285nm,0.6s						
KARP	**Karpathos**	**2.74**	**218**	PN	**Pn**	**20 08 04.9**	**+1.1**
AMGA	**Amorgos Island**	**2.81**	**253**	P	**Pn**	**20 08 06.3**	**+1.5**
APE	**Apeiranthos**	**3.03**	**259**	P	**Pn**	**20 08 08.6**	**+0.8**
BRTR	**Keskin Array B**	**3.98**	**58**	Pn	**Pn**	**20 08 21.9**	**+0.9**
	comp=E,0.7nm,0.3s,baz=237,slow=16,SNR=18						
BRTR				Sn	**Sn**	**20 09 09.6**	**+1.3**
	comp=E,0.6nm,0.3s,baz=238,slow=26,SNR=6.2						
GERES	**GERESS Array B**	**15.83**	**320**	Pn	**P**	**20 11 06.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=130,slow=9.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**34.66**	**232**	P	**P**	**20 14 10.9**	**+1.2**
	comp=E,0.6nm,0.5s,baz=31,slow=9.3,SNR=12						
KURBB	**Kurchatov Arra**	**36.95**	**53**	P	**P**	**20 14 29.0**	**-0.2**
	comp=E,0.3nm,0.6s,baz=276,slow=8.6,SNR=4.1						

*ISCJB **26** 20:13:09.7±0.6, 9°.61N±0°.08×84°.10W±0°.06, h50km±8km, Error ellipse: s-maj=16.4km s-min=4.1km az=35.8*
*UCR **26** 20:13:09.5±0.8, 9°.56N×84°.11W, h44km±3km, MW4.0, Fault plane solution: NP1:φs132.46000°, δ71.25000°, λ68.83000°.*
*UPA **26** 20:13:10.9±1.4, 9°.71N×84°.02W, h28km±12km, MW4.1*

ISC 26 20:13:10.8±1.3, 9°.64N±0°.07×84°.07W±0°.06, h43km±9km, n30, σ1°.70/43, 4C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.12**	**36**	↓*i*P	**Pn**	**20 13 17.5**	**-0.6**
LCR2				eS	**Sn**	**20 13 23.9**	**+0.6**
SJS	**Escuela Geolog**	**0.29**	**4**	eS	**Sn**	**20 13 26.6**	**-1.1**
HDC	**Heredia**	**0.36**	**354**	↓eP	**Pn**	**20 13 19.6**	**-0.5**
HDC				eS	**Sn**	**20 13 27.6**	**+1.0**
HDC	**Heredia**	**0.36**	**354**	eP	**Pn**	**20 13 19.2**	**-0.8**
HDC				eS	**Sn**	**20 13 27.6**	**+1.0**
EDDO	**Dominical**	**0.44**	**152**	↑*i*P	**Pn**	**20 13 19.3**	**-1.6**
CVTR	**Volcan Turrial**	**0.48**	**40**	↓eP	**Pn**	**20 13 21.5**	**-0.4**
SRA1	**San Ramn**	**0.59**	**318**	eS	**Sn**	**20 13 31.6**	**-0.1**
EDLM	**Las Mercedes**	**0.60**	**127**	↓eP	**Pn**	**20 13 21.7**	**-1.3**
DRK0	**Durika**	**0.90**	**115**	↓eP	**Pn**	**20 13 25.8**	**-1.4**
DRK0	**Durika**	**0.90**	**115**	*i* P	**Pn**	**20 13 25.8**	**-1.4**
DRK0				eS	**Sn**	**20 13 38.4**	**-0.7**
EDPN	**Palmar Norte**	**0.91**	**138**	eP	**Pn**	**20 13 25.9**	**-1.3**
EDBA	**Buenos Aires**	**0.92**	**121**	↓eP	**Pn**	**20 13 25.6**	**-1.8**
EDBA				eS	**Sn**	**20 13 38.3**	**-1.2**
ARE1	**Arenal 1**	**1.03**	**322**	↑*i*P	**Pn**	**20 13 28.5**	**-0.3**
CEDE	**Laguna Cedeo**	**1.04**	**324**	↑*i*P	**Pn**	**20 13 28.8**	**-0.3**
JTS	**Las Juntas de**	**1.08**	**307**	↓*i*P	**Pn**	**20 13 28.5**	**-1.0**
JTS				eS	**Sn**	**20 13 43.3**	**0.0**
JTS	**Las Juntas de**	**1.08**	**307**	eP	**Pn**	**20 13 29.2**	**-0.3**
JTS				eS	**Sn**	**20 13 43.4**	**+0.1**
CUI	**Cuipilapa**	**1.47**	**313**	↑eP	**Pn**	**20 13 34.3**	**-0.6**
CNI2	**El Empalme, Bo**	**1.60**	**98**	eS	**Sn**	**20 13 54.1**	**-1.9**
BRU2	**Volcan**	**1.60**	**122**	↓eP	**Pn**	**20 13 35.8**	**-1.1**
BRU2	**Volcan**	**1.60**	**122**	eP	**Pn**	**20 13 35.6**	**-1.3**
BRU2				eS	**Sn**	**20 13 57.0**	**+0.6**
GB1A	**Borinquen Arri**	**1.75**	**312**	eP	**Pn**	**20 13 37.7**	**-1.0**
BCO2	**Palmira**	**1.78**	**121**	eP	**Pn**	**20 13 38.2**	**-1.0**
BCO2				eS	**Sn**	**20 14 00.1**	**-0.7**
BAGA3	**Bagala, Chiriq**	**1.92**	**127**	eS	**Sn**	**20 14 09.8**	**+5.7**
DVD	**David**	**2.00**	**127**	eP	**Pn**	**20 13 43.5**	**+1.4**
DVD				eS	**Sn**	**20 14 10.0**	**+4.0**
CHGR2	**Aguacate**	**2.03**	**110**	eP	**Pn**	**20 13 41.5**	**-1.1**
CHGR2				eS	**Sn**	**20 14 06.5**	**-0.2**
LOCO3	**Loma Colorada,**	**2.04**	**127**	eS	**Sn**	**20 14 08.4**	**+1.4**
LOMA3	**Las Lomas, Chi**	**2.05**	**126**	eS	**Sn**	**20 14 08.8**	**+1.5**
CNAZ3	**Canazas, Verag**	**3.11**	**114**	eS	**Sn**	**20 14 36.7**	**+3.4**
GMAL	**Guarumal, Vera**	**3.37**	**123**	eP	**Pn**	**20 13 59.7**	**-1.3**
GMAL				eS	**Sn**	**20 14 37.5**	**-2.3**
CACAO	**El Cacao, Vera**	**3.91**	**125**	eP	**Pn**	**20 14 09.0**	**+0.6**
CACAO				eS	**Sn**	**20 14 55.6**	**+2.4**

*IDC **26** 20:18:07.4±2.7, 18°.33S×168°.96E, h239km±34km, mb3.3/7, mb1 3.5/8, mb1mx3.3/33, mbtmp3.9/8, Error ellipse: s-maj=56.9km s-min=24.0km az=144.0*

ISC 26 20:18:04.5±1.5, 18°.0S±0°.2×168°.9E±0°.3, h200km, n9, σ1°.19/10, mb3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.66**	**209**	P	**Pn**	**20 19 14.5**	**-0.2**
	4.6nm,0.3s,baz=65,slow=18,SNR=37						
DZM				S	**Sn**	**20 20 11.2**	**+1.1**
	1.9nm,0.3s,baz=122,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**32.67**	**261**	P	**P**	**20 24 17.2**	**-1.0**
	0.2nm,0.3s,baz=85,slow=8.3,SNR=6.9						
ASAR	**Alice Springs**	**33.10**	**254**	P	**P**	**20 24 21.2**	**-0.7**
	1.1nm,0.4s,baz=84,slow=8.7,SNR=25						
MJAR	**Matsushiro Arr**	**61.48**	**332**	P	**P**	**20 28 00.4**	**+0.4**
	3.5nm,0.9s,baz=161,slow=8.3,SNR=4.9						
PETK	**Petropavlovsk-**	**71.45**	**353**	P	**P**	**20 29 04.5**	**+1.7**
	2.6nm,0.8s,baz=134,slow=4.8,SNR=3.5						
CMAR	**Chiang Mai Arr**	**77.66**	**294**	P	**P**	**20 29 40.2**	**+0.8**
	0.3nm,0.3s,baz=129,slow=3.8,SNR=3.1						
SONM	**Songino Array**	**86.00**	**323**	P	**P**	**20 30 21.8**	**-0.7**
	0.4nm,0.6s,baz=129,slow=6.5,SNR=3.8						
ILAR	**Eielson Array**	**89.14**	**17**	P	**P**	**20 30 36.5**	**-0.3**
	0.2nm,0.6s,baz=238,slow=4.8,SNR=3.8						
ARCES	**ARCESS Array B**	**123.76**	**345**	PKP	**PKPdf**	**20 36 36.1**	**-1.8**
	2.9nm,0.9s,baz=64,slow=2.1,SNR=3.6						

*IDC **26** 20:21:47.9±2.0, 12°.30S×169°.80E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/34, mbtmp3.9/8, ML4.1/1, MS3.3/15, Ms1 3.3/15, ms1mx3.1/34, Error ellipse: s-maj=60.2km s-min=24.7km az=122.0*
*ISCJB **26** 20:21:51.7±0.6, 12°.4S±0°.1×169°.67E±0°.08, h33km, mb3.8/7, MS3.4/13, Error ellipse: s-maj=15.7km s-min=10.3km az=161.5*
*NEIC **26** 20:21:58.3±2.2, 12°.63S±0°.07×169°.8E±0°.1, h89km±9km, mb4.6/9*

ISC 26 20:21:53.7±0.7, 12°.4S±0°.1×169°.66E±0°.10, h35km, n42, σ1°.32/23, mb4.0/11, MS3.4/13, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.68**	**124**		**Pn**	**20 24 12.4**	**+1.8**
HNR	**Honiara**	**9.98**	**286**	LR	LR	20 27 42.9	
	comp=Z,47nm,18.6s,baz=55,slow=35						
DZM	**Mont Dzumac**	**10.10**	**197**	*e*P	**Pn**	**20 24 15.5**	**-0.8**
	23nm,0.9s						
DZM	**Mont Dzumac**	**10.10**	**197**	Pn	**Pn**	**20 24 16.4**	**+0.1**
	1.7nm,0.3s,baz=321,slow=22,SNR=11						
DZM				LR	LR	20 27 27.3	
	comp=Z,90nm,18.1s,baz=29,slow=33						
DZM	**Mont Dzumac**	**10.10**	**197**		**Pn**	**20 24 17.0**	**+0.7**
AFI	**Afiamalu**	**18.14**	**97**	LR	LR	20 30 43.0	
	comp=Z,75nm,18.3s,baz=81,slow=30						
KRVT	**Keravat (AS076**	**19.20**	**293**	LR	LR	20 32 34.4	
	comp=Z,65nm,19.4s,baz=138,slow=34						
RAO	**Raoul Island**	**20.37**	**147**	LR	LR	20 32 29.9	
	comp=Z,118nm,20.0s,baz=356,slow=32						
KNTN	**Kanton**	**20.77**	**64**	P	**P**	**20 26 31.1**	**-0.7**
KNTN				IAmb	IAmb	20 26 57.0	
	comp=Z,28nm,0.8s						
CTA	**Charters Tower**	**23.71**	**248**	P	**P**	**20 27 03.6**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=87,slow=10,SNR=3.5						
SNZO	**South Karori**	**29.14**	**172**	P	**P**	**20 27 47.6**	**-3.7**
SNZO				IAmb	IAmb	20 28 06.7	
	comp=Z,209nm,1.6s						
RAR	**Rarotonga**	**30.50**	**111**	LR	LR	20 38 31.5	
	comp=Z,24nm,18.1s,baz=152,slow=33						
H11S2	**WAKE ISLAND Hy**	**30.83**	**355**	T	T	21 00 32.8	
	baz=173						
H11S3	**WAKE ISLAND Hy**	**30.84**	**354**	T	T	21 00 29.9	
	baz=173						
H11S1	**WAKE ISLAND Hy**	**30.85**	**355**	T	T	21 00 41.8	
	baz=173						
RPZ	**Rata Peaks**	**31.23**	**178**	LR	LR	20 38 54.3	
	comp=Z,58nm,18.2s,baz=350,slow=33						
H11N1	**WAKE ISLAND Hy**	**32.03**	**355**	T	T	21 02 20.2	
	baz=172						
H11N3	**WAKE ISLAND Hy**	**32.03**	**355**	T	T	21 02 22.9	
	baz=172						
H11N2	**WAKE ISLAND Hy**	**32.04**	**355**	T	T	21 02 18.0	
	baz=172						
STKA	**Stephens Creek**	**32.27**	**229**	P	**P**	**20 28 20.5**	**+1.4**

comp=Z,0.7nm,0.6s,baz=49,slow=1.8,SNR=3.6
WRA Warramunga Arr 21.49 228 P **P 20 54 30.9 -1.2**
DZM Mont Dzumac 21.96 139 P **P 20 54 36.6 -0.5**
comp=Z,6.0nm,0.8s,baz=290,slow=8.6,SNR=7.2
DZM LR LR 21 02 23.8
comp=Z,82nm,18.4s,baz=9.5,slow=34
DZM Mont Dzumac 21.96 139 P **P 20 54 36.4 -0.8**
DZM IAmb IAmb 20 54 40.0
comp=Z,24nm,1.4s
AS31 Alice Springs 24.25 221 P **P 20 55 00.7 +0.7**
ASAR Alice Springs 24.25 221 P **P 20 55 00.8 +0.7**
comp=Z,5.2nm,0.6s,baz=57,slow=8.7,SNR=63
ASAR Alice Springs 24.25 221 P **P 20 55 00.2 +0.1**
STKA Stephens Creek 27.41 198 P **P 20 55 28.3 -0.1**
comp=Z,1.6nm,0.6s,baz=346,slow=10.0,SNR=4.3
STKA LR LR 21 07 05.5
comp=Z,50nm,18.6s,baz=25,slow=38
STKA Stephens Creek 27.41 198 P **P 20 55 28.6 +0.2**
FITZ Fitzroy Crossi 27.66 242 P **P 20 55 30.9 0.0**
comp=Z,3.9nm,0.6s,baz=91,slow=12,SNR=13
FITZ LR LR 21 07 35.8
comp=Z,50nm,18.0s,baz=23,slow=38
OUZ Omahuta 35.88 148 P **P 20 56 44.0 +1.2**
OUZ IAmb IAmb 20 56 47.5
comp=Z,35nm,1.5s
KNTN Kanton 37.22 87 P **P 20 56 53.9 -0.6**
RAO Raoul Island 37.43 132 P **P 20 56 57.1 +0.9**
KHZ Kahutara 41.54 155 P **P 20 57 29.5 -0.7**
PLWZ Palliser 41.62 152 P **P 20 57 30.3 -0.6**
RPZ Rata Peaks 41.65 158 P **P 20 57 31.4 +0.4**
comp=Z,5.6nm,0.6s,baz=331,slow=2.1,SNR=3.8
RPZ Rata Peaks 41.65 158 P **P 20 57 31.6 +0.6**
RPZ IAmb IAmb 20 57 44.1
comp=Z,30nm,1.2s
LBZ Lake Benmore 41.91 159 P **P 20 57 32.9 -0.3**
LBZ IAmb IAmb 20 57 34.7
comp=Z,13nm,1.2s
MQZ McQueen's Vall 42.25 157 P **P 20 57 35.6 -0.3**
CISI Cisompet, Garu 42.98 265 P **P 20 57 41.7 -0.7**
CISI IAmb IAmb 20 58 03.9
comp=Z,43nm,1.2s
MJAR Matsushiro Arr 43.82 345 LR LR 21 15 51.4
comp=Z,10nm,18.7s,baz=255,slow=36
ILAR Eielson Array 83.74 22 P **P 21 02 09.8 -1.3**
comp=Z,0.3nm,0.6s,baz=258,slow=4.9,SNR=5.3
ILAR LR LR 21 37 28.2
comp=Z,17nm,18.5s,baz=196,slow=34
ILAR Eielson Array 83.74 22 P **P 21 02 10.1 -1.0**
MAW Mawson 83.98 203 P **P 21 02 12.0 -0.2**
comp=Z,2.8nm,0.6s,baz=112,slow=9.4,SNR=12
MAW Mawson 83.98 203 P **P 21 02 11.5 -0.7**
NVAR Mina Array Bea 94.06 52 P **P 21 03 01.5 +0.3**
comp=Z,0.5nm,0.7s,baz=274,slow=5.8,SNR=3.5
TORD Torodi Ar. Bea 148.95 286 PKPbc PKPbc 21 09 30.2 -1.0
comp=Z,3.5nm,0.6s,baz=68,slow=2.8,SNR=30

IDC 26 21:14:37.5±39.0, 24°.18S×175°.46W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/23, mbtmp3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=730.0km s-min=160.0km az=88.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**22.41**	**206**	LR	LR	21 27 46.9	
	comp=Z,29nm,21.0s,baz=24,slow=35						
STKA	**Stephens Creek**	**38.48**	**249**	P	P	21 22 00.3	-1.1
	0.9nm,0.6s,baz=108,slow=9.6,SNR=4.1						
ASAR	**Alice Springs**	**46.08**	**260**	P	P	21 23 03.5	0.0
	1.5nm,0.8s,baz=97,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**46.52**	**265**	P	P	21 23 07.4	+0.4
	0.9nm,0.4s,baz=103,slow=7.7,SNR=28						

BJI 26 21:15:38.0±0.0, 40°.55N×114°.91E, h8km, ML3.6/10, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**1.09**	**117**	Pg	Pg	21 15 57.3	-1.7
BJI				Sg	Sg	21 16 11.8	-1.4
BJI				smax	smax		
	comp=N,560nm,0.4s						
BJI				smax	smax		
	comp=E,670nm,0.5s						
BTO	**Baotou**	**3.72**	**272**	*e*Pg	Pg	21 16 47.3	-2.0
BTO				Sg	Sg	21 17 36.8	-0.8
WHN	**Wuhan**	**9.99**	**183**	P	Pn	21 18 06.0	+4.1
WMQ	**Urumqi**	**20.39**	**288**	*e*P	Pn	21 20 17.0	-0.4

*IDC **26** 21:29:57.7±1.0, 1°.25S×127°.16E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/31, mbtmp3.9/7, ML4.0/2, MS2.6/2, Ms1 2.6/2, ms1mx2.2/33, Error ellipse: s-maj=43.1km s-min=17.8km az=69.0*
*ISCJB **26** 21:29:59.1±0.4, 1°.17S±0°.03×127°.27E±0°.04, h10km, mb3.8/5, MS2.6/1, Error ellipse: s-maj=5.3km s-min=4.6km az=23.4*
*DJA **26** 21:30:00.9±0.2, 1°.5S±2°×12°.7E±°, h10km, M3.9/13, mb4.1/6, mB4.8/2, MLv3.8/13, Mw(mB)4.1/2*
ISC 26 21:29:59.6±0.7, 1°.19S±0°.04×127°.32E±0°.06, h10km, n23, σ2°21/27, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.58**	**19**	P	**Pg**	**21 30 11.8**	**+1.0**
LBMI				S	**Sg**	**21 30 19.2**	**+0.8**
SANI	**Sanana**	**1.58**	**237**	P	**Pn**	**21 30 28.4**	**+0.7**
SANI				S	**Sb**	**21 30 50.4**	**+1.4**
TNTI	**Ternate**	**1.95**	**1**	P	**Pn**	**21 30 33.9**	**+1.2**
TNTI				S	**Sb**	**21 30 58.6**	**-1.0**
NLAI	**Namlea**	**2.05**	**186**	P	**Pn**	**21 30 35.4**	**+1.2**
AAI	**Ambon**	**2.63**	**161**	P	**Pn**	**21 30 44.5**	**+2.3**
AAI				S	**Sn**	**21 31 17.1**	**+2.9**
MSAI	**Masohi**	**2.68**	**143**	P	**Pn**	**21 30 45.2**	**+2.3**
KMSI	**Cibinong**	**3.77**	**298**	P	**Pn**	**21 30 58.5**	**+0.7**
SWI	**Sorong**	**3.96**	**85**	P	**Pn**	**21 31 02.5**	**+2.1**
SIJI	**Sorong**	**3.96**	**85**	Pn	**Pn**	**21 31 02.8**	**+2.3**
	16nm,0.3s,baz=250,slow=12,SNR=52						
SIJI				Sn	**Sn**	**21 31 48.2**	**+1.1**
	2.7nm,0.3s,baz=242,slow=23,SNR=5.5						
LUWI	**Luwuk**	**4.55**	**272**	P	**Pn**	**21 31 09.4**	**+0.9**
FAKI	**Fak Fak**	**5.22**	**109**	P	**Pn**	**21 31 18.1**	**+0.3**
APSI	**Ampana**	**5.67**	**273**	P	**Pn**	**21 31 24.1**	**+0.1**
MPSI	**Mapaga**	**7.57**	**281**	P	**Pn**	**21 31 50.9**	**+0.8**
SPSI	**Sidrap Palu**	**8.03**	**250**	P	**Pn**	**21 31 57.5**	**+1.1**
BKSI	**Bulukumba**	**8.27**	**240**	P	**Pn**	**21 32 01.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**16.89**	**185**	LR	LR	21 41 11.3	
	comp=Z,20nm,18.9s,baz=336,slow=40						
WRA	**Warramunga Arr**	**19.87**	**160**	P	**P**	**21 34 29.9**	**-1.3**
	0.3nm,0.3s,baz=340,slow=12,SNR=13						
WRA				S	**S**	**21 38 06.5**	**-8.4**
	0.0nm,0.3s,baz=339,slow=24,SNR=2.4						
ASAR	**Alice Springs**	**23.24**	**165**	P	**P**	**21 35 06.3**	**-1.0**
	1.6nm,0.7s,baz=345,slow=10,SNR=17						
STKA	**Stephens Creek**	**33.37**	**158**	P	**P**	**21 36 38.5**	**+0.2**
	1.0nm,0.5s,baz=349,slow=12,SNR=4.4						
MJAR	**Matsushiro Arr**	**38.88**	**14**	LR	LR	21 51 15.7	
	comp=Z,9.3nm,21.6s,baz=35,slow=33						
USRK	**Ussuriysk Ar.**	**45.38**	**5**	P	**P**	**21 38 17.6**	**-0.7**
	0.8nm,0.6s,baz=188,slow=7.3,SNR=4.5						
SONM	**Songino Array**	**52.12**	**342**	P	**P**	**21 39 09.4**	**-0.8**
	0.4nm,0.7s,baz=154,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**61.93**	**327**	P	**P**	**21 40 19.7**	**0.0**
	0.9nm,0.4s,baz=115,slow=8.5,SNR=11						

*ANF **26** 21:50:24.2±2.2, 39°.82N×122°.73W, h16km±7km, ML2.7/6, Error ellipse: s-maj=17.7km s-min=9.1km az=20.0*
*NEIC **26** 21:50:24.2±1.9, 39°.78N±0°.02×122°.86W±0°.03, h22km±5km*
ISC 26 21:50:23.6±0.9, 39°.79N±0°.02×122°.81W±0°.02, h15km±6km, n123, σ0°89/130, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVV	**Valley View**	**0.11**	**99**		**Pg**	**21 50 27.4**	**+0.2**
GASB	**Alder Springs**	**0.16**	**151**		**Pb**	**21 50 27.6**	**-0.7**
GASB					**Sg**	**21 50 30.7**	**+0.2**
GROM	**Round Mountain**	**0.17**	**41**		**Pg**	**21 50 28.4**	**+0.5**
GHMM	**Hull Mountain**	**0.31**	**197**		**Pg**	**21 50 29.7**	**-0.4**
KBNM	**Bluenose Ridge**	**0.31**	**289**		**Pg**	**21 50 29.7**	**-0.4**
KRKM	**Rackout Spring**	**0.36**	**231**		**Pg**	**21 50 30.8**	**-0.3**
GCK	**Clark Valley**	**0.38**	**130**		**Pb**	**21 50 32.5**	**+0.4**
O02D	**Mt. Diablo Mer**	**0.39**	**3**	P	**Pg**	**21 50 32.0**	**+0.6**
	baz=187,SNR=128						
O02D				S	**Sg**	**21 50 37.0**	**+0.2**
	baz=187						
O02D	**Mt. Diablo Mer**	**0.39**	**3**		**Pg**	**21 50 32.1**	**+0.6**
O02D					**Sb**	**21 50 38.5**	**+0.5**
KFPM	**Farley Peak**	**0.49**	**252**		**Pg**	**21 50 33.4**	**-0.1**
GTSM	**Trough Springs**	**0.51**	**161**		**Pg**	**21 50 33.8**	**+0.1**
KIPM	**Iron Peak**	**0.52**	**272**		**Pg**	**21 50 33.8**	**-0.1**
LBPM	**Beegum Peak**	**0.53**	**354**		**Pg**	**21 50 34.5**	**+0.4**
KCPM	**Cahto Peak**	**0.60**	**260**	Pg	**Pb**	**21 50 35.8**	**-0.1**
KBSM	**Bell Springs**	**0.61**	**282**		**Pb**	**21 50 35.8**	**-0.3**
GFC	**Funks Creek**	**0.62**	**139**		**Pg**	**21 50 36.9**	**+1.2**
LTCM	**Tuscan Springs**	**0.67**	**52**		**Pg**	**21 50 37.4**	**+0.6**
GBMM	**Baldy Mountain**	**0.69**	**159**		**Pb**	**21 50 37.3**	**-0.1**
GTC	**Three Chop Rid**	**0.69**	**236**		**Pb**	**21 50 37.2**	**-0.2**
KPPM	**Pickett Peak**	**0.70**	**323**		**Pb**	**21 50 37.2**	**-0.4**
GHLM	**Highland Sprin**	**0.77**	**192**		**Pb**	**21 50 38.6**	**-0.1**
GWKM	**Walker Ridge**	**0.78**	**161**		**Pb**	**21 50 38.9**	**0.0**
KMRM	**Mail Ridge**	**0.81**	**302**		**Pb**	**21 50 39.7**	**+0.3**
WDC	**Whiskeytown Da**	**0.81**	**15**		**Pb**	**21 50 39.6**	**+0.1**
WDC	**Whiskeytown Da**	**0.81**	**15**	Pg	**Pb**	**21 50 39.4**	**0.0**
WDC	**Whiskeytown Da**	**0.81**	**15**		**Sb**	**21 50 47.9**	**-2.3**
GMKM	**Mount Konoctai**	**0.82**	**179**		**Pb**	**21 50 39.4**	**-0.2**
HOPS	**Hopland Field**	**0.82**	**194**	Pg	**Pb**	**21 50 39.6**	**+0.1**
GRTM	**Round Top Moun**	**0.86**	**173**		**Pb**	**21 50 40.5**	**+0.3**
GNAM	**Navarro Ridge**	**0.87**	**227**		**Pb**	**21 50 39.6**	**-0.7**
GSNM	**Snow Mountain**	**0.90**	**199**		**Pb**	**21 50 41.3**	**+0.4**
OSUM	**Sutter Buttes**	**0.91**	**125**		**Pb**	**21 50 40.1**	**-0.9**
KCSM	**Cold Springs**	**0.92**	**324**		**Pb**	**21 50 41.2**	**-0.1**
GACM	**Adobe Creek**	**0.92**	**182**		**Pg**	**21 50 42.1**	**+0.7**
KHBM	**Hayfork Bally**	**0.92**	**340**		**Pb**	**21 50 41.2**	**-0.2**
O03E	**Paynes Creek**	**0.92**	**57**	P	**Pb**	**21 50 40.9**	**-0.5**
	baz=238,SNR=26						
O03E				S	**Sb**	**21 50 52.6**	**-0.9**
	baz=238						
O03E	**Paynes Creek**	**0.92**	**57**		**Pb**	**21 50 41.1**	**-0.3**
GSGM	**Seigler Mounta**	**0.93**	**175**		**Pb**	**21 50 41.8**	**+0.4**
GHOM	**Hamilton Openi**	**0.94**	**217**		**Pb**	**21 50 41.4**	**-0.2**
GPMM	**Pine Mountain**	**0.95**	**186**		**Pn**	**21 50 42.5**	**0.0**
MNRC	**McLaughlin Min**	**0.96**	**162**		**Pg**	**21 50 42.8**	**+0.7**
SUTB	**Sutter Butte**	**0.97**	**125**		**Pb**	**21 50 40.5**	**-1.7**
GDXM	**Geysers**	**0.98**	**179**		**Pb**	**21 50 41.7**	**-0.7**
KCRM	**Chalk Rock**	**1.00**	**310**		**Pb**	**21 50 43.1**	**+0.5**
LDBM	**Digger Butte**	**1.01**	**51**		**Pb**	**21 50 42.6**	**-0.4**
NMTM	**Middletown**	**1.02**	**164**		**Pb**	**21 50 43.4**	**+0.3**
GCVM	**Cloverdale**	**1.03**	**189**		**Pg**	**21 50 44.1**	**+0.5**
ORV	**Oroville**	**1.04**	**103**	Pg	**Pb**	**21 50 41.6**	**-1.7**
ORV					**Pn**	**21 50 41.9**	**-1.8**
LCMM	**Colby Mountain**	**1.05**	**70**		**Pb**	**21 50 43.1**	**-0.5**
PAM	**Palermo**	**1.06**	**109**		**Pb**	**21 50 41.8**	**-1.7**
GGUM	**Gualala**	**1.07**	**210**		**Pg**	**21 50 45.0**	**+0.6**
GDCM	**Dry Creek**	**1.08**	**198**		**Pg**	**21 50 45.1**	**+0.7**
KSMM	**Slide Mountain**	**1.12**	**291**		**Pn**	**21 50 43.2**	**-1.6**
LGPM	**Granite Peak**	**1.12**	**359**		**Pn**	**21 50 44.8**	**-0.1**
OHCM	**Honcut**	**1.12**	**113**		**Pn**	**21 50 42.8**	**-1.9**
LSHM	**Sage Hen Hill**	**1.16**	**30**		**Pn**	**21 50 44.5**	**-0.8**
KMPM	**Mount Pierce**	**1.18**	**302**		**Pn**	**21 50 45.2**	**-0.5**
N02D	**Trinity Center**	**1.18**	**4**	P	**Pn**	**21 50 45.5**	**-0.2**
	baz=186,SNR=54						
N02D				S	**Sg**	**21 51 02.4**	**+0.5**
	baz=186						
N02D	**Trinity Center**	**1.18**	**4**		**Pn**	**21 50 45.6**	**-0.2**
GHCM	**House Creek**	**1.22**	**194**		**Pg**	**21 50 47.9**	**+0.7**
NBPM	**Berryessa Peak**	**1.22**	**157**		**Pn**	**21 50 46.2**	**+0.1**
LRDM	**Redding Peak**	**1.23**	**57**		**Pn**	**21 50 46.2**	**-0.2**
NSHM	**Saint Helena R**	**1.28**	**173**		**Pn**	**21 50 47.3**	**+0.4**
KHMM	**Horse Mountain**	**1.29**	**327**		**Pn**	**21 50 47.4**	**+0.2**
LBKM	**Bonanza King**	**1.30**	**5**		**Pn**	**21 50 47.3**	**0.0**
KCTM	**Capetown**	**1.35**	**301**		**Pn**	**21 50 47.9**	**-0.1**
JCC	**Jacoby Creek,**	**1.38**	**318**		**Pn**	**21 50 46.0**	**-2.4**
JCC	**Jacoby Creek,**	**1.38**	**318**		**Pn**	**21 50 48.2**	**-0.1**
HATC	**Hat Creek Radi**	**1.45**	**45**		**Pg**	**21 50 51.6**	**0.0**
LBCM	**Butte Creek Ri**	**1.53**	**47**		**Pn**	**21 50 50.9**	**+0.3**
KOMM	**Orleans Mounta**	**1.56**	**342**		**Pn**	**21 50 51.8**	**+0.9**
M02C	**Callahan**	**1.60**	**359**	P	**Pn**	**21 50 52.0**	**+0.6**
	baz=180,SNR=25						
M02C	**Callahan**	**1.60**	**359**		**Pb**	**21 50 52.7**	**-0.2**
LGBM	**Gray Butte**	**1.62**	**17**		**Pb**	**21 50 54.1**	**+0.8**
MCCM	**Marconi Confer**	**1.65**	**182**	Pn	**Pn**	**21 50 52.7**	**+0.8**
KRPM	**Rodgers**	**1.65**	**326**		**Pg**	**21 50 55.7**	**+0.4**
AFDM	**Forest Hills D**	**1.66**	**120**		**Pn**	**21 50 51.0**	**-1.1**
AFDM	**Forest Hills D**	**1.66**	**120**	Sn	**Sb**	**21 51 13.7**	**-0.9**
LBFM	**Black Fox Moun**	**1.71**	**24**		**Pb**	**21 50 54.0**	**-0.8**
LTIM	**Timbered Crate**	**1.71**	**36**		**Pn**	**21 50 53.8**	**+0.8**
LAMM	**Antelope Mount**	**1.82**	**4**		**Pb**	**21 50 57.1**	**+0.4**
LHEM	**Herd Peak**	**1.89**	**14**		**Pb**	**21 50 58.2**	**+0.3**
BEKR	**Beckworth**	**1.89**	**87**		**Pn**	**21 50 56.6**	**+1.1**
ASMM	**Slate Mountain**	**1.92**	**120**		**Pn**	**21 50 56.1**	**+0.3**
KRMB	**Red Mountain**	**1.92**	**335**		**Pn**	**21 50 56.2**	**+0.4**
YBH	**Yreka Blue Hor**	**1.94**	**2**		**Pb**	**21 50 58.4**	**-0.3**
YBH	**Yreka Blue Hor**	**1.94**	**2**		**Pb**	**21 50 58.7**	**0.0**
LGMM	**Garner Mountai**	**1.95**	**22**		**Pb**	**21 50 59.5**	**+0.6**
BMRR	**Black Mountain**	**1.96**	**80**		**Pb**	**21 50 58.3**	**-0.9**
DONR	**Donner Summit**	**1.98**	**102**		**Pn**	**21 50 57.5**	**+0.8**
IND	**Independence**	**1.98**	**100**		**Pn**	**21 50 58.1**	**+1.3**
LOY	**Loyalton**	**1.99**	**93**		**Pn**	**21 50 58.0**	**+1.2**
KBF	**Kyburz Flat**	**2.03**	**97**		**Pn**	**21 50 58.7**	**+1.2**
LASM	**Arnica Sink**	**2.04**	**27**		**Pb**	**21 51 00.3**	**-0.1**
B040	**Montague**	**2.06**	**8**		**Pb**	**21 51 00.6**	**-0.1**
BABR	**Babbit Peak**	**2.10**	**94**		**Pn**	**21 50 59.9**	**+1.4**
M04C	**Macdoel**	**2.12**	**20**	Pb	**Pb**	**21 51 01.5**	**-0.3**
	baz=201,SNR=20						
M04C				S	**Sb**	**21 51 26.3**	**-1.8**
	baz=201						
M04C	**Macdoel**	**2.12**	**20**		**Pb**	**21 51 01.4**	**-0.5**
TAHR	**Tahoe**	**2.15**	**106**		**Pn**	**21 51 00.7**	**+1.6**
KTRM	**Thompson Ridge**	**2.16**	**349**		**Pn**	**21 51 00.8**	**+1.6**
RUBR	**Rubicon Trail**	**2.19**	**109**		**Pn**	**21 51 00.3**	**+0.7**
KSXB	**Camp Six Broad**	**2.19**	**339**		**Pn**	**21 51 00.4**	**+0.8**
MPK	**Martis Peak**	**2.21**	**102**		**Pn**	**21 51 01.5**	**+1.5**
PEAR	**Peavine Mounta**	**2.21**	**94**		**Pb**	**21 51 01.7**	**-1.6**
EMB	**Emerald Bay**	**2.25**	**110**		**Pn**	**21 51 01.6**	**+1.1**
GNO	**Genoa**	**2.45**	**110**		**Pn**	**21 51 04.9**	**+1.7**
L04D	**Klamath Falls**	**2.45**	**9**	Pb	**Pb**	**21 51 06.9**	**-0.6**
	baz=190,SNR=12						
L04D	**Klamath Falls**	**2.45**	**9**		**Pb**	**21 51 06.5**	**-0.9**
MCUB	**Copperopolis B**	**2.49**	**136**		**Pn**	**21 51 03.9**	**+0.3**
VCNR	**Virginia City**	**2.50**	**100**		**Pb**	**21 51 07.2**	**-1.0**
CMB	**Columbia Colle**	**2.58**	**132**		**Pn**	**21 51 06.2**	**+1.3**
PNTR	**Pine Nut**	**2.58**	**105**		**Pn**	**21 51 06.5**	**+1.4**
BFC	**Buffalo Canyon**	**2.64**	**109**		**Pn**	**21 51 07.3**	**+1.5**
KBO	**Bosley Butte**	**2.64**	**337**		**Pn**	**21 51 06.8**	**+1.0**
PAHR	**Pah Rah Range**	**2.65**	**91**		**Pn**	**21 51 06.7**	**+0.8**
HUMO	**Hull Mountain**	**2.81**	**358**		**Pn**	**21 51 09.3**	**+1.3**
MOD	**Modoc Plateau**	**2.84**	**41**		**Pn**	**21 51 08.8**	**+0.3**
YERR	**Yerington**	**2.88**	**105**		**Pn**	**21 51 10.7**	**+1.6**
RYN	**Ryan**	**3.53**	**108**		**Pn**	**21 51 18.9**	**+0.9**
OMMB	**Old Mammoth Mi**	**3.69**	**125**		**Pn**	**21 51 22.6**	**+2.2**
KVN	**Kaiserville**	**3.72**	**100**		**Pn**	**21 51 22.1**	**+1.3**
NVAR	**Mina Array Bea**	**3.76**	**110**		**Pn**	**21 51 21.7**	**+0.4**
WVOR	**Wild Horse Val**	**4.11**	**49**		**Pn**	**21 51 26.6**	**+0.6**

*IDC **26** 22:12:42.7±1.5, 5°.19S×122°.30E, h0km, mb3.5/2, mb1 4.0/5, mb1mx3.6/31, mbtmp3.8/5, ML3.6/3, MS2.9/10, Ms1 2.9/10, ms1mx2.7/24, Error ellipse: s-maj=51.7km s-min=21.8km az=50.0*
*ISCJB **26** 22:12:44.8±0.4, 5°.39S±0°.04×122°.27E±0°.04, h33km, mb3.6/2, MS3.0/5, Error ellipse: s-maj=6.6km s-min=5.3km az=21.3*
*DJA **26** 22:12:44.7±0.4, 5°.5S±2°×12°.2E±°, h21km±4km, M4.2/17, mb4.4/7, mB4.4/2, MLv4.1/17, Mw(mB)3.5/2*
ISC 26 22:12:47.4±0.9, 5°.42S±0°.07×122°.31E±0°.05, h35km, n31, σ2°08/23, MS2.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.27**	**105**	P	**Pn**	**22 12 53.0**	**-2.0**
BBSI				S	**Sn**	**22 12 58.3**	**-1.9**
KDI	**Kendari**	**1.48**	**12**	P	**Pn**	**22 13 10.8**	**-0.8**
BKSI	**Bulukumba**	**2.18**	**272**	P	**Pn**	**22 13 18.4**	**-2.7**
BNSI	**Bone**	**2.41**	**295**	P	**Pn**	**22 13 21.5**	**-2.9**
KAPI	**Kappang**	**2.58**	**279**	Pn	**Pn**	**22 13 24.6**	**-2.0**
	33nm,0.3s,baz=106,slow=11,SNR=40						
KAPI				Sn	**Sn**	**22 13 55.7**	**-1.0**
	38nm,0.3s,baz=47,slow=19,SNR=9.7						
KAPI				LR	LR	22 14 12.8	
	comp=Z,87nm,19.4s,baz=112,slow=35						
SPSI	**Sidrap Palu**	**2.91**	**300**	P	**Pn**	**22 13 30.0**	**-1.2**
TTSI	**Tana Toraja**	**3.42**	**313**	P	**Pn**	**22 13 41.9**	**+3.7**
LUWI	**Luwuk**	**4.37**	**6**	P	**Pn**	**22 13 49.8**	**-1.5**
APSI	**Ampana**	**4.52**	**352**	P	**Pn**	**22 13 51.7**	**-1.7**
WSI	**Waingapu**	**4.67**	**205**	P	Pn	22 14 13.2	+18
SOEI	**Soe**	**4.73**	**156**	P	**Pn**	**22 13 55.2**	**-1.2**
BATI	**Baumata**	**4.95**	**164**	LR	LR	22 16 09.8	
	comp=Z,220nm,20.0s,baz=84,slow=40						
BATI	**Baumata**	**4.95**	**164**	P	**Pn**	**22 13 58.1**	**-1.2**
SANI	**Sanana**	**4.97**	**48**	P	**Pn**	**22 13 58.9**	**-0.6**
WBSI	**Waikabubak, Su**	**5.10**	**214**	P	**Pn**	**22 14 00.0**	**-1.4**
PLAI	**Plampang**	**5.63**	**233**	P	**Pn**	**22 14 10.3**	**+1.7**
MRSI	**Marisa**	**5.87**	**356**	P	**Pn**	**22 14 09.6**	**-2.3**
MPSI	**Mapaga**	**6.20**	**337**	P	Pn	22 14 29.1	+13
TWSI	**Taliwang, Sumb**	**6.31**	**238**	P	**Pn**	**22 14 16.7**	**-1.3**
JAGI	**Jajag, Banyuwa**	**8.64**	**249**	P	**Pn**	**22 14 48.7**	**-1.4**
DAV	**Davao City (W)**	**12.83**	**15**	LR	LR	22 21 07.1	
	comp=Z,42nm,21.8s,baz=328,slow=40						
FITZ	**Fitzroy Crossi**	**13.02**	**166**	Pn	**Pn**	**22 15 53.8**	**+3.8**
	0.1nm,0.3s,baz=350,slow=9.8,SNR=3.8						
FITZ				LR	LR	22 22 14.1	
	comp=Z,11nm,21.1s,baz=324,slow=43						
LEM	**Lembang**	**14.67**	**264**	LR	LR	22 22 34.3	
	comp=Z,140nm,19.9s,baz=9.0,slow=40						
WRA	**Warramunga Arr**	**18.59**	**142**	P	**Pn**	**22 17 02.2**	**0.0**
	0.2nm,0.3s,baz=317,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.31**	**150**	P	**P**	**22 17 33.9**	**+2.5**
	1.3nm,0.6s,baz=328,slow=11,SNR=14						
CTA	**Charters Tower**	**27.47**	**124**	LR	LR	22 31 00.3	
	comp=Z,147nm,20.7s,baz=30,slow=40						
NWAO	**Narrogin (SRO)**	**27.78**	**189**	LR	LR	22 30 41.7	
	comp=Z,26nm,21.1s,baz=259,slow=38						
CMAR	**Chiang Mai Arr**	**33.07**	**316**	LR	LR	22 36 07.2	
	comp=Z,14nm,19.7s,baz=110,slow=43						
KSRS	**Korea Array**	**42.97**	**7**	LR	LR	22 41 15.9	
	comp=Z,6.1nm,18.9s,baz=180,slow=40						
PALK	**Pallekele**	**43.38**	**286**	LR	LR	22 38 44.7	
	comp=Z,34nm,18.0s,baz=115,slow=36						
MKAR	**Makanchi Array**	**62.89**	**330**	P	**P**	**22 23 09.6**	**-0.4**
	0.4nm,0.7s,baz=131,slow=5.9,SNR=3.6						

WEL 26 22:23:26.0, 40°S±13°×17°4E±1°6, h246km±11km, M3.9/14, MLv3.9/14, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHEZ	**Kahui Hut**	**0.34**	**343**	P	Pn	22 23 58.3	+0.2
KHEZ				S	S	22 24 22.8	-0.6
NBEZ	**Newall Road No**	**0.41**	**329**	P	Pn	22 23 58.4	+0.2
NBEZ				S	S	22 24 23.0	-0.4
WAZ	**Wanganui**	**0.67**	**102**	P	Pn	22 23 59.4	+0.5
WAZ				S	S	22 24 23.9	-0.9
VRZ	**Vera Road**	**0.69**	**44**	P	Pn	22 23 58.0	-1.1
VRZ				S	S	22 24 22.5	-2.6
PKVZ	**Pokaka**	**0.99**	**71**	P	Pn	22 23 59.8	-0.8
PKVZ				S	S	22 24 24.7	-3.1
MTVZ	**Mangateitei**	**1.05**	**78**	P	Pn	22 24 00.4	-0.6
MTVZ				S	S	22 24 25.8	-2.6
TRVZ	**Turoa**	**1.14**	**74**	P	Pn	22 24 00.9	-0.8
TRVZ				S	S	22 24 26.1	-3.5
TWVZ	**Taurewa**	**1.15**	**62**	P	Pn	22 24 00.4	-1.2
TWVZ				S	S	22 24 25.8	-3.7
FWVZ	**Far West T-bar**	**1.15**	**72**	P	Pn	22 24 00.9	-0.8
FWVZ				S	S	22 24 26.5	-3.4
DRZ	**Dome Shelter**	**1.15**	**73**	P	Pn	22 24 01.2	-0.7
DRZ				S	S	22 24 26.5	-3.5
WHVZ	**Whangaehu Hut**	**1.17**	**74**	P	Pn	22 24 01.1	-0.8
WHVZ				S	S	22 24 26.6	-3.4
DUWZ	**D'Urville Isla**	**1.19**	**188**	P	Pn	22 24 02

INZ	**Inchbonnie**	**3.71 212**	P	Pn	22 24 25.6	-0.4
AMCZ	**Amberley**	**3.73 197**	P	Pn	22 24 26.1	-0.2
WMGZ	**Waiomatatini S**	**3.80 63**	P	Pn	22 24 23.9	-3.2
MXZ	**Matakaoa Point**	**3.86 59**	P	Pn	22 24 24.6	-3.3
OXZ	**Oxford**	**4.03 202**	P	Pn	22 24 29.1	-0.7
MQZ	**McQueen's Vall**	**4.23 195**	P	Pn	22 24 31.0	-1.2
AKCZ	**Akaroa Harbour**	**4.35 192**	P	Pn	22 24 33.6	0.0
RPZ	**Rata Peaks**	**4.70 208**	P	Pn	22 24 37.1	-0.7

*JMA **26** 22:23:44.3±0.3, 37.°10N×135.°35E, h377km±3km, M3.2*
*ISCJB **26** 22:23:45.9±0.5, 37.°22N±0.°08×135.°40E±0.°08, h350km, mb2.7/2, Error ellipse: s-maj=10.8km s-min=8.4km az=168.0*
*IDC **26** 22:23:45.4±1.1, 37.°06N×135.°30E, h367km±10km, mb2.6/2, mb1 2.9/5, mb1mx2.6/39, mbtmp3.4/5, Error ellipse: s-maj=23.7km s-min=19.8km az=41.0*
ISC 26 22:23:45.5±1.0, **37.°13N**±0.°10×**135.°36E**±0.°08, **h350**km, **n20**, σ1§**73**/23, **Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.51**	**188**	P	**Pn**	**22 24 35.2**	**+1.4**
JWT	**Wachi**	**1.84**	**179**	P	**Pn**	**22 24 37.2**	**+1.4**
JWT				*e*S	**S**	**22 25 18.0**	**+1.9**
JOI	**OKI**	**1.89**	**244**	P	**Pn**	**22 24 37.5**	**+1.4**
MAT	**Matsushiro**	**2.35**	**103**	P	**Pn**	**22 24 41.1**	**+1.7**
MJAR	**Matsushiro Arr**	**2.36**	**103**	P	**Pn**	**22 24 41.4**	**+2.0**
	0.5nm,0.3s,baz=283,slow=9.3,SNR=30						
MJAR				S	**S**	**22 25 26.9**	**+4.1**
	baz=294,slow=13,SNR=3.3						
JSD	**Sado**	**2.47**	**68**	P	**Pn**	**22 24 42.0**	**+1.7**
JHS	**Saijyo**	**2.80**	**221**	P	**Pn**	**22 24 44.0**	**+0.8**
JWY	**Kouya**	**2.91**	**176**	P	**Pn**	**22 24 45.2**	**+1.0**
JHK	**Hiroka**	**2.92**	**87**	P	**Pn**	**22 24 45.6**	**+1.5**
JIE	**Ise**	**2.94**	**158**	P	**Pn**	**22 24 46.0**	**+1.6**
JKN2	**Miekihoku**	**2.98**	**165**	P	**Pn**	**22 24 45.8**	**+1.1**
JOD2	**Odawara 2**	**3.54**	**121**	P	**Pn**	**22 24 51.0**	**+1.0**
JHO	**Hitachi**	**4.21**	**95**	P	**Pn**	**22 24 56.5**	**-0.1**
JHO				*e*S	**S**	**22 25 51.5**	**-2.5**
JMM	**Marumori**	**4.38**	**79**	P	**Pn**	**22 24 59.3**	**+0.9**
JMK	**Ichinoseki**	**4.97**	**67**	P	**Pn**	**22 25 05.3**	**+0.6**
BSO1	**Boso 1**	**5.18**	**117**	P	**Pn**	**22 25 06.7**	**+0.2**
KSRS	**Korea Array**	**5.94**	**275**	P	**Pn**	**22 25 16.0**	**+0.4**
	1.3nm,0.3s,baz=94,slow=12,SNR=26						
USRK	**Ussuriysk Ar.**	**7.52**	**341**	P	**Pn**	**22 25 34.5**	**+0.8**
	baz=163,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**52.00**	**32**	P	**P**	**22 32 18.6**	**-1.1**
	0.2nm,0.5s,baz=267,slow=5.8,SNR=4.1						
WRA	**Warramunga Arr**	**56.77**	**181**	P	**P**	**22 32 51.8**	**-2.4**
	0.2nm,0.5s,baz=355,slow=7.5,SNR=4.9						

*JMA **26** 23:03:10.8±0.1, 23.°98N×121.°97E, h38km±3km, M2.9*
*ISCJB **26** 23:03:11.4±0.3, 24.°00N±0.°02×121.°98E±0.°02, h33km±2km, Error ellipse: s-maj=3.1km s-min=2.4km az=141.5*
*TAP **26** 23:03:11.6, 24.°02N×121.°93E, h34km, ML3.2, C*
ISC 26 23:03:10.9±1.1, **23.°98N**±0.°02×**121.°96E**±0.°02, **h33**km±2km, **n70**, σ0§**62**/112, **1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.33**	**269**	*e*P	**Pn**	**23 03 20.1**	**+0.7**
HWA	baz=261			*e*S	**Sn**	**23 03 25.7**	**+1.1**
	baz=261						
ENLB	**Shoufeng**	**0.34**	**257**	*e*P	**Pb**	**23 03 19.4**	**+0.2**
ENLB	baz=249			*e*S	**Sn**	**23 03 26.6**	**+1.7**
	baz=249						
TWD	**Chiawan**	**0.35**	**286**	⇓*i*P	**Pn**	**23 03 19.8**	**+0.1**
TWD	baz=281			S	**Sn**	**23 03 26.2**	**+0.9**
	baz=281						
NACB	**Ninganchiao**	**0.39**	**300**	P	**Pb**	**23 03 20.3**	**+0.4**
NACB	baz=296			S	**Sn**	**23 03 26.5**	**+0.2**
	baz=296						
NANB	**Nanao**	**0.48**	**336**	P	**Pb**	**23 03 21.6**	**+0.3**
NANB	baz=338			S	**Sn**	**23 03 29.1**	**+0.2**
	baz=338						
ENA	**Nanau**	**0.49**	**336**	*i* P	**Pb**	**23 03 21.6**	**+0.3**
ENA	baz=338			S	**Sn**	**23 03 29.2**	**+0.2**
	baz=338						
ETLH	**Xiulin Townshi**	**0.49**	**297**	*e*P	**Pb**	**23 03 21.6**	**+0.1**
ETLH	baz=294			*e*S	**Sn**	**23 03 29.2**	**+0.1**
	baz=294						
ESL	**Shilin**	**0.51**	**251**	*e*P	**Pb**	**23 03 22.0**	**+0.3**
ESL	baz=245			*e*S	**Sn**	**23 03 29.9**	**+0.4**
	baz=245						
EGFH	**Guangfu**	**0.58**	**238**	*e*P	**Pb**	**23 03 22.8**	**0.0**
EGFH	baz=232			*e*S	**Sn**	**23 03 32.1**	**+1.0**
	baz=232						
EOS1	**EOS1**	**0.58**	**15**	*e*P	**Pn**	**23 03 23.5**	**+0.6**
EOS1	baz=19			*e*S	**Sn**	**23 03 32.8**	**+1.5**
	baz=19						
TWC	**Suao**	**0.63**	**351**	P	**Pb**	**23 03 23.9**	**+0.2**
TWC	baz=353			S	**Sb**	**23 03 32.7**	**+0.3**
	baz=353						
WHF	**Hehuan Shan**	**0.66**	**284**	P	**Pb**	**23 03 24.1**	**-0.2**
WHF	baz=281			S	**Sb**	**23 03 33.1**	**-0.4**
	baz=281						
NNSB	**Datong**	**0.69**	**310**	*e*P	**Pn**	**23 03 24.5**	**0.0**
NNSB	baz=309			*e*S	**Sb**	**23 03 33.6**	**-0.5**
	baz=309						
HGSD	**Ruisui**	**0.69**	**225**	*e*P	**Pn**	**23 03 24.6**	**+0.2**
HGSD	baz=221			*e*S	**Sn**	**23 03 35.3**	**+1.3**
	baz=221						
NNS	**Nan Shan**	**0.70**	**310**	*e*P	**Pn**	**23 03 24.7**	**0.0**
NNS	baz=309			*e*S	**Sb**	**23 03 34.1**	**-0.4**
	baz=309						
NDT	**Datong Townshi**	**0.74**	**327**	*e*P	**Pn**	**23 03 25.3**	**+0.2**
NDT	baz=326			*e*S	**Sb**	**23 03 35.3**	**-0.1**
	baz=326						
ENTT	**Nioudou**	**0.75**	**331**	P	**Pn**	**23 03 25.3**	**+0.1**
ENTT	baz=332			*e*S	**Sb**	**23 03 35.6**	**0.0**
	baz=332						
TWT	**Tachien**	**0.77**	**291**	*e*P	**Pn**	**23 03 26.1**	**+0.5**
TWT	baz=288			*e*S	**Sb**	**23 03 36.2**	**-0.1**
	baz=288						
TDCB	**Techi**	**0.78**	**290**	*e*P	**Pn**	**23 03 26.1**	**+0.4**
TDCB	baz=288			*e*S	**Sn**	**23 03 36.3**	**-0.1**
	baz=288						
TWE	**Neicheng**	**0.78**	**340**	P	**Pn**	**23 03 25.8**	**+0.2**
TWE	baz=342			*e*S	**Sn**	**23 03 36.5**	**+0.3**
	baz=342						
VWDT	**VWDT**	**0.79**	**253**	*e*P	**Pb**	**23 03 26.3**	**+0.1**
VWDT	baz=249			*e*S	**Sn**	**23 03 36.7**	**+0.5**
	baz=249						
SLBB	**Yuanshan**	**0.82**	**339**	*e*P	**Pn**	**23 03 25.4**	**-0.8**
YULB	**Yu-li**	**0.85**	**226**	*e*P	**Pn**	**23 03 26.3**	**-0.2**
YULB	baz=222			*e*S	**Sn**	**23 03 37.6**	**-0.2**
	baz=222						
EGS		**0.86**	**358**	*e*P	**Pb**	**23 03 27.5**	**0.0**
EGS				*e*S	**Sb**	**23 03 38.7**	**0.0**
YHNB	**Yeheng**	**0.87**	**322**	*e*P	**Pn**	**23 03 27.1**	**+0.2**
YHNB	baz=322			*e*S	**Sn**	**23 03 38.1**	**-0.4**
	baz=322						
TWF1	**Yuli**	**0.87**	**224**	*e*P	**Pn**	**23 03 26.8**	**-0.1**
NTC	**Toucheng**	**0.88**	**352**	*e*P	**Pn**	**23 03 27.3**	**+0.4**
	baz=220						
NSK	**Sanguang**	**0.88**	**322**	P	**Pn**	**23 03 27.4**	**+0.3**
NSK	baz=353			S	**Sn**	**23 03 38.4**	**-0.4**
	baz=321						
NWLT	**Wulai**	**0.90**	**332**	*e*P	**Pn**	**23 03 27.4**	**+0.2**
NWLT	baz=332			*e*S	**Sn**	**23 03 38.8**	**-0.3**
	baz=332						
SSLB	**Suanglung**	**0.94**	**258**	*e*P	**Pn**	**23 03 28.2**	**+0.3**
DPDB	**Guoxing**	**0.95**	**273**	*e*P	**Pb**	**23 03 28.8**	**-0.1**
DPDB	baz=255			*e*S	**Sb**	**23 03 41.4**	**+0.1**
	baz=270						
WHP	**Taichung City**	**0.97**	**288**	*e*P	**Pb**	**23 03 30.2**	**+0.8**
WHP	baz=286			*e*S	**Sn**	**23 03 41.6**	**+0.5**
	baz=286						
TIPB	**Shuangxi**	**0.99**	**353**	*e*P	**Pn**	**23 03 29.3**	**+0.7**
JYNG	**Yonagunijimaku**	**1.01**	**62**	P	**Pn**	**23 03 27.9**	**-0.9**
TYC	**Yuchr**	**1.01**	**266**	*e*P	**Pn**	**23 03 29.5**	**+0.7**
	baz=263						
TWB1	**Santiao Chiao**	**1.02**	**1**	*e*P	**Pn**	**23 03 29.0**	**+0.1**
TWB1	baz=3.0			*e*S	**Sn**	**23 03 42.0**	**-0.1**
	baz=3.0						
YUS	**Yu-Shan**	**1.05**	**242**	*e*P	**Pn**	**23 03 30.4**	**+0.6**
YUS	baz=239			*e*S	**Sn**	**23 03 43.2**	**-0.3**
	baz=239						
TWA	**Mucha**	**1.05**	**341**	*e*P	**Pb**	**23 03 30.6**	**-0.1**
TWA	baz=342			*e*S	**Sb**	**23 03 44.1**	**0.0**
	baz=342						
WHYT	**Xinyi Township**	**1.05**	**255**	*e*P	**Pb**	**23 03 30.7**	**0.0**
YOJ	**Yonaguni jima**	**1.07**	**63**	*e*P	**Pn**	**23 03 30.1**	**+0.5**
	baz=65						
YOJ	**Yonaguni jima**	**1.07**	**63**	P	**Pn**	**23 03 30.0**	**+0.5**
YOJ				S	**Sn**	**23 03 43.7**	**+0.4**
LIOB	**Emei**	**1.09**	**308**	*e*P	**Pb**	**23 03 31.5**	**+0.2**
LIOB	baz=306			*e*S	**Sb**	**23 03 45.0**	**-0.2**
	baz=306						
NSTT	**Nanjuang**	**1.09**	**307**	*e*P	**Pb**	**23 03 31.3**	**0.0**
NSTT	baz=305			*e*S	**Sb**	**23 03 44.9**	**-0.4**
	baz=305						
NWF	**Wu-fen Shan**	**1.10**	**351**	*e*P	**Pn**	**23 03 30.8**	**+0.7**
WFSB	**Wu-fen Shan**	**1.10**	**351**	*e*P	**Pb**	**23 03 31.2**	**-0.3**
	baz=352						
WJS	**Zhushan**	**1.14**	**262**	*e*P	**Pb**	**23 03 32.6**	**+0.4**
TWQ1	**Liyutan**	**1.15**	**289**	*e*P	**Pb**	**23 03 32.3**	**+0.1**
TWQ1	baz=287			*e*S	**Sb**	**23 03 46.7**	**-0.1**
	baz=287						
ELDTW	**Lidau**	**1.17**	**228**	*e*P	**Pn**	**23 03 31.1**	**0.0**
WNT	**Mingjian**	**1.17**	**265**	*e*P	**Pb**	**23 03 32.7**	**0.0**
	baz=225						
YM01	**YM01**	**1.21**	**343**	*e*P	**Pn**	**23 03 32.1**	**+0.5**
	baz=262						
TWS1	**Kuangyinshan**	**1.22**	**336**	*e*P	**Pn**	**23 03 32.5**	**+0.8**
YM10	**YM10**	**1.22**	**343**	*e*P	**Pn**	**23 03 32.4**	**+0.6**
	baz=336						
YM05	**YM05**	**1.23**	**343**	*e*P	**Pn**	**23 03 32.0**	**+0.2**
CHN5	**Tsauling**	**1.24**	**252**	*e*P	**Pb**	**23 03 33.4**	**-0.4**
CHN5	baz=249			*e*S	**Sb**	**23 03 50.0**	**+0.5**
	baz=249						
WDLH	**Douliu**	**1.34**	**258**	*e*P	**Pn**	**23 03 34.5**	**+1.3**
STYT	**Tauyuan**	**1.37**	**234**	*e*P	**Pb**	**23 03 35.6**	**-0.5**
	baz=255						
TPUB	**Ta-pu**	**1.40**	**241**	*e*P	**Pn**	**23 03 35.6**	**+1.5**
	baz=231						
CHN4	**Tsaushan**	**1.40**	**244**	*e*P	**Pb**	**23 03 36.4**	**-0.2**
TWG	**Pinlang**	**1.42**	**215**	*e*P	**Pn**	**23 03 34.1**	**-0.3**
	baz=239						
WTP	**Ta-pu**	**1.44**	**240**	*e*P	**Pb**	**23 03 36.4**	**-0.8**
	baz=213						
TWK	**Hsinying**	**1.53**	**242**	*e*P	**Pb**	**23 03 38.1**	**-0.6**
CHN1	**Nanshi**	**1.54**	**239**	*e*P	**Pb**	**23 03 38.0**	**-0.8**
	baz=237						
CHN1				*e*S	**Sb**	**23 03 57.6**	**-0.4**
	baz=237						
SGST	**Jiashian**	**1.55**	**235**	*e*P	**Pn**	**23 03 37.5**	**+1.2**
SGST	baz=232			*e*S	**Sn**	**23 03 57.1**	**+1.9**
	baz=232						
SLGT	**Liugui**	**1.56**	**231**	*e*P	**Pb**	**23 03 38.3**	**-0.9**
	baz=229						
IRIF	**Iriomote-Funau**	**1.65**	**77**	P	**Pn**	**23 03 38.3**	**+0.7**
IRIF				*e*S	**Sn**	**23 03 58.3**	**+0.6**
HATJ	**Hateruma jima**	**1.69**	**87**	*e*S	**Sn**	**23 03 59.5**	**+1.0**
MASBT	**Mashibuluo**	**1.83**	**222**	*e*P	**Pb**	**23 03 42.7**	**-1.1**
	baz=220						
JKRS	**Kuro-shima**	**1.89**	**82**	P	**Pn**	**23 03 42.1**	**+1.3**
JKRS				*e*S	**Sn**	**23 04 05.2**	**+1.7**
JIJ	**Ishigaki jima**	**2.03**	**79**	P	**Pn**	**23 03 43.2**	**+0.4**
JIJ				*e*S	**Sn**	**23 04 06.8**	**-0.2**
JISG	**Ishigakijimahi**	**2.23**	**74**	P	**Pn**	**23 03 45.7**	**+0.2**
JISG				*e*S	**Sn**	**23 04 11.5**	**-0.4**

IDC 26 23:20:39.3±2.1, **0.°07S**×**126.°76E**, **h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/31, **mbtmp3.2**/3, **Error ellipse: s-maj=193.6km s-min=25.3km az=66.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.10**	**160**	P	P	23 25 27.4	+1.9
	0.4nm,0.6s,baz=339,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**24.46**	**164**	P	P	23 25 58.8	-1.4
	0.2nm,0.5s,baz=350,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**60.70**	**327**	P	P	23 30 52.6	+0.1
	0.2nm,0.4s,baz=117,slow=7.6,SNR=8.7						

*IDC **26** 23:36:18.7±2.7, 36.°26N×70.°24E, h192km±27km, mb3.2/9, mb1 3.3/15, mb1mx3.1/52, mbtmp3.8/15, MS3.5/3, Ms1 3.5/3, ms1mx2.7/25, Error ellipse: s-maj=21.0km s-min=14.2km az=22.0*
*ISCJB **26** 23:36:19.8±0.2, 36.°48N±0.°02×70.°24E±0.°03, h204km, mb3.8/11, Error ellipse: s-maj=4.0km s-min=2.9km az=152.6*
*BJI **26** 23:36:19.6±0.0, 36.°38N×70.°28E, h213km, mb4.1/12, mB4.6/7*
*NEIC **26** 23:36:21.0±2.2, 36.°48N±0.°04×70.°26E±0.°10, h208km±9km, mb4.1/6*
*NNC **26** 23:36:22.8±3.3, 36.°86N×70.°07E, h153km±61km, mb3.3, mpv4.0, Error ellipse: s-maj=34.4km s-min=15.6km az=161.0*
ISC 26 23:36:20.1±0.5, **36.°48N**±0.°05×**70.°28E**±0.°04, **h204**km, **n88**, σ1§**87**/97, **mb3.8**/12, **11C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.19**	**208**		**Pn**	**23 37 02.2**	**+1.1**
KBL					**S**	**23 37 33.6**	**+1.2**
CHGR	**Chuyangaron**	**2.35**	**338**		**Pn**	**23 37 03.6**	**+1.0**
CHGR					**S**	**23 37 34.4**	**-0.9**
GAR	**Garm**	**2.51**	**1**		**Pn**	**23 37 05.8**	**+1.4**
GAR					**S**	**23 37 39.0**	**+0.3**
CEP	**Cherat**	**2.97**	**153**	P	**Pn**	**23 37 11.5**	**+1.8**
CEP				S	**S**	**23 37 49.0**	**+1.1**
BTK	**Batken**	**3.59**	**7**		**Pn**	**23 37 19.0**	**+2.0**
CHCP	**Chirah Chowk**	**3.73**	**138**	P	**Pn**	**23 37 20.4**	**+1.7**
NIL	**Nilore**	**3.73**	**138**		**Pn**	**23 37 20.6**	**+1.9**
THW	**Thamme Wali**	**3.87**	**161**	P	**Pn**	**23 37 21.6**	**+1.1**
TAS	**Tashkent**	**4.90**	**351**		**Pn**	**23 37 34.4**	**+1.1**
TAS					**S**	**23 38 31.4**	**+0.8**
SARP	**Sargodha**	**4.96**	**156**	P	**Pn**	**23 37 35.2**	**+1.1**
ARSB	**Arslanbob**	**5.27**	**23**		**Pn**	**23 37 38.5**	**+0.4**
JMU	**Jammu**	**5.35**	**133**	*e*S	**S**	**23 38 38.0**	**-3.0**
KSH	**Kashi**	**5.42**	**54**	P	**Pn**	**23 37 36.5**	**-3.5**
KSH				S	S	23 38 33.0	-10
KSH				smax	smax		
	comp=N,69nm,0.3s						
KSH				smax	smax		
	comp=E,52nm,0.6s						
AML	**Almayashu**	**6.23**	**24**	P	**Pn**	**23 37 51.2**	**+0.6**
	SNR=80						
DHRM	**DHARAMSHALA**	**6.53**	**129**	*e*P	**Pn**	**23 37 54.5**	**0.0**
DHRM				*e*S	**S**	**23 39 06.6**	**-2.4**
UCH	**Uchtor**	**6.61**	**28**	P	**Pn**	**23 37 56.4**	**+0.9**
	SNR=34						
KK31	**Karatay Array**	**6.62**	**1**	⇓P	**Pn**	**23 37 55.7**	**+0.4**
	5.1nm,0.4s,baz=195,slow=15,SNR=96						
KK31				⇑S	**S**	**23 39 03.6**	**-7.0**
	7.2nm,0.5s,baz=197,slow=27,SNR=6.1						
KK31	**Karatay Array**	**6.62**	**1**		**Pn**	**23 37 55.9**	**+0.7**
KKAR	**Karatay Array**	**6.62**	**1**		**Pn**	**23 37 55.5**	**+0.3**
NRN	**Naryn**	**6.65**	**40**		**Pn**	**23 37 56.3**	**+0.2**
EKS2	**Erkin-Say**	**6.74**	**23**	P	**Pn**	**23 37 58.0**	**+1.1**
	SNR=9.3						
KZA	**Kyzart**	**6.79**	**33**	P	**Pn**	**23 37 58.5**	**+0.7**
	SNR=18						
HRA	**Herat**	**6.88**	**255**		**Pn**	**23 37 59.1**	**+0.1**
AAK	**Ala-Archa**	**6.95**	**27**	⇓P	**Pn**	**23 38 00.8**	**+1.0**
	3.8nm,0.5s						
AAK				⇓S	**S**	**23 39 11.1**	**-7.8**
	32nm,0.6s						
AAK	**Ala-Archa**	**6.95**	**27**	P	**Pn**	**23 38 00.5**	**+0.7**
	2.5nm,0.3s,baz=169,slow=3.2,SNR=31						
AAK				S	**S**	**23 39 16.7**	**-2.1**
	2.4nm,0.3s,baz=209,slow=17,SNR=5.5						
AAK	**Ala-Archa**	**6.95**	**27**	P	**Pn**	**23 38 01.4**	**+1.6**
	SNR=9.3						
AAK	**Ala-Archa**	**6.95**	**27**		**Pn**	**23 38 00.9**	**+1.2**
KBK	**Karagaybulak**	**7.14**	**29**	P	**Pn**	**23 38 03.6**	**+1.4**
	SNR=13						
CHMS	**Chumysh**	**7.36**	**27**	P	**Pn**	**23 38 07.2**	**+2.3**
	SNR=5.6						
ULHL	**Ulahol**	**7.38**	**37**	P	**Pn**	**23 38 05.8**	**+0.5**
	SNR=15						
USP	**Ospenovka**	**7.51**	**24**	P	**Pn**	**23 38 07.3**	**+0.5**
	SNR=13						
TKM2	**Tokmak 2**	**7.62**	**31**	⇑P	**Pn**	**23 38 09.4**	**+0.9**
	7.2nm,0.5s						
TKM2				⇑S	**S**	**23 39 31.6**	**-3.1**
	19nm,0.9s						
TKM2	**Tokmak 2**	**7.62**	**31**	P	**Pn**	**23 38 09.3**	**+0.9**
	SNR=11						
SMLA	**Simla**	**7.83**	**131**	*e*P	**Pn**	**23 38 11.2**	**+0.1**
SMLA				*e*S	**S**	**23 39 34.7**	**-4.8**
SMLA				IAML		23 39 38.3	
	comp=E,104nm,0.6s						
SMLA				IAML		23 39 38.9	
	comp=N,100nm,0.3s						
TARG	**Taragay, Kyrgy**	**7.85**	**46**		**Pn**	**23 38 11.9**	**+0.3**
PRZ	**Przheval'sk**	**8.68**	**44**		**Pn**	**23 38 23.6**	**+1.5**
JOSI	**Joshimath**	**9.74**	**125**	*e*P	**Pn**	**23 38 35.8**	**-0.3**
JOSI				*e*S	S	23 40 16.3	-9.0
JOSI				IAML		23 40 24.6	
	comp=N,69nm,0.6s						
JOSI				IAML		23 40 27.2	
	comp=E,96nm,0.6s						
GEYT	**Alibeck**	**9.81**	**282**	P	**Pn**	**23 38 35.7**	**-1.1**
	comp=E,1.3nm,0.3s,baz=106,slow=11,SNR=3.6						
GEYT				S	**S**	**23 40 23.7**	**-3.0**
	comp=E,1.1nm,0.3s,baz=105,slow=23,SNR=1.9						
GYA0B	**ALIBECK ARRAY**	**9.81**	**282**	⇑P	**Pn**	**23 38 35.4**	**-1.4**
GYA0B				⇑S	**S**	**23 40 22.7**	**-4.0**
GYA0B	**ALIBECK ARRAY**	**9.81**	**282**		**Pn**	**23 38 35.7**	**-1.1**
KUDL	**Kundal**	**9.83**	**146**	⇑*i*P	**Pn**	**23 38 34.0**	**-3.0**
KUDL				*e*S	S	23 40 16.5	-11
PDGK	**Podgornoye**	**9.83**	**43**	⇓P	**Pn**	**23 38 37.7**	**+0.6**
	comp=E,1.4nm,0.5s						
PDGK				⇑S	**S**	**23 40 26.4**	**-0.8**
	comp=E,2.3nm,0.7s						
MK31	**Makanchi Array**	**13.65**	**37**	⇓P	**Pn**	**23 39 26.1**	**+0.7**
	comp=E,1.4nm,0.5s,baz=213,slow=15,SNR=23						
MK31	**Makanchi Array**	**13.65**	**37**		**P**	**23 39 28.5**	**+0.9**
MKAR	**Makanchi Array**	**13.65**	**37**	P	**Pn**	**23 39 25.7**	**+0.4**
	comp=E,0.4nm,0.3s,baz=223,slow=14,SNR=13						
MKAR	**Makanchi Array**	**13.65**	**37**	P	**P**	**23 39 28.1**	**+0.5**
DANN	**Dangsing**	**13.97**	**122**	*e*P	**Pn**	**23 39 29.7**	**-0.1**
	comp=E,15nm,0.2s						
KOLN	**Koldanda**	**14.23**	**124**	*e*P	**Pn**	**23 39 32.7**	**-0.2**
	comp=E,5.9nm,0.2s						
GKN	**Gorkha**	**14.79**	**121**	*e*P	**Pn**	**23 39 40.6**	**+0.9**
	comp=E,28nm,0.2s						
AB31	**Akbulak array**	**14.83**	**333**	⇑P	**Pn**	**23 39 39.2**	**-0.5**
	comp=E,1.6nm,0.3s,baz=157,slow=11,SNR=105						
AB31				⇓S	**S**	**23 42 23.6**	**-0.5**
	comp=E,0.5nm,0.4s,baz=156,slow=23,SNR=2.7						
ABKAR	**Akbulak array**	**14.83**	**333**	P	**Pn**	**23 39 39.2**	**-0.6**
WMQ	**Urumqi**	**15.18**	**56**	*e*P	**P**	**23 39 47.5**	**+2.8**
WMQ				sP	sP	23 40 41.0	-4.3
WMQ				pmax	pmax		
	comp=E,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=E,78nm,3.9s						
KURBB	**Kurchatov Arra**	**15.33**	**20**	P	**P**	**23 39 47.7**	**+1.6**
	comp=E,0.1nm,0.3s,baz=209,slow=10,SNR=5.3						
DMN	**Daman**	**15.36**	**121**	*e*P	**P**	**23 39 47.8**	**+0.9**
	comp=E,6.5nm,0.2s						
KKN	**Kakani**	**15.37**	**120**	*e*P	**P**	**23 39 48.0**	**+1.0**
	comp=E,18nm,0.4s						
KURK	**Kurchatov**	**15.44**	**20**	P	**Pn**	**23 39 47.7**	**+0.5**
KURK	**Kurchatov**	**15.44**	**20**	IAmb	IAmb	23 39 52.3	
	comp=Z,3.1nm,1.1s						
PKIN	**Phulchoki**	**15.58**	**120**	*e*P	**Pn**	**23 39 50.4**	**+1.0**
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**15.59**	**120**	*e*P	**Pn**	**23 39 50.3**	**+0.7**
	comp=Z,38nm,0.6s						
GUN	**Gumba**	**15.71**	**119**	*e*P	**Pn**	**23 39 52.4**	**+1.3**
	comp=Z,16nm,0.3s						
JIRN	**Jiri**	**16.08**	**119**	*e*P	**Pn**	**23 39 56.4**	**+0.8**
	comp=Z,42nm,0.3s						
AKTO	**Aktyubinsk**	**16.51**	**331**	⇑P	**Pn**	**23 40 00.5**	**+0.3**
	comp=Z,6.2nm,0.8s						
AKTO				⇑S	**S**	**23 42 58.9**	**-2.5**
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**16.51**	**331**	P	**Pn**	**23 40 00.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=12						
BVAR	**Borovoye Array**	**16.54**	**0**	P	**Pn**	**23 40 01.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=174,slow=13,SNR=4.7						
RAMN	**Ramite**	**16.81**	**120**	*e*P	**Pn**	**23 40 04.3**	**+0.2**
	comp=Z,22nm,0.5s						
TAPN	**Taplejung**	**17.35**	**117**	*e*P	**Pn**	**23 40 11.5**	**+0.9**
	comp=Z,8.8nm,0.3s						
ODAN	**Odare**	**17.42**	**119**	*e*P	**Pn**	**23 40 11.9**	**+0.6**
	comp=Z,23nm,0.6s						
ZALV	**Zalesovo Beam**	**20.18**	**25**	P	**P**	**23 40 39.7**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=218,slow=10,SNR=12						
GNI	**Garni**	**20.35**	**288**	P	Pn	23 40 44.3	-1.7
	comp=Z,9.9nm,0.8s,baz=13,slow=2.9,SNR=6.2						
GNI	**Garni**	**20.35**	**288**	IAmb	IAmb	23 40 45.4	
	comp=Z,11nm,0.8s						
SHL	**Shillong**	**21.43**	**114**	P	**P**	**23 40 52.8**	**+0.3**
SHL				IAmb	IAmb	23 40

comp=Z,52nm,19.0s,baz=112,slow=38
MA2 Magadan 54.73 38 LR LR 00 11 24.6
comp=Z,40nm,18.7s,baz=134,slow=38
TORD Torodi Ar. Bea 65.14 268 P **P** **23 46 38.6 -0.8**
comp=Z,0.5nm,0.5s,baz=46,slow=6.0,SNR=9.0
WRA Warramunga Arr 82.47 121 P **P** **23 48 18.6 -1.3**
comp=Z,1.2nm,0.9s,baz=326,slow=4.8,SNR=9.4
WRA Warramunga Arr 82.47 121 IAmb IAmb 23 48 23.1
comp=Z,0.1nm,1.1s

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*NIED **27** 00:06:00,38°.90N×142°.00E,h50km,Mw3.9 Best double couple: M0 7.78000×10^14 NP1:φ=204.00000°,δ17.00000°, λ91.00000°. NP2:φ=23.00000°,δ73.00000°,λ90.00000°.*
*BJI **27** 00:06:51.5±0.0,38°.77N×143°.05E,h49km,mb4.3/17, mB4.8/9,Ms4.4/1*
*ISCJB **27** 00:06:57.7±0.5,38°.92N±0°.03×142°.12E±0°.05,h53km±3km, mb4.2/22,MS3.0/3,Error ellipse: s-maj=8.0km s-min=3.9km az=31.5*
*MOS **27** 00:06:58.2±0.7,38°.88N×142°.22E,h66km,mb4.6/5,Error ellipse: s-maj=11.0km s-min=8.1km az=86.7*
*NEIC **27** 00:06:59.2±1.1,38°.87N±0°.07×142°.2E±0°.2,h55km±8km, mb4.4/11*
*JMA **27** 00:06:59.7±0.1,38°.89N×141°.97E,h49km±1km,M3.9*
JMA Felt II J1.
*IDC **27** 00:07:00.3±1.9,38°.90N×142°.12E,h63km±16km,mb3.7/13, mb1 3.8/18,mb1mx3.6/80,mbtmp4.0/18,MS2.9/6, Ms1 2.9/6,ms1mx2.6/39,Error ellipse: s-maj=22.3km s-min=12.1km az=96.0*
ISC 27 00:06:58.6±1.0,38°.84N±0°.05×142°.20E±0°.06,h49km±9km, n78,σ1°60/88,mb4.2/23,MS2.9/3,9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.48**	**300**	⇓P	**Pn**	**00 07 08.9**	**-0.7**
OFUJ				S	**Sn**	**00 07 15.3**	**-2.1**
JKMT	**Kesennumamotoy**	**0.57**	**267**	⇓P	**Pn**	**00 07 09.7**	**-1.0**
JKMT				S	**Sn**	**00 07 16.5**	**-2.8**
JIO	**Ouri**	**0.77**	**240**	⇓P	**Pn**	**00 07 12.6**	**-0.7**
JIO				*i* S	**Sn**	**00 07 21.3**	**-2.6**
JMK	**Ichinoseki**	**0.78**	**278**	⇓P	**Pn**	**00 07 12.1**	**-1.2**
JMK				S	**Sn**	**00 07 20.8**	**-3.2**
JOM	**Ohasama**	**0.95**	**312**	⇓P	**Pn**	**00 07 14.7**	**-0.9**
JOM				S	**Sn**	**00 07 25.5**	**-2.6**
JOU	**Okura**	**1.30**	**249**	⇓P	**Pn**	**00 07 19.3**	**-1.1**
JOU				S	**Sn**	**00 07 34.0**	**-2.6**
JRG	**Rokugo**	**1.34**	**295**	⇓P	**Pn**	**00 07 19.6**	**-1.4**
JRG				*e*S	**Sn**	**00 07 33.8**	**-3.9**
JYK	**Kaneyama**	**1.44**	**274**	⇓P	**Pn**	**00 07 21.0**	**-1.3**
JYK				*e*S	**Sn**	**00 07 37.0**	**-3.1**
JMM	**Marumori**	**1.48**	**229**	⇓P	**Pn**	**00 07 22.0**	**-0.8**
JMM				S	**Sn**	**00 07 38.4**	**-2.5**
JANG	**Nango**	**1.62**	**341**	P	**Pn**	**00 07 24.4**	**-0.4**
JANG				*e*S	**Sn**	**00 07 43.8**	**-0.7**
MAJO	**Matsushiro**	**3.91**	**235**	P	**Pn**	**00 07 58.0**	**+1.8**
MAJO	**Matsushiro**	**3.91**	**235**		**Pn**	**00 07 58.0**	**+1.8**
MJAR	**Matsushiro Arr**	**3.91**	**235**	P	**Pn**	**00 07 58.0**	**+1.8**
MJAR	**Matsushiro Arr**	**3.91**	**235**	P	**Pn**	**00 07 57.4**	**+1.2**
	0.9nm,0.3s,baz=39,slow=14,SNR=26						
MJAR	**Matsushiro Arr**	**3.91**	**235**		**Pn**	**00 07 58.0**	**+1.8**
MAT	**Matsushiro**	**3.91**	**235**	P	**Pn**	**00 07 57.4**	**+1.2**
MAT				*e*S	**Sn**	**00 08 44.6**	**+3.7**
MJB9	**Matsu-Tunnel**	**3.91**	**235**		**Pn**	**00 07 58.2**	**+2.0**
NMR	**Nemuro--Hokkai**	**5.25**	**29**	*e*P	**Pn**	**00 08 14.8**	**+0.3**
NMR				*i* S	**Sn**	**00 09 10.2**	**-3.4**
ASAJ	**Asahikawa**	**5.28**	**3**	P	**Pn**	**00 08 16.0**	**+1.1**
	2.2nm,0.3s,baz=180,slow=13,SNR=4.0						
ASAJ				S	**Sn**	**00 09 14.1**	**-0.4**
	0.9nm,0.3s,baz=240,slow=20,SNR=2.2						
JKA	**Kamikawa-asahi**	**5.28**	**3**		**Pn**	**00 08 16.0**	**+1.1**
JKA					**Sn**	**00 09 14.1**	**-0.3**
INU	**Inuyama**	**5.42**	**232**	Pn	**Pn**	**00 08 19.0**	**+2.2**
GLVR	**Golovnino**	**5.49**	**26**	P	**Pn**	**00 08 19.4**	**+1.6**
GLVR				*i* S	**Sn**	**00 09 19.0**	**-0.6**
GLVR				pmax	pmax		
	comp=Z,139nm,0.2s						
GLVR				pmax	pmax		
	comp=N,88nm,0.1s						
GLVR				smax	smax		
	comp=N,271nm,0.2s						
GLVR				smax	smax		
	comp=E,249nm,0.2s						
GRPR	**Tuman**	**5.80**	**26**	*e*P	**Pn**	**00 08 22.4**	**+0.3**
GRPR				*i* S	**Sn**	**00 09 24.8**	**-2.5**
GRPR				pmax	pmax		
	comp=E,59nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,45nm,0.3s						
GRPR				pmax	pmax		
	comp=N,81nm,0.2s						
GRPR				smax	smax		
	comp=N,214nm,0.2s						
GRPR				smax	smax		
	comp=E,213nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.87**	**27**	P	**Pn**	**00 08 23.9**	**+0.9**
YUK				S	**Sn**	**00 09 27.3**	**-1.6**
YUK				pmax	pmax		
	comp=Z,132nm,0.2s						
YUK				pmax	pmax		
	comp=E,108nm,0.1s						
YUK				pmax	pmax		
	comp=N,81nm,0.2s						
YUK				smax	smax		
	comp=N,196nm,0.3s						
YUK				smax	smax		
	comp=E,156nm,0.4s						
JHJ	**Hachijo jima 2**	**6.04**	**200**	P	**Pn**	**00 08 27.5**	**+2.2**
	comp=E,16nm,0.3s,baz=30,slow=16,SNR=3.3						
JHJ				S	**Sn**	**00 09 30.1**	**-3.1**
	comp=E,8.1nm,0.3s,baz=38,slow=19,SNR=2.9						
USRK	**Ussuriysk Ar.**	**9.34**	**308**	P	**Pn**	**00 09 12.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.34**	**308**	P	**Pn**	**00 09 12.5**	**+1.9**
	baz=128,slow=13,SNR=11						
USRK	**Ussuriysk Ar.**	**9.34**	**308**	Pn	**Pn**	**00 09 12.7**	**+2.1**
JNU	**Nakatsue**	**10.80**	**242**	LR	LR	00 13 55.8	
	comp=E,35nm,21.8s,baz=358,slow=39						
KSRS	**Korea Array**	**11.33**	**267**	P	**Pn**	**00 09 40.5**	**+2.7**
	comp=E,0.3nm,0.3s,baz=77,slow=13,SNR=3.5						
KSRS				LR	LR	00 13 23.0	
	comp=E,40nm,21.3s,baz=65,slow=34						
KLR	**Kul'dur**	**12.81**	**328**	LR	LR	00 14 38.1	
	comp=E,55nm,18.8s,baz=142,slow=36						
HHC	**Hu-ho-hao-te**	**23.55**	**285**	*e*P	**P**	**00 12 04.0**	**-0.7**
SONM	**Songino Array**	**27.34**	**301**	P	**P**	**00 12 38.3**	**-0.7**
	comp=E,0.5nm,0.3s,baz=90,slow=8.8,SNR=4.0						
SONM				LR	LR	00 23 07.4	
	comp=E,34nm,18.9s,baz=216,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.60**	**125**	T	T	00 43 13.5	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	00 43 16.3	
	baz=317,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	00 43 15.5	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.38**	**127**	T	T	00 44 14.1	
	baz=318,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.38**	**127**	T	T	00 44 14.6	
	baz=318,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	00 44 11.7	
	baz=318,slow=76						
TLY	**Talaya**	**29.66**	**308**	LR	LR	00 24 59.4	
	comp=E,25nm,21.0s,baz=68,slow=36						
LZH	**Lanzhou**	**30.43**	**277**	*e*P	**P**	**00 13 06.8**	**+0.2**
LZH				pP	sP	00 13 23.3	-1.7
LZH				sP	pP	00 13 31.0	+12
LZH				PP	**PnPn**	**00 14 08.5**	**+2.0**
LZH				pmax	pmax		
	comp=E,15nm,1.1s						
CD2	**Chengdu**	**32.33**	**268**	P	**P**	**00 13 22.3**	**-1.0**
CD2				pmax	pmax		
	comp=E,10.0nm,0.5s						
GTA	**Gaotai**	**32.67**	**285**	*e*P	**P**	**00 13 25.5**	**-0.7**
GTA				pP	pP	00 13 37.5	-1.4
GTA				sP	sP	00 13 42.3	-2.4
GTA				pmax	pmax		
	comp=E,2.0nm,1.0s						
WMQ	**Urumqi**	**40.61**	**295**	*e*P	**P**	**00 14 35.3**	**+1.6**
WMQ				pP	pP	00 14 48.5	+1.9
WMQ	**Urumqi**	**40.61**	**295**	P	**P**	**00 14 33.8**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WMQ	**Urumqi**	**40.61**	**295**	P	**P**	**00 14 33.8**	**+0.1**

ZAA0	**Zalesovo Array**	**41.18**	**311**	P	**P**	**00 14 37.7**	**-0.4**
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**00 14 37.7**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=88,slow=7.9,SNR=12						
ZALV				PcP	**PcP**	**00 16 36.4**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=79,slow=2.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**00 14 37.2**	**-0.9**
MK31	**Makanchi Array**	**43.71**	**301**	P	**P**	**00 14 57.9**	**-0.9**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MK31	**Makanchi Array**	**43.71**	**301**	P	**P**	**00 14 57.9**	**-0.9**
MKAR	**Makanchi Array**	**43.71**	**301**	P	**P**	**00 14 58.3**	**-0.5**
MKAR	**Makanchi Array**	**43.71**	**301**	P	**P**	**00 14 58.2**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=85,slow=9.5,SNR=16						
KURK	**Kurchatov**	**45.33**	**307**	P	**P**	**00 15 11.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**45.33**	**307**	P	**P**	**00 15 11.2**	**-0.4**
KURK				IAmb	IAmb	00 15 11.7	
	comp=Z,7.0nm,0.9s						
ILAR	**Eielson Array**	**47.64**	**33**	P	**P**	**00 15 30.8**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=269,slow=5.8,SNR=8.2						
BVAR	**Borovoye Array**	**49.84**	**311**	P	**P**	**00 15 46.1**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=70,slow=8.7,SNR=18						
BVAR				PcP	**PcP**	**00 17 06.6**	**0.0**
	comp=Z,0.6nm,0.4s,baz=100,slow=4.7,SNR=4.4						
BRVK	**Borovoye**	**49.89**	**311**	P	**P**	**00 15 46.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRVK	**Borovoye**	**49.89**	**311**	P	**P**	**00 15 46.0**	**-0.9**
BRVK				IAmb	IAmb	00 15 48.1	
	comp=Z,6.6nm,1.2s						
KSH	**Kashi**	**50.26**	**293**	*e*P	**P**	**00 15 53.5**	**+3.4**
KK31	**Karatay Array**	**52.78**	**299**	P	**P**	**00 16 08.3**	**-0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KK31	**Karatay Array**	**52.78**	**299**	P	**P**	**00 16 08.3**	**-0.4**
KK31				IAmb	IAmb	00 16 08.8	
	comp=Z,2.4nm,0.9s						
KKAR	**Karatay Array**	**52.78**	**299**	P	**P**	**00 16 08.0**	**-0.8**
KKAR	**Karatay Array**	**52.78**	**299**	P	**P**	**00 16 08.0**	**-0.8**
NIL	**Nilore**	**54.66**	**287**	P	**P**	**00 16 22.4**	**-0.3**
NIL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NIL	**Nilore**	**54.66**	**287**	P	**P**	**00 16 22.4**	**-0.3**
ARU	**Arti**	**55.43**	**318**	P	**P**	**00 16 27.0**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=354,slow=5.0,SNR=10.0						
ARU	**Arti**	**55.43**	**318**	IAmb	IAmb	00 16 28.0	
	comp=Z,4.5nm,0.6s						
ABKAR	**Akbulak array**	**57.26**	**309**	P	**P**	**00 16 40.0**	**-1.0**
ABKAR				IAmb	IAmb	00 16 41.1	
	comp=Z,2.7nm,0.7s						
AKTO	**Aktyubinsk**	**57.94**	**311**	P	**P**	**00 16 45.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=75,slow=10,SNR=6.8						
WRA	**Warramunga Arr**	**58.94**	**189**	P	**P**	**00 16 53.0**	**+0.1**
WRA	**Warramunga Arr**	**58.94**	**189**	P	**P**	**00 16 53.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=5.1,slow=6.9,SNR=21						
ASAR	**Alice Springs**	**62.66**	**189**	P	**P**	**00 17 18.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=4.2,slow=5.5,SNR=5.9						
FINES	**FINESS Array B**	**67.51**	**332**	P	**P**	**00 17 48.6**	**-0.7**
	comp=Z,6.9nm,1.1s,baz=171,slow=5.0,SNR=6.6						
HFS	**Hagfors**	**72.70**	**336**	P	**P**	**00 18 20.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=71,slow=9.6,SNR=5.8						
BRTR	**Keskin Array B**	**78.12**	**312**	P	**P**	**00 18 52.3**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=104,slow=4.1,SNR=5.9						
MMAI	**Mount Meron Ar**	**81.43**	**306**	LR	LR	00 59 05.2	
	comp=Z,11nm,18.3s,baz=195,slow=38						
GERES	**GERESS Array B**	**81.50**	**328**	P	**P**	**00 19 10.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=350,slow=5.0,SNR=2.3						

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*ISCJB **27** 00:12:41.7±1.3,18°.7S±0°.6×177°.8W±0°.3,h570km,mb3.5/9, Error ellipse: s-maj=86.1km s-min=14.2km az=151.3*
*IDC **27** 00:12:44.4±3.6,18°.93S×177°.74W,h594km±41km,mb3.1/9, mb1 3.4/10,mb1mx3.1/49,mbtmp4.1/10,Error ellipse: s-maj=72.5km s-min=16.9km az=151.0*
ISC 27 00:12:42.2±1.4,18°.8S±0°.6×177°.7W±0°.3,h570km,n15, σ0°82/17,mb3.5/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.19**	**255**	P	**P**	**00 15 54.7**	**+1.5**
	0.7nm,0.3s,baz=146,slow=21,SNR=8.1						
STKA	**Stephens Creek**	**38.78**	**242**	P	**P**	**00 19 18.7**	**-0.1**
	1.8nm,0.5s,baz=74,slow=7.5,SNR=7.5						
WRA	**Warramunga Arr**	**45.12**	**260**	P	**P**	**00 20 08.6**	**-0.2**
	2.0nm,0.5s,baz=98,slow=7.9,SNR=50						
WRA				PcP	**PcP**	**00 21 36.6**	**-0.5**
	0.1nm,0.3s,baz=96,slow=6.3,SNR=3.2						
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**00 20 09.2**	**-0.1**
	2.2nm,0.4s,baz=87,slow=8.4,SNR=37						
ASAR				PcP	**PcP**	**00 21 36.8**	**-0.5**
	0.3nm,0.4s,baz=101,slow=4.8,SNR=2.8						
FITZ	**Fitzroy Crossi**	**53.53**	**261**	P	**P**	**00 21 11.1**	**+0.4**
	3.2nm,0.8s,baz=126,slow=3.4,SNR=7.9						
YBH	**Yreka Blue Hor**	**78.82**	**39**	P	**P**	**00 23 47.9**	**+1.1**
	1.0nm,0.5s,baz=222,slow=2.0,SNR=3.9						
NVAR	**Mina Array Bea**	**79.63**	**43**	P	**P**	**00 23 51.8**	**+0.4**
	0.4nm,0.5s,baz=229,slow=8.2,SNR=3.3						
TXAR	**Lajitas Array**	**85.93**	**57**	P	**P**	**00 24 23.8**	**+0.8**
	0.5nm,0.6s,baz=223,slow=6.6,SNR=6.2						
ILAR	**Eielson Array**	**86.62**	**13**	P	**P**	**00 24 25.1**	**-0.1**
	0.4nm,0.6s,baz=233,slow=5.2,SNR=9.6						
PDAR	**Pinedale Array**	**87.56**	**43**	P	**P**	**00 24 30.0**	**-0.5**
	0.4nm,0.4s,baz=248,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**110.23**	**314**	PKiKP	**PKiKP**	**00 30 08.0**	**-1.9**
	0.2nm,0.4s,baz=270,slow=0.9,SNR=4.6						
BVAR	**Borovoye Array**	**117.96**	**321**	PKP	**PKPdf**	**00 30 23.7**	**-0.7**
	0.5nm,0.3s,baz=112,slow=2.5,SNR=6.0						
ARCES	**ARCESS Array B**	**127.32**	**350**	PKP	**PKPdf**	**00 30 41.7**	**-0.3**
	2.5nm,0.9s,baz=9.5,slow=1.1,SNR=8.4						
BRTR	**Keskin Array B**	**145.88**	**314**	PKPbc	**PKPbc**	**00 31 18.8**	**-0.1**
	0.4nm,0.4s,baz=122,slow=2.9,SNR=3.2						
GERES	**GERESS Array B**	**148.65**	**345**	PKPbc	**PKPbc**	**00 31 25.9**	**+0.1**
	1.1nm,0.7s,baz=45,slow=2.3,SNR=6.4						

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*IDC **27** 00:14:32.0±2.2,4°.11N×95°.60E,h0km,mb3.6/5,mb1 3.8/7, mb1mx3.5/60,mbtmp3.6/7,ML3.9/2,MS2.7/4,Ms1 2.8/4, ms1mx2.5/34,Error ellipse: s-maj=87.2km s-min=18.7km az=55.0*
*NEIC **27** 00:14:37.9±1.5,4°.3N±0°.1×95°.9E±0°.2,h33km±11km, mb4.0/3*
*DJA **27** 00:14:38.2±0.4,5°N±3°×9°6E±°,h10km,M4.0/8,MLv4.0/8*
ISC 27 00:14:37.3±0.8,4°.54N±0°.05×96°.36E±0°.06,h10km,n25, σ2°08/23,mb3.9/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.28**	**171**	P	**Pg**	**00 14 42.9**	**0.0**
LHMI	**Lhok Sumawe**	**0.90**	**41**	P	**Pb**	**00 14 54.8**	**-0.2**
LHMI				S	**Sb**	**00 15 07.0**	**0.0**
BSI	**Banda Aceh**	**1.42**	**312**	P	**Pn**	**00 15 04.2**	**+0.9**
SNSI	**Sinabang, Aceh**	**2.12**	**181**	P	**Pn**	**00 15 15.2**	**+2.4**
PSI	**Prapat**	**3.09**	**124**	Pn	**Pn**	**00 15 29.4**	**+3.1**
	5.1nm,0.3s,baz=320,slow=15,SNR=19						
PSI				Sn	**Sb**	**00 16 09.0**	**-1.2**
	6.8nm,0.3s,baz=116,slow=20,SNR=4.5						
RPSI	**Rantau Prapat**	**3.15**	**126**		**Pn**	**00 15 28.8**	**+1.8**
RPSI	**Rantau Prapat**	**3.15**	**126**		**Pn**	**00 15 29.4**	**+2.4**
RPSI					**Sb**	**00 16 09.0**	**-2.8**
GSI	**Gunungsitoli**	**3.44**	**159**	P	**Pn**	**00 15 32.6**	**+1.6**
KULM	**Kulim**	**4.34**	**80**	Pn	**Pn**	**00 15 44.0**	**+0.7**
IPM	**Ipoh**	**4.65**	**91**	Pn	**Pn**	**00 15 48.6**	**+0.9**
CM31	**Chiang Mai Arr**	**14.06**	**10**	Pn	**Pn**	**00 17 60.0**	**+3.3**
CMAR	**Chiang Mai Arr**	**14.06**	**10**	Pn	**Pn**	**00 18 00.5**	**+3.8**
	0.3nm,0.3s,baz=202,slow=12,SNR=5.2						
CMAR				LR	LR	00 23 05.7	
	comp=Z,28nm,21.6s,baz=186,slow=35						
PALK	**Pallekele**	**15.81**	**281**	LR	LR	00 22 43.9	
	comp=Z,28nm,20.6s,baz=115,slow=32						
LEM	**Lembang**	**15.93**	**135**	LR	LR	00 25 38.4	
	comp=Z,33nm,19.5s,baz=237,slow=41						
SHL	**Shillong**	**21.34**	**349**	P	**P**	**00 19 23.6**	**-1.3**
MPSI	**Mapaga**	**23.88**	**99**	P	**P**	**00 19 51.6**	**+0.3**
KAPI	**Kappang**	**25.22**	**112**	LR	LR	00 29 55.7	
	comp=Z,21nm,18.1s,baz=132,slow=36						
MKAR	**Makanchi Array**	**43.82**	**346**	P	**P**	**00 22 42.2**	**-1.3**
	0.2nm,0.4s,baz=166,slow=8.9,SNR=4.8						
WRA	**Warramunga Arr**	**44.55**	**124**	P	**P**	**00 22 48.6**	**-1.2**
	1.9nm,0.8s,baz=302,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**44.55**	**124**	IAmb	IAmb	00 22 51.1	
	comp=Z,0.2nm,1.0s						
ASAR	**Alice Springs**	**46.10**	**129**	P	**P**	**00 23 01.1**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=302,slow=7.4,SNR=12						
KURBB	**Kurchatov Arra**	**48.31**	**345**	P	**P**	**00 23 16.5**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=160,slow=7.2,SNR=2.6						
KURK	**Kurchatov**	**48.37**	**345**	P	**P**	**00 23 16.5**	**-2.8**
KURK	**Kurchatov**	**48.37**	**345**	IAmb	IAmb	00 23 35.4	
	comp=Z,1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**50.15**	**351**	P	**P**	**00 23 30.8**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=161,slow=9.2,SNR=3.3						

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*ISCJB **27** 00:24:04.3±0.4,24°.88N±0°.02×122°.43E±0°.02,h19km±8km, Error ellipse: s-maj=4.4km s-min=3.2km az=30.4*
*TAP **27** 00:24:04.3,24°.90N×122°.38E,h19km,ML3.5,C*
*JMA **27** 00:24:04.7±0.1,24°.87N×122°.44E,h38km±3km,M2.4*
ISC 27 00:24:04.1±1.0,24°.88N±0°.03×122°.41E±0°.02,h25km±10km, n43,σ0°43/79,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**288**	⇑P	**Pb**	**00 24 12.4**	**-0.4**
	baz=286						
TWB1				*e*S	**Sb**	**00 24 17.5**	**-1.1**
	baz=286						
EOS1	**EOS1**	**0.42**	**218**	P	**Pb**	**00 24 13.3**	**+0.3**
	baz=225						
EOS1				*e*S	**Sb**	**00 24 19.7**	**+0.8**
	baz=225						
EGS		**0.44**	**266**	*e*P	**Pb**	**00 24 13.2**	**-0.1**
	baz=254						
EGS				*e*S	**Sb**	**00 24 20.0**	**+0.4**
	baz=254						
NTC	**Toucheng**	**0.53**	**267**	*e*P	**Pb**	**00 24 15.3**	**+0.5**
	baz=274						
NTC				*e*S	**Sb**	**00 24 22.7**	**+0.6**
	baz=274						
TIPB	**Shuangxi**	**0.54**	**280**	*e*P	**Pb**	**00 24 15.0**	**0.0**
	baz=277						
TIPB				*e*S	**Sb**	**00 24 22.3**	**-0.2**
	baz=277						
TWC	**Suao**	**0.58**	**242**	*e*P	**Pb**	**00 24 15.3**	**-0.4**
	baz=238						
TWC				*e*S	**Sb**	**00 24 22.2**	**-1.2**
	baz=238						
NWF	**Wu-fen Shan**	**0.60**	**288**	P	**Pb**	**00 24 16.6**	**+0.5**
	baz=287						
NWF				*e*S	**Sb**	**00 24 24.4**	**+0.1**
	baz=287						
WFSB	**Wu-fen Shan**	**0.60**	**288**	*e*P	**Pb**	**00 24 16.6**	**+0.6**
	baz=286						
WFSB				*e*S	**Sb**	**00 24 24.5**	**+0.2**
	baz=286						
JYNG	**Yonagunijimaku**	**0.65**	**131**	P	**Pb**	**00 24 16.9**	**+0.1**
JYNG				S	**Sb**	**00 24 25.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.69**	**127**	*e*P	**Pb**	**00 24 17.3**	**-0.1**
	baz=117						
YOJ				*e*S	**Sb**	**00 24 27.1**	**+0.5**
	baz=117						
YOJ	**Yonaguni jima**	**0.69**	**127**	P	**Pb**	**00 24 17.4**	**-0.1**
YOJ				S	**Sb**	**00 24 26.7**	**+0.2**
TWE	**Neicheng**	**0.70**	**257**	*e*P	**Pb**	**00 24 17.6**	**0.0**
	baz=247						
TWE				*e*S	**Sb**	**00 24 26.2**	**-0.6**
	baz=247						
SLBB	**Yuanshan**	**0.72**	**260**	*e*P	**Pb**	**00 24 17.9**	**-0.1**
	baz=257						
SLBB				*e*S	**Sb**	**00 24 27.7**	**+0.3**
	baz=257						
NANB	**Nanao**	**0.75**	**233**	*e*P	**Pb**	**00 24 18.5**	**-0.1**
	baz=230						
NANB				*e*S	**Sb**	**00 24 28.0**	**-0.5**
	baz=230						
ENA	**Nanau**	**0.76**	**234**	*e*P	**Pb**	**00 24 18.7**	**0.0**
	baz=230						
ENA				*e*S	**Sb**	**00 24 28.6**	**0.0**
	baz=230						
TWA	**Mucha**	**0.76**	**278**	*e*P	**Pb**	**00 24 19.1**	**+0.5**
	baz=275						
TWA				*e*S	**Sb**	**00 24 29.0**	**+0.4**
	baz=275						
ENTT	**Nioudou**	**0.81**	**253**	*e*P	**Pb**	**00 24 19.7**	**+0.2**
	baz=250						
ENTT				*e*S	**Sb**	**00 24 30.5**	**+0.5**
	baz=250						
YM08	**YM08**	**0.81**	**292**	*e*P	**Pb**	**00 24 19.5**	**0.0**
	baz=291						
YM08				*e*S	**Sb**	**00 24 30.1**	**+0.1**
	baz=291						
PCYT	**Pengchaiyu**	**0.81**	**338**	P	**Pb**	**00 24 19.4**	**-0.1**
	baz=339						
YM01	**YM01**	**0.81**	**289**	*e*P	**Pb**	**00 24 19.9**	**+0.3**
	baz=287						
YM01				*e*S	**Sb**	**00 24 30.4**	**+0.2**
	baz=287						
NHDH	**Xindian Distri**	**0.81**	**276**	*e*P	**Pn**	**00 24 20.2**	**+0.3**
	baz=274						
NHDH				*e*S	**Sb**	**00 24 30.5**	**+0.4**
	baz=274						
YM11	**YM11**	**0.81**	**291**	*e*P	**Pb**	**00 24 19.7**	**+0.1**
	baz=290						
YM05	**YM05**	**0.82**	**290**	*e*P	**Pb**	**00 24 20.0**	**+0.2**
	baz=276						
YM05				*e*S	**Sb**	**00 24 30.6**	**+0.2**
	baz=276						
YM10	**YM10**	**0.82**	**290**	*e*P	**Pn**	**00 24 20.0**	**-0.2**
	baz=288						
YM10				*e*S	**Sn**	**00

*ISCJB **27** 00:31:06.0±0.8, 51°.89N±0°.05×166°.28W±0°.07, h17km, mb3.8/4, Error ellipse: s-maj=7.1km s-min=6.5km az=28.5*
*IDC **27** 00:31:06.9±1.8, 52°.18N×165°.94W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.5/51, mbtmp3.7/6, ML3.2/2, Error ellipse: s-maj=35.9km s-min=25.3km az=169.0*
*AEIC **27** 00:31:08.2±1.9, 51°.95N±0°.09×166°.36W±0°.07, h31km±6km, ML3.1*
*NEIC **27** 00:31:08.2±1.3, 51°.93N±0°.09×166°.37W±0°.08, h24km±8km*
ISC 27 00:31:07.7±1.2, 51°.94N±0°.09×166°.27W±0°.06, h17km, n28, σ1§66/35, mb3.8/4, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.78**	**326**		**Pn**	**00 31 36.9**	**-0.8**
OKFG					**Sn**	**00 31 59.0**	**-0.8**
OKSP	**Okmok Steeple**	**1.80**	**318**		**Pn**	**00 31 36.8**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**1.80**	**324**		**Pn**	**00 31 37.4**	**-0.7**
NIKH	**Nikolski High**	**1.89**	**304**		**Pn**	**00 31 37.7**	**-1.5**
OKNC	**Okmok New Cone**	**1.89**	**324**		**Pn**	**00 31 38.8**	**-0.4**
OKNC					**Sn**	**00 32 02.7**	**0.0**
MREP	**Makushin Rep't**	**1.89**	**351**		**Pn**	**00 31 38.9**	**-0.4**
UNV	**Unalaska Valle**	**1.91**	**356**		**Pn**	**00 31 39.4**	**-0.1**
UNV					**Sn**	**00 32 03.0**	**-0.1**
MSW	**Makushin Switc**	**2.00**	**351**		**Pn**	**00 31 40.4**	**-0.3**
MSW					**Sn**	**00 32 06.2**	**+0.9**
MTBL	**Makushin Table**	**2.04**	**353**		**Pn**	**00 31 41.6**	**+0.3**
AKMO	**Akutan Morgan**	**2.16**	**4**		**Pn**	**00 31 43.2**	**+0.4**
AKMO					**Sn**	**00 32 09.4**	**+0.3**
AKRB	**Akutan Reef Bi**	**2.19**	**3**		**Pn**	**00 31 43.4**	**0.0**
AKRB					**Sn**	**00 32 11.0**	**+0.9**
AKUT	**Akutan**	**2.21**	**8**	Pn	**Pn**	**00 31 42.1**	**-1.5**
AKLV	**Akutan Long Va**	**2.23**	**5**		**Pn**	**00 31 43.5**	**-0.4**
AKLV					**Sn**	**00 32 11.3**	**+0.2**
FALS	**False Pass**	**3.38**	**29**	Sn	**Sn**	**00 32 39.6**	**+0.3**
FALS	**False Pass**	**3.38**	**29**		**Sn**	**00 32 40.2**	**+1.0**
FALS	**False Pass**	**3.38**	**29**		**Pn**	**00 32 00.6**	**+1.0**
SDPT	**Sand Point**	**4.85**	**43**		**Pn**	**00 32 20.2**	**+0.4**
ATKA	**Atka Island**	**4.90**	**276**		**Pn**	**00 32 18.6**	**-1.9**
CNBA	**Chernabura Isl**	**4.93**	**52**		**Pn**	**00 32 20.8**	**0.0**
KDAK	**Kodiak Island**	**9.81**	**48**	Pn	**Pn**	**00 33 26.4**	**-1.4**
	0.4nm,0.3s,baz=177,slow=4.5,SNR=15						
KDAK					**Sn**	**00 35 11.4**	**-6.1**
	0.2nm,0.3s,baz=249,slow=17,SNR=4.2						
ILAR	**Eielson Array**	**16.29**	**30**	Pn	**Pn**	**00 34 52.3**	**-3.0**
	0.1nm,0.3s,baz=225,slow=13,SNR=3.8						
SCRK	**Sand Creek**	**16.76**	**35**	P	**P**	**00 35 04.9**	**+1.2**
DAWY	**Dawson**	**18.53**	**39**	P	**Pn**	**00 35 27.4**	**+4.2**
EPYK	**Eagle Plains**	**20.64**	**34**		Pn	00 35 48.2	-0.2
PETK	**Petropavlovsk-**	**21.82**	**287**	P	**P**	**00 36 01.1**	**+2.3**
	2.6nm,0.7s,baz=88,slow=10,SNR=6.0						
INK	**Inuvik**	**22.68**	**31**	P	**P**	**00 36 07.5**	**-0.4**
	3.1nm,0.5s,baz=232,slow=11,SNR=10.0						
PDAR	**Pinedale Array**	**38.60**	**81**	P	**P**	**00 38 30.2**	**+0.4**
	0.7nm,0.6s,baz=306,slow=4.2,SNR=6.0						
TXAR	**Lajitas Array**	**50.84**	**91**	P	**P**	**00 40 07.3**	**0.0**
	0.9nm,0.7s,baz=301,slow=5.4,SNR=9.7						

*SJA **27** 00:31:34.7±0.6, 32°.55S×71°.86W, h12km±6km, ML2.9, MW3.2*
*GUC **27** 00:31:37.1±0.4, 32°.55S×71°.69W, h16km±6km, ML3.0*
ISC 27 00:31:35.7±2.2, 32°.47S±0°.04×71°.7W±0°.1, h15km±11km, n13, σ1§14/22, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.78**	**131**	*i* P	**Pg**	**00 31 50.9**	**-0.1**
ROC1				*i* S	**Sb**	**00 32 02.9**	**+1.2**
ROCH	**El Roble**	**0.78**	**130**	⇓*i* P	**Pg**	**00 31 51.0**	**0.0**
ROCH				*i* S	**Sg**	**00 32 01.2**	**-0.2**
PEL	**Peldehue**	**1.10**	**128**	⇓*i* P	**Pb**	**00 31 56.2**	**-0.4**
PEL				*i* S	**Sb**	**00 32 10.6**	**-0.2**
PEL				IAML		00 32 14.0	
	comp=E,654nm,0.3s						
CLCH	**Cerro Calan**	**1.36**	**133**	⇓*i* P	**Pn**	**00 32 00.0**	**-0.2**
CLCH				*i* S	**Sn**	**00 32 17.5**	**-0.6**
CLCH				IAML		00 32 23.9	
	comp=N,399nm,0.5s						
CO02	**Combarbal**	**1.40**	**26**	⇓*i* P	**Pg**	**00 32 02.8**	**+0.1**
CO02				*e*S	**Sg**	**00 32 22.6**	**+1.7**
CO02				IAML		00 32 25.4	
	comp=E,878nm,0.4s						
FCH	**Farellones**	**1.48**	**126**	*e*P	**Pn**	**00 32 01.9**	**-0.3**
FCH				*i* S	**Sn**	**00 32 21.1**	**-0.2**
FCH				IAML		00 32 22.7	
	comp=E,265nm,0.2s						
LMEL	**Las Melosas**	**1.88**	**138**	*e*P	**Pn**	**00 32 08.2**	**+0.8**
LMEL				*i* S	**Sn**	**00 32 32.4**	**+1.4**
LMEL				IAML		00 32 37.0	
	comp=N,190nm,0.4s						
RTLS	**Leoncito**	**2.16**	**73**	*i* P	**Pb**	**00 32 15.3**	**+0.6**
RTLS				*i* S	**Sg**	**00 32 45.9**	**+0.6**
ARCO	**CERRO ARCO**	**2.38**	**100**	*i* P	**Pb**	**00 32 17.6**	**-0.9**
ARCO				IAML		00 32 59.5	
	comp=Z,56nm,0.4s						
ASAL	**Salagasta**	**2.44**	**94**	*i* P	**Pb**	**00 32 18.3**	**-1.1**
ASAL				*i* S	**Sb**	**00 32 50.5**	**+1.1**
ASAL				IAML		00 33 06.1	
	comp=Z,36nm,1.5s						
AAGR	**Agrelo**	**2.51**	**105**	*i* P	**Pb**	**00 32 19.5**	**-1.1**
AAGR				IAML		00 33 05.7	
	comp=Z,37nm,0.9s						
RTCV	**Cerro Valdivia**	**2.76**	**78**	*i* P	**Pb**	**00 32 23.2**	**-1.7**
RTCV				IAML		00 33 08.7	
	comp=Z,48nm,1.6s						
AMOG	**MOGNA**	**3.14**	**62**	*i* P	**Pb**	**00 32 28.6**	**-2.8**
AMOG				IAML		00 33 23.3	
	comp=Z,60nm,0.3s						

*ISCJB **27** 00:36:36.8±0.7, 37°.92N±0°.05×139°.21E±0°.10, h162km±5km, mb3.3/2, Error ellipse: s-maj=13.3km s-min=6.5km az=22.7*
*JMA **27** 00:36:37.9±0.1, 37°.92N×139°.26E, h155km±1km, M2.7*
*IDC **27** 00:36:40.9±1.6, 37°.56N×138°.61E, h185km±14km, mb3.1/2, mb1 3.2/3, mb1mx2.9/40, mbtmp3.8/3, Error ellipse: s-maj=49.5km s-min=17.2km az=52.0*
ISC 27 00:36:37.3±1.0, 37°.92N±0°.05×139°.22E±0°.07, h161km±6km, n19, σ0§69/28, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.13**	**145**	P	**Pn**	**00 36 58.6**	**-0.2**
JNS				*e*S	**Sn**	**00 37 14.5**	**-0.6**
JAW	**Awa shima**	**0.53**	**2**	P	**Pn**	**00 37 00.2**	**+0.2**
JIZZ	**Izumozaki**	**0.56**	**226**	P	**Pn**	**00 37 01.0**	**+0.8**
JIZZ				*e*S	**Sn**	**00 37 18.9**	**+1.3**
JHK	**Hiroka**	**0.69**	**194**	P	**Pn**	**00 37 01.1**	**+0.2**
JHK				S	**Sn**	**00 37 18.7**	**-0.3**
JYS	**Shiratake**	**0.73**	**66**	S	**Sn**	**00 37 19.1**	**-0.3**
JSD	**Sado**	**0.77**	**279**	P	**Pn**	**00 37 01.6**	**+0.2**
JYA	**Atsumi**	**0.77**	**30**	P	**Pn**	**00 37 01.8**	**+0.4**
JYA				S	**Sn**	**00 37 19.6**	**-0.4**
JFT	**Otama**	**0.97**	**114**	P	**Pn**	**00 37 03.0**	**+0.1**
JYK	**Kaneyama**	**1.33**	**42**	P	**Pn**	**00 37 06.4**	**+0.4**
JYK				*e*S	**Sn**	**00 37 28.2**	**0.0**
JAG	**Ashikaga**	**1.51**	**173**	P	**Pn**	**00 37 08.1**	**+0.3**
JSZ	**Suzu**	**1.55**	**253**	P	**Pn**	**00 37 08.8**	**+0.7**
MAT	**Matsushiro**	**1.60**	**211**	P	**Pn**	**00 37 08.6**	**-0.2**
MAT				S	**Sn**	**00 37 31.9**	**-1.0**
MJAR	**Matsushiro Arr**	**1.60**	**211**	P	**Pn**	**00 37 09.5**	**+0.8**
	0.5nm,0.3s,baz=15,slow=14,SNR=13						
MJAR				S	**Sn**	**00 37 32.2**	**-0.7**
	0.2nm,0.3s,baz=50,slow=8.1,SNR=4.2						
JMK	**Ichinoseki**	**1.87**	**56**	P	**Pn**	**00 37 12.5**	**+0.9**
JRY	**Ryogami san**	**1.92**	**188**	P	**Pn**	**00 37 13.0**	**+0.7**
JRY				S	**Sn**	**00 37 39.9**	**+0.7**
JHJ	**Hachijo jima 2**	**4.82**	**174**	P	**Pn**	**00 37 49.7**	**+1.2**
	8.3nm,0.3s,baz=346,slow=22,SNR=3.2						
JHJ				S	**Sn**	**00 38 42.7**	**-1.4**
	5.9nm,0.3s,baz=44,slow=23,SNR=3.8						
SONM	**Songino Array**	**25.84**	**303**	P	**P**	**00 41 53.9**	**+0.1**
	0.3nm,0.5s,baz=105,slow=9.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**40.02**	**312**	P	**P**	**00 43 55.9**	**-0.4**
	0.4nm,0.3s,baz=92,slow=7.2,SNR=3.7						
LPAZ	**La Paz**	**147.69**	**56**	PKPbc	**PKiKP**	**00 56 05.7**	**-0.3**
	0.8nm,0.4s,baz=315,slow=7.4,SNR=7.6						

*ISCJB **27** 01:16:39.2±0.9, 14°.47N±0°.09×92°.33W±0°.07, h69km±10km, Error ellipse: s-maj=17.6km s-min=4.5km az=37.2*
*MEX **27** 01:16:40.5±0.8, 14°.46N×92°.24W, h65km±8km, MD3.8*
*GCG **27** 01:16:41.8±0.5, 14°.63N×92°.14W, h62km±9km, MD4.1*
*SNET **27** 01:16:42.9±0.9, 14°.87N×91°.86W, h24km±999km, ML4.5*
ISC 27 01:16:40.5±1.6, 14°.5N±0°.1×92°.30W±0°.08, h61km±13km, n20, σ0§61/29, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.40**	**4**	*i* P	**Pn**	**01 16 51.5**	**0.0**
THIG				*i* S	**Sn**	**01 16 59.6**	**+0.1**
ERG	**Entre ros, C**	**0.71**	**95**	*e*P	**Pn**	**01 16 54.9**	**0.0**
STG3	**Santiaguito 3,**	**0.73**	**74**	⇓*i* P	**Pn**	**01 16 55.1**	**-0.2**
FUG	**Fuego 3**	**1.41**	**92**	*e*P	**Pn**	**01 17 04.1**	**0.0**
FUG				*e*S	**Sn**	**01 17 23.3**	**+1.4**
PCIG		**1.49**	**323**	*e*P	**Pn**	**01 17 04.7**	**-0.3**
PCIG				*e*S	**Sn**	**01 17 23.1**	**-0.4**
PCG	**Pacaya**	**1.64**	**94**	*e*P	**Pn**	**01 17 07.8**	**+0.5**
PCG				*e*S	**Sn**	**01 17 27.6**	**+0.1**
CCIG	**Comitan**	**1.77**	**5**	*e*P	**Pn**	**01 17 09.1**	**0.0**
CCIG				*i* S	**Sn**	**01 17 30.4**	**-0.3**
IXG	**Ixpaco**	**1.83**	**100**	*e*P	**Pn**	**01 17 09.9**	**+0.1**
NBG	**Las Nubes**	**1.89**	**87**	*e*P	**Pn**	**01 17 12.0**	**+1.3**
TGIG		**2.40**	**341**	*i* P	**Pn**	**01 17 17.6**	**+0.2**
TGIG				*e*S	**Sn**	**01 17 45.7**	**0.0**
SBLS	**San Blas**	**2.67**	**104**	*e*P	**Pn**	**01 17 21.0**	**-0.4**
CEVE	**Cerro Verde**	**2.68**	**104**	*e*P	**Pn**	**01 17 21.6**	**+0.2**
CEVE				*e*S	**Sn**	**01 17 52.3**	**-0.6**
CEVE				IAML		01 18 06.9	
	comp=Z,3μm,0.3s						
SNJE	**San Jose**	**2.69**	**103**	*e*P	**Pn**	**01 17 21.2**	**-0.3**
MTO3	**Montecristo**	**2.84**	**92**	*e*P	**Pn**	**01 17 22.4**	**-1.3**
LOMA	**Loma Larga**	**3.15**	**105**	*e*P	**Pn**	**01 17 28.0**	**+0.3**
LOMA				*e*S	**Sn**	**01 18 03.1**	**-1.1**
CMIG	**Matias Romero**	**3.58**	**316**	*e*P	**Pn**	**01 17 34.1**	**+0.6**
CMIG				*i* S	**Sn**	**01 18 14.7**	**+0.1**
COEB	**Comit de Eme**	**3.79**	**105**	*e*P	**Pn**	**01 17 37.2**	**+0.6**
PACA	**Pacayal**	**3.99**	**104**	*e*P	**Pn**	**01 17 38.8**	**-0.5**
LCND	**La Caada**	**4.44**	**105**	*e*P	**Pn**	**01 17 45.2**	**-0.1**
CNCH	**Conchagua**	**4.50**	**105**	*e*P	**Pn**	**01 17 46.7**	**+0.5**
CNCH				IAML		01 18 54.8	
	comp=Z,509nm,0.4s						

IDC 27 01:17:58.2±2.5, 31°.10N×82°.54E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.4/30, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=150.3km s-min=28.8km az=61.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.67**	**359**	Pn	Pn	01 21 38.5	-1.9
	0.1nm,0.3s,baz=196,slow=14,SNR=2.7						
ARCES	**ARCESS Array B**	**49.81**	**337**	P	P	01 26 52.3	-0.1
	3.9nm,1.0s,baz=95,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**71.05**	**129**	P	P	01 29 18.0	-0.3
	0.4nm,0.7s,baz=327,slow=6.1,SNR=5.8						
ASAR	**Alice Springs**	**73.39**	**132**	P	P	01 29 32.6	+0.3
	0.3nm,0.5s,baz=310,slow=6.0,SNR=3.9						

*SJA **27** 01:56:03.4±0.6, 21°.75S×68°.43W, h125km±6km, ML3.2, MW3.2*
*ISCJB **27** 01:56:04.7±0.8, 21°.84S±0°.04×68°.46W±0°.06, h129km±10km, Error ellipse: s-maj=9.9km s-min=6.3km az=3.2*
*GUC **27** 01:56:04.9±0.6, 21°.84S×68°.39W, h122km±5km, ML3.4*
ISC 27 01:56:05.9±1.6, 21°.83S±0°.04×68°.45W±0°.06, h117km±14km, n19, σ0§59/32, 2C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.73**	**272**	*e*P	**Pn**	**01 56 25.2**	**-0.2**
PB09				*i* S	**Sn**	**01 56 40.5**	**+0.4**
LVC	**Limon Verde**	**0.89**	**208**	*e*P	**Pn**	**01 56 26.5**	**-0.6**
LVC				*i* S	**Sn**	**01 56 42.5**	**-0.4**
LVC	**Limon Verde**	**0.89**	**208**	⇑*i* P	**Pn**	**01 56 26.4**	**-0.6**
LVC				*i* S	**Sn**	**01 56 44.0**	**+1.0**
LVC				IAML		01 56 44.2	
	comp=Z,204nm,0.1s						
PB03	**IPOC Station P**	**1.23**	**259**	*e*P	**Pn**	**01 56 29.6**	**-0.6**
PB03				*i* S	**Sn**	**01 56 49.0**	**+0.3**
PB03				IAML		01 56 50.3	
	comp=N,509nm,0.2s						
PB01	**IPOC Station P**	**1.24**	**309**	⇑*i* P	**Pn**	**01 56 29.6**	**-0.7**
PB01				*e*S	**Sn**	**01 56 48.8**	**0.0**
PB01				IAML		01 56 51.2	
	comp=N,751nm,0.2s						
PB07	**IPOC Station P**	**1.34**	**274**	*e*P	**Pn**	**01 56 30.8**	**-0.6**
PB07				*i* S	**Sn**	**01 56 51.2**	**+0.4**
PB07				IAML		01 56 52.1	
	comp=N,605nm,0.1s						
PB06	**IPOC Station P**	**1.36**	**230**	*e*P	**Pn**	**01 56 31.4**	**-0.3**
PB06				*i* S	**Sn**	**01 56 51.8**	**+0.5**
PB06				IAML		01 56 54.2	
	comp=N,808nm,0.2s						
PB06	**IPOC Station P**	**1.36**	**230**	*i* P	**Pn**	**01 56 31.4**	**-0.3**
PB06				*i* S	**Sn**	**01 56 51.6**	**+0.4**
PB06				IAML		01 56 54.6	
	comp=Z,373nm,0.1s						
PB04	**IPOC Station P**	**1.65**	**252**	⇑*i* P	**Pn**	**01 56 34.4**	**-0.7**
PB04				*e*S	**Sn**	**01 56 57.8**	**+0.4**
PB04				IAML		01 57 06.8	
	comp=N,390nm,0.1s						
PB04	**IPOC Station P**	**1.65**	**252**	*i* P	**Pn**	**01 56 34.5**	**-0.7**
PB15	**IPOC Station P**	**1.67**	**214**	*i* P	**Pn**	**01 56 35.2**	**-0.2**
PB15				*i* S	**Sn**	**01 56 58.8**	**+1.0**
PB08	**IPOC Station P**	**1.80**	**339**	*e*P	**Pn**	**01 56 37.2**	**0.0**
PB08				*i* S	**Sn**	**01 57 01.8**	**+0.9**
PB05	**IPOC Station P**	**1.92**	**237**	*i* P	**Pn**	**01 56 37.8**	**-0.5**
PB05				*i* S	**Sn**	**01 57 03.8**	**+0.8**
PB05				IAML		01 57 10.3	
	comp=Z,158nm,0.3s						
GO01	**Chusmiza**	**2.26**	**342**	*e*P	**Pn**	**01 56 42.4**	**-0.6**
GO01				*i* S	**Sn**	**01 57 11.9**	**+0.7**
PB10	**IPOC Station P**	**2.57**	**229**	⇓*i* P	**Pn**	**01 56 46.3**	**-0.2**
PB10				IAML		01 57 29.3	
	comp=Z,113nm,0.3s						
YJA	**Yavi**	**2.75**	**98**	⇑*i* P	**Pn**	**01 56 48.9**	**-0.3**
HJA	**Humahuaca**	**3.13**	**117**	⇓*i* P	**Pn**	**01 56 54.1**	**-0.1**
PB14	**IPOC Station P**	**3.31**	**212**	*i* P	**Pn**	**01 56 56.2**	**-0.4**
PB14				IAML		01 57 45.2	
	comp=Z,137nm,0.7s						
AZAP	**Zapla**	**3.93**	**128**	*i* P	**Pn**	**01 57 03.9**	**-0.8**
AZAP				IAML		01 58 19.1	
	comp=Z,9.6nm,2.2s						

KRSC 27 02:05:25.5±1.4, 50°.38N×157°.48E, h61km±25km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**290**	*e*P	Pn	02 05 43.3	+0.8
SKR				*e*S	Sn	02 05 55.8	+0.8
PAU	**Pauzhetka**	**1.17**	**339**	*e*P	Pn	02 05 47.5	+1.8
PAU				*e*S	Sn	02 06 03.0	+2.3
MTVR	**Mutnovka**	**2.15**	**12**	*e*P	Pn	02 06 01.6	+2.5
RUS	**Russkaya**	**2.15**	**17**	*e*P	Pn	02 06 01.3	+2.3
RUS				*e*S	Sn	02 06 26.4	+1.9
KRMR	**Karymshinskiy**	**2.48**	**9**	P	Pn	02 06 06.2	+2.7
UGLR	**Uglovaya**	**2.95**	**16**	*e*P	Pn	02 06 13.1	+3.1
AVH	**Avacha**	**2.99**	**15**	*e*P	Pn	02 06 13.9	+3.4
SMAR	**Somma**	**3.00**	**15**	*e*P	Pn	02 06 14.1	+3.4
KOK	**Koryaka**	**3.00**	**13**	*e*P	Pn	02 06 13.9	+3.3
SDLR	**Sedlovina**	**3.03**	**16**	*e*P	Pn	02 06 13.8	+2.8
KRER	**Koryakskii**	**3.03**	**15**	*e*P	Pn	02 06 14.1	+3.0
KRX	**Arik**	**3.07**	**13**	*e*P	Pn	02 06 14.6	+3.0
SPN	**Mys Shipunski**	**3.15**	**29**	*e*P	Pn	02 06 16.0	+3.5
GNL	**Ganaly**	**3.33**	**5**	*e*P	Pn	02 06 17.0	+1.9
MKZ	**Mys Kozlova**	**4.92**	**30**	*e*P	Pn	02 06 38.6	+1.8
TUMR	**Tumrok**	**5.17**	**17**	*e*P	Pn	02 06 44.0	+3.7

*ISCJB **27** 02:30:16.6±0.8, 24°.88N±0°.04×122°.40E±0°.03, h13km±5km, Error ellipse: s-maj=6.9km s-min=3.9km az=18.3*
*JMA **27** 02:30:17.0±0.2, 24°.85N×122°.41E, h29km, M2.5*
*TAP **27** 02:30:17.5, 24°.87N×122°.31E, h13km, ML2.5, D*
ISC 27 02:30:15.5±1.3, 24°.93N±0°.06×122°.41E±0°.03, h28km±11km, n21, σ0§56/34, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**281**	*e*P	**Pn**	**02 30 24.6**	**-0.7**
	baz=287						
TWB1				*e*S	**Sb**	**02 30 29.5**	**-0.5**
	baz=287						
EOS1	**EOS1**	**0.46**	**214**	P	**Pb**	**02 30 25.4**	**+0.3**
	baz=218						
EOS1				*e*S	**Sb**	**02 30 31.6**	**-0.1**
	baz=218						
TIPB	**Shuangxi**	**0.54**	**274**	*e*P	**Pn**	**02 30 27.6**	**+0.3**
	baz=283						
TIPB				*e*S	**Sn**	**02 30 34.1**	**-1.4**
	baz=283						
NWF	**Wu-fen Shan**	**0.59**	**284**	*e*P	**Pn**	**02 30 28.9**	**+0.7**
	baz=292						
NWF				*e*S	**Sn**	**02 30 36.7**	**-0.2**
	baz=292						
WFSB	**Wu-fen Shan**	**0.59**	**284**	*e*P	**Pn**	**02 30 28.8**	**+0.8**
	baz=292						
WFSB				*e*S	**Sn**	**02 30 36.5**	**-0.2**
	baz=292						
TWC	**Suao**	**0.61**	**238**	*e*P	**Pb**	**02 30 27.3**	**-0.3**
	baz=238						
TWC				*e*S	**Sb**	**02 30 35.1**	**-0.7**
	baz=238						
JYNG	**Yonagunijimaku**	**0.68**	**135**	P	**Pn**	**02 30 29.2**	**-0.1**
JYNG				*e*S	**Sb**	**02 30 38.5**	**+0.7**
TWE	**Neicheng**	**0.71**	**253**	*e*P	**Pn**	**02 30 29.9**	**+0.2**
	baz=245						
TWE				*e*S	**Sb**	**02 30 38.3**	**-0.4**
	baz=245						
YOJ	**Yonaguni jima**	**0.72**	**131**	P	**Pn**	**02 30 29.6**	**-0.2**
YOJ				S	**Sb**	**02 30 39.1**	**+0.2**
NANB	**Nanao**	**0.79**	**230**	*e*P	**Pn**	**02 30 30.6**	**-0.2**
	baz=229						
NANB				*e*S	**Sb**	**02 30 40.6**	**-0.3**
	baz=229						
YHNB	**Yeheng**	**0.98**	**255**	*e*S	**Sb**	**02 30 47.0**	**+0.6**
	baz=257						
NACB	**Ninganchiao**	**1.06**	**225**	*e*P	**Pb**	**02 30 35.2**	**-0.1**
	baz=223						
NACB				*e*S	**Sn**	**02 30 47.9**	**-0.5**
	baz=223						
NNSB	**Datong**	**1.06**	**242**	*e*P	**Pb**	**02 30 36.2**	**+0.9**
	baz=243						
ETLH	**Xiulin Townshi**	**1.11**	**230**	*e*P	**Pb**	**02 30 36.7**	**+0.5**
	baz=229						
WHF	**Hehuan Shan**	**1.31**	**233**	*e*P	**Pb**	**02 30 40.3**	**+0.6**
	baz=233						
WHF				*e*S	**Sn**	**02 30 55.8**	**+0.7**
	baz=233						
TDCB	**Techi**	**1.33**	**240**	*e*P	**Pb**	**02 30 40.2**	**+0.4**
	baz=223						
CHGB	**Renai**	**1.43**	**233**	*e*P	**Pb**	**02 30 42.5**	**+0.9**
	baz=232						
CHGB				*e*S	**Sb**	**02 30 59.8**	**+0.5**
	baz=232						
ESL	**Shilin**	**1.43**	**219**	*e*P	**Pb**	**02 30 41.4**	**0.0**
	baz=217						
VWDT	**VWDT**	**1.65**	**225**	*e*P	**Pb**	**02 30 45.0**	**-0.2**
	baz=224						
JIJ	**Ishigaki jima**	**1.67**	**109**	P	**Pb**	**02 30 45.5**	**-0.1**
SSLB	**Suanglung**	**1.75**	**230**	*e*P	**Pb**	**02 30 46.5**	**-0.5**
	baz=230						

*HEL **27** 02:36:25.2±0.3, 64°.51N×12°.04E, h10km, ML2.3, ML2.3(UPP), Confirmed Earthquake*
*NAO **27** 02:36:25.9±1.2, 64°.43N×12°.29E, ML2.8*
*ISCJB **27** 02:36:26.2±0.5, 64°.49N±0°.03×12°.35E±0°.07, h25km±6km, Error ellipse: s-maj=6.0km s-min=3.6km az=138.6*
*UPP **27** 02:36:26.5±1.9, 64°.40N×12°.14E, h9km±9km, ML2.3, Suspected explosion*
*IDC **27** 02:36:26.2±1.3, 64°.44N×12°.40E, h0km, mb1 3.0/4, mb1mx2.9/40, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=16.7km s-min=7.9km az=108.0*
*BER **27** 02:36:29.0±3.3, 64°.54N×12°.03E, h17km±6km, ML2.3, ML2.8(NAO), Confirmed Earthquake*
ISC 27 02:36:26.2±0.9, 64°.45N±0°.03×12°.27E±0°.04, h17km±7km, n77, σ1§91/139, 1C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSS	**Namsos**	**0.15**	**301**	⇑*i* P	**Pg**	**02 36 31.0**	**+0.6**
NSS				*e*S	**Sg**	**02 36 33.7**	**+0.5**
NSS				IAML		02 36 33.9	
	comp=Z,2μm,0.2s						
TBLU	**Trondheim**	**1.50**	**217**	*e*P	**Pn**	**02 36 50.9**	**-1.3**
TBLU				*e*S	**Sn**	**02 37 07.6**	**-3.8**
TBLU				IAML		02 37 10.0	
	comp=Z,139nm,0.2s						
NOD	**Norderasen**	**1.53**	**130**	P	**Pn**	**02 36 54.5**	**+1.9**
NOD				S	**Sn**	**02 37 15.1**	**+3.0**
NOD	**Norderasen**	**1.53**	**130**	*e*P	**Pn**	**02 36 54.5**	**+1.9**
NOD				*e*S	**Sn**	**02 37 15.1**	**+3.0**
NOD	**Norderasen**	**1.53**	**130**	*e*P	**Pn**	**02 36 54.6**	**+1.9**
NOD				*e*S	**Sn**	**02 37 15.2**	**+3.0**
STOK	**Stokkvaagen**	**1.91**	**9**	*e*Pg	**Pg**	**02 37 01.2**	**-1.8**
STOK				*e*Sg	**Sg**	**02 37 26.1**	**-1.7**
STOK				IAML		02 37 29.1	
	comp=Z,1.6nm,0.1s						
MOR8	**Moi Rana**	**1.95**	**27**	*e*Pg	**Pg**	**02 37 04.3**	**+0.6**
MOR8				*e*Sg	**Sg**	**02 37 32.1**	**+3.1**
MOR8				IAML		02 37 34.4	
	comp=Z,72nm,0.6s

ODEU Stanfors 3.67 87 *eP* **Pn 02 37 24.2 +2.2**
STEI Steigen 3.69 18 *eP* **Pn 02 37 25.7 +3.4**
UMAU Umeaa 3.73 95 P **Pn 02 37 24.7 +1.9**
UMAU Umeaa 3.73 95 *eP* **Pn 02 37 24.7 +1.9**
LOF Lofoten 3.73 7 *eP* **Pn 02 37 23.8 +0.9**
NRA0 NORESS Array S 3.75 185 Pn **Pn 02 37 24.6 +1.5**
baz=5.4,slow=14
NRA0 Sn **Sn 02 38 08.1 +1.3**
baz=11,slow=28
NRA0 Lg Lg 02 38 23.5
baz=4.0,slow=37
NRA0 NORESS Array S 3.75 185 Pn **Pn 02 37 24.6 +1.5**
baz=5.4,slow=14
NRA0 Sn **Sn 02 38 08.1 +1.3**
baz=11,slow=28
NRA0 Sg **Sg 02 38 23.5 -2.9**
baz=4.0,slow=37
HFS Hagfors 4.39 171 Pn **Pn 02 37 33.0 +1.1**
baz=359,slow=16
HFS Sn **Sn 02 38 24.0 +1.5**
baz=354,slow=28
HFS Lg Lg 02 38 43.7
baz=358,slow=37
HFS Hagfors 4.39 171 Pn **Pn 02 37 33.0 +1.1**
comp=Z,0.3nm,0.3s,baz=358,slow=12,SNR=24
HFS Sn **Sn 02 38 23.9 +1.4**
comp=Z,1.1nm,0.3s,baz=351,slow=26,SNR=5.5
HFS Lg Lg 02 38 43.1
comp=Z,6.7nm,0.3s,baz=354,slow=26,SNR=18
HFS Hagfors 4.39 171 Pn **Pn 02 37 33.0 +1.1**
baz=359,slow=16
HFS Sn **Sn 02 38 24.0 +1.5**
baz=354,slow=28
HFS Sg **Sg 02 38 43.7 -3.2**
baz=358,slow=37
VAF Ylistaro 4.83 102 *eP* **Pn 02 37 40.1 +2.0**
VAF *eS* **Sn 02 38 33.9 +0.4**
VAF Ylistaro 4.83 102 *eP* **Pn 02 37 40.1 +2.0**
VAF *eS* **Sn 02 38 33.9 +0.4**
KALU Kalix 4.89 68 *eP* **Pn 02 37 39.4 +0.6**
KALU *eS* **Sn 02 38 34.9 +0.2**
KALU Kalix 4.89 68 *eP* **Pn 02 37 39.4 +0.6**
KALU *eS* **Sn 02 38 34.9 +0.2**
KON Kongsberg 4.98 196 Pn **Pn 02 37 40.9 +0.8**
KON Sn **Sn 02 38 35.7 -1.5**
KON Lg Lg 02 38 58.8
KONO Kongsberg 4.98 196 *eP* **Pn 02 37 40.9 +0.8**
KONO Sn **Sn 02 38 35.7 -1.5**
KONO Sg **Sb 02 38 58.8 +6.4**
OBF0 Syolatti, Pyha 5.18 84 *eP* **Pn 02 37 43.4 +0.6**
OBF0 *eS* **Sn 02 38 41.1 -0.9**
OBF0 Syolatti, Pyha 5.18 84 *eP* **Pn 02 37 43.4 +0.6**
OBF0 *eS* **Sn 02 38 41.1 -0.9**
TOF Tornio 5.32 67 *eP* **Pn 02 37 45.3 +0.6**
TOF *eS* **Sn 02 38 45.3 -0.1**
TOF MSG 02 38 52.2
comp=Z,1.5nm,0.1s
TOF Tornio 5.32 67 *eP* **Pn 02 37 45.3 +0.6**
TOF *eS* **Sn 02 38 45.3 -0.1**
TOF MSG 02 38 52.2
comp=Z,1.5nm,0.1s
OUF Merijarvi 5.41 85 *eP* **Pn 02 37 46.7 +0.8**
OUF *eS* **Sn 02 38 47.3 -0.3**
OUF Merijarvi 5.41 85 *eP* **Pn 02 37 46.7 +0.8**
OUF *eS* **Sn 02 38 47.3 -0.3**
OBF4 Vikkela, Lumij 5.53 80 *eP* **Pn 02 37 48.5 +0.8**
OBF4 *eS* **Sn 02 38 50.8 +0.2**
OBF4 Vikkela, Lumij 5.53 80 *eP* **Pn 02 37 48.5 +0.8**
OBF4 *eS* **Sn 02 38 50.8 +0.2**
RAF Rauma 5.56 124 *eP* **Pn 02 37 50.1 +2.1**
RAF *eS* **Sn 02 38 51.8 +0.5**
RAF MSG 02 38 54.5
comp=Z,2.8nm,0.1s
RAF Rauma 5.56 124 *eP* **Pn 02 37 50.1 +2.1**
RAF *eS* **Sn 02 38 51.8 +0.5**
RAF MSG 02 38 54.5
comp=Z,2.8nm,0.1s
AAL Aland 5.60 136 *eP* **Pn 02 37 49.6 +1.0**
AAL *eS* **Sn 02 38 52.7 +0.4**
TRO Tromso 5.82 24 *eP* **Pn 02 37 51.3 -0.2**
TRO *eS* **Sn 02 38 54.5 -3.1**
KEF Keuruu 6.12 106 *eP* **Pn 02 37 56.9 +1.2**
KEF *eS* **Sn 02 39 05.0 -0.3**
KEF MSG 02 39 13.6
comp=Z,3.8nm,0.2s
KEF Keuruu 6.12 106 *eP* **Pn 02 37 56.9 +1.2**
KEF *eS* **Sn 02 39 05.0 -0.3**
KEF MSG 02 39 13.6
comp=Z,3.8nm,0.2s
KTK1 Kautokeino 6.30 39 *eP* **Pn 02 37 58.9 +0.7**
KTK1 *eS* **Sn 02 39 07.3 -2.4**
SUF Sumiainen 6.43 99 *eP* **Pn 02 38 01.2 +1.2**
SUF *eS* **Sn 02 39 12.8 -0.1**
SUF MSG 02 39 19.2
comp=Z,2.7nm,0.1s
SUF Sumiainen 6.43 99 *eP* **Pn 02 38 01.2 +1.2**
SUF *eS* **Sn 02 39 12.8 -0.1**
SUF MSG 02 39 19.2
comp=Z,2.7nm,0.1s
FIA0 FINESS Array S 6.98 109 Pn **Pn 02 38 08.5 +1.0**
baz=310,slow=12
FIA0 Sn **Sn 02 39 26.0 -0.3**
baz=301,slow=28
FIA0 Lg Lg 02 40 01.2
baz=310,slow=28
FIA0 FINESS Array S 6.98 109 Pn **Pn 02 38 08.5 +1.0**
baz=310,slow=12
FIA0 Sn **Sn 02 39 26.0 -0.3**
baz=301,slow=28
FIA0 Sg Sb 02 40 01.2 +11
baz=310,slow=28
FINES FINESS Array B 6.98 109 Pn **Pn 02 38 08.1 +0.6**
comp=Z,0.2nm,0.3s,baz=302,slow=13,SNR=10
FINES Sn **Sn 02 39 25.6 -0.8**
comp=Z,0.5nm,0.3s,baz=304,slow=25,SNR=6.8
FINES Lg Lg 02 40 01.6
comp=Z,1.8nm,0.3s,baz=310,slow=25,SNR=7.8
ARA0 ARCESS Array S 7.26 40 Pn **Pn 02 38 12.1 +0.8**
baz=227,slow=16
ARA0 Sn **Sn 02 39 30.9 -2.3**
baz=228,slow=22
ARA0 Lg Lg 02 40 11.1
baz=222,slow=28
ARA0 ARCESS Array S 7.26 40 Pn **Pn 02 38 12.1 +0.8**
baz=227,slow=16
ARA0 Sn **Sn 02 39 30.9 -2.3**
baz=228,slow=22
ARA0 Sg **Sg 02 40 11.1 -7.8**
baz=222,slow=28
ARCES ARCESS Array B 7.26 40 Pn **Pn 02 38 11.7 +0.4**
comp=Z,0.4nm,0.3s,baz=226,slow=13,SNR=16
ARCES Sn **Sn 02 39 30.7 -2.5**
comp=Z,0.7nm,0.3s,baz=228,slow=23,SNR=5.9
ARCES Lg Lg 02 40 10.9
comp=Z,1.1nm,0.3s,baz=225,slow=29,SNR=6.4
APA0 Apatity Array 8.99 60 Pn **Pn 02 38 35.8 +0.8**
APA0 Apatity Array 8.99 60 Pn **Pn 02 38 35.8 +0.8**
BSD Bornholm Skovb 9.46 171 *i* P **Pn 02 38 41.3 -0.2**
BSD *eS* Sn 02 40 20.1 -7.2

ISCJB ***27*** *02:39:24.6±0.2,5°.79S±0°.03×150°.84E±0°.03,h43km, mb4.7/36,MS4.1/14,Error ellipse: s-maj=4.6km s-min=3.9km az=15.2*
IDC ***27*** *02:39:27.4±0.9,5°.77S×150°.81E,h48km±8km,mb4.5/24, mb1 4.6/28,mb1mx4.5/38,mbtmp4.8/28,ML3.5/3,MS4.1/10, Ms1 4.0/10,ms1mx3.9/13,Error ellipse: s-maj=11.4km s-min=6.5km az=125.0*
NEIC ***27*** *02:39:28.9±1.6,5°.85S±0°.05×150°.79E±0°.07,h78km±6km, mb4.8/48*
DJA ***27*** *02:39:32.6±1.1,6°S±5°×15°1E±°,h90km±8km,M5.4/15, mB5.7/5,mb5.0/15,MLv5.6/1,Mw(mB)5.2/5*
BJI ***27*** *02:39:32.7±0.0,5°.64S×150°.59E,h93km,mb4.8/42, mB5.0/28*
ISC 27 02:39:26.3±0.3,5°.78S±0°.04×150°.82E±0°.04,h43km,n150, σ1$69/161,mb4.8/51,MS4.2/14,2C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.90**	**40**	P	**Pn**	**02 39 57.2**	**+0.9**
	685nm,0.3s,baz=75,slow=1.4,SNR=70						
KRVT				S	**Sn**	**02 40 20.6**	**+1.7**
	1μm,0.3s,baz=345,slow=21,SNR=8.0						
MANU	**Manus Island**	**5.06**	**317**		**Pn**	**02 40 42.2**	**+2.5**
PMG	**Port Moresby**	**5.11**	**225**	P	**Pn**	**02 40 42.0**	**+1.6**
	34nm,0.3s,baz=44,slow=6.7,SNR=103						
PMG				S	**Sn**	**02 41 40.0**	**+1.8**
	34nm,0.3s,baz=198,slow=19,SNR=12						
PMG	**Port Moresby**	**5.11**	**225**		**Pn**	**02 40 41.9**	**+1.4**
PMG				Sn	**Sn**	**02 41 38.8**	**+0.6**
HNR	**Honiara**	**9.75**	**112**	P	**Pn**	**02 41 46.1**	**+2.0**
	9.8nm,0.3s,baz=244,slow=6.3,SNR=7.1						
HNR				S	**Sn**	**02 43 34.9**	**+2.5**
	16nm,0.3s,baz=266,slow=14,SNR=1.8						
HNR				LR	LR	02 45 03.1	
	comp=Z,1μm,21.8s,baz=272,slow=34						
HNR	**Honiara**	**9.75**	**112**	Pn	**Pn**	**02 41 45.9**	**+1.8**
HNR					**Sn**	**02 43 33.8**	**+1.4**
JAY	**Jayapura**	**10.59**	**287**	P	**Pn**	**02 41 57.4**	**+1.7**
	0.5nm,0.3s,baz=100,slow=10,SNR=10						
JAY				LR	LR	02 45 34.0	
	comp=Z,1μm,19.2s,baz=22,slow=35						
JAY	**Jayapura**	**10.59**	**287**	P	**Pn**	**02 41 59.0**	**+3.3**
	355nm,1.4s,7μm						
COEN	**Coen**	**11.07**	**222**	P	**Pn**	**02 42 03.3**	**+1.1**
	baz=11,SNR=31						
COEN	**Coen**	**11.07**	**222**		**Pn**	**02 42 02.7**	**+0.4**
COEN				Sn	**Sn**	**02 44 01.5**	**-3.3**
GENI	**Genyem**	**11.08**	**286**	P	**Pn**	**02 42 05.7**	**+3.4**
MTSU	**Mount Surprise**	**13.82**	**207**	P	**Pn**	**02 42 41.7**	**+1.9**
	baz=14,SNR=13						
CTA	**Charters Tower**	**14.90**	**197**	P	**Pn**	**02 42 55.0**	**+0.7**
	0.4nm,0.3s,baz=26,slow=15,SNR=7.2						
QIS	**Mount Isa**	**18.28**	**215**	P	**Pn**	**02 43 37.6**	**+0.7**
	baz=18,SNR=16						
KDU	**Kakadu**	**19.35**	**248**	P	**P**	**02 43 47.8**	**-0.6**
	baz=19,SNR=18						
EIDS	**Eidsvold**	**19.48**	**179**	P	**Pn**	**02 43 51.3**	**0.0**
	baz=19,SNR=12						
EIDS	**Eidsvold**	**19.48**	**179**	P	**P**	**02 43 48.5**	**-1.3**
EIDS				IAmb	IAmb	02 43 52.5	
	comp=Z,39nm,1.0s						
SIJI	**Sorong**	**20.11**	**283**	P	Pn	02 43 57.9	-0.9
	comp=Z,14nm,0.7s,baz=66,slow=9.5,SNR=7.5						
SWI	**Sorong**	**20.12**	**283**	P	**P**	**02 43 56.7**	**-0.1**
	comp=Z,30nm,1.1s						
GUMO	**Guam**	**20.13**	**343**	P	Pn	02 43 58.5	-0.4
	comp=Z,134nm,0.9s,baz=196,slow=12,SNR=3.6						
GUMO				LR	LR	02 50 12.2	
	comp=Z,464nm,20.5s,baz=164,slow=32						
GUMO	**Guam**	**20.13**	**343**	P	**P**	**02 43 57.4**	**+0.5**
MTN	**Manton Dam**	**20.64**	**249**	P	**P**	**02 44 02.6**	**+0.1**
	baz=20,SNR=9.4						
MTN	**Manton Dam**	**20.64**	**249**	P	**P**	**02 44 01.1**	**-1.4**
MTN				IAmb	IAmb	02 44 10.8	
	comp=Z,58nm,0.6s						
RMQ	**Roma**	**20.69**	**185**	P	Pn	02 44 05.0	-0.5
	baz=20,SNR=29						
PALU	**Palau**	**20.87**	**308**	P	Pn	02 44 10.8	+3.0
	baz=21,SNR=11						
WRAB	**Tennant Creek**	**21.31**	**227**	P	**P**	**02 44 09.5**	**-0.2**
WRAB				IAmb	IAmb	02 44 19.9	
	comp=Z,82nm,0.9s						
WB2	**Warramunga Arr**	**21.32**	**227**	P	**P**	**02 44 09.0**	**-0.8**
WB2				IAmb	IAmb	02 44 27.2	
	comp=Z,77nm,0.8s						
WRA	**Warramunga Arr**	**21.33**	**227**	P	**P**	**02 44 10.3**	**+0.4**
	comp=Z,22nm,0.5s,baz=53,slow=9.8,SNR=207						
WRA				S	**S**	**02 48 05.9**	**+1.4**
	comp=Z,11nm,1.1s,baz=45,slow=22,SNR=7.0						
WRA				ScP	**ScP**	**02 51 48.3**	**+1.4**
	comp=Z,10.0nm,1.1s,baz=43,slow=2.4,SNR=14						
WRA				LR	LR	02 53 47.4	
	comp=Z,378nm,18.8s,baz=60,slow=40						
WRA	**Warramunga Arr**	**21.33**	**227**	P	**P**	**02 44 08.9**	**-0.9**
WRA					**ScP**	**02 51 41.1**	**-5.8**
QLP	**Quilpie**	**21.62**	**196**	P	**P**	**02 44 14.4**	**+1.5**
	baz=21,SNR=20						
DZM	**Mont Dzumac**	**22.15**	**138**	P	**P**	**02 44 19.7**	**+0.9**
	comp=Z,50nm,0.8s,baz=324,slow=19,SNR=33						
DZM				LR	LR	02 51 48.2	
	comp=Z,1μm,20.8s,baz=230,slow=33						
DZM	**Mont Dzumac**	**22.15**	**138**	P	**P**	**02 44 18.8**	**0.0**
DZM				IAmb	IAmb	02 44 26.4	
	comp=Z,93nm,1.0s						
KNRA	**Kununurra**	**23.77**	**244**	P	**P**	**02 44 35.3**	**+0.1**
	baz=24,SNR=21						
KNRA	**Kununurra**	**23.77**	**244**	P	**P**	**02 44 33.9**	**-1.2**
AS31	**Alice Springs**	**24.11**	**221**	P	**P**	**02 44 37.1**	**-1.2**
ASAR	**Alice Springs**	**24.11**	**221**	P	**P**	**02 44 39.1**	**+0.8**
	comp=Z,8.0nm,0.5s,baz=55,slow=8.6,SNR=122						
ASAR				S	**S**	**02 48 58.2**	**+4.9**
	comp=Z,4.3nm,1.1s,baz=31,slow=18,SNR=4.7						
ASAR				ScP	**ScP**	**02 51 56.4**	**+2.2**
	comp=Z,4.9nm,1.0s,baz=54,slow=3.7,SNR=10						
ASAR	**Alice Springs**	**24.11**	**221**	P	**P**	**02 44 37.9**	**-0.4**
ASAR				PcP	**PcP**	**02 48 15.5**	**-3.4**
ASAR					**S**	**02 48 48.4**	**-4.9**
ASAR					**ScP**	**02 51 50.5**	**-3.6**
ARMA	**Armidale**	**24.52**	**178**	P	**P**	**02 44 43.3**	**+1.3**
	baz=24,SNR=5.5						
ARMA	**Armidale**	**24.52**	**178**	P	**P**	**02 44 41.5**	**-0.6**
ARMA				IAmb	IAmb	02 44 51.2	
	comp=Z,26nm,1.1s						
CMSA	**Cobar Meteorol**	**26.07**	**190**	P	**P**	**02 44 56.0**	**+0.1**
	baz=26,SNR=19						
BATI	**Baumata**	**27.24**	**259**	P	**P**	**02 45 08.1**	**+1.4**
	comp=Z,17nm,0.4s,baz=89,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**27.36**	**197**	P	**P**	**02 45 07.5**	**0.0**
	baz=27,SNR=21						
STKA	**Stephens Creek**	**27.36**	**197**	P	**P**	**02 45 07.6**	**0.0**
	comp=Z,16nm,0.7s,baz=360,slow=9.0,SNR=3.0						
STKA				LR	LR	02 56 24.8	
	comp=Z,405nm,18.3s,baz=20,slow=37						
STKA	**Stephens Creek**	**27.36**	**197**	P	**P**	**02 45 07.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**27.46**	**241**	P	**P**	**02 45 08.5**	**-0.1**
	baz=27,SNR=43						
FITZ	**Fitzroy Crossi**	**27.46**	**241**	P	**P**	**02 45 08.4**	**-0.1**
	comp=Z,44nm,0.8s,baz=53,slow=8.0,SNR=55						
FITZ				LR	LR	02 57 59.6	
	comp=Z,233nm,18.8s,baz=70,slow=40						
FITZ	**Fitzroy Crossi**	**27.46**	**241**	P	**P**	**02 45 08.5**	**-0.1**
FITZ				IAmb	IAmb	02 45 27.5	
	comp=Z,64nm,1.1s						
DAV	**Davao City (W)**	**28.23**	**297**	LR	LR	02 56 38.7	
	comp=Z,217nm,18.5s,baz=155,slow=36						
YNG	**Young**	**28.47**	**184**	P	**P**	**02 45 18.6**	**+1.1**
	baz=28,SNR=4.8						
WRKA	**Warakurna**	**28.86**	**226**	P	**P**	**02 45 21.1**	**+0.1**
	baz=29,SNR=38						
HTT	**Hallett**	**29.65**	**200**	P	**P**	**02 45 28.6**	**+0.6**
	baz=30,SNR=10.0						
BBOO	**Buckleboo**	**30.21**	**205**	P	**P**	**02 45 32.8**	**-0.1**
	baz=30,SNR=7.0						
MPSI	**Mapaga**	**31.46**	**280**	P	**P**	**02 45 46.1**	**+2.0**
	comp=Z,3.6nm,0.9s						
TOO	**Toolangi**	**32.02**	**188**	P	**P**	**02 45 50.1**	**+1.3**
	baz=32,SNR=5.3						
TOO	**Toolangi**	**32.02**	**188**	P	**P**	**02 45 47.4**	**-1.4**
TOO				IAmb	IAmb	02 45 51.5	
	comp=Z,15nm,1.1s						
TOO				PP	**PP**	**02 47 05.5**	**+3.7**
FORT	**Forrest**	**32.80**	**218**	P	**P**	**02 45 55.9**	**+0.2**
	baz=33,SNR=7.8						
FORT	**Forrest**	**32.80**	**218**	P	**P**	**02 45 54.2**	**-1.4**
FORT				PP	**PP**	**02 47 11.9**	**+1.5**
OUZ	**Omahuta**	**36.05**	**147**	P	**P**	**02 46 23.2**	**-0.6**
JAGI	**Jajag, Banyuwa**	**36.47**	**264**	P	**P**	**02 46 25.0**	**-2.7**
	comp=Z,31nm,0.9s						
MEEK	**Meekatharra**	**37.04**	**232**	P	**P**	**02 46 32.7**	**+0.3**
	baz=37,SNR=8.8						
TAU	**Tasmania Unive**	**37.11**	**184**	P	**P**	**02 46 31.4**	**-1.2**
KMBL	**Kambalda**	**37.19**	**223**	P	**P**	**02 46 34.1**	**+0.6**
	baz=37,SNR=6.6						
PWJI	**Pagerwojo**	**38.78**	**264**	P	**P**	**02 46 47.0**	**-0.2**
	comp=Z,23nm,1.3s						
GIRL	**Giralia**	**39.07**	**241**	P	**P**	**02 46 51.2**	**+1.8**
	baz=39,SNR=5.0						
URZ	**Urewera**	**40.19**	**147**	P	**P**	**02 46 59.7**	**+1.1**
	comp=Z,14nm,0.6s,baz=298,slow=2.4,SNR=13						
URZ	**Urewera**	**40.19**	**147**	P	**P**	**02 46 58.4**	**-0.2**
URZ				IAmb	IAmb	02 47 00.2	
	comp=Z,21nm,0.7s						
MORW	**Morawa**	**40.20**	**231**	P	**P**	**02 46 58.9**	**0.0**
	baz=40,SNR=3.7						
KLBR	**Kellerberrin**	**40.20**	**226**	P	**P**	**02 46 58.9**	**+0.1**
	baz=40,SNR=11						
THZ	**Tophouse**	**40.88**	**155**	P	**P**	**02 47 04.1**	**-0.2**
TUWZ	**Tuamarina**	**41.06**	**153**	P	**P**	**02 47 04.8**	**-1.0**
NWAO	**Narrogin (SRO)**	**41.30**	**225**	P	**P**	**02 47 07.7**	**-0.1**
	comp=Z,8.1nm,0.7s,baz=51,slow=4.7,SNR=4.1						
NWAO	**Narrogin (SRO)**	**41.30**	**225**	P	**P**	**02 47 06.0**	**-1.8**
NWAO				IAmb	IAmb	02 47 08.8	
	comp=Z,17nm,1.0s						
LTZ	**Lake Taylor**	**41.46**	**156**	P	**P**	**02 47 08.9**	**-0.2**
MUN	**Mundaring**	**41.52**	**227**	P	**P**	**02 47 10.7**	**+0.9**
	baz=41,SNR=5.4						
KPJI	**Karang Pucung**	**41.63**	**265**	P	**P**	**02 47 10.7**	**-0.1**
	comp=Z,39nm,0.9s						
YHNB	**Yeheng**	**41.68**	**318**	P	**P**	**02 47 11.4**	**+0.3**
PLWZ	**Palliser**	**41.77**	**152**	P	**P**	**02 47 10.3**	**-1.4**
RPZ	**Rata Peaks**	**41.77**	**158**	P	**P**	**02 47 12.6**	**+1.1**
	comp=Z,19nm,0.7s,baz=292,slow=2.4,SNR=9.3						
RPZ	**Rata Peaks**	**41.77**	**158**	P	**P**	**02 47 11.2**	**-0.4**
RPZ				IAmb	IAmb	02 47 13.3	
	comp=Z,21nm,0.8s						
OXZ	**Oxford**	**41.82**	**157**	P	**P**	**02 47 11.3**	**-0.6**
CMJI	**Cimerak**	**42.10**	**265**	P	**P**	**02 47 11.3**	**-3.4**
	comp=Z,65nm,0.9s						
MLZ	**Mavora Lakes**	**42.22**	**162**	P	**P**	**02 47 14.8**	**-0.4**
MLZ				IAmb	IAmb	02 47 17.3	
	comp=Z,29nm,0.9s						
RKGY	**Rocky Gully**	**42.42**	**223**	P	**P**	**02 47 17.9**	**+1.0**
	baz=42,SNR=6.7						
JNU	**Nakatsue**	**43.07**	**335**	P	**P**	**02 47 21.8**	**-0.5**
MJAR	**Matsushiro Arr**	**43.72**	**345**	P	**P**	**02 47 28.3**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=159,slow=8.0,SNR=4.1						
MJAR				LR	LR	03 05 14.6	
	comp=Z,237nm,18.8s,baz=170,slow=35						
MJAR	**Matsushiro Arr**	**43.72**	**345**	P	**P**	**02 47 27.8**	**+0.3**
QIZ	**Qiongzhong**	**47.29**	**302**	P	**P**	**02 47 56.5**	**+0.5**
QIZ				S	**S**	**02 54 44.0**	**-2.7**
QIZ				pmax	pmax		
	comp=Z,20nm,1.8s						
QIZ				LR	LR		
	comp=Z,250nm,19.6s						
QIZ				LR	LR		
	comp=Z,340nm,23.0s						
QIZ				LR	LR		
	comp=Z,460nm,23.5s						
KSRS	**Korea Array**	**48.02**	**335**	P	**P**	**02 48 03.0**	**+1.7**
	comp=Z,6.4nm,0.9s,baz=154,slow=8.5,SNR=8.1						
KSAR	**Wonju Array Be**	**48.02**	**335**	P	**P**	**02 48 01.5**	**+0.1**
NJ2	**Nanjing**	**48.39**	**323**	*eP*	**P**	**02 48 06.8**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.56**	**343**	P	**P**	**02 48 37.4**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=150,slow=12,SNR=4.1						
USRK	**Ussuriysk Ar.**	**52.56**	**343**	P	**P**	**02 48 34.1**	**-1.4**
KMI	**Kunming**	**55.92**	**305**	P	**P**	**02 49 03.0**	**+2.4**
KMI				S	**S**	**02 56 46.8**	**+1.0**
KMI				sS	sS	02 57 24.0	+18
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				LR	LR		
	comp=Z,170nm,28.4s						
KMI				LR	LR		
	comp=Z,220nm,29.4s						
KMI				LR	LR		
	comp=Z,270nm,25.6s						
XAN	**Xi'an**	**55.99**	**318**	P	**P**	**02 49 01.5**	**+0.7**
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
XAN				pmax	pmax		
	comp=Z,100nm,3.5s						
XAN				LR	LR		
	comp=Z,300nm,20.6s						
XAN				LR	LR		
	comp=Z,360nm,20.6s						
XAN	**Xi'an**	**55.99**	**318**	P	**P**	**02 49 00.5**	**-0.3**
XAN				IAmb	IAmb	02 49 02.0	
	comp=Z,12nm,1.0s						
CD2	**Chengdu**	**57.89**	**312**	P	**P**	**02 49 14.5**	**+0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC	**Hu-ho-hao-te**	**58.71**	**326**	*eP*	**P**	**02 49 23.0**	**+3.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**58.95**	**5**	P	**P**	**02 49 22.1**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=188,slow=9.7,SNR=5.3						
PETK	**Petropavlovsk-**	**58.95**	**5**	P	**P**	**02 49 21.5**	**+0.3**
PPT	**Papeete**	**59.32**	**107**	LR	LR	03 11 08.9	
	comp=Z,41nm,20.9s,baz=348,slow=32						
LZH	**Lanzhou**	**60.57**	**317**	*eP*	**P**	**02 49 35.0**	**+2.1**
LZH				pP	sP	02 50 00.5	+10
LZH				sP	PcP	02 50 10.5	-6.6
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,5.4s						
GTA	**Gaotai**	**65.05**	**318**	⇑P	P	02 50 08.3	+5.7
GTA				pP	PcP	02 50 31.5	-3.7
GTA				sP	sP	02 50 42.5	+22
GTA				S	**S**	**02 58 45.0**	**+2.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,6.0s						
GTA				LR	LR		
	comp=Z,170nm,19.4s						
GTA				LR	LR		
	comp=Z,190nm,18.7s						
GTA				LR	LR		
	comp=Z,260nm,17.5s						
SONM	**Songino Array**	**66.11**	**329**	P	**P**	**02 50 10.4**	**+1.1**
	comp=Z,2.9nm,0.6s,baz=150,slow=3.3,SNR=12						
SONM	**Songino Array**	**66.11**	**329**	P	**P**	**02 50 07.8**	**-1.5**
WMQ	**Urumqi**	**75.13**	**318**	P	**P**	**02 51 05.3**	**+1.0**
WMQ				PcP	**PcP**	**02 51 19.5**	**+1.8**
WMQ				pP	sP	02 51 30.8	+8.8
WMQ				pmax	pmax		
	comp=Z,33nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,30nm,3.7s						
WMQ				LR	LR		
	comp=Z,220nm,25.7s						
WMQ				LR	LR		
	comp=Z,210nm,21.3s						
MKAR	**Makanchi Array**	**79.77**	**319**	P	**P**	**02 51 30.0**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=108,slow=6.5,SNR=7.6						
MKAR	**Makanchi Array**	**79.77**	**319**	P	**P**	**02 51 28.4**	**-1.6**
ZAA0	**Zalesovo Array**	**80.88**	**327**	P	**P**	**02 51 35.0**	**-0.8**
ZALV	**Zalesovo Beam**	**80.88**	**327**	P	**P**	**02 51 34.5**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=104,slow=5.3,SNR=11						
ZALV	**Zalesovo Beam**	**80.88**	**327**	P	**P**	**02 51 34.4**	**-1.4**
KSH	**Kashi**	**82.08**	**311**	P	**P**	**02 51 45.0**	**+2.3**
KSH				S	**S**	**03 01 48.8**	**-5.6**
KSH				sS	sS	03 02 33.0	+17
KSH				SS	**SS**	**03 07 15.5**	**+0.9**
KSH				pmax	pmax		
	comp=Z,250nm,4.1s						
KSH				LR	LR		
	comp=Z,140nm,10.5s						
KSH				LR	LR		
	comp=Z,42nm,9.7s						
KSH				LR	LR		
	comp=Z,170nm,12.2s						
MCK	**McKinley**	**82.52**	**23**	P	**P**	**02 51 43.0**	**-1.3**
MCK				IAmb	IAmb	02 52 01.8	
	comp=Z,11nm,1.0s						
DHY	**Denali Highway**	**82.82**	**24**	P	**P**	**02 51 44.9**	**-1.2**
KURK	**Kurchatov**	**83.33**	**322**	P	**P**	**02 51 47.4**	**-1.3**
CCB	**Clear Creek Bu**	**83.40**	**22**	P	**P**	**02 51 47.2**	**-1.6**
IL31		**83.81**	**22**	P	**P**	**02 51 48.8**	**-2.1**
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**02 51 49.5**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=248,slow=5.2,SNR=20						
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**02 51 49.4**	**-1.6**
AAK	**

DAWY				IAmb	IAmb	02 52 09.0
	comp=Z,6.1nm,1.1s					
KK31	**Karatay Array**	**86.87**	**314**	P	**P**	**02 52 05.5 -1.2**
KK31				IAmb	IAmb	02 52 10.3
	comp=Z,5.1nm,0.9s					
KKAR	**Karatay Array**	**86.87**	**314**	P	**P**	**02 52 05.1 -1.6**
KKAR				IAmb	IAmb	02 52 10.3
	comp=Z,5.1nm,0.9s					
KKAR	**Karatay Array**	**86.87**	**314**	P	**P**	**02 52 04.9 -1.8**
HUMO	**Hull Mountain**	**91.10**	**47**	P	**P**	**02 52 25.6 -1.1**
HUMO				IAmb	IAmb	02 52 31.6
	comp=Z,4.0nm,0.9s					
SYO	**Syowa Base**	**92.09**	**200**	‖ *e*P	**P**	**02 52 29.9 -0.8**
SYO	**Syowa Base**	**92.09**	**200**	‖ *i*pP	pP	02 52 49.4 +5.5
PINE	**Pine Mountain**	**92.69**	**46**	P	**P**	**02 52 34.1 -0.1**
PINE				IAmb	IAmb	02 52 47.3
	comp=Z,4.1nm,0.9s					
MDPB	**Devils Postpil**	**93.57**	**53**	IAmb	IAmb	02 52 42.4
	comp=Z,2.9nm,1.0s					
NVAR	**Mina Array Bea**	**94.24**	**52**	P	**P**	**02 52 42.3 +0.7**
	comp=Z,2.5nm,1.0s,baz=254,slow=6.5,SNR=10					
NV11	**Mina Array Sit**	**94.36**	**52**	P	**P**	**02 52 38.8 -3.2**
NV11				IAmb	IAmb	02 52 46.0
	comp=Z,3.7nm,1.1s					
YKA	**Yellowknife Ar**	**97.21**	**28**	P	**P**	**02 52 53.6 -0.5**
	comp=Z,0.4nm,0.5s,baz=269,slow=4.6,SNR=4.7					
SNAA	**Sanae**	**100.79**	**188**	Pdiff	**Pdif**	**02 53 10.5 +0.3**
PDAR	**Pinedale Array**	**100.96**	**48**	P	**Pdif**	**02 53 11.0 -0.8**
	comp=Z,0.4nm,0.6s,baz=266,slow=4.2,SNR=4.7					
VNA2	**Neumayer--Watz**	**102.08**	**187**	Pdiff	**Pdif**	**02 53 14.7 -1.2**
GERES	**GERESS Array B**	**123.83**	**327**	PKP	**PKiKP**	**02 58 20.2 +0.1**
	comp=Z,0.5nm,0.7s,baz=88,slow=3.2,SNR=3.7					
GERES	**GERESS Array B**	**123.83**	**327**		**PKPdf**	**02 58 19.7 -0.2**
LPAZ	**La Paz**	**135.67**	**120**	PKP	**PKPdf**	**02 58 42.0 -2.0**
	comp=Z,1.0nm,0.8s,baz=331,slow=1.3,SNR=4.9					
TOA0	**Torodi Ar. Sit**	**148.70**	**286**	PKPdf	**PKPdf**	**02 59 02.9 -3.3**
TORD	**Torodi Ar. Bea**	**148.70**	**286**	PKPbc	**PKPbc**	**02 59 09.4 -0.7**
	comp=Z,5.4nm,0.6s,baz=69,slow=2.8,SNR=30					
BDFB	**Brasilia**	**151.70**	**139**	PKPbc	**PKiKP**	**02 59 17.7 -0.1**
	comp=Z,3.0nm,0.6s,baz=144,slow=6.2,SNR=6.3					

*IDC **27** 02:40:58.0±3.9, 5°.40S×150°.53E, h0km, mb4.2/2, mb1 4.6/2, mb1mx3.8/33, mbtmp4.3/2, MS3.8/1, Ms1 3.8/1, ms1mx3.2/16, Error ellipse: s-maj=158.1km s-min=49.7km az=116.0*
*ISCJB **27** 02:41:10.7±1.1, 5°.6S±0°.2×150°.0E±0°.2, h100km, mb3.9/1, Error ellipse: s-maj=27.1km s-min=17.5km az=42.8*
*NEIC **27** 02:41:11.5±0.9, 5°.6S±0°.1×150°.0E±0°.1, h90km±13km, mb4.4/9*
ISC 27 02:41:12.6±1.2, 5°.6S±0°.2×150°.0E±0°.2, h100km, n15, σ0§55/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0	**Warramunga Arr**	**20.68**	**226**	P	**P**	**02 45 44.4**	**-0.3**
WB0				IAmb	IAmb	02 45 49.6	
	comp=Z,17nm,0.9s						
WR0	**Warramunga Arr**	**20.70**	**225**	P	Pn	02 45 46.1	-2.1
WR0				IAmb	IAmb	02 45 46.3	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**20.82**	**225**	P	Pn	02 45 47.5	-2.1
WRAB				IAmb	IAmb	02 45 50.8	
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**20.82**	**225**	P	**P**	**02 45 45.5**	**-0.8**
WB2				IAmb	IAmb	02 45 57.4	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**20.83**	**225**	P	Pn	02 45 47.5	-2.3
	comp=Z,9.2nm,0.6s,baz=51,slow=9.9,SNR=4.2						
AS31	**Alice Springs**	**23.70**	**219**	P	**P**	**02 46 15.2**	**-0.3**
ASAR	**Alice Springs**	**23.70**	**219**	P	**P**	**02 46 16.7**	**+1.2**
	comp=Z,3.2nm,0.5s,baz=49,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**23.70**	**219**	P	**P**	**02 46 15.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**26.80**	**240**	P	**P**	**02 46 43.9**	**+0.3**
FITZ				IAmb	IAmb	02 46 55.0	
	comp=Z,13nm,0.9s						
CAN	**Canberra**	**29.58**	**182**	P	**P**	**02 47 08.1**	**0.0**
PSAD1	**Pilbara Seismi**	**33.16**	**239**	P	**P**	**02 47 39.5**	**-0.3**
TUWZ	**Tuamarina**	**41.60**	**153**	P	**P**	**02 48 50.7**	**0.0**
JNU	**Nakatsue**	**42.56**	**336**	LR	LR	03 05 53.4	
	comp=Z,104nm,18.7s,baz=174,slow=35						
NIKH	**Nikolski High**	**67.93**	**25**	P	**P**	**02 52 00.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**147.84**	**286**	PKPbc	**PKPbc**	**03 00 46.8**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=84,slow=2.3,SNR=6.2						

IDC 27 02:51:58.3±2.5, 60°.76S×44°.41W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.6/16, mbtmp3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/14, Error ellipse: s-maj=137.9km s-min=73.8km az=171.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**35.53**	**340**	LR	LR	03 11 59.6	
	comp=Z,14nm,21.4s,baz=157,slow=34						
TORD	**Torodi Ar. Bea**	**82.26**	**45**	P	P	03 04 21.3	0.0
	1.0nm,0.8s,baz=195,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**146.37**	**311**	PKPbc	PKPdf	03 11 38.5	+0.4
	0.6nm,0.7s,baz=140,slow=1.5,SNR=4.5						
MKAR	**Makanchi Array**	**146.57**	**90**	PKPbc	PKPdf	03 11 39.8	+0.8
	0.7nm,0.7s,baz=235,slow=2.6,SNR=4.0						

JMA 27 02:52:17.9±0.2, 37°.34N×144°.47E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.57**	**293**	*e*S	Sn	02 53 28.5	+1.5
JIO	**Ouri**	**2.71**	**295**	*e*S	Sn	02 53 31.6	+1.2
JKMT	**Kesennumamotoy**	**2.78**	**303**	P	Pn	02 53 01.2	+1.3
JKMT				S	Sn	02 53 33.7	+1.4
OFUJ	**Ofunato**	**2.81**	**309**	P	Pn	02 53 01.6	+1.3
OFUJ				*e*S	Sn	02 53 33.6	+0.7
JMK	**Ichinoseki**	**3.03**	**303**	P	Pn	02 53 04.9	+1.6
JMK				S	Sn	02 53 40.0	+1.8
JOU	**Okura**	**3.18**	**290**	*e*S	Sn	02 53 45.2	+3.1
JOM	**Ohasama**	**3.28**	**311**	S	Sn	02 53 46.0	+1.4
JFT	**Otama**	**3.29**	**274**	*e*S	Sn	02 53 45.9	+1.0
JRG	**Rokugo**	**3.65**	**305**	P	Pn	02 53 14.3	+2.5
JRG				*e*S	Sn	02 53 56.3	+2.7
BSO1	**Boso 1**	**3.90**	**228**	*e*S	Sn	02 54 01.5	+2.5
JTM	**Tenmabayashi**	**4.34**	**323**	*e*S	Sn	02 54 09.6	-1.0
JRY	**Ryogami san**	**4.67**	**255**	P	Pn	02 53 26.9	+1.1
JRY				*e*S	Sn	02 54 19.5	+0.8
JKB	**Kayabe**	**5.26**	**331**	P	Pn	02 53 35.5	+1.6
JCH	**Churui**	**5.34**	**351**	P	Pn	02 53 34.6	-0.4
JCH				*e*S	Sn	02 54 30.8	-4.3
JTKR	**Abashiri--Toko**	**6.64**	**356**	P	Pn	02 53 51.5	-1.3
JTKR				*e*S	Sn	02 55 01.9	-5.1

*ISCJB **27** 02:52:22.9±0.4, 67°.15N±0°.02×20°.56E±0°.07, h0km, Error ellipse: s-maj=4.2km s-min=2.9km az=11.5*
*HEL **27** 02:52:25.1±0.0, 67°.19N×20°.61E, h1km, ML2.3, ML2.1(UPP), Confirmed Induced event*
*IDC **27** 02:52:25.3±0.8, 67°.15N×21°.01E, h0km, mb1 3.3/5, mb1mx3.1/47, mbtmp3.3/5, ML2.5/4, Error ellipse: s-maj=14.8km s-min=7.3km az=105.0*
*NAO **27** 02:52:25.1±0.9, 67°.11N×21°.00E, ML2.7*
*BER **27** 02:52:27.3±3.7, 67°.07N×20°.94E, h0km, ML2.4, ML2.7(NAO), Suspected explosion*
ISC 27 02:52:23.4±0.7, 67°.11N±0°.03×20°.74E±0°.03, h0km, n39, σ1§85/69, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**280**	*i* P	**Pg**	**02 52 26.4**	**+1.7**
DUNU				*i* S	**Sg**	**02 52 27.4**	**+1.9**
MASU	**Masugnsbyn**	**0.60**	**54**	*i* P	**Pb**	**02 52 36.0**	**-0.8**
MASU				*i* S	**Sb**	**02 52 43.8**	**-1.9**
ERTU	**Ertsjaerv**	**0.80**	**134**	*i* P	**Pb**	**02 52 40.8**	**+0.6**
RATU	**Laukkuluspa**	**0.84**	**329**	*i* P	**Pg**	**02 52 38.8**	**-0.7**
KUA	**Kurravaara**	**0.86**	**350**	*i* P	**Pg**	**02 52 39.0**	**-0.9**
PAJU	**Pajala**	**0.93**	**94**	*e*P	**Pb**	**02 52 42.7**	**+0.3**
PAJU				*e*S	**Sb**	**02 52 56.1**	**+0.8**
HARU	**Harads**	**0.95**	**174**	*e*P	**Pb**	**02 52 43.5**	**+0.7**
LANU	**Lannavaara**	**1.06**	**26**	*e*P	**Pg**	**02 52 43.2**	**-0.4**
LANU				*e*S	**Sg**	**02 52 56.8**	**-0.6**
KOVU	**Salmi**	**1.14**	**349**	*e*P	**Pg**	**02 52 44.0**	**-1.3**
HEF	**Hetta**	**1.71**	**39**	*e*P	**Pn**	**02 52 54.8**	**+0.4**
HEF				*e*S	**Sn**	**02 53 16.8**	**-0.2**
HEF				MSG		02 53 20.3	
	comp=Z,15nm,0.2s						
TOF	**Tornio**	**1.77**	**124**	*e*P	**Pg**	**02 52 57.7**	**+0.6**
TOF				*e*S	**Sg**	**02 53 22.1**	**+2.1**
TOF				MSG		02 53 25.4	
	comp=Z,13nm,0.1s						
KIF	**Kilpisjarvi**	**1.90**	**1**	*e*S	**Sb**	**02 53 22.9**	**-0.3**
KIF				MSG		02 53 25.2	
	comp=Z,34nm,0.2s						
KTK1	**Kautokeino**	**2.13**	**25**	*e*P	**Pb**	**02 53 02.0**	**-0.8**
KTK1				*e*S	**Sn**	**02 53 27.3**	**+0.1**
KTK1				IAML		02 53 32.7	
	comp=Z,46nm,0.4s						
RNF	**Rovaniemi**	**2.14**	**101**	*e*P	**Pb**	**02 53 03.0**	**0.0**
RNF				*e*SB	**Sg**	**02 53 32.0**	**0.0**
SGF	**Sodankyl**	**2.27**	**79**	*e*PB	**Pb**	**02 53 04.9**	**-0.2**
SGF				*e*SB	**Sb**	**02 53 34.3**	**+0.6**
OUL	**Oulu**	**2.92**	**132**	*e*P	**Pn**	**02 53 14.0**	**+3.0**
OUL				*e*S	**Sn**	**02 53 49.8**	**+3.1**
OUL				MSG		02 53 59.3	
	comp=Z,12nm,0.2s						
ARA0	**ARCESS Array S**	**3.01**	**34**	Pn	**Pn**	**02 53 13.2**	**+0.9**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**02 53 50.5**	**+1.5**
	baz=216,slow=22						
ARA0	**ARCESS Array S**	**3.01**	**34**	Pn	**Pn**	**02 53 13.2**	**+0.9**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**02 53 50.5**	**+1.5**
	baz=216,slow=22						
ARCES	**ARCESS Array B**	**3.01**	**34**	Pn	**Pn**	**02 53 13.2**	**+1.0**
	comp=Z,2.3nm,0.3s,baz=215,slow=13,SNR=58						
ARCES				Sn	**Sn**	**02 53 48.6**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=212,slow=18,SNR=4.7						
ARE0	**ARCESS Array S**	**3.01**	**34**	*e*P	**Pn**	**02 53 13.4**	**+1.1**
ARE0				*e*S	**Sn**	**02 53 50.1**	**+1.1**
VRF	**Varrio**	**3.48**	**75**	MSG		02 54 15.2	
	comp=Z,7.7nm,0.2s						
KEV	**Kevo**	**3.52**	**38**	MSG		02 54 19.0	
	comp=Z,7.0nm,0.2s						
HUSU	**Husum**	**3.84**	**190**	*e*P	**Pn**	**02 53 26.3**	**+2.7**
HUSU				*e*S	**Sn**	**02 54 10.6**	**+1.2**
VAF	**Ylistaro**	**4.17**	**168**	*e*P	**Pn**	**02 53 31.3**	**+3.3**
VAF				*e*S	**Sn**	**02 54 18.8**	**+1.4**
APA0	**Apatity Array**	**4.76**	**78**	Pn	**Pn**	**02 53 36.4**	**+0.1**
APA0				Sn	**Sn**	**02 54 31.0**	**-1.0**
	baz=275,slow=28						
APA0				Lg	Lg	02 54 49.4	
APA0	**Apatity Array**	**4.76**	**78**	Pn	**Pn**	**02 53 36.4**	**+0.1**
APA0				Sn	**Sn**	**02 54 31.0**	**-1.0**
	baz=275,slow=28						
FIA0	**FINESS Array S**	**6.14**	**155**	Pn	**Pn**	**02 53 58.1**	**+2.9**
	baz=343,slow=14						
FIA0				Sn	**Sn**	**02 55 07.0**	**+1.0**
	baz=342,slow=28						
FIA0				Lg	Lg	02 55 34.9	
	baz=345,slow=22						
FIA0	**FINESS Array S**	**6.14**	**155**	Pn	**Pn**	**02 53 58.1**	**+2.9**
	baz=343,slow=14						
FIA0				Sg	**Sg**	**02 55 34.9**	**-5.5**
	baz=345,slow=22						
FINES	**FINESS Array B**	**6.14**	**155**	Pn	**Pn**	**02 53 58.3**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=344,slow=13,SNR=13						
FINES				Sn	**Sn**	**02 55 06.7**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=347,slow=22,SNR=8.2						
FINES				Lg	Lg	02 55 38.2	
	comp=Z,1.6nm,0.3s,baz=346,slow=29,SNR=8.3						
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn	**Pn**	**02 54 14.5**	**+2.2**
	baz=30,slow=14						
NB2				Sn	**Sn**	**02 55 35.7**	**-0.8**
	baz=35,slow=28						
NB2				Lg	Lg	02 56 15.4	
	baz=27,slow=37						
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn	**Pn**	**02 54 14.5**	**+2.2**
	baz=30,slow=14						
NB2				Sn	**Sn**	**02 55 35.7**	**-0.8**
	baz=35,slow=28						
NB2				Sg	**Sg**	**02 56 15.4**	**-4.6**
	baz=27,slow=37						
NOA	**NORSAR Array B**	**7.38**	**219**	Pn	**Pn**	**02 54 14.3**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=18,slow=12,SNR=5.2						
NOA				Sn	**Sn**	**02 55 33.9**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=47,slow=22,SNR=5.0						
NOA				Lg	Lg	02 56 12.2	
	comp=Z,0.1nm,0.3s,baz=198,slow=14,SNR=4.0						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**02 54 17.1**	**+2.3**
	baz=2.1,slow=9.3						
NRA0				Sn	**Sn**	**02 55 38.6**	**-2.5**
	baz=29,slow=22						
NRA0				Lg	Lg	02 56 24.9	
	baz=19,slow=28						
NRA0	**NORESS Array S**	**7.57**	**217**	Pn	**Pn**	**02 54 17.1**	**+2.3**
	baz=2.1,slow=9.3						
NRA0				Sn	**Sn**	**02 55 38.6**	**-2.5**
	baz=29,slow=22						
NRA0				Sg	**Sg**	**02 56 24.9**	**-1.2**
	baz=19,slow=28						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**02 54 17.1**	**+1.0**
	baz=18,slow=14						
HFS				Sn	**Sn**	**02 55 41.7**	**-1.9**
	baz=30,slow=28						
HFS				Lg	Lg	02 56 26.8	
	baz=34,slow=37						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**02 54 17.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=13						
HFS				Sn	**Sn**	**02 55 41.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=19,slow=23,SNR=7.8						
HFS				Lg	Lg	02 56 23.6	
	comp=Z,0.6nm,0.3s,baz=39,slow=30,SNR=5.8						
HFS	**Hagfors**	**7.67**	**207**	Pn	**Pn**	**02 54 17.1**	**+1.0**
	baz=18,slow=14						
HFS				Sn	**Sn**	**02 55 41.7**	**-1.9**
	baz=30,slow=28						
HFS				Sg	**Sg**	**02 56 26.8**	**-2.5**
	baz=34,slow=37						
LSH	**Leshukonskoye**	**10.39**	**91**	*e*P	**Pn**	**02 54 51.5**	**-1.9**
	comp=Z,91nm,2.4s						
SPITS	**Spitsbergen Ar**	**11.20**	**355**	Pn	**Pn**	**02 55 03.7**	**-0.8**
	baz=129,slow=17,SNR=3.7						

*ISCJB **27** 03:01:03.1±0.5, 13°.72N±0°.06×144°.9E±0°.1, h125km, mb3.6/6, Error ellipse: s-maj=16.4km s-min=7.4km az=13.0*
*NEIC **27** 03:01:05.6±0.8, 13°.80N±0°.06×145°.0E±0°.2, h136km±3km, mb4.2/10*
*IDC **27** 03:01:05.7±0.5, 13°.86N×144°.94E, h130km±4km, mb3.3/6, mb1 3.6/6, mb1mx3.2/36, mbtmp3.7/6, Error ellipse: s-maj=36.8km s-min=19.4km az=107.0*
ISC 27 03:01:04.8±0.6, 13°.82N±0°.07×144°.9E±0°.1, h125km, n23, σ1§73/26, mb3.8/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.23**	**191**	LR	LR	03 01 05.7	
	comp=Z,45nm,19.0s,baz=110,slow=0.2						
GUMO				P	**Pn**	**03 01 25.2**	**+3.1**
	388nm,0.3s,baz=147,slow=0.4,SNR=52						
GUMO				S	**Sn**	**03 01 38.8**	**+3.6**
	970nm,0.3s,baz=255,slow=22,SNR=50						
GUMO	**Guam**	**0.23**	**191**		**Pn**	**03 01 24.9**	**+2.8**
GUMO					**Sn**	**03 01 38.6**	**+3.4**
SARN	**Sarigan**	**2.98**	**16**	Pn	**Pn**	**03 01 52.5**	**+1.4**
SARN				Sn	**Sn**	**03 02 28.9**	**+2.1**
NACB	**Ninganchiao**	**24.30**	**299**	P	**P**	**03 06 11.4**	**+0.7**
TATO	**Taipei**	**24.68**	**300**	P	**P**	**03 06 14.3**	**+0.1**
WB0	**Warramunga Arr**	**34.94**	**197**	P	**P**	**03 07 44.4**	**-0.6**
WB0				IAmb	IAmb	03 08 01.8	
	comp=Z,4.2nm,1.1s						
WRAB	**Tennant Creek**	**35.11**	**197**	P	**P**	**03 07 46.0**	**-0.4**
WRAB				IAmb	IAmb	03 07 49.5	
	comp=Z,2.4nm,0.8s						
WB2	**Warramunga Arr**	**35.12**	**197**	P	**P**	**03 07 46.0**	**-0.4**
WRA	**Warramunga Arr**	**35.13**	**197**	P	**P**	**03 07 46.0**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=15,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**35.13**	**197**	P	**P**	**03 07 44.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**36.98**	**211**	P	**P**	**03 08 01.7**	**-0.5**
ASAR	**Alice Springs**	**38.78**	**196**	P	**P**	**03 08 17.9**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=19,slow=13,SNR=5.1						
DZM	**Mont Dzumac**	**41.45**	**149**	P	**P**	**03 08 37.1**	**-2.4**
DZM				IAmb	IAmb	03 08 56.0	
	comp=Z,7.5nm,1.1s						
CHTO	**Chiang Mai**	**44.30**	**283**	P	**P**	**03 09 00.6**	**-2.0**
CHTO				IAmb	IAmb	03 09 14.5	
	comp=Z,2.4nm,0.5s						
BBOO	**Buckleboo**	**47.13**	**190**	P	**P**	**03 09 24.0**	**-0.5**
BBOO				IAmb	IAmb	03 09 35.9	
	comp=Z,7.9nm,1.1s						
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**03 11 08.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=95,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**03 11 07.3**	**-0.1**
ILAR	**Eielson Array**	**68.34**	**25**	P	**P**	**03 11 51.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=252,slow=5.7,SNR=14						
YKA	**Yellowknife Ar**	**82.64**	**27**	P	**P**	**03 13 13.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=264,slow=5.2,SNR=3.7						
NVAR	**Mina Array Bea**	**86.74**	**51**	P	**P**	**03 13 37.1**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=265,slow=5.5,SNR=4.7						
NVAR	**Mina Array Bea**	**86.74**	**51**	P	**P**	**03 13 35.5**	**0.0**
TORD	**Torodi Ar. Bea**	**134.77**	**305**	PKP	**PKiKP**	**03 20 10.8**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=106,slow=2.1,SNR=3.5						
LPAZ	**La Paz**	**148.02**	**99**	PKPbc	**PKiKP**	**03 20 38.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=174,slow=2.3,SNR=4.4						

*ISCJB **27** 03:02:01.3±0.5, 16°.26N±0°.06×94°.16W±0°.03, h110km±6km, Error ellipse: s-maj=9.4km s-min=4.6km az=10.6*
*NEIC **27** 03:02:02.2±1.8, 16°.25N±0°.06×94°.18W±0°.02, h102km±11km*
*MEX **27** 03:02:03.8±0.9, 16°.23N×94°.17W, h99km±10km, MD4.2*
ISC 27 03:02:02.4±0.9, 16°.22N±0°.06×94°.17W±0°.03, h99km±10km, n20, σ0§82/33, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.05**	**119**	*e*P	**Pn**	**03 02 23.6**	**+0.3**
PCIG				*e*S	**Sn**	**03 02 39.1**	**+0.1**
PCIG		**1.05**	**119**		**Pn**	**03 02 23.6**	**+0.3**
PCIG					**Sn**	**03 02 39.1**	**+0.1**
CMIG	**Matias Romero**	**1.10**	**322**	*i* P	**Pn**	**03 02 24.6**	**+0.6**
CMIG				*e*S	**Sn**	**03 02 40.6**	**+0.4**
CMIG	**Matias Romero**	**1.10**	**322**		**Pn**	**03 02 24.6**	**+0.6**
CMIG					**Sn**	**03 02 40.6**	**+0.4**
TGIG		**1.15**	**61**	*i* P	**Pn**	**03 02 24.4**	**-0.1**
TGIG				*e*S	**Sn**	**03 02 40.2**	**-0.9**
TGIG		**1.15**	**61**		**Pn**	**03 02 24.4**	**-0.1**
TGIG					**Sn**	**03 02 39.7**	**-1.5**
HUIG	**Huatulco**	**1.92**	**257**	*i* P	**Pn**	**03 02 33.2**	**-0.7**
HUIG				*e*S	**Sn**	**03 02 57.5**	**-0.5**
HUIG	**Huatulco**	**1.92**	**257**		**Pn**	**03 02 33.2**	**-0.7**
HUIG					**Sn**	**03 02 57.5**	**-0.5**
CCIG	**Comitan**	**1.95**	**88**		**Pn**	**03 02 34.5**	**0.0**
CCIG				Sn	**Sn**	**03 02 59.7**	**+0.8**
THIG		**2.25**	**125**	*e*P	**Pn**	**03 02 39.5**	**+1.2**
THIG				*e*S	**Sn**	**03 03 05.9**	**+0.2**
THIG		**2.25**	**125**		**Pn**	**03 02 39.5**	**+1.2**
VHO	**Vista Hermosa**	**2.60**	**289**	*e*P	**Pn**	**03 02 44.1**	**+1.1**
VHO				*i* S	**Sn**	**03 03 14.1**	**-0.1**
TLIG	**Tlapa**	**4.42**	**288**	Pn	**Pn**	**03 03 07.9**	**+0.6**
TLIG				Sn	**Sn**	**03 03 56.6**	**-1.2**
TEIG	**Tepich**	**6.87**	**54**		**Pn**	**03 03 38.7**	**-1.8**
TEIG				Sn	**Sn**	**03 04 57.0**	**-0.2**
JTS	**Las Juntas de**	**10.73**	**122**	Pn	**Pn**	**03 04 33.2**	**+0.1**
FSCY	**Frank Sound, G**	**12.74**	**74**	Pn	**Pn**	**03 04 59.4**	**-0.6**
CBCY	**The Bluff, Cay**	**14.15**	**74**	Pn	**Pn**	**03 05 18.2**	**-0.1**
Z41A	**Richland Creek**	**17.01**	**4**		**P**	**03 05 55.1**	**+0.7**
Z41A				IAmb	IAmb	03 06 07.5	
	comp=Z,7.9nm,0.7s						
MNTX	**Cornudas Mount**	**18.48**	**328**	P	**P**	**03 06 10.9**	**+0.3**
W35A	**Tecumseh**	**19.01**	**353**	P	**P**	**03 06 14.8**	**-1.6**

IDC 27 03:59:32.4±34.0, 33°.30N×100°.34E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.1/46, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=491.8km s-min=81.5km az=156.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**15.22**	**16**	Pn	Pn	04 03 08.5	-0.3
	0.1nm,0.3s,baz=200,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**19.24**	**320**	P	P	04 03 58.5	+0.3
	0.1nm,0.3s,baz=122,slow=12,SNR=3.9						
ZALV	**Zalesovo Beam**	**23.40**	**337**	P	P	04 04 43.2	+0.4
	0.8nm,0.5s,baz=141,slow=9.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**23.58**	**324**	P	P	04 04 44.0	-0.5
	0.3nm,0.5s,baz=124,slow=12,SNR=2.2						

*MDD **27** 04:09:59.5±1.3, 35°.32N×9°.34W, h59km±65km, mb3.9/3, Error ellipse: s-maj=13.5km s-min=9.9km az=7.0, PRXIMO*
*SFS **27** 04:09:59.0, 35°.53N×9°.18W, ML2.9, SW. CABO DE SAN VICENTE*
*INMG **27** 04:10:00.1±1.0, 35°.31N×9°.36W, h32km±5km, ML2.4, Error ellipse: s-maj=3.5km s-min=2.0km az=96.0*
*IGIL **27** 04:10:00.4, 35°.31N×9°.35W, h31km, ML2.3*
ISC 27 04:09:57.1±3.3, 35°.4N±0°.1×9°.2W±0°.1, h10km, n59, σ1§23/83, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.73**	**11**	*e*P	**Pn**	**04 10 28.3**	**+1.1**
PFVI				*e*S	**Sn**	**04 10 49.3**	**0.0**
PFVI				A	A	04

comp=N,6.6nm,0.1s
EVO Evora 3.24 17 *e*P **Pn 04 10 49.4 +1.4**
EVO *e*S **Sn 04 11 25.5 -1.2**
EVO Evora 3.24 17 P **Pn 04 10 49.4 +1.4**
EVO S **Sn 04 11 25.5 -1.2**
PBAR Barrancos 3.25 32 *e*S **Sn 04 11 27.4 +0.4**
PBAR Barrancos 3.25 32 S **Sn 04 11 27.4 +0.4**
PMAFR Mafra 3.51 359 *e*S **Sn 04 11 31.6 -1.8**
PMAFR A A 04 11 33.9
comp=N,10nm,0.7s
PMAFR Mafra 3.51 359 P **Pn 04 10 52.8 +1.0**
comp=N,2.8nm,0.2s,SNR=7.9
PMAFR S **Sn 04 11 31.7 -1.8**
comp=N,5.3nm,0.1s,SNR=5.6
PESTR Estremoz 3.67 21 *e*P **Pn 04 10 55.3 +1.4**
PESTR *e*S **Sn 04 11 36.2 -1.1**
PESTR A A 04 11 39.6
comp=N,2.0nm,0.7s
PMTG Montargil 3.71 12 *e*P **Pn 04 10 55.4 +0.9**
PMTG *e*S **Sn 04 11 36.4 -2.0**
PMTG A A 04 11 37.9
comp=N,5.7nm,0.8s
PMTG Montargil 3.71 12 P **Pn 04 10 55.4 +0.9**
PMTG S **Sn 04 11 36.4 -2.0**
comp=N,5.7nm,0.8s
EBAD Badajoz 3.76 28 P **Pn 04 10 56.1 +1.0**
comp=N,0.1nm,0.1s,SNR=9.6
EBAD S **Sn 04 11 38.7 -0.7**
comp=N,4.0nm,0.2s,SNR=9.4
EMIJ Mijas 3.79 71 S **Sn 04 11 38.3 -1.9**
comp=N,1.9nm,0.3s,SNR=7.9
ECAB El Cabril 4.04 48 P **Pn 04 11 00.0 +1.0**
comp=N,0.3nm,0.1s,SNR=7.0
ECAB S Sn 04 11 43.9 -2.6
comp=N,2.1nm,0.3s
PTOM Tomar 4.22 9 *e*P **Pn 04 11 02.7 +1.1**
PTOM *e*S **Sn 04 11 49.4 -1.6**
PTOM A A 04 11 52.2
comp=N,4.0nm,0.5s
PTOM Tomar 4.22 9 P **Pn 04 11 02.7 +1.1**
PTOM S **Sn 04 11 49.4 -1.6**
comp=N,2.0nm,0.5s
PMRV Marv??o 4.25 20 *e*P **Pn 04 11 02.7 +0.8**
PMRV *e*S Sn 04 11 49.3 -2.2
PMRV A A 04 11 51.9
comp=N,2.7nm,0.3s
PMRV Marv??o 4.25 20 P **Pn 04 11 02.7 +0.8**
PMRV S Sn 04 11 49.3 -2.2
comp=N,2.7nm,0.3s
PCBR Castelo Branco 4.61 17 *e*S **Sn 04 11 58.4 -2.1**
PCBR A A 04 12 00.6
comp=N,2.3nm,0.2s
PCBR Castelo Branco 4.61 17 S **Sn 04 11 58.4 -2.1**
comp=N,1.2nm,0.2s
EADA Adamuz 4.63 53 P **Pn 04 11 08.1 +0.9**
comp=N,0.6nm,0.1s,SNR=7.9
EADA S Sn 04 11 58.6 -2.3
comp=N,11nm,0.1s,SNR=16
ELGU Los Guajares, 4.76 71 S **Sn 04 12 02.5 -1.7**
comp=N,1.0nm,0.1s,SNR=7.9
EQUE Quentar 5.00 68 P **Pn 04 11 13.6 +1.3**
comp=N,0.0nm,0.1s,SNR=7.9
EQUE S **Sn 04 12 08.2 -2.0**
comp=N,2.1nm,0.3s,SNR=7.9
MTE Manteigas 5.13 15 *e*P **Pn 04 11 15.1 +1.0**
MTE *e*S **Sn 04 12 11.9 -1.5**
MTE A A 04 12 15.7
comp=N,3.2nm,0.8s
MTE Manteigas 5.13 15 P **Pn 04 11 15.1 +1.0**
MTE S **Sn 04 12 11.9 -1.5**
comp=N,1.6nm,0.8s
EPLA Plasencia 5.25 27 P **Pn 04 11 16.9 +1.2**
comp=N,0.2nm,0.1s,SNR=7.9
EPLA S **Sn 04 12 14.4 -2.0**
comp=N,1.2nm,0.2s,SNR=5.8
GORA Gorafe 5.39 66 S Sn 04 12 15.3 -4.5
comp=N,4.0nm,0.1s,SNR=7.9
EQES Quesada 5.49 63 P **Pn 04 11 19.9 +0.8**
comp=N,0.1nm,0.2s,SNR=7.9
EQES S Sn 04 12 19.3 -3.1
comp=N,1.3nm,0.2s,SNR=8.8
PAB San Pablo 5.65 42 P **Pn 04 11 21.9 +0.7**
comp=N,0.1nm,0.1s,SNR=7.9
PAB S Sn 04 12 21.3 -4.9
comp=N,0.7nm,0.2s,SNR=7.9
ESDC Sonseca Array 5.95 43 P **Pn 04 11 26.0 +0.7**
comp=N,0.1nm,0.1s,baz=232,slow=13,SNR=3.6
ESDC S Sn 04 12 29.2 -4.4
comp=N,0.5nm,0.2s,baz=228,slow=23,SNR=23
MVO Moncorvo 5.98 16 *e*S **Sn 04 12 32.0 -2.2**
MVO A A 04 12 32.7
comp=N,2.0nm,1.0s
MVO Moncorvo 5.98 16 P **Pn 04 11 26.4 +0.7**
comp=N,0.1nm,0.2s,SNR=7.9
MVO S Sn 04 12 31.5 -2.7
comp=N,2.0nm,0.3s,SNR=7.9
SESP Santiago Espad 6.00 62 P **Pn 04 11 26.4 +0.3**
comp=N,0.5nm,0.2s,SNR=7.9
SESP S Sn 04 12 31.0 -4.0
comp=N,3.8nm,0.3s,SNR=7.9
PMPST Porto Santo, M 6.33 250 *e*S Sn 04 12 30.6 -12
PMPS Porto Santo 6.34 250 S Sn 04 12 30.6 -12
ELOB Lobios 6.49 8 P **Pn 04 11 33.5 +0.7**
comp=N,0.5nm,0.2s,SNR=7.9
ELOB S Sn 04 12 41.9 -5.0
comp=N,0.4nm,0.2s,SNR=7.9
GUD Guadarrama 6.56 36 S Sn 04 12 44.9 -3.9
comp=N,0.4nm,0.2s,SNR=7.9
PMAR Madeira 6.92 249 *e*S Sn 04 12 46.5 -11
PMAR A A 04 12 49.5
comp=N,13nm,0.9s
PMAR Madeira 6.92 249 S Sn 04 12 46.5 -11
comp=N,6.3nm,0.9s
ETOB Tobarra 6.93 60 P Pn 04 11 38.8 0.0
comp=N,0.0nm,0.0s,SNR=7.9
ETOB S Sn 04 12 52.9 -4.8
comp=N,2.0nm,0.1s,SNR=9.6
PMOZ Porto Moniz, M 7.10 251 *e*S Sn 04 12 49.4 -13
ETOR Torete 7.80 44 P **Pn 04 11 51.6 +0.8**
comp=N,0.8nm,0.2s,SNR=7.9
ETOR S Sn 04 13 14.6 -4.6
comp=N,1.1nm,0.2s,SNR=7.9

SOF ***27*** *04:13:32.0,40.°71N×28.°16E,h1km*
BJI ***27*** *04:13:35.0±0.0,40.°90N×27.°90E,h6km,mb4.6/24, mB4.9/19,Ms4.6/8,Ms7 4.3/8*
MOS ***27*** *04:13:36.2±1.1,40.°87N×27.°97E,h11km,mb4.5/13,Error ellipse: s-maj=4.5km s-min=3.1km az=94.5*
ISK ***27*** *04:13:37.5,40.°85N×27.°92E,h11km,ML4.7/51*
MED_RC ***27*** *04:13:37.0±0.2,40.°85N×27.°94E,h11km±1km,MW4.7/28, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s28,c43; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr-0.46±.05; Mθθ0.45±.06; Mφφ0.01±.03; Mrθ-0.08±.10; Mθφ-1.15±.05; Mφr-0.25±.11; Best double couple: M0 1.23000×10^16 NP1:φs352.00000°,δ76.00000°, λ-19.00000°. NP2:φs86.00000°,δ72.00000°, λ-166.00000°. Principal axes: T 1.4100, Plg3.0000°, Azm40.0000°; N -0.3600, Plg67.0000°, Azm137.0000°; P -1.0400, Plg23.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
ATH ***27*** *04:13:37.6,40.°78N×27.°83E,h26km±12km,ML4.7/10 Error ellipse: s-maj=16.2km s-min=2.3km az=69.0*
IDC ***27*** *04:13:37.1±0.6,40.°82N×28.°05E,h0km,mb4.0/21, mb1 4.1/29,mb1mx4.1/52,mbtmp4.0/29,ML3.7/8,MS3.8/33, Ms1 3.9/33,ms1mx3.7/58,Error ellipse: s-maj=12.6km s-min=7.8km az=24.0*
DDA ***27*** *04:13:37.4,40.°83N×27.°91E,h19km±1km,MW4.5*
BEO ***27*** *04:13:37.9±1.4,41.°07N×28.°08E,h4km±7km,ML4.9/15*
NEIC ***27*** *04:13:37.8±1.9,40.°86N±0.°04×27.°897E±0.°009, h10km±4km*
PDG ***27*** *04:13:37.8±0.6,40.°85N×27.°90E,h18km,ML4.7/11,Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
ISCJB ***27*** *04:13:37.2±0.2,40.°873N±0.°009×27.°875E±0.°010, h13km±1km,mb4.3/41,MS3.9/28,Error ellipse: s-maj=1.5km s-min=1.2km az=8.3*
THE ***27*** *04:13:39.2,40.°87N×27.°96E,h20km±3km,ML4.8/8,Error ellipse: s-maj=3.2km s-min=0.5km az=95.0*
GCMT ***27*** *04:13:40.4±0.3,40.°87N±0.°02×27.°91E±0.°02,h16km±1km, MW4.8/76,Moment Tensor Solution. s15,c15; s76,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.64±.09; Mθθ0.69±.07; Mφφ-0.04±.06; Mrθ-0.69±.24; Mθφ-1.36±.06; Mφr-0.53±.23; Best double couple: M0 1.74500×10^16 NP1:φs89.00000°,δ69.00000°,λ-147.00000°. NP2: φs346.00000°,δ60.00000°,λ-25.00000°. Principal axes: T 1.7550, Plg6.0000°, Azm216.0000°; N -0.0180, Plg52.0000°, Azm118.0000°; P -1.7360, Plg38.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 04:13:37.1±1.0,40.°87N±0.°01×27.°91E±0.°01,h3km±6km, n669,σ1°41/767,mb4.3/43,MS4.0/28,60C-26D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.31**	**292**	PG	**Pb**	**04 13 44.6**	**-0.7**
TKR				SG	**Sb**	**04 13 50.1**	**-0.7**
TKR	**Tekirdag**	**0.31**	**292**	Pg	**Pb**	**04 13 44.4**	**-1.0**
MRMT	**Marmara Adasi**	**0.36**	**222**	PG	**Pg**	**04 13 44.7**	**+0.7**
MRMT				SG	**Sg**	**04 13 49.7**	**+0.9**
MRMT	**Marmara Adasi**	**0.36**	**222**	Pg	**Pg**	**04 13 44.7**	**+0.7**
MRMT				Sg	**Sg**	**04 13 50.1**	**+1.4**
SLVT	**Silivri**	**0.42**	**32**	PG	**Pb**	**04 13 47.1**	**-0.2**
SLVT				SG	**Sb**	**04 13 53.6**	**-0.5**
SLVT	**Silivri**	**0.42**	**32**	Pg	**Pb**	**04 13 47.1**	**-0.2**
ELBA	**Catalca**	**0.48**	**55**	*i* PA	**Pb**	**04 13 47.4**	**-0.8**
ELBA				*i* S	**Sb**	**04 13 54.7**	**-1.0**
ELBA				IAML		04 13 55.0	
ELBA	comp=N,5μm,0.2s			IAML		04 13 55.0	
ELBA	comp=E,3μm,0.2s						
SINB	**Sinanoba-Istan**	**0.49**	**75**	PG	**Pb**	**04 13 48.1**	**-0.3**
EDC	**Edincik**	**0.53**	**184**	P	**Pg**	**04 13 47.9**	**+0.7**
EDC	**Edincik**	**0.53**	**184**	PG	**Pg**	**04 13 47.9**	**+0.7**
EDC				SG	**Sg**	**04 13 55.3**	**+1.2**
EDC	**Edincik**	**0.53**	**184**	Pg	**Pg**	**04 13 47.9**	**+0.7**
CTKS	**Kestanelik-??a**	**0.58**	**51**	PG	**Pb**	**04 13 49.2**	**-0.7**
CTKS				SG	**Sb**	**04 13 58.1**	**-0.5**
CTKS	**Kestanelik-??a**	**0.58**	**51**	Pg	**Pb**	**04 13 49.2**	**-0.7**
SART	**Tekirdag**	**0.58**	**252**	*i* PA	**Pg**	**04 13 49.2**	**+0.9**
SART				*i* S	**Sb**	**04 13 57.4**	**-1.4**
SART				IAML		04 14 00.0	
SART	comp=N,21μm,0.4s			IAML		04 14 00.0	
SART	comp=E,21μm,0.3s						
YKBL	**Yakuplu-Istanb**	**0.58**	**78**	PG	**Pb**	**04 13 49.5**	**-0.5**
YKBL				SG	**Sb**	**04 13 58.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.59**	**252**	PG	**Pb**	**04 13 49.3**	**-0.8**
RKY				SG	**Sb**	**04 13 58.1**	**-0.8**
RKY	**Sarkoy-Tekirda**	**0.59**	**252**	Pg	**Pb**	**04 13 49.2**	**-0.8**
CTYL	**Yalikoy Yolu**	**0.67**	**25**	⇑P	**Pb**	**04 13 51.0**	**-0.4**
CTYL				⇑S	**Sb**	**04 14 00.7**	**-0.4**
CTYL				AML	AML	04 14 05.5	
CTYL	**Yalikoy Yolu**	**0.67**	**25**	PG	**Pb**	**04 13 51.1**	**-0.4**
CTYL	**Yalikoy Yolu**	**0.67**	**25**	Pg	**Pb**	**04 13 51.1**	**-0.4**
CTYL	**Yalikoy Yolu**	**0.67**	**25**		**Sb**	**04 14 00.7**	**-0.4**
KRBG	**Karabiga-Canak**	**0.67**	**224**	PG	**Pg**	**04 13 50.6**	**+0.7**
KRBG	**Karabiga-Canak**	**0.67**	**224**	Pg	**Pg**	**04 13 50.4**	**+0.4**
KCTX	**Karacabey (Bur**	**0.70**	**151**	PG	**Pg**	**04 13 50.9**	**+0.5**
KCTX				SG	**Sg**	**04 14 00.4**	**+0.9**
KCTX	**Karacabey (Bur**	**0.70**	**151**	Pg	**Pg**	**04 13 50.9**	**+0.5**
HVHR	**Bakirkoy-Istan**	**0.71**	**82**	PG	**Pb**	**04 13 51.9**	**-0.3**
BGKT	**Bogazkoy**	**0.72**	**65**	PG	**Pg**	**04 13 51.6**	**+0.7**
BGKT	**Bogazkoy**	**0.72**	**65**	Pg	**Pb**	**04 13 52.3**	**0.0**
ARMT	**Armutlu**	**0.79**	**113**	PG	**Pb**	**04 13 52.9**	**-0.6**
ARMT	**Armutlu**	**0.79**	**113**	Pg	**Pb**	**04 13 52.9**	**-0.6**
PHSR	**Pinarhisar**	**0.81**	**339**	⇓P	**Pn**	**04 13 55.0**	**-0.5**
PHSR				⇑S	**Sn**	**04 14 07.9**	**-0.2**
PHSR				AML	AML	04 14 08.9	
PHSR	**Pinarhisar**	**0.81**	**339**	PG	**Pb**	**04 13 54.5**	**+0.6**
PHSR	**Pinarhisar**	**0.81**	**339**	Pg	**Pb**	**04 13 54.5**	**+0.6**
PHSR	**Pinarhisar**	**0.81**	**339**		**Sn**	**04 14 07.9**	**-0.2**
GONE	**Gonen-Balikesi**	**0.84**	**192**	PG	**Pb**	**04 13 54.0**	**-0.5**
GONE	**Gonen-Balikesi**	**0.84**	**192**	Pg	**Pb**	**04 13 53.9**	**-0.5**
ISK	**Istanbul-Kandi**	**0.89**	**77**	P	**Pg**	**04 13 54.3**	**+0.1**
ISK				S	**Sb**	**04 14 07.0**	**-0.5**
ISK	**Istanbul-Kandi**	**0.89**	**77**	P	**Pg**	**04 13 54.4**	**+0.2**
ISK	**Istanbul-Kandi**	**0.89**	**77**	PG	**Pg**	**04 13 54.5**	**+0.2**
ISK	**Istanbul-Kandi**	**0.89**	**77**	Pg	**Pg**	**04 13 54.4**	**+0.2**
KAVV	**Kandilli-Istan**	**0.89**	**77**	PG	**Pg**	**04 13 54.4**	**+0.2**
KAVV	**Kandilli-Istan**	**0.89**	**77**	Pg	**Pg**	**04 13 54.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.90**	**124**	PG	**Pb**	**04 13 55.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.90**	**124**	Pg	**Pb**	**04 13 55.1**	**-0.2**
BUY	**Buyukada**	**0.92**	**91**	*i* PA	**Pb**	**04 13 55.0**	**-0.7**
BUY				*i* S	**Sg**	**04 14 07.3**	**+0.7**
BUY				IAML		04 14 12.0	
BUY	comp=N,8μm,0.6s			IAML		04 14 12.0	
BUY	comp=E,6μm,0.3s						
BUY	**Buyukada**	**0.92**	**91**	PG	**Pb**	**04 13 54.9**	**-0.7**
BUY	**Buyukada**	**0.92**	**91**	Pg	**Pb**	**04 13 55.0**	**-0.7**
KESN	**Edirne-Kesan**	**0.94**	**267**	*i* PA	**Pg**	**04 13 55.6**	**+0.6**
KESN				*i* S	**Sb**	**04 14 08.7**	**-0.5**
KESN				IAML		04 14 11.0	
KESN	comp=N,90μm,0.4s			IAML		04 14 12.0	
KESN	comp=E,152μm,0.4s						
KLYT	**Kilyos**	**0.94**	**66**	⇑P	**Pn**	**04 13 57.0**	**-0.2**
KLYT				⇑S	**Sb**	**04 14 09.7**	**+0.9**
KLYT				AML	AML	04 14 14.1	
KLYT	**Kilyos**	**0.94**	**66**	PG	**Pb**	**04 13 55.8**	**-0.2**
KLYT	**Kilyos**	**0.94**	**66**	Pg	**Pb**	**04 13 55.6**	**-0.4**
KLYT	**Kilyos**	**0.94**	**66**		**Sb**	**04 14 09.7**	**+0.9**
UKOP	**Uzunkopru-Edir**	**1.00**	**285**	PG	**Pn**	**04 13 57.8**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.00**	**285**	Pg	**Pn**	**04 13 57.8**	**-0.3**
LPK	**Lapseki**	**1.01**	**241**	PG	**Pb**	**04 13 57.2**	**-0.1**
TUZL	**Tuzla-Istanbul**	**1.03**	**93**	PG	**Pb**	**04 13 57.3**	**-0.3**
GEMT	**Gemlik**	**1.07**	**114**	PG	**Pb**	**04 13 58.3**	**+0.1**
GEMT	**Gemlik**	**1.07**	**114**	Pg	**Pg**	**04 13 57.5**	**0.0**
ERIK	**Erikli-Kesan**	**1.08**	**260**	PN	**Pb**	**04 13 58.3**	**-0.2**
ERIK	**Erikli-Kesan**	**1.08**	**260**	Pn	**Pg**	**04 13 57.9**	**+0.1**
KIRK	**Kırklareli**	**1.09**	**326**	*i* PA	**Pb**	**04 13 58.9**	**+0.2**
KIRK				*i* S	**Sb**	**04 14 13.1**	**-0.3**
KIRK				IAML		04 14 16.0	
KIRK	comp=N,9μm,0.4s						
LAFA	**Gebze-Kocaeli**	**1.10**	**95**	PN	**Pb**	**04 13 58.8**	**0.0**
YLVH	**Yalova**	**1.12**	**99**	PN	**Pb**	**04 13 59.3**	**+0.1**
YLV	**Yalova**	**1.15**	**105**	P	**Pg**	**04 13 58.7**	**-0.5**
YLV						04 14 18.0	
YLV	**Yalova**	**1.15**	**105**	⇑P	**Pg**	**04 13 59.0**	**-0.2**
YLV				⇑S	**Sn**	**04 14 18.0**	**+1.4**
YLV				AML	AML	04 14 19.2	
YLV	**Yalova**	**1.15**	**105**	PN	**Pg**	**04 13 58.8**	**-0.5**
YLV	**Yalova**	**1.15**	**105**	Pn	**Pg**	**04 13 58.7**	**-0.5**
BALY	**Balya**	**1.15**	**191**	*i* PA	**Pg**	**04 13 59.0**	**-0.3**
BALY				*i* S	**Sb**	**04 14 15.2**	**0.0**
BALY				IAML		04 14 18.0	
BALY	comp=N,23μm,0.5s			IAML		04 14 18.0	
BALY	comp=E,13μm,0.4s						
IGD	**Bursa**	**1.16**	**121**	*i* PA	**Pg**	**04 13 59.0**	**-0.3**
IGD				*i* S	**Sg**	**04 14 13.9**	**-0.4**
IGD				IAML		04 14 26.0	
IGD	comp=N,4μm,0.8s			IAML		04 14 29.0	
IGD	comp=E,6μm,1.4s						
ULDT	**Uludag**	**1.19**	**128**	*i* P	**Pg**	**04 13 59.5**	**-0.4**
ULDT				*i* S	**Sg**	**04 14 14.0**	**-1.2**
ULDT				IAML		04 14 28.0	
ULDT	comp=N,7μm,0.8s			IAML		04 14 28.0	
ULDT	comp=E,8μm,0.8s						
GELI	**Tayfur-Gelibol**	**1.19**	**247**	PN	**Pg**	**04 13 59.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.19**	**247**	Pn	**Pg**	**04 13 59.9**	**0.0**
BALB	**Balikesir**	**1.23**	**181**	PN	**Pg**	**04 14 00.5**	**-0.2**
IZI	**Iznik**	**1.30**	**114**	PN	**Pg**	**04 14 01.7**	**-0.4**
IZI	**Iznik**	**1.30**	**114**	Pn	**Pg**	**04 14 01.4**	**-0.7**
EDRB	**Edirne**	**1.31**	**318**	P	**Pg**	**04 14 02.1**	**-0.1**
EDRB				S	**Sg**	**04 14 19.3**	**+0.1**
EDRB	**Edirne**	**1.31**	**318**	PN	**Pg**	**04 14 02.2**	**0.0**
EDRB	**Edirne**	**1.31**	**318**	Pn	**Pg**	**04 14 02.2**	**0.0**
HRT	**Hereke**	**1.33**	**92**	PN	**Pg**	**04 14 01.6**	**-1.1**
HRTX	**Hereke-Izmit**	**1.34**	**93**	Pn	**Pg**	**04 14 01.7**	**-1.1**
SILT	**Sile**	**1.34**	**77**	⇑P	**Pb**	**04 14 04.1**	**+1.2**
SILT				⇑S	**Sn**	**04 14 21.5**	**+0.4**
SILT				AML	AML	04 14 24.2	
SILT	**Sile**	**1.34**	**77**	PN	**Pn**	**04 14 02.4**	**-0.4**
SILT	**Sile**	**1.34**	**77**	Pn	**Pn**	**04 14 02.6**	**-0.2**
SILT	**Sile**	**1.34**	**77**		**Sn**	**04 14 21.5**	**+0.4**
DURS	**Dursunbey**	**1.34**	**161**	*i* P	**Pg**	**04 14 02.9**	**0.0**
DURS				*i* S	**Sg**	**04 14 20.4**	**+0.2**
ALN	**Alexandroupoli**	**1.41**	**272**	P	**Pn**	**04 14 03.1**	**-0.7**
ALN				S	**Sg**	**04 14 22.2**	**-0.4**
ALN	**Alexandroupoli**	**1.41**	**272**	P	**Pn**	**04 14 03.2**	**-0.6**
ALN						04 14 22.3	
ALN	**Alexandroupoli**	**1.41**	**272**	P	**Pn**	**04 14 03.2**	**-0.6**
ALN				S	**Sg**	**04 14 22.0**	**-0.5**
ALN	**Alexandroupoli**	**1.41**	**272**	PN	**Pn**	**04 14 03.3**	**-0.6**
ALN	**Alexandroupoli**	**1.41**	**272**		**Pn**	**04 14 03.1**	**-0.6**
ALN				Sn	**Sg**	**04 14 22.3**	**-0.2**
ADVT	**Abdulvahap**	**1.46**	**107**	PN	**Pn**	**04 14 03.9**	**-0.5**
ADVT	**Abdulvahap**	**1.46**	**107**	Pn	**Pn**	**04 14 03.4**	**-1.0**
STEP	**BALIKESIR_Sava**	**1.50**	**186**	*i* P	**Pn**	**04 14 04.3**	**-0.8**
STEP				*i* S	**Sb**	**04 14 24.5**	**-0.7**
STEP				IAML		04 14 32.0	
STEP	comp=N,21μm,1.2s			IAML		04 14 33.0	
STEP	comp=E,20μm,0.7s						
BAYC	**CANAKKALE_Bayr**	**1.54**	**223**	*i* P	**Pn**	**04 14 05.2**	**-0.4**
BAYC				*i* S	**Sn**	**04 14 24.5**	**-1.6**
BAYC				IAML		04 14 29.0	
BAYC	comp=N,15μm,0.4s			IAML		04 14 29.0	
BAYC	comp=E,23μm,0.4s						
EZN	**Ezine**	**1.60**	**230**	P	**Pn**	**04 14 06.2**	**-0.2**
EZN				S	**Sn**	**04 14 27.0**	**-0.5**
EZN	**Ezine**	**1.60**	**230**	P	**Pn**	**04 14 05.7**	**-0.7**
EZN						04 14 30.0	
EZN	**Ezine**	**1.60**	**230**	⇑P	**Pb**	**04 14 07.1**	**-0.3**
EZN				⇓S	**Sg**	**04 14 30.0**	**+1.5**
EZN				AML	AML	04 14 31.0	
EZN	**Ezine**	**1.60**	**230**	PN	**Pn**	**04 14 06.5**	**+0.1**
EZN	**Ezine**	**1.60**	**230**	Pn	**Pn**	**04 14 05.7**	**-0.7**
CAVI	**Cavuskoy**	**1.62**	**114**	PN	**Pn**	**04 14 06.4**	**-0.2**
CAVI	**Cavuskoy**	**1.62**	**114**	Pn	**Pn**	**04 14 06.4**	**-0.2**
GOKC	**Gokceada-Canak**	**1.66**	**247**	PN	**Pn**	**04 14 07.3**	**+0.1**
GOKC	**Gokceada-Canak**	**1.66**	**247**	Pn	**Pn**	**04 14 07.3**	**+0.1**
GADA	**Gvkgeada**	**1.68**	**247**	P	**Pn**	**04 14 06.8**	**-0.6**
GADA				S	**Sn**	**04 14 28.6**	**-0.9**
GADA	**Gvkgeada**	**1.68**	**247**	PN	**Pn**	**04 14 07.3**	**-0.1**
GADA	**Gvkgeada**	**1.68**	**247**	Pn	**Pn**	**04 14 07.6**	**+0.2**
KAND	**Kocaeli-Kandir**	**1.74**	**82**	*i* P	**Pn**	**04 14 07.5**	**-0.7**
KAND				*i* S	**Sn**	**04 14 31.0**	**0.0**
BOZC	**Bozcaada**	**1.75**	**235**	*i* P	**Pn**	**04 14 08.1**	**-0.4**
BOZC				*i* S	**Sb**	**04 14 32.1**	**-0.3**
BOZC	**Bozcaada**	**1.75**	**235**	PN	**Pn**	**04 14 08.9**	**+0.4**
RDO	**Rodhopi**	**1.82**	**279**	P	**Pn**	**04 14 09.3**	**0.0**
RDO				S	**Sn**	**04 14 32.2**	**-0.7**
RDO	**Rodhopi**	**1.82**	**279**	P	**Pn**	**04 14 09.3**	**0.0**
RDO				AML	AML	04 14 38.5	
RDO	comp=N,34189μm,0.4s			AML	AML	04 14 41.0	
RDO	comp=E,26194μm,0.3s						
RDO	**Rodhopi**	**1.82**	**279**	PN	**Pn**	**04 14 09.0**	**-0.3**
SPNC	**Sapanca-Adapaz**	**1.83**	**95**	PN	**Pn**	**04 14 10.1**	**+0.6**
SPNC	**Sapanca-Adapaz**	**1.83**	**95**	Pn	**Pn**	**04 14 10.3**	**+0.8**
SAUV	**Serdivan-Sakar**	**1.84**	**93**	PN	**Pn**	**04 14 09.4**	**-0.2**
SAUV	**Serdivan-Sakar**	**1.84**	**93**	Pn	**Pn**	**04 14 09.4**	**-0.2**
TVSB	**Tavsanli**	**1.85**	**140**	PN	**Pn**	**04 14 09.9**	**-0.1**
TVSB	**Tavsanli**	**1.85**	**140**	Pn	**Pn**	**04 14 09.8**	**-0.1**
GEYV	**SAKARYA_Geyve**	**1.85**	**101**	*i* P	**Pn**	**04 14 09.7**	**-0.2**
GEYV				*i* S	**Sb**	**04 14 36.0**	**+0.7**
GEYV				IAML		04 14 51.0	
GEYV	comp=N,6μm,1.3s			IAML		04 15 06.0	
GEYV	comp=E,4μm,1.6s						
SMTH	**Samothraki Isl**	**1.85**	**258**	P	**Pn**	**04 14 08.9**	**-1.0**
SMTH				S	**Sn**	**04 14 32.7**	**-1.2**
SMTH	comp=E,14μm,0.6s						
SMTH	**Samothraki Isl**	**1.85**	**258**	P	**Pn**	**04 14 08.8**	**-1.0**
SMTH				S	**Sn**	**04 14 31.3**	**-2.6**
SMTH				AML	AML	04 14 39.0	
SMTH	comp=N,32254μm,0.5s			AML	AML	04 14 43.7	
SMTH	comp=E,25696μm,0.6s						
JMB	**Yambol**	**1.88**	**328**	P	**Pb**	**04 14 11.2**	**-0.9**
DEMI	**Demirci**	**1.93**	**161**	*i* P	**Pn**	**04 14 10.3**	**-0.7**
DEMI				*i* S	**Sb**	**04 14 37.0**	**-0.6**
DEMI				IAML		04 14 46.0	
DEMI	comp=N,3μm,0.8s			IAML		04 14 53.0	
DEMI	comp=E,3μm,0.8s						
DKL	**Dikili**	**1.96**	**204**	PN	**Pn**	**04 14 11.1**	**-0.2**
DKL	**Dikili**	**1.96**	**204**	Pn	**Pn**	**04 14 11.1**	**-0.2**
AKHS	**Akhisar**	**1.99**	**182**	*i* P	**Pn**	**04 14 11.1**	**-0.7**
AKHS				*i* S	**Sg**	**04 14 41.1**	**0.0**
AKHS				IAML		04 14 46.0	
AKHS	comp=E,1μm,0.5s						
ZEDA	**zmir-Bergama**	**2.01**	**199**	*i* P	**Pn**	**04 14 11.3**	**-0.7**
ZEDA				*i* S	**Sn**	**04 14 38.3**	**+0.7**
ZEDA				IAML		04 14 46.0	
ZEDA	comp=E,5μm,0.9s			IAML		04 14 50.0	
ZEDA	comp=N,7μm,0.7s						
GULT	**Gulveren**	**2.03**	**102**	PN	**Pn**	**04 14 12.3**	**0.0**
GULT	**Gulveren**	**2.03**	**102**	Pn	**Pn**	**04 14 12.3**	**0.0**
KDZ	**Kurdzhali**	**2.03**	**293**	P	**Pn**	**04 14 12.6**	**+0.2**
KDZ	**Kurdzhali**	**2.03**	**293**	P	**Pn**	**04 14 12.5**	**+0.2**
KDZ	**Kurdzhali**	**2.03**	**293**	PN	**Pn**	**04 14 12.9**	**+0.6**
KDZ	**Kurdzhali**	**2.03**	**293**	Pn	**Pn**	**04 14 12.5**	**+0.2**
PRK	**Paraskevi**	**2.06**	**218**	P	**Pn**	**04 14 12.9**	**+0.3**
PRK				S	**Sn**	**04 14 36.7**	**-2.1**
PRK	**Paraskevi**	**2.06**	**218**	P	**Pn**	**04 14 12.7**	**+0.1**
PRK				AML	AML	04 14 47.8	
PRK	comp=N,32μm,0.8s			AML	AML	04 14 48.1	
PRK	comp=N,59408μm,1.0s						
PRK	comp=E,67366μm,0.7s						
SHAP	**Saphane-Kutahy**	**2.10**	**151**	PN	**Pn**	**04 14 13.2**	**-0.2**
SHAP	**Saphane-Kutahy**	**2.10**	**151**	Pn	**Pn**	**04 14 13.5**	**+0.1**
DIMI	**Dimitrovgrad**	**2.14**	**304**	P	**Pn**	**04 14 13.5**	**-0.3**
GDZ	**

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MANT                                IAML                    04 14 54.0
        comp=E,2µm,1.3s
MANT                                IAML                    04 15 05.0
        comp=N,2µm,1.0s
MANT    Manisa          2.43 168            Pn              04 14 18.1 +0.1
MANT                                Sn      Sn              04 14 46.8 -1.6
THAS    Thassos island  2.44 265    P       Pn              04 14 16.9 -1.0
THAS                                S       Sn              04 14 47.2 -1.0
        comp=N,4µm,0.5s
THAS    Thassos island  2.44 265    P       Pn              04 14 16.9 -1.0
THAS                                AML     AML             04 14 56.1
        comp=N,9706µm,0.6s
THAS                                AML     AML             04 15 00.7
        comp=E,7499µm,0.4s
RZN     Rozhen          2.54 290    P       Pn              04 14 19.3 -0.2
ELND    Elena           2.55 324 ⇑P         Pn              04 14 20.0 +0.5
ELND                                ⇑S      Sn              04 14 52.7 +1.6
ELND                                AML     AML             04 15 05.4
KALB    Balgarevo       2.56  8 ⇑P          Pn              04 14 20.5 +1.0
KALB                                AML     AML             04 15 08.8
AUKIR   Kırka- Seyitga  2.57 128 eP         Pb              04 14 24.4 +0.5
AUKIR                               i S     Sg              04 15 02.8 +3.2
KAVA    Kavala          2.58 274    P       Pn              04 14 19.3 -0.5
KAVA    Kavala          2.58 274    P       Pn              04 14 19.2 -0.5
EFSA    Agios Efstrati  2.60 240    P       Pn              04 14 20.2  0.0
EFSA                                AML     AML             04 15 06.5
        comp=E,13298µm,1.0s
EFSA                                AML     AML             04 15 08.0
        comp=N,15648µm,0.8s
KVLA    Kavala          2.67 273    P       Pn              04 14 20.8 -0.3
KVLA                                AML     AML             04 15 06.3
        comp=E,11375µm,0.4s
KVLA                                AML     AML             04 15 07.0
        comp=N,9442µm,1.1s
YIGI    Dzce            2.68  87 i P         Pn              04 14 22.0 +0.7
YIGI                                i S     Sg              04 15 04.1 +0.8
YIGI                                IAML                    04 15 09.0
        comp=E,820nm,1.1s
YIGI                                IAML                    04 15 09.0
        comp=N,1µm,1.1s
KDZE    Karadeniz Ereo  2.71  80 ⇑P          Pn              04 14 21.6 +0.1
KDZE                                AML     AML             04 15 25.8
KDZE    Karadeniz Ereo  2.71  80            Pn              04 14 21.6 +0.1
PLD     Plovdiv         2.71 298 ePn        Pn              04 14 22.0 +0.4
PLD                                 eSg     Sg              04 15 04.8 +0.8
PLD     Plovdiv         2.71 298    P       Pn              04 14 21.5 -0.1
PLD     Plovdiv         2.71 298    PN      Pn              04 14 22.2 +0.6
URLA    Izmir           2.71 202 i P        Pn              04 14 22.2 +0.6
URLA                                i S     Sg              04 15 06.0 +1.9
URLA                                IAML                    04 15 09.0
        comp=N,4µm,1.0s
URLA                                IAML                    04 15 10.0
        comp=E,3µm,0.8s
AFYO    Afyonkarahisar  2.78 138 eP         Pn              04 14 22.8 +0.1
AFYO                                i S     Sg              04 15 05.6 -0.8
KHAL    Karahalli       2.78 153 eP         Pn              04 14 23.8 +1.1
KHAL                                i S     Sb              04 15 01.8 -0.4
SZH     Strazhica       2.81 329    P       Pn              04 14 23.0  0.0
ZEY     zmir            2.85 203 i P        Pn              04 14 24.1 +0.6
CIFT    Cifteler, Eski  2.85 121 i P        Pn              04 14 23.3 -0.3
CIFT                                i S     Sg              04 15 08.1 -0.6
CIFT                                IAML                    04 15 22.0
        comp=N,1µm,0.6s
CIFT                                IAML                    04 15 30.0
        comp=E,1µm,0.7s
RAZG    Razgrad         2.88 339 ⇑P         Pn              04 14 26.6 +2.5
RAZG                                AML     AML             04 15 14.8
AUMIH   MIHALICIK       2.91 109 i P        Pn              04 14 23.9 -0.6
AUMIH                               i S     Sb              04 15 07.4 +1.7
AUMIH                               IAML                    04 15 28.0
        comp=E,1µm,1.0s
AUMIH                               IAML                    04 15 36.0
        comp=N,1µm,2.0s
DGB     zmir            2.93 196 i P        Pn              04 14 24.0 -0.6
DGB                                 i S     Sg              04 15 11.6 +0.4
DGB                                 IAML                    04 15 14.0
        comp=E,3µm,1.0s
DGB                                 IAML                    04 15 15.0
        comp=N,2µm,1.1s
PSRA    Psara           2.95 219    P       Pn              04 14 25.0 +0.1
PSRA                                AML     AML             04 15 18.7
        comp=N,15199µm,0.7s
PSRA                                AML     AML             04 15 18.9
        comp=E,17173µm,0.6s
MANR    Mangalia        2.98  9 ⇑P          Pn              04 14 25.8 +0.5
MANR                                AML     AML             04 15 28.0
MANR    Mangalia        2.98  9             Pn              04 14 25.8 +0.5
PVL     Pavlikeni       3.03 321    P       Pn              04 14 27.0 +1.0
KIBS    BOLU            3.03  97 i P        Pn              04 14 27.3 +1.1
KIBS                                i S     Sg              04 15 13.2 -1.4
KIBS                                IAML                    04 15 49.0
        comp=E,1µm,2.0s
KIBS                                IAML                    04 15 50.0
        comp=N,2µm,1.8s
NVR     Nevrokopi       3.10 280    P       Pn              04 14 26.7 -0.2
NVR     Nevrokopi       3.10 280    P       Pn              04 14 26.8 -0.2
NVR                                 AML     AML             04 15 21.8
        comp=N,7610µm,0.8s
NVR                                 AML     AML             04 15 23.2
        comp=E,6442µm,0.3s
AUSIV   SIVRIHISAR      3.13 116 i P        Pn              04 14 27.0 -0.5
KZIL    AFYON_Kizioren  3.13 146 eP         Pg              04 14 35.5 -1.6
KZIL                                i S     Sg              04 15 28.1 +10
BCAM    Yenicaga        3.15  90 i P        Pn              04 14 28.0 +0.2
BCAM                                IAML                    04 15 30.0
        comp=E,529nm,1.4s
BCAM                                IAML                    04 15 33.0
        comp=N,478nm,0.9s
BOLV    Bolvadin        3.18 132 i P        Pn              04 14 28.9 +0.7
BOLV                                i S     Sg              04 15 19.8 +0.5
BOLV                                IAML                    04 15 36.0
        comp=N,969nm,0.8s
BOLV                                IAML                    04 15 37.0
        comp=E,830nm,1.1s
AYDN    Tasoluk         3.21 180 i P        Pn              04 14 27.7 -0.8
MMB     Musomiste       3.23 284    P       Pn              04 14 29.0 +0.1
ICOR    Ion Corvin      3.24 359 ⇑P         Pn              04 14 29.9 +1.0
ICOR                                AML     AML             04 15 27.9
PGB     Panagyurishte   3.27 302    P       Pn              04 14 29.2 -0.1
SMG     Samos           3.27 195    P       Pn              04 14 28.4 -0.9
SMG     Samos           3.27 195    P       Pn              04 14 28.2 -1.1
SMG                                 AML     AML             04 15 30.6
        comp=E,5150µm,0.8s
SMG                                 AML     AML             04 15 32.6
        comp=N,7941µm,0.6s
ZIMR                3.36 327    P       Pn              04 14 30.7 +0.1
ZIMR                3.36 327 ⇑P         Pn              04 14 30.6 +0.1
ZIMR                                AML     AML             04 15 36.3
ZIMR                3.36 327            Pn              04 14 30.6 +0.1
PAIG    Paliouri        3.37 255    P       Pn              04 14 29.5 -1.1
PAIG    Paliouri        3.37 255    P       Pn              04 14 29.3 -1.4
PLG     Polygyros       3.44 263    P       Pn              04 14 30.8 -0.9
PLG     Polygyros       3.44 263    P       Pn              04 14 30.7 -0.9
SOH     Sokhos          3.46 271    P       Pn              04 14 31.6 -0.3
SOH     Sokhos          3.46 271    P       Pn              04 14 31.4 -0.5
CMDR    Camlidere-ANKA  3.49  95 i P        Pn              04 14 33.2 +0.7
CMDR                                i S     Sg              04 15 26.1 -3.2
CMDR                                IAML                    04 15 48.0
        comp=E,1µm,1.5s
CMDR                                IAML                    04 15 54.0
        comp=N,2µm,1.5s
PLVB    Pleven          3.51 317 ⇑P         Pn              04 14 32.9 +0.3
PLVB                                AML     AML             04 16 01.3
AOS     Alonnisos       3.53 243    P       Pn              04 14 31.1 -1.8
BRDR    BURDUR-Merkez   3.58 152 eP         Pn              04 14 33.9 +0.1
BRDR                                i S     Sg              04 15 29.3 -3.0
BRDR                                IAML                    04 15 49.0
        comp=E,815nm,1.6s
BRDR                                IAML                    04 15 49.0
        comp=N,869nm,1.1s
BRDR                                IVMs_BB IVMs_BB         04 16 17.0
        comp=Z,4µm,4.3s
TIRR    Tirgusor        3.60  6 P           Pn              04 14 33.8 -0.1
TIRR                                        04 15 15.8
TIRR    Tirgusor        3.60  6 ⇑P          Pn              04 14 34.0 +0.1
TIRR                                AML     AML             04 15 42.8
TIRR    Tirgusor        3.60  6             Pn              04 14 33.8 -0.1
TIRR                                Sn      Sn              04 15 15.8 -1.1
TIRR    Tirgusor        3.60  6             Pn              04 14 34.0 +0.1
BAGO    Egridir - ISPA  3.64 141 eP         Pg              04 14 48.7 +1.8
HORT    Hortiatis       3.67 267    P       Pn              04 14 34.6 -0.2
HORT    Hortiatis       3.67 267    P       Pn              04 14 33.9 -1.0
LEHL    Lehliu          3.69 348 ⇓P         Pn              04 14 36.7 +1.6
LEHL                                AML     AML             04 15 46.6
TLB     Topalu          3.71  1 P           Pn              04 14 36.4 +1.1
TLB     Topalu          3.71  1 ⇓P          Pn              04 14 36.4 +1.1
TLB                                 AML     AML             04 15 43.3
TLB     Topalu          3.71  1             Pn              04 14 36.4 +1.1
THE     Thessaloniki    3.77 268    P       Pn              04 14 36.5 +0.4
KKB     Krupnik         3.77 287    P       Pn              04 14 36.4 +0.2
KNT     Kendrikon       3.80 276    P       Pn              04 14 36.6  0.0
KNT     Kendrikon       3.80 276    P       Pn              04 14 36.7  0.0
HARR    Harsova         3.81  0 P           Pn              04 14 37.9 +1.1
HARR    Harsova         3.81  0 ⇑P          Pn              04 14 37.9 +1.1
HARR    Harsova         3.81  0             Pn              04 14 37.9 +1.1
COPA    Copaceanca      3.82 329 ⇓P         Pn              04 14 37.1 +0.3
COPA                                AML     AML             04 15 59.2
GOLH    Golhisar        3.85 160 eP         Pn              04 14 37.9 +0.5
GOLH                                IVMs_BB IVMs_BB         04 16 14.0
        comp=Z,8µm,4.7s
BR231   Keskin MP Arra  3.86 104            Pn              04 14 35.6 -1.9
BR231                               Sn      Sn              04 15 24.9 +1.5
ANTO    Ankara          3.86 103    P       Pn              04 14 36.5 -1.0
ANTO                                        04 15 22.5
ANTO    Ankara          3.86 103            Pn              04 14 36.5 -1.0
ANTO                                Sn      Sn              04 15 22.5 -1.0
VTS     Vitosha         3.91 298 ePn        Pn              04 14 39.3 +1.1
VTS                                 eSg     Sg              04 15 42.6 -0.1
VTS     Vitosha         3.91 298    P       Pn              04 14 38.6 +0.4
VTS     Vitosha         3.91 298    P       Pn              04 14 39.0 +0.8
VTS     Vitosha         3.91 298    P       Pn              04 14 38.6 +0.4
VTS                                         04 15 24.3
VTS     Vitosha         3.91 298 ⇑P         Pn              04 14 39.2 +0.9
VTS                                 AML     AML             04 15 46.6
VTS     Vitosha         3.91 298            Pn              04 14 38.6 +0.4
VTS                                 Sn      Sn              04 15 24.4 -0.4
KARY    Karystos        3.91 225    P       Pn              04 14 37.6 -0.5
XOR     Xorichti        3.92 249    P       Pn              04 14 36.5 -1.7
NEO     Neokhori        3.92 248    P       Pn              04 14 36.4 -1.9
EREA    Eretria         3.93 233    P       Pn              04 14 37.6 -0.8
EREA    Eretria         3.93 233    P       Pn              04 14 37.4 -1.0
MRKA    Markates        3.97 238    P       Pn              04 14 38.2 -0.8
SULR                    3.99 343 ⇑P         Pn              04 14 41.2 +1.9
SULR                                AML     AML             04 16 01.7
SULR                    3.99 343            Pn              04 14 41.2 +1.9
KDHN    Kadinhani       4.00 125 eP         Pn              04 14 39.5 -0.1
KDHN                                IVMs_BB IVMs_BB         04 16 25.0
        comp=Z,4µm,3.5s
DOGA    KONYA_Doganhis  4.01 132 eP         Pn              04 14 42.3 +2.6
DOGA                                IVMs_BB IVMs_BB         04 16 15.0
        comp=Z,3µm,6.1s
TOPG    Topolog         4.01  5 ⇑P          Pn              04 14 39.7 +0.1
TOPG                                AML     AML             04 15 52.3
TURN    Turunc          4.03 172 i P        Pn              04 14 40.7 +1.0
TURN                                IVMs_BB IVMs_BB         04 16 46.0
        comp=Z,3µm,4.3s
VLAD    Vladila         4.06 321 ⇑P         Pn              04 14 40.2 +0.1
VLAD                                AML     AML             04 16 13.5
VAY     Valandovo       4.06 278 i Pn       Pn              04 14 40.6 +0.4
VAY                                 i Sn    Sg              04 15 48.9 +1.4
DALY    Dalyan (Mula)   4.09 172 i P        Pn              04 14 41.0 +0.4
DALY                                IVMs_BB IVMs_BB         04 16 44.0
        comp=Z,4µm,5.3s
DAT     Datca           4.15 184 eP         Pn              04 14 45.6 +4.1
DAT                                 IVMs_BB IVMs_BB         04 16 19.0
        comp=Z,2µm,3.6s
GRG     Griva           4.18 273    P       Pn              04 14 41.8  0.0
GRG     Griva           4.18 273    P       Pn              04 14 41.7 -0.1
KKUL    Konya-Kulu      4.20 112 i P        Pn              04 14 44.0 +1.8
KKUL                                IVMs_BB IVMs_BB         04 16 36.0
        comp=Z,7µm,6.9s
LIT     Litokhoron      4.21 261    P       Pn              04 14 41.2 -1.0
LIT     Litokhoron      4.21 261    P       Pn              04 14 41.6 -0.6
LIT                                         04 15 29.9
LIT     Litokhoron      4.21 261    P       Pn              04 14 41.0 -1.2
LIT     Litokhoron      4.21 261            Pn              04 14 41.6 -0.6
LIT                                 Sn      Sn              04 15 29.9 -2.0
BBAL    Bala            4.21 107 i P        Pn              04 14 42.3 -0.1
BBAL                                IVMs_BB IVMs_BB         04 16 13.0
        comp=Z,7µm,3.7s
ELDT    Eldivan         4.21  93 eP         Pn              04 14 42.9 +0.4
ELDT                                IVMs_BB IVMs_BB         04 16 50.0
        comp=Z,4µm,3.9s
APE     Apeiranthos     4.23 207    P       Pn              04 14 41.5 -1.0
APE     Apeiranthos     4.23 207 i P        Pn              04 14 42.4 -0.1
APE     Apeiranthos     4.23 207    P       Pn              04 14 41.3 -1.2
APE     Apeiranthos     4.23 207 ⇑P         Pn              04 14 44.4 +1.8
APE                                 AML     AML             04 15 59.8
APE     Apeiranthos     4.23 207            Pn              04 14 44.4 +1.8
HUMR    Humele          4.24 330 ⇓P         Pn              04 14 42.7  0.0
HUMR                                AML     AML             04 16 27.2
HUMR    Humele          4.24 330            Pn              04 14 42.7  0.0
CFR     Carcaliu        4.30  2 P           Pn              04 14 43.6 +0.1
CFR     Carcaliu        4.30  2 ⇑P          Pn              04 14 43.6 +0.1
CFR                                 AML     AML             04 16 01.9
CFR     Carcaliu        4.30  2             Pn              04 14 43.6 +0.1
KORT    Korkueli        4.31 153 eP         Pn              04 14 42.2 -1.6
FETY    Fethiye         4.33 167    P       Pn              04 14 44.5 +0.6
FETY    Fethiye         4.33 167 i P        Pn              04 14 44.2 +0.3
FETY                                IVMs_BB IVMs_BB         04 16 50.0
        comp=Z,2µm,4.0s
AMGA    Amorgos Island  4.33 202    P       Pn              04 14 42.9 -1.1
AMGA    Amorgos Island  4.33 202    P       Pn              04 14 42.9 -1.1
TLCR                    4.36  8 P           Pn              04 14 45.0 +0.7
TLCR                    4.36  8 ⇓P          Pn              04 14 45.0 +0.7
TLCR                                AML     AML             04 16 05.6
TLCR                    4.36  8             Pn              04 14 45.0 +0.7
BOSS    Bosilegrad      4.38 294 ePn        Pn              04 14 45.7 +1.1
BOSS                                eSg     Sg              04 15 58.1 +0.4
LKR     Lokris          4.39 241    P       Pn              04 14 42.9 -1.8
ILGA    Ilgaz           4.40  86 eP         Pn              04 14 45.3 +0.2
ILGA                                IVMs_BB IVMs_BB         04 17 03.0
        comp=Z,4µm,3.9s
ILGA    Ilgaz           4.40  86            Pn              04 14 46.9 +1.9
ELL     Elmali          4.41 159    P       Pn              04 14 43.2 -1.9
ELL                                         04 15 35.7
ELL     Elmali          4.41 159    Pn      Pn              04 14 43.2 -1.9
ELL                                 Sn      Sn              04 15 35.7 -1.3
VIL2    Platees         4.47 235    P       Pn              04 14 45.1 -0.7
KONT    Konya--Tatoy    4.52 129 i P        Pn              04 14 47.4 +0.9
KONT                                IVMs_BB IVMs_BB         04 16 39.0
        comp=Z,3µm,5.9s
BR131   Keskin Array S  4.53 103    P       Pn              04 14 46.5 -0.2
BR131   Keskin Array S  4.53 103            Pn              04 14 46.5 -0.2
BRTR    Keskin Array B  4.53 103    P       Pn              04 14 46.6 -0.3
BRTR                                        04 15 36.8
BRTR    Keskin Array B  4.53 103    Pn      Pn              04 14 46.5 -0.3
        comp=Z,1.5nm,0.3s,baz=344,slow=21,SNR=47
BRTR                                Sn      Sn              04 15 36.6 -3.4
        comp=Z,3.3nm,0.3s,baz=270,slow=23,SNR=5.9
BRTR                                Lg      Lg              04 16 05.0
        baz=281,slow=23,SNR=7.0
BRTR                                LR      LR              04 16 30.7
        comp=Z,370nm,20.6s,baz=266,slow=39
BRTR    Keskin Array B  4.53 103    Pn      Pn              04 14 46.6 -0.1
BRTR                                        Sn              04 15 36.8 -3.2
GRER                    4.56 352 ⇑P         Pn              04 14 46.7 -0.3
GRER                                AML     AML             04 16 15.0
GRER                    4.56 352            Pn              04 14 46.7 -0.3
AXAR    Agios Charalam  4.56 244    P       Pn              04 14 46.4 -0.6
ZAPS    Zavoj           4.60 303 ePn        Pn              04 14 48.9 +1.2
ZAPS                                eSg     Sg              04 16 04.4 -0.5
GIUM    Giurgiulesti    4.61  3 ⇑P          Pn              04 14 49.1 +1.3
GIUM    Giurgiulesti    4.61  3             Pn              04 14 49.1 +1.3
BAIL    Bailesti        4.62 314 ⇓P         Pn              04 14 47.6 -0.2
BAIL                                AML     AML             04 16 24.8
KMER    Konya-Meram     4.64 130 i P        Pb              04 14 55.6 -3.7
DELI    KIRIKKALE       4.67  99 i P        Pn              04 14 48.6 -0.1
DELI                                IVMs_BB IVMs_BB         04 17 08.0
        comp=Z,7µm,8.2s
AGG     Agios Georgios  4.67 248    P       Pn              04 14 47.5 -1.1
AGG     Agios Georgios  4.67 248    P       Pn              04 14 48.1 -0.5
AGG     Agios Georgios  4.67 248            Pn              04 14 48.1 -0.5
BZK     Bozkurt         4.71  75 ⇓P         Pn              04 14 49.7 +0.6
BZK                                 AML     AML             04 16 37.8
BZK     Bozkurt         4.71  75            Pn              04 14 49.7 +0.6
KZN     Kozani          4.71 265    P       Pn              04 14 49.2  0.0
KZN     Kozani          4.71 265    P       Pn              04 14 48.8 -0.4
MAKR    Makrakomi, Fth  4.81 249    P       Pn              04 14 49.6 -1.0
AKAS    Kas             4.82 163 i P        Pb              04 14 58.4 -4.0
MTUR    Matau           4.82 335    P       Pn              04 14 52.2 +1.4
MTUR    Matau           4.82 335 ⇓P         Pn              04 14 52.2 +1.4
MTUR    Matau           4.82 335            Pn              04 14 52.2 +1.4
MLR     Muntele Rosu    4.83 343    Pn      Pn              04 14 53.4 +2.5
        comp=Z,10nm,0.3s,baz=221,slow=1.0,SNR=146
MLR                                 Lg      Lg              04 16 14.6
        comp=Z,22nm,0.3s,baz=256,slow=19,SNR=3.5
MLR                                 LR      LR              04 16 49.9
        comp=Z,450nm,18.9s,baz=314,slow=39
MLR     Muntele Rosu    4.83 343 ⇓P         Pn              04 14 52.6 +1.7
MLR                                 AML     AML             04 16 22.8
MLR     Muntele Rosu    4.83 343            Pn              04 14 50.6 -0.3
SANT    Santorini       4.89 204    Pn      Pn              04 14 50.5 -1.1
KEPZ    Antalya-Kepez   4.90 143 eP         Pb              04 14 59.9 -3.8
ODBI    Odobesti        4.93 353 ⇑P         Pn              04 14 53.4 +1.4
ODBI                                AML     AML             04 16 24.8
ODBI    Odobesti        4.93 353            Pn              04 14 53.5 +1.4
KIRS    Kırehir-Merke   4.93 109 i P        Pn              04 14 52.9 +0.7
KIRS                                IVMs_BB IVMs_BB         04 16 56.0
        comp=Z,4µm,4.7s
BARS    Barje           4.95 295 ePn        Pn              04 14 53.4 +1.0
BARS                                eSg     Sg              04 16 16.6 +0.5
FNA     Florina         4.96 271    P       Pn              04 14 51.6 -1.0
FNA     Florina         4.96 271            Pn              04 14 51.6 -1.0
KAGI    orum-Kargı      4.98  85 i P        Pb              04 15 02.8 -2.1
SKO     Skopje          4.99 285 i Pn       Pn              04 14 54.3 +1.4
PUNG    Punghina        5.01 314 ⇓P         Pn              04 14 52.9 -0.3
PUNG                                AML     AML             04 16 43.9
VOIR                    5.02 336    P       Pn              04 14 55.1 +1.7
VOIR                    5.02 336 ⇑P         Pn              04 14 55.1 +1.7
VOIR                                AML     AML             04 16 36.3
VOIR                    5.02 336            Pn              04 14 55.1 +1.7
AKSY    AKSARAY - Alti  5.03 114 eP         Pn              04 14 57.2 +3.7
AKSY                                IVMs_BB IVMs_BB         04 17 08.0
        comp=Z,4µm,4.6s
PLOR    Plostina        5.06 350    P       Pn              04 14 56.2 +2.2
PLOR    Plostina        5.06 350 ⇑P         Pn              04 14 56.2 +2.2
PLOR                                AML     AML             04 16 37.6
PLOR    Plostina        5.06 350            Pn              04 14 56.2 +2.2
VRI     Vrincioaia      5.06 351    P       Pn              04 14 55.7 +1.7
VRI     Vrincioaia      5.06 351 ⇑P         Pn              04 14 55.7 +1.7
VRI                                AML     AML             04 16 49.7
VRI     Vrincioaia      5.06 351            Pn              04 14 55.7 +1.7
ARR     Arges           5.09 333 ⇑P         Pn              04 14 55.4 +1.0
ARR                                AML     AML             04 16 37.0
ARR     Arges           5.09 333            Pn              04 14 55.4 +1.0
CDAG    Cicekdag        5.10 102 eP         Pn              04 14 55.0 +0.4
CDAG                                IVMs_BB IVMs_BB         04 17 27.0
        comp=Z,4µm,4.9s
KALE    Kalithea        5.10 243    P       Pn              04 14 53.5 -1.1
SRE     Strehaia        5.13 319    P       Pn              04 14 55.3 +0.4
SRE     Strehaia        5.13 319 ⇑P         Pn              04 14 55.3 +0.4
SRE                                AML     AML             04 16 46.9
SRE     Strehaia        5.13 319            Pn              04 14 55.4 +0.4
ZAGS    Zajecar         5.13 307 ePn        Pn              04 14 54.4 -0.5
LAKA    Lakka           5.29 242    P       Pn              04 14 56.4 -0.6
KARP    Karpathos       5.35 187    Pn      Pn              04 14 56.8 -1.1
BOVS    Bovan           5.37 303 ePn        Pn              04 14 58.7 +0.6
BOVS                                eSg     Sg              04 16 28.7 -0.8
BIR     Birlad          5.39 358    P       Pn              04 14 59.9 +1.4
BIR     Birlad          5.39 358 ⇓P         Pn              04 14 59.9 +1.4
BIR                                AML     AML             04 16 37.4
BIR     Birlad          5.39 358            Pn              04 14 59.9 +1.4
DOPR    Dopca           5.41 341 ⇑P         Pn              04 14 60.0 +1.2
DOPR    Dopca           5.41 341            Pn              04 14 60.0 +1.2
COAL    Corum-Alaca     5.42  94 i P        Pn              04 15 00.6 +1.6
COAL                                IVMs_BB IVMs_BB         04 16 40.0
        comp=Z,4µm,3.8s
OZUR                    5.44 344 ⇑P         Pn              04 15 00.8 +1.5
OZUR                    5.44 344            Pn              04 15 00.8 +1.5
LOT     Lotru           5.48 328 ⇓P         Pn              04 15 00.2 +0.3
LOT     Lotru           5.48 328            Pn              04 15 00.2 +0.3
DJES    Djerdap         5.49 315 ePn        Pn              04 14 59.1 -0.7
SELS    Selova          5.57 297 ePn        Pn              04 15 01.0  0.0
SELS                                eSg     Sg              04 16 35.8 -0.3
DIKM    Dikmen          5.59  80 ⇑P         Pn              04 15 02.5 +1.3
DIKM    Dikmen          5.59  80            Pn              04 15 02.5 +1.3
SEV     Sevastopol'     5.61  47 ⇓i P        Pn              04 14 58.7 -2.7
SEV                                 eS      Sn              04 16 01.1 -5.2
HERR    Herculane       5.69 317 ⇑P         Pn              04 15 01.9 -0.7
TESR    Tescani         5.71 351 ⇑P         Pn              04 15 04.6 +1.7
TESR    Tescani         5.71 351            Pn              04 15 04.6 +1.7
AVNS    Nevsehir-Avano  5.72 109 eP         Pn              04 15 04.0 +0.8
AVNS                                IVMs_BB IVMs_BB         04 17 46.0
        comp=Z,3µm,7.3s
ERMK    Ermenek         5.76 136 eP         Pg              04 15 30.1 +2.7
SIRC    Yozgat          5.76 103 eP         Pn              04 15 05.8 +2.1
SIRC                                IVMs_BB IVMs_BB         04 17 56.0
        comp=Z,3µm,5.1s
KUBS    Kucevo          5.80 310 ePn        Pn              04 15 03.2 -0.9
YAL     Yalta           5.85  50 eP         Pn              04 15 03.0 -1.7
YAL                                 eS      Sn              04 16 08.2 -4.1
MDB     Medias          5.86 335    P       Pn              04 15 06.8 +1.9
MDB     Medias          5.86 335 ⇑P         Pn              04 15 06.8 +1.9
MDB     Medias          5.86 335            Pn              04 15 06.8 +1.9
GZR     Gura Zlata      5.87 322 ⇓P         Pn              04 15 04.8 -0.4
GZR     Gura Zlata      5.87 322            Pn              04 15 04.8 -0.4
HAVZ    Havza           5.91  86 eP         Pn              04 15 06.0 +0.3
HAVZ                                IVMs_BB IVMs_BB         04 17 41.0
        comp=Z,2µm,3.6s
ITM     Ithomi          5.94 234            Pn              04 15 06.0 -0.1
SVIS    Svilajnac       5.99 307 ePn        Pn              04 15 05.8 -0.9
MDVR    Moldovita       6.00 313 ⇑P         Pn              04 15 06.7 -0.2
MDVR    Moldovita       6.00 313            Pn              04 15 06.7 -0.2
MILM    Milestii Mici   6.08  6 ⇑P          Pn              04 15 08.2 +0.3
MILM    Milestii Mici   6.08  6             Pn              04 15 08.2 +0.3
ALU     Alushta         6.11  49 eP         Pn              04 15 04.8 -3.5
ALU                                 eS      Sn              04 16 13.7 -4.9
SIM     Simferopol'     6.11  46 eP         Pn              04 15 08.8 +0.5
SIM                                 eS      Sn              04 16 19.2 +0.5
GRUS    Gruza           6.12 302 ePn        Pn              04 15 08.6 +0.1
GRUS                                eSg     Sg              04 16 52.6 -1.0
KIS     Kishinev        6.16  6 eP          Pn              04 15 09.0  0.0
KIS                                 i S     Sn              04 16 20.0 +0.1
        comp=Z,2µm,1.2s
KIS                                 LRM     MLR             04 17 28.0
        comp=Z,2µm,15.0s
KIS     Kishinev        6.16  6 eP          Pn              04 15 09.0  0.0
KIS                                 i S     Sn              04 16 20.0 +0.1
KIS                                 smax    smax
        comp=E,2µm,1.2s
KIS                                 smax    smax
        comp=N,3µm,1.2s
KIS                                 MLR     MLR
        comp=Z,2µm,15.0s
PVY     Plav            6.19 289 ⇓i Pn      Pn              04 15 10.2 +0.6
PVY                                 eSn     Sn              04 16 19.5 -1.5
DEV     Deva            6.19 326    P       Pn              04 15 10.6 +1.1
DEV     Deva            6.19 326 ⇑P         Pn              04 15 10.6 +1.1
DEV     Deva            6.19 326            Pn              04 15 10.6 +1.1
BIZ     Bicaz           6.20 348 ⇑P         Pn              04 15 11.7 +2.0
BIZ     Bicaz           6.20 348            Pn              04 15 11.7 +2.0
IVA     Berane          6.31 291 ⇑i Pn      Pn              04 15 12.2 +1.0
IVA                                 eSn     Sn              04 16 22.3 -1.5
IVAS    Ivanjica        6.36 298 ePn        Pn              04 15 11.6 -0.2
IVAS                                eSg     Sg              04 17 00.9 -0.4
SJES    Sjenica         6.37 295 ePn        Pn              04 15 12.9 +0.9
SJES                                eSg     Sg              04 17 01.9 +0.2
TRUS    Trudelj         6.47 304 ePn        Pn              04 15 13.2 -0.1
SUDU    Sudak           6.57  50 ⇓i P       Pn              04 15 14.9 +0.2
SUDU                                eS      Sn              04 16 23.0 -7.1
BZS     Buzias          6.60 318 ePn        Pn              04 15 14.5 -0.6
BZS     Buzias          6.60 318    P       Pn              04 15 14.8 -0.3
BZS     Buzias          6.60 318 ⇑P         Pn              04 15 14.8 -0.3
BZS     Buzias          6.60 318            Pn              04 15 14.8 -0.3
ULC     Ulcinj          6.61 282 ⇑i Pn      Pn              04 15 16.1 +0.9
ULC                                 eSn     Sn              04 16 29.3 -1.7
PDG     Podgorica       6.67 286 ePn        Pn              04 15 18.0 +2.0
PDG     Podgorica       6.67 286 ⇓P         Pn              04 15 17.4 +1.4
PDG     Podgorica       6.67 286            Pn              04 15 15.6 -0.4
TTG     Podgorica       6.67 286 ⇓i Pn      Pn              04 15 16.8 +0.8
TTG                                 eSn     Sn              04 16 31.0 -1.5
DRME    Dracevica, Mon  6.68 284 ePn        Pn              04 15 18.3 +2.1
DRME    Dracevica, Mon  6.68 284 ⇑i Pn      Pn              04 15 17.6 +1.4
DRME                                eSn     Sn              04 16 31.3 -1.5
DIVS    Divibare        6.68 301 ePn        Pn              04 15 15.8 -0.5
DIVS                                eSg     Sg              04 17 09.8 -1.8
DIVS    Divibare        6.68 301 ePn        Pn              04 15 15.6 -0.7
BANR    Banloc          6.70 315 ⇑P         Pn              04 15 16.9 +0.6
BANR    Banloc          6.70 315            Pn              04 15 16.9 +0.6
ARCR    ARCALIA         6.72 339 ⇑P         Pn              04 15 17.8 +1.1
ARCR    ARCALIA         6.72 339            Pn              04 15 17.8 +1.1
BEO     Beograd         6.73 308 ePn        Pn              04 15 15.9 -1.0
PLE     Pljevlja        6.80 294 ⇓i Pn      Pn              04 15 19.0 +1.1
PLE                                 eSn     Sn              04 16 34.3 -1.5
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FEO Feodosiya 6.87 50 *eP* **Pn 04 15 21.4 +2.6**
FEO *eS* **Sn 04 16 40.3 +2.8**
RUDO Rudo 6.91 296 *eP*n **Pn 04 15 18.7 -0.6**
BUM Brajici-Budva 6.91 285⇑*i*Pn **Pn 04 15 20.5 +1.1**
BUM *eS*n **Sn 04 16 36.7 -1.9**
NKY Niksic 6.94 289⇓*i*Pn **Pn 04 15 20.8 +1.0**
NKY *eS*n **Sn 04 16 37.1 -2.1**
NKME Niksic 6.95 289⇓*i*Pn **Pn 04 15 20.9 +0.9**
NKME *eS*n **Sn 04 16 37.6 -2.0**
BBLS Lazići 6.97 298 *eS*g **Pn 04 15 20.0 -0.2**
BBLS Lazići 6.97 298 *eP*n **Sg 04 17 19.9 -1.0**
BBLS Lazići 6.97 298 *eP*n **Pn 04 15 20.6 +0.4**
DRGR 7.01 329 P **Pn 04 15 21.0 +0.3**
DRGR 7.01 329⇑P **Pn 04 15 21.0 +0.3**
DRGR 7.01 329 **Pn 04 15 21.0 +0.3**
BURAR Bucovina Array 7.01 345⇑P **Pn 04 15 22.9 +2.1**
BURAR Bucovina Array 7.01 345 **Pn 04 15 20.7 -0.1**
BURAR Bucovina Array 7.01 345 **Pn 04 15 22.9 +2.1**
BUR08 Bucovina Ar. S 7.04 345 **Pn 04 15 20.7 -0.5**
SIRR Siria 7.05 322⇑P **Pn 04 15 21.3 +0.1**
SIRR Siria 7.05 322 **Pn 04 15 21.3 +0.1**
UPM Unac-Piva 7.10 292⇓*i*Pn **Pn 04 15 23.0 +0.9**
UPM *eS*n **Sn 04 16 40.8 -2.5**
TEKS Tekeris 7.18 304 *eP*n **Pn 04 15 23.4 +0.3**
TEKS *eS*g **Sg 04 17 26.7 -1.0**
TEKS Tekeris 7.18 304 *eP*n **Pn 04 15 22.6 -0.5**
HCY Herceg Novi 7.22 286 *eP*n **Pn 04 15 26.7 +3.0**
HCY Herceg Novi 7.22 286⇑*i*Pn **Pn 04 15 25.1 +1.4**
HCY *eS*n **Sn 04 16 44.0 -2.2**
SCTE Santa Cesarea 7.25 267 **Pn 04 15 23.6 -0.3**
SORM Soroca 7.27 2 P **Pn 04 15 23.4 -0.8**
SORM Soroca 7.27 2⇑P **Pn 04 15 23.4 -0.8**
SORM Soroca 7.27 2 **Pn 04 15 23.4 -0.8**
BRY Bratogost 7.28 289 *eP*n **Pn 04 15 27.8 +3.3**
BRY Bratogost 7.28 289⇑*i*Pn **Pn 04 15 25.8 +1.3**
BRY *eS*n **Sn 04 16 45.1 -2.7**
FRGS Fruska Gora 7.32 308 *eP*n **Pn 04 15 24.9 0.0**
FRGS Fruska Gora 7.32 308 *eP*n **Pn 04 15 24.8 -0.1**
HAPS Han Pijesak,BI 7.36 299 *eP*n **Pn 04 15 24.9 -0.7**
HAPS *eS*g **Sg 04 17 32.8 -0.6**
HAPS Han Pijesak,BI 7.36 299 *eP*n **Pn 04 15 25.2 -0.4**
TREB Trebinje 7.38 288 *eP*n **Pn 04 15 28.6 +2.9**
BMR Baia Mare 7.50 337 P **Pn 04 15 28.6 +1.2**
BMR Baia Mare 7.50 337⇑P **Pn 04 15 28.6 +1.2**
BMR Baia Mare 7.50 337 **Pn 04 15 28.6 +1.2**
DBRK Dubrovnik 7.52 287 *eP*n **Pn 04 15 30.3 +2.7**
DBRK Sn **Sn 04 16 56.5 +3.2**
STON Ston 7.88 288 *eP*n **Pn 04 15 34.9 +2.3**
STON Sn **Sn 04 17 02.9 +0.7**
STON Ston 7.88 288 *eP*n **Pn 04 15 34.3 +1.7**
ANN Anapa 8.02 58 *eP* **Pn 04 15 31.9 -2.6**
ANN *eS* **Sn 04 17 01.6 -4.1**
ANN pmax pmax
comp=Z,58nm,1.3s
ANN MLR MLR
comp=Z,1µm,22.0s
DOB Doboj 8.18 301 *eP*n **Pn 04 15 36.5 -0.2**
TIP Timpagrande 8.72 262 **Pn 04 15 43.8 -0.4**
UZH Uzhgorod 8.72 335 *eP* **Pn 04 15 47.3 +3.2**
UZH *eS* **Sn 04 17 27.5 +4.5**
UZH MLR MLR
comp=N,390nm,11.0s
UZH MLR MLR
comp=E,340nm,11.0s
UZH MLR MLR
comp=Z,170nm,11.0s
MGRS Mrkonjic Grad 8.73 298 *eP*n **Pn 04 15 42.1 -2.2**
BLY Banja Luka 8.78 300 *eP*n **Pn 04 15 42.9 -2.1**
BLY Banja Luka 8.78 300 Pn **Pn 04 15 43.4 -1.6**
HVAR Hvar 8.84 289 *eP*n **Pn 04 15 46.5 +0.8**
KOLS Kolonicke sedl 8.99 336 *eP* **Pn 04 15 49.9 +2.0**
KOLS Kolonicke sedl 8.99 336 *eP*N **Pn 04 15 49.9 +2.0**
ACER Acerenza 9.07 273 **Pn 04 15 48.7 -0.4**
PSZ Piszkesteto 9.08 324 P **Pn 04 15 48.3 -0.8**
PSZ Piszkesteto 9.08 324 Pn **Pn 04 15 48.3 -0.8**
SOC Sochi 9.17 69 *eP* **Pn 04 15 50.1 -0.2**
SOC *e* 04 17 36.1
SOC MLR MLR
comp=Z,461nm,16.0s
SGRT San Giovanni R 9.20 279 Pn **Pn 04 15 50.2 -0.6**
KECS Kecovo 9.26 328 *eP* **Pn 04 15 52.6 +1.0**
KECS *e* 04 17 34.2
KECS Kecovo 9.26 328 *eP*N **Pn 04 15 52.6 +1.0**
KECS *eP*G 04 16 49.6
KECS *eS*N **Sn 04 17 34.2 -2.0**
LVV L'vov 9.35 344 *eP* **Pn 04 15 54.5 +1.7**
LVV *eS* **Sn 04 17 38.7 +0.3**
LVV MLR MLR
comp=N,3µm,9.0s
LVV MLR MLR
comp=E,2µm,9.0s
LVV MLR MLR
comp=Z,2µm,9.0s
KWP Kalwaria Pacla 9.49 339 *eP* **Pn 04 15 56.4 +1.6**
KWP Kalwaria Pacla 9.49 339 *eP* **Pn 04 15 56.4 +1.6**
KWP *eP* **Pn 04 15 56.4 +1.6**
KWP Kalwaria Pacla 9.49 339 **Pn 04 15 54.7 -0.1**
ZIRJ Zirje 9.51 291 *i* Pn **Pn 04 15 56.6 +1.6**
MMAI Mount Meron Ar 9.87 140 Pn **Pn 04 16 01.1 +1.1**
comp=Z,0.3nm,0.3s,baz=338,slow=20,SNR=4.1
AKASG Malin Array Be 9.87 5 Pn **Pn 04 15 58.7 -1.2**
comp=Z,1.8nm,0.3s,baz=186,slow=12,SNR=11
AKASG Sn **Sn 04 17 42.9 -8.3**
comp=Z,1.8nm,0.3s,baz=192,slow=20,SNR=5.2
AKASG Lg Lg 04 18 48.5
comp=Z,1.0nm,0.3s,baz=182,slow=29,SNR=5.4
AKASG LR LR 04 19 49.2
comp=Z,741nm,19.8s,baz=180,slow=38
AKBB Malin Array Si 9.87 5 P **Pn 04 15 59.7 -0.2**
AKBB Malin Array Si 9.87 5 **Pn 04 15 59.7 -0.2**
VYHS Vyhne 9.98 323 *eP* **Pn 04 16 01.3 -0.2**
VYHS Vyhne 9.98 323 *eP*N **Pn 04 16 01.3 -0.2**
VYHS *eP*G 04 16 53.5
NIE Niedzica 10.09 330 *eP* **Pn 04 16 05.0 +2.1**
NIE Niedzica 10.09 330 *eP* **Pn 04 16 05.0 +2.1**
NIE *eP* **Pn 04 16 05.0 +2.1**
LANS Liptovska Anna 10.20 327 *eP* **Pn 04 16 06.7 +2.2**
LANS Liptovska Anna 10.20 327 *eP*N **Pn 04 16 06.7 +2.2**
LANS *eP*G 04 16 57.0
LANS *eS*N Sn 04 17 44.9 -14
LANS *eS*G 04 19 04.2
NVLJ Novalja 10.28 295 *eP*n **Pn 04 16 08.4 +2.9**
SHMJ Saham 10.28 140 P Pn 04 16 11.4 +5.8
comp=Z,102nm,1.2s
CRES Cresnjev 10.33 303 *eP*n **Pn 04 16 05.3 -0.9**
INTR Introdacqua 10.58 281 **Pn 04 16 09.2 -0.5**
MODS Modra-Piesok 10.65 318 *eP* Pn 04 16 15.7 +5.1
MODS Modra-Piesok 10.65 318 *eP*N Pn 04 16 15.7 +5.1
MODS *eP*G 04 17 02.7
MODS *eS*N Sn 04 18 00.1 -10
ARSA Arzberg 10.95 310 *eP*n **Pn 04 16 15.6 +0.9**
comp=Z,14nm,0.7s,SNR=6.4
SOKA Soboth 10.96 306 *eP*n **Pn 04 16 15.8 +0.8**
comp=Z,9.6nm,0.7s,SNR=15
CONA Conrad Observa 11.13 313 *eP*n **Pn 04 16 19.6 +2.4**
comp=Z,2.4nm,0.4s,SNR=4.5
RAFF Raffo Rosso 11.15 255 Pn **Pn 04 16 16.9 -0.5**
OBKA Obir 11.19 305 *eP*n **Pn 04 16 19.5 +1.4**
comp=Z,20nm,1.4s
NRCA Norcia 11.21 285 **Pn 04 16 17.4 -1.0**
NEY Neytrino 11.27 73 *i* P **Pn 04 16 19.9 +0.7**
SHA1 Shidzhatmaz 11.29 70 *i* P **Pn 04 16 19.8 +0.2**
ASF Jabal al Asfar 11.29 137 Pn **Pn 04 16 21.9 +2.4**
comp=Z,0.1nm,0.3s,baz=315,slow=19,SNR=1.8
ASF Jabal al Asfar 11.29 137 P Pn 04 16 27.5 +8.0
KIV Kislovodsk 11.35 69 *eP* **Pn 04 16 19.6 -0.6**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,477nm,11.0s
KBZ Khabaz 11.46 71 Pn **Pn 04 16 23.5 +1.9**
comp=Z,0.1nm,0.3s,baz=15,slow=19,SNR=1.9
VRAC Vranov 11.61 320 Pn **Pn 04 16 23.2 -0.5**
comp=Z,0.6nm,0.3s,baz=149,slow=12,SNR=3.5
VRAC LR LR 04 21 22.5
comp=Z,546nm,19.9s,baz=144,slow=40
MURB Monte Urbino 11.69 287 **Pn 04 16 23.6 -1.3**
AKH Akhalkalaki 11.77 82 P **Pn 04 16 24.8 -1.2**
AKH Akhalkalaki 11.77 82 **Pn 04 16 24.8 -1.2**
MYKA Terra Mystica 11.81 304 *eP*n **Pn 04 16 27.3 +0.8**
comp=Z,7.4nm,0.7s
MOA Molln 11.99 310 *eP*n **Pn 04 16 29.5 +0.6**
comp=Z,6.5nm,0.9s,SNR=4.3
KRLC Kraliky 12.06 323 *eP* **Pn 04 16 25.2 -4.7**
KRLC MLR MLR
comp=Z,2µm,11.4s
KRLC Kraliky 12.06 323 *eP* **Pn 04 16 25.2 -4.7**
KRLC AMS AMS 04 22 30.0
comp=Z,2µm,11.4s
ZEI Tsey 12.08 76 *eP* **Pn 04 16 31.7 +1.3**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
TREC Trest 12.15 318 AMS AMS 04 22 00.0
comp=Z,2µm,10.2s
KBA Koelnbreinsper 12.18 305 Pn **Pn 04 16 31.7 +0.1**
comp=Z,3.5nm,0.5s,SNR=5.6
STAL STALIGIAL 12.26 301 Pn **Pn 04 16 31.8 -0.9**
DPC Dobruska-Polom 12.46 323 *eP* **Pn 04 16 40.0 +4.6**
DPC MLR MLR
comp=Z,2µm,10.9s
DPC Dobruska-Polom 12.46 323 *eP* **Pn 04 16 40.0 +4.6**
DPC AMS AMS 04 22 40.0
comp=Z,2µm,10.9s
EIL Elat 12.56 151 Pn **Pn 04 16 36.6 -0.3**
comp=Z,0.2nm,0.3s,baz=90,slow=5.1,SNR=2.4
ABTA Abfaltersbach 12.57 303 Pn **Pn 04 16 39.0 +2.1**
comp=Z,16nm,1.3s
UPC Upice 12.71 323 AMS AMS 04 22 50.0
comp=Z,2µm,10.9s
CHVC Chvalec 12.75 324 AMS AMS 04 22 50.0
comp=Z,2µm,10.5s
VORD Divnogorie 12.81 34 *eP* **Pn 04 16 38.4 -1.7**
VORD pmax pmax
comp=Z,20nm,1.0s
GNI Garni 12.83 88 Pn **Pn 04 16 41.8 +1.2**
comp=Z,1.2nm,0.3s,baz=180,slow=20,SNR=2.0
GNI LR LR 04 21 55.6
comp=Z,623nm,19.8s,baz=212,slow=39
GEC2 GERESS Array S 12.84 313 **Pn 04 16 40.0 -0.5**
GERES GERESS Array B 12.84 313 Pn **Pn 04 16 41.0 +0.5**
comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=10
GERES LR LR 04 22 18.7
comp=Z,479nm,19.2s,baz=116,slow=40
GERES GERESS Array B 12.84 313 **Pn 04 16 39.8 -0.7**
CTI Castel Tesino 12.89 299 P **Pn 04 16 41.3 0.0**
CTI Castel Tesino 12.89 299 **Pn 04 16 41.4 0.0**
GOPC GO Pecny, Ondr 12.90 319 AMS AMS 04 22 40.0
comp=Z,2µm,13.2s
VSR Storozhevoye 12.95 33 *i* P **Pn 04 16 42.5 +0.5**
ZCCA Zocca 12.95 291 **Pn 04 16 42.1 0.0**
KHC Kasperske Hory 13.06 314 *eP* **Pn 04 16 43.7 +0.1**
KHC MLR MLR
comp=Z,1µm,11.1s
KHC Kasperske Hory 13.06 314 *eP* **Pn 04 16 43.7 +0.1**
KHC *ex* x 04 16 49.0
KHC *ex* x 04 17 17.5
KHC AMS AMS 04 22 30.0
comp=Z,1µm,11.1s
KHC Kasperske Hory 13.06 314 **Pn 04 16 42.9 -0.7**
PRU Pruhonice 13.07 319 AMS AMS 04 22 40.0
comp=Z,2µm,10.2s
PRA Prague 13.17 319 AMS AMS 04 22 50.0
comp=Z,2µm,11.8s
WTTA Wattenberg 13.32 304 Pn **Pn 04 16 48.6 +1.3**
comp=Z,24nm,1.3s
WATA Walderalm 13.39 304 Pn **Pn 04 16 51.0 +2.8**
comp=Z,15nm,1.3s
PVCC Panska Ves 13.40 321 AMS AMS 04 23 10.0
comp=Z,2µm,12.1s
SQTA Sankt Quirin 13.57 303 *eP*n **Pn 04 16 52.3 +1.6**
comp=Z,16nm,1.6s
MOTA Moosalm 13.69 304 Pn **Pn 04 16 53.5 +1.3**
comp=Z,22nm,1.2s
LPSR Galich'ya Gora 13.93 29 *eP* **Pn 04 16 54.5 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
RETA Reutte 13.96 304 Pn **Pn 04 16 56.9 +1.1**
comp=Z,27nm,1.6s
NACGM Naroch 14.06 357 *e* **P 04 17 02.0 -3.1**
NACGM *eLR* LR 04 20 46.0
VRH Novokhopyorsk 14.07 38 *eP* **Pn 04 16 56.8 -0.5**
VRH pmax pmax
comp=Z,20nm,0.8s
DAVOX Davos/Dischmat 14.28 300 Pn **Pn 04 17 01.5 +1.1**
comp=Z,0.5nm,0.3s,baz=86,slow=9.0,SNR=13
DAVOX LR LR 04 22 40.3
comp=Z,602nm,20.2s,baz=110,slow=38
NKC Novy Kostel 14.29 316 AMS AMS 04 23 50.0
comp=Z,2µm,10.9s
DAVA Damuels 14.44 302 Pn **Pn 04 17 03.0 +0.5**
comp=Z,20nm,1.0s
IIGN Ignalina 14.53 356 *eS* **Sn 04 19 51.5 +6.5**
CLL Collm 14.66 320 *eP* **Pn 04 17 08.0 +2.6**
CLL Collm 14.66 320 **Pn 04 17 04.1 -1.2**
MAK Makhachkala 14.74 75 *eP* P 04 17 20.0 +7.3
MAK MLR MLR
comp=Z,169nm,10.0s
ISAL Salakas 14.76 356 *eS* **Sn 04 19 53.3 +2.8**
PABE Paberze 14.87 351 *eS* **Sn 04 19 58.8 +5.4**
IZAR Zarasai 14.93 356 *eS* **Sn 04 19 56.8 +2.1**
OBN Obninsk 15.36 19⇓*eP* **Pn 04 17 14.2 -0.5**
OBN *eS* **Sn 04 20 06.7 +1.4**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,232nm,16.0s
OBN Obninsk 15.36 19 LR LR 04 23 14.3
comp=Z,68nm,19.7s,baz=206,slow=38
KEST Kesra 15.45 257 Pn **P 04 17 19.3 -1.4**
comp=Z,0.2nm,0.3s,baz=121,slow=7.1,SNR=5.5
KEST LR LR 04 23 36.6
comp=Z,157nm,20.4s,baz=262,slow=39
KEST Kesra 15.45 257 **Pn 04 17 14.2 -1.8**
KEST IAmb IAmb 04 17 30.9
comp=Z,17nm,0.8s
BFO Black Forest 15.79 305 *i* P **P 04 17 25.5 +1.1**
BFO Black Forest 15.79 305 **Pn 04 17 18.6 -1.8**
BFO IAmb IAmb 04 17 34.6
comp=Z,31nm,1.0s
SENIN Lac Senin/Sane 15.89 297 P **Pn 04 17 20.8 -1.1**
SENIN IAmb IAmb 04 17 36.9
comp=Z,42nm,1.1s
BNI Bardonecchia 16.08 292 P **Pn 04 17 22.5 -1.8**
BNI pmax pmax
comp=Z,68nm,1.1s
BNI Bardonecchia 16.08 292 P **Pn 04 17 22.5 -1.8**
BNI IAmb IAmb 04 17 38.3
comp=Z,68nm,1.1s
LPL La Plagne 16.11 294 *eP* **P 04 17 28.3 +0.1**
LPL pmax pmax
comp=Z,23nm,0.9s
MOS Moscow 16.19 20 *eP* **Pn 04 17 21.1 -4.4**
MOS *eS* **Sn 04 20 26.0 +0.6**
MOS MLR MLR
comp=Z,500nm,16.0s
ECH Echery 16.48 303 P **Pn 04 17 28.1 -1.2**
ECH pmax pmax
comp=Z,27nm,1.0s
ECH Echery 16.48 303 P **Pn 04 17 28.1 -1.2**
ECH IAmb IAmb 04 17 41.3
comp=Z,27nm,1.0s
WLF Walferdange 17.61 307 PnPn P 04 17 52.6 +8.1
MEM Membach 18.06 310 P **P 04 17 51.6 +2.1**
MEM PnPn **PnPn 04 17 58.5 -1.4**
BSTI Sart Tilman 18.31 310 P P 04 18 01.8 +10
BCLA Clavier 18.40 309 P **P 04 17 56.1 +2.9**
SSF Saint Saulge 18.59 298 *eP* **Pn 04 17 58.0 +2.5**
SSF pmax pmax
comp=Z,21nm,1.2s
BMRD Maredsous 18.68 308 P **Pn 04 18 00.0 +3.5**
DOU Dourbes 18.70 307 P **Pn 04 17 59.1 +2.2**
CAF Calviac 19.33 291 *eP* **Pn 04 18 05.2 +0.6**
CAF pmax pmax
comp=Z,32nm,1.5s
FINES FINESS Array B 20.63 357 P **P 04 18 18.1 +0.7**
FINES FINESS Array B 20.63 357 P **P 04 18 18.0 +0.5**
comp=Z,8.2nm,1.0s,baz=183,slow=17,SNR=3.7
FINES LR LR 04 26 15.7
comp=Z,495nm,18.8s,baz=174,slow=37
FINES FINESS Array B 20.63 357 P **P 04 18 18.1 +0.7**
MFF Saint Martin d 21.00 295 *eP* **P 04 18 24.5 +2.8**
MFF pmax pmax
comp=Z,13nm,0.8s
HFS Hagfors 21.21 340 P **P 04 18 25.7 +2.0**
comp=Z,4.8nm,1.0s,baz=152,slow=16,SNR=2.7
HFS LR LR 04 27 45.6
comp=Z,377nm,18.4s,baz=144,slow=40
KLMR Klimovskoe 21.24 16 *eP* **P 04 18 23.5 -0.5**
KLMR *eS* **S 04 22 19.9 -0.6**
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 21.24 16 *eP* **P 04 18 23.6 -0.5**
KLMR AMP 04 18 28.7
comp=Z,29nm,1.3s
KLMR *eS* **S 04 22 20.0 -0.6**
KLMR *eS* **S 04 22 20.0 -0.6**
KLMR LQ LQ 04 24 41.1
KLMR LQ LQ 04 24 41.1
KLMR LR LR 04 25 45.9
KIRV Kirov 22.35 30 P **P 04 18 35.3 -0.7**
comp=Z,4.4nm,0.4s,baz=194,slow=4.2,SNR=3.3
KIRV LR LR 04 27 36.9
comp=Z,407nm,18.5s,baz=231,slow=38
NB2 NORSAR Subarra 22.64 339 P **P 04 18 41.7 +2.6**
comp=Z,13nm,1.2s,baz=146,slow=11
NOA NORSAR Array B 22.64 339 P **P 04 18 40.8 +1.7**
comp=Z,3.0nm,1.0s,baz=143,slow=10,SNR=4.6
NOA LR LR 04 27 16.4
comp=Z,145nm,21.9s,baz=160,slow=36
AKTO Aktyubinsk 22.97 55 P **P 04 18 41.5 -1.2**
comp=Z,3.2nm,0.8s,baz=253,slow=11,SNR=7.3
AKTO LR LR 04 30 10.7
comp=Z,183nm,18.6s,baz=246,slow=43
PRGR Permogore 23.41 21 *eP* **P 04 18 47.1 +0.1**
PRGR pmax pmax
comp=Z,55nm,1.5s
GEYT Alibeck 23.47 87 P **P 04 18 45.3 -2.6**
comp=Z,1.3nm,0.4s,baz=189,slow=36,SNR=3.5
GEYT LR LR 04 30 19.0
comp=Z,330nm,18.2s,baz=290,slow=43
GEYT Alibeck 23.47 87 P **P 04 18 47.4 -0.5**
ABKAR Abkulak array 23.98 59 P **P 04 18 52.3 -0.4**
ABKAR Abkulak array 23.98 59 P **P 04 18 52.1 -0.7**
ESBB Sonseca Array 24.28 278 P **P 04 18 55.3 -0.4**
ESDC Sonseca Array 24.28 278 P **P 04 18 55.9 +0.1**
comp=Z,4.4nm,0.8s,baz=70,slow=9.6,SNR=19
ESDC Sonseca Array 24.28 278 P **P 04 18 54.4 -1.3**
PAB San Pablo 24.60 278 P **P 04 18 58.0 -0.7**
PAB pmax pmax
comp=Z,19nm,1.2s
PAB San Pablo 24.60 278 P **P 04 18 58.0 -0.7**
PAB IAmb IAmb 04 19 06.7
comp=Z,19nm,1.1s
EKA Eskdalemuir Ar 25.03 316 P **P 04 19 03.8 +1.6**
comp=Z,1.7nm,0.7s,baz=109,slow=11,SNR=3.5
ARU Arti 25.25 42*d i*P **P 04 19 04.3 +0.1**
ARU 04 19 36.1
ARU S **S 04 23 32.8 +2.4**
ARU SS **SnSn 04 24 24.1 +3.8**
ARU pmax pmax
comp=Z,35nm,0.9s
ARU Arti 25.25 42 P **P 04 19 04.8 +0.5**
comp=Z,4.2nm,0.5s,baz=234,slow=7.3,SNR=22
ARU LR LR 04 30 10.2
comp=Z,492nm,18.6s,baz=246,slow=39
ARU Arti 25.25 42 P **P 04 19 02.6 -1.6**
MVO Moncorvo 26.26 282 *eLR* LR 04 29 58.6
comp=Z,178nm,16.0s
SVE Sverdlovsk 26.46 42 *eP* **P 04 19 18.7 +3.5**
MTE Manteigas 26.80 281 *eP* **P 04 19 19.6 +1.1**
comp=Z,73nm,1.4s
MTE *eLQ* LQ 04 24 18.4
MTE *eLR* LR 04 29 22.7
comp=Z,158nm,18.0s
PCBR Castelo Branco 26.88 280 *eP* **P 04 19 20.4 +1.3**
comp=Z,44nm,1.8s
PMRV Marv??o 26.91 279 *eP* **P 04 19 20.8 +1.3**
comp=Z,47nm,1.5s
PMRV Marv??o 26.91 279 *eLR* LR 04 31 22.8
comp=Z,122nm,16.0s
MDT Midelt 27.12 263 P **P 04 19 24.6 +3.1**
comp=Z,7.8nm,0.9s,baz=84,slow=7.6,SNR=5.7
MDT LR LR 04 31 08.2
comp=Z,42nm,21.8s,baz=64,slow=39
PVAQ Vaqueiros 27.73 275 *eLR* LR 04 31 49.1
comp=Z,96nm,16.0s
PNCL Nicolau / Gran 28.13 276 *eP* **P 04 19 29.8 -0.6**
ARCES ARCESS Array B 28.75 358 P **P 04 19 35.1 -0.5**
comp=Z,3.1nm,1.0s,baz=168,slow=9.2,SNR=2.9
ARCES LR LR 04 30 57.0
comp=Z,423nm,18.1s,baz=176,slow=36
BRVK Borovoye 30.92 52 *i* P **P 04 19 55.5 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 31.50 72 P **P 04 19 59.2 -1.0**
KKAR Karatay Array 31.50 72 P **P 04 19 59.2 -1.0**
GAR Garm 32.34 79 P **P 04 20 06.9 -0.9**
AAK Ala-Archa 34.46 71*ceP* **P 04 20 28.2 +2.0**
AAK pmax pmax
comp=Z,13nm,1.7s
TOA0 Torodi Ar. Sit 35.90 227 P **P 04 20 37.8 -0.9**
TORD Torodi Ar. Bea 35.90 227 P **P 04 20 38.4 -0.3**
comp=Z,1.6nm,0.6s,baz=34,slow=8.8,SNR=19
TORD LR LR 04 37 21.8
comp=Z,126nm,18.2s,baz=350,slow=40
TORD Torodi Ar. Bea 35.90 227 P **P 04 20 37.7 -1.0**
KURK Kurchatov 36.05 57 *i* P **P 04 20 40.1 +0.4**
KURK pmax pmax
comp=Z,6.0nm,1.6s
KSH Kashi 36.37 76 P **P 04 20 42.0 -0.7**
KSH PP **PP 04 22 06.0 +0.8**
KSH S **S 04 26 21.0 -3.7**
KSH pmax pmax
comp=Z,280nm,7.1s
KSH LR LR
comp=Z,370nm,9.9s
KSH LR LR
comp=Z,190nm,12.6s
KSH LR LR
comp=Z,380nm,10.6s
MKAR Makanchi Array 39.00 63 P **P 04 21 05.4 +0.6**
comp=Z,2.0nm,0.6s,baz=282,slow=6.1,SNR=12
MKAR LR LR 04 41 15.0
comp=Z,123nm,18.7s,baz=257,slow=43
MKAR Makanchi Array 39.00 63 P **P 04 21 02.9 -1.9**
ZAA0 Zalesovo Array 39.60 51 P **P 04 21 10.0 +0.4**
ZALV Zalesovo Beam 39.60 51 P **P 04 21 09.8 +0.2**
comp=Z,2.9nm,0.7s,baz=269,slow=9.9,SNR=11
ZALV LR LR 04 39 22.8
comp=Z,56nm,19.3s,baz=264,slow=39
ZALV Zalesovo Beam 39.60 51 P **P 04 21 08.6 -1.0**
DGZ Jazzator, Alta 41.80 57 *i* P **P 04 21 28.4 +0.4**
NRIK Noril'sk 41.80 27 P **P 04 21 28.2 +0.6**
comp=Z,2.3nm,0.8s,baz=10.0,slow=17,SNR=3.1
NRIK LR LR 04 40 34.7
comp=Z,192nm,21.1s,baz=258,slow=39
WMQ Urumqi 43.45 65 *eP* **P 04 21 43.5 +2.1**
WMQ sP sP 04 21 50.5 +8.3
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,78nm,3.7s
DBIC Dimbokro 44.88 230 LR LR 04 44 16.7
comp=Z,140nm,18.4s,baz=1.0,slow=41
TIC Toumodi 44.99 230 *eP* P 04 21 59.2 +5.2
KIC Kosan Boka 45.06 229 *eP* P 04 21 59.9 +5.4
comp=Z,34nm,0.9s
LIC Lamto 45.34 229 *eP* **P 04 21 56.4 -0.3**
comp=Z,10nm,0.5s
GTA Gaotai 53.51 66 *eP* **P 04 22 57.5 -1.6**
GTA pP sP 04 23 04.0 +4.1
GTA sP pP 04 23 07.5 +7.9
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,87nm,7.3s
GTA LR LR
comp=Z,140nm,18.4s
GTA LR LR
comp=Z,130nm,18.7s
GTA LR LR
comp=Z,150nm,18.7s
SONM Songino Array 54.29 54 P **P 04 23 05.2 +0.5**
comp=Z,3.5nm,0.3s,baz=296,slow=7.6,SNR=6.5
SONM LR LR 04 50 14.8
comp=Z,152nm,18.9s,baz=359,slow=40
TIXI Tiksi 55.06 22 *eP* **P 04 23 11.4 +1.7**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI MLR MLR
comp=Z,149nm,15.0s
LZH Lanzhou 57.89 68 *eP* **P 04 23 30.5 -0.1**
LZH pP sP 04 23 34.0 +2.5

LZH				sP	pP	04 23 37.3	+6.2
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,56nm,4.8s						
CD2	**Chengdu**	**60.49**	**73**	P	**P**	**04 23 47.3**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**60.77**	**60**	*e*P	**P**	**04 23 50.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN	**Xi'an**	**62.51**	**68**	P	**P**	**04 24 06.0**	**+3.8**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**63.95**	**88**	*i* P	**P**	**04 24 11.1**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**63.95**	**88**	P	**P**	**04 24 11.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=302,slow=6.9,SNR=6.8						
CMAR				LR	LR	04 58 14.7	
	comp=Z,53nm,19.0s,baz=295,slow=42						
CMAR	**Chiang Mai Arr**	**63.95**	**88**	P	**P**	**04 24 09.4**	**-2.5**
BILL	**Bilibino**	**66.99**	**16**	*e*P	**P**	**04 24 30.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,194nm,20.0s						
KLR	**Kul'dur**	**68.08**	**43**	*i* P	**P**	**04 24 37.4**	**-0.6**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**68.08**	**43**	LR	LR	04 57 01.6	
	comp=Z,143nm,18.5s,baz=310,slow=38						
WHN	**Wuhan**	**68.27**	**68**	P	**P**	**04 24 41.5**	**+2.0**
MA2	**Magadan**	**69.41**	**27**	LR	LR	04 57 25.7	
	comp=Z,157nm,18.1s,baz=282,slow=38						
NJ2	**Nanjing**	**70.51**	**64**	*e*P	**P**	**04 24 54.0**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
YKA	**Yellowknife Ar**	**72.66**	**343**	P	**P**	**04 25 07.6**	**+1.8**
	comp=Z,1.5nm,0.9s,baz=172,slow=33,SNR=3.3						
KSRS	**Korea Array**	**73.15**	**55**	P	**P**	**04 25 08.7**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=300,slow=4.9,SNR=4.0						
KSRS				LR	LR	05 02 20.7	
	comp=Z,74nm,18.1s,baz=325,slow=40						
ILAR	**Eielson Array**	**74.61**	**358**	P	**P**	**04 25 18.9**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=335,slow=6.0,SNR=2.9						
ILAR	**Eielson Array**	**74.61**	**358**	P	**P**	**04 25 17.1**	**-0.1**
PETK	**Petropavlovsk-**	**76.85**	**28**	LR	LR	05 01 18.1	
	comp=Z,130nm,21.2s,baz=243,slow=37						
MJAR	**Matsushiro Arr**	**79.94**	**50**	LR	LR	05 05 46.3	
	comp=Z,54nm,18.3s,baz=340,slow=39						
YNE	**Yellowstone No**	**86.55**	**332**	P	**P**	**04 26 19.1**	**-2.8**
YHL	**Hebgen Lake**	**87.10**	**332**	P	**P**	**04 26 23.1**	**-1.6**
DLMT	**Dillon**	**87.15**	**333**	P	**P**	**04 26 22.5**	**-2.2**
DLMT				IAmb	IAmb	04 26 34.4	
	comp=Z,5.1nm,1.0s						
YMR	**Madison River**	**87.19**	**332**	P	**P**	**04 26 26.0**	**+1.0**
PDAR	**Pinedale Array**	**88.31**	**330**	P	**P**	**04 26 31.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=88,slow=9.4,SNR=3.1						
PDAR				LR	LR	05 06 53.0	
	comp=Z,122nm,21.7s,baz=346,slow=36						
BDFB	**Brasilia**	**89.83**	**249**	LR	LR	05 08 29.2	
	comp=Z,71nm,18.3s,baz=343,slow=37						
TXAR	**Lajitas Array**	**96.99**	**319**	LR	LR	05 12 21.1	
	comp=Z,48nm,19.9s,baz=0.0,slow=36						

ISCJB ***27*** *04:15:09.3±0.3, 6°.28S±0°.04×147°.92E±0°.04, h51km, mb4.4/9, MS3.8/21, Error ellipse: s-maj=7.4km s-min=4.8km az=44.6*

NEIC ***27*** *04:15:11.5±1.5, 6°.29S±0°.07×148°.02E±0°.08, h64km±6km, mb4.8/31*

IDC ***27*** *04:15:11.1±1.5, 6°.15S×148°.00E, h50km±14km, mb4.3/9, mb1 4.5/15, mb1mx4.2/37, mbtmp4.6/15, ML4.5/4, MS3.8/24, Ms1 3.8/24, ms1mx3.7/37, Error ellipse: s-maj=18.1km s-min=12.3km az=112.0*

DJA ***27*** *04:15:18.0±1.1, 7°S±5°×14°8E±°, h70km±9km, M4.7/11, mB5.2/3, mb4.6/11, MLv4.8/1, Mw(mB)4.5/3*

ISC 27 04:15:11.0±0.4, 6°.29S±0°.06×147°.95E±0°.06, h51km, n88, σ1§68/73, mb4.7/23, MS3.8/21, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**194**	P	**Pn**	**04 16 01.1**	**+2.4**
	64nm,0.3s,baz=7.1,slow=3.6,SNR=46						
PMG				S	**Sn**	**04 16 40.4**	**+4.9**
	104nm,0.3s,baz=20,slow=14,SNR=9.2						
PMG	**Port Moresby**	**3.19**	**194**		**Pn**	**04 15 58.6**	**-0.1**
PMG					**Sn**	**04 16 35.9**	**+0.4**
KRVT	**Keravat (AS076**	**4.51**	**64**	P	**Pn**	**04 16 17.3**	**+0.5**
	63nm,0.3s,baz=0.3,slow=1.4,SNR=17						
KRVT				S	**Sn**	**04 17 10.3**	**+2.2**
	2.8nm,0.3s,baz=297,slow=2.3,SNR=2.5						
KRVT				LR	LR	04 18 02.1	
	comp=Z,2μm,19.3s,baz=240,slow=39						
JAY	**Jayapura**	**8.14**	**297**	P	Pn	04 17 13.1	+6.4
	1.0nm,0.3s,baz=146,slow=15,SNR=3.7						
JAY				LR	LR	04 20 29.3	
	comp=Z,963nm,20.1s,baz=12,slow=39						
JAY	**Jayapura**	**8.14**	**297**	P	Pn	04 17 13.5	+6.8
COEN	**Coen**	**8.95**	**211**		**Pn**	**04 17 18.7**	**+0.9**
COEN					**Sn**	**04 18 57.7**	**+0.4**
HNR	**Honiara**	**12.29**	**105**	P	**Pn**	**04 18 05.0**	**+1.6**
	baz=173,slow=8.1,SNR=3.0						
CTA	**Charters Tower**	**13.81**	**187**	P	**Pn**	**04 18 26.2**	**+2.0**
	0.6nm,0.3s,baz=6.8,slow=13,SNR=3.2						
SIJI	**Sorong**	**17.50**	**287**	P	**P**	**04 19 13.1**	**+1.0**
	1.0nm,0.3s,baz=95,slow=8.9,SNR=6.6						
SIJI				LR	LR	04 27 42.4	
	comp=Z,393nm,21.9s,baz=92,slow=43						
SWI	**Sorong**	**17.50**	**287**	P	P	04 19 20.5	+8.3
WB0	**Warramunga Arr**	**18.79**	**223**	P	**P**	**04 19 26.1**	**-0.3**
WB0				IAmb	IAmb	04 19 30.1	
	comp=Z,41nm,0.9s						
WR0	**Warramunga Arr**	**18.82**	**223**	Pn	**Pn**	**04 19 28.2**	**+0.5**
WB2	**Warramunga Arr**	**18.94**	**223**	P	**P**	**04 19 28.2**	**+0.2**
WRA	**Warramunga Arr**	**18.95**	**223**	P	**Pn**	**04 19 29.0**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=48,slow=11,SNR=55						
WRA				S	**Sn**	**04 22 56.6**	**-4.0**
	baz=42,slow=22,SNR=3.5						
WRA				ScP	**ScP**	**04 27 26.0**	**+1.8**
	baz=48,slow=2.7,SNR=4.8						
WRA				LR	LR	04 27 42.9	
	comp=Z,306nm,18.0s,baz=50,slow=39						
WRA	**Warramunga Arr**	**18.95**	**223**	P	**P**	**04 19 27.4**	**-0.7**
WRA					**PcP**	**04 23 50.2**	**-2.3**
WRA					**ScP**	**04 27 21.9**	**-2.3**
EIDS	**Eidsvold**	**19.20**	**171**		**Pn**	**04 19 31.9**	**-0.2**
GUMO	**Guam**	**19.99**	**351**	LR	LR	04 27 55.4	
	comp=Z,140nm,18.1s,baz=135,slow=38						
KNRA	**Kununurra**	**21.00**	**242**	P	**P**	**04 19 50.5**	**+0.1**
AS31	**Alice Springs**	**21.93**	**217**	P	**P**	**04 20 01.1**	**+0.8**
ASAR	**Alice Springs**	**21.93**	**217**	P	**P**	**04 20 01.4**	**+1.0**
	comp=Z,31nm,0.9s,baz=57,slow=8.9,SNR=155						
ASAR				S	**S**	**04 24 00.1**	**+0.2**
	comp=Z,14nm,1.0s,baz=29,slow=23,SNR=17						
ASAR				ScP	**ScP**	**04 27 34.1**	**+2.8**
	comp=Z,1.6nm,0.9s,baz=52,slow=2.1,SNR=7.1						
ASAR				LR	LR	04 29 34.1	
	comp=Z,452nm,19.0s,baz=54,slow=39						
ASAR	**Alice Springs**	**21.93**	**217**	P	**P**	**04 20 01.0**	**+0.6**
SANI	**Sanana**	**22.30**	**280**	P	P	04 20 14.4	+10
ANA2	**Anatahan**	**22.60**	**354**	P	**P**	**04 20 07.0**	**-0.5**
SOEI	**Soe**	**23.70**	**260**	P	**P**	**04 20 18.1**	**-0.5**
SOEI				IAmb	IAmb	04 20 29.3	
	comp=Z,23nm,0.9s						
DZM	**Mont Dzumac**	**23.77**	**133**	*e*P	**P**	**04 20 18.9**	**-0.3**
	comp=Z,138nm,1.3s						
DZM				*e*LR	LR	04 27 33.0	
	comp=Z,915nm,24.6s						
DZM	**Mont Dzumac**	**23.77**	**133**	P	**P**	**04 20 19.6**	**+0.5**
	comp=Z,38nm,1.1s,baz=348,slow=9.2,SNR=11						
DZM	**Mont Dzumac**	**23.77**	**133**	P	**P**	**04 20 17.1**	**-2.0**
ARMA	**Armidale**	**24.25**	**172**	P	**P**	**04 20 22.5**	**-1.0**
ARMA				IAmb	IAmb	04 20 27.5	
	comp=Z,45nm,1.1s						
BATI	**Baumata**	**24.34**	**259**	P	**P**	**04 20 25.7**	**+1.3**
	comp=Z,24nm,0.5s,baz=120,slow=5.6,SNR=3.7						
BATI				LR	LR	04 32 36.4	
	comp=Z,885nm,19.9s,baz=95,slow=43						
FITZ	**Fitzroy Crossi**	**24.73**	**240**	P	**P**	**04 20 28.6**	**+0.8**
	comp=Z,54nm,0.8s,baz=58,slow=7.7,SNR=57						
FITZ				LR	LR	04 31 19.2	
	comp=Z,459nm,19.5s,baz=66,slow=39						
FITZ	**Fitzroy Crossi**	**24.73**	**240**	P	**P**	**04 20 28.6**	**+0.8**
LUWI	**Luwuk**	**25.66**	**281**	P	**P**	**04 20 36.4**	**+0.1**
LUWI				IAmb	IAmb	04 20 53.8	
	comp=Z,28nm,1.1s						
DAV	**Davao City (W)**	**25.97**	**300**	LR	LR	04 29 44.9	
	comp=Z,136nm,21.3s,baz=170,slow=34						
STKA	**Stephens Creek**	**26.14**	**192**	P	**P**	**04 20 41.3**	**+0.8**
	comp=Z,17nm,1.1s,baz=340,slow=6.8,SNR=17						
STKA				LR	LR	04 31 53.9	
	comp=Z,302nm,18.8s,baz=19,slow=38						
STKA	**Stephens Creek**	**26.14**	**192**	P	**P**	**04 20 39.8**	**-0.7**
KAPI	**Kappang**	**28.09**	**271**	LR	LR	04 34 34.7	
	comp=Z,143nm,20.4s,baz=302,slow=41						
TTSI	**Tana Toraja**	**28.22**	**275**	P	P	04 21 08.9	+10
BBOO	**Buckleboo**	**28.61**	**201**	P	**P**	**04 21 02.8**	**+0.2**
CAN	**Canberra**	**28.91**	**178**	P	**P**	**04 21 03.0**	**-2.3**
CAN				IAmb	IAmb	04 21 08.8	
	comp=Z,15nm,1.0s						
FORT	**Forrest**	**30.69**	**215**	P	**P**	**04 21 20.6**	**-0.5**
FORT				IAmb	IAmb	04 21 26.5	
	comp=Z,17nm,0.9s						
PSAD2	**Pilbara Seismi**	**31.05**	**238**	P	**P**	**04 21 23.9**	**-0.6**
PSAD2				IAmb	IAmb	04 21 26.9	
	comp=Z,14nm,0.8s						
PSAC2	**Pilbara Seismi**	**31.08**	**238**	P	**P**	**04 21 24.2**	**-0.5**
PSAD1	**Pilbara Seismi**	**31.10**	**238**	P	**P**	**04 21 24.7**	**-0.1**
PSAB2	**Pilbara Seismi**	**31.11**	**238**	P	**P**	**04 21 24.7**	**-0.2**
PSAB2				IAmb	IAmb	04 21 27.8	
	comp=Z,20nm,0.8s						
PSAA3	**Pilbara Seismi**	**31.13**	**238**	P	**P**	**04 21 25.7**	**+0.6**
PSAA3				IAmb	IAmb	04 21 28.0	
	comp=Z,16nm,0.8s						
PSAA2	**Pilbara Seismi**	**31.13**	**238**	P	**P**	**04 21 25.1**	**+0.1**
PSA00	**Pilbara Seismi**	**31.14**	**238**	P	**P**	**04 21 23.2**	**-1.9**
PSA00				IAmb	IAmb	04 21 28.0	
	comp=Z,18nm,0.8s						
PSAB3	**Pilbara Seismi**	**31.14**	**238**	P	**P**	**04 21 24.7**	**-0.4**
PSAB3				IAmb	IAmb	04 21 29.6	
	comp=Z,21nm,0.9s						
PSAA1	**Pilbara Seismi**	**31.14**	**238**	P	**P**	**04 21 25.4**	**+0.1**
PSAA1				IAmb	IAmb	04 21 28.1	
	comp=Z,16nm,0.8s						
PSAD3	**Pilbara Seismi**	**31.22**	**238**	P	**P**	**04 21 26.6**	**+0.7**
PSAD3				IAmb	IAmb	04 21 28.7	
	comp=Z,20nm,0.8s						
NWAO	**Narrogin (SRO)**	**38.96**	**223**	P	**P**	**04 22 32.2**	**-0.1**
NWAO				IAmb	IAmb	04 22 44.4	
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.96**	**223**	P	**P**	**04 22 31.6**	**-0.8**
NWAO				IAmb	IAmb	04 22 44.4	
	comp=Z,11nm,1.0s						
WKZ	**Wanaka**	**42.56**	**158**	P	**P**	**04 23 01.7**	**-0.2**
MJAR	**Matsushiro Arr**	**43.58**	**349**	P	**P**	**04 23 09.3**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=152,slow=6.5,SNR=6.5						
MJAR				LR	LR	04 41 26.1	
	comp=Z,53nm,18.3s,baz=185,slow=36						
KSRS	**Korea Array**	**47.37**	**338**	LR	LR	04 40 04.8	
	comp=Z,64nm,21.8s,baz=135,slow=32						
RAR	**Rarotonga**	**52.65**	**112**	LR	LR	04 42 30.4	
	comp=Z,24nm,20.0s,baz=262,slow=31						
CMAR	**Chiang Mai Arr**	**54.22**	**298**	LR	LR	04 45 42.4	
	comp=Z,42nm,21.8s,baz=188,slow=34						
PPT	**Papeete**	**61.91**	**106**	LR	LR	04 48 54.0	
	comp=Z,26nm,19.0s,baz=282,slow=33						
PPT2	**Papeete2**	**61.91**	**107**	*e*S	S	04 33 59.3	+13
	comp=Z,56nm,30.0s						
SONM	**Songino Array**	**65.12**	**330**	P	**P**	**04 25 47.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=132,slow=2.1,SNR=3.7						
VNDA	**Vanda**	**71.57**	**177**	LR	LR	04 56 08.1	
	comp=Z,44nm,18.0s,baz=333,slow=34						
WMQ	**Urumqi**	**73.63**	**319**	P	**P**	**04 26 37.2**	**-2.1**
MKAR	**Makanchi Array**	**78.32**	**320**	P	**P**	**04 27 06.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=79,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**78.32**	**320**	P	**P**	**04 27 05.7**	**-0.2**
ZALV	**Zalesovo Beam**	**79.76**	**328**	LR	LR	05 00 36.5	
	comp=Z,41nm,20.5s,baz=156,slow=34						
KSH	**Kashi**	**80.28**	**312**	P	P	04 27 24.8	+7.9
KSH	**Kashi**	**80.28**	**312**	S	**S**	**04 37 27.0**	**+8.2**
KSH	**Kashi**	**80.28**	**312**	SKS	S	04 37 32.3	+14
KSH	**Kashi**	**80.28**	**312**	sS	sS	04 37 54.3	+11
KSH	**Kashi**	**80.28**	**312**	SS	SS	04 42 43.0	+12
KSH				pmax	pmax		
	comp=Z,340nm,5.1s						
KSH				LR	LR		
	comp=N,120nm,8.9s						
KSH				LR	LR		
	comp=E,240nm,10.5s						
KSH				LR	LR		
	comp=Z,130nm,12.3s						
MAW	**Mawson**	**82.34**	**203**	LR	LR	05 04 52.8	
	comp=Z,56nm,18.2s,baz=60,slow=36						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**04 27 33.3**	**-0.9**
QSPA				IAmb	IAmb	04 27 35.6	
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**85.38**	**23**	P	**P**	**04 27 40.1**	**-2.5**
	comp=Z,1.0nm,1.0s,baz=246,slow=5.2,SNR=5.5						
ILAR				LR	LR	04 59 03.9	
	comp=Z,42nm,21.5s,baz=350,slow=31						
ILAR	**Eielson Array**	**85.38**	**23**	P	**P**	**04 27 39.8**	**-2.8**
BCAR	**Beaver Creek A**	**86.79**	**25**	P	**P**	**04 27 49.4**	**-0.2**
SYO	**Syowa Base**	**90.64**	**200**	‖*e*pP	pP	04 28 28.9	+6.3
BBB	**Bella Bella**	**91.21**	**38**	LR	LR	05 01 36.5	
	comp=Z,64nm,21.5s,baz=320,slow=31						
YBH	**Yreka Blue Hor**	**93.65**	**49**	LR	LR	05 03 39.9	
	comp=Z,101nm,20.6s,baz=336,slow=31						
GEYT	**Alibeck**	**93.69**	**308**	LR	LR	05 12 01.6	
	comp=Z,19nm,21.4s,baz=50,slow=36						
NVAR	**Mina Array Bea**	**96.80**	**52**	LR	LR	05 08 54.9	
	comp=Z,42nm,18.3s,baz=270,slow=33						
LPAZ	**La Paz**	**137.83**	**123**	PKP	**PKPdf**	**04 34 29.6**	**-2.0**
	comp=Z,3.3nm,0.9s,baz=178,slow=4.7,SNR=4.0						
SDV	**Santo Domingo**	**141.68**	**84**		**PKPdf**	**04 34 37.5**	**-0.6**
SIV	**San Ignacio**	**143.73**	**128**	PKP	PKPbc	04 34 39.9	+0.8
	comp=Z,3.5nm,0.8s,baz=248,slow=5.6,SNR=9.7						
SAML	**Samuel**	**145.47**	**116**		**PKPdf**	**04 34 44.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**146.08**	**284**	PKPbc	**PKPdf**	**04 34 45.5**	**0.0**
	comp=Z,2.6nm,0.9s,baz=61,slow=3.6,SNR=8.2						
TORD	**Torodi Ar. Bea**	**146.08**	**284**		**PKPdf**	**04 34 45.2**	**-0.4**
BDFB	**Brasilia**	**153.07**	**144**	PKPbc	**PKiKP**	**04 35 04.6**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=173,slow=2.9,SNR=11						
BDFB	**Brasilia**	**153.07**	**144**	PKPdf	**PKPdf**	**04 34 56.3**	**-0.5**
BDFB					**PKPbc**	**04 35 04.0**	**-0.1**

SOF ***27*** *04:21:28.9, 40°.63N×28°.24E, h5km*

ISCJB ***27*** *04:21:35.4±0.2, 40°.86N±0°.01×27°.88E±0°.01, h11km±2km, mb3.9/3, Error ellipse: s-maj=1.8km s-min=1.6km az=163.4*

ISK ***27*** *04:21:35.4, 40°.83N×27°.92E, h12km, ML3.9/34*

ATH ***27*** *04:21:35.1, 40°.85N×27°.84E, h22km±7km, ML3.6/13, Error ellipse: s-maj=9.7km s-min=1.9km az=61.0*

DDA ***27*** *04:21:36.4, 40°.82N×27°.91E, h9km, MW4.0*

THE ***27*** *04:21:36.9, 40°.89N×27°.94E, h18km±2km, ML3.5/8, Error ellipse: s-maj=2.4km s-min=0.6km az=101.0*

NEIC ***27*** *04:21:36.3±2.2, 40°.89N±0°.03×27°.87E±0°.02, h15km±5km*

IDC ***27*** *04:21:38.3±1.3, 40°.66N×28°.30E, h0km, mb3.8/2, mb1 3.5/4, mb1mx3.3/41, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=18.1km s-min=13.0km az=53.0*

ISC 27 04:21:35.9±0.8, 40.83N±0°.01×27.91E±0°.01, h15km±6km, n251, σ1§05/304, mb4.1/4, 23C-24D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.33**	**300**	PG	**Pg**	**04 21 42.5**	**-0.1**
TKR				SG	**Sg**	**04 21 47.8**	**+0.5**
TKR	**Tekirdag**	**0.33**	**300**	Pg	**Pg**	**04 21 42.6**	**-0.1**
TKR				Sg	**Sg**	**04 21 47.3**	**+0.1**
MRMT	**Marmara Adasi**	**0.33**	**227**	PG	**Pg**	**04 21 42.5**	**-0.2**
MRMT				SG	**Sg**	**04 21 47.9**	**+0.5**
MRMT	**Marmara Adasi**	**0.33**	**227**	Pg	**Pg**	**04 21 42.5**	**-0.2**
MRMT				Sg	**Sg**	**04 21 47.6**	**+0.2**
SLVT	**Silivri**	**0.46**	**29**	PG	**Pg**	**04 21 45.3**	**+0.3**
SLVT				SG	**Sb**	**04 21 52.4**	**+0.1**
SLVT	**Silivri**	**0.46**	**29**	Pg	**Pg**	**04 21 45.3**	**+0.3**
SLVT				Sg	**Sg**	**04 21 51.8**	**+0.5**
EDC	**Edincik**	**0.48**	**184**	PG	**Pg**	**04 21 45.8**	**+0.4**
EDC				SG	**Sg**	**04 21 52.6**	**+0.6**
EDC	**Edincik**	**0.48**	**184**	Pg	**Pg**	**04 21 45.9**	**+0.4**
EDC				Sg	**Sg**	**04 21 52.4**	**+0.5**
ELBA	**Catalca**	**0.51**	**51**	*i* PA		04 21 45.7	
ELBA				*i* S	**Sg**	**04 21 52.4**	**-0.3**
ELBA				IAML		04 21 57.0	
	comp=E,723nm,0.2s						
ELBA				IAML		04 22 00.0	
	comp=N,641nm,0.3s						
SART	**Tekirdag**	**0.57**	**256**	*i* PA		04 21 46.8	
SART				*i* S	**Sg**	**04 21 54.2**	**-0.6**
SART				IAML		04 21 57.0	
	comp=N,1μm,0.6s						
SART				IAML		04 21 57.0	
	comp=E,1μm,0.4s						
RKY	**Sarkoy-Tekirda**	**0.57**	**256**	PG	**Pg**	**04 21 46.8**	**-0.4**
RKY				SG	**Sb**	**04 21 56.0**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.57**	**256**	Pg	**Pg**	**04 21 47.3**	**+0.1**
RKY				Sg	**Sg**	**04 21 55.6**	**+0.7**
CTKS	**Kestanelik-??a**	**0.61**	**48**	PG	**Pg**	**04 21 47.4**	**-0.4**
CTKS	**Kestanelik-??a**	**0.61**	**48**	Pg	**Pg**	**04 21 47.4**	**-0.4**
KRBG	**Karabiga-Canak**	**0.64**	**227**	PG	**Pg**	**04 21 48.1**	**-0.3**
KRBG	**Karabiga-Canak**	**0.64**	**227**	Pg	**Pg**	**04 21 48.7**	**+0.3**
KRBG				Sg	**Sb**	**04 21 58.2**	**+0.8**
KCTX	**Karacabey (Bur**	**0.66**	**149**	PG	**Pg**	**04 21 48.7**	**0.0**
KCTX	**Karacabey (Bur**	**0.66**	**149**	Pg	**Pg**	**04 21 48.8**	**0.0**
KCTX				Sg	**Sb**	**04 21 59.0**	**+0.9**
CTYL	**Yalikoy Yolu**	**0.70**	**24**	⇓P	**Pg**	**04 21 49.1**	**-0.5**
CTYL				⇓S	**Sg**	**04 21 58.5**	**-0.5**
CTYL				AML	AML	04 21 59.2	
CTYL	**Yalikoy Yolu**	**0.70**	**24**	PG	**Pg**	**04 21 49.3**	**-0.4**
CTYL	**Yalikoy Yolu**	**0.70**	**24**	Pg	**Pg**	**04 21 49.3**	**-0.4**
CTYL				Sg	**Sg**	**04 21 58.6**	**-0.5**
BGKT	**Bogazkoy**	**0.74**	**61**	PG	**Pg**	**04 21 49.9**	**-0.4**
BGKT				SG	**Sb**	**04 22 00.7**	**+0.3**
BGKT	**Bogazkoy**	**0.74**	**61**	Pg	**Pg**	**04 21 50.1**	**-0.2**
BGKT				Sg	**Sb**	**04 22 00.7**	**+0.3**
ARMT	**Armutlu**	**0.77**	**110**	PG	**Pg**	**04 21 50.6**	**-0.2**
ARMT	**Armutlu**	**0.77**	**110**	Pg	**Pg**	**04 21 51.1**	**+0.2**
GONE	**Gonen-Balikesi**	**0.80**	**192**	PG	**Pg**	**04 21 51.5**	**+0.1**
GONE				SG	**Sb**	**04 22 02.9**	**+0.8**
GONE	**Gonen-Balikesi**	**0.80**	**192**	Pg	**Pb**	**04 21 52.1**	**+0.7**
PHSR	**Pinarhisar**	**0.85**	**340**	⇑P	**Pg**	**04 21 52.7**	**+0.3**
PHSR				⇓S	**Sb**	**04 22 04.9**	**+1.2**
PHSR				AML	AML	04 22 06.6	
PHSR	**Pinarhisar**	**0.85**	**340**	PG	**Pg**	**04 21 52.4**	**0.0**
PHSR				SG	**Sb**	**04 22 04.7**	**+1.1**
PHSR	**Pinarhisar**	**0.85**	**340**	Pg	**Pg**	**04 21 52.4**	**0.0**
PHSR	**Pinarhisar**	**0.85**	**340**		**Sb**	**04 22 04.9**	**+1.2**
MDNY	**Mudanya-Bursa**	**0.87**	**122**	PG	**Pg**	**04 21 52.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.87**	**122**	Pg	**Pg**	**04 21 52.7**	**-0.1**
ISK	**Istanbul-Kandi**	**0.90**	**74**	P	**Pg**	**04 21 52.5**	**-0.8**
ISK				S	**Sg**	**04 22 05.3**	**+0.1**
	comp=E,5μm,0.5s						
ISK	**Istanbul-Kandi**	**0.90**	**74**	PG	**Pg**	**04 21 52.6**	**-0.8**
ISK	**Istanbul-Kandi**	**0.90**	**74**	Pg	**Pg**	**04 21 52.6**	**-0.8**
KAVV	**Kandilli-Istan**	**0.90**	**75**	PG	**Pg**	**04 21 52.5**	**-0.8**
KAVV				SG	**Sb**	**04 22 06.1**	**+1.1**
KAVV	**Kandilli-Istan**	**0.90**	**75**	Pg	**Pg**	**04 21 53.3**	**-0.1**
KAVV				Sg	**Sb**	**04 22 06.1**	**+1.1**
BUY	**Buyukada**	**0.92**	**88**	*i* PA		04 21 53.1	
BUY				*i* S	**Sb**	**04 22 05.9**	**+0.5**
BUY				IAML		04 22 08.0	
	comp=E,3μm,0.5s						
BUY				IAML		04 22 10.0	
	comp=N,4μm,0.5s						
BUY	**Buyukada**	**0.92**	**88**	PG	**Pg**	**04 21 53.2**	**-0.4**
BUY	**Buyukada**	**0.92**	**88**	Pg	**Pg**	**04 21 53.1**	**-0.4**
KESN	**Edirne-Kesan**	**0.93**	**270**	*i* PA		04 21 53.5	
KESN				*i* S	**Sg**	**04 22 05.8**	**-0.6**
KESN				IAML		04 22 09.0	
	comp=N,6μm,0.5s						
KESN				IAML		04 22 09.0	
	comp=E,12μm,0.8s						
KLYT	**Kilyos**	**0.95**	**63**	⇓P	**Pn**	**04 21 55.6**	**+0.8**
KLYT				⇓S	**Sn**	**04 22 08.3**	**+0.2**
KLYT				AML	AML	04 22 11.7	
KLYT	**Kilyos**	**0.95**	**63**	PG	**Pg**	**04 21 53.9**	**-0.5**
KLYT	**Kilyos**	**0.95**	**63**	Pg	**Pg**	**04 21 53.9**	**-0.5**
KLYT	**Kilyos**	**0.95**	**63**		**Sn**	**04 22 08.3**	**+0.2**
LPK	**Lapseki**	**0.99**	**243**	PG	**Pb**	**04 21 54.4**	**-0.3**
UKOP	**Uzunkopru-Ed

EZN AML AML 04 22 32.2
EZN Ezine 1.57 231 PN **Pn 04 22 03.8 +0.6**
EZN Ezine 1.57 231 Pn **Pb 04 22 05.2 +0.6**
EZN Ezine 1.57 231 **Sg 04 22 27.3 +0.7**
CAVI Cavuskoy 1.60 112 Pn **Pn 04 22 04.6 +1.0**
GADA Gvkgeada 1.66 248 P **Pn 04 22 04.7 +0.2**
GADA S **Sn 04 22 26.9 +1.4**
GADA Gvkgeada 1.66 248 PN **Pn 04 22 04.7 +0.2**
GADA Gvkgeada 1.66 248 Pn **Pn 04 22 04.8 +0.3**
BOZC Bozcaada 1.73 236 *i* P **Pn 04 22 07.0 +1.6**
BOZC *i* S **Sb 04 22 29.8 +0.9**
BOZC IAML 04 22 32.0
comp=E,1μm,0.7s
BOZC IAML 04 22 36.0
comp=N,879nm,0.4s
BOZC Bozcaada 1.73 236 PN **Pn 04 22 06.7 +1.3**
KAND Kocaeli-Kandir 1.75 81 *i* P **Pn 04 22 06.5 +0.9**
KAND *i* S **Sn 04 22 27.4 -0.3**
KAND IAML 04 22 33.0
comp=N,1μm,0.4s
KAND IAML 04 22 43.0
comp=E,642nm,0.7s
TVSB Tavsanli 1.82 139 Pn **Pn 04 22 07.6 +0.9**
RDO Rodhopi 1.82 281 P **Pn 04 22 07.1 +0.4**
RDO S **Sn 04 22 28.9 -0.6**
comp=E,1μm,0.4s
RDO Rodhopi 1.82 281 P **Pn 04 22 07.0 +0.3**
RDO S **Sn 04 22 29.1 -0.4**
RDO AML AML 04 22 36.4
comp=N,2151μm,0.5s
RDO AML AML 04 22 38.7
comp=E,2384μm,0.3s
RDO Rodhopi 1.82 281 PN **Pn 04 22 07.1 +0.4**
SPNC Sapanca-Adapaz 1.83 94 Pn **Pn 04 22 07.9 +1.1**
SAUV Serdivan-Sakar 1.84 92 Pn **Pn 04 22 07.9 +1.0**
SMTH Samothraki Isl 1.85 260 P **Pn 04 22 06.8 -0.2**
SMTH S **Sn 04 22 30.7 +0.6**
comp=E,960nm,0.5s
SMTH Samothraki Isl 1.85 260 P **Pn 04 22 06.8 -0.2**
SMTH S **Sn 04 22 30.3 +0.2**
SMTH AML AML 04 22 36.3
comp=N,2018μm,0.5s
SMTH AML AML 04 22 41.1
comp=E,1850μm,0.5s
GEYV SAKARYA_Geyve 1.85 100 *i* P **Pn 04 22 07.8 +0.8**
GEYV *i* S **Sg 04 22 34.8 -0.5**
GEYV IAML 04 22 46.0
comp=E,579nm,0.6s
GEYV IAML 04 22 48.0
comp=N,865nm,1.0s
DEMI Demirci 1.89 161 *i* P **Pn 04 22 08.2 +0.6**
DEMI *i* S **Sb 04 22 34.2 +0.6**
DEMI IAML 04 22 38.0
comp=N,366nm,0.3s
DEMI IAML 04 22 38.0
comp=E,509nm,0.5s
DKL Dikili 1.92 204 PN **Pn 04 22 08.9 +0.9**
DKL Dikili 1.92 204 Pn **Pn 04 22 08.8 +0.9**
AKHS Akhisar 1.95 182 *i* P **Pn 04 22 08.8 +0.4**
AKHS *i* S **Sn 04 22 34.7 +2.0**
AKHS IAML 04 22 40.0
comp=E,200nm,0.5s
ZEDA zmir-Bergama 1.97 199 *i* P **Pn 04 22 09.1 +0.4**
ZEDA *i* S **Sb 04 22 37.0 +1.2**
ZEDA IAML 04 22 42.0
comp=N,583nm,0.5s
ZEDA IAML 04 22 44.0
comp=E,668nm,0.4s
GULT Gulveren 2.02 100 Pn **Pn 04 22 10.6 +1.1**
PRK Paraskevi 2.02 219 P **Pn 04 22 10.7 +1.3**
PRK S **Sb 04 22 37.0 -0.2**
comp=E,3μm,0.6s
PRK Paraskevi 2.02 219 P **Pn 04 22 10.7 +1.3**
PRK S **Sn 04 22 35.7 +1.3**
PRK AML AML 04 22 49.1
comp=E,4841μm,0.5s
PRK AML AML 04 22 52.4
comp=N,4864μm,0.6s
KDZ Kurdzhali 2.05 294 P **Pn 04 22 10.2 +0.3**
KDZ Kurdzhali 2.05 294 Pn **Pn 04 22 11.8 +1.9**
GDZ Gediz 2.12 145 *i* P **Pn 04 22 12.5 +1.6**
GDZ *i* S **Sg 04 22 43.2 -0.8**
GEDZ Gediz 2.12 147 Pn **Pn 04 22 12.8 +1.9**
BORA Eskisehir 2.16 115 *i* P **Pn 04 22 12.4 +1.0**
BORA *i* S **Sg 04 22 44.8 -0.6**
BORA IAML 04 22 53.0
comp=N,80nm,0.8s
BORA IAML 04 22 55.0
comp=E,112nm,0.7s
DIM Dimitrovgrad 2.16 305 P **Pn 04 22 11.2 -0.2**
SRCK Saricakaya, Es 2.22 110 *i* P **Pn 04 22 12.6 +0.5**
SRCK *i* S **Sg 04 22 46.6 -0.5**
SAHE Sakarya_HENDEK 2.23 88 *i* P **Pn 04 22 12.4 +0.1**
SAHE *i* S **Sb 04 22 44.4 +1.0**
SAHE IAML 04 22 53.0
comp=N,365nm,0.6s
SAHE IAML 04 22 59.0
comp=E,325nm,0.8s
SIGR SIGRI 2.26 225 P **Pn 04 22 13.1 +0.4**
SIGR AML AML 04 22 50.7
comp=N,5350μm,0.6s
SIGR AML AML 04 22 56.5
comp=E,3041μm,0.6s
USAK Uak-Merkez 2.28 158 *i* P **Pn 04 22 13.5 +0.5**
USAK *i* S **Sb 04 22 47.3 +2.6**
BTAS Taskesti 2.36 95 *i* P **Pn 04 22 15.6 +1.5**
BTAS IAML 04 22 59.0
comp=E,347nm,0.6s
BTAS IAML 04 23 00.0
comp=N,338nm,0.5s
KULA Kula-Manisa 2.38 166 P **Pn 04 22 15.1 +0.6**
KULA Kula-Manisa 2.38 166 Pn **Pn 04 22 16.6 +2.2**
MANT Manisa 2.39 168 *i* P **Pn 04 22 15.4 +0.7**
MANT Manisa 2.39 168 **Pn 04 22 15.8 +1.2**
THAS Thassos island 2.44 266 P **Pn 04 22 14.8 -0.3**
THAS S **Sn 04 22 44.9 +0.3**
comp=N,360nm,0.5s
THAS Thassos island 2.44 266 P **Pn 04 22 14.8 -0.3**
THAS S **Sn 04 22 44.9 +0.3**
THAS AML AML 04 22 56.1
comp=N,782μm,0.5s
THAS AML AML 04 22 56.2
comp=E,697μm,0.5s
RZN Rozhen 2.56 291 P **Pb 04 22 23.2 +1.6**
KAVA Kavala 2.58 275 P **Pn 04 22 17.2 +0.1**
KAVA Kavala 2.58 275 P **Pn 04 22 17.3 +0.1**
KAVA AML AML 04 23 00.2
comp=N,1227μm,0.5s
KAVA AML AML 04 23 00.3
comp=E,826μm,0.4s
ELND Elena 2.59 325 ⇓P **Pn 04 22 17.8 +0.6**
ELND AML AML 04 23 02.8
KVLA Kavala 2.67 273 P **Pn 04 22 18.9 +0.5**
YIGI Dzce 2.69 86 *i* PA 04 22 19.9
YIGI IAML 04 23 03.0
comp=N,143nm,0.5s
YIGI IAML 04 23 15.0
comp=E,174nm,0.8s
PLD Plovdiv 2.73 299 P **Pn 04 22 19.5 +0.4**
SZH Strazhica 2.85 329 P **Pn 04 22 21.0 +0.2**
AUMIH MIHALICIK 2.89 108 *i* PA 04 22 23.1
AUMIH IAML 04 23 18.0
comp=N,156nm,0.9s
AUMIH IAML 04 23 25.0
comp=E,159nm,0.5s
PSRA Psara 2.92 219 P **Pn 04 22 23.4 +1.7**
PSRA AML AML 04 23 15.4
comp=N,1378μm,0.5s
PSRA AML AML 04 23 16.2
comp=E,1573μm,0.6s
RAZG Razgrad 2.93 340 ⇑P **Pn 04 22 23.2 +1.3**
RAZG AML AML 04 23 17.4
PVL Pavlikeni 3.06 322 P **Pn 04 22 24.8 +1.1**
NVR Nevrokopi 3.10 281 P **Pn 04 22 25.1 +0.8**
NVR AML AML 04 23 21.8
comp=N,622μm,0.8s
NVR AML AML 04 23 26.1
comp=E,527μm,0.6s
SMG Samos 3.23 195 P **Pn 04 22 25.9 -0.1**
SMG Samos 3.23 195 P **Pn 04 22 26.2 +0.2**
SMG AML AML 04 23 24.1
comp=N,943μm,0.5s
SMG AML AML 04 23 35.5
comp=E,500μm,0.6s

MMB Musomiste 3.25 285 P **Pn 04 22 27.1 +0.8**
ICOR Ion Corvin 3.29 359 ⇑P **Pn 04 22 27.7 +0.9**
ICOR AML AML 04 23 25.8
PAIG Paliouri 3.35 256 P **Pn 04 22 27.8 0.0**
PAIG Paliouri 3.35 256 P **Pn 04 22 27.6 -0.2**
MFTR Murfatlar 3.37 6 ⇓P **Pn 04 22 29.5 +1.5**
MFTR AML AML 04 23 29.7
RASA Rasa 3.43 351 ⇓P **Pn 04 22 30.3 +1.5**
RASA AML AML 04 23 40.4
PLG Polygyros 3.43 264 P **Pn 04 22 28.7 -0.2**
PLG AML AML 04 23 25.9
comp=N,327μm,0.5s
PLG AML AML 04 23 26.3
comp=E,318μm,0.5s
SOH Sokhos 3.46 271 P **Pn 04 22 28.9 -0.3**
SOH Sokhos 3.46 271 P **Pn 04 22 28.8 -0.4**
AOS Alonnisos 3.51 243 P **Pn 04 22 31.5 +1.6**
PLVB Pleven 3.54 317 ⇓P **Pn 04 22 30.9 +0.6**
PLVB AML AML 04 23 52.9
TIRR Tirgusor 3.65 6 ⇓P **Pn 04 22 32.5 +0.8**
TIRR AML AML 04 23 39.7
TIRR Tirgusor 3.65 6 **Pn 04 22 32.5 +0.8**
TIRR Tirgusor 3.65 6 Pn **Pn 04 22 32.3 +0.5**
HORT Hortiatis 3.66 268 P **Pn 04 22 32.3 +0.2**
HORT AML AML 04 23 34.4
comp=E,254μm,0.6s
HORT AML AML 04 23 38.6
comp=N,237μm,0.8s
TLB Topalu 3.75 1 ⇑P **Pn 04 22 33.8 +0.6**
TLB AML AML 04 23 39.6
TLB Topalu 3.75 1 **Pn 04 22 33.8 +0.6**
KNT Kendrikon 3.81 277 P **Pn 04 22 34.6 +0.6**
KNT AML AML 04 23 46.0
comp=E,312μm,0.5s
KNT AML AML 04 23 48.0
comp=N,469μm,0.5s
BR231 Keskin MP Arra 3.85 103 Pn **Pn 04 22 34.9 +0.3**
ANTO Ankara 3.85 103 Pn **Pn 04 22 34.2 -0.4**
COPA Copaceanca 3.86 330 ⇑P **Pn 04 22 35.2 +0.5**
COPA AML AML 04 23 48.4
XOR Xorichti 3.90 250 P **Pn 04 22 36.9 +1.6**
VTS Vitosha 3.93 299 P **Pn 04 22 36.7 +0.9**
VTS Vitosha 3.93 299 ⇑P **Pn 04 22 36.7 +0.9**
VTS AML AML 04 23 46.6
VTS Vitosha 3.93 299 **Pn 04 22 36.7 +0.9**
MRKA Markates 3.95 239 P **Pn 04 22 36.5 +0.5**
VLAD Vladila 4.09 322 ⇑P **Pn 04 22 38.5 +0.6**
GRG Griva 4.18 274 P **Pn 04 22 39.5 +0.4**
APE Apeiranthos 4.19 207 P **Pn 04 22 40.1 +0.9**
APE Apeiranthos 4.19 207 ⇓P **Pn 04 22 41.8 +2.5**
APE AML AML 04 23 56.8
APE Apeiranthos 4.19 207 **Pn 04 22 41.8 +2.5**
LIT Litokhoron 4.20 262 P **Pn 04 22 39.5 +0.2**
LIT Litokhoron 4.20 262 Pn **Pn 04 22 39.7 +0.3**
HUMR Humele 4.28 331 ⇓P **Pn 04 22 42.1 +1.7**
HUMR AML AML 04 24 12.6
HUMR Humele 4.28 331 **Pn 04 22 42.1 +1.7**
AMGA Amorgos Island 4.29 202 P **Pn 04 22 40.4 -0.3**
CFR Carcaliu 4.35 2 ⇑P **Pn 04 22 41.8 +0.4**
CFR AML AML 04 24 00.2
CFR Carcaliu 4.35 2 **Pn 04 22 41.8 +0.4**
ILGA Ilgaz 4.40 85 **Pn 04 22 44.2 +1.8**
ISR Istrita 4.40 347 ⇑P **Pg 04 23 04.2 +4.0**
TLCR 4.41 8 ⇓P **Pn 04 22 43.2 +1.0**
TLCR AML AML 04 24 03.1
TLCR 4.41 8 **Pn 04 22 43.2 +1.0**
VIL2 Platees 4.44 235 P **Pn 04 22 43.3 +0.6**
BR131 Keskin Array S 4.52 102 **Pn 04 22 44.1 +0.2**
BRTR Keskin Array B 4.52 102 Pn **Pn 04 22 44.3 +0.4**
comp=N,0.6nm,0.3s,baz=279,slow=15,SNR=18
BRTR Sn **Sn 04 23 35.9 -0.3**
comp=N,1.0nm,0.3s,baz=280,slow=13,SNR=3.9
BRTR Keskin Array B 4.52 102 **Pn 04 22 44.1 +0.2**
BRTR **Sn 04 23 36.7 +0.5**
AGG Agios Georgios 4.66 249 P **Pn 04 22 45.4 -0.3**
AGG Agios Georgios 4.66 249 Pn **Pn 04 22 45.3 -0.3**
KZN Kozani 4.71 266 P **Pn 04 22 46.1 -0.3**
MAKR Makrakomi, Fth 4.80 250 P **Pn 04 22 47.6 -0.1**
MLR Muntele Rosu 4.88 344 ⇑P **Pn 04 22 50.5 +1.7**
MLR AML AML 04 24 23.6
MLR Muntele Rosu 4.88 344 **Pn 04 22 47.7 -1.1**
DID Didima 4.92 229 P **Pn 04 22 50.0 +0.6**
FNA Florina 4.96 272 P **Pn 04 22 50.6 +0.7**
FNA Florina 4.96 272 Pn **Pn 04 22 49.8 -0.1**
VOIR 5.06 337 ⇑P **Pn 04 22 53.1 +1.9**
VOIR AML AML 04 24 34.5
VOIR 5.06 337 **Pn 04 22 53.1 +1.9**
KPRO Kipourio 5.08 262 P **Pn 04 22 52.4 +0.9**
PLOR Plostina 5.10 350 ⇑P **Pn 04 22 53.6 +1.8**
PLOR AML AML 04 24 29.5
PLOR Plostina 5.10 350 **Pn 04 22 53.6 +1.8**
VRI Vrincioaia 5.11 351 ⇑P **Pn 04 22 53.3 +1.5**
VRI AML AML 04 24 32.5
VRI Vrincioaia 5.11 351 **Pn 04 22 53.3 +1.5**
ARR Arges 5.13 333 ⇓P **Pn 04 22 52.9 +0.6**
ARR AML AML 04 24 31.4
ARR Arges 5.13 333 **Pn 04 22 52.9 +0.6**
DOPR Dopca 5.45 341 ⇑P **Pn 04 22 57.5 +0.8**
DOPR Dopca 5.45 341 **Pn 04 22 57.5 +0.8**
OZUR 5.49 344 ⇑P **Pn 04 22 58.9 +1.8**
OZUR 5.49 344 **Pn 04 22 58.9 +1.8**
LOT Lotru 5.52 328 ⇑P **Pn 04 22 58.5 +0.8**
LOT Lotru 5.52 328 **Pn 04 22 58.5 +0.8**
HERR Herculane 5.72 317 ⇓P **Pn 04 22 59.7 -0.5**
TESR Tescani 5.75 351 ⇓P **Pn 04 23 02.5 +1.8**
TESR Tescani 5.75 351 **Pn 04 23 02.5 +1.8**
GZR Gura Zlata 5.91 322 ⇑P **Pn 04 23 02.9 0.0**
GZR Gura Zlata 5.91 322 **Pn 04 23 02.9 0.0**
MDVR Moldovita 6.03 313 ⇓P **Pn 04 23 04.4 -0.1**
MDVR Moldovita 6.03 313 **Pn 04 23 04.5 -0.1**
MILM Milestii Mici 6.12 6 ⇑P **Pn 04 23 06.6 +0.8**
MILM Milestii Mici 6.12 6 **Pn 04 23 06.6 +0.8**
BIZ Bicaz 6.25 349 ⇓P **Pn 04 23 09.3 +1.8**
BIZ Bicaz 6.25 349 **Pn 04 23 09.3 +1.8**
BZS Buzias 6.63 318 ⇓P **Pn 04 23 12.9 +0.1**
BZS Buzias 6.63 318 **Pn 04 23 12.9 +0.1**
PDG Podgorica 6.68 287 Pn **Pn 04 23 14.5 +1.1**
DRGR 7.05 329 ⇑P **Pn 04 23 20.3 +1.8**
DRGR 7.05 329 **Pn 04 23 20.3 +1.8**
BURAR Bucovina Array 7.05 345 ⇓P **Pn 04 23 20.6 +2.0**
BURAR Bucovina Array 7.05 345 **Pn 04 23 19.6 +0.9**
BURAR Bucovina Array 7.05 345 **Pn 04 23 20.6 +2.0**
SIRR Siria 7.08 322 ⇑P **Pn 04 23 18.7 -0.2**
SIRR Siria 7.08 322 **Pn 04 23 18.7 -0.2**
BUR08 Bucovina Ar. S 7.08 345 **Pn 04 23 19.2 +0.1**
SORM Soroca 7.31 2 ⇓P **Pn 04 23 21.8 -0.2**
SORM Soroca 7.31 2 **Pn 04 23 21.8 -0.2**
AKASG Malin Array Be 9.92 5 Pn Pn 04 24 03.0 +5.3
comp=N,0.6nm,0.3s,baz=186,slow=13,SNR=2.6
AKASG Sn **Sn 04 25 53.8 +5.1**
comp=N,1.2nm,0.3s,baz=189,slow=25,SNR=6.1
AKASG Malin Array Be 9.92 5 **Pn 04 23 56.1 -1.7**
NRCA Norcia 11.22 285 Pn **Pn 04 24 17.3 +1.5**
MURB Monte Urbino 11.70 287 Pn **Pn 04 24 22.5 +0.2**
OBN Obninsk 15.40 19 Pn **Pn 04 25 11.9 -0.6**
SENIN Lac Senin/Sane 15.91 297 Pn **Pn 04 25 16.1 -3.3**
SENIN IAmb IAmb 04 25 34.3
comp=Z,4.2nm,0.9s
NAO01 NORSAR Array S 22.61 338 P **P 04 26 35.6 -0.2**
ABKAR Akbulak array 24.00 59 P **P 04 26 49.4 -0.5**
DSB Dublin 26.19 310 P **P 04 27 04.2 -5.4**
DSB IAmb IAmb 04 27 12.2
comp=Z,7.7nm,1.0s
TORD Torodi Ar. Bea 35.87 227 P P 04 28 41.5 +6.3
comp=Z,1.7nm,0.8s,baz=37,slow=9.5,SNR=9.5
TORD Torodi Ar. Bea 35.87 227 P **P 04 28 35.1 -0.2**
MKAR Makanchi Array 39.02 62 P **P 04 29 03.3 +1.5**
comp=Z,0.5nm,0.6s,baz=264,slow=10,SNR=3.2
MKAR Makanchi Array 39.02 62 P **P 04 29 02.4 +0.6**
GTA Gaotai 53.53 66 *e*P **P 04 30 54.0 -2.0**
GTA pP pP 04 30 59.5 -1.0
GTA sP sP 04 31 02.5 +0.2
GTA pmax pmax
comp=Z,2.0nm,0.8s

*ISCJB **27** 04:25:37.0±0.4, 6°.83N±0°.02×73°.12W±0°.03, h158km±3km, mb3.4/5, Error ellipse: s-maj=5.1km s-min=3.3km az=17.7*
*IDC **27** 04:25:37.5±0.8, 6°.73N×72°.97W, h161km±13km, mb3.2/5, mb1 3.5/7, mb1mx3.2/31, mbtmp3.7/7, Error ellipse:*
s-maj=39.3km s-min=7.7km az=133.0
*RSNC **27** 04:25:38.8±1.4, 6°.80N×73°.12W, h150km±5km, ML3.6, Mw3.7, Fault plane solution: NP1:φs18.00000°, δ41.00000°, λ18.00000°.*

ISC 27 04:25:37.5±0.8, 6°.82N±0°.03×73°.10W±0°.04, h158km±5km, n44, σ1°37/77, mb3.3/5, 5C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**199**	⇑*i*P		**Pn**	**Pn**	**04 25 59.2**	**+0.1**
BARC				*e*S		**Sn**	**Sn**	**04 26 14.4**	**-1.3**
BARC				*i*				04 26 16.8	
comp=Z,1μm,0.3s									
PAMC	**Pamplona, Colo**	**0.66**	**38**	⇑*i*P		**Pn**	**Pn**	**04 26 02.0**	**+0.8**
PAMC				*e*S		**Sn**	**Sn**	**04 26 18.7**	**-0.5**
PAMC				*i*				04 26 21.2	
comp=Z,712nm,0.5s									
BRRC	**Barranca, Sant**	**0.67**	**296**	⇑*i*P		**Pn**	**Pn**	**04 26 01.1**	**+0.4**
BRRC				*e*S		**Sn**	**Sn**	**04 26 17.8**	**-0.6**
BRRC				*i*				04 26 21.9	
comp=Z,530nm,0.1s									
RUSC	**La Rusia**	**0.92**	**179**	⇓*i*P		**Pn**	**Pn**	**04 26 03.1**	**+0.1**
RUSC				*e*S		**Sn**	**Sn**	**04 26 21.1**	**-1.3**
RUSC				*i*				04 26 22.8	
comp=Z,253nm,0.3s									
TAMC	**Tame, Arauca**	**1.36**	**106**	⇓*i*P		**Pn**	**Pn**	**04 26 07.4**	**+1.1**
TAMC				*e*S		**Sn**	**Sn**	**04 26 28.8**	**+0.4**
TAMC				*i*				04 26 29.6	
comp=Z,150nm,0.3s									
PTBC	**PUERTO BERRIO,**	**1.37**	**259**	⇓*i*P		**Pn**	**Pn**	**04 26 05.8**	**-0.6**
PTBC				*e*S		**Sn**	**Sn**	**04 26 26.9**	**-1.7**
PTBC				*i*				04 26 34.3	
comp=Z,954nm,0.4s									
OCAC	**Ocana**	**1.43**	**351**	⇑*i*P		**Pn**	**Pn**	**04 26 07.2**	**+0.1**
OCAC				*e*S		**Sn**	**Sn**	**04 26 29.7**	**-0.3**
OCAC				*i*				04 26 39.0	
comp=Z,428nm,0.3s									
SPBC	**San Pablo de B**	**1.50**	**220**	⇓*i*P		**Pn**	**Pn**	**04 26 08.1**	**+0.2**
SPBC				*e*S		**Sn**	**Sn**	**04 26 30.2**	**-0.9**
SPBC				*i*				04 26 34.7	
comp=Z,404nm,0.2s									
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P		**Pn**	**Pn**	**04 26 11.6**	**0.0**
ZARC				*e*S		**Sn**	**Sn**	**04 26 37.1**	**-0.7**
NORC	**Norcasia**	**2.15**	**235**	⇓*i*P		**Pn**	**Pn**	**04 26 14.9**	**0.0**
NORC				*e*S		**Sn**	**Sn**	**04 26 42.9**	**-0.9**
NORC				*i*				04 26 48.5	
comp=Z,373nm,0.7s									
SMLC	**San Martn de**	**2.19**	**334**	*e*P		**Pn**	**Pn**	**04 26 15.3**	**-0.1**
SMLC				*e*S		**Sn**	**Sn**	**04 26 44.3**	**-0.4**
SMLC				*i*				04 26 53.6	
comp=Z,306nm,0.1s									
CHIC	**Chingaza**	**2.26**	**196**	⇓*e*P		**Pn**	**Pn**	**04 26 16.9**	**+0.3**
CHIC				*e*S		**Sn**	**Sn**	**04 26 45.6**	**-1.1**
CHIC				*i*				04 26 56.4	
comp=Z,188nm,0.3s									
ROSC	**El Rosal**	**2.31**	**212**	⇓*i*P		**Pn**	**Pn**	**04 26 19.0**	**+1.9**
ROSC				*e*S		**Sn**	**Sn**	**04 26 47.3**	**-0.3**
ROSC				*i*				04 26 56.9	
comp=Z,443nm,0.4s									
ROSC	**El Rosal**	**2.31**	**212**	P		**Pn**	**Pn**	**04 26 18.9**	**+1.8**
comp=Z,61nm,0.3s,baz=237,slow=3.1,SNR=157									
ROSC				S			**Sn**	**04 26 47.8**	**+0.2**
comp=Z,57nm,0.3s,baz=147,slow=16,SNR=11									
HELC	**Santa Helena**	**2.49**	**256**	*e*P		**Pn**	**Pn**	**04 26 19.9**	**+0.6**
HELC				*e*S		**Sn**	**Sn**	**04 26 50.5**	**-0.9**
HELC				*i*				04 26 58.2	
comp=Z,259nm,0.4s									
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P		**Pn**	**Pn**	**04 26 23.2**	**+0.7**
GUY2C				*e*S		**Sn**	**Sn**	**04 26 57.4**	**+0.1**
GUY2C				*i*				04 27 05.5	
comp=Z,243nm,0.3s									
VILC	**Villavicencio,**	**2.75**	**192**	*e*P		**Pn**	**Pn**	**04 26 23.1**	**+0.9**
VILC				*e*S		**Sn**	**Sn**	**04 26 56.0**	**-0.8**
VILC				*i*				04 27 03.2	
comp=Z,228nm,0.4s									
PTGC	**Puerto Gaitan,**	**2.77**	**160**	⇓*i*P		**Pn**	**Pn**	**04 26 22.2**	**-0.2**
PTGC				*e*S		**Sn**	**Sn**	**04 26 55.3**	**-1.9**
PTGC				*i*				04 26 58.0	
comp=Z,236nm,0.3s									
RREF	**El Recreo**	**2.93**	**230**	*e*P		**Pn**	**Pn**	**04 26 26.2**	**+1.2**
RREF				*e*S		**Sn**	**Sn**	**04 27 02.2**	**+0.6**
RREF				*i*				04 27 11.5	
comp=Z,248nm,0.7s									
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P		**Pn**	**Pn**	**04 26 26.7**	**+0.8**
CBOC				*e*S		**Sn**	**Sn**	**04 27 03.6**	**+0.3**
CBOC				*i*				04 27 11.4	
comp=Z,76nm,0.4s									
DBBC	**Dabeiba**	**3.09**	**274**	*e*P		**Pn**	**Pn**	**04 26 26.2**	**-0.2**
DBBC				*e*S		**Sn**	**Sn**	**04 27 01.5**	**-2.8**
DBBC				*i*				04 27 21.9	
comp=Z,236nm,0.6s									
CODC	**Agustn Codazz**	**3.12**	**354**	⇓*i*P		**Pn**	**Pn**	**04 26 26.6**	**-0.1**
CODC				*e*S		**Sn**	**Sn**	**04 27 04.8**	**-0.1**
CODC				*i*				04 27 14.3	
comp=Z,203nm,0.9s									
TOLC	**Tolima**	**3.13**	**225**	*e*P		**Pn**	**Pn**	**04 26 28.4**	**+1.3**
SDV	**Santo Domingo**	**3.20**	**50**	*e*P		**Pn**	**Pn**	**04 26 28.6**	**+0.7**
SDV				*e*S		**Sn**	**Sn**	**04 27 04.6**	**-2.3**
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**Pn**	**04 26 28.6**	**+0.7**
comp=Z,4.2nm,0.3s,baz=217,slow=10,SNR=27									
SDV				S			**Sn**	**04 27 06.3**	**-0.6**
comp=Z,13nm,0.3s,baz=242,slow=21,SNR=28									
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P		**Pn**	**Pn**	**04 26 29.3**	**+1.3**
ARGC				*e*S		**Sn**	**Sn**	**04 27 07.3**	**-0.1**
ARGC				*i*				04 27 13.1	
comp=Z,74nm,0.3s									
ANIL	**Santa Ana**	**3.25**	**225**	*e*P		**Pn**	**Pn**	**04 26 30.0**	**+1.4**
ANIL				*e*S		**Sn**	**Sn**	**04 27 07.8**	**-0.5**
ANIL				*i*				04 27 16.2	
comp=Z,372nm,0.3s									
PRAC	**Prado**	**3.56**	**210**	*e*P		**Pn**	**Pn**	**04 26 33.0**	**+0.7**
PRAC				*e*S		**Sn**	**Sn**	**04 27 14.9**	**0.0**
PRAC				*i*				04 27 18.6	
comp=Z,278nm,0.4s									
ORTC	**Ortega, Tolima**	**3.59**	**217**	*e*P		**Pn**	**Pn**	**04 26 33.5**	**+0.8**
ORTC				*e*S		**Sn**	**Sn**	**04 27 16.5**	**+0.8**
ORTC				*i*				04 27 22.1	
comp=Z,124nm,0.5s									
SJCC	**San Jacinto, C**	**3.69**	**326**	*e*P		**Pn**	**Pn**	**04 26 33.0**	**-1.0**
SJCC				*e*S		**Sn**	**Sn**	**04 27 14.4**	**-3.6**
SJCC				*i*				04 27 18.8	
comp=Z,104nm,0.4s									
PLMC	**San Jos del P**	**3.69**	**239**	*e*P		**Pn**	**Pn**	**04 26 35.1**	**+1.0**
PLMC				*i*				04 27 28.9	
comp=Z,71nm,0.1s									
GUVC	**San Jose del G**	**4.27**	**174**	*e*P		**Pn**	**Pn**	**04 26 41.4**	**-0.2**
GUVC				*e*S		**Sn**	**Sn**	**04 27 28.4**	**-3.1**
GUVC				*i*				04 27 33.6	
comp=Z,109nm,0.2s									
YOTC	**Yotoco, Valle**	**4.28**	**229**	⇑*i*P		**Pn**	**Pn**	**04 26 41.8**	**0.0**
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P		**Pn**	**Pn**	**04 26 43.9**	**-0.1**
SMRC				*e*S		**Sn**	**Sn**	**04 27 31.4**	**-4.5**
SMRC				*i*				04 27 36.0	
comp=Z,66nm,0.3s									
MACC	**Macarena, Meta**	**4.70**	**189**	*e*P		**Pn**	**Pn**	**04 26 46.1**	**-1.1**
MACC				*e*S		**Sn**	**Sn**	**04 27 36.0**	**-5.6**
MACC				*i*				04 27 42.6	
comp=Z,39nm,0.7s									
FLOC	**Florencia**	**5.79**	**206**	*e*P		**Pn**	**Pn**	**04 27 01.8**	**+0.3**
FLOC				*i*				04 28 41.9	
comp=Z,16nm,0.5s									
BBAC	**Balboa, Cauca**	**6.30**	**221**	*e*P		**Pn**	**Pn**	**04 27 10.2**	**+1.7**
BBAC				*e*S		**Sn**	**Sn**	**04 28 18.2**	**-1.7**
BBAC				*i*				04 28 23.7	
comp=Z,6.5nm,0.3s									
CRUC	**La Cruz**	**6.47**	**217**	*e*P		**Pn**	**Pn**	**04 27 09.9**	**-1.0**
CRUC				*i*				04 27 15.7	
comp=Z,9.2nm,0.6s									
TXAR	**Lajitas Array**	**36.48**	**312**	P		**P**	**P**	**04 32 28.9**	**+1.2**
comp=Z,0.2nm,0.6s,baz=126,slow=9.1,SNR=3.6									
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**P**	**04 34 02.5**	**+1.0**
comp=Z,0.6nm,0.9s,baz=123,slow=9.8,SNR=2.6									
SCHQ	**Schefferville**	**48.15**	**5**	P		**P**	**P**	**04 34 01.3**	**-0.2**
comp=Z,3.9nm,0.7s,baz=226,slow=4.5,SNR=4.5									
NVAR	**Mina Array Bea**	**51.50**	**315**	P		**P**	**P**	**04 34 27.6**	**+0.2**
comp=Z,0.2nm,0.4s,baz=91,slow=9.2,SNR=2.2									
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**P**	**04 35 49.3**	**+0.3**
comp=Z,0.8nm,0.6s,baz=133,slow=6.6,SNR=9.5									
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPbc**	**PKPbc**	**04 45 10.5**	**-0.6**
comp=Z,0.3nm,0.4s,baz=105,slow=2.7,SNR=5.9									

**NNC

az=179.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.68**	**13**	Pn	Pn	04 49 21.7	+0.5
	1.7nm,0.4s,baz=214,slow=16,SNR=13						
KK31				⇓Lg	Lg	04 50 19.7	
	13nm,0.6s,baz=211,slow=29,SNR=14						
AAK	**Ala-Archa**	**4.98**	**50**	⇓Pn	Pn	04 49 38.0	-1.1
	1.2nm,0.5s						
AAK				⇑Pg	Pb	04 49 53.1	+2.1
	2.8nm,0.8s						
AAK				⇑Lg	Lg	04 51 00.6	
	4.1nm,0.7s						
TKM2	**Tokmak 2**	**5.80**	**52**	⇑Pg	Pg	04 50 10.9	-3.3
	1.4nm,0.5s						
TKM2				⇑Lg	Lg	04 51 26.5	
	1.7nm,0.6s						

*IDC **27** 05:34:21.6±0.7, 51°.16N×30°.15W, h0km, mb3.9/18, mb1 4.1/19, mb1mx4.0/45, mbtmp3.9/19, ML4.1/1, MS3.7/40, Ms1 3.6/40, ms1mx3.5/56, Error ellipse: s-maj=23.4km s-min=13.0km az=179.0*

*ISCJB **27** 05:34:23.1±0.3, 51°.24N±0°.08×30°.13W±0°.05, h14km, mb4.0/20, MS3.6/39, Error ellipse: s-maj=12.1km s-min=4.8km az=178.5*

*NEIC **27** 05:34:24.5±2.2, 51°.28N±0°.08×30°.2W±0°.1, h10km±1km, mb4.6/46*

ISC 27 05:34:24.5±0.5, 51°.2N±0°.1×30°.14W±0°.06, h14km, n96, σ1°09/70, mb4.5/40, MS3.7/39, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**13.06**	**326**	Pn	Pn	**05 37 30.1**	**+0.8**
BORG	**Borgarnes**	**14.32**	**15**	LR	LR	05 41 22.8	
	comp=Z,102nm,19.7s,baz=182,slow=29						
DSB	**Dublin**	**14.68**	**73**	Pn	Pn	**05 37 49.8**	**-1.7**
ESK	**Eskdalemuir**	**16.57**	**65**	Pn	Pn	**05 38 17.2**	**+1.0**
EKA	**Eskdalemuir Ar**	**16.60**	**65**	Pn	P	**05 38 17.6**	**-1.4**
	baz=270,slow=9.2,SNR=7.3						
DRLN	**Deer Lake**	**17.58**	**274**	Pn	Pn	**05 38 27.8**	**-1.0**
SCO	**Scoresbysund**	**19.70**	**8**	Pn	Pn	**05 38 54.1**	**-0.3**
PAB	**San Pablo**	**21.43**	**113**	P	P	**05 39 12.4**	**+0.5**
ESDC	**Sonseca Array**	**21.57**	**112**	P	P	**05 39 12.4**	**-1.0**
	1.4nm,0.6s,baz=312,slow=10,SNR=7.9						
ESDC				LR	LR	05 46 16.3	
	comp=Z,218nm,18.0s,baz=305,slow=33						
ESDC	**Sonseca Array**	**21.57**	**112**	P	P	**05 39 15.1**	**+1.6**
UCC	**Uccle**	**21.60**	**78**	P	P	**05 39 14.4**	**+0.8**
UCC				IAmb	IAmb	05 39 14.7	
	comp=Z,18nm,0.8s						
SCHQ	**Schefferville**	**22.20**	**294**	P	P	**05 39 18.6**	**-1.5**
	comp=Z,5.9nm,0.9s,baz=48,slow=9.9,SNR=4.1						
SCHQ				LR	LR	05 46 31.0	
	comp=Z,247nm,19.6s,baz=40,slow=33						
SCHQ	**Schefferville**	**22.20**	**294**	P	P	**05 39 19.3**	**-0.7**
HAL	**Halifax**	**23.22**	**267**	P	P	**05 39 32.0**	**+1.2**
HAL				IAmb	IAmb	05 39 36.3	
	comp=Z,31nm,1.3s						
FRB	**Frobisher Bay**	**23.72**	**317**	LR	LR	05 46 56.0	
	comp=Z,328nm,18.6s,baz=36,slow=32						
NB2	**NORSAR Subarra**	**24.64**	**50**	P	P	**05 39 43.9**	**-0.3**
	comp=Z,18nm,1.4s,baz=265,slow=10						
NOA	**NORSAR Array B**	**24.64**	**50**	P	P	**05 39 43.5**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=270,slow=7.3,SNR=3.7						
NOA				LR	LR	05 48 07.4	
	comp=Z,109nm,20.0s,baz=270,slow=34						
BFO	**Black Forest**	**24.82**	**81**	P	P	**05 39 47.9**	**+1.9**
BFO				IAmb	IAmb	05 39 48.8	
	comp=Z,13nm,1.2s						
PQI	**Presque Isle**	**25.10**	**275**	P	P	**05 39 48.1**	**-0.3**
PQI				IAmb	IAmb	05 39 53.5	
	comp=Z,20nm,1.3s						
E63A	**Oxbow**	**25.45**	**274**	P	P	**05 39 51.6**	**-0.1**
E63A				IAmb	IAmb	05 39 53.5	
	comp=Z,13nm,0.8s						
D62A	**Allapoint, All**	**25.58**	**276**	P	P	**05 39 53.7**	**+0.9**
D62A				IAmb	IAmb	05 40 00.5	
	comp=Z,19nm,1.3s						
HFS	**Hagfors**	**25.82**	**53**	P	P	**05 39 55.6**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=253,slow=9.9,SNR=3.4						
HFS				LR	LR	05 48 54.5	
	comp=Z,183nm,19.8s,baz=253,slow=34						
E62A	**Clayton Lake**	**26.06**	**275**	P	P	**05 39 58.4**	**+1.2**
E62A				IAmb	IAmb	05 40 03.0	
	comp=Z,17nm,1.2s						
MDT	**Midelt**	**26.21**	**125**	LR	LR	05 47 41.5	
	comp=Z,51nm,19.4s,baz=344,slow=31						
DAVOX	**Davos/Dischmat**	**26.39**	**84**	LR	LR	05 50 26.0	
	comp=Z,107nm,18.0s,baz=280,slow=36						
CLL	**Collm**	**26.71**	**73**	*i* P	P	**05 40 04.2**	**+1.2**
	comp=Z,6.0nm,0.8s						
BRG	**Berggiesshubel**	**27.41**	**73**	*e*P	P	**05 40 10.4**	**+1.2**
	comp=Z,12nm,1.3s						
GERES	**GERESS Array B**	**27.95**	**77**	P	P	**05 40 13.5**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=294,slow=9.6,SNR=8.6						
GERES				LR	LR	05 50 57.4	
	comp=Z,231nm,18.5s,baz=292,slow=36						
GERES	**GERESS Array B**	**27.95**	**77**	P	P	**05 40 14.2**	**-0.1**
VRAC	**Vranov**	**29.55**	**75**	LR	LR	05 51 58.7	
	comp=Z,190nm,18.7s,baz=291,slow=36						
ARCES	**ARCESS Array B**	**31.50**	**34**	LR	LR	05 50 15.3	
	comp=Z,27nm,18.8s,baz=126,slow=30						
FINES	**FINESS Array B**	**31.80**	**49**	P	P	**05 40 47.7**	**-0.4**
	comp=Z,5.2nm,0.9s,baz=265,slow=6.4,SNR=4.2						
FINES				LR	LR	05 52 21.8	
	comp=Z,92nm,18.3s,baz=274,slow=34						
KEST	**Kesra**	**32.12**	**103**	LR	LR	05 52 40.9	
	comp=Z,142nm,19.3s,baz=225,slow=34						
BURAR	**Bucovina Array**	**35.47**	**74**	P	P	**05 41 20.2**	**-0.1**
AKASG	**Malin Array Be**	**36.50**	**67**	LR	LR	05 57 19.5	
	comp=Z,174nm,18.1s,baz=320,slow=38						
ULM	**Lac du Bonnet**	**40.36**	**295**	LR	LR	05 56 34.5	
	comp=Z,101nm,19.0s,baz=32,slow=33						
KIRV	**Kirov**	**43.78**	**48**	LR	LR	05 59 33.0	
	comp=Z,102nm,20.8s,baz=263,slow=34						
CCM	**Cathedral Cave**	**44.18**	**277**	P	P	**05 42 33.4**	**+0.7**
CCM				IAmb	IAmb	05 42 35.0	
	comp=Z,5.6nm,0.8s						
YKA	**Yellowknife Ar**	**44.21**	**318**	PcP	PcP	**05 44 16.3**	**-0.6**
	comp=Z,1.9nm,1.1s,baz=60,slow=3.9,SNR=6.1						
YKA				LR	LR	05 58 44.4	
	comp=Z,9.8nm,19.3s,baz=47,slow=33						
BRTR	**Keskin Array B**	**44.83**	**79**	P	P	**05 42 37.3**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=296,slow=6.4,SNR=7.5						
BRTR				LR	LR	06 02 01.1	
	comp=Z,66nm,20.7s,baz=280,slow=37						
TORD	**Torodi Ar. Bea**	**45.88**	**134**	P	P	**05 42 45.0**	**-1.3**
	comp=Z,1.8nm,1.0s,baz=331,slow=7.9,SNR=7.8						
TORD				LR	LR	06 00 18.7	
	comp=Z,65nm,19.6s,baz=330,slow=34						
TORD	**Torodi Ar. Bea**	**45.88**	**134**	P	P	**05 42 46.6**	**+0.3**
KBZ	**Khabaz**	**48.04**	**69**	P	P	**05 43 03.2**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=46,slow=8.1,SNR=4.2						
KBZ				LR	LR	06 04 58.8	
	comp=Z,130nm,18.9s,baz=334,slow=38						
INK	**Inuvik**	**48.12**	**331**	P	P	**05 43 02.4**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=11,slow=5.9,SNR=3.0						
INK				LR	LR	06 02 09.0	
	comp=Z,180nm,19.7s,baz=98,slow=35						
DBIC	**Dimbokro**	**49.11**	**146**	LR	LR	06 01 43.2	
	comp=Z,99nm,20.4s,baz=322,slow=34						
ARU	**Arti**	**49.12**	**47**	LR	LR	06 03 11.0	
	comp=Z,89nm,19.6s,baz=288,slow=35						
YNE	**Yellowstone No**	**51.21**	**296**	P	P	**05 43 26.9**	**-0.6**
GNI	**Garni**	**51.31**	**71**	LR	LR	06 07 05.4	
	comp=Z,80nm,18.4s,baz=320,slow=38						
N23A	**Red Feather La**	**51.40**	**290**	P	P	**05 43 27.4**	**-1.6**
N23A				IAmb	IAmb	05 43 32.3	
	comp=Z,11nm,0.9s						
EIL	**Elat**	**52.16**	**88**	LR	LR	06 07 32.2	
	comp=Z,17nm,21.2s,baz=324,slow=38						
BW06	**Boulder Array**	**52.34**	**294**	P	P	**05 43 36.3**	**+0.4**
PD31	**Pinedale Array**	**52.34**	**294**	P	P	**05 43 36.0**	**+0.2**
PDAR	**Pinedale Array**	**52.34**	**294**	P	P	**05 43 35.2**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=61,slow=7.2,SNR=14						
PDAR				LR	LR	06 04 50.7	
	comp=Z,79nm,18.0s,baz=48,slow=35						
PDAR	**Pinedale Array**	**52.34**	**294**	P	P	**05 43 35.9**	**0.0**
AKTO	**Aktyubinsk**	**52.36**	**54**	LR	LR	06 05 24.0	
	comp=Z,130nm,20.3s,baz=306,slow=36						
TPAW	**Teton Pass**	**52.68**	**295**	P	P	**05 43 39.6**	**+1.2**
ABKAR	**Akbulak array**	**54.07**	**54**	P	P	**05 43 48.6**	**+0.4**
ABKAR	**Akbulak array**	**54.07**	**54**	IAmb	IAmb	05 43 51.1	
	comp=Z,3.7nm,1.1s						
HWUT	**Hardware Ranch**	**54.23**	**294**	IAmb	IAmb	05 43 53.6	
	comp=Z,8.0nm,1.0s						
ILAR	**Eielson Array**	**54.47**	**332**	P	P	**05 43 51.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=60,slow=5.3,SNR=3.3						
ILAR				LR	LR	06 06 09.5	
	comp=Z,108nm,18.3s,baz=73,slow=35						
PV12	**Saucer Basin,**	**54.74**	**289**	P	P	**05 43 54.1**	**+0.6**
PV12				IAmb	IAmb	05 43 57.1	
	comp=Z,7.1nm,0.9s						
PV04	**Paradox Valley**	**54.75**	**289**	P	P	**05 43 54.4**	**+0.8**
PV04				IAmb	IAmb	05 44 05.8	
	comp=Z,9.3nm,1.1s						
PV11	**David Mesa, Pa**	**54.79**	**289**	P	P	**05 43 54.9**	**+1.0**
PV14	**Lion Creek, Pa**	**54.84**	**289**	P	P	**05 43 55.0**	**+0.7**
PV14				IAmb	IAmb	05 43 57.7	
	comp=Z,6.6nm,0.8s						
PV18	**Skein Mesa, Pa**	**54.85**	**289**	P	P	**05 43 55.9**	**+1.6**
PV19	**Morning Glory**	**54.85**	**289**	P	P	**05 43 55.8**	**+1.4**
PV19				IAmb	IAmb	05 43 57.4	
	comp=Z,8.7nm,0.9s						
PV17	**East Wray Mesa**	**54.86**	**289**	P	P	**05 43 56.0**	**+1.6**
PV05	**Paradox Valley**	**55.07**	**289**	P	P	**05 43 56.0**	**0.0**
PV05				IAmb	IAmb	05 44 07.9	
	comp=Z,7.2nm,1.0s						
MCK	**McKinley**	**55.84**	**332**	P	P	**05 43 58.0**	**-2.9**
KTH	**Kantishna Hill**	**56.56**	**333**	P	P	**05 44 05.4**	**-0.6**
MSU	**Marysvale**	**56.60**	**291**	P	P	**05 44 08.2**	**+1.3**
BVAR	**Borovoye Array**	**56.62**	**45**	P	P	**05 44 06.1**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=307,slow=7.2,SNR=7.7						
PPLA	**Purkeypile**	**57.44**	**333**	P	P	**05 44 14.9**	**+2.6**
PPLA				IAmb	IAmb	05 44 26.1	
	comp=Z,8.8nm,1.3s						
WVOR	**Wild Horse Val**	**57.67**	**299**	IAmb	IAmb	05 44 23.7	
	comp=Z,6.0nm,1.1s						
TXAR	**Lajitas Array**	**57.68**	**278**	P	P	**05 44 13.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=26,slow=7.0,SNR=7.5						
TXAR				LR	LR	06 09 05.8	
	comp=Z,107nm,18.3s,baz=0.0,slow=36						
ROSC	**El Rosal**	**59.03**	**234**	P	P	**05 44 24.1**	**-0.2**
	comp=Z,6.0nm,0.6s,baz=157,slow=10,SNR=5.9						
ROSC				LR	LR	06 06 55.1	
	comp=Z,85nm,21.9s,baz=38,slow=33						
KVN	**Kaiserville**	**59.65**	**296**	P	P	**05 44 29.7**	**+1.4**
KVN				IAmb	IAmb	05 44 30.9	
	comp=Z,4.0nm,1.0s						
NVAR	**Mina Array Bea**	**60.20**	**295**	P	P	**05 44 32.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=57,slow=6.6,SNR=5.4						
NVAR				LR	LR	06 08 54.3	
	comp=Z,69nm,19.6s,baz=92,slow=34						
PNTR	**Pine Nut**	**60.47**	**297**	P	P	**05 44 34.8**	**+0.9**
PNTR				IAmb	IAmb	05 44 46.6	
	comp=Z,6.4nm,0.9s						
GEYT	**Alibeck**	**60.59**	**65**	LR	LR	06 12 24.1	
	comp=Z,44nm,18.8s,baz=260,slow=38						
ZALV	**Zalesovo Beam**	**61.95**	**37**	LR	LR	06 10 55.8	
	comp=Z,22nm,20.1s,baz=0.0,slow=35						
AAK	**Ala-Archa**	**65.95**	**51**	LR	LR	06 13 15.5	
	comp=Z,94nm,20.9s,baz=312,slow=35						
MK31	**Makanchi Array**	**66.42**	**44**	P	P	**05 45 13.3**	**+0.4**
MK31				IAmb	IAmb	05 45 20.6	
	comp=Z,7.1nm,1.4s						
MKAR	**Makanchi Array**	**66.42**	**44**	P	P	**05 45 12.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=320,slow=4.9,SNR=15						
MKAR				LR	LR	06 15 06.4	
	comp=Z,43nm,18.1s,baz=338,slow=37						
MKAR	**Makanchi Array**	**66.42**	**44**	P	P	**05 45 12.7**	**-0.2**
GAR	**Garm**	**66.52**	**57**	P	P	**05 45 16.7**	**+3.0**
BDFB	**Brasilia**	**68.39**	**199**	LR	LR	06 11 10.9	
	comp=Z,32nm,18.9s,baz=152,slow=32						
SONM	**Songino Array**	**74.51**	**29**	P	P	**05 46 02.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=318,slow=5.8,SNR=2.7						
KMBO	**Kilima Mbogo**	**76.91**	**109**	LR	LR	06 21 23.8	
	comp=Z,64nm,18.4s,baz=86,slow=37						
CPUP	**Villa Florida**	**80.85**	**205**	LR	LR	06 20 09.8	
	comp=Z,17nm,19.1s,baz=36,slow=34						
BOSA	**Boshof**	**93.23**	**134**	LR	LR	06 28 31.6	
	comp=Z,41nm,18.5s,baz=14,slow=35						
CMAR	**Chiang Mai Arr**	**97.56**	**48**	LR	LR	06 35 38.3	
	comp=Z,18nm,18.2s,baz=335,slow=38						
WRA	**Warramunga Arr**	**146.48**	**27**	PKPbc	**PKPdf**	**05 54 04.3**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=343,slow=4.8,SNR=8.1						
WRA	**Warramunga Arr**	**146.48**	**27**	PKPbc	**PKPab**	**05 54 06.2**	**+0.2**
ASAR	**Alice Springs**	**149.85**	**30**	PKPbc	**PKPbc**	**05 54 12.4**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=352,slow=2.2,SNR=16						
ASAR	**Alice Springs**	**149.85**	**30**		**PKPbc**	**05 54 13.0**	**-1.0**

*ISCJB **27** 06:05:54.0±0.5, 24°.90N±0°.03×122°.39E±0°.02, h146km±4km, Error ellipse: s-maj=5.0km s-min=2.7km az=168.7*

*TAP **27** 06:05:53.3, 24°.97N×122°.37E, h158km, ML3.9, C*

*JMA **27** 06:05:53.5±0.2, 24°.97N×122°.35E, h150km±3km, M3.6*

ISC 27 06:05:53.4±1.6, 24°.92N±0°.05×122°.37E±0°.03, h156km±9km, n83, σ0°63/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.36**	**284**	*e*P	Pn	**06 06 14.9**	**+0.1**
	baz=265						
TWB1				*e*S	Sn	06 06 30.2	-0.8
	baz=265						
EGS		**0.41**	**259**	P	Pn	**06 06 15.3**	**+0.4**
	baz=261						
EGS				*e*S	Sn	06 06 31.2	-0.1
	baz=261						
EOS1	**EOS1**	**0.43**	**211**	*e*P	Pn	**06 06 15.5**	**+0.5**
	baz=198						
EOS1				*e*S	Sn	06 06 32.0	+0.5
	baz=198						
NTC	**Toucheng**	**0.50**	**262**	*e*P	Pn	**06 06 15.3**	**0.0**
	baz=256						
TIPB	**Shuangxi**	**0.50**	**276**	P	Pn	**06 06 15.4**	**+0.1**
	baz=259						
TIPB				*e*S	Sn	06 06 31.0	-1.1
	baz=259						
NWF	**Wu-fen Shan**	**0.56**	**286**	P	Pn	**06 06 15.7**	**0.0**
	baz=272						
NWF				*e*S	Sn	06 06 32.8	0.0
	baz=272						
WFSB	**Wu-fen Shan**	**0.56**	**286**	*e*P	Pn	**06 06 15.8**	**+0.2**
	baz=272						
WFSB				*e*S	Sn	06 06 32.0	-0.6
	baz=272						
TWC	**Suao**	**0.57**	**237**	*e*P	Pn	**06 06 15.6**	**-0.1**
	baz=234						
TWC				S	Sn	06 06 32.0	-0.7
	baz=234						
TWE	**Neicheng**	**0.67**	**253**	*e*P	Pn	**06 06 16.8**	**+0.5**
	baz=252						
TWE				S	Sn	06 06 34.7	+1.0
	baz=252						
SLBB	**Yuanshan**	**0.69**	**256**	*e*P	Pn	**06 06 16.1**	**-0.3**
	baz=256						
SLBB				*e*S	Sn	06 06 34.0	0.0
	baz=256						
JYNG	**Yonagunijimaku**	**0.70**	**132**	P	Pn	**06 06 16.6**	**+0.1**
JYNG				S	Sn	**06 06 33.7**	**-0.3**
TWA	**Mucha**	**0.72**	**275**	*e*P	Pn	**06 06 16.0**	**-0.6**
	baz=267						
TWA				S	Sn	06 06 34.7	+0.4
	baz=267						
YOJ	**Yonaguni jima**	**0.74**	**128**	P	Pn	**06 06 16.8**	**0.0**
	baz=137						
YOJ				S	Sn	06 06 34.8	+0.2
	baz=137						
YOJ	**Yonaguni jima**	**0.74**	**128**	P	Pn	**06 06 16.9**	**+0.2**
YOJ				S	Sn	**06 06 34.7**	**+0.2**
NANB	**Nanao**	**0.75**	**229**	*e*P	Pn	**06 06 17.3**	**+0.5**
	baz=224						
NANB				*e*S	Sn	06 06 34.9	+0.2
	baz=224						
PCYT	**Pengchaiyu**	**0.76**	**339**	*e*P	Pn	**06 06 17.2**	**+0.4**
	baz=338						
ENA	**Nanau**	**0.76**	**230**	*e*P	Pn	**06 06 16.5**	**-0.3**
	baz=224						
ENA				S	Sn	06 06 35.4	+0.7
	baz=224						
YM01	**YM01**	**0.76**	**287**	*e*P	Pn	**06 06 16.8**	**-0.1**
	baz=280						
YM01				*e*S	Sn	06 06 35.9	+1.0
	baz=280						
YM11	**YM11**	**0.77**	**289**	*e*P	Pn	**06 06 17.1**	**+0.1**
	baz=282						
YM11				*e*S	Sn	06 06 34.5	-0.6
	baz=282						
NHDH	**Xindian Distri**	**0.77**	**273**	P	Pn	**06 06 16.8**	**-0.1**
	baz=268						
NHDH				S	Sn	06 06 35.0	+0.1
	baz=268						
YM05	**YM05**	**0.77**	**288**	*e*P	Pn	**06 06 17.4**	**+0.4**
	baz=281						
YM05				*e*S	Sn	06 06 35.9	+0.8
	baz=281						
YM10	**YM10**	**0.77**	**288**	*e*P	Pn	**06 06 16.8**	**-0.2**
	baz=281						
YM10				*e*S	Sn	06 06 34.6	-0.5
	baz=281						
ENTT	**Nioudou**	**0.79**	**249**	*e*P	Pn	**06 06 17.6**	**+0.5**
	baz=249						
ENTT				*e*S	Sn	06 06 35.9	+0.7
	baz=249						
TWY	**Chenhua**	**0.79**	**297**	*e*P	Pn	**06 06 17.1**	**+0.1**
	baz=290						
TWY				*e*S	Sn	06 06 34.3	-0.8
	baz=290						
YM04	**YM04**	**0.79**	**287**	*e*P	Pn	**06 06 17.3**	**+0.1**
	baz=279						
YM04				*e*S	Sn	06 06 34.3	-0.9
	baz=279						
NWLT	**Wulai**	**0.81**	**260**	P	Pn	**06 06 16.5**	**-0.7**
	baz=256						
NWLT				S	Sn	06 06 35.0	-0.4
	baz=256						
TATO	**Taipei**	**0.81**	**274**	*e*P	Pn	**06 06 17.0**	**-0.2**
	baz=269						
TATO				*e*S	Sn	06 06 34.3	-1.0
	baz=269						
ANP	**Anpu**	**0.82**	**289**	*e*P	Pn	**06 06 17.4**	**0.0**
	baz=278						
NDT	**Datong Townshi**	**0.84**	**248**	*e*P	Pn	**06 06 18.1**	**+0.6**
	baz=251						
NDT				S	Sn	06 06 35.9	0.0
	baz=251						
NTST	**Danshui**	**0.87**	**286**	*e*P	Pn	**06 06 17.9**	**+0.3**
	baz=283						
NTST				*e*S	Sn	06 06 37.0	+0.8
	baz=283						
TWS1	**Kuangyinshan**	**0.89**	**282**	*e*P	Pn	**06 06 18.1**	**+0.4**
	baz=279						
TWS1				*e*S	Sn	06 06 37.1	+0.7
	baz=279						
YHNB	**Yeheng**	**0.94**	**255**	*i* P	Pn	**06 06 18.2**	**0.0**
	baz=252						
YHNB				S	Sn	06 06 36.5	-0.8
	baz=252						
NSK	**Sanguang**	**0.95**	**255**	*e*P	Pn	**06 06 18.5**	**+0.1**
	baz=252						
NSK				*e*S	Sn	06 06 36.5	-0.9
	baz=252						
WLTB	**Daxi**	**1.02**	**266**	*e*P	Pn	**06 06 19.3**	**+0.5**
	baz=256						
WLTB				*e*S	Sn	06 06 38.2	0.0
	baz=256						
NNSB	**Datong**	**1.03**	**242**	P	Pn	**06 06 19.5**	**+0.4**
	baz=244						
NNSB				*e*S	Sn	06 06 38.4	-0.3
	baz=244						
NACB	**Ninganchiao**	**1.03**	**224**	P	Pn	**06 06 18.8**	**-0.1**
	baz=231						
NACB				S	Sn	06 06 37.8	-0.6
	baz=231						
NNS	**Nan Shan**	**1.03**	**242**	*e*P	Pn	**06 06 19.6**	**+0.5**
	baz=245						
NNS				S	Sn	06 06 38.6	0.0
	baz=245						
NCU	**National Centr**	**1.08**	**273**	*e*P	Pn	**06 06 19.7**	**+0.4**
	baz=261						
NCU				*e*S	Sn	06 06 38.4	-0.8
	baz=261						
ETLH	**Xiulin Townshi**	**1.08**	**229**	P	Pn	**06 06 19.5**	**+0.1**
	baz=234						
ETLH				*e*S	Sn	06 06 39.3	-0.1
	baz=234						
NCUH	**Zhongli**	**1.08**	**273**	*e*P	Pn	**06 06 19.5**	**+0.2**
	baz=262						
NCUH				*e*S	Sn	06 06 38.1	-1.1
	baz=262						
TWD	**Chiawan**	**1.10**	**220**	P	Pn	**06 06 19.6**	**+0.1**
	baz=211						
TWD				*e*S	Sn	06 06 39.0	-0.5
	baz=211						
ENLB	**Shoufeng**	**1.23**	**215**	*e*S	Sn	**06 06 42.0**	**+0.3**
	baz=213						
LIOB	**Emei**	**1.27**	**258**	*e*P	Pn	**06 06 21.1**	**+0.1**
	baz=250						
LIOB				*e*S	Sn	06 06 41.3	-0.9
	baz=250						
SBCB	**Hsinchu**	**1.27**	**264**	P	Pn	**06 06 21.4**	**+0.3**
	baz=262						
SBCB				*e*S	Sn	06 06 40.9	-1.3
	baz=262						
WHF	**Hehuan Shan**	**1.27**	**233**	*e*P	Pn	**06 06 21.3**	**-0.3**
	baz=230						
WHF				*e*S	Sn	06 06 43.0	-0.1
	baz=230						
TWT	**Tachien**	**1.28**	**239**	*e*P	Pn	**06 06 21.4**	**+0.1**
	baz=233						
TWT				S	Sn	06 06 42.8	+0.1
	baz=233						
NSTT	**Nanjuang**	**1.28**	**257**	P	Pn	**06 06 21.3**	**+0.1**
	baz=250						
NSTT				*e*S	Sn	06 06 41.6	-0.9
	baz=250						
TDCB	**Techi**	**1.29**	**239**	*e*P	Pn	**06 06 22.4**	**+0.9**
	baz=232						
TDCB				*e*S	Sn	06 06 43.0	0.0
	baz=232						
IRIF	**Iriomote-Funau**	**1.36**	**115**	P	Pn	**06 06 22.0**	**0.0**
IRIF				S	Sn	06 06 43.2	-0.7
CHGB	**Renai**	**1.39**	**232**	P	Pn	**06 06 23.7**	**+1.2**
	baz=230						
CHGB				*e*S	Sn	06 06 45.9	+1.1
	baz=230						
ESL	**Shilin**	**1.40**	**218**	*e*P	Pn	**06 06 22.7**	**+0.4**
	baz=223						
ESL				S	Sn	06 06 44.0	-0.6
	baz=223						
WHP	**Taichung City**	**1.45**	**244**	P	Pn	**06 06 23.5**	**+0.6**
	baz=248						
WHP				*e*S	Sn	06 06 44.9	-0.6
	baz=248						
NMLH	**Miaoli**	**1.49**	**255**	P	Pn	**06 06 23.7**	**+0.5**
	baz=254						
NMLH				*e*S	Sn	06 06 45.6	-0.5
	baz=254						
EGFH	**Guangfu**	**1.52**	**215**	*e*S	Sn	**06 06 45.6**	**-1.1**
	baz=223						
NSY	**Sanyi**	**1.55**	**251**	P	Pn	**06 06 24.4

baz=232
TYC S **Sn** **06 06 50.5 +0.1**
baz=232
SSLB Suanglung 1.72 229 *e*P **Pn** **06 06 26.8 +1.0**
baz=237
SSLB *e*S **Sn** **06 06 50.8 +0.2**
baz=237
TCU Taichung 1.73 244 *e*S **Sn** **06 06 50.1 -0.5**
baz=248
JISG Ishigakijimahi 1.79 100 P **Pn** **06 06 26.7 +0.2**
JISG S **Sn** **06 06 51.1 -0.8**
YULB Yu-li 1.81 213 *e*P **Pn** **06 06 25.8 -1.0**
baz=217
YULB *e*S **Sn** **06 06 50.8 -1.6**
baz=217
TWF1 Yuli 1.85 212 *e*P **Pn** **06 06 27.2 0.0**
baz=216
TWF1 *e*S **Sn** **06 06 51.4 -1.7**
baz=216
WHYT Xinyi Township 1.85 229 *e*P **Pn** **06 06 27.9 +0.7**
baz=234
WHYT *e*S **Sn** **06 06 53.2 +0.1**
baz=234
WJS Zhushan 1.86 234 *e*S **Sn** **06 06 53.9 +0.6**
baz=233
CHN5 Tsauling 2.03 230 *e*S **Sn** **06 06 57.1 +0.1**
baz=235
WGK Gukeng 2.06 234 *e*S **Sn** **06 06 57.5 +0.1**
baz=232
WDLH Douliu 2.08 234 *e*S **Sn** **06 06 57.9 +0.2**
baz=233
RLNB Erlin 2.10 241 *e*S **Sn** **06 06 57.1 -1.1**
baz=240
JTJ Tarama 2.13 97 P **Pn** **06 06 30.9 +0.5**
JTJ S **Sn** **06 06 58.2 -0.7**
CHN4 Tsaushan 2.26 227 *e*P **Pn** **06 06 31.6 -0.2**
baz=225
CHN4 S **Sn** **06 07 01.9 +0.3**
baz=225
JIRB Irabujima 2.54 92 P **Pn** **06 06 35.6 +0.3**
JIRB *e*S **Sn** **06 07 06.7 -0.9**
JIKM Ikemajima 2.61 89 P **Pn** **06 06 37.1 +1.0**
JIKM S **Sn** **06 07 08.9 -0.1**
JMJ2 Miyako jima3 2.69 93 P **Pn** **06 06 37.9 +0.8**
JMJ2 *e*S **Sn** **06 07 09.1 -1.7**
JOGS Gusukube 2.76 93 P **Pn** **06 06 39.0 +1.1**
JOGS *e*S **Sn** **06 07 12.0 -0.4**

*IDC **27** 07:04:57.5±0.6, 54°.09S×54°.83W, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.3/27, mbtmp4.3/13, ML3.8/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/22, Error ellipse: s-maj=29.5km s-min=13.6km az=78.0*
*NEIC **27** 07:05:00.1±2.4, 54°.04S±0°.09×54°.7W±0°.2, h11km±3km, mb4.3/13*
ISC 27 07:04:58.6±0.5, 54°.13S±0°.07×55°.09W±0°.08, h10km, n64, σ1§62/61, mb4.3/15, MS3.6/11, 1C-1D, Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**7.81**	**259**	Pn	Pn	07 06 47.8	-4.3
	4.3nm,0.3s,baz=90,slow=12,SNR=23						
USHA				Sn	**Sn**	**07 08 14.2**	**-6.2**
	4.6nm,0.3s,baz=284,slow=18,SNR=15						
HOPE	**Hope Point**	**10.90**	**98**	**Pn**	**Pn**	**07 07 32.5**	**-2.0**
PMSA	**Palmer Station**	**11.59**	**199**	Pn	**Pn**	**07 07 44.8**	**+0.9**
	0.1nm,0.3s,baz=54,slow=6.6,SNR=2.2						
PMSA				LR	LR	07 11 45.6	
	comp=Z,175nm,19.7s,baz=301,slow=35						
PMSA	**Palmer Station**	**11.59**	**199**	Pn	Pn	07 07 49.2	+5.3
TRQA	**Tornquist**	**16.75**	**341**		**P**	**07 08 54.9**	**-0.7**
TRQA				IAmb	IAmb	07 09 10.4	
	comp=Z,15nm,0.8s						
PLCA	**Paso Flores**	**16.95**	**316**	P	**P**	**07 08 57.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=165,slow=11,SNR=12						
PLCA				LR	LR	07 15 59.7	
	comp=Z,303nm,19.8s,baz=168,slow=39						
PLCA	**Paso Flores**	**16.95**	**316**	P	**P**	**07 09 00.9**	**+3.2**
GO05	**Huala**	**22.46**	**322**	P	**P**	**07 10 00.7**	**+3.0**
GO05				IAmb	IAmb	07 10 08.9	
	comp=Z,11nm,0.8s						
CFA	**Coronel Fontan**	**24.41**	**332**	P	**P**	**07 10 18.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=164,slow=13,SNR=3.0						
CFA				LR	LR	07 21 15.1	
	comp=Z,287nm,18.4s,baz=156,slow=40						
VNA3	**Neumayer Olymp**	**26.02**	**148**	P	**P**	**07 10 32.9**	**+1.4**
VNA1	**Neumayer--Stat**	**26.30**	**147**	P	**P**	**07 10 36.2**	**+2.3**
VNA2	**Neumayer--Watz**	**26.65**	**147**	P	**P**	**07 10 38.3**	**+1.2**
	baz=292,slow=11						
CPUP	**Villa Florida**	**27.82**	**356**	P	**P**	**07 10 48.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=179,slow=11,SNR=7.0						
CPUP				LR	LR	07 22 13.9	
	comp=Z,163nm,19.7s,baz=187,slow=37						
CPUP	**Villa Florida**	**27.82**	**356**	P	**P**	**07 10 49.1**	**+1.3**
CPUP				IAmb	IAmb	07 11 08.2	
	comp=Z,6.8nm,1.1s						
SNAA	**Sanae**	**28.25**	**148**	P	**P**	**07 10 52.3**	**+0.9**
SNAA	**Sanae**	**28.25**	**148**	P	**P**	**07 10 51.5**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=286,slow=8.7,SNR=36						
SNAA				LR	LR	07 20 43.4	
	comp=Z,80nm,18.6s,baz=6.0,slow=34						
SNAA	**Sanae**	**28.25**	**148**	P	**P**	**07 10 52.5**	**+1.1**
QSPA	**South Pole Qui**	**36.12**	**180**	P	**P**	**07 12 01.5**	**+0.9**
	comp=Z,32nm,0.9s,baz=166,slow=3.3,SNR=88						
QSPA				LR	LR	07 27 25.3	
	comp=Z,33nm,18.5s,baz=144,slow=37						
QSPA	**South Pole Qui**	**36.12**	**180**	P	**P**	**07 12 01.5**	**+0.9**
SIV	**San Ignacio**	**38.34**	**351**	P	**P**	**07 12 19.2**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=182,slow=10,SNR=8.9						
BDFB	**Brasilia**	**38.80**	**11**	P	**P**	**07 12 23.5**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=201,slow=9.4,SNR=5.4						
BDFB				LR	LR	07 27 57.6	
	comp=Z,109nm,21.9s,baz=190,slow=36						
LPAZ	**La Paz**	**39.10**	**340**	P	**P**	**07 12 27.6**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=112,slow=3.3,SNR=4.9						
LPAZ				LR	LR	07 30 45.3	
	comp=Z,248nm,18.8s,baz=189,slow=40						
LPAZ	**La Paz**	**39.10**	**340**	P	**P**	**07 12 29.0**	**+2.3**
SYO	**Syowa Base**	**42.54**	**148**	⇑*i*P	**P**	**07 12 53.0**	**-0.7**
SYO	**Syowa Base**	**42.54**	**148**	⇓*i*P	**P**	**07 12 54.7**	**+1.0**
SBA	**Scott Base**	**45.79**	**191**	P	**P**	**07 13 22.7**	**+2.9**
VNDA	**Vanda**	**46.62**	**190**	P	**P**	**07 13 27.7**	**+1.4**
	comp=Z,3.5nm,1.1s,baz=220,slow=4.3,SNR=4.1						
VNDA				LR	LR	07 30 58.6	
	comp=Z,27nm,19.9s,baz=116,slow=33						
MAW	**Mawson**	**50.13**	**154**	P	**P**	**07 13 53.1**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=227,slow=7.3,SNR=5.0						
MAW				LR	LR	07 32 51.8	
	comp=Z,69nm,21.9s,baz=237,slow=33						
H10N3	**ASCENSION HYDR**	**56.47**	**51**	T	T	08 15 48.9	
	baz=206,slow=75,SNR=29						
H10N1	**ASCENSION HYDR**	**56.47**	**51**	T	T	08 15 47.6	
	baz=206,slow=75,SNR=33						
H10N2	**ASCENSION HYDR**	**56.49**	**51**	T	T	08 15 48.5	
	baz=206,slow=75,SNR=32						
OTAV	**Otavalo**	**57.52**	**332**	*e*P	**P**	**07 14 50.9**	**+2.3**
OTAV	**Otavalo**	**57.52**	**332**	*e*P	**P**	**07 14 50.9**	**+2.3**
OTAV	**Otavalo**	**57.52**	**332**	P	**P**	**07 14 51.5**	**+2.9**
ORTC	**Ortega, Tolima**	**60.23**	**337**	*e*P	**P**	**07 15 06.8**	**-0.1**
ORTC	**Ortega, Tolima**	**60.23**	**337**	*e*P	**P**	**07 15 06.8**	**-0.1**
YOTC	**Yotoco, Valle**	**60.57**	**335**	*e*P	**P**	**07 15 10.6**	**+1.3**
YOTC	**Yotoco, Valle**	**60.57**	**335**	*e*P	**P**	**07 15 10.6**	**+1.3**
ROSC	**El Rosal**	**60.92**	**338**	LR	LR	07 45 27.1	
	comp=Z,122nm,18.2s,baz=199,slow=40						
GUY2C	**Guyana, Caldas**	**61.53**	**337**	*e*P	**P**	**07 15 17.6**	**+1.3**
GUY2C	**Guyana, Caldas**	**61.53**	**337**	*e*P	**P**	**07 15 17.6**	**+1.3**
BOSA	**Boshof**	**61.84**	**101**	P	**P**	**07 15 16.8**	**-1.1**
BOSA				IAmb	IAmb	07 15 31.4	
	comp=Z,2.4nm,1.1s						
CBOC	**Ciudad Bolivar**	**62.30**	**336**	*e*P	**P**	**07 15 21.4**	**+0.3**
CBOC	**Ciudad Bolivar**	**62.30**	**336**	*e*P	**P**	**07 15 21.4**	**+0.3**
SMLC	**San Martn de**	**64.71**	**339**	*e*P	**P**	**07 15 36.4**	**-0.4**
SMLC	**San Martn de**	**64.71**	**339**	*e*P	**P**	**07 15 36.4**	**-0.4**
LBTB	**Lobatse**	**64.76**	**98**	P	**P**	**07 15 36.4**	**-0.9**
ARGC	**Ariguani, Magd**	**65.77**	**339**	*e*P	**P**	**07 15 41.8**	**-1.9**
ARGC	**Ariguani, Magd**	**65.77**	**339**	*e*P	**P**	**07 15 41.8**	**-1.9**
LIC	**Lamto**	**73.23**	**53**	*e*P	**P**	**07 16 30.2**	**+0.4**
	comp=Z,18nm,0.5s						
KIC	**Kosan Boka**	**73.48**	**53**	*e*P	**P**	**07 16 31.2**	**-0.1**
	comp=Z,11nm,0.7s						
TIC	**Toumodi**	**73.60**	**53**	*e*P	**P**	**07 16 32.2**	**+0.2**
PPT	**Papeete**	**78.54**	**256**	LR	LR	07 44 48.9	
	comp=Z,77nm,19.9s,baz=154,slow=30						
TOA0	**Torodi Ar. Sit**	**82.45**	**55**	P	**P**	**07 17 21.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**82.45**	**55**	P	**P**	**07 17 21.1**	**0.0**
	comp=Z,4.0nm,0.6s,baz=204,slow=5.6,SNR=20						
TORD	**Torodi Ar. Bea**	**82.45**	**55**	P	**P**	**07 17 20.1**	**-1.0**
TXAR	**Lajitas Array**	**93.10**	**319**	P	**P**	**07 18 12.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=159,slow=7.7,SNR=4.5						
TXAR				LR	LR	07 56 36.3	
	comp=Z,33nm,18.6s,baz=0.0,slow=33						
ASAR	**Alice Springs**	**102.14**	**188**	P	**Pdif**	**07 18 52.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=174,slow=4.8,SNR=6.4						
ASAR				PP	**PP**	**07 23 04.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=173,slow=8.4,SNR=6.1						
BRTR	**Keskin Array B**	**120.30**	**63**	PKP	**PKiKP**	**07 23 49.2**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=189,slow=5.8,SNR=2.9						
YKA	**Yellowknife Ar**	**125.27**	**331**	PKP	**PKiKP**	**07 23 58.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=139,slow=2.3,SNR=9.2						
CMAR	**Chiang Mai Arr**	**139.17**	**141**	PKP	**PKiKP**	**07 24 25.8**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=233,slow=3.5,SNR=5.8						
BVAR	**Borovoye Array**	**148.28**	**69**	PKPbc	**PKiKP**	**07 24 43.6**	**-1.9**
	comp=Z,3.9nm,0.9s,baz=264,slow=2.7,SNR=17						
KURBB	**Kurchatov Arra**	**151.87**	**78**	PKPbc	**PKiKP**	**07 24 52.8**	**-0.1**
	comp=Z,7.4nm,0.6s,baz=240,slow=2.8,SNR=40						
KURBB				PKPab	**pPKPab**	**07 25 02.0**	**-2.6**
	comp=Z,5.8nm,0.9s,baz=242,slow=2.7,SNR=10.0						
MKAR	**Makanchi Array**	**152.25**	**88**	PKPbc	**PKiKP**	**07 24 52.8**	**-1.1**
	comp=Z,4.9nm,0.6s,baz=240,slow=2.7,SNR=22						
MKAR				PKPab	**PKPab**	**07 25 02.2**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=239,slow=1.4,SNR=6.3						

SJA 27 07:05:02.3±0.7, 32°.83S×68°.80W, h152km±4km, ML3.5, MW3.1, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.12**	**265**	*i*P	Pn	07 05 23.0	+0.1
ARCO				*e*S	Sn	07 05 37.2	-1.3
ARCO				IAML		07 05 40.0	
	comp=Z,1μm,0.5s						
AAGR	**Agrelo**	**0.26**	**186**	*i*P	Pn	07 05 23.4	+0.4
AAGR				*e*S	Sn	07 05 37.1	-1.9
RTCV	**Cerro Valdivia**	**0.99**	**13**	*i*P	Pn	07 05 27.8	+0.5
RTCV				*e*S	Sn	07 05 46.3	0.0
RTLS	**Leoncito**	**1.11**	**337**	*i*P	Pn	07 05 29.3	+0.7
RTLS				IAML		07 05 29.9	
	comp=Z,303nm,0.1s						
RTLS				*i*S	Sn	07 05 49.7	+1.1
ZON	**Zonda**	**1.28**	**4**	*i*P	Pn	07 05 30.6	+0.6
ZON				*i*S	Sn	07 05 51.3	+0.2
CFA	**Coronel Fontan**	**1.31**	**21**	*i*P	Pn	07 05 30.9	+0.7
CFA				*i*S	Sn	07 05 51.6	+0.2
ACAN	**Cantantal**	**1.47**	**68**	*i*P	Pn	07 05 32.8	+1.1
ACAN				*e*S	Sn	07 05 53.3	-0.8
RTLL	**Cerro Villicun**	**1.52**	**10**	*i*P	Pn	07 05 33.1	+0.7
RTLL				*i*S	Sn	07 05 55.6	+0.3
MRA	**San Martin**	**2.63**	**82**	*i*P	Pn	07 05 46.2	+1.0
MRA				*e*S	Sn	07 06 17.7	-0.5
AROD	**Rodeo**	**2.72**	**348**	*i*P	Pn	07 05 48.3	+1.8
AROD				*e*S	Sn	07 06 21.6	+0.9
APLL	**PUNTA DE LOS L**	**3.10**	**39**	*i*P	Pn	07 05 51.6	+0.5
APLL				*e*S	Sn	07 06 28.5	-0.4
TCA	**Tanti**	**3.86**	**68**	*i*P	Pn	07 06 01.3	+0.4
TCA				*e*S	Sn	07 06 36.8	-10
CYA	**Choya**	**5.08**	**31**	*i*P	Pn	07 06 16.0	-0.8
CYA				*e*S	Sn	07 07 02.8	-12
GO03	**Copiap**	**5.37**	**346**	*i*P	Pn	07 06 20.9	+0.2
GO03				*e*S	Sn	07 07 14.1	-7.8

*ISCJB **27** 07:20:40.4±0.8, 19°.51N±0°.09×64°.78W±0°.06, h72km±22km, Error ellipse: s-maj=16.2km s-min=7.3km az=156.6*
*NEIC **27** 07:20:41.3±1.3, 19°.5N±0°.2×64°.78W±0°.07, h72km±31km*
*RSPR **27** 07:20:42.2, 19°.34N×64°.72W, h87km±6km, MD3.6/15*
ISC 27 07:20:42.2±1.9, 19°.5N±0°.1×64°.79W±0°.07, h59km±37km, n54, σ0§66/67, 13C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.84**	**149**	⇑*e*P	**Pn**	**07 20 58.2**	**0.0**
ABV	**Anegada**	**0.84**	**149**	*e*S	**Sn**	**07 21 10.8**	**+0.9**
ABVI	**Anegada Island**	**0.84**	**149**		**Pn**	**07 20 58.2**	**0.0**
ABVI					**Sn**	**07 21 10.8**	**+0.9**
TBVI	**Tortola**	**1.05**	**171**	⇓*e*P	**Pn**	**07 21 00.4**	**-0.4**
TBVI	**Tortola**	**1.05**	**171**	*e*S	**Sn**	**07 21 14.6**	**0.0**
TBVI	**Tortola**	**1.05**	**171**		**Pn**	**07 21 00.4**	**-0.4**
TBVI					**Sn**	**07 21 14.6**	**0.0**
STVI	**Saint Thomas**	**1.11**	**188**	⇑*e*P	**Pn**	**07 21 00.9**	**-0.7**
STVI	**Saint Thomas**	**1.11**	**188**	*e*S	**Sn**	**07 21 15.7**	**-0.4**
STVI	**Saint Thomas**	**1.11**	**188**		**Pn**	**07 21 00.9**	**-0.7**
STVI					**Sn**	**07 21 15.7**	**-0.4**
CUPR	**Culebra, Puert**	**1.23**	**202**	*e*S	**Sn**	**07 21 19.3**	**+0.2**
CUPR	**Culebra, Puert**	**1.23**	**202**	⇑*e*P	**Pn**	**07 21 02.6**	**-0.8**
CUPR	**Culebra, Puert**	**1.23**	**202**		**Pn**	**07 21 02.6**	**-0.8**
CUPR					**Sn**	**07 21 19.3**	**+0.2**
MTP	**Monte Pirata**	**1.53**	**208**	⇑*e*P	**Pn**	**07 21 07.2**	**-0.1**
MTP				*e*S	**Sn**	**07 21 27.0**	**+0.7**
MTP	**Monte Pirata**	**1.53**	**208**		**Sn**	**07 21 27.0**	**+0.7**
MTP	**Monte Pirata**	**1.53**	**208**	Pn	**Pn**	**07 21 07.4**	**0.0**
CBYP	**Canovanas**	**1.55**	**221**	⇓*e*P	**Pn**	**07 21 07.6**	**0.0**
CBYP				*e*S	**Sn**	**07 21 27.2**	**+0.4**
CBYP	**Canovanas**	**1.55**	**221**		**Pn**	**07 21 07.2**	**-0.5**
CBYP	**Canovanas**	**1.55**	**221**		**Sn**	**07 21 27.2**	**+0.4**
HUMP	**Col San Antoni**	**1.65**	**218**	*e*S	**Sn**	**07 21 29.2**	**+0.1**
HUMP	**Col San Antoni**	**1.65**	**218**	⇑*e*P	**Pn**	**07 21 08.5**	**-0.5**
HUMP	**Col San Antoni**	**1.65**	**218**	Pn	**Pn**	**07 21 08.4**	**-0.5**
HUMP	**Col San Antoni**	**1.65**	**218**		**Sn**	**07 21 29.2**	**+0.1**
GCPR	**Guaynabo City**	**1.68**	**227**		**Pn**	**07 21 08.4**	**-0.9**
PDPR	**Patillas Dam,**	**1.85**	**219**	⇑*e*P	**Pn**	**07 21 11.3**	**-0.3**
PDPR	**Patillas Dam,**	**1.85**	**219**	*e*S	**Sn**	**07 21 34.2**	**+0.3**
PDPR	**Patillas Dam,**	**1.85**	**219**	Pn	**Pn**	**07 21 11.0**	**-0.6**
SJG	**San Juan**	**1.86**	**224**	Pn	**Pn**	**07 21 11.1**	**-0.7**
SJG				Sn	**Sn**	**07 21 32.9**	**-1.2**
IGPR	**InterUniversit**	**1.94**	**220**	⇑*e*P	**Pn**	**07 21 12.6**	**-0.2**
IGPR	**InterUniversit**	**1.94**	**220**	*e*S	**Sn**	**07 21 35.4**	**-0.7**
IGPR	**InterUniversit**	**1.94**	**220**		**Pn**	**07 21 12.9**	**+0.1**
AOPR	**Arecibo Observ**	**2.16**	**240**	⇑*e*P	**Pn**	**07 21 16.1**	**+0.2**
AOPR	**Arecibo Observ**	**2.16**	**240**		**Pn**	**07 21 15.4**	**-0.5**
CELP	**Cerrillos**	**2.18**	**231**	⇑*e*P	**Pn**	**07 21 16.2**	**0.0**
CELP				*e*S	**Sn**	**07 21 42.3**	**+0.2**
CELP	**Cerrillos**	**2.18**	**231**		**Pn**	**07 21 16.2**	**0.0**
CELP					**Sn**	**07 21 42.3**	**+0.2**
OBIP	**Obispado Ponce**	**2.22**	**231**	⇑*e*P	**Pn**	**07 21 16.7**	**0.0**
OBIP	**Obispado Ponce**	**2.22**	**231**	*e*S	**Sn**	**07 21 44.2**	**+1.1**
OBIP	**Obispado Ponce**	**2.22**	**231**		**Pn**	**07 21 16.7**	**0.0**
OBIP					**Sn**	**07 21 44.2**	**+1.1**
AGPR	**Aguadilla, PR**	**2.41**	**246**	Pn	**Pn**	**07 21 18.4**	**-0.8**
LSP	**Las Mesas**	**2.52**	**240**	⇑*e*P	**Pn**	**07 21 21.2**	**+0.4**
LSP	**Las Mesas**	**2.52**	**240**	*e*S	**Sn**	**07 21 50.8**	**+0.3**
LSP	**Las Mesas**	**2.52**	**240**		**Pn**	**07 21 21.2**	**+0.4**
LSP					**Sn**	**07 21 50.8**	**+0.3**
MPR	**Mayaguez**	**2.55**	**241**		**Pn**	**07 21 21.8**	**+0.7**
MLPR	**Magueyes Islan**	**2.60**	**236**	⇑*e*P	**Pn**	**07 21 22.6**	**+0.8**
MLPR	**Magueyes Islan**	**2.60**	**236**	*e*S	**Sn**	**07 21 53.4**	**+1.2**
MLPR	**Magueyes Islan**	**2.60**	**236**		**Pn**	**07 21 21.9**	**+0.1**
MLPR	**Magueyes Islan**	**2.60**	**236**		**Sn**	**07 21 53.4**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.63**	**237**	⇑*e*P	**Pn**	**07 21 22.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.63**	**237**	*e*S	**Sn**	**07 21 54.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.63**	**237**		**Pn**	**07 21 22.2**	**-0.1**
CRPR					**Sn**	**07 21 54.1**	**+1.1**
SKI	**Saint Kitts**	**2.87**	**137**	Pn	**Pn**	**07 21 25.2**	**-0.4**
PCDR	**Punta Cana, DR**	**3.53**	**255**	Pn	**Pn**	**07 21 33.1**	**-1.5**
DR12	**Loma Pena Alta**	**4.39**	**262**	Pn	**Pn**	**07 21 45.4**	**-1.0**
SC01	**Santiago de lo**	**5.60**	**271**	Pn	**Pn**	**07 22 02.4**	**-0.6**
SDDR	**Presa de Saban**	**6.16**	**267**		**Pn**	**07 22 11.9**	**+1.3**
SDDR				Sn	**Sn**	**07 23 18.8**	**-1.0**

*NNC **27** 07:25:10.0±1.0, 50°.01N×78°.67E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=16.0km s-min=4.9km az=80.0, Suspected Mining explosion.*
*ASRS **27** 07:25:19.1±0.8, 51°.N±14°×7°.9E±°, h0km, MLh3.3/4, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 27 07:25:11.0±1.0, 50°.12N±0°.06×78°.80E±0°.05, h0km, n10, σ2§23/25, 8C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.54**	**341**	⇑P	**Pg**	**07 25 22.1**	**+0.8**
	25nm,0.3s						
KURBB				⇑S	**Sb**	**07 25 31.1**	**-0.5**
	397nm,0.8s						
KURK	**Kurchatov**	**0.61**	**349**	⇑P	**Pb**	**07 25 23.7**	**-0.9**
	8.8nm,0.3s						
KURK				⇑S	**Sb**	**07 25 33.6**	**-0.1**
	124nm,1.0s						
KURK	**Kurchatov**	**0.61**	**349**	Pg	**Pb**	**07 25 23.7**	**-0.9**
KURK				S	**Sb**	**07 25 32.6**	**-1.1**
UKR	**Ust'-Kan**	**3.90**	**76**	Pn	**Pn**	**07 26 15.1**	**+2.8**
UKR				Pg	**Pg**	**07 26 24.5**	**-1.2**
UKR				Sg	**Sg**	**07 27 13.7**	**-2.5**
MK31	**Makanchi Array**	**4.05**	**144**	⇑Pn	**Pn**	**07 26 14.7**	**+0.4**
	0.9nm,0.4s,baz=323,slow=10,SNR=25						
MK31				⇓Pg	**Pb**	**07 26 22.3**	**-1.0**
	0.5nm,0.2s,baz=325,slow=15,SNR=8.8						
MK31				⇑Lg	Lg	07 27 16.4	
	11nm,0.5s,baz=330,slow=26,SNR=14						
CHBI	**Chibit, Altay**	**5.59**	**85**	Pn	**Pn**	**07 26 36.9**	**+1.4**
CHBI				S	**Sn**	**07 27 43.7**	**+3.3**
CHBI				Sg	**Sg**	**07 28 09.0**	**-1.5**
DGZ	**Jazzator, Alta**	**5.59**	**91**	Pn	**Pn**	**07 26 37.9**	**+2.3**
DGZ				S	**Sn**	**07 27 44.0**	**+3.4**
DGZ				Sg	**Sg**	**07 28 11.1**	**+0.5**
AKAR	**Aktash**	**5.67**	**85**	Pn	**Pn**	**07 26 38.5**	**+1.9**
AKAR				S	**Sn**	**07 27 45.4**	**+3.0**
AKAR				Sg	**Sg**	**07 28 12.2**	**-0.7**
ULGR	**Ulagan, Altay**	**5.88**	**82**	Pn	**Pn**	**07 26 41.9**	**+2.4**
ULGR				S	**Sn**	**07 27 45.4**	**-2.3**
ULGR				Sg	**Sg**	**07 28 14.9**	**-5.0**
BRVK	**Borovoye**	**6.07**	**302**	⇓Pn	**Pn**	**07 26 42.8**	**+0.8**
	3.1nm,1.1s						
BRVK				⇑Sn	**Sn**	**07 27 49.5**	**-2.6**
	3.6nm,0.6s						
BRVK				⇑Lg	Lg	07 28 25.5	
	2.4nm,0.5s						

*BJI **27** 07:25:36.7±0.0, 26°.70N×56°.40E, h6km, mb4.6/27, mB4.9/12, Ms4.0/2, Ms7 3.9/3*
*ISCJB **27** 07:25:40.9±0.2, 26°.79N±0°.02×56°.85E±0°.02, h10km, mb4.6/75, MS3.3/18, Error ellipse: s-maj=3.3km s-min=2.3km az=156.5*
*THR **27** 07:25:40.5, 26°.79N×56°.86E, h8km, ML4.5*
*IDC **27** 07:25:40.3±0.6, 26°.75N×56°.90E, h0km, mb4.2/27, mb1 4.4/31, mb1mx4.3/48, mbtmp4.3/31, ML4.5/4, MS3.4/21, Ms1 3.4/21, ms1mx3.2/47, Error ellipse: s-maj=15.1km s-min=12.2km az=10.0*
*MOS **27** 07:25:41.0±1.0, 26°.69N×56°.88E, h16km, mb4.9/25, Error ellipse: s-maj=7.8km s-min=4.7km az=114.2*
*NEIC **27** 07:25:42.5±1.7, 26°.86N±0°.06×56°.94E±0°.09, h11km±2km, mb4.5/47*
*TEH **27** 07:25:43.3, 26°.74N×57°.02E, h10km, ML4.6*
*DSN **27** 07:25:44.6±1.2, 26°.65N×57°.04E, h10km, ML4.4/10, Error ellipse: s-maj=21.7km s-min=5.9km az=149.0*
*OMAN **27** 07:25:50.6±0.7, 26°.62N×56°.88E, h37km±67km, ml4.1/18, ms2.6/3, Error ellipse: s-maj=15.2km s-min=8.9km az=33.0*
ISC 27 07:25:42.3±0.3, 26°.81N±0°.03×56°.90E±0°.03, h10km, n331, σ1§36/331, mb4.6/84, MS3.4/18, 21C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.75**	**355**	*e*Pg	**Pn**	**07 26 00.7**	**+1.8**
NIAN				IAMB	IAmb	07 26 16.2	
	comp=Z,0.0nm,0.5s						
BNDS	**Bandar-Abbas**	**0.88**	**312**	*e*Sg	**Sg**	**07 26 09.6**	**-1.1**
BNDS				*e*Pg	**Pg**	**07 25 57.4**	**-1.8**
GENO	**Geno**	**0.88**	**312**	IAMB	IAmb	07 26 17.2	
	comp=Z,0.0nm,0.3s						
GENO				*e*Pg	**Pn**	**07 26 02.7**	**+1.9**
SHME	**Shamm**	**1.02**	**222**	*e*P	**Pn**	**07 26 03.9**	**+1.3**
	SNR=59						
SHME				S	**Sn**	**07 26 17.6**	**+0.5**
SHME	**Shamm**	**1.02**	**222**	*e*Pg	**Pn**	**07 26 04.0**	**+1.3**
BANOM	**Banah**	**1.04**	**212**	*e*P	**Pn**	**07 26 03.5**	**+0.6**
	SNR=186						
BANOM				S	**Sn**	**07 26 18.1**	**+0.6**
BANOM	**Banah**	**1.04**	**212**	P	**Pn**	**07 26 03.6**	**+0.6**
	SNR=61						
BANOM				S	**Sn**	**07 26 18.4**	**+0.9**
KHNJ	**Kahnooj**	**1.34**	**32**	*e*Pg	**Pg**	**07 26 08.3**	**+0.3**
JSK1	**Jask**	**1.41**	**146**	*e*Pg	**Pg**	**07 26 09.0**	**-0.3**
MSFE	**Esma-Masafi**	**1.59**	**205**	*e*P	**Pb**

comp=Z,127nm,0.3s,baz=149,slow=11,SNR=17
WSAR LR LR 07 28 39.2
comp=Z,487nm,21.6s,baz=3.5,slow=47
BSY Bisya 4.06 176 P **Pn 07 26 48.1 +3.6**
BSY S **Sn 07 27 34.5 +2.4**
SZD1 Zahaedan-tmp 4.40 52 *e*Pn **Pn 07 26 51.7 +2.4**
ZHSF Zahedan 4.41 50 *e*Pn **Pn 07 26 51.0 +1.5**
ZHSF Zahedan 4.41 50 *e*Pn **Pn 07 26 51.0 +1.5**
JMDO Jabal Madar 4.55 166 P **Pn 07 26 52.6 +1.3**
SNR=31
JMDO S **Sn 07 27 44.3 -0.1**
WBK Wadi Bani Khal 4.59 155 P **Pn 07 26 52.0 +0.2**
SNR=177
WBK S **Sn 07 27 42.4 -2.7**
WBK S **Sn 07 27 43.0 -2.2**
SNR=8.7
SHI Shiraz 4.79 307 *e*Pn **Pn 07 26 55.6 +0.9**
IBAF Bafgh 4.90 347 *e*Pn **Pn 07 26 57.9 +1.7**
IMEH Mehriz 4.98 337 *e*Pn **Pn 07 26 59.3 +1.9**
NHDN Nehbandan 5.33 30 *e*Pn **Pn 07 27 05.5 +3.4**
IKAZ Kazeroun 5.35 305 *e*Pn **Pn 07 27 02.0 -0.6**
BSRN Basiran 5.49 20 *e*Pn **Pn 07 27 04.9 +0.6**
BSRN Basiran 5.49 20 *e*Pn **Pn 07 27 04.9 +0.6**
ISAD Sadrabad 5.81 332 *e*Pn **Pn 07 27 10.9 +2.1**
ICHK Chekchek 5.83 339 *e*Pn **Pn 07 27 11.5 +2.4**
IKOO Kooshah 5.88 18 *e*Pn **Pn 07 27 13.7 +3.9**
YZKH Yazd 5.91 341 *e*Pn **Pn 07 27 11.7 +1.7**
YZKH Yazd 5.91 341 *e*Pn **Pn 07 27 11.7 +1.7**
TPRV Parvadeh(Tabas 6.20 358 *e*Pn **Pn 07 27 16.3 +2.3**
KLNJ Kolanjah 6.26 313 *e*Pn **Pn 07 27 15.4 +0.4**
ITEG Tejag 6.27 14 *e*Pn **Pn 07 27 18.5 +3.4**
IRAM Ramesheh 6.35 323 *e*Pn **Pn 07 27 17.6 +1.4**
IDAH Dahanechah 6.45 23 *e*Pn Pn 07 27 23.0 +5.5
TABS Tabas 6.82 2 *e*Pn **Pn 07 27 22.9 +0.4**
TABS Tabas 6.82 2 *e*Pn **Pn 07 27 22.9 +0.4**
AFRZ Afriz 6.84 15 *e*Pn **Pn 07 27 26.7 +3.9**
DQM DQM 6.88 175 P **Pn 07 27 23.1 -0.1**
ANAR Anarak 6.93 337 *e*Pn **Pn 07 27 25.5 +1.5**
IGAR Gharneh 7.00 324 *e*Pn **Pn 07 27 26.4 +1.4**
TNSJ Nastanj 7.13 358 *e*Pn **Pn 07 27 30.2 +3.4**
IZEF Zefreh 7.25 328 *e*Pn **Pn 07 27 29.4 +0.9**
ROKH ROKH 7.52 319 *e*Pn **Pn 07 27 33.1 +0.9**
JHBN Jahan bin 7.66 316 *e*Pn **Pn 07 27 35.2 +1.0**
IPIR Pirpir 7.84 320 *e*Pn **Pn 07 27 38.0 +1.3**
IKLH Kolahrood 7.96 326 *e*Pn **Pn 07 27 39.5 +1.2**
KRSH Karshahi 8.23 331 *e*Pn **Pn 07 27 44.3 +2.3**
QAM Ghamsar 8.38 327 *e*Pn **Pn 07 27 45.3 +1.3**
ISFB Sefidab 8.52 333 *e*Pn **Pn 07 27 47.3 +1.5**
SHGR Shooshtar-Gavs 8.81 309 *e*Pn **Pn 07 27 50.3 +0.5**
SHGR Shooshtar-Gavs 8.81 309 *e*Pn **Pn 07 27 50.3 +0.5**
SHAO Shalim 8.83 188 P **Pn 07 27 48.7 -1.3**
SNR=8.4
HRA Herat 8.84 30 Pn **Pn 07 27 47.3 -3.0**
IANJ Anjilo 9.00 344 *e*Pn **Pn 07 27 55.7 +3.2**
KHMZ Khomeyn 9.15 321 *e*Pn **Pn 07 27 55.7 +1.1**
KHMZ Khomeyn 9.15 321 *e*Pn **Pn 07 27 55.6 +1.1**
DMTO DMTO 9.23 192 P **Pn 07 27 54.5 -1.0**
WHFO Wadi Hawf 9.31 199 P **Pn 07 27 56.1 -0.6**
SNR=16
ISHM Shahmirzad 9.48 342 *e*Pn **Pn 07 28 02.9 +3.7**
RBK Rabkut 9.59 196 P **Pn 07 28 00.9 +0.4**
ASAO Ashtian 9.72 324 *e*Pn **Pn 07 28 03.2 +0.8**
ASAO Ashtian 9.72 324 *e*Pn **Pn 07 28 03.2 +0.8**
BMDN Meydan 9.77 316 *e*Pn **Pn 07 28 02.8 -0.3**
IHSB Hasanabad 9.86 332 *e*Pn **Pn 07 28 06.6 +2.5**
BDRS Dareh Seyedi 9.93 318 *e*Pn **Pn 07 28 04.7 -0.6**
IKMR Kamar-syah 9.95 314 *e*Pn **Pn 07 28 04.8 -0.5**
ABTO Aybut 9.99 200 P **Pn 07 28 04.8 -1.1**
IGLO Ghalloghah 10.01 346 *e*Pn **Pn 07 28 09.3 +3.0**
IPRN Peran 10.17 339 *e*Pn **Pn 07 28 11.8 +3.3**
IDOB Doab 10.25 315 *e*Pn **Pn 07 28 09.4 -0.3**
ISFR Sfrayin 10.26 5 *e*Pn **Pn 07 28 13.4 +3.6**
HAGD Aghdareh 10.40 322 *e*Pn **Pn 07 28 11.3 -0.5**
QABG Abgarm-Qazvin 10.85 327 *e*Pn **Pn 07 28 19.4 +1.5**
IBZA Bozab 10.90 317 *e*Pn **Pn 07 28 18.2 -0.4**
IKOM Komasi 10.93 314 *e*Pn **Pn 07 28 18.1 -0.8**
GEYT Alibeck 11.13 5 LR LR 07 33 40.0
comp=Z,142nm,20.0s,baz=225,slow=43
GEYT Alibeck 11.13 5 **Pn 07 28 21.6 +0.1**
HSRG Sareghieh 11.19 321 *e*Pn **Pn 07 28 22.1 -0.5**
KCHF Cheshme Sefid, 11.29 314 *e*Pn **Pn 07 28 23.1 -0.8**
IGHG Ghaleghazi 11.63 313 *e*Pn **Pn 07 28 27.6 -1.0**
IDHR Dehrash 11.98 314 *e*Pn **Pn 07 28 31.7 -1.6**
NIL Nilore 15.68 60 P **Pn 07 29 23.1 -0.3**
NIL pmax pmax
comp=Z,18nm,0.9s
NIL Nilore 15.68 60 **Pn 07 29 23.1 -0.3**
NIL IAmb IAmb 07 29 40.1
comp=Z,18nm,0.8s
GAR Garm 16.55 39 Pn **Pn 07 29 34.0 -0.6**
GNI Garni 16.70 326 *ce*P **P 07 29 40.9 +2.0**
GNI pmax pmax
comp=Z,134nm,1.3s
GNI Garni 16.70 326 LR LR 07 37 37.4
comp=Z,112nm,20.8s,baz=130,slow=43
GNBR Gunib 17.54 335⇓ *e*P **P 07 29 50.7 +2.7**
GNBR pmax pmax
comp=Z,25nm,0.6s
BTK Batken 17.56 38 P **Pn 07 29 47.0 -0.2**
BTK pmax pmax
comp=Z,10.0nm,1.1s
BTK Batken 17.56 38 P **Pn 07 29 47.0 -0.2**
TBLG Delisi 17.93 329 P **Pn 07 29 51.3 -0.4**
TBLG pmax pmax
comp=Z,21nm,1.0s
TBLG Delisi 17.93 329 **Pn 07 29 51.4 -0.4**
TBLG IAmb IAmb 07 29 55.7
comp=Z,21nm,1.0s
ASF Jabal al Asfar 18.21 292 P **Pn 07 29 53.3 -2.0**
comp=Z,0.9nm,0.3s,baz=45,slow=5.3,SNR=4.9
AKH Akhalkalaki 18.28 326 P **P 07 29 57.0 +0.7**
AKH pmax pmax
comp=Z,14nm,0.7s
AKH Akhalkalaki 18.28 326 ⇑P **P 07 30 00.6 +4.3**
AKH Akhalkalaki 18.28 326 **P 07 29 57.0 +0.7**
AKH IAmb IAmb 07 30 01.3
comp=Z,14nm,0.7s
ZEI Tsey 19.15 330 *e*P **Pn 07 30 07.1 +0.4**
ZEI pmax pmax
comp=Z,15nm,0.6s
BCA Borcka 19.27 323 ⇑P **Pn 07 30 08.9 +0.8**
MALT Malatya 19.30 311 P **Pn 07 30 09.5 +1.0**
EIL Elat 19.55 283 P **P 07 30 10.6 +0.4**
comp=Z,0.6nm,0.3s,baz=328,slow=2.0,SNR=8.2
EIL LR LR 07 39 39.9
comp=Z,198nm,20.1s,baz=90,slow=43
GAZ Gaziantep 19.60 307 P **P 07 30 11.5 +0.7**
GAZ IAmb IAmb 07 30 15.3
comp=Z,33nm,1.2s
MMAI Mount Meron Ar 19.62 294 P **Pn 07 30 12.4 0.0**
comp=Z,2.8nm,0.3s,baz=102,slow=14,SNR=4.7
MMAI LR LR 07 39 59.6
comp=Z,178nm,18.8s,baz=110,slow=44
ARSB Arslanbob 19.62 38 P **P 07 30 11.7 +0.6**
KKAR Karatay Array 19.67 31 P **P 07 30 12.1 +0.7**
KKAR Karatay Array 19.67 31 P **P 07 30 12.1 +0.7**
NCK Nalchik 19.84 330⇑ *e*P **Pn 07 30 16.8 +1.9**
NCK pmax pmax
comp=Z,26nm,0.9s
NEY Neytrino 20.05 329⇓ *e*P Pn 07 30 17.6 +0.2
NEY pmax pmax
comp=Z,5.0nm,0.8s
ATD Arta Tunnel 20.15 224 LR LR 07 39 13.4
comp=Z,73nm,18.8s,baz=66,slow=40
KSH Kashi 20.33 47 P **P 07 30 16.5 -2.3**
KSH sP sP 07 30 24.0 +1.1
KSH PP **PnPn 07 30 34.5 -1.1**
KSH S S 07 33 52.5 -14
KSH pmax pmax
comp=Z,24nm,1.0s
KSH pmax pmax
comp=Z,320nm,5.8s
KSH LR LR
comp=Z,240nm,11.5s
KSH LR LR
comp=Z,98nm,10.4s
KSH LR LR
comp=Z,150nm,8.4s
KBZ Khabaz 20.34 330 *de*P Pn 07 30 22.0 +1.4
KBZ Khabaz 20.34 330 P Pn 07 30 19.9 -0.7
comp=Z,8.5nm,1.0s,baz=135,slow=10.0,SNR=4.5
SHA1 Shidzhatmaz 20.45 329 *c i*P Pn 07 30 22.1 -0.2
KVAR Kislovodsk Arr 20.61 330 P **P 07 30 22.3 +0.6**
comp=Z,4.3nm,0.4s,baz=90,slow=20,SNR=5.4
KIV Kislovodsk 20.61 330 *e*P Pn 07 30 23.3 -0.7
KIV pmax pmax
comp=Z,118nm,1.0s
KIV MLR MLR
comp=Z,93nm,14.0s
KIV Kislovodsk 20.61 330 P Pn 07 30 23.6 -0.4
GOF Gofitskoye 21.33 332⇑ *e*P **P 07 30 29.2 -0.2**
GOF pmax pmax
comp=Z,45nm,0.6s
AAK Ala-Archa 21.34 38⇑ *i*P **P 07 30 31.1 +1.4**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 21.34 38 P **P 07 30 30.4 +0.7**
comp=Z,4.4nm,0.7s,baz=201,slow=6.8,SNR=6.4
AAK LR LR 07 40 41.5
comp=Z,37nm,18.2s,baz=230,slow=42
AAK Ala-Archa 21.34 38 P **P 07 30 30.2 +0.5**
NRN Naryn 21.44 42 P **P 07 30 30.9 -0.1**
NRN pmax pmax
comp=Z,8.0nm,1.0s
NRN Naryn 21.44 42 P **P 07 30 30.9 -0.1**
SOC Sochi 21.77 325 *e*P **P 07 30 34.1 0.0**
SOC *e*PPP PPP 07 31 09.7
SOC *e*S Sn 07 34 40.8 -3.5
SOC *e*SSS SSS 07 35 21.9
SOC pmax pmax
comp=Z,16nm,0.5s
ABKAR Akbulak array 22.53 5 P **P 07 30 42.4 +0.1**
ABKAR Akbulak array 22.53 5 P **P 07 30 42.8 +0.5**
ABKAR IAmb IAmb 07 30 56.4
comp=Z,8.1nm,0.8s
BR131 Keskin Array S 23.25 309 P **P 07 30 50.4 +0.4**
BR131 pmax pmax
comp=Z,15nm,1.0s
BR131 Keskin Array S 23.25 309 P **P 07 30 50.4 +0.4**
BR131 IAmb IAmb 07 30 52.8
comp=Z,15nm,0.9s
BRTR Keskin Array B 23.25 309 P **P 07 30 49.9 -0.1**
comp=Z,9.3nm,0.8s,baz=131,slow=12,SNR=32
BRTR LR LR 07 41 34.2
comp=Z,152nm,18.5s,baz=100,slow=41
BRTR Keskin Array B 23.25 309 P **P 07 30 49.7 -0.3**
AKTO Aktyubinsk 23.61 2 P **P 07 30 53.6 +0.3**
comp=Z,9.2nm,0.6s,baz=179,slow=10,SNR=37
AKTO LR LR 07 42 00.7
comp=Z,92nm,20.4s,baz=172,slow=41
ELL Elmali 24.92 300 P **P 07 31 05.4 -0.3**
ELL pmax pmax
comp=Z,92nm,0.9s
ELL Elmali 24.92 300 P **P 07 31 05.4 -0.3**
VRH Novokhopyorsk 26.95 339 *e*P **P 07 31 24.1 +0.3**
VRH pmax pmax
comp=Z,40nm,0.6s
VORD Divnogorie 27.60 336 *e*P **P 07 31 31.3 +1.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 27.85 336⇑ *i*P **P 07 31 35.2 +3.4**
VSR pmax pmax
comp=Z,17nm,1.2s
BVAR Borovoye Array 28.05 17 P **P 07 31 34.2 +0.6**
comp=Z,1.3nm,0.4s,baz=198,slow=7.5,SNR=7.3
BVAR PcP **PcP 07 34 47.6 -0.5**
comp=Z,0.6nm,0.4s,baz=195,slow=4.6,SNR=3.9
BRVK Borovoye 28.06 17⇑ *e*P **P 07 31 34.8 +1.1**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 28.06 17 P **P 07 31 33.0 -0.6**
BRVK IAmb IAmb 07 31 44.1
comp=Z,6.6nm,0.8s
MKAR Makanchi Array 28.27 38 *ce*P **P 07 31 37.5 +1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 28.27 38 P **P 07 31 36.8 +1.1**
comp=Z,1.5nm,0.7s,baz=232,slow=7.7,SNR=10
MKAR PcP **PcP 07 34 47.9 -0.9**
comp=Z,0.3nm,0.5s,baz=237,slow=1.8,SNR=3.5
MKAR Makanchi Array 28.27 38 P **P 07 31 36.2 +0.5**
KURBB Kurchatov Arra 28.95 29 P **P 07 31 42.0 +0.3**
comp=Z,1.7nm,0.6s,baz=227,slow=9.0,SNR=7.9
KURK Kurchatov 29.06 29⇑ *e*P **P 07 31 43.8 +1.2**
KURK pmax pmax
comp=Z,12nm,2.5s
KURK Kurchatov 29.06 29 P **P 07 31 42.0 -0.6**
LPSR Galich'ya Gora 29.07 337 *e*P **P 07 31 45.8 +3.1**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 29.62 2 LR LR 07 45 28.5
comp=Z,49nm,19.2s,baz=182,slow=40
PALK Pallekele 29.82 126 LR LR 07 42 35.5
comp=Z,74nm,20.8s,baz=296,slow=34
WMQ Urumqi 30.09 48 *e*P **P 07 31 54.0 +2.0**
WMQ sP sP 07 32 01.3 +5.0
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.7s
MLR Muntele Rosu 30.91 315 P **P 07 31 59.0 -0.2**
MLR pmax pmax
comp=Z,13nm,1.1s
MLR Muntele Rosu 30.91 315 P **P 07 32 00.1 +0.8**
comp=Z,3.0nm,0.5s,baz=68,slow=9.5,SNR=4.8
MLR Muntele Rosu 30.91 315⇓P **P 07 32 00.8 +1.5**
MLR Muntele Rosu 30.91 315 P **P 07 31 59.0 -0.2**
MLR IAmb IAmb 07 32 02.8
comp=Z,13nm,1.1s
ITM Ithomi 31.26 298 P **P 07 32 01.2 -1.0**
AGG Agios Georgios 31.29 302 P **P 07 32 02.1 -0.4**
AGG pmax pmax
comp=Z,13nm,1.1s
AGG Agios Georgios 31.29 302 P **P 07 32 02.1 -0.4**
AGG IAmb IAmb 07 32 14.3
comp=Z,13nm,1.1s
VOIR 31.45 315⇓P **P 07 32 05.9 +2.0**
DOPR Dopca 31.47 316⇑P **P 07 32 04.9 +0.8**
AKASG Malin Array Be 31.84 326 *i* P **P 07 32 07.0 -0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 31.84 326 P **P 07 32 06.9 -0.2**
comp=Z,14nm,0.7s,baz=133,slow=8.2,SNR=28
AKASG LR LR 07 47 44.0
comp=Z,60nm,22.0s,baz=340,slow=42
AKASG Malin Array Be 31.84 326 P **P 07 32 06.9 -0.2**
AKBB Malin Array Si 31.84 326 P **P 07 32 07.1 -0.1**
AKBB pmax pmax
comp=Z,34nm,0.9s
AKBB Malin Array Si 31.84 326 P **P 07 32 07.1 -0.1**
OBN Obninsk 31.93 338 *c i*P **P 07 32 09.1 +1.2**
OBN *e* 07 32 16.7
OBN pmax pmax
comp=Z,54nm,1.7s
BURAR Bucovina Array 32.34 318⇑P **P 07 32 12.1 +0.3**
BURAR Bucovina Array 32.34 318 P **P 07 32 12.3 +0.5**
FNA Florina 32.41 305 P **P 07 32 13.0 +0.6**
FNA pmax pmax
comp=Z,14nm,0.9s
FNA Florina 32.41 305 P **P 07 32 13.0 +0.6**
DGZ Jazzator, Alta 32.75 38⇓ *e*P **P 07 32 16.4 +1.0**
GZR Gura Zlata 32.90 313⇑P **P 07 32 17.3 +0.7**
MDVR Moldovita 33.37 312⇑P **P 07 32 21.7 +0.9**
DRGR 33.50 316⇑P **P 07 32 22.6 +0.7**
SIRR Siria 33.95 314⇑P **P 07 32 27.5 +1.7**
ZAA0 Zalesovo Array 34.04 30 P **P 07 32 26.7 +0.3**
ZAA0 IAmb IAmb 07 32 27.8
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 34.04 30 P **P 07 32 26.1 -0.2**
comp=Z,3.3nm,0.4s,baz=231,slow=9.4,SNR=17
ZALV PcP **PcP 07 35 02.8 -1.1**
comp=Z,1.0nm,0.5s,baz=234,slow=4.4,SNR=3.3
ZALV LR LR 07 49 33.4
comp=Z,8.4nm,20.5s,baz=234,slow=42
UZH Uzhgorod 34.55 318 *e*P **P 07 32 26.7 -4.1**
UZH *e* 07 32 32.3
KOLS Kolonicke sedl 34.69 319 *e*P **P 07 32 33.6 +1.5**
KOLS pmax pmax
comp=Z,13nm,1.0s
KOLS Kolonicke sedl 34.69 319 *e*P **P 07 32 33.6 +1.5**
KECS Kecovo 35.57 317 *e*P **P 07 32 41.1 +1.4**
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 35.57 317 *e*P **P 07 32 41.1 +1.4**
TIP Timpagrande 35.58 301 P **P 07 32 41.0 +0.9**
TIP IAmb IAmb 07 32 56.1
comp=Z,14nm,1.1s
PSZ Piszkesteto 35.70 316⇑P **P 07 32 41.7 +0.7**
PSZ mb 07 32 43.9
LANS Liptovska Anna 36.45 318 *e*P **P 07 32 48.4 +1.1**
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 36.45 318 *e*P **P 07 32 48.4 +1.1**
VYHS Vyhne 36.58 317 *e*P **P 07 32 49.0 +0.6**
VYHS Vyhne 36.58 317 *e*P **P 07 32 49.0 +0.6**
OJC Ojcow 36.71 320 P **P 07 32 48.9 -0.5**
OJC pmax pmax
comp=Z,9.0nm,0.6s
OJC Ojcow 36.71 320 *e*P **P 07 32 50.1 +0.7**
OJC *e*P **P 07 32 50.1 +0.7**
OJC Ojcow 36.71 320 P **P 07 32 48.9 -0.5**
SUW Suwalki 36.78 327 *e*P **P 07 32 49.8 -0.2**
SUW Suwalki 36.78 327 *e*P **P 07 32 49.8 -0.2**
SUW *e*P **P 07 32 49.8 -0.2**
GTA Gaotai 37.74 60 *e*P **P 07 32 59.8 +1.3**
GTA pP sP 07 33 04.8 +1.9
GTA sP pP 07 33 07.0 +5.4
GTA pmax pmax
comp=Z,4.0nm,0.8s
KRLC Kraliky 38.42 318 *e*P **P 07 33 04.1 +0.1**
KRLC Kraliky 38.42 318 *e*P **P 07 33 04.1 +0.1**
CHVC Chvalec 39.05 319 *e*P **P 07 33 09.8 +0.6**
MOA Molln 39.24 314 *e*P **P 07 33 11.2 +0.3**
comp=Z,5.7nm,0.7s
CMAR Chiang Mai Arr 39.54 93 P **P 07 33 13.6 -0.1**
comp=Z,0.9nm,0.3s,baz=307,slow=8.9,SNR=2.4
CMAR LR LR 07 54 14.3
comp=Z,22nm,18.1s,baz=255,slow=43
GERES GERESS Array B 39.90 315 P **P 07 33 16.1 -0.3**
GERES GERESS Array B 39.90 315 P **P 07 33 15.5 -0.9**
comp=Z,1.7nm,0.6s,baz=109,slow=7.7,SNR=12
GERES LR LR 07 51 21.5
comp=Z,57nm,18.7s,baz=110,slow=39
GERES GERESS Array B 39.90 315 P **P 07 33 16.1 -0.3**
KHC Kasperske Hory 40.06 316 *e*P **P 07 33 17.7 0.0**
KHC *e* 07 33 25.0
KHC Kasperske Hory 40.06 316 *e*P **P 07 33 17.7 0.0**
KHC *ex* x 07 33 25.0
ABTA Abfaltersbach 40.10 312 *e*P **P 07 33 18.3 +0.2**
comp=Z,14nm,1.5s
FIA1 FINESS Array S 40.34 338 P **P 07 33 20.0 +0.2**
FINES FINESS Array B 40.34 338 P **P 07 33 19.8 +0.1**
FINES FINESS Array B 40.34 338 P **P 07 33 19.6 -0.1**
comp=Z,4.8nm,0.5s,baz=141,slow=9.4,SNR=22
FINES FINESS Array B 40.34 338 P **P 07 33 19.8 +0.1**
BRG Berggiesshubel 40.40 318 *e*P **P 07 33 20.4 0.0**
comp=Z,12nm,1.5s
BRG Berggiesshubel 40.40 318 *e*P **P 07 33 20.4 0.0**
BRG pmax pmax
comp=Z,12nm,1.5s
LZH Lanzhou 40.77 65 *e*P **P 07 33 24.0 +0.1**
LZH pP pP 07 33 27.0 0.0
LZH sP sP 07 33 29.8 +1.6
LZH PP **PnPn 07 35 02.0 +0.1**
LZH pmax pmax
comp=Z,18nm,1.1s
WTTA Wattenberg 40.81 312 *e*P **P 07 33 23.9 -0.2**
comp=Z,9.0nm,0.5s
WATA Walderalm 40.86 312 *e*P **P 07 33 24.0 -0.5**
comp=Z,15nm,0.9s
CD2 Chengdu 41.01 73 P **P 07 33 25.5 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 41.08 82 P **P 07 33 26.0 -0.6**
KMI pP sP 07 33 31.5 +0.5
KMI pmax pmax
comp=Z,11nm,1.0s
SQTA Sankt Quirin 41.08 312 *e*P **P 07 33 25.8 -0.4**
comp=Z,9.0nm,0.5s
CLL Collm 41.11 319 *e*P **P 07 33 27.0 +0.8**
CLL pmax pmax
comp=Z,14nm,1.5s
CLL Collm 41.11 319 *e*P **P 07 33 27.0 +0.8**
comp=Z,14nm,1.5s
MOTA Moosalm 41.18 312 *e*P **P 07 33 26.7 -0.4**
comp=Z,9.3nm,0.7s
FETA Feichten 41.35 312 *e*P **P 07 33 28.5 -0.1**
comp=Z,24nm,1.1s
DAVA Damuels 41.98 312 *e*P **P 07 33 33.1 -0.5**
comp=Z,16nm,0.5s
PBKT Sadao Pong 42.02 95 P **P 07 33 34.7 +0.6**
PBKT IAmb IAmb 07 33 36.0
comp=Z,8.5nm,0.7s
SENIN Lac Senin/Sane 43.55 310 P **P 07 33 45.3 -1.2**
SENIN IAmb IAmb 07 33 47.0
comp=Z,7.6nm,1.1s
SONM Songino Array 43.73 48 P **P 07 33 48.3 +0.5**
comp=Z,1.0nm,0.6s,baz=264,slow=9.2,SNR=7.2
SONM LR LR 07 53 36.1
comp=Z,59nm,20.1s,baz=187,slow=38
SONM Songino Array 43.73 48 IAmb IAmb 07 33 50.9
comp=Z,0.9nm,0.8s
ECH Echery 43.96 313 IAmb IAmb 07 33 49.6
comp=Z,13nm,1.1s
ULN Ulaanbaatar 44.17 48⇑ *i*P **P 07 33 52.8 +1.4**
ULN pmax pmax
comp=Z,2.0nm,1.1s
XAN Xi'an 45.03 68 P **P 07 33 58.0 -0.4**
XAN pP sP 07 34 09.0 +6.3
XAN pmax pmax
comp=Z,7.0nm,1.0s
MEM Membach 45.17 316 P **P 07 33 59.8 +0.6**
NC602 NORSAR Array S 45.63 331 P **P 07 34 02.6 0.0**
NC405 NORSAR Array S 45.73 331 P **P 07 34 03.2 -0.2**
BMRD Maredsous 45.89 315 P **P 07 34 05.7 +0.9**
NB2 NORSAR Subarra 45.91 331 P **P 07 34 04.2 -0.7**
comp=Z,2.2nm,0.6s,baz=115,slow=7.9
NOA NORSAR Array B 45.91 331 P **P 07 34 04.2 -0.7**
comp=Z,3.8nm,0.7s,baz=132,slow=7.7,SNR=9.9
NOA LR LR 07 56 32.5
comp=Z,45nm,18.0s,baz=120,slow=40
DOU Dourbes 45.96 315 P **P 07 34 05.6 +0.2**
NAO01 NORSAR Array S 45.97 331 P **P 07 34 03.3 -2.0**
NRIK Noril'sk 46.19 15 LR LR 07 57 30.1
comp=Z,58nm,19.4s,baz=202,slow=41
SSF Saint Saulge 46.23 311 *e*P **P 07 34 06.7 -0.9**
KEV Kevo 46.35 346 P **P 07 34 08.9 +0.8**
KEV pmax pmax
comp=Z,8.0nm,1.0s
KEV Kevo 46.35 346 P **P 07 34 08.9 +0.8**
KEV IAmb IAmb 07 34 23.5
comp=Z,8.4nm,1.0s
ARCES ARCESS Array B 46.51 345 P **P 07 34 09.3 -0.1**
comp=Z,1.8nm,0.7s,baz=140,slow=8.0,SNR=15
ARE0 ARCESS Array S 46.51 345 P **P 07 34 09.8 +0.4**
TAM Tamanrasset 46.56 277 P **P 07 34 10.3 -0.4**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 46.56 277 P **P 07 34 10.3 -0.4**
TAM IAmb IAmb 07 34 12.0
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 46.81 58 *e*P **P 07 34 13.0 +0.7**
HHC pmax pmax
comp=Z,7.0nm,0.7s
CAF Calviac 47.05 307 *e*P **P 07 34 13.4 -0.7**
CAF pmax pmax
comp=Z,171nm,2.6s
LFF La Frestale 47.99 307 *e*P **P 07 34 20.8 -0.5**
LFF pmax pmax
comp=Z,6.0nm,0.5s
MFF Saint Martin d 48.69 310 *e*P **P 07 34 26.9 +0.2**
MFF pmax pmax
comp=Z,67nm,2.0s
ESDC Sonseca Array 51.60 301 P **P 07 34 48.4 -0.6**
comp=Z,3.1nm,0.5s,baz=74,slow=7.0,SNR=17
ESDC Sonseca Array 51.60 301 P **P 07 34 48.7 -0.3**
PAB San Pablo 51.91 301 P **P 07 34 50.3 -1.1**
PAB pmax pmax
comp=Z,13nm,1.0s
PAB San Pablo 51.91 301 P **P 07 34 50.3 -1.1**
DSB Dublin 53.12 318 P **P 07 35 00.3 +0.3**
DSB IAmb IAmb 07 35 02.1
comp=Z,6.8nm,0.8s
TOA0 Torodi Ar. Sit 53.26 267 P **P 07 35 00.7 -0.9**
TOA0 IAmb IAmb 07 35 01.4
comp=Z,6.3nm,0.6s
TORD Torodi Ar. Bea 53.26 267 P **P 07 35 00.6 -0.9**
comp=Z,5.4nm,0.5s,baz=65,slow=7.6,SNR=66
TORD LR LR 07 59 45.0
comp=Z,56nm,19.6s,baz=20,slow=38
TORD Torodi Ar. Bea 53.26 267 P **P 07 34 59.0 -2.5**
PBRG Braganca 53.52 304 *e*P **P 07 35 03.1 0.0**
NJ2 Nanjing 53.57 69 *e*P **P 07 35 04.0 +0.4**

NJ2 pmax pmax
comp=Z,12nm,0.5s
MVO Moncorvo 53.79 303 *eP* **P 07 35 05.4 +0.2**
comp=Z,38nm,1.6s
MTE Manteigas 54.26 302 *eP* **P 07 35 09.9 +1.2**
PCBR Castelo Branco 54.28 301 *eP* **P 07 35 09.5 +0.8**
comp=Z,33nm,1.6s
PVRL Vila Real 54.30 303 *eP* **P 07 35 09.2 +0.3**
comp=Z,36nm,1.6s
PVIS Viseu 54.49 302 *eP* **P 07 35 11.0 +0.7**
EVO Evora 54.87 300 *eP* **P 07 35 12.6 -0.4**
PCVE Castro Verde 55.02 299 *eP* **P 07 35 13.6 -0.5**
comp=Z,55nm,1.7s
PTOM Tomar 55.02 301 *eP* **P 07 35 14.7 +0.6**
comp=Z,55nm,1.4s
KSRS Korea Array 59.80 61 P **P 07 35 47.2 -0.6**
comp=Z,1.6nm,0.4s,baz=275,slow=7.3,SNR=6.4
DBIC Dimbokro 61.85 263 P **P 07 36 01.0 -1.0**
DBIC pmax pmax
comp=Z,9.0nm,1.2s
DBIC Dimbokro 61.85 263 P **P 07 36 02.6 +0.6**
comp=Z,4.6nm,1.0s,baz=14,slow=5.9,SNR=4.7
DBIC LR LR 08 04 24.3
comp=Z,43nm,18.1s,baz=45,slow=38
DBIC Dimbokro 61.85 263 P **P 07 36 01.0 -1.0**
BOSA Boshof 62.92 211 P **P 07 36 09.0 -0.1**
comp=Z,1.1nm,0.6s,baz=16,slow=3.1,SNR=2.9
BOSA Boshof 62.92 211 IAmb IAmb 07 36 22.6
comp=Z,1.6nm,0.8s
SEY Seymchan 68.91 29 *eP* **P 07 36 46.8 -0.2**
JHJ Hachijo jima 2 70.31 62 LR LR 08 10 57.1
comp=Z,52nm,20.6s,baz=78,slow=39
ILULI Ilulissat 71.31 339 P **P 07 36 58.6 -3.0**
ILULI pmax pmax
comp=Z,22nm,0.7s
ILULI Ilulissat 71.31 339 P **P 07 36 58.6 -3.0**
TULEG Thule 71.71 348 P **P 07 37 04.3 +0.4**
BILL Bilibino 72.29 22 *eP* **P 07 37 09.1 +1.5**
BILL pmax pmax
comp=Z,6.0nm,1.2s
FITZ Fitzroy Crossi 80.23 116 P **P 07 37 52.8 -0.7**
FITZ IAmb IAmb 07 37 55.7
comp=Z,2.6nm,0.9s
IMAR Indian Mountai 84.57 12 P **P 07 38 15.2 -0.3**
BMAR Burnt Mountain 84.67 8 P **P 07 38 17.1 +1.1**
INK Inuvik 84.85 4 P **P 07 38 16.8 0.0**
comp=Z,0.9nm,0.7s,baz=348,slow=2.6,SNR=4.5
INK Inuvik 84.85 4 IAmb IAmb 07 38 26.9
comp=Z,2.0nm,1.1s
ILAR Eielson Array 86.86 10 P **P 07 38 25.6 -1.3**
comp=Z,0.4nm,0.7s,baz=318,slow=33,SNR=7.3
WRA Warramunga Arr 88.24 113 P **P 07 38 33.7 -0.5**
WRA Warramunga Arr 88.24 113 P **P 07 38 33.2 -1.0**
comp=Z,2.8nm,0.7s,baz=313,slow=4.1,SNR=32
WRA Warramunga Arr 88.24 113 P **P 07 38 33.7 -0.5**
ASAR Alice Springs 89.70 117 P **P 07 38 39.9 -1.2**
comp=Z,1.1nm,0.6s,baz=305,slow=4.9,SNR=20
YKA Yellowknife Ar 90.75 356 P **P 07 38 44.9 -0.4**
comp=Z,0.4nm,0.6s,baz=2.8,slow=5.9,SNR=5.0
TXAR Lajitas Array 121.15 340 PKP **PKPdf 07 44 35.7 -0.3**
comp=Z,0.2nm,0.5s,baz=193,slow=3.6,SNR=4.2

*MEX **27** 07:25:55.9±0.7, 15°.25N×95°.56W, h16km±8km, MD4.0*
*IDC **27** 07:25:56.0±1.1, 15°.68N×95°.31W, h0km, mb3.9/10,*
mb1 4.1/14, mb1mx3.9/38, mbtmp3.9/14, ML3.5/4, MS3.4/15,
Ms1 3.4/15, ms1mx3.2/34, Error ellipse: s-maj=27.4km
s-min=13.7km az=47.0
*NEIC **27** 07:25:56.2±1.5, 15°.52N±0°.09×95°.55W±0°.04, h27km±8km,*
Md4.0(MEX)
ISC 27 07:25:54.9±1.6, 15°.44N±0°.06×95°.50W±0°.04, h4km±11km,
n56, σ2s 03/63, mb4.0/10, MS3.5/12, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.67**	**300**	*e*P	**Pg**	**07 26 07.4**	**-0.4**
HUIG				*e*S	**Sg**	**07 26 16.5**	**0.0**
HUIG	**Huatulco**	**0.67**	**300**		**Pg**	**07 26 07.4**	**-0.4**
HUIG					**Sg**	**07 26 16.5**	**0.0**
CMIG	**Matias Romero**	**1.75**	**20**	Pn	**Pn**	**07 26 24.8**	**-1.3**
	7.6nm,0.3s,baz=195,slow=12,SNR=103						
CMIG				Sn	**Sn**	**07 26 48.2**	**-0.6**
	28nm,0.3s,baz=141,slow=14,SNR=8.4						
CMIG				LR	LR	07 27 09.8	
	comp=Z,280nm,19.7s,baz=273,slow=50						
CMIG	**Matias Romero**	**1.75**	**20**	*e*P	**Pn**	**07 26 25.2**	**-0.9**
CMIG				*i* S	**Sn**	**07 26 47.5**	**-1.3**
CMIG	**Matias Romero**	**1.75**	**20**		**Pn**	**07 26 25.2**	**-0.9**
CMIG					**Sn**	**07 26 47.5**	**-1.3**
VHO	**Vista Hermosa**	**2.01**	**324**	*e*P	**Pn**	**07 26 28.1**	**-1.8**
VHO				*i* S	**Sn**	**07 26 53.5**	**-2.0**
PCIG		**2.22**	**83**	*i* P	**Pn**	**07 26 29.7**	**-2.8**
PCIG				*i* S	**Sn**	**07 26 56.7**	**-3.7**
PCIG		**2.22**	**83**		**Pn**	**07 26 29.7**	**-2.8**
PCIG					**Sn**	**07 26 56.7**	**-3.7**
TGIG		**2.65**	**59**	*e*P	**Pn**	**07 26 37.2**	**-1.3**
TGIG				*i* S	**Sn**	**07 27 08.9**	**-2.3**
TGIG		**2.65**	**59**		**Pn**	**07 26 37.2**	**-1.3**
TGIG					**Sn**	**07 27 08.9**	**-2.3**
PNIG	**Pinotepa**	**2.70**	**291**	*e*P	**Pn**	**07 26 36.9**	**-2.2**
PNIG				*i* S	**Sn**	**07 27 06.6**	**-5.7**
PNIG	**Pinotepa**	**2.70**	**291**		**Pn**	**07 26 36.9**	**-2.2**
PNIG					**Sn**	**07 27 06.6**	**-5.7**
CCIG	**Comitan**	**3.35**	**75**	*i* P	**Pn**	**07 26 47.3**	**-0.9**
CCIG				*i* S	**Sn**	**07 27 26.7**	**-1.8**
CCIG	**Comitan**	**3.35**	**75**	Pn	**Pn**	**07 26 47.9**	**-0.3**
CCIG	**Comitan**	**3.35**	**75**		**Pn**	**07 26 47.3**	**-0.9**
CCIG					**Sn**	**07 27 26.7**	**-1.8**
TLIG	**Tlapa**	**3.62**	**306**		**Pn**	**07 26 52.6**	**+0.7**
TLIG				Sn	**Sn**	**07 27 30.7**	**-4.5**
APG	**El Apazote**	**4.88**	**94**	Pn	**Pn**	**07 27 08.5**	**-0.9**
	1.4nm,0.3s,baz=294,slow=9.2,SNR=9.5						
APG				Sn	**Sn**	**07 28 04.1**	**-2.4**
	3.5nm,0.3s,baz=180,slow=17,SNR=3.1						
TEIG	**Tepich**	**8.37**	**54**	Pn	**Pn**	**07 27 55.1**	**-1.9**
	2.1nm,0.3s,baz=134,slow=0.1,SNR=25						
TEIG				Sn	**Sn**	**07 29 27.5**	**-4.6**
	2.3nm,0.3s,baz=319,slow=19,SNR=3.7						
TEIG				LR	LR	07 31 22.4	
	comp=Z,195nm,21.3s,baz=49,slow=40						
TEIG	**Tepich**	**8.37**	**54**		**Pn**	**07 27 55.3**	**-1.8**
JTS	**Las Juntas de**	**11.49**	**115**	Pn	**Pn**	**07 28 40.7**	**+0.8**
	0.2nm,0.3s,baz=249,slow=18,SNR=2.3						
TXAR	**Lajitas Array**	**15.75**	**333**	Pn	**Pn**	**07 29 38.5**	**+0.7**
	0.0nm,0.3s,baz=150,slow=13,SNR=6.9						
TXAR				LR	LR	07 36 08.5	
	comp=Z,106nm,20.1s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**15.75**	**333**	P	**Pn**	**07 29 38.8**	**+1.0**
LPIG	**La Paz**	**16.37**	**304**	LR	LR	07 35 13.3	
	comp=Z,195nm,18.0s,baz=50,slow=34						
CBOC	**Ciudad Bolivar**	**21.37**	**114**	*e*P	**P**	**07 30 44.5**	**+0.8**
CBOC	**Ciudad Bolivar**	**21.37**	**114**	*e*P	**P**	**07 30 44.5**	**+0.8**
HELC	**Santa Helena**	**21.64**	**113**	*e*P	**P**	**07 30 46.3**	**-0.6**
HELC	**Santa Helena**	**21.64**	**113**	*e*P	**P**	**07 30 46.3**	**-0.6**
ANMO	**Albuquerque**	**21.78**	**335**	P	**P**	**07 30 49.4**	**+1.4**
	1.5nm,0.9s,baz=132,slow=12,SNR=4.6						
ANMO				LR	LR	07 38 55.0	
	comp=Z,63nm,20.4s,baz=156,slow=36						
SMLC	**San Martn de**	**21.95**	**105**	*e*P	**P**	**07 30 50.8**	**+0.9**
SMLC	**San Martn de**	**21.95**	**105**	*e*P	**P**	**07 30 50.8**	**+0.9**
YOTC	**Yotoco, Valle**	**22.02**	**119**	*e*P	**P**	**07 30 50.0**	**-0.8**
YOTC	**Yotoco, Valle**	**22.02**	**119**	*e*P	**P**	**07 30 50.0**	**-0.8**
GUY2C	**Guyana, Caldas**	**22.23**	**115**	*e*P	**P**	**07 30 51.8**	**-1.6**
GUY2C	**Guyana, Caldas**	**22.23**	**115**	*e*P	**P**	**07 30 51.8**	**-1.6**
TKL	**Tuckaleechee C**	**22.71**	**25**	LR	LR	07 42 24.0	
	comp=Z,68nm,19.3s,baz=173,slow=44						
ORTC	**Ortega, Tolima**	**22.99**	**118**	*e*P	**P**	**07 31 00.8**	**-0.2**
ORTC	**Ortega, Tolima**	**22.99**	**118**	*e*P	**P**	**07 31 00.8**	**-0.2**
ROSC	**El Rosal**	**23.33**	**115**	*e*P	**P**	**07 31 06.1**	**+1.2**
ROSC	**El Rosal**	**23.33**	**115**	*e*P	**P**	**07 31 06.1**	**+1.2**
ROSC	**El Rosal**	**23.33**	**115**	P	**P**	**07 31 05.5**	**+0.6**
	11nm,0.7s,baz=114,slow=8.4,SNR=7.6						
SDV	**Santo Domingo**	**25.15**	**102**	P	**P**	**07 31 22.0**	**+0.3**
	4.0nm,0.9s,baz=304,slow=8.8,SNR=5.3						
SDV				LR	LR	07 42 37.8	
	comp=Z,96nm,18.3s,baz=331,slow=40						
PFO	**Pinyon Flats O**	**26.20**	**317**	LR	LR	07 42 03.3	
	comp=Z,152nm,18.1s,baz=135,slow=37						
PDAR	**Pinedale Array**	**29.79**	**339**	LR	LR	07 43 58.9	
	comp=Z,56nm,19.2s,baz=167,slow=36						
NVAR	**Mina Array Bea**	**30.46**	**323**	P	**P**	**07 32 11.1**	**+2.0**
	0.8nm,0.8s,baz=130,slow=4.9,SNR=4.5						
NVAR				LR	LR	07 45 47.1	
	comp=Z,145nm,19.7s,baz=132,slow=39						
LPAZ	**La Paz**	**41.52**	**138**	LR	LR	07 49 00.5	
	comp=Z,53nm,20.6s,baz=291,slow=33						
SCHQ	**Schefferville**	**45.15**	**23**	LR	LR	07 55 15.3	
	comp=Z,96nm,18.0s,baz=4.0,slow=39						
LVC	**Limon Verde**	**45.91**	**145**	P	**P**	**07 34 21.9**	**+2.5**
	1.4nm,0.3s,baz=230,slow=22,SNR=7.2						
YKA	**Yellowknife Ar**	**48.90**	**348**	P	**P**	**07 34 41.8**	**0.0**
	0.6nm,0.8s,baz=147,slow=6.6,SNR=3.1						
CPUP	**Villa Florida**	**55.69**	**138**	LR	LR	07 57 06.5	
	comp=Z,15nm,20.9s,baz=298,slow=34						
BDFB	**Brasilia**	**56.15**	**121**	P	**P**	**07 35 38.3**	**+2.0**
	4.9nm,1.0s,baz=306,slow=5.3,SNR=5.3						
INK	**Inuvik**	**58.13**	**344**	P	**P**	**07 35 49.1**	**-0.3**
	0.3nm,0.4s,baz=125,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**60.20**	**337**	P	**P**	**07 36 03.5**	**-0.3**
	0.7nm,0.9s,baz=162,slow=4.1,SNR=6.7						
PLCA	**Paso Flores**	**60.49**	**158**	LR	LR	07 56 04.1	
	comp=Z,40nm,18.1s,baz=276,slow=30						
ESDC	**Sonseca Array**	**81.48**	**51**	P	**P**	**07 38 13.2**	**-0.6**
	1.7nm,0.9s,baz=290,slow=5.6,SNR=4.9						
NOA	**NORSAR Array B**	**84.49**	**28**	LR	LR	08 17 53.1	
	comp=Z,20nm,18.2s,baz=345,slow=37						
FINES	**FINESS Array B**	**90.61**	**24**	LR	LR	08 20 51.3	
	comp=Z,20nm,18.1s,baz=293,slow=36						

*ISCJB **27** 07:58:46.1±0.4, 39°.39N±0°.03×106°.28E±0°.04, h10km,*
mb3.7/8, Error ellipse: s-maj=4.8km s-min=4.2km
az=148.5
*IDC **27** 07:58:46.8±0.8, 39°.37N×106°.39E, h0km, mb3.6/8,*
mb1 3.7/11, mb1mx3.5/41, mbtmp3.7/11, ML3.0/3, MS2.9/5,
Ms1 2.9/5, ms1mx2.6/35, Error ellipse: s-maj=27.1km
s-min=13.9km az=62.0
*BJI **27** 07:58:48.0±0.0, 39°.60N×106°.25E, h10km, mb3.9/3,*
mB4.5/2, ML4.4/23, Ms3.9/9, Ms7 3.8/1
ISC 27 07:58:48.8±0.5, 39°.46N±0°.04×106°.22E±0°.03, h10km, n23,
σ2s 49/39, mb3.6/8, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.13**	**67**	*e*Pn	**Pn**	**07 59 36.5**	**-1.8**
BTO				Pg	**Pb**	**07 59 43.8**	**-0.8**
BTO				Sn	**Sn**	**08 00 13.5**	**-2.3**
BTO				Sg	**Sb**	**08 00 21.5**	**-1.4**
LZH	**Lanzhou**	**3.86**	**210**	*e*Pn	**Pn**	**07 59 50.0**	**+1.7**
LZH				Pg	**Pg**	**08 00 01.8**	**-0.9**
LZH				Sg	**Sg**	**08 00 52.3**	**-0.4**
LZH				smax	smax		
	comp=N,1μm,1.0s						
LZH				smax	smax		
	comp=E,710nm,1.1s						
LZH				LR	LR		
	comp=E,860nm,5.0s						
HHC	**Hu-ho-hao-te**	**4.32**	**70**	*e*Pn	**Pn**	**07 59 54.3**	**-0.4**
HHC				Pg	**Pb**	**08 00 04.3**	**-0.6**
HHC				Sn	**Sn**	**08 00 43.0**	**-2.2**
HHC				Sg	**Sb**	**08 01 00.0**	**+2.9**
HHC				smax	smax		
	comp=N,2μm,0.4s						
HHC				smax	smax		
	comp=E,690nm,0.4s						
GTA	**Gaotai**	**4.96**	**271**	Pn	**Pn**	**08 00 01.3**	**-2.2**
GTA				Pg	**Pb**	**08 00 15.3**	**-0.6**
GTA				Sn	**Sn**	**08 01 01.0**	**0.0**
GTA				Sg	**Sg**	**08 01 23.5**	**-4.7**
GTA				smax	smax		
	comp=N,410nm,0.8s						
GTA				smax	smax		
	comp=E,230nm,0.9s						
GTA				LR	LR		
	comp=N,1μm,10.2s						
GTA				LR	LR		
	comp=E,400nm,7.0s						
TIY	**Taiyuan**	**5.17**	**108**	*e*Pn	**Pn**	**08 00 06.0**	**-0.3**
TIY				Pg	**Pb**	**08 00 20.8**	**+1.5**
TIY				Sn	**Sn**	**08 01 03.5**	**-2.5**
TIY				Sg	**Sb**	**08 01 25.0**	**+3.6**
TIY				smax	smax		
	comp=N,530nm,0.5s						
TIY				smax	smax		
	comp=E,370nm,0.4s						
XAN	**Xi'an**	**5.82**	**157**	Pn	**Pn**	**08 00 15.8**	**+0.5**
XAN				Pg	**Pg**	**08 00 37.8**	**-2.5**
XAN				Sn	**Sn**	**08 01 21.8**	**-0.3**
XAN				Sg	**Sg**	**08 01 52.3**	**-3.5**
XAN				smax	smax		
	comp=N,590nm,1.1s						
XAN				smax	smax		
	comp=E,300nm,1.4s						
BJI	**Beijing**	**7.69**	**82**	Pg	**Pb**	**08 01 03.5**	**+1.3**
BJI				Sg	**Sb**	**08 02 38.8**	**+5.0**
BJI				smax	smax		
	comp=N,140nm,0.8s						
BJI				smax	smax		
	comp=E,77nm,0.8s						
SONM	**Songino Array**	**8.38**	**1**	Pn	**Pn**	**08 00 49.0**	**-1.3**
	0.4nm,0.3s,baz=186,slow=15,SNR=6.2						
SONM				Sn	**Sn**	**08 02 28.6**	**+3.7**
	3.7nm,0.3s,baz=184,slow=21,SNR=5.1						
SONM				Lg	Lg	08 03 08.0	
	4.0nm,0.3s,baz=183,slow=29,SNR=7.3						
WHN	**Wuhan**	**11.11**	**141**	P	Pn	08 01 34.0	+6.4
WHN				S	**Sn**	**08 03 39.8**	**+7.9**
TLY	**Talaya**	**12.36**	**352**	Pn	**Pn**	**08 01 45.9**	**+1.2**
	0.0nm,0.3s,baz=218,slow=18,SNR=1.6						
TLY				Lg	Lg	08 05 15.0	
	0.0nm,0.3s,baz=232,slow=7.7,SNR=4.4						
TLY				LR	LR	08 07 20.8	
	comp=Z,30nm,18.4s,baz=319,slow=41						
WMQ	**Urumqi**	**14.52**	**293**	*e*P	**Pn**	**08 02 16.5**	**+2.1**
KSRS	**Korea Array**	**17.11**	**90**	LR	LR	08 09 54.7	
	comp=Z,42nm,21.0s,baz=272,slow=39						
MKAR	**Makanchi Array**	**18.90**	**301**	P	**P**	**08 03 08.9**	**-0.5**
	0.2nm,0.3s,baz=98,slow=13,SNR=6.4						
ZALV	**Zalesovo Beam**	**20.51**	**322**	P	Pn	08 03 27.8	-1.3
	0.6nm,0.3s,baz=131,slow=8.4,SNR=2.0						
ZALV				LR	LR	08 12 37.5	
	comp=Z,18nm,18.3s,baz=135,slow=40						
JNU	**Nakatsue**	**20.82**	**100**	LR	LR	08 12 31.0	
	comp=Z,79nm,18.1s,baz=4.0,slow=40						
CMAR	**Chiang Mai Arr**	**21.86**	**199**	P	**P**	**08 03 41.8**	**+0.1**
	1.0nm,0.4s,baz=6.1,slow=9.9,SNR=6.2						
CMAR				LR	LR	08 13 05.0	
	comp=Z,18nm,18.4s,baz=350,slow=39						
JOW	**Kunigami**	**22.28**	**118**	P	**P**	**08 03 44.0**	**-2.2**
	0.6nm,0.3s,baz=168,slow=14,SNR=4.8						
KURBB	**Kurchatov Arra**	**22.39**	**309**	P	**P**	**08 03 49.4**	**+2.2**
	2.2nm,0.7s,baz=110,slow=12,SNR=12						
BVAR	**Borovoye Array**	**27.93**	**311**	P	**P**	**08 04 39.6**	**+0.6**
	0.4nm,0.5s,baz=106,slow=11,SNR=2.6						
ILAR	**Eielson Array**	**61.61**	**28**	P	**P**	**08 09 06.7**	**+0.6**
	0.3nm,0.7s,baz=292,slow=5.2,SNR=3.5						
WRA	**Warramunga Arr**	**64.67**	**151**	P	**P**	**08 09 25.1**	**-1.8**
	0.6nm,0.6s,baz=340,slow=6.7,SNR=8.6						
ASAR	**Alice Springs**	**67.92**	**153**	P	**P**	**08 09 46.5**	**-1.2**
	1.1nm,0.5s,baz=338,slow=6.4,SNR=20						
STKA	**Stephens Creek**	**78.20**	**150**	P	**P**	**08 10 47.0**	**-1.3**
	0.7nm,0.4s,baz=347,slow=5.4,SNR=6.1						

*ISCJB **27** 08:00:24.6±0.5, 24°.87N±0°.03×122°.41E±0°.03, h19km±8km,*
Error ellipse: s-maj=4.8km s-min=3.4km az=30.2
*JMA **27** 08:00:24.0±0.2, 24°.91N×122°.44E, h44km±5km, M2.5*
*TAP **27** 08:00:24.3, 24°.88N×122°.40E, h22km, ML2.9, C*
ISC 27 08:00:23.9±1.1, 24°.88N±0°.03×122°.41E±0°.03, h25km±10km,
n34, σ0s 52/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**288**	P	**Pb**	**08 00 32.1**	**-0.4**
	baz=282						
TWB1				*e*S	**Sb**	**08 00 37.4**	**-1.0**
	baz=282						
EOS1	**EOS1**	**0.42**	**218**	*i* P	**Pb**	**08 00 33.0**	**+0.3**
	baz=217						
EOS1				*e*S	**Sb**	**08 00 39.8**	**+1.1**
	baz=217						
EGS		**0.44**	**266**	*e*P	**Pb**	**08 00 32.5**	**-0.5**
	baz=258						
EGS				*e*S	**Sb**	**08 00 40.0**	**+0.7**
	baz=258						
TIPB	**Shuangxi**	**0.54**	**280**	*i* P	**Pb**	**08 00 35.0**	**+0.1**
	baz=279						
TIPB				*e*S	**Sb**	**08 00 42.8**	**+0.5**
	baz=279						
TWC	**Suao**	**0.58**	**242**	P	**Pb**	**08 00 34.9**	**-0.5**
	baz=229						
TWC				*e*S	**Sb**	**08 00 42.8**	**-0.5**
	baz=229						
JYNG	**Yonagunijimaku**	**0.64**	**131**	P	**Pb**	**08 00 36.8**	**+0.3**
JYNG				S	**Sn**	**08 00 46.2**	**-0.6**
YOJ	**Yonaguni jima**	**0.68**	**127**	P	**Pb**	**08 00 37.4**	**+0.2**
	baz=120						
YOJ				S	**Sn**	**08 00 47.2**	**-0.6**
	baz=120						
YOJ	**Yonaguni jima**	**0.68**	**127**	P	**Pb**	**08 00 37.3**	**+0.2**
YOJ				*e*S	**Sn**	**08 00 47.0**	**-0.8**
TWE	**Neicheng**	**0.70**	**257**	P	**Pb**	**08 00 37.5**	**+0.1**
	baz=256						
TWE				*e*S	**Sb**	**08 00 45.8**	**-0.8**
	baz=256						
SLBB	**Yuanshan**	**0.72**	**260**	*e*P	**Pn**	**08 00 38.1**	**-0.3**
	baz=271						
SLBB				*e*S	**Sb**	**08 00 47.5**	**+0.3**
	baz=271						
NANB	**Nanao**	**0.75**	**233**	*e*P	**Pb**	**08 00 38.3**	**0.0**
	baz=233						
NANB				*e*S	**Sb**	**08 00 48.0**	**-0.2**
	baz=233						
ENA	**Nanau**	**0.76**	**234**	*e*P	**Pn**	**08 00 38.7**	**-0.3**
	baz=233						
ENA				S	**Sn**	**08 00 48.9**	**-0.8**
	baz=233						
TWA	**Mucha**	**0.76**	**278**	*e*S	**Sn**	**08 00 49.2**	**-0.6**
	baz=277						
ENTT	**Nioudou**	**0.81**	**253**	*e*P	**Pb**	**08 00 39.3**	**+0.1**
	baz=242						
ENTT				*e*S	**Sn**	**08 00 50.5**	**-0.4**
	baz=242						
PCYT	**Pengchaiyu**	**0.81**	**337**	*e*P	**Pb**	**08 00 39.1**	**-0.2**
	baz=339						
YM01	**YM01**	**0.81**	**289**	P	**Pn**	**08 00 39.9**	**+0.1**
	baz=289						
YM01				*e*S	**Sb**	**08 00 50.1**	**+0.1**
	baz=289						
YM11	**YM11**	**0.81**	**291**	*e*P	**Pn**	**08 00 41.0**	**+1.1**
	baz=290						
YM11				*e*S	**Sb**	**08 00 50.4**	**+0.3**
	baz=290						
YM05	**YM05**	**0.82**	**290**	*e*P	**Pn**	**08 00 39.8**	**-0.1**
	baz=290						
YM05				*e*S	**Sb**	**08 00 50.5**	**+0.2**
	baz=290						
YM10	**YM10**	**0.82**	**290**	*e*P	**Pn**	**08 00 39.8**	**-0.1**
	baz=289						
YM10				*e*S	**Sn**	**08 00 51.5**	**+0.2**
	baz=289						
NWLT	**Wulai**	**0.83**	**263**	*e*P	**Pn**	**08 00 39.9**	**-0.2**
	baz=273						
NWLT				S	**Sb**	**08 00 50.5**	**-0.1**
	baz=273						
TWY	**Chenhua**	**0.84**	**298**	P	**Pn**	**08 00 40.9**	**+0.9**
	baz=288						
TWY				*e*S	**Sn**	**08 00 51.7**	**+0.1**
	baz=288						
YM04	**YM04**	**0.84**	**289**	*e*P	**Pn**	**08 00 40.8**	**+0.6**
	baz=289						
YM04				*e*S	**Sb**	**08 00 51.1**	**+0.3**
	baz=289						
TATO	**Taipei**	**0.85**	**277**	*e*S	**Sn**	**08 00 51.5**	**-0.3**
	baz=276						
NDT	**Datong Townshi**	**0.86**	**252**	*e*P	**Pb**	**08 00 40.9**	**+0.6**
	baz=241						
NDT				*e*S	**Sb**	**08 00 51.7**	**+0.3**
	baz=241						
YHNB	**Yeheng**	**0.97**	**258**	*e*P	**Pb**	**08 00 42.0**	**0.0**
	baz=244						
YHNB				*e*S	**Sn**	**08 00 54.6**	**-0.3**
	baz=244						
NSK	**Sanguang**	**0.98**	**258**	P	**Pb**	**08 00 42.7**	**+0.4**
	baz=245						
NSK				*e*S	**Sn**	**08 00 54.9**	**-0.4**
	baz=245						
NACB	**Ninganchiao**	**1.02**	**227**	*e*P	**Pb**	**08 00 42.9**	**-0.1**
	baz=235						
NACB				S	**Sn**	**08 00 55.5**	**-0.8**
	baz=235						
NNSB	**Datong**	**1.04**	**245**	*e*P	**Pb**	**08 00 43.5**	**+0.2**
	baz=236						
NNSB				*e*S	**Sn**	**08 00 56.2**	**-0.6**
	baz=236						
ETLH	**Xiulin Townshi**	**1.08**	**232**	P	**Pb**	**08 00 44.0**	**0.0**
	baz=232						
ETLH				*e*S	**Sb**	**08 00 59.0**	**+1.2**
	baz=232						
TWD	**Chiawan**	**1.09**	**223**	*e*P	**Pb**	**08 00 44.5**	**+0.5**
	baz=230						
TWD				*e*S	**Sb**	**08 00 58.1**	**+0.2**
	baz=230						
TDCB	**Techi**	**1.30**	**242**	*e*P	**Pb**	**08 00 47.5**	**-0.2**
	baz=242						
TDCB				*e*S	**Sb**	**08 01 04.0**	**-0.1**
	baz=242						
CHGB	**Renai**	**1.39**	**234**	*e*P	**Pb**	**08 00 49.8**	**+0.4**
	baz=245						
CHGB				*e*S	**Sb**	**08 01 07.1**	**+0.3**
	baz=245						
WHP	**Taichung City**	**1.47**	**246**	*e*P	**Pb**	**08 00 51.7**	**+1.2**
	baz=246						
WHP				*e*S	**Sb**	**08 01 08.7**	**0.0**
	baz=246						
YULB	**Yu-li**	**1.80**	**215**	*e*P	**Pn**	**08 00 53.5**	**+0.1**
	baz=215						

*ISCJB **27** 08:10:51.0±0.4, 49°.83N±0°.03×18°.46E±0°.03, h0km, Error*
ellipse: s-maj=3.9km s-min=2.4km az=19.5
*IPEC **27** 08:10:52.6±0.2, 49°.81N×18°.57E, h1km±4km, ML2.1/3,*
Error ellipse: s-maj=3.0km s-min=1.1km az=156.0
*VIE **27** 08:10:53.2±1.8, 49°.66N×18°.52E, h0km, mb2.1/3, ml2.5/4,*
Error ellipse: s-maj=13.4km s-min=8.7km az=94.0 27 km
SE of Ostrava Suspected Mining induced.
*PRU **27** 08:10:53.0±0.0, 49°.81N×18°.49E, h0km, Mining Induced*
Event Csm, E=2.5e5
ISC 27 08:10:52.3±0.8, 49°.77N±0°.03×18°.56E±0°.02, h0km, n27,
σ0s 92/54, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**285**	*e*PG	**Pg**	**08 10 58.2**	**+0.6**
OKC				*e*SG	**Sg**	**08 11 01.5**	**+0.4**
	comp=Z,88nm,0.4s						
MORC	**Moravsky Berou**	**0.66**	**271**	*e*PG	**Pg**	**08 11 05.6**	**+0.7**
MORC				*e*SG	**Sg**	**08 11 13.6**	**+0.1**

MODS				eSG	Sn	08 11 43.5	-0.4
UPC	**Upice**	**1.80**	**295**	ePG	**Pn**	**08 11 24.7**	**+0.1**
UPC				eSG	Sn	08 11 47.9	-0.2
KECS	**Kecovo**	**1.80**	**135**	ePN	**Pn**	**08 11 24.4**	**-0.2**
KECS				eSN	Sb	08 11 49.6	+0.3
KECS				eLG	Lg	08 11 52.1	
CHVC	**Chvalec**	**1.81**	**298**	ePG	**Pn**	**08 11 24.7**	**0.0**
CHVC				eSG	Sn	08 11 48.0	-0.4
KSP	**Ksiaz**	**1.81**	**307**	ePg	**Pg**	**08 11 27.1**	**+0.2**
KSP				ePg	Pg	08 11 27.1	+0.2
KSP				eSg	Sb	08 11 48.9	-0.6
KSP				eSg	Sb	08 11 48.9	-0.6
SRO	**Srobarova**	**1.96**	**185**	eSN	Sn	08 11 49.0	-3.0
TREC	**Trest**	**2.06**	**258**	eSG	Sb	08 11 56.9	+0.3
CONA	**Conrad Observa**	**2.56**	**225**	Pn	**Pn**	**08 11 34.7**	**-0.4**
	0.9nm,0.3s						
CONA				Sn	**Sn**	**08 12 07.0**	**0.0**
	4.5nm,0.4s						
PRU	**Pruhonice**	**2.61**	**276**	eSG	**Sg**	**08 12 14.1**	**-1.9**
BRG	**Berggiesshubel**	**3.16**	**292**	PG	**Pb**	**08 11 50.1**	**+0.9**
BRG				SG	Sb	08 12 30.4	+2.1
	4.1nm,0.5s						
KHC	**Kasperske Hory**	**3.31**	**261**	ePG	**Pb**	**08 11 53.0**	**+1.1**
KHC				eSG	**Sg**	**08 12 35.7**	**-2.9**
	comp=Z,4.6nm,0.4s						
MOA	**Molln**	**3.42**	**238**	ePn	**Pn**	**08 11 46.3**	**-0.6**
	0.7nm,0.2s						
MOA				Sg	**Sg**	**08 12 41.1**	**-1.1**
	2.8nm,0.3s						
CLL	**Collm**	**3.87**	**296**	eSg	**Sg**	**08 12 55.0**	**-1.4**

PRU ***27*** *08:29:50.9±0.0, 45°.13N×15°.96E, h0km*
VIE ***27*** *08:29:52.2±1.0, 45°.24N×16°.53E, h8km±3km, mb2.5/4, ml2.7/4, Error ellipse: s-maj=6.4km s-min=5.0km az=162.0 74 km SSE of Zagreb*
LJU ***27*** *08:29:52.3, 45°.20N×16°.39E, h22km, ML2.2*
RHSSO ***27*** *08:29:53.9±0.2, 45°.14N×16°.33E, h3km±1km, ML3.0/1*
BEO ***27*** *08:29:57.6±0.8, 44°.96N×16°.31E, h1km±3km, ML2.7/11*

ISC 27 08:29:52.7±1.1,**45°.26N**±0°.02×**16°.43E**±0°.02,**h7**km±9km,
n75,σ1§**49**/135,**9C-5D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAG	**Zagreb**	**0.65**	**332**	ePg	**Pb**	**08 30 07.0**	**+0.6**
ZAG				Sg	Sn	08 30 17.0	-1.9
ZAG	**Zagreb**	**0.65**	**332**	ePg	**Pb**	**08 30 06.8**	**+0.4**
ZAG				eSg	Sb	08 30 16.7	+1.0
PTJ	**Puntijarka**	**0.73**	**334**	ePg	**Pb**	**08 30 08.1**	**+0.3**
PTJ				Sg	Sb	08 30 17.9	-0.1
BLY	**Banja Luka**	**0.74**	**133**	ePg	**Pb**	**08 30 08.3**	**+0.4**
BLY				eSg	Sb	08 30 18.4	+0.2
BLY	**Banja Luka**	**0.74**	**133**	⇓iPg	**Pg**	**08 30 06.4**	**-0.5**
BLY				eSg	Sg	08 30 17.4	+0.9
BLY	**Banja Luka**	**0.74**	**133**	⇓P	**Pg**	**08 30 06.4**	**-0.5**
BLY				⇓S	Sg	08 30 16.3	-0.1
BLY				AML	AML	08 30 20.1	
GCIS	**Gornji Cirnik**	**0.83**	**318**	iPg	**Pb**	**08 30 09.0**	**-0.5**
GCIS				iSg	Sb	08 30 21.6	+0.7
	comp=Z,27nm,0.2s						
BOJS	**Bojanci**	**0.87**	**287**	iPg	**Pg**	**08 30 09.1**	**-0.2**
BOJS				eSg	Sg	08 30 21.2	+0.6
	comp=Z,39nm,0.2s						
UDBI	**Udbina**	**0.87**	**213**	iPg	**Pg**	**08 30 08.7**	**-0.7**
UDBI				Sg	Sg	08 30 19.4	-1.2
KALN	**Kalnik**	**0.88**	**1**	ePg	**Pn**	**08 30 10.6**	**-1.0**
KALN				Sg	Sn	08 30 22.6	-2.0
CRES	**Cresnjev**	**0.89**	**310**	iPg	**Pb**	**08 30 10.4**	**-0.1**
CRES				iSg	Sb	08 30 23.6	+1.0
	comp=Z,36nm,0.2s						
CRES	**Cresnjev**	**0.89**	**310**	⇑iPg	**Pb**	**08 30 10.7**	**+0.2**
CRES				eSg	Sb	08 30 23.6	+1.0
GOLS	**Golise**	**0.94**	**324**	iPg	**Pb**	**08 30 11.7**	**+0.3**
GOLS				iSg	Sn	08 30 25.5	-0.7
	comp=Z,82nm,0.3s						
MGRS	**Mrkonjic Grad**	**0.96**	**151**	ePg	**Pg**	**08 30 10.3**	**-0.8**
MGRS				eSg	Sg	08 30 22.8	-0.8
CESS	**Cesta pri Krsk**	**0.99**	**317**	iPg	**Pb**	**08 30 12.4**	**+0.2**
CESS				iSg	Sn	08 30 26.1	-1.2
	comp=Z,61nm,0.3s						
LEGS	**Legarje**	**1.04**	**312**	iPg	**Pb**	**08 30 13.2**	**+0.1**
DOBS	**Dobrina**	**1.12**	**323**	iPg	**Pb**	**08 30 14.2**	**-0.2**
DOBS				iSg	Sn	08 30 30.4	-0.1
GBRS	**Gornja Briga**	**1.17**	**284**	iPg	**Pg**	**08 30 15.1**	**-0.2**
GBRS				iSg	Sg	08 30 30.9	+0.5
	comp=Z,10.0nm,0.1s						
VISS	**Visnje**	**1.24**	**297**	iPg	**Pn**	**08 30 16.1**	**-0.5**
VISS				eSg	Sb	08 30 32.8	0.0
	comp=Z,46nm,0.4s						
PDKS	**Podkum**	**1.29**	**309**	iPn	**Pn**	**08 30 16.7**	**-0.5**
PDKS				iSn	Sn	08 30 34.9	+0.2
	comp=Z,84nm,0.6s						
DOB	**Doboj**	**1.30**	**113**	⇑iPg	**Pn**	**08 30 16.8**	**-0.4**
DOB				eSg	Sn	08 30 35.5	+0.7
NVLJ	**Novalja**	**1.31**	**239**	ePg	**Pn**	**08 30 17.0**	**-0.3**
NVLJ				Sg	Sb	08 30 34.1	-0.4
GROS	**Grobnik**	**1.37**	**332**	iPn	**Pn**	**08 30 17.6**	**-0.7**
RIY	**Rijeka**	**1.38**	**274**	ePg	**Pn**	**08 30 17.7**	**-0.6**
RIY				Sg	Sb	08 30 35.9	-0.7
RIY	**Rijeka**	**1.38**	**274**	ePg	**Pn**	**08 30 17.7**	**-0.6**
RIY				eSg	Sb	08 30 36.1	-0.4
KNDS	**Knezji Dol**	**1.47**	**281**	iSn	Sn	08 30 38.7	-0.6
	comp=Z,36nm,0.3s						
VNDS	**Vrh nad Dolski**	**1.48**	**306**	eSn	**Sb**	**08 30 39.7**	**+0.2**
	comp=Z,29nm,0.3s						
CEY	**Cerknica**	**1.49**	**290**	iPn	**Pn**	**08 30 19.5**	**-0.5**
CEY				eSn	Sn	08 30 39.5	-0.2
	comp=Z,57nm,0.5s						
CEY	**Cerknica**	**1.49**	**290**	ePg	**Pn**	**08 30 20.1**	**+0.1**
CEY				eSg	Sb	08 30 40.1	+0.2
LJU	**Ljubljana**	**1.55**	**301**	ePn	**Pg**	**08 30 23.0**	**+0.6**
LJU				eSg	**Sg**	**08 30 42.6**	**+0.1**
DUGI	**Dugi Otok**	**1.60**	**218**	iPn	**Pn**	**08 30 22.1**	**+0.7**
DUGI				Sn	Sn	08 30 43.8	+1.4
ZIRJ	**Zirje**	**1.70**	**200**	iPn	**Pn**	**08 30 23.4**	**+0.6**
ZIRJ				Sn	Sn	08 30 46.3	+1.6
SOKA	**Soboth**	**1.72**	**326**	Pn	**Pn**	**08 30 22.6**	**-0.6**
	comp=Z,2.0nm,0.3s						
SOKA				Sn	**Sg**	**08 30 48.1**	**0.0**
	comp=Z,20nm,0.4s						
JAVS	**Javornik**	**1.78**	**292**	iPn	**Pn**	**08 30 23.5**	**-0.5**
BRJN	**Brijuni**	**1.93**	**260**	ePn	**Pb**	**08 30 28.1**	**-0.1**
BRJN				Sn	Sb	08 30 53.7	+1.2
HVAR	**Hvar**	**2.08**	**180**	ePn	**Pn**	**08 30 28.8**	**+0.8**
HVAR				Sn	Sn	08 30 55.9	+1.8
ARSA	**Arzberg**	**2.09**	**343**	ePn	**Pn**	**08 30 27.9**	**-0.3**
	comp=Z,5.0nm,0.2s,SNR=6.5						
HAPS	**Han Pijesak,BI**	**2.15**	**122**	ePn	**Pg**	**08 30 33.6**	**-0.2**
HAPS				eSn	Sb	08 30 59.5	+0.7
HAPS	**Han Pijesak,BI**	**2.15**	**122**	ePn	**Pb**	**08 30 31.3**	**-0.7**
HAPS				eSn	Sb	08 30 57.5	-1.3
TEKS	**Tekeris**	**2.31**	**107**	ePn	**Pg**	**08 30 37.6**	**+0.6**
TEKS				eSn	Sg	08 31 05.7	-1.3
TEKS	**Tekeris**	**2.31**	**107**	ePn	**Pb**	**08 30 34.2**	**-0.6**
TEKS				eSn	Sb	08 31 02.5	-1.1
FRGS	**Fruska Gora**	**2.39**	**91**	ePn	**Pg**	**08 30 39.2**	**+0.7**
FRGS				eSn	Sg	08 31 10.0	+0.5
FRGS	**Fruska Gora**	**2.39**	**91**	ePn	**Pb**	**08 30 35.6**	**-0.5**
FRGS				eSn	Sb	08 31 05.5	-0.3
BBLS	**Lazići**	**2.54**	**122**	ePn	**Pb**	**08 30 39.0**	**+0.3**
BBLS				eSn	Sb	08 31 10.0	-0.2
BBLS	**Lazići**	**2.54**	**122**	ePn	**Pb**	**08 30 37.0**	**-1.7**
BBLS				eSn	Sn	08 31 07.6	+1.9
STON	**Ston**	**2.55**	**159**	ePn	**Pn**	**08 30 36.1**	**+1.6**
STON				eSn	Sn	08 31 05.9	+0.1
STON	**Ston**	**2.55**	**159**	ePn	**Pn**	**08 30 35.4**	**+0.9**
STON				Sn	Sn	08 31 07.5	+1.7
STON	**Ston**	**2.55**	**159**	ePn	**Pn**	**08 30 35.3**	**+0.8**
STON				eSn	Sn	08 31 05.5	-0.3
RUDO	**Rudo**	**2.67**	**127**	⇑iPn	**Pn**	**08 30 37.5**	**+1.4**
CONA	**Conrad Observa**	**2.70**	**352**	Pn	**Pn**	**08 30 36.8**	**+0.1**
	comp=Z,10nm,0.4s,SNR=21						
CONA				Sg	**Sg**	**08 31 22.6**	**+3.1**
	comp=Z,6.5nm,0.4s						
DIVS	**Divibare**	**2.79**	**113**	ePn	**Pb**	**08 30 43.5**	**+0.5**
DIVS				eSn	Sb	08 31 17.0	-0.4
DIVS	**Divibare**	**2.79**	**113**	ePn	**Pn**	**08 30 39.9**	**+2.0**
DIVS				eSn	Sn	08 31 14.0	+2.1
BRY	**Bratogost**	**2.80**	**146**	ePn	**Pn**	**08 30 38.5**	**+0.4**
BRY				eSn	Sn	08 31 12.4	+0.2
DBRK	**Dubrovnik**	**2.87**	**154**	ePn	**Pn**	**08 30 40.7**	**+1.9**
DBRK				Sn	**Sn**	**08 31 15.6**	**+2.0**
SRO	**Srobarova**	**2.87**	**26**	eSG	**Sg**	**08 31 29.5**	**+4.6**
TREB	**Trebinje**	**2.89**	**151**	ePn	**Pb**	**08 30 42.4**	**-2.2**
TREB				eSn	Sn	08 31 14.7	+0.5
TREB	**Trebinje**	**2.89**	**151**	ePn	**Pn**	**08 30 39.9**	**+0.7**
TREB				eSn	Sn	08 31 14.7	+0.5
TRUS	**Trudelj**	**3.02**	**109**	ePn	**Pb**	**08 30 45.8**	**-0.9**
TRUS				eSn	Sb	08 31 23.4	-0.4
IVAS	**Ivanjica**	**3.15**	**121**	ePn	**Pb**	**08 30 47.3**	**-1.8**
MODS	**Modra-Piesok**	**3.17**	**10**	ePN	**Pn**	**08 30 41.8**	**-1.3**
MODS				ePG	**Pg**	**08 30 54.1**	**+0.6**
MODS				eSG	**Sg**	**08 31 36.8**	**+2.2**
HCY	**Herceg Novi**	**3.18**	**151**	ePn	**Pn**	**08 30 43.8**	**+0.6**
SJES	**Sjenica**	**3.23**	**127**	ePn	**Pb**	**08 30 48.6**	**-1.9**
GRUS	**Gruza**	**3.35**	**113**	ePn	**Pb**	**08 30 51.0**	**-1.5**
GRUS				eSn	Sb	08 31 30.6	-2.9
PSZ	**Piszkesteto**	**3.58**	**41**	⇑P	**Pg**	**08 30 58.6**	**-2.7**
PSZ				⇑S	**Sg**	**08 31 49.4**	**+1.8**
PSZ				AML	AML	08 31 56.1	
VYHS	**Vyhne**	**3.64**	**26**	ePN	**Pn**	**08 30 49.4**	**0.0**
VYHS				eSN	Sn	08 31 30.6	-2.0
VYHS				eSG	**Sg**	**08 31 56.1**	**+6.7**
BZS	**Buzias**	**3.67**	**83**	ePn	**Pb**	**08 30 56.3**	**-1.6**
BZS				eSn	Sb	08 31 42.2	-0.4
BZS	**Buzias**	**3.67**	**83**	⇑P	**Pb**	**08 30 53.9**	**-4.0**
BZS				AML	AML	08 32 03.6	
MDVR	**Moldovita**	**3.78**	**95**	⇑P	**Pn**	**08 30 54.3**	**+2.8**
MDVR				⇑S	Sb	08 31 41.7	-4.1
MDVR				AML	AML	08 32 05.1	
SIRR	**Siria**	**3.80**	**73**	⇑P	**Pb**	**08 30 56.9**	**-3.2**
KRUC	**Moravsky**	**3.81**	**360**	ePN	**Pn**	**08 30 51.5**	**-0.3**
VRAC	**Vranov**	**4.06**	**2**	ePN	**Pn**	**08 30 54.6**	**-0.6**
HERR	**Herculane**	**4.26**	**93**	⇓P	**Pn**	**08 30 59.7**	**+1.7**
HERR				AML	AML	08 32 02.1	
KHC	**Kasperske Hory**	**4.34**	**334**	ePN	**Pn**	**08 30 59.3**	**+0.2**
KHC				ex	x	08 31 06.0	
KHC				eSN	Sn	08 31 46.2	-3.7
KHC				eSG	**Sg**	**08 32 10.4**	**-1.5**
	comp=Z,8.4nm,0.7s						
GZR	**Gura Zlata**	**4.48**	**86**	⇓P	**Pn**	**08 31 04.9**	**+3.8**
GZR				AML	AML	08 32 53.4	
CLL	**Collm**	**6.47**	**341**	eSg	**Sg**	**08 33 23.0**	**+2.6**

NIED ***27*** *09:11:00, 44°.00N×145°.90E, h150km, Mw4.0 Best double couple: M0 1.16000×10^15 NP1:ϕs176.00000°, δ37.00000°, λ10.00000°. NP2:ϕs78.00000°, δ84.00000°, λ127.00000°.*
ISCJB ***27*** *09:11:29.2±0.2, 44°.04N±0°.03×145°.79E±0°.03, h161km±2km, mb4.1/38, Error ellipse: s-maj=5.7km s-min=3.8km az=157.0*
MOS ***27*** *09:11:29.2±0.8, 44°.16N×145°.78E, h159km, mb4.2/23, Error ellipse: s-maj=8.8km s-min=6.8km az=81.7*
IDC ***27*** *09:11:30.1±1.2, 44°.12N×145°.76E, h156km±10km, mb3.8/18, mb1 3.9/24, mb1mx3.7/49, mbtmp4.2/24, Error ellipse: s-maj=13.0km s-min=11.4km az=146.0*
SKHL ***27*** *09:11:30.4±0.6, 44°.24N×145°.54E, h149km±6km, mb5.0/4, msh5.8/4*
JMA ***27*** *09:11:30.6±0.2, 43°.96N×145°.85E, h152km±2km, M3.8*
JMA Felt I J1.
NEIC ***27*** *09:11:31.0±1.4, 44°.09N±0°.07×145°.8E±0°.1, h161km±7km, mb4.3/72*

ISC 27 09:11:29.8±0.5,**44°.04N**±0°.05×**145°.83E**±0°.04,**h155**km±4km,
n214,σ0§**91**/234,**mb4.3**/67,**13C-6D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.03**	**101**	*c* iPN	**Pn**	**09 11 51.0**	**+0.6**
YUK				*i* S	**Sn**	**09 12 06.7**	**+0.6**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,275nm,0.1s						
YUK				pmax	pmax		
	comp=E,315nm,0.1s						
YUK				smax	smax		
	comp=N,3μm,0.4s						
YUK				smax	smax		
	comp=E,4.0nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.03**	**101**	*i* P	**Pn**	**09 11 51.0**	**+0.6**
YUK				AMB	AMB	09 11 51.0	
	comp=E,2μm,0.3s						
YUK				*i* S	**Sn**	**09 12 06.0**	**-0.1**
YUK				A	A	09 12 08.0	
	comp=E,3μm,0.5s						
YUK				A	A	09 12 08.0	
	comp=E,4μm,0.5s						
GRPR	**Tuman**	**0.06**	**219**	*c* iPN	**Pn**	**09 11 51.2**	**+0.7**
GRPR				*i* S	**Sn**	**09 12 07.0**	**+0.8**
GRPR				pmax	pmax		
	comp=Z,965nm,0.5s						
GRPR				pmax	pmax		
	comp=E,504nm,0.3s						
GRPR				pmax	pmax		
	comp=N,596nm,0.4s						
GRPR				smax	smax		
	comp=N,4μm,0.4s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
GRPR	**Tuman**	**0.06**	**219**	*i* P	**Pn**	**09 11 51.0**	**+0.5**
GRPR				AMB	AMB	09 11 53.0	
	comp=E,965nm,0.5s						
GRPR				*i* S	**Sn**	**09 12 07.0**	**+0.8**
GRPR				A	A	09 12 10.0	
	comp=E,4μm,0.4s						
GRPR				A	A	09 12 10.0	
	comp=E,3μm,0.4s						
GLVR	**Golovnino**	**0.37**	**216**	*d* iPN	**Pn**	**09 11 52.1**	**+0.9**
GLVR				*i* S	**Sn**	**09 12 08.9**	**+1.6**
GLVR				pmax	pmax		
	comp=N,788nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,1μm,0.2s						
GLVR				smax	smax		
	comp=N,493nm,0.2s						
GLVR				smax	smax		
	comp=E,7μm,0.3s						
GLVR	**Golovnino**	**0.37**	**216**	*i* P	**Pn**	**09 11 52.0**	**+0.9**
GLVR				AMB	AMB	09 11 53.0	
	comp=E,1μm,0.3s						
GLVR				*i* S	**Sn**	**09 12 08.0**	**+0.7**
GLVR				A	A	09 12 12.0	
	comp=E,493nm,0.4s						
GLVR				A	A	09 12 12.0	
	comp=E,5μm,0.4s						
JRA	**Rausu**	**0.52**	**259**	P	**Pn**	**09 11 52.2**	**+0.5**
JRA				eS	**Sn**	**09 12 08.6**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.65**	**246**	P	**Pn**	**09 11 53.2**	**+0.7**
NMR	**Nemuro--Hokkai**	**0.67**	**186**	*c* iPN	**Pn**	**09 11 52.6**	**0.0**
NMR				*i* S	**Sn**	**09 12 09.4**	**-0.6**
NMR	**Nemuro--Hokkai**	**0.67**	**186**	*i* P	**Pn**	**09 11 52.0**	**-0.6**
NEM2	**Nemuro 2**	**0.68**	**185**	P	**Pn**	**09 11 52.6**	**-0.1**
NEM2				eS	**Sn**	**09 12 09.4**	**-0.7**
JNK	**Nakash**	**0.92**	**241**	P	**Pn**	**09 11 55.0**	**+0.6**
JKHN	**Kushirohamanak**	**1.07**	**207**	P	**Pn**	**09 11 55.8**	**+0.2**
JKHN				eS	**Sn**	**09 12 14.8**	**-0.5**
JAK	**Akkeshi**	**1.33**	**219**	P	**Pn**	**09 11 58.2**	**+0.2**
JAK				eS	**Sn**	**09 12 18.9**	**-0.6**
JTKR	**Abashiri--Toko**	**1.39**	**268**	P	**Pn**	**09 11 59.2**	**+0.7**
JTKR				eS	**Sn**	**09 12 21.2**	**+0.7**
JAR	**Ashorobuto**	**1.67**	**244**	P	**Pn**	**09 12 02.4**	**+1.0**
JMP	**Maruseppu**	**1.78**	**270**	P	**Pn**	**09 12 03.4**	**+0.7**
JOB	**Onbets**	**1.84**	**233**	P	**Pn**	**09 12 04.1**	**+0.7**
JOB				eS	**Sn**	**09 12 29.1**	**0.0**
KUR	**Kuril'sk**	**1.88**	**50**	PN	**Pn**	**09 12 04.6**	**+0.8**
KUR				*i* S	**Sn**	**09 12 31.2**	**+1.2**
KUR				pmax	pmax		
	comp=Z,49nm,0.3s						
KUR				pmax	pmax		
	comp=N,34nm,0.2s						
KUR				pmax	pmax		
	comp=E,33nm,0.2s						
KUR				smax	smax		
	comp=E,152nm,0.2s						
KUR				smax	smax		
	comp=N,109nm,0.4s						
KUR	**Kuril'sk**	**1.88**	**50**	*e* P	**Pn**	**09 12 05.1**	**+1.3**
KUR				AMB	AMB	09 12 11.0	
	comp=N,49nm,0.3s						
KUR				*i* S	**Sn**	**09 12 31.0**	**+1.0**
KUR				A	A	09 12 32.0	
	comp=N,463nm,0.6s						
KUR				A	A	09 12 32.0	
	comp=N,673nm,0.6s						
JKK2	**Kamakawa 2**	**2.23**	**267**	P	**Pn**	**09 12 08.8**	**+1.0**
JKK2				eS	**Sn**	**09 12 38.3**	**+1.1**
JCH	**Churui**	**2.29**	**232**	P	**Pn**	**09 12 08.9**	**+0.3**
JCH				eS	**Sn**	**09 12 37.0**	**-1.5**
JKA	**Kamikawa-asahi**	**2.33**	**273**		**Pn**	**09 12 10.0**	**+1.0**
JKA					**Sn**	**09 12 39.3**	**+0.1**
ASAJ	**Asahikawa**	**2.33**	**273**	P	**Pn**	**09 12 10.3**	**+1.3**
ASAJ				eS	**Sn**	**09 12 40.6**	**+1.3**
ASAJ	**Asahikawa**	**2.33**	**273**	P	**Pn**	**09 12 10.0**	**+1.0**
	comp=N,59nm,0.3s,baz=91,slow=9.5,SNR=439						
ASAJ				S	**Sn**	**09 12 39.3**	**+0.1**
	comp=N,6.5nm,0.3s,baz=90,slow=16,SNR=5.0						
JSE	**Soyaes**	**2.49**	**293**	P	**Pn**	**09 12 11.5**	**+0.5**
JFR	**Furan**	**2.51**	**251**	P	**Pn**	**09 12 12.3**	**+1.1**
JFR				eS	**Sn**	**09 12 43.2**	**+0.1**
JAB	**Ashibetsu**	**2.66**	**260**	P	**Pn**	**09 12 14.9**	**+1.8**
ERM	**Erimo**	**2.81**	**225**	PN	**Pn**	**09 12 15.8**	**+0.8**
ERM						09 12 51.9	
ERM	**Erimo**	**2.81**	**225**		**Pn**	**09 12 15.8**	**+0.8**
ERM				Sn	**Sn**	**09 12 51.9**	**+2.0**
YSS	**Yuzh-Sakhalins**	**3.63**	**325**	*e* PN	**Pn**	**09 12 24.9**	**-0.3**
YSS				eS	**Sn**	**09 13 09.1**	**+0.8**
YSS				pmax	pmax		
	comp=N,40nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS				smax	smax		
	comp=N,40nm,0.7s						
YSS				smax	smax		
	comp=E,40nm,1.2s						
YSS	**Yuzh-Sakhalins**	**3.63**	**325**	*e*rx	rx	09 12 24.0	
YSS	**Yuzh-Sakhalins**	**3.63**	**325**		**Pn**	**09 12 25.4**	**+0.2**
MJB9	**Matsu-Tunnel**	**9.48**	**220**	Pn	**Pn**	**09 13 43.7**	**+0.9**
MAJO	**Matsushiro**	**9.48**	**220**	⇑*e*PN	**Pn**	**09 13 44.0**	**+1.2**
MJAR	**Matsushiro Arr**	**9.48**	**220**	PN	**Pn**	**09 13 44.7**	**+1.9**
MJAR	**Matsushiro Arr**	**9.48**	**220**	P	**Pn**	**09 13 42.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=31,slow=15,SNR=13						
MJAR	**Matsushiro Arr**	**9.48**	**220**		**Pn**	**09 13 44.6**	**+1.9**
SKR	**Severo-Kuril's**	**9.63**	**43**	⇑*e*PN	**Pn**	**09 13 41.7**	**-3.0**
SKR	**Severo-Kuril's**	**9.63**	**43**	*e*P	**Pn**	**09 13 46.0**	**+1.3**
USA0B	**Ussuriysk Arra**	**9.96**	**276**	PN	**Pn**	**09 13 48.4**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.96**	**276**	Pn	**Pn**	**09 13 48.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**9.96**	**276**	PN	**Pn**	**09 13 48.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**9.96**	**276**	P	**Pn**	**09 13 48.5**	**-0.5**
	baz=88,slow=13,SNR=12						
USRK	**Ussuriysk Ar.**	**9.96**	**276**		**Pn**	**09 13 48.7**	**-0.3**
KLR	**Kul'dur**	**10.98**	**303**	⇓*e*PN	**Pn**	**09 14 02.7**	**+0.3**
KLR	**Kul'dur**	**10.98**	**303**	*e*rx	**Pn**	**09 14 02.7**	**+0.3**
JHJ2	**Mitsune**	**11.88**	**205**	Pn	**Pn**	**09 14 14.5**	**+0.2**
JHJ	**Hachijo jima 2**	**11.88**	**205**	P	**Pn**	**09 14 13.6**	**-0.7**
	comp=E,9.6nm,0.3s,baz=310,slow=23,SNR=5.8						
PETK	**Petropavlovsk-**	**11.99**	**37**	P	**Pn**	**09 14 14.3**	**-1.3**
	comp=E,0.5nm,0.3s,baz=216,slow=8.5,SNR=9.7						
PETK	**Petropavlovsk-**	**11.99**	**37**		**Pn**	**09 14 14.1**	**-1.6**
SEY	**Seymchan**	**19.31**	**9**	P	**P**	**09 15 40.3**	**-2.2**
	comp=E,0.5nm,0.3s,baz=190,slow=9.3,SNR=11						
BILL	**Bilibino**	**26.36**	**17**	⇑*e*P	**P**	**09 16 49.9**	**-1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**27.03**	**292**	⇑*e*P	**P**	**09 16 57.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.03**	**292**	*e*P	**P**	**09 16 57.9**	**+0.4**
SONM	**Songino Array**	**27.47**	**292**	P	**P**	**09 17 02.0**	**+0.6**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**27.47**	**292**	P	**P**	**09 17 01.7**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=78,slow=8.4,SNR=13						
SONM	**Songino Array**	**27.47**	**292**	P	**P**	**09 17 02.0**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**29.95**	**137**	T	T	09 48 38.7	
	baz=329,slow=75,SNR=166						
H11N1	**WAKE ISLAND Hy**	**29.97**	**137**	T	T	09 48 42.6	
	baz=329,slow=75,SNR=132						
H11N3	**WAKE ISLAND Hy**	**29.97**	**137**	T	T	09 48 42.9	
	baz=329,slow=75,SNR=108						
WAKE	**Wake Island**	**30.22**	**138**	P	**P**	**09 17 26.2**	**+0.5**
H11S1	**WAKE ISLAND Hy**	**30.91**	**139**	T	T	09 49 54.5	
	baz=330,slow=76,SNR=174						
H11S3	**WAKE ISLAND Hy**	**30.91**	**139**	T	T	09 49 47.0	
	baz=330,slow=76,SNR=207						
H11S2	**WAKE ISLAND Hy**	**30.93**	**139**	T	T	09 49 52.6	
	baz=330,slow=76,SNR=131						
CNBA	**Chernabura Isl**	**36.22**	**53**	P	**P**	**09 18 18.2**	**+0.9**
TTA	**Tatalina**	**37.81**	**39**	P	**P**	**09 18 31.1**	**+0.3**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TTA	**Tatalina**	**37.81**	**39**	P	**P**	**09 18 31.1**	**+0.3**

SCM	**Sheep Creek Mo**	**41.90**	**41**	P	**P**	**09 19 05.1**	**+0.6**
SCM				IAmb	IAmb	09 19 06.6	
comp=Z,18nm,1.3s							
PRP	**Porcupine Dome**	**42.34**	**35**	P	**P**	**09 19 09.2**	**+1.0**
FYU	**Fort Yukon**	**42.39**	**34**	P	**P**	**09 19 09.5**	**+1.2**
BMAR	**Burnt Mountain**	**42.60**	**32**	P	**P**	**09 19 10.7**	**+0.6**
RIDG	**Independent Ri**	**42.80**	**38**	P	**P**	**09 19 12.3**	**+0.5**
RIDG				IAmb	IAmb	09 19 13.2	
comp=Z,6.2nm,0.9s							
SCRK	**Sand Creek**	**43.15**	**37**	P	**P**	**09 19 14.9**	**+0.2**
SCRK				IAmb	IAmb	09 19 15.5	
comp=Z,9.6nm,0.7s							
DOT	**Dot Lake**	**43.16**	**38**	P	**P**	**09 19 14.8**	**+0.2**
DOT				IAmb	IAmb	09 19 15.7	
comp=Z,3.9nm,0.7s							
MK31	**Makanchi Array**	**43.60**	**297**	P	**P**	**09 19 18.7**	**+0.3**
MK31				pmax	pmax		
comp=Z,9.0nm,1.4s							
MK31	**Makanchi Array**	**43.60**	**297**	P	**P**	**09 19 18.7**	**+0.3**
MK31				IAmb	IAmb	09 19 19.5	
comp=Z,9.1nm,1.4s							
MKAR	**Makanchi Array**	**43.60**	**297**	*ce*P	**P**	**09 19 18.6**	**+0.2**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**43.60**	**297**	P	**P**	**09 19 18.3**	**-0.1**
comp=Z,2.4nm,0.7s,baz=80,slow=8.0,SNR=7.5							
MKAR	**Makanchi Array**	**43.60**	**297**	*e*P	**P**	**09 19 18.5**	**+0.2**
MKAR	**Makanchi Array**	**43.60**	**297**	P	**P**	**09 19 18.6**	**+0.2**
GLB	**Gilahina Butte**	**43.62**	**41**	P	**P**	**09 19 19.0**	**+0.7**
VRDI	**Verde Repeater**	**43.83**	**41**	P	**P**	**09 19 21.2**	**+1.0**
MCARA	**McCarthy VSAT**	**44.00**	**41**	P	**P**	**09 19 22.6**	**+1.3**
MCARA				IAmb	IAmb	09 19 33.6	
comp=Z,17nm,1.4s							
CRQM	**Cirque**	**44.06**	**42**	P	**P**	**09 19 23.5**	**+1.4**
CRQM				IAmb	IAmb	09 19 24.6	
comp=Z,16nm,1.2s							
TGL	**Tana Glacier**	**44.21**	**42**	P	**P**	**09 19 24.3**	**+1.2**
TGL				IAmb	IAmb	09 19 40.4	
comp=Z,12nm,1.1s							
EGAK	**Eagle**	**44.26**	**36**	P	**P**	**09 19 23.8**	**+0.5**
EGAK				IAmb	IAmb	09 19 24.4	
comp=Z,9.9nm,0.8s							
BCAR	**Beaver Creek A**	**44.27**	**38**	P	**P**	**09 19 24.9**	**+1.4**
BALM	**Baldy**	**44.39**	**41**	P	**P**	**09 19 25.5**	**+1.0**
BALM				IAmb	IAmb	09 19 35.3	
comp=Z,6.9nm,1.3s							
KURK	**Kurchatov**	**44.57**	**303**⅊	*e*P	**P**	**09 19 25.0**	**-1.0**
KURK				*i* *PP	**pwP**	**09 20 01.7**	**-0.2**
KURK				pmax	pmax		
comp=Z,18nm,3.2s							
KURK	**Kurchatov**	**44.57**	**303**	*e*P	**P**	**09 19 25.0**	**-1.0**
KURK	**Kurchatov**	**44.57**	**303**	P	**P**	**09 19 26.0**	**0.0**
KURBB	**Kurchatov Arra**	**44.66**	**303**	P	**P**	**09 19 25.9**	**-0.7**
comp=Z,1.9nm,0.5s,baz=76,slow=8.9,SNR=5.8							
BARN	**Barnard Glacie**	**44.71**	**41**	P	**P**	**09 19 28.2**	**+1.0**
BARN				IAmb	IAmb	09 19 29.5	
comp=Z,13nm,1.3s							
CTGM	**Chitina Glacie**	**44.89**	**41**	P	**P**	**09 19 29.6**	**+1.0**
CTGM				IAmb	IAmb	09 19 30.8	
comp=Z,16nm,1.4s							
DAWY	**Dawson**	**45.14**	**37**	P	**P**	**09 19 31.3**	**+0.9**
EPYK	**Eagle Plains**	**45.80**	**33**	P	**P**	**09 19 36.9**	**+1.3**
EPYK				IAmb	IAmb	09 19 37.2	
comp=Z,9.1nm,0.7s							
INK	**Inuvik**	**46.63**	**30**	P	**P**	**09 19 42.1**	**+0.2**
INK				pmax	pmax		
comp=Z,5.0nm,0.7s							
INK	**Inuvik**	**46.63**	**30**	P	**P**	**09 19 42.1**	**+0.2**
INK				IAmb	IAmb	09 19 42.8	
comp=Z,4.9nm,0.7s							
BVAR	**Borovoye Array**	**48.58**	**309**	P	**P**	**09 19 56.6**	**-0.6**
comp=Z,0.9nm,0.5s,baz=89,slow=8.2,SNR=4.2							
BRVK	**Borovoye**	**48.62**	**309**⅊	*e*P	**P**	**09 19 57.5**	**0.0**
BRVK				*i* *PP	**pP**	**09 20 30.9**	**-0.9**
BRVK				pmax	pmax		
comp=Z,4.0nm,1.5s							
BRVK	**Borovoye**	**48.62**	**309**	*e*P	**P**	**09 19 57.5**	**0.0**
JIS	**Juneau Island**	**49.03**	**44**	P	**P**	**09 20 01.6**	**+1.2**
AAK	**Ala-Archa**	**50.37**	**295**⅊	*e*P	**P**	**09 20 10.4**	**-0.7**
AAK				pmax	pmax		
comp=Z,1.0nm,0.9s							
AAK	**Ala-Archa**	**50.37**	**295**	*e*P	**P**	**09 20 10.4**	**-0.7**
ARSB	**Arslanbob**	**51.98**	**294**	P	**P**	**09 20 24.4**	**+1.3**
ARSB				IAmb	IAmb	09 20 25.3	
comp=Z,10nm,1.2s							
KK31	**Karatay Array**	**52.73**	**297**	P	**P**	**09 20 28.3**	**-0.1**
KK31				pmax	pmax		
comp=Z,3.0nm,1.0s							
KK31	**Karatay Array**	**52.73**	**297**	P	**P**	**09 20 28.3**	**-0.1**
KKAR	**Karatay Array**	**52.73**	**297**	P	**P**	**09 20 28.2**	**-0.2**
KKAR				pmax	pmax		
comp=Z,3.0nm,1.0s							
KKAR	**Karatay Array**	**52.73**	**297**	P	**P**	**09 20 28.5**	**+0.1**
KKAR	**Karatay Array**	**52.73**	**297**	P	**P**	**09 20 28.2**	**-0.2**
KKAR				IAmb	IAmb	09 20 29.1	
comp=Z,3.3nm,0.9s							
ARU	**Arti**	**53.48**	**316**	*c i*P	**P**	**09 20 33.1**	**-0.5**
ARU						09 22 33.3	
ARU				S	**S**	**09 27 53.6**	**-0.3**
ARU				SS	**SKiKP**	**09 31 30.4**	**-1.6**
ARU				pmax	pmax		
comp=Z,8.0nm,1.5s							
ARU	**Arti**	**53.48**	**316**	P	**P**	**09 20 32.5**	**-1.1**
comp=Z,1.1nm,0.3s,baz=30,slow=6.9,SNR=4.7							
ARU	**Arti**	**53.48**	**316**	*e*P	**P**	**09 20 32.8**	**-0.8**
ARU	**Arti**	**53.48**	**316**	P	**P**	**09 20 32.3**	**-1.3**
YKW3	**Yellowknife Ar**	**56.05**	**33**	P	**P**	**09 20 53.7**	**+1.7**
YKW3				IAmb	IAmb	09 20 55.3	
comp=Z,9.5nm,1.4s							
YKA	**Yellowknife Ar**	**56.09**	**33**	P	**P**	**09 20 53.7**	**+1.4**
YKA	**Yellowknife Ar**	**56.09**	**33**	P	**P**	**09 20 52.5**	**+0.2**
comp=Z,2.9nm,0.7s,baz=305,slow=6.9,SNR=14							
YKA	**Yellowknife Ar**	**56.09**	**33**	P	**P**	**09 20 53.7**	**+1.4**
ABKAR	**Akbulak array**	**56.13**	**308**	P	**P**	**09 20 52.7**	**-0.1**
AKTO	**Aktyubinsk**	**56.62**	**310**	P	**P**	**09 20 55.9**	**-0.4**
comp=Z,2.7nm,0.6s,baz=70,slow=7.9,SNR=8.9							
SUMG	**Summit**	**63.65**	**1**	P	**P**	**09 21 44.3**	**+0.1**
SUMG	**Summit**	**63.65**	**1**	P	**P**	**09 21 44.2**	**+0.1**
FIA1	**FINESS Array S**	**64.18**	**332**	P	**P**	**09 21 47.5**	**+0.2**
FINES	**FINESS Array B**	**64.18**	**332**	P	**P**	**09 21 47.3**	**0.0**
FINES	**FINESS Array B**	**64.18**	**332**	P	**P**	**09 21 46.3**	**-1.0**
comp=Z,3.5nm,0.6s,baz=69,slow=7.6,SNR=8.4							
FINES	**FINESS Array B**	**64.18**	**332**	P	**P**	**09 21 47.2**	**0.0**
WB0	**Warramunga Arr**	**64.35**	**192**	P	**P**	**09 21 49.2**	**+0.3**
WB0				IAmb	IAmb	09 21 51.0	
comp=Z,2.7nm,0.8s							
WB2	**Warramunga Arr**	**64.53**	**192**	P	**P**	**09 21 50.1**	**0.0**
WB2				IAmb	IAmb	09 22 06.8	
comp=Z,8.6nm,1.4s							
WRA	**Warramunga Arr**	**64.53**	**192**	P	**P**	**09 21 50.4**	**+0.3**
comp=Z,1.1nm,0.6s,baz=10,slow=6.8,SNR=11							
WRA	**Warramunga Arr**	**64.53**	**192**	P	**P**	**09 21 50.5**	**+0.5**
VSR	**Storozhevoye**	**65.89**	**319**	*d i*P	**P**	**09 21 57.7**	**-0.8**
VSR				pmax	pmax		
comp=Z,5.0nm,0.7s							
PAHR	**Pah Rah Range**	**66.78**	**57**	P	**P**	**09 22 05.5**	**+0.9**
LRM	**Limekiln Ridge**	**66.88**	**48**	P	**P**	**09 22 00.5**	**-4.7**
YERR	**Yerington**	**67.31**	**57**	P	**P**	**09 22 09.3**	**+1.3**
NVAR	**Mina Array Bea**	**68.23**	**57**	P	**P**	**09 22 14.3**	**+0.5**
comp=Z,0.7nm,0.6s,baz=292,slow=6.6,SNR=6.4							
NVAR	**Mina Array Bea**	**68.23**	**57**	P	**P**	**09 22 15.4**	**+1.5**
ASAR	**Alice Springs**	**68.25**	**192**	P	**P**	**09 22 15.1**	**+1.4**
ASAR	**Alice Springs**	**68.25**	**192**	P	**P**	**09 22 14.5**	**+0.8**
comp=Z,0.5nm,0.5s,baz=9.3,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**68.25**	**192**	P	**P**	**09 22 15.1**	**+1.4**
NC405	**NORSAR Array S**	**68.79**	**338**	P	**P**	**09 22 16.4**	**-0.2**
KIV	**Kislovodsk**	**68.85**	**311**	*e*P	**P**	**09 22 17.6**	**+0.2**
KIV				pmax	pmax		
comp=Z,35nm,1.0s							
KIV	**Kislovodsk**	**68.85**	**311**	*e*P	**P**	**09 22 18.8**	**+1.4**
KBZ	**Khabaz**	**68.89**	**311**⅊	*e*P	**P**	**09 22 18.3**	**+0.8**
KBZ	**Khabaz**	**68.89**	**311**	P	**P**	**09 22 17.9**	**+0.5**
comp=Z,5.6nm,0.8s,baz=79,slow=3.8,SNR=11							
KBZ	**Khabaz**	**68.89**	**311**	*e*P	**P**	**09 22 18.3**	**+0.8**
NC204	**NORSAR Array S**	**68.90**	**339**	P	**P**	**09 22 17.0**	**-0.4**
NB201	**NORSAR Array S**	**68.95**	**338**	P	**P**	**09 22 17.3**	**-0.4**
NB2	**NORSAR Subarra**	**68.98**	**338**	P	**P**	**09 22 16.9**	**-1.0**
comp=Z,1.6nm,0.5s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**68.98**	**338**	P	**P**	**09 22 17.0**	**-0.8**
comp=Z,2.5nm,0.7s,baz=32,slow=6.3,SNR=7.8							
R11A	**Troy Canyon, C**	**69.92**	**56**	P	**P**	**09 22 24.9**	**+0.7**
HWUT	**Hardware Ranch**	**70.11**	**51**	P	**P**	**09 22 26.9**	**+1.6**
DUG	**Dugway, Tooele**	**70.34**	**53**	P	**P**	**09 22 27.9**	**+1.2**
DUG				pmax	pmax		
comp=Z,4.0nm,1.3s							
DUG	**Dugway, Tooele**	**70.34**	**53**	P	**P**	**09 22 27.9**	**+1.2**
TPNV	**Topopah Spring**	**70.43**	**57**	P	**P**	**09 22 28.6**	**+1.3**
TPNV				pmax	pmax		
comp=Z,1.0nm,1.1s							
TPNV	**Topopah Spring**	**70.43**	**57**	P	**P**	**09 22 28.6**	**+1.3**
PD31	**Pinedale Array**	**70.45**	**49**	P	**P**	**09 22 28.4**	**+1.0**
PDAR	**Pinedale Array**	**70.45**	**49**	P	**P**	**09 22 27.7**	**+0.3**
comp=Z,0.9nm,0.6s,baz=283,slow=1.5,SNR=13							
PDAR	**Pinedale Array**	**70.45**	**49**	P	**P**	**09 22 28.2**	**+0.8**
AKASG	**Malin Array Be**	**70.78**	**323**	*ce*P	**P**	**09 22 28.2**	**-0.7**
AKASG				pmax	pmax		
comp=Z,3.0nm,0.5s							
AKASG	**Malin Array Be**	**70.78**	**323**	P	**P**	**09 22 28.3**	**-0.7**
comp=Z,2.0nm,0.4s,baz=40,slow=6.0,SNR=14							
AKASG	**Malin Array Be**	**70.78**	**323**	P	**P**	**09 22 29.0**	**+0.1**
SRU	**San Rafael Swe**	**72.37**	**52**	P	**P**	**09 22 39.8**	**+0.8**
SRU				pmax	pmax		
comp=Z,5.0nm,1.1s							
SRU	**San Rafael Swe**	**72.37**	**52**	P	**P**	**09 22 39.8**	**+0.8**
RWWY	**Rawlins**	**72.46**	**49**	P	**P**	**09 22 39.1**	**-0.4**
BUR08	**Bucovina Ar. S**	**74.81**	**323**	P	**P**	**09 22 53.1**	**+0.1**
BUR08				IAmb	IAmb	09 22 53.8	
comp=Z,3.8nm,0.7s							
BURAR	**Bucovina Array**	**74.83**	**323**	P	**P**	**09 22 53.0**	**0.0**
OJC	**Ojcow**	**75.02**	**327**	P	**P**	**09 22 54.0**	**+0.1**
OJC				pmax	pmax		
comp=Z,8.0nm,0.9s							
OJC	**Ojcow**	**75.02**	**327**	P	**P**	**09 22 54.0**	**+0.1**
OJC				IAmb	IAmb	09 22 55.0	
comp=Z,8.0nm,0.9s							
W18A	**Petrified Fore**	**75.56**	**55**	P	**P**	**09 22 56.6**	**-0.9**
W18A				IAmb	IAmb	09 23 04.0	
comp=Z,6.2nm,1.4s							
CLL	**Collm**	**76.61**	**332**	*e*P	**P**	**09 23 02.0**	**-0.9**
CLL	**Collm**	**76.61**	**332**	*e*P	**P**	**09 23 02.0**	**-0.9**
KHC	**Kasperske Hory**	**78.24**	**330**	P	**P**	**09 23 12.0**	**0.0**
KHC				pmax	pmax		
comp=Z,2.0nm,0.8s							
KHC	**Kasperske Hory**	**78.24**	**330**	P	**P**	**09 23 12.0**	**0.0**
TX31	**Lajitas Ar. Si**	**83.28**	**55**	P	**P**	**09 23 40.0**	**+0.7**
TX32	**Lajitas Array**	**83.28**	**55**	P	**P**	**09 23 40.0**	**+0.8**
TXAR	**Lajitas Array**	**83.28**	**55**	P	**P**	**09 23 39.9**	**+0.6**
comp=Z,0.7nm,0.5s,baz=290,slow=3.5,SNR=28							
TXAR	**Lajitas Array**	**83.28**	**55**	P	**P**	**09 23 39.3**	**+0.1**
NCB	**Newcomb**	**85.37**	**28**	P	**P**	**09 23 49.7**	**+0.3**
F64A	**Sherman**	**85.49**	**23**	P	**P**	**09 23 49.1**	**-0.9**

*ISCJB **27** 09:24:48.4±0.5, 28°.22S±0°.04×145°.54E±0°.04, h10km, Error ellipse: s-maj=5.4km s-min=4.9km az=141.6*
*AUST **27** 09:24:50.5±0.0, 28°.23S×145°.55E, h15km, Error ellipse: s-maj=0.2km s-min=0.1km az=330.0*
*IDC **27** 09:24:58.7±6.4, 28°.12S×144°.58E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.7/31, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=80.3km s-min=30.1km az=82.0*

ISC 27 09:24:49.4±0.8, 28°.21S±0°.05×145°.59E±0°.05, h10km, n18, σ2º20/31, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**2.02**	**323**	P	**Pn**	**09 25 25.9**	**+2.4**
baz=2.0,SNR=85							
QLP				S	**Sn**	**09 25 48.7**	**-0.1**
baz=2.0							
RMQ	**Roma**	**3.30**	**59**	P	**Pn**	**09 25 43.7**	**+2.5**
baz=3.3							
RMQ				S	**Sn**	**09 26 20.3**	**-0.2**
baz=3.3							
CMSA	**Cobar Meteorol**	**3.32**	**178**	P	**Pn**	**09 25 43.8**	**+2.4**
baz=3.3							
CMSA				S	**Sn**	**09 26 21.4**	**+0.5**
baz=3.3							
INKA	**Innaminka**	**4.31**	**275**	P	**Pn**	**09 25 57.4**	**+2.4**
baz=4.3,SNR=10							
INKA				S	**Sn**	**09 26 44.3**	**-1.1**
baz=4.3							
STKA	**Stephens Creek**	**5.04**	**222**	P	**Pn**	**09 26 07.8**	**+2.9**
baz=5.0							
STKA				S	**Sn**	**09 27 02.9**	**-0.4**
baz=5.0							
STKA	**Stephens Creek**	**5.04**	**222**	Pn	**Pn**	**09 26 08.3**	**+3.4**
0.6nm,0.3s,baz=44,slow=13,SNR=16							
STKA				Sn	**Sn**	**09 27 04.4**	**+1.2**
3.8nm,0.3s,baz=160,slow=21,SNR=13							
EIDS	**Eidsvold**	**5.66**	**61**	P	**Pn**	**09 26 15.8**	**+2.1**
baz=5.7,SNR=6.4							
EIDS				S	**Sn**	**09 27 17.0**	**-1.8**
baz=5.7							
ARMA	**Armidale**	**5.71**	**114**	P	**Pn**	**09 26 16.1**	**+1.6**
baz=5.7,SNR=4.2							
ARMA				S	**Sn**	**09 27 18.2**	**-2.0**
baz=5.7							
YNG	**Young**	**6.53**	**159**	P	**Pn**	**09 26 28.1**	**+2.6**
baz=6.5							
YNG				S	**Sn**	**09 27 39.5**	**-0.5**
baz=6.5							
CAN	**Canberra**	**7.66**	**159**	P	**Pn**	**09 26 42.7**	**+1.6**
baz=7.7							
OOD	**Oodnadatta**	**8.76**	**270**	P	**Pn**	**09 26 57.7**	**+1.6**
baz=8.7,SNR=3.7							
OOD				S	**Sn**	**09 28 30.2**	**-4.9**
baz=8.7							
ARPS	**Mount Arapiles**	**9.10**	**199**	P	**Pn**	**09 27 01.8**	**+1.0**
baz=9.1							
ARPS				S	**Sn**	**09 28 40.4**	**-3.0**
baz=9.1							
TOO	**Toolangi**	**9.34**	**180**	P	**Pn**	**09 27 05.3**	**+1.2**
baz=9.3							
QIS	**Mount Isa**	**9.37**	**323**	P	**Pn**	**09 27 05.7**	**+1.1**
baz=9.4							
QIS				S	**Sn**	**09 28 47.2**	**-2.8**
baz=9.4							
BBOO	**Buckleboo**	**9.41**	**239**	P	**Pn**	**09 27 06.2**	**+1.1**
baz=9.4							
BBOO				S	**Sn**	**09 28 47.3**	**-3.7**
baz=9.4							
ASAR	**Alice Springs**	**11.45**	**291**	Pn	**Pn**	**09 27 33.5**	**+0.5**
0.5nm,0.3s,baz=116,slow=14,SNR=26							
ASAR				Sn	Sn	09 29 33.5	-7.6
0.7nm,0.3s,baz=112,slow=23,SNR=13							
WRA	**Warramunga Arr**	**13.16**	**306**	Pn	**Pn**	**09 27 55.3**	**-1.1**
0.6nm,0.3s,baz=133,slow=14,SNR=24							
WRA				Sn	Sn	09 30 14.7	-8.2
0.5nm,0.3s,baz=138,slow=24,SNR=9.6							
FITZ	**Fitzroy Crossi**	**20.89**	**295**	P	**P**	**09 29 33.5**	**+1.6**
1.0nm,0.5s,baz=122,slow=9.5,SNR=3.4							

KRSC 27 09:34:22.6±1.2, 49°.60N×156°.98E, h47km±28km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.22**	**333**	P	Pn	09 34 43.8	+0.7
SKR				S	Sn	09 34 59.7	+1.3
ASAK	**Asacha**	**2.84**	**11**	P	Pn	09 35 09.6	+4.1
ASAK				S	Sn	09 35 42.4	+3.8
MTVR	**Mutnovka**	**2.98**	**14**	P	Pn	09 35 11.1	+3.6
MTVR				S	Sn	09 35 46.9	+4.8
RUS	**Russkaya**	**3.00**	**18**	P	Pn	09 35 10.5	+3.0
RUS				S	Sn	09 35 45.6	+3.5
KRMR	**Karymshinskiy**	**3.31**	**12**	P	Pn	09 35 15.7	+3.9
KRMR				S	Sn	09 35 53.2	+3.3
AVH	**Avacha**	**3.83**	**16**	P	Pn	09 35 23.6	+4.6
KOK	**Koryaka**	**3.84**	**15**	P	Pn	09 35 23.7	+4.5
GNL	**Ganaly**	**4.14**	**8**	P	Pn	09 35 26.9	+3.5
MKZ	**Mys Kozlova**	**5.76**	**29**	P	Pn	09 35 48.9	+3.5

*NEIC **27** 09:36:32.9±1.9, 1°.53N±0°.05×85°.23W±0°.05, h10km±1km, mb4.3/15*
*ISCJB **27** 09:36:34.4±0.4, 1°.56N±0°.04×85°.24W±0°.03, h33km, mb3.8/7, MS3.5/12, Error ellipse: s-maj=6.5km s-min=3.6km az=40.2*
*IDC **27** 09:36:40.3±3.3, 1°.59N×85°.09W, h69km±31km, mb3.6/7, mb1 3.9/11, mb1mx3.7/32, mbtmp4.0/11, ML3.6/5, MS3.5/18, Ms1 3.5/18, ms1mx3.3/29, Error ellipse: s-maj=40.9km s-min=15.2km az=59.0*
*IGQ **27** 09:36:43.1±0.8, 1°.N±8°.×8°.5W±°, h10km*

ISC 27 09:36:35.8±0.6, 1°.51N±0°.06×85°.21W±0°.06, h35km, n103, σ2º01/103, mb4.1/11, MS3.5/12, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**4.97**	**124**	P	**Pn**	**09 37 46.6**	**-1.3**
ISPT				S	**Sn**	**09 38 41.3**	**-2.9**
PAYG	**Puerto Ayora**	**5.52**	**247**	Pn	**Pn**	**09 37 55.0**	**-0.6**
SALI	**Salinas**	**5.59**	**131**	P	**Pn**	**09 37 56.0**	**-0.5**
MORR	**Playas El Morr**	**6.38**	**130**	P	**Pn**	**09 38 07.5**	**+0.2**
PAC1	**Pacto, Paraso**	**6.53**	**101**	P	**Pn**	**09 38 11.1**	**+1.5**
PAC1				S	**Sn**	**09 39 22.5**	**-0.6**
TERV	**Terraza Guagua**	**6.81**	**104**	P	**Pn**	**09 38 14.4**	**+0.6**
YANA	**Yana**	**6.83**	**104**	P	**Pn**	**09 38 15.4**	**+1.4**
PULU	**Pululahua**	**6.87**	**102**	P	**Pn**	**09 38 16.3**	**+1.9**
OTAV	**Otavalo**	**6.87**	**101**	P	**Pn**	**09 38 16.1**	**+1.5**
OTAV				S	**Sn**	**09 39 29.4**	**-2.4**
OTAV	**Otavalo**	**6.87**	**101**	Pn	**Pn**	**09 38 14.8**	**+0.3**
OTAV					**Sn**	**09 39 32.3**	**+0.5**
CUSE	**Cuicocha Este**	**6.91**	**100**	P	**Pn**	**09 38 16.5**	**+1.4**
CUSE				S	**Sn**	**09 39 30.7**	**-2.1**
CUIC	**Cuicocha-Domo**	**6.95**	**100**	P	**Pn**	**09 38 17.5**	**+1.9**
URCU	**Urcuqui**	**7.03**	**99**	P	**Pn**	**09 38 18.4**	**+1.7**
BNAS	**Cotopaxi Volca**	**7.07**	**108**	P	**Pn**	**09 38 18.5**	**+1.3**
BREF	**Cotopaxi Volca**	**7.10**	**108**	P	**Pn**	**09 38 19.2**	**+1.3**
IMBA	**Imbabura, San**	**7.11**	**100**	P	**Pn**	**09 38 20.6**	**+2.7**
BVC2	**Cotopaxi Volca**	**7.13**	**108**	P	**Pn**	**09 38 19.8**	**+1.6**
BTAM	**Cotopaxi Volca**	**7.15**	**108**	P	**Pn**	**09 38 19.8**	**+1.4**
PIS1	**Pisayambo**	**7.28**	**110**	P	**Pn**	**09 38 23.1**	**+2.9**
PISA	**Pisayambo**	**7.28**	**110**	P	**Pn**	**09 38 23.2**	**+3.0**
CAYA	**Cayambe**	**7.36**	**101**	P	**Pn**	**09 38 24.4**	**+3.2**
BRUN	**Tungurahua Vol**	**7.39**	**113**	P	**Pn**	**09 38 23.4**	**+1.8**
BOSC	**San Juan Bosco**	**8.15**	**125**	P	**Pn**	**09 38 34.7**	**+2.9**
SOTA	**Rioblanco**	**8.62**	**86**	*e*P	**Pn**	**09 38 41.1**	**+2.6**
SOTA	**Rioblanco**	**8.62**	**86**	*e*P	**Pn**	**09 38 41.1**	**+2.6**
JTS	**Las Juntas de**	**8.73**	**2**	P	**Pn**	**09 38 42.4**	**+2.8**
1.7nm,0.3s,baz=17,slow=19,SNR=12							
JTS				S	**Sn**	**09 40 11.6**	**-5.4**
0.3nm,0.3s,baz=15,slow=20,SNR=2.5							
JTS				LR	LR	09 41 23.4	
comp=Z,229nm,20.4s,baz=245,slow=33							
JTS	**Las Juntas de**	**8.73**	**2**		**Pn**	**09 38 39.8**	**+0.1**
JTS					**Sn**	**09 40 17.2**	**+0.3**
YOTC	**Yotoco, Valle**	**9.19**	**74**	*e*P	**Pn**	**09 38 47.0**	**+0.9**
YOTC	**Yotoco, Valle**	**9.19**	**74**	*e*P	**Pn**	**09 38 47.0**	**+0.9**
BCIP	**Isla Barro Col**	**9.30**	**35**	Pn	**Pn**	**09 38 47.9**	**+0.5**
UPA	**Univ. de Panam**	**9.33**	**37**	*e*P	**Pn**	**09 38 50.1**	**+2.2**
UPA	**Univ. de Panam**	**9.33**	**37**	*e*P	**Pn**	**09 38 50.1**	**+2.2**
FLOC	**Florencia**	**9.55**	**89**	*e*P	**Pn**	**09 38 53.3**	**+2.4**
FLOC	**Florencia**	**9.55**	**89**	*e*P	**Pn**	**09 38 53.3**	**+2.4**
UPD2	**Meteti**	**10.01**	**45**	*e*P	**Pn**	**09 39 01.5**	**+4.3**
UPD2	**Meteti**	**10.01**	**45**	*e*P	**Pn**	**09 39 01.5**	**+4.3**
CBOC	**Ciudad Bolivar**	**10.14**	**65**	*e*P	**Pn**	**09 39 01.5**	**+2.3**
CBOC	**Ciudad Bolivar**	**10.14**	**65**	*e*P	**Pn**	**09 39 01.5**	**+2.3**
ORTC	**Ortega, Tolima**	**10.23**	**76**	*e*P	**Pn**	**09 39 03.9**	**+3.6**
ORTC	**Ortega, Tolima**	**10.23**	**76**	*e*P	**Pn**	**09 39 03.9**	**+3.6**
TOLC	**Tolima**	**10.34**	**73**	*e*P	**Pn**	**09 39 04.9**	**+2.9**
TOLC	**Tolima**	**10.34**	**73**	*e*P	**Pn**	**09 39 04.9**	**+2.9**
ACON	**Acoyapa**	**10.39**	**0**	Pn	**Pn**	**09 39 02.3**	**-0.1**
RREF	**El Recreo**	**10.40**	**71**	*e*P	**Pn**	**09 39 07.0**	**+3.8**
RREF	**El Recreo**	**10.40**	**71**	*e*P	**Pn**	**09 39 07.0**	**+3.8**
PTLC	**Puerto Leguiza**	**10.49**	**97**	*e*P	**Pn**	**09 39 03.4**	**-0.5**
PTLC	**Puerto Leguiza**	**10.49**	**97**	*e*P	**Pn**	**09 39 03.4**	**-0.5**
GUY2C	**Guyana, Caldas**	**10.49**	**69**	*e*P	**Pn**	**09 39 06.6**	**+2.3**
GUY2C	**Guyana, Caldas**	**10.49**	**69**	*e*P	**Pn**	**09 39 06.6**	**+2.3**
ESPN	**Las Esperanzas**	**10.66**	**5**	Pn	**Pn**	**09 39 05.4**	**-0.6**
HELC	**Santa Helena**	**10.72**	**64**	*e*P	**Pn**	**09 39 08.4**	**+1.1**
HELC	**Santa Helena**	**10.72**	**64**	*e*P	**Pn**	**09 39 08.4**	**+1.1**
ATAH	**Atahualpa**	**10.95**	**142**	P	**Pn**	**09 39 14.2**	**+3.7**
4.2nm,0.3s,baz=343,slow=7.3,SNR=36							
ATAH				LR	LR	09 43 10.9	
comp=Z,156nm,20.7s,baz=298,slow=36

SCHQ	Schefferville	55.24	13	P	P	09 46 04.8	-0.4
	comp=Z,2.3nm,0.5s,baz=286,slow=19,SNR=5.9						
PPT	Papeete	66.13	250	LR	LR	10 08 48.9	
	comp=Z,56nm,18.8s,baz=11,slow=29						
INK	Inuvik	74.25	343	P	P	09 48 09.8	+0.9
	comp=Z,1.5nm,1.0s,baz=165,slow=3.5,SNR=4.3						
INK	Inuvik	74.25	343	IAmb	IAmb	09 48 23.6	
	comp=Z,5.0nm,1.4s						
KDAK	Kodiak Island	76.82	329	LR	LR	10 19 59.0	
	comp=Z,37nm,21.5s,baz=90,slow=34						

SOME ***27*** *09:49:43.4, 43.°62N×69.°70E*
NNC ***27*** *09:49:47.1±0.9, 43.°61N×69.°92E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=5.0km s-min=3.4km az=113.0, Suspected Mining explosion.*

ISC 27 09:49:49.6±3.4, 43.°62N±0.°10×70.°4E±0.°2, h0km, n12, σ1§03/13, 4C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.53	168	⇑P	Pg	09 49 59.9	+0.2
	4.7nm,0.1s,baz=322,slow=17,SNR=140						
KK31				⇑S	Sb	09 50 09.6	-0.4
	18nm,0.3s,baz=322,slow=24,SNR=127						
MRKS	Merke	2.27	112	Pg	Pg	09 50 34.5	+1.4
	6.2nm,0.4s						
MRKS				Lg	Lg	09 51 12.5	
	9.1nm,0.5s						
BTLS	Baital	3.00	60	Pg	Pg	09 50 47.7	+0.6
	19nm,0.5s						
BTLS				Lg	Lg	09 51 33.5	
	2.2nm,0.4s						
SGDS	Sogindy	3.11	92	Pg	Pg	09 50 50.4	+1.3
	5.4nm,0.4s						
SGDS				Lg	Lg	09 51 39.3	
	11nm,0.5s						
AAK	Ala-Archa	3.18	107	⇑Pg	Pg	09 50 50.1	-0.4
	4.4nm,0.5s						
AAK				⇑Lg	Lg	09 51 40.3	
	6.1nm,0.5s						
TKM2	Tokmak 2	3.88	99	⇓Pg	Pg	09 51 03.4	-0.7
	3.1nm,0.6s						
TKM2				⇓Lg	Lg	09 52 01.2	
	9.7nm,0.6s						
DGS	Degeres	3.96	94	Pg	Pg	09 51 06.6	+1.1
	2.9nm,0.4s						
DGS				Lg	Lg	09 52 06.5	
	24nm,0.7s						
KST	Kastek	4.13	96	Pg	Pg	09 51 08.1	-0.6
	3.8nm,0.3s						
KST				Lg	Lg	09 52 09.9	
	13nm,1.0s						
KUU	Kurty	4.34	84	Pg	Pg	09 51 10.8	-1.9
	2.5nm,0.5s						
KUU				Lg	Lg	09 52 14.5	
	22nm,0.5s						
KTBS	Karatobe	4.58	87	Pg	Pg	09 51 17.2	-0.3
	1.2nm,0.4s						
KTBS				Lg	Lg	09 52 24.5	
	13nm,0.9s						
IZV	Izvestkoviy	4.60	95	Pg	Pg	09 51 18.1	+0.4
IZV				Lg	Lg	09 52 25.7	
TNSS	Tian-Shan	4.84	95	Pg	Pg	09 51 21.8	-0.6
	2.1nm,0.5s						
TNSS				Lg	Lg	09 52 32.4	
	10nm,0.7s						

NIED ***27*** *10:07:00, 44.°70N×149.°30E, h29km, Mw3.5 Best double couple: M0=1.95000×10^14 NP1:φ=56.00000°, δ=20.00000°, λ=-60.00000°. NP2:φ=205.00000°, δ=73.00000°, λ=-100.00000°.*
IDC ***27*** *10:07:45.1±2.5, 44.°30N×149.°82E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/37, mbtmp3.7/6, ML3.0/2, MS2.7/1, Ms1 2.9/1, ms1mx2.1/35, Error ellipse: s-maj=76.0km s-min=34.1km az=157.0*
ISCJB ***27*** *10:07:46.9±0.4, 44.°14N±0.°08×149.°49E±0.°06, h36km, mb3.6/4, MS2.7/1, Error ellipse: s-maj=12.1km s-min=3.1km az=155.5*
SKHL ***27*** *10:07:47.5±0.7, 44.°56N×149.°49E, h44km±2km, mb4.3/3*
JMA ***27*** *10:07:47.1±0.7, 44.°66N×149.°34E, h30km, M3.8*
NEIC ***27*** *10:07:48.6±1.7, 44.°03N±0.°08×149.°85E±0.°08, h38km±8km, mb4.4/23*
MOS ***27*** *10:07:48.5±1.6, 44.°42N×149.°46E, h44km, mb4.1/2, Error ellipse: s-maj=14.0km s-min=8.8km az=137.7*

ISC 27 10:07:48.8±0.5, 44.°36N±0.°06×149.°48E±0.°06, h36km, n82, σ2§24/85, mb4.2/12, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.45	308	*d* iPN	Pn	10 08 09.2	-3.2
KUR				*eS*	Sn	10 08 25.1	-5.0
KUR				pmax	pmax		
	comp=Z,265nm,0.3s						
KUR				pmax	pmax		
	comp=E,127nm,0.2s						
KUR				pmax	pmax		
	comp=N,146nm,0.4s						
KUR				smax	smax		
	comp=N,898nm,0.4s						
KUR				smax	smax		
	comp=E,746nm,0.5s						
KUR	Kuril'sk	1.45	308	*i* P	Pn	10 08 09.0	-3.4
KUR				AMB	AMB	10 08 12.0	
	comp=E,154nm,0.4s						
KUR				*eS*	Sn	10 08 25.0	-5.0
KUR				A	A	10 08 28.0	
	comp=E,898nm,0.4s						
KUR				A	A	10 08 28.0	
	comp=E,954nm,0.4s						
YUK	Yuzh-Kuril'sk	2.62	264	*e*PN	Pn	10 08 29.2	+0.7
YUK				S	Sn	10 08 57.4	-1.7
YUK				pmax	pmax		
	comp=Z,79nm,0.2s						
YUK				pmax	pmax		
	comp=N,37nm,0.1s						
YUK				smax	smax		
	comp=N,170nm,0.2s						
YUK				smax	smax		
	comp=E,90nm,0.2s						
YUK	Yuzh-Kuril'sk	2.62	264	*e*P	Pn	10 08 28.0	-0.5
YUK				AMB	AMB	10 08 34.0	
	comp=E,40nm,0.3s						
YUK				*e*S	Sn	10 08 57.9	-1.2
YUK				A	A	10 09 01.0	
	comp=E,217nm,0.3s						
YUK				A	A	10 09 01.0	
	comp=E,198nm,0.3s						
GRPR	Tuman	2.69	264	*e*PN	Pn	10 08 29.7	+0.2
GRPR				*i* S	Sn	10 09 01.3	+0.4
GRPR				pmax	pmax		
	comp=Z,69nm,0.3s						
GRPR				pmax	pmax		
	comp=N,79nm,0.1s						
GRPR				pmax	pmax		
	comp=E,42nm,0.1s						
GRPR				smax	smax		
	comp=N,203nm,0.2s						
GRPR				smax	smax		
	comp=E,160nm,0.3s						
GRPR	Tuman	2.69	264	*e*P	Pn	10 08 29.0	-0.5
GRPR				AMB	AMB	10 08 33.0	
	comp=E,35nm,0.3s						
GRPR				*i* S	Sn	10 09 01.0	+0.1
GRPR				A	A	10 09 02.0	
	comp=E,203nm,0.3s						
GRPR				A	A	10 09 02.0	
	comp=E,160nm,0.3s						
NEM2	Nemuro 2	2.88	251	P	Pn	10 08 30.5	-1.6
NEM2				*e*S	Sn	10 09 02.6	-2.8
NMR	Nemuro--Hokkai	2.89	251	*e*PN	Pn	10 08 32.1	-0.1
NMR				S	Sn	10 09 05.1	-0.6
NMR	Nemuro--Hokkai	2.89	251	*e*P	Pn	10 08 32.0	-0.1
NMR				*e*S	Sn	10 09 05.0	-0.6
GLVR	Golovnino	2.92	259	*e*S	Sn	10 09 06.0	-0.5
JNK	Nakash	3.52	259	P	Pn	10 08 39.8	-1.1
JNK				*e*S	Sn	10 09 17.0	-4.3
JAK	Akkeshi	3.73	250	P	Pn	10 08 42.3	-1.4
JAK				*e*S	Sn	10 09 23.2	-3.2
JAR	Ashorobuto	4.27	258	P	Pn	10 08 51.1	0.0
JAR				*e*S	Sn	10 09 38.5	-1.2
JMP	Maruseppu	4.42	268	P	Pn	10 08 54.0	+0.8
JCH	Churui	4.78	251	P	Pn	10 08 57.6	-0.6
JCH				*e*S	Sn	10 09 49.4	-2.9
JKA	Kamikawa-asahi	4.95	270		Pn	10 09 04.1	+3.6
ASAJ	Asahikawa	4.95	270	Pn	Pn	10 09 04.1	+3.5
	comp=E,0.7nm,0.3s,baz=84,slow=10,SNR=5.0						
ERM	Erimo	5.18	245	PN	Pn	10 09 04.4	+0.7
ERM						10 10 06.5	
ERM	Erimo	5.18	245	Pn	Pn	10 09 04.4	+0.7
ERM				Sn	Sn	10 10 06.5	+4.3
JNBK	Urakawa-nobuka	5.33	249	P	Pn	10 09 04.8	-0.9
JBT2	Biratori 2	5.41	256	P	Pn	10 09 05.8	-1.0
JNB	Noboribetsu	6.43	256	P	Pn	10 09 20.5	-0.4
JNB				*e*S	Sn	10 10 29.4	-3.6
JKB	Kayabe	6.66	251	P	Pn	10 09 22.4	-1.5
JKB				*e*S	Sn	10 10 31.5	-7.0
JANG	Nango	7.12	239	P	Pn	10 09 27.7	-2.6
JANG				*e*S	Sn	10 10 39.9	-10
JTM	Tenmabayashi	7.16	243	*e*S	Sn	10 10 43.9	-7.0
PEA0B	Petropavlovsk-	10.30	29	PN	Pn	10 10 16.3	+2.5
PEA0B	Petropavlovsk-	10.30	29	Pn	Pn	10 10 16.3	+2.5
PETK	Petropavlovsk-	10.30	29	PN	Pn	10 10 14.0	+0.2
PETK	Petropavlovsk-	10.30	29	Pn	Pn	10 10 13.9	+0.1
	comp=E,0.2nm,0.3s,baz=216,slow=11,SNR=3.9						
PETK	Petropavlovsk-	10.30	29		Pn	10 10 14.0	+0.2
PET	Petropavlovsk	10.57	32	PN	Pn	10 10 19.2	+1.6
PET	Petropavlovsk	10.57	32	Pn	Pn	10 10 19.2	+1.6
PET				Sn	Sn	10 12 15.3	+0.7
KSAR	Wonju Array Be	17.70	254	P	P	10 11 53.8	+0.9
KSAR	Wonju Array Be	17.70	254		P	10 11 53.9	+0.9
SMY	Shemya	18.25	54	P	Pn	10 11 57.5	-1.5
SMY				pmax	pmax		
	comp=Z,59nm,0.9s						
SMY	Shemya	18.25	54	P	Pn	10 11 57.5	-1.5
JNU	Nakatsue	18.30	239	P	Pn	10 11 59.0	-0.7
JNU				IAmb	IAmb	10 12 14.0	
	comp=Z,58nm,1.4s						
INCN	Inchon	18.55	256	P	Pn	10 12 03.4	+0.7
INCN				pmax	pmax		
	comp=Z,44nm,1.2s						
INCN	Inchon	18.55	256	P	Pn	10 12 03.4	+0.7
INCN				IAmb	IAmb	10 12 17.4	
	comp=Z,44nm,1.1s						
HIA	Hailar	20.86	294	P	Pn	10 12 29.5	-0.6
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HIA	Hailar	20.86	294	P	Pn	10 12 29.4	-0.6
YAK	Yakutsk	21.15	334	P	P	10 12 34.3	+4.0
YAK	Yakutsk	21.15	334	P	P	10 12 34.3	+4.0
YAK				IAmb	IAmb	10 12 45.8	
	comp=Z,10nm,0.5s						
KIWB	Kanaga Island	23.35	59	P	P	10 12 53.7	+0.1
JOW	Kunigami	24.44	231	P	P	10 13 02.4	-1.7
JOW				IAmb	IAmb	10 13 17.7	
	comp=Z,18nm,1.1s						
H11N2	WAKE ISLAND Hy	28.53	144	T	T	10 44 37.2	
	baz=333,slow=76,SNR=69						
H11N1	WAKE ISLAND Hy	28.54	144	T	T	10 44 38.2	
	baz=333,slow=76,SNR=60						
H11N3	WAKE ISLAND Hy	28.54	144	T	T	10 44 37.0	
	baz=333,slow=76,SNR=55						
H11S1	WAKE ISLAND Hy	29.54	145	T	T	10 45 53.4	
	baz=334,slow=76,SNR=66						
H11S3	WAKE ISLAND Hy	29.54	145	T	T	10 45 53.9	
	baz=334,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy	29.55	145	T	T	10 45 53.7	
	baz=334,slow=76,SNR=56						
UNV	Unalaska Valle	29.90	56	P	P	10 13 50.0	-2.7
MIDW	Midway	30.94	110	P	P	10 13 58.7	-3.5
TWG	Pinlang	31.70	237	P	P	10 14 09.3	+0.3
XAN	Xi'an	32.78	266	P	P	10 14 20.6	+2.2
XAN	Xi'an	32.78	266	P	P	10 14 20.6	+2.2
XAN				IAmb	IAmb	10 14 32.1	
	comp=Z,6.1nm,1.1s						
RDOG	Red Dog Mine	34.17	30	P	P	10 14 31.4	+1.3
IMAR	Indian Mountai	37.19	34	P	P	10 14 57.8	+1.7
KDAK	Kodiak Island	37.60	48	P	P	10 15 01.0	+1.5
KDAK	Kodiak Island	37.60	48	P	P	10 15 01.0	+1.5
MLY	Manley	38.36	36	P	P	10 15 08.0	+2.0
DHY	Denali Highway	39.84	39	P	P	10 15 21.8	+3.4
HDA	Harding Lake	39.98	37	P	P	10 15 20.4	+0.9
HDA				IAmb	IAmb	10 15 30.4	
	comp=Z,7.3nm,1.5s						
IL31		40.00	37	P	P	10 15 20.7	+1.2
ILAR	Eielson Array	40.00	37	P	P	10 15 19.8	+0.2
	comp=Z,0.7nm,0.8s,baz=264,slow=8.7,SNR=7.2						
FYU	Fort Yukon	40.67	34	P	P	10 15 27.3	+2.2
FYU				IAmb	IAmb	10 15 45.9	
	comp=Z,4.5nm,1.1s						
BMAR	Burnt Mountain	40.92	33	P	P	10 15 29.4	+2.2
BCAR	Beaver Creek A	42.37	39	P	P	10 15 41.5	+2.4
EGAK	Eagle	42.45	36	P	P	10 15 41.1	+1.5
EGAK				IAmb	IAmb	10 15 55.7	
	comp=Z,5.3nm,1.5s						
INK	Inuvik	45.02	31	P	P	10 16 01.8	+1.6
INK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
INK	Inuvik	45.02	31	P	P	10 16 01.1	+0.8
	comp=Z,0.4nm,0.4s,baz=297,slow=5.4,SNR=6.2						
INK	Inuvik	45.02	31	P	P	10 16 01.8	+1.6
CMAR	Chiang Mai Arr	49.31	255	LR	LR	10 37 51.7	
	comp=Z,7.2nm,18.1s,baz=255,slow=36						
YKW3	Yellowknife Ar	54.32	35	P	P	10 17 12.0	+0.9
YKW3				IAmb	IAmb	10 17 30.3	
	comp=Z,4.4nm,1.2s						
YKA	Yellowknife Ar	54.35	35	P	P	10 17 12.5	+1.2
	comp=Z,0.5nm,0.6s,baz=304,slow=7.4,SNR=3.0						
ABKAR	Akbulak array	57.99	309	P	P	10 17 39.9	+2.5
ABKAR				IAmb	IAmb	10 17 45.0	
	comp=Z,3.5nm,1.4s						
ABKAR	Akbulak array	57.99	309	P	P	10 17 39.8	+2.3
BKNI	Bangkinang	61.33	239	P	P	10 18 01.0	+0.2
YHL	Hebgen Lake	65.99	50	P	P	10 18 30.6	-1.1
BBOO	Buckleboo	77.77	192	P	P	10 19 39.5	-2.3
TXAR	Lajitas Array	80.91	58	P	P	10 20 00.4	+1.0
	comp=Z,0.4nm,0.6s,baz=303,slow=4.1,SNR=9.9						
TXAR	Lajitas Array	80.91	58	P	P	10 19 58.7	-0.7

SOME ***27*** *10:20:33.3, 42.°98N×71.°17E*
ISCJB ***27*** *10:20:34.7±0.3, 42.°92N±0.°04×71.°10E±0.°03, h0km, Error ellipse: s-maj=6.2km s-min=1.8km az=19.6*
NNC ***27*** *10:20:34.5±0.6, 42.°92N×71.°08E, h0km, mb3.4, mpv2.6, Error ellipse: s-maj=6.7km s-min=2.8km az=19.0, Suspected Mining explosion.*
KRNET ***27*** *10:20:35.1±0.1, 42.°85N×71.°20E, h14km, mb3.0*

ISC 27 10:20:33.7±0.8, 42.°89N±0.°05×71.°14E±0.°02, h0km, n23, σ0§88/45, 25C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	Taraz	0.14	91	*e*P	Pg	10 20 36.3	-0.1
	baz=66						
DZA				*e*S	Sg	10 20 38.5	+0.4
	baz=66						
KK06	Karatay Array	0.50	294	⇓P	Pg	10 20 43.2	0.0
KK06				⇑S	Sg	10 20 50.6	+0.9
KK05	Karatay Array	0.51	296	⇑P	Pg	10 20 43.3	-0.1
KK05				⇑S	Sg	10 20 50.1	+0.1
KK02	Karatay Array	0.51	295	⇑P	Pg	10 20 43.5	0.0
KK02				⇑S	Sg	10 20 50.6	+0.5
KK31	Karatay Array	0.51	295	⇑P	Pg	10 20 43.4	-0.1
	3.7nm,0.3s,baz=114,slow=18,SNR=75						
KK31				⇓S	Sg	10 20 49.6	-0.4
	12nm,0.3s,baz=113,slow=31,SNR=19						
KK07	Karatay Array	0.51	293	⇑P	Pg	10 20 43.5	0.0
KK07				⇑S	Sg	10 20 50.9	+0.7
KK01	Karatay Array	0.51	295	⇑P	Pg	10 20 43.5	0.0
KK01				⇑S	Sg	10 20 50.9	+0.6
KK04	Karatay Array	0.52	295	⇑P	Pg	10 20 43.6	0.0
KK04				⇑S	Sg	10 20 50.7	+0.5
KK03	Karatay Array	0.52	294	⇑P	Pg	10 20 43.7	0.0
KK03				⇓S	Sg	10 20 50.5	+0.2
KK09	Karatay Array	0.53	296	⇓P	Pg	10 20 43.7	-0.1
KK09				⇑S	Sg	10 20 51.1	+0.5
KK08	Karatay Array	0.53	294	⇓P	Pg	10 20 43.9	+0.1
KK08				⇓S	Sg	10 20 51.0	+0.4
BRLS	Borolday	0.97	279	*e*P	Pn	10 20 54.5	-0.1
	baz=81						
BRLS				*e*S	Sn	10 21 09.8	+0.7
	baz=81						
IUG	luzhnay	1.11	228	*e*P	Pb	10 20 56.0	+0.1
	baz=31						
IUG				*e*S	Sn	10 21 12.7	0.0
	baz=31						
ARK	Arkit	1.25	151	⇓*i*P	Pn	10 20 58.6	0.0
	baz=51						
ARK				⇓*i*S	Sn	10 21 15.9	-0.3
	baz=51						
MRKS	Merke	1.54	95	*e*P	Pb	10 21 02.9	-0.3
	baz=93						
MRKS				*e*S	Sn	10 21 24.8	+1.5
	baz=93						
EKS2	Erkin-Say	1.95	96	⇑*i*P	Pb	10 21 09.5	-0.8
	baz=95						
EKS2				⇑*i*S	Sg	10 21 37.4	+0.9
	baz=95						
AML	Almayashu	2.03	111	⇑*i*P	Pb	10 21 11.4	-0.4
	baz=10.0						
AML				⇑*i*S	Sg	10 21 40.1	+1.0
	baz=10.0						
ARSB	Arslanbob	2.08	138	⇑*i*P	Pb	10 21 11.6	-0.9
	baz=38						
ARSB				⇑*i*S	Sg	10 21 40.9	+0.3
	baz=38						
AAK	Ala-Archa	2.48	95	⇑Pn	Pb	10 21 18.2	-1.1
	3.8nm,0.4s						
AAK				⇓Lg	Lg	10 21 53.2	
	4.9nm,0.5s						
USP	Ospenovka	2.49	80	⇑*i*P	Pb	10 21 17.4	-1.9
	baz=79						
USP				⇑*i*S	Sb	10 21 50.4	-0.1
	baz=79						
ARLS	Aral	2.57	113	⇓*i*P	Pn	10 21 18.5	+1.7
	baz=12						
ARLS				⇓*i*S	Sb	10 21 51.9	-1.1
	baz=12						
UCH	Uchtor	2.58	104	⇑*i*P	Pb	10 21 19.5	-1.6
	baz=3.0						
UCH				⇑*i*S	Sb	10 21 53.1	-0.4
	baz=3.0						
KZA	Kyzart	3.14	104	⇓*i*P	Pn	10 21 26.9	+2.0
	baz=3.0						
KZA				⇓*i*S	Sb	10 22 07.0	-2.8
	baz=3.0						

ISN ***27*** *10:23:56.8±1.3, 34.°32N×45.°61E, h15km±5km, ML3.2*
TEH ***27*** *10:23:57.4, 34.°35N×45.°58E, h13km, ML3.0*
ISCJB ***27*** *10:23:58.5±0.5, 34.°33N±0.°04×45.°55E±0.°04, h18km, Error ellipse: s-maj=5.6km s-min=4.1km az=164.8*

ISC 27 10:23:58.8±1.0, 34.°32N±0.°04×45.°57E±0.°04, h18km, n17, σ1§10/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.77	60	*e*Pg	Pb	10 24 11.7	-2.1
IDHR				IAMB	IAmb	10 24 25.4	
	comp=Z,0.0nm,0.2s						
IGHG	Ghaleghazi	0.82	89	*e*Pg	Pb	10 24 13.3	-1.4
IGHG				IAMB	IAmb	10 24 14.1	
	comp=Z,8μm,0.2s						
IGHG				*e*Sg	Sb	10 24 25.2	-0.3
KCHF	Cheshme Sefid,	1.22	92	*e*Pg	Pn	10 24 20.1	-0.9
IBDR	Badra	1.24	166	*e*Pn	Pn	10 24 21.0	-0.2
IBDR				AML	AML	10 24 25.2	
	comp=Z,485nm,0.4s						
IBDR				*e*Sn	Sg	10 24 39.0	0.0
ILIN	Lien	1.29	62	*e*Pg	Pn	10 24 21.9	-0.3
BHD	Baghdad	1.44	224	*e*Pg	Pn	10 24 23.0	-1.0
BHD				*e*Sg	Sb	10 24 43.0	-0.1
IKOM	Komasi	1.61	95	*e*Pn	Pb	10 24 27.4	-0.7
IBZA	Bozab	1.90	85	*e*Pn	Pb	10 24 32.0	-1.0
IKFM	Kafar-mosalman	2.05	112	*e*Pn	Pn	10 24 33.6	+1.3
IKFM				IAMB	IAmb	10 25 07.6	
	comp=Z,0.0nm,0.3s						
IDOB	Doab	2.23	103	*e*Pn	Pn	10 24 35.7	+0.7
HSRG	Sareghieh	2.41	67	*e*Pn	Pn	10 24 39.4	+1.8
HSRG				IAMB	IAmb	10 25 20.8	
	comp=Z,0.0nm,0.6s						
IKMR	Kamar-syah	2.47	108	*e*Pn	Pn	10 24 38.9	+0.9
HSAM	Samen	2.51	92	*e*Pn	Pn	10 24 39.7	+0.8
HSAM				IAMB	IAmb	10 25 23.7	
	comp=Z,0.0nm,0.6s						
MSL	Mosul	2.89	317	*e*Pn	Pn	10 24 44.0	+0.1
MSL				AML	AML	10 24 46.3	
	comp=Z,142nm,0.4s						
MSL				*e*Sn	Sn	10 25 20.0	+1.7
HAGD	Aghdareh	2.98	79	*e*Pn	Pn	10 24 46.6	+1.2
HAGD				IAMB	IAmb	10 25 35.4	
	comp=Z,0.0nm,0.6s						
NSR	Nassriya	3.33	172	*e*Pn	Pn	10 24 51.0	+1.0
NSR				AML	AML	10 24 54.3	
	comp=Z,598nm,0.4s						
NSR				*e*Sn	Sn	10 25 30.0	+0.9
RTB	Rutbah	4.58	255	*e*Pn	Pn	10 25 08.0	+0.9
RTB				AML	AML	10 25 15.4	
	comp=Z,38nm,0.3s						
RTB				*e*Sn	Sn	10 26 00.5	+0.7

IDC 27 10:35:21.7±999.0, 50.°77N×44.°12E, h0km, Error ellipse: s-maj=1383.0km s-min=194.1km az=83.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	8.87	87	*i*		11 27 10.0	
	baz=278,slow=295,SNR=2.0						
I46RU	ZALESOVO INFRA	24.82	67	*i*		13 08 10.0	
	baz=279,slow=342,SNR=4.3						
I34MN	SONGINO INFRAS	39.68	69	*i*		14 39 10.0	
	baz=300,slow=329,SNR=0.7						

IDC ***27*** *10:56:11.9±2.1, 4.°15S×131.°66E, h0km, mb3.6/1, mb1 3.7/5, mb1mx3.4/56, mbtmp3.6/5, ML3.3/4, MS3.0/2, Ms1 3.0/2, ms1mx2.4/37, Error ellipse: s-maj=111.3km s-min=23.5km az=81.0*
ISCJB ***27*** *10:56:14.0±0.7, 4.°12S±0.°06×131.°97E±0.°06, h35km, mb3.6/1, MS3.5/1, Error ellipse: s-maj=10.7km s-min=6.1km az=37.0*
DJA ***27*** *10:56:17.4±1.3, 4.°S±5.°×13.°2E±.°, h36km±25km, M3.8/7, mb4.4/1, MLv3.6/7*

ISC 27 10:56:14.5±0.9, 4.°08S±0.°06×131.°91E±0.°06, h35km, n12, σ2§60/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.20	16	P	Pn	10 56 35.5	+0.7
FAKI				S	Sn	10 56 49.9	+0.1
BNDI	Bandanaira	2.05	257	P	Pn	10 56 49.1	+2.6
BNDI				S	Sn	10 57 13.2	+2.3
SIJI	Sorong	3.25	349	Pn	Pn	10 57 04.2	+1.2
	1.4nm,0.3s,baz=147,slow=17,SNR=6.2						
SIJI				Sn	Sn	10 57 37.1	-3.4
	5.1nm,0.3s,baz=287,slow=23,SNR=12						
SWI	Sorong	3.26	348	P	Pn	10 57 03.7	+0.6
SWI				S	Sn	10 57 37.8	-2.9
RKPI	Ransiki, Papua	3.41	42	P	Pn	10 57 06.8	+1.6
RKPI				S	Sn	10 57 46.0	+1.6
SANI	Sanana	6.25	289	P	Pn	10 57 43.2	-1.1
JAY	Jayapura	8.91	80	LR	LR	11 03 02.8	
	comp=Z,30nm,19.9s,baz=234,slow=45						
FITZ	Fitzroy Crossi	15.23	203	Pn	Pn	10 59 44.6	-2.5
	0.1nm,0.3s,baz=28,slow=12,SNR=3.7						
WRA	Warramunga Arr	15.95	172	Pn	Pn	10 59 56.1	-0.3
	0.1nm,0.3s,baz=355,slow=13,SNR=3.8						
WRA				Sn	Sn	11 02 46.3	-5.9
	0.3nm,0.3s,baz=4.2,slow=23,SNR=19						
ASAR	Alice Springs	19.57	175	P	Pn	11 00 42.0	+0.9
	0.2nm,0.3s

*NEIC **27** 10:56:23.4±1.1, 44°.5N±0°.1×149°.2E±0°.1, h55km±9km, mb4.3/9*

ISC 27 10:56:22.3±0.7, 44°.46N±0°.07×149°.19E±0°.07, h42km, n49, σ1§30/49, mb3.8/6, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.22	310	*c iPN*	Pn	10 56 42.2	-0.6
KUR				*i* S	Sn	10 56 57.6	-0.5
KUR				pmax	pmax		
	comp=Z,207nm,0.3s						
KUR				pmax	pmax		
	comp=N,135nm,0.2s						
KUR				pmax	pmax		
	comp=E,210nm,0.2s						
KUR				smax	smax		
	comp=N,488nm,0.2s						
KUR				smax	smax		
	comp=E,795nm,0.4s						
GRPR	Tuman	2.50	260	*e*PN	Pn	10 57 00.0	-0.4
GRPR				*i* S	Sn	10 57 30.3	+0.6
GRPR				pmax	pmax		
	comp=Z,58nm,0.1s						
GRPR				smax	smax		
	comp=N,112nm,0.3s						
GRPR				smax	smax		
	comp=E,98nm,0.2s						
NMR	Nemuro--Hokkai	2.73	248	*c iPN*	Pn	10 57 03.7	+0.1
NMR				S	Sn	10 57 35.6	+0.3
GLVR	Golovnino	2.74	256	*e*PN	Pn	10 57 04.2	+0.5
GLVR				*e*S	Sn	10 57 37.1	+1.5
GLVR				pmax	pmax		
	comp=Z,136nm,0.1s						
GLVR				smax	smax		
	comp=N,223nm,0.2s						
GLVR				smax	smax		
	comp=E,429nm,0.4s						
JKA	Kamikawa-asahi	4.74	268		Pn	10 57 33.6	+2.3
ASAJ	Asahikawa	4.74	268	Pn	Pn	10 57 33.6	+2.3
	comp=E,0.4nm,0.3s,baz=70,slow=15,SNR=3.1						
ASAJ				LR	LR	10 59 33.0	
	comp=E,74nm,20.6s,baz=322,slow=39						
ERM	Erimo	5.04	243	PN	Pn	10 57 36.4	+1.1
ERM	Erimo	5.04	243	Pn	Pn	10 57 36.4	+1.1
ERM				Sn	Sn	10 58 31.7	-0.5
YSS	Yuzh-Sakhalins	5.15	301	PN	Pn	10 57 37.8	+1.0
YSS	Yuzh-Sakhalins	5.15	301	Pn	Pn	10 57 37.8	+1.0
PEA0B	Petropavlovsk-	10.31	30	PN	Pn	10 58 48.7	+1.2
PEA0B	Petropavlovsk-	10.31	30	Pn	Pn	10 58 48.7	+1.2
PETK	Petropavlovsk-	10.31	30	PN	Pn	10 58 48.0	+0.5
PETK	Petropavlovsk-	10.31	30	Pn	Pn	10 58 47.8	+0.2
	comp=E,0.2nm,0.3s,baz=210,slow=11,SNR=4.4						
PETK	Petropavlovsk-	10.31	30		Pn	10 58 48.0	+0.5
PET	Petropavlovsk	10.60	33	PN	Pn	10 58 52.9	+1.5
PET	Petropavlovsk	10.60	33	Pn	Pn	10 58 52.9	+1.5
MAJO	Matsushiro	11.50	230	PN	Pn	10 59 05.0	+1.1
MAJO	Matsushiro	11.50	230	Pn	Pn	10 59 05.0	+1.1
MJAR	Matsushiro Arr	11.50	230	LR	LR	11 03 42.0	
	comp=E,12nm,20.6s,baz=295,slow=38						
MJB9	Matsu-Tunnel	11.50	230	Pn	Pn	10 59 04.8	+0.9
USA0B	Ussuriysk Arra	12.32	275	PN	Pn	10 59 16.4	+1.4
USA0B	Ussuriysk Arra	12.32	275	Pn	Pn	10 59 16.4	+1.4
KS19	Wonju Array Si	17.51	254		Pn	11 00 23.4	+0.2
KS19				IAmb	IAmb	11 00 39.3	
	comp=Z,59nm,1.4s						
H11N2	WAKE ISLAND Hy	28.74	143	T	T	11 33 06.6	
	baz=333,slow=76,SNR=53						
H11N1	WAKE ISLAND Hy	28.75	143	T	T	11 33 07.3	
	baz=333,slow=76,SNR=35						
H11N3	WAKE ISLAND Hy	28.75	143	T	T	11 33 07.8	
	baz=333,slow=76,SNR=45						
H11S1	WAKE ISLAND Hy	29.75	145	T	T	11 34 21.5	
	baz=334,slow=76,SNR=48						
H11S3	WAKE ISLAND Hy	29.75	145	T	T	11 34 26.0	
	baz=334,slow=76,SNR=34						
H11S2	WAKE ISLAND Hy	29.76	145	T	T	11 34 20.5	
	baz=334,slow=76,SNR=34						
GUMO	Guam	30.99	188	P	P	11 02 35.0	-0.7
GUMO	Guam	30.99	188	P	P	11 02 35.0	-0.7
YULB	Yu-li	31.01	237	P	P	11 02 35.3	-0.6
YULB				IAmb	IAmb	11 02 45.5	
	comp=Z,13nm,1.1s						
IMAR	Indian Mountai	37.23	35	P	P	11 03 29.2	-0.1
IL31		40.04	37	P	P	11 03 52.5	-0.3
ILAR	Eielson Array	40.04	37	P	P	11 03 53.3	+0.4
ILAR	Eielson Array	40.04	37	P	P	11 03 52.9	-0.1
	comp=Z,0.7nm,0.8s,baz=270,slow=8.5,SNR=8.4						
ILAR	Eielson Array	40.04	37	P	P	11 03 53.3	+0.4
EYAK	Cordova Ski Ar	40.88	43	P	P	11 03 57.3	-2.6
GLB	Gilahina Butte	41.70	42	P	P	11 04 06.7	0.0
GLB				IAmb	IAmb	11 04 25.2	
	comp=Z,4.3nm,1.2s						
INK	Inuvik	45.04	31	P	P	11 04 32.8	-0.6
INK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
INK	Inuvik	45.04	31	P	P	11 04 32.2	-1.2
	comp=Z,0.6nm,0.5s,baz=307,slow=6.5,SNR=5.9						
INK	Inuvik	45.04	31	P	P	11 04 32.9	-0.6
INK				IAmb	IAmb	11 04 45.6	
	comp=Z,3.8nm,1.4s						
YKA	Yellowknife Ar	54.39	35	P	P	11 05 44.3	-0.2
	comp=Z,0.6nm,0.8s,baz=296,slow=6.1,SNR=3.0						
BTK	Batken	56.06	295	P	P	11 05 53.8	-3.3
BTK				*PP	pP	11 06 09.7	+1.1
BTK	Batken	56.06	295	P	P	11 05 53.8	-3.3
BTK					pP	11 06 09.7	+1.1
W18A	Petrified Fore	73.33	57	P	P	11 07 52.9	+3.1
TXAR	Lajitas Array	81.03	58	P	P	11 08 33.2	+0.2
	comp=Z,0.4nm,0.6s,baz=297,slow=4.0,SNR=10						
TXAR	Lajitas Array	81.03	58	P	P	11 08 33.0	0.0

*ISCJB **27** 11:13:56.9±0.4, 42°.83N±0°.02×75°.91E±0°.03, h0km, Error ellipse: s-maj=3.0km s-min=2.9km az=35.1*
*KRNET **27** 11:13:56.9±0.1, 42°.83N×75°.91E, h13km, mb1.9*
*SOME **27** 11:13:57.5, 42°.87N×75°.92E*
*NNC **27** 11:13:57.1±0.5, 42°.85N×75°.92E, h0km, mb1.6, mpv2.5, Error ellipse: s-maj=4.1km s-min=1.9km az=169.0, Suspected Mining explosion.*

ISC 27 11:13:57.0±0.8, 42°.83N±0°.02×75°.89E±0°.02, h0km, n16, σ0§45/32, 19C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KST	Kastek	0.22	13	P	Pg	11 14 01.4	+0.2
	15nm,0.2s						
KST				S	Sg	11 14 03.9	-0.1
	11nm,0.2s						
TKM2	Tokmak 2	0.24	293	⇑P	Pg	11 14 01.7	+0.2
	1.5nm,0.2s						
TKM2				⇑S	Sg	11 14 05.7	+1.1
	22nm,0.8s						
TKM2	Tokmak 2	0.24	293	⇑*iP*	Pg	11 14 01.8	+0.2
	baz=92						
TKM2				⇑*iS*	Sg	11 14 05.5	+0.9
	baz=92						
BOOM	Boomskoye usch	0.34	174	⇑*iP*	Pg	11 14 03.6	+0.1
	baz=76						
BOOM				⇑*iS*	Sg	11 14 08.8	+0.9
	baz=76						
DGS	Degeres	0.42	348	P	Pg	11 14 05.4	+0.3
	1.3nm,0.1s						
DGS				S	Sg	11 14 10.5	-0.1
	5.3nm,0.4s						
MTBS	Maitube	0.49	52	P	Pg	11 14 06.7	+0.3
	6.8nm,0.2s						
MTBS				S	Sg	11 14 13.2	+0.4
	8.0nm,0.3s						
IZV	Izvestkoviy	0.57	68	P	Pg	11 14 08.0	+0.2
	6.6nm,0.2s						
IZV				S	Sg	11 14 15.3	+0.1
	6.6nm,0.3s						
ULHL	Ulahol	0.64	156	⇑*iP*	Pg	11 14 09.2	0.0
	baz=57						
ULHL				⇑*iS*	Sg	11 14 18.0	+0.5
	baz=57						
KZA	Kyzart	0.89	213	⇑*iP*	Pg	11 14 14.2	+0.2
	baz=13						
KZA				⇑*iS*	Sg	11 14 26.0	+0.4
	baz=13						
AAK	Ala-Archa	1.05	260	⇓P	Pb	11 14 18.2	+0.1
	1.3nm,0.7s						
AAK				⇑S	Sb	11 14 32.8	+0.4
	1.7nm,0.9s						
AAK	Ala-Archa	1.05	260	⇓*iP*	Pg	11 14 16.8	-0.3
	baz=60						
AAK				⇓*iS*	Sb	11 14 31.7	-0.8
	baz=60						
SGDS	Sogindy	1.11	304	P	Pb	11 14 18.9	-0.3
	1.4nm,0.1s						
SGDS				S	Sb	11 14 33.8	-0.5
	2.0nm,0.1s						
KDJ	Kajisay	1.18	126	⇑*e*P	Pg	11 14 19.6	0.0
	baz=26						
KDJ				⇑*iS*	Sg	11 14 34.8	-0.1
	baz=26						
ARLS	Aral	1.52	231	⇑*iP*	Pn	11 14 24.8	-0.7
	baz=31						
ARLS				⇑*iS*	Sg	11 14 45.5	-0.1
	baz=31						
EKS2	Erkin-Say	1.57	265	⇑*iP*	Pn	11 14 25.9	-0.3
	baz=65						
EKS2				⇑*iS*	Sb	11 14 47.7	+0.3
	baz=65						
TARG	Taragay, Kyrgy	1.79	127	⇑*iP*	Pn	11 14 29.6	0.0
	baz=27						
TARG				⇑*iS*	Sb	11 14 54.3	+0.1
	baz=27						

*IDC **27** 11:23:02.1±0.9, 58°.69N×13°.98E, h0km, mb1 4.1/2, mb1mx3.3/54, mbtmp3.9/2, ML2.0/2, Error ellipse: s-maj=11.4km s-min=7.6km az=81.0*
*NAO **27** 11:23:03.7±2.0, 58°.80N×13°.81E, ML2.0*
*BER **27** 11:23:06.4±4.2, 58°.93N×13°.94E, h0km±19km, ML2.0(NAO)*

ISC 27 11:23:06.8±2.6, 59°.1N±0°.2×14°.14E±0°.06, h10km, n12, σ1§18/25, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	Hagfors	1.08	348	Pg	Pn	11 23 28.2	+0.2
	baz=175,slow=18						
HFS				Lg	Lg	11 23 46.0	
	baz=175,slow=37						
HFS	Hagfors	1.08	348	Pg	Pn	11 23 28.0	0.0
	4.1nm,0.3s,baz=175,slow=17,SNR=49						
HFS				Lg	Lg	11 23 46.0	
	8.8nm,0.3s,baz=176,slow=25,SNR=20						
HFS	Hagfors	1.08	348	Pg	Pn	11 23 28.2	+0.2
	baz=175,slow=18						
HFS				Sg	Sn	11 23 46.0	+3.1
	baz=175,slow=37						
NRA0	NORESS Array S	2.11	323	Pn	Pn	11 23 41.9	-0.2
	baz=135,slow=11						
NRA0				Pg	Pb	11 23 44.5	-0.6
	baz=146,slow=14						
NRA0				Sn	Sb	11 24 10.7	-0.7
	baz=137,slow=22						
NRA0				Lg	Lg	11 24 15.0	
	baz=143,slow=28						
NRA0				Rg	Rg	11 24 24.4	
	baz=157,slow=28						
NRA0	NORESS Array S	2.11	323	Pn	Pn	11 23 41.9	-0.2
	baz=135,slow=11						
NRA0				Pg	Pb	11 23 44.5	-0.6
	baz=146,slow=14						
NRA0				Sn	Sb	11 24 10.7	-0.7
	baz=137,slow=22						
NRA0				Sg	Sg	11 24 15.0	+0.4
	baz=143,slow=28						
NRA0				Rg	Rg	11 24 24.4	
	baz=157,slow=28						
NB2	NORSAR Subarra	2.45	324	Pn	Pn	11 23 46.5	-0.3
NB2				Pg	Pb	11 23 50.8	-0.1
NB2				Lg	Lg	11 24 24.9	
	baz=145,slow=37						
NB2	NORSAR Subarra	2.45	324	Pn	Pn	11 23 46.5	-0.3
NB2				Pg	Pb	11 23 50.8	-0.1
NB2				Sg	Sg	11 24 24.9	-0.6
	baz=145,slow=37						
NOA	NORSAR Array B	2.45	324	Pn	Pn	11 23 47.4	+0.6
	0.1nm,0.3s,baz=145,slow=18,SNR=9.1						
NOA				Sn	Sb	11 24 20.2	-1.0
	0.2nm,0.3s,baz=40,slow=20,SNR=6.6						
FIA0	FINESS Array S	6.39	63	Pn	Pn	11 24 42.5	+1.6
	baz=250,slow=18						
FIA0				Sn	Sn	11 25 54.9	+1.1
	baz=246,slow=22						
FIA0				Lg	Lg	11 26 28.7	
	baz=233,slow=28						
FIA0	FINESS Array S	6.39	63	Pn	Pn	11 24 42.5	+1.6
	baz=250,slow=18						
FIA0				Sn	Sn	11 25 54.9	+1.1
	baz=246,slow=22						
FIA0				Sg	Sg	11 26 28.7	-3.1
	baz=233,slow=28						
FINES	FINESS Array B	6.39	63	Pn	Pn	11 24 41.2	+0.3
	0.2nm,0.3s,baz=246,slow=14,SNR=3.9						
FINES				Sn	Sn	11 25 54.3	+0.5
	0.5nm,0.3s,baz=253,slow=20,SNR=8.5						
FINES				Lg	Lg	11 26 28.0	
	0.3nm,0.3s,baz=257,slow=25,SNR=4.0						
GERES	GERESS Array B	10.26	182	Pn	Pn	11 25 23.1	-11
	1.1nm,0.3s,baz=11,slow=16,SNR=21						

*IDC **27** 11:26:43.9±2.0, 31°.77S×179°.16W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/38, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=50.2km s-min=31.2km az=57.0*
*NEIC **27** 11:26:55.8±2.4, 32°.2S±0°.1×179°.65W±0°.09, h76km±9km, mb4.4/8*

ISC 27 11:26:50.6±1.3, 32°.1S±0°.1×179°.4W±0°.2, h35km, n17, σ1§41/18, mb4.3/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.11	25	Pn	Pn	11 27 44.9	+7.8
OUZ	Omahuta	6.61	240	Pn	Pn	11 28 27.2	+2.1
URZ	Urewera	6.78	204	Pn	Pn	11 28 29.2	+1.7
	0.9nm,0.3s,baz=273,slow=3.6,SNR=13						
URZ				Sn	Sn	11 29 40.9	-2.6
	1.5nm,0.3s,baz=173,slow=22,SNR=11						
URZ	Urewera	6.78	204		Pn	11 28 29.9	+2.3
URZ					Sn	11 29 41.8	-1.8
AS31	Alice Springs	41.84	269	P	P	11 34 37.5	+0.2
ASAR	Alice Springs	41.84	269	P	P	11 34 37.4	0.0
	0.5nm,0.5s,baz=106,slow=7.4,SNR=15						
WB2	Warramunga Arr	42.97	275	P	P	11 34 47.0	+0.4
WRAB	Tennant Creek	42.98	275	P	P	11 34 46.9	+0.3
WRAB				IAmb	IAmb	11 35 05.2	
	comp=Z,7.1nm,1.1s						
WRA	Warramunga Arr	42.98	275	P	P	11 34 46.8	+0.1
	comp=Z,1.4nm,0.3s,baz=112,slow=8.1,SNR=26						
WRA	Warramunga Arr	42.98	275	P	P	11 34 46.6	0.0
WB0	Warramunga Arr	43.01	275	P	P	11 34 47.3	+0.4
WB0				IAmb	IAmb	11 34 58.7	
	comp=Z,11nm,1.4s						
SAUI	Saumlaki	51.58	287	P	P	11 35 52.3	-1.3
QSPA	South Pole Qui	58.03	180	P	P	11 36 40.7	+0.9
	comp=Z,1.8nm,0.8s,baz=40,slow=7.7,SNR=13						
QSPA	South Pole Qui	58.03	180	P	P	11 36 41.2	+1.4
QSPA				IAmb	IAmb	11 36 56.3	
	comp=Z,3.3nm,1.4s						
SNAA	Sanae	76.50	179	P	P	11 38 35.9	-0.7
SNAA				IAmb	IAmb	11 38 54.4	
	comp=Z,7.2nm,1.4s						
FINES	FINESS Array B	146.28	338	PKPbc	PKPdf	11 46 24.1	-1.4
	comp=Z,7.3nm,1.2s,baz=66,slow=4.6,SNR=4.5						
FINES	FINESS Array B	146.28	338		PKPdf	11 46 24.8	-0.7

*ISCJB **27** 11:34:01.9±0.5, 6°.85N±0°.03×73°.13W±0°.04, h156km±4km, mb3.2/2, Error ellipse: s-maj=5.9km s-min=4.2km az=19.9*
*IDC **27** 11:34:02.1±0.8, 6°.72N×72°.91W, h160km±9km, mb2.9/2, mb1 3.4/4, mb1mx3.1/39, mbtmp3.6/4, Error ellipse: s-maj=36.1km s-min=7.6km az=131.0*
*RSNC **27** 11:34:03.5±0.8, 6°.82N×73°.15W, h149km±4km, ML3.3, Mw3.6*

ISC 27 11:34:02.3±0.9, 6°.84N±0°.03×73°.12W±0°.04, h155km±6km, n28, σ0§97/47, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	193	⇓*iP*	Pn	11 34 23.6	-0.1
BARC				*e*S	Sn	11 34 38.6	-1.4
BARC				*i*		11 34 40.0	
	comp=Z,657nm,0.2s						
BRRC	Barranca, Sant	0.64	294	⇑*iP*	Pn	11 34 25.4	+0.3
BRRC				*e*S	Sn	11 34 42.3	-0.1
BRRC				*i*		11 34 44.6	
	comp=Z,350nm,0.2s						
PAMC	Pamplona, Colo	0.65	40	*e*P	Pn	11 34 26.3	+0.6
PAMC				*e*S	Sn	11 34 43.5	0.0
PAMC				*i*		11 34 45.8	
	comp=Z,229nm,0.5s						
RUSC	La Rusia	0.94	178	⇑*e*P	Pn	11 34 27.5	-0.2
PTBC	PUERTO BERRIO,	1.36	257	*e*P	Pn	11 34 30.2	-0.7
PTBC				*e*S	Sn	11 34 51.3	-1.4
PTBC				*i*		11 34 52.8	
	comp=Z,263nm,0.6s						
TAMC	Tame, Arauca	1.38	107	*e*P	Pn	11 34 32.0	+0.8
TAMC				*e*S	Sn	11 34 53.8	+0.5
TAMC				*i*		11 34 54.1	
	comp=Z,192nm,0.3s						
OCAC	Ocana	1.40	352	*e*P	Pn	11 34 32.0	+0.6
OCAC				*e*S	Sn	11 34 54.3	+0.4
OCAC				*i*		11 34 58.1	
	comp=Z,276nm,0.5s						
SPBC	San Pablo de B	1.51	219	*e*P	Pn	11 34 32.5	0.0
SPBC				*e*S	Sn	11 34 55.2	-0.6
SPBC				*i*		11 35 01.8	
	comp=Z,277nm,0.6s						
ZARC	Zaragoza, Cauc	1.84	291	*e*P	Pn	11 34 36.0	0.0
ZARC				*e*S	Sn	11 35 02.0	+0.2
ZARC				*i*		11 35 08.9	
	comp=Z,227nm,0.2s						
NORC	Norcasia	2.15	234	*e*P	Pn	11 34 39.5	-0.1
NORC				*e*S	Sn	11 35 07.7	-0.6
NORC				*i*		11 35 13.5	
	comp=Z,200nm,0.1s						
SMLC	San Martn de	2.16	334	*e*P	Pn	11 34 39.9	+0.3
SMLC				*e*S	Sn	11 35 08.2	-0.2
SMLC				*i*		11 35 13.2	
	comp=Z,215nm,0.2s						
CHIC	Chingaza	2.28	195	*e*P	Pn	11 34 42.0	+0.5
CHIC				*e*S	Sn	11 35 11.2	-0.5
CHIC				*i*		11 35 19.1	
	comp=Z,75nm,0.4s						
ROSC	El Rosal	2.32	211	*e*P	Pn	11 34 43.7	+1.8
ROSC	El Rosal	2.32	211	P	Pn	11 34 43.7	+1.8
	comp=Z,38nm,0.3s,baz=76,slow=22,SNR=104						
ROSC				S	Sn	11 35 13.1	+0.7
	comp=Z,45nm,0.3s,baz=124,slow=18,SNR=12						
HELC	Santa Helena	2.48	255	*e*P	Pn	11 34 43.6	-0.1
HELC				*e*S	Sn	11 35 15.6	-0.1
HELC				*i*		11 35 21.8	
	comp=Z,131nm,0.3s						
GUY2C	Guyana, Caldas	2.75	234	*e*P	Pn	11 34 48.0	+0.8
GUY2C				*e*S	Sn	11 35 21.7	-0.1
GUY2C				*i*		11 35 30.3	
	comp=Z,112nm,0.3s						
VILC	Villavicencio,	2.77	192	*e*P	Pn	11 34 47.5	+0.3
PTGC	Puerto Gaitan,	2.81	159	*e*P	Pn	11 34 46.8	-0.7
PTGC				*e*S	Sn	11 35 20.2	-2.3
PTGC				*i*		11 35 22.3	
	comp=Z,72nm,0.2s						
CBOC	Ciudad Bolivar	3.03	251	*e*P	Pn	11 34 51.4	+0.9
CODC	Agustn Codazz	3.09	354	*e*P	Pn	11 34 51.4	+0.4
CODC				*e*S	Sn	11 35 28.7	-0.1
CODC				*i*		11 35 40.6	
	comp=Z,21nm,0.6s						
SDV	Santo Domingo	3.19	50	P	Pn	11 34 53.2	+0.6
	comp=Z,9.9nm,0.3s,baz=235,slow=9.1,SNR=64						
SDV				S	Sn	11 35 29.6	-1.9
	comp=Z,9.3nm,0.3s,baz=70,slow=21,SNR=15						
PRAC	Prado	3.57	210	*e*P	Pn	11 34 56.9	-0.3
PRAC				*e*S	Sn	11 35 39.1	-0.8
PRAC				*i*		11 35 46.2	
	comp=Z,86nm,0.5s						
ORTC	Ortega, Tolima	3.60	216	*e*P	Pn	11 34 58.0	+0.4
SJCC	San Jacinto, C	3.65	326	*e*P	Pn	11 34 57.4	-0.9
SJCC				*e*S	Sn	11 35 38.8	-3.0
SJCC				*i*		11 35 42.0	
	comp=Z,33nm,0.5s						
TXAR	Lajitas Array	36.45	312	P	P	11 40 53.9	+1.5
	comp=Z,0.2nm,0.5s,baz=128,slow=10,SNR=3.2						
YKA	Yellowknife Ar	63.24	340	P	P	11 44 14.1	+0.2
	comp=Z,0.3nm,0.5s,baz=135,slow=6.5,SNR=5.1						
ASAR	Alice Springs	149.12	234	PKPbc	PKPbc	11 53 31.9	-1.2
	comp=Z,0.3nm,0.9s,baz=100,slow=3.5,SNR=3.3						
WRA	Warramunga Arr	150.34	241	PKPbc	PKPbc	11 53 35.4	-0.8
	comp=Z,0.2nm,0.4s,baz=106,slow=2.6,SNR=8.8						

*ISCJB **27** 11:40:35.6±0.4, 36°.34N±0°.05×136°.94E±0°.09, h275km, mb3.3/8, Error ellipse: s-maj=10.1km s-min=7.4km az=12.3.*
*IDC **27** 11:40:36.4±0.8, 36°.30N×136°.93E, h271km±8km, mb3.1/8, mb1 3.4/11, mb1mx3.1/55, mbtmp3.8/11, Error ellipse: s-maj=25.3km s-min=13.8km az=82.0*
*JMA **27** 11:40:36.4±0.2, 36°.25N×137°.05E, h275km±2km, M3.2*

ISC 27 11:40:36.4±0.7, 36°.39N±0°.08×137°.01E±0°.09, h275km, n29, σ1§46/35, mb3.1/8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.30	123	P	Pn	11 41 11.5	-0.4
JKG	Kaga	0.56	259	P	Pn	11 41 12.3	0.0
JYTA	Yamagatataniai	0.82	196	P	Pn	11 41 12.7	-0.7
JYTA				S	S	11 41 40.5	-2.1
MAT	Matsushiro	0.98	81	P	Pn	11 41 14.2	+0.2
MAT				S	S	11 41 44.2	+0.5
MAT	Matsushiro	0.98	81	P	Pn	11 41 14.2	+0.2
MAT				S	S	11 41 44.3	+0.5
MJAR	Matsushiro Arr	0.98	81	P	Pn	11 41 14.0	0.0
	1.1nm,0.3s,baz=266,slow=6.6,SNR=51						
MJAR				S	S	11 41 44.4	+0.6
	0.0nm,0.3s,baz=294,slow=8.2,SNR=4.5						
JAO	Obara	1.14	170	P	Pn	11 41 13.9	-1.1
JAO				S	S	11 41 43.2	-2.3
JNY	Yasuok	1.24	146	P	Pn	11 41 14.3	-1.3
JEG	Eigenji	1.35	202	P	Pn	11 41 15.5	-0.7
JYN	Shimob	1.53	125	P	Pn	11 41 17.0	-0.5
HMMJ	Hamamatsu 2	1.64	159	P	Pn	11 41 17.3	-0.9
JWT	Wachi	1.71	230	P	Pn	11 41 17.8	-0.9
JAG	Ashikaga	1.97	88	P	Pn	11 41 20.4	-0.4
JIE	Ise	2.01	187	P	Pn	11 41 20.6	-0.5
JKN2	Miekihoku	2.23	196	P	Pn	11 41 22.2	-0.9
JWY	Kouya	2.46	209	P	Pn	11 41 24.5	-0.7
JTNC	Tanabenakahech	2.81	204	P	Pn	11 41 27.5	-1.1
JHO	Hitachi	2.88	85	P	Pn	11 41 28.7	-0.5
USRK	Ussuriysk Ar.	8.69	335	P	Pn	11 42 39.3	+1.0
	baz=150,slow=11,SNR=5.7						
ASAJ	Asahikawa	8.82	27	P	Pn	11 42 39.4	-0.5
	3.3nm,0.3s,baz=231,slow=9.8,SNR=34						
ASAJ				S	S	11 44 14.1	-5.9
	0.2nm,0.3s,baz=299,slow=19,SNR=3.2						
KLR	Kul'dur	13.40	345	P	Pn	11 43 36.0	-0.3
	0.5nm,0.3s,baz=171,slow=8.5,SNR=11						
KURBB	Kurchatov Arra	43.61	308	P	P	11 48 13.7	0.0
	0.6nm,0.6s,baz=83,slow=7.7,SNR=3.5						
ILAR	Eielson Array	51.92	32	P	P	11 49 16.8	-0.2
	0.2nm,0.6s,baz=267,slow=6.6,SNR=3.5						
WRA	Warramunga Arr	56.08	183	P	P	11 49 46.8	-0.6
	0.8nm,0.4s,baz=357,slow=7.5,SNR=12						
ASAR	Alice Springs

PMSA				Sn	Sn	11 45 45.1	-2.8
	2.8nm,0.3s,baz=90,slow=17,SNR=7.2						
PMSA				LR	LR	11 46 59.3	
	comp=Z,98nm,21.6s,baz=122,slow=32						
PMSA	**Palmer Station**	**9.80**	**73**	Pn	**Pn**	**11 43 59.1**	**+1.1**
PMSA					**Sn**	**11 45 46.4**	**-1.5**
QSPA	**South Pole Qui**	**20.82**	**180**	P	**P**	**11 46 18.9**	**+0.2**
	3.2nm,0.8s,baz=139,slow=7.7,SNR=23						
QSPA	**South Pole Qui**	**20.82**	**180**	P	**P**	**11 46 18.7**	**0.0**
QSPA				IAmb	IAmb	11 46 27.2	
	comp=Z,4.5nm,0.8s						
VNA3	**Neumayer Olymp**	**24.33**	**130**	P	**P**	**11 46 54.9**	**+0.2**
VNA1	**Neumayer--Stat**	**25.05**	**130**	P	**P**	**11 47 02.1**	**+1.1**
VNA2	**Neumayer--Watz**	**25.13**	**131**	P	**P**	**11 47 03.0**	**+1.2**
	baz=227,slow=10.0						
SNAA	**Sanae**	**25.89**	**134**	P	**P**	**11 47 10.5**	**+1.7**
SNAA	**Sanae**	**25.89**	**134**	P	**P**	**11 47 09.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=254,slow=7.4,SNR=8.1						
SNAA	**Sanae**	**25.89**	**134**	P	**P**	**11 47 09.3**	**+0.5**
SNAA				IAmb	IAmb	11 47 21.1	
	comp=Z,5.6nm,0.9s						
LPAZ	**La Paz**	**54.26**	**22**	P	**P**	**11 51 05.7**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=207,slow=4.5,SNR=5.3						
SIV	**San Ignacio**	**55.64**	**30**	P	**P**	**11 51 14.2**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=225,slow=8.6,SNR=5.7						
SDV	**Santo Domingo**	**78.82**	**16**	P	**P**	**11 53 39.4**	**-0.9**
SDV				IAmb	IAmb	11 53 45.8	
	comp=Z,7.4nm,1.3s						
ASAR	**Alice Springs**	**82.82**	**217**	P	**P**	**11 54 00.8**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=162,slow=4.5,SNR=9.6						
ASAR	**Alice Springs**	**82.82**	**217**	P	**P**	**11 54 00.6**	**-0.9**
WRA	**Warramunga Arr**	**86.33**	**218**	P	**P**	**11 54 18.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=169,slow=4.6,SNR=6.9						
WRA	**Warramunga Arr**	**86.33**	**218**	P	**P**	**11 54 18.0**	**-1.3**
YKA	**Yellowknife Ar**	**133.09**	**342**	PKP	**PKPdf**	**12 00 50.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=161,slow=2.2,SNR=3.3						
ILAR	**Eielson Array**	**140.36**	**324**	PKP	**PKiKP**	**12 01 06.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=188,slow=3.4,SNR=4.9						
AKASG	**Malin Array Be**	**144.98**	**88**	PKPbc	**PKPbc**	**12 01 11.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=223,slow=2.9,SNR=5.8						

SOME ***27*** *11:52:02.7, 44°.68N×82°.23E, h20km*

ISC 27 11:52:06.0±2.4, 44°.53N±0°.10×82°.4E±0°.1, h35km, n5, σ1§12/9, 4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.88**	**265**	*eP*	**Pn**	**11 52 34.8**	**-0.9**
	1.4nm,0.2s						
DJR				*eS*	**Sn**	**11 52 58.2**	**0.0**
	1.4nm,0.2s						
MK31	**Makanchi Array**	**2.27**	**358**	⇓Pn	**Pn**	**11 52 40.6**	**-0.4**
	1.5nm,0.3s,baz=188,slow=16,SNR=41						
MK31				⇓Sn	**Sn**	**11 53 08.2**	**+0.5**
	0.5nm,0.2s,baz=183,slow=26,SNR=9.2						
KAPS	**Kapalarasan**	**2.29**	**290**	*eP*	**Pn**	**11 52 41.3**	**0.0**
	0.7nm,0.1s						
KAPS				*eS*	**Sn**	**11 53 09.1**	**+0.7**
	1.9nm,0.2s						
PDGK	**Podgornoye**	**2.42**	**241**	⇓Pg	**Pn**	**11 52 45.3**	**+2.1**
	3.0nm,1.2s						
PDGK				⇓Lg	Lg	11 53 16.0	
	1.0nm,0.4s						
SHLS	**Shalkode**	**2.53**	**238**	*eP*	**Pn**	**11 52 44.0**	**-0.7**
	1.5nm,0.2s						
SHLS				*eS*	**Sn**	**11 53 13.3**	**-1.0**
	6.5nm,0.3s						

IDC ***27*** *12:08:29.8±1.3, 4°.86S×133°.50E, h0km, mb4.0/2, mb1 4.1/8, mb1mx3.8/40, mbtmp4.1/8, ML3.9/5, MS2.8/2, Ms1 2.7/2, ms1mx2.3/36, Error ellipse: s-maj=48.5km s-min=20.1km az=65.0*

ISCJB ***27*** *12:08:30.1±0.4, 4°.82S±0°.03×133°.73E±0°.05, h25km, mb3.9/2, MS2.6/1, Error ellipse: s-maj=8.2km s-min=4.2km az=160.2*

NEIC ***27*** *12:08:33.3±2.2, 4°.76S±0°.07×133°.8E±0°.1, h39km±10km, mb4.1/14*

DJA ***27*** *12:08:56.9±0.6, 4°S±3°×13°2E±°, h39km±16km, M4.0/7, mb4.5/2, MLv3.8/7*

ISC 27 12:08:32.2±0.6, 4°.83S±0°.05×133°.74E±0°.07, h25km, n42, σ2§55/46, mb4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.41**	**322**	P	**Pn**	**12 09 09.4**	**-0.6**
FAKI	**Fak Fak**	**2.41**	**322**		**Pn**	**12 09 09.5**	**-0.5**
FAKI				Sn	**Sn**	**12 09 37.4**	**-1.4**
RKPI	**Ransiki, Papua**	**3.32**	**8**	P	Pb	12 09 38.2	+7.7
SAUI	**Saumlaki**	**3.96**	**218**	S	Sb	12 10 55.3	+26
SIJI	**Sorong**	**4.64**	**328**	**Pn**	**Pn**	**12 09 40.5**	**-0.3**
	7.3nm,0.3s,baz=291,slow=0.8,SNR=20						
SIJI				Sn	**Sn**	**12 10 31.3**	**-2.6**
	4.3nm,0.3s,baz=356,slow=23,SNR=6.9						
SWI	**Sorong**	**4.65**	**328**	P	**Pn**	**12 09 38.8**	**-2.1**
SWI				S	Sn	12 10 11.8	-22
AAI	**Ambon**	**5.64**	**281**	P	**Pn**	**12 09 57.0**	**+2.5**
NLAI	**Namlea**	**6.80**	**283**	P	**Pn**	**12 10 13.7**	**+3.2**
SANI	**Sanana**	**8.21**	**289**	P	**Pn**	**12 10 29.3**	**-0.5**
MTN	**Manton Dam**	**8.37**	**198**		**Pn**	**12 10 34.7**	**+2.7**
MTN					**Sn**	**12 12 07.0**	**+1.2**
SOEI	**Soe**	**10.59**	**242**	Pn	Pn	12 11 08.6	+6.0
LUWI	**Luwuk**	**11.57**	**289**	Pn	**Pn**	**12 11 18.8**	**+2.9**
KNRA	**Kununurra**	**11.84**	**204**		**Pn**	**12 11 21.2**	**+1.6**
KNRA					**Sn**	**12 13 32.3**	**+1.4**
COEN	**Coen**	**12.99**	**135**	Pn	**Pn**	**12 11 33.6**	**-1.8**
KAPI	**Kappang**	**13.93**	**269**	LR	LR	12 18 14.1	
	comp=Z,34nm,19.0s,baz=299,slow=43						
PMG	**Port Moresby**	**14.07**	**110**	Pn	**Pn**	**12 11 53.1**	**+3.0**
	0.7nm,0.3s,baz=268,slow=13,SNR=4.8						
PMG	**Port Moresby**	**14.07**	**110**		**Pn**	**12 11 52.7**	**+2.6**
WB0	**Warramunga Arr**	**14.86**	**178**	Pn	**Pn**	**12 12 00.8**	**-0.1**
WRAB	**Tennant Creek**	**15.03**	**178**	Pn	**Pn**	**12 12 04.7**	**+1.6**
WRAB				IAmb	IAmb	12 12 13.5	
	comp=Z,7.1nm,0.6s						
WRA	**Warramunga Arr**	**15.04**	**178**	Pn	**Pn**	**12 12 02.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=357,slow=13,SNR=21						
WRA				Sn	Sn	12 14 37.5	-12
	comp=Z,0.2nm,0.3s,baz=359,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**15.04**	**178**		**Pn**	**12 12 04.1**	**+0.9**
WB2	**Warramunga Arr**	**15.04**	**178**	Pn	**Pn**	**12 12 02.6**	**-0.6**
WR0	**Warramunga Arr**	**15.06**	**177**	Pn	**Pn**	**12 12 02.5**	**-1.0**
WR0				IAmb	IAmb	12 12 13.6	
	comp=Z,8.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.38**	**210**	Pn	**Pn**	**12 12 07.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=23,slow=9.2,SNR=12						
FITZ				Sn	**Sn**	**12 14 50.5**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=180,slow=16,SNR=3.8						
FITZ	**Fitzroy Crossi**	**15.38**	**210**	Pn	**Pn**	**12 12 07.4**	**-0.4**
AS31	**Alice Springs**	**18.73**	**180**	P	**P**	**12 12 49.3**	**+0.1**
AS31				IAmb	IAmb	12 13 03.1	
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**18.73**	**180**	P	**Pn**	**12 12 50.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=355,slow=14,SNR=22						
ASAR				S	**Sn**	**12 16 10.3**	**-8.4**
	comp=Z,0.1nm,0.3s,baz=356,slow=27,SNR=3.1						
ASAR	**Alice Springs**	**18.73**	**180**	P	**P**	**12 12 49.9**	**+0.7**
CTA	**Charters Tower**	**19.46**	**142**	P	**Pn**	**12 13 00.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=321,slow=13,SNR=3.3						
EIDS	**Eidsvold**	**26.35**	**143**	P	**P**	**12 14 06.2**	**-0.2**
EIDS				IAmb	IAmb	12 14 17.7	
	comp=Z,22nm,1.5s						
FORT	**Forrest**	**26.36**	**191**	P	**P**	**12 14 04.4**	**-2.1**
HNR	**Honiara**	**26.40**	**101**	P	**P**	**12 14 07.0**	**0.0**
STKA	**Stephens Creek**	**27.90**	**166**	P	**P**	**12 14 21.7**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=326,slow=15,SNR=3.0						
STKA				LR	LR	12 25 53.2	
	comp=Z,18nm,20.4s,baz=202,slow=37						
STKA	**Stephens Creek**	**27.90**	**166**	P	**P**	**12 14 18.8**	**-1.5**
ERM	**Erimo**	**47.40**	**10**	P	**P**	**12 17 02.8**	**-1.7**
PALK	**Pallekele**	**54.27**	**282**	P	**P**	**12 17 53.9**	**-2.9**
MK31	**Makanchi Array**	**68.53**	**325**	P	**P**	**12 19 33.3**	**+0.6**
MK31				IAmb	IAmb	12 19 38.3	
	comp=Z,4.5nm,1.2s						
MKAR	**Makanchi Array**	**68.53**	**325**	P	**P**	**12 19 33.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=109,slow=7.8,SNR=7.5						
MKAR	**Makanchi Array**	**68.53**	**325**	P	**P**	**12 19 33.7**	**+1.0**
KSH	**Kashi**	**69.01**	**316**	P	**P**	**12 19 40.0**	**+4.1**
KSH				sP	pwP	12 19 46.8	+0.8
KSH				PcS		12 24 10.3	
KSH				S	**S**	**12 28 44.8**	**+5.2**
KSH				ScS	**ScS**	**12 29 39.0**	**+3.7**
KSH				LR	LR		
	comp=N,270nm,8.0s						
KSH				LR	LR		
	comp=E,350nm,10.7s						
KSH				LR	LR		
	comp=Z,400nm,7.5s						
KKAR	**Karatay Array**	**74.22**	**317**	P	**P**	**12 20 07.4**	**+0.2**
KKAR	**Karatay Array**	**74.22**	**317**	P	**P**	**12 20 06.8**	**-0.3**
KKAR				IAmb	IAmb	12 20 15.5	
	comp=Z,3.1nm,1.4s						

PGC ***27*** *12:08:53.7±1.6, 48°.69N×128°.49W, h10km, MLSn2.8/31, Mw3.4/31, 194km west of Tofino, Bc Vancouver Island, Canada Region*

IDC ***27*** *12:08:53.6±1.9, 48°.85N×128°.74W, h0km, mb3.4/3, mb1 3.5/11, mb1mx3.4/55, mbtmp3.3/11, ML3.2/6, MS2.9/12, Ms1 2.9/12, ms1mx2.8/27, Error ellipse: s-maj=33.7km s-min=11.6km az=69.0*

ISC 27 12:08:52.9±1.7, 48°.75N±0°.06×128°.44W±0°.08, h12km±17km, n77, σ1§27/88, mb3.3/3, MS2.9/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.91**	**209**	P	**Pg**	**12 09 06.2**	**-4.3**
NC27	**ODP1027**	**1.09**	**155**	P	**Pb**	**12 09 12.9**	**-0.4**
ETB	**Estevan Point**	**1.40**	**63**	Pn	**Pn**	**12 09 18.2**	**0.0**
EDB	**Eliza Dome**	**1.42**	**37**	Pn	**Pn**	**12 09 17.5**	**-1.0**
EDB				Sn	**Sn**	**12 09 35.1**	**-2.0**
TOFB	**Tofino**	**1.72**	**75**	Pn	**Pn**	**12 09 21.9**	**-0.7**
TOFB				Sn	**Sn**	**12 09 43.0**	**-1.4**
PACB	**Port Alice, BC**	**1.80**	**20**	Pn	**Pn**	**12 09 23.7**	**0.0**
PACB				Sn	**Sn**	**12 09 44.6**	**-1.8**
MAYB	**Maynard**	**1.85**	**26**	Pn	**Pn**	**12 09 24.1**	**-0.4**
MAYB				Sn	**Sn**	**12 09 47.4**	**-0.5**
HOLB	**Holberg**	**1.91**	**6**	Pn	**Pn**	**12 09 25.4**	**+0.2**
HOLB				Sn	**Sn**	**12 09 47.3**	**-1.9**
B012	**Ucluelet**	**1.92**	**84**	Sn	**Sn**	**12 09 47.9**	**-1.6**
OZB	**Mount Ozzard**	**1.96**	**83**	Pn	**Pn**	**12 09 25.1**	**-0.8**
OZB				Sn	**Sn**	**12 09 49.5**	**-0.9**
BTB	**Buttle Lake**	**2.05**	**68**	Pn	**Pn**	**12 09 27.2**	**-0.1**
BTB				Sn	**Sn**	**12 09 52.2**	**-0.7**
PHC	**Port Hardy**	**2.07**	**18**	Pn	**Pn**	**12 09 28.0**	**+0.6**
PHC				Sn	**Sn**	**12 09 51.6**	**-1.5**
SPLB	**Strathcona Par**	**2.15**	**57**	Pn	**Pn**	**12 09 29.1**	**+0.5**
B928	**Bamfield**	**2.19**	**87**	Pn	**Pn**	**12 09 28.7**	**-0.3**
B928				Sn	**Sn**	**12 09 53.9**	**-2.0**
CBB	**Campbell River**	**2.38**	**56**	Pn	**Pn**	**12 09 32.5**	**+0.7**
CBB				Sn	**Sn**	**12 10 01.5**	**+0.4**
B927	**Port Alberni**	**2.44**	**77**	Pn	**Pn**	**12 09 33.0**	**+0.6**
B927				Sn	**Sn**	**12 10 00.2**	**-1.9**
MGB	**Mount Grey**	**2.49**	**83**	Pn	**Pn**	**12 09 32.7**	**-0.6**
MGB				Sn	**Sn**	**12 10 02.4**	**-1.2**
OCP	**Olym-Cheeka Pk**	**2.58**	**99**	Pn	**Pn**	**12 09 34.6**	**+0.2**
PFB	**Port Renfrew**	**2.66**	**92**	Pn	**Pn**	**12 09 35.3**	**-0.3**
PFB				Sn	**Sn**	**12 10 05.3**	**-2.4**
YOUB	**Youbou, Lake C**	**2.77**	**85**	Pn	**Pn**	**12 09 37.1**	**0.0**
YOUB				Sn	**Sn**	**12 10 09.0**	**-1.3**
TXB	**Texada**	**2.79**	**69**	Pn	**Pn**	**12 09 38.0**	**+0.7**
TXB				Sn	**Sn**	**12 10 11.2**	**+0.3**
GHNB	**Nanoose**	**2.82**	**77**	Pn	**Pn**	**12 09 38.8**	**+1.0**
GHNB				Sn	**Sn**	**12 10 11.3**	**-0.4**
B926	**Mesachie Lake**	**2.85**	**87**	Pn	**Pn**	**12 09 38.5**	**+0.4**
B926				Sn	**Sn**	**12 10 10.9**	**-1.5**
NLLB	**Nanaimo Lost L**	**2.97**	**79**	Pn	**Pn**	**12 09 40.5**	**+0.7**
NLLB				Sn	**Sn**	**12 10 14.7**	**-0.6**
LZB	**Mount Lazard**	**3.06**	**91**	Pn	**Pn**	**12 09 41.4**	**+0.2**
LZB				Sn	**Sn**	**12 10 16.4**	**-1.3**
SHB	**Sechelt**	**3.11**	**72**	Pn	**Pn**	**12 09 42.6**	**+0.7**
SHB				Sn	**Sn**	**12 10 18.6**	**-0.4**
BPCB	**Bare Point**	**3.13**	**85**	Pn	**Pn**	**12 09 42.5**	**+0.4**
BPCB				Sn	**Sn**	**12 10 18.5**	**-0.8**
SOKB	**Sooke**	**3.19**	**95**	Pn	**Pn**	**12 09 42.4**	**-0.3**
SOKB				Sn	**Sn**	**12 10 18.3**	**-2.3**
GOBB	**Galiano Island**	**3.26**	**85**	Pn	**Pn**	**12 09 44.6**	**+0.8**
B010	**North Saanich**	**3.31**	**90**	Pn	**Pn**	**12 09 44.6**	**+0.2**
B010				Sn	**Sn**	**12 10 22.6**	**-0.9**
B009	**North Saanich**	**3.31**	**90**	Pn	**Pn**	**12 09 44.7**	**+0.3**
B009				Sn	**Sn**	**12 10 23.1**	**-0.4**
PGC	**Sidney**	**3.31**	**90**	Pn	**Pn**	**12 09 44.7**	**+0.3**
PGC				Sn	**Sn**	**12 10 23.0**	**-0.6**
PA02	**PA02 Ocean**	**3.31**	**90**	Sn	**Sn**	**12 10 23.2**	**-0.4**
PA12	**PA12 Sannich**	**3.31**	**90**	Sn	**Sn**	**12 10 23.2**	**-0.3**
B011	**North Saanich**	**3.31**	**90**	Pn	**Pn**	**12 09 44.8**	**+0.4**
B011				Sn	**Sn**	**12 10 23.5**	**-0.1**
PA01	**PA01 North**	**3.31**	**90**	Sn	**Sn**	**12 10 23.9**	**+0.2**
VGZ	**Gonzales**	**3.41**	**94**	Sn	**Sn**	**12 10 24.2**	**-2.0**
BIB	**Bowen Island**	**3.44**	**77**	Pn	**Pn**	**12 09 47.1**	**+0.9**
BBB	**Bella Bella**	**3.45**	**3**	Pn	**Pn**	**12 09 46.8**	**+0.4**
	6.8nm,0.3s,baz=201,slow=6.0,SNR=54						
BBB				Sn	**Sn**	**12 10 25.4**	**-1.6**
	4.6nm,0.3s,baz=298,slow=21,SNR=5.1						
BBB				LR	LR	12 10 48.6	
	comp=Z,31nm,19.1s,baz=248,slow=34						
BBB	**Bella Bella**	**3.45**	**3**	Pn	**Pn**	**12 09 46.6**	**+0.3**
BBB				Sn	**Sn**	**12 10 25.8**	**-1.3**
SNB	**Saturna Island**	**3.48**	**88**	Pn	**Pn**	**12 09 47.7**	**+0.8**
SNB				Sn	**Sn**	**12 10 27.2**	**-0.8**
WPB	**Watts Point**	**3.55**	**73**	Pn	**Pn**	**12 09 49.0**	**+1.3**
MCW	**Mount Constitu**	**3.71**	**89**	Pn	**Pn**	**12 09 50.7**	**+0.6**
BLN	**Blyn Mountain**	**3.72**	**99**	Pn	**Pn**	**12 09 50.8**	**+0.7**
HDW	**Hoodsport**	**3.77**	**105**	Pn	**Pn**	**12 09 51.2**	**+0.4**
WSLR	**Whistler**	**3.86**	**67**	Pn	Pn	12 09 54.0	+2.0
WSLR				Sn	**Sn**	**12 10 37.8**	**+0.5**
GNW	**Green Mountain**	**3.94**	**105**	Pn	**Pn**	**12 09 54.4**	**+1.3**
GNW				Sn	**Sn**	**12 10 38.1**	**-1.2**
VDB	**Vedder Mountai**	**4.19**	**84**	Pn	**Pn**	**12 09 57.6**	**+1.0**
HG3B	**Hotspring**	**4.28**	**335**	Pn	Pn	12 10 00.5	+2.7
MBW	**Mount Baker**	**4.33**	**87**	Pn	**Pn**	**12 09 59.8**	**+1.2**
B06A	**Marblemount**	**4.62**	**90**	Pn	**Pn**	**12 10 03.5**	**+1.1**
LON	**Longmire**	**4.90**	**112**	Pn	**Pn**	**12 10 08.7**	**+2.3**
FMW	**Mount Fremont**	**4.91**	**109**	Pn	Pn	12 10 09.1	+2.4
H02S1	**DAWSON INLET T**	**5.14**	**332**	T	T	12 16 54.3	
	SNR=5.2						
LTY	**Liberty**	**5.42**	**103**	Pn	Pn	12 10 16.2	+2.6
LTY				Sn	**Sn**	**12 11 17.1**	**+1.1**
SLEB	**Sale Mountain**	**7.08**	**66**	Pn	Pn	12 10 38.5	+2.1
NEW	**Newport**	**7.54**	**89**	Pn	Pn	12 10 47.7	+5.2
	0.2nm,0.3s,baz=230,slow=8.7,SNR=3.6						
NEW				LR	LR	12 13 43.9	
	comp=Z,151nm,20.6s,baz=263,slow=38						
YBH	**Yreka Blue Hor**	**8.10**	**148**	Pn	Pn	12 10 57.5	+7.3
	0.0nm,0.3s,baz=221,slow=2.7,SNR=3.6						
YBH				LR	LR	12 13 55.1	
	comp=Z,38nm,20.5s,baz=348,slow=36						
FNBB	**Fort Nelson**	**10.65**	**15**	Pn	Pn	12 11 27.3	+2.1
ELK	**Elko**	**12.32**	**126**	LR	LR	12 16 19.5	
	comp=Z,75nm,21.2s,baz=330,slow=36						
NVAR	**Mina Array Bea**	**12.65**	**141**	Pn	Pn	12 11 58.6	+5.8
	0.2nm,0.3s,baz=315,slow=11,SNR=4.6						
NVAR				LR	LR	12 16 42.4	
	comp=Z,46nm,18.7s,baz=278,slow=36						
PDAR	**Pinedale Array**	**14.46**	**107**	Pn	**P**	**12 12 24.9**	**+0.6**
	0.0nm,0.3s,baz=302,slow=14,SNR=2.4						
PDAR				LR	LR	12 18 22.0	
	comp=Z,88nm,20.4s,baz=346,slow=39						
YKA	**Yellowknife Ar**	**15.78**	**24**	Pn	**Pn**	**12 12 34.8**	**+0.1**
	0.0nm,0.3s,baz=215,slow=11,SNR=3.6						
KDAK	**Kodiak Island**	**16.96**	**311**	LR	LR	12 17 29.4	
	comp=Z,68nm,21.0s,baz=122,slow=31						
ILAR	**Eielson Array**	**18.85**	**335**	P	**P**	**12 13 11.3**	**-1.1**
	0.0nm,0.3s,baz=138,slow=9.6,SNR=2.7						
INK	**Inuvik**	**19.78**	**354**	P	**P**	**12 13 24.1**	**+1.6**
	baz=155,slow=17,SNR=4.0						
ULM	**Lac du Bonnet**	**21.12**	**74**	P	**P**	**12 13 41.0**	**+3.8**
	2.2nm,0.8s,baz=288,slow=11,SNR=3.2						
ULM				LR	LR	12 21 40.6	
	comp=Z,72nm,20.7s,baz=358,slow=36						
ANMO	**Albuquerque**	**21.31**	**122**	P	**P**	**12 13 43.5**	**+3.8**
	1.4nm,1.0s,baz=299,slow=6.5,SNR=3.0						
ANMO				LR	LR	12 22 07.0	
	comp=Z,28nm,20.7s,baz=347,slow=37						
TXAR	**Lajitas Array**	**27.11**	**127**	P	P	12 14 41.8	+6.1
	0.3nm,0.8s,baz=306,slow=6.5,SNR=3.5						
TXAR				LR	LR	12 25 28.3	
	comp=Z,30nm,18.9s,baz=0.0,slow=36						
LPIG	**La Paz**	**28.45**	**143**	LR	LR	12 26 25.2	
	comp=Z,18nm,18.9s,baz=8.5,slow=37						
PETK	**Petropavlovsk-**	**44.85**	**305**	LR	LR	12 31 56.0	
	comp=Z,26nm,21.9s,baz=62,slow=31						
H11N2	**WAKE ISLAND Hy**	**58.78**	**265**	T	T	13 22 35.9	
	baz=44,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**58.78**	**265**	T	T	13 22 32.8	
	baz=44,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**58.79**	**265**	T	T	13 22 38.0	
	baz=44,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**59.78**	**264**	T	T	13 23 55.6	
	baz=34						
H11S2	**WAKE ISLAND Hy**	**59.79**	**264**	T	T	13 23 46.1	
	baz=34,slow=74						
H11S3	**WAKE ISLAND Hy**	**59.80**	**264**	T	T	13 23 50.0	
	baz=34,slow=74						

ISCJB ***27*** *12:12:38.1±1.0, 11°.05S±0°.2×166°.45E±0°.09, h155km, mb3.6/7, Error ellipse: s-maj=30.0km s-min=12.8km az=1.0*

IDC ***27*** *12:12:42.0±5.3, 10°.65S×166°.18E, h164km±40km, mb3.4/7, mb1 3.7/8, mb1mx3.4/46, mbtmp3.9/8, Error ellipse: s-maj=61.1km s-min=27.2km az=141.0*

ISC 27 12:12:40.0±1.3, 10°.9S±0°.3×166°.4E±0°.1, h155km, n14, σ1§34/9, mb3.6/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.51**	**282**	P	**Pn**	**12 14 12.4**	**-1.2**
	7.3nm,0.3s,baz=219,slow=1.2,SNR=15						
HNR				S	**Sn**	**12 15 29.2**	**+2.2**
	7.3nm,0.3s,baz=197,slow=17,SNR=1.6						
H11S2	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	12 49 15.4	
	baz=183,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	12 49 27.2	
	baz=183,slow=76,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**29.22**	**1**	T	T	12 49 21.5	
	baz=183,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**30.42**	**1**	T	T	12 50 58.6	
	baz=182,slow=76,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**30.42**	**1**	T	T	12 50 48.0	
	baz=182,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**30.44**	**1**	T	T	12 50 47.6	
	baz=182,slow=76,SNR=4.1						
WRA	**Warramunga Arr**	**32.13**	**250**	P	**P**	**12 18 52.7**	**-0.4**
	0.6nm,0.8s,baz=81,slow=9.4,SNR=2.4						
ASAR	**Alice Springs**	**33.43**	**243**	P	**P**	**12 19 04.9**	**+0.5**
	0.5nm,0.8s,baz=65,slow=9.9,SNR=3.4						
CMAR	**Chiang Mai Arr**	**72.64**	**293**	P	**P**	**12 23 51.1**	**-0.1**
	0.7nm,0.3s,baz=114,slow=3.7,SNR=4.8						
SONM	**Songino Array**	**78.92**	**324**	P	**P**	**12 24 25.6**	**-0.9**
	0.9nm,0.8s,baz=125,slow=7.2,SNR=3.0						
ILAR	**Eielson Array**	**83.17**	**18**	P	**P**	**12 24 48.1**	**-0.2**
	0.7nm,0.6s,baz=234,slow=4.9,SNR=12						
NVAR	**Mina Array Bea**	**85.44**	**50**	P	**P**	**12 25 02.4**	**+1.7**
	0.9nm,0.9s,baz=232,slow=8.9,SNR=2.4						
MKAR	**Makanchi Array**	**93.85**	**317**	P	**P**	**12 25 39.3**	**-0.5**
	0.6nm,0.6s,baz=81,slow=7.5,SNR=5.4						

BJI ***27*** *12:45:57.9±0.0, 32°.07N×41°.05W, h6km, mb5.0/5, mB5.3/3, Ms5.1/2, Ms7 5.0/1*

IDC ***27*** *12:46:00.6±0.4, 31°.96N×40°.71W, h0km, mb4.5/33, mb1 4.7/33, mb1mx4.6/50, mbtmp4.5/33, MS4.0/29, Ms1 4.0/29, ms1mx3.9/39, Error ellipse: s-maj=12.5km s-min=11.0km az=166.0*

ISCJB ***27*** *12:46:00.8±0.1, 31°.94N±0°.03×40°.72W±0°.02, h14km, mb4.7/102, MS4.0/31, Error ellipse: s-maj=4.5km s-min=2.7km az=177.1*

MOS ***27*** *12:46:00.2±0.8, 31°.94N×40°.76W, h10km, mb4.9/66, Error ellipse: s-maj=7.1km s-min=5.3km az=53.7*

NEIC ***27*** *12:46:01.7±1.2, 31°.88N±0°.09×40°.7W±0°.1, h10km±1km, mb4.8/229*

GCMT ***27*** *12:46:03.7±0.2, 32°.21N±0°.02×40°.66W±0°.02, h12km, MW5.0/95, Moment Tensor Solution. s30,c31; s95,c135; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.07±.08; Mθθ-0.79±.09; Mφφ-2.29±

comp=Z,4.0nm,0.3s
P51A Williamsport 34.92 294 P P 12 52 55.4 +1.5
P51A IAmb IAmb 12 52 59.7
comp=Z,21nm,1.1s
Q51A Peebles 35.15 294 P P 12 52 54.4 -1.6
061Z Ochoppi 35.52 271 P P 12 52 59.9 +0.7
SDV Santo Domingo 35.97 237 *eP* **P 12 53 05.5 +2.1**
SDV Santo Domingo 35.97 237 *eP* **P 12 53 05.5 +2.1**
SDV Santo Domingo 35.97 237 P P 12 53 03.5 +0.1
P48A Milroy 36.75 295 P P 12 53 09.2 -0.5
P48A IAmb IAmb 12 53 27.2
comp=Z,34nm,1.5s
CLTN Cedars of Leba 37.74 289 P P 12 53 18.1 -0.1
ILULI Ilulissat 37.79 354 P P 12 53 17.8 -0.3
ILULI pmax pmax
comp=Z,41nm,1.1s
ILULI Ilulissat 37.79 354 P P 12 53 17.8 -0.3
SFIN Lafayette 37.99 296 P P 12 53 20.2 0.0
SFIN IAmb IAmb 12 53 27.0
comp=Z,30nm,1.1s
V48A Smith Brothers 38.19 289 P P 12 53 22.9 +1.0
OLIL Olney 38.87 294 P P 12 53 27.6 +0.1
OLIL IAmb IAmb 12 53 33.3
comp=Z,27nm,1.2s
LPL La Plagne 38.90 56 *eP* **P 12 53 28.2 +0.2**
LPL pmax pmax
comp=Z,12nm,1.0s
O44A Mansfield 39.05 296 P P 12 53 30.0 +0.9
O44A IAmb IAmb 12 53 35.1
comp=Z,35nm,1.1s
BRAL Brewton 39.23 282 P P 12 53 29.4 -1.2
PLAL Pickwick Lake 39.31 288 P P 12 53 32.1 +0.8
PLAL IAmb IAmb 12 53 37.4
comp=Z,19nm,1.0s
I42A Draeger Farm, 39.31 302 P P 12 53 32.8 +1.6
SENIN Lac Senin/Sane 39.35 54 P P 12 53 31.1 -0.7
ECH Echery 39.43 51 P P 12 53 31.5 -0.6
ECH pmax pmax
comp=Z,13nm,1.4s
ECH Echery 39.43 51 P P 12 53 31.6 -0.6
SIUC Southern Illin 39.85 292 P P 12 53 37.0 +1.3
SIUC IAmb IAmb 12 53 42.2
comp=Z,24nm,1.1s
SCO Scoresbysund 39.99 10 P P 12 53 36.3 -0.1
SCO pmax pmax
comp=Z,21nm,1.4s
SCO Scoresbysund 39.99 10 *i P* **P 12 53 35.4 -1.0**
SCO Scoresbysund 39.99 10 P P 12 53 36.3 -0.1
BFO Black Forest 40.22 51 P P 12 53 38.1 -0.6
BFO pmax pmax
comp=Z,14nm,1.1s
BFO Black Forest 40.22 51 P P 12 53 38.1 -0.6
G40A Rib Lake 40.27 304 P P 12 53 40.5 +1.3
SUMG Summit 40.73 1 *i P* **P 12 53 42.0 -1.1**
SUMG pmax pmax
comp=Z,18nm,0.6s
SUMG Summit 40.73 1 *i P* **P 12 53 42.0 -1.1**
comp=Z,18nm,0.6s
SUMG Summit 40.73 1 P P 12 53 42.8 -0.3
TUE Stuetta 40.77 54 P P 12 53 41.9 -1.7
TUE IAmb IAmb 12 53 47.4
comp=Z,14nm,0.9s
PBMO Poplar Bluff 40.93 291 P P 12 53 45.9 +1.2
PBMO IAmb IAmb 12 53 50.8
comp=Z,26nm,1.3s
LPAR Lepanto 41.01 289 P P 12 53 45.8 +0.4
DAVOX Davos/Dischmat 41.15 54 P P 12 53 47.3 +0.6
comp=Z,3.4nm,0.5s,baz=274,slow=9.7,SNR=10
DAVA Damuels 41.18 53 *i* pP **P 12 53 47.1 +0.2**
comp=Z,13nm,0.9s
ROSC El Rosal 41.40 236 P P 12 53 50.8 +1.5
comp=Z,12nm,0.5s,baz=205,slow=22,SNR=4.0
ROSC LR LR 13 09 37.7
comp=Z,244nm,21.9s,baz=68,slow=34
ROSC El Rosal 41.40 236 P P 12 53 48.1 -1.1
KEST Kesra 41.43 71 P P 12 53 49.4 +0.4
comp=Z,7.5nm,0.9s,baz=204,slow=2.8,SNR=4.0
KEST LR LR 13 07 47.9
comp=Z,152nm,20.2s,baz=188,slow=32
KEST Kesra 41.43 71 P P 12 53 48.0 -0.9
TIC Toumodi 41.74 119 *eP* **P 12 53 50.6 -1.0**
FETA Feichten 41.75 54 *i pP* **P 12 53 52.6 +1.1**
comp=Z,17nm,1.7s
RETA Reutte 41.79 53 *i* pP **P 12 53 52.6 +0.9**
comp=Z,16nm,1.3s
TAM Tamanrasset 41.84 91 P P 12 53 53.7 +1.2
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 41.84 91 P P 12 53 53.7 +1.2
DBIC Dimbokro 41.85 119 P P 12 53 52.0 -0.5
DBIC pmax pmax
comp=Z,15nm,0.9s
DBIC Dimbokro 41.85 119 P P 12 53 51.6 -0.9
comp=Z,13nm,0.9s,baz=296,slow=9.0,SNR=14
DBIC LR LR 13 10 03.1
comp=Z,694nm,18.1s,baz=297,slow=34
DBIC Dimbokro 41.85 119 P P 12 53 52.0 -0.5
DBIC IAmb IAmb 12 53 54.2
comp=Z,15nm,0.9s
ZCCA Zocca 41.89 58 P P 12 53 52.2 -0.4
MOTA Moosalm 42.01 53 *i* pP **P 12 53 53.7 0.0**
comp=Z,12nm,1.1s
LIC Lamto 42.02 120 *eP* **P 12 53 53.3 -0.6**
comp=Z,114nm,1.3s
SQTA Sankt Quirin 42.08 53 *i* pP **P 12 53 54.8 +0.7**
comp=Z,18nm,1.0s
OSSC Osservatorio P 42.10 59 P P 12 53 54.0 -0.3
SPMN Marine on St. 42.10 304 P P 12 53 54.9 +0.6
KIC Kosan Boka 42.14 119 *eP* **P 12 53 54.3 -0.6**
comp=Z,76nm,1.3s
WATA Walderalm 42.34 53 *i* pP **P 12 53 56.6 +0.3**
comp=Z,13nm,0.8s
CTI Castel Tesino 42.36 55 P P 12 53 56.0 -0.5
CTI pmax pmax
comp=Z,15nm,0.8s
CTI Castel Tesino 42.36 55 P P 12 53 56.0 -0.5
CTI IAmb IAmb 12 53 56.9
comp=Z,15nm,0.8s
WTTA Wattenberg 42.37 53 *i P* **P 12 53 53.6 -3.1**
comp=Z,14nm,0.8s
SCIA State Center 42.53 299 P P 12 53 59.2 +1.4
SCIA IAmb IAmb 12 54 04.4
comp=Z,32nm,1.1s
MOX Moxa 42.58 48 P P 12 53 57.5 -0.6
MOX pmax pmax
comp=Z,11nm,2.0s
W41B Gary Mavity, V 42.65 289 P P 12 53 59.5 +0.7
W41B IAmb IAmb 12 54 04.4
comp=Z,24nm,1.0s
WHAR Wooly Hollow 42.66 289 P P 12 53 60.0 +1.1
WHAR IAmb IAmb 12 54 03.9
comp=Z,16nm,1.0s
UALR University of 42.80 288 P P 12 54 00.8 +0.8
U40A Yellville 42.92 291 P P 12 54 02.2 +1.2
ABTA Abfaltersbach 42.96 54 *i P* **P 12 53 59.8 -1.5**
comp=Z,20nm,0.9s
NKC Novy Kostel 43.07 49 *eP* **P 12 54 02.5 +0.4**
NKC Novy Kostel 43.07 49 *eP* **P 12 54 02.5 +0.4**
TOA0 Torodi Ar. Sit 43.10 106 P P 12 54 01.3 -1.4
TOA0 IAmb IAmb 12 54 04.3
comp=Z,25nm,1.1s
TORD Torodi Ar. Bea 43.10 106 P P 12 54 01.9 -0.8
comp=Z,19nm,0.8s,baz=302,slow=6.6,SNR=79
TORD LR LR 13 09 49.4
comp=Z,296nm,21.0s,baz=315,slow=33
TORD Torodi Ar. Bea 43.10 106 P P 12 54 01.3 -1.4
X40A Basin Creek Fa 43.26 288 P P 12 54 04.4 +0.6
CLL Collm 43.51 47 *i P* **P 12 54 05.3 -0.3**
CLL pmax pmax
comp=Z,31nm,1.4s
CLL Collm 43.51 47 *i P* **P 12 54 05.3 -0.3**
comp=Z,31nm,1.4s
CLL *e*PP **PP 12 55 44.0 -2.7**
CLL Lm MLR 13 08 00.0
comp=Z,200nm,21.9s
CLL Collm 43.51 47 P P 12 54 05.0 -0.6
CLL IAmb IAmb 12 54 07.8
comp=Z,31nm,1.4s
KHC Kasperske Hory 43.74 51 ⇓*iP* **P 12 54 06.2 -1.3**
KHC pmax pmax
comp=Z,17nm,1.1s
KHC Kasperske Hory 43.74 51 *eP* **P 12 54 07.4 -0.1**
KHC Kasperske Hory 43.74 51 P P 12 54 07.1 -0.5
GEC2 GERESS Array S 43.81 51 P P 12 54 07.3 -0.8
GERES GERESS Array B 43.81 51 P P 12 54 07.0 -1.1
comp=Z,2.7nm,0.7s,baz=262,slow=6.6,SNR=16
GERES LR LR 13 10 59.4
comp=Z,47nm,18.6s,baz=266,slow=34
GERES GERESS Array B 43.81 51 P P 12 54 06.8 -1.4
BRG Berggiesshubel 44.07 48 *eP* **P 12 54 09.4 -0.7**
comp=Z,5.6nm,0.9s
BRG Berggiesshubel 44.07 48 *eP* **P 12 54 09.4 -0.7**
BRG pmax pmax
comp=Z,6.0nm,0.9s
MOA Molln 44.17 52 *eP* **P 12 54 08.7 -2.3**
comp=Z,8.5nm,1.1s
ULM Lac du Bonnet 44.30 311 P P 12 54 11.5 -0.4
comp=Z,5.6nm,0.7s,baz=93,slow=7.3,SNR=11
ULM LR LR 13 13 02.1
comp=Z,259nm,19.0s,baz=90,slow=37
OBKA Obir 44.37 54 *i* pP **P 12 54 12.1 -0.5**
comp=Z,26nm,0.9s
PEXB Peixe 44.38 191 *eP* **P 12 54 12.1 -0.8**
PEXB Peixe 44.38 191 *eP* **P 12 54 12.1 -0.8**
NOA NORSAR Array B 44.38 33 P P 12 54 12.2 -0.2
comp=Z,4.6nm,1.0s,baz=254,slow=8.0,SNR=3.8
NOA LR LR 13 09 57.1
comp=Z,56nm,21.7s,baz=350,slow=32
PRU Pruhonice 44.40 49 *eP* **P 12 54 12.3 -0.5**
PRU Pruhonice 44.40 49 *eP* **P 12 54 12.3 -0.5**
CLDB Colider 44.93 201 *eP* **P 12 54 16.6 -0.7**
CLDB Colider 44.93 201 *eP* **P 12 54 16.6 -0.7**
ARSA Arzberg 45.02 53 *i P* **P 12 54 16.7 -1.1**
comp=Z,14nm,1.1s
CONA Conrad Observa 45.24 52 *i P* **P 12 54 18.6 -1.0**
comp=Z,6.0nm,1.1s
TUL1 Leonard 45.34 291 P P 12 54 21.1 +0.6
ACON Acoyapa 45.35 254 P P 12 54 21.0 +0.2
ACON IAmb IAmb 12 54 28.5
comp=Z,13nm,0.9s
UPC Upice 45.37 49 *eP* **P 12 54 20.5 +0.1**
UPC Upice 45.37 49 *eP* **P 12 54 20.5 +0.1**
CHVC Chvalec 45.40 49 *eP* **P 12 54 20.7 0.0**
DPC Dobruska-Polom 45.56 49 *eP* **P 12 54 21.7 -0.3**
DPC Dobruska-Polom 45.56 49 *eP* **P 12 54 21.7 -0.3**
KRUC Moravsky 45.59 51 *eP* **P 12 54 21.4 -0.8**
VRAC Vranov 45.72 50 *eP* **P 12 54 21.8 -1.5**
SAML Samuel 45.96 212 P P 12 54 25.5 +0.1
SAML pmax pmax
comp=Z,10.0nm,0.9s
SAML Samuel 45.96 212 *eP* **P 12 54 25.7 +0.3**
SAML Samuel 45.96 212 *eP* **P 12 54 25.7 +0.3**
SAML Samuel 45.96 212 P P 12 54 25.5 +0.1
SAML IAmb IAmb 12 54 26.3
comp=Z,10nm,0.8s
DAG Danmarks Havn 46.09 7 *i P* **P 12 54 24.7 -1.0**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 46.09 7 *i P* **P 12 54 24.7 -1.0**
comp=Z,4.0nm,0.8s
MODS Modra-Piesok 46.18 52 *eP* **P 12 54 27.4 +0.5**
MODS Modra-Piesok 46.18 52 *eP* **P 12 54 27.4 +0.5**
MORC Moravsky Berou 46.34 50 *eP* **P 12 54 25.5 -2.7**
MDND Maddock 46.74 308 P P 12 54 32.1 +0.7
H10N2 ASCENSION HYDR 46.82 143 T T 13 44 20.5
baz=329,slow=75,SNR=4892
H10N3 ASCENSION HYDR 46.83 143 T T 13 44 20.8
baz=329,slow=75,SNR=5099
H10N1 ASCENSION HYDR 46.84 143 T T 13 44 22.0
baz=329,slow=75,SNR=6278
HKT Hockley 46.85 283 P P 12 54 33.5 +1.2
HKT pmax pmax
comp=Z,6.0nm,1.0s
HKT Hockley 46.85 283 P P 12 54 33.5 +1.2
VYHS Vyhne 47.22 51 *eP* **P 12 54 35.0 0.0**
VYHS Vyhne 47.22 51 *eP* **P 12 54 35.0 0.0**
OTAV Otavalo 47.55 236 P P 12 54 37.5 -1.0
OTAV pmax pmax
comp=Z,12nm,1.2s
OTAV Otavalo 47.55 236 *eP* **P 12 54 40.1 +1.7**
OTAV Otavalo 47.55 236 *eP* **P 12 54 40.1 +1.7**
OTAV Otavalo 47.55 236 P P 12 54 37.5 -1.0
OTAV IAmb IAmb 12 54 41.9
comp=Z,12nm,1.1s
WHTX Lake Whitney, 47.61 286 P P 12 54 38.6 +0.3
H10S3 ASCENSION HYDR 47.69 144 T T 13 45 27.3
baz=328,slow=74,SNR=2950
H10S2 ASCENSION HYDR 47.71 144 T T 13 45 28.3
baz=252,slow=74,SNR=3650
OJC Ojcow 47.79 49 P P 12 54 38.9 -0.5
OJC pmax pmax
comp=Z,13nm,1.1s
OJC Ojcow 47.79 49 P P 12 54 38.9 -0.5
OJC IAmb IAmb 12 54 42.0
comp=Z,13nm,1.1s
BDFB Brasilia 47.81 189 P P 12 54 39.5 -0.5
BDFB pmax pmax
comp=Z,9.0nm,0.8s
BDFB Brasilia 47.81 189 P P 12 54 41.1 +1.1
comp=Z,5.5nm,0.6s,baz=2.2,slow=6.3,SNR=7.1
BDFB LR LR 13 10 31.1
comp=Z,101nm,21.2s,baz=353,slow=31
BDFB Brasilia 47.81 189 P P 12 54 39.5 -0.5
BDFB IAmb IAmb 12 54 41.5
comp=Z,8.6nm,0.8s
SCTE Santa Cesarea 47.83 63 P P 12 54 39.5 -0.3
PSZ Piszkesteto 47.95 52 P P 12 54 40.7 -0.1
PSZ pmax pmax
comp=Z,14nm,1.5s
PSZ Piszkesteto 47.95 52 P P 12 54 40.7 -0.1
PSZ IAmb IAmb 12 54 49.8
comp=Z,14nm,1.5s
WMOK Wichita Mounta 47.98 290 P P 12 54 40.8 -0.4
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta 47.98 290 P P 12 54 40.8 -0.4
WMOK IAmb IAmb 12 54 46.3
comp=Z,9.9nm,1.1s
PDG Podgorica 48.05 60 P P 12 54 40.9 -0.7
435B Jarrell 48.05 284 P P 12 54 42.3 +0.6
FFC Flin Flon 48.23 317 P P 12 54 42.7 -0.1
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC Flin Flon 48.23 317 P P 12 54 42.7 -0.1
FFC IAmb IAmb 12 54 44.2
comp=Z,8.6nm,1.1s
ARAG Araguaiana, MT 48.53 194 *eP* **P 12 54 46.0 +0.6**
ARAG Araguaiana, MT 48.53 194 *eP* **P 12 54 46.0 +0.6**
ABTX Abilene, Hawle 49.22 287 P P 12 54 51.5 +0.7
ABTX IAmb IAmb 12 54 57.2
comp=Z,12nm,0.9s
OGNE Ogallala 49.22 299 P P 12 54 50.6 -0.1
OGNE IAmb IAmb 12 54 56.7
comp=Z,14nm,0.9s
SIRR Siria 49.29 54 ⇑*P* **P 12 54 51.3 +0.2**
BZS Buzias 49.34 55 ⇑*P* **P 12 54 51.8 +0.4**
BZS Buzias 49.34 55 ⇑*P* **P 12 54 51.8 +0.4**
DGMT Dagmar 49.77 309 P P 12 54 55.0 +0.2
DGMT IAmb IAmb 12 55 00.8
comp=Z,17nm,1.3s
JCT Junction City 49.97 285 P P 12 54 55.5 -1.0
JCT pmax pmax
comp=Z,27nm,1.1s
JCT Junction City 49.97 285 P P 12 54 55.5 -1.0
HERR Herculane 49.99 56 ⇓*P* **P 12 54 55.3 -1.1**
KSCO Kaye Shedlock' 50.04 296 P P 12 54 56.4 -0.6
KSCO IAmb IAmb 12 55 02.7
comp=Z,12nm,0.8s
IPMB Ipameri, GO 50.14 189 *eP* **P 12 54 58.0 +0.2**
IPMB Ipameri, GO 50.14 189 *eP* **P 12 54 58.0 +0.2**
GZR Gura Zlata 50.17 55 ⇑*P* **P 12 54 57.4 -0.5**
GZR Gura Zlata 50.17 55 ⇑*P* **P 12 54 57.4 -0.5**
RES Resolute Bay 50.23 344 P P 12 54 58.2 +0.5
comp=Z,6.3nm,0.9s,baz=136,slow=8.5,SNR=6.2
RES LR LR 13 16 48.5
comp=Z,127nm,18.1s,baz=128,slow=37
AMTX Amarillo 50.26 291 P P 12 54 58.7 0.0
AMTX IAmb IAmb 12 55 06.1
comp=Z,17nm,1.3s
LVV L'vov 50.54 49 *eP* **P 12 55 00.9 +0.4**
LOT Lotru 50.86 55 ⇑*P* **P 12 55 00.1 -3.0**
VTS Vitosha 50.93 59 P P 12 55 03.5 -0.2
VTS pmax pmax
comp=Z,8.0nm,1.0s
VTS Vitosha 50.93 59 ⇑*P* **P 12 55 04.0 +0.3**
VTS Vitosha 50.93 59 P P 12 55 03.5 -0.2
PP1B Ponte de Pedra 51.08 197 *eP* **P 12 55 05.9 +1.2**
PP1B Ponte de Pedra 51.08 197 *eP* **P 12 55 05.9 +1.2**
LAO LASA Array 51.33 307 P P 12 55 06.8 +0.2
LAO IAmb IAmb 12 55 12.6
comp=Z,12nm,0.9s
MSTX Muleshoe 51.37 290 P P 12 55 07.5 +0.4
MSTX IAmb IAmb 12 55 13.3
comp=Z,13nm,1.0s
FINES FINESS Array B 51.52 34 P P 12 55 07.5 -0.1
comp=Z,7.1nm,0.8s,baz=272,slow=7.4,SNR=7.7
FINES LR LR 13 13 08.6
comp=Z,110nm,20.8s,baz=295,slow=32
FINES FINESS Array B 51.52 34 P P 12 55 07.1 -0.5
FIA1 FINESS Array S 51.52 34 P P 12 55 07.9 +0.2
BUR08 Bucovina Ar. S 51.54 52 P P 12 55 07.7 -0.5
BUR08 IAmb IAmb 12 55 11.9
comp=Z,10nm,1.1s
BURAR Bucovina Array 51.55 52 ⇓*P* **P 12 55 08.9 +0.6**
BURAR Bucovina Array 51.55 52 ⇓*P* **P 12 55 08.9 +0.6**
BURAR Bucovina Array 51.55 52 P P 12 55 08.3 0.0
PHWY Pilot Hill 51.70 300 P P 12 55 10.1 +0.4
VOIR 51.75 55 ⇑*P* **P 12 55 10.7 +0.9**
VOIR 51.75 55 ⇑*P* **P 12 55 10.7 +0.9**
VSU Vasula 51.77 38 ⇓*eP* **P 12 55 08.7 -0.8**
VSU pmax pmax
comp=Z,38nm,0.9s
T25A Trinidad 51.83 294 P P 12 55 10.8 +0.2
DOPR Dopca 51.90 54 ⇑*P* **P 12 55 10.5 -0.4**
ISCO Idaho Springs 52.13 298 P P 12 55 13.0 +0.1
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO Idaho Springs 52.13 298 P P 12 55 13.1 +0.1
N23A Red Feather La 52.14 299 P P 12 55 12.0 -0.9
N23A IAmb IAmb 12 55 19.1
comp=Z,9.9nm,0.9s
ARCES ARCESS Array B 52.19 24 P P 12 55 12.6 0.0
ARCES ARCESS Array B 52.19 24 P P 12 55 12.1 -0.5
comp=Z,4.4nm,1.0s,baz=257,slow=8.2,SNR=3.4
ARCES ARCESS Array B 52.19 24 P P 12 55 12.6 0.0
MLR Muntele Rosu 52.36 55 P P 12 55 13.7 -0.7
MLR pmax pmax
comp=Z,57nm,1.5s
MLR Muntele Rosu 52.36 55 ⇑*P* **P 12 55 14.8 +0.4**
MLR Muntele Rosu 52.36 55 P P 12 55 13.7 -0.7
SPITS Spitsbergen Ar 52.40 13 LR LR 13 12 44.0
comp=Z,66nm,19.9s,baz=215,slow=31
SDCO Great Sand Dun 52.52 295 P P 12 55 13.9 -2.0
ELND Elena 52.78 58 ⇑*P* **P 12 55 17.1 -0.3**
SMCO Snowmass 53.30 297 P P 12 55 21.3 -0.5
EGMT Eagleton 53.51 309 P P 12 55 22.5 -0.3
EGMT IAmb IAmb 12 55 29.0
comp=Z,14nm,1.0s
TXAR Lajitas Array 53.51 285 P P 12 55 23.6 +0.5
comp=Z,5.3nm,0.9s,baz=81,slow=7.1,SNR=21
TXAR LR LR 13 15 58.0
comp=Z,200nm,21.8s,baz=0.0,slow=34
TXAR Lajitas Array 53.51 285 P P 12 55 22.5 -0.6
TX31 Lajitas Ar. Si 53.52 285 P P 12 55 22.7 -0.4
TX31 IAmb IAmb 12 55 28.7
comp=Z,11nm,1.1s
TX32 Lajitas Array 53.52 285 P P 12 55 22.5 -0.6
TX32 IAmb IAmb 12 55 28.8
comp=Z,12nm,1.2s
S22A 4UR Ranch, Cre 53.54 296 P P 12 55 22.2 -1.2
RLMT Red Lodge 53.69 305 P P 12 55 25.1 +0.8
RLMT IAmb IAmb 12 55 32.9
comp=Z,11nm,1.1s
AKASG Malin Array Be 53.75 48 P P 12 55 23.2 -1.1
comp=Z,3.9nm,0.5s,baz=277,slow=6.5,SNR=14
AKASG LR LR 13 16 23.5
comp=Z,90nm,18.9s,baz=270,slow=34
AKBB Malin Array Si 53.75 48 P P 12 55 22.9 -1.4
AKBB pmax pmax
comp=Z,22nm,1.3s
AKBB Malin Array Si 53.75 48 P P 12 55 22.9 -1.4
ANMO Albuquerque 54.02 292 ⇑*eP* **P 12 55 28.1 +1.3**
ANMO pmax pmax
comp=Z,16nm,2.5s
ANMO Albuquerque 54.02 292 P P 12 55 25.8 -1.0
O20A White River Ci 54.02 299 P P 12 55 26.8 +0.1
AQDB Aquidauana 54.04 197 *eP* **P 12 55 28.1 +1.5**
AQDB Aquidauana 54.04 197 *eP* **P 12 55 28.1 +1.5**
MNTX Cornudas Mount 54.14 288 P P 12 55 27.3 -0.3
PCMB Pacaembu 54.17 192 *eP* **P 12 55 29.1 +1.4**
PCMB Pacaembu 54.17 192 *eP* **P 12 55 29.1 +1.4**
YNE Yellowstone No 54.22 305 P P 12 55 28.2 0.0
BW06 Boulder Array 54.37 302 P P 12 55 28.8 -0.6
PD31 Pinedale Array 54.37 302 P P 12 55 29.4 +0.1
PDAR Pinedale Array 54.37 302 P P 12 55 29.7 +0.3
comp=Z,13nm,0.8s,baz=248,slow=1.6,SNR=3.9
PDAR LR LR 13 18 14.6
comp=Z,701nm,18.1s,baz=103,slow=36
YMP Mirror Lake Pl 54.38 305 P P 12 55 30.3 +0.9
BNM Barren Site 54.38 291 P P 12 55 31.0 +1.4
LENM Lemitar 54.65 292 P P 12 55 31.1 -0.3
LPAZ La Paz 54.66 213 P P 12 55 32.1 +0.1
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
LPAZ La Paz 54.66 213 P P 12 55 32.3 +0.3
comp=Z,4.7nm,0.6s,baz=4.6,slow=5.7,SNR=25
LPAZ LR LR 13 17 33.4
comp=Z,118nm,19.0s,baz=12,slow=35
LPAZ La Paz 54.66 213 *eP* **P 12 55 32.5 +0.5**
LPAZ La Paz 54.66 213 *eP* **P 12 55 32.5 +0.5**
LPAZ La Paz 54.66 213 P P 12 55 32.1 +0.1
LPAZ IAmb IAmb 12 55 41.4
comp=Z,7.4nm,0.9s
H17A Grant Village 54.74 305 P P 12 55 29.8 -2.2
H17A IAmb IAmb 12 55 39.7
comp=Z,8.6nm,1.1s
YNR Norris Junctio 54.75 305 P P 12 55 32.0 0.0
YKA Yellowknife Ar 54.83 327 P P 12 55 32.5 +0.5
YKA Yellowknife Ar 54.83 327 P P 12 55 31.7 -0.3
comp=Z,3.9nm,1.0s,baz=82,slow=7.7,SNR=12
YKA LR LR 13 18 04.3
comp=Z,55nm,20.2s,baz=74,slow=35
YKA Yellowknife Ar 54.83 327 P P 12 55 32.5 +0.5
YHH Holmes Hill 54.85 305 P P 12 55 32.6 -0.2
FLWY Flagg Ranch 54.90 304 P P 12 55 33.9 +0.8
FLWY IAmb IAmb 12 55 42.6
comp=Z,12nm,1.1s
YPP Pitchstone Pla 54.93 304 P P 12 55 35.7 +2.2
VAO Valinhos 54.94 187 *eP* **P 12 55 34.4 +1.1**
VAO Valinhos 54.94 187 *eP* **P 12 55 34.4 +1.1**
YMR Madison River 54.96 305 P P 12 55 34.4 +0.8
MOOW Moose Ponds 55.00 304 P P 12 55 33.7 -0.2
YHL Hebgen Lake 55.07 305 P P 12 55 34.1 -0.4
SNOW Snow King Moun 55.07 303 P P 12 55 34.1 -0.3
YHB Horse Butte 55.10 305 P P 12 55 35.0 +0.4
IMW Indian Meadow 55.11 304 P P 12 55 35.0 +0.3
IMW IAmb IAmb 12 55 41.5
comp=Z,12nm,0.8s
HRY Holter Researc 55.13 308 P P 12 55 35.1 +0.4
REDW Red Top Meadow 55.16 303 P P 12 55 35.3 +0.2
REDW IAmb IAmb 12 55 41.2
comp=Z,12nm,0.8s
TPAW Teton Pass 55.21 304 P P 12 55 36.1 +0.7
TPAW IAmb IAmb 12 55 41.7
comp=Z,15nm,1.1s
BOZ Bozeman (W) 55.22 306 P P 12 55 34.4 -1.0
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 55.22 306 P P 12 55 34.4 -1.0
FXWY Fox Creek 55.23 304 P P 12 55 35.9 +0.4
FXWY IAmb IAmb 12 55 42.1
comp=Z,9.6nm,0.9s
QLMT Earthquake Lak 55.25 305 P P 12 55 36.2 +0.6
AHID Auburn Hatcher 55.48 303 P P 12 55 35.8 -1.5
AHID IAmb IAmb 12 55 43.3
comp=Z,10nm,0.8s
TRCB Terra Rica 55.59 193 *eP* **P 12 55 38.8 +0.8**
TRCB Terra Rica 55.59 193 *eP* **P 12 55 38.8 +0.8**
FRTB Fartura 55.60 190 *eP* **P 12 55 39.9 +1.9**
FRTB Fartura 55.60 190 *eP* **P 12 55 39.9 +1.9**
LRM Limekiln Ridge 55.74 307 P P 12 55 39.4 +0.2
DLMT Dillon 55.94 306 P P 12 55 41.0 +0.5
DLMT IAmb IAmb 12 55 44.6
comp=Z,8.8nm,0.9s
SRU San Rafael Swe 55.98 298 P P 12 55 41.6 +0.6
SRU pmax pmax
comp=Z,10.0nm,0.8s
SRU San Rafael Swe 55.98 298 P P 12 55 41.6 +0.6
HPIG 56.01 283 P P 12 55 42.4 +1.0
WALA Waterton Lakes 56.05 311 P P 12 55 40.4 -0.8
WALA IAmb IAmb 12 55 46.9
comp=Z,9.6nm,0.9s
HWUT Hardware Ranch 56.10 301 P P 12 55 41.7 0.0

TCUT Toone Canyon 56.11 301 P **P** **12 55 41.9 0.0**
MCMT McKenzie Canyo 56.23 305 P **P** **12 55 43.9 +1.2**
JLU Jordanelle 56.27 300 P **P** **12 55 43.2 +0.2**
TMUT Trail Mountain 56.44 299 P **P** **12 55 45.1 +0.7**
CTU Camp Tracy 56.47 300 P **P** **12 55 43.3 -1.1**
Q16A Castle Valley 56.52 298 P **P** **12 55 44.0 -0.8**
MSO Missoula 56.53 308 P **P** **12 55 45.1 +0.4**
MSO IAmb IAmb 12 55 52.7
comp=Z,8.4nm,1.1s
MPU Maple Canyon 56.56 300 P **P** **12 55 45.6 +0.5**
SPUT South Promonto 56.82 301 P **P** **12 55 45.9 -1.0**
X18A Snowflake 56.88 293 P **P** **12 55 45.8 -1.7**
NLU North Lily Min 56.91 300 P **P** **12 55 47.5 -0.1**
HVU Hansel Valley 56.93 302 P **P** **12 55 47.8 +0.2**
HVU pmax pmax
comp=Z,9.0nm,1.0s
HVU Hansel Valley 56.93 302 P **P** **12 55 47.8 +0.2**
BGU Big Grassy Mou 57.34 301 P **P** **12 55 50.4 -0.1**
DUG Dugway, Tooele 57.38 300 P **P** **12 55 50.0 -0.8**
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 57.38 300 P **P** **12 55 50.0 -0.8**
DUG IAmb IAmb 12 55 55.2
comp=Z,14nm,1.1s
MSU Marysvale 57.39 298 P **P** **12 55 51.0 0.0**
MSU Marysvale 57.39 298 P **P** **12 55 51.0 0.0**
OBN Obninsk 57.45 42⇑ *eP* **P** **12 55 50.6 -0.3**
OBN *i* 12 56 43.1
OBN pmax pmax
comp=Z,115nm,2.5s
OBN MLR MLR
comp=Z,204nm,18.0s
OBN Obninsk 57.45 42 LR LR 13 17 02.6
comp=Z,51nm,19.6s,baz=311,slow=32
MTPU Mount Pierson 57.53 297 P **P** **12 55 51.5 -0.7**
TCRU Three Creeks R 57.56 298 P **P** **12 55 52.1 -0.2**
MNMC Minye Minye 57.81 213 P **P** **12 55 52.6 -1.5**
PKCU Pink Cliffs 57.81 297 P **P** **12 55 53.1 -1.0**
KLMR Klimovskoe 58.05 35 *eP* **P** **12 55 51.6 -3.3**
KLMR pmax pmax
comp=Z,47nm,1.6s
KLMR Klimovskoe 58.05 35 *eP* **P** **12 55 51.7 -3.2**
KLMR AMP 12 55 58.7
comp=Z,47nm,1.6s
GO01 Chusmiza 58.09 212 P **P** **12 55 55.0 -1.3**
GO01 IAmb IAmb 12 56 01.9
comp=Z,12nm,0.8s
U15A North Rim 58.10 296 P **P** **12 55 57.3 +1.1**
NEW Newport 58.30 310 P **P** **12 55 56.9 -0.1**
NEW pmax pmax
comp=Z,11nm,0.8s
NEW Newport 58.30 310 P **P** **12 55 56.9 -0.1**
NEW IAmb IAmb 12 56 02.1
comp=Z,11nm,0.8s
KNB Kanab 58.33 297 P **P** **12 55 58.0 +0.4**
KNB pmax pmax
comp=Z,4.0nm,1.0s
KNB Kanab 58.33 297 P **P** **12 55 58.0 +0.4**
PLID Pearl Lake 58.34 306 P **P** **12 55 57.3 -0.3**
PLID IAmb IAmb 12 56 01.5
comp=Z,12nm,1.0s
SZCU Shurtz Canyon 58.35 297 P **P** **12 55 58.4 +0.7**
PB11 IPOC Station P 58.38 212 P **P** **12 55 57.0 -0.9**
CCUT Cedar City 58.57 297 P **P** **12 56 00.4 +1.1**
ANTO Ankara 58.58 60 P **P** **12 55 59.1 0.0**
ANTO pmax pmax
comp=Z,8.0nm,0.7s
ANTO Ankara 58.58 60 P **P** **12 55 59.1 0.0**
ANTO IAmb IAmb 12 55 59.5
comp=Z,7.7nm,0.7s
PSUT Pine Spring 58.64 299 P **P** **12 56 01.0 +1.2**
LCMT Little Creek M 58.65 297 P **P** **12 55 59.8 +0.1**
MFID Camas Ranch 58.66 304 P **P** **12 56 00.2 +0.5**
F10A Beach Ranch, E 58.94 308 P **P** **12 56 01.5 -0.1**
F10A IAmb IAmb 12 56 15.7
comp=Z,7.0nm,0.9s
ELK Elko 59.00 301 P **P** **12 56 02.2 -0.1**
ELK pmax pmax
comp=Z,4.0nm,1.2s
ELK Elko 59.00 301 P **P** **12 56 02.2 -0.1**
C09A Chrisman Ranch 59.16 310 P **P** **12 56 02.8 -0.2**
BR131 Keskin Array S 59.24 60 P **P** **12 56 03.2 -0.7**
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BR131 Keskin Array S 59.24 60 P **P** **12 56 03.2 -0.7**
BR131 IAmb IAmb 12 56 04.6
comp=Z,8.5nm,0.9s
BRTR Keskin Array B 59.24 60 P **P** **12 56 03.8 0.0**
comp=Z,5.0nm,0.8s,baz=270,slow=4.5,SNR=17
BRTR LR LR 13 20 22.0
comp=Z,34nm,19.4s,baz=275,slow=35
BRTR Keskin Array B 59.24 60 P **P** **12 56 03.2 -0.7**
BMO Blue Mountains 59.30 306 P **P** **12 56 05.4 +1.3**
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO Blue Mountains 59.30 306 P **P** **12 56 05.4 +1.3**
LPSR Galich'ya Gora 59.34 44 *eP* **P** **12 56 03.3 -0.8**
LPSR pmax pmax
comp=Z,60nm,1.9s
HSIG 59.58 287 P **P** **12 56 06.2 0.0**
HSIG IAmb IAmb 12 56 12.2
comp=Z,10nm,1.0s
VSR Storozhevoye 59.82 46⇑ *eP* **P** **12 56 06.1 -1.3**
VSR pmax pmax
comp=Z,14nm,1.0s
ITAB Concordia 59.83 192 *eP* **P** **12 56 08.7 +1.1**
ITAB Concordia 59.83 192 *eP* **P** **12 56 08.7 +1.1**
R11A Troy Canyon, C 59.99 299 P **P** **12 56 08.9 -0.1**
214A Organ Pipe Nat 60.01 291 P **P** **12 56 08.9 -0.2**
E08A Dider Farm, El 60.03 309 P **P** **12 56 09.2 +0.3**
E08A IAmb IAmb 12 56 16.6
comp=Z,7.4nm,1.0s
CPUP Villa Florida 60.05 197 P **P** **12 56 08.8 -0.4**
CPUP pmax pmax
comp=Z,4.0nm,0.8s
CPUP Villa Florida 60.05 197 P **P** **12 56 09.2 0.0**
comp=Z,2.4nm,0.6s,baz=45,slow=5.7,SNR=6.3
CPUP LR LR 13 19 50.8
comp=Z,44nm,20.2s,baz=32,slow=34
CPUP Villa Florida 60.05 197 *eP* **P** **12 56 09.5 +0.3**
CPUP Villa Florida 60.05 197 *eP* **P** **12 56 09.5 +0.3**
CPUP Villa Florida 60.05 197 P **P** **12 56 08.8 -0.4**
SHPR Sheep Range 60.27 297 P **P** **12 56 11.0 0.0**
G08A Pilot Rock 60.30 307 P **P** **12 56 10.5 -0.5**
G08A IAmb IAmb 12 56 13.8
comp=Z,7.8nm,1.1s
HAWA Hanford 60.37 309 P **P** **12 56 11.3 0.0**
HAWA IAmb IAmb 12 56 15.4
comp=Z,9.0nm,0.9s
BMN Battle Mountai 60.53 302 P **P** **12 56 12.4 -0.3**
BMN Battle Mountai 60.53 302 P **P** **12 56 12.4 -0.3**
E07A Sunnyside 60.53 309 P **P** **12 56 13.0 +0.5**
E07A IAmb IAmb 12 56 18.7
comp=Z,8.9nm,1.0s
LVC Limon Verde 60.56 210 P **P** **12 56 12.5 -0.7**
LVC pmax pmax
comp=Z,8.0nm,0.8s
LVC Limon Verde 60.56 210 *eP* **P** **12 56 13.7 +0.5**
LVC Limon Verde 60.56 210 *eP* **P** **12 56 13.7 +0.5**
LVC Limon Verde 60.56 210 P **P** **12 56 12.4 -0.7**
LVC IAmb IAmb 12 56 13.7
comp=Z,8.5nm,0.8s
Y12C Blythe 60.72 293 P **P** **12 56 14.7 +0.8**
LTY Liberty 60.87 310 P **P** **12 56 14.8 0.0**
LTY IAmb IAmb 12 56 17.9
comp=Z,12nm,1.0s
WVOR Wild Horse Val 60.92 304 P **P** **12 56 16.0 +0.7**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 60.92 304 P **P** **12 56 16.0 +0.7**
WVOR IAmb IAmb 12 56 21.2
comp=Z,8.2nm,1.0s
TPNV Topopah Spring 60.95 297 P **P** **12 56 17.1 +1.5**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 60.95 297 P **P** **12 56 17.1 +1.5**
TPNV IAmb IAmb 12 56 24.3
comp=Z,8.3nm,0.9s
VRH Novokhopyorsk 61.37 45 *eP* **P** **12 56 16.1 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KVN Kaiserville 61.62 300 P **P** **12 56 20.5 +0.3**
KVN pmax pmax
comp=Z,10.0nm,0.9s
KVN Kaiserville 61.62 300 P **P** **12 56 20.5 +0.3**
KVN IAmb IAmb 12 56 25.5
comp=Z,9.6nm,0.9s
CNLB Canela 61.66 190 *eP* **P** **12 56 23.9 +3.8**
CNLB Canela 61.66 190 *eP* **P** **12 56 23.9 +3.8**
INK Inuvik 61.75 335 P **P** **12 56 20.4 +0.1**
comp=Z,7.3nm,0.9s,baz=43,slow=7.3,SNR=31
INK Inuvik 61.75 335 P **P** **12 56 20.4 +0.1**
LON Longmire 61.77 310 P **P** **12 56 21.2 +0.3**
LON pmax pmax
comp=Z,4.0nm,1.0s
LON Longmire 61.77 310 P **P** **12 56 21.2 +0.3**
NV11 Mina Array Sit 61.87 300 P **P** **12 56 22.1 +0.2**
NV11 IAmb IAmb 12 56 29.5
comp=Z,5.3nm,0.9s
NVAR Mina Array Bea 61.98 300 P **P** **12 56 22.2 -0.4**
comp=Z,2.7nm,0.6s,baz=69,slow=6.7,SNR=25
NVAR LR LR 13 22 45.1
comp=Z,824nm,18.7s,baz=90,slow=36
RYN Ryan 62.07 300 P **P** **12 56 22.8 -0.4**
PINE Pine Mountain 62.10 306 P **P** **12 56 26.6 +3.2**
DAC Darwin (Calif) 62.19 297 P **P** **12 56 27.7 +3.6**
DAC pmax pmax
comp=Z,11nm,1.0s
DAC Darwin (Calif) 62.19 297 P **P** **12 56 27.7 +3.6**
MOD Modoc Plateau 62.27 304 P **P** **12 56 25.3 +0.9**
MOD IAmb IAmb 12 56 29.9
comp=Z,7.8nm,1.0s
PFO Pinyon Flats O 62.28 294 *i* P P 12 56 19.9 -4.7
PAHR Pah Rah Range 62.34 301 P **P** **12 56 24.3 -0.6**
PAHR IAmb IAmb 12 56 28.7
comp=Z,7.5nm,0.9s
MONP2 Monument Peak 62.51 293 P **P** **12 56 25.9 -0.4**
VCNR Virginia City 62.67 301 P **P** **12 56 26.8 -0.4**
VCNR IAmb IAmb 12 56 35.0
comp=Z,8.7nm,1.1s
OMMB Old Mammoth Mi 62.78 299 P **P** **12 56 29.0 +0.9**
MDPB Devils Postpil 62.83 299 P **P** **12 56 28.8 +0.4**
MDPB IAmb IAmb 12 56 33.0
comp=Z,5.0nm,0.9s
ORV Oroville 63.92 302 P **P** **12 56 35.1 -0.2**
ORV pmax pmax
comp=Z,6.0nm,1.2s
ORV Oroville 63.92 302 P **P** **12 56 35.1 -0.2**
ORV IAmb IAmb 12 56 40.1
comp=Z,6.1nm,1.1s
YBH Yreka Blue Hor 64.02 304 P **P** **12 56 35.3 -0.7**
comp=Z,1.0nm,0.5s,baz=38,slow=10,SNR=7.5
KBZ Khabaz 64.49 53 P **P** **12 56 38.5 -0.3**
comp=Z,6.7nm,0.9s,baz=287,slow=4.2,SNR=9.1
DAWY Dawson 65.38 331 P **P** **12 56 43.9 -0.6**
DAWY IAmb IAmb 12 56 50.0
comp=Z,10nm,1.2s
ZEI Tsey 65.51 54 *eP* **P** **12 56 45.6 -0.2**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
AKH Akhalkalaki 65.74 55 P **P** **12 56 47.1 -0.2**
AKH pmax pmax
comp=Z,14nm,1.0s
AKH Akhalkalaki 65.74 55 P **P** **12 56 47.1 -0.2**
EGAK Eagle 65.81 332 P **P** **12 56 47.6 +0.5**
BMAR Burnt Mountain 65.98 336 P **P** **12 56 47.8 -0.4**
BCAR Beaver Creek A 66.77 331 P **P** **12 56 52.6 -0.7**
PRP Porcupine Dome 67.16 334 P **P** **12 56 56.2 +0.3**
PRP IAmb IAmb 12 56 57.8
comp=Z,6.7nm,1.0s
SCRK Sand Creek 67.26 332 P **P** **12 56 57.0 +0.4**
DOT Dot Lake 67.44 332 P **P** **12 56 57.7 +0.1**
DOT IAmb IAmb 12 57 04.1
comp=Z,6.2nm,0.8s
RIDG Independent Ri 67.71 332 P **P** **12 56 60.0 +0.6**
COLD Coldfoot 68.00 337 P **P** **12 57 01.0 0.0**
IL31 68.02 334 P **P** **12 57 01.6 +0.5**
IL31 IAmb IAmb 12 57 05.5
comp=Z,5.5nm,0.9s
ILAR Eielson Array 68.02 334 P **P** **12 57 01.9 +0.7**
comp=Z,3.7nm,1.0s,baz=58,slow=4.2,SNR=18
ILAR LR LR 13 26 33.0
comp=Z,222nm,20.8s,baz=90,slow=36
ILAR Eielson Array 68.02 334 P **P** **12 57 01.7 +0.5**
HDA Harding Lake 68.22 333 P **P** **12 57 03.1 +0.7**
CCB Clear Creek Bu 68.43 334 P **P** **12 57 03.9 +0.2**
CCB IAmb IAmb 12 57 07.9
comp=Z,8.1nm,0.9s
WRH Wood River Hil 68.62 334 P **P** **12 57 04.2 -0.8**
ARU Arti 68.83 36 *c iP* **P** **12 57 06.1 -0.2**
ARU S **S** **13 06 10.8 +1.2**
ARU SS **SS** **13 10 33.1 -0.9**
ARU pmax pmax
comp=Z,18nm,1.5s
ARU Arti 68.83 36 P **P** **12 57 06.2 -0.2**
BWN Browne 69.29 334 P **P** **12 57 09.3 +0.2**
MCK McKinley 69.31 333 P **P** **12 57 09.3 0.0**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 69.31 333 P **P** **12 57 09.3 0.0**
MCK IAmb IAmb 12 57 19.4
comp=Z,9.9nm,0.9s
RND Reindeer 69.44 333 P **P** **12 57 10.7 +0.5**
RND pmax pmax
comp=Z,15nm,1.2s
RND Reindeer 69.44 333 P **P** **12 57 10.7 +0.5**
SVE Sverdlovsk 69.68 35 *eP* **P** **12 57 10.6 -1.0**
IMAR Indian Mountai 69.86 336 P **P** **12 57 13.1 +0.5**
TRF Thorofare Moun 69.98 333 P **P** **12 57 13.7 +0.1**
TRF IAmb IAmb 12 57 19.4
comp=Z,7.1nm,0.8s
KTH Kantishna Hill 70.16 333 P **P** **12 57 14.7 +0.1**
PMR Palmer 70.49 331 P **P** **12 57 16.6 +0.1**
PMR pmax pmax
comp=Z,11nm,1.2s
PMR Palmer 70.49 331 P **P** **12 57 16.6 +0.1**
PMR IAmb IAmb 12 57 19.9
comp=Z,11nm,1.2s
RC01 Rabbit Creek A 71.00 331 P **P** **12 57 20.3 +0.7**
NRIK Noril'sk 72.24 17 P **P** **12 57 28.1 +1.1**
comp=Z,6.0nm,0.8s,baz=4.0,slow=6.3,SNR=6.8
RSO Redoubt South 72.58 331 P **P** **12 57 29.4 0.0**
ABKAR Abkulak array 72.89 42 P **P** **12 57 30.8 -0.4**
ABKAR Abkulak array 72.89 42 P **P** **12 57 31.0 -0.2**
ABKAR IAmb IAmb 12 57 34.6
comp=Z,4.5nm,0.8s
H09N1 TRISTAN DA CUN 73.61 157 T T 14 17 54.5
SNR=3.8
H09W1 TRISTAN DA CUN 73.63 157 T T 14 17 58.0
SNR=66
KDAK Kodiak Island 74.03 329 P **P** **12 57 38.6 +0.8**
comp=Z,3.4nm,0.7s,baz=72,slow=9.6,SNR=3.5
KDAK Kodiak Island 74.03 329 IAmb IAmb 12 57 48.4
comp=Z,22nm,1.4s
BRVK Borovoye 76.39 35⇓ *eP* **P** **12 57 52.1 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 76.39 35 P **P** **12 57 51.7 +0.3**
BRVK IAmb IAmb 12 57 55.1
comp=Z,6.5nm,0.9s
TIXI Tiksi 76.45 3⇑ *eP* **P** **12 57 52.0 +0.6**
TIXI pmax pmax
comp=Z,23nm,2.5s
TIXI Tiksi 76.45 3 P **P** **12 57 51.5 +0.1**
comp=Z,2.4nm,0.2s,baz=41,slow=4.6,SNR=3.6
TIXI Tiksi 76.45 3 P **P** **12 57 51.8 +0.3**
TIXI IAmb IAmb 12 57 56.6
comp=Z,8.3nm,1.1s
GO06 Curarrehue 76.65 204 P **P** **12 57 53.5 +0.5**
PLCA Paso Flores 77.37 203 P **P** **12 57 58.0 +1.0**
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 77.37 203 P **P** **12 57 57.0 0.0**
comp=Z,5.0nm,0.7s,baz=44,slow=6.9,SNR=11
PLCA Paso Flores 77.37 203 P **P** **12 57 58.0 +1.0**
PLCA IAmb IAmb 12 57 58.3
comp=Z,8.4nm,0.8s
BILL Bilibino 78.30 350⇓ *eP* **P** **12 58 02.1 +0.2**
BILL *e* 12 58 11.1
BILL *eS* **S** **13 08 02.8 +6.5**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,130nm,18.0s
BILL Bilibino 78.30 350 P **P** **12 58 01.6 -0.2**
BILL IAmb IAmb 12 58 03.5
comp=Z,14nm,1.3s
KMBO Kilima Mbogo 80.42 97 P **P** **12 58 15.3 +0.6**
KMBO pmax pmax
comp=Z,14nm,1.5s
KMBO Kilima Mbogo 80.42 97 P **P** **12 58 15.8 +1.1**
comp=Z,0.9nm,0.3s,baz=319,slow=3.8,SNR=7.4
KMBO LR LR 13 32 49.7
comp=Z,338nm,21.5s,baz=277,slow=35
KMBO Kilima Mbogo 80.42 97 P **P** **12 58 15.2 +0.6**
KMBO IAmb IAmb 12 58 18.4
comp=Z,14nm,1.5s
LSZ Lusaka 80.97 114 P **P** **12 58 18.2 +0.9**
LSZ pmax pmax
comp=Z,14nm,1.3s
LSZ Lusaka 80.97 114 P **P** **12 58 18.2 +0.9**
LSZ IAmb IAmb 12 58 19.5
comp=Z,14nm,1.3s
KURK Kurchatov 81.89 34 *d iP* **P** **12 58 22.0 +0.5**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 81.89 34 P **P** **12 58 21.4 -0.2**
KURK IAmb IAmb 12 58 22.7
comp=Z,8.9nm,1.0s
KKAR Karatay Array 82.39 44 P **P** **12 58 24.4 0.0**
KKAR Karatay Array 82.39 44 P **P** **12 58 24.4 0.0**
ZAA0 Zalesovo Array 82.41 29 P **P** **12 58 23.9 -0.3**
ZAA0 IAmb IAmb 12 58 25.4
comp=Z,11nm,1.2s
ZALV Zalesovo Beam 82.41 29 P **P** **12 58 24.6 +0.3**
comp=Z,4.6nm,0.9s,baz=303,slow=7.9,SNR=17
ZALV LR LR 13 33 53.2
comp=Z,32nm,20.3s,baz=320,slow=35
ZALV Zalesovo Beam 82.41 29 P **P** **12 58 24.0 -0.2**
UOSS Minazif 82.69 65 P **P** **12 58 25.7 -0.5**
CHGR Chuyangaron 84.22 48 P **P** **12 58 33.4 -0.6**
BTK Batken 84.41 46 P **P** **12 58 34.5 -0.4**
BTK pmax pmax
comp=Z,3.0nm,0.8s
BTK Batken 84.41 46 P **P** **12 58 34.5 -0.4**
GAR Garm 84.74 47 P **P** **12 58 37.3 +0.6**
SEY Seymchan 84.88 354 *ℓ iP* **P** **12 58 36.9 +0.2**
MKAR Makanchi Array 86.34 35 *i P* **P** **12 58 44.5 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 86.34 35 P **P** **12 58 44.1 -0.2**
comp=Z,2.2nm,0.9s,baz=323,slow=7.8,SNR=5.5
MKAR LR LR 13 36 20.0
comp=Z,93nm,18.1s,baz=302,slow=35
MKAR Makanchi Array 86.34 35 P **P** **12 58 42.5 -1.8**
NRN Naryn 86.61 42 P **P** **12 58 45.3 -0.9**
NRN pmax pmax
comp=Z,6.0nm,1.0s
NRN Naryn 86.61 42 P **P** **12 58 45.3 -0.9**
NRN IAmb IAmb 12 58 48.3
comp=Z,6.1nm,0.9s
KSH Kashi 87.84 44 P **P** **12 58 49.8 -2.1**
KSH sP sP 12 58 56.5 -0.9
KSH PP **PP** **13 02 16.5 -0.7**
KSH S **S** **13 09 27.0 -7.5**
KSH LR LR
comp=Z,210nm,10.9s
KSH LR LR
comp=Z,360nm,11.7s
NIL Nilore 89.90 50 P **P** **12 59 00.2 -1.4**
NIL pmax pmax
comp=Z,8.0nm,1.1s
NIL Nilore 89.90 50 P **P** **12 59 00.2 -1.4**
NIL IAmb IAmb 12 59 00.5
comp=Z,7.5nm,1.1s
WMQ Urumqi 91.12 35 *eP* **P** **12 59 08.3 +1.1**
WMQ sP pwP 12 59 14.5 +0.7
WMQ LR LR
comp=Z,790nm,28.9s
PETK Petropavlovsk- 93.81 349 LR LR 13 40 15.4
comp=Z,88nm,18.4s,baz=61,slow=35
SONM Songino Array 95.30 22 LR LR 13 43 53.7
comp=Z,54nm,18.0s,baz=2.0,slow=36
CD2 Chengdu 109.03 32 Pdif **Pdif** **13 00 26.0 -2.0**
CMAR Chiang Mai Arr 116.74 43 PKP **PKPdf** **13 04 46.6 -0.6**
comp=Z,0.8nm,0.4s,baz=301,slow=3.4,SNR=6.3
CMAR Chiang Mai Arr 116.74 43 **PKPdf** **13 04 44.4 -2.8**
VNDA Vanda 133.19 187 PKP **PKiKP** **13 05 18.2 +0.2**
comp=Z,0.7nm,0.6s,baz=84,slow=10,SNR=8.8
KAPI Kappang 147.59 38 PKPbc **PKPbc** **13 05 47.8 +0.5**
comp=Z,5.6nm,0.5s,baz=218,slow=3.3,SNR=3.9
KAPI Kappang 147.59 38 **PKPdf** **13 05 43.2 -1.4**
SIJI Sorong 148.20 15 PKPbc **PKPbc** **13 05 49.1 +0.2**
comp=Z,11nm,0.8s,baz=24,slow=5.1,SNR=7.8
WRA Warramunga Arr 167.28 21 PKP **PKPdf** **13 06 08.0 -0.8**
comp=Z,0.9nm,0.8s,baz=291,slow=1.4,SNR=4.9
WRA PKPab **PKPab** **13 07 13.1 -0.2**
comp=Z,0.9nm,0.9s,baz=348,slow=3.7,SNR=3.0
WRA Warramunga Arr 167.28 21 **PKPdf** **13 06 07.4 -1.4**
WRA **PKPab** **13 07 13.6 +0.3**
ASAR Alice Springs 170.51 31 PKP **PKPdf** **13 06 11.1 +0.3**
comp=Z,1.9nm,0.8s,baz=336,slow=0.3,SNR=13
ASAR PKPab **PKPab** **13 07 27.4 -0.2**
comp=Z,2.0nm,0.9s,baz=342,slow=4.4,SNR=8.1
ASAR Alice Springs 170.51 31 **PKPdf** **13 06 10.0 -0.8**
ASAR **PKPab** **13 07 27.7 0.0**

NEIC 27 13:00:03.7±4.1, 8°.0S±0°.1×79°.1W±0°.3, h64km±9km, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**4.58**	**151**				
NNA				Sn	Sn	13 02 03.3	+0.7
OTAV	**Otavalo**	**8.18**	**5**				
SAML	**Samuel**	**15.80**	**95**	P	P	13 03 45.1	+0.1
ESPN	**Las Esperanzas**	**20.68**	**346**	P	Pn	13 04 41.5	0.0
BCAR	**Beaver Creek A**	**85.15**	**336**	P	P	13 12 32.5	-0.1

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*BJI **27** 13:06:07.0±0.0, 32°.00N×40°.80W, h10km, mb4.9/4, Ms7 4.9/1*
*ISCJB **27** 13:06:08.6±0.2, 31°.91N±0°.05×40°.74W±0°.03, h14km, mb4.5/72, MS3.5/9, Error ellipse: s-maj=7.5km s-min=3.9km az=174.5*
*MOS **27** 13:06:08.2±0.9, 31°.95N×40°.75W, h10km, mb4.9/45, Error ellipse: s-maj=8.5km s-min=6.7km az=60.1*
*IDC **27** 13:06:08.6±0.5, 31°.96N×40°.73W, h0km, mb4.3/29, mb1 4.4/29, mb1mx4.3/53, mbtmp4.3/29, MS3.6/9, Ms1 3.6/9, ms1mx3.2/33, Error ellipse: s-maj=15.3km s-min=12.6km az=160.0*
*NEIC **27** 13:06:10.5±1.0, 31°.91N±0°.10×40°.7W±0°.1, h15km±3km, mb4.8/124*
ISC 27 13:06:10.4±0.4, 31°.94N±0°.07×40°.68W±0°.07, h14km, n253, σ0991/243, mb4.7/105, MS3.5/9, 6C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**21.43**	**329**	P	**P**	**13 10 57.7**	**-0.1**
DRLN				IAmb	IAmb	13 10 58.6	
BATG	**Bathurst New B**	**24.69**	**316**	P	**P**	**13 11 31.2**	**+0.4**
PFVI	**Vila Bisbo**	**26.67**	**70**	P	**P**	**13 11 49.2**	**+0.3**
SJG	**San Juan**	**26.79**	**245**	LR	LR	13 23 33.5	
I62A	**Tamworth**	**26.81**	**305**	P	**P**	**13 11 49.4**	**-0.7**
MDP	**Montagnes des**	**28.95**	**205**	LR	LR	13 21 57.8	
NRS	**Narsarsuaq**	**29.40**	**355**	P	**P**	**13 12 15.6**	**+2.7**
SCHQ	**Schefferville**	**29.44**	**329**	LR	LR	13 23 08.4	
ESDC	**Sonseca Array**	**30.60**	**65**	P	**P**	**13 12 24.4**	**+0.4**
ESDC	**Sonseca Array**	**30.60**	**65**	IAmb	IAmb	13 12 25.2	
ROSF	**Rostrenen**	**32.57**	**49**	*eP*	**P**	**13 12 44.9**	**+3.8**
LFF	**La Frestale**	**34.57**	**56**	*eP*	**P**	**13 12 58.7**	**+0.1**
LDF	**La Druitiere**	**34.66**	**49**	*eP*	**P**	**13 12 59.2**	**-0.1**
SMF	**Signal de Mont**	**36.94**	**53**	*eP*	**P**	**13 13 20.2**	**+1.3**

VIVF Saint-Julien-I 37.34 57 *e*P **P 13 13 25.7 +3.3**
VIVF pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 38.78 56 *e*P **P 13 13 36.2 +1.6**
BNI pmax pmax
comp=Z,17nm,1.9s
LPL La Plagne 38.84 56 *e*P **P 13 13 38.1 +2.9**
LPL pmax pmax
comp=Z,50nm,2.0s
BFO Black Forest 40.16 51 *i*P **P 13 13 47.3 +1.4**
SUMG Summit 40.72 1 P **P 13 13 49.5 -1.2**
DAVOX Davos/Dischmat 41.09 54 P **P 13 13 55.2 +1.3**
comp=Z,4.0nm,0.8s,baz=266,slow=11,SNR=5.2
ROSC El Rosal 41.46 236 LR LR 13 29 43.6
comp=Z,55nm,20.6s,baz=131,slow=34
DBIC Dimbokro 41.79 119 P **P 13 14 00.4 +0.7**
comp=Z,4.4nm,0.9s,baz=293,slow=11,SNR=4.4
DBIC LR LR 13 30 01.3
comp=Z,109nm,18.4s,baz=335,slow=34
DBIC Dimbokro 41.79 119 IAmb IAmb 13 14 33.7
comp=Z,35nm,1.8s
OSSC Osservatorio P 42.04 59 P **P 13 14 01.4 -0.1**
U40A Yellville 42.98 291 P **P 13 14 09.6 +0.4**
TOA0 Torodi Ar. Sit 43.04 106 P **P 13 14 10.2 +0.3**
TORD Torodi Ar. Bea 43.04 106 P **P 13 14 10.0 +0.2**
comp=Z,6.2nm,0.9s,baz=303,slow=5.6,SNR=21
TORD Torodi Ar. Bea 43.04 106 P **P 13 14 08.4 -1.4**
CLL Collm 43.46 47 *e*P **P 13 14 13.0 +0.2**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 43.46 47 *e*P **P 13 14 13.0 +0.2**
comp=Z,12nm,1.1s
CLL Collm 43.46 47 P **P 13 14 12.8 0.0**
KHC Kasperske Hory 43.68 51 P **P 13 14 15.4 +0.6**
KHC pmax pmax
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 43.68 51 *e*P **P 13 14 14.5 -0.2**
KHC Kasperske Hory 43.68 51 P **P 13 14 15.4 +0.6**
GERES GERESS Array B 43.75 51 P **P 13 14 15.6 +0.2**
comp=Z,1.7nm,0.7s,baz=265,slow=6.7,SNR=9.6
GERES GERESS Array B 43.75 51 P **P 13 14 13.8 -1.6**
BRG Berggiesshubel 44.01 48 *e*(P) **P 13 14 17.9 +0.6**
comp=Z,5.2nm,1.0s
BRG Berggiesshubel 44.01 48 *e*P **P 13 14 17.9 +0.6**
BRG pmax pmax
comp=Z,5.0nm,1.0s
AGMN Agassiz Nation 44.28 308 P **P 13 14 20.1 +0.6**
AGMN IAmb IAmb 13 14 38.6
comp=Z,30nm,1.9s
ULM Lac du Bonnet 44.35 311 P **P 13 14 19.1 -0.8**
comp=Z,2.4nm,0.5s,baz=74,slow=8.7,SNR=4.7
ULM LR LR 13 32 03.9
comp=Z,59nm,19.0s,baz=82,slow=35
ULM Lac du Bonnet 44.35 311 IAmb IAmb 13 14 44.3
comp=Z,31nm,1.8s
NC602 NORSAR Array S 44.40 34 P **P 13 14 20.5 +0.2**
NC303 NORSAR Array S 44.46 33 P **P 13 14 20.9 +0.1**
ECSD EROS Data Cent 44.94 302 P **P 13 14 24.6 -0.3**
SAML Samuel 46.00 212 P **P 13 14 33.2 -0.2**
SAML pmax pmax
comp=Z,8.0nm,1.0s
SAML Samuel 46.00 212 P **P 13 14 33.2 -0.2**
SAML IAmb IAmb 13 14 34.5
comp=Z,8.5nm,0.9s
MODS Modra-Piesok 46.12 52 *e*P **P 13 14 31.7 -2.4**
MODS Modra-Piesok 46.12 52 *e*P **P 13 14 31.7 -2.4**
H10N2 ASCENSION HYDR 46.79 143 T T 14 04 27.8
baz=329,slow=75,SNR=1066
H10N3 ASCENSION HYDR 46.79 143 T T 14 04 28.1
baz=329,slow=75,SNR=916
H10N1 ASCENSION HYDR 46.80 143 T T 14 04 29.2
baz=329,slow=75,SNR=1031
VYHS Vyhne 47.16 51 *e*P **P 13 14 43.0 +0.8**
VYHS Vyhne 47.16 51 *e*P **P 13 14 43.0 +0.8**
OTAV Otavalo 47.61 236 P **P 13 14 46.7 0.0**
OTAV pmax pmax
comp=Z,10.0nm,1.1s
OTAV Otavalo 47.61 236 P **P 13 14 46.7 0.0**
OTAV IAmb IAmb 13 14 48.5
comp=Z,9.8nm,1.1s
H10S3 ASCENSION HYDR 47.66 144 T T 14 05 33.5
baz=329,slow=74,SNR=665
H10S2 ASCENSION HYDR 47.67 144 T T 14 05 34.6
baz=251,slow=74,SNR=510
WHTX Lake Whitney, 47.67 286 P **P 13 14 47.4 +0.9**
WHTX IAmb IAmb 13 15 09.7
comp=Z,9.2nm,0.8s
BDFB Brasília 47.83 190 P **P 13 14 49.2 +1.4**
comp=Z,2.6nm,0.5s,baz=54,slow=4.5,SNR=3.9
PSZ Piszkesteto 47.89 52 P **P 13 14 47.4 -0.6**
PSZ pmax pmax
comp=Z,21nm,1.7s
PSZ Piszkesteto 47.89 52 P **P 13 14 47.4 -0.6**
CBKS Cedar Bluff 47.93 295 P **P 13 14 48.3 -0.1**
CBKS pmax pmax
comp=Z,17nm,1.2s
CBKS Cedar Bluff 47.93 295 P **P 13 14 48.3 -0.1**
WMOK Wichita Mounta 48.04 290 P **P 13 14 48.8 -0.5**
WMOK pmax pmax
comp=Z,19nm,1.8s
WMOK Wichita Mounta 48.04 290 P **P 13 14 48.8 -0.5**
WMOK IAmb IAmb 13 14 50.5
comp=Z,19nm,1.8s
435B Jarrell 48.12 284 P **P 13 14 49.6 -0.4**
FFC Flin Flon 48.27 317 P **P 13 14 50.7 -0.1**
FFC pmax pmax
comp=Z,19nm,1.5s
FFC Flin Flon 48.27 317 P **P 13 14 50.7 -0.1**
ABTX Abilene, Hawle 49.28 287 P **P 13 14 59.1 +0.2**
JCT Junction City 50.03 285 P **P 13 15 03.9 -0.8**
JCT pmax pmax
comp=Z,10.0nm,0.9s
JCT Junction City 50.03 285 P **P 13 15 03.9 -0.8**
JCT IAmb IAmb 13 15 05.6
comp=Z,10.0nm,0.9s
RES Resolute Bay 50.24 344 P **P 13 15 05.8 +0.3**
comp=Z,5.8nm,1.1s,baz=118,slow=8.2,SNR=5.4
VTS Vitosha 50.87 59 P **P 13 15 10.6 -0.3**
VTS pmax pmax
comp=Z,19nm,1.6s
VTS Vitosha 50.87 59 P **P 13 15 10.6 -0.3**
VTS IAmb IAmb 13 16 33.6
comp=Z,19nm,1.6s
MSTX Muleshoe 51.43 290 P **P 13 15 14.8 -0.5**
MSTX IAmb IAmb 13 15 16.9
comp=Z,16nm,1.4s
FINES FINESS Array B 51.47 34 P **P 13 15 15.1 +0.1**
comp=Z,2.8nm,0.8s,baz=276,slow=9.0,SNR=5.4
BURAR Bucovina Array 51.49 52 P **P 13 15 16.5 +1.0**
VSU Vasula 51.72 38⇑*i*P **P 13 15 17.0 +0.1**
VSU pmax pmax
comp=Z,48nm,1.0s
PHWY Pilot Hill 51.75 300 P **P 13 15 17.1 -0.7**
PHWY IAmb IAmb 13 16 18.4
comp=Z,23nm,1.9s
ARCES ARCESS Array B 52.16 24 P **P 13 15 20.6 +0.6**
ARCES ARCESS Array B 52.16 24 P **P 13 15 20.6 +0.6**
ISCO Idaho Springs 52.19 298 P **P 13 15 21.7 +0.6**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 52.19 298 P **P 13 15 21.7 +0.6**
N23A Red Feather La 52.20 299 P **P 13 15 21.9 +0.8**
GDL2 Guadalupe Moun 53.23 288 P **P 13 15 28.5 -0.2**
EGMT Eagleton 53.56 309 P **P 13 15 30.5 -0.3**
EGMT IAmb IAmb 13 15 32.4
comp=Z,15nm,1.1s
TXAR Lajitas Array 53.58 285 P **P 13 15 31.2 0.0**
comp=Z,2.5nm,1.0s,baz=92,slow=7.4,SNR=13
TXAR LR LR 13 36 15.0
comp=Z,35nm,20.4s,baz=0.0,slow=34
TXAR Lajitas Array 53.58 285 P **P 13 15 30.9 -0.4**
TX31 Lajitas Ar. Si 53.58 285 P **P 13 15 30.9 -0.3**
TX32 Lajitas Array 53.58 285 P **P 13 15 31.1 -0.2**
TX32 IAmb IAmb 13 15 58.1
comp=Z,16nm,2.0s
AKASG Malin Array Be 53.70 48 P **P 13 15 29.8 -1.8**
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 53.70 48 P **P 13 15 31.0 -0.6**
comp=Z,3.4nm,0.7s,baz=274,slow=6.4,SNR=8.0
AKASG Malin Array Be 53.70 48 P **P 13 15 29.8 -1.8**
RLMT Red Lodge 53.74 305 P **P 13 15 31.9 -0.5**
GCMT Greycliff 53.89 306 P **P 13 15 33.0 -0.4**
TLIG Tlapa 53.91 269 P **P 13 15 32.9 -0.9**
O20A White River Ci 54.07 299 P **P 13 15 35.4 +0.5**
O20A IAmb IAmb 13 15 44.3
comp=Z,8.1nm,1.1s
ANMO Albuquerque 54.08 292⇓*e*P **P 13 15 36.1 +1.2**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
MNTX Cornudas Mount 54.20 288 P **P 13 15 35.7 0.0**
YNE Yellowstone No 54.27 305 P **P 13 15 36.1 -0.2**
BW06 Boulder Array 54.43 302 P **P 13 15 36.8 -0.7**
PD31 Pinedale Array 54.43 302 P **P 13 15 36.9 -0.6**
PDAR Pinedale Array 54.43 302 P **P 13 15 37.0 -0.4**
comp=Z,12nm,0.9s,baz=84,slow=7.6,SNR=63
PDAR LR LR 13 38 30.0
comp=Z,103nm,18.1s,baz=108,slow=36
PDAR Pinedale Array 54.43 302 P **P 13 15 36.6 -0.8**
YMP Mirror Lake Pl 54.43 305 P **P 13 15 37.7 +0.2**
BNM Barren Site 54.45 291 P **P 13 15 37.6 -0.1**
LKWY Lake 54.64 305 P **P 13 15 39.6 +0.6**
LKWY pmax pmax
comp=Z,7.0nm,1.0s
LKWY Lake 54.64 305 P **P 13 15 39.6 +0.6**
LKWY IAmb IAmb 13 15 41.1
comp=Z,7.4nm,1.0s
LPAZ La Paz 54.70 213 P **P 13 15 40.3 +0.3**
comp=Z,2.0nm,0.8s,baz=356,slow=7.0,SNR=7.6
YKA Yellowknife Ar 54.87 327 P **P 13 15 39.4 -0.5**
comp=Z,1.8nm,0.9s,baz=87,slow=7.1,SNR=6.5
PV22 Blue Mesa, Par 54.89 297 P **P 13 15 41.5 +0.7**
YHH Holmes Hill 54.91 305 P **P 13 15 41.0 +0.1**
FLWY Flagg Ranch 54.95 304 P **P 13 15 41.1 -0.1**
YMR Madison River 55.01 305 P **P 13 15 42.3 +0.6**
MOOW Moose Ponds 55.06 304 P **P 13 15 41.6 -0.4**
YHL Hebgen Lake 55.12 305 P **P 13 15 42.1 -0.4**
SNOW Snow King Moun 55.13 303 P **P 13 15 42.1 -0.5**
YHB Horse Butte 55.15 305 P **P 13 15 42.8 +0.2**
PV09 Paradox Valley 55.16 297 P **P 13 15 43.4 +0.5**
IMW Indian Meadow 55.16 304 P **P 13 15 42.7 -0.1**
IMW IAmb IAmb 13 15 44.0
comp=Z,8.8nm,0.8s
HRY Holter Researc 55.19 308 P **P 13 15 42.3 -0.4**
REDW Red Top Meadow 55.22 303 P **P 13 15 43.0 -0.2**
REDW IAmb IAmb 13 15 44.1
comp=Z,10nm,1.0s
TPAW Teton Pass 55.26 304 P **P 13 15 43.1 -0.3**
TPAW IAmb IAmb 13 15 45.2
comp=Z,8.5nm,1.0s
BOZ Bozeman (W) 55.27 306 P **P 13 15 43.1 -0.3**
BOZ pmax pmax
comp=Z,4.0nm,1.1s
BOZ Bozeman (W) 55.27 306 P **P 13 15 43.1 -0.3**
FXWY Fox Creek 55.28 304 P **P 13 15 43.1 -0.5**
QLMT Earthquake Lak 55.30 305 P **P 13 15 44.4 +0.7**
AHID Auburn Hatcher 55.53 303 P **P 13 15 45.1 -0.3**
AHID IAmb IAmb 13 15 46.2
comp=Z,13nm,1.2s
DLMT Dillon 55.99 306 P **P 13 15 48.4 -0.2**
DLMT IAmb IAmb 13 15 49.8
comp=Z,9.8nm,1.1s
SRU San Rafael Swe 56.04 298 P **P 13 15 48.8 -0.3**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 56.04 298 P **P 13 15 48.8 -0.3**
HPIG 56.08 283 P **P 13 15 49.9 +0.4**
HPIG IAmb IAmb 13 15 51.2
comp=Z,9.5nm,1.0s
HWUT Hardware Ranch 56.15 301 P **P 13 15 48.9 -0.9**
HWUT IAmb IAmb 13 15 51.1
comp=Z,9.9nm,0.9s
TCUT Toone Canyon 56.16 301 P **P 13 15 49.7 -0.3**
MCMT McKenzie Canyo 56.28 305 P **P 13 15 51.0 +0.2**
JLU Jordanelle 56.33 300 P **P 13 15 51.0 -0.2**
TMUT Trail Mountain 56.50 299 P **P 13 15 52.8 +0.3**
MSO Missoula 56.58 308 P **P 13 15 53.5 +0.8**
MSO IAmb IAmb 13 16 00.2
comp=Z,9.2nm,1.3s
Q16A Castle Valley 56.58 298 P **P 13 15 53.4 +0.5**
MPU Maple Canyon 56.62 300 P **P 13 15 53.1 -0.1**
SPUT South Promonto 56.87 301 P **P 13 15 55.2 +0.2**
NLU North Lily Min 56.96 300 P **P 13 15 55.5 -0.1**
HVU Hansel Valley 56.98 302 P **P 13 15 55.2 -0.5**
HVU pmax pmax
comp=Z,6.0nm,1.0s
HVU Hansel Valley 56.98 302 P **P 13 15 55.2 -0.5**
BGU Big Grassy Mou 57.40 301 P **P 13 15 58.1 -0.5**
OBN Obninsk 57.40 42⇑*i*P **P 13 15 59.0 +0.8**
OBN *e* 13 16 53.0
OBN *e* 13 18 05.4
OBN pmax pmax
comp=Z,9.0nm,0.4s
DUG Dugway, Tooele 57.44 300 P **P 13 15 58.8 -0.2**
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 57.44 300 P **P 13 15 58.8 -0.2**
DUG IAmb IAmb 13 16 00.4
comp=Z,11nm,1.0s
MSU Marysvale 57.45 298 P **P 13 15 59.5 +0.4**
MSU Marysvale 57.45 298 P **P 13 15 59.5 +0.4**
MTPU Mount Pierson 57.59 298 P **P 13 16 00.5 +0.2**
MNMC Minye Minye 57.85 213 P **P 13 16 00.7 -1.3**
MNMC IAmb IAmb 13 16 02.0
comp=Z,9.4nm,0.8s
GO01 Chusmiza 58.14 212 P **P 13 16 03.2 -1.1**
GO01 IAmb IAmb 13 16 04.8
comp=Z,12nm,1.2s
U15A North Rim 58.16 296 P **P 13 16 05.2 +0.9**
NEW Newport 58.35 310 P **P 13 16 04.6 -0.4**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 58.35 310 P **P 13 16 04.6 -0.4**
NEW IAmb IAmb 13 16 05.7
comp=Z,8.6nm,0.9s
PLID Pearl Lake 58.39 306 P **P 13 16 05.5 -0.1**
PLID IAmb IAmb 13 16 06.6
comp=Z,5.9nm,0.8s
PB11 IPOC Station P 58.43 212 P **P 13 16 05.0 -0.9**
CCUT Cedar City 58.63 297 P **P 13 16 07.9 +0.5**
PSUT Pine Spring 58.70 299 P **P 13 16 08.6 +0.8**
LCMT Little Creek M 58.71 297 P **P 13 16 08.1 +0.2**
MFID Camas Ranch 58.72 304 P **P 13 16 08.1 +0.3**
MFID IAmb IAmb 13 16 09.1
comp=Z,9.2nm,0.8s
ELK Elko 59.06 301 P **P 13 16 09.9 -0.4**
ELK pmax pmax
comp=Z,6.0nm,1.4s
ELK Elko 59.06 301 P **P 13 16 09.9 -0.4**
BR131 Keskin Array S 59.18 60 P **P 13 16 10.6 -0.5**
BR131 pmax pmax
comp=Z,8.0nm,1.2s
BR131 Keskin Array S 59.18 60 P **P 13 16 10.6 -0.5**
BR131 IAmb IAmb 13 16 14.4
comp=Z,8.4nm,1.2s
BRTR Keskin Array B 59.18 60*ce*P **P 13 16 11.5 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 59.18 60 P **P 13 16 11.2 +0.1**
comp=Z,4.6nm,0.9s,baz=277,slow=4.6,SNR=12
BRTR Keskin Array B 59.18 60 P **P 13 16 10.8 -0.3**
C09A Chrisman Ranch 59.21 310 P **P 13 16 10.6 -0.4**
LPSR Galich'ya Gora 59.29 44 *e*P **P 13 16 10.3 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 59.76 46⇓*e*P **P 13 16 13.9 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 59.90 46 *e*P **P 13 16 12.7 -3.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
R11A Troy Canyon, C 60.05 299 P **P 13 16 16.9 -0.2**
E08A Dider Farm, El 60.08 309 P **P 13 16 17.2 +0.2**
E08A IAmb IAmb 13 16 18.1
comp=Z,9.3nm,1.2s
CPUP Villa Florida 60.08 197 P **P 13 16 17.1 +0.1**
comp=Z,2.9nm,1.0s,baz=27,slow=9.6,SNR=4.0
CPUP Villa Florida 60.08 197 IAmb IAmb 13 17 19.3
comp=Z,16nm,1.6s
G08A Pilot Rock 60.35 307 P **P 13 16 18.7 -0.3**
G08A IAmb IAmb 13 16 20.9
comp=Z,5.6nm,1.0s
HAWA Hanford 60.42 309 P **P 13 16 19.3 -0.1**
HAWA IAmb IAmb 13 16 20.5
comp=Z,8.1nm,0.9s
BMN Battle Mountai 60.59 302 P **P 13 16 20.3 -0.5**
BMN pmax pmax
comp=Z,4.0nm,0.9s
BMN Battle Mountai 60.59 302 P **P 13 16 20.3 -0.5**
WVOR Wild Horse Val 60.98 304 P **P 13 16 22.9 -0.4**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 60.98 304 P **P 13 16 22.9 -0.4**
WVOR IAmb IAmb 13 16 28.8
comp=Z,9.2nm,1.2s
TPNV Topopah Spring 61.00 297 P **P 13 16 24.3 +0.6**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 61.00 297 P **P 13 16 24.3 +0.6**
TPNV IAmb IAmb 13 16 25.9
comp=Z,6.2nm,1.0s
VRH Novokhopyorsk 61.32 45 *e*P **P 13 16 24.9 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KVN Kaiserville 61.68 300 P **P 13 16 27.6 -0.7**
KVN pmax pmax
comp=Z,8.0nm,1.0s
KVN Kaiserville 61.68 300 P **P 13 16 27.6 -0.7**
KVN IAmb IAmb 13 16 29.0
comp=Z,8.4nm,1.0s
INK Inuvik 61.77 335 P **P 13 16 27.8 -0.3**
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 61.77 335 P **P 13 16 27.8 -0.3**
NV11 Mina Array Sit 61.93 300 P **P 13 16 29.0 -0.9**
NVAR Mina Array Bea 62.04 300 P **P 13 16 30.7 0.0**
comp=Z,2.7nm,0.7s,baz=76,slow=6.6,SNR=20
NVAR LR LR 13 43 10.0
comp=Z,116nm,18.1s,baz=89,slow=36
NVAR Mina Array Bea 62.04 300 P **P 13 16 29.7 -1.0**
MOD Modoc Plateau 62.32 304 P **P 13 16 32.3 -0.2**
MOD IAmb IAmb 13 16 34.0
comp=Z,4.8nm,0.9s
PAHR Pah Rah Range 62.40 301 P **P 13 16 32.3 -0.7**
PAHR IAmb IAmb 13 16 33.8
comp=Z,6.2nm,0.9s
VCNR Virginia City 62.73 301 P **P 13 16 34.8 -0.6**
VCNR IAmb IAmb 13 16 36.0
comp=Z,4.0nm,0.8s
OMMB Old Mammoth Mi 62.84 299 P **P 13 16 36.0 -0.2**
MDPB Devils Postpil 62.89 299 P **P 13 16 36.6 +0.2**
CMB Columbia Colle 63.71 300 P **P 13 16 41.6 -0.1**
CMB pmax pmax
comp=Z,6.0nm,1.3s
CMB Columbia Colle 63.71 300 P **P 13 16 41.6 -0.1**
SHA1 Shidzhatmaz 64.27 53*de*P **P 13 16 46.8 +1.4**
KBZ Khabaz 64.43 53 P **P 13 16 47.6 +1.4**
comp=Z,2.8nm,0.8s,baz=270,slow=14,SNR=2.9
NCK Nalchik 64.99 53⇑*i*P **P 13 16 50.4 +0.5**
NCK pmax pmax
comp=Z,9.0nm,0.8s
BCAR Beaver Creek A 66.79 331 P **P 13 17 01.1 -0.1**
PRP Porcupine Dome 67.19 334 P **P 13 17 03.9 +0.1**
PRP IAmb IAmb 13 17 05.8
comp=Z,4.9nm,1.0s
COLD Coldfoot 68.02 337 P **P 13 17 09.5 +0.6**
COLD IAmb IAmb 13 17 16.2
comp=Z,7.1nm,1.2s
IL31 68.05 334 P **P 13 17 09.2 +0.3**
IL31 IAmb IAmb 13 17 10.9
comp=Z,7.4nm,1.1s
ILAR Eielson Array 68.05 334 P **P 13 17 09.8 +0.7**
comp=Z,3.2nm,1.0s,baz=48,slow=3.9,SNR=21
ILAR Eielson Array 68.05 334 P **P 13 17 09.1 0.0**
HDA Harding Lake 68.24 333 P **P 13 17 10.6 +0.3**
CCB Clear Creek Bu 68.45 334 P **P 13 17 11.7 +0.2**
CCB IAmb IAmb 13 17 13.1
comp=Z,9.5nm,1.1s
WRH Wood River Hil 68.64 334 P **P 13 17 12.9 +0.2**
WRH IAmb IAmb 13 17 15.0
comp=Z,8.8nm,1.1s
ARU Arti 68.78 36*c i*P **P 13 17 10.9 -2.9**
ARU S **S 13 26 13.9 -2.9**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 68.78 36 P **P 13 17 13.8 0.0**
comp=Z,0.6nm,0.2s,baz=316,slow=10,SNR=4.6
SVE Sverdlovsk 69.63 35 *e*P **P 13 17 19.6 +0.6**
IMAR Indian Mountai 69.89 336 P **P 13 17 20.1 -0.3**
KTH Kantishna Hill 70.19 333 P **P 13 17 22.0 -0.4**
KTH IAmb IAmb 13 17 23.7
comp=Z,9.8nm,1.2s
AKTO Aktyubinsk 71.18 42 P **P 13 17 29.1 +0.5**
comp=Z,5.2nm,0.7s,baz=301,slow=6.9,SNR=15
NRIK Noril'sk 72.22 17 P **P 13 17 35.6 +1.1**
comp=Z,1.2nm,0.3s,baz=253,slow=0.4,SNR=4.8
ABKAR Akbulak array 72.84 42 P **P 13 17 38.8 +0.2**
ABKAR Akbulak array 72.84 42 P **P 13 17 39.0 +0.4**
ABKAR IAmb IAmb 13 17 41.1
comp=Z,6.6nm,1.2s
H09W1 TRISTAN DA CUN 73.61 157 T T 14 38 09.5
SNR=10
BRVK Borovoye 76.34 35 P **P 13 17 59.6 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 76.34 35 P **P 13 17 59.6 +0.8**
BVAR Borovoye Array 76.41 35 P **P 13 18 00.2 +0.9**
comp=Z,3.6nm,0.9s,baz=302,slow=3.3,SNR=15
TIXI Tiksi 76.44 3⇓*e*P **P 13 18 00.0 +1.0**
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 76.44 3 P **P 13 18 00.1 +1.1**
PLCA Paso Flores 77.40 203 P **P 13 18 04.8 -0.1**
PLCA pmax pmax
comp=Z,10.0nm,1.2s
PLCA Paso Flores 77.40 203 P **P 13 18 05.6 +0.7**
comp=Z,4.7nm,1.0s,baz=51,slow=9.7,SNR=5.5
PLCA Paso Flores 77.40 203 P **P 13 18 04.8 -0.1**
PLCA IAmb IAmb 13 18 06.9
comp=Z,10nm,1.2s
BILL Bilibino 78.31 350⇑*e*P **P 13 18 10.7 +1.1**
BILL *i* 13 18 18.7
BILL *e* 13 21 05.0
BILL pmax pmax
comp=Z,21nm,2.5s
BILL Bilibino 78.31 350 P **P 13 18 10.0 +0.4**
BILL IAmb IAmb 13 18 12.0
comp=Z,9.4nm,1.2s
KURK Kurchatov 81.84 34*de*P **P 13 18 29.5 +0.5**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 81.84 34 P **P 13 18 29.4 +0.4**
KURK IAmb IAmb 13 18 30.9
comp=Z,8.7nm,1.2s
KURBB Kurchatov Arra 81.86 34 P **P 13 18 29.7 +0.6**
comp=Z,4.9nm,1.0s,baz=313,slow=6.1,SNR=8.4
KKAR Karatay Array 82.34 44 P **P 13 18 30.0 -1.8**
KKAR Karatay Array 82.34 44 P **P 13 18 30.1 -1.8**
ZAA0 Zalesovo Array 82.37 29 P **P 13 18 30.9 -0.8**
ZALV Zalesovo Beam 82.37 29 P **P 13 18 32.7 +1.0**
comp=Z,3.6nm,1.0s,baz=293,slow=7.6,SNR=12
ZALV Zalesovo Beam 82.37 29 P **P 13 18 31.0 -0.6**
UOSS Minazif 82.63 65 P **P 13 18 31.4 -2.1**
CHGR Chuyangaron 84.17 48 P **P 13 18 39.9 -1.5**
SEY Seymchan 84.88 354 P **P 13 18 44.7 +0.3**
comp=Z,2.9nm,0.8s,baz=344,slow=15,SNR=2.6
AAK Ala-Archa 84.93 42 P **P 13 18 46.6 +1.3**
comp=Z,1.8nm,1.0s,baz=248,slow=5.4,SNR=3.4
AAK Ala-Archa 84.93 42 IAmb IAmb 13 19 07.4
comp=Z,11nm,2.0s
YAK Yakutsk 86.04 5 *e*P **P 13 18 50.8 +0.6**
YAK pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 86.30 35 P **P 13 18 52.0 +0.2**
comp=Z,1.1nm,0.7s,baz=303,slow=6.7,SNR=5.0
MKAR Makanchi Array 86.30 35 P **P 13 18 51.5 -0.3**
KSH Kashi 87.79 44 P **P 13 19 00.0 +0.7**
KSH pP pP 13 19 04.5 +1.4
KSH PP **PP 13 22 26.8 +2.4**
KSH S **S 13 29 38.5 -3.2**
KSH sS pS 13 29 46.0 -0.5
KSH SS **SS 13 35 27.3 0.0**
KSH LR LR
comp=Z,250nm,9.5s
WMQ Urumqi 91.08 35 *e*P **P 13 19 15.5 +0.9**
WMQ pP sP 13 19 20.5 +0.8
WMQ pmax pmax
comp=Z,11nm,0.7s
CD2 Chengdu 108.99 32 Pdif **Pdif 13 20 33.0 -2.5**
ASAR Alice Springs 170.47 32 PKP **PKPdf 13 26 18.2 -0.2**
comp=Z,1.6nm,1.0s,baz=254,slow=1.2,SNR=7.6
ASAR PKPab **PKPab 13 27 35.6 +0.5**
comp=Z,1.8nm,1.0s,baz=333,slow=5.4,SNR=7.6
ASAR Alice Springs 170.47 32 **PKPab 13 27 34.7 -0.5**

*IDC **27** 13:25:43.0±1.7, 6°.55S×149°.23E, h0km, mb4.1/2, mb1 4.5/4, mb1mx3.9/29, mbtmp4.3/4, ML4.3/2, Error ellipse: s-maj=82.3km s-min=25.8km az=138.0*
*ISCJB **27** 13:25:45.2±0.8, 6°.1S±0°.1×148°.9E±0°.1, h53km, mb4.1/2, Error ellipse: s-maj=20.2km s-min=9.8km az=43.1*
*NEIC **27** 13:25:55.9±1.5, 6°.52S±0°.07×148°.6E±0°.1, h86km±18km, mb4.4/13*
ISC 27 13:25:47.1±1.0, 6°.1S±0°.1×149°.0E±0°.2, h53km, n22, σ1§08/22, mb4.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.46**	**59**	Pn	**Pn**	**13 26 38.3**	**-0.3**
	9.3nm,0.3s,baz=353,slow=1.0,SNR=17						
PMG	**Port Moresby**	**3.78**	**209**	Pn	**Pn**	**13 26 43.2**	**+0.3**
	10nm,0.3s,baz=30,slow=4.6,SNR=36						
PMG				Sn	**Sn**	**13 27 25.6**	**-0.5**
	26nm,0.3s,baz=156,slow=22,SNR=9.9						
PMG	**Port Moresby**	**3.78**	**209**		**Pn**	**13 26 42.7**	**-0.2**
COEN	**Coen**	**9.71**	**216**	Pn	**Pn**	**13 28 02.8**	**-1.4**
PATS	**Pohnpei**	**15.83**	**36**		P	13 29 43.4	+14
MTN	**Manton Dam**	**18.89**	**248**	P	**P**	**13 30 03.1**	**-0.2**
MTN				IAmb	IAmb	13 30 08.9	
	comp=Z,32nm,1.4s						
EIDS	**Eidsvold**	**19.27**	**174**	P	**Pn**	**13 30 09.7**	**+0.9**
WB0	**Warramunga Arr**	**19.68**	**225**	P	**P**	**13 30 11.9**	**-0.2**
WB0				IAmb	IAmb	13 31 05.1	
	comp=Z,42nm,1.9s						
WR0	**Warramunga Arr**	**19.71**	**224**	P	**P**	**13 30 12.5**	**+0.2**
WR0				IAmb	IAmb	13 30 22.3	
	comp=Z,39nm,1.9s						
WRAB	**Tennant Creek**	**19.82**	**225**	P	**P**	**13 30 13.2**	**-0.4**
WRAB				IAmb	IAmb	13 30 14.7	
	comp=Z,9.4nm,0.6s						
WB2	**Warramunga Arr**	**19.83**	**225**	P	**P**	**13 30 13.0**	**-0.6**
WB2				IAmb	IAmb	13 30 14.9	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**19.84**	**225**	P	**P**	**13 30 13.8**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=51,slow=11,SNR=88						
WRA	**Warramunga Arr**	**19.84**	**225**	P	**P**	**13 30 12.3**	**-1.4**
KNRA	**Kununurra**	**22.05**	**243**	P	**P**	**13 30 37.3**	**-0.3**
KNRA				IAmb	IAmb	13 31 08.4	
	comp=Z,44nm,1.9s						
AS31	**Alice Springs**	**22.74**	**218**	P	**P**	**13 30 44.6**	**-0.4**
ASAR	**Alice Springs**	**22.75**	**218**	P	**P**	**13 30 45.0**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=56,slow=9.7,SNR=51						
ASAR	**Alice Springs**	**22.75**	**218**	P	**P**	**13 30 44.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**25.76**	**240**	P	**P**	**13 31 13.5**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=53,slow=9.6,SNR=13						
FITZ	**Fitzroy Crossi**	**25.76**	**240**	P	**P**	**13 31 13.9**	**+0.8**
FITZ				IAmb	IAmb	13 31 16.2	
	comp=Z,15nm,1.2s						
PSA00	**Pilbara Seismi**	**32.16**	**239**	P	**P**	**13 32 09.8**	**-0.2**
PSA00	**Pilbara Seismi**	**32.16**	**239**	P	**P**	**13 32 09.2**	**-0.8**
PSA00				IAmb	IAmb	13 32 57.3	
	comp=Z,6.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.08**	**285**	PKPbc	**PKiKP**	**13 45 31.4**	**+3.8**
	comp=Z,0.2nm,0.6s,baz=58,slow=2.9,SNR=2.6						

*IDC **27** 14:20:41.0±0.5, 25°.35S×69°.96E, h0km, mb4.2/25, mb1 4.3/25, mb1mx4.1/65, mbtmp4.2/25, MS4.2/2, Ms1 4.2/2, ms1mx3.5/36, Error ellipse: s-maj=15.6km s-min=13.7km az=46.0*
*ISCJB **27** 14:20:42.6±0.3, 25°.36S±0°.06×69°.96E±0°.07, h21km, mb4.3/32, MS4.5/1, Error ellipse: s-maj=8.9km s-min=8.2km az=0.6*
*NEIC **27** 14:20:43.6±1.4, 25°.3S±0°.1×69°.93E±0°.10, h16km±4km, mb4.8/25*
*BJI **27** 14:20:43.0±0.0, 25°.71S×69°.42E, h34km, mb4.7/15, mB5.1/12, Ms4.9/2, Ms7 4.8/2*
*GCMT **27** 14:20:45.6±0.3, 25°.06S±0°.03×69°.87E±0°.02, h12km, MW5.0/90, Moment Tensor Solution. s34,c38; s90,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.11±.09; Mθθ0.30±.09; Mφφ2.81±.09; Mrθ0.87±.31; Mφθ-1.03±.07; Mφr1.64±.33; Best double couple: M0 3.63600×10^16 NP1:φs180.00000°, δ59.00000°, λ-68.00000°. NP2: φs323.00000°, δ37.00000°, λ-122.00000°. Principal axes: T 3.4390, Plg12.0000°, Azm255.0000°; N 0.3930, Plg18.0000°, Azm349.0000°; P -3.8330, Plg68.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 14:20:44.6±0.4, 25°.37S±0°.08×69°.91E±0°.09, h21km, n78, σ1§21/64, mb4.5/37, 2D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.80**	**8**	T	T	14 42 58.4	
	baz=189,slow=76,SNR=104						
H08S2	**Diego Garcia H**	**17.80**	**8**	T	T	14 42 58.6	
	baz=189,slow=76,SNR=286						
H08S3	**Diego Garcia H**	**17.82**	**8**	T	T	14 42 59.8	
	baz=189,slow=76,SNR=110						
OPO	**Ambohidratompo**	**22.12**	**283**	P	**P**	**14 25 39.4**	**+0.4**
	6.0nm,0.9s,baz=108,slow=11,SNR=4.2						
PALK	**Pallekele**	**34.11**	**19**	LR	LR	14 37 53.5	
	comp=Z,899nm,20.7s,baz=116,slow=30						
H01W2	**Cape Leeuwin H**	**39.14**	**115**	T	T	15 09 50.9	
	baz=272,slow=75,SNR=8.9						
H01W3	**Cape Leeuwin H**	**39.14**	**115**	T	T	15 10 04.8	
	baz=272,slow=75,SNR=9.2						
H01W1	**Cape Leeuwin H**	**39.16**	**115**	T	T	15 10 07.6	
	baz=272,slow=75,SNR=9.4						
BOSA	**Boshof**	**39.75**	**255**	P	**P**	**14 28 16.4**	**+0.2**
	3.2nm,0.9s,baz=70,slow=8.5,SNR=3.8						
BOSA	**Boshof**	**39.75**	**255**	IAmb	IAmb	14 29 43.8	
	comp=Z,46nm,1.8s						
LSZ	**Lusaka**	**40.25**	**276**	P	**P**	**14 28 20.6**	**+0.1**
	comp=Z,1.5nm,0.2s,baz=99,slow=17,SNR=3.2						
LSZ	**Lusaka**	**40.25**	**276**	IAmb	IAmb	14 28 28.3	
	comp=Z,18nm,1.6s						
JAGI	**Jajag, Banyuwa**	**45.29**	**76**	P	**P**	**14 29 01.4**	**+0.2**
SYO	**Syowa Base**	**47.24**	**194**	‖eP	**P**	**14 29 15.2**	**-0.6**
SYO	**Syowa Base**	**47.24**	**194**	‖eS	P	14 29 25.0	+1.4
CASY	**Casey**	**48.12**	**159**	P	**P**	**14 29 22.9**	**+0.2**
SBUM	**Sibu**	**49.43**	**62**	P	**P**	**14 29 33.8**	**+0.4**
SBUM				IAmb	IAmb	14 29 42.5	
	comp=Z,14nm,1.4s						
PBKT	**Sadao Pong**	**51.51**	**39**	P	P	14 29 56.4	+7.4
PBKT	**Sadao Pong**	**51.51**	**39**	P	**P**	**14 29 48.5**	**-0.4**
CHAI	**Chaiyaphum**	**51.57**	**41**	P	P	14 29 57.7	+8.2
KAPI	**Kappang**	**51.81**	**76**	P	**P**	**14 29 52.0**	**+0.6**
KAPI				IAmb	IAmb	14 29 58.9	
	comp=Z,23nm,1.3s						
CMAR	**Chiang Mai Arr**	**51.92**	**36**	P	**P**	**14 29 52.0**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=226,slow=6.8,SNR=12						
CMAR	**Chiang Mai Arr**	**51.92**	**36**	P	**P**	**14 29 51.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**51.97**	**94**	P	**P**	**14 29 53.0**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=260,slow=7.2,SNR=5.3						
FITZ	**Fitzroy Crossi**	**51.97**	**94**	P	**P**	**14 29 52.6**	**0.0**
FITZ				IAmb	IAmb	14 30 01.0	
	comp=Z,14nm,0.9s						
CMMT	**Chiang Mai**	**52.22**	**36**	P	P	14 30 02.2	+7.9
BBOO	**Buckleboo**	**57.46**	**114**	P	**P**	**14 30 31.6**	**-0.6**
ASAR	**Alice Springs**	**57.74**	**103**	P	**P**	**14 30 33.4**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=244,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**57.74**	**103**	P	**P**	**14 30 34.0**	**-0.4**
AS31	**Alice Springs**	**57.74**	**103**	P	**P**	**14 30 33.2**	**-1.2**
LSA	**Lhasa**	**58.43**	**22**	P	**P**	**14 30 36.8**	**-2.7**
LSA				IAmb	IAmb	14 31 03.9	
	comp=Z,23nm,1.9s						
MTN	**Manton Dam**	**58.74**	**90**	P	**P**	**14 30 41.2**	**-0.2**
WRA	**Warramunga Arr**	**59.21**	**99**	P	**P**	**14 30 44.9**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=255,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**59.21**	**99**	P	**P**	**14 30 44.5**	**-0.2**
WB2	**Warramunga Arr**	**59.22**	**99**	P	**P**	**14 30 44.8**	**0.0**
KBL	**Kabul**	**59.59**	**359**	P	**P**	**14 30 46.5**	**-0.6**
KBL				IAmb	IAmb	14 30 54.6	
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**60.72**	**200**	P	**P**	**14 30 54.6**	**+0.4**
SNAA	**Sanae**	**60.72**	**200**	P	**P**	**14 30 54.7**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=72,slow=5.8,SNR=7.7						
SNAA	**Sanae**	**60.72**	**200**	P	**P**	**14 30 54.7**	**+0.4**
SNAA				IAmb	IAmb	14 30 55.9	
	comp=Z,5.9nm,1.0s						
VNA2	**Neumayer--Watz**	**62.11**	**201**	P	**P**	**14 31 04.9**	**+1.4**
	baz=106,slow=6.7						
VNA1	**Neumayer--Stat**	**62.38**	**202**	P	**P**	**14 31 06.7**	**+1.3**
VNA3	**Neumayer Olymp**	**62.86**	**201**	P	**P**	**14 31 09.8**	**+1.1**
GEYT	**Alibeck**	**63.93**	**350**	P	**P**	**14 31 17.6**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=132,slow=8.0,SNR=3.4						
GEYT	**Alibeck**	**63.93**	**350**	IAmb	IAmb	14 31 21.0	
	comp=Z,2.5nm,0.9s						
EIL	**Elat**	**64.19**	**326**	LR	LR	14 54 21.7	
	comp=Z,78nm,21.2s,baz=146,slow=32						
CD2	**Chengdu**	**64.66**	**32**	P	**P**	**14 31 21.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
QSPA	**South Pole Qui**	**64.76**	**180**	P	**P**	**14 31 21.1**	**-0.3**
	comp=Z,6.1nm,1.0s,baz=297,slow=5.0,SNR=14						
QSPA	**South Pole Qui**	**64.76**	**180**	P	**P**	**14 31 21.2**	**-0.2**
QSPA				IAmb	IAmb	14 31 22.4	
	comp=Z,9.9nm,1.1s						
KSH	**Kashi**	**64.80**	**5**	P	**P**	**14 31 23.0**	**+1.2**
KSH				PcP	**PcP**	**14 31 56.5**	**+1.4**
KSH				S	**S**	**14 40 00.3**	**-1.3**
KSH				SS	**SS**	**14 44 13.0**	**-0.6**
KSH				pmax	pmax		
	comp=Z,470nm,8.2s						
KSH				LR	LR		
	comp=Z,510nm,9.1s						
ASF	**Jabal al Asfar**	**65.32**	**329**	P	**P**	**14 31 26.8**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=74,slow=6.7,SNR=3.3						
VNDA	**Vanda**	**65.84**	**166**	P	**P**	**14 31 27.6**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=360,slow=24,SNR=8.8						
KKAR	**Karatay Array**	**68.14**	**0**	P	**P**	**14 31 42.7**	**-0.3**
LZH	**Lanzhou**	**69.02**	**29**	*e*P	**P**	**14 31 52.8**	**+4.0**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
GTA	**Gaotai**	**70.24**	**24**	*e*P	**P**	**14 31 58.0**	**+1.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WMQ	**Urumqi**	**70.76**	**14**	*e*P	**P**	**14 32 00.3**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,12nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,85nm,3.7s						
WMQ				LR	LR		
	comp=Z,780nm,27.3s						
MKAR	**Makanchi Array**	**72.69**	**9**	P	**P**	**14 32 09.5**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=194,slow=6.1,SNR=4.5						
BRTR	**Keskin Array B**	**73.07**	**332**	P	**P**	**14 32 13.3**	**0.0**
	comp=Z,1.8nm,0.9s,baz=148,slow=7.3,SNR=6.5						
KBZ	**Khabaz**	**73.10**	**340**	P	**P**	**14 32 13.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=173,slow=6.3,SNR=3.5						
KVAR	**Kislovodsk Arr**	**73.37**	**340**	P	**P**	**14 32 13.1**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=177,slow=16,SNR=3.3						
NJ2	**Nanjing**	**73.77**	**42**	*e*P	**P**	**14 32 19.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PMG	**Port Moresby**	**74.56**	**93**	P	**P**	**14 32 21.2**	**-1.3**
	comp=Z,4.5nm,0.9s,baz=341,slow=4.3,SNR=2.8						
PMG	**Port Moresby**	**74.56**	**93**	IAmb	IAmb	14 32 26.3	
	comp=Z,12nm,1.2s						
ABKAR	**Akbulak array**	**74.82**	**353**	P	**P**	**14 32 22.1**	**-1.0**
ABKAR	**Akbulak array**	**74.82**	**353**	P	**P**	**14 32 21.8**	**-1.3**
ABKAR				IAmb	IAmb	14 32 30.2	
	comp=Z,8.9nm,1.2s						
KURBB	**Kurchatov Arra**	**76.04**	**6**	P	**P**	**14 32 29.9**	**-0.2**
	comp=Z,1.4nm,0.2s,baz=203,slow=6.4,SNR=7.4						
KURK	**Kurchatov**	**76.14**	**6**	P	**P**	**14 32 29.8**	**-0.9**
AKTO	**Aktyubinsk**	**76.20**	**352**	P	**P**	**14 32 29.5**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=169,slow=5.0,SNR=5.2						
HHC	**Hu-ho-hao-te**	**76.40**	**31**	*e*P	**P**	**14 32 34.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.66**	**292**	P	**P**	**14 32 34.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=108,slow=6.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**76.66**	**292**	P	**P**	**14 32 32.2**	**-2.2**
BVAR	**Borovoye Array**	**78.06**	**0**	P	**P**	**14 32 40.4**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=165,slow=6.0,SNR=4.9						
DBIC	**Dimbokro**	**79.23**	**283**	P	**P**	**14 32 48.2**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=135,slow=10.0,SNR=2.7						
SONM	**Songino Array**	**79.91**	**24**	P	**P**	**14 32 51.8**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=224,slow=9.8,SNR=3.2						
SONM	**Songino Array**	**79.91**	**24**	IAmb	IAmb	14 32 58.6	
	comp=Z,2.0nm,1.2s						
ZALV	**Zalesovo Beam**	**80.04**	**9**	P	**P**	**14 32 51.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=186,slow=6.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**80.04**	**9**	P	**P**	**14 32 50.9**	**-1.2**
ARU	**Arti**	**82.05**	**354**	P	**P**	**14 33 06.4**	**+3.5**
	comp=Z,0.4nm,0.3s,baz=171,slow=8.7,SNR=3.9						
AKASG	**Malin Array Be**	**83.84**	**335**	P	**P**	**14 33 11.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=141,slow=4.2,SNR=3.9						

*DDA **27** 14:21:06.9, 37°.31N×22°.46E, h5km±3km, MW4.5*
*IDC **27** 14:21:12.6±0.5, 37°.32N×23°.08E, h0km, mb4.3/30, mb1 4.4/34, mb1mx4.3/57, mbtmp4.3/34, ML4.0/4, MS3.5/18, Ms1 3.5/18, ms1mx3.3/52, Error ellipse: s-maj=12.9km s-min=10.9km az=131.0*
*MOS **27** 14:21:14.0±1.2, 37°.31N×22°.96E, h18km, mb4.8/15, Error ellipse: s-maj=6.8km s-min=3.6km az=80.9*
*ISK **27** 14:21:15.8, 37°.35N×22°.94E, h81km±2km, ML4.4/5*
*PDG **27** 14:21:15.9±0.5, 37°.36N×23°.04E, h21km, ML4.6/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*ATH **27** 14:21:15.9, 37°.33N×23°.01E, h25km±2km, ML4.4/11, Error ellipse: s-maj=2.4km s-min=0.9km az=134.0*
*BJI **27** 14:21:15.0±0.0, 37°.30N×23°.00E, h13km, mb4.6/13, mB5.0/11, Ms4.7/6, Ms7 4.5/5*
*ISCJB **27** 14:21:16.5±0.3, 37°.36N±0°.01×23°.00E±0°.01, h33km±2km, mb4.5/54, MS3.8/15, Error ellipse: s-maj=2.0km s-min=1.6km az=40.8*
*THE **27** 14:21:16.1, 37°.34N×23°.02E, h13km, ML4.4/30, Error ellipse: s-maj=0.5km s-min=0.3km az=117.0*
*MED_RC **27** 14:21:16.0±0.5, 37°.34N×23°.02E, h10km, MW4.2/8, Moment Tensor Solution.Mantle waves: s8,c9; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr-0.94±.13; Mθθ0.22±.16; Mφφ0.72±.08; Mrθ-1.86±.37; Mφθ-0.52±.11; Mφr2.16±.23; Best double couple: M0 3.02000×10^15 NP1:φs140.00000°, δ81.00000°, λ-93.00000°. NP2: φs338.00000°, δ10.00000°, λ-72.00000°. Principal axes: T 3.0600, Plg35.0000°, Azm232.0000°; N -0.0800, Plg3.0000°, Azm140.0000°; P -2.9800, Plg54.0000°, Azm46.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*BEO **27** 14:21:18.8±0.7, 37°.52N×23°.06E, h7km±2km, ML4.2/10*
*NEIC **27** 14:21:18.1±1.8, 37°.31N±0°.04×22°.98E±0°.07, h37km±5km, mb4.8/42, ML4.4(THE)*
*HLW **27** 14:21:18.2, 37°.26N×23°.44E, h30km±30km, Md4.5, Ml4.2*
*TIR **27** 14:21:18.6, 37°.71N×22°.55E, h7km, Md4.7/8*
ISC 27 14:21:15.9±0.5, 37°.30N±0°.01×23°.00E±0°.01, h19km±1km, n484, σ1§80/602, mb4.6/68, MS3.6/15, 39C-19D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRND	**KRANIDI**	**0.14**	**56**	P	**Pb**	**14 21 19.7**	**+1.2**
KRND				S	**Sb**	**14 21 22.2**	**+2.0**
	219μm,0.3s						
DID	**Didima**	**0.27**	**43**	P	**Pg**	**14 21 21.3**	**-0.9**
DID				S	**Sg**	**14 21 25.5**	**-0.9**
	251μm,0.3s						
DID	**Didima**	**0.27**	**43**	P	**Pg**	**14 21 21.4**	**-0.8**
DID				S	**Sg**	**14 21 25.8**	**-0.6**
DID				AML	AML	14 21 27.1	
DID				AML	AML	14 21 27.4	
YDRA	**Hydra**	**0.37**	**83**	P	**Pg**	**14 21 23.6**	**-0.1**
YDRA				S	**Sb**	**14 21 30.6**	**+1.3**
YDRA				AML	AML	14 21 31.8	
YDRA				AML	AML	14 21 33.2	
VLX	**Vlachokerasia**	**0.50**	**278**	P	**Pb**	**14 21 26.2**	**+0.1**
VLX				S	**Sb**	**14 21 33.3**	**+0.2**
	97μm,0.6s						
VLX	**Vlachokerasia**	**0.50**	**278**	P	**Pb**	**14 21 26.4**	**+0.3**
VLX				S	**Sb**	**14 21 33.5**	**+0.4**
VLX				AML	AML	14 21 34.7	
VLX				AML	AML	14 21 37.3	
VLI	**Veliai**	**0.59**	**185**	P	**Pb**	**14 21 27.9**	**+0.5**
VLI				S	**Sn**	**14 21 37.1**	**-1.1**
	21μm,0.5s						
VLI	**Veliai**	**0.59**	**185**	P	**Pn**	**14 21 28.7**	**-0.5**
VLI				S	**Sn**	**14 21 37.7**	**-0.5**
VLI				AML	AML	14 21 39.8	
	comp=E,45016μm,0.6s						
VLI				AML	AML	14 21 42.0	
	comp=N,39487μm,0.4s						
LOUT	**Loutraki**	**0.68**	**358**	P	**Pb**	**14 21 28.3**	**-0.8**
LOUT				S	**Sb**	**14 21 38.1**	**-0.1**
LOUT	**Loutraki**	**0.68**	**358**	P	**Pb**	**14 21 28.3**	**-0.8**
LOUT				S	**Sg**	**14 21 38.7**	**+0.1**
LOUT				AML	AML	14 21 43.0	
	comp=N,15887μm,0.5s						
LOUT				AML	AML	14 21 50.3	
	comp=E,19723μm,0.4s						
LTK	**Loutraki**	**0.72**	**358**	P	**Pb**	**14 21 29.0**	**-0.8**
LTK				S	**Sb**	**14 21 39.6**	**+0.4**
	comp=E,76μm,0.3s						
DYR	**Agios Nikonas**	**0.76**	**225**	P	**Pn**	**14 21 31.3**	**-0.3**
DYR				S	**Sn**	**14 21 42.2**	**-0.3**
	comp=E,5μm,0.8s						
KLMT	**Kalamata**	**0.79**	**252**	P	**Pn**	**14 21 32.0**	**0.0**
KLMT				S	**Sn**	**14 21 43.0**	**-0.2**
	comp=E,28μm,0.6s						
VLY	**Voula,Athens**	**0.83**	**49**	P	**Pb**	**14 21 31.0**	**-0.7**
VLY				S	**Sb**	**14 21 42.8**	**+0.3**
	comp=E,63μm,0.5s						
ITM	**Ithomi**	**0.87**	**262**	P	**Pn**	**14 21 33.0**	**0.0**
ITM				S	**Sn**	**14 21 45.4**	**+0.2**
	comp=E,22μm,0.5s						
ITM	**Ithomi**	**0.87**	**262**	P	**Pn**	**14 21 33.1**	**0.0**
ITM				S	**Sn**	**14 21 44.6**	**-0.5**
ITM				AML	AML	14 21 48.1	
	comp=N,38787μm,0.6s						
ITM				AML	AML	14 21 49.0	
	comp=E,48234μm,0.4s						
ITM	**Ithomi**	**0.87**	**262**	PG	**Pn**	**14 21 33.2**	**+0.1**
ITM				SG	**Sn**	**14 21 46.6**	**+1.4**
ITM	**Ithomi**	**0.87**	**262**		**Pn**	**14 21 33.1**	**0.0**
ATH	**Athens Observa**	**0.88**	**40**	P	**Pb**	**14 21 32.1**	**-0.3**
ATH				S	**Sg**	**14 21 44.9**	**+0.3**
	comp=E,25μm,0.6s						
ATH	**Athens Observa**	**0.88**	**40**	P	**Pb**	**14 21 32.1**	**-0.3**
ATH				S	**Sg**	**14 21 44.9**	**+0.3**
ATH	**Athens Observa**	**0.88**	**40**	P	**Pb**	**14 21 32.4**	**0.0**
ATH				S	**Sg**	**14 21 45.2**	**+0.6**
ATH				AML	AML	14 21 51.1	
	comp=E,38927μm,0.3s						
ATH				AML	AML	14 21 51.3	
	comp=N,44077μm,0.4s						
VILL	**Villia**	**0.89**	**16**	P	**Pb**	**14 21 31.9**	**-0.9**
VILL				S	**Sb**	**14 21 44.8**	**+0.5**
ATHU	**Athens Univers**	**0.91**	**43**	P	**Pb**	**14 21 32.1**	**-0.9**
ATHU				S	**Sb**	**14 21 44.6**	**0.0**
ATHU	**Athens Univers**	**0.91**	**43**	P	**Pb**	**14 21 33.2**	**+0.2**
ATHU				S	**Sg**	**14 21 45.5**	**0.0**
ATHU				AML	AML	14 21 46.1	
	comp=E,20584μm,0.8s						
ATHU				AML	AML	14 21 48.8	
	comp=N,19132μm,0.5s						
VIL2	**Platees**	**0.93**	**13**	P	**Pb**	**14 21 32.7**	**-0.7**
VIL2				S	**Sb**	**14 21 45.4**	**0.0**
VIL2				AML	AML	14 21 49.3	
	comp=N,82359μm,0.6s						
VIL2				AML	AML	14 21 53.5	
	comp=E,91150μm,0.6s						
PROD	**Prodromos**	**0.96**	**355**	P	**Pb**	**14 21 33.2**	**-0.6**
PROD				S	**Sg**	**14 21 47.0**	**-0.2**
PROD	**Prodromos**	**0.96**	**355**	P	**Pb**	**14 21 33.9**	**0.0**
PROD				S	**Sn**	**14 21 47.5**	**+0.1**
PROD				AML	AML	14 21 48.7	
	comp=E,54420μm,0.3s						
PROD				AML	AML	14 21 50.4	
	comp=N,88475μm,0.3s						
KLV	**Kalavryta, Ach**	**1.00**	**318**	P	**Pb**	**14 21 34.2**	**-0.4**
KLV				S	**Sn**	**14 21 49.0**	**+0.5**
	comp=N,27μm,0.5s						
KLV	**Kalavryta, Ach**	**1.00**	**318**	P	**Pb**	**14 21 34.6**	**-0.1**
KLV				S	**Sn**	**14 21 49.0**	**+0.5**
PTL	**Penteli**	**1.01**	**42**	P	**Pb**	**14 21 34.2**	**-0.6**
PTL				S	**Sb**	**14 21 48.0**	**+0.3**
	comp=N,25μm,0.7s						
PTL	**Penteli**	**1.01**	**42**	P	**Pb**	**14 21 34.8**	**0.0**
PTL				S	**Sb**	**14 21 48.6**	**+1.0**
PTL				AML	AML	14 21 49.8	
	comp=E,50853μm,0.5s						
PTL				AML	AML	14 21 49.8	
	comp=N,49033μm,0.8s						
KTHR	**Kythira**	**1.04**	**180**	P	**Pg**	**14 21 36.5**	**+0.4**
KTHR				S	**Sg**	**14 21 52.0**	**+2.2**
	comp=N,17μm,0.4s						
KTHA	**Kythira Island**	**1.05**	**177**	P	**Pg**	**14 21 35.8**	**-0.4**
KTHA				S	**Sg**	**14 21 50.8**	**+0.8**
	comp=N,12μm,0.4s						
KTHA	**Kythira Island**	**1.05**	**177**	PN	**Pg**	**14 21 36.7**	**+0.5**
KTHA				SN	**Sg**	**14 21 52.5**	**+2.5**
AMT	**Artemida-Makis**	**1.05**	**283**	P	**Pg**	**14 21 36.2**	**-0.2**
AMT				S	**Sg**	**14 21 50.9**	**+0.6**
	comp=N,25μm,0.5s						
AMT	**Artemida-Makis**	**1.05**	**283**	P	**Pg**	**14 21 36.7**	**+0.3**
PYL	**PYLOS**	**1.09**	**248**	P	**Pg**	**14 21 36.7**	**-0.3**
SERI	**Serifos**	**1.19**	**96**	P	**Pn**	**14 21 37.1**	**-0.4**
SERI				S	**Sb**	**14 21 52.8**	**-0.1**
	comp=N,6μm,0.4s						
DRO	**Drossia**	**1.21**	**303**	P	**Pb**	**14 21 38.6**	**+0.4**
DRO				S	**Sg**	**14 21 54.8**	**-0.5**
	comp=N,25μm,0.5s						
LAKA	**Lakka**	**1.24**	**319**	P	**Pn**	**14 21 38.3**	**+0.1**
LAKA				S	**Sn**	**14 21 54.7**	**+0.4**
	comp=N,15μm,0.8s						
MHLO	**Agia Marina, M**	**1.28**	**118**	P	**Pb**	**14 21 39.6**	**+0.3**
KALE	**Kalithea**	**1.28**	**328**	P	**Pn**	**14

APE AML AML 14 22 27.1
APE Apeiranthos 2.03 96 PN **Pn 14 21 49.2 +0.1**
XOR Xorichti 2.06 4 P **Pn 14 21 49.2 -0.3**
VLS Valsamata 2.10 295 P **Pb 14 21 52.0 -1.4**
THR3 Thira Island, 2.12 114 P **Pn 14 21 51.3 +1.1**
VAM Vamos 2.13 153 P **Pn 14 21 51.7 +1.4**
VAM Vamos 2.13 153 P **Pn 14 21 51.7 +1.4**
THR6 Thira Island, 2.14 116 P **Pn 14 21 51.9 +1.4**
SANT Santorini 2.18 115 ⇑P **Pb 14 21 54.5 -0.2**
SANT ⇑S **Sb 14 22 23.3 +2.0**
SANT AML AML 14 22 49.9
SANT Santorini 2.18 115 PN **Pn 14 21 52.3 +1.2**
SANT Santorini 2.18 115 **Pn 14 21 52.3 +1.2**
THL Klokotos Trika 2.39 341 P **Pn 14 21 54.5 +0.6**
GVD Gavdhos 2.61 160 PN **Pb 14 21 59.8 -2.2**
CHOS Chios island 2.65 65 P **Pn 14 21 58.1 +0.5**
CHOS Chios island 2.65 65 PN **Pn 14 21 57.9 +0.3**
PAIG Paliouri 2.67 11 P **Pn 14 21 57.2 -0.6**
LIT Litokhoron 2.82 352 P **Pn 14 22 00.1 +0.2**
LIT Litokhoron 2.82 352 P **Pn 14 22 00.1 +0.2**
LIT Litokhoron 2.82 352 **Pn 14 22 00.1 +0.2**
ZEY zmir 2.93 70 *i* P **Pn 14 22 01.8 +0.4**
ZEY *i* S **Sb 14 22 44.3 +1.5**
ZEY IAML 14 22 57.0
comp=N,334nm,0.7s
ZEY IAML 14 22 58.0
comp=E,429nm,1.0s
SIGR SIGRI 2.94 49 P **Pn 14 22 01.2 -0.4**
URLA Izmir 3.03 69 *i* P **Pn 14 22 03.7 +0.8**
URLA *i* S **Sg 14 22 51.5 -1.9**
URLA IAML 14 22 58.0
comp=E,465nm,0.8s
URLA IAML 14 23 02.0
comp=N,501nm,1.1s
IGT Igoumenitsa 3.06 318 *e*Pn **Pn 14 22 05.6 +2.4**
IGT *e*Sn **Sn 14 22 41.0 +1.8**
IGT Igoumenitsa 3.06 318 *i* PN **Pn 14 22 05.1 +2.0**
IGT *i* SN **Sn 14 22 38.0 -1.2**
SMG Samos 3.08 81 P **Pn 14 22 03.7 +0.3**
PLG Polygyros 3.08 6 P **Pn 14 22 03.3 -0.3**
DGB zmir 3.17 75 *i* P **Pn 14 22 05.3 +0.7**
DGB *i* S **Sb 14 22 51.5 +1.8**
DGB IVMs_BB IVMs_BB 14 23 38.0
comp=Z,4µm,6.4s
PRK Paraskevi 3.22 52 P **Pn 14 22 06.2 +0.8**
HORT Hortiatis 3.29 1 P **Pn 14 22 06.2 -0.2**
HORT Hortiatis 3.29 1 PN **Pn 14 22 06.3 -0.2**
THE Thessaloniki 3.32 359 *i* PN **Pn 14 22 08.3 +1.5**
THE *i* SN **Sn 14 22 48.1 +2.4**
GCAM G?zelcaml? 3.39 82 *i* P **Pn 14 22 08.7 +1.0**
GCAM *i* S **Sg 14 23 01.9 -2.8**
GCAM IAML 14 23 14.0
comp=N,294nm,0.8s
GCAM IAML 14 23 27.0
comp=E,250nm,1.0s
ZKR Zakros 3.40 129 P **Pn 14 22 09.9 +2.1**
KEK Kerkira 3.48 315 P **Pn 14 22 10.5 +1.6**
BOZC Bozcaada 3.48 42 *i* P **Pn 14 22 08.3 -0.6**
BOZC *i* S **Sg 14 23 07.1 -0.6**
BOZC IVMs_BB IVMs_BB 14 23 46.0
comp=Z,2µm,5.1s
SRN Sarande 3.48 318 P **Pn 14 22 10.6 +1.6**
SRN Sarande 3.48 318 *i* PN **Pn 14 22 11.5 +2.5**
SRN *i* SN **Sn 14 22 48.8 -0.9**
SOH Sokhos 3.52 4 P **Pn 14 22 09.8 +0.2**
THAS Thassos island 3.56 22 P **Pn 14 22 09.4 -0.6**
ZEDA zmir-Bergama 3.62 61 *e*P **Pn 14 22 09.3 -1.5**
ZEDA *i* S **Sb 14 22 60.0 -2.6**
ZEDA IVMs_BB IVMs_BB 14 23 45.0
comp=Z,2µm,8.8s
GRG Griva 3.68 353 P **Pn 14 22 12.1 +0.4**
BAYC CANAKKALE_Bayr 3.69 48 *i* P **Pn 14 22 11.9 0.0**
BAYC *i* S **Sg 14 23 16.9 +2.4**
BAYC IVMs_BB IVMs_BB 14 23 48.0
comp=Z,3µm,11.9s
FNA Florina 3.70 340 *e*Pn **Pn 14 22 12.5 +0.5**
FNA *e*Sn **Sn 14 22 54.3 -0.8**
FNA Florina 3.70 340 P **Pn 14 22 12.9 +0.9**
FNA Florina 3.70 340 P **Pn 14 22 12.5 +0.5**
FNA Florina 3.70 340 *i* PN **Pn 14 22 13.0 +0.9**
FNA *i* SN **Sn 14 22 56.9 +1.8**
FNA Florina 3.70 340 **Pn 14 22 12.5 +0.5**
DAT Datca 3.71 98 *i* P **Pn 14 22 13.8 +1.6**
DAT IAML 14 23 27.0
comp=N,61nm,1.3s
DAT IVMs_BB IVMs_BB 14 23 28.0
comp=Z,664nm,3.6s
DAT IAML 14 23 29.0
comp=E,46nm,0.8s
KARP Karpathos 3.78 116 P **Pn 14 22 14.7 +1.5**
KARP Karpathos 3.78 116 **Pn 14 22 15.4 +2.3**
TPE Tepelena 3.79 323 *i* PN **Pn 14 22 15.4 +2.1**
TPE *i* SN **Sn 14 22 57.1 -0.2**
KNT Kendrikon 3.85 359 P **Pn 14 22 15.4 +1.3**
KAVA Kavala 3.87 17 P **Pn 14 22 13.9 -0.4**
AYDN Tasoluk 3.90 83 *i* P **Pn 14 22 16.6 +1.9**
AYDN IVMs_BB IVMs_BB 14 23 55.0
comp=Z,2µm,11.5s
VAY Valandovo 4.03 355 *e*Pn **Pn 14 22 17.3 +0.9**
VAY *e*Sn **Sn 14 23 01.1 -1.9**
VAY Valandovo 4.03 355 *i* Pn **Pn 14 22 17.2 +0.7**
NVR Nevrokopi 4.09 9 P **Pn 14 22 17.2 -0.2**
AKHS Akhisar 4.11 66 *i* P **Pn 14 22 18.8 +1.2**
AKHS *i* S **Sg 14 23 27.2 -0.6**
AKHS IVMs_BB IVMs_BB 14 23 41.0
comp=Z,1µm,3.9s
VLO Vlora 4.18 320 *i* PN **Pn 14 22 19.7 +1.1**
VLO *i* SN **Sn 14 23 07.0 +0.2**
STEP BALIKESIR_Sava 4.25 59 *i* P **Pn 14 22 20.4 +0.9**
STEP IVMs_BB IVMs_BB 14 24 14.0
comp=Z,3µm,8.9s
ALN Alexandroupoli 4.30 32 P **Pn 14 22 19.8 -0.4**
ALN Alexandroupoli 4.30 32 P **Pn 14 22 20.2 0.0**
ALN Alexandroupoli 4.30 32 **Pn 14 22 20.1 0.0**
BALY Balya 4.36 55 *i* P **Pn 14 22 22.9 +1.8**
BALY *i* S **Sg 14 23 31.0 -4.9**
BALY IAML 14 23 47.0
comp=N,215nm,1.3s
BALY IAML 14 23 50.0
comp=E,101nm,1.8s
BALY IVMs_BB IVMs_BB 14 24 18.0
comp=Z,2µm,10.1s
SCTE Santa Cesarea 4.50 309 *i* PN **Pn 14 22 23.9 +1.0**
SCTE *i* SN **Sn 14 23 15.3 +0.6**
SCTE Santa Cesarea 4.50 309 **Pn 14 22 23.6 +0.7**
DALY Dalyan (Mula) 4.54 94 *e*P **Pn 14 22 25.8 +2.3**
DALY IVMs_BB IVMs_BB 14 24 24.0
comp=Z,2µm,8.3s
MANT Manisa 4.55 73 **Pn 14 22 25.6 +1.7**
TIR Tirane 4.71 330 *e*Pn **Pn 14 22 27.7 +1.8**
TIR Tirane 4.71 330 P **Pn 14 22 27.6 +1.7**
KDZ Kurdzhali 4.72 23 P **Pn 14 22 26.0 -0.1**
PHP Peshkopia 4.80 336 *i* PN **Pn 14 22 28.7 +1.5**
PHP *i* SN **Sn 14 23 23.9 +1.6**
SKO Skopje 4.81 346 *e*Pn **Pn 14 22 29.3 +2.0**
SKO Skopje 4.81 346 *i* Pn **Pn 14 22 29.6 +2.3**
SKO Skopje 4.81 346 P **Pn 14 22 30.3 +3.0**
DEMI Demirci 4.83 67 *i* P **Pn 14 22 29.1 +1.6**
DEMI *i* S **Sb 14 23 43.5 +6.0**
DEMI IVMs_BB IVMs_BB 14 24 33.0
comp=Z,2µm,5.6s
DURS Dursunbey 4.87 60 *i* P **Pn 14 22 28.8 +0.7**
DURS *i* S **Sg 14 23 47.4 -4.7**
FETY Fethiye 4.91 96 *i* P Pb 14 22 35.7 -5.6
USAK Uak-Merkez 4.95 72 *i* P **Pn 14 22 31.2 +1.9**
USAK IAML 14 24 10.0
comp=Z,50nm,1.8s
USAK IVMs_BB IVMs_BB 14 24 38.0
comp=Z,1µm,11.3s
PLD Plovdiv 4.97 15 *e*Pn **Pn 14 22 31.0 +1.6**
GOLH Golhisar 5.23 89 *i* P Pn 14 22 39.6 +6.5
KHAL Karahalli 5.25 76 *i* P **Pn 14 22 36.0 +2.6**
KHAL IVMs_BB IVMs_BB 14 24 54.0
comp=Z,1µm,10.4s
TIP Timpagrande 5.26 293 ⇑P **Pn 14 22 34.0 +0.5**
TIP AML AML 14 23 40.6
TIP Timpagrande 5.26 293 **Pn 14 22 34.6 +1.2**
PUK Puka 5.30 334 *i* PN **Pn 14 22 36.3 +2.2**
PUK *i* SN **Sn 14 23 36.8 +2.1**
VTS Vitosha 5.31 2 *e*Pn **Pn 14 22 34.9 +0.7**
VTS Vitosha 5.31 2 P **Pn 14 22 35.2 +1.0**
VTS Vitosha 5.31 2 ⇑P **Pn 14 22 35.3 +1.1**
VTS AML AML 14 23 50.9
VTS Vitosha 5.31 2 **Pn 14 22 35.2 +1.0**
GDZ Gediz 5.40 69 *i* P **Pn 14 22 37.7 +2.2**
GDZ IVMs_BB IVMs_BB 14 24 55.0
comp=Z,771nm,11.4s
ULC Ulcinj 5.48 329 ⇑*i* Pn **Pn 14 22 37.5 +1.0**
ULC *e*Sn **Sn 14 23 39.2 +0.2**
TAR1 Taranto 5.50 308 *e*P **Pn 14 22 38.4 +1.7**
TAR1 S **Sn 14 23 38.5 -0.8**
BCI Bajram Curri 5.54 337 *i* PN Pn 14 22 42.9 +5.7
BCI *i* SN **Sn 14 23 40.1 -0.3**
BARS Barje 5.58 351 *e*Pn **Pn 14 22 38.6 +0.8**
BARS Barje 5.58 351 *e*Pn **Pb 14 22 55.3 +2.7**
BRDR BURDUR-Merkez 5.63 84 *i* P Pn 14 22 43.4 +4.9
MASS Massafra 5.65 308 *e*P **Pn 14 22 40.4 +1.7**
MASS S **Sn 14 23 41.4 -1.6**
DRME Dracevica, Mon 5.70 330 *e*Pn **Pn 14 22 39.5 +0.1**
DRME Dracevica, Mon 5.70 330 ⇑*i* Pn **Pn 14 22 40.5 +1.1**
DRME *e*Sn **Sn 14 23 44.1 -0.1**
PVY Plav 5.78 337 ⇓*i* Pn **Pn 14 22 41.9 +1.3**
PVY *e*Sn **Sn 14 23 46.2 -0.2**
PDG Podgorica 5.88 332 *e*Pn **Pn 14 22 41.9 +0.1**
PDG Podgorica 5.88 332 **Pn 14 22 42.9 +1.1**
TTG Podgorica 5.88 332 ⇓*i* Pn **Pn 14 22 43.2 +1.4**
TTG *e*Sn **Sn 14 23 48.5 -0.1**
KORT Korkueli 5.88 91 *i* P Pn 14 22 48.7 +6.6
BUM Brajici-Budva 5.91 329 ⇑*i* Pn **Pn 14 22 42.9 +0.5**
BUM *e*Sn **Sn 14 23 49.1 -0.4**
YLV Yalova 5.94 55 P **Pn 14 22 43.2 +0.4**
YLV Yalova 5.94 55 ⇓P **Pn 14 22 46.7 +3.9**
ZAPS Zavoj 5.97 357 *e*Pn **Pn 14 22 45.7 +1.9**
ZAPS *e*Sn **Sn 14 23 48.0 -3.0**
ELND Elena 6.03 20 ⇑P **Pn 14 22 44.5 +0.4**
IVA Berane 6.05 338 ⇑*i* Pn **Pn 14 22 45.5 +1.2**
IVA *e*Sn **Sn 14 23 52.7 -0.4**
SG1 Sgolgore (BA) 6.05 308 *e*P **Pn 14 22 45.3 +0.9**
SG1 S **Sn 14 23 50.6 -2.5**
SLUM Salum 6.08 162 P **Pn 14 22 44.9 +0.2**
baz=165
SLUM S **Sn 14 23 46.9 -6.8**
baz=165
SLUM AMP 14 24 00.0
baz=165
SELS Selova 6.08 347 *e*Pn **Pn 14 22 45.2 +0.5**
BAI Bari 6.08 310 *e*P **Pn 14 22 46.7 +2.0**
BAI S **Sn 14 23 53.1 -0.7**
HCY Herceg Novi 6.20 327 *e*Pn **Pn 14 22 46.0 -0.3**
HCY Herceg Novi 6.20 327 ⇓*i* PN **Pn 14 22 47.7 +1.4**
HCY *e*Sn **Sn 14 23 56.0 -0.6**
PLVB Pleven 6.20 11 ⇑P **Pn 14 22 47.0 +0.7**
BAGO Egridir - ISPA 6.22 81 *i* P **Pn 14 22 50.0 +3.4**
NKME Niksic 6.28 332 ⇑*i* Pn **Pn 14 22 49.1 +1.7**
NKME *e*Sn **Sn 14 23 57.9 -0.7**
NKY Niksic 6.30 332 ⇓*i* Pn **Pn 14 22 49.0 +1.2**
NKY *e*Sn **Sn 14 23 58.7 -0.6**
BORA Eskisehir 6.38 64 *i* P **Pn 14 22 50.9 +2.0**
SJES Sjenica 6.38 340 *e*Pn **Pn 14 22 50.9 +1.9**
SJES *e*Sn **Sn 14 23 58.5 -2.8**
BOVS Bovan 6.40 352 *e*Pn **Pn 14 22 49.4 +0.3**
TREB Trebinje 6.48 328 *e*Pn **Pn 14 22 49.3 -0.8**
GEYV SAKARYA_Geyve 6.51 59 *i* P **Pn 14 22 52.0 +1.4**
DBRK Dubrovnik 6.53 327 *e*Pn **Pn 14 22 50.1 -0.7**
DBRK Sn **Sn 14 24 00.5 -4.2**
ZAGS Zajecar 6.53 355 *e*Pn **Pn 14 22 51.3 +0.5**
ZAGS *e*Sn **Sn 14 24 01.6 -3.1**
BRY Bratogost 6.55 330 *e*Pn **Pn 14 22 51.0 -0.3**
BRY Bratogost 6.55 330 ⇓*i* Pn **Pn 14 22 51.6 +0.3**
BRY *e*Sn **Sn 14 24 04.4 -1.1**
SRCK Saricakaya, Es 6.56 63 *i* P **Pn 14 22 53.8 +2.6**
PLE Pljevlja 6.62 336 ⇓*i* PN **Pn 14 22 53.5 +1.3**
PLE *e*Sn **Sn 14 24 06.0 -1.2**
IVAS Ivanjica 6.63 342 *e*Pn **Pn 14 22 53.1 +0.8**
IVAS *e*Sn **Sn 14 24 05.5 -1.8**
CIFT Cifteler, Eski 6.66 70 *i* P **Pn 14 22 56.6 +3.9**
UPM Unac-Piva 6.67 333 *e*Pn **Pn 14 22 54.0 +1.0**
UPM Unac-Piva 6.67 333 ⇑*i* Pn **Pn 14 22 54.0 +1.0**
UPM *e*Sn **Sn 14 24 07.7 -0.8**
RAZG Razgrad 6.80 22 ⇑P **Pn 14 22 55.3 +0.7**
GRUS Gruza 6.80 346 *e*Pn **Pn 14 22 56.1 +1.5**
GRUS *e*Sn **Sn 14 24 07.7 -3.8**
VAE Valguarnera 6.84 274 Pn **Pn 14 22 58.1 +2.9**
comp=Z,2.2nm,0.3s,baz=338,slow=16,SNR=2.3
VAE Sn **Sn 14 24 16.4 +3.8**
comp=Z,4.4nm,0.3s,baz=209,slow=13,SNR=2.2
VAE LR LR 14 25 56.3
comp=Z,269nm,18.1s,baz=108,slow=41
KEPZ Antalya-Kepez 6.89 91 *i* P Pn 14 23 02.6 +6.9
RUDO Rudo 6.89 337 *e*Pn **Pn 14 22 55.1 -0.7**
STON Ston 6.89 325 *i* Pn **Pn 14 22 54.2 -1.5**
STON Sn **Sn 14 24 06.5 -7.0**
STON Ston 6.89 325 *e*Pn **Pn 14 22 54.0 -1.7**
RAFF Raffo Rosso 6.89 272 Pn **Pn 14 22 55.8 0.0**
WDD Wied Dalam 6.98 260 Pn **Pn 14 22 56.0 -1.0**
COPA Copaceanca 7.03 13 ⇑P **Pn 14 22 58.3 +0.7**
BBLS Lazići 7.10 338 *e*Pn **Pn 14 22 59.0 +0.2**
BBLS *e*Sn **Sn 14 24 16.3 -2.6**
BBLS Lazići 7.10 338 *e*Pn **Pn 14 22 58.3 -0.5**
SGRT San Giovanni R 7.16 311 Pn **Pn 14 23 00.1 +0.5**
DIVS Divibare 7.16 342 *e*Pn **Pn 14 23 00.5 +0.9**
DIVS *e*Sn **Sn 14 24 17.2 -3.2**
DIVS Divibare 7.16 342 *e*Pn **Pn 14 22 59.2 -0.4**
KUBS Kucevo 7.17 352 *e*Pn **Pn 14 22 59.8 +0.1**
HUMR Humele 7.37 11 ⇑P **Pn 14 23 03.2 +0.9**
HAPS Han Pijesak,BI 7.44 337 *e*Pn **Pn 14 23 01.9 -1.5**
MDVR Moldovita 7.53 353 ⇑P **Pn 14 23 05.0 +0.4**
HERR Herculane 7.58 357 ⇓P **Pn 14 23 06.1 +0.8**
TEKS Tekeris 7.70 341 *e*Pn **Pn 14 23 08.4 +1.5**
TEKS *e*Sn **Sn 14 24 30.5 -3.1**
TEKS Tekeris 7.70 341 *e*Pn **Pn 14 23 06.4 -0.5**
HVAR Hvar 7.71 322 *e*Pn **Pn 14 23 06.2 -0.9**
HVAR Sn **Sn** 14 24 24.8 -9.1
ICOR Ion Corvin 7.72 27 ⇑P **Pn 14 23 08.6 +1.5**
SULR 7.77 17 ⇑P **Pn 14 23 09.3 +1.6**
CLTB Caltabellotta 7.79 275 Pn **Pn 14 23 08.8 +0.5**
GZR Gura Zlata 8.08 359 ⇓P **Pn 14 23 12.6 +0.3**
ARR Arges 8.15 8 ⇑P **Pn 14 23 13.7 +0.6**
LOT Lotru 8.16 4 ⇑P **Pn 14 23 13.6 +0.3**
FRGS Fruska Gora 8.21 344 *e*Pn **Pn 14 23 14.4 +0.5**
FRGS *e*Sn **Sn 14 24 41.7 -4.3**
FRGS Fruska Gora 8.21 344 *e*Pn **Pn 14 23 14.7 +0.8**
TLB Topalu 8.21 26 ⇓P **Pn 14 23 16.0 +2.1**
TIRR Tirgusor 8.24 28 P **Pn 14 23 14.7 +0.5**
TIRR Tirgusor 8.24 28 ⇑P **Pn 14 23 15.9 +1.7**
TIRR Tirgusor 8.24 28 Pn **Pn 14 23 14.7 +0.5**
ISR Istrita 8.25 18 P **Pn 14 23 15.7 +1.2**
ISR Istrita 8.25 18 ⇑P **Pn 14 23 15.7 +1.2**
HARR Harsova 8.26 25 ⇓P **Pn 14 23 15.8 +1.2**
VOIR 8.27 10 ⇑P **Pn 14 23 16.7 +2.0**
SWA2 8.30 165 P **Pn 14 23 15.2 +0.1**
baz=167
SWA2 S **Sn 14 24 40.7 -7.5**
baz=167
SWA2 AMP 14 25 00.0
baz=167
BZS Buzias 8.37 353 ⇓P **Pn 14 23 16.1 0.0**
MGRS Mrkonjic Grad 8.40 330 *e*Pn **Pn 14 23 16.3 -0.2**
INTR Introdacqua 8.45 307 **Pn 14 23 17.6 +0.4**
ZIRJ Zirje 8.46 321 *i* Pn **Pn 14 23 16.1 -1.2**
ZIRJ Sn **Sn 14 24 45.6 -6.7**
MLR Muntele Rosu 8.47 14 P **Pn 14 23 19.5 +1.9**
MLR Muntele Rosu 8.47 14 Pn **Pn 14 23 19.0 +1.4**
comp=Z,1.6nm,0.3s,baz=174,slow=8.6,SNR=14
MLR Lg Lg 14 25 54.3
comp=Z,0.1nm,0.3s,baz=284,slow=20,SNR=2.4
MLR LR LR 14 27 18.4
comp=Z,697nm,18.0s,baz=120,slow=43
MLR Muntele Rosu 8.47 14 ⇑P **Pn 14 23 19.5 +1.9**
MLR Muntele Rosu 8.47 14 **Pn 14 23 19.5 +1.9**
TOPG Topolog 8.58 27 ⇑P **Pn 14 23 19.6 +0.7**
BLY Banja Luka 8.64 331 *e*Pn **Pn 14 23 18.6 -1.1**
BLY Banja Luka 8.64 331 **Pn 14 23 19.8 +0.1**
CSS Mathiatis 8.68 103 Pn **Pn 14 23 22.3 +2.0**
BR131 Keskin Array S 8.68 71 P **Pn 14 23 23.5 +3.0**
BR131 Keskin Array S 8.68 71 **Pn 14 23 23.5 +3.0**
BRTR Keskin Array B 8.68 71 *i* P **Pn 14 23 23.7 +3.2**
BRTR pmax pmax
comp=Z,12nm,0.5s
BRTR Keskin Array B 8.68 71 Pn **Pn 14 23 23.8 +3.2**
comp=Z,2.1nm,0.3s,baz=251,slow=14,SNR=34
BRTR Lg Lg 14 25 57.9
baz=230,slow=43,SNR=2.1
BRTR LR LR 14 26 29.4
comp=Z,138nm,20.3s,baz=268,slow=37
BRTR Keskin Array B 8.68 71 **Pn 14 23 22.9 +2.4**
DOPR Dopca 8.84 11 ⇑P **Pn 14 23 23.6 +1.1**
PLOR Plostina 8.96 17 ⇑P **Pn 14 23 25.8 +1.5**
VRI Vrincioaia 9.00 17 ⇑P **Pn 14 23 27.4 +2.7**
DUGI Dugi Otok 9.00 320 *e*Pn **Pn 14 23 23.9 -0.8**
SIRR Siria 9.01 354 ⇑P **Pn 14 23 25.3 +0.4**
OZUR 9.03 12 ⇓P **Pn 14 23 26.8 +1.7**
NRCA Norcia 9.38 309 **Pn 14 23 31.7 +1.8**
DRGR 9.48 359 ⇑P **Pn 14 23 33.6 +2.2**
NVLJ Novalja 9.51 322 *i* Pn **Pn 14 23 31.2 -0.4**
TESR Tescani 9.59 15 ⇓P **Pn 14 23 34.2 +1.4**
BIZ Bicaz 9.90 12 ⇑P **Pn 14 23 39.2 +2.2**
MURB Monte Urbino 9.97 310 Pn **Pn 14 23 40.1 +2.0**
CRES Cresnjev 10.21 329 *e*Pn **Pn 14 23 39.2 -2.2**
BRJN Brijuni 10.31 320 *e*Pn **Pn 14 23 42.1 -0.6**
KOT Kottamia 10.40 132 P **Pn 14 23 42.5 -1.5**
baz=133
BURAR Bucovina Array 10.43 8 **Pn 14 23 44.9 +0.5**
BUR08 Bucovina Ar. S 10.46 8 **Pn 14 23 46.0 +1.2**
CEY Cerknica 10.59 325 *e*Pn **Pn 14 23 45.3 -1.3**
PSZ Piszkesteto 10.85 349 P **Pn 14 23 51.4 +1.3**
PSZ Piszkesteto 10.85 349 Pn **Pn 14 23 51.4 +1.3**
MMAI Mount Meron Ar 11.01 109 Pn **Pn 14 23 53.3 +0.9**
comp=Z,3.8nm,0.3s,baz=297,slow=13,SNR=3.5
SUZ Suez 11.07 129 P **Pn 14 23 52.2 -0.9**
baz=130
HFRF Wahat Farafira 11.07 155 P **Pn 14 23 52.2 -1.0**
baz=156
SOKA Soboth 11.08 330 Pn **Pn 14 23 54.5 +1.3**
comp=Z,4.3nm,0.5s
SOKA Sn **Sn 14 25 49.9 -6.7**
comp=Z,7.2nm,0.5s
KEST Kesra 11.10 266 Pn **Pn 14 23 56.4 +2.8**
comp=Z,0.3nm,0.3s,baz=272,slow=6.1,SNR=4.6
KEST LR LR 14 28 44.7
comp=Z,170nm,19.9s,baz=22,slow=40
KEST Kesra 11.10 266 **Pn 14 23 55.2 +1.5**
NBNS Bani Suef 11.10 139 P **Pn 14 23 52.9 -0.7**
baz=140
NBNS AMP 14 25 00.0
baz=140
OBKA Obir 11.14 328 Pn Pn 14 24 00.8 +6.7
comp=Z,15nm,0.9s
OBKA *e*Sn **Sn 14 25 53.1 -5.0**
comp=Z,32nm,0.6s
UZH Uzhgorod 11.33 358 *e*P **Pn 14 23 58.7 +2.1**
ARSA Arzberg 11.37 333 Pn **Pn 14 23 58.8 +1.6**
ARSA *i* Sn **Sn 14 25 55.1 -8.6**
comp=Z,2.1nm,0.3s
VYHS Vyhne 11.59 346 *e*P **Pn 14 24 04.2 +4.0**
VYHS *e* 14 26 11.2
VYHS Vyhne 11.59 346 *e*PN **Pn 14 24 04.2 +4.0**
VYHS Vyhne 11.59 346 *e*SN **Sn 14 26 11.2 +2.2**
MYKA Terra Mystica 11.63 326 Pn Pn 14 24 08.2 +7.5
comp=Z,0.3nm,0.2s
MYKA Sn **Sn 14 26 04.9 -5.0**
comp=Z,6.8nm,0.4s
KOLS Kolonicke sedl 11.64 358 *e*P **Pn 14 24 04.2 +3.4**
KOLS Kolonicke sedl 11.64 358 *e*PN **Pn 14 24 04.2 +3.4**
STAL STALIGIAL 11.78 323 Pn **Pn 14 24 04.0 +1.2**
MODS Modra-Piesok 11.83 341 *e*P Pn 14 24 12.7 +9.2
MODS Modra-Piesok 11.83 341 *e*PN Pn 14 24 12.7 +9.2
CONA Conrad Observa 11.84 336 *e*Pn **Pn 14 24 05.5 +1.8**
comp=Z,1.3nm,0.3s
CONA Sn **Sn 14 26 10.9 -4.4**
comp=Z,2.5nm,0.5s
KBA Koelnbreinsper 12.10 327 *i* Sn **Sn 14 26 15.8 -5.9**
comp=Z,12nm,0.8s
CTI Castel Tesino 12.17 319 P **Pn 14 24 08.0 -0.2**
CTI Castel Tesino 12.17 319 **Pn 14 24 08.0 -0.2**
ABTA Abfaltersbach 12.23 324 *i* Sn **Sn 14 26 16.4 -8.4**
comp=Z,27nm,0.9s
MOA Molln 12.34 331 *e*Pn **Pn 14 24 12.8 +2.4**
comp=Z,1.8nm,0.3s
MOA *e*Sn **Sn 14 26 24.4 -3.0**
comp=Z,4.4nm,0.5s
ASF Jabal al Asfar 12.52 110 Pn **Pn 14 24 17.2 +4.1**
comp=Z,0.3nm,0.3s,baz=210,slow=8.1,SNR=3.2
EIL Elat 12.54 124 Pn **Pn 14 24 14.2 +0.9**
comp=Z,4.4nm,0.3s,baz=188,slow=5.9,SNR=86
EIL Sn **Sn 14 26 28.3 -4.1**
comp=Z,1.1nm,0.3s,baz=351,slow=13,SNR=4.4
EIL LR LR 14 30 55.2
comp=Z,60nm,18.5s,baz=310,slow=47
WTTA Wattenberg 13.02 323 Pn **Pn 14 24 16.3 -3.6**
WTTA *e*Sn **Sn 14 26 38.1 -6.1**
comp=Z,48nm,0.8s
WATA Walderalm 13.10 324 *i* Pn **Pn 14 24 25.5 +4.6**
comp=Z,6.4nm,0.4s
WATA Sn **Sn 14 26 41.8 -4.2**
comp=Z,13nm,0.5s
FETA Feichten 13.29 321 *i* Pn **P 14 24 32.3 -0.9**
comp=Z,4.4nm,0.8s
FETA *i* Sn **Sn 14 26 47.7 -3.2**
comp=Z,5.2nm,0.5s
MOTA Moosalm 13.33 323 *e*Pn **Pn 14 24 23.6 -0.5**
comp=Z,0.2nm,0.1s
MOTA Sn **Sn 14 26 45.7 -6.1**
comp=Z,25nm,0.8s
GERES GERESS Array B 13.38 333 Pn **Pn 14 24 24.1 -0.5**
comp=Z,0.3nm,0.3s,baz=157,slow=14,SNR=4.1
GERES Sn **Sn 14 26 48.3 -4.4**
comp=Z,0.4nm,0.3s,baz=153,slow=26,SNR=3.7
GERES LR LR 14 31 00.4
comp=Z,114nm,18.9s,baz=118,slow=44
KRLC Kraliky 13.53 343 *e*P **P 14 24 34.1 -1.6**
KRLC Kraliky 13.53 343 *e*P **P 14 24 34.1 -1.6**
DAVOX Davos/Dischmat 13.58 318 Pn **P 14 24 33.5 -2.9**
comp=Z,0.7nm,0.3s,baz=138,slow=16,SNR=3.7
DAVOX Sn **Sn 14 26 52.8 -5.0**
comp=Z,1.2nm,0.3s,baz=333,slow=14,SNR=5.9
KHC Kasperske Hory 13.66 333 *e*P **P 14 24 38.9 +1.7**
KHC MLR MLR
comp=Z,500nm,10.7s
KHC Kasperske Hory 13.66 333 *e*P **Pn 14 24 28.5 +0.1**
KHC *ex* x 14 24 38.9
KHC *ex* x 14 24 44.7
KHC AMS AMS 14 30 10.0
comp=Z,500nm,10.7s
DPC Dobruska-Polom 13.89 342 *e*P **P 14 24 42.3 +2.5**
DPC Dobruska-Polom 13.89 342 *e*P **P 14 24 42.3 +2.5**
DPC *ex* x 14 24 47.3
DAVA Damuels 13.90 320 Pn **P 14 24 43.6 +3.6**
comp=Z,6.4nm,0.6s
DAVA Sn **Sn 14 26 57.6 -8.1**
comp=Z,8.6nm,0.4s
GOPC GO Pecny, Ondr 13.93 337 *e*P **P 14 24 42.0 +1.9**
GOPC GO Pecny, Ondr 13.93 337 *e*P **P 14 24 42.0 +1.9**
PRU Pruhonice 14.07 337 *e*P **P 14 24 42.9 +1.3**
PRU Pruhonice 14.07 337 *e*P **P 14 24 42.9 +1.3**
AKASG Malin Array Be 14.11 16 *i* P **Pn 14 24 35.4 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 14.11 16 Pn **Pn 14 24 34.2 -0.4**
comp=Z,0.6nm,0.3s,baz=202,slow=12,SNR=4.1
AKBB Malin Array Si 14.11 16 P **Pn 14 24 34.4 -0.2**
AKBB Malin Array Si 14.11 16 **Pn 14 24 34.4 -0.2**
SENIN Lac Senin/Sane 14.78 313 Pn **Pn 14 24 44.9 +1.1**
BRG Berggiesshubel 15.03 337 *e*P **P 14 24 53.6 +1.3**
comp=Z,11nm,0.8s
BRG Berggiesshubel 15.03 337 *e*P **P 14 24 53.6 +1.3**
BRG pmax pmax
comp=Z,11nm,0.8s
BFO Black Forest 15.38 320 *i* P **Pn 14 24 52.2 +0.5**
BFO Black Forest 15.38 320 Pn **Pn 14 24 52.4 +0.8**
CLL Collm 15.70 336 *e*P **Pn 14 24 53.0 -2.8**
CLL Collm 15.70 336 *e*P **Pn 14 24 56.0 +0.2**
CLL *i* sP **P 14 25 01.1 +1.3**
comp=Z,30nm,1.0s
CLL *i* PP **pP 14 25 05.4 +0.2**
CLL *i* 14 25 13.8
CLL Collm 15.70 336 **Pn 14 24 56.6 +0.7**
SHA1 Shidzhatmaz 16.25 61 ⇑*e*P **Pn 14 25 04.6 +1.4**
KIV Kislovodsk 16.34 60 *e*P **Pn 14 25 02.6 -1.5**
KIV pmax pmax
comp=Z,68nm,1.1s
KIV MLR MLR
comp=Z,171nm,13.0s
KIV Kislovodsk 16.34 60 P **P 14 25 08.0 +1.1**
KBZ Khabaz 16.42 61 Pn **Pn 14 25 06.5 +1.5**
comp=Z,0.1nm,0.3s,baz=280,slow=8.1,SNR=3.1
KBZ LR LR 14 32 36.5
comp=Z,168nm,18.4s,baz=288,slow=42

SUW Suwalki 16.71 0 P **P 14 25 11.5 +0.6**
SUW pmax pmax
comp=Z,68nm,1.0s
SUW Suwalki 16.71 0 P **P 14 25 11.5 +0.6**
SUW IAmb IAmb 14 25 17.2
comp=Z,68nm,1.0s
ZEI Tsey 16.90 65 *e*P **P 14 25 14.1 +0.8**
ZEI pmax pmax
comp=Z,18nm,0.8s
GNI Garni 17.19 74 LR LR 14 33 12.3
comp=Z,146nm,19.6s,baz=222,slow=42
VORD Divnogorie 17.92 35 *e*P **P 14 25 24.6 +0.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 18.04 34 *e*P **Pn 14 25 25.3 +0.1**
VSR pmax pmax
comp=Z,20nm,0.9s
DOU Dourbes 18.39 320 P **Pn 14 25 30.3 +0.7**
LPSR Galich'ya Gora 18.93 31 *e*P **Pn 14 25 36.4 +0.3**
LPSR pmax pmax
comp=Z,50nm,1.2s
VRH Novokhopyorsk 19.23 38 *e*P **Pn 14 25 39.7 0.0**
VRH pmax pmax
comp=Z,90nm,1.5s
OBN Obninsk 20.07 23⇓*e*P Pn 14 25 49.0 -0.7
OBN *i* 14 25 51.5
OBN *i* 14 26 05.0
OBN pmax pmax
comp=Z,20nm,0.9s
OBN MLR MLR
comp=Z,124nm,10.0s
MOS Moscow 20.93 24 *e*P Pn 14 25 58.6 -1.1
MOS pmax pmax
comp=Z,51nm,0.8s
ESDC Sonseca Array 21.21 285 P **P 14 26 01.1 +0.7**
comp=Z,3.6nm,0.7s,baz=76,slow=11,SNR=14
VSU Vasula 21.31 5⇑*e*P **P 14 26 01.1 -0.1**
VSU pmax pmax
comp=Z,55nm,0.9s
MDT Midelt 23.00 267 P **P 14 26 19.3 -0.4**
comp=Z,5.6nm,0.9s,baz=106,slow=14,SNR=6.1
MDT LR LR 14 35 37.1
comp=Z,45nm,21.9s,baz=148,slow=38
HFS Hagfors 23.61 348 P **P 14 26 23.6 -1.7**
comp=Z,9.6nm,0.5s,baz=163,slow=11,SNR=35
HFS LR LR 14 36 50.4
comp=Z,212nm,18.4s,baz=26,slow=40
RAYN Ar Rayn 23.70 119 P **P 14 26 26.8 +0.3**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 23.70 119 P **P 14 26 26.8 +0.3**
KONO Kongsberg 23.97 343 P **P 14 26 28.5 -0.2**
KONO pmax pmax
comp=Z,36nm,1.3s
KONO Kongsberg 23.97 343 P **P 14 26 28.5 -0.2**
KONO IAmb IAmb 14 26 52.5
comp=Z,36nm,1.3s
FINES FINESS Array B 24.24 4 *i* P **P 14 26 29.3 -1.9**
FINES pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 24.24 4 P **P 14 26 30.4 -0.8**
comp=Z,8.4nm,1.0s,baz=140,slow=9.5,SNR=6.9
FINES PcP **PcP 14 30 11.3 +0.3**
comp=Z,2.5nm,0.8s,baz=191,slow=1.9,SNR=3.5
FINES LR LR 14 36 52.4
comp=Z,301nm,20.9s,baz=235,slow=39
FINES FINESS Array B 24.24 4 P **P 14 26 30.6 -0.6**
PVAQ Vaqueiros 24.37 280 *e*P **P 14 26 33.7 +1.0**
comp=Z,41nm,1.5s
PVAQ Vaqueiros 24.37 280 P **P 14 26 32.8 +0.1**
PVAQ IAmb IAmb 14 26 36.0
comp=Z,71nm,1.7s
EVO Evora 24.45 282 *e*P **P 14 26 35.1 +1.7**
comp=Z,35nm,2.0s
NC602 NORSAR Array S 24.55 346 P **P 14 26 33.7 -0.4**
PMTG Montargil 24.55 284 *e*P **P 14 26 37.2 +2.9**
PBDV Barranco-do-Ve 24.57 279 *e*P **P 14 26 39.5 +5.0**
comp=Z,55nm,1.8s
NAO01 NORSAR Array S 24.78 346 P **P 14 26 35.9 -0.3**
NC405 NORSAR Array S 24.87 347 P **P 14 26 36.6 -0.4**
NC405 IAmb IAmb 14 26 47.5
comp=Z,86nm,1.6s
NB201 NORSAR Array S 24.89 346 P **P 14 26 36.7 -0.5**
NB2 NORSAR Subarra 24.90 346 P **P 14 26 37.0 -0.3**
comp=Z,16nm,1.0s,baz=159,slow=9.3
NOA NORSAR Array B 24.90 346 P **P 14 26 36.9 -0.4**
comp=Z,3.6nm,0.8s,baz=153,slow=9.4,SNR=15
NOA LR LR 14 37 14.1
comp=Z,56nm,19.6s,baz=0.0,slow=39
NBO00 NORSAR Array S 24.97 346 P **P 14 26 37.4 -0.5**
NC303 NORSAR Array S 25.04 347 P **P 14 26 38.2 -0.3**
NC204 NORSAR Array S 25.20 346 P **P 14 26 40.3 +0.3**
NC204 IAmb IAmb 14 26 55.9
comp=Z,52nm,1.1s
EKA Eskdalemuir Ar 25.29 324 P **P 14 26 40.4 -0.4**
comp=Z,6.2nm,0.5s,baz=121,slow=10.0,SNR=21
EKA PP PP 14 27 14.0
comp=Z,3.4nm,0.7s,baz=130,slow=9.9,SNR=3.4
PFVI Vila Bisbo 25.29 279 P **P 14 26 41.3 +0.3**
ESK Eskdalemuir 25.30 324 P **P 14 26 41.1 +0.2**
ESK pmax pmax
comp=Z,55nm,1.4s
ESK Eskdalemuir 25.30 324 P **P 14 26 41.1 +0.2**
ESK IAmb IAmb 14 26 50.3
comp=Z,55nm,1.4s
KLMR Klimovskoe 25.78 19 *e*P **P 14 26 45.7 +0.5**
KLMR pmax pmax
comp=Z,26nm,0.7s
KLMR Klimovskoe 25.78 19 *e*P **P 14 26 45.7 +0.5**
KLMR AMP 14 26 47.7
comp=Z,26nm,0.7s
DSB Dublin 25.85 317 P **P 14 26 46.2 +0.2**
DSB IAmb IAmb 14 26 55.1
comp=Z,14nm,0.8s
KIRV Kirov 27.36 30 LR LR 14 38 40.5
comp=Z,140nm,19.2s,baz=230,slow=38
PRGR Permogore 28.15 23 *e*P **P 14 27 04.5 -2.0**
PRGR *e*S **S 14 31 46.9 -3.7**
PRGR pmax pmax
comp=Z,14nm,0.7s
AKTO Aktyubinsk 28.17 51 P **P 14 27 06.3 -0.5**
comp=Z,1.3nm,0.6s,baz=269,slow=8.0,SNR=4.3
AKTO LR LR 14 39 29.4
comp=Z,32nm,20.2s,baz=265,slow=39
ABKAR Akbulak array 29.14 54 P **P 14 27 14.8 -0.6**
ARU Arti 30.44 40*d i*P **P 14 27 26.3 -0.6**
ARU 14 28 24.2
ARU S **S 14 32 29.6 +2.9**
ARU SS **SnSn 14 34 03.9 +1.3**
ARU pmax pmax
comp=Z,20nm,2.7s
ARU Arti 30.44 40 P **P 14 27 26.5 -0.4**
comp=Z,0.9nm,0.3s,baz=243,slow=10,SNR=3.7
ARU LR LR 14 40 43.7
comp=Z,135nm,18.1s,baz=262,slow=38
TOA0 Torodi Ar. Sit 30.68 224 P **P 14 27 29.7 +0.4**
TORD Torodi Ar. Bea 30.68 224 P **P 14 27 29.9 +0.6**
comp=Z,16nm,0.6s,baz=32,slow=9.2,SNR=104
TORD LR LR 14 41 33.8
comp=Z,104nm,18.4s,baz=345,slow=40
TORD Torodi Ar. Bea 30.68 224 P **P 14 27 27.9 -1.5**
SVE Sverdlovsk 31.65 40 *e*P **P 14 27 37.5 -0.1**
ARCES ARCESS Array B 32.32 2 P **P 14 27 43.7 +0.4**
ARCES ARCESS Array B 32.32 2 P **P 14 27 42.9 -0.4**
comp=Z,3.8nm,0.9s,baz=214,slow=8.6,SNR=5.9
ARCES LR LR 14 42 00.6
comp=Z,314nm,18.1s,baz=198,slow=39
ARCES ARCESS Array B 32.32 2 P **P 14 27 43.7 +0.4**
CHGR Chuyangaron 36.11 73 P **P 14 28 15.9 -0.7**
CHGR IAmb IAmb 14 28 18.2
comp=Z,11nm,0.7s
BRVK Borovoye 36.13 49⇑*e*P **P 14 28 16.7 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 36.13 49 P **P 14 28 16.2 -0.3**
BVAR Borovoye Array 36.19 49 P **P 14 28 17.1 0.0**
comp=Z,1.3nm,0.7s,baz=277,slow=6.5,SNR=8.5
KK31 Karatay Array 36.35 66 P **P 14 28 18.0 -0.6**
KK31 Karatay Array 36.35 66 P **P 14 28 18.0 -0.6**
KKAR Karatay Array 36.35 66 P **P 14 28 18.0 -0.6**
KKAR Karatay Array 36.35 66 P **P 14 28 18.0 -0.6**
KKAR Karatay Array 36.35 66 P **P 14 28 18.2 -0.4**
KKAR IAmb IAmb 14 28 24.6
comp=Z,3.0nm,1.0s
GAR Garm 36.92 72 P **P 14 28 23.6 +0.1**
GAR IAmb IAmb 14 28 25.2
comp=Z,6.3nm,0.8s
AAK Ala-Archa 39.32 66 P **P 14 28 43.4 -0.4**
AAK pmax pmax
comp=Z,6.0nm,1.4s
AAK Ala-Archa 39.32 66 P **P 14 28 44.3 +0.5**
comp=Z,1.3nm,0.7s,baz=235,slow=8.1,SNR=5.1
AAK Ala-Archa 39.32 66 P **P 14 28 43.4 -0.4**
DBIC Dimbokro 39.66 227 P **P 14 28 46.8 +0.2**
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC Dimbokro 39.66 227 P **P 14 28 47.1 +0.5**
comp=Z,18nm,0.8s,baz=14,slow=9.8,SNR=17
DBIC Dimbokro 39.66 227 P **P 14 28 46.8 +0.2**
DBIC IAmb IAmb 14 28 47.9
comp=Z,16nm,0.8s
TIC Toumodi 39.77 227 *e*P **P 14 28 48.0 +0.4**
comp=Z,6.6nm,0.3s
KIC Kosan Boka 39.84 226 *e*P **P 14 28 48.4 +0.2**
comp=Z,50nm,1.0s
LIC Lamto 40.12 226 *e*P **P 14 28 50.9 +0.4**
comp=Z,96nm,0.8s
KSH Kashi 41.07 70 P **P 14 28 58.8 +0.5**
KSH pP pP 14 29 04.5 +0.2
KSH PP **PnPn 14 30 35.5 -1.9**
KSH S **S 14 35 09.8 -0.3**
KSH sS pS 14 35 18.0 +0.9
KSH SS **SS 14 38 04.3 -8.1**
KSH pmax pmax
comp=Z,330nm,5.9s
KSH LR LR
comp=Z,230nm,9.9s
KSH LR LR
comp=Z,190nm,6.9s
KSH LR LR
comp=Z,370nm,11.7s
SPA0 Spitsbergen Ar 41.08 358 P **P 14 28 58.0 +0.3**
SPA0 IAmb IAmb 14 29 38.8
comp=Z,44nm,1.1s
SPITS Spitsbergen Ar 41.08 358 P **P 14 28 58.3 +0.6**
comp=Z,13nm,1.0s,baz=162,slow=5.7,SNR=3.5
KURBB Kurchatov Arra 41.18 53 P **P 14 28 57.0 -1.9**
comp=Z,3.7nm,0.7s,baz=282,slow=8.7,SNR=13
KURBB PP **PP 14 30 35.8 +2.0**
comp=Z,1.0nm,0.2s,baz=278,slow=12,SNR=4.3
KURK Kurchatov 41.23 53⇑*e*P **P 14 28 59.9 +0.6**
KURK pmax pmax
comp=Z,13nm,2.5s
KURK Kurchatov 41.23 53 P **P 14 28 58.5 -0.8**
KURK Kurchatov 41.23 53 PP 14 30 35.8 +1.4
MK31 Makanchi Array 44.09 58 P **P 14 29 21.4 -1.2**
MK31 Makanchi Array 44.09 58 P **P 14 29 21.4 -1.2**
MKAR Makanchi Array 44.09 58*ce*P **P 14 29 21.7 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.09 58 P **P 14 29 21.2 -1.4**
comp=Z,2.1nm,0.5s,baz=268,slow=7.7,SNR=19
MKAR ScP **ScP 14 34 56.9 -1.5**
comp=Z,1.2nm,0.9s,baz=264,slow=2.6,SNR=3.5
MKAR Makanchi Array 44.09 58 P **P 14 29 21.4 -1.2**
ZAA0 Zalesovo Array 44.82 48 P **P 14 29 27.2 -1.1**
ZALV Zalesovo Beam 44.82 48 *i* P **P 14 29 27.2 -1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 44.82 48 P **P 14 29 27.3 -0.9**
comp=Z,4.4nm,0.5s,baz=271,slow=8.6,SNR=15
ZALV Zalesovo Beam 44.82 48 P **P 14 29 26.8 -1.5**
NRIK Noril'sk 46.70 26 P **P 14 29 43.1 +0.2**
comp=Z,8.8nm,0.8s,baz=250,slow=3.2,SNR=17
NRIK LR LR 14 49 55.9
comp=Z,106nm,18.2s,baz=288,slow=37
WMQ Urumqi 48.46 61 *e*P **P 14 29 59.3 +2.2**
WMQ pP sP 14 30 04.5 -0.9
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,98nm,4.3s
WMQ LR LR
comp=Z,160nm,28.5s
WMQ LR LR
comp=Z,750nm,24.1s
MSEY Mahe Island 51.56 137 P **P 14 30 20.8 -0.1**
MSEY pmax pmax
comp=Z,24nm,1.3s
MSEY Mahe Island 51.56 137 P **P 14 30 20.8 -0.1**
MSEY IAmb IAmb 14 31 24.2
comp=Z,24nm,1.3s
GTA Gaotai 58.50 62 *e*P **P 14 31 10.5 -0.4**
GTA pP sP 14 31 18.0 -1.3
GTA sP pP 14 31 20.8 +3.7
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA pmax pmax
comp=Z,78nm,6.0s
GTA LR LR
comp=Z,120nm,17.1s
GTA LR LR
comp=Z,150nm,18.1s
GTA LR LR
comp=Z,170nm,19.4s
SONM Songino Array 59.48 51 P **P 14 31 16.5 -1.1**
comp=Z,0.6nm,0.4s,baz=303,slow=12,SNR=4.6
SONM ScP **ScP 14 36 01.6 -3.2**
comp=Z,1.0nm,0.8s,baz=276,slow=4.8,SNR=4.2
TIXI Tiksi 59.78 21⇓*e*P **P 14 31 18.0 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 59.88 51⇑*e*P **P 14 31 19.6 -0.8**
ULN pmax pmax
comp=Z,1.0nm,0.8s
SCHQ Schefferville 60.43 318 P **P 14 31 24.5 +0.7**
comp=Z,5.4nm,0.5s,baz=59,slow=6.9,SNR=19
SCHQ Schefferville 60.43 318 P **P 14 31 24.6 +0.7**
LBTB Lobatse 62.03 177 P **P 14 31 36.1 +1.1**
comp=Z,5.1nm,0.7s,baz=332,slow=12,SNR=6.6
LZH Lanzhou 62.83 64 *e*P **P 14 31 40.3 -0.2**
LZH pP sP 14 31 49.0 +0.1
LZH PP PP 14 34 06.5 +8.0
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,120nm,6.0s
LZH LR LR
comp=Z,240nm,16.8s
LZH LR LR
comp=Z,250nm,16.7s
LZH LR LR
comp=Z,330nm,18.0s
YAK Yakutsk 64.89 30 *e*P **P 14 31 52.1 -1.3**
YAK pmax pmax
comp=Z,7.0nm,0.9s
CD2 Chengdu 65.25 69 P **P 14 31 55.3 -1.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
BOSA Boshof 65.61 178 P **P 14 31 58.5 -0.1**
comp=Z,3.1nm,0.8s,baz=356,slow=6.9,SNR=3.1
BOSA Boshof 65.61 178 IAmb IAmb 14 32 05.2
comp=Z,52nm,1.6s
HHC Hu-ho-hao-te 65.90 56 *e*P **P 14 32 01.5 +1.0**
HHC pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 68.05 83 *i* P **P 14 32 14.6 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 68.05 83 P **P 14 32 13.7 -0.7**
comp=Z,1.0nm,0.6s,baz=306,slow=8.4,SNR=6.9
SEY Seymchan 72.23 22⇑*e*P **P 14 32 41.3 +2.1**
YKA Yellowknife Ar 74.87 341 P **P 14 32 53.8 -0.9**
comp=Z,0.7nm,0.5s,baz=35,slow=5.1,SNR=8.8
BMAR Burnt Mountain 75.16 355 P **P 14 32 57.6 +1.1**
EPYK Eagle Plains 75.48 352 P **P 14 32 58.1 -0.1**
EPYK IAmb IAmb 14 34 23.8
comp=Z,32nm,1.9s
NJ2 Nanjing 75.54 61 *e*P **P 14 32 59.5 +0.3**
NJ2 pmax pmax
comp=Z,19nm,0.5s
IMAR Indian Mountai 77.01 359 P **P 14 33 07.6 +0.7**
PSI Prapat 77.11 96 P **P 14 33 07.2 -1.3**
comp=Z,3.1nm,0.4s,baz=348,slow=18,SNR=4.6
RPSI Rantau Prapat 77.18 96 P **P 14 33 07.2 -1.5**
ULM Lac du Bonnet 77.56 325 P **P 14 33 09.1 -1.2**
comp=Z,5.0nm,0.9s,baz=19,slow=5.8,SNR=5.3
ILAR Eielson Array 77.95 356 P **P 14 33 12.4 +0.2**
comp=Z,0.7nm,0.8s,baz=1.3,slow=5.1,SNR=7.6
DAWY Dawson 78.01 352 P **P 14 33 13.3 +0.7**
DAWY IAmb IAmb 14 33 29.8
comp=Z,7.4nm,1.2s
HDA Harding Lake 78.31 356 P **P 14 33 14.2 0.0**
HDA IAmb IAmb 14 33 22.1
comp=Z,6.9nm,1.0s
WRH Wood River Hil 78.32 356 P **P 14 33 14.5 +0.3**
WRH IAmb IAmb 14 33 22.8
comp=Z,5.5nm,1.0s
KSRS Korea Array 78.34 52 P **P 14 33 13.4 -1.5**
comp=Z,1.0nm,0.6s,baz=313,slow=4.6,SNR=3.7
BCAR Beaver Creek A 79.23 353 P **P 14 33 20.1 +0.8**
DHY Denali Highway 79.66 356 P **P 14 33 22.1 +0.3**
DHY IAmb IAmb 14 33 34.3
comp=Z,6.5nm,1.0s
SKT Skwentna 80.96 357 P **P 14 33 28.2 -0.5**
SKT IAmb IAmb 14 33 42.5
comp=Z,7.0nm,1.0s
EGMT Eagleton 85.19 330 P **P 14 33 52.2 +1.3**
EGMT IAmb IAmb 14 33 53.1
comp=Z,8.5nm,0.8s
YNE Yellowstone No 87.74 329 P **P 14 34 05.0 +1.3**
C09A Chrisman Ranch 88.49 335 P **P 14 34 07.8 +0.9**
C09A IAmb IAmb 14 34 09.3
comp=Z,5.5nm,0.8s
PDAR Pinedale Array 89.36 327 P **P 14 34 11.6 +0.2**
comp=Z,0.7nm,0.4s,baz=59,slow=5.4,SNR=6.5
HWUT Hardware Ranch 91.17 328 P **P 14 34 20.2 +0.5**
HWUT IAmb IAmb 14 34 21.5
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 96.99 315 P **P 14 34 46.3 -0.3**
comp=Z,0.4nm,0.9s,baz=21,slow=7.9,SNR=2.5
WRA Warramunga Arr 118.53 94 PKP **PKPdf 14 40 00.6 -2.0**
comp=Z,0.4nm,0.7s,baz=316,slow=2.1,SNR=5.1
ASAR Alice Springs 120.11 98 PKP **PKPdf 14 40 05.1 -0.5**
comp=Z,0.7nm,0.7s,baz=312,slow=1.7,SNR=11
KRVT Keravat (AS076 123.07 68 PKP **PKPdf 14 40 10.2 -1.4**
comp=Z,26nm,0.6s,baz=157,slow=3.2,SNR=7.0
QSPA South Pole Qui 127.16 180 PKP **PKiKP 14 40 18.8 +0.4**
comp=Z,0.7nm,0.6s,baz=208,slow=4.6,SNR=5.4

MOS ***27*** *14:26:46.1±1.2,25°.35S×69°.89E,h10km,mb5.3/49,Error ellipse: s-maj=11.5km s-min=6.8km az=101.0*
IDC ***27*** *14:26:46.8±0.4,25°.38S×69°.98E,h0km,mb4.5/30, mb1 4.6/30,mb1mx4.5/48,mbtmp4.5/30,MS4.2/24, Ms1 4.2/24,ms1mx4.1/32,Error ellipse: s-maj=16.7km s-min=11.8km az=41.0*
NEIC ***27*** *14:26:48.4±2.2,25°.3S±0°.1×69°.8E±0°.1,h16km±3km, mb5.2/71*
ISCJB ***27*** *14:26:48.0±0.2,25°.40S±0°.05×69°.87E±0°.04,h21km, mb4.9/95,MS4.3/32,Error ellipse: s-maj=7.4km s-min=4.8km az=10.7*
BJI ***27*** *14:26:50.2±0.0,24°.82S×69°.74E,h5km,mb4.8/45, mB5.1/31,Ms4.9/15,Ms7 4.6/12*
GCMT ***27*** *14:26:50.4±0.2,25°.20S±0°.02×69°.84E±0°.02,h14km, MW5.1/102,Moment Tensor Solution. s44,c53; s102,c150; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=4.32±.22; Mθθ1.03±.13; Mφφ3.29±.15; Mrθ0.86±.31; Mθφ-1.66±.08; Mrφ2.43±.35; Best double couple: M0=4.92400×1016 NP1:φs172.00000°,δ59.00000°, λ-70.00000°. NP2:φs316.00000°,δ36.00000°, λ-120.00000°. Principal axes: T 4.5470, Plg12.0000°, Azm247.0000°; N 0.7550, Plg17.0000°, Azm341.0000°; P -5.3010, Plg69.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 14:26:49.8±0.3,25°.43S±0°.07×69°.80E±0°.06,h21km,n314, σ1§54/297,mb5.1/109,MS4.3/32,28C-4D,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H** baz=189,slow=76,SNR=113	**17.87**	**9**	T	T	14 49 11.5	
H08S2	**Diego Garcia H** baz=189,slow=76,SNR=162	**17.87**	**9**	T	T	14 49 10.1	
H08S3	**Diego Garcia H** baz=189,slow=76,SNR=130	**17.89**	**9**	T	T	14 49 11.2	
H08N3	**Diego Garcia H** baz=176	**19.01**	**4**	T	T	14 50 39.8	
H08N1	**Diego Carcia H** baz=176	**19.01**	**4**	T	T	14 50 38.0	
H08N2	**Diego Garcia H** baz=176	**19.03**	**4**	T	T	14 50 35.1	
VOI	**Vohitsoka**	**21.40**	**274**	P	**P**	**14 31 38.6**	**+2.2**
ABPO	**Ambohimpanom**	**21.83**	**282**	P	**P**	**14 31 39.8**	**-1.3**
ABPO				pmax	pmax		
	comp=Z,47nm,1.4s						
ABPO	**Ambohimpanom**	**21.83**	**282**	P	**P**	**14 31 39.9**	**-1.3**
OPO	**Ambohidratompo**	**22.03**	**284**	P	**P**	**14 31 45.8**	**+2.6**
	comp=Z,17nm,1.0s,baz=112,slow=10,SNR=16						
PALK	**Pallekele**	**34.19**	**20**	P	**P**	**14 33 33.3**	**-0.7**
PALK				pmax	pmax		
	comp=Z,72nm,1.7s						
PALK	**Pallekele**	**34.19**	**20**	P	**P**	**14 33 35.7**	**+1.8**
	comp=Z,5.3nm,0.9s,baz=113,slow=2.4,SNR=2.9						
PALK	**Pallekele**	**34.19**	**20**	P	**P**	**14 33 33.3**	**-0.7**
PALK				IAmb	IAmb	14 33 41.8	
	comp=Z,72nm,1.6s						
XMIS	**Christmas Isla**	**37.06**	**73**	P	**P**	**14 33 56.4**	**-2.3**
GSI	**Gunungsitoli**	**37.80**	**49**	P	**P**	**14 34 03.4**	**-1.5**
KIBK	**Kibwezi** SNR=5.3	**38.22**	**302**	P	**P**	**14 34 11.0**	**+2.4**
PDSI	**Padang**	**38.33**	**55**	P	**P**	**14 34 11.2**	**+1.8**
LHSI	**Lahat**	**38.86**	**62**	P	**P**	**14 34 15.9**	**+2.1**
SDSI	**Sungai Dareh**	**39.04**	**56**	P	**P**	**14 34 18.0**	**+2.7**
H01W2	**Cape Leeuwin H** baz=272,slow=75,SNR=12	**39.21**	**115**	T	T	15 15 53.6	
H01W3	**Cape Leeuwin H** baz=272,slow=75,SNR=12	**39.22**	**115**	T	T	15 15 55.2	
H01W1	**Cape Leeuwin H** baz=272,slow=75,SNR=12	**39.23**	**115**	T	T	15 15 59.4	
BKNI	**Bangkinang**	**39.59**	**54**	P	**P**	**14 34 23.7**	**+3.8**
BKNI	**Bangkinang**	**39.59**	**54**	P	**P**	**14 34 17.4**	**-2.5**
KMBO	**Kilima Mbogo** SNR=5.4	**39.60**	**302**	P	**P**	**14 34 23.1**	**+2.8**
KMBO				P	**P**	**14 34 23.1**	**+2.8**
	SNR=5.4						
KMBO	**Kilima Mbogo**	**39.60**	**302**	P	**P**	**14 34 20.5**	**+0.1**
KMBO				pmax	pmax		
	comp=Z,15nm,1.3s						
KMBO	**Kilima Mbogo**	**39.60**	**302**	P	**P**	**14 34 22.4**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=132,slow=6.2,SNR=12						
KMBO				LR	LR	14 46 58.0	
	comp=Z,172nm,20.1s,baz=93,slow=30						
KMBO	**Kilima Mbogo**	**39.60**	**302**	P	**P**	**14 34 20.5**	**+0.1**
BOSA	**Boshof**	**39.64**	**255**	P	**P**	**14 34 19.0**	**-1.4**
BOSA				pmax	pmax		
	comp=Z,57nm,1.6s						
BOSA	**Boshof**	**39.64**	**255**	P	**P**	**14 34 19.1**	**-1.4**
	comp=Z,18nm,1.3s,baz=149,slow=5.9,SNR=2.1						
BOSA				LR	LR	14 48 03.2	
	comp=Z,740nm,19.3s,baz=72,slow=32						
BOSA	**Boshof**	**39.64**	**255**	P	**P**	**14 34 19.0**	**-1.4**
BOSA				IAmb	IAmb	14 34 24.4	
	comp=Z,57nm,1.6s						
RPSI	**Rantau Prapat**	**39.73**	**50**	P	**P**	**14 34 21.7**	**+0.7**
PSI	**Prapat**	**39.80**	**49**	P	**P**	**14 34 21.7**	**-0.2**
PSI				pmax	pmax		
	comp=Z,19nm,1.2s						
PSI	**Prapat**	**39.80**	**49**	P	**P**	**14 34 24.1**	**+2.2**
	comp=Z,2.5nm,0.4s,baz=173,slow=7.5,SNR=6.5						
LSZ	**Lusaka**	**40.15**	**276**	P	**P**	**14 34 21.5**	**-3.3**
LSZ				pmax	pmax		
	comp=Z,49nm,1.8s						
LSZ	**Lusaka**	**40.15**	**276**	P	**P**	**14 34 21.4**	**-3.3**
LHMI	**Lhok Sumawe**	**40.30**	**45**	P	**P**	**14 34 27.2**	**+1.3**
LHMI				IAmb	IAmb	14 34 35.3	
	comp=Z,59nm,1.0s						
CISI	**Cisompet, Garu**	**40.36**	**71**	P	**P**	**14 34 26.2**	**-0.2**
GIRL	**Giralia**	**40.54**	**96**	P	**P**	**14 34 28.4**	**+0.5**
LEM	**Lembang**	**40.56**	**69**	P	**P**	**14 34 31.2**	**+2.9**
	comp=Z,18nm,0.8s,baz=169,slow=2.8,SNR=11						
LEM	**Lembang**	**40.56**	**69**	P	**P**	**14 34 29.4**	**+1.2**
MORW	**Morawa**	**41.08**	**106**	P	**P**	**14 34 32.8**	**+0.6**
MORW				IAmb	IAmb	14 34 40.5	
	comp=Z,68nm,1.5s						
DSRI	**Dabo**	**41.74**	**59**	P	**P**	**14 34 39.4**	**+1.7**
MAW	**Mawson**	**42.41**	**184**	LR	LR	14 48 41.8	
	comp=Z,334nm,19.2s,baz=22,slow=31						
IPM	**Ipoh**	**42.46**	**50**	P	**P**	**14 34 42.8**	**-0.8**
IPM				IAmb	IAmb	14 34 52.5	
	comp=Z,108nm,2.0s						

MYKOM **Kota Tinggi** 42.65 56 P **P** **14 34 45.2 +0.2**
SMRI **Semarang** 42.86 72 P **P** **14 34 46.7 -0.2**
HYB **Hyderabad** 43.43 12 *i* P **P** **14 34 52.0 +0.6**
NGJI **Ngawi** 43.58 73 P P 14 34 59.9 +7.2
MBAR **Mbarara** 45.04 297 P **P** **14 35 03.8 -0.8**
MBAR pmax pmax
comp=Z,9.0nm,0.3s
MBAR **Mbarara** 45.04 297 P **P** **14 35 03.8 -0.8**
MBAR IAmb IAmb 14 35 04.5
comp=Z,8.6nm,0.2s
JAGI **Jajag, Banyuwa** 45.41 76 P **P** **14 35 05.0 -2.3**
PSA00 **Pilbara Seismi** 45.85 96 P **P** **14 35 09.2 -1.6**
SRBI **Singaraja** 46.52 76 P **P** **14 35 16.3 +0.3**
SYO **Syowa Base** 47.16 194⇑ *eP* P 14 35 27.0 +6.6
KSM **Kuching** 47.44 62 P **P** **14 35 23.6 +0.4**
STKI **Sintang** 47.56 64 P **P** **14 35 24.4 +0.2**
CASY **Casey** 48.11 159 P **P** **14 35 27.8 0.0**
CASY IAmb IAmb 14 35 29.8
comp=Z,35nm,1.9s
PLAI **Plampang** 48.45 79 P P 14 35 37.5 +6.4
BSY **Bisya** 49.42 345 P **P** **14 35 39.7 +1.4**
BSY P **P** **14 35 39.7 +1.4**
SMDO **Samad** 49.52 346 P **P** **14 35 41.5 +2.3**
SMDO P **P** **14 35 41.5 +2.3**
WBSI **Waikabubak, Su** 49.53 81 P P 14 35 46.7 +7.2
SBUM **Sibu** 49.55 62 P **P** **14 35 39.6 +0.1**
SBUM IAmb IAmb 14 35 47.7
comp=Z,33nm,1.4s
WSAR **Wadi Sarin** 49.57 346 P **P** **14 35 42.1 +2.6**
UTHA **Uthaitani** 49.94 39 P P 14 35 49.8 +7.4
comp=Z,14μm,1.0s
UTHA **Uthaitani** 49.94 39 P P 14 35 49.8 +7.4
comp=Z,14μm,1.0s
PBKT **Sadao Pong** 51.62 39 P **P** **14 35 54.3 -0.7**
PBKT IAmb IAmb 14 36 02.5
comp=Z,25nm,1.0s
UOSS **Minazif** 51.77 344 P **P** **14 35 54.4 -1.6**
KAPI **Kappang** 51.93 76 P **P** **14 35 56.7 -0.8**
KAPI pmax pmax
comp=Z,27nm,1.1s
KAPI **Kappang** 51.93 76 P **P** **14 35 56.7 -0.8**
KAPI IAmb IAmb 14 36 04.0
comp=Z,27nm,1.1s
CM31 **Chiang Mai Arr** 52.03 36 P **P** **14 35 59.3 +1.2**
SNR=11
CM31 **Chiang Mai Arr** 52.03 36 P **P** **14 35 56.3 -1.8**
CM31 IAmb IAmb 14 36 05.4
comp=Z,34nm,1.1s
CMAR **Chiang Mai Arr** 52.03 36 *ceP* **P** **14 35 59.0 +0.9**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR **Chiang Mai Arr** 52.03 36 P **P** **14 35 58.0 0.0**
comp=Z,7.0nm,1.0s,baz=227,slow=7.1,SNR=36
CMAR LR LR 14 54 21.2
comp=Z,176nm,21.8s,baz=202,slow=32
CMAR **Chiang Mai Arr** 52.03 36 P **P** **14 35 57.0 -1.1**
FITZ **Fitzroy Crossi** 52.07 94 P **P** **14 35 57.1 -1.3**
comp=Z,13nm,1.0s,baz=251,slow=6.0,SNR=9.9
FITZ **Fitzroy Crossi** 52.07 94 P **P** **14 35 58.3 -0.2**
FITZ IAmb IAmb 14 36 06.1
comp=Z,51nm,1.1s
CHTO **Chiang Mai** 52.32 36 P **P** **14 36 00.5 +0.2**
CHTO pmax pmax
comp=Z,19nm,1.1s
CHTO **Chiang Mai** 52.32 36 P **P** **14 36 00.5 +0.2**
CMMT **Chiang Mai** 52.33 36 P **P** **14 36 01.4 +1.1**
comp=Z,9.5nm,1.1s
MMRI **Maumere** 52.50 81 P **P** **14 36 02.2 +0.4**
BNSI **Bone** 52.53 75 P **P** **14 36 01.8 -0.2**
TTSI **Tana Toraja** 52.94 74 P P 14 36 10.4 +5.4
BATI **Baumata** 53.13 84 P P 14 36 17.5 +11
SOEI **Soe** 53.85 83 P **P** **14 36 15.9 +4.0**
SOEI **Soe** 53.85 83 P **P** **14 36 11.8 -0.1**
RAYN **Ar Rayn** 54.05 332 P **P** **14 36 11.1 -1.9**
RAYN pmax pmax
comp=Z,22nm,1.4s
RAYN **Ar Rayn** 54.05 332 P **P** **14 36 11.1 -1.9**
RAYN IAmb IAmb 14 36 15.7
comp=Z,22nm,1.4s
NONG **Nongkai** 54.06 40 P P 14 36 19.8 +6.8
comp=Z,0.4nm,1.2s
KKM **Kota Kinabalu** 54.88 62 P **P** **14 36 19.1 -0.2**
KKM IAmb IAmb 14 36 26.7
comp=Z,36nm,1.1s
SHL **Shillong** 55.00 24 P **P** **14 36 21.4 +1.4**
SNR=7.6
SHL **Shillong** 55.00 24 P **P** **14 36 17.6 -2.4**
SHL pmax pmax
comp=Z,36nm,1.1s
SHL **Shillong** 55.00 24 P **P** **14 36 17.6 -2.4**
SHL IAmb IAmb 14 36 27.3
comp=Z,36nm,1.1s
APSI **Ampana** 55.58 72 P **P** **14 36 25.0 +0.7**
KNRA **Kununurra** 55.69 92 P **P** **14 36 22.8 -2.2**
LUWI **Luwuk** 56.49 73 P P 14 36 39.4 +8.7
LUWI **Luwuk** 56.49 73 P **P** **14 36 29.2 -1.6**
ASAR **Alice Springs** 57.83 103 P **P** **14 36 38.8 -1.5**
comp=Z,0.7nm,0.6s,baz=256,slow=6.0,SNR=12
ASAR PcP **PcP** **14 37 33.5 +0.8**
comp=Z,0.8nm,0.8s,baz=266,slow=2.8,SNR=2.9
ASAR LR LR 14 58 53.7
comp=Z,212nm,19.8s,baz=274,slow=33
ASAR **Alice Springs** 57.83 103 P **P** **14 36 38.6 -1.6**
AS31 **Alice Springs** 57.83 103 P **P** **14 36 39.8 -0.5**
LSA **Lhasa** 58.52 22 P **P** **14 36 44.9 -0.3**
LSA pmax pmax
comp=Z,21nm,1.3s
LSA **Lhasa** 58.52 22 P **P** **14 36 44.9 -0.3**
LSA IAmb IAmb 14 36 53.3
comp=Z,21nm,1.3s
SANI **Sanana** 58.80 76 P P 14 36 52.8 +5.8
NIL **Nilore** 58.84 3 P **P** **14 36 44.8 -2.1**
NIL pmax pmax
comp=Z,27nm,1.5s
NIL **Nilore** 58.84 3 P **P** **14 36 44.8 -2.1**
NIL IAmb IAmb 14 36 53.1
comp=Z,26nm,1.5s
MTN **Manton Dam** 58.85 90 P **P** **14 36 46.9 -0.4**
QIZ **Qiongzhong** 58.91 45 P **P** **14 36 47.8 +0.2**
QIZ S **S** **14 44 55.3 +2.7**
QIZ pmax pmax
comp=Z,15nm,2.0s
QIZ pmax pmax
comp=Z,290nm,3.2s
QIZ LR LR
comp=Z,460nm,20.1s
QIZ LR LR
comp=Z,390nm,20.6s
QIZ LR LR
comp=Z,370nm,21.6s
WRA **Warramunga Arr** 59.31 99 P **P** **14 36 49.5 -1.0**
WRA pmax pmax
comp=Z,3.0nm,1.4s
WRA **Warramunga Arr** 59.31 99 P **P** **14 36 50.1 -0.4**
comp=Z,13nm,1.2s,baz=252,slow=6.8,SNR=18
WRA LR LR 15 00 11.3
comp=Z,528nm,18.6s,baz=265,slow=34
WRA **Warramunga Arr** 59.31 99 P **P** **14 36 49.5 -1.0**
WB2 **Warramunga Arr** 59.32 99 P **P** **14 36 50.8 +0.2**
WRAB **Tennant Creek** 59.32 99 *ceP* **P** **14 36 50.2 -0.4**
WRAB pmax pmax
comp=Z,56nm,2.5s
WRAB **Tennant Creek** 59.32 99 P **P** **14 36 50.2 -0.4**
WC3 **Warramunga Arr** 59.33 99 P **P** **14 36 50.5 -0.2**
KMI **Kunming** 59.50 35 P **P** **14 36 52.3 +0.5**
KMI pP pP 14 36 58.5 +1.0
KMI sP pwP 14 37 01.0 -0.8
KMI S **S** **14 45 04.0 +3.5**
KMI sS sS 14 45 15.0 +5.0
KMI pmax pmax
comp=Z,21nm,1.5s
KMI pmax pmax
comp=Z,160nm,3.3s
KMI LR LR
comp=Z,320nm,21.0s
KMI LR LR
comp=Z,320nm,19.9s
KBL **Kabul** 59.64 359 P **P** **14 36 51.9 -0.7**
KBL pmax pmax
comp=Z,17nm,1.1s
KBL **Kabul** 59.64 359 P **P** **14 36 51.9 -0.7**
KBL IAmb IAmb 14 37 00.5
comp=Z,17nm,1.1s
HRA **Herat** 59.91 353 P **P** **14 36 52.8 -1.7**

SNAA **Sanae** 60.63 200 P **P** **14 37 01.0 +2.1**
SNAA **Sanae** 60.63 200 P **P** **14 36 59.4 +0.5**
SNAA pmax pmax
comp=Z,32nm,1.7s
SNAA **Sanae** 60.63 200 P **P** **14 36 60.0 +1.1**
comp=Z,3.8nm,1.0s,baz=78,slow=8.2,SNR=5.5
SNAA **Sanae** 60.63 200 P **P** **14 36 59.4 +0.5**
SNAA IAmb IAmb 14 37 08.2
comp=Z,32nm,1.7s
VNA2 **Neumayer--Watz** 62.02 201 P **P** **14 37 09.8 +1.6**
baz=81,slow=9.9
VNA1 **Neumayer--Stat** 62.29 202 P **P** **14 37 13.8 +3.8**
STKA **Stephens Creek** 62.31 114 P **P** **14 37 10.3 -0.5**
comp=Z,1.7nm,0.8s,baz=260,slow=6.1,SNR=3.9
STKA LR LR 15 00 16.0
comp=Z,345nm,21.0s,baz=229,slow=32
STKA **Stephens Creek** 62.31 114 IAmb IAmb 14 37 12.3
comp=Z,8.2nm,1.8s
GYA **Guiyang** 62.66 37 P **P** **14 37 13.5 +0.3**
GYA pP pP 14 37 19.8 +0.9
GYA PP **PP** **14 39 33.5 +2.1**
GYA S **S** **14 45 41.8 +1.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,510nm,18.4s
GYA LR LR
comp=Z,440nm,18.0s
GYA LR LR
comp=Z,480nm,18.8s
KCP **Kidapawan** 62.66 67⇓ *iP* **P** **14 37 13.9 +0.5**
CHGR **Chuyangaron** 63.75 359 P **P** **14 37 18.2 -1.9**
FAKI **Fak Fak** 63.94 80 P P 14 37 29.3 +7.4
comp=Z,42nm,1.1s,comp=Z,1μm
FAKI **Fak Fak** 63.94 80 P **P** **14 37 20.5 -1.4**
GEYT **Alibeck** 63.97 350 LR LR 15 02 24.3
comp=Z,132nm,20.1s,baz=30,slow=33
SWI **Sorong** 64.00 78 P **P** **14 37 23.8 +1.6**
GAR **Garm** 64.09 0 P **P** **14 37 20.6 -1.8**
GAR IAmb IAmb 14 37 28.7
comp=Z,24nm,1.2s
QSPA **South Pole Qui** 64.70 180 P **P** **14 37 26.5 +0.3**
comp=Z,3.9nm,0.8s,baz=260,slow=1.5,SNR=17
QSPA **South Pole Qui** 64.70 180 P **P** **14 37 24.9 -1.4**
QSPA IAmb IAmb 14 37 29.2
comp=Z,33nm,1.4s
CD2 **Chengdu** 64.76 32 P **P** **14 37 27.0 +0.1**
CD2 pmax pmax
comp=Z,20nm,0.9s
KSH **Kashi** 64.86 5 P **P** **14 37 25.8 -1.6**
KSH pP pP 14 37 30.8 -2.4
KSH PP **PP** **14 39 50.8 +0.2**
KSH PcS 14 41 58.8
KSH S **S** **14 46 02.3 -5.2**
KSH sS pS 14 46 09.5 -5.1
KSH ScS **SKSac** **14 47 15.0 -5.9**
KSH pmax pmax
comp=Z,88nm,1.6s
KSH pmax pmax
comp=Z,460nm,9.0s
KSH LR LR
comp=Z,360nm,11.4s
KSH LR LR
comp=Z,440nm,9.7s
KSH LR LR
comp=Z,260nm,10.2s
BTK **Batken** 65.15 1 P **P** **14 37 28.5 -0.7**
BTK pmax pmax
comp=Z,33nm,1.6s
BTK **Batken** 65.15 1 P **P** **14 37 28.5 -0.7**
BTK IAmb IAmb 14 37 36.7
comp=Z,33nm,1.6s
VNDA **Vanda** 65.81 166 P **P** **14 37 33.3 +0.3**
comp=Z,4.5nm,1.1s,baz=270,slow=24,SNR=9.7
MMAI **Mount Meron Ar** 66.71 329 P **P** **14 37 41.1 +1.7**
comp=Z,1.8nm,0.3s,baz=119,slow=5.1,SNR=4.2
NRN **Naryn** 66.77 5 P **P** **14 37 36.8 -3.1**
NRN pmax pmax
comp=Z,17nm,1.5s
NRN **Naryn** 66.77 5 P **P** **14 37 36.8 -3.1**
KDJ **Kajisay** 67.56 6 P **P** **14 37 42.6 -2.2**
KDJ pmax pmax
comp=Z,22nm,1.4s
KDJ **Kajisay** 67.56 6 P **P** **14 37 42.6 -2.2**
KDJ IAmb IAmb 14 37 52.3
comp=Z,22nm,1.4s
AAK **Ala-Archa** 67.86 4 P **P** **14 37 44.7 -1.9**
AAK pmax pmax
comp=Z,20nm,1.6s
AAK **Ala-Archa** 67.86 4 P **P** **14 37 44.6 -1.9**
AAK IAmb IAmb 14 37 48.9
comp=Z,20nm,1.6s
KK31 **Karatay Array** 68.19 1 P **P** **14 37 46.2 -2.3**
KK31 pmax pmax
comp=Z,21nm,1.3s
KK31 **Karatay Array** 68.19 1 P **P** **14 37 46.2 -2.3**
KK31 IAmb IAmb 14 37 56.5
comp=Z,21nm,1.2s
KKAR **Karatay Array** 68.19 1 P **P** **14 37 46.4 -2.1**
KKAR pmax pmax
comp=Z,21nm,1.3s
KKAR **Karatay Array** 68.19 1 P **P** **14 37 46.1 -2.4**
KKAR **Karatay Array** 68.19 1 P **P** **14 37 46.4 -2.1**
KKAR IAmb IAmb 14 37 56.4
comp=Z,21nm,1.2s
LZH **Lanzhou** 69.12 29 *eP* **P** **14 37 56.0 +1.4**
LZH pP sP 14 38 01.5 -0.9
LZH sP pwP 14 38 05.3 +0.8
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,59nm,4.9s
LZH LR LR
comp=Z,340nm,16.8s
LZH LR LR
comp=Z,350nm,16.7s
LZH LR LR
comp=Z,430nm,18.0s
GNI **Garni** 69.29 340⇑ *eP* **P** **14 37 54.4 -1.2**
GNI pmax pmax
comp=Z,47nm,1.0s
GNI **Garni** 69.29 340 P **P** **14 37 57.6 +2.1**
comp=Z,19nm,1.0s,baz=146,slow=11
GNI **Garni** 69.29 340 P **P** **14 37 54.2 -1.4**
XAN **Xi'an** 69.84 34 P **P** **14 37 59.0 0.0**
XAN pP sP 14 38 06.8 -0.1
XAN sP pwP 14 38 09.5 +0.6
XAN pmax pmax
comp=Z,13nm,1.2s
WHN **Wuhan** 70.12 40 P P 14 38 07.3 +6.6
GTA **Gaotai** 70.33 24 ⇑P **P** **14 38 01.8 -0.2**
GTA S **S** **14 47 16.0 +2.8**
GTA sS sS 14 47 23.8 +0.9
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA pmax pmax
comp=Z,140nm,7.3s
GTA LR LR
comp=Z,190nm,18.7s
GTA LR LR
comp=Z,180nm,18.4s
GTA LR LR
comp=Z,240nm,20.3s
WMQ **Urumqi** 70.84 14 P **P** **14 38 05.3 +0.4**
WMQ sP pwP 14 38 15.3 +0.4
WMQ pmax pmax
comp=Z,47nm,2.1s
WMQ pmax pmax
comp=Z,150nm,5.7s
WMQ LR LR
comp=Z,190nm,17.7s
WMQ LR LR
comp=Z,160nm,19.9s
GROC **Groznyy** 71.77 342 *eP* **P** **14 38 10.7 +0.3**
GROC *e* 14 38 28.4
GROC pmax pmax
comp=Z,74nm,1.2s
ZEI **Tsey** 71.95 340 *eP* **P** **14 38 10.8 -1.0**
ZEI pmax pmax
comp=Z,12nm,1.1s
NCK **Nalchik** 72.69 340⇑ *eP* **P** **14 38 15.3 -0.7**
NCK pmax pmax
comp=Z,9.0nm,0.8s

MKAR **Makanchi Array** 72.76 9 *i* P **P** **14 38 15.0 -1.4**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR **Makanchi Array** 72.76 9 P **P** **14 38 14.6 -1.7**
comp=Z,3.0nm,0.9s,baz=191,slow=5.6,SNR=11
MKAR LR LR 15 09 33.1
comp=Z,141nm,18.6s,baz=184,slow=35
MKAR **Makanchi Array** 72.76 9 P **P** **14 38 13.6 -2.8**
BRTR **Keskin Array B** 73.07 332 *i* P **P** **14 38 18.8 +0.3**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR **Keskin Array B** 73.07 332 P **P** **14 38 18.9 +0.4**
comp=Z,6.9nm,1.1s,baz=155,slow=4.1,SNR=16
BRTR LR LR 15 07 13.9
comp=Z,61nm,21.3s,baz=103,slow=33
BRTR **Keskin Array B** 73.07 332 P **P** **14 38 17.6 -0.9**
KBZ **Khabaz** 73.11 340 P **P** **14 38 19.1 +0.8**
comp=Z,5.0nm,1.0s,baz=156,slow=7.6,SNR=5.1
KBZ LR LR 15 08 24.9
comp=Z,59nm,18.6s,baz=155,slow=34
SHA1 **Shidzhatmaz** 73.20 340⇑ *eP* **P** **14 38 20.4 +1.2**
KIV **Kislovodsk** 73.38 340 *eP* **P** **14 38 21.4 +1.2**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,218nm,18.0s
NJ2 **Nanjing** 73.88 42 *eP* **P** **14 38 23.8 +0.6**
NJ2 pmax pmax
comp=Z,15nm,0.6s
GOF **Gofitskoye** 74.27 341⇑ *eP* P 14 38 30.9 +5.7
MANT **Manisa** 74.40 328 P **P** **14 38 24.3 -2.1**
PMG **Port Moresby** 74.66 93 *deP* **P** **14 38 29.3 +1.0**
PMG pmax pmax
comp=Z,60nm,1.4s
PMG **Port Moresby** 74.66 93 P **P** **14 38 28.3 +0.1**
comp=Z,5.6nm,0.9s,baz=276,slow=5.3,SNR=9.6
PMG LR LR 15 09 28.1
comp=Z,390nm,20.2s,baz=261,slow=34
PMG **Port Moresby** 74.66 93 P **P** **14 38 27.1 -1.2**
PMG IAmb IAmb 14 38 36.2
comp=Z,44nm,1.4s
ABKAR **Akbulak array** 74.86 353 P **P** **14 38 27.3 -1.2**
ABKAR **Akbulak array** 74.86 353 P **P** **14 38 27.8 -0.8**
ABKAR IAmb IAmb 14 38 36.0
comp=Z,18nm,1.0s
ANN **Anapa** 75.88 337 *eP* **P** **14 38 34.0 -0.5**
ANN pmax pmax
comp=Z,95nm,1.5s
KURK **Kurchatov** 76.20 6 P **P** **14 38 38.4 +2.2**
SNR=6.5
KURK **Kurchatov** 76.20 6 P **P** **14 38 35.0 -1.2**
KURK pmax pmax
comp=Z,26nm,1.3s
KURK **Kurchatov** 76.20 6 P **P** **14 38 35.0 -1.2**
KURK IAmb IAmb 14 38 43.1
comp=Z,26nm,1.3s
AKTO **Aktyubinsk** 76.24 352 P **P** **14 38 36.2 -0.2**
comp=Z,4.1nm,0.9s,baz=170,slow=4.7,SNR=7.9
HHC **Hu-ho-hao-te** 76.50 31 *eP* **P** **14 38 40.3 +2.0**
HHC pmax pmax
comp=Z,5.0nm,0.6s
TOA0 **Torodi Ar. Sit** 76.58 292 P **P** **14 38 40.8 +1.6**
SNR=6.0
TOA0 **Torodi Ar. Sit** 76.58 292 P **P** **14 38 39.0 -0.2**
TOA0 IAmb IAmb 14 38 42.3
comp=Z,25nm,1.3s
TORD **Torodi Ar. Bea** 76.58 292 P **P** **14 38 39.8 +0.6**
comp=Z,8.8nm,1.1s,baz=114,slow=5.2,SNR=22
TORD LR LR 15 11 06.3
comp=Z,175nm,20.0s,baz=345,slow=35
TORD **Torodi Ar. Bea** 76.58 292 P **P** **14 38 38.6 -0.6**
SIM **Simferopol'** 77.24 335 P P 14 38 49.2 +7.0
SIM pmax pmax
comp=Z,22nm,0.9s
BRVK **Borovoye** 78.15 0 P **P** **14 38 46.1 -1.0**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK **Borovoye** 78.15 0 P **P** **14 38 46.1 -1.0**
KIC **Kosan Boka** 78.89 283 *eP* **P** **14 38 52.0 -0.1**
comp=Z,87nm,1.5s
LIC **Lamto** 79.08 282 *eP* **P** **14 38 54.2 +1.0**
comp=Z,90nm,1.5s
DBIC **Dimbokro** 79.14 283 P **P** **14 38 53.1 -0.4**
DBIC pmax pmax
comp=Z,39nm,1.5s
DBIC **Dimbokro** 79.14 283 P **P** **14 38 53.4 -0.1**
comp=Z,9.3nm,1.0s,baz=121,slow=1.6,SNR=5.8
DBIC LR LR 15 12 23.8
comp=Z,212nm,18.0s,baz=104,slow=34
DBIC **Dimbokro** 79.14 283 P **P** **14 38 53.1 -0.4**
DBIC IAmb IAmb 14 38 57.1
comp=Z,39nm,1.4s
TIC **Toumodi** 79.27 283 *eP* **P** **14 38 52.4 -1.8**
CFR **Carcaliu** 79.86 331 ⇑P **P** **14 38 57.2 +0.5**
CFR **Carcaliu** 79.86 331 ⇑P **P** **14 38 57.1 +0.5**
SONM **Songino Array** 80.00 24 P **P** **14 38 57.9 +0.3**
comp=Z,6.6nm,1.2s,baz=207,slow=3.9,SNR=16
SONM LR LR 15 12 45.5
comp=Z,150nm,21.7s,baz=188,slow=34
SONM **Songino Array** 80.00 24 P **P** **14 38 55.7 -1.8**
ZAA0 **Zalesovo Array** 80.11 9 P **P** **14 38 56.3 -1.5**
ZALV **Zalesovo Beam** 80.11 9 P **P** **14 38 56.2 -1.5**
comp=Z,2.6nm,0.9s,baz=224,slow=4.1,SNR=9.3
ZALV LR LR 15 14 10.6
comp=Z,92nm,18.5s,baz=204,slow=36
ZALV **Zalesovo Beam** 80.11 9 P **P** **14 38 54.9 -2.9**
VTS **Vitosha** 80.16 327 P **P** **14 38 56.8 -1.7**
VTS pmax pmax
comp=Z,30nm,1.6s
VTS **Vitosha** 80.16 327 ⇑P **P** **14 38 58.1 -0.5**
VTS **Vitosha** 80.16 327 P **P** **14 38 56.8 -1.7**
VTS IAmb IAmb 14 39 01.1
comp=Z,30nm,1.6s
VRH **Novokhopyorsk** 80.21 343 *eP* **P** **14 38 58.1 -0.3**
VRH pmax pmax
comp=Z,20nm,0.9s
ULN **Ulaanbaatar** 80.27 24⇑ *eP* **P** **14 38 57.7 -1.3**
ULN pmax pmax
comp=Z,17nm,1.5s
VORD **Divnogorie** 80.69 341 *eP* **P** **14 39 01.9 +1.0**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VSR **Storozhevoye** 80.94 341⇑ *eP* **P** **14 39 01.3 -1.0**
VSR pmax pmax
comp=Z,15nm,1.1s
VRI **Vrincioaia** 81.02 331 ⇑P **P** **14 39 03.9 +1.0**
VRI **Vrincioaia** 81.02 331 ⇑P **P** **14 39 03.9 +1.0**
PLOR **Plostina** 81.04 331 ⇑P **P** **14 39 03.4 +0.4**
PLOR **Plostina** 81.04 331 ⇑P **P** **14 39 03.4 +0.4**
MLR **Muntele Rosu** 81.07 330 P **P** **14 39 01.8 -1.5**
MLR pmax pmax
comp=Z,47nm,1.3s
MLR **Muntele Rosu** 81.07 330 P **P** **14 39 03.0 -0.3**
comp=Z,20nm,1.2s,baz=275,slow=1.7,SNR=7.0
MLR **Muntele Rosu** 81.07 330 ⇑P **P** **14 39 04.0 +0.7**
MLR **Muntele Rosu** 81.07 330 P **P** **14 39 01.8 -1.5**
MLR IAmb IAmb 14 39 11.9
comp=Z,47nm,1.3s
KRVT **Keravat (AS076** 81.16 91 LR LR 15 15 13.3
comp=Z,115nm,19.3s,baz=232,slow=36
VOIR 81.43 330 ⇑P **P** **14 39 05.2 0.0**
VOIR 81.43 330 ⇑P **P** **14 39 05.2 0.0**
DOPR **Dopca** 81.69 330 ⇑P **P** **14 39 06.6 +0.2**
ARU **Arti** 82.09 354 *d iP* **P** **14 39 09.8 +1.6**
ARU 14 42 15.4
ARU S **S** **14 49 23.4 +2.0**
ARU pmax pmax
comp=Z,34nm,1.4s
ARU **Arti** 82.09 354 P **P** **14 39 08.2 0.0**
comp=Z,6.2nm,1.2s,baz=164,slow=4.7,SNR=10
ARU **Arti** 82.09 354 P **P** **14 39 07.8 -0.4**
LPSR **Galich'ya Gora** 82.24 342 *eP* **P** **14 39 09.7 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SVE **Sverdlovsk** 82.29 355 *eP* **P** **14 39 09.7 +0.4**
SVE pmax pmax
comp=Z,45nm,1.4s
GZR **Gura Zlata** 82.45 329 ⇑P **P** **14 39 11.0 +0.5**
GZR **Gura Zlata** 82.45 329 ⇑P **P** **14 39 11.0 +0.5**
KSAR **Wonju Array Be** 83.00 43 P **P** **14 39 12.0 -1.4**
KSAR **Wonju Array Be** 83.00 43 P **P** **14 39 12.0 -1.4**
BURAR **Bucovina Array** 83.03 331 ⇑P **P** **14 39 15.1 +1.5**
BURAR **Bucovina Array** 83.03 331 ⇑P **P** **14 39 15.1 +1.5**
BURAR **Bucovina Array** 83.03 331 P **P** **14 39 13.2 -0.3**
BZS **Buzias** 83.16 328 ⇑P **P** **14 39 15.0 +0.9**

BZS	Buzias	83.16 328	⇑P		P	14 39 15.0	+0.9
PMSA	Palmer Station	83.26 198	LR		LR	15 11 51.8	
	comp=Z,159nm,18.5s,baz=131,slow=32						
KEST	Kesra	83.42 315	P		P	14 39 18.1	+2.3
	comp=Z,10.0nm,1.1s,baz=248,slow=2.6,SNR=4.3						
KEST			LR		LR	15 14 56.5	
	comp=Z,131nm,20.3s,baz=120,slow=35						
KEST	Kesra	83.42 315	P		P	14 39 16.8	+1.0
AKASG	Malin Array Be	83.84 335	P		P	14 39 17.1	-0.4
	comp=Z,1.8nm,0.4s,baz=99,slow=5.9,SNR=14						
UZH	Uzhgorod	85.08 331	*e*P		P	14 39 23.7	-0.1
UZH			*e*			14 39 27.7	
OBN	Obninsk	85.12 342	⇑*e*P		P	14 39 24.6	+0.8
OBN			*i*			14 39 29.8	
OBN			pmax	pmax			
	comp=Z,16nm,1.3s						
LVV	L'vov	85.22 332	*e*P		P	14 39 23.9	-0.6
MOS	Moscow	85.37 342	*e*P		P	14 39 24.4	-0.6
KIRV	Kirov	85.40 349	P		P	14 39 25.4	+0.3
	comp=Z,12nm,1.0s,baz=234,slow=0.3,SNR=6.2						
CN2	Changchun	85.70 37	*e*P		P	14 39 25.8	-1.2
CN2			pmax	pmax			
	comp=Z,10.0nm,1.7s						
HNR	Honiara	86.15 99	LR		LR	15 16 47.2	
	comp=Z,149nm,18.2s,baz=240,slow=35						
LATE	Laterza	86.23 321	P		P	14 39 28.1	-1.7
VYHS	Vyhne	86.56 329	*e*P		P	14 39 31.8	+0.6
VYHS			pmax	pmax			
	comp=Z,35nm,1.5s						
VYHS	Vyhne	86.56 329	*e*P		P	14 39 31.8	+0.6
HIA	Hailar	86.64 30	⇓*e*P		P	14 39 30.2	-1.4
HIA			pmax	pmax			
	comp=Z,25nm,0.9s						
LANS	Liptovska Anna	86.73 330	*e*P		P	14 39 34.4	+2.3
LANS			pmax	pmax			
	comp=Z,9.0nm,1.2s						
LANS	Liptovska Anna	86.73 330	*e*P		P	14 39 34.4	+2.3
MODS	Modra-Piesok	87.21 328	*e*P		P	14 39 34.6	+0.2
MODS			pmax	pmax			
	comp=Z,83nm,2.1s						
MODS	Modra-Piesok	87.21 328	*e*P		P	14 39 34.6	+0.2
ARSA	Arzberg	87.30 326	PcP		P	14 39 35.8	+1.0
	comp=Z,16nm,1.4s						
JAVC	Velka Javorina	87.36 329	*e*P		P	14 39 37.1	+2.0
CONA	Conrad Observa	87.59 327	*i* P		P	14 39 36.8	+0.5
	comp=Z,24nm,1.5s						
MORC	Moravsky Berou	88.06 329	P		P	14 39 37.9	-0.6
MORC			pmax	pmax			
	comp=Z,21nm,1.4s						
MORC	Moravsky Berou	88.06 329	*e*P		P	14 39 39.8	+1.3
MORC	Moravsky Berou	88.06 329	P		P	14 39 37.9	-0.6
MORC			IAmb	IAmb		14 39 46.7	
	comp=Z,21nm,1.4s						
KRUC	Moravsky	88.11 328	*e*P		P	14 39 38.5	-0.1
VRAC	Vranov	88.19 328	P		P	14 39 39.9	+0.9
	comp=Z,1.7nm,0.5s,baz=84,slow=7.6,SNR=5.3						
VRAC	Vranov	88.19 328	*e*P		P	14 39 39.4	+0.4
MOA	Molln	88.33 326	*i* P		P	14 39 40.3	+0.5
	comp=Z,19nm,1.3s						
PRGR	Permogore	88.92 349	*e*P		P	14 39 40.4	-1.7
PRGR			pmax	pmax			
	comp=Z,12nm,0.7s						
MJAR	Matsushiro Arr	89.15 48	LR		LR	15 19 37.4	
	comp=Z,104nm,18.6s,baz=250,slow=36						
GERES	GERESS Array B	89.27 327	P		P	14 39 43.9	-0.4
	comp=Z,0.2nm,0.2s,baz=129,slow=3.6,SNR=5.4						
GERES	GERESS Array B	89.27 327	P		P	14 39 42.1	-2.2
WTTA	Wattenberg	89.30 325	PcP		P	14 39 46.8	+2.3
	comp=Z,14nm,1.1s						
KLMR	Klimovskoe	89.43 346	*e*P		P	14 39 44.8	+0.3
KLMR			*e*			14 43 16.4	
KLMR			pmax	pmax			
	comp=Z,74nm,1.5s						
KLMR	Klimovskoe	89.43 346	*e*P		P	14 39 44.9	+0.4
KLMR			AMP			14 39 47.6	
	comp=Z,74nm,1.5s						
KLMR			*e*PP		PP	14 43 16.4	+0.2
USRK	Ussuriysk Ar.	89.61 40	P		P	14 39 52.2	+6.4
	comp=Z,2.9nm,0.9s,baz=229,slow=8.8,SNR=4.1						
USRK			LR		LR	15 19 31.3	
	comp=Z,103nm,19.0s,baz=212,slow=35						
DAVOX	Davos/Dischmat	89.92 324	P		P	14 39 47.7	+0.2
	comp=Z,1.5nm,0.4s,baz=82,slow=21,SNR=4.3						
DAVA	Damuels	90.24 324	*i* PcP		P	14 39 51.2	+2.3
	comp=Z,14nm,1.2s						
BRG	Berggiesshubel	90.50 328	*e*P		P	14 39 52.5	+2.7
	comp=Z,15nm,1.8s						
BRG	Berggiesshubel	90.50 328	*e*P		P	14 39 52.5	+2.7
BRG			pmax	pmax			
	comp=Z,15nm,1.8s						
MDT	Midelt	91.46 306	P		P	14 39 56.2	+1.3
	comp=Z,3.4nm,1.0s,baz=356,slow=9.5,SNR=5.3						
ESDC	Sonseca Array	94.38 312	LR		LR	15 21 55.2	
	comp=Z,72nm,20.0s,baz=295,slow=35						
ARCES	ARCESS Array B	99.91 346	LR		LR	15 25 03.2	
	comp=Z,81nm,19.6s,baz=162,slow=35						
ILAR	Eielson Array	134.15 21	PKP		PKPdf	14 46 05.4	+0.3
	comp=Z,0.3nm,0.9s,baz=27,slow=2.2,SNR=2.8						
PCA	Pinnacle	139.61 23	PKPpre		PKPpre	14 46 08.5	
PCA			PKPdf		PKPdf	14 46 13.8	-1.7
YKA	Yellowknife Ar	142.82 3	PKIKP		PKPdf	14 46 21.1	0.0
YKA	Yellowknife Ar	142.82 3	PKP		PKiKP	14 46 24.8	+0.6
	comp=Z,0.8nm,0.8s,baz=334,slow=1.7,SNR=4.0						
YKA	Yellowknife Ar	142.82 3			PKPdf	14 46 21.1	0.0
J61A	Chester	144.52 310	P		PKiKP	14 46 26.5	-1.8
	baz=72						
FRNY	Flat Rock	144.73 313			PKPab	14 46 23.7	-0.1
H59A	Cadyville	144.87 312	P		PKPdf	14 46 25.5	+0.2
	baz=69						
I60A	Shoreham	144.87 311	P		PKPdf	14 46 25.4	+0.1
	baz=70						
G58A	Ormstown	144.92 313	P		PKPdf	14 46 25.6	+0.3
	baz=68						
E56A	St. Veronique	145.00 316	P		PKPdf	14 46 25.0	-0.4
	baz=65						
LSQQ	Lebel-sur-Quev	145.00 321	P		PKPdf	14 46 25.1	-0.2
	baz=60						
MATQ	Matagami	145.01 322	P		PKPdf	14 46 25.1	-0.2
	baz=58						
D55A	Sainte-Anne-du	145.07 317	P		PKPdf	14 46 25.4	-0.1
	baz=64						
I59A	Olmsteadville	145.28 311	P		PKPdf	14 46 26.4	+0.4
	baz=70						
D54A	Lac Fusel, La	145.74 318	P		PKPab	14 46 28.4	+0.9
	baz=62						
H57A	Richville	146.06 313	P		PKPab	14 46 29.6	+0.9
	baz=68						
H56A	Elgin	146.59 314	P		PKPab	14 46 31.2	+0.4
	baz=66						
FFC	Flin Flon	150.11 350	PKIKP		PKPbc	14 46 37.7	-0.9
FFC	Flin Flon	150.11 350			PKPbc	14 46 37.6	-0.9
S57A	Dark Hollow, R	150.82 303	PKPbc		PKPdf	14 46 38.0	+2.7
PDAR	Pinedale Array	162.69 358	PKP		PKPdf	14 46 49.9	-0.7
	comp=Z,0.6nm,0.3s,baz=52,slow=5.9,SNR=2.5						
O20A	White River Ci	165.24 354			PKPab	14 47 50.9	+0.7
NVAR	Mina Array Bea	165.34 26	PKP		PKPdf	14 46 53.7	+0.5
	comp=Z,0.1nm,0.3s,baz=252,slow=4.4,SNR=2.9						
NVAR			PKPab		PKPab	14 47 51.1	+0.3
	comp=Z,0.1nm,0.3s,baz=328,slow=3.2,SNR=2.4						
NVAR	Mina Array Bea	165.34 26			PKPdf	14 46 51.8	-1.3
PV22	Blue Mesa, Par	166.87 355			PKPab	14 47 57.5	0.0
PV12	Saucer Basin,	167.09 355	PKPdf		PKPdf	14 46 52.2	-2.3
S22A	4UR Ranch, Cre	167.39 348			PKPab	14 47 59.7	-0.1
MNTX	Cornudas Mount	172.45 327			PKPdf	14 46 56.8	-0.8
TXAR	Lajitas Array	173.01 305	PKP		PKPdf	14 46 59.4	+1.4
	comp=Z,0.6nm,1.1s,baz=193,slow=3.5,SNR=3.6						
TXAR			PKPab		PKPab	14 48 25.7	+0.7
	comp=Z,0.1nm,0.4s,baz=10,slow=5.5,SNR=3.2						
TXAR			PP		PP	14 52 23.2	+6.6
	comp=Z,1.0nm,1.1s,baz=86,slow=5.5,SNR=2.6						

*IDC **27** 15:44:16.6±1.5, 1°.58N×126°.96E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/31, mbtmp3.7/4, Error ellipse: s-maj=139.3km s-min=21.3km az=69.0*
*NEIC **27** 15:44:24.7±0.8, 1°.4N±0°.2×126°.8E±0°.2, h70km±13km, mb4.4/7*
*ISCJB **27** 15:44:26.2±0.8, 1°.5N±0°.1×126°.9E±0°.3, h100km, mb3.6/4, Error ellipse: s-maj=40.6km s-min=13.7km az=158.9*
ISC 27 15:44:27.2±1.0, 1°.3N±0°.2×127°.0E±0°.3, h100km, n13, σ1°91/13, mb4.2/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.69	143	Pn		Pn	Pn	15 44 41.1	-3.5
WB0	Warramunga Arr	22.20	161	P		P	P	15 49 16.7	+1.1
WB0				IAmb		IAmb	IAmb	15 50 11.8	
	comp=Z,26nm,1.8s								
WRA	Warramunga Arr	22.35	161	P		P	P	15 49 18.1	+1.0
	comp=Z,1.5nm,0.5s,baz=341,slow=10,SNR=6.9								
WRA	Warramunga Arr	22.35	161	P		P	P	15 49 17.6	+0.5
WB2	Warramunga Arr	22.35	161	P		P	P	15 49 18.3	+1.2
WB2				IAmb		IAmb	IAmb	15 49 42.4	
	comp=Z,27nm,1.5s								
WR0	Warramunga Arr	22.43	161	P		P	P	15 49 19.3	+1.4
WR0				IAmb		IAmb	IAmb	15 50 04.4	
	comp=Z,33nm,1.9s								
AS31	Alice Springs	25.75	165	P		P	P	15 49 49.7	+1.0
ASAR	Alice Springs	25.75	165	P		P	P	15 49 51.6	+2.9
	comp=Z,0.4nm,0.4s,baz=348,slow=14,SNR=13								
ASAR	Alice Springs	25.75	165	P		P	P	15 49 51.0	+2.3
HNR	Honiara	34.56	109	P		P	P	15 51 08.2	+1.6
SONM	Songino Array	49.63	342	P		P	P	15 53 08.8	+1.0
	comp=Z,0.3nm,0.5s,baz=172,slow=5.4,SNR=1.8								
MKAR	Makanchi Array	59.65	326	P		P	P	15 54 21.0	0.0
	comp=Z,1.3nm,0.6s,baz=120,slow=9.4,SNR=9.8								
MKAR	Makanchi Array	59.65	326	P		P	P	15 54 20.4	-0.6

*IDC **27** 15:46:45.9±1.2, 19°.31N×64°.86W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/37, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=28.7km s-min=21.9km az=159.0*
*NEIC **27** 15:46:46.8±0.9, 19°.42N±0°.06×64°.87W±0°.04, h12km±7km*
*ISCJB **27** 15:46:47.4±0.9, 19°.46N±0°.04×64°.90W±0°.03, h23km±7km, mb3.5/3, Error ellipse: s-maj=6.8km s-min=5.5km az=9.7*
*RSPR **27** 15:46:48.7, 19°.42N×64°.80W, h72km±5km, MD3.5/19*
ISC 27 15:46:47.7±1.8, 19°.38N±0°.06×64°.88W±0°.04, h12km±10km, n70, σ0°50/94, mb3.5/3, 35C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.82	141	⇑*e*P		Pn		15 47 04.3	-0.8
ABV	Anegada	0.82	141	⇓*e*P		Pn		15 47 04.3	-0.8
ABV				*e*S		Sn		15 47 17.3	+0.1
ABVI	Anegada Island	0.82	141			Pn		15 47 04.3	-0.8
ABVI						Sn		15 47 17.3	+0.1
TBVI	Tortola	0.98	165	⇑*e*P		Pg		15 47 06.7	-0.1
TBVI	Tortola	0.98	165	⇓*e*P		Pg		15 47 06.7	-0.1
TBVI				*e*S		Sn		15 47 21.1	-0.1
TBVI	Tortola	0.98	165			Pg		15 47 06.7	-0.1
TBVI						Sn		15 47 21.1	-0.1
STVI	Saint Thomas	1.02	184	⇑*e*P		Pb		15 47 07.0	-0.4
STVI	Saint Thomas	1.02	184	⇓*e*P		Pb		15 47 07.2	-0.1
STVI	Saint Thomas	1.02	184	⇑*e*P		Pb		15 47 07.0	-0.4
STVI				*e*S		Sn		15 47 21.9	-0.2
STVI	Saint Thomas	1.02	184			Pb		15 47 07.2	-0.1
STVI						Sn		15 47 21.9	-0.2
CUPR	Culebra, Puert	1.13	200	*e*S		Sg		15 47 24.6	+0.4
CUPR	Culebra, Puert	1.13	200	⇑*e*P		Pb		15 47 08.7	-0.5
CUPR	Culebra, Puert	1.13	200			Pb		15 47 08.7	-0.5
CUPR						Sg		15 47 24.6	+0.4
MTP	Monte Pirata	1.42	207	⇑*e*P		Pn		15 47 13.5	+0.1
MTP	Monte Pirata	1.42	207	⇓*e*P		Pn		15 47 13.5	+0.1
MTP				*e*S		Sb		15 47 32.5	+0.1
MTP	Monte Pirata	1.42	207			Pn		15 47 13.5	+0.1
MTP						Sb		15 47 32.5	+0.1
CBYP	Canovanas	1.44	220	⇑*e*P		Pn		15 47 12.9	-0.7
CBYP	Canovanas	1.44	220	⇓*e*P		Pn		15 47 13.0	-0.7
CBYP	Canovanas	1.44	220	⇑*e*P		Pn		15 47 12.9	-0.7
CBYP				*e*S		Sn		15 47 32.1	-0.3
CBYP	Canovanas	1.44	220			Pn		15 47 13.0	-0.7
CBYP						Sn		15 47 32.1	-0.3
HUMP	Col San Antoni	1.54	217	⇑*e*P		Pn		15 47 14.5	-0.5
HUMP	Col San Antoni	1.54	217	⇓*e*P		Pn		15 47 14.5	-0.5
HUMP	Col San Antoni	1.54	217	⇑*e*P		Pn		15 47 14.5	-0.5
HUMP				*e*S		Sn		15 47 34.8	0.0
HUMP	Col San Antoni	1.54	217			Pn		15 47 14.5	-0.5
HUMP						Sn		15 47 34.8	0.0
GCPR	Guaynabo City	1.56	227			Pn		15 47 14.0	-1.2
PDPR	Patillas Dam,	1.73	219	⇑*e*P		Pn		15 47 17.2	-0.4
PDPR	Patillas Dam,	1.73	219			Pn		15 47 17.2	-0.4
SJG	San Juan	1.74	224	Pn		Pn		15 47 17.2	-0.6
	27nm,0.3s,baz=60,slow=10,SNR=28								
SJG					Sn		Sn	15 47 38.5	-1.4
	74nm,0.3s,baz=102,slow=5.4,SNR=10								
SJG	San Juan	1.74	224			Pn		15 47 17.0	-0.8
EMPR	Esperanza - Ma	1.80	241	⇑*e*P		Pn		15 47 18.6	0.0
EMPR	Esperanza - Ma	1.80	241	*e*S		Sn		15 47 41.1	-0.3
EMPR	Esperanza - Ma	1.80	241			Pn		15 47 18.6	0.0
EMPR						Sn		15 47 41.1	-0.3
IGPR	InterUniversit	1.82	220	⇓*e*P		Pn		15 47 18.7	-0.2
IGPR	InterUniversit	1.82	220	⇑*e*P		Pn		15 47 18.7	-0.2
IGPR	InterUniversit	1.82	220	*e*S		Sn		15 47 42.2	+0.3
IGPR	InterUniversit	1.82	220			Pn		15 47 18.7	-0.2
AOPR	Arecibo Observ	2.05	240	⇑*e*P		Pn		15 47 21.6	-0.4
AOPR	Arecibo Observ	2.05	240	⇓*e*P		Pn		15 47 21.6	-0.4
AOPR				*e*S		Sn		15 47 47.1	-0.5
AOPR	Arecibo Observ	2.05	240			Pn		15 47 21.6	-0.4
AOPR						Sn		15 47 47.1	-0.5
CELP	Cerrillos	2.07	232	⇑*e*P		Pn		15 47 22.0	-0.3
CELP	Cerrillos	2.07	232	⇓*e*P		Pn		15 47 22.0	-0.3
CELP	Cerrillos	2.07	232			Pn		15 47 22.0	-0.3
OBIP	Obispado Ponce	2.11	231	⇑*e*P		Pn		15 47 22.7	-0.1
OBIP	Obispado Ponce	2.11	231	⇓*e*P		Pn		15 47 22.7	-0.1
OBIP				*e*S		Sn		15 47 49.0	0.0
OBIP	Obispado Ponce	2.11	231			Pn		15 47 22.7	-0.1
OBIP						Sn		15 47 49.0	0.0
AGPR	Aguadilla, PR	2.30	247	⇑*e*P		Pn		15 47 24.6	-0.8
AGPR	Aguadilla, PR	2.30	247	⇓*e*P		Pn		15 47 24.6	-0.8
AGPR				*e*S		Sn		15 47 54.2	+0.5
AGPR	Aguadilla, PR	2.30	247			Pn		15 47 24.6	-0.8
AGPR						Sn		15 47 54.2	+0.5
GBPR	Guanica, Bosqu	2.35	234	⇑*e*P		Pn		15 47 26.4	+0.2
GBPR	Guanica, Bosqu	2.35	234	⇓*e*P		Pn		15 47 26.4	+0.2
GBPR	Guanica, Bosqu	2.35	234			Pn		15 47 26.4	+0.2
LSP	Las Mesas	2.41	241	⇑*e*P		Pn		15 47 26.6	-0.4
LSP	Las Mesas	2.41	241	⇓*e*P		Pn		15 47 26.6	-0.4
LSP	Las Mesas	2.41	241			Pn		15 47 26.6	-0.4
MPR	Mayaguez	2.44	242			Pn		15 47 26.7	-0.6
MLPR	Magueyes Islan	2.49	236	⇑*e*P		Pn		15 47 28.1	0.0
MLPR	Magueyes Islan	2.49	236	*e*S		Sn		15 47 57.6	-0.7
MLPR	Magueyes Islan	2.49	236			Pn		15 47 28.1	0.0
MLPR						Sn		15 47 57.6	-0.7
CRPR	Cabo Rojo, PR	2.52	238	⇑*e*P		Pn		15 47 28.4	0.0
CRPR	Cabo Rojo, PR	2.52	238	⇓*e*P		Pn		15 47 28.4	0.0
CRPR				*e*S		Sn		15 47 58.9	-0.2
CRPR	Cabo Rojo, PR	2.52	238			Pn		15 47 28.4	0.0
CRPR						Sn		15 47 58.9	-0.2
IDE	Isla Desecheo	2.65	249	⇑*e*P		Pn		15 47 29.5	-0.8
IDE	Isla Desecheo	2.65	249	⇓*e*P		Pn		15 47 29.5	-0.8
IDE	Isla Desecheo	2.65	249			Pn		15 47 29.5	-0.8
DR12	Loma Pena Alta	4.30	263			Pn		15 47 51.9	-1.1
SDDR	Presa de Saban	6.07	267			Pn		15 48 17.4	0.0
MDP	Montagnes des	18.53	138	P		Pn		15 51 05.1	+0.6
	0.3nm,0.3s,baz=12,slow=9.3,SNR=2.5								
TXAR	Lajitas Array	36.56	293	P		P		15 53 54.1	+0.4
	0.4nm,0.6s,baz=103,slow=9.1,SNR=6.2								
TORD	Torodi Ar. Bea	63.88	85	P		P		15 57 20.2	-0.6
	0.6nm,0.8s,baz=275,slow=7.1,SNR=2.9								
ILAR	Eielson Array	69.25	333	P		P		15 57 55.4	+1.0
	0.2nm,0.6s,baz=102,slow=4.8,SNR=2.2								

IDC 27 15:54:06.5±3.0, 10°.86S×118°.73E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/44, mbtmp3.3/4, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/29, Error ellipse: s-maj=227.6km s-min=26.1km az=50.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.82	138	Pn		Pn		15 56 27.8	-1.3
	0.4nm,0.3s,baz=329,slow=10,SNR=15								
FITZ					Sn		Sn	15 58 10.3	-10
	0.6nm,0.3s,baz=187,slow=15,SNR=7.8								
WRA	Warramunga Arr	17.53	123	P		Pn		15 58 11.8	-0.8
	0.1nm,0.3s,baz=297,slow=13,SNR=5.2								
WRA				S			Sn	16 01 13.4	-15
	0.0nm,0.3s,baz=298,slow=30,SNR=2.6								
ASAR	Alice Springs	19.26	133	P		Pn		15 58 34.4	+0.6
	0.1nm,0.3s,baz=308,slow=12,SNR=10								
ASAR				S			Sn	16 01 58.9	-12
	0.1nm,0.3s,baz=309,slow=22,SNR=4.3								
DZM	Mont Dzumac	46.92	110	LR		LR		16 22 55.9	
	comp=Z,17nm,19.0s,baz=186,slow=37								
MKAR	Makanchi Array	65.99	333	P		P		16 04 54.7	-0.1
	0.3nm,0.5s,baz=154,slow=6.4,SNR=4.6								

*ISCJB **27** 15:55:56.6±0.7, 18°.63N±0°.10×145°.6E±0°.2, h400km, mb3.1/7, Error ellipse: s-maj=21.8km s-min=12.4km az=12.1*
*IDC **27** 15:55:58.3±22.0, 18°.58N×145°.64E, h394km±259km, mb2.9/7, mb1 3.0/7, mb1mx2.8/55, mbtmp3.6/7, Error ellipse: s-maj=44.6km s-min=22.3km az=70.0*
*NEIC **27** 15:56:00.6±2.5, 18°.64N±0°.09×145°.6E±0°.2, h430km±13km, mb4.3/7*
ISC 27 15:55:57.6±0.9, 18°.6N±0°.1×145°.7E±0°.2, h400km, n16, σ1°37/16, mb3.2/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	34.66	230	P		P		16 02 09.8	-1.8
ENH	Enshi	34.80	297	P		P		16 02 11.3	-1.4
ENH				IAmb		IAmb	IAmb	16 03 21.8	
	comp=Z,25nm,1.7s								
WB2	Warramunga Arr	39.85	197	P		P		16 02 56.0	+1.5
WB2				IAmb		IAmb	IAmb	16 03 35.3	
	comp=Z,27nm,1.6s								
WRA	Warramunga Arr	39.85	197	P		P		16 02 55.8	+1.2
	comp=Z,0.3nm,0.4s,baz=21,slow=8.1,SNR=4.5								
FITZ	Fitzroy Crossi	41.41	209	P		P		16 03 08.0	+0.8
	comp=Z,1.7nm,0.8s,baz=13,slow=7.8,SNR=10								
FITZ	Fitzroy Crossi	41.41	209	P		P		16 03 07.8	+0.6
FITZ				IAmb		IAmb	IAmb	16 03 42.4	
	comp=Z,11nm,1.3s								
SONM	Songino Array	43.23	321	P		P		16 03 22.3	+0.9
	comp=Z,0.6nm,0.4s,baz=139,slow=9.0,SNR=4.7								
SONM	Songino Array	43.23	321	P		P		16 03 22.2	+0.8
ASAR	Alice Springs	43.52	196	P		P		16 03 25.2	+1.3
	comp=Z,0.4nm,0.5s,baz=20,slow=6.4,SNR=10								
ASAR	Alice Springs	43.52	196	P		P		16 03 24.7	+0.9
KIWB	Kanaga Island	44.19	33	P		P		16 03 28.6	-0.2
ZALV	Zalesovo Beam	58.10	323	P		P		16 05 12.2	+1.5
	comp=Z,0.3nm,0.3s,baz=118,slow=12,SNR=3.4								
ZALV	Zalesovo Beam	58.10	323	P		P		16 05 11.6	+0.9
MKAR	Makanchi Array	58.53	314	P		P		16 05 14.5	+0.6
	comp=Z,0.3nm,0.5s,baz=96,slow=6.4,SNR=4.4								
ILAR	Eielson Array	63.78	26	P		P		16 05 49.4	+1.2
	comp=Z,0.3nm,0.6s,baz=254,slow=5.5,SNR=6.8								
ELK	Elko	84.73	49	P		P		16 07 46.1	-2.4

IDC 27 16:20:18.0±8.5, 8°.00S×116°.23E, h296km±70km, mb3.0/3, mb1 3.2/4, mb1mx2.8/34, mbtmp3.7/4, Error ellipse: s-maj=147.4km s-min=77.3km az=18.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.66	107	P		Pn		16 22 07.3	-0.2
	2.3nm,0.3s,baz=290,slow=12,SNR=7.6								
BATI				S			S	16 23 37.4	+1.3
	2.7nm,0.3s,baz=115,slow=19,SNR=4.3								
WRA	Warramunga Arr	21.18	126	P		P		16 24 40.2	-0.8
	0.9nm,0.3s,baz=299,slow=11,SNR=19								
ASAR	Alice Springs	23.01	135	P		P		16 24 58.0	+0.2
	0.4nm,0.6s,baz=311,slow=9.4,SNR=22								
STKA	Stephens Creek	33.48	139	P		P		16 26 30.9	+0.7
	0.5nm,0.4s,baz=322,slow=12,SNR=4.4								

*ISCJB **27** 16:21:49.7±0.4, 16°.80S±0°.03×69°.46W±0°.05, h192km±4km, mb4.3/5, Error ellipse: s-maj=8.4km s-min=4.9km az=17.4*
*NEIC **27** 16:21:50.8±1.8, 16°.78S±0°.07×69°.3W±0°.1, h194km±6km, mb4.6/9*
*VAO **27** 16:21:52.4±1.0, 16°.72S×69°.30W, h186km±5km, mb4.2*
*IDC **27** 16:21:52.2±1.0, 16°.84S×69°.11W, h192km±5km, mb4.0/6, mb1 4.0/9, mb1mx3.5/42, mbtmp4.5/9, MS3.3/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=24.4km s-min=10.8km az=106.0*
*GUC **27** 16:21:53.1±0.6, 17°.25S×68°.45W, h180km±6km, ML3.9*
ISC 27 16:21:50.3±0.7, 16°.85S±0°.04×69°.41W±0°.07, h191km±6km, n102, σ1°70/119, mb4.4/7, 4D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.35	66	⇓*i* P

ARAG	**Araguaiana, MT**	**16.94**	**89**	*eP*	**Pn**	**16 25 37.0**	**+0.6**
PCMB	**Pacaembu**	**17.78**	**108**	*eP*	**Pn**	**16 25 46.8**	**+0.5**
PCMB	**Pacaembu**	**17.78**	**108**	*eP*	**Pn**	**16 25 46.8**	**+0.5**
PTGB	**Pitanga**	**18.00**	**119**	*eP*	**Pn**	**16 25 49.7**	**+0.7**
PTGB	**Pitanga**	**18.00**	**119**	*eP*	**Pn**	**16 25 49.7**	**+0.7**
ITRB	**Iturama**	**18.31**	**102**	*eP*	**Pn**	**16 25 51.8**	**-0.9**
ITRB	**Iturama**	**18.31**	**102**	*eP*	**Pn**	**16 25 51.8**	**-0.9**
ITAB	**Concordia**	**19.04**	**126**	*eP*	**Pn**	**16 26 00.6**	**-0.5**
ITAB	**Concordia**	**19.04**	**126**	*eP*	**Pn**	**16 26 00.6**	**-0.5**
FRTB	**Fartura**	**19.72**	**112**	*eP*	**P**	**16 26 06.1**	**+0.7**
FRTB	**Fartura**	**19.72**	**112**	*eP*	**P**	**16 26 06.1**	**+0.7**
CPSB	**Cacapava Do Su**	**19.87**	**136**	*eP*	**Pn**	**16 26 10.0**	**-1.0**
CPSB	**Cacapava Do Su**	**19.87**	**136**	*eP*	**Pn**	**16 26 10.0**	**-1.0**
BB19B	**Bebedouro**	**20.19**	**105**	*eP*	**P**	**16 26 11.8**	**+1.3**
BB19B	**Bebedouro**	**20.19**	**105**	*eP*	**P**	**16 26 11.8**	**+1.3**
IPMB	**Ipameri, GO**	**20.26**	**96**	*eP*	**P**	**16 26 11.6**	**+0.3**
IPMB	**Ipameri, GO**	**20.26**	**96**	*eP*	**P**	**16 26 11.6**	**+0.3**
BDFB	**Brasilia**	**20.58**	**90**	P	**P**	**16 26 15.2**	**+0.4**
	comp=E,7.2nm,0.6s,baz=254,slow=12,SNR=7.7						
BDFB	**Brasilia**	**20.58**	**90**	P	**P**	**16 26 14.6**	**-0.2**
PEXB	**Peixe**	**20.97**	**80**	*eP*	**P**	**16 26 18.9**	**0.0**
PEXB	**Peixe**	**20.97**	**80**	*eP*	**P**	**16 26 18.9**	**0.0**
RCLB	**Rio Claro- Sao**	**21.33**	**109**	*eP*	**P**	**16 26 23.8**	**+1.1**
RCLB	**Rio Claro- Sao**	**21.33**	**109**	*eP*	**P**	**16 26 23.8**	**+1.1**
SPB	**Sao Paulo**	**21.67**	**112**	*eP*	**P**	**16 26 28.5**	**+2.4**
SPB	**Sao Paulo**	**21.67**	**112**	*eP*	**P**	**16 26 28.5**	**+2.4**
PMNB	**Patos De Minas**	**21.95**	**98**	*eP*	**P**	**16 26 29.3**	**+0.3**
PMNB	**Patos De Minas**	**21.95**	**98**	*eP*	**P**	**16 26 29.3**	**+0.3**
VAO	**Valinhos**	**21.96**	**110**	*eP*	**P**	**16 26 30.9**	**+1.8**
VAO	**Valinhos**	**21.96**	**110**	*eP*	**P**	**16 26 30.9**	**+1.8**
TRQA	**Tornquist**	**22.11**	**164**	P	**P**	**16 26 27.9**	**-2.4**
TRQA				IAmb	IAmb	16 27 21.9	
	comp=Z,54nm,1.9s						
GO06	**Curarrehue**	**22.72**	**184**	P	**P**	**16 26 38.7**	**+2.7**
PLCA	**Paso Flores**	**23.82**	**182**	P	**P**	**16 26 48.9**	**+2.9**
	comp=Z,8.3nm,0.8s,baz=23,slow=12,SNR=19						
PLCA	**Paso Flores**	**23.82**	**182**	*eP*	**P**	**16 26 49.8**	**+3.9**
PLCA	**Paso Flores**	**23.82**	**182**	*eP*	**P**	**16 26 49.8**	**+3.9**
PLCA	**Paso Flores**	**23.82**	**182**	P	**P**	**16 26 49.2**	**+3.3**
PLCA				IAmb	IAmb	16 26 51.7	
	comp=Z,7.7nm,0.8s						
VAS01	**Vassouras-RJ**	**25.04**	**107**	*eP*	**P**	**16 26 59.7**	**+2.5**
VAS01	**Vassouras-RJ**	**25.04**	**107**	*eP*	**P**	**16 26 59.7**	**+2.5**
BSFB	**Barra de Sao F**	**27.25**	**98**	*eP*	**P**	**16 27 19.0**	**+2.0**
BSFB	**Barra de Sao F**	**27.25**	**98**	*eP*	**P**	**16 27 19.0**	**+2.0**
PLCV	**Puerto La Cruz**	**27.26**	**10**	P	**P**	**16 27 18.0**	**+0.9**
PCRV	**Puerto La Cruz**	**27.27**	**10**	P	**P**	**16 27 18.0**	**+0.9**
	comp=Z,21nm,1.0s,baz=252,slow=3.1,SNR=2.6						
MDP	**Montagnes des**	**27.40**	**39**	P	**P**	**16 27 18.1**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=216,slow=5.5,SNR=5.3						
MCLT	**Moule a Chique**	**31.50**	**16**	P	**P**	**16 27 55.2**	**+0.8**
ACON	**Acoyapa**	**32.60**	**330**	P	**P**	**16 28 04.1**	**0.0**
ACON				IAmb	IAmb	16 28 25.5	
	comp=Z,16nm,1.1s						
NBLI	**Livramento-PB**	**33.06**	**77**	*eP*	**P**	**16 28 10.1**	**+1.8**
NBLI	**Livramento-PB**	**33.06**	**77**	*eP*	**P**	**16 28 10.1**	**+1.8**
MTP	**Monte Pirata**	**34.94**	**6**	P	**P**	**16 28 24.5**	**+0.3**
BANI	**BANI**	**35.03**	**358**	P	**P**	**16 28 25.2**	**+0.1**
DBIC	**Dimbokro**	**67.95**	**75**	P	**P**	**16 32 28.9**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=224,slow=7.0,SNR=6.8						
DBIC	**Dimbokro**	**67.95**	**75**	P	**P**	**16 32 28.5**	**-0.6**
DBIC				IAmb	IAmb	16 34 22.1	
	comp=Z,14nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P	**P**	**16 33 18.1**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=270,slow=5.2,SNR=14						
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P	**P**	**16 33 17.8**	**-0.9**
RAO	**Raoul Island**	**97.21**	**237**	LR	LR	17 12 47.1	
	comp=Z,71nm,19.8s,baz=358,slow=31						
ASAR	**Alice Springs**	**133.73**	**210**	PKP	**PKiKP**	**16 40 46.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=131,slow=1.4,SNR=6.9						
WRA	**Warramunga Arr**	**136.62**	**213**	PKP	**PKiKP**	**16 40 52.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=148,slow=1.9,SNR=4.9						
WRA	**Warramunga Arr**	**136.62**	**213**		**PKPdf**	**16 40 50.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**147.29**	**331**	PKPbc	**PKPbc**	**16 41 12.6**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=80,slow=3.2,SNR=3.2						
USRK	**Ussuriysk Ar.**	**147.29**	**331**		**PKPbc**	**16 41 11.7**	**+0.3**
SONM	**Songino Array**	**148.91**	**5**	PKPbc	**PKiKP**	**16 41 17.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=335,slow=2.4,SNR=6.2						
SONM	**Songino Array**	**148.91**	**5**		**PKPbc**	**16 41 15.8**	**+0.1**

TAP 27 16:23:39.7, 22°.69N×121°.78E, h32km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.56**	**318**		*eP*	Pb	16 23 50.9	-0.3
	baz=317							
TTN	**Taitung**	**0.58**	**277**		*eP*	Pb	16 23 51.2	-0.4
	baz=276							
TWGBT	**Beinan**	**0.66**	**282**		P	Pb	16 23 52.6	-0.2
	baz=281							
TWGBT					S	Sb	16 24 01.7	-0.1
	baz=281							
TWG	**Pinlang**	**0.66**	**282**		*i* P	Pb	16 23 52.3	-0.7
	baz=281							
TWG					*i* S	Sb	16 24 01.6	-0.3
	baz=281							
LAY	**Lan-yu**	**0.68**	**198**		*eS*	Sb	16 24 02.3	0.0
	baz=197							
ECL	**Taimali**	**0.76**	**263**		P	Pn	16 23 54.0	-0.3
	baz=263							
ECL					*eS*	Sb	16 24 04.5	-0.2
	baz=263							
TWF1	**Yuli**	**0.80**	**327**		*eP*	Pn	16 23 54.5	-0.3
	baz=326							
TWF1					*i* S	Sn	16 24 05.5	-0.1
	baz=326							
TWF1	**Yuli**	**0.80**	**327**		*i* S	Sn	16 24 05.5	-0.1
	baz=68							
YULB	**Yu-li**	**0.83**	**328**		*eP*	Pn	16 23 54.7	-0.5
	baz=327							
YULB					*eS*	Sn	16 24 05.9	-0.5
	baz=327							
YULB	**Yu-li**	**0.83**	**328**		S	Sn	16 24 06.2	-0.3
	baz=61							
HGSD	**Ruisui**	**0.86**	**338**		*eP*	Pn	16 23 55.5	-0.2
	baz=338							
HGSD					*eS*	Sn	16 24 06.9	-0.4
	baz=338							
EHY	**Hungye**	**0.92**	**333**		*eS*	Sn	16 24 08.2	-0.4
	baz=333							
EGFH	**Guangfu**	**1.03**	**342**		*eP*	Pn	16 23 58.3	+0.3
	baz=341							

TAP 27 16:23:52.6, 23°.23N×120°.97E, h9km±1km, ML1.1, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.06**	**128**	⇑	*iP*	Pg	16 23 55.2	+0.5
	baz=125							
ELDTW					*i* S	Sg	16 23 57.1	+0.8
	baz=125							
STYT	**Tauyuan**	**0.20**	**252**		*i* P	Pg	16 23 57.4	+0.6
	baz=250							
STYT					*i* S	Sg	16 24 01.2	+1.5
	baz=250							
TPUB	**Ta-pu**	**0.32**	**284**		*eS*	Sb	16 24 05.5	-0.2
	baz=283							
WTP	**Ta-pu**	**0.33**	**274**		P	Pb	16 24 00.1	-0.5
	baz=273							
WTP					*eS*	Sb	16 24 05.1	-0.8
	baz=273							
TWF1	**Yuli**	**0.33**	**67**		P	Pb	16 24 00.3	-0.3
	baz=68							
YULB	**Yu-li**	**0.35**	**61**		P	Pb	16 24 00.8	-0.1
	baz=61							
SGST	**Jiashian**	**0.38**	**248**		*eP*	Pb	16 24 00.9	-0.6
	baz=247							
SGST					S	Sb	16 24 07.2	-0.3
	baz=247							
CHKT	**Chengkung**	**0.39**	**109**		P	Pb	16 24 01.5	-0.1
	baz=108							
EHY	**Hungye**	**0.43**	**49**		*eP*	Pb	16 24 02.2	-0.1
	baz=50							
EHY					*eS*	Sb	16 24 09.2	+0.3
	baz=50							
SNST	**Tainan City**	**0.43**	**269**		*eP*	Pg	16 24 01.7	+0.6
	baz=269							
SNST					*eS*	Sb	16 24 09.3	+0.4
	baz=269							
TWK	**Hsinying**	**0.44**	**275**		*eP*	Pg	16 24 01.8	+0.5
	baz=275							

IDC ***27*** *16:38:09.4±1.1, 25°.25S×70°.05E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/48, mbtmp3.7/8, MS3.3/6, Ms1 3.3/6, ms1mx3.0/43, Error ellipse: s-maj=35.3km s-min=25.6km az=60.0*
ISCJB ***27*** *16:38:10.7±0.6, 25°.3S±0°.1×70°.1E±0°.1, h21km, mb3.6/8, MS3.3/6, Error ellipse: s-maj=19.6km s-min=16.1km az=144.5*
NEIC ***27*** *16:38:10.4±1.4, 25°.2S±0°.2×70°.1E±0°.2, h10km±3km, mb4.6/4*
ISC 27 16:38:12.7±0.8, **25°.3S**±0°.2×**70°.1E**±0°.2, **h21**km, **n21, σ0s78/14, mb3.7/9, MS3.3/6, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.68**	**8**	T		T	17 00 34.6	
	baz=189,slow=76,SNR=15							
H08S2	**Diego Garcia H**	**17.69**	**8**	T		T	17 00 33.3	
	baz=189,slow=76,SNR=23							
H08S3	**Diego Garcia H**	**17.70**	**8**	T		T	17 00 31.4	
	baz=189,slow=76,SNR=15							
CRZF	**Crozet Islands**	**25.64**	**210**	P		**P**	**16 43 39.9**	**-0.8**
BOSA	**Boshof**	**39.91**	**255**	LR		LR	16 58 19.0	
	comp=Z,77nm,19.1s,baz=34,slow=30							
LBTB	**Lobatse**	**40.12**	**261**	P		**P**	**16 45 48.0**	**+0.8**
LBTB				IAmb		IAmb	16 46 35.6	
	comp=Z,24nm,1.6s							
CMAR	**Chiang Mai Arr**	**51.77**	**36**	P		**P**	**16 47 18.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=233,slow=10.0,SNR=2.8							
CMAR				LR		LR	17 07 23.7	
	comp=Z,24nm,18.6s,baz=186,slow=34							
FITZ	**Fitzroy Crossi**	**51.83**	**94**	LR		LR	17 06 52.7	
	comp=Z,25nm,18.2s,baz=254,slow=33							
ASAR	**Alice Springs**	**57.62**	**103**	P		**P**	**16 48 01.1**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=253,slow=6.8,SNR=5.5							
WRA	**Warramunga Arr**	**59.09**	**99**	P		**P**	**16 48 13.0**	**+1.2**
	comp=Z,1.1nm,1.1s,baz=258,slow=9.4,SNR=4.1							
WRA				LR		LR	17 11 12.4	
	comp=Z,23nm,19.5s,baz=280,slow=34							
WRAB	**Tennant Creek**	**59.10**	**99**	P		**P**	**16 48 12.0**	**+0.1**
VNDA	**Vanda**	**65.90**	**166**	P		**P**	**16 48 56.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=276,slow=4.2,SNR=3.6							
MKAR	**Makanchi Array**	**72.58**	**9**	P		**P**	**16 49 38.2**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=176,slow=5.5,SNR=2.5							
MKAR	**Makanchi Array**	**72.58**	**9**	P		**P**	**16 49 38.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.76**	**292**	P		**P**	**16 50 03.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=115,slow=4.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**76.76**	**292**	P		**P**	**16 50 01.8**	**-1.2**
DBIC	**Dimbokro**	**79.35**	**283**	LR		LR	17 22 16.0	
	comp=Z,26nm,18.7s,baz=78,slow=33							
SONM	**Songino Array**	**79.77**	**24**	P		**P**	**16 50 20.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=200,slow=3.8,SNR=2.9							
ZALV	**Zalesovo Beam**	**79.92**	**9**	P		**P**	**16 50 19.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=208,slow=7.9,SNR=2.8							
ZALV	**Zalesovo Beam**	**79.92**	**9**	P		**P**	**16 50 18.8**	**-0.8**
KRVT	**Keravat (AS076**	**80.91**	**90**	LR		LR	17 27 28.1	
	comp=Z,5.6nm,18.1s,baz=215,slow=37							

ISCJB ***27*** *16:38:19.0±0.8, 5°.68N±0°.07×126°.65E±0°.08, h85km±13km, mb3.5/4, Error ellipse: s-maj=14.1km s-min=10.2km az=151.8*
MAN ***27*** *16:38:19.3, 5°.88N×126°.80E, h92km, MS3.0*
IDC ***27*** *16:38:21.0±1.7, 5°.93N×126°.77E, h113km±14km, mb3.3/4, mb1 3.5/5, mb1mx3.1/39, mbtmp3.7/5, Error ellipse: s-maj=41.8km s-min=14.7km az=62.0*
ISC 27 16:38:20.0±1.0, **5°.74N**±0°.07×**126°.60E**±0°.09, **h93**km±10km, **n15, σ1s49/26, mb3.5/4, 3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.96**	**292**		*eP*	**Pn**	**16 38 38.8**	**-0.6**
DDMP					*eS*	**Sn**	**16 38 53.7**	**-0.3**
MATI	**Mati**	**1.25**	**344**		*eP*	**Pn**	**16 38 41.4**	**-1.5**
MATI					*eS*	**Sn**	**16 38 59.0**	**-1.0**
DAV	**Davao City (W)**	**1.67**	**323**		P	**Pn**	**16 38 48.9**	**+0.8**
	87nm,0.3s,baz=250,slow=17,SNR=5.5							
DAV					S	**Sn**	**16 39 11.7**	**+2.4**
	131nm,0.3s,baz=265,slow=22,SNR=11							
GSPH	**General Santos**	**1.68**	**282**	⇓	*iP*	**Pn**	**16 38 47.4**	**-0.9**
GSPH					*i* S	**Sn**	**16 39 07.7**	**-2.1**
DMPH	**Davao City--Mi**	**1.72**	**321**	⇑	*eP*	Pn	16 38 54.5	+5.7
DMPH					*eS*	**Sn**	**16 39 11.5**	**+0.9**
KCP	**Kidapawan**	**1.96**	**310**	⇑	*eP*	**Pn**	**16 38 54.2**	**+2.3**
KCP					*i* S	**Sn**	**16 39 16.6**	**+0.4**
SKMP	**Bagumbayan, Su**	**2.19**	**291**		*eP*	**Pn**	**16 38 54.6**	**-0.2**
SKMP					*eS*	**Sn**	**16 39 23.2**	**+1.8**
BUKP	**Musuan**	**2.62**	**324**		*eP*	**Pn**	**16 39 01.0**	**+0.4**
BUKP					*eS*	**Sn**	**16 39 33.6**	**+1.9**
CTBH	**Cotabato--PC H**	**2.77**	**302**	⇓	*iP*	**Pn**	**16 39 03.3**	**+0.8**
CGP	**Cagayan de Oro**	**3.30**	**325**	⇑	*eP*	**Pn**	**16 39 10.9**	**+1.3**
CGP					*eS*	**Sn**	**16 39 48.4**	**+0.5**
SIJI	**Sorong**	**8.05**	**144**		P	**Pn**	**16 40 15.6**	**+1.4**
	0.5nm,0.3s,baz=312,slow=14,SNR=2.7							
FITZ	**Fitzroy Crossi**	**23.70**	**182**		P	**P**	**16 43 23.8**	**+0.2**
	1.3nm,0.4s,baz=15,slow=7.1,SNR=9.6							
FITZ					S	**S**	**16 47 33.9**	**+2.0**
	3.0nm,1.1s,baz=342,slow=20,SNR=2.1							
WRA	**Warramunga Arr**	**26.63**	**164**		P	**P**	**16 43 50.4**	**+0.3**
	0.5nm,0.4s,baz=344,slow=10,SNR=12							
ASAR	**Alice Springs**	**30.08**	**167**		P	**P**	**16 44 21.4**	**+0.6**
	0.4nm,0.4s,baz=341,slow=7.4,SNR=24							
ASAR					PcP	**PcP**	**16 47 20.3**	**-0.3**
	0.4nm,0.8s,baz=351,slow=2.5,SNR=4.5							
MKAR	**Makanchi Array**	**55.85**	**325**		P	**P**	**16 47 45.9**	**-2.1**
	0.3nm,0.6s,baz=116,slow=7.1,SNR=4.3							
MKAR					PcP	**PcP**	**16 48 43.3**	**-2.6**
	0.4nm,0.7s,baz=114,slow=4.2,SNR=2.8							

TAP 27 16:59:54.4, 24°.09N×121°.84E, h27km, ML1.7, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.22**	**269**		*i* P	Pb	17 00 01.1	+0.5
	baz=268							
TWD					*i* S	Sb	17 00 05.8	+1.1
	baz=268							
HWA	**Hwalien**	**0.24**	**243**		*eP*	Pb	17 00 00.6	-0.1
	baz=241							
HWA					S	Sb	17 00 06.3	+1.3
	baz=241							
NACB	**Ninganchiao**	**0.24**	**291**	⇓	P	Pb	17 00 01.2	+0.4
	baz=291							
NACB					S	Sb	17 00 05.8	+0.7
	baz=291							
ENLB	**Shoufeng**	**0.28**	**230**		*eP*	Pb	17 00 01.5	+0.2
	baz=230							
ENLB					*eS*	Sn	17 00 07.2	-1.1
	baz=230							
ETLH	**Xiulin Townshi**	**0.35**	**290**		P	Pb	17 00 02.9	+0.5
	baz=290							
ETLH					S	Sn	17 00 09.2	-0.8
	baz=290							
NANB	**Nanao**	**0.35**	**346**		P	Pb	17 00 02.8	+0.5
	baz=346							
NANB					S	Sb	17 00 08.8	+1.0
	baz=346							
NANB	**Nanao**	**0.35**	**346**		P	Pb	17 00 02.8	+0.5
	baz=190							
NANB					S	Sb	17 00 08.7	+1.0
	baz=190							
ENA	**Nanau**	**0.35**	**345**		P	Pb	17 00 03.0	+0.6
	baz=346							
ENA					S	Sn	17 00 09.0	-1.0
	baz=346							
ENA	**Nanau**	**0.35**	**345**		P	Pb	17 00 02.8	+0.4
	baz=190							
ENA					S	Sn	17 00 08.9	-1.1
	baz=190							
ESL	**Shilin**	**0.46**	**234**		*i* P	Pb	17 00 04.3	+0.3
	baz=233							
ESL					*i* S	Sn	17 00 11.7	-0.9
	baz=233							
TWC	**Suao**	**0.52**	**1**		S	Sn	17 00 13.9	-0.1
	baz=1.0							
EOS1	**EOS1**	**0.53**	**30**		*eP*	Pn	17 00 06.0	-0.1
	baz=29							
NNSB	**Datong**	**0.54**	**309**		P	Pb	17 00 05.8	+0.3
	baz=309							
NNSB					S	Sn	17 00 14.0	-0.7
	baz=309							
NNS	**Nan Shan**	**0.55**	**310**		P	Pb	17 00 05.8	+0.2
	baz=309							
NNS					S	Sn	17 00 14.7	-0.4
	baz=309							
NNS	**Nan Shan**	**0.55**	**310**		P	Pn	17 00 06.2	-0.5
	baz=232							
NNS					S	Sn	17 00 14.6	-0.5
	baz=232							
EGFH	**Guangfu**	**0.56**	**222**		*eS*	Sn	17 00 15.2	+0.1
	baz=222							
NDT	**Datong Townshi**	**0.59**	**330**		*eP*	Pb	17 00 06.7	+0.4
	baz=329							
NDT					*eS*	Sn	17 00 15.6	-0.3
	baz=329							
ENTT	**Nioudou**	**0.61**	**336**		P	Pn	17 00 06.9	-0.3
	baz=336							
ENTT					S	Sn	17 00 16.0	-0.2
	baz=336							
ENTT	**Nioudou**	**0.61**	**336**		*i* S	Pb	17 00 06.8	+0.3
	baz=243							
CHGB	**Renai**	**0.61**	**268**		*eP*	Pn	17 00 07.2	-0.3
	baz=267							
CHGB					S	Sn	17 00 15.9	-0.7
	baz=267							
TWT	**Tachien**	**0.63**	**285**		*eP*	Pn	17 00 07.7	-0.1
	baz=284							
TWT					*eS*	Sn	17 00 17.2	+0.2
	baz=284							
TDCB	**Techi**	**0.64**	**285**		P	Pn	17 00 07.8	-0.1
	baz=284							
TDCB					S	Sn	17 00 17.1	-0.3
	baz=284							
TWE	**Neicheng**	**0.65**	**346**		*eP*	Pb	17 00 07.2	-0.1
	baz=347							
TWE					*eS*	Sn	17 00 16.8	-0.5
	baz=347							
SLBB	**Yuanshan**	**0.69**	**344**		*eS*	Sn	17 00 18.0	-0.4
	baz=344							
HGSD	**Ruisui**	**0.70**	**213**		*eP*	Pb	17 00 08.0	-0.1
	baz=212							
HGSD					*eS*	Sn	17 00 18.1	-0.4
	baz=212							
YHNB	**Yeheng**	**0.72**	**324**		*eP*	Pn	17 00 09.0	+0.1
	baz=323							
YHNB					*eS*	Sn	17 00 19.2	+0.1
	baz=323							
VWDT	**VWDT**	**0.72**	**243**		*eP*	Pn	17 00 09.0	+0.2
	baz=242							
VWDT					*eS*	Sn	17 00 19.2	+0.2
	baz=242							
NSK	**Sanguang**	**0.73**	**323**		*eP*	Pn	17 00 09.2	+0.1
	baz=323							
NSK					*eS*	Sn	17 00 19.3	-0.1
	baz=323							
EHY	**Hungye**	**0.75**	**220**		*eP*	Pn	17 00 09.3	+0.1
	baz=218							
EHY					*eS*	Sn	17 00 20.1	+0.4
	baz=218							
EGS		**0.76**	**6**		*eS*	Sn	17 00 19.9	-0.1
	baz=7.0							
DPDB	**Guoxing**	**0.84**	**267**		*eP*	Pn	17 00 10.8	+0.3
	baz=266							
DPDB					*eS*	Sn	17 00 22.1	+0.2
	baz=266							
WHP	**Taichung City**	**0.84**	**283**		*eS*	Sn	17 00 22.3	+0.2
	baz=283							
YULB	**Yu-li**	**0.85**	**216**		*eP*	Pn	17 00 10.7	0.0
	baz=215							
YULB					*eS*	Sn	17 00 22.9	+0.6
	baz=215							

TAP 27 16:59:56.2, 24°.75N×121°.82E, h12km, ML1.7, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.06**	**288**		*eP*	Pg	16 59 58.7	+0.1
	baz=288							
ILA					*eS*	Sg	17 00 00.7	+0.3
	baz=288							
NTC	**Toucheng**	**0.11**	**7**		*eP*	Pg	16 59 59.6	+0.4
	baz=7.0							
NTC					S	Sg	17 00 01.7	+0.4
	baz=7.0							
TWE	**Neicheng**	**0.14**	**260**	⇑	*iP*	Pb	17 00 00.4	-0.3
	baz=256							
TWE					*i* S	Sg	17 00 02.8	+0.9
	baz=256							
TWC	**Suao**	**0.14**	**167**		*i* P	Pb	17 00 00.8	0.0
	baz=163							
TWC					*i* S	Sg	17 00 03.5	+1.5
	baz=163							
EGS		**0.14**	**47**		*eP*	Pb	17 00 00.6	-0.3
	baz=50							
EGS					S	Sg	17 00 03.5	+1.4
	baz=50							
SLBB	**Yuanshan**	**0.16**	**273**		*i* P	Pb	17 00 00.8	-0.5
	baz=272							
SLBB					*i* S	Sg	17 00 03.7	+1.0
	baz=272							
TIPB	**Shuangxi**	**0.23**	**2**		*eP*	Pb	17 00 01.9	-0.4
	baz=2.0							
TIPB					*eS*	Sg	17 00 05.7	+1.4
	baz=2.0							
ENTT	**Nioudou**	**0.25**	**245**		P	Pb	17 00 02.3	-0.4
	baz=243							
NWLT	**Wulai**	**0.29**	**276**		*eP*	Pb	17 00 02.9	-0.5
	baz=276							
NWLT					*eS*	Sb	17 00 07.6	-0.5
	baz=276							
TWB1	**Santiao Chiao**	**0.30**	**31**		*eP*	Pb	17 00 03.1	-0.6
	baz=32							
TWB1					*eS*	Sb	17 00 08.7	+0.1
	baz=32							
NDT	**Datong Townshi**	**0.31**	**243**		*eP*	Pb	17 00 03.7	0.0
	baz=242							
NDT					*eS*	Sb	17 00 08.9	+0.2
	baz=242							
NWF	**Wu-fen Shan**	**0.33**	**355**		*e

ASAR	**Alice Springs**	**45.64**	**255**	P	**P**	**17 20 56.4**	**-1.6**
MJAR	**Matsushiro Arr**	**69.34**	**323**	P	**P**	**17 23 36.5**	**-3.1**
YHB	**Horse Butte**	**87.19**	**41**		pP	17 27 09.8	+4.1
BRTR	**Keskin Array B**	**146.25**	**315**	PKPbc	**PKPdf**	**17 32 07.0**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=129,slow=3.5,SNR=5.2						
BRTR	**Keskin Array B**	**146.25**	**315**		**PKPdf**	**17 32 06.3**	**+1.3**
CLL	**Collm**	**146.62**	**348**	*e*PKPbc	**PKPbc**	**17 32 08.0**	**+0.4**
GERES	**GERESS Array B**	**148.80**	**346**	PKPbc	**PKPbc**	**17 32 13.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=34,slow=3.7,SNR=4.9						

*ISCJB **27** 17:13:26.1±0.9, 56°.1S±0°.1×27°.9W±0°.3, h112km, mb3.9/4, Error ellipse: s-maj=25.9km s-min=12.5km az=140.9*
*NEIC **27** 17:13:26.2±0.3, 56°.0S±0°.2×27°.7W±0°.3, h100km±17km, mb4.3/4*
*IDC **27** 17:13:26.7±12.0, 56°.04S×27°.43W, h94km±103km, mb3.8/4, mb1 3.9/5, mb1mx3.6/27, mbtmp4.1/5, ML4.4/1, Error ellipse: s-maj=60.7km s-min=33.3km az=105.0*

ISC 27 17:13:27.4±0.8, 56°.1S±0°.1×27°.9W±0°.2, h112km, n22, σ1§00/19, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.24**	**286**	Pn	**Pn**	**17 14 42.8**	**-0.6**
VNA1	**Neumayer--Stat**	**16.93**	**157**	P	**Pn**	**17 17 16.7**	**-0.3**
VNA3	**Neumayer Olymp**	**17.11**	**160**	P	**P**	**17 17 18.1**	**-1.1**
VNA2	**Neumayer--Watz**	**17.33**	**157**	P	**P**	**17 17 20.9**	**-0.7**
	baz=321,slow=13						
SNAA	**Sanae**	**18.89**	**156**	P	**P**	**17 17 37.4**	**-1.4**
SNAA	**Sanae**	**18.89**	**156**	P	**P**	**17 17 37.4**	**-1.4**
	1.1nm,0.3s,baz=304,slow=10,SNR=43						
SNAA	**Sanae**	**18.89**	**156**	P	**P**	**17 17 37.5**	**-1.2**
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**17 20 02.3**	**+0.6**
MAW	**Mawson**	**40.37**	**144**	P	**P**	**17 20 53.6**	**+0.1**
	1.8nm,0.7s,baz=236,slow=11,SNR=6.8						
MAW	**Mawson**	**40.37**	**144**	P	**P**	**17 20 53.1**	**-0.5**
MAW				IAmb	IAmb	17 22 24.0	
	comp=Z,11nm,2.0s						
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**17 21 44.8**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=189,slow=6.0,SNR=17						
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**17 21 44.6**	**+1.6**
VNDA				IAmb	IAmb	17 21 45.3	
	comp=Z,3.4nm,0.8s						
H10N1	**ASCENSION HYDR**	**49.24**	**18**	T	T	18 15 26.4	
	baz=192						
H10N3	**ASCENSION HYDR**	**49.24**	**18**	T	T	18 15 18.1	
	baz=192						
H10N2	**ASCENSION HYDR**	**49.26**	**18**	T	T	18 15 19.7	
	baz=192						
TORD	**Torodi Ar. Bea**	**73.26**	**30**	P	**P**	**17 24 47.1**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=198,slow=5.8,SNR=5.2						
ASAR	**Alice Springs**	**99.09**	**163**	P	**Pdif**	**17 26 55.8**	**0.0**
	comp=Z,0.3nm,0.8s,baz=194,slow=4.3,SNR=4.5						
MKAR	**Makanchi Array**	**137.26**	**72**	PKP	**PKiKP**	**17 32 37.8**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=200,slow=3.9,SNR=2.8						
ILAR	**Eielson Array**	**149.83**	**312**	PKPbc	**PKiKP**	**17 33 03.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=129,slow=2.3,SNR=6.8						
ILAR	**Eielson Array**	**149.83**	**312**		**PKiKP**	**17 33 03.1**	**-0.6**
SONM	**Songino Array**	**151.12**	**87**	PKPbc	**PKiKP**	**17 33 06.8**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=216,slow=4.0,SNR=21						
SONM	**Songino Array**	**151.12**	**87**		**PKiKP**	**17 33 06.5**	**-0.5**

TAP 27 17:16:58.4, 24°.20N×121°.74E, h6km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.14**	**258**	P	Pg	17 17 02.1	+0.8
	baz=257						
NACB				S	Sg	17 17 04.1	+0.8
	baz=257						
ENA	**Nanau**	**0.22**	**359**	*i* P	Pg	17 17 04.0	+1.1
	baz=1.0						
NANB	**Nanao**	**0.22**	**1**	P	Pg	17 17 03.8	+0.9
	baz=1.0						
ETLH	**Xiulin Townshi**	**0.24**	**271**	P	Pg	17 17 04.5	+1.3
	baz=270						
NNSB	**Datong**	**0.40**	**304**	P	Pb	17 17 07.3	-0.7
	baz=304						
NNSB				S	Sb	17 17 13.9	-0.5
	baz=304						
NNS	**Nan Shan**	**0.41**	**305**	P	Pg	17 17 07.2	+0.7
	baz=305						
NNS				S	Sb	17 17 14.4	-0.4
	baz=305						
WHF	**Hehuan Shan**	**0.44**	**262**	P	Pb	17 17 08.1	-0.8
	baz=261						
WHF				S	Sb	17 17 15.1	-0.8
	baz=261						
NDT	**Datong Townshi**	**0.45**	**332**	*e*P	Pb	17 17 08.4	-0.4
	baz=332						
NDT				*e*S	Sb	17 17 16.4	+0.7
	baz=332						
ENTT	**Nioudou**	**0.46**	**340**	P	Pb	17 17 08.7	-0.3
	baz=340						
ENTT				S	Sb	17 17 15.9	-0.3
	baz=340						
TWT	**Tachien**	**0.52**	**276**	*e*P	Pb	17 17 09.9	-0.2
	baz=274						
TWT				S	Sb	17 17 18.6	+0.6
	baz=274						
TDCB	**Techi**	**0.54**	**275**	*e*P	Pb	17 17 10.5	+0.1
	baz=275						
TDCB				*e*S	Sb	17 17 19.0	+0.6
	baz=275						
CHGB	**Renai**	**0.54**	**255**	P	Pb	17 17 10.6	+0.1
	baz=254						
CHGB				S	Sb	17 17 18.4	-0.2
	baz=254						
YHNB	**Yeheng**	**0.57**	**324**	*e*P	Pb	17 17 10.9	0.0
	baz=324						
YHNB				*e*S	Sb	17 17 19.6	+0.2
	baz=324						

TAP 27 17:17:02.6, 24°.21N×121°.75E, h7km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.15**	**256**	P	Pg	17 17 05.7	0.0
	baz=256						
NACB				S	Sg	17 17 09.9	+2.1
	baz=256						
TWD	**Chiawan**	**0.19**	**228**	*i* P	Pg	17 17 07.1	+0.7
	baz=226						
TWD				*i* S	Sg	17 17 10.6	+1.6
	baz=226						
ENA	**Nanau**	**0.22**	**357**	P	Pg	17 17 07.8	+0.8
	baz=359						
ENA				*i* S	Sg	17 17 11.8	+1.9
	baz=359						
ENA	**Nanau**	**0.22**	**357**	*i* S	Pg	17 17 07.8	+0.8
	baz=1.0						
NANB	**Nanao**	**0.22**	**359**	P	Pg	17 17 08.2	+1.2
	baz=359						
NANB				*i* S	Sg	17 17 11.8	+1.9
	baz=359						
NANB	**Nanao**	**0.22**	**359**	S	Pg	17 17 07.8	+0.8
	baz=1.0						
ETLH	**Xiulin Townshi**	**0.25**	**270**	P	Pg	17 17 09.0	+1.5
	baz=269						
ETLH				S	Sg	17 17 12.9	+2.1
	baz=269						
ETLH	**Xiulin Townshi**	**0.25**	**270**	S	Pg	17 17 08.9	+1.4
	baz=270						
HWA	**Hwalien**	**0.27**	**210**	*e*P	Pg	17 17 08.7	+0.9
	baz=208						
HWA				*e*S	Sb	17 17 13.9	-0.5
	baz=208						
NNSB	**Datong**	**0.40**	**303**	P	Pb	17 17 11.7	-0.4
	baz=302						
NNSB				S	Sb	17 17 17.7	-0.7
	baz=302						
TWC	**Suao**	**0.41**	**12**	*e*P	Pg	17 17 11.2	+0.7
	baz=13						
TWC				*e*S	Sb	17 17 17.7	-0.8
	baz=13						
NNS	**Nan Shan**	**0.41**	**304**	P	Pb	17 17 12.1	-0.2
	baz=303						
NNS				S	Sb	17 17 17.9	-0.9
	baz=303						
NDT	**Datong Townshi**	**0.45**	**331**	*e*P	Pb	17 17 12.6	-0.2
	baz=330						
NDT				*e*S	Sb	17 17 19.8	+0.1
	baz=330						
WHF	**Hehuan Shan**	**0.45**	**262**	P	Pb	17 17 12.4	-0.6
	baz=261						
WHF				S	Sb	17 17 19.2	-0.9
	baz=261						
ENTT	**Nioudou**	**0.46**	**338**	P	Pb	17 17 12.7	-0.3
	baz=339						
ENTT				S	Sb	17 17 20.1	0.0
	baz=339						
EOS1	**EOS1**	**0.48**	**45**	*e*S	Sb	17 17 20.9	+0.3
	baz=45						
ESL	**Shilin**	**0.49**	**217**	*e*P	Pg	17 17 12.6	+0.6
	baz=215						
ESL				*e*S	Sb	17 17 20.8	-0.1
	baz=215						
TWE	**Neicheng**	**0.52**	**351**	P	Pb	17 17 13.8	-0.2
	baz=352						
TWE				*e*S	Sb	17 17 21.7	+0.1
	baz=352						
TWT	**Tachien**	**0.53**	**275**	P	Pb	17 17 14.5	+0.2
	baz=274						
TWT				*e*S	Sb	17 17 22.6	+0.5
	baz=274						
TDCB	**Techi**	**0.54**	**275**	*e*P	Pb	17 17 13.8	-0.7
	baz=274						
TDCB				*e*S	Sb	17 17 23.1	+0.6
	baz=274						
CHGB	**Renai**	**0.55**	**254**	*e*P	Pb	17 17 14.5	-0.2
	baz=254						
CHGB				*e*S	Sb	17 17 22.3	-0.5
	baz=254						
SLBB	**Yuanshan**	**0.55**	**349**	P	Pg	17 17 13.8	+0.5
	baz=348						
SLBB				S	Sb	17 17 23.0	+0.3
	baz=348						
ILA	**Ilan**	**0.55**	**360**	*e*P	Pb	17 17 14.2	-0.3
ILA				*e*S	Sb	17 17 23.4	+0.6
YHNB	**Yeheng**	**0.57**	**323**	*e*P	Pb	17 17 14.9	-0.1
	baz=323						
YHNB				*e*S	Sb	17 17 23.8	+0.4
	baz=323						
NSK	**Sanguang**	**0.59**	**322**	P	Pb	17 17 15.2	0.0
	baz=322						
NSK				*e*S	Sb	17 17 24.0	+0.2
	baz=322						
NWLT	**Wulai**	**0.61**	**338**	*e*P	Pb	17 17 15.6	0.0
	baz=338						
NWLT				*e*S	Sb	17 17 24.2	-0.1
	baz=338						
NTC	**Toucheng**	**0.65**	**6**	*e*S	Sb	17 17 26.2	+0.8
	baz=6.0						
VWDT	**VWDT**	**0.72**	**231**	*e*S	Sb	17 17 28.6	+1.1
	baz=230						
WHP	**Taichung City**	**0.74**	**275**	*e*P	Pb	17 17 17.4	-0.4
	baz=275						
WHP				*e*S	Sb	17 17 28.7	+0.5
	baz=275						
TIPB	**Shuangxi**	**0.76**	**5**	*e*S	Sb	17 17 28.8	0.0
	baz=5.0						
DPDB	**Guoxing**	**0.77**	**257**	*e*P	Pb	17 17 19.0	+0.6
	baz=256						
DPDB				*e*S	Sb	17 17 30.0	+0.9
	baz=256						
HGSD	**Ruisui**	**0.77**	**203**	*e*S	Sn	17 17 30.5	-1.2
	baz=202						
NSTT	**Nanjuang**	**0.80**	**302**	*e*P	Pg	17 17 18.4	+0.3
	baz=301						
TAP	**Taipei**	**0.86**	**345**	*e*S	Sb	17 17 32.4	+0.9
	baz=345						

*IDC **27** 17:24:22.4±1.5, 1°.93N×127°.67E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.5/49, mbtmp4.0/5, Error ellipse: s-maj=128.8km s-min=18.6km az=67.0*
*ISCJB **27** 17:24:35.1±0.8, 1°.83N±0°.07×127°.5E±0°.1, h128km, mb3.9/5, Error ellipse: s-maj=15.7km s-min=8.2km az=154.1*
*NEIC **27** 17:24:37.3±0.4, 1°.7N±0°.1×127°.6E±0°.2, h134km±10km, mb4.1/3*
*DJA **27** 17:24:37.1±0.9, 2°.N±5°.×12°.7E±°, h131km±13km, M4.0/7, mb3.7/2, MLv4.2/7*

ISC 27 17:24:37.0±1.1, 1°.70N±0°.07×127°.4E±0°.1, h128km, n17, σ1§59/19, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**179**	P	**Pn**	**17 25 00.7**	**+1.6**
TNTI	**Ternate**	**0.92**	**179**		**Pn**	**17 25 00.6**	**+1.5**
SGSI	**Sangihe**	**2.69**	**317**	P	**Pn**	**17 25 19.4**	**-0.2**
SGSI				S	**Sn**	**17 25 50.0**	**-2.3**
KMSI	**Cibinong**	**3.55**	**252**	P	**Pn**	**17 25 33.2**	**+2.4**
SANI	**Sanana**	**3.97**	**200**	P	**Pn**	**17 25 36.8**	**+0.5**
SANI				S	**Sn**	**17 26 19.2**	**-3.1**
LUWI	**Luwuk**	**5.33**	**239**		**Pn**	**17 25 57.6**	**+3.1**
KAPI	**Kappang**	**10.11**	**229**		**Pn**	**17 26 58.6**	**-0.3**
WRA	**Warramunga Arr**	**22.57**	**163**	P	**P**	**17 29 26.6**	**-0.3**
	2.0nm,0.4s,baz=344,slow=11,SNR=18						
WRA	**Warramunga Arr**	**22.57**	**163**	P	**P**	**17 29 25.0**	**-1.9**
ASAR	**Alice Springs**	**26.01**	**166**	P	**P**	**17 29 58.0**	**-0.3**
	0.4nm,0.5s,baz=346,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**26.01**	**166**	P	**P**	**17 29 58.4**	**+0.2**
STKA	**Stephens Creek**	**36.02**	**159**	P	**P**	**17 31 26.2**	**+0.2**
	2.3nm,0.8s,baz=333,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**36.02**	**159**	P	**P**	**17 31 25.6**	**-0.4**
STKA				IAmb	IAmb	17 31 41.1	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**59.57**	**326**	P	**P**	**17 34 28.2**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=122,slow=8.4,SNR=24						
MKAR	**Makanchi Array**	**59.57**	**326**	P	**P**	**17 34 27.4**	**+0.2**
KURBB	**Kurchatov Arra**	**63.77**	**328**	P	**P**	**17 34 56.0**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=125,slow=6.0,SNR=4.4						
KURK	**Kurchatov**	**63.78**	**328**	P	**P**	**17 34 55.5**	**+0.1**
KURK				IAmb	IAmb	17 37 09.7	
	comp=Z,10nm,1.6s						

*BJI **27** 17:29:30.1±0.0, 26°.38N×96°.09E, h8km, mb4.4/5, mB3.9/1, ML3.7/3, Ms3.4/1, Ms7 3.2/1*
*ISCJB **27** 17:29:33.5±0.3, 26°.16N±0°.04×95°.91E±0°.03, h100km, Error ellipse: s-maj=5.7km s-min=3.5km az=11.6*
*NEIC **27** 17:29:33.7±1.6, 26°.26N±0°.10×96°.2E±0°.1, h90km±10km, mb4.5/10*
*NDI **27** 17:29:33.8±2.4, 26°.35N×96°.09E, h127km±26km, mb4.1, ML4.1, mb4.5(NEIC)*
*IDC **27** 17:29:38.2±3.0, 26°.06N×96°.00E, h129km±32km, mb3.4/7, mb1 3.5/8, mb1mx3.2/53, mbtmp3.7/8, MS4.1/2, Ms1 4.1/2, ms1mx2.9/45, Error ellipse: s-maj=28.8km s-min=12.9km az=67.0*

ISC 27 17:29:34.8±0.6, 26°.25N±0°.05×95°.97E±0°.06, h100km, n55, σ1§86/72, 1C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.09**	**354**	⇓*i*P	**Pn**	**17 29 56.2**	**0.0**
LKP				*e*S	**Sn**	**17 30 12.0**	**-0.3**
LKP				IAML		17 30 13.9	
	comp=N,5μm,0.6s						
LKP				IAML		17 30 14.2	
	comp=E,4μm,0.4s						
JORH	**JORHAT**	**1.62**	**288**	*e*P	**Pn**	**17 30 04.2**	**+1.7**
JORH				*e*S	**Sn**	**17 30 27.1**	**+3.6**
JORH				IAML		17 30 28.5	
	comp=E,3μm,0.3s						
JORH				IAML		17 30 29.0	
	comp=N,3μm,0.3s						
KOHI	**KOHIMA**	**1.76**	**253**	⇑*e*P	**Pn**	**17 30 07.4**	**+3.0**
KOHI				*e*S	**Sn**	**17 30 29.4**	**+2.5**
KOHI				IAML		17 30 39.3	
	comp=E,584nm,0.4s						
ZIRO	**ZIRO**	**2.28**	**304**	*e*P	**Pn**	**17 30 12.5**	**+1.3**
ZIRO				*e*S	**Sn**	**17 30 39.1**	**0.0**
ZIRO				IAML		17 30 42.2	
	comp=E,7μm,0.3s						
ZIRO				IAML		17 30 42.7	
	comp=N,8μm,0.3s						
SHL	**Shillong**	**3.74**	**260**	*e*P	**Pn**	**17 30 31.9**	**+1.2**
SHL				*e*S	**Sn**	**17 31 12.6**	**-1.4**
SHL				IAML		17 31 16.4	
	comp=N,208nm,0.1s						
SHL				IAML		17 31 19.6	
	comp=E,191nm,0.5s						
SHL	**Shillong**	**3.74**	**260**		**Pn**	**17 30 31.9**	**+1.2**
BELO	**BELONIA**	**5.08**	**235**	*e*S	**Sn**	**17 31 48.1**	**+2.1**
BRDH	**Bariadhala**	**5.31**	**229**	P	**Pn**	**17 30 54.0**	**+2.4**
	comp=E,0.1nm,0.3s,baz=269,slow=24,SNR=5.1						
BRDH				S	**Sn**	**17 31 53.1**	**+1.5**
	comp=E,0.3nm,0.3s,baz=230,slow=24,SNR=15						
LSA	**Lhasa**	**5.48**	**310**		**Pn**	**17 30 56.7**	**+2.3**
GTK	**Tadong**	**6.67**	**281**	*e*P	**Pn**	**17 31 11.1**	**+0.8**
GTK				*e*S	**Sn**	**17 32 20.6**	**-4.4**
GTK				IAML		17 32 27.6	
	comp=N,92nm,0.3s						
GTK				IAML		17 32 27.6	
	comp=E,122nm,0.5s						
TAPN	**Taplejung**	**7.46**	**280**	*e*Pn	**Pn**	**17 31 21.8**	**+0.6**
TAPN				*e*Sn	**Sn**	**17 32 44.0**	**-0.5**
	comp=E,57nm,0.3s						
ODAN	**Odare**	**7.71**	**276**	*e*Pn	**Pn**	**17 31 25.3**	**+0.8**
ODAN				*e*Sn	**Sn**	**17 32 50.3**	**-0.1**
	comp=E,88nm,0.4s						
CHTO	**Chiang Mai**	**7.89**	**159**		**Pn**	**17 31 28.0**	**+1.2**
CM31	**Chiang Mai Arr**	**8.22**	**160**		**Pn**	**17 31 29.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**8.22**	**160**	P	**Pn**	**17 31 32.7**	**+1.3**
	comp=E,0.3nm,0.3s,baz=331,slow=13,SNR=20						
CMAR	**Chiang Mai Arr**	**8.22**	**160**		**Pn**	**17 31 29.7**	**-1.6**
RAMN	**Ramite**	**8.42**	**277**	*e*Pn	**Pn**	**17 31 35.2**	**+1.0**
RAMN				*e*Sn	**Sn**	**17 33 06.2**	**-1.5**
	comp=E,38nm,0.3s						
JIRN	**Jiri**	**8.84**	**281**	*e*Pn	**Pn**	**17 31 40.7**	**+0.6**
JIRN				*e*Sn	**Sn**	**17 33 16.1**	**-2.0**
	comp=E,116nm,0.3s						
GUN	**Gumba**	**9.15**	**283**	*e*Pn	**Pn**	**17 31 44.8**	**+0.6**
GUN				*e*Sn	**Sn**	**17 33 23.1**	**-2.4**
	comp=E,85nm,0.5s						
BOK	**Bokaro**	**9.47**	**257**	*e*P	**Pn**	**17 31 48.2**	**-0.1**
BOK				*e*S	**Sn**	**17 33 30.7**	**-2.1**
BOK				IAML		17 33 32.9	
	comp=N,23nm,0.3s						
PKI	**Pulchoki**	**9.52**	**280**	*e*Pn	**Pn**	**17 31 49.1**	**-0.2**
PKI				*e*Sn	**Sn**	**17 33 32.5**	**-2.1**
PKIN	**Phulchoki**	**9.53**	**280**	*e*Pn	**Pn**	**17 31 48.8**	**-0.6**
PKIN				*e*Sn	**Sn**	**17 33 31.7**	**-3.1**
	comp=N,20nm,0.3s						
KKN	**Kakani**	**9.66**	**282**	*e*Pn	**Pn**	**17 31 51.1**	**+0.1**
KKN				*e*Sn	**Sn**	**17 33 35.8**	**-2.0**
	comp=N,39nm,0.4s						
DMN	**Daman**	**9.79**	**280**	*e*Pn	**Pn**	**17 31 52.7**	**-0.2**
DMN				*e*Sn	**Sn**	**17 33 39.3**	**-1.8**
	comp=N,28nm,0.4s						
GKN	**Gorkha**	**10.25**	**282**	*e*Pn	**Pn**	**17 31 58.6**	**-0.4**
GKN				*e*Sn	**Sn**	**17 33 48.4**	**-3.7**
	comp=N,44nm,0.2s						
DANN	**Dangsing**	**11.06**	**284**	*e*Pn	**Pn**	**17 32 08.0**	**-2.2**
DANN				*e*Sn	**Sn**	**17 34 07.9**	**-4.1**
	comp=N,92nm,0.6s						
KOLN	**Koldanda**	**11.14**	**281**	*e*Pn	**Pn**	**17 32 09.3**	**-1.8**
KOLN				*e*Sn	**Sn**	**17 34 10.7**	**-3.0**
	comp=N,39nm,0.5s						
XAN	**Xi'an**	**13.63**	**52**	P	**P**	**17 32 46.0**	**-3.3**
SMLA	**Simla**	**17.20**	**291**	*e*P	**Pn**	**17 33 29.4**	**+0.7**
SMLA				IAmb	IAmb	17 33 35.4	
	comp=Z,6.4nm,0.5s						
DHRM	**DHARAMSHALA**	**18.17**	**294**	*e*P	**Pn**	**17 33 42.4**	**+1.7**
DHRM				IAmb	IAmb	17 33 47.6	
	comp=Z,6.7nm,0.8s						
WMQ	**Urumqi**	**18.78**	**341**	*e*P	Pn	17 33 56.0	+8.2
NIL	**Nilore**	**21.00**	**296**	P	**P**	**17 34 10.0**	**-0.3**
NIL				IAmb	IAmb	17 34 15.2	
	comp=Z,9.3nm,0.8s						
TARG	**Taragay, Kyrgy**	**21.51**	**320**	P	**P**	**17 34 15.3**	**-0.7**
SONM	**Songino Array**	**23.06**	**18**	P	**P**	**17 34 34.3**	**+2.7**
	comp=Z,0.1nm,0.4s,baz=195,slow=16,SNR=1.8						
MKAR	**Makanchi Array**	**23.20**	**336**	P	**P**	**17 34 35.4**	**+2.5**
	comp=Z,1.2nm,0.5s,baz=147,slow=8.6,SNR=12						
AAK	**Ala-Archa**	**24.00**	**318**	P	**P**	**17 34 43.8**	**+3.4**
	comp=Z,1.2nm,0.7s,baz=155,slow=7.4,SNR=6.1						
GAR	**Garm**	**24.98**	**307**	P	**P**	**17 34 50.8**	**+1.6**
GAR				IAmb	IAmb	17 34 52.9	
	comp=Z,13nm,0.6s						
BTK	**Batken**	**25.06**	**310**	P	**P**	**17 34 51.8**	**+1.9**
BTK				IAmb	IAmb	17 35 46.2	
	comp=Z,5.6nm,0.5s						
ZALV	**Zalesovo Beam**	**28.88**	**346**	P	**P**	**17 35 26.4**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=138,slow=11,SNR=2.9						
JCJ	**Chichijima**	**41.12**	**78**	LR	LR	17 56 04.8	
	comp=Z,107nm,18.0s,baz=7.5,slow=39						
WRA	**Warramunga Arr**	**59.12**	**137**	P	**P**	**17 39 24.3**	**-0.7**
	comp=Z,4.2nm,0.5s,baz=322,slow=7.6,SNR=76						
WRA	**Warramunga Arr**	**59.12**	**137**	P	**P**	**17 39 22.9**	**-2.1**
WRAB	**Tennant Creek**	**59.12**	**137**	P	**P**	**17 39 24.5**	**-0.5**
WRAB				IAmb	IAmb	17 40 36.2	
	comp=Z,31nm,1.6s						
WB2	**Warramunga Arr**	**59.12**	**137**	P	**P**	**17 39 24.4**	**-0.7**
WR0	**Warramunga Arr**	**59.25**	**137**	P	**P**	**17 39 25.2**	**-0.8**
AS31	**Alice Springs**	**61.71**	**140**	P	**P**	**17 39 42.7**	**0.0**
AS31				IAmb	IAmb	17 39 43.1	
	comp=Z,1.9nm,0.4s						
ASAR	**Alice Springs**	**61.71**	**140**	P	**P**	**17 39 42.1**	**-0.6**
	comp=Z,2.9nm,0.4s,baz=323,slow=6.5,SNR=161						
ASAR	**Alice Springs**	**61.71**	**140**	P	**P**	**17 39 41.4**	**-1.3**
CTA	**Charters Tower**	**67.09**	**128**	LR	LR	18 14 24.2	
	comp=Z,251nm,19.2s,baz=282,slow=40						
KIWB	**Kanaga Island**	**67.95**	**42**	P	**P**	**17 40 21.9**	**-0.9**
STKA	**Stephens Creek**	**72.35**	**140**	P	**P**	**17 40 49.5**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=310,slow=8.7,SNR=5.5						
STKA	**Stephens Creek**	**72.35**	**140**	P	**P**	**17 40 49.0**	**-0.8**
BMAR	**Burnt Mountain**	**76.39**	**20**		**P**	**17 41 13.6**	**+0.7**
ILAR	**Eielson Array**	**77.19**	**23**	P	**P**	**17 41 16.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=286,slow=5.4,SNR=4.5						
BCAR	**Beaver Creek A**	**80.02**	**23**	P	**P**	**17 41 33.0**	**0.0**

*MOS **27** 17:35:18.6±0.9, 25°.36S×70°.07E, h10km, mb5.1/12, Error ellipse: s-maj=11.3km s-min=7.5km az=92.3*
*BJI **27** 17:35:18.4±0.0, 25°.82S×69°.49E, h29km, mb4.6/30, mB5.3/24, Ms5.0/11, Ms7 4.7/6*
*IDC **27** 17:35:19.1±0.5, 25°.39S×69°.98E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.1/48, mbtmp4.2/22, MS4.1/16, Ms1 4.1/16, ms1mx3.9/38, Error ellipse: s-maj=15.0km s-min=13.5km az=25.0*
*ISCJB **27** 17:35:20.4±0.3, 25°.35S±0°.06×70°.08E±0°.05, h21km, mb4.7/67, MS4.3/20, Error ellipse: s-maj=9.3km s-min=6.7km az=8.0*
*NEIC **27** 17:35:20.0±1.6, 25°.4S±0°.1×70°.1E±0°.1, h10km±1km, mb5.0/65*
*GCMT **27** 17:35:22.0±0.3, 25°.23S±0°.02×69°.94E±0°.02, h13km±1km, MW4.9/82, Moment Tensor Solution. s21,c25; s82,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-2.71±.17; $M_{\theta\theta}$0.23±.10; $M_{\phi\phi}$2.48±.12; $M_{r\theta}$-0.41±.25; $M_{\theta\phi}$-1.38±.08; $M_{\phi r}$0.65±.24; Best double couple: $M_0$3.02300×10^16 NP1:ϕs152.00000°, δ52.00000°, λ-93

BKNI Bangkinang 39.47 54 P **P** **17 42 49.3 -1.7**
RPSI Rantau Prapat 39.62 49 P **P** **17 42 53.8 +1.5**
PSI Prapat 39.70 49 P **P** **17 42 53.8 +0.7**
PSI pmax pmax
comp=Z,16nm,1.3s
KMBO Kilima Mbogo 39.78 302 P **P** **17 42 54.0 +0.1**
KMBO pmax pmax
comp=Z,19nm,1.6s
KMBO Kilima Mbogo 39.78 302 P **P** **17 42 54.9 +1.1**
comp=Z,1.2nm,0.8s,baz=127,slow=7.3,SNR=9.7
KMBO Kilima Mbogo 39.78 302 P **P** **17 42 54.0 +0.1**
BOSA Boshof 39.80 255 P **P** **17 42 55.1 +1.3**
BOSA pmax pmax
comp=Z,54nm,1.8s
BOSA Boshof 39.80 255 P **P** **17 42 55.5 +1.8**
comp=Z,8.5nm,1.1s,baz=74,slow=11,SNR=2.9
BOSA LR LR 17 56 35.5
comp=Z,535nm,19.6s,baz=102,slow=32
BOSA Boshof 39.80 255 P **P** **17 42 55.1 +1.3**
BOSA IAmb IAmb 17 42 56.5
comp=Z,54nm,1.8s
LSZ Lusaka 40.33 276 P **P** **17 42 58.0 -0.4**
LSZ pmax pmax
comp=Z,15nm,1.5s
LSZ Lusaka 40.33 276 P **P** **17 42 58.5 +0.2**
comp=Z,1.2nm,0.4s,baz=121,slow=11,SNR=3.2
LSZ Lusaka 40.33 276 P **P** **17 42 58.0 -0.4**
LEM Lembang 40.41 69 P **P** **17 43 00.1 +1.0**
comp=Z,16nm,0.9s,baz=197,slow=5.5,SNR=5.8
MAW Mawson 42.37 184 LR LR 17 56 32.8
comp=Z,302nm,22.0s,baz=33,slow=30
KULM Kulim 42.68 49 P **P** **17 43 18.8 +1.4**
MBAR Mbarara 45.22 297 P **P** **17 43 37.0 -1.1**
MBAR pmax pmax
comp=Z,17nm,1.7s
MBAR Mbarara 45.22 297 P **P** **17 43 37.0 -1.1**
PSA00 Pilbara Seismi 45.67 96 P **P** **17 43 40.2 -1.2**
PSA00 Pilbara Seismi 45.67 96 P **P** **17 43 40.9 -0.5**
PSA00 IAmb IAmb 17 43 44.7
comp=Z,36nm,1.4s
SBUM Sibu 49.42 62 P **P** **17 44 07.8 -2.7**
SBUM IAmb IAmb 17 44 19.6
comp=Z,22nm,1.5s
MHMT Maesarieng 51.20 35 P P 17 44 34.3 +10
FITZ Fitzroy Crossi 51.89 94 P **P** **17 44 28.7 -0.5**
FITZ IAmb IAmb 17 44 38.0
comp=Z,19nm,1.1s
CM31 Chiang Mai Arr 51.97 36 P **P** **17 44 26.8 -2.9**
CMAR Chiang Mai Arr 51.97 36 *i* P **P** **17 44 30.0 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 51.97 36 P **P** **17 44 29.9 +0.3**
comp=Z,0.7nm,0.3s,baz=228,slow=5.7,SNR=14
CMAR LR LR 18 02 42.5
comp=Z,140nm,21.9s,baz=194,slow=32
CMAR Chiang Mai Arr 51.97 36 P **P** **17 44 27.5 -2.2**
CHTO Chiang Mai 52.26 35 P **P** **17 44 31.5 -0.3**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 52.26 35 P **P** **17 44 31.5 -0.3**
CMMT Chiang Mai 52.26 35 P **P** **17 44 35.3 +3.4**
comp=Z,4.3nm,1.2s
PHRA Phrae 52.69 37 P P 17 44 42.7 +7.7
RAYN Ar Rayn 54.18 332 P **P** **17 44 45.3 -0.6**
RAYN pmax pmax
comp=Z,26nm,1.6s
RAYN Ar Rayn 54.18 332 P **P** **17 44 45.3 -0.6**
RAYN IAmb IAmb 17 44 47.8
comp=Z,26nm,1.6s
KKM Kota Kinabalu 54.75 62 P **P** **17 44 48.5 -1.8**
KKM IAmb IAmb 17 44 58.0
comp=Z,19nm,1.1s
SHL Shillong 54.98 24 P **P** **17 44 50.8 -1.0**
SHL pmax pmax
comp=Z,25nm,1.2s
SHL Shillong 54.98 24 P **P** **17 44 50.8 -1.0**
SHL IAmb IAmb 17 44 59.2
comp=Z,25nm,1.2s
ASAR Alice Springs 57.64 103 P **P** **17 45 11.3 +0.3**
comp=Z,2.6nm,0.8s,baz=250,slow=6.3,SNR=11
ASAR Alice Springs 57.64 103 P **P** **17 45 11.4 +0.4**
AS31 Alice Springs 57.65 103 P **P** **17 45 07.9 -3.1**
LSA Lhasa 58.50 22 P **P** **17 45 16.9 -0.2**
LSA pmax pmax
comp=Z,34nm,1.9s
LSA Lhasa 58.50 22 P **P** **17 45 16.9 -0.2**
LSA IAmb IAmb 17 45 25.3
comp=Z,34nm,1.9s
NIL Nilore 58.88 3 P **P** **17 45 18.2 -1.0**
NIL pmax pmax
comp=Z,9.0nm,1.3s
NIL Nilore 58.88 3 P **P** **17 45 18.2 -1.0**
WRA Warramunga Arr 59.13 99 P **P** **17 45 20.5 -0.8**
WRA pmax pmax
comp=Z,1.0nm,1.5s
WRA Warramunga Arr 59.13 99 P **P** **17 45 21.6 +0.3**
comp=Z,4.9nm,1.2s,baz=254,slow=6.5,SNR=11
WRA LR LR 18 08 33.4
comp=Z,322nm,19.1s,baz=260,slow=34
WRA Warramunga Arr 59.13 99 P **P** **17 45 20.5 -0.8**
WB2 Warramunga Arr 59.14 99 P **P** **17 45 22.0 +0.6**
WRAB Tennant Creek 59.14 99 P **P** **17 45 22.8 +1.4**
WRAB pmax pmax
comp=Z,45nm,1.7s
WRAB Tennant Creek 59.14 99 P **P** **17 45 22.8 +1.4**
KMI Kunming 59.44 35 P **P** **17 45 24.0 +0.5**
KMI S **S** **17 53 37.8 +6.0**
KMI pmax pmax
comp=Z,13nm,1.6s
KMI pmax pmax
comp=Z,78nm,4.8s
KMI LR LR
comp=Z,330nm,20.4s
KMI LR LR
comp=Z,330nm,18.1s
KMI Kunming 59.44 35 P **P** **17 45 22.2 -1.3**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI Kunming 59.44 35 P **P** **17 45 22.2 -1.3**
KMI IAmb IAmb 17 45 44.5
comp=Z,10nm,0.5s
KBL Kabul 59.69 359 P **P** **17 45 24.8 -0.2**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 59.69 359 P **P** **17 45 24.8 -0.2**
KBL IAmb IAmb 17 45 32.4
comp=Z,12nm,0.9s
HRA Herat 59.99 353 P **P** **17 45 26.2 -0.8**
HRA IAmb IAmb 17 45 27.0
comp=Z,20nm,2.0s
SNAA Sanae 60.65 200 P **P** **17 45 32.2 +1.2**
SNAA Sanae 60.65 200 P **P** **17 45 32.4 +1.4**
SNAA pmax pmax
comp=Z,16nm,1.6s
SNAA Sanae 60.65 200 P **P** **17 45 32.7 +1.7**
comp=Z,2.1nm,0.9s,baz=154,slow=5.4,SNR=5.0
SNAA Sanae 60.65 200 P **P** **17 45 32.4 +1.4**
SNAA IAmb IAmb 17 45 40.0
comp=Z,16nm,1.6s
TNTI Ternate 61.21 74 P **P** **17 45 35.0 -0.6**
VNA2 Neumayer--Watz 62.04 201 P **P** **17 45 37.9 -2.4**
baz=110,slow=2.3
STKA Stephens Creek 62.13 114 P **P** **17 45 44.4 +2.7**
comp=Z,2.9nm,0.9s,baz=288,slow=3.2,SNR=2.3
STKA LR LR 18 08 58.2
comp=Z,230nm,20.6s,baz=258,slow=32
KCP Kidapawan 62.52 67⇑ *e*P **P** **17 45 44.4 -0.1**
VNA3 Neumayer Olymp 62.79 201 P P 17 45 51.3 +5.9
TGY Tagaytay City 63.32 57 P **P** **17 45 50.4 +0.6**
comp=Z,79nm,0.3s,baz=262,slow=19,SNR=2.2
CHGR Chuyangaron 63.80 359 P **P** **17 45 51.4 -1.0**
CHGR IAmb IAmb 17 45 58.3
comp=Z,19nm,1.2s
GEYT Alibeck 64.05 350 P **P** **17 45 54.9 +0.9**
comp=Z,1.0nm,0.3s,baz=46,slow=28,SNR=2.8
GEYT Alibeck 64.05 350 P **P** **17 45 53.6 -0.4**
GYA0B ALIBECK ARRAY 64.05 350 P **P** **17 45 53.7 -0.3**
GYA0B IAmb IAmb 17 45 55.8
comp=Z,17nm,1.6s
GAR Garm 64.14 0 P **P** **17 45 53.1 -1.6**
QSPA South Pole Qui 64.66 180 P **P** **17 45 58.8 +0.8**
comp=Z,6.7nm,1.1s,baz=278,slow=1.9,SNR=12
QSPA South Pole Qui 64.66 180 P **P** **17 45 58.3 +0.4**
QSPA IAmb IAmb 17 46 00.4
comp=Z,15nm,1.2s

CD2 Chengdu 64.71 32 P **P** **17 45 59.0 +0.4**
CD2 S **S** **17 54 42.0 +4.1**
CD2 pmax pmax
comp=Z,20nm,1.7s
CD2 pmax pmax
comp=Z,240nm,4.8s
CD2 LR LR
comp=Z,490nm,10.8s
CD2 LR LR
comp=Z,370nm,13.5s
CD2 LR LR
comp=Z,410nm,14.5s
KSH Kashi 64.89 5 P **P** **17 45 57.8 -1.9**
KSH PcP **PcP** **17 46 31.8 -1.0**
KSH S **S** **17 54 34.8 -5.2**
KSH SS **SS** **17 58 46.8 -5.6**
KSH pmax pmax
comp=Z,37nm,1.3s
KSH pmax pmax
comp=Z,490nm,6.7s
KSH LR LR
comp=Z,390nm,6.7s
KSH LR LR
comp=Z,420nm,10.3s
KSH LR LR
comp=Z,880nm,6.7s
BTK Batken 65.20 1 P **P** **17 46 00.7 -0.9**
BTK pmax pmax
comp=Z,25nm,1.7s
BTK Batken 65.20 1 P **P** **17 46 00.7 -0.9**
BTK IAmb IAmb 17 46 03.8
comp=Z,25nm,1.6s
VNDA Vanda 65.72 166 P **P** **17 46 05.4 +0.9**
VNDA pmax pmax
comp=Z,7.0nm,1.2s
VNDA Vanda 65.72 166 P **P** **17 46 04.7 +0.2**
comp=Z,3.6nm,1.1s,baz=272,slow=8.5,SNR=10
VNDA LR LR 18 12 37.3
comp=Z,58nm,18.4s,baz=254,slow=34
VNDA Vanda 65.72 166 P **P** **17 46 05.4 +0.9**
ARSB Arslanbob 66.52 2 P **P** **17 46 09.7 -0.5**
NRN Naryn 66.80 5 P **P** **17 46 12.7 +0.6**
NRN pmax pmax
comp=Z,17nm,1.8s
NRN Naryn 66.80 5 P **P** **17 46 12.7 +0.6**
NRN IAmb IAmb 17 46 13.5
comp=Z,17nm,1.8s
KDJ Kajisay 67.59 6 P **P** **17 46 15.9 -1.1**
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 67.59 6 P **P** **17 46 15.9 -1.1**
KDJ IAmb IAmb 17 46 24.2
comp=Z,12nm,1.1s
AAK Ala-Archa 67.90 4 P **P** **17 46 19.4 +0.5**
AAK pmax pmax
comp=Z,23nm,1.8s
AAK Ala-Archa 67.90 4 P **P** **17 46 19.2 +0.3**
comp=Z,1.3nm,0.9s,baz=190,slow=9.0,SNR=5.8
AAK Ala-Archa 67.90 4 P **P** **17 46 19.4 +0.5**
AAK IAmb IAmb 17 46 26.5
comp=Z,23nm,1.8s
PRZ Przheval'sk 68.06 7 P **P** **17 46 19.4 -0.6**
PRZ pmax pmax
comp=Z,65nm,1.9s
PRZ Przheval'sk 68.06 7 P **P** **17 46 19.4 -0.6**
FRU1 Bishkek 68.08 4 P **P** **17 46 18.8 -1.1**
FRU1 pmax pmax
comp=Z,20nm,1.3s
FRU1 Bishkek 68.08 4 P **P** **17 46 18.8 -1.1**
FRU1 IAmb IAmb 17 46 27.4
comp=Z,20nm,1.3s
KK31 Karatay Array 68.24 0 P **P** **17 46 20.4 -0.5**
KK31 pmax pmax
comp=Z,22nm,1.4s
KK31 Karatay Array 68.24 0 P **P** **17 46 20.4 -0.5**
KK31 IAmb IAmb 17 46 28.4
comp=Z,22nm,1.4s
KKAR Karatay Array 68.24 0 P **P** **17 46 19.9 -1.0**
KKAR 17 46 20.2
KKAR Karatay Array 68.24 0 P **P** **17 46 19.9 -1.0**
KKAR Karatay Array 68.24 0 P **P** **17 46 20.2 -0.6**
KKAR IAmb IAmb 17 46 28.4
comp=Z,22nm,1.4s
LZH Lanzhou 69.07 29 *e*P **P** **17 46 28.0 +1.6**
LZH pP sP 17 46 33.5 -0.6
LZH sP pwP 17 46 37.0 +0.2
LZH PP **PP** **17 49 05.5 +6.1**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,59nm,4.9s
LZH LR LR
comp=Z,340nm,16.8s
LZH LR LR
comp=Z,350nm,16.7s
LZH LR LR
comp=Z,430nm,18.0s
GAZ Gaziantep 69.53 333 P **P** **17 46 29.4 +0.3**
XAN Xi'an 69.78 34 P **P** **17 46 28.2 -2.5**
XAN pmax pmax
comp=Z,47nm,1.9s
XAN Xi'an 69.78 34 P **P** **17 46 28.1 -2.5**
GTA Gaotai 70.30 24⇑P **P** **17 46 34.3 +0.4**
GTA pP pP 17 46 39.5 -0.1
GTA S **S** **17 55 46.5 +1.6**
GTA SKS **SKSac** **17 56 31.5 -2.8**
GTA SS **SS** **18 00 20.8 +4.6**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,170nm,6.8s
GTA LR LR
comp=Z,170nm,20.3s
GTA LR LR
comp=Z,180nm,19.0s
GTA LR LR
comp=Z,200nm,19.7s
GNBR Gunib 70.79 342⇑ *e*P **P** **17 46 36.8 +0.1**
GNBR pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 70.84 13 P **P** **17 46 38.3 +1.3**
WMQ pP pP 17 46 43.0 +0.1
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,69nm,3.7s
WMQ LR LR
comp=Z,150nm,15.9s
WMQ Urumqi 70.84 13 P **P** **17 46 37.2 +0.2**
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ Urumqi 70.84 13 P **P** **17 46 37.2 +0.2**
WMQ IAmb IAmb 17 46 39.9
comp=Z,30nm,1.5s
ZEI Tsey 72.06 340 *e*P **P** **17 46 45.7 +1.2**
ZEI pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 72.78 9 P **P** **17 46 47.7 -0.8**
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 72.78 9 P **P** **17 46 47.7 -0.8**
MKAR Makanchi Array 72.78 9 P **P** **17 46 47.8 -0.8**
comp=Z,1.8nm,0.8s,baz=188,slow=6.1,SNR=8.4
MKAR Makanchi Array 72.78 9 P **P** **17 46 46.6 -2.0**
NCK Nalchik 72.79 340⇓ *e*P **P** **17 46 49.6 +1.0**
NCK pmax pmax
comp=Z,7.0nm,1.0s
BR131 Keskin Array S 73.19 331 P **P** **17 46 51.0 -0.3**
BR131 pmax pmax
comp=Z,13nm,1.2s
BR131 Keskin Array S 73.19 331 P **P** **17 46 51.0 -0.3**
BR131 IAmb IAmb 17 46 58.0
comp=Z,13nm,1.2s
BRTR Keskin Array B 73.19 331 *i* P **P** **17 46 52.5 +1.2**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 73.19 331 P **P** **17 46 50.8 -0.4**
comp=Z,2.4nm,1.0s,baz=160,slow=3.9,SNR=10.0
BRTR Keskin Array B 73.19 331 P **P** **17 46 50.7 -0.6**
KIV Kislovodsk 73.49 340 *e*P **P** **17 46 53.1 +0.3**
KIV pmax pmax
comp=Z,32nm,1.1s
NJ2 Nanjing 73.80 42 *e*P **P** **17 46 55.0 +0.2**
NJ2 pmax pmax
comp=Z,12nm,0.5s

GOF Gofitskoye 74.38 341 *ce*P **P** **17 46 58.6 +0.7**
GOF pmax pmax
comp=Z,31nm,1.4s
PMG Port Moresby 74.48 93⇑ *e*P **P** **17 46 57.8 -1.5**
PMG pmax pmax
comp=Z,28nm,1.4s
PMG Port Moresby 74.48 93 P **P** **17 46 56.0 -3.3**
PMG IAmb IAmb 17 47 02.4
comp=Z,37nm,1.7s
MANT Manisa 74.53 327 P **P** **17 46 59.3 +0.1**
ABKAR Akbulak array 74.93 353 P **P** **17 46 59.5 -1.5**
ABKAR Akbulak array 74.93 353 P **P** **17 47 00.1 -0.9**
ABKAR IAmb IAmb 17 47 07.3
comp=Z,16nm,1.2s
KURBB Kurchatov Arra 76.14 6 P **P** **17 47 08.5 +0.6**
comp=Z,1.6nm,0.8s,baz=201,slow=6.0,SNR=13
KURK Kurchatov 76.24 6⇑ *e*P **P** **17 47 08.1 -0.3**
KURK pmax pmax
comp=Z,19nm,1.8s
KURK Kurchatov 76.24 6 P **P** **17 47 07.5 -0.9**
KURK IAmb IAmb 17 47 15.2
comp=Z,13nm,1.1s
HHC Hu-ho-hao-te 76.45 31 *e*P **P** **17 47 11.3 +1.2**
HHC pmax pmax
comp=Z,6.0nm,0.7s
TOA0 Torodi Ar. Sit 76.77 292 P **P** **17 47 11.9 -0.3**
TOA0 IAmb IAmb 17 47 14.3
comp=Z,24nm,1.5s
TORD Torodi Ar. Bea 76.77 292 P **P** **17 47 11.9 -0.4**
comp=Z,5.0nm,1.1s,baz=130,slow=4.2,SNR=16
TORD LR LR 18 19 37.8
comp=Z,136nm,20.6s,baz=5.0,slow=35
TORD Torodi Ar. Bea 76.77 292 P **P** **17 47 11.0 -1.3**
TAM Tamanrasset 78.77 302 P **P** **17 47 24.0 +0.6**
TAM pmax pmax
comp=Z,20nm,1.8s
TAM Tamanrasset 78.77 302 P **P** **17 47 24.1 +0.6**
DBIC Dimbokro 79.32 283 LR LR 18 20 36.1
comp=Z,146nm,18.9s,baz=103,slow=34
SONM Songino Array 79.98 24 P **P** **17 47 28.8 -0.6**
SONM pmax pmax
comp=Z,8.0nm,1.4s
SONM Songino Array 79.98 24 P **P** **17 47 30.2 +0.8**
comp=Z,2.4nm,1.1s,baz=205,slow=4.2,SNR=12
SONM LR LR 18 21 28.3
comp=Z,138nm,21.5s,baz=196,slow=35
SONM Songino Array 79.98 24 P **P** **17 47 28.8 -0.6**
ZAA0 Zalesovo Array 80.13 9 P **P** **17 47 30.0 0.0**
ZALV Zalesovo Beam 80.13 9 P **P** **17 47 29.6 -0.4**
comp=Z,1.2nm,0.6s,baz=184,slow=4.9,SNR=8.1
ULN Ulaanbaatar 80.25 24 P **P** **17 47 30.1 -0.8**
ULN pmax pmax
comp=Z,20nm,1.5s
ULN Ulaanbaatar 80.25 24 P **P** **17 47 30.1 -0.8**
ULN IAmb IAmb 17 47 33.4
comp=Z,20nm,1.5s
VSR Storozhevoye 81.05 341⇓ *e*P **P** **17 47 34.7 -0.2**
VSR pmax pmax
comp=Z,7.0nm,1.1s
MLR Muntele Rosu 81.20 330 P **P** **17 47 36.1 0.0**
MLR pmax pmax
comp=Z,52nm,1.6s
MLR Muntele Rosu 81.20 330 P **P** **17 47 36.1 0.0**
ARU Arti 82.15 354 *d i*P **P** **17 47 40.7 +0.1**
ARU 17 50 46.0
ARU S **S** **17 57 59.0 +4.9**
ARU SS **SS** **18 03 17.8 +3.1**
ARU pmax pmax
comp=Z,27nm,1.5s
ARU Arti 82.15 354 P **P** **17 47 40.5 -0.2**
ARU IAmb IAmb 17 47 49.0
comp=Z,28nm,1.3s
JNU Nakatsue 82.16 48 LR LR 18 23 20.4
comp=Z,97nm,18.6s,baz=198,slow=35
SVE Sverdlovsk 82.36 355 *e*P **P** **17 47 42.6 +0.9**
SVE pmax pmax
comp=Z,27nm,1.4s
GUMO Guam 82.56 71 LR LR 18 23 23.3
comp=Z,27nm,18.1s,baz=59,slow=35
KSRS Korea Array 82.94 43 LR LR 18 23 55.8
comp=Z,64nm,18.6s,baz=220,slow=35
BURAR Bucovina Array 83.16 331 P **P** **17 47 46.0 -0.3**
AKASG Malin Array Be 83.96 335 P **P** **17 47 50.7 +0.6**
AKASG pmax pmax
comp=Z,5.0nm,1.5s
AKASG Malin Array Be 83.96 335 P **P** **17 47 50.9 +0.8**
comp=Z,0.6nm,0.4s,baz=145,slow=4.0,SNR=9.0
AKASG Malin Array Be 83.96 335 P **P** **17 47 50.7 +0.6**
AKBB Malin Array Si 83.96 335 P **P** **17 47 50.1 0.0**
AKBB pmax pmax
comp=Z,46nm,1.9s
AKBB Malin Array Si 83.96 335 P **P** **17 47 50.1 0.0**
OBN Obninsk 85.22 341 *i* P **P** **17 47 56.3 0.0**
OBN pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 85.44 331 *e*P **P** **17 47 59.9 +2.2**
KOLS Kolonicke sedl 85.44 331 *e*P **P** **17 47 59.9 +2.2**
MOS Moscow 85.47 342 *e*P P 17 47 45.3 -12
VYHS Vyhne 86.69 329 *e*P **P** **17 48 05.2 +1.3**
VYHS Vyhne 86.69 329 *e*P **P** **17 48 05.2 +1.3**
LANS Liptovska Anna 86.87 329 *e*P **P** **17 48 07.0 +2.2**
LANS pmax pmax
comp=Z,10.0nm,1.6s
LANS Liptovska Anna 86.87 329 *e*P **P** **17 48 07.0 +2.2**
MODS Modra-Piesok 87.35 328 *e*P **P** **17 48 07.9 +0.8**
MODS Modra-Piesok 87.35 328 *e*P **P** **17 48 07.9 +0.8**
OJC Ojcow 87.48 330 P **P** **17 48 07.6 -0.1**
OJC pmax pmax
comp=Z,15nm,1.2s
OJC Ojcow 87.48 330 P **P** **17 48 07.6 -0.1**
OJC IAmb IAmb 17 48 15.0
comp=Z,15nm,1.2s
JAVC Velka Javorina 87.50 328 *e*P **P** **17 48 10.1 +2.3**
MORC Moravsky Berou 88.20 329 P **P** **17 48 11.0 -0.2**
MORC pmax pmax
comp=Z,20nm,1.5s
MORC Moravsky Berou 88.20 329 *e*P **P** **17 48 11.2 0.0**
MORC Moravsky Berou 88.20 329 P **P** **17 48 11.0 -0.2**
KRUC Moravsky 88.24 328 *e*P **P** **17 48 11.8 +0.5**
VRAC Vranov 88.32 328 *e*P **P** **17 48 11.8 +0.1**
MJAR Matsushiro Arr 89.05 48 LR LR 18 28 28.4
comp=Z,83nm,18.5s,baz=265,slow=36
GERES GERESS Array B 89.41 327 P **P** **17 48 15.4 -1.5**
comp=Z,0.2nm,0.4s,baz=153,slow=6.6,SNR=3.2
KLMR Klimovskoe 89.52 346 *e*P **P** **17 48 16.6 -0.4**
KLMR pmax pmax
comp=Z,57nm,1.5s
KLMR Klimovskoe 89.52 346 *e*P **P** **17 48 16.6 -0.4**
KLMR AMP 17 48 24.5
comp=Z,57nm,1.5s
USRK Ussuriysk Ar. 89.54 39 LR LR 18 28 03.4
comp=Z,81nm,19.0s,baz=201,slow=35
KLR Kul'dur 92.44 35 LR LR 18 31 27.4
comp=Z,127nm,18.2s,baz=192,slow=36
ASAJ Asahikawa 95.86 44 LR LR 18 28 42.4
comp=Z,81nm,20.8s,baz=303,slow=33
GO01 Chusmiza 120.10 225 **PKPdf** **17 54 11.3 -1.2**
FRNY Flat Rock 144.89 313 **PKPab** **17 54 55.8 -0.7**

NIED ***27*** *17:45:00,42°.00N×141°.50E,h83km,Mw5.0 Best double couple: M₀3.96000×10¹⁶ NP1:φ₀86.00000°,δ34.00000°, λ-97.00000°. NP2:φ₀275.00000°,δ57.00000°, λ-86.00000°.*
BJI ***27*** *17:45:47.2±0.0,41°.91N×141°.82E,h106km,mb5.0/73, mB5.0/49*
ISCJB ***27*** *17:45:49.9±0.1,42°.00N±0°.01×141°.55E±0°.02,h97km±1km, mb5.1/160,Error ellipse: s-maj=2.6km s-min=1.8km az=42.8*
MOS ***27*** *17:45:49.2±1.1,42°.05N×141°.53E,h89km,mb5.2/30,Error ellipse: s-maj=5.1km s-min=4.0km az=105.8*
GCMT ***27*** *17:45:50.0±0.2,42°.13N±0°.02×141°.52E±0°.02,h99km±1km, MW5.1/102,Moment Tensor Solution. s72,c89; s102,c153; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.45±.10; Mθθ5.16±.13; Mφφ-0.71±.13; Mrθ1.41±.12; Mθφ-0.30±.15; Mφr-0.82±.09; Best double couple: M₀5.09400×10¹⁶ NP1:φ₀283.00000°,δ54.00000°, λ-78.00000°. NP2:φ₀82.00000°,δ38.00000°, λ-107.00000°. Principal axes: T 5.3910, Plg8.0000°, Azm4.0000°; N -0.6000, Plg10.0000°, Azm95.0000°; P -4.7970, Plg77.0000°, Azm235.0000°; nsta1 refers to*

body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
JMA **27** *17:45:50.6±0.1, 42°.01N×141°.53E, h90km±2km, M5.0 Broadband fault plane solution: P waves. NP1: φs=269.00000°, δ63.00000°, λ-96.00000°. NP2: φs=103.00000°, δ27.00000°, λ-77.00000°. Principal axes: T Plg18.0000°, Azm4.0000°; N Plg6.0000°, Azm272.0000°; P Plg71.0000°, Azm165.0000°;*
JMA Felt III J1.
NEIC **27** *17:45:51.0±1.7, 42°.02N±0°.06×141°.59E±0°.08, h95km±1km, mb5.0/256*
IDC **27** *17:45:51.1±0.4, 42°.06N×141°.53E, h92km±3km, mb4.5/31, mb1 4.7/38, mb1mx4.7/41, mbtmp4.9/38, MS3.9/25, Ms1 3.9/25, ms1mx3.7/43, Error ellipse: s-maj=8.7km s-min=6.2km az=120.0*
ISC 27 17:45:50.6±0.3, 42°.04N±0°.03×141°.55E±0°.03, h93km±2km, h93km:pP-P, n861, σ1s28/959, mb5.0/241, 78C-35D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.41**	**248**	⇓P	**Pn**	**17 46 04.3**	**-0.7**
JKB				*e*S	**Sn**	**17 46 14.9**	**-0.8**
JNB	**Noboribetsu**	**0.57**	**319**	⇓P	**Pn**	**17 46 05.7**	**-0.4**
JNB				*e*S	**Sn**	**17 46 17.4**	**-0.4**
JIAM	**Iburiatsuma**	**0.64**	**25**	⇓P	**Pn**	**17 46 07.2**	**+0.4**
JIAM				*e*S	**Sn**	**17 46 19.9**	**+1.0**
JOT	**Ohata**	**0.76**	**210**	⇑P	**Pn**	**17 46 07.5**	**-0.4**
JOT				*e*S	**Sn**	**17 46 20.4**	**-0.4**
JSHD	**Hidakashinhida**	**0.78**	**62**	⇓P	**Pn**	**17 46 08.7**	**+0.7**
JAHD	**Aomorihigashid**	**0.79**	**191**	P	**Pn**	**17 46 07.7**	**-0.5**
JAHD				S	**Sn**	**17 46 20.6**	**-0.8**
JEW	**Eniwo**	**0.80**	**355**	⇓P	**Pn**	**17 46 08.7**	**+0.4**
JEW				*e*S	**Sn**	**17 46 22.2**	**+0.6**
JYM2	**Yakumo 2**	**0.88**	**275**	⇓P	**Pn**	**17 46 09.1**	**0.0**
JYM2				*e*S	**Sn**	**17 46 23.6**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.93**	**75**	⇓P	**Pn**	**17 46 09.4**	**-0.2**
JBT2	**Biratori 2**	**0.95**	**39**	⇓P	**Pn**	**17 46 10.3**	**+0.4**
JBT2				*e*S	**Sn**	**17 46 25.7**	**+1.3**
JSR	**Shiriuchi**	**0.99**	**239**	⇑P	**Pn**	**17 46 10.3**	**0.0**
JSR				*e*S	**Sn**	**17 46 25.5**	**+0.4**
JARK	**Aomorirokkasho**	**1.04**	**188**	⇑P	**Pn**	**17 46 10.5**	**-0.5**
JARK				S	**Sn**	**17 46 25.5**	**-0.8**
ERM	**Erimo**	**1.20**	**91**	*d* iPN	**Pn**	**17 46 13.0**	**+0.3**
ERM				pmax	pmax		
	comp=Z,3μm,0.7s						
ERM	**Erimo**	**1.20**	**91**		**Pn**	**17 46 12.8**	**0.0**
JEM	**Erimo**	**1.20**	**91**	⇓P	**Pn**	**17 46 12.9**	**+0.2**
JISS	**Ishikarishitsu**	**1.23**	**356**	⇑P	**Pn**	**17 46 14.0**	**+0.8**
JOMM	**Oshimamatsumae**	**1.26**	**246**	⇑P	**Pn**	**17 46 14.0**	**+0.5**
JOMM				*e*S	**Sn**	**17 46 31.2**	**+0.4**
JSI2	**Shiura 2**	**1.30**	**221**	⇑P	**Pn**	**17 46 14.4**	**+0.4**
JSI2				S	**Sn**	**17 46 32.3**	**+0.6**
JTM	**Tenmabayashi**	**1.31**	**196**	⇑P	**Pn**	**17 46 13.9**	**-0.2**
JTM				S	**Sn**	**17 46 31.5**	**-0.3**
JTHR	**Tokachihiroo**	**1.33**	**79**	⇓P	**Pn**	**17 46 14.9**	**+0.7**
JFR	**Furan**	**1.36**	**34**	⇑P	**Pn**	**17 46 14.4**	**-0.3**
JCH	**Churui**	**1.46**	**66**	⇓P	**Pn**	**17 46 16.2**	**+0.3**
JSK	**Shakotan**	**1.53**	**329**	P	**Pn**	**17 46 17.8**	**+1.1**
JSK				*e*S	**Sn**	**17 46 38.7**	**+2.1**
JAB	**Ashibetsu**	**1.54**	**19**	⇑P	**Pn**	**17 46 17.9**	**+0.9**
JOSM	**Okushiri--Mats**	**1.54**	**272**	P	**Pn**	**17 46 17.3**	**+0.4**
JOSM				*e*S	**Sn**	**17 46 37.8**	**+0.8**
JHHS	**Hirosakihyakuz**	**1.65**	**213**	⇑P	**Pn**	**17 46 19.2**	**+0.8**
JHHS				S	**Sn**	**17 46 41.0**	**+1.5**
JANG	**Nango**	**1.67**	**181**	⇑P	**Pn**	**17 46 17.4**	**-1.2**
JHR	**Hokuryu**	**1.70**	**4**	⇑P	**Pn**	**17 46 20.3**	**+1.3**
JHR				*e*S	**Sn**	**17 46 42.9**	**+2.3**
JKEN	**Kujiedanarisaw**	**1.84**	**176**	⇑P	**Pn**	**17 46 19.6**	**-1.2**
JIW	**Iwasaki**	**1.86**	**219**	⇑P	**Pn**	**17 46 21.6**	**+0.6**
JOB	**Onbets**	**1.90**	**62**	⇑P	**Pn**	**17 46 22.2**	**+0.7**
JAH	**Hinai**	**1.98**	**201**	⇑P	**Pn**	**17 46 23.1**	**+0.5**
JKK2	**Kamakawa 2**	**2.03**	**25**	⇑P	**Pn**	**17 46 23.8**	**+0.6**
JKK2				*e*S	**Sn**	**17 46 49.1**	**+0.9**
JNTW	**Noshirotokiwa**	**2.06**	**211**	P	**Pn**	**17 46 24.5**	**+0.9**
JAR	**Ashorobuto**	**2.06**	**52**	⇑P	**Pn**	**17 46 23.7**	**+0.1**
JKZ	**Kuzumaki**	**2.06**	**185**	⇑P	**Pn**	**17 46 23.2**	**-0.6**
JTH	**Tanohata**	**2.12**	**173**	⇑P	**Pn**	**17 46 22.6**	**-1.8**
ASAJ	**Asahikawa**	**2.21**	**20**	⇑P	**Pn**	**17 46 26.1**	**+0.6**
ASAJ	**Asahikawa**	**2.21**	**20**	P	**Pn**	**17 46 26.2**	**+0.6**
	comp=Z,386nm,0.3s,baz=222,slow=12,SNR=700						
ASAJ				S	**Sn**	**17 46 52.9**	**+0.5**
	comp=Z,354nm,0.3s,baz=7.7,slow=20,SNR=13						
ASAJ				LR	LR	17 47 36.0	
	comp=Z,4μm,19.1s,baz=146,slow=48						
JKA	**Kamikawa-asahi**	**2.21**	**20**		**Pn**	**17 46 26.2**	**+0.6**
JKA					**Sn**	**17 46 52.9**	**+0.5**
JSZI	**Iwateshizukuis**	**2.34**	**191**	⇑P	**Pn**	**17 46 27.8**	**+0.4**
JSS	**Shosan**	**2.37**	**5**	⇑P	**Pn**	**17 46 29.2**	**+1.6**
JMP	**Maruseppu**	**2.37**	**34**	⇑P	**Pn**	**17 46 28.3**	**+0.6**
MIYJ	**Miyakonagasawa**	**2.47**	**175**	P	**Pn**	**17 46 27.6**	**-1.5**
JAK	**Akkeshi**	**2.52**	**67**	P	**Pn**	**17 46 28.7**	**-0.9**
JOM	**Ohasama**	**2.58**	**184**	⇑P	**Pn**	**17 46 29.8**	**-0.7**
JTKR	**Abashiri--Toko**	**2.59**	**41**	⇑P	**Pn**	**17 46 31.1**	**+0.5**
JYW	**Yuwa**	**2.70**	**203**	⇑P	**Pn**	**17 46 33.4**	**+1.3**
JRG	**Rokugo**	**2.73**	**195**	⇑P	**Pn**	**17 46 33.3**	**+0.7**
JNK	**Nakash**	**2.80**	**56**	⇑P	**Pn**	**17 46 33.0**	**-0.4**
JOG3	**Oga3**	**2.83**	**222**	P	**Pn**	**17 46 30.3**	**-3.5**
OFUJ	**Ofunato**	**2.96**	**178**	P	**Pn**	**17 46 34.3**	**-1.3**
JSE	**Soyaes**	**3.01**	**14**	⇑P	**Pn**	**17 46 37.2**	**+1.0**
JMK	**Ichinoseki**	**3.10**	**185**	⇑P	**Pn**	**17 46 36.4**	**-1.1**
JKMT	**Kesennumamotoy**	**3.23**	**181**	⇑P	**Pn**	**17 46 38.0**	**-1.2**
JRA	**Rausu**	**3.23**	**53**	⇑P	**Pn**	**17 46 39.7**	**+0.5**
JYK	**Kaneyama**	**3.25**	**197**	⇑P	**Pn**	**17 46 39.7**	**+0.2**
NMR	**Nemuro--Hokkai**	**3.35**	**65**	*c* iPN	**Pn**	**17 46 39.4**	**-1.4**
NMR				*i* S	**Sn**	**17 47 15.5**	**-4.2**
GLVR	**Golovnino**	**3.38**	**59**	*e*PN	**Pn**	**17 46 41.4**	**+0.3**
GLVR				*i* S	**Sn**	**17 47 19.9**	**-0.3**
GLVR				pmax	pmax		
	comp=Z,972nm,0.3s						
GLVR				smax	smax		
	comp=N,6μm,0.4s						
GLVR				smax	smax		
	comp=E,3μm,0.4s						
JRBN	**Rebuntou**	**3.40**	**354**	⇑P	**Pn**	**17 46 42.8**	**+1.4**
GRPR	**Tuman**	**3.66**	**56**	⇑*i* iPN	**Pn**	**17 46 44.8**	**-0.2**
GRPR				*i* S	**Sn**	**17 47 25.5**	**-1.6**
GRPR				pmax	pmax		
	comp=Z,928nm,0.3s						
GRPR				pmax	pmax		
	comp=N,136nm,0.1s						
GRPR				pmax	pmax		
	comp=E,494nm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.4s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
JOU	**Okura**	**3.74**	**191**	P	**Pn**	**17 46 45.8**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**3.74**	**56**	*d* iPN	**Pn**	**17 46 46.6**	**+0.6**
JFT	**Otama**	**4.62**	**192**	P	**Pn**	**17 46 57.5**	**-0.5**
TEY	**Ternei**	**4.67**	**311**	⇑*i* iPN	**Pn**	**17 47 00.1**	**+1.4**
TEY				*e*S	**Sn**	**17 47 56.1**	**+4.4**
TEY				pmax	pmax		
	comp=N,400nm,1.7s						
TEY				pmax	pmax		
	comp=E,600nm,1.7s						
TEY				pmax	pmax		
	comp=Z,500nm,1.8s						
TEY				smax	smax		
	comp=E,120nm,0.8s						
TEY				smax	smax		
	comp=N,280nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.98**	**10**	*α i* iPN	**Pn**	**17 47 04.2**	**+1.3**
YSS				*e*S	**Sn**	**17 48 01.4**	**+2.2**
YSS				pmax	pmax		
	comp=Z,2μm,2.1s						
YSS				pmax	pmax		
	comp=N,2μm,2.3s						
YSS				pmax	pmax		
	comp=E,1μm,2.8s						
YSS				pmax	pmax		
	comp=Z,420nm,1.1s						
YSS				pmax	pmax		
	comp=N,390nm,1.4s						
YSS				pmax	pmax		
	comp=E,300nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.98**	**10**		**Pn**	**17 47 03.0**	**+0.1**
KUR	**Kuril'sk**	**5.58**	**53**	*d* iPN	**Pn**	**17 47 12.4**	**+1.4**
KUR				*e*S	**Sn**	**17 48 15.1**	**+1.3**
KUR				pmax	pmax		
	comp=Z,348nm,0.8s						
KUR				pmax	pmax		
	comp=E,142nm,0.6s						
KUR				pmax	pmax		
	comp=N,54nm,0.5s						
KUR				smax	smax		
	comp=N,455nm,0.6s						
KUR				smax	smax		
	comp=E,312nm,0.4s						
MJB9	**Matsu-Tunnel**	**6.07**	**206**		**Pn**	**17 47 18.4**	**+0.6**
MAJO	**Matsushiro**	**6.07**	**206**	PN	**Pn**	**17 47 18.3**	**+0.5**
MAJO	**Matsushiro**	**6.07**	**206**		**Pn**	**17 47 18.4**	**+0.5**
MAT	**Matsushiro**	**6.07**	**206**	P	**Pn**	**17 47 18.5**	**+0.7**
MAT				S	**Sn**	**17 48 25.8**	**-0.1**
MJAR	**Matsushiro Arr**	**6.07**	**206**	P	**Pn**	**17 47 18.8**	**+1.0**
	comp=E,2.3nm,0.3s,baz=7.1,slow=16,SNR=68						
MJAR				S	**Sn**	**17 48 26.9**	**+1.0**
	baz=34,slow=6.2,SNR=2.2						
MJAR				LR	LR	17 50 00.9	
	comp=E,875nm,20.2s,baz=10.0,slow=41						
MJAR	**Matsushiro Arr**	**6.07**	**206**		**Pn**	**17 47 18.0**	**+0.2**
VLA	**Vladivostok**	**7.21**	**282**	*c* iPN	**Pn**	**17 47 36.2**	**+3.0**
USA0B	**Ussuriysk Arra**	**7.32**	**290**	PN	**Pn**	**17 47 36.5**	**+1.8**
USA0B	**Ussuriysk Arra**	**7.32**	**290**		**Pn**	**17 47 36.5**	**+1.8**
USRK	**Ussuriysk Ar.**	**7.32**	**290**	P	**Pn**	**17 47 36.6**	**+1.9**
	baz=98,slow=12,SNR=64						
USRK				S	**Sn**	**17 48 58.7**	**+2.6**
	baz=102,slow=21,SNR=3.0						
USRK	**Ussuriysk Ar.**	**7.32**	**290**		**Pn**	**17 47 35.7**	**+1.0**
INU	**Inuyama**	**7.56**	**209**		**Pn**	**17 47 38.5**	**+0.4**
MSHR	**Mys Shultsa**	**7.72**	**277**	⇓*e*PN	**Pn**	**17 47 41.9**	**+1.8**
JHJ	**Hachijo jima 2**	**9.02**	**189**	P	**Pn**	**17 47 54.2**	**-3.6**
	comp=E,34nm,0.3s,baz=130,slow=23,SNR=15						
JHJ				S	Sn	17 49 28.6	-9.1
	comp=E,42nm,0.3s,baz=31,slow=23,SNR=8.1						
MDJ	**Mudanjiang**	**9.09**	**290**	P	**Pn**	**17 48 00.0**	**+1.3**
MDJ				sP		17 48 23.8	
MDJ				S	**Sn**	**17 49 44.5**	**+5.3**
MDJ				pmax	pmax		
	comp=E,69nm,1.0s						
MDJ				pmax	pmax		
	comp=E,440nm,5.0s						
MDJ				LR	LR		
	comp=E,1μm,7.8s						
MDJ				LR	LR		
	comp=E,360nm,7.1s						
MDJ				LR	LR		
	comp=E,610nm,8.5s						
MDJ	**Mudanjiang**	**9.09**	**290**		**Pn**	**17 48 01.2**	**+2.4**
GRNR	**Gornyy**	**9.41**	**340**	⇓*i* iPN	**Pn**	**17 48 05.8**	**+2.6**
GRNR				*e*S	**Sn**	**17 49 53.5**	**+6.4**
GRNR				pmax	pmax		
	comp=Z,60nm,1.0s						
GRNR				smax	smax		
	comp=E,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=Z,870nm,15.0s						
KLR	**Kul'dur**	**9.93**	**320**	*ce*PN	**Pn**	**17 48 11.6**	**+1.4**
KLR	**Kul'dur**	**9.93**	**320**	P	**Pn**	**17 48 10.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=131,slow=13,SNR=28						
KSRS	**Korea Array**	**11.44**	**251**	P	**Pn**	**17 48 33.2**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=65,slow=12,SNR=5.5						
KSRS				S	Sn	17 50 47.6	+11
	comp=Z,1.3nm,0.3s,baz=67,slow=23,SNR=18						
KSRS				LR	LR	17 52 32.2	
	comp=Z,431nm,20.6s,baz=60,slow=35						
KS19	**Wonju Array Si**	**11.46**	**251**		**Pn**	**17 48 31.1**	**0.0**
KSAR	**Wonju Array Be**	**11.48**	**251**	PN	**Pn**	**17 48 31.7**	**+0.4**
KSAR	**Wonju Array Be**	**11.48**	**251**		**Pn**	**17 48 31.7**	**+0.4**
CN2	**Changchun**	**11.94**	**284**	*e*P	**Pn**	**17 48 37.0**	**-0.4**
CN2				pmax	pmax		
	comp=Z,20nm,1.5s						
JNU	**Nakatsue**	**12.28**	**227**	P	**Pn**	**17 48 43.6**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=85,slow=11,SNR=5.5						
JNU	**Nakatsue**	**12.28**	**227**		**Pn**	**17 48 43.0**	**+1.0**
TJN	**Taejon**	**12.37**	**247**	⇑*e*PN	**Pn**	**17 48 45.3**	**+2.1**
SKR	**Severo-Kuril's**	**13.24**	**44**	*e*PN	P	17 49 07.4	+6.4
SKR				pmax	pmax		
	comp=Z,400nm,5.0s						
SKR				MLR	MLR		
	comp=Z,400nm,18.0s						
JCJ	**Chichijima**	**14.92**	**178**	P	**Pn**	**17 49 13.7**	**-2.9**
	comp=Z,8.3nm,0.3s,baz=315,slow=20,SNR=3.6						
JCJ				S	Sn	17 51 51.1	-10
	comp=Z,6.9nm,0.3s,baz=292,slow=23,SNR=3.6						
ZEA	**Zeya**	**15.09**	**326**	*e*P	**Pn**	**17 49 19.8**	**+1.3**
ZEA				*e*		17 52 09.2	
ZEA				pmax	pmax		
	comp=Z,31nm,0.8s						
DL2	**Dalian**	**15.48**	**265**	P	**Pn**	**17 49 24.0**	**+0.5**
DL2				pP	**pP**	**17 49 39.8**	**-3.7**
DL2				*e*S	**Sn**	**17 52 17.3**	**+3.0**
DL2				pmax	pmax		
	comp=Z,100nm,1.0s						
DL2				pmax	pmax		
	comp=Z,530nm,3.8s						
DL2				LR	LR		
	comp=Z,450nm,17.4s						
DL2				LR	LR		
	comp=Z,720nm,18.3s						
DL2				LR	LR		
	comp=Z,520nm,16.2s						
PETK	**Petropavlovsk-**	**15.49**	**39**	P	**Pn**	**17 49 22.4**	**-1.2**
PETK	**Petropavlovsk-**	**15.49**	**39**	P	**Pn**	**17 49 21.1**	**-2.5**
	comp=Z,1.7nm,0.3s,baz=216,slow=8.5,SNR=13						
PETK				LR	LR	17 55 04.6	
	comp=Z,573nm,21.2s,baz=240,slow=36						
PETK	**Petropavlovsk-**	**15.49**	**39**	P	**Pn**	**17 49 22.4**	**-1.2**
PET	**Petropavlovsk**	**15.89**	**40**	*e*P	**Pn**	**17 49 26.0**	**-2.6**
PET				*e*S	**Sn**	**17 52 18.4**	**-5.8**
PET				pmax	pmax		
	comp=Z,88nm,1.0s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
HIA	**Hailar**	**16.83**	**303**	P	**Pn**	**17 49 39.8**	**-0.5**
HIA				pmax	pmax		
	comp=Z,41nm,1.3s						
HIA	**Hailar**	**16.83**	**303**	P	**Pn**	**17 49 39.9**	**-0.5**
MA2	**Magadan**	**18.46**	**15**	P	**P**	**17 49 57.5**	**-1.2**
	comp=Z,3.1nm,0.3s,baz=200,slow=9.4,SNR=15						
MA2				LR	LR	17 58 27.2	
	comp=Z,156nm,19.9s,baz=250,slow=41						
MA2	**Magadan**	**18.46**	**15**	P	**P**	**17 49 57.6**	**-1.1**
MA2				IAmb	IAmb	17 50 01.1	
	comp=Z,144nm,1.0s						
BJI	**Beijing**	**19.23**	**273**	P	**P**	**17 50 05.8**	**-1.4**
BJI				pP	**pP**	**17 50 24.3**	**-0.8**
BJI				S	**S**	**17 53 38.3**	**-1.6**
BJI				pmax	pmax		
	comp=Z,54nm,1.3s						
BJI				LR	LR		
	comp=Z,290nm,15.1s						
BJI				LR	LR		
	comp=Z,360nm,12.9s						
BJT	**Baijiatuau**	**19.23**	**272**	P	**P**	**17 50 06.3**	**-1.0**
BJT				pmax	pmax		
	comp=Z,77nm,1.2s						
BJT	**Baijiatuau**	**19.23**	**272**	P	**P**	**17 50 06.3**	**-1.0**
BJT				IAmb	IAmb	17 50 08.0	
	comp=Z,78nm,1.2s						
TIA	**Tai'an**	**19.79**	**261**	P	**P**	**17 50 12.0**	**-1.4**
TIA				pmax	pmax		
	comp=Z,56nm,0.9s						
NJ2	**Nanjing**	**20.62**	**248**	*e*P	**P**	**17 50 20.8**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,41nm,0.8s						
NJ2				LR	LR		
	comp=Z,830nm,23.0s						
NJ2				LR	LR		
	comp=Z,790nm,19.1s						
NJ2				LR	LR		
	comp=Z,690nm,17.2s						
YAK	**Yakutsk**	**21.24**	**344**	*e*P	**P**	**17 50 25.4**	**-3.3**
YAK				*e*S	**S**	**17 54 12.0**	**-7.2**
YAK				*e**SS	sS	17 55 00.5	+11
YAK				pmax	pmax		
	comp=Z,37nm,1.0s						
YAK				pmax	pmax		
	comp=N,21nm,1.1s						
YAK				pmax	pmax		
	comp=E,20nm,1.5s						
YAK				smax	smax		
	comp=N,615nm,2.0s						
YAK				smax	smax		
	comp=E,510nm,2.3s						
YAK	**Yakutsk**	**21.24**	**344**	P	**P**	**17 50 26.3**	**-2.4**
	comp=E,6.6nm,0.3s,baz=317,slow=2.3,SNR=18						
YAK				S	**S**	**17 54 11.9**	**-7.4**
	comp=E,8.0nm,0.8s,baz=283,slow=24,SNR=7.3						
YAK	**Yakutsk**	**21.24**	**344**	P	**P**	**17 50 25.4**	**-3.3**
YAK				IAmb	IAmb	17 50 52.9	
	comp=Z,38nm,0.8s						
SEY	**Seymchan**	**21.88**	**13**	⇓*e*P	**P**	**17 50 34.4**	**-1.1**
SEY	**Seymchan**	**21.88**	**13**	P	**P**	**17 50 33.8**	**-1.7**
	comp=Z,18nm,0.5s,baz=182,slow=8.9,SNR=51						
SEY				S	**S**	**17 54 26.6**	**-4.9**
	comp=Z,6.9nm,1.1s,baz=73,slow=20,SNR=3.5						
HHC	**Hu-ho-hao-te**	**22.46**	**277**	*e*P	**P**	**17 50 40.5**	**-1.5**
TIY	**Taiyuan**	**22.70**	**269**	*e*P	**P**	**17 50 42.0**	**-2.5**
TIY				pmax	pmax		
	comp=Z,210nm,5.7s						
BOD	**Bodaibo**	**23.50**	**322**	*e*P	**P**	**17 50 51.3**	**-0.5**
BOD				pmax	pmax		
	comp=Z,12nm,1.4s						
BTO	**Baotou**	**23.65**	**277**	*e*P	**P**	**17 50 51.8**	**-1.7**
TATO	**Taipei**	**23.77**	**231**	P	**P**	**17 50 54.2**	**-0.3**
TATO	**Taipei**	**23.77**	**231**	P	**P**	**17 50 52.4**	**-2.1**
YHNB	**Yeheng**	**24.07**	**230**	P	**P**	**17 50 55.1**	**-2.2**
YHNB				IAmb	IAmb	17 50 57.8	
	comp=Z,116nm,1.2s						
WHN	**Wuhan**	**24.64**	**251**	P	**P**	**17 51 00.0**	**-2.3**
WHN				S	**S**	**17 55 08.0**	**-9.0**
WHN				pmax	pmax		
	comp=Z,74nm,0.9s						
WHN				LR	LR		
	comp=Z,990nm,12.1s						
WHN				LR	LR		
	comp=Z,430nm,7.6s						
WHN				LR	LR		
	comp=Z,1μm,12.9s						
ULN	**Ulaanbaatar**	**24.95**	**295**	P	**P**	**17 51 05.1**	**-0.2**
	SNR=5.1						
ULN	**Ulaanbaatar**	**24.95**	**295**	P	**P**	**17 51 04.7**	**-0.6**
ULN				pmax	pmax		
	comp=Z,34nm,1.4s						
ULN	**Ulaanbaatar**	**24.95**	**295**	P	**P**	**17 51 04.7**	**-0.6**
YULB	**Yu-li**	**25.11**	**229**	P	**P**	**17 51 06.6**	**-0.1**
SONM	**Songino Array**	**25.39**	**295**	P	**P**	**17 51 07.7**	**-1.5**
SONM				pmax	pmax		
	comp=Z,34nm,1.5s						
SONM	**Songino Array**	**25.39**	**295**	P	**P**	**17 51 08.9**	**-0.3**
	comp=Z,9.9nm,0.6s,baz=80,slow=7.9,SNR=45						
SONM				ScP	**ScP**	**17 58 10.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=70,slow=3.0,SNR=3.7						
SONM				LR	LR	18 01 47.0	
	comp=Z,226nm,18.6s,baz=78,slow=38						
SONM	**Songino Array**	**25.39**	**295**	P	**P**	**17 51 07.7**	**-1.5**
TPUB	**Ta-pu**	**25.56**	**230**	P	**P**	**17 51 09.7**	**-1.1**
TPUB				IAmb	IAmb	17 51 17.5	
	comp=Z,61nm,1.1s						
TWG	**Pinlang**	**25.69**	**228**	P	**P**	**17 51 11.7**	**-0.2**
KNMB	**Chin-men Tao**	**25.99**	**235**	P	**P**	**17 51 15.7**	**+1.1**
XAN	**Xi'an**	**26.79**	**263**	P	**P**	**17 51 21.0**	**-0.8**
XAN				pP	pP	17 51 39.8	-3.0
XAN				PcP	**PcP**	**17 54 43.8**	**+1.4**
XAN				pmax	pmax		
	comp=Z,44nm,1.0s						
XAN				pmax	pmax		
	comp=Z,170nm,4.1s						
XAN	**Xi'an**	**26.79**	**263**	P	**P**	**17 51 20.8**	**-1.0**
XAN				pmax	pmax		
	comp=Z,36nm,0.8s						
XAN	**Xi'an**	**26.79**	**263**	P	**P**	**17 51 20.8**	**-1.0**
XAN				IAmb	IAmb	17 51 23.3	
	comp=Z,36nm,0.8s						
IRK	**Irkutsk**	**27.05**	**305**	*e*P	**P**	**17 51 22.5**	**-1.4**
IRK				pmax	pmax		
	comp=Z,42nm,2.2s						
TLY	**Talaya**	**27.37**	**304**	P	**P**	**17 51 27.6**	**+0.8**
TLY	**Talaya**	**27.37**	**304**	P	**P**	**17 51 27.0**	**+0.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TLY	**Talaya**	**27.37**	**304**	P	**P**	**17 51 27.2**	**+0.4**
	comp=Z,7.8nm,0.6s,baz=81,slow=3.8,SNR=6.8						
TLY	**Talaya**	**27.37**	**304**	P	**P**	**17 51 27.0**	**+0.2**
ZAK	**Zakamensk**	**27.50**	**301**	*e*P	P	17 51 19.4	-8.7
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ENH	**Enshi**	**28.26**	**256**	P	**P**	**17 51 32.4**	**-2.6**
ENH				IAmb	IAmb	17 51 37.5	
	comp=Z,53nm,1.0s						
ENH					**PcP**	**17 54 46.8**	**+0.8**
GUMO	**Guam**	**28.50**	**173**	LR	LR	18 03 10.4	
	comp=Z,63nm,21.4s,baz=358,slow=36						
MOY	**Mondy**	**29.02**	**303**	*e*P	**P**	**17 51 42.2**	**+0.6**
MOY				pmax	pmax		
	comp=Z,51nm,2.4s						
BILL	**Bilibino**	**29.23**	**19**	⇓*e*P	**P**	**17 51 42.4**	**-0.7**
BILL				*i*		17 52 45.4	
BILL				*i*		17 54 48.0	
BILL				*e*S	**S**	**17 56 30.3**	**+1.7**
BILL				pmax	pmax		
	comp=Z,14nm,1.6s						
BILL	**Bilibino**	**29.23**	**19**	P	**P**	**17 51 42.8**	**-0.2**
BILL				IAmb	IAmb	17 51 53.8	
	comp=Z,64nm,2.0s						
LZH	**Lanzhou**	**29.70**	**271**	*e*P	**P**	**17 51 47.3**	**-0.5**
LZH				pP	pP	17 52 10.3	+1.3
LZH				sP	sP	17 52 21.5	+1.7
LZH				PP	**PnPn**	**17 52 43.8**	**-3.4**
LZH				pmax	pmax		
	comp=Z,28nm,1.3s						
LZH				pmax	pmax		
	comp=Z,95nm,4.9s						
LZH				LR	LR		
	comp=Z,370nm,13.0s						
LZH				LR	LR		
	comp=Z,350nm,14.6s						
LZH				LR	LR		
	comp=Z,330nm,16.3s						
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GYA			pmax	pmax		
	comp=Z,120nm,5.9s					
GYA			LR	LR		
	comp=Z,490nm,17.4s					
GYA			LR	LR		
	comp=Z,440nm,17.0s					
GYA			LR	LR		
	comp=Z,420nm,17.2s					
QIZ	**Qiongzhong**	**35.34 239**	P	**P**		**17 52 37.3 +0.3**
QIZ			S	**S**		**17 58 09.5 +5.0**
QIZ			pmax	pmax		
	comp=Z,28nm,1.2s					
QIZ			pmax	pmax		
	comp=Z,270nm,2.8s					
QIZ			LR	LR		
	comp=Z,480nm,18.1s					
QIZ			LR	LR		
	comp=Z,390nm,12.8s					
QIZ			LR	LR		
	comp=Z,420nm,17.2s					
KMI	**Kunming**	**36.11 255**	P	**P**		**17 52 42.8 -1.0**
KMI			pmax	pmax		
	comp=Z,30nm,0.6s					
KMI			LR	LR		
	comp=Z,250nm,22.9s					
KMI			LR	LR		
	comp=Z,330nm,19.9s					
KMI			LR	LR		
	comp=Z,240nm,26.0s					
SLVN	**Son La**	**37.70 249**	P	**P**		**17 52 57.8 +0.7**
KCP	**Kidapawan**	**37.82 207⇑**	*i*P	**P**		**17 52 59.8 +1.7**
ZAA0	**Zalesovo Array**	**38.76 308**	P	**P**		**17 53 05.5 -0.1**
ZAA0			IAmb	IAmb		17 53 08.2
	comp=Z,22nm,0.6s					
ZALV	**Zalesovo Beam**	**38.76 308**	P	**P**		**17 53 05.5 -0.1**
	comp=Z,24nm,0.5s,baz=93,slow=8.3,SNR=88					
ZALV			PcP	**PcP**		**17 55 15.7 +0.6**
	comp=Z,5.4nm,0.5s,baz=103,slow=3.2,SNR=8.0					
ZALV			ScP	**S**		**17 58 55.4 -0.4**
	comp=Z,4.6nm,0.9s,baz=77,slow=3.2,SNR=7.5					
ZALV			LR	LR		18 08 59.3
	comp=Z,132nm,19.7s,baz=88,slow=36					
ZALV	**Zalesovo Beam**	**38.76 308**	P	**P**		**17 53 05.3 -0.2**
ZALV				**PcP**		**17 55 15.3 +0.1**
NRIK	**Noril'sk**	**38.81 333**	P	**P**		**17 53 06.2 +0.4**
	comp=Z,3.8nm,0.5s,baz=98,slow=5.6,SNR=7.0					
NRIK			PcP	**PcP**		**17 55 16.4 +1.3**
	comp=Z,3.5nm,0.4s,baz=173,slow=6.2,SNR=5.1					
NRIK			ScP	**ScP**		**17 58 55.4 +0.7**
	comp=Z,0.9nm,0.3s,baz=281,slow=21,SNR=7.7					
NRIK			LR	LR		18 10 13.2
	comp=Z,491nm,19.1s,baz=108,slow=38					
WMQ	**Urumqi**	**38.88 291**	P	**P**		**17 53 07.5 +0.7**
WMQ			pP	pP		17 53 30.5 +2.1
WMQ			sP	sP		17 53 41.8 +2.7
WMQ			pmax	pmax		
	comp=Z,45nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,100nm,3.7s					
WMQ			LR	LR		
	comp=Z,400nm,16.1s					
WMQ			LR	LR		
	comp=Z,150nm,18.1s					
WMQ	**Urumqi**	**38.88 291**	P	**P**		**17 53 07.7 +0.9**
WMQ			pmax	pmax		
	comp=Z,67nm,1.1s					
WMQ	**Urumqi**	**38.88 291**	P	**P**		**17 53 07.7 +0.9**
NONG	**Nongkai**	**40.45 246**	P	**P**		**17 53 21.2 +1.2**
	comp=Z,2.5nm,0.9s,comp=Z,118nm					
TTA	**Tatalina**	**41.33 38**	P	**P**		**17 53 26.5 -0.3**
TTA			pmax	pmax		
	comp=Z,9.0nm,1.1s					
TTA	**Tatalina**	**41.33 38**	P	**P**		**17 53 26.5 -0.3**
SVW2	**Sparrevohn**	**41.57 41**	P	**P**		**17 53 27.5 -1.2**
SVW2			IAmb	IAmb		17 53 33.0
	comp=Z,61nm,1.9s					
MK31	**Makanchi Array**	**41.72 297**	P	**P**		**17 53 30.3 +0.2**
MK31			pmax	pmax		
	comp=Z,29nm,0.8s					
MK31	**Makanchi Array**	**41.72 297**	P	**P**		**17 53 30.3 +0.2**
MK31			IAmb	IAmb		17 53 32.4
	comp=Z,29nm,0.8s					
MKAR	**Makanchi Array**	**41.72 297**	P	**P**		**17 53 30.7 +0.6**
	comp=Z,28nm,0.7s,baz=83,slow=9.1,SNR=89					
MKAR			pP	**pP**		**17 53 53.2 +1.3**
	comp=Z,5.5nm,0.7s,baz=70,slow=10,SNR=2.1					
MKAR			PcP	**PcP**		**17 55 25.8 +0.9**
	comp=Z,2.2nm,0.5s,baz=70,slow=5.1,SNR=7.2					
MKAR			ScP	**ScP**		**17 59 06.6 +0.1**
	comp=Z,1.2nm,0.8s,baz=102,slow=2.7,SNR=4.2					
MKAR			S	**S**		**17 59 39.7 -0.5**
	comp=Z,0.7nm,0.8s,baz=85,slow=18,SNR=2.5					
MKAR	**Makanchi Array**	**41.72 297**	P	**P**		**17 53 29.8 -0.3**
PAYA	**Payao**	**41.83 250**	P	**P**		**17 53 32.9 +1.6**
	comp=Z,144μm,0.9s					
LSA	**Lhasa**	**42.09 270**	*i* P	**P**		**17 53 35.0 +1.1**
	SNR=26					
LSA	**Lhasa**	**42.09 270**	P	**P**		**17 53 35.0 +1.1**
LSA	**Lhasa**	**42.09 270**	P	**P**		**17 53 34.1 +0.2**
LSA			pmax	pmax		
	comp=Z,40nm,1.1s					
LSA	**Lhasa**	**42.09 270**	P	**P**		**17 53 34.1 +0.2**
LSA			IAmb	IAmb		17 53 36.3
	comp=Z,40nm,1.1s					
PHRA	**Phrae**	**42.16 249**	P	**P**		**17 53 35.0 +1.1**
	comp=Z,9.0nm,0.9s					
KKM	**Kota Kinabalu**	**42.33 219**	P	**P**		**17 53 36.5 +1.1**
KKM			IAmb	IAmb		17 53 37.6
	comp=Z,27nm,1.1s					
IMAR	**Indian Mountai**	**42.35 33**	P	**P**		**17 53 34.5 -0.5**
UTTA	**Uttaradit**	**42.45 248**	P	**P**		**17 53 37.0 +0.7**
	comp=Z,54μm,0.8s,comp=Z,360μm					
LAMP	**Lampang**	**42.56 250**	P	**P**		**17 53 39.5 +2.3**
	comp=Z,135μm,0.7s					
CHAI	**Chaiyaphum**	**42.76 245**	P	**P**		**17 53 39.2 +0.4**
	comp=Z,36μm,0.9s,comp=Z,405μm					
CMMT	**Chiang Mai**	**42.84 251**	P	**P**		**17 53 39.9 +0.4**
	comp=Z,34nm,0.8s,comp=Z,364nm					
CHTO	**Chiang Mai**	**42.84 251**	P	**P**		**17 53 40.3 +0.8**
	SNR=15					
CHTO	**Chiang Mai**	**42.84 251**	P	**P**		**17 53 39.7 +0.2**
CHTO			pmax	pmax		
	comp=Z,44nm,0.8s					
CHTO	**Chiang Mai**	**42.84 251**	P	**P**		**17 53 39.7 +0.2**
RSO	**Redoubt South**	**42.99 41**	P	**P**		**17 53 40.2 -0.2**
TNTI	**Ternate**	**43.03 201**	P	**P**		**17 53 41.4 +0.4**
TNTI	**Ternate**	**43.03 201**	P	**P**		**17 53 40.7 -0.2**
TNTI			IAmb	IAmb		17 53 42.3
	comp=Z,27nm,0.9s					
KURK	**Kurchatov**	**43.07 304**	P	**P**		**17 53 41.1 +0.2**
	SNR=14					
KURK	**Kurchatov**	**43.07 304**	*de*P	**P**		**17 53 40.5 -0.4**
KURK			*i* *PP	**pP**		**17 54 04.3 +1.4**
KURK			pmax	pmax		
	comp=Z,47nm,1.0s					
KURK	**Kurchatov**	**43.07 304**	P	**P**		**17 53 40.5 -0.4**
KURK			IAmb	IAmb		17 53 42.1
	comp=Z,42nm,1.0s					
PPLA	**Purkeypile**	**43.08 38**	P	**P**		**17 53 42.1 +1.0**
PPLA			IAmb	IAmb		17 53 45.6
	comp=Z,40nm,1.2s					
CM31	**Chiang Mai Arr**	**43.08 250**	P	**P**		**17 53 42.5 +1.0**
	SNR=12					
CM31	**Chiang Mai Arr**	**43.08 250**	P	**P**		**17 53 41.5 +0.1**
CM31			IAmb	IAmb		17 53 44.5
	comp=Z,25nm,0.8s					
CMAR	**Chiang Mai Arr**	**43.08 250**	P	**P**		**17 53 42.3 +0.8**
	comp=Z,17nm,0.8s,baz=42,slow=6.9,SNR=133					
CMAR			pP	**pP**		**17 54 02.9 -0.6**
	comp=Z,2.4nm,0.8s,baz=36,slow=10,SNR=1.8					
CMAR			PcP	**PcP**		**17 55 30.8 +0.9**
	comp=Z,8.8nm,1.0s,baz=24,slow=2.8,SNR=11					
CMAR			ScP	**ScP**		**17 59 13.3 +0.9**
	comp=Z,0.8nm,0.8s,baz=25,slow=3.0,SNR=4.6					
CMAR			LR	LR		18 11 57.6
	comp=Z,106nm,19.2s,baz=220,slow=36					
CMAR	**Chiang Mai Arr**	**43.08 250**	P	**P**		**17 53 41.0 -0.4**
CMAR	**Chiang Mai Arr**	**43.08 250**		**PcP**		**17 55 29.4 -0.4**
CMAR				**ScP**		**17 59 13.2 +0.8**
KURBB	**Kurchatov Arra**	**43.15 304**	P	**P**		**17 53 41.6 +0.1**
	comp=Z,15nm,0.4s,baz=78,slow=8.7,SNR=79					
KURBB			pP	**pP**		**17 54 04.3 +0.8**
	comp=Z,11nm,0.6s,baz=78,slow=8.8,SNR=3.8					
KURBB			PcP	**PcP**		**17 55 30.0 +0.5**
	comp=Z,3.4nm,0.8s,baz=77,slow=3.8,SNR=3.9					
KDAK	**Kodiak Island**	**43.40 45**	P	**P**		**17 53 43.4 -0.1**
	comp=Z,6.8nm,0.4s,baz=274,slow=3.2,SNR=17					
KDAK	**Kodiak Island**	**43.40 45**	P	**P**		**17 53 43.4 -0.1**
BPAW	**Bear Paw Mtn.**	**43.55 36**	P	**P**		**17 53 45.4 +0.7**
KTH	**Kantishna Hill**	**43.61 37**	P	**P**		**17 53 46.1 +0.9**
KTH			IAmb	IAmb		17 53 49.8
	comp=Z,35nm,1.0s					
MLY	**Manley**	**43.61 35**	P	**P**		**17 53 45.4 +0.2**
MLY			IAmb	IAmb		17 53 57.5
	comp=Z,24nm,1.7s					
SIJI	**Sorong**	**43.72 195**	P	**P**		**17 53 47.1 +0.6**
	comp=Z,48nm,0.8s,baz=28,slow=7.8,SNR=49					
COLD	**Coldfoot**	**43.78 32**	P	**P**		**17 53 48.1 +1.7**
SHL	**Shillong**	**43.79 264**	P	**P**		**17 53 47.0 -0.3**
	SNR=9.0					
SHL	**Shillong**	**43.79 264**	P	**P**		**17 53 46.8 -0.5**
SHL			pmax	pmax		
	comp=Z,28nm,0.8s					
SHL	**Shillong**	**43.79 264**	P	**P**		**17 53 46.8 -0.5**
SHL			IAmb	IAmb		17 53 48.1
	comp=Z,28nm,0.8s					
CNPM	**China Poot**	**43.86 43**	P	**P**		**17 53 47.5 +0.3**
CNPM			IAmb	IAmb		17 55 17.2
	comp=Z,65nm,1.6s					
RKPI	**Ransiki, Papua**	**43.87 191**	P	**P**		**17 53 48.2 +0.5**
MHMT	**Maesarieng**	**43.98 251**	P	**P**		**17 53 49.8 +1.2**
	comp=Z,36nm,0.7s,comp=Z,1μm					
BRLK	**Bradley Lake**	**44.00 42**	P	**P**		**17 53 49.3 +0.9**
BRLK			IAmb	IAmb		17 54 33.6
	comp=Z,84nm,1.9s					
BWN	**Browne**	**44.21 36**	P	**P**		**17 53 51.4 +1.4**
KMSI	**Cibinong**	**44.21 206**	P	**P**		**17 53 51.1 +0.6**
NEA	**Nenana**	**44.35 35**	P	**P**		**17 53 51.3 +0.3**
NEA			IAmb	IAmb		17 53 53.1
	comp=Z,12nm,0.6s					
RC01	**Rabbit Creek A**	**44.40 40**	P	**P**		**17 53 51.1 -0.4**
RC01			IAmb	IAmb		17 54 39.5
	comp=Z,23nm,0.7s					
MCK	**McKinley**	**44.48 37**	P	**P**		**17 53 52.8 +0.7**
MCK			pmax	pmax		
	comp=Z,22nm,1.1s					
MCK	**McKinley**	**44.48 37**	P	**P**		**17 53 52.8 +0.7**
MCK			IAmb	IAmb		17 53 57.0
	comp=Z,22nm,1.1s					
PMR	**Palmer**	**44.62 40**	P	**P**		**17 53 53.0 -0.2**
PMR			pmax	pmax		
	comp=Z,23nm,0.5s					
PMR	**Palmer**	**44.62 40**	P	**P**		**17 53 53.0 -0.2**
PMR			IAmb	IAmb		17 54 37.7
	comp=Z,23nm,0.5s					
UMPA	**Umpang Tak**	**44.67 248**	P	**P**		**17 53 56.9 +2.7**
	comp=Z,55μm,0.9s					
MDM	**Murphy Dome**	**44.68 35**	P	**P**		**17 53 54.0 +0.3**
PDGK	**Podgornoye**	**44.69 294**	P	**P**		**17 53 54.0 -0.2**
PDGK			pmax	pmax		
	comp=Z,33nm,1.3s					
GHO	**Glory Hole Cre**	**44.70 39**	P	**P**		**17 53 54.3 +0.3**
GHO			IAmb	IAmb		17 54 41.5
	comp=Z,37nm,0.9s					
UTHA	**Uthaitani**	**44.72 247**	P	**P**		**17 53 56.3 +1.7**
	comp=Z,49μm,0.7s,comp=Z,382μm					
WRH	**Wood River Hil**	**44.78 35**	P	**P**		**17 53 55.4 +0.9**
TCOL	**CIGO, UAF Yank**	**44.84 35**	P	**P**		**17 53 55.9 +0.9**
	baz=275					
COLA	**College**	**44.85 35***c*	*i*P	**P**		**17 53 55.6 +0.6**
COLA			*i* *PP	**pP**		**17 54 18.9 +1.9**
COLA			pmax	pmax		
	comp=Z,13nm,0.9s					
COLA	**College**	**44.85 35**	P	**P**		**17 53 55.5 +0.6**
COLA			IAmb	IAmb		17 53 57.6
	comp=Z,16nm,0.7s					
CCB	**Clear Creek Bu**	**44.89 35**	P	**P**		**17 53 55.4 +0.1**
KNK	**Knik Glacier**	**44.97 40**	P	**P**		**17 53 56.4 +0.4**
SML	**Sawmill**	**44.97 39**	P	**P**		**17 53 56.7 +0.6**
SML			IAmb	IAmb		17 53 59.7
	comp=Z,67nm,1.4s					
POKR	**Poker Plat Res**	**45.00 34**	P	**P**		**17 53 57.3 +1.0**
	baz=275					
DHY	**Denali Highway**	**45.25 37**	P	**P**		**17 53 58.6 +0.3**
DHY			IAmb	IAmb		17 54 02.1
	comp=Z,32nm,1.1s					
IL31		**45.27 35**	P	**P**		**17 53 58.3 0.0**
ILAR	**Eielson Array**	**45.27 35**	P	**P**		**17 53 58.6 +0.3**
	comp=Z,4.8nm,0.7s,baz=257,slow=4.9,SNR=50					
ILAR			pP	**pP**		**17 54 21.4 +0.9**
	comp=Z,5.6nm,0.8s,baz=274,slow=6.0,SNR=4.6					
ILAR			LR	LR		18 14 29.4
	comp=Z,110nm,18.1s,baz=297,slow=38					
ILAR	**Eielson Array**	**45.27 35**	P	**P**		**17 53 57.8 -0.5**
HDA	**Harding Lake**	**45.28 35**	P	**P**		**17 53 58.5 +0.1**
	baz=276					
HDA	**Harding Lake**	**45.28 35**	P	**P**		**17 53 57.6 -0.9**
HDA			IAmb	IAmb		17 53 59.8
	comp=Z,42nm,1.8s					
SCM	**Sheep Creek Mo**	**45.44 39**	P	**P**		**17 54 00.3 +0.5**
SCM			pmax	pmax		
	comp=Z,14nm,0.5s					
SCM	**Sheep Creek Mo**	**45.44 39**	P	**P**		**17 54 00.3 +0.5**
SCM			IAmb	IAmb		17 54 57.6
	comp=Z,14nm,0.5s					
FAKI	**Fak Fak**	**45.54 193**	P	**P**		**17 54 01.2 +0.2**
PATY	**Pattaya**	**45.65 243**	P	**P**		**17 54 04.2 +2.3**
	comp=Z,21μm,1.2s					
GLI	**Glacier Island**	**45.70 40**	P	**P**		**17 54 02.0 +0.2**
GLI			IAmb	IAmb		17 55 14.6
	comp=Z,60nm,1.6s					
PRZ	**Przheval'sk**	**45.74 293**	P	**P**		**17 54 01.9 -0.7**
PRZ			pmax	pmax		
	comp=Z,75nm,1.6s					
PRZ	**Przheval'sk**	**45.74 293**	P	**P**		**17 54 01.9 -0.7**
PRZ			IAmb	IAmb		17 54 04.9
	comp=Z,75nm,1.6s					
PRP	**Porcupine Dome**	**45.76 34**	P	**P**		**17 54 02.8 +0.4**
PRP			IAmb	IAmb		17 54 09.0
	comp=Z,12nm,0.7s					
FYU	**Fort Yukon**	**45.77 32**	P	**P**		**17 54 03.4 +1.2**
FYU			IAmb	IAmb		17 54 30.4
	comp=Z,31nm,1.4s					
TAPN	**Taplejung**	**45.90 269**	*e*P	**P**		**17 54 04.5 +0.3**
	comp=Z,146nm,1.0s					
BMAR	**Burnt Mountain**	**45.94 31**	P	**P**		**17 54 04.0 +0.4**
LUWI	**Luwuk**	**46.13 207**	P	**P**		**17 54 04.2 -1.4**
LUWI	**Luwuk**	**46.13 207**	P	**P**		**17 54 03.6 -2.0**
SIMRM	**Sittwe**	**46.32 257**	P	**P**		**17 54 07.7 +0.5**
EYAK	**Cordova Ski Ar**	**46.41 41**	P	**P**		**17 54 08.4 +1.1**
EYAK			IAmb	IAmb		17 54 11.9
	comp=Z,18nm,1.0s					
ODAN	**Odare**	**46.41 269**	*e*P	**P**		**17 54 08.4 +0.3**
	comp=Z,85nm,1.0s					
TARG	**Taragay, Kyrgy**	**46.44 292**	P	**P**		**17 54 08.3 -0.1**
TARG			IAmb	IAmb		17 54 10.3
	comp=Z,25nm,0.9s					
PHET	**Kaeng Krachan**	**46.48 244**	P	**P**		**17 54 10.4 +1.9**
	comp=Z,57μm,0.9s,comp=Z,450μm					
SCRK	**Sand Creek**	**46.62 36**	P	**P**		**17 54 08.8 -0.3**
SCRK			IAmb	IAmb		17 54 12.5
	comp=Z,22nm,1.0s					
DOT	**Dot Lake**	**46.64 36**	P	**P**		**17 54 08.5 -0.6**
DOT			IAmb	IAmb		17 54 11.2
	comp=Z,8.0nm,0.6s					
KDJ	**Kajisay**	**46.72 293**	P	**P**		**17 54 10.5 +0.3**
KDJ			pmax	pmax		
	comp=Z,21nm,0.8s					
KDJ	**Kajisay**	**46.72 293**	P	**P**		**17 54 10.5 +0.3**
KDJ			IAmb	IAmb		17 54 11.8
	comp=Z,20nm,0.8s					
JIRN	**Jiri**	**46.87 271**	*e*P	**P**		**17 54 12.1 +0.3**
	comp=Z,50nm,0.3s					
MENT	**Mentasta**	**46.92 37**	P	**P**		**17 54 13.6 +2.2**
RAMN	**Ramite**	**46.95 270**	*e*P	**P**		**17 54 12.6 +0.3**
	comp=Z,172nm,0.9s					
GUN	**Gumba**	**46.96 271**	*e*P	**P**		**17 54 12.7 +0.2**
	comp=Z,248nm,0.6s					
RAGM	**Ragged Mountai**	**46.96 41**	P	**P**		**17 54 12.5 +0.8**
RAGM			IAmb	IAmb		17 54 37.1
	comp=Z,34nm,1.3s					
GLB	**Gilahina Butte**	**47.16 39**	P	**P**		**17 54 13.8 +0.5**
GLB			IAmb	IAmb		17 54 48.5
	comp=Z,37nm,1.8s					
VRDI	**Verde Repeater**	**47.38 39**	P	**P**		**17 54 15.8 +0.7**
SBUM	**Sibu**	**47.38 222**	P	**P**		**17 54 15.6 +0.2**
BVAR	**Borovoye Array**	**47.39 309**	P	**P**		**17 54 15.3 +0.3**
	comp=Z,7.7nm,0.3s,baz=78,slow=9.1,SNR=86					
BRVK	**Borovoye**	**47.44 309**	P	**P**		**17 54 15.7 +0.3**
	SNR=6.2					
BRVK	**Borovoye**	**47.44 309**	P	**P**		**17 54 15.3 -0.2**
BRVK			S	**S**		**18 01 01.4 -1.2**
BRVK			pmax	pmax		
	comp=Z,17nm,1.0s					
BRVK	**Borovoye**	**47.44 309**	P	**P**		**17 54 15.3 -0.2**
BRVK			IAmb	IAmb		17 54 17.1
	comp=Z,17nm,0.9s					
BRVK				**S**		**18 01 01.4 -1.2**
KKN	**Kakani**	**47.48 271**	*e*P	**P**		**17 54 16.5 +0.1**
	comp=Z,161nm,0.9s					
TKM2	**Tokmak 2**	**47.49 294**	*i* P	**P**		**17 54 17.0 +0.7**
TKM2			pmax	pmax		
	comp=Z,65nm,0.8s					
TKM2	**Tokmak 2**	**47.49 294**	P	**P**		**17 54 16.8 +0.5**
	SNR=65					
PKI	**Pulchoki**	**47.50 271**	*e*P	**P**		**17 54 16.5 -0.2**
	comp=Z,78nm,0.8s					
PKIN	**Phulchoki**	**47.50 271**	*e*P	**P**		**17 54 16.4 -0.2**
	comp=Z,33nm,0.6s					
MCARA	**McCarthy VSAT**	**47.54 39**	P	**P**		**17 54 17.0 +0.8**
MCARA			IAmb	IAmb		17 54 19.0
	comp=Z,11nm,0.6s					
CRQM	**Cirque**	**47.63 40**	P	**P**		**17 54 18.0 +1.0**
CRQM			IAmb	IAmb		17 55 01.9
	comp=Z,21nm,1.0s					
EGAK	**Eagle**	**47.70 34**	P	**P**		**17 54 16.9 -0.4**
EGAK			IAmb	IAmb		17 54 21.0
	comp=Z,18nm,1.1s					
DMN	**Daman**	**47.70 271**	*e*P	**P**		**17 54 18.0 -0.2**
	comp=Z,95nm,0.7s					
BCAR	**Beaver Creek A**	**47.76 37**	P	**P**		**17 54 18.3 +0.4**
TGL	**Tana Glacier**	**47.77 40**	P	**P**		**17 54 19.3 +1.2**
TGL			IAmb	IAmb		17 54 22.1
	comp=Z,12nm,0.8s					
NRN	**Naryn**	**47.80 292**	P	**P**		**17 54 19.1 +0.3**
NRN			pmax	pmax		
	comp=Z,8.0nm,0.8s					
NRN	**Naryn**	**47.80 292**	P	**P**		**17 54 19.1 +0.3**
GKN	**Gorkha**	**47.84 272**	*e*P	**P**		**17 54 19.1 0.0**
	comp=Z,56nm,0.3s					
BALM	**Baldy**	**47.94 40**	P	**P**		**17 54 20.1 +0.7**
CHMS	**Chumysh**	**48.03 295**	P	**P**		**17 54 21.0 +0.7**
	SNR=8.5					
KBK	**Karagaybulak**	**48.03 294**	P	**P**		**17 54 21.1 +0.6**
	SNR=60					
KZA	**Kyzart**	**48.06 294**	P	**P**		**17 54 22.1 +1.2**
	SNR=13					
USP	**Ospenovka**	**48.10 295**	P	**P**		**17 54 20.6 -0.1**
	SNR=22					
FRU1	**Bishkek**	**48.19 295**	P	**P**		**17 54 22.1 +0.6**
FRU1			pmax	pmax		
	comp=Z,27nm,0.7s					
FRU1	**Bishkek**	**48.19 295**	P	**P**		**17 54 22.1 +0.6**
FRU1			IAmb	IAmb		17 54 23.1
	comp=Z,27nm,0.7s					
BARN	**Barnard Glacie**	**48.26 39**	P	**P**		**17 54 23.0 +1.0**
BARN			IAmb	IAmb		17 54 24.4
	comp=Z,12nm,0.6s					
DANN	**Dangsing**	**48.31 273**	*e*P	**P**		**17 54 23.5 +0.7**
	comp=Z,661nm,0.8s					
AAK	**Ala-Archa**	**48.35 295**	P	**P**		**17 54 23.0 +0.2**
AAK	**Ala-Archa**	**48.35 295**	*i* P	**P**		**17 54 22.3 -0.5**
AAK			pmax	pmax		
	comp=Z,26nm,1.4s					
AAK	**Ala-Archa**	**48.35 295**	P	**P**		**17 54 23.1 +0.2**
	SNR=15					
AAK	**Ala-Archa**	**48.35 295**	P	**P**		**17 54 22.1 -0.8**
AAK			IAmb	IAmb		17 54 24.2
	comp=Z,18nm,1.0s					
CTGM	**Chitina Glacie**	**48.44 39**	P	**P**		**17 54 24.3 +1.1**
CTGM			IAmb	IAmb		17 54 27.3
	comp=Z,14nm,0.7s					
UCH	**Uchtor**	**48.50 294**	P	**P**		**17 54 24.9 +0.5**
	SNR=12					
DAWY	**Dawson**	**48.59 35**	P	**P**		**17 54 24.8 +0.5**
KSH	**Kashi**	**48.62 290**	P	**P**		**17 54 29.3 +4.4**
KSH			sP	sP		17 55 04.5 +6.8
KSH			ScP	**ScP**		**17 59 37.3 +2.0**
KSH			PcS	**PcS**		**17 59 47.8 +2.4**
KSH			S	**S**		**18 01 23.5 +3.7**
KSH			ScS	**ScS**		**18 04 08.5 +0.2**
KSH			pmax	pmax		
	comp=Z,59nm,1.1s					
KSH			pmax	pmax		
	comp=Z,570nm,4.9s					
KSH			LR	LR		
	comp=Z,390nm,6.7s					
KSH			LR	LR		
	comp=Z,420nm,10.3s					
KSH			LR	LR		
	comp=Z,450nm,7.5s					
KOLN	**Koldanda**	**48.74 272**	*e*P	**P**		**17 54 26.4 +0.3**
	comp=Z,189nm,0.8s					
EKS2	**Erkin-Say**	**48.82 295**	P	**P**		**17 54 27.0 +0.6**
	SNR=20					
AML	**Almayashu**	**49.09 294**	P	**P**		**17 54 29.6 +0.7**
	SNR=19					
EPYK	**Eagle Plains**	**49.17 32**	P	**P**		**17 54 29.9 +1.3**
	baz=283					
EPYK	**Eagle Plains**	**49.17 32**		**P**		**17 54 29.9 +1.2**
KSM	**Kuching**	**49.18 223**	P	**P**		**17 54 29.8 +0.6**
STKI	**Sintang**	**49.81 221**	P	**P**		**17 54 35.4 +1.4**
ARSB	**Arslanbob**	**49.91 294**	P	**P**		**17 54 34.8 0.0**
INK	**Inuvik**	**49.92 29**	P	**P**		**17 54 33.8 -0.4**
INK			pmax	pmax		
	comp=Z,9.0nm,0.6s					
INK	**Inuvik**	**49.92 29**	P	**P**		**17 54 35.0 +0.8**
	comp=Z,6.4nm,0.4s,baz=286,slow=6.5,SNR=85					
INK	**Inuvik**	**49.92 29**	P	**P**		**17 54 33.8 -0.4**
INK			IAmb	IAmb		17 54 37.9
	comp=Z,9.5nm,0.6s					
SURT	**Suratani**	**49.94 241**	P	**P**		**17 54 37.4 +2.4**
	comp=Z,23nm,1.4s					
TRTT	**Trang**	**50.20 239**	P	**P**		**17 54 41.1 +4.1**
	comp=Z,11nm,0.8s					
KK31	**Karatay Array**	**50.83 297**	P	**P**		**17 54 41.0 -0.5**
KK31			pmax	pmax		
	comp=Z,27nm,0.7s					
KK31	**Karatay Array**	**50.83 297**	P	**P**		**17 54 41.0 -0.5**
KKAR	**Karatay Array**	**50.83 297**	P	**P**		**17 54 41.0 -0.5**
KKAR	**Karatay Array**	**50.83 297**	P	**P**		**17 54 41.0 -0.5**
KAPI	**Kappang**	**50.87 208**	P	**P**		**17 54 41.8 -0.2**
KAPI			pmax	pmax		
	comp=Z,90nm,1.1s					
KAPI	**Kappang**	**50.87 208**	P	**P**		**17 54 41.8 -0.2**
BKSI	**Bulukumba**	**51.03 208**	P	**P**		**17 54 43.2 +0.1**
PKDT	**Phuket**	**51.04 241**	P	**P**		**17 54 45.5 +2.2**
	comp=Z,44nm,1.1s					
PMG	**Port Moresby**	**51.46 173⇑**	*e*P	**P**		**17 54 46.2 -0.1**
PMG			pmax	pmax		
	comp=Z,35nm,1.0s					
SVE	**Sverdlovsk**	**51.53 316⇓**	*e*P	**P**		**17 54 47.7 +1.2**
SVE			*e*S	**S**		**18 02 00.1 +0.5**
SVE			pmax	pmax		
	comp=Z,54nm,1.0s					
**KULM

SOEI Soe 53.93 201 P **P** **17 55 03.4 -1.4**
PSI Prapat 54.56 236 P **P** **17 55 09.4 0.0**
PSI 17 56 11.6
PSI pmax pmax
comp=Z,30nm,1.1s
RPSI Rantau Prapat 54.64 236 P **P** **17 55 09.4 -0.4**
RPSI IAmb IAmb 17 55 11.2
comp=Z,30nm,1.1s
RPSI **PcP** **17 56 11.6 0.0**
AB31 Akbulak array 54.88 308 P **P** **17 55 11.4 +0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 54.88 308 P **P** **17 55 10.9 -0.3**
ABKAR Akbulak array 54.88 308 P **P** **17 55 10.8 -0.4**
ABKAR IAmb IAmb 17 55 12.5
comp=Z,29nm,0.7s
RGRI Rengat 55.03 230 P **P** **17 55 14.0 +1.3**
BKNI Bangkinang 55.24 232 P **P** **17 55 15.4 +1.2**
BKNI Bangkinang 55.24 232 P **P** **17 55 14.3 +0.1**
SRBI Singaraja 55.40 212 P **P** **17 55 16.2 +1.0**
comp=Z,47nm,1.3s,comp=Z,570nm
MTN Manton Dam 55.45 192 P **P** **17 55 15.3 -0.2**
COEN Coen 55.74 178 P **P** **17 55 18.0 +0.4**
PMBI Palembang 55.80 226 P **P** **17 55 20.0 +1.9**
KBL Kabul 55.84 288 P **P** **17 55 18.2 -0.4**
KBL Kabul 55.84 288 P **P** **17 55 17.7 -0.9**
KBL pmax pmax
comp=Z,35nm,0.9s
KBL Kabul 55.84 288 P **P** **17 55 17.6 -0.9**
SDSI Sungai Dareh 56.03 231 P **P** **17 55 21.0 +1.2**
SMRI Semarang 56.52 218 P **P** **17 55 23.2 0.0**
GSI Gunungsitoli 56.56 236 P **P** **17 55 24.1 +0.5**
GSI Gunungsitoli 56.56 236 P **P** **17 55 23.9 +0.3**
PRGR Permogore 56.66 325 *e*P **P** **17 55 22.4 -1.3**
PRGR pmax pmax
comp=Z,38nm,1.0s
HYB Hyderabad 58.57 265 *i*P **P** **17 55 36.0 -1.7**
HYB *e*PcP **PcP** **17 56 26.0 -1.1**
KNRA Kununurra 58.63 194 P **P** **17 55 38.4 +0.5**
ARCES ARCESS Array B 59.36 338 P **P** **17 55 43.2 +0.7**
comp=Z,3.8nm,0.7s,baz=42,slow=6.7,SNR=15
ARCES LR LR 18 23 38.3
comp=Z,167nm,19.3s,baz=74,slow=38
YKW3 Yellowknife Ar 59.42 31 P **P** **17 55 43.0 +0.2**
YKW3 IAmb IAmb 17 56 10.3
comp=Z,7.3nm,0.9s
YKA Yellowknife Ar 59.46 32 P **P** **17 55 43.5 +0.3**
comp=Z,6.2nm,0.7s,baz=306,slow=6.4,SNR=20
YKA pP **pP** **17 56 06.2 0.0**
comp=Z,4.5nm,0.9s,baz=306,slow=7.0,SNR=3.3
KLMR Klimovskoe 59.61 326 *e*P **P** **17 55 42.7 -1.5**
KLMR *e**PP **pP** **17 56 06.7 -0.6**
KLMR pmax pmax
comp=Z,57nm,1.4s
KLMR Klimovskoe 59.61 326 *e*P **P** **17 55 42.7 -1.5**
KLMR AMP 17 55 45.5
comp=Z,57nm,1.4s
KLMR *e*pP **pP** **17 56 06.8 -0.6**
TULEG Thule 60.13 8 P **P** **17 55 47.6 +0.1**
HRL Herat 60.70 291 P **P** **17 55 52.8 +0.4**
DAG Danmarks Havn 60.80 355 *i*P **P** **17 55 52.0 -0.1**
DAG pmax pmax
comp=Z,13nm,0.8s
DAG Danmarks Havn 60.80 355 *i*P **P** **17 55 52.0 -0.1**
comp=Z,18nm,0.8s
GEYT Alibeck 61.59 297 P **P** **17 55 58.6 +0.5**
comp=Z,16nm,0.7s,baz=28,slow=3.5,SNR=14
GEYT LR LR 18 25 18.6
comp=Z,170nm,18.4s,baz=325,slow=38
GEYT Alibeck 61.59 297 P **P** **17 55 57.1 -1.0**
GYA0B ALIBECK ARRAY 61.59 297 P **P** **17 55 57.5 -0.6**
GYA0B IAmb IAmb 17 55 59.2
comp=Z,21nm,0.8s
FITZ Fitzroy Crossi 61.62 197 P **P** **17 55 58.8 +0.5**
XMIS Christmas Isla 61.78 221 P **P** **17 55 58.6 -0.9**
KAD Karad 61.89 268 *e*P **P** **17 56 00.4 0.0**
WRAB Tennant Creek 62.02 188 *d i*P **P** **17 56 00.1 -0.9**
WRAB pmax pmax
comp=Z,33nm,0.9s
WRAB Tennant Creek 62.02 188 P **P** **17 56 00.0 -0.9**
WRAB IAmb IAmb 17 56 01.3
comp=Z,31nm,0.9s
WRA Warramunga Arr 62.03 188 P **P** **17 55 59.4 -1.7**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 62.03 188 P **P** **17 56 00.1 -0.9**
comp=Z,34nm,1.1s,baz=3.0,slow=6.9,SNR=91
WRA Warramunga Arr 62.03 188 P **P** **17 55 59.4 -1.7**
KULLO Kullorsuaq 62.99 6 *e*P **P** **17 56 08.4 +1.6**
KULLO pmax pmax
comp=Z,16nm,0.8s
KULLO Kullorsuaq 62.99 6 *i*P **P** **17 56 08.4 +1.6**
comp=Z,16nm,0.8s
MOS Moscow 63.33 322 *e*P **P** **17 56 08.6 -0.7**
D03D Eldon 63.67 49 P **P** **17 56 13.6 +1.9**
baz=304
B05A Bryant 63.81 48 P **P** **17 56 14.2 +1.6**
baz=305
VRH Novokhopyorsk 63.98 316 *e*P **P** **17 56 12.7 -1.0**
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 64.18 322⇑ *e*P **P** **17 56 15.3 +0.4**
OBN *e* 17 56 39.7
OBN *e* 17 56 49.5
OBN *e* 17 58 39.0
OBN *e*S **S** **18 04 40.9 -3.7**
OBN pmax pmax
comp=Z,42nm,1.0s
OBN Obninsk 64.18 322 P **P** **17 56 13.5 -1.4**
OBN IAmb IAmb 17 56 16.1
comp=Z,38nm,1.0s
FIA1 FINESS Array S 64.45 331 P **P** **17 56 16.2 -0.4**
FINES FINESS Array B 64.45 331 P **P** **17 56 16.6 0.0**
comp=Z,13nm,0.3s,baz=32,slow=8.7,SNR=134
FINES pP **pP** **17 56 40.0 0.0**
comp=Z,18nm,0.9s,baz=71,slow=8.3,SNR=3.7
FINES LR LR 18 25 20.4
comp=Z,273nm,18.6s,baz=64,slow=37
FINES FINESS Array B 64.45 331 P **P** **17 56 16.3 -0.3**
LPSR Galich'ya Gora 64.56 319 *e*P **P** **17 56 17.1 -0.4**
LPSR pmax pmax
comp=Z,40nm,0.9s
VSR Storozhevoye 65.27 317⇑ *e*P **P** **17 56 22.0 -0.1**
VSR pmax pmax
comp=Z,33nm,0.8s
SUMG Summit 65.68 0 *i*P **P** **17 56 26.0 +1.1**
SUMG pmax pmax
comp=Z,57nm,0.7s
SUMG Summit 65.68 0 *i*P **P** **17 56 26.0 +1.1**
comp=Z,57nm,0.7s
SUMG Summit 65.68 0 P **P** **17 56 25.5 +0.6**
SUMG IAmb IAmb 17 56 28.6
comp=Z,23nm,0.6s
AS31 Alice Springs 65.76 188 P **P** **17 56 25.3 -0.2**
ASAR Alice Springs 65.76 188 P **P** **17 56 25.3 -0.2**
comp=Z,12nm,0.9s,baz=6.8,slow=5.8,SNR=68
ASAR pP **pP** **17 56 49.2 +0.3**
comp=Z,3.7nm,0.8s,baz=0.0,slow=5.9,SNR=3.0
ASAR LR LR 18 24 06.2
comp=Z,69nm,21.8s,baz=324,slow=35
ASAR PKP2bc 18 25 07.0
comp=Z,2.3nm,1.2s,baz=180,slow=5.0,SNR=6.4
ASAR Alice Springs 65.76 188 P **P** **17 56 24.9 -0.6**
GNBR Gunib 66.17 306 *c i*P **P** **17 56 29.0 +0.9**
GNBR pmax pmax
comp=Z,42nm,0.9s
C09A Chrisman Ranch 66.17 47 P **P** **17 56 27.5 -0.5**
VSU Vasula 66.21 329⇑ *e*P **P** **17 56 28.7 +0.7**
VSU pmax pmax
comp=Z,57nm,1.0s
PSA00 Pilbara Seismi 66.41 202 P **P** **17 56 29.1 -0.5**
PSA00 IAmb IAmb 17 56 30.5
comp=Z,41nm,1.3s
NEW Newport 66.51 46 P **P** **17 56 30.9 +0.7**
baz=307
GOF Gofitskoye 66.88 310⇑ *i*P **P** **17 56 33.7 +1.2**
GOF pmax pmax
comp=Z,90nm,0.9s
PINE Pine Mountain 67.07 51 P **P** **17 56 34.9 +0.9**
PINE IAmb IAmb 17 56 36.9
comp=Z,12nm,1.1s
SCO Scoresbysund 67.14 354 *i*P **P** **17 56 35.1 +1.4**
SCO pmax pmax
comp=Z,12nm,1.0s
SCO Scoresbysund 67.14 354 *i*P **P** **17 56 35.1 +1.4**
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 67.25 54 LR LR 18 21 35.1
comp=Z,48nm,21.2s,baz=330,slow=32
NCK Nalchik 67.50 309⇑ *e*P **P** **17 56 37.3 +0.8**
NCK pmax pmax
comp=Z,30nm,0.9s
EIDS Eidsvold 67.65 171 P **P** **17 56 38.0 +0.6**
EIDS IAmb IAmb 17 56 39.1
comp=Z,11nm,0.9s
WALA Waterton Lakes 67.69 43 P **P** **17 56 38.9 +1.1**
WALA IAmb IAmb 17 57 06.2
comp=Z,17nm,1.4s
N02D Trinity Center 67.71 55 P **P** **17 56 39.7 +1.8**
baz=307
KIV Kislovodsk 67.75 310 *i*P **P** **17 56 39.4 +1.2**
SNR=38
KIV Kislovodsk 67.75 310 P **P** **17 56 39.9 +1.7**
SNR=18
KIV Kislovodsk 67.75 310 *e*P **P** **17 56 38.9 +0.8**
KIV pmax pmax
comp=Z,341nm,1.1s
KIV MLR MLR
comp=Z,229nm,17.0s
KIV Kislovodsk 67.75 310 P **P** **17 56 39.3 +1.2**
ZEI Tsey 67.75 308 *e*P **P** **17 56 36.8 -1.5**
ZEI pmax pmax
comp=Z,18nm,0.6s
KBZ Khabaz 67.77 309 P **P** **17 56 39.4 +1.3**
comp=Z,32nm,0.9s,baz=49,slow=5.1,SNR=44
KBZ LR LR 18 28 59.3
comp=Z,103nm,18.5s,baz=30,slow=38
DZM Mont Dzumac 67.82 155 *e*P **P** **17 56 39.8 +1.1**
comp=Z,59nm,1.5s
DZM *e*pP **PcP** **17 57 04.2 -0.5**
comp=Z,32nm,1.8s
DZM Mont Dzumac 67.82 155 *e*LR LR 18 17 19.3
comp=Z,196nm,24.4s
DZM Mont Dzumac 67.82 155 P **P** **17 56 40.3 +1.6**
DZM IAmb IAmb 17 56 41.6
comp=Z,32nm,1.3s
TBLG Delisi 67.89 307 P **P** **17 56 39.8 +0.8**
TBLG Delisi 67.89 307 P **P** **17 56 39.8 +0.8**
SHA1 Shidzhatmaz 67.90 309 *d i*P **P** **17 56 40.0 +0.7**
NEY Neytrino 68.16 309⇓ *e*P **P** **17 56 42.8 +2.0**
NEY pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 68.50 49 P **P** **17 56 43.6 +0.8**
BMO pmax pmax
comp=Z,7.0nm,1.3s
BMO Blue Mountains 68.50 49 P **P** **17 56 43.6 +0.8**
NACGM Naroch 68.62 326 *e* **P** **17 56 42.0 -1.3**
O03E Paynes Creek 68.66 55 P **P** **17 56 45.1 +1.2**
baz=308
AKH Akhalkalaki 68.83 307 P **P** **17 56 45.9 +0.9**
AKH pmax pmax
comp=Z,18nm,0.9s
AKH Akhalkalaki 68.83 307 P **P** **17 56 45.9 +0.9**
AKH IAmb IAmb 17 56 47.5
comp=Z,18nm,0.9s
GNI Garni 68.85 305 P **P** **17 56 46.4 +1.3**
GNI pmax pmax
comp=Z,26nm,0.9s
GNI Garni 68.85 305 P **P** **17 56 46.4 +1.3**
GNI IAmb IAmb 17 56 54.2
comp=Z,26nm,0.9s
MSO Missoula 69.09 45 P **P** **17 56 47.5 +1.1**
baz=310
ORV Oroville 69.30 55 P **P** **17 56 48.0 +0.3**
ORV pmax pmax
comp=Z,9.0nm,1.3s
ORV Oroville 69.30 55 P **P** **17 56 48.0 +0.3**
NC405 NORSAR Array S 69.41 337 P **P** **17 56 48.4 +0.3**
NC303 NORSAR Array S 69.43 337 P **P** **17 56 48.9 +0.7**
HMDM Hanimaadhoo 69.46 260 P **P** **17 56 48.9 -0.1**
FFC Flin Flon 69.46 34 P **P** **17 56 49.2 +0.7**
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 69.46 34 P **P** **17 56 49.2 +0.7**
FFC IAmb IAmb 17 56 52.4
comp=Z,13nm,0.8s
NC204 NORSAR Array S 69.56 337 P **P** **17 56 49.6 +0.5**
NB201 NORSAR Array S 69.59 337 P **P** **17 56 49.6 +0.4**
NB2 NORSAR Subarra 69.62 337 P **P** **17 56 49.8 +0.4**
comp=Z,4.6nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 69.62 337 P **P** **17 56 50.0 +0.6**
comp=Z,15nm,0.9s,baz=37,slow=6.1,SNR=21
NOA pP **pP** **17 57 12.6 -0.4**
comp=Z,15nm,1.0s,baz=36,slow=6.1,SNR=6.8
NBO00 NORSAR Array S 69.76 337 P **P** **17 56 50.5 +0.3**
BANOM Banah 69.78 287 *i*P **P** **17 56 51.6 +0.7**
SNR=9.8
BANOM Banah 69.78 287 P **P** **17 56 51.6 +0.7**
BEKR Beckworth 69.80 54 P **P** **17 56 51.0 -0.1**
SHME Shamm 69.81 287 *i*P **P** **17 56 51.0 -0.2**
SNR=8.0
WBK Wadi Bani Khal 69.88 283 P **P** **17 56 52.6 +1.0**
BCA Borcka 69.91 308⇓ P **P** **17 56 52.6 +1.1**
ANN Anapa 70.17 313 *e*P P 17 56 46.3 -6.6
ANN *e**PP **PcP** **17 57 08.3 -6.0**
ANN *e*S **S** **18 05 48.7 -8.1**
ANN pmax pmax
comp=Z,69nm,1.1s
MSFE Esma-Masafi 70.22 287 *i*P **P** **17 56 53.8 +0.2**
SNR=7.3
MFID Camas Ranch 70.23 49 P **P** **17 56 54.3 +0.7**
SMDO Samad 70.27 284 P **P** **17 56 54.6 +0.5**
AKASG Malin Array Be 70.43 321 P **P** **17 56 53.9 -0.5**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 70.43 321 P **P** **17 56 54.2 -0.2**
comp=Z,24nm,0.7s,baz=45,slow=6.3,SNR=96
AKASG pP **PcP** **17 57 15.9 +0.6**
comp=Z,3.5nm,0.6s,baz=45,slow=6.2,SNR=2.5
AKASG LR LR 18 30 30.8
comp=Z,139nm,18.9s,baz=330,slow=38
AKASG Malin Array Be 70.43 321 P **P** **17 56 53.9 -0.5**
AKBB Malin Array Si 70.43 321 P **P** **17 56 54.5 +0.1**
AKBB pmax pmax
comp=Z,33nm,0.8s
AKBB Malin Array Si 70.43 321 P **P** **17 56 54.5 +0.1**
AKBB IAmb IAmb 17 56 55.5
comp=Z,33nm,0.8s
UOSS Minazif 70.44 286 *i*P **P** **17 56 55.0 0.0**
SNR=15
UOSS Minazif 70.44 286 P **P** **17 56 55.0 0.0**
SNR=5.4
UOSS Minazif 70.44 286 P **P** **17 56 54.5 -0.5**
UOSS IAmb IAmb 17 56 56.0
comp=Z,27nm,0.8s
EGMT Eagleton 70.47 42 P **P** **17 56 56.2 +1.3**
baz=312
EGMT Eagleton 70.47 42 P **P** **17 56 55.5 +0.6**
EGMT IAmb IAmb 17 57 21.8
comp=Z,14nm,1.0s
HOQ Hoqain 70.48 284 P **P** **17 56 56.1 +0.8**
PAHR Pah Rah Range 70.49 54 P **P** **17 56 55.8 +0.5**
HATD Hatta, Dubai 70.57 286 *i*P **P** **17 56 56.3 +0.6**
SNR=17
HATD Hatta, Dubai 70.57 286 P **P** **17 56 56.6 +0.9**
SNR=7.2
JMDO Jabal Madar 70.66 283 P **P** **17 56 56.9 +0.6**
ASHO Ashiyiah 70.71 286 *i*P **P** **17 56 57.0 +0.4**
SNR=14
ASHO Ashiyiah 70.71 286 P **P** **17 56 57.3 +0.7**
SNR=7.5
DLMT Dillon 70.75 46 P **P** **17 56 56.8 +0.1**
SFJD Kangerlussuaq 70.89 5 *i*P **P** **17 56 57.9 +1.0**
SFJD Kangerlussuaq 70.89 5 *i*P **P** **17 56 57.9 +1.0**
CMB Columbia Colle 70.92 56 P **P** **17 56 58.6 +0.8**
CMB pmax pmax
comp=Z,9.0nm,1.2s
CMB Columbia Colle 70.92 56 P **P** **17 56 58.6 +0.8**
YERR Yerington 71.03 54 P **P** **17 56 58.8 +0.3**
BSY Bisya 71.08 284 P **P** **17 56 59.3 +0.4**
BOZ Bozeman (W) 71.11 45 P **P** **17 56 59.8 +0.9**
baz=311
ARQ Araqi 71.20 285 P **P** **17 57 00.3 +0.7**
ASUD Al Ashush, Dub 71.26 286 *i*P **P** **17 57 00.4 +0.5**
SNR=11
BMN Battle Mountai 71.32 52 P **P** **17 57 00.5 +0.2**
BMN pmax pmax
comp=Z,11nm,1.4s
BMN Battle Mountai 71.32 52 P **P** **17 57 00.5 +0.2**
KVN Kaiserville 71.67 54 P **P** **17 57 02.3 -0.1**
KVN pmax pmax
comp=Z,10.0nm,1.2s
KVN Kaiserville 71.67 54 P **P** **17 57 02.4 -0.1**
RYN Ryan 71.69 54 P **P** **17 57 02.7 +0.2**
YHL Hebgen Lake 71.84 46 P **P** **17 57 04.8 +1.3**
SIM Simferopol' 71.86 315 P **P** **17 57 04.2 +1.0**
SIM pmax pmax
comp=Z,29nm,0.9s
YHB Horse Butte 71.90 46 P **P** **17 57 05.0 +1.3**
NVAR Mina Array Bea 71.95 54 P **P** **17 57 05.7 +1.5**
comp=Z,2.2nm,0.6s,baz=290,slow=6.6,SNR=12
NVAR pP **pP** **17 57 28.6 +0.7**
comp=Z,2.2nm,0.7s,baz=297,slow=6.2,SNR=3.7
NVAR Mina Array Bea 71.95 54 P **P** **17 57 04.9 +0.8**
GCMT Greycliff 72.01 44 P **P** **17 57 05.9 +1.6**
YHH Holmes Hill 72.06 46 P **P** **17 57 05.8 +1.0**
YMR Madison River 72.08 46 P **P** **17 57 06.2 +1.4**
YNE Yellowstone No 72.36 45 P **P** **17 57 07.1 +0.6**
H17A Grant Village 72.47 46 P **P** **17 57 10.2 +3.0**
baz=312
H17A Grant Village 72.47 46 P **P** **17 57 08.8 +1.6**
DQM DQM 72.59 281 P **P** **17 57 08.1 +0.2**
IMW Indian Meadow 72.61 46 P **P** **17 57 09.9 +1.8**
SORM Soroca 72.61 320⇑ P **P** **17 57 07.8 +0.2**
RLMT Red Lodge 72.67 44 P **P** **17 57 09.8 +1.5**
baz=313
RLMT Red Lodge 72.67 44 P **P** **17 57 09.3 +1.0**
RLMT IAmb IAmb 17 57 43.1
comp=Z,40nm,1.9s
ARMA Armidale 72.70 171 P **P** **17 57 09.5 +1.2**
ARMA IAmb IAmb 17 57 10.6
comp=Z,21nm,1.1s
FXWY Fox Creek 72.73 47 P **P** **17 57 09.7 +1.0**
MOOW Moose Ponds 72.81 46 P **P** **17 57 10.8 +1.6**
TPAW Teton Pass 72.87 47 P **P** **17 57 11.3 +1.7**
HVU Hansel Valley 73.00 49 P **P** **17 57 11.7 +1.4**
HVU pmax pmax
comp=Z,8.0nm,1.1s
HVU Hansel Valley 73.00 49 P **P** **17 57 11.7 +1.4**
REDW Red Top Meadow 73.01 47 P **P** **17 57 09.9 -0.5**
REDW IAmb IAmb 17 57 13.2
comp=Z,21nm,1.5s
VES Vestal, Richgr 73.12 57 P **P** **17 57 12.1 +1.3**
baz=310
MILM Milestii Mici 73.23 319⇑ P **P** **17 57 11.6 +0.3**
PKM Mcpherson Peak 73.27 58 P **P** **17 57 13.8 +1.8**
baz=310
BEL Belsk 73.33 326 *e*P **P** **17 57 12.4 +0.7**
BEL Belsk 73.33 326 *e*P **P** **17 57 12.4 +0.7**
BEL *e*P **P** **17 57 12.4 +0.7**
CWC Cottonwood Cre 73.36 56 P **P** **17 57 13.4 +1.0**
baz=310
LVV L'vov 73.42 323 *e*P **P** **17 57 12.7 +0.4**
GRAC Grapevine Rang 73.44 55 P **P** **17 57 14.7 +1.9**
baz=310
SPUT South Promonto 73.50 49 P **P** **17 57 14.6 +1.4**
FORT Forrest 73.52 192 P **P** **17 57 13.3 +0.3**
FORT IAmb IAmb 17 57 14.4
comp=Z,36nm,0.8s
STKA Stephens Creek 73.56 180 P **P** **17 57 13.5 +0.3**
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 73.56 180 P **P** **17 57 14.3 +1.2**
comp=Z,12nm,0.9s,baz=348,slow=7.9,SNR=13
STKA LR LR 18 29 17.8
comp=Z,48nm,21.6s,baz=22,slow=35
STKA Stephens Creek 73.56 180 P **P** **17 57 13.5 +0.3**
R11A Troy Canyon, C 73.63 53 P **P** **17 57 15.1 +1.1**
baz=311
R11A Troy Canyon, C 73.63 53 P **P** **17 57 14.8 +0.8**
HWUT Hardware Ranch 73.79 48 P **P** **17 57 15.6 +0.6**
MPMC Manual Prospec 73.97 56 P **P** **17 57 17.3 +1.2**
baz=311
DUG Dugway, Tooele 74.03 50 P **P** **17 57 17.8 +1.5**
baz=312
DUG Dugway, Tooele 74.03 50 P **P** **17 57 16.5 +0.2**
DUG pmax pmax
comp=Z,11nm,1.2s
DUG Dugway, Tooele 74.03 50 P **P** **17 57 16.5 +0.2**
BW06 Boulder Array 74.11 46 P **P** **17 57 17.8 +0.9**
baz=313
BW06 Boulder Array 74.11 46 P **P** **17 57 17.4 +0.6**
PD31 Pinedale Array 74.11 46 P **P** **17 57 17.4 +0.6**
PDAR Pinedale Array 74.11 46 P **P** **17 57 17.4 +0.6**
comp=Z,1.7nm,0.5s,baz=300,slow=2.9,SNR=19
PDAR pP **pP** **17 57 41.3 +0.7**
comp=Z,2.8nm,0.6s,baz=280,slow=1.4,SNR=6.0
PDAR LR LR 18 33 14.8
comp=Z,22nm,18.0s,baz=359,slow=38
PDAR Pinedale Array 74.11 46 P **P** **17 57 16.9 0.0**
KWP Kalwaria Pacla 74.14 324 P **P** **17 57 16.9 +0.3**
KWP Kalwaria Pacla 74.14 324 *e*P **P** **17 57 18.1 +1.5**
KWP *e*P **P** **17 57 18.1 +1.5**
KWP Kalwaria Pacla 74.14 324 P **P** **17 57 16.9 +0.3**
TPNV Topopah Spring 74.14 54 P **P** **17 57 18.3 +1.2**
baz=311
TPNV Topopah Spring 74.14 54 P **P** **17 57 18.2 +1.2**
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 74.14 54 P **P** **17 57 18.2 +1.2**
TCUT Toone Canyon 74.21 49 P **P** **17 57 17.6 +0.1**
BUR08 Bucovina Ar. S 74.45 321 P **P** **17 57 19.0 +0.5**
BUR08 IAmb IAmb 17 57 20.7
comp=Z,19nm,0.8s
BURAR Bucovina Array 74.47 321⇑ P **P** **17 57 19.7 +1.1**
BURAR mb 17 57 20.5
BURAR Bucovina Array 74.47 321 P **P** **17 57 18.8 +0.2**
PSUT Pine Spring 74.53 52 P **P** **17 57 20.9 +1.5**
BIZ Bicaz 74.53 320⇑ P **P** **17 57 19.9 +1.0**
MORW Morawa 74.57 203 P **P** **17 57 19.1 0.0**
MORW IAmb IAmb 17 57 20.4
comp=Z,27nm,0.9s
TESR Tescani 74.58 319⇓ P **P** **17 57 20.1 +1.0**
NLU North Lily Min 74.61 50 P **P** **17 57 20.9 +1.2**
ILGA Ilgaz 74.69 312 P **P** **17 57 20.9 +0.7**
CFR Carcaliu 74.79 318⇑ P **P** **17 57 20.5 +0.1**
KOLS Kolonicke sedl 74.85 323 *e*P **P** **17 57 22.1 +1.4**
KOLS Kolonicke sedl 74.85 323 *e*P **P** **17 57 22.1 +1.4**
GSC Goldstone, Bar 74.88 56 P **P** **17 57 21.9 +0.7**
baz=311
TOPG Topolog 74.88 317⇑ P **P** **17 57 22.2 +1.3**
OJC Ojcow 74.95 326 P **P** **17 57 21.7 +0.4**
OJC pmax pmax
comp=Z,59nm,1.0s
OJC Ojcow 74.95 326 *e*P **P** **17 57 21.9 +0.7**
OJC *e*P **P** **17 57 21.9 +0.7**
OJC Ojcow 74.95 326 P **P** **17 57 21.7 +0.4**
VRI Vrincioaia 75.00 319⇑ P **P** **17 57 23.0 +1.4**
PLOR Plostina 75.05 319⇑ P **P** **17 57 22.9 +1.0**
UZH Uzhgorod 75.06 323⇓ *e*P **P** **17 57 21.5 -0.4**
UZH *e* 17 57 31.6
UZH *e* 17 57 41.9
SHPR Sheep Range 75.09 54 P **P** **17 57 23.9 +1.3**
SHAO Shalim 75.19 281 *i*P **P** **17 57 23.1 -0.1**
SNR=10
SHAO Shalim 75.19 281 P **P** **17 57 23.6 +0.5**
HARR Harsova 75.24 317⇑ P **P** **17 57 23.2 +0.2**
HARR mb 17 57 24.5
TLB Topalu 75.26 317⇑ P **P** **17 57 23.6 +0.5**
GAZ Gaziantep 75.28 307 P **P** **17 57 24.1 +0.7**
GAZ IAmb IAmb 17 57 26.0
comp=Z,33nm,0.9s
ULM Lac du Bonnet 75.28 34 P **P** **17 57 23.5 +0.4**
ULM pmax pmax
comp=Z,36nm,1.8s
ULM Lac du Bonnet 75.28 34 P **P** **17 57 23.9 +0.8**
comp=Z,5.0nm,0.7s,baz=310,slow=8.2,SNR=6.5
ULM LR LR 18 33 28.6
comp=Z,77nm,18.4s,baz=23,slow=38
ULM Lac du Bonnet 75.28 34 P **P** **17 57 23.5 +0.4**
ULM IAmb IAmb 17 58 19.3
comp=Z,36nm,1.8s
OZUR 75.29 320⇑ P **P** **17 57 25.0 +1.7**
TRPA Tarpa 75.32 323⇑ P **P** **17 57 24.7 +1.3**
TRPA mb 17 57 25.6
TUQ Turquoise Moun 75.33 55 P **P** **17 57 25.2 +1.3**
baz=312
NIE Niedzica 75.35 325 *e*P **P** **17 57 25.3 +1.7**
NIE Niedzica 75.35 325 *e*P **P** **17 57 25.3 +1.7**
NIE *e*P **P** **17 57 25.3 +1.7**
CCUT Cedar City 75.47 52 P **P** **17 57 25.8 +1.0**
HEC Hector,Ludlow 75.48 56 P **P** **17 57 25.6 +1.0**
baz=311
MSU Marysvale 75.52 51 P **P** **17 57 25.9 +0.9**
MSU Marysvale 75.52 51 P **P** **17 57 25.9 +0.9**

DOPR Dopca 75.58 320 ⇑P P 17 57 26.5 +1.6
ISR Istrita 75.62 319 ⇓P P 17 57 26.4 +1.1
BR131 Keskin Array S 75.64 311 P P 17 57 26.1 +0.5
BR131 Keskin Array S 75.64 311 P P 17 57 25.7 +0.1
BR131 pmax pmax
comp=Z,15nm,0.8s
BR131 Keskin Array S 75.64 311 P P 17 57 25.6 +0.1
BR131 IAmb IAmb 17 57 27.2
comp=Z,15nm,0.8s
BRTR Keskin Array B 75.64 311 P P 17 57 26.0 +0.5
comp=Z,12nm,0.8s,baz=77,slow=4.0,SNR=42
BRTR pP **pP 17 57 49.8 +0.2**
comp=Z,3.1nm,1.0s,baz=29,slow=2.8,SNR=2.4
BRTR LR LR 18 33 38.0
comp=Z,49nm,18.9s,baz=82,slow=38
BRTR Keskin Array B 75.64 311 P P 17 57 25.6 +0.1
P17A Butcher Ranch, 75.70 50 P P 17 57 26.1 +0.1
ICOR Ion Corvin 75.71 317 ⇓P P 17 57 26.5 +0.8
K22A Casper 75.81 45 P P 17 57 27.7 +1.2
baz=315
K22A Casper 75.81 45 P P 17 57 27.5 +1.0
K22A IAmb IAmb 17 57 28.3
comp=Z,25nm,1.4s
Q16A Castle Valley 75.83 50 P P 17 57 27.4 +0.7
MTPU Mount Pierson 75.84 51 P P 17 57 28.6 +1.5
DMTO DMTO 75.88 281 P P 17 57 27.0 -0.1
LANS Liptovska Anna 75.91 325 *eP* **P 17 57 28.9 +2.1**
LANS pmax pmax
comp=Z,13nm,0.9s
LANS Liptovska Anna 75.91 325 *eP* **P 17 57 28.9 +2.1**
LCMT Little Creek M 75.91 53 P P 17 57 28.9 +1.8
KSP Ksiaz 75.91 328 *eP* **P 17 57 28.1 +1.4**
KSP Ksiaz 75.91 328 *eP* **P 17 57 28.1 +1.4**
KSP *eP* **P 17 57 28.1 +1.4**
GMRC Granite Mounta 75.93 56 P P 17 57 27.9 +0.6
baz=312
OKC Ostrava-Krasne 75.94 326 *eP* **P 17 57 28.1 +1.2**
OKC Ostrava-Krasne 75.94 326 *eP* **P 17 57 28.1 +1.2**
KECS Kecovo 75.97 324 *eP* **P 17 57 28.8 +1.7**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 75.97 324 *eP* **P 17 57 28.8 +1.7**
ANTO Ankara 76.01 311 P P 17 57 28.4 +0.8
ANTO Ankara 76.01 311 P P 17 57 28.7 +1.1
ANTO pmax pmax
comp=Z,42nm,0.8s
ANTO Ankara 76.01 311 ⇑P P 17 57 29.1 +1.4
ANTO mb 17 57 29.8
ANTO Ankara 76.01 311 P P 17 57 28.7 +1.1
BR231 Keskin MP Arra 76.04 311 P P 17 57 28.4 +0.5
BR231 IAmb IAmb 17 57 30.3
comp=Z,44nm,0.9s
RSSD Black Hills 76.05 43 P P 17 57 28.7 +0.7
baz=316
RSSD Black Hills 76.05 43 P P 17 57 28.3 +0.4
RSSD pmax pmax
comp=Z,24nm,1.6s
RSSD Black Hills 76.05 43 P P 17 57 28.3 +0.4
RSSD IAmb IAmb 17 57 30.1
comp=Z,24nm,1.6s
SRU San Rafael Swe 76.07 50 P P 17 57 29.4 +1.3
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 76.07 50 P P 17 57 29.4 +1.3
VOIR 76.12 320 ⇑P P 17 57 29.1 +1.0
PFO Pinyon Flats O 76.20 57 P P 17 57 29.8 +0.9
baz=312
PFO Pinyon Flats O 76.20 57 *i P* **P 17 57 30.3 +1.4**
CHVC Chvalec 76.21 328 *eP* **P 17 57 29.6 +1.2**
TPFO Pinon Flats 76.21 57 P P 17 57 29.7 +0.8
baz=312
MORC Moravsky Berou 76.23 326 P P 17 57 29.0 +0.4
MORC pmax pmax
comp=Z,38nm,1.1s
MORC Moravsky Berou 76.23 326 ⇓P P 17 57 29.1 +0.4
MORC mb 17 57 31.4
MORC Moravsky Berou 76.23 326 *eP* **P 17 57 29.8 +1.2**
MORC Moravsky Berou 76.23 326 P P 17 57 28.9 +0.4
MORC IAmb IAmb 17 57 31.3
comp=Z,38nm,1.1s
DPC Dobruska-Polom 76.28 327 *eP* **P 17 57 30.2 +1.3**
DPC *e* 17 57 54.3
DPC Dobruska-Polom 76.28 327 *eP* **P 17 57 30.2 +1.3**
DPC *ex* x 17 57 54.3
UPC Upice 76.29 328 *eP* **P 17 57 30.5 +1.6**
UPC Upice 76.29 328 *eP* **P 17 57 30.5 +1.6**
KRLC Kraliky 76.31 327 *eP* **P 17 57 30.4 +1.3**
KRLC Kraliky 76.31 327 *eP* **P 17 57 30.4 +1.3**
ARR Arges 76.38 320 ⇑P P 17 57 31.5 +1.9
O20A White River Ci 76.64 48 P P 17 57 32.4 +1.1
baz=314
PSZ Piszkesteto 76.66 324 P P 17 57 32.1 +1.0
PSZ pmax pmax
comp=Z,27nm,1.0s
PSZ Piszkesteto 76.66 324 ⇓P P 17 57 32.4 +1.3
PSZ mb 17 57 33.5
PSZ Piszkesteto 76.66 324 P P 17 57 32.1 +1.0
PSZ IAmb IAmb 17 57 33.4
comp=Z,27nm,1.0s
VYHS Vyhne 76.68 325 *eP* **P 17 57 32.6 +1.5**
VYHS Vyhne 76.68 325 *eP* **P 17 57 32.6 +1.5**
MONP2 Monument Peak 76.70 58 P P 17 57 33.0 +1.2
baz=312
AGMN Agassiz Nation 76.78 35 P P 17 57 31.5 -0.2
AGMN IAmb IAmb 17 58 21.4
comp=Z,34nm,1.8s
BC3 Big Chuckawall 76.80 57 P P 17 57 33.1 +0.8
baz=312
W13A Hualapai Mount 76.80 55 P P 17 57 32.4 0.0
BRG Berggiesshubel 76.81 329 *eP* **P 17 57 32.5 +0.7**
comp=Z,12nm,1.1s
BRG *ep*P **pP 17 57 56.2 +0.4**
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 76.81 329 *eP* **P 17 57 32.5 +0.7**
BRG *e**PP **pP 17 57 56.2 +0.4**
BRG pmax pmax
comp=Z,12nm,1.1s
CLL Collm 76.82 330 ⇑*iP* **P 17 57 32.6 +0.8**
CLL *i* *PP **pP 17 57 55.8 -0.1**
CLL pmax pmax
comp=Z,25nm,0.9s
CLL Collm 76.82 330 ⇑*iP* **P 17 57 32.6 +0.8**
comp=Z,25nm,0.9s
CLL *i* pP **pP 17 57 55.8 -0.1**
CLL LmV 18 34 00.0
comp=Z,200nm,18.4s
CLL Collm 76.82 330 P P 17 57 31.3 -0.5
CLL IAmb IAmb 17 57 33.2
comp=Z,19nm,0.8s
PVCC Panska Ves 76.84 328 *eP* **P 17 57 33.5 +1.5**
PVCC Panska Ves 76.84 328 *eP* **P 17 57 33.5 +1.5**
JAVC Velka Javorina 76.89 326 *eP* **P 17 57 34.6 +2.2**
JAVC *e* 17 57 58.1
VRAC Vranov 76.99 327 ⇓*iP* **P 17 57 34.3 +1.5**
VRAC mb 17 57 35.4
VRAC Vranov 76.99 327 *eP* **P 17 57 34.0 +1.1**
IKP In-Ko-Pah, Jac 77.06 58 P P 17 57 34.8 +1.2
baz=312
SIRR Siria 77.11 322 ⇓*iP* **P 17 57 34.5 +0.9**
GOPC GO Pecny, Ondr 77.24 328 *eP* **P 17 57 35.2 +0.9**
GOPC GO Pecny, Ondr 77.24 328 *eP* **P 17 57 35.2 +0.9**
GZR Gura Zlata 77.24 321 ⇑*iP* **P 17 57 35.3 +0.9**
KRUC Moravsky 77.26 327 *eP* **P 17 57 35.5 +1.1**
KRUC *e* 17 57 58.7
PRU Pruhonice 77.28 328 *eP* **P 17 57 35.7 +1.3**
PRU Pruhonice 77.28 328 *eP* **P 17 57 35.7 +1.3**
Y12C Blythe 77.32 56 P P 17 57 36.2 +1.3
baz=312
ABTO Aybut 77.32 282 P P 17 57 35.2 0.0
PHWY Pilot Hill 77.32 45 P P 17 57 36.0 +0.7
N23A Red Feather La 77.35 46 P P 17 57 35.0 -0.4
MODS Modra-Piesok 77.43 326 *eP* **P 17 57 36.2 +0.8**
MODS pmax pmax
comp=Z,17nm,1.0s
MODS Modra-Piesok 77.43 326 *eP* **P 17 57 36.2 +0.8**
TREC Trest 77.45 327 *eP* **P 17 57 36.8 +1.4**
TREC Trest 77.45 327 *eP* **P 17 57 36.8 +1.4**
ELND Elena 77.54 317 ⇑*iP* **P 17 57 35.7 -0.3**
BZS Buzias 77.62 321 ⇑*iP* **P 17 57 36.9 +0.5**
HERR Herculane 77.79 321 ⇑*iP* **P 17 57 37.2 -0.2**
PLVB Pleven 77.83 318 ⇑*iP* **P 17 57 38.9 +1.3**
NWAO Narrogin (SRO) 77.88 201 P P 17 57 37.6 -0.2
NWAO pmax pmax
comp=Z,46nm,1.2s
NWAO Narrogin (SRO) 77.88 201 P P 17 57 37.6 -0.2
NWAO IAmb IAmb 17 57 40.2
comp=Z,46nm,1.2s
NKC Novy Kostel 77.89 329 *eP* **P 17 57 39.1 +1.2**
NKC Novy Kostel 77.89 329 *eP* **P 17 57 39.1 +1.2**
SMCO Snowmass 78.01 48 P P 17 57 39.5 +0.3
WUAZ Wupatki 78.03 53 P P 17 57 40.6 +1.5
baz=314
WUAZ Wupatki 78.03 53 P P 17 57 40.0 +0.9
WUAZ IAmb IAmb 17 57 41.8
comp=Z,18nm,1.3s
MDVR Moldovita 78.20 321 ⇓*iP* **P 17 57 40.4 +0.7**
MPEP Malo Peshtene 78.29 319 P P 17 57 40.7 +0.5
ISCO Idaho Springs 78.31 46 P P 17 57 41.8 +1.0
ISCO pmax pmax
comp=Z,12nm,1.3s
ISCO Idaho Springs 78.31 46 P P 17 57 41.8 +1.0
KHC Kasperske Hory 78.34 328 P P 17 57 41.0 +0.6
KHC pmax pmax
comp=Z,8.0nm,0.9s
KHC Kasperske Hory 78.34 328 *eP* **P 17 57 41.3 +0.9**
KHC *e*PCP **PcP 17 57 52.5 +3.1**
KHC *ep*P **pP 17 58 05.2 +0.7**
KHC Kasperske Hory 78.34 328 P P 17 57 41.0 +0.6
CONA Conrad Observa 78.37 326 *i P* **P 17 57 42.4 +1.7**
comp=Z,25nm,1.3s
GEC2 GERESS Array S 78.52 328 P P 17 57 41.5 0.0
GERES GERESS Array B 78.52 328 P P 17 57 42.2 +0.8
comp=Z,4.7nm,0.8s,baz=38,slow=5.0,SNR=30
GERES pP **pP 17 58 05.6 0.0**
comp=Z,1.5nm,0.8s,baz=40,slow=6.9,SNR=2.7
GERES LR LR 18 36 30.5
comp=Z,101nm,18.8s,baz=30,slow=39
GERES GERESS Array B 78.52 328 P P 17 57 40.9 -0.6
MVCO Mesa Verde 78.53 50 P P 17 57 43.2 +1.3
baz=315
MVCO Mesa Verde 78.53 50 P P 17 57 43.0 +1.1
PGB Panagyurishte 78.67 318 P P 17 57 43.2 +0.8
GRA1 Grafenberg Arr 78.79 330 P P 17 57 43.3 +0.5
GRA1 IAmb IAmb 17 57 45.0
comp=Z,31nm,0.9s
GRF Grafenberg Arr 78.79 330 P P 17 57 43.3 +0.5
GRF pmax pmax
comp=Z,31nm,0.9s
EYMN Ely 78.88 33 P P 17 57 43.3 -0.1
EYMN IAmb IAmb 17 58 18.2
comp=Z,40nm,1.5s
RAYN Ar Rayn 78.88 292 P P 17 57 43.0 -0.9
RAYN Ar Rayn 78.88 292 P P 17 57 43.0 -0.9
RAYN IAmb IAmb 17 57 44.9
comp=Z,16nm,0.8s
ARSA Arzberg 79.05 326 *i P* **P 17 57 45.7 +1.3**
comp=Z,10nm,1.1s
VTS Vitosha 79.08 319 P P 17 57 45.8 +1.1
VTS Vitosha 79.08 319 P P 17 57 45.3 +0.5
VTS pmax pmax
comp=Z,30nm,0.8s
VTS Vitosha 79.08 319 P P 17 57 45.3 +0.5
VTS IAmb IAmb 17 57 47.0
comp=Z,30nm,0.8s
MOA Molln 79.09 327 *i P* **P 17 57 45.9 +1.4**
comp=Z,5.0nm,0.9s
S22A 4UR Ranch, Cre 79.10 49 P P 17 57 46.3 +1.2
baz=315
S22A 4UR Ranch, Cre 79.10 49 P P 17 57 46.5 +1.4
Q24A Divide 79.16 47 P P 17 57 45.1 -0.3
W18A Petrified Fore 79.27 52 P P 17 57 46.5 +0.6
baz=314
MANT Manisa 79.32 313 P P 17 57 46.7 +0.5
OGNE Ogallala 79.37 44 P P 17 57 46.5 +0.2
baz=318
214A Organ Pipe Nat 79.59 56 P P 17 57 48.4 +0.9
baz=313
MMB Musomiste 79.60 318 P P 17 57 48.3 +0.9
GROS Grobnik 79.68 325 *i P* **P 17 57 48.7 +0.9**
SOKA Soboth 79.70 326 *i P* **P 17 57 49.2 +1.3**
comp=Z,37nm,1.1s,SNR=7.1
KKB Krupnik 79.72 318 P P 17 57 49.1 +1.1
ELL Elmali 79.81 311 P P 17 57 48.8 0.0
ELL pmax pmax
comp=Z,116nm,1.1s
ELL Elmali 79.81 311 P P 17 57 48.8 0.0
SDCO Great Sand Dun 79.84 48 P P 17 57 50.3 +1.2
baz=316
SDCO Great Sand Dun 79.84 48 P P 17 57 50.1 +1.0
MEM Membach 79.89 333 P P 17 57 49.2 +0.4
ECSD EROS Data Cent 79.93 39 P P 17 57 49.3 +0.2
baz=320
ECSD EROS Data Cent 79.93 39 P P 17 57 49.0 -0.2
ECSD IAmb IAmb 17 57 50.5
comp=Z,28nm,1.4s
OBKA Obir 80.04 326 *i P* **P 17 57 50.6 +0.8**
comp=Z,10nm,0.7s
KBA Koelnbreinsper 80.08 327 *i P* **P 17 57 51.3 +1.2**
comp=Z,48nm,1.3s,SNR=13
BCLA Clavier 80.29 333 P P 17 57 51.2 +0.3
MYKA Terra Mystica 80.32 327 *i P* **P 17 57 52.0 +0.7**
comp=Z,24nm,1.3s
SCHQ Schefferville 80.50 16 P P 17 57 53.0 +1.0
comp=Z,8.6nm,0.6s,baz=6.8,slow=5.1,SNR=6.2
SCHQ Schefferville 80.50 16 P P 17 57 50.5 -1.5
SCHQ IAmb IAmb 17 57 53.6
comp=Z,19nm,1.1s
BMRD Maredsous 80.57 334 P P 17 57 52.2 -0.2
WATA Walderalm 80.58 328 *i PcP* **P 17 57 53.9 +1.1**
comp=Z,13nm,0.6s,SNR=6.3
TUC Tucson 80.59 55 P P 17 57 54.9 +1.9
baz=314
TUC Tucson 80.59 55 P P 17 57 50.9 -2.1
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 80.59 55 P P 17 57 50.9 -2.1
CADS Cadrg 80.60 326 *i P* **P 17 57 52.5 -0.2**
WTTA Wattenberg 80.61 328 *i PcP* **P 17 57 54.3 +1.3**
comp=Z,16nm,0.8s
ABTA Abfaltersbach 80.69 327 *i P* **P 17 57 53.2 -0.1**
comp=Z,17nm,1.3s
MOTA Moosalm 80.76 328 *i PcP* **P 17 57 54.8 +1.1**
comp=Z,50nm,1.1s,SNR=15
RETA Reute 80.77 329 *i PcP* **P 17 57 54.9 +1.2**
comp=Z,35nm,1.1s,SNR=9.8
DOU Dourbes 80.80 334 P P 17 57 54.2 +0.5
SQTA Sankt Quirin 80.82 328 *i PcP* **P 17 57 55.3 +1.3**
comp=Z,26nm,1.2s,SNR=6.1
T25A Trinidad 80.87 48 P P 17 57 55.7 +1.1
baz=317
T25A Trinidad 80.87 48 P P 17 57 53.9 -0.7
T25A IAmb IAmb 17 57 56.6
comp=Z,22nm,1.2s
BFO Black Forest 80.99 331 P P 17 57 54.2 -0.6
BFO pmax pmax
comp=Z,28nm,1.3s
BFO Black Forest 80.99 331 P P 17 57 54.1 -0.6
BFO IAmb IAmb 17 57 56.4
comp=Z,28nm,1.3s
STAL STALIGIAL 81.00 327 P P 17 57 54.1 -0.8
STAL IAmb IAmb 17 57 57.1
comp=Z,20nm,0.7s
PDG Podgorica 81.15 321 P P 17 57 55.3 -0.3
FETA Feichten 81.17 328 *i PcP* **P 17 57 57.1 +1.2**
comp=Z,22nm,1.0s,SNR=7.0
DAVA Damuels 81.28 329 *i PcP* **P 17 57 57.5 +1.1**
comp=Z,39nm,1.3s,SNR=9.8
ANMO Albuquerque 81.30 50 P P 17 57 57.9 +1.0
baz=316
ANMO Albuquerque 81.30 50 ⇑*eP* **P 17 57 58.6 +1.7**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 81.30 50 P P 17 57 57.8 +1.0
FNA Florina 81.38 318 P P 17 57 57.4 +0.4
FNA pmax pmax
comp=Z,26nm,1.3s
FNA Florina 81.38 318 P P 17 57 57.4 +0.4
FNA IAmb IAmb 17 57 59.6
comp=Z,26nm,1.3s
ECH Echery 81.52 331 P P 17 57 57.8 +0.3
ECH pmax pmax
comp=Z,14nm,1.0s
ECH Echery 81.52 331 P P 17 57 57.8 +0.3
ECH IAmb IAmb 17 57 58.8
comp=Z,14nm,1.0s
TEOL Teolo 82.16 327 P P 17 58 01.3 +0.4
TEOL IAmb IAmb 17 58 02.5
comp=Z,24nm,0.8s
319A Douglas 82.16 55 P P 17 58 01.8 +0.5
319A IAmb IAmb 17 58 03.7
comp=Z,19nm,1.2s
TUE Stuetta 82.16 329 P P 17 58 01.5 +0.3
TUE IAmb IAmb 17 58 05.4
comp=Z,12nm,0.7s
121A Cookes Peak, D 82.24 53 P P 17 58 03.0 +1.2
MATQ Matagami 82.33 24 P P 17 58 02.4 +0.7
baz=332
SENIN Lac Senin/Sane 83.03 330 P P 17 58 05.8 +0.2
SENIN IAmb IAmb 17 58 07.0
comp=Z,10nm,0.9s
CHGQ Chibougamau 83.16 22 P P 17 58 06.4 +0.4
baz=334
MURB Monte Urbino 83.51 325 P P 17 58 09.5 +1.5
NRCA Norcia 83.60 325 P P 17 58 08.4 -0.1
ITM Ithomi 83.83 316 P P 17 58 08.8 -0.9
OSSC Osservatorio P 83.83 326 P P 17 58 09.2 -0.4
OSSC IAmb IAmb 17 58 11.6
comp=Z,30nm,1.1s
AQU L'Aquila 83.87 324 P P 17 58 10.1 +0.3
AQU pmax pmax
comp=Z,59nm,1.1s
AQU L'Aquila 83.87 324 P P 17 58 10.1 +0.3
ACER Acerenza 83.98 322 P P 17 58 11.0 +0.5
AMTX Amarillo 84.03 48 P P 17 58 12.1 +1.2
baz=318
AMTX Amarillo 84.03 48 P P 17 58 11.9 +1.0
AMTX IAmb IAmb 17 58 13.4
comp=Z,10nm,0.9s
MNTX Cornudas Mount 84.26 52 P P 17 58 12.8 +0.8
baz=317
MNTX Cornudas Mount 84.26 52 P P 17 58 12.9 +0.8
BNI Bardonecchia 84.37 330 P P 17 58 12.7 +0.2
BNI pmax pmax
comp=Z,27nm,1.2s
BNI Bardonecchia 84.37 330 P P 17 58 12.7 +0.2
BNI IAmb IAmb 17 58 15.6
comp=Z,27nm,1.2s
TAU Tasmania Unive 84.73 176 P P 17 58 14.9 +1.2
TAU pmax pmax
comp=Z,45nm,1.3s
TAU Tasmania Unive 84.73 176 P P 17 58 14.9 +1.2
TAU IAmb IAmb 17 58 16.5
comp=Z,45nm,1.2s
TIP Timpagrande 84.86 320 P P 17 58 15.5 +0.5
TIP IAmb IAmb 17 58 16.7
comp=Z,34nm,1.3s
SSB Saint Sauveur 84.96 331 P P 17 58 15.9 +0.6
SSB pmax pmax
comp=Z,33nm,1.3s
SSB Saint Sauveur 84.96 331 P P 17 58 15.9 +0.6
SSB IAmb IAmb 17 58 17.0
comp=Z,33nm,1.3s
DAMY Dhamar 85.58 286 P P 17 58 20.2 +1.0
D56A ZEC Mazanza, M 85.62 24 P P 17 58 18.8 +0.3
baz=334
WMOK Wichita Mounta 85.71 46 P P 17 58 19.8 +0.6
baz=320
WMOK Wichita Mounta 85.71 46 P P 17 58 18.9 -0.3
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta 85.71 46 P P 17 58 18.9 -0.3
WMOK IAmb IAmb 17 58 20.8
comp=Z,10nm,1.1s
PMOR Pomariorio Ree 86.11 114 *eT* T 19 33 44.1
comp=Z,26nm,0.2s
PPT Papeete 86.80 117 LR LR 18 29 02.3
comp=Z,54nm,21.4s,baz=354,slow=30
PPT2 Papeete2 86.81 117 *e*LR LR 18 25 57.6
comp=Z,258nm,30.2s
CCM Cathedral Cave 86.90 39 P P 17 58 25.4 +0.5
baz=324
CCM Cathedral Cave 86.90 39 P P 17 58 24.9 -0.1
CCM pmax pmax
comp=Z,16nm,1.0s
CCM Cathedral Cave 86.90 39 P P 17 58 24.9 -0.1
CCM IAmb IAmb 17 58 26.3
comp=Z,16nm,1.0s
TX31 Lajitas Ar. Si 86.99 53 P P 17 58 26.1 +0.5
TX31 IAmb IAmb 17 58 28.3
comp=Z,19nm,1.6s
TX32 Lajitas Array 86.99 53 P P 17 58 26.8 +1.1
TX32 IAmb IAmb 17 58 28.3
comp=Z,21nm,1.7s
TXAR Lajitas Array 86.99 53 P P 17 58 26.5 +0.8
comp=Z,1.1nm,0.6s,baz=296,slow=3.7,SNR=12
TXAR pP **pP 17 58 51.4 +1.4**
comp=Z,1.6nm,0.8s,baz=306,slow=4.2,SNR=3.0
TXAR Lajitas Array 86.99 53 P P 17 58 25.6 0.0
MGMO Mountain Grove 87.14 40 P P 17 58 25.9 -0.3
U40A Yellville 87.49 41 P P 17 58 28.0 +0.2
baz=323
U40A Yellville 87.49 41 P P 17 58 27.1 -0.8
U40A IAmb IAmb 17 58 29.1
comp=Z,32nm,1.3s
MEH Mehetia 88.02 116 *eT* T 19 36 05.7
comp=Z,40nm,0.3s
SIUC Southern Illin 88.12 38 P P 17 58 31.5 +0.7
S44A Carbondale 88.12 38 P P 17 58 31.7 +0.9
baz=325
O49A Covington 88.19 33 P P 17 58 32.1 +1.1
baz=328
PBMO Poplar Bluff 88.32 39 P P 17 58 32.1 +0.4
PBMO IAmb IAmb 17 58 33.9
comp=Z,20nm,1.1s
P48A Milroy 88.34 34 P P 17 58 33.1 +1.2
baz=327
MIAR Mount Ida 88.56 43 P P 17 58 33.7 +0.8
baz=323
MIAR Mount Ida 88.56 43 P P 17 58 33.7 +0.8
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MIAR Mount Ida 88.56 43 P P 17 58 33.7 +0.8
MIAR IAmb IAmb 17 58 34.8
comp=Z,10.0nm,1.0s
P49A Miami Univ. Ec 88.58 34 P P 17 58 33.6 +0.7
baz=328
Q49A Aurora 88.95 34 P P 17 58 36.1 +1.4
baz=328
X40A Basin Creek Fa 88.98 42 P P 17 58 35.6 +0.7
baz=323
N53A Lisbon 89.04 31 P P 17 58 36.3 +1.2
baz=330
N54A Moraine State 89.23 30 P P 17 58 36.0 +0.1
baz=331
Q51A Peebles 89.58 33 P P 17 58 38.6 +0.9
baz=328
Q51A Peebles 89.58 33 P P 17 58 38.1 +0.5
N57A Milroy 90.30 29 P P 17 58 42.0 +1.1
baz=332
TBI Tubuai 91.00 121 *e*LR LR 18 27 55.3
comp=Z,151nm,33.5s
TBI Tubuai 91.00 121 *eT* T 19 39 44.0
comp=Z,19nm,0.3s
KEST Kesra 91.10 323 P P 17 58 45.0 +0.2
comp=Z,2.7nm,0.6s,baz=355,slow=4.2,SNR=5.3
ESDC Sonseca Array 92.84 334 P P 17 58 53.2 +0.4
comp=Z,2.3nm,0.8s,baz=28,slow=3.8,SNR=11
ESDC pP **pP 17 59 17.4 0.0**
comp=Z,2.7nm,0.8s,baz=22,slow=3.5,SNR=5.6
ESDC LR LR 18 46 38.7
comp=Z,62nm,18.5s,baz=345,slow=39
ESDC Sonseca Array 92.84 334 P P 17 58 52.3 -0.5
KMBO Kilima Mbogo 101.36 279 P Pdif 17 59 32.8 +0.9
comp=Z,6.7nm,1.2s,baz=19,slow=6.6,SNR=7.5
KMBO Kilima Mbogo 101.36 279 Pdif 17 59 31.4 -0.5
TORD Torodi Ar. Bea 113.82 317 PKiKP PKiKP 18 04 18.6 -0.2
comp=Z,1.0nm,0.6s,baz=9.7,slow=0.7,SNR=7.1
TORD PP **PP 18 05 10.7 -1.5**
comp=Z,5.5nm,1.1s,baz=15,slow=6.6,SNR=9.3
VNDA Vanda 119.95 175 PKP PKiKP 18 04 29.6 +0.8
comp=Z,0.9nm,0.8s,baz=326,slow=2.9,SNR=7.6
DBIC Dimbokro 122.64 319 PKP PKPdf 18 04 35.2 -0.6
comp=Z,2.1nm,0.7s,baz=341,slow=7.1,SNR=3.1
MAW Mawson 124.07 207 PKP PKiKP 18 04 37.9 +0.9
comp=Z,4.7nm,0.8s,baz=72,slow=3.2
MAW Mawson 124.07 207 PKiKP 18 04 37.5 +0.5
LBTB Lobatse 125.19 267 PKIKP PKiKP 18 04 41.2 +0.4
LBTB Lobatse 125.19 267 PKiKP 18 04 41.2 +0.4
BOSA Boshof 127.44 263 PKP PKiKP 18 04 45.7 +0.5
comp=Z,4.9nm,1.0s,baz=270,slow=2.0,SNR=4.2
BOSA Boshof 127.44 263 PKiKP 18 04 45.2 +0.1
QSPA South Pole Qui 131.78 180 PKiKP 18 04 53.5 +0.8
LPAZ La Paz 143.85 54 PKP PKPdf 18 05 15.2 -0.8
comp=Z,0.8nm,0.5s,baz=298,slow=4.1,SNR=3.2

LPAZ	La Paz	143.85	54		PKPbc	18 05 14.3 +0.4
MNMC	Minye Minye	145.09	59		PKPdf	18 05 18.1 +0.5
PB11	IPOC Station P	145.52	60		PKPbc	18 05 18.3 -0.1
SNAA	Sanae	145.54	199	PKPbc	PKPab	18 05 17.2 -0.1
SNAA	Sanae	145.54	199	PKP2	PKPbc	18 05 17.0 +0.1
SNAA	Sanae	145.54	199		PKPbc	18 05 17.0 +0.1
GO01	Chusmiza	145.75	59		PKPdf	18 05 17.7 -1.3
VNA2	Neumayer--Watz	147.13	198	PKPbc	PKPbc	18 05 21.8 +0.3
	baz=112,slow=3.5					
VNA3	Neumayer Olymp	147.41	197	PKPbc	PKPbc	18 05 21.9 -0.4
VNA1	Neumayer--Stat	147.53	198	PKPbc	PKPbc	18 05 23.0 +0.5
BDFB	Brasilia	152.43	20	PKIKP	PKPdf	18 05 30.0 +0.7
BDFB	Brasilia	152.43	20	PKPbc	PKiKP	18 05 37.5 +1.0
	comp=Z,3.1nm,0.6s,baz=251,slow=2.5,SNR=5.9					
BDFB	Brasilia	152.43	20		PKPdf	18 05 30.0 +0.7
PLCA	Paso Flores	155.95	98	PKP	PKPdf	18 05 34.3 +0.8
	comp=Z,5.6nm,1.3s,baz=359,slow=4.7,SNR=3.9					
PLCA				PKPab	PKPab	18 06 02.9 +1.7
	comp=Z,3.6nm,0.7s,baz=284,slow=5.5,SNR=7.0					
PLCA				pPKPab	pPKPab	18 06 27.7 +2.0
	comp=Z,3.6nm,0.9s,baz=330,slow=6.2,SNR=3.5					
PLCA	Paso Flores	155.95	98		PKPdf	18 05 32.4 -1.1
PLCA					pPKPab	18 06 26.9 +1.1

IDC 27 18:02:37.6±4.1, 8°.42S×152°.07E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/36, mbtmp3.1/2, Error ellipse: s-maj=173.3km s-min=52.1km az=127.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.63	234	P	P	18 07 17.8	-1.0
	0.4nm,0.8s,baz=59,slow=9.5,SNR=6.5						
ASAR	Alice Springs	153.08	227	P	P	18 07 45.0	0.0
	0.3nm,0.4s,baz=57,slow=10,SNR=17						
TORD	Torodi Ar. Bea	150.53	282	PKPbc	PKPbc	18 22 32.8	+0.3
	0.9nm,1.1s,baz=90,slow=1.4,SNR=3.0						

*ISCJB **27** 18:20:43.4±1.3, 35°.32N±0°.06×77°.1E±0°.2, h33km, Error ellipse: s-maj=24.2km s-min=6.7km az=165.2*
*IDC **27** 18:20:47.0±6.6, 35°.40N×76°.94E, h48km±65km, mb3.5/3, mb1 3.5/5, mb1mx3.2/44, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=53.5km s-min=26.6km az=50.0*

ISC 27 18:20:45.5±1.5, 35°.32N±0°.10×77°.0E±0°.2, h35km, n14, σ0°98/15, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	Dangsing	9.01	139	eP	Pn	18 22 54.1	+0.8
	4.9nm,0.2s						
GKN	Gorkha	9.76	136	eP	Pn	18 23 04.0	+0.4
	9.1nm,0.3s						
KKN	Kakani	10.29	135	eP	Pn	18 23 10.6	-0.3
	6.1nm,0.6s						
PKIN	Phulchoki	10.52	135	eP	Pn	18 23 14.2	+0.2
	6.3nm,0.5s						
PKI	Pulchoki	10.53	135	eP	Pn	18 23 14.4	+0.1
	7.0nm,0.6s						
GUN	Gumba	10.56	132	eP	Pn	18 23 14.3	-0.4
	12nm,0.9s						
JIRN	Jiri	10.93	132	eP	Pn	18 23 19.0	-0.8
	15nm,0.5s						
TAPN	Taplejung	12.10	128	eP	Pn	18 23 34.1	-1.6
	5.5nm,0.5s						
MKAR	Makanchi Array	12.13	17	P	Pn	18 23 35.6	-0.2
	0.2nm,0.3s,baz=200,slow=13,SNR=6.9						
MKAR				S	Sn	18 25 50.2	+0.4
	0.1nm,0.3s,baz=190,slow=23,SNR=3.7						
ODAN	Odare	12.25	131	eP	Pn	18 23 36.0	-1.6
	4.9nm,0.6s						
KURBB	Kurchatov Arra	15.34	4	P	Pn	18 24 20.5	+1.3
	0.0nm,0.3s,baz=192,slow=10,SNR=2.3						
SONM	Songino Array	25.12	51	P	P	18 26 07.5	+0.4
	0.4nm,0.6s,baz=237,slow=9.6,SNR=4.7						
CMAR	Chiang Mai Arr	25.68	125	P	P	18 26 13.6	+1.2
	0.5nm,0.3s,baz=312,slow=10,SNR=10						
FINES	FINESS Array B	41.21	326	P	P	18 28 25.4	-1.1
	1.9nm,0.7s,baz=126,slow=9.7,SNR=4.2						

*ISCJB **27** 18:33:43.6±0.6, 19°.7S±0°.1×178°.1W±0°.1, h600km, mb3.6/9, Error ellipse: s-maj=16.2km s-min=13.1km az=169.8*
*NEIC **27** 18:33:45.0±0.6, 19°.6S±0°.2×178°.1W±0°.2, h603km±11km, mb4.6/10*
*IDC **27** 18:33:46.4±9.2, 19°.69S×178°.14W, h619km±119km, mb3.1/9, mb1 3.4/9, mb1mx3.2/22, mbtmp4.0/9, Error ellipse: s-maj=36.3km s-min=26.3km az=50.0*

ISC 27 18:33:44.7±0.7, 19°.6S±0°.1×178°.1W±0°.1, h600km, n26, σ0°53/26, mb3.8/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.12	297	P	P	18 35 10.6	-0.6
PMG	Port Moresby	35.07	282	P	P	18 39 49.5	0.0
PMG				IAmb	IAmb	18 39 51.0	
	comp=Z,11nm,0.8s						
TOO	Toolangi	36.34	233		P	18 39 59.7	+0.2
TOO				IAmb	IAmb	18 40 49.5	
	comp=Z,45nm,1.9s						
COEN	Coen	37.45	273		P	18 40 09.7	+0.7
STKA	Stephens Creek	38.09	243	P	P	18 40 14.2	+0.3
	comp=Z,1.2nm,0.4s,baz=85,slow=6.0,SNR=7.4						
STKA	Stephens Creek	38.09	243	P	P	18 40 14.5	+0.6
BBOO	Buckleboo	42.85	243		P	18 40 52.2	+0.5
WR0	Warramunga Arr	44.45	261		P	18 41 03.6	-0.5
WR0				IAmb	IAmb	18 42 05.5	
	comp=Z,44nm,1.9s						
AS31	Alice Springs	44.63	256	P	P	18 41 05.7	+0.1
ASAR	Alice Springs	44.63	256	P	P	18 41 05.8	+0.2
	comp=Z,4.4nm,0.6s,baz=86,slow=8.2,SNR=100						
ASAR	Alice Springs	44.63	256	P	P	18 41 05.0	-0.5
WRA	Warramunga Arr	44.64	261	P	P	18 41 05.4	-0.2
	comp=Z,2.4nm,0.3s,baz=97,slow=7.6,SNR=51						
WRA	Warramunga Arr	44.64	261	P	P	18 41 05.3	-0.3
VNDA	Vanda	58.75	185	P	P	18 42 45.4	-0.3
	comp=Z,0.3nm,0.4s,baz=322,slow=6.2,SNR=5.8						
MJAR	Matsushiro Arr	69.47	324	P	P	18 43 53.7	-0.5
	comp=Z,1.9nm,0.6s,baz=139,slow=5.5,SNR=6.2						
MJAR	Matsushiro Arr	69.47	324	P	P	18 43 53.6	-0.5
QSPA	South Pole Qui	70.42	180	P	P	18 43 59.9	+0.5
QSPA				IAmb	IAmb	18 44 27.4	
	comp=Z,23nm,2.0s						
NVAR	Mina Array Bea	80.47	43	P	P	18 44 56.7	+1.1
	comp=Z,0.2nm,0.3s,baz=225,slow=8.9,SNR=2.3						
NVAR	Mina Array Bea	80.47	43	P	P	18 44 56.1	+0.5
TXAR	Lajitas Array	86.67	57	P	P	18 45 26.3	+0.1
	comp=Z,0.6nm,0.6s,baz=232,slow=6.1,SNR=4.7						
PDAR	Pinedale Array	88.40	43	P	P	18 45 34.3	0.0
	comp=Z,0.6nm,0.7s,baz=240,slow=2.7,SNR=2.9						
PDAR	Pinedale Array	88.40	43	P	P	18 45 34.1	-0.1
SNAA	Sanae	88.86	178	P	P	18 45 34.7	-1.0
VNA3	Neumayer Olymp	89.00	176	P	P	18 45 35.6	-0.7
VNA2	Neumayer--Watz	89.44	177	P	P	18 45 38.1	-0.1
	baz=195,slow=2.5						
CMAR	Chiang Mai Arr	89.75	290	P	P	18 45 41.1	+0.4
	comp=Z,0.9nm,1.0s,baz=121,slow=2.9,SNR=6.4						

*ISCJB **27** 18:49:03.9±0.6, 60°.18S±0°.08×45°.2W±0°.2, h10km, mb3.9/4, Error ellipse: s-maj=19.6km s-min=8.7km az=150.9*
*IDC **27** 18:49:03.5±0.9, 60°.26S×45°.58W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/24, mbtmp3.9/5, Error ellipse: s-maj=49.5km s-min=22.7km az=64.0*
*NEIC **27** 18:49:05.8±1.1, 60°.2S±0°.1×45°.3W±0°.3, h15km±5km, mb4.6/8*

ISC 27 18:49:05.3±0.7, 60°.2S±0°.1×45°.4W±0°.2, h10km, n24, σ0°61/23, mb4.2/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.65	43	Pn	Pn	18 50 56.1	-0.5
VNA3	Neumayer Olymp	18.00	142	P	Pn	18 53 14.9	-0.3
VNA1	Neumayer--Stat	18.26	140	P	P	18 53 19.1	+0.6
VNA2	Neumayer--Watz	18.62	141	P	Pn	18 53 22.7	0.0
	baz=295,slow=13						
SNAA	Sanae	20.22	142	P	Pn	18 53 43.2	+1.3
SNAA	Sanae	20.22	142	P	P	18 53 40.7	+0.6
	2.3nm,0.8s,baz=284,slow=12,SNR=5.5						
SNAA	Sanae	20.22	142	P	P	18 53 40.6	+0.6
TRQA	Tornquist	24.56	327	P	P	18 54 26.0	+1.0
QSPA	South Pole Qui	30.02	180	P	P	18 55 13.6	-0.4
	1.2nm,0.9s,baz=8.7,slow=2.0,SNR=3.1						
QSPA	South Pole Qui	30.02	180	P	P	18 55 13.7	-0.3
QSPA				IAmb	IAmb	18 55 22.0	
	comp=Z,12nm,1.8s						
GO01	Chusmiza	43.92	327	P	P	18 57 12.3	-0.3
GO01				IAmb	IAmb	18 58 15.5	
	comp=Z,25nm,1.6s						
MNMC	Minye Minye	44.55	326	P	P	18 57 17.6	+0.3
MNMC				IAmb	IAmb	18 57 19.0	
	comp=Z,7.8nm,0.7s						
SIV	San Ignacio	45.62	339	P	P	18 57 25.3	-0.2
	comp=Z,1.4nm,0.5s,baz=196,slow=8.4,SNR=10						
LPAZ	La Paz	46.87	329	P	P	18 57 36.1	0.0
	comp=Z,1.5nm,0.7s,baz=167,slow=8.2,SNR=6.8						
LPAZ	La Paz	46.87	329	P	P	18 57 36.6	+0.5
LPAZ				IAmb	IAmb	18 57 47.0	
	comp=Z,16nm,1.9s						
SAML	Samuel	52.88	338	P	P	18 58 21.1	0.0
SAML				IAmb	IAmb	18 58 21.6	
	comp=Z,2.4nm,0.7s						
TORD	Torodi Ar. Bea	82.22	46	P	P	19 01 27.2	+0.9
	comp=Z,0.5nm,0.5s,baz=218,slow=5.1,SNR=5.0						
TORD	Torodi Ar. Bea	82.22	46	P	P	19 01 26.9	+0.6
YKA	Yellowknife Ar	133.25	323	PKP	PKPdf	19 08 18.9	-0.7
	comp=Z,0.4nm,0.5s,baz=147,slow=2.3,SNR=4.7						
BVAR	Borovoye Array	145.24	73	PKPbc	PKPbc	19 08 40.8	-0.7
	comp=Z,1.8nm,0.7s,baz=251,slow=4.5,SNR=14						
ILAR	Eielson Array	145.65	312	PKPbc	PKPdf	19 08 41.1	-1.0
	comp=Z,0.8nm,0.7s,baz=146,slow=3.9,SNR=6.3						
ILAR	Eielson Array	145.65	312		PKPdf	19 08 41.2	-0.8
MKAR	Makanchi Array	147.05	90	PKPbc	PKPdf	19 08 45.9	+0.8
	comp=Z,0.5nm,0.5s,baz=228,slow=3.7,SNR=7.8						
MKAR	Makanchi Array	147.05	90		PKPdf	19 08 45.1	0.0

GCMT 27 19:00:17.0±0.4, 54°.14S±0°.02×54°.87W±0°.04, h17km±2km, MW4.9/66, 1C, Moment Tensor Solution. s19,c22; s66,c84; Duration: 0 Moment tensor: Scale 1016Nm; M_{rr}0.18±.13; $M_{\theta\theta}$-0.98±.10; $M_{\phi\phi}$0.80±.11; $M_{r\theta}$-0.63±.35; $M_{\theta\phi}$2.22±.10; $M_{\phi r}$-0.64±.29; **Best double couple:** M_o2.55900×10^{16} **NP1:**ϕ_s261.00000°, δ79.00000°, λ17.00000°. **NP2:**ϕ_s167.00000°, δ73.00000°, λ168.00000°. **Principal axes:** T 2.6230, Plg20.0000°, Azm125.0000°; N -0.1280, Plg70.0000°, Azm293.0000°; P -2.4950, Plg4.0000°, Azm33.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	25.95	148	P	P	19 05 45.4	-2.6
VNA1	Neumayer--Stat	26.22	147	P	P	19 05 48.9	-1.6
VNA2	Neumayer--Watz	26.57	147	P	P	19 05 51.6	-2.0
	baz=296,slow=9.4						
SNAA	Sanae	28.17	148	P	P	19 06 05.0	-3.0
SYO	Syowa Base	42.46	148	eP	P	19 08 16.0	+5.7

IDC 27 19:23:01.8±1.4, 37°.29S×97°.33W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/31, mbtmp3.8/5, MS3.7/9, Ms1 3.7/9, ms1mx3.5/29 Error ellipse: s-maj=39.3km s-min=30.7km az=73.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	21.06	108	LR	LR	19 33 49.8	
	comp=Z,143nm,18.6s,baz=138,slow=31						
CFA	Coronel Fontan	24.60	85	LR	LR	19 35 33.0	
	comp=Z,155nm,18.8s,baz=202,slow=30						
LVC	Limon Verde	28.51	67	LR	LR	19 37 17.0	
	comp=Z,202nm,19.1s,baz=207,slow=30						
NNA	Nana	31.18	41	LR	LR	19 38 19.7	
	comp=Z,314nm,21.4s,baz=279,slow=29						
LPAZ	La Paz	33.20	59	P	P	19 29 41.5	+0.3
	4.1nm,0.9s,baz=208,slow=7.9,SNR=13						
LPAZ				LR	LR	19 38 38.2	
	comp=Z,58nm,19.5s,baz=227,slow=28						
PMSA	Palmer Station	33.82	155	LR	LR	19 39 55.3	
	comp=Z,110nm,18.0s,baz=144,slow=30						
SIV	San Ignacio	38.40	66	P	P	19 30 24.6	-0.6
	0.7nm,0.5s,baz=201,slow=8.6,SNR=3.6						
BDFB	Brasilia	48.51	77	LR	LR	19 49 44.0	
	comp=Z,70nm,20.9s,baz=125,slow=33						
VNDA	Vanda	56.20	195	LR	LR	19 51 54.4	
	comp=Z,64nm,19.9s,baz=152,slow=31						
SNAA	Sanae	56.46	158	P	P	19 32 45.0	0.0
	0.7nm,0.9s,baz=225,slow=13,SNR=3.8						
NVAR	Mina Array Bea	77.80	343	P	P	19 35 01.2	+0.3
	0.3nm,0.4s,baz=174,slow=9.1,SNR=3.3						
PDAR	Pinedale Array	80.46	351	P	P	19 35 15.2	-0.3
	0.5nm,0.6s,baz=154,slow=6.9,SNR=4.2						
STKA	Stephens Creek	91.90	227	LR	LR	20 08 48.8	
	comp=Z,59nm,20.8s,baz=206,slow=30						

*ISCJB **27** 19:51:55.8±0.3, 8°.97N±0°.03×70°.99W±0°.03, h8km, mb3.9/9, MS4.2/2, Error ellipse: s-maj=5.6km s-min=3.7km az=143.4*
*IDC **27** 19:51:55.9±0.6, 8°.95N×71°.08W, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.0/34, mbtmp4.1/12, ML3.6/3, MS4.1/2, Ms1 4.1/2, ms1mx2.8/42, Error ellipse: s-maj=15.9km s-min=7.4km az=12.0*
*CAR **27** 19:51:56.8±3.1, 8°.74N±0°.08×71°.02W±0°.05, h1km±4km*
*NEIC **27** 19:51:58.2±2.0, 8°.95N±0°.08×70°.95W±0°.04, h14km±5km, mb4.5/9, Mwr4.1(CAR)*

ISC 27 19:51:57.2±0.5, 8°.91N±0°.05×71°.00W±0°.05, h8km, n85, σ0°94/84, mb4.2/12, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.36	94	Pg	Pg	19 52 04.6	+0.2
	178nm,0.3s,baz=255,slow=14,SNR=475						
SDV				Lg	Lg	19 52 10.8	
	427nm,0.3s,baz=3.6,slow=16,SNR=80						
SDV				LR	LR	19 52 37.6	
	comp=Z,333nm,21.5s,baz=71,slow=94						
SDV	Santo Domingo	0.36	94		Pg	19 52 04.5	0.0
PAMC	Pamplona, Colo	2.30	227	eP	Pn	19 52 36.3	+0.5
PAMC	Pamplona, Colo	2.30	227	eP	Pn	19 52 36.3	+0.5
TAMC	Tame, Arauca	2.58	198	eP	Pn	19 52 40.2	+0.8
TAMC	Tame, Arauca	2.58	198	eP	Pn	19 52 40.2	+0.8
CODC	Agustn Codazz	2.62	293	eP	Pn	19 52 40.1	+0.4
CODC	Agustn Codazz	2.62	293	eP	Pn	19 52 40.1	+0.4
SMLC	San Martn de	3.04	268	eP	Pn	19 52 45.5	-0.1
SMLC	San Martn de	3.04	268	eP	Pn	19 52 45.5	-0.1
BARC	Barichara	3.16	223	eP	Pn	19 52 48.5	+0.9
BARC	Barichara	3.16	223	eP	Pn	19 52 48.5	+0.9
BRRC	Barranca, Sant	3.23	236	eP	Pn	19 52 48.7	+0.4
BRRC	Barranca, Sant	3.23	236	eP	Pn	19 52 48.7	+0.4
ARGC	Ariguani, Magd	3.34	287	eP	Pn	19 52 50.8	+1.1
ARGC	Ariguani, Magd	3.34	287	eP	Pn	19 52 50.8	+1.1
RUSC	La Rusia	3.64	215	eP	Pn	19 52 54.3	-0.1
RUSC	La Rusia	3.64	215	eP	Pn	19 52 54.3	-0.1
SMRC	Santa Marta, M	3.88	305	eP	Pn	19 52 56.6	-0.6
SMRC	Santa Marta, M	3.88	305	eP	Pn	19 52 56.6	-0.6
ZARC	Zaragoza, Cauc	4.07	250	eP	Pn	19 52 59.4	-0.5
ZARC	Zaragoza, Cauc	4.07	250	eP	Pn	19 52 59.4	-0.5
PTBC	PUERTO BERRIO,	4.16	236	eP	Pn	19 52 59.5	-1.6
PTBC	PUERTO BERRIO,	4.16	236	eP	Pn	19 52 59.5	-1.6
SJCC	San Jacinto, C	4.24	284	eP	Pn	19 53 03.5	+1.3
SJCC	San Jacinto, C	4.24	284	eP	Pn	19 53 03.5	+1.3
SPBC	San Pablo de B	4.45	223	eP	Pn	19 53 05.0	-0.1
SPBC	San Pablo de B	4.45	223	eP	Pn	19 53 05.0	-0.1
CTAB	Cerro Tablazo,	5.01	220	eP	Pn	19 53 14.5	+1.2
CTAB	Cerro Tablazo,	5.01	220	eP	Pn	19 53 14.5	+1.2
CHIC	Chingaza	5.05	213	eP	Pn	19 53 13.2	-0.4
CHIC	Chingaza	5.05	213	eP	Pn	19 53 13.2	-0.4
ROSC	El Rosal	5.22	219	eP	Pn	19 53 17.7	+1.7
ROSC	El Rosal	5.22	219	eP	Pn	19 53 17.7	+1.7
ROSC	El Rosal	5.22	219	Pn	Pn	19 53 17.4	+1.5
	11nm,0.3s,baz=57,slow=9.0,SNR=24						
ROSC				Sn	Sn	19 54 17.3	+0.8
	11nm,0.3s,baz=342,slow=20,SNR=2.6						
ROSC	El Rosal	5.22	219		Pn	19 53 16.8	+0.8
HELC	Santa Helena	5.24	239	eP	Pn	19 53 18.0	+1.8
HELC	Santa Helena	5.24	239	eP	Pn	19 53 18.0	+1.8
VILC	Villavicencio,	5.47	209	eP	Pn	19 53 18.8	-0.4
VILC	Villavicencio,	5.47	209	eP	Pn	19 53 18.8	-0.4
DBBC	Dabeiba	5.49	250	eP	Pn	19 53 26.4	+6.9
DBBC	Dabeiba	5.49	250	eP	Pn	19 53 26.4	+6.9
GUY2C	Guyana, Caldas	5.67	230	eP	Pn	19 53 23.1	+0.8
GUY2C	Guyana, Caldas	5.67	230	eP	Pn	19 53 23.1	+0.8
RREF	El Recreo	5.87	228	eP	Pn	19 53 25.1	0.0
RREF	El Recreo	5.87	228	eP	Pn	19 53 25.1	0.0
PCRV	Puerto La Cruz	6.40	78	Pn	Pn	19 53 33.5	+1.5
	2.3nm,0.3s,baz=262,slow=7.5,SNR=7.0						
PCRV				Sn	Sn	19 54 46.9	+1.6
	5.9nm,0.3s,baz=91,slow=22,SNR=11						
PLCV	Puerto La Cruz	6.45	78		Pn	19 53 33.5	+1.0
PLCV					Sn	19 54 46.9	+0.6
MACC	Macarena, Meta	7.29	203	eP	Pn	19 53 42.9	-1.3
MACC	Macarena, Meta	7.29	203	eP	Pn	19 53 42.9	-1.3
DR12	Loma Pena Alta	9.94	9	Pn	Pn	19 54 20.3	-0.3
MPR	Mayaguez	9.97	22		Pn	19 54 19.5	-1.5
SDDR	Presa de Saban	10.01	358		Pn	19 54 21.0	-0.5
SJG	San Juan	10.29	27	Pn	Pn	19 54 25.1	-0.1
	1.6nm,0.3s,baz=193,slow=19,SNR=3.4						
ATAH	Atahualpa	17.56	205	P	P	19 56 05.5	+1.5
	0.2nm,0.3s,baz=46,slow=2.6,SNR=7.5						
SAML	Samuel	19.38	156	P	P	19 56 23.2	-0.4
LPAZ	La Paz	25.20	174	P	P	19 57 25.2	+1.0
	1.6nm,0.3s,baz=329,slow=7.4,SNR=13						
LPAZ				Lg	Lg	20 05 14.2	
	1.8nm,1.0s,baz=37,slow=20,SNR=3.8						
LPAZ	La Paz	25.20	174	P	P	19 57 25.5	+1.3
LPAZ				IAmb	IAmb	19 57 30.1	
	comp=Z,14nm,1.8s						
SIV	San Ignacio	26.63	158	P	P	19 57 36.5	0.0
	comp=Z,3.0nm,0.8s,baz=10,slow=10,SNR=12						
SIV				Lg	Lg	20 05 56.5	
	comp=Z,2.2nm,0.9s,baz=278,slow=19,SNR=3.5						
SDCO	Great Sand Dun	42.32	318	P	P	19 59 52.3	+0.2
SCHQ	Schefferville	45.92	3	P	P	20 00 20.9	+0.6
	comp=Z,4.9nm,0.9s,baz=191,slow=10,SNR=5.1						
SCHQ	Schefferville	45.92	3	P	P	20 00 21.1	+0.8
ULM	Lac du Bonnet	46.09	338	P	P	20 00 21.2	-0.5
	comp=Z,5.0nm,1.0s,baz=136,slow=8.3,SNR=5.1						
ULM	Lac du Bonnet	46.09	338	P	P	20 00 21.2	-0.5
PDAR	Pinedale Array	47.69	322	P	P	20 00 35.0	+0.3
	comp=Z,0.7nm,0.6s,baz=119,slow=12,SNR=5.5						
PDAR	Pinedale Array	47.69	322	P	P	20 00 34.0	-0.7
PLCA	Paso Flores	49.40	180	LR	LR	20 22 52.3	
	comp=Z,78nm,19.0s,baz=147,slow=38						
YKA	Yellowknife Ar	62.06	339	P	P	20 02 17.6	-0.5
	comp=Z,0.9nm,0.7s,baz=122,slow=6.8,SNR=5.4						
TORD	Torodi Ar. Bea	71.27	79	P	P	20 03 17.0	-0.9
	comp=Z,0.3nm,0.5s,baz=291,slow=6.8,SNR=7.7						
TORD	Torodi Ar. Bea	71.27	79	P	P	20 03 17.0	-0.9
BCAR	Beaver Creek A	73.43	333	P	P	20 03 30.5	+0.6
ILAR	Eielson Array	75.97	335	P	P	20 03 44.2	-0.4
	comp=Z,0.7nm,0.8s,baz=105,slow=3.7,SNR=7.8						
ILAR	Eielson Array	75.97	335	P	P	20 03 44.0	-0.5
TRF	Thorofare Moun	77.29	333	P	P	20 03 52.9	+0.7
TRF				IAmb	IAmb	20 03 53.4	
	comp=Z,5.0nm,0.8s						
COLD	Coldfoot	77.65	337	P	P	20 03 54.6	+0.6
COLD				IAmb	IAmb	20 05 00.5	
	comp=Z,8.2nm,1.4s						
BPAW	Bear Paw Mtn.	77.66	334	P	P	20 03 54.5	+0.4
BPAW				IAmb	IAmb	20 03 54.7	
	comp=Z,3.7nm,0.6s						
GERES	GERESS Array B	79.87	42	P	P	20 04 06.5	-0.2
	comp=Z,0.4nm,0.6s,baz=268,slow=3.6,SNR=3.0						
GERES	GERESS Array B	79.87	42	P	P	20 04 06.4	-0.3
RAR	Rarotonga	92.04	249	LR	LR	20 39 25.1	
	comp=Z,250nm,20.4s,baz=280,slow=31						
CMAR	Chiang Mai Arr	151.05	20	PKPbc	PKPbc	20 11 51.2	-0.6
	comp=Z,1.5nm,0.9s,baz=307,slow=2.6,SNR=8.9						
CMAR	Chiang Mai Arr	151.05	20		PKPbc	20 11 50.2	-1.7
ASAR	Alice Springs	152.02	235	PKPbc	PKPbc	20 11 52.4	-1.7
	comp=Z,1.3nm,0.8s,baz=111,slow=2.7,SNR=11						
ASAR	Alice Springs	152.02	235		PKPbc	20 11 52.2	-1.8
WRA	Warramunga Arr	153.16	243	PKPbc	PKPbc	20 11 56.7	0.0
	comp=Z,1.4nm,0.8s,baz=113,slow=2.2,SNR=8.1						
WRA	Warramunga Arr	153.16	243		PKPbc	20 11 55.0	-1.7

*ISCJB **27** 20:11:43.2±0.5, 6°.80N±0°.02×73°.12W±0°.03, h154km±4km, mb3.4/2, Error ellipse: s-maj=5.2km s-min=3.4km az=19.6*
*IDC **27** 20:11:44.1±1.2, 6°.75N×72°.90W, h164km±11km, mb3.2/2, mb1 3.5/4, mb1mx3.1/39, mbtmp3.8/4, Error ellipse: s-maj=36.0km s-min=13.7km az=134.0*
*RSNC **27** 20:11:45.5±0.9, 6°.79N×73°.15W, h142km±4km, ML3.4, Mw3.5, Fault plane solution: NP1:ϕ_s117.00000°, δ11.00000°, λ-129.00000°.*

ISC 27 20:11:43.1±0.8, 6°.79N±0°.03×73°.13W±0°.04, h158km±5km, n38, σ1°66/70, 9C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.20	194	↓iP	Pn	20 12 04.9	+0.2
B

comp=Z,38nm,0.3s,baz=41,slow=23,SNR=42
ROSC S **Sn** **20 12 51.4 -1.1**
comp=Z,24nm,0.3s,baz=112,slow=12,SNR=6.4
CVER Cruz Verde, Cu 2.44 203 *eP* **Pn** **20 12 26.2 +1.8**
CVER *eS* **Sn** **20 12 56.5 +0.2**
CVER *i* 20 13 07.6
comp=Z,2μm,0.4s
HELC Santa Helena 2.45 256 *eP* **Pn** **20 12 24.8 +0.4**
HELC *eS* **Sn** **20 12 57.2 +0.9**
HELC *i* 20 13 04.5
comp=Z,172nm,0.2s
HELC *i* 20 13 06.3
comp=Z,179nm,0.5s
GUY2C Guyana, Caldas 2.71 235⇑ *iP* **Pn** **20 12 29.1 +1.5**
GUY2C *eS* **Sn** **20 13 03.0 +0.9**
GUY2C *i* 20 13 11.4
comp=Z,317nm,0.4s
GUY2C *i* 20 13 11.5
comp=Z,292nm,0.4s
VILC Villavicencio, 2.72 192 *eP* **Pn** **20 12 28.0 +0.6**
VILC *eS* **Sn** **20 13 01.9 +0.1**
VILC *i* 20 13 09.0
comp=Z,116nm,0.3s
PTGC Puerto Gaitan, 2.76 159 *eP* **Pn** **20 12 27.8 0.0**
PTGC *eS* **Sn** **20 13 00.6 -1.9**
PTGC *i* 20 13 03.2
comp=Z,112nm,0.2s
PTGC *i* 20 13 06.2
comp=Z,97nm,0.2s
CBOC Ciudad Bolivar 3.01 252 *eP* **Pn** **20 12 32.8 +1.8**
CBOC *eS* **Sn** **20 13 09.1 +1.0**
CBOC *i* 20 13 14.2
comp=Z,128nm,0.0s
CBOC *i* 20 13 21.7
comp=Z,108nm,0.7s
DBBC Dabeiba 3.06 274 *eP* **Pn** **20 12 32.6 +1.0**
DBBC *eS* **Sn** **20 13 04.9 -4.4**
DBBC *i* 20 13 24.0
comp=Z,166nm,0.6s
CODC Agustn Codazz 3.14 354 *eP* **Pn** **20 12 33.1 +0.5**
CODC *eS* **Sn** **20 13 10.3 -0.7**
CODC *i* 20 13 22.6
comp=Z,23nm,0.4s
CODC *i* 20 13 33.4
comp=Z,21nm,0.6s
SDV Santo Domingo 3.24 50 P **Pn** **20 12 34.4 +0.5**
comp=Z,20nm,0.3s,baz=223,slow=2.6,SNR=75
SDV S **Sn** **20 13 11.8 -1.6**
comp=Z,14nm,0.3s,baz=228,slow=22,SNR=20
ARGC Ariguani, Magd 3.24 340 *eP* **Pn** **20 12 36.7 +2.9**
ARGC *eS* **Sn** **20 13 14.2 +1.0**
ARGC *i* 20 13 20.5
comp=Z,33nm,0.5s
ARGC *i* 20 13 30.4
comp=Z,36nm,0.3s
PRAC Prado 3.52 210 *eP* **Pn** **20 12 38.3 +0.9**
PRAC *eS* **Sn** **20 13 19.7 0.0**
PRAC *i* 20 13 25.8
comp=Z,104nm,0.3s
PRAC *i* 20 13 27.9
comp=Z,134nm,0.3s
ORTC Ortega, Tolima 3.55 216 *eP* **Pn** **20 12 39.4 +1.6**
ORTC *eS* **Sn** **20 13 21.0 +0.5**
ORTC *i* 20 13 29.3
comp=Z,74nm,0.4s
ORTC *i* 20 13 29.6
comp=Z,86nm,0.4s
PLMC San Jos del P 3.65 239 *eP* **Pn** **20 12 40.4 +1.3**
PLMC *eS* **Sn** **20 13 18.6 -4.1**
PLMC *i* 20 13 29.2
comp=Z,106nm,0.4s
SJCC San Jacinto, C 3.69 327↑ *iP* **Pn** **20 12 39.5 -0.1**
SJCC *eS* **Sn** **20 13 20.6 -3.1**
SJCC *i* 20 13 28.6
comp=Z,29nm,0.5s
SJCC *i* 20 13 38.2
comp=Z,38nm,0.7s
YOTC Yotoco, Valle 4.24 229 *eP* **Pn** **20 12 47.5 +0.7**
YOTC *eS* **Sn** **20 13 31.4 -5.1**
YOTC *i* 20 13 46.3
comp=Z,12nm,0.3s
YOTC *i* 20 13 46.5
comp=Z,10nm,0.3s
SMRC Santa Marta, M 4.48 346 *eP* **Pn** **20 12 50.7 +0.9**
SMRC *eS* **Sn** **20 13 37.5 -4.4**
SMRC *i* 20 13 39.6
comp=Z,20nm,1.3s
SMRC *i* 20 13 44.7
comp=Z,7.1nm,0.5s
MACC Macarena, Meta 4.67 189 *eP* **Pn** **20 12 51.4 -0.9**
MACC *eS* **Sn** **20 13 42.4 -4.1**
MACC *i* 20 13 57.9
comp=Z,36nm,0.3s
MACC *i* 20 13 59.3
comp=Z,38nm,0.1s
YKA Yellowknife Ar 63.29 340 P **P** **20 21 55.7 +1.1**
comp=Z,0.8nm,0.5s,baz=133,slow=6.6,SNR=7.6
TORD Torodi Ar. Bea 73.76 78 P **P** **20 22 59.6 -0.9**
comp=Z,0.1nm,0.4s,baz=286,slow=5.8,SNR=3.0
MKAR Makanchi Array 122.35 20 PKP **PKPdf** **20 30 19.8 +0.2**
comp=Z,0.4nm,0.9s,baz=309,slow=3.4,SNR=3.4
SONM Songino Array 125.61 0 PKP **PKPdf** **20 30 26.6 +0.6**
comp=Z,0.3nm,0.7s,baz=335,slow=1.8,SNR=3.1
ASAR Alice Springs 149.08 234 PKPbc **PKPbc** **20 31 13.5 +0.1**
comp=Z,0.6nm,0.5s,baz=117,slow=3.7,SNR=12
WRA Warramunga Arr 150.31 241 PKPbc **PKPbc** **20 31 16.9 +0.4**
comp=Z,0.7nm,0.4s,baz=108,slow=2.8,SNR=20

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*ISCJB **27** 20:30:50.1±0.4, 18°.52S±0°.03×69°.77W±0°.06, h92km±3km, mb3.9/7, Error ellipse: s-maj=9.6km s-min=4.5km az=3.2*
*IDC **27** 20:30:51.8±0.8, 18°.47S×69°.59W, h86km±6km, mb3.8/8, mb1 4.0/10, mb1mx3.8/33, mbtmp4.2/10, MS2.6/1, Ms1 2.6/1, ms1mx2.4/21, Error ellipse: s-maj=22.4km s-min=12.4km az=82.0*
*NEIC **27** 20:30:51.2±2.3, 18°.58S±0°.04×69°.7W±0°.1, h86km±6km*
*GUC **27** 20:30:51.0±0.7, 18°.55S×69°.72W, h84km±3km, ML4.4*
ISC 27 20:30:50.8±0.6, 18°.54S±0°.03×69°.76W±0°.07, h82km±5km, n54, σ1§11/63, mb4.3/8, 3C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.32**	**50**↑	*iP*			**Pn**	**20 31 04.4**	**+0.3**
PB16				*i*	S		**Sn**	**20 31 14.6**	**+0.7**
AP01	**Chacalluta**	**0.58**	**287**↓	*iP*			**Pn**	**20 31 05.8**	**+0.4**
AP01				*i*	S		**Sn**	**20 31 17.0**	**+0.7**
AP01					IAML			20 31 17.7	
comp=E,37μm,0.3s									
MNMC	**Minye Minye**	**0.61**	**165**				**Pn**	**20 31 06.4**	**+0.3**
PB11	**IPOC Station P**	**1.22**	**175**↓	*iP*			**Pn**	**20 31 12.8**	**0.0**
PB11				*i*	S		**Sn**	**20 31 29.7**	**+0.4**
PB11	**IPOC Station P**	**1.22**	**175**				**Pn**	**20 31 12.9**	**+0.1**
PB11					Sn		**Sn**	**20 31 29.2**	**-0.1**
GO01	**Chusmiza**	**1.24**	**155**↓	*iP*			**Pn**	**20 31 14.4**	**+1.0**
GO01				*i*	S		**Sn**	**20 31 31.6**	**+1.3**
GO01					IAML			20 31 35.2	
comp=N,12μm,0.1s									
GO01	**Chusmiza**	**1.24**	**155**				**Pn**	**20 31 14.4**	**+1.0**
PB08	**IPOC Station P**	**1.69**	**160**↓	*iP*			**Pn**	**20 31 20.0**	**+0.9**
PB08				*i*	S		**Sn**	**20 31 41.5**	**+1.1**
TA01	**Diego Aracena**	**2.05**	**191**↓	*iP*			**Pn**	**20 31 22.9**	**-0.6**
TA01				*i*	S		**Sn**	**20 31 48.1**	**-0.3**
PB01	**IPOC Station P**	**2.50**	**174**↓	*iP*			**Pn**	**20 31 29.5**	**-0.1**
PB01				*i*	S		**Sn**	**20 31 59.8**	**+0.5**
PB01					IAML			20 32 05.8	
comp=E,1μm,0.4s									
PB01	**IPOC Station P**	**2.50**	**174**	Pn			**Pn**	**20 31 30.0**	**+0.4**
LPAZ	**La Paz**	**2.73**	**35**	P			**Pn**	**20 31 36.4**	**+3.3**
comp=E,6.6nm,0.3s,baz=209,slow=13,SNR=45									
LPAZ					S		**Sn**	**20 32 04.2**	**-1.3**
comp=E,9.5nm,0.3s,baz=217,slow=15,SNR=6.4									
LPAZ	**La Paz**	**2.73**	**35**				**Pn**	**20 31 34.2**	**+1.1**
PB02	**IPOC Station P**	**2.77**	**183**	*eP*			**Pn**	**20 31 33.5**	**+0.3**
PB02				*i*	S		**Sn**	**20 32 06.3**	**+0.6**
PB02					IAML			20 32 15.9	
comp=E,1μm,0.6s									
PB07	**IPOC Station P**	**3.17**	**182**	*eP*			**Pn**	**20 31 39.3**	**+0.6**
PB07				*i*	S		**Sn**	**20 32 16.4**	**+0.8**
PB07					IAML			20 32 23.2	
comp=E,895nm,0.4s									
PB09	**IPOC Station P**	**3.28**	**172**↓	*iP*			**Pn**	**20 31 41.1**	**+1.0**
PB09				*i*	S		**Sn**	**20 32 19.5**	**+1.4**
PB09					IAML			20 32 48.6	
comp=E,503nm,0.4s									
PB03	**IPOC Station P**	**3.49**	**180**↑	*iP*			**Pn**	**20 31 43.5**	**+0.5**
PB03					IAML			20 32 30.6	
comp=E,488nm,0.4s									
PB04	**IPOC Station P**	**3.79**	**185**				**Pn**	**20 31 47.5**	**+0.4**
LVC	**Limon Verde**	**4.13**	**169**	P			**Pn**	**20 31 53.3**	**+1.5**
comp=E,18nm,0.3s,baz=344,slow=10.0,SNR=95									
LVC					S		**Sn**	**20 32 42.0**	**+2.9**
comp=E,12nm,0.3s,baz=161,slow=18,SNR=4.0									
LVC					LR		LR	20 33 28.8	
comp=E,87nm,20.9s,baz=0.5,slow=38									
LVC	**Limon Verde**	**4.13**	**169**				**Pn**	**20 31 53.0**	**+1.1**
PB10	**IPOC Station P**	**5.00**	**188**	Pn			**Pn**	**20 32 02.3**	**-1.1**
GO02	**Mina Guanaco**	**6.59**	**179**	Pn			**Pn**	**20 32 24.4**	**-1.0**
SIV	**San Ignacio**	**8.68**	**74**	P			**Pn**	**20 32 53.0**	**-0.7**
comp=E,1.5nm,0.3s,baz=271,slow=12,SNR=6.3									
TRQA	**Tornquist**	**20.60**	**162**	P			**P**	**20 35 23.7**	**+0.4**
TRQA					IAmb		IAmb	20 35 27.0	
comp=Z,101nm,2.0s									
BDFB	**Brasilia**	**20.98**	**85**	P			**P**	**20 35 27.6**	**-0.1**
comp=Z,3.7nm,0.6s,baz=242,slow=9.7,SNR=6.4									
BDFB	**Brasilia**	**20.98**	**85**	P			**P**	**20 35 26.3**	**-1.5**
PLCA	**Paso Flores**	**22.13**	**182**	P			**P**	**20 35 41.0**	**+1.3**
comp=Z,1.0nm,0.5s,baz=36,slow=13,SNR=4.3									
PLCA	**Paso Flores**	**22.13**	**182**	P			**P**	**20 35 41.2**	**+1.5**
MTP	**Monte Pirata**	**36.64**	**7**	P			**P**	**20 37 47.9**	**-1.7**
V52A	**Sevierville**	**55.65**	**346**	P			**P**	**20 40 18.9**	**+0.5**
SDCO	**Great Sand Dun**	**65.31**	**329**	P			**P**	**20 41 26.3**	**+1.8**
SDCO					IAmb		IAmb	20 43 35.5	
comp=Z,26nm,2.0s									
DBIC	**Dimbokro**	**68.70**	**75**	P			**P**	**20 41 45.2**	**-0.9**
comp=Z,2.4nm,0.7s,baz=215,slow=6.4,SNR=3.6									
DBIC	**Dimbokro**	**68.70**	**75**	P			**P**	**20 41 45.1**	**-1.1**
DBIC					IAmb		IAmb	20 43 35.0	
comp=Z,12nm,1.3s									
PDAR	**Pinedale Array**	**71.16**	**330**	P			**P**	**20 42 02.0**	**+1.0**
comp=Z,0.2nm,0.5s,baz=129,slow=8.3,SNR=3.7									
PDAR	**Pinedale Array**	**71.16**	**330**	P			**P**	**20 42 02.4**	**+1.5**
ULM	**Lac du Bonnet**	**72.27**	**343**	P			**P**	**20 42 07.3**	**+0.2**
comp=Z,1.6nm,0.5s,baz=145,slow=5.7,SNR=5.6									
ULM	**Lac du Bonnet**	**72.27**	**343**	P			**P**	**20 42 06.9**	**-0.2**
ULM					IAmb		IAmb	20 44 47.3	
comp=Z,32nm,1.6s									
TORD	**Torodi Ar. Bea**	**77.14**	**71**	P			**P**	**20 42 34.9**	**-1.2**
comp=Z,1.7nm,0.5s,baz=251,slow=5.1,SNR=21									
TORD					pP		**pP**	**20 42 58.0**	**-1.1**
comp=Z,0.7nm,0.5s,baz=247,slow=5.3,SNR=2.9									
SYO	**Syowa Base**	**79.54**	**160**↑	*eX*			P	20 42 43.0	-5.3
SYO	**Syowa Base**	**79.54**	**160**‖	*ePcP*			**PcP**	**20 42 53.2**	**-2.8**
ESDC	**Sonseca Array**	**84.31**	**45**	P			**P**	**20 43 14.1**	**+0.3**
comp=Z,0.8nm,0.6s,baz=258,slow=3.7,SNR=5.3									
ESDC	**Sonseca Array**	**84.31**	**45**	P			**P**	**20 43 13.7**	**-0.2**
YKA	**Yellowknife Ar**	**88.14**	**341**	P			**P**	**20 43 32.8**	**+0.8**
comp=Z,2.7nm,0.5s,baz=134,slow=4.8,SNR=22									
YKA					pP		**pP**	**20 43 54.9**	**+0.1**
comp=Z,0.6nm,0.5s,baz=136,slow=4.6,SNR=3.3									
YKA	**Yellowknife Ar**	**88.14**	**341**	P			**P**	**20 43 33.2**	**+1.2**
H11S2	**WAKE ISLAND Hyd**	**26.66**	**280**	T			T	23 09 04.2	
baz=101,slow=75,SNR=19									
H11N3	**WAKE ISLAND Hyd**	**26.66**	**281**	T			T	23 09 10.6	
baz=100,slow=75,SNR=13									
H11S1	**WAKE ISLAND Hyd**	**26.67**	**280**	T			T	23 09 04.7	
baz=101,slow=75,SNR=20									
H11S3	**WAKE ISLAND Hyd**	**26.67**	**280**	T			T	23 09 05.8	
baz=101,slow=75,SNR=14									
H11N2	**WAKE ISLAND Hyd**	**26.68**	**281**	T			T	23 09 07.8	
baz=100,slow=75,SNR=12									
H11N1	**WAKE ISLAND Hyd**	**26.68**	**281**	T			T	23 09 05.1	
baz=100,slow=75,SNR=15									
ZALV	**Zalesovo Beam**	**139.59**	**23**	PKP			**PKPdf**	**20 50 09.2**	**+0.5**
comp=Z,0.7nm,0.4s,baz=322,slow=2.2,SNR=4.1									
MKAR	**Makanchi Array**	**143.66**	**33**	PKP			**PKPdf**	**20 50 16.3**	**0.0**
comp=Z,0.5nm,0.8s,baz=302,slow=1.4,SNR=2.8									
SONM	**Songino Array**	**150.61**	**5**	PKPbc			**PKPbc**	**20 50 33.5**	**0.0**
comp=Z,1.4nm,0.7s,baz=341,slow=2.0,SNR=11									
SONM					pPKPbc		**pPKPbc**	**20 50 57.5**	**0.0**
comp=Z,0.7nm,0.7s,baz=312,slow=1.9,SNR=4.1									
SONM	**Songino Array**	**150.61**	**5**				**PKPbc**	**20 50 33.4**	**-0.1**

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*ISCJB **27** 20:30:53.7±0.2, 6°.42S±0°.02×130°.30E±0°.03, h122km, mb4.3/13, Error ellipse: s-maj=5.0km s-min=3.4km az=167.2*
*NEIC **27** 20:30:55.6±1.2, 6°.32S±0°.06×130°.15E±0°.09, h122km±3km, mb4.6/19*
*IDC **27** 20:30:56.0±2.0, 6°.32S×130°.20E, h123km±18km, mb3.9/12, mb1 4.1/16, mb1mx3.9/37, mbtmp4.4/16, MS2.9/2, Ms1 2.9/2, ms1mx2.4/27, Error ellipse: s-maj=17.2km s-min=10.0km az=82.0*
*DJA **27** 20:30:56.0±0.2, 6°.S±2°.×13°.0E±°, h126km±7km, M4.6/14, mB5.1/12, mb4.8/12, MLv4.8/14, Mw(mB)4.5/12*
ISC 27 20:30:55.4±0.4, 6°.34S±0°.04×130°.23E±0°.05, h122km, n82, σ1§48/86, mb4.3/18, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.84**	**350**		P		**Pn**	**20 31 29.0**	**+2.0**
BNDI					S		**Sn**	**20 31 52.8**	**+1.7**
SAUI	**Saumlaki**	**1.95**	**147**		P		**Pn**	**20 31 30.1**	**+1.8**
SAUI					S		**Sn**	**20 31 54.7**	**+1.2**
SAUI	**Saumlaki**	**1.95**	**147**				**Pn**	**20 31 30.1**	**+1.8**
MSAI	**Masohi**	**3.25**	**336**		P		**Pn**	**20 31 47.2**	**+2.2**
MSAI					S		**Sn**	**20 32 25.7**	**+2.4**
AAI	**Ambon**	**3.33**	**322**		P		**Pn**	**20 31 46.1**	**0.0**
AAI					S		**Sn**	**20 32 27.0**	**+1.8**
FAKI	**Fak Fak**	**3.95**	**31**		P		**Pn**	**20 31 53.8**	**-0.6**
FAKI					S		**Sn**	**20 32 37.6**	**-2.5**
FAKI	**Fak Fak**	**3.95**	**31**				**Pn**	**20 31 54.1**	**-0.3**
NLAI	**Namlea**	**4.38**	**315**		P		**Pn**	**20 32 03.0**	**+2.9**
SIJI	**Sorong**	**5.53**	**11**		P		**Pn**	**20 32 15.0**	**-0.6**
29nm,0.3s,baz=252,slow=22,SNR=148									
SIJI					S		**Sn**	**20 33 13.1**	**-5.1**
116nm,0.3s,baz=232,slow=20,SNR=17									
SWI	**Sorong**	**5.54**	**11**		P		**Pn**	**20 32 15.0**	**-0.7**
73nm,0.4s,10μm4.1nm									
SANI	**Sanana**	**6.00**	**315**		P		**Pn**	**20 32 23.2**	**+1.3**
RKPI	**Ransiki, Papua**	**6.21**	**40**		P		**Pn**	**20 32 25.3**	**+0.6**
MTN	**Manton Dam**	**6.52**	**172**				**Pn**	**20 32 28.2**	**-0.8**
SOEI	**Soe**	**6.81**	**240**		P		**Pn**	**20 32 33.7**	**+0.8**
244nm,0.8s,2μm0.8nm									
SOEI	**Soe**	**6.81**	**240**				**Pn**	**20 32 32.8**	**-0.1**
BATI	**Baumata**	**7.55**	**239**		P		**Pn**	**20 32 45.1**	**+2.3**
52nm,0.3s,baz=231,slow=1.4,SNR=80									
BATI					S		**Sn**	**20 34 07.2**	**+0.3**
20nm,0.3s,baz=60,slow=22,SNR=4.6									
BATI	**Baumata**	**7.55**	**239**		P		**Pn**	**20 32 44.5**	**+1.7**
TNTI	**Ternate**	**7.62**	**338**		Pn		**Pn**	**20 32 43.4**	**-0.4**
BAKI	**Biak**	**7.78**	**49**		P		**Pn**	**20 32 48.2**	**+2.2**
LUWI	**Luwuk**	**9.11**	**305**		Pn		Pn	20 32 58.8	-5.1
KNRA	**Kununurra**	**9.39**	**189**				**Pn**	**20 33 05.0**	**-2.6**
GENI	**Genyem**	**10.58**	**70**		P		Pn	20 33 30.0	+6.2
MRSI	**Marisa**	**10.69**	**309**		P		**Pn**	**20 33 27.5**	**+2.3**
JAY	**Jayapura**	**11.11**	**70**		P		**Pn**	**20 33 29.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.51**	**201**		P		**Pn**	**20 33 46.5**	**-2.8**
3.2nm,0.3s,baz=39,slow=10,SNR=50									
FITZ					S		Sn	20 35 53.9	-13
17nm,0.3s,baz=138,slow=24,SNR=12									
FITZ					LR		LR	20 40 03.4	
comp=Z,44nm,18.0s,baz=60,slow=44									
FITZ	**Fitzroy Crossi**	**12.51**	**201**				**Pn**	**20 33 46.4**	**-2.9**
WB0	**Warramunga Arr**	**13.95**	**164**		Pn		**Pn**	**20 34 05.5**	**-2.3**
WRAB	**Tennant Creek**	**14.09**	**164**		Pn		**Pn**	**20 34 06.6**	**-3.1**
WRA	**Warramunga Arr**	**14.10**	**164**		P		**Pn**	**20 34 06.7**	**-3.0**
6.9nm,0.3s,baz=347,slow=13,SNR=144									
WRA					S		Sn	20 36 31.1	-14
11nm,0.3s,baz=341,slow=22,SNR=12									
WRA	**Warramunga Arr**	**14.10**	**164**		P		Pn	20 34 05.7	-4.1
WB2	**Warramunga Arr**	**14.10**	**164**				**Pn**	**20 34 06.9**	**-2.9**
WR0	**Warramunga Arr**	**14.17**	**163**		Pn		**Pn**	**20 34 08.0**	**-2.7**
COEN	**Coen**	**14.81**	**122**				**Pn**	**20 34 19.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**16.08**	**261**		Pn		**Pn**	**20 34 32.4**	**-2.4**
JAGI					IAmb		IAmb	20 35 10.0	
comp=Z,45nm,1.5s									
PMG	**Port Moresby**	**17.04**	**101**		P		**Pn**	**20 34 48.8**	**+2.4**
comp=Z,0.8nm,0.3s,baz=252,slow=4.6,SNR=4.7									
PMG					S		Sn	20 37 47.1	-9.4
comp=Z,1.0nm,0.3s,baz=60,slow=23,SNR=2.1									
AS31	**Alice Springs**	**17.58**	**169**		P		**P**	**20 34 52.5**	**+0.3**
AS31					IAmb		IAmb	20 35 09.3	
comp=Z,8.3nm,0.5s									
ASAR	**Alice Springs**	**17.58**	**169**		P		**P**	**20 34 52.8**	**+0.5**
comp=Z,4.5nm,0.3s,baz=348,slow=10,SNR=146									
ASAR					S		S	20 37 56.7	-12
comp=Z,2.5nm,0.3s,baz=345,slow=25,SNR=8.2									
ASAR					LR		LR	20 42 56.0	
comp=Z,35nm,19.5s,baz=351,slow=41									
ASAR Alice Springs 17.58 169 P **P** **20 34 52.6 +0.4**									
PSA00 Pilbara Seismi 18.17 213 P **P** **20 34 58.7 +0.1**									
PSA00					IAmb		IAmb	20 34 59.4	
comp=Z,29nm,0.6s									
PSA00 Pilbara Seismi 18.17 213 P **P** **20 34 58.3 -0.3**									
PSA00					IAmb		IAmb	20 34 59.1	
comp=Z,13nm,0.6s									
KKM Kota Kinabalu 18.63 311 P **Pn** **20 35 04.6 -1.0**									
KKM					IAmb		IAmb	20 35 06.2	
comp=Z,12nm,0.4s									
CTA Charters Tower 20.71 133 P **P** **20 35 27.5 +1.3**									
comp=Z,6.8nm,0.7s,baz=285,slow=8.4,SNR=4.1									
CISI Cisompet, Garu 22.28 266 P **P** **20 35 42.0 -0.9**									
CISI					IAmb		IAmb	20 35 43.7	
comp=Z,25nm,0.7s									
TGY Tagaytay City 22.31 336 P **P** **20 35 43.5 +0.4**									
comp=Z,168nm,0.3s,baz=150,slow=8.1,SNR=3.8									
FORT Forrest 24.40 185 P **P** **20 36 02.2 -0.2**									
FORT					IAmb		IAmb	20 36 06.1	
comp=Z,23nm,0.9s									
MORW Morawa 26.28 209 P **P** **20 36 19.7 +0.1**									
BBOO Buckleboo 26.89 169 P **P** **20 36 24.7 -0.2**									
BBOO					IAmb		IAmb	20 37 01.8	
comp=Z,43nm,1.4s									
STKA Stephens Creek 27.54 159 P **P** **20 36 30.9 +0.2**									
comp=Z,5.3nm,0.3s,baz=342,slow=7.9,SNR=31									
STKA Stephens Creek 27.54 159 P **P** **20 36 30.9 +0.2**									
NWAO Narrogin (SRO) 29.09 203 P **P** **20 36 44.4 -0.1**									
comp=Z,4.3nm,0.4s,baz=39,slow=6.4,SNR=13									
NWAO Narrogin (SRO) 29.09 203 P **P** **20 36 44.3 -0.2**									
NWAO Narrogin (SRO) 29.09 203 P **P** **20 36 44.3 -0.2**									
NWAO					IAmb		IAmb	20 37 41.2	
comp=Z,103nm,1.8s									
CMAR Chiang Mai Arr 39.49 309 P **P** **20 38 14.4 +0.1**									
comp=Z,1.4nm,0.6s,baz=135,slow=7.3,SNR=20									
CMAR Chiang Mai Arr 39.49 309 P **P** **20 38 14.1 -0.2**									
CMMT Chiang Mai 39.69 310 P **P** **20 38 16.7 +0.7**									
CHTO Chiang Mai 39.70 310 P **P** **20 38 16.0 0.0**									
MJAR Matsushiro Arr 43.31 9 P **P** **20 38 44.5 -0.7**									
comp=Z,2.3nm,0.7s,baz=180,slow=9.3,SNR=5.9									
KSRS Korea Array 43.62 357 P **P** **20 38 47.5 -0.1**									
comp=Z,1.1nm,0.8s,baz=189,slow=7.7,SNR=2.9									
USA0B Ussuriysk Arra 50.33 2 P **P** **20 39 40.1 +0.5**									
USRK Ussuriysk Ar. 50.33 2 P **P** **20 39 40.0 +0.3**									
comp=Z,2.4nm,0.7s,baz=181,slow=7.2,SNR=6.0									
USRK Ussuriysk Ar. 50.33 2 P **P** **20 39 39.9 +0.2**									
PLWZ Palliser 53.15 138 P **P** **20 40 01.5 +0.7**									
GTA Gaotai 53.51 331 *eP* **P** **20 40 04.0 +0.5**									
GTA					pP		pP	20 40 07.5	-24
GTA					sP		pwP	20 40 10.0	-26
GTA					pmax		pmax		
comp=Z,2.0nm,0.8s									
ULN Ulaanbaatar 57.71 342 P **P** **20 40 34.4 +0.9**									
ULN					IAmb		IAmb	20 40 35.1	
comp=Z,3.8nm,0.7s									
SONM Songino Array 57.89 341 P **P** **20 40 35.4 +0.7**									
comp=Z,1.3nm,0.6s,baz=163,slow=6.4,SNR=27									
SONM Songino Array 57.89 341 P **P** **20 40 35.3 +0.7**									
MK31 Makanchi Array 67.80 327 P **P** **20 41 40.8 +0.6**									
MK31					IAmb		IAmb	20 41 41.4	
comp=Z,3.3nm,0.7s									
MKAR Makanchi Array 67.80 327 P **P** **20 41 40.7 +0.5**									
comp=Z,3.6nm,0.5s,baz=115,slow=8.4,SNR=57									
MKAR Makanchi Array 67.80 327 P **P** **20 41 40.2 0.0**									
ZALV Zalesovo Beam 71.10 334 P **P** **20 42 00.2 -0.1**									
comp=Z,1.1nm,0.4s,baz=145,slow=3.9,SNR=5.8									
ZALV Zalesovo Beam 71.10 334 P **P** **20 41 59.7 -0.5**									
KKAR Karatay Array 73.00 319 P **P** **20 42 12.3 +0.3**									
VNDA Vanda 73.07 173 P **P** **20 42 12.3 +0.6**									
comp=Z,1.5nm,0.6s,baz=321,slow=6.6,SNR=15									
VNDA Vanda 73.07 173 P **P** **20 42 12.1 +0.4**									
MAW Mawson 75.64 201 P **P** **20 42 27.4 +0.7**									
comp=Z,2.8nm,0.6s,baz=97,slow=7.3,SNR=8.8									
MAW Mawson 75.64 201 P **P** **20 42 27.4 +0.7**									
SYO Syowa Base 84.35 201↑ *eP* **P** **20 43 12.2 -1.3**									
TORD Torodi Ar. Bea 128.90 282 PKP **PKPdf** **20 49 49.6 -0.1**									
comp=Z,0.4nm,0.5s,baz=137,slow=2.7,SNR=3.7									
TORD Torodi Ar. Bea 128.90 282 **PKPdf** **20 49 49.4 -0.3**									
CPUP Villa Florida 146.71 168 PKPbc **PKPbc** **20 50 23.7 -0.1**									
comp=Z,1.3nm,0.6s,baz=194,slow=3.5,SNR=3.6									
CPUP Villa Florida 146.71 168 **PKPbc** **20 50 23.6 -0.2**									
LPAZ La Paz 151.09 141 PKPab **PKPab** **20 50 44.8 +0.9**									
comp=Z,0.8nm,0.7s,baz=213,slow=5.7,SNR=4.6									

**IDC 27 20:38:20.3±1.4,

HRFI				Sn	Sn	20 44 04.4	+0.4
MBRI	Mt Berech	2.41	193	Pn	Pn	20 43 41.5	+0.2

IDC 27 20:46:11.6±2.0, 10°.41S×119°.79E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/33, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=93.8km s-min=25.1km az=57.0
ISCJB 27 20:46:13.9±0.5, 10°.34S±0°.05×120°.03E±0°.05, h30km, mb3.5/2, Error ellipse: s-maj=8.5km s-min=5.9km az=43.1
NEIC 27 20:46:14.8±2.5, 10°.37S±0°.10×119°.86E±0°.03, h46km±8km, mb4.0/4
DJA 27 20:46:19.3±0.7, 10°S±7°×12°0E±°, h29km±6km, M4.1/10, mb4.2/2, MLv4.0/10
ISC 27 20:46:14.4±0.7, 10°.38S±0°.06×120°.04E±0°.05, h30km, n32, σ2§85/29, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.75	20	P	Pn	20 46 29.0	0.0
WBSI	Waikabubak, Su	0.97	319	P	Pb	20 46 38.3	+5.6
PLAI	Plampang	2.71	304	P	Pn	20 46 55.4	-0.6
MMRI	Maumere	2.77	52	P	Pn	20 46 58.3	+1.4
MMRI				S	Sn	20 47 28.6	-0.8
MMRI	Maumere	2.77	52	Pn	Pn	20 46 58.4	+1.6
TWSI	Taliwang, Sumb	3.51	297	P	Pn	20 47 08.3	+1.3
BATI	Baumata	3.57	88	P	Pb	20 47 14.8	-2.2
SOEI	Soe	4.21	82	P	Pb	20 47 23.2	-4.7
SOEI	Soe	4.21	82	Pn	Pn	20 47 21.6	+4.9
BKSI	Bulukumba	5.02	1	P	Pn	20 47 28.6	+0.8
IGBI	Denpasar	5.07	287	P	Pb	20 47 34.9	-7.5
SRBI	Singaraja	5.28	295	P	Pn	20 47 33.1	+1.8
KAPI	Kappang	5.33	357	Pn	Pn	20 47 32.8	+0.7
	2.8nm,0.3s,baz=176,slow=8.6,SNR=9.9						
KAPI				Sn	Sn	20 48 29.7	-2.9
	2.2nm,0.3s,baz=131,slow=20,SNR=3.1						
JAGI	Jajag, Banyuwa	6.11	288		Pn	20 47 41.1	-1.6
FITZ	Fitzroy Crossi	9.40	145	Pn	Pn	20 48 29.5	+1.6
KNRA	Kununurra	10.00	123	Pn	Pn	20 48 39.9	+3.7
MTN	Manton Dam	11.14	104	Pn	Pn	20 48 54.2	+2.3
WRA	Warramunga Arr	16.75	126	Pn	Pn	20 50 08.4	+1.4
	0.3nm,0.3s,baz=300,slow=12,SNR=20						
WRA				Sn	Sn	20 53 04.3	-8.1
	0.2nm,0.3s,baz=290,slow=21,SNR=5.1						
WRA	Warramunga Arr	16.75	126	P	P	20 50 09.0	-0.1
WRAB	Tennant Creek	16.75	126	P	Pn	20 50 08.4	+1.3
WRAB				IAmb	IAmb	20 50 39.2	
	comp=Z,29nm,1.8s						
WB2	Warramunga Arr	16.76	126		Pn	20 50 08.7	+1.6
WB2				IAmb	IAmb	20 50 42.3	
	comp=Z,20nm,1.4s						
WR0	Warramunga Arr	16.92	126	P	Pn	20 50 10.8	+1.6
WR0				IAmb	IAmb	20 50 26.9	
	comp=Z,18nm,1.4s						
ASAR	Alice Springs	18.70	137	P	Pn	20 50 34.2	+3.1
	comp=Z,0.4nm,0.3s,baz=309,slow=12,SNR=30						
ASAR				S	Sn	20 53 52.6	-6.9
	comp=Z,0.1nm,0.3s,baz=308,slow=22,SNR=5.4						
ASAR	Alice Springs	18.70	137	P	Pn	20 50 35.3	+4.2
H08S2	Diego Garcia H	47.00	269	T	T	21 45 02.9	
	baz=96,slow=75,SNR=9.5						
H08S3	Diego Garcia H	47.02	269	T	T	21 45 03.4	
	baz=96,slow=75,SNR=7.6						
H08S1	Diego Carcia H	47.02	269	T	T	21 45 05.5	
	baz=96,slow=75,SNR=8.7						
SONM	Songino Array	59.21	349	P	P	20 56 14.8	+2.0
	comp=Z,0.5nm,1.0s,baz=157,slow=7.8,SNR=2.6						
MKAR	Makanchi Array	66.14	333	P	P	20 57 00.1	+1.1
	comp=Z,0.4nm,0.7s,baz=141,slow=7.4,SNR=3.3						
MKAR	Makanchi Array	66.14	333	P	P	20 56 57.3	-1.7
EGMT	Eagleton	123.98	38		PKPdf	21 05 07.7	-2.3
V51A	Loudon	146.37	37		PKPdf	21 05 50.5	-1.2

IGIL 27 21:53:10.2, 36°.33N×5°.23W, h0km, ML2.9
LDG 27 21:53:11.5±0.2, 36°.25N×5°.25W, h2km, Ml3.0/3, Error ellipse: s-maj=4.4km s-min=3.0km az=159.0
INMG 27 21:53:11.5±1.6, 36°.32N×5°.25W, h5km±4km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.4km az=168.0
MDD 27 21:53:11.6±0.3, 36°.33N×5°.23W, h4km±3km, mbLg3.2/22, Error ellipse: s-maj=2.8km s-min=2.2km az=158.0, PRXIMO
MDD EMS: IV INTENSIDAD MAXIMA.
SFS 27 21:53:11.0, 36°.32N×5°.22W, h2km, ML3.0, MANILVA (MALAGA)
NEIC 27 21:53:12.5±1.8, 36°.3N±0°.1×5°.35W±0°.06, h24km±13km
ISC 27 21:53:11.4±1.0, 36°.36N±0°.02×5°.22W±0°.02, h11km±8km, n106, σ1§29/173, 2C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJ	Aljibe	0.39	296	⇓iP	Pg	21 53 17.0	-2.1
ALJ				i S	Sg	21 53 25.0	+0.7
ALJ	Aljibe	0.39	296	⇓Pg	Pg	21 53 17.0	-2.1
ALJ				Lg	Lg	21 53 25.0	
EMIJ	Mijas	0.41	60	⇑Pg	Pg	21 53 19.2	-0.3
	130nm,0.1s,SNR=18						
EMIJ				Lg	Lg	21 53 25.3	
	1μm,0.2s,SNR=7.9						
CEU	Ceuta	0.48	195	⇓iP	Pg	21 53 19.6	-1.2
CEU				eS	Sg	21 53 26.3	-0.9
CEU	Ceuta	0.48	195	Lg	Lg	21 53 26.3	
ECEU	Ceuta	0.48	196	⇓Pg	Pg	21 53 19.9	-1.0
	65nm,0.3s,SNR=18						
ECEU				Lg	Lg	21 53 27.0	
	595nm,0.4s,SNR=7.9						
LIJA	Lijar	0.56	345	i P	Pg	21 53 22.0	-0.4
LIJA				i S	Sn	21 53 36.0	+1.1
LIJA	Lijar	0.56	345	Pg	Pg	21 53 22.0	-0.4
LIJA				Lg	Lg	21 53 36.0	
CNIL	Conil	0.68	271	eP	Pg	21 53 25.0	+0.5
CNIL				i S	Sg	21 53 34.0	+0.6
CNIL	Conil	0.68	271	Pg	Pg	21 53 25.0	+0.5
CNIL				Lg	Lg	21 53 34.0	
ESPR	Espera	0.72	315	Pg	Pg	21 53 24.8	-0.6
	19nm,0.3s,SNR=108						
ESPR				Lg	Lg	21 53 36.1	
	681nm,0.4s,SNR=7.9						
EMAL	Malaga-Limoner	0.75	58	eP	Pg	21 53 24.8	-1.1
EMAL				eS	Sg	21 53 35.7	0.0
GIBL	Gibalbin	0.76	308	eP	Pg	21 53 26.0	-0.2
GIBL				i S	Sb	21 53 38.0	+0.8
GIBL	Gibalbin	0.76	308	Pg	Pg	21 53 26.0	-0.2
GIBL				Lg	Lg	21 53 38.0	
SFS	San Fernando	0.81	278	eP	Pb	21 53 28.6	+1.2
SFS				eS	Sb	21 53 39.2	+0.9
SFS	San Fernando	0.81	278	Pg	Pb	21 53 28.6	+1.2
SFS				Lg	Lg	21 53 39.2	
SFS	San Fernando	0.81	278		Pb	21 53 28.3	+0.8
EGOR	Sierra Gorda,	1.16	50	Pg	Pg	21 53 32.5	-1.2
	2.4nm,0.1s,SNR=7.9						
EGOR				Lg	Lg	21 53 49.7	
	312nm,0.5s,SNR=7.9						
ELGU	Los Guajares,	1.38	68	Pg	Pn	21 53 33.3	-3.4
	5.4nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	21 53 51.9	
	108nm,0.2s,SNR=7.9						
PVLZ	Peæn de	1.40	148	eP	Pg	21 53 39.4	+1.0
PVLZ				i S	Sn	21 53 58.3	+2.9
EQUE	Quentar	1.66	59	Pn	Pn	21 53 39.5	-1.0
	1.8nm,0.2s,SNR=15						
EQUE				Pg	Pb	21 53 41.7	-0.3
	58nm,0.5s,SNR=7.9						
EQUE				Lg	Lg	21 54 04.6	
	94nm,0.5s,SNR=7.9						
ECAB	El Cabril	1.72	355	Pn	Pn	21 53 41.6	+0.2
	13nm,0.3s,SNR=88						
ECAB				Lg	Lg	21 54 07.2	
	162nm,0.4s,SNR=8.1						
EMIN	Mina Concepcio	1.82	321	Pn	Pn	21 53 42.0	-0.7
	1.3nm,0.2s,SNR=22						
EMIN				Lg	Lg	21 54 10.1	
	106nm,0.7s,SNR=6.6						
EADA	Adamuz	1.87	16	Pn	Pn	21 53 44.2	+0.7
	1.2nm,0.2s,SNR=7.9						
EADA				Pg	Pb	21 53 47.1	+1.4
	9.3nm,0.2s,SNR=4.0						
EADA				Lg	Lg	21 54 13.1	
	102nm,0.3s,SNR=8.3						
EBER	Berja	1.95	73	Pn	Pn	21 53 42.2	-2.4
	1.7nm,0.2s,SNR=7.9						
EBER				Pg	Pb	21 53 48.1	+1.0
	16nm,0.5s,SNR=7.9						
EBER				Lg	Lg	21 54 14.8	
	242nm,0.8s,SNR=7.9						
GORA	Gorafe	2.07	57	Pg	Pb	21 53 50.4	+1.4
	9.7nm,0.2s,SNR=4.0						
GORA				Lg	Lg	21 54 18.8	
	398nm,0.8s,SNR=7.9						
EGRO	El Granado	2.16	303	Pn	Pn	21 53 45.5	-1.9
	2.1nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	21 54 15.0	+0.9
	28nm,0.5s,SNR=7.9						
EQES	Quesada	2.24	49	Pn	Pn	21 53 50.6	+2.1
	5.1nm,0.2s,SNR=33						
EQES				Pg	Pg	21 53 54.3	0.0
	71nm,0.4s,SNR=7.9						
EQES				Lg	Lg	21 54 24.7	
	202nm,0.6s,SNR=7.9						
PVAQ	Vaqueiros	2.26	298	ePn	Pn	21 53 47.4	-1.3
PVAQ				eSn	Sn	21 54 15.5	-1.1
PVAQ				A	A	21 54 18.2	
	49nm,0.6s						
PVAQ	Vaqueiros	2.26	298	Pn	Pn	21 53 47.4	-1.3
PVAQ				Sn	Sn	21 54 15.5	-1.1
	49nm,0.6s						
PVAQ	Vaqueiros	2.26	298		Pn	21 53 47.3	-1.5
PVAQ				Sn	Sn	21 54 14.5	-2.1
PBDV	Barranco-do-Ve	2.35	293	⇑ePn	Pn	21 53 48.3	-1.7
PBDV				eSn	Sn	21 54 18.6	-0.3
PBDV				A	A	21 54 34.9	
	34nm,1.0s						
PBDV	Barranco-do-Ve	2.35	293	Pn	Pn	21 53 48.3	-1.7
PBDV				Sn	Sn	21 54 18.6	-0.3
	34nm,1.0s						
PCVE	Castro Verde	2.59	300	ePn	Pn	21 53 52.4	-0.9
PCVE	Castro Verde	2.59	300	Pn	Pn	21 53 52.4	-0.9
PBEJ	Beja	2.69	309	ePn	Pn	21 53 54.1	-0.6
PBEJ				eSn	Sn	21 54 26.7	-0.5
PBEJ				A	A	21 54 30.9	
	20nm,1.0s						
PBEJ	Beja	2.69	309	Pn	Pn	21 53 54.1	-0.6
PBEJ				Sn	Sn	21 54 26.7	-0.5
	10nm,1.0s						
SESP	Santiago Espad	2.76	50	Pn	Pn	21 53 56.0	+0.2
	3.1nm,0.2s,SNR=7.9						
SESP				Pg	Pb	21 54 01.8	+0.9
	62nm,0.6s,SNR=7.9						
SESP				Lg	Lg	21 54 40.4	
	182nm,0.6s,SNR=7.9						
EBAD	Badajoz	2.78	330	Pn	Pn	21 53 56.0	0.0
	1.1nm,0.1s,SNR=13						
EBAD				Lg	Lg	21 54 41.8	
	33nm,0.2s,SNR=7.9						
MESJ	Messejana	2.82	302	eP	Pn	21 53 54.6	-1.8
MESJ				eS	Sn	21 54 27.1	-3.3
MESJ				AML	AML	21 54 32.2	
	comp=N,44nm,0.5s						
MESJ	Messejana	2.82	302	ePn	Pn	21 53 55.4	-1.0
MESJ				eSn	Sn	21 54 29.3	-1.1
MESJ				A	A	21 54 35.9	
	comp=N,21nm,0.9s						
MESJ	Messejana	2.82	302	Pn	Pn	21 53 55.4	-1.0
MESJ				Sn	Sn	21 54 29.3	-1.1
	comp=N,21nm,0.9s						
IFR	Ifrane	2.84	178	eP	Pn	21 53 56.6	-0.3
IFR				eS	Sn	21 54 33.3	+2.1
MORF	Marmelete	2.91	290	eP	Pn	21 53 55.9	-1.9
MORF				eS	Sn	21 54 29.6	-3.2
MORF				AML	AML	21 54 34.4	
	comp=N,49nm,0.5s						
MORF	Marmelete	2.91	290	ePn	Pn	21 53 56.7	-1.1
MORF				eSn	Sn	21 54 31.7	-1.1
MORF				A	A	21 54 42.4	
	comp=N,16nm,0.5s						
MORF	Marmelete	2.91	290	Pn	Pn	21 53 56.7	-1.1
MORF				Sn	Sn	21 54 31.7	-1.1
	comp=N,16nm,0.5s						
PFVI	Vila Bisbo	3.00	286	ePn	Pn	21 53 59.1	+0.2
PFVI				eSn	Sn	21 54 32.8	-2.1
PFVI				A	A	21 54 40.9	
	comp=N,22nm,1.0s						
PFVI	Vila Bisbo	3.00	286	Pn	Pn	21 53 59.1	+0.2
	comp=N,7.8nm,0.2s,SNR=6.7						
PFVI				Sn	Sn	21 54 32.1	-2.8
	comp=N,55nm,0.6s,SNR=7.9						
PFVI	Vila Bisbo	3.00	286	Pn	Pn	21 53 57.8	-1.1
EVO	Evora	3.10	315	ePn	Pn	21 53 59.1	-1.3
EVO				eSn	Sn	21 54 37.7	+0.2
EVO				A	A	21 55 05.5	
	comp=N,43nm,0.6s						
EVO	Evora	3.10	315	eP	Pn	21 53 58.9	-1.4
EVO				eS	Sn	21 54 36.5	-1.0
EVO	Evora	3.10	315	Pn	Pn	21 53 59.1	-1.3
EVO				Sn	Sn	21 54 37.7	+0.2
	comp=N,43nm,0.6s						
PESTR	Estremoz	3.13	324	ePn	Pn	21 54 00.9	+0.1
PESTR				eSn	Sn	21 54 39.0	+0.8
PESTR				A	A	21 55 08.7	
	comp=N,42nm,0.5s						
PESTR	Estremoz	3.13	324	Pn	Pn	21 54 01.7	+0.9
PESTR					Sn	21 54 38.4	+0.3
PNCL	Nicolau / Gran	3.17	304	ePn	Pn	21 53 59.8	-1.4
PNCL				eSn	Sn	21 54 38.4	-0.6
PNCL				A	A	21 55 06.1	
	comp=N,26nm,0.5s						
PNCL	Nicolau / Gran	3.17	304	Pn	Pn	21 53 59.8	-1.4
PNCL				Sn	Sn	21 54 38.4	-0.6
	comp=N,26nm,0.5s						
PAB	San Pablo	3.25	12		Pn	21 54 03.9	+1.5
ESDC	Sonseca Array	3.45	16	Pn	Pn	21 54 06.2	+1.0
	comp=N,1.1nm,0.2s,baz=198,slow=13,SNR=36						
ESDC				Lg	Lg	21 55 04.5	
	baz=197,slow=27,SNR=7.9						
ESDC	Sonseca Array	3.45	16		Pn	21 54 05.8	+0.6
ESDC				Sn	Sn	21 54 43.4	-2.7
ESBB	Sonseca Array	3.45	16	Pn	Pn	21 54 06.5	+1.3
ESBB				Sn	Sn	21 54 48.5	+2.4
PMRV	Marv??o	3.51	331	ePn	Pn	21 54 06.2	+0.2
PMRV				eSg	Sg	21 55 03.4	-0.8
PMRV				A	A	21 55 16.3	
	comp=N,43nm,0.6s						
PMRV	Marv??o	3.51	331	Pn	Pn	21 54 06.2	+0.2
PMRV				Lg	Lg	21 55 03.4	
	comp=N,43nm,0.6s						
PMTG	Montargil	3.60	319	ePn	Pn	21 54 05.7	-1.5
PMTG				eSn	Sn	21 54 49.2	-0.6
PMTG				A	A	21 55 19.7	
	comp=N,30nm,0.6s						
PMTG	Montargil	3.60	319	Pn	Pn	21 54 05.7	-1.5
PMTG				Sn	Sn	21 54 49.2	-0.6
	comp=N,30nm,0.6s						
ETOB	Tobarra	3.70	51	Pn	Pn	21 54 09.7	+1.0
	comp=N,2.0nm,0.2s,SNR=16						
ETOB				Lg	Lg	21 55 11.2	
	comp=N,58nm,0.8s,SNR=7.9						
EPLA	Plasencia	3.76	350	Pn	Pn	21 54 09.8	+0.4
	comp=N,6.5nm,0.2s,SNR=30						
EPLA				Sn	Sn	21 54 53.9	+0.2
	comp=N,15nm,0.3s,SNR=7.9						
EPLA				Lg	Lg	21 55 12.7	
	comp=N,243nm,0.9s,SNR=6.0						
PCBR	Castelo Branco	3.90	333	ePn	Pn	21 54 11.5	+0.2
PCBR				eSn	Sn	21 54 55.9	-1.3
PCBR				A	A	21 55 35.7	
	comp=N,25nm,0.7s						
PCBR	Castelo Branco	3.90	333	Pn	Pn	21 54 11.5	+0.2
PCBR				Sn	Sn	21 54 55.9	-1.3
	comp=N,12nm,0.7s						
PTOM	Tomar	4.12	323	ePn	Pn	21 54 14.8	+0.6
PTOM				eSn	Sn	21 55 01.4	-1.0
PTOM				A	A	21 55 32.6	
	comp=N,43nm,0.6s						
PTOM	Tomar	4.12	323	Pn	Pn	21 54 14.8	+0.6
PTOM				Sn	Sn	21 55 01.4	-1.0
	comp=N,22nm,0.6s						
PMAFR	Mafra	4.14	310	ePn	Pn	21 54 14.2	-0.4
PMAFR				eSn	Sn	21 55 04.0	+1.1
PMAFR				A	A	21 55 41.1	
	comp=N,42nm,0.6s						
PMAFR	Mafra	4.14	310	Pn	Pn	21 54 14.6	0.0
	comp=N,16nm,0.3s,SNR=5.8						
PMAFR				Sn	Sn	21 55 03.1	+0.1
	comp=N,65nm,0.4s,SNR=7.9						
UCM	Universidad Co	4.23	21	eP	Pn	21 54 17.7	+1.8
UCM				eS	Sg	21 55 28.8	+1.5
GUD	Guadarrama	4.35	11	Pn	Pn	21 54 18.7	+1.1
	comp=N,1.6nm,0.2s,SNR=24						
GUD				Sn	Sn	21 55 08.1	-0.4
	comp=N,4.0nm,0.4s,SNR=4.0						
GUD				Lg	Lg	21 55 30.1	
	comp=N,93nm,0.8s,SNR=7.9						
MTE	Manteigas	4.43	336	ePn	Pn	21 54 18.9	+0.3
MTE				eSn	Sn	21 55 09.4	-0.8
MTE				eSg	Sg	21 55 33.9	+0.3
MTE				A	A	21 55 39.8	
	comp=N,67nm,0.7s						
MTE	Manteigas	4.43	336	Pn	Pn	21 54 18.9	+0.3
MTE				Sn	Sn	21 55 09.4	-0.8
MTE				Lg	Lg	21 55 33.9	
	comp=N,33nm,0.7s						
MTE	Manteigas	4.43	336	Pn	Pn	21 54 18.4	-0.1
MTE				Sn	Sn	21 55 12.9	+2.8
PCAS	Casmilo, Conde	4.50	326	ePn	Pn	21 54 19.5	-0.1
PCAS				eSn	Sn	21 55 10.6	-1.3
PCAS				eSg	Sg	21 55 37.5	+1.6
PCAS				A	A	21 55 50.0	
	comp=N,35nm,0.7s						
PCAS	Casmilo, Conde	4.50	326	Pn	Pn	21 54 19.5	-0.1
PCAS				Sn	Sn	21 55 10.6	-1.3
PCAS				Lg	Lg	21 55 37.5	
	comp=N,35nm,0.7s						
COI	Coimbra	4.59	328	Pn	Pn	21 54 20.0	-0.7
ECHE	Chera	4.65	45	Pn	Pn	21 54 22.9	+1.2
	comp=N,3.1nm,0.4s,SNR=7.9						
ECHE				Lg	Lg	21 55 40.7	
	comp=N,81nm,1.0s,SNR=7.9						
PVIS	Viseu	4.83	335	ePn	Pn	21 54 24.7	+0.6
PVIS				eSg	Sg	21 55 48.8	+2.4
PVIS				A	A	21 55 51.8	
	comp=N,17nm,0.7s						
PVIS	Viseu	4.83	335	Pn	Pn	21 54 24.7	+0.6
PVIS				Lg	Lg	21 55 48.8	
	comp=N,8.6nm,0.7s						
MVO	Moncorvo	5.00	344	ePn	Pn	21 54 26.7	+0.2
MVO				eSn	Sn	21 55 23.3	-1.0
MVO				eSg	Sg	21 55 52.9	+1.0
MVO				A	A	21 55 57.7	
	comp=N,30nm,0.6s						
MVO	Moncorvo	5.00	344	Pn	Pn	21 54 26.4	-0.1
	comp=N,5.2nm,0.2s,SNR=12						
MVO				Sn	Sn	21 55 22.7	-1.6
	comp=N,3.6nm,0.2s,SNR=7.9						
MVO				Lg	Lg	21 55 52.7	
	comp=N,54nm,0.6s,SNR=7.3						
ETOR	Torete	5.09	28	Pn	Pn	21 54 28.7	+1.0
	comp=N,7.0nm,0.2s,SNR=12						
ETOR				Sn	Sn	21 55 23.2	-3.4
	comp=N,18nm,0.6s,SNR=7.9						
ETOR				Lg	Lg	21 55 55.7	
	comp=N,30nm,0.5s,SNR=7.9						
PVRL	Vila Real	5.28	339	ePn	Pn	21 54 29.7	-0.6
PVRL				A	A	21 56 08.3	
	comp=N,20nm,0.7s						
PVRL	Vila Real	5.28	339	Pn	Pn	21 54 29.7	-0.6
PBRG	Braganca	5.56	348	ePn	Pn	21 54 35.2	+1.0
PBRG				eSg	Sg	21 56 10.0	0.0
PBRG				A	A	21 56 23.5	
	comp=N,16nm,0.7s						
PBRG	Braganca	5.56	348	Pn	Pn	21 54 35.2	+1.0
PBRG				Lg	Lg	21 56 10.0	
	comp=N,7.8nm,0.7s						
ECAL	Calabor	5.70	348	Pn	Pn	21 54 36.1	+0.1
	comp=N,2.2nm,0.2s,SNR=4.0						
ECAL				Lg	Lg	21 56 14.7	
	comp=N,100nm,0.9s,SNR=7.9						
PCAB	Cabril	5.77	339	eSn	Sn	21 55 43.1	-0.1
PCAB				eSg	Sg	21 56 19.1	+2.5
PCAB				A	A	21 56 33.3	
	comp=N,33nm,0.7s						
PCAB	Cabril	5.77	339	Sn	Sn	21 55 43.1	-0.1
PCAB				Lg	Lg	21 56 19.1	
	comp=N,16nm,0.7s						
ELOB	Lobios	5.92	339	Pn	Pn	21 54 39.2	0.0
	comp=N,1.3nm,0.3s,SNR=7.9						
ELOB				Lg	Lg	21 56 20.6	
	comp=N,30nm,0.6s,SNR=4.8						
SJPF	Ste Jean	7.41	23	ePn	Pn	21 54 59.8	+0.3
SJPF				eSn	Sn	21 56 20.7	-2.9
	comp=N,8.9nm,0.7s						
ETSF	Etsaut	7.45	27	ePn	Pn	21 55 00.4	+0.3
ETSF				eSn	Sn	21 56 21.5	-3.1
	comp=N,1.5nm,0.2s						
EPF	Esparros	7.92	31	ePn	Pn	21 55 06.9	+0.4
EPF				eSn	Sn	21 56 32.7	-3.4
	comp=N,0.2nm,0.2s						
LFF	La Frestale	9.69	26	ePn	Pn	21 55 31.9	+1.2
RJF	Les Rejaudoux	10.28	28	ePn	Pn	21 55 39.7	+0.8
MFF	Saint Martin d	10.91	19	ePn	Pn	21 55 48.0	+0.5
QUIF	Quistinic	11.64	7	ePn	Pn	21 55 57.6	+0.1
BGF	Bois d'Agland	11.84	28	ePn	Pn	21 55 59.1	-1.1
SGMF	Saint Gilles	12.04	9	ePn	Pn	21 56 03.1	+0.1
ROSF	Rostrenen	12.05	6	ePn	Pn	21 56 03.5	+0.5
GRR	Gorron	12.44	14	ePn	Pn	21 56 08.6	+0.3
TORD	Torodi Ar. Bea	23.94	163	P	P	21 58 23.8	-1.8
TORD				IAmb	IAmb	21 58 25.7	
	comp=Z,0.9nm,0.8s						

DSN 27 22:18:51.5±3.6, 27°.51N×53°.63E, h15km, ML3.7/5, Error ellipse: s-maj=52.4km s-min=17.2km az=8.0
TEH 27 22:18:53.7, 27°.62N×54°.14E, h10km, ML3.3
ISCJB 27 22:18:54.1±0.5, 27°.62N±0°.04×54°.01E±0°.06, h10km, Error ellipse: s-maj=8.1km s-min=4.9km az=151.3
ISC 27 22:18:53.4±1.0, 27°.60N±0°.04×54°.09E±0°.05, h10km, n29, σ1§93/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.86	253	ePg	Pg	22 19 10.8	+0.9
LMD1				IAMB	IAmb	22 19 59.7	
	comp=Z,0.0nm,0.7s						
JHRM	Jahrom	1.01	334	ePg	Pn	22 19 13.8	+0.1
JHRM				IAMB	IAmb	22 19 45.6	
	comp=Z,0.0nm,0.5s						
GENO	Geno	1.86	96	ePn	Pb	22 19 27.1	-0.5
GENO				IAMB	IAmb	22 20 01.2	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	2.40	130	ePn	Pb	22 19 34.8	-1.9
NIAN	Nian	2.44	90	ePn	Pb	22 19 35.3	-2.1
NIAN				IAMB	IAmb	22 20 26.0	
	comp=Z,0.0nm,0.5s						
BANOM	Banah	2.59	130	eP	Pn	22 19 36.7	+1.3
	SNR=6.1						
BANOM				S	Sb	22 20 11.8	-0.1
MSFE	Esma-Masafi	2.90	140	P	Pn	22 19 41.3	+1.7
MSFE	Esma-Masafi	2.90	140	ePn	Pn	22 19 41.6	+1.9
NAZ	N

s-min=51.0km az=7.0

ISC 27 22:27:14.1±2.0, 22°.9N±0°.1×123°.14E±0°.08, h35km, n15, σ0°.86/22, mb3.5/3, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.30	28	P	Pn	22 27 35.5	-0.3
HATJ				S	Sn	22 27 52.4	+0.4
IRIF	Iriomote-Funau	1.53	20	P	Pn	22 27 38.8	-0.1
IRIF				S	Sn	22 27 58.0	+0.4
JKRS	Kuro-shima	1.55	31	P	Pn	22 27 39.3	+0.1
JKRS				eS	Sn	22 27 58.9	+0.7
JYNG	Yonagunijimaku	1.56	353	P	Pn	22 27 39.2	-0.1
JYNG				eS	Sn	22 27 58.6	+0.3
YOJ	Yonaguni jima	1.56	356	P	Pn	22 27 39.0	-0.4
YOJ				eS	Sn	22 27 58.7	+0.3
JIJ	Ishigaki jima	1.73	32	P	Pn	22 27 41.1	-0.5
JIJ				S	Sn	22 28 02.2	-0.2
JISG	Ishigakijimahi	2.00	32	P	Pn	22 27 44.8	-0.5
JISG				S	Sn	22 28 08.7	-0.4
JTJ	Tarama	2.25	39	S	Sn	22 28 15.8	+0.5
JIRB	Irabujima	2.67	44	eS	Sn	22 28 26.1	+0.3
JMJ2	Miyako jima3	2.71	47	P	Pn	22 27 54.6	-0.6
JMJ2				eS	Sn	22 28 27.8	+0.9
KSRS	Korea Array	15.08	15	P	P	22 30 46.6	-2.7
	0.3nm,0.3s,baz=194,slow=11,SNR=5.7						
KSRS				LR	LR	22 35 51.7	
	comp=Z,29nm,18.3s,baz=206,slow=37						
MJAR	Matsushiro Arr	18.84	40	P	Pn	22 31 33.4	+1.7
	0.1nm,0.3s,baz=231,slow=8.1,SNR=8.2						
SONM	Songino Array	28.26	336	P	P	22 33 04.3	+0.2
	0.8nm,0.8s,baz=142,slow=7.3,SNR=3.4						
MKAR	Makanchi Array	40.51	316	P	P	22 34 53.3	+3.6
	0.9nm,0.9s,baz=120,slow=8.6,SNR=2.6						
ZALV	Zalesovo Beam	42.30	327	P	P	22 35 04.8	+0.6
	0.5nm,0.5s,baz=112,slow=10.0,SNR=4.3						

IDC 27 22:40:18.5±2.9, 2°.71N×93°.51E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/32, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=113.6km s-min=23.5km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.53	18	Pn	Pn	22 44 11.5	-0.4
	0.7nm,0.3s,baz=212,slow=11,SNR=5.1						
H08S2	Diego Garcia H	23.36	244	T	T	23 10 33.0	
	baz=64,slow=76,SNR=69						
H08S3	Diego Garcia H	23.36	244	T	T	23 10 33.0	
	baz=64,slow=76,SNR=73						
H08S1	Diego Garcia H	23.37	244	T	T	23 10 35.1	
	baz=64,slow=76,SNR=72						
H01W3	Cape Leeuwin H	42.12	154	T	T	23 33 25.1	
	baz=330,slow=76,SNR=23						
H01W2	Cape Leeuwin H	42.13	154	T	T	23 33 47.2	
	baz=330,slow=76,SNR=22						
H01W1	Cape Leeuwin H	42.13	154	T	T	23 33 31.0	
	baz=330,slow=76,SNR=21						
MKAR	Makanchi Array	44.98	349	P	P	22 48 35.5	0.0
	0.4nm,0.4s,baz=171,slow=8.2,SNR=8.4						
WRA	Warramunga Arr	45.96	121	P	P	22 48 43.5	-0.3
	1.0nm,0.8s,baz=296,slow=9.9,SNR=5.5						
ASAR	Alice Springs	47.25	126	P	P	22 48 53.9	0.0
	0.5nm,0.5s,baz=293,slow=8.0,SNR=5.9						
ZALV	Zalesovo Beam	51.57	353	P	P	22 49 26.1	-0.2
	0.4nm,0.3s,baz=167,slow=7.1,SNR=3.1						

AUST 27 22:41:46.5±1.1, 32°.66S×151°.32E, h0km, Error ellipse: s-maj=31.8km s-min=6.6km az=99.0, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGCD	Mangrove Creek	0.58	198	P	Pg	22 41 56.9	-0.7
	baz=0.6						
RIV	Riverview	1.17	187	P	Pg	22 42 08.1	-1.0
	baz=1.2						
RIV				S	Sb	22 42 25.8	+0.3
	baz=1.2						
ARMA	Armidale	2.25	7	P	Pn	22 42 24.5	-0.7
	baz=2.3						
ARMA				S	Sb	22 42 55.5	-1.1
	baz=2.3						
YNG	Young	2.94	235	P	Pn	22 42 32.5	-2.1
	baz=2.9						
CNB	Canberra Magne	3.11	211	P	Pn	22 42 34.6	-2.3
	baz=3.1						
CAN	Canberra	3.28	215	P	Pn	22 42 36.9	-2.4
	baz=3.3						

*WEL **27** 23:00:43.1±1.1, 36°.S±19°.×17°.9W±2°.0, h33km, M4.2/16, ML4.4/12, MLv4.2/16, Error ellipse: s-maj=0.0km s-min=0.0km az=133.3*

*NEIC **27** 23:00:47.1±2.1, 35°.9S±0°.1×179°.7W±0°.2, h156km±17km*

*IDC **27** 23:00:53.3±2.6, 35°.36S×178°.29E, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.9/27, mbtmp4.0/4, ML3.5/2, Error ellipse: s-maj=55.2km s-min=29.8km az=97.0*

ISC 27 23:00:42.5±2.5, 35°.6S±0°.1×179°.2W±0°.2, h47km, n41, σ2°.77/55, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.81	224	P	Pn	23 01 25.6	+0.7
MXZ				S	Sn	23 02 00.5	+3.0
MXZ	Matakaoa Point	2.81	224	Pn	Pn	23 01 23.9	-1.0
MXZ				Sn	Sn	23 01 56.7	-0.9
WMGZ	Waiomatatini S	2.94	219	P	Pn	23 01 29.1	+2.5
WMGZ				S	Sn	23 02 03.8	+3.1
PKGZ	Pakihiroa	3.17	222	P	Pn	23 01 32.0	+2.1
PKGZ				S	Sn	23 02 10.1	+3.6
PUZ	Puketiti	3.21	218	P	Pn	23 01 32.2	+1.7
PUZ				S	Sn	23 02 09.9	+2.5
HAZ	Te Kaha	3.25	227	P	Pn	23 01 33.2	+2.3
HAZ				S	Sn	23 02 12.8	+4.5
RUGZ	Raukumara Rang	3.45	225	P	Pn	23 01 36.1	+2.3
RUGZ				S	Sn	23 02 17.8	+4.3
CNGZ	Carnagh Statio	3.56	214	P	Pn	23 01 37.6	+2.4
TKGZ	Te Karaka	3.70	218	P	Pn	23 01 39.2	+2.1
TKGZ				S	Sn	23 02 22.8	+3.4
MWZ	Matawai	3.79	222	P	Pn	23 01 40.0	+1.6
MWZ				S	Sn	23 02 23.8	+2.1
RIGZ	Rimuhau	3.95	217	P	Pn	23 01 42.5	+2.0
RIGZ				S	Sn	23 02 29.2	+3.6
RAGZ	Rawiri	3.97	222	P	Pn	23 01 42.6	+1.8
RAGZ				S	Sn	23 02 29.4	+3.3
URZ	Urewera	3.98	226	Pn	Pn	23 01 42.7	+1.7
	5.5nm,0.3s,baz=45,slow=7.1,SNR=43						
URZ				Sn	Sn	23 02 25.7	-0.6
	6.9nm,0.3s,baz=274,slow=3.5,SNR=6.1						
URZ	Urewera	3.98	226	P	Pn	23 01 42.6	+1.7
URZ	Urewera	3.98	226		Pn	23 01 40.1	-0.8
URZ					Sn	23 02 23.3	-3.0
PRGZ	Paritu Road	4.06	214	P	Pn	23 01 43.8	+1.7
OPRZ	Ohinepanea	4.08	235	P	Pn	23 01 43.5	+1.2
SNGZ	Shannon Statio	4.22	220	P	Pn	23 01 46.0	+1.8
MHGZ	Mahia Peninsul	4.24	212	P	Pn	23 01 46.0	+1.4
MTHZ	Maungataniwha	4.54	223	P	Pn	23 01 50.7	+2.1
BKZ	Black Stump Fm	4.95	222	P	Pn	23 01 55.5	+1.2
BKZ	Black Stump Fm	4.95	222	Pn	Pn	23 01 53.6	-0.7
BKZ				Sn	Sn	23 02 44.3	-6.0
MCHZ	McNeill Hill	5.05	219	P	Pn	23 01 56.2	+0.7
HIZ	Hauiti	5.57	236	Pn	Pn	23 02 02.4	-0.3
OUZ	Omahuta	5.87	271	Pn	Pn	23 02 06.2	-0.7
BFZ	Birch Farm	6.23	214	Pn	Pn	23 02 10.6	-1.2
MSWZ	Moikau Station	7.27	215	Pn	Pn	23 02 22.5	-3.5
PLWZ	Palliser	7.38	214	Pn	Pn	23 02 25.6	-2.1
BHW	Baring Head	7.44	217	Pn	Pn	23 02 26.3	-2.1
SNZO	South Karori	7.45	218	Pn	Pn	23 02 29.3	+0.8
TUWZ	Tuamarina	7.93	220	Pn	Pn	23 02 34.2	-0.9
THZ	Tophouse	8.72	222	Pn	Pn	23 02 43.3	-2.7
KHZ	Kahutara	8.85	217	Pn	Pn	23 02 44.2	-3.5
KHZ				Sn	Sn	23 04 20.9	-5.1
LTZ	Lake Taylor	9.76	220	Pn	Pn	23 03 00.7	+0.5
RPZ	Rata Peaks	11.05	220	Pn	Pn	23 03 19.0	+1.2
	0.5nm,0.3s,baz=80,slow=3.9,SNR=2.8						
RPZ				Sn	Sn	23 05 11.6	-8.4
	1.3nm,0.3s,baz=140,slow=23,SNR=8.7						
RPZ	Rata Peaks	11.05	220		Pn	23 03 18.4	+0.6
RPZ					Sn	23 05 10.3	-10
ODZ	Otahua Downs	12.21	216	Pn	Pn	23 03 28.8	-4.8
WKZ	Wanaka	12.88	221	P	Pn	23 03 36.8	-6.0
WKZ				S	Sn	23 05 54.4	-10
ASAR	Alice Springs	42.08	273	P	P	23 08 30.4	+0.4
	1.5nm,0.6s,baz=116,slow=7.7,SNR=18						
WRA	Warramunga Arr	43.54	278	P	P	23 08 42.0	+0.3
	2.0nm,0.7s,baz=120,slow=7.6,SNR=15						
FINES	FINESS Array B	149.54	336	PKPbc	PKPab	23 20 40.6	+10
	7.8nm,1.1s,baz=46,slow=4.0,SNR=7.1						

KRSC 27 23:07:11.4±0.9, 54°.80N×162°.51E, h27km±13km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.51	242	eP	Pn	23 07 22.6	-0.3
MKZ				eS	Sb	23 07 28.9	-0.1
TUMD	Tumrok D	1.28	289	eP	Pb	23 07 35.3	+0.5
TUMD				eS	Sn	23 07 49.7	-0.1
KZV	Kizimen	1.31	285	eP	Pb	23 07 35.8	+0.3
KZV				eS	Sn	23 07 50.8	0.0
KBTR	Krutoberegovo	1.42	7	eP	Pb	23 07 37.8	+0.5
KBTR				eS	Sn	23 07 54.1	+0.8
TUMR	Tumrok	1.44	291	eP	Pb	23 07 38.2	+0.5
TUMR				eS	Sn	23 07 54.7	+0.8
ZLN	Zelenaya	1.56	322	eP	Pb	23 07 38.7	-1.0
KMNR	Kamenistaya	1.61	307	eP	Pb	23 07 41.0	+0.4
KMNR				eS	Sb	23 08 00.1	-0.5
KPT	Kopyto	1.75	313	eP	Pb	23 07 42.0	-0.9
KII	Karymskiy	1.94	248	eS	Sb	23 08 08.6	-1.4
KOZ	Kozyrevsk	1.96	311	eS	Sb	23 08 09.3	-1.1
SRKR	Sorokina	2.01	338	eP	Pn	23 07 43.9	+0.3
BKI	Bering	2.04	77	eS	Sn	23 08 09.7	+1.3
SRDR	Sredinnyy	2.20	315	eP	Pb	23 07 49.3	-1.2
NLC	Nalytchevo	2.48	230	eS	Sb	23 08 23.8	-1.5
SMAR	Somma	2.67	236	eP	Pb	23 07 56.1	-2.6
KRX	Arik	2.69	239	eP	Pb	23 07 56.6	-2.4
KRX				eS	Sb	23 08 28.3	-3.3
UGLR	Uglovaya	2.69	235	eP	Pn	23 07 56.0	+2.9
AVH	Avacha	2.70	237	eP	Pb	23 07 56.4	-2.7
AVH				eS	Sn	23 08 28.1	+3.1
KOK	Koryaka	2.74	238	eP	Pn	23 07 56.6	+3.0
DALK	Dalny	2.84	233	eS	Sn	23 08 31.0	+2.8
GNL	Ganaly	2.90	249	eP	Pb	23 07 59.3	-3.1
KRMR	Karymshinskiy	3.26	235	eP	Pn	23 08 03.5	+2.8
KRMR				eS	Sn	23 08 42.4	+3.9
MTVR	Mutnovka	3.46	230	eP	Pn	23 08 06.9	+3.2

NNC 27 23:15:09.5±22.0, 37°.61N×71°.55E, h0km, mb4.2, mpv3.8, 5C, Error ellipse: s-maj=181.2km s-min=157.8km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.81	19	P	Pn	23 16 24.7	+1.2
	SNR=94						
UCH	Uchtor	5.15	25	P	Pn	23 16 27.8	-0.4
	SNR=14						
KZA	Kyzart	5.29	31	P	Pn	23 16 29.0	-1.2
	SNR=7.9						
EKS2	Erkin-Say	5.33	18	P	Pn	23 16 31.6	+1.2
	SNR=11						
AAK	Ala-Archa	5.51	23	⇑Pn	Pn	23 16 32.9	0.0
	8.7nm,0.6s						
AAK				⇑Sn	Sn	23 17 35.9	-1.1
	2.5nm,0.6s						
AAK	Ala-Archa	5.51	23	P	Pn	23 16 33.2	+0.3
	SNR=17						
KK31	Karatay Array	5.55	352	⇑Pn	Pn	23 16 36.2	+2.9
	3.3nm,0.5s,baz=157,slow=13,SNR=26						
KK31				⇑Sn	Sn	23 17 40.1	+2.3
	9.5nm,0.5s,baz=181,slow=23,SNR=4.7						
KBK	Karagaybulak	5.67	26	P	Pn	23 16 35.5	+0.3
	SNR=8.4						
ULHL	Ulahol	5.87	36	P	Pn	23 16 35.7	-2.2
	SNR=15						
CHMS	Chumysh	5.91	23	P	Pn	23 16 38.0	-0.4
	SNR=7.3						
TKM2	Tokmak 2	6.14	29	⇑Pn	Pn	23 16 39.7	-2.0
	8.7nm,0.6s						
TKM2	Tokmak 2	6.14	29	P	Pn	23 16 40.3	-1.4
	SNR=19						

*IDC **27** 23:47:37.4±1.1, 12°.34N×143°.43E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.8/41, mbtmp4.0/6, MS3.0/2, Ms1 3.1/2, ms1mx2.5/36, Error ellipse: s-maj=41.2km s-min=22.2km az=127.0*

*ISCJB **27** 23:47:39.5±0.5, 12°.17N±0°.08×143°.5E±0°.1, h27km, mb4.0/6, MS2.9/2, Error ellipse: s-maj=16.6km s-min=8.5km az=32.9*

*NEIC **27** 23:47:40.9±1.5, 12°.2N±0°.1×143°.7E±0°.2, h19km±8km, mb4.3/12*

ISC 27 23:47:41.5±0.8, 12°.2N±0°.1×143°.6E±0°.1, h27km, n30, σ0°.97/25, mb4.3/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.87	43	Pn	Pn	23 48 11.5	-0.3
	32nm,0.3s,baz=213,slow=17,SNR=16						
GUMO				LR	LR	23 48 27.2	
	comp=Z,70nm,19.1s,baz=360,slow=26						
GUMO				Sn	Sn	23 48 34.4	-0.1
	81nm,0.3s,baz=284,slow=23,SNR=21						
GUMO	Guam	1.87	43		Pn	23 48 11.3	-0.4
PATS	Pohnpei	15.50	109	Pn	Pn	23 51 17.3	-1.1
H11N1	WAKE ISLAND Hy	23.62	69	T	T	00 17 25.3	
	baz=255,slow=75,SNR=6.7						
H11N2	WAKE ISLAND Hy	23.63	69	T	T	00 17 25.2	
	baz=255,slow=75,SNR=5.5						
H11N3	WAKE ISLAND Hy	23.64	69	T	T	00 17 27.0	
	baz=255,slow=75,SNR=7.5						
WB0	Warramunga Arr	33.04	196	P	P	23 54 15.3	+0.5
WB2	Warramunga Arr	33.22	196	P	P	23 54 15.5	-0.8
WB2				IAmb	IAmb	23 54 20.8	
	comp=Z,4.0nm,0.9s						
WRA	Warramunga Arr	33.22	196	P	P	23 54 16.8	+0.4
	comp=Z,1.0nm,0.8s,baz=20,slow=9.9,SNR=6.7						
WRA	Warramunga Arr	33.22	196	IAmb	IAmb	23 54 23.6	
	comp=Z,0.2nm,1.1s						
ASAR	Alice Springs	36.89	195	LR	LR	00 09 38.3	
	comp=Z,28nm,20.5s,baz=140,slow=36						
CMAR	Chiang Mai Arr	43.39	284	LR	LR	00 13 49.6	
	comp=Z,13nm,19.1s,baz=100,slow=36						
SONM	Songino Array	47.14	326	P	P	23 56 11.1	-0.5
	comp=Z,0.3nm,0.6s,baz=140,slow=7.8,SNR=2.3						
CNPM	China Poot	67.06	30	P	P	23 58 31.5	-0.7
PPLA	Purkeypile	67.58	27	P	P	23 58 33.9	-1.7
PPLA				IAmb	IAmb	23 58 34.2	
	comp=Z,2.8nm,1.0s						
KTH	Kantishna Hill	68.32	26	P	P	23 58 41.6	+1.4
BPAW	Bear Paw Mtn.	68.46	25	P	P	23 58 41.8	+0.8
BPAW				IAmb	IAmb	23 58 44.3	
	comp=Z,2.6nm,1.1s						
MLY	Manley	68.83	25	P	P	23 58 44.3	+1.0
KNK	Knik Glacier	68.86	29	P	P	23 58 43.1	-0.4
ILAR	Eielson Array	70.35	25	P	P	23 58 51.6	-0.9
	comp=Z,0.4nm,0.4s,baz=248,slow=5.9,SNR=16						
RIDG	Independent Ri	71.00	27	P	P	23 58 55.9	-0.8
RIDG				IAmb	IAmb	23 58 58.5	
	comp=Z,3.1nm,1.2s						
VRDI	Verde Repeater	71.19	29	P	P	23 58 57.3	-0.7
BALM	Baldy	71.70	30	P	P	23 59 01.2	+0.2
BARN	Barnard Glacie	72.03	30	P	P	23 59 04.3	+1.3
INK	Inuvik	76.12	22	P	P	23 59 26.9	+0.4
INK				IAmb	IAmb	23 59 27.6	
	comp=Z,3.3nm,1.1s						
YKW3	Yellowknife Ar	84.64	27	P	P	00 00 13.2	+0.8
YKA	Yellowknife Ar	84.66	27	P	P	00 00 12.8	+0.2
	comp=Z,1.6nm,0.5s,baz=285,slow=5.1,SNR=10						
YKA	Yellowknife Ar	84.66	27	P	P	00 00 13.5	+0.9
NVAR	Mina Array Bea	88.77	51	P	P	00 00 35.4	+1.9
	comp=Z,0.7nm,0.7s,baz=260,slow=5.4,SNR=4.5						
FINES	FINESS Array B	91.86	335	P	P	00 00 45.7	-1.3
	comp=Z,2.0nm,0.8s,baz=73,slow=1.9,SNR=6.0						

*IDC **28** 00:11:59.9±3.9, 35°.91N×140°.34E, h101km±25km, mb3.3/5, mb1 3.6/7, mb1mx3.3/37, mbtmp3.9/7, MS3.3/1, Ms1 3.3/1, ms1mx2.4/22, Error ellipse: s-maj=56.7km s-min=8.8km az=63.0*

*ISCJB **28** 00:12:01.1±0.5, 35°.86N±0°.03×140°.02E±0°.06, h117km±4km, mb3.6/5, Error ellipse: s-maj=8.1km s-min=5.3km az=1.0*

*JMA **28** 00:12:03.0±0.1, 35°.90N×140°.00E, h104km±1km, M3.5*

ISC 28 00:12:02.1±0.9, 35°.87N±0°.04×140°.02E±0°.06, h112km±7km, n30, σ0°.60/33, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.39	21	P	Pn	00 12 18.3	-0.1
JYT				S	Sn	00 12 29.9	-0.8
JIHU	Itakohorinouch	0.42	76	P	Pn	00 12 19.6	+1.0
JAG	Ashikaga	0.72	321	P	Pn	00 12 20.8	0.0
JAG				S	Sn	00 12 34.3	-0.6
JRY	Ryogami san	0.92	280	P	Pn	00 12 23.3	+0.7
JOD2	Odawara 2	0.97	232	P	Pn	00 12 23.1	0.0
JOD2				S	Sn	00 12 38.3	-0.7
JKT	Katashina	1.09	326	P	Pn	00 12 24.7	+0.3
JKT				S	Sn	00 12 41.1	-0.3
BSO3	Boso 3	1.14	159	P	Pn	00 12 25.2	+0.7
JIM2	Oshima 3	1.24	203	P	Pn	00 12 26.2	+0.1
JIM2				S	Sn	00 12 44.1	-0.1
JYN	Shimob	1.26	253	P	Pn	00 12 26.6	+0.4
JYN				S	Sn	00 12 44.6	+0.1
JFNN	Fujinakano	1.28	239	S	Sn	00 12 45.2	+0.4
BSO1	Boso 1	1.44	147	P	Pn	00 12 28.3	+0.6
JFY	Yanaizu	1.56	351	P	Pn	00 12 30.0	+0.3
JFY				eS	Sn	00 12 50.2	-0.5
MJAR	Matsushiro Arr	1.61	295	P	Pn	00 12 30.2	-0.1
	4.0nm,0.3s,baz=115,slow=10,SNR=116						
MJAR				S	Sn	00 12 52.9	+1.1
	2.2nm,0.3s,baz=281,slow=22,SNR=2.8						
MAT	Matsushiro	1.61	295	P	Pn	00 12 30.6	+0.3
MAT				S	Sn	00 12 51.0	-0.8
MAT	Matsushiro	1.61	295	P	Pn	00 12 30.6	+0.3
JFT	Otama	1.67	9	P	Pn	00 12 31.4	+0.4
JFT				S	Sn	00 12 52.9	-0.1
JHJ	Hachijo jima 2	2.75	184	P	Pn	00 12 44.9	0.0
	37nm,0.3s,baz=336,slow=23,SNR=18						
JHJ				S	Sn	00 13 17.1	-0.6
	92nm,0.3s,baz=52,slow=24,SNR=22						
JCJ	Chichijima	8.94	167	P	Pn	00 14 04.2	-4.0
	12nm,0.3s,baz=94,slow=23,SNR=7.6						
JCJ				S	Sn	00 15 32.9	-14
	4.0nm,0.3s,baz=303,slow=17,SNR=2.1						
SONM	Songino Array	27.53	306	P	P	00 17 38.1	-0.1
	0.4nm,0.7s,baz=107,slow=8.6,SNR=3.1						
H11N2	WAKE ISLAND Hy	28.57	117	T	T	00 47 54.0	
	baz=308,slow=75,SNR=6.5						
H11N1	WAKE ISLAND Hy	28.58	117	T	T	00 47 49.0	
	baz=308,slow=75,SNR=4.7						
H11N3	WAKE ISLAND Hy	28.59	117	T	T	00 48 00.6	
	baz=308,slow=75,SNR=6.4						
H11S1	WAKE ISLAND Hy	29.22	119	T	T	00 48 50.7	
	baz=26,slow=74,SNR=2.3						
H11S3	WAKE ISLAND Hy	29.22	119	T	T	00 49 04.3	
	SNR=3.1						
H11S2	WAKE ISLAND Hy	29.24	119	T	T	00 48 21.1	
	baz=304,slow=74,SNR=3.5						
ZALV	Zalesovo Beam	41.88	313	P	P	00 19 40.6	-0.4
	0.5nm,0.4s,baz=88,slow=12,SNR=3.2						
MKAR	Makanchi Array	43.80	303	P	P	00 19 58.2	+1.6
	0.4nm,0.6s,baz=87,slow=10,SNR=2.1						
KDAK	Kodiak Island	48.72	41	LR	LR	00 41 35.0	
	comp=Z,31nm,19.4s,baz=60,slow=37						
WRA	Warramunga Arr	55.77	186	P	P	00 21 26.8	-0.6
	1.1nm,0.4s,baz=6.3,slow=7.3,SNR=16						
ASAR	Alice Springs	59.49	187	P	P	00 21 52.7	-0.7
	0.2nm,0.3s,baz=3.2,slow=6.7,SNR=2.9						

IDC 28 00:31:19.7±4.9, 17°.75S×177°.16W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/24, mbtmp3.8/4, Error ellipse: s-maj=218.7km s-min=36.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.75	241	P	P	00 38 55.5	+1.2
	0.5nm,0.3s,baz=72,slow=4.7,SNR=2.9						
WRA	Warramunga Arr	45.83	259	P	P	00 39 43.0	-0.9
	0.6nm,0.3s,baz=97,slow=6.3,SNR=1.1						
ASAR	Alice Springs	45.98	254	P	P	00 39 44.4	-0.6
	1.5nm,0.7s,baz=95,slow=8.2,SNR=12						
ILAR	Eielson Array	85.47	13	P	P	00 43 59.0	+0.1
	0.5nm,1.0s,baz=226,slow=4.6,SNR=4.3						

*SJA **28** 00:41:36.3±0.7, 22°.13S×67°.35W, h200km±6km, ML3.1, MW3.2*

*ISCJB **28** 00:41:37.1±0.5, 22°.13S±0°.03×67°.47W±0°.04, h194km±7km, mb3.9/1, Error ellipse: s-maj=6.9km s-min=5.4km az=162.1*

*GUC **28** 00:41:38.1±0.7, 22°.10S×67°.83W, h215km±8km, ML3.6*

*IDC **28** 00:41:40.3±1.3, 19°.77S×63°.58W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/24, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=36.4km s-min=24.6km az=42.0*

ISC 28 00:41:37.4±1.0, 22°.11S±0°.05×67°.44W±0°.05, h191km±10km, n30, σ1°.01/49, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.70	280	⇑iP	Pn	00 42 13.4	+1.0
PB09				iS	S	00 42 40.3	+0.8
PB09	IPOC Station P	1.70	280	iP	Pn	00 42 13.5	+1.0
PB09				eS	S	00 42 40.6	+1.1
PB09				IAML		00 42 41.1	
	comp=Z,79nm,0.3s						
YJA	Yavi	1.79	92	iP	Pn	00 42 13.1	-0.4
YJA				eS	S	00 42 41.0	-0.5
PB06	IPOC Station P	2.06	253	eP	Pn	00 42 16.3	+0.3
PB06				iS	S	00 42 46.0	-0.1
PB06				IAML		00 42 47.8	
	comp=E,149nm,0.1s						
PB06	IPOC Station P	2.06	253	iP	Pn	00 42 16.5	+0.5
PB06				IAML		00 42 48.0	
	comp=Z,72nm,0.3s						
PB03	IPOC Station P	2.15	271	eP	Pn	00 42 17.2	+0.2
PB03				iS	S	00 42 46.9	-0.8
PB03				IAML		00 42 48.1	
	comp=E,266nm,0.2s						
PB15	IPOC Station P	2.17	239	eP	Pn	00 42 17.9	+0.5

PB11	**IPOC Station P**	**3.12 318**	*e*P	**Pn**	**00 42 28.4**	**+0.1**
PB11			*i* S	**S**	**00 43 06.4**	**-1.6**
PB11			IAML		00 43 08.8	
	comp=E,111nm,0.2s					
PB10	**IPOC Station P**	**3.19 244**	*i* P	**Pn**	**00 42 29.5**	**+0.6**
PB10			IAML		00 43 49.2	
	comp=Z,30nm,1.7s					
PSGC	**Pisagua**	**3.54 314**	*e*P	**Pn**	**00 42 32.5**	**-0.9**
PSGC			*i* S	**S**	**00 43 14.9**	**-2.1**
MNMC	**Minye Minye**	**3.59 325**⇑	*i* P	**Pn**	**00 42 34.7**	**+0.6**
MNMC			*i* S	**S**	**00 43 17.2**	**-1.2**
PB14	**IPOC Station P**	**3.70 227**	*i* P	**Pn**	**00 42 35.1**	**-0.4**
PB14			IAML		00 43 21.5	
	comp=Z,25nm,0.2s					
LPAZ	**La Paz**	**5.83 353**	Pn	**Pn**	**00 43 04.6**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=145,slow=5.7,SNR=37					
LPAZ			Sn	**S**	**00 44 08.8**	**-1.6**
	baz=357,slow=23,SNR=1.1					
AGUA	**GUANDACOL**	**7.41 187**	*i* P	**Pn**	**00 43 23.3**	**+0.3**
AGUA			IAML		00 45 04.5	
	comp=Z,3.0nm,2.3s					
TCA	**Tanti**	**9.53 165**	*i* P	**Pn**	**00 43 49.2**	**-1.6**
ACAN	**Cantantal**	**10.12 179**	*i* P	**Pn**	**00 43 57.0**	**-1.4**
CPUP	**Villa Florida**	**10.14 116**	Pn	Pn	00 43 45.8	-13
	comp=Z,0.1nm,0.3s,baz=281,slow=5.2,SNR=2.3					
TORD	**Torodi Ar. Bea**	**76.28 70**	P	**P**	**00 53 07.1**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=254,slow=5.5,SNR=28					

IDC 28 00:54:53.8±2.1,18°.12S×172°.95W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.9/28,mbtmp3.9/4,Error ellipse: s-maj=195.9km s-min=33.1km az=156.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.11**	**243**	P	P	01 02 56.1	+0.1
	2.0nm,0.8s,baz=90,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**49.70**	**259**	P	P	01 03 47.8	-0.2
	0.8nm,0.3s,baz=98,slow=7.0,SNR=20						
ASAR	**Alice Springs**	**49.73**	**254**	P	P	01 03 48.2	-0.1
	1.4nm,0.5s,baz=89,slow=8.0,SNR=23						
TXAR	**Lajitas Array**	**81.78**	**56**	P	P	01 07 15.1	0.0
	0.3nm,0.9s,baz=226,slow=4.9,SNR=2.7						

JMA 28 01:01:18.0±0.2,37°.37N×144°.52E,h48km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.59**	**292**	P	Pn	01 01 58.9	+1.5
JIKH				*e*S	Sn	01 02 29.0	+1.3
JIO	**Ouri**	**2.73**	**294**	P	Pn	01 02 00.8	+1.5
JIO				S	Sn	01 02 32.9	+1.8
JKMT	**Kesennumamotoy**	**2.80**	**302**	P	Pn	01 02 01.6	+1.3
JKMT				S	Sn	01 02 34.2	+1.4
OFUJ	**Ofunato**	**2.82**	**308**	P	Pn	01 02 01.8	+1.2
OFUJ				*e*S	Sn	01 02 34.8	+1.5
JMK	**Ichinoseki**	**3.04**	**302**	P	Pn	01 02 05.4	+1.8
JMK				*e*S	Sn	01 02 40.4	+1.6
JOM	**Ohasama**	**3.29**	**311**	P	Pn	01 02 08.8	+1.8
JOM				S	Sn	01 02 46.9	+2.0
JFT	**Otama**	**3.33**	**274**	P	Pn	01 02 09.9	+2.3
JFT				*e*S	Sn	01 02 48.5	+2.5
JRY	**Ryogami san**	**4.71**	**255**	P	Pn	01 02 27.3	+0.7
JRY				*e*S	Sn	01 03 18.6	-1.4
JCH	**Churui**	**5.31**	**351**	P	Pn	01 02 34.4	-0.3
JCH				*e*S	Sn	01 03 32.0	-2.6

*ISCJB **28** 01:04:23.9±0.8,25°.3S±0°.1×70°.3E±0°.1,h10km,mb3.7/6, MS3.6/11,Error ellipse: s-maj=21.8km s-min=15.4km az=21.7*
*NEIC **28** 01:04:25.9±0.7,25°.2S±0°.2×70°.4E±0°.2,h8km±5km, mb4.7/4*
*IDC **28** 01:04:25.1±4.3,25°.29S×70°.40E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/39,mbtmp3.7/6,MS3.5/11, Ms1 3.5/11,ms1mx3.3/30,Error ellipse: s-maj=125.3km s-min=33.5km az=52.0*
ISC 28 01:04:25.9±0.9,25°.3S±0°.2×70°.3E±0°.1,h10km,n28, σ0°98/15,mb4.0/9,MS3.5/11,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**14.00**	**284**	Pn	**Pn**	**01 07 43.8**	**-0.7**
H08S1	**Diego Garcia H**	**17.64**	**7**	T	T	01 26 40.8	
	baz=189,slow=76,SNR=50						
H08S2	**Diego Garcia H**	**17.64**	**7**	T	T	01 26 41.4	
	baz=189,slow=76,SNR=120						
H08S3	**Diego Garcia H**	**17.66**	**7**	T	T	01 26 43.2	
	baz=189,slow=76,SNR=67						
H01W2	**Cape Leeuwin H**	**38.86**	**115**	T	T	01 53 31.5	
	baz=273						
H01W3	**Cape Leeuwin H**	**38.86**	**115**	T	T	01 53 42.5	
	baz=273						
H01W1	**Cape Leeuwin H**	**38.87**	**115**	T	T	01 53 42.8	
	baz=273						
PSI	**Prapat**	**39.34**	**49**	LR	LR	01 24 40.0	
	comp=Z,81nm,20.4s,baz=264,slow=31						
BOSA	**Boshof**	**40.13**	**255**	LR	LR	01 25 49.3	
	comp=Z,114nm,18.4s,baz=51,slow=32						
MAW	**Mawson**	**42.60**	**184**	LR	LR	01 26 18.6	
	comp=Z,53nm,18.8s,baz=318,slow=31						
KSM	**Kuching**	**46.95**	**62**	P	**P**	**01 12 55.6**	**-1.6**
KSM				IAmb	IAmb	01 13 04.9	
	comp=Z,42nm,2.0s						
CASY	**Casey**	**48.10**	**159**	P	**P**	**01 13 06.0**	**+0.5**
CASY				IAmb	IAmb	01 13 08.6	
	comp=Z,6.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**51.62**	**35**	P	**P**	**01 13 33.4**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=219,slow=6.9,SNR=2.2						
CMAR				LR	LR	01 33 13.6	
	comp=Z,28nm,19.1s,baz=245,slow=34						
CMAR	**Chiang Mai Arr**	**51.62**	**35**	P	**P**	**01 13 32.3**	**-0.5**
ASAR	**Alice Springs**	**57.41**	**103**	P	**P**	**01 14 15.1**	**0.0**
	comp=Z,0.7nm,0.9s,baz=246,slow=6.3,SNR=5.4						
ASAR				LR	LR	01 36 31.7	
	comp=Z,25nm,18.6s,baz=276,slow=34						
ASAR	**Alice Springs**	**57.41**	**103**	P	**P**	**01 14 14.5**	**-0.5**
WRA	**Warramunga Arr**	**58.87**	**99**	P	**P**	**01 14 25.8**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=251,slow=6.8,SNR=3.9						
WRA				LR	LR	01 37 29.2	
	comp=Z,71nm,19.1s,baz=270,slow=34						
KBL	**Kabul**	**59.49**	**359**	P	**P**	**01 14 30.6**	**+1.2**
KBL				IAmb	IAmb	01 14 31.1	
	comp=Z,2.8nm,1.0s						
STKA	**Stephens Creek**	**61.95**	**114**	LR	LR	01 39 43.7	
	comp=Z,36nm,18.2s,baz=209,slow=34						
MKAR	**Makanchi Array**	**72.53**	**9**	P	**P**	**01 15 54.2**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=166,slow=7.4,SNR=3.1						
MKAR				LR	LR	01 47 08.7	
	comp=Z,25nm,18.1s,baz=348,slow=35						
MKAR	**Makanchi Array**	**72.53**	**9**	P	**P**	**01 15 52.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.96**	**291**	LR	LR	01 48 55.4	
	comp=Z,36nm,18.6s,baz=315,slow=35						
DBIC	**Dimbokro**	**79.56**	**282**	LR	LR	01 51 44.2	
	comp=Z,36nm,18.2s,baz=92,slow=36						
SONM	**Songino Array**	**79.66**	**24**	P	**P**	**01 16 34.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=183,slow=5.1,SNR=2.1						
SONM	**Songino Array**	**79.66**	**24**	P	**P**	**01 16 32.0**	**-1.5**
ZALV	**Zalesovo Beam**	**79.87**	**9**	P	**P**	**01 16 35.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=181,slow=7.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**79.87**	**9**	P	**P**	**01 16 34.5**	**+0.1**
MJAR	**Matsushiro Arr**	**88.69**	**48**	LR	LR	01 57 51.5	
	comp=Z,13nm,18.1s,baz=80,slow=36						

*BJI **28** 01:19:02.9±0.0,39°.58N×73°.54E,h7km,mb4.5/30, mB4.7/25,ML4.5/7,Ms4.1/13,Ms7 3.9/3*
*IDC **28** 01:19:03.2±0.5,39°.41N×73°.77E,h0km,mb4.5/30, mb1 4.5/37,mb1mx4.4/57,mbtmp4.5/37,ML3.6/8,MS3.7/21, Ms1 3.7/21,ms1mx3.4/40,Error ellipse: s-maj=9.6km s-min=8.5km az=108.0*
*SOME **28** 01:19:03.2,39°.75N×73°.33E,h15km,MS4.0*
*MOS **28** 01:19:04.3±1.3,39°.45N×73°.64E,h14km,mb4.8/46,Error ellipse: s-maj=5.4km s-min=3.8km az=105.6*
*KRNET **28** 01:19:05.5±0.1,39°.57N×73°.61E,mb4.8*
*ISCJB **28** 01:19:08.7±0.3,39°.43N±0°.02×73°.67E±0°.02,h53km±3km, mb4.5/81,MS3.7/18,Error ellipse: s-maj=2.9km s-min=2.7km az=172.4*
*NEIC **28** 01:19:09.1±1.7,39°.53N±0°.05×73°.63E±0°.07,h43km±6km, mb4.6/51*
*NNC **28** 01:19:10.0±1.1,39°.83N×73°.70E,h0km,mb5.1,mpv4.8, Error ellipse: s-maj=9.6km s-min=5.7km az=171.0*
ISC 28 01:19:05.8±0.8,39°.65N±0°.02×73°.80E±0°.02,h15km±4km, n424,σ2°08/476,mb4.6/90,MS3.8/18,49C-75D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.69**	**94**	Pg	**Pn**	**01 19 32.3**	**-2.6**
KSH				Sg	**Sn**	**01 19 53.3**	**-3.0**
KSH				smax	smax		
	comp=N,8μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.4s						
ARSB	**Arslanbob**	**1.79**	**340**⇓	*e*P	**Pg**	**01 19 38.9**	**-1.2**
	baz=45						
ARSB			⇓	*i*S	**Sg**	**01 20 04.1**	**+0.7**
	baz=45						
ARSB	**Arslanbob**	**1.79**	**340**	Pn	**Pg**	**01 19 38.2**	**-1.9**
ARSB				Sn	**Sg**	**01 20 00.7**	**-2.7**
ARLS	**Aral**	**2.25**	**10**⇑	*i*P	**Pg**	**01 19 47.3**	**-1.6**
	baz=13						
ARLS			⇑	*i*S	**Sg**	**01 20 17.7**	**-0.4**
	baz=13						
BTK	**Batken**	**2.33**	**281**⇓	*i*P	**Pn**	**01 19 45.6**	**+1.9**
	baz=84						
BTK			⇓	*i*S	**Sn**	**01 20 14.3**	**+2.1**
	baz=84						
BTK	**Batken**	**2.33**	**281**	PN	**Pn**	**01 19 44.9**	**+1.2**
BTK						01 20 11.0	
BTK	**Batken**	**2.33**	**281**		**Pn**	**01 19 44.9**	**+1.2**
BTK				Sn	**Sn**	**01 20 11.0**	**-1.2**
NRN	**Naryn**	**2.45**	**43**⇓	*i*P	**Pg**	**01 19 50.4**	**-2.4**
	baz=43						
NRN			⇓	*i*S	**Sg**	**01 20 23.9**	**-0.7**
	baz=43						
NRN	**Naryn**	**2.45**	**43**	PN	**Pb**	**01 19 49.9**	**+0.1**
NRN						01 20 19.4	
NRN	**Naryn**	**2.45**	**43**		**Pb**	**01 19 49.9**	**+0.1**
NRN				Sn	**Sb**	**01 20 19.4**	**-0.5**
AML	**Almayashu**	**2.48**	**358**⇓	*i*P	**Pg**	**01 19 50.8**	**-2.7**
	baz=1.0						
AML			⇓	*i*S	**Sg**	**01 20 23.4**	**-2.3**
	baz=1.0						
AML	**Almayashu**	**2.48**	**358**	P	**Pb**	**01 19 50.4**	**+0.1**
	SNR=81						
ARK	**Arkit**	**2.56**	**328**⇑	*i*P	**Pb**	**01 19 49.9**	**-1.7**
	baz=31						
ARK			⇑	*i*S	**Sb**	**01 20 22.2**	**-0.7**
	baz=31						
UCH	**Uchtor**	**2.63**	**12**⇓	*i*P	**Pg**	**01 19 53.2**	**-3.1**
	baz=14						
UCH			⇓	*i*S	**Sg**	**01 20 28.0**	**-2.5**
	baz=14						
UCH	**Uchtor**	**2.63**	**12**	P	**Pg**	**01 19 53.2**	**-3.1**
	SNR=617						
KZA	**Kyzart**	**2.67**	**24**⇑	*i*P	**Pb**	**01 19 53.6**	**+0.1**
	baz=26						
KZA			⇑	*i*S	**Sg**	**01 20 28.7**	**-2.9**
	baz=26						
KZA	**Kyzart**	**2.67**	**24**	P	**Pb**	**01 19 53.6**	**+0.1**
	SNR=62						
GAR	**Garm**	**2.78**	**258**		**Pn**	**01 19 51.0**	**+1.1**
EKS2	**Erkin-Say**	**3.01**	**360**⇑	*i*P	**Pb**	**01 19 57.9**	**-1.3**
	baz=2.0						
EKS2			⇑	*i*S	**Sb**	**01 20 35.9**	**0.0**
	baz=2.0						
EKS2	**Erkin-Say**	**3.01**	**360**	P	**Pb**	**01 19 58.1**	**-1.2**
	SNR=141						
AAK	**Ala-Archa**	**3.03**	**10**	Pn	**Pb**	**01 19 58.9**	**-0.7**
	304nm,0.6s						
AAK				Lg	Lg	01 20 41.6	
	2μm,0.9s						
AAK	**Ala-Archa**	**3.03**	**10**⇓	*i*P	**Pb**	**01 19 58.5**	**-1.1**
	baz=12						
AAK			⇓	*i*S	**Sb**	**01 20 36.9**	**+0.3**
	baz=12						
AAK	**Ala-Archa**	**3.03**	**10**	Pn	**Pb**	**01 19 58.8**	**-0.7**
	57nm,0.3s,baz=156,slow=6.2,SNR=321						
AAK				Sn	**Sg**	**01 20 38.9**	**-4.4**
	62nm,0.3s,baz=294,slow=20,SNR=11						
AAK				Lg	Lg	01 20 45.4	
	109nm,0.3s,baz=57,slow=18,SNR=12						
AAK				LR	LR	01 21 23.9	
	comp=Z,954nm,21.4s,baz=220,slow=43						
AAK	**Ala-Archa**	**3.03**	**10**	P	**Pb**	**01 19 58.9**	**-0.7**
	SNR=281						
AAK	**Ala-Archa**	**3.03**	**10**		**Pb**	**01 19 56.0**	**-3.6**
AAK					**Sb**	**01 20 31.3**	**-5.2**
MRKS	**Merke**	**3.12**	**352**	Pg	**Pb**	**01 19 59.2**	**-1.9**
	260nm,0.3s						
MRKS				Lg	Lg	01 20 40.0	
	1μm,0.6s						
MRKS	**Merke**	**3.12**	**352**⇓	*i*P	**Pb**	**01 19 59.2**	**-1.9**
	260nm,0.3s						
MRKS			⇓	*i*S	**Sb**	**01 20 40.0**	**+0.9**
	1μm,0.6s						
KBK	**Karagaybulak**	**3.13**	**16**⇑	*i*P	**Pb**	**01 20 00.0**	**-1.3**
	baz=18						
KBK			⇑	*i*S	**Sb**	**01 20 39.6**	**+0.3**
	baz=18						
KBK	**Karagaybulak**	**3.13**	**16**	P	**Pb**	**01 20 00.3**	**-1.0**
	SNR=201						
ULHL	**Ulahol**	**3.19**	**35**⇑	*i*P	**Pb**	**01 20 01.1**	**-1.2**
	baz=36						
ULHL			⇑	*i*S	**Sg**	**01 20 42.0**	**-6.2**
	baz=36						
ULHL	**Ulahol**	**3.19**	**35**	P	**Pb**	**01 20 00.8**	**-1.5**
	SNR=50						
FRU1	**Bishkek**	**3.22**	**11**⇑	*i*P	**Pb**	**01 20 00.8**	**-2.0**
	baz=13						
FRU1			⇑	*i*S	**Sb**	**01 20 41.3**	**-0.6**
	baz=13						
FRU1	**Bishkek**	**3.22**	**11**	PN	**Pb**	**01 20 00.8**	**-2.0**
FRU1						01 20 37.0	
FRU1	**Bishkek**	**3.22**	**11**		**Pb**	**01 20 00.8**	**-2.0**
FRU1				Sn	**Sb**	**01 20 37.0**	**-4.9**
BOOM	**Boomskoye usch**	**3.27**	**29**⇑	*i*P	**Pb**	**01 20 02.5**	**-1.2**
	baz=30						
BOOM			⇑	*e*S	**Sb**	**01 20 43.8**	**+0.4**
	baz=30						
BOOM	**Boomskoye usch**	**3.27**	**29**	PN	**Pb**	**01 20 01.5**	**-2.2**
BOOM						01 20 39.1	
BOOM	**Boomskoye usch**	**3.27**	**29**		**Pb**	**01 20 01.5**	**-2.2**
BOOM				Sn	**Sb**	**01 20 39.1**	**-4.2**
CHMS	**Chumysh**	**3.42**	**12**⇓	*e*P	**Pb**	**01 20 03.9**	**-2.3**
	baz=14						
CHMS			⇓	*i*S	**Sb**	**01 20 46.4**	**-1.3**
	baz=14						
CHMS	**Chumysh**	**3.42**	**12**	P	**Pb**	**01 20 04.0**	**-2.2**
	SNR=102						
TKM2	**Tokmak 2**	**3.54**	**22**⇑	Pn	**Pb**	**01 20 06.2**	**-2.1**
	248nm,0.9s						
TKM2			⇓	Lg	Lg	01 20 58.7	
	456nm,0.8s						
TKM2	**Tokmak 2**	**3.54**	**22**⇓	*e*P	**Pb**	**01 20 05.8**	**-2.5**
	baz=23						
TKM2			⇓	*i*S	**Sb**	**01 20 49.7**	**-1.5**
	baz=23						
TKM2	**Tokmak 2**	**3.54**	**22**	PN	**Pb**	**01 20 06.2**	**-2.1**
TKM2				LG	Lg	01 20 58.7	
TKM2	**Tokmak 2**	**3.54**	**22**	P	**Pb**	**01 20 05.9**	**-2.4**
	SNR=89						
KDJ	**Kajisay**	**3.57**	**45**⇓	*i*P	**Pb**	**01 20 06.4**	**-2.3**
	baz=46						
KDJ			⇓	*i*S	**Sb**	**01 20 50.9**	**-1.0**
	baz=46						
KDJ	**Kajisay**	**3.57**	**45**	PN	**Pb**	**01 20 06.2**	**-2.5**
KDJ	**Kajisay**	**3.57**	**45**	Pn	**Pb**	**01 20 06.2**	**-2.5**
USP	**Ospenovka**	**3.66**	**8**⇓	*e*P	**Pb**	**01 20 06.7**	**-3.5**
	baz=10.0						
USP			⇓	*i*S	**Sb**	**01 20 51.6**	**-2.7**
	baz=10.0						
USP	**Ospenovka**	**3.66**	**8**	P	**Pb**	**01 20 07.3**	**-2.8**
	SNR=18						
TARG	**Taragay, Kyrgy**	**3.69**	**54**		**Pb**	**01 20 07.3**	**-3.6**
DZA	**Taraz**	**3.74**	**331**	Pg	**Pb**	**01 20 07.3**	**-4.2**
	443nm,0.6s						
DZA				Lg	Lg	01 20 54.1	
	2μm,0.6s						
DZA	**Taraz**	**3.74**	**331**⇑	*i*P	**Pb**	**01 20 07.3**	**-4.2**
	443nm,0.6s						
DZA			⇓	*i*S	**Sb**	**01 20 54.1**	**-2.5**
	2μm,0.6s						
CHGR	**Chuyangaron**	**3.74**	**256**		**Pn**	**01 20 03.5**	**+0.3**
KST	**Kastek**	**3.76**	**25**	Pg	**Pg**	**01 20 15.8**	**-2.1**
	178nm,0.6s						
KST				Lg	Lg	01 21 07.9	
	1μm,0.8s						
KST	**Kastek**	**3.76**	**25**	*e*P	**Pg**	**01 20 15.8**	**-2.1**
	178nm,0.6s						
KST			⇓	*i*S	**Sg**	**01 21 07.9**	**+1.2**
	1μm,0.8s						
IUG	**Iuzhnay**	**3.79**	**312**	Pg	**Pn**	**01 20 07.5**	**+3.6**
	23nm,0.4s						
IUG				Lg	Lg	01 20 54.3	
	2μm,0.5s						
IUG	**Iuzhnay**	**3.79**	**312**	*e*P	**Pn**	**01 20 07.5**	**+3.6**
	23nm,0.4s						
IUG				*e*S	**Sb**	**01 20 54.3**	**-4.0**
	2μm,0.5s						
TAS	**Tashkent**	**3.83**	**297**⇓	*i*P	**Pn**	**01 20 06.5**	**+2.2**
	baz=0.0						
TAS			⇓	*i*S	**Sn**	**01 20 51.0**	**+2.0**
	baz=0.0						
TAS	**Tashkent**	**3.83**	**297**	PN	**Pn**	**01 20 05.6**	**+1.4**
TAS	**Tashkent**	**3.83**	**297**		**Pn**	**01 20 05.6**	**+1.4**
SGDS	**Sogindy**	**3.85**	**9**	Pg	**Pb**	**01 20 14.5**	**+1.0**
	265nm,0.5s						
SGDS				Lg	Lg	01 21 05.6	
	489nm,0.8s						
DGS	**Degeres**	**3.89**	**22**	Pg	**Pg**	**01 20 17.9**	**-2.3**
	210nm,0.5s						
DGS				Lg	Lg	01 21 11.7	
	799nm,0.8s						
DGS	**Degeres**	**3.89**	**22**	*e*P	**Pg**	**01 20 17.9**	**-2.3**
	210nm,0.5s						
DGS				*e*S	**Sg**	**01 21 11.7**	**+1.1**
	799nm,0.8s						
IZV	**Izvestkoviy**	**4.00**	**31**	Pg	**Pg**	**01 20 20.7**	**-1.7**
	189nm,0.6s						
IZV				Lg	Lg	01 21 16.0	
	1μm,0.8s						
IZV	**Izvestkoviy**	**4.00**	**31**	*e*P	**Pg**	**01 20 20.7**	**-1.7**
	189nm,0.6s						
IZV				*e*S	**Sg**	**01 21 16.0**	**+2.0**
	1μm,0.8s						
MTBS	**Maitube**	**4.00**	**29**	Pg	**Pg**	**01 20 19.7**	**-2.8**
	136nm,0.4s						
MTBS				Lg	Lg	01 21 13.5	
	299nm,0.6s						
MTBS	**Maitube**	**4.00**	**29**	*e*P	**Pg**	**01 20 19.6**	**-2.8**
	136nm,0.4s						
MTBS			⇑	*i*S	**Sg**	**01 21 13.5**	**-0.8**
	299nm,0.6s						
TNSS	**Tian-Shan**	**4.13**	**34**	Pg	**Pg**	**01 20 22.8**	**-2.2**
	171nm,0.5s						
TNSS				Lg	Lg	01 21 19.6	
	364nm,0.6s						
TNSS	**Tian-Shan**	**4.13**	**34**	*e*P	**Pg**	**01 20 22.8**	**-2.2**
	171nm,0.5s						
TNSS			⇓	*i*S	**Sg**	**01 21 19.6**	**+1.0**
	364nm,0.6s						
CHM	**Chimkent**	**4.15**	**311**	*e*P	**Pn**	**01 20 12.7**	**+4.0**
	185nm,0.2s						
CHM				*e*S	**Sb**	**01 21 02.5**	**-6.0**
	3μm,0.5s						
KK31	**Karatay Array**	**4.25**	**325**	Pn	**Pn**	**01 20 14.3**	**+4.3**
	26nm,0.4s,baz=131,slow=13,SNR=352						
KK31			⇓	Pg	**Pg**	**01 20 25.8**	**-1.3**
	47nm,0.5s,baz=141,slow=16,SNR=8.2						
KK31			⇓	Sn	**Sb**	**01 21 04.5**	**-6.8**
	80nm,0.3s,baz=139,slow=27,SNR=7.7						
KK31	**Karatay Array**	**4.25**	**325**	PN	**Pn**	**01 20 11.9**	**+1.9**
KK31	**Karatay Array**	**4.25**	**325**		**Pn**	**01 20 11.9**	**+1.9**
KK31				Sn	**Sn**	**01 20 59.3**	**0.0**
KKAR	**Karatay Array**	**4.25**	**325**	PN	**Pn**	**01 20 11.8**	**+1.8**
KKAR						01 20 59.8	
KKAR	**Karatay Array**	**4.25**	**325**		**Pn**	**01 20 11.8**	**+1.8**
KKAR				Sn	**Sn**	**01 20 59.8**	**+0.5**
AAA	**Alma-Ata**	**4.26**	**32**	Pg	**Pg**	**01 20 25.0**	**-2.4**
	146nm,0.6s						
AAA				Lg	Lg	01 21 23.4	
	375nm,0.7s						
AAA	**Alma-Ata**	**4.26**	**32**	*e*P	**Pg**	**01 20 25.0**	**-2.4**
	146nm,0.6s						
AAA				*e*S	**Sg**	**01 21 23.4**	**+0.8**
	375nm,0.7s						
AAA	**Alma-Ata**	**4.26**	**32**	*e*PN	**Pb**	**01 20 18.0**	**-2.5**
AAA				*e*S	**Sg**	**01 21 23.3**	**+0.7**
AAA				pmax	pmax		
	comp=Z,67nm,0.3s						
AAA				smax	smax		
	comp=E,380nm,0.7s						
MDOK	**Medeo**	**4.28**	**34**⇑	Pn	**Pb**	**01 20 16.7**	**-4.1**
	comp=E,33nm,0.6s						
MDOK			⇓	Pg	**Pg**	**01 20 26.7**	**-1.0**
	comp=E,192nm,1.0s						
MDOK			⇓	Lg	Lg	01 21 22.9	
	comp=E,566nm,1.2s						
MDOK	**Medeo**	**4.28**	**34**	Pg	**Pg**	**01 20 24.8**	**-2.9**
	comp=E,114nm,0.6s						
MDOK				Lg	Lg	01 21 22.8	
	comp=E,300nm,0.9s						
MDOK	**Medeo**	**4.28**	**34**	*e*P	**Pg**	**01 20 24.8**	**-2.9**
	comp=E,114nm,0.6s						
MDOK			⇓	*e*S	**Sg**	**01 21 22.8**	**-0.4**
	comp=E,300nm,0.9s						
ANVS	**Anan'yevo**	**4.28**	**42**⇓	*e*P	**Pb**	**01 20 16.4**	**-4.5**
	baz=42						
ANVS			⇓	*i*S	**Sb**	**01 21 08.1**	**-4.4**
	baz=42						
KNDC	**Almaty**	**4.29**	**33**	⇓Pn	**Pb**	**01 20 16.8**	**-4.2**
	comp=E,403nm,1.1s						
KNDC			⇑	Lg	Lg	01 21 23.2	
	comp=E,1μm,0.8s						
KOTS	**Kotyrbulak**	**4.37**	**34**	Pg	**Pg**	**01 20 25.6**	**-3.8**
	comp=E,439nm,0.6s						
KOTS				Lg	Lg	01 21 25.1	
	comp=E,684nm,0.5s						
KOTS	**Kotyrbulak**	**4.37**	**34**	*e*P	**Pg**	**01 20 25.6**	**-3.8**
	comp=E,439nm,0.6s						
KOTS				*e*S	**Sg**	**01 21 25.1**	**-0.8**
	comp=E,684nm,0.5s						
PRZ	**Przheval'sk**	**4.49**	**49**⇑	*e*P	Pb	01 20 19.2	-5.2
	baz=50						
PRZ			⇑	*i*S	**Sb**	**01 21 13.0**	**-5.4**
	baz=50						
PRZ	**Przheval'sk**	**4.49**	**49**	PN	**Pn**	**01 20 17.0**	**+3.6**
PRZ	**Przheval'sk**	**4.49**	**49**		**Pn**	**01 20 17.1**	**+3.6**
KTBS	**Karatobe**	**4.60**	**27**	Pg	**Pg**	**01 20 30.8**	**-3.0**
	comp=E,106nm,0.6s						
KTBS				Lg	Lg	01 21 33.3	
	comp=E,754nm,0

KURS	**Kuram**	**5.05**	**39**	*eP*		**Pg**		**01 20 39.4 -3.0**
	comp=E,104nm,0.9s							
KURS				*eS*		**Sg**		**01 21 48.8 +1.0**
	comp=E,166nm,1.0s							
UZB	**Uzynbulak**	**5.26**	**47**	Pg		**Pg**		**01 20 44.8 -1.7**
	comp=E,66nm,0.7s							
UZB				Lg		Lg		01 21 57.2
	comp=E,130nm,0.7s							
UZB	**Uzynbulak**	**5.26**	**47**	*eP*		**Pg**		**01 20 44.8 -1.7**
	comp=E,66nm,0.7s							
UZB				*eS*		**Sg**		**01 21 57.2 +2.6**
	comp=E,130nm,0.7s							
KPKS	**Kokpek**	**5.29**	**42**	*eP*		**Pg**		**01 20 43.5 -3.6**
	comp=E,151nm,0.6s							
KPKS				*eS*		**Sg**		**01 21 55.1 -0.5**
	comp=E,283nm,0.6s							
BTLS	**Baital**	**5.39**	**2**	Pg		**Pb**		**01 20 42.7 +3.0**
	comp=E,14nm,0.7s							
BTLS				Lg		Lg		01 21 53.8
	comp=E,152nm,0.5s							
BTLS	**Baital**	**5.39**	**2**	*eP*		**Pb**		**01 20 42.7 +3.0**
	comp=E,14nm,0.7s							
BTLS				*eS*		**Sg**		**01 21 53.8 -5.0**
	comp=E,152nm,0.5s							
ARXS	**Arharly**	**5.46**	**32**	Pg		**Pg**		**01 20 46.2 -4.2**
	comp=E,84nm,0.6s							
ARXS				Lg		Lg		01 21 59.0
	comp=E,322nm,0.9s							
ARXS	**Arharly**	**5.46**	**32**	*eP*		**Pg**		**01 20 46.2 -4.2**
	comp=E,84nm,0.6s							
ARXS				*eS*		**Sg**		**01 21 59.0 -2.1**
	comp=E,322nm,0.9s							
SHLS	**Shalkode**	**5.52**	**49**	Pg		**Pg**		**01 20 54.1 +2.6**
	comp=E,86nm,0.6s							
SHLS				Lg		Lg		01 22 13.0
	comp=E,328nm,0.8s							
SHLS	**Shalkode**	**5.52**	**49**	*eP*		**Pg**		**01 20 54.1 +2.6**
	comp=E,86nm,0.6s							
SHLS				*eS*		Sg		01 22 13.0 +10
	comp=E,328nm,0.8s							
MNBS	**Baschi**	**5.61**	**36**	Pg		**Pg**		**01 20 49.0 -4.1**
	comp=E,190nm,0.8s							
MNBS				Lg		Lg		01 22 04.3
	comp=E,390nm,0.9s							
MNBS	**Baschi**	**5.61**	**36**	*eP*		**Pg**		**01 20 49.0 -4.1**
	comp=E,190nm,0.8s							
MNBS				*eS*		**Sg**		**01 22 04.3 -1.4**
	comp=E,390nm,0.9s							
PDGK	**Podgornoye**	**5.64**	**47**	Pg		**Pg**		**01 20 51.1 -2.7**
	comp=E,33nm,0.7s							
PDGK				Lg		Lg		01 22 08.1
	comp=E,97nm,0.9s							
PDGK	**Podgornoye**	**5.64**	**47**	⇑Pn		Pn		01 20 34.0 +4.8
	comp=E,31nm,0.6s							
PDGK				⇑Pg		**Pg**		**01 20 51.2 -2.6**
	comp=E,67nm,0.7s							
PDGK				⇑Lg		Lg		01 22 07.5
	comp=E,273nm,0.9s							
PDGK	**Podgornoye**	**5.64**	**47**	PN		Pn		01 20 34.1 +4.9
CHCP	**Chirah Chowk**	**5.99**	**184**	⇑P		**Pn**		**01 20 37.9 +3.9**
NIL	**Nilore**	**6.00**	**184**	PN		**Pn**		**01 20 33.6 -0.6**
NIL								01 21 40.5
NIL	**Nilore**	**6.00**	**184**			**Pn**		**01 20 33.6 -0.6**
NIL				Sn		**Sn**		**01 21 40.5 -2.1**
CEP	**Cherat**	**6.01**	**195**	P		**Pn**		**01 20 36.8 +2.5**
CEP				S		**Sn**		**01 21 47.0 +4.1**
TDK	**Taldyqorghan**	**6.35**	**31**	Pg		Pg		01 21 02.4 -4.9
	comp=E,229nm,0.7s							
TDK				Lg		Lg		01 22 28.5
	comp=E,602nm,1.0s							
KBL	**Kabul**	**6.36**	**218**	PN		**Pn**		**01 20 38.5 -0.6**
KBL								01 21 54.1
KBL	**Kabul**	**6.36**	**218**			**Pn**		**01 20 38.5 -0.6**
KBL				Sn		**Sn**		**01 21 54.1 +2.4**
DJR	**Jarkent**	**6.47**	**42**	Pg		**Pg**		**01 21 06.4 -3.1**
	comp=E,32nm,0.7s							
DJR				Lg		Lg		01 22 34.4
	comp=E,118nm,1.2s							
KAPS	**Kapalarasan**	**6.97**	**34**	Pg		Pg		01 21 14.0 -5.2
	comp=E,24nm,1.2s							
KAPS				Lg		Lg		01 22 48.8
	comp=E,124nm,1.0s							
DHRM	**DHARAMSHALA**	**7.65**	**164**	*eP*		**Pn**		**01 20 59.1 +2.1**
DHRM				*eS*		**Sn**		**01 22 24.6 +1.0**
DHRM				IAmb		IAmb		01 22 31.9
	comp=N,402nm,0.6s							
SMLA	**Simla**	**8.93**	**161**	*eP*		**Pn**		**01 21 15.4 +1.1**
SMLA				*eS*		**Sn**		**01 22 51.6 -3.0**
SMLA				IAML				01 22 56.5
	comp=E,147nm,0.5s							
SMLA				IAML				01 23 01.5
	comp=N,132nm,0.5s							
MK31	**Makanchi Array**	**9.45**	**38**	⇑Pn		Pn		01 21 26.7 +5.3
	comp=N,6.0nm,0.6s,baz=215,slow=13,SNR=13							
MK31				Lg		Lg		01 24 08.5
	comp=N,25nm,0.8s,baz=225,slow=27,SNR=4.0							
MK31	**Makanchi Array**	**9.45**	**38**	P		Pn		01 21 26.8 +5.4
MK31	**Makanchi Array**	**9.45**	**38**			Pn		01 21 26.8 +5.4
MKAR	**Makanchi Array**	**9.45**	**38**	P		Pn		01 21 26.1 +4.7
MKAR								01 23 13.6
MKAR	**Makanchi Array**	**9.45**	**38**	Pn		Pn		01 21 25.4 +4.0
	comp=N,0.2nm,0.3s,baz=218,slow=15,SNR=8.9							
MKAR				Lg		Lg		01 24 02.8
	comp=N,0.9nm,0.3s,baz=218,slow=25,SNR=2.7							
MKAR				LR		LR		01 25 26.2
	comp=N,294nm,21.6s,baz=226,slow=40							
MKAR	**Makanchi Array**	**9.45**	**38**			Pn		01 21 26.1 +4.6
MKAR				Sn		**Sn**		**01 23 13.6 +6.1**
JOSI	**Joshimath**	**10.22**	**151**	*eP*		Pn		01 21 28.7 -3.5
JOSI				*eS*		Sn		01 23 16.5 -10
JOSI				*eS*		**Sn**		**01 23 24.0 -2.6**
JOSI				IAML				01 23 28.4
	comp=E,311nm,0.5s							
JOSI				IAML				01 23 30.9
	comp=N,324nm,0.8s							
HRA	**Herat**	**10.62**	**244**			**Pn**		**01 21 35.5 -2.2**
ZSN	**Zaisan**	**11.19**	**42**	Pg		Pn		01 22 29.5 +44
	comp=N,7.3nm,0.4s							
ZSN				Lg		Lg		01 24 57.7
	comp=N,39nm,1.1s							
WMQ	**Urumqi**	**11.19**	**64**	*eP*		Pn		01 21 52.0 +6.7
NDI	**New Delhi**	**11.29**	**164**	*eP*		**Pn**		**01 21 48.0 +1.3**
NDI				*eS*		**Sn**		**01 23 49.0 -3.7**
KURBB	**Kurchatov Arra**	**11.47**	**15**	⇑Pn		Pn		01 21 53.4 +4.4
	comp=N,7.6nm,0.8s							
KURBB				⇑Lg		Lg		01 25 10.2
	comp=N,248nm,1.1s							
KURBB	**Kurchatov Arra**	**11.47**	**15**	Pn		**Pn**		**01 21 52.1 +3.1**
	comp=N,0.1nm,0.3s,baz=204,slow=12,SNR=15							
KURBB				Lg		Lg		01 25 06.7
	comp=N,0.5nm,0.3s,baz=200,slow=30,SNR=10							
KURK	**Kurchatov**	**11.58**	**15**	P		**Pn**		**01 21 53.3 +2.9**
KURK								01 23 58.8
KURK	**Kurchatov**	**11.58**	**15**			**Pn**		**01 21 53.3 +2.9**
KURK				Sn		**Sn**		**01 23 58.8 -0.5**
SEM	**Semipalatinsk**	**11.68**	**21**	Pg		Pn		01 22 40.3 +48
	comp=N,7.5nm,0.5s							
SEM				Lg		Lg		01 25 17.3
	comp=N,52nm,1.3s							
KUDL	**Kundal**	**11.69**	**168**	*eP*		Pn		01 21 48.0 -4.0
KUDL				*eS*		Sn		01 23 43.4 -19
GEYT	**Alibeck**	**12.36**	**267**	Pn		**Pn**		**01 21 59.1 -2.2**
	comp=N,1.2nm,0.3s,baz=94,slow=8.9,SNR=13							
GEYT				Sn		**Sn**		**01 24 17.4 -1.3**
	comp=N,1.5nm,0.3s,baz=137,slow=55,SNR=2.4							
GEYT	**Alibeck**	**12.36**	**267**			**Pn**		**01 21 58.5 -2.8**
GYA0B	**ALIBECK ARRAY**	**12.36**	**267**	⇑Pn		**Pn**		**01 21 59.3 -2.0**
GYA0B				⇑Sn		**Sn**		**01 24 23.6 +4.9**
GYA0B	**ALIBECK ARRAY**	**12.36**	**267**			**Pn**		**01 21 59.0 -2.2**
BVAR	**Borovoye Array**	**13.59**	**351**	Pn		**Pn**		**01 22 18.6 +0.7**
	comp=N,1.1nm,0.3s,baz=159,slow=13,SNR=67							
BVAR				Lg		Lg		01 26 10.3
	comp=N,0.7nm,0.3s,baz=138,slow=28,SNR=5.3							
BRVK	**Borovoye**	**13.63**	**351**	⇑Pn		**Pn**		**01 22 19.0 +0.5**
	comp=N,21nm,0.6s							
BRVK	**Borovoye**	**13.63**	**351**	P		**Pn**		**01 22 19.6 +1.1**
BRVK	**Borovoye**	**13.63**	**351**			**Pn**		**01 22 19.6 +1.1**
AB31	**Akbulak array**	**13.77**	**319**	Pn		**Pn**		**01 22 19.8 -0.6**
	comp=N,10nm,0.7s,baz=133,slow=14,SNR=103							
AB31				⇑Sn		**Sn**		**01 24 52.2 -0.8**
	comp=N,5.5nm,0.6s,baz=126,slow=25,SNR=8.8							
AB31	**Akbulak array**	**13.77**	**319**	P		**Pn**		**01 22 19.8 -0.6**
AB31				SN		**Sn**		**01 24 52.2 -0.8**
ABKAR	**Akbulak array**	**13.77**	**319**			**Pn**		**01 22 20.1 -0.3**
ABKAR				Sn		Sn		01 24 43.5 -10
DANN	**Dangsing**	**13.96**	**141**	*eP*		Pn		01 22 19.1 -4.3
	comp=N,43nm,0.4s							
KOLN	**Koldanda**	**14.37**	**143**	*eP*		Pn		01 22 25.1 -3.8
	comp=N,13nm,0.3s							
GKN	**Gorkha**	**14.68**	**139**	*eP*		Pn		01 22 29.3 -3.9
	comp=N,35nm,0.4s							
GUN	**Gumba**	**15.41**	**136**	*eP*		**Pn**		**01 22 39.2 -3.8**
	comp=N,22nm,0.4s							
PKIN	**Phulchoki**	**15.42**	**138**	*eP*		**Pn**		**01 22 39.5 -3.6**
	comp=N,17nm,0.5s							
PKI	**Pulchoki**	**15.43**	**138**	*eP*		**Pn**		**01 22 38.9 -4.4**
	comp=N,32nm,0.7s							
AKTO	**Aktyubinsk**	**15.48**	**319**	⇓Pn		**Pn**		**01 22 43.5 0.0**
	comp=N,38nm,0.9s							
AKTO	**Aktyubinsk**	**15.48**	**319**	Pn		**Pn**		**01 22 44.0 +0.5**
	comp=N,0.8nm,0.3s,baz=129,slow=12,SNR=54							
AKTO				Sn		**Sn**		**01 25 30.3 -4.4**
	comp=N,0.3nm,0.3s,baz=312,slow=23,SNR=2.3							
AKTO				Lg		Lg		01 27 18.4
	baz=67,slow=22,SNR=1.8							
AKTO				LR		LR		01 29 00.3
	comp=N,247nm,18.2s,baz=137,slow=38							
JIRN	**Jiri**	**15.77**	**136**	*eP*		**Pn**		**01 22 44.1 -3.7**
	comp=N,72nm,0.4s							
ZAA0	**Zalesovo Array**	**16.14**	**24**	⇓Pn		**P**		**01 22 54.7 -0.5**
	comp=N,2.0nm,1.1s							
ZAA0	**Zalesovo Array**	**16.14**	**24**			**P**		**01 22 53.9 -1.3**
ZALV	**Zalesovo Beam**	**16.14**	**24**	Pn		**P**		**01 22 54.2 -1.0**
	comp=N,0.8nm,0.3s,baz=207,slow=12,SNR=18							
ZALV				LR		LR		01 29 24.7
	comp=N,226nm,19.1s,baz=198,slow=38							
ZALV	**Zalesovo Beam**	**16.14**	**24**			**P**		**01 22 53.7 -1.6**
RAMN	**Ramite**	**16.56**	**136**	*eP*		**Pn**		**01 22 52.9 -4.8**
	comp=N,40nm,0.5s							
BHPL	**Bhopal**	**16.64**	**168**	*eP*		**Pn**		**01 22 59.2 +0.6**
BHPL				IAmb		IAmb		01 23 04.6
	comp=Z,11nm,0.5s							
BHPL				*eS*		Sn		01 25 53.5 -10
TAPN	**Taplejung**	**16.86**	**132**	*eP*		**Pn**		**01 22 58.1 -3.5**
	comp=Z,25nm,0.5s							
ODAN	**Odare**	**17.06**	**134**	*eP*		**Pn**		**01 22 59.8 -4.2**
	comp=Z,40nm,0.6s							
JBP	**Jabalpur**	**17.25**	**160**	*eP*		**Pn**		**01 23 08.2 +2.0**
LSA	**Lhasa**	**17.36**	**120**	P		**Pn**		**01 23 09.3 +1.3**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSA	**Lhasa**	**17.36**	**120**	P		**Pn**		**01 23 09.3 +1.3**
SVE	**Sverdlovsk**	**19.24**	**338**	⇑*eP*		**Pn**		**01 23 31.2 +0.9**
SVE				*eS*		**Sn**		**01 27 04.4 -1.1**
SVE				pmax		pmax		
	comp=Z,17nm,0.9s							
ARU	**Arti**	**19.56**	**334**	*d iP*		**Pn**		**01 23 35.0 +0.8**
ARU				S		**S**		**01 27 17.6 +4.4**
ARU				pmax		pmax		
	comp=Z,20nm,0.8s							
ARU	**Arti**	**19.56**	**334**	P		**Pn**		**01 23 34.5 +0.2**
	comp=Z,0.0nm,0.3s,baz=155,slow=7.5,SNR=21							
ARU				LR		LR		01 31 48.0
	comp=Z,243nm,18.5s,baz=95,slow=39							
ARU	**Arti**	**19.56**	**334**	P		**P**		**01 23 32.6 -0.3**
ARU				IAmb		IAmb		01 23 41.8
	comp=Z,18nm,0.7s							
GTA	**Gaotai**	**20.05**	**82**	⇑P		Pn		01 23 41.3 +1.0
GTA				pP		sP		01 23 47.5 +1.4
GTA				sP		pP		01 23 50.8 +7.0
GTA				S		**S**		**01 27 23.5 0.0**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,120nm,7.0s							
GNBR	**Gunib**	**20.40**	**286**	⇑*eP*		Pn		01 23 44.0 -0.4
GNBR				pmax		pmax		
	comp=Z,25nm,0.7s							
SHL	**Shillong**	**20.66**	**127**	P		**P**		**01 23 44.4 -0.9**
SHL				pmax		pmax		
	comp=Z,19nm,0.9s							
SHL	**Shillong**	**20.66**	**127**	P		**P**		**01 23 44.4 -0.9**
SHL				IAmb		IAmb		01 23 49.8
	comp=Z,19nm,0.9s							
WSAR	**Wadi Sarin**	**20.81**	**223**	P		**P**		**01 23 45.5 -1.2**
	comp=Z,13nm,1.0s,baz=65,slow=10,SNR=6.0							
UOSS	**Minazif**	**20.83**	**231**	P		**P**		**01 23 43.5 -3.4**
GROC	**Groznyy**	**21.25**	**289**	*eP*		**P**		**01 23 50.3 -1.0**
GROC				*e*				01 24 10.5
GROC				pmax		pmax		
	comp=Z,62nm,0.8s							
GNI	**Garni**	**22.26**	**281**	*deP*		**P**		**01 24 03.9 +1.5**
GNI				pmax		pmax		
	comp=Z,52nm,1.1s							
GNI	**Garni**	**22.26**	**281**	P		**P**		**01 24 04.1 +1.7**
	comp=Z,11nm,0.9s,baz=0.7,slow=23,SNR=3.7							
GNI	**Garni**	**22.26**	**281**	P		**P**		**01 24 01.2 -1.2**
GNI				IAmb		IAmb		01 24 13.9
	comp=Z,38nm,0.9s							
MOY	**Mondy**	**22.34**	**48**	*eP*		**P**		**01 24 07.0 +3.9**
HYB	**Hyderabad**	**22.53**	**168**	*i P*		**P**		**01 24 02.0 -3.3**
ZEI	**Tsey**	**22.65**	**288**	*eP*		**P**		**01 24 10.9 +4.3**
ZEI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
NCK	**Nalchik**	**22.86**	**290**	⇓*eP*		**P**		**01 24 07.8 -0.7**
NCK				pmax		pmax		
	comp=Z,11nm,1.1s							
AKH	**Akhalkalaki**	**23.05**	**284**	P		**P**		**01 24 09.1 -1.6**
AKH				pmax		pmax		
	comp=Z,25nm,0.9s							
AKH	**Akhalkalaki**	**23.05**	**284**	P		**P**		**01 24 09.1 -1.6**
AKH				IAmb		IAmb		01 24 18.5
	comp=Z,25nm,0.9s							
GOF	**Gofitskoye**	**23.28**	**294**	⇑*eP*		**P**		**01 24 13.4 +0.6**
KBZ	**Khabaz**	**23.36**	**290**	P		**P**		**01 24 13.5 -0.1**
	comp=Z,4.6nm,0.8s,baz=118,slow=8.6,SNR=6.8							
KBZ				LR		LR		01 35 08.4
	comp=Z,85nm,19.8s,baz=36,slow=41							
KARS	**Kars**	**23.45**	**282**	P		**P**		**01 24 18.1 +3.3**
NEY	**Neytrino**	**23.50**	**289**	⇑*eP*		**P**		**01 24 16.3 +1.1**
NEY				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KVAR	**Kislovodsk Arr**	**23.51**	**291**	LR		LR		01 36 29.9
	comp=Z,76nm,19.0s,baz=196,slow=44							
KIV	**Kislovodsk**	**23.51**	**291**	*eP*		**P**		**01 24 14.7 -0.6**
KIV				*eS*		**S**		**01 28 28.5 -0.1**
KIV				pmax		pmax		
	comp=Z,38nm,1.0s							
KIV	**Kislovodsk**	**23.51**	**291**	P		**P**		**01 24 14.2 -1.1**
KIV				IAmb		IAmb		01 24 24.1
	comp=Z,15nm,0.9s							
SHA1	**Shidzhatmaz**	**23.54**	**290**	⇑*eP*		**P**		**01 24 15.9 +0.2**
TLY	**Talaya**	**23.90**	**50**	⇑*eP*		**P**		**01 24 18.0 -0.9**
TLY				pmax		pmax		
	comp=Z,7.0nm,0.9s							
TLY	**Talaya**	**23.90**	**50**	LR		LR		01 34 04.0
	comp=Z,73nm,18.8s,baz=238,slow=37							
LZH	**Lanzhou**	**23.93**	**89**	*eP*		**P**		**01 24 22.3 +2.8**
LZH				pP		sP		01 24 27.0 -0.3
LZH				sP		pP		01 24 28.5 +3.5
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH				pmax		pmax		
	comp=Z,69nm,5.4s							
LZH				LR		LR		
	comp=Z,190nm,11.2s							
LZH				LR		LR		
	comp=Z,200nm,10.6s							
LZH				LR		LR		
	comp=Z,200nm,11.4s							
KIRV	**Kirov**	**24.54**	**329**	P		**P**		**01 24 25.6 +1.0**
	comp=Z,32nm,0.7s,baz=96,slow=2.2,SNR=15							
KIRV				LR		LR		01 34 27.9
	comp=Z,244nm,18.3s,baz=55,slow=37							
SONM	**Songino Array**	**24.79**	**60**	P		**P**		**01 24 29.1 +1.9**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.9s							
SONM	**Songino Array**	**24.79**	**60**	P		**P**		**01 24 28.9 +1.8**
	comp=Z,2.8nm,0.8s,baz=269,slow=8.3,SNR=17							
SONM	**Songino Array**	**24.79**	**60**	P		**P**		**01 24 29.1 +1.9**
VRH	**Novokhopyorsk**	**25.10**	**308**	*eP*		**P**		**01 24 29.7 0.0**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ULN	**Ulaanbaatar**	**25.23**	**60**	P		**P**		**01 24 33.2 +2.0**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ULN	**Ulaanbaatar**	**25.23**	**60**	P		**P**		**01 24 33.2 +2.0**
CD2	**Chengdu**	**25.87**	**100**	P		**P**		**01 24 39.0 +2.0**
VORD	**Divnogorie**	**26.54**	**307**	*eP*		**P**		**01 24 42.7 -0.1**
VORD				pmax		pmax		
	comp=Z,9.0nm,0.6s							
VSR	**Storozhevoye**	**26.66**	**307**	*eP*		**P**		**01 24 44.2 +0.3**
VSR				pmax		pmax		
	comp=Z,30nm,1.3s							
LPSR	**Galich'ya Gora**	**27.13**	**310**	*eP*		**P**		**01 24 48.2 +0.1**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PRGR	**Permogore**	**27.95**	**331**	*eP*		**P**		**01 24 55.9 +0.6**
PRGR				*e*				01 28 11.3
PRGR				pmax		pmax		
	comp=Z,17nm,0.8s							
XAN	**Xi'an**	**28.54**	**90**	P		**P**		**01 25 02.5 +1.5**
XAN				pP		sP		01 25 12.0 +3.1
XAN				pmax		pmax		
	comp=Z,7.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**28.71**	**75**	*eP*		**P**		**01 25 05.8 +3.3**
HHC				pmax		pmax		
	comp=Z,4.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,8.0nm,4.6s							
RAYN	**Ar Rayn**	**28.81**	**245**	P		**P**		**01 25 01.8 -1.7**
RAYN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
RAYN	**Ar Rayn**	**28.81**	**245**	P		**P**		**01 25 01.8 -1.7**
OBN	**Obninsk**	**29.15**	**314**	⇓*eP*		**P**		**01 25 08.0 +1.9**
OBN								01 26 02.0
OBN				PPP		PPP		01 26 08.0
OBN								01 28 17.0
OBN				pmax		pmax		
	comp=Z,52nm,1.9s							
OBN	**Obninsk**	**29.15**	**314**	P		**P**		**01 25 08.0 +1.9**
	comp=Z,1.9nm,0.4s,baz=307,slow=15,SNR=3.6							
OBN	**Obninsk**	**29.15**	**314**	P		**P**		**01 25 05.6 -0.4**
OBN				IAmb		IAmb		01 25 07.4
	comp=Z,8.6nm,0.5s							
KLMR	**Klimovskoe**	**29.95**	**326**	*eP*		**P**		**01 25 11.7 -1.4**
KLMR				pmax		pmax		
	comp=Z,38nm,1.5s							
KLMR	**Klimovskoe**	**29.95**	**326**	*eP*		**P**		**01 25 11.8 -1.4**
KLMR				AMP				01 25 19.8
	comp=Z,38nm,1.5s							
CMAR	**Chiang Mai Arr**	**30.30**	**127**	*ceP*		**P**		**01 25 18.1 +1.5**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**30.30**	**127**	P		**P**		**01 25 15.7 -1.0**
	comp=Z,1.0nm,0.3s,baz=309,slow=9.0,SNR=4.3							
CMAR				PcP		**PcP**		**01 28 17.5 +0.6**
	comp=Z,1.2nm,0.3s,baz=276,slow=3.2,SNR=4.4							
NRIK	**Noril'sk**	**30.65**	**10**	P		**P**		**01 25 22.4 +3.2**
	comp=Z,1.5nm,0.3s,baz=210,slow=4.9,SNR=3.7							
NRIK				LR		LR		01 39 31.3
	comp=Z,160nm,18.4s,baz=276,slow=40							
BR131	**Keskin Array S**	**30.73**	**283**	P		**P**		**01 25 18.3 -2.1**
BR131				pmax		pmax		
	comp=Z,8.0nm,0.8s							
BR131	**Keskin Array S**	**30.73**	**283**	P		**P**		**01 25 18.4 -2.1**
BR131				IAmb		IAmb		01 25 23.4
	comp=Z,8.1nm,0.8s							
BRTR	**Keskin Array B**	**30.73**	**283**	*ceP*		**P**		**01 25 21.5 +1.1**
BRTR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BRTR	**Keskin Array B**	**30.73**	**283**	P		**P**		**01 25 20.5 +0.1**
	comp=Z,6.1nm,0.7s,baz=91,slow=6.2,SNR=27							
BRTR	**Keskin Array B**	**30.73**	**283**	P		**P**		**01 25 19.4 -1.0**
HMDM	**Hanimaadhoo**	**32.73**	**181**	P		**P**		**01 25 36.5 -1.5**
PALK	**Pallekele**	**32.83**	**167**	P		**P**		**01 25 38.5 -0.4**
PALK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
PALK	**Pallekele**	**32.83**	**167**	P		**P**		**01 25 38.5 -0.4**
PALK				IAmb		IAmb		01 25 55.2
	comp=Z,6.1nm,1.0s							
UTHA	**Uthaitani**	**32.84**	**130**	P		**P**		**01 25 39.6 +0.7**
	comp=Z,16μm,0.6s,comp=Z,517μm							
AKASG	**Malin Array Be**	**32.84**	**305**	*ceP*		**P**		**01 25 39.0 +0.4**
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.5s							
AKASG	**Malin Array Be**	**32.84**	**305**	P		**P**		**01 25 39.1 +0.5**
	comp=Z,5.0nm,0.5s,baz=80,slow=7.2,SNR=19							
AKASG	**Malin Array Be**	**32.84**	**305**	P		**P**		**01 25 38.4 -0.2**
AKBB	**Malin Array Si**	**32.84**	**305**	P		**P**		**01 25 37.4 -1.3**
AKBB				pmax		pmax		
	comp=Z,8.0nm,0.9s							
AKBB	**Malin Array Si**	**32.84**	**305**	P		**P**		**01 25 37.4 -1.3**
AKBB				IAmb		IAmb		01 25 39.6
	comp=Z,8.4nm,0.8s							
MILM	**Milestii Mici**	**33.17**	**298**	⇓P		**P**		**01 25 41.8 +0.2**
SORM	**Soroca**	**33.41**	**300**	⇓P		**P**		**01 25 43.7 0.0**
SORM	**Soroca**	**33.41**	**300**	⇓P		**P**		**01 25 43.7 0.0**
CFR	**Carcaliu**	**33.81**	**295**	⇓P		**P**		**01 25 48.2 +1.0**
CFR	**Carcaliu**	**33.81**	**295**	⇓P		**P**		**01 25 48.2 +1.0**
WHN	**Wuhan**	**34.16**	**93**	P		**P**		**01 25 55.0 +4.6**
TESR	**Tescani**	**34.69**	**297**	⇓P		**P**		**01 25 55.9 +1.1**
VRI	**Vrincioaia**	**34.71**	**296**	⇓P		**P**		**01 25 56.9 +1.9**
VRI	**Vrincioaia**	**34.71**	**296**	⇓P		**P**		**01 25 56.9 +1.9**
PLOR	**Plostina**	**34.76**	**

comp=Z,14nm,1.2s
USRK Ussuriysk Ar. 42.76 64 LR LR 01 46 45.7
comp=Z,70nm,18.9s,baz=291,slow=39
MOA Molln 42.83 301 *i* P **P 01 27 02.4 -0.7**
comp=Z,4.2nm,1.2s
OBKA Obir 42.92 299 *i* P **P 01 27 05.9 +1.9**
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 43.00 303 P **P 01 27 04.8 +0.3**
GERES GERESS Array B 43.00 303 P **P 01 27 05.9 +1.4**
comp=Z,2.4nm,0.5s,baz=64,slow=7.7,SNR=16
GERES LR LR 01 50 07.5
comp=Z,105nm,18.4s,baz=328,slow=43
GERES GERESS Array B 43.00 303 P **P 01 27 04.8 +0.3**
CLL Collm 43.01 307 *e*P **P 01 27 05.0 +0.5**
CLL Collm 43.01 307 *e*P **P 01 27 05.0 +0.5**
CLL *e*PP **PP 01 28 48.0 +3.8**
KHC Kasperske Hory 43.02 303 P **P 01 27 03.4 -1.3**
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 43.02 303 *e*P **P 01 27 05.3 +0.6**
KHC Kasperske Hory 43.02 303 P **P 01 27 03.4 -1.3**
NC602 NORSAR Array S 43.10 320 *e*P **P 01 27 06.6 +1.5**
NC303 NORSAR Array S 43.19 321 P **P 01 27 06.2 +0.4**
PSI Prapat 43.19 142 P **P 01 27 04.5 -1.9**
comp=Z,5.3nm,0.6s,baz=194,slow=18,SNR=4.7
NB2 NORSAR Subarra 43.27 321 P **P 01 27 06.5 +0.1**
comp=Z,4.6nm,0.5s,baz=91,slow=8.6
NB2 NORSAR Subarra 43.27 321 P **P 01 27 06.5 +0.1**
baz=91,slow=8.6
NOA NORSAR Array B 43.27 321 P **P 01 27 07.0 +0.6**
comp=Z,6.5nm,0.6s,baz=91,slow=7.9,SNR=24
NOA LR LR 01 45 23.4
comp=Z,121nm,20.2s,baz=280,slow=36
GSI Gunungsitoli 43.88 144 P **P 01 27 10.4 -1.4**
KONO Kongsberg 44.10 319 *e*P **P 01 27 13.2 +0.1**
ABTA Abfaltersbach 44.23 300 *i* P **P 01 27 14.9 +0.4**
DOMB Dombas 44.29 322 *e*P **P 01 27 14.2 -0.5**
GRA1 Grafenberg Arr 44.42 305 P **P 01 27 15.2 -0.7**
GRA1 IAmb IAmb 01 27 18.4
comp=Z,13nm,0.8s
GRF Grafenberg Arr 44.42 305 P **P 01 27 15.2 -0.7**
GRF pmax pmax
comp=Z,13nm,0.8s
HSPB Hornsund (broa 44.69 344 *e*P **P 01 27 18.3 +0.7**
WTTA Wattenberg 44.69 301 *i* P **P 01 27 18.4 +0.1**
comp=Z,3.0nm,0.4s
SPA0 Spitsbergen Ar 44.96 346 *e*P **P 01 27 21.0 +1.1**
SQTA Sankt Quirin 44.99 301 *i* P **P 01 27 20.8 +0.2**
comp=Z,2.3nm,0.5s
MOTA Moosalm 45.02 301 *i* P **P 01 27 21.2 +0.3**
comp=Z,2.5nm,0.7s
RETA Reutte 45.22 302 *i* P **P 01 27 23.0 +0.8**
comp=Z,0.3nm,0.3s
FETA Feichten 45.35 301 *i* P **P 01 27 23.1 -0.4**
comp=Z,1.2nm,0.5s
DAVA Damuels 45.84 302 *i* P **P 01 27 27.6 +0.2**
comp=Z,3.9nm,0.6s
KBS Kingsbay 46.06 346 *e*P **P 01 27 30.5 +2.0**
BFO Black Forest 46.59 303 *i* P **P 01 27 34.2 +1.1**
SISI Saibi 46.90 144 P **P 01 27 36.6 +0.9**
MEM Membach 47.49 307 P **P 01 27 41.6 +1.6**
WLF Walferdange 47.63 306 P **P 01 27 40.6 -0.6**
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 47.63 306 P **P 01 27 41.8 +0.7**
WLF Walferdange 47.63 306 P **P 01 27 40.6 -0.6**
WLF IAmb IAmb 01 27 43.2
comp=Z,9.3nm,0.8s
BMRD Maredsous 48.33 307 P **P 01 27 47.0 +0.4**
LPL La Plagne 48.44 300 *e*P **P 01 27 48.1 +0.4**
LPL pmax pmax
comp=Z,6.0nm,0.5s
DOU Dourbes 48.49 306 P **P 01 27 48.8 +1.1**
SNF Seneffe 48.58 307 P **P 01 27 49.0 +0.6**
BNI Bardonecchia 48.62 299 P **P 01 27 48.2 -0.8**
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 48.62 299 P **P 01 27 48.2 -0.8**
BNI IAmb IAmb 01 27 50.8
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 49.81 72 P **P 01 27 56.8 -1.4**
comp=Z,3.6nm,0.9s,baz=34,slow=47,SNR=3.4
MJAR LR LR 01 48 48.9
comp=Z,27nm,18.9s,baz=45,slow=36
SSF Saint Saulge 50.07 303 *e*P **P 01 27 59.5 -0.4**
SSF pmax pmax
comp=Z,3.0nm,0.6s
KEST Kesra 50.18 287 P **P 01 28 00.3 -0.7**
comp=Z,4.9nm,0.9s,baz=43,slow=8.1,SNR=4.8
KEST Kesra 50.18 287 P **P 01 27 58.7 -2.3**
KEST IAmb IAmb 01 28 17.0
comp=Z,11nm,1.1s
WACR West Acre 50.18 311 *e*P **P 01 28 00.7 +0.1**
WACR IAmb IAmb 01 28 02.0
comp=Z,22nm,0.8s
CLF Chambon-Foret 50.57 304 P **P 01 28 01.9 -1.7**
EDMD Edmundbyers 51.08 314 *e*P **P 01 28 07.1 -0.4**
HPK Haverah Park 51.13 313 *e*P **P 01 28 08.2 +0.4**
WOL Wolverton 51.68 309 *e*P **P 01 28 12.3 +0.3**
CAF Calviac 51.74 301 *e*P **P 01 28 12.9 +0.3**
CAF pmax pmax
comp=Z,24nm,1.5s
PGBU Glenifferbraes 52.19 316 *e*P **P 01 28 16.1 +0.4**
DAG Danmarks Havn 52.35 343 *i* P **P 01 28 17.0 +0.4**
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 52.35 343 *i* P **P 01 28 17.0 +0.4**
comp=Z,7.5nm,0.8s
KPL Plockton 52.37 318 *e*P **P 01 28 17.1 +0.2**
MONM Monmouth 52.45 310 *e*P **P 01 28 17.9 +0.2**
MCH1 Michaelchurch 52.52 311 *e*P **P 01 28 17.9 -0.2**
MCH1 IAmb IAmb 01 28 19.3
comp=Z,13nm,0.7s
KMBO Kilima Mbogo 52.57 229 *i* P **P 01 28 20.5 +1.2**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 52.57 229 P **P 01 28 18.9 -0.4**
comp=Z,3.2nm,1.0s,baz=38,slow=13,SNR=5.8
MFF Saint Martin d 52.59 303 *e*P **P 01 28 18.1 -0.7**
MFF pmax pmax
comp=Z,37nm,1.7s
GAL1 Galloway 52.59 315 *e*P **P 01 28 19.1 +0.5**
GAL1 IAmb IAmb 01 28 21.2
comp=Z,16nm,1.0s
BILL Bilibino 54.81 27⇓ *e*P **P 01 28 36.5 +1.8**
BILL *e**PP **sP 01 28 47.1 +4.4**
BILL 01 29 42.0
BILL 01 30 39.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,143nm,18.0s
MBAR Mbarara 56.12 235⇑ *e*P **P 01 28 44.6 -0.4**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
KCP Kidapawan 56.20 111⇓ *i*P **P 01 28 47.7 +2.2**
ESDC Sonseca Array 57.97 297 P **P 01 28 57.8 +0.1**
comp=Z,1.1nm,0.4s,baz=56,slow=7.1,SNR=20
ESDC Sonseca Array 57.97 297 P **P 01 28 57.3 -0.4**
SUMG Summit 58.81 341 *i* P **P 01 29 05.0 +1.5**
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 58.81 341 *i* P **P 01 29 05.0 +1.5**
comp=Z,22nm,1.0s
SUMG Summit 58.81 341 P **P 01 29 03.8 +0.3**
TAM Tamanrasset 59.43 275 P **P 01 29 06.8 -1.5**
TAM pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 59.43 275 P **P 01 29 06.8 -1.5**
TOA0 Torodi Ar. Sit 67.99 269 P **P 01 30 02.7 -1.9**
TOA0 IAmb IAmb 01 30 03.9
comp=Z,5.0nm,0.6s
TORD Torodi Ar. Bea 67.99 269 P **P 01 30 03.5 -1.2**
comp=Z,4.0nm,0.5s,baz=46,slow=5.5,SNR=61
TORD Torodi Ar. Bea 67.99 269 P **P 01 30 01.9 -2.7**
COLD Coldfoot 68.34 17 P **P 01 30 07.0 +1.0**
COLD IAmb IAmb 01 30 07.9
comp=Z,4.1nm,1.0s
IMAR Indian Mountai 68.50 19 P **P 01 30 07.7 +0.6**
LSZ Lusaka 69.21 228 P **P 01 30 10.4 -1.9**
LSZ pmax pmax
comp=Z,7.0nm,1.1s
LSZ Lusaka 69.21 228 P **P 01 30 10.4 -1.9**
LSZ IAmb IAmb 01 30 12.5
comp=Z,7.5nm,1.1s
BMAR Burnt Mountain 69.35 15 P **P 01 30 13.2 +0.8**
INK Inuvik 70.43 10 P **P 01 30 20.0 +1.1**
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 70.43 10 P **P 01 30 19.3 +0.4**
comp=Z,3.8nm,0.5s,baz=340,slow=6.0,SNR=28
INK Inuvik 70.43 10 P **P 01 30 20.0 +1.1**
INK IAmb IAmb 01 30 20.9
comp=Z,9.4nm,1.1s
COLA College 70.83 17 *de*P **P 01 30 22.4 +1.0**
COLA pmax pmax
comp=Z,6.0nm,0.9s
IL31 71.14 17 P **P 01 30 23.2 0.0**
ILAR Eielson Array 71.14 17 P **P 01 30 23.6 +0.3**
ILAR Eielson Array 71.14 17 P **P 01 30 23.4 +0.1**
comp=Z,2.7nm,0.8s,baz=321,slow=4.7,SNR=36
ILAR LR LR 02 06 09.9
comp=Z,36nm,18.3s,baz=280,slow=40
ILAR Eielson Array 71.14 17 P **P 01 30 23.6 +0.3**
DHY Denali Highway 72.47 18 P **P 01 30 32.0 +0.4**
DHY IAmb IAmb 01 30 32.8
comp=Z,4.8nm,0.7s
SCRK Sand Creek 72.47 16 P **P 01 30 32.2 +0.7**
SCRK IAmb IAmb 01 30 33.0
comp=Z,3.0nm,0.7s
RIDG Independent Ri 72.49 17 P **P 01 30 31.2 -0.4**
RIDG IAmb IAmb 01 30 32.4
comp=Z,6.2nm,0.8s
SML Sawmill 73.30 19 P **P 01 30 36.7 +0.3**
DAWY Dawson 73.34 15 P **P 01 30 37.0 +0.4**
SCM Sheep Creek Mo 73.53 19 P **P 01 30 38.3 +0.5**
SCM pmax pmax
comp=Z,9.0nm,0.7s
SCM Sheep Creek Mo 73.53 19 P **P 01 30 38.4 +0.5**
BCAR Beaver Creek A 73.75 16 P **P 01 30 39.8 +0.8**
FITZ Fitzroy Crossi 75.08 129 P **P 01 30 46.0 -1.1**
FITZ IAmb IAmb 01 30 48.7
comp=Z,12nm,1.1s
DBIC Dimbokro 77.04 268 P **P 01 30 57.0 -1.6**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 77.04 268 P **P 01 30 57.5 -1.1**
comp=Z,5.1nm,0.9s,baz=40,slow=5.8,SNR=5.4
DBIC Dimbokro 77.04 268 P **P 01 30 57.0 -1.6**
DBIC IAmb IAmb 01 31 00.3
comp=Z,5.3nm,0.8s
KIC Kosan Boka 77.15 268 *e*P **P 01 30 58.5 -0.7**
comp=Z,3.1nm,0.5s
TIC Toumodi 77.19 268 *e*P **P 01 30 58.5 -0.9**
LIC Lamto 77.45 268 *e*P **P 01 31 00.0 -0.9**
comp=Z,11nm,0.6s
YKA Yellowknife Ar 77.98 4 P **P 01 31 03.7 +0.6**
comp=Z,2.1nm,0.6s,baz=350,slow=5.6,SNR=13
YKA Yellowknife Ar 77.98 4 P **P 01 31 03.5 +0.4**
LBTB Lobatse 78.48 224 P **P 01 31 04.1 -2.3**
LBTB pmax pmax
comp=Z,14nm,0.9s
LBTB Lobatse 78.48 224 P **P 01 31 04.1 -2.3**
SCHQ Schefferville 80.04 338 LR LR 02 06 18.6
comp=Z,45nm,19.8s,baz=8.5,slow=35
BOSA Boshof 81.57 222 P **P 01 31 21.5 -1.5**
BOSA pmax pmax
comp=Z,6.0nm,1.2s
BOSA Boshof 81.57 222 P **P 01 31 22.2 -0.9**
comp=Z,5.4nm,0.9s,baz=9.7,slow=4.4,SNR=7.9
BOSA Boshof 81.57 222 P **P 01 31 21.5 -1.5**
BOSA IAmb IAmb 01 31 37.0
comp=Z,5.9nm,1.1s
WRA Warramunga Arr 81.85 124 P **P 01 31 24.1 -0.4**
comp=Z,5.7nm,0.6s,baz=324,slow=4.9,SNR=42
WRA Warramunga Arr 81.85 124 P **P 01 31 24.0 -0.6**
WRAB Tennant Creek 81.85 124⇓ *e*P **P 01 31 24.6 0.0**
WRAB pmax pmax
comp=Z,16nm,1.7s
WRAB Tennant Creek 81.85 124 P **P 01 31 24.0 -0.5**
ASAR Alice Springs 84.31 127 P **P 01 31 36.6 -0.7**
comp=Z,3.2nm,0.7s,baz=315,slow=5.0,SNR=27
ULM Lac du Bonnet 90.02 353 LR LR 02 15 09.6
comp=Z,65nm,18.6s,baz=306,slow=37
STKA Stephens Creek 94.92 128 P **P 01 32 26.4 -1.0**
comp=Z,0.6nm,0.4s,baz=310,slow=3.3,SNR=3.7
STKA LR LR 02 19 25.3
comp=Z,21nm,18.2s,baz=286,slow=38
PDAR Pinedale Array 97.91 2 LR LR 02 22 02.6
comp=Z,30nm,18.0s,baz=26,slow=38

*IDC **28** 02:33:03.4±48.0, 42°.09N×143°.63E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.4/24, mbtmp3.8/3, Error ellipse: s-maj=1097.0km s-min=81.6km az=158.0*
*ISCJB **28** 02:33:13.4±0.9, 42°.31N±0°.09×143°.16E±0°.09, h64km±5km, mb3.6/3, Error ellipse: s-maj=16.4km s-min=9.9km az=158.5*
*JMA **28** 02:33:14.8±0.1, 42°.35N×143°.12E, h50km±1km, M3.3*
JMA Felt I J1.
ISC 28 02:33:14.1±1.1, 42°.33N±0°.08×143°.16E±0°.06, h56km±8km, n22, σ0ˢ71/18, mb3.5/3, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.11**	**108**	⇑P	**Pn**	**02 33 22.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**0.30**	**261**	⇓P	**Pn**	**02 33 23.6**	**-0.2**
JNBK				*e*S	**Sn**	**02 33 30.7**	**-0.1**
JEM	**Erimo**	**0.31**	**180**	⇑P	**Pn**	**02 33 24.4**	**+0.5**
JCH	**Churui**	**0.33**	**28**	⇑P	**Pn**	**02 33 24.1**	**+0.1**
JCH				*e*S	**Sn**	**02 33 31.5**	**+0.4**
JSHD	**Hidakashinhida**	**0.52**	**279**	⇓P	**Pn**	**02 33 26.1**	**+0.2**
JBT2	**Biratori 2**	**0.74**	**308**	⇓P	**Pn**	**02 33 28.8**	**+0.2**
JOB	**Onbetsu**	**0.76**	**41**	⇑P	**Pn**	**02 33 30.1**	**+1.2**
JFR	**Furan**	**0.93**	**334**	P	**Pn**	**02 33 30.4**	**-0.8**
JIAM	**Iburiatsuma**	**0.96**	**288**	P	**Pn**	**02 33 33.0**	**+1.5**
JAR	**Ashorobuto**	**1.07**	**25**	P	**Pn**	**02 33 33.2**	**+0.3**
JAK	**Akkeshi**	**1.32**	**59**	P	**Pn**	**02 33 36.5**	**+0.3**
JEW	**Eniwo**	**1.36**	**293**	P	**Pn**	**02 33 37.5**	**+0.7**
JAB	**Ashibetsu**	**1.36**	**330**	P	**Pn**	**02 33 37.8**	**+1.0**
SONM	**Songino Array**	**26.36**	**295**	P	**P**	**02 38 44.8**	**-0.2**
	0.4nm,0.5s,baz=89,slow=9.7,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**30.16**	**131**	T	T	03 10 48.5	
	baz=324,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**30.18**	**131**	T	T	03 10 50.1	
	baz=324,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**30.18**	**131**	T	T	03 10 49.2	
	baz=324,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**31.04**	**133**	T	T	03 11 53.7	
	baz=326,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**31.05**	**133**	T	T	03 11 54.4	
	baz=326,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**31.06**	**133**	T	T	03 11 59.9	
	baz=326,slow=76,SNR=15						
MKAR	**Makanchi Array**	**42.65**	**298**	P	**P**	**02 41 05.0**	**0.0**
	0.4nm,0.4s,baz=84,slow=11,SNR=4.8						
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**02 43 45.6**	**-0.7**
	2.4nm,0.9s,baz=46,slow=8.2,SNR=5.1						

IDC 28 03:06:23.3±2.6, 8°.19N×104°.47W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.9/30, mbtmp3.9/5, MS3.4/15, Ms1 3.4/15, ms1mx3.3/26, Error ellipse: s-maj=111.5km s-min=26.8km az=59.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**12.23**	**330**	T	T	03 22 03.3	
	SNR=14						
H06E1	**SOCORRO T-PHAS**	**12.25**	**330**	T	T	03 21 53.6	
	SNR=20						
CMIG	**Matias Romero**	**12.87**	**46**	LR	LR	03 12 58.8	
	comp=Z,270nm,21.4s,baz=218,slow=31						
APG	**El Apazote**	**15.29**	**62**	LR	LR	03 14 21.0	
	comp=Z,161nm,21.4s,baz=338,slow=31						
LPIG	**La Paz**	**16.78**	**341**	LR	LR	03 14 54.2	
	comp=Z,37nm,21.4s,baz=162,slow=30						
JTS	**Las Juntas de**	**19.38**	**82**	LR	LR	03 16 11.1	
	comp=Z,50nm,18.4s,baz=332,slow=30						
TEIG	**Tepich**	**19.71**	**51**	LR	LR	03 17 02.0	
	comp=Z,113nm,19.9s,baz=229,slow=32						
TXAR	**Lajitas Array**	**21.05**	**2**	P	P	03 11 09.5	+0.4
	4.2nm,0.9s,baz=182,slow=11,SNR=26						
TXAR				LR	LR	03 18 42.0	
	comp=Z,196nm,18.2s,baz=0.0,slow=35						
ANMO	**Albuquerque**	**26.69**	**356**	LR	LR	03 21 17.9	
	comp=Z,61nm,18.4s,baz=172,slow=34						
PFO	**Pinyon Flats O**	**27.62**	**338**	LR	LR	03 21 50.3	
	comp=Z,46nm,18.8s,baz=130,slow=34						
ROSC	**El Rosal**	**30.13**	**94**	LR	LR	03 21 11.6	
	comp=Z,85nm,18.8s,baz=316,slow=30						
PDAR	**Pinedale Array**	**34.73**	**353**	P	P	03 13 14.9	-0.5
	2.3nm,0.9s,baz=156,slow=6.9,SNR=12						
LPAZ	**La Paz**	**43.42**	**124**	P	P	03 14 28.8	-0.1
	1.6nm,0.8s,baz=308,slow=8.8,SNR=5.8						
LPAZ				LR	LR	03 29 15.9	
	comp=Z,44nm,20.9s,baz=321,slow=32						
PPT	**Papeete**	**51.39**	**240**	LR	LR	03 32 05.7	
	comp=Z,29nm,19.6s,baz=8.5,slow=30						
BDFB	**Brasilia**	**60.72**	**113**	LR	LR	03 39 53.4	
	comp=Z,28nm,19.9s,baz=221,slow=33						
RAR	**Rarotonga**	**61.65**	**241**	LR	LR	03 35 51.9	
	comp=Z,30nm,18.4s,baz=102,slow=29						
INK	**Inuvik**	**63.06**	**348**	P	P	03 16 51.8	-0.2
	2.2nm,1.0s,baz=167,slow=6.5,SNR=6.1						
ILAR	**Eielson Array**	**63.83**	**341**	P	P	03 16 57.6	+0.4
	0.6nm,0.8s,baz=154,slow=6.1,SNR=6.5						
RAO	**Raoul Island**	**79.77**	**238**	LR	LR	03 47 03.3	
	comp=Z,44nm,21.9s,baz=354,slow=31						
VNDA	**Vanda**	**98.74**	**193**	LR	LR	03 57 57.2	
	comp=Z,27nm,18.2s,baz=196,slow=31						

*ISCJB **28** 03:24:03.4±1.4, 1°.67S±0°.03×80°.43W±0°.05, h11km±14km, Error ellipse: s-maj=8.7km s-min=5.4km az=8.9*
*IGQ **28** 03:24:03.3±0.2, 2°.5S±2°.8×80°.0W±°, h8km, Mjma3.7, ML4.5, MLv4.1*
ISC 28 03:24:02.6±1.9, 1°.70S±0°.04×80°.39W±0°.06, h2km±16km, n49, σ1ˢ51/57, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.77**	**231**	P	**Pg**	**03 24 17.9**	**+0.5**
ISPT	**Isla de la Pla**	**0.81**	**303**	P	**Pg**	**03 24 17.7**	**-0.4**
ISPT				S	**Sb**	**03 24 29.4**	**-1.4**
MORR	**Playas El Morr**	**0.94**	**177**	P	**Pg**	**03 24 20.6**	**+0.1**
MORR				S	**Sn**	**03 24 35.9**	**-0.9**
JAMA	**Jama**	**1.44**	**7**	P	**Pn**	**03 24 28.6**	**-1.1**
MAG1	**Magdalena**	**1.73**	**21**	P	**Pn**	**03 24 32.6**	**-1.1**
SAGO	**Sagoatoa**	**1.81**	**73**	P	**Pn**	**03 24 34.8**	**-0.4**
BMAS	**Trigal station**	**1.92**	**84**	P	**Pn**	**03 24 36.6**	**-0.1**
BMAS				S	**Sn**	**03 25 01.0**	**-0.7**
BPAT	**Tungurahua Vol**	**1.97**	**84**	P	**Pn**	**03 24 37.4**	**0.0**
BPAT				S	**Sn**	**03 25 02.4**	**-0.5**
BULB	**Ulba Tungurahu**	**2.00**	**83**	P	**Pn**	**03 24 38.0**	**+0.3**
PIS1	**Pisayambo**	**2.10**	**72**	P	**Pn**	**03 24 40.1**	**+0.8**
PISA	**Pisayambo**	**2.10**	**72**	P	**Pn**	**03 24 40.1**	**+0.8**
BNAS	**Cotopaxi Volca**	**2.17**	**62**	P	**Pn**	**03 24 40.9**	**+0.7**
NINA	**Atacazo Ninahu**	**2.20**	**54**	P	**Pn**	**03 24 39.7**	**-0.9**
BREF	**Cotopaxi Volca**	**2.20**	**62**	P	**Pn**	**03 24 41.3**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.23**	**62**	P	**Pn**	**03 24 41.7**	**+0.6**
BTAM	**Cotopaxi Volca**	**2.24**	**63**	P	**Pn**	**03 24 41.9**	**+0.7**
VC1	**Cotopaxi 1**	**2.25**	**62**	P	**Pn**	**03 24 42.5**	**+1.2**
TERV	**Terraza Guagua**	**2.34**	**50**	P	**Pn**	**03 24 43.7**	**+1.1**
BOSC	**San Juan Bosco**	**2.38**	**127**	P	**Pn**	**03 24 44.1**	**+1.3**
YANA	**Yana**	**2.40**	**49**	P	**Pn**	**03 24 42.5**	**-0.9**
PULU	**Pululahua**	**2.55**	**48**	P	**Pn**	**03 24 44.8**	**-0.5**
OTAV	**Otavalo**	**2.73**	**45**	*e*P	**Pn**	**03 24 47.0**	**-0.9**
OTAV				*e*S	**Sn**	**03 25 22.9**	**+1.1**
OTAV	**Otavalo**	**2.73**	**45**	*e*P	**Pn**	**03 24 47.0**	**-0.9**
OTAV				*e*S	**Sn**	**03 25 22.9**	**+1.1**
OTAV	**Otavalo**	**2.73**	**45**	P	**Pn**	**03 24 46.7**	**-1.2**
CUSE	**Cuicocha Este**	**2.82**	**45**	P	**Pn**	**03 24 48.7**	**-0.3**
CUSW	**Cuicocha Oeste**	**2.84**	**46**	P	**Pn**	**03 24 50.1**	**+0.8**
CUIC	**Cuicocha-Domo**	**2.84**	**46**	P	**Pn**	**03 24 49.6**	**+0.2**
URCU	**Urcuqui**	**3.01**	**45**	P	**Pn**	**03 24 53.1**	**+1.4**
ZUMB	**Zumba**	**3.38**	**158**	P	**Pn**	**03 24 57.1**	**+0.5**
TUMC	**Tumaco**	**3.88**	**25**	*e*P	**Pn**	**03 25 06.6**	**+3.4**
TUMC	**Tumaco**	**3.88**	**25**	*e*P	**Pn**	**03 25 06.6**	**+3.4**
CRUC	**La Cruz**	**4.73**	**47**	*e*P	**Pn**	**03 25 17.0**	**+1.7**
CRUC	**La Cruz**	**4.73**	**47**	*e*P	**Pn**	**03 25 17.0**	**+1.7**
BBAC	**Balboa, Cauca**	**4.85**	**40**	*e*P	**Pn**	**03 25 17.6**	**+0.7**
BBAC				*e*S	**Sn**	**03 26 14.5**	**+0.7**
BBAC	**Balboa, Cauca**	**4.85**	**40**	*e*P	**Pn**	**03 25 17.6**	**+0.7**
BBAC				*e*S	**Sn**	**03 26 14.5**	**+0.7**
GRGC	**Isla de Gorgon**	**5.17**	**25**	*e*P	**Pn**	**03 25 22.0**	**+0.9**
GRGC	**Isla de Gorgon**	**5.17**	**25**	*e*P	**Pn**	**03 25 22.0**	**+0.9**
SOTA	**Rioblanco**	**5.37**	**45**	*e*P	**Pn**	**03 25 25.2**	**+1.0**
SOTA	**Rioblanco**	**5.37**	**45**	*e*P	**Pn**	**03 25 25.2**	**+1.0**
PCON	**Cinco Dias**	**5.65**	**45**	*e*P	**Pn**	**03 25 28.7**	**+0.5**
PCON	**Cinco Dias**	**5.65**	**45**	*e*P	**Pn**	**03 25 28.7**	**+0.5**
FLOC	**Florencia**	**5.75**	**55**	*e*P	**Pn**	**03 25 29.9**	**+0.9**
FLOC	**Florencia**	**5.75**	**55**	*e*P	**Pn**	**03 25 29.9**	**+0.9**
PTLC	**Puerto Leguiza**	**5.89**	**72**	*e*P	**Pn**	**03 25 29.1**	**-1.9**
PTLC	**Puerto Leguiza**	**5.89**	**72**	*e*P	**Pn**	**03 25 29.1**	**-1.9**
MALC	**Bahia Malaga**	**6.44**	**28**	*e*P	**Pn**	**03 25 41.0**	**+2.5**
MALC	**Bahia Malaga**	**6.44**	**28**	*e*P	**Pn**	**03 25 41.0**	**+2.5**
YOTC	**Yotoco, Valle**	**6.94**	**36**	*e*P	**Pn**	**03 25 41.0**	**-4.6**
YOTC	**Yotoco, Valle**	**6.94**	**36**	*e*P	**Pn**	**03 25 41.0**	**-4.6**

*NEIC **28** 03:40:05.5±1.4, 4°.6S±0°.1×149°.6E±0°.2, h463km±13km, mb4.0/9*
*ISCJB **28** 03:40:06.6±0.6, 4°.59S±0°.09×149°.6E±0°.1, h500km, mb3.5/4, Error ellipse: s-maj=19.8km s-min=10.1km az=26.3*
*IDC **28** 03:40:15.2±19.0, 4°.78S×149°.69E, h583km±236km, mb2.9/4, mb1 3.0/4, mb1mx2.8/21, mbtmp3.8/4, Error ellipse: s-maj=182.9km s-min=81.4km az=88.0*
ISC 28 03:40:07.4±0.8, 4°.7S±0°.1×149°.7E±0°.2, h500km, n19, σ1ˢ71/19, mb3.8/7, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**208**	P	**P**	**03 41 32.8**	**-4.6**
COEN	**Coen**	**11.23**	**214**	P	**P**	**03 42 37.2**	**-0.7**
PATS	**Pohnpei**	**14.32**	**37**	P	**P**	**03 43 09.5**	**-1.0**
EIDS	**Eidsvold**	**20.61**	**176**	P	**P**	**03 44 12.9**	**+1.3**
EIDS				IAmb	IAmb	03 44 29.6	
	comp=Z,6.3nm,1.1s						
WB0	**Warramunga Arr**	**21.14**	**224**	P	**P**	**03 44 16.7**	**+0.2**
WB0				IAmb	IAmb	03 44 35.8	
	comp=Z,5.3nm,1.1s						
WB2	**Warramunga Arr**	**21.29**	**223**	P	**P**	**03 44 18.1**	**+0.2**
WB2				IAmb	IAmb	03 44 33.7	
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**21.30**	**223**	P	**P**	**03 44 20.6**	**+2.6**
	comp=Z,0.9nm,0.5s,baz=49,slow=8.9,SNR=14						
AS31	**Alice Springs**	**24.25**	**217**	P	**P**	**03 44 44.6**	**+0.2**
ASAR	**Alice Springs**	**24.25**	**217**	P	**P**	**03 44 47.1**	**+2.7**
	comp=Z,1.0nm,0.3s,baz=48,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**24.25**	**217**	P	**P**	**03 44 43.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**27.03**	**239**	P	**P**	**03 45 09.5**	**+0.5**
BBOO	**Buckleboo**	**30.75**	**203**	P	**P**	**03 45 42.5**	**+1.3**
KSAR	**Wonju Array Be**	**46.57**	**336**	P	**P**	**03 47 49.0**	**-0.6**
KULM	**Kulim**	**49.97**	**281**	P	**P**	**03 48 14.7**	**-0.8**
KIP	**Kipapa**	**57.42**	**61**	P	**P**	**03 49 08.8**	**+0.7**
KIP				IAmb	IAmb	03 49 21.9	
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**64.61**	**329**	P	**P**	**03 49 56.9**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=146,slow=4.2,SNR=6.9						
SONM	**Songino Array**	**64.61**	**329**	P	**P**	**03 49 55.9**	**+0.7**
MKAR	**Makanchi Array**	**78.21**	**320**	P	**P**	**03 51 15.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=99,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**78.21**	**320**	P	**P**	**03 51 15.0**	**+0.2**

*ISCJB **28** 03:57:29.3±0.3, 0°.25N±0°.04×120°.53E±0°.04, h100km, mb4.5/11, Error ellipse: s-maj=5.9km s-min=4.2km az=44.6*
*NEIC **28** 03:57:29.8±1.5, 0°.34N±0°.04×120°.52E±0°.05, h97

LUWI	**Luwuk**	**2.59 120**		**Pn**		**03 58 10.9**	**-0.3**
LUWI			Sn	**Sn**		**03 58 42.1**	**0.0**
TTSI	**Tana Toraja**	**3.35 192**	P	**Pn**		**03 58 21.2**	**-0.2**
BKB	**Balikpapan**	**3.93 247**	S	**Sn**		**03 59 11.2**	**-3.1**
BKB	**Balikpapan**	**3.93 247**	Pn	**Pn**		**03 58 26.2**	**-2.9**
BKB			Sn	**Sn**		**03 59 13.3**	**-1.1**
SPSI	**Sidrap Palu**	**4.26 190**	P	**Pn**		**03 58 34.3**	**+0.7**
BNSI	**Bone**	**4.64 185**	P	**Pn**		**03 58 38.9**	**+0.1**
KAPI	**Kappang**	**5.29 188**	P	**Pn**		**03 58 47.7**	**+0.1**
2.4nm,0.3s,baz=58,slow=0.9,SNR=14							
KAPI			S	**Sn**		**03 59 47.7**	**+0.4**
1.6nm,0.3s,baz=96,slow=24,SNR=3.4							
KAPI	**Kappang**	**5.29 188**		**Pn**		**03 58 48.0**	**+0.4**
KAPI				**Sn**		**03 59 47.4**	**+0.1**
KKM	**Kota Kinabalu**	**7.18 323**	Pn	**Pn**		**03 59 11.7**	**-1.7**
KKM				**Sn**		**04 00 30.2**	**-3.4**
KSM	**Kuching**	**10.29 277**	Pn	**Pn**		**03 59 54.4**	**-1.2**
SIJI	**Sorong**	**10.80 96**	P	**Pn**		**04 00 00.8**	**-1.7**
1.0nm,0.3s,baz=276,slow=19,SNR=3.2							
BATI	**Baumata**	**10.85 163**	LR	LR		04 04 08.7	
comp=Z,124nm,19.9s,baz=349,slow=37							
MTN	**Manton Dam**	**16.73 141**	P	**P**		**04 01 19.7**	**-0.3**
MTN			IAmb	IAmb		04 01 21.3	
comp=Z,11nm,0.8s							
KNRA	**Kununurra**	**17.80 153**		**P**		**04 01 31.6**	**0.0**
KNRA			IAmb	IAmb		04 01 36.2	
comp=Z,8.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.92 165**	P	**Pn**		**04 01 45.3**	**-0.3**
comp=Z,0.4nm,0.3s,baz=4.9,slow=4.6,SNR=9.8							
FITZ	**Fitzroy Crossi**	**18.92 165**	P	**P**		**04 01 43.1**	**-0.8**
IPM	**Ipoh**	**19.93 282**	P	**P**		**04 01 52.3**	**-2.7**
IPM			IAmb	IAmb		04 01 57.3	
comp=Z,21nm,0.9s							
KULM	**Kulim**	**20.47 284**	P	**P**		**04 01 59.4**	**-1.5**
KULM			IAmb	IAmb		04 02 02.5	
comp=Z,17nm,0.9s							
GSI	**Gunungsitoli**	**22.97 273**	P	**P**		**04 02 27.4**	**+0.2**
CHAI	**Chaiyaphum**	**24.01 311**	P	**P**		**04 02 37.6**	**+1.0**
comp=Z,32μm,0.7s							
WB0	**Warramunga Arr**	**24.10 146**		**P**		**04 02 33.0**	**-4.4**
WB0			IAmb	IAmb		04 02 37.9	
comp=Z,20nm,0.6s							
WRAB	**Tennant Creek**	**24.21 147**	P	**P**		**04 02 34.7**	**-3.7**
WRAB			IAmb	IAmb		04 02 39.5	
comp=Z,20nm,0.8s							
WRA	**Warramunga Arr**	**24.21 147**	P	**P**		**04 02 38.2**	**-0.2**
comp=Z,24nm,0.7s,baz=336,slow=9.3,SNR=126							
WRA	**Warramunga Arr**	**24.21 147**	P	**P**		**04 02 33.7**	**-4.7**
WRA			IAmb	IAmb		04 02 40.9	
comp=Z,0.5nm,0.7s							
WB2	**Warramunga Arr**	**24.21 147**		**P**		**04 02 33.3**	**-5.2**
WB2			IAmb	IAmb		04 02 39.5	
comp=Z,22nm,0.8s							
WR0	**Warramunga Arr**	**24.33 146**	P	**P**		**04 02 34.7**	**-4.8**
WR0			IAmb	IAmb		04 02 41.4	
comp=Z,29nm,0.8s							
AS31	**Alice Springs**	**27.09 152**	P	**P**		**04 03 05.0**	**+0.5**
AS31	**Alice Springs**	**27.09 152**		**P**		**04 02 57.7**	**-6.8**
AS31			IAmb	IAmb		04 03 07.6	
comp=Z,2.2nm,0.6s							
ASAR	**Alice Springs**	**27.09 152**	P	**P**		**04 03 04.8**	**+0.3**
comp=Z,3.4nm,0.5s,baz=342,slow=13,SNR=52							
ASAR			ScP	**ScP**		**04 09 54.2**	**-0.4**
comp=Z,0.2nm,0.3s,baz=316,slow=1.8,SNR=4.2							
ASAR			LR	LR		04 14 54.0	
comp=Z,30nm,18.9s,baz=326,slow=38							
ASAR	**Alice Springs**	**27.09 152**	P	**P**		**04 03 03.7**	**-0.9**
ASAR	**Alice Springs**	**27.09 152**		**P**		**04 02 57.9**	**-6.6**
CMAR	**Chiang Mai Arr**	**27.87 312**	P	**P**		**04 03 12.1**	**+0.7**
comp=Z,1.0nm,0.4s,baz=138,slow=7.2,SNR=7.2							
CMAR			LR	LR		04 17 23.5	
comp=Z,19nm,18.0s,baz=210,slow=43							
CMAR	**Chiang Mai Arr**	**27.87 312**	P	**P**		**04 03 10.3**	**-1.2**
WHN	**Wuhan**	**30.69 350**	P	**P**		**04 03 39.5**	**+3.3**
BBOO	**Buckleboo**	**36.00 157**	P	**P**		**04 04 18.1**	**-4.3**
BBOO			IAmb	IAmb		04 04 23.7	
comp=Z,9.3nm,1.0s							
STKA	**Stephens Creek**	**37.67 150**	P	**P**		**04 04 37.4**	**+0.9**
comp=Z,8.2nm,0.6s,baz=329,slow=9.4,SNR=20							
STKA	**Stephens Creek**	**37.67 150**	P	**P**		**04 04 36.1**	**-0.4**
STKA	**Stephens Creek**	**37.67 150**	P	**P**		**04 04 37.5**	**+0.9**
STKA			IAmb	IAmb		04 04 38.2	
comp=Z,2.0nm,0.8s							
EIDS	**Eidsvold**	**39.00 133**	P	**P**		**04 04 46.4**	**-1.4**
EIDS			IAmb	IAmb		04 05 06.3	
comp=Z,3.2nm,0.5s							
EIDS	**Eidsvold**	**39.00 133**	IAmb	IAmb		04 05 17.0	
comp=Z,25nm,1.1s							
LSA	**Lhasa**	**40.51 319**	P	**P**		**04 04 58.9**	**-1.9**
TAPN	**Taplejung**	**41.45 313**	*e*P	**P**		**04 05 09.3**	**+0.9**
comp=Z,13nm,0.4s							
RAMN	**Ramite**	**42.05 312**	*e*P	**P**		**04 05 14.4**	**+1.2**
comp=Z,19nm,0.7s							
JIRN	**Jiri**	**42.74 313**	*e*P	**P**		**04 05 20.1**	**+1.1**
comp=Z,45nm,0.6s							
GUN	**Gumba**	**43.11 313**	*e*P	**P**		**04 05 22.9**	**+1.0**
comp=Z,26nm,0.5s							
PKI	**Pulchoki**	**43.27 312**	*e*P	**P**		**04 05 23.8**	**+0.6**
comp=Z,12nm,0.5s							
PKIN	**Phulchoki**	**43.28 312**	*e*P	**P**		**04 05 23.9**	**+0.7**
comp=Z,13nm,0.6s							
GTA	**Gaotai**	**43.33 336**	*e*P	**P**		**04 05 24.0**	**+0.7**
GTA			pmax	pmax			
comp=Z,3.0nm,0.8s							
DMN	**Daman**	**43.52 312**	*e*P	**P**		**04 05 26.0**	**+0.9**
GKN	**Gorkha**	**44.08 312**	*e*P	**P**		**04 05 30.3**	**+0.8**
comp=Z,14nm,0.3s							
CAN	**Canberra**	**44.25 146**	P	**P**		**04 05 30.3**	**-0.3**
KOLN	**Koldanda**	**44.73 311**	*e*P	**P**		**04 05 35.7**	**+0.9**
DANN	**Dangsing**	**44.92 312**	*e*P	**P**		**04 05 37.1**	**+0.8**
comp=Z,36nm,0.7s							
SONM	**Songino Array**	**48.96 347**	P	**P**		**04 06 07.8**	**+0.5**
comp=Z,1.6nm,0.8s,baz=168,slow=8.0,SNR=8.7							
KSH	**Kashi**	**56.36 319**	P	P		04 07 06.8	+4.8
KSH			PP	**PP**		**04 09 13.3**	**+4.8**
KSH			ScP	**ScP**		**04 11 54.0**	**+5.5**
KSH			S	**S**		**04 14 49.3**	**+4.3**
KSH			sS	sS		04 15 23.0	-2.1
KSH			SS	**SS**		**04 18 38.0**	**+4.5**
KSH			LR	LR			
comp=Z,470nm,10.1s							
KSH			LR	LR			
comp=Z,430nm,10.2s							
KSH			LR	LR			
comp=Z,410nm,11.0s							
MKAR	**Makanchi Array**	**57.12 330**	P	**P**		**04 07 08.2**	**+1.1**
comp=Z,2.5nm,0.5s,baz=128,slow=9.2,SNR=16							
MKAR	**Makanchi Array**	**57.12 330**	P	**P**		**04 07 06.9**	**-0.2**
ZALV	**Zalesovo Beam**	**61.09 337**	P	**P**		**04 07 34.1**	**-0.2**
comp=Z,2.1nm,0.6s,baz=132,slow=7.6,SNR=9.1							
ZALV	**Zalesovo Beam**	**61.09 337**	P	**P**		**04 07 33.5**	**-0.7**
BRVK	**Borovoye**	**67.08 330**	P	**P**		**04 08 12.5**	**-1.0**
BRVK			IAmb	IAmb		04 08 14.4	
comp=Z,4.3nm,1.1s							
BRTR	**Keskin Array B**	**87.44 310**	P	**P**		**04 10 07.2**	**-0.4**
comp=Z,1.0nm,0.7s,baz=139,slow=6.6,SNR=6.3							
BRTR	**Keskin Array B**	**87.44 310**	P	**P**		**04 10 06.8**	**-0.9**
ILAR	**Eielson Array**	**90.88 25**	P	**P**		**04 10 22.2**	**-0.9**
comp=Z,0.3nm,0.8s,baz=274,slow=5.2,SNR=4.4							
ILAR	**Eielson Array**	**90.88 25**	P	**P**		**04 10 21.6**	**-1.4**

*IDC **28** 05:22:17.9±1.2, 15°.08N×44°.93W, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.8/42, mbtmp4.0/6, ML3.8/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/39, Error ellipse: s-maj=31.5km s-min=28.1km az=149.0*

*ISCJB **28** 05:22:18.2±0.6, 15°.0N±0°.1×44°.96W±0°.08, h14km, mb3.8/5, MS3.5/8, Error ellipse: s-maj=15.8km s-min=10.7km az=158.8*

*NEIC **28** 05:22:19.6±0.9, 15°.1N±0°.2×44°.9W±0°.1, h10km±1km, mb4.5/16*

ISC 28 05:22:20.0±0.8, 15°.0N±0°.1×45°.0W±0°.1, h14km, n39, σ0°63/29, mb4.3/12, MS3.5/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.43 218**		Pn	**Pn**	**05 25 15.9**	**-0.7**
0.6nm,0.3s,baz=28,slow=14,SNR=24							
MDP				Sn	Sn	05 27 24.3	-11
0.2nm,0.3s,baz=134,slow=23,SNR=3.9							
MDP				LR	LR	05 29 29.0	
comp=Z,119nm,18.5s,baz=36,slow=34							
SVB	**Belmont**	**15.91 266**		Pn	**Pn**	**05 26 04.0**	**+0.3**
GRGR	**Grenville**	**16.49 262**		Pn	**Pn**	**05 26 11.7**	**+0.6**
SJG	**San Juan**	**20.55 282**		LR	LR	05 33 29.0	
comp=Z,142nm,21.4s,baz=93,slow=33							
H10N3	**ASCENSION HYDR**	**37.78 125**		T	T	06 09 38.3	
baz=306,slow=75,SNR=20							
H10N2	**ASCENSION HYDR**	**37.78 125**		T	T	06 09 36.1	
baz=306,slow=75,SNR=25							
H10N1	**ASCENSION HYDR**	**37.80 125**		T	T	06 09 36.9	
baz=306,slow=75,SNR=29							
H10S3	**ASCENSION HYDR**	**38.33 127**		T	T	06 10 11.7	
baz=304,slow=74,SNR=24							
H10S2	**ASCENSION HYDR**	**38.34 127**		T	T	06 10 13.1	
baz=276,slow=74,SNR=33							
LPAZ	**La Paz**	**38.63 217**		P	**P**	**05 29 44.7**	**+0.8**
1.6nm,0.8s,baz=13,slow=7.5,SNR=6.3							
LPAZ				LR	LR	05 45 28.7	
comp=Z,64nm,18.3s,baz=49,slow=36							
LPAZ	**La Paz**	**38.63 217**		P	**P**	**05 29 44.2**	**+0.3**
DBIC	**Dimbokro**	**40.18 98**		LR	LR	05 43 57.5	
comp=Z,71nm,18.8s,baz=260,slow=32							
SCHQ	**Schefferville**	**43.21 342**		LR	LR	05 46 19.6	
comp=Z,103nm,18.6s,baz=344,slow=33							
TOA0	**Torodi Ar. Sit**	**45.22 86**		P	**P**	**05 30 37.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**45.22 86**		P	**P**	**05 30 36.9**	**-0.3**
1.3nm,0.9s,baz=280,slow=6.5,SNR=5.8							
TORD				LR	LR	05 46 43.0	
comp=Z,99nm,21.7s,baz=305,slow=32							
TORD	**Torodi Ar. Bea**	**45.22 86**		P	**P**	**05 30 37.4**	**+0.3**
TXAR	**Lajitas Array**	**55.69 295**		P	**P**	**05 31 56.1**	**-0.3**
0.7nm,1.0s,baz=109,slow=7.7,SNR=5.7							
TXAR				LR	LR	05 56 41.6	
comp=Z,23nm,18.7s,baz=0.0,slow=37							
MNTX	**Cornudas Mount**	**57.24 298**		P	**P**	**05 32 06.5**	**-0.8**
MNTX				IAmb	IAmb	05 32 09.0	
comp=Z,5.8nm,1.2s							
H09W1	**TRISTAN DA CUN**	**60.26 150**		T	T	06 37 39.1	
SNR=8.5							
319A	**Douglas**	**60.56 298**		P	**P**	**05 32 30.6**	**+0.1**
PDAR	**Pinedale Array**	**61.35 311**		P	**P**	**05 32 36.1**	**+0.3**
comp=Z,0.8nm,0.8s,baz=98,slow=7.8,SNR=5.3							
PDAR				LR	LR	05 58 05.2	
comp=Z,30nm,19.9s,baz=78,slow=35							
PDAR	**Pinedale Array**	**61.35 311**		P	**P**	**05 32 36.3**	**+0.5**
HWUT	**Hardware Ranch**	**62.74 309**		P	**P**	**05 32 44.5**	**-0.6**
HWUT				IAmb	IAmb	05 32 47.3	
comp=Z,4.2nm,0.9s							
HRY	**Holter Researc**	**63.39 315**		P	**P**	**05 32 49.6**	**+0.4**
SPUT	**South Promonto**	**63.39 309**		P	**P**	**05 32 49.5**	**+0.1**
BGU	**Big Grassy Mou**	**63.80 308**		P	**P**	**05 32 53.0**	**+0.8**
ELK	**Elko**	**65.47 308**		P	**P**	**05 33 03.7**	**+0.6**
ELK				IAmb	IAmb	05 33 05.7	
comp=Z,2.0nm,0.9s							
BUR08	**Bucovina Ar. S**	**65.69 44**		P	**P**	**05 33 04.5**	**+0.2**
NEW	**Newport**	**67.09 316**		P	**P**	**05 33 13.4**	**+0.3**
NEW				IAmb	IAmb	05 33 14.8	
comp=Z,9.4nm,1.4s							
INK	**Inuvik**	**75.64 337**		P	**P**	**05 34 04.2**	**-0.1**
INK				IAmb	IAmb	05 34 05.6	
comp=Z,6.0nm,1.2s							
BCAR	**Beaver Creek A**	**79.81 333**		P	**P**	**05 34 27.4**	**-0.4**
BMAR	**Burnt Mountain**	**79.91 337**		P	**P**	**05 34 28.7**	**+0.5**
PRP	**Porcupine Dome**	**80.78 335**		P	**P**	**05 34 30.8**	**-2.2**
PRP				IAmb	IAmb	05 34 36.7	
comp=Z,5.0nm,1.2s							
IL31		**81.54 335**		P	**P**	**05 34 36.9**	**+0.1**
IL31				IAmb	IAmb	05 34 40.2	
comp=Z,5.3nm,1.1s							
ILAR	**Eielson Array**	**81.54 335**		P	**P**	**05 34 37.0**	**0.0**
comp=Z,2.2nm,0.9s,baz=77,slow=4.1,SNR=13							
ILAR	**Eielson Array**	**81.54 335**		P	**P**	**05 34 36.8**	**-0.2**
DHY	**Denali Highway**	**82.26 333**		P	**P**	**05 34 40.6**	**-0.4**
ABKAR	**Akbulak array**	**88.17 39**		P	**P**	**05 35 10.2**	**-0.3**
ZALV	**Zalesovo Beam**	**99.06 27**		LR	LR	06 17 02.6	
comp=Z,35nm,18.2s,baz=320,slow=33							

ROM 28 06:06:02.9±0.1, 37°.617N±0°.005×14°.962E±0°.009, h5km±1km, ML2.1/11, Error ellipse: s-maj=0.8km s-min=0.5km az=79.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESML	**S. M. di Licod**	**0.07 271**		P	Pg	06 06 04.5	0.0
ESML				S	Sg	06 06 05.9	+0.3
ESML				AML	AML		
comp=E,16150μm,0.5s							
ESML				AML	AML		
comp=N,13100μm,0.8s							
ESML				AML	AML		
comp=E,16150μm,0.5s							
ESLN	**Serra La Nave**	**0.08**	**7**	*i* P	Pg	06 06 04.5	-0.2
ESLN				S	Sg	06 06 06.4	+0.3
ESLN				AML	AML		
comp=E,16950μm,0.3s							
ESLN				AML	AML		
comp=N,20050μm,0.2s							
ESLN				AML	AML		
comp=E,16950μm,0.3s							
HLNI	**Lentini**	**0.28 195**		P	Pg	06 06 08.9	+0.6
HLNI				AML	AML		
comp=E,222μm,1.3s							
HLNI				AML	AML		
comp=N,248μm,1.4s							
GALF	**Gagliano Caste**	**0.33 287**		P	Pb	06 06 10.7	-0.7
HAGA	**Augusta**	**0.36 155**		P	Pg	06 06 10.7	+0.7
HAGA				S	Sb	06 06 17.7	-0.2
HAGA				AML	AML		
comp=E,278μm,1.5s							
HAGA				AML	AML		
comp=N,248μm,0.4s							
HAGA				AML	AML		
comp=E,330μm,0.8s							
CAGR	**Agira**	**0.37 271**		P	Pb	06 06 11.9	-0.1
MNO	**Monte Soro**	**0.38 326**		P	Pb	06 06 12.3	0.0
AIO	**Antillo**	**0.41 31**		P	Pg	06 06 11.8	+0.8
AIO				S	Sb	06 06 19.5	0.0
AIO				AML	AML		
comp=E,188μm,0.3s							
AIO				AML	AML		
comp=N,206μm,0.9s							
AIO				AML	AML		
comp=E,188μm,0.3s							
AIO				AML	AML		
comp=N,207μm,0.9s							
AGST	**Augusta-Monte**	**0.42 150**		P	Pg	06 06 11.7	+0.7
AGST				S	Sb	06 06 19.3	-0.1
AGST				AML	AML		
comp=E,405μm,1.2s							
AGST				AML	AML		
comp=N,591μm,0.3s							
AGST				AML	AML		
comp=N,626μm,1.0s							
MUCR	**Ucria**	**0.43 351**		P	Pg	06 06 12.1	+0.8
SSY	**Sortino**	**0.47 169**		P	Pb	06 06 12.9	-0.9
SSY				S	Sb	06 06 21.2	+0.2
SSY				AML	AML		
comp=E,352μm,1.5s							
SSY				AML	AML		
comp=N,492μm,0.3s							
HVZN	**Vizzini**	**0.48 204**		P	Pg	06 06 12.8	+0.6
MCSR	**Castroreale**	**0.50 27**		P	Pg	06 06 13.1	+0.5
MEU	**Monte Lauro**	**0.52 183**		AML	AML		
comp=N,247μm,0.2s							
MEU				AML	AML		
comp=E,225μm,1.2s							
MCPD	**Capo d'Orlando**	**0.54 340**		P	Pb	06 06 14.4	-0.4
HBSP	**Bosco Santo Pi**	**0.62 218**		P	Pg	06 06 15.4	+0.7
HBSP				AML	AML		
comp=E,350μm,0.9s							
HBSP				AML	AML		
comp=N,253μm,1.5s							
RAFF	**Raffo Rosso**	**0.62 231**		P	Pb	06 06 15.7	-0.6
RAFF				AML	AML		
comp=E,334μm,0.4s							
RAFF				AML	AML		
comp=N,181μm,0.3s							
HAVL	**Avola**	**0.67 169**		P	Pg	06 06 16.1	+0.3
HAVL				S	Sb	06 06 27.3	+0.6
HAVL				AML	AML		
comp=E,364μm,0.3s							
HAVL				AML	AML		
comp=N,555μm,0.2s							
HMDC	**Modica**	**0.67 192**		P	Pb	06 06 17.4	+0.2
HMDC				AML	AML		
comp=N,183μm,0.4s							
HMDC				AML	AML		
comp=E,288μm,0.5s							

ROM 28 06:06:41.7±0.1, 37°.615N±0°.004×14°.968E±0°.008, h2km±1km, ML2.2/5, Error ellipse: s-maj=0.7km s-min=0.3km az=259.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESML	**S. M. di Licod**	**0.07 272**		*i* P	Pg	06 06 43.0	-0.1
ESML				S	Sg	06 06 44.7	+0.6
ESLN	**Serra La Nave**	**0.08**	**4**	*i* P	Pg	06 06 43.1	-0.2
ESLN				S	Sg	06 06 45.1	+0.7
HLNI	**Lentini**	**0.28 196**		P	Pg	06 06 47.5	+0.5
HLNI				AML	AML		
comp=N,220μm,0.2s							
HLNI				AML	AML		
comp=E,190μm,0.2s							
HLNI				AML	AML		
comp=N,221μm,0.2s							
GALF	**Gagliano Caste**	**0.33 287**		P	Pb	06 06 49.6	-0.7
HAGA	**Augusta**	**0.36 156**		P	Pg	06 06 49.4	+0.8
HAGA				S	Sb	06 06 56.2	-0.7
MNO	**Monte Soro**	**0.38 326**		P	Pb	06 06 50.6	-0.7
AGST	**Augusta-Monte**	**0.41 150**		P	Pg	06 06 50.2	+0.6
AGST				S	Sb	06 06 57.9	-0.4
AGST				AML	AML		
comp=E,362μm,0.5s							
AGST				AML	AML		
comp=N,626μm,1.0s							
AIO	**Antillo**	**0.41 30**		P	Pg	06 06 50.5	+0.9
MUCR	**Ucria**	**0.43 350**		P	Pb	06 06 51.5	-0.6
NOV	**Novara**	**0.43 18**		P	Pb	06 06 51.1	-1.0
SSY	**Sortino**	**0.47 170**		P	Pg	06 06 51.5	+0.9
SSY				S	Sb	06 06 59.9	-0.1
MCSR	**Castroreale**	**0.50 26**		P	Pb	06 06 52.7	-0.6
MCPD	**Capo d'Orlando**	**0.54 340**		P	Pb	06 06 53.0	-0.9
RAFF	**Raffo Rosso**	**0.62 231**		P	Pb	06 06 54.5	-0.7
RAFF				AML	AML		
comp=N,160μm,1.0s							
RAFF				AML	AML		
comp=E,310μm,0.4s							
HAVL	**Avola**	**0.67 169**		P	Pb	06 06 55.4	-0.7
HAVL				S	Sb	06 07 05.9	+0.2
HAVL				AML	AML		
comp=E,347μm,0.6s							
HAVL				AML	AML		
comp=N,549μm,0.2s							
HMDC	**Modica**	**0.67 193**		P	Pb	06 06 55.9	-0.2
HMDC				S	Sb	06 07 06.5	+0.6

*SJA **28** 06:06:52.3±0.6, 23°.23S×68°.22W, h150km±7km, ML3.6, MW3.8*

*ISCJB **28** 06:06:53.4±0.3, 23°.26S±0°.03×68°.21W±0°.05, h134km±4km, mb3.7/6, Error ellipse: s-maj=6.9km s-min=4.6km az=178.7*

*NEIC **28** 06:06:53.4±1.7, 23°.26S±0°.05×68°.14W±0°.06, h122km±8km*

*IDC **28** 06:06:53.7±1.0, 23°.24S×68°.04W, h114km±9km, mb3.6/7, mb1 3.7/9, mb1mx3.6/25, mbtmp4.0/9, Error ellipse: s-maj=22.9km s-min=17.6km az=56.0*

*GUC **28** 06:06:53.9±0.6, 23°.22S×68°.37W, h144km±6km, ML3.8*

ISC 28 06:06:54.1±0.7, 23°.25S±0°.04×68°.16W±0°.05, h124km±7km, n60, σ1°42/80, mb4.1/8, 5C-9D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.94 312**		P	**Pn**	**06 07 16.4**	**+0.2**
95nm,0.3s,baz=178,slow=7.2,SNR=1322							
LVC				S	**Sn**	**06 07 32.7**	**-0.3**
309nm,0.3s,baz=310,slow=20,SNR=109							
LVC	**Limon Verde**	**0.94 312**		⇓*i* P	**Pn**	**06 07 16.4**	**+0.2**
LVC	**Limon Verde**	**0.94 312**			**Pn**	**06 07 16.6**	**+0.3**
LVC					**Sn**	**06 07 33.3**	**+0.3**
PB15	**IPOC Station P**	**1.21 272**		⇑*i* P	**Pn**	**06 07 19.3**	**+0.5**
PB15				*i* S	**Sn**	**06 07 38.3**	**+0.9**
PB15	**IPOC Station P**	**1.21 272**		*i* P	**Pn**	**06 07 19.1**	**+0.4**
PB15				⇓*i* S	**Sn**	**06 07 39.4**	**+2.0**
PB06	**IPOC Station P**	**1.41 292**		⇑*i* P	**Pn**	**06 07 21.2**	**+0.4**
PB06				*i* S	**Sn**	**06 07 41.8**	**+0.6**
PB06				IAML		06 07 43.6	
comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**1.41 292**		*i* P	**Pn**	**06 07 21.3**	**+0.4**
PB06				⇓*i* S	**Sn**	**06 07 42.5**	**+1.2**
PB06				IAML		06 07 43.6	
comp=Z,1μm,0.3s							
PB09	**IPOC Station P**	**1.76 325**		⇓*i* P	**Pn**	**06 07 25.6**	**+0.7**
PB09				*i* S	**Sn**	**06 07 49.3**	**+0.9**
PB09				IAML		06 07 52.4	
comp=E,470nm,0.5s							
PB03	**IPOC Station P**	**1.90 309**		⇓*i* P	**Pn**	**06 07 26.8**	**+0.2**
PB03				*i* S	**Sn**	**06 07 50.9**	**-0.5**
PB03				IAML		06 07 56.2	
comp=N,990nm,0.4s							
PB05	**IPOC Station P**	**1.92 281**		⇑*i* P	**Pn**	**06 07 26.5**	**-0.3**
PB05				*i* S	**Sn**	**06 07 51.0**	**-1.0**
PB05	**IPOC Station P**	**1.92 281**		*i* P	**Pn**	**06 07 26.6**	**-0.3**
PB05				IAML		06 07 53.9	
comp=Z,294nm,0.5s							
PB04	**IPOC Station P**	**2.05 296**		⇑*i* P	**Pn**	**06 07 28.4**	**-0.1**
PB04				*i* S	**Sn**	**06 07 54.1**	**-0.7**
PB04				IAML		06 08 06.4	
comp=N,784nm,0.3s							
PB04	**IPOC Station P**	**2.05 296**		*i* P	**Pn**	**06 07 28.4**	**-0.1**
PB04	**IPOC Station P**	**2.05 296**			**Pn**	**06 07 28.4**	**-0.1**
PB04				Sn	**Sn**	**06 07 54.0**	**-0.7**
PB07	**IPOC Station P**	**2.20 313**		⇓*i* P	**Pn**	**06 07 30.7**	**+0.3**
PB07				*i* S	**Sn**	**06 07 57.5**	**-0.7**
PB07				IAML		06 08 00.1	
comp=E,859nm,0.4s							
PB10	**IPOC Station P**	**2.22 263**		⇓*i* P	**Pn**	**06 07 30.0**	**-0.4**
PB10				*e*S	**Sn**	**06 07 57.1**	**-1.1**
PB10				IAML		06 08 10.1	
comp=N,328nm,0.6s							
PB10	**IPOC Station P**	**2.22 263**		*i* P	**Pn**	**06 07 30.4**	**-0.1**
PB10				IAML		06 08 00.6	
comp=Z,202nm,0.9s							
PB10	**IPOC Station P**	**2.22 263**			**Pn**	**06 07 30.2**	**-0.2**
PB10				Sn	**Sn**	**06 07 57.2**	**-1.1**
GO02	**Mina Guanaco**	**2.31 214**		⇑*i* P	**Pn**	**06 07 32.6**	**+0.7**
GO02				*i* S	**Sn**	**06 08 02.4**	**+1.5**

SIV	**San Ignacio**	**9.83**	**44**	P	**Pn**	**06 09 08.1**	**-4.3**
	comp=E,7.2nm,0.3s,baz=239,slow=11,SNR=94						
ROC1	**El Roble**	**10.02**	**194**	Pn	Pn	06 09 09.9	-5.0
CPUP	**Villa Florida**	**10.31**	**110**	Pn	**Pn**	**06 09 19.4**	**+0.8**
TRQA	**Tornquist**	**15.68**	**162**		**P**	**06 10 29.4**	**-0.3**
TRQA				IAmb	IAmb	06 10 32.7	
	comp=Z,18nm,1.4s						
PLCA	**Paso Flores**	**17.55**	**186**	P	**P**	**06 10 49.5**	**-0.8**
PLCA				IAmb	IAmb	06 11 05.9	
	comp=Z,6.7nm,1.4s						
BDFB	**Brasilia**	**20.43**	**72**	P	**P**	**06 11 20.6**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=233,slow=11,SNR=5.9						
BDFB	**Brasilia**	**20.43**	**72**	P	**P**	**06 11 21.0**	**-0.9**
BDFB				IAmb	IAmb	06 11 31.9	
	comp=Z,6.5nm,1.2s						
SNAA	**Sanae**	**60.41**	**161**	P	**P**	**06 16 51.2**	**+1.1**
SNAA				IAmb	IAmb	06 17 02.8	
	comp=Z,5.9nm,1.4s						
TXAR	**Lajitas Array**	**62.45**	**325**	P	**P**	**06 17 05.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=146,slow=9.8,SNR=2.7						
QSPA	**South Pole Qui**	**66.95**	**180**	P	**P**	**06 17 34.8**	**+1.6**
QSPA				IAmb	IAmb	06 17 35.6	
	comp=Z,3.0nm,0.7s						
DBIC	**Dimbokro**	**68.58**	**72**	P	**P**	**06 17 43.8**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=228,slow=8.3,SNR=4.0						
PDAR	**Pinedale Array**	**75.96**	**330**	P	**P**	**06 18 28.7**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.2,SNR=3.2						
ULM	**Lac du Bonnet**	**77.18**	**342**	P	**P**	**06 18 34.3**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=146,slow=6.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P	**P**	**06 18 35.6**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=257,slow=5.7,SNR=35						
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P	**P**	**06 18 34.8**	**-0.6**
MAW	**Mawson**	**82.47**	**163**	P	**P**	**06 19 03.7**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=214,slow=3.6,SNR=5.2						
MAW	**Mawson**	**82.47**	**163**	IAmb	IAmb	06 19 06.5	
	comp=Z,1.8nm,1.2s						
ASAR	**Alice Springs**	**128.68**	**206**	PKP	**PKiKP**	**06 25 48.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=145,slow=1.7,SNR=4.8						
WRA	**Warramunga Arr**	**131.79**	**209**	PKP	**PKiKP**	**06 25 54.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=156,slow=1.8,SNR=9.0						
MKAR	**Makanchi Array**	**146.60**	**38**	PKPbc	**PKPab**	**06 26 20.8**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=297,slow=4.1,SNR=3.1						

*TIF **28** 06:13:04.4, 42°.61N×43°.52E, h8km±1km*
*NORS **28** 06:14:03.7±0.0, 42°.54N×43°.47E, h4km, MPVA3.9*
*DDA **28** 06:14:05.8, 42°.49N×43°.34E, h15km±1km, ML2.4*

ISC 28 06:14:04.0±0.8, 42°.55N±0°.02×43°.47E±0°.02, h9km±5km, n37, σ0°.95/72, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**343**	P	**Pg**	**06 14 05.9**	**0.0**
ONI				S	**Sg**	**06 14 07.4**	**+0.1**
ONI	**Oni**	**0.04**	**343**	*i* Pg	**Pg**	**06 14 06.1**	**+0.2**
ONI				*e*Sg	**Sg**	**06 14 07.3**	**+0.1**
ZEI	**Tsey**	**0.40**	**53**	*i* Pg	**Pg**	**06 14 11.4**	**-0.5**
ZEI				*e*Sg	**Sg**	**06 14 16.9**	**-0.3**
TKB	**Tkibuli**	**0.40**	**241**	P	**Pb**	**06 14 13.3**	**-0.1**
TKB				S	**Sb**	**06 14 19.9**	**+0.3**
LACR	**Lac**	**0.67**	**65**	*i* Pg	**Pg**	**06 14 15.4**	**-1.6**
LACR				*e*Sg	**Sg**	**06 14 24.1**	**-1.7**
KORR	**Kora**	**0.69**	**39**	*i* Pg	**Pg**	**06 14 17.4**	**-0.1**
KORR				*e*Sg	**Sb**	**06 14 27.7**	**-0.4**
GUDG	**Gudauri**	**0.75**	**96**	P	**Pb**	**06 14 19.2**	**-0.1**
GUDG				S	**Sg**	**06 14 26.5**	**-1.8**
GUDG	**Gudauri**	**0.75**	**96**	*e*Pg	**Pg**	**06 14 17.8**	**-0.7**
GUDG				*e*Sg	**Sg**	**06 14 26.4**	**-1.8**
LSNR	**Lesken**	**0.78**	**20**	*i* Pg	**Pg**	**06 14 18.9**	**0.0**
LSNR				*i* Pg	**Pg**	**06 14 19.0**	**0.0**
LSNR				*e*Sg	**Sb**	**06 14 30.4**	**0.0**
ARNR	**Ardon**	**0.87**	**43**	*e*Pg	**Pb**	**06 14 21.3**	**0.0**
ARNR				*e*Sg	**Sb**	**06 14 33.8**	**+0.7**
NEY	**Neytrino**	**0.89**	**322**	*e*Pg	**Pg**	**06 14 21.2**	**+0.1**
NEY				*e*Sg	**Sb**	**06 14 33.6**	**-0.2**
STDR	**Stavd-Durt**	**0.93**	**28**	*e*Pg	**Pn**	**06 14 23.1**	**-0.2**
STDR				*e*Sg	**Sn**	**06 14 37.1**	**+0.4**
NCK	**Nalchik**	**0.95**	**6**	*e*Pg	**Pb**	**06 14 23.0**	**+0.3**
NCK				*e*Sg	**Sb**	**06 14 35.5**	**+0.1**
AKH	**Akhalkalaki**	**1.14**	**179**	P	**Pn**	**06 14 26.4**	**+0.1**
AKH				S	**Sn**	**06 14 41.8**	**-0.3**
AKH	**Akhalkalaki**	**1.14**	**179**	*e*Pg	**Pn**	**06 14 26.3**	**+0.1**
AKH				*e*Sg	**Sn**	**06 14 42.8**	**+0.7**
BTKR	**Batakoyurt**	**1.14**	**43**	*e*Pg	**Pb**	**06 14 25.9**	**0.0**
BTKR				*e*Sg	**Sb**	**06 14 41.3**	**+0.5**
EPOS	**Posof**	**1.18**	**208**	*i* P	**Pn**	**06 14 27.1**	**+0.2**
EPOS				*i* S	**Sn**	**06 14 44.0**	**+0.8**
EPOS				IAML		06 14 47.0	
	comp=N,36nm,0.5s						
EPOS				IAML		06 14 47.0	
	comp=E,27nm,0.3s						
KBZ	**Khabaz**	**1.25**	**341**	*e*Pg	**Pn**	**06 14 27.4**	**-0.3**
KBZ				*e*Sg	**Sb**	**06 14 43.5**	**-0.4**
KBTC	**Kuba-Taba**	**1.27**	**358**	*e*Pg	**Pg**	**06 14 28.9**	**+0.6**
KBTC				*e*Sg	**Sn**	**06 14 46.2**	**+1.1**
BTNK	**Botanikuri**	**1.31**	**131**	P	**Pg**	**06 14 28.9**	**-0.3**
BTNK	**Botanikuri**	**1.31**	**131**	*i* P	**Pg**	**06 14 29.2**	**0.0**
BTNK				IAML		06 14 53.0	
	comp=N,18nm,0.6s						
BTNK				IAML		06 14 53.0	
	comp=E,14nm,0.4s						
SHA1	**Shidzhatmaz**	**1.33**	**334**	*e*Pg	**Pg**	**06 14 29.6**	**+0.1**
SHA1				*e*Sg	**Sb**	**06 14 46.7**	**+0.2**
TRKR	**Terskaya**	**1.49**	**38**	*e*Pg	**Pn**	**06 14 31.2**	**+0.2**
TRKR				*e*Sg	**Sg**	**06 14 52.0**	**0.0**
KIV0	**Kislovodsk Arr**	**1.52**	**338**	*e*Pg	**Pg**	**06 14 33.8**	**+0.7**
KIV0				*e*Sg	**Sg**	**06 14 52.5**	**-0.3**
PYA1	**Pyatigorsk**	**1.54**	**350**	*e*Pg	**Pn**	**06 14 31.9**	**+0.3**
PYA1				*e*Sg	**Sn**	**06 14 52.1**	**+0.3**
BATM	**Batumi**	**1.62**	**235**	P	**Pg**	**06 14 34.2**	**-0.9**
BATM				S	**Sg**	**06 14 57.1**	**+0.9**
BATM	**Batumi**	**1.62**	**235**	*i* P	**Pg**	**06 14 34.3**	**-0.9**
BATM				*i* S	**Sg**	**06 14 56.3**	**+0.1**
BATM	**Batumi**	**1.62**	**235**	*e*Pg	**Pg**	**06 14 34.3**	**-0.9**
BATM				*e*Sg	**Sg**	**06 14 56.9**	**+0.7**
ARTV	**Artvin**	**1.78**	**221**	*i* P	**Pg**	**06 14 37.4**	**-0.9**
ARTV				*i* S	**Sg**	**06 15 00.6**	**-0.7**
ARTV				IAML		06 15 02.0	
	comp=E,46nm,0.4s						
ARTV				IAML		06 15 03.0	
	comp=N,50nm,0.4s						
DGRG	**David-gareji**	**1.79**	**127**	P	**Pg**	**06 14 38.2**	**-0.1**
DGRG				S	**Sg**	**06 15 02.8**	**+1.1**
DBOC	**Borcka**	**1.80**	**229**	*i* P	**Pb**	**06 14 37.2**	**0.0**
DBOC				*i* S	**Sg**	**06 15 01.4**	**-0.5**
DBOC				IAML		06 15 03.0	
	comp=E,67nm,0.4s						
DBOC				IAML		06 15 37.0	
	comp=N,1.6nm,0.5s						
GROC	**Groznyy**	**1.83**	**68**	*e*Pg	**Pb**	**06 14 36.8**	**-0.8**
GROC				*e*Sg	**Sb**	**06 15 00.3**	**-0.4**
DAGI	**Agillar**	**1.87**	**219**	*i* P	**Pg**	**06 14 38.9**	**-1.0**
DAGI				*i* S	**Sg**	**06 15 03.2**	**-1.0**
DAGI				IAML		06 15 07.0	
	comp=N,31nm,0.6s						
DAGI				IAML		06 15 07.0	
	comp=E,31nm,0.4s						
DBAD	**Bademkaya**	**2.02**	**222**	*i* P	**Pb**	**06 14 41.5**	**+0.5**
DBAD				*i* S	**Sg**	**06 15 08.0**	**-1.1**
DBAD				IAML		06 15 10.0	
	comp=N,83nm,0.7s						
DBAD				IAML		06 15 12.0	
	comp=E,84nm,0.6s						
LGD	**Lagodekhi**	**2.18**	**108**	*e*Pg	**Pb**	**06 14 43.1**	**-0.5**
LGD				*e*Sg	**Sn**	**06 15 07.3**	**-0.2**
ALER	**Alexandrovskoy**	**2.25**	**350**	*e*Pg	**Pb**	**06 14 43.4**	**-1.4**
DDFL	**Dedoflistskaro**	**2.26**	**118**	P	**Pg**	**06 14 48.7**	**+1.4**
DDFL				S	**Sg**	**06 15 21.9**	**+5.3**

JMA 28 06:17:50.8±0.2, 37°.46N×144°.36E, h45km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.44**	**291**	P	Pn	06 18 29.6	+1.4
JIKH				S	Sn	06 18 58.0	+1.2
JIO	**Ouri**	**2.58**	**294**	P	Pn	06 18 31.5	+1.5
JIO				S	Sn	06 19 01.6	+1.5
JKMT	**Kesennumamotoy**	**2.65**	**302**	P	Pn	06 18 32.2	+1.3
JKMT				S	Sn	06 19 03.4	+1.6
OFUJ	**Ofunato**	**2.67**	**308**	P	Pn	06 18 32.5	+1.3
OFUJ				S	Sn	06 19 03.9	+1.6
JMK	**Ichinoseki**	**2.89**	**302**	P	Pn	06 18 36.0	+1.7
JMK				*e*S	Sn	06 19 10.3	+2.6
JOM	**Ohasama**	**3.14**	**311**	P	Pn	06 18 39.6	+1.9
JOM				S	Sn	06 19 15.9	+2.0
JFT	**Otama**	**3.20**	**272**	P	Pn	06 18 41.0	+2.4
JFT				*e*S	Sn	06 19 17.4	+1.9
JRY	**Ryogami san**	**4.61**	**253**	P	Pn	06 18 58.3	+0.3
JRY				*e*S	Sn	06 19 48.8	-1.6
JCH	**Churui**	**5.21**	**352**	P	Pn	06 19 05.6	-0.5
JCH				*e*S	Sn	06 20 02.6	-2.2
NEM2	**Nemuro 2**	**5.99**	**10**	P	Pn	06 19 14.2	-2.6
NEM2				*e*S	Sn	06 20 18.2	-5.9

*ISCJB **28** 06:34:28.4±0.4, 12°.28S±0°.06×166°.68E±0°.08, h250km, mb4.0/8, Error ellipse: s-maj=11.2km s-min=7.2km az=29.7*
*IDC **28** 06:34:28.9±11.0, 12°.40S×166°.79E, h250km±106km, mb3.8/8, mb1 3.9/8, mb1mx3.5/37, mbtmp4.3/8, Error ellipse: s-maj=59.2km s-min=38.1km az=142.0*
*NEIC **28** 06:34:29.2±1.9, 12°.3S±0°.1×166°.8E±0°.1, h247km±8km, mb4.2/24*

ISC 28 06:34:29.7±0.6, 12°.40S±0°.08×166°.8E±0°.1, h250km, n40, σ1§18/40, mb4.1/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.36**	**293**	Pn	**Pn**	**06 36 17.6**	**+2.6**
DZM	**Mont Dzumac**	**9.62**	**182**	Pn	**Pn**	**06 36 42.9**	**-0.7**
DZM					**S**	**06 38 31.4**	**-0.7**
EIDS	**Eidsvold**	**19.67**	**227**	P	**P**	**06 38 41.2**	**+0.9**
CTA	**Charters Tower**	**21.15**	**246**	P	**P**	**06 38 55.5**	**-0.4**
	6.5nm,0.7s,baz=72,slow=12,SNR=7.0						
ARMA	**Armidale**	**22.78**	**216**	P	**P**	**06 39 13.1**	**+2.0**
COEN	**Coen**	**23.07**	**264**	P	**P**	**06 39 12.8**	**-0.9**
COEN				IAmb	IAmb	06 39 23.2	
	comp=Z,18nm,1.5s						
WB0	**Warramunga Arr**	**31.96**	**253**	P	**P**	**06 40 31.4**	**-1.4**
WB0				IAmb	IAmb	06 40 32.1	
	comp=Z,6.2nm,0.8s						
WB2	**Warramunga Arr**	**32.02**	**252**	P	**P**	**06 40 32.0**	**-1.4**
WB2				IAmb	IAmb	06 40 36.0	
	comp=Z,5.3nm,1.0s						
WRA	**Warramunga Arr**	**32.04**	**252**	P	**P**	**06 40 31.9**	**-1.5**
	comp=Z,2.2nm,0.4s,baz=83,slow=8.7,SNR=17						
WRA	**Warramunga Arr**	**32.04**	**252**	P	**P**	**06 40 31.6**	**-1.8**
AS31	**Alice Springs**	**33.16**	**246**	P	**P**	**06 40 42.5**	**-0.6**
ASAR	**Alice Springs**	**33.16**	**246**	P	**P**	**06 40 41.9**	**-1.3**
	comp=Z,3.7nm,0.7s,baz=70,slow=9.7,SNR=42						
ASAR	**Alice Springs**	**33.16**	**246**	P	**P**	**06 40 42.3**	**-0.8**
BBOO	**Buckleboo**	**34.70**	**229**	P	**P**	**06 40 56.6**	**+0.4**
KNRA	**Kununurra**	**37.03**	**260**	P	**P**	**06 41 15.5**	**-0.6**
KNRA				IAmb	IAmb	06 41 23.7	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.06**	**257**	P	**P**	**06 41 40.9**	**-0.4**
FORT	**Forrest**	**40.15**	**237**	P	**P**	**06 41 40.5**	**-1.3**
PPT2	**Papeete2**	**42.37**	**103**	*e*LR	LR	06 42 39.1	
	comp=Z,44nm,23.8s						
MCQ	**Macquarie Isla**	**42.45**	**187**	P	**P**	**06 42 01.2**	**+1.2**
PSAD2	**Pilbara Seismi**	**45.59**	**252**	P	**P**	**06 42 25.5**	**0.0**
PSAD2				IAmb	IAmb	06 42 32.2	
	comp=Z,8.0nm,1.1s						
PSAC2	**Pilbara Seismi**	**45.64**	**252**	P	**P**	**06 42 25.7**	**-0.2**
PSA00	**Pilbara Seismi**	**45.69**	**252**	P	**P**	**06 42 26.3**	**0.0**
PSA00				IAmb	IAmb	06 42 30.7	
	comp=Z,14nm,1.2s						
NPOC	**North of Pu'u**	**49.04**	**50**	P	**P**	**06 42 54.1**	**+2.1**
KLR	**Kul'dur**	**68.71**	**336**	P	**P**	**06 45 06.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=146,slow=7.3,SNR=4.6						
KLR	**Kul'dur**	**68.71**	**336**	P	**P**	**06 45 06.0**	**-0.4**
QSPA	**South Pole Qui**	**77.61**	**180**	P	**P**	**06 45 59.6**	**+1.3**
QSPA				IAmb	IAmb	06 46 15.2	
	comp=Z,3.4nm,1.2s						
BALM	**Baldy**	**83.46**	**22**	P	**P**	**06 46 28.5**	**-0.7**
WRH	**Wood River Hil**	**83.89**	**18**	P	**P**	**06 46 29.5**	**-1.6**
WRH				IAmb	IAmb	06 46 29.9	
	comp=Z,6.7nm,1.3s						
HDA	**Harding Lake**	**84.19**	**18**	P	**P**	**06 46 31.4**	**-1.2**
HDA				IAmb	IAmb	06 46 32.0	
	comp=Z,5.2nm,0.9s						
ILAR	**Eielson Array**	**84.46**	**18**	P	**P**	**06 46 32.3**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=243,slow=5.1,SNR=31						
ILAR	**Eielson Array**	**84.46**	**18**	P	**P**	**06 46 32.5**	**-1.5**
SCRK	**Sand Creek**	**84.83**	**20**	P	**P**	**06 46 35.5**	**-0.6**
BEKR	**Beckworth**	**85.08**	**48**	P	**P**	**06 46 37.6**	**-0.3**
BEKR				IAmb	IAmb	06 46 40.2	
	comp=Z,2.4nm,1.1s						
MONP2	**Monument Peak**	**85.82**	**55**	P	**P**	**06 46 41.4**	**-0.4**
PINE	**Pine Mountain**	**86.07**	**44**	P	**P**	**06 46 43.1**	**+0.4**
PINE				IAmb	IAmb	06 46 52.0	
	comp=Z,3.1nm,1.2s						
NVAR	**Mina Array Bea**	**86.10**	**49**	P	**P**	**06 46 42.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=236,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**95.22**	**317**	P	**P**	**06 47 24.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=93,slow=6.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**95.26**	**324**	P	**P**	**06 47 23.4**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=97,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**95.26**	**324**	P	**P**	**06 47 23.7**	**-1.3**
ARCES	**ARCESS Array B**	**117.90**	**346**	PKP	**PKiKP**	**06 52 45.5**	**-0.5**
	comp=Z,8.6nm,1.2s,baz=58,slow=2.6,SNR=8.8						

*BJI **28** 06:59:32.1±0.0, 55°.53S×29°.71W, h10km, Ms5.0/2, Ms7 4.9/3*
*ISCJB **28** 06:59:34.2±0.3, 55°.43S±0°.04×29°.75W±0°.07, h28km, mb4.7/13, MS4.3/19, Error ellipse: s-maj=7.0km s-min=5.2km az=37.7*
*IDC **28** 06:59:34.7±3.5, 55°.34S×29°.59W, h19km±21km, mb4.5/11, mb1 4.6/13, mb1mx4.4/22, mbtmp4.6/13, ML4.0/2, MS4.1/14, Ms1 4.1/14, ms1mx4.0/18, Error ellipse: s-maj=17.6km s-min=15.3km az=48.0*
*GCMT **28** 06:59:36.4±0.3, 55°.45S±0°.03×29°.71W±0°.03, h19km±1km, MW5.0/75, Moment Tensor Solution. s30,c38; s75,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.30±.25; $M_{\theta\theta}$=0.91±.16; $M_{\phi\phi}$=4.21±.16; $M_{r\theta}$=0.97±.40; $M_{r\phi}$=1.10±.10; $M_{\theta\phi}$=2.53±.29; Best double couple: M_0=4.73200×10^16 NP1:φs=199.00000°, δ63.00000°, λ-82.00000°. NP2: φs=2.00000°, δ28.00000°, λ-105.00000°. Principal axes: T 5.2730, Plg17.0000°, Azm283.0000°; N -1.0800, Plg7.0000°, Azm15.0000°; P -4.1920, Plg71.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 06:59:37.4±1.4, 55°.4S±0°.1×29°.8W±0°.1, h38km±4km, mb4.9/43*

ISC 28 06:59:36.0±0.3, 55°.43S±0°.07×29°.79W±0°.06, h28km, n259, σ1§01/246, mb5.0/31, MS4.2/19, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.04**	**284**		**Pn**	**07 00 34.5**	**-1.4**
HOPE				Sn	**Sn**	**07 01 20.9**	**-1.3**
EFI	**East Falkland**	**17.16**	**271**		**Pn**	**07 03 33.0**	**-0.5**
EFI				IAmb	IAmb	07 03 51.4	
	comp=Z,168nm,1.5s						
VNA1	**Neumayer--Stat**	**17.94**	**157**	P	**P**	**07 03 43.4**	**0.0**
VNA3	**Neumayer Olymp**	**18.09**	**159**	P	**P**	**07 03 46.2**	**+1.1**
VNA2	**Neumayer--Watz**	**18.34**	**157**	P	**P**	**07 03 45.5**	**-2.3**
	baz=315,slow=14						
PMSA	**Palmer Station**	**19.22**	**227**	P	**Pn**	**07 03 59.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=3.6						
PMSA				LR	LR	07 09 38.1	
	comp=Z,530nm,21.3s,baz=74,slow=31						
PMSA	**Palmer Station**	**19.22**	**227**	*e*P	**Pn**	**07 03 58.5**	**-0.1**
PMSA	**Palmer Station**	**19.22**	**227**	*e*P	**Pn**	**07 03 58.5**	**-0.1**
PMSA	**Palmer Station**	**19.22**	**227**	P	**Pn**	**07 03 59.4**	**+0.8**
SNAA	**Sanae**	**19.92**	**155**	P	**P**	**07 04 04.3**	**-0.8**
SNAA	**Sanae**	**19.92**	**155**	P	**P**	**07 04 04.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=304,slow=9.6,SNR=47						
SNAA	**Sanae**	**19.92**	**155**	P	**P**	**07 04 04.8**	**-0.4**
SNAA				IAmb	IAmb	07 04 11.8	
	comp=Z,51nm,1.1s						
USHA	**Ushuaia**	**21.92**	**255**	P	**P**	**07 04 27.8**	**+1.1**
	comp=Z,61nm,0.9s,baz=86,slow=9.1,SNR=11						
GO10	**Punta Arenas**	**23.94**	**258**	P	**P**	**07 04 48.5**	**+1.0**
GO09	**Cerro Castillo**	**25.43**	**262**	P	**P**	**07 05 00.1**	**-1.0**
TRQA	**Tornquist**	**27.73**	**295**	*e*P	**P**	**07 05 22.7**	**+0.9**
TRQA	**Tornquist**	**27.73**	**295**	*e*P	**P**	**07 05 22.7**	**+0.9**
TRQA	**Tornquist**	**27.73**	**295**	P	**P**	**07 05 22.2**	**+0.4**
TRQA				IAmb	IAmb	07 05 23.9	
	comp=Z,32nm,1.4s						
PLCA	**Paso Flores**	**30.44**	**282**	P	**P**	**07 05 46.4**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=153,slow=11,SNR=3.7						
PLCA				PcP	**PcP**	**07 08 45.0**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=207,slow=1.6,SNR=6.0						
PLCA				LR	LR	07 17 49.8	
	comp=Z,262nm,18.7s,baz=146,slow=36						
PLCA	**Paso Flores**	**30.44**	**282**	P	**P**	**07 05 46.8**	**+0.8**
ITAB	**Concordia**	**32.49**	**321**	*e*P	**P**	**07 06 04.1**	**+0.1**
ITAB	**Concordia**	**32.49**	**321**	*e*P	**P**	**07 06 04.1**	**+0.1**
SYO	**Syowa Base**	**32.99**	**142**	*e*P	**P**	**07 06 05.0**	**-3.0**
SYO	**Syowa Base**	**32.99**	**142**	*e*pP	pP	07 06 14.0	-1.3
SPB	**Sao Paulo**	**34.38**	**330**	P	**P**	**07 06 20.5**	**0.0**
SPB				IAmb	IAmb	07 06 25.5	
	comp=Z,24nm,1.2s						
PTGB	**Pitanga**	**34.78**	**323**	*e*P	**P**	**07 06 24.2**	**+0.2**
PTGB	**Pitanga**	**34.78**	**323**	*e*P	**P**	**07 06 24.2**	**+0.2**
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**07 06 25.5**	**+1.3**
	comp=Z,24nm,1.0s,baz=192,slow=7.5,SNR=49						
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**07 06 25.3**	**+1.1**
GO05	**Huala**	**35.29**	**288**	P	**P**	**07 06 27.3**	**-1.0**
GO05				IAmb	IAmb	07 06 30.6	
	comp=Z,19nm,0.9s						
CPUP	**Villa Florida**	**35.31**	**314**	P	**P**	**07 06 27.8**	**-0.7**
	comp=Z,6.6nm,0.9s,baz=151,slow=6.2,SNR=10						
CPUP				LR	LR	07 19 46.0	
	comp=Z,216nm,19.7s,baz=159,slow=34						
CPUP	**Villa Florida**	**35.31**	**314**	*e*P	**P**	**07 06 27.8**	**-0.7**
CPUP	**Villa Florida**	**35.31**	**314**	*e*P	**P**	**07 06 27.8**	**-0.7**
CPUP	**Villa Florida**	**35.31**	**314**	P	**P**	**07 06 27.3**	**-1.1**
CFA	**Coronel Fontan**	**35.96**	**295**	P	**P**	**07 06 33.1**	**-1.1**
	comp=Z,23nm,0.7s,baz=148,slow=7.9,SNR=52						
CFA				PcP	**PcP**	**07 09 00.4**	**0.0**
	comp=Z,5.1nm,0.5s,baz=146,slow=1.6,SNR=9.1						
PEL	**Peldehue**	**36.04**	**291**	P	**P**	**07 06 35.1**	**+0.3**
ROC1	**El Roble**	**36.34**	**291**	P	**P**	**07 06 37.7**	**+0.1**
PCMB	**Pacaembu**	**37.40**	**326**	*e*P	**P**	**07 06 46.4**	**0.0**
PCMB	**Pacaembu**	**37.40**	**326**	*e*P	**P**	**07 06 46.4**	**0.0**
BSFB	**Barra de Sao F**	**37.49**	**343**	*e*P	**P**	**07 06 47.4**	**+0.3**
BSFB	**Barra de Sao F**	**37.49**	**343**	*e*P	**P**	**07 06 47.4**	**+0.3**
GO04	**Tololo Observa**	**38.43**	**294**	P	**P**	**07 06 55.8**	**+0.5**
GO04				IAmb	IAmb	07 07 10.1	
	comp=Z,31nm,1.0s						
IPMB	**Ipameri, GO**	**39.93**	**332**	*e*P	**P**	**07 07 08.6**	**+0.9**
IPMB	**Ipameri, GO**	**39.93**	**332**	*e*P	**P**	**07 07 08.6**	**+0.9**
AQDB	**Aquidauana**	**39.96**	**320**	*e*P	**P**	**07 07 07.2**	**-0.6**
AQDB	**Aquidauana**	**39.96**	**320**	*e*P	**P**	**07 07 07.2**	**-0.6**
GO03	**Copiap**	**40.22**	**297**	P	**P**	**07 07 09.5**	**-0.5**
GO03				IAmb	IAmb	07 07 11.1	
	comp=Z,46nm,1.4s						
MAW	**Mawson**	**41.52**	**145**	LR	LR	07 21 57.3	
	comp=Z,319nm,21.2s,baz=245,slow=32						
MAW	**Mawson**	**41.52**	**145**	P	**P**	**07 07 18.7**	**-1.4**
GO02	**Mina Guanaco**	**41.90**	**300**	P	**P**	**07 07 25.2**	**+1.0**
SUR	**Sutherland**	**41.92**	**78**	P	**P**	**07 07 25.1**	**+0.9**
SUR				IAmb	IAmb	07 07 27.2	
	comp=Z,26nm,1.2s						
BDFB	**Brasilia**	**42.12**	**333**	P	**P**	**07 07 26.5**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=125,slow=3.5,SNR=8.7						
BDFB				LR	LR	07 24 14.3	
	comp=Z,237nm,18.3s,baz=161,slow=35						
BDFB	**Brasilia**	**42.12**	**333**	P	**P**	**07 07 28.2**	**+2.4**
PP1B	**Ponte de Pedra**	**42.33**	**323**	*e*P	**P**	**07 07 27.5**	**+0.1**
PP1B	**Ponte de Pedra**	**42.33**	**323**	*e*P	**P**	**07 07 27.5**	**+0.1**
ARAG	**Araguaiana, MT**	**43.11**	**328**	*e*P	**P**	**07 07 34.3**	**+0.6**
ARAG	**Araguaiana, MT**	**43.11**	**328**	*e*P	**P**	**07 07 34.3**	**+0.6**
LVC	**Limon Verde**	**43.72**	**302**	*e*P	**P**	**07 07 40.4**	**+1.3**
LVC	**Limon Verde**	**43.72**	**302**	*e*P	**P**	**07 07 40.4**	**+1.3**
LVC	**Limon Ver

SOTA	Rioblanco	68.94	309	eP	P	07 10 39.7	+0.7
SOTA	Rioblanco	68.94	309	eP	P	07 10 39.7	+0.7
BBAC	Balboa, Cauca	69.12	308	eP	P	07 10 39.1	-0.7
BBAC	Balboa, Cauca	69.12	308	eP	P	07 10 39.1	-0.7
ORTC	Ortega, Tolima	69.92	311	eP	P	07 10 43.6	-1.0
ORTC	Ortega, Tolima	69.92	311	eP	P	07 10 43.6	-1.0
ROSC	El Rosal	70.36	312	LR	LR	07 45 44.4	
	comp=Z,95nm,18.0s,baz=226,slow=39						
ELOV	Elorza	70.37	318	eP	P	07 10 46.5	-0.7
ELOV	Elorza	70.37	318	eP	P	07 10 46.5	-0.7
YOTC	Yotoco, Valle	70.47	310	eP	P	07 10 42.8	-5.2
YOTC	Yotoco, Valle	70.47	310	eP	P	07 10 42.8	-5.2
GUY2C	Guyana, Caldas	71.15	311	eP	P	07 10 49.2	-3.3
GUY2C	Guyana, Caldas	71.15	311	eP	P	07 10 49.2	-3.3
NORC	Norcasia	71.25	312	eP	P	07 10 49.2	-3.3
NORC	Norcasia	71.25	312	eP	P	07 10 49.2	-3.3
PTBC	PUERTO BERRIO,	71.95	313	eP	P	07 10 53.2	-3.5
PTBC	PUERTO BERRIO,	71.95	313	eP	P	07 10 53.2	-3.5
SDV	Santo Domingo	72.54	317	eP	P	07 10 59.8	-0.7
SDV	Santo Domingo	72.54	317	eP	P	07 10 59.8	-0.7
SDV	Santo Domingo	72.54	317	eP	P	07 11 01.0	+0.5
SDV	Santo Domingo	72.54	317	eP	P	07 11 01.0	+0.5
SDV	Santo Domingo	72.54	317	P	P	07 10 59.6	-0.9
SDV				IAmb	IAmb	07 11 04.9	
	comp=Z,10nm,1.0s						
TOA0	Torodi Ar. Sit	73.27	32	P	P	07 11 04.2	-0.3
TORD	Torodi Ar. Bea	73.27	32	P	P	07 11 03.8	-0.8
	comp=Z,2.5nm,0.7s,baz=193,slow=6.0,SNR=13						
TORD				LR	LR	07 36 34.8	
	comp=Z,219nm,20.4s,baz=275,slow=30						
TORD	Torodi Ar. Bea	73.27	32	P	P	07 11 04.2	-0.4
KMBO	Kilima Mbogo	76.21	71	LR	LR	07 43 43.2	
	comp=Z,217nm,18.1s,baz=98,slow=35						
OXZ	Oxford	79.89	196	P	P	07 11 41.2	-0.6
OXZ				IAmb	IAmb	07 11 53.9	
	comp=Z,20nm,1.2s						
JTS	Las Juntas de	79.94	305	P	P	07 11 42.6	+0.2
JTS				IAmb	IAmb	07 11 44.3	
	comp=Z,14nm,1.1s						
BKZ	Black Stump Fm	83.14	200	P	P	07 11 59.0	-0.2
BKZ				IAmb	IAmb	07 12 04.9	
	comp=Z,16nm,1.2s						
TAM	Tamanrasset	83.52	32	P	P	07 12 03.4	+2.2
TAM				IAmb	IAmb	07 12 12.5	
	comp=Z,11nm,1.4s						
TBI	Tubuai	86.31	233	eLR	LR	07 39 27.0	
	comp=Z,244nm,27.8s						
PMOZ	Porto Moniz, M	88.56	11	P	P	07 12 25.6	-0.1
PPT2	Papeete2	91.34	236	eLR	LR	07 41 45.0	
	comp=Z,222nm,30.5s						
PPT	Papeete	91.36	236	LR	LR	07 44 33.9	
	comp=Z,46nm,21.8s,baz=161,slow=30						
STKA	Stephens Creek	92.73	173	LR	LR	07 51 47.0	
	comp=Z,61nm,21.9s,baz=201,slow=34						
KEST	Kesra	96.77	31	LR	LR	07 50 51.4	
	comp=Z,206nm,21.8s,baz=213,slow=32						
DZM	Mont Dzumac	101.58	195	eLR	LR	07 46 41.5	
	comp=Z,96nm,23.4s						
TXAR	Lajitas Array	105.20	300	PKiKP	PKiKP	07 17 55.3	-0.2
	comp=Z,0.3nm,0.8s,baz=159,slow=3.8,SNR=3.9						
SRU	San Rafael Swe	116.41	301		PKPdf	07 18 15.5	-1.0
SHPR	Sheep Range	116.72	296		PKiKP	07 18 17.6	+0.5
MSU	Marysvale	116.76	299		PKPdf	07 18 17.1	-0.1
PSUT	Pine Spring	117.61	298		PKPdf	07 18 18.5	-0.3
TPNV	Topopah Spring	117.62	296		PKPdf	07 18 18.8	0.0
DUG	Dugway, Tooele	118.37	300		PKPdf	07 18 20.1	0.0
TCUT	Toone Canyon	118.39	302		PKPdf	07 18 20.3	0.0
PDAR	Pinedale Array	118.77	304	PKP	PKPdf	07 18 19.4	-1.5
	comp=Z,0.6nm,0.5s,baz=136,slow=5.3,SNR=7.0						
PDAR	Pinedale Array	118.77	304		PKPdf	07 18 18.9	-2.0
HWUT	Hardware Ranch	118.84	302		PKPdf	07 18 20.4	-0.6
BGU	Big Grassy Mou	119.03	301		PKPdf	07 18 21.5	+0.1
SPUT	South Promonto	119.04	301		PKPdf	07 18 20.8	-0.6
NVAR	Mina Array Bea	119.80	295	PKP	PKiKP	07 18 23.5	+0.4
	comp=Z,1.0nm,0.6s,baz=135,slow=2.6,SNR=12						
NVAR	Mina Array Bea	119.80	295		PKPdf	07 18 22.4	-0.6
TPAW	Teton Pass	119.98	304		PKPdf	07 18 22.9	-0.4
ELK	Elko	119.99	299		PKiKP	07 18 23.6	+0.2
MOOW	Moose Ponds	120.08	304		PKPdf	07 18 22.6	-0.9
FXWY	Fox Creek	120.13	304		PKPdf	07 18 22.6	-0.9
FLWY	Flagg Ranch	120.31	304		PKPdf	07 18 24.0	+0.1
YERR	Yerington	120.70	295		PKiKP	07 18 25.5	+0.7
YHH	Holmes Hill	120.92	305		PKiKP	07 18 25.5	+0.3
BEKR	Beckworth	121.93	295		PKiKP	07 18 27.2	0.0
WVOR	Wild Horse Val	122.95	298		PKiKP	07 18 29.7	+0.7
MOD	Modoc Plateau	123.40	297		PKiKP	07 18 30.0	0.0
PLID	Pearl Lake	123.59	302		PKPdf	07 18 29.8	-0.3
MSO	Missoula	123.88	305		PKPdf	07 18 30.1	-0.3
BMO	Blue Mountains	124.05	301		PKPdf	07 18 30.2	-0.7
FINES	FINESS Array B	124.53	29	PKP	PKPdf	07 18 30.3	-0.8
	comp=Z,2.9nm,0.8s,baz=108,slow=6.2,SNR=5.4						
F10A	Beach Ranch, E	124.83	302		PKPdf	07 18 31.7	-0.6
PINE	Pine Mountain	125.09	298		PKiKP	07 18 33.4	+0.1
G08A	Pilot Rock	125.18	300		PKiKP	07 18 33.6	+0.2
HUMO	Hull Mountain	125.27	295		PKiKP	07 18 33.6	+0.1
E08A	Dider Farm, El	126.08	301		PKPdf	07 18 34.3	-0.2
HAWA	Hanford	126.25	301		PKiKP	07 18 35.5	+0.2
E07A	Sunnyside	126.52	301		PKiKP	07 18 36.1	+0.3
CMAR	Chiang Mai Arr	126.66	113	PKP	PKPdf	07 18 35.7	-0.8
	comp=Z,1.0nm,0.6s,baz=225,slow=4.3,SNR=6.4						
B08A	Colville Reser	127.53	303		PKPdf	07 18 36.7	-0.6
LON	Longmire	127.62	300		PKPdf	07 18 37.1	-0.4
D05A	Enumclaw	128.01	300		PKiKP	07 18 38.7	-0.1
AKTO	Aktyubinsk	128.15	54	PKP	PKPdf	07 18 38.1	-0.2
	comp=Z,2.8nm,0.8s,baz=144,slow=2.5,SNR=7.0						
ABKAR	Akbulak array	128.24	57		PKPdf	07 18 38.0	-0.5
ABKAR	Akbulak array	128.24	57		PKPdf	07 18 37.6	-0.9
KKAR	Karatay Array	129.35	69		PKPdf	07 18 40.2	-0.8
KSH	Kashi	129.83	76	PKP	PKiKP	07 18 45.8	+2.9
KSH				PKS	PKSdf	07 22 20.5	+1.9
KSH				SKS	SKSdf	07 25 55.0	+3.6
KSH				LR	LR		
	comp=Z,210nm,15.9s						
ARCES	ARCESS Array B	130.92	22	PKP	PKPdf	07 18 42.4	-0.6
	comp=Z,8.8nm,1.0s,baz=32,slow=4.7,SNR=4.0						
ARCES	ARCESS Array B	130.92	22		PKPdf	07 18 43.0	-0.1
YKA	Yellowknife Ar	134.73	319	PKP	PKPdf	07 18 50.0	-0.4
	comp=Z,4.2nm,0.8s,baz=129,slow=1.7,SNR=12						
YKA	Yellowknife Ar	134.73	319		PKPdf	07 18 50.3	-0.1
BVAR	Borovoye Array	135.69	58	PKP	PKPdf	07 18 51.3	-1.2
	comp=Z,2.1nm,0.8s,baz=256,slow=4.4,SNR=8.0						
BVAR				SKPbc	SKPbc	07 22 21.2	-0.4
	comp=Z,1.2nm,0.8s,baz=211,slow=4.7,SNR=4.8						
WMQ	Urumqi	139.23	80	ePKP	PKiKP	07 19 00.8	-0.9
CD2	Chengdu	139.25	107	PKP	PKPdf	07 19 00.3	+0.4
LZH	Lanzhou	143.17	102	ePKP	PKPdf	07 19 05.8	-1.1
LZH				pPKP	pPKPdf	07 19 13.3	-1.7
LZH				LR	LR		
	comp=Z,52nm,18.3s						
LZH				LR	LR		
	comp=Z,61nm,18.5s						
LZH				LR	LR		
	comp=Z,78nm,20.1s						
GTA	Gaotai	143.23	94	ePKP	PKiKP	07 19 12.0	+1.8
GTA				LR	LR		
	comp=Z,140nm,16.2s						
GTA				LR	LR		
	comp=Z,150nm,19.7s						
GTA				LR	LR		
	comp=Z,170nm,17.8s						
ZALV	Zalesovo Beam	143.42	64	PKhKP	PKPpre	07 19 02.6	
	comp=Z,0.8nm,0.4s,baz=238,slow=5.1,SNR=4.9						
INK	Inuvik	144.40	322		PKPab	07 19 06.2	+0.2
WHN	Wuhan	144.49	120	PKP	PKiKP	07 19 14.0	+1.2
EPYK	Eagle Plains	144.97	318		PKPbc	07 19 08.4	+0.1
CTGM	Chitina Glacie	145.02	308		PKPab	07 19 09.2	+0.3
DAWY	Dawson	145.29	313		PKPbc	07 19 09.4	0.0
BCAR	Beaver Creek A	145.97	311		PKPbc	07 19 11.6	0.0
VRDI	Verde Repeater	146.07	307		PKPdf	07 19 11.5	+0.3
EGAK	Eagle	146.24	314		PKPdf	07 19 11.3	+0.3
MENT	Mentasta	146.76	310		PKPbc	07 19 13.5	-0.4
HIN	Hinchinbrook I	147.18	305		PKPbc	07 19 15.5	+0.4
SCRK	Sand Creek	147.19	312		PKPbc	07 19 15.4	+0.2
FID	Port Fidalgo	147.29	306		PKPbc	07 19 15.9	+0.5
RIDG	Independent Ri	147.48	311		PKPbc	07 19 16.6	+0.6
GLI	Glacier Island	147.62	306		PKPbc	07 19 16.6	+0.4
NJ2	Nanjing	147.92	124	ePKPbc	PKPdf	07 19 15.5	+0.6
SCM	Sheep Creek Mo	148.03	307		PKPbc	07 19 17.7	+0.3
PRP	Porcupine Dome	148.21	315		PKPbc	07 19 17.9	0.0
FYU	Fort Yukon	148.32	317		PKPbc	07 19 18.5	+0.6
KNK	Knik Glacier	148.42	306		PKPbc	07 19 18.4	0.0
SML	Sawmill	148.47	307		PKPbc	07 19 18.7	+0.2
HDA	Harding Lake	148.55	312		PKPbc	07 19 18.7	+0.1
IL31		148.61	313		PKPbc	07 19 18.6	-0.2
ILAR	Eielson Array	148.61	313	PKPbc	PKPbc	07 19 18.5	-0.3
	comp=Z,28nm,0.8s,baz=122,slow=1.9,SNR=221						
ILAR	Eielson Array	148.61	313		PKPbc	07 19 18.3	-0.5
PMR	Palmer	148.78	306		PKPbc	07 19 19.6	+0.3
RC01	Rabbit Creek A	148.91	305		PKPbc	07 19 20.0	+0.4
CCB	Clear Creek Bu	148.96	313		PKPbc	07 19 19.4	-0.2
COLA	College	149.03	313		PKPbc	07 19 19.4	-0.4
WRH	Wood River Hil	149.05	312		PKPbc	07 19 19.9	+0.1
RND	Reindeer	149.13	310		PKPbc	07 19 20.6	+0.4
CNPM	China Poot	149.15	302		PKPbc	07 19 20.5	+0.2
MDM	Murphy Dome	149.21	313		PKPbc	07 19 20.2	-0.1
KDAK	Kodiak Island	149.22	298		PKPbc	07 19 21.1	+0.6
MCK	McKinley	149.24	311		PKPbc	07 19 21.1	+0.6
OHAK	Old Harbor	149.38	297		PKPbc	07 19 20.9	0.0
NRIK	Noril'sk	149.44	38	PKPbc	PKPbc	07 19 20.6	-0.1
	comp=Z,4.2nm,0.8s,baz=282,slow=0.8,SNR=9.1						
BWN	Browne	149.57	311		PKPbc	07 19 21.8	+0.6
TRF	Thorofare Moun	149.77	310		PKPbc	07 19 22.2	+0.3
KTH	Kantishna Hill	150.07	310		PKPbc	07 19 22.4	-0.1
RSO	Redoubt South	150.15	303		PKPbc	07 19 22.9	0.0
BPAW	Bear Paw Mtn.	150.21	311		PKPbc	07 19 22.5	-0.3
MLY	Manley	150.27	313		PKPbc	07 19 22.6	-0.4
COLD	Coldfoot	150.36	317		PKiKP	07 19 23.5	-0.2
PPLA	Purkeypile	150.49	308		PKPbc	07 19 23.9	+0.2
HHC	Hu-ho-hao-te	150.82	104	ePKPbc	PKPbc	07 19 22.8	-2.3
IMAR	Indian Mountai	151.64	314		PKPdf	07 19 16.9	-2.9
IMAR				PKPbc	PKPbc	07 19 26.3	+0.3
IMAR				PKPab	PKPab	07 19 35.1	+0.1
SVW2	Sparrevohn	151.66	304		PKPdf	07 19 21.6	+1.7
CNBA	Chernabura Isl	151.79	290		PKPbc	07 19 26.4	-0.3
SONM	Songino Array	152.16	87	PKPbc	PKPbc	07 19 26.9	-1.1
	comp=Z,1.6nm,0.5s,baz=219,slow=3.1,SNR=14						
TTA	Tatalina	152.21	308		PKiKP	07 19 27.9	0.0
TTA				PKPab	pPKPbc	07 19 36.5	+1.2

*NNC **28** 07:21:10.9±0.5, 49°.98N×78°.53E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=14.2km s-min=2.2km az=83.0, Suspected Mining explosion.*
*ISCJB **28** 07:21:12.0±0.7, 50°.04N±0°.04×78°.80E±0°.07, h0km, Error ellipse: s-maj=8.2km s-min=2.6km az=140.9*
*ASRS **28** 07:21:14.0±0.6, 50°.N±3°.×7°.9E±°., h10km, MLh3.5/4, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 28 07:21:12.3±1.2, 50°.09N±0°.05×78°.64E±0°.09, h0km, n19, σ0§93/35, 18C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.50	351	⇑P	Pg	07 21 22.6	+0.8
KUR07				⇑S	Sb	07 21 31.8	0.0
KUR06	Kurchatov Arra	0.52	352	⇓P	Pg	07 21 23.3	+1.1
KUR06				⇓S	Sb	07 21 32.4	0.0
KUR14	Kurchatov Arra	0.53	357	⇑P	Pg	07 21 23.1	+0.7
KUR14				⇑S	Sb	07 21 31.9	-0.6
KUR15	Kurchatov Arra	0.53	354	⇑P	Pg	07 21 23.3	+0.8
KUR15				⇑S	Sb	07 21 32.6	-0.1
KURBB	Kurchatov Arra 23nm,0.3s	0.54	352	⇑P	Pg	07 21 23.4	+0.8
KURBB	64nm,0.3s			⇑S	Sb	07 21 32.7	-0.2
KUR16	Kurchatov Arra	0.54	350	⇑P	Pg	07 21 23.6	+0.9
KUR16				⇓S	Sb	07 21 33.0	-0.1
KUR17	Kurchatov Arra	0.55	349	⇑P	Pg	07 21 23.6	+0.8
KUR17				⇑S	Sb	07 21 33.3	0.0
KUR05	Kurchatov Arra	0.56	353	⇑P	Pg	07 21 23.7	+0.8
KUR05				⇑S	Sb	07 21 32.9	-0.6
KUR04	Kurchatov Arra	0.58	354	⇑P	Pg	07 21 24.0	+0.7
KUR04				⇑S	Sb	07 21 33.3	-0.7
KURK	Kurchatov	0.63	359	P	Pg	07 21 24.8	+0.5
KURK				S	Sb	07 21 34.9	-0.5
UKR	Ust'-Kan	4.00	75	P	Pn	07 22 16.2	+1.2
UKR				S	Sn	07 23 02.4	-0.2
MK31	Makanchi Array 0.1nm,0.1s,baz=324,slow=11,SNR=26	4.10	142	Pn	Pn	07 22 15.7	-0.4
MK31	0.7nm,0.3s,baz=324,slow=13,SNR=19			⇑Pg	Pb	07 22 24.5	-0.8
MK31	5.7nm,0.5s,baz=327,slow=23,SNR=20			⇑Lg	Lg	07 23 17.5	
MKAR	Makanchi Array	4.10	142	P	Pn	07 22 15.8	-0.3
MKAR				S	Sn	07 23 05.5	+0.7
BSTK	Bystrovka, Nov	5.11	27	S	Sn	07 23 27.4	-2.3
DGZ	Jazzator, Alta	5.70	91	P	Pn	07 22 38.9	+0.7
DGZ				S	Sn	07 23 45.6	+1.2
CHBI	Chibit, Altay	5.70	84	P	Pn	07 22 38.9	+0.7
CHBI				S	Sn	07 23 43.9	-0.4
AKAR	Aktash	5.77	84	P	Pn	07 22 41.3	+2.0
AKAR				S	Sn	07 23 45.4	-0.8
ULGR	Ulagan, Altay	5.99	81	P	Pn	07 22 41.6	-0.6
ULGR				S	Sn	07 23 49.6	-1.9
PDGK	Podgornoye 5.1nm,0.6s	6.79	175	⇑Lg	Lg	07 24 45.3	

*ISCJB **28** 07:28:55.8±0.5, 16°.83N±0°.07×145°.7E±0°.1, h178km±5km, mb3.5/8, Error ellipse: s-maj=19.8km s-min=8.2km az=23.3*
*NEIC **28** 07:28:57.0±2.3, 16°.78N±0°.06×145°.7E±0°.2, h173km±5km, mb4.3/35*
*IDC **28** 07:28:57.2±1.8, 16°.80N×145°.91E, h175km±18km, mb3.3/8, mb1 3.5/9, mb1mx3.3/45, mbtmp3.8/9, MS3.2/3, Ms1 3.2/3, ms1mx2.7/19, Error ellipse: s-maj=25.7km s-min=16.6km az=108.0*

ISC 28 07:28:56.9±0.8, 16°.82N±0°.08×145°.8E±0°.2, h172km±7km, n60, σ1§26/59, mb4.2/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	0.12	182		Pn	07 29 20.1	+0.3
ANA2	Anatahan	0.48	188	Pn	Pn	07 29 20.4	-0.3
ANA2				Sn	Sn	07 29 39.3	+0.3
GUMO	Guam	3.33	196	P	Pn	07 29 50.8	+1.4
	9.3nm,0.3s,baz=301,slow=5.3,SNR=7.4						
GUMO				S	Sn	07 30 31.1	+0.9
	25nm,0.3s,baz=351,slow=19,SNR=7.9						
GUMO				LR	LR	07 30 52.0	
	comp=Z,66nm,18.2s,baz=96,slow=34						
GUMO	Guam	3.33	196		Pn	07 29 49.4	+0.1
GUMO					Sn	07 30 28.8	-1.5
JHJ	Hachijo jima 2	17.11	343	LR	LR	07 38 35.9	
	comp=Z,135nm,20.3s,baz=277,slow=34						
H11N1	WAKE ISLAND Hy	20.25	79	T	T	07 54 24.0	
	baz=264,slow=74,SNR=9.5						
H11N2	WAKE ISLAND Hy	20.25	79	T	T	07 54 26.5	
	baz=264,slow=74,SNR=9.5						
H11N3	WAKE ISLAND Hy	20.27	79	T	T	07 54 27.6	
	baz=264,slow=74,SNR=9.8						
WB0	Warramunga Arr	38.04	198	P	P	07 35 59.5	+0.6
WRAB	Tennant Creek	38.21	198	P	P	07 35 56.2	-4.1
WRAB				IAmb	IAmb	07 35 56.7	
	comp=Z,8.9nm,0.9s						
WB2	Warramunga Arr	38.22	198	P	P	07 35 58.2	-2.2
WB2				IAmb	IAmb	07 36 09.7	
	comp=Z,8.2nm,1.2s						
WRA	Warramunga Arr	38.23	198	P	P	07 36 00.1	-0.3
	comp=Z,0.9nm,0.8s,baz=26,slow=8.5,SNR=6.9						
WRA	Warramunga Arr	38.23	198	P	P	07 35 59.0	-1.4
FITZ	Fitzroy Crossi	39.97	211	P	P	07 36 13.7	-1.1
FITZ				IAmb	IAmb	07 36 24.7	
	comp=Z,8.7nm,1.4s						
ASAR	Alice Springs	41.88	196	P	P	07 36 30.5	0.0
	comp=Z,0.1nm,0.3s,baz=20,slow=8.6,SNR=4.0						
ASAR				LR	LR	07 54 20.5	
	comp=Z,81nm,21.1s,baz=202,slow=36						
ASAR	Alice Springs	41.88	196	P	P	07 36 29.9	-0.6
CMAR	Chiang Mai Arr	44.57	279	P	P	07 36 53.8	+1.5
	comp=Z,1.8nm,0.7s,baz=96,slow=6.1,SNR=9.3						
STKA	Stephens Creek	48.59	185	P	P	07 37 22.3	-0.8
	comp=Z,0.7nm,0.4s,baz=334,slow=10,SNR=2.9						
STKA	Stephens Creek	48.59	185	P	P	07 37 22.4	-0.7
BBOO	Buckleboo	50.22	191	P	P	07 37 36.8	+1.4
BBOO				IAmb	IAmb	07 37 39.0	
	comp=Z,20nm,1.4s						
MK31	Makanchi Array	59.82	315	P	P	07 38 43.0	-1.3
MKAR	Makanchi Array	59.82	315	P	P	07 38 44.1	-0.2
	comp=Z,0.3nm,0.4s,baz=99,slow=5.7,SNR=4.9						
KDAK	Kodiak Island	60.88	33	P	P	07 38 52.0	+0.8
PPLA	Purkeypile	62.52	27	P	P	07 39 03.2	+1.0
PPLA				IAmb	IAmb	07 39 22.9	
	comp=Z,5.4nm,1.3s						
KURK	Kurchatov	62.72	319	P	P	07 39 02.9	-0.7
SUA	Susitna One	62.76	29	P	P	07 39 00.9	-2.9
IMAR	Indian Mountai	62.89	24	P	P	07 39 04.0	-0.4
RC01	Rabbit Creek A	63.14	29	P	P	07 39 06.9	+0.7
KTH	Kantishna Hill	63.26	27	P	P	07 39 05.5	-1.6
KTH				IAmb	IAmb	07 39 24.1	
	comp=Z,6.5nm,1.3s						
TRF	Thorofare Moun	63.51	27	P	P	07 39 08.8	+0.1
TRF				IAmb	IAmb	07 39 20.0	
	comp=Z,9.2nm,1.5s						
GHO	Glory Hole Cre	63.68	29	P	P	07 39 10.4	+0.5
GHO				IAmb	IAmb	07 39 29.4	
	comp=Z,10nm,1.4s						
MLY	Manley	63.77	25	P	P	07 39 11.2	+0.9
MLY				IAmb	IAmb	07 39 11.5	
	comp=Z,1.7nm,0.6s						
KNK	Knik Glacier	63.81	29	P	P	07 39 11.7	+1.0
FID	Port Fidalgo	64.61	30	P	P	07 39 16.8	+1.0
WRH	Wood River Hil	64.71	26	P	P	07 39 16.2	-0.2
WRH				IAmb	IAmb	07 39 16.4	
	comp=Z,4.1nm,1.3s						
CCB	Clear Creek Bu	64.88	26	P	P	07 39 16.6	-0.8
CCB				IAmb	IAmb	07 39 19.7	
	comp=Z,4.0nm,1.4s						
EYAK	Cordova Ski Ar	64.93	30	P	P	07 39 19.3	+1.5
EYAK				IAmb	IAmb	07 39 19.4	
	comp=Z,8.7nm,0.8s						
HDA	Harding Lake	65.18	26	P	P	07 39 19.2	-0.2
HDA				IAmb	IAmb	07 39 22.1	
	comp=Z,5.2nm,1.4s						
IL31		65.29	26	P	P	07 39 19.1	-0.9
ILAR	Eielson Array	65.29	26	P	P	07 39 19.3	-0.8
	comp=Z,0.8nm,0.4s,baz=250,slow=6.0,SNR=31						
ILAR	Eielson Array	65.29	26	P	P	07 39 18.9	-1.2
VRDI	Verde Repeater	66.15	30	P	P	07 39 26.9	+1.0
CRQM	Cirque	66.23	30	P	P	07 39 27.9	+1.5
SCRK	Sand Creek	66.36	27	P	P	07 39 26.7	-0.4
MCARA	McCarthy VSAT	66.38	30	P	P	07 39 28.5	+1.4
BALM	Baldy	66.65	30	P	P	07 39 30.2	+1.2
BALM				IAmb	IAmb	07 39 35.5	
	comp=Z,12nm,1.4s						
BMAR	Burnt Mountain	66.80	23	P	P	07 39 31.0	+1.3
BARN	Barnard Glacie	66.99	30	P	P	07 39 32.8	+1.5
BARN				IAmb	IAmb	07 39 43.2	
	comp=Z,5.3nm,1.0s						
CTGM	Chitina Glacie	67.13	30	P	P	07 39 33.8	+1.7
CTGM				IAmb	IAmb	07 39 40.0	
	comp=Z,13nm,1.5s						
BCAR	Beaver Creek A	67.19	28	P	P	07 39 33.1	+0.9
EGAK	Eagle	67.70	26	P	P	07 39 36.4	+1.1
EGAK				IAmb	IAmb	07 39 36.5	
	comp=Z,8.6nm,1.5s						
KKAR	Karatay Array	68.03	310	P	P	07 39 38.3	+0.4
INK	Inuvik	71.06	23	P	P	07 39 55.8	-0.1
	comp=Z,0.6nm,0.7s,baz=266,slow=2.4,SNR=4.3						
INK	Inuvik	71.06	23	P	P	07 39 56.4	+0.5
ABKAR	Akbulak array	74.77	317	P	P	07 40 17.0	-1.0
ABKAR	Akbulak array	74.77	317	P	P	07 40 16.9	-1.2
KMRM	Mail Ridge	79.72	51	P	P	07 40 44.6	-1.3
PINE	Pine Mountain	80.87	47	P	P	07 40 54.4	+2.2
PINE				IAmb	IAmb	07 40 55.5	
	comp=Z,7.5nm,1.2s						
NVAR	Mina Array Bea	84.23	52	P	P	07 41 10.8	+1.1
	comp=Z,0.4nm,0.6s,baz=274,slow=5.4,SNR=4.2						
NVAR	Mina Array Bea	84.23	52	P	P	07 41 08.9	-0.8

*ISCJB **28** 07:34:24.9±1.2, 25°.8S±0°.2×69°.9E±0°.2, h21km, mb3.8/5, MS3.7/3, Error ellipse: s-maj=41.1km s-min=19.7km az=35.3*
*IDC **28** 07:34:24.8±1.6, 25°.53S×69°.58E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/54, mbtmp3.9/5, MS3.7/3, Ms1 3.7/3, ms1mx3.1/38, Error ellipse: s-maj=55.6km s-min=31.1km az=23.0*
*NEIC **28** 07:34:25.6±1.3, 25°.6S±0°.2×70°.0E±0°.2, h10km±2km, mb4.6/7*

ISC 28 07:34:27.4±1.4, 25°.7S±0°.3×69°.8E±0°.2, h21km, n20, σ1§42/15, mb4.0/8, MS3.6/3, Indian Ocean Triple Junction

| Code | Station Name | Δ° | AZ° | Phase

IKMR	**Kamar-syah**	**2.45 108**	IAMB	IAmb	07 39 51.3	
	comp=Z,0.0nm,0.5s					
IKMR			*e*Pn	**Pn**	**07 39 09.8**	**+0.3**
BDRS	**Dareh Seyedi**	**2.75 97**	*e*Pn	**Pn**	**07 39 14.5**	**+0.6**
BDRS			IAMB	IAmb	07 40 06.0	
	comp=Z,0.0nm,0.4s					
BMDN	**Meydan**	**2.76 103**	*e*Pn	**Pn**	**07 39 13.9**	**-0.1**
BMDN			IAMB	IAmb	07 40 07.1	
	comp=Z,0.0nm,0.6s					
MSL	**Mosul**	**2.90 316**	*e*Pn	**Pn**	**07 39 16.0**	**+0.3**
MSL			AML	AML	07 39 20.9	
	comp=Z,192nm,0.5s					
MSL			*e*Sn	**Sn**	**07 39 52.0**	**+1.2**
NSR	**Nassriya**	**3.34 172**	*e*Pn	**Pn**	**07 39 22.0**	**+0.3**
NSR			AML	AML	07 39 26.8	
	comp=Z,190nm,0.2s					
NSR			*e*Sn	**Sn**	**07 40 03.0**	**+1.5**
RTB	**Rutbah**	**4.59 255**	*e*Pn	**Pn**	**07 39 40.0**	**+1.0**
RTB			AML	AML	07 39 46.7	
	comp=Z,28nm,0.5s					
RTB			*e*Sn	**Sn**	**07 40 32.6**	**0.0**

KRSC ***28*** *07:39:09.8±1.7, 51°.95N×159°.06E, h56km±17km, ML4.8*
ISCJB ***28*** *07:39:12.6±0.4, 52°.04N±0°.03×158°.89E±0°.05, h64km±3km, mb4.5/51, Error ellipse: s-maj=6.3km s-min=3.0km az=139.1*
MOS ***28*** *07:39:12.6±1.0, 52°.05N×158°.86E, h67km, mb4.5/17, Error ellipse: s-maj=8.9km s-min=3.3km az=83.5*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
BJI ***28*** *07:39:14.0±0.0, 52°.24N×158°.68E, h62km, mb4.6/19, mB5.1/13*
NEIC ***28*** *07:39:15.7±1.5, 52°.18N±0°.07×158°.7E±0°.1, h76km±5km, mb4.5/80*
IDC ***28*** *07:39:17.1±1.3, 52°.18N×158°.64E, h90km±9km, mb3.9/25, mb1 4.1/28, mb1mx3.9/45, mbtmp4.2/28, MS3.3/8, Ms1 3.3/8, ms1mx3.0/46, Error ellipse: s-maj=15.7km s-min=9.6km az=142.0*

ISC 28 07:39:12.1±0.9, 51°.97N±0°.04×159°.02E±0°.04, h46km±7km, n291, σ1§41/322, mb4.5/82, MS3.5/6, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.56**	**326**	*i* P	**Pn**	**07 39 23.8**	**-0.1**
RUS				*e*S	**Sn**	**07 39 31.8**	**-0.6**
RUS	**Russkaya**	**0.56**	**326**	PN	**Pn**	**07 39 23.8**	**-0.1**
RUS				S	**Sn**	**07 39 31.8**	**-0.6**
MTVR	**Mutnovka**	**0.73**	**315**	*e*P	**Pn**	**07 39 26.5**	**+0.2**
MTVR	**Mutnovka**	**0.73**	**315**	PN	**Pn**	**07 39 26.5**	**+0.2**
ASAK	**Asacha**	**0.81**	**302**	*i* P	**Pn**	**07 39 27.8**	**+0.6**
ASAK	**Asacha**	**0.81**	**302**	PN	**Pn**	**07 39 27.8**	**+0.6**
GRL	**Gorelyy**	**0.83**	**315**	*i* P	**Pn**	**07 39 28.2**	**+0.6**
GRL				*e*S	**Sn**	**07 39 39.3**	**+0.5**
GRL	**Gorelyy**	**0.83**	**315**	PN	**Pn**	**07 39 28.2**	**+0.6**
GRL				S	**Sn**	**07 39 39.3**	**+0.5**
KRMR	**Karymshinskiy**	**1.02**	**328**	*i* P	**Pn**	**07 39 29.9**	**-0.2**
KRMR				*e*S	**Sn**	**07 39 42.9**	**-0.4**
KRMR	**Karymshinskiy**	**1.02**	**328**	PN	**Pn**	**07 39 29.9**	**-0.2**
KRMR				S	**Sn**	**07 39 42.9**	**-0.4**
DALK	**Dalny**	**1.08**	**351**	*i* P	**Pn**	**07 39 31.0**	**+0.2**
DALK				*e*S	**Sn**	**07 39 44.1**	**-0.5**
DALK	**Dalny**	**1.08**	**351**	PN	**Pn**	**07 39 31.0**	**+0.2**
DALK				S	**Sn**	**07 39 44.1**	**-0.5**
PET	**Petropavlovsk**	**1.08**	**348**	PN	**Pn**	**07 39 30.9**	**0.0**
PET				S	**Sn**	**07 39 44.5**	**-0.2**
PET	**Petropavlovsk**	**1.08**	**348**		**Pn**	**07 39 30.9**	**0.0**
PET				Sn	**Sn**	**07 39 44.7**	**-0.1**
NLC	**Nalytchevo**	**1.22**	**9**	*e*P	**Pn**	**07 39 32.0**	**-0.8**
NLC				*e*S	**Sn**	**07 39 46.4**	**-1.7**
NLC	**Nalytchevo**	**1.22**	**9**	PN	**Pn**	**07 39 32.0**	**-0.8**
NLC				S	**Sn**	**07 39 46.4**	**-1.7**
UGLR	**Uglovaya**	**1.25**	**354**	*i* P	**Pn**	**07 39 33.6**	**+0.3**
UGLR				*e*S	**Sn**	**07 39 48.5**	**-0.5**
UGLR	**Uglovaya**	**1.25**	**354**	PN	**Pn**	**07 39 33.6**	**+0.3**
UGLR				S	**Sn**	**07 39 48.5**	**-0.5**
SPN	**Mys Shipunski**	**1.29**	**28**	*e*P	**Pn**	**07 39 34.7**	**+1.0**
SPN				*e*S	**Sn**	**07 39 50.3**	**+0.6**
SPN	**Mys Shipunski**	**1.29**	**28**	PN	**Pn**	**07 39 34.7**	**+1.0**
SPN				S	**Sn**	**07 39 50.3**	**+0.6**
SMAR	**Somma**	**1.31**	**354**	*e*P	**Pn**	**07 39 34.1**	**0.0**
SMAR				*e*S	**Sn**	**07 39 49.8**	**-0.7**
SMAR	**Somma**	**1.31**	**354**	PN	**Pn**	**07 39 34.1**	**0.0**
SMAR				S	**Sn**	**07 39 49.8**	**-0.7**
AVH	**Avacha**	**1.31**	**352**	*i* P	**Pn**	**07 39 34.7**	**+0.6**
AVH				*e*S	**Sn**	**07 39 50.4**	**-0.1**
AVH	**Avacha**	**1.31**	**352**	PN	**Pn**	**07 39 34.7**	**+0.6**
AVH				S	**Sn**	**07 39 50.4**	**-0.1**
SDLR	**Sedlovina**	**1.32**	**356**	*i* P	**Pn**	**07 39 34.0**	**-0.2**
SDLR	**Sedlovina**	**1.32**	**356**	PN	**Pn**	**07 39 34.0**	**-0.2**
KOK	**Koryaka**	**1.35**	**350**	*e*P	**Pn**	**07 39 35.4**	**+0.8**
KOK	**Koryaka**	**1.35**	**350**	PN	**Pn**	**07 39 35.4**	**+0.8**
KRER	**Koryakskii**	**1.35**	**353**	*e*P	**Pn**	**07 39 35.0**	**+0.3**
KRER				*e*S	**Sn**	**07 39 51.6**	**0.0**
KRER	**Koryakskii**	**1.35**	**353**	PN	**Pn**	**07 39 35.0**	**+0.3**
KRER				S	**Sn**	**07 39 51.6**	**0.0**
PEA0B	**Petropavlovsk-**	**1.40**	**325**	PN	**Pn**	**07 39 36.4**	**+1.1**
PEA0B						07 39 49.9	
PEA0B	**Petropavlovsk-**	**1.40**	**325**		**Pn**	**07 39 36.4**	**+1.1**
PEA0B				Sn	**Sn**	**07 39 49.9**	**-2.6**
PETK	**Petropavlovsk-**	**1.40**	**325**	P	**Pn**	**07 39 36.3**	**+1.1**
	493nm,0.3s,baz=131,slow=17,SNR=7720						
PETK				S	**Sn**	**07 39 54.5**	**+1.9**
	120nm,0.3s,baz=158,slow=14,SNR=3.8						
PETK				LR	LR	07 40 22.3	
	comp=Z,823nm,19.4s,baz=102,slow=60						
PETK	**Petropavlovsk-**	**1.40**	**325**		**Pn**	**07 39 36.1**	**+0.8**
PETK					**Sn**	**07 39 49.6**	**-2.9**
KRX	**Arik**	**1.41**	**351**	*e*P	**Pn**	**07 39 35.9**	**+0.4**
KRX	**Arik**	**1.41**	**351**	PN	**Pn**	**07 39 35.9**	**+0.4**
PAU	**Pauzhetka**	**1.47**	**251**	*e*P	**Pn**	**07 39 36.4**	**+0.3**
PAU				*e*S	**Sn**	**07 39 53.1**	**-0.9**
PAU	**Pauzhetka**	**1.47**	**251**	PN	**Pn**	**07 39 36.4**	**+0.3**
PAU				S	**Sn**	**07 39 53.1**	**-0.9**
APC	**Apacha**	**1.49**	**311**	*e*P	**Pn**	**07 39 37.4**	**+1.0**
APC	**Apacha**	**1.49**	**311**	PN	**Pn**	**07 39 37.4**	**+1.0**
GNL	**Ganaly**	**1.85**	**340**	*i* P	**Pn**	**07 39 42.4**	**+0.9**
GNL	**Ganaly**	**1.85**	**340**	PN	**Pn**	**07 39 42.4**	**+0.9**
KII	**Karymskiy**	**2.09**	**7**	*e*P	**Pn**	**07 39 46.1**	**+1.4**
KII				*e*S	**Sn**	**07 40 10.8**	**+1.3**
KII	**Karymskiy**	**2.09**	**7**	PN	**Pn**	**07 39 46.1**	**+1.4**
KII				S	**Sn**	**07 40 10.8**	**+1.3**
SKR	**Severo-Kuril's**	**2.23**	**236**	*e*P	**Pn**	**07 39 46.4**	**-0.2**
SKR				*e*S	**Sn**	**07 40 12.4**	**-0.4**
SKR	**Severo-Kuril's**	**2.23**	**236**	PN	**Pn**	**07 39 46.4**	**-0.2**
SKR				S	**Sn**	**07 40 12.4**	**-0.4**
MKZ	**Mys Kozlova**	**3.06**	**31**	*e*P	**Pn**	**07 39 58.5**	**+0.6**
MKZ				*e*S	**Sn**	**07 40 32.9**	**-0.3**
MKZ	**Mys Kozlova**	**3.06**	**31**	PN	**Pn**	**07 39 58.5**	**+0.6**
MKZ				S	**Sn**	**07 40 32.9**	**-0.3**
KZV	**Kizimen**	**3.24**	**13**	*e*P	**Pn**	**07 40 03.0**	**+2.4**
KZV				*e*S	**Sn**	**07 40 39.9**	**+1.9**
KZV	**Kizimen**	**3.24**	**13**	PN	**Pn**	**07 40 03.0**	**+2.4**
KZV				S	**Sn**	**07 40 39.9**	**+1.9**
TUMD	**Tumrok D**	**3.34**	**14**	*e*P	**Pn**	**07 40 04.5**	**+2.6**
TUMD				*e*S	**Sn**	**07 40 41.8**	**+1.5**
TUMR	**Tumrok**	**3.39**	**11**	*e*P	**Pn**	**07 40 05.0**	**+2.4**
TUMR	**Tumrok**	**3.39**	**11**	PN	**Pn**	**07 40 04.5**	**+1.9**
TUMR				S	**Sn**	**07 40 41.8**	**+0.3**
KMNR	**Kamenistaya**	**3.86**	**10**	*e*P	**Pn**	**07 40 10.5**	**+1.4**
KMNR	**Kamenistaya**	**3.86**	**10**	PN	**Pn**	**07 40 10.5**	**+1.4**
KIRR	**Kirishev**	**4.07**	**11**	*e*P	**Pn**	**07 40 14.1**	**+2.2**
KIRR	**Kirishev**	**4.07**	**11**	PN	**Pn**	**07 40 14.1**	**+2.2**
KPT	**Kopyto**	**4.07**	**10**	*e*P	**Pn**	**07 40 14.3**	**+2.4**
KPT	**Kopyto**	**4.07**	**10**	PN	**Pn**	**07 40 14.3**	**+2.4**
BZWR	**Bezymyannyi-We**	**4.10**	**12**	*e*P	**Pn**	**07 40 14.9**	**+2.6**
BZWR	**Bezymyannyi-We**	**4.10**	**12**	PN	**Pn**	**07 40 14.9**	**+2.6**
BZGR	**Bezymyannyi-Gr**	**4.10**	**13**	*e*P	**Pn**	**07 40 13.7**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**4.10**	**13**	PN	**Pn**	**07 40 13.7**	**+1.4**
KOZ	**Kozyrevsk**	**4.13**	**7**	*e*P	**Pn**	**07 40 14.5**	**+1.9**
KOZ	**Kozyrevsk**	**4.13**	**7**	PN	**Pn**	**07 40 14.5**	**+1.9**
ZLN	**Zelenaya**	**4.19**	**14**	*e*P	**Pn**	**07 40 15.8**	**+2.2**
ZLN	**Zelenaya**	**4.19**	**14**	PN	**Pn**	**07 40 15.8**	**+2.2**
LGNR	**Loginova**	**4.24**	**13**	*e*P	**Pn**	**07 40 14.5**	**+0.1**
LGNR	**Loginova**	**4.24**	**13**	PN	**Pn**	**07 40 14.5**	**+0.1**
CIRR	**Tsirk**	**4.28**	**13**	*e*P	**Pn**	**07 40 14.7**	**-0.1**
CIRR	**Tsirk**	**4.28**	**13**	PN	**Pn**	**07 40 14.7**	**-0.1**
KRSR	**Krestovskiy**	**4.36**	**11**	*e*P	**Pn**	**07 40 17.5**	**+1.7**
KRSR	**Krestovskiy**	**4.36**	**11**	PN	**Pn**	**07 40 17.5**	**+1.7**
SRDR	**Sredinnyy**	**4.38**	**5**	*e*P	**Pn**	**07 40 17.3**	**+1.2**
SRDR	**Sredinnyy**	**4.38**	**5**	PN	**Pn**	**07 40 17.3**	**+1.2**
KLY	**Klyuchi**	**4.46**	**12**	*e*P	**Pn**	**07 40 20.5**	**+3.4**
KLY	**Klyuchi**	**4.46**	**12**	PN	**Pn**	**07 40 20.5**	**+3.4**
BDR	**Baidarnaya**	**4.79**	**15**	*e*P	**Pn**	**07 40 22.1**	**+0.4**
BDR	**Baidarnaya**	**4.79**	**15**	PN	**Pn**	**07 40 22.1**	**+0.4**
KBTR	**Krutoberegovo**	**4.80**	**26**	*e*P	**Pn**	**07 40 23.8**	**+2.0**
KBTR	**Krutoberegovo**	**4.80**	**26**	PN	**Pn**	**07 40 23.8**	**+2.0**
KBG	**Krutoberegovo**	**4.81**	**25**	*e*P	**Pn**	**07 40 24.3**	**+2.4**
KBG	**Krutoberegovo**	**4.81**	**25**	PN	**Pn**	**07 40 24.3**	**+2.4**
SMKR	**Semkarok**	**4.84**	**16**	*e*P	**Pn**	**07 40 25.1**	**+2.7**
SMKR	**Semkarok**	**4.84**	**16**	PN	**Pn**	**07 40 25.1**	**+2.7**
SRKR	**Sorokina**	**4.86**	**14**	*e*P	**Pn**	**07 40 24.3**	**+1.6**
SRKR	**Sorokina**	**4.86**	**14**	PN	**Pn**	**07 40 24.3**	**+1.6**
BKI	**Bering**	**5.26**	**49**	*e*P	**Pn**	**07 40 29.5**	**+1.5**
BKI				*e*S	**Sn**	**07 41 22.1**	**-5.2**
BKI	**Bering**	**5.26**	**49**	PN	**Pn**	**07 40 29.5**	**+1.5**
MA2	**Magadan**	**8.93**	**332**	LR	LR	07 45 19.1	
	comp=Z,154nm,18.1s,baz=145,slow=42						
SMY	**Shemya**	**9.26**	**79**	PN	**Pn**	**07 41 24.6**	**+1.7**
SMY	**Shemya**	**9.26**	**79**	Pn	**Pn**	**07 41 24.6**	**+1.7**
SMY				Sn	**Sn**	**07 43 02.6**	**-3.0**
JKA	**Kamikawa-asahi**	**13.48**	**241**		**Pn**	**07 42 22.2**	**+1.6**
ASAJ	**Asahikawa**	**13.49**	**241**	P	**Pn**	**07 42 22.2**	**+1.6**
	0.7nm,0.3s,baz=58,slow=10,SNR=6.5						
ASAJ				LR	LR	07 46 53.4	
	comp=Z,52nm,20.1s,baz=66,slow=34						
ERM	**Erimo**	**14.68**	**234**	P	**Pn**	**07 42 37.9**	**+1.3**
ERM	**Erimo**	**14.68**	**234**	Pn	**Pn**	**07 42 37.9**	**+1.3**
BILL	**Bilibino**	**16.50**	**10**	||*e*P	**P**	**07 43 01.9**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,69nm,16.0s						
BILL	**Bilibino**	**16.50**	**10**	Pn	**Pn**	**07 43 00.4**	**+0.4**
KLR	**Kul'dur**	**17.49**	**272**	P	**P**	**07 43 13.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=67,slow=9.1,SNR=6.4						
KLR				LR	LR	07 49 28.0	
	comp=Z,86nm,21.5s,baz=68,slow=35						
YAK	**Yakutsk**	**18.72**	**314**	*i* P	**P**	**07 43 25.4**	**-1.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.58**	**257**	P	**P**	**07 43 35.3**	**-0.7**
	baz=74,slow=9.2,SNR=4.3						
MJA0	**Matsu Arr-Jizo**	**21.32**	**232**	*e*P	**P**	**07 43 56.1**	**+1.2**
MJA0				pmax	pmax		
	comp=Z,11nm,0.8s						
MJB9	**Matsu-Tunnel**	**21.33**	**232**	P	**P**	**07 43 56.2**	**+1.1**
MJB9				IAmb	IAmb	07 43 56.4	
	comp=Z,22nm,0.9s						
MAJO	**Matsushiro**	**21.33**	**232**	P	**P**	**07 43 56.2**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,22nm,1.0s						
MAJO	**Matsushiro**	**21.33**	**232**	P	**P**	**07 43 56.2**	**+1.1**
MAJO				IAmb	IAmb	07 43 56.4	
	comp=Z,22nm,0.9s						
MAT	**Matsushiro**	**21.33**	**232**	P	**P**	**07 43 55.2**	**+0.1**
MJAR	**Matsushiro Arr**	**21.33**	**232**	P	**P**	**07 43 56.7**	**+1.6**
MJAR				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MJAR	**Matsushiro Arr**	**21.33**	**232**	P	**P**	**07 43 55.3**	**+0.2**
	comp=Z,11nm,0.8s,baz=16,slow=9.3,SNR=16						
MJAR				LR	LR	07 52 04.4	
	comp=Z,58nm,19.7s,baz=310,slow=36						
MJAR	**Matsushiro Arr**	**21.33**	**232**	P	**P**	**07 43 56.6**	**+1.6**
HIA	**Hailar**	**24.86**	**279**	P	**P**	**07 44 31.3**	**+1.2**
HIA				pmax	pmax		
	comp=Z,84nm,0.7s						
KSRS	**Korea Array**	**26.19**	**249**	P	**P**	**07 44 42.2**	**0.0**
	comp=Z,2.2nm,0.7s,baz=53,slow=9.7,SNR=5.2						
KSRS				LR	LR	07 56 35.9	
	comp=Z,21nm,18.3s,baz=355,slow=40						
IMAR	**Indian Mountai**	**27.28**	**41**	P	**P**	**07 44 51.4**	**-0.4**
JNU	**Nakatsue**	**27.74**	**238**	P	**P**	**07 44 56.0**	**-0.2**
	comp=Z,9.9nm,0.8s,baz=31,slow=5.9,SNR=2.5						
JNU	**Nakatsue**	**27.74**	**238**	P	**P**	**07 44 56.6**	**+0.4**
KTH	**Kantishna Hill**	**28.32**	**46**	P	**P**	**07 45 02.8**	**+1.8**
MLY	**Manley**	**28.44**	**43**	P	**P**	**07 45 03.5**	**+1.3**
RND	**Reindeer**	**29.25**	**47**	P	**P**	**07 45 08.9**	**-0.4**
RND				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RND	**Reindeer**	**29.25**	**47**	P	**P**	**07 45 08.9**	**-0.4**
RND				IAmb	IAmb	07 45 10.7	
	comp=Z,8.9nm,1.1s						
GHO	**Glory Hole Cre**	**29.30**	**50**	P	**P**	**07 45 09.1**	**-0.8**
GHO				IAmb	IAmb	07 45 13.2	
	comp=Z,27nm,1.4s						
KNK	**Knik Glacier**	**29.56**	**51**	P	**P**	**07 45 12.1**	**0.0**
KNK				IAmb	IAmb	07 45 27.8	
	comp=Z,13nm,1.2s						
WRH	**Wood River Hil**	**29.56**	**44**	P	**P**	**07 45 13.4**	**+1.3**
WRH				IAmb	IAmb	07 45 13.7	
	comp=Z,11nm,1.1s						
SML	**Sawmill**	**29.58**	**50**	P	**P**	**07 45 13.3**	**+1.0**
SML				IAmb	IAmb	07 45 14.2	
	comp=Z,8.9nm,0.9s						
COLA	**College**	**29.66**	**44**	*i* P	**P**	**07 45 12.6**	**-0.3**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DHY	**Denali Highway**	**29.93**	**47**	P	**P**	**07 45 16.0**	**+0.5**
SCM	**Sheep Creek Mo**	**30.05**	**50**	P	**P**	**07 45 17.4**	**+0.9**
SCM				pmax	pmax		
	comp=Z,13nm,1.1s						
SCM	**Sheep Creek Mo**	**30.05**	**50**	P	**P**	**07 45 17.4**	**+0.9**
SCM				IAmb	IAmb	07 45 17.9	
	comp=Z,13nm,1.1s						
HDA	**Harding Lake**	**30.06**	**45**	P	**P**	**07 45 17.2**	**+0.8**
IL31		**30.08**	**44**	P	**P**	**07 45 16.2**	**-0.4**
ILAR	**Eielson Array**	**30.08**	**44**	*e*P	**P**	**07 45 16.8**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**30.08**	**44**	P	**P**	**07 45 16.6**	**0.0**
	comp=Z,2.7nm,0.8s,baz=265,slow=8.0,SNR=27						
ILAR	**Eielson Array**	**30.08**	**44**	P	**P**	**07 45 16.8**	**+0.2**
PRP	**Porcupine Dome**	**30.64**	**42**	P	**P**	**07 45 22.8**	**+1.1**
PRP				IAmb	IAmb	07 45 23.8	
	comp=Z,8.6nm,0.9s						
FYU	**Fort Yukon**	**30.76**	**40**	P	**P**	**07 45 23.9**	**+1.3**
FYU				IAmb	IAmb	07 45 24.4	
	comp=Z,6.7nm,0.8s						
BMAR	**Burnt Mountain**	**31.03**	**39**	P	**P**	**07 45 25.7**	**+0.7**
SCRK	**Sand Creek**	**31.38**	**45**	P	**P**	**07 45 28.3**	**+0.1**
CRQM	**Cirque**	**32.21**	**51**	P	**P**	**07 45 36.9**	**+1.3**
BCAR	**Beaver Creek A**	**32.46**	**47**	P	**P**	**07 45 39.0**	**+1.3**
EGAK	**Eagle**	**32.53**	**44**	P	**P**	**07 45 38.4**	**+0.2**
EGAK				IAmb	IAmb	07 45 39.2	
	comp=Z,6.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**32.76**	**166**	T	T	08 20 29.3	
	baz=351,slow=76,SNR=1209						
H11N3	**WAKE ISLAND Hy**	**32.77**	**166**	T	T	08 20 30.5	
	baz=351,slow=76,SNR=1178						
H11N1	**WAKE ISLAND Hy**	**32.77**	**166**	T	T	08 20 30.7	
	baz=351,slow=76,SNR=990						
DAWY	**Dawson**	**33.38**	**45**	P	**P**	**07 45 46.8**	**+1.1**
SONM	**Songino Array**	**33.53**	**284**	P	**P**	**07 45 46.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=52,slow=7.5,SNR=2.3						
SONM				PcP	**PcP**	**07 48 27.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=91,slow=1.5,SNR=7.6						
SONM				LR	LR	08 00 34.7	
	comp=Z,117nm,18.4s,baz=38,slow=38						
H11S1	**WAKE ISLAND Hy**	**33.93**	**167**	T	T	08 22 03.7	
	baz=351,slow=76,SNR=465						
H11S3	**WAKE ISLAND Hy**	**33.94**	**167**	T	T	08 22 03.0	
	baz=351,slow=76,SNR=554						
H11S2	**WAKE ISLAND Hy**	**33.95**	**167**	T	T	08 22 03.0	
	baz=351,slow=76,SNR=292						
HHC	**Hu-ho-hao-te**	**33.98**	**270**	*e*P	**P**	**07 45 53.8**	**+2.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
EPYK	**Eagle Plains**	**34.18**	**40**	P	**P**	**07 45 52.6**	**0.0**
INK	**Inuvik**	**35.16**	**37**	P	**P**	**07 46 02.0**	**+1.1**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	**35.16**	**37**	P	**P**	**07 46 01.9**	**+1.1**
	comp=Z,4.7nm,0.6s,baz=293,slow=6.6,SNR=39						
INK	**Inuvik**	**35.16**	**37**	P	**P**	**07 46 02.0**	**+1.1**
INK				IAmb	IAmb	07 46 02.3	
	comp=Z,5.2nm,0.6s						
NJ2	**Nanjing**	**35.28**	**252**	*e*P	**P**	**07 46 02.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NRIK	**Noril'sk**	**36.46**	**326**	LR	LR	08 02 21.5	
	comp=Z,105nm,18.3s,baz=262,slow=38						
WHN	**Wuhan**	**39.03**	**254**	P	**P**	**07 46 34.8**	**+0.7**
LZH	**Lanzhou**	**41.68**	**270**	*e*P	**P**	**07 46 57.0**	**+0.8**
LZH				pP	sP	07 47 15.5	+1.5
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
GTA	**Gaotai**	**42.09**	**277**	*e*P	**P**	**07 47 01.8**	**+2.3**
GTA				pP	sP	07 47 20.0	+2.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**44.44**	**41**	P	**P**	**07 47 18.8**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=300,slow=7.7,SNR=3.8						
WMQ	**Urumqi**	**46.73**	**290**	*e*P	**P**	**07 47 38.0**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,91nm,6.5s						
KURK	**Kurchatov**	**47.78**	**302**	P	**P**	**07 47 41.9**	**-2.4**
KURK						07 49 11.9	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**47.78**	**302**	P	**P**	**07 47 41.9**	**-2.4**
KURBB	**Kurchatov Arra**	**47.88**	**302**	P	**P**	**07 47 42.8**	**-2.4**
	comp=Z,1.8nm,0.8s,baz=61,slow=7.6,SNR=4.5						
KURBB				PcP	**PcP**	**07 49 11.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=57,slow=3.2,SNR=3.5						
NLWA	**Neilton Lookou**	**47.91**	**63**	P	**P**	**07 47 46.9**	**+1.4**
MK31	**Makanchi Array**	**48.06**	**296**	P	**P**	**07 47 42.7**	**-3.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MK31	**Makanchi Array**	**48.06**	**296**	P	**P**	**07 47 42.7**	**-3.9**
MKAR	**Makanchi Array**	**48.06**	**296**	*e*P	**P**	**07 47 46.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.06**	**296**	P	**P**	**07 47 43.1**	**-3.5**
	comp=Z,0.5nm,0.5s,baz=58,slow=7.1,SNR=5.7						
MKAR	**Makanchi Array**	**48.06**	**296**	P	**P**	**07 47 44.4**	**-2.2**
SPITS	**Spitsbergen Ar**	**48.14**	**350**	P	**P**	**07 47 44.5**	**-2.4**
	comp=Z,4.2nm,0.5s,baz=49,slow=7.8,SNR=14						
LTY	**Liberty**	**49.75**	**62**	P	**P**	**07 48 00.8**	**+1.2**
LTY				IAmb	IAmb	07 48 12.1	
	comp=Z,6.4nm,1.4s						
KMI	**Kunming**	**49.98**	**260**	P	**P**	**07 48 03.3**	**+1.5**
KMI				pmax	pmax		
	comp=Z,15nm,1.1s						
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**07 48 02.6**	**-3.2**
	comp=Z,1.0nm,0.4s,baz=51,slow=8.5,SNR=5.8						
BVAR				PcP	**PcP**	**07 49 21.5**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=54,slow=1.6,SNR=6.7						
BRVK	**Borovoye**	**50.61**	**309**	*i* P	**P**	**07 48 01.9**	**-4.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
E09A	**Wood Farm, Sta**	**51.57**	**61**	P	**P**	**07 48 14.7**	**+1.4**
E09A				IAmb	IAmb	07 48 32.7	
	comp=Z,5.7nm,0.9s						
PINE	**Pine Mountain**	**51.73**	**65**	P	**P**	**07 48 17.3**	**+2.5**
PINE				IAmb	IAmb	07 48 35.2	
	comp=Z,4.8nm,0.9s						
MOD	**Modoc Plateau**	**53.30**	**67**	P	**P**	**07 48 28.3**	**+2.0**
MOD				IAmb	IAmb	07 48 46.4	
	comp=Z,5.0nm,0.8s						
PLID	**Pearl Lake**	**53.64**	**61**	P	**P**	**07 48 30.6**	**+1.7**
ARCES	**ARCESS Array B**	**54.15**	**342**	P	**P**	**07 48 30.8**	**-1.2**
ARCES	**ARCESS Array B**	**54.15**	**342**	P	**P**	**07 48 29.5**	**-2.5**
	comp=Z,6.0nm,0.9s,baz=40,slow=8.6,SNR=3.1						
ARCES	**ARCESS Array B**	**54.15**	**342**	P	**P**	**07 48 30.9**	**-1.2**
SUMG	**Summit**	**55.16**	**6**	P	**P**	**07 48 39.

ECSD				IAmb	IAmb	07 49 46.3	
	comp=Z,2.6nm,0.6s						
ANMO	**Albuquerque**	**65.92**	**64**	*i* P	**P**	**07 49 54.2**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SCHQ	**Schefferville**	**66.95**	**27**	P	**P**	**07 49 59.3**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=318,slow=12,SNR=3.2						
AKASG	**Malin Array Be**	**69.24**	**329**	*e*P	**P**	**07 50 11.9**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**69.24**	**329**	P	**P**	**07 50 11.6**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=31,slow=6.3,SNR=4.4						
AFI	**Afiamalu**	**70.32**	**150**	LR	LR	08 14 33.7	
	comp=Z,22nm,21.5s,baz=102,slow=30						
HHAR	**Hobbs**	**71.55**	**55**	P	**P**	**07 50 27.9**	**-0.3**
HHAR				IAmb	IAmb	07 50 33.3	
	comp=Z,12nm,1.5s						
TX31	**Lajitas Ar. Si**	**71.69**	**66**	P	**P**	**07 50 30.6**	**+1.5**
TX32	**Lajitas Array**	**71.69**	**66**	P	**P**	**07 50 30.5**	**+1.3**
TX32				IAmb	IAmb	07 50 48.9	
	comp=Z,3.2nm,0.6s						
TXAR	**Lajitas Array**	**71.69**	**66**	P	**P**	**07 50 30.5**	**+1.3**
TXAR	**Lajitas Array**	**71.69**	**66**	P	**P**	**07 50 30.3**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=298,slow=5.0,SNR=35						
TXAR	**Lajitas Array**	**71.69**	**66**	P	**P**	**07 50 30.5**	**+1.3**
U40A	**Yellville**	**72.04**	**54**	P	**P**	**07 50 30.7**	**-0.4**
U40A				IAmb	IAmb	07 50 31.2	
	comp=Z,5.3nm,0.7s						
SIUC	**Southern Illin**	**72.74**	**50**	P	**P**	**07 50 35.6**	**+0.4**
SIUC				IAmb	IAmb	07 50 36.0	
	comp=Z,4.4nm,0.6s						
FCAR	**Ozark Folk Cen**	**72.77**	**54**	P	**P**	**07 50 35.5**	**0.0**
FCAR				IAmb	IAmb	07 50 35.7	
	comp=Z,5.4nm,0.7s						
P48A	**Milroy**	**73.10**	**47**	P	**P**	**07 50 36.0**	**-1.3**
WHAR	**Wooly Hollow**	**73.16**	**54**	P	**P**	**07 50 38.2**	**+0.5**
CLL	**Collm**	**73.17**	**338**	*e*P	**P**	**07 50 37.0**	**-0.5**
CLL	**Collm**	**73.17**	**338**	*e*P	**P**	**07 50 37.0**	**-0.5**
N51A	**Ashland**	**73.25**	**44**	P	**P**	**07 50 38.3**	**+0.1**
W41B	**Gary Mavity, V**	**73.27**	**54**	P	**P**	**07 50 38.3**	**-0.1**
N54A	**Moraine State**	**74.23**	**42**	P	**P**	**07 50 44.2**	**+0.3**
WB0	**Warramunga Arr**	**74.60**	**204**	P	**P**	**07 50 46.4**	**+0.3**
WB0				IAmb	IAmb	07 50 47.2	
	comp=Z,12nm,1.3s						
WVT	**Waverly**	**74.67**	**51**	P	**P**	**07 50 46.2**	**-0.3**
WVT				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WVT	**Waverly**	**74.67**	**51**	P	**P**	**07 50 46.2**	**-0.3**
WB2	**Warramunga Arr**	**74.78**	**204**	P	**P**	**07 50 47.5**	**+0.3**
WB2				IAmb	IAmb	07 50 48.1	
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**74.78**	**204**	P	**P**	**07 50 47.3**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=18,slow=6.1,SNR=16						
WRA	**Warramunga Arr**	**74.78**	**204**	P	**P**	**07 50 47.8**	**+0.6**
T49A	**Edmonton**	**74.96**	**48**	P	**P**	**07 50 48.6**	**+0.4**
T49A				IAmb	IAmb	07 50 49.2	
	comp=Z,3.5nm,0.8s						
KHC	**Kasperske Hory**	**75.07**	**337**	*e*P	**P**	**07 50 48.8**	**+0.1**
KHC	**Kasperske Hory**	**75.07**	**337**	*e*P	**P**	**07 50 48.8**	**+0.1**
M57A	**Sunshine Farm,**	**75.08**	**40**	P	**P**	**07 50 47.5**	**-1.4**
M57A				IAmb	IAmb	07 51 02.3	
	comp=Z,8.9nm,0.9s						
MEM	**Membach**	**75.27**	**343**	P	**P**	**07 50 48.5**	**-1.2**
	comp=Z,13nm,0.9s						
GERES	**GERESS Array B**	**75.30**	**337**	*e*P	**P**	**07 50 50.0**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**75.30**	**337**	P	**P**	**07 50 48.9**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=31,slow=6.2,SNR=5.4						
SSPA	**Standing Stone**	**75.37**	**41**	P	**P**	**07 50 49.8**	**-0.7**
MCWV	**Mont Chateau**	**75.38**	**43**	P	**P**	**07 50 51.0**	**+0.5**
CLTN	**Cedars of Leba**	**75.42**	**50**	P	**P**	**07 50 50.9**	**+0.1**
CLTN				IAmb	IAmb	07 50 51.2	
	comp=Z,8.1nm,1.3s						
BMRD	**Maredsous**	**75.79**	**343**	P	**P**	**07 50 52.3**	**-0.4**
SWET	**Sewanee**	**76.31**	**50**	P	**P**	**07 50 56.0**	**0.0**
SWET				IAmb	IAmb	07 51 10.4	
	comp=Z,5.4nm,0.9s						
TZTN	**Tazewell**	**76.33**	**47**	P	**P**	**07 50 56.5**	**+0.4**
V51A	**Loudon**	**76.57**	**48**	P	**P**	**07 50 57.3**	**-0.2**
V51A				IAmb	IAmb	07 50 58.1	
	comp=Z,5.9nm,0.8s						
CPCT	**Cooper Cave**	**76.78**	**49**	P	**P**	**07 50 59.0**	**+0.4**
CPCT				IAmb	IAmb	07 50 59.1	
	comp=Z,5.4nm,0.8s						
U54A	**Nelsons Funny**	**77.13**	**46**	P	**P**	**07 51 01.2**	**+0.5**
V53A	**Saluda**	**77.39**	**47**	P	**P**	**07 51 02.7**	**+0.6**
LRAL	**Lakeview Retre**	**77.58**	**52**	P	**P**	**07 51 03.0**	**-0.1**
LRAL				IAmb	IAmb	07 51 03.1	
	comp=Z,15nm,1.4s						
T57A	**Hurt**	**77.86**	**44**	P	**P**	**07 51 04.6**	**0.0**
Z50A	**Ashland**	**77.92**	**51**	P	**P**	**07 51 04.8**	**-0.3**
Z50A				IAmb	IAmb	07 51 21.8	
	comp=Z,13nm,1.4s						
V55A	**Taylorsville**	**77.96**	**46**	P	**P**	**07 51 05.2**	**0.0**
AS31	**Alice Springs**	**78.46**	**203**	P	**P**	**07 51 08.2**	**+0.3**
ASAR	**Alice Springs**	**78.46**	**203**	P	**P**	**07 51 09.2**	**+1.3**
ASAR	**Alice Springs**	**78.46**	**203**	P	**P**	**07 51 08.9**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=14,slow=5.4,SNR=30						
ASAR	**Alice Springs**	**78.46**	**203**	P	**P**	**07 51 09.2**	**+1.3**
PMOR	**Pomariorio Ree**	**80.97**	**129**	*e*T	T	09 20 52.5	
	comp=Z,3.1nm,0.2s						
NRCA	**Norcia**	**81.07**	**335**	P	**P**	**07 51 21.4**	**-0.6**
PPT2	**Papeete2**	**82.40**	**131**	*e*LR	LR	08 17 26.2	
	comp=Z,39nm,25.0s						
RAYN	**Ar Rayn**	**85.11**	**302**	P	**P**	**07 51 41.6**	**-1.7**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RAYN	**Ar Rayn**	**85.11**	**302**	P	**P**	**07 51 41.6**	**-1.7**
RAYN				IAmb	IAmb	07 51 42.6	
	comp=Z,3.9nm,0.8s						
TBI	**Tubuai**	**87.46**	**134**	*e*T	T	09 28 52.3	
	comp=Z,4.4nm,0.3s						
ESDC	**Sonseca Array**	**87.54**	**347**	P	**P**	**07 51 53.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=3.6,slow=5.5,SNR=4.0						
PLCA	**Paso Flores**	**144.64**	**91**	PKP	PKPbc	07 58 42.2	+0.3
	comp=Z,1.2nm,0.6s,baz=289,slow=4.3,SNR=9.0						

*STR **28** 07:39:56.9±0.3, 46°N±2°×°±°, h5km±3km, MLv2.6/3*
*LDG **28** 07:39:56.1±0.1, 46°19N×0°47W, h10km, Md2.8/2, Ml2.7/20,*
Error ellipse: s-maj=1.6km s-min=1.1km az=49.0
ISC 28 07:39:54.9±0.9, **46°21N**±0°.02×**0°47W**±0°.02, **h17**km±6km,
n39, σ1§**03**/63, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIF	**Chize**	**0.08**	**151**	Pg	**Pg**	**07 39 58.9**	**+0.5**
CHIF				Sg	**Sg**	**07 40 00.2**	**-0.4**
MFF	**Saint Martin d**	**0.45**	**29**	*e*Pg	**Pn**	**07 40 06.1**	**-0.5**
MFF				*e*Sg	**Sb**	**07 40 11.3**	**+0.4**
	61nm,0.2s						
MFF	**Saint Martin d**	**0.45**	**29**	Pg	**Pn**	**07 40 06.1**	**-0.5**
MFF				Sg	**Sb**	**07 40 12.5**	**+1.5**
LFF	**La Frestale**	**1.52**	**146**	*e*Pn	**Pn**	**07 40 21.6**	**+0.3**
LFF	**La Frestale**	**1.52**	**146**	*e*Pg	**Pg**	**07 40 24.1**	**-0.2**
LFF				*e*Sg	**Sg**	**07 40 43.6**	**-0.5**
	20nm,0.2s						
RJF	**Les Rejaudoux**	**1.66**	**122**	*e*Pn	**Pn**	**07 40 23.4**	**+0.2**
	3.3nm,0.2s						
RJF	**Les Rejaudoux**	**1.66**	**122**	*e*Pg	**Pg**	**07 40 26.7**	**-0.1**
RJF				*e*Sg	**Sg**	**07 40 47.9**	**-0.4**
	28nm,0.2s						
TCF	**Toulx Ste Croi**	**1.86**	**87**	*e*P	**Pb**	**07 40 28.3**	**-0.1**
TCF	**Toulx Ste Croi**	**1.86**	**87**	*e*Pg	**Pg**	**07 40 30.6**	**0.0**
TCF				*e*Sg	**Sg**	**07 40 53.9**	**-0.9**
	11nm,0.2s						
MONQ	**Montcuq**	**2.18**	**147**	Pn	**Pn**	**07 40 31.5**	**+1.1**
MONQ				Pg	**Pg**	**07 40 36.9**	**+0.1**
MONQ				Sn	**Sn**	**07 40 57.8**	**+0.8**
CAF	**Calviac**	**2.19**	**125**	*e*P	**Pn**	**07 40 32.4**	**+1.9**
CAF	**Calviac**	**2.19**	**125**	*e*Pg	**Pg**	**07 40 36.2**	**-0.8**
CAF				*e*Sg	**Sg**	**07 41 04.5**	**-0.9**
	14nm,0.3s						
GRR	**Gorron**	**2.20**	**353**	*e*Pn	**Pn**	**07 40 31.3**	**+0.7**
GRR	**Gorron**	**2.20**	**353**	*e*Pg	**Pg**	**07 40 36.8**	**-0.3**
GRR				*e*Sg	**Sg**	**07 41 06.3**	**+0.6**
	5.6nm,0.2s						
BGF	**Bois d'Agland**	**2.32**	**80**	*e*Pn	**Pn**	**07 40 32.8**	**+0.5**
BGF	**Bois d'Agland**	**2.32**	**80**	*e*Pg	**Pg**	**07 40 38.9**	**-0.5**
BGF				*e*Sg	**Sg**	**07 41 09.7**	**+0.2**
	24nm,0.3s						
HYF	**Humbligny**	**2.39**	**62**	*e*Pg	**Pg**	**07 40 40.5**	**-0.2**
HYF				*e*Sg	**Sg**	**07 41 11.2**	**-0.4**
LDF	**La Druitiere**	**2.40**	**5**	*e*Pn	**Pn**	**07 40 34.0**	**+0.6**
LDF	**La Druitiere**	**2.40**	**5**	*e*Pg	**Pg**	**07 40 40.7**	**-0.2**
LDF				*e*Sg	**Sg**	**07 41 11.9**	**-0.2**
	5.2nm,0.2s						
SGMF	**Saint Gilles**	**2.50**	**326**	*e*P	**Pb**	**07 40 37.8**	**-1.4**
SGMF	**Saint Gilles**	**2.50**	**326**	*e*Pg	**Pg**	**07 40 42.4**	**-0.4**
SGMF				*e*Sg	**Sg**	**07 41 13.7**	**-1.4**
	4.9nm,0.2s						
AGO	**Saint Agoulin**	**2.51**	**92**	Pg	**Pg**	**07 40 43.2**	**+0.2**
AGO				Sg	**Sg**	**07 41 16.1**	**+0.6**
QUIF	**Quistinic**	**2.52**	**314**	*e*P	**Pb**	**07 40 38.2**	**-1.4**
QUIF	**Quistinic**	**2.52**	**314**	*e*Pg	**Pg**	**07 40 43.4**	**+0.2**
QUIF				*e*Sg	**Sg**	**07 41 15.4**	**-0.4**
	5.2nm,0.2s						
FLN	**La Foliniere**	**2.56**	**360**	*e*Pn	**Pn**	**07 40 36.2**	**+0.7**
FLN	**La Foliniere**	**2.56**	**360**	*e*Pg	**Pg**	**07 40 44.0**	**0.0**
	baz=179						
FLN				*e*Sg	**Sg**	**07 41 17.8**	**+0.7**
	7.4nm,0.3s,baz=177						
AVF	**Avril sur Loir**	**2.70**	**76**	*e*Pn	**Pn**	**07 40 38.8**	**+1.3**
AVF	**Avril sur Loir**	**2.70**	**76**	*e*Pg	**Pg**	**07 40 46.6**	**-0.1**
AVF				*e*Sg	**Sg**	**07 41 20.1**	**-1.6**
	2.5nm,0.2s						
ROSF	**Rostrenen**	**2.86**	**319**	*e*P	**Pn**	**07 40 42.4**	**+2.7**
ROSF	**Rostrenen**	**2.86**	**319**	*e*Pg	**Pg**	**07 40 49.7**	**-0.1**
ROSF				*e*Sg	**Sg**	**07 41 25.8**	**-1.1**
	3.5nm,0.2s						
SSF	**Saint Saulge**	**2.87**	**71**	*e*Pn	**Pn**	**07 40 41.1**	**+1.3**
SSF	**Saint Saulge**	**2.87**	**71**	*e*Pg	**Pg**	**07 40 48.8**	**-1.1**
SSF				*e*Sg	**Sg**	**07 41 26.2**	**-0.8**
	2.1nm,0.2s						
SMF	**Signal de Mont**	**3.01**	**80**	*e*Pn	**Pn**	**07 40 42.9**	**+1.1**
SMF	**Signal de Mont**	**3.01**	**80**	*e*Pg	**Pg**	**07 40 51.8**	**-0.8**
SMF				*e*Sg	**Sg**	**07 41 30.3**	**-1.4**
	3.9nm,0.3s						
EALK	**Alkurruntz**	**3.08**	**194**	Pg	**Pg**	**07 40 52.6**	**-1.3**
SJPF	**Ste Jean**	**3.14**	**190**	*e*Pg	**Pg**	**07 40 53.9**	**-1.2**
SJPF				*e*Sg	**Sg**	**07 41 33.8**	**-2.0**
	2.6nm,0.2s						
LOR	**Lormes**	**3.16**	**69**	*e*Pn	**Pn**	**07 40 44.6**	**+0.8**
LOR	**Lormes**	**3.16**	**69**	*e*Pg	**Pg**	**07 40 54.1**	**-1.3**
	baz=251						
LOR				*e*Sg	**Sg**	**07 41 35.2**	**-1.2**
	2.5nm,0.2s,baz=250						
EPF	**Esparros**	**3.23**	**169**	*e*P	**Pn**	**07 40 47.8**	**+3.0**
EPF				*e*Sg	**Sg**	**07 41 37.2**	**-1.4**
	2.8nm,0.2s						

*IDC **28** 07:58:34.0±1.0, 32°.94N×97°.98W, h0km, mb3.9/6,*
mb1 4.0/12, mb1mx3.8/49, mbtmp3.7/12, ML3.5/6, MS3.0/1,
Ms1 3.0/1, ms1mx2.3/52, Error ellipse: s-maj=18.9km
s-min=10.3km az=137.0
*NEIC **28** 07:58:35.7±2.7, 32°.97N±0°.03×98°.09W±0°.04, h5km±1km,*
mb3.7/2
*ANF **28** 07:58:35.0±0.2, 33°.00N×98°.08W, ML4.3/12, Error ellipse:*
s-maj=2.5km s-min=2.1km az=87.0
ISC 28 07:58:35.8±1.6, **32°.98N**±0°.02×**98°.06W**±0°.03, **h12**km±11km,
n116, σ1§**46**/163, **mb3.7**/5, **Central Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**1.11**	**153**	P	**Pb**	**07 58 56.8**	**-0.2**
	baz=330						
WHTX				S	**Sb**	**07 59 11.9**	**+0.6**
	baz=330						
WHTX	**Lake Whitney,**	**1.11**	**153**		**Pb**	**07 58 56.8**	**-0.2**
WHTX				Sg	**Sb**	**07 59 12.0**	**+0.6**
ABTX	**Abilene, Hawle**	**1.38**	**256**	P	**Pb**	**07 59 01.6**	**0.0**
	baz=75						
ABTX				S	**Sn**	**07 59 19.8**	**+0.6**
	baz=75						
ABTX	**Abilene, Hawle**	**1.38**	**256**		**Pb**	**07 59 01.7**	**+0.1**
ABTX				Sn	**Sn**	**07 59 19.5**	**+0.3**
X34A	**Smith Ranch, M**	**1.63**	**7**		**Pb**	**07 59 05.7**	**-0.1**
X34A				Sn	**Sg**	**07 59 28.7**	**+0.4**
WMOK	**Wichita Mounta**	**1.85**	**341**	P	**Pn**	**07 59 08.1**	**+0.7**
	baz=163						
WMOK				S	**Sb**	**07 59 32.7**	**-0.2**
	baz=163						
WMOK	**Wichita Mounta**	**1.85**	**341**		**Pn**	**07 59 08.2**	**+0.7**
WMOK				Sn	**Sb**	**07 59 32.6**	**-0.2**
435B	**Jarrell**	**2.23**	**169**	P	**Pb**	**07 59 14.5**	**-1.5**
	baz=348						
435B				Sb	**Sg**	**07 59 46.6**	**-0.9**
	baz=348						
435B	**Jarrell**	**2.23**	**169**		**Pn**	**07 59 14.2**	**+1.6**
435B				Sn	**Sb**	**07 59 43.0**	**-0.6**
FNO	**Franklin**	**2.34**	**13**		**Pb**	**07 59 16.8**	**-1.1**
FNO					**Sb**	**07 59 48.0**	**+1.3**
W35A	**Tecumseh**	**2.38**	**24**		**Pn**	**07 59 16.9**	**+2.2**
W35A				Sn	**Sb**	**07 59 48.1**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**2.47**	**12**		**Pn**	**07 59 18.2**	**+2.2**
OKCSW				Sn	**Sn**	**07 59 49.3**	**+3.2**
ADOK	**Arcadia Dam**	**2.73**	**12**	Pn	**Pn**	**07 59 21.7**	**+2.2**
ADOK				Sn	**Sb**	**07 59 56.7**	**-1.2**
JCT	**Junction City**	**2.90**	**211**	P	**Pn**	**07 59 22.8**	**+0.9**
	baz=29						
JCT				S	**Sn**	**07 59 59.5**	**+2.7**
	baz=29						
JCT	**Junction City**	**2.90**	**211**		**Pn**	**07 59 22.8**	**+0.9**
JCT				Sn	**Sn**	**07 59 54.7**	**-2.0**
NATX	**Nacogdoches**	**3.12**	**112**		**Pn**	**07 59 26.5**	**+1.6**
NATX				Sn	**Sn**	**08 00 02.2**	**+0.1**
TUL1	**Leonard**	**3.47**	**32**	P	**Pn**	**07 59 30.7**	**+1.0**
	baz=214						
TUL1				S	**Sn**	**08 00 12.5**	**+1.7**
	baz=214						
TUL1	**Leonard**	**3.47**	**32**		**Pn**	**07 59 30.9**	**+1.2**
TUL1				Sn	**Sn**	**08 00 12.4**	**+1.7**
U32A	**Winter Ranch,**	**3.48**	**347**		**Pn**	**07 59 31.2**	**+1.4**
U32A				Sn	**Sn**	**08 00 10.5**	**-0.5**
AMTX	**Amarillo**	**3.56**	**303**	P	**Pn**	**07 59 33.3**	**+2.3**
	baz=122						
AMTX	**Amarillo**	**3.56**	**303**		**Pn**	**07 59 33.1**	**+2.1**
AMTX				Sn	**Sn**	**08 00 11.9**	**-1.2**
HKT	**Hockley**	**3.57**	**147**		**Pn**	**07 59 33.3**	**+2.3**
HKT				Sn	**Sn**	**08 00 12.6**	**-0.4**
MIAR	**Mount Ida**	**4.05**	**66**	P	**Pn**	**07 59 38.7**	**+1.1**
	baz=248						
MIAR	**Mount Ida**	**4.05**	**66**		**Pn**	**07 59 38.8**	**+1.1**
MIAR				Sn	**Sn**	**08 00 25.5**	**+0.5**
MSTX	**Muleshoe**	**4.06**	**285**	P	**Pn**	**07 59 39.6**	**+1.7**
	baz=103						
MSTX	**Muleshoe**	**4.06**	**285**		**Pn**	**07 59 39.4**	**+1.5**
MSTX				Sn	**Sn**	**08 00 26.1**	**+0.6**
W39A	**Magazine**	**4.18**	**57**		**Pn**	**07 59 42.7**	**+3.3**
W39A				Sn	**Sn**	**08 00 28.6**	**+0.5**
WLAR	**White Oak Lake**	**4.20**	**79**		**Pn**	**07 59 40.8**	**+1.1**
WLAR				Sn	**Sn**	**08 00 31.1**	**+2.4**
Z41A	**Richland Creek**	**4.42**	**85**		**Pn**	**07 59 43.7**	**+1.0**
Z41A				Sn	**Sn**	**08 00 35.4**	**+1.3**
X40A	**Basin Creek Fa**	**4.61**	**70**	P	**Pn**	**07 59 46.5**	**+1.3**
	baz=252						
X40A	**Basin Creek Fa**	**4.61**	**70**		**Pn**	**07 59 45.5**	**+0.3**
X40A				Sn	**Sn**	**08 00 40.6**	**+1.9**
HHAR	**Hobbs**	**4.73**	**45**		**Pn**	**07 59 48.1**	**+1.1**
833A	**Chaparral WMA,**	**4.78**	**194**	P	**Pn**	**07 59 49.4**	**+1.7**
	baz=13						
833A	**Chaparral WMA,**	**4.78**	**194**		**Pn**	**07 59 49.6**	**+1.9**
833A				Sn	**Sn**	**08 00 43.5**	**+0.4**
UALR	**University of**	**5.08**	**68**	Pn	**Pn**	**07 59 53.3**	**+1.5**
W41B	**Gary Mavity, V**	**5.29**	**64**	P	**Pn**	**07 59 55.8**	**+1.0**
	baz=247						
W41B	**Gary Mavity, V**	**5.29**	**64**		**Pn**	**07 59 56.0**	**+1.3**
WHAR	**Wooly Hollow**	**5.31**	**63**		**Pn**	**07 59 56.2**	**+1.3**
CCAR	**Cane Creek**	**5.34**	**78**		**Pn**	**07 59 57.6**	**+2.3**
CCAR				Sn	**Sn**	**08 01 00.4**	**+3.6**
U40A	**Yellville**	**5.45**	**50**	P	**Pn**	**07 59 57.7**	**+0.8**
	baz=233						
U40A	**Yellville**	**5.45**	**50**		**Pn**	**07 59 58.0**	**+1.0**
U40A				Sn	**Sn**	**08 01 00.2**	**+0.6**
FCAR	**Ozark Folk Cen**	**5.70**	**58**		**Pn**	**08 00 01.6**	**+1.3**
FCAR				Sn	**Sn**	**08 01 05.1**	**-0.5**
CBKS	**Cedar Bluff**	**5.98**	**347**	P	**Pn**	**08 00 05.0**	**+0.8**
	baz=167						
CBKS	**Cedar Bluff**	**5.98**	**347**		**Pn**	**08 00 05.7**	**+1.5**
CBKS					**Sb**	**08 01 30.0**	**-1.5**
TX31	**Lajitas Ar. Si**	**6.03**	**234**		**Pn**	**08 00 05.1**	**+0.2**
TX31				Sn	**Sn**	**08 01 13.8**	**-0.1**
TX32	**Lajitas Array**	**6.03**	**234**		**Pn**	**08 00 05.4**	**+0.5**
TX32				Sn	**Sn**	**08 01 13.9**	**0.0**
TXAR	**Lajitas Array**	**6.03**	**234**	Pn	**Pn**	**08 00 05.0**	**+0.1**
	2.2nm,0.3s,baz=69,slow=14,SNR=140						
TXAR				Sn	**Sn**	**08 01 12.8**	**-1.1**
	5.8nm,0.3s,baz=49,slow=15,SNR=4.9						
TXAR				Lg	Lg	08 01 39.2	
	6.4nm,0.3s,baz=82,slow=21,SNR=4.2						
TXAR	**Lajitas Array**	**6.03**	**234**		**Pn**	**08 00 05.2**	**+0.3**
TXAR					**Sn**	**08 01 13.6**	**-0.3**
X43A	**Marvell**	**6.17**	**74**	Pn	**Pn**	**08 00 07.6**	**+0.8**
X43A				Sn	**Sn**	**08 01 18.6**	**+1.3**
MGMO	**Mountain Grove**	**6.31**	**47**		**Pn**	**08 00 08.0**	**-0.8**
MGMO				Sn	**Sn**	**08 01 20.2**	**-0.6**
MNTX	**Cornudas Mount**	**6.33**	**260**	P	**Pn**	**08 00 09.8**	**+0.8**
	baz=76						
MNTX	**Cornudas Mount**	**6.33**	**260**		**Pn**	**08 00 10.4**	**+1.5**
MNTX				Sn	**Sn**	**08 01 21.7**	**+0.5**
LCAR	**Lake Charles**	**6.48**	**60**		**Pn**	**08 00 11.5**	**+0.5**
LCAR					**Sn**	**08 01 24.4**	**-0.5**
T25A	**Trinidad**	**6.66**	**310**		**Pn**	**08 00 15.2**	**+1.5**
T25A					LR	08 02 05.0	
LPAR	**Lepanto**	**6.93**	**66**	Pn	**Pn**	**08 00 15.8**	**-1.5**
KSCO	**Kaye Shedlock'**	**7.06**	**330**		**Pn**	**08 00 19.6**	**+0.4**
KSCO					LR	08 02 17.5	
BNM	**Barren Site**	**7.25**	**282**		**Pn**	**08 00 23.0**	**+1.2**
BNM					LR	08 02 25.9	
ANMO	**Albuquerque**	**7.25**	**288**	Pn	**Pn**	**08 00 23.3**	**+1.5**
	0.2nm,0.3s,baz=113,slow=16,SNR=3.7						
ANMO				Pg	**Pb**	**08 00 42.8**	**+1.1**
	1.1nm,0.3s,baz=118,slow=15,SNR=13						
ANMO				Lg	Lg	08 02 19.9	
	16nm,0.3s,baz=27,slow=7.8,SNR=9.2						
ANMO				LR	LR	08 03 30.2	
	comp=Z,119nm,19.1s,baz=123,slow=40						
ANMO	**Albuquerque**	**7.25**	**288**		**Pn**	**08 00 23.5**	**+1.7**
LPM	**Los Pinos Moun**	**7.27**	**283**		**Pn**	**08 00 21.1**	**-1.0**
LPM					LR	08 02 27.3	
PBMO	**Poplar Bluff**	**7.32**	**57**		**Pn**	**08 00 24.2**	**+1.6**
PBMO				Sn	**Sn**	**08 01 45.2**	**-0.4**
OXF	**Oxford**	**7.37**	**76**	Pn	**Pn**	**08 00 23.0**	**-0.2**
OXF				Sn	**Sn**	**08 01 46.4**	**-0.3**
CCM	**Cathedral Cave**	**7.51**	**46**	Pn	**Pn**	**08 00 27.2**	**+2.0**
LENM	**Lemitar**	**7.53**	**281**		**Pn**	**08 00 26.4**	**+0.8**
LENM					LR	08 02 36.9	
SDCO	**Great Sand Dun**	**7.72**	**310**		**Pn**	**08 00 30.2**	**+2.0**
SDCO					LR	08 02 37.5	
121A	**Cookes Peak, D**	**8.21**	**270**		**Pn**	**08 00 35.3**	**+0.4**
Q24A	**Divide**	**8.29**	**318**		**Pn**	**08 00 35.8**	**-0.3**
BGNE	**Belgrade**	**8.41**	**360**	P	**Pn**	**08 00 37.2**	**-0.4**
	baz=180						
BGNE	**Belgrade**	**8.41**	**360**	Pn	**Pn**	**08 00 37.4**	**-0.2**
BGNE				Sn	**Sn**	**08 02 12.4**	**-0.1**
PLAL	**Pickwick Lake**	**8.53**	**74**	Pn	**Pn**	**08 00 38.5**	**-0.6**
OGNE	**Ogallala**	**8.56**	**339**	Pn	**Pn**	**08 00 40.1**	**+0.4**
WVT	**Waverly**	**9.00**	**67**	Pn	**Pn**	**08 00 47.6**	**+2.0**
ISCO	**Idaho Springs**	**9.13**	**320**		**Pn**	**08 00 47.4**	**-0.3**
LRAL	**Lakeview Retre**	**9.29**	**87**	Pn	**Pn**	**08 00 48.5**	**-1.0**
P43A	**Skaggs, Pawnee**	**9.57**	**44**		**Pn**	**08 00 54.6**	**+1.2**
319A	**Douglas**	**9.64**	**263**		**Pn**	**08 00 55.7**	**+1.1**
Y49A	**Blount Mountai**	**9.78**	**82**	Pn	**Pn**	**08 00 59.4**	**+3.1**
OLIL	**Olney**	**9.91**	**52**	Pn	**Pn**	**08 00 59.1**	**+1.0**
X18A	**Snowflake**	**10.02**	**282**	Pn	**Pn**	**08 01 01.3**	**+1.5**
X18A				Sn	**Sn**	**08 02 50.8**	**-1.5**
N23A	**Red Feather La**	**10.11**	**324**		**Pn**	**08 01 02.8**	**+1.8**
PV02	**Paradox Valley**	**10.14**	**304**	Pn	**Pn**	**08 01 01.8**	**+0.4**
PHWY	**Pilot Hill**	**10.19**	**327**		**Pn**	**08 01 02.5**	**+0.4**
HDIL	**Hopedale**	**10.32**	**40**	Pn	**Pn**	**08 01 01.7**	**-2.0**
HDIL				Sn	**Sn**	**08 02 59.6**	**+0.3**
PV17	**East Wray Mesa

KEPZ				IAML		08 00 38.0	
	comp=N,94nm,0.4s						
GLHS	**Glhisar (BURDU**	**0.87 270**		PG	**Pn**	**08 00 22.6**	**-0.5**
BASM	**Basmaki-Afyon**	**0.87 331**		PG	**Pn**	**08 00 22.5**	**-0.6**
BASM				SG	**Sn**	**08 00 36.5**	**-0.1**
AKAS	**Kas**	**1.22 221**	*i*	P	**Pn**	**08 00 26.9**	**-0.3**
AKAS			*i*	S	**Sn**	**08 00 43.9**	**0.0**
AKAS				IAML		08 00 45.0	
	comp=N,232nm,0.2s						
AKAS				IAML		08 00 48.0	
	comp=E,165nm,0.6s						
AKAS	**Kas**	**1.22 221**		PN	**Pn**	**08 00 26.9**	**-0.3**
DOGA	**KONYA_Doganhis**	**1.28 42**	*i*	P	**Pn**	**08 00 28.4**	**+0.5**
DOGA			*i*	S	**Sn**	**08 00 45.6**	**+0.5**
DOGA				IAML		08 00 46.0	
	comp=N,106nm,0.3s						
DOGA				IAML		08 00 46.0	
	comp=E,136nm,0.7s						
KSL	**Kastellorizon**	**1.29 219**		P	**Pn**	**08 00 27.7**	**-0.2**
KSL				S	**Sn**	**08 00 46.3**	**+1.1**
ALAN	**Alanya-ANTALYA**	**1.30 117**		PN	**Pn**	**08 00 28.5**	**+0.4**
FETY	**Fethiye**	**1.32 247**	*i*	P	**Pn**	**08 00 28.0**	**-0.3**
FETY			*i*	S	**Sn**	**08 00 45.2**	**-0.6**
FETY				IAML		08 00 46.0	
	comp=N,59nm,0.3s						
FETY				IAML		08 00 46.0	
	comp=E,124nm,0.3s						
FETY	**Fethiye**	**1.32 247**		PN	**Pn**	**08 00 27.7**	**-0.6**
FETY				SN	**Sn**	**08 00 45.7**	**-0.1**
SHUT	**Suhut-Afyon**	**1.39 359**		PN	**Pn**	**08 00 29.3**	**0.0**
KHL	**Karahalli**	**1.44 324**		PN	**Pn**	**08 00 29.3**	**-0.6**
KHAL	**Karahalli**	**1.49 325**	*i*	P	**Pn**	**08 00 29.7**	**-0.8**
KHAL				IAML		08 00 48.0	
	comp=E,25nm,0.9s						
KHAL			*i*	S	**Sn**	**08 00 48.9**	**-1.0**
KHAL				IAML		08 00 50.0	
	comp=N,40nm,0.5s						
BOLV	**Bolvadin**	**1.58 10**	*i*	P	**Pn**	**08 00 32.2**	**+0.5**
DALY	**Dalyan (Mula)**	**1.59 258**	*i*	P	**Pn**	**08 00 31.4**	**-0.3**
DALY			*i*	S	**Sn**	**08 00 50.6**	**-1.3**
DALY				IAML		08 00 57.0	
	comp=N,90nm,0.2s						
KONT	**Konya--Tatoy**	**1.61 60**	*i*	P	**Pn**	**08 00 32.7**	**+0.7**
KONT			*i*	S	**Sn**	**08 00 53.6**	**+1.0**
KONT	**Konya--Tatoy**	**1.61 60**		PN	**Pn**	**08 00 32.7**	**+0.7**
TURN	**Turunc**	**1.62 260**	*i*	P	**Pn**	**08 00 35.8**	**+3.8**
TURN			*i*	S	**Sn**	**08 00 57.8**	**+5.2**
TURN	**Turunc**	**1.62 260**		PN	**Pn**	**08 00 35.8**	**+3.8**
AFYO	**Afyonkarahisar**	**1.64 352**	*i*	P	**Pn**	**08 00 32.8**	**+0.3**
GAZI	**Gazipasa**	**1.67 123**	*i*	P	**Pn**	**08 00 32.5**	**-0.2**
GAZI			*i*	S	**Sn**	**08 00 56.3**	**+2.5**
GAZI	**Gazipasa**	**1.67 123**		PN	**Pn**	**08 00 34.4**	**+1.7**
LADK	**Ladik-KONYA**	**1.75 53**		PN	**Pn**	**08 00 34.1**	**+0.2**
KDHN	**Kadinhani**	**1.82 41**	*i*	P	**Pn**	**08 00 34.8**	**0.0**
YER	**Yerkesik**	**1.84 270**		PN	**Pn**	**08 00 34.9**	**-0.2**
ERMK	**Ermenek**	**1.93 105**	*i*	P	**Pn**	**08 00 37.7**	**+1.4**
KIZT	**Kizilcal**	**2.00 30**		PN	**Pn**	**08 00 36.9**	**-0.3**
KULA	**Kula-Manisa**	**2.04 312**		PN	**Pn**	**08 00 36.4**	**-1.3**
SHAP	**Saphane-Kutahy**	**2.15 330**		PN	**Pn**	**08 00 39.4**	**+0.2**
AYDN	**Tasoluk**	**2.22 284**	*i*	P	**Pn**	**08 00 39.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.29 291**		PN	**Pn**	**08 00 40.0**	**-1.0**
DAT	**Datca**	**2.45 261**		PN	**Pn**	**08 00 42.9**	**-0.3**
AKMS	**Akamas**	**2.56 146**		P	**Pn**	**08 00 43.8**	**-0.8**
AKMS				S	**Sn**	**08 01 13.4**	**-1.5**
AKMS				AML	AML	08 01 26.7	
	comp=N,0.6nm,0.3s						
AKMS				AML	AML	08 01 26.7	
	comp=N,0.6nm,0.3s						
AKMS				AML	AML	08 01 26.8	
	comp=N,1.0nm,0.3s						
AKMS				AML	AML	08 01 26.8	
	comp=N,1.0nm,0.3s						
ALFC	**Alefka**	**2.58 140**		P	**Pn**	**08 00 43.4**	**-1.4**
ALFC				S	**Sn**	**08 01 12.9**	**-2.4**
ALFC				AML	AML	08 01 19.4	
	comp=N,0.6nm,0.4s						
ALFC				AML	AML	08 01 19.4	
	comp=N,0.6nm,0.4s						
ALFC				AML	AML	08 01 19.6	
	comp=N,0.7nm,0.3s						
ALFC				AML	AML	08 01 19.6	
	comp=N,0.7nm,0.3s						
SZAC	**Souni**	**3.03 142**	⇓	P	**Pn**	**08 00 49.6**	**-1.4**
SZAC				AML	AML	08 01 37.9	
	comp=N,0.3nm,0.5s						
SZAC				AML	AML	08 01 40.0	
	comp=N,0.4nm,0.8s						
CSS	**Mathiatis**	**3.12 134**	⇓	P	**Pn**	**08 00 50.9**	**-1.2**
ASGA	**Asgata**	**3.20 137**		P	**Pn**	**08 00 52.6**	**-0.6**

*IDC **28** 08:23:51.8±0.4, 25°.43N×100°.63E, h0km, mb4.5/30, mb1 4.6/31, mb1mx4.5/49, mbtmp4.5/31, ML4.3/1, MS3.6/24, Ms1 3.6/24, ms1mx3.4/58, Error ellipse: s-maj=12.2km s-min=10.4km az=78.0*

*MOS **28** 08:23:52.4±1.1, 25°.44N×100°.65E, h15km, mb5.0/52, Error ellipse: s-maj=6.2km s-min=4.8km az=108.8*

*NEIC **28** 08:23:53.5±1.7, 25°.50N±0°.06×100°.57E±0°.06, h10km±2km, mb4.9/133*

*BJI **28** 08:23:53.7±0.0, 25°.40N×100°.58E, h10km, mb4.6/51, mB4.9/33, ML4.8/14, Ms4.7/49, Ms7 4.4/43*

*ISCJB **28** 08:23:54.6±1.0, 25°.42N±0°.02×100°.64E±0°.02, h29km±7km, mb4.7/81, MS3.7/27, Error ellipse: s-maj=3.7km s-min=3.4km az=43.3*

*GCMT **28** 08:23:55.5±0.4, 25°.54N±0°.04×100°.68E±0°.03, h20km±1km, MW4.8/70, Moment Tensor Solution. s18,c18; s70,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.14; $M_{\theta\theta}$0.76±.10; $M_{\phi\phi}$1.36±.10; $M_{r\theta}$0.72±.20; $M_{\theta\phi}$-0.57±.06; $M_{\phi r}$0.00±.17; Best double couple: $M_0$2.02500×10^{16} NP1:ϕ_s315.00000°, δ52.00000°, λ-106.00000°. NP2: ϕ_s160.00000°, δ41.00000°, λ-71.00000°. Principal axes: T 1.7470, Plg6.0000°, Azm56.0000°; N 0.5490, Plg12.0000°, Azm325.0000°; P -2.3030, Plg76.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 08:23:53.4±0.5, 25°.36N±0°.03×100°.60E±0°.03, h10km±2km, h10km:pP-P, n414, σ1°61/430, mb4.8/119, MS3.7/27, 22C-2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.95**	**97**	Pn	**Pb**	**08 24 30.0**	**+0.8**
KMI				Pg	**Pg**	**08 24 31.5**	**+0.6**
KMI				Sg	**Sg**	**08 24 57.0**	**+0.8**
KMI				smax	smax		
	comp=N,16μm,0.9s						
KMI				smax	smax		
	comp=E,14μm,0.8s						
KMI				LR	LR		
	comp=N,18μm,4.4s						
KMI				LR	LR		
	comp=E,27μm,4.7s						
KMI				LR	LR		
	comp=Z,18μm,6.6s						
KMI	**Kunming**	**1.95**	**97**	P	**Pb**	**08 24 30.1**	**+0.8**
KMI						08 24 56.0	
KMI	**Kunming**	**1.95**	**97**		**Pb**	**08 24 30.1**	**+0.8**
KMI				Sn	**Sg**	**08 24 56.0**	**-0.2**
LKP	**Lekhapani**	**4.70**	**296**	*eP*	Pb	08 25 10.4	-5.5
LKP				IAML		08 26 31.4	
	comp=N,357nm,0.1s						
LKP				IAML		08 26 31.9	
	comp=E,170nm,0.6s						
SLVN	**Son La**	**5.03**	**142**		**Pn**	**08 25 11.6**	**+2.5**
GYA	**Guiyang**	**5.57**	**77⇑**	*iPn*	**Pn**	**08 25 19.5**	**+3.0**
GYA				Sn	**Sn**	**08 26 23.8**	**+3.1**
GYA				Sg	**Sb**	**08 26 44.0**	**+6.2**
GYA				smax	smax		
	comp=E,450nm,0.9s						
GYA				smax	smax		
	comp=E,550nm,0.8s						
GYA				LR	LR		
	comp=E,3μm,8.5s						
GYA				LR	LR		
	comp=E,3μm,10.5s						
GYA				LR	LR		
	comp=E,3μm,9.8s						
KOHI	**KOHIMA**	**5.88**	**275**	*ex*	Pn	08 25 26.9	+6.1
KOHI				IAML		08 25 56.1	
	comp=Z,23nm,0.2s						
KOHI				IAML		08 26 26.2	
	comp=N,39nm,0.6s						
KOHI				IAML		08 26 31.2	
	comp=Z,21nm,0.4s						
KOHI				*ex*	x	08 26 47.5	
PAYA	**Payao**	**6.01**	**187**	P	**Pn**	**08 25 25.1**	**+2.5**
	comp=Z,335μm,0.9s,comp=Z,5μm						
IMP	**Imphal**	**6.05**	**266**	*eP*	Pb	08 25 32.0	-7.2
IMP				*eS*	**Sn**	**08 26 36.2**	**+3.6**
IMP				*ex*	x	08 26 42.5	
CD2	**Chengdu**	**6.19**	**26**	Pn	**Pn**	**08 25 27.8**	**+2.8**
CD2				Sn	**Sn**	**08 26 39.5**	**+3.6**
CD2				smax	smax		
	comp=Z,920nm,1.4s						
CD2				smax	smax		
	comp=Z,1μm,1.5s						
CD2				LR	LR		
	comp=Z,6μm,5.3s						
CD2				LR	LR		
	comp=Z,4μm,6.5s						
ZIRO	**ZIRO**	**6.42**	**291**	*eP*	**Pn**	**08 25 32.0**	**+3.6**
ITAN	**ITANAGAR**	**6.42**	**288**	*eP*	Pn	08 25 33.7	+5.5
CHTO	**Chiang Mai**	**6.70**	**194**	P	**Pn**	**08 25 33.7**	**+1.7**
CHTO	**Chiang Mai**	**6.70**	**194**	Pn	**Pn**	**08 25 33.7**	**+1.7**
CMMT	**Chiang Mai**	**6.70**	**194**	P	**Pn**	**08 25 36.0**	**+4.0**
	comp=Z,109nm,0.8s,comp=Z,871nmcomp=Z,1.1nm						
PHRA	**Phrae**	**6.84**	**183**	P	Pn	08 25 39.8	+5.9
	comp=Z,13nm,1.1s,comp=Z,1μmcomp=Z,0.2nm						
CM31	**Chiang Mai Arr**	**7.04**	**193**	Pn	**Pn**	**08 25 39.8**	**+3.1**
CMAR	**Chiang Mai Arr**	**7.04**	**193**	Pn	**Pn**	**08 25 38.7**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=5.3,slow=12,SNR=12						
CMAR				Pg	**Pg**	**08 26 06.3**	**-2.1**
	comp=Z,4.3nm,0.3s,baz=4.8,slow=17,SNR=59						
CMAR				Lg	Lg	08 27 37.2	
	comp=Z,9.2nm,0.3s,baz=12,slow=30,SNR=6.5						
CMAR				LR	LR	08 28 59.4	
	comp=Z,209nm,18.4s,baz=14,slow=43						
CMAR	**Chiang Mai Arr**	**7.04**	**193**		**Pn**	**08 25 38.2**	**+1.5**
AZL	**Aizawl**	**7.38**	**259**	*eP*	**Pn**	**08 25 45.9**	**+4.5**
AZL				IAML		08 25 57.1	
	comp=N,26nm,0.9s						
MHMT	**Maesarieng**	**7.57**	**200**	P	Pn	08 25 49.2	+5.3
	comp=N,301nm,1.0s,comp=N,5μmcomp=N,3.7nm						
NONG	**Nongkai**	**7.64**	**161**	P	Pb	08 25 59.5	-6.6
SHL	**Shillong**	**7.88**	**273**	P	**Pn**	**08 25 48.7**	**+0.3**
SHL	**Shillong**	**7.88**	**273**	*eP*	**Pn**	**08 25 51.9**	**+3.5**
SHL	**Shillong**	**7.88**	**273**		**Pn**	**08 25 48.7**	**+0.3**
ENH	**Enshi**	**9.26**	**56**		**Pn**	**08 26 06.6**	**-0.5**
ENH					**Sn**	**08 27 47.5**	**-3.9**
LSA	**Lhasa**	**9.43**	**299**	P	Pn	08 26 15.0	+5.1
LSA				LR	LR		
	comp=N,1μm,7.8s						
LSA				LR	LR		
	comp=N,4μm,11.4s						
LSA				LR	LR		
	comp=N,4μm,9.6s						
LSA	**Lhasa**	**9.43**	**299**	P	**Pn**	**08 26 08.8**	**-1.1**
LSA	**Lhasa**	**9.43**	**299**		**Pn**	**08 26 08.8**	**-1.1**
CHAI	**Chaiyaphum**	**9.50**	**172**	P	Pn	08 26 18.6	+8.1
	comp=N,26μm,1.0s						
UTHA	**Uthaitani**	**9.81**	**187**	P	Pn	08 26 21.8	+7.0
	comp=N,21μm,0.9s,comp=N,360μm						
QIZ	**Qiongzhong**	**10.63**	**125**	P	**Pn**	**08 26 26.5**	**+0.6**
QIZ				S	**Sn**	**08 28 27.0**	**+1.9**
QIZ				LR	LR		
	comp=N,1μm,8.3s						
QIZ				LR	LR		
	comp=N,1μm,9.3s						
QIZ				LR	LR		
	comp=N,1μm,10.4s						
QIZ	**Qiongzhong**	**10.63**	**125**	Pn	**Pn**	**08 26 27.1**	**+1.2**
LZH	**Lanzhou**	**11.05**	**14**	*eP*	**Pn**	**08 26 34.0**	**+2.3**
LZH				pP		08 26 38.5	
LZH				sP		08 26 42.8	
LZH				PP		08 26 44.8	
LZH				SS	Sn	08 28 54.5	+19
LZH				pmax	pmax		
	comp=N,18nm,1.3s						
LZH				pmax	pmax		
	comp=N,53nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,10.0s						
LZH				LR	LR		
	comp=N,2μm,11.9s						
LZH				LR	LR		
	comp=N,1μm,11.9s						
XAN	**Xi'an**	**11.27**	**38**	P	**Pn**	**08 26 33.5**	**-1.1**
XAN				S	**Sn**	**08 28 38.0**	**-2.7**
XAN				LR	LR		
	comp=N,2μm,6.5s						
XAN				LR	LR		
	comp=N,830nm,6.9s						
XAN				LR	LR		
	comp=N,1μm,6.9s						
XAN	**Xi'an**	**11.27**	**38**	P	**Pn**	**08 26 33.7**	**-0.9**
XAN						08 28 34.3	
XAN	**Xi'an**	**11.27**	**38**		**Pn**	**08 26 33.7**	**-0.9**
XAN					**Sn**	**08 28 34.3**	**-6.4**
TAPN	**Taplejung**	**11.73**	**283**	*eP*	**Pn**	**08 26 42.1**	**+0.9**
	comp=N,50nm,0.8s						
ODAN	**Odare**	**11.96**	**280**	*eP*	**Pn**	**08 26 46.4**	**+2.0**
	comp=N,123nm,0.9s						
RAMN	**Ramite**	**12.68**	**280**	*eP*	**Pn**	**08 26 55.9**	**+1.8**
	comp=N,168nm,1.3s						
JIRN	**Jiri**	**13.11**	**283**	*eP*	**Pn**	**08 27 01.2**	**+1.1**
	comp=N,225nm,1.2s						
WHN	**Wuhan**	**13.20**	**64**	P	**Pn**	**08 27 01.3**	**+0.3**
WHN				S	**Sn**	**08 29 25.0**	**-2.9**
WHN				LR	LR		
	comp=N,3μm,6.1s						
WHN				LR	LR		
	comp=N,2μm,7.3s						
WHN				LR	LR		
	comp=N,3μm,6.9s						
GUN	**Gumba**	**13.41**	**284**	*eP*	**Pn**	**08 27 04.9**	**+0.7**
	comp=N,41nm,0.8s						
PKI	**Pulchoki**	**13.78**	**283**	*eP*	**Pn**	**08 27 09.3**	**0.0**
	comp=N,13nm,0.5s						
PKIN	**Phulchoki**	**13.80**	**283**	*eP*	**Pn**	**08 27 09.3**	**-0.1**
	comp=N,43nm,0.7s						
GTA	**Gaotai**	**14.02**	**357**	*eP*	**Pn**	**08 27 15.8**	**+3.4**
GTA				pP	P	08 27 20.0	-0.4
GTA				sP		08 27 22.5	
GTA				S	**Sn**	**08 29 54.0**	**+5.8**
GTA				sS	S	08 29 58.3	-12
GTA				pmax	pmax		
	comp=N,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=N,170nm,7.1s						
GTA				LR	LR		
	comp=N,1μm,9.5s						
GTA				LR	LR		
	comp=N,1μm,8.2s						
GTA				LR	LR		
	comp=N,2μm,9.8s						
DMN	**Daman**	**14.06**	**283**	*eP*	**Pn**	**08 27 13.8**	**+0.8**
	comp=N,49nm,0.8s						
GKN	**Gorkha**	**14.51**	**284**	*eP*	**Pn**	**08 27 19.2**	**+0.1**
	comp=N,102nm,1.0s						
DANN	**Dangsing**	**15.32**	**285**	*eP*	**Pn**	**08 27 29.3**	**-0.9**
	comp=N,42nm,0.6s						
KOLN	**Koldanda**	**15.40**	**283**	*eP*	**Pn**	**08 27 30.9**	**-0.2**
	comp=N,40nm,0.9s						
TIY	**Taiyuan**	**15.90**	**36**	*eP*	**Pn**	**08 27 38.8**	**+1.4**
TIY				S	**Sn**	**08 30 32.5**	**-1.3**
TIY				SS	**S**	**08 30 53.0**	**+4.9**
TIY				pmax	pmax		
	comp=N,24nm,0.8s						
TIY				pmax	pmax		
	comp=N,170nm,6.7s						
TIY				LR	LR		
	comp=N,1μm,13.1s						
TIY				LR	LR		
	comp=N,800nm,12.1s						
TIY				LR	LR		
	comp=N,620nm,9.6s						
SURT	**Suratani**	**16.41**	**186**	P	P	08 27 55.7	+8.9
BTO	**Baotou**	**17.11**	**25**	*eP*	**Pn**	**08 27 53.3**	**+0.4**
NJ2	**Nanjing**	**17.33**	**63**	*eP*	**Pn**	**08 27 54.5**	**-1.1**
NJ2				pP	**P**	**08 27 57.8**	**+0.8**
NJ2				S	**Sn**	**08 31 09.3**	**+0.7**
NJ2				sS	**S**	**08 31 16.5**	**-0.9**
NJ2				pmax	pmax		
	comp=N,17nm,0.5s						
NJ2				LR	LR		
	comp=N,910nm,4.3s						
NJ2				LR	LR		
	comp=N,1μm,7.6s						
NJ2				LR	LR		
	comp=N,1μm,6.9s						
HHC	**Hu-ho-hao-te**	**17.94**	**28**	*eP*	**P**	**08 28 04.3**	**+0.5**
HHC				pmax	pmax		
	comp=N,54nm,0.7s						
BJT	**Baijiatuau**	**19.58**	**38**	P	**Pn**	**08 28 23.1**	**+0.1**
BJT				pmax	pmax		
	comp=Z,16nm,0.9s						
BJT	**Baijiatuau**	**19.58**	**38**	P	**Pn**	**08 28 23.1**	**+0.1**
KULM	**Kulim**	**19.96**	**180**	P	**Pn**	**08 28 28.4**	**+0.8**
LHMI	**Lhok Sumawe**	**20.32**	**191**	P	**P**	**08 28 29.7**	**-0.2**
LHMI				IAmb	IAmb	08 28 37.9	
	comp=Z,84nm,1.1s						
IPM	**Ipoh**	**20.77**	**179**	P	**P**	**08 28 35.8**	**+1.0**
WMQ	**Urumqi**	**21.21**	**333**	*eP*	**P**	**08 28 41.0**	**+1.6**
WMQ				sP	sP	08 28 48.0	+3.9
WMQ				pmax	pmax		
	comp=Z,18nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,290nm,6.3s						
WMQ				LR	LR		
	comp=Z,230nm,8.5s						
WMQ				LR	LR		
	comp=Z,380nm,8.7s						
WMQ				LR	LR		
	comp=Z,430nm,8.5s						
WMQ	**Urumqi**	**21.21**	**333**	P	**P**	**08 28 39.3**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,45nm,1.3s						
WMQ	**Urumqi**	**21.21**	**333**	P	**P**	**08 28 39.3**	**-0.1**
MLSI	**Meulaboh, Aceh**	**21.36**	**192**	P	**P**	**08 28 44.2**	**+3.1**
HYB	**Hyderabad**	**21.98**	**253**	*i P*	**P**	**08 28 47.0**	**-0.8**
TPTI		**22.22**	**189**	P	P	08 28 59.6	+9.2
DL2	**Dalian**	**22.28**	**48**	*eP*	**P**	**08 28 53.0**	**+2.2**
DL2				S	**S**	**08 32 58.8**	**+2.8**
DL2				pmax	pmax		
	comp=Z,38nm,1.0s						
DL2				LR	LR		
	comp=Z,520nm,12.8s						
DL2				LR	LR		
	comp=Z,230nm,13.3s						
DL2				LR	LR		
	comp=Z,350nm,12.7s						
PSI	**Prapat**	**22.49**	**184**	P	**P**	**08 28 55.2**	**+1.8**
	comp=Z,25nm,1.1s,baz=329,slow=9.5,SNR=8.3						
PSI				LR	LR	08 38 53.9	
	comp=Z,115nm,20.2s,baz=292,slow=40						
RPSI	**Rantau Prapat**	**22.60**	**184**	P	**P**	**08 28 55.5**	**+1.2**
RPSI				IAmb	IAmb	08 29 01.3	
	comp=Z,37nm,1.2s						
RPSI	**Rantau Prapat**	**22.60**	**184**	P	**P**	**08 28 55.2**	**+0.8**
SONM	**Songino Array**	**22.89**	**10**	P	**P**	**08 28 57.0**	**-0.4**
SONM				pmax	pmax		
	comp=Z,27nm,1.2s						
SONM	**Songino Array**	**22.89**	**10**	P	**P**	**08 28 57.3**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=196,slow=9.3,SNR=14						
SONM				PcP	**PcP**	**08 32 46.2**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=202,slow=1.6,SNR=3.6						
SONM				LR	LR	08 38 49.6	
	comp=Z,216nm,19.7s,baz=216,slow=39						
SONM	**Songino Array**	**22.89**	**10**	P	**P**	**08 28 57.0**	**-0.4**
ULN	**Ulaanbaatar**	**23.03**	**11**	*ceP*	**P**	**08 28 56.7**	**-2.2**
ULN				pmax	pmax		
	comp=Z,30nm,1.7s						
ULN	**Ulaanbaatar**	**23.03**	**11**	P	**P**	**08 28 58.9**	**0.0**
MYKOM	**Kota Tinggi**	**23.64**	**172**	P	**P**	**08 29 06.7**	**+1.6**
MYKOM				IAmb	IAmb	08 29 11.3	
	comp=Z,18nm,0.6s						
GSI	**Gunungsitoli**	**24.10**	**187**	P	**P**	**08 29 09.5**	**+0.1**
GSI				IAmb	IAmb	08 29 20.9	
	comp=Z,22nm,1.0s						
KKM	**Kota Kinabalu**	**24.34**	**139**	P	**P**	**08 29 10.2**	**-1.6**
BKNI	**Bangkinang**	**24.89**	**179**	P	**P**	**08 29 17.5**	**+0.8**
BKNI	**Bangkinang**	**24.89**	**179**	P	**P**	**08 29 17.5**	**+0.8**
TARG	**Taragay, Kyrgy**	**24.93**	**317**	P	**P**	**08 29 18.3**	**+1.0**
PRZ	**Przheval'sk**	**25.00**	**319**	P	**P**	**08 29 18.4**	**+0.7**
PRZ				pmax	pmax		
	comp=Z,38nm,0.9s						
PRZ	**Przheval'sk**	**25.00**	**319**	P	**P**	**08 29 18.4**	**+0.7**
PRZ				IAmb	IAmb	08 29 22.9	
	comp=Z,38nm,0.8s						
KSH	**Kashi**	**25.02**	**310**	P	**P**	**08 29 21.0**	**+3.2**
KSH				sP	sP	08 29 28.5	+5.7
KSH				PP	**PnPn**	**08 29 58.5**	**+7.5**
KSH				S	**S**	**08 33 42.8**	**+0.7**
KSH				sS	sS	08 33 50.0	+2.1
KSH				SS	**SnSn**	**08 34 41.0**	**+10**
KSH				pmax	pmax		
	comp=Z,110nm,1.2s						
KSH				pmax	pmax		
	comp=Z,690nm,5.4s						
KSH				LR	LR		
	comp=Z,490nm,11.2s						
KSH				LR	LR		
	comp=Z,500nm,11.2s						
KSH				LR	LR		
	comp=Z,200nm,13.3s						
ZAK	**Zakamensk**	**25.06**	**4**	*eP*	**P**	**08 29 11.4**	**-6.7**
ZAK				pmax	pmax		
	comp=Z,22nm,1.0s						
SNY	**Shenyang**	**25.10**	**43**	⇓P	**P**	**08 29 19.0**	**+0.6**
SNY				pmax	pmax		
	comp=Z,66nm,0.8s						
NIL	**Nilore**	**25.14**	**296**	P	**P**	**08 29 19.4**	**+0.6**
NIL				pmax	pmax		
	comp=Z,57nm,1.1s						
NIL	**Nilore**	**25.14**	**296**	P	**P**	**08 29 19.4**	**+0.6**
INCN	**Inchon**	**25.20**	**55**	P	**P**	**08 29 19.4**	**+0.1**
INCN				pmax	pmax		
	comp=Z,39nm,0.7s						
INCN	**Inchon**	**25.20**	**55**	P	**P**	**08 29 19.4**	**+0.1**
TJN	**Taejon**	**25.38**	**58**	*ceP*	**P**	**08 29 18.8**	**-2.2**
SBUM	**Sibu**	**25.38**	**152**	P	**P**	**08 29 20.3**	**-0.8**
KSM	**Kuching**	**25.53**	**157**	P	**P**	**08 29 23.8**	**+1.4**
KDJ	**Kajisay**	**25.54**	**317**	P	**P**	**08 29 22.4**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,40nm,1.1s						
KDJ	**Kajisay**	**25.54**	**317**	P	**P**	**08 29 22.4**	**-0.2**
KDJ				IAmb	IAmb	08 29 28.2	
	comp=Z,40nm,1.1s						
MK31	**Makanchi Array**	**25.89**	**330**	P	P	08 29 16.5	-9.0
MK31				pmax	pmax		
	comp=Z,12nm,0.9s						
MK31	**Makanchi Array**	**25.89**	**330**	P	P	08 29 16.5	-9.0
MKAR	**Makanchi Array**	**25.89**	**330**	*i P*	**P**	**08 29 27.2**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**25.89**	**330**	P	**P**	**08 29 26.8**	**+1.3**
	comp=Z,14nm,0.8s,baz=137,slow=11,SNR=74						
MKAR				PcP	**PcP**	**08 32 54.3**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=114,slow=1.7,SNR=4.7						
MKAR				LR	LR	08 41 33.6	
	comp=Z,116nm,20.2s,baz=224,slow=41						
MKAR	**Makanchi Array**	**25.89**	**330**	P	P	08 29 17.5	-8.0
MKAR				PcP	**PcP**	**08 32 53.7**	**-0.7**
NRN	**Naryn**	**25.92**	**314**	P	**P**	**08 29 24.7**	**-1.6**
NRN				pmax	pmax		
	comp=Z,15nm,1.1s						
NRN	**Naryn**	**25.92**	**314**	P	**P**	**08 29 24.7**	**-1.6**
KSRS	**Korea Array**	**26.15**	**56**	P	**P**	**08 29 26.1**	**-1.9**
	comp=Z,2.6nm,0.5s,baz=242,slow

JNU Nakatsue 27.46 67 P **P 08 29 39.8 -0.1**
comp=Z,27nm,1.0s,baz=244,slow=5.6,SNR=5.9
JNU LR LR 08 41 32.9
comp=Z,122nm,21.2s,baz=274,slow=39
JNU Nakatsue 27.46 67 P **P 08 29 36.2 -3.6**
JNU IAmb IAmb 08 29 44.1
comp=Z,32nm,1.0s
AAK Ala-Archa 27.50 315 P **P 08 29 40.1 -0.2**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 27.50 315 P **P 08 29 40.4 +0.1**
comp=Z,4.2nm,0.8s,baz=118,slow=5.4,SNR=10
AAK Ala-Archa 27.50 315 P **P 08 29 40.1 -0.2**
ARSB Arslanbob 27.87 312 P P 08 29 36.2 -7.4
HIA Hailar 28.14 27 P **P 08 29 45.6 -0.2**
HIA pmax pmax
comp=Z,15nm,1.3s
HIA Hailar 28.14 27 P **P 08 29 45.6 -0.2**
KBL Kabul 28.74 296 P **P 08 29 50.8 -0.7**
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 28.74 296 P **P 08 29 50.8 -0.7**
KBL IAmb IAmb 08 30 00.5
comp=Z,16nm,1.1s
GAR Garm 28.86 306 P **P 08 29 53.2 +0.8**
GAR IAmb IAmb 08 29 56.5
comp=Z,17nm,0.8s
BTK Batken 28.86 308 P **P 08 29 54.4 +2.0**
BTK pmax pmax
comp=Z,16nm,1.1s
BTK Batken 28.86 308 P **P 08 29 54.4 +2.0**
BTK IAmb IAmb 08 29 59.3
comp=Z,16nm,1.1s
CHGR Chuyangaron 29.62 304 P **P 08 29 59.4 +0.3**
CHGR IAmb IAmb 08 30 03.6
comp=Z,27nm,1.1s
KK31 Karatay Array 30.30 313 P **P 08 30 05.5 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 30.30 313 P **P 08 30 05.5 +0.5**
KKAR Karatay Array 30.30 313 P **P 08 30 05.2 +0.2**
KKAR Karatay Array 30.30 313 P **P 08 30 05.2 +0.2**
KKAR Karatay Array 30.30 313 P **P 08 30 05.2 +0.2**
KKAR IAmb IAmb 08 30 07.1
comp=Z,2.6nm,0.8s
KURK Kurchatov 30.44 332 *ce*P **P 08 30 06.2 +0.2**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 30.44 332 P **P 08 30 06.0 0.0**
ZAA0 Zalesovo Array 30.88 342 P **P 08 30 09.1 -0.9**
ZALV Zalesovo Beam 30.88 342 *i* P **P 08 30 11.0 +1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 30.88 342 P **P 08 30 10.5 +0.6**
comp=Z,4.5nm,0.8s,baz=150,slow=6.8,SNR=4.8
ZALV LR LR 08 43 27.3
comp=Z,70nm,18.3s,baz=142,slow=38
ZALV Zalesovo Beam 30.88 342 P **P 08 30 10.1 +0.2**
VLA Vladivostok 31.10 47 *i* P **P 08 30 10.2 -1.8**
VLA pmax pmax
comp=Z,33nm,0.9s
MNCI Minicoy 31.25 242 P **P 08 30 13.1 -0.5**
USA0B Ussuriysk Arra 31.63 46 P **P 08 30 15.8 -0.8**
USA0B pmax pmax
comp=Z,24nm,1.1s
USA0B Ussuriysk Arra 31.63 46 P **P 08 30 15.8 -0.8**
USA0B IAmb IAmb 08 30 17.4
comp=Z,24nm,1.1s
USRK Ussuriysk Ar. 31.63 46 P **P 08 30 16.5 -0.2**
comp=Z,10nm,0.7s,baz=245,slow=8.3,SNR=13
USRK LR LR 08 45 14.9
comp=Z,36nm,21.0s,baz=268,slow=41
USRK Ussuriysk Ar. 31.63 46 P **P 08 30 16.4 -0.3**
KPJI Karang Pucung 33.50 165 P **P 08 30 36.3 +3.1**
LUWI Luwuk 33.90 137 P **P 08 30 36.0 -0.8**
MJAR Matsushiro Arr 33.93 62 P **P 08 30 36.0 -0.9**
comp=Z,4.1nm,1.0s,baz=271,slow=11,SNR=5.1
MJAR LR LR 08 45 30.1
comp=Z,170nm,18.6s,baz=260,slow=38
MJAR Matsushiro Arr 33.93 62 P **P 08 30 36.0 -0.9**
KLR Kul'dur 33.98 37 *i* P **P 08 30 34.1 -3.0**
KLR pmax pmax
comp=Z,5.0nm,1.1s
KLR Kul'dur 33.98 37 P **P 08 30 36.5 -0.6**
comp=Z,3.0nm,0.9s,baz=273,slow=6.4,SNR=4.0
KLR PcP **PcP 08 33 14.9 -0.3**
comp=Z,2.0nm,0.8s,baz=256,slow=7.0,SNR=3.8
HRA Herat 34.29 294 P **P 08 30 39.3 -1.0**
HRA IAmb IAmb 08 30 44.8
comp=Z,24nm,1.4s
BRVK Borovoye 35.80 329 *ce*P **P 08 30 53.9 +1.1**
BRVK pmax pmax
comp=Z,15nm,1.3s
BRVK Borovoye 35.80 329 P **P 08 30 51.8 -1.0**
BRVK IAmb IAmb 08 30 56.8
comp=Z,9.0nm,0.8s
GEYT Alibeck 37.97 300 P **P 08 31 12.8 +1.3**
comp=Z,12nm,0.8s,baz=132,slow=6.6,SNR=18
GEYT LR LR 08 50 00.6
comp=Z,85nm,18.2s,baz=335,slow=41
GEYT Alibeck 37.97 300 P **P 08 31 12.6 +1.0**
GYA0B ALIBECK ARRAY 37.97 300 P **P 08 31 11.8 +0.2**
GYA0B IAmb IAmb 08 31 14.5
comp=Z,17nm,0.8s
ERM Erimo 38.67 54 *i* P **P 08 31 14.1 -3.3**
ERM pmax pmax
comp=Z,68nm,1.2s
ERM Erimo 38.67 54 P **P 08 31 17.0 -0.4**
ASAJ Asahikawa 38.76 50 P **P 08 31 17.6 -0.4**
comp=Z,39nm,1.0s,baz=258,slow=16,SNR=7.6
JKA Kamikawa-asahi 38.76 50 P **P 08 31 17.6 -0.5**
ABKAR Abkulak array 39.51 318 P **P 08 31 24.1 -0.2**
ABKAR Abkulak array 39.51 318 P **P 08 31 24.1 -0.2**
ABKAR IAmb IAmb 08 31 26.3
comp=Z,6.9nm,0.8s
YSS Yuzh-Sakhalins 39.66 46 *e*P **P 08 31 24.9 -0.7**
YSS pmax pmax
comp=Z,32nm,1.3s
AKTO Aktyubinsk 41.10 319 P **P 08 31 37.6 +0.2**
comp=Z,4.1nm,0.8s,baz=112,slow=6.6,SNR=12
YAK Yakutsk 41.54 20 *i* P **P 08 31 39.4 -1.5**
YAK pmax pmax
comp=Z,7.0nm,0.8s
BATI Baumata 41.89 145 LR LR 08 53 06.0
comp=Z,123nm,18.8s,baz=300,slow=42
SVE Sverdlovsk 42.52 329 *e*P **P 08 31 50.5 +1.6**
SVE pmax pmax
comp=Z,15nm,0.9s
ARU Arti 43.32 327 *c i*P **P 08 31 55.8 +0.3**
ARU 08 33 34.5
ARU S **S 08 38 26.9 +4.0**
ARU pmax pmax
comp=Z,22nm,1.4s
ARU Arti 43.32 327 P **P 08 31 54.9 -0.5**
NRIK Noril'sk 44.68 353 P **P 08 32 06.0 -0.2**
comp=Z,14nm,1.0s,baz=154,slow=6.8,SNR=16
NRIK LR LR 08 51 29.2
comp=Z,164nm,20.0s,baz=275,slow=37
JAY Jayapura 47.72 120 LR LR 08 50 03.0
comp=Z,26nm,21.8s,baz=146,slow=33
GNI Garni 48.49 302 *i* P **P 08 32 37.9 +1.2**
GNI pmax pmax
comp=Z,47nm,0.9s
GNI Garni 48.49 302 LR LR 08 57 05.9
comp=Z,85nm,18.6s,baz=80,slow=41
MA2 Magadan 48.57 31 *ce*P **P 08 32 33.6 -3.3**
MA2 pmax pmax
comp=Z,136nm,2.5s
MA2 Magadan 48.57 31 P **P 08 32 37.1 +0.2**
TIXI Tiksi 48.97 11 *ce*P **P 08 32 38.5 -1.2**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 48.97 11 P **P 08 32 38.4 -1.3**
comp=Z,7.0nm,0.8s,baz=360,slow=24,SNR=15
TIXI Tiksi 48.97 11 P **P 08 32 38.7 -1.0**
ZEI Tsey 49.16 306 *e*P **P 08 32 42.3 +0.4**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
KNRA Kununurra 49.16 143 P **P 08 32 42.1 +0.2**
KNRA IAmb IAmb 08 32 52.0
comp=Z,23nm,1.3s
AKH Akhalkalaki 49.44 304 P **P 08 32 42.7 -1.3**
AKH pmax pmax
comp=Z,17nm,1.1s
AKH Akhalkalaki 49.44 304 P **P 08 32 42.7 -1.3**
AKH IAmb IAmb 08 32 46.9
comp=Z,17nm,1.1s
FITZ Fitzroy Crossi 49.60 148 P **P 08 32 45.6 +0.4**
FITZ IAmb IAmb 08 32 46.8
comp=Z,9.3nm,0.8s
RAYN Ar Rayn 49.89 280 P **P 08 32 47.3 -0.2**
RAYN pmax pmax
comp=Z,12nm,0.9s
RAYN Ar Rayn 49.89 280 P **P 08 32 47.3 -0.2**
RAYN IAmb IAmb 08 32 48.9
comp=Z,12nm,0.8s
KBZ Khabaz 49.92 307 LR LR 08 57 51.7
comp=Z,108nm,18.7s,baz=82,slow=41
NEY Neytrino 50.03 306 *i* P **P 08 32 48.5 0.0**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 50.08 307 *e*P **P 08 32 48.8 +0.1**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV Kislovodsk 50.08 307 P **P 08 32 48.0 -0.8**
KIV IAmb IAmb 08 32 53.1
comp=Z,21nm,1.2s
SHA1 Shidzhatmaz 50.09 307 *i* P **P 08 32 49.0 0.0**
PSAC1 Pilbara Seismi 50.21 157 P **P 08 32 50.4 +0.6**
PSAC1 IAmb IAmb 08 32 59.7
comp=Z,18nm,1.1s
PSAB2 Pilbara Seismi 50.25 156 P **P 08 32 50.9 +0.9**
PSAB2 IAmb IAmb 08 32 51.6
comp=Z,13nm,0.9s
PSAA2 Pilbara Seismi 50.25 156 P **P 08 32 51.0 +1.0**
PSAA2 IAmb IAmb 08 32 51.6
comp=Z,14nm,1.0s
PSA00 Pilbara Seismi 50.26 156 P **P 08 32 50.9 +0.8**
PSA00 IAmb IAmb 08 32 51.7
comp=Z,13nm,1.1s
PSAA1 Pilbara Seismi 50.26 156 P **P 08 32 50.3 +0.2**
PSAA1 IAmb IAmb 08 32 51.7
comp=Z,12nm,1.0s
PSAA3 Pilbara Seismi 50.27 156 P **P 08 32 50.9 +0.7**
PSAA3 IAmb IAmb 08 32 51.8
comp=Z,18nm,1.1s
PSAC2 Pilbara Seismi 50.27 156 P **P 08 32 51.0 +0.8**
PSAC2 IAmb IAmb 08 33 06.3
comp=Z,20nm,1.3s
PSAD3 Pilbara Seismi 50.30 157 P **P 08 32 51.5 +1.0**
PSAD3 IAmb IAmb 08 32 52.0
comp=Z,16nm,0.9s
SEY Seymchan 50.59 28 P **P 08 32 51.9 -0.3**
comp=Z,3.5nm,0.8s,baz=260,slow=7.7,SNR=4.1
SEY PcP **PcP 08 34 09.4 -0.4**
comp=Z,6.9nm,0.9s,baz=215,slow=6.5,SNR=6.3
KLMR Klimovskoe 54.15 328 *e*P **P 08 33 17.9 -0.7**
KLMR pmax pmax
comp=Z,40nm,1.4s
KLMR Klimovskoe 54.15 328 *e*P **P 08 33 17.9 -0.7**
KLMR AMP 08 33 23.4
comp=Z,40nm,1.4s
OBN Obninsk 54.81 321 ⇑*e*P **P 08 33 22.7 -0.8**
OBN *PP **pP 08 33 26.0 -1.1**
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 54.81 321 LR LR 08 58 55.6
comp=Z,70nm,18.4s,baz=306,slow=38
WB0 Warramunga Arr 55.61 141 P **P 08 33 29.4 -0.3**
WRAB Tennant Creek 55.71 141 P **P 08 33 31.1 +0.7**
WRAB pmax pmax
comp=Z,28nm,0.7s
WRAB Tennant Creek 55.71 141 P **P 08 33 31.1 +0.7**
WRA Warramunga Arr 55.71 141 P **P 08 33 30.0 -0.5**
WRA pmax pmax
comp=Z,2.0nm,1.3s
WRA Warramunga Arr 55.71 141 P **P 08 33 31.0 +0.6**
comp=Z,24nm,0.7s,baz=329,slow=7.9,SNR=158
WRA PcP **PcP 08 34 29.8 0.0**
comp=Z,2.1nm,1.0s,baz=314,slow=4.4,SNR=2.8
WRA LR LR 09 00 01.1
comp=Z,32nm,18.5s,baz=295,slow=39
WRA Warramunga Arr 55.71 141 P **P 08 33 30.0 -0.5**
WB2 Warramunga Arr 55.72 141 P **P 08 33 31.1 +0.6**
WR0 Warramunga Arr 55.84 141 P **P 08 33 31.7 +0.3**
MORW Morawa 56.12 164 P **P 08 33 34.4 +1.2**
COEN Coen 56.99 128 P **P 08 33 40.2 +0.5**
COEN IAmb IAmb 08 33 42.2
comp=Z,15nm,1.2s
PMG Port Moresby 57.00 121 *ce*P **P 08 33 38.9 -0.8**
PMG pmax pmax
comp=Z,103nm,1.0s
PMG Port Moresby 57.00 121 P **P 08 33 40.0 +0.3**
BR131 Keskin Array S 57.03 302 P **P 08 33 39.2 -0.7**
BR131 pmax pmax
comp=Z,6.0nm,1.1s
BR131 Keskin Array S 57.03 302 P **P 08 33 39.2 -0.7**
BRTR Keskin Array B 57.03 302 P **P 08 33 38.9 -1.0**
comp=Z,1.5nm,0.7s,baz=106,slow=9.4,SNR=6.5
BILL Bilibino 57.66 24 *d i*P **P 08 33 43.0 -0.7**
BILL *PP **pP 08 33 46.0 -1.4**
BILL *SP **sP 08 33 48.0 -0.8**
BILL SS **SS 08 45 24.0 -7.6**
BILL pmax pmax
comp=Z,20nm,1.7s
BILL MLR MLR
comp=Z,78nm,15.0s
BILL Bilibino 57.66 24 P **P 08 33 42.9 -0.7**
BILL IAmb IAmb 08 33 46.7
comp=Z,17nm,1.2s
EIL Elat 57.69 290 LR LR 09 04 10.6
comp=Z,53nm,18.4s,baz=93,slow=42
AS31 Alice Springs 58.45 144 P **P 08 33 50.6 +0.8**
ASAR Alice Springs 58.45 144 P **P 08 33 50.6 +0.8**
comp=Z,12nm,0.8s,baz=326,slow=6.8,SNR=94
ASAR PcP **PcP 08 34 40.9 +0.5**
comp=Z,3.7nm,0.9s,baz=322,slow=4.5,SNR=5.7
ASAR Alice Springs 58.45 144 P **P 08 33 50.3 +0.5**
AKASG Malin Array Be 59.17 315 P **P 08 33 53.3 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 59.17 315 P **P 08 33 53.6 -0.9**
comp=Z,3.1nm,0.7s,baz=76,slow=6.5,SNR=7.4
AKASG Malin Array Be 59.17 315 P **P 08 33 53.3 -1.2**
AKBB Malin Array Si 59.17 315 P **P 08 33 53.2 -1.3**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 59.17 315 P **P 08 33 53.2 -1.3**
NWAO Narrogin (SRO) 60.09 164 P **P 08 34 01.7 +0.7**
NWAO pmax pmax
comp=Z,26nm,0.8s
NWAO Narrogin (SRO) 60.09 164 LR LR 09 00 11.6
comp=Z,46nm,21.4s,baz=15,slow=36
NWAO Narrogin (SRO) 60.09 164 P **P 08 34 02.1 +1.1**
NWAO Narrogin (SRO) 60.09 164 P **P 08 34 01.7 +0.7**
NWAO IAmb IAmb 08 34 03.5
comp=Z,26nm,0.8s
ELL Elmali 60.39 299 P **P 08 34 02.9 -0.4**
ELL pmax pmax
comp=Z,77nm,0.8s
ELL Elmali 60.39 299 P **P 08 34 02.9 -0.4**
HARR Harsova 60.61 309 ⇑P P 08 34 14.6 +10
HARR Harsova 60.61 309 ⇑P P 08 34 14.6 +10
FINES FINESS Array B 60.69 328 P **P 08 34 04.4 -0.3**
FINES FINESS Array B 60.69 328 P **P 08 34 03.8 -0.9**
comp=Z,6.4nm,0.8s,baz=76,slow=8.0,SNR=6.2
FINES FINESS Array B 60.69 328 P **P 08 34 04.4 -0.3**
ARCES ARCESS Array B 61.27 337 P **P 08 34 07.1 -1.5**
ARCES ARCESS Array B 61.27 337 P **P 08 34 06.7 -1.9**
comp=Z,7.2nm,1.0s,baz=88,slow=6.4,SNR=3.7
ARCES ARCESS Array B 61.27 337 P **P 08 34 07.1 -1.5**
VRI Vrincioaia 61.29 310 ⇑P **P 08 34 09.7 +0.5**
PLOR Plostina 61.35 310 ⇑P **P 08 34 10.7 +1.1**
BIZ Bicaz 61.58 311 ⇑P **P 08 34 10.0 -1.1**
FORT Forrest 61.71 153 P **P 08 34 12.6 +0.6**
MLR Muntele Rosu 61.89 310 P **P 08 34 13.0 -0.3**
MLR pmax pmax
comp=Z,31nm,1.2s
MLR Muntele Rosu 61.89 310 ⇑P **P 08 34 14.4 +1.1**
MLR Muntele Rosu 61.89 310 P **P 08 34 13.0 -0.3**
BURAR Bucovina Array 62.08 312 P **P 08 34 14.6 0.0**
ARR Arges 62.82 310 ⇑P **P 08 34 19.8 +0.3**
DRGR 63.90 312 P **P 08 34 27.2 +0.6**
DRGR 63.90 312 ⇑P **P 08 34 27.2 +0.6**
GZR Gura Zlata 64.10 310 ⇑P **P 08 34 28.1 +0.1**
VTS Vitosha 64.31 307 P **P 08 34 29.2 -0.3**
VTS pmax pmax
comp=Z,11nm,1.1s
VTS Vitosha 64.31 307 ⇑P **P 08 34 30.0 +0.4**
VTS mb 08 34 33.5
VTS Vitosha 64.31 307 P **P 08 34 29.1 -0.3**
VTS IAmb IAmb 08 34 33.5
comp=Z,11nm,1.1s
MDVR Moldovita 64.96 310 ⇑P **P 08 34 34.2 +0.6**
VYHS Vyhne 66.15 314 *e*P **P 08 34 41.7 +0.5**
VYHS Vyhne 66.15 314 *e*P **P 08 34 41.7 +0.5**
KMBO Kilima Mbogo 66.58 257 P **P 08 34 45.1 +0.4**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 66.58 257 P **P 08 34 44.2 -0.5**
comp=Z,2.7nm,0.8s,baz=37,slow=9.5,SNR=7.2
KMBO LR LR 09 06 30.2
comp=Z,33nm,18.1s,baz=89,slow=38
KMBO Kilima Mbogo 66.58 257 P **P 08 34 45.1 +0.4**
HFS Hagfors 66.84 327 LR LR 09 06 00.6
comp=Z,1μm,19.4s,baz=12,slow=38
PDG Podgorica 67.22 307 ⇑P **P 08 34 50.2 +2.2**
HNR Honiara 67.31 113 LR LR 09 00 23.5
comp=Z,20nm,20.4s,baz=298,slow=33
DPC Dobruska-Polom 67.36 316 *e*P **P 08 34 49.9 +1.0**
DPC *e* 08 34 53.1
DPC Dobruska-Polom 67.36 316 *e*P **P 08 34 49.9 +1.0**
DPC *ep*P **pP 08 34 53.1 +0.5**
NB2 NORSAR Subarra 67.86 328 P **P 08 34 50.7 -1.1**
comp=Z,1.5nm,0.7s,baz=77,slow=6.9
NOA NORSAR Array B 67.86 328 P **P 08 34 50.0 -1.8**
comp=Z,3.9nm,0.9s,baz=77,slow=6.3,SNR=4.9
NOA LR LR 09 05 52.1
comp=Z,94nm,18.2s,baz=325,slow=37
BRG Berggiesshubel 68.71 317 *e*P **P 08 34 57.8 +0.5**
comp=Z,12nm,1.3s
BRG Berggiesshubel 68.71 317 *e*P **P 08 34 57.8 +0.5**
BRG pmax pmax
comp=Z,12nm,1.3s
STKA Stephens Creek 69.08 143 P **P 08 34 58.0 -1.7**
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 69.08 143 P **P 08 34 58.9 -0.8**
comp=Z,6.6nm,0.7s,baz=316,slow=4.9,SNR=14
STKA Stephens Creek 69.08 143 P **P 08 34 58.0 -1.7**
CLL Collm 69.18 318 *e*P **P 08 35 01.0 +0.8**
CLL *e* 08 35 08.0
CLL Collm 69.18 318 *e*P **P 08 35 01.0 +0.8**
CLL *e* 08 35 08.0
GEC2 GERESS Array S 69.38 315 P **P 08 35 01.3 -0.4**
GEC2 IAmb IAmb 08 35 07.3
comp=Z,14nm,1.5s
GERES GERESS Array B 69.38 315 P **P 08 35 01.3 -0.4**
GERES GERESS Array B 69.38 315 P **P 08 35 00.7 -1.0**
comp=Z,2.2nm,0.7s,baz=63,slow=6.1,SNR=10
GERES LR LR 09 08 48.2
comp=Z,139nm,20.2s,baz=16,slow=39
GERES GERESS Array B 69.38 315 P **P 08 35 01.3 -0.4**
KHC Kasperske Hory 69.38 316 *e*P **P 08 35 01.9 +0.3**
KHC *e* 08 35 05.7
KHC Kasperske Hory 69.38 316 *e*P **P 08 35 01.9 +0.3**
KHC *ep*P **pP 08 35 05.7 +0.4**
EIDS Eidsvold 70.17 132 P **P 08 35 07.1 +0.5**
EIDS IAmb IAmb 08 35 08.7
comp=Z,12nm,1.1s
DAG Danmarks Havn 71.78 348 *i* P **P 08 35 13.4 -2.2**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 71.78 348 *i* P **P 08 35 13.4 -2.2**
comp=Z,2.2nm,0.7s
MBAR Mbarara 72.12 261 P **P 08 35 18.0 -1.0**
MBAR pmax pmax
comp=Z,7.0nm,0.8s
MBAR Mbarara 72.12 261 P **P 08 35 18.0 -1.0**
MBAR IAmb IAmb 08 35 20.8
comp=Z,7.5nm,0.8s
IMAR Indian Mountai 73.21 24 P **P 08 35 24.1 -0.2**
TTA Tatalina 73.56 28 P **P 08 35 27.3 +0.7**
TTA pmax pmax
comp=Z,15nm,1.0s
TTA Tatalina 73.56 28 P **P 08 35 27.3 +0.7**
TTA IAmb IAmb 08 35 27.9
comp=Z,14nm,1.0s
COLD Coldfoot 73.94 22 P **P 08 35 28.4 -0.2**
SVW2 Sparrevohn 74.49 29 P **P 08 35 32.9 +0.9**
SVW2 IAmb IAmb 08 35 33.8
comp=Z,20nm,1.0s
MLY Manley 74.76 25 P **P 08 35 33.4 -0.2**
BPAW Bear Paw Mtn. 75.09 26 P **P 08 35 35.4 0.0**
BNI Bardonecchia 75.13 313 P **P 08 35 36.3 +0.2**
BNI pmax pmax
comp=Z,14nm,1.5s
BNI Bardonecchia 75.13 313 P **P 08 35 36.4 +0.2**
BNI IAmb IAmb 08 35 44.5
comp=Z,14nm,1.5s
PPLA Purkeypile 75.16 27 P **P 08 35 36.2 +0.2**
KTH Kantishna Hill 75.37 26 P **P 08 35 36.6 -0.5**
KTH IAmb IAmb 08 35 40.8
comp=Z,14nm,1.2s
NEA Nenana 75.60 25 P **P 08 35 38.3 0.0**
TRF Thorofare Moun 75.67 26 P **P 08 35 38.5 -0.5**
TRF IAmb IAmb 08 35 45.8
comp=Z,8.9nm,1.0s
MDM Murphy Dome 75.73 24 P **P 08 35 38.2 -0.9**
BMAR Burnt Mountain 75.74 21 P **P 08 35 39.7 +0.6**
COLA College 75.92 24 *i* P **P 08 35 39.7 -0.3**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 75.92 24 P **P 08 35 38.1 -1.9**
COLA IAmb IAmb 08 35 41.4
comp=Z,11nm,0.7s
RSO Redoubt South 76.02 29 P **P 08 35 39.3 -1.7**
WRH Wood River Hil 76.03 25 P **P 08 35 40.4 -0.3**
CCB Clear Creek Bu 76.05 24 P **P 08 35 39.9 -1.0**
MCK McKinley 76.07 25 P **P 08 35 40.8 -0.2**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 76.07 25 P **P 08 35 40.8 -0.2**
MCK IAmb IAmb 08 35 42.3
comp=Z,13nm,1.0s
RND Reindeer 76.26 26 P **P 08 35 40.0 -2.2**
RND pmax pmax
comp=Z,21nm,1.1s
RND Reindeer 76.26 26 P **P 08 35 40.0 -2.2**
RND IAmb IAmb 08 35 42.4
comp=Z,21nm,1.1s
IL31 76.32 24 P **P 08 35 40.8 -1.6**
IL31 IAmb IAmb 08 35 45.0
comp=Z,9.0nm,1.3s
ILAR Eielson Array 76.32 24 P **P 08 35 41.2 -1.2**
comp=Z,3.5nm,1.0s,baz=288,slow=5.9,SNR=19
ILAR Eielson Array 76.32 24 P **P 08 35 40.8 -1.6**
SUA Susitna One 76.42 28 P **P 08 35 42.7 -0.5**
PRP Porcupine Dome 76.43 23 P **P 08 35 43.5 +0.3**
PRP IAmb IAmb 08 35 44.3
comp=Z,16nm,0.8s
HDA Harding Lake 76.49 24 P **P 08 35 42.0 -1.4**
RC01 Rabbit Creek A 77.03 28 P **P 08 35 45.7 -0.7**
PMR Palmer 77.04 27 P **P 08 35 45.9 -0.6**
PMR pmax pmax
comp=Z,27nm,0.9s
PMR Palmer 77.04 27 P **P 08 35 45.9 -0.6**
BRLK Bradley Lake 77.17 29 P **P 08 35 46.6 -0.7**
SML Sawmill 77.26 27 P **P 08 35 47.2 -0.7**
KDAK Kodiak Island 77.32 32 P **P 08 35 48.2 +0.1**
KDAK pmax pmax
comp=Z,34nm,1.0s
KDAK Kodiak Island 77.32 32 P **P 08 35 48.2 +0.1**
KNK Knik Glacier 77.41 27 P **P 08 35 48.5 -0.1**
RIDG Independent Ri 77.62 24 P **P 08 35 48.8 -1.1**
SEW Seward 77.64 29 P **P 08 35 49.0 -0.8**
SCM Sheep Creek Mo 77.66 27 P **P 08 35 50.3 +0.2**
SCM pmax pmax
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 77.66 27 P **P 08 35 50.4 +0.2**
SCRK Sand Creek 77.82 24 P **P 08 35 49.7 -1.3**
SCRK IAmb IAmb 08 35 52.0
comp=Z,18nm,1.3s
EGAK Eagle 78.38 23 P **P 08 35 53.8 -0.1**
EGAK IAmb IAmb 08 35 55.1
comp=Z,12nm,1.2s
SUMG Summit 78.44 348 *i* P **P 08 35 53.5 -1.1**
SUMG pmax pmax
comp=Z,43nm,1.1s
SUMG Summit 78.44 348 *i* P **P 08 35 53.5 -1.1**
comp=Z,43nm,1.1s
SUMG Summit 78.44 348 P **P 08 35 53.9 -0.7**
SUMG IAmb IAmb 08 35 55.2

comp=Z,15nm,1.0s
INK Inuvik 78.56 18 P **P 08 35 55.0 +0.2**
INK pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 78.56 18 P **P 08 35 55.0 +0.2**
INK IAmb IAmb 08 35 55.7
comp=Z,15nm,1.0s
FID Port Fidalgo 78.58 27 P **P 08 35 54.7 -0.4**
HIN Hinchinbrook I 78.75 28 P **P 08 35 56.0 -0.1**
EPYK Eagle Plains 78.87 20 P **P 08 35 56.1 -0.6**
EPYK IAmb IAmb 08 35 56.9
comp=Z,14nm,1.1s
EYAK Cordova Ski Ar 78.99 27 P **P 08 35 57.7 +0.4**
BCAR Beaver Creek A 79.15 24 P **P 08 35 57.9 -0.4**
KULLO Kullorsuaq 79.26 354 *i* P **P 08 35 58.3 -0.3**
KULLO pmax pmax
comp=Z,20nm,0.9s
KULLO Kullorsuaq 79.26 354 *i* P **P 08 35 58.3 -0.3**
comp=Z,20nm,0.9s
GLB Gilahina Butte 79.29 26 P **P 08 35 58.3 -0.8**
GLB IAmb IAmb 08 36 00.2
comp=Z,11nm,0.8s
DZM Mont Dzumac 79.38 121 P **P 08 36 00.4 +0.2**
DZM IAmb IAmb 08 36 02.9
comp=Z,14nm,1.0s
DAWY Dawson 79.42 23 P **P 08 35 59.5 -0.2**
DAWY IAmb IAmb 08 36 00.4
comp=Z,8.9nm,0.8s
VRDI Verde Repeater 79.55 26 P **P 08 36 00.1 -0.6**
VRDI IAmb IAmb 08 36 01.9
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 79.64 26 P **P 08 36 01.2 +0.3**
MCARA IAmb IAmb 08 36 05.2
comp=Z,23nm,1.0s
TGL Tana Glacier 80.07 26 P **P 08 36 02.1 -1.2**
TGL IAmb IAmb 08 36 04.6
comp=Z,19nm,0.9s
BALM Baldy 80.11 26 P **P 08 36 03.4 -0.2**
BALM IAmb IAmb 08 36 05.0
comp=Z,9.9nm,0.9s
BARN Barnard Glacie 80.36 26 P **P 08 36 04.5 -0.6**
BARN IAmb IAmb 08 36 06.6
comp=Z,11nm,0.7s
CTGM Chitina Glacie 80.55 26 P **P 08 36 06.0 0.0**
CTGM IAmb IAmb 08 36 10.3
comp=Z,15nm,1.0s
SKAG Skagway 83.83 25 P **P 08 36 22.2 -0.8**
WRAK Wrangell Islan 87.06 26 P **P 08 36 38.6 -0.6**
WRAK IAmb IAmb 08 36 45.2
comp=Z,15nm,1.2s
BOSA Boshof 90.10 238 LR LR 09 14 27.8
comp=Z,26nm,18.7s,baz=30,slow=34
TORD Torodi Ar. Bea 92.30 286 P **P 08 37 03.0 -1.6**
comp=Z,0.8nm,0.7s,baz=58,slow=4.1,SNR=5.0
TORD Torodi Ar. Bea 92.30 286 P **P 08 37 04.3 -0.3**
QSPA South Pole Qui 115.16 180 PKiKP 08 42 33.4 -1.0
TXAR Lajitas Array 120.83 25 PKIKP **PKPdf 08 42 45.4 -1.3**
TXAR Lajitas Array 120.83 25 PKPdf 08 42 45.4 -1.3
NATX Nacogdoches 121.36 15 PKPdf 08 42 44.6 -2.9
SDV Santo Domingo 144.90 345 *eP* **PKPab 08 43 29.8 -1.3**
SDV Santo Domingo 144.90 345 *eP* **PKPab 08 43 29.8 -1.3**
SDV Santo Domingo 144.90 345 PKPab 08 43 30.3 -0.8
SOCV Socops 145.54 345 *eP* **PKPdf 08 43 29.4 -3.5**
SOCV Socops 145.54 345 *eP* **PKPdf 08 43 29.4 -3.5**
SMLC San Martn de 145.65 351 *eP* **PKPdf 08 43 30.8 -2.3**
SMLC San Martn de 145.65 351 *eP* **PKPdf 08 43 30.8 -2.3**
ELOV Elorza 146.41 342 *eP* **PKPdf 08 43 34.9 +0.5**
ELOV Elorza 146.41 342 *eP* **PKPdf 08 43 34.9 +0.5**
BRRC Barranca, Sant 147.25 350 *eP* **PKPdf 08 43 34.4 -1.4**
BRRC Barranca, Sant 147.25 350 *eP* **PKPdf 08 43 34.4 -1.4**
PTBC PUERTO BERRIO 147.93 351 *eP* **PKPdf 08 43 35.8 -1.2**
PTBC PUERTO BERRIO 147.93 351 *eP* **PKPdf 08 43 35.8 -1.2**
RUSC La Rusia 148.33 348 *eP* **PKPdf 08 43 37.8 -0.4**
RUSC La Rusia 148.33 348 *eP* **PKPdf 08 43 37.8 -0.4**
HELC Santa Helena 148.41 353 *eP* **PKPbc 08 43 41.3 -0.3**
HELC Santa Helena 148.41 353 *eP* **PKPbc 08 43 41.3 -0.3**
SPBC San Pablo de B 148.74 350 *eP* **PKPdf 08 43 38.4 0.0**
SPBC San Pablo de B 148.74 350 *eP* **PKPdf 08 43 38.4 0.0**
NORC Norcasia 148.94 351 *eP* **PKPdf 08 43 38.1 -0.6**
NORC Norcasia 148.94 351 *eP* **PKPdf 08 43 38.1 -0.6**
BDFB Brasilia 149.12 282 PKP2 **PKPbc 08 43 43.6 +0.6**
BDFB Brasilia 149.12 282 PKPbc **PKPbc 08 43 41.2 -1.8**
comp=Z,10nm,0.9s,baz=42,slow=1.3,SNR=7.0
BDFB Brasilia 149.12 282 PKPbc 08 43 43.6 +0.6
GUY2C Guyana, Caldas 149.34 352 *eP* **PKPdf 08 43 39.5 -0.3**
GUY2C Guyana, Caldas 149.34 352 *eP* **PKPdf 08 43 39.5 -0.3**
ROSC El Rosal 149.57 350 *eP* **PKiKP 08 43 45.2 -0.5**
ROSC El Rosal 149.57 350 *eP* **PKiKP 08 43 45.2 -0.5**
ROSC El Rosal 149.57 350 PKP **PKPdf 08 43 40.5 +0.4**
comp=Z,9.4nm,0.7s,baz=100,slow=21,SNR=7.3
ROSC PKPbc **PKiKP 08 43 45.3 -0.5**
comp=Z,19nm,0.7s,baz=29,slow=16,SNR=6.8
ROSC El Rosal 149.57 350 PKPdf 08 43 41.0 +0.9
ROSC **sPKPdf 08 43 45.5 +0.1**
CHIC Chingaza 149.68 349 *eP* **PKPbc 08 43 43.5 -1.4**
CHIC Chingaza 149.68 349 *eP* **PKPbc 08 43 43.5 -1.4**
PTGC Puerto Gaitan, 149.78 345 *eP* **PKPdf 08 43 41.6 +1.7**
PTGC Puerto Gaitan, 149.78 345 *eP* **PKPdf 08 43 41.6 +1.7**
VILC Villavicencio, 150.18 348 *eP* **PKPdf 08 43 41.7 +0.9**
VILC *eP* **PKiKP 08 43 47.9 +1.3**
VILC Villavicencio, 150.18 348 *eP* **PKPdf 08 43 41.7 +0.9**
VILC *eP* **PKiKP 08 43 47.9 +1.3**
ORTC Ortega, Tolima 150.62 352 *eP* **PKPbc 08 43 45.2 -1.5**
ORTC Ortega, Tolima 150.62 352 *eP* **PKPbc 08 43 45.2 -1.5**
YOTC Yotoco, Valle 150.68 354 *eP* **PKPdf 08 43 40.4 -1.1**
YOTC Yotoco, Valle 150.68 354 *eP* **PKPdf 08 43 40.4 -1.1**
SPB Sao Paulo 150.89 267 PKiKP 08 43 47.9 +0.3
GUVC San Jose del G 151.49 346 *eP* **PKPbc 08 43 46.1 -2.6**
GUVC *eP* **pPKPdf 08 43 47.0 +0.4**
GUVC San Jose del G 151.49 346 *eP* **PKPbc 08 43 46.1 -2.6**
GUVC *eP* **pPKPdf 08 43 47.0 +0.4**
PCON Cinco Dias 152.32 354 *eP* **PKiKP 08 43 51.5 -0.1**
PCON Cinco Dias 152.32 354 *eP* **PKiKP 08 43 51.5 -0.1**
SOTA Rioblanco 152.53 354 *eP* **PKPbc 08 43 51.5 -0.2**
SOTA Rioblanco 152.53 354 *eP* **PKPbc 08 43 51.5 -0.2**
FLOC Florencia 152.97 352 *eP* **PKPbc 08 43 51.2 -0.9**
FLOC Florencia 152.97 352 *eP* **PKPbc 08 43 51.2 -0.9**
CPUP Villa Florida 160.11 262 PKP **PKPdf 08 43 52.8 -0.8**
comp=Z,1.9nm,0.9s,baz=60,slow=4.1,SNR=3.2
LPAZ La Paz 166.13 308 PKIKP **PKPdf 08 43 58.7 -1.7**
LPAZ 08 44 56.9
LPAZ La Paz 166.13 308 PKP **PKPdf 08 44 00.1 -0.4**
comp=Z,2.9nm,0.9s,baz=67,slow=3.9,SNR=8.6
LPAZ La Paz 166.13 308 PKPdf 08 43 58.7 -1.7
LPAZ PKPab **PKPab 08 44 56.9 -4.0**

*IDC **28** 08:57:40.9±1.6, 0.°48S×132.°83E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/39, mbtmp3.9/5, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/36, Error ellipse: s-maj=29.8km s-min=21.8km az=54.0*
*DJA **28** 08:57:42.5±1.2, 0.°S±10.°×13.°3E±.°, h10km, M3.8/5, MLv3.8/5*
*ISCJB **28** 08:57:43.1±1.3, 0.°4S±0.°1×132.°94E±0.°07, h32km, MS3.3/1, Error ellipse: s-maj=18.3km s-min=9.4km az=8.9*
ISC 28 08:57:44.9±1.4, 0.°4S±0.°1×132.°89E±0.°08, h32km, n14, σ1=19/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.69**	**254**	Pn	**Pn**	**08 58 11.4**	**-0.8**
	95nm,0.3s,baz=122,slow=14,SNR=76						
SIJI				Sn	**Sn**	**08 58 32.0**	**-0.7**
	108nm,0.3s,baz=143,slow=8.8,SNR=21						
SWI	**Sorong**	**1.69**	**254**	P	**Pn**	**08 58 11.5**	**-0.7**
SWI				S	**Sn**	**08 58 33.2**	**+0.4**
RKPI	**Ransiki, Papua**	**1.70**	**131**	P	**Pb**	**08 58 15.1**	**-0.4**
FAKI	**Fak Fak**	**2.58**	**194**	P	**Pn**	**08 58 25.1**	**+0.6**
MSAI	**Masohi**	**4.92**	**233**	P	**Pn**	**08 58 59.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P	**P**	**09 02 02.1**	**-1.7**
	0.1nm,0.3s,baz=30,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**19.48**	**176**	P	**P**	**09 02 08.9**	**-0.4**
	0.3nm,0.3s,baz=354,slow=11,SNR=23						
ASAR	**Alice Springs**	**23.15**	**178**	P	**P**	**09 02 48.4**	**-0.3**
	2.3nm,0.6s,baz=1.5,slow=9.4,SNR=41						
STKA	**Stephens Creek**	**32.37**	**166**	P	**P**	**09 04 11.6**	**-0.1**
	3.9nm,0.8s,baz=338,slow=9.2,SNR=4.9						
JHJ	**Hachijo jima 2**	**33.97**	**10**	LR	LR	09 16 23.2	
	comp=Z,64nm,21.6s,baz=302,slow=33						
H11N1	**WAKE ISLAND Hy**	**38.86**	**57**	T	T	09 46 25.2	
	baz=242,slow=75,SNR=259						
H11N2	**WAKE ISLAND Hy**	**38.87**	**57**	T	T	09 46 27.6	
	baz=242,slow=75,SNR=341						
H11N3	**WAKE ISLAND Hy**	**38.88**	**57**	T	T	09 46 26.6	
	baz=242,slow=75,SNR=230						
MKAR	**Makanchi Array**	**64.46**	**324**	P	**P**	**09 08 19.5**	**+1.1**
	0.2nm,0.5s,baz=124,slow=7.2,SNR=2.6						

JMA 28 09:04:13.4±0.3, 37.°13N×144.°40E, h55km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.61**	**298**	P	Pn	09 04 54.4	+1.3
JIKH				*eS*	Sn	09 05 25.3	+1.8
JIO	**Ouri**	**2.75**	**300**	P	Pn	09 04 56.5	+1.4
JFK	**Kawauchi**	**2.82**	**276**	P	Pn	09 04 57.1	+1.0
JFK				*eS*	Sn	09 05 29.8	+0.9
JKMT	**Kesennumamotoy**	**2.86**	**307**	P	Pn	09 04 57.6	+1.1
JKMT				S	Sn	09 05 30.9	+1.3
JMST	**Minamisoumatoc**	**2.86**	**283**	P	Pn	09 04 57.6	+1.1
JMST				*eS*	Sn	09 05 31.4	+1.7
ONAJ	**Iwakimizuishiy**	**2.88**	**271**	P	Pn	09 04 58.0	+1.1
ONAJ				*eS*	Sn	09 05 31.3	+1.0
JMK	**Ichinoseki**	**3.10**	**307**	P	Pn	09 05 01.4	+1.6
JMK				*eS*	Sn	09 05 37.7	+2.1
JFT	**Otama**	**3.26**	**278**	P	Pn	09 05 04.3	+2.2
JRY	**Ryogami san**	**4.56**	**258**	P	Pn	09 05 20.7	+0.8
JRY				*eS*	Sn	09 06 11.8	+0.2
JOD2	**Odawara 2**	**4.68**	**248**	*eS*	Sn	09 06 14.2	-0.4
JOT	**Ohata**	**4.98**	**330**	P	Pn	09 05 27.6	+2.1
JCH	**Churui**	**5.54**	**352**	P	Pn	09 05 32.0	-1.2
JCH				*eS*	Sn	09 06 31.6	-3.8
NEM2	**Nemuro 2**	**6.31**	**9**	P	Pn	09 05 40.4	-3.4
JTKR	**Abashiri--Toko**	**6.84**	**357**	P	Pn	09 05 49.7	-1.4
JTKR				*eS*	Sn	09 07 02.6	-4.9

IDC 28 09:08:21.5±4.8, 3.°60S×147.°16E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/27, mbtmp3.4/2, MS2.1/1, Ms1 2.1/1, ms1mx2.0/16, Error ellipse: s-maj=295.8km s-min=57.4km az=115.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.91**	**98**	LR	LR	09 10 59.8	
	comp=Z,18nm,18.0s,baz=266,slow=32						
WRA	**Warramunga Arr**	**20.50**	**217**	P	P	09 13 01.0	-0.4
	1.5nm,0.9s,baz=42,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**23.71**	**212**	P	P	09 13 35.5	+0.2
	0.8nm,0.8s,baz=43,slow=6.8,SNR=10.0						
TORD	**Torodi Ar. Bea**	**144.59**	**288**	PKP	PKPdf	09 28 00.7	-0.5
	0.2nm,0.4s,baz=100,slow=1.1,SNR=2.9						

*IDC **28** 09:24:23.6±0.8, 70.°95N×8.°53W, h0km, mb3.6/6, mb1 3.9/12, mb1mx3.7/41, mbtmp3.7/12, ML3.2/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/29, Error ellipse: s-maj=21.6km s-min=6.6km az=89.0*
*ISCJB **28** 09:24:25.3±0.3, 71.°06N±0.°03×8.°32W±0.°10, h36km±4km, mb3.5/7, MS3.5/1, Error ellipse: s-maj=7.1km s-min=3.7km az=138.8*
*NAO **28** 09:24:26.0±1.1, 71.°10N×7.°67W, ML4.0*
*BER **28** 09:24:27.2±0.3, 71.°16N×8.°36W, h16km±10km, ML4.3, ML4.0(NAO), Confirmed Earthquake*
*REY **28** 09:24:27.6, 70.°94N×9.°45W, h10km*
ISC 28 09:24:26.9±0.7, 71.°05N±0.°05×8.°06W±0.°06, h27km±6km, n70, σ1=73/85, mb3.6/7, 5C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.10**	**231**	⇑*iP*	**Pb**	**09 24 31.8**	**+0.1**
JNW	**Jan Mayen West**	**0.12**	**259**	⇑*iP*	**Pb**	**09 24 31.4**	**-0.6**
JMIC	**Jan Mayen**	**0.16**	**245**	Pg	**Pb**	**09 24 31.9**	**-0.5**
JMIC				Lg	Lg	09 24 35.5	
JMIC	**Jan Mayen**	**0.16**	**245**	Pn	**Pb**	**09 24 31.8**	**-0.5**
	9μm,0.3s,baz=164,slow=11,SNR=3426						
JMIC				Sn	**Sb**	**09 24 35.4**	**-0.6**
	14μm,0.3s,baz=192,slow=19,SNR=172						
JMIC	**Jan Mayen**	**0.16**	**245**	⇑*iP*	**Pb**	**09 24 31.8**	**-0.5**
JMIC				*eS*	**Sb**	**09 24 35.3**	**-0.6**
JMIC				IAML		09 24 36.0	
	comp=Z,62μm,0.5s						
JMI	**Jan Mayen**	**0.25**	**241**	*eP*	**Pb**	**09 24 33.1**	**-0.3**
JMI				*eS*	**Sb**	**09 24 37.6**	**-0.2**
JMI				IAML		09 24 39.1	
	comp=Z,20μm,0.1s						
SCO	**Scoresbysund**	**4.63**	**269**	*i* P	**Pn**	**09 25 35.0**	**+0.1**
SCO	**Scoresbysund**	**4.63**	**269**	*i* P	**Pn**	**09 25 35.0**	**+0.1**
IGIL	**Gilhagi**	**5.84**	**215**	P	**Pn**	**09 25 50.6**	**-1.0**
	baz=211						
IGIL				S	**Sn**	**09 26 57.1**	**-0.6**
	baz=211						
IHED	**Heoinshofoi**	**6.03**	**219**	P	**Pn**	**09 25 53.4**	**-0.8**
	baz=214						
IHED				S	**Sn**	**09 27 01.3**	**-0.9**
	baz=214						
IDIM	**Dimmadalss**	**6.06**	**217**	P	**Pn**	**09 25 53.9**	**-0.7**
	baz=213						
IDIM				S	**Sn**	**09 27 02.4**	**-0.5**
	baz=213						
ISKI	**Skildingahlsh**	**6.16**	**217**	P	**Pn**	**09 25 55.3**	**-0.7**
	baz=212						
IGRS	**Grimsstaoir**	**6.20**	**213**	P	**Pn**	**09 25 55.9**	**-0.7**
	baz=208						
IGRS				S	**Sn**	**09 27 06.3**	**-0.1**
	baz=208						
IGRA	**Granastaoir**	**6.23**	**219**	P	**Pn**	**09 25 56.4**	**-0.5**
	baz=215						
IGRA				S	**Sn**	**09 27 06.0**	**-1.0**
	baz=215						
IMEL	**Melhnausar**	**6.36**	**214**	P	**Pn**	**09 25 57.5**	**-1.2**
	baz=210						
IMEL				S	**Sn**	**09 27 10.0**	**-0.3**
	baz=210						
DAG	**Danmarks Havn**	**6.44**	**338**	⇑*iP*	**Pn**	**09 25 57.5**	**-2.3**
DAG				*i* S	Sn	09 27 02.3	-10
DAG	**Danmarks Havn**	**6.44**	**338**	*e*	**Pn**	**09 25 56.6**	**-3.2**
	baz=151,slow=18						
DAG				⇑*iP*	**Pn**	**09 25 57.5**	**-2.3**
DAG				*i* S	Sn	09 27 02.4	-10
IADA	**Aoalbol**	**6.68**	**209**	P	**Pn**	**09 26 03.2**	**+0.1**
	baz=204						
IASK	**Askja**	**6.83**	**212**	P	**Pn**	**09 26 05.3**	**+0.1**
	baz=208						
IMKO	**Mokollar**	**6.84**	**211**	P	**Pn**	**09 26 05.2**	**-0.2**
	baz=207						
IVSH	**V-Sauoahnukur**	**6.90**	**208**	P	**Pn**	**09 26 06.3**	**+0.1**
	baz=204						
IKRE	**Kreppuhraun**	**7.03**	**210**	P	**Pn**	**09 26 07.7**	**-0.3**
	baz=206						
IDYN	**Dyngjuhals**	**7.19**	**214**	P	**Pn**	**09 26 09.8**	**-0.5**
	baz=210						
LOF	**Lofoten**	**8.07**	**101**	*eP*	**Pn**	**09 26 23.1**	**+0.9**
STEI	**Steigen**	**8.72**	**100**	*eP*	**Pn**	**09 26 32.1**	**+1.0**
HSPB	**Hornsund (broa**	**8.75**	**37**	Pn	**Pn**	**09 26 32.6**	**+1.3**
HSPB	**Hornsund (broa**	**8.75**	**37**	*eP*	**Pn**	**09 26 32.5**	**+1.2**
HSPB				*e*		09 28 04.0	
KONS	**Konsvik**	**8.90**	**111**	*eP*	**Pn**	**09 26 35.3**	**+1.8**
BRBB	**Barentsburg B**	**9.14**	**30**	Pn	**Pn**	**09 26 37.0**	**+0.3**
BRBB	**Barentsburg B**	**9.14**	**30**	Pn	**Pn**	**09 26 37.0**	**+0.3**
TRO	**Tromso**	**9.16**	**86**	*eP*	**Pn**	**09 26 37.7**	**+0.6**
KBS	**Kingsbay**	**9.37**	**24**	Pn	**Pn**	**09 26 39.7**	**-0.2**
KBS				Sn	**Sn**	**09 28 19.9**	**-4.2**
KBS	**Kingsbay**	**9.37**	**24**	*eP*	**Pn**	**09 26 39.5**	**-0.5**
KBS				*eS*	**Sn**	**09 28 19.0**	**-5.2**
MOR8	**Moi Rana**	**9.52**	**110**	*eP*	**Pn**	**09 26 44.4**	**+2.4**
SPA0	**Spitsbergen Ar**	**9.54**	**31**	Pn	**Pn**	**09 26 43.5**	**+1.1**
	baz=227,slow=16						
SPA0	**Spitsbergen Ar**	**9.54**	**31**	Pn	**Pn**	**09 26 43.5**	**+1.1**
	baz=227,slow=16						
SPITS	**Spitsbergen Ar**	**9.54**	**31**	Pn	**Pn**	**09 26 44.1**	**+1.8**
	baz=218,slow=14,SNR=292						
SPITS				Sn	**Sn**	**09 28 26.3**	**-2.2**
	baz=223,slow=22,SNR=2.7						
SUMG	**Summit**	**9.56**	**293**	*i* P	**Pn**	**09 26 44.0**	**+1.1**
SUMG	**Summit**	**9.56**	**293**	*i* P	**Pn**	**09 26 44.0**	**+1.1**
SUMG				*eS*	Sn	09 28 15.8	-14
NSS	**Namsos**	**9.96**	**121**	*eP*	**Pn**	**09 26 49.4**	**+1.4**
SALU	**Saltoluokta**	**10.07**	**98**	*eP*	**Pn**	**09 26 54.3**	**+4.7**
HOPEN	**Hopen**	**10.58**	**44**	Pn	**Pn**	**09 26 58.6**	**+2.1**
HOPEN	**Hopen**	**10.58**	**44**	*eP*	**Pn**	**09 26 58.2**	**+1.8**
AKN	**Aaknes**	**10.69**	**139**	Pn	**Pn**	**09 26 59.9**	**+1.9**
AKN				Sn	**Sn**	**09 28 52.2**	**-4.4**
AKN	**Aaknes**	**10.69**	**139**	Pn	**Pn**	**09 26 59.9**	**+1.9**
AKN				Sn	**Sn**	**09 28 52.2**	**-4.4**
KTK1	**Kautokeino**	**10.82**	**86**	*eP*	**Pn**	**09 27 01.7**	**+2.0**
HEF	**Hetta**	**11.23**	**88**	*eP*	**Pn**	**09 27 07.2**	**+1.9**
ARA0	**ARCESS Array S**	**11.34**	**82**	Pn	**Pn**	**09 27 08.3**	**+1.5**
	baz=294,slow=12						
ARA0	**ARCESS Array S**	**11.34**	**82**	Pn	**Pn**	**09 27 08.3**	**+1.5**
	baz=294,slow=12						
ARCES	**ARCESS Array B**	**11.34**	**82**	Pn	**Pn**	**09 27 07.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=296,slow=12,SNR=22						
NOD	**Norderasen**	**11.62**	**120**	*eP*	**Pn**	**09 27 12.3**	**+1.6**
NOA	**NORSAR Array B**	**12.65**	**133**	Pn	**Pn**	**09 27 26.4**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=340,slow=13,SNR=2.2						
HFS	**Hagfors**	**14.05**	**130**	Pn	**Pn**	**09 27 45.9**	**+2.0**
HFS	**Hagfors**	**14.05**	**130**	Pn	**Pn**	**09 27 44.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=317,slow=10,SNR=2.6						
HFS	**Hagfors**	**14.05**	**130**	Pn	**Pn**	**09 27 45.9**	**+2.0**
EKA	**Eskdalemuir Ar**	**15.93**	**170**	Pn	**Pn**	**09 28 09.2**	**+0.4**
	baz=355,slow=13,SNR=2.8						
FIA0	**FINESS Array S**	**16.50**	**108**	P	**P**	**09 28 18.1**	**-0.5**
FIA0	**FINESS Array S**	**16.50**	**108**	P	**P**	**09 28 18.1**	**-0.5**
FINES	**FINESS Array B**	**16.50**	**108**	Pn	**P**	**09 28 18.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=316,slow=8.8,SNR=8.7						
LSH	**Leshukonskoye**	**20.43**	**81**	*eP*	**P**	**09 29 01.9**	**+0.2**
	comp=Z,64nm,1.9s						
KLMR	**Klimovskoe**	**21.25**	**94**	*eP*	**P**	**09 29 09.1**	**-1.4**
KLMR	**Klimovskoe**	**21.25**	**94**	*eP*	**P**	**09 29 12.5**	**+2.0**
KLMR				AMP		09 29 28.8	
	comp=Z,40nm,1.5s						
CLL	**Collm**	**22.01**	**143**	*eP*	**P**	**09 29 22.0**	**+3.2**
RES	**Resolute Bay**	**23.66**	**319**	P	**P**	**09 29 39.2**	**+3.7**
	comp=Z,3.5nm,0.8s,baz=48,slow=15,SNR=2.5						
GERES	**GERESS Array B**	**24.50**	**144**	P	**P**	**09 29 43.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=348,slow=9.0,SNR=2.5						
AKASG	**Malin Array Be**	**26.53**	**120**	P	**P**	**09 30 04.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=334,slow=9.1,SNR=2.6						
ESDC	**Sonseca Array**	**31.52**	**174**	P	**P**	**09 30 45.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=335,slow=14,SNR=4.6						
INK	**Inuvik**	**36.20**	**329**	P	**P**	**09 31 26.7**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=19,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**41.53**	**335**	P	**P**	**09 32 11.8**	**+0.4**
	comp=Z,1.3nm,1.1s,baz=10,slow=7.1,SNR=7.3						
TORD	**Torodi Ar. Bea**	**58.18**	**169**	P	**P**	**09 34 17.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=335,slow=6.4,SNR=1.9						
TORD				LR	LR	09 59 31.4	
	comp=Z,35nm,18.5s,baz=310,slow=36						

*SOME **28** 10:00:15.6, 43.°67N×69.°65E*
NNC 28 10:00:12.7±1.5, 43.°82N×69.°57E, h0km, mb3.5, mpv3.3, 3C, Error ellipse: s-maj=11.4km s-min=4.6km az=131.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.70**	**168**	P	Pn	10 00 43.2	-0.6
	6.9nm,0.3s						
IUG				S	Sb	10 01 06.8	-0.2
	60nm,0.3s						
MRKS	**Merke**	**2.88**	**111**	Pg	Pb	10 01 04.6	-0.3
MRKS				Lg	Lg	10 01 43.5	
SGDS	**Sogindy**	**3.69**	**94**	Pg	Pb	10 01 18.9	+0.1
	4.2nm,0.6s						
SGDS				Lg	Lg	10 02 07.8	
	5.8nm,0.6s						
AAK	**Ala-Archa**	**3.79**	**106**	Pg	Pb	10 01 21.9	+1.5
	2.1nm,0.5s						
AAK				⇑Lg	Lg	10 02 14.2	
	8.6nm,0.5s						
TKM2	**Tokmak 2**	**4.48**	**99**	⇑Pg	Pb	10 01 35.3	+3.0
	2.5nm,0.8s						
TKM2				⇑Lg	Lg	10 02 35.3	
	6.6nm,0.6s						
DGS	**Degeres**	**4.54**	**95**	Pg	Pb	10 01 35.9	+2.5
	1.5nm,0.4s						
DGS				Lg	Lg	10 02 36.7	
	16nm,0.5s						
KST	**Kastek**	**4.72**	**97**	Pg	Pg	10 01 39.8	-3.3
	1.9nm,0.2s						
KST				Lg	Lg	10 02 43.6	
	8.2nm,0.6s						
CHKK	**Chushkaly**	**5.36**	**87**	Pg	Pg	10 01 51.9	-3.5
	1.2nm,0.1s						
CHKK				Lg	Lg	10 03 04.6	
	8.8nm,0.3s						

*ISK **28** 10:58:25.6, 38.°71N×25.°46E, h15km, ML3.4/13*
*ATH **28** 10:58:26.0, 38.°66N×25.°49E, h32km±1km, ML3.2/9, Error ellipse: s-maj=2.3km s-min=1.2km az=122.0*
*ISCJB **28** 10:58:27.3±0.4, 38.°71N±0.°02×25.°50E±0.°02, h29km±3km, Error ellipse: s-maj=3.5km s-min=3.1km az=31.0*
*DDA **28** 10:58:27.8, 38.°79N×25.°63E, h20km±6km, MW3.5*
*THE **28** 10:58:27.4, 38.°71N×25.°55E, h19km±1km, ML2.9/8, Error ellipse: s-maj=1.0km s-min=0.4km az=93.0*
ISC 28 10:58:26.8±1.0, 38.°70N±0.°02×25.°50E±0.°02, h18km±5km, n72, σ1=75/105, 4C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.17**	**161**	P	**Pg**	**10 58 31.8**	**+0.6**
PSRA				AML	AML	10 58 34.9	
	comp=E,80097μm,0.3s						
PSRA				AML	AML	10 58 34.9	
	comp=N,47709μm,0.3s						
CHOS	**Chios island**	**0.54**	**125**	P	**Pg**	**10 58 37.5**	**0.0**
CHOS				S	**Sb**	**10 58 45.3**	**+0.2**
	comp=N,3μm,0.5s						
CHOS	**Chios island**	**0.54**	**125**	P	**Pg**	**10 58 37.5**	**0.0**
CHOS				S	**Sg**	**10 58 45.1**	**+0.3**
CHOS				AML	AML	10 58 45.6	
	comp=E,4815μm,0.3s						
CHOS				AML	AML	10 58 48.2	
	comp=N,5639μm,0.4s						
CHOS	**Chios island**	**0.54**	**125**	PG	**Pg**	**10 58 37.6**	**0.0**
CHOS

comp=E,2461μm,0.2s
FOCM Foa 0.97 89 PG **Pn 10 58 45.6 +0.2**
KARY Karystos 1.07 232 P **Pb 10 58 46.4 -0.3**
KARY S **Sg 10 59 01.9 +0.5**
comp=E,492nm,0.5s
KARY Karystos 1.07 232 P **Pb 10 58 46.3 -0.3**
KARY S **Sb 10 58 59.4 -0.9**
KARY AML AML 10 59 02.6
comp=N,1029μm,0.6s
KARY AML AML 10 59 02.8
comp=E,932μm,0.4s
DKL Dikili 1.16 71 PN **Pn 10 58 47.9 -0.2**
BOZC Bozcaada 1.22 21 *i* P **Pn 10 58 47.4 -1.6**
BOZC *i* S **Sb 10 59 04.4 -0.3**
BOZC IAML 10 59 09.0
comp=N,647nm,0.4s
BOZC IVMs_BB IVMs_BB 10 59 09.0
comp=N,293nm,4.4s
BOZC Bozcaada 1.22 21 PN **Pn 10 58 48.3 -0.6**
ZEDA zmir-Bergama 1.26 77 *i* P **Pn 10 58 49.1 -0.4**
ZEDA *i* S **Sb 10 59 04.1 -1.8**
ZEDA IAML 10 59 10.0
comp=N,150nm,0.4s
ZEDA IVMs_BB IVMs_BB 10 59 26.0
comp=N,507nm,5.6s
DGB zmir 1.27 120 *i* P **Pn 10 58 49.8 +0.2**
DGB *i* S **Sn 10 59 06.4 +0.3**
DGB IVMs_BB IVMs_BB 10 59 11.0
comp=N,213nm,3.4s
DGB IAML 10 59 12.0
comp=N,120nm,0.7s
EZN Ezine 1.30 30 P **Pn 10 58 49.4 -0.5**
EZN S **Sn 10 59 06.3 -0.5**
comp=N,692nm,0.4s
EZN Ezine 1.30 30 PN **Pn 10 58 49.5 -0.5**
BAYC CANAKKALE_Bayr 1.32 38 *i* P **Pn 10 58 49.6 -0.7**
BAYC *i* S **Sn 10 59 06.8 -0.7**
BAYC IAML 10 59 13.0
comp=N,123nm,0.2s
BAYC IVMs_BB IVMs_BB 10 59 15.0
comp=N,358nm,7.1s
PTL Penteli 1.44 244 P **Pn 10 58 51.8 -0.2**
SMG Samos 1.45 133 P **Pn 10 58 51.8 -0.2**
SMG S **Sn 10 59 09.8 -0.8**
comp=N,358nm,0.6s
SMG Samos 1.45 133 P **Pn 10 58 51.9 -0.2**
SMG S **Sn 10 59 10.0 -0.6**
SMG AML AML 10 59 14.0
comp=N,583μm,0.4s
SMG AML AML 10 59 18.7
comp=E,640μm,0.7s
MRKA Markates 1.49 271 P **Pn 10 58 52.5 -0.2**
MRKA S **Sb 10 59 12.9 +0.3**
comp=E,280nm,0.7s
MRKA Markates 1.49 271 P **Pn 10 58 52.7 0.0**
MRKA AML AML 10 59 19.0
comp=N,668μm,0.6s
MRKA AML AML 10 59 19.3
comp=E,476μm,0.8s
GADA Gvkgeada 1.52 12 P **Pn 10 58 52.7 -0.4**
GADA S **Sn 10 59 12.0 -0.4**
GADA Gvkgeada 1.52 12 PN **Pn 10 58 53.0 -0.1**
VLY Voula,Athens 1.58 238 P **Pn 10 58 54.0 +0.1**
VLY Voula,Athens 1.58 238 P **Pn 10 58 53.9 -0.1**
APE Apeiranthos 1.63 179 P **Pn 10 58 53.8 -0.8**
APE Apeiranthos 1.63 179 P **Pn 10 58 53.2 -1.4**
APE Apeiranthos 1.63 179 ⇑P **Pn 10 58 53.7 -0.9**
APE Apeiranthos 1.63 179 PN **Pn 10 58 53.8 -0.8**
GCAM G?zelcaml? 1.69 126 *i* P **Pg 10 58 59.4 0.0**
GCAM *i* S **Sb 10 59 19.9 +1.6**
GCAM G?zelcaml? 1.69 126 PN **Pb 10 58 56.9 -0.5**
SMTH Samothraki Isl 1.77 1 P **Pn 10 58 56.3 -0.2**
SMTH Samothraki Isl 1.77 1 P **Pn 10 58 56.1 -0.4**
VILL Villia 1.80 253 P **Pn 10 58 57.1 +0.2**
VIL2 Platees 1.82 255 P **Pn 10 58 57.1 -0.1**
AKHS Akhisar 1.82 84 *i* P **Pn 10 58 56.0 -1.2**
AKHS *i* S **Sb 10 59 22.9 +0.9**
GELI Tayfur-Gelibol 1.86 24 PN **Pn 10 58 58.0 +0.3**
STEP BALIKESIR_Sava 1.86 68 *i* P **Pn 10 58 58.4 +0.7**
STEP *i* S **Sg 10 59 26.1 -0.5**
STEP IAML 10 59 31.0
comp=E,247nm,0.6s
STEP IVMs_BB IVMs_BB 10 59 35.0
comp=E,314nm,5.9s
PAIG Paliouri 1.87 312 P **Pn 10 58 58.1 +0.3**
LPK Lapseki 1.94 30 PN **Pn 10 58 59.1 +0.3**
BALY Balya 1.95 57 *i* P **Pb 10 59 02.7 +1.0**
BALY *i* S **Sb 10 59 27.9 +2.1**
THAS Thassos island 2.00 343 P **Pn 10 58 59.2 -0.4**
OUR Ouranopolis 2.01 325 P **Pn 10 59 00.0 +0.2**
AYDB Zeytinkoy-Aydi 2.03 111 PN **Pn 10 59 00.8 +0.6**
BALB Balikesir 2.08 62 PN **Pn 10 59 01.5 +0.8**
AYDN Tasoluk 2.15 118 *i* P **Pb 10 59 06.7 +1.6**
AYDN *i* S **Sg 10 59 34.1 -1.7**
BODT Bodrum 2.18 138 PN **Pn 10 59 02.4 +0.3**
KRBG Karabiga-Canak 2.19 39 PN **Pn 10 59 02.3 0.0**
ALN Alexandroupoli 2.23 11 P **Pn 10 59 02.5 -0.4**
ALN S **Sn 10 59 29.2 -0.8**
comp=E,110nm,0.7s
ALN Alexandroupoli 2.23 11 P **Pn 10 59 02.8 0.0**
SART Tekirdag 2.37 33 *i* P **Pn 10 59 05.4 +0.6**
SART *i* S **Sg 10 59 41.8 -1.4**
SART IVMs_BB IVMs_BB 10 59 44.0
comp=E,101nm,5.7s
SART IAML 10 59 46.0
comp=E,49nm,0.4s
MANT Manisa 2.41 94 *i* P **Pb 10 59 11.4 +1.7**
MANT *i* S **Sg 10 59 42.7 -1.6**
RDO Rodhopi 2.44 1 P **Pn 10 59 05.6 -0.1**
EDC Edincik 2.46 47 PN **Pn 10 59 07.2 +1.2**
DURS Dursunbey 2.48 68 *i* P **Pn 10 59 06.0 -0.4**
DURS *i* S **Sg 10 59 44.5 -2.2**
VTS Vitosha 4.28 337 ⇑P **Pn 10 59 32.7 +1.6**
HERR Herculane 6.59 341 ⇑P **Pn 11 00 02.0 -0.7**
MDVR Moldovita 6.70 336 ⇑P **Pn 11 00 04.9 +0.6**
GZR Gura Zlata 6.99 344 ⇓P **Pn 11 00 09.0 +0.8**

IDC 28 11:08:11.3±3.9, 8°34S×119°44E, h189km±37km, mb2.7/2, mb1 2.9/6, mb1mx2.8/33, mbtmp3.4/6, Error ellipse: s-maj=100.7km s-min=16.5km az=62.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.32**	**5**	P	Pn	11 09 03.3	-1.0
	1.1nm,0.3s,baz=167,slow=14,SNR=4.8						
BATI	**Baumata**	**4.56**	**114**	P	Pn	11 09 21.6	+1.7
	3.3nm,0.3s,baz=262,slow=7.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**11.42**	**149**	P	Pn	11 10 51.1	+2.0
	0.1nm,0.3s,baz=7.6,slow=15,SNR=0.9						
FITZ				S	Sn	11 12 52.9	-3.4
	0.2nm,0.3s,baz=113,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**18.47**	**130**	P	P	11 12 12.7	-0.4
	0.1nm,0.3s,baz=302,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**20.60**	**139**	P	P	11 12 35.4	-0.6
	0.3nm,0.3s,baz=316,slow=9.2,SNR=6.5						
MKAR	**Makanchi Array**	**64.08**	**333**	P	P	11 18 25.4	+0.3
	0.2nm,0.4s,baz=142,slow=7.3,SNR=3.8						

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*IDC **28** 11:15:39.4±2.5, 24°79N×126°52E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/33, mbtmp3.9/4, Error ellipse: s-maj=168.6km s-min=29.5km az=66.0*
*JMA **28** 11:15:41.3±0.2, 24°87N×126°94E, h73km, M3.2*
ISC 28 11:15:40.0±2.4, 25°0N±0°1×126°87E±0°08, h9km±12km, n20, σ0°78/30, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.34**	**262**	P	Pn	11 16 05.6	+0.7
JOGS				*e*S	Sg	11 16 23.0	-0.2
JKE	**Kume jima 2**	**1.36**	**357**	P	Pg	11 16 06.3	+0.1
JMJ2	**Miyako jima3**	**1.42**	**262**	P	Pn	11 16 06.3	+0.4
JMJ2				*e*S	Sg	11 16 25.2	-0.4
JJT3	**Tamagusuku3**	**1.44**	**35**	P	Pn	11 16 06.7	+0.5
JJT3				S	Sn	11 16 24.8	-0.5
JIKM	**Ikemajima**	**1.47**	**269**	P	Pn	11 16 07.3	+0.6
JIRB	**Irabujima**	**1.55**	**266**	P	Pn	11 16 08.1	+0.4
JIRB				S	Sb	11 16 27.8	-0.7
JAGN	**Aguni-jima**	**1.66**	**12**	P	Pb	11 16 10.5	-0.2
JNTH	**Nagotoyohara**	**1.87**	**34**	P	Pn	11 16 12.1	0.0
JTJ	**Tarama**	**2.00**	**261**	P	Pn	11 16 14.1	+0.3
JTJ				*e*S	Sn	11 16 37.9	-1.0
JOW	**Kunigami**	**2.25**	**34**	P	Pn	11 16 17.0	-0.4
JOW				S	Sn	11 16 44.2	-1.2
JIH	**Iheya**	**2.29**	**25**	P	Pn	11 16 18.9	+1.0
JIH				*e*S	Sn	11 16 46.6	+0.3
JISG	**Ishigakijimahi**	**2.36**	**262**	P	Pn	11 16 18.7	-0.1
JISG				S	Sn	11 16 47.7	-0.1
JYRO	**Yoronjima**	**2.50**	**34**	P	Pn	11 16 21.1	+0.3
JYRO				*e*S	Sn	11 16 51.3	-0.1
JIJ	**Ishigaki jima**	**2.55**	**257**	P	Pn	11 16 21.1	-0.4
JOKE	**Okinoerabujima**	**2.84**	**32**	P	Pn	11 16 26.2	+0.7
JTK	**Tokunoshima**	**3.38**	**33**	P	Pn	11 16 32.9	0.0
JTK				S	Sn	11 17 10.7	-2.4
SONM	**Songino Array**	**27.99**	**330**	P	P	11 21 32.9	+1.7
	0.6nm,0.6s,baz=134,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**41.49**	**313**	P	P	11 23 27.0	-0.3
	1.0nm,0.6s,baz=99,slow=9.1,SNR=8.0						
WRA	**Warramunga Arr**	**45.22**	**170**	P	P	11 23 57.7	+0.1
	0.4nm,0.7s,baz=352,slow=9.1,SNR=2.2						
FINES	**FINESS Array B**	**73.36**	**330**	P	P	11 27 12.2	+0.3
	5.4nm,1.0s,baz=64,slow=6.3,SNR=3.5						

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*ISCJB **28** 11:28:02.2±0.6, 5°39S±0°07×153°70E±0°06, h43km, mb3.7/7, Error ellipse: s-maj=9.8km s-min=8.3km az=29.0*
*IDC **28** 11:28:07.3±5.3, 5°34S×153°52E, h75km±37km, mb3.5/7, mb1 3.6/8, mb1mx3.4/46, mbtmp3.8/8, ML2.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/21, Error ellipse: s-maj=48.1km s-min=15.4km az=95.0*
*NEIC **28** 11:28:08.9±1.7, 5°4S±0°1×153°54E±0°09, h95km±8km, mb4.0/9*
ISC 28 11:28:03.7±0.8, 5°31S±0°08×153°73E±0°09, h43km, n25, σ1°45/25, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.97**	**300**	P	Pn	11 28 36.0	+1.4
	29nm,0.3s,baz=175,slow=2.7,SNR=54						
KRVT				S	Sn	11 28 59.1	+1.0
	56nm,0.3s,baz=102,slow=19,SNR=12						
HNR	**Honiara**	**7.40**	**124**	LR	LR	11 32 39.4	
	comp=Z,55nm,19.1s,baz=177,slow=36						
PMG	**Port Moresby**	**7.68**	**238**	P	Pn	11 29 53.7	+0.6
	2.3nm,0.3s,baz=52,slow=11,SNR=6.5						
PMG				S	Sn	11 31 18.8	0.0
	2.4nm,0.3s,baz=108,slow=20,SNR=5.9						
PMG	**Port Moresby**	**7.68**	**238**		Pn	11 29 55.2	+2.2
PMG					Sn	11 31 19.0	+0.2
DZM	**Mont Dzumac**	**20.71**	**145**	P	P	11 32 41.7	+1.1
DZM				IAmb	IAmb	11 32 42.9	
	comp=Z,6.1nm,0.7s						
WB0	**Warramunga Arr**	**23.68**	**231**	P	P	11 33 08.9	-2.7
WB0				IAmb	IAmb	11 33 11.3	
	comp=Z,8.4nm,1.4s						
WRAB	**Tennant Creek**	**23.81**	**231**	P	P	11 33 09.2	-3.6
WB2	**Warramunga Arr**	**23.81**	**231**	P	P	11 33 12.0	-0.8
WB2				IAmb	IAmb	11 33 23.3	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**23.82**	**231**	P	P	11 33 12.1	-0.9
	comp=Z,1.1nm,0.7s,baz=56,slow=10,SNR=8.9						
WRA				PcP	PcP	11 36 55.4	-0.2
	comp=Z,0.8nm,0.7s,baz=55,slow=2.4,SNR=6.2						
ASAR	**Alice Springs**	**26.42**	**224**	P	P	11 33 35.7	-0.8
	comp=Z,0.4nm,0.5s,baz=57,slow=9.2,SNR=7.6						
ASAR				PcP	PcP	11 37 01.5	+0.1
	comp=Z,0.7nm,0.7s,baz=65,slow=2.7,SNR=8.1						
KNRA	**Kununurra**	**26.59**	**245**	P	P	11 33 38.5	+0.4
H11S3	**WAKE ISLAND Hy**	**26.89**	**28**	T	T	12 01 56.3	
	baz=208,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.89**	**28**	T	T	12 01 57.8	
	baz=208,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**26.90**	**28**	T	T	12 01 58.3	
	baz=208,slow=76,SNR=5.1						
FITZ	**Fitzroy Crossi**	**30.24**	**243**	P	P	11 34 08.5	-2.2
	comp=Z,2.2nm,0.8s,baz=90,slow=6.1,SNR=4.9						
FITZ	**Fitzroy Crossi**	**30.24**	**243**	IAmb	IAmb	11 34 08.7	
	comp=Z,5.5nm,1.1s						
URZ	**Urewera**	**39.08**	**150**	P	P	11 35 28.2	+1.5
BKZ	**Black Stump Fm**	**39.50**	**152**	P	P	11 35 30.8	+0.5
TUWZ	**Tuamarina**	**40.24**	**156**	P	P	11 35 36.8	+0.4
SONM	**Songino Array**	**67.25**	**328**	P	P	11 38 54.1	+0.3
	comp=Z,0.3nm,0.6s,baz=145,slow=5.3,SNR=2.9						
DHY	**Denali Highway**	**81.24**	**23**	P	P	11 40 15.3	+0.2
MKAR	**Makanchi Array**	**81.32**	**319**	P	P	11 40 15.2	-0.5
	comp=Z,0.6nm,0.4s,baz=95,slow=7.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**82.09**	**326**	P	P	11 40 17.5	-2.1
	comp=Z,0.6nm,0.4s,baz=92,slow=4.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**84.77**	**322**	P	P	11 40 32.5	-0.8
	comp=Z,0.7nm,0.7s,baz=99,slow=4.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**151.34**	**288**	PKPbc	PKPbc	11 47 52.6	-1.2
	comp=Z,0.4nm,0.4s,baz=76,slow=2.7,SNR=5.1						

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*JMA **28** 11:29:47.5±0.3, 37°64N×134°36E, h428km, M3.6*
*ISCJB **28** 11:29:52.7±0.6, 37°61N±0°07×134°74E±0°09, h385km, mb3.0/4, Error ellipse: s-maj=10.0km s-min=8.8km az=37.2*
*IDC **28** 11:29:53.2±1.1, 37°61N×134°92E, h396km±16km, mb2.7/4, mb1 2.8/9, mb1mx2.7/53, mbtmp3.5/9, Error ellipse: s-maj=22.8km s-min=15.9km az=64.0*
ISC 28 11:29:53.0±0.9, 37°63N±0°09×134°85E±0°10, h385km, n19, σ1°69/20, mb3.0/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.80**	**138**	P	Pn	11 30 46.6	+0.2
JYTA	**Yamagatataniai**	**2.54**	**143**	P	Pn	11 30 51.5	+0.1
MAT	**Matsushiro**	**2.90**	**111**	P	Pn	11 30 55.3	+1.0
MJAR	**Matsushiro Arr**	**2.90**	**111**	P	Pn	11 30 55.4	+1.1
	0.3nm,0.3s,baz=293,slow=11,SNR=14						
JRY	**Ryogami san**	**3.63**	**115**	P	Pn	11 31 03.3	+2.6
JOD2	**Odawara 2**	**4.16**	**123**	P	Pn	11 31 07.8	+2.1
JFT	**Otama**	**4.36**	**90**	P	Pn	11 31 09.4	+1.7
JMM	**Marumori**	**4.72**	**85**	P	Pn	11 31 12.7	+1.4
JMK	**Ichinoseki**	**5.19**	**73**	P	Pn	11 31 17.7	+1.5
KSRS	**Korea Array**	**5.50**	**270**	P	Pn	11 31 19.8	+0.2
	0.4nm,0.3s,baz=93,slow=11,SNR=7.9						
BSO1	**Boso 1**	**5.78**	**119**	P	Pn	11 31 21.8	-0.3
JOT	**Ohata**	**6.09**	**50**	P	Pn	11 31 28.0	+2.1
USRK	**Ussuriysk Ar.**	**6.91**	**343**	P	P	11 31 37.3	+1.4
	baz=154,slow=11,SNR=18						
ASAJ	**Asahikawa**	**8.74**	**40**	P	Pn	11 31 57.1	+0.9
	1.5nm,0.3s,baz=209,slow=12,SNR=14						
ASAJ				S	S	11 33 33.6	-3.6
	0.7nm,0.3s,baz=282,slow=30,SNR=6.1						
KLR	**Kul'dur**	**11.81**	**60**	P	Pn	11 32 32.6	+0.7
	0.4nm,0.3s,baz=153,slow=14,SNR=6.2						
SONM	**Songino Array**	**23.13**	**305**	P	P	11 34 28.0	+1.1
	0.5nm,0.9s,baz=81,slow=8.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.48**	**307**	P	P	11 37 01.7	-2.1
	0.2nm,0.4s,baz=84,slow=8.4,SNR=2.3						
WRA	**Warramunga Arr**	**57.26**	**181**	P	P	11 39 00.9	-1.0
	0.6nm,0.5s,baz=353,slow=7.6,SNR=8.9						
ASAR	**Alice Springs**	**60.97**	**181**	P	P	11 39 26.4	-0.7
	0.2nm,0.4s,baz=358,slow=6.0,SNR=6.3						

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*SOME **28** 11:32:13.6, 39°67N×74°95E, h5km*
*NNC **28** 11:32:16.0±2.0, 39°76N×75°00E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=14.5km s-min=12.5km az=164.0*
*KRNET **28** 11:32:18.2±0.1, 39°82N×75°08E, mb2.8*
ISC 28 11:32:21.9±2.8, 40°04N±0°09×74°98E±0°04, h5km±16km, n27, σ1°36/46, 21C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.59**	**29**	⇑*i*P	Pb	11 32 50.8	-1.2
	baz=23						
NRN				⇑*i*S	Sg	11 33 13.9	+0.8
	baz=23						
ARLS	**Aral**	**1.89**	**345**	⇑*i*P	Pb	11 32 57.0	+0.1
	baz=45						
ARLS				⇑*i*S	Sg	11 33 24.2	+1.7
	baz=45						
ARSB	**Arslanbob**	**1.99**	**311**	⇑*i*P	Pb	11 32 57.7	-0.9
	baz=14						
ARSB				⇑*i*S	Sg	11 33 26.4	+0.7
	baz=14						
KZA	**Kyzart**	**2.04**	**6**	⇑*e*P	Pb	11 32 58.9	-0.8
	baz=3.0						
KZA				⇑*i*S	Sg	11 33 27.9	+0.3
	baz=3.0						
UCH	**Uchtor**	**2.21**	**351**	⇓*i*P	Pb	11 33 01.3	-1.3
	baz=50						
UCH				⇓*i*S	Sg	11 33 32.5	-0.5
	baz=50						
AML	**Almayashu**	**2.30**	**335**	⇓*i*P	Pb	11 33 03.0	-1.1
	baz=36						
AML				⇓*i*S	Sg	11 33 35.1	-0.8
	baz=36						
ULHL	**Ulahol**	**2.40**	**23**	⇑*i*P	Pn	11 33 02.4	+0.4
	baz=20						
ULHL				⇑*i*S	Sb	11 33 34.4	-1.3
	baz=20						
BOOM	**Boomskoye usch**	**2.55**	**16**	⇑*i*P	Pb	11 33 05.3	-2.9
	baz=13						
BOOM				⇑*i*S	Sb	11 33 38.5	-1.5
	baz=13						
KBK	**Karagaybulak**	**2.61**	**359**	⇓*i*P	Pb	11 33 06.7	-2.6
	baz=58						
KBK				⇓*i*S	Sb	11 33 41.4	-0.4
	baz=58						
AAK	**Ala-Archa**	**2.62**	**352**	Pg	Pb	11 33 08.9	-0.5
	4.6nm,1.0s						
AAK				⇓Lg	Lg	11 33 49.2	
	4.5nm,0.6s						
AAK	**Ala-Archa**	**2.62**	**352**	⇑*i*P	Pb	11 33 07.0	-2.4
	baz=51						
AAK				⇑*i*S	Sb	11 33 42.1	+0.2
	baz=51						
KDJ	**Kajisay**	**2.67**	**38**	⇑*e*P	Pn	11 33 06.4	+0.7
	baz=34						
KDJ				⇑*i*S	Sb	11 33 40.5	-2.9
	baz=34						
EKS2	**Erkin-Say**	**2.77**	**341**	⇓*i*P	Pb	11 33 09.4	-2.5
	baz=41						
EKS2				⇓*i*S	Sb	11 33 45.7	-0.5
	baz=41						
TKM2	**Tokmak 2**	**2.92**	**9**	⇑Pn	Pn	11 33 08.3	-0.8
	4.1nm,0.6s						
TKM2				⇓Lg	Lg	11 33 57.8	
	5.7nm,0.5s						
TKM2	**Tokmak 2**	**2.92**	**9**	⇑*i*P	Pn	11 33 10.4	+1.3
	baz=7.0						
TKM2				⇑*i*S	Sb	11 33 48.2	-2.3
	baz=7.0						
MRKS	**Merke**	**3.01**	**335**	Pg	Pb	11 33 15.5	-0.4
	4.9nm,0.4s						
MRKS				Lg	Lg	11 33 60.0	
	4.7nm,0.6s						
MRKS	**Merke**	**3.01**	**335**	⇓*i*P	Pb	11 33 15.5	-0.4
	2.4nm,0.3s						
MRKS				⇓*i*S	Sg	11 33 60.0	+1.5
	4.7nm,1.0s						
KST	**Kastek**	**3.09**	**13**	Pg	Pb	11 33 15.7	-1.7
	3.8nm,0.3s						
KST				Lg	Lg	11 34 00.5	
	12nm,0.5s						
KST	**Kastek**	**3.09**	**13**	*e*P	Pb	11 33 17.0	-0.4
	4.0nm,0.3s						
KST				*e*S	Sg	11 34 02.2	+1.2
	7.4nm,0.6s						
BTK	**Batken**	**3.19**	**272**	⇓*i*P	Pn	11 33 12.2	-0.6
	baz=76						
BTK				⇓*i*S	Sn	11 33 52.8	+1.5
	baz=76						
TNSS	**Tian-Shan**	**3.34**	**26**	Pg	Pb	11 33 21.6	-0.2
	3.3nm,0.3s						
TNSS				Lg	Lg	11 34 10.5	
	7.6nm,0.6s						
TNSS	**Tian-Shan**	**3.34**	**26**	*e*P	Pb	11 33 21.6	-0.2
	3.3nm,0.3s						
TNSS				*e*S	Sg	11 34 10.4	+1.4
	7.6nm,0.6s						
ANVS	**Anan'yevo**	**3.40**	**36**	⇓*i*P	Pn	11 33 16.2	+0.4
	baz=32						
ANVS				⇓*i*S	Sn	11 33 58.6	+2.0
	baz=32						
SGDS	**Sogindy**	**3.42**	**356**	Pg	Pb	11 33 24.1	+1.2
	2.7nm,0.3s						
SGDS				Lg	Lg	11 34 14.8	
	2.3nm,0.6s						
KOTS	**Kotyrbulak**	**3.57**	**26**	Pg	Pb	11 33 25.8	+0.3
	7.4nm,0.3s						
KOTS				Lg	Lg	11 34 17.8	
	26nm,0.7s						
KOTS	**Kotyrbulak**	**3.57**	**26**	*e*P	Pb	11 33 25.8	+0.3
	7.4nm,0.3s						
KOTS				*e*S	Sg	11 34 17.8	+1.3
	26nm,0.7s						
KK31	**Karatay Array**	**4.54**	**314**	⇑Pg	Pb	11 33 42.1	+0.1
	0.7nm,0.5s,baz=148,slow=17,SNR=4.1						
KK31				⇑Lg	Lg	11 34 46.1	
	1.2nm,0.5s						

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*GCG **28** 11:47:18.6±2.4, 14°62N×92°07W, h132km±21km, MD3.7*
*MEX **28** 11:47:19.0±0.4, 13°84N×92°32W, h17km±21km, MD3.9*
ISC 28 11:47:20.3±2.3, 14°0N±0°2×92°34W±0°10, h70km±23km, n11, σ1°70/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.86**	**60**	*e*P	Pn	11 47 36.8	-0.2
ERG				*e*S	Sn	11 47 53.7	+4.3
THIG		**0.90**	**4**	*e*P	Pn	11 47 35.9	-1.6
THIG				*i*S	Sn	11 47 48.6	-1.7
STG3	**Santiaguito 3,**	**1.02**	**47**	*e*P	Pn	11 47 38.4	-0.8
FUG	**Fuego 3**	**1.51**	**73**	*e*P	Pn	11 47 45.1	-0.5
FUG				*e*S	Sn	11 48 03.4	-1.2
PCG	**Pacaya**	**1.72**	**77**	*e*P	Pn	11 47 49.4	+1.0
PCG				*e*S	Sn	11 48 11.0	+1.4
IXG	**Ixpaco**	**1.84**	**85**	*e*P	Pn	11 47 49.5	-0.5
IXG				*e*S	Sn	11 48 12.3	-0.3
PCIG		**1.89**	**333**	*e*P	Pn	11 47 49.4	-1.1
PCIG				*i*S	Sn	11 48 13.2	-0.2
NBG	**Las Nubes**	**2.01**	**73**	*e*P	Pn	11 47 49.1	-3.2
CCIG	**Comitan**	**2.27**	**5**	*e*P	Pn	11 47 55.3	-0.4
CCIG				*i*S	Sn	11 48 24.4	+1.6
TGIG		**2.85**	**345**	*e*P	Pn	11 48 03.5	-0.1
TGIG				*i*S	Sn	11 48 38.2	+1.3
CMIG	**Matias Romero**	**3.93**	**322**	*i*P	Pn	11 48 18.5	+0.3
CMIG				*e*S	Sn	11 49 04.1	+1.1

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*NEIC **28** 11:54:31.8±1.8, 24°5S±0°1×180°0E±0°2, h502km±5km, mb4.3/18*
*ISCJB **28** 11:54:32.5±0.4, 24°47S±0°05×179°88E±0°08, h517km, mb3.8/13, Error ellipse: s-maj=9.7km s-min=6.9km az=1.6*
*IDC **28** 11:54:32.8±2.4, 24°51S×179°91E, h508km±24km, mb3.4/13, mb1 3.7/15, mb1mx3.5/27, mbtmp4.3/15, Error ellipse: s-maj=18.1km s-min=16.4km az=60.0*
ISC 28 11:54:33.2±0.5, 24°49S±0°08×179°93E±0°09, h517km, n54, σ1°16/56, mb3.9/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.95**	**345**	P	P	11 56 17.8	-1.9
NIUE	**Niue**	**10.86**	**62**		P	11 56 58.5	-1.3
DZM	**Mont Dzumac**	**12.62**	**278**	P	P	11 57 19.5	+1.1
	1.4nm,0.3s,baz=89,slow=17,SNR=27						
DZM	**Mont Dzumac**	**12.62**	**278**	P	P	11 57 18.2	-0.3
AFI	**Afiamalu**	**13.12**	**38**	S	S	11 59 34.3	-10
	0.9nm,0.3s,baz=198,slow=16,SNR=3.5						
URZ	**Urewera**	**13.93**	**189**	P	P	11 57 29.4	-2.4
	0.5nm,0.3s,baz=78,slow=19,SNR=3.1						
URZ				S	S	11 59 56.1	-3.0
	0.4nm,0.3s,baz=342,slow=20,SNR=5.2		

AS31	**Alice Springs**	41.87	261	P		**P**	12 01 39.6 +1.5
ASAR	**Alice Springs**	41.88	261	P		**P**	12 01 38.2 +0.1
	comp=Z,1.4nm,0.4s,baz=94,slow=9.3,SNR=36						
ASAR				PcP		**PcP**	12 03 21.5 -0.5
	comp=Z,0.4nm,0.6s,baz=96,slow=4.7,SNR=3.4						
ASAR	**Alice Springs**	41.88	261	P		**P**	12 01 38.1 -0.1
WB2	**Warramunga Arr**	42.29	267	P		**P**	12 01 41.0 -0.4
WB2				IAmb		IAmb	12 01 42.7
	comp=Z,6.5nm,0.7s						
WRAB	**Tennant Creek**	42.30	267	P		**P**	12 01 40.7 -0.7
WB0	**Warramunga Arr**	42.30	267	P		**P**	12 01 41.1 -0.4
WB0				IAmb		IAmb	12 01 43.2
	comp=Z,5.6nm,0.8s						
WRA	**Warramunga Arr**	42.30	267	P		**P**	12 01 41.1 -0.4
	comp=Z,3.1nm,0.5s,baz=104,slow=8.1,SNR=35						
WRA				ScP		**ScP**	12 06 26.3 +1.5
	comp=Z,1.1nm,0.8s,baz=99,slow=3.8,SNR=4.2						
WRA	**Warramunga Arr**	42.30	267	P		**P**	12 01 41.2 -0.3
KNRA	**Kununurra**	48.62	270	P		**P**	12 02 29.6 -0.3
KNRA				IAmb		IAmb	12 02 44.2
	comp=Z,20nm,1.2s						
VNDA	**Vanda**	53.79	185	P		**P**	12 03 07.2 +0.7
	comp=Z,4.1nm,1.1s,baz=21,slow=8.6,SNR=2.3						
QSPA	**South Pole Qui**	65.59	180	P		**P**	12 04 27.4 +1.9
QSPA				IAmb		IAmb	12 04 28.2
	comp=Z,7.1nm,0.8s						
MAW	**Mawson**	77.17	200	P		**P**	12 05 33.7 +0.7
	comp=Z,1.3nm,0.5s,baz=174,slow=6.1,SNR=10						
MAW	**Mawson**	77.17	200	IAmb		IAmb	12 05 38.1
	comp=Z,1.7nm,1.4s						
PETK	**Petropavlovsk-**	79.66	347	P		**P**	12 05 44.1 -2.3
	comp=Z,1.9nm,0.6s,baz=117,slow=8.2,SNR=6.1						
USRK	**Ussuriysk Ar.**	81.22	327	P		**P**	12 05 55.2 +0.4
	comp=Z,1.3nm,0.6s,baz=152,slow=5.2,SNR=4.1						
SNAA	**Sanae**	84.08	179	P		**P**	12 06 09.4 +0.5
SNAA	**Sanae**	84.08	179	P		**P**	12 06 08.0 -1.0
VNA3	**Neumayer Olymp**	84.29	177	P		**P**	12 06 10.4 +0.4
VNA2	**Neumayer--Watz**	84.71	178	P		**P**	12 06 12.7 +0.8
	baz=181,slow=3.6						
NVAR	**Mina Array Bea**	85.22	44	P		**P**	12 06 16.0 +0.8
	comp=Z,0.5nm,0.7s,baz=227,slow=9.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	89.67	290	P		**P**	12 06 37.4 +1.1
	comp=Z,1.1nm,0.8s,baz=133,slow=3.1,SNR=7.8						
TMUT	**Trail Mountain**	90.30	46	P		**P**	12 06 41.4 +2.2
TXAR	**Lajitas Array**	90.80	58	P		**P**	12 06 43.1 +1.7
	comp=Z,1.2nm,0.8s,baz=207,slow=7.1,SNR=14						
ILAR	**Eielson Array**	92.62	14	P		**P**	12 06 48.0 -0.9
	comp=Z,0.3nm,0.6s,baz=220,slow=5.9,SNR=6.8						
PDAR	**Pinedale Array**	93.16	44	P		**P**	12 06 52.4 +0.3
	comp=Z,0.2nm,0.6s,baz=221,slow=5.4,SNR=3.0						
ARCES	**ARCESS Array B**	132.45	348	PKP		**PKPdf**	12 12 47.7 -0.2
	comp=Z,6.6nm,1.0s,baz=20,slow=2.9,SNR=5.4						
FINES	**FINESS Array B**	138.98	341	PKhKP		PKPpre	12 12 49.8
	comp=Z,2.2nm,0.8s,baz=54,slow=3.3,SNR=5.7						
NOA	**NORSAR Array B**	142.65	351	PKhKP		PKPpre	12 13 01.8
	comp=Z,0.9nm,0.6s,baz=42,slow=2.3,SNR=3.0						
AKASG	**Malin Array Be**	145.43	327	PKPbc		**PKPdf**	12 13 12.3 +0.5
	comp=Z,1.2nm,0.3s,baz=50,slow=3.9,SNR=9.3						
BRTR	**Keskin Array B**	147.88	306	PKPbc		**PKPdf**	12 13 18.9 +2.3
	comp=Z,1.7nm,0.7s,baz=137,slow=5.2,SNR=7.7						
BURAR	**Bucovina Array**	149.42	325	PKPdf		**PKPdf**	12 13 18.6 -0.1
BURAR						**PKPbc**	12 13 22.7 -1.1
CLL	**Collm**	151.40	343	*i* PKPbc		**PKPbc**	12 13 28.5 +0.4
	comp=Z,8.0nm,0.8s						
CLL				*e*PKPab		**PKPab**	12 13 38.0 -0.7
BRG	**Berggiesshubel**	151.52	341	*i* PKP		**PKPbc**	12 13 28.9 +0.5
	comp=Z,5.7nm,0.6s						
TORD	**Torodi Ar. Bea**	168.59	189	PKP		**PKPdf**	12 13 40.7 -0.6
	comp=Z,0.7nm,1.0s,baz=345,slow=2.7,SNR=2.8						
TORD				PKPab		**PKPab**	12 14 54.7 +0.3
	comp=Z,1.0nm,0.8s,baz=175,slow=2.9,SNR=5.8						

*SOME **28** 12:45:55.5, 39°.43N×73°.78E, h0km*
*KRNET **28** 12:46:05.0±0.1, 39°.63N×73°.21E, h1km, mb3.5*
*NNC **28** 12:46:07.8±1.8, 39°.87N×73°.31E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=14.0km s-min=7.8km az=176.0

ISC 28 12:46:07.5±2.1, 39°.73N±0°.07×73°.22E±0°.03, h8km±13km, n50, σ2§05/76, 38C-12D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.60**	**354**	⇑*iP*	**Pb**	**12 46 36.4**	**-1.0**
	baz=54						
ARSB				⇑*iS*	**Sg**	**12 46 59.9**	**+1.0**
	baz=54						
BTK	**Batken**	**1.87**	**281**	⇓*iP*	**Pb**	**12 46 40.2**	**-1.9**
	baz=84						
BTK				⇓*iS*	**Sg**	**12 47 06.2**	**-1.5**
	baz=84						
ARK	**Arkit**	**2.27**	**336**	⇑*iP*	**Pb**	**12 46 46.7**	**-2.2**
	baz=37						
ARK				⇑*iS*	**Sb**	**12 47 16.6**	**-0.6**
	baz=37						
ARLS	**Aral**	**2.28**	**21**	⇑*iP*	**Pb**	**12 46 46.8**	**-2.3**
	baz=20						
ARLS				⇑*iS*	**Sb**	**12 47 17.7**	**+0.1**
	baz=20						
AML	**Almayashu**	**2.42**	**8**	⇑*iP*	**Pb**	**12 46 48.8**	**-2.8**
	baz=8.0						
AML				⇑*iS*	**Sb**	**12 47 21.6**	**-0.2**
	baz=8.0						
AML	**Almayashu**	**2.42**	**8**	P	**Pn**	**12 46 48.6**	**+0.8**
	SNR=62						
UCH	**Uchtor**	**2.68**	**21**	⇑*iP*	**Pn**	**12 46 52.4**	**+1.0**
	baz=20						
UCH				⇑*iS*	**Sb**	**12 47 27.3**	**-1.9**
	baz=20						
UCH	**Uchtor**	**2.68**	**21**	P	**Pn**	**12 46 52.4**	**+1.0**
	SNR=19						
NRN	**Naryn**	**2.71**	**50**	⇑*iP*	**Pn**	**12 46 52.0**	**+0.2**
	baz=49						
NRN				⇑*iS*	**Sn**	**12 47 26.3**	**+1.3**
	baz=49						
KZA	**Kyzart**	**2.80**	**33**	⇓*iP*	**Pn**	**12 46 54.2**	**+1.1**
	baz=32						
KZA				⇓*iS*	**Sb**	**12 47 29.7**	**-3.1**
	baz=32						
KZA	**Kyzart**	**2.80**	**33**	P	**Pb**	**12 46 55.0**	**-3.2**
	SNR=8.3						
EKS2	**Erkin-Say**	**2.96**	**8**	⇑*iP*	**Pn**	**12 46 56.4**	**+1.5**
	baz=8.0						
EKS2				⇑*iS*	**Sn**	**12 47 33.5**	**+2.8**
	baz=8.0						
EKS2	**Erkin-Say**	**2.96**	**8**	P	**Pb**	**12 46 58.1**	**-2.5**
	SNR=12						
MRKS	**Merke**	**3.01**	**0**	Pg	**Pn**	**12 46 57.3**	**+1.7**
	8.0nm,0.3s						
MRKS				Lg	Lg	12 47 39.5	
	65nm,0.4s						
MRKS	**Merke**	**3.01**	**0**	*e*P	**Pb**	**12 46 57.8**	**-3.7**
	8.0nm,0.3s						
MRKS				*e*S	**Sg**	**12 47 42.0**	**-2.2**
	65nm,0.4s						
AAK	**Ala-Archa**	**3.06**	**18**	⇓Pn	**Pn**	**12 46 56.3**	**0.0**
	12nm,0.5s						
AAK				⇑Lg	Lg	12 47 39.6	
	21nm,0.7s						
AAK	**Ala-Archa**	**3.06**	**18**	⇓*iP*	**Pn**	**12 46 57.7**	**+1.3**
	baz=17						
AAK				⇓*iS*	**Sn**	**12 47 35.9**	**+2.7**
	baz=17						
AAK	**Ala-Archa**	**3.06**	**18**	P	**Pb**	**12 46 58.3**	**-4.0**
	SNR=21						
KBK	**Karagaybulak**	**3.20**	**24**	⇑*iP*	**Pn**	**12 46 59.9**	**+1.6**
	baz=23						
KBK				⇑*iS*	**Sn**	**12 47 39.3**	**+2.6**
	baz=23						
KBK	**Karagaybulak**	**3.20**	**24**	P	**Pb**	**12 47 05.4**	**+0.7**
	SNR=9.8						
FRU1	**Bishkek**	**3.25**	**19**	⇑*iP*	**Pn**	**12 47 00.2**	**+1.2**
	baz=18						
FRU1				⇑*iS*	**Sn**	**12 47 40.1**	**+2.2**
	baz=18						
ULHL	**Ulahol**	**3.40**	**41**	⇑*iP*	**Pn**	**12 47 02.3**	**+1.2**
	baz=40						
ULHL				⇑*iS*	**Sn**	**12 47 43.5**	**+1.8**
	baz=40						
IUG	**Iuzhnay**	**3.41**	**316**	Pg	**Pn**	**12 47 00.2**	**-0.9**
	5.8nm,0.3s						
IUG				Lg	Lg	12 47 43.9	
	84nm,0.5s						
IUG	**Iuzhnay**	**3.41**	**316**	*e*P	**Pb**	**12 47 08.8**	**+0.5**
	2.8nm,0.3s						
IUG				*e*S	**Sg**	**12 48 01.5**	**+4.5**
	76nm,0.4s						
BOOM	**Boomskoye usch**	**3.44**	**36**	⇑*iP*	**Pn**	**12 47 02.3**	**+0.7**
	baz=35						
BOOM				⇑*iS*	**Sn**	**12 47 44.5**	**+1.9**
	baz=35						
CHMS	**Chumysh**	**3.46**	**19**	⇑*iP*	**Pn**	**12 47 03.1**	**+1.3**
	baz=19						
CHMS				⇑*iS*	**Sn**	**12 47 45.3**	**+2.3**
	baz=19						
CHMS	**Chumysh**	**3.46**	**19**	P	**Pn**	**12 47 03.8**	**+2.0**
	SNR=9.8						
TKM2	**Tokmak 2**	**3.65**	**29**	⇓Pn	**Pn**	**12 47 05.8**	**+1.3**
	4.5nm,0.5s						
TKM2				⇑Lg	Lg	12 47 59.0	
	13nm,0.6s						
TKM2	**Tokmak 2**	**3.65**	**29**	⇑*iP*	**Pn**	**12 47 05.9**	**+1.3**
	baz=28						
TKM2				⇑*iS*	**Sn**	**12 47 50.1**	**+2.1**
	baz=28						
USP	**Ospenovka**	**3.66**	**15**	⇑*iP*	**Pn**	**12 47 05.9**	**+1.4**
	baz=15						
USP				⇑*iS*	**Sn**	**12 47 50.3**	**+2.4**
	baz=15						
USP	**Ospenovka**	**3.66**	**15**	P	**Pn**	**12 47 06.5**	**+2.0**
	SNR=6.5						
KDJ	**Kajisay**	**3.84**	**50**	⇑*iP*	**Pn**	**12 47 07.5**	**+0.4**
	baz=49						
KDJ				⇑*iS*	**Sn**	**12 47 53.5**	**+1.0**
	baz=49						
SGDS	**Sogindy**	**3.86**	**15**	Pg	**Pb**	**12 47 13.9**	**-2.1**
	10.0nm,0.5s						
SGDS				Lg	Lg	12 48 07.2	
	27nm,0.8s						
KST	**Kastek**	**3.90**	**31**	Pg	**Pb**	**12 47 15.5**	**-1.1**
	8.7nm,0.6s						
KST				Lg	Lg	12 48 10.1	
	43nm,0.7s						
KST	**Kastek**	**3.90**	**31**	*e*P	**Pn**	**12 47 09.8**	**+1.9**
	9.4nm,0.5s						
KST				*e*S	**Sb**	**12 48 03.1**	**-0.9**
	43nm,0.7s						
KK31	**Karatay Array**	**3.93**	**330**	⇑Pn	**Pn**	**12 47 09.1**	**+0.9**
	3.4nm,0.6s,baz=126,slow=12,SNR=42						
KK31				⇓Pg	**Pb**	**12 47 18.2**	**+1.0**
	2.7nm,0.3s,baz=134,slow=16,SNR=7.7						
KK31				⇓Sn	**Sn**	**12 47 56.0**	**+1.4**
	9.5nm,0.4s,baz=136,slow=19,SNR=6.9						
KK31				⇓Lg	Lg	12 48 09.5	
	21nm,0.6s						
DGS	**Degeres**	**4.00**	**28**	Pg	**Pb**	**12 47 16.1**	**-2.1**
	12nm,0.4s						
DGS				Lg	Lg	12 48 11.0	
	31nm,0.5s						
DGS	**Degeres**	**4.00**	**28**	*e*P	**Pn**	**12 47 11.2**	**+2.0**
	1.8nm,0.4s						
DGS				*e*S	**Sb**	**12 48 05.5**	**-1.3**
	31nm,0.5s						
MTBS	**Maitube**	**4.16**	**34**	Pg	**Pb**	**12 47 19.5**	**-1.6**
	7.1nm,0.3s						
MTBS				Lg	Lg	12 48 17.2	
	16nm,0.4s						
TNSS	**Tian-Shan**	**4.33**	**39**	Pg	**Pb**	**12 47 23.1**	**-1.0**
	6.2nm,0.5s						
TNSS				Lg	Lg	12 48 24.1	
	30nm,0.7s						
TNSS	**Tian-Shan**	**4.33**	**39**	*e*P	**Pn**	**12 47 16.8**	**+2.7**
	6.9nm,0.4s						
TNSS				*e*S	**Sb**	**12 48 15.0**	**-1.8**
	30nm,0.7s						
MDOK	**Medeo**	**4.47**	**39**	⇑Pg	**Pb**	**12 47 28.3**	**+1.9**
	5.4nm,0.6s						
MDOK				⇑Lg	Lg	12 48 27.2	
	26nm,0.6s						
MDOK	**Medeo**	**4.47**	**39**	Pg	**Pb**	**12 47 24.7**	**-1.8**
	3.1nm,0.4s						
MDOK				Lg	Lg	12 48 26.7	
	29nm,0.6s						
KOTS	**Kotyrbulak**	**4.56**	**39**	Pg	**Pb**	**12 47 27.5**	**-0.4**
	9.4nm,0.4s						
KOTS				Lg	Lg	12 48 30.5	
	107nm,0.7s						
KOTS	**Kotyrbulak**	**4.56**	**39**	*e*P	**Pn**	**12 47 19.6**	**+2.7**
	9.4nm,0.4s						
KOTS				*e*S	**Sb**	**12 48 19.8**	**-3.2**
	107nm,0.7s						
KUU	**Kurty**	**4.76**	**28**	Pg	**Pb**	**12 47 30.6**	**-0.7**
	3.1nm,0.9s						
KUU				Lg	Lg	12 48 36.1	
	39nm,0.7s						
CHKK	**Chushkaly**	**4.99**	**33**	Pg	**Pb**	**12 47 34.3**	**-0.9**
	1.4nm,0.1s						
CHKK				Lg	Lg	12 48 42.8	
	13nm,0.5s						
PDGK	**Podgornoye**	**5.92**	**51**	⇑Pg	Pb	12 47 54.6	+3.5
	3.8nm,0.9s						
PDGK				⇑Lg	Lg	12 49 12.9	
	9.9nm,1.0s						
DJR	**Jarkent**	**6.71**	**45**	Pg	**Pb**	**12 48 04.7**	**+0.2**
	2.8nm,0.4s						
DJR				Lg	Lg	12 49 35.3	
	6.6nm,0.8s						
AB31	**Akbulak array**	**13.41**	**320**	⇑Pn	**Pn**	**12 49 20.0**	**+2.0**
	1.0nm,0.8s,baz=160,slow=49,SNR=4.2						
AB31				⇓Sn	**Sn**	**12 51 41.0**	**-6.2**
	0.6nm,0.6s,baz=138,slow=23,SNR=4.2						

*IDC **28** 12:46:40.0±46.0, 16°.26S×176°.92W, h0km, mb4.3/3,*
mb1 4.5/3, mb1mx3.7/36, mbtmp4.3/3, Error ellipse:
s-maj=852.9km s-min=152.3km az=78.0
*ISCJB **28** 12:47:35.9±1.3, 16°.9S±0°.2×177°.7W±0°.1, h550km, mb3.9/3,*
Error ellipse: s-maj=24.2km s-min=14.3km az=30.6
*NEIC **28** 12:47:38.4±1.5, 16°.9S±0°.3×177°.7W±0°.2, h566km±17km,*
mb4.3/17

ISC 28 12:47:37.8±1.7, 17°.0S±0°.3×177°.7W±0°.1, h550km, n22, σ1§22/20, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.18**	**259**	P	**P**	**12 49 03.3**	**+2.2**
OUZ	**Omahuta**	**19.78**	**202**	P	**P**	**12 51 30.9**	**-0.8**
URZ	**Urewera**	**21.70**	**191**	P	**P**	**12 51 48.3**	**-0.8**
THZ	**Tophouse**	**26.01**	**196**	P	**P**	**12 52 27.0**	**-0.3**
LTZ	**Lake Taylor**	**27.13**	**196**	P	**P**	**12 52 37.3**	**+0.2**
WKZ	**Wanaka**	**29.95**	**199**	P	**P**	**12 53 01.8**	**+0.1**
MLZ	**Mavora Lakes**	**30.72**	**200**	P	**P**	**12 53 10.0**	**+1.7**
ARMA	**Armidale**	**31.04**	**239**	P	**P**	**12 53 09.8**	**-1.6**
ARMA				IAmb	IAmb	12 53 22.5	
	comp=Z,23nm,1.4s						
WHZ	**Wether Hill Ro**	**31.24**	**200**	P	**P**	**12 53 14.8**	**+2.1**
STKA	**Stephens Creek**	**39.72**	**240**	P	**P**	**12 54 23.1**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=87,slow=10,SNR=8.9						
STKA	**Stephens Creek**	**39.72**	**240**	IAmb	IAmb	12 54 23.7	
	comp=Z,1.4nm,1.1s						
BBOO	**Buckleboo**	**44.50**	**240**	P	**P**	**12 54 59.6**	**-1.2**
BBOO				IAmb	IAmb	12 55 00.1	
	comp=Z,16nm,1.2s						
PTCN	**Pitcairn Islan**	**44.93**	**109**	P	**P**	**12 55 04.1**	**-0.1**
WR0	**Warramunga Arr**	**45.33**	**259**	P	**P**	**12 55 06.1**	**-1.3**
WR0				IAmb	IAmb	12 55 17.1	
	comp=Z,7.2nm,1.2s						
WB0	**Warramunga Arr**	**45.49**	**259**	P	**P**	**12 55 07.2**	**-1.3**
WB0				IAmb	IAmb	12 55 19.7	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**45.51**	**259**	P	**P**	**12 55 07.4**	**-1.3**
WRA	**Warramunga Arr**	**45.52**	**259**	P	**P**	**12 55 07.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=96,slow=7.8,SNR=38						
WRA	**Warramunga Arr**	**45.52**	**259**	IAmb	IAmb	12 55 11.1	
	comp=Z,0.2nm,1.0s						
AS31	**Alice Springs**	**45.75**	**253**	P	**P**	**12 55 10.2**	**-0.3**
AS31				IAmb	IAmb	12 55 10.5	
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**45.75**	**253**	P	**P**	**12 55 10.1**	**-0.5**
	comp=Z,5.4nm,0.4s,baz=89,slow=8.0,SNR=106						
FITZ	**Fitzroy Crossi**	**53.91**	**260**	P	**P**	**12 56 11.3**	**+1.0**
QSPA	**South Pole Qui**	**73.08**	**180**	P	**P**	**12 58 11.9**	**-0.2**

*ISCJB **28** 12:58:11.6±2.2, 24°.4N±0°.2×109°.0W±0°.2, h10km, mb3.4/2,*
MS2.8/3, Error ellipse: s-maj=36.7km s-min=7.6km
az=148.8
*IDC **28** 12:58:13.5±3.0, 24°.55N×109°.17W, h0km, mb3.4/2,*
mb1 3.7/5, mb1mx3.6/29, mbtmp3.3/5, ML3.6/3, MS2.9/4,
Ms1 2.9/4, ms1mx2.7/27, Error ellipse: s-maj=56.2km
s-min=10.9km az=142.0
*MEX **28** 12:58:17.1±0.5, 24°.78N×109°.27W, h17km±8km, MD3.8*

ISC 28 12:58:13.5±2.4, 24°.5N±0°.3×109°.1W±0°.2, h10km, n10, σ1§74/9, MS3.0/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.15**	**251**	Pg	**Pg**	**12 58 36.1**	**+0.6**
	39nm,0.3s,baz=51,slow=6.8,SNR=35						
LPIG				Lg	Lg	12 58 49.0	
	138nm,0.3s,baz=307,slow=20,SNR=19						
LPIG				LR	LR	12 59 03.1	
	comp=Z,109nm,20.4s,baz=86,slow=44						
LPIG	**La Paz**	**1.15**	**251**	*e*P	**Pb**	**12 58 34.9**	**-0.5**
LPIG				*i* S	**Sb**	**12 58 48.7**	**-1.6**
TXAR	**Lajitas Array**	**6.86**	**44**	Pn	**Pn**	**12 59 54.4**	**+0.2**
	0.1nm,0.3s,baz=217,slow=12,SNR=9.9						
TXAR				Sn	**Sn**	**13 01 09.8**	**-2.6**
	0.8nm,0.3s,baz=208,slow=25,SNR=9.1						
TXAR				Lg	Lg	13 01 49.3	
	0.5nm,0.3s,baz=225,slow=30,SNR=4.2						
CMIG	**Matias Romero**	**15.21**	**116**	LR	LR	13 06 57.1	
	comp=Z,46nm,19.6s,baz=330,slow=34						
NVAR	**Mina Array Bea**	**15.94**	**333**	Pn	**P**	**13 02 00.1**	**-1.7**
	0.1nm,0.3s,baz=145,slow=12,SNR=6.5						
PDAR	**Pinedale Array**	**18.24**	**359**	P	**P**	**13 02 27.7**	**+0.5**
	0.1nm,0.3s,baz=160,slow=12,SNR=3.6						
TKL	**Tuckaleechee C**	**24.53**	**57**	LR	LR	13 14 46.1	
	comp=Z,45nm,20.2s,baz=134,slow=40						
NEW	**Newport**	**24.56**	**347**	P	**P**	**13 03 34.5**	**+1.0**
	1.3nm,0.7s,baz=172,slow=8.5,SNR=5.6						
NEW				LR	LR	13 12 46.4	
	comp=Z,73nm,18.9s,baz=80,slow=36						
YKA	**Yellowknife Ar**	**38.17**	**356**	LR	LR	13 22 51.7	
	Comp=Z,4.6nm,19.5s,baz=30,slow=39						
ILAR	**Eielson Array**	**47.07**	**339**	P	**P**	**13 06 47.1**	**+1.9**
	0.3nm,1.0s,baz=148,slow=7.0,SNR=3.4						

*ISK **28** 13:47:04.7, 38°.74N×25°.97E, h4km, ML2.8/15*
*ISCJB **28** 13:47:05.8±0.4, 38°.73N±0°.02×26°.04E±0°.04, h10km±4km,*
Error ellipse: s-maj=4.9km s-min=3.4km az=173.9
*ATH **28** 13:47:05.2, 38°.70N×26°.05E, h28km±1km, ML2.5/3, Error*
ellipse: s-maj=2.4km s-min=1.4km az=279.0
*THE **28** 13:47:06.2, 38°.72N×26°.02E, h6km±1km, ML2.3/7, Error*
ellipse: s-maj=1.7km s-min=0.7km az=261.0

ISC 28 13:47:05.3±1.2, 38°.72N±0°.02×26°.03E±0°.03, h10km±11km, n38, σ0§62/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.33**	**176**	P	**Pb**	**13 47 12.7**	**-0.7**
CHOS				S	**Sb**	**13 47 17.7**	**-1.0**
	2μm,0.3s						
CHOS	**Chios island**	**0.33**	**176**	P	**Pb**	**13 47 12.8**	**-0.6**
CHOS				S	**Sb**	**13 47 17.8**	**-0.9**
CHOS				AML	AML	13 47 19.2	
	comp=N,2500μm,0.3s						
CHOS				AML	AML	13 47 19.2	
	comp=E,5118μm,0.3s						
CHOS	**Chios island**	**0.33**	**176**	PG	**Pg**	**13 47 12.6**	**+0.7**
PSRA	**Psara**	**0.40**	**245**	P	**Pb**	**13 47 14.8**	**+0.3**
PSRA				S	**Sb**	**13 47 20.4**	**-0.4**
KRBN	**Karaburun**	**0.43**	**106**	PG	**Pb**	**13 47 14.7**	**-0.3**
CESE	**eme**	**0.44**	**151**	PG	**Pg**	**13 47 14.4**	**+0.5**
SIGR	**SIGRI**	**0.51**	**345**	P	**Pg**	**13 47 15.3**	**+0.1**
SIGR				S	**Sb**	**13 47 23.2**	**-0.8**
	comp=E,485nm,0.3s						
SIGR	**SIGRI**	**0.51**	**345**	P	**Pg**	**13 47 15.4**	**+0.1**
SIGR				AML	AML	13 47 26.2	
	comp=E,1038μm,0.3s						
SIGR				AML	AML	13 47 26.6	
	comp=N,908μm,0.2s						
SIGR	**SIGRI**	**0.51**	**345**	PG	**Pg**	**13 47 15.4**	**+0.1**
FOCM	**Foa**	**0.55**	**90**	PG	**Pb**	**13 47 16.6**	**-0.5**
PRK	**Paraskevi**	**0.56**	**20**	P	**Pb**	**13 47 17.2**	**-0.1**
PRK				S	**Sb**	**13 47 26.0**	**+0.6**
	comp=N,465nm,0.4s						
PRK	**Paraskevi**	**0.56**	**20**	P	**Pb**	**13 47 17.4**	**+0.1**
PRK				S	**Sb**	**13 47 25.7**	**+0.3**
PRK				AML	AML	13 47 28.8	
	comp=E,948μm,0.2s						
PRK				AML	AML	13 47 32.6	
	comp=N,970μm,0.5s						
URLA	**Izmir**	**0.57**	**128**	PG	**Pb**	**13 47 17.3**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.74**	**6**	PG	**Pg**	**13 47 19.1**	**-0.6**
DKL	**Dikili**	**0.77**	**62**	PG	**Pb**	**13 47 20.9**	**0.0**
BOZC	**Bozcaada**	**1.12**	**1**	PN	**Pg**	**13 47 26.2**	**-0.7**
EZN	**Ezine**	**1.13**	**12**	PN	**Pg**	**13 47 26.2**	**-0.9**
SKY	**Skiros Island**	**1.17**	**278**	P	**Pn**	**13 47 28.4**	**+0.7**
SKY				S	**Sn**	**13 47 44.8**	**+1.1**
	comp=N,90nm,0.2s						
SKY	**Skiros Island**	**1.17**	**278**	P	**Pn**	**13 47 28.2**	**+0.5**
SMG	**Samos**	**1.19**	**147**	P	**Pn**	**13 47 28.4**	**+0.3**
SMG				S	**Sn**	**13 47 45.6**	**+1.2**
	comp=N,482nm,0.4s						
SMG	**Samos**	**1.19**	**147**	P	**Pg**	**13 47 27.6**	**-0.6**
TNSA	**Tinos**	**1.36**	**210**	P	**Pn**	**13 47 30.6**	**+0.3**
GCAM	**G?zelcaml?**	**1.39**	**136**	PN	**Pg**	**13 47 32.4**	**+0.4**
GADA	**Gvkgeada**	**1.48**	**356**	P	**Pn**	**13 47 32.3**	**+0.2**
GADA				S	**Sg**	**13 47 52.8**	**0.0**
GADA	**Gvkgeada**	**1.48**	**356**	PN	**Pn**	**13 47 32.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**117**	PN	**Pg**	**13 47 36.6**	**-0.5**
APE	**Apeiranthos**	**1.69**	**194**	P	**Pn**	**13 47 34.4**	**-0.6**
APE	**Ape

OMAN ***28*** *13:51:37.8±0.5,29°.21N×51°.30E,h21km±3km,mb6.1/11, ml6.0/3,ms5.8/8,Mwp5.8/20 Error ellipse: s-maj=2.4km s-min=1.6km az=303.0.*

NEIC ***28*** *13:51:38,29°.21N×51°.10E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.44; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-1.70; $M_{r\theta}$2.45; $M_{\theta\phi}$2.12; $M_{\phi r}$-0.75; Fault plane solution: $M_0$3.68000×10^{17} NP1:$\phi_0$5.00000°, δ39.00000°,λ156.00000°. NP2:$\phi_0$114.00000°,δ75.00000°, λ54.00000°. Principal axes: T 3.4919, Plg47.0000°, Azm346.0000°; N 0.3592, Plg35.0000°, Azm124.0000°; P -3.8511, Plg22.0000°, Azm230.0000°;*

ISC 28 13:51:36.1±0.3,29°.35N±0°.03×51°.36E±0°.02,h13km±1km, h14km:pP-P,n1544,σ1973/1644,mb5.6/273,MS5.4/274, 89C-61D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.60**	**44**	*e*Pg	**Pg**	**13 51 46.8**	**-1.2**
IKAZ				IAMB	IAmb	13 52 05.5	
	comp=Z,2239μm,0.6s						
SHI	**Shiraz**	**1.05**	**73**	P	**Pb**	**13 51 54.8**	**-1.4**
SHI	**Shiraz**	**1.05**	**73**	*e*Pg	**Pb**	**13 51 55.0**	**-1.2**
SHI				IAMB	IAmb	13 52 29.2	
	comp=Z,49μm,1.2s						
KLNJ	**Kolanjah**	**1.67**	**7**	IAMB	IAmb	13 52 44.3	
	comp=Z,0.0nm,0.6s						
KLNJ				*e*Pn	**Pn**	**13 52 05.7**	**+0.3**
JHRM	**Jahrom**	**2.12**	**113**	*e*Pn	**Pn**	**13 52 12.5**	**+1.2**
JHRM				IAMB	IAmb	13 53 19.3	
	comp=Z,0.0nm,0.6s						
LMD1	**Lamerd**	**2.55**	**141**	*e*Pn	**Pn**	**13 52 18.1**	**+0.9**
LMD1				IAMB	IAmb	13 53 22.0	
	comp=Z,0.0nm,1.2s						
IBRJ	**Brojen**	**2.56**	**358**	*e*Pn	**Pn**	**13 52 19.6**	**+2.1**
IRAM	**Ramesheh**	**2.61**	**19**	*e*Pn	**Pn**	**13 52 19.7**	**+1.5**
ZNGN	**Zangian**	**2.80**	**351**	*e*Pn	**Pn**	**13 52 22.1**	**+1.3**
JHBN	**Jahan bin**	**2.94**	**348**	*e*Pn	**Pn**	**13 52 24.4**	**+1.6**
ROKH	**ROKH**	**3.00**	**355**	*e*Pn	**Pn**	**13 52 24.9**	**+1.3**
IGAR	**Gharneh**	**3.10**	**11**	*e*Pn	**Pn**	**13 52 26.8**	**+1.8**
ISAD	**Sadrabad**	**3.25**	**37**	*e*Pn	**Pn**	**13 52 28.7**	**+1.7**
IPIR	**Pirpir**	**3.35**	**353**	*e*Pn	**Pn**	**13 52 30.0**	**+1.6**
IMEH	**Mehriz**	**3.47**	**53**	*e*Pn	**Pn**	**13 52 33.3**	**+3.3**
SHGR	**Shooshtar-Gavs**	**3.53**	**322**	*e*Pn	**Pn**	**13 52 31.3**	**+0.7**
SHGR	**Shooshtar-Gavs**	**3.53**	**322**	*e*AML	AML	13 53 19.2	
	comp=E,186nm,0.6s						
SHGR				*e*Pn	**Pn**	**13 52 32.1**	**+1.5**
IZEF	**Zefreh**	**3.63**	**13**	*e*Pn	**Pn**	**13 52 33.7**	**+1.4**
ICHK	**Chekchek**	**3.90**	**41**	*e*Pn	**Pn**	**13 52 37.8**	**+1.9**
IKLH	**Kolahrood**	**3.96**	**3**	*e*Pn	**Pn**	**13 52 38.1**	**+1.3**
YZKH	**Yazd**	**4.11**	**42**	*e*Pn	**Pn**	**13 52 40.9**	**+2.1**
IBAF	**Bafgh**	**4.26**	**57**	*e*Pn	**Pn**	**13 52 42.6**	**+1.7**
ANAR	**Anarak**	**4.33**	**27**	*e*Pn	**Pn**	**13 52 42.4**	**+0.6**
QAM	**Ghamsar**	**4.40**	**1**	*e*Pn	**Pn**	**13 52 44.0**	**+1.2**
KHMZ	**Khomeyn**	**4.54**	**345**	*e*Pn	**Pn**	**13 52 46.8**	**+2.1**
KHGB	**Koh Gabri**	**4.56**	**76**	*e*Pn	**Pn**	**13 52 46.4**	**+1.4**
KRSH	**Karshahi**	**4.66**	**8**	*e*Pn	**Pn**	**13 52 47.2**	**+0.9**
GENO	**Geno**	**4.66**	**113**	*e*Pn	**Pn**	**13 52 46.4**	**0.0**
NGRK	**Negar Kerman**	**4.69**	**85**	*e*Pn	**Pn**	**13 52 48.8**	**+1.9**
KRBR	**Kerman**	**4.74**	**81**	*e*Pn	**Pn**	**13 52 46.8**	**-0.8**
TVBK	**TV Kerman**	**4.74**	**81**	*e*Pn	**Pn**	**13 52 49.8**	**+2.2**
BMDN	**Meydan**	**4.83**	**334**	*e*Pn	**Pn**	**13 52 48.6**	**0.0**
IKMR	**Kamar-syah**	**4.88**	**329**	*e*Pn	**Pn**	**13 52 49.4**	**+0.3**
ISFB	**Sefidab**	**5.05**	**8**	*e*Pn	**Pn**	**13 52 51.7**	**+0.2**
BDRS	**Dareh Seyedi**	**5.06**	**336**	*e*Pn	**Pn**	**13 52 52.8**	**+0.9**
GHVR	**GHOM**	**5.12**	**359**	*e*Pn	**Pn**	**13 52 53.9**	**+1.4**
GHVR	**GHOM**	**5.12**	**359**	*e*Pn	**Pn**	**13 52 54.6**	**+2.1**
IKFM	**Kafar-mosalman**	**5.13**	**325**	*e*Pn	**Pn**	**13 52 52.8**	**+0.2**
NIAN	**Nian**	**5.14**	**109**	*e*Pn	**Pn**	**13 52 52.6**	**-0.1**
IDOB	**Doab**	**5.19**	**329**	*e*Pn	**Pn**	**13 52 52.8**	**-0.9**
ASAO	**Ashtian**	**5.31**	**348**	*e*Pn	**Pn**	**13 52 56.7**	**+1.4**
ASAO	**Ashtian**	**5.31**	**348**	*e*Pn	**Pn**	**13 52 57.4**	**+2.1**
SHME	**Shamm**	**5.36**	**127**	*i* P	**Pn**	**13 52 56.5**	**+0.7**
	SNR=26						
SHME	**Shamm**	**5.36**	**127**	*e*Pn	**Pn**	**13 52 56.3**	**+0.4**
HSAM	**Samen**	**5.39**	**335**	*e*Pn	**Pn**	**13 52 56.7**	**+0.3**
UMQ	**Umm Al-Quwin**	**5.39**	**134**	*i* P	**Pn**	**13 52 57.2**	**+1.0**
	SNR=6.9						
UMQ	**Umm Al-Quwin**	**5.39**	**134**	P	**Pn**	**13 52 59.2**	**+3.0**
	SNR=8.5						
UMQ				P	**Pn**	**13 52 59.2**	**+3.0**
	SNR=8.5						
UMQ	**Umm Al-Quwin**	**5.39**	**134**	*e*Pn	**Pn**	**13 52 59.0**	**+2.8**
CHMN	**Cheshme madani**	**5.41**	**83**	*e*Pn	**Pn**	**13 52 58.9**	**+2.2**
IQOM	**Qom**	**5.49**	**358**	*e*Pn	**Pn**	**13 52 58.1**	**+0.4**
BANOM	**Banah**	**5.55**	**127**	*i* P	**Pn**	**13 52 59.0**	**+0.5**
	SNR=182						
BANOM				S	**Sn**	**13 54 01.9**	**-0.3**
BANOM	**Banah**	**5.55**	**127**	P	**Pn**	**13 52 59.3**	**+0.9**
	SNR=182						
BANOM				S	**Sn**	**13 54 01.5**	**-0.7**
	SNR=6.8						
IVRN	**Varamin**	**5.64**	**3**	*e*Pn	**Pn**	**13 53 00.4**	**+0.7**
KHNJ	**Kahnooj**	**5.75**	**102**	*e*Pn	**Pn**	**13 53 01.9**	**+0.8**
AJN	**Ajban**	**5.76**	**145**	*i* P	**Pn**	**13 53 02.4**	**+1.1**
	SNR=39						
AJN	**Ajban**	**5.76**	**145**	P	**Pn**	**13 53 02.8**	**+1.5**
	SNR=39						
AJN				S	**Sn**	**13 54 08.6**	**+1.4**
AJN	**Ajban**	**5.76**	**145**	*e*Pn	**Pn**	**13 53 03.0**	**+1.7**
HAGD	**Aghdareh**	**5.78**	**342**	*e*Pn	**Pn**	**13 53 02.4**	**+0.7**
NAZ	**Nazwa, Dubai**	**5.79**	**138**	*i* P	**Pn**	**13 53 02.4**	**+0.7**
	SNR=46						
NAZ	**Nazwa, Dubai**	**5.79**	**138**	P	**Pn**	**13 53 02.7**	**+1.0**
	SNR=230						
NAZ				S	**Sn**	**13 54 07.9**	**0.0**
	SNR=11						
NAZ	**Nazwa, Dubai**	**5.79**	**138**	*e*Pn	**Pn**	**13 53 02.8**	**+1.1**
IKOM	**Komasi**	**5.82**	**327**	*e*Pn	**Pn**	**13 53 02.3**	**0.0**
MSFE	**Esma-Masafi**	**5.83**	**132**	*i* P	**Pn**	**13 53 02.6**	**+0.4**
	SNR=100						
MSFE	**Esma-Masafi**	**5.83**	**132**	*e*Pn	**Pn**	**13 53 02.3**	**0.0**
TPRV	**Parvadeh(Tabas**	**5.86**	**50**	*e*Pn	**Pn**	**13 53 04.3**	**+1.6**
ASUD	**Al Ashush, Dub**	**5.88**	**142**	*i* P	**Pn**	**13 53 04.1**	**+1.2**
	SNR=422						
ASUD	**Al Ashush, Dub**	**5.88**	**142**	P	**Pn**	**13 53 04.5**	**+1.5**
	SNR=417						
ASUD				S	**Sn**	**13 54 11.8**	**+1.4**
	SNR=9.6						
ASUD	**Al Ashush, Dub**	**5.88**	**142**	*e*Pn	**Pn**	**13 53 04.2**	**+1.2**
FAQ	**Al Faqa, Dubai**	**5.94**	**140**	*i* P	**Pn**	**13 53 05.1**	**+1.4**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**5.94**	**140**	P	**Pn**	**13 53 05.1**	**+1.4**
	SNR=14						
FAQ				S	**Sn**	**13 54 11.0**	**-0.6**
	SNR=8.5						
FAQ	**Al Faqa, Dubai**	**5.94**	**140**	*e*Pn	**Pn**	**13 53 05.0**	**+1.3**
MDH	**Madha**	**5.96**	**131**	*i* P	**Pn**	**13 53 04.2**	**+0.1**
	SNR=90						
MDH	**Madha**	**5.96**	**131**	P	**Pn**	**13 53 04.2**	**+0.1**
	SNR=90						
MDH				S	**Sn**	**13 54 12.3**	**+0.1**
	SNR=6.3						
MDH	**Madha**	**5.96**	**131**	*e*Pn	**Pn**	**13 53 04.0**	**-0.1**
IHSB	**Hasanabad**	**6.08**	**359**	*e*Pn	**Pn**	**13 53 06.3**	**+0.6**
KCHF	**Cheshme Sefid,**	**6.14**	**324**	*e*Pn	**Pn**	**13 53 06.8**	**+0.2**
UOSS	**Minazif**	**6.15**	**134**	*i* P	**Pn**	**13 53 06.8**	**+0.2**
	SNR=48						
UOSS	**Minazif**	**6.15**	**134**	P	**Pn**	**13 53 06.8**	**+0.2**
	SNR=66						
UOSS	**Minazif**	**6.15**	**134**		**Pn**	**13 53 06.8**	**+0.2**
IRAZ	**Razeghan**	**6.16**	**349**	*e*Pn	**Pn**	**13 53 09.3**	**+2.3**
ILAS	**Lasjerd**	**6.17**	**12**	*e*Pn	**Pn**	**13 53 08.5**	**+1.4**
KER	**Kermanshah**	**6.18**	**325**	*e*Pn	**Pn**	**13 53 08.3**	**+1.2**
HATD	**Hatta, Dubai**	**6.19**	**136**	*i* P	**Pn**	**13 53 08.0**	**+0.8**
	SNR=225						
HATD	**Hatta, Dubai**	**6.19**	**136**	P	**Pn**	**13 53 07.8**	**+0.6**
	SNR=225						
HATD				S	**Sn**	**13 54 17.0**	**-1.0**
	SNR=6.9						
HATD	**Hatta, Dubai**	**6.19**	**136**	*e*Pn	**Pn**	**13 53 07.9**	**+0.6**
IDMV	**Damavand**	**6.24**	**5**	*e*Pn	**Pn**	**13 53 09.4**	**+1.3**
ASHO	**Ashiyiah**	**6.25**	**137**	*i* P	**Pn**	**13 53 08.4**	**+0.3**
	SNR=204						
ASHO	**Ashiyiah**	**6.25**	**137**	P	**Pn**	**13 53 08.5**	**+0.4**
	SNR=312						
ASHO				S	**Sn**	**13 54 18.2**	**-1.3**
	SNR=10.0						
ASHO	**Ashiyiah**	**6.25**	**137**	*e*Pn	**Pn**	**13 53 08.4**	**+0.3**
IMHD	**Mahdasht**	**6.35**	**355**	*e*Pn	**Pn**	**13 53 09.5**	**+0.1**
TEH	**Tehran**	**6.37**	**0**	*e*Pn	**Pn**	**13 53 10.7**	**+0.9**
IFIR	**Firoozkooh**	**6.39**	**10**	*e*Pn	**Pn**	**13 53 10.9**	**+0.8**
TNSJ	**Nastanj**	**6.42**	**43**	*e*Pn	**Pn**	**13 53 11.7**	**+1.3**
HSRG	**Sareghieh**	**6.43**	**337**	*e*Pn	**Pn**	**13 53 10.8**	**0.0**
IANJ	**Anjilo**	**6.47**	**19**	*e*Pn	**Pn**	**13 53 12.5**	**+1.2**
QABG	**Abgarm-Qazvin**	**6.52**	**347**	*e*Pn	**Pn**	**13 53 12.5**	**+0.6**
TABS	**Tabas**	**6.53**	**47**	*e*Pn	**Pn**	**13 53 13.4**	**+1.5**
ALNE	**Al Ain**	**6.57**	**142**	*i* P	**Pn**	**13 53 13.5**	**+1.1**
	SNR=104						
ALNE	**Al Ain**	**6.57**	**142**	*e*Pn	**Pn**	**13 53 13.7**	**+1.3**
ISHM	**Shahmirzad**	**6.64**	**14**	*e*Pn	**Pn**	**13 53 14.9**	**+1.2**
ILIN	**Lien**	**6.69**	**327**	*e*Pn	**Pn**	**13 53 15.8**	**+1.5**
JSK1	**Jask**	**6.79**	**121**	*e*Pn	**Pn**	**13 53 16.9**	**+1.5**
IDHR	**Dehrash**	**6.80**	**323**	*e*Pn	**Pn**	**13 53 14.8**	**-1.0**
IALA	**Alasht**	**6.83**	**10**	*e*Pn	**Pn**	**13 53 18.2**	**+2.0**
IPRN	**Peran**	**6.93**	**7**	*e*Pn	**Pn**	**13 53 19.1**	**+1.7**
IGZV	**Ghazvin**	**7.09**	**353**	*e*Pn	**Pn**	**13 53 19.1**	**-0.6**
QALM	**Alamut, Qazvin**	**7.09**	**355**	*e*Pn	**Pn**	**13 53 20.6**	**+0.8**
IKIA	**Kiasar**	**7.12**	**15**	*e*Pn	**Pn**	**13 53 20.6**	**+0.5**
BSRN	**Basiran**	**7.18**	**67**	*e*Pn	**Pn**	**13 53 22.5**	**+1.6**
IKOO	**Kooshah**	**7.25**	**63**	*e*Pn	**Pn**	**13 53 23.9**	**+1.9**
ITEG	**Tejag**	**7.25**	**59**	*e*Pn	**Pn**	**13 53 23.5**	**+1.5**
IGLO	**Ghaloghah**	**7.43**	**16**	*e*Pn	**Pn**	**13 53 26.2**	**+1.8**
ARQ	**Araqi**	**7.57**	**141**	P	**Pn**	**13 53 26.2**	**+0.1**
	SNR=156						
ARQ				S	**Sn**	**13 54 50.0**	**-1.7**
RAYN	**Ar Rayn**	**7.82**	**223**	P	**Pn**	**13 53 28.0**	**-1.6**
RAYN	**Ar Rayn**	**7.82**	**223**		**Pn**	**13 53 28.0**	**-1.6**
HOQ	**Hoqain**	**7.83**	**136**	P	**Pn**	**13 53 30.2**	**+0.4**
	SNR=55						
HOQ				S	**Sn**	**13 54 57.7**	**-0.7**
	SNR=6.4						
IMON	**Monand**	**8.08**	**60**	*e*Pn	**Pn**	**13 53 36.6**	**+3.3**
ZHSF	**Zahedan**	**8.21**	**86**	*e*Pn	**Pn**	**13 53 37.3**	**+2.2**
SZD1	**Zahaedan-tmp**	**8.29**	**87**	*e*Pn	**Pn**	**13 53 39.2**	**+3.0**
BIDO	**Bidbid**	**8.39**	**132**	P	**Pn**	**13 53 38.3**	**+0.8**
BIDO				S	**Sn**	**13 55 09.1**	**-2.9**
BSY	**Bisya**	**8.41**	**140**	P	**Pn**	**13 53 38.0**	**+0.2**
	SNR=179						
BSY				S	**Sn**	**13 55 08.2**	**-4.4**
IMND	**Minoodasht**	**8.59**	**22**	*e*Pn	**Pn**	**13 53 41.4**	**+1.4**
SMDO	**Samad**	**8.68**	**135**	P	**Pn**	**13 53 41.5**	**+0.1**
	SNR=184						
SMDO				P	**Pn**	**13 53 41.5**	**+0.1**
	SNR=184						
SMDO				S	**Sn**	**13 55 17.9**	**-1.3**
	SNR=6.9						
SMDO				S	**Sn**	**13 55 17.9**	**-1.3**
	SNR=6.9						
SBZV	**Sabzevar**	**8.77**	**35**	*e*Pn	**Pn**	**13 53 43.2**	**+0.4**
MAHB	**Mahabad**	**8.79**	**329**	*e*Pn	**Pn**	**13 53 42.1**	**-0.9**
WSAR	**Wadi Sarin**	**8.92**	**131**	P	**Pn**	**13 53 44.3**	**-0.4**
	SNR=31						
WSAR	**Wadi Sarin**	**8.92**	**131**	Pn	**Pn**	**13 53 44.3**	**-0.4**
	comp=E,17nm,0.3s,baz=318,slow=6.6,SNR=89						
WSAR				Sn	**Sn**	**13 55 18.1**	**-6.9**
	comp=E,18nm,0.3s,baz=317,slow=4.5,SNR=2.6						
WSAR				LR	LR	13 58 00.3	
	comp=E,19μm,19.9s,baz=334,slow=43						
IBST	**Bostanabad**	**9.13**	**337**	*e*Pn	**Pn**	**13 53 47.4**	**-0.3**
JMDO	**Jabal Madar**	**9.22**	**137**	P	**Pn**	**13 53 49.3**	**+0.4**
	SNR=30						
JMDO				S	**Sn**	**13 55 27.6**	**-4.9**
ISFR	**Sfrayin**	**9.48**	**34**	*e*Pn	**Pn**	**13 53 54.9**	**+2.3**
IKRD	**Kardeh**	**9.53**	**37**	*e*Pn	Pn	13 54 03.9	+11
IAKL	**Akhelmad**	**9.53**	**39**	*e*Pn	**Pn**	**13 53 54.9**	**+1.6**
IPAY	**Payeh**	**9.56**	**40**	*e*Pn	**Pn**	**13 53 55.4**	**+1.8**
LKRN	**Lenkeran, Azer**	**9.58**	**348**	P	**Pn**	**13 53 55.0**	**+1.3**
WBK	**Wadi Bani Khal**	**9.58**	**133**	P	**Pn**	**13 53 52.9**	**-0.9**
	SNR=115						
WBK				S	**Sn**	**13 55 39.8**	**-1.6**
IHRS	**Heris**	**9.64**	**339**	*e*Pn	**Pn**	**13 53 54.8**	**+0.1**
ITBZ	**Tabriz**	**9.87**	**335**	*e*Pn	**Pn**	**13 53 58.2**	**+0.4**
JRKH	**Jarkhoshk**	**10.01**	**47**	*e*Pn	**Pn**	**13 54 02.1**	**+2.4**
IEMG	**Emamgholi**	**10.09**	**35**	*e*Pn	**Pn**	**13 54 02.8**	**+1.8**
IMYA	**Miami**	**10.13**	**44**	*e*Pn	**Pn**	**13 54 04.4**	**+3.0**
CUKT	**Cukurca**	**10.20**	**323**	P	**Pn**	**13 54 01.5**	**-0.8**
GEYT	**Alibeck**	**10.24**	**32**	Pn	**Pn**	**13 54 04.2**	**+1.4**
	comp=E,3.2nm,0.3s,baz=219,slow=12,SNR=45						
GEYT				LR	LR	13 58 43.6	
	comp=E,35μm,20.8s,baz=210,slow=42						
GEYT				ScP	**ScP**	**14 03 42.1**	**-0.6**
	comp=E,0.6nm,0.3s,baz=264,slow=3.0,SNR=5.2						
GEYT	**Alibeck**	**10.24**	**32**		**Pn**	**13 54 05.3**	**+2.5**
GYA0B	**ALIBECK ARRAY**	**10.24**	**32**		**Pn**	**13 54 05.5**	**+2.7**
HAKT	**HAKKARI**	**10.38**	**324**	*i* P	**Pn**	**13 54 01.5**	**-3.5**
HRA	**Herat**	**10.53**	**59**		**Pn**	**13 54 09.9**	**+3.0**
DQM	**DQM**	**10.93**	**148**	P	**Pn**	**13 54 10.7**	**-1.5**
	SNR=13						
DQM				S	**Sn**	**13 56 06.0**	**-8.3**
NAX	**Nakhchivan**	**10.94**	**335**	P	**Pn**	**13 54 13.5**	**+1.2**
SIRT	**Sirnak**	**11.03**	**320**	P	**Pn**	**13 54 11.1**	**-2.5**
SIRN	**Sırnak**	**11.04**	**320**	*i* P	**Pn**	**13 54 11.3**	**-2.4**
GEVA	**Gevas**	**11.29**	**325**	*i* P	**Pn**	**13 54 15.8**	**-1.5**
AKDM	**Akdamar-Van**	**11.34**	**324**	P	**Pn**	**13 54 17.1**	**-0.9**
VANB	**Van**	**11.35**	**326**	P	**Pn**	**13 54 18.0**	**0.0**
CLDR	**Caldiran**	**11.54**	**330**	*i* P	**Pn**	**13 54 20.7**	**-0.1**
CLDR	**Caldiran**	**11.54**	**330**	P	**Pn**	**13 54 21.9**	**+1.1**
WHFO	**Wadi Hawf**	**11.59**	**169**	P	**Pn**	**13 54 18.2**	**-3.1**
	SNR=332						
WHFO				S	Sn	13 56 18.9	-12
SRTM	**Siirt_Merkez**	**11.66**	**320**	*i* P	**Pn**	**13 54 19.3**	**-3.0**
BLIS	**Bitlis-Merkez**	**11.86**	**322**	*i* P	**Pn**	**13 54 22.5**	**-2.5**
MARD	**Mardin**	**11.89**	**315**	*i* P	**Pn**	**13 54 21.9**	**-3.5**
MNGR	**Mingechevir, A**	**11.92**	**344**	P	**Pn**	**13 54 27.1**	**+1.4**
SHAO	**Shalim**	**11.93**	**160**	*i* P	**Pn**	**13 54 23.3**	**-2.6**
	SNR=30						
SHAO	**Shalim**	**11.93**	**160**	P	**Pn**	**13 54 24.0**	**-1.9**
	SNR=31						
SHAO				S	**Sn**	**13 56 30.0**	**-8.9**
BTMN	**Batman**	**11.96**	**318**	*i* P	**Pn**	**13 54 23.1**	**-3.4**
GANJ	**Ganja**	**12.00**	**341**	P	**Pn**	**13 54 28.2**	**+1.3**
GURO	**Guroymak-BITLI**	**12.00**	**322**	P	**Pn**	**13 54 24.9**	**-2.1**
DMTO	**DMTO**	**12.03**	**163**	P	**Pn**	**13 54 24.4**	**-3.0**
	SNR=320						
DMTO				S	Sn	13 56 30.6	-11
GNI	**Garni**	**12.07**	**335**	*i* P	**Pn**	**13 54 29.4**	**+1.5**
	SNR=57						
GNI	**Garni**	**12.07**	**335**	P	**Pn**	**13 54 30.1**	**+2.2**
	SNR=81						
GNI	**Garni**	**12.07**	**335**	*ce*P	**Pn**	**13 54 29.0**	**+1.1**
GNI				pmax	pmax		
	comp=Z,924nm,1.7s						
GNI	**Garni**	**12.07**	**335**	Pn	**Pn**	**13 54 29.7**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=166,slow=5.7,SNR=31						
GNI				LR	LR	13 59 46.5	
	comp=Z,23μm,21.6s,baz=137,slow=41						
GNI	**Garni**	**12.07**	**335**	P	**Pn**	**13 54 30.5**	**+2.6**
GNI	**Garni**	**12.07**	**335**	Pn	**Pn**	**13 54 30.3**	**+2.4**
ABTO	**Aybut**	**12.07**	**171**	P	**Pn**	**13 54 25.0**	**-2.9**
	SNR=294						
ABTO				P	**Pn**	**13 54 25.0**	**-2.9**
	SNR=294						
RBK	**Rabkut**	**12.07**	**167**	P	**Pn**	**13 54 25.0**	**-2.9**
	SNR=44						
RBK				S	Sn	13 56 32.5	-10
IGDI	**IGDIR**	**12.08**	**332**	*i* P	**Pn**	**13 54 28.1**	**+0.1**
TASB	**TASBURUN-IGDIR**	**12.12**	**333**	P	**Pn**	**13 54 31.9**	**+3.4**
MLAZ	**Malazgirt-MUS**	**12.18**	**326**	P	**Pn**	**13 54 29.9**	**+0.4**
MAZI	**Mazidag**	**12.18**	**314**	P	**Pn**	**13 54 25.8**	**-3.6**
SVAN	**Silvan-Diyarba**	**12.18**	**319**	*i* P	**Pn**	**13 54 25.2**	**-4.1**
SVAN	**Silvan-Diyarba**	**12.18**	**319**	P	**Pn**	**13 54 26.4**	**-3.0**
TUTA	**Tutak**	**12.26**	**327**	*i* P	**Pn**	**13 54 29.3**	**-1.3**
AGRB	**Hanur-Agry**	**12.31**	**328**	P	**Pn**	**13 54 35.2**	**+3.9**
MUSM	**Mu-Merkez**	**12.41**	**321**	*i* P	**Pn**	**13 54 28.0**	**-4.5**
AKT	**Akhty**	**12.46**	**347**	*e*P	**Pn**	**13 54 34.4**	**+1.2**
AKT				*e*S	**Sn**	**13 56 57.4**	**+5.5**
AKT				pmax	pmax		
	comp=Z,123nm,0.6s						
AKT				smax	smax		
	comp=N,39nm,0.6s						
AKT				smax	smax		
	comp=E,14nm,0.2s						
AKT				MLR	MLR		
	comp=Z,6μm,10.0s						
DIYA	**Diyarbakir**	**12.68**	**315**	*i* P	**Pn**	**13 54 32.6**	**-3.5**
DYBB	**Diyarbakir**	**12.68**	**316**	P	**Pn**	**13 54 33.4**	**-2.8**
ASF	**Jabal al Asfar**	**12.75**	**286**	Pn	**Pn**	**13 54 34.8**	**-2.4**
	comp=Z,12nm,0.3s,baz=38,slow=4.5,SNR=37						
ASF				LR	LR	14 00 41.1	
	comp=Z,9μm,18.1s,baz=57,slow=43						
ASF	**Jabal al Asfar**	**12.75**	**286**	P	**Pn**	**13 54 35.2**	**-2.0**
	comp=Z,166nm,1.0s						
VRTB	**Varto-Mus**	**12.76**	**323**	*i* P	**Pn**	**13 54 36.6**	**-0.7**
VRTB	**Varto-Mus**	**12.76**	**323**	P	**Pn**	**13 54 37.8**	**+0.5**
BNGL	**BINGOL**	**12.77**	**321**	*i* P	**Pn**	**13 54 35.3**	**-2.2**
EATA	**Eleskirt**	**12.77**	**328**	*i* P	**Pn**	**13 54 37.0**	**-0.7**
DIGO	**Kars**	**12.83**	**331**	*i* P	**Pn**	**13 54 39.9**	**+1.5**
ZKTA	**Zakatala**	**12.85**	**344**	P	**Pn**	**13 54 39.8**	**+1.3**
EAK	**Akyaka**	**12.97**	**333**	*i* P	**Pn**	**13 54 42.6**	**+2.4**
BGOL	**Bingol**	**13.06**	**320**	*i* P	**Pn**	**13 54 38.3**	**-3.1**
KARO	**Karliova-Bingo**	**13.08**	**322**	P	**Pn**	**13 54 44.6**	**+2.9**
KARS	**Kars**	**13.13**	**331**	P	**Pn**	**13 54 46.6**	**+4.2**
KOPR	**Koprukoy-ERZUR**	**13.18**	**326**	P	**Pn**	**13 54 45.9**	**+2.8**
HOMI	**Horasan**	**13.20**	**326**	*i* P	**Pn**	**13 54 42.6**	**-0.8**
URFA	**Urfa**	**13.22**	**311**	P	**Pn**	**13 54 41.3**	**-2.2**
KZRT	**Kazreti**	**13.28**	**337**	*i* P	**Pn**	**13 54 45.8**	**+1.4**
KZRT	**Kazreti**	**13.28**	**337**	P	**Pn**	**13 54 44.9**	**+0.6**
HSUJ	**Al Zarqa**	**13.34**	**286**	P	**Pn**	**13 54 46.1**	**+1.0**
	comp=Z,383nm,1.1s						
SWQJ	**Swaqa**	**13.36**	**282**	P	**Pn**	**13 54 44.9**	**-0.6**
	comp=Z,326nm,0.7s						
TOTH	**TOTAH**	**13.37**	**291**	*e*P	**Pn**	**13 54 44.1**	**-1.5**
TOTH				*e*S	Sn	13 56 48.4	-26
TOTH				AMB	AMB	13 59 11.4	
	comp=N,11μm,4.6s						
TOTH				AMB	AMB	13 59 19.0	
	comp=E,7μm,2.2s						
TOTH				AMB	AMB	14 00 28.1	
	comp=Z,4μm,1.6s						
SENK	**Senkaya-Erzuru**	**13.40**	**329**	P	**Pn**	**13 54 47.6**	**+1.5**
SVRC	**Savrice-ELAZID**	**13.46**	**315**	P	**Pn**	**13 54 45.4**	**-1.5**
TBLG	**Delisi**	**13.47**	**338**	P	**Pn**	**13 54 48.2**	**+1.3**
TBLG	**Delisi**	**13.47**	**338**	P	**Pn**	**13 54 48.0**	**+1.0**
TBLG	**Delisi**	**13.47**	**338**		**Pn**	**13 54 48.2**	**+1.3**
AKDA	**Akdag**	**13.51**	**325**	*i* P	**P**	**13 54 58.3**	**+1.5**
QASN	**Qassioun**	**13.54**	**292**	*e*P	**Pn**	**13 54 47.6**	**-0.3**
QASN				*e*S	Sn	13 56 53.2	-25
QASN				AMB	AMB	13 59 33.3	
	comp=N,7μm,1.3s						
QASN				AMB	AMB	13 59 46.3	
	comp=Z,4μm,3.3s						
QASN				AMB	AMB	13 59 53.1	
	comp=E,6μm,4.0s						
ATAB	**Bozova**	**13.58**	**310**	*i* P	**Pn**	**13 54 45.7**	**-2.7**
WALJ	**Wala**	**13.60**	**283**	P	**Pn**	**13 54 46.8**	**-1.8**
	comp=E,293nm,0.6s						
AKH	**Akhalkalaki**	**13.63**	**334**	P	**Pn**	**

CUSAR	Sarkisla-SIVAS	16.00	313	*i* P	Pn	13 55 18.8	-2.2
ORDU	Ordu-Boztepe	16.00	320	*i* P	Pn	13 55 21.0	+0.1
DAMY	Dhamar	16.05	205	P	Pn	13 55 18.9	-3.0
	SNR=32						
DAMY	Dhamar	16.05	205		Pn	13 55 19.1	-2.8
DAMY				IAmb	IAmb	13 55 30.4	
	comp=Z,542nm,1.1s						
KIZK	Mersin	16.10	301	*i* P	Pn	13 55 20.0	-2.1
KIV	Kislovodsk	16.14	337	*i* P	Pn	13 55 23.5	+0.8
	SNR=135						
KIV	Kislovodsk	16.14	337	P	Pn	13 55 24.2	+1.6
	SNR=336						
KIV	Kislovodsk	16.14	337	*e*P	Pn	13 55 23.7	+1.0
KIV				*e*S	Sn	13 58 24.0	+2.4
KIV				pmax	pmax		
	comp=Z,3μm,1.1s						
KIV				MLR	MLR		
	comp=Z,17μm,13.0s						
KIV	Kislovodsk	16.14	337	⇑P	Pn	13 55 23.7	+1.0
KIV	Kislovodsk	16.14	337	P	Pn	13 55 24.0	+1.3
KIV	Kislovodsk	16.14	337	P	P	13 55 24.4	-1.5
KIV				IAmb	IAmb	13 55 32.2	
	comp=Z,849nm,1.1s						
CSS	Mathiatis	16.26	295	Pn	Pn	13 55 22.9	-1.3
CSS	Mathiatis	16.26	295	P	Pn	13 55 24.6	+0.4
CSS				IAmb	IAmb	13 55 29.3	
	comp=Z,414nm,0.9s						
TOKT	Tokat	16.34	316	P	Pn	13 55 23.1	-2.1
TOKA	Tokat	16.38	316	*i* P	Pn	13 55 24.9	-0.9
ERBA	Erbaa	16.44	317	*i* P	Pn	13 55 25.9	-0.5
GULN	MERSIN_Gulnar	16.45	299	*i* P	Pn	13 55 23.9	-2.7
KERG	Konya-Eregli	16.48	304	*i* P	Pn	13 55 26.5	-0.5
AVNS	Nevsehir-Avano	16.60	309	*i* P	Pn	13 55 27.0	-1.6
LEF	Lefka	16.65	295	*i* P	P	13 55 30.6	-0.8
LEF	Lefka	16.65	295	⇑P	P	13 55 30.9	-0.6
SIRC	Yozgat	16.67	311	*i* P	Pn	13 55 27.9	-1.5
SOC	Sochi	16.99	330*c*	*i* P	Pn	13 55 32.4	-1.0
SOC				*e*		13 58 41.3	
SOC				pmax	pmax		
	comp=Z,485nm,1.2s						
SOC				MLR	MLR		
	comp=Z,9μm,10.0s						
GOF	Gofitskoye	17.01	339⇑	*e*P	Pn	13 55 33.5	-0.1
GOF				pmax	pmax		
	comp=Z,2μm,1.7s						
ERMK	Ermenek	17.09	300	*i* P	Pn	13 55 34.6	-0.3
SAMS	Samsun-Alacam	17.20	318	*i* P	Pn	13 55 35.5	-0.5
SOCY	Socotra	17.25	171	P	Pn	13 55 32.0	-4.8
	SNR=10						
SOCY	Socotra	17.25	171	P	Pn	13 55 32.1	-4.8
SOCY				IAmb	IAmb	13 55 33.9	
	comp=Z,355nm,0.8s						
AKSY	AKSARAY - Alti	17.27	307	*i* P	Pn	13 55 35.9	-1.1
COAL	Corum-Alaca	17.27	313	*i* P	Pn	13 55 36.0	-1.0
HAVZ	Havza	17.30	317	*i* P	Pn	13 55 36.0	-1.3
CDAG	Cicekdag	17.33	311	*i* P	Pn	13 55 36.6	-1.2
KIRS	Kırehir-Merke	17.39	309	*i* P	Pn	13 55 37.3	-1.2
GAZI	Gazipasa	17.41	298	*i* P	Pn	13 55 34.7	-4.1
CHGR	Chuyangaron	17.41	53	P	P	13 55 40.8	+0.7
CHGR				IAmb	IAmb	13 55 52.1	
	comp=Z,332nm,0.9s						
BHUJ	Bhuj	17.48	106⇑	*i*P	Pn	13 55 38.5	-1.1
BHUJ				*e*S	Sn	13 58 54.6	+0.4
CTAK	Corum_Osmancik	17.61	314	*i* P	Pn	13 55 39.3	-2.1
THW	Thamme Wali	17.79	74	P	Pn	13 55 43.5	0.0
DELI	KIRIKKALE	17.82	311	*i* P	Pn	13 55 41.0	-2.9
BR131	Keskin Array S	17.87	310	P	Pn	13 55 44.2	-0.3
	SNR=54						
BR131	Keskin Array S	17.87	310	P	P	13 55 46.3	+1.2
BR131				pmax	pmax		
	comp=Z,87nm,0.9s						
BR131	Keskin Array S	17.87	310	P	P	13 55 46.3	+1.2
BRTR	Keskin Array B	17.87	310	P	Pn	13 55 43.0	-1.5
	comp=Z,1.4nm,0.3s,baz=133,slow=12,SNR=92						
BRTR				ScP	ScP	14 03 54.6	-1.1
	comp=Z,0.1nm,0.3s,baz=150,slow=4.1,SNR=4.3						
BRTR	Keskin Array B	17.87	310	P	P	13 55 45.0	-0.1
BRTR					ScP	14 03 55.8	0.0
KMER	Konya-Meram	17.90	303	*i* P	Pn	13 55 44.1	-0.8
DIKM	Dikmen	17.93	318	⇓P	P	13 55 46.6	+1.1
KONT	Konya--Tatoy	17.97	303	*i* P	Pn	13 55 45.0	-0.7
CEP	Cherat	18.06	70	P	Pn	13 55 46.9	0.0
KAGI	orum-Kargı	18.09	315	*i* P	P	13 55 47.7	+0.3
KKUL	Konya-Kulu	18.09	308	*i* P	Pn	13 55 46.2	-1.0
BBAL	Bala	18.13	309	*i* P	Pn	13 55 46.8	-0.8
KEPZ	Antalya-Kepez	18.16	300	*i* P	Pn	13 55 46.4	-1.7
GAR	Garm	18.38	53		P	13 55 49.9	-0.9
GAR				IAmb	IAmb	13 55 55.1	
	comp=Z,255nm,0.8s						
GAR				ScP	ScP	14 03 58.5	+1.7
KDHN	Kadinhani	18.38	305	*i* P	Pn	13 55 50.4	-0.4
ELDT	Eldivan	18.40	312	*i* P	P	13 55 50.0	-1.0
ANTO	Ankara	18.51	309	P	Pn	13 55 52.3	+0.1
	SNR=34						
ANTO	Ankara	18.51	309	P	P	13 55 52.1	0.0
ANTO				pmax	pmax		
	comp=Z,213nm,1.1s						
ANTO	Ankara	18.51	309	⇓P	Pn	13 55 52.7	+0.5
ANTO	Ankara	18.51	309	P	P	13 55 52.1	0.0
ILGA	Ilgaz	18.52	314	*i* P	P	13 55 51.6	-0.7
ILGA	Ilgaz	18.52	314	P	P	13 55 51.8	-0.6
SARP	Sargodha	18.52	77	P	P	13 55 51.1	-1.1
DOGA	KONYA_Doganhis	18.54	303	*i* P	P	13 55 51.9	-0.6
TAS	Tashkent	18.85	46	P	P	13 55 55.8	0.0
BZK	Bozkurt	18.86	317	⇑P	Pn	13 55 56.6	+0.2
ANN	Anapa	18.97	328*c*	*i* P	P	13 55 56.1	-0.9
ANN				*e*S	Sn	13 59 29.2	-0.6
ANN				pmax	pmax		
	comp=Z,214nm,1.1s						
ANN				MLR	MLR		
	comp=E,8μm,12.0s						
ANN				MLR	MLR		
	comp=Z,7μm,12.0s						
ANN				MLR	MLR		
	comp=N,5μm,12.0s						
CMDR	Camlidere-ANKA	19.02	311	*i* P	P	13 55 57.6	-0.2
BAGO	Egridir - ISPA	19.14	302	*i* P	P	13 55 59.0	-0.1
NIL	Nilore	19.15	71	P	Pn	13 56 00.0	0.0
NIL	Nilore	19.15	71	P	Pn	13 56 00.1	0.0
NIL				pmax	pmax		
	comp=Z,314nm,0.8s						
NIL	Nilore	19.15	71	P	Pn	13 56 00.1	+0.1
NIL				IAmb	IAmb	13 56 06.5	
	comp=Z,314nm,0.8s						
KORT	Korkueli	19.15	299	*i* P	Pn	13 56 00.7	+0.6
CHCP	Chirah Chowk	19.16	71	P	P	13 55 58.5	-0.8
AUSIV	SIVRIHISAR	19.17	307	*i* P	P	13 55 59.5	+0.1
BOLV	Bolvadin	19.29	304	*i* P	Pn	13 56 01.4	-0.4
AUMIH	MIHALICIK	19.40	308	*i* P	P	13 56 01.9	0.0
KIBS	BOLU	19.40	310	*i* P	P	13 56 01.9	0.0
ELL	Elmali	19.41	298	P	P	13 56 02.6	+0.5
ELL				pmax	pmax		
	comp=Z,991nm,1.2s						
ELL	Elmali	19.41	298	P	P	13 56 02.6	+0.5
ATD	Arta Tunnel	19.42	206	P	Pn	13 56 04.8	+1.4
	SNR=62						
ATD	Arta Tunnel	19.42	206	*e*P	Pn	13 56 02.9	-0.6
ATD	Arta Tunnel	19.42	206	*e*P	P	13 56 02.7	+0.4
ATD	Arta Tunnel	19.42	206	P	Pn	13 56 02.9	-0.6
	comp=Z,2.4nm,0.3s,baz=31,slow=6.8,SNR=35						
ATD				LR	LR	14 04 18.5	
	comp=Z,26μm,19.6s,baz=26,slow=39						
ATD	Arta Tunnel	19.42	206	*e*P	Pn	13 56 02.9	-0.6
BCAM	Yenicaga	19.45	311	*i* P	P	13 56 02.2	-0.4
CIFT	Cifteler, Eski	19.47	306	*i* P	P	13 56 02.4	-0.3
BRDR	BURDUR-Merkez	19.58	301	*i* P	P	13 56 02.7	-1.2
CHM	Chimkent	19.60	44	*e*P	P	13 56 04.3	+0.3
	comp=Z,1μm,3.0s						
CHM				*e*S	Sn	13 59 46.9	+1.6
CHM				*e*LR	LR	14 04 27.5	
	comp=Z,2μm,14.6s						
CHM	Chimkent	19.60	44	*e*P	P	13 56 04.3	+0.3
CHM				*e*S	Sn	13 59 46.9	+1.6
CHM				pmax	pmax		
	comp=Z,1μm,3.0s						
CHM				MLR	MLR		
	comp=Z,2μm,15.0s						
KZIL	AFYON_Kizioren	19.71	302	*i* P	P	13 56 05.4	0.0
IUG	Iuzhnay	19.77	45	*e*P	Pn	13 56 06.8	-0.6
IUG				*e*S	S	13 59 46.5	-2.0
IUG				*e*LR	LR	14 05 06.6	
IUG	Iuzhnay	19.77	45	*e*P	Pn	13 56 06.8	-0.6
IUG				*e*S	S	13 59 46.4	-2.0
AFYO	Afyonkarahisar	19.79	304	*i* P	P	13 56 06.0	-0.2
GOLH	Golhisar	19.82	299	*i* P	P	13 56 06.6	+0.1
YIGI	Dzce	19.93	311	*i* P	P	13 56 07.9	+0.2
FETY	Fethiye	20.02	297	P	Pn	13 56 11.5	+1.0
FETY	Fethiye	20.02	297	*i* P	P	13 56 08.4	-0.3
SRCK	Saricakaya, Es	20.07	308	*i* P	P	13 56 09.3	+0.2
KDZE	Karadeniz Ereo	20.11	312	⇑P	Pn	13 56 10.9	-0.6
BORA	Eskisehir	20.12	307	*i* P	P	13 56 09.2	-0.5
BRLS	Borolday	20.16	42	*e*S	S	13 59 47.9	-8.2
KHAL	Karahalli	20.23	302	*i* P	P	13 56 11.2	+0.2
JBG	Jabagly	20.24	45	*e*P	P	13 56 10.7	-0.4
JBG				*e*S	S	13 59 57.2	-0.7
JBG				pmax	pmax		
	comp=Z,492nm,2.0s						
JBG				MLR	MLR		
	comp=Z,12μm,13.0s						
TAVA	DENIZLI_Tavas	20.38	299	*i* P	P	13 56 11.1	-1.6
DALY	Dalyan (Mula)	20.41	297	*i* P	P	13 56 11.7	-1.0
JMU	Jammu	20.44	75	*e*P	P	13 56 13.5	+0.3
TURN	Turunc	20.46	297	*i* P	Pn	13 56 16.0	+0.5
GEYV	SAKARYA_Geyve	20.49	308	*i* P	P	13 56 12.9	-0.7
GDZ	Gediz	20.49	304	*i* P	P	13 56 13.2	-0.7
KK31	Karatay Array	20.60	43	*i* P	P	13 56 14.7	-0.2
KK31				pmax	pmax		
	comp=Z,42nm,0.6s						
KK31	Karatay Array	20.60	43		Pn	13 56 16.3	-0.9
KKAR	Karatay Array	20.60	43	P	Pn	13 56 16.3	-0.9
KKAR				pmax	pmax		
	comp=Z,170nm,1.1s						
KKAR	Karatay Array	20.60	43	P	Pn	13 56 16.3	-0.9
KKAR	Karatay Array	20.60	43		Pn	13 56 16.2	-1.0
KKAR				ScP	ScP	14 04 02.3	+0.7
SEVA	Sevastopol	20.66	322	⇑P	P	13 56 14.9	-0.5
USAK	Uak-Merkez	20.70	303	*i* P	P	13 56 15.9	-0.1
SIM	Simferopol'	20.70	323*c*	*e*P	P	13 56 15.5	-0.5
SIM				*i* S	S	14 00 04.6	-2.3
SIM				*e*SS	SnSn	14 00 49.0	+22
SIM				pmax	pmax		
	comp=Z,413nm,1.7s						
SIM				MLR	MLR		
	comp=Z,2μm,11.6s						
YER	Yerkesik	20.77	298	P	P	13 56 15.6	-1.3
KULA	Kula-Manisa	20.89	302	P	P	13 56 19.3	+1.1
AB31	Akbulak array	20.94	16	*i* P	P	13 56 18.1	-0.3
AB31				pmax	pmax		
	comp=Z,298nm,1.2s						
ABKAR	Akbulak array	20.94	16	P	Pn	13 56 19.9	-1.0
ABKAR				IAmb	IAmb	13 56 29.4	
	comp=Z,221nm,1.1s						
MANT	Manisa	20.96	302	P	P	13 56 20.1	+1.0
DZA	Taraz	20.98	45	*e*P	P	13 56 18.5	-0.6
DZA	Taraz	20.98	45	*e*P	P	13 56 18.4	-0.6
ULDT	Uludag	21.15	307	*i* P	P	13 56 18.5	-2.5
IGD	Bursa	21.15	307	*i* P	P	13 56 19.2	-1.6
DAT	Datca	21.22	296	*i* P	P	13 56 20.8	-0.9
AYDN	Tasoluk	21.23	299	*i* P	P	13 56 21.6	-0.1
ARSB	Arslanbob	21.24	50	P	P	13 56 23.5	+1.5
ARSB				IAmb	IAmb	13 56 28.7	
	comp=Z,268nm,0.8s						
KARP	Karpathos	21.31	293	P	P	13 56 22.9	+0.3
KARP	Karpathos	21.31	293	P	P	13 56 24.5	+1.8
DURS	Dursunbey	21.41	305	*i* P	P	13 56 20.7	-3.0
BUY	Buyukada	21.45	308	*i* P	P	13 56 22.4	-1.7
BODT	Bodrum	21.51	297	P	P	13 56 24.1	-0.6
ISK	Istanbul-Kandi	21.59	309	P	P	13 56 23.3	-2.2
DHRM	DHARAMSHALA	21.61	76	*e*P	P	13 56 24.6	-1.5
DHRM				*e*S	S	14 00 20.9	-4.4
DHRM				IAML		14 00 38.0	
	comp=E,147μm,2.0s						
AKTO	Aktyubinsk	21.66	12	P	P	13 56 26.0	-0.2
AKTO				pmax	pmax		
	comp=Z,378nm,0.9s						
AKTO	Aktyubinsk	21.66	12	P	P	13 56 26.6	+0.4
	comp=Z,258nm,0.7s,baz=204,slow=11,SNR=178						
AKTO				LR	LR	14 06 53.8	
	comp=Z,4μm,20.7s,baz=180,slow=42						
GCAM	G?zelcaml?	21.73	299	*i* P	P	13 56 27.3	+0.2
STEP	BALIKESIR_Sava	21.88	303	*i* P	P	13 56 28.3	-0.4
ZKR	Zakros	22.01	292	P	P	13 56 29.4	-0.7
SMG	Samos	22.03	299	P	P	13 56 25.9	-4.5
BALY	Balya	22.07	304	*i* P	P	13 56 30.2	-0.6
AML	Almayashu	22.09	49	P	P	13 56 32.8	+1.4
	SNR=58						
STIA	Sitia Lasithi	22.12	292	P	P	13 56 33.0	+1.7
ZEDA	zmir-Bergama	22.21	302	*i* P	P	13 56 31.4	-0.8
CTYL	Yalikoy Yolu	22.29	309	⇑P	P	13 56 33.4	+0.4
CTYL				mb		13 56 41.2	
SMLA	Simla	22.35	79	*e*P	P	13 56 33.4	-0.4
URLA	Izmir	22.39	300	*i* P	P	13 56 32.5	-1.8
EKS2	Erkin-Say	22.40	48	P	P	13 56 35.6	+1.3
	SNR=58						
NPS	Neapolis	22.52	292	P	P	13 56 33.0	-2.6
NDI	New Delhi	22.61	85	*e*P	P	13 56 36.5	-0.1
NDI				*e*S	S	14 00 45.5	+1.4
KSH	Kashi	22.63	57	P	P	13 56 33.0	-3.9
KSH				sP	pP	13 56 40.5	-0.4
KSH				PP	PnPn	13 57 00.8	+0.3
KSH				S	S	14 00 32.0	-13
KSH				sS	pS	14 00 39.5	-10
KSH				SS	SnSn	14 01 12.5	-1.5
KSH				pmax	pmax		
	comp=Z,110nm,0.7s						
KSH				pmax	pmax		
	comp=Z,8μm,6.0s						
KSH				LR	LR		
	comp=Z,4μm,15.2s						
KSH				LR	LR		
	comp=Z,5μm,14.4s						
UCH	Uchtor	22.67	49	P	P	13 56 37.9	+0.3
	SNR=64						
CHOS	Chios island	22.81	300	P	P	13 56 39.7	+1.0
SANT	Santorini	22.82	295	⇓P	P	13 56 39.0	+0.2
SANT				mb		13 56 43.0	
SANT	Santorini	22.82	295	P	P	13 56 38.9	+0.2
AAK	Ala-Archa	22.85	48	*i* P	P	13 56 41.2	+2.0
	SNR=112						
AAK	Ala-Archa	22.85	48	P	P	13 56 41.6	+2.3
	SNR=111						
AAK	Ala-Archa	22.85	48	P	P	13 56 40.7	+1.4
AAK				pmax	pmax		
	comp=Z,229nm,1.2s						
AAK	Ala-Archa	22.85	48	P	P	13 56 40.6	+1.4
	comp=Z,62nm,1.1s,baz=215,slow=6.8,SNR=30						
AAK				ScP	ScP	14 04 06.8	-0.7
	comp=Z,29nm,1.0s,baz=212,slow=3.1,SNR=9.1						
AAK				LR	LR	14 06 59.5	
	comp=Z,13μm,20.0s,baz=244,slow=40						
AAK	Ala-Archa	22.85	48	P	P	13 56 41.2	+2.0
	SNR=33						
AAK	Ala-Archa	22.85	48	P	P	13 56 42.3	+3.1
AAK				IAmb	IAmb	13 56 51.6	
	comp=Z,157nm,0.9s						
AAK				PcP	PcP	14 00 31.1	+1.0
AAK					ScP	14 04 09.1	+1.5
AAK	Ala-Archa	22.85	48	IAMs_20	IAMs_20	14 06 46.3	
	comp=Z,13μm,19.0s						
THR6	Thira Island,	22.86	295	P	P	13 56 38.4	-0.8
APE	Apeiranthos	22.90	296	*i* P	P	13 56 39.6	0.0
APE				pmax	pmax		
	comp=Z,158nm,1.1s						
APE	Apeiranthos	22.90	296	⇓P	P	13 56 41.0	+1.4
APE				mb		13 56 42.8	
THR5	Thira Island,	22.91	295	P	P	13 56 38.8	-0.9
VRH	Novokhopyorsk	23.00	344	*e*P	P	13 56 39.3	-1.1
VRH				*e*		13 56 40.7	
VRH				*e*S	S	14 00 46.0	-4.4
VRH				pmax	pmax		
	comp=Z,1μm,0.8s						
VRH				smax	smax		
	comp=E,12μm,4.5s						
VRH				MLR	MLR		
	comp=Z,9μm,19.0s						
IOSP	Ios island	23.02	295	P	P	13 56 40.0	-0.8
FRU1	Bishkek	23.02	48	IAMs_20	IAMs_20	14 06 54.7	
	comp=Z,13μm,20.0s						
EZN	Ezine	23.04	304	P	P	13 56 40.0	-1.0
EZN	Ezine	23.04	304	⇓P	P	13 56 42.4	+1.5
EZN				mb		13 56 50.1	
KZA	Kyzart	23.10	50	P	P	13 56 44.9	+2.8
	SNR=36						
KALB	Balgarevo	23.10	314	⇓P	P	13 56 42.5	+1.0
KESN	Edirne-Kesan	23.14	306	*i* P	P	13 56 41.6	-0.8
SIVA	Sivas	23.14	291	P	P	13 56 40.9	-1.1
KBK	Karagaybulak	23.16	49	P	P	13 56 45.0	+2.7
	SNR=43						
USP	Ospenovka	23.16	47	P	P	13 56 43.9	+1.7
	SNR=30						
POO	Poona	23.16	113⇑	*i*P	P	13 56 42.4	0.0
POO				IAmb	IAmb	13 56 53.7	
	comp=Z,120nm,0.9s						
POO				*e*S	S	14 00 55.8	+1.9
DDI	Dehra Dun	23.16	81⇑	*i*P	P	13 56 41.7	-0.7
DDI				IAmb	IAmb	13 56 53.3	
	comp=Z,241nm,0.7s						
DDI				*e*S	S	14 00 52.0	-1.8
CHMS	Chumysh	23.19	48	P	P	13 56 44.0	+1.5
	SNR=29						
MANR	Mangalia	23.20	315	⇓P	P	13 56 44.2	+1.6
KIRK	Kırklareli	23.23	309	*i* P	P	13 56 40.5	-2.4
BOZC	Bozcaada	23.24	303	*i* P	P	13 56 43.0	0.0
EFOR	EFORIE	23.31	315	⇑P	P	13 56 44.9	+1.3
SGDS	Sogindy	23.33	47⇑	*i*P	P	13 56 44.2	+0.2
	comp=Z,2μm,4.0s						
SGDS				*e*S	S	14 00 55.7	-0.7
SGDS				*e*LR	LR	14 08 02.9	
	comp=Z,3μm,9.6s						
NRN	Naryn	23.34	52	P	P	13 56 46.7	+2.3
NRN				pmax	pmax		
	comp=Z,168nm,1.1s						
NRN				MLR	MLR		
	comp=Z,7μm,22.0s						
NRN	Naryn	23.34	52	P	P	13 56 46.7	+2.3
NRN				IAmb	IAmb	13 56 52.4	
	comp=Z,168nm,1.1s						
PSN	Preselentsi	23.38	314	P	P	13 56 43.8	-0.6
AAE	Adis Abeba	23.41	213	*e*P	P	13 56 46.2	+0.9
AAE				*e*S	S	14 01 03.6	+5.1
AAE	Adis Abeba	23.41	213	*e*P	P	13 56 46.2	+0.9
AAE	Adis Abeba	23.41	213	*e*P	P	13 56 46.2	+0.9
AAE				*e*S	S	14 01 03.6	+5.1
AAE	Adis Abeba	23.41	213	*e*S	S	14 01 03.6	+5.1
VORD	Divnogorie	23.42	341	*e*P	P	13 56 43.7	-1.0
VORD				pmax	pmax		
	comp=Z,770nm,0.8s						
MFTR	Murfatlar	23.49	315	⇓P	P	13 56 46.1	+0.6
EDRB	Edirne	23.49	309	P	P	13 56 43.8	-1.7
JURR	Jurilovca	23.53	317	⇑P	P	13 56 46.0	+0.2
JURR				mb		13 56 56.9	
FURI	Furi	23.57	213	*e*P	P	13 56 47.1	+0.3
FURI				*e*S	S	14 01 09.7	+8.7
FURI	Furi	23.57	213	*e*P	P	13 56 48.1	+1.3
FURI	Furi	23.57	213	*e*P	P	13 56 47.1	+0.3
FURI				*e*S	S	14 01 09.7	+8.7
FURI	Furi	23.57	213	*e*S	S	14 01 09.7	+8.7
FURI	Furi	23.57	213	IAMs_20	IAMs_20	14 06 24.3	
	comp=Z,14μm,20.0s						
ALN	Alexandroupoli	23.61	306	P	P	13 56 45.4	-1.3
ALN	Alexandroupoli	23.61	306	P	P	13 56 47.4	+0.7
ALN						14 00 33.8	
ALN				pmax	pmax		
	comp=Z,66nm,1.0s						
ALN				MLR	MLR		
	comp=Z,3μm,20.0s						
ALN	Alexandroupoli	23.61	306	P	P	13 56 47.4	+0.7
ALN				PcP	PcP	14 00 33.8	+2.4
TIRR	Tirgusor	23.64	316	P	P	13 56 47.5	+0.6
TIRR				pmax	pmax		
	comp=Z,277nm,0.9s						
TIRR	Tirgusor	23.64	316	⇑P	P	13 56 47.0	+0.1
TIRR	Tirgusor	23.64	316	⇑P	P	13 56 47.0	+0.1
TIRR	Tirgusor	23.64	316	P	P	13 56 47.5	+0.6
PRD	Provadia	23.65	312	P	P	13 56 47.5	+0.5
VAM	Vamos	23.68	292	P	P	13 56 47.8	+0.3
VSR	Storozhevoye	23.68	341	*e*P	P	13 56 45.1	-2.2
VSR				*e*		13 56 46.7	
VSR				*e*S	S	14 00 57.4	-4.3
VSR				pmax	pmax		
	comp=Z,730nm,1.1s						
VSR				smax	smax		
	comp=E,12μm,5.3s						
VSR				MLR	MLR		
	comp=Z,7μm,15.0s						
TKM2	Tokmak 2	23.70	49	*i* P	P	13 56 47.9	+0.1
TKM2				pmax	pmax		
	comp=Z,92nm,1.5s						
TKM2	Tokmak 2	23.70	49	P	P	13 56 49.4	+1.5
	SNR=44						
GVDS	Gavdos	23.71	290	P	P	13 56 47.5	-0.2
GVD	Gavdhos	23.71	290	P	P	13 56 46.8	-0.9
MHLO	Agia Marina, M	23.71	295	P	P	13 56 47.6	-0.1
TLCR		23.80	318	P	P	13 56 48.6	+0.1
TLCR		23.80	318	⇓P	P	13 56 48.5	+0.1
TLCR				mb		13 57 00.8	
BTLS	Baital	23.80	43	*e*P	P	13 56 48.7	+0.1
BTLS				*e*LR	LR	14 07 20.4	
BTLS	Baital	23.80	43	*e*P	P	13 56 48.6	+0.1
ULHL	Ulahol	23.84	51	P	P	13 56 51.5	+2.3
	SNR=41						
ICOR	Ion Corvin	23.84	315	⇓P	P	13 56 50.3	+1.4
JMB	Yambol	23.86	310	P	P	13 56 50.0	+0.9
IMMV	Iera Moni Meta	23.86	292	P	P	13 56 49.2	0.0
TOPG	Topolog	23.89	317	⇑P	P	13 56 49.6	+0.3
TLB	Topalu	23.93	316	⇓P	P	13 56 50.2	+0.4
HARR	Harsova	24.06	316	⇑P	P	13 56 51.8	+0.9
HARR				mb		13 57 02.2	
RDO	Rodhopi	24.06	306	P	P	13 56 49.2	-1.8
VORR	Voronezh	24.07	341	*e*P	P	13 56 45.0	-6.0
VORR				*e*S	S	14 01 02.0	-5.9
VORR				pmax	pmax		
	comp=Z,800nm,2.0s						
KAD	Karad	24.09	115	*e*P	P	13 56 52.0	+0.5
BHPL	Bhopal	24.12	98	*e*P	P	13 56 51.4	-0.4
BHPL				IAmb	IAmb	13 56 58.3	
	comp=Z,200nm,0.8s						
CFR	Carcaliu	24.19	317	⇓P	P	13 56 52.4	+0.3
KDZ	Kurdzhali	24.33	307	P	P	13 56 53.1

RZN	**Rozhen**	**24.83 307**	P	**P**	**13 56 58.5**	**+0.2**
VILL	**Villia**	**24.85 298**	P	**P**	**13 56 57.6**	**-0.7**
KIS	**Kishinev**	**24.85 321**	⇓*i*P	**P**	**13 56 57.5**	**-0.6**
	comp=Z,4μm,6.0s					
KIS	**Kishinev**	**24.85 321**	*i* PP	P	13 57 27.0	+29
KIS	**Kishinev**	**24.85 321**	*i* PPP	PPP	13 57 44.0	
KIS			*i* S	**S**	**14 01 17.0**	**-3.6**
	comp=Z,7μm,7.0s					
KIS			*i* SS	**SnSn**	**14 02 14.0**	**+6.0**
KIS			*e*Li		14 04 03.0	
KIS			*e*RQ		14 07 24.0	
KIS			LRM	MLR	14 10 34.0	
	comp=Z,5μm,14.0s					
KIS	**Kishinev**	**24.85 321**	⇑*i*P	**P**	**13 56 57.5**	**-0.6**
KIS			*i* PPP	PPP	13 57 44.0	
KIS			*i* S	**S**	**14 01 17.0**	**-3.6**
KIS			*i* SS	**SnSn**	**14 02 14.0**	**+6.0**
KIS			pmax	pmax		
	comp=Z,1μm,1.6s					
KIS			pmax	pmax		
	comp=Z,4μm,6.0s					
KIS	**Kishinev**	**24.85 321**	⇑P	**P**	**13 56 58.1**	**0.0**
LEOM	**Leova**	**24.86 320**	⇑P	**P**	**13 56 59.0**	**+0.8**
GOA	**Goa**	**24.86 119**	*e*P	**P**	**13 56 58.9**	**+0.4**
GOA			IAmb	IAmb	13 57 05.2	
	comp=Z,68nm,0.5s					
GOA			*e*S	**S**	**14 01 24.2**	**+3.0**
VLI	**Veliai**	**24.88 295**	P	**P**	**13 56 57.6**	**-0.9**
LPSR	**Galich'ya Gora**	**24.98 342**	*e*P	**P**	**13 56 59.0**	**-0.3**
LPSR			*e*		13 56 59.9	
LPSR			*e*S	**S**	**14 01 18.3**	**-4.3**
LPSR			pmax	pmax		
	comp=Z,980nm,0.8s					
LPSR			smax	smax		
	comp=E,12μm,4.4s					
LPSR			MLR	MLR		
	comp=Z,7μm,17.0s					
PLD	**Plovdiv**	**24.99 308**	P	**P**	**13 56 59.9**	**+0.4**
PVL	**Pavlikeni**	**25.01 311**	P	**P**	**13 57 00.5**	**+0.9**
SGRR	**Singureni**	**25.04 313**	⇓P	**P**	**13 57 01.0**	**+1.2**
SGRR			mb		13 57 08.2	
LOUT	**Loutraki**	**25.07 298**	P	**P**	**13 56 59.2**	**-1.1**
SULR		**25.08 314**	⇓P	**P**	**13 57 00.9**	**+0.7**
LTK	**Loutraki**	**25.09 298**	P	**P**	**13 56 59.9**	**-0.5**
BIR	**Birlad**	**25.09 319**	P	**P**	**13 57 03.0**	**+2.7**
BIR	**Birlad**	**25.09 319**	⇑P	**P**	**13 57 01.0**	**+0.7**
BIR			mb		13 57 03.0	
LGTI	**Lohaghat**	**25.14 83**	*e*P	**P**	**13 56 58.1**	**-2.8**
ODBI	**Odobesti**	**25.15 317**	⇑P	**P**	**13 57 01.6**	**+0.7**
ODBI			mb		13 57 14.4	
LKR	**Lokris**	**25.20 299**	P	**P**	**13 57 01.6**	**+0.2**
PLG	**Polygyros**	**25.31 303**	P	**P**	**13 57 02.8**	**+0.4**
NVR	**Nevrokopi**	**25.32 306**	P	**P**	**13 57 04.5**	**+2.0**
THAL	**Thalero**	**25.32 298**	P	**P**	**13 57 02.8**	**+0.3**
DYR	**Agios Nikonas**	**25.36 295**	P	**P**	**13 57 04.1**	**+1.2**
SECR		**25.37 315**	⇑P	**P**	**13 57 04.4**	**+1.4**
SECR			mb		13 57 15.0	
PRZ	**Przheval'sk**	**25.40 52**	P	**P**	**13 57 04.0**	**+0.6**
PRZ			pmax	pmax		
	comp=Z,167nm,1.0s					
PRZ			MLR	MLR		
	comp=Z,20μm,21.0s					
PRZ	**Przheval'sk**	**25.40 52**	P	**P**	**13 57 04.0**	**+0.6**
PRZ			IAmb	IAmb	13 57 17.8	
	comp=Z,167nm,1.0s					
VRI	**Vrincioaia**	**25.40 317**	⇑P	**P**	**13 57 04.3**	**+1.2**
VLX	**Vlachokerasia**	**25.42 296**	P	**P**	**13 57 02.8**	**-0.8**
COPA	**Copaceanca**	**25.49 312**	⇑P	**P**	**13 57 05.2**	**+1.3**
MMB	**Musomiste**	**25.49 306**	P	**P**	**13 57 04.6**	**+0.5**
SOH	**Sokhos**	**25.51 304**	P	**P**	**13 57 05.5**	**+1.2**
PGB	**Panagyurishte**	**25.53 308**	P	**P**	**13 57 05.1**	**+0.7**
PLVB	**Pleven**	**25.55 310**	⇓P	**P**	**13 57 05.5**	**+1.0**
SATY	**Saty**	**25.63 50**	*e*P	**P**	**13 57 05.5**	**+0.1**
	comp=Z,1μm,4.8s					
SATY			*e*LR	LR	14 07 53.1	
	comp=Z,9μm,14.1s					
SATY	**Saty**	**25.63 50**	*e*P	**P**	**13 57 05.5**	**+0.1**
SATY			MLR	MLR		
	comp=Z,9μm,14.0s					
HORT	**Hortiatis**	**25.63 304**	P	**P**	**13 57 06.2**	**+0.8**
IAS	**Iasi**	**25.66 321**	⇑P	**P**	**13 57 06.3**	**+0.9**
MLR	**Muntele Rosu**	**25.68 316**	P	**P**	**13 57 08.0**	**+2.2**
MLR					14 00 37.5	
MLR			pmax	pmax		
	comp=Z,177nm,0.8s					
MLR	**Muntele Rosu**	**25.68 316**	P	**P**	**13 57 06.6**	**+0.7**
	comp=Z,139nm,0.7s,baz=348,slow=3.8,SNR=99					
MLR			LR	LR	14 09 08.7	
	comp=Z,10μm,19.3s,baz=138,slow=41					
MLR	**Muntele Rosu**	**25.68 316**	⇑P	**P**	**13 57 06.5**	**+0.7**
MLR	**Muntele Rosu**	**25.68 316**	P	**P**	**13 57 08.0**	**+2.2**
MLR			IAmb	IAmb	13 57 10.9	
	comp=Z,177nm,0.8s					
MLR			PcP	**PcP**	**14 00 37.5**	**+1.5**
KLV	**Kalavryta, Ach**	**25.72 297**	P	**P**	**13 57 05.3**	**-0.9**
ITM	**Ithomi**	**25.75 295**	P	**P**	**13 57 06.0**	**-0.4**
ITM	**Ithomi**	**25.75 295**	P	**P**	**13 57 06.7**	**+0.3**
ITM			IAmb	IAmb	13 57 25.0	
	comp=Z,148nm,0.8s					
AGG	**Agios Georgios**	**25.79 300**	P	**P**	**13 57 07.2**	**+0.4**
TESR	**Tescani**	**25.79 318**	⇓P	**P**	**13 57 07.7**	**+1.0**
SORM	**Soroca**	**25.80 323**	⇓P	**P**	**13 57 06.9**	**+0.2**
KALE	**Kalithea**	**25.80 298**	P	**P**	**13 57 06.0**	**-0.9**
HUMR	**Humele**	**25.82 313**	⇓P	**P**	**13 57 08.3**	**+1.4**
TRIZ	**Trizonia**	**25.85 298**	P	**P**	**13 57 06.6**	**-0.6**
PYL	**PYLOS**	**25.85 295**	P	**P**	**13 57 05.3**	**-2.0**
LAKA	**Lakka**	**25.89 298**	P	**P**	**13 57 08.1**	**+0.4**
LIT	**Litokhoron**	**25.94 302**	P	**P**	**13 57 08.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**25.94 300**	P	**P**	**13 57 07.8**	**-0.3**
VLAD	**Vladila**	**25.95 312**	⇓P	**P**	**13 57 09.4**	**+1.2**
KPKS	**Kokpek**	**25.98 50**	*e*P	**P**	**13 57 08.5**	**-0.1**
	comp=Z,211nm,2.1s					
KPKS			*e*S	**S**	**14 01 41.1**	**+2.3**
KPKS			*e*LR	LR	14 08 22.4	
	comp=Z,15μm,16.3s					
KPKS	**Kokpek**	**25.98 50**	*e*P	**P**	**13 57 08.4**	**-0.1**
KPKS			*e*S	**S**	**14 01 41.0**	**+2.3**
KPKS			pmax	pmax		
	comp=Z,211nm,2.1s					
KPKS			MLR	MLR		
	comp=Z,15μm,16.0s					
AMT	**Artemida-Makis**	**25.98 296**	P	**P**	**13 57 09.1**	**+0.6**
EFP	**Efpalio**	**25.99 298**	P	**P**	**13 57 09.5**	**+1.0**
KKB	**Krupnik**	**26.04 306**	P	**P**	**13 57 09.2**	**+0.2**
DRO	**Drossia**	**26.05 297**	P	**P**	**13 57 09.1**	**0.0**
UZB	**Uzynbulak**	**26.08 51**	*e*P	**P**	**13 57 10.0**	**+0.4**
	comp=Z,319nm,2.7s					
UZB			*e*LR	LR	14 08 10.5	
	comp=Z,6μm,14.1s					
UZB	**Uzynbulak**	**26.08 51**	*e*P	**P**	**13 57 09.9**	**+0.4**
UZB			pmax	pmax		
	comp=Z,319nm,2.7s					
UZB			MLR	MLR		
	comp=Z,6μm,14.0s					
OZUR		**26.08 317**	⇓P	**P**	**13 57 10.2**	**+0.9**
MTUR	**Matau**	**26.09 315**	⇓P	**P**	**13 57 10.0**	**+0.5**
MTUR			mb		13 57 26.9	
EVR	**Evrytania**	**26.16 299**	P	**P**	**13 57 09.7**	**-0.6**
BRZS	**Berezniki**	**26.18 32**	*e*P	**P**	**13 57 11.3**	**+1.1**
	comp=Z,813nm,2.6s					
BRZS			*e*LR	LR	14 08 30.0	
	comp=Z,5μm,12.5s					
BRZS	**Berezniki**	**26.18 32**	*e*P	**P**	**13 57 11.2**	**+1.1**
BRZS			pmax	pmax		
	comp=Z,813nm,2.6s					
BRZS			MLR	MLR		
	comp=Z,5μm,12.0s					
VTS	**Vitosha**	**26.19 308**	P	**P**	**13 57 11.9**	**+1.3**
VTS	**Vitosha**	**26.19 308**	P	**P**	**13 57 10.5**	**-0.1**
VTS	**Vitosha**	**26.19 308**	P	**P**	**13 57 11.7**	**+1.1**
VTS			pmax	pmax		
	comp=Z,92nm,1.1s					
VTS			MLR	MLR		
	comp=Z,6μm,18.0s					
VTS	**Vitosha**	**26.19 308**	⇓P	**P**	**13 57 11.4**	**+0.8**
VTS			mb		13 57 14.2	
VTS	**Vitosha**	**26.19 308**	P	**P**	**13 57 11.7**	**+1.1**
VTS			IAmb	IAmb	13 57 20.3	
	comp=Z,92nm,1.1s					
VOIR		**26.20 315**	⇑P	**P**	**13 57 11.1**	**+0.7**
VAY	**Valandovo**	**26.23 305**	*i* P	**P**	**13 57 10.8**	**+0.1**
GRG	**Griva**	**26.24 304**	P	**P**	**13 57 10.8**	**-0.1**
DOPR	**Dopca**	**26.25 316**	⇓P	**P**	**13 57 11.9**	**+1.0**
RLS	**Riolos of Patr**	**26.26 297**	P	**P**	**13 57 11.2**	**+0.2**
NGP	**Nagpur**	**26.29 102**	*e*P	**P**	**13 57 10.8**	**-0.6**
NGP			*ex*	x	13 57 16.8	
	comp=Z,202nm,1.7s					
NGP			*e*S	**S**	**14 01 45.6**	**+1.6**
PVO	**Paravola**	**26.32 298**	P	**P**	**13 57 11.6**	**+0.1**
BIZ	**Bicaz**	**26.34 319**	⇓P	**P**	**13 57 12.5**	**+0.8**
JBP	**Jabalpur**	**26.36 97**	⇓*e*P	**P**	**13 57 13.9**	**+1.9**
JBP			AMB	AMB	13 57 17.2	
	comp=Z,158nm,1.4s					
JBP			*e*S	**S**	**14 01 43.2**	**-1.6**
ARR	**Arges**	**26.42 315**	⇑P	**P**	**13 57 13.7**	**+1.2**
TDK	**Taldyqorghan**	**26.45 46**	*e*P	**P**	**13 57 10.2**	**-2.6**
	comp=Z,1μm,6.0s					
TDK			*e*S	**S**	**14 01 46.2**	**+0.1**
TDK			*e*LR	LR	14 08 43.1	
	comp=Z,17μm,15.9s					
TDK	**Taldyqorghan**	**26.45 46**	*e*P	**P**	**13 57 10.1**	**-2.6**
TDK			*e*S	**S**	**14 01 46.2**	**+0.1**
TDK			MLR	MLR		
	comp=Z,17μm,16.0s					
PDGK	**Podgornoye**	**26.46 51**	P	**P**	**13 57 13.2**	**+0.2**
PDGK			pmax	pmax		
	comp=Z,244nm,1.5s					
PRAR	**RASCA**	**26.50 320**	⇑P	**P**	**13 57 13.9**	**+0.7**
PRAR			mb		13 57 21.0	
JOSR	**Joseni**	**26.56 318**	⇑P	**P**	**13 57 13.9**	**+0.2**
PDO	**Prodromos**	**26.58 298**	P	**P**	**13 57 12.4**	**-1.5**
STIP	**Stip**	**26.62 305**	*i* P	**P**	**13 57 13.1**	**-1.2**
KPRO	**Kipourio**	**26.73 301**	P	**P**	**13 57 19.7**	**+4.3**
KFL	**Anninata**	**26.79 297**	P	**P**	**13 57 13.5**	**-2.3**
FNA	**Florina**	**26.94 303**	P	**P**	**13 57 16.4**	**-0.8**
FNA	**Florina**	**26.94 303**	P	**P**	**13 57 18.4**	**+1.2**
FNA			pmax	pmax		
	comp=Z,103nm,1.0s					
FNA			MLR	MLR		
	comp=Z,4μm,20.0s					
FNA	**Florina**	**26.94 303**	P	**P**	**13 57 18.4**	**+1.2**
FNA			IAmb	IAmb	13 57 27.5	
	comp=Z,103nm,1.0s					
MDB	**Medias**	**26.95 316**	⇑P	**P**	**13 57 17.7**	**+0.6**
MDB			mb		13 57 31.1	
VLS	**Valsamata**	**26.96 297**	P	**P**	**13 57 15.3**	**-2.0**
PENT	**Pentalofos**	**26.96 302**	P	**P**	**13 57 18.4**	**+0.9**
LOT	**Lotru**	**27.00 314**	⇑P	**P**	**13 57 17.6**	**-0.1**
SRE	**Strehaia**	**27.02 312**	⇓P	**P**	**13 57 18.8**	**+1.0**
LKD2	**Lefkada island**	**27.02 299**	P	**P**	**13 57 16.8**	**-1.1**
TSLK	**Tsoukalades, L**	**27.02 299**	P	**P**	**13 57 17.2**	**-0.7**
FSK	**Fiskardo**	**27.03 298**	P	**P**	**13 57 17.1**	**-0.8**
AKASG	**Malin Array Be**	**27.05 328**	P	**P**	**13 57 17.2**	**-0.8**
AKASG			pmax	pmax		
	comp=Z,63nm,1.0s					
AKASG	**Malin Array Be**	**27.05 328**	P	**P**	**13 57 16.8**	**-1.2**
	comp=Z,36nm,0.5s,baz=336,slow=25,SNR=7.2					
AKASG			ScP	**ScP**	**14 04 16.9**	**-2.0**
	comp=Z,17nm,1.0s,baz=105,slow=2.1,SNR=7.5					
AKASG			LR	LR	14 09 27.0	
	comp=Z,4μm,21.1s,baz=115,slow=40					
AKASG	**Malin Array Be**	**27.05 328**	P	**P**	**13 57 17.1**	**-0.8**
AKBB	**Malin Array Si**	**27.05 328**	P	**P**	**13 57 17.7**	**-0.3**
AKBB			pmax	pmax		
	comp=Z,210nm,1.0s					
AKBB	**Malin Array Si**	**27.05 328**	P	**P**	**13 57 17.7**	**-0.3**
BURAR	**Bucovina Array**	**27.21 319**	⇓P	**P**	**13 57 20.5**	**+0.9**
BURAR			mb		13 57 39.6	
BURAR	**Bucovina Array**	**27.21 319**	P	**P**	**13 57 19.3**	**-0.3**
SKO	**Skopje**	**27.23 306**	*i* P	**P**	**13 57 20.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**27.24 319**	P	**P**	**13 57 21.6**	**+1.7**
BUR08			PcP	**PcP**	**14 00 39.3**	**-0.3**
IGT	**Igoumenitsa**	**27.41 300**	P	**P**	**13 57 21.6**	**+0.2**
ARCR	**ARCALIA**	**27.43 318**	⇑P	**P**	**13 57 23.1**	**+1.6**
BRVK	**Borovoye**	**27.47 25**	P	**P**	**13 57 23.4**	**+1.6**
	SNR=30					
BRVK			P	**P**	**13 57 23.4**	**+1.6**
	SNR=30					
BRVK	**Borovoye**	**27.47 25**	*i* P	**P**	**13 57 21.8**	**0.0**
BRVK			pmax	pmax		
	comp=Z,66nm,1.1s					
BRVK			MLR	MLR		
	comp=Z,11μm,17.0s					
BRVK	**Borovoye**	**27.47 25**	P	**P**	**13 57 23.9**	**+2.1**
BRVK	**Borovoye**	**27.47 25**	IAMs_20	IAMs_20	14 09 45.2	
	comp=Z,11μm,18.0s					
BVAR	**Borovoye Array**	**27.48 25**	P	**P**	**13 57 22.2**	**+0.3**
	comp=Z,21nm,0.6s,baz=217,slow=7.1,SNR=95					
BVAR			PcP	**PcP**	**14 00 39.7**	**-0.3**
	comp=Z,7.5nm,0.3s,baz=195,slow=2.3,SNR=15					
BVAR			ScP	**ScP**	**14 04 18.3**	**-2.0**
	comp=Z,23nm,1.0s,baz=211,slow=2.6,SNR=12					
ARU	**Arti**	**27.55 9**	*c i*P	**P**	**13 57 23.0**	**+0.6**
ARU					13 58 08.7	
ARU			PPP	PPP	13 58 18.8	
ARU					14 00 35.6	
ARU			S	**S**	**14 02 07.0**	**+4.0**
ARU			SS	**SnSn**	**14 03 17.1**	**+3.4**
ARU			pmax	pmax		
	comp=Z,133nm,1.8s					
ARU			MLR	MLR		
	comp=Z,5μm,14.0s					
ARU	**Arti**	**27.55 9**	P	**P**	**13 57 22.7**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=194,slow=9.4,SNR=15					
ARU			LR	LR	14 09 36.9	
	comp=Z,5μm,20.4s,baz=188,slow=39					
ARU	**Arti**	**27.55 9**	P	**P**	**13 57 26.7**	**+4.3**
ARU			IAmb	IAmb	13 57 36.7	
	comp=Z,84nm,0.7s					
HYB	**Hyderabad**	**27.57 109**	*i* P	**P**	**13 57 22.0**	**-1.0**
HYB			*e*S	**S**	**14 02 06.0**	**+1.9**
HYB	**Hyderabad**	**27.57 109**	*e*S	**S**	**14 02 04.1**	**-0.1**
GZR	**Gura Zlata**	**27.60 313**	⇓P	**P**	**13 57 23.3**	**+0.1**
HERR	**Herculane**	**27.62 312**	⇑P	**P**	**13 57 24.1**	**+0.9**
CJR	**Cluj-Napoca**	**27.70 316**	⇑P	**P**	**13 57 25.4**	**+1.5**
KEK	**Kerkira**	**27.86 300**	P	**P**	**13 57 24.7**	**-0.7**
OBN	**Obninsk**	**27.86 342**	*ce*P	**P**	**13 57 24.5**	**-0.7**
OBN			*e**PP	**pP**	**13 57 28.8**	**-0.7**
OBN			*e**SP	**sP**	**13 57 31.6**	**+0.3**
OBN			*i* S	**S**	**14 02 10.2**	**+2.2**
OBN			*e*SSS	SSS	14 03 30.7	
OBN			pmax	pmax		
	comp=Z,365nm,1.7s					
OBN			MLR	MLR		
	comp=Z,6μm,18.0s					
OBN	**Obninsk**	**27.86 342**	LR	LR	14 09 57.1	
	comp=Z,2μm,19.4s,baz=147,slow=40					
PHP	**Peshkopia**	**27.86 305**	P	**P**	**13 57 24.2**	**-1.3**
MDVR	**Moldovita**	**28.04 311**	⇓P	**P**	**13 57 27.3**	**+0.3**
MOS	**Moscow**	**28.14 343**	*e*P	**P**	**13 57 26.1**	**-1.6**
MOS			*e*		13 58 26.7	
MOS			pmax	pmax		
	comp=Z,376nm,1.6s					
MOS			MLR	MLR		
	comp=Z,9μm,18.0s					
TIR	**Tirane**	**28.19 304**	⇑P	**P**	**13 57 29.0**	**+0.7**
TIR			mb		13 57 48.5	
BMR	**Baia Mare**	**28.23 318**	⇓P	**P**	**13 57 30.0**	**+1.3**
SVE	**Sverdlovsk**	**28.24 11**	⇑*e*P	**P**	**13 57 29.8**	**+1.2**
SVE			*e*S	**S**	**14 02 17.0**	**+3.1**
SVE			pmax	pmax		
	comp=Z,114nm,1.4s					
SVE			MLR	MLR		
	comp=Z,9μm,14.0s					
DRGR		**28.27 316**	P	**P**	**13 57 29.6**	**+0.5**
DRGR		**28.27 316**	⇑P	**P**	**13 57 29.6**	**+0.5**
KOLN	**Koldanda**	**28.32 85**	*e*P	**P**	**13 57 29.8**	**0.0**
	comp=Z,385nm,1.1s					
DANN	**Dangsing**	**28.35 84**	*e*P	**P**	**13 57 30.9**	**+0.7**
	comp=Z,737nm,0.7s					
BZS	**Buzias**	**28.43 313**	⇑P	**P**	**13 57 30.6**	**+0.1**
PVY	**Plav**	**28.47 306**	⇓*i*P	**P**	**13 57 31.1**	**+0.1**
IVA	**Berane**	**28.60 307**	⇓*i*P	**P**	**13 57 32.0**	**-0.1**
SIRR	**Siria**	**28.68 314**	⇑P	**P**	**13 57 33.1**	**+0.5**
ULC	**Ulcinj**	**28.80 305**	⇓*i*P	**P**	**13 57 33.3**	**-0.5**
DRME	**Dracevica, Mon**	**28.90 305**	⇑*i*P	**P**	**13 57 33.3**	**-1.4**
DRME	**Dracevica, Mon**	**28.90 305**	⇓*i*P	**P**	**13 57 34.6**	**-0.1**
PDG	**Podgorica**	**28.92 306**	⇑*i*P	**P**	**13 57 33.4**	**-1.4**
PDG	**Podgorica**	**28.92 306**	⇑P	**P**	**13 57 34.5**	**-0.2**
PDG			mb		13 57 42.8	
TTG	**Podgorica**	**28.92 306**	⇓*i*P	**P**	**13 57 34.8**	**0.0**
DIVS	**Divibare**	**28.93 309**	⇑*i*P	**P**	**13 57 34.3**	**-0.7**
TRPA	**Tarpa**	**29.02 318**	⇑P	**P**	**13 57 35.8**	**+0.2**
TRPA			mb		13 57 41.2	
LVV	**L'vov**	**29.09 322**	*e*P	**P**	**13 57 36.2**	**0.0**
LVV			*e*		13 58 32.1	
LVV			*e*S	**S**	**14 02 23.2**	**-4.3**
LVV			*e*SS	**ScP**	**14 04 14.5**	**-11**
LVV			pmax	pmax		
	comp=Z,280nm,1.5s					
PLE	**Pljevlja**	**29.09 307**	⇓*i*P	**P**	**13 57 35.6**	**-0.9**
BUM	**Brajici-Budva**	**29.14 305**	⇓*i*P	**P**	**13 57 36.5**	**-0.4**
GKN	**Gorkha**	**29.17 84**	*e*P	**P**	**13 57 37.4**	**0.0**
	comp=Z,287nm,0.7s					
RUDO	**Rudo**	**29.20 308**	*e*P	**P**	**13 57 37.0**	**-0.3**
NKY	**Niksic**	**29.21 306**	⇓*i*P	**P**	**13 57 37.1**	**-0.5**
NKME	**Niksic**	**29.23 306**	⇓*i*P	**P**	**13 57 37.6**	**0.0**
BBLS	**Lazići**	**29.25 308**	⇑*i*P	**P**	**13 57 37.4**	**-0.4**
KIRV	**Kirov**	**29.26 358**	P	**P**	**13 57 38.2**	**+0.6**
	comp=Z,170nm,0.7s,baz=39,slow=0.6,SNR=34					
KIRV			LR	LR	14 11 41.2	
	comp=Z,6μm,20.3s,baz=177,slow=41					
UPM	**Unac-Piva**	**29.39 307**	*e*P	**P**	**13 57 38.4**	**-0.8**
UPM	**Unac-Piva**	**29.39 307**	⇓*i*P	**P**	**13 57 38.6**	**-0.6**
TEKS	**Tekeris**	**29.40 310**	*e*P	**P**	**13 57 34.5**	**-4.5**
UZH	**Uzhgorod**	**29.41 319**	⇓*i*P	**P**	**13 57 38.8**	**-0.3**
UZH			*i*		13 57 47.5	
UZH			*i* S	**S**	**14 02 28.2**	**-4.4**
FRGS	**Fruska Gora**	**29.43 311**	⇑*i*P	**P**	**13 57 39.1**	**-0.2**
HCY	**Herceg Novi**	**29.47 305**	*e*P	**P**	**13 57 38.5**	**-1.2**
HCY	**Herceg Novi**	**29.47 305**	⇓*i*P	**P**	**13 57 39.0**	**-0.7**
KURBB	**Kurchatov Arra**	**29.47 36**	P	**P**	**13 57 40.5**	**+0.9**
	comp=Z,23nm,0.8s,baz=236,slow=9.1,SNR=76					
KURBB			PcP	**PcP**	**14 00 45.4**	**+0.5**
	comp=Z,9.2nm,0.9s,baz=244,slow=2.2,SNR=4.9					
KURBB			ScP	**ScP**	**14 04 24.9**	**-1.5**
	comp=Z,27nm,0.9s,baz=232,slow=3.9,SNR=17					
BRY	**Bratogost**	**29.56 306**	*e*P	**P**	**13 57 39.1**	**-1.6**
BRY	**Bratogost**	**29.56 306**	⇓*i*P	**P**	**13 57 40.5**	**-0.2**
KURK	**Kurchatov**	**29.57 36**	P	**P**	**13 57 42.1**	**+1.7**
	SNR=47					
KURK	**Kurchatov**	**29.57 36**	*ce*P	**P**	**13 57 41.3**	**+0.9**
KURK			pmax	pmax		
	comp=Z,88nm,1.7s					
KURK	**Kurchatov**	**29.57 36**	P	**P**	**13 57 42.1**	**+1.7**
KOLS	**Kolonicke sedl**	**29.58 320**	*e*P	**P**	**13 57 41.7**	**+1.1**
KOLS			pmax	pmax		
	comp=Z,211nm,1.3s					
KOLS	**Kolonicke sedl**	**29.58 320**	*e*P	**P**	**13 57 41.7**	**+1.1**
HAPS	**Han Pijesak,Bl**	**29.63 309**	*e*P	**P**	**13 57 40.0**	**-1.3**
TREB	**Trebinje**	**29.64 306**	*e*P	**P**	**13 57 40.6**	**-0.6**
DMN	**Daman**	**29.66 85**	*e*P	**P**	**13 57 41.8**	**0.0**
	comp=Z,195nm,0.7s					
MK31	**Makanchi Array**	**29.68 46**	*i* P	**P**	**13 57 41.8**	**+0.3**
MK31			pmax	pmax		
	comp=Z,17nm,0.7s					
MK31	**Makanchi Array**	**29.68 46**	PcP	**PcP**	**14 00 46.5**	**+0.9**
MKAR	**Makanchi Array**	**29.68 46**	P	**P**	**13 57 42.2**	**+0.7**
	comp=Z,10nm,0.5s,baz=244,slow=7.8,SNR=86					
MKAR			PcP	**PcP**	**14 00 45.1**	**-0.5**
	comp=Z,4.2nm,0.5s,baz=248,slow=3.2,SNR=4.8					
MKAR			ScP	**ScP**	**14 04 26.4**	**-0.8**
	comp=Z,19nm,1.0s,baz=253,slow=3.7,SNR=12					
MKAR			LR	LR	14 11 13.5	
	comp=Z,10μm,19.0s,baz=243,slow=40					
MKAR			P3KPbc		14 29 42.5	
	comp=Z,1.3nm,0.8s,baz=66,slow=5.9,SNR=7.1					
MKAR	**Makanchi Array**	**29.68 46**	P	**P**	**13 57 42.4**	**+0.9**
MKAR				**PcP**	**14 00 46.4**	**+0.8**
KWP	**Kalwaria Pacla**	**29.70 321**	*e*P	**P**	**13 57 42.3**	**+0.6**
KWP	**Kalwaria Pacla**	**29.70 321**	*e*P	**P**	**13 57 42.3**	**+0.6**
KWP			*e*P	**P**	**13 57 42.3**	**+0.6**
KKN	**Kakani**	**29.77 85**	*e*P	**P**	**13 57 42.8**	**0.0**
	comp=Z,377nm,0.9s					
PKIN	**Phulchoki**	**29.92 85**	*e*P	**P**	**13 57 44.0**	**-0.1**
	comp=Z,314nm,0.9s					
LODK	**Lodwar**	**29.92 213**	P	**P**	**13 57 45.0**	**+1.0**
	SNR=68					
PKI	**Pulchoki**	**29.93 85**	*e*P	**P**	**13 57 44.0**	**-0.3**
	comp=Z,503nm,0.9s					
TIP	**Timpagrande**	**30.08 298**	P	**P**	**13 57 44.9**	**-0.3**
TIP	**Timpagrande**	**30.08 298**	IAmb	IAmb	13 57 49.0	
	comp=Z,83nm,1.0s					
STON	**Ston**	**30.14 306**	*e*P	**P**	**13 57 43.9**	**-1.7**
GUN	**Gumba**	**30.27 84**	*e*P	**P**	**13 57 47.4**	**+0.1**
	comp=Z,363nm,0.8s					
MICGM	**Minsk**	**30.33 333**	*e*P	**P**	**13 57 45.0**	**-2.1**
MICGM			*e*PP	**PP**	**13 58 52.0**	**-3.6**
MICGM			*e*PPP	PPP	13 59 05.0	
MICGM			*e*S	**S**	**14 02 43.0**	**-3.8**
MICGM			*e*SS	SnSn	14 04 06.0	-15
MICGM			*e*SSS	SSS	14 04 41.0	
MICGM			*e*LR	LR	14 08 48.0	
MNK	**Minsk**	**30.33 333**	*e*P	**P**	**13 57 45.0**	**-2.1**
MNK			*e*		13 58 52.0	
MNK			*e*		13 59 05.0	
MNK			*e*S	**S**	**14 02 43.0**	**-3.8**
MNK			*e*		14 04 41.0	
MATE	**Matera**	**30.36 301**	⇑P	**P**	**13 57 47.6**	**0.0**
KECS	**Kecovo**	**30.39 318**	*e*P	**P**	**13 57 48.8**	**+1.0**
KECS			pmax	pmax		
	comp=Z,59nm,0.7s					
KECS	**Kecovo**	**30.39 318**	*e*P	**P**	**13 57 48.8**	**+1.0**
HMDM	**Hanim

SMOL Smolenice 32.24 316 *e*P **P 13 58 04.1 +0.1**
SMOL pmax pmax
comp=Z,53nm,1.0s
SMOL Smolenice 32.24 316 *e*P **P 13 58 04.1 +0.1**
MODS Modra-Piesok 32.27 316 *e*P **P 13 58 03.6 -0.8**
MODS pmax pmax
comp=Z,137nm,1.4s
MODS Modra-Piesok 32.27 316 *e*P **P 13 58 03.6 -0.8**
WMQ Urumqi 32.27 53 P **P 13 58 06.3 +1.8**
WMQ pP sP 13 58 12.5 +1.9
WMQ sP pP 13 58 16.0 +7.1
WMQ S **S 14 03 19.3 +1.6**
WMQ ScP **ScP 14 04 35.3 -0.7**
WMQ ScS **ScS 14 08 34.8 -0.2**
WMQ pmax pmax
comp=Z,48nm,1.1s
WMQ pmax pmax
comp=Z,1μm,5.3s
WMQ LR LR
comp=Z,7μm,15.3s
WMQ LR LR
comp=Z,8μm,16.1s
WMQ LR LR
comp=Z,11μm,17.9s
ZST Bratislava 32.31 315 *e*P **P 13 58 04.2 -0.5**
ZST Bratislava 32.31 315 *e*P **P 13 58 04.2 -0.5**
OKC Ostrava-Krasne 32.38 319 *e*P **P 13 58 05.7 +0.5**
OKC MLR MLR
comp=Z,5μm,11.8s
OKC Ostrava-Krasne 32.38 319 *e*P **P 13 58 05.7 +0.5**
OKC AMS AMS 14 13 30.0
comp=Z,5μm,11.8s
KLMR Klimovskoe 32.49 349 *e*P **P 13 58 05.3 -0.8**
KLMR *e* 13 59 12.6
KLMR *e*S **S 14 03 20.8 +0.4**
KLMR *e*SS **SnSn 14 05 18.3 +4.4**
KLMR pmax pmax
comp=Z,455nm,1.0s
KLMR Klimovskoe 32.49 349 *e*P **P 13 58 05.3 -0.8**
KLMR AMP 13 58 07.8
comp=Z,455nm,1.0s
KLMR *e*PP **PP 13 59 12.6 -6.9**
KLMR *e*S **S 14 03 20.8 +0.4**
KLMR *e*S **S 14 03 20.8 +0.4**
KLMR *e*SS **SnSn 14 05 18.3 +4.4**
KLMR *e*SS **SnSn 14 05 18.3 +4.4**
KLMR LQ LQ 14 09 24.1
KLMR LQ LQ 14 09 24.1
KLMR LR LR 14 11 19.2
PRGR Permogore 32.52 355 *e*P **P 13 58 03.0 -3.3**
PRGR *e* 13 59 11.5
PRGR pmax pmax
comp=Z,115nm,0.8s
CRES Cresnjev 32.53 310 ⇑*i*P **P 13 58 06.6 -0.1**
BOJS Bojanci 32.58 310 *i* P **P 13 58 07.1 +0.1**
BOJS *e*S **S 14 03 20.3 -1.9**
PABE Paberze 32.65 331 *e*P **P 13 58 06.9 -0.6**
PABE IAmb IAmb 13 58 10.1
comp=Z,271nm,0.9s
INTR Introdacqua 32.69 303 P **P 13 58 08.9 +0.8**
INTR IAmb IAmb 13 58 10.7
comp=Z,52nm,0.8s
MORC Moravsky Berou 32.70 318 P **P 13 58 08.4 +0.3**
MORC pmax pmax
comp=Z,74nm,0.8s
MORC Moravsky Berou 32.70 318 ⇑P **P 13 58 08.0 -0.1**
MORC mb 13 58 11.3
MORC Moravsky Berou 32.70 318 ⇑*i*P **P 13 58 07.9 -0.3**
MORC *e*S **S 14 03 23.2 -0.9**
MORC Moravsky Berou 32.70 318 P **P 13 58 08.4 +0.3**
MORC IAmb IAmb 13 58 09.9
comp=Z,74nm,0.8s
GTK Tadong 32.76 84 *e*P **P 13 58 06.9 -2.1**
ARSA Arzberg 32.95 313 *i* pP **P 13 58 10.9 +0.5**
comp=Z,41nm,1.2s,SNR=8.5
CONA Conrad Observa 32.98 314 *i* pP **P 13 58 10.9 +0.3**
comp=Z,65nm,1.1s,SNR=24
VRAC Vranov 33.06 317 P **P 13 58 11.2 -0.1**
comp=Z,37nm,0.8s,baz=109,slow=8.3,SNR=27
VRAC Vranov 33.06 317 ⇓P **P 13 58 11.7 +0.4**
VRAC mb 13 58 17.4
VRAC Vranov 33.06 317 ⇑*i*P **P 13 58 11.2 -0.1**
VRAC *e*S **S 14 03 30.2 +0.5**
SOKA Soboth 33.08 312 *i* pP **P 13 58 11.7 +0.2**
comp=Z,26nm,1.2s,SNR=6.6
KRUC Moravsky 33.08 316 ⇑*i*P **P 13 58 11.2 -0.2**
KRUC *e*S **S 14 03 29.1 -0.9**
AQU L'Aquila 33.12 303 ⇑*i*P **P 13 58 12.1 +0.2**
KMBO Kilima Mbogo 33.17 206 *i* P **P 13 58 13.2 +0.4**
SNR=20
KMBO Kilima Mbogo 33.17 206 P **P 13 58 13.6 +0.8**
SNR=30
KMBO P **P 13 58 13.6 +0.8**
SNR=30
KMBO Kilima Mbogo 33.17 206 P **P 13 58 12.6 -0.2**
KMBO pmax pmax
comp=Z,37nm,1.2s
KMBO MLR MLR
comp=Z,23μm,18.0s
KMBO Kilima Mbogo 33.17 206 *e*P **P 13 58 12.8 +0.1**
KMBO Kilima Mbogo 33.17 206 *e*P **P 13 58 13.2 +0.4**
KMBO Kilima Mbogo 33.17 206 P **P 13 58 13.2 +0.4**
comp=Z,25nm,1.1s,baz=18,slow=9.9,SNR=40
KMBO PcP **PcP 14 00 58.2 +2.5**
comp=Z,15nm,1.0s,baz=349,slow=7.2,SNR=4.3
KMBO ScP **ScP 14 04 40.0 +0.4**
comp=Z,4.0nm,1.0s,baz=6.7,slow=4.3,SNR=6.4
KMBO LR LR 14 12 34.2
comp=Z,23μm,18.3s,baz=14,slow=38
KMBO Kilima Mbogo 33.17 206 *e*P **P 13 58 12.8 +0.1**
KMBO Kilima Mbogo 33.17 206 P **P 13 58 12.6 -0.2**
KRLC Kraliky 33.27 318 *e*P **P 13 58 12.9 -0.3**
KRLC MLR MLR
comp=Z,4μm,17.4s
KRLC Kraliky 33.27 318 *e*P **P 13 58 12.9 -0.3**
KRLC AMS AMS 14 13 50.0
comp=Z,4μm,17.4s
OBKA Obir 33.34 311 *e*pP **P 13 58 14.6 +0.7**
comp=Z,59nm,1.2s
NRCA Norcia 33.42 304 P **P 13 58 15.7 +1.2**
NRCA IAmb IAmb 13 58 18.5
comp=Z,79nm,0.7s
NRCA PcP **PcP 14 00 54.5 -1.3**
PUL Pulkovo 33.61 341 *i* P **P 13 58 14.5 -1.3**
PUL pmax pmax
comp=Z,59nm,0.9s
DPC Dobruska-Polom 33.66 318 *e*P **P 13 58 15.9 -0.6**
DPC *e*S **S 14 03 33.7 -5.3**
DPC MLR MLR
comp=Z,4μm,16.2s
DPC Dobruska-Polom 33.66 318 *e*P **P 13 58 15.9 -0.6**
DPC *e*S **S 14 03 33.7 -5.3**
DPC AMS AMS 14 15 50.0
comp=Z,4μm,16.2s
VSU Vasula 33.70 337 *ce*P **P 13 58 16.2 -0.4**
VSU pmax pmax
comp=Z,520nm,1.7s
VSU Vasula 33.70 337 *e*P **P 13 58 15.5 -1.1**
TREC Trest 33.72 316 *e*P **P 13 58 17.9 +0.9**
TREC MLR MLR
comp=Z,6μm,20.6s
TREC Trest 33.72 316 *e*P **P 13 58 17.9 +0.9**
TREC AMS AMS 14 13 50.0
comp=Z,6μm,20.6s
PBUR Paburg 33.86 330 *e*P **P 13 58 18.1 0.0**
KSP Ksiaz 33.89 319 *e*P **P 13 58 18.3 -0.2**
KSP Ksiaz 33.89 319 *e*P **P 13 58 18.2 -0.2**
KSP *e*P **P 13 58 18.2 -0.2**
UPC Upice 33.91 319 *e*P **P 13 58 18.2 -0.4**
UPC *e* 13 58 21.1
UPC *e*S **S 14 03 37.3 -5.4**
UPC MLR MLR
comp=Z,5μm,19.0s
UPC Upice 33.91 319 *e*P **P 13 58 18.2 -0.4**
UPC *e*x x 13 58 21.1
UPC *e*S **S 14 03 37.3 -5.4**
UPC AMS AMS 14 15 40.0
comp=Z,5μm,19.0s
CHVC Chvalec 33.92 319 *e*P **P 13 58 18.3 -0.4**
CHVC AMS AMS 14 15 00.0
comp=Z,4μm,19.9s
MURB Monte Urbino 33.92 305 P **P 13 58 20.9 +2.0**
MOA Molln 33.96 313 *i* pP **P 13 58 19.1 0.0**
comp=Z,74nm,0.8s,SNR=28

MYKA Terra Mystica 33.98 311 *i* pP **P 13 58 20.2 +0.9**
comp=Z,3.6nm,0.5s,SNR=8.8
KIBK Kibwezi 33.99 204 P **P 13 58 20.2 +0.5**
SNR=67
MSEY Mahe Island 34.05 173 *i* P **P 13 58 21.8 +1.6**
SNR=14
MSEY Mahe Island 34.05 173 P **P 13 58 21.4 +1.2**
SNR=7.8
MSEY P **P 13 58 21.4 +1.2**
SNR=7.8
MSEY Mahe Island 34.05 173 P **P 13 58 19.4 -0.8**
MSEY pmax pmax
comp=Z,223nm,1.1s
MSEY MLR MLR
comp=Z,8μm,18.0s
MSEY Mahe Island 34.05 173 P **P 13 58 19.4 -0.8**
MSEY Mahe Island 34.05 173 IAms_20 IAms_20 14 11 52.9
comp=Z,8μm,18.0s
KBA Koelnbreinsper 34.31 312 *i* pP **P 13 58 22.7 +0.4**
comp=Z,88nm,0.8s,SNR=9.6
LATE Laterza 34.33 304 P **P 13 58 22.5 +0.1**
GOPC GO Pecny, Ondr 34.38 317 *e*P **P 13 58 22.5 -0.3**
GOPC *e*S **S 14 03 41.6 -8.5**
GOPC MLR MLR
comp=Z,5μm,19.9s
GOPC GO Pecny, Ondr 34.38 317 *e*P **P 13 58 22.5 -0.3**
GOPC *e*S **S 14 03 41.6 -8.5**
GOPC AMS AMS 14 15 30.0
comp=Z,5μm,19.9s
LSA Lhasa 34.51 79 P **P 13 58 26.1 +1.5**
LSA pmax pmax
comp=Z,102nm,0.6s
LSA MLR MLR
comp=Z,8μm,19.0s
LSA Lhasa 34.51 79 P **P 13 58 26.1 +1.5**
LSA IAms_20 IAms_20 14 13 44.0
comp=Z,8μm,19.0s
GKP Gorka Klasztor 34.52 324 *e*P **P 13 58 22.5 -1.3**
GKP Gorka Klasztor 34.52 324 *e*P **P 13 58 22.5 -1.3**
GKP *e*P **P 13 58 22.5 -1.3**
ZALV Zalesovo Beam 34.53 35 P **P 13 58 23.9 -0.1**
comp=Z,24nm,0.4s,baz=234,slow=10,SNR=88
ZALV ScP **ScP 14 04 42.2 -1.3**
comp=Z,6.2nm,0.7s,baz=230,slow=5.8,SNR=4.1
PRU Pruhonice 34.56 317 *e*P **P 13 58 24.4 +0.2**
PRU *e*S **S 14 03 49.1 -3.7**
PRU MLR MLR
comp=Z,5μm,17.3s
PRU Pruhonice 34.56 317 *e*P **P 13 58 24.4 +0.2**
PRU *e*S **S 14 03 49.1 -3.7**
PRU AMS AMS 14 15 40.0
comp=Z,5μm,17.3s
GERES GERESS Array B 34.65 315 P **P 13 58 24.2 -1.0**
GERES 14 00 59.9
GERES GERESS Array B 34.65 315 P **P 13 58 24.1 -1.1**
comp=Z,12nm,0.8s,baz=115,slow=9.0,SNR=38
GERES PcP **PcP 14 00 59.2 0.0**
comp=Z,11nm,1.1s,baz=124,slow=2.4,SNR=5.8
GERES ScP **ScP 14 04 45.1 +0.9**
comp=Z,3.9nm,0.8s,baz=124,slow=4.9,SNR=6.9
GERES LR LR 14 14 38.8
comp=Z,3μm,19.4s,baz=130,slow=40
GERES GERESS Array B 34.65 315 P **P 13 58 24.2 -1.0**
GERES **PcP 14 00 59.9 +0.7**
GERES **ScP 14 04 44.8 +0.6**
PRA Prague 34.66 317 *e*P **P 13 58 25.8 +0.7**
PRA MLR MLR
comp=Z,5μm,17.1s
PRA Prague 34.66 317 *e*P **P 13 58 25.8 +0.7**
PRA AMS AMS 14 15 30.0
comp=Z,5μm,17.1s
PVCC Panska Ves 34.75 318 *e*P **P 13 58 26.0 +0.1**
PVCC MLR MLR
comp=Z,4μm,12.5s
PVCC Panska Ves 34.75 318 *e*P **P 13 58 26.0 +0.1**
PVCC AMS AMS 14 15 10.0
comp=Z,4μm,12.5s
ABTA Abfaltersbach 34.76 311 *i* pP **P 13 58 26.4 +0.3**
comp=Z,49nm,1.0s,SNR=11
SLIT Slitere, Latvi 34.76 333 *e*P **P 13 58 24.9 -0.9**
SLIT IAmb IAmb 13 58 27.4
comp=Z,677nm,0.9s
PBCC Pribram 34.77 316 *e*P **P 13 58 25.5 -0.6**
PBCC *e*x x 13 58 32.6
PBCC *e*S **S 14 03 53.3 -2.8**
PBCC AMS AMS 14 14 40.0
comp=Z,1μm,20.1s
KHC Kasperske Hory 34.83 315 *e*P **P 13 58 26.6 0.0**
KHC *e* 13 58 33.5
KHC *e*S **S 14 03 51.6 -5.4**
KHC MLR MLR
comp=Z,4μm,20.1s
KHC Kasperske Hory 34.83 315 *e*P **P 13 58 26.6 0.0**
KHC *e*x x 13 58 33.5
KHC *e*S **S 14 03 51.6 -5.4**
KHC AMS AMS 14 14 10.0
comp=Z,4μm,20.1s
KHC Kasperske Hory 34.83 315 P **P 13 58 27.6 +0.9**
BRG Berggiesshubel 35.26 318 *i* P **P 13 58 29.6 -0.7**
comp=Z,53nm,0.9s
BRG *i* 13 58 34.2
comp=Z,47nm,0.8s
BRG PP **PnPn 13 59 44.0 -4.2**
BRG S **S 14 03 58.0 -5.5**
BRG *e*SCP **ScP 14 04 46.1 -0.2**
comp=Z,35nm,1.6s
BRG *e*PKKP PKKPdf 14 23 25.4 +14
comp=Z,2.7nm,0.7s
BRG *e*PKPPKP 14 33 22.6
comp=Z,32nm,1.9s
comp=N,6μm,17.1s
comp=E,6μm,12.7s
comp=Z,6μm,12.7s
BRG Berggiesshubel 35.26 318 *i* P **P 13 58 29.6 -0.7**
BRG *i* 13 58 34.2
BRG 13 59 44.0
BRG S **S 14 03 58.0 -5.5**
BRG pmax pmax
comp=Z,53nm,0.9s
BRG MLR MLR
comp=N,6μm,17.1s
BRG MLR MLR
comp=E,6μm,12.7s
BRG MLR MLR
comp=Z,6μm,12.7s
PALK Pallekele 35.28 123 *i* P **P 13 58 31.3 +0.4**
SNR=16
PALK Pallekele 35.28 123 P **P 13 58 31.7 +0.9**
PALK pmax pmax
comp=Z,76nm,1.1s
PALK MLR MLR
comp=Z,3μm,21.0s
PALK Pallekele 35.28 123 P **P 13 58 31.8 +0.9**
comp=Z,82nm,1.2s,baz=295,slow=8.1,SNR=14
PALK Pallekele 35.28 123 P **P 13 58 31.7 +0.9**
PALK IAmb IAmb 13 58 38.8
comp=Z,76nm,1.1s
KAAM Kaadhehdhoo 35.34 140 IAms_20 IAms_20 14 12 06.3
comp=Z,5μm,19.0s
WTTA Wattenberg 35.48 311 *i* pP **P 13 58 32.0 -0.4**
comp=Z,61nm,0.6s,SNR=31
WATA Walderalm 35.53 312 *i* pP **P 13 58 32.1 -0.8**
comp=Z,81nm,0.7s,SNR=22
VLC Villacollemand 35.62 306 IAms_20 IAms_20 14 13 44.6
comp=Z,5μm,21.0s
MBAR Mbarara 35.71 217 *d i*P **P 13 58 34.5 -0.2**
MBAR pmax pmax
comp=Z,162nm,1.2s
MBAR Mbarara 35.71 217 P **P 13 58 34.7 0.0**
comp=Z,166nm,1.2s,baz=51,slow=7.1,SNR=51
MBAR ScP **ScP 14 04 49.8 +1.1**
comp=Z,4.6nm,0.3s,baz=4.9,slow=1.5,SNR=5.1
MBAR Mbarara 35.71 217 P **P 13 58 33.7 -1.0**
MBAR IAmb IAmb 13 58 39.3
comp=Z,73nm,1.0s
SQTA Sankt Quirin 35.74 311 *i* P **P 13 58 33.6 -1.1**
comp=Z,75nm,0.5s,SNR=36
KEST Kesra 35.78 291 P **P 13 58 37.0 +2.0**
comp=Z,103nm,1.0s,baz=301,slow=0.9,SNR=33
KEST ScP **ScP 14 04 49.0 +0.5**
comp=Z,31nm,0.9s,baz=301,slow=2.0,SNR=12
KEST LR LR 14 16 17.1
comp=Z,3μm,18.3s,baz=40,slow=41
KEST Kesra 35.78 291 P **P 13 58 36.7 +1.6**
KEST IAmb IAmb 13 58 40.1
comp=Z,132nm,1.1s

KEST PcP **PcP 14 01 04.5 +1.8**
KEST **ScP 14 04 50.5 +2.0**
PRMA PARMA 35.78 307 IAms_20 IAms_20 14 13 26.0
comp=Z,6μm,22.0s
MOTA Moosalm 35.85 311 *i* pP **P 13 58 34.8 -0.8**
comp=Z,89nm,0.8s,SNR=29
MOTA *i* S **S 14 04 08.8 -4.2**
TMCR Tamitsa 35.85 350 *e*P **P 13 58 35.3 +0.2**
TMCR *e*S **S 14 04 14.5 +2.3**
TMCR pmax pmax
comp=Z,279nm,0.7s
NKC Novy Kostel 35.90 317 *e*P **P 13 58 35.5 -0.3**
NKC MLR MLR
comp=Z,5μm,18.9s
NKC Novy Kostel 35.90 317 *e*P **P 13 58 35.5 -0.3**
NKC AMS AMS 14 15 20.0
comp=Z,5μm,18.9s
CLL Collm 35.97 318 ⇑*i*P **P 13 58 35.7 -0.7**
CLL *i* 13 58 40.1
CLL *e*S **S 14 04 14.0 -0.5**
CLL pmax pmax
comp=Z,94nm,1.1s
CLL MLR MLR
comp=Z,6μm,18.1s
CLL Collm 35.97 318 ⇑*i*P **P 13 58 35.7 -0.7**
comp=Z,61nm,1.2s
CLL *i* pP **pP 13 58 37.8 -2.8**
comp=Z,94nm,1.1s
CLL *i* sP **sP 13 58 40.1 -2.4**
comp=Z,153nm,1.1s
CLL *e* 13 58 45.0
CLL *e*PPP PPP 14 00 06.0
CLL *e*PPPP 14 00 24.0
CLL *e*S **S 14 04 14.0 -0.5**
CLL *e* 14 05 11.0
CLL *e*SS **SS 14 06 51.0 -0.2**
CLL *e* 14 07 30.0
CLL Lmax 14 17 00.0
CLL LmV 14 17 00.0
comp=Z,6μm,18.1s
FETA Feichten 36.01 311 *i* pP **P 13 58 36.3 -0.7**
comp=Z,74nm,0.7s,SNR=39
RUE Ruedersdorf 36.01 321 *e*P **P 13 58 36.5 -0.2**
RUE IAmb IAmb 13 58 39.7
comp=Z,147nm,0.7s
SHL Shillong 36.03 86 *e*P **P 13 58 35.2 -2.3**
RETA Reutte 36.11 312 *i* P **P 13 58 36.3 -1.5**
comp=Z,26nm,0.5s,SNR=16
FIA1 FINESS Array S 36.20 340 P **P 13 58 37.8 -0.5**
FIA1 IAmb IAmb 13 58 40.1
comp=Z,112nm,1.1s
FINES FINESS Array B 36.20 340 *i* P **P 13 58 37.5 -0.7**
FINES pmax pmax
comp=Z,51nm,0.7s
FINES FINESS Array B 36.20 340 P **P 13 58 37.4 -0.8**
comp=Z,51nm,0.7s,baz=143,slow=8.9,SNR=88
FINES LR LR 14 15 17.0
comp=Z,4μm,19.0s,baz=141,slow=39
FINES FINESS Array B 36.20 340 P **P 13 58 37.7 -0.5**
MSSA Maissana 36.26 306 IAms_20 IAms_20 14 16 12.6
comp=Z,5μm,19.0s
BELO BELONIA 36.32 90 *e*P **P 13 58 38.9 -0.8**
GRA1 Grafenberg Arr 36.46 315 P **P 13 58 39.7 -1.0**
GRA1 IAmb IAmb 13 58 42.0
comp=Z,103nm,0.8s
GRA1 PcP **PcP 14 01 06.4 +2.0**
GRF Grafenberg Arr 36.46 315 P **P 13 58 39.7 -1.0**
GRF 14 01 06.4
GRF pmax pmax
comp=Z,103nm,0.8s
GRF MLR MLR
comp=Z,3μm,19.0s
DAVOX Davos/Dischmat 36.51 310 P **P 13 58 40.6 -0.8**
comp=Z,36nm,0.9s,baz=112,slow=8.7,SNR=30
DAVOX S **S 14 04 20.5 -2.8**
comp=Z,2.4nm,0.6s,baz=224,slow=21,SNR=3.9
BSD Bornholm Skovb 36.62 325 *i* P **P 13 58 40.6 -1.3**
BSD pmax pmax
comp=Z,130nm,0.8s
BSD Bornholm Skovb 36.62 325 *i* P **P 13 58 40.6 -1.3**
comp=Z,129nm,0.8s
DAVA Damuels 36.63 311 *i* P **P 13 58 41.2 -1.2**
comp=Z,104nm,0.6s,SNR=63
TUE Stuetta 36.80 309 **P 13 58 44.9 +1.1**
TUE IAms_20 IAms_20 14 15 41.5
comp=Z,5μm,20.0s
ZIRO ZIRO 37.26 82 *e*S **S 14 04 31.4 -3.6**
ABSA Djebel Ababsia 37.28 292 P **P 13 58 49.3 +1.5**
CMAH Djebel Manchou 37.31 293 P **P 13 58 47.7 -0.4**
CAEH 'Ain El Ouahch 37.76 293 P **P 13 58 53.9 +2.0**
CKFL Kef-Lekhel 37.88 293 P **P 13 58 55.3 +2.3**
BFO Black Forest 37.91 312 P **P 13 58 53.8 +0.9**
BFO 14 01 11.2
BFO pmax pmax
comp=Z,13nm,0.9s
BFO MLR MLR
comp=Z,4μm,20.0s
BFO Black Forest 37.91 312 P **P 13 58 53.8 +0.9**
BFO PcP **PcP 14 01 11.2 +2.3**
BFO IAms_20 IAms_20 14 15 59.4
comp=Z,4μm,20.0s
KOHI KOHIMA 37.93 85 IAmb IAmb 13 58 57.3
comp=Z,221nm,0.7s
KOHI *i* x x 13 58 59.1
CASM Ain Smara 38.07 292 P **P 13 58 56.7 +2.2**
COP Copenhagen 38.14 325 *e*P **P 13 58 56.2 +1.5**
COP pmax pmax
comp=Z,130nm,1.0s
COP Copenhagen 38.14 325 *i* P **P 13 58 56.2 +1.5**
comp=Z,128nm,1.0s
CTEI Djebel Teioual 38.15 292 P **P 13 58 57.1 +1.8**
SENIN Lac Senin/Sane 38.17 309 P **P 13 58 55.4 0.0**
BNI Bardonecchia 38.38 307 P **P 13 58 56.8 -0.3**
BNI 14 04 55.6
BNI pmax pmax
comp=Z,80nm,0.8s
BNI MLR MLR
comp=Z,3μm,20.0s
BNI Bardonecchia 38.38 307 P **P 13 58 56.8 -0.3**
BNI IAmb IAmb 13 58 59.6
comp=Z,80nm,0.8s
BNI **ScP 14 04 55.6 -2.6**
LPL La Plagne 38.41 307 *e*P **P 13 58 56.2 -1.3**
LPL pmax pmax
comp=Z,69nm,0.8s
DFRA Djebel Bou Aff 38.55 293 P **P 13 59 01.3 +2.6**
ECH Echery 38.64 312 P **P 13 58 58.7 -0.4**
ECH 14 05 00.8
ECH pmax pmax
comp=Z,58nm,0.9s
ECH MLR MLR
comp=Z,3μm,18.0s
ECH Echery 38.64 312 P **P 13 58 58.7 -0.4**
ECH **ScP 14 05 00.8 +1.8**
SET Setif 38.96 292 P **P 13 59 03.0 +1.0**
LKP Lekhapani 39.03 82 *e*S **S 14 05 00.3 -1.2**
WLF Walferdange 39.62 314 P **P 13 59 06.5 -0.7**
WLF 14 04 59.2
WLF pmax pmax
comp=Z,48nm,0.8s
WLF MLR MLR
comp=Z,3μm,21.0s
WLF Walferdange 39.62 314 P **P 13 59 06.4 -0.9**
comp=Z,45nm,0.9s
WLF Walferdange 39.62 314 P **P 13 59 06.5 -0.7**
WLF ScP **ScP 14 04 59.2 -3.5**
APA Apatity 39.74 349 ⇓*i*P **P 13 59 07.5 -0.5**
APA pmax pmax
comp=Z,172nm,0.7s
APA MLR MLR
comp=Z,6μm,16.0s
MAHO Mahon 39.76 298 ⇑*i*P **P 13 59 08.2 -0.3**
MAHO *i* S **SS 14 08 13.8 +6.0**
HFS Hagfors 39.82 331 P **P 13 59 07.9 -0.9**
comp=Z,82nm,0.5s,baz=127,slow=9.5,SNR=184
WTSB Winterswijk 39.83 317 *e*P **P 13 59 09.6 +0.7**
LVZ Lovozero 39.85 350 *i* P **P 13 59 09.2 +0.3**
LVZ pmax pmax
comp=Z,270nm,1.0s
ATAF Djebel Tarf 39.89 292 P **P 13 59 10.0 +0.2**
HGN Heimansgroeve 40.03 315 *e*P **P 13 59 10.4 -0.2**
HGN *e*S **S 14 05 18.3 +2.4**
HGN *e*SS SS 14 07 57.9 -15
HGN *e*L L 14 17 36.6

comp=Z,3μm,20.6s
MUD Monsted U'grnd 40.12 325 *i* P **P 13 59 12.0 +0.7**
MUD pmax pmax
comp=Z,99nm,1.0s
MUD Monsted U'grnd 40.12 325 *i* P **P 13 59 12.0 +0.7**
comp=Z,99nm,1.0s
GTA Gaotai 40.81 63 ⇑P **P 13 59 18.3 +0.9**
GTA pP pP 13 59 22.5 +0.7
GTA sP sP 13 59 25.5 +2.0
GTA PP **PnPn 14 00 57.5 +1.9**
GTA ScP **ScP 14 05 07.5 -0.2**
GTA S **S 14 05 31.3 +3.1**
GTA sS sS 14 05 40.0 +4.6
GTA SS **SS 14 08 29.0 -0.1**
GTA ScS **ScS 14 09 21.3 -1.3**
GTA pmax pmax
comp=Z,52nm,1.4s
GTA pmax pmax
comp=Z,2μm,7.5s
GTA LR LR
comp=Z,5μm,16.2s
GTA LR LR
comp=Z,6μm,18.1s
GTA LR LR
comp=Z,8μm,18.1s
SSF Saint Saulge 40.85 309 *e*P **P 13 59 15.5 -2.0**
SSF pmax pmax
comp=Z,46nm,0.9s
SNF Seneffe 40.98 315 P **P 13 59 18.7 +0.2**
comp=Z,56nm,1.4s
OSL Oslo 40.99 330 *e*P **P 13 59 18.6 +0.2**
NC602 NORSAR Array S 41.05 331 P **P 13 59 18.1 -0.8**
HOMB Homborsund 41.22 327 *e*P **P 13 59 20.2 -0.1**
NB201 NORSAR Array S 41.32 332 IAmb IAmb 13 59 22.4
comp=Z,148nm,1.0s
KONO Kongsberg 41.34 329 *i* P **P 13 59 21.7 +0.3**
KONO pmax pmax
comp=Z,100nm,1.0s
KONO Kongsberg 41.34 329 *e*P **P 13 59 21.0 -0.3**
KONO Kongsberg 41.34 329 P **P 13 59 20.7 -0.7**
KONO IAmb IAmb 13 59 23.4
comp=Z,94nm,0.9s
NB2 NORSAR Subarra 41.34 332 P **P 13 59 20.0 -1.4**
comp=Z,15nm,0.5s,baz=123,slow=8.6
NB2 NORSAR Subarra 41.34 332 P **P 13 59 20.0 -1.4**
baz=123,slow=8.6
NOA NORSAR Array B 41.34 332 P **P 13 59 20.1 -1.3**
comp=Z,40nm,0.8s,baz=122,slow=8.3,SNR=14
NOA LR LR 14 18 11.6
comp=Z,5μm,19.6s,baz=125,slow=39
NAO01 NORSAR Array S 41.38 331 *e*P **P 13 59 21.3 -0.4**
NAO01 NORSAR Array S 41.38 331 P **P 13 59 21.3 -0.4**
TAM Tamanrasset 41.48 272 IAMs_20 IAMs_20 14 17 55.6
comp=Z,5μm,19.0s
CAF Calviac 41.61 306 *e*P **P 13 59 23.0 -0.8**
CAF pmax pmax
comp=Z,21nm,1.0s
DGAR Diego Garcia 41.81 148 P **P 13 59 27.2 +1.6**
SNR=14
DGAR Diego Garcia 41.81 148 IAMs_20 IAMs_20 14 16 03.3
comp=Z,4μm,18.0s
CLF Chambon-Foret 41.83 310 IAMs_20 IAMs_20 14 20 03.2
comp=Z,3μm,18.0s
SNART Snartemo 41.87 327 *e*P **P 13 59 25.7 0.0**
SKAR Skarslia 42.40 330 *e*P **P 13 59 30.8 +0.7**
LFF La Frestale 42.55 306 *e*P **P 13 59 30.8 -0.6**
LFF pmax pmax
comp=Z,31nm,0.8s
SBV Sambava 42.58 182 P **P 13 59 33.0 +1.2**
SNR=20
BLS5 Blasjo 42.68 328 *e*P **P 13 59 33.2 +0.9**
DOMB Dombas 42.74 332 *e*P **P 13 59 32.7 -0.1**
KEV Kevo 42.78 348 P **P 13 59 33.1 +0.2**
KEV pmax pmax
comp=Z,228nm,1.0s
KEV Kevo 42.78 348 P **P 13 59 33.1 +0.2**
ODD1 Odda 42.80 329 *e*P **P 13 59 35.1 +1.8**
MOY Mondy 42.81 44 *e*P **P 13 59 35.5 +1.9**
MOY pmax pmax
comp=Z,186nm,2.1s
ARE0 ARCESS Array S 42.88 347 *e*P **P 13 59 34.4 +0.6**
ARCES ARCESS Array B 42.88 347 P **P 13 59 33.8 0.0**
ARCES 14 01 13.6
ARCES ARCESS Array B 42.88 347 P **P 13 59 33.3 -0.5**
comp=Z,78nm,0.8s,baz=146,slow=7.6,SNR=121
ARCES PP **PP 14 01 13.2 0.0**
comp=Z,27nm,0.6s,baz=145,slow=8.9,SNR=5.0
ARCES ScP **ScP 14 05 14.1 -1.1**
comp=Z,14nm,1.0s,baz=44,slow=7.4,SNR=3.7
ARCES LR LR 14 20 52.5
comp=Z,3μm,20.1s,baz=147,slow=41
ARCES ARCESS Array B 42.88 347 P **P 13 59 33.8 0.0**
ARCES **PP 14 01 13.6 +0.4**
TBLU Trondheim 42.90 334 *e*P **P 13 59 33.6 -0.5**
KTK1 Kautokeino 42.92 346 *e*P **P 13 59 33.6 -0.5**
NSS Namsos 43.00 336 *e*P **P 13 59 34.7 0.0**
MOR8 Moi Rana 43.19 339 *e*P **P 13 59 35.3 -1.0**
MFF Saint Martin d 43.29 308 *e*P **P 13 59 36.1 -1.3**
MFF pmax pmax
comp=Z,49nm,1.0s
BER Bergen 43.59 329 *e*P **P 13 59 41.6 +2.0**
MOL Molde 43.62 332 *e*P **P 13 59 40.4 +0.6**
AKN Aaknes 43.66 332 *e*P **P 13 59 40.9 +0.7**
WACR West Acre 43.69 317 *e*P **P 13 59 39.9 -0.6**
WACR IAmb IAmb 13 59 44.3
comp=Z,135nm,0.9s
ASK Askoy 43.69 329 *e*P **P 13 59 42.2 +1.8**
MHMT Maesarieng 43.80 94 P **P 13 59 42.8 +1.0**
comp=Z,104nm,0.9s,comp=Z,2μm
KONS Konsvik 43.81 339 *e*P **P 13 59 40.8 -0.4**
ZAK Zakamensk 44.00 47 *e*P P 13 59 36.3 -6.9
ZAK pmax pmax
comp=Z,17nm,1.4s
STEI Steigen 44.11 341 *e*P **P 13 59 43.4 -0.3**
SUE Sulen 44.12 329 *e*P **P 13 59 46.3 +2.4**
HAMF Hammerfest 44.15 347 *e*P **P 13 59 43.9 -0.1**
LZH Lanzhou 44.23 67 ⇑P **P 13 59 45.5 +0.2**
LZH pP sP 13 59 51.0 -0.4
LZH PP **PcP 14 01 30.0 +0.2**
LZH S **S 14 06 22.8 +4.2**
LZH SS **SS 14 09 26.0 -11**
LZH pmax pmax
comp=Z,99nm,1.3s
LZH pmax pmax
comp=Z,670nm,5.4s
LZH LR LR
comp=Z,3μm,15.2s
LZH LR LR
comp=Z,3μm,17.9s
LZH LR LR
comp=Z,5μm,17.9s
FOO Floro 44.23 330 *e*P **P 13 59 44.9 +0.2**
TRO Tromso 44.38 344 *e*P **P 13 59 45.4 -0.5**
CHTO Chiang Mai 44.43 93 P **P 13 59 46.9 0.0**
SNR=31
CHTO P **P 13 59 46.9 0.0**
SNR=31
CHTO P **P 13 59 46.9 0.0**
SNR=31
CHTO Chiang Mai 44.43 93 P **P 13 59 46.8 -0.1**
CHTO pmax pmax
comp=Z,53nm,1.2s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 44.43 93 P **P 13 59 46.8 -0.1**
TLY Talaya 44.43 45 P **P 13 59 50.4 +3.9**
SNR=8.7
TLY Talaya 44.43 45 *c i*P **P 13 59 47.3 +0.7**
TLY *e* 14 01 35.7
TLY *e*S **S 14 06 19.6 -1.3**
TLY *e*SS **ScS 14 09 43.8 -0.5**
TLY pmax pmax
comp=Z,116nm,1.8s
TLY Talaya 44.43 45 ScP **ScP 14 05 21.7 -0.1**
comp=Z,8.6nm,1.0s,baz=266,slow=7.3,SNR=5.5
CMMT Chiang Mai 44.43 93 P **P 13 59 47.4 +0.4**
comp=Z,32nm,1.2s,comp=Z,773nm
WOL Wolverton 44.56 315 *e*P **P 13 59 47.3 -0.2**
WOL IAmb IAmb 13 59 50.5
comp=Z,191nm,0.7s
CMAR Chiang Mai Arr 44.57 93 P **P 13 59 47.4 -0.6**
comp=Z,12nm,0.9s,baz=289,slow=8.0,SNR=34
CMAR ScP **ScP 14 05 23.3 +0.3**
comp=Z,4.9nm,1.0s,baz=291,slow=4.9,SNR=4.9
CMAR LR LR 14 20 54.7
comp=Z,2μm,20.2s,baz=284,slow=39
LOF Lofoten 44.73 341 *e*P **P 13 59 47.8 -0.9**
CWF Charnwood Fore 44.84 317 *e*P **P 13 59 48.9 -0.8**
CWF IAmb IAmb 13 59 52.7
comp=Z,61nm,0.7s
GDLE Glaisdale, N Y 44.88 319 *e*P **P 13 59 49.4 -0.7**
GDLE IAmb IAmb 13 59 51.2
comp=Z,149nm,0.8s
JSA Saint Aubin 44.89 312 *e*P **P 13 59 49.4 -0.8**
JSA IAmb IAmb 13 59 52.5
comp=Z,107nm,0.7s
IRK Irkutsk 44.91 44 *e*P **P 13 59 51.4 +1.1**
IRK pmax pmax
comp=Z,183nm,3.9s
SWN1 Swindon 44.95 315 *e*P **P 13 59 50.4 -0.2**
SWN1 IAmb IAmb 13 59 55.4
comp=Z,165nm,0.7s
CD2 Chengdu 45.00 74 P **P 13 59 51.0 -0.4**
CD2 sP sP 13 59 59.8 +2.3
CD2 PP **PP 14 01 39.8 +3.3**
CD2 S **S 14 06 29.0 -0.8**
CD2 sS sS 14 06 39.5 +2.5
CD2 SS **ScS 14 09 45.0 -3.7**
CD2 pmax pmax
comp=Z,170nm,0.7s
CD2 pmax pmax
comp=Z,2μm,6.5s
CD2 LR LR
comp=Z,11μm,22.8s
CD2 LR LR
comp=Z,8μm,14.2s
CD2 LR LR
comp=Z,12μm,16.4s
PAYA Payao 45.03 91 P **P 13 59 52.3 +0.6**
comp=Z,75μm,0.8s
NRIK Noril'sk 45.10 17 P **P 13 59 51.2 -0.4**
comp=Z,34nm,0.9s,baz=220,slow=4.9,SNR=21
NRIK PP **PP 14 01 39.3 +2.5**
comp=Z,18nm,0.8s,baz=220,slow=9.3,SNR=4.3
NRIK LR LR 14 22 25.8
comp=Z,9μm,18.0s,baz=220,slow=41
STRD Stroud 45.21 315 *e*P **P 13 59 51.9 -0.8**
STRD IAmb IAmb 13 59 55.2
comp=Z,117nm,0.7s
LBWR Ladybower, Pea 45.21 318 *e*P **P 13 59 52.4 -0.3**
LBWR IAmb IAmb 13 59 54.0
comp=Z,65nm,0.8s
HPK Haverah Park 45.26 318 *e*P **P 13 59 52.9 -0.1**
HPK IAmb IAmb 13 59 55.5
comp=Z,73nm,0.9s
UMPA Umpang Tak 45.42 96 P **P 13 59 56.1 +1.3**
comp=Z,185μm,1.2s
UCM Universidad Co 45.50 299 *e*P P 13 59 45.6 -10
UCM *i* S **S 14 06 38.6 +1.8**
KMI Kunming 45.59 83 P **P 13 59 55.3 -1.0**
KMI pP pP 13 59 59.3 -1.4
KMI sP sP 14 00 01.3 -1.2
KMI PP **PcP 14 01 37.8 +3.0**
KMI S **S 14 06 33.8 -4.9**
KMI SS **ScS 14 09 53.0 0.0**
KMI pmax pmax
comp=Z,35nm,1.0s
KMI pmax pmax
comp=Z,1μm,5.0s
KMI LR LR
comp=Z,1μm,17.3s
KMI LR LR
comp=Z,2μm,17.0s
KMI LR LR
comp=Z,3μm,17.3s
KMI Kunming 45.59 83 IAMs_20 IAMs_20 14 22 08.5
comp=Z,3μm,19.0s
MONM Monmouth 45.61 315 *e*P **P 13 59 54.7 -1.2**
MONM IAmb IAmb 13 59 58.4
comp=Z,69nm,0.7s
EDMD Edmundbyers 45.62 320 *e*P **P 13 59 55.9 0.0**
EDMD IAmb IAmb 14 00 00.2
comp=Z,140nm,0.9s
PHRA Phrae 45.67 92 P **P 13 59 57.6 +0.8**
comp=Z,9.9nm,1.2s
MCH1 Michaelchurch 45.75 315 *e*P **P 13 59 56.0 -1.0**
MCH1 IAmb IAmb 13 59 57.6
comp=Z,96nm,0.8s
HLM1 Long Mynd 45.76 316 *e*P **P 13 59 56.2 -0.8**
HLM1 IAmb IAmb 14 00 00.6
comp=Z,114nm,1.1s
SONM Songino Array 45.78 50 P **P 13 59 59.2 +1.7**
SONM pmax pmax
comp=Z,12nm,0.9s
SONM Songino Array 45.78 50 P **P 13 59 57.1 -0.4**
comp=Z,15nm,0.9s,baz=271,slow=8.8,SNR=45
SONM ScP **ScP 14 05 26.5 -1.1**
comp=Z,7.6nm,1.1s,baz=236,slow=4.7,SNR=5.1
SONM LR LR 14 21 55.8
comp=Z,9μm,20.1s,baz=272,slow=40
SONM Songino Array 45.78 50 P **P 13 59 59.2 +1.7**
FOEL Foel Wylfa 46.00 317 *e*P **P 13 59 58.6 -0.4**
FOEL IAmb IAmb 14 00 00.8
comp=Z,106nm,0.9s
ESDC Sonseca Array 46.10 298 P **P 13 59 59.1 -0.9**
comp=Z,16nm,0.8s,baz=72,slow=7.2,SNR=31
ESDC ScP **ScP 14 05 27.3 -1.7**
comp=Z,8.3nm,0.9s,baz=61,slow=4.4,SNR=11
ESDC LR LR 14 23 11.8
comp=Z,893nm,18.9s,baz=90,slow=41
ESDC Sonseca Array 46.10 298 P **P 13 59 58.9 -1.1**
ESDC **ScP 14 05 29.5 +0.5**
DYA Yadsworthy 46.15 313 *e*P **P 13 59 59.7 -0.4**
DYA IAmb IAmb 14 00 04.4
comp=Z,37nm,0.8s
UTHA Uthaitani 46.20 96 P **P 14 00 01.5 +0.5**
comp=Z,73μm,0.8s,comp=Z,562μm
ESY Stoneypath 46.21 321 *e*P **P 14 00 00.1 -0.4**
ULN Ulaanbaatar 46.22 50 P **P 14 00 01.5 +0.5**
SNR=16
ULN P **P 14 00 01.5 +0.5**
SNR=16
ULN P **P 14 00 01.5 +0.5**
SNR=16
ULN Ulaanbaatar 46.22 50 P **P 14 00 02.0 +1.0**
ULN pmax pmax
comp=Z,37nm,1.0s
ULN MLR MLR
comp=Z,9μm,20.0s
ULN Ulaanbaatar 46.22 50 P **P 14 00 02.0 +1.0**
ULN IAmb IAmb 14 00 03.8
comp=Z,37nm,0.9s
KESW Keswick, Cumbr 46.23 319 *e*P **P 14 00 00.5 -0.2**
KESW IAmb IAmb 14 00 05.2
comp=Z,98nm,0.8s
UTTA Uttaradit 46.26 93 P **P 14 00 01.8 +0.4**
comp=Z,87μm,0.9s,comp=Z,629μm
LLW Llanuwychllyn 46.27 317 *e*P **P 14 00 00.5 -0.6**
LLW IAmb IAmb 14 00 02.2
comp=Z,31nm,0.8s
DRUM Mains of Drumt 46.35 322 *e*P **P 14 00 01.0 -0.7**
DRUM IAmb IAmb 14 00 06.6
comp=Z,150nm,1.0s
EKA Eskdalemuir Ar 46.39 320 P **P 14 00 00.9 -1.1**
comp=Z,15nm,0.6s,baz=107,slow=8.2,SNR=54
PAB San Pablo 46.41 298 P **P 14 00 03.0 +0.5**
PAB pmax pmax
comp=Z,42nm,0.9s
PAB MLR MLR
comp=Z,1μm,20.0s
PAB San Pablo 46.41 298 P **P 14 00 03.0 +0.5**
PAB IAmb IAmb 14 00 05.6
comp=Z,42nm,0.9s
PAB ScP **ScP 14 05 30.0 -0.3**
EBL Broad Law 46.41 321 *e*P **P 14 00 01.6 -0.6**
ESK Eskdalemuir 46.42 320 *e*P **P 14 00 01.2 -1.0**
ESK Eskdalemuir 46.42 320 *i* P **P 14 00 02.2 0.0**
EDI Edinburgh 46.52 321 *e*P **P 14 00 02.6 -0.3**
EDI IAmb IAmb 14 00 06.7
comp=Z,116nm,0.9s
SAN1 Sandwick 46.53 327 *e*P **P 14 00 02.3 -0.7**
LRW Lerwick 46.54 327 *e*P **P 14 00 02.7 -0.3**
EDU Dundee 46.56 322 *e*P **P 14 00 01.9 -1.4**
YLL Llanberis 46.62 317 *e*P **P 14 00 02.5 -1.2**
WME Myndd Eilian 46.73 317 *e*P **P 14 00 04.1 -0.6**
WLF1 Llynfaes 46.77 317 *e*P **P 14 00 04.6 -0.4**
WLF1 IAmb IAmb 14 00 08.8
comp=Z,114nm,0.9s
EMAL Malaga-Limoner 46.78 294 ⇓*i*P **P 14 00 06.4 +1.1**
EMAL *e*S **S 14 06 54.5 -0.6**
RSBS Rosebush, Pemb 46.82 315 *e*P **P 14 00 04.5 -0.9**
RSBS IAmb IAmb 14 00 08.8
comp=Z,42nm,1.0s
WPS Cemaes, Angles 46.85 317 *e*P **P 14 00 04.8 -0.7**
WPS IAmb IAmb 14 00 08.7
comp=Z,93nm,0.7s
YRC Rhoscolyn 46.87 317 *e*P **P 14 00 05.0 -0.7**
MCD Coleburn Disti 46.91 323 *e*P **P 14 00 05.3 -0.7**
ELO Logie Almond 46.92 321 *e*P **P 14 00 05.0 -1.1**
CCA1 Carnmenellis 46.96 313 *e*P **P 14 00 06.0 -0.5**
CCA1 IAmb IAmb 14 00 07.4
comp=Z,46nm,0.9s
INVG Invergeldie, C 47.09 321 *e*P **P 14 00 06.6 -0.8**
INVG IAmb IAmb 14 00 11.5
comp=Z,99nm,0.9s
MLA1 Latheron 47.13 324 *e*P **P 14 00 07.0 -0.7**
PGBU Glenifferbraes 47.22 320 *e*P **P 14 00 08.1 -0.3**
PGBU IAmb IAmb 14 00 13.0
comp=Z,82nm,1.0s
LIJA Lijar 47.54 295 *e*P **P 14 00 07.0 -4.3**
PHET Kaeng Krachan 47.55 100 P **P 14 00 12.2 +0.6**
comp=Z,225μm,0.8s
MDT Midelt 47.59 289 P **P 14 00 12.2 +0.4**
comp=Z,50nm,1.0s,baz=103,slow=9.7,SNR=25
MDT ScP **ScP 14 05 35.5 0.0**
comp=Z,3.5nm,0.8s,baz=74,slow=9.9,SNR=3.5
LAWE Loch Awe, Argy 47.80 321 *e*P **P 14 00 12.4 -0.5**
LAWE IAmb IAmb 14 00 17.8
comp=Z,80nm,1.0s
OPO Ambohidratompo 47.81 185 P **P 14 00 13.8 +0.2**
comp=Z,62nm,1.0s,baz=5.1,slow=8.2,SNR=39
IFR Ifrane 47.88 290 ⇓*i*P **P 14 00 17.1 +2.9**
IFR *i* S **S 14 07 11.2 -0.1**
KAC Achnashellach 47.97 323 *e*P **P 14 00 13.5 -0.8**
PBRG Braganca 48.03 301 *e*P **P 14 00 15.3 +0.2**
comp=Z,68nm,1.1s
PBRG *e*S **S 14 07 16.1 +3.2**
RSC Scourie 48.07 324 *e*P **P 14 00 12.1 -2.9**
BJO1 Bjornoya 48.09 349 *e*P **P 14 00 14.9 0.0**
KPL Plockton 48.13 322 *e*P **P 14 00 15.0 -0.5**
ABPO Ambohimpanom 48.25 185 P **P 14 00 17.3 +0.3**
ABPO pmax pmax
comp=Z,129nm,1.2s
ABPO MLR MLR
comp=Z,3μm,20.0s
ABPO Ambohimpanom 48.25 185 P **P 14 00 17.2 +0.3**
ABPO ScP **ScP 14 05 40.2 +2.0**
ABPO Ambohimpanom 48.25 185 IAMs_20 IAMs_20 14 19 51.7
comp=Z,3μm,20.0s
CHAI Chaiyaphum 48.26 95 P **P 14 00 18.0 +0.9**
comp=Z,44μm,0.9s,comp=Z,472μm
MVO Moncorvo 48.30 301 *e*P **P 14 00 17.6 +0.4**
comp=Z,86nm,0.9s
MVO *e*S **S 14 07 17.6 +0.8**
MVO Moncorvo 48.30 301 *e*LR LR 14 21 42.6
comp=Z,1μm,18.0s
NONG Nongkai 48.39 91 P **P 14 00 18.6 +0.6**
comp=Z,1.6nm,1.3s,comp=Z,88nm
BTO Baotou 48.56 60 *e*P **P 14 00 18.5 -0.7**
BTO S **S 14 07 20.8 +0.2**
GYA Guiyang 48.58 79 ⇑*i*P **P 14 00 19.0 -0.6**
GYA pP pP 14 00 24.0 0.0
GYA ScP **ScP 14 05 41.3 +1.5**
GYA S **S 14 07 18.8 -2.4**
GYA ScS **ScS 14 10 08.3 -4.2**
GYA pmax pmax
comp=Z,90nm,0.9s
GYA pmax pmax
comp=Z,780nm,7.1s
GYA LR LR
comp=Z,2μm,16.6s
GYA LR LR
comp=Z,1μm,16.4s
GYA LR LR
comp=Z,3μm,16.4s
PATY Pattaya 48.61 99 P **P 14 00 23.5 +3.7**
comp=Z,49μm,0.7s
TOC2 Torodi Ar. Sit 48.62 262 IAMs_20 IAMs_20 14 20 50.6
comp=Z,5μm,22.0s
TOC1 Torodi Ar. Sit 48.63 262 IAMs_20 IAMs_20 14 21 24.8
comp=Z,5μm,20.0s
TOC3 Torodi Ar. Sit 48.63 262 IAMs_20 IAMs_20 14 20 51.8
comp=Z,5μm,22.0s
TOB2 Torodi Ar. Sit 48.63 262 IAMs_20 IAMs_20 14 20 51.9
comp=Z,5μm,22.0s
TOA2 Torodi Ar. Sit 48.64 262 IAMs_20 IAMs_20 14 20 52.1
comp=Z,5μm,22.0s
TOB3 Torodi Ar. Sit 48.65 262 IAMs_20 IAMs_20 14 20 52.2
comp=Z,5μm,22.0s
TOA0 Torodi Ar. Sit 48.65 262 P **P 14 00 19.3 -0.8**
SNR=133
TOA0 Torodi Ar. Sit 48.65 262 P **P 14 00 19.7 -0.4**
TOA0 ScP **ScP 14 05 40.3 +0.2**
TOA0 IAMs_20 IAMs_20 14 20 51.3
comp=Z,5μm,21.0s
TOA1 Torodi Ar. Sit 48.65 262 IAMs_20 IAMs_20 14 20 51.3
comp=Z,5μm,22.0s
TORD Torodi Ar. Bea 48.65 262 P **P 14 00 19.4 -0.7**
comp=Z,131nm,1.1s,baz=58,slow=6.9,SNR=141
TORD ScP **ScP 14 05 39.3 -0.8**
comp=Z,6.9nm,0.8s,baz=60,slow=3.5,SNR=4.8
TORD LR LR 14 21 12.3
comp=Z,4μm,20.6s,baz=5.0,slow=36
TORD Torodi Ar. Bea 48.65 262 P **P 14 00 18.3 -1.7**
TORD **ScP 14 05 40.2 +0.1**
TOA3 Torodi Ar. Sit 48.65 262 IAMs_20 IAMs_20 14 20 51.4
comp=Z,5μm,22.0s
TOC7 Torodi Ar. Sit 48.66 262 IAMs_20 IAMs_20 14 20 49.4
comp=Z,5μm,22.0s
TOC4 Torodi Ar. Sit 48.66 262 IAMs_20 IAMs_20 14 20 51.5
comp=Z,5μm,21.0s
XAN Xi'an 48.66 69 P **P 14 00 19.8 -0.2**
XAN pP sP 14 00 26.8 +0.6
XAN sP pP 14 00 30.0 +5.5
XAN PcP **PcP 14 01 44.8 -0.5**
XAN PP **PP 14 02 15.3 +2.4**
XAN S **S 14 07 21.8 -0.2**
XAN ScS **ScS 14 10 08.5 -4.1**
XAN SS **SS 14 10 51.3 -0.8**
XAN pmax pmax
comp=Z,82nm,0.8s
XAN pmax pmax
comp=Z,1μm,5.5s
XAN LR LR
comp=Z,4μm,17.3s
XAN LR LR
comp=Z,6μm,13.5s
XAN LR LR
comp=Z,7μm,16.7s
XAN Xi'an 48.66 69 P **P 14 00 19.6 -0.4**
XAN pmax pmax
comp=Z,63nm,0.7s
XAN MLR MLR
comp=Z,4μm,19.0s
XAN Xi'an 48.66 69 P **P 14 00 19.6 -0.4**
XAN IAmb IAmb 14 00 24.0
comp=Z,63nm,0.7s
XAN Xi'an 48.66 69 IAMs_20 IAMs_20 14 23 48.7
comp=Z,4μm,19.0s
TOB5 Torodi Ar. Sit 48.66 262 IAMs_20 IAMs_20 14 20 51.5
comp=Z,5μm,22.0s
TOB4 Torodi Ar. Sit 48.66 262 IAMs_20 IAMs_20 14 20 51.6
comp=Z,5μm,22.0s
TOC5 Torodi Ar. Sit 48.67 262 IAMs_20 IAMs_20 14 20 52.9
comp=Z,5μm,21.0s
PMRV Marv??o 48.76 298 *e*P **P 14 00 20.6 -0.1**
PMRV Marv??o 48.76 298 *e*LR LR 14 18 22.7
comp=Z,1μm,18.0s
MTE Manteigas 48.77 300 *e*P **P 14 00 21.5 +0.7**
comp=Z,76nm,1.8s
MTE *e*S **S 14 07 18.0 -5.4**
MTE Manteigas 48.77 300 *e*LR LR 14 20 37.1
comp=Z,2μm,20.0s
PCBR Castelo Branco 48.78 299 *e*P **P 14 00 21.6 +0.8**
comp=Z,109nm,1.1s
PVRL Vila Real 48.81 301 *e*P **P 14 00 21.9 +0.9**
comp=Z,129nm,1.2s
HOPEN Hopen 48.88 352 *e*P **P 14 00 22.1 +1.1**
PESTR Estremoz 48.98 298 *e*S **S 14 07 28.1 +1.7**
PCAB Cabril 49.00 301 *e*P **P 14 00 23.7 +1.2**
comp=Z,109nm,1.2s
PVIS Viseu 49.00 300 *e*P **P 14 00 23.3 +0.8**
comp=Z,132nm,1.1s
PVAQ Vaqueiros 49.29 296 *e*P **P 14 00 24.5 -0.3**
comp=Z,62nm,1.5s
PVAQ *e*S **S 14 07 30.1 -0.6**

PVAQ	**Vaqueiros**	49.29 296	*e*LR	LR	14 22 11.7
	comp=Z,1μm,18.0s				
PBEJ	**Beja**	49.32 297	*e*P	**P**	**14 00 25.0 +0.1**
	comp=Z,61nm,1.1s				
EVO	**Evora**	49.36 297	‖ *i*P	P	14 00 19.0 -6.2
EVO			*e*S	**S**	**14 07 34.1 +2.5**
MLSI	**Meulaboh, Aceh**	49.37 112	P	**P**	**14 00 26.4 +0.8**
COI	**Coimbra**	49.45 299	*e*P	**P**	**14 00 27.2 +1.3**
	comp=Z,113nm,1.1s				
COI			*e*S	**S**	**14 07 35.8 +3.0**
PMTG	**Montargil**	49.45 298	*e*P	**P**	**14 00 27.2 +1.3**
	comp=Z,56nm,1.2s				
PMTG			*e*S	**S**	**14 07 33.3 +0.4**
PBDV	**Barranco-do-Ve**	49.49 296	*e*S	**S**	**14 07 31.0 -2.5**
PCVE	**Castro Verde**	49.51 296	*e*P	**P**	**14 00 27.2 +0.8**
PCVE			*e*S	**S**	**14 07 34.1 +0.3**
PTOM	**Tomar**	49.52 299	*e*P	**P**	**14 00 27.0 +0.5**
	comp=Z,164nm,1.0s				
PCAS	**Casmilo, Conde**	49.53 299	*e*P	**P**	**14 00 27.1 +0.5**
	comp=Z,102nm,0.9s				
PCAS			*e*S	**S**	**14 07 36.4 +2.4**
MESJ	**Messejana**	49.62 296	*e*P	**P**	**14 00 26.8 -0.4**
MESJ			*e*S	**S**	**14 07 35.0 -0.3**
MESJ			AMS	AMS	14 27 54.1
	comp=E,1μm,14.1s				
MESJ	**Messejana**	49.62 296	*e*P	**P**	**14 00 28.5 +1.3**
	comp=E,59nm,1.5s				
MESJ	**Messejana**	49.62 296	*e*P	**P**	**14 00 26.8 -0.4**
MESJ			*e*S	**S**	**14 07 35.0 -0.3**
HHC	**Hu-ho-hao-te**	49.70 60	*e*P	**P**	**14 00 28.8 +0.8**
HHC			pP	pP	14 00 32.8 +0.4
HHC			PP	**PP**	**14 02 26.0 +3.6**
HHC			S	**S**	**14 07 38.3 +1.7**
HHC			sS	sS	14 07 43.3 -0.6
HHC			pmax	pmax	
	comp=E,9.0nm,1.1s				
PNCL	**Nicolau / Gran**	49.82 297	*e*P	**P**	**14 00 29.1 +0.3**
	comp=E,64nm,1.2s				
PNCL			*e*S	**S**	**14 07 38.7 +0.6**
MORF	**Marmelete**	50.04 296	*e*P	**P**	**14 00 29.9 -0.6**
MORF			*e*PP	**PP**	**14 02 25.0 -0.4**
MORF			*e*S	**S**	**14 07 40.8 -0.5**
MORF			AMS	AMS	14 25 21.2
	comp=N,1μm,11.7s				
MORF	**Marmelete**	50.04 296	*e*S	**S**	**14 07 39.1 -2.2**
MORF	**Marmelete**	50.04 296	*e*P	**P**	**14 00 30.0 -0.6**
MORF			*e*		14 02 25.0
MORF			*e*S	**S**	**14 07 40.8 -0.5**
TRTT	**Trang**	50.12 105	P	**P**	**14 00 32.8 +1.5**
	comp=N,42nm,1.2s,comp=N,2μm				
PFVI	**Vila Bisbo**	50.21 296	*e*P	**P**	**14 00 31.9 +0.2**
PFVI			*e*S	**S**	**14 07 42.2 -1.4**
LIS	**Lisbon**	50.21 298	*e*S	**S**	**14 07 43.2 -0.3**
LIS			AMS	AMS	14 19 50.0
	comp=E,2μm,21.9s				
PMAFR	**Mafra**	50.28 298	*e*S	**S**	**14 07 46.5 +2.0**
RER	**Riviere de l'E**	50.39 175	IAMs_20	IAMs_20	14 19 55.0
	comp=Z,3μm,19.0s				
HSPB	**Hornsund (broa**	50.57 350	*e*P	**P**	**14 00 35.1 +1.2**
CIT	**Chita**	50.58 45	*e*P	**P**	**14 00 35.4 +1.0**
CIT			pmax	pmax	
	comp=Z,179nm,3.2s				
TPTI		50.58 112	P	P	14 00 39.9 +5.1
TIY	**Taiyuan**	50.81 64	*e*P	**P**	**14 00 38.0 +1.6**
TIY			PP	**PP**	**14 02 37.5 +5.0**
TIY			S	**S**	**14 07 51.5 -0.5**
TIY			sS	**sS**	**14 08 01.3 +1.9**
TIY			pmax	pmax	
	comp=Z,58nm,0.9s				
TIY			pmax	pmax	
	comp=Z,1μm,5.8s				
TIY			LR	LR	
	comp=Z,3μm,13.5s				
TIY			LR	LR	
	comp=Z,590nm,10.4s				
TIY			LR	LR	
	comp=Z,4μm,22.8s				
ITZ	**Itezhi-Tezhi**	51.08 212	*i* P	**P**	**14 00 41.0 +2.5**
BOD	**Bodaibo**	51.20 38	*e*P	**P**	**14 00 39.0 +0.1**
BOD			pmax	pmax	
	comp=Z,103nm,1.5s				
VOI	**Vohitsoka**	51.27 186	P	**P**	**14 00 39.5 -0.3**
	SNR=30				
SPA0	**Spitsbergen Ar**	51.35 351	*e*P	**P**	**14 00 39.8 +0.1**
SPA0	**Spitsbergen Ar**	51.35 351	P	**P**	**14 00 39.8 +0.1**
SPA0			IAmb	IAmb	14 00 48.4
	comp=Z,129nm,1.0s				
SPITS	**Spitsbergen Ar**	51.35 351	P	**P**	**14 00 39.5 -0.2**
	comp=Z,62nm,0.7s,baz=134,slow=12,SNR=71				
GSI	**Gunungsitoli**	52.05 114	P	**P**	**14 00 47.9 +2.1**
GSI	**Gunungsitoli**	52.05 114	P	**P**	**14 00 46.6 +0.8**
GSI			IAmb	IAmb	14 00 53.7
	comp=Z,88nm,1.1s				
PSI	**Prapat**	52.26 111	P	**P**	**14 00 46.6 -0.9**
	comp=Z,11nm,0.5s,baz=299,slow=7.0,SNR=17				
RPSI	**Rantau Prapat**	52.32 111	IAMs_20	IAMs_20	14 25 55.6
	comp=Z,3μm,21.0s				
KBS	**Kingsbay**	52.50 351	*e*P	**P**	**14 00 48.9 +0.6**
KBS	**Kingsbay**	52.50 351	IAMs_20	IAMs_20	14 26 27.8
	comp=Z,3μm,20.0s				
BJI	**Beijing**	53.30 60	P	**P**	**14 00 55.0 +0.3**
BJI			S	**S**	**14 08 27.5 +1.6**
BJI			ScS	**ScS**	**14 10 43.5 -0.6**
BJI			pmax	pmax	
	comp=Z,24nm,1.0s				
BJI			pmax	pmax	
	comp=Z,870nm,5.3s				
BJI			LR	LR	
	comp=Z,4μm,16.5s				
BJI			LR	LR	
	comp=Z,4μm,20.6s				
BJI			LR	LR	
	comp=Z,5μm,22.2s				
QIZ	**Qiongzhong**	53.86 87	P	**P**	**14 00 58.8 -0.3**
QIZ			sP	**pP**	**14 01 04.0 +0.4**
QIZ			S	**S**	**14 08 33.8 -0.3**
QIZ			sS	**pS**	**14 08 40.0 +0.5**
QIZ			ScS	**ScS**	**14 10 48.8 0.0**
QIZ			pmax	pmax	
	comp=Z,1μm,6.1s				
QIZ			LR	LR	
	comp=Z,2μm,19.6s				
QIZ			LR	LR	
	comp=Z,1μm,21.6s				
QIZ			LR	LR	
	comp=Z,2μm,21.6s				
WHN	**Wuhan**	53.94 72	P	**P**	**14 00 59.5 -0.1**
WHN			S	**S**	**14 08 33.5 -1.4**
WHN			ScS	**ScS**	**14 10 46.3 -2.7**
WHN			pmax	pmax	
	comp=Z,44nm,0.6s				
WHN			LR	LR	
	comp=Z,4μm,12.2s				
WHN			LR	LR	
	comp=Z,5μm,12.4s				
WHN			LR	LR	
	comp=Z,12μm,16.0s				
FOMA	**Nahampoana Res**	54.17 185	P	**P**	**14 01 02.8 +1.6**
	SNR=15				
TIA	**Tai'an**	54.79 65	P	**P**	**14 01 06.5 +0.8**
TIA			PP	**PP**	**14 03 13.5 +5.2**
TIA			S	**S**	**14 08 45.3 -0.9**
TIA			SS	**SS**	**14 12 27.3 -1.9**
TIA			pmax	pmax	
	comp=Z,46nm,0.7s				
TIA			pmax	pmax	
	comp=Z,1μm,3.2s				
TIA			LR	LR	
	comp=Z,3μm,19.2s				
TIA			LR	LR	
	comp=Z,1μm,14.2s				
TIA			LR	LR	
	comp=Z,1μm,24.2s				
SISI	**Saibi**	54.84 115	P	**P**	**14 01 08.9 +2.6**
BKNI	**Bangkinang**	55.41 112	P	**P**	**14 01 11.7 +1.3**
DLV	**T Lat**	55.66 96	IAMs_20	IAMs_20	14 29 17.5
	comp=Z,3μm,18.0s				
PDSI	**Padang**	55.68 114	P	**P**	**14 01 14.2 +1.8**
SDSI	**Sungai Dareh**	56.46 113	P	**P**	**14 01 17.0 -1.0**
SCO	**Scoresbysund**	57.08 337	*i* P	**P**	**14 01 22.1 +0.6**
SCO	**Scoresbysund**	57.08 337	*i* P	**P**	**14 01 22.1 +0.6**
DAG	**Danmarks Havn**	57.10 345	*i* P	**P**	**14 01 20.7 -0.9**
DAG			pmax	pmax	
	comp=Z,18nm,1.0s				
DAG	**Danmarks Havn**	57.10 345	*i* P	**P**	**14 01 20.7 -0.9**
	comp=Z,18nm,1.0s				
PMPST	**Porto Santo, M**	57.11 292	*e*S	**S**	**14 09 23.4 +6.2**
KRJI	**Kerinci**	57.18 114	P	**P**	**14 01 26.8 +3.6**
NJ2	**Nanjing**	57.23 69	*e*P	**P**	**14 01 22.5 -0.7**
NJ2			pP	**pP**	**14 01 26.8 -0.9**
NJ2			S	**S**	**14 09 19.0 +0.2**
NJ2			sS	**pS**	**14 09 24.0 -0.3**
NJ2			ScS	**ScS**	**14 11 13.0 +0.4**
NJ2			pmax	pmax	
	comp=Z,44nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,1μm,4.2s				
NJ2			LR	LR	
	comp=Z,4μm,14.2s				
NJ2			LR	LR	
	comp=Z,5μm,17.1s				
NJ2			LR	LR	
	comp=Z,6μm,16.1s				
DBIC	**Dimbokro**	57.42 258	P	**P**	**14 01 24.7 -0.1**
DBIC			pmax	pmax	
	comp=Z,299nm,1.1s				
DBIC	**Dimbokro**	57.42 258	P	**P**	**14 01 24.2 -0.6**
	comp=Z,233nm,1.1s,baz=39,slow=7.8,SNR=72				
DBIC			LR	LR	14 27 38.5
	comp=Z,7μm,19.5s,baz=38,slow=38				
DBIC	**Dimbokro**	57.42 258	P	**P**	**14 01 24.7 -0.1**
KIC	**Kosan Boka**	57.48 258	*e*P	**P**	**14 01 24.0 -1.2**
	comp=Z,955nm,1.4s				
TIC	**Toumodi**	57.57 259	*e*P	**P**	**14 01 24.8 -1.1**
	comp=Z,92nm,1.0s				
DL2	**Dalian**	57.66 60 ⇑	*i*P	**P**	**14 01 25.5 -0.6**
DL2			S	**S**	**14 09 23.3 -0.9**
DL2			ScS	**ScS**	**14 11 15.3 -0.2**
DL2			pmax	pmax	
	comp=Z,43nm,1.2s				
DL2			pmax	pmax	
	comp=Z,2μm,4.8s				
DL2			LR	LR	
	comp=Z,3μm,20.2s				
DL2			LR	LR	
	comp=Z,4μm,18.4s				
DL2			LR	LR	
	comp=Z,6μm,19.5s				
PMAR	**Madeira**	57.67 292	*e*P	**P**	**14 01 27.8 +1.2**
	comp=Z,316nm,1.3s				
LIC	**Lamto**	57.79 258	*e*P	**P**	**14 01 26.2 -1.2**
	comp=Z,261nm,1.2s				
PMOZ	**Porto Moniz, M**	57.87 292	*e*S	**S**	**14 09 32.0 +4.5**
PMOZ	**Porto Moniz, M**	57.87 292	*e*LR	LR	14 27 28.5
	comp=Z,859nm,20.0s				
TPRI	**Tanjung Pinang**	57.92 109	P	**P**	**14 01 30.7 +2.4**
TSUM	**Tsumeb**	58.24 218	P	**P**	**14 01 30.6 +0.2**
MASI	**Maura Aman, Be**	58.43 115	P	**P**	**14 01 34.9 +3.0**
SNY	**Shenyang**	58.45 57 ⇑	P	**P**	**14 01 34.3 +2.7**
SNY			S	**S**	**14 09 32.8 -1.7**
SNY			pmax	pmax	
	comp=Z,29nm,1.1s				
SNY			LR	LR	
	comp=Z,4μm,13.2s				
SNY			LR	LR	
	comp=Z,3μm,14.7s				
SNY			LR	LR	
	comp=Z,10μm,15.3s				
TIXI	**Tiksi**	58.51 21 *c*	*i*P	**P**	**14 01 30.6 -1.0**
TIXI			pmax	pmax	
	comp=Z,12nm,1.0s				
TIXI	**Tiksi**	58.51 21	P	**P**	**14 01 31.4 -0.2**
	comp=Z,6.8nm,0.6s,baz=360,slow=24,SNR=23				
TIXI			PcP	**PcP**	**14 02 22.1 +0.2**
	comp=Z,18nm,0.7s,baz=319,slow=5.1,SNR=5.6				
TIXI	**Tiksi**	58.51 21	P	**P**	**14 01 32.3 +0.7**
TIXI				**PcP**	**14 02 22.2 +0.3**
DSRI	**Dabo**	58.75 110	P	**P**	**14 01 35.6 +1.5**
ZEA	**Zeya**	58.76 42	*e*P	**P**	**14 01 34.0 +0.4**
ZEA			*e*S	**S**	**14 09 44.0 +5.8**
ZEA			pmax	pmax	
	comp=E,24nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,52nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,1μm,6.0s				
ZEA			smax	smax	
	comp=E,2μm,8.0s				
ZEA			MLR	MLR	
	comp=E,9μm,14.0s				
ZEA			MLR	MLR	
	comp=Z,12μm,14.0s				
YAK	**Yakutsk**	59.12 33	*e*P	**P**	**14 01 36.1 +0.2**
YAK			*e**PP	**pP**	**14 01 39.0 -1.5**
YAK			*e*		14 02 30.0
YAK			*e*		14 03 45.2
YAK			*e*S	**S**	**14 09 41.7 -0.8**
YAK			*e**SS	**sS**	**14 09 53.5 +3.4**
YAK			*e*		14 11 24.0
YAK			*e*SS	**SS**	**14 13 37.0 +0.9**
YAK			pmax	pmax	
	comp=Z,55nm,0.9s				
YAK			pmax	pmax	
	comp=N,10.0nm,1.5s				
YAK			pmax	pmax	
	comp=E,17nm,1.3s				
YAK			pmax	pmax	
	comp=Z,778nm,3.7s				
YAK			pmax	pmax	
	comp=E,191nm,2.0s				
YAK			pmax	pmax	
	comp=N,1μm,3.5s				
YAK			smax	smax	
	comp=E,620nm,2.9s				
YAK			smax	smax	
	comp=N,110nm,2.3s				
YAK			MLR	MLR	
	comp=Z,3μm,17.0s				
YAK			MLR	MLR	
	comp=N,2μm,23.0s				
YAK			MLR	MLR	
	comp=E,2μm,16.0s				
YAK	**Yakutsk**	59.12 33	P	**P**	**14 01 36.2 +0.2**
KNMB	**Chin-men Tao**	59.25 77	IAMs_20	IAMs_20	14 29 26.4
	comp=Z,3μm,22.0s				
QZH	**Quanzhou**	59.26 77	P	P	14 01 42.5 +5.0
QZH			S	**S**	**14 09 47.5 +2.1**
QZH			LR	LR	
	comp=Z,2μm,19.9s				
QZH			LR	LR	
	comp=Z,2μm,13.7s				
QZH			LR	LR	
	comp=Z,2μm,22.7s				
SSE	**Sheshan**	59.41 69	IAMs_20	IAMs_20	14 29 55.5
	comp=Z,3μm,20.0s				
LBTB	**Lobatse**	59.45 207	P	**P**	**14 01 38.7 -0.1**
LBTB			pmax	pmax	
	comp=Z,129nm,1.0s				
LBTB	**Lobatse**	59.45 207	P	**P**	**14 01 38.7 -0.1**
LHSI	**Lahat**	59.86 114	P	**P**	**14 01 42.8 +1.0**
PMBI	**Palembang**	60.33 113	IAMs_20	IAMs_20	14 30 09.0
	comp=Z,2μm,20.0s				
MDSI	**Maura Dua**	60.78 114	P	**P**	**14 01 48.8 +0.7**
LWLI	**Liwa**	61.01 115	P	**P**	**14 01 50.2 +0.5**
KLSI		61.34 114	P	**P**	**14 01 50.2 -1.7**
KASI	**Kota Agung**	61.66 115	P	**P**	**14 01 55.3 +1.3**
SSLB	**Suanglung**	61.68 77	IAMs_20	IAMs_20	14 32 58.1
	comp=Z,2μm,19.0s				
TATO	**Taipei**	61.70 76	IAMs_20	IAMs_20	14 33 15.2
	comp=Z,3μm,19.0s				
YHNB	**Yeheng**	61.72 76	IAMs_20	IAMs_20	14 30 59.6
	comp=Z,3μm,19.0s				
MDJ	**Mudanjiang**	62.06 52	P	**P**	**14 01 57.0 +0.6**
MDJ			pP	sP	14 02 02.3 -0.3
MDJ			sP	pP	14 02 04.5 +3.6
MDJ			PP	**PP**	**14 04 12.8 +0.1**
MDJ			PcS	**PcS**	**14 06 40.8 +1.1**
MDJ			S	**S**	**14 10 21.0 +0.1**
MDJ			ScS	**SKKSac**	**14 11 43.5 -4.6**
MDJ			SS	**SS**	**14 14 25.0 +1.9**
MDJ			pmax	pmax	
	comp=Z,20nm,2.0s				
MDJ			pmax	pmax	
	comp=Z,1μm,4.7s				
MDJ			LR	LR	
	comp=Z,4μm,12.8s				
MDJ			LR	LR	
	comp=Z,7μm,15.7s				
MDJ			LR	LR	
	comp=Z,8μm,19.2s				
NACB	**Ninganchiao**	62.08 77	IAMs_20	IAMs_20	14 32 22.4
	comp=Z,2μm,20.0s				
YULB	**Yu-li**	62.12 78	IAMs_20	IAMs_20	14 33 02.7
	comp=Z,2μm,21.0s				
SUMG	**Summit**	62.24 340	*i* P	**P**	**14 01 57.6 0.0**
SUMG			pmax	pmax	
	comp=Z,360nm,1.1s				
SUMG	**Summit**	62.24 340	*i* P	**P**	**14 01 57.6 0.0**
	comp=Z,357nm,1.1s				
SUMG	**Summit**	62.24 340	P	**P**	**14 01 57.9 +0.3**
KLR	**Kul'dur**	62.37 47	*i* P	**P**	**14 01 57.6 -0.7**
KLR			pmax	pmax	
	comp=Z,15nm,1.0s				
KLR			MLR	MLR	
	comp=Z,3μm,22.0s				
KLR	**Kul'dur**	62.37 47	P	**P**	**14 01 57.9 -0.4**
	comp=Z,14nm,1.0s,baz=293,slow=8.0,SNR=19				
TPI	**Tanjungpandan**	62.57 111	P	**P**	**14 02 02.0 +1.9**
BOSA	**Boshof**	62.80 206	*i* P	**P**	**14 02 02.8 +1.3**
BOSA			*i* S	PcP	14 02 28.6 -11
BOSA	**Boshof**	62.80 206	P	**P**	**14 02 02.0 +0.5**
BOSA	**Boshof**	62.80 206	P	**P**	**14 02 02.0 +0.5**
	comp=Z,38nm,0.8s,baz=26,slow=5.9,SNR=33				
BOSA			LR	LR	14 30 60.0
	comp=Z,5μm,20.8s,baz=36,slow=38				
BOSA	**Boshof**	62.80 206	*i* P	**P**	**14 02 02.8 +1.3**
BOSA			*i* S	PcP	14 02 28.6 -11
KSRS	**Korea Array**	62.83 60	P	**P**	**14 02 00.8 -0.8**
	comp=Z,22nm,0.7s,baz=280,slow=6.5,SNR=23				
KSRS			ScP	**ScP**	**14 06 41.4 -0.4**
	comp=Z,2.8nm,0.9s,baz=291,slow=2.7,SNR=4.0				
KSRS			LR	LR	14 33 27.4
	comp=Z,4μm,19.1s,baz=284,slow=40				
USRK	**Ussuriysk Ar.**	63.83 52	P	**P**	**14 02 07.3 -0.8**
	comp=Z,4.7nm,0.7s,baz=288,slow=5.2,SNR=13				
USRK			LR	LR	14 33 13.8
	comp=Z,6μm,18.6s,baz=281,slow=39				
SKJI	**Sukabumi**	64.18 115	P	**P**	**14 02 15.5 +4.7**
STKI	**Sintang**	64.18 106	P	**P**	**14 02 12.8 +2.0**
GRNR	**Gornyy**	64.89 44	*i* P	P	14 02 05.4 -10
GRNR			pmax	pmax	
	comp=Z,10.0nm,1.1s				
GRNR			MLR	MLR	
	comp=Z,3μm,12.0s				
GRNR			MLR	MLR	
	comp=N,2μm,15.0s				
GRNR			MLR	MLR	
	comp=E,3μm,13.0s				
KKM	**Kota Kinabalu**	65.17 97	IAMs_20	IAMs_20	14 36 05.6
	comp=Z,2μm,19.0s				
CISI	**Cisompet, Garu**	65.50 115	P	**P**	**14 02 20.2 +0.7**
KPJI	**Karang Pucung**	66.26 114	P	**P**	**14 02 23.9 -0.4**
JNU	**Nakatsue**	66.52 64	P	**P**	**14 02 26.8 +0.9**
	comp=Z,25nm,0.9s,baz=101,slow=5.3,SNR=4.4				
JNU	**Nakatsue**	66.52 64	P	**P**	**14 02 26.5 +0.7**
JNU			IAmb	IAmb	14 02 34.4
	comp=Z,43nm,1.0s				
JNU			IAMs_20	IAMs_20	14 35 45.3
	comp=Z,3μm,19.0s				
KULLO	**Kullorsuaq**	66.71 344	*i* P	**P**	**14 02 26.4 +0.1**
KULLO	**Kullorsuaq**	66.71 344	*i* P	**P**	**14 02 26.4 +0.1**
TEY	**Ternei**	66.72 50 ‖	*e*P	**P**	**14 02 25.7 -1.1**
TEY			*e*		14 11 08.0
TEY			pmax	pmax	
	comp=Z,20nm,1.0s				
TEY			pmax	pmax	
	comp=Z,200nm,5.1s				
TEY			MLR	MLR	
	comp=N,200nm,14.0s				
ILULI	**Ilulissat**	67.16 338	*i* P	**P**	**14 02 29.4 +0.2**
ILULI	**Ilulissat**	67.16 338	*i* P	**P**	**14 02 29.4 +0.2**
SFJD	**Kangerlussuaq**	67.84 335	P	**P**	**14 02 32.9 -0.7**
SFJD			pmax	pmax	
	comp=Z,63nm,1.1s				
SFJD	**Kangerlussuaq**	67.84 335	*i* P	**P**	**14 02 32.8 -0.8**
SFJD	**Kangerlussuaq**	67.84 335	P	**P**	**14 02 32.9 -0.7**
SFJD			IAmb	IAmb	14 02 40.8
	comp=Z,63nm,1.1s				
NRS	**Narsarsuaq**	67.89 329	*i* P	**P**	**14 02 33.9 0.0**
NRS	**Narsarsuaq**	67.89 329	*i* P	**P**	**14 02 33.9 0.0**
TULEG	**Thule**	68.21 347	P	**P**	**14 02 35.7 -0.1**
TULEG			IAmb	IAmb	14 02 38.4
	comp=Z,41nm,0.9s				
NGJI	**Ngawi**	68.31 112	P	**P**	**14 02 39.0 +1.7**
TYV	**Tymovskoe**	68.61 43	*e*P	**P**	**14 02 38.0 -0.7**
TYV			pmax	pmax	
	comp=Z,37nm,1.0s				
TYV			pmax	pmax	
	comp=Z,2μm,4.6s				
PWJI	**Pagerwojo**	68.97 113	P	**P**	**14 02 43.1 +1.7**
SEY	**Seymchan**	69.07 29 ‖	*i*P	**P**	**14 02 42.5 +1.2**
SEY	**Seymchan**	69.07 29	P	**P**	**14 02 42.7 +1.4**
	comp=Z,50nm,1.0s,baz=282,slow=6.0,SNR=46				
MA2	**Magadan**	69.69 32	*i* P	**P**	**14 02 45.6 +0.4**
MA2			pmax	pmax	
	comp=Z,45nm,0.9s				
MA2	**Magadan**	69.69 32	IAMs_20	IAMs_20	14 30 54.6
	comp=Z,2μm,18.0s				
KBKI	**Kotabaru**	69.93 106	P	**P**	**14 02 49.6 +2.2**
YSS	**Yuzh-Sakhalins**	70.08 47 ⇑	*e*P	**P**	**14 02 46.8 -1.0**
YSS			*e**SP	**pP**	**14 02 53.0 +0.5**
YSS			*e*		14 03 09.7
YSS			*e*		14 05 22.5
YSS			*e*S	**S**	**14 11 55.8 -2.5**
YSS			*e*		14 12 41.1
YSS			pmax	pmax	
	comp=Z,50nm,0.9s				
YSS			smax	smax	
	comp=N,500nm,7.2s				
YSS			MLR	MLR	
	comp=Z,6μm,16.0s				
YSS			MLR	MLR	
	comp=N,2μm,18.0s				
YSS			MLR	MLR	
	comp=E,4μm,15.0s				
YSS	**Yuzh-Sakhalins**	70.08 47	P	**P**	**14 02 46.7 -1.2**
GMJI	**Gumukmas**	70.44 112	P	**P**	**14 02 51.0 +0.6**
MAJO	**Matsushiro**	70.87 58	*i* P	**P**	**14 02 50.3 -2.6**
MAJO			pmax	pmax	
	comp=Z,13nm,0.8s				
MAT	**Matsushiro**	70.87 58	P	**P**	**14 02 53.1 +0.2**
MAT			S	**S**	**14 12 07.6 -0.4**
MJAR	**Matsushiro Arr**	70.87 58	P	**P**	**14 02 52.9 -0.1**
	comp=Z,4.6nm,0.7s,baz=267,slow=7.3,SNR=9.3				
MJAR			LR	LR	14 35 36.5
	comp=Z,1μm,21.0s,baz=305,slow=37				
MJAR	**Matsushiro Arr**	70.87 58	P	**P**	**14 02 52.8 -0.1**
ASAJ	**Asahikawa**	71.05 50	P	**P**	**14 02 53.3 -0.6**
	comp=Z,8.6nm,0.7s,baz=12,slow=12,SNR=7.7				
JAGI	**Jajag, Banyuwa**	71.12 112	P	**P**	**14 02 55.3 +0.6**
CTBH	**Cotabato--PC H**	71.59 92 ‖	*i*P	**P**	**14 02 57.3 -0.2**
BILL	**Biliibino**	71.73 21 *c*	*i*P	**P**	**14 02 57.8 +0.3**
BILL			*i **PP	**pP**	**14 03 00.2 -1.9**
BILL			*i **SP	**sP**	**14 03 02.9 -0.9**
BILL			*e*		14 03 16.8
BILL			*e*		14 05 40.5
BILL			*e*PPP	PPP	14 07 15.0
BILL			*i* S	**S**	**14 12 18.7 +1.8**
BILL			*e*		14 12 48.8
BILL			*e*		14 12 59.9
BILL			pmax	pmax	
	comp=Z,49nm,1.0s				
BILL			MLR	MLR	
	comp=Z,4μm,16.0s				
SRBI	**Singaraja**	71.77 111	P	**P**	**14 02 59.3 +0.8**
KCP	**Kidapawan**	72.43 92 ‖	*i*P	**P**	**14 03 03.5 +0.8**
DAV	**Davao City (W)**	72.83 91 ‖	*i*P	**P**	**14 03 06.7 +1.8**
DAV	**Davao City (W)**	72.83 91	IAMs_20	IAMs_20	14 41 02.8
	comp=Z,1μm,20.0s				
YUK	**Yuzh-Kuril'sk**	73.24 49 *c*	*i*P	**P**	**14 03 05.4 -1.5**
YUK			*e*		14 03 21.0
YUK			*e*		14 05 50.8
YUK			*e*PPP	PPP	14 07 41.6
YUK			*e*S	**S**	**14 12 35.6 +0.7**
YUK			MLR	MLR	
	comp=Z,5μm,15.0s				
YUK			MLR	MLR	
	comp=N,5μm,14.0s				
YUK			MLR	MLR	
	comp=E,5μm,14.0s				
TWSI	**Taliwang, Sumb**	73.50 110	P	**P**	**14 03 10.3 +1.4**
KAPI	**Kappang**	73.86 105	P	**P**	**14 03 10.6 -0.4**
KAPI			pmax	pmax	
	comp=Z,52nm,1.2s				
KAPI	**Kappang**	73.86 105	P	**P**	**14 03 10.6 -0.4**
KAPI			IAmb	IAmb	14 03 14.5

comp=Z,52nm,1.1s
PLAI Plampang 74.28 110 P **P 14 03 12.9 -0.6**
LUWI Luwuk 74.37 100 P P 14 03 26.0 +12
CRZF Crozet Islands 75.42 180 IAMs_20 IAMs_20 14 38 19.3
comp=Z,2µm,19.0s
PETK Petropavlovsk- 76.06 37 P **P 14 03 22.5 -0.6**
PETK Petropavlovsk- 76.06 37 P **P 14 03 22.1 -1.0**
comp=Z,19nm,0.9s,baz=325,slow=2.8,SNR=6.1
PETK LR LR 14 40 00.6
comp=Z,2µm,19.1s,baz=290,slow=38
PETK Petropavlovsk- 76.06 37 P **P 14 03 22.5 -0.6**
SKR Severo-Kuril's 76.42 39 *e*P P 14 03 16.2 -9.0
SKR *e*S **S 14 13 03.2 -6.9**
SKR *e*SSS SSS 14 21 16.3
SKR MLR MLR
comp=Z,2µm,21.0s
PET Petropavlovsk 76.60 36 *e*P **P 14 03 26.3 +0.2**
PET *e*S **S 14 13 07.5 -4.4**
PET pmax pmax
comp=Z,62nm,1.6s
TNTI Ternate 77.43 96 P **P 14 03 33.0 +1.5**
SANI Sanana 77.64 99 P **P 14 03 31.7 -1.0**
MMRI Maumere 77.87 107 P **P 14 03 34.0 +0.1**
RDOG Red Dog Mine 79.59 12 IAMs_20 IAMs_20 14 45 12.3
comp=Z,2µm,20.0s
BATI Baumata 79.90 108 P **P 14 03 47.3 +2.2**
SOEI Soe 80.16 107 P **P 14 03 48.0 +1.4**
SOEI Soe 80.16 107 P **P 14 03 45.5 -1.1**
SOEI IAMs_20 IAMs_20 14 44 26.4
comp=Z,1µm,20.0s
AAI Ambon 80.37 100 P P 14 03 54.6 +7.0
MSAI Masohi 80.83 99 P **P 14 03 52.5 +2.4**
SCHQ Schefferville 80.85 329 P **P 14 03 49.5 0.0**
comp=Z,30nm,0.6s,baz=52,slow=6.1,SNR=14
SCHQ LR LR 14 41 49.1
comp=Z,1µm,18.8s,baz=55,slow=37
C36M Paulatuk 81.54 358 P **P 14 03 52.2 -0.7**
baz=4.1
SWI Sorong 81.62 96 P **P 14 03 55.8 +1.5**
ANM Nome 82.09 15 IAMs_20 IAMs_20 14 46 48.4
comp=Z,2µm,20.0s
COLD Coldfoot 82.36 8 P **P 14 03 58.1 +0.8**
INK Inuvik 82.58 2 P **P 14 03 58.1 -0.2**
INK pmax pmax
comp=Z,23nm,1.0s
INK Inuvik 82.58 2 P **P 14 03 57.7 -0.7**
comp=Z,16nm,0.9s,baz=10,slow=8.4,SNR=45
INK Inuvik 82.58 2 P **P 14 03 58.1 -0.2**
INK IAMs_20 IAMs_20 14 46 54.8
comp=Z,1µm,22.0s
MBWA Marble Bar 82.80 119 P **P 14 04 01.2 +1.0**
SNR=6.0
MBWA P **P 14 04 01.2 +1.0**
SNR=6.0
MBWA Marble Bar 82.80 119 IAMs_20 IAMs_20 14 43 28.4
comp=Z,1µm,19.0s
IMAR Indian Mountai 83.03 10 P **P 14 03 59.8 -1.0**
PSAD1 Pilbara Seismi 83.04 119 IAMs_20 IAMs_20 14 40 37.9
comp=Z,1µm,21.0s
PSAC1 Pilbara Seismi 83.07 119 IAMs_20 IAMs_20 14 46 40.7
comp=Z,1µm,20.0s
PSA00 Pilbara Seismi 83.12 119 P **P 14 04 00.3 -1.6**
PSA00 IAmb IAmb 14 04 13.9
comp=Z,25nm,0.9s
FYU Fort Yukon 83.56 7 P **P 14 04 03.8 +0.4**
FYU IAmb IAmb 14 04 06.4
comp=Z,40nm,1.1s
MLY Manley 84.37 9 IAMs_20 IAMs_20 14 48 42.4
comp=Z,1µm,21.0s
EPYK Eagle Plains 84.39 3 P **P 14 04 07.3 -0.5**
baz=353
EPYK Eagle Plains 84.39 3 P **P 14 04 07.0 -0.8**
EPYK IAmb IAmb 14 04 09.6
comp=Z,32nm,1.0s
PRP Porcupine Dome 84.54 7 P **P 14 04 09.4 +0.6**
PRP IAmb IAmb 14 04 11.4
comp=Z,26nm,1.0s
PRP IAMs_20 IAMs_20 14 49 17.9
comp=Z,1µm,20.0s
POKR Poker Plat Res 84.72 8 P **P 14 04 09.6 +0.2**
baz=344
MORW Morawa 84.77 127 P **P 14 04 09.4 -0.8**
MORW IAmb IAmb 14 04 13.4
comp=Z,36nm,1.1s
MORW IAMs_20 IAMs_20 14 39 46.7
comp=Z,1µm,21.0s
TCOL CIGO, UAF Yank 84.90 8 P **P 14 04 10.3 0.0**
baz=343
COLA College 84.90 8 *i* P **P 14 04 09.3 -1.0**
COLA pmax pmax
comp=Z,36nm,1.0s
COLA College 84.90 8 IAMs_20 IAMs_20 14 48 07.3
comp=Z,2µm,19.0s
ILAR Eielson Array 85.11 8 P **P 14 04 10.6 -0.8**
comp=Z,14nm,0.9s,baz=329,slow=3.7,SNR=96
ILAR PP **PP 14 07 26.5 -1.3**
comp=Z,3.0nm,1.0s,baz=334,slow=7.5,SNR=4.1
ILAR PKKPbc **PKKPbc 14 22 16.9 -1.8**
comp=Z,1.9nm,0.6s,baz=190,slow=2.4,SNR=17
ILAR PKPPKP P'P'df 14 30 10.7 -19
comp=Z,0.4nm,0.9s,baz=172,slow=2.6,SNR=3.8
ILAR LR LR 14 51 17.8
comp=Z,851nm,18.2s,baz=334,slow=42
ILAR Eielson Array 85.11 8 P **P 14 04 10.3 -1.1**
CCB Clear Creek Bu 85.12 8 P **P 14 04 10.9 -0.6**
CCB IAMs_20 IAMs_20 14 48 21.3
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 85.22 10 IAMs_20 IAMs_20 14 48 46.8
comp=Z,2µm,20.0s
WRH Wood River Hil 85.26 8 P **P 14 04 11.7 -0.5**
WRH IAmb IAmb 14 04 13.6
comp=Z,35nm,1.2s
WRH IAMs_20 IAMs_20 14 48 26.8
comp=Z,1µm,20.0s
BWN Browne 85.36 9 IAMs_20 IAMs_20 14 49 37.2
comp=Z,1µm,21.0s
HDA Harding Lake 85.46 8 P **P 14 04 12.3 -0.9**
baz=344
HDA Harding Lake 85.46 8 P **P 14 04 12.1 -1.1**
HDA IAMs_20 IAMs_20 14 49 35.1
comp=Z,1µm,19.0s
TTA Tatalina 85.48 12 IAMs_20 IAMs_20 14 49 16.8
comp=Z,2µm,19.0s
EGAK Eagle 85.68 5 P **P 14 04 14.9 +0.7**
EGAK IAmb IAmb 14 04 17.1
comp=Z,69nm,1.0s
FITZ Fitzroy Crossi 85.73 113 P **P 14 04 15.0 -0.2**
FITZ IAmb IAmb 14 04 17.7
comp=Z,68nm,1.0s
KTH Kantishna Hill 85.74 10 P **P 14 04 13.8 -0.9**
KTH IAmb IAmb 14 04 17.2
comp=Z,59nm,1.0s
KTH IAMs_20 IAMs_20 14 49 02.7
comp=Z,2µm,20.0s
MCK McKinley 85.85 9 P **P 14 04 14.9 -0.3**
MCK pmax pmax
comp=Z,89nm,1.0s
MCK McKinley 85.85 9 P **P 14 04 14.9 -0.3**
MCK IAMs_20 IAMs_20 14 48 48.6
comp=Z,2µm,19.0s
TRF Thorofare Moun 85.93 10 P **P 14 04 15.0 -0.8**
TRF IAmb IAmb 14 04 18.4
comp=Z,52nm,0.9s
TRF IAMs_20 IAMs_20 14 48 59.7
comp=Z,2µm,21.0s
PPLA Purkeypile 86.17 11 P **P 14 04 16.4 -0.5**
PPLA IAmb IAmb 14 04 31.1
comp=Z,29nm,0.8s
PPLA IAMs_20 IAMs_20 14 49 52.0
comp=Z,1µm,20.0s
RND Reindeer 86.18 9 P **P 14 04 15.1 -1.8**
RND pmax pmax
comp=Z,50nm,0.9s
RND MLR MLR
comp=Z,1µm,19.0s
RND Reindeer 86.18 9 P **P 14 04 15.1 -1.8**
RND IAmb IAmb 14 04 18.6
comp=Z,50nm,0.9s
RND IAMs_20 IAMs_20 14 46 35.2
comp=Z,1µm,19.0s
SCRK Sand Creek 86.20 7 P **P 14 04 17.6 +0.6**
SCRK IAMs_20 IAMs_20 14 43 25.8
comp=Z,1µm,22.0s
RIDG Independent Ri 86.34 7 P **P 14 04 17.0 -0.7**
DAWY Dawson 86.52 5 P **P 14 04 19.1 +0.6**
DAWY IAmb IAmb 14 04 20.8
comp=Z,47nm,1.0s
DOT Dot Lake 86.52 7 P **P 14 04 19.2 +0.7**
DHY Denali Highway 86.69 8 P **P 14 04 18.2 -1.2**
DHY IAmb IAmb 14 04 21.0
comp=Z,38nm,0.9s
DHY IAMs_20 IAMs_20 14 49 14.7
comp=Z,1µm,20.0s
KNRA Kununurra 86.99 110 P **P 14 04 20.8 -0.7**
KNRA IAmb IAmb 14 04 28.8
comp=Z,52nm,0.8s
SKT Skwentna 87.14 11 IAMs_20 IAMs_20 14 48 18.6
comp=Z,1µm,20.0s
MENT Mentasta 87.25 7 IAmb IAmb 14 04 24.7
comp=Z,42nm,1.0s
BCAR Beaver Creek A 87.31 6 P **P 14 04 22.3 -0.1**
MTN Manton Dam 87.51 106 P **P 14 04 23.7 -0.3**
MTN IAmb IAmb 14 04 31.1
comp=Z,34nm,1.1s
YKW3 Yellowknife Ar 87.72 354 IAMs_20 IAMs_20 14 51 18.7
comp=Z,1µm,18.0s
SUA Susitna One 87.75 10 P **P 14 04 24.9 +0.3**
SUA IAMs_20 IAMs_20 14 50 52.8
comp=Z,1µm,20.0s
SML Sawmill 87.78 9 IAMs_20 IAMs_20 14 49 54.6
comp=Z,2µm,20.0s
YKA Yellowknife Ar 87.79 354 P **P 14 04 25.0 +0.4**
YKA Yellowknife Ar 87.79 354 P **P 14 04 24.1 -0.5**
comp=Z,19nm,1.1s,baz=18,slow=5.9,SNR=13
YKA LR LR 14 48 00.3
comp=Z,96nm,21.4s,baz=11,slow=39
YKA Yellowknife Ar 87.79 354 P **P 14 04 25.0 +0.4**
PMR Palmer 87.87 10 IAmb IAmb 14 04 33.6
comp=Z,44nm,1.1s
PMR IAMs_20 IAMs_20 14 50 18.0
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 87.89 9 P **P 14 04 26.3 +1.1**
SCM pmax pmax
comp=Z,39nm,1.1s
SCM MLR MLR
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 87.89 9 P **P 14 04 26.3 +1.1**
SCM IAmb IAmb 14 04 40.8
comp=Z,39nm,1.1s
SCM IAMs_20 IAMs_20 14 47 27.5
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 87.92 130 P **P 14 04 26.0 +0.4**
SNR=7.2
NWAO P **P 14 04 26.0 +0.4**
SNR=7.2
NWAO Narrogin (SRO) 87.92 130 P **P 14 04 26.2 +0.6**
NWAO pmax pmax
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 87.92 130 P **P 14 04 26.2 +0.6**
NWAO IAmb IAmb 14 04 45.6
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 87.92 130 P **P 14 04 26.2 +0.6**
NWAO IAmb IAmb 14 04 45.6
comp=Z,18nm,1.1s
KNK Knik Glacier 88.14 9 P **P 14 04 26.5 +0.2**
KNK IAmb IAmb 14 04 29.5
comp=Z,34nm,1.0s
KNK IAMs_20 IAMs_20 14 49 53.1
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 88.26 10 P **P 14 04 26.8 -0.1**
RC01 IAmb IAmb 14 04 29.8
comp=Z,38nm,1.0s
SMPI Sarmi 88.65 93 P **P 14 04 31.2 +1.7**
GLI Glacier Island 88.84 9 IAMs_20 IAMs_20 14 52 20.7
comp=Z,1µm,19.0s
VRDI Verde Repeater 88.95 7 IAMs_20 IAMs_20 14 50 32.4
comp=Z,1µm,20.0s
FID Port Fidalgo 89.05 9 IAMs_20 IAMs_20 14 47 54.3
comp=Z,1µm,22.0s
SEW Seward 89.25 10 IAMs_20 IAMs_20 14 51 21.3
comp=Z,2µm,18.0s
BRLK Bradley Lake 89.34 11 IAMs_20 IAMs_20 14 50 40.0
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 89.34 8 IAMs_20 IAMs_20 14 51 13.8
comp=Z,1µm,20.0s
HIN Hinchinbrook I 89.39 9 IAMs_20 IAMs_20 14 52 38.1
comp=Z,2µm,19.0s
CTGM Chitina Glacie 89.42 6 P **P 14 04 33.2 +0.7**
CTGM IAmb IAmb 14 04 35.2
comp=Z,26nm,1.2s
CTGM IAMs_20 IAMs_20 14 51 24.8
comp=Z,1µm,21.0s
CRQM Cirque 89.44 7 IAMs_20 IAMs_20 14 50 46.7
comp=Z,1µm,18.0s
TGL Tana Glacier 89.48 7 IAMs_20 IAMs_20 14 46 55.4
comp=Z,1µm,22.0s
RAGM Ragged Mountai 89.63 8 IAMs_20 IAMs_20 14 52 24.4
comp=Z,1µm,20.0s
YAH Yahtse 89.97 6 IAMs_20 IAMs_20 14 51 56.5
comp=Z,1µm,20.0s
D55A Sainte-Anne-du 90.14 327 P **P 14 04 36.3 +0.3**
baz=44
NBPV Pedro Velho 90.20 263 *e*P **P 14 04 38.0 +1.2**
NBPV Pedro Velho 90.20 263 *e*P **P 14 04 38.0 +1.2**
GENI Genyem 90.22 93 P **P 14 04 39.1 +2.2**
E56A St. Veronique 90.27 326 P **P 14 04 36.0 -0.6**
baz=45
RCBR Riachuelo 90.44 264 *e*P **P 14 04 39.1 +1.2**
RCBR Riachuelo 90.44 264 *e*P **P 14 04 39.1 +1.2**
JAY Jayapura 90.65 93 P **P 14 04 42.4 +3.5**
KDAK Kodiak Island 90.90 13 *i* P **P 14 04 39.4 +0.1**
KDAK Kodiak Island 90.90 13 P **P 14 04 39.4 +0.1**
KDAK Kodiak Island 90.90 13 IAMs_20 IAMs_20 14 51 28.2
comp=Z,2µm,21.0s
NBRF Rio Formoso - 91.16 261 *e*P **P 14 04 43.0 +1.8**
NBRF Rio Formoso - 91.16 261 *e*P **P 14 04 43.0 +1.8**
OHAK Old Harbor 91.29 13 IAMs_20 IAMs_20 14 50 51.5
comp=Z,1µm,18.0s
NBPA Parau_RN 91.45 264 *e*P **P 14 04 44.2 +1.5**
NBPA Parau_RN 91.45 264 *e*P **P 14 04 44.2 +1.5**
NBCL Cascavel-CE 91.74 266 *e*P **P 14 04 45.7 +1.8**
NBCL Cascavel-CE 91.74 266 *e*P **P 14 04 45.7 +1.8**
D50A G1974 Best Tow 92.06 329 P **P 14 04 45.1 +0.2**
baz=41
NBLI Livramento-PB 92.09 263 *e*P **P 14 04 46.9 +1.2**
NBLI Livramento-PB 92.09 263 *e*P **P 14 04 46.9 +1.2**
NBAN Anadia - AL 92.63 260 *e*P **P 14 04 49.3 +1.3**
NBAN Anadia - AL 92.63 260 *e*P **P 14 04 49.3 +1.3**
NBMO Morrinhos-CE 92.83 268 *e*P **P 14 04 49.9 +0.9**
NBMO Morrinhos-CE 92.83 268 *e*P **P 14 04 49.9 +0.9**
PECO Prince Edward 93.11 325 IAMs_20 IAMs_20 14 47 34.8
comp=Z,2µm,20.0s
FFC Flin Flon 93.18 345 P **P 14 04 49.9 0.0**
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 93.18 345 P **P 14 04 49.9 0.0**
FFC IAmb IAmb 14 04 51.6
comp=Z,16nm,1.0s
NBPB Pedra_Branca-C 93.50 266 *e*P **P 14 04 52.6 +0.5**
NBPB Pedra_Branca-C 93.50 266 *e*P **P 14 04 52.6 +0.5**
NBMA Muriti-CE 93.67 264 *e*P **P 14 04 53.9 +1.0**
NBMA Muriti-CE 93.67 264 *e*P **P 14 04 53.9 +1.0**
WRA Warramunga Arr 93.72 111 P **P 14 04 52.2 -0.7**
WRA Warramunga Arr 93.72 111 P **P 14 04 51.5 -1.5**
comp=Z,5.3nm,0.8s,baz=316,slow=4.1,SNR=28
WRA PKKPbc **PKKPdf 14 21 56.5 +0.2**
comp=Z,1.3nm,0.3s,baz=111,slow=2.9,SNR=57
WRA Warramunga Arr 93.72 111 P **P 14 04 52.2 -0.7**
WRAB Tennant Creek 93.73 111 P **P 14 04 52.4 -0.6**
WRAB pmax pmax
comp=Z,20nm,1.2s
WRAB Tennant Creek 93.73 111 P **P 14 04 52.4 -0.6**
WRAB IAmb IAmb 14 04 54.6
comp=Z,20nm,1.1s
NBTA Tacaratu-PE 93.91 262 *e*P **P 14 04 55.0 +1.0**
NBTA Tacaratu-PE 93.91 262 *e*P **P 14 04 55.0 +1.0**
FORT Forrest 94.32 123 IAMs_20 IAMs_20 14 45 31.8
comp=Z,1µm,21.0s
NBLA Lagarto - SE 94.57 260 *e*P **P 14 04 59.6 +2.6**
NBLA Lagarto - SE 94.57 260 *e*P **P 14 04 59.6 +2.6**
NBPS Pedro II - PI 94.57 268 *e*P **P 14 04 58.3 +1.1**
NBPS Pedro II - PI 94.57 268 *e*P **P 14 04 58.3 +1.1**
ASAR Alice Springs 95.21 114 P **P 14 04 58.2 -1.5**
comp=Z,7.9nm,0.9s,baz=304,slow=4.0,SNR=44
ASAR PKiKP **PKiKP 14 09 41.3 +0.4**
comp=Z,0.6nm,0.7s,baz=309,slow=0.9,SNR=6.1
ASAR PKKPbc **PKKPdf 14 21 53.7 -0.2**
comp=Z,0.6nm,0.4s,baz=123,slow=3.3,SNR=30
ASAR Alice Springs 95.21 114 P **P 14 04 58.9 -0.9**
AS31 Alice Springs 95.21 114 P **P 14 04 58.4 -1.4**
ULM Lac du Bonnet 95.59 340 P **P 14 05 00.2 -0.8**
comp=Z,5.5nm,0.9s,baz=29,slow=6.1,SNR=6.3
ULM LR LR 14 51 03.4
comp=Z,835nm,18.2s,baz=27,slow=37
ULM Lac du Bonnet 95.59 340 P **P 14 05 00.3 -0.8**
MAW Mawson 97.04 176 P **P 14 05 05.4 -1.5**
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 97.04 176 P Pdif 14 05 08.6 +1.7
comp=Z,19nm,1.0s,baz=316,slow=5.4,SNR=14
MAW LR LR 14 45 29.1
comp=Z,531nm,18.4s,baz=357,slow=33
MAW Mawson 97.04 176 P **P 14 05 05.4 -1.5**
AGMN Agassiz Nation 97.31 339 IAMs_20 IAMs_20 14 51 03.4
comp=Z,2µm,19.0s
SYO Syowa Base 98.44 184 ⇑ *i*Pdiff **P 14 05 13.0 -0.2**
SYO Syowa Base 98.44 184 ⇓ *i*pPdiff Pdif 14 05 15.0 +1.8
S57A Dark Hollow, R 98.65 322 IAMs_20 IAMs_20 14 49 43.6
comp=Z,1µm,19.0s
N49A Columbus Grove 98.86 328 IAMs_20 IAMs_20 14 51 28.0
comp=Z,2µm,21.0s
SPMN Marine on St. 98.93 335 IAMs_20 IAMs_20 14 52 20.4
comp=Z,2µm,22.0s
BBOO Buckleboo 101.25 121 IAMs_20 IAMs_20 14 55 00.1
comp=Z,1µm,19.0s
SEUS St. Eustatius 101.41 298 IAMs_20 IAMs_20 14 53 50.1
comp=Z,1µm,20.0s
LAO LASA Array 101.65 344 IAMs_20 IAMs_20 14 51 08.1
comp=Z,1µm,22.0s
SUSD Miller 101.72 339 IAMs_20 IAMs_20 14 53 47.0
comp=Z,2µm,22.0s
N41A Harden Midland 101.99 332 IAMs_20 IAMs_20 14 57 22.2
comp=Z,1µm,20.0s
NEW Newport 102.06 352 P **Pdif 14 05 31.2 +1.0**
comp=Z,2.2nm,0.9s,baz=332,slow=5.1,SNR=5.1
NEW PP **PP 14 09 41.9 +1.4**
comp=Z,4.2nm,1.0s,baz=356,slow=7.6,SNR=4.4
NEW Newport 102.06 352 IAMs_20 IAMs_20 14 57 13.7
comp=Z,1µm,22.0s
JTMT Jette 102.18 350 IAMs_20 IAMs_20 14 56 46.0
comp=Z,2µm,21.0s
B06A Marblemount 102.23 355 IAMs_20 IAMs_20 14 57 35.2
comp=Z,1µm,20.0s
OLIL Olney 102.42 329 IAMs_20 IAMs_20 14 56 02.1
comp=Z,2µm,20.0s
C09A Chrisman Ranch 102.64 353 IAMs_20 IAMs_20 14 57 37.3
comp=Z,1µm,20.0s
TOSP Speyside 102.97 291 IAMs_20 IAMs_20 14 42 49.1
comp=Z,928nm,21.0s
MSO Missoula 103.02 350 IAMs_20 IAMs_20 14 56 16.3
comp=Z,1µm,20.0s
W52A Murphy 103.28 324 IAMs_20 IAMs_20 14 54 26.1
comp=Z,1µm,19.0s
LTY Liberty 103.41 354 IAMs_20 IAMs_20 14 56 34.7
comp=Z,2µm,21.0s
RLMT Red Lodge 103.81 346 IAMs_20 IAMs_20 15 00 06.3
comp=Z,1µm,19.0s
BOZ Bozeman (W) 103.83 348 IAMs_20 IAMs_20 14 56 30.6
comp=Z,1µm,21.0s
LON Longmire 104.01 355 IAMs_20 IAMs_20 14 56 19.3
comp=Z,1µm,20.0s
F10A Beach Ranch, E 104.32 352 IAMs_20 IAMs_20 14 58 12.7
comp=Z,1µm,22.0s
GLAT Glass 104.97 328 IAMs_20 IAMs_20 14 55 48.7
comp=Z,1µm,20.0s
PLID Pearl Lake 105.03 351 IAMs_20 IAMs_20 14 57 42.4
comp=Z,879nm,21.0s
FLWY Flagg Ranch 105.10 347 IAMs_20 IAMs_20 14 58 33.4
comp=Z,1µm,20.0s
G08A Pilot Rock 105.20 353 IAMs_20 IAMs_20 15 01 28.8
comp=Z,1µm,21.0s
MOOW Moose Ponds 105.43 347 IAMs_20 IAMs_20 14 58 45.1
comp=Z,1µm,20.0s
BMO Blue Mountains 105.44 352 IAMs_20 IAMs_20 14 58 37.2
comp=Z,1µm,22.0s
K22A Casper 105.52 343 IAMs_20 IAMs_20 14 56 17.5
comp=Z,1µm,20.0s
FXWY Fox Creek 105.60 347 IAMs_20 IAMs_20 14 55 01.4
comp=Z,1µm,22.0s
OGNE Ogallala 105.84 339 IAMs_20 IAMs_20 14 56 19.2
comp=Z,1µm,20.0s
LCAR Lake Charles 105.99 329 IAMs_20 IAMs_20 15 00 00.5
comp=Z,1µm,20.0s
SC01 Santiago de Io 106.05 304 IAMs_20 IAMs_20 14 53 06.2
comp=Z,1µm,20.0s
SDD Santo Domingo 106.07 302 IAMs_20 IAMs_20 14 50 02.6
comp=Z,1µm,19.0s
BW06 Boulder Array 106.12 345 IAMs_20 IAMs_20 14 59 32.4
comp=Z,1µm,20.0s
PDAR Pinedale Array 106.12 345 PP **PP 14 10 06.6 -4.6**
comp=Z,1.0nm,0.7s,baz=46,slow=6.4,SNR=4.1
PDAR PKKPab **PKKPab 14 21 38.2 -3.4**
comp=Z,0.8nm,0.4s,baz=184,slow=7.0,SNR=7.7
AHID Auburn Hatcher 106.45 347 IAMs_20 IAMs_20 14 57 42.0
comp=Z,1µm,19.0s
MFID Camas Ranch 106.64 350 IAMs_20 IAMs_20 15 00 00.1
comp=Z,1µm,22.0s
N23A Red Feather La 107.02 342 IAMs_20 IAMs_20 14 56 09.1
comp=Z,2µm,22.0s
CBKS Cedar Bluff 107.02 337 IAMs_20 IAMs_20 14 56 53.5
comp=Z,1µm,20.0s
WHAR Wooly Hollow 107.15 330 IAMs_20 IAMs_20 15 00 36.1
comp=Z,1µm,20.0s
SNAA Sanae 107.52 196 PKiKP **PKiKP 14 10 02.5 +0.8**
HWUT Hardware Ranch 107.66 347 IAMs_20 IAMs_20 14 58 21.0
comp=Z,1µm,19.0s
KSCO Kaye Shedlock' 107.80 339 IAMs_20 IAMs_20 14 57 46.8
comp=Z,1µm,20.0s
X40A Basin Creek Fa 108.06 329 IAMs_20 IAMs_20 15 01 21.4
comp=Z,1µm,20.0s
VNA2 Neumayer--Watz 108.16 197 PKiKP **PKiKP 14 10 04.6 +1.7**
baz=7.4,slow=3.4
VNA3 Neumayer Olymp 108.94 197 PKiKP **PKiKP 14 10 04.5 +0.2**
ELK Elko 109.16 349 PKKPbc PKKPbc 14 21 13.2 +0.2
comp=Z,1.6nm,1.0s,baz=268,slow=11,SNR=5.0
ELK Elko 109.16 349 IAMs_20 IAMs_20 15 01 41.8
comp=Z,1µm,19.0s
DUG Dugway, Tooele 109.27 347 IAMs_20 IAMs_20 15 01 15.6
comp=Z,1µm,19.0s
BMN Battle Mountai 109.77 351 IAMs_20 IAMs_20 14 59 05.9
comp=Z,1µm,20.0s
EIDS Eidsvold 109.95 108 IAMs_20 IAMs_20 14 58 40.6
comp=Z,980nm,21.0s
PV19 Morning Glory 110.23 344 IAMs_20 IAMs_20 14 58 44.4
comp=Z,1µm,20.0s
WMOK Wichita Mounta 110.30 334 IAMs_20 IAMs_20 14 58 38.5
comp=Z,1µm,20.0s
PAHR Pah Rah Range 110.76 352 IAMs_20 IAMs_20 15 03 22.0
comp=Z,1µm,20.0s
MVCO Mesa Verde 111.15 343 IAMs_20 IAMs_20 15 00 16.5
comp=Z,1µm,20.0s
VCNR Virginia City 111.20 353 IAMs_20 IAMs_20 15 03 46.6
comp=Z,1µm,21.0s
KVN Kaiserville 111.25 351 IAMs_20 IAMs_20 15 04 05.0
comp=Z,1µm,20.0s
PNTR Pine Nut 111.40 352 IAMs_20 IAMs_20 15 03 52.9
comp=Z,1µm,20.0s
R11A Troy Canyon, C 111.56 349 IAMs_20 IAMs_20 15 02 48.2
comp=Z,1µm,19.0s
AFDM Forest Hills D 111.68 354 IAMs_20 IAMs_20 15 06 18.5
comp=Z,1µm,21.0s
NVAR Mina Array Bea 111.89 351 PKiKP **PKiKP 14 10 11.8 +0.4**
comp=Z,1.6nm,0.7s,baz=254,slow=0.9,SNR=11
NVAR PKKPbc **PKKPbc 14 21 04.9 +0.8**
comp=Z,0.7nm,0.7s,baz=198,slow=6.1,SNR=6.7
ARMA Armidale 112.34 113 IAMs_20 IAMs_20 14 56 23.9
comp=Z,1µm,21.0s
ANMO Albuquerque 112.71 340 PKKPbc PKKPbc 14 21 01.8 +0.6
comp=Z,2.4nm,1.1s,baz=119,slow=3.1,SNR=3.8
U15A North Rim 112.79 346 IAMs_20 IAMs_20 15 05 05.9
comp=Z,1µm,20.0s
SHPR Sheep Range 113.28 348 IAMs_20 IAMs_20 15 00 55.8
comp=Z,1µm,19.0s
435B Jarrell 113.29 331 IAMs_20 IAMs_20 15 00 19.7
comp=Z,899nm,19.0s
W18A Petrified Fore 113.45 343 IAMs_20 IAMs_20 15 00 12.3
comp=Z,1µm,22.0s
WUAZ Wupatki 113.46 345 IAMs_20 IAMs_20 15 00 30.7
comp=Z,1µm,22.0s
DAC Darwin (Calif) 113.90 350 IAMs_20 IAMs_20 15 07 54.2
comp=Z,1µm,21.0s
PMPB Monarch Peak 114.37 353 IAMs_20 IAMs_20 15 05 15.6
comp=Z,1µm,19.0s
W13A Hualapai Mount 114.41 347 IAMs_20 IAMs_20 15 03 22.6
comp=Z,1µm,18.0s
JCT Junction City 114.47 333 IAMs_20 IAMs_20 15 01 07.8
comp=Z,1µm,22.0s
MNTX Cornudas Mount 115.39 338 IAMs_20 IAMs_20 15 02 15.9
comp=Z,1µm,19.0s

IRM	Iron Mountain	115.56	348	P	PKPdf	14 10 19.4	+1.1
	baz=13						
BELC	Belle Mtn. Jos	115.87	348	P	PKPdf	14 10 19.9	+0.9
	baz=12						
833A	Chaparral WMA,	116.20	331	IAMs_20	IAMs_20	15 03 44.7	
	comp=Z,982nm,18.0s						
PFO	Pinyon Flats O	116.33	349	PKKPbc	PKKPbc	14 20 50.0	+1.2
	comp=Z,2.6nm,0.8s,baz=130,slow=7.6,SNR=4.1						
TUC	Tucson	116.38	343	IAMs_20	IAMs_20	15 03 22.0	
	comp=Z,972nm,20.0s						
TXAR	Lajitas Array	116.96	336	PKP	PKPdf	14 10 20.5	-0.6
	comp=Z,0.7nm,0.6s,baz=201,slow=3.2,SNR=7.3						
TXAR				PKKPbc	PKKPbc	14 20 44.5	-1.9
	comp=Z,0.2nm,0.7s,baz=202,slow=6.8,SNR=3.2						
TXAR				PKKPab	PKKPab	14 20 51.2	-1.9
	comp=Z,0.7nm,0.8s,baz=192,slow=6.8,SNR=5.2						
CPUP	Villa Florida	117.79	254	PKP	PKiKP	14 10 22.6	+0.1
	comp=Z,2.4nm,0.9s,baz=259,slow=4.0,SNR=2.8						
QSPA	South Pole Qui	119.19	180		PKPdf	14 10 22.9	-1.2
DZM	Mont Dzumac	121.70	99	*e*PS	PS	14 21 58.1	+1.2
	comp=Z,157nm,26.7s						
DZM	Mont Dzumac	121.70	99	*e*LR	LR	14 47 54.0	
	comp=Z,1μm,26.5s						
ZAIG	Zacatecas	122.43	331	IAMs_20	IAMs_20	15 06 51.7	
	comp=Z,862nm,19.0s						
LPAZ	La Paz	123.28	269	PKP	PKPdf	14 10 33.6	-0.5
	comp=Z,6.1nm,0.9s,baz=21,slow=5.3,SNR=15						
LPAZ	La Paz	123.28	269	*e*P	PKPdf	14 10 33.8	-0.3
LPAZ	La Paz	123.28	269	*e*P	PKPdf	14 10 33.8	-0.3
OTAV	Otavalo	123.85	292	*e*P	PKiKP	14 10 35.8	+0.4
OTAV	Otavalo	123.85	292	*e*P	PKiKP	14 10 35.8	+0.4
OTAV	Otavalo	123.85	292	IAMs_20	IAMs_20	15 12 55.3	
	comp=Z,639nm,19.0s						
TRQA	Tornquist	124.92	242	PKIKP	PKPdf	14 10 35.4	-0.5
TRQA	Tornquist	124.92	242	*e*P	PKiKP	14 10 36.7	+0.4
TRQA	Tornquist	124.92	242	*e*P	PKiKP	14 10 36.7	+0.4
TRQA	Tornquist	124.92	242		PKPdf	14 10 35.4	-0.5
GO01	Chusmiza	125.55	266		PKiKP	14 10 38.5	-0.1
PB01	IPOC Station P	126.32	264	IAMs_20	IAMs_20	15 04 47.7	
	comp=Z,1μm,22.0s						
LVC	Limon Verde	126.38	262	*e*P	PKiKP	14 10 40.4	+0.4
LVC	Limon Verde	126.38	262	*e*P	PKiKP	14 10 40.4	+0.4
PMSA	Palmer Station	126.95	209	PKP	PKiKP	14 10 40.1	+0.8
	comp=Z,37nm,1.0s,baz=83,slow=1.0,SNR=6.5						
PMSA	Palmer Station	126.95	209	*e*P	PKiKP	14 10 40.1	+0.8
PMSA	Palmer Station	126.95	209	*e*P	PKiKP	14 10 40.1	+0.8
RPZ	Rata Peaks	130.49	124	SKPbc	SKPbc	14 14 11.3	+1.8
	comp=Z,18nm,1.0s,baz=270,slow=4.9,SNR=3.7						
PLCA	Paso Flores	131.89	240	PKP	PKiKP	14 10 51.2	+0.9
	comp=Z,2.5nm,0.7s,baz=70,slow=1.8,SNR=3.1						
PLCA				SKPbc	SKPbc	14 14 14.7	-0.2
	comp=Z,22nm,1.0s,baz=127,slow=6.4,SNR=19						
PLCA	Paso Flores	131.89	240	*e*P	PKiKP	14 10 50.5	+0.3
PLCA	Paso Flores	131.89	240	*e*P	PKiKP	14 10 50.5	+0.3
SNZO	South Karori	133.01	121	PKPdf	PKiKP	14 10 52.4	+0.1
URZ	Urewera	134.61	116	PKPdf	PKPdf	14 10 54.0	-0.2
NIUE	Niue	141.16	84	PKPdf	PKPdf	14 11 05.8	-1.1
TAOE	Nuku Hiva Isla	156.93	30	*e*LR	LR	15 04 22.5	
	comp=Z,2μm,30.5s						
PPT2	Papeete2	157.55	63	*e*PP	PP	14 15 41.7	-2.1
	comp=Z,134nm,29.8s						
PPT2	Papeete2	157.55	63	*e*LR	LR	15 04 40.4	
	comp=Z,900nm,21.8s						
TBI	Tubuai	160.42	77	*e*SS	SS	14 36 06.6	-4.7
	comp=Z,397nm,31.8s						

*GCG **28** 14:09:22.6±4.2, 13°.91N×90°.70W, h112km±48km, MD3.5*
*SNET **28** 14:09:24.0±1.2, 13°.75N×90°.69W, h58km±17km, ML3.3*
ISC 28 14:09:22.7±2.9,**13°.6N**±0°.2×**90°.69W**±0°.10,**h90**km±22km,
n10,σ1°.**81**/**17**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.59	24	*e*S	Sn	14 09 53.5	+3.3
IXG	Ixpaco	0.59	24	*e*P	Pn	14 09 36.4	-2.0
PCG	Pacaya	0.77	6	*e*P	Pn	14 09 39.4	-0.7
PCG				*e*S	Sn	14 09 56.6	+3.5
FUG	Fuego 3	0.83	350	*e*P	Pn	14 09 38.8	-1.9
FUG				*e*P	Pn	14 09 38.9	-1.9
FUG				*e*S	Sn	14 09 52.4	-1.8
NBG	Las Nubes	1.01	19	*e*P	Pn	14 09 42.9	+0.1
RTR	El Retiro	1.05	75	*e*P	Pn	14 09 43.5	+0.4
RTR				*e*S	Sn	14 09 58.5	+0.1
CEVE	Cerro Verde	1.05	79	*e*P	Pn	14 09 43.2	0.0
CEVE				*e*S	Sn	14 09 59.0	+0.3
CEVE				IAML		14 10 00.2	
	comp=Z,632nm,0.2s						
SBLS	San Blas	1.05	78	*e*P	Pn	14 09 43.1	-0.2
SBLS				*e*S	Sn	14 09 57.7	-1.0
STG3	Santiaguito 3,	1.38	322	*e*P	Pn	14 09 48.5	+1.4
STG3				*e*S	Sn	14 10 05.4	-0.2
MRL	Marmol	1.75	34	*e*P	Pn	14 09 50.9	-0.9

TEH 28 14:18:12.5,29°.28N×51°.37E,h5km,ML3.5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.64	40	*e*Pg	Pg	14 18 25.5	+0.6
IKAZ				IAMB	IAmb	14 18 38.5	
	comp=Z,31μm,0.3s						
SHI	Shiraz	1.06	70	*e*Pg	Pn	14 18 34.9	+0.7
SHI				*e*Sg	Sn	14 18 50.9	+1.5
KLNJ	Kolanjah	1.73	6	*e*Pn	Pg	14 18 45.4	-0.3
KLNJ				IAMB	IAmb	14 19 17.3	
	comp=Z,0.0nm,0.6s						
JHRM	Jahrom	2.08	111	*e*Pn	Pb	14 18 50.8	-0.1
JHRM				IAMB	IAmb	14 19 24.2	
	comp=Z,0.0nm,0.5s						
IBRJ	Brojen	2.62	358	*e*Pn	Pb	14 18 58.0	-2.1
IRAM	Ramesheh	2.67	19	*e*Pn	Pb	14 18 58.8	-2.1
ZNGN	Zangian	2.86	351	*e*Pn	Pn	14 19 01.3	+2.2
JHBN	Jahan bin	3.00	349	*e*Pn	Pn	14 19 02.9	+1.9
ROKH	ROKH	3.07	355	*e*Pn	Pn	14 19 04.0	+2.1
ISAD	Sadrabad	3.30	37	*e*Pn	Pn	14 19 07.6	+2.5
IMEH	Mehriz	3.50	52	*e*Pn	Pb	14 19 12.3	-2.9
IZEF	Zefreh	3.69	13	*e*Pn	Pn	14 19 13.3	+2.8
ICHK	Chekchek	3.94	41	*e*Pn	Pn	14 19 16.8	+2.9
IKLH	Kolahrood	4.03	2	*e*Pn	Pn	14 19 17.5	+2.4
IBAF	Bafgh	4.29	57	*e*Pn	Pn	14 19 22.0	+3.3
ANAR	Anarak	4.39	27	*e*Pn	Pn	14 19 22.4	+2.5
QAM	Ghamsar	4.46	1	*e*Pn	Pn	14 19 22.8	+1.7
KHGB	Koh Gabri	4.57	75	*e*Pn	Pn	14 19 25.7	+3.2
KHGB				IAMB	IAmb	14 20 52.1	
	comp=Z,0.0nm,0.7s						
NGRK	Negar Kerman	4.69	84	*e*Pn	Pn	14 19 28.0	+3.7
NGRK				IAMB	IAmb	14 20 32.1	
	comp=Z,0.0nm,0.3s						
TVBK	TV Kerman	4.75	80	*e*Pn	Pn	14 19 28.4	+3.3
TVBK				IAMB	IAmb	14 20 40.3	
	comp=Z,0.0nm,0.5s						
NIAN	Nian	5.11	108	*e*Pn	Pn	14 19 31.2	+1.4
NIAN				IAMB	IAmb	14 20 20.4	
	comp=Z,0.0nm,0.2s						
KHNJ	Kahnooj	5.73	102	*e*Pn	Pn	14 19 40.6	+2.3
NAZ	Nazwa, Dubai	5.74	137	*e*Pn	Pn	14 19 40.6	+2.2
MSFE	Esma-Masafi	5.78	131	*e*Pn	Pn	14 19 39.3	+0.3
ASUD	Al Ashush, Dub	5.83	142	*e*Pn	Pn	14 19 42.7	+3.1
TPRV	Parvadeh(Tabas	5.89	49	*e*Pn	Pn	14 19 42.9	+2.3
MDH	Madha	5.91	131	*e*Pn	Pn	14 19 41.6	+0.8
HATD	Hatta, Dubai	6.14	135	*e*Pn	Pn	14 19 45.0	+1.0
ASHO	Ashiyiah	6.20	136	*e*Pn	Pn	14 19 46.9	+2.1

*IDC **28** 14:23:17.1±1.1, 15°.98S×75°.36W, h0km, mb3.7/3,*
mb1 4.0/6, mb1mx3.8/27, mbtmp3.9/6, ML3.9/3, MS3.9/4,
Ms1 3.9/4, ms1mx3.4/26, Error ellipse: s-maj=40.6km
s-min=20.5km az=58.0
*ISCJB **28** 14:23:18.6±1.0, 16°.0S±0°.1×75°.4W±0°.2, h25km, MS3.9/2,*
Error ellipse: s-maj=24.8km s-min=8.5km az=149.8
ISC 28 14:23:19.9±0.9,**16°.1S**±0°.1×**75°.4W**±0°.2,**h25**km,**n12**,
σ1°.**88**/**10**,**Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.30	341	Pn	Pn	14 24 21.5	-2.5
	3.2nm,0.3s,baz=162,slow=13,SNR=3.8						
NNA				Sn	Sn	14 25 13.3	-0.1
	23nm,0.3s,baz=253,slow=10,SNR=7.1						
LPAZ	La Paz	7.00	93	Pn	Pn	14 25 03.1	+1.6
	1.4nm,0.3s,baz=282,slow=8.3,SNR=31						
LVC	Limon Verde	8.93	138	Pn	Pn	14 25 28.2	+0.5
	2.4nm,0.3s,baz=321,slow=11,SNR=7.2						
LVC				Sn	Sn	14 27 04.5	-3.2
	0.6nm,0.3s,baz=93,slow=12,SNR=4.6						
ATAH	Atahualpa	9.36	341	LR	LR	14 29 37.3	
	comp=Z,407nm,18.4s,baz=209,slow=41						
CFA	Coronel Fontan	16.77	158	LR	LR	14 32 22.0	
	comp=Z,261nm,21.7s,baz=290,slow=32						
ROSC	El Rosal	20.82	3	LR	LR	14 37 41.0	
	comp=Z,438nm,19.1s,baz=242,slow=42						
PLCA	Paso Flores	24.92	171	P	P	14 28 42.8	+1.6
	0.9nm,0.5s,baz=4.6,slow=11,SNR=3.9						
PCRV	Puerto La Cruz	28.19	23	LR	LR	14 42 08.3	
	comp=Z,320nm,18.2s,slow=40						
TXAR	Lajitas Array	52.76	329	P	P	14 32 34.6	+1.5
	0.3nm,0.8s,baz=150,slow=7.3,SNR=2.4						
TORD	Torodi Ar. Bea	81.56	74	P	P	14 35 36.1	0.0
	2.1nm,0.8s,baz=255,slow=4.6,SNR=8.4						
WRA	Warramunga Arr	133.78	220	PKP	PKiKP	14 42 36.9	0.0
	0.3nm,0.7s,baz=161,slow=1.1,SNR=3.0						
SONM	Songino Array	148.31	358	PKPbc	PKPbc	14 43 04.5	+0.3
	0.2nm,0.3s,baz=357,slow=2.9,SNR=3.1						

*KRNET **28** 14:35:07.0±0.1, 41°.48N×79°.33E, h14km, mb3.3*
*SOME **28** 14:35:07.9, 41°.57N×79°.40E, h20km*
*ISCJB **28** 14:35:08.8±0.7, 41°.49N±0°.04×79°.39E±0°.05, h10km, Error*
ellipse: s-maj=6.0km s-min=3.7km az=137.1
*NNC **28** 14:35:09.1±0.7, 41°.63N×79°.32E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=4.5km s-min=2.8km az=152.0
ISC 28 14:35:08.9±1.3,**41°.58N**±0°.05×**79°.31E**±0°.04,**h10**km,**n69**,
σ1°.**79**/**115**,**41C-9D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.13	324	⇑*i*P	Pg	14 35 29.7	-1.0
	baz=26						
PRZ				⇑*i*S	Sn	14 35 46.3	-0.5
	baz=26						
TARG	Taragay, Kyrgy	1.14	278	⇑*i*P	Pg	14 35 29.3	-1.6
	baz=83						
TARG				⇑*i*S	Sb	14 35 45.6	-0.4
	baz=83						
SHLS	Shalkode	1.58	4	P	Pg	14 35 38.3	-1.0
	7.0nm,0.2s						
SHLS				S	Sg	14 36 00.3	+0.4
	109nm,0.2s						
SHLS	Shalkode	1.58	4	*e*P	Pg	14 35 38.3	-1.0
	7.0nm,0.2s						
SHLS				*e*S	Sg	14 36 00.3	+0.4
	109nm,0.2s						
UZB	Uzynbulak	1.59	352	P	Pb	14 35 37.2	-1.2
	16nm,0.3s						
UZB				S	Sg	14 35 58.5	-1.5
	37nm,0.2s						
UZB	Uzynbulak	1.59	352	*e*P	Pb	14 35 37.2	-1.2
	16nm,0.3s						
UZB				*e*S	Sg	14 35 58.5	-1.5
	37nm,0.2s						
SATY	Saty	1.63	336	P	Pb	14 35 38.4	-0.8
	40nm,0.3s						
SATY				S	Sg	14 36 00.4	-0.9
	282nm,0.2s						
SATY	Saty	1.63	336	*e*P	Pb	14 35 38.4	-0.8
	40nm,0.3s						
SATY				*e*S	Sg	14 36 00.4	-0.9
	282nm,0.2s						
KDJ	Kajisay	1.69	290	⇑*i*P	Pb	14 35 39.3	-0.9
	baz=93						
KDJ				⇑*i*S	Sg	14 36 02.6	-0.6
	baz=93						
ANVS	Anan'yevo	1.72	315	⇑*i*P	Pb	14 35 40.6	-0.1
	baz=17						
ANVS				⇑*i*S	Sg	14 36 04.8	+0.6
	baz=17						
ZHN	Zhinishke	1.72	338	P	Pb	14 35 39.9	-0.8
	46nm,0.2s						
ZHN				S	Sg	14 36 03.6	-0.6
	200nm,0.3s						
ZHN	Zhinishke	1.72	338	*e*P	Pb	14 35 39.9	-0.8
	46nm,0.2s						
ZHN				*e*S	Sg	14 36 03.6	-0.6
	200nm,0.3s						
PDGK	Podgornoye	1.76	4	P	Pb	14 35 39.9	-1.4
	14nm,0.3s						
PDGK				S	Sb	14 36 03.2	-0.4
	48nm,0.5s						
PDGK	Podgornoye	1.76	4	⇓P	Pb	14 35 39.9	-1.4
	20nm,0.4s						
PDGK				⇓S	Sb	14 36 02.7	-0.8
	52nm,0.4s						
KURS	Kuram	2.09	337	Pg	Pb	14 35 46.7	-0.3
	18nm,0.2s						
KURS				Lg	Lg	14 36 14.8	
	94nm,0.4s						
KURS	Kuram	2.09	337	*e*P	Pb	14 35 46.7	-0.3
	18nm,0.2s						
KURS				*e*S	Sg	14 36 14.8	-1.3
	94nm,0.4s						
MDOK	Medeo	2.31	314	Pg	Pb	14 35 50.5	-0.3
	23nm,0.5s						
MDOK				⇓Lg	Lg	14 36 20.8	
	55nm,0.5s						
MDOK	Medeo	2.31	314	Pg	Pb	14 35 50.6	-0.1
	15nm,0.3s						
MDOK				Lg	Lg	14 36 21.6	
	72nm,0.5s						
MDOK	Medeo	2.31	314	*e*P	Pb	14 35 50.6	-0.1
	15nm,0.3s						
MDOK				*e*S	Sg	14 36 21.6	-1.6
	72nm,0.5s						
KOTS	Kotyrbulak	2.32	316	Pg	Pb	14 35 51.3	+0.2
	82nm,0.2s						
KOTS				Lg	Lg	14 36 22.5	
	306nm,0.4s						
KOTS	Kotyrbulak	2.32	316	*e*P	Pb	14 35 51.3	+0.2
	82nm,0.2s						
KOTS				*e*S	Sg	14 36 22.5	-1.1
	306nm,0.4s						
ULHL	Ulahol	2.39	287	⇑*i*P	Pb	14 35 50.0	-2.1
	baz=89						
ULHL				⇑*i*S	Sb	14 36 21.5	-0.2
	baz=89						
AAA	Alma-Ata	2.41	313	Pg	Pg	14 35 53.5	-1.7
	34nm,0.3s						
AAA				Lg	Lg	14 36 26.1	
	62nm,0.2s						
AAA	Alma-Ata	2.41	313	*e*P	Pg	14 35 53.5	-1.7
	34nm,0.3s						
AAA				*e*S	Sg	14 36 26.1	-0.3
	62nm,0.2s						
IZV	Izvestkoviy	2.48	307	Pg	Pb	14 35 53.6	-0.1
	35nm,0.3s						
IZV				Lg	Lg	14 36 26.8	
	167nm,0.8s						
IZV	Izvestkoviy	2.48	307	*e*P	Pb	14 35 53.6	-0.1
	35nm,0.3s						
IZV				*e*S	Sg	14 36 26.8	-1.7
	167nm,0.8s						
NRN	Naryn	2.49	268	⇑*i*P	Pn	14 35 51.4	+1.6
	baz=70						
NRN				⇑*i*S	Sb	14 36 23.6	-1.2
	baz=70						
MNBS	Baschi	2.59	345	Pg	Pb	14 35 54.7	-0.9
	42nm,0.2s						
MNBS				Lg	Lg	14 36 28.7	
	215nm,0.3s						
MNBS	Baschi	2.59	345	*e*P	Pb	14 35 54.7	-0.9
	42nm,0.2s						
MNBS				*e*S	Sb	14 36 28.7	+1.2
	215nm,0.3s						
MTBS	Maitube	2.64	307	Pg	Pb	14 35 56.9	+0.5
	17nm,0.4s						
MTBS				Lg	Lg	14 36 32.3	
	87nm,0.6s						
MTBS	Maitube	2.64	307	*e*P	Pb	14 35 56.9	+0.5
	17nm,0.4s						
MTBS				*e*S	Sg	14 36 32.3	-1.5
	87nm,0.6s						
BOOM	Boomskoye usch	2.67	291	⇑*i*P	Pb	14 35 54.3	-2.7
	baz=93						
BOOM				⇑*i*S	Sb	14 36 28.9	-1.0
	baz=93						
DJR	Jarkent	2.78	7	Pg	Pb	14 35 58.1	-0.6
	26nm,0.4s						
DJR				Lg	Lg	14 36 34.6	
	130nm,0.6s						
DJR	Jarkent	2.78	7	*e*P	Pb	14 35 58.1	-0.6
	26nm,0.4s						
DJR				*e*S	Sg	14 36 34.5	-3.6
	130nm,0.6s						
CHKK	Chushkaly	2.85	324	Pg	Pb	14 36 00.5	+0.6
	30nm,0.3s						
CHKK				Lg	Lg	14 36 38.5	
	450nm,0.3s						
CHKK	Chushkaly	2.85	324	*e*P	Pb	14 36 00.5	+0.6
	30nm,0.3s						
CHKK				*e*S	Sg	14 36 38.5	-1.9
	450nm,0.3s						
ARXS	Arharly	2.85	338	Pg	Pb	14 36 00.2	+0.2
	14nm,0.5s						
ARXS				Lg	Lg	14 36 37.7	
	111nm,0.7s						
ARXS	Arharly	2.85	338	*e*P	Pb	14 36 00.2	+0.2
	14nm,0.5s						
ARXS				*e*S	Sg	14 36 37.7	-2.9
	111nm,0.7s						
KST	Kastek	2.88	302	Pg	Pb	14 36 00.1	-0.5
	13nm,0.3s						
KST				Lg	Lg	14 36 37.5	
	83nm,0.6s						
KST	Kastek	2.88	302	*e*P	Pb	14 36 00.1	-0.5
	13nm,0.3s						
KST				*e*S	Sb	14 36 37.5	+1.5
	83nm,0.6s						
TKM2	Tokmak 2	3.07	297	⇑Pn	Pn	14 35 59.3	+1.6
	3.3nm,0.3s						
TKM2				⇑Lg	Lg	14 36 45.4	
	32nm,0.6s						
TKM2	Tokmak 2	3.07	297	⇑*i*P	Pn	14 35 59.6	+1.9
	baz=99						
TKM2				⇑*i*S	Sb	14 36 37.9	-3.4
	baz=99						
KZA	Kyzart	3.08	281	⇓*i*P	Pn	14 35 59.6	+1.6
	baz=82						
KZA				⇓*i*S	Sn	14 36 37.9	+2.9
	baz=82						
DGS	Degeres	3.10	304	Pg	Pb	14 36 05.3	+1.0
	17nm,0.6s						
DGS				Lg	Lg	14 36 46.5	
	85nm,0.5s						
DGS	Degeres	3.10	304	*e*P	Pb	14 36 05.3	+1.0
	17nm,0.6s						
DGS				*e*S	Sg	14 36 46.5	-2.2
	85nm,0.5s						
KUU	Kurty	3.19	318	Pg	Pb	14 36 06.2	+0.5
	5.4nm,0.4s						
KUU				Lg	Lg	14 36 48.0	
	89nm,0.8s						
KUU	Kurty	3.19	318	*e*P	Pb	14 36 06.2	+0.5
	5.4nm,0.4s						
KUU				*e*S	Sg	14 36 48.0	-3.3
	89nm,0.8s						
KSH	Kashi	3.27	232	⇑*i*P	Pn	14 36 00.8	+0.4
	baz=34						
KSH				⇑*i*S	Sn	14 36 40.5	+1.1
	baz=34						
KBK	Karagaybulak	3.42	290	⇑*i*P	Pn	14 36 04.4	+1.9
	baz=91						
KBK				⇑*i*S	Sn	14 36 46.1	+2.9
	baz=91						
TDK	Taldyqorghan	3.49	349	Pg	Pb	14 36 10.8	0.0
	43nm,0.3s						
TDK				Lg	Lg	14 36 55.8	
	134nm,0.6s						
TDK	Taldyqorghan	3.49	349	*e*P	Pb	14 36 10.8	0.0
	43nm,0.3s						
TDK				*e*S	Sb	14 36 55.8	+2.5
	134nm,0.6s						
UCH	Uchtor	3.64	282	⇑*i*P	Pn	14 36 07.5	+1.7
	baz=83						
UCH				⇑*i*S	Sn	14 36 51.5	+2.5
	baz=83						
CHMS	Chumysh	3.67	294	⇑*i*P	Pn	14 36 07.8	+2.0
	baz=96						
CHMS				⇑*i*S	Sn	14 36 52.1	+3.0
	baz=96						
KAPS	Kapalarasan	3.71	1	Pg	Pb	14 36 14.7	+0.1
	6.9nm,0.5s						
KAPS				Lg	Lg	14 37 02.8	
	30nm,0.6s						
KAPS	Kapalarasan	3.71	1	*e*P	Pb	14 36 14.7	+0.1
	6.9nm,0.5s						
KAPS				*e*S	Sg	14 37 02.9	-5.2
	30nm,0.6s						
AAK	Ala-Archa	3.74	288	⇑Pg	Pg	14 36 18.5	-2.1
	6.1nm,0.8s						
AAK				⇑Lg	Lg	14 37 08.3	
	17nm,0.7s						
AAK	Ala-Archa	3.74	288	⇑*i*P	Pn	14 36 08.8	+2.0
	baz=89						
AAK				⇑*i*S	Sn	14 36 53.7	+2.7
	baz=89						
ARLS	Aral	3.75	276	⇓*i*P	Pn	14 36 08.9	+2.0
	baz=78						
ARLS				⇓*i*S	Sn	14 36 53.4	+2.2
	baz=78						
SGDS	Sogindy	3.94	300	Pg	Pb	14 36 19.0	+0.6
	3.1nm,0.4s						
SGDS				Lg	Lg	14 37 10.3	
	18nm,0.6s						
USP	Ospenovka	3.94	297	⇑*e*P	Pn	14 36 11.9	+2.4
	baz=98						
USP				⇑*i*S	Sn	14 36 58.9	+3.0
	baz=98						
AML	Almayashu	4.23	279	⇑*e*P	Pn	14 36 15.6	+1.8
	baz=81						
AML				⇑*i*S	Sn	14 37 05.5	+2.0
	baz=81						
EKS2	Erkin-Say	4.26	287	⇑*e*P	Pn	14 36 15.9	+2.0
	baz=88						
EKS2				⇑*i*S	Sn	14 37 06.2	+2.5
	baz=88						
MRKS	Merke	4.67	287	Pg	Pb	14 36 34.0	+3.0
	2.4nm,0.4s						
MRKS				Lg	Lg	14 37 36.0	
	6.1nm,0.6s						
MRKS	Merke	4.67	287	*e*P	Pb	14 36 34.0	+3.0
	2.4nm,0.4s						
MRKS				*e*S	Sg	14 37 36.0	-2.9
	6.1nm,0.6s						
BTLS	Baital	5.17	314	Pg	Pb	14 36 42.2	+2.7
	2.7nm,0.5s						
BTLS				Lg	Lg	14 37 49.6	
	5.3nm,0.6s						
BTLS	Baital	5.17	314	*e*P	Pb	14 36 42.2	+2.7
	2.7nm,0.5s						
BTLS				*e*S	Sg	14 37 49.6	-5.3
	5.3nm,0.6s						
MK31	Makanchi Array	5.64	21	⇓Pn	Pn	14 36 33.8	+0.9
	0.2nm,0.2s,baz=201,slow=13,SNR=33						
MK31				⇑Pg	Pb	14 36 50.4	+2.9
	0.6nm,0.3s,baz=216,slow=18,SNR=11						
MK31				⇓Sn	Sn	14 37 38.5	+0.8
	6.1nm,0.9s,baz=197,slow=22,SNR=5.3						
MK31				⇑Lg	Lg	14 38 06.1	
	1.6

NTC				eS	Sb	14 39 46.2	-0.1
	baz=270						
TIPB	**Shuangxi**	**0.50 284**		P	Pg	14 39 39.1	-0.1
	baz=285						
TIPB				S	Sg	14 39 45.8	-0.2
	baz=285						
TWC	**Suao**	**0.53 243**	i	P	Pb	14 39 38.9	-1.2
	baz=239						
TWC				S	Sb	14 39 45.8	-1.7
	baz=239						
ILA	**Ilan**	**0.57 261**	eS		Sg	14 39 48.8	+0.9
	baz=247						
NWF	**Wu-fen Shan**	**0.57 293**		P	Pb	14 39 40.9	-0.1
	baz=294						
NWF				S	Sg	14 39 48.8	+0.7
	baz=294						
WFSB	**Wu-fen Shan**	**0.57 293**		P	Pb	14 39 40.8	-0.1
	baz=294						
WFSB				S	Sg	14 39 48.9	+0.8
	baz=294						
TWE	**Neicheng**	**0.65 259**	i	P	Pb	14 39 41.6	-0.5
	baz=257						
TWE				S	Sb	14 39 50.7	-0.3
	baz=257						
JYNG	**Yonaguni jima**	**0.66 127**		P	Pb	14 39 42.3	-0.1
JYNG				S	Sb	14 39 51.7	+0.3
SLBB	**Yuanshan**	**0.67 262**		P	Pb	14 39 41.7	-0.8
	baz=251						
SLBB				S	Sb	14 39 50.9	-0.8
	baz=251						
NANB	**Nanao**	**0.70 233**	i	P	Pb	14 39 42.2	-0.9
	baz=230						
NANB				S	Sb	14 39 50.8	-1.7
	baz=230						
YOJ	**Yonaguni jima**	**0.70 123**		P	Pb	14 39 43.0	-0.1
YOJ				S	Sb	14 39 52.3	-0.4
ENA	**Nanau**	**0.71 233**	i	P	Pb	14 39 42.2	-1.0
	baz=230						
ENA				S	Sb	14 39 51.4	-1.4
	baz=230						
TWA	**Mucha**	**0.72 280**		P	Pb	14 39 43.1	-0.3
	baz=281						
TWA				S	Sg	14 39 53.4	+0.6
	baz=281						
ENTT	**Nioudou**	**0.76 254**		P	Pb	14 39 43.8	-0.2
	baz=252						
ENTT				S	Sg	14 39 54.5	+0.6
	baz=252						
NHDH	**Xindian Distri**	**0.77 278**		P	Pb	14 39 44.2	-0.1
	baz=279						
NHDH				S	Sg	14 39 54.8	+0.4
	baz=279						
YM01	**YM01**	**0.78 292**		P	Pb	14 39 44.1	-0.3
	baz=293						
YM01				S	Sg	14 39 55.1	+0.5
	baz=293						
YM08	**YM08**	**0.78 296**		P	Pb	14 39 43.7	-0.7
	baz=297						
YM08				S	Sg	14 39 55.2	+0.7
	baz=297						
YM11	**YM11**	**0.78 294**		P	Pb	14 39 44.3	-0.2
	baz=295						
NWLT	**Wulai**	**0.79 265**	i	P	Pb	14 39 44.6	+0.1
	baz=264						
NWLT				S	Sb	14 39 54.5	-0.5
	baz=264						
YM10	**YM10**	**0.79 293**		P	Pb	14 39 44.4	-0.2
	baz=294						
YM10				eS	Sg	14 39 55.2	+0.2
	baz=294						
TWY	**Chenhua**	**0.81 301**		P	Pg	14 39 45.5	+0.6
	baz=303						
TWY				S	Sg	14 39 56.6	+1.0
	baz=303						
NDT	**Datong Townshi**	**0.81 252**		P	Pb	14 39 44.9	-0.1
	baz=251						
NDT				S	Sg	14 39 56.0	+0.3
	baz=251						
PCYT	**Pengchaiyu**	**0.82 341**	eP		Pb	14 39 44.8	-0.3
	baz=345						
ANP	**Anpu**	**0.83 294**		P	Pb	14 39 44.8	-0.6
	baz=295						
ANP				eS	Sb	14 39 56.0	-0.5
	baz=295						
TWS1	**Kuangyinshan**	**0.89 286**	eS		Sn	14 39 59.1	-0.8
	baz=287						
YHNB	**Yeheng**	**0.92 259**		P	Pb	14 39 46.5	-0.3
	baz=258						
YHNB				eS	Sg	14 39 59.3	+0.3
	baz=258						
NSK	**Sanguang**	**0.93 259**		P	Pb	14 39 47.0	-0.1
	baz=258						
NSK				S	Sb	14 39 59.4	+0.1
	baz=258						
NACB	**Ninganchiao**	**0.97 226**		P	Pb	14 39 47.3	-0.5
	baz=223						
NACB				S	Sb	14 39 59.6	-0.8
	baz=223						
NNSB	**Datong**	**0.99 245**		P	Pb	14 39 47.5	-0.6
	baz=232						
NNSB				S	Sb	14 40 01.2	+0.3
	baz=232						
NNSH	**Datong**	**0.99 245**		P	Pb	14 39 47.6	-0.5
	baz=234						
NNSH				S	Sb	14 40 00.2	-0.7
	baz=234						
NNS	**Nan Shan**	**0.99 246**		P	Pb	14 39 47.7	-0.4
	baz=232						
NNS				S	Sg	14 40 01.5	+0.1
	baz=232						
ETLH	**Xiulin Townshi**	**1.03 232**		P	Pb	14 39 48.8	0.0
	baz=229						
ETLH				S	Sb	14 40 02.3	+0.2
	baz=229						
TWD	**Chiawan**	**1.04 222**	eS		Sb	14 40 02.4	+0.1
	baz=229						
WHF	**Hehuan Shan**	**1.22 235**	i	P	Pn	14 39 52.1	-0.1
	baz=233						
WHF				S	Sb	14 40 07.4	-0.6
	baz=233						
LIOB	**Emei**	**1.24 261**		P	Pn	14 39 51.9	-0.1
	baz=260						
LIOB				eS	Sn	14 40 08.9	+0.4
	baz=260						
TDCB	**Techi**	**1.25 242**	eP		Pn	14 39 52.2	0.0
	baz=230						
TDCB				eS	Sn	14 40 08.7	-0.1
	baz=230						
NSTT	**Nanjuang**	**1.26 260**		P	Pn	14 39 52.0	-0.2
	baz=259						
NSTT				eS	Sn	14 40 09.1	+0.2
	baz=259						
ESL	**Shilin**	**1.34 220**		P	Pb	14 39 54.5	+0.5
	baz=235						
ESL				S	Sg	14 40 12.0	-0.3
	baz=235						
CHGB	**Renai**	**1.34 234**		P	Pb	14 39 54.3	+0.2
	baz=232						
CHGB				S	Sg	14 40 12.2	-0.3
	baz=232						
IRIF	**Iriomote-Funau**	**1.35 112**		P	Pn	14 39 53.1	-0.3
WHP	**Taichung City**	**1.41 246**		P	Pb	14 39 55.6	+0.4
	baz=245						
WHP				eS	Sg	14 40 14.4	-0.4
	baz=245						
TWQ1	**Liyutan**	**1.53 251**	eS		Sg	14 40 17.8	-0.8
	baz=269						
DPDB	**Guoxing**	**1.54 238**		P	Pg	14 39 58.7	-0.2
	baz=228						
DPDB				eS	Sb	14 40 17.6	+0.7
	baz=228						
VWDT	**VWDT**	**1.56 226**		P	Pb	14 39 58.2	+0.4
	baz=229						
VWDT				eS	Sb	14 40 18.1	+0.7
	baz=229						
HGSD	**Ruisui**	**1.60 213**	eP		Pb	14 39 58.2	-0.3
	baz=195						
JKRS	**Kuro-shima**	**1.62 112**		P	Pn	14 39 56.9	-0.3
JKRS				S	Sn	14 40 17.5	-0.3
EHY	**Hungye**	**1.64 216**	eP		Pn	14 39 58.2	+0.6
	baz=213						
SMLT	**Sun Moon Lake**	**1.65 234**	eP		Pb	14 39 59.8	+0.5
	baz=233						
SMLT				eS	Sb	14 40 21.4	+1.4
	baz=233						
SSLB	**Suanglung**	**1.67 231**		P	Pb	14 39 59.6	+0.1
	baz=237						
SSLB				eS	Sb	14 40 20.8	+0.3
	baz=237						
YULB	**Yu-li**	**1.75 214**	eP		Pn	14 39 59.5	+0.5
	baz=212						
WHYT	**Xinyi Township**	**1.80 230**		P	Pb	14 40 02.2	+0.4
	baz=242						
WHYT				S	Sb	14 40 25.8	+1.6
	baz=242						
WJS	**Zhushan**	**1.81 236**		S	Sg	14 40 28.0	+0.5
	baz=234						
FULB	**Fuli**	**1.92 211**	eP		Pn	14 40 02.6	+1.3
	baz=192						
CHN5	**Tsauling**	**1.98 231**		P	Pb	14 40 05.4	+0.4
	baz=229						
CHN5				eS	Sb	14 40 31.2	+1.6
	baz=229						
ELDTW	**Lidau**	**2.06 217**		P	Pn	14 40 04.4	+1.0
	baz=200						
CHN4	**Tsaushan**	**2.20 228**		P	Pb	14 40 08.2	-0.6
	baz=225						
CHN4				eS	Sb	14 40 37.3	+1.5
	baz=225						
TPUB	**Ta-pu**	**2.21 226**	eP		Pb	14 40 08.1	-0.8
	baz=225						
TPUB				eS	Sb	14 40 37.0	+0.8
	baz=225						
WTP	**Ta-pu**	**2.26 225**	eP		Pb	14 40 08.9	-0.8
	baz=206						
WTP				eS	Sb	14 40 38.0	+0.4
	baz=206						
TWK	**Hsinying**	**2.33 228**	eP		Pb	14 40 09.3	-1.6
	baz=225						
TWK				S	Sb	14 40 40.0	+0.5
	baz=225						
SLGT	**Liugui**	**2.43 221**	eP		Pb	14 40 11.3	-1.3
	baz=218						
SLGT				eS	Sb	14 40 41.5	-0.8
	baz=218						
MATB	**Ma-tsu**	**2.54 301**	eS		Sn	14 40 41.2	+0.6
	baz=300						
EAST	**Anshuo**	**2.82 210**	eP		Pn	14 40 14.7	+0.9
	baz=195						
EAST				eS	Sn	14 40 46.8	-0.8
	baz=195						

*ISCJB **28** 14:54:30.4±0.3, 29°.21N±0°.02×51°.21E±0°.04, h10km, mb3.8/10, Error ellipse: s-maj=5.3km s-min=2.7km az=151.9*
*IDC **28** 14:54:30.3±1.5, 29°.29N×51°.18E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.7/45, mbtmp3.9/12, ML3.3/2, Error ellipse: s-maj=29.5km s-min=23.5km az=177.0*
*TEH **28** 14:54:31.4, 29°.33N×51°.30E, h12km, ML3.8*
*THR **28** 14:54:32.2, 29°.33N×51°.31E, h14km, ML3.7*
*OMAN **28** 14:54:37.9±0.8, 29°.01N×51°.20E, h120km±38km, ml4.1/1, Error ellipse: s-maj=37.5km s-min=15.2km az=241.0*
ISC 28 14:54:31.0±0.6, 29°.28N±0°.04×51°.26E±0°.05, h10km, n81, σ2°.37/92, mb3.8/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.71**	**46**	ePg	**Pg**	**14 54 43.7**	**-1.1**
IKAZ				IAMB	IAmb	14 54 58.4	
	comp=Z,15μm,0.4s						
SHI	**Shiraz**	**1.15**	**72**	ePg	**Pb**	**14 54 52.8**	**-0.4**
SHI				eSg	**Sn**	**14 55 09.3**	**-0.1**
SHI				IAMB	IAmb	14 55 19.1	
	comp=Z,14μm,0.6s						
KLNJ	**Kolanjah**	**1.74**	**10**	ePn	**Pb**	**14 55 03.2**	**-0.2**
JHRM	**Jahrom**	**2.18**	**110**	ePn	**Pb**	**14 55 09.5**	**-1.1**
LMD1	**Lamerd**	**2.57**	**139**	ePn	**Pb**	**14 55 16.5**	**-0.7**
IBRJ	**Brojen**	**2.62**	**0**	ePn	**Pb**	**14 55 16.5**	**-1.7**
IRAM	**Ramesheh**	**2.70**	**21**	ePn	**Pb**	**14 55 16.6**	**-3.0**
JHBN	**Jahan bin**	**2.98**	**350**	ePn	**Pn**	**14 55 20.5**	**+1.8**
ROKH	**ROKH**	**3.06**	**357**	ePn	**Pn**	**14 55 21.9**	**+2.2**
IGAR	**Gharneh**	**3.18**	**12**	ePn	**Pn**	**14 55 23.6**	**+2.2**
ISAD	**Sadrabad**	**3.35**	**38**	ePn	**Pn**	**14 55 26.4**	**+2.6**
IPIR	**Pirpir**	**3.40**	**355**	ePn	**Pn**	**14 55 26.8**	**+2.3**
IMEH	**Mehriz**	**3.58**	**53**	ePn	**Pb**	**14 55 30.5**	**-4.1**
ICHK	**Chekchek**	**4.01**	**42**	ePn	**Pn**	**14 55 35.1**	**+2.4**
IKLH	**Kolahrood**	**4.03**	**4**	ePn	**Pn**	**14 55 35.0**	**+1.9**
YZKH	**Yazd**	**4.22**	**42**	ePn	**Pn**	**14 55 37.7**	**+2.1**
YZKH	**Yazd**	**4.22**	**42**	ePn	**Pn**	**14 55 37.7**	**+2.1**
IBAF	**Bafgh**	**4.38**	**57**	ePn	**Pn**	**14 55 40.2**	**+2.5**
ANAR	**Anarak**	**4.43**	**28**	ePn	**Pn**	**14 55 39.7**	**+1.2**
QAM	**Ghamsar**	**4.46**	**2**	ePn	**Pn**	**14 55 41.6**	**+2.6**
KHMZ	**Khomeyn**	**4.58**	**346**	ePn	**Pn**	**14 55 43.3**	**+2.7**
-KHMZ	**Khomeyn**	**4.58**	**346**	eSg	**Sg**	**14 56 53.1**	**-4.9**
KHGB	**Koh Gabri**	**4.67**	**75**	ePn	**Pn**	**14 55 43.7**	**+1.9**
KHGB				IAMB	IAmb	14 57 03.0	
	comp=Z,0.0nm,1.0s						
GENO	**Geno**	**4.72**	**112**	ePn	**Pn**	**14 55 44.3**	**+1.8**
GENO				IAMB	IAmb	14 56 54.9	
	comp=Z,0.0nm,0.5s						
KRSH	**Karshahi**	**4.73**	**9**	ePn	**Pn**	**14 55 43.9**	**+1.3**
NGRK	**Negar Kerman**	**4.79**	**84**	ePn	**Pn**	**14 55 46.4**	**+2.8**
NGRK				IAMB	IAmb	14 57 14.0	
	comp=Z,0.0nm,0.7s						
BMDN	**Meydan**	**4.84**	**335**	ePn	**Pn**	**14 55 44.5**	**+0.3**
KRBR	**Kerman**	**4.84**	**80**	eAML	AML	14 57 10.2	
	comp=E,56nm,0.6s						
KRBR	**Kerman**	**4.84**	**80**	eAML	AML	14 57 12.5	
	comp=N,57nm,0.8s						
IKMR	**Kamar-syah**	**4.88**	**331**	ePn	**Pn**	**14 55 46.4**	**+1.9**
BDRS	**Dareh Seyedi**	**5.08**	**337**	ePn	**Pn**	**14 55 49.2**	**+1.7**
IKFM	**Kafar-mosalman**	**5.13**	**326**	ePn	**Pn**	**14 55 50.5**	**+2.5**
IDOB	**Doab**	**5.20**	**330**	ePn	**Pn**	**14 55 49.8**	**+0.7**
NIAN	**Nian**	**5.21**	**108**	ePn	**Pn**	**14 55 50.3**	**+1.3**
NIAN				IAMB	IAmb	14 56 54.6	
	comp=Z,0.0nm,0.2s						
ASAO	**Ashtian**	**5.35**	**349**	ePn	**Pn**	**14 55 53.1**	**+1.9**
ASAO	**Ashtian**	**5.35**	**349**	ePn	**Pn**	**14 55 53.1**	**+1.9**
CHMN	**Cheshme madani**	**5.50**	**82**	ePn	**Pn**	**14 55 56.0**	**+2.6**
CHMN				IAMB	IAmb	14 57 50.1	
	comp=Z,0.0nm,0.9s						
BANOM	**Banah**	**5.59**	**126**	P	**Pn**	**14 55 56.1**	**+1.8**
	SNR=19						
BANOM				S	**Sn**	**14 57 00.2**	**+1.6**
NAZ	**Nazwa, Dubai**	**5.81**	**136**	ePn	**Pn**	**14 55 59.4**	**+2.1**
KHNJ	**Kahnooj**	**5.82**	**102**	ePn	**Pn**	**14 55 59.6**	**+2.1**
MSFE	**Esma-Masafi**	**5.86**	**131**	ePn	**Pn**	**14 55 59.8**	**+1.8**
ASUD	**Al Ashush, Dub**	**5.89**	**141**	P	**Pn**	**14 56 02.3**	**+3.8**
	SNR=19						
ASUD				S	**Sn**	**14 57 07.7**	**+1.6**
FAQ	**Al Faqa, Dubai**	**5.95**	**138**	S	**Sn**	**14 57 07.9**	**+0.5**
MDH	**Madha**	**5.99**	**130**	P	**Pn**	**14 56 02.0**	**+2.2**
MDH	**Madha**	**5.99**	**130**	ePn	**Pn**	**14 56 03.5**	**+3.7**
UOSS	**Minazif**	**6.17**	**133**	P	**Pn**	**14 56 04.4**	**+2.0**
	SNR=8.4						
HATD	**Hatta, Dubai**	**6.21**	**134**	P	**Pn**	**14 56 05.6**	**+2.7**
HATD				S	**Sn**	**14 57 14.6**	**+0.6**
HATD	**Hatta, Dubai**	**6.21**	**134**	ePn	**Pn**	**14 56 06.0**	**+3.1**
ASHO	**Ashiyiah**	**6.27**	**136**	P	**Pn**	**14 56 06.0**	**+2.3**
	SNR=20						
ASHO				S	**Sn**	**14 57 14.5**	**-0.9**
ASHO	**Ashiyiah**	**6.27**	**136**	ePn	**Pn**	**14 56 05.6**	**+1.9**
ALNE	**Al Ain**	**6.58**	**141**	ePn	**Pn**	**14 56 10.3**	**+2.4**
TABS	**Tabas**	**6.63**	**48**	ePn	**Pn**	**14 56 10.6**	**+1.9**
TABS	**Tabas**	**6.63**	**48**	ePn	**Pn**	**14 56 10.6**	**+1.9**
ARQ	**Araqi**	**7.58**	**140**	P	**Pn**	**14 56 24.1**	**+2.5**
	SNR=6.2						
ARQ				S	**Sn**	**14 57 46.7**	**-0.8**
HOQ	**Hoqain**	**7.85**	**135**	P	**Pn**	**14 56 27.7**	**+2.3**
HOQ				S	**Sn**	**14 57 52.7**	**-1.7**
BSY	**Bisya**	**8.42**	**139**	P	**Pn**	**14 56 35.2**	**+2.0**
BSY				S	**Sn**	**14 58 05.7**	**-2.8**
SMDO	**Samad**	**8.70**	**134**	P	**Pn**	**14 56 39.2**	**+2.2**
SMDO				S	**Sn**	**14 58 13.0**	**-2.3**
WSAR	**Wadi Sarin**	**8.95**	**131**	P	**Pn**	**14 56 42.9**	**+2.5**
WSAR	**Wadi Sarin**	**8.95**	**131**	Pn	**Pn**	**14 56 41.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=316,slow=8.9,SNR=6.0						
WSAR				Sn	**Sn**	**14 58 17.7**	**-3.6**
	comp=Z,1.5nm,0.3s,baz=316,slow=22,SNR=4.9						
JMDO	**Jabal Madar**	**9.24**	**137**	P	**Pn**	**14 56 47.5**	**+3.0**
DQM	**DQM**	**10.93**	**147**	P	**Pn**	**14 57 08.7**	**+1.2**
DQM				S	**Sn**	**14 59 04.3**	**-5.5**
WHFO	**Wadi Hawf**	**11.54**	**168**	P	**Pn**	**14 57 16.3**	**+0.2**
	SNR=24						
WHFO				S	Sn	14 59 16.4	-8.7
DMTO	**DMTO**	**12.00**	**163**	P	**Pn**	**14 57 22.7**	**+0.5**
	SNR=14						
DMTO				S	**Sn**	**14 59 28.7**	**-7.5**
ABTO	**Aybut**	**12.02**	**171**	P	**Pn**	**14 57 24.8**	**+2.2**
ABTO				S	**Sn**	**14 59 29.7**	**-7.2**
RBK	**Rabkut**	**12.03**	**166**	P	**Pn**	**14 57 23.3**	**+0.6**
BRTR	**Keskin Array B**	**17.84**	**310**	P	**P**	**14 58 40.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=122,slow=11,SNR=3.8						
AKTO	**Aktyubinsk**	**21.73**	**12**	P	**P**	**14 59 22.9**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=202,slow=11,SNR=19						
AKASG	**Malin Array Be**	**27.06**	**328**	P	**P**	**15 00 14.1**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=136,slow=8.2,SNR=4.7						
BVAR	**Borovoye Array**	**27.58**	**25**	P	**P**	**15 00 19.2**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=267,slow=8.7,SNR=2.9						
DANN	**Dangsing**	**28.45**	**84**	eP	**P**	**15 00 27.8**	**+1.2**
	comp=Z,32nm,0.8s						
KURBB	**Kurchatov Arra**	**29.57**	**36**	P	**P**	**15 00 37.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=235,slow=9.4,SNR=7.1						
MKAR	**Makanchi Array**	**29.79**	**45**	P	**P**	**15 00 39.9**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=254,slow=8.7,SNR=3.5						
PKI	**Pulchoki**	**30.02**	**85**	eP	**P**	**15 00 39.3**	**-1.3**
	comp=Z,6.1nm,0.7s						
GUN	**Gumba**	**30.37**	**84**	eP	**P**	**15 00 44.0**	**+0.3**
JIRN	**Jiri**	**30.69**	**84**	eP	**P**	**15 00 46.7**	**+0.2**
	comp=Z,8.5nm,0.4s						
RAMN	**Ramite**	**31.19**	**86**	eP	**P**	**15 00 47.5**	**-3.3**
FINES	**FINESS Array B**	**36.23**	**340**	P	**P**	**15 01 34.1**	**+0.2**
	comp=Z,9.1nm,1.1s,baz=146,slow=7.7,SNR=3.2						
NOA	**NORSAR Array B**	**41.35**	**332**	P	**P**	**15 02 16.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=126,slow=8.3,SNR=3.4						
ARCES	**ARCESS Array B**	**42.92**	**347**	P	**P**	**15 02 30.1**	**+0.5**
	comp=Z,5.9nm,1.0s,baz=147,slow=7.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**48.55**	**262**	P	**P**	**15 03 15.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=48,slow=7.3,SNR=5.1						
ILAR	**Eielson Array**	**85.19**	**8**	P	**P**	**15 07 07.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=321,slow=3.9,SNR=6.1						

*IDC **28** 15:07:29.0±11.0, 1°.88N×126°.98E, h109km±104km, mb3.5/4, mb1 3.7/4, mb1mx3.1/39, mbtmp3.9/4, Error ellipse: s-maj=158.7km s-min=22.4km az=64.0*
*ISCJB **28** 15:07:30.4±0.7, 2°.37N±0°.07×128°.09E±0°.08, h150km, Error ellipse: s-maj=12.3km s-min=7.0km az=142.5*
*NEIC **28** 15:07:32.1±0.8, 2°.4N±0°.1×128°.1E±0°.2, h156km±13km, mb4.7/8*
*DJA **28** 15:07:32.5±0.6, 2°N±6°×12°8E±°, h125km±6km, M4.0/6, mb4.1/2, MLv3.9/6*
ISC 28 15:07:31.9±0.9, 2°.35N±0°.09×128°.1E±0°.1, h150km, n20, σ0°.65/22, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.71**	**204**	P	**Pn**	**15 08 05.2**	**+1.4**
TNTI	**Ternate**	**1.71**	**204**		**Pn**	**15 08 04.5**	**+0.7**
SGSI	**Sangihe**	**2.85**	**298**	P	**Pn**	**15 08 17.6**	**+0.2**
SGSI				S	**Sn**	**15 08 53.1**	**+0.5**
SANI	**Sanana**	**4.84**	**205**	P	**Pn**	**15 08 43.8**	**+0.6**
SANI				S	**Sn**	**15 09 37.7**	**-1.0**
FAKI	**Fak Fak**	**6.70**	**141**	Pn	**Pn**	**15 09 08.6**	**+0.6**
WSI	**Waingapu**	**14.22**	**213**	P	P	15 11 00.0	+10
MTN	**Manton Dam**	**15.40**	**169**		**Pn**	**15 11 01.2**	**-0.1**
MTN				IAmb	IAmb	15 11 10.5	
	comp=Z,19nm,1.1s						
STKI	**Sintang**	**16.73**	**262**	P	**P**	**15 11 17.1**	**-0.3**
KNRA	**Kununurra**	**17.92**	**178**		**P**	**15 11 31.2**	**+0.8**
KNRA				IAmb	IAmb	15 11 56.7	
	comp=Z,73nm,2.0s						
WB0	**Warramunga Arr**	**22.84**	**164**		**P**	**15 12 22.1**	**-0.3**
WB0				IAmb	IAmb	15 12 56.6	
	comp=Z,42nm,2.0s						
WRA	**Warramunga Arr**	**23.00**	**165**	P	**P**	**15 12 23.7**	**0.0**
	comp=Z,1.4nm,0.5s,baz=339,slow=11,SNR=22						
WRA	**Warramunga Arr**	**23.00**	**165**	P	**P**	**15 12 22.4**	**-1.3**
ASAR	**Alice Springs**	**26.48**	**168**	P	**P**	**15 12 55.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=347,slow=7.7,SNR=11						
ASAR				PcP	**PcP**	**15 16 16.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=355,slow=2.2,SNR=11						
ENH	**Enshi**	**32.88**	**329**	P	**P**	**15 13 51.1**	**-0.7**
BBOO	**Buckleboo**	**35.78**	**168**	P	**P**	**15 14 16.8**	**+0.1**
BBOO				IAmb	IAmb	15 14 57.5	
	comp=Z,42nm,1.6s						
STKA	**Stephens Creek**	**36.38**	**160**	P	**P**	**15 14 22.0**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=340,slow=7.4,SNR=18						
STKA	**Stephens Creek**	**36.38**	**160**	P	**P**	**15 14 21.8**	**0.0**
ARMA	**Armidale**	**39.59**	**147**	P	**P**	**15 14 48.4**	**-0.5**
ARMA				IAmb	IAmb	15 16 12.5	
	comp=Z,67nm,1.8s						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**15 17 19.0**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=118,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**15 17 18.8**	**0.0**

*ISCJB **28** 15:13:46.4±0.3, 34°.39N±0°.05×137°.21E±0°.04, h348km±2km, mb3.6/18, Error ellipse: s-maj=8.9km s-min=4.8km az=162.1*
*IDC **28** 15:13:46.9±0.7, 34°.31N×137°.13E, h335km±6km, mb3.4/18, mb1 3.6/25, mb1mx3.3/67, mbtmp4.1/25, Error ellipse: s-maj=11.1km s-min=9.5km az=128.0*
*JMA **28** 15:13:46.4±0.1, 34°.39N×137°.24E, h352km±2km, M3.7*
ISC 28 15:13:47.5±0.6, 34°.39N±0°.07×137°.19E±0°.05, h341km±5km, n66, σ0°.85/84, mb3.6/18, 7C-9D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.24**	**351**	↓P	**Pn**	**15 14 31.3**	**+1.1**
JAA				S	**S**	**15 15 05.6**	**+1.1**
JIE	**Ise**	**0.40**	**270**	↑P	**Pn**	**15 14 31.2**	**+0.7**
JIE				S	**S**	**15 15 04.8**	**-0.2**
HMMJ	**Hamamatsu 2**	**0.64**	**43**	↓P	**Pn**	**15 14 31.6**	**+0.6**
HMMJ				S	**S**	**15 15 06.1**	**+0.2**
JKN2	**Miekihoku**	**0.77**	**259**	↑P	**Pn**	**15 14 31.9**	**+0.5**
JKN2				S	**S**	**15 15 06.4**	**-0.2**
TTO1	**TONANKAI O.B.S**	**0.84**	**204**	↑P	**Pn**	**15 14 32.4**	**+1.0**
JAO	**Obara**	**0.87**	**4**	↓P	**Pn**	**15 14 32.4**	**+0.6**
JAO				S	**S**	**15 15 07.8**	**+0.5**
JEG	**Eigenji**	**0.99**	**319**	eS	**S**	**15 15 08.2**	**+0.1**
JNY	**Yasuok**	**1.11**	**30**	↓P	**Pn**	**15 14 33.3**	**+0.5**
JNY				S	**S**	**15 15 09.6**	**+0.5**
JYTA	**Yamagatataniai**	**1.25**	**343**	↓P	**Pn**	**15 14 33.9**	**+0.6**
JYTA				S	**S**	**15 15 09.1**	**-1.0**
JWY	**Kouya**	**1.33**	**263**	↑P	**Pn**	**15 14 34.4**	**+0.5**
JWY				S	**S**	**15 15 10.4**	**-0.7**
JTNC	**Tanabenakahech**	**1.43**	**247**	↑P	**Pn**	**15 14 34.8**	**+0.4**
JTNC				S	**S**	**15 15 11.6**	**-0.3**
JYN	**Shimob**

baz=142,slow=10,SNR=17
KLR Kul'dur 15.36 346 P **P 15 17 05.6 -0.6**
1.4nm,0.3s,baz=165,slow=9.8,SNR=32
PETK Petropavlovsk- 23.71 32 P **P 15 18 30.8 +1.2**
8.3nm,0.9s,baz=251,slow=5.4,SNR=7.0
SONM Songino Array 26.61 310 P **P 15 18 56.4 +0.7**
1.5nm,0.6s,baz=107,slow=8.4,SNR=12
CMAR Chiang Mai Arr 37.50 255 P **P 15 20 28.9 -0.9**
0.8nm,0.3s,baz=49,slow=8.0,SNR=4.7
MKAR Makanchi Array 42.67 304 P **P 15 21 11.4 -0.2**
1.6nm,0.5s,baz=85,slow=9.7,SNR=18
TAPN Taplejung 42.71 274 *e*P **P 15 21 11.2 -1.3**
9.7nm,0.4s
ODAN Odare 43.16 274 *e*P **P 15 21 14.7 -1.3**
7.4nm,0.4s
RAMN Ramite 43.77 274 *e*P **P 15 21 19.7 -1.2**
6.0nm,0.3s
JIRN Jiri 43.84 276 *e*P **P 15 21 21.0 -0.5**
66nm,0.3s
GUN Gumba 44.01 276 *e*P **P 15 21 21.9 -0.9**
17nm,0.6s
PKI Pulchoki 44.52 276 *e*P **P 15 21 25.4 -1.4**
9.6nm,0.5s
PKIN Phulchoki 44.53 276 *e*P **P 15 21 25.4 -1.4**
8.2nm,0.4s
KKN Kakani 44.54 276 *e*P **P 15 21 25.8 -1.1**
19nm,0.6s
KURBB Kurchatov Arra 44.98 310 P **P 15 21 28.9 -0.7**
1.5nm,0.6s,baz=88,slow=6.9,SNR=16
GKN Gorkha 44.99 277 *e*P **P 15 21 29.2 -1.1**
11nm,0.3s
DANN Dangsing 45.58 278 *e*P **P 15 21 34.5 -0.6**
45nm,0.5s
KOLN Koldanda 45.93 277 *e*P **P 15 21 36.6 -1.1**
8.9nm,0.6s
AAK Ala-Archa 48.75 299 P **P 15 21 58.4 -0.5**
0.8nm,0.6s,baz=105,slow=5.1,SNR=5.5
BVAR Borovoye Array 49.84 313 P **P 15 22 06.9 +0.2**
0.3nm,0.3s,baz=105,slow=9.4,SNR=5.5
KDAK Kodiak Island 51.34 40 P **P 15 22 18.4 +0.7**
6.3nm,0.5s,baz=210,slow=1.5,SNR=7.9
ILAR Eielson Array 53.54 31 P **P 15 22 34.0 +0.3**
1.2nm,0.7s,baz=272,slow=5.4,SNR=14
WRA Warramunga Arr 54.10 183 P **P 15 22 37.0 -1.2**
1.6nm,0.3s,baz=0.1,slow=7.5,SNR=29
ASAR Alice Springs 57.82 184 P **P 15 23 03.3 -1.0**
0.6nm,0.3s,baz=357,slow=5.2,SNR=40
INK Inuvik 58.28 26 P **P 15 23 07.7 +1.0**
1.9nm,0.5s,baz=304,slow=6.2,SNR=17
RES Resolute Bay 65.98 13 P **P 15 23 57.9 +0.5**
2.3nm,0.6s,baz=297,slow=6.6,SNR=9.4
KBZ Khabaz 69.97 310 P **P 15 24 23.4 +0.8**
1.9nm,0.9s,baz=151,slow=2.8,SNR=3.8
YBH Yreka Blue Hor 74.67 50 P **P 15 24 51.9 +1.6**
1.9nm,0.9s,baz=138,slow=2.5,SNR=3.5
NVAR Mina Array Bea 79.32 51 P **P 15 25 17.0 +0.8**
0.6nm,0.6s,baz=297,slow=5.5,SNR=5.5
PDAR Pinedale Array 81.95 43 P **P 15 25 30.3 +0.3**
0.8nm,0.7s,baz=296,slow=3.6,SNR=7.4
TXAR Lajitas Array 94.45 50 P **P 15 26 30.3 +0.6**
0.3nm,0.7s,baz=288,slow=4.5,SNR=4.5

IDC 28 15:13:52.1±1.1,21°.26N×111°.36E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.3/56,mbtmp3.5/6,Error ellipse: s-maj=103.9km s-min=18.7km az=63.0,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.81**	**353**	P	P	15 19 34.5	+0.4
0.3nm,0.5s,baz=154,slow=8.0,SNR=2.5							
MKAR	**Makanchi Array**	**34.71**	**324**	P	P	15 20 44.0	+0.3
0.2nm,0.3s,baz=117,slow=12,SNR=4.9							
ZALV	**Zalesovo Beam**	**38.37**	**335**	P	P	15 21 14.2	-0.6
0.7nm,0.3s,baz=147,slow=10,SNR=3.9							
KURBB	**Kurchatov Arra**	**39.00**	**327**	P	P	15 21 19.8	-0.3
0.2nm,0.4s,baz=116,slow=8.4,SNR=2.9							
WRA	**Warramunga Arr**	**46.71**	**150**	P	P	15 22 24.1	+1.1
0.6nm,1.0s,baz=341,slow=7.5,SNR=7.5							
ASAR	**Alice Springs**	**49.76**	**153**	P	P	15 22 45.1	-1.4
0.2nm,0.8s,baz=330,slow=6.3,SNR=6.2							

JMA 28 15:14:56.9±0.1,24°.83N×123°.34E,h27km,M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**219**	P	Pb	15 15 06.5	-0.3
YOJ				*e*S	Sb	15 15 13.6	+0.2
IRIF	**Iriomote-Funau**	**0.61**	**144**	P	Pb	15 15 08.7	-0.3
IRIF				*e*S	Sb	15 15 16.5	-0.7
JKRS	**Kuro-shima**	**0.85**	**134**	P	Pb	15 15 12.5	-0.5
JKRS				*e*S	Sb	15 15 23.8	-0.2
JIJ	**Ishigaki jima**	**0.87**	**122**	P	Pn	15 15 13.1	-0.2
JIJ				S	Sb	15 15 23.0	-1.5
HATJ	**Hateruma jima**	**0.88**	**151**	*e*S	Sb	15 15 24.4	-0.5
JISG	**Ishigakijimahi**	**0.92**	**105**	*e*S	Sb	15 15 25.1	-0.8
JTJ	**Tarama**	**1.25**	**98**	*e*S	Sn	15 15 34.9	+0.3

TAP 28 15:15:13.0,24°.32N×121°.72E,h56km±1km,ML2.0,2C-1D, C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**8**	*e*P	Pn	15 15 21.9	+0.3
baz=12							
ENA				*e*S	Sn	15 15 28.5	+0.8
baz=12							
NANB	**Nanao**	**0.11**	**13**	*i* P	Pn	15 15 21.9	+0.3
baz=12							
NANB				S	Sn	15 15 28.7	+0.9
baz=12							
NACB	**Ninganchiao**	**0.19**	**219**	⇑P	Pn	15 15 22.2	+0.2
baz=218							
NACB				S	Sn	15 15 28.8	+0.4
baz=218							
ETLH	**Xiulin Townshi**	**0.25**	**242**	P	Pn	15 15 22.6	+0.2
baz=242							
ETLH				S	Sn	15 15 29.9	+0.7
baz=242							
TWD	**Chiawan**	**0.27**	**206**	P	Pn	15 15 22.5	+0.1
baz=204							
TWD				*e*S	Sn	15 15 29.8	+0.6
baz=204							
TWC	**Suao**	**0.31**	**22**	P	Pn	15 15 23.2	+0.4
baz=23							
TWC				S	Sn	15 15 31.3	+1.5
baz=23							
NNSB	**Datong**	**0.33**	**289**	P	Pn	15 15 23.4	+0.3
baz=288							
NNSB				S	Sn	15 15 30.8	+0.4
baz=288							
NNSH	**Datong**	**0.33**	**289**	*e*P	Pn	15 15 23.4	+0.3
baz=288							
NNSH				*e*S	Sn	15 15 30.6	+0.2
baz=288							
NDT	**Datong Townshi**	**0.34**	**325**	P	Pn	15 15 23.6	+0.5
baz=325							
NDT				*i* S	Sn	15 15 30.6	+0.3
baz=325							
NNS	**Nan Shan**	**0.34**	**290**	⇑*i*P	Pn	15 15 23.6	+0.4
baz=290							
NNS				*i* S	Sn	15 15 31.1	+0.5
baz=290							
ENTT	**Nioudou**	**0.35**	**336**	P	Pn	15 15 23.6	+0.5
baz=336							
ENTT				*e*S	Sn	15 15 31.0	+0.6
baz=336							
TWE	**Neicheng**	**0.40**	**353**	⇓*i*P	Pn	15 15 24.0	+0.4
baz=354							
TWE				*i* S	Sn	15 15 32.6	+1.3
baz=354							
EOS1	**EOS1**	**0.43**	**58**	*e*P	Pn	15 15 24.1	+0.2
baz=58							
SLBB	**Yuanshan**	**0.44**	**349**	*i* P	Pn	15 15 23.6	-0.5
baz=349							
SLBB				S	Sn	15 15 31.8	-0.3
baz=349							
YHNB	**Yeheng**	**0.47**	**317**	P	Pn	15 15 24.7	+0.2
baz=317							
YHNB				S	Sn	15 15 32.5	-0.1
baz=317							
NWLT	**Wulai**	**0.49**	**336**	*e*P	Pn	15 15 24.9	+0.2
baz=335							
NWLT				*e*S	Sn	15 15 33.0	-0.1
baz=335							
TDCB	**Techi**	**0.52**	**262**	*e*P	Pn	15 15 25.9	+0.8
baz=262							
TDCB				*e*S	Sn	15 15 34.5	+0.7
baz=262							
NTC	**Toucheng**	**0.54**	**10**	*e*P	Pn	15 15 26.3	+1.2
baz=10.0							
NTC				*e*S	Sn	15 15 35.0	+1.1
baz=10.0							
CHGB	**Renai**	**0.57**	**243**	P	Pn	15 15 26.5	+0.9
baz=242							
CHGB				*e*S	Sn	15 15 35.4	+0.6
baz=242							
ESL	**Shilin**	**0.57**	**208**	*i* P	Pn	15 15 25.0	-0.5
baz=206							
ESL				*i* S	Sn	15 15 35.0	+0.4
baz=206							
TIPB	**Shuangxi**	**0.65**	**8**	P	Pn	15 15 26.8	+0.3
baz=8.0							
TIPB				S	Sn	15 15 37.2	+0.9
baz=8.0							
EGFH	**Guangfu**	**0.70**	**203**	*e*P	Pn	15 15 28.1	+1.0
baz=202							
EGFH				*e*S	Sn	15 15 38.7	+1.3
baz=202							
WHP	**Taichung City**	**0.71**	**267**	P	Pn	15 15 28.9	+1.6
baz=266							
WHP				*e*S	Sn	15 15 38.9	+1.2
baz=266							
LIOB	**Emei**	**0.72**	**297**	P	Pn	15 15 28.1	+0.8
baz=296							
LIOB				S	Sn	15 15 39.0	+1.2
baz=296							
NSTT	**Nanjuang**	**0.73**	**295**	*e*P	Pn	15 15 27.9	+0.5
baz=295							
NSTT				S	Sn	15 15 38.9	+1.0
baz=295							
VWDT	**VWDT**	**0.78**	**223**	*e*P	Pn	15 15 29.0	+1.0
baz=223							
VWDT				*e*S	Sn	15 15 40.6	+1.7
baz=223							
DPDB	**Guoxing**	**0.78**	**249**	*e*P	Pn	15 15 29.2	+1.1
baz=248							
DPDB				*e*S	Sn	15 15 40.1	+0.8
baz=248							
HGSD	**Ruisui**	**0.87**	**198**	*e*S	Sn	15 15 42.1	+1.0
baz=198							
SSLB	**Suanglung**	**0.88**	**233**	*e*P	Pn	15 15 30.4	+1.0
baz=232							
SSLB				*e*S	Sn	15 15 42.9	+1.5
baz=232							

ISCJB ***28*** *15:15:29.7±0.7,52°.42N±0°.05×168°.11W±0°.06,h31km, Error ellipse: s-maj=8.0km s-min=5.2km az=169.3*
NEIC ***28*** *15:15:33.3±2.2,52°.62N±0°.08×168°.2W±0°.1,h44km±17km*
AEIC ***28*** *15:15:33.6±2.4,52°.67N±0°.08×168°.28W±0°.03,h41km±9km, ML3.4,mb4.0/20(NEIC)*
ISC 28 15:15:31.9±1.3,52°.58N±0°.10×168°.12W±0°.06,h31km,n69, σ1§40/73,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.60**	**312**		**Pn**	**15 15 43.9**	**-0.3**
NIKH	**Nikolski High**	**0.60**	**312**		**Sn**	**15 15 52.9**	**0.0**
OKSP	**Okmok Steeple**	**0.69**	**351**		**Pn**	**15 15 45.6**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**0.81**	**3**		**Pb**	**15 15 47.9**	**+0.4**
OKFG	**Magazine Ridge**	**0.84**	**8**		**Pb**	**15 15 48.1**	**0.0**
OKFG					**Sn**	**15 16 00.1**	**+1.1**
OKWE	**Okmok W'ng Wal**	**0.90**	**355**		**Pb**	**15 15 48.8**	**-0.2**
MCIR	**Makushin Cirqu**	**1.56**	**28**		**Pb**	**15 15 59.2**	**-0.9**
MSW	**Makushin Switc**	**1.56**	**30**		**Pn**	**15 15 58.9**	**+1.4**
MSW					**Sb**	**15 16 18.3**	**-1.3**
UNV	**Unalaska Valle**	**1.60**	**37**		**Sb**	**15 16 19.9**	**-0.7**
UNV	**Unalaska Valle**	**1.60**	**37**		**Pn**	**15 15 58.9**	**+0.9**
MTBL	**Makushin Table**	**1.64**	**31**		**Pb**	**15 16 00.2**	**-1.3**
AKMO	**Akutan Morgan**	**1.98**	**39**		**Pn**	**15 16 05.1**	**+2.0**
AKMO					**Sb**	**15 16 30.0**	**-1.3**
AKRB	**Akutan Reef Bi**	**1.98**	**37**		**Pn**	**15 16 05.2**	**+2.0**
AKBBA	**Akutan Broad B**	**2.01**	**40**		**Pn**	**15 16 05.2**	**+1.6**
AKLV	**Akutan Long Va**	**2.05**	**38**		**Pb**	**15 16 06.8**	**-1.7**
AKUT	**Akutan**	**2.10**	**41**	Pn	**Pn**	**15 16 06.5**	**+1.6**
AKSA	**Akutan Strait**	**2.13**	**42**		**Pb**	**15 16 08.1**	**-1.7**
AKSA					**Sn**	**15 16 32.1**	**+1.4**
FALS	**False Pass**	**3.61**	**49**		**Pn**	**15 16 28.9**	**+3.3**
FALS	**False Pass**	**3.61**	**49**	Pn	**Pn**	**15 16 25.1**	**-0.5**
ATKA	**Atka Island**	**3.74**	**267**		**Pn**	**15 16 28.4**	**+1.1**
SPIA	**Saint Paul Isl**	**4.77**	**346**		**Pn**	**15 16 42.7**	**+1.2**
SDPT	**Sand Point**	**5.30**	**55**		**Pn**	**15 16 52.8**	**+4.1**
ADK	**Adak**	**5.31**	**266**	Pn	**Pn**	**15 16 50.6**	**+1.7**
CNBA	**Chernabura Isl**	**5.54**	**63**	Pn	**Pn**	**15 16 53.5**	**+1.4**
CHIR	**Chirikof Islan**	**8.02**	**61**	Pn	**Pn**	**15 17 28.5**	**+2.4**
OHAK	**Old Harbor**	**9.72**	**56**	Pn	**Pn**	**15 17 49.9**	**+0.5**
KDAK	**Kodiak Island**	**10.29**	**53**	Pn	**Pn**	**15 17 58.7**	**+1.5**
SMY	**Shemya**	**10.81**	**278**	Pn	**Pn**	**15 18 03.1**	**-1.2**
SVW2	**Sparrevohn**	**10.94**	**34**	Pn	**Pn**	**15 18 07.7**	**+1.7**
GAMB	**Gambell**	**11.39**	**352**	Pn	**Pn**	**15 18 11.1**	**-1.0**
RSO	**Redoubt South**	**11.57**	**41**	Pn	**Pn**	**15 18 11.8**	**-3.0**
CNPM	**China Poot**	**11.70**	**47**	Pn	**Pn**	**15 18 17.9**	**+1.4**
BRLK	**Bradley Lake**	**11.98**	**46**	Pn	**Pn**	**15 18 22.8**	**+2.6**
SEW	**Seward**	**12.77**	**46**	Pn	**Pn**	**15 18 31.6**	**+0.6**
RC01	**Rabbit Creek A**	**13.15**	**42**	Pn	**Pn**	**15 18 37.1**	**+0.9**
PPLA	**Purkeypile**	**13.35**	**33**	Pn	**P**	**15 18 44.2**	**-4.0**
PMR	**Palmer**	**13.66**	**41**	Pn	**Pn**	**15 18 45.1**	**+1.9**
KNK	**Knik Glacier**	**13.84**	**43**	Pn	**Pn**	**15 18 46.4**	**+0.7**
GHO	**Glory Hole Cre**	**13.85**	**41**	Pn	**Pn**	**15 18 45.4**	**-0.4**
SML	**Sawmill**	**14.10**	**41**	Pn	**Pn**	**15 18 50.1**	**+0.8**
KTH	**Kantishna Hill**	**14.21**	**33**	Pn	**Pn**	**15 18 50.7**	**-0.1**
HIN	**Hinchinbrook I**	**14.22**	**48**	Pn	**Pn**	**15 18 51.5**	**+0.6**
TRF	**Thorofare Moun**	**14.36**	**34**	Pn	**Pn**	**15 18 53.1**	**+0.3**
FID	**Port Fidalgo**	**14.38**	**47**	Pn	**Pn**	**15 18 52.5**	**-0.5**
SCM	**Sheep Creek Mo**	**14.52**	**42**	Pn	**Pn**	**15 18 55.3**	**+0.3**
BPAW	**Bear Paw Mtn.**	**14.57**	**31**	Pn	**Pn**	**15 18 56.5**	**+0.9**
DHY	**Denali Highway**	**15.17**	**38**	Pn	**Pn**	**15 19 03.6**	**-0.1**
DHY				IAmb	IAmb	15 19 16.4	
comp=Z,12nm,1.1s							
IMAR	**Indian Mountai**	**15.26**	**23**		**P**	**15 19 08.6**	**-0.7**
MLY	**Manley**	**15.31**	**29**		**Pn**	**15 19 06.6**	**+1.1**
GLB	**Gilahina Butte**	**15.85**	**46**	Pn	**Pn**	**15 19 12.1**	**-0.3**
GLB				IAmb	IAmb	15 19 17.9	
comp=Z,22nm,1.7s							
CRQM	**Cirque**	**15.90**	**49**		**Pn**	**15 19 14.3**	**+1.0**
VRDI	**Verde Repeater**	**15.93**	**47**		**Pn**	**15 19 13.4**	**-0.2**
CCB	**Clear Creek Bu**	**15.97**	**33**	Pn	**Pn**	**15 19 14.7**	**+0.8**
TGL	**Tana Glacier**	**16.04**	**49**	Pn	**Pn**	**15 19 14.8**	**-0.3**
TGL				IAmb	IAmb	15 19 24.0	
comp=Z,8.8nm,0.7s							
HDA	**Harding Lake**	**16.11**	**34**	Pn	**Pn**	**15 19 16.6**	**+0.9**
MCARA	**McCarthy VSAT**	**16.18**	**47**	Pn	**Pn**	**15 19 17.9**	**+1.3**
MCARA				IAmb	IAmb	15 19 35.1	
comp=Z,16nm,1.2s							
ILAR	**Eielson Array**	**16.35**	**33**	P	**Pn**	**15 19 19.5**	**+0.7**
BALM	**Baldy**	**16.36**	**49**	Pn	**Pn**	**15 19 19.6**	**+0.6**
BALM				IAmb	IAmb	15 19 36.7	
comp=Z,16nm,1.4s							
YAH	**Yahtse**	**16.43**	**51**	P	**P**	**15 19 23.8**	**+1.2**
RIDG	**Independent Ri**	**16.49**	**38**	P	**Pn**	**15 19 21.4**	**+0.8**
RIDG				IAmb	IAmb	15 19 35.7	
comp=Z,19nm,1.4s							
BARN	**Barnard Glacie**	**16.68**	**49**	P	**P**	**15 19 25.6**	**+0.2**
BARN				IAmb	IAmb	15 19 36.4	
comp=Z,14nm,1.3s							
CTGM	**Chitina Glacie**	**16.80**	**50**	P	**P**	**15 19 27.4**	**+0.8**
CTGM				IAmb	IAmb	15 19 28.5	
comp=Z,8.0nm,1.0s							
SCRK	**Sand Creek**	**16.94**	**38**	P	**Pn**	**15 19 27.3**	**+1.0**
BCPM	**Bancas Point**	**17.35**	**54**	P	**Pn**	**15 19 32.0**	**+0.6**
BCAR	**Beaver Creek A**	**17.38**	**43**	P	**P**	**15 19 32.9**	**0.0**
FYU	**Fort Yukon**	**18.02**	**30**	P	**P**	**15 19 41.3**	**+1.4**
FYU				IAmb	IAmb	15 19 52.1	
comp=Z,18nm,1.7s							
EGAK	**Eagle**	**18.40**	**38**	P	**Pn**	**15 19 45.2**	**+1.0**
EGAK				IAmb	IAmb	15 19 55.0	
comp=Z,16nm,1.6s							
EPYK	**Eagle Plains**	**20.78**	**36**	P	**P**	**15 20 09.4**	**-0.6**
INK	**Inuvik**	**22.75**	**33**	P	**P**	**15 20 29.7**	**-1.3**

IDC ***28*** *15:35:41.2±0.9,27°.79N×61°.69E,h0km,mb4.1/8, mb1 4.1/9,mb1mx3.6/59,mbtmp4.0/9,ML3.7/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/61,Error ellipse: s-maj=27.3km s-min=20.6km az=143.0*

ISCJB ***28*** *15:35:42.7±0.5,27°.66N±0°.03×61°.92E±0°.06,h10km, mb3.9/8,MS3.4/1,Error ellipse: s-maj=7.7km s-min=4.0km az=25.6*
TEH ***28*** *15:35:42.2,27°.71N×62°.04E,h10km,ML3.7*
DSN ***28*** *15:35:46.9±2.9,28°.08N×61°.36E,h10km,ML4.2/7,Error ellipse: s-maj=80.2km s-min=18.1km az=167.0*
OMAN ***28*** *15:35:55.6±1.4,27°.29N×61°.45E,h30km,ml3.8/8,Error ellipse: s-maj=16.0km s-min=4.7km az=59.0*
ISC 28 15:35:43.7±0.7,27°.69N±0°.06×61°.76E±0°.07,h10km,n60, σ2§71/67,mb3.9/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZD1	**Zahaedan-tmp**	**1.96**	**336**	*e*Pn	**Pn**	**15 36 19.3**	**+2.2**
KHNJ	**Kahnooj**	**3.60**	**275**	*e*Pn	**Pn**	**15 36 42.6**	**+3.0**
NHDN	**Nehbandan**	**3.98**	**338**	*e*Pn	**Pn**	**15 36 46.9**	**+2.0**
NHDN				IAMB	IAmb	15 36 49.9	
comp=Z,0.0nm,0.3s							
CHMN	**Cheshme madani**	**4.29**	**301**	*e*Pn	**Pn**	**15 36 52.2**	**+2.8**
CHMN				IAMB	IAmb	15 37 42.9	
comp=Z,0.0nm,0.4s							
NIAN	**Nian**	**4.37**	**269**	*e*Pn	**Pn**	**15 36 53.4**	**+3.2**
NIAN				IAMB	IAmb	15 37 50.5	
comp=Z,0.0nm,0.2s							
NGRK	**Negar Kerman**	**4.83**	**295**	IAMB	IAmb	15 37 02.0	
comp=Z,0.0nm,0.4s							
NGRK				*e*Pn	**Pn**	**15 37 01.5**	**+4.7**
TVBK	**TV Kerman**	**4.95**	**299**	*e*Pn	**Pn**	**15 37 02.3**	**+3.9**
TVBK				IAMB	IAmb	15 37 58.7	
comp=Z,0.0nm,0.5s							
GENO	**Geno**	**4.97**	**268**	*e*Pn	Pn	15 37 03.9	+5.3
GENO				IAMB	IAmb	15 38 05.6	
comp=Z,0.0nm,0.4s							
BANOM	**Banah**	**5.19**	**251**	*i* P	**Pn**	**15 37 03.5**	**+2.1**
SNR=17							
BANOM	**Banah**	**5.19**	**251**	P	**Pn**	**15 37 05.5**	**+4.0**
SNR=17							
WSAR	**Wadi Sarin**	**5.26**	**213**	P	**Pn**	**15 37 05.5**	**+3.2**
SNR=110							
WSAR	**Wadi Sarin**	**5.26**	**213**	Pn	**Pn**	**15 37 05.6**	**+3.2**
comp=Z,5.6nm,0.3s,baz=56,slow=4.4,SNR=87							
WSAR				Sn	**Sn**	**15 37 59.9**	**-3.1**
comp=Z,5.7nm,0.3s,baz=235,slow=21,SNR=12							
SHME	**Shamm**	**5.28**	**253**	P	**Pn**	**15 37 01.8**	**-0.9**
SHME				S	**Sn**	**15 38 02.7**	**-0.9**
SHME	**Shamm**	**5.28**	**253**	*e*Pn	**Pn**	**15 37 06.5**	**+3.8**
IKOO	**Kooshah**	**5.29**	**334**	IAMB	IAmb	15 37 05.5	
comp=Z,600nm,0.2s							
IKOO				*e*Pn	**Pn**	**15 37 04.5**	**+1.5**
BIDO	**Bidbid**	**5.29**	**219**	P	**Pn**	**15 37 06.0**	**+3.2**
BIDO				S	**Sn**	**15 38 01.9**	**-2.0**
IDAH	**Dahanechah**	**5.29**	**342**	*e*Pn	**Pn**	**15 37 05.2**	**+2.1**
MDH	**Madha**	**5.44**	**245**	*i* P	**Pn**	**15 37 07.2**	**+2.3**
SNR=11							
MDH	**Madha**	**5.44**	**245**	P	**Pn**	**15 37 08.0**	**+3.1**
SNR=11							
MDH				S	**Sn**	**15 38 03.6**	**-4.0**
MDH	**Madha**	**5.44**	**245**	*e*Pn	**Pn**	**15 37 07.9**	**+3.0**
MSFE	**Esma-Masafi**	**5.53**	**246**	*i* P	**Pn**	**15 37 08.6**	**+2.5**
SNR=7.2							
MSFE	**Esma-Masafi**	**5.53**	**246**	*e*Pn	**Pn**	**15 37 10.0**	**+3.9**
WBK	**Wadi Bani Khal**	**5.66**	**207**	P	**Pn**	**15 37 10.7**	**+2.8**
SNR=183							
WBK				S	**Sn**	**15 38 10.6**	**-2.3**
UOSS	**Minazif**	**5.69**	**243**	*i* P	**Pn**	**15 37 09.2**	**+1.0**
SNR=20							
UOSS	**Minazif**	**5.69**	**243**	P	**Pn**	**15 37 10.8**	**+2.5**
SNR=20							
SMDO	**Samad**	**5.70**	**217**	P	**Pn**	**15 37 12.4**	**+3.9**
SNR=51							
SMDO				S	**Sn**	**15 38 11.9**	**-2.3**
HOQ	**Hoqain**	**5.73**	**225**	P	**Pn**	**15 37 11.7**	**+2.9**
SNR=43							
HOQ				S	**Sn**	**15 38 10.5**	**-4.3**
IMON	**Monand**	**5.78**	**342**	*e*Pn	**Pn**	**15 37 11.3**	**+1.6**
IMON				IAMB	IAmb	15 37 19.5	
comp=Z,506nm,0.2s							
HATD	**Hatta, Dubai**	**5.80**	**242**	P	**Pn**	**15 37 10.6**	**+0.7**
HATD	**Hatta, Dubai**	**5.80**	**242**	P	**Pn**	**15 37 12.7**	**+2.8**
HATD				S	**Sn**	**15 38 12.9**	**-3.6**
HATD	**Hatta, Dubai**	**5.80**	**242**	*e*Pn	**Pn**	**15 37 12.2**	**+2.3**
ITEG	**Tejag**	**5.81**	**334**	*e*Pn	**Pn**	**15 37 11.7**	**+1.7**
ITEG				IAMB	IAmb	15 37 13.3	
comp=Z,289nm,0.3s							
ASHO	**Ashiyiah**	**5.93**	**241**	*i* P	**Pn**	**15 37 13.1**	**+1.4**
SNR=32							
ASHO	**Ashiyiah**	**5.93**	**241**	P	**Pn**	**15 37 15.0**	**+3.3**
SNR=32							
ASHO	**Ashiyiah**	**5.93**	**241**	*e*Pn	**Pn**	**15 37 14.9**	**+3.3**
AFRZ	**Afriz**	**6.19**	**338**	*e*Pn	**Pn**	**15 37 16.7**	**+1.5**
JMDO	**Jabal Madar**	**6.25**	**213**	P	**Pn**	**15 37 20.6**	**+4.6**
SNR=118							
JMDO				S	**Sn**	**15 38 27.1**	**-0.4**
ARQ	**Araqi**	**6.42**	**229**	P	Pn	15 37 24.7	+6.4
SNR=85							
ARQ				S	**Sn**	**15 38 33.0**	**+1.3**
BSY	**Bisya**	**6.43**	**221**	P	Pn	15 37 24.0	+5.5
SNR=56							
BSY				S	**Sn**	**15 38 32.3**	**+0.4**
ALNE	**Al Ain**	**6.51**	**238**	*e*Pn	**Pn**	**15 37 23.6**	**+4.0**
ASUD	**Al Ashush, Dub**	**6.54**	**244**	*i* P	**Pn**	**15 37 23.1**	**+3.2**
SNR=19							
ASUD	**Al Ashush, Dub**	**6.54**	**244**	P	Pn	15 37 26.0	+6.1
SNR=19							
ASUD				S	**Sn**	**15 38 35.1**	**+0.6**
ASUD	**Al Ashush, Dub**	**6.54**	**244**	*e*Pn	**Pn**	**15 37 23.6**	**+3.7**
TPRV	**Parvadeh(Tabas**	**6.89**	**322**	*e*Pn	**Pn**	**15 37 27.5**	**+2.6**
TNSJ	**Nastanj**	**7.66**	**326**	*e*Pn	**Pn**	**15 37 37.2**	**+1.7**
JRKH	**Jarkhoshk**	**8.28**	**352**	*e*Pn	**Pn**	**15 37 46.6**	**+2.6**
SBZV	**Sabzevar**	**9.36**	**339**	*e*Pn	**Pn**	**15 38 01.2**	**+2.4**
THW	**Thamme Wali**	**10.02**	**57**	P	**Pn**	**15 38 10.0**	**+2.3**
IEMG	**Emamgholi**	**10.05**	**346**	*e*Pn	**Pn**	**15 38 10.3**	**+2.0**
WHFO	**Wadi Hawf**	**12.20**	**219**	P	**Pn**	**15 38 40.6**	**+3.0**
SNR=31							
AAK	**Ala-Archa**	**18.15**	**31**	P	**Pn**	**15 39 55.7**	**-0.3**
comp=Z,0.2nm,0.3s,baz=205

comp=Z,5.6nm,1.1s
SNAA Sanae 60.60 200 P **P 15 52 21.0 +1.6**
SNAA IAmb IAmb 15 52 25.9
comp=Z,14nm,2.0s
STKA Stephens Creek 62.19 114 P **P 15 52 30.0 -0.7**
STKA IAmb IAmb 15 52 42.0
comp=Z,4.7nm,1.9s
QSPA South Pole Qui 64.64 180 P **P 15 52 47.7 +1.2**
comp=Z,1.4nm,1.0s,baz=293,slow=4.7,SNR=5.4
QSPA South Pole Qui 64.64 180 P **P 15 52 47.0 +0.5**
ARSB Arslanbob 66.54 3 P **P 15 52 58.6 -0.4**
ARSB IAmb IAmb 15 53 10.2
comp=Z,3.5nm,0.8s
AAK Ala-Archa 67.92 4 P **P 15 53 07.7 -0.1**
AAK IAmb IAmb 15 53 09.4
comp=Z,6.6nm,1.8s
KKAR Karatay Array 68.26 0 P **P 15 53 08.8 -0.9**
MKAR Makanchi Array 72.82 9 P **P 15 53 36.3 -1.2**
comp=Z,0.5nm,0.8s,baz=208,slow=18,SNR=2.8
MKAR Makanchi Array 72.82 9 P **P 15 53 35.6 -1.9**
BRTR Keskin Array B 73.18 332 P **P 15 53 39.8 -0.2**
comp=Z,0.7nm,0.8s,baz=149,slow=11,SNR=2.4
BRTR Keskin Array B 73.18 332 P **P 15 53 39.1 -0.8**
ABKAR Akbulak array 74.94 353 P **P 15 53 48.7 -1.1**
KURK Kurchatov 76.26 6 P **P 15 53 57.0 -0.3**
KURK IAmb IAmb 15 54 03.0
comp=Z,8.8nm,1.9s
TOA0 Torodi Ar. Sit 76.71 292 P **P 15 54 00.0 -0.7**
TOA0 IAmb IAmb 15 54 06.9
comp=Z,8.3nm,1.7s
TORD Torodi Ar. Bea 76.71 292 P **P 15 53 58.4 -2.3**
BURAR Bucovina Array 83.14 331 P **P 15 54 35.0 0.0**

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*ISCJB **28** 15:42:24.6±0.3,25°.29S±0°.06×69°.92E±0°.07,h10km, mb4.1/16,Error ellipse: s-maj=10.0km s-min=7.7km az=39.5*
*IDC **28** 15:42:25.6±0.6,25°.29S×69°.93E, h0km,mb4.1/16, mb1 4.2/16,mb1mx4.0/50,mbtmp4.1/16,Error ellipse: s-maj=20.3km s-min=17.0km az=59.0*
*NEIC **28** 15:42:27.1±1.9,25°.34S±0°.09×69°.86E±0°.09,h15km±4km, mb4.8/46*
ISC 28 15:42:26.7±0.5,25°.32S±0°.09×69°.89E±0°.08,h10km,n75, σ1§00/72,mb4.6/34,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.75**	**8**	T	T	16 04 56.0	
baz=191							
H08S2	**Diego Garcia H**	**17.75**	**8**	T	T	16 04 48.5	
baz=191							
H08S3	**Diego Garcia H**	**17.77**	**8**	T	T	16 04 51.7	
baz=191							
ABPO	**Ambohimpanom**	**21.89**	**282**	P	**P**	**15 47 21.0**	**+0.8**
CRZF	**Crozet Islands**	**25.52**	**210**	P	**P**	**15 47 54.3**	**-1.0**
KMBO	**Kilima Mbogo**	**39.62**	**302**	P	**P**	**15 50 01.0**	**+2.0**
0.8nm,0.6s,baz=97,slow=13,SNR=3.2							
KMBO	**Kilima Mbogo**	**39.62**	**302**	P	**P**	**15 49 59.4**	**+0.4**
LHMI	**Lhok Sumawe**	**40.17**	**45**	P	**P**	**15 50 04.1**	**+0.9**
LSZ	**Lusaka**	**40.23**	**276**	P	**P**	**15 50 03.8**	**-0.2**
MORW	**Morawa**	**41.02**	**106**	P	**P**	**15 50 10.8**	**+0.6**
NWAO	**Narrogin (SRO)**	**41.77**	**112**	P	**P**	**15 50 14.6**	**-1.7**
SBUM	**Sibu**	**49.43**	**62**	P	**P**	**15 51 19.6**	**+2.5**
CMAR	**Chiang Mai Arr**	**51.89**	**36**	P	**P**	**15 51 36.4**	**+0.7**
1.8nm,0.9s,baz=228,slow=7.0,SNR=6.7							
CMAR	**Chiang Mai Arr**	**51.89**	**36**	P	**P**	**15 51 36.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.99**	**94**	P	**P**	**15 51 37.6**	**+1.1**
7.6nm,1.0s,baz=275,slow=14,SNR=3.6							
FITZ	**Fitzroy Crossi**	**51.99**	**94**	P	**P**	**15 51 37.3**	**+0.8**
FITZ				IAmb	IAmb	15 51 45.4	
comp=Z,8.3nm,0.9s							
CHTO	**Chiang Mai**	**52.19**	**36**	P	**P**	**15 51 37.6**	**-0.2**
MMRI	**Maumere**	**52.40**	**81**	P	**P**	**15 51 38.1**	**-1.5**
MMRI				IAmb	IAmb	15 52 13.9	
comp=Z,17nm,0.9s							
KKM	**Kota Kinabalu**	**54.75**	**62**	P	**P**	**15 51 58.4**	**+1.4**
SHL	**Shillong**	**54.87**	**24**	P	**P**	**15 51 58.3**	**+0.6**
SHL				IAmb	IAmb	15 52 00.9	
comp=Z,5.7nm,0.7s							
KNRA	**Kununurra**	**55.61**	**92**	P	**P**	**15 52 04.9**	**+2.0**
ASAR	**Alice Springs**	**57.77**	**103**	P	**P**	**15 52 18.1**	**-0.3**
comp=Z,1.0nm,0.9s,baz=249,slow=6.0,SNR=6.4							
ASAR	**Alice Springs**	**57.77**	**103**	P	**P**	**15 52 18.2**	**-0.2**
AS31	**Alice Springs**	**57.77**	**103**	P	**P**	**15 52 17.6**	**-0.8**
LSA	**Lhasa**	**58.38**	**22**	P	**P**	**15 52 22.1**	**-0.8**
NIL	**Nilore**	**58.73**	**3**	P	**P**	**15 52 24.6**	**-0.1**
NIL				IAmb	IAmb	15 52 26.6	
comp=Z,19nm,1.8s							
WRA	**Warramunga Arr**	**59.24**	**99**	P	**P**	**15 52 28.8**	**+0.1**
comp=Z,3.8nm,1.0s,baz=253,slow=7.0,SNR=6.9							
WRA	**Warramunga Arr**	**59.24**	**99**	P	**P**	**15 52 28.5**	**-0.2**
WB2	**Warramunga Arr**	**59.25**	**99**	P	**P**	**15 52 28.1**	**-0.7**
WRAB	**Tennant Creek**	**59.25**	**99**	P	**P**	**15 52 27.0**	**-1.7**
WB0	**Warramunga Arr**	**59.34**	**99**	P	**P**	**15 52 28.4**	**-0.9**
WB0				IAmb	IAmb	15 52 30.4	
comp=Z,9.9nm,1.2s							
WR0	**Warramunga Arr**	**59.41**	**99**	P	**P**	**15 52 28.1**	**-1.8**
WR0				IAmb	IAmb	15 52 32.9	
comp=Z,12nm,1.2s							
KBL	**Kabul**	**59.54**	**359**	P	**P**	**15 52 30.3**	**-0.2**
KBL				IAmb	IAmb	15 52 38.4	
comp=Z,5.1nm,0.9s							
SNAA	**Sanae**	**60.76**	**200**	P	**P**	**15 52 39.3**	**+1.0**
comp=Z,2.0nm,0.8s,baz=97,slow=6.0,SNR=5.9							
SNAA	**Sanae**	**60.76**	**200**	P	**P**	**15 52 38.8**	**+0.5**
SNAA				IAmb	IAmb	15 53 12.3	
comp=Z,19nm,1.9s							
STKA	**Stephens Creek**	**62.28**	**114**	P	**P**	**15 52 50.0**	**+0.8**
comp=Z,1.0nm,0.6s,baz=230,slow=18,SNR=3.1							
STKA	**Stephens Creek**	**62.28**	**114**	P	**P**	**15 52 49.5**	**+0.3**
CHGR	**Chuyangaron**	**63.64**	**359**	P	**P**	**15 52 57.0**	**-0.9**
SIJI	**Sorong**	**63.90**	**78**	P	**P**	**15 53 00.5**	**+0.3**
comp=Z,9.0nm,0.9s,baz=251,slow=4.8,SNR=5.4							
GAR	**Garm**	**63.98**	**0**	P	**P**	**15 52 59.6**	**-0.7**
GAR				IAmb	IAmb	15 53 16.8	
comp=Z,12nm,1.4s							
QSPA	**South Pole Qui**	**64.81**	**180**	P	**P**	**15 53 05.9**	**+0.4**
comp=Z,3.5nm,1.0s,baz=263,slow=2.5,SNR=7.5							
QSPA	**South Pole Qui**	**64.81**	**180**	P	**P**	**15 53 05.7**	**+0.2**
QSPA				IAmb	IAmb	15 53 30.2	
comp=Z,8.1nm,1.3s							
BTK	**Batken**	**65.04**	**1**	P	**P**	**15 53 06.2**	**-0.9**
BTK				IAmb	IAmb	15 53 15.1	
comp=Z,5.3nm,1.1s							
VNDA	**Vanda**	**65.90**	**166**	P	**P**	**15 53 13.0**	**+0.8**
comp=Z,5.8nm,1.0s,baz=280,slow=10,SNR=3.3							
ARSB	**Arslanbob**	**66.36**	**3**	P	**P**	**15 53 15.7**	**0.0**
NRN	**Naryn**	**66.65**	**5**	P	**P**	**15 53 16.4**	**-1.4**
NRN				IAmb	IAmb	15 53 19.9	
comp=Z,14nm,1.9s							
KDJ	**Kajisay**	**67.45**	**6**	P	**P**	**15 53 21.6**	**-1.0**
KDJ				IAmb	IAmb	15 53 24.8	
comp=Z,4.0nm,0.9s							
AAK	**Ala-Archa**	**67.75**	**4**	P	**P**	**15 53 24.9**	**+0.4**
AAK				IAmb	IAmb	15 53 26.1	
comp=Z,9.1nm,1.9s							
KK31	**Karatay Array**	**68.08**	**0**	P	**P**	**15 53 25.8**	**-0.6**
KKAR	**Karatay Array**	**68.08**	**0**	P	**P**	**15 53 27.1**	**+0.7**
KKAR	**Karatay Array**	**68.08**	**0**	P	**P**	**15 53 25.9**	**-0.5**
MK31	**Makanchi Array**	**72.64**	**9**	P	**P**	**15 53 53.0**	**-1.2**
MK31				IAmb	IAmb	15 53 56.2	
comp=Z,11nm,1.7s							
MKAR	**Makanchi Array**	**72.64**	**9**	P	**P**	**15 53 54.0**	**-0.3**
comp=Z,1.3nm,0.8s,baz=176,slow=5.8,SNR=5.9							
MKAR	**Makanchi Array**	**72.64**	**9**	P	**P**	**15 53 52.9**	**-1.4**
BR131	**Keskin Array S**	**73.01**	**332**	P	**P**	**15 53 55.3**	**-1.5**
BR131				IAmb	IAmb	15 54 05.2	
comp=Z,7.3nm,1.3s							
BRTR	**Keskin Array B**	**73.01**	**332**	P	**P**	**15 53 57.3**	**+0.5**
comp=Z,1.1nm,0.8s,baz=142,slow=6.3,SNR=4.7							
BRTR	**Keskin Array B**	**73.01**	**332**	P	**P**	**15 53 56.6**	**-0.2**
KIV	**Kislovodsk**	**73.31**	**340**	P	**P**	**15 53 57.6**	**-0.8**
KIV				IAmb	IAmb	15 53 59.2	
comp=Z,30nm,1.9s							
ABKAR	**Akbulak array**	**74.77**	**353**	P	**P**	**15 54 06.6**	**0.0**
ABKAR	**Akbulak array**	**74.77**	**353**	P	**P**	**15 54 06.5**	**-0.1**
ABKAR				IAmb	IAmb	15 54 07.3	
comp=Z,3.7nm,0.9s							
KURK	**Kurchatov**	**76.09**	**6**	P	**P**	**15 54 14.3**	**+0.2**
KURK				IAmb	IAmb	15 54 21.6	
comp=Z,5.9nm,1.2s							
TORD	**Torodi Ar. Bea**	**76.62**	**292**	P	**P**	**15 54 18.5**	**+0.5**
comp=Z,3.0nm,1.1s,baz=124,slow=4.1,SNR=7.4							
TORD	**Torodi Ar. Bea**	**76.62**	**292**	P	**P**	**15 54 17.7**	**-0.3**
FNA	**Florina**	**79.72**	**325**	P	**P**	**15 54 33.1**	**-1.6**
FNA				IAmb	IAmb	15 54 36.8	
comp=Z,18nm,1.7s							
SONM	**Songino Array**	**79.87**	**24**	P	**P**	**15 54 36.4**	**+0.9**
comp=Z,1.3nm,1.1s,baz=204,slow=2.6,SNR=6.0							
SONM	**Songino Array**	**79.87**	**24**	P	**P**	**15 54 35.6**	**+0.1**
ZALV	**Zalesovo Beam**	**79.99**	**9**	P	**P**	**15 54 35.6**	**-0.2**
comp=Z,0.5nm,0.4s,baz=184,slow=11,SNR=3.9							
VTS	**Vitosha**	**80.12**	**327**	P	**P**	**15 54 35.8**	**-1.2**
VTS				IAmb	IAmb	15 54 38.6	
comp=Z,18nm,1.9s							
ULN	**Ulaanbaatar**	**80.14**	**24**	P	**P**	**15 54 35.5**	**-1.5**
ULN				IAmb	IAmb	15 54 52.1	
comp=Z,13nm,1.8s							
MLR	**Muntele Rosu**	**81.02**	**330**	P	**P**	**15 54 38.8**	**-2.9**
BURAR	**Bucovina Array**	**82.98**	**331**	P	**P**	**15 54 51.0**	**-0.9**
TUWZ	**Tuamarina**	**83.39**	**133**	P	**P**	**15 54 53.5**	**-0.8**
AKASG	**Malin Array Be**	**83.78**	**335**	P	**P**	**15 54 56.1**	**+0.3**
comp=Z,0.2nm,0.3s,baz=149,slow=5.0,SNR=4.1							
AKASG	**Malin Array Be**	**83.78**	**335**	P	**P**	**15 54 55.6**	**-0.2**
AKBB	**Malin Array Si**	**83.78**	**335**	P	**P**	**15 54 55.7**	**-0.1**
AKBB				IAmb	IAmb	15 54 56.2	
comp=Z,9.5nm,1.2s							

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*IDC **28** 15:44:02.9±0.5,25°.30S×70°.01E, h0km,mb4.4/23, mb1 4.5/23,mb1mx4.3/53,mbtmp4.4/23,MS4.1/3, Ms1 4.0/3,ms1mx3.5/38,Error ellipse: s-maj=16.3km s-min=13.6km az=31.0*
*MOS **28** 15:44:02.2±0.9,25°.24S×69°.96E, h10km,mb5.1/45,Error ellipse: s-maj=10.7km s-min=7.3km az=99.9*
*ISCJB **28** 15:44:03.9±0.2,25°.30S±0°.05×69°.98E±0°.04,h21km, mb4.8/70,Error ellipse: s-maj=7.0km s-min=5.4km az=8.9*
*NEIC **28** 15:44:04.7±1.4,25°.32S±0°.09×69°.9E±0°.1,h16km±3km, mb5.1/85*
*GCMT **28** 15:44:08.7±0.2,25°.04S±0°.02×69°.88E±0°.01,h14km, MW5.0/101,Moment Tensor Solution. s50,c61; s101,c137; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=4.13±.19; $M_{\theta\theta}$0.74±.11; $M_{\phi\phi}$3.38±.14; $M_{r\theta}$0.73±.25; $M_{\theta\phi}$-1.32±.08; $M_{r\phi}$0.30±.25; Best double couple: M_0=4.09800×10^16 NP1:φs167.00000°,δ46.00000°, λ-76.00000°. NP2:φs328.00000°,δ46.00000°, λ-104.00000°. Principal axes: T 3.9270, Plg0.0000°, Azm247.0000°; N 0.3350, Plg10.0000°, Azm337.0000°; P -4.2700, Plg80.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 15:44:05.9±0.3,25°.29S±0°.07×69°.91E±0°.06,h21km,n250, σ1§16/240,mb5.0/91,15C-11D,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**13.65**	**285**	Pn	Pn	15 47 12.9	-5.6
H08S1	**Diego Carcia H**	**17.72**	**8**	T	T	16 06 21.0	
baz=189,slow=76,SNR=19							
H08S2	**Diego Garcia H**	**17.72**	**8**	T	T	16 06 26.9	
baz=189,slow=76,SNR=395							
H08S3	**Diego Garcia H**	**17.73**	**8**	T	T	16 06 29.9	
baz=189,slow=76,SNR=198							
ABPO	**Ambohimpanom**	**21.90**	**282**	P	**P**	**15 48 57.1**	**-0.9**
ABPO				pmax	pmax		
comp=Z,36nm,1.4s							
ABPO	**Ambohimpanom**	**21.90**	**282**	P	**P**	**15 48 57.1**	**-0.9**
OPO	**Ambohidratompo**	**22.10**	**283**	P	**P**	**15 49 01.9**	**+1.8**
comp=Z,6.7nm,0.9s,baz=102,slow=11,SNR=6.4							
MNCI	**Minicoy**	**33.51**	**6**	P	**P**	**15 50 44.4**	**+0.3**
GSI	**Gunungsitoli**	**37.63**	**49**	P	**P**	**15 51 19.8**	**+0.3**
GSI				IAmb	IAmb	15 51 30.1	
comp=Z,54nm,1.5s							
H01W2	**Cape Leeuwin H**	**39.17**	**115**	T	T	16 33 18.5	
baz=271							
H01W3	**Cape Leeuwin H**	**39.18**	**115**	T	T	16 33 26.5	
baz=271							
H01W1	**Cape Leeuwin H**	**39.19**	**115**	T	T	16 33 19.2	
baz=271							
BKNI	**Bangkinang**	**39.42**	**54**		**P**	**15 51 34.6**	**0.0**
RPSI	**Rantau Prapat**	**39.56**	**50**	P	**P**	**15 51 34.3**	**-1.5**
KMBO	**Kilima Mbogo**	**39.62**	**302**	P	**P**	**15 51 36.1**	**-0.4**
KMBO				pmax	pmax		
comp=Z,13nm,1.4s							
KMBO	**Kilima Mbogo**	**39.62**	**302**	P	**P**	**15 51 38.2**	**+1.7**
comp=Z,1.2nm,0.6s,baz=130,slow=7.0,SNR=9.0							
KMBO				LR	LR	16 04 01.8	
comp=Z,91nm,20.4s,baz=90,slow=30							
KMBO	**Kilima Mbogo**	**39.62**	**302**	P	**P**	**15 51 36.1**	**-0.4**
PSI	**Prapat**	**39.64**	**49**	P	**P**	**15 51 34.3**	**-2.2**
PSI				pmax	pmax		
comp=Z,12nm,1.1s							
BOSA	**Boshof**	**39.77**	**255**	P	**P**	**15 51 38.5**	**+0.9**
BOSA				pmax	pmax		
comp=Z,76nm,1.8s							
BOSA	**Boshof**	**39.77**	**255**	P	**P**	**15 51 39.3**	**+1.7**
comp=Z,6.3nm,1.1s,baz=83,slow=6.3,SNR=5.4							
BOSA				LR	LR	16 04 37.1	
comp=Z,685nm,21.1s,baz=97,slow=31							
BOSA	**Boshof**	**39.77**	**255**	P	**P**	**15 51 38.5**	**+0.9**
BOSA				IAmb	IAmb	15 51 39.6	
comp=Z,76nm,1.8s							
LSZ	**Lusaka**	**40.24**	**276**	P	**P**	**15 51 40.5**	**-1.1**
LSZ	**Lusaka**	**40.24**	**276**	P	**P**	**15 51 40.5**	**-1.1**
LEM	**Lembang**	**40.41**	**70**	P	**P**	**15 51 46.2**	**+3.1**
MBAR	**Mbarara**	**45.07**	**297**	P	**P**	**15 52 20.3**	**-0.6**
MBAR				pmax	pmax		
comp=Z,11nm,1.4s							
MBAR	**Mbarara**	**45.07**	**297**	P	**P**	**15 52 20.4**	**-0.6**
JAGI	**Jajag, Banyuwa**	**45.27**	**76**	P	**P**	**15 52 20.4**	**-1.9**
PSA00	**Pilbara Seismi**	**45.76**	**96**	P	**P**	**15 52 24.8**	**-1.3**
PSA00	**Pilbara Seismi**	**45.76**	**96**	P	**P**	**15 52 25.4**	**-0.7**
PSA00				IAmb	IAmb	15 52 34.8	
comp=Z,50nm,1.4s							
SYO	**Syowa Base**	**47.32**	**194**	‖ *e*P	**P**	**15 52 37.0**	**-0.6**
SYO	**Syowa Base**	**47.32**	**194**	‖ *e*pP	pP	15 52 41.8	-1.4
SBUM	**Sibu**	**49.40**	**62**	P	**P**	**15 52 54.6**	**+0.2**
SBUM				IAmb	IAmb	15 53 03.9	
comp=Z,26nm,1.4s							
MHMT	**Maesarieng**	**51.09**	**35**	P	P	15 53 15.3	+8.2
BKB	**Balikpapan**	**51.19**	**70**	P	**P**	**15 53 08.8**	**+0.8**
KAPI	**Kappang**	**51.79**	**76**	P	**P**	**15 53 12.7**	**+0.2**
KAPI				pmax	pmax		
comp=Z,51nm,1.7s							
KAPI	**Kappang**	**51.79**	**76**	P	**P**	**15 53 12.7**	**+0.2**
KAPI				IAmb	IAmb	15 53 20.2	
comp=Z,51nm,1.6s							
CM31	**Chiang Mai Arr**	**51.86**	**36**	P	**P**	**15 53 12.1**	**-0.7**
CM31				IAmb	IAmb	15 53 21.4	
comp=Z,18nm,0.9s							
CMAR	**Chiang Mai Arr**	**51.86**	**36**	P	**P**	**15 53 12.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**51.86**	**36**	P	**P**	**15 53 13.3**	**+0.5**
comp=Z,4.8nm,0.9s,baz=227,slow=6.8,SNR=15							
CMAR	**Chiang Mai Arr**	**51.86**	**36**	P	**P**	**15 53 12.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.97**	**94**	P	**P**	**15 53 14.8**	**+1.0**
comp=Z,17nm,1.1s,baz=244,slow=1.9,SNR=7.9							
FITZ				LR	LR	16 12 40.2	
comp=Z,166nm,20.4s,baz=250,slow=33							
FITZ	**Fitzroy Crossi**	**51.97**	**94**	P	**P**	**15 53 14.0**	**+0.1**
FITZ				IAmb	IAmb	15 53 22.5	
comp=Z,32nm,1.1s							
UTTA	**Uttaradit**	**52.15**	**38**	P	P	15 53 23.2	+8.2
comp=Z,15μm,0.8s							
CHTO	**Chiang Mai**	**52.15**	**36**	P	**P**	**15 53 14.7**	**-0.3**
CHTO				pmax	pmax		
comp=Z,11nm,1.1s							
CHTO	**Chiang Mai**	**52.15**	**36**	P	**P**	**15 53 14.7**	**-0.3**
CMMT	**Chiang Mai**	**52.15**	**36**	P	**P**	**15 53 17.5**	**+2.4**
comp=Z,6.4nm,1.4s							
MMRI	**Maumere**	**52.38**	**81**	P	**P**	**15 53 19.8**	**+2.9**
MMRI	**Maumere**	**52.38**	**81**	P	**P**	**15 53 17.2**	**+0.3**
BNSI	**Bone**	**52.39**	**75**	P	**P**	**15 53 19.7**	**+2.7**
DLV	**T Lat**	**52.75**	**50**	P	**P**	**15 53 20.3**	**+0.5**
SOEI	**Soe**	**53.73**	**83**	P	**P**	**15 53 26.5**	**-0.5**
RAYN	**Ar Rayn**	**53.98**	**332**	P	**P**	**15 53 29.5**	**+1.0**
RAYN				pmax	pmax		
comp=Z,10.0nm,1.2s							
RAYN	**Ar Rayn**	**53.98**	**332**	P	**P**	**15 53 29.5**	**+1.0**
SHL	**Shillong**	**54.84**	**24**	P	**P**	**15 53 34.6**	**-0.2**
SHL				pmax	pmax		
comp=Z,23nm,1.0s							
SHL	**Shillong**	**54.84**	**24**	P	**P**	**15 53 34.6**	**-0.2**
SHL				IAmb	IAmb	15 53 43.4	
comp=Z,23nm,1.0s							
KNRA	**Kununurra**	**55.59**	**92**	P	**P**	**15 53 40.5**	**+0.2**
KNRA				IAmb	IAmb	15 53 48.0	
comp=Z,33nm,1.1s							
LUWI	**Luwuk**	**56.35**	**73**	P	**P**	**15 53 43.9**	**-1.9**
LUWI	**Luwuk**	**56.35**	**73**	P	**P**	**15 53 45.0**	**-0.8**
SLVN	**Son La**	**56.90**	**38**	P	**P**	**15 53 49.5**	**-0.1**
SLVN				IAmb	IAmb	15 53 53.1	
comp=Z,48nm,2.0s							
ASAR	**Alice Springs**	**57.76**	**103**	P	**P**	**15 53 55.2**	**-0.6**
ASAR	**Alice Springs**	**57.76**	**103**	P	**P**	**15 53 54.7**	**-1.1**
comp=Z,2.5nm,1.0s,baz=246,slow=6.6,SNR=7.9							
ASAR	**Alice Springs**	**57.76**	**103**	P	**P**	**15 53 55.2**	**-0.6**
AS31	**Alice Springs**	**57.76**	**103**	P	**P**	**15 53 54.6**	**-1.1**
LSA	**Lhasa**	**58.35**	**22**	P	**P**	**15 53 59.6**	**-0.5**
LSA				pmax	pmax		
comp=Z,12nm,1.2s							
LSA	**Lhasa**	**58.35**	**22**	P	**P**	**15 53 59.6**	**-0.5**
NIL	**Nilore**	**58.70**	**3**	P	**P**	**15 54 01.8**	**-0.2**
NIL				pmax	pmax		
comp=Z,41nm,1.8s							
NIL	**Nilore**	**58.70**	**3**	P	**P**	**15 54 01.8**	**-0.2**
NIL				IAmb	IAmb	15 54 04.2	
comp=Z,41nm,1.8s							
MTN	**Manton Dam**	**58.74**	**90**	P	**P**	**15 54 01.6**	**-1.0**
MTN				IAmb	IAmb	15 54 10.8	
comp=Z,22nm,0.9s							
WRA	**Warramunga Arr**	**59.23**	**99**	P	**P**	**15 54 06.2**	**+0.2**
WRA	**Warramunga Arr**	**59.23**	**99**	P	**P**	**15 54 05.7**	**-0.4**
comp=Z,8.6nm,1.1s,baz=255,slow=6.8,SNR=15							
WRA	**Warramunga Arr**	**59.23**	**99**	P	**P**	**15 54 06.2**	**+0.2**
WB2	**Warramunga Arr**	**59.24**	**99**	P	**P**	**15 54 06.5**	**+0.4**
WRAB	**Tennant Creek**	**59.24**	**99**	P	**P**	**15 54 06.7**	**+0.6**
WRAB				pmax	pmax		
comp=Z,27nm,1.1s							
WRAB	**Tennant Creek**	**59.24**	**99**	P	**P**	**15 54 06.7**	**+0.6**
KMI	**Kunming**	**59.33**	**35**	P	**P**	**15 54 06.2**	**-0.5**
KMI				pmax	pmax		
comp=Z,12nm,0.6s							
KMI	**Kunming**	**59.33**	**35**	P	**P**	**15 54 06.2**	**-0.5**
KMI				IAmb	IAmb	15 54 09.9	
comp=Z,12nm,0.6s							
WB0	**Warramunga Arr**	**59.33**	**99**	P	**P**	**15 54 06.1**	**-0.6**
WB0				IAmb	IAmb	15 54 14.8	
comp=Z,26nm,1.2s							
WR0	**Warramunga Arr**	**59.40**	**99**	P	**P**	**15 54 06.5**	**-0.7**
WR0				IAmb	IAmb	15 54 15.3	
comp=Z,16nm,1.0s							
KBL	**Kabul**	**59.51**	**359**	P	**P**	**15 54 08.2**	**+0.5**
KBL				pmax	pmax		
comp=Z,20nm,1.2s							
KBL	**Kabul**	**59.51**	**359**	P	**P**	**15 54 08.2**	**+0.5**
KBL				IAmb	IAmb	15 54 16.0	
comp=Z,20nm,1.2s							
HRA	**Herat**	**59.79**	**353**	P	**P**	**15 54 10.0**	**+0.3**
HRA				IAmb	IAmb	15 55 54.4	
comp=Z,6.3nm,0.5s							
SNAA	**Sanae**	**60.79**	**200**	P	**P**	**15 54 16.9**	**+0.9**
SNAA	**Sanae**	**60.79**	**200**	P	**P**	**15 54 16.3**	**+0.3**
SNAA				pmax	pmax		
comp=Z,9.0nm,1.1s							
SNAA	**Sanae**	**60.79**	**200**	P	**P**	**15 54 16.7**	**+0.7**
comp=Z,4.6nm,0.9s,baz=109,slow=7.0,SNR=10							
SNAA	**Sanae**	**60.79**	**200**	P	**P**	**15 54 16.4**	**+0.3**
TNTI	**Ternate**	**61.23**	**74**	P	**P**	**15 54 18.8**	**-0.9**
TNTI				IAmb	IAmb	15 54 30.6	
comp=Z,17nm,1.1s							
VNA2	**Neumayer--Watz**	**62.18**	**201**	P	**P**	**15 54 26.3**	**+0.9**
baz=88,slow=7.4							
STKA	**Stephens Creek**	**62.27**	**114**	P	**P**	**15 54 25.2**	**-1.4**
STKA				pmax	pmax		
comp=Z,11nm,2.0s							
STKA	**Stephens Creek**	**62.27**	**114**	P	**P**	**15 54 25.2**	**-1.4**
VNA1	**Neumayer--Stat**	**62.46**	**202**	P	**P**	**15 54 28.1**	**+1.0**
KCP	**Kidapawan**	**62.51**	**67**	‖ *i*P	**P**	**15 54 29.8**	**+1.4**
VNA3	**Neumayer Olymp**	**62.94**	**201**	P	**P**	**15 54 31.4**	**+1.0**
CHGR	**Chuyangaron**	**63.61**	**359**	P	**P**	**15 54 34.9**	**-0.4**
CHGR				IAmb	IAmb	15 54 42.5	
comp=Z,16nm,1.1s							
FAKI	**Fak Fak**	**63.82**	**80**	P	**P**	**15 54 36.7**	**-0.4**
HKPS	**Hong Kong Po S**	**63.85**	**46**	P	**P**	**15 54 38.0**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**63.85**	**350**	P	**P**	**15 54 35.8**	**-0.9**
SIJI	**Sorong**	**63.88**	**78**	P	**P**	**15 54 38.0**	**+0.5**
comp=Z,18nm,1.0s,baz=252,slow=6.0,SNR=9.9							
GAR	**Garm**	**63.95**	**0**	P	**P**	**15 54 37.1**	**-0.4**
GAR				IAmb	IAmb	15 54 44.0	
comp=Z,15nm,1.0s							
KSH	**Kashi**	**64.72**	**5**	P	**P**	**15 54 46.5**	**+4.0**
KSH				PcP	**PcP**	**15 55 20.0**	**+4.0**
KSH				S	**S**	**16 03 23.5**	**+1.7**
KSH				pmax	pmax		
comp=Z,20nm,0.6s							
KSH				pmax	pmax		
comp=Z,1μm,6.3s							
KSH				LR	LR		
comp=Z,610nm,8.9s							
KSH				LR	LR

XAN LR LR
comp=Z,380nm,18.4s
XAN LR LR
comp=Z,700nm,16.2s
WHN Wuhan 69.95 40 P **P 15 55 18.5 +2.8**
GTA Gaotai 70.17 24 ⇑P **P 15 55 17.8 +0.8**
GTA pP pP 15 55 23.8 +1.0
GTA sP pwP 15 55 26.5 -0.7
GTA pmax pmax
comp=Z,5.0nm,1.3s
SHEL Horse Pasture 70.62 261 P **P 15 55 20.3 0.0**
SHEL pmax pmax
comp=Z,134nm,1.1s
SHEL Horse Pasture 70.62 261 P **P 15 55 20.3 0.0**
WMQ Urumqi 70.68 14 P **P 15 55 20.3 +0.3**
WMQ pmax pmax
comp=Z,42nm,1.6s
WMQ Urumqi 70.68 14 P **P 15 55 20.3 +0.3**
AKH Akhalkalaki 70.74 339 P **P 15 55 20.3 -0.2**
AKH pmax pmax
comp=Z,15nm,1.4s
AKH Akhalkalaki 70.74 339 P **P 15 55 20.3 -0.2**
AKH IAmb IAmb 15 55 52.0
comp=Z,15nm,1.4s
GROC Groznyy 71.68 342 *e*P **P 15 55 24.6 -1.3**
GROC *e* 15 55 43.6
GROC pmax pmax
comp=Z,37nm,1.0s
ZEI Tsey 71.86 340 *e*P **P 15 55 27.8 +0.5**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 72.61 9 P **P 15 55 31.3 -0.2**
MK31 pmax pmax
comp=Z,10.0nm,1.2s
MK31 Makanchi Array 72.61 9 P **P 15 55 31.3 -0.2**
MKAR Makanchi Array 72.61 9 *i* P **P 15 55 31.5 0.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 72.61 9 P **P 15 55 31.2 -0.3**
comp=Z,4.3nm,0.8s,baz=194,slow=6.0,SNR=15
MKAR Makanchi Array 72.61 9 P **P 15 55 30.8 -0.7**
NEY Neytrino 72.64 340 *i* P **P 15 55 30.1 -1.9**
NEY pmax pmax
comp=Z,1.0nm,0.9s
KARP Karpathos 72.77 325 P **P 15 55 32.7 0.0**
BR131 Keskin Array S 73.00 332 P **P 15 55 33.5 -0.6**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BR131 Keskin Array S 73.00 332 P **P 15 55 33.5 -0.6**
BRTR Keskin Array B 73.00 332 P **P 15 55 33.8 -0.3**
BRTR Keskin Array B 73.00 332 P **P 15 55 34.5 +0.4**
comp=Z,4.2nm,1.0s,baz=153,slow=6.6,SNR=12
BRTR Keskin Array B 73.00 332 P **P 15 55 33.8 -0.3**
KBZ Khabaz 73.02 340 *i* P **P 15 55 32.2 -1.7**
KBZ Khabaz 73.02 340 P **P 15 55 33.9 0.0**
comp=Z,3.0nm,0.9s,baz=112,slow=10,SNR=4.5
KIV Kislovodsk 73.29 340 *e*P **P 15 55 33.0 -2.7**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 73.29 340 P **P 15 55 35.8 +0.1**
KIV IAmb IAmb 15 55 44.2
comp=Z,15nm,1.1s
PMG Port Moresby 74.56 93 P **P 15 55 44.2 +0.4**
PMG pmax pmax
comp=Z,14nm,1.1s
PMG Port Moresby 74.56 93 P **P 15 55 44.2 +0.4**
PMG IAmb IAmb 15 55 45.8
comp=Z,14nm,1.1s
ABKAR Akbulak array 74.74 353 P **P 15 55 43.0 -0.8**
ABKAR Akbulak array 74.74 353 P **P 15 55 43.3 -0.6**
ABKAR IAmb IAmb 15 55 51.5
comp=Z,15nm,1.0s
KURK Kurchatov 76.06 6 P **P 15 55 51.4 0.0**
KURK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 76.06 6 P **P 15 55 51.4 0.0**
KURK IAmb IAmb 15 55 54.3
comp=Z,17nm,1.3s
TOA0 Torodi Ar. Sit 76.63 292 P **P 15 55 54.8 -0.7**
TOA0 IAmb IAmb 15 55 58.4
comp=Z,26nm,1.7s
TORD Torodi Ar. Bea 76.63 292 P **P 15 55 55.7 +0.2**
comp=Z,3.2nm,0.9s,baz=113,slow=5.7,SNR=13
TORD Torodi Ar. Bea 76.63 292 P **P 15 55 54.2 -1.3**
BRVK Borovoye 78.02 0 P **P 15 56 01.9 -0.5**
BRVK pmax pmax
comp=Z,18nm,1.8s
BRVK Borovoye 78.02 0 P **P 15 56 01.9 -0.5**
TAM Tamanrasset 78.61 302 P **P 15 56 07.1 +0.5**
TAM pmax pmax
comp=Z,10.0nm,1.4s
TAM Tamanrasset 78.61 302 P **P 15 56 07.1 +0.5**
KIC Kosan Boka 78.97 282 *e*PKP1 **P 15 56 09.2 +0.6**
comp=Z,17nm,1.1s
ELND Elena 79.07 329 ⇓P P 15 56 14.5 +6.1
TIRR Tirgusor 79.11 331 ⇑P **P 15 56 08.8 +0.2**
TIRR Tirgusor 79.11 331 ⇑P **P 15 56 08.8 +0.2**
LIC Lamto 79.16 282 *e*PKP1 **P 15 56 09.3 -0.3**
comp=Z,6.5nm,0.8s
DBIC Dimbokro 79.21 283 P **P 15 56 09.5 -0.4**
DBIC pmax pmax
comp=Z,15nm,1.1s
DBIC Dimbokro 79.21 283 P **P 15 56 10.7 +0.8**
comp=Z,4.6nm,1.0s,baz=114,slow=6.0,SNR=3.4
DBIC Dimbokro 79.21 283 P **P 15 56 09.5 -0.4**
TIC Toumodi 79.34 283 *e*PKP1 **P 15 56 10.3 -0.4**
FNA Florina 79.70 325 P **P 15 56 11.4 -0.6**
FNA pmax pmax
comp=Z,34nm,2.0s
FNA Florina 79.70 325 P **P 15 56 11.4 -0.6**
FNA IAmb IAmb 15 56 19.3
comp=Z,34nm,2.0s
CFR Carcaliu 79.80 331 ⇑P **P 15 56 12.5 +0.2**
CFR Carcaliu 79.80 331 ⇑P **P 15 56 12.5 +0.2**
SONM Songino Array 79.84 24 P **P 15 56 12.4 -0.3**
SONM pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 79.84 24 P **P 15 56 13.1 +0.4**
comp=Z,3.5nm,0.9s,baz=228,slow=4.6,SNR=7.1
SONM Songino Array 79.84 24 P **P 15 56 12.4 -0.3**
ZALV Zalesovo Beam 79.95 9 *i* P **P 15 56 12.6 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 79.95 9 P **P 15 56 12.8 -0.2**
comp=Z,3.5nm,0.9s,baz=193,slow=6.1,SNR=7.0
ULN Ulaanbaatar 80.11 24 P **P 15 56 13.6 -0.6**
ULN pmax pmax
comp=Z,14nm,1.4s
ULN Ulaanbaatar 80.11 24 P **P 15 56 13.6 -0.6**
VRI Vrincioaia 80.95 331 ⇑P **P 15 56 19.9 +1.3**
VRI Vrincioaia 80.95 331 ⇑P **P 15 56 19.9 +1.3**
MLR Muntele Rosu 81.00 330 P **P 15 56 19.1 +0.1**
MLR pmax pmax
comp=Z,23nm,1.1s
MLR Muntele Rosu 81.00 330 ⇓P **P 15 56 20.1 +1.0**
MLR Muntele Rosu 81.00 330 P **P 15 56 19.1 +0.1**
MLR IAmb IAmb 15 56 27.4
comp=Z,23nm,1.1s
VOIR 81.37 330 ⇑P **P 15 56 22.1 +1.2**
VOIR 81.37 330 ⇑P **P 15 56 22.1 +1.2**
ARR Arges 81.50 330 ⇓P **P 15 56 22.0 +0.4**
ARU Arti 81.96 354 *d* *i* P **P 15 56 21.2 -2.4**
ARU 15 59 27.7
ARU S **S 16 06 28.0 -8.1**
ARU pmax pmax
comp=Z,23nm,1.8s
ARU Arti 81.96 354 P **P 15 56 23.8 +0.1**
SVE Sverdlovsk 82.17 355 ⇓*e*P **P 15 56 26.0 +1.3**
SVE pmax pmax
comp=Z,25nm,1.2s
HERR Herculane 82.18 328 ⇑P P 15 56 38.5 +13
GZR Gura Zlata 82.39 329 ⇑P **P 15 56 27.3 +1.1**
GZR Gura Zlata 82.39 329 ⇑P **P 15 56 27.3 +1.1**
BURAR Bucovina Array 82.96 331 ⇓P P 15 56 35.5 +6.3
BURAR Bucovina Array 82.96 331 ⇓P P 15 56 35.5 +6.3
BURAR Bucovina Array 82.96 331 P **P 15 56 30.8 +1.5**
BUR08 Bucovina Ar. S 82.99 331 P **P 15 56 29.8 +0.4**
BZS Buzias 83.10 328 ⇓P **P 15 56 30.7 +0.8**
BZS Buzias 83.10 328 ⇓P **P 15 56 30.7 +0.8**
KEST Kesra 83.40 314 P **P 15 56 30.6 -1.1**
SGRT San Giovanni R 83.42 322 P **P 15 56 29.6 -2.1**
AKASG Malin Array Be 83.76 335 P **P 15 56 31.4 -1.7**
AKASG pmax pmax
comp=Z,3.0nm,1.2s
AKASG Malin Array Be 83.76 335 P **P 15 56 33.6 +0.4**
comp=Z,2.4nm,0.7s,baz=135,slow=4.2,SNR=6.9
AKASG Malin Array Be 83.76 335 P **P 15 56 31.4 -1.7**
AKBB Malin Array Si 83.76 335 P **P 15 56 32.2 -0.9**
AKBB pmax pmax
comp=Z,13nm,1.2s
AKBB Malin Array Si 83.76 335 P **P 15 56 32.2 -0.9**
AKBB IAmb IAmb 15 56 40.8
comp=Z,13nm,1.1s
PSZ Piszkesteto 85.59 329 P **P 15 56 42.6 +0.1**
PSZ pmax pmax
comp=Z,35nm,1.9s
PSZ Piszkesteto 85.59 329 P **P 15 56 42.6 +0.1**
PSZ IAmb IAmb 15 56 49.9
comp=Z,35nm,1.9s
VYHS Vyhne 86.50 329 *e*P **P 15 56 47.9 +1.0**
VYHS Vyhne 86.50 329 *e*P **P 15 56 47.9 +1.0**
LANS Liptovska Anna 86.67 330 *e*P **P 15 56 50.1 +2.3**
LANS Liptovska Anna 86.67 330 *e*P **P 15 56 50.1 +2.3**
OJC Ojcow 87.29 330 P **P 15 56 50.4 -0.3**
OJC pmax pmax
comp=Z,19nm,1.2s
OJC Ojcow 87.29 330 P **P 15 56 50.4 -0.3**
OJC IAmb IAmb 15 56 59.1
comp=Z,19nm,1.2s
MORC Moravsky Berou 88.00 329 ⇑P **P 15 56 55.0 +0.8**
MORC Moravsky Berou 88.00 329 ⇑P **P 15 56 55.0 +0.8**
MORC Moravsky Berou 88.00 329 P **P 15 56 55.0 +0.8**
MORC IAmb IAmb 15 57 01.4
comp=Z,24nm,1.6s
MAJO Matsushiro 88.98 48 *i* P **P 15 57 01.9 +2.7**
MAJO pmax pmax
comp=Z,12nm,1.2s
GERES GERESS Array B 89.22 327 P **P 15 56 59.2 -0.9**
GERES GERESS Array B 89.22 327 P **P 15 57 00.2 +0.2**
comp=Z,0.8nm,0.7s,baz=134,slow=5.6,SNR=3.8
GERES GERESS Array B 89.22 327 P **P 15 56 59.2 -0.9**
KLMR Klimovskoe 89.32 346 *e*P **P 15 56 59.6 -0.5**
KLMR pmax pmax
comp=Z,48nm,1.4s
KLMR Klimovskoe 89.32 346 *e*P **P 15 56 59.6 -0.5**
KLMR AMP 15 57 02.9
comp=Z,48nm,1.4s
KHC Kasperske Hory 89.47 327 *i* P **P 15 56 59.2 -1.9**
KHC pmax pmax
comp=Z,6.0nm,1.3s
KLR Kul'dur 92.33 35 *i* P **P 15 57 16.0 +1.6**
KLR pmax pmax
comp=Z,5.0nm,1.3s
FRNY Flat Rock 144.72 313 PKPab 16 03 39.7 -0.1
H59A Cadyville 144.85 313 P **PKPdf 16 03 41.1 -0.1**
baz=69
I60A Shoreham 144.86 311 P **PKPdf 16 03 41.2 -0.1**
baz=70
LSQQ Lebel-sur-Quev 144.96 321 P **PKPdf 16 03 41.2 -0.1**
baz=59
MATQ Matagami 144.97 323 P **PKPdf 16 03 41.0 -0.3**
baz=58
E56A St. Veronique 144.98 316 P **PKPdf 16 03 41.3 -0.1**
baz=65
D55A Sainte-Anne-du 145.04 317 P **PKPab 16 03 41.0 0.0**
baz=64
J60A Lant Hill Farm 145.15 310 P **PKPdf 16 03 42.4 +0.6**
baz=71
I59A Olmsteadville 145.28 311 P **PKPdf 16 03 42.7 +0.7**
baz=70
LONY Lake Ozonia 145.45 313 P **PKPab 16 03 43.0 +0.4**
baz=68
E52A Mattawa 147.33 318 P **PKPbc 16 03 48.1 +0.3**
baz=61
I55A Frankford 147.65 314 P **PKPbc 16 03 48.8 +0.1**
baz=65
O59A Robesonia 148.03 306 P **PKPbc 16 03 50.1 +0.2**
baz=72
M57A Sunshine Farm, 148.38 309 P **PKiKP 16 03 51.6 -0.8**
baz=70
P59A Jarrettsville 148.42 305 P **PKPbc 16 03 51.3 +0.4**
baz=73
ULM Lac du Bonnet 152.76 340 PKIKP **PKPdf 16 03 53.9 +0.1**
ULM Lac du Bonnet 152.76 340 PKPbc **PKiKP 16 04 01.2 +0.1**
comp=Z,7.1nm,1.2s,baz=13,slow=3.0,SNR=3.4
ULM Lac du Bonnet 152.76 340 PKPdf 16 03 53.9 +0.1
HWUT Hardware Ranch 163.68 4 PKPdf **PKPdf 16 04 09.3 +1.7**
HWUT **PKPab 16 04 59.1 -0.2**

IDC 28 15:45:04.3±2.7, 3°80S×119°07E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/48, mbtmp3.7/3, Error ellipse: s-maj=60.2km s-min=26.2km az=64.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**1.38**	**151**	Pg	Pg	15 45 30.1	-0.7
	101nm,0.3s,baz=324,slow=13,SNR=278						
KAPI				Lg	Lg	15 45 48.5	
	109nm,0.3s,baz=183,slow=18,SNR=46						
WRA	**Warramunga Arr**	**21.89**	**138**	P	P	15 49 58.5	-0.6
	0.8nm,0.9s,baz=322,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**24.40**	**145**	P	P	15 50 24.7	0.0
	1.5nm,0.7s,baz=336,slow=10,SNR=19						
STKA	**Stephens Creek**	**35.03**	**145**	P	P	15 51 59.2	+0.2
	2.0nm,0.5s,baz=310,slow=9.5,SNR=8.0						

*IDC **28** 15:56:42.9±0.8, 29°22N×51°34E, h0km, mb4.2/15, mb1 4.3/20, mb1mx4.1/67, mbtmp4.2/20, ML3.8/5, MS3.5/10, Ms1 3.5/10, ms1mx3.2/47, Error ellipse: s-maj=21.0km s-min=15.9km az=25.0*
*MOS **28** 15:56:43.4±1.4, 29°19N×51°31E, h16km, mb4.9/15, Error ellipse: s-maj=10.4km s-min=4.8km az=118.6*
*ISCJB **28** 15:56:43.6±0.2, 29°13N±0°02×51°23E±0°02, h17km, mb4.5/35, MS3.5/6, Error ellipse: s-maj=3.5km s-min=1.8km az=141.3*
*NEIC **28** 15:56:44.4±2.6, 29°22N±0°05×51°31E±0°07, h10km±4km, mb4.7/35, mb_Lg4.5(TEH)*
*TEH **28** 15:56:44.5, 29°29N×51°32E, h10km, ML4.5*
*THR **28** 15:56:45.6, 29°32N×51°24E, h15km, ML4.6*
*DSN **28** 15:56:47.3±1.6, 29°35N×51°65E, h10km, ML4.8/9, Error ellipse: s-maj=35.8km s-min=11.7km az=26.0*
*OMAN **28** 15:56:55.6±2.3, 28°53N×51°40E, h75km, ml4.5/6, Error ellipse: s-maj=24.9km s-min=4.0km az=110.0*

ISC 28 15:56:45.1±0.4, 29°18N±0°04×51°25E±0°04, h17km, n277, σ1°176/295, mb4.5/48, MS3.4/6, 16C-10D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.79**	**40**	*e*Pg	**Pg**	**15 56 57.3**	**-3.3**
IKAZ				IAMB	IAmb	15 57 08.6	
	comp=Z,88μm,0.5s						
IKAZ	**Kazeroun**	**0.79**	**40**	Pg	**Pg**	**15 56 57.2**	**-3.3**
SHI	**Shiraz**	**1.19**	**67**	P	**Pn**	**15 57 05.2**	**-1.9**
SHI	**Shiraz**	**1.19**	**67**	*e*Sg	**Sb**	**15 57 21.7**	**-0.9**
SHI				*e*Pg	**Pn**	**15 57 06.0**	**-1.1**
KLNJ	**Kolanjah**	**1.85**	**9**	*e*Pn	**Pn**	**15 57 16.7**	**+0.4**
KLNJ				IAMB	IAmb	15 57 47.3	
	comp=Z,0.0nm,0.4s						
JHRM	**Jahrom**	**2.15**	**108**	*e*Pn	**Pb**	**15 57 22.2**	**-1.3**
JHRM				IAMB	IAmb	15 58 10.3	
	comp=Z,0.0nm,0.5s						
LMD1	**Lamerd**	**2.49**	**137**	*e*Pn	**Pb**	**15 57 28.3**	**-1.0**
LMD1				*e*Sg	**Sg**	**15 58 09.4**	**+4.3**
LMD1				IAMB	IAmb	15 58 20.7	
	comp=Z,0.0nm,0.6s						
IBRJ	**Brojen**	**2.72**	**0**	*e*Pn	**Pn**	**15 57 29.7**	**+1.4**
IBRJ	**Brojen**	**2.72**	**0**	Pn	**Pn**	**15 57 29.6**	**+1.3**
IRAM	**Ramesheh**	**2.80**	**20**	*e*Pn	**Pn**	**15 57 30.0**	**+0.7**
JHBN	**Jahan bin**	**3.09**	**351**	*e*Pn	**Pn**	**15 57 34.6**	**+1.3**
ROKH	**ROKH**	**3.16**	**357**	*e*Pn	**Pn**	**15 57 35.4**	**+1.1**
IGAR	**Gharneh**	**3.29**	**12**	*e*Pn	**Pn**	**15 57 37.2**	**+1.2**
IGAR	**Gharneh**	**3.29**	**12**	Pn	**Pn**	**15 57 37.2**	**+1.2**
ISAD	**Sadrabad**	**3.44**	**37**	*e*Pn	**Pn**	**15 57 40.0**	**+1.8**
IPIR	**Pirpir**	**3.51**	**355**	*e*Pn	**Pn**	**15 57 40.6**	**+1.5**
SHGR	**Shooshtar-Gavs**	**3.60**	**325**	*e*AML	AML	15 58 26.6	
	comp=N,1μm,0.4s						
SHGR	**Shooshtar-Gavs**	**3.60**	**325**	*e*AML	AML	15 58 26.8	
	comp=E,1μm,0.6s						
SHGR				*e*Pn	**Pn**	**15 57 41.3**	**+1.2**
IMEH	**Mehriz**	**3.65**	**52**	*e*Pn	**Pn**	**15 57 42.3**	**+1.3**
IZEF	**Zefreh**	**3.82**	**14**	*e*Pn	**Pn**	**15 57 44.1**	**+0.7**
IZEF	**Zefreh**	**3.82**	**14**	Pn	**Pn**	**15 57 44.0**	**+0.7**
ICHK	**Chekchek**	**4.09**	**41**	*e*Pn	**Pn**	**15 57 48.2**	**+1.2**
ICHK	**Chekchek**	**4.09**	**41**	Pn	**Pn**	**15 57 48.2**	**+1.2**
IKLH	**Kolahrood**	**4.14**	**4**	*e*Pn	**Pn**	**15 57 48.8**	**+1.1**
YZKH	**Yazd**	**4.30**	**41**	*e*Pn	**Pn**	**15 57 51.5**	**+1.7**
YZKH	**Yazd**	**4.30**	**41**	*e*Pn	**Pn**	**15 57 51.5**	**+1.7**
IBAF	**Bafgh**	**4.44**	**56**	*e*Pn	**Pn**	**15 57 52.6**	**+0.9**
IBAF	**Bafgh**	**4.44**	**56**	Pn	**Pn**	**15 57 52.6**	**+0.9**
ANAR	**Anarak**	**4.53**	**27**	*e*Pn	**Pn**	**15 57 53.9**	**+0.9**
QAM	**Ghamsar**	**4.57**	**2**	*e*Pn	**Pn**	**15 57 54.5**	**+0.9**
GENO	**Geno**	**4.69**	**111**	*e*Pn	**Pn**	**15 57 56.5**	**+1.3**
GENO				IAMB	IAmb	15 59 55.9	
	comp=Z,0.0nm,0.8s						
KHGB	**Koh Gabri**	**4.70**	**74**	*e*Pn	**Pn**	**15 57 56.9**	**+1.5**
KHGB				IAMB	IAmb	15 58 14.4	
	comp=Z,0.0nm,0.8s						
NGRK	**Negar Kerman**	**4.80**	**83**	*e*Pn	**Pn**	**15 57 58.9**	**+1.9**
NGRK				IAMB	IAmb	15 58 18.6	
	comp=Z,0.0nm,0.6s						
KRSH	**Karshahi**	**4.84**	**9**	*e*Pn	**Pn**	**15 57 58.0**	**+0.8**
TVBK	**TV Kerman**	**4.87**	**79**	*e*Pn	**Pn**	**15 57 59.6**	**+1.8**
TVBK				IAMB	IAmb	15 58 18.2	
	comp=Z,0.0nm,1.1s						
IKMR	**Kamar-syah**	**4.98**	**331**	*e*Pn	**Pn**	**15 57 59.6**	**+0.6**
BDRS	**Dareh Seyedi**	**5.17**	**338**	*e*Pn	**Pn**	**15 58 03.0**	**+1.0**
NIAN	**Nian**	**5.18**	**107**	*e*Pn	**Pn**	**15 58 03.1**	**+1.3**
NIAN				IAMB	IAmb	15 59 05.5	
	comp=Z,0.0nm,0.5s						
IKFM	**Kafar-mosalman**	**5.22**	**327**	*e*Pn	**Pn**	**15 58 05.2**	**+2.9**
ISFB	**Sefidab**	**5.23**	**9**	*e*Pn	**Pn**	**15 58 03.2**	**+0.7**
GHVR	**GHOM**	**5.29**	**0**	*e*Pn	**Pn**	**15 58 04.5**	**+1.1**
GHVR	**GHOM**	**5.29**	**0**	*e*Pn	**Pn**	**15 58 04.5**	**+1.1**
IDOB	**Doab**	**5.29**	**331**	*e*Pn	**Pn**	**15 58 03.9**	**+0.3**
SHME	**Shamm**	**5.34**	**125**	Pn	**Pn**	**15 58 05.7**	**+1.6**
SHME				Sn	**Sn**	**15 59 05.5**	**+0.3**
SHME	**Shamm**	**5.34**	**125**	P	**Pn**	**15 58 05.7**	**+1.6**
SHME				S	**Sn**	**15 59 05.5**	**+0.3**
SHME	**Shamm**	**5.34**	**125**	*e*Pn	**Pn**	**15 58 04.5**	**+0.4**
ASAO	**Ashtian**	**5.46**	**349**	*e*Pn	**Pn**	**15 58 06.8**	**+1.0**
ASAO	**Ashtian**	**5.46**	**349**	*e*Pn	**Pn**	**15 58 06.8**	**+1.0**
HSAM	**Samen**	**5.50**	**336**	*e*Pn	**Pn**	**15 58 07.5**	**+1.0**
CHMN	**Cheshme madani**	**5.52**	**81**	*e*Pn	**Pn**	**15 58 08.7**	**+1.9**
BANOM	**Banah**	**5.53**	**125**	*i* Pn	**Pn**	**15 58 08.1**	**+1.4**
	SNR=16						
BANOM	**Banah**	**5.53**	**125**	*i* P	**Pn**	**15 58 08.1**	**+1.4**
	SNR=16						
BANOM	**Banah**	**5.53**	**125**	P	**Pn**	**15 58 08.4**	**+1.7**
BANOM				S	**Sn**	**15 59 08.8**	**-1.1**
IQOM	**Qom**	**5.65**	**358**	*e*Pn	**Pn**	**15 58 08.6**	**+0.1**
AJN	**Ajban**	**5.68**	**143**	*i* Pn	**Pn**	**15 58 12.0**	**+3.3**
	SNR=8.6						
AJN	**Ajban**	**5.68**	**143**	*i* P	**Pn**	**15 58 12.0**	**+3.3**
	SNR=8.6						
AJN	**Ajban**	**5.68**	**143**	*e*Pn	**Pn**	**15 58 12.4**	**+3.7**
NAZ	**Nazwa, Dubai**	**5.73**	**136**	*i* Pn	**Pn**	**15 58 10.4**	**+1.0**
	SNR=9.8						
NAZ	**Nazwa, Dubai**	**5.73**	**136**	*i* P	**Pn**	**15 58 10.4**	**+1.0**
	SNR=9.8						
NAZ	**Nazwa, Dubai**	**5.73**	**136**	P	**Pn**	**15 58 11.1**	**+1.7**
NAZ				S	**Sn**	**15 59 15.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**5.73**	**136**	*e*Pn	**Pn**	**15 58 12.7**	**+3.3**
MSFE	**Esma-Masafi**	**5.79**	**130**	*i* Pn	**Pn**	**15 58 11.2**	**+0.9**
	SNR=9.4						
MSFE	**Esma-Masafi**	**5.79**	**130**	*i* P	**Pn**	**15 58 11.2**	**+0.9**
	SNR=9.4						
MSFE	**Esma-Masafi**	**5.79**	**130**	*e*Pn	**Pn**	**15 58 12.2**	**+2.0**
ASUD	**Al Ashush, Dub**	**5.81**	**140**	*i* Pn	**Pn**	**15 58 13.4**	**+2.9**
	SNR=42						
ASUD	**Al Ashush, Dub**	**5.81**	**140**	*i* P	**Pn**	**15 58 13.4**	**+2.9**
	SNR=42						
ASUD	**Al Ashush, Dub**	**5.81**	**140**	P	**Pn**	**15 58 13.7**	**+3.3**
	SNR=42						
ASUD				S	**Sn**	**15 59 18.9**	**+2.1**
ASUD	**Al Ashush, Dub**	**5.81**	**140**	*e*Pn	**Pn**	**15 58 13.8**	**+3.3**
IVRN	**Varamin**	**5.81**	**4**	*e*Pn	**Pn**	**15 58 11.5**	**+0.9**
FAQ	**Al Faqa, Dubai**	**5.87**	**138**	P	**Pn**	**15 58 13.5**	**+2.1**
FAQ				S	**Sn**	**15 59 18.8**	**+0.5**
HAGD	**Aghdareh**	**5.91**	**343**	*e*Pn	**Pn**	**15 58 13.3**	**+1.3**
IKOM	**Komasi**	**5.92**	**328**	*e*Pn	**Pn**	**15 58 13.8**	**+1.7**
MDH	**Madha**	**5.92**	**130**	Pn	**Pn**	**15 58 12.3**	**+0.3**
MDH	**Madha**	**5.92**	**130**	P	**Pn**	**15 58 12.3**	**+0.3**
MDH	**Madha**	**5.92**	**130**	P	**Pn**	**15 58 13.7**	**+1.6**
MDH				S	**Sn**	**15 59 18.3**	**-1.2**
MDH	**Madha**	**5.92**	**130**	*e*Pn	**Pn**	**15 58 13.9**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.04**	**49**	*e*Pn	**Pn**	**15 58 14.2**	**+0.5**
UOSS	**Minazif**	**6.10**	**133**	*i* Pn	**Pn**	**15 58 15.6**	**+1.0**
	SNR=9.1						
UOSS	**Minazif**	**6.10**	**133**	*i* P	**Pn**	**15 58 15.6**	**+1.0**
	SNR=9.1						
UOSS	**Minazif**	**6.10**	**133**	P	**Pn**	**15 58 16.2**	**+1.7**
	SNR=8.3						
UOSS	**Minazif**	**6.10**	**133**		**Pn**	**15 58 15.8**	**+1.3**
UOSS				Sn	**Sn**	**15 59 22.1**	**-1.9**
HATD	**Hatta, Dubai**	**6.14**	**134**	*i* Pn	**Pn**	**15 58 16.2**	**+1.1**
	SNR=13						
HATD	**Hatta, Dubai**	**6.14**	**134**	*i* P	**Pn**	**15 58 16.2**	**+1.1**
	SNR=13						
HATD	**Hatta, Dubai**	**6.14**	**134**	P	**Pn**	**15 58 17.4**	**+2.3**
HATD				S	**Sn**	**15 59 24.7**	**-0.2**
HATD	**Hatta, Dubai**	**6.14**	**134**	*e*Pn	**Pn**	**15 58 18.0**	**+2.9**
ASHO	**Ashiyiah**	**6.20**	**135**	*i* Pn	**Pn**	**15 58 16.5**	**+0.7**
	SNR=21						
ASHO	**Ashiyiah**	**6.20**	**135**	*i* P	**Pn**	**15 58 16.5**	**+0.7**
	SNR=21						
ASHO	**Ashiyiah**	**6.20**	**135**	P	**Pn**	**15 58 17.6**	**+1.7**
	SNR=43						
ASHO				S	**Sn**	**15 59 25.8**	**-0.6**
ASHO	**Ashiyiah**	**6.20**	**135**	*e*Pn	**Pn**	**15 58 17.6**	**+1.7**
KCHF	**Cheshme Sefid,**	**6.22**	**326**	*e*Pn	**Pn**	**15 58 17.9**	**+1.6**
IHSB	**Hasanabad**	**6.24**	**0**	*e*Pn	**Pn**	**15 58 17.0**	**+0.5**
KER	**Kermanshah**	**6.26**	**327**	*e*Pn	**Pn**	**15 58 18.3**	**+1.5**
IRAZ	**Razeghan**	**6.31**	**350**	*e*Pn	**Pn**	**15 58 19.7**	**+2.2**
ILAS	**Lasjerd**	**6.35**	**13**	*e*Pn	**Pn**	**15 58 19.5**	**+1.4**
IDMV	**Damavand**	**6.42**	**6**	*e*Pn	**Pn**	**15 58 19.6**	**+0.6**
IDMV	**Damavand**	**6.42**	**6**	Pn	**Pn**	**15 58 19.6**	**+0.6**
ALNE	**Al Ain**	**6.50**	**141**	*i* Pn	**Pn**	**15 58 22.8**	**+2.9**
	SNR=6.1						
ALNE	**Al Ain**	**6.50**	**141**	*i* P	**Pn**	**15 58 22.8**	**+2.9**
	SNR=6.1						
IGHG	**Ghaleghazi**	**6.50**	**323**	*e*Pn	**Pn**	**15 58 23.0**	**+2.8**
HSRG	**Sareghieh**	**6.55**	**338**	*e*Pn	**Pn**	**15 58 22.6**	**+1.7**
IFIR	**Firoozkooh**	**6.57**	**11**	*e*Pn	**Pn**	**15 58 21.5**	**+0.4**
TNSJ	**Nastanj**	**6.61**	**42**	*e*Pn	**Pn**	**15 58 22.7**	**+1.2**
QABG	**Abgarm-Qazvin**	**6.66**	**348**	*e*Pn	**Pn**	**15 58 24.1**	**+1.7**
ISHM	**Shahmirzad**	**6.83**	**14**	*e*Pn	**Pn**	**15 58 25.5**	**+0.8**
IDHR	**Dehrash**	**6.88**	**324**	*e*Pn	**Pn**	**15 58 27.2**	**+1.8**
IPRN	**Peran**	**7.10**	**7**	*e*Pn	**Pn**	**15 58 29.6**	**+1.3**
QALM	**Alamut, Qazvin**	**7.25**	**356**	*e*Pn	**Pn**	**15 58 31.3**	**+0.8**
IKIA	**Kiasar**	**7.30**	**16**	*e*Pn	**Pn**	**15 58 31.3**	**+0.1**
ARQ	**Araqi**	**7.50**	**140**	P	**Pn**	**15 58 35.4**	**+1.8**
	SNR=28						
ARQ				S	**Sn**	**15 59 57.9**	**-0.5**
IGLO	**Ghaloghah**	**7.62**	**16**	*e*Pn	**Pn**	**15 58 37.2**	**+1.7**
RAYN	**Ar Rayn**	**7.63**	**224**	P	**Pn**	**15 58 38.3**	**+2.7**
RAYN	**Ar Rayn**	**7.63**	**224**		**Pn**	**15 58 38.3**	**+2.7**
HOQ	**Hoqain**	**7.78**	**134**	P	**Pn**	**15 58 39.2**	**+1.6**
	SNR=17						
HOQ				S	**Sn**	**16 00 04.3**	**-1.0**
BSY	**Bisya**	**8.35**	**139**	P	**Pn**	**15 58 46.9**	**+1.6**
	SNR=8.6						
BSY				S	**Sn**	**16 00 16.4**	**-2.8**
SMDO	**Samad**	**8.62**	**133**	P	**Pn**	**15 58 51.5**	**+2.3**
SMDO	

WHFO S **Sn** **16 01 27.8 -7.5**
CLDR Caldiran 11.64 331 *e*P **Pn** **15 59 29.4 -1.3**
SHAO Shalim 11.80 159 P **Pn** **15 59 32.7 0.0**
SNR=22
DMTO DMTO 11.90 163 P **Pn** **15 59 33.8 -0.3**
DMTO S **Sn** **16 01 39.7 -6.8**
ABTO Aybut 11.92 171 P **Pn** **15 59 34.0 -0.4**
SNR=35
RBK Rabkut 11.93 166 P **Pn** **15 59 35.1 +0.6**
RBK S **Sn** **16 01 41.2 -6.1**
GNI Garni 12.18 336 P **Pn** **15 59 37.9 -0.1**
GNI Garni 12.18 336 LR LR 16 03 52.3
comp=Z,74nm,18.0s,baz=132,slow=35
GNI Garni 12.18 336 Pn **Pn** **15 59 37.9 -0.1**
SVAN Silvan-Diyarba 12.25 320 *e*P **Pn** **15 59 37.1 -1.7**
AGRB Hanur-Agry 12.41 329 *e*P **Pn** **15 59 43.3 +2.2**
ASF Jabal al Asfar 12.71 287 Pn **Pn** **15 59 44.9 -0.3**
comp=Z,0.5nm,0.3s,baz=162,slow=7.4,SNR=3.3
SVRC Sivrice-ELAZID 13.51 316 *e*P **Pn** **15 59 53.3 -2.9**
AKH Akhalkalaki 13.74 335 P **Pn** **16 00 01.3 +2.0**
AKH Akhalkalaki 13.74 335 **Pn** **16 00 01.3 +2.0**
MMAI Mount Meron Ar 14.11 290 Pn **Pn** **16 00 05.5 +1.3**
comp=Z,0.8nm,0.3s,baz=100,slow=17,SNR=3.7
EIL Elat 14.22 276 LR LR 16 05 44.0
comp=Z,78nm,18.4s,baz=70,slow=38
GROC Groznyy 14.67 344 *e*P **Pn** **16 00 10.7 -1.0**
GROC pmax pmax
comp=Z,11nm,0.4s
ZEI Tsey 14.82 338 *e*P **Pn** **16 00 14.9 +0.9**
ZEI pmax pmax
comp=Z,15nm,0.7s
SVSK Karacayir 15.88 316 *e*P **Pn** **16 00 29.1 +1.4**
KBZ Khabaz 15.99 338 Pn **P** **16 00 31.3 -1.2**
comp=Z,0.4nm,0.3s,baz=176,slow=8.9,SNR=13
KBZ LR LR 16 07 23.0
comp=Z,148nm,19.5s,baz=204,slow=40
KIV Kislovodsk 16.26 337 *e*P **Pn** **16 00 34.1 +1.4**
KIV pmax pmax
comp=Z,111nm,1.0s
KIV Kislovodsk 16.26 337 **Pn** **16 00 33.7 +1.1**
KIV IAmb IAmb 16 00 38.6
comp=Z,53nm,1.2s
CORM Corum 17.50 313 *e*P **P** **16 00 49.2 -0.3**
BRTR Keskin Array B 17.91 311 P **Pn** **16 00 53.7 +0.3**
comp=Z,0.2nm,0.3s,baz=131,slow=13,SNR=10
BRTR Keskin Array B 17.91 311 P **Pn** **16 00 52.7 -0.6**
BR131 Keskin Array S 17.91 311 P **Pn** **16 00 52.8 -0.6**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 17.91 311 P **Pn** **16 00 52.8 -0.6**
BR131 IAmb IAmb 16 01 06.8
comp=Z,5.0nm,0.9s
ELL Elmali 19.41 298 P **P** **16 01 09.9 -0.6**
ELL pmax pmax
comp=Z,131nm,1.8s
ELL Elmali 19.41 298 P **P** **16 01 09.9 -0.6**
ELL IAmb IAmb 16 01 11.4
comp=Z,131nm,1.8s
MANT Manisa 20.97 302 P **P** **16 01 28.2 +0.6**
MANT IAmb IAmb 16 01 32.7
comp=Z,50nm,1.2s
ABKAR Akbulak array 21.12 16 P **P** **16 01 29.2 +0.4**
ABKAR Akbulak array 21.12 16 P **P** **16 01 28.8 0.0**
ABKAR IAmb IAmb 16 01 29.9
comp=Z,5.8nm,1.0s
AKTO Aktyubinsk 21.84 12 P **P** **16 01 36.7 +0.1**
comp=Z,5.3nm,0.6s,baz=199,slow=11,SNR=18
AKTO LR LR 16 11 05.6
comp=Z,165nm,20.2s,baz=166,slow=40
AAK Ala-Archa 23.03 48 LR LR 16 11 11.7
comp=Z,106nm,20.2s,baz=286,slow=38
VRH Novokhopyorsk 23.13 345 *e*P **P** **16 01 49.2 -1.0**
VRH pmax pmax
comp=Z,50nm,0.8s
ALN Alexandroupoli 23.64 306 P **P** **16 01 57.8 +2.5**
ALN pmax pmax
comp=Z,7.0nm,1.1s
ALN Alexandroupoli 23.64 306 **P** **16 01 57.8 +2.5**
ALN IAmb IAmb 16 02 04.9
comp=Z,6.8nm,1.1s
VSR Storozhevoye 23.81 341 *e*P **P** **16 01 54.1 -2.8**
VSR pmax pmax
comp=Z,60nm,1.9s
TLCR 23.86 318 ⇑P **P** **16 02 00.0 +2.5**
TLCR 23.86 318 ⇑P **P** **16 01 60.0 +2.5**
TLB Topalu 23.99 316 ⇑P **P** **16 02 00.6 +1.9**
TLB Topalu 23.99 316 ⇑P **P** **16 02 00.6 +1.9**
CFR Carcaliu 24.25 317 ⇓P **P** **16 01 59.4 -1.7**
CFR Carcaliu 24.25 317 ⇓P **P** **16 01 59.4 -1.7**
RAZG Razgrad 24.44 313 ⇓P **P** **16 02 04.6 +1.7**
MILM Milestii Mici 24.88 322 ⇑P **P** **16 02 09.6 +2.9**
LPSR Galich'ya Gora 25.12 342 *e*P **P** **16 02 07.7 -1.1**
LPSR pmax pmax
comp=Z,50nm,0.8s
VRI Vrincioaia 25.46 318 ⇑P **P** **16 02 14.2 +2.1**
VRI Vrincioaia 25.46 318 ⇑P **P** **16 02 14.2 +2.1**
MLR Muntele Rosu 25.73 316 P **P** **16 02 16.4 +1.7**
MLR pmax pmax
comp=Z,12nm,0.7s
MLR Muntele Rosu 25.73 316 P **P** **16 02 16.9 +2.2**
comp=Z,11nm,0.6s,baz=163,slow=2.1,SNR=11
MLR LR LR 16 13 19.2
comp=Z,61nm,21.9s,baz=117,slow=39
MLR Muntele Rosu 25.73 316 ⇑P **P** **16 02 18.7 +4.0**
MLR Muntele Rosu 25.73 316 P **P** **16 02 16.4 +1.7**
MLR IAmb IAmb 16 02 20.4
comp=Z,12nm,0.7s
ITM Ithomi 25.74 296 P **P** **16 02 15.5 +0.8**
ITM IAmb IAmb 16 02 27.0
comp=Z,39nm,1.6s
TESR Tescani 25.86 319 ⇑P **P** **16 02 17.0 +1.3**
SORM Soroca 25.88 323 ⇑P **P** **16 02 15.7 -0.1**
SORM Soroca 25.88 323 ⇑P **P** **16 02 15.7 -0.1**
VTS Vitosha 26.22 308 ⇓P **P** **16 02 20.5 +1.3**
VTS Vitosha 26.22 308 ⇓P **P** **16 02 20.5 +1.3**
VOIR 26.25 315 ⇓P **P** **16 02 22.6 +3.2**
VOIR 26.25 315 ⇓P **P** **16 02 22.6 +3.2**
DOPR Dopca 26.31 317 ⇓P **P** **16 02 21.3 +1.5**
BIZ Bicaz 26.40 319 ⇑P **P** **16 02 22.3 +1.6**
ARR Arges 26.47 315 ⇓P **P** **16 02 26.1 +4.7**
AKASG Malin Array Be 27.15 328 P **P** **16 02 26.4 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 27.15 328 P **P** **16 02 26.9 -0.3**
comp=Z,1.6nm,0.3s,baz=135,slow=8.7,SNR=11
AKASG Malin Array Be 27.15 328 P **P** **16 02 26.4 -0.8**
AKASG IAmb IAmb 16 02 28.4
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 27.15 328 P **P** **16 02 26.3 -0.9**
AKBB pmax pmax
comp=Z,13nm,1.2s
AKBB Malin Array Si 27.15 328 P **P** **16 02 26.3 -0.9**
AKBB IAmb IAmb 16 02 28.5
comp=Z,13nm,1.1s
BURAR Bucovina Array 27.28 320 ⇑P **P** **16 02 29.0 +0.4**
BURAR Bucovina Array 27.28 320 ⇑P **P** **16 02 29.0 +0.4**
BURAR Bucovina Array 27.28 320 P **P** **16 02 28.2 -0.4**
BUR08 Bucovina Ar. S 27.30 320 P **P** **16 02 29.5 +0.6**
BUR08 IAmb IAmb 16 02 35.7
comp=Z,8.4nm,1.1s
GZR Gura Zlata 27.65 314 ⇑P **P** **16 02 33.0 +1.1**
ARU Arti 27.73 9 LR LR 16 15 38.5
comp=Z,75nm,21.4s,baz=208,slow=41
MDVR Moldovita 28.08 312 ⇑P **P** **16 02 37.4 +1.7**
KOLS Kolonicke sedl 29.65 320 *e*P **P** **16 02 53.2 +3.6**
KOLS Kolonicke sedl 29.65 320 *e*P **P** **16 02 53.2 +3.6**
LANS Liptovska Anna 31.36 318 *e*P **P** **16 03 06.7 +1.9**
LANS Liptovska Anna 31.36 318 *e*P **P** **16 03 06.7 +1.9**
OJC Ojcow 31.69 320 P **P** **16 03 07.4 -0.2**
OJC pmax pmax
comp=Z,13nm,1.0s
OJC Ojcow 31.69 320 P **P** **16 03 07.4 -0.2**
OJC IAmb IAmb 16 03 09.3
comp=Z,13nm,1.0s
KLMR Klimovskoe 32.64 349 *e*P **P** **16 03 13.9 -1.8**
KLMR pmax pmax
comp=Z,34nm,1.6s
KLMR Klimovskoe 32.64 349 *e* **P** **16 03 14.0 -1.8**
KLMR AMP 16 03 26.9
comp=Z,34nm,1.6s
MORC Moravsky Berou 32.77 318 P **P** **16 03 17.1 0.0**
MORC pmax pmax
comp=Z,5.0nm,0.6s
MORC Moravsky Berou 32.77 318 P **P** **16 03 17.1 0.0**
MORC IAmb IAmb 16 03 22.9
comp=Z,5.0nm,0.6s
NRCA Norcia 33.43 304 P **P** **16 03 23.9 +0.9**
NRCA IAmb IAmb 16 03 42.2
comp=Z,27nm,1.4s
DPC Dobruska-Polom 33.72 319 *e*P **P** **16 03 25.9 +0.4**
DPC *e* 16 03 28.5
DPC Dobruska-Polom 33.72 319 *e*P **P** **16 03 25.9 +0.4**
DPC *e*pP **pP** **16 03 28.5 -2.2**
CHVC Chvalec 33.98 319 *e*P **P** **16 03 28.1 +0.4**
CHVC *ex* x 16 03 30.9
GERES GERESS Array B 34.70 315 P **P** **16 03 34.5 +0.5**
comp=Z,0.5nm,0.5s,baz=94,slow=8.0,SNR=4.0
KHC Kasperske Hory 34.88 315 P **P** **16 03 36.7 +1.2**
KHC pmax pmax
comp=Z,6.0nm,1.7s
KHC Kasperske Hory 34.88 315 *e*P **P** **16 03 35.8 +0.3**
KHC *e*pP **pP** **16 03 39.3 -1.4**
KHC Kasperske Hory 34.88 315 P **P** **16 03 36.7 +1.2**
KHC IAmb IAmb 16 03 40.2
comp=Z,6.2nm,1.7s
WATA Walderalm 35.58 312 *i* P **P** **16 03 40.3 -1.3**
comp=Z,2.8nm,0.5s
MOTA Moosalm 35.89 312 *i* pP **P** **16 03 45.5 +1.2**
comp=Z,0.1nm,0.1s
CLL Collm 36.04 319 *e*P **P** **16 03 46.0 +0.7**
CLL Collm 36.04 319 *e*P **P** **16 03 46.0 +0.7**
FETA Feichten 36.05 311 *i* P **P** **16 03 46.0 +0.3**
comp=Z,1.0nm,0.4s
FIA1 FINESS Array S 36.33 340 P **P** **16 03 47.4 -0.3**
FIA1 IAmb IAmb 16 03 52.4
comp=Z,28nm,1.1s
FINES FINESS Array B 36.33 340 P **P** **16 03 47.4 -0.3**
comp=Z,4.5nm,0.8s,baz=140,slow=9.3,SNR=9.1
GRA1 Grafenberg Arr 36.52 315 P **P** **16 03 48.7 -0.8**
GRA1 IAmb IAmb 16 03 51.3
comp=Z,21nm,1.4s
GRF Grafenberg Arr 36.52 315 P **P** **16 03 48.7 -0.8**
GRF pmax pmax
comp=Z,21nm,1.4s
DAVA Damuels 36.67 311 *i* P **P** **16 03 51.3 +0.3**
comp=Z,6.6nm,0.4s
BFO Black Forest 37.95 312 P **P** **16 04 01.8 +0.1**
BFO pmax pmax
comp=Z,7.0nm,1.3s
BFO Black Forest 37.95 312 P **P** **16 04 01.8 +0.1**
BFO IAmb IAmb 16 04 02.9
comp=Z,6.8nm,1.3s
SENIN Lac Senin/Sane 38.20 309 P **P** **16 04 03.2 -0.8**
SENIN IAmb IAmb 16 04 16.9
comp=Z,16nm,1.8s
BNI Bardonecchia 38.40 307 P **P** **16 04 05.0 -0.7**
BNI pmax pmax
comp=Z,24nm,1.8s
BNI Bardonecchia 38.40 307 P **P** **16 04 05.0 -0.7**
BNI IAmb IAmb 16 04 15.5
comp=Z,24nm,1.8s
LVZ Lovozero 39.99 350 P **P** **16 04 18.8 +0.2**
LVZ pmax pmax
comp=Z,147nm,1.5s
LVZ Lovozero 39.99 350 P **P** **16 04 18.8 +0.2**
LVZ IAmb IAmb 16 04 30.3
comp=Z,147nm,1.5s
NC405 NORSAR Array S 41.28 332 P **P** **16 04 28.9 -0.4**
NB201 NORSAR Array S 41.42 332 P **P** **16 04 30.1 -0.3**
NB201 IAmb IAmb 16 04 44.8
comp=Z,2.2nm,0.7s
NB2 NORSAR Subarra 41.45 332 P **P** **16 04 29.8 -0.8**
comp=Z,1.5nm,0.5s,baz=120,slow=8.6
NOA NORSAR Array B 41.45 332 P **P** **16 04 30.2 -0.4**
comp=Z,1.8nm,0.5s,baz=122,slow=8.3,SNR=6.5
NOA LR LR 16 23 11.7
comp=Z,92nm,20.4s,baz=305,slow=38
NC204 NORSAR Array S 41.76 332 P **P** **16 04 32.4 -0.8**
NC204 IAmb IAmb 16 04 50.3
comp=Z,18nm,1.1s
KEV Kevo 42.93 348 P **P** **16 04 43.0 +0.5**
KEV pmax pmax
comp=Z,52nm,1.3s
KEV Kevo 42.93 348 P **P** **16 04 43.0 +0.5**
KEV IAmb IAmb 16 04 48.2
comp=Z,52nm,1.3s
ARCES ARCESS Array B 43.02 347 P **P** **16 04 43.5 +0.2**
comp=Z,5.1nm,0.8s,baz=143,slow=8.5,SNR=11
ARE0 ARCESS Array S 43.02 347 P **P** **16 04 43.4 +0.1**
ARE0 IAmb IAmb 16 04 48.1
comp=Z,0.9nm,1.1s
SONM Songino Array 45.96 50 P **P** **16 05 07.5 +0.2**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 45.96 50 P **P** **16 05 07.4 +0.1**
comp=Z,2.3nm,0.9s,baz=255,slow=9.7,SNR=4.4
SONM Songino Array 45.96 50 P **P** **16 05 07.5 +0.2**
SONM IAmb IAmb 16 05 09.1
comp=Z,3.1nm,1.1s
TOA0 Torodi Ar. Sit 48.53 262 P **P** **16 05 28.3 +0.8**
TOA0 IAmb IAmb 16 05 32.8
comp=Z,3.3nm,0.8s
TORD Torodi Ar. Bea 48.53 262 P **P** **16 05 28.9 +1.4**
comp=Z,2.3nm,0.5s,baz=57,slow=7.6,SNR=12
TORD Torodi Ar. Bea 48.53 262 P **P** **16 05 27.4 -0.2**
TORD IAmb IAmb 16 05 32.8
comp=Z,1.6nm,0.8s
SPA0 Spitsbergen Ar 51.50 351 P **P** **16 05 49.4 +0.1**
SPA0 IAmb IAmb 16 05 57.0
comp=Z,32nm,1.2s
SPITS Spitsbergen Ar 51.50 351 P **P** **16 05 49.6 +0.4**
comp=Z,7.2nm,0.8s,baz=122,slow=14,SNR=15
GSI Gunungsitoli 52.07 114 P **P** **16 05 52.7 -1.7**
GSI IAmb IAmb 16 06 08.9
comp=Z,3μm,1.8s
SCO Scoresbysund 57.20 337 P **P** **16 06 31.0 +0.3**
SCO pmax pmax
comp=Z,19nm,1.8s
SCO Scoresbysund 57.20 337 P **P** **16 06 31.0 +0.3**
SCO IAmb IAmb 16 06 40.0
comp=Z,19nm,1.8s
DBIC Dimbokro 57.29 259 P **P** **16 06 33.3 +1.1**
DBIC pmax pmax
comp=Z,6.0nm,1.0s
DBIC Dimbokro 57.29 259 P **P** **16 06 33.8 +1.6**
comp=Z,3.0nm,0.6s,baz=42,slow=5.8,SNR=6.9
DBIC Dimbokro 57.29 259 P **P** **16 06 33.3 +1.1**
DBIC IAmb IAmb 16 06 34.8
comp=Z,5.5nm,1.0s
LBTB Lobatse 59.25 207 P **P** **16 06 47.2 +1.4**
LBTB pmax pmax
comp=Z,20nm,1.8s
LBTB Lobatse 59.25 207 P **P** **16 06 47.2 +1.4**
LBTB IAmb IAmb 16 06 59.8
comp=Z,20nm,1.8s
KSRS Korea Array 62.99 60 P **P** **16 07 12.2 +1.2**
comp=Z,1.3nm,0.5s,baz=278,slow=6.6,SNR=5.0
BILL Biiibino 71.92 21⇓*e*P **P** **16 08 09.2 +2.2**
BILL *e* 16 08 15.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
JCJ Chichijima 78.05 66 LR LR 16 47 21.2
comp=Z,179nm,21.1s,baz=270,slow=39
BMAR Burnt Mountain 82.95 6 P **P** **16 09 10.1 +1.2**
ILAR Eielson Array 85.29 8 P **P** **16 09 20.6 -0.1**
comp=Z,0.9nm,0.7s,baz=329,slow=4.0,SNR=16
ILAR Eielson Array 85.29 8 P **P** **16 09 19.8 -0.9**
SCRK Sand Creek 86.38 7 P **P** **16 09 26.7 +0.4**
SCRK IAmb IAmb 16 09 28.8
comp=Z,14nm,1.4s
WRA Warramunga Arr 93.75 111 P **P** **16 09 58.4 -3.0**
WRA Warramunga Arr 93.75 111 P **P** **16 10 00.4 -1.1**
comp=Z,0.4nm,0.5s,baz=315,slow=4.1,SNR=7.3
WRA Warramunga Arr 93.75 111 P **P** **16 09 58.4 -3.0**
WRA IAmb IAmb 16 10 01.1
comp=Z,0.4nm,1.6s
ASAR Alice Springs 95.22 114 P **P** **16 10 08.1 0.0**
ASAR Alice Springs 95.22 114 P **P** **16 10 07.9 -0.3**
comp=Z,0.6nm,0.6s,baz=303,slow=4.3,SNR=10
ASAR Alice Springs 95.22 114 P **P** **16 10 08.1 0.0**

ISCJB ***28*** *15:58:46.2±0.2, 37°.40N±0°.02×72°.16E±0°.03, h130km, mb4.5/56, Error ellipse: s-maj=3.2km s-min=2.6km az=149.0*
BJI ***28*** *15:58:47.4±0.0, 37°.66N×72°.02E, h129km, mb4.3/17, mB4.9/13*
MOS ***28*** *15:58:47.7±1.0, 37°.52N×72°.17E, h137km, mb4.5/29, Error ellipse: s-maj=6.3km s-min=4.1km az=97.8*
NEIC ***28*** *15:58:48.5±1.7, 37°.50N±0°.04×71°.96E±0°.06, h134km±6km, mb4.7/88*
IDC ***28*** *15:58:49.7±2.9, 37°.49N×72°.04E, h142km±25km, mb4.0/23, mb1 4.1/27, mb1mx3.9/72, mbtmp4.5/27, MS3.8/2, Ms1 3.8/2, ms1mx2.9/51, Error ellipse: s-maj=18.6km s-min=9.5km az=10.0*
NNC ***28*** *15:58:49.1±1.4, 37°.71N×71°.77E, h146km±27km, mb3.9, mpv4.6, Error ellipse: s-maj=13.9km s-min=8.0km az=171.0*

ISC 28 15:58:47.6±0.3, 37°.47N±0°.04×72°.01E±0°.04, h130km, n292, σ1**92**/315**, mb4.7**/83**, 12C-10D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GAR	**Garm**	**2.03**	**319**			**Pn**	**15 59 22.7**	**+0.6**
GAR					Sn	**Sn**	**15 59 48.0**	**-0.5**
CHGR	**Chuyangaron**	**2.55**	**299**			**Pn**	**15 59 28.4**	**0.0**
CHGR					Sn	**Sn**	**15 59 58.6**	**-1.3**
BTK	**Batken**	**2.75**	**341**	PN		**Pn**	**15 59 33.0**	**+1.9**
BTK							16 00 05.8	
BTK	**Batken**	**2.75**	**341**			**Pn**	**15 59 33.0**	**+1.9**
BTK					Sn	**Sn**	**16 00 05.8**	**+1.2**
CEP	**Cherat**	**3.64**	**181**	P		**Pn**	**15 59 43.6**	**+0.8**
KSH	**Kashi**	**3.72**	**55**	P		**Pn**	**15 59 40.0**	**-3.8**
KSH				S		Sn	16 00 16.3	-11
KSH				smax		smax		
	comp=N,2μm,0.7s							
KSH				smax		smax		
	comp=E,1μm,0.8s							
KBL	**Kabul**	**3.79**	**220**	PN		**Pn**	**15 59 46.2**	**+1.4**
KBL	**Kabul**	**3.79**	**220**			**Pn**	**15 59 46.2**	**+1.4**
ARSB	**Arslanbob**	**3.92**	**11**			**Pn**	**15 59 46.7**	**+0.2**
CHCP	**Chirah Chowk**	**3.94**	**165**	P		**Pn**	**15 59 47.9**	**+1.3**
NIL	**Nilore**	**3.94**	**165**	PN		**Pn**	**15 59 48.0**	**+1.3**
NIL	**Nilore**	**3.94**	**165**			**Pn**	**15 59 48.0**	**+1.3**
TAS	**Tashkent**	**4.40**	**332**	PN		**Pn**	**15 59 52.5**	**-0.1**
TAS	**Tashkent**	**4.40**	**332**	Pn		**Pn**	**15 59 52.5**	**-0.1**
THW	**Thamme Wali**	**4.67**	**183**	P		**Pn**	**15 59 56.5**	**+0.2**
AML	**Almayashu**	**4.83**	**15**	P		**Pn**	**15 59 59.6**	**+0.8**
	SNR=426							
NRN	**Naryn**	**5.02**	**37**	PN		**Pn**	**16 00 00.7**	**-0.6**
NRN	**Naryn**	**5.02**	**37**			**Pn**	**16 00 00.7**	**-0.6**
UCH	**Uchtor**	**5.13**	**21**	P		**Pn**	**16 00 03.6**	**+0.8**
	SNR=176							
KZA	**Kyzart**	**5.24**	**27**	P		**Pn**	**16 00 04.4**	**+0.2**
	SNR=47							
JMU	**Jammu**	**5.30**	**153**	*ex*		**Pn**	**16 00 03.5**	**-1.2**
JMU				*e*S		**Sn**	**16 00 56.5**	**-8.2**
EKS2	**Erkin-Say**	**5.36**	**14**	P		**Pn**	**16 00 06.8**	**+1.1**
	SNR=77							
AAK	**Ala-Archa**	**5.50**	**19**	⇓P		**Pn**	**16 00 08.4**	**+0.8**
	87nm,0.7s							
AAK				S		**Sn**	**16 01 08.6**	**-1.2**
	793nm,0.8s							
AAK	**Ala-Archa**	**5.50**	**19**	PN		**Pn**	**16 00 08.6**	**+1.0**
AAK							16 01 10.3	
AAK	**Ala-Archa**	**5.50**	**19**	P		**Pn**	**16 00 08.8**	**+1.3**
	35nm,0.3s,baz=134,slow=3.4,SNR=460							
AAK				S		**Sn**	**16 01 08.7**	**-1.2**
	30nm,0.3s,baz=318,slow=21,SNR=35							
AAK	**Ala-Archa**	**5.50**	**19**	P		**Pn**	**16 00 08.8**	**+1.3**
	SNR=141							
AAK	**Ala-Archa**	**5.50**	**19**			**Pn**	**16 00 08.6**	**+1.0**
AAK						**Sn**	**16 01 10.3**	**+0.4**
KBK	**Karagaybulak**	**5.65**	**23**	P		**Pn**	**16 00 10.6**	**+1.0**
	SNR=42							
FRU1	**Bishkek**	**5.70**	**20**	PN		**Pn**	**16 00 11.4**	**+1.3**
FRU1	**Bishkek**	**5.70**	**20**			**Pn**	**16 00 11.4**	**+1.3**
KK31	**Karatay Array**	**5.75**	**349**	⇓P		**Pn**	**16 00 09.7**	**-0.9**
	38nm,0.3s,baz=176,slow=13,SNR=674							
KK31				S		**Sn**	**16 01 10.9**	**-4.6**
	77nm,0.5s,baz=170,slow=22,SNR=15							
KK31	**Karatay Array**	**5.75**	**349**	*e*PN		**Pn**	**16 00 11.1**	**+0.4**
KK31				pmax		pmax		
	comp=Z,38nm,0.4s							
KK31	**Karatay Array**	**5.75**	**349**			**Pn**	**16 00 11.2**	**+0.6**
KKAR	**Karatay Array**	**5.75**	**349**	PN		**Pn**	**16 00 10.9**	**+0.2**
KKAR	**Karatay Array**	**5.75**	**349**			**Pn**	**16 00 10.9**	**+0.2**
KKAR	**Karatay Array**	**5.75**	**349**			**Pn**	**16 00 11.2**	**+0.5**
ULHL	**Ulahol**	**5.78**	**33**	P		**Pn**	**16 00 11.5**	**+0.3**
	SNR=12							
CHMS	**Chumysh**	**5.91**	**20**	P		**Pn**	**16 00 13.9**	**+1.0**
	SNR=94							
USP	**Ospenovka**	**6.10**	**17**	P		**Pn**	**16 00 15.9**	**+0.5**
	SNR=43							
TKM2	**Tokmak 2**	**6.10**	**26**	⇑P		**Pn**	**16 00 16.1**	**+0.5**
	comp=Z,40nm,0.7s							
TKM2				⇑S		**Sn**	**16 01 23.1**	**-1.2**
	comp=Z,103nm,0.8s							
TKM2	**Tokmak 2**	**6.10**	**26**	PN		**Pn**	**16 00 16.8**	**+1.2**
TKM2				S		**Sn**	**16 01 23.9**	**-0.4**
TKM2	**Tokmak 2**	**6.10**	**26**	P		**Pn**	**16 00 16.1**	**+0.5**
	SNR=17							
KDJ	**Kajisay**	**6.12**	**39**	PN		**Pn**	**16 00 16.0**	**+0.1**
KDJ	**Kajisay**	**6.12**	**39**			**Pn**	**16 00 16.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**6.17**	**45**			**Pn**	**16 00 16.7**	**-0.1**
DHRM	**DHARAMSHALA**	**6.29**	**145**	*e*P		**Pn**	**16 00 17.2**	**-1.0**
DHRM				*e*S		**Sn**	**16 01 23.3**	**-5.6**
DHRM				IAML			16 01 24.9	
	comp=N,1μm,1.0s							
DHRM				IAML			16 01 28.2	
	comp=E,2μm,0.9s							
MDOK	**Medeo**	**6.87**	**32**	⇓P		**Pn**	**16 00 26.1**	**+0.2**
	comp=E,22nm,0.8s							
MDOK				⇓S		**Sn**	**16 01 42.2**	**-0.5**
	comp=E,54nm,0.8s							
KNDC	**Almaty**	**6.88**	**32**	⇑P		**Pn**	**16 00 26.0**	**0.0**
	comp=E,33nm,0.6s							
KNDC				⇓S		**Sn**	**16 01 42.7**	**-0.1**
	comp=E,138nm,0.9s							
PRZ	**Przheval'sk**	**7.01**	**42**	PN		**Pn**	**16 00 28.3**	**+0.5**
PRZ	**Przheval'sk**	**7.01**	**42**			**Pn**	**16 00 28.3**	**+0.5**
SMLA	**Simla**	**7.63**	**145**	*e*P		**Pn**	**16 00 34.4**	**-1.6**
SMLA				IAML			16 01 55.0	
	comp=E,425nm,0.4s							
SMLA				IAML			16 01 57.2	
	comp=N,502nm,0.6s							
SMLA				IAML			16 01 57.9	
	comp=N,614nm,0.5s							
PDGK	**Podgornoye**	**8.17**	**42**	⇓P		**Pn**	**16 00 42.4**	**-1.1**
	comp=N,23nm,0.9s							
PDGK	**Podgornoye**	**8.17**	**42**	PN		**Pn**	**16 00 42.3**	**-1.1**
PDGK				pmax		pmax		
	comp=Z,23nm,0.9s							
HRA	**Herat**	**8.50**	**252**			**Pn**	**16 00 48.6**	**+0.6**
DDI	**Dehra Dun**	**8.72**	**143**	*e*P		**Pn**	**16 00 49.2**	**-1.6**
DDI				*e*S		Sn	16 02 18.2	-9.3
JOSI	**Joshimath**	**9.31**	**136**	*e*P		**Pn**	**16 00 56.6**	**-2.3**
JOSI				*e*S		Sn	16 02 30.3	-12
JOSI				*ex*		x	16 02 31.1	
JOSI				IAML			16 02 37.7	
	comp=E,720nm,0.2s							
JOSI				IAML			16 02 38.6	
	comp=E,606nm,0.7s							
JOSI				IAML			16 02 39.3	
	comp=N,574nm,0.8s							
NDI	**New Delhi**	**9.79**	**152**	*e*P		**Pn**	**16 01 04.0**	**-1.1**
NDI				*e*P		**Pn**	**16 01 04.0**	**-1.1**
NDI				*e*S		Sn	16 02 44.0	-9.2
NDI				*e*S		Sn	16 02 44.0	-9.2
KUDL	**Kundal**	**10.03**	**157**	*e*P		Pn	16 01 03.4	-5.0
KUDL				*e*S		Sn	16 02 45.8	-13
GEYT	**Alibeck**	**11.02**	**277**	P		**Pn**	**16 01 18.3**	**-3.4**
	comp=N,12nm,0.3s,baz=92,slow=10,SNR=70							
GEYT				S		**Sn**	**16 03 19.0**	**-4.1**
	comp=N,8.8nm,0.3s,baz=240,slow=15,SNR=8.0							
GEYT	**Alibeck**	**11.02**	**277**			**Pn**	**16 01 18.5**	**-3.1**
GEYT						**Sn**	**16 03 18.1**	**-5.0**
GYA0B	**ALIBECK ARRAY**	**11.02**	**277**	⇓P		**Pn**	**16 01 18.2**	**-3.4**
GYA0B				⇑S		**Sn**	**16 03 19.5**	**-3.5**
GYA0B	**ALIBECK ARRAY**	**11.02**	**277**			**Pn**	**16 01 18.9**	**-2.7**
MK31	**Makanchi Array**	**12.03**	**36**	⇓P		**Pn**	**16 01 34.4**	**-0.4**
	comp=N,5.4nm,0.6s,baz=0.0,slow=0.1,SNR=36							
MK31	**Makanchi Array**	**12.03**	**36**	P		**Pn**	**16 01 34.7**	**-0.1**
MK31	**Makanchi Array**	**12.03**	**36**			**Pn**	**16 01 34.7**	**-0.1**
MKAR	**Makanchi Array**	**12.03**	**36**	P		**Pn**	**16 01 35.0**	**+0.2**
MKAR	**Makanchi Array**	**12.03**	**36**	P		**Pn**	**16 01 34.7**	**-0.2**
	comp=N,1.8nm,0.3s,baz=216,slow=15,SNR=2.5							
MKAR	**Makanchi Array**	**12.03**	**36**			**Pn**	**16 01 35.0**	**+0.2**
DANN	**Dangsing**	**13.41**	**129**	*e*P		**Pn**	**16 01 48.7**	**-4.4**
	comp=N,194nm,0.8s							
KOLN	**Koldanda**	**13.73**	**131**	*e*P		**Pn**	**16 01 52.9**	**-4.2**

KURBB Kurchatov Arra 13.95 17 P **Pn 16 01 56.4 -3.1**
comp=N,0.1nm,0.3s,baz=205,slow=12,SNR=16
KURK Kurchatov 14.06 18 P **Pn 16 01 58.1 -2.8**
KURK Kurchatov 14.06 18 P **Pn 16 01 58.1 -2.8**
GKN Gorkha 14.20 128 *e*P **Pn 16 01 59.0 -4.0**
comp=N,141nm,0.6s
AB31 Akbulak array 14.67 327 ⇑P **Pn 16 02 05.2 -3.4**
comp=N,6.8nm,0.5s,baz=134,slow=15,SNR=20
AB31 ⇑S **Sn 16 04 44.4 -6.4**
comp=N,28nm,0.6s
AB31 Akbulak array 14.67 327 P **Pn 16 02 07.8 -0.8**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 14.67 327 P **Pn 16 02 08.3 -0.4**
ABKAR Akbulak array 14.67 327 P **Pn 16 02 08.0 -0.6**
KKN Kakani 14.75 127 *e*P **Pn 16 02 05.8 -4.3**
comp=Z,101nm,0.6s
DMN Daman 14.77 128 *e*P **Pn 16 02 06.1 -4.2**
comp=Z,58nm,0.5s
BHPL Bhopal 14.92 160 *e*S Sn 16 04 43.7 -14
PKIN Phulchoki 14.97 127 *e*P **Pn 16 02 08.5 -4.4**
comp=Z,69nm,0.7s
PKI Pulchoki 14.99 127 *e*P **Pn 16 02 08.7 -4.4**
comp=Z,130nm,0.8s
GUN Gumba 15.05 125 *e*P **Pn 16 02 09.4 -4.6**
comp=Z,87nm,0.6s
JIRN Jiri 15.43 125 *e*P **Pn 16 02 14.5 -4.2**
comp=Z,211nm,0.5s
BVAR Borovoye Array 15.60 356 P **Pn 16 02 18.6 -1.6**
comp=Z,1.4nm,0.3s,baz=159,slow=13,SNR=26
BVAR S **Sn 16 05 04.5 -8.7**
comp=Z,0.6nm,0.3s,baz=168,slow=22,SNR=8.9
BRVK Borovoye 15.64 356 P **Pn 16 02 18.4 -2.3**
comp=Z,37nm,0.9s
BRVK Borovoye 15.64 356 *ce*P **Pn 16 02 19.6 -1.1**
BRVK pmax pmax
comp=Z,55nm,1.3s
BRVK Borovoye 15.64 356 **Pn 16 02 19.6 -1.1**
BRVK IAmb IAmb 16 02 23.7
comp=Z,31nm,0.8s
RAMN Ramite 16.18 126 *e*P **Pn 16 02 23.6 -4.2**
comp=Z,74nm,0.6s
AKTO Aktyubinsk 16.38 327 ⇑P **Pn 16 02 29.7 -0.1**
comp=Z,15nm,0.7s
AKTO ⇑S **Sn 16 05 26.2 -5.8**
comp=Z,22nm,0.8s
AKTO Aktyubinsk 16.38 327 P **Pn 16 02 29.7 -0.1**
AKTO S **Sn 16 05 26.2 -5.8**
AKTO Aktyubinsk 16.38 327 P **P 16 02 31.0 +0.7**
comp=Z,3.5nm,0.3s,baz=127,slow=10,SNR=12
AKTO S Sn 16 05 19.7 -12
comp=Z,0.5nm,0.3s,baz=126,slow=22,SNR=4.7
DGZ Jazzator, Alta 16.52 37 ||*i*P **Pn 16 02 30.2 -1.5**
TAPN Taplejung 16.64 123 *e*P **Pn 16 02 29.8 -3.7**
comp=Z,48nm,0.5s
ODAN Odare 16.75 125 *e*P **Pn 16 02 31.1 -3.7**
comp=Z,51nm,0.5s
LSA Lhasa 17.71 110 P **P 16 02 44.3 -1.3**
LSA pmax pmax
comp=Z,22nm,0.8s
LSA Lhasa 17.71 110 P **P 16 02 44.3 -1.3**
LSA IAmb IAmb 16 02 47.7
comp=Z,22nm,0.8s
UOSS Minazif 18.37 232 P **P 16 02 52.5 +0.1**
UOSS IAmb IAmb 16 02 56.5
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 18.70 24 *i*P **P 16 02 56.0 +0.3**
ZALV pmax pmax
comp=Z,20nm,0.5s
ZALV Zalesovo Beam 18.70 24 P **P 16 02 55.8 +0.1**
comp=Z,5.1nm,0.3s,baz=216,slow=12,SNR=73
SEKA Sheki 19.53 289 P **Pn 16 03 07.1 -0.5**
MNGR Mingechevir, A 19.60 287 P **Pn 16 03 08.4 +0.1**
ZKTA Zakatala 19.99 290 P **Pn 16 03 12.6 -0.2**
GANJ Ganja 20.18 287 P Pn 16 03 14.6 -0.5
SHL Shillong 20.63 119 P **P 16 03 17.0 0.0**
SHL pmax pmax
comp=Z,15nm,0.6s
SHL Shillong 20.63 119 P **P 16 03 17.0 0.0**
SHL IAmb IAmb 16 03 21.1
comp=Z,15nm,0.6s
GROC Groznyy 20.75 294 *e*P **P 16 03 18.5 +0.6**
GROC *e**PP **pP 16 03 46.0 +3.8**
GROC *e**SP **sP 16 04 06.4 +7.5**
GROC pmax pmax
comp=Z,19nm,0.6s
SVE Sverdlovsk 20.80 342 *e*P **P 16 03 18.8 +0.5**
SVE pmax pmax
comp=Z,29nm,1.1s
NAX Nakhchivan 20.85 283 P Pn 16 03 21.8 -1.3
ARU Arti 21.00 339 *c i*P **P 16 03 21.4 +0.9**
ARU 16 03 53.3
ARU S **S 16 07 05.9 -1.0**
ARU pmax pmax
comp=Z,49nm,1.4s
ARU Arti 21.00 339 P **P 16 03 21.5 +0.9**
comp=Z,5.0nm,0.5s,baz=158,slow=7.9,SNR=16
ARU Arti 21.00 339 P **P 16 03 21.0 +0.5**
ARU IAmb IAmb 16 03 22.1
comp=Z,21nm,0.6s
GNI Garni 21.39 286 P **P 16 03 25.6 +0.5**
GNI pmax pmax
comp=Z,26nm,1.0s
GNI Garni 21.39 286 P **P 16 03 25.6 +0.5**
GNI IAmb IAmb 16 03 42.2
comp=Z,26nm,0.9s
TBLG Delisi 21.40 290 P **P 16 03 27.9 +2.9**
TBLG pmax pmax
comp=Z,18nm,0.9s
TBLG Delisi 21.40 290 P **P 16 03 27.9 +2.9**
GTA Gaotai 21.83 76 ⇑P **P 16 03 31.3 +1.6**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,7.1s
GTA LR LR
comp=Z,170nm,18.7s
GTA LR LR
comp=Z,340nm,17.5s
GTA LR LR
comp=Z,320nm,19.0s
AKH Akhalkalaki 22.33 289 P **P 16 03 36.4 +1.6**
AKH pmax pmax
comp=Z,12nm,0.9s
AKH Akhalkalaki 22.33 289 P **P 16 03 36.4 +1.6**
NCK Nalchik 22.38 295 *i*P **P 16 03 38.0 +2.9**
NCK pmax pmax
comp=Z,18nm,0.6s
NEY Neytrino 22.99 294 *i*P **P 16 03 43.7 +2.6**
KIV Kislovodsk 23.08 296 *e*P **P 16 03 45.0 +3.1**
KIV *e*S **S 16 07 44.0 +1.1**
KIV pmax pmax
comp=Z,21nm,0.9s
KIV Kislovodsk 23.08 296 P **P 16 03 41.6 -0.3**
KIRV Kirov 25.74 332 P **P 16 04 07.3 +1.6**
comp=Z,28nm,0.9s,baz=51,slow=3.1,SNR=5.5
KIRV LR LR 16 15 29.9
comp=Z,145nm,19.3s,baz=114,slow=39
ZAK Zakamensk 25.75 50 *e*P **P 16 03 59.7 -6.3**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 26.39 47 *i*P **P 16 04 11.7 0.0**
TLY pmax pmax
comp=Z,8.0nm,1.6s
SONM Songino Array 27.12 57 P **P 16 04 18.6 +0.1**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 27.12 57 P **P 16 04 19.4 +1.0**
comp=Z,2.0nm,0.7s,baz=270,slow=9.0,SNR=15
SONM pP **pP 16 04 50.8 +3.1**
comp=Z,1.5nm,0.8s,baz=263,slow=11,SNR=3.8
SONM Songino Array 27.12 57 P **P 16 04 18.6 +0.1**
ULN Ulaanbaatar 27.57 57 P **P 16 04 23.2 +0.7**
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 27.57 57 P **P 16 04 23.1 +0.7**
GAZ Gaziantep 27.59 280 P **P 16 04 22.3 -0.3**
GAZ IAmb IAmb 16 04 40.7
comp=Z,25nm,1.3s
PRGR Permogore 29.24 334 *e*P **P 16 04 33.5 -3.4**
PRGR pmax pmax
comp=Z,14nm,0.7s
OBN Obninsk 29.75 318 P **P 16 04 42.1 +0.7**
BR131 Keskin Array S 29.93 286 P **P 16 04 44.7 +1.3**
BR131 pmax pmax
comp=Z,6.0nm,1.2s
BR131 Keskin Array S 29.93 286 P **P 16 04 44.7 +1.3**
BRTR Keskin Array B 29.93 286 P **P 16 04 45.2 +1.8**
comp=Z,0.9nm,0.5s,baz=98,slow=7.5,SNR=6.0
BRTR Keskin Array B 29.93 286 P **P 16 04 44.8 +1.3**
XAN Xi'an 30.02 85 P **P 16 04 45.5 +1.3**
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN Xi'an 30.02 85 P **P 16 04 44.6 +0.3**
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN Xi'an 30.02 85 P **P 16 04 44.6 +0.3**
XAN IAmb IAmb 16 04 45.9
comp=Z,5.5nm,0.6s
CMAR Chiang Mai Arr 30.24 121 P **P 16 04 48.0 +1.8**
CMAR Chiang Mai Arr 30.24 121 P **P 16 04 48.0 +1.8**
comp=Z,0.5nm,0.6s,baz=304,slow=9.7,SNR=4.6
CMAR Chiang Mai Arr 30.24 121 P **P 16 04 46.6 +0.5**
HMDM Hanimaadhoo 30.57 178 P **P 16 04 49.3 +0.2**
KLMR Klimovskoe 31.05 329 *e*P **P 16 04 51.4 -1.4**
KLMR pmax pmax
comp=Z,25nm,1.5s
KLMR Klimovskoe 31.05 329 *e*P **P 16 04 51.5 -1.4**
KLMR AMP 16 05 03.8
comp=Z,25nm,1.5s
PALK Pallekele 31.08 163 P **P 16 04 54.0 +0.4**
PALK pmax pmax
comp=Z,41nm,1.8s
PALK Pallekele 31.08 163 P **P 16 04 54.0 +0.4**
PALK IAmb IAmb 16 05 30.4
comp=Z,41nm,1.8s
AKASG Malin Array Be 32.99 307 *i*P **P 16 05 10.0 +0.1**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 32.99 307 P **P 16 05 11.7 +1.8**
comp=Z,5.6nm,0.5s,baz=106,slow=9.1,SNR=17
AKASG Malin Array Be 32.99 307 P **P 16 05 09.8 -0.1**
AKBB Malin Array Si 32.99 307 P **P 16 05 10.4 +0.5**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 32.99 307 P **P 16 05 10.4 +0.5**
NRIK Noril'sk 33.03 10 P **P 16 05 11.2 +1.1**
comp=Z,13nm,0.7s,baz=195,slow=5.6,SNR=23
MLR Muntele Rosu 35.03 298 P **P 16 05 31.0 +3.2**
MLR pmax pmax
comp=Z,9.0nm,1.1s
MLR Muntele Rosu 35.03 298 P **P 16 05 31.0 +3.2**
MLR IAmb IAmb 16 06 04.3
comp=Z,9.4nm,1.1s
JOF Joensuu 35.45 329 P **P 16 05 32.4 +1.4**
JOF pmax pmax
comp=Z,23nm,2.0s
BURAR Bucovina Array 35.45 302 P **P 16 05 32.7 +1.3**
BUR08 Bucovina Ar. S 35.46 302 P **P 16 05 32.8 +1.3**
BUR08 IAmb IAmb 16 06 04.9
comp=Z,25nm,1.9s
WHN Wuhan 35.54 88 P **P 16 05 30.5 -1.7**
LVZ Lovozero 36.87 337 P **P 16 05 44.2 +1.1**
LVZ pmax pmax
comp=Z,161nm,1.6s
LVZ Lovozero 36.87 337 P **P 16 05 44.2 +1.1**
FIA1 FINESS Array S 37.14 325 P **P 16 05 46.4 +1.0**
FINES FINESS Array B 37.14 325 P **P 16 05 46.5 +1.0**
comp=Z,7.3nm,0.6s,baz=113,slow=9.4,SNR=18
FINES FINESS Array B 37.14 325 P **P 16 05 46.2 +0.8**
KOLS Kolonicke sedl 37.40 304 *e*P **P 16 05 49.6 +1.9**
KOLS Kolonicke sedl 37.40 304 *e*P **P 16 05 49.6 +1.9**
SUF Sumiainen 37.54 327 P **P 16 05 49.8 +1.1**
SUF pmax pmax
comp=Z,25nm,1.5s
LANS Liptovska Anna 39.23 305 *e*P **P 16 06 06.5 +3.4**
LANS Liptovska Anna 39.23 305 *e*P **P 16 06 06.5 +3.4**
KEV Kevo 40.21 338 P **P 16 06 11.9 +1.0**
KEV pmax pmax
comp=Z,345nm,1.9s
KEV Kevo 40.21 338 P **P 16 06 11.9 +1.0**
MORC Moravsky Berou 40.45 306 P **P 16 06 15.8 +2.6**
MORC pmax pmax
comp=Z,18nm,2.0s
MORC Moravsky Berou 40.45 306 P **P 16 06 15.8 +2.6**
ARCES ARCESS Array B 40.57 337 P **P 16 06 14.9 +1.1**
comp=Z,8.3nm,0.5s,baz=112,slow=8.4,SNR=37
ARE0 ARCESS Array S 40.57 337 P **P 16 06 15.3 +1.4**
DPC Dobruska-Polom 41.20 307 *e*P **P 16 06 21.3 +2.0**
DPC Dobruska-Polom 41.20 307 *e*P **P 16 06 21.3 +2.0**
BRG Berggiesshubel 42.67 308 *i*P **P 16 06 33.0 +1.8**
comp=Z,6.4nm,0.7s
BRG Berggiesshubel 42.67 308 *i*P **P 16 06 33.0 +1.8**
BRG pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 42.71 36 P **P 16 06 31.7 +0.4**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK Yakutsk 42.71 36 P **P 16 06 31.7 +0.4**
YAK IAmb IAmb 16 06 32.5
comp=Z,14nm,0.8s
GERES GERESS Array B 43.04 305 P **P 16 06 35.9 +1.6**
comp=Z,0.9nm,0.6s,baz=74,slow=7.2,SNR=5.9
GERES GERESS Array B 43.04 305 P **P 16 06 35.5 +1.2**
KHC Kasperske Hory 43.09 305 *e*P **P 16 06 36.4 +1.8**
KHC Kasperske Hory 43.09 305 *e*P **P 16 06 36.4 +1.8**
KHC Kasperske Hory 43.09 305 P **P 16 06 36.4 +1.8**
CLL Collm 43.22 308 *e*P **P 16 06 37.0 +1.4**
CLL Collm 43.22 308 *e*P **P 16 06 37.0 +1.4**
KSRS Korea Array 43.80 72 P **P 16 06 41.1 +0.6**
comp=Z,1.5nm,0.7s,baz=278,slow=6.9,SNR=4.0
KLR Kul'dur 43.92 55 P **P 16 06 42.1 +0.8**
comp=Z,2.9nm,0.5s,baz=284,slow=8.0,SNR=13
NC303 NORSAR Array S 44.04 323 P **P 16 06 43.3 +1.3**
NB201 NORSAR Array S 44.06 322 P **P 16 06 43.0 +0.7**
NB2 NORSAR Subarra 44.10 322 P **P 16 06 42.9 +0.3**
comp=Z,2.6nm,0.5s,baz=93,slow=7.9
NOA NORSAR Array B 44.10 322 P **P 16 06 43.1 +0.5**
comp=Z,3.6nm,0.6s,baz=94,slow=7.7,SNR=10
NBO00 NORSAR Array S 44.31 322 P **P 16 06 44.6 +0.4**
NBO00 IAmb IAmb 16 06 47.4
comp=Z,51nm,1.4s
NC204 NORSAR Array S 44.34 323 P **P 16 06 45.2 +0.7**
NC204 PcP **PcP 16 08 23.3 -2.9**
TIXI Tiksi 44.57 22 *ce*P **P 16 06 45.4 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 44.57 22 P **P 16 06 46.3 +0.2**
comp=Z,6.8nm,0.6s,baz=281,slow=7.0,SNR=36
TIXI Tiksi 44.57 22 P **P 16 06 46.3 +0.2**
TIXI IAmb IAmb 16 06 47.2
comp=Z,8.5nm,0.8s
KONO Kongsberg 44.85 320 P **P 16 06 49.2 +0.7**
KONO pmax pmax
comp=Z,182nm,1.9s
KONO Kongsberg 44.85 320 P **P 16 06 49.2 +0.7**
USRK Ussuriysk Ar. 44.99 62 P **P 16 06 49.7 -0.2**
USRK Ussuriysk Ar. 44.99 62 P **P 16 06 50.0 +0.1**
comp=Z,2.1nm,0.6s,baz=262,slow=8.5,SNR=7.5
USRK Ussuriysk Ar. 44.99 62 P **P 16 06 49.7 -0.2**
SPA0 Spitsbergen Ar 46.74 346 P **P 16 07 02.6 -0.5**
SPA0 IAmb IAmb 16 07 38.8
comp=Z,46nm,1.2s
JNU Nakatsue 47.57 77 P **P 16 07 10.9 +0.7**
comp=Z,5.3nm,0.6s,baz=299,slow=2.0,SNR=5.0
JNU Nakatsue 47.57 77 P **P 16 07 09.6 -0.7**
SENIN Lac Senin/Sane 47.75 302 P **P 16 07 12.2 +0.5**
KBS Kingsbay 47.85 347 P **P 16 07 13.1 +1.5**
KBS pmax pmax
comp=Z,55nm,1.4s
KBS Kingsbay 47.85 347 P **P 16 07 13.1 +1.5**
KEST Kesra 49.50 288 LR LR 16 32 22.3
comp=Z,161nm,18.6s,baz=222,slow=41
SSB Saint Sauveur 49.89 301 P **P 16 07 28.5 +0.7**
SSB pmax pmax
comp=Z,10.0nm,1.2s
SSB Saint Sauveur 49.89 301 P **P 16 07 28.5 +0.7**
SSB IAmb IAmb 16 07 40.7
comp=Z,10nm,1.2s
SBUM Sibu 50.74 124 P **P 16 07 34.4 0.0**
MJB9 Matsu-Tunnel 51.84 70 P **P 16 07 43.1 +0.6**
MAJO Matsushiro 51.85 70 P **P 16 07 43.2 +0.7**
MAJO pmax pmax
comp=Z,78nm,1.9s
MAJO Matsushiro 51.85 70 P **P 16 07 43.2 +0.7**
MJAR Matsushiro Arr 51.85 70 P **P 16 07 42.6 +0.1**
MJAR pmax pmax
comp=Z,5.0nm,1.5s
MJAR Matsushiro Arr 51.85 70 P **P 16 07 43.0 +0.4**
comp=Z,3.0nm,0.8s,baz=301,slow=9.8,SNR=5.4
MJAR Matsushiro Arr 51.85 70 P **P 16 07 42.6 +0.1**
DAG Danmarks Havn 54.03 343 *i*P **P 16 07 58.8 +0.9**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 54.03 343 *i*P **P 16 07 58.8 +0.9**
comp=Z,10nm,0.9s
SCO Scoresbysund 56.49 336 P **P 16 08 15.3 -0.3**
SCO Scoresbysund 56.49 336 P **P 16 08 15.2 -0.3**
BILL Bilibino 57.38 26 ||*e*P **P 16 08 22.7 +0.8**
BILL pmax pmax
comp=Z,3.0nm,0.5s
BILL Bilibino 57.38 26 P **P 16 08 22.7 +0.8**
BILL IAmb IAmb 16 08 23.7
comp=Z,4.6nm,0.8s
ESBB Sonseca Array 57.72 298 P **P 16 08 25.0 +0.2**
ESBB IAmb IAmb 16 08 47.9
comp=Z,31nm,1.9s
ESDC Sonseca Array 57.72 298 P **P 16 08 25.8 +0.9**
comp=Z,1.2nm,0.5s,baz=56,slow=7.6,SNR=11
ESDC Sonseca Array 57.72 298 P **P 16 08 25.3 +0.4**
SUMG Summit 60.41 341 *i*P **P 16 08 44.6 +1.4**
SUMG pmax pmax
comp=Z,22nm,0.6s
SUMG Summit 60.41 341 *i*P **P 16 08 44.6 +1.4**
comp=Z,22nm,0.6s
SUMG Summit 60.41 341 P **P 16 08 44.2 +1.0**
SUMG IAmb IAmb 16 08 45.5
comp=Z,7.9nm,0.7s
PVAQ Vaqueiros 61.36 297 P **P 16 08 49.8 +0.1**
TOA0 Torodi Ar. Sit 66.55 269 P **P 16 09 23.5 -0.4**
TOA0 IAmb IAmb 16 09 24.0
comp=Z,12nm,1.7s
TORD Torodi Ar. Bea 66.55 269 P **P 16 09 23.2 -0.8**
comp=Z,2.2nm,0.5s,baz=48,slow=5.7,SNR=20
TORD pP **pP 16 09 57.9 +1.0**
comp=Z,2.2nm,0.9s,baz=48,slow=4.8,SNR=4.1
TORD Torodi Ar. Bea 66.55 269 P **P 16 09 21.6 -2.3**
SIJI Sorong 66.57 111 P **P 16 09 25.4 +1.3**
comp=Z,13nm,0.9s,baz=11,slow=4.7,SNR=5.9
COLD Coldfoot 70.82 16 P **P 16 09 48.6 -1.0**
IMAR Indian Mountai 71.00 18 P **P 16 09 50.8 +0.1**
BMAR Burnt Mountain 71.81 14 P **P 16 09 56.9 +1.3**
FYU Fort Yukon 72.43 15 P **P 16 10 00.7 +1.5**
FYU IAmb IAmb 16 10 04.3
comp=Z,23nm,1.6s
MLY Manley 72.52 18 P **P 16 10 00.4 +0.5**
INK Inuvik 72.82 10 P **P 16 10 02.4 +0.9**
comp=Z,5.2nm,0.5s,baz=338,slow=6.6,SNR=40
INK Inuvik 72.82 10 P **P 16 10 01.6 +0.1**
INK IAmb IAmb 16 10 02.7
comp=Z,5.8nm,0.6s
MDM Murphy Dome 73.16 17 P **P 16 10 04.5 +0.9**
PRP Porcupine Dome 73.28 15 P **P 16 10 05.3 +0.9**
CCB Clear Creek Bu 73.53 17 P **P 16 10 04.7 -1.0**
WRH Wood River Hil 73.61 17 P **P 16 10 06.2 0.0**
IL31 73.63 16 P **P 16 10 06.2 -0.1**
ILAR Eielson Array 73.63 16 P **P 16 10 05.8 -0.5**
comp=Z,2.1nm,0.9s,baz=317,slow=4.6,SNR=14
KTH Kantishna Hill 73.69 19 P **P 16 10 07.0 +0.1**
KTH IAmb IAmb 16 10 08.4
comp=Z,24nm,1.6s
PPLA Purkeypile 73.91 19 P **P 16 10 08.2 +0.1**
PPLA IAmb IAmb 16 10 09.4
comp=Z,41nm,1.5s
HDA Harding Lake 73.92 17 P **P 16 10 07.0 -1.0**
HDA IAmb IAmb 16 10 17.8
comp=Z,20nm,1.9s
TRF Thorofare Moun 73.94 18 P **P 16 10 05.3 -3.1**
TRF IAmb IAmb 16 10 22.2
comp=Z,41nm,1.9s
MCK McKinley 74.03 18 P **P 16 10 08.9 +0.1**
MCK pmax pmax
comp=Z,16nm,1.5s
MCK McKinley 74.03 18 P **P 16 10 08.9 +0.1**
MCK IAmb IAmb 16 10 43.6
comp=Z,16nm,1.5s
RND Reindeer 74.33 18 P **P 16 10 10.2 -0.3**
RND pmax pmax
comp=Z,10.0nm,1.2s
RND Reindeer 74.33 18 P **P 16 10 10.2 -0.3**
SCRK Sand Creek 74.95 16 P **P 16 10 14.5 +0.3**
DHY Denali Highway 74.97 17 P **P 16 10 14.4 +0.1**
DHY IAmb IAmb 16 10 45.9
comp=Z,23nm,0.7s
PAX Paxson 75.50 17 P **P 16 10 17.3 0.0**
PAX pmax pmax
comp=Z,15nm,0.8s
PAX Paxson 75.50 17 P **P 16 10 17.3 0.0**
PAX IAmb IAmb 16 10 52.0
comp=Z,15nm,0.8s
GHO Glory Hole Cre 75.69 19 P **P 16 10 18.7 +0.3**
GHO IAmb IAmb 16 10 39.0
comp=Z,33nm,1.6s
PMR Palmer 75.79 19 P **P 16 10 18.7 -0.1**
PMR pmax pmax
comp=Z,19nm,1.4s
PMR Palmer 75.79 19 P **P 16 10 18.7 -0.1**
PMR IAmb IAmb 16 10 34.1
comp=Z,19nm,1.4s
DAWY Dawson 75.79 14 P **P 16 10 19.3 +0.4**
DAWY IAmb IAmb 16 10 30.3
comp=Z,23nm,2.0s
SML Sawmill 75.81 18 P **P 16 10 19.2 +0.2**
SML IAmb IAmb 16 10 19.8
comp=Z,9.4nm,0.6s
MENT Mentasta 75.92 16 P **P 16 10 21.7 +2.1**
MENT IAmb IAmb 16 10 35.1
comp=Z,14nm,1.6s
SCM Sheep Creek Mo 76.04 18 P **P 16 10 20.6 +0.2**
SCM pmax pmax
comp=Z,58nm,1.6s
SCM Sheep Creek Mo 76.04 18 P **P 16 10 20.6 +0.2**
RC01 Rabbit Creek A 76.06 19 P **P 16 10 20.4 0.0**
RC01 IAmb IAmb 16 10 27.9
comp=Z,20nm,1.2s
KNK Knik Glacier 76.12 19 P **P 16 10 21.5 +0.7**
KNK IAmb IAmb 16 10 21.8
comp=Z,14nm,1.2s
BCAR Beaver Creek A 76.22 15 P **P 16 10 21.9 +0.6**
VRDI Verde Repeater 77.49 17 P **P 16 10 29.4 +0.7**
VRDI IAmb IAmb 16 10 29.6
comp=Z,26nm,1.7s
EYAK Cordova Ski Ar 77.54 18 P **P 16 10 29.6 +0.9**
BALM Baldy 77.91 16 P **P 16 10 31.7 +0.8**
BALM IAmb IAmb 16 11 04.0
comp=Z,49nm,1.9s
RAGM Ragged Mountai 77.94 18 P **P 16 10 31.9 +0.9**
CRQM Cirque 77.98 17 P **P 16 10 32.2 +0.8**
CRQM IAmb IAmb 16 10 42.3
comp=Z,60nm,1.8s
MORW Morawa 77.99 142 P **P 16 10 32.5 +1.0**
MORW IAmb IAmb 16 10 47.3
comp=Z,37nm,1.6s
KDAK Kodiak Island 78.00 23 P **P 16 10 32.1 +0.9**
KDAK pmax pmax
comp=Z,75nm,1.5s
KDAK Kodiak Island 78.00 23 P **P 16 10 32.1 +0.9**
CTGM Chitina Glacie 78.20 16 P **P 16 10 33.1 +0.5**
CTGM IAmb IAmb 16 10 34.0
comp=Z,46nm,1.8s
OHAK Old Harbor 78.24 23 P **P 16 10 33.1 +0.5**
YAH Yahtse 78.65 16 P **P 16 10 36.4 +1.3**
YKW3 Yellowknife Ar 80.17 3 P **P 16 10 43.7 +0.7**
YKW3 IAmb IAmb 16 10 52.6
comp=Z,20nm,1.2s
YKA Yellowknife Ar 80.24 3 P **P 16 10 43.6 +0.3**
comp=Z,4.1nm,0.5s,baz=351,slow=5.3,SNR=22
YKA Yellowknife Ar 80.24 3 P **P 16 10 43.5 +0.1**
PMG Port Moresby 84.09 106 P **P 16 11 04.1 -0.1**
PMG pmax pmax
comp=Z,10.0nm,0.8s
PMG Port Moresby 84.09 106 P **P 16 11 04.1 -0.1**
PMG IAmb IAmb 16 11 43.0
comp=Z,10nm,0.8s

*BJI **28** 16:02:49.6± 0.0, 0°.16S± 98°.53E, h47km, mb4.9/62, mB5.1/39, Ms4.7/38, Ms7 4.4/38*
*IDC **28** 16:02:52.4± 0.6, 0°.29N± 98°.66E, h33km± 4km, mb4.5/43, mb1 4.6/46, mb1mx4.5/70, mbtmp4.7/46, ML4.6/3, MS4.2/21, Ms1 4.2/21, ms1mx4.1/38, Error ellipse: s-maj=11.5km s-min=8.3km az=41.0*

MOS **28** 16:02:52.0±1.1, 0.°27N×98.°59E, h49km, mb5.3/65, Error ellipse: s-maj=7.7km s-min=4.4km az=112.9
ISCJB **28** 16:02:53.4±0.3, 0.°21N±0.°02×98.°59E±0.°02, h62km±2km, mb5.0/113, Error ellipse: s-maj=4.4km s-min=2.6km az=139.8
DJA **28** 16:02:53.4±0.4, 0.°N±2.°×.9°9E±.°, h23km±4km, M5.1/30, mB5.5/23, mb5.2/30, MLv5.3/24, Mw(mB)5.0/23, Mwp7.4/1
NEIC **28** 16:02:54.1±2.1, 0.°26N±0.°06×98.°56E±0.°06, h51km±4km, mb5.1/127
KLM **28** 16:02:56.0, 0.°19N×98.°60E, h43km, mb5.0
GCMT **28** 16:02:57.1±0.3, 0.°33N±0.°02×98.°54E±0.°02, h19km±1km, MW5.2/69, Moment Tension Solution. s35,c43; s69,c108; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.89±.17; $M_{\theta\theta}$0.02±.13; $M_{\phi\phi}$-0.91±.11; $M_{r\theta}$0.63±.26; $M_{\theta\phi}$1.79±.10; $M_{\phi r}$-7.51±1.02; Best double couple: $M_0$7.79300×10^{16} NP1:ϕ_s175.00000°, δ86.00000°, λ102.00000°. NP2:ϕ_s282.00000°, δ13.00000°, λ18.00000°. Principal axes: T 7.6220, Plg47.0000°, Azm98.0000°; N 0.3430, Plg12.0000°, Azm354.0000°; P -7.9640, Plg40.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 28 16:02:53.3±0.4, **0.°18N**±0.°03×**98.°54E**±0.°04, **h44**km±3km, **h44**km:**pP-P,n669**, σ1§**41**/669, **mb5.1**/143, **MS4.4**/34, **14C-11D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.35**	**228**	P	**Pn**	**16 03 03.4**	**+1.0**
PBSI				S	**Sn**	**16 03 10.8**	**+1.9**
SBSI	**Sibolga**	**1.41**	**14**	P	**Pn**	**16 03 17.8**	**+1.3**
SBSI				S	**Sn**	**16 03 35.9**	**+2.0**
GSI	**Gunungsitoli**	**1.48**	**319**	P	**Pn**	**16 03 17.7**	**+0.3**
GSI				S	**Sn**	**16 03 37.5**	**+1.9**
GSI	**Gunungsitoli**	**1.48**	**319**		**Pn**	**16 03 16.7**	**-0.7**
SISI	**Saibi**	**1.59**	**160**	P	**Pn**	**16 03 20.5**	**+1.4**
PDSI	**Padang**	**2.21**	**119**	P	**Pn**	**16 03 28.2**	**+0.7**
BKNI	**Bangkinang**	**2.50**	**87**	P	**Pn**	**16 03 32.6**	**+1.0**
BKNI	**Bangkinang**	**2.50**	**87**		**Pn**	**16 03 32.2**	**+0.6**
RPSI	**Rantau Prapat**	**2.53**	**9**		**Pn**	**16 03 31.8**	**-0.1**
RPSI	**Rantau Prapat**	**2.53**	**9**		**Pn**	**16 03 32.0**	**+0.1**
PSI	**Prapat**	**2.63**	**8**	P	**Pn**	**16 03 31.8**	**-1.6**
PSI	**Prapat**	**2.63**	**8**	Pn	**Pn**	**16 03 32.0**	**-1.4**
	86nm,0.3s,baz=287,slow=2.8,SNR=64						
SDSI	**Sungai Dareh**	**3.09**	**111**	P	**Pn**	**16 03 41.7**	**+2.1**
SNSI	**Sinabang, Aceh**	**3.13**	**315**	P	**Pn**	**16 03 40.2**	**0.0**
PPSI	**Pulau Pagai**	**3.27**	**153**	P	Pn	16 03 47.3	+5.2
TPTI		**3.35**	**336**	P	**Pn**	**16 03 45.7**	**+2.5**
KRJI	**Kerinci**	**3.69**	**128**	P	**Pn**	**16 03 51.1**	**+3.1**
RGRI	**Rengat**	**3.83**	**98**	P	**Pn**	**16 03 52.6**	**+2.8**
MLSI	**Meulaboh, Aceh**	**4.59**	**332**	P	**Pn**	**16 03 59.8**	**-0.4**
IPM	**Ipoh**	**4.94**	**30**	P	**Pn**	**16 04 07.0**	**+1.9**
IPM	**Ipoh**	**4.94**	**30**		**Pn**	**16 04 05.2**	**+0.1**
MASI	**Maura Aman, Be**	**4.96**	**132**	P	**Pn**	**16 04 08.6**	**+3.3**
	1μm,0.9s,14μm20nm						
LHMI	**Lhok Sumawe**	**5.26**	**342**	P	**Pn**	**16 04 09.2**	**-0.3**
LHMI	**Lhok Sumawe**	**5.26**	**342**		**Pn**	**16 04 09.2**	**-0.3**
JRMM	**Jerantut**	**5.39**	**47**	P	**Pn**	**16 04 12.0**	**+0.8**
KULM	**Kulim**	**5.50**	**23**		**Pn**	**16 04 12.4**	**-0.3**
MYKOM	**Kota Tinggi**	**5.54**	**73**	P	**Pn**	**16 04 14.0**	**+0.6**
MYKOM	**Kota Tinggi**	**5.54**	**73**		**Pn**	**16 04 13.8**	**+0.4**
TPRI	**Tanjung Pinang**	**6.03**	**83**	P	**Pn**	**16 04 21.6**	**+1.6**
	168nm,0.5s,3μm1.9nm						
MNAI	**Manna**	**6.31**	**136**	P	**Pn**	**16 04 26.2**	**+2.3**
MNAI	**Manna**	**6.31**	**136**		**Pn**	**16 04 24.6**	**+0.7**
LHSI	**Lahat**	**6.38**	**129**	P	**Pn**	**16 04 27.1**	**+2.3**
	410nm,1.0s,4μm2.7nm						
PMBI	**Palembang**	**6.95**	**116**	Pn	**Pn**	**16 04 33.7**	**+1.0**
SKLT	**Songkhla**	**7.25**	**17**	P	**Pn**	**16 04 41.0**	**+4.3**
	93nm,0.7s,1μm0.3nm						
MDSI	**Maura Dua**	**7.29**	**130**	P	**Pn**	**16 04 39.4**	**+2.0**
	306nm,1.1s,3μm0.9nm						
LWLI	**Liwa**	**7.55**	**133**	P	**Pn**	**16 04 43.2**	**+2.2**
PKDT	**Phuket**	**7.66**	**358**	P	**Pn**	**16 04 46.5**	**+4.0**
	68nm,0.5s,1μm0.3nm						
TRTT	**Trang**	**7.69**	**9**	P	**Pn**	**16 04 45.1**	**+2.3**
	89nm,0.8s,1μm0.4nm						
KLSI		**7.85**	**128**	P	**Pn**	**16 04 47.0**	**+2.0**
	130nm,0.8s,2μm0.5nm						
KASI	**Kota Agung**	**8.21**	**134**	P	**Pn**	**16 04 50.7**	**+0.7**
	212nm,0.6s,3μm1.6nm						
SURT	**Suratani**	**8.72**	**2**	P	Pn	16 05 03.5	+6.5
TPI	**Tanjungpandan**	**9.57**	**108**	P	**Pn**	**16 05 11.6**	**+3.1**
LEM	**Lembang**	**11.42**	**128**	Pn	**Pn**	**16 05 34.8**	**+0.7**
	5.1nm,0.3s,baz=302,slow=5.5,SNR=7.0						
LEM				LR	LR	16 10 19.7	
	comp=Z,2μm,19.8s,baz=306,slow=39						
LEM	**Lembang**	**11.42**	**128**	P	**Pn**	**16 05 35.8**	**+1.7**
KSM	**Kuching**	**11.84**	**84**		**Pn**	**16 05 40.1**	**+0.5**
CISI	**Cisompet, Garu**	**12.03**	**130**	P	**Pn**	**16 05 39.4**	**-2.9**
CISI	**Cisompet, Garu**	**12.03**	**130**	Pn	**Pn**	**16 05 38.9**	**-3.4**
XMIS	**Christmas Isla**	**12.74**	**146**	Pn	Pn	16 05 45.9	-6.0
KPJI	**Karang Pucung**	**12.77**	**126**	P	**Pn**	**16 05 52.6**	**+0.2**
STKI	**Sintang**	**12.94**	**90**	P	**P**	**16 06 00.7**	**-3.6**
SBUM	**Sibu**	**13.86**	**81**	P	**Pn**	**16 06 09.2**	**+1.9**
SMRI	**Semarang**	**13.88**	**121**	P	**Pn**	**16 06 09.5**	**+2.0**
SMRI	**Semarang**	**13.88**	**121**		**Pn**	**16 06 07.8**	**+0.3**
UGM	**Wanagama**	**14.40**	**124**	P	**Pn**	**16 06 15.1**	**+0.5**
	81nm,0.6s						
UGM	**Wanagama**	**14.40**	**124**	P	**Pn**	**16 06 11.8**	**-2.7**
NGJI	**Ngawi**	**14.91**	**120**	P	**Pn**	**16 06 23.6**	**+2.3**
	79nm,1.1s						
DLV	**T Lat**	**15.30**	**40**	Pn	**Pn**	**16 06 26.8**	**+0.2**
DLV				IAmb	IAmb	16 06 44.1	
	comp=Z,141nm,1.6s						
UTHA	**Uthaitani**	**15.31**	**3**	P	**P**	**16 06 31.4**	**+0.8**
	comp=Z,50μm,1.0s,comp=Z,495μm						
PWJI	**Pagerwojo**	**15.53**	**122**	P	**Pn**	**16 06 30.7**	**+1.3**
GRJI	**Gresik**	**15.59**	**117**	P	**P**	**16 06 37.4**	**+3.6**
UMPA	**Umpang Tak**	**15.93**	**1**	P	**P**	**16 06 37.7**	**+0.2**
	comp=Z,29μm,1.1s						
CHAI	**Chaiyaphum**	**15.99**	**12**	P	**P**	**16 06 37.9**	**-0.3**
UTTA	**Uttaradit**	**17.57**	**6**	P	**P**	**16 06 55.6**	**0.0**
	comp=Z,39μm,0.9s,comp=Z,270μm						
JAGI	**Jajag, Banyuwa**	**17.77**	**119**	P	**Pn**	**16 06 57.0**	**-0.6**
JAGI	**Jajag, Banyuwa**	**17.77**	**119**	P	**Pn**	**16 06 55.0**	**-2.6**
MHMT	**Maesarieng**	**17.89**	**358**	P	**P**	**16 07 01.0**	**+1.7**
	comp=Z,35nm,0.8s						
KBKI	**Kotabaru**	**17.95**	**101**	P	**P**	**16 07 00.9**	**+0.9**
CM31	**Chiang Mai Arr**	**18.17**	**1**	P	**Pn**	**16 07 02.5**	**+0.1**
	SNR=8.7						
CM31	**Chiang Mai Arr**	**18.17**	**1**	P	**P**	**16 06 59.5**	**-2.8**
CMAR	**Chiang Mai Arr**	**18.17**	**1**	P	**P**	**16 07 01.3**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=191,slow=11,SNR=21						
CMAR				PcP	**PcP**	**16 11 36.0**	**+1.7**
	baz=220,slow=3.0,SNR=7.0						
CMAR				ScP	**ScP**	**16 15 06.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=240,slow=3.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**18.17**	**1**	P	**P**	**16 06 58.8**	**-3.5**
PHRA	**Phrae**	**18.28**	**5**	P	**Pn**	**16 07 04.1**	**+0.3**
	comp=Z,3.7nm,0.9s						
NONG	**Nongkai**	**18.34**	**14**	P	**Pn**	**16 07 11.1**	**+6.6**
BKB	**Balikpapan**	**18.41**	**95**	P	**P**	**16 07 05.3**	**+0.3**
BKB				IAmb	IAmb	16 07 41.5	
	comp=Z,261nm,1.3s						
CHTO	**Chiang Mai**	**18.52**	**1**	P	**Pn**	**16 07 07.2**	**+0.5**
CHTO	**Chiang Mai**	**18.52**	**1**	P	**P**	**16 07 05.7**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,18nm,1.2s						
CHTO	**Chiang Mai**	**18.52**	**1**	P	**P**	**16 07 05.7**	**-0.5**
CMMT	**Chiang Mai**	**18.52**	**1**	P	**Pn**	**16 07 07.9**	**+1.2**
	comp=Z,6.8nm,0.8s						
SRBI	**Singaraja**	**18.54**	**117**	P	**Pn**	**16 07 12.2**	**+5.3**
KKM	**Kota Kinabalu**	**18.58**	**71**	P	**Pn**	**16 07 08.3**	**+0.7**
KKM				IAmb	IAmb	16 07 20.8	
	comp=Z,109nm,1.2s						
PAYA	**Payao**	**19.11**	**4**	P	**Pn**	**16 07 14.5**	**+0.7**
	comp=Z,37μm,0.7s						
PALK	**Pallekele**	**19.13**	**292**	P	**Pn**	**16 07 15.4**	**+1.2**
PALK	**Pallekele**	**19.13**	**292**	P	**Pn**	**16 07 15.5**	**+1.2**
PALK	**Pallekele**	**19.13**	**292**	P	**Pn**	**16 07 14.8**	**+0.6**
PALK				pmax	pmax		
	comp=Z,99nm,1.6s						
PALK	**Pallekele**	**19.13**	**292**	P	**Pn**	**16 07 15.4**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=116,slow=9.6,SNR=21						
PALK				LR	LR	16 14 00.3	
	comp=Z,1μm,19.0s,baz=118,slow=35						
PALK	**Pallekele**	**19.13**	**292**	P	**Pn**	**16 07 14.8**	**+0.6**
TWSI	**Taliwang, Sumb**	**20.31**	**116**	P	Pn	16 07 31.9	+3.8
	comp=Z,46nm,0.8s						
PLAI	**Plampang**	**21.15**	**116**	P	**P**	**16 07 37.3**	**+2.4**
	comp=Z,33nm,1.2s						
SLVN	**Son La**	**21.67**	**14**	P	**P**	**16 07 39.5**	**-0.8**
QIZ	**Qiongzhong**	**21.77**	**30**	P	**P**	**16 07 41.3**	**-0.2**
QIZ				S	**S**	**16 11 40.8**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,610nm,3.1s						
QIZ				LR	LR		
	comp=Z,1μm,16.7s						
QIZ				LR	LR		
	comp=Z,890nm,15.2s						
QIZ				LR	LR		
	comp=Z,800nm,16.2s						
QIZ	**Qiongzhong**	**21.77**	**30**	P	**P**	**16 07 39.7**	**-1.8**
QIZ				IAmb	IAmb	16 08 14.8	
	comp=Z,177nm,1.6s						
KAPI	**Kappang**	**21.80**	**104**	P	**P**	**16 07 40.4**	**-1.5**
KAPI				pmax	pmax		
	comp=Z,102nm,1.1s						
KAPI	**Kappang**	**21.80**	**104**	P	**P**	**16 07 42.7**	**+0.8**
	comp=Z,17nm,0.5s,baz=283,slow=10,SNR=10						
KAPI				LR	LR	16 17 52.7	
	comp=Z,900nm,18.9s,baz=119,slow=42						
KAPI	**Kappang**	**21.80**	**104**	P	**P**	**16 07 40.4**	**-1.5**
KAPI				IAmb	IAmb	16 07 59.1	
	comp=Z,102nm,1.1s						
BNSI	**Bone**	**22.02**	**102**	P	**P**	**16 07 46.3**	**+2.1**
LUWI	**Luwuk**	**24.26**	**93**	P	**P**	**16 08 07.8**	**+1.2**
	comp=Z,393nm,1.3s,comp=Z,4μm						
LUWI	**Luwuk**	**24.26**	**93**	P	**P**	**16 08 06.3**	**-0.3**
KMI	**Kunming**	**25.13**	**9**	P	**P**	**16 08 15.8**	**+1.2**
KMI				pP	sP	16 08 29.3	-2.2
KMI				sP	pP	16 08 34.0	+7.7
KMI				S	**S**	**16 12 38.5**	**+1.8**
KMI				sS	sS	16 12 57.5	+1.2
KMI				SS	**SnSn**	**16 13 38.5**	**+8.9**
KMI				pmax	pmax		
	comp=Z,13nm,0.9s						
KMI				pmax	pmax		
	comp=Z,84nm,3.1s						
KMI				LR	LR		
	comp=Z,310nm,22.5s						
KMI				LR	LR		
	comp=Z,890nm,22.4s						
KMI				LR	LR		
	comp=Z,830nm,16.9s						
MMRI	**Maumere**	**25.18**	**111**	P	P	16 08 23.7	+8.8
MMRI	**Maumere**	**25.18**	**111**	P	**P**	**16 08 12.5**	**-2.5**
MMRI				IAmb	IAmb	16 08 23.3	
	comp=Z,52nm,1.1s						
KOHI	**KOHIMA**	**25.75**	**351**	*e*P	**P**	**16 08 19.9**	**-0.2**
SHL	**Shillong**	**26.05**	**346**	P	**P**	**16 08 22.6**	**-0.3**
	SNR=16						
SHL	**Shillong**	**26.05**	**346**	P	**P**	**16 08 22.1**	**-0.7**
SHL				pmax	pmax		
	comp=Z,125nm,1.3s						
SHL	**Shillong**	**26.05**	**346**	*e*P	**P**	**16 08 22.1**	**-0.7**
SHL				IAmb	IAmb	16 08 33.2	
	comp=Z,48nm,0.9s						
SHL	**Shillong**	**26.05**	**346**	P	**P**	**16 08 22.1**	**-0.7**
SHL				IAmb	IAmb	16 08 34.0	
	comp=Z,125nm,1.3s						
HYB	**Hyderabad**	**26.09**	**312**	*i* P	**P**	**16 08 22.5**	**-0.6**
BOK	**Bokaro**	**26.49**	**333**	*e*P	**P**	**16 08 27.5**	**+0.8**
H08S2	**Diego Garcia H**	**27.11**	**253**	T	T	16 36 05.4	
	baz=73,slow=75,SNR=2764						
H08S3	**Diego Garcia H**	**27.11**	**253**	T	T	16 36 06.2	
	baz=73,slow=75,SNR=3441						
LKP	**Lekhapani**	**27.12**	**355**	*e*P	**P**	**16 08 31.7**	**-0.6**
H08S1	**Diego Carcia H**	**27.13**	**253**	T	T	16 36 03.2	
	baz=73,slow=75,SNR=1096						
GYA	**Guiyang**	**27.27**	**16**	⇑*i*P	**P**	**16 08 33.8**	**0.0**
GYA				pP	pP	16 08 45.5	-0.1
GYA				sP	sP	16 08 51.0	+0.1
GYA				S	**S**	**16 13 09.0**	**-1.4**
GYA				sS	sS	16 13 30.8	+0.7
GYA				SS	**SnSn**	**16 14 34.0**	**+12**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,490nm,17.2s						
GYA				LR	LR		
	comp=Z,500nm,16.9s						
GYA				LR	LR		
	comp=Z,470nm,17.0s						
SOEI	**Soe**	**27.44**	**112**	P	P	16 08 46.1	+11
SOEI	**Soe**	**27.44**	**112**	P	**P**	**16 08 34.4**	**-1.1**
SOEI				IAmb	IAmb	16 09 03.0	
	comp=Z,31nm,0.7s						
SANI	**Sanana**	**27.53**	**95**	P	**P**	**16 08 42.8**	**+6.6**
ZIRO	**ZIRO**	**27.56**	**351**	*e*P	**P**	**16 08 35.8**	**-0.7**
ZIRO				IAmb	IAmb	16 08 46.0	
	comp=Z,76nm,1.1s						
ZIRO				*e*S	**S**	**16 13 13.0**	**-2.0**
DAV	**Davao City (W)**	**27.82**	**75**	LR	LR	16 21 33.9	
	comp=Z,415nm,19.4s,baz=261,slow=40						
GTK	**Tadong**	**28.62**	**341**	*e*P	**P**	**16 08 46.7**	**+0.8**
GOA	**Goa**	**28.76**	**303**	*e*P	P	16 08 54.4	+7.3
TAPN	**Taplejung**	**28.95**	**340**	*e*P	**P**	**16 08 49.6**	**+0.6**
	comp=Z,40nm,1.0s						
RAMN	**Ramite**	**28.99**	**338**	*e*P	**P**	**16 08 50.3**	**+1.0**
	comp=Z,21nm,0.7s						
JIRN	**Jiri**	**29.78**	**338**	*e*P	**P**	**16 08 56.6**	**+0.1**
	comp=Z,63nm,0.8s						
PSAD1	**Pilbara Seismi**	**29.91**	**137**	P	**P**	**16 08 56.1**	**-1.1**
PSAC1	**Pilbara Seismi**	**29.95**	**137**	P	**P**	**16 08 55.6**	**-2.0**
PSAB1	**Pilbara Seismi**	**29.98**	**137**	P	**P**	**16 08 55.8**	**-2.1**
PSAA2	**Pilbara Seismi**	**29.99**	**137**	P	**P**	**16 08 56.7**	**-1.3**
PSAA1	**Pilbara Seismi**	**30.00**	**137**	P	**P**	**16 08 56.2**	**-1.8**
PSAB2	**Pilbara Seismi**	**30.00**	**137**	P	**P**	**16 08 56.6**	**-1.4**
PSA00	**Pilbara Seismi**	**30.00**	**137**	P	**P**	**16 08 57.3**	**-0.8**
PSA00	**Pilbara Seismi**	**30.00**	**137**	P	**P**	**16 08 56.7**	**-1.4**
PSA00				IAmb	IAmb	16 09 14.3	
	comp=Z,17nm,0.9s						
PSAD3	**Pilbara Seismi**	**30.00**	**138**	P	**P**	**16 08 58.4**	**+0.3**
PSAA3	**Pilbara Seismi**	**30.01**	**137**	P	**P**	**16 08 58.6**	**+0.5**
PSAA3				IAmb	IAmb	16 09 00.4	
	comp=Z,43nm,1.4s						
PKI	**Pulchoki**	**30.01**	**336**	*e*P	**P**	**16 08 58.2**	**-0.2**
PSAB3	**Pilbara Seismi**	**30.02**	**137**	P	**P**	**16 08 58.7**	**+0.5**
PSAB3				IAmb	IAmb	16 09 00.5	
	comp=Z,55nm,1.6s						
PSAC3	**Pilbara Seismi**	**30.02**	**138**	P	**P**	**16 08 58.7**	**+0.5**
PSAC3				IAmb	IAmb	16 09 11.8	
	comp=Z,62nm,1.8s						
PKIN	**Phulchoki**	**30.02**	**336**	*e*P	**P**	**16 08 58.2**	**-0.2**
PSAC2	**Pilbara Seismi**	**30.03**	**137**	P	**P**	**16 08 58.8**	**+0.5**
PSAD2	**Pilbara Seismi**	**30.11**	**137**	P	**P**	**16 08 58.4**	**-0.6**
PSAD2				IAmb	IAmb	16 09 23.5	
	comp=Z,34nm,1.1s						
GUN	**Gumba**	**30.13**	**337**	*e*P	**P**	**16 08 59.7**	**+0.2**
DMN	**Daman**	**30.17**	**336**	*e*P	**P**	**16 09 00.8**	**+1.1**
LSA	**Lhasa**	**30.19**	**347**	P	**P**	**16 09 00.9**	**+0.7**
LSA	**Lhasa**	**30.19**	**347**	P	**P**	**16 09 00.8**	**+0.7**
LSA	**Lhasa**	**30.19**	**347**	P	**P**	**16 08 59.2**	**-0.9**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s						
LSA	**Lhasa**	**30.19**	**347**	P	**P**	**16 08 59.2**	**-0.9**
KKN	**Kakani**	**30.26**	**336**	*e*P	**P**	**16 09 00.5**	**0.0**
	comp=Z,24nm,0.8s						
GKN	**Gorkha**	**30.71**	**335**	*e*P	**P**	**16 09 04.4**	**0.0**
KOLN	**Koldanda**	**30.95**	**334**	*e*P	**P**	**16 09 07.0**	**+0.4**
	comp=Z,85nm,0.8s						
DANN	**Dangsing**	**31.38**	**334**	*e*P	**P**	**16 09 10.8**	**+0.3**
	comp=Z,76nm,0.9s						
ENH	**Enshi**	**31.69**	**18**	P	**P**	**16 09 11.4**	**-1.4**
YULB	**Yu-li**	**31.95**	**42**	P	**P**	**16 09 14.5**	**-0.8**
YULB				IAmb	IAmb	16 09 35.5	
	comp=Z,93nm,1.9s						
SSLB	**Suanglung**	**32.00**	**41**	P	**P**	**16 09 15.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**32.25**	**126**	P	**P**	**16 09 16.2**	**-1.7**
	baz=32,SNR=8.9						
FITZ	**Fitzroy Crossi**	**32.25**	**126**	P	**P**	**16 09 16.3**	**-1.7**
	comp=Z,4.1nm,0.6s,baz=332,slow=7.9,SNR=11						
FITZ	**Fitzroy Crossi**	**32.25**	**126**	P	**P**	**16 09 16.1**	**-1.7**
MEEK	**Meekatharra**	**32.93**	**146**	P	**P**	**16 09 25.2**	**+1.3**
	baz=33,SNR=5.5						
MORW	**Morawa**	**33.55**	**152**	P	**P**	**16 09 31.2**	**+2.1**
MORW				IAmb	IAmb	16 10 03.8	
	comp=Z,45nm,1.4s						
WHN	**Wuhan**	**33.73**	**25**	P	**P**	**16 09 31.3**	**+0.7**
WHN				S	**S**	**16 14 52.3**	**+1.2**
WHN				LR	LR		
	comp=Z,3μm,20.0s						
WHN				LR	LR		
	comp=Z,2μm,15.8s						
WHN				LR	LR		
	comp=Z,1μm,21.1s						
KNRA	**Kununurra**	**33.75**	**119**	P	**P**	**16 09 31.7**	**+0.7**
	baz=34,SNR=4.0						
KNRA	**Kununurra**	**33.75**	**119**	P	**P**	**16 09 28.3**	**-2.7**
KNRA				IAmb	IAmb	16 10 00.8	
	comp=Z,78nm,1.8s						
FAKI	**Fak Fak**	**33.84**	**95**	P	**P**	**16 09 29.5**	**-2.3**
MTN	**Manton Dam**	**34.81**	**113**	P	**P**	**16 09 40.8**	**+0.5**
	baz=35,SNR=4.9						
MTN	**Manton Dam**	**34.81**	**113**	P	**P**	**16 09 39.0**	**-1.3**
MTN				IAmb	IAmb	16 10 11.6	
	comp=Z,48nm,1.5s						
XAN	**Xi'an**	**35.06**	**15**	P	**P**	**16 09 41.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,77nm,0.8s						
XAN				LR	LR		
	comp=Z,590nm,16.3s						
XAN				LR	LR		
	comp=Z,380nm,17.4s						
XAN				LR	LR		
	comp=Z,690nm,16.5s						
XAN	**Xi'an**	**35.06**	**15**	P	**P**	**16 09 41.4**	**-0.8**
XAN				pmax	pmax		
	comp=Z,68nm,0.9s						
XAN	**Xi'an**	**35.06**	**15**	P	**P**	**16 09 41.4**	**-0.8**
JOSI	**Joshimath**	**35.19**	**331**	*e*P	**P**	**16 09 45.8**	**+2.2**
KDU	**Kakadu**	**36.00**	**112**	P	**P**	**16 09 51.3**	**+0.8**
	baz=36,SNR=4.3						
LZH	**Lanzhou**	**36.06**	**7**	*e*P	**P**	**16 09 51.0**	**+0.1**
LZH				pP	sP	16 10 07.8	-0.3
LZH				sP	pP	16 10 12.3	+9.4
LZH				pmax	pmax		
	comp=Z,31nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=Z,570nm,14.6s						
LZH				LR	LR		
	comp=Z,940nm,15.5s						
LZH				LR	LR		
	comp=Z,540nm,16.1s						
MUN	**Mundaring**	**36.09**	**154**	P	**P**	**16 09 52.1**	**+1.1**
	baz=36,SNR=3.1						
SMLA	**Simla**	**36.85**	**329**	*e*P	**P**	**16 09 59.3**	**+1.8**
SMLA				IAmb	IAmb	16 10 05.4	
	comp=Z,25nm,0.6s						
NJ2	**Nanjing**	**37.06**	**29**	*e*P	**P**	**16 10 00.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,19nm,0.6s						
NJ2				LR	LR		
	comp=Z,870nm,16.1s						
NJ2				LR	LR		
	comp=Z,890nm,15.2s						
NJ2				LR	LR		
	comp=Z,510nm,20.8s						
NWAO	**Narrogin (SRO)**	**37.35**	**154**	P	**P**	**16 10 04.4**	**+2.7**
NWAO				pmax	pmax		
	comp=Z,159nm,1.9s						
NWAO	**Narrogin (SRO)**	**37.35**	**154**	P	**P**	**16 10 04.2**	**+2.5**
NWAO	**Narrogin (SRO)**	**37.35**	**154**	P	**P**	**16 10 04.4**	**+2.7**
NWAO				IAmb	IAmb	16 11 21.9	
	comp=Z,159nm,1.9s						
H01W3	**Cape Leeuwin H**	**37.81**	**159**	T	T	16 50 38.4	
	baz=334,slow=76,SNR=3.2						
H01W2	**Cape Leeuwin H**	**37.82**	**159**	T	T	16 50 25.6	
	baz=334,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**37.82**	**159**	T	T	16 50 22.7	
	baz=334,slow=76,SNR=3.9						
WRKA	**Warakurna**	**38.17**	**133**	P	**P**	**16 10 08.9**	**+0.1**
	baz=38,SNR=15						
KMBL	**Kambalda**	**38.39**	**147**	P	**P**	**16 10 12.8**	**+2.3**
	baz=38,SNR=4.8						
GTA	**Gaotai**	**39.06**	**2**	⇑P	**P**	**16 10 15.5**	**-0.7**
GTA				pP	pP	16 10 28.3	+0.1
GTA				sP	sP	16 10 33.0	-0.4
GTA				PcP	**PcP**	**16 12 26.5**	**+0.9**
GTA				S	**S**	**16 16 14.0**	**+1.4**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,75nm,7.3s						
GTA				LR	LR		
	comp=Z,210nm,18.4s						
GTA				LR	LR		
	comp=Z,340nm,17.5s						
GTA				LR	LR		
	comp=Z,340nm,18.7s						
WB0	**Warramunga Arr**	**40.33**	**122**	P	**P**	**16 10 25.4**	**-1.6**
WRA	**Warramunga Arr**	**40.36**	**122**	P	**P**	**16 10 25.3**	**-1.8**
	comp=Z,3.3nm,0.3s,baz=311,slow=9.8,SNR=97						
WRA				pP	**pP**	**16 10 36.3**	**-2.9**
	comp=Z,8.7nm,0.5s,baz=302,slow=8.9,SNR=12						
WRA				PcP	**PcP**	**16 12 30.9**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=317,slow=2.4,SNR=5.0						
WRA		

KSH pmax pmax
comp=Z,620nm,9.4s
KSH LR LR
comp=Z,160nm,9.9s
KSH LR LR
comp=Z,540nm,11.9s
KSH LR LR
comp=Z,360nm,14.9s
WMQ Urumqi 44.52 349 P **P** **16 11 01.8 +1.1**
WMQ pP pP 16 11 12.0 -0.8
WMQ sP sP 16 11 21.8 +3.8
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.9s
WMQ LR LR
comp=Z,600nm,19.9s
WMQ LR LR
comp=Z,290nm,19.9s
JNU Nakatsue 44.71 40 P **P** **16 11 01.4 -0.9**
comp=Z,23nm,0.8s,baz=250,slow=1.2,SNR=12
WSAR Wadi Sarin 45.03 303 P **P** **16 11 06.1 +1.2**
WSAR Wadi Sarin 45.03 303 P **P** **16 11 06.2 +1.2**
comp=Z,5.7nm,0.6s,baz=131,slow=5.4,SNR=7.4
JMDO Jabal Madar 45.11 302 P **P** **16 11 06.6 +0.9**
QIS Mount Isa 45.13 120 P **P** **16 11 04.9 -1.0**
baz=45,SNR=4.4
TARG Taragay, Kyrgy 45.41 338 P **P** **16 11 04.8 -3.4**
TARG IAmb IAmb 16 11 10.2
comp=Z,25nm,0.9s
SMDO Samad 45.44 303 P **P** **16 11 09.6 +1.2**
SHAO Shalim 45.75 295 P **P** **16 11 12.1 +1.4**
SHAO Shalim 45.75 295 P **P** **16 11 12.2 +1.4**
SOCY Socotra 45.78 287 P **P** **16 11 10.0 -1.2**
PRZ Przheval'sk 45.85 339 P **P** **16 11 12.4 +1.0**
PRZ pmax pmax
comp=Z,43nm,1.2s
PRZ Przheval'sk 45.85 339 P **P** **16 11 12.4 +1.0**
PRZ IAmb IAmb 16 11 14.1
comp=Z,42nm,1.1s
NRN Naryn 45.85 336 P **P** **16 11 10.6 -1.0**
NRN 16 12 49.3
NRN pmax pmax
comp=Z,63nm,1.3s
NRN Naryn 45.85 336 P **P** **16 11 10.6 -1.0**
NRN IAmb IAmb 16 11 13.0
comp=Z,62nm,1.3s
NRN PcP **PcP** **16 12 49.3 +0.9**
KSAR Wonju Array Be 45.92 33 P **P** **16 11 10.9 -0.9**
KSAR Wonju Array Be 45.92 33 P **P** **16 11 10.9 -0.9**
KSRS Korea Array 45.95 33 P **P** **16 11 11.0 -1.0**
comp=Z,14nm,0.6s,baz=221,slow=8.3,SNR=58
KS19 Wonju Array Si 45.95 33 P **P** **16 11 11.4 -0.6**
KDJ Kajisay 45.98 338 P **P** **16 11 12.5 0.0**
KDJ pmax pmax
comp=Z,52nm,1.0s
KDJ Kajisay 45.98 338 P **P** **16 11 12.5 0.0**
BSY Bisya 46.03 302 P **P** **16 11 14.2 +1.3**
PDGK Podgornoye 46.22 341 P **P** **16 11 14.5 +0.3**
PDGK pmax pmax
comp=Z,34nm,1.0s
DMTO DMTO 46.27 295 P **P** **16 11 15.7 +0.9**
HOQ Hoqain 46.27 303 P **P** **16 11 16.1 +1.2**
COEN Coen 46.36 110 P **P** **16 11 13.0 -2.7**
COEN IAmb IAmb 16 11 43.5
comp=Z,60nm,1.9s
GAR Garm 46.49 329 P **P** **16 11 15.7 -0.7**
GAR IAmb IAmb 16 11 18.2
comp=Z,40nm,1.0s
CHGR Chuyangaron 46.83 328 P **P** **16 11 18.5 -0.6**
ARSB Arslanbob 47.04 334 P **P** **16 11 21.0 +0.3**
ARSB IAmb IAmb 16 11 22.4
comp=Z,42nm,1.0s
BTK Batken 47.05 331 P **P** **16 11 21.0 +0.3**
BTK pmax pmax
comp=Z,59nm,1.5s
BTK Batken 47.05 331 P **P** **16 11 21.0 +0.3**
BTK IAmb IAmb 16 11 22.9
comp=Z,59nm,1.5s
UCH Uchtor 47.12 336 P **P** **16 11 22.5 +0.8**
SNR=15
TKM2 Tokmak 2 47.27 337 P **P** **16 11 22.5 0.0**
TKM2 pmax pmax
comp=Z,22nm,0.8s
TKM2 Tokmak 2 47.27 337 P **P** **16 11 23.2 +0.7**
SNR=32
KBK Karagaybulak 47.30 336 P **P** **16 11 24.5 +1.7**
SNR=16
AML Almayashu 47.38 335 P **P** **16 11 24.3 +0.7**
SNR=12
WHFO Wadi Hawf 47.40 294 P **P** **16 11 24.4 +0.7**
AAK Ala-Archa 47.47 336 *i* P **P** **16 11 25.2 +1.1**
SNR=16
AAK Ala-Archa 47.47 336 P **P** **16 11 25.3 +1.3**
SNR=7.0
AAK Ala-Archa 47.47 336 P **P** **16 11 24.8 +0.7**
AAK 16 12 54.7
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 47.47 336 P **P** **16 11 25.3 +1.3**
comp=Z,8.4nm,0.9s,baz=148,slow=8.3,SNR=9.3
AAK PcP **PcP** **16 12 55.4 +1.6**
comp=Z,7.2nm,0.8s,baz=100,slow=6.1,SNR=5.5
AAK Ala-Archa 47.47 336 P **P** **16 11 25.4 +1.3**
SNR=8.9
AAK Ala-Archa 47.47 336 P **P** **16 11 24.8 +0.7**
AAK **PcP** **16 12 54.7 +0.8**
CHMS Chumysh 47.67 336 P **P** **16 11 25.9 +0.5**
SNR=8.5
ABTO Aybut 47.67 293 P **P** **16 11 26.8 +0.9**
UOSS Minazif 47.75 304 P **P** **16 11 28.4 +2.0**
HATD Hatta, Dubai 47.76 304 P **P** **16 11 27.3 +0.9**
ASHO Ashiyiah 47.76 304 P **P** **16 11 27.2 +0.7**
ALNE Al Ain 47.77 303 P **P** **16 11 27.6 +1.1**
EKS2 Erkin-Say 47.78 335 P **P** **16 11 27.3 +0.9**
SNR=11
SONM Songino Array 47.95 7 P **P** **16 11 27.8 +0.1**
SONM 16 12 55.2
SONM pmax pmax
comp=Z,11nm,0.8s
SONM Songino Array 47.95 7 P **P** **16 11 28.1 +0.4**
comp=Z,16nm,0.8s,baz=190,slow=9.7,SNR=68
SONM PcP **PcP** **16 12 55.8 +0.4**
comp=Z,4.9nm,0.7s,baz=185,slow=3.4,SNR=3.9
SONM Songino Array 47.95 7 P **P** **16 11 27.8 +0.1**
SONM **PcP** **16 12 55.2 -0.3**
MSFE Esma-Masafi 47.96 305 P **P** **16 11 29.8 +1.8**
USP Ospenovka 47.99 336 P **P** **16 11 28.5 +0.5**
SNR=29
ULN Ulaanbaatar 48.07 8 P **P** **16 11 29.1 +0.5**
SNR=6.3
ULN Ulaanbaatar 48.07 8 P **P** **16 11 28.8 +0.2**
ULN 16 12 55.5
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 48.07 8 P **P** **16 11 28.8 +0.2**
ULN IAmb IAmb 16 11 45.7
comp=Z,14nm,0.9s
ULN PcP **PcP** **16 12 55.5 -0.4**
BBOO Buckleboo 48.22 137 P **P** **16 11 30.5 +0.6**
baz=48,SNR=7.1
BBOO Buckleboo 48.22 137 P **P** **16 11 29.4 -0.5**
ASUD Al Ashush, Dub 48.35 303 P **P** **16 11 32.1 +1.1**
MKAR Makanchi Array 48.56 345 P **P** **16 11 32.3 +0.1**
comp=Z,21nm,0.7s,baz=152,slow=7.9,SNR=37
MKAR Makanchi Array 48.56 345 P **P** **16 11 31.9 -0.3**
PMG Port Moresby 49.32 103 P **P** **16 11 37.3 -1.3**
PMG pmax pmax
comp=Z,14nm,0.9s
PMG Port Moresby 49.32 103 P **P** **16 11 38.0 -0.6**
comp=Z,10nm,0.7s,baz=102,slow=5.9,SNR=5.9
PMG Port Moresby 49.32 103 P **P** **16 11 37.3 -1.3**
PMG IAmb IAmb 16 11 49.0
comp=Z,14nm,0.8s
KK31 Karatay Array 49.56 333 P **P** **16 11 39.6 -0.4**
KK31 pmax pmax
comp=Z,18nm,1.4s
KK31 Karatay Array 49.56 333 P **P** **16 11 39.6 -0.4**
KK31 IAmb IAmb 16 11 41.2
comp=Z,18nm,1.4s
KKAR Karatay Array 49.56 333 P **P** **16 11 39.7 -0.3**
KKAR pmax pmax
comp=Z,18nm,1.4s
KKAR Karatay Array 49.56 333 P **P** **16 11 39.5 -0.5**
KKAR Karatay Array 49.56 333 P **P** **16 11 39.7 -0.3**
KKAR IAmb IAmb 16 11 41.1
comp=Z,18nm,1.4s
ZAK Zakamensk 50.18 4 *e*P P 16 11 37.0 -7.6
ZAK pmax pmax
comp=Z,5.0nm,1.1s
QLP Quilpie 51.38 125 P **P** **16 11 53.9 -0.1**
baz=51,SNR=3.2
TLY Talaya 51.50 4 *e*P **P** **16 11 55.2 +0.8**
TLY pmax pmax
comp=Z,31nm,0.9s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 51.50 4 P **P** **16 11 55.6 +1.2**
comp=Z,9.5nm,0.8s,baz=337,slow=18,SNR=4.8
TLY Talaya 51.50 4 P **P** **16 11 54.4 0.0**
TLY IAmb IAmb 16 11 59.5
comp=Z,10nm,0.8s
MAJO Matsushiro 51.56 41 P **P** **16 11 53.7 -1.4**
MAJO pmax pmax
comp=Z,80nm,1.9s
MAJO Matsushiro 51.56 41 P **P** **16 11 53.7 -1.4**
MAT Matsushiro 51.56 41 P **P** **16 11 54.0 -1.1**
MJB9 Matsu-Tunnel 51.56 41 P **P** **16 11 54.1 -1.0**
MJAR Matsushiro Arr 51.56 41 P **P** **16 11 54.2 -1.0**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 51.56 41 P **P** **16 11 54.1 -1.0**
comp=Z,6.7nm,0.9s,baz=233,slow=7.3,SNR=8.2
MJAR LR LR 16 33 45.0
comp=Z,168nm,20.6s,baz=200,slow=36
MJAR Matsushiro Arr 51.56 41 P **P** **16 11 54.2 -1.0**
STKA Stephens Creek 51.68 132 P **P** **16 11 56.7 +0.5**
baz=52,SNR=11
STKA Stephens Creek 51.68 132 P **P** **16 11 56.3 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 51.68 132 P **P** **16 11 56.5 +0.3**
comp=Z,6.3nm,0.6s,baz=315,slow=9.1,SNR=12
STKA LR LR 16 37 35.6
comp=Z,190nm,19.9s,baz=307,slow=40
STKA Stephens Creek 51.68 132 P **P** **16 11 56.3 +0.2**
GEYT Alibeck 52.85 320 P **P** **16 12 04.3 -0.5**
comp=Z,3.7nm,0.8s,baz=150,slow=10,SNR=7.5
GEYT Alibeck 52.85 320 P **P** **16 12 03.8 -1.0**
USA0B Ussuriysk Arra 52.97 30 P **P** **16 12 04.6 -0.8**
USA0B pmax pmax
comp=Z,22nm,0.9s
USA0B Ussuriysk Arra 52.97 30 P **P** **16 12 04.6 -0.8**
USA0B IAmb IAmb 16 12 06.4
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 52.97 30 P **P** **16 12 05.0 -0.4**
USRK Ussuriysk Ar. 52.97 30 P **P** **16 12 05.0 -0.4**
comp=Z,19nm,0.9s,baz=229,slow=5.7,SNR=25
USRK LR LR 16 35 13.1
comp=Z,257nm,20.3s,baz=206,slow=37
USRK Ussuriysk Ar. 52.97 30 P **P** **16 12 04.6 -0.8**
KURBB Kurchatov Arra 53.06 344 P **P** **16 12 05.9 -0.1**
comp=Z,12nm,0.7s,baz=165,slow=7.2,SNR=69
KURBB PcP **PcP** **16 13 14.7 +0.7**
comp=Z,4.6nm,0.7s,baz=162,slow=3.7,SNR=6.6
KURK Kurchatov 53.12 344 P **P** **16 12 06.7 +0.3**
SNR=6.7
KURK Kurchatov 53.12 344 P **P** **16 12 06.2 -0.2**
KURK 16 13 14.4
KURK pmax pmax
comp=Z,23nm,0.9s
KURK Kurchatov 53.12 344 P **P** **16 12 06.2 -0.2**
KURK IAmb IAmb 16 12 07.5
comp=Z,23nm,0.9s
KURK **PcP** **16 13 14.4 +0.2**
OPO Ambohidratompo 53.74 247 P **P** **16 12 13.7 +1.9**
comp=Z,4.0nm,0.6s,baz=75,slow=9.3,SNR=5.3
CMSA Cobar Meteorol 54.62 130 P **P** **16 12 18.5 +0.7**
baz=55,SNR=23
ZALV Zalesovo Beam 54.78 350 *i* P **P** **16 12 18.2 -0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV Zalesovo Beam 54.78 350 P **P** **16 12 18.2 -0.3**
comp=Z,10nm,0.6s,baz=178,slow=8.6,SNR=42
RAYN Ar Rayn 56.42 298 P **P** **16 12 30.9 0.0**
RAYN pmax pmax
comp=Z,11nm,0.8s
RAYN Ar Rayn 56.42 298 P **P** **16 12 30.9 0.0**
RAYN IAmb IAmb 16 12 31.5
comp=Z,11nm,0.8s
KLR Kul'dur 56.58 25 *c i*P **P** **16 12 31.7 +0.2**
KLR pmax pmax
comp=Z,19nm,1.0s
KLR Kul'dur 56.58 25 P **P** **16 12 31.5 0.0**
comp=Z,12nm,0.8s,baz=241,slow=6.4,SNR=18
EIDS Eidsvold 56.71 121 P **P** **16 12 32.9 0.0**
baz=57,SNR=4.8
EIDS Eidsvold 56.71 121 P **P** **16 12 31.7 -1.2**
EIDS IAmb IAmb 16 12 44.0
comp=Z,9.3nm,0.7s
BVAR Borovoye Array 57.65 340 P **P** **16 12 38.3 -0.8**
comp=Z,18nm,0.6s,baz=135,slow=8.5,SNR=61
BRVK Borovoye 57.72 340 P **P** **16 12 38.8 -0.6**
BRVK Borovoye 57.72 340 *ce*P **P** **16 12 38.8 -0.6**
BRVK pmax pmax
comp=Z,27nm,1.3s
BRVK Borovoye 57.72 340 P **P** **16 12 38.7 -0.7**
BRVK IAmb IAmb 16 12 39.5
comp=Z,16nm,0.7s
ZEA Zeya 58.43 20 *e*P **P** **16 12 44.4 0.0**
ZEA pmax pmax
comp=Z,73nm,1.6s
CAN Canberra 58.75 132 P **P** **16 12 46.6 -0.5**
CAN pmax pmax
comp=Z,264nm,2.0s
CAN Canberra 58.75 132 P **P** **16 12 46.6 -0.5**
BOD Bodaibo 58.77 10 *e*P **P** **16 12 47.0 +0.2**
BOD pmax pmax
comp=Z,33nm,1.4s
ARMA Armidale 58.85 126 P **P** **16 12 46.6 -1.4**
ARMA IAmb IAmb 16 12 54.3
comp=Z,54nm,1.8s
AB31 Akbulak array 59.04 332 *i* P **P** **16 12 47.4 -1.4**
AB31 pmax pmax
comp=Z,13nm,0.7s
ABKAR Akbulak array 59.04 332 P **P** **16 12 47.9 -0.9**
ABKAR Akbulak array 59.04 332 P **P** **16 12 47.5 -1.2**
ABKAR IAmb IAmb 16 12 48.9
comp=Z,20nm,0.8s
LKRN Lenkeran, Azer 59.51 316 P **P** **16 12 52.0 -0.2**
GRNR Gornyy 59.76 27 *e*P **P** **16 12 53.0 -0.8**
YSS Yuzh-Sakhalins 60.45 33 *e*P **P** **16 12 58.5 0.0**
YSS *e**SP **sP** **16 13 17.1 +0.9**
YSS *e*S **S** **16 21 10.4 -0.1**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS smax smax
comp=N,500nm,11.0s
KIBK Kibwezi 60.53 267 P **P** **16 13 02.0 +2.2**
SNR=6.3
AKTO Aktyubinsk 60.76 332 P **P** **16 12 58.9 -1.7**
AKTO pmax pmax
comp=Z,15nm,1.1s
AKTO Aktyubinsk 60.76 332 P **P** **16 12 59.5 -1.0**
comp=Z,7.6nm,0.8s,baz=131,slow=7.7,SNR=12
KMBO Kilima Mbogo 61.30 269 *i* P **P** **16 13 07.1 +1.9**
SNR=10.0
KMBO Kilima Mbogo 61.30 269 P **P** **16 13 07.1 +1.9**
SNR=8.5
KMBO Kilima Mbogo 61.30 269 P **P** **16 13 06.4 +1.2**
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 61.30 269 P **P** **16 13 06.8 +1.5**
comp=Z,9.1nm,1.0s,baz=58,slow=9.6,SNR=19
KMBO LR LR 16 35 51.2
comp=Z,392nm,20.0s,baz=95,slow=32
KMBO Kilima Mbogo 61.30 269 P **P** **16 13 06.4 +1.2**
KMBO IAmb IAmb 16 13 07.9
comp=Z,12nm,1.0s
AKT Akhty 61.52 319 *e*P **P** **16 13 07.4 +1.3**
AKT *e* 16 15 23.5
AKT pmax pmax
comp=Z,19nm,1.0s
MNGR Mingechevir, A 61.62 318 P **P** **16 13 06.7 +0.1**
SEKA Sheki 61.75 318 P **P** **16 13 07.3 -0.2**
NAX Nakhchivan 62.01 315 P **P** **16 13 09.4 0.0**
GANJ Ganja 62.08 317 P **P** **16 13 09.7 -0.1**
ZKTA Zakatala 62.33 318 P **P** **16 13 11.6 +0.2**
GNI Garni 62.95 316 *ce*P **P** **16 13 15.5 -0.3**
GNI pmax pmax
comp=Z,64nm,1.3s
GNI Garni 62.95 316 P **P** **16 13 16.2 +0.5**
comp=Z,8.1nm,0.8s,baz=172,slow=6.4,SNR=5.6
GNI Garni 62.95 316 P **P** **16 13 15.9 +0.1**
GNI IAmb IAmb 16 13 42.1
comp=Z,27nm,1.2s
LODK Lodwar 63.22 274 P **P** **16 13 20.5 +2.6**
SNR=7.8
TBLG Delisi 63.63 318 P **P** **16 13 20.1 0.0**
TBLG pmax pmax
comp=Z,27nm,1.0s
TBLG Delisi 63.63 318 P **P** **16 13 20.1 0.0**
TBLG IAmb IAmb 16 13 21.2
comp=Z,27nm,1.0s
SVE Sverdlovsk 64.13 338 *e*P **P** **16 13 22.6 -0.3**
SVE pmax pmax
comp=Z,33nm,1.0s
AKH Akhalkalaki 64.34 317 P **P** **16 13 25.4 +0.5**
AKH pmax pmax
comp=Z,11nm,1.2s
AKH Akhalkalaki 64.34 317 P **P** **16 13 25.4 +0.5**
ARU Arti 64.64 337 *c i*P **P** **16 13 25.7 -0.6**
ARU *PP **pP** **16 13 35.9 -3.2**
ARU S **S** **16 22 06.1 +3.2**
ARU SS **SS** **16 26 11.0 -3.4**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 64.64 337 P **P** **16 13 25.4 -0.9**
comp=Z,2.7nm,0.5s,baz=157,slow=5.2,SNR=12
ARU Arti 64.64 337 P **P** **16 13 25.1 -1.2**
ARU IAmb IAmb 16 13 37.8
comp=Z,30nm,1.4s
ZEI Tsey 64.65 318 *e*P **P** **16 13 26.2 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
NEY Neytrino 65.63 318 *i* P **P** **16 13 32.7 -0.5**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 65.72 319 P **P** **16 13 33.3 -0.2**
comp=Z,11nm,0.8s,baz=127,slow=6.4,SNR=21
KIV Kislovodsk 65.95 319 *e*P **P** **16 13 34.5 -0.7**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV MLR MLR
comp=Z,215nm,17.0s
KIV Kislovodsk 65.95 319 P **P** **16 13 33.7 -1.5**
KIV IAmb IAmb 16 13 36.0
comp=Z,14nm,0.9s
YAK Yakutsk 66.03 15 *e*P **P** **16 13 34.0 -1.2**
YAK *e* 16 13 45.4
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=N,16nm,1.2s
YAK Yakutsk 66.03 15 P **P** **16 13 33.8 -1.3**
ASF Jabal al Asfar 66.14 305 P **P** **16 13 37.6 +0.9**
comp=N,4.1nm,0.8s,baz=3.4,slow=6.2,SNR=5.9
EIL Elat 67.13 302 P **P** **16 13 43.5 +0.6**
comp=N,12nm,0.7s,baz=156,slow=2.4,SNR=14
GAZ Gaziantep 67.35 311 P **P** **16 13 44.5 +0.3**
GAZ IAmb IAmb 16 13 45.9
comp=Z,41nm,1.2s
MMAI Mount Meron Ar 67.58 306 P **P** **16 13 46.9 +1.1**
comp=Z,3.7nm,0.6s,baz=118,slow=8.6,SNR=7.0
SOC Sochi 67.77 318 *e*P **P** **16 13 44.8 -1.8**
SOC *e*PPP PPP 16 17 57.5
SOC *e*S **S** **16 22 43.3 +1.9**
SOC *e*SS **SS** **16 27 01.9 -1.6**
SOC pmax pmax
comp=Z,26nm,0.6s
MBAR Mbarara 67.81 269 P **P** **16 13 46.5 -1.1**
MBAR pmax pmax
comp=Z,13nm,1.2s
MBAR Mbarara 67.81 269 P **P** **16 13 46.5 -1.1**
NRIK Noril'sk 69.43 356 P **P** **16 13 55.6 -0.8**
comp=Z,3.1nm,0.4s,baz=132,slow=3.7,SNR=13
DZM Mont Dzumac 69.65 114 *e*P **P** **16 14 01.5 +2.6**
comp=Z,32nm,1.3s
DZM Mont Dzumac 69.65 114 *e*LR LR 16 35 09.2
comp=Z,695nm,24.4s
DZM Mont Dzumac 69.65 114 LR LR 16 48 06.5
comp=Z,241nm,18.1s,baz=296,slow=39
DZM Mont Dzumac 69.65 114 P **P** **16 14 01.6 +2.6**
DZM IAmb IAmb 16 14 23.1
comp=Z,22nm,1.3s
VRH Novokhopyorsk 69.71 326 *e*P **P** **16 13 55.7 -2.8**
VRH pmax pmax
comp=Z,10.0nm,0.5s
CSS Mathiatis 69.75 307 P **P** **16 13 58.4 -0.8**
CSS IAmb IAmb 16 16 28.3
comp=Z,23nm,1.0s
KIRV Kirov 69.79 335 P **P** **16 13 58.6 -0.3**
comp=Z,19nm,0.8s,baz=281,slow=0.8,SNR=8.2
BR131 Keskin Array S 70.78 312 P **P** **16 14 04.8 -0.8**
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 70.78 312 P **P** **16 14 04.8 -0.8**
BRTR Keskin Array B 70.78 312 P **P** **16 14 04.4 -1.2**
comp=Z,5.7nm,0.8s,baz=134,slow=7.4,SNR=25
BRTR pP **pP** **16 14 16.4 -2.1**
comp=Z,3.7nm,0.9s,baz=135,slow=7.9,SNR=6.2
BRTR LR LR 16 48 49.8
comp=Z,87nm,18.1s,baz=87,slow=39
BRTR Keskin Array B 70.78 312 P **P** **16 14 04.8 -0.8**
VORD Divnogorie 70.99 325 *e*P **P** **16 14 03.3 -3.0**
VORD pmax pmax
comp=Z,20nm,0.5s
ILGA Ilgaz 71.11 314 P **P** **16 14 06.6 -1.0**
ILGA IAmb IAmb 16 14 21.3
comp=Z,29nm,1.0s
LSZ Lusaka 71.11 254 P **P** **16 14 08.3 +0.3**
LSZ Lusaka 71.11 254 P **P** **16 14 09.6 +1.6**
comp=Z,1.4nm,0.5s,baz=50,slow=5.6,SNR=5.6
LSZ Lusaka 71.11 254 P **P** **16 14 08.3 +0.3**
VSR Storozhevoye 71.17 325 *e*P P 16 14 01.8 -5.6
VSR pmax pmax
comp=Z,20nm,1.2s
ANTO Ankara 71.45 312 P **P** **16 14 09.2 -0.3**
ANTO pmax pmax
comp=Z,28nm,1.3s
ANTO Ankara 71.45 312 P **P** **16 14 09.2 -0.3**
ANTO IAmb IAmb 16 14 10.1
comp=Z,28nm,1.3s
MA2 Magadan 71.67 25 P **P** **16 14 09.8 -0.5**
MA2 pmax pmax
comp=Z,248nm,2.0s
MA2 Magadan 71.67 25 P **P** **16 14 09.8 -0.5**
PEA0B Petropavlovsk- 71.85 33 P **P** **16 14 10.4 -1.1**
PEA0B pmax pmax
comp=Z,363nm,1.8s
PEA0B Petropavlovsk- 71.85 33 P **P** **16 14 10.4 -1.1**
PETK Petropavlovsk- 71.85 33 P **P** **16 14 10.1 -1.4**
PETK Petropavlovsk- 71.85 33 P **P** **16 14 10.5 -1.0**
comp=Z,6.1nm,0.7s,baz=116,slow=1.2,SNR=6.0
PETK LR LR 16 47 03.8
comp=Z,151nm,19.4s,baz=240,slow=37
PETK Petropavlovsk- 71.85 33 P **P** **16 14 10.1 -1.4**
LPSR Galich'ya Gora 71.88 326 *e*P **P** **16 14 09.2 -2.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
MAW Mawson 72.03 194 P **P** **16 14 13.3 +1.0**
MAW pmax pmax
comp=Z,10.0nm,2.0s
MAW Mawson 72.03 194 P **P** **16 14 14.8 +2.5**
comp=Z,3.1nm,0.7s,baz=18,slow=8.8,SNR=5.3
MAW LR LR 16 39 02.0
comp=Z,130nm,21.5s,baz=57,slow=30
MAW Mawson 72.03 194 P **P** **16 14 13.3 +1.0**
PET Petropavlovsk 72.33 33 P **P** **16 14 13.9 -0.5**
PET pmax pmax
comp=Z,132nm,1.4s
PET Petropavlovsk 72.33 33 P **P** **16 14 13.9 -0.5**
ELL Elmali 72.87 308 P **P** **16 14 17.0 -1.2**
ELL pmax pmax
comp=Z,127nm,1.4s
ELL Elmali 72.87 308 P **P** **16 14 16.9 -1.2**
PRGR Permogore 73.10 337 *e*P **P** **16 14 17.0 -1.8**
PRGR *e**PP **pP** **16 14 28.1 -3.6**
PRGR pmax pmax
comp=Z,25nm,0.7s
TIXI Tiksi 73.96 10 *ce*P **P** **16 14 22.2 -1.4**
TIXI pmax pmax
comp=Z,20nm,1.7s

TIXI Tiksi 73.96 10 P **P 16 14 22.4 -1.3**
TIXI IAmb IAmb 16 14 37.3
comp=Z,50nm,1.7s
SEY Seymchan 74.18 23 *i* P **P 16 14 23.3 -1.8**
OBN Obninsk 74.19 328⇓*eP* **P 16 14 24.0 -1.3**
OBN *e* 16 14 36.5
OBN *e**SP **sP 16 14 45.2 +2.0**
OBN S S 16 24 18.0 +23
OBN pmax pmax
comp=Z,24nm,1.0s
LBTB Lobatse 74.64 244 P **P 16 14 29.5 +0.8**
LBTB pmax pmax
comp=Z,22nm,1.3s
LBTB Lobatse 74.64 244 P **P 16 14 29.5 +0.8**
LBTB IAmb IAmb 16 14 45.5
comp=Z,22nm,1.2s
KLMR Klimovskoe 75.25 334 *eP* **P 16 14 28.9 -2.4**
KLMR pmax pmax
comp=Z,33nm,1.5s
KLMR Klimovskoe 75.25 334 *eP* **P 16 14 28.9 -2.4**
KLMR AMP 16 14 31.7
comp=Z,33nm,1.5s
BOSA Boshof 75.44 240 P **P 16 14 33.3 0.0**
BOSA pmax pmax
comp=Z,15nm,1.2s
BOSA Boshof 75.44 240 P **P 16 14 34.7 +1.4**
comp=Z,3.3nm,0.5s,baz=77,slow=4.1,SNR=9.1
BOSA LR LR 16 42 12.0
comp=Z,215nm,20.3s,baz=60,slow=31
BOSA Boshof 75.44 240 P **P 16 14 33.3 0.0**
SORM Soroca 76.74 320 ⇓P **P 16 14 39.7 -0.4**
AKASG Malin Array Be 76.88 322 *i* P **P 16 14 39.9 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 76.88 322 P **P 16 14 39.7 -1.1**
comp=Z,4.0nm,0.6s,baz=86,slow=4.6,SNR=13
AKASG pP **PcP 16 14 51.2 -0.6**
comp=Z,2.2nm,0.5s,baz=88,slow=4.6,SNR=5.7
AKASG Malin Array Be 76.88 322 P **P 16 14 39.6 -1.2**
AKBB Malin Array Si 76.88 322 P **P 16 14 39.9 -0.9**
AKBB pmax pmax
comp=Z,11nm,1.0s
AKBB Malin Array Si 76.88 322 P **P 16 14 39.9 -0.9**
VRI Vrincioaia 77.27 317 ⇓P **P 16 14 43.7 +0.6**
TMCR Tamitsa 77.38 337 *eP* **P 16 14 40.0 -3.3**
TMCR pmax pmax
comp=Z,37nm,1.3s
TESR Tescani 77.47 318 ⇓P **P 16 14 44.1 -0.2**
RPZ Rata Peaks 77.54 135 P **P 16 14 46.3 +1.6**
RPZ IAmb IAmb 16 14 57.9
comp=Z,54nm,1.4s
MLR Muntele Rosu 77.72 317 P **P 16 14 45.0 -0.8**
MLR pmax pmax
comp=Z,23nm,1.0s
MLR Muntele Rosu 77.72 317 P **P 16 14 46.2 +0.3**
comp=Z,13nm,0.9s,baz=95,slow=4.1,SNR=8.0
MLR Muntele Rosu 77.72 317 ⇓P **P 16 14 45.9 +0.1**
MLR Muntele Rosu 77.72 317 P **P 16 14 45.0 -0.8**
MLR IAmb IAmb 16 14 47.1
comp=Z,23nm,1.0s
BIZ Bicaz 77.93 318 ⇑P **P 16 14 47.2 +0.3**
QRZ Quartz Range 78.04 132 P **P 16 14 48.8 +1.3**
OXZ Oxford 78.16 134 P **P 16 14 49.3 +1.1**
DOPR Dopca 78.21 317 ⇑P **P 16 14 48.3 -0.1**
PLVB Pleven 78.22 314 ⇓P **P 16 14 48.6 +0.1**
VOIR 78.33 316 ⇓P **P 16 14 49.3 +0.1**
THZ Tophouse 78.49 133 P **P 16 14 51.5 +1.4**
THZ IAmb IAmb 16 15 02.7
comp=Z,32nm,1.0s
BURAR Bucovina Array 78.67 319 P **P 16 14 50.7 -0.3**
BURAR Bucovina Array 78.67 319 ⇑P **P 16 14 51.6 +0.6**
BURAR mb 16 15 04.7
BURAR Bucovina Array 78.67 319 P **P 16 14 50.7 -0.3**
BUR08 Bucovina Ar. S 78.69 319 P **P 16 14 50.5 -0.6**
BUR08 IAmb IAmb 16 14 52.8
comp=Z,19nm,1.1s
VTS Vitosha 79.08 313 P **P 16 14 52.8 -0.7**
VTS pmax pmax
comp=Z,8.0nm,1.0s
VTS Vitosha 79.08 313 ⇓P **P 16 14 53.1 -0.3**
VTS mb 16 15 05.9
VTS Vitosha 79.08 313 P **P 16 14 52.8 -0.7**
AGG Agios Georgios 79.19 310 P **P 16 14 52.2 -1.8**
AGG pmax pmax
comp=Z,59nm,1.9s
AGG Agios Georgios 79.19 310 P **P 16 14 52.2 -1.8**
AGG IAmb IAmb 16 15 48.8
comp=Z,59nm,1.9s
LIT Litokhoron 79.23 311 P **P 16 14 53.3 -0.9**
LIT pmax pmax
comp=Z,16nm,0.9s
LIT Litokhoron 79.23 311 P **P 16 14 53.3 -0.9**
LIT IAmb IAmb 16 14 53.7
comp=Z,16nm,0.9s
ITM Ithomi 79.23 308 P **P 16 14 53.4 -0.8**
SYO Syowa Base 79.46 198⇑*e*PcP **PcP 16 15 06.7 +4.1**
SUR Sutherland 79.74 237 P **P 16 14 59.6 +2.3**
SNZO South Karori 79.74 132 P **P 16 14 57.2 +0.4**
GZR Gura Zlata 79.89 316 ⇓P **P 16 14 57.3 -0.4**
DRGR 80.18 317 P **P 16 14 59.9 +0.7**
DRGR 80.18 317 ⇑P **P 16 14 59.9 +0.7**
MDVR Moldovita 80.53 315 ⇓P **P 16 15 01.1 0.0**
TRPA Tarpa 80.54 319 ⇑P **P 16 15 01.1 +0.1**
TRPA mb 16 15 02.3
BZS Buzias 80.73 316 ⇑P **P 16 15 01.6 -0.5**
BKZ Black Stump Fm 80.78 130 P **P 16 15 03.0 +0.4**
KOLS Kolonicke sedl 80.86 320 *eP* **P 16 15 03.7 +1.0**
KOLS pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 80.86 320 *eP* **P 16 15 03.7 +1.0**
URZ Urewera 81.14 129 LR LR 16 55 28.4
comp=Z,160nm,18.4s,baz=304,slow=39
URZ Urewera 81.14 129 P **P 16 15 02.4 -2.1**
FIA1 FINESS Array S 81.52 332 P **P 16 15 05.9 0.0**
FINES FINESS Array B 81.52 332 *i* P **P 16 15 05.4 -0.5**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 81.52 332 P **P 16 15 05.7 -0.2**
comp=Z,7.9nm,0.8s,baz=118,slow=7.1,SNR=12
FINES FINESS Array B 81.52 332 P **P 16 15 04.9 -1.0**
PDG Podgorica 81.97 313 ⇓P **P 16 15 08.2 -0.5**
PDG mb 16 15 08.5
PDG Podgorica 81.97 313 P **P 16 15 08.0 -0.7**
PDG IAmb IAmb 16 15 08.4
comp=Z,12nm,0.8s
VYHS Vyhne 83.04 319 *eP* **P 16 15 14.2 0.0**
VYHS Vyhne 83.04 319 *eP* **P 16 15 14.2 0.0**
ARCES ARCESS Array B 83.94 340 P **P 16 15 18.5 +0.1**
comp=Z,1.7nm,0.6s,baz=90,slow=4.9,SNR=7.6
ARCES ARCESS Array B 83.94 340 P **P 16 15 18.0 -0.4**
RAO Raoul Island 84.45 119 LR LR 16 52 59.8
comp=Z,124nm,21.6s,baz=223,slow=36
VNDA Vanda 84.57 169 LR LR 16 48 22.1
comp=Z,63nm,19.1s,baz=319,slow=32
DPC Dobruska-Polom 84.89 320 *eP* **P 16 15 24.3 +0.7**
DPC Dobruska-Polom 84.89 320 *eP* **P 16 15 24.3 +0.7**
BRG Berggiesshubel 86.44 321 *eP* P 16 15 43.2 +12
comp=Z,7.0nm,1.2s
GEC2 GERESS Array S 86.46 319 P **P 16 15 31.4 -0.2**
GERES GERESS Array B 86.46 319 P **P 16 15 31.6 0.0**
comp=Z,1.9nm,0.2s,baz=99,slow=6.1,SNR=13
GERES GERESS Array B 86.46 319 P **P 16 15 31.2 -0.4**
KHC Kasperske Hory 86.56 319 *i* P **P 16 15 30.1 -1.9**
KHC pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 86.56 319 *eP* **P 16 15 31.6 -0.4**
KEST Kesra 89.24 306 P **P 16 15 46.1 +1.0**
comp=Z,4.8nm,0.9s,baz=324,slow=4.9,SNR=3.8
KEST LR LR 16 56 30.7
comp=Z,106nm,21.9s,baz=317,slow=36
KEST Kesra 89.24 306 P **P 16 15 45.4 +0.3**
KEST IAmb IAmb 16 15 59.5
comp=Z,21nm,1.2s
QSPA South Pole Qui 90.13 180 P **P 16 15 49.5 +0.9**
QSPA IAmb IAmb 16 16 09.4
comp=Z,27nm,2.0s
TAM Tamanrasset 92.72 293 P **P 16 15 59.3 -2.3**
TAM pmax pmax
comp=Z,11nm,1.7s
TAM Tamanrasset 92.72 293 P **P 16 15 59.3 -2.3**
TAM IAmb IAmb 16 16 58.4
comp=Z,11nm,1.7s
TORD Torodi Ar. Bea 96.63 283 P **P 16 16 19.9 +0.4**
comp=Z,0.9nm,1.0s,baz=151,slow=3.4,SNR=3.7
TORD LR LR 16 57 44.8
comp=Z,180nm,21.0s,baz=340,slow=34
TORD Torodi Ar. Bea 96.63 283 P **P 16 16 19.0 -0.5**
IMAR Indian Mountai 96.99 23 P **P 16 16 20.1 +0.1**
ILAR Eielson Array 100.10 23 LR LR 17 05 48.0
comp=Z,110nm,18.3s,baz=304,slow=38
TBI Tubuai 110.21 115 *e*LR LR 16 53 55.9
comp=Z,262nm,28.8s
PPT2 Papeete2 110.88 109 *e*LR LR 16 54 17.3
comp=Z,575nm,31.0s
B05A Bryant 120.31 30 P **PKiKP 16 21 40.4 +0.4**
baz=311
E04D Cinebar 121.18 32 P **PKiKP 16 21 43.1 +1.4**
baz=310
H04D Lebanon 122.37 34 P **PKiKP 16 21 45.0 +0.8**
baz=309
I03D Drain, OR 122.53 35 P **PKiKP 16 21 45.5 +1.0**
baz=308
NEW Newport 122.72 28 P **PKiKP 16 21 44.9 +0.1**
baz=316
NEW Newport 122.72 28 PKIKP **PKiKP 16 21 44.9 +0.1**
NEW Newport 122.72 28 PKiKP 16 21 44.9 +0.1
HAWA Hanford 122.86 31 PKiKP 16 21 45.2 +0.1
E08A Dider Farm, El 123.03 30 PKiKP 16 21 45.8 +0.4
I05D Terrebonne, OR 123.26 33 P **PKiKP 16 21 47.0 +0.9**
baz=310
J04D Umpqua Nationa 123.53 35 P **PKiKP 16 21 47.0 +0.3**
baz=309
J05D Fort Rock, OR 124.00 34 P **PKiKP 16 21 48.5 +0.9**
baz=310
L04D Klamath Falls 124.05 36 P **PKiKP 16 21 47.9 +0.1**
baz=308
M02C Callahan 124.22 37 P **PKiKP 16 21 48.8 +0.8**
baz=307
F10A Beach Ranch, E 124.31 30 PKPdf 16 21 47.7 -0.1
M04C Macdoel 124.59 36 P **PKiKP 16 21 48.8 0.0**
baz=308
O02D Mt. Diablo Mer 124.98 38 P **PKiKP 16 21 50.0 +0.5**
baz=306
MSO Missoula 125.24 27 P **PKiKP 16 21 49.9 0.0**
baz=319
MSO Missoula 125.24 27 PKPdf 16 21 49.0 -0.5
MOD Modoc Plateau 125.41 35 PKiKP 16 21 50.7 +0.3
O03E Paynes Creek 125.52 37 P **PKiKP 16 21 50.8 +0.2**
baz=308
EGMT Eagleton 126.07 23 P **PKiKP 16 21 52.0 +0.4**
baz=324
EGMT Eagleton 126.07 23 PKPdf 16 21 50.5 -0.6
MFID Camas Ranch 126.82 31 PKiKP 16 21 53.0 -0.2
AFDM Forest Hills D 126.84 38 PKPdf 16 21 52.5 -0.2
DLMT Dillon 126.96 27 PKiKP 16 21 53.4 0.0
BOZ Bozeman (W) 127.21 26 P **PKiKP 16 21 54.5 +0.5**
baz=321
BOZ Bozeman (W) 127.21 26 PKIKP **PKiKP 16 21 54.2 +0.2**
BOZ Bozeman (W) 127.21 26 PKiKP 16 21 54.2 +0.2
MCMT McKenzie Canyo 127.25 28 PKiKP 16 21 54.1 -0.1
ULM Lac du Bonnet 128.27 12 PKIKP **PKPdf 16 21 55.1 0.0**
ULM Lac du Bonnet 128.27 12 PKP **PKPdf 16 21 54.9 -0.1**
comp=Z,2.0nm,0.4s,baz=18,slow=1.1,SNR=6.0
ULM Lac du Bonnet 128.27 12 PKPdf 16 21 55.1 0.0
KVN Kaiserville 128.52 36 PKIKP **PKiKP 16 21 56.7 -0.1**
KVN Kaiserville 128.52 36 PKiKP 16 21 56.7 -0.1
LAO LASA Array 128.52 22 P **PKiKP 16 21 57.5 +1.1**
baz=328
RLMT Red Lodge 128.61 25 P **PKiKP 16 21 57.7 +0.8**
baz=324
NVAR Mina Array Bea 128.80 37 PKP **PKiKP 16 21 58.1 +0.7**
comp=Z,2.3nm,0.8s,baz=292,slow=1.4,SNR=14
NVAR Mina Array Bea 128.80 37 PKiKP 16 21 58.3 +0.9
FXWY Fox Creek 129.00 27 PKiKP 16 21 58.0 +0.3
ELK Elko 129.01 33 PKIKP **PKiKP 16 21 58.2 +0.4**
ELK Elko 129.01 33 PKiKP 16 21 58.2 +0.4
TPAW Teton Pass 129.15 28 PKiKP 16 21 58.4 +0.4
SNOW Snow King Moun 129.26 27 PKiKP 16 21 58.1 -0.2
REDW Red Top Meadow 129.29 28 PKiKP 16 21 58.0 -0.3
HVU Hansel Valley 129.56 30 PKIKP **PKiKP 16 21 58.5 -0.3**
HVU Hansel Valley 129.56 30 PKiKP 16 21 58.5 -0.3
BGU Big Grassy Mou 130.06 31 PKiKP 16 21 59.8 -0.1
CWC Cottonwood Cre 130.19 39 P **PKiKP 16 22 00.9 +0.7**
baz=309
HWUT Hardware Ranch 130.29 30 PKPdf 16 21 59.9 +0.4
BW06 Boulder Array 130.35 27 P **PKiKP 16 22 00.6 +0.1**
baz=322
PDAR Pinedale Array 130.35 27 PKP **PKPdf 16 21 59.6 0.0**
comp=Z,1.2nm,0.6s,baz=138,slow=1.1,SNR=10
PDAR SKPbc **SKPab 16 25 17.4 -1.9**
comp=Z,2.8nm,1.1s,baz=90,slow=2.2,SNR=8.2
PDAR Pinedale Array 130.35 27 PKPdf 16 21 59.0 -0.7
PDAR **SKPab 16 25 17.1 -2.3**
R11A Troy Canyon, C 130.46 35 P **PKiKP 16 22 01.2 +0.4**
baz=313
R11A Troy Canyon, C 130.46 35 PKPdf 16 22 00.4 +0.5
DUG Dugway, Tooele 130.70 32 P **PKiKP 16 22 01.8 +0.6**
baz=317
DUG Dugway, Tooele 130.70 32 PKIKP **PKiKP 16 22 01.4 +0.3**
DUG Dugway, Tooele 130.70 32 PKiKP 16 22 01.4 +0.3
MPMC Manual Prospec 130.80 39 P **PKiKP 16 22 01.7 +0.2**
baz=309
PSUT Pine Spring 131.32 34 PKiKP 16 22 02.5 0.0
RSSD Black Hills 131.52 22 P **PKPdf 16 22 01.6 -0.1**
baz=329
RSSD Black Hills 131.52 22 PKIKP **PKPdf 16 22 01.3 -0.5**
RSSD Black Hills 131.52 22 PKPdf 16 22 01.3 -0.5
LATQ La Tuque 132.03 352 P **PKiKP 16 22 04.0 +0.7**
baz=12
TMUT Trail Mountain 132.20 31 PKiKP 16 22 04.1 -0.3
MSU Marysvale 132.26 33 PKIKP **PKPdf 16 22 03.8 +0.4**
MSU Marysvale 132.26 33 PKPdf 16 22 03.8 +0.4
SZCU Shurtz Canyon 132.41 34 PKiKP 16 22 04.5 -0.3
Q16A Castle Valley 132.50 32 PKiKP 16 22 04.8 -0.1
SRU San Rafael Swe 132.69 31 PKIKP **PKPdf 16 22 04.2 +0.1**
SRU San Rafael Swe 132.69 31 PKPdf 16 22 04.2 +0.1
LCMT Little Creek M 132.73 35 PKiKP 16 22 05.1 -0.2
O20A White River Ci 133.03 28 P **PKPdf 16 22 05.3 +0.6**
baz=322
O20A White River Ci 133.03 28 PKiKP 16 22 05.5 -0.4
U15A North Rim 133.68 35 PKiKP 16 22 07.3 -0.2
PV22 Blue Mesa, Par 134.01 30 PKPdf 16 22 06.9 +0.3
ECSD EROS Data Cent 134.23 15 P **PKPdf 16 22 06.9 +0.3**
baz=339
ECSD EROS Data Cent 134.23 15 PKPdf 16 22 06.5 -0.1
WUAZ Wupatki 134.85 35 P **PKPdf 16 22 08.7 +0.5**
baz=316
WUAZ Wupatki 134.85 35 PKPdf 16 22 08.8 +0.5
MVCO Mesa Verde 135.17 31 P **PKiKP 16 22 10.1 -0.2**
baz=320
W18A Petrified Fore 136.07 34 P **PKiKP 16 22 12.0 -0.2**
baz=317
W18A Petrified Fore 136.07 34 PKPdf 16 22 11.1 +0.5
T25A Trinidad 137.22 27 P **PKPdf 16 22 13.5 +0.9**
baz=325
ANMO Albuquerque 137.97 31 PKIKP **PKPdf 16 22 14.6 +0.5**
ANMO Albuquerque 137.97 31 PKPdf 16 22 14.6 +0.5
MNTX Cornudas Mount 141.04 33 P **PKPdf 16 22 20.4 +0.9**
baz=320
MNTX Cornudas Mount 141.04 33 PKPdf 16 22 19.5 0.0
U40A Yellville 142.14 15 P **PKPdf 16 22 18.0 -3.3**
baz=341
U49A Red Boiling Sp 143.27 6 P PKPab 16 22 19.1 0.0
baz=353
WVT Waverly 143.39 9 P PKPbc 16 22 20.6 -0.1
baz=349
WVT Waverly 143.39 9 PKIKP PKPbc 16 22 20.8 +0.1
WVT Waverly 143.39 9 PKPbc 16 22 20.8 +0.1
TZTN Tazewell 143.41 3 P PKPbc 16 22 20.4 -0.4
baz=356
U50A Jamestown 143.45 5 P PKPab 16 22 20.1 +0.2
baz=354
BDFB Brasilia 143.58 243 PKIKP PKPbc 16 22 22.5 +0.5
BDFB Brasilia 143.58 243 PKP PKPbc 16 22 23.0 +1.1
comp=Z,7.1nm,0.8s,baz=132,slow=4.8,SNR=4.4
BDFB Brasilia 143.58 243 PKPbc 16 22 22.5 +0.6
MIAR Mount Ida 143.64 17 P **PKPbc 16 22 21.6 +0.1**
baz=339
MIAR Mount Ida 143.64 17 PKIKP PKPab 16 22 21.0 +0.4
MIAR Mount Ida 143.64 17 PKPab 16 22 21.0 +0.4
TX31 Lajitas Ar. Si 143.79 34 PKPbc 16 22 22.8 +0.5
TX32 Lajitas Array 143.79 34 PKPbc 16 22 22.9 +0.7
TXAR Lajitas Array 143.79 34 PKIKP **PKPbc 16 22 22.1 -0.1**
TXAR Lajitas Array 143.79 34 PKP **PKPbc 16 22 22.6 +0.4**
comp=Z,1.0nm,0.5s,baz=217,slow=0.5,SNR=16
TXAR Lajitas Array 143.79 34 PKPbc 16 22 22.1 -0.1
V48A Smith Brothers 143.92 7 PKPbc 16 22 22.5 +0.2
V49A McMinnville 144.00 6 P PKPab 16 22 21.5 -0.5
baz=352
V52A Sevierville 144.11 3 P **PKPab 16 22 22.5 +0.1**
baz=356
V55A Taylorsville 144.15 360 P PKPbc 16 22 23.1 +0.1
baz=0.4
V50A Pikevile 144.17 5 P **PKPab 16 22 22.5 -0.1**
baz=354
V53A Saluda 144.31 2 P **PKPab 16 22 23.3 +0.1**
baz=358
CPCT Cooper Cave 144.44 4 PKPab 16 22 22.9 -0.7
PLAL Pickwick Lake 144.48 9 PKPab 16 22 23.2 -0.6
WLAR White Oak Lake 144.58 17 PKPbc 16 22 24.8 +0.5
W49A Belvidere 144.60 7 P **PKPab 16 22 23.7 -0.5**
baz=352
OXF Oxford 144.69 11 P **PKPab 16 22 24.6 0.0**
baz=346
OXF Oxford 144.69 11 PKIKP **PKPab 16 22 24.3 -0.3**
OXF Oxford 144.69 11 PKPab 16 22 24.2 -0.3
W53A Cullowhee 144.80 2 P **PKPab 16 22 25.0 -0.1**
baz=357
W56A Indian Trail 144.86 359 P **PKPab 16 22 24.8 -0.4**
baz=1.5
KMSC Kings Mountain 144.86 360 P **PKPab 16 22 24.8 -0.3**
baz=0.2
KMSC Kings Mountain 144.86 360 PKPab 16 22 24.4 -0.7
JCT Junction City 144.87 28 P PKPbc 16 22 25.6 +0.2
baz=327
JCT Junction City 144.87 28 PKIKP **PKPab 16 22 25.2 -0.2**
JCT Junction City 144.87 28 PKPab 16 22 25.2 -0.2
W54A Cherokee Point 144.91 1 P **PKPab 16 22 24.9 -0.5**
baz=359
BG3 Lake Jocassee 144.98 2 PKPab 16 22 25.0 -0.6
Z41A Richland Creek 145.07 17 P **PKPdf 16 22 26.3 -0.3**
baz=340
Z41A Richland Creek 145.07 17 PKPdf 16 22 26.2 -0.3
CPUP Villa Florida 145.12 220 PKIKP **PKPdf 16 22 27.0 +0.2**
CPUP Villa Florida 145.12 220 PKPbc **PKPdf 16 22 27.7 +0.9**
comp=Z,12nm,0.6s,baz=116,slow=1.3,SNR=29
CPUP Villa Florida 145.12 220 PKPdf 16 22 27.0 +0.2
X48A Hartselle 145.15 8 P **PKPbc 16 22 25.3 -0.9**
baz=350
X48A Hartselle 145.15 8 PKPbc 16 22 25.1 -1.0
PAULI Pauline 145.18 1 PKPbc 16 22 25.6 -0.6
FPAL Fort Paine 145.24 6 PKPbc 16 22 25.3 -1.2
X51A Calhoun 145.29 5 P **PKPbc 16 22 26.6 0.0**
baz=354
X51A Calhoun 145.29 5 PKPbc 16 22 25.9 -0.8
X52A Dahlonega 145.32 4 P **PKPbc 16 22 26.5 -0.2**
baz=356
X59A McDuffie Farm, 145.33 356 P **PKPbc 16 22 26.5 -0.2**
baz=5.0
X58A Rowland 145.39 357 P **PKPab 16 22 27.1 +0.1**
baz=3.7
X54A Belton 145.44 1 P **PKPbc 16 22 27.0 -0.1**
baz=358
X53A Estanollee 145.46 3 P **PKPbc 16 22 27.0 -0.1**
baz=357
X56A White Oak 145.51 359 P **PKPdf 16 22 27.2 -0.1**
baz=0.7
X57A Johnson Farm, 145.51 358 P **PKPdf 16 22 26.8 -0.5**
baz=2.4
X55A Gracelyn & Ava 145.53 0 P **PKPdf 16 22 27.1 -0.2**
baz=360
JSC Jenkinsville 145.72 360 PKP2 **PKPdf 16 22 27.4 -0.2**
JSC Jenkinsville 145.72 360 PKPdf 16 22 27.4 -0.2
HODGE Hodges 145.76 1 PKPdf 16 22 27.6 -0.1
Y49A Blount Mountai 145.82 7 P **PKPdf 16 22 28.1 +0.3**
baz=351
Y49A Blount Mountai 145.82 7 PKPdf 16 22 27.6 -0.3
Y60A Bolivia 145.86 355 P **PKPab 16 22 28.9 +0.1**
baz=5.7
NATX Nacogdoches 145.86 20 PKPbc 16 22 28.3 -0.2
Y59A Loris 145.92 356 P **PKPbc 16 22 28.8 +0.2**
baz=4.5
Y51A Rockmart 145.93 5 P **PKPbc 16 22 28.5 -0.2**
baz=354
Y52A Lilburn 146.05 4 P **PKPab 16 22 29.4 -0.2**
baz=355
Y52A Lilburn 146.05 4 PKPbc 16 22 29.0 0.0
Y58A Scranton 146.05 357 P **PKPbc 16 22 29.1 +0.1**
baz=3.1
Y55A Saluda 146.06 1 P **PKPbc 16 22 29.1 0.0**
baz=359
Y53A Monroe 146.09 3 P **PKPbc 16 22 29.3 +0.2**
baz=356
Y54A Tignall 146.12 2 P **PKPbc 16 22 29.3 0.0**
baz=358
Z50A Ashland 146.48 7 P **PKPbc 16 22 29.9 -0.5**
baz=352
Z50A Ashland 146.48 7 PKPbc 16 22 29.8 -0.6
Z51A Franklin 146.50 6 P **PKPbc 16 22 30.0 -0.4**
baz=353
GOGA Godfrey 146.53 3 P **PKPbc 16 22 30.6 +0.1**
baz=356
GOGA Godfrey 146.53 3 PKP2 **PKPbc 16 22 30.4 -0.1**
GOGA Godfrey 146.53 3 PKPbc 16 22 30.4 -0.1
LRAL Lakeview Retre 146.55 8 P **PKPbc 16 22 30.1 -0.4**
baz=350
LRAL Lakeview Retre 146.55 8 PKPbc 16 22 30.0 -0.5
Z53A Monticello 146.66 3 P **PKPbc 16 22 31.2 +0.3**
baz=356
Z52A Williamson 146.69 5 P **PKPab 16 22 31.6 -0.5**
baz=355
Z54A Sparta 146.74 2 P **PKPbc 16 22 31.3 +0.3**
baz=358
152A Waverly Hall 147.18 5 P **PKPbc 16 22 32.3 0.0**
baz=354
152A Waverly Hall 147.18 5 PKPbc 16 22 31.4 -1.0
250A Grady 147.69 8 PKPbc 16 22 33.2 -0.6
252A Lumpkin 147.85 5 P **PKPbc 16 22 33.7 -0.5**
baz=354
LPAZ La Paz 159.29 219 PKIKP **PKPdf 16 22 48.3 -0.5**
LPAZ La Paz 159.29 219 PKP **PKPdf 16 22 49.9 +1.1**
comp=Z,2.2nm,0.9s,baz=148,slow=2.2,SNR=7.4
LPAZ PKPab **PKPab 16 23 27.4 +1.5**
comp=Z,2.6nm,0.8s,baz=106,slow=3.2,SNR=6.1
LPAZ La Paz 159.29 219 PKPdf **PKPdf 16 22 48.2 -0.5**
LPAZ **PKPab 16 23 26.5 +0.6**

ISCJB ***28*** *16:03:52.9±0.4, 18°.65N±0°.07×147°.4E±0°.1, h33km, Error ellipse: s-maj=16.9km s-min=7.8km az=27.4*
NEIC ***28*** *16:03:55.6±1.4, 18°.5N±0°.1×147°.5E±0°.2, h41km±9km, mb4.8/21*

ISC 28 16:03:54.3±0.8, **18°.5N**±0°.1×**147°.5E**±0°.2, **h35**km, **n29,**
σ1°.**26**/30, **mb4.9**/8, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.45**	**223**			**Pn**	**16 04 33.1**	**+1.3**
ANA2	**Anatahan**	**2.76**	**219**			**Pn**	**16 04 36.2**	**+0.1**
GUMO	**Guam**	**5.52**	**208**			**Pn**	**16 05 14.9**	**+1.0**
GUMO					Sn	**Sn**	**16 06 14.2**	**-2.0**
MJAR	**Matsushiro Arr**	**19.75**	**337**		P	**P**	**16 08 21.6**	**+0.5**
MAJO	**Matsushiro**	**19.75**	**337**		P	**P**	**16 08 19.3**	**-1.8**
MAJO					IAmb	IAmb	16 08 48.0	
comp=Z,85nm,1.9s								
MJB9	**Matsu-Tunnel**	**19.75**	**337**		P	**P**	**16 08 19.2**	**-1.9**
COEN	**Coen**	**32.55**	**188**		P	**P**	**16 10 22.0**	**-0.2**
COEN					IAmb	IAmb	16 10 40.6	
comp=Z,51nm,1.8s								
KMI	**Kunming**	**41.94**	**287**		P	**P**	**16 11 43.0**	**+0.8**
NIKH	**Nikolski High**	**48.19**	**34**		P	**P**	**16 12 28.3**	**-2.8**
IMAR	**Indian Mountai**	**60.69**	**24**		P	**P**	**16 14 03.0**	**+1.2**
KTH	**Kantishna Hill**	**61.02**	**27**		P	**P**	**16 14 05.4**	**+1.3**
KTH					IAmb	IAmb	16 14 05.7	
comp=Z,8.6nm,1.0s								
BPAW	**Bear Paw Mtn.**	**61.16**	**26**		P	**P**	**16 14 06.1**	**+1.1**
BPAW					IAmb	IAmb	16 14 18.0	
comp=Z,15nm,1.3s								
GHO	**Glory Hole Cre**	**61.41**	**29**		P	**P**	**16 14 07.4**	**+0.6**
MLY	**Manley**	**61.55**	**25**		P	**P**	**16 14 08.6**	**+0.9**
SML	**Sawmill**	**61.69**	**29**		P	**P**	**16 14 10.2**	**+1.5**
SCM	**Sheep Creek Mo**	**62.16**	**29**		P	**P**	**16 14 12.9**	**+1.0**
WRH	**Wood River Hil**	**62.48**	**26**		P	**P**	**16 14 14.2**	**+0.4**
WRH					IAmb	IAmb	16 14 41.7	
comp=Z,18nm,1.7s								
HDA	**Harding Lake**	**62.94**	**26**		P	**P**	**16 14 16.9**	**0.0**
IL31		**63.05**	**26**		P	**P**	**16 14 17.3**	**-0.3**
IL31					IAmb	IAmb	16 14 41.7	
comp=Z,8.6nm,1.6s								
ILAR	**Eielson Array**	**63.05**	**26**		P	**P**	**16 14 16.8**	**-0.9**
RIDG	**Independent Ri**	**63.69**	**27**		P	**P**	**16 14 23.0**	**+1.0**
RIDG					IAmb	IAmb	16 14 27.8	
comp=Z,12nm,1.3s								
SCRK	**Sand Creek**	**64.11**	**27**		P	**P**	**16 14 25.6**	**+0.7**

SCRK				IAmb	IAmb	16 14 28.1	
	comp=Z,9.3nm,1.6s						
FYU	**Fort Yukon**	**64.15**	**24**	P	**P**	**16 14 26.4**	**+1.6**
FYU				IAmb	IAmb	16 14 45.6	
	comp=Z,24nm,1.7s						
BMAR	**Burnt Mountain**	**64.60**	**23**	P	**P**	**16 14 29.2**	**+1.3**
BCAR	**Beaver Creek A**	**64.92**	**28**	P	**P**	**16 14 30.9**	**+0.8**
PINE	**Pine Mountain**	**78.51**	**48**	P	**P**	**16 15 53.8**	**+1.5**
BMO	**Blue Mountains**	**80.74**	**46**	P	**P**	**16 16 05.3**	**+1.0**
NVAR	**Mina Array Bea**	**81.89**	**52**	P	**P**	**16 16 11.4**	**+0.7**
ELK	**Elko**	**83.44**	**49**	P	**P**	**16 16 19.4**	**+0.6**

TAP 28 16:09:10.7, 24°.04N×121°.53E, h21km, ML1.4, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**57**	*i* P	Pb	16 09 15.4	+0.8
	baz=59						
TWD				*i* S	Sb	16 09 18.3	+1.0
	baz=59						
HWA	**Hwalien**	**0.09**	**134**	*e*P	Pb	16 09 15.2	+0.5
	baz=131						
HWA				*e*S	Sb	16 09 18.2	+0.7
	baz=131						
NACB	**Ninganchiao**	**0.14**	**24**	P	Pb	16 09 15.8	-1.1
	baz=23						
NACB				S	Sb	16 09 19.1	-2.1
	baz=23						
NACB	**Ninganchiao**	**0.14**	**24**	P	Pb	16 09 15.6	-1.3
NACB				IAmb	IAmb	16 09 22.0	
	comp=Z,37nm,1.2s						
ETLH	**Xiulin Townshi**	**0.17**	**344**	P	Pb	16 09 16.4	-0.4
	baz=344						
ETLH				S	Sb	16 09 19.6	-1.5
	baz=344						
ESL	**Shilin**	**0.24**	**202**	*i* P	Pb	16 09 17.1	+0.2
	baz=199						
ESL				*i* S	Sb	16 09 21.1	0.0
	baz=199						
WHF	**Hehuan Shan**	**0.27**	**293**	*i* P	Pb	16 09 17.8	+0.3
	baz=293						
WHF				S	Sb	16 09 22.6	+0.5
	baz=293						
CHGB	**Renai**	**0.33**	**273**	P	Pb	16 09 18.5	+0.5
	baz=273						
CHGB				S	Sb	16 09 24.2	+1.2
	baz=273						
EGFH	**Guangfu**	**0.38**	**194**	P	Pb	16 09 19.6	+0.9
	baz=194						
EGFH				*e*S	Sb	16 09 25.0	+0.8
	baz=194						
TWT	**Tachien**	**0.39**	**303**	P	Pb	16 09 19.5	+0.6
	baz=301						
TWT				S	Sb	16 09 26.2	+1.8
	baz=301						
TDCB	**Techi**	**0.40**	**302**	*e*P	Pb	16 09 19.7	+0.6
	baz=301						
TDCB				*e*S	Sb	16 09 25.2	+0.4
	baz=301						
NNSB	**Datong**	**0.41**	**341**	P	Pb	16 09 20.2	+1.0
	baz=340						
NNSB				S	Sb	16 09 25.2	+0.2
	baz=340						
NNSH	**Datong**	**0.41**	**341**	*e*P	Pb	16 09 20.2	+1.0
	baz=340						
NNSH				S	Sb	16 09 25.9	+0.9
	baz=340						
NNS	**Nan Shan**	**0.42**	**340**	P	Pb	16 09 20.1	+0.6
	baz=340						
NNS				S	Sb	16 09 26.0	+0.5
	baz=340						
ENA	**Nanau**	**0.43**	**26**	*e*P	Pb	16 09 20.2	+0.7
	baz=27						
ENA				*e*S	Sb	16 09 26.6	+1.1
	baz=27						
NANB	**Nanao**	**0.43**	**27**	*e*P	Pb	16 09 20.2	+0.6
	baz=27						
NANB				*e*S	Sb	16 09 27.1	+1.5
	baz=27						
VWDT	**VWDT**	**0.46**	**231**	*e*P	Pb	16 09 19.9	-0.1
	baz=231						
VWDT				*e*S	Sb	16 09 27.7	+1.3
	baz=231						
HGSD	**Ruisui**	**0.56**	**190**	*e*P	Pn	16 09 22.7	-0.7
	baz=190						
NDT	**Datong Townshi**	**0.56**	**358**	*e*S	Sb	16 09 30.4	+0.9
	baz=358						
EHY	**Hungye**	**0.57**	**200**	*e*P	Pb	16 09 22.4	+0.3
	baz=199						
WHP	**Taichung City**	**0.58**	**294**	*e*S	Sn	16 09 31.7	-1.2
	baz=293						
SSLB	**Suanglung**	**0.59**	**245**	*e*S	Sn	16 09 31.7	-1.1
	baz=244						
ENTT	**Nioudou**	**0.60**	**3**	*e*P	Pn	16 09 23.4	-0.6
	baz=3.0						
ENTT				*e*S	Sb	16 09 31.7	+1.1
	baz=3.0						
TYC	**Yuchr**	**0.63**	**258**	*e*S	Sb	16 09 32.4	+0.8
	baz=257						
YHNB	**Yeheng**	**0.64**	**347**	*e*P	Pb	16 09 23.9	+0.6
	baz=347						
YHNB				*e*S	Sb	16 09 32.2	+0.2
	baz=347						
NSK	**Sanguang**	**0.65**	**346**	P	Pb	16 09 23.9	+0.4
	baz=346						
NSK				*e*S	Sn	16 09 34.2	-0.3
	baz=346						
YULB	**Yu-li**	**0.68**	**198**	*e*S	Sn	16 09 34.7	-0.4
	baz=198						

BJI ***28*** *16:14:57.7±0.0, 35°.48N×140°.70E, h60km, mb4.9/66, mB5.2/45, Ms4.4/37, Ms7 4.1/38*

NIED ***28*** *16:15:00, 35°.70N×140°.20E, h71km, Mw4.8 Best double couple: M0=2.04000×10¹⁶ NP1:φs=107.00000°, δ=4.00000°, λ=-14.00000°. NP2:φs=211.00000°, δ=89.00000°, λ=-94.00000°.*

MOS ***28*** *16:15:02.3±1.1, 35°.55N×139°.95E, h54km, mb5.1/35, Error ellipse: s-maj=7.0km s-min=4.3km az=113.1*

JMA ***28*** *16:15:04.4±0.2, 35°.69N×140°.12E, h69km±2km, M4.8 Broadband fault plane solution: P waves. NP1: φs=211.00000°, δ=89.00000°, λ=-91.00000°. NP2:φs=87.00000°, δ=2.00000°, λ=-34.00000°. Principal axes: T Plg=44.0000°, Azm=302.0000°; N Plg=1.0000°, Azm=211.0000°; P Plg=46.0000°, Azm=119.0000°;*

JMA Felt III J1.

ISCJB ***28*** *16:15:04.8±0.2, 35°.57N±0°.02×139°.98E±0°.02, h74km±2km, mb4.9/133 Error ellipse: s-maj=3.1km s-min=2.8km az=152.3*

IDC ***28*** *16:15:05.0±0.6, 35°.58N×140°.00E, h65km±5km, mb4.5/32, mb1 4.6/35, mb1mx4.5/44, mbtmp4.7/35, MS4.0/13, Ms1 4.0/13, ms1mx3.7/37, Error ellipse: s-maj=11.7km s-min=6.4km az=87.0*

NEIC ***28*** *16:15:06.1±1.4, 35°.60N±0°.06×139°.98E±0°.09, h72km±5km, mb5.0/248*

GCMT ***28*** *16:15:08.1±0.3, 35°.69N±0°.02×140°.21E±0°.03, h57km±3km, MW4.9/81, Moment Tensor Solution. s21,c23; s81,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.85±.24; Mθθ=1.97±.29; Mφφ=-1.12±.31; Mrθ=1.33±.10; Mφθ=-1.22±.19; Mφr=2.31±.10; Best double couple: M0=3.19800×10¹⁶ NP1:φs=246.00000°, δ=74.00000°, λ=-137.00000°. NP2: φs=142.00000°, δ=49.00000°, λ=-21.00000°. Principal axes: T 2.5390, Plg=16.0000°, Azm=9.0000°; N 1.3150, Plg=44.0000°, Azm=262.0000°; P -3.8570, Plg=41.0000°, Azm=113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 16:15:04.5±0.4, 35°.57N±0°.03×140°.13E±0°.03, h63km±3km, h62km:pP-P, n658, σ1§43/698, mb5.0/206, 17C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17**	**160**	P	**Pn**	**16 15 15.8**	**+1.7**
JCN				*e*S	**Sn**	**16 15 24.1**	**+3.0**
JSMT	**Sammumatsuo**	**0.27**	**75**	P	**Pn**	**16 15 15.8**	**+1.1**
TOK	**Tokyo**	**0.32**	**290**	P	**Pn**	**16 15 16.3**	**+1.3**
JIHU	**Itakohorinouch**	**0.51**	**39**	P	**Pn**	**16 15 16.8**	**+0.1**
BSO3	**Boso 3**	**0.83**	**158**	⇑P	**Pn**	**16 15 21.5**	**+1.3**
JOD2	**Odawara 2**	**0.91**	**250**	⇓P	**Pn**	**16 15 21.9**	**+0.4**
JOD2				S	**Sn**	**16 15 34.4**	**+0.4**
JAG	**Ashikaga**	**1.01**	**327**	⇓P	**Pn**	**16 15 22.2**	**-0.6**
JAG				*e*S	**Sn**	**16 15 35.4**	**-1.0**
JIM2	**Oshima 3**	**1.03**	**214**	P	**Pn**	**16 15 23.3**	**+0.2**
JIM2				S	**Sn**	**16 15 38.2**	**+1.4**
JRY	**Ryogami san**	**1.09**	**294**	⇓P	**Pn**	**16 15 24.3**	**+0.4**
JRY				*e*S	**Sn**	**16 15 38.9**	**+0.6**
BSO1	**Boso 1**	**1.15**	**143**	⇑P	**Pn**	**16 15 24.9**	**+0.8**
JFNN	**Fujinakano**	**1.24**	**253**	⇓P	**Pn**	**16 15 26.4**	**+0.6**
JFNN				S	**Sn**	**16 15 42.8**	**+1.1**
JYN	**Shimob**	**1.30**	**267**	⇓P	**Pn**	**16 15 27.0**	**+0.4**
JYN				S	**Sn**	**16 15 43.0**	**-0.1**
JIZS	**Izushimoda**	**1.34**	**231**	⇓P	**Pn**	**16 15 27.6**	**+0.6**
JIZS				S	**Sn**	**16 15 44.9**	**+0.9**
JKT	**Katashina**	**1.39**	**329**	⇓P	**Pn**	**16 15 27.0**	**-0.8**
JKT				S	**Sn**	**16 15 44.5**	**-0.8**
MJAR	**Matsushiro Arr**	**1.83**	**302**	P	**Pn**	**16 15 33.2**	**-0.6**
MJAR	**Matsushiro Arr**	**1.83**	**302**	P	**Pn**	**16 15 33.7**	**0.0**
	42nm,0.3s,baz=97,slow=14,SNR=998						
MJAR	**Matsushiro Arr**	**1.83**	**302**		**Pn**	**16 15 33.2**	**-0.6**
MAJO	**Matsushiro**	**1.83**	**302**	P	**Pn**	**16 15 33.0**	**-0.8**
MAJO	**Matsushiro**	**1.83**	**302**		**Pn**	**16 15 34.0**	**+0.2**
MAT	**Matsushiro**	**1.83**	**302**	P	**Pn**	**16 15 34.2**	**+0.4**
MAT				S	**Sn**	**16 15 56.8**	**+0.8**
MJB9	**Matsu-Tunnel**	**1.84**	**302**		**Pn**	**16 15 34.0**	**+0.2**
JHJ	**Hachijo jima 2**	**2.47**	**187**	P	**Pn**	**16 15 43.2**	**+0.9**
	1μm,0.3s,baz=318,slow=17,SNR=280						
JHJ				S	**Sn**	**16 16 11.8**	**+0.5**
	3μm,0.3s,baz=245,slow=17,SNR=7.4						
JHJ2	**Mitsune**	**2.47**	**186**		**Pn**	**16 15 42.9**	**+0.5**
INU	**Inuyama**	**2.55**	**266**		**Pn**	**16 15 44.3**	**+0.8**
ERM	**Erimo**	**6.85**	**19**	P	**Pn**	**16 16 40.1**	**-2.1**
ERM	**Erimo**	**6.85**	**19**		**Pn**	**16 16 40.1**	**-2.1**
JNU	**Nakatsue**	**8.03**	**255**	P	**Pn**	**16 17 00.9**	**+2.4**
	2.6nm,0.3s,baz=46,slow=4.8,SNR=26						
JNU				LR	LR	16 20 35.8	
	comp=Z,1μm,20.2s,baz=63,slow=42						
JNU	**Nakatsue**	**8.03**	**255**		**Pn**	**16 17 01.5**	**+3.0**
JCJ	**Chichijima**	**8.63**	**168**	P	**Pn**	**16 17 03.9**	**-2.8**
	146nm,0.3s,baz=332,slow=9.2,SNR=40						
JCJ				S	**Sn**	**16 18 35.8**	**-6.7**
	73nm,0.3s,baz=281,slow=23,SNR=5.3						
ASAJ	**Asahikawa**	**8.74**	**12**	P	**Pn**	**16 17 04.2**	**-3.8**
	6.3nm,0.3s,baz=215,slow=9.9,SNR=84						
ASAJ				LR	LR	16 20 31.8	
	comp=Z,322nm,18.1s,baz=180,slow=37						
JKA	**Kamikawa-asahi**	**8.74**	**12**		**Pn**	**16 17 04.2**	**-3.8**
NMR	**Nemuro--Hokkai**	**8.90**	**27**	*e*P	**Pn**	**16 17 06.0**	**-4.3**
GLVR	**Golovnino**	**9.15**	**25**	*e*P	**Pn**	**16 17 10.0**	**-3.6**
GRPR	**Tuman**	**9.46**	**26**	*i* P	**Pn**	**16 17 13.8**	**-4.1**
GRPR				pmax	pmax		
	comp=Z,113nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**9.53**	**26**	*e*P	**Pn**	**16 17 15.3**	**-3.5**
YUK				pmax	pmax		
	comp=N,76nm,0.3s						
YUK				pmax	pmax		
	comp=E,57nm,0.3s						
YUK				pmax	pmax		
	comp=Z,165nm,0.3s						
TEY	**Ternei**	**9.83**	**345**	⇑*e*P	**Pn**	**16 17 25.7**	**+2.8**
TEY				pmax	pmax		
	comp=E,10.0nm,0.4s						
TEY				pmax	pmax		
	comp=N,20nm,0.5s						
TEY				pmax	pmax		
	comp=Z,20nm,0.6s						
VLA	**Vladivostok**	**9.87**	**322**	*i* P	**Pn**	**16 17 20.5**	**-3.0**
MSHR	**Mys Shultsa**	**9.88**	**318**	*i* P	**Pn**	**16 17 20.8**	**-2.8**
KSRS	**Korea Array**	**10.01**	**284**	P	**Pn**	**16 17 28.8**	**+3.4**
	comp=Z,2.0nm,0.3s,baz=100,slow=14,SNR=29						
KSRS				LR	LR	16 21 27.7	
	comp=Z,628nm,19.0s,baz=54,slow=38						
KSAR	**Wonju Array Be**	**10.03**	**284**	P	**Pn**	**16 17 29.3**	**+3.5**
KSAR	**Wonju Array Be**	**10.03**	**284**		**Pn**	**16 17 29.3**	**+3.5**
KS19	**Wonju Array Si**	**10.05**	**285**		**Pn**	**16 17 26.8**	**+0.7**
USA0B	**Ussuriysk Arra**	**10.64**	**327**	P	**Pn**	**16 17 35.8**	**+1.8**
USA0B	**Ussuriysk Arra**	**10.64**	**327**		**Pn**	**16 17 35.9**	**+1.8**
USRK	**Ussuriysk Ar.**	**10.64**	**327**	P	**Pn**	**16 17 35.5**	**+1.5**
	baz=134,slow=11,SNR=21						
USRK	**Ussuriysk Ar.**	**10.64**	**327**		**Pn**	**16 17 35.2**	**+1.2**
KUR	**Kuril'sk**	**11.30**	**29**	*e*P	**Pn**	**16 17 41.1**	**-1.9**
KUR				pmax	pmax		
	comp=Z,52nm,1.0s						
KUR				pmax	pmax		
	comp=E,25nm,0.8s						
KUR				pmax	pmax		
	comp=N,36nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.54**	**9**	*e*P	**Pn**	**16 17 43.3**	**-3.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.54**	**9**		**Pn**	**16 17 42.2**	**-4.0**
MDJ	**Mudanjiang**	**12.10**	**321**	P	**Pn**	**16 17 57.5**	**+3.5**
MDJ				sP	P	16 18 16.0	+11
MDJ				S	**Sn**	**16 20 05.5**	**-1.6**
MDJ				pmax	pmax		
	comp=Z,93nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.8s						
MDJ				LR	LR		
	comp=Z,690nm,19.2s						
MDJ				LR	LR		
	comp=Z,490nm,17.1s						
MDJ				LR	LR		
	comp=Z,1μm,24.9s						
MDJ	**Mudanjiang**	**12.10**	**321**		**Pn**	**16 17 56.1**	**+2.1**
KLR	**Kul'dur**	**14.97**	**338**	P	**Pn**	**16 18 32.5**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=161,slow=7.8,SNR=21						
KLR				LR	LR	16 24 10.8	
	comp=Z,353nm,19.1s,baz=134,slow=36						
DL2	**Dalian**	**15.11**	**288**	P	**P**	**16 18 38.0**	**0.0**
DL2				pP	**pP**	**16 18 48.5**	**-2.7**
DL2				*e*S	**Sn**	**16 21 25.5**	**+5.2**
DL2				pmax	pmax		
	comp=Z,130nm,0.9s						
DL2				pmax	pmax		
	comp=Z,520nm,5.3s						
DL2				LR	LR		
	comp=Z,580nm,14.5s						
DL2				LR	LR		
	comp=Z,580nm,16.7s						
DL2				LR	LR		
	comp=Z,980nm,20.8s						
GRNR	**Gornyy**	**15.42**	**351**	*e*P	**Pn**	**16 18 39.0**	**+0.9**
GRNR				*e*S	**Sn**	**16 21 27.3**	**-0.5**
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GRNR				smax	smax		
	comp=E,4.0nm,0.8s						
NJ2	**Nanjing**	**18.02**	**265**	*e*P	**P**	**16 19 09.5**	**-0.8**
NJ2				pmax	pmax		
	comp=E,14nm,0.7s						
NJ2				LR	LR		
	comp=E,620nm,10.4s						
NJ2				LR	LR		
	comp=E,460nm,9.5s						
NJ2				LR	LR		
	comp=E,570nm,12.3s						
TIA	**Tai'an**	**18.65**	**279**	P	**P**	**16 19 17.3**	**+0.2**
TIA				pmax	pmax		
	comp=E,91nm,1.2s						
TIA				LR	LR		
	comp=E,400nm,16.4s						
TIA				LR	LR		
	comp=E,620nm,16.4s						
TIA				LR	LR		
	comp=E,750nm,21.4s						
BJT	**Baijiatuau**	**19.43**	**290**	P	**P**	**16 19 24.9**	**-0.8**
BJT				pmax	pmax		
	comp=Z,59nm,0.9s						
BJT	**Baijiatuau**	**19.43**	**290**	P	**P**	**16 19 24.9**	**-0.8**
BJT				IAmb	IAmb	16 19 33.4	
	comp=Z,59nm,0.9s						
SARN	**Sarigan**	**19.46**	**164**	P	**Pn**	**16 19 27.6**	**-0.3**
YHNB	**Yeheng**	**19.49**	**241**	P	**P**	**16 19 26.3**	**-0.2**
YHNB				IAmb	IAmb	16 19 45.1	
	comp=Z,190nm,2.0s						
NACB	**Ninganchiao**	**19.65**	**240**	P	**P**	**16 19 27.1**	**-1.0**
HIA	**Hailar**	**20.25**	**319**	P	**P**	**16 19 32.4**	**-2.2**
HIA				pmax	pmax		
	comp=Z,11nm,0.7s						
HIA	**Hailar**	**20.25**	**319**	P	**P**	**16 19 32.4**	**-2.2**
ZEA	**Zeya**	**20.28**	**338**	*e*P	**P**	**16 19 31.4**	**-3.4**
ZEA				pmax	pmax		
	comp=N,42nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,61nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,600nm,14.0s						
SSLB	**Suanglung**	**20.34**	**240**	P	**P**	**16 19 34.6**	**-1.1**
SSLB				IAmb	IAmb	16 19 41.4	
	comp=Z,140nm,1.9s						
YULB	**Yu-li**	**20.36**	**238**	P	**P**	**16 19 35.2**	**-0.7**
TPUB	**Ta-pu**	**20.88**	**239**	P	**P**	**16 19 40.8**	**-0.8**
TPUB				IAmb	IAmb	16 20 12.1	
	comp=Z,228nm,1.9s						
TWG	**Pinlang**	**20.89**	**238**	P	**P**	**16 19 41.0**	**-0.6**
PETK	**Petropavlovsk-**	**21.47**	**30**	P	**P**	**16 19 48.0**	**+0.5**
	comp=Z,18nm,0.9s,baz=210,slow=5.9,SNR=6.1						
PETK				LR	LR	16 27 55.0	
	comp=Z,119nm,20.9s,baz=236,slow=36						
PETK	**Petropavlovsk-**	**21.47**	**30**	P	**P**	**16 19 47.6**	**+0.1**
WHN	**Wuhan**	**22.16**	**264**	P	**P**	**16 19 55.0**	**-0.1**
GUMO	**Guam**	**22.30**	**168**	P	**P**	**16 19 57.3**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,401nm,1.1s						
GUMO	**Guam**	**22.30**	**168**	P	**P**	**16 19 57.7**	**+0.9**
	comp=Z,152nm,1.1s,baz=115,slow=2.3,SNR=3.6						
GUMO	**Guam**	**22.30**	**168**	P	**P**	**16 19 57.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**23.00**	**292**	*e*P	**P**	**16 20 04.3**	**+0.2**
HHC				sP	sP	16 20 25.5	-0.2
HHC				S	**S**	**16 24 08.5**	**-1.2**
HHC				sS	Sn	16 24 28.5	-1.9
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MA2	**Magadan**	**25.00**	**13**	P	**P**	**16 20 22.7**	**+0.6**
MA2				pmax	pmax		
	comp=Z,114nm,1.3s						
MA2	**Magadan**	**25.00**	**13**	P	**P**	**16 20 23.2**	**+1.1**
	comp=Z,26nm,0.6s,baz=203,slow=8.1,SNR=9.5						
MA2	**Magadan**	**25.00**	**13**	P	**P**	**16 20 22.7**	**+0.6**
MA2				IAmb	IAmb	16 21 00.4	
	comp=Z,114nm,1.3s						
XAN	**Xi'an**	**25.62**	**276**	P	**P**	**16 20 27.0**	**-1.1**
XAN				pP	pP	16 20 44.8	+1.5
XAN				sP	sP	16 20 53.3	+2.5
XAN				pmax	pmax		
	comp=Z,19nm,1.0s						
XAN				LR	LR		
	comp=Z,260nm,17.3s						
XAN				LR	LR		
	comp=Z,340nm,16.3s						
XAN				LR	LR		
	comp=Z,390nm,14.9s						
XAN	**Xi'an**	**25.62**	**276**	P	**P**	**16 20 26.4**	**-1.7**
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**25.62**	**276**	P	**P**	**16 20 26.4**	**-1.7**
ENH	**Enshi**	**26.20**	**267**	P	**P**	**16 20 32.3**	**-1.0**
ENH				IAmb	IAmb	16 20 35.3	
	comp=Z,48nm,0.7s						
YAK	**Yakutsk**	**27.29**	**349**	*e*P	**P**	**16 20 42.6**	**-0.1**
YAK				*e**PP	**pP**	**16 20 57.0**	**-1.0**
YAK				*e*		16 21 25.2	
YAK				*e*S	**S**	**16 25 12.2**	**-5.1**
YAK				*e*SS	**SnSn**	**16 26 34.8**	**+3.5**
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				pmax	pmax		
	comp=Z,380nm,3.3s						
YAK				pmax	pmax		
	comp=N,312nm,3.0s						
YAK				pmax	pmax		
	comp=E,229nm,3.0s						
YAK				smax	smax		
	comp=E,73nm,11.7s						
YAK	**Yakutsk**	**27.29**	**349**	LR	LR	16 31 41.3	
	comp=E,245nm,18.2s,baz=130,slow=36						
YAK	**Yakutsk**	**27.29**	**349**	P	**P**	**16 20 41.1**	**-1.5**
YAK				IAmb	IAmb	16 20 45.0	
	comp=Z,26nm,0.7s						
ULN	**Ulaanbaatar**	**27.36**	**307**	P	**P**	**16 20 42.8**	**-0.9**
ULN				pmax	pmax		
	comp=Z,13nm,1.0s						
ULN	**Ulaanbaatar**	**27.36**	**307**	P	**P**	**16 20 42.8**	**-0.9**
SONM	**Songino Array**	**27.78**	**307**	P	**P**	**16 20 46.0**	**-1.5**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**27.78**	**307**	P	**P**	**16 20 46.5**	**-1.0**
	comp=Z,6.8nm,0.6s,baz=105,slow=9.1,SNR=40						
SONM				ScP	**ScP**	**16 27 37.6**	**0.0**
	comp=Z,1.1nm,1.0s,baz=123,slow=5.5,SNR=4.6						
SONM	**Songino Array**	**27.78**	**307**	P	**P**	**16 20 46.0**	**-1.5**
SONM					**ScP**	**16 27 36.4**	**-1.2**
BOD	**Bodaibo**	**28.24**	**330**	*e*P	**P**	**16 20 50.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,35nm,1.6s						
H11N2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	16 50 21.0	
	baz=308,slow=75,SNR=211						
H11N1	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	16 50 44.1	
	baz=308,slow=75,SNR=246						
H11N3	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	16 50 25.1	
	baz=308,slow=75,SNR=174						
SEY	**Seymchan**	**28.42**	**12**	P	**P**	**16 20 53.5**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=200,slow=5.8,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	16 51 06.2	
	baz=311,slow=76,SNR=92						
H11S1	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	16 51 06.3	
	baz=311,slow=76,SNR=128						
H11S2	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	16 51 07.3	
	baz=311,slow=76,SNR=95						
LZH	**Lanzhou**	**29.32**	**282**	*e*P	**P**	**16 21 04.3**	**+3.0**
LZH				pP	pP	16 21 17.5	+0.8
LZH				sP	sP	16 21 25.5	+1.4
LZH				PP	**PnPn**	**16 21 59.5**	**+2.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,89nm,4.9s						
LZH				LR	LR		
	comp=Z,500nm,14.6s						
LZH				LR	LR		
	comp=Z,400nm,16.3s						
LZH				LR	LR		
	comp=Z,360nm,17.3s						
GYA	**Guiyang**	**29.97**	**262**	⇑*i* P	**P**	**16 21 06.0**	**-1.1**
GYA				pP	pP	16 21 20.8	-1.7
GYA				sP	sP	16 21 27.5	-2.4
GYA				PP	**PnPn**	**16 22 03.8**	**-2.1**
GYA				S	**S**	**16 25 55.8**	**-4.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,510nm,17.0s						
GYA				LR	LR		
	comp=Z,530nm,16.8s						
GYA				LR	LR		
	comp=Z,500nm,17.5s						
ZAK	**Zakamensk**	**30.40**	**311**	*e*P	P	16 21 02.0	-8.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY	**Talaya**	**30.54**	**313**	*e*P	**P**	**16 21 14.2**	**+2.5**
TLY				pmax	pmax		
	comp=Z,18nm,0.9s						
GTA	**Gaotai**	**32.03**	**289**	*e*P	**P**	**16 21 26.0**	**+0.9**
GTA				pP	pP	16 21 40.3	-0.3
GTA				sP	sP	16 21 47.5	-0.5
GTA				PcP	**PcP**	**16 24 15.0**	**+1.5**
GTA				S	**S**	**16 26 33.0**	**+0.4**
GTA				sS	sS	16 26 59.5	+0.6
GTA				ScP	**ScP**	**16 27 52.0**	**+0.5**
GTA				ScS	**ScS**	**16 31 48.0**	**-2.4**
GTA				pmax	pmax		
	comp=Z,10.0n

KMI sP sP 16 22 05.5 +2.4
KMI pmax pmax
comp=Z,19nm,1.1s
KMI pmax pmax
comp=Z,220nm,9.8s
KMI LR LR
comp=Z,260nm,35.0s
KMI LR LR
comp=Z,180nm,28.1s
KMI LR LR
comp=Z,320nm,19.4s
SLVN Son La 34.66 256 P **P 16 21 48.0 -0.1**
SLVN IAmb IAmb 16 21 51.6
comp=Z,13nm,0.7s
BILL Biilibino 35.72 16‖ *eP* **P 16 21 56.0 -0.6**
BILL *PP **pP 16 22 12.0 -0.2**
BILL 16 23 19.0
BILL pmax pmax
comp=Z,11nm,1.3s
BILL Biilibino 35.72 16 P **P 16 21 55.8 -0.7**
BILL IAmb IAmb 16 21 57.4
comp=Z,21nm,1.4s
TIXI Tiksi 36.62 354‖ *eP* **P 16 22 02.8 -1.4**
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 36.62 354 P **P 16 22 03.2 -1.0**
comp=Z,3.7nm,0.4s,baz=360,slow=24,SNR=17
TIXI Tiksi 36.62 354 P **P 16 22 02.9 -1.4**
NONG Nongkai 37.06 252 P **P 16 22 08.8 +0.2**
comp=Z,1.7nm,0.8s
SWI Sorong 37.18 195 P **P 16 22 08.5 -1.1**
comp=Z,28nm,0.5s
SIJI Sorong 37.19 195 P **P 16 22 09.1 -0.6**
comp=Z,21nm,0.5s,baz=5.3,slow=13,SNR=13
SMPI Sarmi 37.39 182 P **P 16 22 11.5 +0.2**
comp=Z,62nm,1.6s
JAY Jayapura 37.89 179 P **P 16 22 16.0 +0.4**
comp=Z,195nm,0.7s
GENI Genyem 37.97 180 P **P 16 22 17.0 +0.8**
comp=Z,65nm,2.1s,comp=Z,1µm
FAKI Fak Fak 39.00 193 P **P 16 22 24.4 -0.5**
comp=Z,53nm,0.6s
FAKI Fak Fak 39.00 193 P **P 16 22 23.9 -0.9**
PHRA Phrae 39.09 255 P **P 16 22 26.5 +0.8**
comp=Z,2.7nm,1.0s,comp=Z,416nm
CHAI Chaiyaphum 39.23 250 P **P 16 22 26.2 -0.7**
comp=Z,84µm,1.0s,comp=Z,742µm
UTTA Uttaradit 39.26 254 P **P 16 22 27.6 +0.5**
comp=Z,46µm,0.9s,comp=Z,337µm
SANI Sanana 39.70 202 P **P 16 22 27.8 -2.9**
comp=Z,38nm,0.7s
CMMT Chiang Mai 39.93 256 P **P 16 22 33.4 +0.7**
comp=Z,4.8nm,0.7s
CHTO Chiang Mai 39.94 256 P **P 16 22 31.4 -1.3**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 39.94 256 P **P 16 22 31.4 -1.3**
CMAR Chiang Mai Arr 40.13 256 P **P 16 22 33.7 -0.6**
CMAR Chiang Mai Arr 40.13 256 P **P 16 22 34.0 -0.3**
comp=Z,4.7nm,0.8s,baz=50,slow=7.5,SNR=24
CMAR LR LR 16 39 37.1
comp=Z,114nm,21.2s,baz=77,slow=37
CMAR Chiang Mai Arr 40.13 256 P **P 16 22 33.7 -0.6**
DGZ Jazzator, Alta 40.43 307 *c iP* **P 16 22 37.3 +0.7**
WMQ Urumqi 40.59 298 P **P 16 22 39.0 +1.0**
WMQ pmax pmax
comp=Z,25nm,0.9s
WMQ pmax pmax
comp=Z,180nm,5.1s
WMQ LR LR
comp=Z,340nm,18.3s
WMQ LR LR
comp=Z,220nm,21.3s
WMQ Urumqi 40.59 298 P **P 16 22 38.3 +0.3**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ Urumqi 40.59 298 P **P 16 22 38.3 +0.3**
WMQ IAmb IAmb 16 22 40.7
comp=Z,23nm,0.7s
AAI Ambon 40.63 198 P **P 16 22 38.5 +0.1**
comp=Z,54nm,0.5s
MHMT Maesarieng 41.09 256 P **P 16 22 44.2 +2.0**
comp=Z,12nm,1.2s
LSA Lhasa 41.32 276 P **P 16 22 44.0 -0.6**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 41.32 276 P **P 16 22 44.0 -0.6**
UTHA Uthaitani 41.39 252 P **P 16 22 45.8 +1.1**
comp=Z,23µm,1.1s
UMPA Umpang Tak 41.47 253 P **P 16 22 47.8 +2.4**
comp=Z,26µm,1.2s
ZALV Zalesovo Beam 42.15 314 P **P 16 22 50.0 -0.5**
comp=Z,14nm,0.5s,baz=110,slow=8.5,SNR=67
ZALV ScP **ScP 16 28 28.8 0.0**
comp=Z,2.2nm,0.7s,baz=117,slow=2.3,SNR=8.3
SHL Shillong 42.36 270 P **P 16 22 52.2 -0.6**
SHL pmax pmax
comp=Z,11nm,0.5s
SHL Shillong 42.36 270 P **P 16 22 52.2 -0.6**
SHL IAmb IAmb 16 22 57.1
comp=Z,11nm,0.5s
PHET Kaeng Krachan 42.86 249 P **P 16 22 57.4 +0.7**
comp=Z,27µm,0.7s,comp=Z,382µm
KSM Kuching 43.80 226 P **P 16 23 03.9 -0.3**
BNSI Bone 43.98 209 P **P 16 23 05.1 -0.5**
MK31 Makanchi Array 44.03 303 *eP* **P 16 23 05.2 -0.6**
MK31 pmax pmax
comp=Z,52nm,1.2s
MK31 Makanchi Array 44.03 303 P **P 16 23 05.4 -0.4**
MK31 IAmb IAmb 16 23 07.3
comp=Z,18nm,0.8s
MKAR Makanchi Array 44.03 303 P **P 16 23 05.5 -0.3**
comp=Z,13nm,0.5s,baz=83,slow=9.7,SNR=137
MKAR ScP **ScP 16 28 36.5 -0.2**
comp=Z,1.6nm,0.7s,baz=59,slow=4.7,SNR=5.2
MKAR LR LR 16 41 58.8
comp=Z,339nm,20.5s,baz=126,slow=37
MKAR Makanchi Array 44.03 303 P **P 16 23 05.4 -0.4**
NRIK Noril'sk 44.17 336 P **P 16 23 05.7 -0.8**
comp=Z,8.2nm,0.5s,baz=122,slow=5.9,SNR=16
KAPI Kappang 44.68 210 P **P 16 23 09.4 -1.8**
KAPI pmax pmax
comp=Z,34nm,1.3s
KAPI Kappang 44.68 210 P **P 16 23 09.4 -1.8**
KAPI IAmb IAmb 16 23 16.2
comp=Z,34nm,1.2s
TAPN Taplejung 45.02 275 *eP* **P 16 23 14.3 0.0**
comp=Z,15nm,0.5s
PMG Port Moresby 45.23 170 P **P 16 23 15.6 +0.1**
PMG pmax pmax
comp=Z,17nm,1.1s
PMG Port Moresby 45.23 170 P **P 16 23 15.9 +0.4**
comp=Z,7.3nm,0.7s,baz=11,slow=6.5,SNR=5.3
PMG Port Moresby 45.23 170 P **P 16 23 15.6 +0.1**
ODAN Odare 45.48 274 *eP* **P 16 23 17.4 -0.4**
comp=Z,27nm,0.6s
KURK Kurchatov 46.03 309 *ceP* **P 16 23 21.0 -0.6**
KURK pmax pmax
comp=Z,57nm,1.3s
KURK Kurchatov 46.03 309 P **P 16 23 20.4 -1.2**
RAMN Ramite 46.08 275 *eP* **P 16 23 22.4 -0.2**
comp=Z,93nm,0.6s
KURBB Kurchatov Arra 46.10 309 P **P 16 23 21.4 -0.7**
comp=Z,19nm,0.5s,baz=85,slow=7.6,SNR=132
JIRN Jiri 46.13 276 *eP* **P 16 23 23.3 +0.2**
comp=Z,71nm,0.6s
GUN Gumba 46.28 276 *eP* **P 16 23 24.3 0.0**
comp=Z,38nm,0.7s
PDGK Podgornoye 46.55 299 P **P 16 23 25.2 -0.8**
PDGK pmax pmax
comp=Z,75nm,1.0s
PKI Pulchoki 46.80 276 *eP* **P 16 23 27.7 -0.6**
comp=Z,22nm,0.6s
PKIN Phulchoki 46.80 276 *eP* **P 16 23 27.6 -0.7**
comp=Z,26nm,0.6s
KKN Kakani 46.81 277 *eP* **P 16 23 27.9 -0.4**
comp=Z,25nm,0.5s
DMN Daman 47.03 276 *eP* **P 16 23 29.3 -0.7**
comp=Z,25nm,0.8s
GKN Gorkha 47.25 277 *eP* **P 16 23 31.4 -0.2**
comp=Z,90nm,0.8s
IPM Ipoh 47.50 239 P **P 16 23 32.7 -0.8**
SOEI Soe 47.51 201 P **P 16 23 33.0 -0.6**
PRZ Przheval'sk 47.52 298 P **P 16 23 34.0 +0.4**
PRZ pmax pmax
comp=Z,60nm,0.8s
PRZ Przheval'sk 47.52 298 P **P 16 23 34.0 +0.4**
DANN Dangsing 47.82 278 *eP* **P 16 23 36.2 0.0**
comp=Z,122nm,0.4s
BATI Baumata 48.12 202 P **P 16 23 41.0 +2.8**
comp=Z,32nm,0.7s
TARG Taragay, Kyrgy 48.13 297 P **P 16 23 38.4 -0.1**
KOLN Koldanda 48.18 277 *eP* **P 16 23 38.9 0.0**
comp=Z,20nm,0.5s
IMAR Indian Mountai 48.43 30 P **P 16 23 40.4 +0.4**
IMAR **PcP 16 25 06.8 +1.4**
KDJ Kajisay 48.48 298 P **P 16 23 40.4 -0.6**
KDJ pmax pmax
comp=Z,21nm,1.0s
KDJ Kajisay 48.48 298 P **P 16 23 40.4 -0.6**
KDJ IAmb IAmb 16 23 59.4
comp=Z,21nm,0.9s
RSO Redoubt South 48.69 37 P **P 16 23 42.7 +0.4**
KDAK Kodiak Island 48.88 41 P **P 16 23 43.8 +0.3**
comp=Z,20nm,0.7s,baz=284,slow=3.8,SNR=16
KDAK Kodiak Island 48.88 41 P **P 16 23 43.8 +0.3**
MTN Manton Dam 48.90 192 P **P 16 23 44.0 -0.2**
COEN Coen 49.34 176 P **P 16 23 48.5 +1.0**
COEN IAmb IAmb 16 23 49.2
comp=Z,17nm,0.8s
TKM2 Tokmak 2 49.42 299 P **P 16 23 48.5 +0.3**
TKM2 pmax pmax
comp=Z,38nm,1.2s
TKM2 Tokmak 2 49.42 299 P **P 16 23 48.9 +0.6**
SNR=34
NRN Naryn 49.51 297 P **P 16 23 50.0 +0.9**
NRN pmax pmax
comp=Z,12nm,0.7s
NRN Naryn 49.51 297 P **P 16 23 50.0 +0.9**
NRN IAmb IAmb 16 23 54.8
comp=Z,12nm,0.7s
MLY Manley 49.63 31 P **P 16 23 50.6 +1.3**
MLY IAmb IAmb 16 23 51.9
comp=Z,16nm,1.1s
MLY PcP **PcP 16 25 12.0 +2.2**
BRLK Bradley Lake 49.65 38 P **P 16 23 50.0 +0.6**
KZA Kyzart 49.89 298 P **P 16 23 54.1 +2.1**
SNR=12
KBK Karagaybulak 49.95 299 P **P 16 23 53.8 +1.6**
SNR=29
CHMS Chumysh 50.01 299 P **P 16 23 52.9 +0.5**
SNR=8.3
KSH Kashi 50.06 295 P **P 16 23 57.5 +4.5**
KSH sP sP 16 24 20.0 +3.5
KSH PcP **PcP 16 25 16.0 +4.0**
KSH PP **PP 16 25 54.8 +6.4**
KSH PcS **PcS 16 29 11.5 +2.4**
KSH S **S 16 31 03.3 +3.6**
KSH sS sS 16 31 30.5 +3.3
KSH SS **SS 16 34 34.0 +0.9**
KSH pmax pmax
comp=Z,21nm,0.8s
KSH pmax pmax
comp=Z,620nm,5.6s
KSH LR LR
comp=Z,320nm,11.1s
KSH LR LR
comp=Z,420nm,10.9s
KSH LR LR
comp=Z,360nm,10.3s
USP Ospenovka 50.12 300 P **P 16 23 53.5 +0.2**
SNR=13
FRU1 Bishkek 50.14 299 P **P 16 23 53.4 -0.1**
FRU1 pmax pmax
comp=Z,20nm,0.7s
FRU1 Bishkek 50.14 299 P **P 16 23 53.4 -0.1**
BWN Browne 50.18 33 P **P 16 23 54.2 +0.9**
AAK Ala-Archa 50.28 299 P **P 16 23 54.9 +0.2**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 50.28 299 P **P 16 23 55.7 +1.1**
SNR=8.1
AAK Ala-Archa 50.28 299 P **P 16 23 54.5 -0.2**
AAK IAmb IAmb 16 24 07.2
comp=Z,14nm,0.9s
SEW Seward 50.35 38 P **P 16 23 55.1 +0.4**
UCH Uchtor 50.38 299 P **P 16 23 59.0 +3.3**
SNR=10
PMR Palmer 50.41 36 P **P 16 23 55.5 +0.4**
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 50.41 36 P **P 16 23 55.5 +0.4**
PMR IAmb IAmb 16 24 44.7
comp=Z,13nm,1.0s
MCK McKinley 50.42 33 P **P 16 23 56.1 +0.9**
MCK pmax pmax
comp=Z,33nm,1.6s
MCK McKinley 50.42 33 P **P 16 23 56.1 +0.9**
MCK IAmb IAmb 16 23 56.4
comp=Z,33nm,1.6s
RND Reindeer 50.47 33 P **P 16 23 56.4 +0.8**
RND pmax pmax
comp=Z,26nm,1.4s
RND Reindeer 50.47 33 P **P 16 23 56.4 +0.8**
RND IAmb IAmb 16 23 57.8
comp=Z,26nm,1.4s
GHO Glory Hole Cre 50.50 36 P **P 16 23 56.2 +0.3**
MDM Murphy Dome 50.70 31 P **P 16 23 58.0 +0.7**
KNK Knik Glacier 50.74 36 P **P 16 23 58.8 +1.1**
WRH Wood River Hil 50.77 32 P **P 16 23 58.9 +1.1**
WRH IAmb IAmb 16 24 24.4
comp=Z,30nm,1.6s
WRH **PcP 16 25 14.5 +0.6**
SML Sawmill 50.78 36 P **P 16 23 58.9 +0.9**
SML IAmb IAmb 16 23 59.8
comp=Z,24nm,1.0s
BRVK Borovoye 50.85 313 *ceP* **P 16 23 59.6 +1.0**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 50.85 313 P **P 16 23 58.6 0.0**
BRVK IAmb IAmb 16 24 08.4
comp=Z,11nm,0.9s
TCOL CIGO, UAF Yank 50.86 32 P **P 16 24 00.4 +2.0**
baz=272
COLA College 50.86 32 P **P 16 23 59.7 +1.2**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 50.86 32 P **P 16 23 59.7 +1.2**
COLA IAmb IAmb 16 24 01.6
comp=Z,12nm,0.8s
CCB Clear Creek Bu 50.89 32 P **P 16 23 59.2 +0.6**
CCB PcP **PcP 16 25 14.4 +0.1**
PWJI Pagerwojo 50.92 217 P **P 16 24 01.2 +1.7**
AML Almayashu 50.99 299 P **P 16 24 01.0 +0.7**
SNR=46
POKR Poker Plat Res 51.03 31 P **P 16 24 01.5 +1.7**
baz=272,SNR=16
DHY Denali Highway 51.15 34 P **P 16 24 00.6 -0.3**
DHY IAmb IAmb 16 25 46.7
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 51.25 35 P **P 16 24 02.0 +0.4**
SCM pmax pmax
comp=Z,47nm,1.4s
SCM Sheep Creek Mo 51.25 35 P **P 16 24 01.9 +0.4**
HDA Harding Lake 51.27 32 P **P 16 24 02.1 +0.5**
baz=273,SNR=11
HDA Harding Lake 51.27 32 P **P 16 24 01.8 +0.2**
HDA IAmb IAmb 16 24 02.8
comp=Z,15nm,1.0s
IL31 51.28 32 P **P 16 24 01.9 +0.4**
ILAR Eielson Array 51.28 32 P **P 16 24 01.6 0.0**
comp=Z,6.2nm,0.9s,baz=271,slow=6.4,SNR=52
ILAR Eielson Array 51.28 32 P **P 16 24 01.3 -0.3**
KPJI Karang Pucung 51.81 221 P **P 16 24 07.6 +1.4**
PRP Porcupine Dome 51.82 31 P **P 16 24 05.5 -0.3**
FYU Fort Yukon 51.89 29 P **P 16 24 07.4 +1.3**
KLSI 52.03 227 P **P 16 24 07.3 -0.5**
comp=Z,20nm,0.8s
LHSI Lahat 52.08 229 P P 16 24 13.2 +5.0
KNRA Kununurra 52.10 194 P **P 16 24 08.4 +0.2**
BMAR Burnt Mountain 52.11 28 P **P 16 24 08.8 +1.0**
GSI Gunungsitoli 52.16 239 P **P 16 24 08.3 -0.5**
comp=Z,36nm,1.1s
GSI Gunungsitoli 52.16 239 P **P 16 24 07.6 -1.3**
MDSI Maura Dua 52.20 228 P **P 16 24 13.6 +4.5**
SCRK Sand Creek 52.59 33 P **P 16 24 11.7 +0.1**
SCRK IAmb IAmb 16 24 13.2
comp=Z,16nm,1.1s
MENT Mentasta 52.82 34 P **P 16 24 14.5 +1.3**
MENT IAmb IAmb 16 24 40.9
comp=Z,12nm,0.8s
GLB Gilahina Butte 52.97 36 P **P 16 24 14.6 +0.3**
KK31 Karatay Array 52.97 301 *i* P **P 16 24 14.6 0.0**
KK31 pmax pmax
comp=Z,40nm,1.1s
KK31 Karatay Array 52.97 301 P **P 16 24 14.5 0.0**
KKAR Karatay Array 52.97 301 P **P 16 24 14.0 -0.5**
KKAR pmax pmax
comp=Z,41nm,1.1s
KKAR Karatay Array 52.97 301 P **P 16 24 14.0 -0.5**
KKAR Karatay Array 52.97 301 P **P 16 24 14.3 -0.3**
KKAR IAmb IAmb 16 24 20.8
comp=Z,41nm,1.1s
VRDI Verde Repeater 53.16 36 P **P 16 24 16.9 +1.0**
MCARA McCarthy VSAT 53.35 36 P **P 16 24 18.5 +1.5**
MCARA IAmb IAmb 16 24 19.6
comp=Z,14nm,0.8s
CRQM Cirque 53.38 37 P **P 16 24 17.5 0.0**
CRQM IAmb IAmb 16 24 20.5
comp=Z,25nm,1.1s
BCAR Beaver Creek A 53.68 34 P **P 16 24 20.4 +0.9**
BTK Batken 53.68 297 P **P 16 24 19.8 -0.1**
BTK pmax pmax
comp=Z,13nm,1.0s
BTK Batken 53.68 297 P **P 16 24 19.8 -0.1**
BTK IAmb IAmb 16 24 38.1
comp=Z,13nm,1.0s
EGAK Eagle 53.72 31 P **P 16 24 19.8 +0.2**
NIL Nilore 54.09 289 P **P 16 24 23.2 +0.3**
NIL pmax pmax
comp=Z,26nm,0.9s
NIL Nilore 54.09 289 P **P 16 24 23.2 +0.3**
GAR Garm 54.40 296 P **P 16 24 24.9 -0.2**
FITZ Fitzroy Crossi 55.12 197 P **P 16 24 30.9 +0.6**
EPYK Eagle Plains 55.30 29 P **P 16 24 32.4 +1.2**
baz=280
EPYK Eagle Plains 55.30 29 P **P 16 24 32.1 +0.9**
CHGR Chuyangaron 55.36 296 P **P 16 24 31.6 -0.6**
WRAB Tennant Creek 55.48 187 P **P 16 24 32.5 -0.3**
WRAB pmax pmax
comp=Z,73nm,1.4s
WRAB Tennant Creek 55.48 187 P **P 16 24 32.5 -0.3**
WB2 Warramunga Arr 55.48 187 P **P 16 24 32.6 -0.3**
WRA Warramunga Arr 55.48 187 P **P 16 24 32.4 -0.5**
comp=Z,23nm,0.5s,baz=0.8,slow=7.4,SNR=340
WRA pP **pP 16 24 50.5 +1.0**
comp=Z,29nm,0.5s,baz=2.6,slow=7.5,SNR=8.8
WRA Warramunga Arr 55.48 187 P **P 16 24 31.9 -1.0**
SVE Sverdlovsk 55.56 319 *eP* **P 16 24 34.2 +1.1**
SVE pmax pmax
comp=Z,37nm,1.0s
CTA Charters Tower 55.66 173 LR LR 16 48 48.1
comp=Z,376nm,19.9s,baz=356,slow=36
INK Inuvik 56.15 27 P **P 16 24 37.5 +0.4**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 56.15 27 P **P 16 24 37.7 +0.6**
comp=Z,3.8nm,0.8s,baz=284,slow=7.2,SNR=12
INK Inuvik 56.15 27 P **P 16 24 37.5 +0.4**
ARU Arti 56.77 319 *d iP* **P 16 24 41.2 -0.5**
ARU *PP **pP 16 24 57.2 -1.1**
ARU 16 26 43.1
ARU S **S 16 32 29.3 -0.5**
ARU pmax pmax
comp=Z,23nm,0.7s
ARU Arti 56.77 319 P **P 16 24 40.8 -1.0**
KBL Kabul 56.98 291 P **P 16 24 43.4 -0.4**
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 56.98 291 P **P 16 24 43.4 -0.4**
KBL IAmb IAmb 16 25 02.3
comp=Z,16nm,0.9s
HYB Hyderabad 57.13 269 *i* P **P 16 24 44.0 -0.9**
AB31 Akbulak array 58.09 310 *eP* **P 16 24 50.3 -0.8**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 58.09 310 P **P 16 24 50.2 -0.9**
ABKAR Akbulak array 58.09 310 P **P 16 24 50.8 -0.4**
ABKAR IAmb IAmb 16 25 01.8
comp=Z,14nm,0.8s
AKTO Aktyubinsk 58.88 312 P **P 16 24 55.9 -0.8**
AKTO pmax pmax
comp=Z,21nm,1.4s
C36M Paulatuk 59.18 24 P **P 16 24 58.8 +0.4**
baz=289
AS31 Alice Springs 59.21 187 P **P 16 24 58.9 -0.2**
AS31 IAmb IAmb 16 25 02.9
comp=Z,6.2nm,0.6s
ASAR Alice Springs 59.21 187 P **P 16 24 59.0 -0.1**
comp=Z,8.2nm,0.5s,baz=17,slow=10,SNR=108
ASAR pP **pP 16 25 16.9 +1.0**
comp=Z,5.5nm,0.5s,baz=14,slow=8.2,SNR=6.2
ASAR S **S 16 33 02.9 +0.6**
comp=Z,1.1nm,0.9s,baz=20,slow=22,SNR=5.7
ASAR Alice Springs 59.21 187 P **P 16 24 58.5 -0.6**
PSA00 Pilbara Seismi 60.00 202 P **P 16 25 03.6 -0.9**
PSA00 Pilbara Seismi 60.00 202 P **P 16 25 04.2 -0.4**
PSA00 IAmb IAmb 16 25 05.4
comp=Z,20nm,0.9s
POO Poona 60.39 272 *eP* P 16 25 13.0 +5.5
PRGR Permogore 61.43 327 *eP* **P 16 25 13.6 -0.2**
PRGR pmax pmax
comp=Z,19nm,1.3s
EIDS Eidsvold 61.49 169 P **P 16 25 15.2 +0.6**
EIDS IAmb IAmb 16 25 15.8
comp=Z,8.0nm,0.8s
HRA Herat 62.16 294 P **P 16 25 19.1 -0.3**
HRA IAmb IAmb 16 25 26.9
comp=Z,9.0nm,0.8s
DZM Mont Dzumac 62.52 152 P **P 16 25 23.4 +1.7**
GEYT Alibeck 63.63 299 P **P 16 25 29.9 +0.9**
comp=Z,2.5nm,0.5s,baz=36,slow=7.7,SNR=5.7
GEYT LR LR 16 56 10.0
comp=Z,168nm,20.1s,baz=15,slow=39
GEYT Alibeck 63.63 299 P **P 16 25 28.0 -1.1**
KLMR Klimovskoe 64.44 328 *eP* **P 16 25 31.9 -1.8**
KLMR pmax pmax
comp=Z,22nm,0.8s
KLMR Klimovskoe 64.44 328 *eP* **P 16 25 32.0 -1.8**
KLMR AMP 16 25 34.3
comp=Z,22nm,0.8s
ARCES ARCESS Array B 64.99 339 P **P 16 25 37.3 0.0**
comp=Z,2.8nm,0.6s,baz=55,slow=7.6,SNR=8.7
ARCES ARCESS Array B 64.99 339 P **P 16 25 36.8 -0.6**
YKA Yellowknife Ar 65.59 29 P **P 16 25 42.3 +1.0**
comp=Z,1.9nm,0.7s,baz=302,slow=7.1,SNR=3.6
YKA Yellowknife Ar 65.59 29 P **P 16 25 41.5 +0.3**
TULEG Thule 66.68 7 P **P 16 25 47.2 -0.8**
TULEG IAmb IAmb 16 26 53.9
comp=Z,21nm,1.3s
JOF Joensuu 66.76 332 P **P 16 25 48.0 -0.7**
FORT Forrest 66.97 191 P **P 16 25 50.7 +0.3**
STKA Stephens Creek 67.11 179 P **P 16 25 51.3 +0.1**
STKA pmax pmax
comp=Z,6.0nm,1.5s
STKA Stephens Creek 67.11 179 P **P 16 25 51.6 +0.4**
comp=Z,6.7nm,0.8s,baz=355,slow=5.7,SNR=11
STKA LR LR 16 56 07.0
comp=Z,127nm,18.3s,baz=18,slow=37
STKA Stephens Creek 67.11 179 P **P 16 25 51.3 +0.1**
DAG Danmarks Havn 67.13 355 *i* P **P 16 25 50.0 -0.9**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 67.13 355 *i* P **P 16 25 50.0 -0.9**
comp=Z,7.3nm,0.9s
VRH Novokhopyorsk 67.96 318 *eP* **P 16 25 55.2 -1.3**
VRH pmax pmax
comp=Z,30nm,0.7s
MORW Morawa 68.19 203 P **P 16 25 58.1 0.0**
MORW IAmb IAmb 16 26 00.7
comp=Z,37nm,1.4s
NLWA Neilton Lookou 68.47 47 P **P 16 26 01.9 +2.1**
NLWA IAmb IAmb 16 26 03.0
comp=Z,18nm,1.0s
OBN Obninsk 68.64 323‖ *eP* **P 16 25 59.6 -1.1**
OBN *PP **pP 16 26 17.0 -0.7**
OBN *e* 16 26 23.9
OBN pmax pmax
comp=Z,9.0nm,0.8s
LPSR Galich'ya Gora 68.75 320 *eP* **P 16 26 00.7 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
D03D Eldon 68.86 46 P **P 16 26 04.2 +2.0**
baz=300
B05A Bryant 69.07 45 P **P 16 26 05.2 +1.7**
baz=300

D04E Lakebay 69.22 46 P P 16 26 07.0 +2.6
baz=300
VSR Storozhevoye 69.34 319 *e*P **P 16 26 03.5 -1.6**
VSR pmax pmax
comp=Z,20nm,0.8s
SEKA Sheki 69.60 306 P P 16 26 07.1 +0.1
FINES FINESS Array B 69.62 332 *i* P **P 16 26 06.4 -0.2**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 69.62 332 P P 16 26 06.2 -0.5
comp=Z,9.2nm,0.7s,baz=85,slow=6.3,SNR=21
FINES FINESS Array B 69.62 332 P P 16 26 06.1 -0.6
E04D Cinebar 69.65 47 P P 16 26 09.2 +2.1
baz=301
ZKTA Zakatala 69.76 307 P P 16 26 08.3 +0.4
LKRN Lenkeran, Azer 69.78 304 P P 16 26 08.7 +0.7
MNGR Mingechevir, A 69.89 306 P P 16 26 09.1 +0.4
LON Longmire 70.00 46 P P 16 26 10.4 +1.0
LON pmax pmax
comp=Z,6.0nm,1.0s
LON Longmire 70.00 46 P P 16 26 10.4 +1.0
F04A Amboy 70.06 47 P P 16 26 10.9 +1.3
F04A IAmb IAmb 16 26 12.2
comp=Z,20nm,0.9s
LTY Liberty 70.41 46 P P 16 26 12.9 +1.0
LTY IAmb IAmb 16 28 47.4
comp=Z,11nm,0.5s
GANJ Ganja 70.45 306 P P 16 26 12.6 +0.4
B08A Colville Reser 70.60 44 P P 16 26 13.7 +0.7
B08A IAmb IAmb 16 26 15.1
comp=Z,26nm,1.4s
I03D Drain, OR 70.64 50 P P 16 26 15.5 +2.3
baz=301
ZEI Tsey 70.92 309 *e*P **P 16 26 13.6 -1.6**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
K02D Willamette Mer 70.95 51 P P 16 26 17.2 +1.9
baz=301
KBZ Khabaz 71.06 311 P P 16 26 16.1 +0.3
comp=Z,11nm,0.9s,baz=46,slow=2.2,SNR=18
KIV Kislovodsk 71.08 311 *e*P **P 16 26 16.4 +0.4**
KIV pmax pmax
comp=Z,91nm,1.1s
KIV Kislovodsk 71.08 311 ⇑P **P 16 26 16.8 +0.8**
KIV mb 16 26 24.1
KIV Kislovodsk 71.08 311 P P 16 26 16.0 0.0
KIV IAmb IAmb 16 26 24.5
comp=Z,22nm,0.7s
E07A Sunnyside 71.25 46 P P 16 26 18.4 +1.5
E07A IAmb IAmb 16 26 19.5
comp=Z,20nm,1.1s
L02E Cave Junction 71.27 51 P P 16 26 19.1 +2.0
baz=301
C09A Chrisman Ranch 71.50 44 P P 16 26 19.6 +1.2
C09A IAmb IAmb 16 26 20.5
comp=Z,24nm,1.1s
HAWA Hanford 71.53 46 P P 16 26 19.8 +1.2
HAWA IAmb IAmb 16 26 21.0
comp=Z,16nm,1.1s
I05D Terrebonne, OR 71.54 48 P P 16 26 20.5 +1.7
baz=302
F07A Phinny Hill Vi 71.56 46 P P 16 26 19.8 +1.0
F07A IAmb IAmb 16 26 21.3
comp=Z,20nm,1.0s
J04D Umpqua Nationa 71.64 50 P P 16 26 21.6 +2.0
baz=302,SNR=6.4
NAX Nakhchivan 71.75 305 P P 16 26 20.6 +0.5
E08A Dider Farm, El 71.75 46 P P 16 26 20.8 +0.8
E08A IAmb IAmb 16 26 22.1
comp=Z,13nm,0.9s
AKH Akhalkalaki 71.89 308 P P 16 26 21.9 +0.8
AKH pmax pmax
comp=Z,21nm,1.4s
AKH Akhalkalaki 71.89 308 ⇓P **P 16 26 22.1 +1.0**
AKH Akhalkalaki 71.89 308 P P 16 26 21.9 +0.8
AKH IAmb IAmb 16 26 41.5
comp=Z,21nm,1.4s
NEW Newport 71.90 43 P P 16 26 21.9 +1.1
baz=303
NEW Newport 71.90 43 P P 16 26 21.6 +0.8
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 71.90 43 P P 16 26 21.6 +0.8
YBH Yreka Blue Hor 72.06 51 P P 16 26 23.6 +1.6
YBH pmax pmax
comp=Z,14nm,1.2s
YBH Yreka Blue Hor 72.06 51 P P 16 26 23.6 +1.6
L04D Klamath Falls 72.06 51 P P 16 26 23.9 +1.9
baz=302,SNR=6.9
PINE Pine Mountain 72.07 49 P P 16 26 24.1 +1.9
SUMG Summit 72.14 360 *i* P **P 16 26 23.0 +0.7**
SUMG pmax pmax
comp=Z,32nm,0.9s
SUMG Summit 72.14 360 *i* P **P 16 26 23.0 +0.7**
comp=Z,32nm,0.9s
SUMG Summit 72.14 360 P P 16 26 22.7 +0.5
SUMG IAmb IAmb 16 26 44.3
comp=Z,46nm,1.6s
M02C Callahan 72.15 52 P P 16 26 24.8 +2.3
baz=302,SNR=6.0
J05D Fort Rock, OR 72.16 49 P P 16 26 24.7 +2.1
baz=302,SNR=8.5
G08A Pilot Rock 72.46 47 P P 16 26 24.4 +0.1
N02D Trinity Center 72.46 52 P P 16 26 26.6 +2.2
baz=302,SNR=8.2
M04C Macdoel 72.58 51 P P 16 26 27.2 +2.0
baz=302,SNR=14
WDC Whiskeytown Da 72.78 52 P P 16 26 27.6 +1.5
WDC pmax pmax
comp=Z,13nm,1.1s
WDC Whiskeytown Da 72.78 52 P P 16 26 27.6 +1.5
O02D Mt. Diablo Mer 72.83 53 P P 16 26 28.8 +2.3
baz=302
F10A Beach Ranch, E 73.10 45 P P 16 26 28.5 +0.4
WALA Waterton Lakes 73.21 41 P P 16 26 29.8 +1.1
O03E Paynes Creek 73.41 52 P P 16 26 31.2 +1.2
baz=303,SNR=9.1
SCO Scoresbysund 73.45 354 *i* P **P 16 26 30.0 +0.4**
SCO Scoresbysund 73.45 354 *i* P **P 16 26 30.0 +0.4**
MOD Modoc Plateau 73.49 50 P P 16 26 31.9 +1.4
BMO Blue Mountains 73.68 46 P P 16 26 32.6 +1.1
BMO pmax pmax
comp=Z,18nm,1.1s
BMO Blue Mountains 73.68 46 P P 16 26 32.6 +1.1
BMO IAmb IAmb 16 26 33.8
comp=Z,18nm,1.1s
JTMT Jette 73.77 43 P P 16 26 32.5 +0.5
JTMT IAmb IAmb 16 26 34.3
comp=Z,22nm,0.8s
ORV Oroville 74.00 53 P P 16 26 33.8 +0.4
ORV pmax pmax
comp=Z,9.0nm,1.0s
ORV Oroville 74.00 53 P P 16 26 33.8 +0.4
WVOR Wild Horse Val 74.23 49 P P 16 26 35.7 +0.9
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 74.23 49 P P 16 26 35.7 +0.9
PLID Pearl Lake 74.31 46 P P 16 26 35.9 +0.5
MSO Missoula 74.49 43 P P 16 26 37.1 +0.9
baz=306,SNR=7.4
MSO Missoula 74.49 43 P P 16 26 36.6 +0.4
BEKR Beckworth 74.57 52 P P 16 26 37.5 +0.6
BEKR IAmb IAmb 16 26 39.0
comp=Z,16nm,0.9s
AFDM Forest Hills D 74.67 53 P P 16 26 38.7 +1.4
AKASG Malin Array Be 74.81 322 P P 16 26 37.0 -0.8
comp=Z,5.9nm,0.5s,baz=48,slow=6.0,SNR=32
AKASG pP **pP 16 26 54.4 -0.7**
comp=Z,4.6nm,0.5s,baz=47,slow=6.5,SNR=4.7
AKASG LR LR 17 01 34.3
comp=Z,147nm,18.1s,baz=65,slow=37
AKASG Malin Array Be 74.81 322 P P 16 26 36.7 -1.1
AKBB Malin Array Si 74.81 322 P P 16 26 37.0 -0.8
AKBB pmax pmax
comp=Z,20nm,0.9s
AKBB Malin Array Si 74.81 322 P P 16 26 37.0 -0.8
AKBB IAmb IAmb 16 26 38.6
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 75.12 337 P P 16 26 38.8 -0.7
comp=Z,24nm,1.2s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.12 337 P P 16 26 38.8 -0.7
baz=41,slow=5.9
NOA NORSAR Array B 75.12 337 P P 16 26 39.1 -0.4
comp=Z,2.6nm,0.6s,baz=38,slow=5.9,SNR=6.3
PAHR Pah Rah Range 75.28 52 P P 16 26 42.1 +1.2

VCNR Virginia City 75.34 52 P P 16 26 42.5 +1.1
MFID Camas Ranch 75.37 47 P P 16 26 42.7 +1.3
MFID IAmb IAmb 16 26 43.8
comp=Z,17nm,1.1s
PNTR Pine Nut 75.49 52 P P 16 26 43.6 +1.4
PNTR IAmb IAmb 16 27 00.7
comp=Z,39nm,2.0s
FFC Flin Flon 75.49 32 P P 16 26 41.9 +0.2
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 75.49 32 P P 16 26 41.9 +0.2
CMB Columbia Colle 75.56 54 P P 16 26 43.9 +1.4
CMB pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 75.56 54 P P 16 26 43.9 +1.4
CMB IAmb IAmb 16 26 44.8
comp=Z,21nm,1.2s
HRY Holter Researc 75.73 42 P P 16 26 44.8 +1.4
YERR Yerington 75.78 52 P P 16 26 45.4 +1.5
YERR IAmb IAmb 16 26 46.4
comp=Z,36nm,1.4s
WAKR Walker 75.92 53 P P 16 26 46.4 +1.6
EGMT Eagleton 76.05 41 P P 16 26 46.3 +1.2
baz=308,SNR=12
EGMT Eagleton 76.05 41 P P 16 26 46.1 +1.0
EGMT IAmb IAmb 16 26 47.1
comp=Z,28nm,1.0s
DLMT Dillon 76.11 44 P P 16 26 46.3 +0.7
DLMT IAmb IAmb 16 26 48.3
comp=Z,23nm,0.9s
BMN Battle Mountai 76.24 50 P P 16 26 48.0 +1.6
BMN pmax pmax
comp=Z,32nm,1.4s
BMN Battle Mountai 76.24 50 P P 16 26 48.0 +1.6
BMN IAmb IAmb 16 26 49.9
comp=Z,32nm,1.4s
MCMT McKenzie Canyo 76.28 44 P P 16 26 46.9 +0.2
RYN Ryan 76.44 52 P P 16 26 48.9 +1.3
RYN IAmb IAmb 16 26 50.2
comp=Z,25nm,1.4s
KVN Kaiserville 76.47 52 P P 16 26 49.5 +1.7
KVN pmax pmax
comp=Z,36nm,1.3s
KVN Kaiserville 76.47 52 P P 16 26 49.5 +1.7
KVN IAmb IAmb 16 26 50.4
comp=Z,36nm,1.3s
BOZ Bozeman (W) 76.51 43 P P 16 26 49.2 +1.4
baz=307,SNR=16
BOZ Bozeman (W) 76.51 43 P P 16 26 48.8 +1.0
BOZ pmax pmax
comp=Z,14nm,1.0s
BOZ Bozeman (W) 76.51 43 P P 16 26 48.8 +1.0
BOZ IAmb IAmb 16 26 50.0
comp=Z,14nm,0.9s
NVAR Mina Array Bea 76.69 52 P P 16 26 50.4 +1.3
comp=Z,15nm,1.1s,baz=292,slow=5.7,SNR=34
NVAR Mina Array Bea 76.69 52 P P 16 26 49.9 +0.8
NV11 Mina Array Sit 76.79 52 P P 16 26 50.9 +1.3
MLAC Mammoth, Mammo 76.81 53 P P 16 26 52.5 +2.7
baz=305
PAGB Antelope Grade 76.94 55 P P 16 26 51.9 +1.6
PAGB IAmb IAmb 16 26 53.1
comp=Z,33nm,1.1s
QLMT Earthquake Lak 77.09 44 P P 16 26 52.8 +1.6
YHL Hebgen Lake 77.21 44 P P 16 26 52.8 +0.8
YHB Horse Butte 77.27 44 P P 16 26 53.6 +1.4
ELK Elko 77.28 49 P P 16 26 53.8 +1.4
ELK pmax pmax
comp=Z,14nm,1.2s
ELK Elko 77.28 49 P P 16 26 53.8 +1.4
YHH Holmes Hill 77.44 44 P P 16 26 54.1 +0.8
GCMT Greycliff 77.48 42 P P 16 26 53.9 +0.6
YNR Norris Junctio 77.58 44 P P 16 26 55.5 +1.5
VES Vestal, Richgr 77.66 55 P P 16 26 55.6 +1.3
baz=305
PKM Mcpherson Peak 77.72 56 P P 16 26 56.9 +2.0
baz=305,SNR=5.1
YNE Yellowstone No 77.78 43 P P 16 26 56.5 +1.4
YPP Pitchstone Pla 77.78 44 P P 16 26 57.3 +2.1
LKWY Lake 77.83 44 P P 16 26 58.3 +2.9
LKWY pmax pmax
comp=Z,14nm,1.1s
LKWY Lake 77.83 44 P P 16 26 58.3 +2.9
LKWY IAmb IAmb 16 26 59.4
comp=Z,14nm,1.1s
H17A Grant Village 77.83 44 P P 16 26 58.9 +3.4
baz=308,SNR=19
H17A Grant Village 77.83 44 P P 16 26 58.3 +2.9
H17A IAmb IAmb 16 26 59.6
comp=Z,26nm,1.0s
YMP Mirror Lake Pl 77.86 43 P P 16 26 57.2 +1.6
IMW Indian Meadow 77.94 44 P P 16 26 57.8 +1.7
FLWY Flagg Ranch 77.96 44 P P 16 26 57.8 +1.7
FLWY IAmb IAmb 16 26 59.4
comp=Z,16nm,1.1s
CWC Cottonwood Cre 77.98 54 P P 16 26 57.5 +1.2
baz=306
FXWY Fox Creek 78.05 45 P P 16 26 58.2 +1.6
RLMT Red Lodge 78.11 43 P P 16 26 58.5 +1.6
baz=309,SNR=9.3
RLMT Red Lodge 78.11 43 P P 16 26 58.4 +1.4
RLMT IAmb IAmb 16 26 59.5
comp=Z,25nm,1.4s
MOOW Moose Ponds 78.14 44 P P 16 26 58.2 +1.1
MOOW IAmb IAmb 16 26 59.9
comp=Z,36nm,1.9s
HVU Hansel Valley 78.16 47 P P 16 26 58.6 +1.5
HVU pmax pmax
comp=Z,16nm,1.0s
HVU Hansel Valley 78.16 47 P P 16 26 58.6 +1.5
ISA Isabella, Lake 78.17 55 P P 16 26 58.2 +1.0
baz=306
TPAW Teton Pass 78.18 45 P P 16 26 58.7 +1.3
GAZ Gaziantep 78.30 307 P P 16 26 58.5 +0.6
GAZ IAmb IAmb 16 27 18.2
comp=Z,18nm,0.9s
SNOW Snow King Moun 78.31 45 P P 16 26 59.7 +1.6
REDW Red Top Meadow 78.31 45 P P 16 26 59.6 +1.5
DAC Darwin (Calif) 78.40 54 P P 16 27 01.7 +3.1
DAC pmax pmax
comp=Z,14nm,1.3s
DAC Darwin (Calif) 78.40 54 P P 16 27 01.7 +3.1
R11A Troy Canyon, C 78.48 51 P P 16 27 00.7 +1.6
baz=306,SNR=24
R11A Troy Canyon, C 78.48 51 P P 16 27 00.5 +1.5
R11A IAmb IAmb 16 27 01.5
comp=Z,27nm,1.4s
BGU Big Grassy Mou 78.52 48 P P 16 27 00.8 +1.6
AHID Auburn Hatcher 78.54 45 P P 16 26 59.9 +0.6
MPMC Manual Prospec 78.59 54 P P 16 27 01.1 +1.4
baz=306,SNR=8.2
SPUT South Promonto 78.64 47 P P 16 27 01.0 +1.2
LAO LASA Array 78.75 40 P P 16 27 01.5 +1.3
baz=311,SNR=6.3
LAO LASA Array 78.75 40 P P 16 27 01.0 +0.8
LAO IAmb IAmb 16 27 02.4
comp=Z,17nm,1.1s
FURC Furnace Creek, 78.76 53 P P 16 27 02.2 +1.9
baz=306,SNR=5.7
TESR Tescani 78.78 320 ⇓P **P 16 27 00.2 -0.1**
BIZ Bicaz 78.79 320 ⇑P **P 16 27 01.2 +0.8**
BUR08 Bucovina Ar. S 78.80 321 P P 16 27 00.4 -0.1
BUR08 IAmb IAmb 16 27 08.4
comp=Z,38nm,1.9s
BURAR Bucovina Array 78.81 321 ⇑P **P 16 27 01.0 +0.5**
BURAR Bucovina Array 78.81 321 P P 16 26 59.9 -0.6
CFR Carcaliu 78.84 318 ⇑P **P 16 27 00.1 -0.5**
TPNV Topopah Spring 78.88 53 P P 16 27 02.9 +1.6
baz=306,SNR=14
TPNV Topopah Spring 78.88 53 P P 16 27 02.5 +1.3
TPNV Topopah Spring 78.88 53 P P 16 27 02.5 +1.3
EDW2 Edwards Air Fo 78.94 55 P P 16 27 03.2 +1.7
baz=306,SNR=9.6
HWUT Hardware Ranch 78.98 46 P P 16 27 03.0 +1.3
HWUT IAmb IAmb 16 27 04.3
comp=Z,22nm,1.1s
BR131 Keskin Array S 79.03 311 P P 16 27 02.7 +0.7
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BR131 Keskin Array S 79.03 311 P P 16 27 02.7 +0.7
BRTR Keskin Array B 79.04 311 *i* P **P 16 27 03.0 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 79.04 311 P P 16 27 01.7 -0.3
comp=Z,3.0nm,0.7s,baz=65,slow=3.4,SNR=13

BRTR Keskin Array B 79.04 311 P P 16 27 02.3 +0.3
DUG Dugway, Tooele 79.09 48 P P 16 27 04.1 +1.8
baz=308,SNR=13
DUG Dugway, Tooele 79.09 48 P P 16 27 03.1 +0.8
DUG pmax pmax
comp=Z,17nm,1.1s
DUG Dugway, Tooele 79.09 48 P P 16 27 03.1 +0.8
DUG IAmb IAmb 16 27 05.0
comp=Z,17nm,1.1s
VRI Vrincioaia 79.16 319 ⇓P **P 16 27 02.3 -0.1**
TCUT Toone Canyon 79.37 47 P P 16 27 05.2 +1.2
KOLS Kolonicke sedl 79.39 324 *e*P **P 16 27 04.5 +0.9**
KOLS Kolonicke sedl 79.39 324 *e*P **P 16 27 04.5 +0.9**
BW06 Boulder Array 79.43 45 P P 16 27 05.2 +1.0
baz=309,SNR=5.7
BW06 Boulder Array 79.43 45 P P 16 27 04.6 +0.4
PD31 Pinedale Array 79.43 45 P P 16 27 04.9 +0.7
PDAR Pinedale Array 79.43 45 P P 16 27 04.4 +0.1
comp=Z,2.9nm,0.6s,baz=269,slow=1.3,SNR=28
CTU Camp Tracy 79.43 47 P P 16 27 05.2 +1.0
PSUT Pine Spring 79.46 50 P P 16 27 05.8 +1.3
GSC Goldstone, Bar 79.48 54 P P 16 27 06.0 +1.5
baz=306,SNR=8.7
OZUR 79.51 320 ⇓P **P 16 27 04.1 -0.2**
CIS Catalina Islan 79.52 56 P P 16 27 05.3 +0.7
baz=306
BFSC Mount Baldy Ra 79.54 55 P P 16 27 06.3 +1.4
baz=306,SNR=7.2
OJC Ojcow 79.67 326 P P 16 27 05.0 0.0
OJC pmax pmax
comp=Z,15nm,1.0s
OJC Ojcow 79.67 326 P P 16 27 05.0 0.0
OJC IAmb IAmb 16 27 06.8
comp=Z,14nm,1.0s
JLU Jordanelle 79.67 47 P P 16 27 07.0 +1.4
NLU North Lily Min 79.69 48 P P 16 27 06.9 +1.2
DOPR Dopca 79.80 320 ⇑P **P 16 27 07.1 +1.2**
TRPA Tarpa 79.80 323 ⇓P **P 16 27 05.8 0.0**
TRPA mb 16 27 07.8
SHPR Sheep Range 79.85 52 P P 16 27 07.9 +1.4
MPU Maple Canyon 79.92 48 P P 16 27 08.2 +1.4
TUQ Turquoise Moun 79.99 54 P P 16 27 09.0 +1.8
baz=307,SNR=12
HEC Hector,Ludlow 80.08 54 P P 16 27 09.3 +1.6
baz=307,SNR=11
MURC Murrieta 80.23 56 P P 16 27 09.8 +1.4
baz=306,SNR=7.7
RAYN Ar Rayn 80.24 292 P P 16 27 08.4 -0.3
RAYN pmax pmax
comp=Z,11nm,0.8s
RAYN Ar Rayn 80.24 292 P P 16 27 08.4 -0.3
RAYN IAmb IAmb 16 27 28.1
comp=Z,11nm,0.8s
VOIR 80.33 320 ⇓P **P 16 27 10.7 +1.9**
CCUT Cedar City 80.36 51 P P 16 27 10.8 +1.4
SZCU Shurtz Canyon 80.51 50 P P 16 27 11.3 +1.2
MSU Marysvale 80.51 49 P P 16 27 11.4 +1.3
MSU Marysvale 80.51 49 P P 16 27 11.4 +1.3
GMRC Granite Mounta 80.55 54 P P 16 27 11.9 +1.7
baz=307,SNR=16
LANS Liptovska Anna 80.57 325 *e*P **P 16 27 10.9 +0.9**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 80.57 325 *e*P **P 16 27 10.9 +0.9**
ARR Arges 80.59 320 ⇑P **P 16 27 10.8 +0.5**
TMUT Trail Mountain 80.62 48 P P 16 27 12.2 +1.3
109C Camp Elliot, M 80.71 56 P P 16 27 12.4 +1.5
baz=306,SNR=6.2
109C Camp Elliot, M 80.71 56 P P 16 27 12.2 +1.3
109C IAmb IAmb 16 27 13.0
comp=Z,20nm,0.9s
PFO Pinyon Flats O 80.72 55 P P 16 27 12.6 +1.4
baz=307,SNR=18
PFO Pinyon Flats O 80.72 55 P P 16 27 12.3 +1.1
PFO pmax pmax
comp=Z,26nm,1.1s
PFO Pinyon Flats O 80.72 55 P P 16 27 12.3 +1.1
PFO IAmb IAmb 16 27 13.2
comp=Z,26nm,1.1s
TPFO Pinon Flats 80.72 55 P P 16 27 12.7 +1.4
baz=307,SNR=23
LCMT Little Creek M 80.77 51 P P 16 27 12.9 +1.5
BELC Belle Mtn. Jos 80.79 55 P P 16 27 12.7 +1.1
baz=307,SNR=15
P17A Butcher Ranch, 80.80 48 P P 16 27 13.1 +1.5
MTPU Mount Pierson 80.80 50 P P 16 27 13.8 +1.9
RDMU Red Mountain 80.81 46 P P 16 27 12.8 +1.2
Q16A Castle Valley 80.88 48 P P 16 27 13.2 +1.2
EML El Monte Cty P 80.88 56 P P 16 27 12.8 +0.9
EML IAmb IAmb 16 27 13.8
comp=Z,17nm,1.0s
SDRC San Diego Road 80.91 56 P P 16 27 12.9 +0.9
KNB Kanab 81.03 51 P P 16 27 14.5 +1.6
KNB pmax pmax
comp=Z,34nm,1.0s
KNB Kanab 81.03 51 P P 16 27 14.5 +1.6
BAR Barrett 81.12 56 P P 16 27 14.4 +1.2
BAR IAmb IAmb 16 27 15.2
comp=Z,18nm,0.9s
DPC Dobruska-Polom 81.13 327 *e*P **P 16 27 13.8 +0.8**
DPC Dobruska-Polom 81.13 327 *e*P **P 16 27 13.8 +0.8**
SRU San Rafael Swe 81.15 48 P P 16 27 14.6 +1.1
SRU pmax pmax
comp=Z,27nm,1.1s
SRU San Rafael Swe 81.15 48 P P 16 27 14.6 +1.1
MONP2 Monument Peak 81.17 56 P P 16 27 15.1 +1.4
baz=307,SNR=15
MONP2 Monument Peak 81.17 56 P P 16 27 14.9 +1.3
MONP2 IAmb IAmb 16 27 15.7
comp=Z,14nm,0.8s
IRM Iron Mountain 81.26 54 P P 16 27 15.6 +1.6
baz=307,SNR=8.5
ULM Lac du Bonnet 81.29 33 P P 16 27 13.8 +0.1
ULM pmax pmax
comp=Z,9.0nm,1.0s
ULM Lac du Bonnet 81.29 33 P P 16 27 14.0 +0.3
comp=Z,4.2nm,0.7s,baz=334,slow=8.0,SNR=5.0
ULM Lac du Bonnet 81.29 33 P P 16 27 13.8 +0.1
VYHS Vyhne 81.33 325 *e*P **P 16 27 14.6 +0.6**
VYHS pmax pmax
comp=Z,28nm,1.9s
VYHS Vyhne 81.33 325 *e*P **P 16 27 14.6 +0.6**
BC3 Big Chuckawall 81.36 55 P P 16 27 16.1 +1.5
baz=307,SNR=6.3
RWWY Rawlins 81.46 44 P P 16 27 15.6 +0.5
RWWY IAmb IAmb 16 27 16.8
comp=Z,13nm,0.9s
W13A Hualapai Mount 81.52 53 P P 16 27 16.7 +1.1
IKP In-Ko-Pah, Jac 81.52 56 P P 16 27 17.0 +1.6
baz=307,SNR=14
IKP In-Ko-Pah, Jac 81.52 56 P P 16 27 16.6 +1.1
IKP IAmb IAmb 16 27 17.6
comp=Z,19nm,1.0s
GZR Gura Zlata 81.55 321 ⇑P **P 16 27 15.6 +0.4**
U15A North Rim 81.73 51 P P 16 27 18.6 +1.9
U15A IAmb IAmb 16 27 19.4
comp=Z,14nm,0.8s
CLL Collm 81.84 330 *e*P **P 16 27 16.0 -0.6**
CLL *e**PP **pP 16 27 30.0 -4.1**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 81.84 330 *e*P **P 16 27 16.0 -0.6**
comp=Z,8.0nm,0.9s
CLL *e*pP **pP 16 27 36.0 +1.9**
O20A White River Ci 81.86 46 P P 16 27 18.4 +1.2
baz=310,SNR=8.2
O20A White River Ci 81.86 46 P P 16 27 18.3 +1.1
Y12C Blythe 81.92 54 P P 16 27 19.0 +1.6
baz=308,SNR=8.4
Y12C Blythe 81.92 54 P P 16 27 18.6 +1.3
Y12C IAmb IAmb 16 27 19.7
comp=Z,14nm,0.8s
SMOL Smolenice 81.97 326 *e*P **P 16 27 18.9 +1.5**
SMOL Smolenice 81.97 326 *e*P **P 16 27 18.9 +1.5**
BZS Buzias 81.98 321 ⇑P **P 16 27 17.7 +0.2**
GLA Glamis 82.14 55 P P 16 27 20.4 +1.8
baz=308
GLA Glamis 82.14 55 P P 16 27 20.3 +1.7
GLA pmax pmax
comp=Z,19nm,0.8s
GLA Glamis 82.14 55 P P 16 27 20.4 +1.7
GLA IAmb IAmb 16 27 20.9
comp=Z,19nm,0.8s
PV09 Paradox Valley 82.38 48 P P 16 27 21.1 +1.1

PV21	Cone Mtn., Par	82.44	48	P	P	16 27 21.9	+1.5
PV21				IAmb	IAmb	16 27 22.8	
	comp=Z,20nm,0.9s						
PV23	Carpenter Ridg	82.48	48	P	P	16 27 22.1	+1.5
MDVR	Moldovita	82.51	321	⇓P	P	16 27 20.0	-0.3
PV14	Lion Creek, Pa	82.53	48	P	P	16 27 21.9	+1.1
PV22	Blue Mesa, Par	82.57	48	P	P	16 27 22.2	+1.3
PV22				IAmb	IAmb	16 27 23.4	
	comp=Z,18nm,1.1s						
PV20	West Nyswonger	82.58	48	P	P	16 27 22.5	+1.5
PV04	Paradox Valley	82.59	48	P	P	16 27 22.4	+1.4
PV04				IAmb	IAmb	16 27 23.6	
	comp=Z,38nm,1.2s						
PV19	Morning Glory	82.59	48	P	P	16 27 22.7	+1.6
PV17	East Wray Mesa	82.63	48	P	P	16 27 22.7	+1.4
PV11	David Mesa, Pa	82.67	48	P	P	16 27 23.0	+1.6
PV05	Paradox Valley	82.67	48	P	P	16 27 23.1	+1.6
PV18	Skein Mesa, Pa	82.68	48	P	P	16 27 22.8	+1.3
PV12	Saucer Basin,	82.70	48	P	P	16 27 23.1	+1.4
N23A	Red Feather La	82.70	44	P	P	16 27 23.4	+1.7
	baz=312,SNR=8.4						
N23A	Red Feather La	82.70	44	P	P	16 27 23.1	+1.4
N23A				IAmb	IAmb	16 27 24.2	
	comp=Z,22nm,1.1s						
PHWY	Pilot Hill	82.70	44	P	P	16 27 22.4	+0.7
PHWY				IAmb	IAmb	16 27 23.7	
	comp=Z,35nm,1.9s						
PV03	Paradox Valley	82.71	48	P	P	16 27 23.1	+1.4
PV03				IAmb	IAmb	16 27 24.2	
	comp=Z,32nm,1.2s						
PV07	Paradox Valley	82.71	48	P	P	16 27 23.1	+1.4
PV07				IAmb	IAmb	16 27 24.2	
	comp=Z,23nm,1.4s						
PV13	Radium Mtn., P	82.79	48	P	P	16 27 23.4	+1.3
PV02	Paradox Valley	82.81	48	P	P	16 27 23.2	+1.0
PV02				IAmb	IAmb	16 27 25.4	
	comp=Z,29nm,1.1s						
WUAZ	Wupatki	82.88	51	P	P	16 27 24.4	+1.9
	baz=309,SNR=15						
WUAZ	Wupatki	82.88	51	P	P	16 27 23.3	+0.8
PV01	Paradox Valley	82.95	48	P	P	16 27 24.1	+1.1
PV01				IAmb	IAmb	16 27 25.4	
	comp=Z,19nm,1.0s						
VTS	Vitosha	83.19	318	P	P	16 27 24.3	+0.3
VTS				pmax	pmax		
	comp=Z,24nm,1.6s						
VTS	Vitosha	83.19	318	⇑P	P	16 27 25.1	+1.1
VTS				mb		16 27 43.0	
VTS	Vitosha	83.19	318	P	P	16 27 24.3	+0.3
VTS				IAmb	IAmb	16 27 42.2	
	comp=Z,24nm,1.6s						
SMCO	Snowmass	83.23	46	P	P	16 27 25.5	+0.9
KHC	Kasperske Hory	83.23	328	*eP*	P	16 27 23.6	-0.4
KHC				*e*		16 27 40.5	
KHC				*e*		16 43 12.0	
KHC	Kasperske Hory	83.23	328	*eP*	P	16 27 23.6	-0.4
KHC				*ep*P	pP	16 27 40.5	-1.0
GERES	GERESS Array B	83.40	328	P	P	16 27 25.1	+0.2
	comp=Z,0.7nm,0.3s,baz=33,slow=6.0,SNR=7.2						
GERES	GERESS Array B	83.40	328	P	P	16 27 24.8	-0.1
X16A	Lo Mia Camp, P	83.52	52	P	P	16 27 27.6	+1.7
X16A				IAmb	IAmb	16 27 28.6	
	comp=Z,18nm,1.1s						
MVCO	Mesa Verde	83.59	48	P	P	16 27 28.0	+1.7
	baz=310,SNR=13						
MVCO	Mesa Verde	83.59	48	P	P	16 27 27.8	+1.5
MVCO				IAmb	IAmb	16 27 28.6	
	comp=Z,24nm,1.1s						
ISCO	Idaho Springs	83.61	45	P	P	16 27 28.0	+1.5
	baz=312						
ISCO	Idaho Springs	83.61	45	P	P	16 27 27.8	+1.3
ISCO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ISCO	Idaho Springs	83.61	45	P	P	16 27 27.8	+1.3
LBZ	Lake Benmore	84.14	159	P	P	16 27 29.1	+0.8
214A	Organ Pipe Nat	84.16	55	P	P	16 27 30.3	+1.3
	baz=309						
W18A	Petrified Fore	84.17	51	P	P	16 27 30.8	+1.6
	baz=310						
W18A	Petrified Fore	84.17	51	P	P	16 27 30.5	+1.3
W18A				IAmb	IAmb	16 27 31.6	
	comp=Z,12nm,1.0s						
S22A	4UR Ranch, Cre	84.25	47	P	P	16 27 31.6	+1.9
	baz=311,SNR=12						
S22A	4UR Ranch, Cre	84.25	47	P	P	16 27 31.4	+1.7
S22A				IAmb	IAmb	16 27 32.5	
	comp=Z,16nm,1.0s						
X18A	Snowflake	84.41	51	P	P	16 27 31.4	+1.0
X18A				IAmb	IAmb	16 27 32.7	
	comp=Z,14nm,1.1s						
Q24A	Divide	84.44	45	P	P	16 27 31.3	+0.6
	baz=312						
Q24A	Divide	84.44	45	P	P	16 27 30.2	-0.5
Q24A				IAmb	IAmb	16 27 32.7	
	comp=Z,14nm,1.1s						
PPT	Papeete	84.92	116	LR	LR	16 57 00.9	
	comp=Z,58nm,20.7s,baz=286,slow=30						
SDCO	Great Sand Dun	85.04	46	P	P	16 27 35.2	+1.5
	baz=312,SNR=13						
SDCO	Great Sand Dun	85.04	46	P	P	16 27 34.6	+0.9
SDCO				IAmb	IAmb	16 27 36.1	
	comp=Z,17nm,1.2s						
MYKA	Terra Mystica	85.09	326	*i* P	P	16 27 30.4	-3.1
	comp=Z,2.0nm,0.4s						
TUC	Tucson	85.27	53	P	P	16 27 36.0	+1.3
	baz=310						
TUC	Tucson	85.27	53	P	P	16 27 35.8	+1.1
TUC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TUC	Tucson	85.27	53	P	P	16 27 35.8	+1.1
ABTA	Abfaltersbach	85.51	327	*i* PcP	P	16 27 36.7	+1.1
	comp=Z,1.8nm,0.8s						
ECSD	EROS Data Cent	85.70	37	P	P	16 27 36.7	+0.2
	baz=317						
ECSD	EROS Data Cent	85.70	37	P	P	16 27 36.2	-0.3
STAL	STALIGIAL	85.79	326	P	P	16 27 36.0	-0.9
STAL				IAmb	IAmb	16 27 55.1	
	comp=Z,9.0nm,0.6s						
BFO	Black Forest	86.06	330	*i* P	P	16 27 39.9	+1.7
FETA	Feichten	86.08	328	*i* PcP	P	16 27 39.4	+0.9
	comp=Z,2.2nm,0.8s						
T25A	Trinidad	86.09	46	P	P	16 27 40.1	+1.3
	baz=313						
T25A	Trinidad	86.09	46	P	P	16 27 39.9	+1.1
T25A				IAmb	IAmb	16 27 41.0	
	comp=Z,12nm,0.9s						
ANMO	Albuquerque	86.32	49	P	P	16 27 41.6	+1.7
	baz=312						
ANMO	Albuquerque	86.32	49	*ce*P	P	16 27 41.5	+1.5
ANMO				pmax	pmax		
	comp=Z,12nm,1.3s						
ANMO	Albuquerque	86.32	49	P	P	16 27 41.4	+1.4
LENM	Lemitar	86.52	50	P	P	16 27 41.9	+1.0
WMOK	Wichita Mounta	91.04	45	P	P	16 28 02.7	+0.6
	baz=316						
TX31	Lajitas Ar. Si	91.83	52	P	P	16 28 06.5	+0.6
TX32	Lajitas Array	91.83	52	P	P	16 28 06.4	+0.4
TXAR	Lajitas Array	91.83	52	P	P	16 28 06.9	+1.0
	comp=Z,3.4nm,0.9s,baz=300,slow=2.8,SNR=18						
TXAR	Lajitas Array	91.83	52	P	P	16 28 06.3	+0.3
TUL1	Leonard	91.87	42	P	P	16 28 06.9	+1.0
	baz=318						
TUL1	Leonard	91.87	42	P	P	16 28 06.2	+0.4
ABTX	Abilene, Hawle	92.04	47	P	P	16 28 08.0	+1.2
	baz=315						
ABTX	Abilene, Hawle	92.04	47	P	P	16 28 07.9	+1.1
U40A	Yellville	93.11	40	P	P	16 28 11.9	+0.3
	baz=320						
TORD	Torodi Ar. Bea	117.60	313	PKP	PKPdf	16 33 43.1	-0.8
	comp=Z,1.0nm,0.9s,baz=344,slow=1.3,SNR=3.4						
TORD				pPKP	pPKPdf	16 34 03.1	+0.9
	comp=Z,1.1nm,0.5s,baz=20,slow=1.5,SNR=5.7						
TORD				PKKPab	PKKPab	16 44 10.7	-0.6
	comp=Z,0.9nm,0.8s,baz=214,slow=4.7,SNR=4.3						
TORD	Torodi Ar. Bea	117.60	313		PKPdf	16 33 42.5	-1.3
QSPA	South Pole Qui	125.32	180	PKPdf	PKPdf	16 33 57.2	+0.1
SNAA	Sanae	139.05	197	PKPdf	PKPdf	16 34 12.6	-10
VNA2	Neumayer--Watz	140.63	196	PKPdf	PKPdf	16 34 18.7	-6.9
	baz=72,slow=3.0						
SAML	Samuel	146.01	44	PKP2	PKPbc	16 34 37.7	0.0
SAML	Samuel	146.01	44		PKPbc	16 34 37.7	0.0
LPAZ	La Paz	148.32	60	PKPbc	PKiKP	16 34 45.9	-0.6
	comp=Z,5.2nm,0.8s,baz=311,slow=1.3,SNR=19						
LPAZ	La Paz	148.32	60		PKPdf	16 34 42.8	+1.4
MNMC	Minye Minye	149.09	66		PKPbc	16 34 44.4	-2.0
PB11	IPOC Station P	149.43	67		PKPbc	16 34 46.0	-1.0
GO01	Chusmiza	149.72	66		PKPbc	16 34 48.5	+0.3
PB01	IPOC Station P	150.31	69		PKPbc	16 34 49.4	+0.4
PLCA	Paso Flores	155.40	111	PKPab	PKPab	16 35 18.5	+2.1
	comp=Z,6.7nm,1.1s,baz=291,slow=2.7,SNR=5.9						

IDC ***28*** *16:39:10.4±0.7, 12°.29S×166°.91E, h216km±6km, mb4.6/34, mb1 4.7/37, mb1mx4.6/46, mbtmp5.2/37, Error ellipse: s-maj=8.9km s-min=7.8km az=104.0*

NEIC ***28*** *16:39:10.8±1.3, 12°.26S±0°.07×166°.87E±0°.08, h221km±4km, mb5.1/271*

BJI ***28*** *16:39:10.1±0.0, 11°.89S×167°.01E, h219km, mb5.1/63, mB5.1/41*

MOS ***28*** *16:39:10.0±1.1, 12°.19S×166°.82E, h220km, mb5.2/13, Error ellipse: s-maj=7.3km s-min=6.5km az=103.5*

ISCJB ***28*** *16:39:10.6±0.8, 12°.30S±0°.03×166°.80E±0°.02, h231km±7km, mb5.0/93, Error ellipse: s-maj=4.4km s-min=3.6km az=162.4*

GCMT ***28*** *16:39:11.8±0.3, 12°.21S±0°.03×166°.74E±0°.02, h212km±2km, MW5.1/90, Moment Tensor Solution. s44,c50; s90,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.78±.15; Mθθ-0.67±.19; Mφφ-4.11±.17; Mrθ0.63±.17; Mθφ0.91±.18; Mφr-2.39±.15; Best double couple: M0 5.18500×10^16 NP1:φs166.00000°, δ59.00000°, λ90.00000°. NP2: φs346.00000°, δ31.00000°, λ91.00000°. Principal axes: T 5.4080, Plg76.0000°, Azm75.0000°; N -0.4490, Plg0.0000°, Azm166.0000°; P -4.9630, Plg14.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 16:39:10.0±0.3, 12°.29S±0°.04×166°.95E±0°.04, h218km±2km, h218km:pP-P, n872, σ0°.98/987, mb5.0/194, 39C-23D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.44	292	P	Pn	16 40 55.9	-0.2
	27nm,0.3s,baz=190,slow=5.4,SNR=11						
HNR	Honiara	7.44	292		Pn	16 40 56.5	+0.4
DZM	Mont Dzumac	9.74	183	P	Pn	16 41 28.8	+3.0
	5.2nm,0.3s,baz=330,slow=9.7,SNR=97						
DZM				S	S	16 43 18.3	+3.2
	4.8nm,0.3s,baz=336,slow=23,SNR=4.2						
DZM	Mont Dzumac	9.74	183		Pn	16 41 26.9	+1.2
DZM					S	16 43 16.3	+1.1
MSVF	Nonsavu	12.01	118	*i* P	P	16 41 59.1	+0.3
MSVF	Nonsavu	12.01	118	P	P	16 41 58.6	-0.1
FUNA	Funafuti	12.61	74		P	16 42 04.4	-1.1
TARA	Tarawa	14.80	24	P	P	16 42 30.1	+0.4
KRVT	Keravat (AS076	16.75	297	P	P	16 42 50.6	-0.7
	6.6nm,0.3s,baz=109,slow=1.1,SNR=18						
KRVT				S	S	16 46 04.0	+8.7
	baz=64,slow=24,SNR=7.1						
PMG	Port Moresby	19.65	276	*ce*P	P	16 43 23.1	+0.5
PMG				pmax	pmax		
	comp=Z,321nm,1.0s						
PMG	Port Moresby	19.65	276	P	P	16 43 23.3	+0.7
	comp=Z,4.1nm,0.3s,baz=73,slow=5.3,SNR=23						
PMG	Port Moresby	19.65	276	P	P	16 43 23.0	+0.5
EIDS	Eidsvold	19.84	227	P	P	16 43 26.0	+1.4
LHI	Lord Howe Isla	20.47	200		P	16 43 32.8	+1.5
LHI				IAmb	IAmb	16 43 33.9	
	comp=Z,59nm,0.7s						
AFI	Afiamalu	20.78	97	P	P	16 43 35.0	+0.2
AFI				pmax	pmax		
	comp=Z,59nm,1.1s						
AFI	Afiamalu	20.78	97	P	P	16 43 35.6	+0.7
	comp=Z,46nm,1.0s,baz=110,slow=20,SNR=5.1						
AFI	Afiamalu	20.78	97	P	P	16 43 35.0	+0.2
AFI				IAmb	IAmb	16 43 42.8	
	comp=Z,59nm,1.1s						
PATS	Pohnpei	20.85	335	P	P	16 43 35.2	-0.3
CTA	Charters Tower	21.32	246	P	P	16 43 40.8	+0.5
	comp=Z,89nm,0.7s,baz=77,slow=12,SNR=91						
MANU	Manus Island	21.91	296	P	P	16 43 46.1	-0.1
MANU				IAmb	IAmb	16 44 31.1	
	comp=Z,60nm,1.2s						
ARMA	Armidale	22.95	216	P	P	16 43 56.9	+1.3
KNTN	Kanton	23.14	68	P	P	16 43 58.6	+1.2
KNTN				IAmb	IAmb	16 44 49.0	
	comp=Z,53nm,1.2s						
COEN	Coen	23.21	263	P	P	16 43 58.8	+0.8
COEN				IAmb	IAmb	16 44 00.0	
	comp=Z,59nm,1.1s						
OUZ	Omahuta	23.61	166	P	P	16 44 03.5	+2.1
OUZ				IAmb	IAmb	16 44 06.4	
	comp=Z,57nm,1.1s						
HIZ	Hauiti	27.05	166	P	P	16 44 33.1	+0.8
URZ	Urewera	27.40	162	P	P	16 44 35.9	+0.5
	comp=Z,18nm,0.5s,baz=287,slow=3.1,SNR=20						
URZ	Urewera	27.40	162	P	P	16 44 36.0	+0.5
BKZ	Black Stump Fm	28.07	164	P	P	16 44 42.4	+0.9
CAN	Canberra	28.10	212	P	P	16 44 42.6	+0.8
CAN				pmax	pmax		
	comp=Z,199nm,1.8s						
CAN	Canberra	28.10	212	P	P	16 44 42.6	+0.8
QRZ	Quartz Range	28.84	171	P	P	16 44 50.5	+2.3
NNZ	Nelson	29.36	170	P	P	16 44 53.6	+0.8
BFZ	Birch Farm	29.44	166	P	P	16 44 53.1	-0.3
TUWZ	Tuamarina	29.67	169	P	P	16 44 56.3	+0.9
SNZO	South Karori	29.70	168	P	P	16 44 56.1	+0.4
SMPI	Sarmi	29.79	288	P	P	16 44 57.0	+0.1
THZ	Tophouse	29.82	171	P	P	16 44 58.3	+1.4
BHW	Baring Head	29.82	168	P	P	16 44 57.2	+0.3
MSWZ	Moikau Station	29.91	167	P	P	16 44 57.8	+0.2
BSWZ	Blackbirch Sta	29.93	170	P	P	16 44 59.3	+1.5
PLWZ	Palliser	30.06	168	P	P	16 44 59.0	+0.1
STKA	Stephens Creek	30.39	226	P	P	16 45 01.6	-0.4
	comp=Z,3.7nm,0.5s,baz=46,slow=8.4,SNR=14						
STKA				PcP	PcP	16 47 56.2	-0.1
	comp=Z,2.6nm,0.7s,baz=357,slow=1.5,SNR=3.0						
STKA	Stephens Creek	30.39	226	P	P	16 45 02.1	+0.1
STKA					pP	16 45 43.5	-1.7
KHZ	Kahutara	30.56	170	P	P	16 45 03.5	+0.3
KHZ				IAmb	IAmb	16 45 10.1	
	comp=Z,33nm,0.5s						
H11S2	WAKE ISLAND Hy	30.59	360	T	T	17 15 53.0	
	baz=181,slow=76,SNR=67						
H11S3	WAKE ISLAND Hy	30.59	360	T	T	17 15 53.3	
	baz=181,slow=76,SNR=32						
H11S1	WAKE ISLAND Hy	30.61	360	T	T	17 15 54.3	
	baz=181,slow=76,SNR=27						
LTZ	Lake Taylor	30.73	172	P	P	16 45 05.9	+1.0
FOZ	Fox Glacier	31.23	176	P	P	16 45 10.8	+1.7
OXZ	Oxford	31.23	173	P	P	16 45 10.0	+0.8
RPZ	Rata Peaks	31.51	174	P	P	16 45 12.8	+1.1
	comp=Z,110nm,0.7s,baz=316,slow=2.4,SNR=52						
RPZ	Rata Peaks	31.51	174	P	P	16 45 12.2	+0.6
CRLZ	Canterbury Las	31.55	172	P	P	16 45 13.1	+1.1
TOO	Toolangi	31.66	214	P	P	16 45 13.6	+0.5
TOO				pmax	pmax		
	comp=Z,60nm,1.6s						
TOO	Toolangi	31.66	214	P	P	16 45 13.6	+0.5
TOO				IAmb	IAmb	16 45 15.3	
	comp=Z,60nm,1.6s						
MQZ	McQueen's Vall	31.69	172	P	P	16 45 13.3	+0.2
H11N1	WAKE ISLAND Hy	31.80	360	T	T	17 17 24.6	
	baz=182,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	31.81	360	T	T	17 17 24.4	
	baz=182,slow=76,SNR=26						
H11N2	WAKE ISLAND Hy	31.82	360	T	T	17 17 25.3	
	baz=182,slow=76,SNR=23						
LBZ	Lake Benmore	32.10	176	P	P	16 45 17.5	+0.7
LBZ				IAmb	IAmb	16 45 21.1	
	comp=Z,34nm,0.8s						
WB2	Warramunga Arr	32.18	252	P	P	16 45 17.0	-0.9
WRA	Warramunga Arr	32.19	252	P	P	16 45 16.3	-1.6
WRA				*PP	pP	16 46 00.5	-0.4
WRA	Warramunga Arr	32.19	252	P	P	16 45 17.2	-0.7
	comp=Z,4.1nm,0.5s,baz=80,slow=9.4,SNR=86						
WRA				PP	PP	16 46 37.6	+2.2
	comp=Z,8.1nm,0.8s,baz=78,slow=11,SNR=6.3						
WRA				S	S	16 50 09.4	-5.4
	comp=Z,3.5nm,0.8s,baz=81,slow=14,SNR=5.1						
WRA	Warramunga Arr	32.19	252	P	P	16 45 16.4	-1.6
WRA					pP	16 46 00.5	-0.4
WKZ	Wanaka	32.47	177	P	P	16 45 20.9	+0.9
WKZ				IAmb	IAmb	16 45 33.7	
	comp=Z,92nm,1.2s						
ODZ	Otahua Downs	32.79	175	P	P	16 45 23.7	+0.9
ODZ				IAmb	IAmb	16 46 10.7	
	comp=Z,45nm,1.3s						
MLZ	Mavora Lakes	32.98	178	P	P	16 45 25.2	+0.8
MLZ				IAmb	IAmb	16 45 26.4	
	comp=Z,46nm,1.0s						
DCZ	Deep Cove	33.06	180	P	P	16 45 26.5	+1.5
AS31	Alice Springs	33.32	246	P	P	16 45 26.9	-0.8
AS31				pP	pP	16 46 11.9	+0.8
ASAR	Alice Springs	33.32	246	P	P	16 45 26.9	-0.8
	comp=Z,7.4nm,0.5s,baz=69,slow=9.8,SNR=159						
ASAR				pP	pP	16 46 12.6	+1.5
	comp=Z,29nm,0.7s,baz=72,slow=9.5,SNR=15						
ASAR				PcP	PcP	16 48 04.0	-0.5
	comp=Z,3.6nm,0.9s,baz=88,slow=4.7,SNR=4.8						
ASAR				S	S	16 50 27.5	-4.7
	comp=Z,2.1nm,0.8s,baz=78,slow=14,SNR=7.2						
ASAR				ScP	ScP	16 51 29.0	+0.7
	comp=Z,2.6nm,0.9s,baz=69,slow=3.8,SNR=7.8						
ASAR	Alice Springs	33.32	246	P	P	16 45 26.2	-1.5
ASAR				pP	pP	16 46 12.1	+1.0
ASAR					PcP	16 48 03.4	-1.1
ASAR					ScP	16 51 28.7	+0.4
WHZ	Wether Hill Ro	33.50	179	P	P	16 45 29.0	+0.2
WHZ				IAmb	IAmb	16 45 30.4	
	comp=Z,32nm,0.8s						
BBOO	Buckleboo	34.88	229	P	P	16 45 40.7	-0.2
TAU	Tasmania Unive	34.93	206	P	P	16 45 41.7	+0.5
TAU				pmax	pmax		
	comp=Z,167nm,1.6s						
TAU	Tasmania Unive	34.93	206	P	P	16 45 41.6	+0.5
MTN	Manton Dam	34.95	265	P	P	16 45 42.3	+0.6
SIJI	Sorong	37.16	285	PcP	PcP	16 48 16.4	+0.4
	comp=Z,8.5nm,0.8s,baz=37,slow=6.3,SNR=4.1						
KNRA	Kununurra	37.17	260	P	P	16 46 00.8	+0.2
KNRA					pP	16 46 41.3	-2.9
KNRA				IAmb	IAmb	16 46 48.7	
	comp=Z,48nm,0.8s						
XMAS	Kiritimati	38.13	70	P	P	16 46 08.5	0.0
FITZ	Fitzroy Crossi	40.22	257	P	P	16 46 26.0	+0.2
	comp=Z,11nm,0.8s,baz=65,slow=7.9						
FITZ	Fitzroy Crossi	40.22	257	P	P	16 46 25.4	-0.5
FITZ					pP	16 47 07.9	-2.2
FORT	Forrest	40.32	237	P	P	16 46 26.7	+0.2
FORT				IAmb	IAmb	16 46 28.6	
	comp=Z,43nm,0.7s						
KCP	Kidapawan	45.82	293⇑	*e*P	P	16 47 11.3	+0.4
PSA00	Pilbara Seismi	45.85	252	P	P	16 47 10.7	-0.2
PSA00	Pilbara Seismi	45.85	252	P	P	16 47 09.8	-1.1
PSA00				IAmb	IAmb	16 47 12.3	
	comp=Z,23nm,1.3s						
JCJ	Chichijima	45.95	329	P	P	16 47 11.4	-0.1
	comp=Z,94nm,0.5s,baz=289,slow=21,SNR=4.5						
BNSI	Bone	46.95	275	P	P	16 47 19.6	+0.1
KAPI	Kappang	47.16	275	P	P	16 47 21.3	+0.1
KAPI				*PP	pP	16 48 06.4	-0.2
KAPI	Kappang	47.16	275	P	P	16 47 21.3	+0.1
KAPI				pP	pP	16 48 06.4	-0.2
TWSI	Taliwang, Sumb	49.30	269	P	P	16 47 36.9	-0.6
NWAO	Narrogin (SRO)	49.77	237	P	P	16 47 40.7	-0.1
NWAO				pmax	pmax		
	comp=Z,60nm,1.5s						
NWAO	Narrogin (SRO)	49.77	237	P	P	16 47 40.7	-0.1
NWAO	Narrogin (SRO)	49.77	237	P	P	16 47 40.7	-0.1
NWAO				IAmb	IAmb	16 47 46.3	
	comp=Z,60nm,1.4s						
MORW	Morawa	50.08	242	P	P	16 47 43.0	-0.2
MORW					pP	16 48 29.0	-0.3
IGBI	Denpasar	50.98	269	P	P	16 47 50.1	0.0
KBKI	Kotabaru	51.02	276	P	P	16 47 50.9	+0.5
GIRL	Giralia	51.10	251	P	P	16 47 51.5	+0.6
JAGI	Jajag, Banyuwa	52.01	269	P	P	16 47 56.5	-1.2
JAGI	Jajag, Banyuwa	52.01	269	P	P	16 47 55.9	-1.9
JAGI				IAmb	IAmb	16 47 57.1	
	comp=Z,56nm,1.2s						
JAGI				PcP	PcP	16 49 05.4	-1.6
KKM	Kota Kinabalu	53.62	287	P	P	16 48 09.7	+0.1
KKM				IAmb	IAmb	16 48 10.7	
	comp=Z,64nm,1.2s						
PWJI	Pagerwojo	54.37	269	P	P	16 48 14.2	-0.8
MJAR	Matsushiro Arr	55.62	332	P	P	16 48 22.9	-0.5
MJAR				pmax	pmax		
	comp=Z,12nm,0.8s						
MJAR	Matsushiro Arr	55.62	332	P	P	16 48 22.7	-0.7
	comp=Z,24nm,0.7s,baz=159,slow=8.3,SNR=42						
MJAR	Matsushiro Arr	55.62	332	P	P	16 48 22.9	-0.5
MAJO	Matsushiro	55.62	332	*i* P	P	16 48 22.8	-0.6
MAJO	Matsushiro	55.62	332	P	P	16 48 22.8	-0.6
MAJO				IAmb	IAmb	16 48 23.9	
	comp=Z,38nm,0.9s						
MAT	Matsushiro	55.62	332	P	P	16 48 22.8	-0.6
MJB9	Matsu-Tunnel	55.62	332	P	P	16 48 22.7	-0.8
MJB9				IAmb	IAmb	16 48 23.9	
	comp=Z,38nm,0.9s						
UGM	Wanagama	55.64	269	P	P	16 48 23.8	-0.3
JNU	Nakatsue	56.78	324	P	P	16 48 31.6	-0.1
	comp=Z,30nm,0.7s,baz=161,slow=1.5,SNR=18						
JNU	Nakatsue	56.78	324	P	P	16 48 31.7	-0.1
YULB	Yu-li	57.03	308	P	P	16 48 32.6	-1.0
YULB				IAmb	IAmb	16 49 16.9	
	comp=Z,44nm,1.3s						
NACB	Ninganchiao	57.24	309	P	P	16 48 34.6	-0.5
NACB				IAmb	IAmb	16 48 40.5	
	comp=Z,35nm,1.0s						
KPJI	Karang Pucung	57.30	269	P	P	16 48 34.9	-0.8
TPUB	Ta-pu	57.49	308	P	P	16 48 35.8	-1.1
SSLB	Suanglung	57.51	309	P	P	16 48 35.9	-1.2
YHNB	Yeheng	57.68	310	P	P	16 48 37.8	-0.4
YHNB				IAmb	IAmb	16 48 39.0	
	comp=Z,38nm,0.8s						
CISI

CASY IAmb IAmb 16 49 31.8
comp=Z,41nm,0.9s
MDJ Mudanjiang 66.00 332 P **P 16 49 34.0 +0.8**
MDJ pmax pmax
comp=Z,52nm,1.0s
MDJ pmax pmax
comp=Z,420nm,2.9s
MDJ Mudanjiang 66.00 332 P **P 16 49 33.9 +0.8**
MDJ IAmb IAmb 16 49 35.2
comp=Z,67nm,1.2s
WHN Wuhan 66.10 311 P P 16 49 28.3 -5.8
DL2 Dalian 66.18 323 P **P 16 49 34.5 +0.1**
DL2 pmax pmax
comp=Z,77nm,0.8s
TIA Tai'an 67.33 318 P **P 16 49 41.8 +0.1**
TIA pmax pmax
comp=Z,24nm,1.0s
CN2 Changchun 67.41 329 *e*P P 16 49 50.0 +7.9
CN2 pmax pmax
comp=Z,10.0nm,1.1s
IPM Ipoh 67.60 280 P **P 16 49 43.3 -0.6**
IPM IAmb IAmb 16 49 45.1
comp=Z,47nm,1.0s
KULM Kulim 68.17 281 P **P 16 49 47.1 -0.3**
KULM IAmb IAmb 16 49 49.0
comp=Z,38nm,1.4s
GRNR Gornyy 68.21 340⇑ *i*P **P 16 49 48.4 +1.4**
GRNR pmax pmax
comp=Z,50nm,1.0s
NIKH Nikolski High 68.24 15 P **P 16 49 47.1 0.0**
KLR Kul'dur 68.67 336 *i* P **P 16 49 50.9 +1.1**
KLR pmax pmax
comp=Z,58nm,1.1s
KLR Kul'dur 68.67 336 P **P 16 49 50.9 +1.1**
comp=Z,26nm,0.8s,baz=130,slow=3.5,SNR=70
RPSI Rantau Prapat 69.18 278 P **P 16 49 52.7 -1.0**
RPSI IAmb IAmb 16 49 54.0
comp=Z,48nm,1.0s
PSI Prapat 69.20 278 P **P 16 49 52.7 -1.3**
PSI pmax pmax
comp=Z,48nm,1.0s
ENH Enshi 69.59 309 P **P 16 49 55.3 -0.6**
ENH IAmb IAmb 16 49 56.7
comp=Z,28nm,0.7s
GYA Guiyang 70.09 304⇑ *i*P **P 16 49 59.5 +0.3**
GYA pP pwP 16 50 51.5 -1.8
GYA sP sP 16 51 15.8 +3.9
GYA PP **PP 16 52 40.0 +2.5**
GYA S **S 16 58 51.5 -1.1**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,120nm,4.9s
CHAI Chaiyaphum 70.10 292 P **P 16 49 59.5 +0.3**
GSI Gunungsitoli 70.16 276 P **P 16 49 59.8 +0.1**
GSI Gunungsitoli 70.16 276 P **P 16 49 59.6 -0.1**
BJT Baijiatuau 70.18 321 P **P 16 49 59.3 +0.1**
BJT pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 70.18 321 P **P 16 49 59.3 +0.1**
SLVN Son La 70.33 298 P **P 16 50 00.9 +0.2**
TPTI 71.00 278 P **P 16 50 04.8 0.0**
TIY Taiyuan 71.27 317 *e*P **P 16 50 07.0 +1.0**
TIY pmax pmax
comp=Z,57nm,0.6s
TIY pmax pmax
comp=Z,240nm,4.0s
SPIA Saint Paul Isl 71.74 13 P **P 16 50 06.7 -1.5**
XAN Xi'an 71.83 312 P **P 16 50 09.8 +0.4**
XAN pmax pmax
comp=Z,32nm,0.8s
XAN LR LR
comp=Z,180nm,17.3s
XAN Xi'an 71.83 312 P **P 16 50 08.8 -0.6**
XAN pmax pmax
comp=Z,28nm,0.9s
XAN Xi'an 71.83 312 P **P 16 50 08.8 -0.6**
XAN IAmb IAmb 16 50 10.7
comp=Z,28nm,0.9s
MLSI Meulaboh, Aceh 72.00 279 P **P 16 50 10.1 -0.6**
UTTA Uttaradit 72.01 293 P **P 16 50 11.7 +1.1**
UTHA Uthaitani 72.30 291 P **P 16 50 13.3 +0.9**
CNBA Chernabura Isl 72.58 20 P **P 16 50 13.2 0.0**
KMI Kunming 72.77 301 P **P 16 50 16.5 +1.1**
KMI pP pP 16 51 07.0 +1.6
KMI pmax pmax
comp=Z,42nm,1.2s
KMI pmax pmax
comp=Z,170nm,3.8s
KMI Kunming 72.77 301 P **P 16 50 15.3 0.0**
KMI pmax pmax
comp=Z,47nm,1.1s
KMI Kunming 72.77 301 P **P 16 50 15.3 0.0**
KMI IAmb IAmb 16 50 17.5
comp=Z,47nm,1.1s
MA2 Magadan 72.81 351 P **P 16 50 15.3 +0.8**
MA2 pmax pmax
comp=Z,214nm,1.8s
MA2 Magadan 72.81 351 P **P 16 50 15.4 +1.0**
comp=Z,12nm,0.7s,baz=186,slow=8.0,SNR=4.1
MA2 Magadan 72.81 351 P **P 16 50 15.3 +0.8**
PAYA Payao 73.16 295 P **P 16 50 18.1 +0.6**
comp=Z,72µm,0.8s,comp=Z,629µm
HHC Hu-ho-hao-te 73.54 319 *e*P **P 16 50 21.8 +2.4**
HHC pP pP 16 51 15.5 +5.2
HHC S **S 16 59 36.3 +4.9**
HHC pmax pmax
comp=Z,8.0nm,0.8s
CM31 Chiang Mai Arr 73.69 294 P **P 16 50 21.2 +0.7**
CM31 IAmb IAmb 16 50 22.5
comp=Z,28nm,0.8s
CMAR Chiang Mai Arr 73.69 294 P **P 16 50 21.7 +1.1**
CMAR Chiang Mai Arr 73.69 294 P **P 16 50 21.3 +0.8**
comp=Z,19nm,0.8s,baz=122,slow=4.5,SNR=103
CMAR Chiang Mai Arr 73.69 294 P **P 16 50 21.7 +1.1**
CMMT Chiang Mai 73.80 294 P **P 16 50 21.7 +0.5**
CHTO Chiang Mai 73.81 294 P **P 16 50 21.2 0.0**
CHTO pmax pmax
comp=Z,34nm,1.2s
CHTO Chiang Mai 73.81 294 P **P 16 50 21.2 0.0**
CHTO IAmb IAmb 16 50 22.8
comp=Z,34nm,1.2s
ZEA Zeya 73.94 337 *e*P **P 16 50 22.0 +0.7**
ZEA pmax pmax
comp=Z,31nm,0.8s
HIA Hailar 74.03 330 P **P 16 50 22.1 +0.2**
HIA pmax pmax
comp=Z,28nm,1.1s
HIA Hailar 74.03 330 P **P 16 50 22.1 +0.2**
HIA IAmb IAmb 16 50 23.4
comp=Z,28nm,1.1s
CD2 Chengdu 74.29 307 P **P 16 50 24.5 +0.6**
CD2 pmax pmax
comp=Z,80nm,0.7s
BTO Baotou 74.40 319 *e*P **P 16 50 25.8 +1.5**
MHMT Maesarieng 74.51 293 P **P 16 50 26.7 +1.4**
SEY Seymchan 75.84 353 *i* P **P 16 50 31.4 -0.5**
SEY Seymchan 75.84 353 P **P 16 50 32.4 +0.5**
comp=Z,52nm,0.6s,baz=159,slow=5.3,SNR=59
LZH Lanzhou 76.46 312⇑P **P 16 50 38.0 +1.7**
LZH pP pP 16 51 26.8 -0.8
LZH sP sP 16 51 47.8 -2.7
LZH pmax pmax
comp=Z,21nm,1.1s
OHAK Old Harbor 76.63 21 P **P 16 50 36.6 +0.1**
KDAK Kodiak Island 77.31 21 P **P 16 50 40.7 +0.5**
KDAK pmax pmax
comp=Z,152nm,1.7s
KDAK Kodiak Island 77.31 21 P **P 16 50 40.6 +0.4**
comp=Z,26nm,0.9s,baz=198,slow=3.2,SNR=6.5
KDAK Kodiak Island 77.31 21 P **P 16 50 40.7 +0.5**
GAMB Gambell 77.59 10 P **P 16 50 42.6 +1.0**
GAMB IAmb IAmb 16 50 43.3
comp=Z,47nm,1.0s
QSPA South Pole Qui 77.72 180 P **P 16 50 43.4 +0.7**
SVW2 Sparrevohn 78.93 18 P **P 16 50 50.0 +0.9**
CNPM China Poot 79.09 20 P **P 16 50 50.5 +0.5**
BRLK Bradley Lake 79.39 20 P **P 16 50 51.9 +0.3**
BRLK IAmb IAmb 16 50 52.8
comp=Z,38nm,0.8s
ANM Nome 79.46 12 P **P 16 50 52.8 +0.9**
ANM pmax pmax
comp=Z,42nm,1.2s
ANM Nome 79.46 12 P **P 16 50 52.8 +0.9**

ANM IAmb IAmb 16 50 54.1
comp=Z,42nm,1.2s
YAK Yakutsk 79.62 343 *e*P **P 16 50 51.8 -1.0**
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,68nm,1.0s
YAK pmax pmax
comp=N,17nm,1.0s
YAK Yakutsk 79.62 343 P **P 16 50 52.3 -0.5**
SIMRM Sittwe 79.64 293 P **P 16 50 55.2 +1.3**
SIMRM IAmb IAmb 16 50 56.7
comp=Z,26nm,1.0s
ULN Ulaanbaatar 80.00 324 *ce*P **P 16 50 55.8 +0.5**
ULN pmax pmax
comp=Z,27nm,1.1s
ULN Ulaanbaatar 80.00 324 P **P 16 50 55.3 -0.1**
ULN IAmb IAmb 16 50 57.0
comp=Z,36nm,1.1s
BILL Bilibino 80.12 360 *c i*P **P 16 50 55.7 +0.4**
BILL *e*S **S 17 00 42.5 +1.3**
BILL pmax pmax
comp=Z,107nm,1.1s
BILL Bilibino 80.12 360 P **P 16 50 55.0 -0.3**
TTA Tatalina 80.28 16 P **P 16 50 56.3 -0.1**
TTA Tatalina 80.28 16 P **P 16 50 56.4 -0.1**
SONM Songino Array 80.36 323 P **P 16 50 57.2 -0.1**
SONM pmax pmax
comp=Z,15nm,1.1s
SONM Songino Array 80.36 323 P **P 16 50 57.6 +0.3**
comp=Z,3.8nm,0.3s,baz=140,slow=5.9,SNR=78
SONM PKKPbc **PKKPbc 17 09 37.7 -2.7**
comp=Z,0.5nm,0.7s,baz=255,slow=2.7,SNR=3.7
SONM Songino Array 80.36 323 P **P 16 50 57.2 -0.1**
SUA Susitna One 80.70 19 P **P 16 50 58.5 -0.2**
RC01 Rabbit Creek A 80.75 20 P **P 16 50 58.9 +0.1**
RC01 IAmb IAmb 16 51 00.1
comp=Z,73nm,1.4s
GTA Gaotai 80.77 314⇑P **P 16 51 00.5 +0.9**
GTA pP pP 16 51 50.5 -0.8
GTA sP sP 16 52 14.8 +0.3
GTA S **S 17 00 51.5 +2.1**
GTA sS sS 17 02 24.3 +5.5
GTA pmax pmax
comp=Z,25nm,1.1s
GTA pmax pmax
comp=Z,67nm,7.5s
GTA LR LR
comp=Z,140nm,17.5s
GTA LR LR
comp=Z,170nm,18.1s
GTA LR LR
comp=Z,160nm,19.0s
PMR Palmer 81.32 20 P **P 16 51 01.3 -0.5**
PMR pmax pmax
comp=Z,29nm,0.8s
PMR Palmer 81.32 20 P **P 16 51 01.3 -0.5**
PMR IAmb IAmb 16 51 04.8
comp=Z,29nm,0.8s
PPLA Purkeypile 81.34 18 P **P 16 51 02.1 0.0**
HIN Hinchinbrook I 81.37 21 P **P 16 51 02.4 +0.3**
KNK Knik Glacier 81.41 20 P **P 16 51 02.7 +0.3**
GLI Glacier Island 81.50 21 P **P 16 51 02.9 +0.1**
GLI IAmb IAmb 16 51 03.9
comp=Z,42nm,0.8s
GHO Glory Hole Cre 81.52 20 P **P 16 51 03.3 +0.3**
GHO IAmb IAmb 16 51 04.8
comp=Z,20nm,0.8s
FID Port Fidalgo 81.62 21 P **P 16 51 03.5 +0.1**
FID IAmb IAmb 16 51 04.5
comp=Z,42nm,0.8s
SML Sawmill 81.74 20 P **P 16 51 04.4 +0.3**
SML IAmb IAmb 16 51 05.5
comp=Z,47nm,1.2s
RAGM Ragged Mountai 82.02 22 P **P 16 51 06.0 +0.4**
RAGM IAmb IAmb 16 51 07.2
comp=Z,59nm,1.2s
SCM Sheep Creek Mo 82.09 20 P **P 16 51 06.5 +0.5**
SCM pmax pmax
comp=Z,53nm,0.7s
SCM Sheep Creek Mo 82.09 20 P **P 16 51 06.5 +0.5**
SHL Shillong 82.14 298 P **P 16 51 07.1 -0.1**
SHL pmax pmax
comp=Z,39nm,1.1s
SHL Shillong 82.14 298 P **P 16 51 07.1 -0.1**
SHL IAmb IAmb 16 51 08.3
comp=Z,39nm,1.1s
BOD Bodaibo 82.16 334 *e*P **P 16 51 04.6 -1.7**
BOD pmax pmax
comp=Z,14nm,1.6s
KTH Kantishna Hill 82.22 18 P **P 16 51 06.1 -0.5**
KTH IAmb IAmb 16 51 07.7
comp=Z,23nm,0.9s
TRF Thorofare Moun 82.33 18 P **P 16 51 06.7 -0.6**
TRF IAmb IAmb 16 51 08.9
comp=Z,27nm,0.8s
KCPM Cahto Peak 82.53 47 P **P 16 51 10.0 +1.2**
KCPM IAmb IAmb 16 51 10.6
comp=Z,42nm,0.9s
HOPS Hopland Field 82.63 48 P **P 16 51 10.0 +0.8**
HOPS IAmb IAmb 16 51 10.8
comp=Z,58nm,1.2s
KMRM Mail Ridge 82.65 46 P **P 16 51 10.8 +1.4**
KMRM IAmb IAmb 16 51 11.9
comp=Z,42nm,1.0s
JCC Jacoby Creek, 82.66 46 P **P 16 51 10.8 +1.6**
JCC **pP 16 52 01.0 +0.2**
RND Reindeer 82.73 18 P **P 16 51 09.4 +0.2**
RND pmax pmax
comp=Z,46nm,0.6s
RND Reindeer 82.73 18 P **P 16 51 09.4 +0.2**
GDXM Geysers 82.77 48 P **P 16 51 11.1 +1.1**
CRQM Cirque 82.83 22 P **P 16 51 10.2 +0.3**
KHMM Horse Mountain 82.89 46 P **P 16 51 12.1 +1.4**
KHMM IAmb IAmb 16 51 12.7
comp=Z,23nm,0.8s
TGL Tana Glacier 82.95 22 P **P 16 51 10.9 +0.4**
TGL IAmb IAmb 16 51 11.9
comp=Z,33nm,0.9s
MCK McKinley 82.95 18 P **P 16 51 09.7 -0.6**
MCK McKinley 82.95 18 P **P 16 51 09.7 -0.6**
MCK IAmb IAmb 16 51 11.1
comp=Z,42nm,1.1s
DHY Denali Highway 82.96 19 P **P 16 51 10.5 0.0**
DHY IAmb IAmb 16 51 11.9
comp=Z,81nm,1.5s
RDOG Red Dog Mine 83.01 11 P **P 16 51 11.6 +1.1**
RDOG IAmb IAmb 16 51 12.5
comp=Z,39nm,0.8s
VRDI Verde Repeater 83.03 22 P **P 16 51 10.8 -0.2**
VRDI pP **pP 16 52 02.4 -0.2**
GLB Gilahina Butte 83.04 22 P **P 16 51 11.2 +0.3**
GLB IAmb IAmb 16 51 12.2
comp=Z,49nm,1.1s
GLB pP **pP 16 52 02.6 +0.1**
BWN Browne 83.11 18 P **P 16 51 11.1 0.0**
O02D Mt. Diablo Mer 83.28 47 P **P 16 51 14.2 +1.6**
baz=248,SNR=20
MCARA McCarthy VSAT 83.29 22 P **P 16 51 12.2 +0.1**
MCARA IAmb IAmb 16 51 13.5
comp=Z,44nm,1.1s
IMAR Indian Mountai 83.31 15 P **P 16 51 13.0 +1.0**
BALM Baldy 83.31 22 P **P 16 51 12.6 +0.3**
BALM IAmb IAmb 16 51 13.6
comp=Z,36nm,0.9s
BALM pP **pP 16 52 04.8 +0.8**
MLY Manley 83.38 17 P **P 16 51 12.6 +0.1**
MLY IAmb IAmb 16 51 13.7
comp=Z,40nm,1.4s
ZAK Zakamensk 83.39 325 *e*P P 16 51 05.4 -7.6
ZAK pmax pmax
comp=Z,22nm,1.2s
L02E Cave Junction 83.47 44 P **P 16 51 14.5 +1.0**
baz=247
PCA Pinnacle 83.51 24 P **P 16 51 13.4 +0.2**
BARN Barnard Glacie 83.58 22 P **P 16 51 14.3 +0.5**
BARN IAmb IAmb 16 51 15.3
comp=Z,44nm,0.8s
BARN pP **pP 16 52 06.5 +1.0**
WDC Whiskeytown Da 83.61 46 P **P 16 51 14.7 +0.5**
WDC pmax pmax
comp=Z,46nm,1.4s
WDC Whiskeytown Da 83.61 46 P **P 16 51 14.7 +0.5**
WDC IAmb IAmb 16 51 16.3
comp=Z,46nm,1.4s

PKM Mcpherson Peak 83.61 52 P **P 16 51 15.9 +1.3**
baz=250
K02D Willamette Mer 83.64 44 P **P 16 51 15.5 +1.1**
baz=247,SNR=12
CTGM Chitina Glacie 83.64 23 P **P 16 51 14.3 +0.3**
CTGM IAmb IAmb 16 51 15.5
comp=Z,48nm,0.9s
CTGM pP **pP 16 52 07.6 +1.8**
N02D Trinity Center 83.64 46 P **P 16 51 16.0 +1.6**
baz=248,SNR=13
J01E Myrtle Point 83.64 43 P **P 16 51 15.3 +1.1**
baz=247
M02C Callahan 83.70 45 P **P 16 51 16.3 +1.6**
baz=248,SNR=16
WRH Wood River Hil 83.74 18 P **P 16 51 14.0 -0.2**
TLY Talaya 83.81 326 *c i*P **P 16 51 14.9 0.0**
TLY pmax pmax
comp=Z,27nm,0.8s
TLY Talaya 83.81 326 P **P 16 51 15.0 +0.1**
TLY IAmb IAmb 16 51 16.1
comp=Z,27nm,0.9s
YBH Yreka Blue Hor 83.92 45 P **P 16 51 17.0 +1.1**
YBH pmax pmax
comp=Z,37nm,1.0s
YBH Yreka Blue Hor 83.92 45 P **P 16 51 17.1 +1.3**
comp=Z,24nm,0.8s,baz=214,slow=0.6,SNR=64
YBH Yreka Blue Hor 83.92 45 P **P 16 51 17.0 +1.1**
YBH IAmb IAmb 16 51 18.1
comp=Z,37nm,1.0s
CCB Clear Creek Bu 83.95 18 P **P 16 51 14.9 -0.4**
CCB IAmb IAmb 16 51 15.8
comp=Z,39nm,0.7s
ORV Oroville 83.97 48 P **P 16 51 16.3 +0.2**
ORV *PP **pP 16 52 08.4 +0.6**
ORV pmax pmax
comp=Z,23nm,1.0s
ORV Oroville 83.97 48 P **P 16 51 16.2 +0.2**
ORV IAmb IAmb 16 51 17.7
comp=Z,23nm,1.0s
ORV pP **pP 16 52 08.4 +0.6**
LSA Lhasa 84.01 302 P **P 16 51 17.2 +0.2**
LSA pmax pmax
comp=Z,12nm,0.6s
LSA Lhasa 84.01 302 P **P 16 51 17.2 +0.2**
MAW Mawson 84.02 202 P **P 16 51 16.1 +0.4**
comp=Z,31nm,1.0s,baz=104,slow=6.7,SNR=27
MAW Mawson 84.02 202 P **P 16 51 16.1 +0.4**
O03E Paynes Creek 84.03 47 P **P 16 51 17.2 +0.9**
baz=248,SNR=18
HDA Harding Lake 84.04 18 P **P 16 51 16.1 +0.3**
baz=225,SNR=108
HDA Harding Lake 84.04 18 P **P 16 51 16.0 +0.2**
HDA pP **pP 16 52 08.1 +0.4**
MDM Murphy Dome 84.05 18 P **P 16 51 15.7 -0.2**
HUMO Hull Mountain 84.09 44 P **P 16 51 17.8 +1.2**
HUMO IAmb IAmb 16 51 18.9
comp=Z,36nm,1.0s
HUMO pP **pP 16 52 09.1 +0.8**
TCOL CIGO, UAF Yank 84.10 18 P **P 16 51 15.9 -0.1**
baz=224,SNR=25
COLA College 84.10 18 *c i*P **P 16 51 15.8 -0.2**
COLA pmax pmax
comp=Z,97nm,1.0s
COLA College 84.10 18 P **P 16 51 15.8 -0.2**
AFDM Forest Hills D 84.14 48 P **P 16 51 17.2 +0.3**
AFDM IAmb IAmb 16 51 18.7
comp=Z,39nm,1.2s
AFDM **pP 16 52 10.1 +1.3**
RIDG Independent Ri 84.24 19 P **P 16 51 17.4 +0.5**
RIDG **pP 16 52 07.5 -1.4**
I03D Drain, OR 84.24 43 P **P 16 51 18.3 +1.1**
baz=247
CMB Columbia Colle 84.25 49 P **P 16 51 17.8 +0.3**
CMB *PP **pP 16 52 09.9 +0.5**
CMB pmax pmax
comp=Z,20nm,1.1s
CMB Columbia Colle 84.25 49 P **P 16 51 17.8 +0.3**
CMB **pP 16 52 09.9 +0.5**
IL31 84.32 18 P **P 16 51 16.8 -0.3**
IL31 pP **pP 16 52 08.9 -0.1**
ILAR Eielson Array 84.32 18 P **P 16 51 16.8 -0.4**
comp=Z,53nm,0.6s,baz=246,slow=5.1,SNR=629
ILAR pP **pP 16 52 10.2 +1.1**
comp=Z,4.6nm,0.7s,baz=230,slow=6.0,SNR=3.2
ILAR PKiKP **PKiKP 16 56 29.2 -0.7**
comp=Z,0.4nm,0.5s,baz=262,slow=3.4,SNR=6.0
ILAR Eielson Array 84.32 18 P **P 16 51 16.5 -0.7**
ILAR **pP 16 52 09.6 +0.5**
L04D Klamath Falls 84.39 45 P **P 16 51 19.2 +1.0**
baz=248,SNR=12
POKR Poker Plat Res 84.40 18 P **P 16 51 17.3 -0.3**
baz=225,SNR=37
VES Vestal, Richgr 84.49 52 P **P 16 51 19.0 +0.3**
baz=251
M04C Macdoel 84.55 45 P **P 16 51 20.1 +1.1**
baz=248,SNR=15
SCRK Sand Creek 84.68 20 P **P 16 51 19.5 +0.3**
SCRK IAmb IAmb 16 51 20.7
comp=Z,35nm,0.8s
SCRK pP **pP 16 52 12.7 +1.6**
BCAR Beaver Creek A 84.83 21 P **P 16 51 19.9 0.0**
WRAK Wrangell Islan 84.84 29 P **P 16 51 20.2 +0.3**
WRAK IAmb IAmb 16 52 21.0
comp=Z,79nm,1.7s
BESE Bessie Mountai 84.86 27 P **P 16 51 20.6 +0.5**
BESE IAmb IAmb 16 52 07.8
comp=Z,21nm,0.9s
G03D McMinnville, O 84.89 42 P **P 16 51 21.7 +1.2**
baz=247
ISA Isabella, Lake 84.90 52 P **P 16 51 22.0 +1.2**
baz=251,SNR=9.5
J04D Umpqua Nationa 84.90 44 P **P 16 51 21.9 +1.1**
baz=248,SNR=14
BEKR Beckworth 84.91 48 P **P 16 51 21.2 +0.3**
BEKR IAmb IAmb 16 51 22.7
comp=Z,59nm,1.4s
BEKR pP **pP 16 52 13.3 +0.5**
K04D Chiloquin, OR 84.92 45 P **P 16 51 22.0 +1.2**
baz=248
H04D Lebanon 84.97 43 P **P 16 51 22.2 +1.3**
baz=248,SNR=6.3
EDW2 Edwards Air Fo 85.02 53 P **P 16 51 22.3 +0.9**
baz=251,SNR=16
BFSC Mount Baldy Ra 85.08 54 P **P 16 51 22.5 +0.6**
baz=252,SNR=9.0
MDPB Devils Postpil 85.09 50 P **P 16 51 22.2 +0.3**
MDPB IAmb IAmb 16 51 23.8
comp=Z,30nm,1.0s
MDPB pP **pP 16 52 13.7 -0.2**
109C Camp Elliot, M 85.10 55 P **P 16 51 22.6 +0.8**
109C pP **pwP 16 52 15.9 -1.3**
WAKR Walker 85.11 49 P **P 16 51 22.9 +0.9**
WAKR IAmb IAmb 16 51 24.3
comp=Z,39nm,1.2s
COLD Coldfoot 85.17 15 P **P 16 51 22.3 +0.9**
PNTR Pine Nut 85.19 48 P **P 16 51 23.3 +0.9**
PNTR IAmb IAmb 16 51 24.5
comp=Z,33nm,1.1s
E03A Lebam 85.22 40 P **P 16 51 22.7 +0.7**
E03A pP **pP 16 52 15.5 +1.6**
VCNR Virginia City 85.22 48 P **P 16 51 23.0 +0.5**
VCNR pP **pP 16 52 15.2 +0.7**
MURC Murrieta 85.25 54 P **P 16 51 23.4 +0.8**
baz=252
PRP Porcupine Dome 85.25 18 P **P 16 51 20.9 -1.1**
MLAC Mammoth, Mammo 85.27 50 P **P 16 51 24.6 +1.7**
baz=251
EML El Monte Cty P 85.31 55 P **P 16 51 23.5 +0.7**
EML pP **pP 16 52 14.3 -0.6**
NLWA Neilton Lookou 85.36 40 P **P 16 51 23.5 +0.7**
NLWA IAmb IAmb 16 51 25.2
comp=Z,74nm,1.9s
BAR Barrett 85.39 55 P **P 16 51 23.6 +0.3**
YERR Yerington 85.42 49 P **P 16 51 24.4 +0.9**
CWC Cottonwood Cre 85.45 51 P **P 16 51 24.5 +0.8**
baz=251
J05D Fort Rock, OR 85.51 44 P **P 16 51 25.1 +1.3**
baz=249,SNR=28
TIN Tinemaha, Big 85.54 51 P **P 16 51 25.4 +1.4**
baz=251
PAHR Pah Rah Range 85.56 48 P **P 16 51 24.7 +0.6**
PAHR IAmb IAmb 16 51 26.1
comp=Z,31nm,1.1s
PAHR pP **pP 16 52 16.8 +0.7**
MONP2 Monument Peak 85.65 55 P **P 16 51 25.8 +1.0**

baz=252,SNR=14
MONP2 **Monument Peak** 85.65 55 P P 16 51 24.4 -0.4
MONP2 IAmb IAmb 16 51 27.0
comp=Z,35nm,1.4s
MONP2 pP 16 52 17.5 +0.6
MOD **Modoc Plateau** 85.66 46 P P 16 51 24.3 -0.3
MOD IAmb IAmb 16 51 26.3
comp=Z,40nm,1.2s
F04A **Amboy** 85.71 41 P P 16 51 24.5 0.0
F04A IAmb IAmb 16 51 26.3
comp=Z,39nm,1.1s
F04A pP pP 16 52 16.5 0.0
MPMC **Manual Prospec** 85.78 52 P P 16 51 26.2 +0.9
baz=252,SNR=17
I05D **Terrebonne, OR** 85.83 43 P P 16 51 26.4 +1.2
baz=248,SNR=9.2
IKP **In-Ko-Pah, Jac** 85.83 55 P P 16 51 26.7 +1.2
baz=253
IKP **In-Ko-Pah, Jac** 85.83 55 P P 16 51 26.8 +1.2
IKP pP pP 16 52 18.2 +0.6
RYN **Ryan** 85.83 49 P P 16 51 25.9 +0.4
RYN pP pP 16 52 17.2 -0.3
PFO **Pinyon Flats O** 85.84 54 P P 16 51 26.4 +0.8
baz=252,SNR=7.6
PFO **Pinyon Flats O** 85.84 54 P P 16 51 26.1 +0.5
PFO *PP pP 16 52 18.5 +0.8
PFO pmax pmax
comp=Z,14nm,1.3s
PFO **Pinyon Flats O** 85.84 54 P P 16 51 26.1 +0.5
PFO pP pP 16 52 18.5 +0.8
E04D **Cinebar** 85.86 41 P P 16 51 26.4 +1.2
baz=248,SNR=9.6
PINE **Pine Mountain** 85.90 44 P P 16 51 26.7 +1.0
PINE IAmb IAmb 16 51 27.9
comp=Z,26nm,0.8s
D03D **Eldon** 85.91 40 P P 16 51 26.6 +1.2
baz=247,SNR=10
NVAR **Mina Array Bea** 85.93 49 P P 16 51 26.8 +0.8
comp=Z,10nm,0.8s,baz=233,slow=8.5,SNR=61
NVAR pP pP 16 52 19.6 +1.5
comp=Z,5.3nm,0.8s,baz=239,slow=6.2,SNR=6.0
NVAR **Mina Array Bea** 85.93 49 P P 16 51 26.4 +0.4
NVAR pP 16 52 19.1 +1.0
D04E **Lakebay** 85.97 40 P P 16 51 27.3 +1.6
baz=247
NV11 **Mina Array Sit** 86.04 49 P P 16 51 26.8 +0.3
NV11 pP 16 52 19.5 +1.0
FYU **Fort Yukon** 86.07 17 P P 16 51 25.9 +0.1
GSC **Goldstone, Bar** 86.08 53 P P 16 51 27.6 +0.9
baz=252,SNR=6.7
EGAK **Eagle** 86.14 20 P P 16 51 26.1 -0.1
SWSC **Sam W. Stewart** 86.17 55 P P 16 51 28.2 +1.1
baz=253
SWSC **Sam W. Stewart** 86.17 55 P P 16 51 27.2 +0.1
SWSC IAmb IAmb 16 51 29.1
comp=Z,37nm,1.4s
SWSC pP pwP 16 52 21.6 -1.0
GRAC **Grapevine Rang** 86.17 51 P P 16 51 28.8 +1.7
baz=252,SNR=6.9
G05D **Wamic, OR** 86.17 42 P P 16 51 27.7 +0.8
baz=248,SNR=7.1
TAPN **Taplejung** 86.24 299 eP P 16 51 27.9 0.0
KVN **Kaiserville** 86.28 49 P P 16 51 27.8 0.0
KVN *PP pP 16 52 21.1 +1.4
KVN pmax pmax
comp=Z,24nm,1.2s
KVN **Kaiserville** 86.28 49 P P 16 51 27.8 0.0
KVN IAmb IAmb 16 51 29.5
comp=Z,24nm,1.2s
KVN pP pP 16 52 21.1 +1.4
DAWY **Dawson** 86.29 21 P P 16 51 25.6 -1.4
HEC **Hector,Ludlow** 86.30 53 P P 16 51 28.4 +0.6
baz=252
F05D **White Salmon** 86.32 42 P P 16 51 28.5 +1.0
baz=248
BELC **Belle Mtn. Jos** 86.32 54 P P 16 51 28.9 +1.0
baz=253,SNR=18
ODAN **Odare** 86.38 298 eP P 16 51 28.5 0.0
comp=Z,55nm,0.7s
FURC **Furnace Creek,** 86.39 52 P P 16 51 29.3 +1.3
baz=252,SNR=7.9
LON **Longmire** 86.41 41 P P 16 51 27.4 -0.6
LON pmax pmax
comp=Z,14nm,1.3s
LON **Longmire** 86.41 41 P P 16 51 27.4 -0.6
D05A **Enumclaw** 86.47 40 P P 16 51 29.4 +1.3
D05A IAmb IAmb 16 51 31.3
comp=Z,51nm,1.1s
A04D **Lummi Island** 86.61 39 P P 16 51 30.3 +1.5
baz=247,SNR=11
BC3 **Big Chuckawall** 86.65 55 P P 16 51 31.0 +1.5
baz=253
SHOC **Shoshone, Teco** 86.67 52 P P 16 51 30.2 +0.8
baz=252,SNR=5.1
B05A **Bryant** 86.81 39 P P 16 51 30.7 +0.9
baz=248,SNR=12
TUQ **Turquoise Moun** 86.81 53 P P 16 51 31.3 +1.1
baz=253,SNR=14
GMRC **Granite Mounta** 86.82 54 P P 16 51 31.5 +1.1
baz=253,SNR=11
BMAR **Burnt Mountain** 86.85 17 P P 16 51 31.0 +1.3
BMAR pP pP 16 52 23.4 +1.6
GLA **Glamis** 86.98 55 P P 16 51 32.8 +1.8
baz=253
WVOR **Wild Horse Val** 87.01 46 P P 16 51 30.8 -0.3
WVOR *PP pP 16 52 25.1 +1.8
WVOR pmax pmax
comp=Z,30nm,1.2s
WVOR **Wild Horse Val** 87.01 46 P P 16 51 30.8 -0.3
WVOR IAmb IAmb 16 51 33.2
comp=Z,30nm,1.2s
WVOR pP 16 52 25.1 +1.8
TPNV **Topopah Spring** 87.01 51 P P 16 51 32.1 +0.8
baz=252,SNR=12
TPNV **Topopah Spring** 87.01 51 P P 16 51 31.4 +0.1
TPNV pmax pmax
comp=Z,8.0nm,0.8s
TPNV **Topopah Spring** 87.01 51 P P 16 51 31.4 +0.1
IRM **Iron Mountain** 87.04 54 P P 16 51 32.8 +1.4
baz=253,SNR=17
RAMN **Ramite** 87.08 298 eP P 16 51 31.8 -0.1
comp=Z,20nm,0.6s
F07A **Phinny Hill Vi** 87.32 42 P P 16 51 33.3 +1.0
LTY **Liberty** 87.33 41 P P 16 51 32.2 -0.2
BMN **Battle Mountai** 87.36 48 P P 16 51 33.4 +0.5
BMN pmax pmax
comp=Z,75nm,1.9s
BMN **Battle Mountai** 87.36 48 P P 16 51 33.4 +0.5
BMN IAmb IAmb 16 51 35.1
comp=Z,75nm,1.9s
Y12C **Blythe** 87.42 55 P P 16 51 34.7 +1.6
baz=254,SNR=9.0
Y12C **Blythe** 87.42 55 P P 16 51 34.1 +1.0
Y12C IAmb IAmb 16 51 35.5
comp=Z,36nm,1.3s
C06D **Leavenworth** 87.43 40 P P 16 51 33.5 +0.7
baz=249
TIXI **Tiksi** 87.53 349 ceP P 16 51 32.1 -0.6
TIXI pmax pmax
comp=Z,34nm,1.6s
TIXI **Tiksi** 87.53 349 P P 16 51 32.3 -0.4
comp=Z,12nm,1.0s,baz=0.0,slow=24,SNR=15
TIXI PKiKP PKiKP 16 56 34.1 -0.8
comp=Z,1.2nm,0.3s,baz=196,slow=0.8,SNR=3.9
TIXI **Tiksi** 87.53 349 P P 16 51 32.1 -0.6
TIXI IAmb IAmb 16 51 34.6
comp=Z,61nm,1.7s
E07A **Sunnyside** 87.60 41 P P 16 51 34.2 +0.5
E07A IAmb IAmb 16 51 35.6
comp=Z,28nm,0.8s
JIRN **Jiri** 87.62 299 eP P 16 51 34.6 0.0
comp=Z,46nm,0.8s
NEE2 **Needles Airpor** 87.63 54 P P 16 51 35.5 +1.4
baz=253
SHPR **Sheep Range** 87.71 52 P P 16 51 35.7 +1.1
SHPR IAmb IAmb 16 51 37.0
comp=Z,30nm,1.4s
SHPR pP 16 52 28.2 +1.4
G08A **Pilot Rock** 87.75 43 P P 16 51 35.0 +0.5
G08A IAmb IAmb 16 51 36.4
comp=Z,26nm,1.1s
G08A pP pP 16 52 27.9 +1.1
HAWA **Hanford** 87.75 42 P P 16 51 34.8 +0.4
HAWA IAmb IAmb 16 51 36.4
comp=Z,25nm,0.9s
HAWA pP pP 16 52 27.6 +1.0
PALK **Pallekele** 87.89 278 P P 16 51 36.2 +0.4
PALK pmax pmax
comp=Z,13nm,0.9s
PALK **Pallekele** 87.89 278 P P 16 51 36.2 +0.4
R11A **Troy Canyon, C** 87.93 50 P P 16 51 36.5 +0.9
baz=253,SNR=20
R11A **Troy Canyon, C** 87.93 50 P P 16 51 35.9 +0.3
GUN **Gumba** 87.95 299 eP P 16 51 36.1 -0.1
comp=Z,33nm,0.8s
E08A **Dider Farm, El** 88.09 42 P P 16 51 36.6 +0.7
E08A IAmb IAmb 16 51 38.1
comp=Z,35nm,1.0s
E08A pP pP 16 52 30.0 +1.8
PKI **Pulchoki** 88.27 299 eP P 16 51 37.3 -0.3
comp=Z,34nm,0.6s
PKIN **Phulchoki** 88.28 299 eP P 16 51 37.2 -0.4
comp=Z,25nm,0.6s
W13A **Hualapai Mount** 88.31 54 P P 16 51 38.3 +0.7
W13A IAmb IAmb 16 51 39.8
comp=Z,27nm,1.3s
W13A pP 16 52 31.1 +1.1
214A **Organ Pipe Nat** 88.31 57 P P 16 51 39.0 +1.6
baz=254
214A **Organ Pipe Nat** 88.31 57 P P 16 51 38.7 +1.3
214A IAmb IAmb 16 51 40.1
comp=Z,64nm,1.6s
214A pP pwP 16 52 32.1 -1.0
KKN **Kakani** 88.43 299 eP P 16 51 38.0 -0.3
comp=Z,41nm,0.7s
DMN **Daman** 88.54 299 eP P 16 51 38.7 -0.1
comp=Z,97nm,0.8s
B08A **Colville Reser** 88.56 40 P P 16 51 38.0 -0.2
B08A IAmb IAmb 16 51 39.6
comp=Z,29nm,1.3s
EPYK **Eagle Plains** 88.58 20 P P 16 51 38.2 +0.3
baz=234
EPYK **Eagle Plains** 88.58 20 P P 16 51 37.3 -0.6
EPYK IAmb IAmb 16 51 40.7
comp=Z,24nm,1.2s
EPYK pP pP 16 52 31.3 +0.9
BMO **Blue Mountains** 88.71 44 P P 16 51 39.1 +0.1
BMO pmax pmax
comp=Z,37nm,1.5s
BMO **Blue Mountains** 88.71 44 P P 16 51 39.1 +0.1
BMO IAmb IAmb 16 51 40.8
comp=Z,37nm,1.5s
ELK **Elko** 88.90 48 P P 16 51 40.7 +0.5
ELK *PP pP 16 52 33.7 +1.1
ELK pmax pmax
comp=Z,26nm,1.1s
ELK **Elko** 88.90 48 P P 16 51 40.7 +0.5
ELK IAmb IAmb 16 51 42.2
comp=Z,26nm,1.1s
ELK pP pP 16 52 33.7 +1.1
C09A **Chrisman Ranch** 89.04 41 P P 16 51 40.2 -0.1
C09A IAmb IAmb 16 51 42.1
comp=Z,44nm,1.6s
GKN **Gorkha** 89.04 299 eP P 16 51 40.3 -0.7
comp=Z,59nm,0.8s
F10A **Beach Ranch, E** 89.12 43 P P 16 51 41.1 +0.1
F10A IAmb IAmb 16 51 42.5
comp=Z,35nm,1.1s
F10A pP pP 16 52 34.3 +0.9
MFID **Camas Ranch** 89.28 45 P P 16 51 42.1 +0.3
MFID IAmb IAmb 16 51 43.7
comp=Z,22nm,0.8s
PSUT **Pine Spring** 89.29 50 P P 16 51 43.0 +0.9
PSUT pP pwP 16 52 36.4 -1.4
LCMT **Little Creek M** 89.33 52 P P 16 51 42.6 +0.5
LCMT pP pP 16 52 36.3 +1.6
CCUT **Cedar City** 89.39 51 P P 16 51 43.5 +0.9
KNB **Kanab** 89.66 52 P P 16 51 44.7 +0.9
KNB *PP pP 16 52 37.5 +1.2
KNB pmax pmax
comp=Z,38nm,1.3s
KNB **Kanab** 89.66 52 P 16 51 44.7 +0.9
KNB pP pP 16 52 37.5 +1.2
PLID **Pearl Lake** 89.66 44 P P 16 51 43.9 +0.2
PLID IAmb IAmb 16 51 45.0
comp=Z,20nm,0.9s
KOLN **Koldanda** 89.87 298 eP P 16 51 44.0 -1.0
comp=Z,40nm,1.1s
DANN **Dangsing** 89.87 299 eP P 16 51 44.1 -1.0
comp=Z,46nm,0.8s
U15A **North Rim** 89.91 53 P P 16 51 46.0 +0.9
U15A IAmb IAmb 16 51 47.6
comp=Z,29nm,0.9s
U15A pP pP 16 52 39.3 +1.6
NEW **Newport** 89.92 40 P P 16 51 45.1 +0.5
baz=252
NEW **Newport** 89.92 40 P P 16 51 44.8 +0.3
NEW pmax pmax
comp=Z,23nm,1.0s
NEW **Newport** 89.92 40 P P 16 51 44.8 +0.3
NEW IAmb IAmb 16 51 46.1
comp=Z,22nm,0.9s
X16A **Lo Mia Camp, P** 90.06 55 P P 16 51 46.9 +1.2
X16A pP pP 16 52 39.7 +1.5
TUC **Tucson** 90.06 57 P P 16 51 47.2 +1.5
baz=256
TUC **Tucson** 90.06 57 P P 16 51 46.6 +1.0
TUC pmax pmax
comp=Z,10.0nm,1.0s
TUC **Tucson** 90.06 57 P P 16 51 46.6 +1.0
WUAZ **Wupatki** 90.40 54 P P 16 51 48.7 +1.5
baz=255
WUAZ **Wupatki** 90.40 54 P P 16 51 48.3 +1.1
WUAZ pP pP 16 52 40.7 +1.0
MTPU **Mount Pierson** 90.42 51 P 16 51 48.5 +1.0
DUG **Dugway, Tooele** 90.52 49 P P 16 51 48.5 +0.9
baz=254
DUG **Dugway, Tooele** 90.52 49 P P 16 51 48.5 +0.9
DUG pmax pmax
comp=Z,11nm,1.1s
DUG **Dugway, Tooele** 90.52 49 P P 16 51 48.5 +0.9
MSU **Marysvale** 90.55 51 P P 16 51 49.5 +1.6
MSU *PP pP 16 52 41.8 +1.3
MSU **Marysvale** 90.55 51 P P 16 51 49.5 +1.6
MSU pP pP 16 52 41.8 +1.3
BGU **Big Grassy Mou** 90.56 48 P P 16 51 48.7 +0.8
INK **Inuvik** 90.69 19 P P 16 51 48.2 +0.7
INK pmax pmax
comp=Z,17nm,1.7s
INK **Inuvik** 90.69 19 P P 16 51 48.7 +1.2
comp=Z,0.9nm,0.5s,baz=274,slow=4.1,SNR=3.6
INK PKiKP PKiKP 16 56 40.1 -0.2
comp=Z,0.7nm,0.3s,baz=118,slow=5.8,SNR=3.9
INK **Inuvik** 90.69 19 P P 16 51 48.2 +0.7
WMQ **Urumqi** 90.81 315 eP P 16 51 49.0 +0.2
WMQ pP pP 16 52 43.8 +2.0
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,220nm,4.7s
SYO **Syowa Base** 90.94 197 ∥iP P 16 51 47.4 -1.4
SYO **Syowa Base** 90.94 197 ∥iPcP P 16 51 49.2 +0.4
HVU **Hansel Valley** 90.97 48 P P 16 51 50.6 +0.9
HVU *PP pP 16 52 42.7 +0.5
HVU pmax pmax
comp=Z,39nm,1.1s
HVU **Hansel Valley** 90.97 48 P P 16 51 50.6 +0.9
HVU pP pP 16 52 42.7 +0.5
NLU **North Lily Min** 91.00 49 P P 16 51 50.8 +0.8
319A **Douglas** 91.08 58 P P 16 51 51.8 +1.3
319A IAmb IAmb 16 51 53.0
comp=Z,33nm,1.0s
SPUT **South Promonto** 91.08 48 P P 16 51 51.2 +0.9
SPUT pP pP 16 52 43.4 +0.7
X18A **Snowflake** 91.28 55 P P 16 51 52.3 +0.9
X18A pP pP 16 52 44.8 +0.9
MPU **Maple Canyon** 91.34 49 P P 16 51 52.4 +0.8
MPU pP pP 16 52 44.1 +0.1
Q16A **Castle Valley** 91.41 51 P P 16 51 53.2 +1.4
CTU **Camp Tracy** 91.43 49 P P 16 51 52.2 +0.3
TMUT **Trail Mountain** 91.48 50 P P 16 51 53.3 +1.0
MSO **Missoula** 91.55 42 P P 16 51 52.3 +0.1
baz=254
MSO **Missoula** 91.55 42 P P 16 51 51.9 -0.3
JTMT **Jette** 91.58 41 P P 16 51 52.8 +0.4
JTMT IAmb IAmb 16 51 53.2
comp=Z,16nm,1.2s
W18A **Petrified Fore** 91.60 55 P P 16 51 53.9 +1.1
baz=256
W18A **Petrified Fore** 91.60 55 P P 16 51 53.3 +0.5
W18A IAmb IAmb 16 51 55.0
comp=Z,20nm,1.2s
W18A pP pP 16 52 46.5 +1.2
JLU **Jordanelle** 91.63 49 P P 16 51 53.3 +0.4
MCMT **McKenzie Canyo** 91.73 45 P P 16 51 53.5 +0.2
MCMT pP pP 16 52 47.3 +1.4
TCUT **Toone Canyon** 91.79 48 P P 16 51 54.4 +0.8
HWUT **Hardware Ranch** 91.80 48 P P 16 51 53.9 +0.3
HWUT IAmb IAmb 16 51 55.1
comp=Z,24nm,1.8s
SRU **San Rafael Swe** 91.95 51 P P 16 51 54.4 0.0
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU **San Rafael Swe** 91.95 51 P P 16 51 54.4 0.0
DLMT **Dillon** 92.05 44 P P 16 51 55.1 +0.4
DLMT IAmb IAmb 16 51 56.6
comp=Z,16nm,0.9s
HYB **Hyderabad** 92.11 287 iP P 16 51 54.0 -1.3
WALA **Waterton Lakes** 92.19 40 P P 16 51 55.8 +0.7
WALA IAmb IAmb 16 51 57.2
comp=Z,15nm,1.1s
LRM **Limekiln Ridge** 92.27 44 P P 16 51 56.4 +0.7
LRM pP pP 16 52 49.1 +0.9
121A **Cookes Peak, D** 92.58 57 P P 16 51 58.8 +1.4
baz=257
121A **Cookes Peak, D** 92.58 57 P P 16 51 58.7 +1.3
DGZ **Jazzator, Alta** 92.60 320 iP P 16 51 56.8 -0.3
FXWY **Fox Creek** 92.69 46 P P 16 51 58.2 +0.4
TPAW **Teton Pass** 92.71 46 P P 16 51 58.0 +0.1
TPAW IAmb IAmb 16 53 32.6
comp=Z,25nm,1.8s
REDW **Red Top Meadow** 92.75 46 P P 16 51 58.6 +0.6
REDW IAmb IAmb 16 51 59.9
comp=Z,21nm,1.6s
BOZ **Bozeman (W)** 92.77 44 P P 16 51 59.1 +1.2
baz=255
BOZ **Bozeman (W)** 92.77 44 P P 16 51 58.8 +0.9
BOZ *PP pP 16 52 52.3 +1.8
BOZ pmax pmax
comp=Z,11nm,1.2s
BOZ **Bozeman (W)** 92.77 44 P P 16 51 58.8 +0.9
BOZ pP pP 16 52 52.3 +1.8
IMW **Indian Meadow** 92.82 46 P P 16 51 59.2 +0.8
YHB **Horse Butte** 92.85 45 P P 16 51 59.3 +0.9
PV09 **Paradox Valley** 92.86 51 P P 16 51 59.4 +0.7
YHL **Hebgen Lake** 92.89 45 P P 16 52 00.0 +1.3
YHL pP pP 16 52 50.5 -0.7
HRY **Holter Researc** 92.91 43 P P 16 51 59.3 +0.8
PV14 **Lion Creek, Pa** 92.91 52 P P 16 51 59.4 +0.5
MOOW **Moose Ponds** 92.92 46 P P 16 51 59.1 +0.3
PV17 **East Wray Mesa** 92.94 52 P P 16 51 59.2 +0.2
PV17 IAmb IAmb 16 55 39.8
comp=Z,27nm,1.7s
PV23 **Carpenter Ridg** 92.94 51 P P 16 52 00.2 +1.1
PV23 IAmb IAmb 16 52 00.8
comp=Z,17nm,0.7s
PV21 **Cone Mtn., Par** 92.99 51 P P 16 52 00.0 +0.8
PV04 **Paradox Valley** 93.01 52 P P 16 51 59.8 +0.6
RDMU **Red Mountain** 93.01 49 P P 16 52 00.1 +0.8
MVCO **Mesa Verde** 93.06 53 P P 16 52 00.4 +0.9
baz=257
MVCO **Mesa Verde** 93.06 53 P P 16 52 00.3 +0.7
PV12 **Saucer Basin,** 93.07 52 P P 16 52 00.4 +0.8
PV12 IAmb IAmb 16 52 01.2
comp=Z,12nm,0.9s
YHH **Holmes Hill** 93.10 45 P P 16 52 01.0 +1.3
PV22 **Blue Mesa, Par** 93.13 51 P P 16 52 00.4 +0.5
PV22 IAmb IAmb 16 52 01.4
comp=Z,8.5nm,0.7s
H17A **Grant Village** 93.19 45 P P 16 52 02.5 +2.5
baz=256
H17A **Grant Village** 93.19 45 P P 16 52 02.0 +1.9
PV01 **Paradox Valley** 93.21 52 P P 16 52 00.2 -0.1
PV07 **Paradox Valley** 93.22 52 P P 16 52 00.6 +0.4
PDAR **Pinedale Array** 93.53 47 P P 16 52 02.3 +0.7
comp=Z,1.4nm,0.5s,baz=311,slow=3.5,SNR=12
PDAR PKiKP PKiKP 16 56 47.7 +1.5
comp=Z,0.4nm,0.5s,baz=209,slow=0.6,SNR=3.9
PDAR **Pinedale Array** 93.53 47 P P 16 52 01.9 +0.3
O20A **White River Ci** 93.90 50 P P 16 52 03.9 +0.5
baz=257
O20A **White River Ci** 93.90 50 P P 16 52 03.4 0.0
O20A IAmb IAmb 16 53 06.8
comp=Z,9.9nm,0.9s
ANMO **Albuquerque** 94.18 55 P P 16 52 05.1 +0.4
baz=258
ANMO **Albuquerque** 94.18 55 P P 16 52 04.9 +0.2
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO **Albuquerque** 94.18 55 P P 16 52 04.9 +0.2
C36M **Paulatuk** 94.21 19 P P 16 52 03.1 -0.7
baz=246
MNTX **Cornudas Mount** 94.40 59 P P 16 52 06.0 +0.4
baz=258
S22A **4UR Ranch, Cre** 94.47 53 P P 16 52 07.2 +1.1
baz=258
S22A **4UR Ranch, Cre** 94.47 53 P P 16 52 07.1 +1.0
EGMT **Eagleton** 94.60 42 P P 16 52 07.4 +1.2
baz=257
SMCO **Snowmass** 94.65 51 P P 16 52 07.9 +0.8
RWWY **Rawlins** 94.99 49 P P 16 52 08.6 +0.2
RWWY IAmb IAmb 16 52 15.5
comp=Z,20nm,1.1s
MK31 **Makanchi Array** 95.23 317 P P 16 52 08.8 -0.2
MK31 *PP pP 16 52 58.7 -3.5
MK31 pmax pmax
comp=Z,23nm,1.1s
MK31 **Makanchi Array** 95.23 317 P P 16 52 08.8 -0.2
MK31 pP pP 16 52 58.7 -3.5
MKAR **Makanchi Array** 95.23 317 P P 16 52 09.1 +0.1
comp=Z,20nm,0.7s,baz=85,slow=6.4,SNR=152
MKAR pP pP 16 53 01.3 -0.9
comp=Z,4.0nm,0.9s,baz=89,slow=6.1,SNR=3.7
MKAR PKiKP PKiKP 16 56 48.3 -0.5
comp=Z,0.6nm,0.5s,baz=227,slow=1.2,SNR=9.7
MKAR PKKP PKKPdf 17 09 00.6 -2.8
comp=Z,2.9nm,0.7s,baz=269,slow=3.1,SNR=20
MKAR **Makanchi Array** 95.23 317 P P 16 52 08.4 -0.6
MKAR pP 16 53 00.3 -1.9
MKAR PKKPdf 17 09 00.4 -3.0
ZALV **Zalesovo Beam** 95.25 324 iP P 16 52 08.0 -0.9
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV **Zalesovo Beam** 95.25 324 P P 16 52 08.0 -0.9
comp=Z,6.4nm,0.8s,baz=134,slow=6.4,SNR=21
TX31 **Lajitas Ar. Si** 95.39 61 P P 16 52 10.5 +0.2
TX31 IAmb IAmb 16 54 37.0
comp=Z,22nm,2.0s
TX32 **Lajitas Array** 95.39 61 P P 16 52 10.8 +0.5
TX32 IAmb IAmb 16 54 37.0
comp=Z,22nm,2.0s
TXAR **Lajitas Array** 95.39 61 P P 16 52 10.7 +0.4
comp=Z,1.6nm,0.7s,baz=227,slow=5.3,SNR=22
YKA **Yellowknife Ar** 95.53 27 P P 16 52 09.3 -0.7
YKA *PP pP 16 53 02.3 -0.3
YKA **Yellowknife Ar** 95.53 27 P P 16 52 08.9 -1.0
comp=Z,3.7nm,0.5s,baz=259,slow=5.0,SNR=20
YKA **Yellowknife Ar** 95.53 27 P P 16 52 09.3 -0.7
YKA pP pP 16 53 02.3 -0.3
YKW3 **Yellowknife Ar** 95.55 27 P P 16 52 09.3 -0.7
SNAA **Sanae** 95.95 183 P P 16 52 11.2 -0.7
SNAA **Sanae** 95.95 183 P P 16 52 11.3 -0.7
SNAA pmax pmax
comp=Z,49nm,1.8s
SNAA **Sanae** 95.95 183 P P 16 52 11.3 -0.7
VNA3 **Neumayer Olymp** 96.63 181 P P 16 52 14.3 -0.6
VNA2 **Neumayer--Watz** 96.89 182 P P 16 52 15.8 -0.3
baz=175,slow=4.3
NRIK **Noril'sk** 97.70 339 P P 16 52 18.9 -0.7
comp=Z,8.0nm,1.1s,baz=132,slow=4.1,SNR=6.4
KURK **Kurchatov** 98.35 320 P P 16 52 21.8 -1.1
KURK pmax pmax
comp=Z,14nm,1.8s
KURK **Kurchatov** 98.35 320 P P 16 52 21.8 -1.1
KURK IAmb IAmb 16 55 53.8
comp=Z,14nm,1.8s
KSH **Kashi** 98.45 309 P Pdif 16 52 25.5 +1.6
KSH S S 17 03 28.3 -5.1
KSH sS sS 17 05 05.3 -0.3
KSH SS SS 17 10 23.5 0.0
KSH pmax pmax
comp=Z,600nm,6.6s
KSH LR LR

comp=Z,250nm,9.3s
KSH LR LR
comp=Z,520nm,7.6s
KSH LR LR
comp=Z,290nm,9.7s
AAK Ala-Archa 100.00 312⇑ *e*P Pdif 16 52 31.4 +0.7
AAK pmax pmax
comp=Z,1.0nm,0.9s
FFC Flin Flon 100.54 36 *i* P Pdif 16 52 33.1 +0.5
ULM Lac du Bonnet 103.92 41 PKiKP PKiKP 16 57 03.4 -0.8
comp=Z,3.7nm,0.6s,baz=255,slow=2.7,SNR=6.7
RES Resolute Bay 103.93 16 PKiKP PKiKP 16 57 03.4 -0.1
comp=Z,1.3nm,0.6s,baz=205,slow=4.6,SNR=6.1
GEYT Alibeck 112.27 306 PKiKP PKiKP 16 57 20.6 +0.3
comp=Z,3.3nm,0.7s,baz=270,slow=1.5,SNR=8.6
E48A Lockeyer 113.18 45 P PKiKP 16 57 21.5 -0.2
baz=277
U53A Fall Branch 113.63 56 P PKiKP 16 57 22.8 -0.1
baz=272
T53A Wise 113.64 55 P PKiKP 16 57 23.3 +0.4
baz=272
V54A Nebo 114.16 56 P PKPdf 16 57 23.7 -0.2
baz=272
E50A Wahnapitae 114.17 45 P PKPdf 16 57 23.3 -0.3
baz=278
D50A G1974 Best Tow 114.67 44 P PKPdf 16 57 23.8 -0.7
baz=279
N53A Lisbon 114.72 51 P PKPdf 16 57 24.8 -0.1
baz=275
F51A Arnstein 114.80 45 P PKPdf 16 57 24.3 -0.5
baz=278
O54A Avella 115.12 51 P PKiKP 16 57 25.4 -0.2
baz=275
BLA Blacksburg 115.32 55 P PKPdf 16 57 25.7 -0.4
baz=274
N54A Moraine State 115.35 50 P PKPdf 16 57 25.7 -0.3
baz=276
DAG Danmarks Havn 115.46 1 *i* PKIKP PKiKP 16 57 24.1 -1.1
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 115.46 1 *i* P PKiKP 16 57 24.1 -1.1
comp=Z,3.8nm,0.9s
M54A Oil Creek Stat 115.53 50 P PKPdf 16 57 25.9 -0.5
baz=276
D52A ZEK Kipawa Sen 115.67 44 P PKPdf 16 57 25.6 -0.8
baz=280
L54A Sinclairville 115.71 49 P PKPdf 16 57 26.1 -0.6
baz=277
G53A Haliburton 115.82 46 P PKPdf 16 57 26.4 -0.4
baz=279
O55A Ligonier 115.94 51 P PKPdf 16 57 26.8 -0.4
baz=276
ALGO Algonquin Park 116.08 45 P PKPdf 16 57 26.5 -0.8
baz=280
D53A Lac Vacive, Po 116.13 43 P PKPdf 16 57 26.6 -0.7
baz=280
G54A Lake Saint Pet 116.15 45 P PKPdf 16 57 26.9 -0.5
baz=279
M55A Ridgway 116.21 50 P PKPdf 16 57 27.4 -0.3
baz=277
E53A Dumoine, Ponti 116.28 44 P PKPdf 16 57 27.2 -0.5
baz=280
L55A Hinsdale 116.36 49 P PKPdf 16 57 27.6 -0.4
baz=278
K55A Perry 116.56 48 P PKPdf 16 57 27.6 -0.8
baz=278
E54A Lac Daplat, Po 116.59 44 P PKPdf 16 57 27.3 -0.9
baz=280
N56A West Decatur 116.63 50 P PKPdf 16 57 28.1 -0.4
baz=277
M56A Emporium 116.64 50 P PKPdf 16 57 28.1 -0.4
baz=277
D54A Lac Fusel, La 116.82 43 P PKPdf 16 57 27.6 -1.1
baz=281
H55A Tweed 116.92 46 P PKPdf 16 57 28.2 -0.7
baz=280
L56A Greenwood 117.02 49 P PKPdf 16 57 28.5 -0.7
baz=278
G55A Calabogie 117.13 45 P PKPdf 16 57 28.7 -0.6
baz=280
N57A Milroy 117.21 50 P PKPdf 16 57 29.0 -0.6
baz=277
Q58A Fox Den Farm, 117.32 52 P PKPdf 16 57 29.6 -0.3
baz=276
E55A Montcerf-Lytto 117.36 44 P PKPdf 16 57 29.0 -0.6
baz=281
M57A Sunshine Farm, 117.45 50 P PKPdf 16 57 29.8 -0.3
baz=278
L57A Andrews Acres 117.56 49 P PKPdf 16 57 29.7 -0.6
baz=279
H56A Elgin 117.56 46 P PKPdf 16 57 29.3 -0.8
baz=280
T59A Double "B" Far 117.62 55 P PKPdf 16 57 30.2 -0.2
baz=276
D55A Sainte-Anne-du 117.64 43 P PKPdf 16 57 29.3 -0.9
baz=282
CHGQ Chibougamau 117.68 40 P PKPdf 16 57 29.0 -1.3
baz=285
K57A Scipio Center 117.69 48 P PKPdf 16 57 29.9 -0.6
baz=279
O58A Lewisberry 117.76 51 P PKPdf 16 57 30.2 -0.5
baz=278
N58A Sunbury 117.82 50 P PKPdf 16 57 30.3 -0.4
baz=278
ARCES ARCESS Array B 117.83 346 PKP PKPdf 16 57 29.8 -0.1
comp=Z,17nm,0.6s,baz=69,slow=1.6,SNR=76
ARCES PKKPbc PKKPbc 17 07 50.4 -3.8
comp=Z,4.3nm,0.8s,baz=169,slow=1.2,SNR=6.7
ARCES ARCESS Array B 117.83 346 PKPdf 16 57 29.6 -0.3
SUMG Summit 117.88 8 *i* PKIKP PKPdf 16 57 29.0 -1.5
SUMG pmax pmax
comp=Z,21nm,0.9s
SUMG Summit 117.88 8 *i* P PKPdf 16 57 29.0 -1.5
comp=Z,21nm,0.9s
SUMG Summit 117.88 8 PKPdf 16 57 28.9 -1.6
M58A Price's Panora 117.94 50 P PKPdf 16 57 30.7 -0.3
baz=278
E56A St. Veronique 118.03 44 P PKPdf 16 57 30.2 -0.8
baz=282
I57A Carthage 118.11 47 P PKPdf 16 57 30.7 -0.5
baz=280
BINY Binghamton 118.16 49 P PKPdf 16 57 31.1 -0.3
baz=279
L58A Harry Jones Me 118.29 49 P PKPdf 16 57 31.6 -0.1
baz=279
KLMR Klimovskoe 118.38 334 *e*PKIKP PKPdf 16 57 29.7 -1.5
KLMR *e* 16 58 50.6
KLMR pmax pmax
comp=Z,34nm,1.5s
KLMR Klimovskoe 118.38 334 *e*PKPdf PKPdf 16 57 29.7 -1.5
KLMR AMP 16 57 31.8
comp=Z,34nm,1.5s
KLMR *e*PP PP 16 58 50.7 +0.1
J58A Remsen 118.48 47 P PKPdf 16 57 31.6 -0.3
baz=280
N59A State Game Lan 118.52 50 P PKPdf 16 57 32.1 -0.1
baz=279
LPAZ La Paz 118.58 116 PKP PKPdf 16 57 33.5 -0.3
comp=Z,2.3nm,0.7s,baz=292,slow=1.4,SNR=10
LPAZ PKKPbc PKKPbc 17 07 50.3 -0.5
comp=Z,1.1nm,0.7s,baz=30,slow=2.7,SNR=4.2
LPAZ La Paz 118.58 116 PKPdf 16 57 33.3 -0.4
I58A Old Forge 118.64 47 P PKPdf 16 57 31.7 -0.7
baz=281
M59A Waymart 118.68 49 P PKPdf 16 57 32.4 -0.1
baz=279
D57A Chemin Vers le 118.69 43 P PKPdf 16 57 31.6 -0.7
baz=284
K59A Cooperstown 118.89 48 P PKPdf 16 57 32.4 -0.5
baz=280
J59A Piesco 119.02 47 P PKPdf 16 57 32.6 -0.5
baz=281
N60A Cedar Hill Far 119.03 50 P PKPdf 16 57 32.8 -0.3
baz=279
H58A Gabriels 119.06 46 P PKiKP 16 57 33.3 +0.1
baz=282
E58A La Victoria 119.25 44 P PKPdf 16 57 32.8 -0.6
baz=284
D58A Chemin du LacG 119.34 43 P PKPdf 16 57 32.8 -0.8
baz=284
I59A Olmsteadville 119.40 47 P PKPdf 16 57 33.4 -0.4
baz=282
L60A Shokan 119.49 49 P PKPdf 16 57 33.8 -0.2
baz=280
I60A Shoreham 119.80 46 P PKPdf 16 57 34.4 0.0
baz=282
AKT Akhty 119.87 311 *e*PKIKP PKiKP 16 57 35.8 +0.8
AKT *e* 16 58 31.6
AKT *e* 16 59 00.8
AKT pmax pmax
comp=Z,13nm,0.6s
PAL Palisades 119.90 50 P PKPdf 16 57 34.5 -0.3
baz=280
M61A Granite Spring 119.95 49 P PKPdf 16 57 34.7 -0.1
baz=280
K61A Williamstown 120.06 48 P PKiKP 16 57 35.4 +0.3
baz=282
F60A Warwick 120.24 44 P PKPdf 16 57 34.8 -0.5
baz=284
J61A Chester 120.43 47 P PKiKP 16 57 35.9 +0.1
baz=282
SCHQ Schefferville 120.44 33 PKP PKPdf 16 57 35.3 -0.1
comp=Z,15nm,0.8s,baz=266,slow=2.7,SNR=13
SCHQ Schefferville 120.44 33 PKPdf 16 57 34.8 -0.6
E60A Ste Agathe de 120.48 43 P PKPdf 16 57 35.4 -0.3
baz=285
L61B Northampton 120.53 48 P PKPdf 16 57 35.8 -0.1
baz=282
I61A Oroboro, Fairl 120.55 46 P PKiKP 16 57 36.2 +0.2
baz=283
H61A Lyndonville 120.61 45 P PKPdf 16 57 35.9 -0.1
baz=284
D60A Saint Jean D'O 120.69 42 P PKPdf 16 57 35.2 -0.8
baz=286
F61A St Evariste 120.89 44 P PKiKP 16 57 36.7 +0.1
baz=285
J62A Henniker 120.99 47 P PKiKP 16 57 37.0 +0.1
baz=283
E61A Lac Etchemin 121.10 43 P PKPdf 16 57 37.0 0.0
baz=286
H62A Milan 121.13 45 P PKPdf 16 57 37.2 +0.1
baz=284
VRH Novokhopyorsk 121.27 323 *e*PKIKP PKPdf 16 57 36.3 -0.8
VRH pmax pmax
comp=Z,30nm,0.7s
G62A West of Eustis 121.40 44 P PKPdf 16 57 37.2 -0.3
baz=285
SCO Scoresbysund 121.58 3 *i* PKIKP PKiKP 16 57 37.5 +0.2
SCO Scoresbysund 121.58 3 *i* P PKiKP 16 57 37.5 +0.2
SCO Scoresbysund 121.58 3 PKPdf 16 57 37.2 +0.1
F62A Pittston Farm, 121.60 43 P PKiKP 16 57 38.0 0.0
baz=286
E62A Clayton Lake 121.69 42 P PKPdf 16 57 37.7 -0.4
baz=287
D62A Allapoint, All 121.87 42 P PKPdf 16 57 37.7 -0.6
baz=288
TBLG Delisi 122.02 312 PKIKP PKiKP 16 57 39.2 +0.1
TBLG Delisi 122.02 312 PKiKP 16 57 39.2 +0.1
G63A Kingsbury 122.05 44 P PKPdf 16 57 38.6 -0.2
baz=286
PKME Peaks-Kenny Pk 122.23 44 P PKiKP 16 57 39.3 0.0
baz=286
F63A Nahmakanta, Br 122.23 43 P PKPdf 16 57 39.1 -0.1
baz=287
CPUP Villa Florida 122.32 132 PKP PKPdf 16 57 39.4 -0.5
comp=Z,6.8nm,1.0s,baz=210,slow=1.2,SNR=7.4
LPSR Galich'ya Gora 122.33 325 *e*PKIKP PKPdf 16 57 38.4 -0.7
LPSR pmax pmax
comp=Z,20nm,0.9s
GNI Garni 122.35 310 *c i* PKIKP PKiKP 16 57 40.8 +0.9
GNI pmax pmax
comp=Z,108nm,1.7s
GNI Garni 122.35 310 PKiKP 16 57 40.2 +0.3
ZEI Tsey 122.38 313 *e*PKIKP PKPdf 16 57 39.2 -0.6
ZEI pmax pmax
comp=Z,8.0nm,0.8s
H64A Troy 122.45 45 P PKPdf 16 57 39.4 -0.2
baz=286
OBN Obninsk 122.47 329 ⇓ *i* PKIKP PKiKP 16 57 39.5 +0.1
OBN pmax pmax
comp=Z,19nm,0.7s
E63A Oxbow 122.48 42 P PKPdf 16 57 38.9 -0.7
baz=288
D63A Stockholm 122.49 42 P PKPdf 16 57 38.9 -0.6
baz=288
G64A Maxfield 122.60 44 P PKPdf 16 57 39.8 -0.1
baz=287
F64A Sherman 122.69 43 P PKPdf 16 57 39.6 -0.4
baz=287
VSR Storozhevoye 122.76 324 *e*PKIKP PKPdf 16 57 38.1 -1.8
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 122.78 323 *e*PKIKP PKPdf 16 57 39.5 -0.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 122.85 314 PKP PKiKP 16 57 40.9 +0.4
comp=Z,4.9nm,0.8s,baz=166,slow=2.0,SNR=9.8
E64A Bridgewater 122.87 42 P PKPdf 16 57 39.6 -0.6
baz=288
KIV Kislovodsk 122.94 315 *e*PKIKP PKiKP 16 57 41.9 +1.0
KIV pmax pmax
comp=Z,16nm,1.1s
AKH Akhalkalaki 123.00 312 PKIKP PKiKP 16 57 41.9 +0.7
AKH Akhalkalaki 123.00 312 ⇑P PKiKP 16 57 42.0 +0.7
AKH Akhalkalaki 123.00 312 PKiKP 16 57 41.9 +0.7
H65A Eastbrook 123.10 44 P PKPdf 16 57 40.8 0.0
baz=287
FINES FINESS Array B 123.36 339 PKP PKPdf 16 57 40.7 0.0
comp=Z,20nm,0.9s,baz=56,slow=2.2,SNR=19
FINES PKKPbc PKKPab 17 07 31.5 +0.8
comp=Z,9.0nm,1.1s,baz=174,slow=7.1,SNR=4.2
FINES FINESS Array B 123.36 339 PKPdf 16 57 40.5 -0.2
G65A Princeton 123.42 44 P PKPdf 16 57 41.3 -0.1
baz=288
RAYN Ar Rayn 123.50 290 PKIKP PKPdf 16 57 42.4 +0.1
RAYN Ar Rayn 123.50 290 PKPdf 16 57 42.4 +0.1
BOSA Boshof 125.00 222 PKP PKiKP 16 57 45.4 -0.1
comp=Z,2.5nm,0.9s,baz=27,slow=4.4,SNR=3.4
BOSA Boshof 125.00 222 PKPdf 16 57 45.0 -0.2
NRS Narsarsuaq 125.82 19 PKIKP PKPdf 16 57 44.8 -0.7
NRS Narsarsuaq 125.82 19 PKPdf 16 57 44.8 -0.7
SAML Samuel 125.89 111 PKIKP PKPdf 16 57 46.1 -1.0
SAML Samuel 125.89 111 PKPdf 16 57 46.1 -1.0
NB2 NORSAR Subarra 128.20 345 PKPdf PKPdf 16 57 50.2 +0.1
comp=Z,1.4nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 128.20 345 PKP PKPdf 16 57 50.5 +0.3
comp=Z,6.4nm,0.7s,baz=31,slow=2.0,SNR=14
AKASG Malin Array Be 128.54 327 PKP PKPdf 16 57 50.9 -0.1
comp=Z,4.2nm,0.8s,baz=55,slow=2.6,SNR=16
AKASG Malin Array Be 128.54 327 PKPdf 16 57 50.4 -0.6
AKBB Malin Array Si 128.54 327 PKIKP PKPdf 16 57 50.8 -0.2
AKBB Malin Array Si 128.54 327 PKPdf 16 57 50.8 -0.2
GAZ Gaziantep 128.78 308 PKPdf 16 57 52.0 -0.1
SORM Soroca 130.40 324 ⇑PKIKP PKPdf 16 57 54.2 -0.4
SORM Soroca 130.40 324 ⇑P PKPdf 16 57 54.2 -0.4
BR131 Keskin Array S 130.67 312 PKIKP PKPdf 16 57 55.4 -0.2
BR131 Keskin Array S 130.67 312 PKPdf 16 57 55.4 -0.2
BRTR Keskin Array B 130.67 312 PKP PKPdf 16 57 55.1 -0.5
comp=Z,2.2nm,0.5s,baz=136,slow=4.6,SNR=10
BRTR SKPab SKPab 17 01 01.9 +2.5
comp=Z,4.5nm,1.0s,baz=96,slow=3.7,SNR=11
BRTR Keskin Array B 130.67 312 PKPdf 16 57 55.0 -0.6
ANTO Ankara 131.23 313 ⇑PKIKP PKiKP 16 57 57.5 0.0
ANTO Ankara 131.23 313 ⇑P PKiKP 16 57 57.5 0.0
ANTO Ankara 131.23 313 PKPdf 16 57 56.6 0.0
TLCR 131.63 321 ⇓PKIKP PKiKP 16 57 57.8 -0.3
TLCR 131.63 321 ⇓P PKiKP 16 57 57.8 -0.2
CFR Carcaliu 132.05 321 ⇓PKIKP PKiKP 16 57 58.5 -0.4
CFR Carcaliu 132.05 321 ⇓P PKiKP 16 57 58.5 -0.4
TOPG Topolog 132.05 321 ⇓P PKPdf 16 57 58.0 +0.1
BIZ Bicaz 132.33 324 ⇓P PKiKP 16 57 59.4 -0.1
TLB Topalu 132.40 321 ⇑PKIKP PKiKP 16 57 59.8 +0.1
TLB Topalu 132.40 321 ⇑P PKiKP 16 57 59.8 +0.1
BUR08 Bucovina Ar. S 132.44 325 PKiKP 16 57 59.5 -0.4
BURAR Bucovina Array 132.45 325 ⇓PKIKP PKiKP 16 58 00.4 +0.6
BURAR Bucovina Array 132.45 325 ⇓P PKiKP 16 58 00.4 +0.6
BURAR Bucovina Array 132.45 325 PKiKP 16 57 59.6 -0.2
KOLS Kolonicke sedl 133.23 328 *e*PKIKP PKiKP 16 58 01.6 +0.4
KOLS Kolonicke sedl 133.23 328 *e*PKP PKiKP 16 58 01.6 +0.4
DOPR Dopca 133.28 323 ⇑P PKiKP 16 58 01.4 0.0
TRPA Tarpa 133.59 327 ⇓P PKiKP 16 58 01.5 -0.4
VOIR 133.77 323 ⇓PKIKP PKiKP 16 58 04.0 +1.5
VOIR 133.77 323 ⇓P PKiKP 16 58 04.0 +1.5
ARR Arges 134.05 323 ⇑P PKiKP 16 58 03.4 +0.4
HUMR Humele 134.31 322 ⇑P PKPdf 16 58 02.7 +0.5
DRGR 134.32 326 ⇑PKIKP PKPdf 16 58 02.7 +0.5
DRGR 134.32 326 ⇑P PKPdf 16 58 02.7 +0.5
ELND Elena 134.59 320 ⇓P PKPdf 16 58 02.8 0.0
MORC Moravsky Berou 134.95 332 ⇓PKIKP PKiKP 16 58 05.3 +0.6
MORC Moravsky Berou 134.95 332 ⇓P PKiKP 16 58 05.3 +0.6
MORC Moravsky Berou 134.95 332 *e*PKP PKPdf 16 58 03.9 +0.7
MORC Moravsky Berou 134.95 332 PKiKP 16 58 04.0 -0.7
CHVC Chvalec 135.02 334 *e*PKPDF PKiKP 16 58 04.7 -0.1
DPC Dobruska-Polom 135.08 334 *e*PKIKP PKiKP 16 58 04.4 -0.6
DPC Dobruska-Polom 135.08 334 *e*PKPDF PKiKP 16 58 04.4 -0.6
PSZ Piszkesteto 135.09 329 ⇓PKIKP PKiKP 16 58 05.0 -0.2
PSZ Piszkesteto 135.09 329 ⇓P PKiKP 16 58 05.0 -0.2
PSZ Piszkesteto 135.09 329 PKPdf 16 58 03.9 +0.3
UPC Upice 135.10 334 *e*PKIKP PKiKP 16 58 05.4 +0.4
UPC Upice 135.10 334 *e*PKPDF PKiKP 16 58 05.4 +0.4
GZR Gura Zlata 135.11 324 ⇑PKIKP PKPdf 16 58 03.9 +0.2
GZR Gura Zlata 135.11 324 ⇑P PKPdf 16 58 03.9 +0.2
PLVB Pleven 135.14 321 ⇑P PKiKP 16 58 04.6 -0.6
VYHS Vyhne 135.23 330 *e*PKIKP PKPdf 16 58 04.5 +0.7
VYHS Vyhne 135.23 330 *e*PKP PKPdf 16 58 04.5 +0.7
JAVC Velka Javorina 135.54 331 *e*PKP PKiKP 16 58 05.9 -0.1
HERR Herculane 135.62 324 ⇑P PKPdf 16 58 04.6 +0.1
BZS Buzias 135.63 325 ⇑PKIKP PKiKP 16 58 05.4 -0.8
BZS Buzias 135.63 325 ⇑P PKiKP 16 58 05.4 -0.8
BRG Berggiesshubel 135.68 336 *i* PKP PKiKP 16 58 05.7 -0.4
comp=Z,26nm,1.6s
BRG Berggiesshubel 135.68 336 *i* PKIKP PKiKP 16 58 05.7 -0.4
BRG pmax pmax
comp=Z,26nm,1.6s
CLL Collm 135.71 337 *i* PKIKP PKiKP 16 58 05.5 -0.7
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 135.71 337 *i* PKPdf PKiKP 16 58 05.5 -0.7
comp=Z,15nm,0.9s
CLL Collm 135.71 337 PKPdf 16 58 05.0 +0.5
VRAC Vranov 135.72 332 ⇓PKIKP PKiKP 16 58 06.5 +0.2
VRAC Vranov 135.72 332 ⇓P PKiKP 16 58 06.5 +0.2
VRAC Vranov 135.72 332 *e*PKP PKPdf 16 58 05.2 +0.6
KRUC Moravsky 135.99 332 *e*PKP PKPdf 16 58 05.4 +0.3
GOPC GO Pecny, Ondr 136.06 334 *e*PKIKP PKiKP 16 58 07.1 +0.1
GOPC GO Pecny, Ondr 136.06 334 *e*PKPDF PKiKP 16 58 07.1 +0.1
MODS Modra-Piesok 136.07 331 *e*PKIKP PKPdf 16 58 05.0 -0.3
MODS Modra-Piesok 136.07 331 *e*PKP PKPdf 16 58 05.0 -0.3
MDVR Moldovita 136.08 324 ⇑P PKPdf 16 58 03.8 -1.7
PRU Pruhonice 136.11 334 *e*PKIKP PKiKP 16 58 07.1 +0.1
PRU Pruhonice 136.11 334 *e*PKPDF PKiKP 16 58 07.1 +0.1
VTS Vitosha 136.41 321 ⇓PKIKP PKPdf 16 58 07.0 +0.7
VTS Vitosha 136.41 321 ⇓P PKPdf 16 58 07.0 +0.7
VTS Vitosha 136.41 321 PKPdf 16 58 05.9 -0.4
CONA Conrad Observa 137.05 331 *i* PKiKP PKPdf 16 58 07.1 -0.1
comp=Z,2.5nm,0.5s
KHC Kasperske Hory 137.17 334 *e*PKIKP PKPdf 16 58 07.6 +0.2
KHC Kasperske Hory 137.17 334 *e*PKPDF PKPdf 16 58 07.6 +0.2
KHC Kasperske Hory 137.17 334 PKPdf 16 58 06.9 -0.4
GEC2 GERESS Array S 137.34 334 PKPdf 16 58 08.6 +0.8
GERES GERESS Array B 137.34 334 PKP PKPdf 16 58 08.3 +0.5
comp=Z,3.6nm,0.7s,baz=86,slow=2.0,SNR=14
GERES GERESS Array B 137.34 334 PKPpre PKPpre 16 57 57.7
GERES PKPdf 16 58 07.8 0.0
MOA Molln 137.84 333 *i* PKPdf PKPdf 16 58 08.2 -0.4
comp=Z,2.4nm,0.5s
FNA Florina 138.57 320 PKHKP PKPpre 16 58 01.1
FNA 16 58 09.9
FNA Florina 138.57 320 PKPpre 16 58 01.1
FNA PKPdf PKPdf 16 58 09.9 -0.3
BLY Banja Luka 138.60 327 ⇑P PKiKP 16 58 12.1 -0.2
MEM Membach 138.73 342 PKiKP PKPdf 16 58 10.8 +0.6
KBA Koelnbreinsper 138.83 333 *i* PKPdf PKPdf 16 58 08.0 -2.7
comp=Z,7.9nm,0.7s
BSTI Sart Tilman 138.89 342 PKiKP PKiKP 16 58 12.6 -0.1
PDG Podgorica 138.92 323 ⇑P PKPdf 16 58 10.2 -0.5
PDG Podgorica 138.92 323 PKPdf 16 58 10.7 0.0
WATA Walderalm 139.41 334 *i* PKiKP PKPdf 16 58 12.5 +0.8
comp=Z,6.3nm,0.6s
WTTA Wattenberg 139.44 334 *i* PKPdf PKPdf 16 58 09.2 -2.5
comp=Z,14nm,0.8s
WLF Walferdange 139.51 341 PKHKP PKPpre 16 58 04.3
WLF 16 58 11.9
WLF Walferdange 139.51 341 PKiKP PKiKP 16 58 13.4 -0.6
WLF Walferdange 139.51 341 PKPpre PKPpre 16 58 04.3
WLF PKPdf 16 58 11.9 +0.3
MOTA Moosalm 139.60 335 *i* PKPdf PKPdf 16 58 10.3 -1.8
comp=Z,7.5nm,0.9s
DOU Dourbes 139.61 342 PKPdf PKPdf 16 58 10.2 -1.6
DOU PKiKP PKiKP 16 58 12.7 -1.4
SQTA Sankt Quirin 139.66 334 *i* PKPdf PKPdf 16 58 10.1 -2.0
comp=Z,7.9nm,0.7s
STAL STALIGIAL 139.73 332 PKPpre PKPpre 16 58 03.2
STAL PKPdf 16 58 11.8 -0.4
BFO Black Forest 139.90 338 *i* PKIKP PKPdf 16 58 13.2 +0.8
FETA Feichten 140.01 335 *i* PKiKP PKPdf 16 58 13.9 +1.1
comp=Z,1.5nm,0.5s
ITM Ithomi 140.08 314 PKPpre 16 58 05.4
ITM PKPdf PKPdf 16 58 13.2 +0.2
DAVA Damuels 140.15 336 *i* PKPdf PKPdf 16 58 10.3 -2.7
comp=Z,1.8nm,0.3s
TUE Stuetta 141.03 335 PKPpre 16 58 07.8
MATE Matera 141.52 323 ⇑P PKPdf 16 58 16.2 +0.7
SENIN Lac Senin/Sane 141.92 337 PKPpre 16 58 10.8
ZCCA Zocca 141.98 332 PKPpre 16 58 10.9
ZCCA PKPdf PKPdf 16 58 15.9 -0.3
CLF Chambon-Foret 142.15 343 PKPdf 16 58 16.5 +0.2
TIP Timpagrande 142.40 321 ⇑P PKPdf 16 58 14.7 -2.5
BNI Bardonecchia 143.26 336 PKIKP PKPbc 16 58 16.0 -0.3
BNI Bardonecchia 143.26 336 PKPbc 16 58 16.0 -0.3
SSB Saint Sauveur 143.86 339 PKIKP PKPbc 16 58 18.6 +0.7
SSB Saint Sauveur 143.86 339 PKPbc 16 58 18.6 +0.7
RAFF Raffo Rosso 145.08 320 PKPab 16 58 22.6 +0.6
KEST Kesra 149.12 323 PKP PKPdf 16 58 29.1 +0.4
comp=Z,21nm,0.9s,baz=56,slow=3.6,SNR=2.9
KEST PKPbc PKiKP 16 58 34.0 -0.3
comp=Z,56nm,0.9s,baz=350,slow=0.4,SNR=34
KEST Kesra 149.12 323 PKPbc 16 58 33.5 +0.4
CMAH Djebel Manchou 149.57 326 P PKPdf 16 58 29.4 0.0
ABSA Djebel Ababsia 149.80 326 P PKPbc 16 58 35.0 +0.2
PBRG Braganca 150.09 351 *e*PKPbc PKPbc 16 58 35.6 +0.3
PBRG Braganca 150.09 351 *e*PKPab PKPab 16 58 42.7 +0.9
CKFL Kef-Lekhel 150.12 327 P PKPbc 16 58 36.0 +0.4
CASM Ain Smara 150.34 327 P PKiKP 16 58 37.1 +0.3
DFRA Djebel Bou Aff 150.45 328 P PKPdf 16 58 32.4 +1.5
PVRL Vila Real 150.75 352 *e*PKPbc PKiKP 16 58 37.6 +0.2
PVRL Vila Real 150.75 352 *e*PKPab PKPab 16 58 46.0 +1.4
MVO Moncorvo 150.76 351 *e*PKPdf PKPdf 16 58 31.9 +0.8
MVO Moncorvo 150.76 351 *e*PKPbc PKiKP 16 58 37.6 +0.1
SET Setif 150.96 328 P PKiKP 16 58 38.0 -0.1
RCBR Riachuelo 151.01 127 PKIKP PKPbc 16 58 37.3 -0.9
RCBR Riachuelo 151.01 127 PKPbc 16 58 37.3 -0.9
PVIS Viseu 151.32 352 *e*PKPbc PKiKP 16 58 38.6 0.0
ESBB Sonseca Array 151.56 345 PKPdf PKPdf 16 58 30.9 -1.5
ESBB PKPbc 16 58 38.9 +0.1
ESBB PKPab 16 58 48.5 +0.5
ESDC Sonseca Array 151.57 345 PKP PKPdf 16 58 32.9 +0.5
comp=Z,2.0nm,0.8s,baz=13,slow=3.1,SNR=8.2
ESDC PKPbc PKiKP 16 58 39.4 +0.2
comp=Z,16nm,0.8s,baz=15,slow=2.6,SNR=50
ESDC PKPab PKPab 16 58 49.0 +1.0
comp=Z,15nm,0.6s,baz=12,slow=4.5,SNR=9.2
ESDC Sonseca Array 151.57 345 PKPdf 16 58 32.2 -0.2
ESDC **PKPbc 16 58 38.9 +0.1**
ESDC **PKPab 16 58 48.8 +0.8**
MTE Manteigas 151.59 351 *e*PKPdf PKPdf 16 58 33.5 +1.1
MTE Manteigas 151.59 351 PKPdf 16 58 33.1 +0.6
MTE PKPbc PKiKP 16 58 39.5 +0.3
PAB San Pablo 151.78 346 PKIKP PKPdf 16 58 33.0 +0.2
PAB 16 58 49.4
PAB San Pablo 151.78 346 PKPdf 16 58 33.0 +0.2
PAB PKPbc PKiKP 16 58 39.6 0.0
PAB PKPab 16 58 49.4 +0.5
COI Coimbra 151.89 352 *e*PKPbc PKiKP 16 58 40.0 +0.3
COI Coimbra 151.89 352 PKIKP PKPbc 16 58 39.3 -0.1
COI Coimbra 151.89 352 PKPbc 16 58 39.2 -0.1
COI PKPab PKPab 16 58 50.7 +1.4
PCAS Casmilo, Conde 152.06 353 *e*PKPbc PKiKP 16 58 40.2 +0.1
PCAS Casmilo, Conde 152.06 353 *e*PKPab PKPab 16 58 51.5 +1.5
PCBR Castelo Branco 152.12 351 *e*PKPdf PKPdf 16 58 34.2 +1.1
PCBR Castelo Branco 152.12 351 *e*PKPbc PKiKP 16 58 40.4 +0.2
PCBR Castelo Branco 152.12 351 *e*PKPab PKPab 16 58 51.5 +1.3
PTOM Tomar 152.47 352 *e*PKPbc PKiKP 16 58 41.4 +0.4
PTOM Tomar 152.47 352 *e*PKPab PKPab 16 58 53.3 +1.6
PMRV Marv??o 152.51 350 *e*PKPdf PKPdf 16 58 34.6 +0.8
PMRV Marv??o 152.51 350 *e*PKPbc PKiKP 16 58 41.4 +0.3
PMTG Montargil 152.99 352 *e*PKPbc PKiKP 16 58 42.1 +0.1
PMTG Montargil 152.99 352 *e*PKPab PKPab 16 58 56.2 +2.3
PESTR Estremoz 153.09 351 *e*PKPbc PKiKP 16 58 42.3 0.0
PESTR Estremoz 153.09 351 *e*PKPab PKPab 16 58 55.3 +0.9
PESTR Estremoz 153.09 351 PKPdf PKPdf 16 58 34.7 +0.1
PESTR PKPbc PKPbc 16 58 41.7 -0.5
PESTR **PKPab 16 58 55.0 +0.6**
PMAFR Mafra 153.23 353 *e*PKPbc PKiKP 16 58 43.6 +1.0

PMAFR	Mafra	153.23	353	ePKPab	PKPab	16 58 56.2	+1.2
PNCL	Nicolau / Gran	153.97	352	ePKPdf	PKPdf	16 58 36.6	+0.7
PNCL	Nicolau / Gran	153.97	352	ePKPbc	PKiK	16 58 44.7	+0.6
PNCL	Nicolau / Gran	153.97	352	ePKPab	PKPab	16 59 00.7	+2.6
MESJ	Messejana	154.19	351	ePKPbc	PKiK	16 58 45.3	+0.7
MESJ	Messejana	154.19	351	ePKPab	PKPab	16 59 00.7	+1.6
PCVE	Castro Verde	154.37	351	ePKPbc	PKiK	16 58 45.6	+0.7
PCVE	Castro Verde	154.37	351	ePKPab	PKPab	16 59 01.4	+1.6
PVAQ	Vaqueiros	154.54	350	ePKPbc	PKiK	16 58 46.6	+1.3
PVAQ	Vaqueiros	154.54	350	ePKPab	PKPab	16 59 02.2	+1.6
MORF	Marmelete	154.78	352	ePKPab	PKPab	16 59 03.3	+1.6
PFVI	Vila Bisbo	154.97	352	ePKPbc	PKiK	16 58 47.9	+1.7
PFVI	Vila Bisbo	154.97	352	ePKPab	PKPab	16 59 04.2	+1.8
TOA0	Torodi Ar. Sit	165.59	275		PKPdf	16 58 49.3	-0.2
TOA0					PKPab	16 59 48.6	-1.0
TORD	Torodi Ar. Bea	165.59	275	PKP	PKPdf	16 58 49.5	-0.1
	comp=Z,5.4nm,1.1s,baz=5.3,slow=0.5,SNR=15						
TORD				PKPab	PKPab	16 59 49.6	0.0
	comp=Z,11nm,0.9s,baz=91,slow=3.2,SNR=27						
TORD	Torodi Ar. Bea	165.59	275		PKPdf	16 58 48.7	-0.9
TORD					PKPab	16 59 49.2	-0.3
DBIC	Dimbokro	170.18	236	PKPab	PKPab	17 00 09.4	-0.4
	comp=Z,2.4nm,0.6s,baz=96,slow=5.1,SNR=4.3						

ISK 28 16:55:44.9, 38°.68N×30°.91E, h8km, ML2.0/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.31	246	PG	Pg	16 55 51.7	+0.6
SHUT				SG	Sg	16 55 56.4	+1.2
CIFT	Cifteler, Eski	0.69	10	PG	Pg	16 55 58.6	+0.4
CIFT				SG	Sb	16 56 08.6	-0.4
KIZT	Kizilcal	0.78	75	PG	Pg	16 56 00.2	+0.2
SVRH	Sivrihisar-ESK	0.90	32	PG	Pb	16 56 02.9	0.0
AUSIV	SIVRIHISAR	0.90	33	PG	Pb	16 56 02.9	0.0
BASM	Basmaki-Afyon	1.02	222	PG	Pg	16 56 04.4	-0.1
LADK	Ladik-KONYA	1.24	112	PN	Pg	16 56 09.0	+0.3
BORA	Eskisehir	1.25	344	PN	Pb	16 56 08.8	0.0
AUMIH	MIHALICIK	1.27	20	PN	Pg	16 56 10.1	+0.9
KONT	Konya--Tatoy	1.36	122	PN	Pb	16 56 10.5	-0.1
TVSB	Tavsanli	1.36	305	PN	Pn	16 56 10.4	0.0
SRCK	Saricakaya, Es	1.38	351	PN	Pb	16 56 11.1	+0.2

*ISCJB **28** 17:04:20.9±0.4, 45°.54N±0°.02×26°.41E±0°.02, h129km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=171.2*
*BUC **28** 17:04:22.1±0.3, 45°.55N×26°.44E, h121km±2km, ml3.9/44, Error ellipse: s-maj=1.9km s-min=1.7km az=0.0*
*BEO **28** 17:04:24.8±0.8, 45°.42N×25°.75E, h0km, ML3.0/10*

ISC 28 17:04:20.0±1.2, 45°.55N±0°.02×26°.38E±0°.02, h140km±5km, n121, σ1§30/213, 100C-56D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.31	260	⇑P	Pn	17 04 39.8	+0.4
MLR				⇑S	Sn	17 04 53.2	-1.0
MLR	Muntele Rosu	0.31	260	⇑P	Pn	17 04 39.8	+0.4
MLR				⇑S	Sn	17 04 53.2	-1.0
MLR				AML	AML	17 04 54.8	
VRI	Vrincioaia	0.40	37	⇑P	Pn	17 04 40.1	+0.4
VRI				⇓S	Sn	17 04 53.0	-1.7
VRI	Vrincioaia	0.40	37	⇑P	Pn	17 04 40.1	+0.4
VRI				⇓S	Sn	17 04 53.0	-1.7
VRI				AML	AML	17 04 54.5	
ISR	Istrita	0.45	165	P	Pn	17 04 40.7	+0.8
ISR				⇑S	Sn	17 04 55.2	+0.2
ISR	Istrita	0.45	165	P	Pn	17 04 40.7	+0.8
ISR				⇓S	Sn	17 04 55.2	+0.2
ISR				AML	AML	17 04 55.9	
ODBI	Odobesti	0.52	65	⇑P	Pn	17 04 41.5	+1.3
ODBI				⇑S	Sn	17 04 54.8	-0.8
ODBI	Odobesti	0.52	65	⇑P	Pn	17 04 41.5	+1.3
ODBI				⇑S	Sn	17 04 54.8	-0.8
ODBI				AML	AML	17 04 56.7	
SECR		0.56	203	⇑P	Pn	17 04 41.5	+1.0
SECR				⇓S	Sn	17 04 55.2	-0.8
SECR		0.56	203	⇑P	Pn	17 04 41.5	+1.0
SECR				⇑S	Sn	17 04 55.2	-0.8
PETR	Petresti	0.62	73	⇓P	Pn	17 04 41.8	+1.0
PETR				⇑S	Sn	17 04 56.1	-0.5
PETR	Petresti	0.62	73	⇓P	Pn	17 04 41.8	+1.0
PETR				⇑S	Sn	17 04 56.1	-0.5
PETR				AML	AML	17 04 56.8	
PLAR	PLOIESTI	0.68	202	⇑P	Pn	17 04 42.3	+1.1
PLAR				⇑S	Sn	17 04 57.9	+0.6
PLAR	PLOIESTI	0.68	202	⇑P	Pn	17 04 42.3	+1.1
PLAR				⇑S	Sn	17 04 57.9	+0.6
PLAR				AML	AML	17 04 58.3	
OZUR		0.69	323	P	Pn	17 04 41.5	+0.2
OZUR				⇓S	Sn	17 04 55.7	-1.9
OZUR		0.69	323	P	Pn	17 04 41.5	+0.2
OZUR				⇓S	Sn	17 04 55.7	-1.9
OZUR				AML	AML	17 04 56.1	
PGOR	Pogoanele	0.77	146	P	Pn	17 04 42.4	+0.6
PGOR				⇑S	Sn	17 04 58.7	+0.3
PGOR	Pogoanele	0.77	146	P	Pn	17 04 42.4	+0.6
PGOR				⇑S	Sn	17 04 58.7	+0.3
PGOR				AML	AML	17 04 59.0	
DOPR	Dopca	0.81	302	⇑P	Pn	17 04 42.5	+0.4
DOPR				⇓S	Sn	17 04 57.7	-1.4
DOPR	Dopca	0.81	302	⇑P	Pn	17 04 42.5	+0.4
DOPR				⇓S	Sn	17 04 57.7	-1.4
DOPR				AML	AML	17 04 58.1	
SULR		0.87	186	⇑P	Pn	17 04 43.7	+1.1
SULR				⇑S	Sn	17 05 00.0	+0.2
SULR		0.87	186	⇑P	Pn	17 04 43.7	+1.1
SULR				⇑S	Sn	17 05 00.0	+0.2
SULR				⇓AML	AML	17 05 00.0	
SULR				AML	AML	17 05 00.5	
TUDR		0.91	87	⇓P	Pn	17 04 43.2	+0.3
TUDR				⇓S	Sn	17 04 58.9	-1.4
TUDR		0.91	87	⇓P	Pn	17 04 43.2	+0.3
TUDR				⇓S	Sn	17 04 58.9	-1.4
TUDR				AML	AML	17 04 59.2	
VOIR		0.94	264	⇑P	Pn	17 04 45.2	+1.8
VOIR				⇑S	Sn	17 05 00.6	-0.4
VOIR		0.94	264	⇑P	Pn	17 04 45.2	+1.8
VOIR				⇑S	Sn	17 05 00.6	-0.4
VOIR				AML	AML	17 05 01.2	
IZVR	Izvoarele	0.97	90	⇓P	Pn	17 04 43.6	+0.2
IZVR				⇓S	Sn	17 04 59.4	-1.9
IZVR	Izvoarele	0.97	90	⇓P	Pn	17 04 43.6	+0.2
IZVR				⇓S	Sn	17 04 59.4	-1.9
IZVR				AML	AML	17 04 59.9	
SLCR	Slobozia Conac	0.98	87	⇓P	Pn	17 04 43.8	+0.3
SLCR				⇑S	Sn	17 04 59.5	-1.9
SLCR	Slobozia Conac	0.98	87	⇓P	Pn	17 04 43.8	+0.3
SLCR				⇑S	Sn	17 04 59.5	-1.9
SLCR				AML	AML	17 05 01.6	
TESR	Tescani	0.98	11	⇑P	Pn	17 04 44.1	+0.5
TESR				⇓S	Sn	17 04 59.7	-1.9
TESR	Tescani	0.98	11	⇑P	Pn	17 04 44.1	+0.5
TESR				⇓S	Sn	17 04 59.7	-1.9
TESR				AML	AML	17 05 00.7	
BRAG	Branistea	1.03	95	⇑P	Pn	17 04 44.2	+0.3
BRAG				⇑S	Sn	17 05 00.1	-2.1
BRAG	Branistea	1.03	95	⇑P	Pn	17 04 44.2	+0.3
BRAG				⇑S	Sn	17 05 00.1	-2.1
BRAG				AML	AML	17 05 02.9	
NEGR	Negresti	1.04	90	⇓P	Pn	17 04 44.7	+0.6
NEGR				⇑S	Sn	17 05 01.0	-1.5
NEGR	Negresti	1.04	90	⇓P	Pn	17 04 44.7	+0.6
NEGR				⇑S	Sn	17 05 01.0	-1.5
NEGR				AML	AML	17 05 03.0	
LEHL	Lehliu	1.12	164	P	Pn	17 04 46.1	+1.3
LEHL				⇑S	Sn	17 05 04.0	+0.3
LEHL	Lehliu	1.12	164	P	Pn	17 04 46.1	+1.3
LEHL				⇑S	Sn	17 05 04.0	+0.3
LEHL				AML	AML	17 05 04.8	
LEHL				AML	AML	17 05 04.9	
BIR	Birlad	1.13	50	⇑P	Pn	17 04 45.9	+1.0
BIR				⇓S	Sn	17 05 02.7	-1.2
BIR	Birlad	1.13	50	⇑P	Pn	17 04 45.9	+1.0
BIR				⇓S	Sn	17 05 02.7	-1.2
BIR				AML	AML	17 05 03.5	
GISR	Galati	1.18	95	P	Pn	17 04 46.0	+0.6
GISR				⇑S	Sn	17 05 04.2	-0.6
GISR	Galati	1.18	95	P	Pn	17 04 46.0	+0.6
GISR				⇑S	Sn	17 05 04.2	-0.6
BUC1	Bucharest	1.23	192	⇑S	Sn	17 05 05.2	-0.3
BUC1	Bucharest	1.23	192	⇑S	Sn	17 05 05.2	-0.3
BUC1				AML	AML	17 05 05.8	
ARR	Arges	1.24	262	P	Pn	17 04 47.2	+1.1
ARR				⇑S	Sn	17 05 05.5	-0.5
ARR	Arges	1.24	262	P	Pn	17 04 47.2	+1.1
ARR				⇑S	Sn	17 05 05.5	-0.5
ARR				AML	AML	17 05 07.3	
GIUM	Giurgiulesti	1.29	92	⇑P	Pn	17 04 47.6	+1.1
GIUM				⇓S	Sn	17 05 05.7	-0.9
GIUM	Giurgiulesti	1.29	92	⇑P	Pn	17 04 47.6	+1.1
GIUM				⇑S	Sn	17 05 05.7	-0.9
CFR	Carcaliu	1.29	106	⇑P	Pn	17 04 47.1	+0.6
CFR				⇑S	Sn	17 05 04.8	-2.0
CFR	Carcaliu	1.29	106	⇑P	Pn	17 04 47.1	+0.6
CFR				⇑S	Sn	17 05 04.8	-2.0
CFR				AML	AML	17 05 06.6	
SGRR	Singureni	1.36	192	P	Pn	17 04 48.3	+1.1
SGRR				⇑S	Sn	17 05 07.1	-0.8
SGRR	Singureni	1.36	192	P	Pn	17 04 48.3	+1.1
SGRR				⇑S	Sn	17 05 07.1	-0.8
SGRR				AML	AML	17 05 07.5	
HARR	Harsova	1.39	127	⇓P	Pn	17 04 48.5	+0.9
HARR	Harsova	1.39	127	⇓P	Pn	17 04 48.5	+0.9
BIZ	Bicaz	1.41	352	⇓P	Pn	17 04 49.5	+1.8
BIZ				⇓S	Sn	17 05 09.3	+0.3
BIZ	Bicaz	1.41	352	⇓P	Pn	17 04 49.5	+1.8
BIZ				⇓S	Sn	17 05 09.7	+0.8
HUMR	Humele	1.42	225	⇑P	Pn	17 04 48.8	+0.9
HUMR				⇑S	Sn	17 05 08.7	-0.5
HUMR	Humele	1.42	225	⇑P	Pn	17 04 48.8	+0.9
HUMR				⇑S	Sn	17 05 08.7	-0.5
HUMR				AML	AML	17 05 09.7	
TLB	Topalu	1.52	129	⇓P	Pn	17 04 49.9	+1.0
TLB				⇓S	Sn	17 05 09.5	-1.5
TLB	Topalu	1.52	129	⇓P	Pn	17 04 49.9	+1.0
TLB				⇓S	Sn	17 05 09.5	-1.5
TLB				AML	AML	17 05 11.1	
TOPG	Topolog	1.56	115	P	Pn	17 04 50.1	+0.7
TOPG				⇑S	Sn	17 05 10.3	-1.6
TOPG	Topolog	1.56	115	P	Pn	17 04 50.1	+0.7
TOPG				⇑S	Sn	17 05 10.3	-1.6
TOPG				AML	AML	17 05 11.4	
COPA	Copaceanca	1.64	211	⇑P	Pn	17 04 51.2	+1.0
COPA				⇑S	Sn	17 05 12.9	-0.5
COPA	Copaceanca	1.64	211	⇑P	Pn	17 04 51.2	+1.0
COPA				⇑S	Sn	17 05 12.9	-0.5
COPA				AML	AML	17 05 13.2	
CVDA	Cernavoda	1.69	135	P	Pn	17 04 51.7	+0.8
CVDA				⇑S	Sn	17 05 13.3	-1.1
CVDA	Cernavoda	1.69	135	P	Pn	17 04 51.7	+0.8
CVDA				⇑S	Sn	17 05 13.3	-1.1
ICOR	Ion Corvin	1.75	144	P	Pn	17 04 52.8	+1.3
ICOR				⇓S	Sn	17 05 15.2	-0.5
ICOR	Ion Corvin	1.75	144	P	Pn	17 04 52.8	+1.3
ICOR				⇓S	Sn	17 05 15.2	-0.5
ICOR				AML	AML	17 05 18.0	
TLCR		1.75	101	P	Pn	17 04 52.7	+1.2
TLCR				⇓S	Sn	17 05 15.0	-0.7
TLCR		1.75	101	P	Pn	17 04 52.7	+1.2
TLCR				⇓S	Sn	17 05 15.0	-0.7
TLCR				AML	AML	17 05 18.4	
TIRR	Tirgusor	1.81	126	⇓P	Pn	17 04 53.3	+1.1
TIRR				⇓S	Sn	17 05 15.4	-1.4
TIRR	Tirgusor	1.81	126	⇓P	Pn	17 04 53.3	+1.1
TIRR				⇓S	Sn	17 05 15.4	-1.4
TIRR				AML	AML	17 05 16.7	
IAS	Iasi	1.84	26	⇑P	Pn	17 04 53.5	+1.0
IAS				⇑S	Sn	17 05 16.1	-1.4
IAS	Iasi	1.84	26	⇑P	Pn	17 04 53.5	+1.0
IAS				⇑S	Sn	17 05 16.1	-1.4
IAS				AML	AML	17 05 16.6	
LOT	Lotru	1.84	268	P	Pn	17 04 54.2	+1.5
LOT				⇓S	Sn	17 05 17.3	-0.4
LOT	Lotru	1.84	268	P	Pn	17 04 54.2	+1.5
LOT				⇑S	Sn	17 05 18.4	+0.7
LOT				AML	AML	17 05 20.9	
JURR	Jurilovca	1.93	113	P	Pn	17 04 55.0	+1.3
JURR	Jurilovca	1.93	113	P	Pn	17 04 55.0	+1.3
RAZG	Razgrad	1.98	177	⇓S	Sn	17 05 20.6	0.0
RAZG	Razgrad	1.98	177	⇓S	Sn	17 05 20.6	0.0
RAZG				AML	AML	17 05 21.4	
MFTR	Murfatlar	2.00	133	⇑P	Pn	17 04 55.7	+1.3
MFTR				⇑S	Sn	17 05 19.8	-1.0
MFTR	Murfatlar	2.00	133	⇑P	Pn	17 04 55.7	+1.3
MFTR				⇑S	Sn	17 05 19.8	-1.0
MFTR				AML	AML	17 05 20.5	
ZIMR		2.02	201	⇓S	Sn	17 05 22.7	+1.4
ZIMR		2.02	201	⇓S	Sn	17 05 22.7	+1.4
ZIMR				AML	AML	17 05 23.2	
VLAD	Vladila	2.09	223	⇑S	Sn	17 05 21.9	-1.0
TSCT	Constanta Port	2.13	130	⇑P	Pn	17 04 57.3	+1.3
TSCT				⇓S	Sn	17 05 22.8	-0.9
TSCT	Constanta Port	2.13	130	⇑P	Pn	17 04 57.3	+1.3
TSCT				⇓S	Sn	17 05 22.8	-0.9
TSCT				AML	AML	17 05 23.3	
EFOR	EFORIE	2.17	132	⇑S	Sn	17 05 24.5	-0.1
EFOR	EFORIE	2.17	132	⇑S	Sn	17 05 24.5	-0.1
EFOR				AML	AML	17 05 26.3	
MILM	Milestii Mici	2.17	50	⇓P	Pn	17 04 57.7	+1.2
MILM				⇑S	Sn	17 05 23.6	-1.0
MILM	Milestii Mici	2.17	50	⇓P	Pn	17 04 57.7	+1.2
MILM				⇑S	Sn	17 05 23.6	-1.0
MILM				AML	AML	17 05 24.0	
MILM				AML	AML	17 05 24.2	
BURAR	Bucovina Array	2.22	339	P	Pn	17 04 58.8	+1.6
BURAR				⇑S	Sn	17 05 28.0	+2.2
BURAR	Bucovina Array	2.22	339	P	Pn	17 04 58.8	+1.6
BURAR				⇑S	Sn	17 05 28.0	+2.2
KIS	Kishinev	2.23	49	P	Pn	17 04 58.2	+1.0
KIS				⇓S	Sn	17 05 25.3	-0.5
KIS	Kishinev	2.23	49	P	Pn	17 04 58.2	+1.0
KIS				⇓S	Sn	17 05 25.3	-0.5
MANR	Mangalia	2.34	137	⇑S	Sn	17 05 27.5	-0.7
MANR	Mangalia	2.34	137	⇑S	Sn	17 05 27.5	-0.7
MANR				AML	AML	17 05 28.8	
SRE	Strehaia	2.42	250	⇑P	Pn	17 05 00.8	+1.3
SRE	Strehaia	2.42	250	⇑P	Pn	17 05 00.8	+1.3
SRE				AML	AML	17 05 30.6	
PLVB	Pleven	2.50	211	P	Pn	17 05 02.0	+1.4
PLVB	Pleven	2.50	211	P	Pn	17 05 02.0	+1.4
PLVB				AML	AML	17 05 30.7	
GZR	Gura Zlata	2.54	268	P	Pn	17 05 03.0	+1.9
GZR				⇑S	Sn	17 05 33.6	+0.8
GZR	Gura Zlata	2.54	268	P	Pn	17 05 03.0	+1.9
GZR				⇑S	Sn	17 05 33.6	+0.8
GZR				AML	AML	17 05 35.4	
HERR	Herculane	2.88	258	P	Pn	17 05 06.2	+0.9
HERR	Herculane	2.88	258	P	Pn	17 05 06.2	+0.9
HERR				AML	AML	17 05 40.3	
SORM	Soroca	2.92	27	⇑P	Pn	17 05 06.6	+0.8
SORM	Soroca	2.92	27	⇑P	Pn	17 05 06.6	+0.8
BZS	Buzias	3.34	273	ePn	Pn	17 05 12.5	+1.2
MDVR	Moldovita	3.39	259	P	Pn	17 05 13.0	+1.1
MDVR	Moldovita	3.39	259	P	Pn	17 05 13.0	+1.1
MDVR				AML	AML	17 05 52.7	
ZAGS	Zajecar	3.43	241	ePn	Pn	17 05 12.3	-0.1
ZAGS				eSn	Sn	17 05 49.5	-3.5
ZAPS	Zavoj	3.52	231	ePn	Pn	17 05 15.3	+1.7
ZAPS				eSn	Sn	17 05 52.9	-2.3
KUBS	Kucevo	3.53	253	ePn	Pn	17 05 13.5	-0.2
KUBS				eSn	Sn	17 05 52.3	-3.0
BOVS	Bovan	3.85	242	ePn	Pn	17 05 19.2	+1.3
BOVS				eSn	Sn	17 05 59.9	-2.9
BARS	Barje	4.27	232	ePn	Pn	17 05 13.7	-10
BARS	Barje	4.27	232	ePn	Pn	17 05 24.9	+1.4
BARS				eSn	Sn	17 05 48.4	-24
GRUS	Gruza	4.36	250	ePn	Pn	17 05 26.1	+1.4
GRUS				eSn	Sn	17 06 11.5	-3.5
TRUS	Trudelj	4.45	255	ePn	Pn	17 05 27.0	+1.2
TRUS				eSn	Sn	17 06 13.9	-3.1
DIVS	Divibare	4.77	255	ePn	Pn	17 05 31.2	+1.0
DIVS				eSn	Sn	17 06 21.3	-3.5
IVAS	Ivanjica	4.87	248	ePn	Pn	17 05 32.2	+0.8
IVAS				eSn	Sn	17 06 22.8	-4.3
SJES	Sjenica	5.13	246	ePn	Pn	17 05 36.5	+1.5
SJES				eSn	Sn	17 06 29.1	-4.3

*IDC **28** 17:14:31.8±5.2, 5°.21S×102°.65E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, Error ellipse: s-maj=204.2km s-min=52.6km az=56.0*
*DJA **28** 17:14:34.8±0.5, 5°.5S±6°.×10°.3E±°., h10km, M3.3/6, MLv3.3/6*

ISC 28 17:14:35.7±1.6, 5°.4S±0°.1×102°.4E±0°.1, h34km, n13, σ0§71/12, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.13	30	P	Pn	17 14 53.9	-1.3
LWLI	Liwa	1.69	79	P	Pn	17 15 02.1	-0.8
LHSI	Lahat	1.89	37	P	Pn	17 15 06.5	+0.9
MDSI	Maura Dua	1.97	64	P	Pn	17 15 06.9	+0.2
MDSI				S	Sn	17 15 30.3	0.0
KASI	Kota Agung	2.10	95	P	Pn	17 15 08.1	-0.4
KASI				S	Sn	17 15 33.4	0.0
KLSI		2.42	74	P	Pn	17 15 13.4	+0.5
H08S2	Diego Garcia H	29.79	264	T	T	17 51 34.0	
	baz=87,slow=76,SNR=30						
H08S3	Diego Garcia H	29.80	264	T	T	17 51 27.6	
	baz=87,slow=76,SNR=26						
H08S1	Diego Carcia H	29.81	264	T	T	17 51 35.3	
	baz=87,slow=76,SNR=28						
WRA	Warramunga Arr	34.28	118	P	P	17 21 18.6	-0.5
	0.2nm,0.5s,baz=288,slow=10,SNR=3.1						
ASAR	Alice Springs	35.38	124	P	P	17 21 28.2	-0.4
	0.3nm,0.7s,baz=297,slow=7.8,SNR=14						
STKA	Stephens Creek	45.16	131	P	P	17 22 50.0	+0.7
	1.3nm,0.5s,baz=329,slow=12,SNR=3.5						
TXAR	Lajitas Array	145.71	43	PKPbc	PKPdf	17 34 11.8	+0.2
	0.3nm,0.4s,baz=219,slow=1.2,SNR=3.7						

TRN 28 17:19:01.1, 10°.38N×62°.37W, h1km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.30	29	eP	Pg	17 19 07.6	+0.7
GUIV				eS	Sg	17 19 12.0	+1.2
TBH	Brigand Hill	1.29	85	eP	Pg	17 19 25.8	+0.1
TBH				eS	Sn	17 19 43.9	-0.1
ORIV	Oritupano	1.66	218	eP	Pg	17 19 32.7	-0.1
ORIV				eS	Sg	17 19 54.2	-0.1
GRHS	Sauteurs	1.97	21	eP	Pn	17 19 35.7	+0.2
GRHS				eS	Sn	17 20 00.8	0.0
GRHS				eS	Sb	17 20 01.1	-1.6
TOSP	Speyside	2.02	63	eP	Pn	17 19 36.6	+0.4
TOSP				eS	Sb	17 20 03.2	-1.0
GRSS	Sisters	2.04	21	eP	Pn	17 19 36.8	+0.2
GRSS				eS	Sn	17 20 03.4	+0.6
FCV	Fort Charlotte	2.97	22	eP	Pn	17 19 49.6	+0.2
FCV				eS	Sn	17 20 26.4	+0.8
SVB	Belmont	3.08	21	eP	Pn	17 19 50.6	-0.1
SVB				eS	Sn	17 20 29.0	+0.8
SVCV	St. Vincent, C	3.11	23	eP	Pn	17 19 51.4	+0.1
SVCV				eS	Sn	17 20 29.5	+0.3
SVV	Soufriere Volc	3.13	21	eP	Pn	17 19 52.4	+0.9
SVV				eS	Sn	17 20 30.4	+0.8
MCLT	Moule a Chique	3.59	23	eP	Pn	17 19 58.0	+0.2
MCLT				eS	Sn	17 20 40.3	-0.7
SLDE	Delcer	3.63	21	eP	Pn	17 20 00.2	+1.7
SLB	Belfond	3.66	21	eP	Pn	17 19 59.9	+1.0
SLB				eS	Sn	17 20 41.4	-1.4
SLPA	Patience	3.73	22	eP	Pn	17 20 00.8	+0.9
SLBI	Saint Lucia, B	3.87	21	eP	Pn	17 20 02.1	+0.5
SLBI	Saint Lucia, B	3.87	21	eS	Sn	17 20 47.8	0.0
BIM	Bigot	4.30	17	eP	Pn	17 20 07.9	+0.2
TRMF	Trois Ilets	4.33	17	eP	Pn	17 20 07.1	-0.9
ZAM	Aeronautique	4.37	17	eP	Pn	17 20 08.8	+0.2
LPMF	Morne Lapointe	4.39	18	eP	Pn	17 20 07.0	-1.8
FDF	Fort de France	4.49	15	eP	Pn	17 20 10.5	+0.2
PML	Morne Lenard	4.52	15	eP	Pn	17 20 11.0	+0.3
GBMF	Grand Be	4.54	15	eP	Pn	17 20 10.9	-0.1
PCM	Pelee Case Pet	4.55	14	eP	Pn	17 20 10.8	-0.3
PCM	Pelee Case Pet	4.55	14	eP	Pn	17 20 11.2	+0.1
BAMF	Morne Balai	4.57	15	eP	Pn	17 20 10.5	-0.8
SVN	Savane Anatole	4.59	15	eP	Pn	17 20 11.2	-0.4
BBL	Barber's Block	5.19	10	eP	Pn	17 20 20.5	+0.6
BBL	Barber's Block	5.19	10	eS	Sn	17 21 20.3	-0.2
MDPO	Dominica; Chan	5.24	10	eP	Pn	17 20 21.3	+0.7
MDPO	Dominica; Chan	5.24	10	eS	Sn	17 21 20.0	-1.7
DWS	Wesley	5.26	11	eP	Pn	17 20 22.3	+1.5
DWS	Wesley	5.26	11	eS	Sn	17 21 21.3	-0.8
TDBA	Terre de Bas,	5.48	7	eP	Pn	17 20 14.2	-10
BAUV	El Baul	5.77	256	eP	Pn	17 20 28.2	+0.4
BAUV	El Baul	5.77	256	eS	Sn	17 21 33.4	-1.4
ANWB	Willy Bob	7.27	4	eP	Pn	17 20 49.1	+0.7

*TEH **28** 17:52:42.9, 29°.26N×51°

MDH	**Madha**	**5.90**	**130**	P	**Pn**	**17 54 11.8**	**+0.4**
MDH				S	**Sn**	**17 55 16.6**	**-2.0**
UOSS	**Minazif**	**6.08**	**133**	P	**Pn**	**17 54 13.7**	**-0.1**
ASHO	**Ashiyiah**	**6.17**	**135**	P	**Pn**	**17 54 16.0**	**+0.8**
	SNR=16						
ASHO				S	**Sn**	**17 55 24.2**	**-1.3**
ARQ	**Araqi**	**7.47**	**140**	P	**Pn**	**17 54 34.0**	**+0.9**
	SNR=14						
ARQ				S	**Sn**	**17 55 55.5**	**-2.0**
BSY	**Bisya**	**8.32**	**139**	P	**Pn**	**17 54 45.5**	**+0.8**
	SNR=15						
BSY				S	**Sn**	**17 56 14.7**	**-3.7**
WHFO	**Wadi Hawf**	**11.44**	**168**	P	**Pn**	**17 55 26.8**	**-0.7**
	SNR=13						

ISCJB ***28*** *18:13:51.7±0.5, 9°42S±0°05×113°23E±0°04, h26km, mb3.8/5, Error ellipse: s-maj=7.1km s-min=5.2km az=31.9*
IDC ***28*** *18:13:54.6±8.1, 9°35S×113°15E, h48km±72km, mb3.5/5, mb1 3.8/7, mb1mx3.5/36, mbtmp3.9/7, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/45, Error ellipse: s-maj=101.1km s-min=22.5km az=58.0*
NEIC ***28*** *18:13:55.3±0.6, 9°3S±0°1×113°33E±0°08, h55km±11km, mb4.4/7*
DJA ***28*** *18:13:55.2±1.2, 9°S±5°×11°3E±°, h22km±9km, M3.7/8, MLv3.7/8*
ISC 28 18:13:52.3±0.7,**9°36S**±0°07×**113°24E**±0°04,**h26**km,**n34,** σ1§**52**/31,**mb4.0/7,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.09**	**11**	P	**Pb**	**18 14 12.6**	**0.0**
GMJI				S	**Sn**	**18 14 26.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.26**	**46**	P	**Pb**	**18 14 15.2**	**-0.3**
JAGI				S	**Sb**	**18 14 30.9**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.26**	**46**		**Pb**	**18 14 14.6**	**-0.8**
PWJI	**Pagerwojo**	**1.94**	**313**	P	**Pb**	**18 14 25.3**	**-1.7**
PWJI				S	**Sb**	**18 14 48.3**	**-2.5**
IGBI	**Denpasar**	**1.96**	**74**	P	**Pb**	**18 14 23.8**	**-3.5**
DNP	**Denpasar**	**2.06**	**71**	P	**Sn**	**18 14 51.4**	**+1.2**
SRBI	**Singaraja**	**2.33**	**57**	P	**Pb**	**18 14 31.2**	**-2.4**
KMMI	**Kalianget**	**2.40**	**18**	P	Sn	18 15 06.6	+8.0
GRJI	**Gresik**	**2.54**	**343**	P	**Pb**	**18 14 36.1**	**-1.1**
NGJI	**Ngawi**	**2.64**	**318**	P	Pb	18 14 49.3	+10
UGM	**Wanagama**	**3.04**	**298**		**Pn**	**18 14 41.7**	**+2.9**
TWSI	**Taliwang, Sumb**	**3.65**	**81**	P	**Pn**	**18 14 48.8**	**+1.6**
CISI	**Cisompet, Garu**	**5.65**	**288**	Pn	**Pn**	**18 15 17.7**	**+2.9**
XMIS	**Christmas Isla**	**7.56**	**261**	Pn	**Pn**	**18 15 40.8**	**-0.1**
BATI	**Baumata**	**10.31**	**96**	P	Pn	18 16 22.5	+3.8
	3.8nm,0.3s,baz=280,slow=5.5,SNR=9.0						
SOEI	**Soe**	**10.89**	**93**	Pn	**Pn**	**18 16 28.6**	**+1.9**
FITZ	**Fitzroy Crossi**	**14.85**	**127**	P	**Pn**	**18 17 21.2**	**+0.5**
	0.1nm,0.3s,baz=293,slow=15,SNR=2.9						
FITZ				S	Sn	18 19 50.4	-14
	0.0nm,0.3s,baz=164,slow=22,SNR=2.0						
FITZ				LR	LR	18 22 52.1	
	comp=Z,42nm,20.5s,baz=349,slow=36						
FITZ	**Fitzroy Crossi**	**14.85**	**127**	Pn	**Pn**	**18 17 21.5**	**+0.9**
MTN	**Manton Dam**	**17.90**	**103**	P	**P**	**18 18 00.9**	**+0.8**
MTN				IAmb	IAmb	18 18 26.8	
	comp=Z,56nm,1.5s						
FAKI	**Fak Fak**	**19.95**	**72**	P	**P**	**18 18 20.7**	**-1.9**
WB0	**Warramunga Arr**	**22.91**	**119**	P	**P**	**18 18 54.4**	**-0.1**
WRA	**Warramunga Arr**	**22.94**	**120**	P	**P**	**18 18 54.5**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=294,slow=12,SNR=8.8						
WRA	**Warramunga Arr**	**22.94**	**120**	P	**P**	**18 18 54.4**	**-0.4**
WB2	**Warramunga Arr**	**22.95**	**120**	P	**P**	**18 18 54.5**	**-0.3**
WB2				IAmb	IAmb	18 19 27.2	
	comp=Z,34nm,2.0s						
WR0	**Warramunga Arr**	**23.12**	**119**	P	**P**	**18 18 56.8**	**+0.2**
WR0				IAmb	IAmb	18 19 07.4	
	comp=Z,26nm,1.6s						
ASAR	**Alice Springs**	**24.34**	**128**	P	**P**	**18 19 08.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=304,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**34.54**	**135**	P	**P**	**18 20 40.2**	**+1.4**
	comp=Z,3.0nm,0.8s,baz=284,slow=7.5,SNR=4.0						
H08S2	**Diego Garcia H**	**40.32**	**269**	T	T	19 04 28.5	
	baz=95,slow=75,SNR=4.2						
H08S3	**Diego Garcia H**	**40.33**	**269**	T	T	19 04 23.5	
	baz=95,slow=75,SNR=4.0						
H08S1	**Diego Carcia H**	**40.34**	**269**	T	T	19 04 25.3	
	baz=95,slow=75,SNR=3.4						
SONM	**Songino Array**	**57.26**	**355**	P	**P**	**18 23 37.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=168,slow=8.5,SNR=3.9						
SONM	**Songino Array**	**57.26**	**355**	P	**P**	**18 23 36.6**	**-1.1**
MKAR	**Makanchi Array**	**62.34**	**336**	P	**P**	**18 24 11.9**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=146,slow=7.5,SNR=9.4						
ABKAR	**Akbulak array**	**74.67**	**327**	P	**P**	**18 25 28.7**	**-0.8**

NEIC ***28*** *18:21:40.7±1.5, 6°8N±0°1×127°4E±0°5, h109km±31km, mb4.4/2*
IDC ***28*** *18:21:44.3±4.1, 6°66N×126°96E, h132km±31km, mb3.2/4, mb1 3.5/5, mb1mx3.0/60, mbtmp3.8/5, Error ellipse: s-maj=78.3km s-min=17.5km az=67.0*
ISCJB ***28*** *18:21:46.0±0.6, 6°09N±0°06×126°16E±0°08, h147km±6km, mb3.3/4, Error ellipse: s-maj=14.1km s-min=8.2km az=159.2*
MAN ***28*** *18:21:46.3, 6°07N×126°11E, h134km, MS3.1*
ISC 28 18:21:47.6±0.8,**6°15N**±0°06×**126°16E**±0°08,**h144**km±7km, **n19,** σ1§**97**/27,**mb3.2**/4,**2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.45**	**265**	*e*P	**Pn**	**18 22 07.2**	**-0.8**
DDMP				*e*S	**Sn**	**18 22 22.1**	**-1.3**
MATI	**Mati**	**0.80**	**7**	*e*P	**Pn**	**18 22 09.2**	**-1.0**
MATI				*e*S	**Sn**	**18 22 27.0**	**-0.5**
DAV	**Davao City (W)**	**1.08**	**328**	P	**Pn**	**18 22 12.2**	**-0.3**
	86nm,0.3s,baz=67,slow=7.7,SNR=3.0						
DAV				S	**Sn**	**18 22 32.6**	**+1.0**
	122nm,0.3s,baz=312,slow=22,SNR=14						
DMPH	**Davao City--Mi**	**1.13**	**325⇑**	*e*P	**Pn**	**18 22 14.7**	**+1.7**
DMPH				*e*S	**Sn**	**18 22 34.0**	**+1.6**
GSPH	**General Santos**	**1.21**	**267⇓**	*i*P	**Pn**	**18 22 13.3**	**-0.5**
GSPH				*i*S	**Sn**	**18 22 32.4**	**-1.4**
SKMP	**Bagumbayan, Su**	**1.65**	**283**	*e*P	**Pn**	**18 22 16.9**	**-1.5**
SKMP				*e*S	**Sn**	**18 22 42.7**	**+0.8**
BUKP	**Musuan**	**2.04**	**328**	*e*P	**Pn**	**18 22 22.0**	**-0.8**
BUKP				*e*S	**Sn**	**18 22 49.5**	**-0.5**
CTBH	**Cotabato--PC H**	**2.18**	**299⇑**	*i*P	**Pn**	**18 22 23.5**	**-1.0**
CGP	**Cagayan de Oro**	**2.72**	**328⇓**	*e*P	Pn	18 22 39.5	+8.4
PAGZ	**Pagadian**	**3.23**	**302**	*e*P	**Pn**	**18 22 37.0**	**-0.7**
TNTI	**Ternate**	**5.47**	**167**		**Pn**	**18 23 06.5**	**-0.7**
TNTI				Sn	Sn	18 24 07.5	-1.9
BATI	**Baumata**	**16.43**	**189**	P	**P**	**18 25 36.3**	**+6.2**
	2.5nm,0.3s,baz=28,slow=5.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	**24.10**	**181**	P	**P**	**18 26 53.9**	**+4.0**
	1.6nm,0.6s,baz=345,slow=8.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**24.10**	**181**	P	**P**	**18 26 52.0**	**+2.0**
FITZ				IAmb	IAmb	18 27 43.0	
	comp=Z,28nm,1.9s						
WRA	**Warramunga Arr**	**27.14**	**163**	P	**P**	**18 27 16.8**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=341,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**30.58**	**166**	P	**P**	**18 27 47.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=343,slow=7.4,SNR=5.8						
BBOO	**Buckleboo**	**39.87**	**167**	P	**P**	**18 29 07.5**	**+0.4**
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**18 31 04.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=120,slow=7.4,SNR=6.0						
MKAR				PcP	**PcP**	**18 32 03.3**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=116,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**18 31 04.2**	**-1.7**

MOS ***28*** *18:32:02.4±0.0, 41°69N×46°06E, h7km, MPVA4.3*
NORS ***28*** *18:32:02.1±0.0, 41°75N×46°12E, h8km, MPVA4.2*
NSSP ***28*** *18:32:02.9, 41°73N×46°12E, h15km, Ms3.8*
DRS ***28*** *18:32:03.8±0.0, 41°74N×45°98E, h15km*
TIF ***28*** *18:32:04.3, 41°80N×46°08E, h29km*
AZER ***28*** *18:32:04.3±0.1, 41°67N×46°11E, h23km, ml3.7/32, Error ellipse: s-maj=0.9km s-min=0.6km az=325.0*
IDC ***28*** *18:32:05.2±2.4, 41°56N×46°33E, h35km±34km, mb2.8/2, mb1 3.4/6, mb1mx3.2/47, mbtmp3.4/6, ML3.6/4, Error ellipse: s-maj=15.4km s-min=13.0km az=75.0*
ISK ***28*** *18:32:06.0, 41°93N×45°94E, h2km, ML3.6/11*
ISC 28 18:32:04.1±0.9,**41°73N**±0°01×**46°08E**±0°01,**h16**km±8km, **n154,** σ1§**37**/268,**3C-4D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.16**	**49**	P	**Pb**	**18 32 10.4**	**+1.8**
LGD				S	**Sb**	**18 32 14.1**	**+2.5**
LGD	**Lagodekhi**	**0.16**	**49**	*e*PG	**Pb**	**18 32 10.5**	**+1.9**
LGD				*e*S	**Sb**	**18 32 14.9**	**+3.3**
LGD	**Lagodekhi**	**0.16**	**49**	*e*Pg	**Pb**	**18 32 10.5**	**+1.9**
LGD				*e*Sg	**Sb**	**18 32 14.9**	**+3.3**
DDFL	**Dedoflistskaro**	**0.29**	**175**	P	**Pn**	**18 32 15.9**	**+2.2**
DDFL				S	**Sn**	**18 32 25.9**	**+6.3**
DDFL	**Dedoflistskaro**	**0.29**	**175**	PG	**Pn**	**18 32 15.9**	**+2.2**
ZKTA	**Zakatala**	**0.41**	**103**	PG	**Pb**	**18 32 14.0**	**+1.1**
ZKTA	**Zakatala**	**0.41**	**103**	P	**Pb**	**18 32 14.1**	**+1.1**
	SNR=571						
ZKTA				S	**Sn**	**18 32 21.2**	**-1.5**
DGRG	**David-gareji**	**0.60**	**242**	P	**Pn**	**18 32 18.4**	**+0.4**
DGRG	**David-gareji**	**0.60**	**242**	PG	**Pn**	**18 32 18.4**	**+0.4**
QZX	**Qazax, Azerbai**	**0.86**	**219**	P	**Pn**	**18 32 21.7**	**+0.2**
	SNR=1777						
QZX				S	**Sn**	**18 32 35.0**	**+1.2**
GNBR	**Gunib**	**0.93**	**45**	*e*PG	**Pb**	**18 32 21.5**	**-0.3**
GNBR				*e*S	**Sg**	**18 32 34.2**	**0.0**
GNBR				pmax	pmax		
	comp=Z,182nm,0.4s						
GNBR	**Gunib**	**0.93**	**45**	*e*Pg	**Pb**	**18 32 21.6**	**-0.1**
GNBR				*e*Sg	**Sg**	**18 32 34.0**	**-0.3**
XNZR	**Khunzakh**	**0.93**	**30**	*e*PG	**Pb**	**18 32 21.5**	**-0.4**
XNZR				*e*S	**Sb**	**18 32 33.9**	**-0.2**
BTLR	**Botlikh**	**0.94**	**6**	*e*PG	**Pb**	**18 32 21.3**	**-0.6**
BTLR				*e*S	**Sb**	**18 32 34.0**	**-0.1**
BTLR				pmax	pmax		
	comp=Z,624nm,0.5s						
SEAG	**Tbilisi Sea**	**0.96**	**272**	P	**Pb**	**18 32 21.8**	**-0.5**
SEAG				S	**Sg**	**18 32 36.0**	**+0.8**
SEAG	**Tbilisi Sea**	**0.96**	**272**	PG	**Pb**	**18 32 21.8**	**-0.5**
SEAG				S	**Sg**	**18 32 36.0**	**+0.8**
BTNK	**Botanikuri**	**0.96**	**267**	P	**Pb**	**18 32 22.4**	**0.0**
BTNK				S	**Sg**	**18 32 36.5**	**+1.2**
BTNK	**Botanikuri**	**0.96**	**267**	PG	**Pb**	**18 32 22.4**	**0.0**
BTNK				S	**Sg**	**18 32 36.6**	**+1.2**
SEKA	**Sheki**	**0.99**	**122**	PG	**Pg**	**18 32 23.2**	**0.0**
SEKA	**Sheki**	**0.99**	**122**	P	**Pg**	**18 32 23.1**	**0.0**
	SNR=671						
SEKA				S	**Sn**	**18 32 37.6**	**+0.7**
TBLG	**Delisi**	**1.01**	**270**	P	**Pb**	**18 32 23.3**	**+0.2**
TBLG				S	**Sg**	**18 32 37.6**	**+0.8**
TBLG	**Delisi**	**1.01**	**270**	PG	**Pb**	**18 32 23.3**	**+0.2**
TBLG				S	**Sg**	**18 32 37.6**	**+0.8**
TBLG	**Delisi**	**1.01**	**270**	PG	**Pg**	**18 32 24.1**	**+0.5**
TBLG				SG	**Sg**	**18 32 37.9**	**+1.1**
GDB	**GEDABAY**	**1.04**	**194**	P	**Pb**	**18 32 24.0**	**+0.2**
	SNR=1997						
GDB				S	**Sn**	**18 32 39.1**	**+0.7**
GANJ	**Ganja**	**1.10**	**171**	PG	**Pb**	**18 32 25.1**	**+0.4**
GANJ	**Ganja**	**1.10**	**171**	P	**Pn**	**18 32 25.2**	**+0.4**
	SNR=31						
GANJ				S	**Sn**	**18 32 41.0**	**+1.4**
MNGR	**Mingechevir, A**	**1.22**	**141**	PG	**Pg**	**18 32 27.9**	**+0.3**
MNGR	**Mingechevir, A**	**1.22**	**141**	P	**Pg**	**18 32 27.9**	**+0.3**
	SNR=18						
MNGR				S	**Sg**	**18 32 46.9**	**+3.3**
URKR	**Urkarakh**	**1.23**	**69**	*e*PG	**Pg**	**18 32 27.9**	**0.0**
URKR				*e*S	**Sn**	**18 32 43.1**	**0.0**
URKR	**Urkarakh**	**1.23**	**69**	*e*Pg	**Pg**	**18 32 27.9**	**0.0**
URKR				*e*Sg	**Sn**	**18 32 43.1**	**0.0**
KRNR	**Karanay**	**1.25**	**29**	*i* PG	**Pn**	**18 32 27.0**	**0.0**
KRNR				*i* S	**Sn**	**18 32 44.0**	**+0.5**
KRNR				pmax	pmax		
	comp=Z,121nm,0.3s						
AKT	**Akhty**	**1.26**	**101⇑**	*i*PG	**Pn**	**18 32 26.8**	**-0.3**
AKT				*e*		18 32 45.0	
AKT				pmax	pmax		
	comp=Z,253nm,0.4s						
AKT				smax	smax		
	comp=N,664nm,0.3s						
AKT				smax	smax		
	comp=N,874nm,0.4s						
AKT				smax	smax		
	comp=E,711nm,0.3s						
AKT	**Akhty**	**1.26**	**101**	*i* Pg	**Pn**	**18 32 27.0**	**0.0**
AKT				*e*Sg	**Sg**	**18 32 44.2**	**-0.6**
KZRT	**Kazreti**	**1.31**	**255**	P	**Pn**	**18 32 27.4**	**-0.3**
KZRT				S	**Sb**	**18 32 44.8**	**-0.1**
KZRT	**Kazreti**	**1.31**	**255**	PG	**Pn**	**18 32 27.4**	**-0.3**
KZRT				S	**Sb**	**18 32 44.8**	**-0.1**
BUJR	**Buynaksk**	**1.33**	**35**	*e*PG	**Pb**	**18 32 28.9**	**+0.3**
BUJR				*e*S	**Sg**	**18 32 46.7**	**-0.3**
SGKR	**Sergokala**	**1.38**	**58**	*i* PG	**Pg**	**18 32 30.0**	**-0.6**
SGKR				*e*S	**Sg**	**18 32 48.0**	**-0.6**
SGKR				pmax	pmax		
	comp=Z,431nm,0.3s						
DLMR	**Dylym**	**1.40**	**17⇓**	*i*PG	**Pn**	**18 32 29.5**	**+0.6**
DLMR				*e*S	**Sg**	**18 32 50.0**	**+0.9**
DLMR				pmax	pmax		
	comp=Z,171nm,0.5s						
DBC	**Dubki**	**1.40**	**23**	*e*PG	**Pn**	**18 32 29.4**	**+0.4**
DBC				*e*S	**Sg**	**18 32 49.7**	**+0.4**
DBC	**Dubki**	**1.40**	**23**	*e*Pg	**Pn**	**18 32 29.3**	**+0.4**
DBC				*e*Sg	**Sg**	**18 32 49.3**	**0.0**
GUDG	**Gudauri**	**1.40**	**302**	P	**Pn**	**18 32 29.0**	**-0.1**
GUDG				S	**Sn**	**18 32 47.5**	**+0.1**
GUDG	**Gudauri**	**1.40**	**302**	PG	**Pn**	**18 32 29.0**	**-0.1**
GUDG				S	**Sn**	**18 32 47.5**	**+0.1**
GUDG	**Gudauri**	**1.40**	**302**	*e*Pg	**Pn**	**18 32 29.0**	**-0.1**
GUDG				*e*Sg	**Sn**	**18 32 47.8**	**+0.5**
GROC	**Groznyy**	**1.48**	**352**	*e*PG	**Pb**	**18 32 32.0**	**+0.8**
GROC				*e*S	**Sg**	**18 32 53.2**	**+1.3**
GROC	**Groznyy**	**1.48**	**352**	*e*Pg	**Pb**	**18 32 31.9**	**+0.7**
GROC				*e*Sg	**Sg**	**18 32 52.6**	**+0.7**
QBL	**Gabala**	**1.54**	**120**	Pn	**Pb**	**18 32 32.0**	**-0.1**
QBL				Sn	**Sg**	**18 32 54.1**	**+0.4**
KMGR	**Komgaron**	**1.60**	**326**	*e*PG	**Pb**	**18 32 34.3**	**+1.0**
KMGR				*e*S	**Sg**	**18 32 56.6**	**+0.9**
KMGR	**Komgaron**	**1.60**	**326**	*e*Pg	**Pb**	**18 32 34.1**	**+0.8**
KMGR				*e*Sg	**Sg**	**18 32 57.3**	**+1.6**
MAK	**Makhachkala**	**1.62**	**40**	*e*PG	**Pb**	**18 32 33.9**	**+0.4**
MAK				*e*S	**Sg**	**18 32 56.9**	**+0.7**
MAK	**Makhachkala**	**1.62**	**40**	*e*Pg	**Pb**	**18 32 33.9**	**+0.4**
MAK				*e*Sg	**Sg**	**18 32 56.9**	**+0.7**
XNQ	**Khinaliq**	**1.64**	**109**	Pn	**Pb**	**18 32 34.0**	**-0.1**
	SNR=59						
XNQ				Sn	**Sg**	**18 32 57.8**	**+0.7**
QSAR	**Qusar**	**1.65**	**97**	Pn	**Pb**	**18 32 34.5**	**+0.5**
	SNR=155						
QSAR				Sn	**Sg**	**18 32 58.1**	**+0.9**
VLKR	**Vladikavkaz**	**1.68**	**322**	*e*PN	**Pg**	**18 32 36.0**	**-0.3**
VLKR				*e*S	**Sg**	**18 32 58.7**	**+0.6**
VLKR	**Vladikavkaz**	**1.68**	**322**	*e*Pg	**Pg**	**18 32 36.0**	**-0.3**
VLKR				*e*Sg	**Sg**	**18 32 58.6**	**+0.6**
BRDA	**Brd**	**1.69**	**150**	Pn	**Pb**	**18 32 35.0**	**+0.3**
BRDA				Sn	**Sg**	**18 32 59.0**	**+0.6**
DRN	**Derbent**	**1.70**	**79**	*e*PN	**Pg**	**18 32 36.0**	**-0.8**
DRN				*e*S	**Sg**	**18 32 58.7**	**-0.2**
DRN				pmax	pmax		
	comp=Z,103nm,0.4s						
LACR	**Lac**	**1.72**	**310**	*e*PN	**Pn**	**18 32 34.4**	**+1.0**
LACR	**Lac**	**1.72**	**310**	*e*Pg	**Pn**	**18 32 33.5**	**+0.1**
LACR				*e*Sg	**Sn**	**18 32 56.6**	**+1.6**
KAPZ	**Kaputan**	**1.76**	**217⇓**	*i*P	**Pb**	**18 32 35.7**	**-0.3**
KAPZ				⇑*i*S	**Sg**	**18 32 60.0**	**-0.7**
AGDM	**Agdam**	**1.80**	**154**	Pn	**Pb**	**18 32 35.8**	**-0.8**
	SNR=145						
AGDM				Sn	**Sg**	**18 33 01.8**	**-0.2**
IML	**Ismayilli**	**1.84**	**120**	Pn	**Pb**	**18 32 36.5**	**-0.8**
IML				Sn	**Sg**	**18 33 02.4**	**-0.9**
QUBA	**Quba, Azerbaij**	**1.85**	**101**	Pn	**Pb**	**18 32 37.2**	**-0.2**
	SNR=26						
QUBA				Sn	**Sg**	**18 33 01.8**	**-1.7**
GNI	**Garni**	**1.88**	**213**	*d i*PN	**Pn**	**18 32 37.3**	**+1.6**
GNI	**Garni**	**1.88**	**213⇓**	*i*P	**Pb**	**18 32 37.5**	**-0.6**
GNI				⇑*i*S	**Sg**	**18 33 03.8**	**-0.8**
GNI	**Garni**	**1.88**	**213**	Pn	**Pb**	**18 32 37.5**	**-0.6**
	comp=Z,52nm,0.3s,baz=4.9,slow=4.5,SNR=186						
GNI				Lg	Lg	18 33 05.7	
	comp=Z,96nm,0.3s,baz=215,slow=24,SNR=16						
GNI				LR	LR	18 33 15.5	
	comp=Z,42nm,20.0s,baz=0.5,slow=38						
GNI	**Garni**	**1.88**	**213**	PN	**Pb**	**18 32 38.9**	**+0.8**
ZRD	**Zardab**	**1.89**	**140**	Pn	**Pb**	**18 32 38.0**	**-0.2**
	SNR=12						
ZRD				Sn	**Sg**	**18 33 03.8**	**-1.2**
ZEI	**Tsey**	**1.93**	**304**	*e*PN	**Pn**	**18 32 37.7**	**+1.3**
ZEI	**Tsey**	**1.93**	**304**	*e*Pg	**Pn**	**18 32 37.4**	**+0.9**
ZEI				*e*Sg	**Sb**	**18 33 02.7**	**-0.3**
ARNR	**Ardon**	**1.97**	**318**	*e*PN	**Pb**	**18 32 40.5**	**+1.1**
ARNR				*e*S	**Sg**	**18 33 08.1**	**+0.8**
ARNR	**Ardon**	**1.97**	**318**	*e*Pg	**Pn**	**18 32 38.2**	**+1.5**
ARNR				*e*Sg	**Sb**	**18 33 04.4**	**+0.7**
AKH	**Akhalkalaki**	**1.97**	**261**	P	**Pn**	**18 32 37.8**	**+1.0**
AKH				S	**Sb**	**18 33 03.9**	**-0.1**
AKH	**Akhalkalaki**	**1.97**	**261**	*e*PN	**Pn**	**18 32 37.9**	**+1.0**
AKH	**Akhalkalaki**	**1.97**	**261**	*e*Pg	**Pn**	**18 32 37.9**	**+1.0**
AKH				*e*Sg	**Sb**	**18 33 04.2**	**+0.2**
AKH	**Akhalkalaki**	**1.97**	**261**	PN	**Pb**	**18 32 40.4**	**+0.8**
AKH				SN	**Sb**	**18 33 05.2**	**+1.2**
BTKR	**Batakoyurt**	**2.00**	**326**	*e*PN	**Pb**	**18 32 39.4**	**-0.6**
BTKR	**Batakoyurt**	**2.00**	**326**	*e*Pg	**Pb**	**18 32 39.4**	**-0.6**
BTKR				*e*Sg	**Sb**	**18 33 06.9**	**+2.3**
KORR	**Kora**	**2.01**	**313**	*e*PN	**Pb**	**18 32 41.6**	**+1.3**
KORR	**Kora**	**2.01**	**313**	*e*Pg	**Pb**	**18 32 37.9**	**+0.5**
KORR				*e*Sg	**Sb**	**18 33 06.5**	**+1.4**
NRKZ	**NAREK**	**2.04**	**212**	*i* P	**Pb**	**18 32 41.0**	**+0.2**
NRKZ				*i* S	**Sg**	**18 33 10.2**	**+0.5**
KDMR	**Kurdemir**	**2.09**	**130**	Pn	**Pb**	**18 32 40.2**	**-1.3**
	SNR=12						
KDMR				Sn	**Sb**	**18 33 08.1**	**+0.9**
ARUZ	**Aruch**	**2.09**	**227**	*i* P	**Pb**	**18 32 43.2**	**+1.5**
ARUZ				*i* S	**Sg**	**18 33 11.4**	**0.0**
PQL	**Pirkuli**	**2.11**	**116**	Pn	**Pb**	**18 32 41.2**	**-0.9**
	SNR=31						
PQL				Sn	**Sb**	**18 33 09.3**	**+1.2**
ONI	**Oni**	**2.14**	**295**	P	**Pn**	**18 32 40.0**	**+0.9**
ONI				S	**Sb**	**18 33 07.9**	**-0.7**
ONI	**Oni**	**2.14**	**295**	PN	**Pn**	**18 32 40.0**	**+0.9**
ONI	**Oni**	**2.14**	**295**	*e*Pg	**Pn**	**18 32 40.0**	**+0.9**
ONI				*e*Sg	**Sb**	**18 33 08.0**	**-0.7**
ONI	**Oni**	**2.14**	**295**	PN	**Pb**	**18 32 41.1**	**+2.0**
ONI				SN	**Sn**	**18 33 07.3**	**+2.0**
DIGR	**Digorskoe uzhe**	**2.19**	**303**	*e*PN	**Pn**	**18 32 41.8**	**+1.8**
DIGR				*e*S	**Sb**	**18 33 09.9**	**-0.5**
DIGR	**Digorskoe uzhe**	**2.19**	**303**	*e*Pg	**Pn**	**18 32 41.8**	**+1.8**
DIGR				*e*Sg	**Sb**	**18 33 09.9**	**-0.5**
METS	**Metsamor**	**2.19**	**224**	*i* P	**Pb**	**18 32 44.4**	**+1.1**
METS				*i* S	**Sg**	**18 33 14.3**	**-0.2**
STDR	**Stavd-Durt**	**2.21**	**318**	*e*PN	**Pg**	**18 32 47.5**	**+1.0**
STDR				*e*S	**Sg**	**18 33 15.8**	**+0.6**
STDR	**Stavd-Durt**	**2.21**	**318**	*e*Pg	**Pn**	**18 32 41.6**	**+1.5**
STDR				*e*Sg	**Sg**	**18 33 14.6**	**-0.7**
SIZA	**Siyzn**	**2.22**	**106**	Pn	**Pb**	**18 32 43.2**	**-0.5**
	SNR=42						
SIZA				Sn	**Sb**	**18 33 09.9**	**-1.1**
HYR	**Heyderabad**	**2.22**	**205**	Pg	**Pb**	**18 32 44.2**	**+0.3**
	SNR=47						
HYR				Sg	**Sb**	**18 33 13.4**	**+2.3**
TRKR	**Terskaya**	**2.22**	**334**	*e*PN	**Pb**	**18 32 44.6**	**+0.8**
TRKR				*e*S	**Sg**	**18 33 14.1**	**-1.5**
TRKR	**Terskaya**	**2.22**	**334**	*e*Pn	**Pb**	**18 32 42.9**	**-0.9**
TRKR				*e*Sn	**Sb**	**18 33 11.7**	**+0.6**
TASB	**TASBURUN-IGDIR**	**2.24**	**219**	PN	**Pb**	**18 32 46.1**	**+2.0**
LSNR	**Lesken**	**2.27**	**314**	*e*PN	**Pb**	**18 32 44.2**	**-0.5**
LSNR				*e*S	**Sb**	**18 33 15.0**	**+2.4**
LSNR	**Lesken**	**2.27**	**314**	*e*Pn	**Pb**	**18 32 44.2**	**-0.5**
LSNR				*e*Sn	**Sb**	**18 33 15.0**	**+2.4**
BLQ	**Beylaqan**	**2.30**	**150**	Pg	**Pb**	**18 32 44.8**	**-0.4**
BLQ				Sn	**Sn**	**18 33 11.1**	**+1.8**
ATGJ	**Altiaghaj**	**2.32**	**111**	Pn	**Pb**	**18 32 44.3**	**-1.2**
	SNR=17						
ATGJ				Sn	**Sb**	**18 33 14.2**	**+0.3**
SBZ	**

comp=Z,0.1nm,0.5s,baz=274,slow=10,SNR=2.5

*ISN **28** 18:42:20.8±1.2,36°.74N×42°.61E,h0km±4km,ML3.1*
*ISK **28** 18:42:23.2,36°.54N×42°.53E,h5km,ML2.8/8*
*ISCJB **28** 18:42:24.6±0.5,36°.52N±0°.03×42°.58E±0°.05,h10km,Error ellipse: s-maj=5.7km s-min=3.7km az=155.1*
ISC 28 18:42:24.1±0.9,36°.58N±0°.04×42°.56E±0°.05,h10km,n15, σ1§34/23,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.48**	**111**	*e*Pg	**Pg**	**18 42 33.0**	**-0.5**
MSL				*e*Sg	**Sg**	**18 42 40.0**	**+0.2**
MSL				AML	AML	18 42 43.1	
	comp=Z,2μm,0.3s						
SIRT	**Sirnak**	**0.93**	**354**	PG	**Pn**	**18 42 42.8**	**-0.6**
SIRT				SG	**Sn**	**18 42 57.4**	**+0.6**
CUKT	**Cukurca**	**1.08**	**51**	PN	**Pn**	**18 42 45.8**	**+0.4**
CUKT				SN	**Sn**	**18 43 02.3**	**+1.8**
AKDM	**Akdamar-Van**	**1.78**	**11**	PN	**Pb**	**18 42 57.3**	**+0.3**
IKRK	**Kirkuk**	**1.86**	**129**	*e*Pn	**Pn**	**18 42 56.0**	**-0.1**
IKRK				AML	AML	18 43 03.5	
	comp=Z,315nm,0.4s						
IKRK				*e*Sn	**Sb**	**18 43 21.0**	**-0.6**
MAZI	**Mazidag**	**1.90**	**298**	PN	**Pb**	**18 42 58.0**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.91**	**326**	PN	**Pb**	**18 42 58.6**	**-0.5**
GURO	**Guroymak-BITLI**	**2.01**	**348**	PN	**Pb**	**18 43 00.2**	**-0.8**
DYBB	**Diyarbakir**	**2.37**	**306**	PN	**Pb**	**18 43 05.5**	**-1.4**
VRTB	**Varto-Mus**	**2.72**	**342**	PN	**Pb**	**18 43 10.2**	**-2.8**
AGRB	**Hanur-Agry**	**3.01**	**6**	PN	**Pn**	**18 43 14.6**	**+2.5**
BHD	**Baghdad**	**3.62**	**155**	*e*Pn	**Pn**	**18 43 21.0**	**+0.7**
BHD				*e*Sn	**Sn**	**18 44 04.0**	**+0.9**
RTB	**Rutbah**	**3.99**	**208**	*e*Pn	**Pn**	**18 43 27.0**	**+1.5**
RTB				AML	AML	18 43 37.1	
	comp=Z,60nm,0.5s						
RTB				*e*Sn	**Sn**	**18 44 14.0**	**+1.7**
IBDR	**Badra**	**4.43**	**140**	*e*Pn	**Pn**	**18 43 32.0**	**+0.6**
IBDR				*e*Sn	**Sn**	**18 44 23.0**	**-0.1**
NSR	**Nassriya**	**6.30**	**151**	*e*Pn	**Pn**	**18 43 59.0**	**+1.9**
NSR				*e*Sn	**Sn**	**18 45 07.5**	**-1.7**

IDC 28 18:48:56.1±3.3,32°.23S×178°.22W,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.6/25,mbtmp3.5/3,ML3.4/1,MS3.3/1, Ms1 3.3/1,ms1mx2.3/25,Error ellipse: s-maj=75.5km s-min=47.6km az=116.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.12**	**211**	Pn	Pn	18 50 40.6	-0.9
	0.6nm,0.3s,baz=222,slow=6.9,SNR=4.6						
ASAR	**Alice Springs**	**42.86**	**269**	P	P	18 56 56.2	0.0
	0.1nm,0.3s,baz=110,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	**44.01**	**274**	P	P	18 57 05.5	-0.1
	0.3nm,0.3s,baz=113,slow=7.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**52.19**	**271**	LR	LR	19 19 35.4	
	comp=Z,25nm,18.6s,baz=340,slow=35						
FINES	**FINESS Array B**	**146.79**	**339**	PKPbc	PKPbc	19 08 38.7	-0.6
	6.3nm,1.1s,baz=346,slow=2.9,SNR=3.4						

*ISCJB **28** 18:51:06.0±0.3,37°.25N±0°.03×71°.96E±0°.05,h130km, mb3.8/5,Error ellipse: s-maj=5.6km s-min=3.5km az=147.9*
*IDC **28** 18:51:06.5±4.6,37°.24N×71°.96E,h112km±28km,mb3.8/5, mb1 3.7/11,mb1mx3.3/55,mbtmp4.0/11,Error ellipse: s-maj=55.4km s-min=22.3km az=152.0*
*NEIC **28** 18:51:09.7±2.0,37°.52N±0°.07×72°.09E±0°.09, h129km±12km,mb4.0/2*
*NNC **28** 18:51:12.8±1.6,37°.84N×71°.63E,h130km±35km,mb3.2, mpv3.7,Error ellipse: s-maj=15.5km s-min=9.1km az=169.0*
ISC 28 18:51:06.7±0.6,37°.33N±0°.05×71°.92E±0°.05,h130km,n67, σ2§52/78,mb4.0/5,6C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.09**	**323**		**Pn**	**18 51 43.9**	**+2.1**
CHGR	**Chuyangaron**	**2.55**	**302**		**Pn**	**18 51 49.7**	**+2.1**
BTK	**Batken**	**2.86**	**343**		**Pn**	**18 51 54.2**	**+2.7**
KBL	**Kabul**	**3.63**	**221**		Pn	18 52 07.5	+5.7
NIL	**Nilore**	**3.83**	**163**		Pn	18 52 09.4	+5.2
ARSB	**Arslanbob**	**4.07**	**11**		**Pn**	**18 52 08.1**	**+0.6**
AML	**Almayashu**	**4.99**	**15**	P	**Pn**	**18 52 20.6**	**+0.7**
	SNR=37						
NRN	**Naryn**	**5.18**	**36**		**Pn**	**18 52 22.0**	**-0.4**
UCH	**Uchtor**	**5.29**	**21**	P	**Pn**	**18 52 25.1**	**+1.2**
	SNR=27						
KZA	**Kyzart**	**5.39**	**27**	P	**Pn**	**18 52 25.9**	**+0.5**
	SNR=15						
EKS2	**Erkin-Say**	**5.51**	**14**	P	**Pn**	**18 52 28.2**	**+1.6**
	SNR=84						
AAK	**Ala-Archa**	**5.66**	**20**	P	**Pn**	**18 52 30.0**	**+1.3**
	7.4nm,0.5s						
AAK				⇑S	**Sn**	**18 53 29.5**	**-3.1**
	74nm,0.9s						
AAK	**Ala-Archa**	**5.66**	**20**	P	**Pn**	**18 52 30.2**	**+1.6**
	4.3nm,0.3s,baz=205,slow=7.4,SNR=74						
AAK				S	**Sn**	**18 53 29.7**	**-2.9**
	5.5nm,0.3s,baz=324,slow=19,SNR=21						
AAK	**Ala-Archa**	**5.66**	**20**	P	**Pn**	**18 52 29.8**	**+1.2**
	SNR=19						
AAK	**Ala-Archa**	**5.66**	**20**		**Pn**	**18 52 29.9**	**+1.2**
AAK					**Sn**	**18 53 29.6**	**-2.9**
KBK	**Karagaybulak**	**5.81**	**23**	P	**Pn**	**18 52 33.8**	**+3.1**
	SNR=12						
KK31	**Karatay Array**	**5.87**	**350**	P	**Pn**	**18 52 31.6**	**+0.3**
	7.4nm,0.3s,baz=310,slow=4.2,SNR=277						
KK31				⇓S	**Sn**	**18 53 31.1**	**-6.3**
	7.7nm,0.3s,baz=212,slow=22,SNR=4.4						
KK31	**Karatay Array**	**5.87**	**350**		**Pn**	**18 52 32.4**	**+1.1**
KKAR	**Karatay Array**	**5.87**	**350**		**Pn**	**18 52 32.2**	**+0.8**
KKAR	**Karatay Array**	**5.87**	**350**		**Pn**	**18 52 32.4**	**+1.1**
ULHL	**Ulahol**	**5.93**	**33**	P	**Pn**	**18 52 32.8**	**+0.4**
	SNR=20						
CHMS	**Chumysh**	**6.06**	**20**	P	**Pn**	**18 52 35.3**	**+1.3**
	SNR=12						
DHRM	**DHARAMSHALA**	**6.22**	**143**	*e*P	**Pn**	**18 52 38.2**	**+2.0**
DHRM				*e*S	**Sn**	**18 53 44.6**	**-1.6**
DHRM				IAML		18 53 48.4	
	comp=E,154nm,0.1s						
DHRM				IAML		18 53 48.8	
	comp=N,145nm,0.4s						
USP	**Ospenovka**	**6.25**	**18**	P	**Pn**	**18 52 37.2**	**+0.8**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.25**	**26**	⇑P	**Pn**	**18 52 38.3**	**+1.6**
	comp=N,4.1nm,0.8s						
TKM2				⇓S	**Sn**	**18 53 44.9**	**-2.1**
	comp=N,5.4nm,0.5s						
TKM2	**Tokmak 2**	**6.25**	**26**	P	**Pn**	**18 52 38.5**	**+1.8**
	SNR=7.2						
TARG	**Taragay, Kyrgy**	**6.32**	**44**		**Pn**	**18 52 38.6**	**+0.7**
MDOK	**Medeo**	**7.02**	**32**	P	**Pn**	**18 52 48.4**	**+1.4**
	comp=N,2.8nm,0.8s						
MDOK				⇑S	**Sn**	**18 54 04.5**	**-1.0**
	comp=N,6.4nm,0.8s						
SMLA	**Simla**	**7.56**	**143**	*e*P	**Pn**	**18 52 57.3**	**+3.2**
SMLA				*e*S	**Sn**	**18 54 14.0**	**-4.3**
SMLA				IAML		18 54 17.4	
	comp=E,70nm,0.3s						
SMLA				IAML		18 54 18.4	
	comp=N,74nm,0.3s						
JOSI	**Joshimath**	**9.26**	**135**	*e*P	**Pn**	**18 53 19.3**	**+2.0**
JOSI				*e*S	**Sn**	**18 54 53.4**	**-6.5**
JOSI				IAML		18 54 59.0	
	comp=E,126nm,0.9s						
JOSI				IAML		18 54 59.9	
	comp=N,48nm,0.6s						
KUDL	**Kundal**	**9.93**	**156**	*e*P	**Pn**	**18 53 23.9**	**-2.1**
KUDL				*e*S	**Sn**	**18 55 08.8**	**-6.9**
GEYT	**Alibeck**	**10.97**	**277**	P	**Pn**	**18 53 40.1**	**+0.2**
	comp=N,1.6nm,0.3s,baz=113,slow=10,SNR=18						
GYA0B	**ALIBECK ARRAY**	**10.97**	**277**	⇑P	**Pn**	**18 53 40.4**	**+0.5**
GYA0B				⇑S	**Sn**	**18 55 40.3**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**10.97**	**277**		**Pn**	**18 53 39.6**	**-0.3**
MK31	**Makanchi Array**	**12.19**	**36**	P	**Pn**	**18 53 58.8**	**+2.9**
	comp=N,0.6nm,0.5s,baz=211,slow=8.7,SNR=9.5						
MKAR	**Makanchi Array**	**12.19**	**36**	P	**Pn**	**18 53 58.1**	**+2.2**
	comp=N,0.1nm,0.3s,baz=232,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**12.19**	**36**	Pn	**Pn**	**18 53 57.4**	**+1.5**
DANN	**Dangsing**	**13.38**	**129**	*e*P	**Pn**	**18 54 10.3**	**-1.4**
	comp=N,18nm,0.3s						
KOLN	**Koldanda**	**13.69**	**131**	*e*P	**Pn**	**18 54 14.8**	**-0.9**
	comp=N,5.4nm,0.3s						
KURBB	**Kurchatov Arra**	**14.11**	**18**	P	**Pn**	**18 54 19.4**	**-1.1**
	comp=N,0.0nm,0.3s,baz=210,slow=10,SNR=3.1						
GKN	**Gorkha**	**14.17**	**127**	*e*P	**Pn**	**18 54 20.2**	**-1.5**
	comp=N,32nm,0.2s						
KURK	**Kurchatov**	**14.21**	**18**	P	**P**	**18 54 26.2**	**+0.9**
KKN	**Kakani**	**14.73**	**126**	*e*P	**Pn**	**18 54 27.2**	**-1.6**
	comp=N,17nm,0.5s						
DMN	**Daman**	**14.74**	**127**	*e*P	**Pn**	**18 54 27.8**	**-1.2**
	comp=N,7.9nm,0.3s						
AB31	**Akbulak array**	**14.75**	**328**	P	**Pn**	**18 54 29.4**	**+0.8**
	comp=N,1.4nm,0.4s,baz=165,slow=9.6,SNR=64						
AB31				S	**Sn**	**18 57 03.9**	**-7.9**
	comp=N,1.4nm,0.4s,baz=136,slow=23,SNR=15						
ABKAR	**Akbulak array**	**14.75**	**328**		**Pn**	**18 54 29.2**	**+0.5**
ABKAR	**Akbulak array**	**14.75**	**328**		**Pn**	**18 54 29.6**	**+1.0**
PKIN	**Phulchoki**	**14.95**	**127**	*e*P	**Pn**	**18 54 30.8**	**-0.8**
	comp=N,8.9nm,0.4s						
PKI	**Pulchoki**	**14.96**	**127**	*e*P	**Pn**	**18 54 30.5**	**-1.3**
	comp=N,19nm,0.7s						
GUN	**Gumba**	**15.04**	**125**	*e*P	**Pn**	**18 54 31.0**	**-1.8**
	comp=N,14nm,0.4s						
JIRN	**Jiri**	**15.41**	**125**	*e*P	**Pn**	**18 54 36.5**	**-0.9**
	comp=N,47nm,0.3s						
BVAR	**Borovoye Array**	**15.73**	**357**	P	**Pn**	**18 54 41.7**	**+0.8**
	comp=N,0.3nm,0.3s,baz=169,slow=10,SNR=7.2						
RAMN	**Ramite**	**16.16**	**126**	*e*P	**Pn**	**18 54 45.5**	**-1.1**
	comp=N,11nm,0.4s						
AKTO	**Aktyubinsk**	**16.46**	**327**	⇓P	**Pn**	**18 54 49.9**	**+0.1**
	comp=N,3.8nm,0.8s						
AKTO				⇑S	**Sn**	**18 57 44.6**	**-8.2**
	comp=N,4.6nm,1.0s						
AKTO	**Aktyubinsk**	**16.46**	**327**	P	**P**	**18 54 50.3**	**+0.2**
	comp=N,0.5nm,0.3s,baz=125,slow=13,SNR=6.3						
AKTO				S	Sn	18 57 40.4	-12
	comp=N,0.1nm,0.3s,baz=159,slow=15,SNR=3.5						
TAPN	**Taplejung**	**16.62**	**122**	*e*P	**Pn**	**18 54 51.6**	**-0.7**
	comp=N,9.9nm,0.4s						
ODAN	**Odare**	**16.73**	**124**	*e*P	**P**	**18 54 53.5**	**-0.2**
	comp=N,10nm,0.5s						
LSA	**Lhasa**	**17.73**	**110**	P	**Pn**	**18 55 06.2**	**+0.3**
LSA				IAmb	IAmb	18 55 08.9	
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**18.86**	**24**	P	**P**	**18 55 17.3**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=209,slow=12,SNR=10						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**18 58 07.8**	**+2.8**
	comp=Z,1.5nm,0.6s,baz=125,slow=10,SNR=6.0						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**18 58 07.5**	**+2.4**
ARCES	**ARCESS Array B**	**40.67**	**337**	P	**P**	**18 58 36.5**	**+2.8**
	comp=Z,10.0nm,1.2s,baz=99,slow=6.3,SNR=6.9						
ARCES	**ARCESS Array B**	**40.67**	**337**	P	**P**	**18 58 36.7**	**+3.0**
TORD	**Torodi Ar. Bea**	**66.47**	**269**	P	**P**	**19 01 44.6**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=39,slow=5.2,SNR=4.4						
INK	**Inuvik**	**72.97**	**10**	P	**P**	**19 02 23.7**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=352,slow=5.9,SNR=9.0						
INK	**Inuvik**	**72.97**	**10**	P	**P**	**19 02 23.6**	**+2.3**
INK				IAmb	IAmb	19 02 47.5	
	comp=Z,10nm,1.5s						
YKA	**Yellowknife Ar**	**80.38**	**3**	P	**P**	**19 03 05.1**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=352,slow=5.2,SNR=4.4						

IDC 28 18:56:14.7±396.0,37°.61N×15°.15E,h0km,Error ellipse: s-maj=139.5km s-min=114.8km az=89.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**5.01**	**251**	*i*		19 26 00.0	
	baz=67,slow=319,SNR=4.3						
I26DE	**FREYUNG INFRAS**	**11.29**	**355**	*i*		20 29 50.0	
	baz=173,slow=342,SNR=0.5						
I43RU	**DUBNA INFRASON**	**24.11**	**30**	*i*		21 25 00.0	
	baz=225,slow=320,SNR=1.8						
I19DJ	**I19DJ**	**36.16**	**129**	*i*		23 10 20.0	
	baz=325,slow=326,SNR=0.7						

*ISCJB **28** 19:04:57.9±0.6,0°.63S±0°.04×122°.20E±0°.06,h10km, mb3.6/4,MS3.9/1,Error ellipse: s-maj=8.7km s-min=5.6km az=156.6*
*DJA **28** 19:04:59.5±0.3,1°.5±3°.5×12°.2E±°,h10km,M4.5/6,mb4.8/1, mB4.7/1,MLv4.3/6,Mw(mB)3.9/1*
*IDC **28** 19:05:03.5±4.4,0°.68S×122°.31E,h38km±45km,mb3.4/4, mb1 3.7/5,mb1mx3.3/45,mbtmp3.7/5,ML4.3/2,MS3.4/3, Ms1 3.4/3,ms1mx2.7/26,Error ellipse: s-maj=31.9km s-min=23.3km az=67.0*
ISC 28 19:04:59.2±0.8,0°.58S±0°.06×122°.25E±0°.07,h10km,n13, σ1§85/13,mb3.7/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.70**	**131**	P	**Pg**	**19 05 12.4**	**-0.4**
LUWI				S	**Sb**	**19 05 22.1**	**-1.1**
MRSI	**Marisa**	**1.09**	**344**	P	**Pb**	**19 05 18.5**	**-1.7**
MRSI				S	**Sg**	**19 05 34.3**	**-0.2**
SANI	**Sanana**	**4.02**	**111**	P	**Pn**	**19 05 58.8**	**-2.1**
KAPI	**Kappang**	**5.06**	**209**	Pn	**Pn**	**19 06 16.0**	**+0.8**
	21nm,0.3s,baz=29,slow=6.4,SNR=58						
KAPI				Sn	**Sn**	**19 07 12.6**	**-1.2**
	4.4nm,0.3s,baz=198,slow=20,SNR=6.9						
KAPI				LR	LR	19 08 37.0	
	comp=Z,194nm,19.2s,baz=53,slow=43						
NLAI	**Namlea**	**5.52**	**119**	P	**Pn**	**19 06 25.8**	**+4.2**
DAV	**Davao City (W)**	**8.29**	**24**	LR	LR	19 11 24.5	
	comp=Z,136nm,18.4s,baz=178,slow=46						
SWI	**Sorong**	**9.02**	**92**	P	Pn	19 07 18.9	+9.3
SIJI	**Sorong**	**9.02**	**92**	Pn	**Pn**	**19 07 10.7**	**+1.0**
	2.0nm,0.3s,baz=249,slow=14,SNR=15						
WRA	**Warramunga Arr**	**22.59**	**149**	P	**P**	**19 09 59.9**	**-0.3**
	3.9nm,0.8s,baz=331,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.59**	**155**	P	**P**	**19 10 27.8**	**-1.0**
	0.5nm,0.8s,baz=331,slow=7.5,SNR=5.0						
CTA	**Charters Tower**	**30.46**	**131**	LR	LR	19 24 53.2	
	comp=Z,293nm,21.8s,baz=185,slow=39						
SONM	**Songino Array**	**50.16**	**346**	P	**P**	**19 13 56.9**	**+1.9**
	0.7nm,0.7s,baz=167,slow=8.8,SNR=5.7						
MKAR	**Makanchi Array**	**58.71**	**329**	P	**P**	**19 14 57.7**	**+0.5**
	0.2nm,0.3s,baz=130,slow=8.9,SNR=3.6						

*IDC **28** 19:11:33.9±1.4,0°.83S×122°.40E,h0km,mb3.3/3, mb1 3.7/5,mb1mx3.4/53,mbtmp3.6/5,ML4.0/2,Error ellipse: s-maj=32.1km s-min=24.0km az=70.0*
*DJA **28** 19:11:34.8±0.8,1°.5±5°.5×12°.2E±°,h27km±9km,M4.9/6, mb6.9/2,mB8.3/1,MLv4.0/6,Mw(mB)8.6/1*
*ISCJB **28** 19:11:35.5±1.1,0°.8S±0°.1×122°.40E±0°.08,h26km,mb3.2/3, Error ellipse: s-maj=17.1km s-min=9.2km az=148.7*
ISC 28 19:11:36.8±1.0,0°.8S±0°.1×122°.50E±0°.08,h26km,n10, σ2§35/11,mb3.2/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.37**	**133**	P	**Pn**	**19 11 46.3**	**-0.2**
SANI	**Sanana**	**3.71**	**110**	P	**Pn**	**19 12 30.9**	**-1.5**
BNSI	**Bone**	**4.31**	**214**	P	**Pn**	**19 12 41.2**	**+0.5**
KAPI	**Kappang**	**5.01**	**213**	Pn	**Pn**	**19 12 49.8**	**-0.6**
	14nm,0.3s,baz=30,slow=6.5,SNR=25						
KAPI				Sn	**Sn**	**19 13 46.2**	**-1.4**
	1.9nm,0.3s,baz=118,slow=15,SNR=4.8						
SIJI	**Sorong**	**8.77**	**91**	Pn	**Pn**	**19 13 44.5**	**+2.5**
	0.6nm,0.3s,baz=252,slow=19,SNR=5.0						
TNG	**Tangerang**	**16.70**	**251**	P	P	19 15 41.7	+10
WRA	**Warramunga Arr**	**22.29**	**149**	P	**P**	**19 16 33.7**	**+1.3**
	0.6nm,0.7s,baz=330,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**25.29**	**155**	P	**P**	**19 17 01.6**	**+0.2**
	0.4nm,0.9s,baz=348,slow=14,SNR=4.8						
BSI	**Banda Aceh**	**27.87**	**283**	P	**P**	**19 17 19.3**	**-5.5**
BSI				P	**sP**	**19 17 35.4**	**-0.4**
MKAR	**Makanchi Array**	**59.02**	**329**	P	**P**	**19 21 35.5**	**+1.1**
	0.3nm,0.6s,baz=116,slow=9.7,SNR=2.7						

ISC 28 19:32:16.2±0.8,49°.85N±0°.03×18°.52E±0°.02,h0km,n22, σ1§04/43,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**268**	*e*PG	**Pg**	**19 32 21.1**	**+0.2**
OKC				*e*SG	**Sg**	**19 32 24.5**	**+0.5**
	comp=Z,40nm,0.5s						
MORC	**Moravsky Berou**	**0.64**	**264**	*e*PG	**Pg**	**19 32 28.3**	**-0.1**
MORC				*e*SG	**Sg**	**19 32 36.8**	**+0.1**
OJC	**Ojcow**	**0.90**	**65**	*e*Pg	**Pg**	**19 32 32.3**	**-1.2**
OJC				*e*Pg	**Pg**	**19 32 32.3**	**-1.2**
OJC				*e*Sg	**Sg**	**19 32 44.3**	**-0.9**
OJC				*e*Sg	**Sg**	**19 32 44.3**	**-0.9**
LANS	**Liptovska Anna**	**0.93**	**138**	*e*PG	**Pg**	**19 32 32.9**	**-1.1**
LANS				*e*SG	**Sg**	**19 32 47.4**	**+1.3**
LANS				*e*LG	Lg	19 32 50.3	
JAVC	**Velka Javorina**	**1.14**	**210**	*e*PG	**Pg**	**19 32 37.6**	**-0.3**
KRLC	**Kraliky**	**1.15**	**282**	*e*SG	**Sg**	**19 32 52.0**	**-1.1**
	comp=Z,27nm,0.3s						
NIE	**Niedzica**	**1.23**	**110**	*e*Pg	**Pg**	**19 32 39.1**	**-0.7**
NIE				*e*Pg	**Pg**	**19 32 39.1**	**-0.7**
NIE				*e*Sg	**Sg**	**19 32 56.7**	**+0.9**
NIE				*e*Sg	**Sg**	**19 32 56.7**	**+0.9**
VRAC	**Vranov**	**1.37**	**248**	*e*PG	**Pg**	**19 32 41.3**	**-1.1**
VRAC				*e*SG	**Sg**	**19 32 59.2**	**-0.9**
VYHS	**Vyhne**	**1.37**	**171**	*e*PG	**Pg**	**19 32 40.8**	**-1.6**
VYHS				*e*SG	**Sg**	**19 32 59.4**	**-0.8**
DPC	**Dobruska-Polom**	**1.50**	**290**	*e*PG	**Pn**	**19 32 43.4**	**-1.1**
DPC				*e*SG	**Sg**	**19 33 03.7**	**-0.8**
	comp=Z,10nm,0.3s						
KRUC	**Moravsky**	**1.59**	**241**	*e*PG	**Pn**	**19 32 44.7**	**-1.0**
KRUC				*e*SG	**Sn**	**19 33 06.4**	**-0.6**
KSP	**Ksiaz**	**1.74**	**306**	*e*Pg	**Pn**	**19 32 47.2**	**-0.5**
KSP				*e*Pg	**Pn**	**19 32 47.2**	**-0.5**
KSP				*e*Sg	**Sn**	**19 33 10.8**	**+0.2**
KSP				*e*Sg	**Sn**	**19 33 10.8**	**+0.2**
UPC	**Upice**	**1.74**	**293**	*e*PG	**Pn**	**19 32 47.6**	**-0.2**
UPC				*e*SG	**Sb**	**19 33 11.3**	**-0.2**
	comp=Z,6.5nm,0.4s						
CHVC	**Chvalec**	**1.75**	**296**	*e*PG	**Pn**	**19 32 47.7**	**-0.2**
CHVC				*e*SG	**Sg**	**19 33 12.7**	**+0.3**
STHS	**Stebnicka Huta**	**1.82**	**103**	*e*PN	**Pn**	**19 32 49.1**	**+0.3**
STHS				*e*SN	**Sg**	**19 33 14.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**2.42**	**273**	*e*SG	**Sb**	**19 33 32.4**	**+1.5**
PRU	**Pruhonice**	**2.58**	**275**	*e*SG	**Sg**	**19 33 37.3**	**-1.7**
PVCC	**Panska Ves**	**2.63**	**287**	*e*SG	**Sg**	**19 33 39.7**	**-1.0**
BRG	**Berggiesshubel**	**3.11**	**291**	PG	**Pb**	**19 33 12.7**	**+0.3**
BRG				SG	**Sb**	**19 33 53.1**	**+2.3**
	4.1nm,0.7s						
KHC	**Kasperske Hory**	**3.30**	**259**	*e*PG	**Pb**	**19 33 17.5**	**+1.8**
KHC				*e*SG	**Sg**	**19 34 00.3**	**-2.0**
CLL	**Collm**	**3.81**	**295**	*e*Sg	**Sg**	**19 34 20.0**	**+1.4**
NKC	**Novy Kostel**	**3.94**	**278**	*e*SG	**Sg**	**19 34 21.4**	**-1.2**

*ISCJB **28** 19:33:16.4±1.3,14°.6N±0°.1×92°.00W±0°.07,h82km±11km, Error ellipse: s-maj=21.2km s-min=6.1km az=30.3*
*MEX **28** 19:33:16.3±0.6,14°.49N×91°.90W,h83km±7km,MD3.7*
*SNET **28** 19:33:17.4±1.0,14°.52N×91°.89W,h75km±7km,ML2.6*
*GCG **28** 19:33:17.9±0.5,14°.35N×92°.01W,h48km±48km,MD3.6*
ISC 28 19:33:17.5±1.8,14°.6N±0°.1×91°.97W±0°.07,h76km±12km, n10,σ0§77/17,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.41**	**73**	*e*P	**Pn**	**19 33 30.4**	**+0.1**
ERG	**Entre ros, C**	**0.42**	**111**	*e*P	**Pn**	**19 33 29.9**	**-0.2**
THIG		**0.42**	**318**	*e*P	**Pn**	**19 33 29.6**	**-0.6**
THIG				*i* S	**Sn**	**19 33 39.8**	**+0.2**
FUG	**Fuego 3**	**1.10**	**97**	*e*P	**Pn**	**19 33 37.9**	**+0.2**
FUG				*e*S	**Sn**	**19 33 53.9**	**+1.0**
IXG	**Ixpaco**	**1.54**	**106**	*e*P	**Pn**	**19 33 43.8**	**+0.4**
IXG				*e*S	**Sn**	**19 34 03.5**	**+0.6**
IXG	**Ixpaco**	**1.54**	**106**	*e*P	**Pn**	**19 33 42.5**	**-0.8**
IXG				*e*S	**Sn**	**19 34 01.2**	**-1.6**
PCIG		**1.64**	**313**	*i* P	**Pn**	**19 33 43.6**	**-0.8**
PCIG				*i* S	**Sn**	**19 34 05.4**	**+0.5**
CCIG	**Comitan**	**1.69**	**355**	*i* P	**Pn**	**19 33 44.8**	**-0.5**
CCIG				*i* S	**Sn**	**19 34 06.4**	**0.0**
MRL	**Marmol**	**2.26**	**77**	*e*P	**Pn**	**19 33 52.8**	**-0.2**
CMIG	**Matias Romero**	**3.75**	**312**	*e*P	**Pn**	**19 34 13.2**	**+0.2**
CMIG				*i* S	**Sn**	**19 34 56.9**	**+1.0**

*SOME **28** 19:37:03.2,41°.70N×72°.02E,h20km*
*KRNET **28** 19:37:03.4±0.1,41°.77N×72°.05E,h23km,mb2.3*
*ISCJB **28** 19:37:04.2±0.7,41°.75N±0°.04×72°.08E±0°.03,h8km±5km, Error ellipse: s-maj=6.2km s-min=3.9km az=0.1*
*NNC **28** 19:37:05.0±0.8,41°.87N×72°.03E,h0km,mb2.5,mpv2.5, Error ellipse: s-maj=8.1km s-min=2.6km az=1.0*
ISC 28 19:37:04.5±1.0,41°.78N±0°.04×72°.10E±0°.03,h7km±7km, n22,σ0§92/39,20C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.10**	**281**	⇑*i*P	**Pg**	**19 37 06

3.3nm,0.7s
KST Kastek 3.13 65 *e*P **Pb 19 38 01.6 +1.1**
0.5nm,0.1s
KST *e*S **Sg 19 38 43.1 -1.9**
3.3nm,0.7s

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*ISCJB **28** 19:40:48.7±0.6,25°.1S±0°.1×70°.2E±0°.1,h19km,mb4.0/12, MS3.5/15,Error ellipse: s-maj=16.7km s-min=15.6km az=150.3*
*NEIC **28** 19:40:49.0±1.8,25°.2S±0°.1×70°.1E±0°.1,h10km±1km, mb4.5/10*
*IDC **28** 19:40:48.0±0.7,25°.23S×70°.12E,h0km,mb4.0/12, mb1 4.1/12,mb1mx3.9/45,mbtmp4.0/12,MS3.5/15, Ms1 3.5/15,ms1mx3.3/37,Error ellipse: s-maj=20.9km s-min=20.3km az=7.0*
ISC 28 19:40:50.8±0.7,25°.2S±0°.1×70°.1E±0°.1,h19km,n42, σ1°08/28,mb4.0/16,MS3.6/15,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.56**	**8**	T	T	20 03 11.5	
	baz=189,slow=76,SNR=37						
H08S2	**Diego Garcia H**	**17.56**	**8**	T	T	20 03 04.1	
	baz=189,slow=76,SNR=114						
H08S3	**Diego Garcia H**	**17.58**	**8**	T	T	20 03 05.4	
	baz=189,slow=76,SNR=49						
OPO	**Ambohidratompo**	**22.25**	**283**	P	**P**	**19 45 48.5**	**+1.7**
	4.6nm,0.9s,baz=104,slow=14,SNR=4.0						
PALK	**Pallekele**	**33.84**	**19**	LR	LR	19 57 46.2	
	comp=Z,162nm,21.4s,baz=114,slow=30						
BOSA	**Boshof**	**39.98**	**255**	LR	LR	20 02 53.2	
	comp=Z,100nm,19.1s,baz=34,slow=33						
LEM	**Lembang**	**40.20**	**70**	LR	LR	20 01 17.8	
	comp=Z,79nm,19.6s,baz=224,slow=31						
NWAO	**Narrogin (SRO)**	**41.64**	**112**	LR	LR	20 02 15.9	
	comp=Z,53nm,20.2s,baz=135,slow=31						
MAW	**Mawson**	**42.70**	**184**	LR	LR	20 02 14.2	
	comp=Z,78nm,19.4s,baz=44,slow=30						
KAPI	**Kappang**	**51.58**	**76**	LR	LR	20 09 58.5	
	comp=Z,41nm,18.6s,baz=304,slow=34						
CMAR	**Chiang Mai Arr**	**51.64**	**36**	P	**P**	**19 49 58.1**	**+1.7**
	1.9nm,0.9s,baz=227,slow=7.0,SNR=11						
CMAR				LR	LR	20 07 23.0	
	comp=Z,42nm,21.8s,baz=184,slow=31						
CMAR	**Chiang Mai Arr**	**51.64**	**36**	P	**P**	**19 49 56.7**	**+0.3**
ASAR	**Alice Springs**	**57.61**	**103**	P	**P**	**19 50 39.8**	**-0.2**
	0.9nm,0.7s,baz=254,slow=6.1,SNR=9.3						
ASAR				LR	LR	20 13 01.2	
	comp=Z,39nm,18.8s,baz=276,slow=34						
ASAR	**Alice Springs**	**57.61**	**103**	P	**P**	**19 50 39.4**	**-0.5**
WRA	**Warramunga Arr**	**59.07**	**99**	P	**P**	**19 50 50.2**	**+0.1**
	1.5nm,0.9s,baz=251,slow=6.9,SNR=3.7						
WRA				LR	LR	20 14 00.1	
	comp=Z,55nm,19.7s,baz=270,slow=34						
WRA	**Warramunga Arr**	**59.07**	**99**	P	**P**	**19 50 50.2**	**+0.1**
KBL	**Kabul**	**59.38**	**359**	P	**P**	**19 50 50.0**	**-2.1**
KBL				IAmb	IAmb	19 51 01.0	
	comp=Z,4.1nm,1.0s						
SNAA	**Sanae**	**60.98**	**200**	P	**P**	**19 51 02.1**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=90,slow=4.0,SNR=4.6						
SNAA	**Sanae**	**60.98**	**200**	P	**P**	**19 51 01.3**	**-1.2**
STKA	**Stephens Creek**	**62.16**	**114**	LR	LR	20 14 24.6	
	comp=Z,42nm,19.8s,baz=207,slow=32						
SIJI	**Sorong**	**63.67**	**78**	P	**P**	**19 51 22.3**	**+1.0**
	comp=Z,7.0nm,0.8s,baz=285,slow=1.4,SNR=7.8						
QSPA	**South Pole Qui**	**64.97**	**180**	P	**P**	**19 51 29.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=299,slow=3.3,SNR=5.4						
QSPA	**South Pole Qui**	**64.97**	**180**	P	**P**	**19 51 29.2**	**0.0**
KK31	**Karatay Array**	**67.92**	**0**	P	**P**	**19 51 45.8**	**-2.2**
KKAR	**Karatay Array**	**67.92**	**0**	P	**P**	**19 51 48.8**	**+0.8**
KKAR	**Karatay Array**	**67.92**	**0**	P	**P**	**19 51 45.8**	**-2.2**
KKAR				IAmb	IAmb	19 51 56.9	
	comp=Z,2.9nm,1.0s						
MK31	**Makanchi Array**	**72.45**	**9**	P	**P**	**19 52 13.9**	**-1.8**
MK31				IAmb	IAmb	19 52 23.6	
	comp=Z,5.3nm,1.3s						
MKAR	**Makanchi Array**	**72.45**	**9**	P	**P**	**19 52 16.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=188,slow=5.4,SNR=9.1						
MKAR	**Makanchi Array**	**72.45**	**9**	P	**P**	**19 52 14.9**	**-0.9**
BRTR	**Keskin Array B**	**72.97**	**331**	P	**P**	**19 52 19.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=139,slow=6.6,SNR=4.7						
BRTR	**Keskin Array B**	**72.97**	**331**	P	**P**	**19 52 18.9**	**-0.3**
ABKAR	**Akbulak array**	**74.63**	**353**	P	**P**	**19 52 28.5**	**0.0**
ABKAR	**Akbulak array**	**74.63**	**353**	P	**P**	**19 52 28.0**	**-0.5**
ABKAR				IAmb	IAmb	19 52 36.6	
	comp=Z,4.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.75**	**291**	P	**P**	**19 52 41.9**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=105,slow=5.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.75**	**291**	P	**P**	**19 52 41.2**	**-0.2**
DBIC	**Dimbokro**	**79.36**	**283**	LR	LR	20 26 33.4	
	comp=Z,28nm,18.9s,baz=98,slow=35						
SONM	**Songino Array**	**79.64**	**24**	P	**P**	**19 52 57.6**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=187,slow=2.5,SNR=4.8						
SONM				LR	LR	20 27 45.1	
	comp=Z,16nm,18.5s,baz=344,slow=35						
ZAA0	**Zalesovo Array**	**79.80**	**9**	P	**P**	**19 52 57.3**	**-0.1**
ZAA0				IAmb	IAmb	19 53 05.4	
	comp=Z,7.3nm,1.6s						
ZALV	**Zalesovo Beam**	**79.80**	**9**	P	**P**	**19 52 57.5**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=192,slow=5.6,SNR=4.2						
KSRS	**Korea Array**	**82.64**	**43**	LR	LR	20 29 22.7	
	comp=Z,16nm,18.4s,baz=283,slow=35						
MJAR	**Matsushiro Arr**	**88.76**	**48**	LR	LR	20 32 40.2	
	comp=Z,15nm,19.3s,baz=260,slow=35						
KLR	**Kul'dur**	**92.12**	**35**	LR	LR	20 34 17.7	
	comp=Z,20nm,19.3s,baz=259,slow=35						

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*KRSC **28** 19:56:10.6±1.5,51°.09N×157°.48E,h112km±17km,ML4.2*
*ISCJB **28** 19:56:11.7±0.4,51°.28N±0°.05×156°.96E±0°.09, h127km±3km,mb3.7/13,Error ellipse: s-maj=11.7km s-min=4.6km az=38.5*
*MOS **28** 19:56:11.4±1.0,51°.28N×156°.91E,h130km,mb4.1/2,Error ellipse: s-maj=17.7km s-min=4.1km az=72.6*
*NEIC **28** 19:56:13.5±1.3,51°.4N±0°.1×156°.8E±0°.1,h130km±6km, mb4.7/14*
*IDC **28** 19:56:14.0±0.9,51°.39N×156°.75E,h132km±7km,mb3.4/13, mb1 3.6/16,mb1mx3.4/57,mbtmp3.9/16,Error ellipse: s-maj=16.7km s-min=8.9km az=138.0*
ISC 28 19:56:12.2±0.6,51°.20N±0°.06×157°.16E±0°.06,h122km±5km, h122km;pP-P,n118,σ1°22/148,mb3.8/17,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.35**	**320**	*i* P	**Pn**	**19 56 28.9**	**-0.7**
PAU				*e*S	**Sn**	**19 56 41.8**	**-0.9**
PAU	**Pauzhetka**	**0.35**	**320**	PN	**Pn**	**19 56 28.9**	**-0.7**
PAU				S	**Sn**	**19 56 41.8**	**-0.9**
SKR	**Severo-Kuril's**	**0.84**	**232**	*i* P	**Pn**	**19 56 32.6**	**-0.3**
SKR				*e*S	**Sn**	**19 56 48.1**	**-0.4**
SKR	**Severo-Kuril's**	**0.84**	**232**	PN	**Pn**	**19 56 32.6**	**-0.3**
SKR				S	**Sn**	**19 56 48.1**	**-0.4**
ASAK	**Asacha**	**1.27**	**21**	*i* P	**Pn**	**19 56 37.5**	**+0.2**
ASAK				*e*S	**Sn**	**19 56 56.0**	**-0.3**
ASAK	**Asacha**	**1.27**	**21**	PN	**Pn**	**19 56 37.5**	**+0.2**
ASAK				S	**Sn**	**19 56 56.0**	**-0.3**
MTVR	**Mutnovka**	**1.43**	**26**	*i* P	**Pn**	**19 56 39.6**	**+0.5**
MTVR				*i* S	**Sn**	**19 57 00.1**	**+0.5**
MTVR	**Mutnovka**	**1.43**	**26**	PN	**Pn**	**19 56 39.6**	**+0.5**
MTVR				S	**Sn**	**19 57 00.1**	**+0.5**
GRL	**Gorelyy**	**1.47**	**22**	*e*P	**Pn**	**19 56 40.0**	**+0.5**
GRL				*e*S	**Sn**	**19 57 00.7**	**+0.5**
GRL	**Gorelyy**	**1.47**	**22**	PN	**Pn**	**19 56 40.0**	**+0.5**
GRL				S	**Sn**	**19 57 00.7**	**+0.5**
RUS	**Russkaya**	**1.49**	**34**	*e*P	**Pn**	**19 56 39.6**	**0.0**
RUS				*e*S	**Sn**	**19 56 59.3**	**-1.2**
RUS	**Russkaya**	**1.49**	**34**	PN	**Pn**	**19 56 39.6**	**0.0**
RUS				S	**Sn**	**19 56 59.3**	**-1.2**
APC	**Apacha**	**1.73**	**360**	*e*P	**Pn**	**19 56 41.8**	**-0.6**
APC				*e*S	**Sn**	**19 57 04.9**	**-0.5**
APC	**Apacha**	**1.73**	**360**	PN	**Pn**	**19 56 41.8**	**-0.6**
APC				S	**Sn**	**19 57 04.9**	**-0.5**
KRMR	**Karymshinskiy**	**1.74**	**20**	*i* P	**Pn**	**19 56 42.1**	**-0.4**
KRMR				*e*S	**Sn**	**19 57 04.5**	**-1.2**
KRMR	**Karymshinskiy**	**1.74**	**20**	PN	**Pn**	**19 56 42.1**	**-0.4**
KRMR				S	**Sn**	**19 57 04.5**	**-1.2**
PEA0B	**Petropavlovsk-**	**1.94**	**10**	PN	**Pn**	**19 56 44.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.94**	**10**		**Pn**	**19 56 44.9**	**-0.1**
PETK	**Petropavlovsk-**	**1.94**	**10**	P	**Pn**	**19 56 44.9**	**-0.1**
	25nm,0.3s,baz=171,slow=11,SNR=497						
PETK				S	**Sn**	**19 57 10.8**	**+0.8**
	5.4nm,0.3s,baz=157,slow=14,SNR=6.0						
PETK				LR	LR	19 57 34.8	
	comp=Z,126nm,20.9s,baz=224,slow=45						
PETK	**Petropavlovsk-**	**1.94**	**10**		**Pn**	**19 56 44.8**	**-0.2**
PET	**Petropavlovsk**	**2.04**	**26**	PN	**Pn**	**19 56 46.4**	**+0.2**
PET				S	**Sn**	**19 57 11.7**	**-0.6**
PET	**Petropavlovsk**	**2.04**	**26**		**Pn**	**19 56 46.5**	**+0.2**
DALK	**Dalny**	**2.08**	**28**	*e*P	**Pn**	**19 56 47.1**	**+0.4**
DALK				*e*S	**Sn**	**19 57 12.8**	**-0.3**
DALK	**Dalny**	**2.08**	**28**	PN	**Pn**	**19 56 47.1**	**+0.4**
DALK				S	**Sn**	**19 57 12.8**	**-0.3**
UGLR	**Uglovaya**	**2.26**	**26**	*e*P	**Pn**	**19 56 50.5**	**+1.5**
UGLR	**Uglovaya**	**2.26**	**26**	PN	**Pn**	**19 56 50.5**	**+1.5**
KOK	**Koryaka**	**2.28**	**23**	*i* P	**Pn**	**19 56 51.0**	**+1.6**
KOK	**Koryaka**	**2.28**	**23**	PN	**Pn**	**19 56 51.0**	**+1.6**
AVH	**Avacha**	**2.28**	**24**	*i* P	**Pn**	**19 56 50.9**	**+1.5**
AVH				*e*S	**Sn**	**19 57 19.6**	**+1.8**
AVH	**Avacha**	**2.28**	**24**	PN	**Pn**	**19 56 50.9**	**+1.5**
AVH				S	**Sn**	**19 57 19.6**	**+1.8**
SMAR	**Somma**	**2.30**	**25**	*e*P	**Pn**	**19 56 50.9**	**+1.2**
SMAR	**Somma**	**2.30**	**25**	PN	**Pn**	**19 56 50.9**	**+1.2**
KRER	**Koryakskii**	**2.32**	**24**	*i* P	**Pn**	**19 56 51.2**	**+1.2**
KRER				*e*S	**Sn**	**19 57 19.0**	**+0.1**
KRER	**Koryakskii**	**2.32**	**24**	PN	**Pn**	**19 56 51.2**	**+1.2**
KRER				S	**Sn**	**19 57 19.0**	**+0.1**
SDLR	**Sedlovina**	**2.33**	**26**	*e*P	**Pn**	**19 56 50.9**	**+0.9**
SDLR	**Sedlovina**	**2.33**	**26**	PN	**Pn**	**19 56 50.9**	**+0.9**
KRX	**Arik**	**2.35**	**22**	*e*P	**Pn**	**19 56 51.1**	**+0.9**
KRX	**Arik**	**2.35**	**22**	PN	**Pn**	**19 56 51.1**	**+0.9**
NLC	**Nalytchevo**	**2.39**	**33**	*e*P	**Pn**	**19 56 50.1**	**-0.5**
NLC				*e*S	**Sn**	**19 57 18.4**	**-1.6**
NLC	**Nalytchevo**	**2.39**	**33**	PN	**Pn**	**19 56 50.1**	**-0.5**
NLC				S	**Sn**	**19 57 18.4**	**-1.6**
GNL	**Ganaly**	**2.54**	**10**	*e*P	**Pn**	**19 56 52.5**	**-0.2**
GNL	**Ganaly**	**2.54**	**10**	PN	**Pn**	**19 56 52.5**	**-0.2**
SPN	**Mys Shipunski**	**2.59**	**42**	*e*P	**Pn**	**19 56 53.5**	**+0.3**
SPN				*e*S	**Sn**	**19 57 23.3**	**-1.4**
SPN	**Mys Shipunski**	**2.59**	**42**	PN	**Pn**	**19 56 53.5**	**+0.3**
SPN				S	**Sn**	**19 57 23.3**	**-1.4**
KZV	**Kizimen**	**4.35**	**24**	*e*P	**Pn**	**19 57 17.6**	**+1.1**
KZV	**Kizimen**	**4.35**	**24**	PN	**Pn**	**19 57 17.6**	**+1.1**
MKZ	**Mys Kozlova**	**4.35**	**38**	*e*P	**Pn**	**19 57 15.6**	**-0.8**
MKZ				*e*S	**Sn**	**19 58 03.8**	**-2.4**
MKZ	**Mys Kozlova**	**4.35**	**38**	PN	**Pn**	**19 57 15.6**	**-0.8**
MKZ				S	**Sn**	**19 58 03.8**	**-2.4**
TUMD	**Tumrok D**	**4.46**	**25**	*e*P	**Pn**	**19 57 19.9**	**+2.1**
TUMR	**Tumrok**	**4.46**	**22**	*e*P	**Pn**	**19 57 19.5**	**+1.5**
TUMR	**Tumrok**	**4.46**	**22**	PN	**Pn**	**19 57 19.5**	**+1.5**
KMNR	**Kamenistaya**	**4.92**	**21**	*e*P	**Pn**	**19 57 25.7**	**+1.6**
KMNR	**Kamenistaya**	**4.92**	**21**	PN	**Pn**	**19 57 25.7**	**+1.6**
KPT	**Kopyto**	**5.11**	**20**	*e*P	**Pn**	**19 57 26.8**	**+0.2**
KPT	**Kopyto**	**5.11**	**20**	PN	**Pn**	**19 57 26.8**	**+0.2**
KIRR	**Kirishev**	**5.12**	**20**	*e*P	**Pn**	**19 57 26.0**	**-0.9**
KIRR	**Kirishev**	**5.12**	**20**	PN	**Pn**	**19 57 26.0**	**-0.9**
KOZ	**Kozyrevsk**	**5.13**	**17**	*e*P	**Pn**	**19 57 26.6**	**-0.2**
KOZ	**Kozyrevsk**	**5.13**	**17**	PN	**Pn**	**19 57 26.6**	**-0.2**
BZWR	**Bezymyannyi-We**	**5.17**	**21**	*e*P	**Pn**	**19 57 28.1**	**+0.6**
BZWR	**Bezymyannyi-We**	**5.17**	**21**	PN	**Pn**	**19 57 28.1**	**+0.6**
ZLN	**Zelenaya**	**5.29**	**23**	*e*P	**Pn**	**19 57 30.8**	**+1.7**
ZLN	**Zelenaya**	**5.29**	**23**	PN	**Pn**	**19 57 30.8**	**+1.7**
SRDR	**Sredinnyy**	**5.34**	**15**	*e*P	**Pn**	**19 57 30.9**	**+1.1**
SRDR	**Sredinnyy**	**5.34**	**15**	PN	**Pn**	**19 57 30.9**	**+1.1**
KLY	**Klyuchi**	**5.52**	**21**	*e*P	**Pn**	**19 57 33.1**	**+1.0**
KLY	**Klyuchi**	**5.52**	**21**	PN	**Pn**	**19 57 33.1**	**+1.0**
BDR	**Baidarnaya**	**5.88**	**22**	*e*P	**Pn**	**19 57 37.9**	**+0.8**
BDR	**Baidarnaya**	**5.88**	**22**	PN	**Pn**	**19 57 37.9**	**+0.8**
KBTR	**Krutoberegovo**	**6.04**	**32**	*e*P	**Pn**	**19 57 38.5**	**-0.5**
KBTR	**Krutoberegovo**	**6.04**	**32**	PN	**Pn**	**19 57 38.5**	**-0.5**
BKI	**Bering**	**6.64**	**49**	*e*P	**Pn**	**19 57 46.8**	**-0.3**
BKI				*e*S	**Sn**	**19 58 54.0**	**-7.2**
BKI	**Bering**	**6.64**	**49**	PN	**Pn**	**19 57 46.8**	**-0.3**
JKA	**Kamikawa-asahi**	**12.10**	**240**		**Pn**	**19 59 01.5**	**+1.0**
ASAJ	**Asahikawa**	**12.10**	**240**	P	**Pn**	**19 59 01.5**	**+0.9**
	1.2nm,0.3s,baz=72,slow=13,SNR=13						
YAK	**Yakutsk**	**18.45**	**317**	P	**P**	**20 00 16.5**	**-1.5**
	0.1nm,0.3s,baz=75,slow=3.9,SNR=4.6						
YAK	**Yakutsk**	**18.45**	**317**	P	**P**	**20 00 16.1**	**-1.9**
YAK				IAmb	IAmb	20 00 16.6	
	comp=Z,55nm,1.8s						
MJAR	**Matsushiro Arr**	**19.95**	**230**	P	**P**	**20 00 35.0**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MJAR	**Matsushiro Arr**	**19.95**	**230**	P	**P**	**20 00 35.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=19,slow=12,SNR=5.7						
MJAR	**Matsushiro Arr**	**19.95**	**230**	P	**P**	**20 00 35.0**	**+0.4**
ILAR	**Eielson Array**	**31.43**	**43**	P	**P**	**20 02 21.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=262,slow=7.8,SNR=12						
H11N2	**WAKE ISLAND Hy**	**32.33**	**163**	T	T	20 36 31.6	
	baz=348,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**32.34**	**163**	T	T	20 36 31.7	
	baz=348,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**32.34**	**163**	T	T	20 36 31.4	
	baz=348,slow=76,SNR=26						
BMAR	**Burnt Mountain**	**32.35**	**38**	P	**P**	**20 02 30.4**	**+0.9**
SONM	**Songino Array**	**32.60**	**284**	P	**P**	**20 02 31.4**	**-0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.5s						
SONM	**Songino Array**	**32.60**	**284**	P	**P**	**20 02 31.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=46,slow=8.2,SNR=2.8						
SONM	**Songino Array**	**32.60**	**284**	P	**P**	**20 02 31.4**	**-0.6**
H11S1	**WAKE ISLAND Hy**	**33.49**	**163**	T	T	20 37 55.7	
	baz=348,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**33.50**	**163**	T	T	20 37 54.4	
	baz=348,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**33.51**	**163**	T	T	20 37 57.6	
	baz=348,slow=76,SNR=18						
INK	**Inuvik**	**36.47**	**36**	P	**P**	**20 03 05.7**	**+0.9**
INK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
INK	**Inuvik**	**36.47**	**36**	P	**P**	**20 03 05.5**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=293,slow=7.1,SNR=13						
INK	**Inuvik**	**36.47**	**36**	P	**P**	**20 03 05.7**	**+0.9**
INK				IAmb	IAmb	20 03 17.3	
	comp=Z,10.0nm,1.6s						
RES	**Resolute Bay**	**45.75**	**21**	P	**P**	**20 04 20.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=304,slow=7.0,SNR=5.1						
YKA	**Yellowknife Ar**	**45.78**	**40**	P	**P**	**20 04 21.7**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=298,slow=6.9,SNR=7.3						
KURK	**Kurchatov**	**47.20**	**302**	P	**P**	**20 04 31.0**	**-1.3**
KURK				*PP	**pP**	**20 05 01.4**	**+1.1**
KURBB	**Kurchatov Arra**	**47.30**	**302**	P	**P**	**20 04 31.0**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=61,slow=7.7,SNR=3.6						
KURBB				pP	**pP**	**20 05 01.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=56,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**47.35**	**296**	P	**P**	**20 04 31.4**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=52,slow=8.1,SNR=3.2						
MKAR				pP	**pP**	**20 05 01.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=52,slow=8.3,SNR=6.3						
BVAR	**Borovoye Array**	**50.15**	**308**	P	**P**	**20 04 52.4**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=66,slow=7.9,SNR=7.2						
BVAR				pP	**pP**	**20 05 22.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=58,slow=9.7,SNR=4.2						
ARU	**Arti**	**53.56**	**317**	P	**P**	**20 05 17.7**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=82,slow=11,SNR=3.9						
ARU				pP	**pP**	**20 05 48.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=86,slow=14,SNR=2.1						
ARU	**Arti**	**53.56**	**317**	P	**P**	**20 05 17.7**	**-2.3**
ARU				IAmb	IAmb	20 05 34.3	
	comp=Z,29nm,1.9s						
NVAR	**Mina Array Bea**	**58.12**	**67**	P	**P**	**20 05 55.6**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=301,slow=7.0,SNR=3.2						
TX31	**Lajitas Ar. Si**	**73.06**	**64**	P	**P**	**20 07 30.3**	**+1.3**
TX32	**Lajitas Array**	**73.06**	**64**	P	**P**	**20 07 30.3**	**+1.2**
TX32				IAmb	IAmb	20 09 04.9	
	comp=Z,15nm,2.0s						
TXAR	**Lajitas Array**	**73.06**	**64**	P	**P**	**20 07 30.8**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=293,slow=4.5,SNR=13						
TXAR	**Lajitas Array**	**73.06**	**64**	P	**P**	**20 07 30.6**	**+1.6**
WB0	**Warramunga Arr**	**73.44**	**202**	P	**P**	**20 07 31.6**	**+0.6**
WR0	**Warramunga Arr**	**73.59**	**202**	P	**P**	**20 07 32.9**	**+1.0**
WR0				IAmb	IAmb	20 10 06.5	
	comp=Z,35nm,1.9s						
WRAB	**Tennant Creek**	**73.61**	**202**	P	**P**	**20 07 31.0**	**-1.0**
WRAB	**Tennant Creek**	**73.61**	**202**	P	**P**	**20 07 31.0**	**-1.0**
WRAB				IAmb	IAmb	20 08 35.7	
	comp=Z,44nm,1.9s						
WB2	**Warramunga Arr**	**73.62**	**202**	P	**P**	**20 07 32.6**	**+0.5**
WB2				IAmb	IAmb	20 08 35.7	
	comp=Z,38nm,1.8s						
WRA	**Warramunga Arr**	**73.62**	**202**	P	**P**	**20 07 32.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=18,slow=6.2,SNR=15						
WRA	**Warramunga Arr**	**73.62**	**202**	P	**P**	**20 07 32.5**	**+0.5**
M55A	**Ridgway**	**75.65**	**40**	P	**P**	**20 07 44.2**	**+0.5**
AS31	**Alice Springs**	**77.31**	**202**	P	**P**	**20 07 54.5**	**+1.4**
ASAR	**Alice Springs**	**77.31**	**202**	P	**P**	**20 07 54.4**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=16,slow=5.2,SNR=16						
ASAR	**Alice Springs**	**77.31**	**202**	P	**P**	**20 07 54.2**	**+1.1**

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*SOME **28** 20:06:06.4,47°.20N×86°.35E,h20km*
NNC 28 20:06:11.7±3.5,46°.99N×86°.19E,h31km±20km,mb3.7, mpv3.4,4C-4D,Error ellipse: s-maj=25.5km s-min=17.4km az=79.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.01**	**297**	P	Pb	20 06 32.0	+1.3
	32nm,0.2s						
ZSN				S	Sb	20 06 50.2	+6.5
	186nm,0.3s						
ZSN	**Zaisan**	**1.01**	**297**	*e*P	Pb	20 06 32.0	+1.3
	32nm,0.2s						
ZSN				*e*S	Sb	20 06 50.2	+6.5
	186nm,0.3s						
MK31	**Makanchi Array**	**2.68**	**267**	Pn	Pn	20 06 54.8	+2.1
	0.1nm,0.1s,baz=86,slow=14,SNR=123						
MK31				⇓Pg	Pb	20 06 59.9	+0.9
	1.5nm,0.2s,baz=83,slow=17,SNR=42						
MK31				⇑Lg	Lg	20 07 38.5	
	6.9nm,0.3s,baz=83,slow=35,SNR=5.3						
KAPS	**Kapalarasan**	**5.05**	**253**	Pg	Pn	20 07 27.0	+1.8
	0.9nm,0.2s						
KAPS				Lg	Lg	20 08 24.3	
	8.5nm,0.3s						
KAPS	**Kapalarasan**	**5.05**	**253**	*e*P	Pb	20 07 41.7	+2.4
	0.9nm,0.3s						
KAPS				*e*S	Sb	20 08 50.5	+11
	7.1nm,0.5s						
PDGK	**Podgornoye**	**5.99**	**235**	⇑Pn	Pn	20 07 38.4	+0.1
	2.2nm,0.9s						
PDGK				⇑Sn	Sn	20 08 45.2	-0.5
	6.5nm,0.8s						
PDGK				⇓Lg	Lg	20 09 21.1	
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**6.23**	**308**	⇓Pn	Pn	20 07 40.9	-0.4
	1.5nm,0.7s						
KURBB				⇑Sn	Sn	20 08 52.2	+0.9
	3.2nm,0.7s						
KURBB				⇓Lg	Lg	20 09 31.7	
	18nm,0.5s						
UZB	**Uzynbulak**	**6.37**	**235**	Pg	Pn	20 07 44.9	+1.5
	1.9nm,0.3s						
UZB				Lg	Lg	20 08 55.4	
	5.1nm,0.3s						
SATY	**Saty**	**6.77**	**237**	Pg	Pn	20 07 51.8	+2.8
	1.2nm,0.2s						
SATY				Lg	Lg	20 09 07.0	
	4.6nm,0.3s						

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*SKHL **28** 20:19:13.2±0.6,45°.25N×151°.72E,h39km±8km,mb4.2/1*
*IDC **28** 20:19:15.4±4.9,46°.40N×150°.95E,h108km±48km,mb3.2/6, mb1 3.4/7,mb1mx3.2/37,mbtmp3.6/7,Error ellipse: s-maj=35.7km s-min=22.6km az=131.0*
ISC 28 20:19:09.0±1.0,45°.8N±0°.2×151°.7E±0°.1,h48km,n27, σ2°90/25,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.77**	**260**	*i* P	**Pn**	**20 19 54.0**	**+3.2**
KUR				AMB	AMB	20 19 55.0	
	33nm,0.3s						
KUR				*i* S	**Sn**	**20 20 25.0**	**+2.1**
KUR				A	A	20 20 26.0

SATY	**Saty** 55nm,0.4s	**2.02 298**	Pg	**Pg**	**20 34 10.3 +0.6**
SATY	42nm,0.3s		Lg	Lg	20 34 37.0
SATY	**Saty** 55nm,0.4s	**2.02 298**	*e*P	**Pg**	**20 34 10.3 +0.6**
SATY	42nm,0.3s		*e*S	**Sg**	**20 34 37.0 +1.1**
ZHN	**Zhinishke** 35nm,0.2s	**2.05 301**	Pg	**Pg**	**20 34 10.6 +0.2**
ZHN	18nm,0.3s		Lg	Lg	20 34 37.6
ZHN	**Zhinishke** 35nm,0.2s	**2.05 301**	*e*P	**Pg**	**20 34 10.6 +0.2**
ZHN	18nm,0.3s		*e*S	**Sg**	**20 34 37.6 +0.7**
KPKS	**Kokpek** 43nm,0.2s	**2.06 310**	*e*P	**Pg**	**20 34 10.6 0.0**
KPKS	89nm,0.3s		*e*S	**Sg**	**20 34 37.7 +0.3**
DJR	**Jarkent** 4.9nm,0.3s	**2.31 341**	Pg	**Pg**	**20 34 15.5 +0.1**
DJR	33nm,0.5s		Lg	Lg	20 34 46.0
DJR	**Jarkent** 4.9nm,0.3s	**2.31 341**	*e*P	**Pg**	**20 34 15.5 +0.1**
DJR	33nm,0.5s		*e*S	**Sg**	**20 34 46.0 +0.5**
KURS	**Kuram** 15nm,0.4s	**2.38 305**	Pg	**Pg**	**20 34 16.1 -0.6**
KURS	24nm,0.6s		Lg	Lg	20 34 47.0
KURS	**Kuram** 15nm,0.4s	**2.38 305**	*e*P	**Pg**	**20 34 16.1 -0.6**
KURS	24nm,0.6s		*e*S	**Sg**	**20 34 47.0 -0.5**
MNBS	**Baschi** 22nm,0.1s	**2.63 318**	Pg	**Pb**	**20 34 20.3 +2.0**
MNBS	74nm,0.3s		Lg	Lg	20 34 54.2
MNBS	**Baschi** 22nm,0.1s	**2.63 318**	*e*P	**Pb**	**20 34 20.3 +2.0**
MNBS	74nm,0.3s		*e*S	**Sg**	**20 34 54.2 -1.4**
KOTS	**Kotyrbulak** 23nm,0.5s	**2.96 293**	Pg	**Pg**	**20 34 26.5 -1.2**
KOTS	40nm,0.5s		Lg	Lg	20 35 04.6
KOTS	**Kotyrbulak** 23nm,0.5s	**2.96 293**	*e*P	**Pg**	**20 34 26.5 -1.2**
KOTS	40nm,0.5s		*e*S	**Sg**	**20 35 04.6 -1.5**
MDOK	**Medeo** 9.9nm,0.5s	**2.98 291**	⇓Pg	**Pb**	**20 34 26.0 +1.8**
MDOK	22nm,0.6s		⇓Lg	Lg	20 35 02.6
MDOK	**Medeo** 13nm,0.8s	**2.98 291**	Pg	**Pb**	**20 34 26.2 +2.0**
MDOK	20nm,1.2s		Lg	Lg	20 35 04.2
MDOK	**Medeo** 13nm,0.8s	**2.98 291**	⇑*i*P	**Pb**	**20 34 26.2 +2.0**
MDOK	20nm,1.2s		⇓*i*S	**Sg**	**20 35 04.2 -2.5**
TNSS	**Tian-Shan** 8.0nm,0.5s	**3.01 288**	Pg	**Pb**	**20 34 26.9 +1.9**
TNSS	17nm,0.3s		Lg	Lg	20 35 05.4
TNSS	**Tian-Shan** 8.0nm,0.5s	**3.01 288**	*e*P	**Pb**	**20 34 26.9 +1.9**
TNSS	17nm,0.3s		*e*S	**Sg**	**20 35 05.4 -2.4**
ARXS	**Arharly** 4.9nm,0.4s	**3.02 314**	Pg	**Pb**	**20 34 26.7 +1.8**
ARXS	21nm,0.4s		Lg	Lg	20 35 04.9
ARXS	**Arharly** 4.9nm,0.4s	**3.02 314**	*e*P	**Pb**	**20 34 26.7 +1.8**
ARXS	21nm,0.4s		*e*S	**Sb**	**20 35 04.9 +3.1**
AAA	**Alma-Ata** 8.9nm,0.1s	**3.08 291**	Pg	**Pg**	**20 34 29.3 -0.8**
AAA	9.9nm,0.1s		Lg	Lg	20 35 09.5
AAA	**Alma-Ata** 8.9nm,0.1s	**3.08 291**	*e*P	**Pg**	**20 34 29.3 -0.8**
AAA	9.9nm,0.1s		*e*S	**Sg**	**20 35 09.5 -0.6**
IZV	**Izvestkoviy** 5.2nm,0.3s	**3.25 287**	Pg	**Pb**	**20 34 30.9 +2.1**
IZV	29nm,0.6s		Lg	Lg	20 35 12.1
IZV	**Izvestkoviy** 5.2nm,0.3s	**3.25 287**	*e*P	**Pb**	**20 34 30.9 +2.1**
IZV	29nm,0.6s		*e*S	**Sg**	**20 35 12.1 -3.3**
CHKK	**Chushkaly** 3.5nm,0.3s	**3.30 302**	Pg	**Pg**	**20 34 32.7 -1.7**
CHKK	14nm,0.4s		Lg	Lg	20 35 15.0
CHKK	**Chushkaly** 3.5nm,0.3s	**3.30 302**	*e*P	**Pg**	**20 34 32.7 -1.7**
CHKK	14nm,0.4s		*e*S	**Sg**	**20 35 15.0 -2.1**
KAPS	**Kapalarasan** 0.9nm,0.2s	**3.32 342**	Pg	**Pb**	**20 34 32.9 +2.9**
KAPS	28nm,0.3s		Lg	Lg	20 35 15.6
KAPS	**Kapalarasan** 0.9nm,0.2s	**3.32 342**	*e*P	**Pb**	**20 34 32.9 +2.9**
KAPS	28nm,0.3s		*e*S	**Sg**	**20 35 15.6 -2.0**
MTBS	**Maitube** 4.1nm,0.1s	**3.40 288**	Pg	**Pb**	**20 34 34.0 +2.6**
MTBS	23nm,0.3s		Lg	Lg	20 35 17.3
MTBS	**Maitube** 4.1nm,0.1s	**3.40 288**	*e*P	**Pb**	**20 34 34.0 +2.6**
MTBS	23nm,0.3s		*e*S	**Sg**	**20 35 17.3 -3.0**
KST	**Kastek** 4.4nm,0.3s	**3.71 286**	Pg	**Pb**	**20 34 38.3 +1.6**
KST	12nm,0.5s		Lg	Lg	20 35 24.8
KST	**Kastek** 4.4nm,0.3s	**3.71 286**	*e*P	**Pb**	**20 34 38.3 +1.6**
KST	12nm,0.5s		*e*S	**Sb**	**20 35 24.8 +3.1**
KUU	**Kurty** 4.1nm,0.6s	**3.73 299**	Pg	**Pb**	**20 34 40.2 +3.2**
KUU	15nm,0.5s		Lg	Lg	20 35 27.7
KUU	**Kurty** 4.1nm,0.6s	**3.73 299**	*e*P	**Pb**	**20 34 40.2 +3.2**
KUU	15nm,0.5s		*e*S	**Sg**	**20 35 27.7 -3.2**
DGS	**Degeres** 2.1nm,0.3s	**3.89 288**	Pg	**Pb**	**20 34 42.8 +3.0**
DGS	19nm,0.5s		Lg	Lg	20 35 32.1
DGS	**Degeres** 2.1nm,0.3s	**3.89 288**	*e*P	**Pb**	**20 34 42.8 +3.0**
DGS	19nm,0.5s		*e*S	**Sg**	**20 35 32.1 -4.0**
TKM2	**Tokmak 2** 2.2nm,0.7s	**3.95 283**	⇑Pg	**Pb**	**20 34 43.2 +2.3**
TKM2	4.1nm,0.4s		⇑Lg	Lg	20 35 33.7
AAK	**Ala-Archa** 1.3nm,0.6s	**4.73 278**	⇑Pg	**Pb**	**20 34 57.2 +3.2**
AAK	7.2nm,0.6s		⇓Lg	Lg	20 35 58.3
MK31	**Makanchi Array** 0.6nm,0.5s,baz=196,slow=14,SNR=25	**4.76 12**	⇑Pn	Pn	20 34 49.9 +7.2
MK31	2.1nm,0.8s,baz=195,slow=15,SNR=4.0		⇑Pg	**Pg**	**20 35 01.6 -0.6**
MK31	1.6nm,0.7s,baz=205,slow=24,SNR=4.0		⇑Sn	**Sb**	**20 35 47.8 -4.0**
MK31	2.5nm,0.6s,baz=194,slow=27,SNR=5.2		⇑Lg	Lg	20 36 08.4

*KRNET **28** 20:47:00.8±0.1, 41°.35N×78°.25E, h21km, mb2.1*
*SOME **28** 20:47:01.9, 41°.35N×78°.25E, h15km*
*NNC **28** 20:47:03.0±1.0, 41°.42N×78°.24E, h0km, mb3.1, mpv2.8,*
Error ellipse: s-maj=6.8km s-min=4.0km az=172.0
ISC 28 20:47:01.6±1.9**, 41°.34N**±0°.07×**78°.21E**±0°.04**, h6**km±11km**,**

n36,σ0°**96**/59**, 16C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=19	**0.49**	**322**	⇓*i*P	**Pg**	**20 47 11.0**	**-0.2**
TARG	baz=19			⇓*i*S	**Sg**	**20 47 18.2**	**+0.6**
KDJ	**Kajisay** baz=15	**1.10**	**316**	⇑*i*P	**Pb**	**20 47 21.6**	**-1.5**
KDJ	baz=15			⇑*i*S	**Sb**	**20 47 36.5**	**-1.3**
PRZ	**Przheval'sk** baz=6.0	**1.15**	**7**	⇑*i*P	**Pb**	**20 47 21.8**	**-2.2**
PRZ	baz=6.0			⇑*i*S	**Sb**	**20 47 37.0**	**-2.3**
ANVS	**Anan'yevo** baz=43	**1.50**	**345**	⇑*i*P	**Pn**	**20 47 28.6**	**-0.6**
ANVS	baz=43			⇑*i*S	**Sb**	**20 47 48.6**	**-0.6**
NRN	**Naryn** baz=73	**1.66**	**274**	⇑*i*P	**Pb**	**20 47 32.1**	**-0.7**
NRN	baz=73			⇑*i*S	**Sb**	**20 47 54.0**	**-0.1**
SATY	**Saty** 2.8nm,0.1s	**1.72**	**5**	P	**Pb**	**20 47 33.1**	**-0.6**
SATY	13nm,0.1s			S	**Sb**	**20 47 55.6**	**-0.1**
SATY	**Saty** 2.8nm,0.1s	**1.72**	**5**	*e*P	**Pb**	**20 47 33.1**	**-0.6**
SATY	13nm,0.1s			*e*S	**Sb**	**20 47 55.6**	**-0.1**
ULHL	**Ulahol** baz=2.0	**1.72**	**302**	⇑*i*P	**Pn**	**20 47 32.4**	**+0.1**
ULHL	baz=2.0			⇑*i*S	**Sb**	**20 47 55.5**	**-0.3**
UZB	**Uzynbulak** 2.2nm,0.2s	**1.90**	**18**	P	**Pb**	**20 47 36.4**	**-0.5**
UZB	9.7nm,0.5s			S	**Sg**	**20 48 01.2**	**-1.6**
UZB	**Uzynbulak** 2.2nm,0.2s	**1.90**	**18**	*e*P	**Pb**	**20 47 36.4**	**-0.5**
UZB	9.7nm,0.5s			*e*S	**Sg**	**20 48 01.2**	**-1.6**
TNSS	**Tian-Shan** 1.2nm,0.1s	**1.94**	**332**	Pg	**Pb**	**20 47 37.6**	**0.0**
TNSS	2.5nm,0.2s			Lg	Lg	20 48 03.1	
TNSS	**Tian-Shan** 1.2nm,0.1s	**1.94**	**332**	*e*P	**Pb**	**20 47 37.6**	**0.0**
TNSS	2.5nm,0.2s			*e*S	**Sg**	**20 48 03.1**	**-0.7**
MDOK	**Medeo** 1.8nm,0.6s	**2.01**	**335**	Pg	**Pb**	**20 47 38.1**	**-0.6**
MDOK	2.9nm,0.7s			⇓Lg	Lg	20 48 05.8	
MDOK	**Medeo** 3.2nm,0.3s	**2.01**	**335**	Pg	**Pb**	**20 47 38.3**	**-0.4**
MDOK	2.8nm,0.4s			Lg	Lg	20 48 04.6	
MDOK	**Medeo** 3.2nm,0.3s	**2.01**	**335**	*e*P	**Pb**	**20 47 38.3**	**-0.4**
MDOK	2.8nm,0.4s			*e*S	**Sb**	**20 48 04.6**	**+0.6**
SHLS	**Shalkode** 1.3nm,0.2s	**2.04**	**27**	Pg	**Pg**	**20 47 41.5**	**+0.7**
SHLS	7.9nm,0.3s			Lg	Lg	20 48 09.8	
SHLS	**Shalkode** 1.3nm,0.2s	**2.04**	**27**	*e*P	**Pg**	**20 47 41.5**	**+0.7**
SHLS	7.9nm,0.3s			*e*S	**Sg**	**20 48 09.8**	**+2.7**
BOOM	**Boomskoye usch** baz=4.0	**2.04**	**305**	⇓*e*P	**Pn**	**20 47 36.7**	**0.0**
BOOM	baz=4.0			⇓*i*S	**Sn**	**20 48 02.7**	**+0.1**
KOTS	**Kotyrbulak** 2.2nm,0.2s	**2.06**	**337**	Pg	**Pb**	**20 47 40.1**	**+0.6**
KOTS	5.9nm,0.4s			Lg	Lg	20 48 07.4	
KOTS	**Kotyrbulak** 2.2nm,0.2s	**2.06**	**337**	*e*P	**Pb**	**20 47 40.1**	**+0.6**
KOTS	5.9nm,0.4s			*e*S	**Sg**	**20 48 07.4**	**-0.4**
IZV	**Izvestkoviy** 0.8nm,0.2s	**2.07**	**326**	Pg	**Pb**	**20 47 39.9**	**+0.3**
IZV	6.0nm,0.3s			Lg	Lg	20 48 07.3	
IZV	**Izvestkoviy** 0.8nm,0.2s	**2.07**	**326**	*e*P	**Pb**	**20 47 39.9**	**+0.3**
IZV	6.0nm,0.3s			*e*S	**Sg**	**20 48 07.3**	**-0.7**
KPKS	**Kokpek** 9.4nm,0.2s	**2.15**	**9**	*e*P	**Pb**	**20 47 40.4**	**-0.6**
KPKS	7.2nm,0.3s			*e*S	**Sb**	**20 48 08.1**	**+0.1**
PDGK	**Podgornoye** 0.9nm,0.3s	**2.20**	**25**	Pg	**Pb**	**20 47 42.3**	**+0.4**
PDGK	2.9nm,0.5s			Lg	Lg	20 48 11.3	
PDGK	**Podgornoye** 1.6nm,0.6s	**2.20**	**25**	⇓Pg	**Pb**	**20 47 40.5**	**-1.4**
PDGK	3.0nm,0.4s			⇓Lg	Lg	20 48 11.3	
KST	**Kastek** 0.8nm,0.1s	**2.38**	**316**	Pg	**Pb**	**20 47 45.4**	**+0.4**
KST	2.3nm,0.3s			Lg	Lg	20 48 16.4	
KST	**Kastek** 0.8nm,0.1s	**2.38**	**316**	*e*P	**Pb**	**20 47 45.4**	**+0.4**
KST	2.3nm,0.3s			*e*S	**Sb**	**20 48 16.4**	**+1.8**
TKM2	**Tokmak 2** 1.5nm,0.7s	**2.50**	**310**	⇑Pg	**Pg**	**20 47 49.8**	**+0.3**
TKM2	2.3nm,0.6s			⇑Lg	Lg	20 48 20.2	
TKM2	**Tokmak 2** baz=9.0	**2.50**	**310**	⇑*e*P	**Pn**	**20 47 43.3**	**+0.3**
TKM2	baz=9.0			⇑*i*S	**Sn**	**20 48 14.2**	**+0.3**
KTBS	**Karatobe** 0.9nm,0.3s	**2.62**	**335**	Pg	**Pb**	**20 47 50.2**	**+1.2**
KTBS	12nm,0.3s			Lg	Lg	20 48 24.8	
KTBS	**Karatobe** 0.9nm,0.3s	**2.62**	**335**	*e*P	**Pb**	**20 47 50.2**	**+1.2**
KTBS	12nm,0.3s			*e*S	**Sg**	**20 48 24.8**	**-1.0**
CHKK	**Chushkaly** 1.1nm,0.1s	**2.67**	**341**	Pg	**Pb**	**20 47 50.2**	**+0.5**
CHKK	2.8nm,0.2s			Lg	Lg	20 48 24.8	
CHKK	**Chushkaly** 1.1nm,0.1s	**2.67**	**341**	*e*P	**Pb**	**20 47 50.2**	**+0.5**
CHKK	2.8nm,0.2s			*e*S	**Sb**	**20 48 24.8**	**+2.1**
ARLS	**Aral** baz=81	**2.96**	**281**	⇑*i*P	**Pn**	**20 47 49.4**	**+0.2**
ARLS	baz=81			⇑*i*S	**Sn**	**20 48 24.7**	**-0.4**
DJR	**Jarkent** 1.0nm,0.1s	**3.21**	**21**	Pg	**Pb**	**20 47 59.2**	**+0.2**
DJR	2.4nm,0.3s			Lg	Lg	20 48 39.9	
DJR	**Jarkent** 1.0nm,0.1s	**3.21**	**21**	*e*P	**Pb**	**20 47 59.2**	**+0.2**
DJR	2.4nm,0.3s			*e*S	**Sb**	**20 48 39.9**	**+1.5**

DJA 28 20:50:20.4±1.5**, 0°S**±9°×**13°0E**±°**, h10**km**, M3.2/3, MLv3.2/3,**
Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.10**	**112**	P	Pg	20 50 41.7	+0.1
SWI				S	Sn	20 50 56.8	-0.3
SWI	**Sorong** 458nm,0.4s,11μm	**1.10**	**112**	P	Pn	20 50 41.8	-0.1
FAKI	**Fak Fak**	**3.17**	**141**	P	Pn	20 51 13.3	+2.9

*JMA **28** 21:03:40.6±0.2, 43°.93N×148°.05E, h0km, M3.5*
*SKHL **28** 21:03:41.0±0.4, 44°.36N×148°.26E, h61km±5km, mb3.6/2*
ISC 28 21:03:39.6±3.1**, 44°.3N**±0°.1×**148°.4E**±0°.2**, h55**km**, n15,**
σ1°44/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**338**	*i* P	**Pn**	**21 03 57.0**	**-0.1**
KUR	16nm,0.2s			AMB	AMB	21 03 58.0	
KUR				*i* S	**Sn**	**21 04 09.3**	**-0.7**
KUR	229nm,0.3s			A	A	21 04 10.0	
KUR	352nm,0.3s			A	A	21 04 10.0	
YUK	**Yuzh-Kuril'sk**	**1.84**	**262**	*e*P	**Pn**	**21 04 08.5**	**-0.3**
YUK	244nm,0.3s			*e*S	**Sn**	**21 04 29.3**	**-1.7**
YUK	158nm,0.3s			A	A	21 04 36.0	
YUK				A	A	21 04 36.0	
GRPR	**Tuman** 35nm,0.3s	**1.91**	**261**	*e*P	**Pn**	**21 04 09.8**	**0.0**
GRPR	153nm,0.5s			AMB	AMB	21 04 12.0	
GRPR				*e*S	**Sn**	**21 04 31.0**	**-1.7**
GRPR	206nm,0.5s			A	A	21 04 36.0	
GRPR				A	A	21 04 36.0	
NEM2	**Nemuro 2**	**2.15**	**244**	P	**Pn**	**21 04 13.0**	**+0.1**
NEM2				*e*S	**Sn**	**21 04 36.1**	**-2.3**
GLVR	**Golovnino**	**2.15**	**255**	*e*P	**Pn**	**21 04 12.5**	**-0.5**
GLVR	368nm,0.4s			*e*S	**Sn**	**21 04 36.0**	**-2.6**
GLVR	201nm,0.4s			A	A	21 04 40.0	
GLVR				A	A	21 04 40.0	
NMR	**Nemuro--Hokkai**	**2.15**	**244**	*i* P	**Pn**	**21 04 13.0**	**0.0**
NMR				*i* S	**Sn**	**21 04 36.0**	**-2.6**
JRA	**Rausu**	**2.38**	**262**	P	**Pn**	**21 04 17.8**	**+1.6**
JRA				*e*S	**Sn**	**21 04 45.7**	**+1.5**
JNSB	**Nemuroshibetsu**	**2.50**	**258**	P	**Pn**	**21 04 19.7**	**+1.9**
JNSB				*e*S	**Sn**	**21 04 48.3**	**+1.2**
JKHN	**Kushirohamanak**	**2.65**	**243**	P	**Pn**	**21 04 20.4**	**+0.5**
JNK	**Nakash**	**2.75**	**255**	P	**Pn**	**21 04 22.5**	**+1.2**
JNK				*e*S	**Sn**	**21 04 52.4**	**-0.9**
JAK	**Akkeshi**	**2.99**	**245**	P	**Pn**	**21 04 25.1**	**+0.5**
JAK				*e*S	**Sn**	**21 04 58.1**	**-1.1**
JAR	**Ashorobuto**	**3.50**	**254**	*e*S	**Sn**	**21 05 12.0**	**+0.3**
JCH	**Churui**	**4.04**	**247**	*e*S	**Sn**	**21 05 24.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.60**	**245**	P	**Pn**	**21 04 48.4**	**+1.9**
JKB	**Kayabe**	**5.91**	**248**	P	**Pn**	**21 05 06.4**	**+1.9**

*SJA **28** 21:07:52.5±0.4, 23°.53S×68°.99W, h95km±3km, ML3.2, MW2.9*
*GUC **28** 21:07:52.8±0.7, 23°.52S×69°.00W, h94km±4km, ML3.1*
*ISCJB **28** 21:07:53.3±0.9, 23°.50S±0°.04×69°.02W±0°.08, h103km±12km, Error ellipse: s-maj=12.7km s-min=6.6km az=6.1*
ISC 28 21:07:54.3±1.6**, 23°.51S**±0°.04×**69°.02W**±0°.06**, h92**km±13km**,**
n20,σ0°**43**/31**, 5C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.52**	**306**	⇑*i*P	**Pn**	**21 08 09.1**	**-0.5**
PB15				*i* S	**Sn**	**21 08 21.1**	**+0.1**
PB15	**IPOC Station P**	**0.52**	**306**	*i* P	**Pn**	**21 08 09.1**	**-0.5**
PB15				*e*S	**Sn**	**21 08 21.5**	**+0.5**
PB06	**IPOC Station P**	**0.95**	**327**	⇑*i*P	**Pn**	**21 08 13.3**	**-0.4**
PB06				*i* S	**Sn**	**21 08 28.6**	**+0.3**
PB06	comp=N,2μm,0.2s			IAML		21 08 29.1	
PB06	**IPOC Station P**	**0.95**	**327**	*i* P	**Pn**	**21 08 13.4**	**-0.4**
PB06	comp=Z,839nm,0.2s			IAML		21 08 28.8	
PB06				*e*S	**Sn**	**21 08 29.0**	**+0.7**
PB05	**IPOC Station P**	**1.27**	**301**	⇑*i*P	**Pn**	**21 08 17.0**	**-0.5**
PB05				*i* S	**Sn**	**21 08 35.5**	**+0.6**
PB05	comp=E,182nm,0.3s			IAML		21 08 37.6	
PB05	**IPOC Station P**	**1.27**	**301**	*i* P	**Pn**	**21 08 17.4**	**-0.1**
PB05				*e*S	**Sn**	**21 08 35.5**	**+0.6**
PB10	**IPOC Station P**	**1.41**	**270**	*e*P	**Pn**	**21 08 19.0**	**0.0**
PB10				*i* S	**Sn**	**21 08 37.7**	**0.0**
PB10	**IPOC Station P**	**1.41**	**270**	*i* P	**Pn**	**21 08 19.1**	**0.0**
PB04	**IPOC Station P**	**1.57**	**318**	*e*P	**Pn**	**21 08 20.9**	**-0.3**
PB04				*i* S	**Sn**	**21 08 41.6**	**0.0**
PB04	comp=N,267nm,0.3s			IAML		21 08 44.0	
PB04	**IPOC Station P**	**1.57**	**318**	*i* P	**Pn**	**21 08 21.1**	**-0.1**
PB03	**IPOC Station P**	**1.61**	**335**	⇓*i*P	**Pn**	**21 08 21.2**	**-0.4**
PB03	comp=E,209nm,0.2s			IAML		21 08 45.9	
PB14	**IPOC Station P**	**1.69**	**229**	*e*P	**Pn**	**21 08 22.5**	**-0.3**
PB14				*i* S	**Sn**	**21 08 44.9**	**+0.5**
PB14	**IPOC Station P**	**1.69**	**229**	*i* P	**Pn**	**21 08 22.3**	**-0.5**
PB09	**IPOC Station P**	**1.72**	**353**	⇑*i*P	**Pn**	**21 08 23.2**	**+0.1**
PB09				*i* S	**Sn**	**21 08 45.1**	**+0.1**
PB09	comp=E,152nm,0.5s			IAML		21 08 46.3	
PB09	**IPOC Station P**	**1.72**	**353**	*i* P	**Pn**	**21 08 22.9**	**-0.2**
GO02	**Mina Guanaco**	**1.72**	**198**	⇑*i*P	**Pn**	**21 08 22.7**	**-0.6**
GO02				*i* S	**Sn**	**21 08 45.7**	**+0.4**
PB07	**IPOC Station P**	**1.95**	**335**	⇓*i*P	**Pn**	**21 08 25.8**	**-0.3**
PB07	comp=N,134nm,0.4s			IAML		21 08 54.8	
PB02	**IPOC Station P**	**2.33**	**339**	⇓*i*P	**Pn**	**21 08 30.6**	**-0.4**
PB02	comp=E,148nm,0.3s			IAML		21 09 16.1	
PB01	**IPOC Station P**	**2.50**	**350**	⇓*i*P	**Pn**	**21 08 32.6**	**-0.7**
HJA	**Humahuaca**	**3.33**	**85**	*i* P	**Pn**	**21 08 44.7**	**+0.1**
HJA	comp=Z,31nm,0.5s			IAML		21 08 45.7	

*ISCJB **28** 21:17:44.8±0.4, 36°.22N±0°.05×137°.17E±0°.05, h275km±3km, mb3.5/6, Error ellipse: s-maj=9.4km s-min=5.2km az=148.5*
*IDC **28** 21:17:45.9±0.6, 36°.17N×137°.09E, h272km±6km, mb3.4/6, mb1 3.5/9, mb1mx3.1/63, mbtmp3.9/9, Error ellipse: s-maj=21.7km s-min=14.0km az=72.0*
*JMA **28** 21:17:45.4±0.1, 36°.20N×137°.17E, h273km±2km, M3.1*
ISC 28 21:17:45.5±0.7**, 36°.22N**±0°.07×**137°.17E**±0°.05**, h270**km±6km**,**
n30,σ0°**83**/46**, mb3.6/6, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.12**	**89**	P	**Pn**	**21 18 20.4**	**+0.2**
JGN				S	**S**	**21 18 47.4**	**0.0**
JKG	**Kaga**	**0.68**	**275**	P	**Pn**	**21 18 21.8**	**+0.6**
JYTA	**Yamagatataniai**	**0.72**	**209**	P	**Pn**	**21 18 21.7**	**+0.2**
JYTA				S	**S**	**21 18 49.4**	**-0.4**
JNG	**Nsakai**	**0.78**	**76**	P	**Pn**	**21 18 22.3**	**+0.6**
MAT	**Matsushiro**	**0.90**	**69**	P	**Pn**	**21 18 22.5**	**+0.3**
MAT				S	**S**	**21 18 51.4**	**+0.2**
MAT	**Matsushiro**	**0.90**	**69**	P	**Pn**	**21 18 22.5**	**+0.3**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=259,slow=7.1,SNR=30	**0.90**	**69**	P	**Pn**	**21 18 22.8**	**+0.6**
MJAR	0.1nm,0.3s,baz=352,slow=5.1,SNR=5.7			S	**S**	**21 18 53.3**	**+2.1**
JYN	**Shimob**	**1.33**	**122**	P	**Pn**	**21 18 24.7**	**0.0**
JRY	**Ryogami san**	**1.42**	**98**	P	**Pn**	**21 18 26.4**	**+1.2**
JRY				S	**S**	**21 18 57.0**	**+0.3**
JWT	**Wachi**	**1.71**	**237**	P	**Pn**	**21 18 27.4**	**0.0**
JWT				S	**S**	**21 18 59.3**	**-1.2**
JKY	**Yasaka**	**1.77**	**251**	P	**Pn**	**21 18 27.7**	**-0.1**
JKY				S	**S**	**21 19 00.5**	**-0.8**
JOD2	**Odawara 2**	**1.83**	**121**	P	**Pn**	**21 18 28.8**	**+0.5**
JOD2				S	**S**	**21 19 02.0**	**-0.2**
JAG	**Ashikaga**	**1.86**	**83**	P	**Pn**	**21 18 28.5**	**0.0**
JAG				S	**S**	**21 19 00.8**	**-1.7**
JIE	**Ise**	**1.86**	**192**	P	**Pn**	**21 18 29.3**	**+0.7**
JIE				S	**S**	**21 19 02.7**	**0.0**
JSD	**Sado**	**2.01**	**25**	P	**Pn**	**21 18 30.0**	**+0.3**
JSD				S	**S**	**21 19 05.4**	**+0.6**
JKSM	**Kasumi**	**2.13**	**253**	P	**Pn**	**21 18 30.8**	**0.0**
JKSM				S	**S**	**21 19 06.4**	**-0.2**
JTNC	**Tanabenakahech**	**2.72**	**208**	P	**Pn**	**21 18 36.7**	**+0.3**
JTNC				S	**S**	**21 19 16.4**	**-0.5**
JFT	**Otama**	**2.85**	**62**	P	**Pn**	**21 18 38.2**	**+0.5**
JFT				S	**S**	**21 19 18.9**	**-0.3**
JFK	**Kawauchi**	**3.19**	**68**	P	**Pn**	**21 18 41.0**	**-0.2**
JFK				S	**S**	**21 19 23.3**	**-2.3**
JMM	**Marumori**	**3.33**	**59**	P	**Pn**	**21 18 42.8**	**+0.1**
JMM				S	**S**	**21 19 26.6**	**-1.7**

JNU	**Nakatsue**	**6.03**	**241**	P		**Pn**	**21 19 14.6**	**+0.1**
	0.7nm,0.3s,baz=282,slow=7.2,SNR=5.6							
KSRS	**Korea Array**	**7.51**	**282**	P		**Pn**	**21 19 33.5**	**+0.8**
	0.1nm,0.3s,baz=104,slow=13,SNR=4.7							
USRK	**Ussuriysk Ar.**	**8.90**	**335**	P		**Pn**	**21 19 50.5**	**+0.5**
	baz=153,slow=12,SNR=14							
KLR	**Kul'dur**	**13.59**	**345**	P		**Pn**	**21 20 46.1**	**-1.7**
	0.6nm,0.3s,baz=154,slow=11,SNR=12							
KURBB	**Kurchatov Arra**	**43.81**	**308**	P		**P**	**21 25 24.7**	**-0.1**
	0.4nm,0.3s,baz=88,slow=8.4,SNR=9.8							
WRA	**Warramunga Arr**	**55.92**	**183**	P		**P**	**21 26 55.5**	**-0.3**
	1.3nm,0.4s,baz=359,slow=7.6,SNR=18							
ASAR	**Alice Springs**	**59.64**	**183**	P		**P**	**21 27 21.5**	**-0.1**
	0.3nm,0.3s,baz=0.0,slow=5.7,SNR=5.8							
ARCES	**ARCESS Array B**	**63.53**	**339**	P		**P**	**21 27 47.2**	**+0.4**
	1.5nm,0.7s,baz=67,slow=8.0,SNR=2.5							
FINES	**FINESS Array B**	**67.90**	**331**	P		**P**	**21 28 15.0**	**+0.3**
	3.7nm,0.6s,baz=79,slow=7.2,SNR=2.7							
TXAR	**Lajitas Array**	**93.29**	**50**	P		**P**	**21 30 31.5**	**+1.5**
	0.2nm,0.5s,baz=306,slow=4.2,SNR=3.6							

*IDC **28** 21:17:48.2±1.1,20°.26N×121°.52E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.6/59,mbtmp3.9/7,MS2.8/1,Ms1 2.8/1, ms1mx2.3/35,Error ellipse: s-maj=54.4km s-min=17.7km az=62.0*

*ISCJB **28** 21:17:52.9±0.7,20°.24N±0°.07×121°.39E±0°.10,h43km, mb3.8/7,Error ellipse: s-maj=15.7km s-min=6.1km az=36.9*

*JMA **28** 21:17:52.9±0.9,20°.53N×121°.29E,h0km,M4.4*

ISC 28 21:17:54.5±1.0,20°.2N±0°.1×121°.4E±0°.1,h43km,n20, σ0s88/19,mb4.0/7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**4.45**	**30**	P	**Pn**	**21 19 00.7**	**+1.3**
HATJ				eS	**Sn**	**21 19 50.1**	**+0.1**
IRIF	**Iriomote-Funau**	**4.66**	**27**	P	**Pn**	**21 19 03.3**	**+1.0**
IRIF				eS	**Sn**	**21 19 54.2**	**-0.9**
JKRS	**Kuro-shima**	**4.70**	**31**	P	**Pn**	**21 19 03.6**	**+0.7**
JIJ	**Ishigaki jima**	**4.87**	**31**	P	**Pn**	**21 19 06.7**	**+1.5**
JIJ				eS	**Sn**	**21 19 59.0**	**-1.4**
JISG	**Ishigakijimahi**	**5.14**	**31**	P	**Pn**	**21 19 09.4**	**+0.5**
JISG				S	**Sn**	**21 20 05.4**	**-1.6**
JTJ	**Tarama**	**5.38**	**34**	P	**Pn**	**21 19 13.0**	**+0.7**
JTJ				S	**Sn**	**21 20 13.4**	**+0.4**
DAV	**Davao City (W)**	**13.67**	**162**	LR	LR	21 26 37.3	
	comp=Z,36nm,19.8s,baz=335,slow=39						
CMAR	**Chiang Mai Arr**	**21.24**	**269**	P		**P**	**21 22 37.2**	**+0.1**
	0.3nm,0.4s,baz=75,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**41.39**	**319**	P		**P**	**21 25 36.7**	**+0.2**
	1.8nm,0.6s,baz=113,slow=8.9,SNR=25						
WRA	**Warramunga Arr**	**41.86**	**162**	P		**P**	**21 25 40.0**	**-0.6**
	0.9nm,0.6s,baz=343,slow=9.0,SNR=11						
H11N1	**WAKE ISLAND Hy**	**42.68**	**83**	T		T	22 11 35.8	
	baz=276							
H11N2	**WAKE ISLAND Hy**	**42.68**	**82**	T		T	22 11 38.7	
	baz=276							
H11S3	**WAKE ISLAND Hy**	**42.68**	**84**	T		T	22 11 18.7	
	baz=285							
H11S1	**WAKE ISLAND Hy**	**42.69**	**84**	T		T	22 11 09.5	
	baz=285							
H11N3	**WAKE ISLAND Hy**	**42.70**	**83**	T		T	22 11 33.9	
	baz=276							
H11S2	**WAKE ISLAND Hy**	**42.70**	**84**	T		T	22 11 21.0	
	baz=285							
ZALV	**Zalesovo Beam**	**43.71**	**329**	P		**P**	**21 25 54.9**	**-0.4**
	1.3nm,0.4s,baz=114,slow=8.8,SNR=6.3							
ASAR	**Alice Springs**	**45.28**	**164**	P		**P**	**21 26 08.3**	**+0.3**
	0.6nm,0.4s,baz=347,slow=7.1,SNR=11							
KURBB	**Kurchatov Arra**	**45.31**	**322**	P		**P**	**21 26 08.1**	**0.0**
	2.7nm,0.8s,baz=123,slow=7.4,SNR=20							
BVAR	**Borovoye Array**	**50.90**	**323**	P		**P**	**21 26 51.1**	**-0.1**
	1.1nm,0.6s,baz=100,slow=8.5,SNR=8.7							
BVAR				PcP		**PcP**	**21 28 06.6**	**-0.6**
	0.9nm,0.5s,baz=110,slow=3.8,SNR=6.9							

*IDC **28** 21:19:39.6±5.3,30°.16S×177°.50W,h40km±39km,mb3.8/3, mb1 3.9/3,mb1mx3.5/34,mbtmp4.0/3,MS3.1/1,Ms1 3.0/1, ms1mx2.4/33,Error ellipse: s-maj=47.9km s-min=30.6km az=116.0*

ISC 28 21:19:38.2±2.2,30°.2S±0°.1×177°.4W±0°.3,h35km,n6, σ0s76/7,mb4.1/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**332**	P		**Pn**	**21 19 56.7**	**+0.1**
	324nm,0.3s,baz=69,slow=17,SNR=21							
RAO				S		**Sn**	**21 20 10.0**	**0.0**
	1μm,0.3s,baz=180,slow=20,SNR=12							
STKA	**Stephens Creek**	**35.07**	**257**	P		**P**	**21 26 28.9**	**+0.9**
	1.3nm,0.5s,baz=104,slow=12,SNR=3.9							
STKA				LR		LR	21 38 38.3	
	comp=Z,33nm,20.0s,baz=25,slow=33							
ASAR	**Alice Springs**	**43.68**	**266**	P		**P**	**21 27 38.9**	**-1.1**
	0.4nm,0.3s,baz=104,slow=7.4,SNR=9.8							
WRA	**Warramunga Arr**	**44.65**	**272**	P		**P**	**21 27 47.2**	**-0.5**
	1.0nm,0.3s,baz=110,slow=8.1,SNR=29							
FINES	**FINESS Array B**	**145.14**	**340**	PKPbc		**PKPbc**	**21 39 11.0**	**+0.2**
	1.8nm,0.5s,baz=52,slow=4.0,SNR=13							
AKASG	**Malin Array Be**	**151.47**	**323**	PKPbc		**PKPbc**	**21 39 27.8**	**-0.2**
	0.8nm,0.5s,baz=27,slow=1.8,SNR=4.5							

*ISCJB **28** 21:31:47.3±0.4,31°.65N±0°.01×35°.52E±0°.04,h13km±3km, Error ellipse: s-maj=5.9km s-min=2.3km az=9.1*

*JSO **28** 21:31:47.5±0.3,32°.N±3°.×3°.6E±°,h14km±4km,M2.7/11, Mjma2.7/11,ML2.1/7,MLv3.0/11*

*GII **28** 21:31:48.1±0.0,31°.66N×35°.50E,h16km,MD2.2/8*

ISC 28 21:31:47.5±1.1,31°.65N±0°.02×35°.53E±0°.04,h14km±9km, n31,σ0s54/51,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSI	**Dead Sea**	**0.15**	**238**	Pg	**Pb**	**21 31 52.6**	**+0.6**
WALJ	**Wala**	**0.26**	**110**	P	**Pg**	**21 31 53.9**	**+0.9**
MZDA	**Masada**	**0.37**	**203**	Pg	**Pb**	**21 31 55.9**	**+0.2**
MZDA				Sg	**Sb**	**21 32 01.8**	**+0.5**
LISJ	**El Lisan**	**0.41**	**186**	P	**Pb**	**21 31 57.5**	**+1.1**
YTIR	**Yattir**	**0.45**	**231**	Pg	**Pb**	**21 31 57.4**	**+0.1**
YTIR				Sg	**Sb**	**21 32 04.4**	**+0.5**
AMAZ	**Amatzia**	**0.54**	**258**	Pg	**Pb**	**21 31 58.6**	**0.0**
AMAZ				Sg	**Sb**	**21 32 06.2**	**0.0**
AMAZ	**Amatzia**	**0.54**	**258**	P	**Pb**	**21 31 58.6**	**0.0**
KARJ		**0.54**	**168**	P	**Pg**	**21 31 56.0**	**-2.1**
HMDT	**Nahal Hemdat**	**0.60**	**360**	Pg	**Pg**	**21 31 59.7**	**+0.4**
HMDT				Sg	**Sb**	**21 32 08.4**	**+0.3**
SLTI	**Sal'it**	**0.72**	**325**	Pg	**Pg**	**21 32 01.3**	**-0.2**
SLTI				Sg	**Sb**	**21 32 11.4**	**-0.1**
HSUJ	**Al Zarqa**	**0.73**	**51**	P	**Pg**	**21 32 01.4**	**-0.2**
MMLI	**Mount Malkishu**	**0.79**	**353**	Pg	**Pg**	**21 32 02.8**	**0.0**
MMLI				Sg	**Sb**	**21 32 14.1**	**+0.5**
JDRJ	**Daraweish**	**0.93**	**173**	P	**Pb**	**21 32 04.9**	**-0.5**
OFRI	**`Ofer**	**1.07**	**335**	Pg	**Pb**	**21 32 07.0**	**-0.8**
OFRI				Sg	**Sn**	**21 32 22.6**	**-0.2**
SHMJ	**Saham**	**1.09**	**11**	P	**Pb**	**21 32 08.2**	**0.0**
BLGI	**Bet Lehem HaGe**	**1.12**	**345**	Pg	**Pb**	**21 32 08.0**	**-0.6**
BLGI				Sg	**Sg**	**21 32 23.6**	**0.0**
ZFRI	**Zfri**	**1.13**	**195**	Pg	**Pb**	**21 32 08.4**	**-0.4**
ZFRI				Sg	**Sb**	**21 32 23.9**	**+0.5**
KZIT	**Kziot**	**1.22**	**233**	Pg	**Pn**	**21 32 09.6**	**-0.5**
KZIT				Sg	**Sb**	**21 32 25.9**	**0.0**
KZIT	**Kziot**	**1.22**	**233**	P	**Pn**	**21 32 09.9**	**-0.2**
ASF	**Jabal al Asfar**	**1.28**	**66**	P	**Pn**	**21 32 09.8**	**-1.1**
KSHT	**Keshet**	**1.35**	**10**	Pn	**Pn**	**21 32 11.8**	**-0.1**
MMA0B	**Mount Meron ar**	**1.37**	**356**	Pn	**Pn**	**21 32 11.9**	**-0.3**
MMA0B				Sn	**Sb**	**21 32 30.7**	**+0.5**
PRNI	**Paran**	**1.37**	**199**	Pn	**Pn**	**21 32 12.0**	**-0.2**
PRNI				Sn	**Sb**	**21 32 30.6**	**+0.4**
HNTI	**Hanita**	**1.46**	**348**	Pn	**Pn**	**21 32 13.6**	**+0.2**
HNTI				Sn	**Sn**	**21 32 32.6**	**+0.3**
KSDI	**Kefar Szold**	**1.54**	**4**	Pn	**Pn**	**21 32 14.8**	**+0.3**
KSDI				Sn	**Sb**	**21 32 35.7**	**+0.5**
GEM	**Giv'at Ha'Em**	**1.56**	**4**	Pn	**Pn**	**21 32 15.0**	**+0.2**
GEM				Sn	**Sb**	**21 32 35.9**	**+0.2**
NATI	**Neve Ativ**	**1.62**	**6**	Pn	**Pn**	**21 32 15.7**	**+0.2**
NATI				Sn	**Sb**	**21 32 36.9**	**-0.4**
HRFI	**Mount Harif**	**1.66**	**195**	Pn	**Pn**	**21 32 16.1**	**-0.1**
HRFI				Sn	**Sn**	**21 32 38.1**	**+0.8**
KRMI	**Paran Flat**	**1.68**	**205**	Pn	**Pn**	**21 32 16.2**	**-0.2**
KRMI				Sn	**Sn**	**21 32 38.4**	**+0.7**
MBRI	**Mt Berech**	**1.92**	**196**	Pn	**Pn**	**21 32 19.5**	**-0.3**
MBRI				Sn	**Sn**	**21 32 44.4**	**+0.5**
EIL	**Elat**	**2.04**	**194**	Pn	**Pn**	**21 32 21.4**	**+0.1**
EIL				Sn	**Sn**	**21 32 46.6**	**+0.1**

*NORS **28** 21:39:21.8±0.0,41°.84N×46°.06E,h19km,MPVA2.9*

ISC 28 21:39:22.8±1.0,41°.85N±0°.04×46°.02E±0°.03,h14km±8km, n12,σ1s47/24,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.17**	**96**	P	**Pg**	**21 39 26.8**	**-0.1**
LGD				S	**Sg**	**21 39 29.9**	**+0.3**
DDFL	**Dedoflistskaro**	**0.41**	**170**	P	**Pn**	**21 39 34.2**	**-0.2**
DDFL				S	**Sn**	**21 39 46.5**	**+4.5**
DGRG	**David-gareji**	**0.63**	**231**	P	**Pn**	**21 39 37.2**	**-0.2**
DGRG				S	**Sn**	**21 39 47.4**	**+0.1**
GNBR	**Gunib**	**0.88**	**52**	ePg	**Pn**	**21 39 40.2**	**-0.7**
GNBR				eSg	**Sn**	**21 39 52.0**	**-1.6**
DBC	**Dubki**	**1.31**	**27**	ePg	**Pg**	**21 39 48.4**	**+0.3**
DBC				eSg	**Sg**	**21 40 06.8**	**+1.6**
AKT	**Akhty**	**1.33**	**106**	ePg	**Pg**	**21 39 47.1**	**-1.4**
AKT				eSg	**Sg**	**21 40 05.8**	**0.0**
GROC	**Groznyy**	**1.36**	**353**	ePg	**Pg**	**21 39 49.0**	**+0.1**
GROC				eSg	**Sg**	**21 40 08.7**	**+2.1**
KMGR	**Komgaron**	**1.48**	**325**	ePg	**Pg**	**21 39 51.3**	**+0.2**
KMGR				eSg	**Sg**	**21 40 11.7**	**+1.3**
LACR	**Lac**	**1.61**	**308**	ePg	**Pb**	**21 39 52.0**	**-0.4**
LACR				eSg	**Sg**	**21 40 14.2**	**-0.3**
ZEI	**Tsey**	**1.83**	**301**	ePg	**Pg**	**21 39 56.7**	**-1.2**
ZEI				eSg	**Sg**	**21 40 21.2**	**-0.4**
KORR	**Kora**	**1.90**	**311**	ePg	**Pg**	**21 39 59.8**	**+0.6**
KORR				eSg	**Sg**	**21 40 25.4**	**+1.6**
DIGR	**Digorskoe uzhe**	**2.09**	**301**	ePg	**Pb**	**21 40 00.0**	**-0.6**
DIGR				eSg	**Sg**	**21 40 28.0**	**-2.0**

IDC 28 21:47:52.6±2.8,6°.83S×129°.66E,h138km±38km,mb3.1/1, mb1 3.1/5,mb1mx2.9/37,mbtmp3.5/5,Error ellipse: s-maj=68.3km s-min=20.9km az=90.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.13**	**15**	P	Pn	21 49 20.9	-0.2
	0.7nm,0.3s,baz=198,slow=20,SNR=21						
SIJI				S	Sn	21 50 23.2	-7.0
	0.7nm,0.3s,baz=213,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.87**	**199**	P	Pn	21 50 38.4	+0.7
	0.1nm,0.3s,baz=30,slow=13,SNR=5.3						
FITZ				S	Sn	21 52 40.8	-7.8
	0.1nm,0.3s,baz=305,slow=6.4,SNR=3.3						
WRA	**Warramunga Arr**	**13.80**	**161**	P	Pn	21 51 02.2	-0.5
	0.2nm,0.3s,baz=338,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**17.23**	**167**	P	P	21 51 44.3	-0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**67.90**	**327**	P	P	21 58 36.4	0.0
	0.2nm,0.3s,baz=122,slow=7.6,SNR=5.3						

*ISCJB **28** 21:54:32.5±0.6,2°.75N±0°.09×128°.54E±0°.09,h33km, mb3.9/4,MS2.9/1,Error ellipse: s-maj=16.9km s-min=6.2km az=137.3*

*DJA **28** 21:54:33.2±2.5,3°.N±7°.×12°.9E±°,h12km±18km,M4.7/7, mb4.6/4,mB4.7/3,MLv4.8/7,Mw(mB)3.9/3*

*IDC **28** 21:54:36.6±3.5,2°.79N×128°.82E,h68km±37km,mb3.6/4, mb1 4.0/5,mb1mx3.4/35,mbtmp4.0/5,ML4.4/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/49,Error ellipse: s-maj=69.6km s-min=19.6km az=61.0*

ISC 28 21:54:34.3±1.0,2°.8N±0°.1×128°.6E±0°.1,h35km,n27, σ0s94/22,mb3.9/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.17**	**286**	P	**Pn**	**21 55 22.5**	**+0.8**
SWI	**Sorong**	**4.51**	**144**	P	**Pn**	**21 55 42.0**	**+1.8**
SIJI	**Sorong**	**4.52**	**144**	P	**Pn**	**21 55 42.2**	**+1.9**
	18nm,0.3s,baz=324,slow=19,SNR=52						
SIJI				S	**Sn**	**21 56 30.3**	**-1.5**
	5.9nm,0.3s,baz=66,slow=23,SNR=14						
FAKI	**Fak Fak**	**6.76**	**147**	P	**Pn**	**21 56 12.7**	**+1.7**
	26nm,1.0s,598nm0.2nm						
MRSI	**Marisa**	**7.03**	**251**	P	**Pn**	**21 56 15.0**	**+0.3**
	64nm,0.8s,567nm0.2nm						
BNSI	**Bone**	**11.08**	**230**	P	**Pn**	**21 57 10.4**	**0.0**
WRA	**Warramunga Arr**	**23.29**	**166**	P	**P**	**21 59 38.0**	**-1.1**
	4.3nm,0.6s,baz=346,slow=10,SNR=27						
KRVT	**Keravat (AS076**	**24.47**	**107**	LR	LR	22 07 55.3	
	comp=Z,34nm,18.2s,baz=257,slow=33						
ASAR	**Alice Springs**	**26.81**	**169**	P	**P**	**22 00 10.2**	**-1.2**
	1.0nm,0.6s,baz=356,slow=8.4,SNR=12						
ASAR				PcP	**PcP**	**22 03 32.8**	**-1.1**
	0.2nm,0.5s,baz=345,slow=2.0,SNR=5.2						
CMAR	**Chiang Mai Arr**	**32.94**	**300**	P	**P**	**22 01 06.3**	**+0.5**
	0.3nm,0.3s,baz=121,slow=7.1,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**40.44**	**65**	T	T	22 45 28.8	
	baz=252,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**40.45**	**65**	T	T	22 45 33.4	
	baz=252,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**40.45**	**65**	T	T	22 45 29.9	
	baz=252,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**41.01**	**63**	T	T	22 46 06.1	
	baz=250,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**41.02**	**63**	T	T	22 46 07.5	
	baz=250,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**41.02**	**63**	T	T	22 46 08.1	
	baz=250,slow=75,SNR=25						
TAPN	**Taplejung**	**46.06**	**306**	eP	**P**	**22 02 54.9**	**-0.4**
	3.3nm,0.6s						
ODAN	**Odare**	**46.11**	**305**	eP	**P**	**22 02 55.5**	**-0.2**
RAMN	**Ramite**	**46.80**	**305**	eP	**P**	**22 03 01.2**	**+0.1**
	5.4nm,0.6s						
JIRN	**Jiri**	**47.41**	**306**	eP	**P**	**22 03 06.0**	**0.0**
GUN	**Gumba**	**47.77**	**306**	eP	**P**	**22 03 08.6**	**-0.1**
PKI	**Pulchoki**	**48.01**	**305**	eP	**P**	**22 03 10.7**	**+0.1**
PKIN	**Phulchoki**	**48.03**	**305**	eP	**P**	**22 03 10.5**	**-0.2**
DMN	**Daman**	**48.28**	**305**	eP	**P**	**22 03 12.5**	**-0.1**
KOLN	**Koldanda**	**49.57**	**305**	eP	**P**	**22 03 22.5**	**0.0**
	12nm,0.7s						
DANN	**Dangsing**	**49.66**	**305**	eP	**P**	**22 03 23.0**	**-0.2**
	16nm,0.6s						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**22 04 32.8**	**-0.4**
	0.9nm,0.5s,baz=114,slow=8.4,SNR=15						

IDC 28 21:57:00.4±1.7,0°.29N×131°.68E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.3/30,mbtmp3.3/3,Error ellipse: s-maj=51.6km s-min=15.2km az=98.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.23**	**199**	Pg	Pb	21 57 24.5	0.0
	45nm,0.3s,baz=322,slow=19,SNR=30						
SIJI				Lg	Lg	21 57 39.8	
	150nm,0.3s,baz=170,slow=23,SNR=60						
WRA	**Warramunga Arr**	**20.28**	**173**	P	P	22 01 37.6	-0.2
	0.4nm,0.7s,baz=352,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**23.92**	**175**	P	P	22 02 16.2	0.0
	0.5nm,0.6s,baz=351,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**63.19**	**324**	P	P	22 07 30.4	-0.1
	0.2nm,0.5s,baz=107,slow=8.3,SNR=3.4						

IDC 28 22:12:17.6±12.0,7°.53S×130°.96E,h98km±137km,mb3.4/1, mb1 3.4/4,mb1mx3.1/37,mbtmp3.6/4,ML3.4/3,Error ellipse: s-maj=84.7km s-min=57.6km az=6.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.71**	**206**	P	Pn	22 15 01.9	+0.4
	0.4nm,0.3s,baz=33,slow=13,SNR=9.7						
FITZ				S	Sn	22 17 10.3	-0.1
	0.4nm,0.3s,baz=258,slow=18,SNR=6.9						
WRA	**Warramunga Arr**	**12.77**	**165**	P	Pn	22 15 14.1	-1.5
	0.2nm,0.3s,baz=349,slow=13,SNR=7.8						
WRA				S	Sn	22 17 31.7	-4.3
	0.3nm,0.3s,baz=350,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**16.29**	**170**	P	P	22 16 02.4	+0.5
	0.1nm,0.3s,baz=346,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**69.19**	**327**	P	P	22 23 13.8	0.0
	0.3nm,0.4s,baz=117,slow=8.1,SNR=11						

*IDC **28** 22:46:32.1±1.2,3°.75N×92°.52E,h0km,mb3.7/6,mb1 4.0/8, mb1mx3.6/62,mbtmp3.8/8,ML4.1/2,MS3.6/24,Ms1 3.6/24, ms1mx3.5/39,Error ellipse: s-maj=41.8km s-min=21.6km az=53.0*

*NEIC **28** 22:46:35.0±1.1,3°.7N±0°.1×92°.50E±0°.05,h27km±5km, mb4.2/10*

*ISCJB **28** 22:46:35.3±0.5,3°.77N±0°.05×92°.66E±0°.05,h33km, mb4.1/13,MS3.7/26,Error ellipse: s-maj=7.8km s-min=5.5km az=43.0*

*BJI **28** 22:46:36.6±0.0,3°.83N×92°.63E,h18km,mb4.3/15, mB4.6/6,Ms4.3/5,Ms7 4.0/6*

*DJA **28** 22:46:38.9±2.0,4°.N±6°.×9°.3E±°,h26km±21km,M4.9/7, mB6.1/1,mb4.8/7,MLv4.9/4,Mw(mB)5.7/1*

ISC 28 22:46:37.8±0.6,3°.84N±0°.06×92°.54E±0°.07,h35km,n78, σ2s13/58,mb4.3/16,MS3.6/26,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**3.44**	**24**	eP	**Pn**	**22 47 27.2**	**-1.8**
CMBY				eS	**Sn**	**22 48 07.6**	**-1.0**
MLSI	**Meulaboh, Aceh**	**3.88**	**84**	P	**Pn**	**22 47 33.3**	**-1.7**
MLSI				S	**Sn**	**22 48 16.7**	**-2.7**
SNSI	**Sinabang, Aceh**	**4.04**	**110**	P	**Pn**	**22 47 40.0**	**+2.8**
LHMI	**Lhok Sumawe**	**4.61**	**72**	P	**Pn**	**22 47 44.5**	**-0.5**
LHMI	**Lhok Sumawe**	**4.61**	**72**		**Pn**	**22 47 44.7**	**-0.3**
GSI	**Gunungsitoli**	**5.63**	**116**	P	**Pn**	**22 47 56.7**	**-2.3**
GSI	**Gunungsitoli**	**5.63**	**116**		**Pn**	**22 47 56.4**	**-2.6**
RPSI	**Rantau Prapat**	**6.48**	**100**		**Pn**	**22 48 09.5**	**-1.1**
KULM	**Kulim**	**8.22**	**80**		**Pn**	**22 48 33.4**	**-1.2**
SISI	**Saibi**	**8.32**	**128**	P	**Pn**	**22 48 33.5**	**-2.4**
IPM	**Ipoh**	**8.49**	**85**		**Pn**	**22 48 36.5**	**-1.9**
PDSI	**Padang**	**9.22**	**121**	P	Pn	22 48 52.9	+4.6
MYKOM	**Kota Tinggi**	**11.48**	**100**	Pn	**Pn**	**22 49 16.5**	**-2.8**
PALK	**Pallekele**	**12.26**	**287**	Pn	**Pn**	**22 49 27.7**	**-2.4**
	1.3nm,0.3s,baz=116,slow=14,SNR=9.3						
PALK				Sn	Sn	22 51 32.6	-13
	10nm,0.3s,baz=117,slow=0.3,SNR=13						
PALK				LR	LR	22 53 34.0	
	comp=Z,150nm,19.8s,baz=116,slow=34						
PALK	**Pallekele**	**12.26**	**287**		**Pn**	**22 49 28.0**	**-2.0**
PALK					Sn	22 51 33.9	-12
MNAI	**Manna**	**13.21**	**128**		**Pn**	**22 49 39.8**	**-3.3**
LHSI	**Lahat**	**13.36**	**125**	P	**P**	**22 49 55.2**	**+1.1**
MDSI	**Maura Dua**	**14.27**	**125**	P	**P**	**22 50 04.7**	**+0.5**
LWLI	**Liwa**	**14.48**	**127**	P	P	22 50 13.0	+6.3
KLSI		**14.84**	**125**	P	**P**	**22 50 14.8**	**+4.3**
CM31	**Chiang Mai Arr**	**15.83**	**23**	Pn	**Pn**	**22 50 17.9**	**-0.2**
CM31				IAmb	IAmb	22 50 32.1	
	comp=Z,10nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.83**	**23**	Pn	**Pn**	**22 50 16.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=12						
CMAR				LR	LR	22 56 31.8	
	comp=Z,193nm,19.2s,baz=208,slow=38						
CMAR	**Chiang Mai Arr**	**15.83**	**23**		**Pn**	**22 50 17.9**	**-0.1**
UTTA	**Uttaradit**	**15.90**	**29**	P	**P**	**22 50 23.7**	**+1.4**
	comp=Z,19μm,0.8s						
CHTO	**Chiang Mai**	**16.15**	**22**	P	**Pn**	**22 50 22.2**	**0.0**
CHTO				IAmb	IAmb	22 50 27.3	
	comp=Z,14nm,1.4s						
CMMT	**Chiang Mai**	**16.15**	**22**	P	**P**	**22 50 25.6**	**+0.5**
	comp=Z,3.3nm,1.0s						
PHRA	**Phrae**	**16.40**	**27**	P	**P**	**22 50 28.9**	**+1.0**
LEM	**Lembang**	**18.41**	**125**	LR	LR	22 58 25.8	
	comp=Z,217nm,18.0s,baz=266,slow=39						
HYB	**Hyderabad**	**19.24**	**316**	*i* P	**P**	**22 50 58.0**	**-1.3**
SHL	**Shillong**	**21.62**	**358**	P	**P**	**22 51 24.7**	**-0.4**
H08S2	**Diego Garcia H**	**23.02**	**240**	T	T	23 17 35.2	
	baz=61,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**23.02**	**240**	T	T	23 17 33.5	
	baz=61,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**23.04**	**240**	T	T	23 17 26.2	
	baz=61,slow=76,SNR=24						
KMI	**Kunming**	**23.33**	**24**	P	**P**	**22 51 45.0**	**+1.8**
KMI				pP	sP	22 51 55.5	+0.2
KMI				sP	pwP	22 52 00.5	+3.3
KMI				S	**S**	**22 55 57.3**	**+3.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,48nm,4.1s						
KMI				LR	LR		
	comp=Z,180nm,15.0s						
KMI				LR	LR		
	comp=Z,310nm,16.3s						
KMI				LR	LR		
	comp=Z,270nm,13.5s						

KSRS	Korea Array	46.56	39	LR	LR	23 15 59.1	
	comp=Z,61nm,18.9s,baz=230,slow=38						
WRA	Warramunga Arr	47.37	122	P	P	22 55 07.8	-1.1
	comp=Z,0.7nm,1.0s,baz=296,slow=9.3,SNR=3.7						
WRA				LR	LR	23 15 49.5	
	comp=Z,42nm,20.8s,baz=305,slow=37						
WRA	Warramunga Arr	47.37	122	P	P	22 55 06.4	-2.5
WRAB	Tennant Creek	47.38	122	P	P	22 55 07.8	-1.2
WRAB				IAmb	IAmb	22 55 20.8	
	comp=Z,7.2nm,1.1s						
TLY	Talaya	48.58	9	LR	LR	23 17 27.2	
	comp=Z,54nm,18.3s,baz=168,slow=38						
ZALV	Zalesovo Beam	50.35	354	P	P	22 55 31.4	+0.2
	comp=Z,0.9nm,0.6s,baz=170,slow=6.9,SNR=2.5						
ZALV				LR	LR	23 18 33.8	
	comp=Z,51nm,21.6s,baz=126,slow=38						
JCJ	Chichijima	52.70	59	LR	LR	23 17 52.7	
	comp=Z,22nm,21.6s,baz=71,slow=36						
ABKAR	Akbulak array	53.06	334	P	P	22 55 51.2	-0.3
MJAR	Matsushiro Arr	53.07	46	LR	LR	23 21 43.6	
	comp=Z,45nm,18.4s,baz=290,slow=40						
USRK	Ussuriysk Ar.	53.11	35	LR	LR	23 20 18.1	
	comp=Z,72nm,19.2s,baz=220,slow=38						
USRK	Ussuriysk Ar.	53.11	35	P	P	22 55 51.4	-0.5
KMBO	Kilima Mbogo	55.47	266	LR	LR	23 17 42.3	
	comp=Z,43nm,18.2s,baz=92,slow=34						
STKA	Stephens Creek	58.58	131	P	P	22 56 31.1	-0.3
	comp=Z,1.4nm,0.7s,baz=303,slow=5.9,SNR=3.8						
STKA				LR	LR	23 23 38.3	
	comp=Z,37nm,18.2s,baz=359,slow=38						
STKA	Stephens Creek	58.58	131	IAmb	IAmb	22 56 40.9	
	comp=Z,0.7nm,0.7s						
BRTR	Keskin Array B	63.91	313	LR	LR	23 26 59.2	
	comp=Z,24nm,19.6s,baz=102,slow=38						
AKASG	Malin Array Be	70.35	323	LR	LR	23 34 17.7	
	comp=Z,27nm,18.4s,baz=310,slow=41						
BURAR	Bucovina Array	71.99	319	P	P	22 57 57.2	-0.9
BOSA	Boshof	72.11	238	LR	LR	23 22 13.7	
	comp=Z,36nm,22.0s,baz=29,slow=30						
KOLS	Kolonicke sedl	74.21	320	*e*P	P	22 58 16.2	+5.1
FINES	FINESS Array B	75.54	333	LR	LR	23 33 08.6	
	comp=Z,59nm,20.2s,baz=91,slow=37						
GERES	GERESS Array B	79.78	319	P	P	22 58 42.9	+0.3
	comp=Z,1.4nm,0.9s,baz=104,slow=5.6,SNR=7.0						
GERES	GERESS Array B	79.78	319	P	P	22 58 42.6	0.0
NOA	NORSAR Array B	82.45	331	LR	LR	23 38 49.7	
	comp=Z,65nm,18.2s,baz=75,slow=38						
VNDA	Vanda	89.32	168	LR	LR	23 33 31.3	
	comp=Z,37nm,19.6s,baz=302,slow=32						
SNAA	Sanae	95.31	198	P	P	22 59 58.7	+0.8
VNA2	Neumayer--Watz	96.85	199	P	P	23 00 08.2	+3.3
	baz=2.7,slow=4.0						
VNA3	Neumayer Olymp	97.53	199	P	Pdif	23 00 10.2	+2.3

*ISCJB **28** 22:50:21.0±0.4, 37°.18N±0°.03×71°.75E±0°.05, h142km, mb3.8/3, Error ellipse: s-maj=6.2km s-min=3.8km az=148.5*

*IDC **28** 22:50:23.0±4.9, 37°.28N×71°.87E, h152km±29km, mb3.5/3, mb1 3.4/9, mb1mx3.1/64, mbtmp4.0/9, MS3.6/1, Ms1 3.6/1, ms1mx2.5/36, Error ellipse: s-maj=58.7km s-min=24.0km az=149.0*

*NNC **28** 22:50:25.4±2.3, 37°.48N×71°.61E, h149km±38km, mb3.1, mpv3.6, Error ellipse: s-maj=23.2km s-min=13.5km az=160.0*

ISC 28 22:50:21.3±0.7, 37°.20N±0°.06×71°.78E±0°.06, h142km, n39, σ1.9 77/46, mb4.1/3, 9C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.14	16	P	Pn	22 51 38.5	+1.8
	SNR=36						
JMU	Jammu	5.16	149	*e*S	Sn	22 52 32.6	-2.8
UCH	Uchtor	5.44	22	P	Pn	22 51 43.0	+2.1
	SNR=40						
EKS2	Erkin-Say	5.67	15	P	Pn	22 51 46.5	+2.9
	SNR=17						
AAK	Ala-Archa	5.82	20	⇓P	Pn	22 51 47.9	+2.3
	3.4nm,0.3s						
AAK				⇓S	Sn	22 52 50.3	-1.1
	28nm,0.6s						
AAK	Ala-Archa	5.82	20	P	Pn	22 51 48.0	+2.5
	3.5nm,0.3s,baz=182,slow=7.7,SNR=48						
AAK				S	Sn	22 52 50.4	-0.9
	4.7nm,0.3s,baz=126,slow=23,SNR=24						
AAK	Ala-Archa	5.82	20	P	Pn	22 51 48.2	+2.6
	SNR=8.1						
KBK	Karagaybulak	5.97	23	P	Pn	22 51 50.7	+3.1
	SNR=5.2						
KK31	Karatay Array	5.97	351	⇑P	Pn	22 51 50.0	+2.4
	2.3nm,0.3s,baz=167,slow=11,SNR=46						
KK31				⇑S	Sn	22 52 53.1	-1.9
	81nm,0.6s,baz=45,slow=42,SNR=9.7						
DHRM	DHARAMSHALA	6.18	142	*e*P	Pn	22 51 53.1	+2.4
DHRM				*e*S	Sn	22 52 59.9	-0.5
DHRM				IAML		22 53 02.7	
	comp=N,456nm,0.6s						
DHRM				IAML		22 53 03.3	
	comp=E,531nm,0.1s						
CHMS	Chumysh	6.22	21	P	Pn	22 51 53.1	+2.2
	SNR=7.5						
TKM2	Tokmak 2	6.42	26	⇓P	Pn	22 51 55.6	+2.0
	comp=E,2.8nm,0.7s						
TKM2				⇑S	Sn	22 53 05.0	-0.8
	comp=E,5.3nm,0.6s						
MDOK	Medeo	7.19	32	P	Pn	22 52 05.7	+1.8
	comp=E,5.4nm,1.0s						
SMLA	Simla	7.52	142	*e*P	Pn	22 52 10.2	+1.9
SMLA				*e*S	Sn	22 53 29.4	-2.9
SMLA				IAML		22 53 32.7	
	comp=E,181nm,0.3s						
GEYT	Alibeck	10.87	278	P	Pn	22 52 54.5	+1.6
	comp=E,0.5nm,0.3s,baz=96,slow=12,SNR=5.9						
GYA0B	ALIBECK ARRAY	10.87	278	⇑P	Pn	22 52 53.1	+0.1
GYA0B				⇑S	Sn	22 54 51.5	-1.5
MKAR	Makanchi Array	12.36	36	P	Pn	22 53 12.3	-0.1
	comp=E,0.1nm,0.3s,baz=228,slow=14,SNR=5.1						
MK31	Makanchi Array	12.36	36	⇓P	Pn	22 53 12.6	+0.2
	comp=E,1.1nm,0.8s,baz=223,slow=14,SNR=4.8						
GKN	Gorkha	14.19	127	*e*P	Pn	22 53 36.0	0.0
	comp=E,24nm,0.3s						
KURBB	Kurchatov Arra	14.26	18	P	P	22 53 39.4	-0.3
	comp=E,0.1nm,0.3s,baz=205,slow=10,SNR=8.9						
KKN	Kakani	14.74	126	*e*P	Pn	22 53 43.0	-0.1
	comp=E,12nm,0.4s						
DMN	Daman	14.76	127	*e*P	Pn	22 53 43.2	-0.1
	comp=E,29nm,0.6s						
AB31	Akbulak array	14.79	328	⇑P	Pn	22 53 44.3	+1.0
	comp=E,1.9nm,0.5s,baz=155,slow=8.2,SNR=54						
AB31				⇑S	Sn	22 56 22.3	-5.0
	comp=E,4.7nm,0.7s,baz=152,slow=22,SNR=8.0						
PKIN	Phulchoki	14.96	126	*e*P	Pn	22 53 45.8	-0.1
	comp=E,14nm,0.4s						
PKI	Pulchoki	14.98	126	*e*P	Pn	22 53 46.2	+0.1
	comp=E,12nm,0.3s						
GUN	Gumba	15.06	124	*e*P	P	22 53 48.5	-0.6
	comp=E,25nm,0.5s						
JIRN	Jiri	15.43	124	*e*P	Pn	22 53 52.2	+0.4
	comp=E,45nm,0.4s						
BVAR	Borovoye Array	15.85	357	P	Pn	22 53 55.6	-0.8
	comp=E,0.6nm,0.3s,baz=162,slow=12,SNR=21						
BRVK	Borovoye	15.89	357	⇑P	Pn	22 53 56.8	-0.1
	comp=E,4.2nm,1.0s						
RAMN	Ramite	16.17	125	*e*P	Pn	22 54 00.2	-0.6
	comp=E,28nm,0.5s						
AKTO	Aktyubinsk	16.50	328	⇑P	P	22 54 05.9	+1.4
	comp=E,9.5nm,1.1s						
AKTO				⇓S	Sn	22 57 06.5	-1.7
	comp=E,4.8nm,0.8s						
AKTO	Aktyubinsk	16.50	328	P	P	22 54 05.6	+1.1
	comp=E,1.2nm,0.3s,baz=147,slow=10,SNR=14						
TAPN	Taplejung	16.65	122	*e*P	Pn	22 54 07.9	+1.2
POO	Poona	18.69	174	*e*P	Pn	22 54 39.5	+8.7
ZALV	Zalesovo Beam	19.02	24	P	P	22 54 31.6	-0.4
	comp=E,1.2nm,0.3s,baz=213,slow=13,SNR=15						
ARU	Arti	21.18	339	P	P	22 54 55.6	+0.4
	comp=E,0.4nm,0.3s,baz=146,slow=17,SNR=4.3						
FINES	FINESS Array B	37.26	325	P	P	22 57 19.4	+0.6
	comp=E,4.3nm,0.9s,baz=112,slow=18,SNR=2.8						
ARCES	ARCESS Array B	40.74	337	P	P	22 57 48.0	+0.3
	comp=E,4.7nm,1.0s,baz=113,slow=8.1,SNR=7.6						
KLR	Kul'dur	44.23	54	LR	LR	23 18 35.0	
	comp=E,60nm,18.4s,baz=223,slow=38						

*SJA **28** 23:04:14.1±0.8, 33°.32S×72°.87W, h50km, ML3.6, MW3.9*

*GUC **28** 23:04:16.5±0.6, 33°.46S×72°.30W, h38km±4km, ML3.3*

ISC 28 23:04:17.7±1.9, 33°.38S±0°.05×72°.42W±0°.08, h23km±15km, n24, σ2.01/35, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	Torpederas	0.74	61	*e*P	Pb	23 04 30.2	-1.7
VA01				*i* S	Sb	23 04 41.1	-0.5
VA01				IAML		23 04 45.6	
	comp=N,1μm,0.1s						
ROC1	El Roble	1.25	71	*i* P	Pn	23 04 38.2	-1.7
ROC1				*e*S	Sn	23 04 55.5	-0.6
ROCH	El Roble	1.25	71	*e*P	Pn	23 04 38.1	-1.9
ROCH				*i* S	Sn	23 04 54.9	-1.3
ROCH				IAML		23 05 00.3	
	comp=N,995nm,0.3s						
PEL	Peldehue	1.47	81	*e*P	Pn	23 04 41.6	-1.2
PEL				*i* S	Sn	23 05 00.1	-1.4
PEL				IAML		23 05 08.2	
	comp=N,736nm,0.4s						
PEL	Peldehue	1.47	81	⇓*i*P	Pn	23 04 41.8	-1.1
PEL				*e*S	Sb	23 05 07.9	+5.2
GO05	Huala	1.67	166	*e*P	Pn	23 04 44.1	-1.5
GO05				*i* S	Sb	23 05 11.3	+2.8
GO05				IAML		23 05 13.9	
	comp=N,264nm,0.3s						
GO05	Huala	1.67	166	*i* P	Pn	23 04 45.4	-0.2
GO05				*e*S	Sb	23 05 09.9	+1.5
FCH	Farellones	1.78	89	*e*P	Pn	23 04 45.7	-1.7
FCH				*i* S	Sn	23 05 09.0	-0.5
FCH				IAML		23 05 16.0	
	comp=E,587nm,0.3s						
LMEL	Las Melosas	1.91	105	*e*P	Pn	23 04 47.9	-1.0
LMEL				*i* S	Sn	23 05 11.1	-1.2
LMEL				IAML		23 05 18.6	
	comp=N,831nm,0.3s						
COIS	El Sosneado	2.90	127	*i* P	Pn	23 05 04.8	+2.3
COIS				*e*S	Sb	23 05 43.1	-0.8
ARCO	CERRO ARCO	2.98	80	*i* P	Pb	23 05 08.9	-1.3
ARCO				IAML		23 05 16.4	
	comp=Z,89nm,0.5s						
AAGR	Agrelo	3.02	85	*i* P	Pb	23 05 09.9	-1.0
ASAL	Salagasta	3.11	76	*i* P	Pn	23 05 07.8	+2.4
ASAL				*e*S	Sb	23 05 48.6	-1.4
GO04	Tololo Observa	3.49	24	*i* P	Pn	23 05 10.0	-0.7
RTCV	Cerro Valdivia	3.61	66	*i* P	Pn	23 05 14.3	+2.1
RTLL	Cerro Villicun	3.92	60	*i* P	Pn	23 05 18.7	+2.2
RTLL				IAML		23 06 24.2	
	comp=Z,55nm,0.6s						
CFA	Coronel Fontan	3.95	64	*i* P	Pn	23 05 19.4	+2.4
ACCO	Cerro Coronel	3.99	47	*i* P	Pn	23 05 19.7	+2.0
AROD	Rodeo	4.07	39	*i* P	Pn	23 05 20.9	+2.0
AMOG	MOGNA	4.13	55	*i* P	Pn	23 05 21.3	+1.9
AGUA	GUANDACOL	5.13	42	*i* P	Pn	23 05 35.1	+1.8
MRA	San Martin	5.72	82	*i* P	Pn	23 05 44.4	+3.1
MRA				IAML		23 07 20.3	
	comp=Z,13nm,0.6s						
VCA	Vinchina	5.88	39	*i* P	Pn	23 05 44.7	+1.1
VCA				IAML		23 07 19.2	
	comp=Z,35nm,0.6s						
TCA	Tanti	6.93	75	*i* P	Pn	23 06 00.4	+2.5

IDC 28 23:06:41.7±1.2, 8°.08N×37°.81W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/37, mbtmp4.0/6, MS3.4/9, Ms1 3.4/9, ms1mx3.1/32, Error ellipse: s-maj=37.4km s-min=23.4km az=147.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	Montagnes des	15.03	260	LR	LR	23 14 42.4	
	comp=Z,143nm,21.9s,baz=84,slow=32						
H05S1	Guadeloupe/Mar	23.44	288	T	T	23 35 58.8	
	SNR=5.3						
BDFB	Brasilia	25.64	203	P	P	23 12 13.9	+0.5
	4.8nm,0.9s,baz=36,slow=14,SNR=5.2						
H10N3	ASCENSION HYDR	28.11	124	T	T	23 42 11.4	
	baz=303,slow=75,SNR=5.2						
H10N2	ASCENSION HYDR	28.11	124	T	T	23 42 00.7	
	baz=303,slow=75,SNR=27						
H10N1	ASCENSION HYDR	28.12	124	T	T	23 42 01.8	
	baz=303,slow=75,SNR=27						
H10S3	ASCENSION HYDR	28.60	126	T	T	23 42 51.2	
	baz=301,slow=74,SNR=29						
H10S2	ASCENSION HYDR	28.62	126	T	T	23 42 52.6	
	baz=279,slow=74,SNR=33						
DBIC	Dimbokro	32.71	90	LR	LR	23 24 14.1	
	comp=Z,44nm,19.1s,baz=272,slow=32						
SIV	San Ignacio	33.20	224	P	P	23 13 21.1	+0.5
	2.0nm,0.9s,baz=72,slow=11,SNR=8.9						
SIV				LR	LR	23 26 12.2	
	comp=Z,93nm,18.3s,baz=252,slow=35						
ROSC	El Rosal	36.41	267	LR	LR	23 28 25.2	
	comp=Z,67nm,18.2s,baz=62,slow=36						
LPAZ	La Paz	38.56	231	P	P	23 14 06.8	-0.5
	2.6nm,0.9s,baz=63,slow=6.5,SNR=9.6						
TORD	Torodi Ar. Bea	39.12	79	P	P	23 14 11.2	-0.1
	1.9nm,0.7s,baz=278,slow=9.3,SNR=11						
TORD				LR	LR	23 28 09.7	
	comp=Z,74nm,20.8s,baz=310,slow=33						
LVC	Limon Verde	43.10	224	LR	LR	23 31 33.0	
	comp=Z,51nm,19.6s,baz=205,slow=35						
NNA	Nana	43.63	243	LR	LR	23 32 39.7	
	comp=Z,52nm,20.7s,baz=64,slow=36						
ESDC	Sonseca Array	43.66	39	LR	LR	23 29 12.9	
	comp=Z,30nm,20.6s,baz=5.0,slow=31						
CFA	Coronel Fontan	49.02	215	P	P	23 15 29.7	-1.0
	3.1nm,0.6s,baz=51,slow=6.5,SNR=4.3						
TXAR	Lajitas Array	65.06	299	P	P	23 17 24.6	+0.1
	0.2nm,0.5s,baz=108,slow=7.7,SNR=3.9						
PDAR	Pinedale Array	71.17	312	LR	LR	23 45 36.8	
	comp=Z,32nm,21.4s,baz=44,slow=33						

*ISCJB **28** 23:18:37.9±0.5, 39°.05N±0°.02×25°.95E±0°.04, h10km±3km, Error ellipse: s-maj=5.3km s-min=3.1km az=168.3*

*ATH **28** 23:18:37.8, 39°.09N×25°.93E, h22km±1km, ML2.5/4, Error ellipse: s-maj=2.2km s-min=1.3km az=90.0*

*ISK **28** 23:18:38.1, 39°.08N×26°.01E, h8km, ML2.7/20*

*THE **28** 23:18:38.2, 39°.05N×25°.98E, h11km, ML2.3/8, Error ellipse: s-maj=1.0km s-min=0.5km az=82.0*

ISC 28 23:18:38.3±0.8, 39°.07N±0°.02×25°.98E±0°.03, h15km±6km, n44, σ0.55/61, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	SIGRI	0.17	326	P	Pg	23 18 42.4	-0.1
SIGR				S	Sg	23 18 45.4	0.0
	5μm,0.2s						
SIGR	SIGRI	0.17	326	P	Pg	23 18 42.4	-0.1
SIGR				S	Sg	23 18 45.4	0.0
SIGR				AML	AML	23 18 45.7	
	comp=E,12608μm,0.2s						
SIGR				AML	AML	23 18 45.7	
	comp=N,8418μm,0.2s						
SIGR	SIGRI	0.17	326	PG	Pg	23 18 42.5	-0.1
SIGR				SG	Sg	23 18 45.3	0.0
PRK	Paraskevi	0.29	51	P	Pb	23 18 44.8	-0.4
PRK				S	Sg	23 18 48.7	+0.2
	comp=N,912nm,0.4s						
PRK	Paraskevi	0.29	51	P	Pb	23 18 44.8	-0.4
PRK				S	Sb	23 18 49.0	-0.8
PRK				AML	AML	23 18 51.2	
	comp=N,1964μm,0.3s						
PRK				AML	AML	23 18 51.7	
	comp=E,1663μm,0.4s						
GPNR	Gulpinar-Canak	0.41	17	PG	Pg	23 18 46.3	-0.2
GPNR				SG	Sg	23 18 52.1	0.0
PSRA	Psara	0.62	212	P	Pb	23 18 51.1	+0.4
KRBN	Karaburun	0.65	136	PG	Pg	23 18 50.8	-0.2
KRBN				SG	Sb	23 19 00.2	0.0
CHOS	Chios island	0.68	175	P	Pg	23 18 51.1	-0.5
CHOS				S	Sg	23 19 00.4	-0.2
	comp=E,490nm,0.2s						
CHOS	Chios island	0.68	175	P	Pg	23 18 51.0	-0.6
CHOS				S	Sb	23 19 02.0	+0.8
CHOS				AML	AML	23 19 03.7	
	comp=N,706μm,0.2s						
CHOS				AML	AML	23 19 03.9	
	comp=E,1234μm,0.2s						
CHOS	Chios island	0.68	175	PG	Pb	23 18 52.1	+0.2
FOCM	Foa	0.68	121	PG	Pg	23 18 51.3	-0.3
DKL	Dikili	0.72	89	PG	Pg	23 18 52.2	-0.1
BOZC	Bozcaada	0.78	4	PG	Pg	23 18 52.9	-0.5
EZN	Ezine	0.80	19	P	Pg	23 18 53.2	-0.7
EZN				S	Sb	23 19 05.8	+1.1
	comp=E,240nm,0.3s						
EZN	Ezine	0.80	19	PG	Pg	23 18 53.4	-0.5
URLA	Izmir	0.85	146	PG	Pg	23 18 54.9	+0.1
GADA	Gvkgeada	1.12	357	P	Pb	23 18 59.2	-0.3
GADA				S	Sn	23 19 14.7	0.0
GADA	Gvkgeada	1.12	357	PN	Pg	23 18 59.5	-0.5
GOKC	Gokceada-Canak	1.13	358	PN	Pb	23 18 59.2	-0.4
GELI	Tayfur-Gelibol	1.38	16	PN	Pb	23 19 04.0	+0.1
LPK	Lapseki	1.44	24	PN	Pn	23 19 04.2	+0.4
SMTH	Samothraki Isl	1.45	346	P	Pn	23 19 03.9	0.0
SMTH				S	Sb	23 19 23.3	+0.1
	comp=E,98nm,0.4s						
SMTH	Samothraki Isl	1.45	346	P	Pb	23 19 04.6	-0.4
SMTH				S	Sg	23 19 24.1	-0.8
SMTH				AML	AML	23 19 26.1	
	comp=E,214μm,0.5s						
SMTH				AML	AML	23 19 27.8	
	comp=N,167μm,0.3s						
SMG	Samos	1.51	153	P	Pn	23 19 04.2	-0.7
SMG				S	Sn	23 19 23.7	-0.6
	comp=N,80nm,0.4s						
SMG	Samos	1.51	153	P	Pb	23 19 06.3	+0.3
BALB	Balikesir	1.58	68	PN	Pn	23 19 06.5	+0.7
ERIK	Erikli-Kesan	1.65	14	PN	Pb	23 19 08.7	+0.2
KRBG	Karabiga-Canak	1.67	37	PN	Pb	23 19 08.4	-0.3
EREA	Eretria	1.73	249	P	Pn	23 19 07.7	-0.2
THAS	Thassos island	1.82	328	P	Pn	23 19 09.2	+0.1
THAS				S	Sn	23 19 32.6	+0.8
	comp=N,30nm,0.5s						
ALN	Alexandroupoli	1.83	2	P	Pn	23 19 09.2	0.0
ALN				S	Sn	23 19 32.4	+0.3
	comp=N,28nm,0.4s						
ALN	Alexandroupoli	1.83	2	P	Pn	23 19 09.6	+0.4
ALN	Alexandroupoli	1.83	2	PN	Pn	23 19 10.2	+1.0
RKY	Sarkoy-Tekirda	1.86	29	PN	Pb	23 19 11.5	-0.6
MRKA	Markates	1.90	260	P	Pn	23 19 10.3	0.0
EDC	Edincik	1.94	48	PN	Pn	23 19 11.4	+0.7
MRMT	Marmara Adasi	1.98	38	PN	Pb	23 19 12.8	-1.2
PAIG	Paliouri	1.98	297	P	Pn	23 19 11.3	+0.1
OUR	Ouranopolis	2.00	310	P	Pn	23 19 11.2	-0.3
OUR				S	Sn	23 19 36.1	-0.1
OUR	Ouranopolis	2.00	310	PN	Pn	23 19 12.4	+0.9
RDO	Rodhopi	2.10	351	PN	Pn	23 19 14.0	+1.0
UKOP	Uzunkopru-Edir	2.12	13	PN	Pn	23 19 14.4	+1.2
KCTX	Karacabey (Bur	2.19	56	PN	Pn	23 19 15.5	+1.3

*NORS **28** 23:22:53.2±0.0, 41°.83N×46°.04E, h20km, MPVA3.2*

*TIF **28** 23:22:53.0, 42°.03N×45°.90E, h6km±3km*

*DRS **28** 23:22:54.8±0.0, 41°.81N×45°.81E, h19km*

ISC 28 23:22:54.2±1.1, 41°.88N±0°.04×45°.90E±0°.02, h16km±10km, n19, σ0.92/37, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	Lagodekhi	0.26	100	P	Pb	23 23 00.5	-0.1
LGD				S	Sb	23 23 05.3	+0.5
DDFL	Dedoflistskaro	0.47	159	P	Pn	23 23 07.0	+0.7
DDFL				S	Sn	23 23 16.7	+2.4
DGRG	David-gareji	0.58	223	P	Pn	23 23 07.3	-0.6
DGRG				S	Sn	23 23 17.6	+0.4
BTLR	Botlikh	0.82	17	*e*Pg	Pb	23 23 09.8	-0.3
BTLR				*e*Sg	Sn	23 23 21.9	-1.1
SEAG	Tbilisi Sea	0.83	262	P	Pg	23 23 09.6	-0.7
SEAG				S	Sn	23 23 22.5	-0.7
BTNK	Botanikuri	0.85	257	P	Pb	23 23 10.5	-0.1
BTNK				S	Sn	23 23 24.1	+0.4
TBLG	Delisi	0.88	261	P	Pb	23 23 11.2	0.0
TBLG				S	Sn	23 23 24.3	-0.2
XNZR	Khunzakh	0.89	42	*e*Pg	Pb	23 23 11.1	-0.3
XNZR				*e*Sg	Sb	23 23 23.6	+0.5
GNBR	Gunib	0.94	57	*e*Pg	Pg	23 23 11.7	-0.7
GNBR				*e*Sg	Sb	23 23 24.5	+0.1
GUDG	Gudauri	1.21	299	P	Pn	23 23 16.5	-0.2
GUDG				S	Sb	23 23 32.4	0.0
URKR	Urkarakh	1.32	77	*e*Pg	Pg	23 23 18.7	-1.0
URKR				*e*Sg	Sg	23 23 36.9	0.0
GROC	Groznyy	1.32	357	*e*Pg	Pg	23 23 20.0	+0.4
GROC				*e*Sg	Sg	23 23 39.6	+2.8
DBC	Dubki	1.33	31	*e*Pg	Pg	23 23 19.5	-0.2
DBC				*e*Sg	Sg	23 23 37.9	+0.8
AKT	Akhty	1.43	106	*e*Pg	Pn	23 23 18.7	-0.9
AKT				*e*Sg	Sn	23 23 37.4	-0.7
LACR	Lac	1.52	309	*e*Pg	Pb	23 23 22.2	+0.2
ZEI	Tsey	1.74	302	*e*Pg	Pb	23 23 25.9	0.0
ZEI				*e*Sg	Sg	23 23 49.5	-0.6
KORR	Kora	1.81	312	*e*Pg	Pg	23 23 28.8	-0.2
KORR				*e*Sg	Sg	23 23 54.0	+1.5
ONI	Oni	1.95	292	P	Pb	23 23 28.1	-1.3
ONI				S	Sb	23 23 54.7	+1.1
DIGR	Digorskoe uzhe	2.00	301	*e*Pg	Pb	23 23 30.6	+0.4
DIGR				*e*Sg	Sg	23 23 57.2	-1.2

*ISCJB **28** 23:43:04.9±1.0, 6°.6S±0°.2×154°.7E±0°.1, h48km, mb3.9/8, MS3.1/3, Error ellipse: s-maj=29.2km s-min=9.9km az=144.1*

*IDC **28** 23:43:10.6±5.5, 6°.68S×154°.61E, h86km±44km, mb3.7/8, mb1 3.9/9, mb1mx3.7/35, mbtmp4.0/9, MS3.3/6, Ms1 3.3/6, ms1mx2.9/25, Error ellipse: s-maj=40.6km s-min=26.9km az=121.0*

ISC 28 23:43:06.1±1.2, 6°.6S±0°.2×154°.8E±0°.2, h48km, n30, σ0.77/24, mb4.0/8, MS3.1/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	5.83	119	LR	LR	23 46 57.8	
	comp=

MKAR Makanchi Array 82.97 319 P **P 23 55 26.6 +0.4**
1.6nm,0.8s,baz=97,slow=5.4,SNR=9.5
ILAR Eielson Array 83.06 22 P **P 23 55 27.2 -1.0**
0.3nm,0.5s,baz=238,slow=5.2,SNR=3.2
NVAR Mina Array Bea 91.62 52 P **P 23 56 09.9 +1.3**
0.8nm,0.8s,baz=256,slow=6.4,SNR=5.1
BVAR Borovoye Array 91.86 323 P **P 23 56 07.2 -1.9**
0.4nm,0.7s,baz=116,slow=5.0,SNR=3.3
TORD Torodi Ar. Bea 152.73 286 PKP **PKPdf 00 02 51.0 -0.6**
0.5nm,0.8s,baz=356,slow=2.9,SNR=3.2
TORD PKPbc **PKPbc 00 02 58.3 -0.4**
2.6nm,0.8s,baz=36,slow=3.3,SNR=14

NNC 28 23:44:23.1±1.8,36.82N×71.01E,h124km±33km,mb3.1, mpv3.6,3C-3D,Error ellipse: s-maj=17.1km s-min=12.1km az=45.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.29**	**357**	⇑P	Pn	23 45 53.6	+0.1
	1.4nm,0.2s,baz=176,slow=12,SNR=26						
KK31				⇓S	Sn	23 47 04.8	+0.8
	3.1nm,0.5s,baz=160,slow=17,SNR=6.4						
AAK	**Ala-Archa**	**6.40**	**24**	P	Pn	23 45 55.1	0.0
	2.5nm,0.4s						
AAK				⇑S	Sn	23 47 07.3	+0.4
	9.1nm,1.1s						
TKM2	**Tokmak 2**	**7.04**	**29**	⇑P	Pn	23 46 03.5	-0.2
	1.9nm,0.5s						
AB31	**Akbulak array**	**14.81**	**331**	⇓P	Pn	23 47 46.2	0.0
	1.0nm,0.5s,baz=156,slow=12,SNR=27						
AB31				S	Sn	23 50 29.5	-0.4
	1.2nm,0.6s,baz=151,slow=24,SNR=6.1						
AKTO	**Aktyubinsk**	**16.51**	**330**	⇓P	P	23 48 07.6	-0.1
	3.1nm,0.9s						

BJI ***28*** *23:49:32.0±0.0,34.80N×23.10E,h5km,mb4.4/10, mB4.6/1*
IDC ***28*** *23:49:33.9±0.6,35.08N×23.20E,h0km,mb4.2/16, mb1 4.1/23,mb1mx3.9/50,mbtmp4.1/23,ML3.6/7,MS3.3/13, Ms1 3.3/13,ms1mx3.0/44,Error ellipse: s-maj=14.8km s-min=13.2km az=156.0*
ISCJB ***28*** *23:49:34.9±0.6,34.90N±0.02×23.09E±0.02,h19km±4km, mb4.1/28,MS3.4/9,Error ellipse: s-maj=4.3km s-min=2.4km az=35.0*
MOS ***28*** *23:49:34.7±1.4,35.06N×22.97E,h15km,mb4.5/7,Error ellipse: s-maj=8.3km s-min=4.5km az=76.3*
ATH ***28*** *23:49:35.8,35.11N×23.11E,h7km±1km,ML3.8/10,Error ellipse: s-maj=2.5km s-min=0.7km az=41.0*
NEIC ***28*** *23:49:35.6±1.6,35.04N±0.07×23.09E±0.06,h10km±1km*
ISK ***28*** *23:49:35.4,35.08N×23.14E,h2km,ML4.1/16*
THE ***28*** *23:49:36.2,35.11N×23.14E,h0km±2km,ML3.7/11,Error ellipse: s-maj=2.5km s-min=0.9km az=228.0*
HLW ***28*** *23:49:39.7,34.85N×23.26E,h10km±20km,Md4.0,Ml4.0*
GII ***28*** *23:49:44.8±0.0,34.36N×23.76E,h8km,mb4.4/2,MD4.2/2*
DDA ***28*** *23:49:48.1,35.04N×24.24E,h15km,MW4.3*
ISC 28 23:49:34.6±1.0,35.05N±0.03×23.09E±0.03,h5km±5km, n349,σ2°11/386,mb4.2/31,MS3.4/9,5C-6D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.53**	**69**	P	**Pg**	**23 49 43.9**	**-0.8**
KNDR				S	**Sg**	**23 49 50.5**	**-1.0**
	10μm,0.4s						
RODP	**Rodopos**	**0.75**	**47**	P	**Pg**	**23 49 49.2**	**+0.2**
RODP				S	**Sb**	**23 50 00.2**	**-0.5**
	2μm,0.4s						
ANKY	**Antikythira Is**	**0.84**	**12**	P	**Pg**	**23 49 50.4**	**-0.2**
ANKY				S	**Sg**	**23 50 02.1**	**+0.6**
	5μm,0.6s						
ANKY	**Antikythira Is**	**0.84**	**12**	P	**Pg**	**23 49 50.2**	**-0.5**
ANKY				S	**Sg**	**23 50 01.7**	**+0.2**
ANKY				AML	AML	23 50 14.1	
	comp=N,11794μm,0.5s						
ANKY				AML	AML	23 50 14.8	
	comp=E,7686μm,0.6s						
IMMV	**Iera Moni Meta**	**0.84**	**60**	P	**Pg**	**23 49 50.8**	**+0.1**
IMMV				S	**Sb**	**23 50 02.8**	**-0.5**
	comp=E,13μm,0.7s						
IMMV	**Iera Moni Meta**	**0.84**	**60**	P	**Pg**	**23 49 50.9**	**+0.1**
IMMV				S	**Sb**	**23 50 02.4**	**-0.8**
IMMV				AML	AML	23 50 12.5	
	comp=E,27002μm,0.8s						
IMMV				AML	AML	23 50 17.0	
	comp=N,25770μm,0.9s						
IMMV	**Iera Moni Meta**	**0.84**	**60**	PG	**Pb**	**23 49 51.8**	**+0.1**
IMMV				SG	**Sb**	**23 50 02.7**	**-0.5**
GVD	**Gavdhos**	**0.85**	**104**	P	**Pn**	**23 49 51.8**	**-1.4**
GVD				S	**Sn**	**23 50 04.5**	**-1.5**
	comp=N,10μm,0.4s						
GVD	**Gavdhos**	**0.85**	**104**	P	**Pn**	**23 49 52.2**	**-1.0**
GVD				S	**Sn**	**23 50 04.3**	**-1.7**
GVD				AML	AML	23 50 08.0	
	comp=N,20054μm,0.4s						
GVD				AML	AML	23 50 14.1	
	comp=E,19046μm,0.4s						
GVD	**Gavdhos**	**0.85**	**104**	PG	**Pn**	**23 49 51.7**	**-1.4**
GVD				SG	**Sn**	**23 50 04.4**	**-1.5**
GVDS	**Gavdos**	**0.85**	**104**	P	**Pb**	**23 49 51.6**	**-0.2**
GVDS				S	**Sn**	**23 50 04.0**	**-2.0**
	comp=E,7μm,0.5s						
CHAN	**Chania**	**0.91**	**59**	P	**Pg**	**23 49 51.7**	**-0.4**
CHAN				S	**Sb**	**23 50 05.7**	**+0.4**
	comp=E,6μm,0.7s						
VAM	**Vamos**	**0.98**	**68**	P	**Pg**	**23 49 53.4**	**0.0**
VAM				S	**Sn**	**23 50 07.5**	**-1.8**
	comp=E,7μm,0.8s						
VAM	**Vamos**	**0.98**	**68**	P	**Pn**	**23 49 54.0**	**-1.0**
VAM				S	**Sb**	**23 50 07.4**	**+0.1**
VAM				AML	AML	23 50 10.0	
	comp=N,11215μm,0.3s						
VAM				AML	AML	23 50 17.4	
	comp=E,15283μm,1.1s						
PRNS	**Prines Rethymn**	**1.20**	**74**	P	**Pn**	**23 49 55.8**	**-2.2**
PRNS				S	**Sb**	**23 50 12.9**	**-0.7**
KTHA	**Kythira Island**	**1.21**	**359**	P	**Pn**	**23 49 57.4**	**-0.7**
KTHA				S	**Sn**	**23 50 15.6**	**+0.7**
	comp=E,3μm,0.7s						
KTHA	**Kythira Island**	**1.21**	**359**	P	**Pn**	**23 49 57.2**	**-0.9**
KTHA				S	**Sb**	**23 50 11.9**	**-2.0**
KTHA				AML	AML	23 50 25.5	
	comp=N,3819μm,0.7s						
KTHA				AML	AML	23 50 27.4	
	comp=E,9226μm,0.7s						
KTHA	**Kythira Island**	**1.21**	**359**	PN	**Pg**	**23 49 58.6**	**+0.9**
KTHR	**Kythira**	**1.21**	**357**	P	**Pn**	**23 49 56.9**	**-1.3**
TMBK	**Timbaki Herakl**	**1.38**	**88**	P	**Pg**	**23 50 01.1**	**+0.1**
SIVA	**Sivas**	**1.42**	**91**	P	**Pg**	**23 50 01.9**	**+0.2**
SIVA				S	**Sg**	**23 50 21.5**	**+1.4**
	comp=E,8μm,0.7s						
SIVA	**Sivas**	**1.42**	**91**	P	**Pg**	**23 50 01.7**	**+0.1**
SIVA				S	**Sg**	**23 50 21.4**	**+1.4**
SIVA				AML	AML	23 50 37.6	
	comp=E,18854μm,0.7s						
SIVA				AML	AML	23 50 42.7	
	comp=N,13069μm,0.7s						
MNVA	**Monemvasia**	**1.64**	**359**	P	**Pb**	**23 50 04.5**	**-0.8**
IACM	**Heraklion**	**1.65**	**80**	P	**Pb**	**23 50 05.3**	**-0.1**
HRKL	**Herakleio**	**1.67**	**80**	P	**Pb**	**23 50 05.8**	**0.0**
VLI	**Veliai**	**1.67**	**356**	P	**Pb**	**23 50 06.0**	**+0.2**
VLI				S	**Sb**	**23 50 26.8**	**-0.4**
	comp=N,2μm,0.8s						
VLI	**Veliai**	**1.67**	**356**	P	**Pb**	**23 50 05.5**	**-0.3**
VLI				AML	AML	23 50 37.6	
	comp=E,3527μm,0.8s						
VLI				AML	AML	23 50 41.6	
	comp=N,3395μm,0.7s						
DYR	**Agios Nikonas**	**1.82**	**341**	P	**Pb**	**23 50 08.1**	**-0.2**
DYR	**Agios Nikonas**	**1.82**	**341**	P	**Pb**	**23 50 08.8**	**+0.4**
DYR				AML	AML	23 50 55.5	
	comp=E,660μm,1.0s						
DYR				AML	AML	23 50 58.7	
	comp=N,497μm,1.3s						
MHLO	**Agia Marina, M**	**1.96**	**33**	P	**Pb**	**23 50 10.2**	**-0.5**
MHLO	**Agia Marina, M**	**1.96**	**33**	P	**Pb**	**23 50 11.2**	**+0.5**
MHLA	**Plaka, Milos I**	**2.01**	**32**	P	**Pb**	**23 50 11.5**	**-0.1**
NPS	**Neapolis**	**2.08**	**83**	P	**Pb**	**23 50 13.2**	**+0.4**
NPS				AML	AML	23 50 52.0	
	comp=E,2128μm,0.7s						
NPS				AML	AML	23 50 55.8	
	comp=N,2107μm,0.8s						
PYL	**PYLOS**	**2.14**	**330**	P	**Pb**	**23 50 12.9**	**-1.0**
PYL	**PYLOS**	**2.14**	**330**	P	**Pb**	**23 50 12.8**	**-1.0**
THR9	**Santorini-Faro**	**2.26**	**54**	P	**Pb**	**23 50 14.2**	**-1.7**
SAP1	**Santorini-Akro**	**2.29**	**54**	P	**Pb**	**23 50 14.8**	**-1.5**
THR6	**Thira Island,**	**2.29**	**55**	P	**Pb**	**23 50 15.5**	**-0.8**
THR5	**Thira Island,**	**2.29**	**53**	P	**Pb**	**23 50 14.6**	**-1.8**
SAP3	**Santorini-Thir**	**2.30**	**52**	P	**Pb**	**23 50 14.8**	**-1.7**
YDRA	**Hydra**	**2.32**	**7**	P	**Pb**	**23 50 16.0**	**-0.8**
THR3	**Thira Island,**	**2.32**	**54**	P	**Pb**	**23 50 15.4**	**-1.5**
ITM	**Ithomi**	**2.33**	**337**	P	**Pb**	**23 50 15.8**	**-1.2**
ITM	**Ithomi**	**2.33**	**337**	PN	**Pb**	**23 50 15.8**	**-1.2**
ITM	**Ithomi**	**2.33**	**337**		**Pn**	**23 50 14.0**	**+0.5**
KRND	**KRANIDI**	**2.33**	**1**	P	**Pb**	**23 50 16.3**	**-0.7**
SANT	**Santorini**	**2.34**	**55**	P	**Pb**	**23 50 15.2**	**-2.0**
SANT	**Santorini**	**2.34**	**55**	PN	**Pb**	**23 50 15.5**	**-1.7**
SANT	**Santorini**	**2.34**	**55**		**Pn**	**23 50 14.3**	**+0.5**
THR7	**Fira-Santorini**	**2.35**	**54**	P	**Pb**	**23 50 16.6**	**-0.8**
SAP2K	**Karterados**	**2.35**	**54**	P	**Pb**	**23 50 16.0**	**-1.5**
CMBO	**Columbo, Santo**	**2.36**	**52**	P	**Pb**	**23 50 15.7**	**-1.9**
THR8	**Santorini-Mono**	**2.37**	**54**	P	**Pb**	**23 50 15.7**	**-2.0**
VLX	**Vlachokerasia**	**2.39**	**346**	P	**Pb**	**23 50 17.5**	**-0.6**
IOSP	**Ios island**	**2.45**	**46**	P	**Pb**	**23 50 16.8**	**-2.2**
DID	**Didima**	**2.46**	**3**	P	**Pb**	**23 50 18.2**	**-1.0**
ZKR	**Zakros**	**2.57**	**88**	P	**Pb**	**23 50 20.0**	**-1.1**
ZKR	**Zakros**	**2.57**	**88**	PN	**Pb**	**23 50 19.2**	**-1.9**
AMT	**Artemida-Makis**	**2.72**	**336**	P	**Pb**	**23 50 22.5**	**-1.2**
APE	**Apeiranthos**	**2.83**	**44**	*i* P	**Pn**	**23 50 21.9**	**+1.4**
APE	**Apeiranthos**	**2.83**	**44**	P	**Pn**	**23 50 21.8**	**+1.4**
APE	**Apeiranthos**	**2.83**	**44**	PN	**Pn**	**23 50 22.3**	**+1.9**
VLY	**Voula,Athens**	**2.86**	**11**	P	**Pb**	**23 50 23.9**	**-2.2**
AMGA	**Amorgos Island**	**2.89**	**51**	P	**Pn**	**23 50 22.6**	**+1.3**
LOUT	**Loutraki**	**2.94**	**358**	P	**Pb**	**23 50 25.0**	**-2.4**
ATH	**Athens Observa**	**2.96**	**10**	P	**Pb**	**23 50 25.0**	**-2.8**
ATHU	**Athens Univers**	**2.97**	**11**	P	**Pb**	**23 50 25.2**	**-2.7**
LTK	**Loutraki**	**2.97**	**358**	P	**Pb**	**23 50 25.8**	**-2.2**
THAL	**Thalero**	**3.00**	**354**	P	**Pn**	**23 50 25.2**	**+2.4**
PTL	**Penteli**	**3.06**	**12**	P	**Pb**	**23 50 26.3**	**-3.2**
KLV	**Kalavryta, Ach**	**3.08**	**346**	P	**Pb**	**23 50 27.0**	**-2.9**
DRO	**Drossia**	**3.10**	**339**	P	**Pb**	**23 50 28.2**	**-2.1**
VIL2	**Platees**	**3.16**	**3**	P	**Pn**	**23 50 27.2**	**+2.2**
KARY	**Karystos**	**3.17**	**20**	P	**Pn**	**23 50 26.5**	**+1.3**
PROD	**Prodromos**	**3.21**	**357**	P	**Pb**	**23 50 29.5**	**-2.6**
RLS	**Riolos of Patr**	**3.28**	**337**	P	**Pb**	**23 50 30.0**	**-3.2**
LAKA	**Lakka**	**3.31**	**345**	P	**Pb**	**23 50 30.1**	**-3.6**
KARP	**Karpathos**	**3.37**	**80**	P	**Pb**	**23 50 30.9**	**-3.9**
KARP				AML	AML	23 51 16.6	
	comp=E,714μm,0.9s						
KARP				AML	AML	23 51 17.7	
	comp=N,498μm,0.6s						
KARP	**Karpathos**	**3.37**	**80**	PN	**Pn**	**23 50 30.3**	**+2.4**
KARP	**Karpathos**	**3.37**	**80**		**Pn**	**23 50 29.6**	**+1.7**
TRIZ	**Trizonia**	**3.41**	**346**	P	**Pb**	**23 50 33.3**	**-2.1**
KALE	**Kalithea**	**3.42**	**347**	P	**Pb**	**23 50 32.1**	**-3.6**
VLMS	**Volimes, Zakyn**	**3.43**	**326**	P	**Pn**	**23 50 31.3**	**+2.6**
EREA	**Eretria**	**3.44**	**11**	P	**Pn**	**23 50 31.3**	**+2.6**
SERG	**Sergoula**	**3.46**	**346**	P	**Pn**	**23 50 32.2**	**+3.0**
EFP	**Efpalio**	**3.50**	**345**	P	**Pn**	**23 50 32.2**	**+2.5**
KFL	**Anninata**	**3.57**	**329**	P	**Pn**	**23 50 33.7**	**+3.1**
LKR	**Lokris**	**3.60**	**359**	P	**Pn**	**23 50 33.8**	**+2.9**
MRKA	**Markates**	**3.67**	**6**	P	**Pn**	**23 50 34.7**	**+2.7**
VLS	**Valsamata**	**3.71**	**326**	P	**Pn**	**23 50 34.0**	**+1.4**
AXAR	**Agios Charalam**	**3.73**	**355**	P	**Pn**	**23 50 34.2**	**+1.4**
PVO	**Paravola**	**3.78**	**341**	P	**Pn**	**23 50 37.1**	**+3.7**
PDO	**Prodromos**	**3.86**	**337**	P	**Pn**	**23 50 38.0**	**+3.4**
FSK	**Fiskardo**	**3.96**	**330**	P	**Pn**	**23 50 36.2**	**+0.3**
SLUM	**Salum**	**3.97**	**153**	P	**Pn**	**23 50 37.4**	**+1.3**
	baz=153						
SLUM				AMP		23 51 00.0	
	baz=153						
SLUM				S	**Sn**	**23 51 18.6**	**-4.4**
	baz=153						
BODT	**Bodrum**	**3.97**	**58**	PN	**Pn**	**23 50 38.6**	**+2.5**
EVR	**Evrytania**	**4.00**	**346**	P	**Pn**	**23 50 39.1**	**+2.5**
AGG	**Agios Georgios**	**4.01**	**352**	P	**Pn**	**23 50 37.8**	**+1.0**
AGG	**Agios Georgios**	**4.01**	**352**	P	**Pn**	**23 50 39.1**	**+2.4**
AGG	**Agios Georgios**	**4.01**	**352**	PN	**Pn**	**23 50 39.8**	**+3.1**
AGG	**Agios Georgios**	**4.01**	**352**		**Pn**	**23 50 37.8**	**+1.0**
DAT	**Datca**	**4.01**	**64**	PN	**Pn**	**23 50 38.8**	**+2.0**
SMG	**Samos**	**4.03**	**48**	P	**Pn**	**23 50 38.6**	**+1.7**
MAKR	**Makrakomi, Fth**	**4.03**	**349**	P	**Pn**	**23 50 40.8**	**+3.8**
EVGI	**Lefkada island**	**4.07**	**332**	P	**Pn**	**23 50 39.1**	**+1.7**
CHOS	**Chios island**	**4.10**	**35**	P	**Pn**	**23 50 40.0**	**+2.1**
CHOS	**Chios island**	**4.10**	**35**	PN	**Pn**	**23 50 40.8**	**+2.9**
SKIA	**Skiathos**	**4.12**	**4**	P	**Pn**	**23 50 41.5**	**+3.3**
AOS	**Alonnisos**	**4.17**	**9**	P	**Pn**	**23 50 40.5**	**+1.7**
AOS	**Alonnisos**	**4.17**	**9**	PN	**Pn**	**23 50 41.9**	**+3.1**
LKD2	**Lefkada island**	**4.21**	**333**	P	**Pn**	**23 50 41.5**	**+2.1**
TSLK	**Tsoukalades, L**	**4.24**	**333**	P	**Pn**	**23 50 42.3**	**+2.5**
NEO	**Neokhori**	**4.25**	**1**	P	**Pn**	**23 50 42.8**	**+2.8**
XOR	**Xorichti**	**4.31**	**1**	P	**Pn**	**23 50 43.3**	**+2.5**
URLA	**Izmir**	**4.35**	**39**	PN	**Pn**	**23 50 43.6**	**+2.3**
MLSB	**Milas**	**4.41**	**58**	PN	**Pn**	**23 50 45.2**	**+3.0**
YER	**Yerkesik**	**4.70**	**62**	PN	**Pn**	**23 50 48.7**	**+2.6**
TURN	**Turunc**	**4.83**	**66**	*i* P	**Pn**	**23 50 44.9**	**-3.0**
TURN				*i* S	Sn	23 51 31.4	-13
TURN	**Turunc**	**4.83**	**66**	PN	**Pn**	**23 50 46.5**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**4.83**	**52**	PN	**Pn**	**23 50 51.0**	**+2.9**
DALY	**Dalyan (Mula)**	**4.85**	**67**	*i* P	**Pn**	**23 50 48.5**	**+0.3**
DALY				*i* S	**Sn**	**23 51 40.6**	**-4.1**
LIT	**Litokhoron**	**5.07**	**355**	P	**Pn**	**23 50 52.2**	**+1.0**
LIT	**Litokhoron**	**5.07**	**355**		**Pn**	**23 50 52.2**	**+1.0**
FETY	**Fethiye**	**5.12**	**70**	*i* P	**Pn**	**23 50 52.7**	**+0.7**
FETY				*i* S	Sn	23 51 40.5	-11
FETY	**Fethiye**	**5.12**	**70**	PN	**Pn**	**23 50 55.1**	**+3.1**
TAVA	**DENIZLI_Tavas**	**5.29**	**61**	*i* P	**Pn**	**23 50 55.6**	**+1.3**
TAVA				IVMs_BB	IVMs_BB	23 53 22.0	
	comp=Z,626nm,9.2s						
AKAS	**Kas**	**5.44**	**76**	*i* P	**Pn**	**23 50 56.5**	**+0.1**
AKAS				*i* S	**Sn**	**23 51 57.5**	**-1.9**
GOLH	**Golhisar**	**5.68**	**65**	*i* P	**Pn**	**23 51 00.9**	**+1.2**
GOLH				*i* S	**Sn**	**23 52 05.4**	**+0.1**
GOLH				IVMs_BB	IVMs_BB	23 53 34.0	
	comp=Z,888nm,4.7s						
ELL	**Elmali**	**5.79**	**71**	P	**Pn**	**23 51 01.8**	**+0.5**
ELL	**Elmali**	**5.79**	**71**		**Pn**	**23 51 01.8**	**+0.5**
FNA	**Florina**	**5.88**	**347**	P	**Pn**	**23 51 03.3**	**+0.8**
FNA	**Florina**	**5.88**	**347**		**Pn**	**23 51 03.3**	**+0.8**
USAK	**Uak-Merkez**	**6.00**	**51**	*i* P	**Pn**	**23 51 06.7**	**+2.6**
AKUM	**Antalya-Kumluc**	**6.04**	**76**	*i* P	**Pn**	**23 51 06.2**	**+1.6**
AKUM				*i* S	**Sn**	**23 52 08.1**	**-6.0**
KHAL	**Karahalli**	**6.12**	**55**	*i* P	**Pn**	**23 51 08.9**	**+3.1**
KHAL				IVMs_BB	IVMs_BB	23 53 56.0	
	comp=Z,772nm,11.3s						
SWA2		**6.12**	**160**	P	**Pn**	**23 51 06.6**	**+0.9**
	baz=161						
KORT	**Korkueli**	**6.20**	**70**	*i* P	**Pn**	**23 51 07.9**	**+1.0**
KORT				*i* S	**Sn**	**23 52 15.9**	**-2.3**
SCTE	**Santa Cesarea**	**6.21**	**325**	Pn	**Pn**	**23 51 07.0**	**0.0**
BRDR	**BURDUR-Merkez**	**6.22**	**63**	*i* P	**Pn**	**23 51 08.6**	**+1.6**
VAY	**Valandovo**	**6.28**	**356**	*i* Pn	**Pn**	**23 51 09.5**	**+1.7**
ALN	**Alexandroupoli**	**6.29**	**21**	P	**Pn**	**23 51 08.7**	**+0.7**
ALN	**Alexandroupoli**	**6.29**	**21**	Pn	**Pn**	**23 51 08.7**	**+0.7**
KZIL	**AFYON_Kizioren**	**6.51**	**58**	*i* P	**Pn**	**23 51 13.3**	**+2.2**
TIP	**Timpagrande**	**6.52**	**311**	Pn	**Pn**	**23 51 11.9**	**+0.6**
TIR	**Tirane**	**6.78**	**339**	P	**Pn**	**23 51 15.2**	**+0.5**
TIR	**Tirane**	**6.78**	**339**	Pn	**Pn**	**23 51 15.2**	**+0.5**
WDD	**Wied Dalam**	**7.03**	**279**	Pn	**Pn**	**23 51 19.1**	**+0.9**
KEPZ	**Antalya-Kepez**	**7.15**	**73**	*i* P	**Pn**	**23 51 21.2**	**+1.4**
KEPZ				*i* S	**Sn**	**23 52 37.7**	**-3.8**
RAFF	**Raffo Rosso**	**7.38**	**290**	Pn	**Pn**	**23 51 23.4**	**+0.3**
VAE	**Valguarnera**	**7.42**	**292**	Pn	**Pn**	**23 51 27.0**	**+3.5**
	comp=Z,0.7nm,0.3s,baz=0.0,slow=10,SNR=3.5						
VAE				Sn	**Sn**	**23 52 52.8**	**+4.8**
	comp=Z,1.0nm,0.3s,baz=360,slow=12,SNR=2.5						
VTS	**Vitosha**	**7.56**	**1**	P	**Pn**	**23 51 28.7**	**+3.1**
VTS	**Vitosha**	**7.56**	**1**	⇑P	**Pn**	**23 51 29.4**	**+3.8**
VTS	**Vitosha**	**7.56**	**1**		**Pn**	**23 51 28.7**	**+3.1**
DRME	**Dracevica, Mon**	**7.75**	**338**	⇓*i* Pn	**Pn**	**23 51 26.5**	**-1.6**
PDG	**Podgorica**	**7.96**	**339**	*e*Pn	**Pn**	**23 51 26.8**	**-4.0**
PDG	**Podgorica**	**7.96**	**339**	⇑P	**Pn**	**23 51 31.9**	**+1.1**
PDG	**Podgorica**	**7.96**	**339**		**Pn**	**23 51 30.9**	**+0.1**
ACER	**Acerenza**	**8.04**	**318**	Pn	**Pn**	**23 51 32.4**	**+0.3**
ERMK	**Ermenek**	**8.14**	**76**	*i* P	**Pn**	**23 51 34.8**	**+1.3**
ERMK				*i* S	**Sn**	**23 53 02.8**	**-3.2**
HCY	**Herceg Novi**	**8.21**	**335**	*e*Pn	**Pn**	**23 51 34.4**	**0.0**
CLTB	**Caltabellotta**	**8.36**	**290**	Pn	**Pn**	**23 51 37.7**	**+1.2**
CORL	**Corleone**	**8.38**	**293**	Pn	**Pn**	**23 51 38.3**	**+1.6**
CSS	**Mathiatis**	**8.41**	**88**	Pn	**Pn**	**23 51 36.1**	**-1.0**
CSS	**Mathiatis**	**8.41**	**88**	Pn	**Pn**	**23 51 37.2**	**+0.2**
TREB	**Trebinje**	**8.50**	**336**	*e*Pn	**Pn**	**23 51 36.4**	**-1.9**
DBRK	**Dubrovnik**	**8.53**	**335**	*i* Pn	**Pn**	**23 51 37.4**	**-1.2**
DBRK				Sn	**Sn**	**23 53 07.0**	**-8.2**
UPM	**Unac-Piva**	**8.77**	**340**	*e*Pn	**Pn**	**23 51 41.8**	**-0.3**
STON	**Ston**	**8.87**	**333**	*e*Pn	**Pn**	**23 51 41.6**	**-1.7**
STON	**Ston**	**8.87**	**333**	*e*Pn	**Pn**	**23 51 41.4**	**-1.9**
KOT	**Kottamia**	**8.97**	**122**	P	**Pn**	**23 51 46.9**	**+2.0**
	baz=121						
RUDO	**Rudo**	**9.03**	**343**	*e*Pn	**Pn**	**23 51 42.4**	**-3.2**
HFRF	**Wahat Farafira**	**9.06**	**149**	P	**Pn**	**23 51 45.8**	**-0.2**
	baz=149						
BR231	**Keskin MP Arra**	**9.07**	**55**	Pn	**Pn**	**23 51 45.8**	**-0.4**
ANTO	**Ankara**	**9.09**	**55**	P	**Pn**	**23 51 45.1**	**-1.4**
ANTO	**Ankara**	**9.09**	**55**	Pn	**Pn**	**23 51 45.1**	**-1.4**
BBLS	**Lazići**	**9.26**	**343**	⇓*i* Pn	**Pn**	**23 51 46.8**	**-1.9**
DIVS	**Divibare**	**9.35**	**346**	*e*Pn	**Pn**	**23 51 47.9**	**-2.1**
NBNS	**Bani Suef**	**9.47**	**130**	P	**Pn**	**23 51 49.9**	**-1.8**
	baz=130						
MAKA	**Makarska**	**9.48**	**332**	*i* Pn	**Pn**	**23 51 50.8**	**-0.8**
MAKA				Sn	**Sn**	**23 53 32.2**	**-6.4**
HAPS	**Han Pijesak,BI**	**9.57**	**342**	*e*Pn	**Pn**	**23 51 50.5**	**-2.6**
BR131	**Keskin Array S**	**9.61**	**58**	P	**Pn**	**23 51 53.7**	**+0.1**
BR131	**Keskin Array S**	**9.61**	**58**		**Pn**	**23 51 53.7**	**+0.1**
BRTR	**Keskin Array B**	**9.61**	**58**	P	**Pn**	**23 51 54.4**	**+0.8**
BRTR	**Keskin Array B**	**9.61**	**58**	Pn	**Pn**	**23 51 56.0**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=235,slow=15,SNR=16						
BRTR				LR	LR	23 55 39.8	
	comp=Z,43nm,21.4s,baz=228,slow=38						
BRTR	**Keskin Array B**	**9.61**	**58**		**Pn**	**23 51 54.4**	**+0.8**
HVAR	**Hvar**	**9.62**	**330**	*e*Pn	**Pn**	**23 51 52.6**	**-1.0**
MDVR	**Moldovita**	**9.78**	**354**	⇓P	**Pn**	**23 51 56.6**	**+0.7**
GZR	**Gura Zlata**	**10.34**	**359**	⇓P	**Pn**	**23 52 07.5**	**+4.0**
GZR	**Gura Zlata**	**10.34**	**359**	⇓P	**Pn**	**23 52 07.5**	**+4.0**
ZIRJ	**Zirje**	**10.34**	**328**	*i* Pn	**Pn**	**23 52 02.1**	**-1.4**
KZIT	**Kziot**	**10.36**	**110**	Pn	**Pn**	**23 52 02.8**	**-1.0**
KZIT				Sn	Sn	23 53 51.1	-9.2
FRGS	**Fruska Gora**	**10.40**	**347**	*e*Pn	**Pn**	**23 52 02.0**	**-2.4**
MMAI	**Mount Meron Ar**	**10.42**	**98**	Pn	**Pn**	**23 52 03.8**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=279,slow=11,SNR=14						
MMAI				LR	LR	23 57 54.3	
	comp=Z,82nm,18.6s,baz=260,slow=48						
MGRS	**Mrkonjic Grad**	**10.43**	**336**	*e*Pn	**Pn**	**23 52 04.3**	**-0.5**
AMAZ	**Amatzia**	**10.50**	**106**	Pn	**Pn**	**23 52 06.7**	**+0.9**
AMAZ				Sn	**Sn**	**23 53 56.9**	**-6.9**
KSDI	**Kefar Szold**	**10.59**	**96**	Pn	**Pn**	**23 52 09.3**	**+2.4**
MMLI	**Mount Malkishu**	**10.60**	**101**	Pn	**Pn**	**23 52 07.1**	**0.0**
BZS	**Buzias**	**10.62**	**354**	⇑P	**Pn**	**23 52 05.5**	**-1.8**
BZS	**Buzias**	**10.62**	**354**	⇑P	**Pn**	**23 52 05.5**	**-1.8**
NATI	**Neve Ativ**	**10.63**	**96**	Pn	**Pn**	**23 52 10.0**	**+2.5**
NATI				Sn	**Sn**	**23 54 01.5**	**-5.5**
MLR	**Muntele Rosu**	**10.66**	**11**	P	**Pn**	**23 52 08.0**	**0.0**
MLR

CLL e 23 53 50.0
comp=Z,8.0nm,1.1s
CLL ePP PnPn 23 53 54.0 +0.4
CLL esPPP 23 54 03.0
CLL e 23 59 26.0
GNI Garni 17.89 67 P P 23 53 44.6 -0.3
GNI pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 17.89 67 P 23 53 44.6 -0.3
NCK Nalchik 17.95 56 *i* P P 23 53 48.8 +3.3
NCK pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 19.90 31 *i* P Pn 23 54 11.1 +2.7
VSR pmax pmax
comp=Z,14nm,1.0s
ESDC Sonseca Array 21.95 290 P P 23 54 30.4 +1.2
comp=Z,0.5nm,0.6s,baz=91,slow=12,SNR=4.3
OBN Obninsk 22.14 21‖ *e*P P 23 54 37.1 +6.3
OBN e 23 54 39.7
OBN S Sn 23 58 40.0 -5.8
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,176nm,16.0s
RAYN Ar Rayn 22.62 114 P P 23 54 37.0 +0.6
RAYN pmax pmax
comp=Z,3.0nm,1.0s
RAYN Ar Rayn 22.62 114 P P 23 54 37.0 +0.6
MOS Moscow 22.98 21 *e*P P 23 54 41.9 +2.1
MOS e 23 54 47.8
HFS Hagfors 25.83 349 P P 23 55 06.2 -0.4
comp=Z,4.5nm,0.9s,baz=157,slow=9.6,SNR=11
HFS LR LR 00 06 05.5
comp=Z,36nm,21.3s,baz=83,slow=38
FINES FINESS Array B 26.48 3 *i* P P 23 55 18.1 +5.7
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 26.48 3 P P 23 55 11.3 -1.1
comp=Z,4.5nm,0.9s,baz=163,slow=14,SNR=6.7
FINES LR LR 00 07 02.8
comp=Z,136nm,18.9s,baz=244,slow=40
NC602 NORSAR Array S 26.76 347 P P 23 55 16.2 +1.2
NAO01 NORSAR Array S 26.98 347 P P 23 55 18.9 +1.9
NC405 NORSAR Array S 27.09 348 P P 23 55 20.1 +2.2
NB201 NORSAR Array S 27.10 347 P P 23 55 19.6 +1.5
NB2 NORSAR Subarra 27.11 347 P P 23 55 19.7 +1.6
comp=Z,0.7nm,0.6s,baz=157,slow=10
NOA NORSAR Array B 27.11 347 P P 23 55 18.8 +0.6
comp=Z,0.8nm,0.7s,baz=156,slow=9.7,SNR=6.0
NOA LR LR 00 08 50.0
comp=Z,72nm,19.0s,baz=350,slow=43
KLMR Klimovskoe 27.90 17 *e*P P 23 55 22.4 -2.8
KLMR pmax pmax
comp=Z,28nm,1.6s
KLMR Klimovskoe 27.90 17 *e*P P 23 55 22.4 -2.8
KLMR AMP 23 55 25.6
comp=Z,28nm,1.6s
GEYT Alibeck 28.21 74 P P 23 55 28.7 +0.4
comp=Z,1.2nm,0.5s,baz=318,slow=9.7,SNR=4.2
GEYT Alibeck 28.21 74 P P 23 55 27.9 -0.4
GYA0B ALIBECK ARRAY 28.21 74 P P 23 55 28.9 +0.6
GYA0B IAmb IAmb 23 55 45.0
comp=Z,4.3nm,1.0s
TOA0 Torodi Ar. Sit 29.14 227 P P 23 55 37.2 +0.5
TOA0 IAmb IAmb 23 55 38.2
comp=Z,3.0nm,1.0s
TORD Torodi Ar. Bea 29.14 227 P P 23 55 37.6 +0.9
comp=Z,1.5nm,0.6s,baz=27,slow=8.8,SNR=22
TORD LR LR 00 08 00.9
comp=Z,62nm,18.7s,baz=350,slow=38
TORD Torodi Ar. Bea 29.14 227 P P 23 55 36.2 -0.5
UOSS Minazif 30.28 100 P P 23 55 47.3 +0.6
ABKAR Abkulak array 30.46 51 P P 23 55 48.4 +0.3
ARU Arti 32.16 37*c i*P P 23 56 07.1 +4.1
ARU 23 57 08.2
ARU S **S** **00 01 21.2 +5.2**
ARU SS **SnSn** **00 03 08.2 +2.3**
ARCES ARCESS Array B 34.57 2 P P 23 56 22.6 -1.2
comp=Z,2.5nm,0.7s,baz=187,slow=5.9,SNR=6.2
ARCES LR LR 00 11 44.2
comp=Z,155nm,18.0s,baz=216,slow=38
KKAR Karatay Array 37.27 63 P P 23 56 48.1 +0.8
KKAR Karatay Array 37.27 63 P P 23 56 48.1 +0.8
BRVK Borovoye 37.60 47 P P 23 56 50.0 +0.1
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 37.60 47 P P 23 56 50.0 +0.1
BRVK IAmb IAmb 23 56 56.0
comp=Z,1.5nm,0.8s
DBIC Dimbokro 38.19 229 P P 23 56 55.8 +0.5
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC Dimbokro 38.19 229 P P 23 56 55.5 +0.3
comp=Z,2.3nm,0.5s,baz=18,slow=11,SNR=5.4
DBIC Dimbokro 38.19 229 P P 23 56 55.8 +0.5
DBIC IAmb IAmb 23 57 09.7
comp=Z,3.1nm,0.8s
AAK Ala-Archa 40.23 63 *i* P P 23 57 15.2 +2.9
AAK pmax pmax
comp=Z,1.0nm,0.7s
KDJ Kajisay 42.27 64 P P 23 57 30.1 +1.0
KDJ pmax pmax
comp=Z,6.0nm,0.9s
KDJ Kajisay 42.27 64 P P 23 57 30.1 +1.0
KDJ IAmb IAmb 23 57 33.6
comp=Z,5.9nm,0.9s
KURBB Kurchatov Arra 42.51 51 P P 23 57 29.5 -1.2
comp=Z,1.5nm,0.5s,baz=276,slow=8.7,SNR=17
KURK Kurchatov 42.57 51 P P 23 57 32.2 +1.0
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 42.57 51 P P 23 57 32.2 +1.0
KURK IAmb IAmb 23 57 40.0
comp=Z,2.1nm,0.8s
TARG Taragay, Kyrgy 42.79 64 P P 23 57 34.4 +0.7
TARG IAmb IAmb 23 57 35.4
comp=Z,2.2nm,0.7s
SPITS Spitsbergen Ar 43.33 358 P P 23 57 37.2 +0.1
comp=Z,9.4nm,0.9s,baz=142,slow=12,SNR=7.2
MKAR Makanchi Array 45.25 56 *i* P P 23 57 52.2 -0.7
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.25 56 P P 23 57 51.7 -1.2
comp=Z,2.1nm,0.6s,baz=266,slow=7.8,SNR=25
MKAR Makanchi Array 45.25 56 P P 23 57 52.6 -0.2
ZALV Zalesovo Beam 46.31 46 *i* P P 23 58 02.0 +0.9
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 46.31 46 P P 23 57 59.9 -1.2
comp=Z,2.9nm,0.4s,baz=248,slow=11,SNR=7.9
WMQ Urumqi 49.53 59 *e*P P 23 58 30.5 +4.2
DANN Dangsing 51.37 80 *e*P P 23 58 40.9 +0.2
comp=Z,13nm,0.3s
KOLN Koldanda 51.48 80 *e*P P 23 58 40.5 -0.9
comp=Z,3.6nm,0.3s
GKN Gorkha 52.22 80 *e*P P 23 58 46.6 -0.3
comp=Z,8.1nm,0.3s
DMN Daman 52.76 80 *e*P P 23 58 50.7 -0.3
comp=Z,12nm,0.4s
KKN Kakani 52.83 80 *e*P P 23 58 50.8 -0.6
PKIN Phulchoki 53.01 80 *e*P P 23 58 52.5 -0.4
PKI Pulchoki 53.02 80 *e*P P 23 58 52.6 -0.4
GUN Gumba 53.26 79 *e*P P 23 58 54.7 -0.1
comp=Z,9.1nm,0.4s
JIRN Jiri 53.62 79 *e*P P 23 58 57.1 -0.3
comp=Z,16nm,0.6s
RAMN Ramite 54.24 80 *e*P P 23 59 01.1 -0.8
TAPN Taplejung 54.97 79 *e*P P 23 59 06.7 -0.5
comp=Z,3.6nm,0.4s
GTA Gaotai 59.51 61 *e*P P 23 59 40.8 +1.8
GTA pP pwP 23 59 45.3 +1.5
GTA sP sP 23 59 48.0 +8.3
GTA pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 60.87 50 P P 23 59 48.0 -0.1
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 60.87 50 P P 23 59 48.2 +0.1
comp=Z,1.1nm,0.5s,baz=282,slow=6.3,SNR=8.5
SONM LR LR 00 33 27.0
comp=Z,16nm,18.8s,baz=147,slow=43
SONM Songino Array 60.87 50 P P 23 59 48.0 -0.1
ULN Ulaanbaatar 61.27 50 P P 23 59 51.1 +0.2
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 61.27 50 P **P** **23 59 51.1 +0.2**
BOSA Boshof 63.35 178 P **P** **00 00 05.9 +1.1**
comp=Z,2.8nm,0.8s,baz=17,slow=5.2,SNR=5.7
BOSA LR LR 00 32 11.8
comp=Z,48nm,19.0s,baz=30,slow=40
BOSA Boshof 63.35 178 IAmb IAmb 00 00 09.4
comp=Z,3.4nm,0.8s
LZH Lanzhou 63.77 63 *e*P **P** **00 00 08.5 +0.7**
LZH pP pwP 00 00 12.5 -0.2
LZH sP sP 00 00 15.5 +6.9
LZH PP **PP** **00 02 29.0 +1.3**
LZH pmax pmax
comp=Z,12nm,1.2s
HHC Hu-ho-hao-te 67.11 55 *e*P **P** **00 00 30.5 +1.2**
HHC pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 68.27 82 P **P** **00 00 36.3 -0.5**
comp=Z,0.8nm,0.4s,baz=305,slow=8.3,SNR=7.9
WHN Wuhan 74.13 64 P P 00 01 18.3 +6.2
INK Inuvik 75.48 351 P **P** **00 01 19.8 +0.6**
comp=Z,0.8nm,0.7s,baz=7,6,slow=6.1,SNR=4.0
USRK Ussuriysk Ar. 78.11 44 P **P** **00 01 34.3 -0.3**
USRK Ussuriysk Ar. 78.11 44 P **P** **00 01 34.2 -0.4**
comp=Z,1.9nm,0.7s,baz=300,slow=3.4,SNR=4.3
USRK Ussuriysk Ar. 78.11 44 P **P** **00 01 34.3 -0.3**
KSAR Wonju Array Be 79.67 51 P **P** **00 01 43.3 +0.1**
KSAR Wonju Array Be 79.67 51 P **P** **00 01 43.3 +0.1**
KSRS Korea Array 79.69 51 LR LR 00 40 03.0
comp=Z,18nm,19.4s,baz=25,slow=38
CRPR Cabo Rojo, PR 80.04 285 P **P** **00 01 44.3 -1.3**
WRA Warramunga Arr 118.27 95 PKP **PKiKP** **00 08 22.7 -0.7**
comp=Z,0.6nm,0.6s,baz=314,slow=1.4,SNR=8.3
ASAR Alice Springs 119.71 99 PKP **PKiKP** **00 08 25.7 -0.4**
comp=Z,1.1nm,0.7s,baz=315,slow=1.4,SNR=14

*IDC **29** 00:27:56.0±13.0, 37°.81N×141°.75E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.4/34, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=242.2km s-min=51.8km az=118.0*
*ISCJB **29** 00:28:01.8±1.1, 37°.29N±0°.05×141°.4E±0°.1, h58km±6km, mb3.5/3, Error ellipse: s-maj=14.0km s-min=6.8km az=17.8*
*JMA **29** 00:28:02.6±0.1, 37°.30N×141°.34E, h57km±1km, M3.6*
JMA Felt I J1.
ISC 29 00:28:01.5±1.9**, 37°.29N**±0°.06×**141°.5E**±0°.1**, h45**km±13km**, n22**, σ1s**27**/27**, mb3.5**/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**279**	P	**Pn**	**00 28 13.1**	**+0.5**
JFK				S	**Sn**	**00 28 20.4**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.60**	**252**	P	**Pn**	**00 28 14.1**	**+0.4**
ONAJ				S	**Sn**	**00 28 22.3**	**-0.2**
JMST	**Minamisoumatoc**	**0.66**	**312**	P	**Pn**	**00 28 15.0**	**+0.5**
JMST				S	**Sn**	**00 28 23.9**	**+0.1**
JFFD	**Fukushimafurud**	**0.78**	**256**	P	**Pn**	**00 28 16.2**	**+0.1**
JFFD				S	**Sn**	**00 28 26.0**	**-0.8**
JMM	**Marumori**	**0.81**	**316**	P	**Pn**	**00 28 16.9**	**+0.4**
JMM				S	**Sn**	**00 28 27.3**	**-0.2**
JFT	**Otama**	**0.96**	**284**	P	**Pn**	**00 28 19.0**	**+0.4**
JFT				S	**Sn**	**00 28 30.5**	**-0.6**
JHO	**Hitachi**	**1.01**	**228**	P	**Pn**	**00 28 19.1**	**-0.1**
JHO				S	**Sn**	**00 28 31.2**	**-1.1**
JIO	**Ouri**	**1.17**	**354**	P	**Pn**	**00 28 22.7**	**+1.3**
JIO				S	**Sn**	**00 28 37.0**	**+0.8**
JOU	**Okura**	**1.27**	**328**	P	**Pn**	**00 28 23.1**	**+0.3**
JFY	**Yanaizu**	**1.44**	**275**	P	**Pn**	**00 28 25.0**	**-0.2**
JFY				S	**Sn**	**00 28 41.8**	**-1.1**
JYS	**Shirataka**	**1.48**	**310**	P	**Pn**	**00 28 26.2**	**+0.6**
JYS				S	**Sn**	**00 28 43.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.75**	**255**	Pn	**Pn**	**00 28 46.2**	**+3.1**
	0.4nm,0.3s,baz=67,slow=9.5,SNR=7.7						
MAT	**Matsushiro**	**2.75**	**255**	P	**Pn**	**00 28 46.0**	**+2.9**
MAT				S	**Sn**	**00 29 18.1**	**+3.1**
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**00 33 44.4**	**-1.1**
	0.8nm,0.6s,baz=98,slow=7.1,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	01 03 53.1	
	baz=314,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	01 03 51.6	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	01 03 53.6	
	baz=314,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	01 05 03.7	
	baz=316,slow=76,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	01 05 06.7	
	baz=316,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	01 04 38.7	
	baz=316,slow=76,SNR=10						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**00 35 46.0**	**-0.5**
	0.8nm,0.3s,baz=95,slow=7.2,SNR=5.1						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**00 36 03.9**	**-0.9**
	0.2nm,0.4s,baz=83,slow=9.9,SNR=5.1						

*IDC **29** 00:39:06.1±2.1, 0°.75S×133°.32E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/23, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=118.5km s-min=22.7km az=72.0*
*DJA **29** 00:39:09.2±1.3, 0°.5±8°.8×13°.3E±°, h23km±16km, M4.4/7, mb4.9/2, MLv4.2/7*
*NEIC **29** 00:39:10.7±1.5, 0°.73S±0°.09×133°.3E±0°.1, h35km±6km, mb4.0/12*
ISC 29 00:39:10.7±0.8**, 0°.77S**±0°.08×**133°.26E**±0°.07**, h35**km**, n30,** σ1s**06**/26**, mb4.2**/4**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.18**	**129**	P	**Pn**	**00 39 31.1**	**+0.4**
RKPI				S	**Sn**	**00 39 48.6**	**+3.1**
SWI	**Sorong**	**2.00**	**267**	P	**Pn**	**00 39 44.1**	**+2.1**
SWI				S	Sn	00 40 12.2	+6.3
FAKI	**Fak Fak**	**2.37**	**205**	P	Pn	00 39 50.2	+3.1
FAKI	**Fak Fak**	**2.37**	**205**		**Pn**	**00 39 47.5**	**+0.4**
BNDI	**Bandanaira**	**5.02**	**222**	P	Pn	00 40 27.6	+4.1
BNDI				S	Sn	00 41 27.9	+7.6
MSAI	**Masohi**	**5.03**	**239**	P	Pn	00 40 28.8	+5.1
MSAI				S	Sn	00 41 28.9	+8.2
AAI	**Ambon**	**5.84**	**240**	P	Pn	00 40 42.7	+7.9
NLAI	**Namlea**	**6.63**	**248**	P	Pn	00 40 52.3	+6.6
MTN	**Manton Dam**	**12.19**	**190**		**Pn**	**00 42 01.8**	**0.0**
MTN					**Sn**	**00 44 15.6**	**-0.9**
MMRI	**Maumere**	**13.48**	**234**	Pn	**Pn**	**00 42 17.9**	**-1.7**
KNRA	**Kununurra**	**15.47**	**196**		**Pn**	**00 42 45.9**	**-0.5**
KNRA				IAmb	IAmb	00 42 46.2	
	comp=Z,21nm,0.9s						
COEN	**Coen**	**16.37**	**144**	Pn	**Pn**	**00 42 56.9**	**-1.1**
COEN				IAmb	IAmb	00 43 03.8	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.78**	**203**	P	**Pn**	**00 43 27.3**	**-0.5**
FITZ				IAmb	IAmb	00 43 45.7	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**18.92**	**177**	P	**Pn**	**00 43 30.1**	**+0.7**
WB0				IAmb	IAmb	00 43 49.0	
	comp=Z,7.8nm,1.0s						
WRA	**Warramunga Arr**	**19.09**	**177**	P	**Pn**	**00 43 30.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=356,slow=11,SNR=16						
WRA	**Warramunga Arr**	**19.09**	**177**	P	**Pn**	**00 43 31.2**	**-0.3**
WB2	**Warramunga Arr**	**19.09**	**177**	P	**Pn**	**00 43 31.1**	**-0.4**
WR0	**Warramunga Arr**	**19.12**	**176**	P	**Pn**	**00 43 31.6**	**-0.2**
WR0				IAmb	IAmb	00 43 41.1	
	comp=Z,9.4nm,1.4s						
AS31	**Alice Springs**	**22.77**	**178**	P	**P**	**00 44 11.3**	**+1.0**
ASAR	**Alice Springs**	**22.77**	**178**	P	**P**	**00 44 10.7**	**+0.4**
	comp=Z,6.1nm,0.6s,baz=360,slow=11,SNR=45						
ASAR	**Alice Springs**	**22.77**	**178**	P	**P**	**00 44 11.0**	**+0.7**
STKA	**Stephens Creek**	**31.93**	**167**	P	**P**	**00 45 33.5**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=333,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**31.93**	**167**	IAmb	IAmb	00 45 44.5	
	comp=Z,2.2nm,1.4s						
MK31	**Makanchi Array**	**64.98**	**324**	P	**P**	**00 49 47.5**	**+0.4**
MK31				IAmb	IAmb	00 49 47.6	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**64.98**	**324**	P	**P**	**00 49 48.0**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=114,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**64.98**	**324**	P	**P**	**00 49 48.0**	**+0.9**
KDJ	**Kajisay**	**66.03**	**318**	P	**P**	**00 49 53.6**	**-0.6**
KKAR	**Karatay Array**	**70.96**	**316**	P	**P**	**00 50 25.1**	**+0.3**
HMH	**Humu'ula Sheep**	**72.63**	**69**	P	**P**	**00 50 34.5**	**-1.1**
ABKAR	**Abkulak array**	**79.74**	**320**	P	**P**	**00 51 14.9**	**-0.2**

*BJI **29** 00:56:27.0±0.0, 25°.90N×64°.30E, h5km, mb4.2/7, mB4.8/3, Ms3.9/1, Ms7 3.7/1*
*IDC **29** 00:56:29.0±2.2, 25°.82N×64°.15E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/45, mbtmp3.9/10, ML4.1/2, MS3.3/9, Ms1 3.4/9, ms1mx3.1/41, Error ellipse: s-maj=53.2km s-min=20.1km az=147.0*
*ISCJB **29** 00:56:30.4±0.3, 25°.66N±0°.04×64°.18E±0°.02, h33km, mb4.0/23, MS3.4/9, Error ellipse: s-maj=5.9km s-min=2.6km az=159.4*
*MOS **29** 00:56:30.6±1.6, 25°.85N×64°.51E, h16km, mb4.2/11, Error ellipse: s-maj=12.8km s-min=7.2km az=87.8*
*NEIC **29** 00:56:30.5±2.5, 25°.65N±0°.10×64°.3E±0°.1, h19km±5km, mb4.0/13*
*OMAN **29** 00:56:41.3±4.4, 25°.69N×63°.64E, h34km±199km, ml4.3/1, ms2.6/2, Error ellipse: s-maj=262.3km s-min=24.7km az=253.0*
*DSN **29** 00:56:43.0±1.6, 26°.41N×63°.09E, h10km, ML4.2/10, Error ellipse: s-maj=56.3km s-min=13.9km az=175.0*
ISC 29 00:56:32.8±0.5**, 25°.80N**±0°.06×**64°.26E**±0°.04**, h35**km**, n116,** σ2s**91**/124**, mb4.1**/25**, MS3.4**/9**, Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**5.53**	**116**	*e*P	**Pn**	**00 57 53.9**	**+1.3**
BHUJ				*e*S	**Sn**	**00 58 55.3**	**+0.4**
BHUJ				IAML		00 58 58.1	
	comp=N,132nm,0.5s						
WSAR	**Wadi Sarin**	**5.73**	**245**	P	**Pn**	**00 57 54.7**	**-0.7**
	SNR=254						
WSAR				S	**Sn**	**00 58 53.7**	**-6.2**
WSAR	**Wadi Sarin**	**5.73**	**245**	Pn	**Pn**	**00 57 54.7**	**-0.7**
	comp=N,16nm,0.3s,baz=80,slow=9.8,SNR=134						
WSAR				Sn	**Sn**	**00 58 53.3**	**-6.7**
	comp=N,5.6nm,0.3s,baz=57,slow=6.6,SNR=7.1						
WSAR				LR	LR	01 00 22.2	
	comp=N,89nm,21.3s,baz=103,slow=41						
WBK	**Wadi Bani Khal**	**5.78**	**238**	P	**Pn**	**00 57 56.0**	**-0.1**
	SNR=13						
WBK				S	**Sn**	**00 58 57.3**	**-4.0**
BIDO	**Bidbid**	**6.02**	**249**	P	**Pn**	**00 57 59.6**	**+0.2**
	SNR=22						
BIDO				S	**Sn**	**00 59 03.6**	**-3.6**
SMDO	**Samad**	**6.29**	**246**	P	**Pn**	**00 58 03.0**	**-0.1**
	SNR=18						
SMDO				S	**Sn**	**00 59 07.6**	**-6.2**
JMDO	**Jabal Madar**	**6.58**	**240**	P	**Pn**	**00 58 07.7**	**+0.5**
	SNR=32						
JMDO				S	**Sn**	**00 59 18.3**	**-2.7**
HOQ	**Hoqain**	**6.70**	**252**	P	**Pn**	**00 58 07.5**	**-1.2**
	SNR=13						
BSY	**Bisya**	**7.12**	**246**	P	**Pn**	**00 58 15.6**	**+1.0**
	SNR=14						
BSY				S	**Sn**	**00 59 31.7**	**-2.7**
BANOM	**Banah**	**7.17**	**273**	*i* P	**Pn**	**00 58 13.6**	**-1.7**
	SNR=16						
BANOM	**Banah**	**7.17**	**273**	P	**Pn**	**00 58 13.5**	**-1.7**
	SNR=16						
BANOM				S	**Sn**	**00 59 28.2**	**-7.3**
MDH	**Madha**	**7.21**	**268**	*i* P	**Pn**	**00 58 13.3**	**-2.4**
	SNR=48						
MDH	**Madha**	**7.21**	**268**	P	**Pn**	**00 58 13.5**	**-2.2**
	SNR=48						
MDH				S	**Sn**	**00 59 28.1**	**-8.3**
SHME	**Shamm**	**7.32**	**274**	*i* P	**Pn**	**00 58 15.8**	**-1.4**
	SNR=11						
MSFE	**Esma-Masafi**	**7.33**	**268**	*i* P	**Pn**	**00 58 15.3**	**-2.1**
	SNR=34						
MSFE				S	Sn	00 59 29.7	-10
UOSS	**Minazif**	**7.34**	**265**	P	**Pn**	**00 58 14.8**	**-2.6**
UOSS	**Minazif**	**7.34**	**265**		**Pn**	**00 58 14.0**	**-3.5**
HATD	**Hatta, Dubai**	**7.42**	**264**	*i* P	**Pn**	**00 58 17.0**	**-1.6**
	SNR=30						
HATD	**Hatta, Dubai**	**7.42**	**264**	P	**Pn**	**00 58 17.1**	**-1.6**
	SNR=30						
HATD				S	Sn	00 59 32.4	-9.2
ARQ	**Araqi**	**7.46**	**252**	P	**Pn**	**00 58 21.0**	**+1.8**
	SNR=61						
ARQ				S	**Sn**	**00 59 42.4**	**-0.2**
ASHO	**Ashiyiah**	**7.51**	**263**	*i* P	**Pn**	**00 58 18.7**	**-1.2**
	SNR=59						
ASHO	**Ashiyiah**	**7.51**	**263**	P	**Pn**	**00 58 18.8**	**-1.2**
	SNR=34						
ASHO				S	**Sn**	**00 59 35.4**	**-8.5**
NAZ	**Nazwa, Dubai**	**7.82**	**266**	P	**Pn**	**00 58 23.6**	**-0.5**
NAZ	**Nazwa, Dubai**	**7.82**	**266**	P	**Pn**	**00 58 25.2**	**+1.1**
	SNR=19						
NAZ				S	**Sn**	**00 59 48.4**	**-3.0**
FAQ	**Al Faqa, Dubai**	**7.92**	**264**	P	**Pn**	**00 58 26.0**	**+0.6**
FAQ	**Al Faqa, Dubai**	**7.92**	**264**	P	**Pn**	**00 58 26.7**	**+1.2**
FAQ				S	**Sn**	**00 59 50.7**	**-3.1**
ALNE	**Al Ain**	**7.92**	**259**	*i* P	**Pn**	**00 58 26.2**	**+0.7**
	SNR=47						
ASUD	**Al Ashush, Dub**	**8.17**	**264**	P	**Pn**	**00 58 29.6**	**+0.7**
ASUD	**Al Ashush, Dub**	**8.17**	**264**	P	**Pn**	**00 58 30.2**	**+1.2**
	SNR=26						
ASUD				S	**Sn**	**00 59 57.8**	**-2.4**
AJN	**Ajban**	**8.49**	**264**	P	**Pn**	**00 58 33.0**	**-0.3**
AJN	**Ajban**	**8.49**	**264**	P	**Pn**	**00 58 33.4**	**+0.1**
	SNR=6.1						
DQM	**DQM**	**8.52**	**228**	P	**Pn**	**00 58 35.0**	**+1.3**
	SNR=14						
DQM				S	**Sn**	**01 00 06.2**	**-2.5**
HRA	**Herat**	**8.73**	**349**		**Pn**	**00 58 38.2**	**+1.4**
THW	**Thamme Wali**	**9.55**	**41**	P	**Pn**	**00 58 45.3**	**-2.5**
KBL	**Kabul**	**9.64**	**24**	P	**Pn**	**00 58 48.6**	**-0.6**
KBL						01 00 33.4	
KBL	**Kabul**	**9.64**	**24**		**Pn**	**00 58 48.6**	**-0.6**
KBL					**Sn**	**01 00 33.4**	**-3.0**
CEP	**Cherat**	**10.39**	**38**	P	**Pn**	**00 58 56.6**	**-2.8**
NIL	**Nilore**	**11.05**	**43**	P	**Pn**	**00 59 06.6**	**-1.8**
NIL	**Nilore**	**11.05**	**43**		**Pn**	**00 59 06.6**	**-1.8**
DHRM	**DHARAMSHALA**	**12.33**	**56**	*e*P	**Pn**	**00 59 23.9**	**-2.2**
DHRM				*e*S	**Sn**	**01 01 33.6**	**-8.9**
DHRM				IAML		01 01 40.3	
	comp=E,68nm,0.6s						
DHRM				IAML		01 01 42.0	
	comp=N,44nm,0.3s						
SMLA	**Simla**	**12.53**	**62**	*e*P	**Pn**	**00 59 26.6**	**-1.9**
GEYT	**Alibeck**	**13.16**	**338**	LR	LR	01 05 09.3	
	comp=N,132nm,18.9s,baz=105,slow=40						
JOSI	**Joshimath**	**14.30**	**67**	*e*P	**Pn**	**00 59 50.1**	**-2.8**
JOSI				*e*S	**Sn**	**01 02 21.5**	**-8.8**
JOSI				IAML		01 02 25.1	
	comp=N,14nm,0.3s						
JOSI				IAML		01 02 34.7	
	comp=E,4μm,1.4s						
RAYN	**Ar Rayn**	**17.20**	**266**	P	**Pn**	**01 00 26.4**	**-4.1**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RAYN	**Ar Rayn**	**17.20**	**266**		**Pn**	**01 00 26.4**	**-4.1**
RAYN				IAmb	IAmb	01 00 37.8	
	comp=Z,4.8nm,0.7s						
KOLN	**Koldanda**	**17.38**	**79**	*e*P	**Pn**	**01 00 31.0**	**-1.8**
DANN	**Dangsing**	**17.55**	**77**	*e*P	**Pn**	**01 00 33.0**	**-2.0**
KKAR	**Karatay Array**	**18.00**	**15**	P	**P**	**01 00 41.2**	**+0.7**
KKAR	**Karatay Array**	**18.00**	**15**	P	**P**	**01 00 41.2**	**+0.7**
GKN	**Gorkha**	**18.31**	**79**	*e*P	**P**	**01 00 42.8**	**-1.3**
NRN	**Naryn**	**18.37**	**29**	P	**Pn**	**01 00 44.5**	**-0.6**
NRN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NRN	**Naryn**	**18.37**	**29**	P	**Pn**	**01 00 44.5**	**-0.6**
DMN	**Daman**	**18.71**	**80**	*e*P	**P**	**01 00 48.1**	**-0.5**
AAK	**Ala-Archa**	**18.78**	**24**	P	**Pn**	**01 00 50.3**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**18.78**	**24**	P	**Pn**	**01 00 50.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=188,slow=7.1,SNR=6.1						
AAK	**Ala-Archa**	**18.78**	**24**	P	**Pn**	**01 00 50.3**	**+0.5**
PKIN	**Phulchoki**	**18.97**	**80**	*e*P	**Pn**	**01 00 51.5**	**-0.8**
PKI	**Pulchoki**	**18.98**	**80**	*e*P	**P**	**01 00 51.5**	**-0.2**
	comp=Z,13nm,0.6s						
GUN	**Gumba**	**19.40**	**79**	*e*P	**P**	**01 00 56.2**	**-0.1**
TARG	**Taragay, Kyrgy**	**19.43**	**

TAPN	**Taplejung**	**21.03**	**81**	*e*P	**P**	**01 01 15.8**	**+1.9**
	comp=Z,19nm,0.7s						
GNI	**Garni**	**21.68**	**316**	P	**P**	**01 01 23.5**	**+2.9**
GNI				pmax	pmax		
	comp=Z,11nm,1.0s						
GNI	**Garni**	**21.68**	**316**	P	**P**	**01 01 23.5**	**+2.9**
GNI				IAmb	IAmb	01 01 29.6	
	comp=Z,11nm,0.9s						
TBLG	**Delisi**	**22.63**	**319**	P	**P**	**01 01 33.8**	**+3.1**
TBLG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TBLG	**Delisi**	**22.63**	**319**	P	**P**	**01 01 33.8**	**+3.1**
TBLG				IAmb	IAmb	01 01 39.6	
	comp=Z,5.9nm,0.6s						
ABKAR	**Akbulak array**	**23.65**	**353**	P	**P**	**01 01 42.6**	**+1.8**
ABKAR	**Akbulak array**	**23.65**	**353**	P	**P**	**01 01 42.3**	**+1.5**
ABKAR				IAmb	IAmb	01 01 59.0	
	comp=Z,3.7nm,1.1s						
NCK	**Nalchik**	**24.40**	**322**	*i* P	**P**	**01 01 52.4**	**+4.6**
NCK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEY	**Neytrino**	**24.74**	**320**	*i* P	**P**	**01 01 55.4**	**+4.3**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKTO	**Aktyubinsk**	**25.06**	**351**	P	**P**	**01 01 54.8**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=153,slow=6.8,SNR=3.6						
KIV	**Kislovodsk**	**25.20**	**321**	*e*P	**P**	**01 02 01.3**	**+6.1**
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
KIV				MLR	MLR		
	comp=Z,76nm,15.0s						
KIV	**Kislovodsk**	**25.20**	**321**	P	**P**	**01 01 58.9**	**+3.7**
MK31	**Makanchi Array**	**25.38**	**30**	P	**P**	**01 01 57.2**	**+0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**25.38**	**30**	P	**P**	**01 01 57.2**	**+0.5**
MK31				IAmb	IAmb	01 02 09.8	
	comp=Z,3.1nm,0.9s						
MKAR	**Makanchi Array**	**25.38**	**30**	P	**P**	**01 01 57.4**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=213,slow=10,SNR=12						
MKAR				LR	LR	01 14 01.8	
	comp=Z,174nm,18.6s,baz=212,slow=41						
WMQ	**Urumqi**	**26.19**	**41**	*e*P	**P**	**01 02 05.8**	**+1.7**
WMQ				pP	pP	01 02 09.5	-4.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.7s						
WMQ				LR	LR		
	comp=Z,260nm,18.7s						
WMQ				LR	LR		
	comp=Z,220nm,20.3s						
KAAM	**Kaadhehdhoo**	**26.54**	**160**	P	**P**	**01 02 07.2**	**-0.1**
KURK	**Kurchatov**	**27.21**	**20**	*i* P	**P**	**01 02 16.4**	**+3.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BVAR	**Borovoye Array**	**27.58**	**8**	P	**P**	**01 02 18.0**	**+1.6**
BVAR	**Borovoye Array**	**27.58**	**8**	P	**P**	**01 02 18.0**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=179,slow=8.6,SNR=12						
BRVK	**Borovoye**	**27.59**	**8**	P	**P**	**01 02 18.7**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**27.59**	**8**	P	**P**	**01 02 18.7**	**+2.1**
BRVK				IAmb	IAmb	01 02 34.8	
	comp=Z,3.5nm,0.8s						
ANN	**Anapa**	**28.75**	**318**	*e*P	**P**	**01 02 29.5**	**+2.5**
ANN				*e**PP	**pP**	**01 02 34.2**	**-3.0**
ANN				*e*		01 03 22.9	
ANN				*e*		01 05 35.5	
ANN				*e*S	**S**	**01 07 21.3**	**+7.3**
ANN				pmax	pmax		
	comp=Z,149nm,1.3s						
BRTR	**Keskin Array B**	**29.09**	**306**	LR	LR	01 16 09.5	
	comp=Z,45nm,18.8s,baz=98,slow=41						
ZALV	**Zalesovo Beam**	**32.00**	**23**	P	**P**	**01 02 56.8**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=229,slow=11,SNR=4.4						
ZALV				LR	LR	01 18 38.6	
	comp=Z,74nm,18.6s,baz=194,slow=42						
H08N2	**Diego Garcia H**	**32.60**	**167**	T	T	01 36 27.2	
	baz=348,slow=75,SNR=270						
H08N3	**Diego Garcia H**	**32.62**	**168**	T	T	01 36 28.5	
	baz=348,slow=75,SNR=246						
H08N1	**Diego Carcia H**	**32.62**	**167**	T	T	01 36 28.6	
	baz=348,slow=75,SNR=305						
CMAR	**Chiang Mai Arr**	**32.88**	**96**	LR	LR	01 18 59.3	
	comp=Z,23nm,18.7s,baz=105,slow=41						
LZH	**Lanzhou**	**35.25**	**63**	*e*P	**P**	**01 03 25.5**	**+1.2**
LZH				pP	pP	01 03 29.0	-5.6
LZH				sP	sP	01 03 32.3	-6.6
LZH				PP	**PnPn**	**01 04 38.5**	**-4.3**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
OBN	**Obninsk**	**35.62**	**333**	*e*P	P	01 03 31.2	+4.2
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BURAR	**Bucovina Array**	**37.59**	**316**	P	**P**	**01 03 47.1**	**+3.1**
BURAR	**Bucovina Array**	**37.59**	**316**	P	**P**	**01 03 45.2**	**+1.2**
SONM	**Songino Array**	**39.62**	**45**	P	**P**	**01 04 01.8**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**39.62**	**45**	P	**P**	**01 04 03.3**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=251,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**39.62**	**45**	P	**P**	**01 04 01.8**	**+0.7**
ULN	**Ulaanbaatar**	**40.05**	**45**	*i* P	**P**	**01 04 05.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**41.77**	**57**	*e*P	P	01 04 13.0	-6.0
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,8.0nm,7.9s						
VYHS	**Vyhne**	**41.92**	**315**	*e*P	**P**	**01 04 20.4**	**+0.5**
VYHS	**Vyhne**	**41.92**	**315**	*e*P	**P**	**01 04 20.4**	**+0.5**
FINES	**FINESS Array B**	**43.94**	**335**	P	**P**	**01 04 35.5**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=141,slow=6.4,SNR=4.1						
GERES	**GERESS Array B**	**45.31**	**314**	P	**P**	**01 04 48.7**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=115,slow=9.1,SNR=2.1						
GERES	**GERESS Array B**	**45.31**	**314**	P	**P**	**01 04 47.9**	**+0.6**
CLL	**Collm**	**46.28**	**317**	*e*P	P	01 05 02.0	+7.2
CLL	**Collm**	**46.28**	**317**	*e*P	**P**	**01 04 56.0**	**+1.2**
CLL				*e*pP	**pP**	**01 05 02.0**	**-3.5**
ARCES	**ARCESS Array B**	**49.27**	**343**	P	**P**	**01 05 21.5**	**+3.7**
	comp=Z,4.2nm,1.0s,baz=134,slow=7.6,SNR=4.4						
KSRS	**Korea Array**	**54.52**	**61**	LR	LR	01 33 08.8	
	comp=Z,27nm,19.8s,baz=235,slow=40						
KLR	**Kul'dur**	**56.42**	**47**	LR	LR	01 34 16.3	
	comp=Z,66nm,19.4s,baz=270,slow=40						
TIXI	**Tiksi**	**57.79**	**20**	LR	LR	01 34 24.9	
	comp=Z,41nm,18.4s,baz=141,slow=39						
TORD	**Torodi Ar. Bea**	**59.84**	**271**	P	**P**	**01 06 35.7**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=61,slow=7.2,SNR=7.4						
BILL	**Bilibino**	**70.70**	**23**	*e*P	**P**	**01 07 48.1**	**+3.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BMAR	**Burnt Mountain**	**84.58**	**11**	P	**P**	**01 09 03.9**	**+1.7**

*SKHL **29** 01:02:23.8±0.4, 44°.42N×148°.50E, h59km±3km, mb4.2/3*
*JMA **29** 01:02:24.0±0.4, 43°.96N×148°.17E, h0km, M3.9*
ISC 29 01:02:21.6±3.7, 44°.4N±0°.1×148°.7E±0°.2, h47km, n12, σ1°42/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.04**	**328**	*e*P	**Pn**	**01 02 40.0**	**+0.2**
KUR				AMB	AMB	01 02 43.0	
	70nm,0.2s						
KUR				*e*S	**Sn**	**01 02 52.0**	**-1.2**
KUR				A	A	01 02 52.0	
	418nm,0.2s						
KUR				A	A	01 02 52.0	
	606nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.03**	**262**	*e*P	**Pn**	**01 02 53.6**	**+0.4**
YUK				AMB	AMB	01 02 56.0	
	85nm,0.2s						
YUK				*i* S	**Sn**	**01 03 16.0**	**-1.4**
YUK				A	A	01 03 19.0	
	224nm,0.2s						
YUK				A	A	01 03 19.0	
	382nm,0.2s						
GRPR	**Tuman**	**2.10**	**261**	*e*P	**Pn**	**01 02 55.0**	**+0.8**
GRPR				AMB	AMB	01 02 56.0	
	40nm,0.4s						
GRPR				*e*S	**Sn**	**01 03 18.0**	**-1.1**
GRPR				A	A	01 03 21.0	
	222nm,0.4s						
GRPR				A	A	01 03 21.0	
	269nm,0.4s						
NEM2	**Nemuro 2**	**2.32**	**246**	P	**Pn**	**01 02 57.6**	**+0.4**
NEM2				*e*S	**Sn**	**01 03 22.0**	**-2.5**
NMR	**Nemuro--Hokkai**	**2.33**	**246**	*e*P	**Pn**	**01 02 57.0**	**-0.4**
GLVR	**Golovnino**	**2.34**	**256**	*e*P	**Pn**	**01 02 58.0**	**+0.5**
GLVR				*e*S	**Sn**	**01 03 24.0**	**-0.9**
GLVR				A	A	01 03 31.0	
	283nm,0.2s						
GLVR				A	A	01 03 31.0	
	370nm,0.2s						
JRA	**Rausu**	**2.57**	**262**	P	**Pn**	**01 03 02.5**	**+1.8**
JRA				*e*S	**Sn**	**01 03 31.5**	**+0.8**
JNSB	**Nemuroshibetsu**	**2.69**	**259**	P	**Pn**	**01 03 03.8**	**+1.5**
JKHN	**Kushirohamanak**	**2.83**	**245**	P	**Pn**	**01 03 05.1**	**+0.9**
JNK	**Nakash**	**2.94**	**256**	P	**Pn**	**01 03 07.2**	**+1.5**
JAK	**Akkeshi**	**3.17**	**246**	P	**Pn**	**01 03 09.8**	**+0.9**
JAK				*e*S	**Sn**	**01 03 43.1**	**-2.3**
JAR	**Ashorobuto**	**3.68**	**255**	P	**Pn**	**01 03 18.3**	**+2.3**
JAR				*e*S	**Sn**	**01 03 58.1**	**0.0**

*TEH **29** 01:27:13.7, 29°.32N×51°.28E, h10km, ML3.5*
*ISCJB **29** 01:27:14.1±0.7, 29°.25N±0°.04×51°.29E±0°.07, h10km, Error ellipse: s-maj=10.0km s-min=3.6km az=156.0*
*OMAN **29** 01:27:22.2±5.6, 29°.16N×51°.68E, h204km±155km, Error ellipse: s-maj=128.6km s-min=69.0km az=64.0*
ISC 29 01:27:14.3±1.3, 29°.32N±0°.07×51°.29E±0°.09, h10km, n38, σ2°00/44, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.66**	**46**	*e*Pg	**Pg**	**01 27 26.0**	**-1.1**
IKAZ				IAMB	IAmb	01 27 39.6	
	comp=Z,18μm,0.4s						
SHI	**Shiraz**	**1.11**	**73**	*e*Pg	**Pb**	**01 27 35.4**	**-0.3**
ISRV	**Sarvestan**	**1.59**	**87**	*e*Pn	**Pg**	**01 27 44.3**	**-0.5**
ISRV				IAMB	IAmb	01 28 20.7	
	comp=Z,9μm,0.8s						
KLNJ	**Kolanjah**	**1.70**	**9**	*e*Pg	**Pg**	**01 27 46.1**	**-0.8**
KLNJ				IAMB	IAmb	01 28 16.6	
	comp=Z,0.0nm,0.6s						
JHRM	**Jahrom**	**2.16**	**112**	*e*Pn	**Pb**	**01 27 52.5**	**-1.0**
JHRM				IAMB	IAmb	01 28 35.4	
	comp=Z,0.0nm,0.5s						
IBRJ	**Brojen**	**2.58**	**359**	*e*Pn	**Pb**	**01 27 58.5**	**-2.3**
IRAM	**Ramesheh**	**2.65**	**20**	*e*Pn	**Pn**	**01 27 58.6**	**+1.3**
ZNGN	**Zangian**	**2.81**	**352**	*e*Pn	**Pn**	**01 28 01.5**	**+1.9**
ROKH	**ROKH**	**3.02**	**356**	*e*Pn	**Pn**	**01 28 04.0**	**+1.6**
IGAR	**Gharneh**	**3.14**	**12**	*e*Pn	**Pn**	**01 28 06.2**	**+2.2**
ISAD	**Sadrabad**	**3.31**	**38**	*e*Pn	**Pn**	**01 28 09.3**	**+3.0**
IPIR	**Pirpir**	**3.37**	**354**	*e*Pn	**Pn**	**01 28 09.1**	**+1.9**
IMEH	**Mehriz**	**3.53**	**53**	*e*Pn	**Pn**	**01 28 12.7**	**+3.3**
IZEF	**Zefreh**	**3.67**	**14**	*e*Pn	**Pn**	**01 28 13.5**	**+2.1**
ICHK	**Chekchek**	**3.96**	**42**	*e*Pn	**Pn**	**01 28 17.2**	**+1.9**
IKLH	**Kolahrood**	**3.99**	**3**	*e*Pn	**Pn**	**01 28 17.7**	**+1.9**
ANAR	**Anarak**	**4.38**	**28**	*e*Pn	**Pn**	**01 28 22.4**	**+1.4**
QAM	**Ghamsar**	**4.43**	**2**	*e*Pn	**Pn**	**01 28 24.5**	**+2.8**
KHGB	**Koh Gabri**	**4.62**	**76**	*e*Pn	**Pn**	**01 28 26.1**	**+1.7**
KHGB				IAMB	IAmb	01 29 49.9	
	comp=Z,0.0nm,1.1s						
KRSH	**Karshahi**	**4.69**	**9**	*e*Pn	**Pn**	**01 28 26.5**	**+1.2**
NGRK	**Negar Kerman**	**4.75**	**85**	*e*Pn	**Pn**	**01 28 28.8**	**+2.5**
NGRK				IAMB	IAmb	01 29 56.0	
	comp=Z,0.0nm,0.6s						
TVBK	**TV Kerman**	**4.80**	**81**	*e*Pn	**Pn**	**01 28 30.4**	**+3.4**
IKMR	**Kamar-syah**	**4.87**	**330**	*e*Pn	**Pn**	**01 28 28.6**	**+1.1**
BDRS	**Dareh Seyedi**	**5.06**	**337**	*e*Pn	**Pn**	**01 28 32.7**	**+2.3**
BANOM	**Banah**	**5.58**	**126**	P	**Pn**	**01 28 38.7**	**+1.3**
BANOM				S	**Sn**	**01 29 42.6**	**+0.9**
NAZ	**Nazwa, Dubai**	**5.81**	**137**	*e*Pn	**Pn**	**01 28 42.0**	**+1.5**
ASUD	**Al Ashush, Dub**	**5.90**	**141**	P	**Pn**	**01 28 44.2**	**+2.4**
	SNR=14						
ASUD				S	**Sn**	**01 29 50.4**	**+0.9**
TPRV	**Parvadeh(Tabas**	**5.92**	**50**	*e*Pn	**Pn**	**01 28 43.7**	**+1.7**
MDH	**Madha**	**5.99**	**131**	P	**Pn**	**01 28 44.2**	**+1.2**
MDH				S	**Sn**	**01 29 49.1**	**-2.5**
MDH	**Madha**	**5.99**	**131**	*e*Pn	**Pn**	**01 28 44.1**	**+1.2**
UOSS	**Minazif**	**6.17**	**134**	P	**Pn**	**01 28 48.3**	**+2.7**
HATD	**Hatta, Dubai**	**6.22**	**135**	P	**Pn**	**01 28 48.3**	**+2.2**
HATD				S	**Sn**	**01 29 56.1**	**-1.1**
ASHO	**Ashiyiah**	**6.28**	**136**	P	**Pn**	**01 28 48.9**	**+1.9**
	SNR=8.9						
ASHO				S	**Sn**	**01 29 57.1**	**-1.7**
ASHO	**Ashiyiah**	**6.28**	**136**	*e*Pn	**Pn**	**01 28 47.9**	**+0.9**
TNSJ	**Nastanj**	**6.48**	**43**	*e*Pn	**Pn**	**01 28 51.5**	**+1.7**
ALNE	**Al Ain**	**6.59**	**142**	*e*Pn	**Pn**	**01 28 53.2**	**+2.0**
ARQ	**Araqi**	**7.58**	**141**	P	**Pn**	**01 29 06.0**	**+1.1**
	SNR=15						
BSY	**Bisya**	**8.43**	**140**	P	**Pn**	**01 29 17.4**	**+0.9**
BSY				S	**Sn**	**01 30 47.8**	**-4.1**

IDC 29 01:27:30.9±2.3, 52°.29N×152°.80E, h440km±19km, mb2.9/7, mb1 3.2/8, mb1mx2.9/34, mbtmp3.6/8, Error ellipse: s-maj=53.1km s-min=22.9km az=174.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.09**	**73**	P	P	01 28 37.8	0.0
	1.7nm,0.3s,baz=158,slow=1.3,SNR=17						
ILAR	**Eielson Array**	**32.51**	**44**	P	P	01 33 22.6	-0.4
	0.7nm,0.8s,baz=260,slow=4.6,SNR=12						
INK	**Inuvik**	**37.18**	**36**	P	P	01 34 02.4	+0.1
	0.7nm,0.3s,baz=291,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**44.42**	**292**	P	P	01 35 00.5	-0.1
	0.3nm,0.6s,baz=56,slow=9.2,SNR=4.4						
YKA	**Yellowknife Ar**	**46.69**	**40**	P	P	01 35 17.5	-0.3
	1.9nm,0.8s,baz=305,slow=6.9,SNR=4.2						
NVAR	**Mina Array Bea**	**60.15**	**65**	P	P	01 36 55.0	+0.3
	0.2nm,0.6s,baz=311,slow=6.8,SNR=3.3						
PDAR	**Pinedale Array**	**61.73**	**56**	P	P	01 37 04.7	-0.3
	0.7nm,0.7s,baz=326,slow=2.3,SNR=5.7						
TXAR	**Lajitas Array**	**74.98**	**62**	P	P	01 38 25.9	-0.1
	0.5nm,0.5s,baz=302,slow=5.1,SNR=8.7						

*IDC **29** 01:35:45.0±7.8, 34°.53N×23°.13E, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.5/40, mbtmp3.6/4, ML3.3/2, MS3.1/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=137.1km s-min=40.7km az=25.0*
*BEO **29** 01:35:47.4±1.0, 35°.19N×24°.10E, h10km, ML3.7/3*
*ISCJB **29** 01:35:50.5±0.8, 35°.10N±0°.04×23°.19E±0°.03, h0km±5km, mb3.9/2, MS3.0/1, Error ellipse: s-maj=7.5km s-min=3.8km az=25.6*
*ATH **29** 01:35:50.6, 35°.14N×23°.17E, h6km±2km, ML3.4/6, Error ellipse: s-maj=3.4km s-min=1.1km az=42.0*
*THE **29** 01:35:50.9, 35°.09N×23°.19E, h0km±1km, ML3.3/11, Error ellipse: s-maj=2.1km s-min=0.7km az=231.0*
ISC 29 01:35:50.6±1.3, 35°.15N±0°.05×23°.18E±0°.04, h13km±8km, n88, σ2°02/105, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.42**	**79**	P	**Pg**	**01 35 58.2**	**-0.8**
KNDR				S	**Sg**	**01 36 04.8**	**+0.1**
	3μm,0.3s						
RODP	**Rodopos**	**0.62**	**49**	P	**Pb**	**01 36 03.6**	**+0.3**
ANKY	**Antikythira Is**	**0.72**	**8**	P	**Pg**	**01 36 04.7**	**+0.2**
ANKY	**Antikythira Is**	**0.72**	**8**	P	**Pg**	**01 36 04.8**	**+0.3**
ANKY				AML	AML	01 36 26.2	
	comp=N,3716μm,0.6s						
ANKY				AML	AML	01 36 28.7	
	comp=E,2914μm,0.6s						
IMMV	**Iera Moni Meta**	**0.72**	**65**	P	**Pg**	**01 36 04.7**	**+0.1**
IMMV				S	**Sb**	**01 36 16.5**	**+1.6**
	comp=E,4μm,0.8s						
IMMV	**Iera Moni Meta**	**0.72**	**65**	P	**Pg**	**01 36 04.4**	**-0.2**
IMMV				S	**Sb**	**01 36 15.1**	**+0.2**
IMMV				AML	AML	01 36 25.5	
	comp=E,8268μm,0.8s						
IMMV				AML	AML	01 36 26.5	
	comp=N,8655μm,1.0s						
CHAN	**Chania**	**0.80**	**62**	P	**Pb**	**01 36 06.2**	**0.0**
CHAN				S	**Sn**	**01 36 19.5**	**+0.3**
	comp=N,2μm,0.7s						
GVD	**Gavdhos**	**0.81**	**113**	P	**Pg**	**01 36 05.8**	**-0.4**
GVD				S	**Sb**	**01 36 17.5**	**+0.2**
	comp=N,3μm,0.3s						
GVD	**Gavdhos**	**0.81**	**113**	P	**Pg**	**01 36 06.0**	**-0.3**
GVD				S	**Sb**	**01 36 17.4**	**+0.2**
GVD				AML	AML	01 36 22.3	
	comp=E,6602μm,0.3s						
GVD				AML	AML	01 36 22.8	
	comp=N,7128μm,0.3s						
GVDS	**Gavdos**	**0.81**	**112**	P	**Pg**	**01 36 05.1**	**-1.2**
GVDS				S	**Sg**	**01 36 16.5**	**-0.4**
	comp=N,2μm,0.3s						
VAM	**Vamos**	**0.87**	**73**	P	**Pg**	**01 36 07.3**	**-0.2**
VAM				S	**Sn**	**01 36 21.2**	**+0.1**
	comp=N,2μm,0.8s						
VAM	**Vamos**	**0.87**	**73**	P	**Pg**	**01 36 07.2**	**-0.3**
VAM				S	**Sb**	**01 36 19.4**	**+0.2**
VAM				AML	AML	01 36 29.2	
	comp=E,4385μm,0.9s						
VAM				AML	AML	01 36 32.0	
	comp=N,5624μm,0.7s						
PRNS	**Prines Berhymn**	**1.10**	**79**	P	**Pb**	**01 36 10.4**	**-1.1**
PRNS				S	**Sg**	**01 36 25.2**	**-1.0**
KTHA	**Kythira Island**	**1.10**	**355**	P	**Pb**	**01 36 11.7**	**+0.2**
KTHA				S	**Sn**	**01 36 29.7**	**+2.8**
	comp=N,1μm,0.9s						
KTHA	**Kythira Island**	**1.10**	**355**	P	**Pb**	**01 36 11.7**	**+0.2**
KTHA				AML	AML	01 36 36.4	
	comp=E,3230μm,0.6s						
KTHA				AML	AML	01 36 39.3	
	comp=N,1270μm,0.8s						
KTHR	**Kythira**	**1.11**	**353**	P	**Pb**	**01 36 11.3**	**-0.4**
KTHR				S	**Sn**	**01 36 28.2**	**+1.1**
	comp=N,770nm,0.5s						
TMBK	**Timbaki Herakl**	**1.30**	**93**	P	**Pn**	**01 36 14.9**	**+0.5**
TMBK				S	**Sg**	**01 36 32.9**	**+0.3**
	comp=N,612nm,0.9s						
SIVA	**Sivas**	**1.35**	**95**	P	**Pb**	**01 36 15.8**	**+0.2**
SIVA				S	**Sg**	**01 36 36.3**	**+2.4**
	comp=N,2μm,0.6s						
SIVA	**Sivas**	**1.35**	**95**	P	**Pb**	**01 36 16.0**	**+0.4**
SIVA				AML	AML	01 36 56.4	
	comp=E,4304μm,0.7s						
SIVA				AML	AML	01 36 56.7	
	comp=N,4400μm,0.7s						
VLI	**Veliai**	**1.57**	**353**	P	**Pb**	**01 36 20.3**	**+0.8**
VLI	**Veliai**	**1.57**	**353**	P	**Pb**	**01 36 20.0**	**+0.4**
DYR	**Agios Nikonas**	**1.75**	**337**	P	**Pg**	**01 36 23.5**	**-0.6**
DYR	**Agios Nikonas**	**1.75**	**337**	P	**Pg**	**01 36 23.4**	**-0.6**
MHLO	**Agia Marina, M**	**1.83**	**33**	P	**Pb**	**01 36 24.6**	**+0.8**
MHLO				S	**Sb**	**01 36 47.3**	**+0.7**
	comp=N,1μm,0.7s						
MHLO	**Agia Marina, M**	**1.83**	**33**	P	**Pb**	**01 36 24.4**	**+0.6**
MHLA	**Plaka, Milos I**	**1.88**	**32**	P	**Pb**	**01 36 25.3**	**+0.5**
NPS	**Neapolis**	**2.00**	**86**	P	**Pb**	**01 36 27.2**	**+0.5**
PYL	**PYLOS**	**2.09**	**327**	P	**Pn**	**01 36 27.1**	**+1.8**
PYL	**PYLOS**	**2.09**	**327**	P	**Pb**	**01 36 27.7**	**-0.6**
THR6	**Thira Island,**	**2.17**	**56**	P	**Pb**	**01 36 29.2**	**-0.4**
THR5	**Thira Island,**	**2.17**	**54**	P	**Pn**	**01 36 27.9**	**+1.5**
THR3	**Thira Island,**	**2.20**	**55**	P	**Pb**	**01 36 29.8**	**-0.4**
KRND	**KRANIDI**	**2.23**	**359**	P	**Pb**	**01 36 30.9**	**+0.3**
KRND	**KRANIDI**	**2.23**	**359**	P	**Pb**	**01 36 31.1**	**+0.5**
ITM	**Ithomi**	**2.26**	**334**	P	**Pb**	**01 36 32.4**	**+1.1**
VLX	**Vlachokerasia**	**2.30**	**344**	P	**Pg**	**01 36 33.7**	**-1.1**
VLX	**Vlachokerasia**	**2.30**	**344**	P	**Pb**	**01 36 32.4**	**+0.4**
IOSP	**Ios island**	**2.32**	**47**	P	**Pn**	**01 36 30.7**	**+2.2**
DID	**Didima**	**2.35**	**1**	P	**Pb**	**01 36 31.8**	**-1.0**
DID	**Didima**	**2.35**	**1**	P	**Pb**	**01 36 31.9**	**-0.8**
AMT	**Artemida-Makis**	**2.65**	**334**	P	**Pb**	**01 36 38.1**	**+0.2**
APE	**Apeiranthos**	**2.70**	**44**	P	**Pn**	**01 36 35.9**	**+2.2**
VLY	**Voula,Athens**	**2.74**	**10**	P	**Pb**	**01 36 37.2**	**-2.2**
VLY	**Voula,Athens**	**2.74**	**10**	P	**Pb**	**01 36 37.4**	**-2.0**
ATHU	**Athens Univers**	**2.85**	**10**	P	**Pb**	**01 36 39.5**	**-1.8**
LTK	**Loutraki**	**2.87**	**357**	P	**Pn**	**01 36 39.2**	**+3.2**
LTK	**Loutraki**	**2.87**	**357**	P	**Pb**	**01 36 40.3**	**-1.3**
PTL	**Penteli**	**2.94**	**11**	P	**Pb**	**01 36 40.6**	**-2.3**
PTL	**Penteli**	**2.94**	**11**	P	**Pb**	**01 36 40.5**	**-2.3**
KLV	**Kalavryta, Ach**	**3.00**	**344**	P	**Pb**	**01 36 41.7**	**-2.2**
KLV	**Kalavryta, Ach**	**3.00**	**344**	P	**Pb**	**01 36 42.1**	**-1.8**
VILL	**Villia**	**3.01**	**2**	P	**Pn**	**01 36 40.5**	**+2.6**
DRO	**Drossia**	**3.03**	**338**	P	**Pb**	**01 36 43.3**	**-1.1**
VIL2	**Platees**	**3.05**	**1**	P	**Pn**	**01 36 40.9**	**+2.3**
PROD	**Prodromos**	**3.11**	**356**	P	**Pn**	**01 36 42.3**	**+3.0**
RLS	**Riolos of Patr**	**3.21**	**335**	P	**Pn**	**01 36 43.7**	**+3.1**
LAKA	**Lakka**	**3.23**	**343**	P	**Pn**	**01 36 44.3**	**+3.3**
TRIZ	**Trizonia**	**3.33**	**345**	P	**Pn**	**01 36 45.9**	**+3.6**
KALE	**Kalithea**	**3.34**	**346**	P	**Pn**	**01 36 46.0**	**+3.5**
SERG	**Sergoula**	**3.38**	**345**	P	**Pn**	**01 36 46.7**	**+3.7**
EFP	**Efpalio**	**3.42**	**343**	P	**Pb**	**01 36 48.2**	**-2.8**
EFP	**Efpalio**	**3.42**	**343**	P	**Pb**	**01 36 48.0**	**-3.0**
MRKA	**Markates**	**3.56**	**5**	P	**Pn**	**01 36 49.0**	**+3.5**
PVO	**Paravola**	**3.70**	**340**	P	**Pn**	**01 36 50.5**	**+3.1**
PDO	**Prodromos**	**3.79**	**336**	P	**Pn**	**01 36 52.2**	**+3.

ISCJB ***29*** *01:44:19.8±1.1, 16°.83N±0°.03×146°.36E±0°.03, h53km±9km, mb5.1/96, MS4.5/42, Error ellipse: s-maj=4.9km s-min=4.3km az=155.6*

MOS ***29*** *01:44:19.1±1.1, 16°.84N×146°.34E, h52km, mb5.2/26, Error ellipse: s-maj=9.2km s-min=5.5km az=100.2*

NEIC ***29*** *01:44:20.1±2.3, 16°.83N±0°.08×146°.53E±0°.08, h46km±1km, mb5.5/280, Mwb5.3, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23; $M_{\theta\theta}$0.28; $M_{\phi\phi}$-0.04; $M_{r\theta}$-0.05; $M_{\theta\phi}$-0.33; $M_{\phi r}$0.96; Fault plane solution: $M_0$1.05000×10^{17} NP1:ϕ_s272.83000°, δ21.91000°, λ-165.71000°. NP2:ϕ_s169.53000°, δ84.72000°, λ-68.71000°. Principal axes: T 0.9414, Plg36.0000°, Azm241.0000°; N 0.1844, Plg21.0000°, Azm347.0000°; P -1.1258, Plg46.0000°, Azm101.0000°;*

BJI ***29*** *01:44:21.0±0.0, 16°.90N×146°.50E, h60km, mb4.9/41, mB5.1/44, Ms4.8/38, Ms7 4.6/40*

IDC ***29*** *01:44:22.7±0.6, 16°.83N×146°.15E, h72km±4km, mb4.5/32, mb1 4.7/33, mb1mx4.5/44, mbtmp4.8/33, MS4.3/25, Ms1 4.3/25, ms1mx4.3/28, Error ellipse: s-maj=13.4km s-min=7.0km az=97.0*

NEIC ***29*** *01:44:24, 16°.72N×146°.64E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.10; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.13; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.09; $M_{\phi r}$1.67; Fault plane solution: $M_0$1.68000×10^{17} NP1:ϕ_s126.00000°, δ3.00000°, λ40.00000°. NP2:ϕ_s355.00000°, δ88.00000°, λ92.00000°. Principal axes: T 1.6601, Plg47.0000°, Azm268.0000°; N 0.0433, Plg3.0000°, Azm175.0000°; P -1.7034, Plg43.0000°, Azm83.0000°;*

GCMT ***29*** *01:44:24.1±0.1, 16°.70N±0°.01×146°.62E±0°.01, h26km, MW5.4/116, Moment Tensor Solution. s88,c136; s116,c190; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.19±.02; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-0.16±.01; $M_{r\theta}$-0.12±.03; $M_{\theta\phi}$0.07±.01; $M_{\phi r}$1.82±.05; Best double couple: $M_0$1.83400×10^{17} NP1:ϕ_s356.00000°, δ87.00000°, λ92.00000°. NP2:ϕ_s145.00000°, δ3.00000°, λ59.00000°. Principal axes: T 1.8400, Plg48.0000°, Azm268.0000°; N -0.0120, Plg2.0000°, Azm176.0000°; P -1.8280, Plg42.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 01:44:21.2±0.5, 16°.80N±0°.04×146°.60E±0°.05, h60km±3km, h60km:pP-P, n517, σ1s76/437, mb5.3/197, MS4.5/42, 5C-6D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.79**	**263**		**Pn**	**01 44 36.5**	**0.0**
ANA2	**Anatahan**	**0.96**	**242**		**Pn**	**01 44 39.0**	**+0.2**
GUMO	**Guam**	**3.60**	**208**	P	**Pn**	**01 45 15.1**	**+0.6**
	762nm,0.3s,baz=97,slow=1.7,SNR=212						
GUMO				S	**Sn**	**01 45 54.6**	**-1.2**
	695nm,0.3s,baz=9.5,slow=20,SNR=5.0						
GUMO				LR	LR	01 46 25.0	
	comp=Z,3μm,19.7s,baz=140,slow=35						
GUMO	**Guam**	**3.60**	**208**		**Pn**	**01 45 15.3**	**+0.8**
PATS	**Pohnpei**	**15.14**	**129**		**Pn**	**01 47 50.6**	**-0.9**
H11N1	**WAKE ISLAND Hy**	**19.49**	**78**	T	T	02 09 57.8	
	baz=264,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**19.50**	**78**	T	T	02 09 59.5	
	baz=264,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**19.51**	**78**	T	T	02 09 58.9	
	baz=264,slow=74,SNR=15						
JAY	**Jayapura**	**20.05**	**197**	P	**P**	**01 48 50.6**	**+0.9**
	5.1nm,0.3s,baz=356,slow=6.8,SNR=20						
JAY	**Jayapura**	**20.05**	**197**	P	Pn	01 48 51.9	0.0
	1μm,0.9s,12μm						
SMPI	**Sarmi**	**20.23**	**203**	P	Pn	01 48 53.4	-0.5
	181nm,1.1s,2μm						
MJAR	**Matsushiro Arr**	**21.03**	**341**	P	**P**	**01 48 59.4**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR	**Matsushiro Arr**	**21.03**	**341**	P	**P**	**01 48 59.9**	**0.0**
	comp=Z,4.9nm,0.6s,baz=165,slow=9.2,SNR=8.6						
MJAR				LR	LR	01 56 25.7	
	comp=Z,725nm,20.2s,baz=150,slow=35						
MJAR	**Matsushiro Arr**	**21.03**	**341**	P	**P**	**01 48 59.4**	**-0.6**
MAJO	**Matsushiro**	**21.03**	**341**	P	**P**	**01 49 00.5**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,33nm,0.7s						
MAJO	**Matsushiro**	**21.03**	**341**	P	**P**	**01 49 00.5**	**+0.5**
MAT	**Matsushiro**	**21.03**	**341**	P	**P**	**01 48 58.6**	**-1.4**
MAT				S	**S**	**01 52 50.3**	**-0.6**
MJB9	**Matsu-Tunnel**	**21.03**	**341**	P	**P**	**01 49 00.5**	**+0.5**
KRVT	**Keravat (AS076**	**21.64**	**165**	P	**P**	**01 49 10.6**	**+3.9**
	comp=Z,79nm,1.0s,baz=213,slow=2.2,SNR=7.0						
RKPI	**Ransiki, Papua**	**21.93**	**215**	P	**P**	**01 49 11.1**	**+1.3**
MSLP	**Maasin**	**22.14**	**255**	*eP*	**P**	**01 49 12.7**	**+0.6**
DAV	**Davao City (W)**	**22.70**	**247**	‖*iP*	**P**	**01 49 23.9**	**+5.8**
DAV	**Davao City (W)**	**22.70**	**247**	P	**P**	**01 49 18.4**	**+0.3**
BUKP	**Musuan**	**22.81**	**250**	*eP*	**P**	**01 49 19.2**	**-0.1**
DDMP	**Don Marcelino,**	**23.04**	**245**	*eP*	**P**	**01 49 20.3**	**-1.2**
KCP	**Kidapawan**	**23.16**	**248**	⇑*iP*	**P**	**01 49 22.4**	**-0.4**
SWI	**Sorong**	**23.17**	**222**	P	**P**	**01 49 22.1**	**-0.7**
	comp=Z,244nm,0.9s,comp=Z,3μm						
SIJI	**Sorong**	**23.17**	**222**	P	**P**	**01 49 21.7**	**-1.1**
	comp=Z,139nm,0.6s,baz=42,slow=8.7,SNR=75						
CTBH	**Cotabato--PC H**	**23.82**	**249**	‖*iP*	**P**	**01 49 28.3**	**-0.5**
GUIM	**Jordan**	**24.10**	**258**	*eP*	**P**	**01 49 30.9**	**-0.6**
FAKI	**Fak Fak**	**24.18**	**217**	P	**P**	**01 49 32.3**	**+0.2**
	comp=Z,100nm,1.0s,comp=Z,2μm						
FAKI	**Fak Fak**	**24.18**	**217**	P	**P**	**01 49 31.1**	**-1.0**
FAKI				IAmb	IAmb	01 49 36.3	
	comp=Z,116nm,1.1s						
PAGZ	**Pagadian**	**24.34**	**251**	*eP*	**P**	**01 49 32.7**	**-0.9**
NACB	**Ninganchiao**	**24.52**	**292**	P	**P**	**01 49 35.5**	**+0.3**
YULB	**Yu-li**	**24.63**	**290**	P	**P**	**01 49 37.6**	**+1.4**
TWG	**Pinlang**	**24.73**	**288**	P	**P**	**01 49 37.5**	**+0.3**
TWG				IAmb	IAmb	01 49 41.5	
	comp=Z,173nm,0.8s						
TNTI	**Ternate**	**24.74**	**232**	P	**P**	**01 49 35.9**	**-1.3**
YHNB	**Yeheng**	**24.82**	**293**	P	**P**	**01 49 37.3**	**-0.7**
TGY	**Tagaytay City**	**24.87**	**267**	LR	LR	01 57 33.1	
	comp=Z,2μm,20.7s,baz=117,slow=32						
SSLB	**Suanglung**	**25.01**	**290**	P	**P**	**01 49 40.0**	**+0.3**
SSLB				IAmb	IAmb	01 49 45.5	
	comp=Z,97nm,0.7s						
TPUB	**Ta-pu**	**25.21**	**289**	P	**P**	**01 49 42.8**	**+1.2**
TPUB				IAmb	IAmb	01 50 06.9	
	comp=Z,102nm,1.2s						
PMG	**Port Moresby**	**26.04**	**179**	*ceP*	**P**	**01 49 49.0**	**+0.1**
PMG				pmax	pmax		
	comp=Z,236nm,0.8s						
PMG	**Port Moresby**	**26.04**	**179**	P	**P**	**01 49 49.1**	**+0.1**
PMG				IAmb	IAmb	01 50 06.7	
	comp=Z,113nm,0.8s						
KSRS	**Korea Array**	**26.35**	**325**	P	**P**	**01 49 50.0**	**-1.6**
KSRS	**Korea Array**	**26.35**	**325**	P	**P**	**01 49 50.0**	**-1.6**
	comp=Z,3.4nm,0.5s,baz=152,slow=9.1,SNR=9.9						
KSRS				ScP	**ScP**	**01 56 47.7**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=134,slow=1.7,SNR=4.7						
KSRS				LR	LR	01 58 36.9	
	comp=Z,527nm,21.7s,baz=140,slow=33						
KSAR	**Wonju Array Be**	**26.37**	**325**	P	**P**	**01 49 53.7**	**+1.9**
KSAR	**Wonju Array Be**	**26.37**	**325**	P	**P**	**01 49 53.7**	**+1.9**
MSAI	**Masohi**	**26.56**	**223**	P	**P**	**01 49 55.8**	**+2.1**
JKA	**Kamikawa-asahi**	**27.44**	**354**	P	**P**	**01 50 02.1**	**+0.8**
ASAJ	**Asahikawa**	**27.44**	**354**	P	**P**	**01 50 02.1**	**+0.8**
	comp=Z,21nm,0.7s,baz=195,slow=14,SNR=8.3						
NJ2	**Nanjing**	**29.36**	**306**	*eP*	**P**	**01 50 19.3**	**+0.7**
NJ2				S	**S**	**01 55 07.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,15nm,0.8s						
NJ2				LR	LR		
	comp=Z,800nm,12.3s						
NJ2				LR	LR		
	comp=Z,1μm,11.8s						
NJ2				LR	LR		
	comp=Z,2μm,15.5s						
LUWI	**Luwuk**	**29.43**	**235**	P	**P**	**01 50 16.6**	**-2.8**
LUWI				IAmb	IAmb	01 51 13.0	
	comp=Z,99nm,0.8s						
USRK	**Ussuriysk Ar.**	**29.98**	**339**	P	**P**	**01 50 22.6**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=149,slow=9.3,SNR=3.5						
USRK				ScP	**ScP**	**01 56 59.5**	**-2.7**
	comp=Z,1.3nm,0.6s,baz=148,slow=4.2,SNR=4.5						
USRK				LR	LR	02 02 54.6	
	comp=Z,253nm,18.5s,baz=140,slow=37						
YSS	**Yuzh-Sakhalins**	**30.24**	**355**	⇑*eP*	**P**	**01 50 26.2**	**+0.1**
YSS				*e*		01 51 43.5	
YSS				*e*S	**S**	**01 55 13.9**	**-7.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=E,200nm,10.0s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS				MLR	MLR		
	comp=N,300nm,17.0s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
COEN	**Coen**	**30.75**	**187**	P	**P**	**01 50 31.1**	**+0.2**
MDJ	**Mudanjiang**	**31.22**	**336**	P	**P**	**01 50 34.0**	**-0.8**
MDJ				sP	sP	01 50 57.5	+2.1
MDJ				S	**S**	**01 55 38.8**	**+2.0**
MDJ				sS	sS	01 55 57.5	-2.8
MDJ				pmax	pmax		
	comp=E,11nm,0.8s						
MDJ				pmax	pmax		
	comp=E,80nm,4.1s						
MDJ				LR	LR		
	comp=E,670nm,18.3s						
MDJ				LR	LR		
	comp=E,670nm,17.7s						
MDJ				LR	LR		
	comp=E,1μm,23.9s						
KKM	**Kota Kinabalu**	**31.59**	**254**	P	**P**	**01 50 39.3**	**+0.7**
CN2	**Changchun**	**32.33**	**331**	*eP*	**P**	**01 50 47.0**	**+2.4**
CN2				*e*pP	pwP	01 51 02.0	-0.2
CN2				*e*S	**S**	**01 55 55.5**	**+1.2**
CN2				pmax	pmax		
	comp=E,10.0nm,0.8s						
CN2				LR	LR		
	comp=E,400nm,17.0s						
CN2				LR	LR		
	comp=E,620nm,17.0s						
CN2				LR	LR		
	comp=E,720nm,18.0s						
MTN	**Manton Dam**	**33.18**	**208**	P	**P**	**01 50 51.4**	**-0.9**
MTN				IAmb	IAmb	01 51 16.1	
	comp=Z,82nm,1.4s						
BNSI	**Bone**	**33.60**	**233**	P	**P**	**01 50 58.5**	**+2.5**
	comp=Z,24nm,1.1s						
KAPI	**Kappang**	**34.26**	**233**	P	**P**	**01 51 01.6**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,48nm,1.4s						
KAPI	**Kappang**	**34.26**	**233**	P	**P**	**01 51 01.6**	**-0.2**
SOEI	**Soe**	**34.41**	**222**	P	**P**	**01 51 03.8**	**+0.7**
SOEI	**Soe**	**34.41**	**222**	P	**P**	**01 51 03.0**	**-0.1**
SOEI				IAmb	IAmb	01 51 38.2	
	comp=Z,82nm,1.1s						
KLR	**Kul'dur**	**34.53**	**343**	*i*P	**P**	**01 51 02.8**	**-0.9**
KLR				pmax	pmax		
	comp=Z,13nm,1.8s						
KLR	**Kul'dur**	**34.53**	**343**	LR	LR	02 04 11.0	
	comp=Z,199nm,20.6s,baz=154,slow=35						
MMRI	**Maumere**	**34.92**	**225**	P	**P**	**01 51 05.4**	**-2.0**
MMRI				IAmb	IAmb	01 51 45.9	
	comp=Z,60nm,0.9s						
BATI	**Baumata**	**35.13**	**222**	P	P	01 51 14.8	+5.5
	comp=Z,26nm,1.1s						
TIY	**Taiyuan**	**36.53**	**312**	*eP*	**P**	**01 51 21.3**	**+0.2**
TIY				S	**S**	**01 56 57.0**	**-2.4**
TIY				sS	**ScP**	**01 57 26.8**	**+1.5**
TIY				pmax	pmax		
	comp=Z,270nm,5.0s						
TIY				LR	LR		
	comp=Z,720nm,9.5s						
TIY				LR	LR		
	comp=Z,340nm,5.4s						
TIY				LR	LR		
	comp=Z,530nm,17.5s						
CTA	**Charters Tower**	**36.66**	**181**	P	**P**	**01 51 22.7**	**+0.5**
	comp=Z,5.4nm,0.5s,baz=2.9,slow=9.7,SNR=9.3						
SBUM	**Sibu**	**36.67**	**251**	P	**P**	**01 51 22.6**	**+0.1**
KNRA	**Kununurra**	**36.75**	**210**	P	**P**	**01 51 22.5**	**-0.6**
PETK	**Petropavlovsk-**	**37.27**	**11**	P	**P**	**01 51 28.8**	**+1.7**
	comp=Z,15nm,0.9s,baz=166,slow=7.3,SNR=9.9						
PETK				LR	LR	02 04 12.0	
	comp=Z,358nm,21.4s,baz=223,slow=32						
GYA	**Guiyang**	**38.21**	**292**	‖*iP*	**P**	**01 51 40.0**	**+4.4**
GYA				pP	pwP	01 51 52.5	-0.7
GYA				sP	sP	01 52 01.5	+4.9
GYA				PP	**PnPn**	**01 53 11.3**	**+5.3**
GYA				S	**S**	**01 57 29.3**	**+4.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.1s						
GYA				LR	LR		
	comp=Z,380nm,10.6s						
GYA				LR	LR		
	comp=Z,580nm,12.2s						
GYA				LR	LR		
	comp=Z,740nm,14.2s						
WRAB	**Tennant Creek**	**38.43**	**199**	P	**P**	**01 51 36.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,80nm,1.0s						
WRAB	**Tennant Creek**	**38.43**	**199**	P	**P**	**01 51 36.7**	**-0.5**
WRAB				IAmb	IAmb	01 51 55.0	
	comp=Z,80nm,1.0s						
WRA	**Warramunga Arr**	**38.45**	**199**	*i*P	**P**	**01 51 36.4**	**-0.9**
WRA				pmax	pmax		
	comp=Z,30nm,0.9s						
WRA	**Warramunga Arr**	**38.45**	**199**	P	**P**	**01 51 36.1**	**-1.3**
	comp=Z,30nm,0.9s,baz=29,slow=8.6,SNR=85						
WRA				pP	**pwP**	**01 51 53.4**	**-2.3**
	comp=Z,57nm,0.9s,baz=19,slow=9.3,SNR=12						
WRA				S	**S**	**01 57 22.7**	**-5.8**
	comp=Z,6.0nm,0.8s,baz=20,slow=16,SNR=6.3						
WRA				LR	LR	02 08 02.3	
	comp=Z,431nm,19.4s,baz=350,slow=37						
WRA	**Warramunga Arr**	**38.45**	**199**	P	**P**	**01 51 35.6**	**-1.8**
HHC	**Hu-ho-hao-te**	**38.54**	**316**	*eP*	**P**	**01 51 40.5**	**+2.4**
HHC				pP	sP	01 51 59.0	0.0
HHC				sP	pwP	01 52 04.3	+8.1
HHC				S	**S**	**01 57 30.0**	**+0.1**
ZEA	**Zeya**	**39.83**	**342**	*eP*	P	01 52 00.5	+12
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.35**	**212**	P	**P**	**01 51 52.5**	**-0.7**
CD2	**Chengdu**	**41.37**	**298**	P	**P**	**01 52 01.3**	**-0.3**
CD2				sP	pwP	01 52 20.5	+1.2
CD2				PP	**PnPn**	**01 53 41.8**	**-1.3**
CD2				S	**S**	**01 58 16.3**	**+4.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,230nm,8.3s						
CD2				LR	LR		
	comp=Z,800nm,15.0s						
CD2				LR	LR		
	comp=Z,920nm,17.1s						
CD2				LR	LR		
	comp=Z,1μm,20.6s						
AS31	**Alice Springs**	**42.08**	**197**	P	**P**	**01 52 06.8**	**-0.6**
ASAR	**Alice Springs**	**42.09**	**197**	P	**P**	**01 52 06.3**	**-1.1**
	comp=Z,15nm,0.9s,baz=12,slow=5.6,SNR=46						
ASAR				ScP	**ScP**	**01 57 42.9**	**-3.9**
	comp=Z,2.5nm,0.8s,baz=16,slow=4.2,SNR=4.7						
ASAR				S	**S**	**01 58 17.7**	**-5.0**
	comp=Z,8.6nm,1.0s,baz=20,slow=19,SNR=8.9						
ASAR				LR	LR	02 09 28.5	
	comp=Z,291nm,21.1s,baz=24,slow=36						
ASAR	**Alice Springs**	**42.09**	**197**	P	**P**	**01 52 05.8**	**-1.7**
PWJI	**Pagerwojo**	**42.34**	**237**	P	**P**	**01 52 08.6**	**-1.0**
LZH	**Lanzhou**	**42.43**	**305**	*eP*	**P**	**01 52 11.5**	**+1.2**
LZH				pP	pwP	01 52 26.8	-1.1
LZH				sP	sP	01 52 31.8	+0.2
LZH				PP	**PP**	**01 53 48.8**	**-0.8**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,52nm,4.3s						
LZH				LR	LR		
	comp=Z,480nm,15.7s						
LZH				LR	LR		
	comp=Z,810nm,18.4s						
LZH				LR	LR		
	comp=Z,870nm,18.8s						
CHAI	**Chaiyaphum**	**42.75**	**275**	P	**P**	**01 52 14.4**	**+1.4**
	comp=Z,59μm,0.9s,comp=Z,562μm						
MA2	**Magadan**	**42.83**	**3**	P	**P**	**01 52 14.0**	**+1.0**
MA2	**Magadan**	**42.83**	**3**	P	**P**	**01 52 14.0**	**+1.0**
	comp=Z,19nm,0.7s,baz=203,slow=16,SNR=3.6						
DZM	**Mont Dzumac**	**43.24**	**153**	*e*P	**P**	**01 52 18.0**	**+1.1**
	comp=Z,208nm,1.3s						
DZM	**Mont Dzumac**	**43.24**	**153**	*e*LR	LR	02 04 22.3	
	comp=Z,2μm,25.8s						
DZM	**Mont Dzumac**	**43.24**	**153**	P	**P**	**01 52 18.4**	**+1.4**
	comp=Z,29nm,0.8s,baz=14,slow=7.5,SNR=22						
DZM	**Mont Dzumac**	**43.24**	**153**	P	**P**	**01 52 18.0**	**+1.1**
DZM				IAmb	IAmb	01 52 44.4	
	comp=Z,98nm,1.2s						
UTTA	**Uttaradit**	**43.89**	**278**	P	**P**	**01 52 24.9**	**+2.7**
	comp=Z,38μm,0.8s,comp=Z,607μm						
PHRA	**Phrae**	**44.13**	**279**	P	P	01 52 30.1	+6.0
	comp=Z,2.3nm,1.6s						
KPJI	**Karang Pucung**	**44.30**	**240**	P	**P**	**01 52 25.3**	**-0.1**
PAYA	**Payao**	**44.39**	**281**	P	**P**	**01 52 29.6**	**+3.4**
	comp=Z,40μm,0.8s						
MYKOM	**Kota Tinggi**	**44.60**	**255**	P	**P**	**01 52 28.4**	**+0.5**
MYKOM				IAmb	IAmb	01 52 31.2	
	comp=Z,74nm,1.6s						
ULN	**Ulaanbaatar**	**44.79**	**323**	P	**P**	**01 52 28.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**44.79**	**323**	P	**P**	**01 52 28.9**	**-0.2**
SONM	**Songino Array**	**45.16**	**322**	P	**P**	**01 52 31.4**	**-0.7**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**45.16**	**322**	P	**P**	**01 52 29.4**	**-2.6**
	comp=Z,8.2nm,0.6s,baz=135,slow=7.0,SNR=27						
SONM	**Songino Array**	**45.16**	**322**	P	**P**	**01 52 31.4**	**-0.7**
UTHA	**Uthaitani**	**45.22**	**275**	P	**P**	**01 52 35.4**	**+2.6**
	comp=Z,35μm,0.7s						
CMMT	**Chiang Mai**	**45.31**	**280**	P	**P**	**01 52 36.2**	**+2.7**
	comp=Z,7.3nm,0.8s						
CHTO	**Chiang Mai**	**45.31**	**280**	P	**P**	**01 52 33.1**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**45.31**	**280**	P	**P**	**01 52 33.1**	**-0.4**
CM31	**Chiang Mai Arr**	**45.34**	**280**	P	**P**	**01 52 33.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.34**	**280**	*i*P	**P**	**01 52 34.2**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.34**	**280**	P	**P**	**01 52 33.6**	**-0.2**
	comp=Z,14nm,0.8s,baz=71,slow=6.7,SNR=29						
CMAR				LR	LR	02 12 43.2	
	comp=Z,311nm,18.1s,baz=95,slow=38						
CMAR	**Chiang Mai Arr**	**45.34**	**280**	P	**P**	**01 52 33.8**	**0.0**
PHET	**Kaeng Krachan**	**45.48**	**272**	P	P	01 52 45.2	+10
UMPA	**Umpang Tak**	**45.69**	**276**	P	P	01 52 41.4	+4.9
	comp=Z,27μm,1.1s						
MSVF	**Nonsavu**	**46.23**	**136**	P	**P**	**01 52 41.6**	**+0.9**
MSVF				pmax	pmax		
	comp=Z,74nm,1.7s						
MSVF	**Nonsavu**	**46.23**	**136**	P	**P**	**01 52 41.6**	**+0.9**
MSVF				IAmb	IAmb	01 53 10.0	
	comp=Z,74nm,1.6s						
SEY	**Seymchan**	**46.26**	**4**	*i*P	**P**	**01 52 40.3**	**0.0**
SEY	**Seymchan**	**46.26**	**4**	P	**P**	**01 52 41.4**	**+1.1**
	comp=Z,3.6nm,0.4s,baz=194,slow=12,SNR=10.0						
PSA00	**Pilbara Seismi**	**46.28**	**215**	P	**P**	**01 52 40.3**	**-0.7**
IPM	**Ipoh**	**46.31**	**260**	P	**P**	**01 52 40.9**	**-0.5**
MHMT	**Maesarieng**	**46.33**	**279**	P	**P**	**01 52 44.5**	**+3.0**
	comp=Z,38nm,0.8s						
GTA	**Gaotai**	**46.39**	**309**	*eP*	**P**	**01 52 45.0**	**+3.1**
GTA				pP	sP	01 53 01.3	-1.8
GTA				sP	pwP	01 53 08.0	+7.8
GTA				pmax	pmax		
	comp=Z,120nm,8.1s						
GTA				LR	LR		
	comp=Z,380nm,18.7s						
GTA				LR	LR		
	comp=Z,680nm,20.3s						
GTA				LR	LR		
	comp=Z,1μm,19.0s						
KULM	**Kulim**	**46.41**	**261**	P	**P**	**01 52 41.8**	**-0.4**
KULM				IAmb	IAmb	01 53 11.1	
	comp=Z,35nm,1.0s						
KLSI		**46.56**	**246**	P	**P**	**01 52 42.4**	**-0.9**
YAK	**Yakutsk**	**46.74**	**349**	*eP*	**P**	**01 52 42.1**	**-1.9**
YAK				*e**PP	**pwP**	**01 53 01.2**	**-1.8**
YAK				*e*		01 54 34.1	
YAK				*e*S	**S**	**01 59 27.2**	**-2.1**
YAK				*e**SS	**sS**	**01 59 51.1**	**-2.6**
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,298nm,3.0s						
YAK				pmax	pmax		
	comp=N,253nm,3.3s						
YAK				pmax	pmax		
	comp=E,362nm,3.2s						
YAK				smax	smax		
	comp=N,349nm,3.0s						
YAK				smax	smax		
	comp=E,238nm,3.5s						
YAK	**Yakutsk**	**46.74**	**349**	P	**P**	**01 52 43.2**	**-0.8**
	comp=E,15nm,0.6s,baz=250,slow=0.6,SNR=4.9						
YAK	**Yakutsk**	**46.74**	**349**	P	**P**	**01 52 43.1**	**-1.0**
YAK				IAmb	IAmb	01 53 12.8	
	comp=Z,41nm,0.7s						
MDSI	**Maura Dua**	**46.95**	**247**	P	**P**	**01 52 45.5**	**-0.9**
SURT	**Suratani**	**47.15**	**267**	P	P	01 52 59.5	+12
LWLI	**Liwa**	**47.30**	**246**	P	**P**	**01 52 50.4**	**+1.1**
ZAK	**Zakamensk**	**48.18**	**324**	*eP*	P	01 52 47.0	-8.6
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TLY	**Talaya**	**48.60**	**326**	*eP*	**P**	**01 52 59.7**	**+0.9**
TLY				pmax	pmax		
	comp=Z,28nm,1.5s						
TLY				MLR	MLR		
	comp=Z,489nm,13.0s						
TLY	**Talaya**	**48.60**	**326**	P	**P**	**01 52 59.0**	**+0.2**
STKA	**Stephens Creek**	**48.63**	**186**	P	**P**	**01 52 58.8**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=7.6,slow=6.7,SNR=15						
STKA				LR	LR	02 16 08.6	
	comp=Z,334nm,18.1s,baz=3.2,slow=39						
STKA	**Stephens Creek**	**48.63**	**186**	P	**P**	**01 52 58.9**	**-0.3**
PDSI	**Padang**	**48.77**	**253**	P	**P**	**01 53 02.2**	**+1.7**
RPSI	**Rantau Prapat**	**48.88**	**259**	IAmb	IAmb	01 53 44.0	
	comp=Z,33nm,0.8s						
LHMI	**Lhok Sumawe**	**49.94**	**263**	P	**P**	**01 53 08.7**	**-

comp=Z,8.0nm,1.0s
TIXI Tiksi 55.85 353 P P 01 53 50.6 -1.5
RAMN Ramite 56.15 291 eP P 01 53 53.3 -2.0
WMQ Urumqi 56.20 312 eP P 01 53 56.5 +1.3
WMQ pP pwP 01 54 14.0 +0.2
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,140nm,5.5s
WMQ LR LR
comp=Z,370nm,19.5s
WMQ LR LR
comp=Z,530nm,22.7s
JIRN Jiri 56.48 292 eP P 01 53 56.2 -1.6
GUN Gumba 56.74 293 eP P 01 53 57.8 -1.9
comp=Z,20nm,0.5s
PKI Pulchoki 57.18 292 eP P 01 54 00.6 -2.1
comp=Z,14nm,0.5s
PKIN Phulchoki 57.19 292 eP P 01 54 00.4 -2.3
comp=Z,14nm,0.5s
DMN Daman 57.44 292 eP P 01 54 02.3 -2.2
comp=Z,19nm,0.5s
DGZ Jazzator, Alta 57.51 319 i P P 01 54 02.3 -2.1
ANM Nome 57.61 22 IAmb IAmb 01 54 08.4
comp=Z,54nm,1.0s
GKN Gorkha 57.84 293 eP P 01 54 05.1 -2.1
comp=Z,17nm,0.3s
DANN Dangsing 58.59 293 eP P 01 54 10.7 -1.9
comp=Z,80nm,0.7s
KOLN Koldanda 58.77 293 eP P 01 54 11.3 -2.4
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 60.04 323 P P 01 54 19.6 -2.2
comp=Z,1.3nm,0.3s,baz=98,slow=6.1,SNR=5.6
ZALV LR LR 02 19 58.8
comp=Z,266nm,21.1s,baz=102,slow=36
ZALV PKPPKP P'P'df 02 23 46.2 -2.9
comp=Z,0.5nm,0.3s,baz=270,slow=4.4,SNR=3.7
MK31 Makanchi Array 60.40 315 P P 01 54 23.3 -1.1
MK31 pmax pmax
comp=Z,11nm,1.3s
MK31 Makanchi Array 60.40 315 P P 01 54 23.3 -1.1
MKAR Makanchi Array 60.40 315 P P 01 54 22.8 -1.6
comp=Z,1.1nm,0.4s,baz=92,slow=7.8,SNR=13
MKAR LR LR 02 21 46.7
comp=Z,332nm,19.4s,baz=102,slow=37
MKAR PKP2bc 02 23 58.6
comp=Z,1.1nm,1.0s,baz=305,slow=4.3,SNR=4.4
KDAK Kodiak Island 60.48 33 P P 01 54 26.1 +1.5
comp=Z,20nm,0.9s,baz=274,slow=8.5,SNR=22
KDAK Kodiak Island 60.48 33 IAmb IAmb 01 54 51.6
comp=Z,39nm,0.9s
TTA Tatalina 60.56 26 IAmb IAmb 01 54 28.7
comp=Z,25nm,0.8s
BRLK Bradley Lake 61.87 31 IAmb IAmb 01 54 36.0
comp=Z,42nm,1.0s
PDGK Podgornoye 62.08 310 P P 01 54 34.9 -1.0
PDGK pmax pmax
comp=Z,7.0nm,0.8s
IMAR Indian Mountai 62.60 23 P P 01 54 39.7 +0.8
PMR Palmer 63.19 29 IAmb IAmb 01 54 45.9
comp=Z,47nm,1.0s
KURK Kurchatov 63.25 319 P P 01 54 41.2 -2.2
KURK pmax pmax
comp=Z,24nm,1.1s
KURK Kurchatov 63.25 319 P P 01 54 41.2 -2.2
KNK Knik Glacier 63.45 29 P P 01 54 45.9 +1.2
NRIK Noril'sk 63.68 340 P P 01 54 45.5 -0.4
comp=Z,6.1nm,0.6s,baz=107,slow=9.3,SNR=10
MCK McKinley 63.84 27 P P 01 54 48.1 +1.0
MCK pmax pmax
comp=Z,123nm,1.6s
MCK McKinley 63.84 27 P P 01 54 48.1 +1.0
DHY Denali Highway 64.35 27 IAmb IAmb 01 55 12.0
comp=Z,54nm,1.1s
MDM Murphy Dome 64.46 25 IAmb IAmb 01 54 54.1
comp=Z,38nm,0.8s
CCB Clear Creek Bu 64.56 26 IAmb IAmb 01 54 54.6
comp=Z,42nm,1.2s
TCOL CIGO, UAF Yank 64.59 25 P P 01 54 55.5 +3.5
baz=255
COLA College 64.60 25 eP P 01 54 52.7 +0.7
COLA pmax pmax
comp=Z,34nm,0.9s
COLA College 64.60 25 P P 01 54 53.4 +1.4
COLA IAmb IAmb 01 54 55.8
comp=Z,33nm,0.8s
NRN Naryn 64.62 308 P P 01 54 53.9 +0.9
NRN pmax pmax
comp=Z,9.0nm,1.1s
NRN Naryn 64.62 308 P P 01 54 53.9 +0.9
BOOM Boomskoye usch 64.66 309 P P 01 54 52.4 -0.7
BOOM Boomskoye usch 64.66 309 P P 01 54 52.4 -0.7
KSH Kashi 64.67 306 P P 01 54 59.0 +5.9
KSH sP PcP 01 55 22.0 -4.5
KSH PcP sP 01 55 32.0 +17
KSH S S 02 03 34.0 +5.0
KSH sS sS 02 04 03.0 +7.6
KSH ScS ScS 02 04 45.3 +2.5
KSH SS SS 02 07 48.0 +7.4
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,340nm,4.7s
KSH LR LR
comp=Z,290nm,9.7s
KSH LR LR
comp=Z,320nm,11.5s
KSH LR LR
comp=Z,330nm,13.0s
HYB Hyderabad 64.70 282 i P P 01 54 55.0 +1.5
POKR Poker Plat Res 64.83 25 P P 01 54 54.0 +0.5
baz=255
HDA Harding Lake 64.86 26 P P 01 54 54.1 +0.3
baz=256
HDA Harding Lake 64.86 26 IAmb IAmb 01 54 55.6
comp=Z,42nm,0.9s
IL31 64.97 26 IAmb IAmb 01 54 56.8
comp=Z,41nm,0.8s
ILAR Eielson Array 64.97 26 P P 01 54 54.2 -0.2
comp=Z,34nm,0.8s,baz=248,slow=6.2,SNR=263
ILAR LR LR 02 20 28.3
comp=Z,214nm,21.9s,baz=263,slow=33
ILAR Eielson Array 64.97 26 P P 01 54 54.0 -0.4
PAX Paxson 65.17 28 IAmb IAmb 01 54 59.1
comp=Z,47nm,0.8s
AAK Ala-Archa 65.73 310 i P P 01 54 58.0 -2.0
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 65.73 310 P P 01 54 58.3 -1.7
comp=Z,0.9nm,0.4s,baz=335,slow=5.8,SNR=3.8
VRDI Verde Repeater 65.78 30 P P 01 55 01.5 +1.5
VRDI IAmb IAmb 01 55 03.3
comp=Z,43nm,0.9s
MENT Mentasta 65.95 28 IAmb IAmb 01 55 32.3
comp=Z,39nm,1.0s
SCRK Sand Creek 66.03 27 IAmb IAmb 01 55 04.9
comp=Z,48nm,0.9s
BALM Baldy 66.28 30 IAmb IAmb 01 55 06.4
comp=Z,32nm,1.0s
BMAR Burnt Mountain 66.51 23 P P 01 55 05.7 +1.3
BCAR Beaver Creek A 66.84 28 P P 01 55 07.8 +1.2
NIL Nilore 67.21 300 P P 01 55 09.0 -0.4
NIL pmax pmax
comp=Z,30nm,0.9s
NIL Nilore 67.21 300 P P 01 55 09.0 -0.4
NIL IAmb IAmb 01 56 14.0
comp=Z,30nm,0.8s
EGAK Eagle 67.38 26 IAmb IAmb 01 55 13.7
comp=Z,49nm,1.1s
DAWY Dawson 68.04 27 IAmb IAmb 01 55 17.7
comp=Z,48nm,1.1s
BRVK Borovoye 68.54 321 P P 01 55 16.4 -1.0
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 68.54 321 P P 01 55 16.4 -1.0
BTK Batken 68.61 307 P P 01 55 17.8 -0.4
BTK pmax pmax
comp=Z,10.0nm,1.1s
BTK Batken 68.61 307 P P 01 55 17.9 -0.4
KK31 Karatay Array 68.64 310 P P 01 55 17.4 -0.8
KK31 pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 68.64 310 P P 01 55 17.4 -0.8
KKAR Karatay Array 68.64 310 P P 01 55 16.7 -1.6
KKAR Karatay Array 68.64 310 P P 01 55 16.6 -1.6
GAR Garm 69.08 306 P P 01 55 20.6 -0.6

EPYK Eagle Plains 69.40 25 P P 01 55 23.8 +1.3
baz=265
SKAG Skagway 69.63 32 IAmb IAmb 01 55 27.6
comp=Z,30nm,0.8s
BESE Bessie Mountai 69.86 33 P P 01 55 26.2 +0.6
CHGR Chuyangaron 70.02 306 P P 01 55 25.9 -1.1
CHGR IAmb IAmb 01 56 24.7
comp=Z,67nm,1.3s
JIS Juneau Island 70.11 33 IAmb IAmb 01 55 31.5
comp=Z,37nm,1.0s
KBL Kabul 70.58 301 P P 01 55 29.6 -1.0
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 70.58 301 P P 01 55 29.6 -1.0
INK Inuvik 70.78 23 P P 01 55 31.4 +0.6
comp=Z,18nm,0.8s,baz=276,slow=5.3,SNR=56
INK Inuvik 70.78 23 P P 01 55 31.5 +0.6
WRAK Wrangell Islan 71.25 35 IAmb IAmb 01 55 38.4
comp=Z,42nm,1.1s
H02S1 DAWSON INLET T 71.32 39 T T 03 14 33.9
PPT Papeete 71.53 115 LR LR 02 20 09.8
comp=Z,709nm,19.6s,baz=273,slow=30
PPT2 Papeete2 71.53 116 eS S 02 04 48.0 -3.2
comp=Z,114nm,27.0s
PPT2 Papeete2 71.53 116 eLR LR 02 17 25.3
comp=Z,1μm,22.5s,baz=298
TBI Tubuai 74.13 121 eS S 02 05 18.0 -2.4
comp=Z,313nm,32.8s
TBI Tubuai 74.13 121 eLR LR 02 18 39.8
comp=Z,692nm,25.8s,baz=302
C36M Paulatuk 74.19 22 P P 01 55 51.5 +0.4
baz=276
ARU Arti 75.10 325 d i P P 01 55 54.7 -2.0
ARU S S 02 05 28.4 -1.9
ARU SS SS 02 10 13.8 -6.1
ARU pmax pmax
comp=Z,27nm,1.8s
ARU Arti 75.10 325 P P 01 55 56.5 -0.2
AB31 Akbulak array 75.31 317 eP P 01 55 54.7 -3.3
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 75.31 317 P P 01 55 55.7 -2.3
HRA Herat 76.15 302 P P 01 56 02.6 -0.8
TAOE Nuku Hiva Isla 76.77 104 eLR LR 02 19 54.9
comp=Z,2μm,25.7s,baz=294
NLWA Neilton Lookou 77.52 44 IAmb IAmb 01 56 15.7
comp=Z,49nm,1.1s
E03A Lebam 77.90 45 IAmb IAmb 01 56 17.3
comp=Z,66nm,1.0s
D03D Eldon 78.01 44 P P 01 56 15.8 +2.5
baz=282,SNR=15
A04D Lummi Island 78.03 43 P P 01 56 15.6 +2.3
baz=282,SNR=15
I02D Swisshome 78.20 47 P P 01 56 17.9 +3.5
baz=282
J01E Myrtle Point 78.33 48 P P 01 56 17.4 +2.3
baz=282
G03D McMinnville, O 78.38 46 P P 01 56 17.8 +2.5
baz=282
COR Corvallis 78.48 47 P P 01 56 17.6 +1.7
COR pmax pmax
comp=Z,105nm,1.4s
COR Corvallis 78.48 47 P P 01 56 17.6 +1.7
COR IAmb IAmb 01 56 21.1
comp=Z,105nm,1.4s
B05A Bryant 78.52 43 P P 01 56 18.3 +2.2
baz=282,SNR=15
E04D Cinebar 78.57 45 P P 01 56 18.7 +2.3
baz=282,SNR=15
K02D Willamette Mer 78.62 49 P P 01 56 19.1 +2.3
baz=282
I03D Drain, OR 78.64 48 P P 01 56 19.3 +2.5
baz=282,SNR=7.5
GEYT Alibeck 78.70 306 P P 01 56 15.6 -1.8
comp=Z,0.8nm,0.6s,baz=106,slow=5.2,SNR=3.1
GEYT Alibeck 78.70 306 P P 01 56 16.9 -0.4
GYA0B ALIBECK ARRAY 78.70 306 P P 01 56 16.8 -0.6
L02E Cave Junction 78.78 49 P P 01 56 20.2 +2.5
baz=283
F04A Amboy 78.80 45 IAmb IAmb 01 56 22.1
comp=Z,72nm,1.1s
B06A Marblemount 78.86 43 IAmb IAmb 01 56 22.1
comp=Z,45nm,1.1s
H04D Lebanon 78.89 47 P P 01 56 20.7 +2.6
baz=283,SNR=10
KHMM Horse Mountain 78.97 51 IAmb IAmb 01 56 42.5
comp=Z,118nm,1.6s
LON Longmire 79.03 44 P P 01 56 20.2 +1.2
LON Longmire 79.03 44 P P 01 56 20.2 +1.2
KMRM Mail Ridge 79.13 51 IAmb IAmb 01 56 43.5
comp=Z,71nm,1.3s
HUMO Hull Mountain 79.15 49 IAmb IAmb 01 56 43.1
comp=Z,96nm,1.6s
YKA Yellowknife Ar 79.26 28 P P 01 56 20.4 +0.6
comp=Z,20nm,0.8s,baz=285,slow=5.5,SNR=23
YKA pP pwP 01 56 39.8 -0.5
comp=Z,14nm,0.8s,baz=288,slow=5.4,SNR=5.1
YKA LR LR 02 30 07.6
comp=Z,41nm,20.7s,baz=284,slow=35
YKA Yellowknife Ar 79.26 28 P P 01 56 20.3 +0.5
C06D Leavenworth 79.38 43 P P 01 56 23.1 +2.2
baz=283,SNR=7.9
F05D White Salmon 79.47 45 P P 01 56 23.3 +2.0
baz=283,SNR=8.4
M02C Callahan 79.50 50 P P 01 56 24.1 +2.4
baz=283,SNR=10
YBH Yreka Blue Hor 79.53 50 IAmb IAmb 01 56 45.2
comp=Z,96nm,1.6s
J04D Umpqua Nationa 79.62 48 P P 01 56 24.5 +2.1
baz=283,SNR=21
N02D Trinity Center 79.70 50 P P 01 56 25.1 +2.3
baz=283,SNR=8.9
G05D Wamic, OR 79.71 46 P P 01 56 24.8 +2.1
baz=284
L04D Klamath Falls 79.71 49 P P 01 56 24.7 +1.8
baz=283,SNR=10
O02D Mt. Diablo Mer 79.82 51 P P 01 56 26.1 +2.6
baz=283,SNR=13
I05D Terrebonne, OR 79.91 47 P P 01 56 25.9 +2.0
baz=284
K04D Chiloquin, OR 80.01 49 P P 01 56 26.9 +2.3
baz=284,SNR=11
GDXM Geysers 80.14 52 IAmb IAmb 01 56 48.8
comp=Z,89nm,1.5s
M04C Macdoel 80.15 49 P P 01 56 27.2 +1.9
baz=284,SNR=17
J05D Fort Rock, OR 80.23 48 P P 01 56 27.8 +2.1
baz=284,SNR=62
B08A Colville Reser 80.29 42 P P 01 56 26.9 +1.1
B08A IAmb IAmb 01 56 29.2
comp=Z,54nm,0.8s
E07A Sunnyside 80.39 44 IAmb IAmb 01 56 30.1
comp=Z,36nm,0.9s
PRGR Permogore 80.48 332 eP P 01 56 31.0 +4.6
PRGR pmax pmax
comp=Z,14nm,1.2s
F07A Phinny Hill Vi 80.50 45 IAmb IAmb 01 56 49.9
comp=Z,43nm,1.3s
O03E Paynes Creek 80.53 51 P P 01 56 28.7 +1.4
baz=284,SNR=28
ORV Oroville 80.93 51 IAmb IAmb 01 56 52.7
comp=Z,57nm,1.2s
E08A Dider Farm, El 80.94 44 IAmb IAmb 01 56 52.9
comp=Z,77nm,1.5s
C09A Chrisman Ranch 81.12 43 P P 01 56 31.1 +0.9
MOD Modoc Plateau 81.23 49 IAmb IAmb 01 56 35.3
comp=Z,52nm,1.1s
AFDM Forest Hills D 81.48 52 IAmb IAmb 01 56 55.2
comp=Z,51nm,1.3s
BEKR Beckworth 81.71 51 IAmb IAmb 01 56 37.1
comp=Z,42nm,0.9s
NEW Newport 81.74 42 P P 01 56 35.1 +1.6
baz=286,SNR=46
NEW Newport 81.74 42 IAmb IAmb 01 56 37.5
comp=Z,74nm,1.1s
WVOR Wild Horse Val 82.29 48 IAmb IAmb 01 56 40.2
comp=Z,46nm,0.9s
F10A Beach Ranch, E 82.30 44 P P 01 56 37.9 +1.3
F10A IAmb IAmb 01 56 59.1
comp=Z,54nm,1.6s
VCNR Virginia City 82.39 51 IAmb IAmb 01 56 41.0
comp=Z,28nm,0.9s
PAHR Pah Rah Range 82.47 51 IAmb IAmb 01 56 41.8
comp=Z,56nm,1.2s
BMO Blue Mountains 82.56 46 IAmb IAmb 01 56 42.0
comp=Z,50nm,1.1s
WAKR Walker 82.76 52 IAmb IAmb 01 57 02.6

comp=Z,25nm,0.9s
YERR Yerington 82.78 52 P P 01 56 40.6 +1.3
APA Apatity 83.08 339 ||i P P 01 56 42.3 +2.3
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,1μm,18.0s
SMMC Simmler 83.18 55 P P 01 56 43.6 +2.3
baz=286
OMMB Old Mammoth Mi 83.33 53 IAmb IAmb 01 57 05.3
comp=Z,43nm,1.4s
PLID Pearl Lake 83.38 45 IAmb IAmb 01 56 45.0
comp=Z,23nm,0.8s
VOG Valley Oaks Go 83.39 54 P P 01 56 44.8 +2.6
baz=286
RYN Ryan 83.41 52 IAmb IAmb 01 57 05.6
comp=Z,88nm,1.5s
UOSS Minazif 83.42 294 P P 01 56 41.8 -0.9
PKM Mcpherson Peak 83.44 56 P P 01 56 45.2 +2.4
baz=286
MLAC Mammoth, Mammo 83.45 53 P P 01 56 45.2 +2.4
baz=286,SNR=7.5
WALA Waterton Lakes 83.55 41 IAmb IAmb 01 57 05.0
comp=Z,67nm,1.4s
KVN Kaiserville 83.61 51 IAmb IAmb 01 56 47.2
comp=Z,35nm,0.9s
NVAR Mina Array Bea 83.63 52 P P 01 56 45.5 +1.8
comp=Z,25nm,0.9s,baz=261,slow=5.8,SNR=124
NVAR pP sP 01 57 05.6 +0.1
comp=Z,16nm,0.7s,baz=267,slow=5.6,SNR=8.5
NVAR LR LR 02 27 00.7
comp=Z,212nm,21.7s,baz=292,slow=30
NVAR Mina Array Bea 83.63 52 P P 01 56 44.7 +0.9
JTMT Jette 83.72 42 IAmb IAmb 01 57 06.2
comp=Z,99nm,1.6s
NV11 Mina Array Sit 83.74 52 IAmb IAmb 01 56 48.5
comp=Z,36nm,1.1s
VES Vestal, Richgr 83.75 55 P P 01 56 45.4 +1.3
baz=286
MFID Camas Ranch 83.99 47 IAmb IAmb 01 56 49.5
comp=Z,55nm,0.9s
TIN Tinemaha, Big 84.08 53 P P 01 56 48.2 +2.3
baz=287,SNR=10
ARVC Arvin 84.15 55 P P 01 56 47.9 +1.7
baz=286,SNR=6.8
MSO Missoula 84.22 43 P P 01 56 47.9 +1.5
baz=288,SNR=7.9
ISA Isabella, Lake 84.28 55 P P 01 56 48.5 +1.5
baz=287,SNR=13
CWC Cottonwood Cre 84.36 54 P P 01 56 48.7 +1.2
baz=287
TULEG Thule 84.47 8 P P 01 56 47.1 +0.1
ARCES ARCESS Array B 84.56 342 P P 01 56 46.3 -1.3
comp=Z,6.1nm,0.9s,baz=66,slow=6.6,SNR=9.5
ARCES PKKPbc PKKPbc 02 14 57.3 -2.7
comp=Z,1.9nm,0.7s,baz=231,slow=4.9,SNR=5.6
GRAC Grapevine Rang 84.75 53 P P 01 56 51.1 +1.8
baz=287
DECC Green Verdugo 84.79 56 P P 01 56 50.8 +1.4
baz=287
EDW2 Edwards Air Fo 84.88 55 P P 01 56 51.8 +1.8
baz=287,SNR=15
PASC Pasadena Art C 84.93 56 P P 01 56 51.0 +0.8
PASC IAmb IAmb 01 57 12.6
comp=Z,42nm,1.4s
MPMC Manual Prospec 84.93 54 P P 01 56 52.2 +1.9
baz=287,SNR=52
CIS Catalina Islan 84.97 57 P P 01 56 52.1 +1.7
baz=287
ELK Elko 85.22 49 IAmb IAmb 01 56 55.4
comp=Z,44nm,0.9s
FURC Furnace Creek, 85.30 53 P P 01 56 53.6 +1.7
baz=287,SNR=14
BFSC Mount Baldy Ra 85.33 56 P P 01 56 53.9 +1.5
baz=287
DLMT Dillon 85.58 44 IAmb IAmb 01 56 58.0
comp=Z,24nm,0.8s
TPNV Topopah Spring 85.62 53 P P 01 56 55.2 +1.4
baz=288,SNR=28
TPNV Topopah Spring 85.62 53 IAmb IAmb 01 56 57.1
comp=Z,21nm,0.8s
GSC Goldstone, Bar 85.69 55 P P 01 56 55.9 +1.9
baz=288,SNR=27
R11A Troy Canyon, C 85.70 51 P P 01 56 55.7 +1.5
baz=288,SNR=36
R11A Troy Canyon, C 85.70 51 P P 01 56 55.1 +0.9
MURC Murrieta 85.89 56 P P 01 56 56.6 +1.7
baz=288,SNR=6.3
SHOC Shoshone, Teco 85.92 54 P P 01 56 57.5 +2.4
baz=288
BOZ Bozeman (W) 86.14 44 P P 01 56 57.6 +1.5
baz=290,SNR=43
109C Camp Elliot, M 86.17 57 P P 01 56 57.8 +1.5
baz=288
109C Camp Elliot, M 86.17 57 IAmb IAmb 01 57 00.1
comp=Z,29nm,1.1s
HEC Hector,Ludlow 86.20 55 P P 01 56 58.3 +1.7
baz=288,SNR=22
DAG Danmarks Havn 86.21 357 i P P 01 56 55.0 -0.6
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 86.21 357 i P P 01 56 55.0 -0.6
comp=Z,7.3nm,0.8s
TUQ Turquoise Moun 86.33 54 P P 01 56 59.0 +1.8
baz=288,SNR=5.3
SDRC San Diego Road 86.35 57 IAmb IAmb 01 57 19.5
comp=Z,36nm,1.4s
EML El Monte City P 86.38 57 IAmb IAmb 01 57 19.8
comp=Z,40nm,1.4s
PFO Pinyon Flats O 86.47 56 P P 01 56 59.5 +1.5
baz=288,SNR=14
PFO Pinyon Flats O 86.47 56 P P 01 56 59.3 +1.3
PFO pmax pmax
comp=Z,25nm,1.1s
PFO Pinyon Flats O 86.47 56 P P 01 56 59.3 +1.3
PFO IAmb IAmb 01 57 01.8
comp=Z,25nm,1.1s
TPFO Pinon Flats 86.47 56 P P 01 56 59.4 +1.5
baz=288,SNR=15
EGMT Eagleton 86.49 41 P P 01 56 59.1 +1.4
baz=291
BAR Barrett 86.58 57 IAmb IAmb 01 57 20.9
comp=Z,37nm,1.4s
SHPR Sheep Range 86.59 53 IAmb IAmb 01 57 21.7
comp=Z,46nm,1.5s
BELC Belle Mtn. Jos 86.72 56 P P 01 57 00.4 +1.3
baz=288,SNR=19
MONP2 Monument Peak 86.72 57 P P 01 57 00.8 +1.5
baz=288,SNR=15
MONP2 Monument Peak 86.72 57 IAmb IAmb 01 57 02.5
comp=Z,22nm,1.0s
GMRC Granite Mounta 86.74 55 P P 01 57 00.6 +1.3
baz=288,SNR=23
BGU Big Grassy Mou 86.75 48 P P 01 57 00.2 +1.0
IKP In-Ko-Pah, Jac 87.04 57 P P 01 57 02.3 +1.6
baz=288,SNR=5.4
DUG Dugway, Tooele 87.15 49 P P 01 57 02.7 +1.6
baz=290
DUG Dugway, Tooele 87.15 49 P P 01 57 02.0 +0.9
DUG pmax pmax
comp=Z,40nm,0.8s
DUG Dugway, Tooele 87.15 49 P P 01 57 02.0 +0.9
SWSC Sam W. Stewart 87.20 57 P P 01 57 02.7 +1.4
baz=288
SWSC Sam W. Stewart 87.20 57 IAmb IAmb 01 57 23.9
comp=Z,69nm,1.7s
FXWY Fox Creek 87.22 45 IAmb IAmb 01 57 06.0
comp=Z,37nm,1.2s
BC3 Big Chuckawall 87.25 56 P P 01 57 03.3 +1.6
baz=288,SNR=20
H17A Grant Village 87.26 44 P P 01 57 05.4 +3.6
baz=291,SNR=56
FLWY Flagg Ranch 87.29 45 P P 01 57 03.5 +1.7
TPAW Teton Pass 87.33 45 IAmb IAmb 01 57 05.9
comp=Z,34nm,1.2s
IRM Iron Mountain 87.34 55 P P 01 57 03.7 +1.7
baz=288,SNR=21
MOOW Moose Ponds 87.38 45 IAmb IAmb 01 57 05.9
comp=Z,25nm,0.9s
SNOW Snow King Moun 87.47 45 P P 01 57 04.0 +1.2
SNOW IAmb IAmb 01 57 24.8
comp=Z,32nm,1.3s
ZEI Tsey 87.74 314 eP P 01 57 01.1 -2.9
ZEI pmax pmax
comp=Z,5.0nm,0.7s
TCUT Toone Canyon 87.84 48 P P 01 57 05.5 +0.9
RLMT Red Lodge 87.87 43 P P 01 57 06.9 +2.3
baz=292,SNR=20

GLA	**Glamis**	**87.94**	**56**	P	**P**	**01 57 06.9 +2.0**
	baz=289,SNR=14					
GLA	**Glamis**	**87.94**	**56**	IAmb	IAmb	01 57 08.5
	comp=Z,24nm,0.9s					
Y12C	**Blythe**	**87.96**	**55**	P	**P**	**01 57 06.6 +1.6**
	baz=289,SNR=19					
Y12C	**Blythe**	**87.96**	**55**	IAmb	IAmb	01 57 08.5
	comp=Z,20nm,0.9s					
JLU	**Jordanelle**	**87.99**	**48**	P	**P**	**01 57 06.4 +1.1**
W13A	**Hualapai Mount**	**88.02**	**54**	IAmb	IAmb	01 57 09.1
	comp=Z,16nm,0.9s					
KBZ	**Khabaz**	**88.09**	**315**	P	**P**	**01 57 03.6 -1.7**
	comp=Z,8.8nm,0.9s,baz=141,slow=3.4,SNR=11					
KBZ				LR	LR	02 41 12.5
	comp=Z,196nm,18.3s,baz=66,slow=39					
KIV	**Kislovodsk**	**88.15**	**315**	P	**P**	**01 57 05.9 +0.1**
KIV				pmax	pmax	
	comp=Z,10.0nm,1.0s					
KIV	**Kislovodsk**	**88.15**	**315**	P	**P**	**01 57 05.9 +0.1**
FFC	**Flin Flon**	**88.22**	**33**	P	**P**	**01 57 06.7 +0.9**
FFC				pmax	pmax	
	comp=Z,41nm,0.9s					
FFC	**Flin Flon**	**88.22**	**33**	P	**P**	**01 57 06.7 +0.9**
BW06	**Boulder Array**	**88.54**	**46**	P	**P**	**01 57 08.9 +1.0**
	baz=292,SNR=9.3					
PDAR	**Pinedale Array**	**88.54**	**46**	P	**P**	**01 57 08.6 +0.7**
	comp=Z,3.5nm,0.6s,baz=307,slow=0.2,SNR=33					
PDAR				pP	**pwP**	**01 57 27.8 -0.6**
	comp=Z,1.1nm,0.4s,baz=113,slow=3.4,SNR=2.7					
PDAR				LR	LR	02 29 03.3
	comp=Z,248nm,21.5s,baz=312,slow=30					
PDAR	**Pinedale Array**	**88.54**	**46**	P	**P**	**01 57 07.1 -0.7**
U15A	**North Rim**	**88.80**	**52**	IAmb	IAmb	01 57 13.2
	comp=Z,27nm,0.9s					
FINES	**FINESS Array B**	**88.96**	**336**	*i* P	**P**	**01 57 06.0 -3.1**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.6s					
FINES	**FINESS Array B**	**88.96**	**336**	P	**P**	**01 57 05.5 -3.6**
	comp=Z,2.2nm,0.6s,baz=47,slow=2.5,SNR=13					
LAO	**LASA Array**	**89.22**	**41**	P	**P**	**01 57 12.5 +1.7**
	baz=294					
DGMT	**Dagmar**	**89.73**	**39**	P	**P**	**01 57 13.8 +0.8**
	baz=295					
DGMT	**Dagmar**	**89.73**	**39**	P	**P**	**01 57 13.4 +0.4**
DGMT				IAmb	IAmb	01 57 15.9
	comp=Z,34nm,1.1s					
WUAZ	**Wupatki**	**89.81**	**53**	P	**P**	**01 57 16.3 +2.4**
	baz=291					
WUAZ	**Wupatki**	**89.81**	**53**	IAmb	IAmb	01 57 17.9
	comp=Z,34nm,0.9s					
214A	**Organ Pipe Nat**	**89.91**	**57**	P	**P**	**01 57 16.2 +2.0**
	baz=290					
SOC	**Sochi**	**90.28**	**316**	*e*P	P	01 57 04.1 -12
SOC				*e*		02 00 45.6
SOC				*e*PPP	PPP	02 02 43.5
SOC				*e*SSS	SSS	02 17 33.1
SOC				MLR	MLR	
	comp=Z,743nm,21.0s					
O20A	**White River Ci**	**90.44**	**48**	P	**P**	**01 57 18.1 +1.3**
	baz=293,SNR=22					
RWWY	**Rawlins**	**90.56**	**46**	P	**P**	**01 57 18.9 +1.5**
K22A	**Casper**	**90.65**	**45**	P	**P**	**01 57 19.1 +1.4**
	baz=294,SNR=12					
SUMG	**Summit**	**90.78**	**2**	P	**P**	**01 57 19.4 +1.5**
SUMG				pmax	pmax	
	comp=Z,33nm,1.6s					
SUMG	**Summit**	**90.78**	**2**	*i* P	**P**	**01 57 18.0 +0.1**
	comp=Z,24nm,1.0s					
SUMG	**Summit**	**90.78**	**2**	P	**P**	**01 57 19.4 +1.5**
SUMG				IAmb	IAmb	01 57 46.8
	comp=Z,32nm,1.6s					
X18A	**Snowflake**	**91.26**	**53**	IAmb	IAmb	01 57 24.5
	comp=Z,13nm,0.9s					
MVCO	**Mesa Verde**	**91.36**	**51**	P	**P**	**01 57 22.9 +1.7**
	baz=292					
TUC	**Tucson**	**91.40**	**56**	P	**P**	**01 57 23.5 +2.2**
	baz=291					
TUC	**Tucson**	**91.40**	**56**	P	**P**	**01 57 22.7 +1.5**
TUC				pmax	pmax	
	comp=Z,16nm,1.1s					
TUC	**Tucson**	**91.40**	**56**	P	**P**	**01 57 22.7 +1.5**
TUC				IAmb	IAmb	01 57 25.3
	comp=Z,16nm,1.1s					
RSSD	**Black Hills**	**91.69**	**43**	P	**P**	**01 57 23.6 +1.1**
	baz=296					
RSSD	**Black Hills**	**91.69**	**43**	P	**P**	**01 57 23.2 +0.7**
RSSD				pmax	pmax	
	comp=Z,19nm,0.8s					
RSSD	**Black Hills**	**91.69**	**43**	P	**P**	**01 57 23.2 +0.7**
RSSD				IAmb	IAmb	01 57 25.1
	comp=Z,19nm,0.8s					
N23A	**Red Feather La**	**91.75**	**46**	P	**P**	**01 57 25.1 +2.1**
	baz=294,SNR=28					
PHWY	**Pilot Hill**	**91.92**	**46**	IAmb	IAmb	01 57 27.1
	comp=Z,25nm,0.9s					
S22A	**4UR Ranch, Cre**	**92.38**	**50**	P	**P**	**01 57 27.8 +1.9**
	baz=293,SNR=24					
S22A	**4UR Ranch, Cre**	**92.38**	**50**	IAmb	IAmb	01 57 29.5
	comp=Z,20nm,0.9s					
HSIG		**92.42**	**59**	P	**P**	**01 57 26.8 +0.9**
HSIG				IAmb	IAmb	01 57 48.8
	comp=Z,40nm,1.5s					
ISCO	**Idaho Springs**	**92.43**	**47**	P	**P**	**01 57 27.8 +1.7**
	baz=294,SNR=20					
ISCO	**Idaho Springs**	**92.43**	**47**	P	**P**	**01 57 27.8 +1.7**
ISCO				pmax	pmax	
	comp=Z,16nm,0.9s					
ISCO	**Idaho Springs**	**92.43**	**47**	P	**P**	**01 57 27.9 +1.7**
ISCO				IAmb	IAmb	01 57 29.7
	comp=Z,16nm,0.8s					
MDND	**Maddock**	**92.76**	**38**	P	**P**	**01 57 28.9 +1.8**
	baz=299					
Q24A	**Divide**	**93.10**	**48**	P	**P**	**01 57 31.0 +1.8**
	baz=294					
Q24A	**Divide**	**93.10**	**48**	IAmb	IAmb	01 57 51.5
	comp=Z,33nm,1.4s					
RAYN	**Ar Rayn**	**93.16**	**296**	P	**P**	**01 57 26.9 -2.6**
SDCO	**Great Sand Dun**	**93.34**	**49**	P	**P**	**01 57 31.9 +1.6**
	baz=294,SNR=12					
SDCO	**Great Sand Dun**	**93.34**	**49**	IAmb	IAmb	01 57 52.8
	comp=Z,44nm,1.9s					
AKASG	**Malin Array Be**	**93.35**	**326**	LR	LR	02 41 29.9
	comp=Z,281nm,21.1s,baz=70,slow=37					
ULM	**Lac du Bonnet**	**93.67**	**35**	P	**P**	**01 57 31.6 +0.4**
	comp=Z,10nm,0.9s,baz=298,slow=4.6,SNR=10					
ULM				LR	LR	02 33 32.0
	comp=Z,301nm,20.3s,baz=332,slow=31					
ULM	**Lac du Bonnet**	**93.67**	**35**	IAmb	IAmb	01 57 32.2
	comp=Z,17nm,1.0s					
121A	**Cookes Peak, D**	**93.68**	**55**	P	**P**	**01 57 34.4 +2.6**
	baz=293					
121A	**Cookes Peak, D**	**93.68**	**55**	IAmb	IAmb	01 57 36.8
	comp=Z,30nm,1.4s					
ANMO	**Albuquerque**	**93.76**	**52**	P	**P**	**01 57 34.2 +1.9**
	baz=294					
ANMO	**Albuquerque**	**93.76**	**52**	*ce*P	**P**	**01 57 33.5 +1.3**
ANMO				pmax	pmax	
	comp=Z,12nm,1.3s					
ANMO	**Albuquerque**	**93.76**	**52**	P	**P**	**01 57 33.5 +1.3**
ANMO				IAmb	IAmb	01 57 54.9
	comp=Z,39nm,1.8s					
T25A	**Trinidad**	**94.39**	**49**	P	**P**	**01 57 36.7 +1.7**
	baz=295,SNR=5.9					
T25A	**Trinidad**	**94.39**	**49**	IAmb	IAmb	01 57 58.4
	comp=Z,25nm,1.4s					
OGNE	**Ogallala**	**94.41**	**45**	P	**P**	**01 57 36.3 +1.3**
	baz=297					
VNDA	**Vanda**	**94.55**	**177**	P	**P**	**01 57 36.3 +1.8**
VNDA				pmax	pmax	
	comp=Z,28nm,1.6s					
VNDA	**Vanda**	**94.55**	**177**	LR	LR	02 37 51.1
	comp=Z,76nm,21.2s,baz=346,slow=34					
VNDA	**Vanda**	**94.55**	**177**	P	**P**	**01 57 36.4 +1.8**
VNDA				IAmb	IAmb	01 58 02.0
	comp=Z,28nm,1.6s					
NOA	**NORSAR Array B**	**94.64**	**340**	LR	LR	02 44 30.8
	comp=Z,82nm,19.6s,baz=60,slow=38					
AGMN	**Agassiz Nation**	**94.70**	**36**	P	**P**	**01 57 36.2 +0.2**
	baz=302					
AGMN	**Agassiz Nation**	**94.70**	**36**	IAmb	IAmb	01 57 37.8
	comp=Z,12nm,0.9s					
SUSD	**Miller**	**94.79**	**41**	P	**P**	**01 57 37.4 +0.8**
	baz=299					
KSCO	**Kaye Shedlock'**	**94.86**	**47**	P	**P**	**01 57 39.0 +1.9**
	baz=296					
MNTX	**Cornudas Mount**	**95.88**	**55**	P	**P**	**01 57 43.2 +1.5**
	baz=294,SNR=11					
MNTX	**Cornudas Mount**	**95.88**	**55**	IAmb	IAmb	01 57 45.2
	comp=Z,10nm,1.1s					
BRTR	**Keskin Array B**	**96.05**	**314**	*i* P	**P**	**01 57 42.9 +0.4**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
BRTR	**Keskin Array B**	**96.05**	**314**	P	**P**	**01 57 39.1 -3.4**
	comp=Z,1.0nm,0.9s,baz=86,slow=3.8,SNR=3.9					
BRTR				LR	LR	02 44 27.2
	comp=Z,91nm,21.3s,baz=61,slow=38					
ECSD	**EROS Data Cent**	**96.61**	**41**	P	**P**	**01 57 45.2 +0.3**
	baz=301					
ECSD	**EROS Data Cent**	**96.61**	**41**	IAmb	IAmb	01 58 05.3
	comp=Z,19nm,1.6s					
CBKS	**Cedar Bluff**	**96.95**	**46**	P	**P**	**01 57 47.1 +0.5**
	baz=298					
CBKS	**Cedar Bluff**	**96.95**	**46**	P	**P**	**01 57 46.8 +0.3**
CBKS				pmax	pmax	
	comp=Z,18nm,1.0s					
CBKS	**Cedar Bluff**	**96.95**	**46**	P	**P**	**01 57 46.8 +0.3**
CBKS				IAmb	IAmb	01 57 48.8
	comp=Z,18nm,0.9s					
AMTX	**Amarillo**	**97.35**	**50**	P	Pdif	01 57 49.5 +1.0
	baz=296					
AMTX	**Amarillo**	**97.35**	**50**	IAmb	IAmb	01 57 51.5
	comp=Z,12nm,1.1s					
SPMN	**Marine on St.**	**98.13**	**38**	P	Pdif	01 57 52.3 +0.7
	baz=304					
BORG	**Borgarnes**	**98.18**	**355**	*i* P	Pdif	01 57 53.6 +2.2
TXAR	**Lajitas Array**	**98.19**	**56**	P	Pdif	01 57 53.7 +1.3
	comp=Z,1.7nm,0.9s,baz=286,slow=3.3,SNR=9.7					
TXAR				LR	LR	02 41 49.3
	comp=Z,150nm,18.0s,baz=0.0,slow=35					
TXAR	**Lajitas Array**	**98.19**	**56**	P	Pdif	01 57 53.5 +1.2
U32A	**Winter Ranch,**	**98.61**	**48**	IAmb	IAmb	01 57 57.7
	comp=Z,24nm,1.3s					
WMOK	**Wichita Mounta**	**99.54**	**49**	Pdiff	**Pdif**	**01 57 59.6 +1.4**
	baz=298					
VYHS	**Vyhne**	**100.12**	**328**	*e*P	**Pdif**	**01 57 58.8 -1.6**
VYHS	**Vyhne**	**100.12**	**328**	*e*PDIFF	**Pdif**	**01 57 58.8 -1.6**
JCT	**Junction City**	**100.73**	**54**	P	**Pdif**	**01 58 04.3 +0.8**
JCT	**Junction City**	**100.73**	**54**		**Pdif**	**01 58 04.3 +0.8**
ESDC	**Sonseca Array**	**117.46**	**335**	PKKP		02 13 47.7
	comp=Z,0.7nm,0.7s,baz=218,slow=3.7,SNR=6.9					
SNAA	**Sanae**	**122.24**	**191**	PKPdf	**PKPdf**	**02 03 08.1 -0.7**
VNA2	**Neumayer--Watz**	**123.66**	**190**	PKPdf	**PKPdf**	**02 03 11.3 -0.1**
	baz=122,slow=2.0					
VNA3	**Neumayer Olymp**	**123.74**	**189**	PKPdf	**PKPdf**	**02 03 11.5 -0.1**
VNA1	**Neumayer--Stat**	**124.04**	**190**	PKPdf	**PKiKP**	**02 03 12.6 +0.3**
TORD	**Torodi Ar. Bea**	**134.31**	**308**	PKP	**PKPdf**	**02 03 32.3 -0.9**
	comp=Z,1.0nm,0.8s,baz=23,slow=3.0,SNR=5.5					
TORD				SKPbc	**SKPbc**	**02 06 53.3 -4.6**
	comp=Z,3.1nm,0.8s,baz=45,slow=3.0,SNR=7.2					
TORD	**Torodi Ar. Bea**	**134.31**	**308**		**PKPdf**	**02 03 32.6 -0.6**
PLCA	**Paso Flores**	**140.08**	**134**	PKP	**PKPdf**	**02 03 43.7 +0.4**
	comp=Z,4.0nm,1.0s,baz=8.1,slow=0.6,SNR=4.4					
PLCA				SKPbc	**SKPbc**	**02 07 14.1 -0.2**
	comp=Z,20nm,1.1s,baz=248,slow=4.1,SNR=11					
PLCA	**Paso Flores**	**140.08**	**134**		**SKPbc**	**02 07 15.4 +1.1**
DBIC	**Dimbokro**	**143.38**	**307**	PKhKP	PKPpre	02 03 45.3
	comp=Z,1.8nm,0.4s,baz=40,slow=5.2,SNR=9.1					
KIC	**Kosan Boka**	**143.49**	**307**	*e*PKP1	PKPab	02 03 46.3 -0.1
	comp=Z,12nm,1.0s					
TIC	**Toumodi**	**143.53**	**307**	*e*PKP1	PKPab	02 03 46.3 -0.3
LIC	**Lamto**	**143.80**	**307**	*e*PKP1	PKPab	02 03 47.3 -0.3
	comp=Z,19nm,0.8s					
GO03	**Copiap**	**144.37**	**114**		**PKPdf**	**02 03 51.4 +0.1**
CFA	**Coronel Fontan**	**145.15**	**121**	PKPbc	**PKPdf**	**02 03 53.0 +0.5**
	comp=Z,31nm,0.6s,baz=243,slow=2.8,SNR=54					
GO02	**Mina Guanaco**	**145.29**	**110**		**PKPab**	**02 03 54.1 +0.8**
PB11	**IPOC Station P**	**145.49**	**101**		**PKPab**	**02 03 55.0 +1.1**
MNMC	**Minye Minye**	**145.53**	**99**		**PKPab**	**02 03 55.9 +1.6**
PB01	**IPOC Station P**	**145.65**	**103**	PKPbc	**PKPab**	**02 03 56.1 +1.6**
GO01	**Chusmiza**	**145.92**	**100**	PKPbc	**PKiKP**	**02 03 57.6 -1.2**
LVC	**Limon Verde**	**146.13**	**106**	PKPbc	**PKPab**	**02 03 57.9 +1.3**
	comp=Z,52nm,0.8s,baz=270,slow=2.9,SNR=35					
LVC	**Limon Verde**	**146.13**	**106**		**PKPab**	**02 03 56.8 +0.2**
LPAZ	**La Paz**	**146.73**	**94**	PKPbc	**PKPab**	**02 03 59.9 +0.6**
	comp=Z,41nm,0.7s,baz=297,slow=2.4,SNR=114					
LPAZ	**La Paz**	**146.73**	**94**		**PKPab**	**02 03 59.5 +0.1**
TRQA	**Tornquist**	**147.18**	**136**	PKP2	**PKPab**	**02 04 00.0 +0.3**
TRQA	**Tornquist**	**147.18**	**136**	PKPbc	**PKPab**	**02 04 00.0 +0.3**
SAML	**Samuel**	**149.97**	**79**	PKiKP	**PKPbc**	**02 04 05.7 -0.2**
SAML	**Samuel**	**149.97**	**79**		**PKPbc**	**02 04 05.7 -0.2**
SIV	**San Ignacio**	**153.45**	**92**	PKP	**PKPdf**	**02 04 07.3 +1.2**
	comp=Z,2.2nm,1.0s,baz=129,slow=2.6,SNR=6.7					
SIV				PKPbc	**PKiKP**	**02 04 14.9 +1.0**
	comp=Z,6.5nm,0.7s,baz=241,slow=1.6,SNR=30					
CPUP	**Villa Florida**	**155.85**	**117**	PKP2	**PKPab**	**02 04 38.0 +1.9**
CPUP	**Villa Florida**	**155.85**	**117**	PKPab	**PKPab**	**02 04 38.0 +1.9**
	comp=Z,8.0nm,0.9s,baz=263,slow=4.8,SNR=9.7					
BDFB	**Brasilia**	**165.92**	**87**	PKP	**PKPdf**	**02 04 21.1 +0.7**
	comp=Z,4.4nm,0.8s,baz=83,slow=6.4,SNR=5.9					
BDFB	**Brasilia**	**165.92**	**87**		**PKPdf**	**02 04 20.3 -0.1**

HVO ***29*** *01:51:00.1±0.5, 17°.9N±0°.2×154°.6W±0°.2, h2km±10km*
NEIC 29 01:50:58.9±0.5,**18°.0N**±0°.1×**154°.6W**±0°.2,**h25**km±10km,
ML4.1(HVO),**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**1.45**	**333**		Pn	01 51 24.2	+0.7
HLP				Sn	Sn	01 51 41.2	-0.7
JCUZ	**Jacuzzi**	**1.45**	**341**	Pn	Pn	01 51 23.3	-0.3
STCH	**Steam Cracks**	**1.46**	**341**		Pn	01 51 23.8	0.0
STCH				Sn	Sn	01 51 41.4	-0.8
NPOC	**North of Pu'u**	**1.46**	**341**	Pn	Pn	01 51 23.7	-0.1
PUH	**Pauahi**	**1.48**	**337**		Pn	01 51 24.2	+0.1
KKO	**Keanakako`i**	**1.52**	**336**		Pn	01 51 24.7	0.0
RIM	**Rim**	**1.52**	**336**		Pn	01 51 24.5	-0.2
SDHHI	**Sand Hill**	**1.53**	**335**		Pn	01 51 24.9	+0.2
BYL	**Byron's Ledge**	**1.53**	**336**	Pn	Pn	01 51 25.1	+0.3
NPH	**North Pit**	**1.54**	**336**		Pn	01 51 25.5	+0.6
HATHI	**Halema'uma'u T**	**1.54**	**337**		Pn	01 51 24.8	-0.1
WRMHI	**West Rim**	**1.54**	**335**	Pn	Pn	01 51 24.7	-0.2
OBL	**Observatory Le**	**1.55**	**336**		Pn	01 51 25.4	+0.4
OBL					Sn	01 51 44.6	+0.2
SBLHI	**Steaming Bluff**	**1.55**	**336**		Pn	01 51 25.1	0.0
SBLHI					Sn	01 51 44.3	-0.1
UWB	**Uwekahuna B**	**1.55**	**336**	Pn	Pn	01 51 25.2	+0.1
UWB					Sn	01 51 44.0	-0.4
UWE	**Uwekahuna**	**1.55**	**336**		Pn	01 51 24.9	-0.2
KHU	**Kahuku**	**1.56**	**323**		Pn	01 51 25.2	-0.1
AIN	**Ainahou**	**1.58**	**330**		Pn	01 51 25.8	+0.2
MLH	**Mauna Loa**	**1.66**	**334**		Pn	01 51 27.1	+0.5
MWH	**Moku'aweowe**	**1.75**	**328**		Pn	01 51 28.2	+0.1
MLOA	**Mauna Loa Obse**	**1.78**	**329**		Pn	01 51 28.4	0.0
HMH	**Humu'ula Sheep**	**1.79**	**333**		Pn	01 51 29.0	+0.4
POHA	**Pohakuloa**	**1.95**	**334**	Pn	Pn	01 51 30.6	-0.1
KHLU	**Kahalu`u**	**2.00**	**323**	Pn	Pn	01 51 31.1	0.0
HUH	**Hualalai**	**2.04**	**326**		Pn	01 51 32.0	+0.2
KKH	**Kailua Kona**	**2.12**	**321**	Pn	Pn	01 51 32.6	-0.1
HPAH	**Hawaii Prepara**	**2.27**	**333**	Pn	Pn	01 51 34.7	-0.1
HLK	**Haleakala**	**3.15**	**331**		Pn	01 51 47.3	+0.2
KHLH	**Kahului Airpor**	**3.35**	**330**		Pn	01 51 50.2	+0.5
HON	**Honolulu**	**4.60**	**317**	Pn	Pn	01 52 06.1	-0.7
KIP	**Kipapa**	**4.68**	**317**		Pn	01 52 07.8	-0.1
OPA	**Opana**	**4.87**	**319**		Pn	01 52 10.6	+0.1
KEKH	**Kekaha**	**6.22**	**310**		Pn	01 52 27.9	-1.3

NDI ***29*** *01:54:46.9±3.7, 29°.01N×95°.82E, h10km, mb4.8, ML4.8, mb5.0(NEIC)*
MOS ***29*** *01:54:46.9±0.9, 28°.88N×95°.90E, h33km, mb5.3/63, MS4.4/5, Error ellipse: s-maj=7.5km s-min=3.7km az=125.5*
BJI ***29*** *01:54:47.2±0.0, 28°.86N×95°.87E, h15km, mb4.8/34, mB4.8/24, ML4.9/12, Ms4.5/42, Ms7 4.4/38*
ISCJB ***29*** *01:54:47.4±0.4, 28°.86N±0°.02×95°.84E±0°.02, h37km±4km, mb5.0/118, MS4.2/15, Error ellipse: s-maj=3.3km s-min=2.8km az=20.9*
IDC ***29*** *01:54:48.1±2.5, 28°.87N×95°.89E, h27km±16km, mb4.6/27, mb1 4.8/28, mb1mx4.6/38, mbtmp4.8/28, ML4.7/1, MS4.0/8, Ms1 4.0/8, ms1mx3.7/27, Error ellipse: s-maj=15.0km s-min=11.3km az=49.0*
NEIC ***29*** *01:54:49.1±1.3, 28°.87N±0°.06×95°.87E±0°.07, h35km±3km, mb5.0/117*
ISC 29 01:54:46.7±0.5,**28°.90N**±0°.03×**95°.83E**±0°.03,**h19**km±1km,
h19km:**pP-P**,**n497**,σ1°54/536,**mb5.1**/154,**MS4.3**/15,
34C-13D,**Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.56**	**180**	*e*P	**Pb**	**01 55 15.6**	**+0.7**
LKP				*e*P	**Pg**	**01 55 16.1**	**-0.6**
LKP				*e*S	**Sg**	**01 55 37.6**	**+0.6**
LKP				*e*S	**Sg**	**01 55 37.6**	**+0.6**
LKP				IAML		01 55 40.0	
	comp=E,45μm,0.4s						
LKP				IAML		01 55 40.6	
	comp=N,45μm,0.2s						
ZIRO	**ZIRO**	**2.22**	**233**	*e*P	**Pb**	**01 55 25.1**	**-1.2**
ZIRO				*e*P	**Pn**	**01 55 25.2**	**+2.6**
ZIRO				*e*S	**Sb**	**01 55 53.5**	**0.0**
ZIRO				IAML		01 55 59.0	
	comp=E,36μm,0.8s						
ZIRO				IAML		01 56 00.2	
	comp=N,29μm,0.3s						
ZIRO				IAML		01 56 00.4	
	comp=N,79μm,0.9s						
ZIRO				IAML		01 56 00.4	
	comp=E,17μm,0.3s						
MOKO	**MOKOCHONG**	**2.82**	**205**	*e*P	**Pn**	**01 55 33.5**	**+2.6**
MOKO				*e*P	**Pb**	**01 55 33.7**	**-2.9**
MOKO				*e*S	**Sn**	**01 56 07.0**	**+2.6**
MOKO				IAML		01 56 11.4	
	comp=N,9μm,0.6s						
MOKO				IAML		01 56 11.8	
	comp=E,11μm,0.4s						
KOHI	**KOHIMA**	**3.52**	**206**	*e*P	**Pn**	**01 55 43.5**	**+3.0**
KOHI				*e*S	**Sn**	**01 56 23.7**	**+2.0**
KOHI				IAML		01 56 27.4	
	comp=N,5μm,0.7s						
KOHI				IAML		01 56 28.3	
	comp=E,5μm,0.3s						
KOHI				IAML		01 56 29.1	
	comp=E,5μm,0.3s						
KOHI				IAML		01 56 29.2	
	comp=N,3μm,0.3s						
LSA	**Lhasa**	**4.17**	**282**	Pn	**Pn**	**01 55 53.8**	**+4.1**
LSA				Sn	**Sb**	**01 56 44.3**	**-5.5**
LSA				smax	smax		
	comp=N,5μm,1.0s						
LSA				smax	smax		
	comp=N,2μm,1.0s						
LSA	**Lhasa**	**4.17**	**282**	*i* P	**Pn**	**01 55 53.4**	**+3.7**
	SNR=83						
LSA	**Lhasa**	**4.17**	**282**	P	**Pn**	**01 55 53.9**	**+4.2**
LSA	**Lhasa**	**4.17**	**282**	P	**Pn**	**01 55 53.3**	**+3.6**
LSA						01 56 39.0	
LSA	**Lhasa**	**4.17**	**282**		**Pn**	**01 55 53.3**	**+3.6**
LSA				Sn	**Sn**	**01 56 39.0**	**+0.9**
GUWA	**GUWAHATI**	**4.56**	**235**	*e*P	**Pn**	**01 55 55.1**	**+0.5**
GUWA				*e*S	**Sn**	**01 56 46.1**	**-1.0**
GUWA				IAML		01 56 49.3	
	comp=E,1μm,0.7s						
GUWA				IAML		01 56 51.3	
	comp=N,2μm,0.3s						
SHL	**Shillong**	**4.83**	**228**	P	**Pn**	**01 55 59.6**	**+1.0**
SHL						01 56 53.7	
SHL	**Shillong**	**4.83**	**228**	*e*P	**Pn**	**01 55 59.4**	**+0.8**
SHL				*e*S	**Sn**	**01 56 52.5**	**-1.7**
SHL				IAML		01 56 56.2	
	comp=N,2μm,0.2s						
SHL				IAML		01 56 56.7	
	comp=E,1μm,0.4s						
SHL				IAML		01 56 58.3	
	comp=E,1μm,0.1s						
SHL				IAML		01 56 58.4	
	comp=N,914nm,0.2s						
SHL	**Shillong**	**4.83**	**228**		**Pn**	**01 55 59.6**	**+1.0**
SHL				Sn	**Sn**	**01 56 53.7**	**-0.4**
AZL	**Aizawl**	**5.86**	**209**	*e*P	**Pn**	**01 56 14.8**	**+2.2**
AZL				*ex*	x	01 57 15.7	
AZL				IAML		01 57 23.8	
	comp=N,1μm,0.3s						
AZL				IAML		01 57 24.7	
	comp=E,2μm,0.4s						
AZL				IAML		01 57 25.4	
	comp=N,1μm,0.2s						
AZL				IAML		01 57 26.0	
	comp=E,2μm,0.2s						
GTK	**Tadong**	**6.58**	**258**	*e*P	**Pn**	**01 56 25.5**	**+3.0**
GTK				*e*S	**Sn**	**01 57 35.8**	**-1.3**
GTK				IAML		01 57 42.3	
	comp=N,505nm,0.2s						
GTK				IAML		01 57 42.5	
	comp=E,715nm,0.5s						
GTK				IAML		01 57 42.9	
	comp=E,655nm,0.2s						
SAIH	**SAIHA**	**6.88**	**203**	*e*P	**Pn**	**01 56 28.6**	**+2.0**
SAIH				*e*S	**Sn**	**01 57 45.0**	**+0.6**
SAIH				IAML		01 57 51.9	
	comp=E,1μm,0.5s						
SAIH				IAML		01 57 53.1	
	comp=N,518nm,0.3s						
SAIH				IAML		01 57 53.4	
	comp=N,974nm,0.3s						
SAIH				IAML		01 57 53.4	
	comp=E,635nm,0.2s						
CD2	**Chengdu**	**7.17**	**72**	Pn	**Pn**	**01 56 33.5**	**+3.0**
CD2				Pg	**Pg**	**01 57 02.5**	**-1.3**
CD2				Sn	Sb	01 58 05.3	-10
CD2				Sg	**Sg**	**01 58 35.0**	**-1.6**
CD2				smax	smax		
	comp=N,160nm,1.6s						
CD2				smax	smax		
	comp=E,190nm,1.6s						
CD2				LR	LR		
	comp=N,3μm,4.3s						
CD2				LR	LR		
	comp=E,2μm,3.5s						
CD2				LR	LR		
	comp=Z,3μm,11.4s						
CD2	**Chengdu**	**7.17**	**72**	Pn	**Pn**	**

comp=Z,650nm,0.7s
LZH Lanzhou 9.85 41 ⇓P Pn 01 57 10.0 +2.6
LZH PP **PnPn 01 57 16.5 +1.3**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,86nm,4.9s
LZH LR LR
comp=Z,2μm,11.9s
LZH LR LR
comp=Z,2μm,10.3s
LZH LR LR
comp=Z,1μm,13.6s
GKN Gorkha 9.90 268 *e*Pn **Pn 01 57 07.7 -0.4**
GKN *e*Sn **Sn 01 58 53.7 -5.0**
comp=Z,427nm,0.4s
GYA Guiyang 9.90 102⇑ *i*P **Pn 01 57 09.0 +0.9**
GYA S **Sn 01 59 01.8 +2.9**
GYA pmax pmax
comp=Z,100nm,4.7s
GYA LR LR
comp=Z,1μm,11.6s
GYA LR LR
comp=Z,2μm,11.1s
GYA LR LR
comp=Z,3μm,12.4s
PAYA Payao 10.18 158 P **Pn 01 57 15.6 +3.7**
comp=Z,61μm,0.8s,comp=Z,697μm
CHTO Chiang Mai 10.43 164 P **Pn 01 57 17.8 +2.5**
SNR=8.4
CHTO Chiang Mai 10.43 164 P **Pn 01 57 17.3 +2.0**
CHTO Chiang Mai 10.43 164 Pn 01 57 17.3 +2.0
CMMT Chiang Mai 10.43 163 P **Pn 01 57 17.7 +2.3**
comp=Z,26nm,1.1s,comp=Z,308nm
SLVN Son La 10.49 134 Pn 01 57 17.1 +0.9
DANN Dangsing 10.62 270 *e*Pn **Pn 01 57 17.3 -0.9**
CM31 Chiang Mai Arr 10.78 164 Pn **Pn 01 57 21.7 +1.7**
CMAR Chiang Mai Arr 10.78 164 *i*P **Pn 01 57 22.0 +2.0**
CMAR pmax pmax
comp=Z,12nm,0.6s
CMAR Chiang Mai Arr 10.78 164 Pn **Pn 01 57 22.0 +2.0**
comp=Z,1.6nm,0.3s,baz=339,slow=13,SNR=34
CMAR LR LR 02 01 32.6
comp=Z,572nm,21.0s,baz=352,slow=38
CMAR Chiang Mai Arr 10.78 164 Pn 01 57 21.7 +1.7
KOLN Koldanda 10.84 267 *e*Pn **Pn 01 57 20.3 -0.7**
MHMT Maesarieng 10.84 169 P **Pn 01 57 23.8 +2.9**
comp=Z,98nm,1.1s,comp=Z,984nm
LAMP Lampang 10.90 161 P **Pn 01 57 25.3 +3.6**
comp=Z,261μm,0.9s
GTA Gaotai 10.99 16 *e*P **Pn 01 57 23.8 +0.8**
GTA pP 01 57 28.5
GTA S **Sn 01 59 27.0 +1.5**
GTA SS **SnSn 01 59 43.8 +6.1**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,83nm,7.8s
GTA LR LR
comp=Z,1μm,13.6s
GTA LR LR
comp=Z,1μm,11.7s
GTA LR LR
comp=Z,2μm,11.7s
PHRA Phrae 11.11 158 P **Pn 01 57 28.0 +3.5**
comp=Z,5.7nm,1.0s
UTTA Uttaradit 11.92 158 P **Pn 01 57 39.1 +3.5**
comp=Z,36μm,0.7s
ENH Enshi 11.96 80 Pn 01 57 36.3 +0.1
XAN Xi'an 12.29 62 P **Pn 01 57 43.0 +2.3**
XAN pP P 01 57 50.0 -2.9
XAN pmax pmax
comp=Z,12nm,0.8s
XAN LR LR
comp=Z,990nm,10.3s
XAN LR LR
comp=Z,490nm,10.8s
XAN LR LR
comp=Z,420nm,12.8s
XAN Xi'an 12.29 62 P **Pn 01 57 41.1 +0.4**
XAN Xi'an 12.29 62 Pn 01 57 41.1 +0.4
CHAI Chaiyaphum 14.12 155 P **Pn 01 58 07.4 +1.6**
comp=Z,134μm,0.8s
DGPR DIGLIPUR 15.87 190 IAmb IAmb 01 58 29.9
comp=Z,42nm,0.6s
DGPR *e*P **Pn 01 58 30.6 +1.4**
QIZ Qiongzhong 16.12 124 P **Pn 01 58 30.3 -2.1**
QIZ S **Sn 02 01 31.3 +0.5**
QIZ pmax pmax
comp=Z,300nm,2.2s
QIZ LR LR
comp=Z,2μm,14.7s
QIZ LR LR
comp=Z,1μm,14.2s
QIZ LR LR
comp=Z,2μm,11.4s
WHN Wuhan 16.17 80 ⇓P P 01 58 35.5 -0.5
WHN pP **sP 01 58 45.5 +0.4**
UBPT Khong Chiam 16.22 145 P **Pn 01 58 33.3 -0.2**
comp=Z,62nm,0.8s
UBPT Khong Chiam 16.22 145 Pn 01 58 32.7 -0.8
UBPT IAmb IAmb 01 58 34.1
comp=Z,86nm,0.9s
WMQ Urumqi 16.26 339 *e*P **P 01 58 36.5 -0.5**
WMQ pP Pn 01 58 38.5 +4.5
WMQ sP pP 01 58 43.5 +0.4
WMQ pmax pmax
comp=Z,170nm,5.1s
WMQ LR LR
comp=Z,570nm,10.3s
WMQ LR LR
comp=Z,560nm,9.5s
WMQ LR LR
comp=Z,700nm,15.3s
WMQ Urumqi 16.26 339 P **P 01 58 35.8 -1.2**
WMQ pmax pmax
comp=Z,172nm,0.7s
WMQ Urumqi 16.26 339 P **P 01 58 35.8 -1.2**
WMQ IAmb IAmb 01 58 39.4
comp=Z,172nm,0.7s
PHET Kaeng Krachan 16.30 167 P **P 01 58 37.3 -0.1**
comp=Z,93μm,1.2s
SMLA Simla 16.32 282 *ex* **Pn 01 58 31.1 -3.7**
SMLA IAmb IAmb 01 58 32.6
comp=Z,37nm,0.5s
BTO Baotou 16.48 41 *e*P **Pn 01 58 34.5 -2.4**
PATY Pattaya 16.57 163 P **P 01 58 42.1 +1.6**
comp=Z,100μm,0.9s
HHC Hu-ho-hao-te 17.54 43 *e*P **Pn 01 58 47.3 -2.9**
HHC pP P 01 58 50.5 -0.7
HHC sP pP 01 58 54.5 -2.9
HHC PP **sP 01 58 59.8 -0.4**
HHC S **Sn 02 02 04.0 -1.0**
HHC pmax pmax
comp=Z,5.0nm,1.2s
HHC pmax pmax
comp=Z,9.0nm,4.6s
TARG Taragay, Kyrgy 19.45 316 P **Pn 01 59 14.0 +0.2**
TARG IAmb IAmb 01 59 16.7
comp=Z,120nm,0.7s
PDGK Podgornoye 19.49 322 P **Pn 01 59 13.3 -0.6**
PDGK pmax pmax
comp=Z,64nm,1.0s
KSH Kashi 19.50 308 P **Pn 01 59 15.8 +1.6**
KSH PP **PnPn 01 59 34.0 +6.4**
KSH S **S 02 02 49.5 -3.0**
KSH sS sS 02 03 03.5 +1.7
KSH SS SnSn 02 03 24.5 +18
KSH pmax pmax
comp=Z,78nm,0.8s
KSH pmax pmax
comp=Z,980nm,7.4s
KSH LR LR
comp=Z,380nm,9.9s
KSH LR LR
comp=Z,390nm,12.7s
KSH LR LR
comp=Z,200nm,11.4s
HYB Hyderabad 19.54 238 *i*P **P 01 59 13.0 -0.3**
HYB *e*S **S 02 02 49.5 -3.9**
PRZ Przheval'sk 19.55 319 P **Pn 01 59 15.7 +1.0**
PRZ pmax pmax
comp=Z,116nm,0.9s
PRZ Przheval'sk 19.55 319 P **Pn 01 59 15.7 +1.0**
PRZ IAmb IAmb 01 59 18.1
comp=Z,116nm,0.9s

NIL Nilore 19.86 289 P **Pn 01 59 18.1 -0.3**
NIL Nilore 19.86 289 P **P 01 59 16.8 +0.1**
NIL pmax pmax
comp=Z,79nm,0.8s
NIL Nilore 19.86 289 P **P 01 59 16.8 +0.1**
NIL IAmb IAmb 01 59 22.6
comp=Z,79nm,0.8s
SURT Suratani 20.03 171 P Pn 01 59 20.1 -0.3
comp=Z,56nm,1.3s,comp=Z,1μm
KDJ Kajisay 20.07 316 P Pn 01 59 22.1 +1.2
KDJ pmax pmax
comp=Z,388nm,0.9s
KDJ Kajisay 20.07 316 P Pn 01 59 22.1 +1.3
NJ2 Nanjing 20.08 75 *e*P **P 01 59 18.3 -0.8**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NRN Naryn 20.42 313 P Pn 01 59 24.3 -0.9
NRN pmax pmax
comp=Z,47nm,1.0s
NRN Naryn 20.42 313 P Pn 01 59 24.2 -0.9
SONM Songino Array 20.61 21 P **P 01 59 24.9 +0.2**
SONM pmax pmax
comp=Z,30nm,0.9s
SONM Songino Array 20.61 21 P **P 01 59 25.5 +0.7**
comp=Z,55nm,1.1s,baz=209,slow=8.8,SNR=71
SONM ScP **ScP 02 07 09.4 -1.3**
comp=Z,2.1nm,1.1s,baz=267,slow=2.8,SNR=6.1
SONM Songino Array 20.61 21 P **P 01 59 24.9 +0.2**
SONM **ScP 02 07 09.2 -1.4**
ULHL Ulahol 20.71 315 P Pn 01 59 28.4 0.0
SNR=58
MK31 Makanchi Array 20.77 333 P **P 01 59 27.0 +0.6**
MK31 pmax pmax
comp=Z,60nm,0.8s
MK31 Makanchi Array 20.77 333 P **P 01 59 27.1 +0.6**
MK31 IAmb IAmb 01 59 29.8
comp=Z,60nm,0.8s
MKAR Makanchi Array 20.77 333 *i*P **P 01 59 26.8 +0.4**
MKAR pmax pmax
comp=Z,54nm,0.6s
MKAR Makanchi Array 20.77 333 P **P 01 59 26.9 +0.5**
comp=Z,54nm,0.6s,baz=141,slow=12,SNR=127
MKAR ScP **ScP 02 07 10.2 -0.8**
comp=Z,2.8nm,0.8s,baz=100,slow=5.0,SNR=12
MKAR LR LR 02 08 22.8
comp=Z,777nm,20.1s,baz=101,slow=39
MKAR Makanchi Array 20.77 333 P **P 01 59 26.7 +0.2**
MKAR **ScP 02 07 09.4 -1.5**
ULN Ulaanbaatar 20.84 22 P **P 01 59 27.7 +0.4**
SNR=12
ULN Ulaanbaatar 20.84 22 P **P 01 59 27.7 +0.4**
ULN pmax pmax
comp=Z,53nm,0.9s
ULN Ulaanbaatar 20.84 22 P **P 01 59 27.7 +0.4**
ULN IAmb IAmb 01 59 32.2
comp=Z,53nm,0.9s
PKDT Phuket 21.03 173 P **P 01 59 29.8 +0.4**
BOOM Boomskoye usch 21.03 315 P **P 01 59 30.6 +1.1**
BOOM pmax pmax
comp=Z,131nm,0.8s
BOOM Boomskoye usch 21.03 315 P **P 01 59 30.6 +1.1**
KZA Kyzart 21.24 314 P **P 01 59 34.1 +2.1**
SNR=23
TRTT Trang 21.26 169 P **P 01 59 32.4 +0.5**
comp=Z,100nm,1.0s,comp=Z,1μm
TKM2 Tokmak 2 21.48 316 *i*P **P 01 59 35.7 +1.4**
TKM2 pmax pmax
comp=Z,105nm,0.8s
TKM2 Tokmak 2 21.48 316 P **P 01 59 36.2 +1.9**
SNR=36
KBK Karagaybulak 21.73 315 P **P 01 59 39.3 +2.3**
SNR=38
DGZ Jazzator, Alta 21.74 345⇓ *e*P **P 01 59 37.5 +0.5**
UCH Uchtor 21.78 313 P **P 01 59 39.4 +1.6**
SNR=20
AAK Ala-Archa 22.01 314 *i*P **P 01 59 41.9 +1.9**
SNR=40
AAK Ala-Archa 22.01 314 P **P 01 59 42.3 +2.4**
SNR=33
AAK Ala-Archa 22.01 314 *ce*P **P 01 59 41.8 +1.9**
AAK pmax pmax
comp=Z,73nm,1.3s
AAK Ala-Archa 22.01 314 P **P 01 59 42.0 +2.0**
comp=Z,32nm,0.8s,baz=131,slow=5.5,SNR=37
AAK Ala-Archa 22.01 314 P **P 01 59 41.9 +1.9**
SNR=27
AAK Ala-Archa 22.01 314 P **P 01 59 41.5 +1.6**
AAK IAmb IAmb 01 59 49.3
comp=Z,142nm,1.4s
FRU1 Bishkek 22.01 315 P **P 01 59 41.8 +1.9**
FRU1 pmax pmax
comp=Z,54nm,0.8s
FRU1 Bishkek 22.01 315 P **P 01 59 41.8 +1.9**
FRU1 IAmb IAmb 01 59 42.8
comp=Z,54nm,0.8s
CHMS Chumysh 22.04 315 P **P 01 59 41.5 +1.3**
SNR=16
ZAK Zakamensk 22.19 13 *e*P **P 01 59 35.5 -6.2**
ZAK pmax pmax
comp=Z,116nm,1.0s
AML Almayashu 22.26 312 P **P 01 59 47.2 +4.2**
SNR=29
USP Ospenovka 22.34 316 P **P 01 59 44.5 +1.1**
SNR=27
EKS2 Erkin-Say 22.47 314 P **P 01 59 46.6 +1.8**
SNR=13
MOY Mondy 23.07 8 *e*P **P 01 59 52.4 +1.3**
MOY pmax pmax
comp=Z,65nm,2.1s
BTK Batken 23.36 305 P **P 01 59 55.8 +1.7**
BTK pmax pmax
comp=Z,115nm,0.7s
BTK Batken 23.36 305 P **P 01 59 55.8 +1.7**
GAR Garm 23.38 302 P **P 01 59 54.4 +0.1**
KBL Kabul 23.44 291 P **P 01 59 55.4 +0.3**
KBL Kabul 23.44 291 P **P 01 59 55.1 +0.1**
KBL pmax pmax
comp=Z,134nm,0.8s
KBL Kabul 23.44 291 P **P 01 59 55.1 +0.1**
TLY Talaya 23.50 12 *e*P **P 01 59 57.0 +1.8**
TLY pmax pmax
comp=Z,62nm,1.1s
TLY MLR MLR
comp=Z,814nm,11.0s
TLY Talaya 23.50 12 P **P 01 59 57.0 +1.8**
comp=Z,6.6nm,0.6s,baz=206,slow=10,SNR=9.1
TLY Talaya 23.50 12 P **P 01 59 56.4 +1.2**
DL2 Dalian 23.55 58 P P 02 00 06.3 +10
DL2 pmax pmax
comp=Z,41nm,1.0s
LHMI Lhok Sumawe 23.56 177 P **P 01 59 56.7 +0.6**
comp=Z,173nm,0.9s
LHMI Lhok Sumawe 23.56 177 P **P 01 59 56.4 +0.3**
KULM Kulim 23.92 168 P **P 01 59 59.5 -0.1**
KULM IAmb IAmb 02 00 00.3
comp=Z,49nm,0.7s
IRK Irkutsk 24.15 13 *e*P **P 02 00 02.0 +0.6**
IRK pmax pmax
comp=Z,144nm,2.0s
MLSI Meulaboh, Aceh 24.50 179 P **P 02 00 03.2 -1.7**
comp=Z,152nm,0.8s,comp=Z,3μm
IPM Ipoh 24.78 168 P **P 02 00 06.6 -0.8**
KK31 Karatay Array 24.79 312 P **P 02 00 08.7 +1.3**
KK31 pmax pmax
comp=Z,68nm,1.1s
KK31 Karatay Array 24.79 312 P **P 02 00 08.7 +1.3**
KK31 IAmb IAmb 02 00 11.3
comp=Z,68nm,1.1s
KKAR Karatay Array 24.79 312 P **P 02 00 08.4 +1.0**
KKAR Karatay Array 24.79 312 P **P 02 00 08.4 +1.0**
TAS Tashkent 24.90 307 P **P 02 00 09.9 +1.5**
TAS pmax pmax
comp=Z,183nm,1.2s
TAS Tashkent 24.90 307 P **P 02 00 09.9 +1.5**
KURBB Kurchatov Arra 25.33 334 P **P 02 00 12.8 +0.7**
comp=Z,21nm,0.8s,baz=145,slow=9.8,SNR=57
KURK Kurchatov 25.37 334 P **P 02 00 13.3 +0.9**
SNR=14
KURK Kurchatov 25.37 334 *ce*P **P 02 00 12.8 +0.3**
KURK pmax pmax
comp=Z,69nm,1.3s
KURK Kurchatov 25.37 334 P **P 02 00 13.2 +0.7**
KURK IAmb IAmb 02 00 14.9
comp=Z,104nm,1.4s
ZALV Zalesovo Beam 26.29 345 P **P 02 00 21.3 +0.5**
comp=Z,77nm,0.5s,baz=165,slow=13,SNR=80

GSI Gunungsitoli 27.49 176 P **P 02 00 31.7 -0.2**
comp=Z,67nm,0.7s
GSI Gunungsitoli 27.49 176 P **P 02 00 31.4 -0.5**
CN2 Changchun 27.93 50 *e*P **P 02 00 36.5 +0.9**
CN2 *es*P pP 02 00 43.5 +1.3
CN2 *e*S **S 02 05 17.5 -0.9**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,440nm,15.0s
CN2 LR LR
comp=Z,420nm,15.0s
KSRS Korea Array 28.08 64 LR LR 02 11 51.6
comp=Z,93nm,18.8s,baz=195,slow=36
HRA Herat 29.03 289 P **P 02 00 46.0 +0.2**
KKM Kota Kinabalu 29.80 136 P **P 02 00 53.2 +0.5**
KSM Kuching 30.57 151 P **P 02 00 59.4 +0.1**
KSM IAmb IAmb 02 01 01.2
comp=Z,22nm,1.1s
SBUM Sibu 30.58 146 P **P 02 00 59.8 +0.3**
BRVK Borovoye 30.59 329 P **P 02 01 00.2 +1.1**
SNR=6.2
BRVK Borovoye 30.59 329 P **P 02 01 00.3 +1.1**
BRVK pmax pmax
comp=Z,25nm,0.7s
BRVK Borovoye 30.59 329 P **P 02 01 00.3 +1.1**
BRVK IAmb IAmb 02 01 01.1
comp=Z,25nm,0.7s
USRK Ussuriysk Ar. 32.52 52 P **P 02 01 15.8 -0.5**
comp=Z,1.1nm,0.4s,baz=256,slow=9.5,SNR=9.5
GEYT Alibeck 32.56 296 P **P 02 01 18.2 +1.4**
comp=Z,11nm,0.7s,baz=116,slow=10,SNR=24
GEYT ScP **ScP 02 07 46.1 +0.1**
comp=Z,1.6nm,0.8s,baz=187,slow=7.2,SNR=5.0
GEYT LR LR 02 16 30.0
comp=Z,611nm,19.5s,baz=175,slow=40
GEYT Alibeck 32.56 296 P **P 02 01 18.2 +1.4**
GEYT **ScP 02 07 46.2 +0.2**
GYA0B ALIBECK ARRAY 32.56 296 IAmb IAmb 02 01 18.8
comp=Z,13nm,0.7s
MNAI Manna 33.77 167 P **P 02 01 25.7 -1.7**
ZEA Zeya 33.77 34 *e*P **P 02 01 29.7 +2.7**
ZEA pmax pmax
comp=Z,20nm,0.8s
AB31 Akbulak array 34.04 317 *i*P **P 02 01 30.8 +1.3**
AB31 pmax pmax
comp=Z,23nm,0.7s
ABKAR Akbulak array 34.04 317 P **P 02 01 30.6 +1.1**
KLR Kul'dur 34.05 43 *i*P **P 02 01 30.2 +0.7**
KLR pmax pmax
comp=Z,2.0nm,0.8s
KLR Kul'dur 34.05 43 P **P 02 01 30.0 +0.5**
comp=Z,1.8nm,0.7s,baz=256,slow=7.4,SNR=4.2
MDSI Maura Dua 34.15 165 P **P 02 01 29.5 -1.1**
comp=Z,12nm,0.8s
KLSI 34.47 164 P **P 02 01 32.6 -0.9**
comp=Z,47nm,0.7s
JMDO Jabal Madar 34.53 268 P **P 02 01 34.9 +0.9**
BANOM Banah 35.11 275 P **P 02 01 40.3 +1.3**
BANOM Banah 35.11 275 P **P 02 01 40.1 +1.1**
BSY Bisya 35.20 269 P **P 02 01 40.5 +0.7**
BSY P **P 02 01 40.5 +0.7**
MSFE Esma-Masafi 35.37 274 P **P 02 01 43.3 +2.0**
UOSS Minazif 35.44 273 P **P 02 01 42.7 +0.9**
HATD Hatta, Dubai 35.54 273 P **P 02 01 45.7 +3.0**
ARQ Araqi 35.62 270 P **P 02 01 44.7 +1.3**
ASHO Ashiyiah 35.64 273 *i*P **P 02 01 45.0 +1.4**
SNR=16
ASHO Ashiyiah 35.64 273 P **P 02 01 45.3 +1.7**
SNR=6.9
ASUD Al Ashush, Dub 36.29 273 P **P 02 01 50.9 +1.8**
SVE Sverdlovsk 37.30 328 *d*i*P* **P 02 01 58.9 +1.6**
SVE pmax pmax
comp=Z,101nm,0.8s
SVE MLR MLR
comp=Z,665nm,14.0s
ARU Arti 38.06 327 *c*i*P* **P 02 02 04.7 +1.0**
ARU S **S 02 08 00.5 +5.3**
ARU SS **SnSn 02 10 35.7 -2.5**
ARU pmax pmax
comp=Z,56nm,0.9s
ARU Arti 38.06 327 P **P 02 02 04.6 +0.8**
LUWI Luwuk 39.38 134 P **P 02 02 15.1 -0.2**
YAK Yakutsk 39.89 24 *e*P **P 02 02 17.7 -1.2**
YAK *e**PP **pP 02 02 24.3 -1.4**
YAK *e*S **S 02 08 18.6 -4.0**
YAK *e**SS **pS 02 08 31.5 +1.0**
YAK *e*SS **SS 02 11 07.1 -12**
YAK *e*SSS SSS 02 11 40.8
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax smax
comp=E,280nm,2.9s
YAK smax smax
comp=N,171nm,2.7s
YAK MLR MLR
comp=Z,170nm,13.0s
YAK MLR MLR
comp=E,112nm,13.0s
YAK Yakutsk 39.89 24 P **P 02 02 20.0 +1.0**
comp=E,5.0nm,0.4s,baz=40,slow=1.0,SNR=6.9
YAK Yakutsk 39.89 24 P **P 02 02 19.3 +0.3**
YAK IAmb IAmb 02 02 20.6
comp=Z,29nm,0.6s
WHFO Wadi Hawf 39.93 264 P **P 02 02 19.8 -0.2**
NRIK Noril'sk 40.76 356 P **P 02 02 26.5 +0.4**
comp=Z,6.0nm,0.5s,baz=162,slow=6.4,SNR=11
AKT Akhty 40.78 301 *e*P **P 02 02 27.4 +0.6**
AKT *e* 02 04 29.6
AKT pmax pmax
comp=Z,17nm,0.6s
KAPI Kappang 40.82 142 P **P 02 02 26.7 -0.5**
KAPI pmax pmax
comp=Z,18nm,1.1s
KAPI Kappang 40.82 142 P **P 02 02 26.7 -0.5**
GROC Groznyy 42.29 304 *e*P **P 02 02 38.3 -0.7**
GROC *e* 02 04 16.1
GROC *e* 02 04 33.1
GROC *e*S **S 02 09 00.3 +1.5**
GROC pmax pmax
comp=Z,56nm,1.0s
GNI Garni 43.04 299 P **P 02 02 46.7 +1.4**
GNI Garni 43.04 299 *ce*P **P 02 02 46.4 +1.1**
GNI pmax pmax
comp=Z,58nm,1.0s
GNI Garni 43.04 299 P **P 02 02 46.5 +1.1**
ZEI Tsey 43.66 303 *e*P **P 02 02 51.2 +0.8**
ZEI pmax pmax
comp=Z,11nm,0.6s
NCK Nalchik 43.90 304 *i*P **P 02 02 52.5 +0.4**
NCK pmax pmax
comp=Z,23nm,0.8s
AKH Akhalkalaki 43.97 301 P **P 02 02 54.3 +1.5**
AKH pmax pmax
comp=Z,36nm,1.3s
AKH Akhalkalaki 43.97 301 P **P 02 02 54.3 +1.5**
AKH IAmb IAmb 02 02 55.8
comp=Z,36nm,1.3s
GOF Gofitskoye 44.36 306⇑ *e*P **P 02 02 57.0 +1.3**
GOF pmax pmax
comp=Z,71nm,0.6s
KBZ Khabaz 44.42 304 P **P 02 02 56.7 +0.6**
comp=Z,5.6nm,0.9s,baz=158,slow=9.3,SNR=7.8
NEY Neytrino 44.54 304 *i*P **P 02 02 59.2 +1.8**
NEY pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 44.58 305 P **P 02 02 58.0 +0.5**
KIV Kislovodsk 44.58 305 *e*P **P 02 02 59.0 +1.4**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV MLR MLR
comp=Z,446nm,16.0s
KIV Kislovodsk 44.58 305 P **P 02 02 58.4 +0.8**
KIV IAmb IAmb 02 03 00.3
comp=Z,55nm,1.6s
MMRI Maumere 45.18 142 P **P 02 03 01.4 -1.1**
RAYN Ar Rayn 45.20 275 P **P 02 03 03.0 +0.2**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 45.20 275 P **P 02 03 03.0 +0.2**
VRH Novokhopyorsk 45.81 315 *e*P **P 02 03 07.2 +0.1**

VRH pmax pmax
comp=Z,60nm,0.7s
PRGR Permogore 46.34 330 *e*P **P 02 03 09.2 -1.9**
PRGR pmax pmax
comp=Z,28nm,0.7s
TIXI Tiksi 46.46 14*ce*P **P 02 03 11.7 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,0.5s
TIXI Tiksi 46.46 14 P **P 02 03 11.1 -0.8**
TIXI IAmb IAmb 02 03 12.7
comp=Z,12nm,0.7s
SOEI Soe 47.22 140 P **P 02 03 17.8 -0.9**
VORD Divnogorie 47.30 314 *e*P **P 02 03 18.6 -0.2**
VORD pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 47.41 314 *e*P **P 02 03 18.9 -0.7**
VSR pmax pmax
comp=Z,80nm,1.1s
LPSR Galich'ya Gora 47.70 316 *e*P **P 02 03 22.3 +0.4**
LPSR pmax pmax
comp=Z,90nm,0.7s
ANN Anapa 48.34 306 *e*P **P 02 03 24.7 -2.3**
ANN *e*S **S 02 10 25.3 -0.8**
ANN *e*SS **SS 02 13 54.8 -0.7**
ANN pmax pmax
comp=Z,120nm,1.5s
MOS Moscow 48.87 320 *e*P **P 02 03 30.5 -0.4**
MOS pmax pmax
comp=Z,78nm,0.8s
GAZ Gaziantep 49.16 296 P **P 02 03 34.0 +0.5**
GAZ IAmb IAmb 02 03 35.0
comp=Z,16nm,0.8s
OBN Obninsk 49.39 319 *e*P **P 02 03 34.8 0.0**
OBN *e* 02 04 56.5
OBN *e* 02 05 29.0
OBN pmax pmax
comp=Z,28nm,0.8s
OBN MLR MLR
comp=Z,541nm,19.0s
OBN Obninsk 49.39 319 P **P 02 03 35.1 +0.3**
TMCR Tamitsa 50.44 331 *e*P **P 02 03 43.0 +0.3**
TMCR pmax pmax
comp=Z,22nm,0.6s
ILGA Ilgaz 51.34 301 P **P 02 03 50.7 +0.5**
ILGA IAmb IAmb 02 03 52.6
comp=Z,32nm,1.0s
BRTR Keskin Array B 51.58 299 P **P 02 03 52.0 +0.1**
BRTR Keskin Array B 51.58 299 P **P 02 03 52.0 +0.1**
comp=Z,3.5nm,0.8s,baz=131,slow=7.6,SNR=22
BRTR Keskin Array B 51.58 299 P **P 02 03 51.8 0.0**
ANTO Ankara 52.20 300 P **P 02 03 56.9 +0.5**
ANTO pmax pmax
comp=Z,21nm,1.0s
ANTO Ankara 52.20 300 P **P 02 03 56.9 +0.5**
ANTO IAmb IAmb 02 03 58.0
comp=Z,22nm,0.9s
BR231 Keskin MP Arra 52.22 300 P **P 02 03 57.0 +0.4**
BR231 IAmb IAmb 02 03 58.2
comp=Z,24nm,1.1s
APA Apatity 53.15 335⇓*i*P P 02 03 57.9 -5.0
APA pmax pmax
comp=Z,9.0nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
AKASG Malin Array Be 53.67 314 P **P 02 04 06.8 -0.1**
comp=Z,31nm,0.6s,baz=77,slow=7.2,SNR=61
AKASG Malin Array Be 53.67 314 P **P 02 04 07.2 +0.2**
MILM Milestii Mici 54.22 309⇑P **P 02 04 10.7 -0.4**
TLCR 54.41 307⇑P **P 02 04 12.9 +0.5**
TLCR mb 02 04 13.4
SORM Soroca 54.42 310⇑P **P 02 04 12.2 -0.2**
TOPG Topolog 54.75 306⇑P **P 02 04 15.4 +0.4**
FITZ Fitzroy Crossi 54.88 145 P **P 02 04 15.7 -0.4**
CFR Carcaliu 54.88 307⇓P **P 02 04 16.0 +0.1**
ELL Elmali 54.99 296 P **P 02 04 16.9 -0.1**
ELL Elmali 54.99 296 P **P 02 04 16.9 -0.1**
VSU Vasula 55.01 323*ce*P **P 02 04 17.8 +1.2**
VSU pmax pmax
comp=Z,135nm,2.5s
HARR Harsova 55.09 306⇑P **P 02 04 18.3 +0.9**
HARR mb 02 04 18.5
ICOR Ion Corvin 55.27 306⇑P **P 02 04 19.6 +1.0**
FINES FINESS Array B 55.43 327 P **P 02 04 20.3 +0.7**
comp=Z,8.7nm,0.5s,baz=90,slow=8.0,SNR=57
PETR Petresti 55.45 308⇑P **P 02 04 20.9 +0.9**
TESR Tescani 55.74 309⇓P **P 02 04 22.4 +0.3**
VRI Vrincioaia 55.78 308⇑P **P 02 04 23.6 +1.2**
BIZ Bicaz 56.06 309⇑P **P 02 04 24.7 +0.4**
BILL Bilibino 56.23 25 *e*P **P 02 04 25.5 +0.3**
BILL *e* 02 05 16.2
BILL *e* 02 06 29.4
BILL *e*PPP PPP 02 07 47.2
BILL pmax pmax
comp=Z,6.0nm,0.7s
BILL MLR MLR
comp=Z,156nm,17.0s
BILL Bilibino 56.23 25 P **P 02 04 26.1 +0.9**
BILL IAmb IAmb 02 04 26.4
comp=Z,8.7nm,0.8s
ARCES ARCESS Array B 56.37 337 P **P 02 04 27.2 +1.1**
comp=Z,12nm,0.8s,baz=87,slow=8.0,SNR=14
BURAR Bucovina Array 56.57 310⇓P **P 02 04 28.5 +0.4**
BURAR mb 02 04 29.4
BURAR Bucovina Array 56.57 310 P **P 02 04 28.1 -0.1**
BUR08 Bucovina Ar. S 56.58 310 IAmb IAmb 02 04 29.3
comp=Z,8.9nm,0.8s
DOPR Dopca 56.69 308⇑P **P 02 04 29.7 +0.9**
VOIR 57.00 308⇑P **P 02 04 32.4 +1.2**
LVV L'vov 57.07 313 *e*P **P 02 04 32.0 +0.5**
KTK1 Kautokeino 57.12 336 *e*P **P 02 04 32.4 +0.9**
HAMF Hammerfest 57.12 338 *e*P **P 02 04 32.7 +1.2**
SUW Suwalki 57.15 318 *e*P **P 02 04 32.1 +0.1**
SUW Suwalki 57.15 318 *e*P **P 02 04 32.1 +0.1**
SUW *e*P **P 02 04 32.1 +0.1**
ARCR ARCALIA 57.23 310⇓P **P 02 04 33.7 +1.1**
ARR Arges 57.30 308⇓P **P 02 04 33.8 +0.5**
KWP Kalwaria Pacla 57.94 313 *e*P **P 02 04 38.6 +0.9**
KWP Kalwaria Pacla 57.94 313 *e*P **P 02 04 38.6 +0.9**
KWP *e*P **P 02 04 38.6 +0.9**
TRPA Tarpa 58.28 311⇑P **P 02 04 40.8 +0.8**
TRPA mb 02 04 42.5
KOLS Kolonicke sedl 58.33 312 *e*P **P 02 04 40.6 +0.2**
KOLS Kolonicke sedl 58.33 312 *e*P **P 02 04 40.6 +0.2**
UZH Uzhgorod 58.36 312⇓*i*P **P 02 04 40.6 0.0**
UZH *e* 02 04 50.2
DRGR 58.38 309 P **P 02 04 41.8 +1.0**
DRGR 58.38 309⇓P **P 02 04 41.9 +1.0**
GZR Gura Zlata 58.59 308⇑P **P 02 04 42.8 +0.5**
TRO Tromso 58.68 336 *e*P **P 02 04 42.9 +0.5**
VTS Vitosha 58.81 305 P **P 02 04 44.5 +0.5**
VTS pmax pmax
comp=Z,18nm,1.0s
VTS Vitosha 58.81 305⇑P **P 02 04 44.8 +0.8**
VTS mb 02 04 45.9
VTS Vitosha 58.81 305 P **P 02 04 44.5 +0.5**
VTS IAmb IAmb 02 04 45.7
comp=Z,18nm,1.0s
BZS Buzias 59.35 308⇑P **P 02 04 47.9 +0.4**
MDVR Moldovita 59.45 307⇑P **P 02 04 48.9 +0.7**
VAY Valandovo 59.57 303 *i*P **P 02 04 49.0 -0.1**
OJC Ojcow 59.71 314 *e*P **P 02 04 50.6 +0.7**
OJC Ojcow 59.71 314 *e*P **P 02 04 50.6 +0.7**
OJC *e*P **P 02 04 50.6 +0.7**
OJC Ojcow 59.71 314 IAmb IAmb 02 04 52.2
comp=Z,16nm,0.8s
STIP Stip 59.77 304 *i*P **P 02 04 49.0 -1.5**
STEI Steigen 60.05 335 *e*P **P 02 04 52.4 +0.5**
PSZ Piszkesteto 60.06 311 P **P 02 04 53.0 +0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 60.06 311 P **P 02 04 53.0 +0.5**
LANS Liptovska Anna 60.11 313 *e*P **P 02 04 53.5 +0.8**
LANS pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 60.11 313 *e*P **P 02 04 53.5 +0.8**
SKO Skopje 60.25 304 *i*P **P 02 04 53.9 +0.1**
AGG Agios Georgios 60.30 301 IAmb IAmb 02 04 54.0
comp=Z,19nm,1.0s
FNA Florina 60.58 303 P **P 02 04 55.3 -0.8**
FNA pmax pmax
comp=Z,8.0nm,1.0s
FNA Florina 60.58 303 P **P 02 04 55.3 -0.8**
FNA IAmb IAmb 02 04 56.1
comp=Z,8.3nm,1.0s
VYHS Vyhne 60.65 312 *e*P **P 02 04 56.3 -0.1**
VYHS pmax pmax
comp=Z,103nm,2.8s
VYHS Vyhne 60.65 312 *e*P **P 02 04 56.2 -0.1**
LOF Lofoten 60.67 335 *e*P **P 02 04 56.2 0.0**
FRGS Fruska Gora 60.69 308⇑*i*P **P 02 04 56.6 -0.1**
DIVS Divibare 60.80 307⇑*i*P **P 02 04 57.4 -0.2**
OKC Ostrava-Krasne 60.83 314 *e*P **P 02 04 58.2 +0.6**
OKC Ostrava-Krasne 60.83 314 *e*P **P 02 04 58.2 +0.6**
ITM Ithomi 61.09 299 P **P 02 04 58.4 -1.3**
WRAB Tennant Creek 61.15 138*ce*P **P 02 05 00.0 -0.1**
WRAB pmax pmax
comp=Z,20nm,0.6s
WRAB Tennant Creek 61.15 138 P **P 02 04 59.7 -0.4**
WRA Warramunga Arr 61.15 138 P **P 02 04 59.6 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 61.15 138 P **P 02 04 60.0 -0.1**
comp=Z,28nm,0.6s,baz=327,slow=7.6,SNR=285
WRA LR LR 02 33 35.9
comp=Z,96nm,20.1s,baz=280,slow=38
WRA Warramunga Arr 61.15 138 P **P 02 04 59.6 -0.5**
WB2 Warramunga Arr 61.16 138 P **P 02 04 59.7 -0.4**
MORC Moravsky Berou 61.22 314 P **P 02 05 00.8 +0.5**
MORC pmax pmax
comp=Z,13nm,0.9s
MORC Moravsky Berou 61.22 314⇑P **P 02 05 01.3 +0.9**
MORC mb 02 05 02.1
MORC Moravsky Berou 61.22 314 *e*P **P 02 05 01.0 +0.7**
MORC Moravsky Berou 61.22 314 P **P 02 05 00.8 +0.5**
MORC IAmb IAmb 02 05 02.1
comp=Z,13nm,0.9s
BBLS Lazići 61.26 307 *e*P **P 02 05 00.9 +0.2**
JAVC Velka Javorina 61.33 313 *e*P **P 02 05 02.8 +1.7**
RUDO Rudo 61.34 306 *e*P **P 02 05 00.1 -1.1**
HAPS Han Pijesak,Bl 61.53 307⇑*i*P **P 02 05 01.9 -0.7**
SMOL Smolenice 61.56 312 *e*P **P 02 05 03.2 +0.6**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 61.56 312 *e*P **P 02 05 03.2 +0.6**
KRLC Kraliky 61.64 314 *e*P **P 02 05 03.9 +0.7**
KRLC Kraliky 61.64 314 *e*P **P 02 05 03.9 +0.7**
NSS Namsos 61.71 331 *e*P **P 02 05 03.4 +0.2**
PDG Podgorica 61.72 305⇑*i*P **P 02 05 03.2 -0.5**
PDG Podgorica 61.72 305⇑P **P 02 05 03.7 0.0**
PDG mb 02 05 04.5
PDG Podgorica 61.72 305 IAmb IAmb 02 05 04.4
comp=Z,18nm,0.9s
UPM Unac-Piva 61.77 306 *e*P **P 02 05 04.1 -0.2**
DRME Dracevica, Mon 61.83 305 *e*P **P 02 05 04.2 -0.3**
DPC Dobruska-Polom 61.88 314 *e*P **P 02 05 05.8 +1.1**
DPC Dobruska-Polom 61.88 314 *e*P **P 02 05 05.8 +1.1**
DPC *e*pP **pP 02 05 09.8 -1.9**
OSTC Ostas 61.90 315 *e*P **P 02 05 06.2 +1.4**
VRAC Vranov 61.92 313⇓P **P 02 05 06.2 +1.1**
VRAC mb 02 05 07.3
VRAC Vranov 61.92 313 *e*P **P 02 05 06.1 +1.1**
CHVC Chvalec 61.99 315 *e*P **P 02 05 06.4 +0.9**
UPC Upice 62.03 315 *e*P **P 02 05 06.9 +1.2**
UPC Upice 62.03 315 *e*P **P 02 05 06.9 +1.2**
KRUC Moravsky 62.11 313 *e*P **P 02 05 07.3 +1.1**
BRY Bratogost 62.11 306 *e*P **P 02 05 06.2 -0.3**
HCY Herceg Novi 62.26 305 *e*P **P 02 05 07.3 -0.1**
NC405 NORSAR Array S 62.36 327 P **P 02 05 08.3 +0.5**
PMG Port Moresby 62.44 120 P **P 02 05 08.8 -0.1**
PMG pmax pmax
comp=Z,14nm,1.0s
PMG Port Moresby 62.44 120 P **P 02 05 08.8 -0.1**
PMG IAmb IAmb 02 05 09.9
comp=Z,14nm,0.9s
NC602 NORSAR Array S 62.51 327 *e*P **P 02 05 09.1 +0.4**
BLY Banja Luka 62.60 308 *e*P **P 02 05 09.6 0.0**
BLY Banja Luka 62.60 308 IAmb IAmb 02 05 17.9
comp=Z,9.6nm,1.1s
NB2 NORSAR Subarra 62.61 327 P **P 02 05 09.4 -0.1**
comp=Z,11nm,0.6s,baz=80,slow=6.5
NB2 NORSAR Subarra 62.61 327 P **P 02 05 09.4 -0.1**
baz=80,slow=6.5
NOA NORSAR Array B 62.61 327 P **P 02 05 09.6 +0.1**
comp=Z,17nm,0.6s,baz=80,slow=6.5,SNR=66
NOA LR LR 02 34 19.5
comp=Z,324nm,19.6s,baz=55,slow=38
TBLU Trondheim 62.66 329 *e*P **P 02 05 09.8 +0.2**
CONA Conrad Observa 62.71 312 *i*P **P 02 05 11.2 +0.8**
comp=Z,15nm,0.9s,SNR=9.5
PVCC Panska Ves 62.93 315 *e*P **P 02 05 12.9 +1.2**
PVCC Panska Ves 62.93 315 *e*P **P 02 05 12.9 +1.2**
GOPC GO Pecny, Ondr 62.94 314 *e*P **P 02 05 12.2 +0.4**
GOPC GO Pecny, Ondr 62.94 314 *e*P **P 02 05 12.2 +0.4**
OSL Oslo 63.06 326 *e*P **P 02 05 13.5 +1.1**
PRU Pruhonice 63.07 314 *e*P **P 02 05 13.3 +0.7**
PRU Pruhonice 63.07 314 *e*P **P 02 05 13.3 +0.7**
ARSA Arzberg 63.10 311 *i*P **P 02 05 13.5 +0.6**
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 63.24 315 *i*P **P 02 05 14.5 +0.8**
comp=Z,14nm,0.8s
BRG *e*PP **PP 02 07 27.3 -5.3**
comp=Z,5.3nm,1.1s
BRG Berggiesshubel 63.24 315 *i*P **P 02 05 14.5 +0.8**
BRG pmax pmax
comp=Z,14nm,0.8s
GROS Grobnik 63.31 310 *i*P **P 02 05 14.5 +0.1**
KMBO Kilima Mbogo 63.41 253 *i*P **P 02 05 16.2 +0.5**
SNR=11
KMBO Kilima Mbogo 63.41 253 *i*P **P 02 05 16.6 +0.9**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 63.41 253 P **P 02 05 16.2 +0.5**
comp=Z,4.9nm,0.8s,baz=45,slow=10,SNR=23
KMBO Kilima Mbogo 63.41 253 P **P 02 05 15.6 -0.1**
DOMB Dombas 63.43 328 *e*P **P 02 05 15.0 +0.2**
PBCC Pribram 63.49 314 *e*P **P 02 05 16.5 +1.1**
CRES Cresnjev 63.50 310⇑*i*P **P 02 05 16.0 +0.4**
PERS Pernice 63.52 311 *i*P **P 02 05 16.1 +0.3**
SOKA Soboth 63.57 311 *i*P **P 02 05 16.7 +0.6**
comp=Z,0.9nm,0.2s,SNR=5.8
KONO Kongsberg 63.68 326*ce*P **P 02 05 16.5 0.0**
KONO pmax pmax
comp=Z,70nm,2.5s
KONO Kongsberg 63.68 326 *e*P **P 02 05 17.0 +0.6**
CLL Collm 63.71 316 *e*P **P 02 05 14.0 -2.8**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 63.71 316 *i*P **P 02 05 17.1 +0.3**
comp=Z,9.0nm,1.0s
MOA Molln 63.77 312 *i*P **P 02 05 18.0 +0.6**
comp=Z,7.0nm,0.7s,SNR=6.7
ASAR Alice Springs 63.83 141 P **P 02 05 18.1 +0.1**
comp=Z,9.6nm,0.5s,baz=325,slow=6.7,SNR=152
ASAR LR LR 02 36 58.1
comp=Z,57nm,18.1s,baz=302,slow=40
ASAR Alice Springs 63.83 141 P **P 02 05 17.4 -0.6**
GERES GERESS Array B 63.88 313 P **P 02 05 19.0 +0.8**
GERES GERESS Array B 63.88 313 P **P 02 05 19.0 +0.8**
comp=Z,7.9nm,0.6s,baz=66,slow=5.8,SNR=72
GERES GERESS Array B 63.88 313 P **P 02 05 18.9 +0.7**
KHC Kasperske Hory 63.89 314 P **P 02 05 19.0 +0.8**
KHC pmax pmax
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 63.89 314 *e*P **P 02 05 18.9 +0.8**
KHC *e*pP **pP 02 05 22.5 -2.6**
KHC Kasperske Hory 63.89 314 P **P 02 05 19.0 +0.8**
OBKA Obir 63.93 311 *i*P **P 02 05 19.1 +0.6**
comp=Z,3.4nm,0.7s
MOL Molde 64.01 329 *e*P **P 02 05 19.8 +1.2**
SKAR Skarslia 64.08 327 *e*P **P 02 05 20.6 +1.4**
CEY Cerknica 64.22 310⇑*i*P **P 02 05 20.7 +0.3**
NKC Novy Kostel 64.32 315 *e*P **P 02 05 21.6 +0.7**
NKC Novy Kostel 64.32 315 *e*P **P 02 05 21.6 +0.7**
AKN Aaknes 64.35 329 *e*P **P 02 05 21.9 +1.1**
TRI Trieste 64.67 310 P **P 02 05 23.5 +0.2**
TRI pmax pmax
comp=Z,25nm,0.9s
TRI Trieste 64.67 310 P **P 02 05 23.5 +0.2**
ROBS Robic 64.70 310 *i*P **P 02 05 23.0 -0.4**
SNART Snartemo 65.19 324 *e*P **P 02 05 27.4 +1.0**
ABTA Abfaltersbach 65.22 311 *i*P **P 02 05 26.4 -0.5**
comp=Z,6.4nm,0.7s,SNR=5.3
GRA1 Grafenberg Arr 65.22 315 P **P 02 05 27.6 +0.8**
GRA1 IAmb IAmb 02 05 29.1
comp=Z,16nm,0.8s
GRF Grafenberg Arr 65.22 315 P **P 02 05 27.6 +0.8**
GRF pmax pmax
comp=Z,16nm,0.8s
STAL STALIGIAL 65.22 311 IAmb IAmb 02 05 27.3
comp=Z,17nm,0.8s
WTTA Wattenberg 65.64 312 *i*P **P 02 05 29.8 0.0**
comp=Z,7.8nm,0.6s
INTR Introdacqua 65.65 306 IAmb IAmb 02 05 31.2
comp=Z,17nm,1.0s
WATA Walderalm 65.66 312 *i*P **P 02 05 29.6 -0.2**
comp=Z,5.3nm,0.7s
SQTA Sankt Quirin 65.94 312 *i*P **P 02 05 31.4 -0.2**
comp=Z,12nm,0.7s,SNR=6.5
NRCA Norcia 65.96 307 IAmb IAmb 02 05 33.9
comp=Z,10.0nm,0.9s
MOTA Moosalm 65.97 312 *i*P **P 02 05 31.7 -0.2**
comp=Z,8.8nm,0.8s,SNR=5.4
RETA Reutte 66.15 312 *i*P **P 02 05 33.1 +0.2**
comp=Z,14nm,0.7s,SNR=8.1
TEOL Teolo 66.18 310 P **P 02 05 32.9 -0.1**
FETA Feichten 66.31 312 *i*P **P 02 05 34.1 0.0**
comp=Z,7.0nm,0.7s,SNR=6.9
STU Stuttgart 66.76 314 P **P 02 05 37.1 +0.4**
STU pmax pmax
comp=Z,26nm,1.1s
STU Stuttgart 66.76 314 P **P 02 05 37.1 +0.4**
STU IAmb IAmb 02 05 38.6
comp=Z,26nm,1.1s
DAVA Damuels 66.78 312 *i*P **P 02 05 37.2 +0.1**
comp=Z,5.3nm,0.5s
OSSC Osservatorio P 67.04 308 P **P 02 05 38.0 -0.7**
OSSC IAmb IAmb 02 05 39.3
comp=Z,14nm,0.9s
TUE Stuetta 67.38 312 IAmb IAmb 02 05 49.0
comp=Z,10.0nm,0.8s
BFO Black Forest 67.45 314 P **P 02 05 41.3 +0.2**
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 67.45 314 P **P 02 05 41.3 +0.2**
BFO IAmb IAmb 02 05 42.5
comp=Z,8.0nm,0.9s
MEM Membach 68.15 317 P **P 02 05 46.0 +0.6**
comp=Z,12nm,1.0s
ECH Echery 68.22 314 P **P 02 05 46.2 +0.2**
ECH pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 68.22 314 P **P 02 05 46.2 +0.2**
WLF Walferdange 68.37 316 P **P 02 05 47.6 +0.7**
WLF pmax pmax
comp=Z,47nm,0.9s
WLF Walferdange 68.37 316 P **P 02 05 48.2 +1.4**
comp=Z,38nm,1.2s
WLF Walferdange 68.37 316 P **P 02 05 47.6 +0.7**
BCLA Clavier 68.63 317 P **P 02 05 49.5 +1.0**
MBAR Mbarara 68.64 257 P **P 02 05 49.0 -0.3**
MBAR pmax pmax
comp=Z,9.0nm,1.1s
MBAR Mbarara 68.64 257 P **P 02 05 49.0 -0.3**
SENIN Lac Senin/Sane 68.75 312 IAmb IAmb 02 05 52.0
comp=Z,11nm,0.8s
BMRD Maredsous 69.00 317 P **P 02 05 51.4 +0.7**
DOU Dourbes 69.17 316 P **P 02 05 52.3 +0.5**
LPL La Plagne 69.42 311 *e*P **P 02 05 53.6 -0.1**
LPL pmax pmax
comp=Z,20nm,0.6s
BNI Bardonecchia 69.62 311 P **P 02 05 54.9 0.0**
BNI pmax pmax
comp=Z,26nm,1.6s
BNI Bardonecchia 69.62 311 P **P 02 05 54.9 0.0**
BNI IAmb IAmb 02 06 59.6
comp=Z,26nm,1.6s
WACR West Acre 70.54 320 *e*P **P 02 06 00.8 +0.7**
WACR IAmb IAmb 02 06 02.0
comp=Z,102nm,0.9s
SSF Saint Saulge 70.94 314 *e*P **P 02 06 02.1 -0.7**
SSF pmax pmax
comp=Z,19nm,0.7s
EDMD Edmundbyers 71.14 323 *e*P **P 02 06 04.0 +0.2**
EDMD IAmb IAmb 02 06 05.3
comp=Z,27nm,0.8s
KEST Kesra 71.14 301 P **P 02 06 04.8 +0.6**
comp=Z,14nm,0.7s,baz=350,slow=1.4,SNR=23
RSC Scourie 71.32 327 *e*P **P 02 06 05.9 +1.1**
LBWR Ladybower, Pea 71.58 321 *e*P **P 02 06 07.1 +0.6**
ESK Eskdalemuir 71.60 323 *i*P **P 02 06 07.9 +1.4**
CWF Charnwood Fore 71.61 321 *e*P **P 02 06 07.0 +0.3**
CWF IAmb IAmb 02 06 08.6
comp=Z,30nm,1.3s
IMAR Indian Mountai 71.73 24 P **P 02 06 07.3 +0.1**
KAC Achnashellach 71.74 326 *e*P **P 02 06 07.9 +0.5**
PGBU Glenifferbraes 72.05 324 *e*P **P 02 06 10.2 +0.9**
PGBU IAmb IAmb 02 06 10.8
comp=Z,44nm,0.8s
STRD Stroud 72.49 320 *e*P **P 02 06 12.2 +0.2**
STRD IAmb IAmb 02 06 13.3
comp=Z,42nm,0.7s
HLM1 Long Mynd 72.58 321 *e*P **P 02 06 12.5 0.0**
FOEL Foel Wylfa 72.60 321 *e*P **P 02 06 13.5 +0.9**
FOEL IAmb IAmb 02 06 14.3
comp=Z,28nm,0.8s
CAF Calviac 72.70 312 *e*P **P 02 06 13.4 0.0**
CAF pmax pmax
comp=Z,15nm,1.0s
OLDB Oldbury-Upon-S 72.75 320 *e*P **P 02 06 13.9 +0.4**
OLDB IAmb IAmb 02 06 14.8
comp=Z,34nm,0.8s
MONM Monmouth 72.82 320 *e*P **P 02 06 14.4 +0.5**
MCH1 Michaelchurch 72.86 320 *e*P **P 02 06 14.8 +0.6**
MCH1 IAmb IAmb 02 06 15.6
comp=Z,26nm,0.8s
WLF1 Llynfaes 73.08 322 *e*P **P 02 06 16.1 +0.7**
WLF1 IAmb IAmb 02 06 17.1
comp=Z,77nm,0.8s
YRC Rhoscolyn 73.20 322 *e*P **P 02 06 16.8 +0.7**
MLY Manley 73.30 24 IAmb IAmb 02 06 18.3
comp=Z,13nm,1.0s
RSBS Rosebush, Pemb 73.86 321 *e*P **P 02 06 20.0 -0.1**
BMAR Burnt Mountain 73.96 20 P **P 02 06 21.4 +1.0**
SUMG Summit 74.10 347 P **P 02 06 21.4 -0.2**
SUMG pmax pmax
comp=Z,16nm,1.2s
SUMG Summit 74.10 347 *i*P **P 02 06 21.9 +0.3**
SUMG Summit 74.10 347 P **P 02 06 21.4 -0.2**
SUMG IAmb IAmb 02 06 23.9
comp=Z,16nm,1.2s
TULEG Thule 74.38 356 P **P 02 06 22.0 -0.6**
STKA Stephens Creek 74.47 141 P **P 02 06 24.0 +0.2**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 74.47 141 P **P 02 06 23.4 -0.3**
comp=Z,8.9nm,0.7s,baz=325,slow=7.1,SNR=16
STKA LR LR 02 44 39.2
comp=Z,64nm,18.5s,baz=16,slow=40
STKA Stephens Creek 74.47 141 P **P 02 06 24.0 +0.2**
CCB Clear Creek Bu 74.56 24 IAmb IAmb 02 06 52.7
comp=Z,22nm,1.9s
ILAR Eielson Array 74.80 23 P **P 02 06 24.7 -0.6**
comp=Z,3.8nm,1.0s,baz=291,slow=5.6,SNR=20
ILAR PP **PP 02 09 13.1 +1.0**
comp=Z,1.4nm,0.9s,baz=296,slow=6.4,SNR=5.6
EIDS Eidsvold 75.68 130 P **P 02 06 30.6 -0.3**
EIDS IAmb IAmb 02 06 30.7
comp=Z,18nm,0.9s
RIDG Independent Ri 76.14 24 IAmb IAmb 02 06 33.5
comp=Z,9.2nm,0.8s
SCRK Sand Creek 76.29 23 IAmb IAmb 02 06 35.0
comp=Z,9.7nm,0.9s
KDAK Kodiak Island 76.52 31 *i*P **P 02 06 36.4 +1.2**
EPYK Eagle Plains 76.99 19 IAmb IAmb 02 07 12.3
comp=Z,48nm,1.9s
BCAR Beaver Creek A 77.63 23 P **P 02 06 42.1 +0.6**
LSZ Lusaka 78.70 246 P **P 02 06 48.5 +0.4**
LSZ P **P 02 06 48.5 +0.4**
LSZ Lusaka 78.70 246 P **P 02 06 48.3 +0.1**
LSZ pmax pmax
comp=Z,28nm,1.4s
LSZ Lusaka 78.70 246 P **P 02 06 48.3 +0.1**
LSZ IAmb IAmb 02 06 49.1
comp=Z,28nm,1.4s
ESDC Sonseca Array 79.02 309 P **P 02 06 50.2 +0.6**
comp=Z,2.2nm,0.6s,baz=46,slow=4.9,SNR=14
ESDC Sonseca Array 79.02 309 P **P 02 06 50.1 +0.6**
TAM Tamanrasset 79.58 290 P **P 02 06 53.3 +0.2**
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM Tamanrasset 79.58 290 P **P 02 06 53.3 +0.2**

MVO	**Moncorvo**	80.34	312	*e*P	P	02 06 57.7	+0.9
	comp=Z,22nm,1.0s						
MTE	**Manteigas**	81.06	311	*e*P	P	02 07 01.4	+0.7
	comp=Z,44nm,0.8s						
PVIS	**Viseu**	81.13	312	*e*P	P	02 07 02.3	+1.3
	comp=Z,31nm,1.6s						
PMRV	**Marv??o**	81.45	310	*e*P	P	02 07 03.5	+0.8
	comp=Z,14nm,3.0s						
COI	**Coimbra**	81.73	311	*e*P	P	02 07 06.3	+2.2
PTOM	**Tomar**	82.03	311	*e*P	P	02 07 07.0	+1.3
	comp=Z,38nm,2.0s						
EVO	**Evora**	82.32	310	*e*P	P	02 07 08.3	+1.1
	comp=Z,30nm,1.9s						
PVAQ	**Vaqueiros**	82.69	309	*e*P	P	02 07 10.2	+1.0
	comp=Z,54nm,1.5s						
YKA	**Yellowknife Ar**	85.71	14	P	P	02 07 23.8	-0.2
	comp=Z,4.2nm,0.8s,baz=328,slow=3.7,SNR=3.9						
TOA0	**Torodi Ar. Sit**	87.31	283	P	P	02 07 33.3	+0.6
TOA0	**Torodi Ar. Sit**	87.31	283	P	P	02 07 33.1	+0.3
TOA0				IAmb	IAmb	02 07 34.0	
	comp=Z,11nm,0.9s						
TORD	**Torodi Ar. Bea**	87.31	283	P	P	02 07 33.0	+0.2
	comp=Z,9.8nm,0.9s,baz=52,slow=6.5,SNR=22						
TORD				PP	PP	02 10 56.1	-0.8
	comp=Z,2.4nm,0.9s,baz=69,slow=6.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	87.31	283	P	P	02 07 33.1	+0.4
TXAR	**Lajitas Array**	119.17	20	PKP	PKPdf	02 13 34.5	-0.5
	comp=Z,0.3nm,0.6s,baz=79,slow=0.8,SNR=4.8						
BDFB	**Brasilia**	144.19	284	PKIKP	PKPdf	02 14 21.2	-0.9
BDFB	**Brasilia**	144.19	284	PKP	PKPbc	02 14 20.9	+0.7
	comp=Z,7.8nm,0.7s,baz=74,slow=3.3,SNR=12						
BDFB	**Brasilia**	144.19	284		PKPdf	02 14 21.2	-0.9
ROSC	**El Rosal**	145.15	343	PKPbc	PKPdf	02 14 24.4	+0.2
	comp=Z,63nm,0.7s,baz=153,slow=6.4,SNR=33						
ROSC	**El Rosal**	145.15	343		PKPdf	02 14 24.0	-0.2
OTAV	**Otavalo**	150.52	348	PKIKP	PKiKP	02 14 39.0	-0.3
OTAV	**Otavalo**	150.52	348		PKiKP	02 14 39.0	-0.3
SAML	**Samuel**	152.03	311	PKIKP	PKPbc	02 14 41.2	-0.2
SAML	**Samuel**	152.03	311		PKPbc	02 14 41.2	-0.2
LPAZ	**La Paz**	160.62	307	PKP	PKPdf	02 14 47.6	+0.9
	comp=Z,0.7nm,0.8s,baz=356,slow=1.7,SNR=3.7						

SJA ***29*** *02:12:52.5±0.7, 33.°25S×72.°48W, h20km±6km, ML2.8, MW2.9*
GUC ***29*** *02:12:55.2±0.6, 33.°46S×72.°35W, h41km±4km, ML2.7*
ISCJB ***29*** *02:12:56.5±1.4, 33.°42S±0.°05×72.°36W±0.°08, h28km±10km, Error ellipse: s-maj=11.1km s-min=7.4km az=14.7*
ISC 29 02:12:55.7±2.1, 33.°41S±0.°05×72.°44W±0.°09, h25km±15km, n19, σ2°04/29, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	0.77	60	*e*P	Pb	02 13 08.8	-1.5
ROC1	**El Roble**	1.27	70	*i* P	Pn	02 13 17.3	-0.7
ROC1				*e*S	Sb	02 13 36.3	+1.3
ROCH	**El Roble**	1.27	70	*e*P	Pn	02 13 16.6	-1.5
ROCH				*i* S	Sn	02 13 33.4	-1.1
ROCH				IAML		02 13 36.4	
	comp=N,245nm,0.6s						
PEL	**Peldehue**	1.49	80	*e*P	Pn	02 13 19.6	-1.3
PEL				*i* S	Sn	02 13 38.8	-0.8
PEL				IAML		02 13 44.2	
	comp=E,169nm,0.4s						
PEL	**Peldehue**	1.49	80	*i* P	Pn	02 13 20.2	-0.7
PEL				*e*S	Sb	02 13 43.8	+2.6
CLCH	**Cerro Calan**	1.59	90	*e*P	Pn	02 13 21.4	-0.9
CLCH				*i* S	Sn	02 13 38.5	-3.5
GO05	**Huala**	1.65	165	⇑*i*P	Pn	02 13 22.3	-0.8
GO05				*i* S	Sn	02 13 42.6	-0.9
GO05				IAML		02 13 53.9	
	comp=E,89nm,0.5s						
FCH	**Farellones**	1.80	88	⇓*i*P	Pn	02 13 24.9	-0.4
FCH				*e*S	Sn	02 13 47.3	-0.2
FCH				IAML		02 13 52.9	
	comp=E,148nm,0.5s						
LMEL	**Las Melosas**	1.91	104	*e*P	Pn	02 13 25.9	-0.9
LMEL				*i* S	Sn	02 13 49.5	-0.7
LMEL				IAML		02 13 57.2	
	comp=N,160nm,0.5s						
CO02	**Combarbal**	2.51	29	*e*P	Pn	02 13 34.4	-0.7
CO02				*i* S	Sn	02 14 04.6	-0.3
COIS	**El Sosneado**	2.90	127	*i* P	Pn	02 13 44.4	+4.1
COIS				*e*S	Sb	02 14 23.3	+1.6
ARCO	**CERRO ARCO**	2.99	80	*i* P	Pn	02 13 44.5	+2.8
ARCO				IAML		02 13 53.0	
	comp=Z,30nm,0.5s						
RTLS	**Leoncito**	3.10	60	*i* P	Pn	02 13 46.0	+2.7
RTLS				IAML		02 13 51.0	
	comp=Z,21nm,0.5s						
ASAL	**Salagasta**	3.13	76	*i* P	Pn	02 13 46.8	+3.3
ASAL				*e*S	Sb	02 14 26.5	-2.1
CFA	**Coronel Fontan**	3.98	64	*i* P	Pn	02 13 57.6	+2.5
ACCO	**Cerro Coronel**	4.01	46	*i* P	Pn	02 13 58.5	+2.6
AROD	**Rodeo**	4.10	39	*i* P	Pn	02 13 59.0	+1.9
AMOG	**MOGNA**	4.15	55	*i* P	Pn	02 13 59.5	+1.9
GO06	**Curarrehue**	6.21	173	*i* P	Pn	02 14 31.4	+5.6

KRNET 29 02:28:50.9±0.1, 41.°74N×79.°94E, mb2.4, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	1.37	304	⇓*i*P	Pg	02 29 16.3	-0.8
	baz=4.0						
PRZ				⇓*i*S	Sg	02 29 34.9	+0.1
	baz=4.0						
ANVS	**Anan'yevo**	1.98	303	⇑*i*P	Pb	02 29 27.1	-0.9
	baz=3.0						
ANVS				⇑*i*S	Sg	02 29 54.0	-0.6
	baz=3.0						
KDJ	**Kajisay**	2.10	282	⇑*i*P	Pb	02 29 28.7	-1.2
	baz=82						
KDJ				⇑*i*S	Sb	02 29 56.3	-0.2
	baz=82						
BOOM	**Boomskoye usch**	3.07	286	⇑*i*P	Pn	02 29 42.5	+1.7
	baz=86						
BOOM				⇑*i*S	Sn	02 30 19.7	+1.4
	baz=86						

NNC 29 02:29:01.0±0.7, 43.°14N×78.°48E, h0km, mpv1.9, Error ellipse: s-maj=5.5km s-min=4.6km az=5.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	0.04	314	P	Pg	02 29 01.5	-0.3
	6.3nm,0.1s						
ZHN				S	Sg	02 29 02.8	+0.5
	20nm,0.1s						
SATY	**Saty**	0.10	212	P	Pg	02 29 02.7	-0.1
	1.9nm,0.1s						
SATY				S	Sg	02 29 04.6	+0.6
	11nm,0.2s						
UZB	**Uzynbulak**	0.40	89	P	Pg	02 29 08.5	-0.1
	1.0nm,0.3s						
UZB				S	Sg	02 29 15.0	+1.2
	2.1nm,0.3s						

SJA ***29*** *03:17:54.9±0.6, 33.°28S×72.°60W, h10km, ML3.6, MW3.8*
ISCJB ***29*** *03:17:57.4±1.3, 33.°41S±0.°05×72.°35W±0.°06, h5km±9km, Error ellipse: s-maj=9.6km s-min=7.0km az=42.5*
GUC ***29*** *03:17:58.0±0.6, 33.°31S×72.°33W, h39km±3km, ML3.5*
ISC 29 03:17:57.8±1.8, 33.°37S±0.°05×72.°38W±0.°08, h11km±11km, n26, σ1°64/37, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	0.71	61	*e*P	Pg	03 18 11.4	-0.1
VA01				*i* S	Sg	03 18 20.8	0.0
ROC1	**El Roble**	1.21	71	*i* P	Pb	03 18 20.4	-0.6
ROC1				*e*S	Sn	03 18 40.1	+2.6
ROCH	**El Roble**	1.22	71	⇑*i*P	Pb	03 18 19.9	-1.1
ROCH				*i* S	Sb	03 18 36.3	-0.5
ROCH				IAML		03 18 42.1	
	comp=N,970nm,0.4s						
PEL	**Peldehue**	1.44	81	⇑*i*P	Pn	03 18 23.2	-0.6
PEL				*i* S	Sb	03 18 42.1	-1.0
PEL				IAML		03 18 47.5	
	comp=E,900nm,0.6s						
PEL	**Peldehue**	1.44	81	*i* P	Pn	03 18 23.4	-0.6
ANTU	**Antumapu**	1.48	98	*e*P	Pn	03 18 23.7	-0.7
ANTU				*i* S	Sn	03 18 43.0	-0.7
ANTU				IAML		03 18 44.5	
	comp=N,838nm,0.3s						
CLCH	**Cerro Calan**	1.55	91	⇑*i*P	Pn	03 18 24.8	-0.5
CLCH				*i* S	Sn	03 18 44.7	-0.8
CLCH				IAML		03 18 48.7	
	comp=E,1μm,0.8s						
GO05	**Huala**	1.68	167	⇓*i*P	Pn	03 18 25.5	-1.6
GO05				*e*S	Sn	03 18 48.5	-0.2
GO05	**Huala**	1.68	167	*i* P	Pn	03 18 28.0	+0.9
GO05				*e*S	Sg	03 18 53.4	+1.6
FCH	**Farellones**	1.75	89	⇑*i*P	Pn	03 18 27.9	-0.5
FCH				*i* S	Sb	03 18 51.2	-1.1
FCH				IAML		03 18 52.6	
	comp=E,518nm,0.3s						
LMEL	**Las Melosas**	1.88	105	*e*P	Pn	03 18 28.2	-1.8
LMEL				*i* S	Sn	03 18 53.0	-0.8
LMEL				IAML		03 19 00.5	
	comp=N,826nm,0.3s						
CO02	**Combarbal**	2.46	29	⇓*i*P	Pn	03 18 37.8	-0.1
CO02				IAML		03 19 20.8	
	comp=E,570nm,0.3s						
COIS	**El Sosneado**	2.89	128	*i* P	Pn	03 18 46.5	+2.7
ARCO	**CERRO ARCO**	2.94	81	*i* P	Pn	03 18 47.0	+2.3
ARCO				IAML		03 18 54.7	
	comp=Z,95nm,0.3s						
ARCO				*e*S	Sb	03 19 25.5	-0.9
AAGR	**Agrelo**	2.99	86	*i* P	Pb	03 18 49.2	-2.0
ASAL	**Salagasta**	3.08	76	⇓*i*P	Pn	03 18 48.8	+2.3
GO04	**Tololo Observa**	3.46	23	*i* P	Pn	03 18 51.8	-0.1
RTCV	**Cerro Valdivia**	3.58	66	*i* P	Pn	03 18 55.3	+2.1
RTLL	**Cerro Villicun**	3.88	59	*i* P	Pn	03 18 59.5	+2.0
RTLL				IAML		03 20 37.0	
	comp=Z,174nm,0.5s						
CFA	**Coronel Fontan**	3.92	64	*i* P	Pn	03 19 00.2	+2.2
ACCO	**Cerro Coronel**	3.96	46	*i* P	Pn	03 19 01.1	+2.3
AROD	**Rodeo**	4.04	39	*i* P	Pn	03 19 01.9	+1.9
AMOG	**MOGNA**	4.09	55	*i* P	Pn	03 19 02.3	+1.9
ACAN	**Cantantal**	4.51	77	*i* P	Pn	03 19 08.2	+2.2
MRA	**San Martin**	5.69	82	*i* P	Pn	03 19 25.4	+3.0
MRA				IAML		03 20 58.2	
	comp=Z,21nm,0.6s						
PLCA	**Paso Flores**	7.49	169	*i* P	Pn	03 19 48.8	+1.7

IDC ***29*** *03:28:34.8±4.4, 8.°58S×124.°74E, h45km±40km, mb4.3/2, mb1 4.5/4, mb1mx3.7/34, mbtmp4.4/4, ML4.3/2, MS2.7/3, Ms1 2.8/3, ms1mx2.4/40, Error ellipse: s-maj=61.5km s-min=24.6km az=54.0*
ISCJB ***29*** *03:28:38.2±0.5, 9.°05S±0.°07×124.°11E±0.°08, h108km±7km, Error ellipse: s-maj=15.3km s-min=6.4km az=139.0*
NEIC ***29*** *03:28:39.1±2.2, 8.°87S±0.°08×124.°10E±0.°08, h86km±5km, mb4.2/4*
DJA ***29*** *03:28:41.3±0.8, 9.°S±3.°×12.°4E±.°, h14km±8km, M4.4/6, mb4.5/4, mB6.0/1, MLv4.3/6, Mw(mB)5.6/1*
ISC 29 03:28:39.6±0.8, 9.°15S±0.°07×124.°05E±0.°07, h111km±8km, n31, σ2°90/37, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	0.64	160	P	Pn	03 28 57.2	-0.5
SOEI	**Soe**	0.64	160		Pn	03 28 57.2	-0.5
SOEI				Sn	Sn	03 29 11.3	0.0
BATI	**Baumata**	1.11	200	P	Pn	03 29 05.2	+3.1
	155nm,0.3s,baz=47,slow=3.3,SNR=55						
BATI				S	Sn	03 29 22.5	+3.4
	523nm,0.3s,baz=325,slow=19,SNR=85						
BATI	**Baumata**	1.11	200	P	Pn	03 29 04.7	+2.6
BATI				S	Sn	03 29 22.4	+3.2
MMRI	**Maumere**	1.86	286	P	Pn	03 29 10.3	-0.6
MMRI				S	Sn	03 29 31.9	-2.8
MMRI	**Maumere**	1.86	286		Pn	03 29 09.8	-1.1
MMRI				Sn	Sn	03 29 32.3	-2.4
KDI	**Kendari**	5.35	345	P	Pn	03 29 54.6	-2.6
KAPI	**Kappang**	5.92	314	Pn	Pn	03 30 03.0	-1.9
BNSI	**Bone**	6.13	320	P	Pn	03 30 09.8	+2.0
PLAI	**Plampang**	6.20	272	P	Pn	03 30 09.2	+0.4
MTN	**Manton Dam**	7.87	118		Pn	03 30 31.4	0.0
KNRA	**Kununurra**	7.96	145		Pn	03 30 31.7	-0.9
LUWI	**Luwuk**	8.15	351	P	Pn	03 30 34.3	-1.0
LUWI	**Luwuk**	8.15	351		Pn	03 30 35.0	-0.3
FITZ	**Fitzroy Crossi**	9.03	170	P	Pn	03 30 45.7	-1.4
	4.0nm,0.3s,baz=1.2,slow=11,SNR=134						
FITZ				S	Sn	03 32 20.0	-7.0
	8.1nm,0.3s,baz=287,slow=22,SNR=14						
FITZ				LR	LR	03 34 41.8	
	comp=Z,30nm,18.6s,baz=354,slow=39						
FITZ	**Fitzroy Crossi**	9.03	170		Pn	03 30 46.0	-1.1
WRA	**Warramunga Arr**	14.63	138	P	Pn	03 31 58.8	-2.5
	1.1nm,0.3s,baz=318,slow=13,SNR=54						
WRA				S	Sn	03 34 30.7	-12
	2.8nm,0.3s,baz=316,slow=24,SNR=12						
WB2	**Warramunga Arr**	14.64	138	Pn	Pn	03 31 59.9	-1.5
DAV	**Davao City (W)**	16.18	5	LR	LR	03 39 35.6	
	comp=Z,32nm,19.1s,baz=183,slow=42						
AS31	**Alice Springs**	17.24	148	P	Pn	03 32 34.8	+1.1
ASAR	**Alice Springs**	17.24	148	P	Pn	03 32 34.0	+0.3
	2.0nm,0.3s,baz=318,slow=12,SNR=79						
ASAR				S	Sn	03 35 36.0	-10
	1.0nm,0.3s,baz=315,slow=21,SNR=11						
ASAR	**Alice Springs**	17.24	148	P	Pn	03 32 36.3	+2.6
COEN	**Coen**	19.34	106		Pn	03 32 59.0	+0.2
COEN				IAmb	IAmb	03 33 00.7	
	comp=Z,7.5nm,0.8s						
BBOO	**Buckleboo**	26.04	156	P	P	03 34 05.6	+3.0
CMAR	**Chiang Mai Arr**	36.96	318	P	P	03 35 40.9	+2.4
	comp=Z,5.7nm,0.2s,baz=141,slow=6.4,SNR=5.3						
CMAR				LR	LR	03 52 15.0	
	comp=Z,17nm,18.1s,baz=120,slow=38						
CMAR	**Chiang Mai Arr**	36.96	318	P	P	03 35 38.9	+0.5
MK31	**Makanchi Array**	66.96	330	P	P	03 39 21.2	+0.8
MK31				IAmb	IAmb	03 39 23.7	
	comp=Z,5.1nm,1.4s						
MKAR	**Makanchi Array**	66.96	330	P	P	03 39 21.6	+1.2
	comp=Z,1.1nm,0.7s,baz=120,slow=7.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	123.39	280	PKP	PKiKP	03 47 27.7	+2.7
	comp=Z,0.2nm,0.4s,baz=78,slow=2.7,SNR=4.2						
CPUP	**Villa Florida**	144.71	178	PKPbc	PKiKP	03 48 07.2	-0.7
	comp=Z,3.2nm,0.7s,baz=192,slow=2.1,SNR=10						
LPAZ	**La Paz**	152.00	154	PKPbc	PKiKP	03 48 28.2	+4.2
	comp=Z,0.5nm,0.4s,baz=20,slow=2.7,SNR=5.1						

NIED ***29*** *03:41:00, 42.°20N×142.°90E, h53km, Mw4.0 Best double couple: M₀1.09000×10¹⁵ NP1:φ=209.00000°, δ24.00000°, λ75.00000°. NP2:φ=45.00000°, δ67.00000°, λ96.00000°.*
ISCJB ***29*** *03:41:28.0±0.4, 42.°15N±0.°04×142.°93E±0.°04, h67km±2km, mb3.7/12, Error ellipse: s-maj=7.6km s-min=4.2km az=159.0*
MOS ***29*** *03:41:27.1±0.8, 42.°16N×142.°83E, h57km, mb4.0/1, Error ellipse: s-maj=12.7km s-min=10.8km az=74.2*
JMA ***29*** *03:41:29.9±0.1, 42.°24N×142.°91E, h52km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=33.00000°, δ61.00000°, λ86.00000°. NP2:φs=221.00000°, δ29.00000°, λ98.00000°. Principal axes: T Plg74.0000°, Azm292.0000°; N Plg4.0000°, Azm35.0000°; P Plg16.0000°, Azm126.0000°;*
JMA Felt I J1.
NEIC ***29*** *03:41:29.3±1.1, 42.°11N±0.°09×142.°8E±0.°1, h60km±8km, mb4.1/7*
IDC ***29*** *03:41:32.0±2.6, 42.°26N×142.°75E, h80km±19km, mb3.5/12, mb1 3.7/13, mb1mx3.5/44, mbtmp3.8/13, MS2.8/5, Ms1 2.8/5, ms1mx2.5/39, Error ellipse: s-maj=21.2km s-min=16.5km az=155.0*
ISC 29 03:41:28.9±0.7, 42.°16N±0.°05×142.°90E±0.°03, h59km±5km, n58, σ0°95/63, mb3.9/14, 6C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	0.17	318	⇑P	Pn	03 41 38.0	0.0
JNBK				*e*S	Sn	03 41 44.7	+0.1
JEM	**Erimo**	0.24	127	⇑P	Pn	03 41 39.2	+0.8
ERM	**Erimo**	0.24	127	PN	Pn	03 41 39.1	+0.7
ERM	**Erimo**	0.24	127		Pn	03 41 39.1	+0.7
JTHR	**Tokachihiroo**	0.32	66	⇑P	Pn	03 41 39.3	+0.3
JTHR				*e*S	Sn	03 41 46.6	+0.2
JSHD	**Hidakashinhida**	0.41	308	⇓P	Pn	03 41 40.0	+0.2
JSHD				*e*S	Sn	03 41 48.3	+0.6
JCH	**Churui**	0.57	37	⇑P	Pn	03 41 41.3	-0.2
JCH				S	Sn	03 41 50.3	-0.4
JBT2	**Biratori 2**	0.74	327	⇓P	Pn	03 41 43.3	-0.2
JIAM	**Iburiatsuma**	0.86	303	⇓P	Pn	03 41 46.2	+1.2
JOB	**Onbets**	1.01	42	⇑P	Pn	03 41 47.8	+0.8
JOB				*e*S	Sn	03 42 01.6	+1.1
JFR	**Furan**	1.03	347	⇓P	Pn	03 41 46.5	-0.8
JFR				*e*S	Sn	03 41 59.9	-1.0
JEW	**Eniwo**	1.27	303	⇓P	Pn	03 41 51.1	+0.7
JAR	**Ashorobuto**	1.30	29	⇑P	Pn	03 41 50.6	-0.3
JAR				*e*S	Sn	03 42 06.8	-0.6
JNB	**Noboribetsu**	1.42	283	⇓P	Pn	03 41 52.0	-0.4
JNB				*e*S	Sn	03 42 10.0	0.0
JKB	**Kayabe**	1.42	260	⇓P	Pn	03 41 52.8	+0.4
JKB				*e*S	Sn	03 42 10.8	+0.7
JAB	**Ashibetsu**	1.44	340	P	Pn	03 41 53.4	+0.8
JKA	**Kamikawa-asahi**	1.97	354		Pn	03 42 00.9	+1.1
JKA					Sn	03 42 25.4	+2.0
ASAJ	**Asahikawa**	1.97	354	P	Pn	03 42 00.9	+1.1
	61nm,0.3s,baz=223,slow=8.7,SNR=212						
ASAJ				S	Sn	03 42 25.4	+2.0
	18nm,0.3s,baz=173,slow=34,SNR=8.1						
NMR	**Nemuro--Hokkai**	2.41	59	*e*PN	Pn	03 42 05.2	-0.6
NMR				*e*S	Sn	03 42 33.1	-1.0
GLVR	**Golovnino**	2.49	50	*e*PN	Pn	03 42 07.6	+0.7
GLVR				*e*S	Sn	03 42 36.1	0.0
GLVR				pmax	pmax		
	comp=Z,318nm,0.4s						
GLVR				pmax	pmax		
	comp=E,187nm,0.5s						
GLVR				pmax	pmax		
	comp=N,107nm,0.3s						
GLVR				smax	smax		
	comp=N,483nm,0.3s						
GLVR				smax	smax		
	comp=E,803nm,0.4s						
GRPR	**Tuman**	2.79	48	*e*PN	Pn	03 42 10.4	-0.6
GRPR				*e*S	Sn	03 42 41.7	-1.8
GRPR				pmax	pmax		
	comp=E,119nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,111nm,0.1s						
GRPR				smax	smax		
	comp=N,224nm,0.3s						
GRPR				smax	smax		
	comp=E,354nm,0.3s						
YUK	**Yuzh-Kuril'sk**	2.87	48	*e*PN	Pn	03 42 11.5	-0.6
YUK				*e*S	Sn	03 42 45.4	+0.1
YUK				pmax	pmax		
	comp=N,83nm,0.4s						
YUK				pmax	pmax		
	comp=E,60nm,0.4s						
YUK				pmax	pmax		
	comp=Z,195nm,0.4s						
YUK				smax	smax		
	comp=N,301nm,0.5s						
YUK				smax	smax		
	comp=E,136nm,0.3s						
USRK	**Ussuriysk Ar.**	8.23	288	PN	Pn	03 43 25.3	-0.2
USRK	**Ussuriysk Ar.**	8.23	288	P	Pn	03 43 28.0	+2.5
	baz=87,slow=14,SNR=4.0						
USRK				LR	LR	03 46 51.1	
	comp=E,68nm,19.6s,baz=148,slow=39						
USRK	**Ussuriysk Ar.**	8.23	288		Pn	03 43 25.3	-0.2
KLR	**Kul'dur**	10.52	316	LR	LR	03 48 06.8	
	comp=E,32nm,21.6s,baz=240,slow=38						
KSRS	**Korea Array**	12.44	253	P	P	03 44 29.6	-3.4
	comp=E,0.3nm,0.3s,baz=63,slow=14,SNR=7.5						
KSRS				LR	LR	03 48 54.9	
	comp=E,22nm,20.2s,baz=48,slow=36						
MA2	**Magadan**	18.11	13	LR	LR	03 52 59.1	
	comp=E,31nm,18.9s,baz=223,slow=38						
SONM	**Songino Array**	26.26	295	P	P	03 46 58.7	+0.2
	comp=E,2.2nm,0.7s,baz=82,slow=9.2,SNR=11						
SONM	**Songino Array**	26.26	295	IAmb	IAmb	03 46 59.4	
	comp=Z,1.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	30.20	130	T	T	04 19 07.2	
	baz=330,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	30.21	130	T	T	04 19 07.3	
	baz=330						
H11N3	**WAKE ISLAND Hy**	30.21	130	T	T	04 19 08.5	
	baz=330,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	31.07	132	T	T	04 20 12.6	
	baz=325,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	31.07	132	T	T	04 20 10.8	
	baz=325,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	31.09	132	T	T	04 20 13.9	
	baz=325,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	39.49	308	P	P	03 48 53.4	+0.1
	comp=Z,3.7nm,0.7s,baz=93,slow=7.2,SNR=13						
ZALV				LR	LR	04 06 16.9	
	comp=Z,37nm,21.5s,baz=82,slow=38						
MK31	**Makanchi Array**	42.56	298	P	P	03 49 18.4	-0.3
MK31	**Makanchi Array**	42.56	298	P	P	03 49 18.4	-0.3
MK31				IAmb	IAmb	03 49 19.5	
	comp=Z,3.6nm,0.9s						
MKAR	**Makanchi Array**	42.56	298	P	P	03 49 18.6	-0.1
	comp=Z,3.1nm,0.9s,baz=82,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	42.56	298	P	P	03 49 18.4	-0.3
KURK	**Kurchatov**	43.84	304	P	P	03 49 28.4	-0.5
KURK	**Kurchatov**	43.84	304	P	P	03 49 28.4	-0.5
ILAR	**Eielson Array**	44.60	35	P	P	03 49 34.8	0.0
	comp=Z,0.8nm,0.9s,baz=253,slow=7.2,SNR=6.1						
INK	**Inuvik**	49.33	29	P	P	03 50 11.5	-0.1
	comp=Z,0.4nm,0.3s,baz=282,slow=7.7,SNR=4.8						
ARSB	**Arslanbob**	50.79	294	P	P	03 50 23.5	+0.2
KKAR	**Karatay Array**	51.68	297	P	P	03 50 29.3	-0.4
KKAR	**Karatay Array**	51.68	297	P	P	03 50 29.3	-0.4
ABKAR	**Akbulak array**	55.60	308	P	P	03 50 58.2	-0.1
ABKAR				IAmb	IAmb	03 51 12.3	
	comp=Z,1.5nm,0.9s						
ARCES	**ARCESS Array B**	59.63	339	P	P	03 51 25.8	-0.5
	comp=Z,1.5nm,0.8s,baz=38,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	62.29	189	P	P	03 51 45.7	+0.9
	comp=Z,0.4nm,0.8s

JIH	Iheya	1.76 270	P	Pn	03 59 12.5	+0.1
JIH			eS	Sn	03 59 33.2	-0.8
JNTH	Nagotoyohara	1.79 253	P	Pn	03 59 12.7	-0.2
JNTH			S	Sn	03 59 33.1	-1.8
JJT3	Tamagusuku3	2.13 245	P	Pn	03 59 17.7	+0.2
JJT3			eS	Sn	03 59 42.8	-0.4
JTAJ	Takarajima	2.19 343	eS	Sn	03 59 43.0	-1.6
JAGN	Aguni-jima	2.46 260	P	Pn	03 59 21.9	0.0
JAGN			eS	Sn	03 59 49.8	-1.4
JNN	Nakanoshima	2.78 359	S	Sn	03 59 57.7	-1.5
JKE	Kume jima 2	2.91 256	P	Pn	03 59 28.0	-0.3
JKE			eS	Sn	04 00 01.2	-1.3
JNU	Nakatsue	6.10 7	Pn	Pn	04 00 13.7	+1.6
	2.3nm,0.3s,baz=6.8,slow=3.5,SNR=11					
JNU			Sn	Sn	04 01 17.8	-3.4
	0.8nm,0.3s,baz=251,slow=2.6,SNR=4.4					
MKAR	Makanchi Array	42.14 311	P	P	04 06 33.3	-0.6
	0.7nm,0.8s,baz=90,slow=13,SNR=2.8					
WRA	Warramunga Arr	46.91 174	P	P	04 07 13.2	+1.1
	0.9nm,1.0s,baz=352,slow=8.4,SNR=4.5					
ASAR	Alice Springs	50.57 175	P	P	04 07 42.7	+2.6
	0.2nm,0.6s,baz=6.3,slow=14,SNR=5.0					
STKA	Stephens Creek	59.65 169	LR	LR	04 37 27.5	
	comp=Z,19nm,18.2s,baz=208,slow=39					
NOA	NORSAR Array B	79.25 334	LR	LR	04 51 59.6	
	comp=Z,30nm,18.7s,baz=290,slow=40					

*SOME **29** 04:10:02.7, 42.°97N×82.°05E, h15km*
*NNC **29** 04:10:03.6±1.9, 43.°08N×82.°04E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=16.2km s-min=8.9km az=151.0

ISC 29 04:10:02.6±2.0, 43.°03N±0.°08×81.°97E±0.°06, h3km±12km, n29, σ1§94/48, 7C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.84 280		⇓P	Pg	04 10 37.9	0.0
	25nm,0.5s						
PDGK				⇑S	Sg	04 11 05.0	+3.3
	23nm,0.3s						
SHLS	Shalkode	1.84 275		P	Pn	04 10 33.0	-2.2
	25nm,0.2s						
SHLS				S	Sn	04 10 56.2	-2.9
	93nm,0.4s						
SHLS	Shalkode	1.84 275		eP	Pn	04 10 33.0	-2.2
	10.0nm,0.5s						
SHLS				eS	Sn	04 10 56.2	-2.9
	106nm,0.3s						
DJR	Jarkent	2.05 310		Pg	Pb	04 10 40.6	+0.1
	67nm,0.3s						
DJR				Lg	Lg	04 11 09.4	
	38nm,0.4s						
DJR	Jarkent	2.05 310		eP	Pb	04 10 40.6	+0.1
	67nm,0.3s						
DJR				eS	Sg	04 11 09.4	+0.8
	35nm,0.4s						
UZB	Uzynbulak	2.17 274		Pg	Pb	04 10 43.3	+0.7
	22nm,0.1s						
UZB				Lg	Lg	04 11 13.3	
	38nm,0.4s						
UZB	Uzynbulak	2.17 274		eP	Pb	04 10 43.2	+0.7
	22nm,0.1s						
UZB				eS	Sg	04 11 13.3	+1.1
	38nm,0.4s						
KPKS	Kokpek	2.44 281		eP	Pb	04 10 48.0	+0.8
	64nm,0.2s						
KPKS				eS	Sg	04 11 21.7	+0.6
	118nm,0.3s						
ZHN	Zhinishke	2.60 274		Pg	Pb	04 10 51.4	+1.5
	16nm,0.3s						
ZHN				Lg	Lg	04 11 27.7	
	31nm,0.2s						
ZHN	Zhinishke	2.60 274		eP	Pb	04 10 51.4	+1.5
	15nm,0.3s						
ZHN				eS	Sg	04 11 27.7	+1.7
	36nm,0.2s						
SATY	Saty	2.62 272		Pg	Pb	04 10 51.3	+1.2
	21nm,0.1s						
SATY				Lg	Lg	04 11 27.0	
	76nm,0.3s						
SATY	Saty	2.62 272		eP	Pb	04 10 51.3	+1.2
	21nm,0.1s						
SATY				eS	Sg	04 11 27.0	+0.4
	76nm,0.3s						
KURS	Kuram	2.82 281		eP	Pg	04 10 56.0	-0.6
	7.0nm,0.4s						
KURS				eS	Sg	04 11 35.1	+2.0
	18nm,0.9s						
KAPS	Kapalarasan	2.94 321		Pg	Pb	04 10 56.3	+0.6
	5.3nm,0.2s						
KAPS				Lg	Lg	04 11 35.6	
	19nm,0.3s						
KAPS	Kapalarasan	2.94 321		eP	Pb	04 10 56.3	+0.6
	4.5nm,0.2s						
KAPS				eS	Sg	04 11 35.6	-1.4
	18nm,0.2s						
ARXS	Arharly	3.24 293		Pg	Pb	04 11 00.5	-0.2
	7.5nm,0.3s						
ARXS				Lg	Lg	04 11 43.8	
	28nm,0.5s						
ARXS	Arharly	3.24 293		eP	Pb	04 11 00.5	-0.2
	4.5nm,0.3s						
ARXS				eS	Sb	04 11 43.1	+2.6
	30nm,0.5s						
KOTS	Kotyrbulak	3.56 275		Pg	Pb	04 11 08.9	+2.6
	22nm,0.4s						
KOTS				Lg	Lg	04 11 57.8	
	28nm,0.6s						
KOTS	Kotyrbulak	3.56 275		eP	Pb	04 11 08.9	+2.6
	3.4nm,0.1s						
KOTS				eS	Sg	04 11 57.9	+0.8
	19nm,0.4s						
CHKK	Chushkaly	3.72 285		eP	Pg	04 11 12.8	-1.1
	8.3nm,0.3s						
CHKK				eS	Sg	04 12 03.9	+1.7
	12nm,0.2s						
MK31	Makanchi Array	3.77 3		⇑Pn	Pn	04 11 03.7	+2.0
	0.4nm,0.4s,baz=185,slow=15,SNR=8.3						
MK31				⇑Pg	Pg	04 11 13.5	-1.4
	0.4nm,0.3s,baz=176,slow=16,SNR=5.7						
MK31				⇑Sn	Sn	04 11 48.3	+1.7
	0.7nm,0.2s,baz=181,slow=28,SNR=3.9						
MK31				⇑Lg	Lg	04 12 03.7	
	2.0nm,0.3s,baz=179,slow=27,SNR=5.5						
IZV	Izvestkoviy	3.93 272		Pg	Pb	04 11 14.3	+1.7
	5.7nm,0.4s						
IZV				Lg	Lg	04 12 07.2	
	13nm,0.5s						
IZV	Izvestkoviy	3.93 272		eP	Pb	04 11 14.3	+1.7
	2.6nm,0.4s						
IZV				eS	Sg	04 12 07.2	-1.6
	13nm,0.8s						
KST	Kastek	4.41 272		eP	Pg	04 11 24.2	-2.7
	9.0nm,1.1s						
KST				eS	Sg	04 12 23.6	-0.5
	9.7nm,0.7s						
DGS	Degeres	4.54 275		Pg	Pb	04 11 26.6	+3.5
	3.4nm,0.4s						
DGS				Lg	Lg	04 12 27.6	
	11nm,0.5s						
DGS	Degeres	4.54 275		eP	Pb	04 11 26.6	+3.5
	3.4nm,0.4s						
DGS				eS	Sg	04 12 28.2	-0.3
	11nm,0.5s						
TKM2	Tokmak 2	4.68 271		⇑Pg	Pg	04 11 29.8	-2.4
	2.3nm,0.6s						
TKM2				⇑Lg	Lg	04 12 33.4	
	4.8nm,0.5s						
ZSN	Zaisan	4.87 24		Pg	Pb	04 11 30.8	+2.2
	6.7nm,0.3s						
ZSN	Zaisan	4.87 24		eP	Pb	04 11 30.8	+2.2
	6.8nm,0.3s						
ZSN				eS	Sg	04 12 35.1	-3.9
	11nm,0.7s						

*SJA **29** 04:23:45.8±0.8, 33.°21S×72.°81W, h6km±6km, ML3.9, MW4.1*
*IDC **29** 04:23:51.0±1.6, 33.°37S×71.°83W, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.7/32, mbtmp3.7/7, ML3.8/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/24, Error ellipse: s-maj=34.1km s-min=21.8km az=99.0*
*GUC **29** 04:23:53.1±0.6, 33.°36S×72.°30W, h40km±4km, ML3.8*

ISC 29 04:23:50.7±2.0, 33.°35S±0.°05×72.°32W±0.°07, h4km±11km, n40, σ1§60/47, mb4.0/3, MS3.6/4, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.65	60	⇑iP	Pn	04 24 06.5	-0.2
VA01				iS	Sn	04 24 16.1	-1.3
ROC1	El Roble	1.16	71	iP	Pn	04 24 14.6	+0.7
ROC1				eS	Sn	04 24 31.7	+1.5
ROCH	El Roble	1.16	71	⇓iP	Pn	04 24 14.4	+0.5
ROCH				iS	Sn	04 24 31.1	+0.8
ROCH				IAML		04 24 37.2	
	comp=N,2μm,0.4s						
PEL	Peldehue	1.39	82	⇑iP	Pg	04 24 17.8	+0.5
PEL				iS	Sn	04 24 36.6	+1.0
PEL				IAML		04 24 41.7	
	comp=E,2μm,0.4s						
PEL	Peldehue	1.39	82	iP	Pg	04 24 18.1	+0.8
PEL				eS	Sn	04 24 44.2	+8.6
ANTU	Antumapu	1.43	99	eP	Pg	04 24 18.3	+0.2
ANTU				iS	Sg	04 24 37.2	+0.6
ANTU				IAML		04 24 41.7	
	comp=N,3μm,0.5s						
CLCH	Cerro Calan	1.49	92	⇑iP	Pg	04 24 19.4	0.0
CLCH				iS	Sg	04 24 39.4	+0.7
CLCH				IAML		04 24 47.8	
	comp=E,2μm,0.5s						
GO05	Huala	1.69	169	⇑eP	Pn	04 24 20.0	-1.0
GO05				iS	Sg	04 24 44.5	-0.4
GO05	Huala	1.69	169	iP	Pn	04 24 21.0	+0.1
GO05				eS	Sg	04 24 48.2	+3.3
FCH	Farellones	1.70	90	⇓iP	Pb	04 24 22.8	+0.1
FCH				eS	Sg	04 24 45.7	+0.3
FCH				IAML		04 24 50.0	
	comp=N,1μm,0.3s						
LMEL	Las Melosas	1.83	106	⇓iP	Pb	04 24 24.2	-0.7
LMEL				iS	Sn	04 24 46.8	-0.1
LMEL				IAML		04 24 56.9	
	comp=N,2μm,0.2s						
COIS	El Sosneado	2.86	129	iP	Pb	04 24 40.5	-1.8
ARCO	CERRO ARCO	2.89	81	iP	Pb	04 24 41.1	-1.8
ARCO				IAML		04 25 30.0	
	comp=Z,248nm,0.4s						
AAGR	Agrelo	2.94	86	iP	Pb	04 24 44.0	+0.3
AAGR				IAML		04 25 34.0	
	comp=Z,275nm,2.8s						
ASAL	Salagasta	3.02	76	iP	Pb	04 24 43.0	-2.2
ASAL				IAML		04 25 34.6	
	comp=Z,313nm,1.3s						
PUMA	Malargue	3.19	133	iP	Pb	04 24 45.4	-2.6
CCHI	Chillan	3.25	177	iP	Pn	04 24 42.6	+0.1
EDS3	Malargue	3.41	136	iP	Pb	04 24 48.8	-3.0
RTLL	Cerro Villicun	3.83	59	iP	Pn	04 24 52.8	+2.3
RTLL				IAML		04 25 58.9	
	comp=Z,145nm,1.5s						
CFA	Coronel Fontan	3.86	64	Pg	Pn	04 24 53.3	+2.4
	comp=Z,3.6nm,0.3s,baz=239,slow=12,SNR=41						
CFA				Lg	Lg	04 25 46.5	
	comp=Z,8.8nm,0.3s,baz=142,slow=19,SNR=4.0						
APLL	PUNTA DE LOS L	5.74	61	iP	Pn	04 25 18.9	+2.1
APLL				IAML		04 26 60.0	
	comp=Z,18nm,2.5s						
GO03	Copiap	6.01	18	iP	Pn	04 25 19.3	-1.2
ACLC	CERRO LA CRUZ	6.03	51	iP	Pn	04 25 22.5	+1.6
ACLC				IAML		04 27 13.5	
	comp=Z,106nm,1.1s						
TCA	Tanti	6.84	75	iP	Pn	04 25 35.1	+3.3
CYA	Choya	7.44	51	iP	Pn	04 25 40.0	-0.1
PLCA	Paso Flores	7.50	170	Pn	Pn	04 25 41.0	0.0
	comp=Z,0.8nm,0.3s,baz=358,slow=11,SNR=22						
PLCA				Lg	Lg	04 27 45.3	
	baz=290,slow=16,SNR=3.0						
PLCA				LR	LR	04 29 03.2	
	comp=Z,180nm,21.7s,baz=12,slow=42						
PLCA	Paso Flores	7.50	170	iP	Pn	04 25 42.3	+1.3
AHML	Horco Molle	8.91	45	iP	Pn	04 25 59.0	-1.3
LVC	Limon Verde	11.12	17	LR	LR	04 31 07.3	
	comp=Z,147nm,19.8s,baz=208,slow=40						
CPUP	Villa Florida	14.76	66	Pn	Pn	04 27 16.5	-3.8
	comp=Z,0.0nm,0.3s,baz=270,slow=20,SNR=2.1						
CPUP				LR	LR	04 33 25.3	
	comp=Z,251nm,18.2s,baz=242,slow=40						
LPAZ	La Paz	17.41	14	P	Pn	04 27 55.2	+0.1
	comp=Z,0.2nm,0.3s,baz=199,slow=8.5,SNR=14						
SIV	San Ignacio	20.05	33	P	P	04 28 24.0	-1.0
	comp=Z,0.1nm,0.3s,baz=208,slow=12,SNR=8.7						
SIV				LR	LR	04 37 35.1	
	comp=Z,212nm,19.1s,baz=233,slow=42						
NNA	Nana	21.66	348	LR	LR	04 35 31.6	
	comp=Z,49nm,18.5s,baz=166,slow=32						
BDFB	Brasilia	28.17	57	P	P	04 29 42.9	-1.6
	comp=Z,1.3nm,0.4s,baz=221,slow=10,SNR=3.3						
BDFB				LR	LR	04 42 02.4	
	comp=Z,219nm,18.3s,baz=238,slow=39						
VNA3	Neumayer Olymp	50.05	158	P	P	04 32 47.8	+1.8
VNA2	Neumayer–Watz	50.70	157	P	P	04 32 52.5	+1.5
	baz=283,slow=8.0						
SNAA	Sanae	52.27	158	P	P	04 33 03.8	+0.9
TXAR	Lajitas Array	69.06	331	P	P	04 34 59.5	+1.7
	comp=Z,0.1nm,0.4s,baz=143,slow=6.8,SNR=3.0						
TORD	Torodi Ar. Bea	84.21	70	P	P	04 36 23.3	-0.4
	comp=Z,0.6nm,0.6s,baz=235,slow=5.1,SNR=5.2						
MDT	Midelt	91.59	51	LR	LR	05 17 05.1	
	comp=Z,51nm,18.2s,baz=260,slow=35						

*ISCJB **29** 04:30:24.0±0.5, 13.°87N±0.°08×144.°6E±0.°2, h200km, mb3.6/13, Error ellipse: s-maj=22.5km s-min=11.3km az=169.0*
*NEIC **29** 04:30:24.7±1.6, 13.°9N±0.°1×144.°6E±0.°2, h190km±2km, mb3.6/6*
*IDC **29** 04:30:24.3±0.4, 13.°93N×144.°71E, h187km±3km, mb3.5/13, mb1 3.7/13, mb1mx3.4/61, mbtmp4.0/13, Error ellipse: s-maj=21.5km s-min=11.3km az=87.0*

ISC 29 04:30:25.3±0.6, 13.°9N±0.°1×144.°7E±0.°2, h200km, n22, σ1§15/17, mb3.7/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.34	153	P	Pn	04 30 50.6	-1.3
	126nm,0.3s,baz=329,slow=2.5,SNR=36						
GUMO				S	Sn	04 31 09.8	-2.8
	269nm,0.3s,baz=164,slow=22,SNR=8.2						
GUMO	Guam	0.34	153		Pn	04 30 51.0	-0.9
MJAR	Matsushiro Arr	23.30	347	P	P	04 35 14.5	-0.8
	1.6nm,0.5s,baz=172,slow=9.7,SNR=4.2						
MJAR	Matsushiro Arr	23.30	347	IAmb	IAmb	04 35 15.9	
	comp=Z,2.2nm,1.1s						
WRA	Warramunga Arr	35.13	197	P	P	04 37 00.1	+0.1
	comp=Z,2.2nm,0.7s,baz=12,slow=8.7,SNR=40						
WRA	Warramunga Arr	35.13	197	IAmb	IAmb	04 37 01.1	
	comp=Z,0.2nm,0.9s						
KLR	Kul'dur	36.82	346	P	P	04 37 13.7	-0.3
	comp=Z,1.1nm,0.7s,baz=116,slow=11,SNR=3.7						
ASAR	Alice Springs	38.79	196	P	P	04 37 30.8	0.0
	comp=Z,0.4nm,0.5s,baz=13,slow=12,SNR=8.3						
DZM	Mont Dzumac	41.61	149	P	P	04 37 55.2	+1.1
	comp=Z,4.6nm,0.6s,baz=286,slow=9.4,SNR=8.8						
STKA	Stephens Creek	45.60	184	P	P	04 38 25.8	+0.2
	comp=Z,1.3nm,0.4s,baz=353,slow=8.1,SNR=5.5						
STKA	Stephens Creek	45.60	184	IAmb	IAmb	04 38 27.6	
	comp=Z,0.6nm,0.8s						
SONM	Songino Array	46.40	325	P	P	04 38 32.5	+0.7
	comp=Z,0.7nm,0.6s,baz=121,slow=8.2,SNR=3.6						
SONM	Songino Array	46.40	325	IAmb	IAmb	04 38 35.4	
	comp=Z,1.2nm,1.2s						
MKAR	Makanchi Array	61.17	316	P	P	04 40 19.4	+0.5
	comp=Z,0.4nm,0.3s,baz=93,slow=7.8,SNR=6.0						
KURK	Kurchatov	64.26	320	P	P	04 40 39.5	+0.5
KURK	Kurchatov	64.26	320	IAmb	IAmb	04 40 43.1	
	comp=Z,1.3nm,0.9s						
KURBB	Kurchatov Arra	64.30	320	P	P	04 40 39.5	+0.2
	comp=Z,0.7nm,0.4s,baz=104,slow=6.9,SNR=5.1						
ILAR	Eielson Array	68.36	25	P	P	04 41 03.6	-1.3
	comp=Z,0.4nm,0.4s,baz=251,slow=5.7,SNR=18						
YKA	Yellowknife Ar	82.66	27	P	P	04 42 26.6	+0.5
	comp=Z,1.9nm,0.8s,baz=288,slow=5.0,SNR=3.1						
NVAR	Mina Array Bea	86.85	51	P	P	04 42 49.1	+1.2
	comp=Z,0.9nm,0.7s,baz=267,slow=6.3,SNR=8.3						
ELK	Elko	88.49	48	P	P	04 42 57.0	+1.4
	comp=Z,0.4nm,0.4s,baz=285,slow=8.6,SNR=6.0						
ELK	Elko	88.49	48	IAmb	IAmb	04 42 58.1	
	comp=Z,0.9nm,0.7s						

*ISCJB **29** 04:32:38.6±0.4, 2.°42N±0.°04×99.°01E±0.°05, h10km, mb3.9/8, MS3.4/3, Error ellipse: s-maj=7.6km s-min=5.9km az=149.3*
*IDC **29** 04:32:38.2±1.0, 2.°39N×99.°13E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/47, mbtmp3.9/8, MS3.3/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=56.6km s-min=7.5km az=52.0*
*NEIC **29** 04:32:39.3±1.4, 2.°38N±0.°02×98.°98E±0.°05, h4km±5km, mb4.4/11*
*DJA **29** 04:32:39.1±0.3, 2.°N±2.°×9.°9E±.°, h10km, M4.2/13, MLv4.2/13*

ISC 29 04:32:39.4±0.6, 2.°36N±0.°03×99.°02E±0.°05, h10km, n50, σ1§46/43, mb4.2/11, MS3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	Rantau Prapat	0.35	344		Pg	04 32 44.9	-1.5
RPSI	Rantau Prapat	0.35	344		Pg	04 32 45.4	-1.0
PSI	Prapat	0.45	348	Pg	Pg	04 32 45.4	-2.9
	480nm,0.3s,baz=360,slow=24,SNR=817						
PSI				Lg	Lg	04 32 50.0	
	baz=292,slow=19						
TSI	Tuntungan	1.22	338	P	Pn	04 33 00.5	-2.1
KCSI	Kotacane, Aceh	1.70	313	P	Pn	04 33 08.3	-0.9
GSI	Gunungsitoli	1.78	234	P	Pn	04 33 10.0	-0.3
GSI	Gunungsitoli	1.78	234		Pn	04 33 10.4	+0.1
TPTI		2.05	296	P	Pn	04 33 13.3	-0.6
PBSI	Pulau Batu	2.51	197	P	Pb	04 33 22.3	-2.3
SNSI	Sinabang, Aceh	2.69	271	P	Pn	04 33 22.8	0.0
BKNI	Bangkinang	2.85	135	Pn	Pg	04 33 31.9	-2.2
IPM	Ipoh	2.91	43		Pb	04 33 26.9	-4.5
KULM	Kulim	3.34	29		Pn	04 33 31.9	+0.2
LHMI	Lhok Sumawe	3.52	324	P	Pn	04 33 35.5	+1.2
LHMI	Lhok Sumawe	3.52	324	Pn	Pn	04 33 34.1	-0.1
LHMI					Pg	04 33 44.9	-2.1
PDSI	Padang	3.55	156	P	Pn	04 33 34.9	+0.2
MYKOM	Kota Tinggi	4.86	97		Pn	04 33 54.1	+1.5
TRTT	Trang	5.48	7	P	Pb	04 34 15.7	+0.4
	62nm,0.6s,3μm0.5nm						
PKDT	Phuket	5.54	353	P	Pg	04 34 25.8	+0.2
PBKT	Sadao Pong	14.25	8	P	P	04 36 15.1	+6.3
	9.4nm,1.2s						
PBKT	Sadao Pong	14.25	8	Pn	Pn	04 36 00.3	-1.2
MHMT	Maesarieng	15.76	356	P	P	04 36 34.4	+8.8
	21nm,1.4s						
CMAR	Chiang Mai Arr	16.00	360	Pn	P	04 36 30.1	+1.9
	0.9nm,0.3s,baz=192,slow=9.5,SNR=12						
CMAR				LR	LR	04 42 27.2	
	comp=Z,54nm,21.9s,baz=184,slow=37						
PHRA	Phrae	16.09	4	P	P	04 36 36.2	+7.0
	1.4nm,1.2s						
CMMT	Chiang Mai	16.36	360	P	P	04 36 39.8	+7.6
	4.2nm,1.3s						
PAYA	Payao	16.92	3	P	P	04 36 46.4	+7.9
	20μm,1.1s						
SLVN	Son La	19.45	14	P	Pn	04 37 05.2	-2.4
SLVN				IAmb	IAmb	04 37 15.4	
	comp=Z,12nm,1.1s						
LUWI	Luwuk	23.98	98	P	P	04 37 56.6	+2.2
SHL	Shillong	24.08	344	P	P	04 37 55.2	-0.2
SHL				IAmb	IAmb	04 38 14.4	
	comp=Z,9.2nm,1.0s						
XAN	Xi'an	32.85	15	P	P	04 39 14.1	+0.6
NIL	Nilore	39.37	325	P	P	04 40 10.2	+0.9
NIL				IAmb	IAmb	04 40 12.2	
	comp=Z,7.5nm,0.7s						
WRA	Warramunga Arr	41.14	124	P	P	04 40 24.0	-0.2
	comp=Z,2.9nm,0.5s,baz=302,slow=9.2,SNR=30						
WRA				PcP	PcP	04 42 23.3	-0.4
	comp=Z,0.3nm,0.6s,baz=306,slow=3.0,SNR=5.0						
WRA	Warramunga Arr	41.14	124	P	P	04 40 25.7	+1.5
WRAB	Tennant Creek	41.14	124	P	P	04 40 24.5	+0.3
WRAB				IAmb	IAmb	04 40 28.3	
	comp=Z,11nm,1.1s						
ASAR	Alice Springs	42.67	129	P	P	04 40 36.1	-0.7
	comp=Z,0.6nm,0.7s,baz=296,slow=7.1,SNR=4.6						
KSRS	Korea Array	43.88	34	LR	LR	04 59 22.2	
	comp=Z,39nm,18.7s,baz=230,slow=37						
SONM	Songino Array	45.75	7	P	P	04 41 00.6	-0.5
	comp=Z,0.6nm,0.5s,baz=195,slow=10,SNR=4.7						
SONM	Songino Array	45.75	7	P	P	04 41 02.2	+1.1
MKAR	Makanchi Array	46.60	344	P	P	04 41 08.3	+0.6
	comp=Z,0.6nm,0.6s,baz=152,slow=7.2,SNR=4.5						
GEYT	Alibeck	51.52	319	P	P	04 41 47.3	+1.6
	comp=Z,2.6nm,0.7s,baz=189,slow=5.4,SNR=4.0						
GEYT	Alibeck	51.52	319	IAmb	IAmb	04 41 50.6	
	comp=Z,2.2nm,0.8s						
GYA0B	ALIBECK ARRAY	51.52	319	P	P	04 41 46.2	+0.6
ZAA0	Zalesovo Array	52.73	350	P	P	04 41 54.8	+0.5
ZALV	Zalesovo Beam	52.73	350	P	P	04 41 54.6	+0.3
	comp=Z,1.0nm,0.5s,baz=165,slow=6.0,SNR=4.4						
ZALV	Zalesovo Beam	52.73	350	P	P	04 41 55.3	+1.0
STKA	Stephens Creek	52.81	134	LR	LR	05 06 04.6	
	comp=Z,26nm,20.0s,baz=20,slow=38						
ABKAR	Akbulak array	57.38	331	P	P	04 42 28.2	+0.2
ARU	Arti	62.85	336	LR	LR	05 12 49.0	
	comp=Z,42nm,19.6s,baz=210,slow=38						
KBZ	Khabaz	64.41	318	P	P	04 43 17.6	+1.7
	comp=Z,2.5nm,0.8s,baz=137,slow=3.8,SNR=4.5						
BRTR	Keskin Array B	69.70	312	P	P	04 43 49.3	-0.6
	comp=Z,0.9nm,0.8s,baz=124,slow=11,SNR=5.0						

*GCG **29** 04:52:43.5±0.7, 12.°76N×90.°11W, h35km±999km, MD3.8*
*SNET **29** 04:52:50.2±0.8, 13.°20N×90.°27W, h21km±5km, ML3.1*

ISC 29 04:52:48.6±2.3, 13.°1N±0.°1×90.°24W±0.°08, h29km, n14, σ0§97/17, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	0.96	38	⇑iP	Pb	04 53 07.1	+0.2
CEVE				eS	Sb	04 53 20.8	+1.4
CEVE				IAML		04 53 25.6	
	comp=Z,1μm,0.2s						
SBLS	San Blas	0.97	38	⇑eP	Pb	04 53 07.1	0.0
SBLS				eS	Sb	04 53 20.0	+0.4
RTR	El Retiro	1.01	35	⇑eP	Pb	04 53 07.5	-0.1
IXG	Ixpaco	1.11	350	eP	Pn	04 53 07.6	-0.8
UNIC	Universidad Ca	1.13	36	eP	Pb	04 53 09.0	-0.6
UNIC				eS	Sb	04 53 23.6	-0.3
UNIC				IAML		04 53 26.9	
	comp=Z,194nm,0.3s						
UEES	Universidad Ev	1.17	56	eP	Pb	04 53 10.6	+0.3
UEES				IAML		04 53 29.4	
	comp=Z,373nm,0.2s						
LFU	La Fuente	1.29	58	eP	Pb	04 53 12.6	+0.3
PCG	Pacaya	1.36	345	eS	Sb	04 53 33.5	+2.6
COEG	Centro de Oper	1.43	67	eP	Pb	04 53 14.9	+0.1
COEG				IAML		04 53 41.

ANKY				S	Sg	04 55 06.7	-0.2
ANKY				AML	AML	04 55 18.1	
	comp=N,5827μm,0.6s						
ANKY				AML	AML	04 55 19.9	
	comp=E,4284μm,0.9s						
IMMV	**Iera Moni Meta**	**0.83**	**61**	P	**Pg**	**04 54 56.0**	**-0.2**
IMMV				S	**Sb**	**04 55 06.4**	**-1.3**
	comp=E,6μm,0.7s						
IMMV	**Iera Moni Meta**	**0.83**	**61**	P	**Pg**	**04 54 55.7**	**-0.5**
IMMV				S	**Sb**	**04 55 07.6**	**-0.1**
IMMV				AML	AML	04 55 16.5	
	comp=E,13636μm,0.9s						
IMMV				AML	AML	04 55 17.0	
	comp=N,11461μm,0.6s						
IMMV	**Iera Moni Meta**	**0.83**	**61**	PG	**Pg**	**04 54 55.7**	**-0.5**
GVD	**Gavdhos**	**0.84**	**105**	P	**Pg**	**04 54 56.7**	**+0.2**
GVD				S	**Sb**	**04 55 09.5**	**+1.4**
	comp=N,5μm,0.4s						
GVD	**Gavdhos**	**0.84**	**105**	P	**Pg**	**04 54 56.6**	**+0.1**
GVD				S	**Sb**	**04 55 08.8**	**+0.7**
GVD				AML	AML	04 55 13.3	
	comp=E,11025μm,0.3s						
GVD				AML	AML	04 55 15.3	
	comp=N,6346μm,0.4s						
GVD	**Gavdhos**	**0.84**	**105**	PG	**Pg**	**04 54 57.1**	**+0.6**
GVD				SG	**Sg**	**04 55 08.0**	**+0.5**
GVDS	**Gavdos**	**0.84**	**105**	P	**Pg**	**04 54 56.5**	**0.0**
GVDS				S	**Sb**	**04 55 08.8**	**+0.6**
	comp=N,4μm,0.2s						
CHAN	**Chania**	**0.90**	**59**	P	**Pg**	**04 54 57.2**	**-0.4**
CHAN				S	**Sb**	**04 55 08.8**	**-1.0**
	comp=N,2μm,0.6s						
VAM	**Vamos**	**0.97**	**69**	P	**Pg**	**04 54 58.3**	**-0.6**
VAM				S	**Sb**	**04 55 12.1**	**+0.4**
	comp=N,4μm,0.5s						
VAM	**Vamos**	**0.97**	**69**	P	**Pg**	**04 54 58.3**	**-0.6**
VAM				S	**Sb**	**04 55 10.8**	**-0.9**
VAM				AML	AML	04 55 17.6	
	comp=N,8769μm,0.5s						
VAM				AML	AML	04 55 21.0	
	comp=E,6030μm,0.6s						
PRNS	**Prines Rethymn**	**1.19**	**75**	P	**Pg**	**04 55 01.3**	**-1.8**
PRNS				S	**Sg**	**04 55 17.4**	**-1.2**
KTHA	**Kythira Island**	**1.20**	**359**	P	**Pg**	**04 55 02.5**	**-0.7**
KTHA				S	**Sn**	**04 55 19.8**	**+0.7**
	comp=E,2μm,0.6s						
KTHA	**Kythira Island**	**1.20**	**359**	P	**Pg**	**04 55 02.6**	**-0.7**
KTHA				S	**Sb**	**04 55 19.3**	**+1.0**
KTHA				AML	AML	04 55 27.6	
	comp=E,6256μm,0.7s						
KTHA				AML	AML	04 55 31.3	
	comp=N,1546μm,0.6s						
KTHA	**Kythira Island**	**1.20**	**359**	PN	**Pg**	**04 55 03.4**	**+0.2**
KTHR	**Kythira**	**1.20**	**356**	P	**Pg**	**04 55 02.4**	**-0.9**
KTHR				S	**Sn**	**04 55 20.0**	**+0.8**
	comp=N,1μm,0.4s						
TMBK	**Timbaki Herakl**	**1.37**	**89**	P	**Pn**	**04 55 06.2**	**+1.0**
TMBK				S	**Sn**	**04 55 26.1**	**+2.8**
	comp=N,710nm,0.8s						
SIVA	**Sivas**	**1.41**	**91**	P	**Pn**	**04 55 07.0**	**+1.3**
SIVA				S	**Sn**	**04 55 26.1**	**+1.9**
	comp=N,3μm,0.5s						
SIVA	**Sivas**	**1.41**	**91**	P	**Pn**	**04 55 06.6**	**+0.9**
SIVA				AML	AML	04 55 31.6	
	comp=N,4487μm,0.5s						
SIVA				AML	AML	04 55 41.3	
	comp=E,4806μm,1.2s						
VLI	**Veliai**	**1.66**	**356**	P	**Pn**	**04 55 11.1**	**+1.9**
VLI	**Veliai**	**1.66**	**356**	P	**Pn**	**04 55 10.9**	**+1.7**
VLI				AML	AML	04 55 44.1	
	comp=E,1670μm,1.0s						
VLI				AML	AML	04 55 46.8	
	comp=N,1550μm,0.9s						
DYR	**Agios Nikonas**	**1.81**	**340**	P	**Pn**	**04 55 14.2**	**+2.9**
DYR	**Agios Nikonas**	**1.81**	**340**	P	**Pn**	**04 55 13.9**	**+2.6**
DYR				AML	AML	04 55 55.8	
	comp=E,246μm,1.0s						
DYR				AML	AML	04 56 00.3	
	comp=N,109μm,0.6s						
MHLO	**Agia Marina, M**	**1.94**	**33**	P	**Pb**	**04 55 15.7**	**+0.2**
MHLO	**Agia Marina, M**	**1.94**	**33**	P	**Pb**	**04 55 15.8**	**+0.2**
MHLA	**Plaka, Milos I**	**2.00**	**32**	P	**Pb**	**04 55 16.4**	**-0.1**
NPS	**Neapolis**	**2.07**	**84**	P	**Pn**	**04 55 17.0**	**+2.1**
PYL	**PYLOS**	**2.14**	**329**	P	**Pn**	**04 55 18.8**	**+3.0**
PYL	**PYLOS**	**2.14**	**329**	P	**Pn**	**04 55 18.9**	**+3.0**
THR3	**Thira Island,**	**2.31**	**54**	P	**Pn**	**04 55 20.6**	**+2.5**
ITM	**Ithomi**	**2.32**	**336**	P	**Pn**	**04 55 21.5**	**+3.2**
ITM	**Ithomi**	**2.32**	**336**	PN	**Pn**	**04 55 21.6**	**+3.2**
KRND	**KRANIDI**	**2.32**	**1**	P	**Pn**	**04 55 20.2**	**+1.9**
SANT	**Santorini**	**2.33**	**55**	PN	**Pn**	**04 55 19.6**	**+1.2**
VLX	**Vlachokerasia**	**2.38**	**346**	P	**Pb**	**04 55 24.6**	**+1.5**
IOSP	**Ios island**	**2.43**	**46**	P	**Pn**	**04 55 21.7**	**+1.8**
IOSP	**Ios island**	**2.43**	**46**	P	**Pn**	**04 55 22.2**	**+2.3**
DID	**Didima**	**2.44**	**3**	P	**Pn**	**04 55 22.6**	**+2.5**
DID	**Didima**	**2.44**	**3**	P	**Pn**	**04 55 23.1**	**+3.0**
ZKR	**Zakros**	**2.56**	**88**	PN	**Pn**	**04 55 23.3**	**+1.7**
APE	**Apeiranthos**	**2.81**	**44**	PN	**Pn**	**04 55 26.7**	**+1.6**
VLY	**Voula,Athens**	**2.84**	**11**	P	**Pn**	**04 55 28.5**	**+3.0**
LTK	**Loutraki**	**2.96**	**358**	P	**Pn**	**04 55 30.0**	**+2.9**
KLV	**Kalavryta, Ach**	**3.07**	**346**	P	**Pn**	**04 55 33.0**	**+4.3**
VILL	**Villia**	**3.10**	**3**	P	**Pn**	**04 55 31.8**	**+2.7**
LAKA	**Lakka**	**3.30**	**344**	P	**Pn**	**04 55 35.0**	**+3.2**
KARP	**Karpathos**	**3.36**	**81**	PN	**Pn**	**04 55 34.6**	**+2.0**
TRIZ	**Trizonia**	**3.40**	**346**	P	**Pn**	**04 55 36.4**	**+3.3**
KALE	**Kalithea**	**3.41**	**347**	P	**Pn**	**04 55 35.5**	**+2.1**
EFP	**Efpalio**	**3.50**	**344**	P	**Pn**	**04 55 38.2**	**+3.8**
DAT	**Datca**	**4.00**	**64**	PN	**Pn**	**04 55 43.6**	**+2.1**
AGG	**Agios Georgios**	**4.00**	**351**	P	**Pn**	**04 55 44.6**	**+3.1**
AGG	**Agios Georgios**	**4.00**	**351**	PN	**Pn**	**04 55 44.9**	**+3.4**
CHOS	**Chios island**	**4.08**	**35**	PN	**Pn**	**04 55 44.8**	**+2.2**
AOS	**Alonnisos**	**4.15**	**8**	PN	**Pn**	**04 55 46.4**	**+2.9**
SIGR	**SIGRI**	**4.69**	**27**	PN	**Pn**	**04 55 53.8**	**+2.9**
AYDB	**Zeytinkoy-Aydi**	**4.82**	**52**	PN	**Pn**	**04 55 55.2**	**+2.4**
TURN	**Turunc**	**4.82**	**66**	PN	**Pn**	**04 55 50.9**	**-1.7**
HORT	**Hortiatis**	**5.53**	**0**	PN	**Pn**	**04 56 06.1**	**+3.6**
VAE	**Valguarnera**	**7.42**	**292**	P	**Pn**	**04 56 28.4**	**0.0**
	baz=164,slow=20,SNR=2.4						
VAE				S	**Sn**	**04 57 48.7**	**-3.9**
	comp=N,2.1nm,0.3s,baz=41,slow=20,SNR=2.7						
BRTR	**Keskin Array B**	**9.59**	**58**	P	**Pn**	**04 57 01.4**	**+3.1**
	comp=N,0.1nm,0.3s,baz=240,slow=12,SNR=5.6						
GERES	**GERESS Array B**	**15.43**	**336**	P	**Pn**	**04 58 16.1**	**-1.7**
	comp=N,0.1nm,0.3s,baz=155,slow=12,SNR=2.9						
GERES				LR	LR	05 05 05.8	
	comp=N,81nm,18.5s,baz=9.0,slow=41						
KVAR	**Kislovodsk Arr**	**17.51**	**54**	LR	LR	05 06 06.3	
	comp=N,79nm,20.2s,baz=90,slow=39						
KBZ	**Khabaz**	**17.55**	**55**	P	**Pn**	**04 58 46.0**	**+1.4**
	comp=N,0.0nm,0.3s,baz=231,slow=9.0,SNR=2.1						
HFS	**Hagfors**	**25.82**	**349**	P	**P**	**05 00 09.2**	**-1.9**
	comp=N,2.0nm,0.7s,baz=148,slow=8.5,SNR=6.8						
NOA	**NORSAR Array B**	**27.09**	**347**	LR	LR	05 13 53.6	
	comp=N,28nm,19.6s,baz=300,slow=43						
TORD	**Torodi Ar. Bea**	**29.16**	**227**	P	**P**	**05 00 42.4**	**+0.9**
	comp=N,0.6nm,0.6s,baz=32,slow=9.0,SNR=8.7						
ARCES	**ARCESS Array B**	**34.56**	**1**	P	**P**	**05 01 27.4**	**-1.0**
	comp=N,3.9nm,1.0s,baz=185,slow=9.1,SNR=2.5						
SPITS	**Spitsbergen Ar**	**43.32**	**358**	P	**P**	**05 02 39.8**	**-1.8**
	comp=N,14nm,1.1s,baz=141,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**45.24**	**56**	P	**P**	**05 02 56.9**	**-0.5**
	comp=N,0.4nm,0.3s,baz=265,slow=7.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**46.29**	**46**	P	**P**	**05 03 04.3**	**-1.3**
	comp=N,0.8nm,0.3s,baz=276,slow=12,SNR=2.4						
SONM	**Songino Array**	**60.85**	**50**	P	**P**	**05 04 52.8**	**+0.1**
	comp=N,0.3nm,0.4s,baz=299,slow=5.9,SNR=2.5						
SCHQ	**Schefferville**	**62.16**	**319**	P	P	05 04 58.2	-3.0
	comp=N,3.5nm,0.9s,baz=100,slow=6.1,SNR=2.5						

*ISCJB **29** 05:03:15.2±0.3, 51°.56N±0°.02×16°.17E±0°.02, h0km, Error ellipse: s-maj=2.3km s-min=2.0km az=41.2*
*LDG **29** 05:03:17.3±0.2, 51°.52N×16°.05E, h1km, Ml3.2/4, Error ellipse: s-maj=5.9km s-min=2.9km az=29.0, Suspected Mining induced.*
*IDC **29** 05:03:18.1±0.8, 51°.54N×15°.95E, h0km, mb1 3.4/5, mb1mx3.2/47, mbtmp3.3/5, ML2.7/4, Error ellipse: s-maj=11.8km s-min=7.2km az=106.0*
*UPP **29** 05:03:19.7±3.0, 51°.67N×15°.65E, h0km, ML2.1, Suspected explosion*
*BGR **29** 05:03:19.2±0.5, 51°.51N×16°.12E, h1km, ML3.2/10, Error ellipse: s-maj=6.7km s-min=2.2km az=14.0*
ISC 29 05:03:15.7±0.6, **51°.61N**±0°.03×**16°.11E**±0°.02, **h0**km, **n76,**

σ2§03/141, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**171**	*e*Pg	**Pg**	**05 03 31.7**	**+1.2**
KSP				*e*Sg	**Sg**	**05 03 41.2**	**+0.6**
KSP	**Ksiaz**	**0.78**	**171**	*i* Pg	**Pg**	**05 03 31.8**	**+1.3**
KSP				*i* Pg	**Pg**	**05 03 31.8**	**+1.3**
KSP				*i* Sg	**Sg**	**05 03 41.2**	**+0.6**
KSP				*i* Sg	**Sg**	**05 03 41.2**	**+0.6**
CHVC	**Chvalec**	**1.02**	**182**	*e*PG	**Pb**	**05 03 36.6**	**+0.3**
CHVC				*e*SG	**Sg**	**05 03 48.4**	**-0.1**
	comp=Z,86nm,0.4s						
UPC	**Upice**	**1.11**	**183**	*e*SG	**Sg**	**05 03 50.2**	**-1.0**
DPC	**Dobruska-Polom**	**1.27**	**174**	*e*Pg	**Pg**	**05 03 40.6**	**+0.7**
DPC	**Dobruska-Polom**	**1.27**	**174**	*e*PG	**Pg**	**05 03 40.5**	**+0.5**
DPC				*e*SG	**Sg**	**05 03 56.1**	**-0.3**
PVCC	**Panska Ves**	**1.46**	**222**	*e*PG	**Pn**	**05 03 44.3**	**+1.1**
PVCC				*e*SG	**Sb**	**05 04 03.6**	**+0.9**
	comp=Z,253nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**242**	PN	**Pn**	**05 03 45.3**	**+0.8**
BRG				PG	**Pg**	**05 03 47.1**	**+1.8**
BRG				SG	**Sg**	**05 04 07.1**	**+1.7**
	275nm,0.4s						
BRG	**Berggiesshubel**	**1.55**	**242**	*e*Pn	**Pg**	**05 03 46.7**	**+1.4**
BRG				*e*Sg	**Sg**	**05 04 07.3**	**+1.9**
KRLC	**Kraliky**	**1.60**	**164**	*e*PG	**Pn**	**05 03 45.9**	**+0.7**
KRLC				*e*SG	**Sg**	**05 04 06.5**	**-0.4**
	comp=Z,113nm,0.2s						
FBE	**Freiberg**	**1.86**	**249**	*e*Pg	**Pg**	**05 03 53.6**	**+2.2**
FBE				*e*Sg	**Sg**	**05 04 17.2**	**+1.7**
GOPC	**GO Pecny, Ondr**	**1.90**	**207**	*e*PN	**Pn**	**05 03 50.2**	**+0.9**
GOPC				*e*PG	**Pb**	**05 03 51.5**	**+0.4**
PRU	**Pruhonice**	**1.91**	**212**	*e*PN	**Pn**	**05 03 50.1**	**+0.7**
PRU				*e*PG	**Pb**	**05 03 52.0**	**+0.7**
PRU				*e*SG	**Sb**	**05 04 16.5**	**+0.9**
	comp=Z,69nm,0.3s						
CLL	**Collm**	**1.97**	**262**	*e*Pn	**Pn**	**05 03 51.0**	**+0.8**
CLL				*e*Pg	**Pg**	**05 03 55.0**	**+1.7**
CLL				*i*		05 03 58.3	
CLL				*e*Sg	**Sg**	**05 04 20.0**	**+1.2**
	comp=Z,74nm,0.3s						
CLL				LmV		06 26 00.0	
	comp=Z,200nm,18.9s						
CLL	**Collm**	**1.97**	**262**	*e*Pn	**Pn**	**05 03 51.4**	**+1.2**
CLL				*e*Sg	**Sg**	**05 04 21.2**	**+2.4**
RAC	**Raciborz**	**2.02**	**138**	*e*Pg	**Pg**	**05 03 56.9**	**+2.6**
RAC				*e*Pg	**Pg**	**05 03 56.9**	**+2.6**
RAC				*e*Sg	**Sg**	**05 04 22.1**	**+1.5**
RAC				*e*Sg	**Sg**	**05 04 22.1**	**+1.5**
MORC	**Moravsky Berou**	**2.05**	**153**	*e*Pn	**Pn**	**05 03 52.2**	**+0.7**
MORC	**Moravsky Berou**	**2.05**	**153**	*e*Pn	**Pn**	**05 03 51.8**	**+0.4**
MORC				*e*SG	**Sb**	**05 04 19.3**	**-0.5**
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*Pn	**Pn**	**05 03 54.7**	**+1.3**
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*Pg	**Pg**	**05 03 57.9**	**+0.2**
OKC				*e*SG	**Sg**	**05 04 25.3**	**-0.9**
VRAC	**Vranov**	**2.33**	**172**	Pn	**Pn**	**05 03 56.4**	**+1.3**
	comp=Z,2.0nm,0.3s,baz=341,slow=14,SNR=16						
VRAC				Sn	**Sb**	**05 04 26.3**	**-1.4**
	comp=Z,5.6nm,0.3s,baz=9.2,slow=16,SNR=4.6						
VRAC	**Vranov**	**2.33**	**172**	*e*PN	**Pn**	**05 03 56.0**	**+0.8**
VRAC				*e*SG	**Sb**	**05 04 28.5**	**+0.8**
TREC	**Trest**	**2.35**	**190**	*e*PN	**Pn**	**05 03 57.3**	**+1.7**
TREC				*e*PG	**Pb**	**05 04 00.3**	**+1.4**
KRUC	**Moravsky**	**2.56**	**176**	*e*PN	**Pn**	**05 03 59.6**	**+1.2**
KRUC				*e*SG	**Sb**	**05 04 35.8**	**+1.4**
TANN	**Tannenbergstha**	**2.60**	**244**	*e*Pn	**Pn**	**05 04 00.5**	**+1.5**
TANN				*e*Sg	**Sg**	**05 04 39.8**	**+0.8**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**05 04 01.8**	**+1.5**
NKC				*e*PG	**Pg**	**05 04 08.2**	**+0.9**
NKC				*e*SG	**Sg**	**05 04 42.8**	**+0.5**
	comp=Z,169nm,0.3s						
OJC	**Ojcow**	**2.72**	**119**	*e*Sg	**Sg**	**05 04 44.2**	**+1.2**
OJC	**Ojcow**	**2.72**	**119**	*e*Pn	**Pn**	**05 03 58.9**	**-1.6**
OJC				*e*Pn	**Pn**	**05 03 58.9**	**-1.6**
OJC				*e*Pg	**Pg**	**05 04 09.3**	**+1.6**
OJC				*e*Pg	**Pg**	**05 04 09.3**	**+1.6**
OJC				*e*Sn	**Sn**	**05 04 32.8**	**-1.3**
OJC				*e*Sn	**Sn**	**05 04 32.8**	**-1.3**
OJC				*e*Sg	**Sg**	**05 04 44.0**	**+1.1**
OJC				*e*Sg	**Sg**	**05 04 44.0**	**+1.1**
JAVC	**Velka Javorina**	**2.93**	**159**	*e*PN	**Pn**	**05 04 05.4**	**+1.9**
KHC	**Kasperske Hory**	**2.96**	**214**	*e*PN	**Pn**	**05 04 04.9**	**+0.9**
KHC				*e*PG	**Pb**	**05 04 11.4**	**+2.0**
KHC				*e*SN	**Sn**	**05 04 40.0**	**-0.3**
KHC				*e*SG	**Sg**	**05 04 49.4**	**-1.5**
	comp=Z,21nm,0.3s						
MOX	**Moxa**	**2.99**	**253**	*e*Sg	**Sg**	**05 04 54.3**	**+2.6**
MANZ	**Manzenberg**	**3.02**	**239**	*e*Pn	**Pn**	**05 04 06.8**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.09**	**235**	*e*Pn	**Pn**	**05 04 07.5**	**+1.8**
GEC2	**GERESS Array S**	**3.17**	**210**	*e*Pn	**Pn**	**05 04 09.0**	**+2.1**
GERES	**GERESS Array B**	**3.17**	**210**	Pn	**Pn**	**05 04 07.6**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=32,slow=12,SNR=49						
GERES				Sn	**Sn**	**05 04 44.3**	**-1.2**
	comp=Z,3.2nm,0.3s,baz=27,slow=27,SNR=5.6						
GERES				Lg	Lg	05 04 55.9	
	comp=Z,8.1nm,0.3s,baz=46,slow=29,SNR=13						
SMOL	**Smolenice**	**3.21**	**164**	*e*SG	**Sg**	**05 04 59.7**	**+0.8**
SMOL				*e*LG	Lg	05 05 04.4	
WET	**Wettzell**	**3.22**	**221**	*e*Pn	**Pn**	**05 04 08.8**	**+1.3**
LANS	**Liptovska Anna**	**3.27**	**138**	*e*SG	**Sg**	**05 04 59.2**	**-1.4**
LANS				*e*LG	Lg	05 05 10.7	
MODS	**Modra-Piesok**	**3.33**	**166**	*e*PG	**Pg**	**05 04 19.3**	**-0.1**
MODS				*e*SG	**Sg**	**05 05 00.4**	**-2.1**
MODS				*e*LG	Lg	05 05 10.1	
KOLL	**Kolacno**	**3.38**	**153**	*e*SG	**Sg**	**05 05 03.5**	**-0.5**
NIE	**Niedzica**	**3.46**	**128**	*e*P	**Pg**	**05 04 24.8**	**+2.8**
NIE				*e*P	**Pg**	**05 04 24.8**	**+2.8**
NIE				*e*S	**Sg**	**05 05 08.7**	**+2.0**
NIE				*e*S	**Sg**	**05 05 08.7**	**+2.0**
CLZ	**Clausthal**	**3.58**	**276**	*e*Pn	**Pn**	**05 04 15.2**	**+2.8**
VYHS	**Vyhne**	**3.58**	**150**	*e*PN	**Pn**	**05 04 13.2**	**+0.8**
VYHS				*e*PG	**Pg**	**05 04 25.0**	**+0.8**
VYHS				*e*SG	**Sg**	**05 05 09.4**	**-1.2**
BSD	**Bornholm Skovb**	**3.58**	**349**	*i* P	**Pn**	**05 04 14.0**	**+1.6**
BSD				*i* S	**Sn**	**05 04 54.5**	**-0.9**
GRF	**Grafenberg Arr**	**3.66**	**240**	*e*Pn	**Pn**	**05 04 15.3**	**+1.8**
CONA	**Conrad Observa**	**3.69**	**183**	*e*Pn	**Pn**	**05 04 16.1**	**+2.1**
	comp=Z,2.7nm,0.4s						
CONA				*e*Sg	**Sb**	**05 05 10.6**	**+3.6**
	comp=Z,15nm,0.3s						
STHS	**Stebnicka Huta**	**3.94**	**122**	*e*PG	**Pg**	**05 04 32.1**	**+0.9**
STHS				*e*SG	**Sg**	**05 05 23.0**	**+0.7**
STHS				*e*LG	Lg	05 05 30.9	
MOA	**Molln**	**3.95**	**198**	Pn	**Pn**	**05 04 19.1**	**+1.6**
	comp=Z,6.3nm,0.3s,SNR=6.1						
MOA				*i* Sg	**Sg**	**05 05 23.0**	**+0.5**
	comp=Z,9.5nm,0.3s						
LUNU	**Lund**	**4.33**	**340**	P	**Pn**	**05 04 23.9**	**+1.3**
LUNU				S	**Sn**	**05 05 13.4**	**-0.4**
ARSA	**Arzberg**	**4.38**	**185**	*e*Pn	**Pn**	**05 04 26.7**	**+3.3**
	comp=Z,1.8nm,0.3s						
ARSA				Sg	**Sg**	**05 05 36.1**	**-0.2**
	comp=Z,23nm,0.7s						
KOLS	**Kolonicke sedl**	**4.78**	**122**	*e*PN	**Pn**	**05 04 30.4**	**+1.6**
KOLS				*e*PG	**Pg**	**05 04 47.4**	**+0.3**
DEL	**Delary**	**5.04**	**346**	P	**Pn**	**05 04 33.8**	**+1.3**
DEL				S	**Sn**	**05 05 30.1**	**-1.3**
OBKA	**Obir**	**5.21**	**192**	*i* Sg	**Sg**	**05 06 04.4**	**+1.5**
	comp=Z,8.8nm,0.6s						
MYKA	**Terra Mystica**	**5.24**	**199**	Sg	**Sg**	**05 06 05.7**	**+1.8**
	comp=Z,7.3nm,0.5s						
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**05 04 38.9**	**+2.0**
MOTA	**Moosalm**	**5.37**	**219**	*i* Pn	**Pn**	**05 04 40.3**	**+3.1**
	comp=Z,3.3nm,0.6s						
RETA	**Reutte**	**5.40**	**222**	Pn	**Pn**	**05 04 39.0**	**+1.5**
	comp=Z,0.8nm,0.2s						
RETA				Sg	**Sg**	**05 06 06.4**	**-2.5**
ABTA	**Abfaltersbach**	**5.41**	**207**	Pn	**Pn**	**05 04 40.1**	**+2.5**
	comp=Z,1.4nm,0.5s						
ABTA				Sg	**Sg**	**05 06 07.6**	**-1.7**
	comp=Z,11nm,0.6s						
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	**05 04 41.7**	**+1.7**
BYXU	**Byxelkrok**	**5.71**	**5**	P	**Pn**	**05 04 43.3**	**+1.7**
FETA	**Feichten**	**5.79**	**220**	Pn	**Pn**	**05 04 45.1**	**+2.3**
	comp=Z,1.4nm,0.6s						
FETA				Sg	**Sg**	**05 06 22.4**	**+1.0**
	comp=Z,4.6nm,0.7s						
ASPU	**Aespoe**	**5.83**	**3**	P	**Pn**	**05 04 45.7**	**+2.5**
GNOU	**Gnosjoe**	**5.85**	**347**	P	**Pn**	**05 04 45.9**	**+2.3**
DAVA	**Damuels**	**5.94**	**226**	Pn	**Pn**	**05 04 48.8**	**+3.9**
	comp=Z,0.6nm,0.3s						
EKSU	**Eksjoe**	**5.99**	**356**	P	**Pn**	**05 04 47.5**	**+2.0**
VSTU	**Vaestervik**	**6.07**	**2**	P	**Pn**	**05 04 49.1**	**+2.6**
CDF	**Champ du Feu**	**6.53**	**244**	*e*Pn	**Pn**	**05 04 51.3**	**-1.7**
CDF	**Champ du Feu**	**6.53**	**244**	*e*P	**Pn**	**05 04 54.8**	**+1.8**
CDF				*e*Sg	**Sg**	**05 06 39.3**	**-6.0**
	comp=Z,3.3nm,0.6s						
HINF	**Hinteralfeld**	**7.10**	**241**	*e*Pn	**Pn**	**05 04 58.9**	**-1.9**
HINF				*e*Sg	**Sg**	**05 06 57.0**	**-6.6**
	comp=Z,7.8nm,0.5s						
HAU	**Haudompre**	**7.27**	**244**	*e*Pn	**Pn**	**05 05 01.0**	**-2.1**
HAU				*e*Sg	**Sg**	**05 07 02.3**	**-6.8**
	comp=Z,7.4nm,0.6s						
CABF	**La Chapelle**	**8.26**	**237**	*e*Pn	**Pn**	**05 05 14.1**	**-2.6**
CABF				*e*Sg	**Sg**	**05 07 33.2**	**-7.5**
	comp=Z,0.8nm,0.2s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**05 05 17.4**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=279,slow=12,SNR=6.2						
AKASG				Sn	**Sn**	**05 06 48.4**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=250,slow=35,SNR=4.3						
HFS	**Hagfors**	**8.65**	**352**	Pn	**Pn**	**05 05 22.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=4.2						
HFS				Sn	**Sn**	**05 06 57.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=166,slow=25,SNR=2.5						
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**05 05 58.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=3.1						
FINES				Sn	**Sn**	**05 07 58.9**	**-5.4**
	comp=Z,0.2nm,0.3s,baz=201,slow=19,SNR=3.3						
EKA	**Eskdalemuir Ar**	**12.06**	**296**	Pn	**Pn**	**05 06 06.8**	**-1.8**
	baz=102,slow=14,SNR=3.4						
ARCES	**ARCESS Array B**	**18.52**	**10**	P	**P**	**05 07 31.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=5.0						

IDC 29 05:15:01.3±5.3, **30°.33S**×**138°.41E**, **mb1 2.9**/3, **mb1mx2.9**/33, **mbtmp2.7**/3, **ML2.5**/3, **Error ellipse: s-maj=150.8km s-min=18.1km az=41.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.14**	**120**	Pn	Pn	05 15 51.2	-0.8
	0.1nm,0.3s,baz=299,slow=10,SNR=2.6						
STKA				Sn	Sn	05 16 29.9	-0.4
	1.0nm,0.3s,baz=291,slow=8.6,SNR=7.0						
STKA				Lg	Lg	05 16 42.4	
	1.7nm,0.3s,baz=22,slow=19,SNR=7.3						
ASAR	**Alice Springs**	**7.76**	**328**	Pn	Pn	05 16 56.3	+0.7
	0.1nm,0.3s,baz=147,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**10.98**	**339**	Pn	Pn	05 17 39.4	-0.3
	0.1nm,0.3s,baz=160,slow=13,SNR=6.1						

*IDC **29** 05:19:48.7±1.1, 33°.57S×71°.47W, h0km, mb4.0/4, mb1 4.0/9, mb1mx3.9/31, mbtmp3.9/9, ML3.7/5, Error ellipse: s-maj=35.2km s-min=19.6km az=111.0*
*ISCJB **29** 05:19:49.7±0.5, 33°.41S±0°.03×72°.40W±0°.08, h35km, mb3.7/4, Error ellipse: s-maj=10.1km s-min=4.7km az=5.0*
*NEIC **29** 05:19:52.0±3.0, 33°.43S±0°.05×72°.3W±0°.1, h35km±3km, mb4.4/7*
ISC 29 05:19:51.7±0.7, **33°.36S**±0°.05×**72°.35W**±0°.09, **h35**km, **n39,**
σ1§64/42, **mb4.2/6, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.18**	**71**		**Pn**	**05 20 10.2**	**-1.8**
PEL	**Peldehue**	**1.41**	**82**		**Pn**	**05 20 14.1**

VA01 **Torpederas** 0.65 58 ⇓ *i*P **Pb** 05 21 43.2 +0.4
VA01 *i* S **Sn** 05 21 53.5 -1.2
ROC1 El Roble 1.15 71 Pn **Pb** 05 21 51.5 0.0
ROC1 Sn **Sn** 05 22 08.4 +0.9
ROCH El Roble 1.15 70 ⇑ *i*P **Pb** 05 21 51.4 -0.2
ROCH *i* S **Sn** 05 22 07.7 +0.1
ROCH IAML 05 22 11.6
comp=N,29μm,0.5s
RCDM Rinconada Maip 1.26 96 ⇑ *i*P **Pn** 05 21 52.8 -0.3
RCDM *e*S **Sn** 05 22 09.9 0.0
RCDM IAML 05 22 11.4
comp=N,25μm,0.3s
PEL Peldehue 1.37 81 ⇑ *i*P **Pn** 05 21 54.6 -0.1
PEL *e*S **Sb** 05 22 12.8 0.0
PEL IAML 05 22 18.0
comp=E,20μm,0.5s
PEL Peldehue 1.37 81 Pn **Pb** 05 21 55.2 0.0
PEL Sn **Sg** 05 22 13.6 -0.2
CLCH Cerro Calan 1.48 92 ⇓ *i*P **Pn** 05 21 56.0 -0.1
CLCH *e*S **Sb** 05 22 16.1 +0.4
CLCH IAML 05 22 18.3
comp=E,22μm,0.3s
GO05 Huala 1.67 169 *e*P **Pn** 05 21 57.2 -1.5
GO05 *i* S **Sb** 05 22 21.5 +0.2
GO05 Huala 1.67 169 Pn **Pn** 05 21 58.3 -0.4
GO05 Sn **Sn** 05 22 18.7 -1.4
FCH Farellones 1.68 89 ⇑ *i*P **Pb** 05 22 00.0 -0.7
FCH *i* S **Sb** 05 22 22.7 +0.7
FCH IAML 05 22 24.6
comp=E,16μm,0.2s
LMEL Las Melosas 1.81 106 ⇓ *i*P **Pn** 05 22 01.1 +0.2
LMEL *e*S **Sb** 05 22 24.9 -0.8
LMEL IAML 05 22 32.9
comp=N,16μm,0.3s
GO04 Tololo Observa 3.43 22 Pn **Pn** 05 22 22.8 -0.3
GO04 Sn **Sn** 05 23 04.7 +0.8
CFA Coronel Fontan 3.86 64 Pg **Pb** 05 22 35.0 -2.6
comp=N,60nm,0.3s,baz=238,slow=9.9,SNR=7.3
CFA Lg Lg 05 23 23.6
comp=N,32nm,0.3s,baz=139,slow=5.9,SNR=4.3
GO03 Copiap 6.02 18 Pn **Pn** 05 22 55.8 -2.8
GO06 Curarrehue 6.24 174 Pn **Pn** 05 23 02.0 +0.3
PLCA Paso Flores 7.49 170 Pn **Pn** 05 23 18.1 -0.6
comp=N,3.1nm,0.3s,baz=354,slow=12,SNR=18
PLCA Lg Lg 05 25 19.8
comp=N,0.7nm,0.3s,baz=281,slow=22,SNR=3.3
PLCA LR LR 05 26 39.6
comp=N,2μm,19.9s,baz=11,slow=42
PLCA Paso Flores 7.49 170 *e*P **Pn** 05 23 17.0 -1.7
PLCA Paso Flores 7.49 170 *e*P **Pn** 05 23 17.0 -1.7
PLCA Paso Flores 7.49 170 Pn **Pn** 05 23 19.4 +0.8
GO02 Mina Guanaco 8.51 17 **Pn** 05 23 31.1 -1.9
TRQA Tornquist 9.61 122 *e*P **Pn** 05 23 47.2 -0.5
TRQA *e*S **Sn** 05 25 37.4 +1.7
TRQA Tornquist 9.61 122 *e*P **Pn** 05 23 47.2 -0.5
TRQA *e*S **Sn** 05 25 37.4 +1.7
TRQA Tornquist 9.61 122 **Pn** 05 23 48.0 +0.2
PB10 IPOC Station P 9.94 9 Pn **Pn** 05 23 52.6 +0.3
LVC Limon Verde 11.12 16 Pn **Pn** 05 24 04.6 -4.3
comp=N,1.1nm,0.3s,baz=180,slow=5.9,SNR=9.4
LVC Lg Lg 05 26 51.3
comp=N,0.8nm,0.3s,baz=36,slow=11,SNR=5.9
LVC LR LR 05 28 33.4
comp=N,2μm,20.5s,baz=207,slow=38
LVC Limon Verde 11.12 16 Pn **Pn** 05 24 06.1 -2.8
PB04 IPOC Station P 11.15 10 Pn **Pn** 05 24 08.9 -0.2
LPA La Plata 12.01 101 *e*P **Pn** 05 24 17.7 -2.8
LPA S **Sn** 05 26 36.9 +2.5
LPA SS **SgSg** 05 28 01.8 +6.6
LPA PCP **PcP** 05 30 06.2 +0.1
PB11 IPOC Station P 13.75 11 Pn **Pn** 05 24 44.1 -0.6
GO01 Chusmiza 13.92 12 **Pn** 05 24 47.7 +0.5
MNMC Minye Minye 14.38 10 Pn **Pn** 05 24 55.7 +2.4
OGAUY Aigu 14.65 99 *e*P **Pn** 05 24 56.8 +0.1
OGAUY Aigu 14.65 99 *e*P **Pn** 05 24 56.8 +0.1
CPUP Villa Florida 14.75 66 Pn **Pn** 05 24 55.8 -2.4
comp=N,0.1nm,0.3s,baz=245,slow=12,SNR=2.0
CPUP Sn **Sn** 05 27 41.5 -0.1
comp=N,0.3nm,0.3s,baz=350,slow=11,SNR=3.2
CPUP Lg Lg 05 28 52.4
comp=N,0.3nm,0.3s,baz=328,slow=18,SNR=3.1
CPUP LR LR 05 31 01.9
comp=N,2μm,18.6s,baz=244,slow=39
CPUP Villa Florida 14.75 66 *e*P **Pn** 05 24 58.5 +0.3
CPUP Villa Florida 14.75 66 *e*P **Pn** 05 24 58.5 +0.3
CPUP Villa Florida 14.75 66 Pn **Pn** 05 24 59.3 +1.1
PLTB Pedras Altas 15.85 89 *e*P **Pn** 05 25 13.0 +0.4
PLTB Pedras Altas 15.85 89 *e*P **Pn** 05 25 13.0 +0.4
CPSB Cacapava Do Su 16.29 85 *e*P **Pn** 05 25 18.6 +0.3
CPSB Cacapava Do Su 16.29 85 *e*P **Pn** 05 25 18.6 +0.3
LPAZ La Paz 17.42 13 P **Pn** 05 25 33.3 +0.2
comp=N,0.8nm,0.3s,baz=189,slow=8.1,SNR=16
LPAZ La Paz 17.42 13 *e*P **Pn** 05 25 33.0 -0.1
LPAZ La Paz 17.42 13 *e*P **Pn** 05 25 33.0 -0.1
LPAZ La Paz 17.42 13 P **Pn** 05 25 33.3 +0.2
ITAB Concordia 18.45 76 *e*P **P** 05 25 44.4 -0.7
ITAB *e*S **S** 05 29 17.3 +1.8
ITAB Concordia 18.45 76 *e*P **P** 05 25 44.4 -0.7
ITAB *e*S **S** 05 29 17.3 +1.8
CNLB Canela 18.75 83 *e*P **P** 05 25 48.3 -0.3
CNLB Canela 18.75 83 *e*P **P** 05 25 48.3 -0.3
AQDB Aquidauana 19.56 53 *e*P **P** 05 25 56.8 -0.5
AQDB Aquidauana 19.56 53 *e*P **P** 05 25 56.8 -0.5
PTGB Pitanga 19.66 69 *e*P **P** 05 25 58.5 0.0
PTGB Pitanga 19.66 69 *e*P **P** 05 25 58.5 0.0
SIV San Ignacio 20.06 33 P **P** 05 26 01.5 -1.3
comp=N,1.2nm,0.3s,baz=232,slow=12,SNR=27
SIV LR LR 05 35 11.9
comp=N,2μm,18.5s,baz=228,slow=41
TRCB Terra Rica 20.26 64 *e*P **P** 05 26 04.2 -0.8
TRCB Terra Rica 20.26 64 *e*P **P** 05 26 04.2 -0.8
EFI East Falkland 21.02 155 **P** 05 26 12.4 -0.6
USHA Ushuaia 21.63 174 P **P** 05 26 19.2 -0.3
comp=N,9.9nm,0.7s,baz=14,slow=6.3,SNR=2.0
NNA Nana 21.68 348 P **P** 05 26 21.8 +1.4
comp=N,12nm,0.9s,baz=207,slow=11,SNR=3.9
NNA Nana 21.68 348 IAmb IAmb 05 26 34.3
comp=Z,63nm,1.2s
PCMB Pacaembu 21.99 63 *e*P **P** 05 26 22.2 -1.5
PCMB Pacaembu 21.99 63 *e*P **P** 05 26 22.2 -1.5
PP1B Ponte de Pedra 22.17 49 *e*P **P** 05 26 25.2 -0.4
PP1B Ponte de Pedra 22.17 49 *e*P **P** 05 26 25.2 -0.4
FRTB Fartura 22.32 69 *e*P **P** 05 26 25.8 -1.4
FRTB *e*S **S** 05 30 34.1 +1.5
FRTB Fartura 22.32 69 *e*P **P** 05 26 25.8 -1.4
FRTB *e*S **S** 05 30 34.1 +1.5
ITRB Iturama 23.82 61 *e*P **P** 05 26 41.3 -1.3
ITRB Iturama 23.82 61 *e*P **P** 05 26 41.3 -1.3
SPB Sao Paulo 23.88 72 *e*P **P** 05 26 43.3 +0.2
SPB Sao Paulo 23.88 72 *e*P **P** 05 26 43.3 +0.2
SPB Sao Paulo 23.88 72 P **P** 05 26 43.2 +0.1
BB19B Bebedouro 24.37 66 *e*P **P** 05 26 46.7 -1.0
BB19B *e*S **S** 05 31 09.2 +2.1
BB19B Bebedouro 24.37 66 *e*P **P** 05 26 46.7 -1.0
BB19B *e*S **S** 05 31 09.2 +2.1
RCLB Rio Claro- Sao 24.40 70 *e*P **P** 05 26 47.5 -0.5
RCLB *e*S **S** 05 31 09.6 +2.0
RCLB Rio Claro- Sao 24.40 70 *e*P **P** 05 26 47.5 -0.5
RCLB *e*S **S** 05 31 09.6 +2.0
VAO Valinhos 24.54 72 *e*P **P** 05 26 49.4 0.0
VAO Valinhos 24.54 72 *e*P **P** 05 26 49.4 0.0
ARAG Araguaiana, MT 25.54 51 *e*P **P** 05 26 57.5 -0.8
ARAG Araguaiana, MT 25.54 51 *e*P **P** 05 26 57.5 -0.8
SAML Samuel 25.71 21 *e*P **P** 05 27 00.0 +0.1
SAML *e*S **S** 05 31 30.2 +1.7
SAML Samuel 25.71 21 *e*P **P** 05 27 00.0 +0.1
SAML *e*S **S** 05 31 30.2 +1.7
SAML Samuel 25.71 21 P **P** 05 26 59.8 -0.1
SAML IAmb IAmb 05 27 03.5
comp=Z,31nm,0.9s
IPMB Ipameri, GO 26.48 61 *e*P **P** 05 27 05.1 -1.8
IPMB Ipameri, GO 26.48 61 *e*P **P** 05 27 05.1 -1.8
ESAR Ângra dos Reis 26.56 74 *e*P **P** 05 27 05.6 -1.9
ESAR Angra dos Reis 26.56 74 *e*P **P** 05 27 05.6 -1.9
MAN01 Angra dos Reis 27.02 75 *e*P **P** 05 27 12.1 +0.4
MAN01 Angra dos Reis 27.02 75 *e*P **P** 05 27 12.1 +0.4
CLDB Colider 27.03 38 *e*P **P** 05 27 10.4 -1.4
CLDB Colider 27.03 38 *e*P **P** 05 27 10.4 -1.4
BSCB Bom Sucesso 27.32 70 *e*P **P** 05 27 13.3 -1.2
BSCB Bom Sucesso 27.32 70 *e*P **P** 05 27 13.3 -1.2
PMNB Patos De Minas 27.45 64 *e*P **P** 05 27 14.9 -0.7
PMNB Patos De Minas 27.45 64 *e*P **P** 05 27 14.9 -0.7
VAS01 Vassouras-RJ 27.72 74 *e*P **P** 05 27 17.5 -0.5
VAS01 Vassouras-RJ 27.72 74 *e*P **P** 05 27 17.5 -0.5
BDFB Brasilia 28.17 57 P **P** 05 27 20.1 -2.0
comp=Z,14nm,0.7s,baz=225,slow=7.5,SNR=15
BDFB LR LR 05 40 20.8
comp=Z,923nm,21.4s,baz=227,slow=40
BDFB Brasilia 28.17 57 P **P** 05 27 20.8 -1.3
BDFB IAmb IAmb 05 27 23.2
comp=Z,17nm,0.9s
DUB01 Friburgo-RJ 28.68 75 *e*P **P** 05 27 26.3 -0.3
DUB01 Friburgo-RJ 28.68 75 *e*P **P** 05 27 26.3 -0.3
CAM01 Campos-RJ 29.38 75 *e*P **P** 05 27 32.3 -0.5
CAM01 Campos-RJ 29.38 75 *e*P **P** 05 27 32.3 -0.5
PEXB Peixe 30.48 52 *e*P **P** 05 27 42.1 -0.5
PEXB Peixe 30.48 52 *e*P **P** 05 27 42.1 -0.5
SJMB Sao Joao De Ma 31.40 70 *e*P **P** 05 27 50.4 -0.2
SJMB Sao Joao De Ma 31.40 70 *e*P **P** 05 27 50.4 -0.2
BSFB Barra de Sao F 31.59 71 *e*P **P** 05 27 51.8 -0.5
BSFB Barra de Sao F 31.59 71 *e*P **P** 05 27 51.8 -0.5
RIB01 Linhares ES 31.69 72 *e*P **P** 05 27 52.8 -0.4
RIB01 Linhares ES 31.69 72 *e*P **P** 05 27 52.8 -0.4
PMSA Palmer Station 31.84 173 LR LR 05 41 01.0
comp=Z,880nm,18.8s,baz=332,slow=37
OTAV Otavalo 33.92 349 *e*P **P** 05 28 11.0 -2.2
OTAV Otavalo 33.92 349 *e*P **P** 05 28 11.0 -2.2
OTAV Otavalo 33.92 349 P **P** 05 28 16.1 +2.9
NBIT Itapeh - BA 34.95 66 *e*P **P** 05 28 21.9 +0.2
NBIT Itapeh - BA 34.95 66 *e*P **P** 05 28 21.9 +0.2
NBPN Ponto Novo - B 36.99 60 *e*P **P** 05 28 38.2 -0.9
NBPN Ponto Novo - B 36.99 60 *e*P **P** 05 28 38.2 -0.9
NBLA Lagarto - SE 38.67 63 *e*P **P** 05 28 52.0 -1.4
NBLA Lagarto - SE 38.67 63 *e*P **P** 05 28 52.0 -1.4
NBTA Tacaratu-PE 39.70 60 *e*P **P** 05 29 01.1 -0.8
NBTA Tacaratu-PE 39.70 60 *e*P **P** 05 29 01.1 -0.8
NBMA Muriti-CE 40.40 58 *e*P **P** 05 29 07.7 -0.1
NBMA Muriti-CE 40.40 58 *e*P **P** 05 29 07.7 -0.1
NBAN Anadia - AL 40.65 63 *e*P **P** 05 29 08.7 -1.2
NBAN Anadia - AL 40.65 63 *e*P **P** 05 29 08.7 -1.2
NBPS Pedro II - PI 40.71 52 *e*P **P** 05 29 09.3 -1.1
NBPS Pedro II - PI 40.71 52 *e*P **P** 05 29 09.3 -1.1
NBPB Pedra_Branca-C 41.12 55 *e*P **P** 05 29 13.3 -0.4
NBPB Pedra_Branca-C 41.12 55 *e*P **P** 05 29 13.3 -0.4
NBLI Livramento-PB 41.69 60 *e*P **P** 05 29 17.6 -0.8
NBLI Livramento-PB 41.69 60 *e*P **P** 05 29 17.6 -0.8
SDV Santo Domingo 42.05 2 P **P** 05 29 21.2 -0.2
comp=Z,8.6nm,0.9s,baz=215,slow=7.1,SNR=5.8
SDV LR LR 05 48 33.8
comp=Z,271nm,18.1s,baz=206,slow=39
SDV Santo Domingo 42.05 2 *e*P **P** 05 29 19.3 -2.1
SDV Santo Domingo 42.05 2 *e*P **P** 05 29 19.3 -2.1
SDV Santo Domingo 42.05 2 P **P** 05 29 22.0 +0.6
SDV IAmb IAmb 05 29 32.8
comp=Z,20nm,1.1s
NBRF Rio Formoso - 42.15 63 *e*P **P** 05 29 20.3 -1.9
NBRF Rio Formoso - 42.15 63 *e*P **P** 05 29 20.3 -1.9
MDP Montagnes Ies 42.55 30 LR LR 05 49 00.3
comp=Z,1μm,21.1s,baz=199,slow=39
NBPA Parau_RN 42.69 58 *e*P **P** 05 29 26.2 -0.3
NBPA Parau_RN 42.69 58 *e*P **P** 05 29 26.2 -0.3
NBCL Cascavel-CE 42.95 55 *e*P **P** 05 29 27.8 -0.9
NBCL Cascavel-CE 42.95 55 *e*P **P** 05 29 27.8 -0.9
NBPV Pedro Velho 43.54 60 *e*P **P** 05 29 32.6 -0.8
NBPV Pedro Velho 43.54 60 *e*P **P** 05 29 32.6 -0.8
TOSP Speyside 45.81 16 P **P** 05 29 52.0 +0.6
VNA3 Neumayer Olymp 50.03 158 P **P** 05 30 24.0 +0.4
VNA1 Neumayer--Stat 50.34 157 P **P** 05 30 27.8 +2.0
VNA2 Neumayer--Watz 50.68 157 P **P** 05 30 28.7 +0.2
baz=288,slow=8.1
APG El Apazote 51.13 337 LR LR 05 48 30.2
comp=Z,111nm,18.4s,baz=92,slow=32
MLPR Magueyes Islan 51.29 6 P **P** 05 30 33.6 0.0
OBIP Obispado Ponce 51.41 7 P **P** 05 30 34.6 +0.2
AGPR Aguadilla, PR 51.78 6 P **P** 05 30 37.2 0.0
SNAA Sanae 52.25 158 P **P** 05 30 40.7 +0.4
SNAA Sanae 52.25 158 P **P** 05 30 40.8 +0.5
TEIG Tepich 55.43 342 P **P** 05 31 04.5 +0.5
QSPA South Pole Qui 56.87 180 P **P** 05 31 14.4 +0.4
comp=Z,16nm,0.9s,baz=144,slow=2.1,SNR=29
QSPA South Pole Qui 56.87 180 P **P** 05 31 15.1 +1.1
QSPA IAmb IAmb 05 31 16.6
comp=Z,22nm,0.9s
SYO Syowa Base 66.53 159 ⇑ *e*P **P** 05 32 16.0 -2.9
SYO Syowa Base 66.53 159 ⇑ *p*P **P** 05 32 18.0 -0.9
SYO Syowa Base 66.53 159 ⇓ *e*S*P* sP 05 32 20.8 -2.5
TAOE Nuku Hiva Isla 66.70 275 *e*S **S** 05 41 15.7 +2.8
comp=Z,299nm,23.6s
TAOE Nuku Hiva Isla 66.70 275 *e*LR LR 05 52 30.8
comp=Z,186nm,23.2s,baz=137
GOGA Godfrey 67.25 350 P **P** 05 32 24.5 +0.7
GOGA IAmb IAmb 05 32 42.2
comp=Z,13nm,1.4s
TBI Tubuai 67.25 256 *e*S **S** 05 41 19.2 0.0
comp=Z,320nm,26.8s
TBI Tubuai 67.25 256 *e*LR LR 05 52 52.9
comp=Z,446nm,28.8s,baz=111
Z50A Ashland 67.50 348 P **P** 05 32 25.8 +0.4
Z50A IAmb IAmb 05 32 42.9
comp=Z,7.3nm,1.1s
Y52A Lilburn 67.78 349 P **P** 05 32 27.9 +0.8
Y52A IAmb IAmb 05 32 38.8
comp=Z,7.1nm,0.9s
TX32 Lajitas Array 69.08 331 P **P** 05 32 37.0 +1.6
TXAR Lajitas Array 69.08 331 P **P** 05 32 35.8 +0.3
comp=Z,0.6nm,0.6s,baz=146,slow=8.4,SNR=6.8
TXAR Lajitas Array 69.08 331 P **P** 05 32 36.5 +1.0
TX31 Lajitas Ar. Si 69.08 331 P **P** 05 32 36.9 +1.4
V58A Windy Hill, Pi 69.10 354 P **P** 05 32 37.2 +1.9
V58A IAmb IAmb 05 32 41.9
comp=Z,8.0nm,1.1s
V53A Saluda 69.38 351 P **P** 05 32 37.4 +0.2
V53A IAmb IAmb 05 32 46.9
comp=Z,18nm,1.4s
SWET Sewanee 69.41 348 P **P** 05 32 38.1 +0.7
SWET IAmb IAmb 05 32 50.9
comp=Z,22nm,1.5s
PLAL Pickwick Lake 69.58 346 P **P** 05 32 39.2 +0.9
V48A Smith Brothers 70.08 347 P **P** 05 32 42.2 +0.8
PPT2 Papeete2 70.11 262 *e*S **S** 05 41 52.7 -0.7
comp=Z,142nm,22.5s
PPT2 Papeete2 70.11 262 *e*LR LR 05 54 05.4
comp=Z,277nm,29.5s,baz=123
WVT Waverly 70.64 347 P **P** 05 32 44.6 -0.2
WVT IAmb IAmb 05 32 46.8
comp=Z,11nm,0.9s
LCAR Lake Charles 71.29 344 P **P** 05 32 49.2 +0.5
LCAR IAmb IAmb 05 33 06.9
comp=Z,7.2nm,0.9s
MNTX Cornudas Mount 71.85 331 P **P** 05 32 52.3 0.0
CCM Cathedral Cave 73.21 344 P **P** 05 33 00.8 +0.6
CCM IAmb IAmb 05 33 11.3
comp=Z,14nm,1.2s
121A Cookes Peak, D 73.58 329 **PcP** 05 33 15.9 -2.8
MAW Mawson 73.85 164 P **P** 05 33 03.8 +0.1
comp=Z,8.9nm,0.8s,baz=193,slow=5.5,SNR=13
MAW Mawson 73.85 164 P **P** 05 33 04.2 +0.5
LIC Lamto 74.78 72 *e*P **P** 05 33 10.3 +0.3
comp=Z,24nm,0.7s
TIC Toumodi 75.04 72 *e*P **P** 05 33 09.6 -1.9
comp=Z,2.5nm,0.3s
KIC Kosan Boka 75.09 72 *e*P **P** 05 33 11.8 0.0
comp=Z,24nm,0.7s
DBIC Dimbokro 75.19 72 P **P** 05 33 12.0 -0.3
comp=Z,6.2nm,0.6s,baz=225,slow=5.8,SNR=15
DBIC Dimbokro 75.19 72 P **P** 05 33 12.4 +0.1
DBIC IAmb IAmb 05 33 13.7
comp=Z,14nm,1.1s
SUR Sutherland 75.33 119 P **P** 05 33 14.1 +0.8
SUR IAmb IAmb 05 33 24.4
comp=Z,26nm,1.2s
Y12C Blythe 77.66 325 **PcP** 05 33 39.6 +3.6
WUAZ Wupatki 77.68 328 **PcP** 05 33 37.8 +1.5
PFO Pinyon Flats O 78.50 324 P **P** 05 33 26.9 -3.9
SHPR Sheep Range 80.21 326 P **P** 05 33 42.9 +2.9
CCUT Cedar City 80.25 328 P **P** 05 33 42.7 +2.4
BOSA Boshof 80.56 118 P **P** 05 33 41.9 -0.5
comp=Z,9.6nm,0.9s,baz=228,slow=4.3,SNR=8.8
BOSA Boshof 80.56 118 P **P** 05 33 42.0 -0.3
BOSA IAmb IAmb 05 33 43.3
comp=Z,13nm,1.0s
LBTB Lobatse 82.77 115 P **P** 05 33 54.0 0.0
HWUT Hardware Ranch 82.89 331 IAmb IAmb 05 33 56.8
comp=Z,14nm,1.5s
PDAR Pinedale Array 83.10 333 P **P** 05 33 55.8 +0.5
comp=Z,0.9nm,0.9s,baz=128,slow=5.8,SNR=5.0
NVAR Mina Array Bea 83.24 325 P **P** 05 33 57.9 +1.8
comp=Z,0.5nm,0.7s,baz=130,slow=6.3,SNR=5.7
KVN Kaiserville 83.64 326 IAmb IAmb 05 34 12.9
comp=Z,6.0nm,1.3s
TOA0 Torodi Ar. Sit 84.20 70 P **P** 05 34 00.4 -0.9
TORD Torodi Ar. Bea 84.20 70 P **P** 05 34 00.9 -0.4
comp=Z,12nm,0.8s,baz=266,slow=4.5,SNR=34
TORD Torodi Ar. Bea 84.20 70 P **P** 05 34 00.4 -0.9
IMW Indian Meadow 84.59 333 IAmb IAmb 05 34 14.3
comp=Z,5.1nm,1.2s
ORV Oroville 85.67 324 IAmb IAmb 05 34 28.2
comp=Z,12nm,1.4s
DLMT Dillon 86.46 333 IAmb IAmb 05 34 16.6
comp=Z,6.8nm,1.2s
PLID Pearl Lake 87.58 331 IAmb IAmb 05 34 21.0
comp=Z,12nm,1.1s
PINE Pine Mountain 88.68 327 IAmb IAmb 05 34 26.3
comp=Z,10nm,1.2s
LSZ Lusaka 90.21 108 P **P** 05 34 32.1 +1.5
LSZ IAmb IAmb 05 34 34.4
comp=Z,7.4nm,1.2s
TAM Tamanrasset 92.75 65 P **P** 05 34 43.5 +1.3
TAM IAmb IAmb 05 34 44.4
comp=Z,2.8nm,0.9s
DZM Mont Dzumac 101.44 234 *e*LR LR 06 08 52.9
comp=Z,185nm,22.9s
WRA Warramunga Arr 121.21 210 PKP **PKPdf** 05 40 22.4 -0.6
comp=Z,1.3nm,0.8s,baz=172,slow=6.7,SNR=8.5
WRA Warramunga Arr 121.21 210 **PKPdf** 05 40 21.7 -1.4
AKASG Malin Array Be 121.92 47 PKP **PKPdf** 05 40 21.2 -2.1
comp=Z,0.2nm,0.3s,baz=249,slow=2.6,SNR=2.9
ABKAR Akbulak array 141.46 51 PKPpre 05 40 53.3
ABKAR Akbulak array 141.46 51 PKPpre 05 40 54.8
PALK Pallekele 143.96 130 PKPab 05 41 02.7 -0.3
POO Poona 146.34 108 *e*P **PKiKP** 05 41 15.5 +1.6
GSI Gunungsitoli 146.72 161 **PKPbc** 05 41 12.4 +0.3
BRVK Borovoye 146.89 42 **PKPab** 05 41 12.5 -0.3
HYB Hyderabad 149.39 114 *i* PKP **PKPdf** 05 41 16.0 +1.3
KKAR Karatay Array 149.43 61 **PKPbc** 05 41 17.8 -0.6
IPM Ipoh 150.59 166 **PKPbc** 05 41 21.7 -0.4
KULM Kulim 151.31 165 **PKPbc** 05 41 23.1 -0.7
EKS2 Erkin-Say 151.87 61 P **PKiKP** 05 41 25.5 +0.8
SNR=6.3
USP Ospenovka 152.30 59 P **PKiKP** 05 41 25.8 +0.2
SNR=5.5
AAK Ala-Archa 152.39 61 P **PKiKP** 05 41 27.3 +1.4
SNR=7.2
AAK Ala-Archa 152.39 61 **PKiKP** 05 41 26.1 +0.2
AAK PKPab **PKPab** 05 41 36.1 +0.3
UCH Uchtor 152.47 62 P **PKiKP** 05 41 27.0 +0.6
SNR=7.8
KURK Kurchatov 152.56 42 **PKPdf** 05 41 19.3 +0.8
KURK **PKiKP** 05 41 26.0 +0.3
KURK PKPab **PKPab** 05 41 36.2 +0.3
TKM2 Tokmak 2 153.15 60 P **PKiKP** 05 41 28.5 +1.0
SNR=5.4
ZAA0 Zalesovo Array 153.80 31 **PKPdf** 05 41 20.0 -0.2
ZAA0 **PKiKP** 05 41 28.6 +0.4
ZALV Zalesovo Beam 153.80 31 PKP **PKPdf** 05 41 19.8 -0.4
comp=Z,4.9nm,1.1s,baz=294,slow=1.4,SNR=6.8
ZALV PKPbc **PKPbc** 05 41 27.9 -0.2
comp=Z,3.9nm,0.7s,baz=294,slow=3.5,SNR=10
ZALV Zalesovo Beam 153.80 31 **PKPdf** 05 41 19.6 -0.6
ZALV **PKiKP** 05 41 29.2 +1.0
KSH Kashi 153.84 67 PKPbc **PKPdf** 05 41 19.8 -1.1
KSH PKS **PKSdf** 05 44 53.5 -1.8
KSH SKS **SKSdf** 05 48 22.3 -5.4
KSH SS **SS** 06 04 46.3 -8.1
KSH LR LR
comp=Z,280nm,10.5s
MKAR Makanchi Array 156.51 48 PKP **PKPdf** 05 41 23.3 -0.9
comp=Z,1.8nm,1.0s,baz=264,slow=2.9,SNR=6.5
MKAR PKPab **PKPab** 05 41 52.3 -0.7
comp=Z,4.3nm,0.7s,baz=284,slow=4.2,SNR=16
MKAR Makanchi Array 156.51 48 **PKPdf** 05 41 24.3 +0.1
MKAR PKPab **PKPab** 05 41 52.7 -0.3
WMQ Urumqi 161.25 50 *e*PKP **PKPdf** 05 41 30.5 +0.6
ULN Ulaanbaatar 165.51 2 **PKPab** 05 42 31.6 -0.6
SONM Songino Array 165.51 4 PKPab **PKPab** 05 42 32.7 +0.4
comp=Z,0.7nm,0.6s,baz=328,slow=5.1,SNR=7.2
SONM Songino Array 165.51 4 **PKPab** 05 42 33.0 +0.8
NJ2 Nanjing 170.51 265 *e*PKP **PKPdf** 05 41 38.3 +0.6
GTA Gaotai 171.24 44 *e*PKP **PKPdf** 05 41 40.0 +2.0
GTA pPKP sPKPdf 05 41 50.0 +7.4
GTA sPKP 05 41 54.8
GTA PKPab **pPKPab** 05 43 00.0 -1.3
HHC Hu-ho-hao-te 171.92 339 *e*PKP **PKPdf** 05 41 38.5 +0.2
LZH Lanzhou 175.82 48 *e*PKP **PKPdf** 05 41 39.0 -0.9
LZH pPKP sPKPdf 05 41 50.5 +6.0
LZH sPKP 05 41 52.0
CD2 Chengdu 175.86 125 PKP **PKPdf** 05 41 39.0 -0.9
XAN Xi'an 178.78 304 PKP **PKPdf** 05 41 48.5 +0.3
XAN pPKP sPKPdf 05 41 48.8 +3.9

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*ISCJB **29** 05:31:06.6±0.9, 19°.34S±0°.10×169°.2E±0°.1, h10km, mb4.0/3, MS3.6/3, Error ellipse: s-maj=16.4km s-min=12.3km az=35.3*
*IDC **29** 05:31:07.7±9.8, 19°.27S×169°.03E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/26, mbtmp4.0/4, ML3.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/33, Error ellipse: s-maj=181.8km s-min=50.5km az=102.0*
*NEIC **29** 05:31:08.5±1.6, 19°.4S±0°.1×169°.3E±0°.2, h10km±4km, mb4.4/6*
ISC 29 05:31:08.3±0.9,**19°.4S**±0°.1×**169°.3E**±0°.1,**h10**km,**n20,**
σ1°**05**/19,**mb4.3**/6,**MS3.4**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.76**	**224**	Pn	**Pn**	**05 32 05.2**	**-1.2**
3.7nm,0.3s,baz=78,slow=19,SNR=44							
DZM				Sn	**Sn**	**05 32 51.3**	**+0.4**
4.7nm,0.3s,baz=338,slow=23,SNR=13							
DZM	**Mont Dzumac**	**3.76**	**224**		**Pn**	**05 32 05.3**	**-1.2**
DZM					**Sn**	**05 32 52.6**	**+1.8**
MSVF	**Nonsavu**	**8.48**	**80**		Pn	05 33 03.4	-8.0
RAO	**Raoul Island**	**15.23**	**133**	LR	LR	05 38 30.2	
comp=Z,106nm,20.6s,baz=300,slow=29							
CMWZ	**Cape Campbell**	**22.67**	**170**	P	**P**	**05 36 11.2**	**+1.3**
OXZ	**Oxford**	**23.97**	**175**	P	**P**	**05 36 23.0**	**+0.2**
OXZ				IAmb	IAmb	05 36 37.4	
comp=Z,36nm,1.5s							
STKA	**Stephens Creek**	**27.80**	**238**	P	**P**	**05 36 57.3**	**-0.4**
comp=Z,1.4nm,0.6s,baz=126,slow=11,SNR=3.6							
STKA				LR	LR	05 48 01.3	
comp=Z,67nm,19.0s,baz=29,slow=37							
STKA	**Stephens Creek**	**27.80**	**238**	P	**P**	**05 36 58.3**	**+0.6**
WRA	**Warramunga Arr**	**32.87**	**263**	P	**P**	**05 37 41.8**	**-1.0**
comp=Z,0.5nm,0.4s,baz=90,slow=8.4,SNR=9.1							
WRA	**Warramunga Arr**	**32.87**	**263**	P	**P**	**05 37 42.5**	**-0.3**
AS31	**Alice Springs**	**33.13**	**256**	P	**P**	**05 37 45.2**	**+0.2**
AS31				IAmb	IAmb	05 37 45.5	
comp=Z,1.8nm,0.7s							
ASAR	**Alice Springs**	**33.13**	**256**	P	**P**	**05 37 44.5**	**-0.4**
comp=Z,4.5nm,0.7s,baz=86,slow=9.1,SNR=54							
ASAR				LR	LR	05 50 39.5	
comp=Z,66nm,19.2s,baz=90,slow=36							
KAPI	**Kappang**	**50.28**	**280**	P	**P**	**05 40 06.0**	**+0.6**
VNDA	**Vanda**	**58.27**	**182**	P	**P**	**05 41 02.4**	**-0.3**
QSPA	**South Pole Qui**	**70.66**	**180**	P	**P**	**05 42 23.6**	**-0.4**
QSPA				IAmb	IAmb	05 42 27.9	
comp=Z,3.5nm,1.1s							
PETK	**Petropavlovsk-**	**72.90**	**353**	P	**P**	**05 42 38.3**	**+0.9**
NEW	**Newport**	**93.87**	**40**	LR	LR	06 22 13.2	
comp=Z,75nm,19.3s,baz=150,slow=33							
BURAR	**Bucovina Array**	**139.48**	**322**	PKPdf	**PKPdf**	**05 50 34.1**	**-2.1**
SGRT	**San Giovanni R**	**148.36**	**321**	PKPdf	**PKPdf**	**05 50 52.1**	**+0.2**
NRCA	**Norcia**	**149.18**	**325**	PKPdf	**PKPdf**	**05 50 54.5**	**+1.4**

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*IDC **29** 05:34:46.9±1.4, 33°.35S

PEL	Peldehue	1.27	83		Pg	05 35 13.4	-0.3
GO05	Huala	1.70	173		Pn	05 35 18.2	+0.3
GO05					Sb	05 35 40.1	-0.8
CFA	Coronel Fontan	3.75	64	Pn	Pn	05 35 43.2	-2.8
	2.9nm,0.3s,baz=329,slow=19,SNR=8.2						
CFA				Pg	Pb	05 35 53.3	-1.4
	8.4nm,0.3s,baz=248,slow=12,SNR=6.5						
CFA				Lg	Lg	05 36 43.3	
	1.5nm,0.3s,baz=114,slow=10.0,SNR=1.7						
GO03	Copiap	5.95	17	Pn	Pn	05 36 16.5	+0.3
GO06	Curarrehue	6.28	175		Pn	05 36 20.0	-0.8
PLCA	Paso Flores	7.52	170	Pn	Pn	05 36 37.0	-0.8
	0.6nm,0.3s,baz=349,slow=10,SNR=11						
PLCA				Lg	Lg	05 38 40.0	
	0.1nm,0.3s,baz=279,slow=19,SNR=2.1						
PLCA	Paso Flores	7.52	170		Pn	05 36 37.2	-0.5
GO02	Mina Guanaco	8.44	16	Pn	Pn	05 36 52.3	+1.7
LVC	Limon Verde	11.05	16	Pn	Pn	05 37 25.1	-1.4
	0.3nm,0.3s,baz=171,slow=13,SNR=2.8						
LVC				Lg	Lg	05 40 10.6	
	0.2nm,0.3s,baz=359,slow=18,SNR=2.7						
LVC	Limon Verde	11.05	16		Pn	05 37 23.8	-2.7
GO01	Chusmiza	13.85	12		P	05 38 09.7	-3.5
MNMC	Minye Minye	14.32	10		Pn	05 38 14.0	+2.9
CPUP	Villa Florida	14.65	66	Lg	Lg	05 42 10.0	
	0.1nm,0.3s,baz=314,slow=13,SNR=3.0						
LPAZ	La Paz	17.35	13	P	Pn	05 38 50.1	-0.7
	0.1nm,0.3s,baz=188,slow=9.4,SNR=10						
LPAZ	La Paz	17.35	13	P	Pn	05 38 50.0	-0.8
LPAZ				IAmb	IAmb	05 39 06.9	
	comp=Z,3.1nm,0.8s						
SIV	San Ignacio	19.96	33	P	P	05 39 20.2	-0.1
	comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=7.7						
SIV				S	Sn	05 43 07.3	+1.1
	comp=Z,0.4nm,0.3s,baz=226,slow=12,SNR=6.9						
SNAA	Sanae	52.26	158	P	P	05 43 58.9	+0.1
	comp=Z,1.3nm,0.8s,baz=267,slow=5.9,SNR=7.3						
SNAA	Sanae	52.26	158	P	P	05 43 59.5	+0.7
SNAA				IAmb	IAmb	05 44 11.0	
	comp=Z,2.1nm,0.9s						
QSPA	South Pole Qui	56.92	180	P	P	05 44 33.6	+0.9
	comp=Z,2.1nm,0.9s,baz=136,slow=2.4,SNR=5.6						
QSPA	South Pole Qui	56.92	180	P	P	05 44 34.1	+1.4
QSPA				IAmb	IAmb	05 44 34.6	
	comp=Z,4.8nm,1.1s						
TORD	Torodi Ar. Bea	84.10	70	P	P	05 47 19.4	+0.3
	comp=Z,0.9nm,0.7s,baz=245,slow=5.6,SNR=5.5						
TORD	Torodi Ar. Bea	84.10	70	P	P	05 47 20.2	+1.2
MKAR	Makanchi Array	156.40	48	PKPab	PKPab	05 55 11.3	+0.5
	comp=Z,0.6nm,0.7s,baz=276,slow=6.0,SNR=4.2						
MKAR	Makanchi Array	156.40	48		PKPab	05 55 11.8	+0.9

*IDC **29** 05:38:06.0±1.7, 33°.26S×73°.12W, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.7/32, mbtmp3.9/7, ML3.7/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/32, Error ellipse: s-maj=50.8km s-min=21.0km az=110.0*

*NEIC **29** 05:38:12.7±2.9, 33°.31S±0°.06×72°.5W±0°.1, h35km±2km, mb4.2/4, ML4.3(GUC)*

*GUC **29** 05:38:20.5±0.8, 33°.30S×72°.87W, h10km±21km, ML4.4*

ISC 29 05:38:07.8±1.0, 33°.33S±0°.07×73°.0W±0°.1, h5km, n30, σ1§16/22, mb4.2/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	El Roble	1.71	79		Pn	05 38 32.8	-5.7
ROC1				Sn	Sn	05 38 48.2	-13
ROCH	El Roble	1.71	79	*e*P	Pg	05 38 49.7	+9.0
ROCH				*i* S	Sg	05 39 13.3	+10
ROCH				IAML		05 39 17.6	
	comp=N,5μm,0.5s						
GO05	Huala	1.90	152		Pn	05 38 39.1	-1.8
PEL	Peldehue	1.96	85	*e*P	Pg	05 38 53.7	+8.4
PEL				*i* S	Sg	05 39 19.4	+8.7
PEL				IAML		05 39 29.0	
	comp=N,4μm,0.6s						
PEL	Peldehue	1.96	85		Pn	05 38 35.8	-5.8
PEL				Sn	Sn	05 38 55.5	-11
ANTU	Antumapu	2.00	98	*e*P	Pg	05 38 54.8	+8.6
ANTU				*e*S	Sg	05 39 20.7	+8.7
CLCH	Cerro Calan	2.07	93	*e*P	Pg	05 38 56.1	+8.6
CLCH				*i* S	Sg	05 39 22.2	+7.9
CLCH				IAML		05 39 26.1	
	comp=E,6μm,0.6s						
FCH	Farellones	2.28	91	*e*P	Pg	05 38 59.7	+8.3
FCH				*e*S	Sg	05 39 29.0	+8.0
FCH				IAML		05 39 33.9	
	comp=E,3μm,0.3s						
GO04	Tololo Observa	3.67	31	Pn	Pn	05 39 04.4	-1.0
CFA	Coronel Fontan	4.38	68	Pn	Pn	05 39 16.2	+1.2
	comp=E,3.3nm,0.3s,baz=248,slow=16,SNR=8.2						
CFA				Sn	Sn	05 40 07.1	+0.5
	comp=E,12nm,0.3s,baz=238,slow=11,SNR=4.5						
CFA				LR	LR	05 40 54.8	
	comp=E,713nm,18.6s,baz=267,slow=38						
GO03	Copiap	6.20	23	Pn	Pn	05 39 39.4	-0.7
GO06	Curarrehue	6.36	169		Pn	05 39 42.9	+0.6
PLCA	Paso Flores	7.65	166	Pn	Pn	05 39 59.6	-0.2
	comp=E,0.4nm,0.3s,baz=11,slow=12,SNR=2.9						
PLCA				Lg	Lg	05 42 05.2	
	comp=E,0.2nm,0.3s,baz=258,slow=20,SNR=2.2						
PLCA				LR	LR	05 42 33.3	
	comp=E,86nm,19.2s,baz=14,slow=34						
PLCA	Paso Flores	7.65	166	Pn	Pn	05 39 59.9	0.0
CPUP	Villa Florida	15.28	67	LR	LR	05 47 43.4	
	comp=E,281nm,19.8s,baz=242,slow=38						
LPAZ	La Paz	17.53	16	P	Pn	05 42 12.5	-1.1
	comp=E,0.1nm,0.3s,baz=200,slow=13,SNR=3.1						
LPAZ	La Paz	17.53	16	P	P	05 42 15.3	+0.5
LPAZ				IAmb	IAmb	05 42 20.5	
	comp=Z,4.9nm,1.0s						
SIV	San Ignacio	20.36	35	P	P	05 42 43.7	-1.6
	comp=Z,2.2nm,0.8s,baz=218,slow=12,SNR=9.6						
SIV				LR	LR	05 51 09.5	
	comp=Z,112nm,19.7s,baz=240,slow=38						
BDFB	Brasilia	28.65	58	LR	LR	05 56 30.5	
	comp=Z,202nm,18.8s,baz=269,slow=38						
VNA3	Neumayer Olymp	50.28	158	P	P	05 47 05.3	+0.6
VNA1	Neumayer--Stat	50.60	157	P	P	05 47 09.6	+2.4
VNA2	Neumayer--Watz	50.94	157	P	P	05 47 10.2	+0.5
	baz=276,slow=7.4						
SNAA	Sanae	52.51	158	P	P	05 47 22.1	+0.6
SNAA	Sanae	52.51	158	P	P	05 47 21.0	-0.5
	comp=Z,1.7nm,0.8s,baz=276,slow=6.1,SNR=8.1						
SNAA	Sanae	52.51	158	P	P	05 47 21.9	+0.3
SNAA				IAmb	IAmb	05 47 32.0	
	comp=Z,6.4nm,1.1s						
QSPA	South Pole Qui	56.90	180	P	P	05 47 53.4	-0.1
	comp=Z,2.3nm,0.9s,baz=140,slow=4.6,SNR=5.0						
QSPA	South Pole Qui	56.90	180	P	P	05 47 55.5	+2.0
QSPA				IAmb	IAmb	05 48 12.4	
	comp=Z,3.5nm,1.1s						
TORD	Torodi Ar. Bea	84.75	71	P	P	05 50 42.4	-0.9
	comp=Z,1.3nm,0.8s,baz=237,slow=5.7,SNR=6.2						
TORD	Torodi Ar. Bea	84.75	71	P	P	05 50 42.5	-0.9
MKAR	Makanchi Array	156.92	47	PKPab	PKPab	05 58 32.8	-1.4
	comp=Z,0.5nm,0.7s,baz=300,slow=3.2,SNR=4.1						

*ISCJB **29** 05:41:42.3±1.9, 33°.45S±0°.05×72°.40W±0°.05, h11km±14km, mb3.9/3, Error ellipse: s-maj=7.9km s-min=6.1km az=159.2*

*IDC **29** 05:41:43.4±1.9, 33°.44S×71°.70W, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.7/30, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=61.3km s-min=20.8km az=108.0*

*NEIC **29** 05:41:44.5±1.8, 33°.43S±0°.05×72°.2W±0°.1, h13km±2km*

*GUC **29** 05:41:44.5±0.7, 33°.42S×72°.32W, h40km±4km, ML3.8*

ISC 29 05:41:44.7±2.0, 33°.45S±0°.06×72°.20W±0°.07, h14km±12km, n32, σ0§95/38, mb4.1/6, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.63	48	‖ *i* P	Pb	05 41 57.5	0.0
VA01				*e*S	Sn	05 42 08.1	-1.1
ROC1	El Roble	1.10	65		Pb	05 42 05.5	-0.2
ROCH	El Roble	1.11	65	*e*P	Pb	05 42 05.0	-0.8
ROCH				*i* S	Sn	05 42 21.7	+0.5
ROCH				IAML		05 42 27.8	
	comp=E,2μm,0.5s						
PEL	Peldehue	1.31	77	*e*P	Pb	05 42 08.9	-0.2
PEL				*i* S	Sg	05 42 27.1	+0.2
PEL				IAML		05 42 36.0	
	comp=E,2μm,0.4s						
PEL	Peldehue	1.31	77		Pn	05 42 08.5	-0.2
CLCH	Cerro Calan	1.40	88	*e*P	Pn	05 42 10.2	+0.3
CLCH				*i* S	Sg	05 42 29.9	+0.1
FSR	Penalolen	1.40	92	*e*P	Pg	05 42 11.7	0.0
FSR				*i* S	Sg	05 42 30.0	+0.1
GO05	Huala	1.58	172	Pn	Pn	05 42 11.7	-0.7
FCH	Farellones	1.60	86	*e*P	Pb	05 42 14.0	-0.4
FCH				*i* S	Sg	05 42 36.1	-0.4
FCH				IAML		05 42 41.0	
	comp=E,2μm,0.3s						
LMEL	Las Melosas	1.72	104	*e*P	Pn	05 42 14.9	+0.5
LMEL				*i* S	Sb	05 42 38.4	+0.7
LMEL				IAML		05 42 46.5	
	comp=N,2μm,0.3s						
GO04	Tololo Observa	3.48	20	Pn	Pn	05 42 37.7	-1.0
CFA	Coronel Fontan	3.82	62	Pg	Pn	05 42 45.6	+2.4
	comp=N,2.1nm,0.3s,baz=241,slow=15,SNR=5.2						
CFA				Lg	Lg	05 43 39.8	
	comp=N,5.9nm,0.3s,baz=0.0,slow=20,SNR=2.6						
GO03	Copiap	6.08	17	Pn	Pn	05 43 12.5	-1.8
GO06	Curarrehue	6.15	175	Pn	Pn	05 43 15.4	+0.1
PLCA	Paso Flores	7.39	170	Pn	Pn	05 43 32.0	-0.3
	comp=N,0.4nm,0.3s,baz=354,slow=13,SNR=4.4						
PLCA	Paso Flores	7.39	170		Pn	05 43 32.6	+0.3
LVC	Limon Verde	11.18	16	Pn	Pn	05 44 19.1	-5.4
	comp=N,0.7nm,0.3s,baz=133,slow=19,SNR=2.9						
LVC				Lg	Lg	05 47 06.9	
	comp=N,0.3nm,0.3s,baz=151,slow=21,SNR=2.7						
GO01	Chusmiza	13.98	12		Pn	05 45 05.6	+2.6
MNMC	Minye Minye	14.45	10	P	P	05 45 17.2	+1.3
LPAZ	La Paz	17.48	13	P	Pn	05 45 47.5	-1.3
	comp=N,0.1nm,0.3s,baz=192,slow=8.0,SNR=7.4						
LPAZ	La Paz	17.48	13	P	Pn	05 45 48.2	-0.5
SIV	San Ignacio	20.08	33	P	P	05 46 16.2	-1.8
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=4.6						
SAML	Samuel	25.76	21	P	P	05 47 14.5	-0.6
SAML				IAmb	IAmb	05 47 17.1	
	comp=Z,3.5nm,0.8s						
SNAA	Sanae	52.15	158	P	P	05 50 54.0	-0.4
	comp=Z,0.8nm,0.7s,baz=266,slow=6.2,SNR=5.1						
SNAA	Sanae	52.15	158	P	P	05 50 54.1	-0.3
SNAA				IAmb	IAmb	05 51 05.9	
	comp=Z,2.1nm,1.1s						
QSPA	South Pole Qui	56.79	180	P	P	05 51 28.7	+0.4
	comp=Z,1.1nm,0.7s,baz=134,slow=1.4,SNR=4.7						
QSPA	South Pole Qui	56.79	180	P	P	05 51 29.3	+1.0
PLAL	Pickwick Lake	69.68	346	P	P	05 52 54.8	+1.0
PLAL				IAmb	IAmb	05 52 57.9	
	comp=Z,1.8nm,1.1s						
AMTX	Amarillo	73.38	335	P	P	05 53 16.4	+0.1
AMTX				IAmb	IAmb	05 53 28.0	
	comp=Z,2.8nm,1.1s						
TORD	Torodi Ar. Bea	84.15	70	P	P	05 54 15.2	-0.6
	comp=Z,0.9nm,0.7s,baz=269,slow=3.5,SNR=4.6						
MKAR	Makanchi Array	156.50	48	PKPab	PKPab	06 02 07.3	-0.5
	comp=Z,0.5nm,0.7s,baz=308,slow=3.5,SNR=3.8						
MKAR	Makanchi Array	156.50	48		PKPab	06 02 07.4	-0.4

NEIC 29 06:04:28.3±1.5, 37°.47N±0°.01×118°.82W±0°.02, h2km±7km, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	Convict Lake	0.12	357		Pg	06 04 30.4	-0.3
MCMM	Convict Lake	0.14	343		Pg	06 04 30.9	-0.4
SCHCA	Scheelite	0.15	137		Pg	06 04 32.0	+0.6
MLAC	Mammoth, Mammo	0.16	356		Pg	06 04 31.4	-0.1
MLCM	Laurel Creek C	0.16	332		Pg	06 04 31.2	-0.3
MDRNC	Doe Ridge	0.17	356		Pg	06 04 31.6	0.0
MGPM	Gravel Pit	0.17	337		Pg	06 04 31.4	-0.2
MCBM	Casa Benchmark	0.18	341		Pg	06 04 31.8	-0.2
MCSM	Casa Diablo Ho	0.20	340		Pg	06 04 32.1	-0.1
OMMB	Old Mammoth Mi	0.20	315		Pg	06 04 31.9	-0.4
OMMB	Old Mammoth Mi	0.20	315		Sg	06 04 34.4	-0.6
MLHM	Little Hot Cre	0.21	1		Pg	06 04 32.5	+0.1
MMPM	Mammoth Pass	0.21	310		Pg	06 04 32.2	-0.3
MEMM	East Mammoth H	0.22	334		Pg	06 04 32.5	-0.1
MMLB	Mammoth Lakes	0.23	326		Pg	06 04 32.6	-0.1
MLIM	Lincoln Peak	0.23	317		Pg	06 04 33.4	+0.6
MRDM	Red Cones	0.23	304		Pg	06 04 32.6	-0.2
MMSM	Mammoth Summit	0.23	313		Pg	06 04 32.8	-0.1
MTUM	Tungsten Hills	0.24	120		Pg	06 04 33.5	+0.6
CASR	Casa Diablo Mo	0.24	64		Pg	06 04 33.4	+0.5
MDYM	Dry Creek	0.24	321		Pg	06 04 33.0	0.0
MDPB	Devils Postpil	0.26	308		Pg	06 04 32.9	-0.5
MINS	Minaret Summit	0.26	314		Pg	06 04 33.2	-0.3
LMCR	Lookout Mounta	0.28	339		Pg	06 04 33.8	+0.2
MDCM	Deadman Creek	0.30	324		Pg	06 04 33.8	-0.3
MCDM	Chidago Canyon	0.31	76		Pg	06 04 34.9	+0.6
BENR	Benton	0.31	39		Pg	06 04 34.4	-0.1
MFBM	Five Bridges	0.31	98		Pg	06 04 35.3	+0.9
MRCM	Red Rock Canyo	0.32	51		Pg	06 04 34.7	+0.1
MLNR	Milner Canyon	0.40	72		Pg	06 04 36.4	+0.4
KCC	Kaiser Creek	0.42	250		Pg	06 04 36.5	+0.1
POCCA	Poleta Canyon	0.44	104		Pg	06 04 37.4	+0.6
TIN	Tinemaha, Big	0.63	131		Pg	06 04 41.1	+0.7
MMIM	Miami Mountain	0.74	266		Pg	06 04 42.2	-0.3
HELL	Mitchell Peak,	0.81	192		Pg	06 04 43.9	+0.1
LHV	Little Huntoon	0.82	18		Pg	06 04 43.8	-0.2
FRI	Friant	0.85	236		Pg	06 04 44.5	-0.2
MHDM	Hidden Dam	0.93	248		Pg	06 04 45.8	-0.3
NVAR	Mina Array Bea	1.04	23		Pg	06 04 47.5	-0.8
WAKR	Walker	1.14	335		Pg	06 04 49.7	-0.5
CWC	Cottonwood Cre	1.19	150		Pg	06 04 51.0	-0.1
MRHM	Rocky Hill	1.20	190		Pg	06 04 51.4	0.0
SPG2	Springville 2	1.27	178		Pg	06 04 52.2	-0.5
MYLM	Yosemite Lake	1.28	267		Pg	06 04 52.0	-0.8
CMB	Columbia Colle	1.36	295		Pn	06 04 52.9	-1.6
MCUB	Copperopolis B	1.51	290		Pn	06 04 55.8	-0.7
PWMM	Westland Maint	1.52	227		Pb	06 04 57.3	+0.1
BFC	Buffalo Canyon	1.55	337		Pn	06 04 57.3	+0.1
KVN	Kaiserville	1.68	20		Pn	06 04 58.3	-0.6
BRMM	Rolling Bench	1.72	249		Pb	06 05 00.5	-0.3
BMSM	Mercy Hot Spri	1.77	243		Pb	06 05 01.3	-0.3
SFJWR	San Luis Fatjo	1.92	258		Pn	06 05 03.0	+0.9
WOFM	Oak Flat	1.93	177		Pb	06 05 04.2	-0.1
PHRM	Hernandez Vall	1.94	236		Pb	06 05 03.7	-0.7
BAVM	Antelope Valle	1.95	246		Pn	06 05 03.5	+1.0
SLD	San Luis Dam	1.96	259		Pn	06 05 03.6	+1.0
CTM	Castle Mountai	1.96	219		Pb	06 05 04.1	-0.7
BBGB	Big Mountain B	1.99	244		Pb	06 05 04.5	-0.8
BEMM	Emmet	1.99	247		Pb	06 05 04.3	-1.0
PSRM	Scobie Ranch	1.99	217		Pn	06 05 04.2	+1.1
HPCM	Pacheco Lake	2.00	259		Pb	06 05 04.3	-1.1
BBNM	San Benito	2.04	243		Pb	06 05 05.5	-0.7
AASM	Arroyo Seco	2.05	299		Pb	06 05 05.1	-1.1
BEHM	Elkhorn Ranch	2.05	248		Pb	06 05 05.4	-0.9
PBWM	Bitterwater Cr	2.05	236		Pb	06 05 05.6	-0.7
BHRM	Hodges Ranch	2.09	250		Pb	06 05 06.4	-0.5
TPNV	Topopah Spring	2.12	103		Pn	06 05 04.3	-0.6
BPIM	Pinnacles	2.12	243		Pb	06 05 06.6	-0.9
LRC	Lone Oak Road	2.16	236		Pb	06 05 07.3	-0.9
HSPM	Sheep	2.18	261		Pb	06 05 07.2	-1.3
BSGM	Shirttail Gulc	2.22	242		Pn	06 05 07.6	+1.5
SCZ	Santa Cruz	2.24	248		Pn	06 05 07.6	+1.2
FRP	Fremont Peak	2.25	252		Pn	06 05 07.7	+1.0
BJCM	Johnson Can.	2.26	247		Pn	06 05 08.0	+1.3
PAHR	Pah Rah Range	2.27	349		Pb	06 05 10.1	-0.2
BSMM	Soledad Missio	2.35	243		Pn	06 05 09.5	+1.4
HAST	Hastings Reser	2.44	245		Pn	06 05 10.3	+1.0
BEKR	Beckworth	2.68	334		Pb	06 05 16.8	-0.3
R11A	Troy Canyon, C	2.70	70		Pb	06 05 17.1	-0.4
NDHM	Dunnigan Hills	2.76	299		Pn	06 05 12.2	-1.4
OAT	Oat Mountain	3.13	177		Pn	06 05 17.6	-1.1

*IDC **29** 06:05:04.2±0.9, 29°.24N×51°.26E, h0km, mb3.9/16, mb1 4.0/21, mb1mx3.8/60, mbtmp3.8/21, ML3.5/5, MS3.2/2, Ms1 3.2/2, ms1mx2.7/38, Error ellipse: s-maj=20.7km s-min=15.4km az=3.0*

*ISCJB **29** 06:05:05.7±0.2, 29°.11N±0°.02×51°.22E±0°.03, h17km, mb3.8/16, Error ellipse: s-maj=3.6km s-min=2.1km az=148.6*

*THR **29** 06:05:06.6, 29°.20N×51°.42E, h15km, ML4.1*

*NEIC **29** 06:05:06.5±2.9, 29°.12N±0°.04×51°.24E±0°.05, h10km±3km*

*TEH **29** 06:05:06.0, 29°.22N×51°.32E, h8km, ML4.2*

*DSN **29** 06:05:09.3±1.4, 29°.41N×51°.75E, h10km, ML4.6/8, Error ellipse: s-maj=33.5km s-min=9.6km az=29.0*

*OMAN **29** 06:05:12.5±2.9, 29°.20N×51°.60E, h178km±70km, ml4.2/2, Error ellipse: s-maj=48.9km s-min=25.4km az=71.0*

ISC 29 06:05:07.0±0.5, 29°.22N±0°.04×51°.29E±0°.04, h17km, n156, σ1§82/170, mb3.9/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.74	40	*e*Pg	Pg	06 05 19.6	-1.9
IKAZ				IAMB	IAmb	06 05 31.9	
	comp=Z,68μm,0.5s						
IKAZ	Kazeroun	0.74	40	Pg	Pg	06 05 20.2	-1.3
IKAZ				Sg	Sg	06 05 31.3	0.0
SHI	Shiraz	1.15	68	*e*Pg	Pn	06 05 28.5	+0.1
SHI				*e*Sg	Sn	06 05 44.0	+0.2
ISRV	Sarvestan	1.60	84	*e*Pn	Pb	06 05 35.7	-0.6
ISRV				IAMB	IAmb	06 06 09.1	
	comp=Z,31μm,0.6s						
ISRV	Sarvestan	1.60	84	Pn	Pg	06 05 37.6	-0.2
KLNJ	Kolanjah	1.80	8	*e*Pn	Pb	06 05 39.0	-0.8
KLNJ				IAMB	IAmb	06 05 41.2	
	comp=Z,0.0nm,0.4s						
KLNJ	Kolanjah	1.80	8	Pn	Pb	06 05 39.9	+0.1
JHRM	Jahrom	2.13	109	*e*Pn	Pn	06 05 42.6	+0.8
JHRM				IAMB	IAmb	06 06 30.3	
	comp=Z,0.0nm,0.6s						
LMD1	Lamerd	2.50	138	*e*Pn	Pb	06 05 49.6	-1.8
LMD1				IAMB	IAmb	06 06 49.7	
	comp=Z,0.0nm,1.0s						
IBRJ	Brojen	2.68	359	*e*Pn	Pb	06 05 52.6	-2.1
IBRJ	Brojen	2.68	359	Pn	Pb	06 05 52.6	-2.1
IRAM	Ramesheh	2.75	20	*e*Pn	Pn	06 05 52.3	+1.8
IRAM	Ramesheh	2.75	20	Pn	Pn	06 05 52.8	+2.3
JHBN	Jahan bin	3.05	350	*e*Pn	Pn	06 05 56.8	+2.1
JHBN	Jahan bin	3.05	350	Pn	Pn	06 05 57.5	+2.8
ROKH	ROKH	3.13	356	*e*Pn	Pn	06 05 57.7	+2.1
ROKH	ROKH	3.13	356	Pn	Pn	06 05 57.8	+2.1
IGAR	Gharneh	3.24	11	*e*Pn	Pn	06 05 59.5	+2.2
IGAR	Gharneh	3.24	11	Pn	Pn	06 06 00.0	+2.7
ISAD	Sadrabad	3.39	37	*e*Pn	Pn	06 06 02.2	+2.9
ISAD	Sadrabad	3.39	37	Pn	Pn	06 06 02.6	+3.3
IPIR	Pirpir	3.47	354	*e*Pn	Pn	06 06 02.9	+2.4
IMEH	Mehriz	3.60	52	*e*Pn	Pn	06 06 05.7	+3.5
IMEH	Mehriz	3.60	52	Pn	Pn	06 06 05.7	+3.5
IZEF	Zefreh	3.77	13	*e*Pn	Pn	06 06 06.7	+2.1
ICHK	Chekchek	4.04	41	*e*Pn	Pn	06 06 10.8	+2.5
ICHK	Chekchek	4.04	41	Pn	Pn	06 06 10.7	+2.5
IKLH	Kolahrood	4.10	3	*e*Pn	Pn	06 06 11.0	+1.9
YZKH	Yazd	4.25	41	*e*Pn	Pn	06 06 12.5	+1.5
YZKH	Yazd	4.25	41	*e*Pn	Pn	06 06 12.5	+1.5
YZKH	Yazd	4.25	41	Pn	Pn	06 06 12.0	+1.0
IBAF	Bafgh	4.38	56	*e*Pn	Pn	06 06 15.5	+2.6
IBAF	Bafgh	4.38	56	Pn	Pn	06 06 15.5	+2.6
ANAR	Anarak	4.48	27	*e*Pn	Pn	06 06 16.0	+1.8
QAM	Ghamsar	4.53	2	*e*Pn	Pn	06 06 16.9	+1.9
KHGB	Koh Gabri	4.65	74	*e*Pn	Pn	06 06 18.6	+1.9
KHGB				IAMB	IAmb	06 07 39.2	
	comp=Z,0.0nm,0.7s						
KHGB	Koh Gabri	4.65	74	Pn	Pn	06 06 19.0	+2.3
BNDS	Bandar-Abbas	4.67	112	*e*Pn	Pn	06 06 17.4	+0.5
BNDS	Bandar-Abbas	4.67	112	*e*Pn	Pn	06 06 17.4	+0.5
BNDS	Bandar-Abbas	4.67	112	Pn	Pn	06 06 17.0	+0.2
GENO	Geno	4.67	112	*e*Pn	Pn	06 06 18.2	+1.3
GENO				IAMB	IAmb	06 07 19.0	
	comp=Z,0.0nm,0.3s						
NGRK	Negar Kerman	4.76	84	*e*Pn	Pn	06 06 21.1	+2.8
NGRK				IAMB	IAmb	06 07 22.4	
	comp=Z,0.0nm,0.5s						
KRSH	Karshahi	4.79	8	*e*Pn	Pn	06 06 20.0	+1.5
KRBR	Kerman	4.82	80	*e*Pn	Pn	06 06 19.4	+0.3
KRBR	Kerman	4.82	80	*e*Pn	Pn	06 06 19.4	+0.3
KRBR	Kerman	4.82	80	Pn	Pn	06 06 19.0	-0.1
TVBK	TV Kerman	4.82	80	*e*Pn	Pn	06 06 22.0	+2.9
TVBK				IAMB	IAmb	06 07 47.3	
	comp=Z,0.0nm,0.7s						
IKMR	Kamar-syah	4.96	331	*e*Pn	Pn	06 06 23.1	+2.5
BDRS	Dareh Seyedi	5.15	337	*e*Pn	Pn	06 06 25.2	+1.6
NIAN

WSAR	**Wadi Sarin**	**8.88**	**130**	P		**Pn**	**06 07 16.0**	**+1.4**
WSAR	**Wadi Sarin**	**8.88**	**130**	Pn		**Pn**	**06 07 14.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=302,slow=11,SNR=7.6							
WSAR				Sn		**Sn**	**06 08 48.3**	**-5.9**
	comp=Z,1.1nm,0.3s,baz=352,slow=19,SNR=3.5							
WSAR				LR		LR	06 11 27.4	
	comp=Z,188nm,20.0s,baz=341,slow=43							
GEYT	**Alibeck**	**10.38**	**31**	Pn		**Pn**	**06 07 35.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=223,slow=12,SNR=2.4							
GEYT				LR		LR	06 12 11.1	
	comp=Z,82nm,18.0s,baz=230,slow=41							
GEYT	**Alibeck**	**10.38**	**31**			**Pn**	**06 07 36.8**	**+1.7**
WHFO	**Wadi Hawf**	**11.47**	**168**	P		**Pn**	**06 07 50.0**	**-0.2**
	SNR=21							
DMTO	**DMTO**	**11.93**	**163**	P		**Pn**	**06 07 56.1**	**-0.2**
	SNR=13							
ABTO	**Aybut**	**11.95**	**171**	P		**Pn**	**06 07 56.0**	**-0.7**
RBK	**Rabkut**	**11.96**	**166**	P		**Pn**	**06 07 57.0**	**+0.2**
	SNR=12							
GNI	**Garni**	**12.16**	**335**	Sn		**Sn**	**06 10 08.5**	**-6.3**
	comp=Z,4.8nm,0.3s,baz=133,slow=19,SNR=2.2							
ASF	**Jabal al Asfar**	**12.73**	**287**	Pn		**Pn**	**06 08 05.4**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=41,slow=19,SNR=3.7							
ASF				Sn		Sn	06 10 19.8	-9.0
	comp=Z,0.3nm,0.3s,baz=150,slow=20,SNR=2.9							
KBZ	**Khabaz**	**15.96**	**337**	Pn		**Pn**	**06 08 51.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=9.6,SNR=1.9							
BRTR	**Keskin Array B**	**17.91**	**310**	P		**P**	**06 09 15.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=2.6							
BRTR	**Keskin Array B**	**17.91**	**310**	P		**P**	**06 09 18.1**	**+2.3**
KKAR	**Karatay Array**	**20.74**	**43**			**P**	**06 09 47.1**	**+0.3**
ABKAR	**Abkulak array**	**21.07**	**16**	P		**P**	**06 09 50.2**	**0.0**
ABKAR	**Abkulak array**	**21.07**	**16**	P		**P**	**06 09 51.9**	**+1.6**
ABKAR				IAmb		IAmb	06 09 52.3	
	comp=Z,3.0nm,0.8s							
AKTO	**Aktyubinsk**	**21.79**	**12**	P		**P**	**06 09 58.2**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=194,slow=13,SNR=13							
AAK	**Ala-Archa**	**22.98**	**48**	P		**P**	**06 10 10.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=174,slow=10,SNR=2.4							
AAK	**Ala-Archa**	**22.98**	**48**	P		**P**	**06 10 13.3**	**+2.4**
AAK				IAmb		IAmb	06 10 22.2	
	comp=Z,3.6nm,1.0s							
TARG	**Taragay, Kyrgy**	**24.83**	**53**	P		**P**	**06 10 30.1**	**+1.2**
TARG				IAmb		IAmb	06 10 36.5	
	comp=Z,2.1nm,0.6s							
MLR	**Muntele Rosu**	**25.73**	**316**	P		**P**	**06 10 36.1**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=342,slow=20,SNR=2.1							
ITM	**Ithomi**	**25.75**	**296**	P		**P**	**06 10 37.9**	**+1.2**
AKASG	**Malin Array Be**	**27.13**	**328**	P		**P**	**06 10 48.6**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=132,slow=8.3,SNR=6.1							
AKASG	**Malin Array Be**	**27.13**	**328**	P		**P**	**06 10 50.8**	**+1.8**
AKBB	**Malin Array Si**	**27.13**	**328**	P		**P**	**06 10 50.0**	**+1.0**
AKBB				IAmb		IAmb	06 10 52.9	
	comp=Z,3.4nm,0.7s							
BURAR	**Bucovina Array**	**27.27**	**320**	P		**P**	**06 10 52.1**	**+1.6**
BUR08	**Bucovina Ar. S**	**27.30**	**320**	P		**P**	**06 10 52.2**	**+1.5**
BVAR	**Borovoye Array**	**27.62**	**25**	P		**P**	**06 10 53.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=210,slow=8.6,SNR=4.4							
KURBB	**Kurchatov Arra**	**29.61**	**36**	P		**P**	**06 11 11.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=235,slow=9.5,SNR=3.1							
MKAR	**Makanchi Array**	**29.81**	**45**	P		**P**	**06 11 12.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=243,slow=6.3,SNR=3.2							
MKAR	**Makanchi Array**	**29.81**	**45**	P		**P**	**06 11 14.7**	**+1.7**
ZALV	**Zalesovo Beam**	**34.67**	**35**	P		**P**	**06 11 54.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=234,slow=12,SNR=6.0							
ZALV	**Zalesovo Beam**	**34.67**	**35**	P		**P**	**06 11 56.1**	**+0.6**
KEST	**Kesra**	**35.77**	**292**	P		**P**	**06 12 04.5**	**-0.7**
	comp=Z,3.4nm,0.9s,baz=57,slow=9.2,SNR=2.2							
FIA1	**FINESS Array S**	**36.30**	**340**	P		**P**	**06 12 11.1**	**+1.8**
FINES	**FINESS Array B**	**36.30**	**340**	P		**P**	**06 12 08.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=159,slow=13,SNR=4.6							
FINES	**FINESS Array B**	**36.30**	**340**	P		**P**	**06 12 09.5**	**+0.1**
NC405	**NORSAR Array S**	**41.26**	**332**	P		**P**	**06 12 51.1**	**+0.1**
NB2	**NORSAR Subarra**	**41.43**	**332**	P		**P**	**06 12 51.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=123,slow=8.6							
NOA	**NORSAR Array B**	**41.43**	**332**	P		**P**	**06 12 52.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.4,SNR=4.0							
NBO00	**NORSAR Array S**	**41.60**	**332**	P		**P**	**06 12 52.8**	**-1.0**
ARCES	**ARCESS Array B**	**42.99**	**347**	P		**P**	**06 13 04.4**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=140,slow=10.0,SNR=6.7							
ARCES	**ARCESS Array B**	**42.99**	**347**	P		**P**	**06 13 06.5**	**+1.5**
TOA0	**Torodi Ar. Sit**	**48.57**	**262**	P		**P**	**06 13 50.6**	**+0.8**
TOA0				IAmb		IAmb	06 13 53.8	
	comp=Z,1.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**48.57**	**262**	P		**P**	**06 13 49.9**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=55,slow=7.7,SNR=11							
TORD	**Torodi Ar. Bea**	**48.57**	**262**	P		**P**	**06 13 48.8**	**-0.9**
IMAR	**Indian Mountai**	**83.17**	**10**	P		**P**	**06 17 33.0**	**+1.2**
ILAR	**Eielson Array**	**85.25**	**8**	P		**P**	**06 17 42.3**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=314,slow=3.9,SNR=4.7							
ILAR	**Eielson Array**	**85.25**	**8**	P		**P**	**06 17 41.9**	**-0.5**
WRA	**Warramunga Arr**	**93.73**	**111**	P		**P**	**06 18 23.7**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=313,slow=4.6,SNR=2.8							
ASAR	**Alice Springs**	**95.21**	**114**	P		**P**	**06 18 29.7**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=316,slow=3.9,SNR=3.6							

*IDC **29** 06:05:44.6±1.5, 33°.41S×72°.60W, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.8/30, mbtmp3.9/7, ML3.8/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/23, Error ellipse: s-maj=48.8km s-min=19.6km az=109.0*
*SJA **29** 06:05:45.9±0.7, 33°.28S×72°.40W, h7km±5km, ML3.9, MW4.1*
*ISCJB **29** 06:05:47.6±1.2, 33°.39S±0°.04×72°.42W±0°.05, h21km±8km, mb4.2/3, MS3.4/2, Error ellipse: s-maj=7.6km s-min=6.1km az=8.7*
*GUC **29** 06:05:49.4±0.7, 33°.38S×72°.19W, h40km±4km, ML3.7*
*NEIC **29** 06:05:50.1±2.6, 33°.38S±0°.05×72°.4W±0°.1, h33km±4km*
ISC 29 06:05:47.6±1.5, 33°.42S±0°.04×72°.34W±0°.06, h9km±9km, n57, σ1§44/66, mb4.3/4, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.70**	**56**	*e*P	**Pg**	**06 06 01.6**	**+0.4**
VA01				*e*S	**Sg**	**06 06 11.4**	**+1.2**
ROC1	**El Roble**	**1.20**	**68**	*i* P	**Pg**	**06 06 09.3**	**-1.2**
ROC1				*e*S	**Sb**	**06 06 26.5**	**+0.2**
ROC1	**El Roble**	**1.20**	**68**		**Pg**	**06 06 09.5**	**-1.1**
ROCH	**El Roble**	**1.20**	**68**	⇓*i*P	**Pg**	**06 06 09.5**	**-1.1**
ROCH				*e*S	**Sg**	**06 06 25.0**	**-1.3**
PEL	**Peldehue**	**1.41**	**79**	⇓*i*P	**Pn**	**06 06 12.9**	**-0.6**
PEL				*e*S	**Sb**	**06 06 30.4**	**-1.9**
PEL				IAML		06 06 40.3	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.41**	**79**	*i* P	**Pn**	**06 06 13.4**	**-0.2**
PEL				*e*S	**Sg**	**06 06 34.3**	**+1.3**
PEL	**Peldehue**	**1.41**	**79**		**Pn**	**06 06 12.9**	**-0.6**
CLCH	**Cerro Calan**	**1.51**	**89**	⇓*i*P	**Pn**	**06 06 14.6**	**-0.3**
CLCH				*e*S	**Sn**	**06 06 33.6**	**-1.1**
CLCH				IAML		06 06 37.4	
	comp=E,4μm,0.8s						
GO05	**Huala**	**1.62**	**168**	⇑*i*P	**Pn**	**06 06 15.7**	**-0.7**
GO05				*e*S	**Sb**	**06 06 37.7**	**-0.6**
GO05				IAML		06 06 47.4	
	comp=N,1μm,0.8s						
GO05	**Huala**	**1.62**	**168**	*i* P	**Pn**	**06 06 16.3**	**-0.1**
GO05				*e*S	**Sg**	**06 06 43.6**	**+3.9**
GO05	**Huala**	**1.62**	**168**		**Pn**	**06 06 15.7**	**-0.7**
FCH	**Farellones**	**1.72**	**87**	⇑*i*P	**Pn**	**06 06 17.9**	**-0.1**
FCH				*e*S	**Sn**	**06 06 40.0**	**-0.3**
FCH				IAML		06 06 45.6	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**1.83**	**104**	⇑*i*P	**Pn**	**06 06 19.1**	**-0.3**
LMEL				*e*S	**Sn**	**06 06 42.2**	**-0.6**
LMEL				IAML		06 06 49.7	
	comp=N,2μm,0.2s						
COIS	**El Sosneado**	**2.83**	**127**	*i* P	**Pb**	**06 06 36.0**	**-2.3**
COIS				*e*S	**Sb**	**06 07 13.4**	**+0.3**
ARCO	**CERRO ARCO**	**2.92**	**79**	*i* P	**Pn**	**06 06 36.1**	**+1.8**
ARCO				IAML		06 06 44.5	
	comp=Z,182nm,0.3s						
AAGR	**Agrelo**	**2.96**	**84**	*i* P	**Pb**	**06 06 39.6**	**-1.0**
ASAL	**Salagasta**	**3.06**	**75**	*i* P	**Pn**	**06 06 38.6**	**+2.3**
GO04	**Tololo Observa**	**3.50**	**22**	*i* P	**Pn**	**06 06 41.9**	**-0.5**
GO04	**Tololo Observa**	**3.50**	**22**		**Pn**	**06 06 41.5**	**-0.9**
GO04				Sn	**Sn**	**06 07 21.6**	**-2.4**
RTCV	**Cerro Valdivia**	**3.56**	**65**	*i* P	**Pn**	**06 06 44.8**	**+1.7**
RTLL	**Cerro Villicun**	**3.88**	**58**	*i* P	**Pn**	**06 06 49.2**	**+1.7**
RTLL				IAML		06 07 55.3	
	comp=Z,150nm,0.8s						
CFA	**Coronel Fontan**	**3.91**	**63**	Pn	**Pn**	**06 06 49.1**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=238,slow=15,SNR=13						
CFA				Sn	**Sn**	**06 07 39.0**	**+5.0**
	comp=Z,4.9nm,0.3s,baz=76,slow=1.2,SNR=3.8						
CFA				Lg	Lg	06 07 47.9	
	comp=Z,7.6nm,0.3s,baz=71,slow=11,SNR=6.8						
CFA				LR	LR	06 08 40.6	
	comp=Z,311nm,20.6s,baz=247,slow=43						
CFA	**Coronel Fontan**	**3.91**	**63**	*i* P	**Pn**	**06 06 49.7**	**+1.8**
ACCO	**Cerro Coronel**	**3.96**	**45**	*i* P	**Pn**	**06 06 50.6**	**+1.7**
AROD	**Rodeo**	**4.06**	**38**	*i* P	**Pn**	**06 06 51.6**	**+1.4**
AMOG	**MOGNA**	**4.09**	**54**	*i* P	**Pn**	**06 06 51.8**	**+1.3**
ACAN	**Cantantal**	**4.48**	**77**	*i* P	**Pn**	**06 06 57.3**	**+1.5**
MRA	**San Martin**	**5.66**	**82**	*i* P	**Pn**	**06 07 14.6**	**+2.6**
MRA				IAML		06 08 47.5	
	comp=Z,47nm,0.7s						
APLL	**PUNTA DE LOS L**	**5.79**	**60**	*i* P	**Pn**	**06 07 13.7**	**0.0**
APLL				IAML		06 08 35.8	
	comp=Z,42nm,0.8s						
VCA	**Vinchina**	**5.86**	**38**	*i* P	**Pn**	**06 07 15.8**	**+1.0**
VCA				IAML		06 08 54.0	
	comp=Z,81nm,0.7s						
GO03	**Copiap**	**6.09**	**18**		**Pn**	**06 07 16.9**	**-0.9**
ACLC	**CERRO LA CRUZ**	**6.09**	**51**	*i* P	**Pn**	**06 07 18.4**	**+0.4**
GO06	**Curarrehue**	**6.19**	**174**		**Pn**	**06 07 19.3**	**0.0**
PLCA	**Paso Flores**	**7.43**	**169**	Pn	**Pn**	**06 07 35.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=6.7,slow=13,SNR=9.0						
PLCA				Lg	Lg	06 09 35.6	
	comp=Z,0.1nm,0.3s,baz=280,slow=6.2,SNR=3.6						
PLCA				LR	LR	06 10 16.2	
	comp=Z,73nm,19.4s,baz=12,slow=36						
PLCA	**Paso Flores**	**7.43**	**169**		**Pn**	**06 07 37.4**	**+1.0**
LVC	**Limon Verde**	**11.19**	**17**	LR	LR	06 12 52.3	
	comp=Z,129nm,20.4s,baz=196,slow=38						
GO01	**Chusmiza**	**13.98**	**12**		**Pn**	**06 09 06.6**	**+0.2**
MNMC	**Minye Minye**	**14.44**	**10**	P	**P**	**06 09 20.9**	**+1.4**
CPUP	**Villa Florida**	**14.81**	**65**	LR	LR	06 15 20.4	
	comp=Z,134nm,20.2s,baz=244,slow=38						
LPAZ	**La Paz**	**17.48**	**14**	P	**Pn**	**06 09 51.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=191,slow=5.3,SNR=8.8						
LPAZ	**La Paz**	**17.48**	**14**	P	**Pn**	**06 09 52.5**	**+0.3**
SIV	**San Ignacio**	**20.12**	**33**	P	**P**	**06 10 20.1**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=226,slow=12,SNR=13						
SAML	**Samuel**	**25.78**	**21**	P	**P**	**06 11 20.8**	**+1.9**
SAML				IAmb	IAmb	06 11 29.8	
	comp=Z,8.0nm,1.3s						
BDFB	**Brasilia**	**28.22**	**57**	LR	LR	06 23 20.9	
	comp=Z,117nm,18.8s,baz=179,slow=37						
VNA3	**Neumayer Olymp**	**49.99**	**158**	P	**P**	**06 14 42.8**	**+1.1**
VNA2	**Neumayer--Watz**	**50.64**	**157**	P	**P**	**06 14 47.7**	**+1.0**
	baz=290,slow=6.9						
SNAA	**Sanae**	**52.21**	**158**	P	**P**	**06 14 58.4**	**-0.1**
SNAA	**Sanae**	**52.21**	**158**	P	**P**	**06 14 57.7**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=270,slow=8.2,SNR=8.5						
SNAA	**Sanae**	**52.21**	**158**	P	**P**	**06 14 58.7**	**+0.2**
SNAA				IAmb	IAmb	06 15 08.0	
	comp=Z,8.4nm,1.4s						
QSPA	**South Pole Qui**	**56.81**	**180**	P	**P**	**06 15 30.1**	**-2.0**
	comp=Z,3.0nm,1.0s,baz=174,slow=1.9,SNR=9.8						
QSPA	**South Pole Qui**	**56.81**	**180**	P	**P**	**06 15 33.5**	**+1.3**
VNDA	**Vanda**	**64.62**	**191**	LR	LR	06 41 55.6	
	comp=Z,23nm,18.9s,baz=190,slow=34						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**06 18 19.3**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=257,slow=5.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**06 18 20.0**	**-0.1**
KURBB	**Kurchatov Arra**	**152.62**	**42**	PKPbc	**PKPbc**	**06 25 43.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=304,slow=3.1,SNR=4.9						
MKAR	**Makanchi Array**	**156.57**	**48**	PKPab	**PKPab**	**06 26 10.9**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=288,slow=5.7,SNR=5.0						
MKAR	**Makanchi Array**	**156.57**	**48**		**PKPab**	**06 26 11.5**	**-0.3**

*ISCJB **29** 06:14:07.7±0.3, 32°.92N±0°.02×97°.51W±0°.02, h10km, Error ellipse: s-maj=3.3km s-min=2.8km az=150.3*
*ANF **29** 06:14:08.7±0.8, 32°.95N×97°.57W, h3km±5km, ML3.8/10, Error ellipse: s-maj=3.1km s-min=2.8km az=49.0*
*NEIC **29** 06:14:09.1±2.6, 32°.91N±0°.03×97°.52W±0°.05, h5km±2km, mb_Lg3.1/39*
ISC 29 06:14:08.2±0.7, 32°.95N±0°.03×97°.57W±0°.03, h10km, n72, σ1§51/84, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**0.95**	**174**	S	**Sb**	**06 14 40.1**	**+0.6**
	baz=356						
WHTX	**Lake Whitney,**	**0.95**	**174**		**Pn**	**06 14 27.5**	**-0.2**
WHTX				Sg	**Sg**	**06 14 38.6**	**-0.4**
X34A	**Smith Ranch, M**	**1.67**	**352**	Pn	**Pb**	**06 14 39.3**	**+0.2**
X34A				Sn	**Sg**	**06 15 02.2**	**+0.4**
ABTX	**Abilene, Hawle**	**1.78**	**260**	Pb	**Pg**	**06 14 41.8**	**-0.5**
	baz=80						
ABTX				S	**Sg**	**06 15 04.8**	**-0.6**
	baz=80						
ABTX	**Abilene, Hawle**	**1.78**	**260**	Pn	**Pn**	**06 14 39.3**	**+0.3**
ABTX				Sn	**Sg**	**06 15 04.5**	**-0.9**
WMOK	**Wichita Mounta**	**2.05**	**331**	P	**Pb**	**06 14 44.5**	**-1.1**
	baz=150						
WMOK				S	**Sb**	**06 15 10.8**	**-0.5**
	baz=150						
WMOK	**Wichita Mounta**	**2.05**	**331**	Pn	**Pb**	**06 14 44.4**	**-1.3**
WMOK				Sn	**Sb**	**06 15 10.7**	**-0.6**
435B	**Jarrell**	**2.15**	**180**	Sb	**Sg**	**06 15 17.7**	**+0.1**
	baz=1.4						
435B	**Jarrell**	**2.15**	**180**		**Pg**	**06 14 48.7**	**-0.8**
435B				IAmb_Lg		06 15 19.6	
	comp=Z,84nm,0.7s						
W35A	**Tecumseh**	**2.28**	**14**		**Pb**	**06 14 48.5**	**-0.9**
W35A				Sn	**Sb**	**06 15 17.6**	**0.0**
FNO	**Franklin**	**2.31**	**3**		**Pb**	**06 14 49.7**	**-0.3**
FNO				Sn	**Sb**	**06 15 20.1**	**+1.4**
OKCSW	**OKLAHOMA CITY**	**2.46**	**2**		**Pb**	**06 14 51.1**	**-1.4**
OKCSW				Sn	**Sb**	**06 15 23.6**	**+0.7**
NATX	**Nacogdoches**	**2.73**	**115**	Sb	**Sg**	**06 15 35.2**	**-0.7**
	baz=296						
NATX	**Nacogdoches**	**2.73**	**115**		**Pn**	**06 14 54.1**	**+2.0**
NATX				IAmb_Lg		06 15 40.7	
	comp=Z,68nm,0.8s						
JCT	**Junction City**	**3.11**	**218**		**Pb**	**06 15 01.4**	**-2.3**
JCT				Pg	**Pg**	**06 15 08.2**	**+0.4**
JCT				IAmb_Lg		06 15 55.1	
	comp=Z,67nm,0.9s						
TUL1	**Leonard**	**3.30**	**26**		**Pn**	**06 15 01.6**	**+1.6**
TUL1				IAmb_Lg		06 15 59.9	
	comp=Z,44nm,1.0s						
HKT	**Hockley**	**3.33**	**153**	Pn	**Pn**	**06 15 01.8**	**+1.4**
U32A	**Winter Ranch,**	**3.62**	**341**	Pn	**Pn**	**06 15 06.4**	**+1.9**
U32A				IAmb_Lg		06 16 11.2	
	comp=Z,42nm,0.8s						
MIAR	**Mount Ida**	**3.69**	**63**	P	**Pn**	**06 15 07.5**	**+2.2**
	baz=245						
MIAR	**Mount Ida**	**3.69**	**63**		**Pn**	**06 15 05.5**	**+0.2**
MIAR				IAmb_Lg		06 16 10.7	
	comp=Z,54nm,0.8s						
WLAR	**White Oak Lake**	**3.80**	**78**		**Pn**	**06 15 07.9**	**+1.0**
WLAR				IAmb_Lg		06 16 15.6	
	comp=Z,54nm,0.7s						
W39A	**Magazine**	**3.86**	**53**		**Pn**	**06 15 09.8**	**+2.1**
W39A				IAmb_Lg		06 16 18.2	
	comp=Z,60nm,0.8s						
AMTX	**Amarillo**	**3.93**	**301**		**Pn**	**06 15 10.7**	**+2.0**
Z41A	**Richland Creek**	**4.01**	**84**	P	**Pn**	**06 15 10.7**	**+1.0**
	baz=266						
Z41A				S	**Sn**	**06 15 58.1**	**+1.3**
	baz=266						
Z41A	**Richland Creek**	**4.01**	**84**		**Pn**	**06 15 10.7**	**+1.0**
Z41A				IAmb_Lg		06 16 23.8	
	comp=Z,38nm,0.9s						
X40A	**Basin Creek Fa**	**4.23**	**67**	P	**Pn**	**06 15 13.1**	**+0.3**
	baz=249						
X40A	**Basin Creek Fa**	**4.23**	**67**		**Pn**	**06 15 12.2**	**-0.6**
MSTX	**Muleshoe**	**4.47**	**285**	P	**Pn**	**06 15 17.9**	**+1.7**
	baz=102						
MSTX	**Muleshoe**	**4.47**	**285**		**Pn**	**06 15 17.9**	**+1.7**
MSTX				IAmb_Lg		06 16 38.9	
	comp=Z,31nm,0.8s						
HHAR	**Hobbs**	**4.47**	**41**		**Pn**	**06 15 16.2**	**+0.1**
UALR	**University of**	**4.71**	**66**	Pn	**Pn**	**06 15 20.5**	**+1.1**
UALR				IAmb_Lg		06 16 48.2	
	comp=Z,39nm,1.2s						
833A	**Chaparral WMA,**	**4.87**	**199**	P	**Pn**	**06 15 24.0**	**+2.5**
	baz=19						
833A	**Chaparral WMA,**	**4.87**	**199**	Pn	**Pn**	**06 15 24.1**	**+2.6**
CCAR	**Cane Creek**	**4.94**	**77**		**Pn**	**06 15 23.6**	**+1.0**
CCAR				IAmb_Lg		06 16 55.9	
	comp=Z,36nm,0.7s						
W41B	**Gary Mavity, V**	**4.94**	**62**	P	**Pn**	**06 15 23.4**	**+0.9**
	baz=244						
W41B	**Gary Mavity, V**	**4.94**	**62**	Pn	**Pn**	**06 15 24.0**	**+1.5**
WHAR	**Wooly Hollow**	**4.96**	**60**	Pn	**Pn**	**06 15 23.8**	**+1.0**
U40A	**Yellville**	**5.17**	**47**		**Pn**	**06 15 26.6**	**+1.0**
U40A				Pg	**Pg**	**06 15 43.5**	**-3.7**
FCAR	**Ozark Folk Cen**	**5.37**	**55**		**Pn**	**06 15 29.2**	**+0.8**
X43A	**Marvell**	**5.79**	**72**	P	**Pn**	**06 15 35.1**	**+0.9**
	baz=256						
MGMO	**Mountain Grove**	**6.04**	**44**	Pn	**Pn**	**06 15 39.0**	**+1.3**
MGMO					**Sn**	**06 16 48.8**	**+1.8**
MGMO				IAmb_Lg		06 17 24.9	
	comp=Z,28nm,0.9s						
CBKS	**Cedar Bluff**	**6.12**	**344**		**Pn**	**06 15 40.4**	**+1.6**
CBKS					**Sn**	**06 16 50.6**	**+1.8**
CBKS				IAmb_Lg		06 17 26.9	
	comp=Z,33nm,0.7s						
LCAR	**Lake Charles**	**6.14**	**58**	Pn	**Pn**	**06 15 39.4**	**+0.3**
LCAR				Sn	**Sn**	**06 16 50.4**	**+1.0**
KSU1	**Kansas State U**	**6.19**	**7**	IAmb_Lg		06 17 26.4	
	comp=Z,30nm,0.8s						
TX31	**Lajitas Ar. Si**	**6.35**	**237**		**Pn**	**06 15 42.4**	**+0.4**
TX32	**Lajitas Array**	**6.35**	**237**		**Pn**	**06 15 42.3**	**+0.3**
TXAR	**Lajitas Array**	**6.35**	**237**		**Pn**	**06 15 42.3**	**+0.3**
MNTX	**Cornudas Mount**	**6.73**	**261**		**Pn**	**06 15 48.4**	**+1.2**
OXF	**Oxford**	**6.97**	**75**	Pn	**Pn**	**06 15 51.3**	**+0.8**
T25A	**Trinidad**	**7.00**	**309**	P	**Pn**	**06 15 52.1**	**+1.1**
	baz=125						
T25A	**Trinidad**	**7.00**	**309**		**Pn**	**06 15 52.1**	**+1.1**
PBMO	**Poplar Bluff**	**7.00**	**55**		**Pn**	**06 15 51.4**	**+0.6**
CCM	**Cathedral Cave**	**7.25**	**44**	P	**Pn**	**06 15 55.6**	**+1.3**
	baz=227						
CCM	**Cathedral Cave**	**7.25**	**44**	Pn	**Pn**	**06 15 55.3**	**+1.0**
KSCO	**Kaye Shedlock'**	**7.31**	**327**	Pn	**Pn**	**06 15 57.7**	**+2.5**
KSCO				Pg	**Pg**	**06 16 27.1**	**-1.2**
ANMO	**Albuquerque**	**7.65**	**288**	Pn	Pn	06 16 05.3	+5.3
ANMO					**Pg**	**06 16 31.1**	**-3.7**
BNM	**Barren Site**	**7.66**	**282**	Pn	**Pn**	**06 16 02.8**	**+2.7**
BNM					Pg	06 16 29.5	-5.4
LPM	**Los Pinos Moun**	**7.68**	**283**		Pg	06 16 30.0	-5.3
LPM					LR	06 16 11.8	
LENM	**Lemitar**	**7.95**	**281**		Pg	06 16 34.3	-6.1
SDCO	**Great Sand Dun**	**8.06**	**309**		**Pn**	**06 16 07.6**	**+2.0**
PLAL	**Pickwick Lake**	**8.14**	**73**	Pn	**Pn**	**06 16 05.7**	**-0.9**
BGNE	**Belgrade**	**8.46**	**357**	Pn	**Pn**	**06 16 11.0**	**+0.1**
Q24A	**Divide**	**8.59**	**316**	Pn	**Pn**	**06 16 16.7**	**+3.8**
121A	**Cookes Peak, D**	**8.62**	**270**	IAmb_Lg		06 18 46.6	
	comp=Z,17nm,0.8s						
WVT	**Waverly**	**8.64**	**66**	Pn	**Pn**	**06 16 12.5**	**-0.8**
X48A	**Hartselle**	**8.90**	**77**	Pn	**Pn**	**06 16 17.1**	**+0.3**
P43A	**Skaggs, Pawnee**	**9.31**	**42**	Pn	**Pn**	**06 16 24.9**	**+2.3**
ISCO	**Idaho Springs**	**9.42**	**319**	Pn	**Pn**	**06 16 25.4**	**+1.1**
Z50A	**Ashland**	**9.77**	**85**	Pn	**Pn**	**06 16 28.3**	**-0.6**
SWET	**Sewanee**	**9.91**	**74**	Pn	**Pn**	**06 16 30.2**	**-0.6**
SWET				Sn	**Sn**	**06 18 26.2**	**+4.0**
N23A	**Red Feather La**	**10.38**	**322**		**Pn**	**06 16 39.3**	**+1.9

comp=E,85nm,0.6s
AAK ⇑S Sn 06 28 16.5 +4.8
comp=E,730nm,0.8s
AAK Ala-Archa 6.30 23 P Pn 06 27 02.8 +1.8
SNR=69
AAK Ala-Archa 6.30 23 Pn Pn 06 27 02.9 +2.0
comp=E,17nm,0.3s,baz=201,slow=9.2,SNR=152
AAK Sn Sn 06 28 16.4 +4.8
comp=E,18nm,0.3s,baz=176,slow=19,SNR=4.9
AAK LR LR 06 28 46.2
comp=E,249nm,20.9s,baz=212,slow=32
AAK Ala-Archa 6.30 23 P Pn 06 27 02.9 +2.0
SNR=87
AAK Ala-Archa 6.30 23 Pn 06 27 02.8 +1.8
KBK Karagaybulak 6.47 26 P Pn 06 27 05.2 +2.0
SNR=42
FRU1 Bishkek 6.50 23 PN Pn 06 27 05.5 +1.9
FRU1 Bishkek 6.50 23 Pn 06 27 05.5 +1.9
ULHL Ulahol 6.64 35 P Pn 06 27 07.8 +2.1
SNR=30
CHMS Chumysh 6.71 23 P Pn 06 27 08.2 +1.8
SNR=80
BOOM Boomskoye usch 6.71 32 PN Pn 06 27 08.2 +1.7
BOOM Boomskoye usch 6.71 32 Pn 06 27 08.2 +1.7
USP Ospenovka 6.88 21 P Pn 06 27 10.5 +1.8
SNR=53
TKM2 Tokmak 2 6.93 28 ⇓P Pn 06 27 11.4 +1.7
comp=E,198nm,0.8s
TKM2 Tokmak 2 6.93 28 *i* PN Pn 06 27 11.3 +1.7
TKM2 pmax pmax
comp=Z,198nm,0.8s
TKM2 Tokmak 2 6.93 28 P Pn 06 27 11.4 +1.7
SNR=343
KDJ Kajisay 7.01 40 PN Pn 06 27 12.6 +1.9
KDJ Kajisay 7.01 40 Pn 06 27 12.6 +1.9
TARG Taragay, Kyrgy 7.07 45 Pn 06 27 13.4 +1.7
SMLA Simla 7.60 137 *eP* Pn 06 27 19.2 +0.6
SMLA *eS* Sn 06 28 40.5 -2.8
SMLA IAML 06 28 49.0
comp=E,572nm,0.5s
SMLA IAML 06 28 49.4
comp=N,415nm,0.7s
HRA Herat 7.67 254 Pn 06 27 20.9 +1.0
MDOK Medeo 7.73 34 ⇑P Pn 06 27 22.1 +1.5
comp=N,93nm,0.7s
PRZ Przheval'sk 7.90 43 P Pn 06 27 25.4 +2.5
PRZ Przheval'sk 7.90 43 Pn 06 27 25.4 +2.5
PDGK Podgornoye 9.06 42 ⇓P Pn 06 27 38.6 -0.2
comp=N,61nm,0.9s
PDGK Podgornoye 9.06 42 P Pn 06 27 38.5 -0.2
PDGK pmax pmax
comp=Z,61nm,0.9s
JOSI Joshimath 9.41 130 *eP* Pn 06 27 43.7 +0.1
JOSI *ex* Sn 06 29 29.1 +0.9
JOSI IAML 06 29 44.3
comp=E,420nm,0.2s
JOSI IAML 06 29 48.4
comp=N,616nm,1.1s
NDI New Delhi 9.63 146 *ex* Pn 06 27 46.0 -0.4
KUDL Kundal 9.80 151 *eP* Pn 06 27 45.5 -3.2
KUDL *eS* Sn 06 29 31.6 -5.7
KUDL IAML 06 29 36.8
comp=E,70nm,0.4s
KUDL IAML 06 29 41.5
comp=N,67nm,0.2s
JASL Jaisalmer 9.93 181 *eP* Pn 06 27 48.3 -2.2
GEYT Alibeck 10.43 280 Pn Pn 06 27 53.0 -4.4
comp=N,13nm,0.3s,baz=120,slow=11,SNR=73
GEYT Sn Sn 06 29 45.6 -7.3
comp=N,12nm,0.3s,baz=101,slow=13,SNR=6.5
GEYT LR LR 06 33 15.4
comp=N,2μm,19.0s,baz=110,slow=45
GEYT Alibeck 10.43 280 Pn Pn 06 27 54.2 -3.3
GYA0B ALIBECK ARRAY 10.43 280 ⇑P Pn 06 27 53.2 -4.2
GYA0B ALIBECK ARRAY 10.43 280 Pn 06 27 53.6 -3.8
AJM Ajmer 10.78 163 *ex* Pn 06 27 57.0 -5.2
AJM *ex* Sn 06 29 58.0 -3.5
MAKZ Makanchi 12.77 36 P Pn 06 28 29.4 +0.1
MAKZ Makanchi 12.77 36 Pn 06 28 29.4 +0.1
MK31 Makanchi Array 12.91 36 ⇓P Pn 06 28 30.6 -0.5
comp=N,104nm,1.1s,baz=217,slow=6.6,SNR=248
MK31 Makanchi Array 12.91 36 P Pn 06 28 30.7 -0.5
MK31 Makanchi Array 12.91 36 Pn 06 28 30.7 -0.5
MKAR Makanchi Array 12.91 36 *i* P Pn 06 28 31.1 -0.1
MKAR pmax pmax
comp=Z,64nm,1.0s
MKAR Makanchi Array 12.91 36 Pn Pn 06 28 31.1 -0.1
comp=Z,1.6nm,0.3s,baz=221,slow=13,SNR=71
MKAR LR LR 06 33 55.7
comp=Z,1μm,21.2s,baz=224,slow=39
MKAR Makanchi Array 12.91 36 Pn 06 28 30.2 -1.0
DANN Dangsing 13.59 125 *eP* Pn 06 28 35.8 -5.1
comp=Z,209nm,0.6s
KOLN Koldanda 13.88 127 *eP* Pn 06 28 39.5 -5.2
comp=Z,40nm,0.3s
WMQ Urumqi 14.38 56 *eP* Pn 06 28 50.5 -0.7
WMQ pP P 06 29 01.3 +4.3
WMQ sP 06 29 09.0
WMQ S Sn 06 31 32.8 +3.7
WMQ sS S 06 31 47.8 +0.6
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,150nm,4.9s
WMQ LR LR
comp=Z,2μm,12.5s
WMQ LR LR
comp=Z,1μm,13.1s
WMQ LR LR
comp=Z,960nm,16.3s
WMQ Urumqi 14.38 56 P Pn 06 28 48.7 -2.4
WMQ Urumqi 14.38 56 Pn 06 28 48.7 -2.4
GKN Gorkha 14.40 124 *eP* Pn 06 28 45.9 -5.7
comp=Z,124nm,0.3s
KURBB Kurchatov Arra 14.72 19 ⇓P Pn 06 28 51.8 -3.8
comp=Z,38nm,0.8s
KURBB Kurchatov Arra 14.72 19 Pn Pn 06 28 52.0 -3.7
comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=88
AB31 Akbulak array 14.82 330 ⇓P Pn 06 28 52.9 -4.0
comp=Z,5.8nm,0.3s,baz=169,slow=10,SNR=454
AB31 Akbulak array 14.82 330 P Pn 06 28 52.9 -4.0
ABKAR Akbulak array 14.82 330 Pn 06 28 52.8 -4.1
ABKAR Akbulak array 14.82 330 Pn Pn 06 28 52.4 -4.4
KURK Kurchatov 14.83 19 P Pn 06 28 54.0 -3.0
SNR=12
KURK Kurchatov 14.83 19 ⇓*i* P Pn 06 28 54.4 -2.6
KURK pmax pmax
comp=Z,45nm,1.3s
KURK Kurchatov 14.83 19 Pn 06 28 53.2 -3.9
KKN Kakani 14.97 123 *eP* Pn 06 28 53.0 -6.2
comp=Z,74nm,0.5s
DMN Daman 14.97 124 *eP* Pn 06 28 53.7 -5.6
comp=Z,90nm,0.6s
PKIN Phulchoki 15.19 124 *eP* Pn 06 28 56.4 -5.7
comp=Z,58nm,0.3s
PKI Pulchoki 15.20 124 *eP* Pn 06 28 56.0 -6.3
comp=Z,81nm,0.4s
GUN Gumba 15.30 122 *eP* Pn 06 28 57.0 -6.6
JIRN Jiri 15.67 122 *eP* Pn 06 29 02.3 -6.1
comp=Z,187nm,0.4s
BVAR Borovoye Array 16.16 358 Pn Pn 06 29 08.9 -5.2
comp=Z,2.3nm,0.3s,baz=170,slow=12,SNR=33
BVAR Sn Sn 06 32 05.2 -7.0
comp=Z,1.9nm,0.3s,baz=157,slow=23,SNR=4.7
BRVK Borovoye 16.19 358 ⇑P Pn 06 29 11.6 -3.0
comp=Z,59nm,0.9s
BRVK Borovoye 16.19 358 P Pn 06 29 12.5 -2.1
SNR=41
BRVK Borovoye 16.19 358 P Pn 06 29 12.0 -2.5
BRVK pmax pmax
comp=Z,65nm,1.0s
BRVK Borovoye 16.19 358 Pn 06 29 12.0 -2.5
BRVK IAmb IAmb 06 29 18.3
comp=Z,65nm,0.9s
RAMN Ramite 16.40 123 *eP* Pn 06 29 11.2 -6.4
comp=Z,129nm,0.6s
AKTO Aktyubinsk 16.52 329 ⇑P Pn 06 29 15.6 -3.1
comp=Z,105nm,0.9s
AKTO Aktyubinsk 16.52 329 Pn Pn 06 29 16.6 -2.1
comp=Z,2.4nm,0.3s,baz=138,slow=14,SNR=37
AKTO Sn Sn 06 32 11.3 -10
comp=Z,3.2nm,0.3s,baz=34,slow=23,SNR=8.0
AKTO LR LR 06 35 29.7
comp=Z,679nm,18.8s,baz=145,slow=36
BANOM Banah 16.72 233 P P 06 29 25.9 +2.8
TAPN Taplejung 16.91 119 *eP* Pn 06 29 18.2 -5.9
comp=Z,186nm,0.9s
ODAN Odare 17.00 121 *eP* Pn 06 29 18.9 -6.2
comp=Z,124nm,0.7s
WSAR Wadi Sarin 17.36 222 P Pn 06 29 26.4 -3.0
comp=Z,0.2nm,0.3s,baz=146,slow=3.6,SNR=2.6
WSAR LR LR 06 37 07.5
comp=Z,464nm,18.2s,baz=158,slow=41
DGZ Jazzator, Alta 17.40 37⇓*eP* Pn 06 29 27.3 -2.5
UOSS Minazif 17.47 231 P Pn 06 29 30.1 -0.6
ASHO Ashiyiah 17.75 231 P P 06 29 36.0 +1.5
SNR=11
LKRN Lenkeran, Azer 17.78 283 P Pn 06 29 33.5 -0.9
LSA Lhasa 18.16 107 P P 06 29 35.3 -4.2
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 18.16 107 P P 06 29 35.3 -4.2
POO Poona 18.43 172 *ex* Pn 06 29 50.5 +8.0
ARQ Araqi 18.48 227 P Pn 06 29 45.4 +2.4
BSY Bisya 18.55 224 P Pn 06 29 46.4 +2.5
SEKA Sheki 19.09 290 P P 06 29 47.1 -2.0
MAK Makhachkala 19.11 296 *eP* P 06 29 48.0 -1.2
MAK *eS* S 06 33 20.0 -3.2
MAK pmax pmax
comp=Z,50nm,0.4s
MAK MLR MLR
comp=Z,289nm,10.0s
ZAA0 Zalesovo Array 19.52 25 P P 06 29 52.8 -0.8
ZAA0 IAmb IAmb 06 29 54.7
comp=Z,54nm,0.7s
ZALV Zalesovo Beam 19.52 25 P P 06 29 53.0 -0.6
comp=Z,12nm,0.3s,baz=218,slow=11,SNR=100
ZALV S S 06 33 28.9 -2.5
baz=211,slow=19,SNR=2.3
ZALV Zalesovo Beam 19.52 25 P P 06 29 52.8 -0.8
ZKTA Zakatala 19.57 292 P P 06 29 52.8 -1.5
GANJ Ganja 19.71 289 P P 06 29 55.0 -0.9
NAX Nakhchivan 20.33 284 P P 06 30 02.1 -0.6
GROC Groznyy 20.38 296 *eP* P 06 30 03.9 +0.8
GROC *e**PP pP 06 30 15.5 +0.6
GROC *e* 06 30 22.5
GROC *e**SS sS 06 34 08.8 +0.8
GROC pmax pmax
comp=Z,189nm,1.2s
HYB Hyderabad 20.45 159 *i* P P 06 30 03.0 -1.1
HYB *eS* Sn 06 33 58.0 +1.7
MZR Muzera 20.59 233 P Pn 06 30 09.7 +1.6
SNR=6.5
GNI Garni 20.91 287 P Pn 06 30 11.6 -0.4
SNR=26
GNI Garni 20.91 287 P P 06 30 10.6 +1.6
GNI pmax pmax
comp=Z,348nm,1.5s
GNI Garni 20.91 287 P P 06 30 09.5 +0.5
comp=Z,60nm,0.8s,baz=36,slow=2.1,SNR=24
GNI LR LR 06 40 01.3
comp=Z,224nm,19.2s,baz=103,slow=42
GNI Garni 20.91 287 P P 06 30 10.6 +1.6
TBLG Delisi 20.98 292 P P 06 30 10.4 +0.8
TBLG pmax pmax
comp=Z,62nm,1.0s
TBLG Delisi 20.98 292 P P 06 30 10.4 +0.8
TBLG IAmb IAmb 06 30 11.5
comp=Z,62nm,1.0s
SVE Sverdlovsk 21.17 344⇑*eP* P 06 30 15.0 +3.6
SVE *eS* S 06 34 01.5 -2.5
SVE pmax pmax
comp=Z,44nm,0.9s
SVE MLR MLR
comp=Z,828nm,12.0s
ARU Arti 21.32 341*d i* P P 06 30 13.5 +0.4
ARU 06 30 37.4
ARU S S 06 34 06.0 -1.1
ARU SS SnSn 06 34 32.4 +0.3
ARU pmax pmax
comp=Z,17nm,0.6s
ARU MLR MLR
comp=Z,597nm,15.0s
ARU Arti 21.32 341 P P 06 30 13.1 0.0
comp=Z,6.0nm,0.5s,baz=174,slow=7.7,SNR=20
ARU S S 06 34 02.5 -4.5
comp=Z,2.5nm,0.2s,baz=162,slow=20,SNR=5.9
ARU LR LR 06 39 23.1
comp=Z,455nm,18.9s,baz=145,slow=39
ARU Arti 21.32 341 P P 06 30 13.2 +0.2
ARU IAmb IAmb 06 30 21.5
comp=Z,58nm,0.9s
ZEI Tsey 21.70 294 *eP* P 06 30 15.6 -1.9
ZEI pmax pmax
comp=Z,25nm,0.6s
AKH Akhalkalaki 21.89 290 P P 06 30 21.2 +1.7
AKH pmax pmax
comp=Z,79nm,0.8s
AKH Akhalkalaki 21.89 290 ⇑P P 06 30 21.6 +2.1
AKH Akhalkalaki 21.89 290 P P 06 30 21.2 +1.7
NCK Nalchik 22.01 296⇑*eP* P 06 30 21.2 +0.6
NCK pmax pmax
comp=Z,144nm,1.1s
KBZ Khabaz 22.55 296 P P 06 30 24.9 -1.4
comp=Z,45nm,0.8s,baz=126,slow=8.2,SNR=24
KBZ S S 06 34 32.4 +2.1
comp=Z,1.7nm,0.5s,baz=235,slow=16,SNR=2.4
NEY Neytrino 22.61 295*d i* P P 06 30 28.6 +1.3
NEY pmax pmax
comp=Z,8.0nm,0.9s
GTA Gaotai 22.64 75 *eP* P 06 30 28.5 +1.0
GTA pP pP 06 30 42.0 +2.0
GTA sP sP 06 30 49.3 +2.7
GTA S S 06 34 31.8 -0.4
GTA pmax pmax
comp=Z,150nm,7.6s
GTA LR LR
comp=Z,2μm,16.8s
GTA LR LR
comp=Z,600nm,16.2s
GTA LR LR
comp=Z,840nm,15.2s
GOF Gofitskoye 22.67 300⇑*eP* P 06 30 28.3 +0.7
GOF pmax pmax
comp=Z,130nm,0.9s
KVAR Kislovodsk Arr 22.73 297 P P 06 30 27.2 -1.2
comp=Z,5.3nm,0.5s,baz=198,slow=3.2,SNR=5.0
KVAR S S 06 34 34.1 +0.6
comp=Z,8.8nm,0.8s,baz=233,slow=10,SNR=2.3
KIV Kislovodsk 22.73 297 P P 06 30 28.0 -0.4
SNR=9.1
KIV Kislovodsk 22.73 297 *eP* P 06 30 27.7 -0.7
KIV *eS* S 06 34 31.9 -1.7
KIV pmax pmax
comp=Z,39nm,3.8s
KIV pmax pmax
comp=Z,161nm,1.0s
KIV MLR MLR
comp=Z,831nm,14.0s
KIV Kislovodsk 22.73 297 P P 06 30 27.5 -0.9
KIV IAmb IAmb 06 30 45.7
comp=Z,49nm,0.9s
BCA Borcka 23.30 290 ⇑P P 06 30 44.5 +10
DMTO DMTO 23.85 221 P P 06 30 39.3 0.0
WHFO Wadi Hawf 24.32 224 P P 06 30 43.4 -0.3
RBK Rabkut 24.42 222 P P 06 30 44.5 -0.2
SOC Sochi 24.82 295 *eP* P 06 30 49.1 +1.0
SOC *e* 06 31 25.4
SOC *eS* S 06 35 03.7 -3.7
SOC pmax pmax
comp=Z,63nm,1.0s
SOC MLR MLR
comp=Z,262nm,15.0s
ABTO Aybut 25.04 224 P P 06 30 49.7 -0.6
SIMRM Sittwe 25.26 125 P P 06 30 53.8 +1.6
SIMRM IAmb IAmb 06 31 15.0
comp=Z,25nm,1.1s
VRH Novokhopyorsk 25.34 314 *eP* P 06 30 51.6 -1.1
VRH pmax pmax
comp=Z,40nm,1.3s
MOY Mondy 25.75 45 *eP* P 06 31 00.5 +4.0
MOY pmax pmax
comp=Z,31nm,1.9s
RAYN Ar Rayn 25.77 246 P P 06 30 56.8 -0.1
RAYN pmax pmax
comp=Z,25nm,0.9s
RAYN Ar Rayn 25.77 246 P P 06 30 56.8 -0.1
RAYN IAmb IAmb 06 31 00.3
comp=Z,25nm,0.9s
KIRV Kirov 25.96 334 P P 06 30 57.5 -0.6
comp=Z,22nm,0.6s,baz=312,slow=1.1,SNR=6.3
KIRV LR LR 06 41 42.2
comp=Z,261nm,20.0s,baz=251,slow=38
LZH Lanzhou 26.22 82 *eP* P 06 31 02.8 +1.8
LZH pP pP 06 31 15.0 +0.5
LZH sP sP 06 31 20.8 +0.2
LZH pmax pmax
comp=Z,11nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,1μm,15.4s
LZH LR LR
comp=Z,690nm,15.9s
LZH LR LR
comp=Z,610nm,15.3s
ANN Anapa 26.57 298 *eP* P 06 31 00.5 -3.4
ANN *e* 06 31 44.6
ANN *eS* S 06 35 28.3 -6.7
ANN pmax pmax
comp=Z,102nm,1.1s
ZAK Zakamensk 26.65 49 *eP* P 06 31 16.1 +11
ZAK pmax pmax
comp=Z,11nm,1.3s
VORD Divnogorie 26.68 312 *eP* P 06 31 04.3 -0.5
VORD pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 26.84 312⇓*eP* P 06 31 06.3 +0.1
VSR pmax pmax
comp=Z,80nm,1.8s
GAZ Gaziantep 27.03 281 P P 06 31 09.3 +1.1
GAZ IAmb IAmb 06 31 15.9
comp=Z,29nm,1.1s
TLY Talaya 27.29 47 *eP* P 06 31 19.0 +8.7
TLY pmax pmax
comp=Z,12nm,0.9s
TLY MLR MLR
comp=Z,737nm,15.0s
TLY Talaya 27.29 47 P P 06 31 15.0 +4.7
comp=Z,2.8nm,0.7s,baz=254,slow=9.0,SNR=4.0
TLY LR LR 06 42 39.4
comp=Z,423nm,20.7s,baz=250,slow=38
TLY Talaya 27.29 47 P P 06 31 10.9 +0.6
LPSR Galich'ya Gora 27.48 315 *eP* P 06 31 12.0 +0.1
LPSR pmax pmax
comp=Z,20nm,1.2s
SONM Songino Array 28.02 56 P P 06 31 21.0 +4.0
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 28.02 56 P P 06 31 16.8 -0.1
comp=Z,3.4nm,0.8s,baz=263,slow=9.9,SNR=9.7
SONM LR LR 06 44 18.8
comp=Z,547nm,18.6s,baz=254,slow=40
SONM Songino Array 28.02 56 P P 06 31 21.0 +4.0
ULN Ulaanbaatar 28.46 56⇑*eP* P 06 31 22.7 +1.8
ULN pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 28.46 56 P P 06 31 21.6 +0.6
ASF Jabal al Asfar 28.52 271 P P 06 31 43.8 +22
BR131 Keskin Array S 29.45 287 P P 06 31 30.6 +0.8
BR131 pmax pmax
comp=Z,12nm,0.8s
BR131 Keskin Array S 29.45 287 P P 06 31 30.6 +0.8
BR131 IAmb IAmb 06 31 32.0
comp=Z,12nm,0.8s
BRTR Keskin Array B 29.45 287 P P 06 31 30.9 +1.1
comp=Z,7.4nm,0.7s,baz=102,slow=8.9,SNR=36
BRTR LR LR 06 46 39.4
comp=Z,173nm,18.9s,baz=82,slow=43
BRTR Keskin Array B 29.45 287 P P 06 31 30.6 +0.8
MOS Moscow 29.45 321 *eP* P 06 31 29.3 -0.1
MOS *e* 06 32 25.3
MOS pmax pmax
comp=Z,55nm,1.2s
MMAI Mount Meron Ar 29.46 273 LR LR 06 45 18.3
comp=Z,235nm,20.1s,baz=330,slow=40
PRGR Permogore 29.48 335 *eP* P 06 31 29.5 -0.1
PRGR *eS* S 06 36 18.7 -1.8
PRGR pmax pmax
comp=Z,20nm,0.9s
WALJ Wala 29.60 270 P P 06 31 27.1 -3.9
OBN Obninsk 29.74 319 *eP* P 06 31 32.0 0.0
OBN *e* 06 32 27.0
OBN *e* 06 34 35.4
OBN pmax pmax
comp=Z,15nm,0.4s
OBN Obninsk 29.74 319 P P 06 31 33.5 +1.5
comp=Z,7.2nm,0.4s,baz=96,slow=23,SNR=3.8
OBN LR LR 06 45 55.9
comp=Z,52nm,18.1s,baz=158,slow=41
OBN Obninsk 29.74 319 P P 06 31 32.8 +0.9
KARJ 29.88 269 P P 06 31 25.9 -7.6
LISJ El Lisan 29.97 270 P P 06 31 25.8 -8.5
MHMT Maesarieng 30.01 121 P P 06 31 36.2 +1.4
comp=Z,34nm,0.7s
CHTO Chiang Mai 30.28 119 P P 06 31 37.7 +0.5
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 30.28 119 P P 06 31 37.7 +0.5
CM31 Chiang Mai Arr 30.52 119 P P 06 31 39.1 -0.2
CMAR Chiang Mai Arr 30.52 119 P P 06 31 40.1 +0.8
CMAR Chiang Mai Arr 30.52 119 P P 06 31 39.1 -0.2
comp=Z,4.5nm,0.7s,baz=308,slow=9.0,SNR=26
CMAR LR LR 06 46 02.4
comp=Z,359nm,18.2s,baz=285,slow=41
CMAR Chiang Mai Arr 30.52 119 P P 06 31 40.1 +0.8
PALK Pallekele 30.72 161 LR LR 06 44 38.6
comp=Z,729nm,18.0s,baz=324,slow=38
XAN Xi'an 30.76 84 P P 06 31 49.5 +8.2
XAN pP pP 06 31 57.0 +2.1
XAN sP sP 06 32 00.5 -0.5
XAN S S 06 37 21.0 +40
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN LR LR
comp=N,640nm,17.3s
XAN LR LR
comp=E,720nm,19.5s
XAN LR LR
comp=Z,510nm,16.7s
XAN Xi'an 30.76 84 P P 06 31 42.7 +1.4
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN Xi'an 30.76 84 P P 06 31 42.7 +1.4
PHRA Phrae 31.40 118 P P 06 31 47.7 +0.7
comp=Z,1.6nm,1.1s,comp=Z,280nm
HHC Hu-ho-hao-te 31.51 70 *eP* P 06 31 50.3 +2.3
HHC pmax pmax
comp=Z,7.0nm,1.0s
NANT Nan 31.54 117 P P 06 31 47.2 -1.0
comp=Z,177μm,0.8s
UTTA Uttaradit 32.13 118 P P 06 31 54.0 +0.6
comp=Z,18μm,0.7s
AKASG Malin Array Be 32.81 308 P P 06 31 58.6 -0.5
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 32.81 308 P P 06 31 59.2 +0.1
comp=Z,6.9nm,0.6s,baz=80,slow=7.0,SNR=25
AKASG LR LR 06 47 01.2
comp=Z,194nm,18.7s,baz=105,slow=39
AKASG Malin Array Be 32.81 308 P P 06 31 58.6 -0.5
AKBB Malin Array Si 32.81 308 P P 06 31 59.5 +0.4
AKBB pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 32.81 308 P P 06 31 59.5 +0.4
AKBB IAmb IAmb 06 32 16.1
comp=Z,10.0nm,0.6s
ELL Elmali 32.84 282 P P 06 32 00.8 +1.1
ELL Elmali 32.84 282 P P 06 32 00.8 +1.1
UTHA Uthaitani 32.88 123 P P 06 32 01.8 +1.8
comp=Z,22μm,0.9s
SORM Soroca 33.10 304 ⇑P P 06 32 01.9 +0.3
NRIK Noril'sk 33.73 10 P P 06 32 07.2 +0.3
comp=Z,5.5nm,0.7s,baz=193,slow=5.4,SNR=12
NRIK LR LR 06 47 37.3
comp=Z,306nm,18.2s,baz=200,slow=39
CHAI Chaiyaphum 34.38 119 P P 06 32 14.5 +1.4
comp=Z,28μm,1.0s
BIZ Bicaz 34.58 301 ⇑P P 06 32 16.1 +1.6
MLR Muntele Rosu 34.71 299 P P 06 32 17.9 +2.1
MLR pmax pmax
comp=Z,22nm,1.0s
MLR Muntele Rosu 34.71 299 ⇑P P 06 32 18.4 +2.6
MLR Muntele Rosu 34.71 299 P P 06 32 17.9 +2.1
MLR IAmb IAmb 06 32 19.4
comp=Z,22nm,1.0s

ELND Elena 34.93 294 ⇑P P 06 32 19.0 +1.4
BOD Bodaibo 34.98 39 *e*P P 06 32 09.4 -8.4
BOD pmax pmax
comp=Z,20nm,1.4s
BURAR Bucovina Array 35.19 302 ⇑P P 06 32 21.3 +1.3
BURAR Bucovina Array 35.19 302 P P 06 32 20.8 +0.9
BUR08 Bucovina Ar. S 35.20 303 P P 06 32 20.6 +0.6
KARP Karpathos 35.29 281 P P 06 32 20.8 -0.1
VOIR 35.34 299 ⇑P P 06 32 23.6 +2.3
VSU Vasula 35.97 321⇑*e*P P 06 32 26.5 +0.2
VSU pmax pmax
comp=Z,67nm,0.8s
LVV L'vov 36.04 306 *e*P P 06 32 28.6 +1.6
VTS Vitosha 36.90 294 P P 06 32 36.1 +1.5
VTS pmax pmax
comp=Z,5.0nm,0.7s
VTS Vitosha 36.90 294 ⇑P P 06 32 36.5 +1.9
VTS mb 06 32 36.9
VTS Vitosha 36.90 294 P P 06 32 36.1 +1.5
GZR Gura Zlata 36.95 299 ⇑P P 06 32 35.5 +0.6
TRPA Tarpa 36.99 303 ⇓P P 06 32 37.2 +2.1
TRPA mb 06 32 38.1
KOLS Kolonicke sedl 37.17 305 *e*P P 06 32 37.9 +1.2
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 37.17 305 *e*P P 06 32 37.9 +1.2
HERR Herculane 37.24 298 ⇑P P 06 32 38.6 +1.3
FIA1 FINESS Array S 37.24 326 P P 06 32 37.5 +0.4
FINES FINESS Array B 37.24 326 P P 06 32 37.5 +0.5
comp=Z,5.6nm,0.3s,baz=121,slow=7.8,SNR=60
FINES LR LR 06 48 01.2
comp=Z,246nm,18.5s,baz=108,slow=36
FINES FINESS Array B 37.24 326 P P 06 32 37.3 +0.2
APA Apatity 37.34 337⇑*i*P P 06 32 42.5 +4.7
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,1μm,14.0s
SIRR Siria 37.66 300 ⇑P P 06 32 43.3 +2.4
BZS Buzias 37.74 299 ⇑P P 06 32 43.1 +1.6
MDVR Moldovita 37.75 298 ⇑P P 06 32 42.9 +1.3
FNA Florina 38.56 292 P P 06 32 48.6 0.0
FNA pmax pmax
comp=Z,13nm,1.1s
FNA Florina 38.56 292 P P 06 32 48.6 0.0
FNA IAmb IAmb 06 32 50.3
comp=Z,13nm,1.1s
PSZ Piszkesteto 38.78 303 ⇑P P 06 32 52.0 +1.7
PSZ mb 06 32 56.8
OJC Ojcow 38.78 307 P P 06 32 50.7 +0.5
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 38.78 307 P P 06 32 50.7 +0.5
OJC IAmb IAmb 06 32 51.6
comp=Z,10nm,0.8s
LANS Liptovska Anna 39.01 305 *e*P P 06 32 54.5 +2.3
LANS Liptovska Anna 39.01 305 *e*P P 06 32 54.5 +2.3
NJ2 Nanjing 39.30 83 *e*P P 06 32 55.5 +0.8
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
VYHS Vyhne 39.45 304 *e*P P 06 32 57.8 +1.9
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 39.45 304 *e*P P 06 32 57.8 +1.9
JAVC Velka Javorina 40.21 305 *e*P P 06 33 04.1 +1.9
MORC Moravsky Berou 40.25 306 P P 06 33 03.6 +1.1
MORC pmax pmax
comp=Z,14nm,1.4s
MORC Moravsky Berou 40.25 306 ⇑P P 06 33 03.7 +1.1
MORC mb 06 33 21.6
MORC Moravsky Berou 40.25 306 *e*P P 06 33 03.5 +1.1
MORC Moravsky Berou 40.25 306 P P 06 33 03.6 +1.1
MORC IAmb IAmb 06 33 05.1
comp=Z,14nm,1.4s
ARCES ARCESS Array B 40.85 337 P P 06 33 07.5 +0.4
ARCES ARCESS Array B 40.85 337 P P 06 33 07.0 -0.1
comp=Z,3.7nm,0.6s,baz=117,slow=8.6,SNR=26
ARCES ARCESS Array B 40.85 337 P P 06 33 07.5 +0.4
ARE0 ARCESS Array S 40.85 337 P P 06 33 07.3 +0.2
VRAC Vranov 40.89 305 *e*P P 06 33 09.0 +1.3
DPC Dobruska-Polom 41.01 307 *e*P P 06 33 10.3 +1.5
DPC *e* 06 33 20.7
DPC Dobruska-Polom 41.01 307 *e*P P 06 33 10.3 +1.5
DPC *e*pP **pP 06 33 20.7 -1.5**
KRUC Moravsky 41.03 305 *e*P P 06 33 09.7 +0.8
CHVC Chvalec 41.17 307 *e*P P 06 33 11.5 +1.4
CN2 Changchun 41.32 63 *e*P P 06 33 14.0 +2.7
CONA Conrad Observa 41.48 303 *i*P P 06 33 14.0 +1.3
comp=Z,20nm,1.3s,SNR=6.6
ZEA Zeya 41.72 48 *e*P P 06 33 20.7 +6.2
ZEA pmax pmax
comp=Z,26nm,1.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
ZEA MLR MLR
comp=E,500nm,15.0s
GOPC GO Pecny, Ondr 42.02 306 *e*P P 06 33 18.6 +1.6
GOPC GO Pecny, Ondr 42.02 306 *e*P P 06 33 18.6 +1.6
PRU Pruhonice 42.17 307 *e*P P 06 33 18.9 +0.7
PRU Pruhonice 42.17 307 *e*P P 06 33 18.9 +0.7
SOKA Soboth 42.18 302 *i*P P 06 33 19.9 +1.4
comp=E,10nm,0.9s,SNR=6.1
PSI Prapat 42.46 136 P P 06 33 20.4 -0.6
comp=E,2.3nm,0.3s,baz=27,slow=9.0,SNR=3.0
BRG Berggiesshubel 42.49 308 *e*P P 06 33 21.9 +1.1
comp=E,30nm,1.5s
BRG *e*pP **pP 06 33 36.9 +2.3**
comp=E,9.2nm,0.8s
BRG *e*PCP **PcP 06 35 16.4 +3.6**
comp=E,5.6nm,1.0s
BRG Berggiesshubel 42.49 308 *e*P P 06 33 21.9 +1.1
BRG *e**PP **pP 06 33 36.9 +2.3**
BRG *e* 06 35 16.4
BRG pmax pmax
comp=Z,30nm,1.5s
OBKA Obir 42.53 301 *i*P P 06 33 23.6 +2.3
comp=Z,8.1nm,1.0s
RPSI Rantau Prapat 42.55 137 P P 06 33 22.8 +1.2
RPSI Rantau Prapat 42.55 137 P P 06 33 20.4 -1.2
MOA Molln 42.56 303 *i*P P 06 33 22.4 +1.0
comp=Z,17nm,1.9s
GERES GERESS Array B 42.82 305 P P 06 33 23.7 +0.1
GERES GERESS Array B 42.82 305 P P 06 33 22.7 -0.9
comp=Z,1.5nm,0.7s,baz=90,slow=4.9,SNR=7.8
GERES LR LR 06 52 21.6
comp=Z,156nm,19.8s,baz=81,slow=38
GERES GERESS Array B 42.82 305 P P 06 33 23.7 +0.1
KHC Kasperske Hory 42.87 305 P P 06 33 25.5 +1.6
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 42.87 305 *e*P P 06 33 25.6 +1.6
KHC *e*pP **pP 06 33 34.0 -3.5**
KHC Kasperske Hory 42.87 305 P P 06 33 25.5 +1.6
GSI Gunungsitoli 42.99 139 P P 06 33 25.9 +0.7
CLL Collm 43.06 309 P P 06 33 25.5 +0.1
CLL pmax pmax
comp=Z,27nm,1.5s
CLL Collm 43.06 309 *e*P P 06 33 26.0 +0.6
CLL *e*(pP) **pP 06 33 37.0 -2.1**
CLL *e*PP **PP 06 35 05.0 -0.8**
CLL *e*sPP 06 35 26.0
CLL *e*SSS SSS 06 43 48.0
CLL LmH 06 52 00.0
comp=N,500nm,18.1s
CLL LmH 06 52 00.0
comp=E,300nm,18.8s
CLL Collm 43.06 309 P P 06 33 25.5 +0.1
CLL IAmb IAmb 06 33 38.0
comp=Z,27nm,1.5s
MYKA Terra Mystica 43.14 302 *i*P P 06 33 27.6 +1.4
comp=Z,5.7nm,0.7s
YAK Yakutsk 43.59 36 *e*P P 06 33 28.0 -1.4
YAK *e**PP pP 06 33 36.5 -7.0
YAK *e*S **S 06 39 51.3 -3.7**
YAK *e*SS **SS 06 43 05.2 -5.5**
YAK *e* 06 43 25.5
YAK pmax pmax
comp=Z,12nm,0.7s
YAK smax smax
comp=E,235nm,3.3s
YAK smax smax
comp=N,244nm,3.0s
YAK Yakutsk 43.59 36 P P 06 33 29.3 -0.2
YAK IAmb IAmb 06 33 43.8
comp=Z,28nm,0.8s
STAL STALIGIAL 43.83 301 P P 06 33 31.9 +0.1
STAL IAmb IAmb 06 33 33.1
comp=Z,19nm,1.1s
NC405 NORSAR Array S 43.92 323 P P 06 33 31.8 -0.5
NC303 NORSAR Array S 44.10 323 P P 06 33 33.6 0.0
NB201 NORSAR Array S 44.12 323 P P 06 33 34.5 +0.6
NB2 NORSAR Subarra 44.16 323 P P 06 33 34.2 0.0
comp=Z,3.8nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.16 323 P P 06 33 33.8 -0.3
comp=Z,11nm,0.8s,baz=96,slow=8.0,SNR=23
NOA LR LR 06 54 14.2
comp=Z,252nm,18.6s,baz=100,slow=39
NAO01 NORSAR Array S 44.30 322 P P 06 33 35.6 +0.3
NBO00 NORSAR Array S 44.37 323 P P 06 33 36.3 +0.5
NC204 NORSAR Array S 44.40 323 P P 06 33 36.2 +0.1
NC204 IAmb IAmb 06 33 48.1
comp=Z,19nm,1.0s
WTTA Wattenberg 44.40 303 *i*P P 06 33 36.7 +0.2
comp=Z,16nm,1.1s
WATA Walderalm 44.43 303 *i*P P 06 33 37.0 +0.4
comp=Z,8.8nm,0.8s
MURB Monte Urbino 44.53 297 P P 06 33 40.2 +2.8
CTI Castel Tesino 44.59 301 P P 06 33 38.5 +0.6
CTI pmax pmax
comp=Z,9.0nm,0.8s
CTI Castel Tesino 44.59 301 P P 06 33 38.5 +0.6
CTI IAmb IAmb 06 33 39.5
comp=Z,9.3nm,0.8s
KSRS Korea Array 44.63 71 P P 06 33 37.9 -0.3
comp=Z,2.8nm,1.0s,baz=310,slow=6.2,SNR=5.2
SQTA Sankt Quirin 44.70 303 *i*P P 06 33 39.0 +0.2
comp=Z,13nm,1.1s
RAFF Raffo Rosso 44.73 288 P P 06 33 41.2 +2.2
MOTA Moosalm 44.74 303 *i*P P 06 33 39.0 -0.2
comp=Z,14nm,1.0s
KLR Kul'dur 44.82 54 P P 06 33 40.0 +0.5
KLR Kul'dur 44.82 54 P P 06 33 40.0 +0.5
comp=Z,1.1nm,0.4s,baz=284,slow=13,SNR=3.4
KONO Kongsberg 44.88 321 P P 06 33 40.2 +0.4
KONO Kongsberg 44.88 321 P P 06 33 40.2 +0.4
KONO IAmb IAmb 06 33 58.1
comp=Z,16nm,1.1s
RETA Reutte 44.95 303 *i*P P 06 33 41.9 +1.2
comp=Z,3.0nm,0.7s
FETA Feichten 45.05 303 *i*P P 06 33 41.7 +0.1
comp=Z,5.7nm,0.7s
TIXI Tiksi 45.38 22⇑*e*P P 06 33 44.2 +0.6
TIXI pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 45.38 22 P P 06 33 43.3 -0.4
comp=Z,6.3nm,0.4s,baz=0.0,slow=24,SNR=12
TIXI Tiksi 45.38 22 P P 06 33 43.8 +0.1
TIXI IAmb IAmb 06 33 51.4
comp=Z,19nm,0.8s
DAVA Damuels 45.58 303 *i*P P 06 33 46.2 +0.5
comp=Z,34nm,1.1s,SNR=6.6
USRK Ussuriysk Ar. 45.87 61 LR LR 06 55 13.7
comp=Z,336nm,18.7s,baz=270,slow=39
MSSA Maissana 46.42 299 P P 06 33 53.3 +1.0
MSSA IAmb IAmb 06 33 54.4
comp=Z,17nm,0.9s
BFO Black Forest 46.42 305 P P 06 33 52.4 +0.1
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 46.42 305 P P 06 33 52.4 +0.1
SPA0 Spitsbergen Ar 47.16 347 P P 06 33 59.1 +1.5
SENIN Lac Senin/Sane 47.49 303 P P 06 34 01.7 +0.8
SENIN IAmb IAmb 06 34 02.2
comp=Z,10nm,0.8s
WLF Walferdange 47.60 307 P P 06 34 03.1 +1.7
WLF pmax pmax
comp=Z,21nm,1.1s
WLF Walferdange 47.60 307 P P 06 34 03.1 +1.7
WLF IAmb IAmb 06 34 04.1
comp=Z,21nm,1.1s
LPL La Plagne 48.07 302 *e*P P 06 34 06.0 +0.6
LPL pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 48.22 301 P P 06 34 07.1 +0.7
BNI pmax pmax
comp=Z,13nm,1.2s
BNI Bardonecchia 48.22 301 P P 06 34 07.1 +0.7
BNI IAmb IAmb 06 34 14.3
comp=Z,13nm,1.2s
BMRD Maredsous 48.37 308 P P 06 34 08.8 +1.5
BMRD pP **pP 06 34 21.5 +0.3**
BMRD sP **sP 06 34 28.2 +1.0**
JNU Nakatsue 48.37 76 P P 06 34 07.1 -0.5
comp=Z,16nm,1.1s,baz=297,slow=6.8,SNR=3.0
JNU Nakatsue 48.37 76 P P 06 34 09.9 +2.3
KEST Kesra 49.04 288 P P 06 34 12.8 +0.1
comp=Z,8.6nm,0.6s,baz=117,slow=0.6,SNR=12
KEST Kesra 49.04 288 P P 06 34 14.8 +2.0
KEST IAmb IAmb 06 34 14.9
comp=Z,12nm,0.8s
KMBO Kilima Mbogo 49.18 227 P P 06 34 15.3 +1.1
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 49.18 227 P P 06 34 13.8 -0.3
comp=Z,1.0nm,0.6s,baz=28,slow=18,SNR=4.3
KMBO LR LR 06 57 06.0
comp=Z,85nm,18.6s,baz=86,slow=39
KMBO Kilima Mbogo 49.18 227 P P 06 34 15.3 +1.1
SSF Saint Saulge 49.87 304 *e*P P 06 34 19.0 +0.1
CLF Chambon-Foret 50.46 306 P P 06 34 24.1 +0.9
CAF Calviac 51.41 302 *e*P P 06 34 31.3 +0.8
CAF pmax pmax
comp=Z,14nm,1.1s
MFF Saint Martin d 52.41 304 *e*P P 06 34 37.8 -0.1
MFF pmax pmax
comp=Z,14nm,1.0s
YSS Yuzh-Sakhalins 52.50 55 *e*P P 06 34 44.0 +5.5
YSS *e* 06 34 57.3
YSS *e*S S 06 42 10.1 +8.6
YSS *e*SS **SS 06 45 34.8 -4.8**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=E,300nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s
MAJO Matsushiro 52.69 69⇓*e*P P 06 34 41.9 +1.7
MAJO pmax pmax
comp=Z,35nm,2.9s
MJAR Matsushiro Arr 52.70 69 P P 06 34 41.2 +1.0
comp=Z,0.7nm,0.3s,baz=290,slow=12,SNR=3.3
MJAR LR LR 06 57 22.6
comp=Z,139nm,18.9s,baz=255,slow=36
MBAR Mbarara 52.83 234 P P 06 34 42.0 +0.5
MBAR pmax pmax
comp=Z,10.0nm,0.7s
MBAR Mbarara 52.83 234 P P 06 34 42.0 +0.5
MBAR IAmb IAmb 06 34 48.3
comp=Z,9.7nm,0.7s
SEY Seymchan 54.03 34 P P 06 34 49.9 +0.3
comp=Z,1.7nm,0.8s,baz=333,slow=9.0,SNR=2.3
DAG Danmarks Havn 54.41 344 *i*P P 06 34 52.9 +0.8
DAG pmax pmax
comp=Z,2.0nm,0.5s
DAG Danmarks Havn 54.41 344 *i*P P 06 34 52.9 +0.8
comp=Z,2.6nm,0.5s
SCO Scoresbysund 56.76 336 P P 06 35 11.4 +2.4
SCO Scoresbysund 56.76 336 P P 06 35 11.4 +2.4
ESBB Sonseca Array 57.40 298 P P 06 35 15.1 +1.0
ESBB IAmb IAmb 06 35 15.8
comp=Z,12nm,1.1s
ESDC Sonseca Array 57.40 298 P P 06 35 14.4 +0.3
comp=Z,6.7nm,0.8s,baz=62,slow=7.4,SNR=32
ESDC LR LR 07 03 22.2
comp=Z,67nm,19.1s,baz=0.0,slow=40
ESDC Sonseca Array 57.40 298 P P 06 35 14.8 +0.7
BILL Bilibino 58.21 26 *e*P P 06 35 20.6 +1.3
BILL *e* 06 36 15.4
BILL *e* 06 37 30.1
BILL pmax pmax
comp=Z,2.0nm,0.6s
MVO Moncorvo 58.96 300 *e*P P 06 35 25.6 +0.6
comp=Z,26nm,1.5s
PETK Petropavlovsk- 59.61 44 LR LR 07 04 11.0
comp=Z,217nm,20.1s,baz=262,slow=39
MTE Manteigas 59.62 300 *e*P P 06 35 31.4 +1.8
comp=Z,42nm,1.8s
PVIS Viseu 59.74 300 *e*P P 06 35 31.7 +1.3
comp=Z,32nm,1.8s
SUMG Summit 60.75 341 P **P 06 35 39.2 +2.0**
SUMG pmax pmax
comp=Z,39nm,1.3s
SUMG Summit 60.75 341 *i*P P 06 35 39.0 +1.8
comp=Z,35nm,0.7s
SUMG Summit 60.75 341 P P 06 35 39.2 +2.0
MDT Midelt 60.77 291 LR LR 07 05 08.7
comp=Z,32nm,20.2s,baz=71,slow=39
PNCL Nicolau / Gran 61.29 298 *e*P P 06 35 42.4 +1.5
comp=Z,30nm,1.8s
TOA0 Torodi Ar. Sit 65.86 269 P P 06 36 10.8 -0.5
TORD Torodi Ar. Bea 65.86 269 P P 06 36 10.3 -1.1
comp=Z,2.8nm,0.6s,baz=46,slow=5.2,SNR=18
TORD LR LR 07 08 42.6
comp=Z,128nm,18.7s,baz=345,slow=40
TORD Torodi Ar. Bea 65.86 269 P P 06 36 11.6 +0.2
ILULI Ilulissat 66.09 341 P P 06 36 13.5 +1.5
ILULI pmax pmax
comp=Z,94nm,1.5s
ILULI Ilulissat 66.09 341 P P 06 36 13.5 +1.5
COLD Coldfoot 71.57 16 P P 06 36 48.1 +2.0
COLD IAmb IAmb 06 36 52.9
comp=Z,5.6nm,0.7s
IMAR Indian Mountai 71.78 18 P P 06 36 48.3 +1.0
BMAR Burnt Mountain 72.55 14 P P 06 36 53.9 +1.9
MLY Manley 73.28 17 P P 06 36 59.6 +3.2
MLY IAmb IAmb 06 37 04.4
comp=Z,12nm,1.2s
INK Inuvik 73.51 9 P P 06 36 59.1 +1.5
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 73.51 9 P P 06 36 58.3 +0.7
comp=Z,5.6nm,0.5s,baz=351,slow=7.0,SNR=50
INK Inuvik 73.51 9 P P 06 36 59.1 +1.5
INK IAmb IAmb 06 37 05.1
comp=Z,18nm,1.1s
BPAW Bear Paw Mtn. 74.00 18 IAmb IAmb 06 37 05.0
comp=Z,10nm,1.0s
NEA Nenana 74.05 17 P P 06 37 03.7 +2.8
NEA IAmb IAmb 06 37 05.8
comp=Z,12nm,0.8s
COLA College 74.08 16⇑*e*P P 06 37 02.4 +1.4
COLA pmax pmax
comp=Z,16nm,0.8s
CCB Clear Creek Bu 74.28 16 P P 06 37 05.9 +3.7
WRH Wood River Hil 74.37 17 P P 06 37 06.4 +3.6
ILAR Eielson Array 74.38 16 P P 06 37 04.3 +1.5
ILAR Eielson Array 74.38 16 P P 06 37 02.9 +0.1
comp=Z,3.1nm,0.7s,baz=348,slow=3.6,SNR=27
ILAR LR LR 07 13 14.4
comp=Z,73nm,19.1s,baz=330,slow=38
ILAR Eielson Array 74.38 16 P P 06 37 04.3 +1.5
KTH Kantishna Hill 74.47 18 P P 06 37 05.0 +1.6
KTH IAmb IAmb 06 37 08.5
comp=Z,14nm,0.8s
HDA Harding Lake 74.68 16 P P 06 37 06.7 +2.2
HDA IAmb IAmb 06 37 08.0
comp=Z,11nm,1.2s
PPLA Purkeypile 74.69 19 P P 06 37 05.7 +0.9
PPLA IAmb IAmb 06 37 11.8
comp=Z,10nm,0.7s
MCK McKinley 74.80 17 P P 06 37 08.5 +3.2
MCK pmax pmax
comp=Z,14nm,1.3s
MCK McKinley 74.80 17 P P 06 37 08.6 +3.2
MCK IAmb IAmb 06 37 31.4
comp=Z,14nm,1.3s
DBIC Dimbokro 74.85 267 LR LR 07 15 23.1
comp=Z,152nm,18.2s,baz=34,slow=40
EPYK Eagle Plains 74.86 11 P P 06 37 06.6 +1.0
LBTB Lobatse 75.04 222 P P 06 37 08.0 +0.8
LBTB pmax pmax
comp=Z,10.0nm,1.0s
LBTB Lobatse 75.04 222 P P 06 37 08.0 +0.8
LBTB IAmb IAmb 06 37 09.0
comp=Z,9.7nm,1.0s
RND Reindeer 75.10 17 P P 06 37 07.8 +0.8
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 75.10 17 P P 06 37 07.8 +0.8
RND IAmb IAmb 06 37 11.3
comp=Z,8.2nm,0.8s
EGAK Eagle 75.55 14 P P 06 37 14.5 +5.0
SCRK Sand Creek 75.70 15 P P 06 37 12.6 +2.1
DHY Denali Highway 75.73 17 P P 06 37 12.6 +1.8
DHY IAmb IAmb 06 37 17.7
comp=Z,10nm,0.6s
PAX Paxson 76.26 16 P P 06 37 17.3 +3.6
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 76.26 16 P P 06 37 17.3 +3.6
PAX IAmb IAmb 06 37 18.1
comp=Z,7.4nm,0.7s
DAWY Dawson 76.53 13 P P 06 37 16.0 +0.9
DAWY IAmb IAmb 06 37 20.4
comp=Z,6.8nm,0.8s
SML Sawmill 76.59 18 P P 06 37 17.0 +1.4
BCAR Beaver Creek A 76.97 15 P P 06 37 19.3 +1.6
BOSA Boshof 78.12 220 P P 06 37 25.8 +1.3
BOSA pmax pmax
comp=Z,10.0nm,1.1s
BOSA Boshof 78.12 220 P P 06 37 24.4 -0.1
comp=Z,4.4nm,0.7s,baz=37,slow=2.8,SNR=6.0
BOSA Boshof 78.12 220 P P 06 37 25.8 +1.3
BOSA IAmb IAmb 06 37 39.0
comp=Z,10nm,1.1s
VRDI Verde Repeater 78.25 16 P P 06 37 26.8 +1.7
VRDI IAmb IAmb 06 37 44.4
comp=Z,8.3nm,1.0s
KDAK Kodiak Island 78.80 22 P P 06 37 30.0 +2.2
KDAK pmax pmax
comp=Z,52nm,1.4s
KDAK Kodiak Island 78.80 22 P P 06 37 30.1 +2.2
YKA Yellowknife Ar 80.86 3 P P 06 37 39.8 +0.9
YKA Yellowknife Ar 80.86 3 P P 06 37 39.6 +0.7
comp=Z,8.8nm,0.7s,baz=352,slow=5.4,SNR=28
YKA LR LR 07 18 28.4
comp=Z,13nm,18.2s,baz=7.0,slow=39
YKA Yellowknife Ar 80.86 3 P P 06 37 39.8 +0.9
WRA Warramunga Arr 82.08 122 P P 06 37 46.0 0.0
WRA Warramunga Arr 82.08 122 P P 06 37 43.7 -2.3
comp=Z,1.0nm,0.5s,baz=322,slow=5.1,SNR=12
WRA LR LR 07 19 47.9
comp=Z,64nm,19.3s,baz=25,slow=40
WRA Warramunga Arr 82.08 122 P P 06 37 46.0 0.0
WB2 Warramunga Arr 82.09 122 P P 06 37 45.6 -0.4
ASAR Alice Springs 84.36 125 P P 06 37 56.3 -1.4
comp=Z,1.5nm,0.6s,baz=310,slow=5.0,SNR=22
ASAR LR LR 07 17 32.8
comp=Z,45nm,21.6s,baz=297,slow=37
FFC Flin Flon 88.57 356 *i*P P 06 38 20.1 +2.2
ULM Lac du Bonnet 92.50 352 LR LR 07 22 12.5
comp=Z,111nm,19.4s,baz=16,slow=37
STKA Stephens Creek 94.91 126 LR LR 07 29 06.3
comp=Z,23nm,18.3s,baz=239,slow=40
QSPA South Pole Qui 126.67 180 PKP PKPdf 06 44 28.1 +0.6
comp=Z,1.7nm,1.0s,baz=313,slow=1.1,SNR=3.9
ROSC El Rosal 127.47 315 PKP PKiKP 06 44 31.8 +0.1
comp=Z,2.0nm,0.4s,baz=49,slow=20,SNR=2.1
CFA Coronel Fontan 146.21 267 PKPbc PKPdf 06 45 04.3 -0.3
comp=Z,3.1nm,0.7s,baz=34,slow=2.2,SNR=2.9
GO04 Tololo Observa 147.75 271 PKPbc PKPbc 06 45 11.3 +0.9
PLCA Paso Flores 150.07 251 PKIKP PKPbc 06 45 15.7 0.0
PLCA Paso Flores 150.07 251 PKPbc PKPbc 06 45 15.7 0.0
GO06 Curarrehue 150.66 253 PKPbc 06 45 17.6 +0.4

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*IDC **29** 07:00:02.0±0.6, 60°.31S×47°.30W, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.2/23, mbtmp4.3/13, ML4.0/1, MS3.5/5, Ms1 3.4/5, ms1mx3.1/24, Error ellipse: s-maj=21.5km s-min=16.5km az=66.0*
*ISCJB **29** 07:00:02.9±0.4, 60°.25S±0°.07×47°.0W±0°.2, h10km, mb4.4/13, MS3.5/3, Error ellipse: s-maj=12.7km s-min=7.0km az=142.7*
*NEIC **29** 07:00:03.3±1.8, 60°.45S±0°.06×47°.1W±0°.2, h10km±3km, mb4.5/16*
ISC 29 07:00:03.9±0.5,**60°.37S**±0°.08×**47°.11W**±0°.08,**h10**km,**n63**, σ1§**21**/55,**mb4.5**/19,**MS3.6**/3,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.38**	**48**			**Pn**	**07 02 04.0**	**-1.1**

PMSA Palmer Station 8.96 233 Pn **Pn 07 02 11.8 -1.4**
1.7nm,0.3s,baz=59,slow=10,SNR=10
PMSA LR LR 07 05 28.8
comp=Z,250nm,18.6s,baz=36,slow=37
PMSA Palmer Station 8.96 233 **Pn 07 02 11.5 -1.7**
EFI East Falkland 10.64 320 Pn **Pn 07 02 39.6 +3.5**
USHA Ushuaia 12.68 287 LR LR 07 07 02.8
comp=Z,173nm,18.5s,baz=74,slow=34
VNA3 Neumayer Olymp 18.42 142 P **Pn 07 04 19.9 +1.0**
VNA1 Neumayer–Stat 18.71 139 P **Pn 07 04 25.4 +3.0**
VNA2 Neumayer–Watz 19.05 140 P **Pn 07 04 28.4 +1.8**
baz=290,slow=14
SNAA Sanae 20.64 141 P Pn 07 04 45.5 0.0
SNAA Sanae 20.64 141 P Pn 07 04 45.5 0.0
7.4nm,0.8s,baz=288,slow=8.8,SNR=22
SNAA Sanae 20.64 141 P Pn 07 04 45.4 -0.2
TRQA Tornquist 24.24 330 P **P 07 05 21.0 +0.3**
TRQA IAmb IAmb 07 05 33.4
comp=Z,9.8nm,1.0s
PLCA Paso Flores 24.42 313 P **P 07 05 20.5 -1.9**
comp=Z,4.3nm,0.8s,baz=192,slow=8.1,SNR=12
PLCA LR LR 07 13 22.7
comp=Z,63nm,19.8s,baz=188,slow=33
PLCA Paso Flores 24.42 313 P **P 07 05 21.5 -0.9**
PLCA IAmb IAmb 07 05 31.3
comp=Z,9.4nm,1.1s
GO06 Curarrehue 25.77 313 P **P 07 05 33.9 -0.8**
QSPA South Pole Qui 29.87 180 P **P 07 06 12.2 +1.0**
comp=Z,6.8nm,0.8s,baz=176,slow=3.7,SNR=16
QSPA South Pole Qui 29.87 180 P **P 07 06 12.4 +1.2**
QSPA IAmb IAmb 07 06 16.2
comp=Z,8.3nm,0.8s
MAW Mawson 42.57 148 P **P 07 08 00.3 +1.1**
comp=Z,3.2nm,0.7s,baz=216,slow=10,SNR=5.8
GO01 Chusmiza 43.59 329 P **P 07 08 08.6 0.0**
GO01 IAmb IAmb 07 08 21.4
comp=Z,13nm,1.5s
MNMC Minye Minye 44.21 329 P **P 07 08 14.0 +0.7**
MNMC IAmb IAmb 07 08 21.9
comp=Z,7.2nm,0.7s
BDFB Brasilia 44.67 359 P **P 07 08 16.2 -0.6**
comp=Z,3.0nm,0.8s,baz=191,slow=8.5,SNR=3.6
BDFB Brasilia 44.67 359 P **P 07 08 17.7 +0.9**
SIV San Ignacio 45.46 341 P **P 07 08 22.7 -0.3**
comp=Z,1.6nm,0.8s,baz=165,slow=6.8,SNR=8.5
SUR Sutherland 51.65 89 P **P 07 09 10.9 +0.2**
comp=Z,9.0nm,0.9s,baz=228,slow=16,SNR=4.5
SUR Sutherland 51.65 89 P **P 07 09 11.9 +1.2**
SAML Samuel 52.71 340 P **P 07 09 18.6 +0.1**
SAML IAmb IAmb 07 09 19.1
comp=Z,4.4nm,0.8s
BOSA Boshof 56.92 90 P **P 07 09 49.2 +0.1**
comp=Z,3.5nm,0.9s,baz=218,slow=3.6,SNR=4.4
BOSA LR LR 07 29 46.8
comp=Z,60nm,18.2s,baz=323,slow=31
BOSA Boshof 56.92 90 P **P 07 09 49.2 +0.1**
BOSA IAmb IAmb 07 09 56.8
comp=Z,6.2nm,1.1s
H10N3 ASCENSION HYDR 57.84 39 T T 08 12 55.6
baz=199,slow=75,SNR=4.8
H10N1 ASCENSION HYDR 57.84 39 T T 08 12 55.3
baz=199,slow=75,SNR=5.2
H10N2 ASCENSION HYDR 57.85 39 T T 08 12 57.2
baz=199,slow=75,SNR=6.4
LBTB Lobatse 60.07 88 P **P 07 10 11.3 +0.2**
comp=Z,3.5nm,0.5s,baz=209,slow=7.4,SNR=7.3
LBTB Lobatse 60.07 88 P **P 07 10 11.0 -0.1**
OTAV Otavalo 65.11 325 P **P 07 10 45.3 +0.1**
OTAV IAmb IAmb 07 10 47.8
comp=Z,4.9nm,0.8s
PTCN Pitcairn Islan 65.12 263 P **P 07 10 46.3 +1.6**
LIC Lamto 74.15 44 *e*PKP2 **P 07 11 40.7 +0.4**
comp=Z,18nm,0.9s
KIC Kosan Boka 74.37 44 *e*PKP2 **P 07 11 42.0 +0.3**
comp=Z,8.5nm,0.7s
TIC Toumodi 74.54 44 *e*PKP2 **P 07 11 42.0 -0.7**
DBIC Dimbokro 74.62 44 P **P 07 11 43.5 +0.4**
comp=Z,2.2nm,0.6s,baz=159,slow=14,SNR=2.9
TOA0 Torodi Ar. Sit 82.95 48 P **P 07 12 29.4 +0.6**
TOA0 IAmb IAmb 07 12 36.9
comp=Z,3.6nm,0.9s
TORD Torodi Ar. Bea 82.95 48 P **P 07 12 29.4 +0.5**
comp=Z,3.1nm,0.8s,baz=212,slow=5.0,SNR=14
TORD LR LR 07 42 58.0
comp=Z,29nm,20.1s,baz=325,slow=31
TORD Torodi Ar. Bea 82.95 48 P **P 07 12 28.1 -0.8**
ASAR Alice Springs 96.27 181 P **P 07 13 31.4 -1.1**
comp=Z,0.5nm,0.7s,baz=180,slow=5.9,SNR=4.9
ASAR Alice Springs 96.27 181 P **P 07 13 31.9 -0.5**
WRA Warramunga Arr 99.97 181 P **Pdif 07 13 47.0 -2.0**
comp=Z,0.4nm,0.7s,baz=180,slow=3.9,SNR=5.6
BRTR Keskin Array B 119.39 61 PKP **PKPdf 07 18 50.2 -2.6**
comp=Z,0.6nm,0.6s,baz=175,slow=3.6,SNR=2.6
AKASG Malin Array Be 126.52 50 PKP **PKPdf 07 19 04.5 -1.4**
comp=Z,1.7nm,0.9s,baz=241,slow=1.9,SNR=3.2
AKASG Malin Array Be 126.52 50 **PKPdf 07 19 05.7 -0.1**
CMAR Chiang Mai Arr 131.63 135 PKP **PKPdf 07 19 16.2 -0.5**
comp=Z,0.8nm,0.3s,baz=240,slow=3.0,SNR=2.6
ARCES ARCESS Array B 139.48 31 PKhKP PKPpre 07 19 19.2
comp=Z,6.3nm,1.0s,baz=12,slow=6.2,SNR=6.7
IL31 145.11 312 **PKPbc 07 19 38.1 -1.2**
ILAR Eielson Array 145.11 312 PKPbc **PKPbc 07 19 38.3 -1.1**
comp=Z,1.9nm,0.5s,baz=149,slow=1.6,SNR=32
ILAR Eielson Array 145.11 312 **PKPbc 07 19 38.1 -1.3**
RND Reindeer 145.13 310 **PKPbc 07 19 38.7 -0.9**
WRH Wood River Hil 145.40 311 **PKPbc 07 19 39.0 -1.3**
BMAR Burnt Mountain 145.64 317 **PKPdf 07 19 39.9 -0.8**
BRVK Borovoye 146.09 74 **PKPdf 07 19 42.3 +0.5**
MLY Manley 146.66 311 **PKPbc 07 19 43.7 -0.5**
MAKZ Makanchi 147.77 92 **PKPbc 07 19 46.6 -1.2**
MK31 Makanchi Array 147.91 92 **PKPbc 07 19 47.0 -1.3**
MKAR Makanchi Array 147.91 92 PKPbc **PKPbc 07 19 47.3 -0.9**
comp=Z,3.6nm,0.6s,baz=238,slow=2.4,SNR=31
KURK Kurchatov 148.69 83 **PKPbc 07 19 49.1 -0.9**
ZALV Zalesovo Beam 153.67 82 PKPbc **PKPbc 07 20 00.7 -0.8**
comp=Z,0.7nm,0.3s,baz=259,slow=2.9,SNR=3.4

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*ISCJB **29** 07:09:37.0±1.1, 60°.1S±0°.2×46°.6W±0°.6, h10km, mb3.7/3, Error ellipse: s-maj=45.3km s-min=19.8km az=160.2*
*IDC **29** 07:09:36.4±1.1, 60°.07S×46°.49W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=49.0km s-min=25.4km az=68.0*
ISC 29 07:09:38.2±1.0, **60°.1S**±0°.2×**46°.7W**±0°.3, **h10**km, **n12**, σ0**95**/7, **mb3.8**/3, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.75**	**142**	P	**P**	**07 14 19.4**	**+0.8**
	2.1nm,0.9s,baz=278,slow=11,SNR=7.1						
QSPA	**South Pole Qui**	**30.15**	**180**	P	**P**	**07 15 47.8**	**-0.1**
	2.7nm,1.0s,baz=164,slow=5.4,SNR=4.3						
LPAZ	**La Paz**	**46.42**	**331**	P	**P**	**07 18 06.4**	**+0.9**
	0.7nm,0.8s,baz=143,slow=5.1,SNR=2.6						
H10S2	**ASCENSION HYDR**	**56.40**	**39**	T	T	08 20 51.8	
	baz=20,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**56.40**	**39**	T	T	08 20 51.8	
	baz=200,slow=74,SNR=21						
H10N3	**ASCENSION HYDR**	**57.50**	**39**	T	T	08 22 15.6	
	baz=199,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**57.50**	**39**	T	T	08 22 16.1	
	baz=199,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**57.52**	**39**	T	T	08 22 14.2	
	baz=199,slow=75,SNR=19						
TORD	**Torodi Ar. Bea**	**82.62**	**47**	P	**P**	**07 22 01.0**	**-0.3**
	0.5nm,0.7s,baz=253,slow=4.4,SNR=2.4						
ILAR	**Eielson Array**	**145.06**	**313**	PKPbc	**PKPbc**	**07 29 12.4**	**-1.1**
	0.6nm,0.8s,baz=130,slow=2.1,SNR=5.8						
BVAR	**Borovoye Array**	**145.86**	**73**	PKPbc	**PKPdf**	**07 29 14.8**	**-0.9**
	0.9nm,0.5s,baz=242,slow=3.1,SNR=4.9						
MKAR	**Makanchi Array**	**147.73**	**91**	PKPbc	**PKPdf**	**07 29 19.5**	**+0.4**
	0.3nm,0.5s,baz=270,slow=1.4,SNR=3.1						

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*SJA **29** 07:13:59.4±1.3, 33°.06S×72°.77W, h16km, ML3.1, MW3.3*
*GUC **29** 07:14:02.2±0.8, 33°.36S×72°.25W, h40km±4km, ML2.9*
ISC 29 07:13:57.9±2.9, **33°.12S**±0°.06×**72°.4W**±0°.1, **h6**km±12km, **n14**, σ1**39**/23, **4C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.62**	**82**	*e*P	**Pn**	**07 14 14.8**	**+1.5**
VA01				*e*S	**Sn**	**07 14 24.2**	**+0.6**
ROCH	**El Roble**	**1.16**	**83**	⇑*i*P	**Pg**	**07 14 22.9**	**+2.8**
ROCH				*e*S	**Sn**	**07 14 39.0**	**+1.9**
ROCH				IAML		07 14 46.4	
	comp=N,355nm,0.4s						
RCDM	**Rinconada Maip**	**1.37**	**106**	⇑*i*P	**Pg**	**07 14 24.8**	**+0.7**
RCDM				*i*S	**Sb**	**07 14 40.9**	**-0.8**
RCDM				IAML		07 14 42.6	
	comp=N,400nm,0.1s						
PEL	**Peldehue**	**1.42**	**92**	⇑*i*P	**Pg**	**07 14 26.5**	**+1.3**
PEL				*i*S	**Sg**	**07 14 44.6**	**+0.9**
PEL				IAML		07 14 54.2	
	comp=E,279nm,0.4s						
FCH	**Farellones**	**1.77**	**97**	⇑*i*P	**Pg**	**07 14 31.6**	**-0.2**
FCH				*e*S	**Sg**	**07 14 53.5**	**-1.1**
FCH				IAML		07 15 00.6	
	comp=N,228nm,0.5s						
LMEL	**Las Melosas**	**1.96**	**112**	*e*P	**Pb**	**07 14 32.7**	**-1.4**
LMEL				*e*S	**Sn**	**07 14 56.4**	**-0.5**
LMEL				IAML		07 15 00.3	
	comp=N,229nm,0.4s						
RTLS	**Leoncito**	**2.92**	**64**	*i*P	**Pg**	**07 14 52.8**	**-1.1**
RTLS				*i*S	**Sg**	**07 15 32.9**	**+1.2**
ASAL	**Salagasta**	**3.03**	**81**	*e*P	**Pg**	**07 14 56.1**	**+0.2**
ASAL				*i*S	**Sg**	**07 15 33.8**	**-1.4**
ASAL				IAML		07 15 45.2	
	comp=Z,33nm,1.1s						
GO04	**Tololo Observa**	**3.23**	**25**	*i*P	**Pb**	**07 14 54.8**	**-1.0**
GO04				*i*S	**Sb**	**07 15 34.8**	**-0.7**
RTLL	**Cerro Villicun**	**3.76**	**63**	*i*P	**Pb**	**07 15 03.5**	**-1.3**
RTLL				IAML		07 16 13.3	
	comp=Z,18nm,0.8s						
ACCO	**Cerro Coronel**	**3.78**	**49**	*i*P	**Pb**	**07 15 04.7**	**-0.6**
ACCO				*i*S	**Sb**	**07 15 50.8**	**-0.7**
ACCO				IAML		07 16 08.0	
	comp=Z,22nm,3.2s						
CFA	**Coronel Fontan**	**3.82**	**68**	*i*P	**Pb**	**07 15 03.7**	**-2.0**
AMOG	**MOGNA**	**3.95**	**58**	*i*P	**Pb**	**07 15 06.2**	**-1.8**
AMOG				IAML		07 16 15.4	
	comp=Z,17nm,0.5s						
VCA	**Vinchina**	**5.65**	**41**	*i*P	Pb	07 15 29.5	-7.5
VCA				IAML		07 17 06.0	
	comp=Z,18nm,0.8s						

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*IDC **29** 07:24:13.1±1.2, 31°.94N×84°.17E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/46, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=37.6km s-min=21.1km az=67.0*
ISC 29 07:24:14.5±0.8, **31°.94N**±0°.06×**84°.5E**±0°.2, **h10**km, **n17**, σ2**04**/17, **mb3.5**/6, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**3.63**	**190**	*e*P	**Pg**	**07 25 26.2**	**+2.0**
	34nm,0.3s						
GKN	**Gorkha**	**3.93**	**178**	*e*P	**Pg**	**07 25 28.3**	**-1.5**
	20nm,0.3s						
GUN	**Gumba**	**4.20**	**163**	*e*P	**Pb**	**07 25 30.2**	**+1.5**
KOLN	**Koldanda**	**4.22**	**191**	*e*P	**Pg**	**07 25 33.5**	**-2.0**
	15nm,0.3s						
DMN	**Daman**	**4.35**	**173**	*e*P	**Pb**	**07 25 33.5**	**+2.2**
PKIN	**Phulchoki**	**4.42**	**169**	*e*P	**Pb**	**07 25 32.8**	**+0.3**
	13nm,0.4s						
PKI	**Pulchoki**	**4.43**	**169**	*e*P	**Pb**	**07 25 34.2**	**+1.5**
JIRN	**Jiri**	**4.52**	**160**	*e*P	**Pb**	**07 25 34.1**	**-0.1**
	19nm,0.3s						
RAMN	**Ramite**	**5.31**	**159**	*e*P	**Pb**	**07 25 43.1**	**-4.5**
MKAR	**Makanchi Array**	**14.93**	**354**	Pn	**Pn**	**07 27 45.5**	**-0.1**
	0.1nm,0.3s,baz=188,slow=15,SNR=3.1						
KURBB	**Kurchatov Arra**	**19.18**	**348**	P	**Pn**	**07 28 38.6**	**-0.4**
	baz=164,slow=10,SNR=2.2						
ZALV	**Zalesovo Beam**	**22.00**	**1**	P	**P**	**07 29 10.5**	**+1.8**
	1.4nm,0.6s,baz=183,slow=13,SNR=6.5						
SONM	**Songino Array**	**23.01**	**40**	P	**P**	**07 29 20.5**	**+0.8**
	1.2nm,0.8s,baz=238,slow=8.5,SNR=4.7						
BRTR	**Keskin Array B**	**41.48**	**295**	P	**P**	**07 31 59.2**	**-2.6**
	0.9nm,0.8s,baz=36,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**70.30**	**130**	P	**P**	**07 35 30.0**	**+1.5**
	0.2nm,0.5s,baz=326,slow=6.7,SNR=6.6						
ASAR	**Alice Springs**	**72.73**	**133**	P	**P**	**07 35 45.2**	**+2.2**
	0.2nm,0.5s,baz=320,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**75.63**	**20**	P	**P**	**07 35 58.8**	**-0.6**
	0.2nm,0.5s,baz=314,slow=4.7,SNR=3.5						

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*SJA **29** 07:33:35.2±0.8, 33°.38S×72°.30W, h16km±8km, ML3.5, MW3.4*
*GUC **29** 07:33:36.7±0.6, 33°.41S×72°.23W, h38km±4km, ML3.3*
ISC 29 07:33:35.4±2.0, **33°.43S**±0°.05×**72°.30W**±0°.09, **h12**km±11km, **n18**, σ1**47**/28, **3C–4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.68**	**54**	*e*P	**Pn**	**07 33 49.4**	**-1.5**
VA01				*e*S	**Sn**	**07 33 59.4**	**-2.1**
ROC1	**El Roble**	**1.17**	**68**	*i*P	**Pg**	**07 33 57.5**	**-0.4**
ROC1				*i*S	**Sg**	**07 34 13.5**	**+0.3**
ROCH	**El Roble**	**1.17**	**67**	⇑*i*P	**Pg**	**07 33 57.5**	**-0.5**
ROCH				*e*S	**Sg**	**07 34 13.5**	**+0.2**
ROCH				IAML		07 34 17.7	
	comp=N,936nm,0.3s						
RCDM	**Rinconada Maip**	**1.25**	**93**	⇑*i*P	**Pg**	**07 33 59.0**	**-0.5**
RCDM				*e*S	**Sn**	**07 34 14.9**	**-0.6**
RCDM				IAML		07 34 16.5	
	comp=E,803nm,0.2s						
PEL	**Peldehue**	**1.38**	**79**	⇓*i*P	**Pb**	**07 34 00.7**	**-0.6**
PEL				*e*S	**Sb**	**07 34 18.7**	**-0.2**
PEL				IAML		07 34 27.9	
	comp=E,675nm,0.4s						
PEL	**Peldehue**	**1.38**	**79**	*i*P	**Pg**	**07 34 01.3**	**-0.7**
PEL				*i*S	**Sg**	**07 34 20.9**	**+0.9**
CLCH	**Cerro Calan**	**1.48**	**89**	⇓*i*P	**Pb**	**07 34 02.4**	**-0.5**
CLCH				*e*S	**Sb**	**07 34 21.5**	**-0.1**
CLCH				IAML		07 34 28.2	
	comp=E,953nm,0.5s						
GO05	**Huala**	**1.60**	**169**	*e*P	**Pn**	**07 34 03.5**	**-0.2**
GO05				*e*S	**Sb**	**07 34 26.0**	**+0.7**
GO05	**Huala**	**1.60**	**169**	*e*P	**Pn**	**07 34 03.5**	**-0.2**
GO05				*i*S	**Sg**	**07 34 28.2**	**+1.1**
FCH	**Farellones**	**1.69**	**87**	⇑*i*P	**Pb**	**07 34 05.7**	**-0.9**
FCH				*e*S	**Sb**	**07 34 28.4**	**+0.5**
FCH				IAML		07 34 34.2	
	comp=E,705nm,0.2s						
LMEL	**Las Melosas**	**1.80**	**104**	⇓*i*P	**Pb**	**07 34 07.1**	**-1.3**
LMEL				*e*S	**Sb**	**07 34 30.5**	**-0.5**
LMEL				IAML		07 34 39.4	
	comp=N,658nm,0.3s						
COIS	**El Sosneado**	**2.80**	**127**	*e*P	**Pn**	**07 34 22.5**	**+2.4**
AAGR	**Agrelo**	**2.93**	**84**	⇓*i*P	**Pb**	**07 34 26.0**	**-1.7**
ACCO	**Cerro Coronel**	**3.95**	**45**	*i*P	**Pn**	**07 34 39.3**	**+3.1**
AROD	**Rodeo**	**4.05**	**37**	*i*P	**Pn**	**07 34 39.9**	**+2.4**
MRA	**San Martin**	**5.63**	**81**	*i*P	**Pn**	**07 35 02.4**	**+3.3**
VCA	**Vinchina**	**5.85**	**38**	*e*P	**Pn**	**07 35 03.7**	**+1.6**
VCA				IAML		07 36 34.6	
	comp=Z,34nm,0.6s						
CYA	**Choya**	**7.47**	**50**	IAML		07 35 32.9	
	comp=Z,3.4nm,0.5s						

IDC 29 07:35:50.1±3.1, **30°.46S**×**177°.54W**, **h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.6**/22, **mbtmp3.6**/3, **Error ellipse: s-maj=63.6km s-min=23.9km az=102.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.25**	**345**	Pn	Pn	07 36 15.5	+0.6
	317nm,0.3s,baz=95,slow=6.3,SNR=22						
RAO				Sn	Sn	07 36 32.5	+0.2
	596nm,0.3s,baz=100,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**34.85**	**257**	P	P	07 42 44.9	+1.7
	0.7nm,0.6s,baz=106,slow=15,SNR=3.3						
ASAR	**Alice Springs**	**43.51**	**267**	P	P	07 43 54.9	-0.7
	0.3nm,0.7s,baz=106,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**44.50**	**272**	P	P	07 44 02.7	-0.9
	1.0nm,0.8s,baz=111,slow=8.1,SNR=23						
FINES	**FINESS Array B**	**145.34**	**340**	PKPbc	PKPbc	07 55 27.9	-1.1
	1.9nm,0.7s,baz=338,slow=1.0,SNR=5.6						

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*ISCJB **29** 07:38:21.3±0.8, 26°.66N±0°.04×57°.81E±0°.07, h10km, Error ellipse: s-maj=8.6km s-min=5.0km az=165.2*
*TEH **29** 07:38:21.0, 26°.72N×57°.77E, h5km, ML3.1*
*OMAN **29** 07:38:23.4±2.7, 26°.60N×57°.79E, h16km±35km, ml2.7/7, Error ellipse: s-maj=41.6km s-min=14.6km az=40.0*
ISC 29 07:38:21.9±1.2, **26°.66N**±0°.04×**57°.80E**±0°.07, **h10**km, **n13**, σ1**34**/17, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.01**	**182**	*e*Pg	**Pb**	**07 38 42.1**	**+0.5**
NIAN	**Nian**	**1.25**	**317**	*e*Pg	**Pn**	**07 38 45.0**	**-0.4**
NIAN				IAMB	IAmb	07 39 09.1	
	comp=E,0.0nm,0.4s						
KHNJ	**Kahnooj**	**1.29**	**356**	*e*Pg	**Pn**	**07 38 44.3**	**-1.8**
BANOM	**Banah**	**1.53**	**242**	P	**Pn**	**07 38 48.9**	**-0.5**
	SNR=54						
BANOM				S	**Sg**	**07 39 10.4**	**-0.8**
GENO	**Geno**	**1.63**	**297**	*e*Sg	**Sg**	**07 39 15.3**	**+0.9**
GENO				IAMB	IAmb	07 39 21.7	
	comp=Z,0.0nm,0.4s						
UOSS	**Minazif**	**2.23**	**221**	P	**Pn**	**07 38 59.2**	**+0.3**
ASHO	**Ashiyiah**	**2.52**	**219**	P	**Pn**	**07 39 03.1**	**+0.2**
NGRK	**Negar Kerman**	**3.12**	**343**	*e*Pn	**Pn**	**07 39 12.9**	**+1.3**
NGRK				IAMB	IAmb	07 40 09.8	
	comp=Z,0.0nm,0.5s						
CHMN	**Cheshme madani**	**3.20**	**356**	*e*Pn	**Pn**	**07 39 14.0**	**+1.3**
CHMN				IAMB	IAmb	07 39 22.3	
	comp=Z,0.0nm,0.4s						
WSAR	**Wadi Sarin**	**3.48**	**167**	P	**Pn**	**07 39 16.8**	**+0.5**
WSAR				S	**Sn**	**07 39 54.0**	**-3.6**
ARQ	**Araqi**	**3.50**	**200**	P	**Pn**	**07 39 16.4**	**-0.1**
	SNR=12						
ARQ				S	**Sn**	**07 39 58.0**	**0.0**
SMDO	**Samad**	**3.59**	**176**	P	**Pn**	**07 39 18.6**	**+0.8**
BSY	**Bisya**	**3.93**	**188**	P	**Pn**	**07 39 24.0**	**+1.6**
BSY				S	**Sn**	**07 40 08.9**	**+0.2**

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*ISCJB **29** 07:43:13.7±0.6, 27°.93N±0°.03×51°.21E±0°.06, h16km, Error ellipse: s-maj=8.5km s-min=3.0km az=149.6*
*THR **29** 07:43:15.0, 28°.05N×51°.46E, h30km, ML3.6*
*TEH **29** 07:43:17.1, 28°.16N×51°.26E, h20km, ML3.8*
*DSN **29** 07:43:19.9±1.6, 27°.98N×51°.68E, h10km, ML4.3/6, Error ellipse: s-maj=31.4km s-min=9.0km az=10.0*
*OMAN **29** 07:43:21.1±3.6, 27°.87N×51°.52E, h173km±98km, ml4.0/8, Error ellipse: s-maj=57.2km s-min=28.7km az=89.0*
ISC 29 07:43:15.8±1.1, **28°.02N**±0°.08×**51°.31E**±0°.08, **h16**km, **n59**, σ1**27**/67, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.78**	**112**	*e*Pn	**Pg**	**07 43 51.2**	**+1.2**
LMD1				IAMB	IAmb	07 44 30.2	
	comp=Z,0.0nm,0.5s						
IKAZ	**Kazeroun**	**1.81**	**15**	*e*Pn	**Pn**	**07 43 47.5**	**+0.8**
IKAZ				IAMB	IAmb	07 44 21.4	
	comp=Z,10μm,0.4s						
SHI	**Shiraz**	**1.93**	**33**	*e*Pn	**Pn**	**07 43 49.3**	**+1.1**
JHRM	**Jahrom**	**2.06**	**76**	*e*Pn	**Pb**	**07 43 52.0**	**-0.8**
JHRM				IAMB	IAmb	07 44 37.6	
	comp=Z,0.0nm,0.5s						
ISRV	**Sarvestan**	**2.08**	**49**	*e*Pn	**Pn**	**07 43 51.8**	**+1.4**
ISRV				IAMB	IAmb	07 44 35.4	
	comp=Z,5μm,0.5s						
KLNJ	**Kolanjah**	**2.99**	**5**	*e*Pn	**Pn**	**07 44 03.8**	**+0.9**
KLNJ				IAMB	IAmb	07 45 01.6	
	comp=Z,0.0nm,0.5s						
IRAM	**Ramesheh**	**3.89**	**14**	*e*Pn	**Pn**	**07 44 15.8**	**+0.6**
JHBN	**Jahan bin**	**4.24**	**353**	*e*Pn	**Pn**	**07 44 19.9**	**-0.1**
ROKH	**ROKH**	**4.32**	**357**	*e*Pn	**Pn**	**07 44 21.7**	**+0.6**
ISAD	**Sadrabad**	**4.39**	**27**	*e*Pn	**Pn**	**07 44 23.3**	**+1.1**
IGAR	**Gharneh**	**4.42**	**8**	*e*Pn	**Pn**	**07 44 23.8**	**+1.4**
IMEH	**Mehriz**	**4.42**	**40**	*e*Pn	**Pn**	**07 44 24.6**	**+2.1**
IPIR	**Pirpir**	**4.66**	**356**	*e*Pn	**Pn**	**07 44 27.4**	**+1.5**
SHME	**Shamm**	**4.73**	**113**	*i*P	**Pn**	**07 44 26.9**	**+0.3**
	SNR=5.5						
SHME				S	**Sn**	**07 45 19.5**	**-1.7**
SHME	**Shamm**	**4.73**	**113**	*e*Pn	**Pn**	**07 44 27.4**	**+0.8**
BANOM	**Banah**	**4.92**	**114**	*i*P	**Pn**	**07 44 29.8**	**+0.7**
	SNR=26						
BANOM	**Banah**	**4.92**	**114**	P	**Pn**	**07 44 30.1**	**+1.0**
	SNR=26						
BANOM				S	**Sn**	**07 45 24.9**	**-0.8**
NAZ	**Nazwa, Dubai**	**4.93**	**127**	P	**Pn**	**07 44 30.9**	**+1.6**
NAZ	**Nazwa, Dubai**	**4.93**	**127**	P	**Pn**	**07 44 31.6**	**+2.4**
NAZ				S	**Sn**	**07 45 25.7**	**-0.3**
IZEF	**Zefreh**	**4.94**	**10**	*e*Pn	**Pn**	**07 44 30.8**	**+1.2**
ASUD	**Al Ashush, Dub**	**4.94**	**132**	*i*P	**Pn**	**07 44 30.7**	**+1.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**4.94**	**132**	P	**Pn**	**07 44 32.3**	**+2.8**
	SNR=14						
ASUD				S	**Sn**	**07 45 27.3**	**+1.1**
ICHK	**Chekchek**	**4.99**	**32**	*e*Pn	**Pn**	**07 44 31.6**	**+1.3**
NGRK	**Negar Kerman**	**5.02**	**70**	*e*Pn	**Pn**	**07 44 31.5**	**+0.6**
NGRK				IAMB	IAmb	07 44 32.7	
	comp=Z,0.0nm,0.2s						
MSFE	**Esma-Masafi**	**5.08**	**120**	*i*P	**Pn**	**07 44 31.9**	**+0.5**
	SNR=17						
MSFE	**Esma-Masafi**	**5.08**	**120**	*e*Pn	**Pn**	**07 44 32.7**	**+1.3**
KHGB	**Koh Gabri**	**5.09**	**61**	*e*Pn	**Pn**	**07 44 33.1**	**+1.4**
KHGB				IAMB	IAmb	07 45 35.5	
	comp=Z,0.0nm,0.7s						
KRBR	**Kerman**	**5.16**	**66**	*e*Pn	**Pn**	**07 44 31.1**	**-1.6**
KRBR	**Kerman**	**5.16**	**66**	*e*Pn	**Pn**	**07 44 31.1**	**-1.6**
KRBR	**Kerman**	**5.16**	**66**	*e*AML	AML	07 45 36.1	
	comp=E,33nm,0.4s						
TVBK	**TV Kerman**	**5.16**	**66**	*e*Pn	**Pn**	**07 44 34.3**	**+1.6**
TVBK				IAMB	IAmb	07 44 36.1	
	comp=Z,0.0nm,0.3s						
YZKH	**Yazd**	**5.20**	**32**	*e*Pn	**Pn**	**07 44 31.8**	**-1.2**
YZKH	**Yazd**	**5.20**	**32**	*e*Pn	**Pn**	**07 44 31.8**	**-1.2**
YZKH				*e*AML	AML	07 45 34.6	
	comp=N,33nm,0.3s						
MDH	**Madha**	**5.22**	**120**	P	**Pn**	**07 44 34.4**	**+1.1**
	SNR=7.5						
MDH				S	**Sn**	**07 45 30.7**	**-2.4

0.7nm,0.6s,baz=96,slow=7.1,SNR=11
ASAR Alice Springs 47.69 254 P P 08 29 28.5 -0.1
3.6nm,0.6s,baz=88,slow=8.6,SNR=67

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*IDC **29** 08:26:28.0±2.1, 33°.23N×70°.75E, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.5/46, mbtmp3.6/8, ML3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/47, Error ellipse: s-maj=72.8km s-min=28.9km az=85.0*
*ISCJB **29** 08:26:33.4±0.7, 33°.39N±0°.05×70°.85E±0°.07, h33km, mb3.7/4, MS3.3/1, Error ellipse: s-maj=9.8km s-min=5.5km az=136.9*
*NEIC **29** 08:26:34.9±2.2, 33°.3N±0°.1×70°.76E±0°.09, h41km±6km, mb4.1/4*
*NNC **29** 08:26:34.9±3.4, 33°.67N×70°.34E, h0km, mb3.6, Error ellipse: s-maj=44.3km s-min=22.4km az=135.0*
ISC 29 08:26:34.2±0.9, 33°.24N±0°.09×70°.75E±0°.07, h35km, n37, σ1§52/40, mb4.0/6, 2C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.92**	**313**		**Pn**	**08 27 05.6**	**+0.9**
KBL				Sn	**Sn**	**08 27 33.1**	**+5.4**
NIL	**Nilore**	**2.13**	**78**		**Pn**	**08 27 09.4**	**+2.1**
DHRM	**DHARAMSHALA**	**4.78**	**100**	*e*P	Pn	08 27 50.8	+6.9
DHRM				*e*S	**Sn**	**08 28 40.7**	**+2.6**
DHRM	comp=E,69nm,0.4s			IAML		08 29 08.2	
DHRM	comp=N,63nm,0.5s			IAML		08 29 09.0	
CHGR	**Chuyangaron**	**5.56**	**347**		**Pn**	**08 27 54.9**	**+0.4**
GAR	**Garm**	**5.76**	**357**		**Pn**	**08 27 58.3**	**+1.0**
SMLA	**Simla**	**5.83**	**109**	*e*P	**Pn**	**08 27 59.8**	**+1.6**
SMLA				*e*S	**Sn**	**08 29 04.4**	**+0.6**
SMLA	comp=E,50nm,0.3s			IAML		08 29 07.3	
SMLA	comp=N,19nm,0.8s			IAML		08 29 07.3	
BTK	**Batken**	**6.80**	**0**		**Pn**	**08 28 13.6**	**+2.0**
AAK	**Ala-Archa**	**9.83**	**16**	P	**Pn**	**08 28 54.0**	**+0.8**
AAK	comp=N,1.3nm,0.5s			S	**Sn**	**08 30 41.6**	**-0.8**
AAK	**Ala-Archa**	**9.83**	**16**	Pn	**Pn**	**08 28 53.8**	**+0.6**
	comp=N,0.9nm,0.3s,baz=179,slow=7.4,SNR=7.5						
AAK	**Ala-Archa**	**9.83**	**16**		**Pn**	**08 28 54.0**	**+0.8**
KK31	**Karatay Array**	**9.85**	**359**	P	**Pn**	**08 28 52.3**	**-1.0**
	comp=N,1.9nm,0.4s,baz=181,slow=13,SNR=39						
KK31				⇓S	**Sn**	**08 30 41.4**	**-1.1**
	comp=N,0.9nm,0.5s,baz=189,slow=26,SNR=3.5						
KK31	**Karatay Array**	**9.85**	**359**		**Pn**	**08 28 52.3**	**-1.0**
KKAR	**Karatay Array**	**9.85**	**359**		**Pn**	**08 28 52.1**	**-1.1**
KKAR	**Karatay Array**	**9.85**	**359**		**Pn**	**08 28 52.3**	**-1.0**
BOOM	**Boomskoye usch**	**10.10**	**22**	Pn	**Pn**	**08 28 56.4**	**-0.5**
TKM2	**Tokmak 2**	**10.39**	**20**	⇑P	**Pn**	**08 29 01.9**	**+1.1**
	comp=N,0.9nm,0.5s						
MKAR	**Makanchi Array**	**16.14**	**30**	Pn	**Pn**	**08 30 18.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=219,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**16.14**	**30**	P	**P**	**08 30 20.4**	**-0.8**
AB31	**Akbulak array**	**17.91**	**336**	P	**Pn**	**08 30 40.2**	**-0.3**
	comp=N,0.2nm,0.4s,baz=150,slow=13,SNR=13						
ABKAR	**Akbulak array**	**17.91**	**336**	P	**Pn**	**08 30 40.4**	**-0.1**
KURBB	**Kurchatov Arra**	**18.29**	**16**	P	**P**	**08 30 42.3**	**-2.6**
	comp=N,0.1nm,0.3s,baz=205,slow=10,SNR=4.3						
KURK	**Kurchatov**	**18.39**	**16**	P	**P**	**08 30 45.5**	**-0.5**
KURK				IAmb	IAmb	08 30 57.5	
	comp=Z,2.1nm,1.1s						
AKTO	**Aktyubinsk**	**19.58**	**335**	⇑P	**P**	**08 30 57.4**	**-1.6**
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**19.78**	**359**	P	**P**	**08 31 00.8**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=161,slow=9.8,SNR=14						
ZALV	**Zalesovo Beam**	**22.99**	**22**	P	**P**	**08 31 33.7**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=203,slow=11,SNR=2.9						
ZALV	**Zalesovo Beam**	**22.99**	**22**	P	**P**	**08 31 35.4**	**-0.2**
KARS	**Kars**	**23.25**	**296**	P	**P**	**08 31 39.6**	**+1.0**
MJAR	**Matsushiro Arr**	**54.40**	**66**	LR	LR	09 03 50.6	
	comp=Z,27nm,18.3s,baz=355,slow=41						
INK	**Inuvik**	**77.15**	**9**	P	**P**	**08 38 23.1**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=349,slow=8.3,SNR=5.3						
INK	**Inuvik**	**77.15**	**9**	P	**P**	**08 38 23.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**77.55**	**17**	P	**P**	**08 38 27.8**	**+1.6**
BPAW				IAmb	IAmb	08 38 32.7	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**80.46**	**121**	P	**P**	**08 38 42.1**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=322,slow=5.0,SNR=5.3						
WRA	**Warramunga Arr**	**80.46**	**121**	P	**P**	**08 38 41.9**	**-0.8**
WB2	**Warramunga Arr**	**80.47**	**121**	P	**P**	**08 38 42.9**	**+0.2**
WB2				IAmb	IAmb	08 38 53.6	
	comp=Z,2.7nm,1.1s						
YKA	**Yellowknife Ar**	**84.50**	**2**	P	**P**	**08 39 02.0**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=350,slow=5.4,SNR=3.2						
ROC1	**El Roble**	**148.09**	**260**	PKPdf	**PKPdf**	**08 46 10.7**	**-2.7**
PTCN	**Pitcairn Islan**	**160.08**	**71**	PKPdf	**PKPdf**	**08 46 30.5**	**+0.5**

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*INMG **29** 08:29:55.9±1.1, 36°.65N×7°.33W, h20km±3km, ML1.5, Error ellipse: s-maj=5.4km s-min=2.7km az=51.0*
*MDD **29** 08:29:56.6±1.1, 36°.70N×7°.25W, h47km±25km, mb3.6/4, Error ellipse: s-maj=12.0km s-min=6.0km az=11.0, PRXIMO*
*IGIL **29** 08:29:57.3, 36°.66N×7°.35W, h30km, ML1.5*
ISC 29 08:29:54.8±1.7, 36°.67N±0°.08×7°.22W±0°.03, h34km±3km, n25, σ0§76/45, 3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.81**	**315**	*e*P	**Pb**	**08 30 10.4**	**-0.2**
PBDV				*e*S	**Sn**	**08 30 20.4**	**-0.3**
PBDV	4.9nm,0.7s			A	A	08 30 30.1	
PBDV	**Barranco-do-Ve**	**0.81**	**315**	P	**Pb**	**08 30 10.4**	**-0.2**
PBDV	4.9nm,0.7s			S	**Sn**	**08 30 20.4**	**-0.3**
PVAQ	**Vaqueiros**	**0.83**	**331**	⇓*e*P	**Pb**	**08 30 10.9**	**-0.1**
PVAQ				*e*S	**Sb**	**08 30 21.6**	**-0.3**
PVAQ	5.2nm,0.1s			A	A	08 30 22.2	
PVAQ	**Vaqueiros**	**0.83**	**331**	P	**Pb**	**08 30 10.9**	**-0.1**
PVAQ	5.2nm,0.1s			S	**Sb**	**08 30 21.6**	**-0.3**
EGRO	**El Granado**	**0.89**	**346**	⇓P	**Pb**	**08 30 11.9**	**+0.1**
EGRO	4.6nm,0.1s,SNR=18			S	**Sb**	**08 30 23.2**	**-0.2**
ESPR	**Espera**	**1.11**	**79**	P	**Pb**	**08 30 15.9**	**+0.4**
ESPR	3.2nm,0.3s,SNR=6.6 6.7nm,0.2s,SNR=8.3			S	**Sb**	**08 30 30.2**	**+0.4**
PCVE	**Castro Verde**	**1.16**	**326**	*e*P	**Pb**	**08 30 15.6**	**-0.9**
PCVE	5.0nm,0.2s,SNR=7.9			*e*S	**Sn**	**08 30 29.6**	**+0.1**
PCVE	7.5nm,0.4s			A	A	08 30 29.9	
PCVE	**Castro Verde**	**1.16**	**326**	P	**Pb**	**08 30 15.6**	**-0.9**
PCVE	7.5nm,0.4s			S	**Sn**	**08 30 29.6**	**+0.1**
EMIN	**Mina Concepcio**	**1.18**	**21**	P	**Pn**	**08 30 15.9**	**+0.9**
EMIN	0.2nm,0.1s,SNR=10.0 1.8nm,0.1s,SNR=7.9			S	**Sn**	**08 30 29.7**	**-0.1**
MORF	**Marmelete**	**1.31**	**299**	*e*S	**Sn**	**08 30 32.6**	**-0.6**
MORF	8.8nm,0.2s			A	A	08 30 32.8	
MORF	**Marmelete**	**1.31**	**299**	S	**Sn**	**08 30 32.6**	**-0.6**
PFVI	**Vila Bisbo**	**1.37**	**290**	*e*S	**Sn**	**08 30 33.4**	**-1.2**
PFVI	4.8nm,0.2s			A	A	08 30 34.1	
PFVI	**Vila Bisbo**	**1.37**	**290**	S	**Sn**	**08 30 33.3**	**-1.2**
MESJ	**Messejana**	**1.42**	**326**	*e*P	**Pn**	**08 30 19.0**	**+0.8**
MESJ	8.2nm,0.1s,SNR=7.9			*e*S	**Sn**	**08 30 34.8**	**-0.9**
MESJ				AML	AML	08 30 37.4	
MESJ	comp=E,6.4nm,0.3s **Messejana**	**1.42**	**326**	⇓*e*P	**Pn**	**08 30 19.0**	**+0.8**
MESJ				*e*S	**Sn**	**08 30 36.1**	**+0.4**
MESJ				A	A	08 30 38.1	
MESJ	comp=E,3.6nm,0.3s **Messejana**	**1.42**	**326**	P	**Pn**	**08 30 19.0**	**+0.8**
MESJ				S	**Sn**	**08 30 36.1**	**+0.4**
PNCL	comp=E,3.6nm,0.3s **Nicolau / Gran**	**1.78**	**324**	*e*Pn	**Pn**	**08 30 23.9**	**+0.7**
PNCL				*e*Sn	**Sn**	**08 30 44.3**	**-0.3**
PNCL				A	A	08 30 45.1	

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	comp=E,2.2nm,0.2s						
PNCL	**Nicolau / Gran**	**1.78**	**324**	P	**Pn**	**08 30 23.9**	**+0.7**
PNCL				S	**Sn**	**08 30 44.3**	**-0.3**
	comp=E,2.2nm,0.2s						
ECAB	**El Cabril**	**2.00**	**45**	P	**Pn**	**08 30 26.4**	**0.0**
	comp=E,1.1nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**08 30 48.8**	**-1.4**
	comp=E,0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.09**	**4**	P	**Pn**	**08 30 27.6**	**+0.2**
	comp=E,1.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**08 30 50.1**	**-2.1**
	comp=E,0.8nm,0.1s,SNR=4.0						
PMTG	**Montargil**	**2.52**	**342**	*e*Pn	**Pn**	**08 30 34.3**	**+0.9**
PMTG				*e*Sn	**Sn**	**08 31 03.1**	**+0.1**
PMTG				A	A	08 31 06.5	
	comp=E,2.2nm,0.8s						
PMTG	**Montargil**	**2.52**	**342**	P	**Pn**	**08 30 34.3**	**+0.9**
PMTG				S	**Sn**	**08 31 03.1**	**+0.1**
	comp=E,2.2nm,0.8s						
EADA	**Adamuz**	**2.58**	**54**	S	**Sn**	**08 31 02.7**	**-1.7**
	comp=E,0.2nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**2.76**	**357**	*e*Pn	**Pn**	**08 30 37.6**	**+0.9**
PMRV				*e*Sn	**Sn**	**08 31 09.0**	**+0.2**
PMRV				A	A	08 31 10.8	
	comp=E,2.0nm,1.0s						
PMRV	**Marv??o**	**2.76**	**357**	P	**Pn**	**08 30 37.6**	**+0.9**
PMRV				S	**Sn**	**08 31 09.0**	**+0.2**
	comp=E,2.0nm,1.0s						

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*SJA **29** 08:33:19.0±0.5, 27°.01S×70°.19W, h99km±5km, ML3.1, MW3.2*
*GUC **29** 08:33:19.6±0.8, 27°.05S×69°.94W, h87km±12km, ML3.6*
*ISCJB **29** 08:33:20.6±0.7, 27°.00S±0°.04×70°.1W±0°.1, h85km, Error ellipse: s-maj=14.4km s-min=6.1km az=4.9*
ISC 29 08:33:21.3±1.3, 27°.00S±0°.05×70°.18W±0°.10, h85km, n12, σ0§93/16, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.59**	**185**	*e*P	**Pn**	**08 33 35.8**	**-0.7**
GO03				*i* S	**Sn**	**08 33 47.6**	**-0.1**
GO03				IAML		08 33 48.2	
	comp=N,3μm,0.2s						
GO03	**Copiap**	**0.59**	**185**	*i* P	**Pn**	**08 33 35.9**	**-0.7**
GO03				*i* S	**Sn**	**08 33 48.8**	**+1.1**
GO02	**Mina Guanaco**	**1.91**	**16**	⇑*i*P	**Pn**	**08 33 52.8**	**+0.3**
GO02				*e*S	**Sn**	**08 34 17.7**	**+1.6**
GO02				IAML		08 34 20.7	
	comp=E,700nm,0.2s						
VCA	**Vinchina**	**2.46**	**135**	*i* P	**Pn**	**08 33 59.2**	**-0.4**
AROD	**Rodeo**	**3.21**	**169**	*i* P	**Pn**	**08 34 09.8**	**-0.2**
PB10	**IPOC Station P**	**3.49**	**354**	*i* P	**Pn**	**08 34 12.8**	**-0.7**
PB15	**IPOC Station P**	**3.83**	**10**	*e*P	**Pn**	**08 34 18.0**	**-0.3**
PB15				*i* S	**Sn**	**08 35 03.2**	**+0.9**
AHML	**Horco Molle**	**4.33**	**88**	*i* P	**Pn**	**08 34 23.9**	**-1.0**
AZAP	**Zapla**	**5.38**	**60**	*i* P	**Pn**	**08 34 38.7**	**-0.7**
AZAP				IAML		08 34 38.9	
	comp=Z,13nm,0.5s						
HJA	**Humahuaca**	**5.74**	**50**	*i* P	**Pn**	**08 34 44.1**	**-0.3**
HJA				IAML		08 34 45.5	
	comp=Z,6.1nm,0.4s						
YJA	**Yavi**	**6.41**	**42**	*i* P	**Pn**	**08 34 53.7**	**+0.1**
LPAZ	**La Paz**	**10.83**	**11**	*i* P	**Pn**	**08 35 52.3**	**-1.8**

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*IDC **29** 08:39:13.9±1.2, 23°.37S×175°.96W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/26, mbtmp4.1/9, ML4.1/1, MS3.3/7, Ms1 3.3/7, ms1mx2.9/41, Error ellipse: s-maj=50.7km s-min=22.0km az=146.0*
*NEIC **29** 08:39:14.9±2.1, 23°.3S±0°.1×175°.0W±0°.1, h10km±3km, mb4.2/8*
*ISCJB **29** 08:39:17.5±0.7, 23°.56S±0°.09×175°.7W±0°.1, h33km, mb4.0/8, MS3.4/7, Error ellipse: s-maj=19.7km s-min=12.6km az=4.0*
ISC 29 08:39:18.1±0.8, 23°.6S±0°.1×175°.9W±0°.2, h30km, n41, σ1§13/24, mb4.1/10, MS3.4/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.14**	**314**		Pn	08 41 19.5	+5.2
AFI	**Afiamalu**	**10.35**	**23**	Pn	Pn	08 41 34.3	-10
	3.0nm,0.3s,baz=225,slow=1.4,SNR=5.5						
AFI				Sn	Sn	08 43 18.3	-21
	1.5nm,0.3s,baz=232,slow=18,SNR=3.5						
AFI				LR	LR	08 45 11.5	
	comp=Z,38nm,21.8s,baz=202,slow=35						
RAR	**Rarotonga**	**15.06**	**84**	Pn	Pn	08 42 36.5	-12
	0.9nm,0.3s,baz=266,slow=11,SNR=6.0						
RAR				LR	LR	08 47 32.0	
	comp=Z,47nm,19.4s,baz=270,slow=33						
RAR	**Rarotonga**	**15.06**	**84**		Pn	08 42 37.0	-12
URZ	**Urewera**	**15.83**	**201**	Pn	**P**	**08 43 01.7**	**-0.6**
	0.7nm,0.3s,baz=242,slow=1.0,SNR=5.3						
URZ				Sn	Sn	08 45 41.2	-12
	0.3nm,0.3s,baz=270,slow=18,SNR=2.2						
URZ	**Urewera**	**15.83**	**201**	P	**P**	**08 43 02.3**	**0.0**
URZ				IAmb	IAmb	08 43 11.4	
	comp=Z,48nm,1.4s						
DZM	**Mont Dzumac**	**16.39**	**272**	*e*P	P	08 43 27.0	+18
	comp=Z,28nm,1.0s						
DZM				*e*LR	LR	08 47 27.4	
	comp=Z,170nm,33.4s						
DZM	**Mont Dzumac**	**16.39**	**272**	Pn	P	08 43 14.2	+5.5
	comp=Z,0.4nm,0.3s,baz=97,slow=17,SNR=6.2						
DZM	**Mont Dzumac**	**16.39**	**272**	P	P	08 43 14.2	+5.5
DZM				IAmb	IAmb	08 43 29.6	
	comp=Z,10nm,1.0s						
BKZ	**Black Stump Fm**	**16.86**	**201**	P	**P**	**08 43 12.6**	**-1.2**
BKZ				IAmb	IAmb	08 43 28.5	
	comp=Z,13nm,1.1s						
TBI	**Tubuai**	**24.20**	**95**	*e*LR	LR	08 50 14.4	
	comp=Z,118nm,28.2s						
TBI	**Tubuai**	**24.20**	**95**	*e*T	T	09 08 37.4	
	comp=Z,7.2nm,0.4s						
PAE	**Paea**	**25.26**	**81**	*e*T	T	09 09 26.8	
	comp=Z,2.7nm,0.3s						
PPT2	**Papeete2**	**25.29**	**81**	*e*LR	LR	08 50 35.8	
	comp=Z,86nm,26.5s						
PPT2	**Papeete2**	**25.29**	**81**	*e*T	T	09 09 28.9	
	comp=Z,3.6nm,0.4s						
PPT	**Papeete**	**25.29**	**81**	LR	LR	08 53 48.0	
	comp=Z,48nm,18.8s,baz=248,slow=34						
MEH	**Mehetia**	**26.57**	**83**	*e*T	T	09 11 08.8	
	comp=Z,8.3nm,0.2s						
STKA	**Stephens Creek**	**38.37**	**248**	P	**P**	**08 46 37.0**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=80,slow=12,SNR=3.4						
STKA				LR	LR	09 01 01.1	
	comp=Z,74nm,19.0s,baz=26,slow=34						
STKA	**Stephens Creek**	**38.37**	**248**	P	P	08 46 40.7	+4.0
ASAR	**Alice Springs**	**45.84**	**259**	P	**P**	**08 47 37.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=94,slow=7.7,SNR=14						
ASAR				PcP	**PcP**	**08 49 15.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=111,slow=4.3,SNR=4.9						
ASAR	**Alice Springs**	**45.84**	**259**	P	P	08 47 44.1	+6.3
ASAR					**PcP**	**08 49 15.1**	**+0.2**
WB2	**Warramunga Arr**	**46.21**	**264**	P	**P**	**08 47 39.1**	**-1.6**
WB0	**Warramunga Arr**	**46.21**	**265**	P	**P**	**08 47 39.1**	**-1.6**
WB0				IAmb	IAmb	08 47 53.7	
	comp=Z,3.7nm,0.9s						
WRA	**Warramunga Arr**	**46.22**	**264**	P	**P**	**08 47 39.3**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=93,slow=8.2,SNR=22						
WRA	**Warramunga Arr**	**46.22**	**264**	P	**P**	**08 47 40.4**	**-0.4**
KAPI	**Kappang**	**64.56**	**276**	LR	LR	09 18 37.0	
	comp=Z,26nm,19.9s,baz=330,slow=37						
DAV	**Davao City (W)**	**64.77**	**291**	LR	LR	09 17 04.7	
	comp=Z,22nm,18.3s,baz=188,slow=35						
QSPA	**South Pole Qui**	**66.52**	**180**	P	**P**	**08 50 06.2**	**+1.3**
QSPA				IAmb	IAmb	08 50 25.6	
	comp=Z,1.4nm,0.9s						
PETK	**Petropavlovsk-**	**79.74**	**344**	P	**P**	**08 51 21.8**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=93,slow=7.1,SNR=4.3						
PETK	**Petropavlovsk-**	**79.74**	**344**	P	**P**	**08 51 22.4**	**-0.3**
NVAR	**Mina Array Bea**	**81.92**	**42**	P	**P**	**08 51 36.1**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=243,slow=5.0,SNR=3.0						
USRK	**Ussuriysk Ar.**	**82.61**	**325**	P	**P**	**08 51 38.9**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=178,slow=6.1,SNR=5.3						
USRK	**Ussuriysk Ar.**	**82.61**	**325**	P	**P**	**08 51 39.6**	**+1.4**
TXAR	**Lajitas Array**	**87.06**	**56**	P	**P**	**08 52 00.1**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=210,slow=9.8,SNR=3.4						
TXAR	**Lajitas Array**	**87.06**	**56**	P	**P**	**08 51 59.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**93.00**	**289**	P	**P**	**08 52 30.8**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=124,slow=2.9,SNR=9.2						
LVC	**Limon Verde**	**95.46**	**117**	LR	LR	09 27 54.3	

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	comp=Z,70nm,18.1s,baz=199,slow=30						
AKASG	**Malin Array Be**	**146.65**	**331**	PKPbc	**PKPdf**	**08 58 55.0**	**0.0**
	comp=Z,1.0nm,0.5s,baz=42,slow=3.8,SNR=6.5						
AKASG	**Malin Array Be**	**146.65**	**331**		**PKPdf**	**08 58 54.9**	**-0.1**
BRTR	**Keskin Array B**	**150.35**	**310**	PKPbc	**PKPbc**	**08 59 06.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=111,slow=7.9,SNR=3.2						
BRTR	**Keskin Array B**	**150.35**	**310**		**PKPbc**	**08 59 05.4**	**-1.4**

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*ISK **29** 09:00:09.7, 39°.67N×29°.45E, h5km, ML2.1/12, Suspected Mining explosion.*
*ISCJB **29** 09:00:10.6±0.3, 39°.68N±0°.02×29°.48E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=2.8km az=175.7*
*DDA **29** 09:00:10.1, 39°.67N×29°.50E, h7km±4km, MD2.7*
ISC 29 09:00:10.7±0.8, 39°.65N±0°.02×29°.45E±0°.03, h0km, n24, σ0§84/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.20**	**177**	PG	**Pg**	**09 00 14.7**	**+0.2**
TVSB				SG	**Sg**	**09 00 18.9**	**+1.7**
ULDT	**Uludag**	**0.54**	**334**	*i* P	**Pg**	**09 00 20.6**	**-0.5**
ULDT				*i* S	**Sg**	**09 00 29.3**	**+1.1**
GDZ	**Gediz**	**0.56**	**177**	*i* P	**Pg**	**09 00 21.2**	**-0.3**
GDZ				*i* S	**Sb**	**09 00 30.8**	**-1.4**
IGD	**Bursa**	**0.64**	**343**	*i* P	**Pg**	**09 00 22.1**	**-0.8**
IGD				*i* S	**Sg**	**09 00 32.0**	**+0.8**
DURS	**Dursunbey**	**0.75**	**266**	*i* P	**Pg**	**09 00 24.6**	**-0.5**
DURS				*i* S	**Sb**	**09 00 38.0**	**+0.5**
BORA	**Eskisehir**	**0.81**	**73**	*i* P	**Pg**	**09 00 25.2**	**-0.9**
BORA				*i* S	**Sn**	**09 00 42.5**	**+0.3**
BORA	**Eskisehir**	**0.81**	**73**	PG	**Pg**	**09 00 25.5**	**-0.7**
BORA				SG	**Sb**	**09 00 38.7**	**-0.4**
YLV	**Yalova**	**0.91**	**356**	PG	**Pg**	**09 00 28.3**	**+0.1**
YLV				SG	**Sb**	**09 00 41.8**	**-0.4**
SRCK	**Saricakaya, Es**	**0.99**	**66**	PG	**Pg**	**09 00 29.5**	**-0.1**
USAK	**Uak-Merkez**	**0.99**	**200**	*i* P	**Pb**	**09 00 29.9**	**-0.9**
USAK				*i* S	**Sn**	**09 00 47.7**	**+1.0**
ARMT	**Armutlu**	**1.02**	**334**	PG	**Pg**	**09 00 29.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.04**	**306**	PG	**Pb**	**09 00 30.9**	**-0.6**
GULT	**Gulveren**	**1.13**	**46**	PN	**Pg**	**09 00 32.6**	**+0.3**
HRT	**Hereke**	**1.18**	**8**	PN	**Pg**	**09 00 32.9**	**-0.4**
BUY	**Buyukada**	**1.22**	**348**	PN	**Pb**	**09 00 34.1**	**-0.6**
KHAL	**Karahalli**	**1.28**	**178**	*i* P	**Pg**	**09 00 35.0**	**-0.2**
KHAL				*i* S	**Sn**	**09 00 53.4**	**-0.5**
MANT	**Manisa**	**1.35**	**211**	*i* P	**Pg**	**09 00 35.2**	**-1.4**
MANT				*i* S	**Sn**	**09 00 58.3**	**+2.6**
BALY	**Balya**	**1.41**	**274**	*e*P	**Pg**	**09 00 37.0**	**-0.8**
BALY				*i* S	**Sn**	**09 00 57.5**	**+0.5**
KAVV	**Kandilli-Istan**	**1.44**	**348**	PN	**Pg**	**09 00 37.9**	**-0.4**
ISK	**Istanbul-Kandi**	**1.44**	**348**	PN	**Pg**	**09 00 37.9**	**-0.4**
AUMIH	**MIHALICIK**	**1.58**	**82**	PN	**Pn**	**09 00 40.0**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.62**	**97**	PN	**Pn**	**09 00 40.6**	**+0.1**
AUSIV	**SIVRIHISAR**	**1.63**	**97**	PN	**Pn**	**09 00 40.8**	**+0.1**
YUVA	**Yuva-Kibriscik**	**1.87**	**66**	PN	**Pn**	**09 00 44.3**	**+0.2**

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*ISCJB **29** 09:00:14.4±0.5, 60°.36S±0°.06×45°.5W±0°.1, h10km, mb3.7/5, MS3.4/4, Error ellipse: s-maj=9.7km s-min=7.6km az=148.5*
*IDC **29** 09:00:14.9±0.8, 60°.26S×45°.10W, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/28, mbtmp3.8/7, ML3.8/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/26, Error ellipse: s-maj=30.4km s-min=20.0km az=62.0*
*NEIC **29** 09:00:16.1±1.6, 60°.32S±0°.09×45°.2W±0°.2, h15km±4km, mb4.5/9*
ISC 29 09:00:16.2±0.6, 60°.27S±0°.08×45°.25W±0°.08, h10km, n33, σ1§19/30, mb4.1/8, MS3.3/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.65**	**42**	Pn	**Pn**	**09 02 05.7**	**-1.8**
PMSA	**Palmer Station**	**9.77**	**234**	Pn	**Pn**	**09 02 36.5**	**0.0**
PMSA	0.9nm,0.3s,baz=70,slow=11,SNR=7.8			LR	LR	09 06 30.3	
PMSA	comp=Z,318nm,19.0s,baz=46,slow=38 **Palmer Station**	**9.77**	**234**		**Pn**	**09 02 36.2**	**-0.3**
PMSA				Sn	**Sn**	**09 04 25.0**	**-1.1**
EFI	**East Falkland**	**11.19**	**315**	Pn	**Pn**	**09 02 57.4**	**+1.3**
USHA	**Ushuaia**	**13.55**	**283**	LR	LR	09 07 18.2	
	comp=Z,317nm,19.3s,baz=184,slow=31						
VNA3	**Neumayer Olymp**	**17.93**	**142**	P	**Pn**	**09 04 24.9**	**-0.3**
VNA1	**Neumayer--Stat**	**18.18**	**140**	P	**Pn**	**09 04 29.2**	**+0.9**
VNA2	**Neumayer--Watz**	**18.54**	**141**	P	**P**	**09 04 32.7**	**+0.2**
	baz=63,slow=11						
SNAA	**Sanae**	**20.14**	**142**	P	**P**	**09 04 51.7**	**+1.7**
SNAA	**Sanae**	**20.14**	**142**	P	**P**	**09 04 50.7**	**+0.6**
	3.6nm,1.0s,baz=296,slow=11,SNR=9.5						
SNAA	**Sanae**	**20.14**	**142**	P	**P**	**09 04 49.0**	**-1.0**
TRQA	**Tornquist**	**24.64**	**327**	P	**P**	**09 05 36.4**	**-0.2**
TRQA				IAmb	IAmb	09 05 44.5	
	comp=Z,16nm,0.9s

VJF	**Virojoki**	**0.86 239**	PG	Pg	09 01 34.4	-1.0
VJF			SB	Sg	09 01 46.4	-0.2
FIA0	**FINESS Array S**	**1.51 289**	PG	Pn	09 01 45.3	-1.8
FIA0	baz=103		SG	Sg	09 02 06.2	-1.1
PVF	**Pernaja**	**1.63 255**	PG	Pn	09 01 47.5	-1.3
PVF			MSG		09 02 07.6	
PVF	comp=Z,11nm,0.2s		SN	Sb	09 02 10.6	-0.2
JOF	**Joensuu**	**2.21 28**	PG	Pb	09 01 58.4	-1.2
JOF			SG	Sb	09 02 26.5	-1.0
SUF	**Sumiainen**	**2.21 323**	PG	Pb	09 01 58.6	-1.1
SUF			MSG		09 02 24.5	
SUF	comp=Z,3.6nm,0.2s		SG	Sb	09 02 27.8	+0.2
NUR	**Nurmijrvi**	**2.21 259**	PG	Pb	09 01 59.3	-0.5
NUR			SG	Sg	09 02 28.9	-1.1
KEF	**Keuruu**	**2.32 302**	PG	Pb	09 02 00.0	-1.6
KEF			MSG		09 02 27.6	
KEF	comp=Z,2.4nm,0.2s		SG	Sb	09 02 30.4	-0.3

WEL 29 09:03:38.2±1.1, 36°S±17'×17°9E±1°5, h216km±19km, M4.0/27, ML4.2/8, MLv4.0/27, Error ellipse: s-maj=0.0km s-min=0.0km az=147.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.07**	**193**	P	Pn	09 04 18.8	+0.3
MXZ				S	S	09 04 49.9	-0.1
WMGZ	**Waiomatatini S**	**2.30**	**190**	P	Pn	09 04 21.7	+0.7
WMGZ				S	S	09 04 56.3	+2.1
HAZ	**Te Kaha**	**2.38**	**202**	P	Pn	09 04 21.3	-0.5
HAZ				S	S	09 04 55.9	+0.2
PKGZ	**Pakihiroa**	**2.43**	**196**	P	Pn	09 04 22.4	0.0
PKGZ				S	S	09 04 57.6	+0.8
PUZ	**Puketiti**	**2.58**	**191**	P	Pn	09 04 24.0	+0.1
PUZ				S	S	09 05 00.3	+0.8
RUGZ	**Raukumara Rang**	**2.61**	**202**	P	Pn	09 04 23.7	-0.7
RUGZ				S	S	09 04 59.8	-0.5
WHRZ	**Whale Island**	**2.78**	**213**	P	Pn	09 04 27.5	+1.3
OPRZ	**Ohinepanea**	**2.97**	**219**	P	Pn	09 04 28.1	-0.2
CNGZ	**Carnagh Statio**	**2.99**	**191**	P	Pn	09 04 29.0	+0.5
MWZ	**Matawai**	**3.00**	**201**	P	Pn	09 04 28.3	-0.3
MWZ				S	S	09 05 07.8	-0.1
TKGZ	**Te Karaka**	**3.01**	**196**	P	Pn	09 04 28.6	-0.1
TKGZ				S	S	09 05 09.6	+1.4
MARZ	**Manawahe**	**3.02**	**216**	P	Pn	09 04 29.0	+0.1
TGRZ	**Tauranga**	**3.05**	**224**	P	Pn	09 04 29.0	-0.1
URZ	**Urewera**	**3.07**	**207**	P	Pn	09 04 28.5	-0.9
URZ				S	S	09 05 09.2	-0.1
RAGZ	**Rawiri**	**3.18**	**202**	P	Pn	09 04 30.9	+0.1
RAGZ				S	S	09 05 13.5	+1.7
OMRZ	**Omania**	**3.27**	**218**	P	Pn	09 04 32.5	+0.7
RIGZ	**Rimuhau**	**3.29**	**196**	P	Pn	09 04 31.5	-0.5
RIGZ				S	S	09 05 15.2	+1.2
TARZ	**Mount Tarawera**	**3.30**	**215**	P	Pn	09 04 33.5	+1.2
RRRZ	**Republican Roa**	**3.38**	**214**	P	Pn	09 04 33.1	0.0
MUGZ	**Murupara**	**3.39**	**210**	P	Pn	09 04 32.4	-0.8
RTZ	**Ruatahuna**	**3.43**	**206**	P	Pn	09 04 32.7	-1.0
PRGZ	**Paritu Road**	**3.47**	**193**	P	Pn	09 04 33.7	-0.4
HSRZ	**Hossack Road**	**3.49**	**217**	P	Pn	09 04 35.8	+1.4
TOZ	**Tahuroa Road**	**3.50**	**230**	P	Pn	09 04 34.9	+0.4
HRRZ	**Handcock Road**	**3.53**	**216**	P	Pn	09 04 35.6	+0.7
PRRZ	**Plateau Road**	**3.57**	**214**	P	Pn	09 04 35.2	-0.1
GRRZ	**Galatos Road**	**3.59**	**218**	P	Pn	09 04 36.5	+1.0
KNZ	**Kokohu**	**3.61**	**195**	P	Pn	09 04 34.8	-0.9
ALRZ	**Allen Road**	**3.64**	**213**	P	Pn	09 04 36.1	-0.1
RAHZ	**Arahi**	**3.67**	**203**	P	Pn	09 04 36.0	-0.5
MHGZ	**Mahia Peninsul**	**3.69**	**192**	P	Pn	09 04 36.4	-0.3
MTHZ	**Maungataniwha**	**3.69**	**206**	P	Pn	09 04 36.0	-0.8
WPRZ	**Whakapapatarin**	**3.69**	**216**	P	Pn	09 04 37.4	+0.6
WHHZ	**Waihua**	**3.77**	**200**	P	Pn	09 04 37.6	-0.1
KUTZ	**Kaahu Road**	**3.84**	**219**	P	Pn	09 04 38.9	+0.4
TLZ	**Tolley Road**	**3.87**	**223**	P	Pn	09 04 39.4	+0.3
NMHZ	**Naumai**	**3.92**	**205**	P	Pn	09 04 39.7	0.0
ARHZ	**Aropaoanui**	**4.01**	**202**	P	Pn	09 04 39.8	-0.8
HATZ	**Hinemaiaia**	**4.03**	**213**	P	Pn	09 04 40.5	-0.3
WATZ	**Wairara**	**4.05**	**218**	P	Pn	09 04 41.0	-0.1
BKZ	**Black Stump Fm**	**4.09**	**207**	P	Pn	09 04 40.5	-1.2
RATZ	**Rangitukua**	**4.15**	**216**	P	Pn	09 04 42.6	+0.2
RITZ	**Rihia Road**	**4.20**	**214**	P	Pn	09 04 43.0	0.0
MCHZ	**McNeill Hill**	**4.27**	**204**	P	Pn	09 04 43.1	-0.8
CKHZ	**Cape Kidnapper**	**4.36**	**199**	P	Pn	09 04 43.8	-1.1
HIZ	**Hauiti**	**4.39**	**226**	P	Pn	09 04 46.1	+0.7
KRVZ	**Karewarewa**	**4.40**	**215**	P	Pn	09 04 45.1	-0.4
WTVZ	**West Tongariro**	**4.44**	**216**	P	Pn	09 04 45.5	-0.5
WTVZ	**Taurewa**	**4.48**	**217**	P	Pn	09 04 45.7	-0.8
NGZ	**Ngauruhoe**	**4.48**	**215**	P	Pn	09 04 45.8	-0.8
TUVZ	**Tukino**	**4.53**	**214**	P	Pn	09 04 46.2	-1.0
KAHZ	**Kahuranaki**	**4.54**	**200**	P	Pn	09 04 46.0	-1.2
BHHZ	**Black Hill Sta**	**4.54**	**209**	P	Pn	09 04 45.2	-2.0
KRHZ	**Kereru**	**4.56**	**205**	P	Pn	09 04 45.7	-1.7
FWVZ	**Far West T-bar**	**4.57**	**215**	P	Pn	09 04 46.7	-1.1
DRZ	**Dome Shelter**	**4.58**	**215**	P	Pn	09 04 47.4	-0.6
MOVZ	**Moawhango**	**4.60**	**212**	P	Pn	09 04 45.8	-2.2
TRVZ	**Turoa**	**4.60**	**215**	P	Pn	09 04 47.3	-0.9
PKVZ	**Pokaka**	**4.69**	**216**	P	Pn	09 04 47.9	-1.2
MTVZ	**Mangateitei**	**4.71**	**214**	P	Pn	09 04 48.6	-0.8
PXZ	**Pawanui**	**4.76**	**199**	P	Pn	09 04 47.9	-2.0
PNHZ	**Pukenui**	**4.86**	**205**	P	Pn	09 04 49.2	-2.0
VRZ	**Vera Road**	**4.87**	**222**	P	Pn	09 04 51.1	-0.1
WPHZ	**Waipukurau**	**4.92**	**203**	P	Pn	09 04 50.7	-1.2
TSZ	**Takapari Road**	**5.07**	**206**	P	Pn	09 04 51.4	-2.5
DVHZ	**Dannevirke**	**5.22**	**204**	P	Pn	09 04 53.1	-2.6
WAZ	**Wanganui**	**5.23**	**215**	P	Pn	09 04 54.5	-1.4
WAZ				S	S	09 05 55.7	-1.4
ANWZ	**Angora Road**	**5.27**	**201**	P	Pn	09 04 55.2	-1.1
KHEZ	**Kahui Hut**	**5.40**	**225**	P	Pn	09 04 58.2	+0.1
POWZ	**Post Office Ro**	**5.44**	**206**	P	Pn	09 04 56.5	-2.0
NBEZ	**Newall Road No**	**5.47**	**226**	P	Pn	09 04 59.2	+0.3
PRWZ	**Pori Road**	**5.51**	**204**	P	Pn	09 04 57.8	-1.6
BFZ	**Birch Farm**	**5.54**	**201**	P	Pn	09 04 57.4	-2.3
TIWZ	**Tintock**	**5.74**	**204**	P	Pn	09 05 00.4	-1.9
MRZ	**Mangatainoka R**	**5.74**	**206**	P	Pn	09 04 59.5	-2.8
HOWZ	**Holdsworth Sta**	**5.97**	**206**	P	Pn	09 05 02.0	-3.3
OGWZ	**Otaki Gorge**	**6.03**	**208**	P	Pn	09 05 02.8	-3.1
TMWZ	**Te Maipa**	**6.04**	**202**	P	Pn	09 05 03.3	-2.8
KIW	**Kapiti Island**	**6.17**	**209**	P	Pn	09 05 04.1	-3.7
MTW	**Mount Morrison**	**6.21**	**204**	P	Pn	09 05 04.7	-3.6
CAW	**Cannon Point**	**6.32**	**207**	P	Pn	09 05 06.1	-3.7
TRWZ	**Traveller**	**6.37**	**202**	P	Pn	09 05 07.4	-3.0
PAWZ	**Paruwai Farm**	**6.43**	**204**	P	Pn	09 05 07.9	-3.3
MSWZ	**Moikau Station**	**6.53**	**205**	P	Pn	09 05 08.7	-3.7
DUWZ	**D'Urville Isla**	**6.55**	**215**	P	Pn	09 05 09.0	-3.7
BHW	**Baring Head**	**6.66**	**207**	P	Pn	09 05 10.0	-4.0
PLWZ	**Palliser**	**6.66**	**204**	P	Pn	09 05 10.3	-3.8
TCW	**Tory Channel**	**6.72**	**211**	P	Pn	09 05 10.5	-4.4
TUWZ	**Tuamarina**	**7.05**	**212**	P	Pn	09 05 14.5	-4.6
NNZ	**Nelson**	**7.13**	**216**	P	Pn	09 05 15.9	-4.3
QRZ	**Quartz Range**	**7.28**	**222**	P	Pn	09 05 17.2	-4.8
BSWZ	**Blackbirch Sta**	**7.31**	**211**	P	Pn	09 05 18.5	-4.0
THZ	**Tophouse**	**7.78**	**215**	P	Pn	09 05 24.3	-4.3

*IDC **29** 09:09:02.1±1.1, 3°24S×142°90E, h0km, mb4.1/8, mb1 4.2/10, mb1mx3.9/45, mbtmp4.1/10, ML3.9/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/39, Error ellipse: s-maj=25.7km s-min=19.6km az=91.0*

*ISCJB **29** 09:09:04.0±0.9, 3°32S±0°10×142°90E±0°09, h22km, mb3.9/7, MS3.3/3, Error ellipse: s-maj=16.3km s-min=10.4km az=41.5*

ISC 29 09:09:05.5±1.0, 3°3S±0°1×142°9E±0°1, h22km, n15, σ0°89/10, mb4.0/7, MS3.3/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.29**	**289**	Pn	**Pn**	**09 09 40.9**	**-1.1**
JAY	16nm,0.3s,baz=171,slow=10.0,SNR=44			Sn	**Sn**	**09 10 10.6**	**+1.0**
JAY	35nm,0.3s,baz=127,slow=24,SNR=10			LR	LR	09 10 37.4	
WRA	**Warramunga Arr**	**18.55**	**206**	P	**P**	**09 13 19.3**	**-1.6**
WRA	0.5nm,0.3s,baz=26,slow=13,SNR=25			LR	LR	09 21 17.8	
BATI	**Baumata**	**20.27**	**249**	P	Pn	09 13 41.7	-0.2
ASAR	**Alice Springs**	**22.06**	**202**	P	**P**	**09 13 59.4**	**+0.3**
ASAR	26nm,0.4s,baz=157,slow=4.0,SNR=4.4 0.8nm,0.4s,baz=29,slow=12,SNR=18			LR	LR	09 23 02.8	
FITZ	**Fitzroy Crossi**	**22.41**	**228**	P	**P**	**09 14 02.9**	**0.0**
STKA	**Stephens Creek**	**28.48**	**182**	P	**P**	**09 14 59.8**	**+0.5**
H11S3	**WAKE ISLAND Hy 31.90**	**46**		T	T	09 49 12.4	
H11S2	**WAKE ISLAND Hy 31.91**	**47**		T	T	09 49 12.7	
H11S1	**WAKE ISLAND Hy 31.92**	**46**		T	T	09 49 13.3	
AFI	**Afiamalu**	**45.99**	**106**	LR	LR	09 36 26.6	
RPZ	**Rata Peaks**	**47.38**	**152**	LR	LR	09 36 11.7	
MKAR	**Makanchi Array**	**72.79**	**321**	P	**P**	**09 20 32.8**	**+0.4**
BVAR	**Borovoye Array**	**82.16**	**324**	P	**P**	**09 21 24.8**	**+0.2**
ILAR	**Eielson Array**	**84.64**	**24**	P	**P**	**09 21 37.0**	**-0.2**
QSPA	**South Pole Qui**	**86.68**	**180**	P	**P**	**09 21 47.5**	**0.0**

*MOS **29** 09:18:51.7±1.5, 4°97N×82°62W, h10km, mb5.1/46, Error ellipse: s-maj=11.2km s-min=4.9km az=112.1*

*IDC **29** 09:18:51.6±0.5, 4°84N×82°79W, h0km, mb4.6/20, mb1 4.9/27, mb1mx4.8/40, mbtmp4.7/27, ML3.6/5, MS4.4/26, Ms1 4.5/26, ms1mx4.4/30, Error ellipse: s-maj=18.7km s-min=10.0km az=60.0*

*ISCJB **29** 09:18:52.1±0.1, 4°96N±0°02×82°58W±0°02, h12km, mb4.8/61, MS4.5/29, Error ellipse: s-maj=3.2km s-min=2.0km az=136.6*

*UCR **29** 09:18:53.7±1.8, 5°09N×82°73W, h16km±75km, MW4.6*

*BJI **29** 09:18:55.0±0.0, 5°00N×82°60W, h25km, mB5.4/2, Ms5.2/5, Ms7 5.0/5*

*NEIC **29** 09:18:56.2±2.0, 4°96N±0°06×82°56W±0°06, h33km±4km, mb4.9/252*

*GCMT **29** 09:18:57.2±0.1, 4°88N±0°01×82°64W±0°01, h22km, MW5.4/126, Moment Tensor Solution. s94,c154; s126,c244; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.01±.02; Mθθ0.14±.02; Mφφ-0.15±.02; Mrθ0.18±.03; Mθφ1.38±.02; Mrφ0.15±.03; Best double couple: M0 1.40800×10^17 NP1:φs93.00000°, δ84.00000°, λ7.00000°. NP2:φs3.00000°, δ83.00000°, λ174.00000°. Principal axes: T 1.4210, Plg9.0000°, Azm318.0000°; N -0.0270, Plg81.0000°, Azm135.0000°; P -1.3940, Plg0.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 09:18:53.3±0.3, 4°90N±0°04×82°70W±0°05, h12km, n836, σ1°51/829, mb4.9/150, MS4.5/29, 6C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**3.75**	**40**	*eP*	**Pn**	**09 19 47.7**	**-3.4**
BRU2	**Volcan**	**3.87**	**0**	*eP*	**Pn**	**09 19 49.8**	**-3.0**
BRU2				*eS*	**Sn**	**09 20 33.7**	**-4.6**
EDSV	**San Vito**	**3.90**	**356**	*eP*	**Pn**	**09 19 50.4**	**-2.9**
EDPN	**Palmar Norte**	**4.10**	**350**	*eP*	**Pn**	**09 19 52.6**	**-3.3**
EDPN				*eS*	**Sn**	**09 20 38.9**	**-5.0**
EDBA	**Buenos Aires**	**4.27**	**352**	*eP*	**Pn**	**09 19 55.7**	**-2.6**
EDBA				*eS*	**Sn**	**09 20 44.0**	**-4.2**
EDLM	**Las Mercedes**	**4.44**	**349**	*eP*	**Pn**	**09 19 58.1**	**-2.5**
EDLM				*eS*	**Sn**	**09 20 47.9**	**-4.4**
EDDO	**Dominical**	**4.47**	**345**	*eP*	**Pn**	**09 19 57.5**	**-3.5**
EDDO				*eS*	**Sn**	**09 20 47.4**	**-5.7**
ZANG	**Zanguenga, Cho**	**4.92**	**35**	*eP*	**Pn**	**09 20 06.1**	**-1.0**
LCR2	**La Lucha 2**	**4.98**	**345**	*eP*	**Pn**	**09 20 05.3**	**-2.9**
BCIP	**Isla Barro Col**	**5.10**	**34**	*eP*	**Pn**	**09 20 10.3**	**+0.6**
BCIP	**Isla Barro Col**	**5.10**	**34**	*eP*	**Pn**	**09 20 10.3**	**+0.6**
BCIP	**Isla Barro Col**	**5.10**	**34**	P	**Pn**	**09 20 08.3**	**-1.4**
BCIP						09 21 04.7	
BCIP	**Isla Barro Col**	**5.10**	**34**	*eP*	**Pn**	**09 20 08.3**	**-1.4**
BCIP	**Isla Barro Col**	**5.10**	**34**		**Pn**	**09 20 08.3**	**-1.4**
BCIP				Sn	**Sn**	**09 21 04.7**	**-3.9**
UPA	**Univ. de Panam**	**5.13**	**38**	*eP*	**Pn**	**09 20 08.6**	**-1.4**
SJS	**Escuela Geolog**	**5.18**	**345**	*eP*	**Pn**	**09 20 08.1**	**-2.8**
SJS				*eS*	**Sn**	**09 21 06.4**	**-4.4**
HDC	**Heredia**	**5.26**	**345**	*eP*	**Pn**	**09 20 09.5**	**-2.4**
HDC				*eS*	**Sn**	**09 21 08.4**	**-4.2**
HDC	**Heredia**	**5.26**	**345**		**Pn**	**09 20 09.7**	**-2.3**
HDC				Sn	**Sn**	**09 21 09.7**	**-2.9**
PTAC	**Punta Ardita,**	**5.36**	**65**	*eP*	**Pn**	**09 20 11.9**	**-1.2**
PTAC	**Punta Ardita,**	**5.36**	**65**	*eP*	**Pn**	**09 20 11.9**	**-1.2**
MALC	**Bahia Malaga**	**5.42**	**99**	*eP*	**Pn**	**09 20 13.5**	**-0.6**
MALC	**Bahia Malaga**	**5.42**	**99**	*eP*	**Pn**	**09 20 13.5**	**-0.6**
SRA1	**San Ramn**	**5.44**	**341**	*eP*	**Pn**	**09 20 11.2**	**-3.3**
SRA1				*eS*	**Sn**	**09 21 14.5**	**-2.6**
JTS	**Las Juntas de**	**5.80**	**338**	Pn	**Pn**	**09 20 16.6**	**-2.7**
JTS	90nm,0.3s,baz=168,slow=7.9,SNR=321			Sn	**Sn**	**09 21 23.3**	**-2.6**
JTS	**Las Juntas de**	**5.80**	**338**	*eP*	**Pn**	**09 20 17.1**	**-2.2**
ARE1	**Arenal 1**	**5.88**	**340**	*eP*	**Pn**	**09 20 19.0**	**-1.3**
CEDE	**Laguna Cedeo**	**5.89**	**340**	*eP*	**Pn**	**09 20 19.9**	**-0.7**
OTAV	**Otavalo**	**6.28**	**137**	*eP*	**Pn**	**09 20 26.3**	**0.0**
OTAV	**Otavalo**	**6.28**	**137**	*eP*	**Pn**	**09 20 26.3**	**0.0**
OTAV	**Otavalo**	**6.28**	**137**	P	**Pn**	**09 20 23.7**	**-2.7**
OTAV						09 21 33.8	
OTAV	**Otavalo**	**6.28**	**137**	*eP*	**Pn**	**09 20 23.5**	**-2.8**
OTAV	**Otavalo**	**6.28**	**137**	*eP*	**Pn**	**09 20 23.5**	**-2.8**
OTAV	**Otavalo**	**6.28**	**137**		**Pn**	**09 20 23.7**	**-2.7**
OTAV				Sn	**Sn**	**09 21 33.9**	**-4.5**
PLMC	**San Jos del P**	**6.40**	**90**	*eP*	**Pn**	**09 20 26.3**	**-1.2**
PLMC	**San Jos del P**	**6.40**	**90**	*eP*	**Pn**	**09 20 26.3**	**-1.2**
YOTC	**Yotoco, Valle**	**6.41**	**98**	*eP*	**Pn**	**09 20 25.1**	**-2.6**
YOTC	**Yotoco, Valle**	**6.41**	**98**	*eP*	**Pn**	**09 20 25.1**	**-2.6**
BUEV	**Buena Vista**	**6.44**	**336**	*eP*	**Pn**	**09 20 27.2**	**-0.9**
GB1A	**Borinquen Arri**	**6.46**	**336**	*eP*	**Pn**	**09 20 28.2**	**-0.2**
CRUC	**La Cruz**	**6.63**	**120**	*eP*	**Pn**	**09 20 30.2**	**-0.8**
CRUC	**La Cruz**	**6.63**	**120**	*eP*	**Pn**	**09 20 30.2**	**-0.8**
SOTA	**Rioblanco**	**6.67**	**114**	*eP*	**Pn**	**09 20 30.7**	**-1.0**
SOTA	**Rioblanco**	**6.67**	**114**	*eP*	**Pn**	**09 20 30.7**	**-1.0**
PCON	**Cinco Dias**	**6.79**	**112**	*eP*	**Pn**	**09 20 34.7**	**+1.3**
PCON	**Cinco Dias**	**6.79**	**112**	*eP*	**Pn**	**09 20 34.7**	**+1.3**
GUY2C	**Guyana, Caldas**	**7.32**	**87**	*eP*	**Pn**	**09 20 41.5**	**+1.0**
GUY2C	**Guyana, Caldas**	**7.32**	**87**	*eP*	**Pn**	**09 20 41.5**	**+1.0**
RREF	**El Recreo**	**7.33**	**90**	*eP*	**Pn**	**09 20 41.1**	**+0.3**
RREF	**El Recreo**	**7.33**	**90**	*eP*	**Pn**	**09 20 41.1**	**+0.3**
ESPN	**Las Esperanzas**	**7.42**	**348**	*eP*	**Pn**	**09 20 38.7**	**-2.8**
ESPN	**Las Esperanzas**	**7.42**	**348**		**Pn**	**09 20 39.5**	**-2.0**
ESPN				Sn	**Sn**	**09 22 03.0**	**-2.7**
ACON	**Acoyapa**	**7.43**	**341**	*eP*	**Pn**	**09 20 39.4**	**-2.3**
ACON	**Acoyapa**	**7.43**	**341**		**Pn**	**09 20 39.5**	**-2.3**
ACON					**Sn**	**09 22 01.9**	**-4.2**
ACON				Sn	**Sn**	**09 22 03.0**	**-3.1**
ORTC	**Ortega, Tolima**	**7.50**	**97**	*eP*	**Pn**	**09 20 43.9**	**+1.2**
ORTC	**Ortega, Tolima**	**7.50**	**97**	*eP*	**Pn**	**09 20 43.9**	**+1.2**
PRAC	**Prado**	**7.88**	**98**	*eP*	**Pn**	**09 20 49.5**	**+1.6**
PRAC	**Prado**	**7.88**	**98**	*eP*	**Pn**	**09 20 49.5**	**+1.6**
ROSC	**El Rosal**	**8.35**	**90**	*eP*	Pn	09 20 59.9	+5.2
ROSC	**El Rosal**	**8.35**	**90**	*eP*	Pn	09 20 59.9	+5.2
ROSC	**El Rosal**	**8.35**	**90**	Pn	**Pn**	**09 20 57.3**	**+2.6**
ROSC	13nm,0.3s,baz=144,slow=3.4,SNR=29			Sn	**Sn**	**09 22 32.3**	**+3.0**
ROSC	3.4nm,0.3s,baz=323,slow=20,SNR=1.9			LR	LR	09 24 18.0	
ROSC	**El Rosal**	**8.35**	**90**		**Pn**	**09 20 53.0**	**-1.7**
ROSC					**Sn**	**09 22 29.4**	**+0.1**
MATN	**Matagalpa**	**8.59**	**338**	*eP*	**Pn**	**09 20 57.0**	**-0.7**
CRIN	**San Cristobal**	**8.86**	**331**	*eP*	**Pn**	**09 21 01.2**	**-0.1**
ESTN	**Estel**	**8.92**	**336**		**Pn**	**09 21 01.8**	**-0.3**
ESTN				Sn	**Sn**	**09 22 41.0**	**-1.7**
SJCC	**San Jacinto, C**	**8.96**	**56**	*eP*	**Pn**	**09 21 03.9**	**+1.2**
SJCC	**San Jacinto, C**	**8.96**	**56**	*eP*	**Pn**	**09 21 03.9**	**+1.2**
PTLC	**Puerto Leguiza**	**9.19**	**121**	*eP*	**Pn**	**09 21 07.9**	**+2.1**
PTLC	**Puerto Leguiza**	**9.19**	**121**	*eP*	**Pn**	**09 21 07.9**	**+2.1**
PAYG	**Puerto Ayora**	**9.38**	**234**		**Pn**	**09 21 11.1**	**+2.6**
SMLC	**San Martn de**	**9.40**	**65**	*eP*	**Pn**	**09 21 08.7**	**-0.1**
SMLC	**San Martn de**	**9.40**	**65**	*eP*	**Pn**	**09 21 08.7**	**-0.1**
LCND	**La Caada**	**9.80**	**329**	*eP*	**Pn**	**09 21 15.2**	**+1.0**
JUCU	**Jucuarn**	**9.94**	**327**	*eP*	**Pn**	**09 21 17.9**	**+1.7**
TGUH	**Tegucigalpa,Un**	**10.15**	**334**		**Pn**	**09 21 20.1**	**+1.0**
ALJI	**Alcalda de J**	**10.18**	**326**	*eP*	**Pn**	**09 21 22.0**	**+2.6**
FAGO	**Alcalda de S**	**10.23**	**329**	*eP*	**Pn**	**09 21 22.6**	**+2.4**
COEB	**Comit de Eme**	**10.30**	**326**	*eP*	**Pn**	**09 21 23.6**	**+2.5**
COEG	**Centro de Oper**	**10.59**	**325**	*eP*	**Pn**	**09 21 28.1**	**+3.0**
PAVA	**Las Pavas**	**10.70**	**325**	*eP*	**Pn**	**09 21 29.8**	**+3.2**
OPAM	**Oficina de Pla**	**10.85**	**324**	*eP*	**Pn**	**09 21 32.5**	**+3.9**
SNET	**Serv Nac Est T**	**10.85**	**324**		**Pn**	**09 21 30.9**	**+2.3**
UEES	**Universidad Ev**	**10.88**	**324**	*eP*	**Pn**	**09 21 32.2**	**+3.1**
CEVE	**Cerro Verde**	**11.19**	**323**	*eP*	**Pn**	**09 21 37.7**	**+4.2**
APG	**El Apazote**	**12.61**	**323**	Pn	**Pn**	**09 21 55.7**	**+2.7**
APG	5.4nm,0.3s,baz=136,slow=8.9,SNR=9.8			LR	LR	09 26 12.0	
SDV	**Santo Domingo**	**12.62**	**71**	Pn	**Pn**	**09 21 53.4**	**+0.4**
SDV	1.0nm,0.3s,baz=238,slow=11,SNR=22			Sn	**Sn**	**09 24 12.0**	**-1.7**
SDV	3.3nm,0.3s,baz=78,slow=14,SNR=3.3			LR	LR	09 26 32.0	
SDV	**Santo Domingo**	**12.62**	**71**	*eP*	**Pn**	**09 21 52.9**	**-0.1**
SDV	**Santo Domingo**	**12.62**	**71**	*eP*	**Pn**	**09 21 52.9**	**-0.1**
SDV	**Santo Domingo**	**12.62**	**71**		**Pn**	**09 21 52.7**	**-0.3**
ATAH	**Atahualpa**	**12.71**	**160**	Pn	**Pn**	**09 21 55.1**	**+0.8**
ATAH	8.0nm,0.3s,baz=14,slow=7.6,SNR=58			LR	LR	09 26 25.0	
MTDJ	**Mount Denham**	**14.18**	**20**	Pn	**Pn**	**09 22 12.8**	**-1.4**
CCIG	**Comitan**	**14.62**	**321**		**Pn**	**09 22 21.1**	**+0.8**
TEIG	**Tepich**	**16.17**	**341**	Pn	**P**	**09 22 42.5**	**-1.3**
TEIG	0.2nm,0.3s,baz=139,slow=6.0,SNR=3.4			IAmb	IAmb	09 22 44.1	
TEIG	**Tepich**	**16.17**	**341**	Pn	**Pn**	**09 22 38.4**	**-2.2**
TEIG	comp=Z,101nm,1.4s			IAmb	IAmb	09 22 44.1	
GTBY	**Guantanamo Bay**	**16.67**	**26**		**Pn**	**09 22 47.9**	**+1.0**
GTBY	comp=Z,86nm,1.1s			IAmb	IAmb	09 22 54.9	
CMIG	**Matias Romero**	**17.01**	**316**	Pn	**Pn**	**09 22 51.9**	**+0.7**
CMIG	comp=Z,0.2nm,0.3s,baz=117,slow=8.1,SNR=5.5 comp=Z,2µm,19.4s,baz=126,slow=34			LR	LR	09 28 26.3	
NNA	**Nana**	**17.76**	**161**	P	**Pn**	**09 23 00.8**	**+0.2**
NNA	**Nana**	**17.76**	**161**	P	**P**	**09 23 01.8**	**+0.3**
SDDR	**Presa de Saban**	**17.89**	**38**	P	**Pn**	**09 23 01.9**	**-0.3**
BANI	**BANI**	**18.04**	**41**	P	**Pn**	**09 23 03.0**	**-1.1**
SC01	**Santiago de lo**	**18.57**	**38**	P	**P**	**09 23 08.8**	**-1.5**
SC01	comp=Z,76nm,0.9s			IAmb	IAmb	09 23 16.9	
PCRV	**Puerto La Cruz**	**18.66**	**73**	P	**Pn**	**09 23 14.5**	**+2.8**
PCRV	comp=Z,1.1nm,0.3s,baz=276,slow=6.6,SNR=6.8 comp=Z,1µm,18.4s,slow=43			LR	LR	09 32 19.3	
DR12	**Loma Pena Alta**	**18.96**	**42**	P	**Pn**	**09 23 16.0**	**+0.6**
TLIG	**Tlapa**	**19.99**	**310**	P	**P**	**09 23 26.3**	**+0.3**
TLIG	comp=Z,35nm,0.5s			IAmb	IAmb	09 23 48.2	
CRPR	**Cabo Rojo, PR**	**20.05**	**48**	P	**P**	**09 23 23.9**	**-2.6**
CRPR	comp=Z,43nm,0.8s			IAmb	IAmb	09 23 31.7	
MLPR	**Magueyes Islan**	**20.08**	**48**	P	**P**	**09 23 24.4**	**-2.5**
MLPR	comp=Z,51nm,0.8s			IAmb	IAmb	09 23 34.2	
OBIP	**Obispado Ponce**	**20.45**	**49**	P	**P**	**09 23 28.7**	**-2.3**
OBIP	comp=Z,118nm,1.4s			IAmb	IAmb	09 23 34.7	
AOPR	**Arecibo Observ**	**20.53**	**48**	P	**P**	**09 23 29.5**	**-2.3**
SJG	**San Juan**	**20.84**	**50**	P	**P**	**09 23 34.2**	**-0.9**
SJG				pmax	pmax		
SJG	**San Juan**	**20.84**	**50**	P	Pn	09 23 36.6	-1.0
S

baz=173
Z50A Ashland 28.37 354 P P 09 24 47.3 -0.2
Z58A St. Stephen 28.42 5 P P 09 24 49.3 +1.4
baz=186
Y53A Monroe 28.82 358 P P 09 24 52.0 +0.5
baz=178
PB01 IPOC Station P 28.86 154 P P 09 24 51.8 -0.2
PB01 IAmb IAmb 09 24 58.1
comp=Z,30nm,1.1s
Y55A Saluda 28.90 1 P P 09 24 52.7 +0.5
baz=182
Y51A Rockmart 28.94 356 P P 09 24 53.8 +1.3
baz=175,SNR=5.6
NATX Nacogdoches 28.98 339 P P 09 24 54.7 +1.7
baz=155
NATX Nacogdoches 28.98 339 P P 09 24 52.6 -0.4
NATX IAmb IAmb 09 24 55.0
comp=Z,33nm,1.2s
Y59A Loris 29.16 7 P P 09 24 55.8 +1.3
baz=188
HODGE Hodges 29.19 1 P P 09 24 53.6 -1.2
HODGE IAmb IAmb 09 24 58.2
comp=Z,29nm,1.3s
Y60A Bolivia 29.26 8 P P 09 24 56.7 +1.3
baz=189
JSC Jenkinsville 29.27 2 P P 09 24 54.8 -0.6
JSC pmax pmax
comp=Z,10.0nm,1.3s
JSC Jenkinsville 29.27 2 P P 09 24 54.8 -0.6
435B Jarrell 29.31 333 P P 09 24 55.9 -0.1
X55A Gracelyn & Ava 29.44 2 P P 09 24 57.9 +1.0
baz=182
X56A White Oak 29.49 3 P P 09 24 58.2 +0.8
baz=183
FPAL Fort Paine 29.62 355 P P 09 24 59.1 +0.5
BIRD Birdtown, Kers 29.67 4 P P 09 24 58.6 -0.4
X48A Hartselle 29.68 353 P P 09 24 59.4 +0.3
baz=171
SIV San Ignacio 29.82 135 P P 09 25 00.3 -0.3
comp=Z,25nm,1.1s,baz=315,slow=9.6,SNR=51
SIV LR LR 09 37 05.2
comp=Z,5μm,19.1s,baz=319,slow=37
BG3 Lake Jocassee 29.95 360 P P 09 25 00.4 -1.1
W54A Cherokee Point 30.04 1 P P 09 25 03.4 +1.1
baz=181
W52A Murphy 30.07 358 P P 09 25 04.4 +1.8
baz=177
OXF Oxford 30.11 349 P P 09 25 03.3 +0.4
baz=166
JCT Junction City 30.12 330 P P 09 25 04.3 +1.2
baz=144
JCT Junction City 30.12 330 P P 09 25 02.8 -0.3
JCT pmax pmax
comp=Z,10.0nm,1.2s
JCT Junction City 30.12 330 P P 09 25 02.8 -0.3
KMSC Kings Mountain 30.12 2 P P 09 25 03.5 +0.5
baz=182
W53A Cullowhee 30.12 359 P P 09 25 04.6 +1.4
baz=179
W56A Indian Trail 30.15 3 P P 09 25 03.8 +0.5
baz=184
W51A Cleveland 30.17 357 P P 09 25 05.1 +1.6
baz=176
W57A Gilead 30.21 4 P P 09 25 04.3 +0.6
baz=185
W57A Gilead 30.21 4 P P 09 25 04.0 +0.2
W57A IAmb IAmb 09 25 07.5
comp=Z,20nm,0.9s
WLAR White Oak Lake 30.24 343 P P 09 25 04.0 0.0
WLAR IAmb IAmb 09 25 09.3
comp=Z,33nm,1.3s
W50A Signal Mountai 30.25 356 P P 09 25 05.2 +1.0
baz=175
W49A Belvidere 30.25 354 P P 09 25 04.1 -0.1
baz=173
WHTX Lake Whitney, 30.29 335 P P 09 25 05.6 +1.0
baz=150
WHTX Lake Whitney, 30.29 335 P P 09 25 02.9 -1.7
WHTX IAmb IAmb 09 25 06.6
comp=Z,25nm,1.6s
SWET Sewanee 30.32 355 P P 09 25 04.0 -0.8
SWET IAmb IAmb 09 25 08.1
comp=Z,23nm,1.2s
PLAL Pickwick Lake 30.34 351 P P 09 25 04.7 -0.3
W60A Pink Hill 30.36 8 P P 09 25 07.1 +2.0
baz=190
CPCT Cooper Cave 30.45 357 P P 09 25 03.6 -2.3
LVC Limon Verde 30.49 154 P P 09 25 06.4 -0.4
LVC pmax pmax
comp=Z,48nm,1.5s
LVC Limon Verde 30.49 154 P P 09 25 07.4 +0.6
comp=Z,15nm,1.0s,baz=326,slow=6.3,SNR=5.9
LVC Limon Verde 30.49 154 eP P 09 25 07.9 +1.1
LVC Limon Verde 30.49 154 eP P 09 25 07.9 +1.1
LVC Limon Verde 30.49 154 P P 09 25 06.4 -0.4
LVC IAmb IAmb 09 25 12.4
comp=Z,48nm,1.5s
CNNC Cliffs of the 30.52 8 P P 09 25 07.0 +0.5
CNNC IAmb IAmb 09 25 23.9
comp=Z,14nm,0.8s
V53A Saluda 30.62 360 P P 09 25 08.0 +0.5
TKL Tuckaleechee C 30.62 358 P P 09 25 08.4 +0.9
comp=Z,5.8nm,1.0s,baz=171,slow=13,SNR=4.0
PB10 IPOC Station P 30.63 158 P P 09 25 08.0 +0.4
V50A Pikevile 30.70 356 P P 09 25 09.4 +1.3
baz=175
V54A Nebo 30.73 1 P P 09 25 09.2 +0.7
baz=181
V51A Loudon 30.79 357 P P 09 25 10.1 +1.2
baz=177
V51A Loudon 30.79 357 P P 09 25 09.4 +0.5
V51A IAmb IAmb 09 25 11.6
comp=Z,30nm,1.2s
H06E1 SOCORRO T-PHAS 30.80 299 T T 09 57 38.9
SNR=117
V52A Sevierville 30.80 359 P P 09 25 07.7 -1.3
H06S1 SOCORRO T 30.81 299 T T 09 57 42.1
SNR=74
V56A Mocksville 30.83 4 P P 09 25 09.9 +0.7
baz=184
V49A McMinnville 30.86 355 P P 09 25 09.8 +0.3
baz=174
H06N1 SOCORRO T-PHAS 30.89 299 T T 09 57 48.1
SNR=8.9
V58A Windy Hill, Pi 30.92 6 P P 09 25 10.4 +0.4
baz=187,SNR=8.1
V58A Windy Hill, Pi 30.92 6 P P 09 25 09.3 -0.7
V58A IAmb IAmb 09 25 14.1
comp=Z,24nm,0.9s
V48A Smith Brothers 30.92 353 P P 09 25 09.5 -0.6
baz=172,SNR=8.6
V57A Coltrane Farms 30.95 5 P P 09 25 10.9 +0.6
baz=185
HPIG 30.99 317 P P 09 25 12.1 +1.0
V59A Middlesex 30.99 7 P P 09 25 11.5 +0.9
baz=188
CLDB Colider 31.03 120 eP P 09 25 08.8 -2.5
CLDB Colider 31.03 120 eP P 09 25 08.8 -2.5
UALR University of 31.04 344 P P 09 25 09.4 -1.7
V60A Jim Taylor Roa 31.12 9 P P 09 25 12.9 +1.1
baz=190
V60A Jim Taylor Roa 31.12 9 P P 09 25 11.6 -0.2
MIAR Mount Ida 31.17 342 P P 09 25 12.3 0.0
baz=158
MIAR Mount Ida 31.17 342 P P 09 25 12.5 +0.2
MIAR pmax pmax
comp=Z,9.0nm,1.1s
MIAR Mount Ida 31.17 342 P P 09 25 12.5 +0.2
U53A Fall Branch 31.31 0 P P 09 25 14.2 +0.6
baz=180
U51A La Follette 31.35 358 P P 09 25 12.1 -1.8
baz=177
U56A King 31.37 4 P P 09 25 15.2 +1.1
baz=184
U56A King 31.37 4 P P 09 25 11.5 -2.5
U56A IAmb IAmb 09 25 18.3
comp=Z,24nm,1.1s
TX31 Lajitas Ar. Si 31.37 323 P P 09 25 15.7 +1.4
TX32 Lajitas Array 31.37 323 P P 09 25 15.4 +1.1
TXAR Lajitas Array 31.37 323 P P 09 25 15.2 +1.0
comp=Z,2.3nm,0.9s,baz=144,slow=9.5,SNR=14
TXAR PcP **PcP 09 28 09.9 +1.8**
comp=Z,1.0nm,0.8s,baz=145,slow=6.5,SNR=4.2
TXAR LR LR 09 38 08.3
comp=Z,313nm,21.6s,baz=0.0,slow=37
W41B Gary Mavity, V 31.39 345 P P 09 25 14.3 0.0
baz=161
W41B Gary Mavity, V 31.39 345 P P 09 25 13.2 -1.0
U50A Jamestown 31.43 357 P P 09 25 15.4 +0.8
baz=176
WVT Waverly 31.43 352 P P 09 25 12.8 -1.8
baz=170
WVT Waverly 31.43 352 P P 09 25 12.0 -2.6
WVT pmax pmax
comp=Z,16nm,1.0s
WVT Waverly 31.43 352 P P 09 25 12.0 -2.6
WVT IAmb IAmb 09 25 17.2
comp=Z,16nm,0.9s
HALT Halls 31.46 350 P P 09 25 14.4 -0.4
U55A TA2, Sparta 31.49 3 P P 09 25 16.0 +0.8
baz=183
TZTN Tazewell 31.50 359 P P 09 25 15.7 +0.5
baz=178
WHAR Wooly Hollow 31.51 345 P P 09 25 13.6 -1.7
WHAR IAmb IAmb 09 25 18.4
comp=Z,12nm,0.9s
U57A Blanch 31.53 5 P P 09 25 16.0 +0.6
baz=186
U58A Oxford 31.57 6 P P 09 25 16.7 +0.9
baz=188
U49A Red Boiling Sp 31.59 355 P P 09 25 16.3 +0.3
baz=174,SNR=6.3
U59A Littleton 31.63 8 P P 09 25 17.2 +0.9
baz=189
U59A Littleton 31.63 8 P P 09 25 16.8 +0.5
U59A IAmb IAmb 09 25 17.9
comp=Z,28nm,1.4s
LNXT Lenox 31.67 349 P P 09 25 16.4 -0.3
ABTX Abilene, Hawle 31.80 332 P P 09 25 21.0 +3.1
baz=146
ABTX Abilene, Hawle 31.80 332 P P 09 25 16.7 -1.2
W39A Magazine 31.84 343 P P 09 25 19.1 +0.9
baz=159
T53A Wise 31.93 0 P P 09 25 19.0 0.0
baz=180
T51A Gray 31.93 358 P P 09 25 19.5 +0.5
baz=177
LCAR Lake Charles 31.98 347 P P 09 25 17.4 -2.0
LCAR IAmb IAmb 09 25 22.4
comp=Z,23nm,0.9s
T54A Tazewell 32.02 2 P P 09 25 20.3 +0.4
baz=182
T50A Nancy 32.03 357 P P 09 25 20.1 +0.3
baz=176
FCAR Ozark Folk Cen 32.04 345 P P 09 25 18.5 -1.4
HICK Hickman 32.05 350 P P 09 25 18.4 -1.6
T52A Hallie 32.06 360 P P 09 25 21.0 +0.9
baz=179
T56A Rocky Mt 32.07 4 P P 09 25 21.0 +0.8
baz=185
T57A Hurt 32.10 5 P P 09 25 21.1 +0.6
baz=186,SNR=7.1
T57A Hurt 32.10 5 P P 09 25 19.9 -0.5
T57A IAmb IAmb 09 25 24.3
comp=Z,16nm,0.9s
T55A Pulaski 32.11 3 P P 09 25 21.5 +0.9
baz=183
T58A Grand View Acr 32.12 6 P P 09 25 20.9 +0.3
baz=188
T49A Edmonton 32.16 356 P P 09 25 21.1 +0.2
baz=174
T49A Edmonton 32.16 356 P P 09 25 20.1 -0.8
T47A Sharon Grove 32.19 353 P P 09 25 21.4 +0.2
baz=172,SNR=5.3
BLA Blacksburg 32.23 3 P P 09 25 22.4 +0.8
baz=184
BLA Blacksburg 32.23 3 P P 09 25 21.1 -0.5
BLA pmax pmax
comp=Z,41nm,1.6s
BLA Blacksburg 32.23 3 P P 09 25 21.1 -0.5
T59A Double "B" Far 32.27 8 P P 09 25 22.6 +0.8
baz=189
T59A Double "B" Far 32.27 8 P P 09 25 21.9 0.0
T59A IAmb IAmb 09 25 28.8
comp=Z,33nm,1.4s
GO02 Mina Guanaco 32.49 157 P P 09 25 23.5 -0.8
S51A Beattyville 32.60 359 P P 09 25 25.5 +0.7
baz=178
S51A Beattyville 32.60 359 P P 09 25 23.4 -1.4
S51A IAmb IAmb 09 25 33.9
comp=Z,25nm,1.1s
S50A Richmond 32.66 358 P P 09 25 26.3 +0.9
baz=177
U40A Yellville 32.67 345 P P 09 25 25.5 +0.1
baz=161
S55A Lewisburg 32.78 3 P P 09 25 26.6 +0.1
baz=184
S49A Springfield 32.82 356 P P 09 25 26.9 +0.2
baz=175,SNR=6.5
S58A Poland Farm, P 32.84 7 P P 09 25 27.7 +0.8
baz=188
S57A Dark Hollow, R 32.89 5 P P 09 25 27.7 +0.4
baz=187
S59A Mechanicsville 33.08 8 P P 09 25 29.7 +0.7
baz=190
S60A Water View 33.12 9 P P 09 25 30.5 +1.2
baz=191
TUL1 Leonard 33.13 340 P P 09 25 29.4 -0.2
baz=156
S44A Carbondale 33.18 350 P P 09 25 29.9 0.0
baz=168
R58B Mineral 33.20 7 P P 09 25 30.9 +0.8
baz=188
R58B Mineral 33.20 7 P P 09 25 28.7 -1.3
R58B IAmb IAmb 09 25 31.4
comp=Z,18nm,1.1s
WMOK Wichita Mounta 33.22 335 P P 09 25 30.0 -0.3
baz=150
R51A Hillsboro 33.26 359 P P 09 25 30.9 +0.4
baz=178,SNR=5.3
R50A Paris 33.26 358 P P 09 25 30.6 0.0
baz=177
MGMO Mountain Grove 33.27 346 P P 09 25 29.3 -1.5
R53A Hurricane 33.28 1 P P 09 25 30.6 -0.2
baz=181
R55A Marlinton 33.31 4 P P 09 25 31.9 +0.7
baz=184
R55A Marlinton 33.31 4 P P 09 25 30.7 -0.4
R49A Shelbyville 33.31 356 P P 09 25 31.2 +0.2
baz=175
R49A Shelbyville 33.31 356 P P 09 25 30.4 -0.6
WCI Wyandotte Cave 33.34 355 P P 09 25 31.3 +0.1
baz=173
WCI Wyandotte Cave 33.34 355 P P 09 25 30.7 -0.6
WCI pmax pmax
comp=Z,48nm,1.5s
WCI Wyandotte Cave 33.34 355 P P 09 25 30.7 -0.6
R57A Stanardsville 33.46 6 P P 09 25 33.1 +0.8
baz=187
R56A Bull Pasture M 33.49 5 P P 09 25 33.5 +0.9
baz=186
R58A Rapidan 33.52 7 P P 09 25 33.0 +0.1
baz=188
Q53A Leroy 33.82 2 P P 09 25 35.9 +0.4
baz=182
CCM Cathedral Cave 33.91 348 P P 09 25 35.9 -0.3
baz=164
CCM Cathedral Cave 33.91 348 P P 09 25 35.0 -1.3
CCM pmax pmax
comp=Z,19nm,0.9s
CCM Cathedral Cave 33.91 348 P P 09 25 35.0 -1.3
CCM IAmb IAmb 09 25 39.0
comp=Z,19nm,0.9s
Q52A Bidwell 33.91 1 P P 09 25 36.6 +0.3
baz=181
Q54A Coxs Mills 33.97 3 P P 09 25 40.0 +3.3
baz=183
Q51A Peebles 33.98 359 P P 09 25 37.3 +0.5
baz=179
Q51A Peebles 33.98 359 P P 09 25 36.2 -0.6
Q51A IAmb IAmb 09 25 45.4
comp=Z,17nm,0.8s
Q48A North Vernon 33.98 356 P P 09 25 36.8 -0.1
baz=174
Q49A Aurora 34.01 357 P P 09 25 37.4 +0.4
baz=176
Q55A Buckhannon 34.02 4 P P 09 25 38.6 +1.4
baz=184
MNTX Cornudas Mount 34.10 324 P P 09 25 38.8 +0.7
baz=137,SNR=18
MNTX Cornudas Mount 34.10 324 P P 09 25 38.4 +0.4
MNTX IAmb IAmb 09 25 41.0
comp=Z,12nm,0.8s
Q58A Fox Den Farm, 34.19 7 P P 09 25 38.9 +0.3
baz=189
Q57A Strasburg 34.20 6 P P 09 25 39.2 +0.4
baz=187
SLM Saint Louis 34.27 349 P P 09 25 38.3 -1.1
SLM pmax pmax
comp=Z,23nm,0.8s
SLM Saint Louis 34.27 349 P P 09 25 38.3 -1.1
BLO Bloomington 34.29 355 P P 09 25 38.4 -1.1
BLO pmax pmax
comp=Z,37nm,1.5s
BLO Bloomington 34.29 355 P P 09 25 38.4 -1.1
MSTX Muleshoe 34.41 330 P P 09 25 41.8 +0.9
baz=143
MSTX Muleshoe 34.41 330 P P 09 25 41.2 +0.3
P48A Milroy 34.49 356 P P 09 25 40.0 -1.3
baz=175
P48A Milroy 34.49 356 P P 09 25 39.6 -1.7
P48A IAmb IAmb 09 25 48.9
comp=Z,18nm,0.8s
P50A Jamestown 34.57 359 P P 09 25 41.2 -0.8
baz=178
AMTX Amarillo 34.62 332 P P 09 25 44.0 +1.4
baz=145
AMTX Amarillo 34.62 332 P P 09 25 42.4 -0.2
P56A Dayton Farm, R 34.62 5 P P 09 25 42.8 +0.4
baz=186
P57A Homestead Farm 34.69 6 P P 09 25 44.8 +1.9
baz=188
P58A Pank, Wackersv 34.78 7 P P 09 25 44.9 +1.2
baz=189
P46A Rosedale 34.80 354 P P 09 25 43.7 -0.3
baz=172
P59A Jarrettsville 35.02 8 P P 09 25 46.9 +1.0
baz=191
O51A Pataskala 35.09 0 P P 09 25 46.4 -0.1
baz=180
O50A Cable 35.10 359 P P 09 25 46.6 +0.1
baz=178
P43A Skaggs, Pawnee 35.13 351 P P 09 25 46.7 -0.1
ACSO Alum Creek Sta 35.17 360 P P 09 25 47.6 +0.4
baz=179
ACSO Alum Creek Sta 35.17 360 P P 09 25 47.0 -0.2
ACSO IAmb IAmb 09 26 00.8
comp=Z,18nm,1.1s
O48A Farmland 35.27 357 P P 09 25 47.8 -0.2
baz=176
O55A Ligonier 35.28 5 P P 09 25 48.8 +0.6
baz=186
P60A Greenville 35.34 9 P P 09 25 49.7 +1.2
baz=192
P60A Greenville 35.34 9 P P 09 25 48.0 -0.6
P60A IAmb IAmb 09 25 52.5
comp=Z,17nm,0.9s
O56A Blue Knob Stat 35.41 5 P P 09 25 49.5 +0.2
baz=187
MVL Millersville 35.41 8 P P 09 25 48.3 -0.8
MVL IAmb IAmb 09 25 56.9
comp=Z,18nm,1.1s
PP1B Ponte de Pedra 35.42 130 eP P 09 25 49.3 -0.3
PP1B Ponte de Pedra 35.42 130 eP P 09 25 49.3 -0.3
O57A Amberson 35.45 7 P P 09 25 50.4 +0.8
baz=188
O58A Lewisberry 35.45 8 P P 09 25 50.6 +1.0
baz=190
SFIN Lafayette 35.54 354 P P 09 25 49.6 -0.7
baz=172
PAGS Pennsylvania G 35.58 8 P P 09 25 51.2 +0.5
O59A Robesonia 35.74 9 P P 09 25 53.5 +1.5
baz=191
SSPA Standing Stone 35.84 6 P P 09 25 54.9 +2.0
baz=188
SSPA Standing Stone 35.84 6 P P 09 25 52.4 -0.5
O60A Telford 35.87 10 P P 09 25 53.8 +0.7
baz=192
SRIG Santa Rosalia 35.90 312 P P 09 25 54.2 +0.6
SRIG IAmb IAmb 09 25 56.5
comp=Z,9.9nm,0.8s
HDIL Hopedale 35.99 351 P P 09 25 53.8 -0.5
baz=169
HDIL Hopedale 35.99 351 P P 09 25 53.7 -0.5
121A Cookes Peak, D 36.13 323 P P 09 25 59.4 +3.7
baz=134,SNR=19
121A Cookes Peak, D 36.13 323 P P 09 25 57.1 +1.4
N58A Sunbury 36.18 8 P P 09 25 56.7 +0.8
baz=190
N58A Sunbury 36.18 8 P P 09 25 56.6 +0.8
N58A IAmb IAmb 09 25 59.9
comp=Z,25nm,1.1s
319A Douglas 36.28 320 P P 09 25 57.4 +0.4
KSU1 Kansas State U 36.30 342 P P 09 25 57.3 +0.3
baz=156
N41A Harden Midland 36.40 350 P P 09 25 56.9 -0.8
N41A IAmb IAmb 09 25 59.8
comp=Z,19nm,0.9s
N59A State Game Lan 36.40 9 P P 09 25 59.0 +1.3
baz=191
N59A State Game Lan 36.40 9 P P 09 25 57.0 -0.6
N59A IAmb IAmb 09 26 20.4
comp=Z,30nm,1.6s
N60A Cedar Hill Far 36.46 10 P P 09 25 59.2 +1.0
baz=193
N61A South Mountain 36.48 11 P P 09 25 59.9 +1.5
baz=194
AQDB Aquidauana 36.60 134 eP P 09 25 58.8 -0.8
AQDB Aquidauana 36.60 134 eP P 09 25 58.8 -0.8
BNM Barren Site 36.61 326 P P 09 26 02.3 +2.4
M57A Sunshine Farm, 36.62 7 P P 09 26 00.7 +1.1
baz=189
M57A Sunshine Farm, 36.62 7 P P 09 26 00.5 +0.9
M56A Emporium 36.65 6 P P 09 26 00.4 +0.6
baz=187
GO04 Tololo Observa 36.69 163 P P 09 25 59.7 -0.9
LPM Los Pinos Moun 36.73 326 P P 09 26 02.4 +1.5
M58A Price's Panora 36.74 8 P P 09 26 01.9 +1.3
baz=190
ARAG Araguaiana, MT 36.80 124 eP P 09 26 00.3 -1.1
ARAG Araguaiana, MT 36.80 124 eP P 09 26 00.3 -1.1
LENM Lemitar 36.81 325 P P 09 26 02.1 +0.6
M60A Port Jervis 36.98 10 P P 09 26 03.7 +1.0
baz=193
L47A Sherwood 36.98 357 P P 09 26 01.8 -0.9
baz=176,SNR=5.2
KSPA Keystone Colle 37.02 9 P P 09 26 04.4 +1.5
M59A Waymart 37.06 9 P P 09 26 04.6 +1.2
baz=192
ANMO Albuquerque 37.10 327 P P 09 26 05.3 +1.3
baz=138
ANMO Albuquerque 37.10 327 cP P 09 26 06.4 +2.4
ANMO pmax pmax
comp=Z,29nm,1.3s
ANMO Albuquerque 37.10 327 P P 09 26 04.8 +0.8
ANMO IAmb IAmb 09 26 16.2
comp=Z,22nm,1.1s
CBKS Cedar Bluff 37.13 338 P P 09 26 05.3 +1.3
baz=151
CBKS Cedar Bluff 37.13 338 P P 09 26 05.0 +0.9
CBKS pmax pmax
comp=Z,24nm,1.1s
CBKS Cedar Bluff 37.13 338 P P 09 26 05.0 +0.9
CBKS IAmb IAmb 09 26 07.8
comp=Z,24nm,1.1s
L57A Andrews Acres 37.31 7 P P 09 26 06.1 +0.7
baz=189
L55A Hinsdale 37.32 5 P P 09 26 08.2 +2.6
baz=187
L58A Harry Jones Me 37.49 8 P P 09 26 08.0 +1.1
baz=191
BINY Binghamton 37.62 8 P P 09 26 09.0 +1.0
baz=191
BINY Binghamton 37.62 8 P P 09 26 08.7 +0.6
L60A Shokan 37.70 10 P P 09 26 09.7 +1.0
baz=194
T25A Trinidad 37.74 331 P P 09 26 12.0 +2.6
baz=143,SNR=6.1
T25A Trinidad 37.74 331 P P 09 26 09.3 -0.1
T25A IAmb IAmb 09 26 12.7
comp=Z,24nm,1.3s
L59A Walton 37.75 9 P P 09 26 10.2 +0.9
baz=192
TUC Tucson 37.86 319 P P 09 26 12.7 +2.4
baz=130
TUC Tucson 37.86 319 P P 09 26 11.5 +1.2
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 37.86 319 P P 09 26 11.5 +1.2

TUC IAmb IAmb 09 26 13.3
comp=Z,13nm,1.0s
L61A Hillsdale 1, H 38.02 11 P P 09 26 12.6 +1.2
baz=195
K57A Scipio Center 38.07 7 P P 09 26 12.4 +0.5
baz=190
PEXB Peixe 38.15 117 *eP* **P 09 26 11.8 -1.1**
PEXB Peixe 38.15 117 *eP* **P 09 26 11.8 -1.1**
K58A Earlville 38.22 8 P P 09 26 13.2 0.0
baz=191
K58A Earlville 38.22 8 P P 09 26 13.1 -0.1
K59A Cooperstown 38.35 9 P P 09 26 13.8 -0.5
baz=192
J56A Wolcott 38.56 7 P P 09 26 15.8 -0.1
baz=189
J56A Wolcott 38.56 7 P P 09 26 16.2 +0.2
SDCO Great Sand Dun 38.75 331 P P 09 26 20.5 +2.5
baz=142,SNR=18
SDCO Great Sand Dun 38.75 331 P P 09 26 19.0 +1.0
SDCO IAmb IAmb 09 26 21.2
comp=Z,25nm,1.1s
J58A Remsen 38.86 9 P P 09 26 19.2 +0.7
baz=192
J58A Remsen 38.86 9 P P 09 26 17.4 -1.1
J58A IAmb IAmb 09 26 22.6
comp=Z,29nm,0.9s
214A Organ Pipe Nat 38.98 317 P P 09 26 22.4 +2.7
baz=127,SNR=13
214A Organ Pipe Nat 38.98 317 P P 09 26 20.6 +0.9
214A IAmb IAmb 09 26 22.9
comp=Z,16nm,0.7s
J60A Lant Hill Farm 39.06 11 P P 09 26 21.5 +1.3
baz=194
J59A Piesco 39.08 9 P P 09 26 20.8 +0.4
baz=193
J59A Piesco 39.08 9 P P 09 26 20.4 0.0
J59A IAmb IAmb 09 26 24.5
comp=Z,27nm,1.1s
W18A Petrified Fore 39.09 324 P P 09 26 24.1 +3.4
baz=134,SNR=9.2
W18A Petrified Fore 39.09 324 P P 09 26 20.0 -0.8
ROC1 El Roble 39.27 164 P P 09 26 22.6 +0.3
J61A Chester 39.33 12 P P 09 26 23.7 +1.3
baz=196
I57A Carthage 39.37 8 P P 09 26 23.2 +0.5
baz=191
S22A 4UR Ranch, Cre 39.41 329 P P 09 26 26.4 +2.8
baz=140,SNR=7.2
S22A 4UR Ranch, Cre 39.41 329 P P 09 26 24.4 +0.8
I59A Olmsteadville 39.51 10 P P 09 26 24.6 +0.7
baz=194
PEL Peldehue 39.52 164 P P 09 26 24.5 +0.4
PEL pmax pmax
comp=Z,42nm,1.2s
PEL Peldehue 39.52 164 P P 09 26 24.5 +0.4
PEL IAmb IAmb 09 26 27.9
comp=Z,42nm,1.2s
Q24A Divide 39.55 332 P P 09 26 27.0 +2.3
baz=143
Q24A Divide 39.55 332 P P 09 26 26.5 +1.8
Q24A IAmb IAmb 09 26 35.6
comp=Z,29nm,1.6s
CPUP Villa Florida 39.60 143 P P 09 26 23.7 -1.2
comp=Z,12nm,0.9s,baz=327,slow=10.0,SNR=15
CPUP LR LR 09 43 54.5
comp=Z,1μm,18.4s,baz=322,slow=38
CPUP Villa Florida 39.60 143 *eP* **P 09 26 23.9 -1.0**
CPUP Villa Florida 39.60 143 *eP* **P 09 26 23.9 -1.0**
CPUP Villa Florida 39.60 143 P **P 09 26 23.7 -1.2**
CPUP IAmb IAmb 09 26 26.9
comp=Z,23nm,1.1s
X16A Lo Mia Camp, P 39.65 321 P P 09 26 26.6 +1.2
X16A IAmb IAmb 09 26 29.3
comp=Z,18nm,0.9s
I60A Shoreham 39.66 11 P P 09 26 26.1 +0.9
baz=195
H55A Tweed 39.79 6 P P 09 26 25.7 -0.5
baz=188
OGNE Ogallala 39.86 337 P P 09 26 28.9 +2.0
baz=149
OGNE Ogallala 39.86 337 P P 09 26 27.3 +0.4
OGNE IAmb IAmb 09 26 29.2
comp=Z,22nm,0.9s
MVCO Mesa Verde 39.89 327 P P 09 26 28.6 +1.1
baz=137,SNR=17
MVCO Mesa Verde 39.89 327 P P 09 26 28.4 +0.9
MVCO IAmb IAmb 09 26 30.5
comp=Z,25nm,0.9s
H57A Richville 39.92 8 P P 09 26 27.5 +0.2
baz=191
H56A Elgin 39.94 7 P P 09 26 27.7 +0.2
baz=190
BDFB Brasilia 39.95 121 P P 09 26 27.1 -1.0
BDFB pmax pmax
comp=Z,9.0nm,1.0s
BDFB Brasilia 39.95 121 P P 09 26 29.1 +1.0
comp=Z,4.5nm,0.8s,baz=275,slow=16,SNR=3.4
BDFB LR LR 09 43 25.7
comp=Z,1μm,18.7s,baz=292,slow=37
BDFB Brasilia 39.95 121 P P 09 26 27.1 -1.0
H58A Gabriels 40.06 9 P P 09 26 30.6 +2.0
baz=193
ITRB Iturama 40.12 129 *eP* **P 09 26 28.7 -0.7**
ITRB Iturama 40.12 129 *eP* **P 09 26 28.7 -0.7**
LONY Lake Ozonia 40.20 9 P P 09 26 29.1 -0.6
baz=192
VT1 Waterbury 40.23 11 P P 09 26 30.6 +0.6
TRCB Terra Rica 40.27 134 *eP* **P 09 26 29.6 -0.9**
TRCB Terra Rica 40.27 134 *eP* **P 09 26 29.6 -0.9**
WUAZ Wupatki 40.34 323 P P 09 26 33.1 +2.0
baz=132,SNR=31
WUAZ Wupatki 40.34 323 P P 09 26 31.1 0.0
H59A Cadyville 40.37 10 P P 09 26 31.3 +0.3
baz=194
ISCO Idaho Springs 40.43 332 P P 09 26 34.1 +2.1
baz=143,SNR=7.6
ISCO Idaho Springs 40.43 332 P P 09 26 32.6 +0.6
ISCO pmax pmax
comp=Z,14nm,1.3s
ISCO Idaho Springs 40.43 332 P P 09 26 32.6 +0.6
G55A Calabogie 40.53 7 P P 09 26 32.2 -0.2
baz=189
PCMB Pacaembu 40.53 132 *eP* **P 09 26 31.7 -1.0**
PCMB Pacaembu 40.53 132 *eP* **P 09 26 31.7 -1.0**
ECSD EROS Data Cent 40.58 344 P P 09 26 32.7 -0.1
baz=158
ECSD EROS Data Cent 40.58 344 P P 09 26 32.2 -0.6
ECSD IAmb IAmb 09 26 37.0
comp=Z,32nm,1.6s
SMCO Snowmass 40.59 331 P P 09 26 33.1 -0.4
G57A Newington 40.61 8 P P 09 26 33.2 +0.2
baz=192
PV02 Paradox Valley 40.75 328 P P 09 26 35.4 +0.8
PV02 IAmb IAmb 09 26 37.6
comp=Z,30nm,1.2s
PV18 Skein Mesa, Pa 40.87 328 P P 09 26 36.8 +1.2
PV18 IAmb IAmb 09 26 46.7
comp=Z,19nm,0.8s
PV17 East Wray Mesa 40.92 328 P P 09 26 36.5 +0.5
PV17 IAmb IAmb 09 26 38.6
comp=Z,20nm,1.0s
IPMB Ipameri, GO 40.92 125 *eP* **P 09 26 34.7 -1.4**
IPMB Ipameri, GO 40.92 125 *eP* **P 09 26 34.7 -1.4**
GO05 Huala 40.97 166 P P 09 26 36.0 -0.2
GO05 IAmb IAmb 09 26 37.6
comp=Z,28nm,1.0s
G60A Masonville 41.05 11 P P 09 26 36.5 -0.2
baz=196
ALGO Algonquin Park 41.09 5 P P 09 26 35.3 -1.7
baz=187
PV09 Paradox Valley 41.17 328 P P 09 26 35.5 -2.7
Y12C Blythe 41.21 318 P P 09 26 40.0 +1.9
baz=127,SNR=5.6
Y12C Blythe 41.21 318 P P 09 26 39.7 +1.6
N23A Red Feather La 41.46 333 P P 09 26 42.8 +2.4
baz=144
N23A Red Feather La 41.46 333 P P 09 26 42.3 +1.8
U15A North Rim 41.50 323 P P 09 26 40.5 -0.3
U15A IAmb IAmb 09 26 44.5
comp=Z,31nm,1.2s
G62A West of Eustis 41.55 13 P P 09 26 42.3 +1.6
baz=198
E51A G1948 Merrick 41.57 3 P P 09 26 40.3 -0.6
baz=185
PHWY Pilot Hill 41.58 334 P P 09 26 41.8 +0.4
SWSC Sam W. Stewart 41.60 316 P P 09 26 42.0 +0.6

W13A Hualapai Mount 41.62 320 P P 09 26 42.1 +0.3
BC3 Big Chuckawall 41.77 317 P P 09 26 45.6 +2.6
baz=126,SNR=7.6
IRM Iron Mountain 41.86 318 P P 09 26 46.1 +2.5
baz=127,SNR=9.6
PTGB Pitanga 41.89 136 *eP* **P 09 26 42.8 -1.2**
PTGB Pitanga 41.89 136 *eP* **P 09 26 42.8 -1.2**
O20A White River Ci 41.95 330 P P 09 26 46.8 +2.4
baz=140,SNR=6.0
O20A White River Ci 41.95 330 P P 09 26 45.5 +1.1
MONP2 Monument Peak 42.00 316 P P 09 26 47.2 +2.2
baz=124
E58A La Victoria 42.11 10 P P 09 26 45.7 +0.3
baz=194
PKCU Pink Cliffs 42.20 324 P P 09 26 48.4 +1.8
KNB Kanab 42.21 323 P P 09 26 48.2 +1.7
KNB pmax pmax
comp=Z,24nm,1.0s
KNB Kanab 42.21 323 P P 09 26 48.2 +1.7
D49A Beulah Townshi 42.23 1 P P 09 26 45.3 -1.1
baz=182
NBPS Pedro II - PI 42.23 102 *eP* **P 09 26 48.1 +1.2**
NBPS Pedro II - PI 42.23 102 *eP* **P 09 26 48.1 +1.2**
D53A Lac Vacive, Po 42.24 5 P P 09 26 45.1 -1.3
baz=187
EML El Monte Cty P 42.29 315 P P 09 26 48.8 +1.7
BB19B Bebedouro 42.30 129 *eP* **P 09 26 46.6 -0.7**
BB19B Bebedouro 42.30 129 *eP* **P 09 26 46.6 -0.7**
BELC Belle Mtn. Jos 42.34 317 P P 09 26 50.2 +2.6
baz=126,SNR=12
SRU San Rafael Swe 42.36 327 P P 09 26 48.5 +0.7
SRU pmax pmax
comp=Z,20nm,0.9s
SRU San Rafael Swe 42.36 327 P P 09 26 48.5 +0.7
D54A Lac Fusel, La 42.41 6 P P 09 26 47.6 -0.2
baz=189
D55A Sainte-Anne-du 42.42 7 P P 09 26 47.7 -0.1
baz=190
PFO Pinyon Flats O 42.43 317 P P 09 26 51.0 +2.6
baz=125
PFO Pinyon Flats O 42.43 317 P P 09 26 48.5 +0.2
PFO pmax pmax
comp=Z,9.0nm,0.9s
PFO Pinyon Flats O 42.43 317 P P 09 26 48.5 +0.2
E60A Ste Agathe de 42.45 12 P P 09 26 48.9 +0.8
baz=196
LCMT Little Creek M 42.46 323 P P 09 26 48.2 -0.3
MTPU Mount Pierson 42.53 325 P P 09 26 49.6 +0.3
Q16A Castle Valley 42.58 327 P P 09 26 50.2 +0.7
GMRC Granite Mounta 42.58 319 P P 09 26 52.1 +2.6
baz=127,SNR=5.7
D57A Chemin Vers le 42.64 9 P P 09 26 49.8 +0.1
baz=193
RWWY Rawlins 42.67 333 P P 09 26 49.5 -0.8
RWWY IAmb IAmb 09 26 53.4
comp=Z,36nm,1.1s
P17A Butcher Ranch, 42.74 328 P P 09 26 51.3 +0.5
SZCU Shurtz Canyon 42.75 324 P P 09 26 52.2 +1.3
FRTB Fartura 42.83 132 *eP* **P 09 26 52.3 +0.8**
FRTB Fartura 42.83 132 *eP* **P 09 26 52.3 +0.8**
MSU Marysvale 42.85 325 P P 09 26 52.3 +0.5
MSU Marysvale 42.85 325 P P 09 26 52.3 +0.5
TMUT Trail Mountain 42.87 327 P P 09 26 52.9 +0.9
D58A Chemin du LacG 42.88 10 P P 09 26 51.7 +0.1
baz=194
CCUT Cedar City 42.88 323 P P 09 26 53.3 +1.2
MURC Murrieta 42.93 316 P P 09 26 54.4 +2.1
baz=124
HEC Hector,Ludlow 43.05 318 P P 09 26 56.2 +2.9
baz=126,SNR=5.5
D60A Saint Jean D'O 43.08 12 P P 09 26 54.2 +1.1
baz=197
BBRC Big Bear Solar 43.12 317 P P 09 26 56.8 +2.8
baz=125,SNR=8.1
K22A Casper 43.13 334 P P 09 26 55.9 +1.9
baz=144,SNR=6.8
K22A Casper 43.13 334 P P 09 26 54.9 +1.0
LATQ La Tuque 43.18 10 P P 09 26 52.0 -2.0
baz=194
SHPR Sheep Range 43.31 321 P P 09 26 56.6 +1.2
SHPR IAmb IAmb 09 26 59.3
comp=Z,20nm,1.1s
RSSD Black Hills 43.34 338 P P 09 26 58.0 +2.4
baz=148
RSSD Black Hills 43.34 338 P P 09 26 54.6 -1.0
RSSD pmax pmax
comp=Z,32nm,1.4s
RSSD Black Hills 43.34 338 P P 09 26 54.6 -1.0
RSSD IAmb IAmb 09 26 59.1
comp=Z,32nm,1.4s
ITAB Concordia 43.51 139 *eP* **P 09 26 56.2 -0.8**
ITAB Concordia 43.51 139 *eP* **P 09 26 56.2 -0.8**
BFSC Mount Baldy Ra 43.61 317 P P 09 27 00.2 +2.3
baz=124
MPU Maple Canyon 43.61 327 P P 09 26 58.8 +1.0
GSC Goldstone, Bar 43.64 318 P P 09 27 00.6 +2.6
baz=126,SNR=6.6
D62A Allapoint, All 43.64 14 P P 09 27 01.0 +3.3
baz=200
SHOC Shoshone, Teco 43.65 319 P P 09 27 00.6 +2.5
baz=127,SNR=7.9
NLU North Lily Min 43.80 327 P P 09 26 59.2 -0.3
RCLB Rio Claro- Sao 43.82 130 *eP* **P 09 26 58.9 -0.8**
RCLB Rio Claro- Sao 43.82 130 *eP* **P 09 26 58.9 -0.8**
PSUT Pine Spring 43.83 324 P P 09 27 00.7 +1.0
JLU Jordanelle 43.93 328 P P 09 27 01.0 +0.5
CTU Camp Tracy 44.16 328 P P 09 27 02.8 +0.6
EDW2 Edwards Air Fo 44.20 317 P P 09 27 04.4 +1.8
baz=124,SNR=8.8
LSQQ Lebel-sur-Quev 44.27 5 P P 09 27 02.0 -0.7
baz=188
TPNV Topopah Spring 44.27 321 P P 09 27 05.9 +2.7
baz=128,SNR=11
TPNV Topopah Spring 44.27 321 P P 09 27 05.3 +2.1
TPNV pmax pmax
comp=Z,22nm,1.3s
TPNV Topopah Spring 44.27 321 P P 09 27 05.3 +2.1
TPNV IAmb IAmb 09 27 06.6
comp=Z,22nm,1.2s
TCUT Toone Canyon 44.28 329 P P 09 27 04.4 +1.1
NBPB Pedra_Branca-C 44.29 103 *eP* **P 09 27 04.4 +0.9**
NBPB Pedra_Branca-C 44.29 103 *eP* **P 09 27 04.4 +0.9**
FURC Furnace Creek, 44.37 320 P P 09 27 06.6 +2.8
baz=127,SNR=14
DUG Dugway, Tooele 44.37 327 P P 09 27 05.9 +2.0
baz=134,SNR=5.2
DUG Dugway, Tooele 44.37 327 P P 09 27 03.5 -0.4
DUG Dugway, Tooele 44.37 327 P P 09 27 03.5 -0.4
MPMC Manual Prospec 44.53 319 P P 09 27 07.4 +2.0
baz=126,SNR=8.0
VAO Valinhos 44.58 130 *eP* **P 09 27 05.2 -0.6**
VAO Valinhos 44.58 130 *eP* **P 09 27 05.2 -0.6**
BW06 Boulder Array 44.60 332 P P 09 27 06.8 +1.0
baz=140
BW06 Boulder Array 44.60 332 P P 09 27 05.8 0.0
PD31 Pinedale Array 44.60 332 P P 09 27 05.1 -0.7
PDAR Pinedale Array 44.60 332 P P 09 27 05.8 0.0
comp=Z,3.0nm,0.8s,baz=131,slow=9.7,SNR=30
PDAR LR LR 09 47 54.5
comp=Z,565nm,18.7s,baz=144,slow=39
PDAR Pinedale Array 44.60 332 P P 09 27 04.0 -1.8
HWUT Hardware Ranch 44.72 329 P P 09 27 07.2 +0.4
HWUT IAmb IAmb 09 27 08.9
comp=Z,16nm,0.8s
R11A Troy Canyon, C 44.74 323 P P 09 27 09.2 +2.3
baz=130,SNR=15
R11A Troy Canyon, C 44.74 323 P P 09 27 08.0 +1.0
R11A IAmb IAmb 09 27 10.0
comp=Z,13nm,1.1s
ARVC Arvin 44.90 317 P P 09 27 10.5 +2.5
baz=124,SNR=5.7
CPSB Cacapava Do Su 44.91 143 *eP* **P 09 27 07.4 -0.7**
CPSB Cacapava Do Su 44.91 143 *eP* **P 09 27 07.4 -0.7**
ISA Isabella, Lake 44.96 318 P P 09 27 11.2 +2.5
baz=124,SNR=5.4
SPUT South Promonto 44.97 328 P P 09 27 08.8 +0.1
BGU Big Grassy Mou 45.00 327 P P 09 27 07.7 -1.3
GRAC Grapevine Rang 45.01 320 P P 09 27 11.8 +2.9
baz=127,SNR=10.0
NBPN Ponto Novo - B 45.11 110 *eP* **P 09 27 08.6 -1.4**
NBPN Ponto Novo - B 45.11 110 *eP* **P 09 27 08.6 -1.4**
CWC Cottonwood Cre 45.15 319 P P 09 27 12.4 +2.2
baz=126
MDND Maddock 45.18 344 P P 09 27 09.8 -0.3
BSCB Bom Sucesso 45.24 126 *eP* **P 09 27 12.0 +1.0**

BSCB Bom Sucesso 45.24 126 *eP* **P 09 27 12.0 +1.0**
AHID Auburn Hatcher 45.34 331 P P 09 27 11.0 -0.7
PKM Mcpherson Peak 45.45 316 P P 09 27 15.0 +2.3
baz=122,SNR=5.1
GO06 Curarrehue 45.46 168 P P 09 27 12.1 -0.4
GO06 IAmb IAmb 09 27 19.7
comp=Z,13nm,0.9s
HVU Hansel Valley 45.47 328 P P 09 27 12.6 -0.1
HVU pmax pmax
comp=Z,11nm,1.1s
HVU Hansel Valley 45.47 328 P P 09 27 12.6 -0.1
VES Vestal, Richgr 45.47 317 P P 09 27 15.3 +2.7
baz=124,SNR=8.9
NBMA Muriti-CE 45.51 105 *eP* **P 09 27 14.4 +1.2**
NBMA Muriti-CE 45.51 105 *eP* **P 09 27 14.4 +1.2**
REDW Red Top Meadow 45.67 331 P P 09 27 15.2 +0.9
REDW IAmb IAmb 09 27 33.4
comp=Z,23nm,1.2s
SNOW Snow King Moun 45.70 331 P P 09 27 14.5 0.0
PLTB Pedras Altas 45.80 145 *eP* **P 09 27 15.2 -0.1**
PLTB Pedras Altas 45.80 145 *eP* **P 09 27 15.2 -0.1**
SMMC Simmler 45.80 316 P P 09 27 18.0 +2.7
baz=123
TPAW Teton Pass 45.81 331 P P 09 27 16.8 +1.3
TPAW IAmb IAmb 09 27 25.2
comp=Z,21nm,1.3s
MOOW Moose Ponds 45.91 332 P P 09 27 16.5 +0.3
MOOW IAmb IAmb 09 27 38.6
comp=Z,18nm,1.5s
FXWY Fox Creek 45.96 331 P P 09 27 16.9 +0.2
ELK Elko 46.10 325 P P 09 27 18.2 +0.4
ELK pmax pmax
comp=Z,11nm,1.0s
ELK Elko 46.10 325 P P 09 27 18.2 +0.4
ELK IAmb IAmb 09 27 20.2
comp=Z,11nm,1.0s
FLWY Flagg Ranch 46.14 332 P P 09 27 18.3 +0.3
FLWY IAmb IAmb 09 27 20.3
comp=Z,11nm,0.8s
RLMT Red Lodge 46.30 334 P P 09 27 20.4 +1.2
baz=142,SNR=5.5
RLMT Red Lodge 46.30 334 P P 09 27 18.3 -1.0
H17A Grant Village 46.32 332 P P 09 27 21.5 +2.0
baz=140
H17A Grant Village 46.32 332 P P 09 27 21.1 +1.6
MLAC Mammoth, Mammo 46.33 320 P P 09 27 22.2 +2.6
baz=126
LAO LASA Array 46.33 338 P P 09 27 20.7 +1.4
baz=147,SNR=5.2
LAO LASA Array 46.33 338 P P 09 27 20.2 +0.9
LAO IAmb IAmb 09 27 21.1
comp=Z,23nm,1.1s
YPP Pitchstone Pla 46.34 332 P P 09 27 15.5 -4.1
NV11 Mina Array Sit 46.37 321 P P 09 27 20.1 +0.2
NV11 IAmb IAmb 09 27 22.8
comp=Z,22nm,1.0s
OMMB Old Mammoth Mi 46.43 320 P P 09 27 20.9 +0.4
OMMB IAmb IAmb 09 27 23.7
comp=Z,22nm,1.1s
NVAR Mina Array Bea 46.46 321 P P 09 27 21.7 +1.0
comp=Z,19nm,0.8s,baz=131,slow=6.9,SNR=96
NVAR LR LR 09 47 04.3
comp=Z,804nm,19.2s,baz=126,slow=36
NVAR Mina Array Bea 46.46 321 P P 09 27 21.4 +0.7
MDPB Devils Postpil 46.49 320 P P 09 27 21.1 +0.2
ULM Lac du Bonnet 46.54 348 P P 09 27 19.7 -1.0
comp=Z,5.9nm,0.9s,baz=156,slow=11,SNR=6.8
ULM PcP **PcP 09 28 56.4 +1.5**
comp=Z,3.6nm,0.6s,baz=130,slow=1.1,SNR=4.7
ULM Lac du Bonnet 46.54 348 P P 09 27 19.7 -1.0
YNE Yellowstone No 46.54 333 P P 09 27 20.7 -0.4
KVN Kaiserville 46.71 322 P P 09 27 22.4 -0.1
KVN pmax pmax
comp=Z,11nm,0.9s
KVN Kaiserville 46.71 322 P P 09 27 22.4 -0.1
KVN IAmb IAmb 09 27 24.9
comp=Z,11nm,0.9s
YMR Madison River 46.71 332 P P 09 27 23.9 +1.4
RYN Ryan 46.72 321 P P 09 27 23.1 +0.5
RYN IAmb IAmb 09 27 25.2
comp=Z,13nm,1.0s
YHH Holmes Hill 46.75 333 P P 09 27 22.7 -0.2
PLCA Paso Flores 46.76 167 P P 09 27 21.7 -1.0
PLCA pmax pmax
comp=Z,26nm,1.2s
PLCA Paso Flores 46.76 167 P P 09 27 22.1 -0.6
comp=Z,15nm,1.1s,baz=8.8,slow=9.0,SNR=15
PLCA Paso Flores 46.76 167 *eP* **P 09 27 22.9 +0.3**
PLCA Paso Flores 46.76 167 *eP* **P 09 27 22.9 +0.3**
PLCA Paso Flores 46.76 167 P **P 09 27 21.7 -1.0**
TRQA Tornquist 46.88 157 *eP* **P 09 27 23.3 -0.3**
TRQA Tornquist 46.88 157 *eP* **P 09 27 24.1 +0.6**
TRQA Tornquist 46.88 157 *eP* **P 09 27 24.1 +0.6**
YHB Horse Butte 46.88 332 P P 09 27 23.1 -0.7
YHL Hebgen Lake 46.95 332 P P 09 27 25.3 +0.9
QLMT Earthquake Lak 47.05 332 P P 09 27 25.8 +0.7
DGMT Dagmar 47.13 341 P P 09 27 27.1 +1.7
baz=150,SNR=6.4
DGMT Dagmar 47.13 341 P P 09 27 25.7 +0.3
NBIT Itapeh - BA 47.19 115 *eP* **P 09 27 26.4 0.0**
NBIT Itapeh - BA 47.19 115 *eP* **P 09 27 26.4 0.0**
WAKR Walker 47.22 320 P P 09 27 27.1 +0.6
WAKR IAmb IAmb 09 27 30.0
comp=Z,15nm,0.9s
YERR Yerington 47.38 321 P P 09 27 27.8 0.0
YERR IAmb IAmb 09 27 30.4
comp=Z,13nm,0.8s
PNTR Pine Nut 47.67 321 P P 09 27 29.1 -0.9
PNTR IAmb IAmb 09 27 36.6
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 47.72 331 P P 09 27 30.4 0.0
BOZ Bozeman (W) 47.72 333 P P 09 27 32.2 +1.9
baz=139,SNR=10
PAHR Pah Rah Range 47.90 322 P P 09 27 32.1 +0.4
DLMT Dillon 48.00 332 P P 09 27 33.0 +0.6
MFID Camas Ranch 48.23 328 P P 09 27 34.4 +0.3
MFID IAmb IAmb 09 27 36.5
comp=Z,22nm,1.4s
AFDM Forest Hills D 48.46 320 P P 09 27 35.8 -0.2
BEKR Beckworth 48.60 321 P P 09 27 37.2 +0.1
BEKR IAmb IAmb 09 27 39.6
comp=Z,7.0nm,0.8s
EGMT Eagleton 48.81 336 P P 09 27 39.4 +0.9
baz=143
WVOR Wild Horse Val 49.13 325 P P 09 27 41.0 -0.1
WVOR pmax pmax
comp=Z,45nm,1.2s
WVOR Wild Horse Val 49.13 325 P P 09 27 41.0 -0.1
ORV Oroville 49.14 320 P P 09 27 41.5 +0.3
ORV pmax pmax
comp=Z,18nm,1.0s
ORV Oroville 49.14 320 P P 09 27 41.5 +0.3
ORV IAmb IAmb 09 27 44.5
comp=Z,18nm,1.0s
PLID Pearl Lake 49.47 329 P P 09 27 42.8 -1.1
MSO Missoula 49.71 332 P P 09 27 46.8 +1.3
baz=137,SNR=7.7
MSO Missoula 49.71 332 P P 09 27 44.7 -0.8
MSO IAmb IAmb 09 28 04.7
comp=Z,20nm,1.2s
O03E Paynes Creek 49.75 321 P P 09 27 46.8 +0.9
baz=124
MOD Modoc Plateau 49.78 323 P P 09 27 44.9 -1.3
BMO Blue Mountains 49.98 328 P P 09 27 46.3 -1.3
BMO Blue Mountains 49.98 328 P P 09 27 46.3 -1.3
JTMT Jette 50.54 333 P P 09 27 51.6 -0.2
M04C Macdoel 50.63 322 P P 09 27 53.8 +1.3
baz=126,SNR=5.7
F10A Beach Ranch, E 50.70 329 P P 09 27 53.0 -0.1
M02C Callahan 51.03 321 P P 09 27 55.9 +0.3
baz=124
K04D Chiloquin, OR 51.07 323 P P 09 27 57.5 +1.7
baz=126
YBH Yreka Blue Hor 51.13 322 P P 09 27 55.0 -1.3
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 51.13 322 P P 09 27 55.0 -1.3
G08A Pilot Rock 51.15 328 P P 09 27 56.3 -0.1
G08A IAmb IAmb 09 27 59.0
comp=Z,10nm,1.0s
J05D Fort Rock, OR 51.16 324 P P 09 27 58.2 +1.7
baz=127,SNR=5.4
L04D Klamath Falls 51.16 323 P P 09 27 57.8 +1.2
baz=125,SNR=6.0

KHMM Horse Mountain 51.29 320 P P 09 27 58.7 +1.1
PINE Pine Mountain 51.30 325 P P 09 27 58.7 +1.0
WALA Waterton Lakes 51.35 334 P P 09 27 58.9 +1.0
WALA IAmb IAmb 09 28 00.9
comp=Z,13nm,1.1s
SCHQ Schefferville 51.41 12 P P 09 27 57.4 -0.7
comp=Z,26nm,0.9s,baz=148,slow=6.1,SNR=7.7
SCHQ LR LR 09 49 14.5
comp=Z,200nm,21.4s,baz=256,slow=35
SCHQ Schefferville 51.41 12 P P 09 27 58.8 +0.7
E09A Wood Farm, Sta 51.54 329 P P 09 27 59.5 +0.3
J04D Umpqua Nationa 51.65 324 P P 09 28 01.3 +1.0
baz=126,SNR=7.7
KRMB Red Mountain 51.76 321 P P 09 27 59.7 -1.4
I05D Terrebonne, OR 51.86 325 P P 09 28 03.5 +1.9
baz=128
F07A Phinny Hill Vi 52.06 328 P P 09 28 01.9 -1.2
F07A IAmb IAmb 09 28 05.8
comp=Z,27nm,1.5s
FFC Flin Flon 52.07 346 *ceP* **P 09 28 04.3 +1.4**
FFC pmax pmax
comp=Z,32nm,1.0s
K02D Willamette Mer 52.26 322 P P 09 28 06.1 +1.3
baz=124
G05D Wamic, OR 52.40 326 P P 09 28 08.2 +2.5
baz=128,SNR=7.0
E07A Sunnyside 52.45 328 P P 09 28 06.7 +0.7
E07A IAmb IAmb 09 28 08.1
comp=Z,13nm,1.0s
I03D Drain, OR 52.64 324 P P 09 28 08.6 +1.2
baz=125
J01E Myrtle Point 52.69 323 P P 09 28 09.8 +2.1
baz=124
H04D Lebanon 52.77 325 P P 09 28 08.9 +0.6
baz=126
F05D White Salmon 52.88 327 P P 09 28 11.3 +2.1
baz=128,SNR=9.7
I02D Swisshome 53.17 324 P P 09 28 13.2 +1.9
baz=125,SNR=6.3
LTY Liberty 53.33 329 P P 09 28 13.7 +1.1
LTY IAmb IAmb 09 28 15.0
comp=Z,14nm,1.1s
B08A Colville Reser 53.38 330 P P 09 28 13.0 +0.1
F04A Amboy 53.44 326 P P 09 28 13.3 +0.1
F04A IAmb IAmb 09 28 15.3
comp=Z,10nm,0.8s
LON Longmire 53.61 327 P P 09 28 14.6 0.0
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 53.61 327 P P 09 28 14.6 0.0
D05A Enumclaw 53.98 328 P P 09 28 17.8 +0.6
D04E Lakebay 54.39 327 P P 09 28 21.6 +1.4
baz=128
B06A Marblemount 54.56 329 P P 09 28 22.1 +0.7
B06A IAmb IAmb 09 28 23.4
comp=Z,14nm,0.9s
B05A Bryant 54.71 329 P P 09 28 23.2 +0.7
baz=129
D03D Eldon 54.78 327 P P 09 28 24.4 +1.4
baz=128,SNR=5.5
A04D Lummi Island 55.32 329 P P 09 28 28.6 +1.8
baz=129
TAOE Nuku Hiva Isla 58.88 257 *eS* **S 09 36 55.8 -3.2**
comp=Z,155nm,29.1s
TAOE *eLR* LR 09 46 13.7
comp=Z,663nm,25.9s,baz=80
YKA Yellowknife Ar 62.10 344 P P 09 29 14.4 +0.6
comp=Z,4.6nm,0.7s,baz=137,slow=7.1,SNR=9.0
YKA LR LR 09 57 44.5
comp=Z,22nm,19.0s,baz=135,slow=38
PPT Papeete 69.64 249 LR LR 09 54 46.3
comp=Z,188nm,18.2s,baz=83,slow=31
PPT2 Papeete2 69.65 249 *eS* **S 09 39 07.9 -4.3**
PPT2 *eLQ* LQ 09 48 16.8
comp=Z,564nm,26.5s
PPT2 *eLR* LR 09 51 11.0
comp=Z,594nm,30.2s,baz=76
TBI Tubuai 70.86 243 *eLQ* LQ 09 48 56.6
comp=Z,602nm,34.2s
TBI *eLR* LR 09 51 48.8
comp=Z,2μm,28.2s,baz=77
PMSA Palmer Station 70.86 172 P P 09 30 09.0 -0.7
comp=Z,16nm,0.9s,baz=329,slow=10.0,SNR=5.7
DAWY Dawson 71.53 337 P P 09 30 13.9 -0.1
DAWY IAmb IAmb 09 30 15.4
comp=Z,8.0nm,0.9s
EPYK Eagle Plains 71.72 340 P P 09 30 16.7 +1.6
baz=122
INK Inuvik 71.77 342 P P 09 30 14.2 -1.1
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 71.77 342 P P 09 30 15.4 +0.2
comp=Z,12nm,0.9s,baz=118,slow=7.3,SNR=24
INK Inuvik 71.77 342 P P 09 30 14.2 -1.1
INK IAmb IAmb 09 30 20.5
comp=Z,16nm,0.9s
TULEG Thule 71.99 3 P P 09 30 16.0 -0.5
TULEG IAmb IAmb 09 30 19.7
comp=Z,17nm,1.2s
BCAR Beaver Creek A 72.02 336 P P 09 30 17.7 +0.7
EGAK Eagle 72.54 337 P P 09 30 20.4 +0.4
EGAK IAmb IAmb 09 30 24.4
comp=Z,9.2nm,0.8s
SUMG Summit 72.79 13 P P 09 30 21.4 -0.4
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 72.79 13 *iP* **P 09 30 21.4 -0.4**
SUMG Summit 72.79 13 P P 09 30 21.4 -0.4
DOT Dot Lake 73.20 336 P P 09 30 23.1 -0.9
DOT IAmb IAmb 09 30 29.0
comp=Z,8.7nm,0.8s
SCRK Sand Creek 73.30 336 P P 09 30 25.3 +0.6
SCRK IAmb IAmb 09 30 31.0
comp=Z,12nm,1.1s
RIDG Independent Ri 73.55 336 P P 09 30 24.9 -1.2
RIDG IAmb IAmb 09 30 31.5
comp=Z,12nm,1.0s
BORG Borgarnes 73.66 23 LR LR 09 59 42.5
comp=Z,113nm,19.1s,baz=247,slow=33
GHO Glory Hole Cre 74.59 333 P P 09 30 33.4 +1.2
HDA Harding Lake 74.66 336 P P 09 30 33.4 +0.9
baz=111
HDA Harding Lake 74.66 336 P P 09 30 32.7 +0.2
HDA IAmb IAmb 09 30 37.0
comp=Z,15nm,0.9s
IL31 74.77 336 P P 09 30 32.3 -0.8
IL31 IAmb IAmb 09 30 37.1
comp=Z,10nm,1.1s
ILAR Eielson Array 74.77 336 P P 09 30 33.3 +0.2
ILAR Eielson Array 74.77 336 P P 09 30 32.6 -0.5
comp=Z,5.9nm,0.8s,baz=116,slow=4.4,SNR=25
ILAR LR LR 10 06 27.4
comp=Z,256nm,19.5s,baz=118,slow=38
ILAR Eielson Array 74.77 336 P P 09 30 33.3 +0.2
PCAS Casmilo, Conde 74.78 50 *eP* **P 09 30 36.7 +3.0**
comp=Z,10nm,0.7s
BMAR Burnt Mountain 74.95 339 P P 09 30 32.5 -1.7
RND Reindeer 75.10 335 P P 09 30 34.5 -0.6
RND pmax pmax
comp=Z,18nm,0.8s
RND Reindeer 75.10 335 P P 09 30 34.5 -0.6
PVAQ Vaqueiros 75.12 53 *eLR* LR 09 54 10.1
comp=Z,221nm,22.0s
COLA College 75.19 336⇑ *eP* **P 09 30 35.8 +0.3**
COLA pmax pmax
comp=Z,14nm,2.5s
KDAK Kodiak Island 75.21 329 LR LR 10 04 51.9
comp=Z,256nm,20.2s,baz=86,slow=37
MCK McKinley 75.25 335 P P 09 30 36.3 +0.4
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 75.25 335 P P 09 30 36.3 +0.4
MCK IAmb IAmb 09 30 41.0
comp=Z,15nm,1.1s
PVIS Viseu 75.31 49 *eP* **P 09 30 39.3 +2.5**
comp=Z,43nm,1.8s
PCBR Castelo Branco 75.54 50 *eP* **P 09 30 40.7 +2.7**
comp=Z,23nm,1.4s
MTE Manteigas 75.54 50 *eLR* LR 09 54 30.5
comp=Z,255nm,22.0s
PMRV Marv??o 75.56 51 *eLR* LR 09 54 10.3
comp=Z,145nm,20.0s
SKT Skwentna 75.83 333 P P 09 30 39.5 +0.2
MVO Moncorvo 76.01 49 *eP* **P 09 30 43.5 +2.7**
comp=Z,26nm,1.6s
MVO Moncorvo 76.01 49 *eLR* LR 09 54 37.7
comp=Z,247nm,20.0s
PBRG Braganca 76.29 48 *eP* **P 09 30 45.2 +2.9**
comp=Z,25nm,1.3s
PPLA Purkeypile 76.39 334 P P 09 30 43.4 +0.8
MLY Manley 76.41 336 P P 09 30 42.3 -0.2
MLY IAmb IAmb 09 30 43.8
comp=Z,18nm,1.5s
COLD Coldfoot 76.90 338 P P 09 30 45.2 0.0
COLD IAmb IAmb 09 30 52.3
comp=Z,8.5nm,1.0s
DBIC Dimbokro 77.40 84 LR LR 10 04 01.6
comp=Z,45nm,19.7s,baz=251,slow=35
IMAR Indian Mountai 77.88 337 P P 09 30 49.9 -0.8
ESDC Sonseca Array 78.22 51 P P 09 30 53.9 +0.7
comp=Z,2.6nm,0.6s,baz=275,slow=5.4,SNR=14
ESDC Sonseca Array 78.22 51 P P 09 30 51.0 -2.2
MFF Saint Martin d 81.35 44 *eP* **P 09 31 12.2 +2.2**
MFF pmax pmax
comp=Z,20nm,1.3s
LFF La Frestale 81.92 45 *eP* **P 09 31 14.1 +1.1**
LFF pmax pmax
comp=Z,4.0nm,0.3s
CAF Calviac 82.86 45 *eP* **P 09 31 20.2 +2.2**
CAF pmax pmax
comp=Z,13nm,1.3s
TORD Torodi Ar. Bea 83.46 77 P P 09 31 23.5 +1.9
comp=Z,1.3nm,0.5s,baz=301,slow=5.9,SNR=9.4
TORD LR LR 10 05 46.0
comp=Z,132nm,21.6s,baz=300,slow=34
LPL La Plagne 86.14 45 *eP* **P 09 31 37.7 +2.8**
LPL pmax pmax
comp=Z,11nm,1.2s
ECH Echery 86.29 42 P P 09 31 35.0 -0.3
ECH pmax pmax
comp=Z,12nm,1.1s
ECH Echery 86.29 42 P P 09 31 35.0 -0.3
ECH IAmb IAmb 09 31 44.1
comp=Z,12nm,1.1s
BFO Black Forest 87.06 42 *ceP* **P 09 31 42.2 +3.1**
BFO pmax pmax
comp=Z,3.0nm,2.5s
NOA NORSAR Array B 87.65 29 LR LR 10 06 15.1
comp=Z,109nm,21.9s,baz=265,slow=32
VNA3 Neumayer Olymp 89.21 162 P P 09 31 48.6 -0.1
VNA1 Neumayer--Stat 89.48 161 P P 09 31 50.4 +0.5
CLL Collm 89.78 39 *eP* **P 09 31 54.0 +2.2**
CLL MLR MLR
comp=Z,400nm,21.4s
CLL Collm 89.78 39 *e*(P) **P 09 31 54.0 +2.2**
CLL *eS* S 09 42 54.0 +10
CLL *eSS* SS 09 48 18.0 -22
CLL *eSSSS* 09 55 12.0
CLL Lm MLR 10 04 00.0
comp=Z,400nm,21.4s
VNA2 Neumayer--Watz 89.83 161 P P 09 31 50.7 -0.9
baz=286,slow=7.0
GERES GERESS Array B 90.56 41 P P 09 31 55.6 0.0
comp=Z,0.6nm,0.7s,baz=282,slow=8.0,SNR=4.1
GERES LR LR 10 06 05.3
comp=Z,169nm,21.5s,baz=278,slow=31
GERES GERESS Array B 90.56 41 P P 09 31 54.2 -1.4
SNAA Sanae 91.43 162 P P 09 31 58.1 -1.0
SNAA Sanae 91.43 162 *deP* **P 09 32 00.4 +1.2**
ARCES ARCESS Array B 91.72 20 LR LR 10 07 24.4
comp=Z,127nm,20.9s,baz=301,slow=32
BILL Bilibino 93.20 339 *eP* **P 09 32 07.6 +0.2**
BILL *e* 09 35 52.6
BILL pmax pmax
comp=Z,2.0nm,1.1s
FINES FINESS Array B 94.57 27 LR LR 10 10 15.1
comp=Z,116nm,21.9s,baz=288,slow=33
QSPA South Pole Qui 94.92 180 P P 09 32 15.3 -0.1
AKASG Malin Array Be 99.85 37 LR LR 10 13 29.4
comp=Z,139nm,21.6s,baz=305,slow=33
SEY Seymchan 100.69 338⇓ *eP* **Pdif 09 32 44.1 +2.8**
TIXI Tiksi 100.86 350⇓ *eP* **Pdif 09 32 41.4 -0.5**
TIXI pmax pmax
comp=Z,15nm,2.4s
OBN Obninsk 102.15 31 *eP* **Pdif 09 32 47.3 -0.7**
OBN *e* 09 36 56.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
H11N3 WAKE ISLAND Hyl 07.37 292 T T 11 33 35.7
baz=79,slow=75,SNR=190
H11N2 WAKE ISLAND Hyl 07.38 292 T T 11 33 34.5
baz=79,slow=75,SNR=156
H11N1 WAKE ISLAND Hyl 07.39 292 T T 11 33 33.7
baz=79,slow=75,SNR=162
H11S2 WAKE ISLAND Hyl 07.81 291 T T 11 34 01.4
baz=77,slow=75,SNR=23
H11S1 WAKE ISLAND Hyl 07.81 291 T T 11 34 07.8
baz=77,slow=75,SNR=17
H11S3 WAKE ISLAND Hyl 07.82 291 T T 11 34 09.5
baz=77,slow=75,SNR=17
KIV Kislovodsk 110.98 39 *i* PKIKP **PKiKP 09 37 28.0 +0.9**
KIV pmax pmax
comp=Z,20nm,1.1s
DZM Mont Dzumac 111.14 248 *eLR* LR 10 10 28.6
comp=Z,287nm,32.6s
BRVK Borovoye 117.91 18⇓ *i* PKIKP **PKiKP 09 37 40.3 +0.3**
BVAR Borovoye Array 117.97 18 PKP **PKiKP 09 37 42.2 +2.1**
comp=Z,0.7nm,0.5s,baz=330,slow=5.5,SNR=4.2
ZALV Zalesovo Beam 120.44 9 PKP **PKiKP 09 37 46.5 +1.6**
comp=Z,0.6nm,0.3s,baz=199,slow=8.8,SNR=3.7
ZALV Zalesovo Beam 120.44 9 PKPdf 09 37 44.2 -0.6
KURK Kurchatov 122.31 14⇑ *i* PKIKP **PKiKP 09 37 49.6 +0.9**
KURK Kurchatov 122.31 14 PKPdf 09 37 45.7 -2.8
KURBB Kurchatov Arra 122.38 14 PKP **PKiKP 09 37 48.8 0.0**
comp=Z,1.5nm,0.6s,baz=331,slow=2.3,SNR=9.5
ULN Ulaanbaatar 126.76 352⇓ *i* PKIKP **PKiKP 09 37 59.2 +1.4**
MKAR Makanchi Array 126.84 13 PKP **PKPdf 09 37 55.6 -1.7**
comp=Z,1.6nm,0.9s,baz=42,slow=3.8,SNR=6.8
MKAR Makanchi Array 126.84 13 PKPdf 09 37 54.8 -2.6
SONM Songino Array 126.88 352 PKP **PKPdf 09 37 55.9 -1.7**
comp=Z,1.2nm,0.8s,baz=132,slow=4.3,SNR=3.7
SONM Songino Array 126.88 352 PKPdf 09 37 55.5 -2.0
AAK Ala-Archa 128.35 21⇑ *i* PKIKP **PKiKP 09 38 01.0 -0.2**
KSRS Korea Array 129.12 328 PKP **PKiKP 09 38 02.3 -0.3**
comp=Z,1.9nm,0.8s,baz=40,slow=2.1,SNR=4.8
WMQ Urumqi 130.74 9 *e*PKP **PKPdf 09 38 04.5 -0.4**
WMQ LR LR
comp=Z,350nm,27.3s
WMQ LR LR
comp=Z,270nm,23.5s
KSH Kashi 131.62 22 PKP **PKiKP 09 38 08.5 +0.7**
KSH PP **PP 09 40 32.3 +7.3**
KSH PKS **PKSdf 09 41 42.5 -0.9**
KSH SKS **SKSdf 09 45 17.8 -0.7**
KSH SS **SS 09 58 04.8 +6.0**
KSH LR LR
comp=Z,190nm,9.4s
KSH LR LR
comp=Z,130nm,9.4s
KSH LR LR
comp=Z,270nm,10.7s
HHC Hu-ho-hao-te 132.63 345 *e*PKP **PKPdf 09 38 04.0 -4.6**
NJ2 Nanjing 137.91 332 *e*PKP **PKPdf 09 38 18.3 -0.3**
LZH Lanzhou 138.77 352 *e*PKP **PKPdf 09 38 15.0 -5.3**
LZH sPKP 09 38 30.0
LZH LR LR
comp=Z,52nm,18.3s
LZH LR LR
comp=Z,61nm,18.5s
LZH LR LR
comp=Z,78nm,20.1s
ASAR Alice Springs 140.11 238 PKhKP PKPpre 09 38 19.2
comp=Z,1.0nm,0.8s,baz=114,slow=3.4,SNR=6.0
WRAB Tennant Creek 140.98 244 *i* PKIKP **PKiKP 09 38 28.6 +1.4**
WRA Warramunga Arr 140.98 244 PKIKP **PKPdf 09 38 22.5 -2.0**
WRA Warramunga Arr 140.98 244 PKhKP PKPpre 09 38 19.0
comp=Z,1.2nm,1.0s,baz=107,slow=2.8,SNR=11
WRA Warramunga Arr 140.98 244 PKPdf 09 38 22.6 -2.0
CD2 Chengdu 143.86 351 PKP PKPbc 09 38 27.5 +0.5
DANN Dangsing 144.46 21 *eP* PKPbc 09 38 29.5 +0.2
comp=Z,70nm,0.8s
KOLN Koldanda 144.93 21 *eP* **PKPab 09 38 29.7 -0.9**
comp=Z,47nm,1.0s
GKN Gorkha 145.08 20 *eP* **PKPbc 09 38 30.4 -0.7**
comp=Z,77nm,0.8s
KKN Kakani 145.49 19 *eP* **PKPbc 09 38 32.1 -0.4**
comp=Z,83nm,0.7s
GUN Gumba 145.57 18 *eP* **PKPdf 09 38 32.8 -0.1**
comp=Z,161nm,0.9s
DMN Daman 145.60 19 *eP* **PKPdf 09 38 32.4 -0.4**
comp=Z,34nm,0.7s
PKIN Phulchoki 145.73 19 *eP* **PKPdf 09 38 32.6 -0.4**
PKI Pulchoki 145.74 19 *eP* **PKPdf 09 38 32.7 -0.4**
comp=Z,57nm,1.1s
JIRN Jiri 145.90 18 *eP* **PKPdf 09 38 33.5 +0.1**
comp=Z,143nm,1.3s
H01W1 Cape Leeuwin H 146.32 205 T T 12 22 37.0
baz=150,slow=76,SNR=9.1
H01W2 Cape Leeuwin H 146.33 205 T T 12 22 38.5
baz=150,slow=76,SNR=8.7
H01W3 Cape Leeuwin H 146.34 205 T T 12 22 36.6
baz=150,slow=76,SNR=7.2
RAMN Ramite 146.69 18 *eP* **PKPdf 09 38 33.3 -1.3**
comp=Z,22nm,0.7s
FITZ Fitzroy Crossi 149.35 242 PKPbc **PKPbc 09 38 42.7 -0.5**
comp=Z,5.3nm,1.1s,baz=191,slow=2.8,SNR=3.2
CMAR Chiang Mai Arr 156.73 356 PKP **PKPdf 09 38 50.8 +1.1**
comp=Z,0.5nm,0.3s,baz=288,slow=2.8,SNR=5.7
CMAR PKPab **PKPab 09 39 17.7 -1.0**
comp=Z,1.0nm,0.6s,baz=339,slow=4.7,SNR=4.8

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*KRNET **29** 09:23:14.3±0.1, 40.°95N×69.°39E, mb3.2*
*SOME **29** 09:23:16.6, 41.°17N×69.°88E, h5km*
*NNC **29** 09:23:17.9±1.8, 41.°15N×69.°85E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=13.9km s-min=6.4km az=29.0
ISC 29 09:23:14.7±1.0, 41.°13N±0.°05×69.°81E±0.°03, h10km, n23,
σ2°17/38, 8C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.44**	**298**	⇓*iP*	**Pg**	**09 23 22.9**	**-0.5**
	baz=50						
TAS				⇓*iS*	**Sg**	**09 23 29.2**	**0.0**
	baz=50						
BTK	**Batken**	**1.32**	**144**	⇓*iP*	**Pn**	**09 23 39.4**	**+0.1**
	baz=29						
BTK				⇓*iS*	**Sb**	**09 23 58.5**	**+1.9**
	baz=29						
ARK	**Arkit**	**1.76**	**67**	⇓*iP*	**Pg**	**09 23 50.1**	**+1.7**
	baz=66						
ARK				⇓*iS*	**Sg**	**09 24 15.7**	**+4.5**
	baz=66						
BRLS	**Borolday**	**1.90**	**1**	P	**Pn**	**09 23 47.4**	**+0.2**
	14nm,0.4s						
BRLS				S	**Sn**	**09 24 09.5**	**-1.8**
	73nm,0.7s						
BRLS	**Borolday**	**1.90**	**1**	*eP*	**Pn**	**09 23 47.5**	**+0.2**
	14nm,0.4s						
BRLS				*eS*	**Sn**	**09 24 09.5**	**-1.8**
	73nm,0.7s						
KK31	**Karatay Array**	**2.04**	**15**	Pn	**Pg**	**09 23 54.6**	**+0.7**
	6.9nm,0.5s,baz=203,slow=13,SNR=37						
KK31				⇑Sn	**Sg**	**09 24 24.3**	**+3.8**
	35nm,0.5s,baz=198,slow=28,SNR=5.5						
ARSB	**Arslanbob**	**2.41**	**84**	⇓*iP*	**Pb**	**09 23 59.7**	**+1.5**
	baz=81						
ARSB				⇓*iS*	**Sg**	**09 24 30.9**	**-1.1**
	baz=81						
MRKS	**Merke**	**3.02**	**56**	Pg	**Pg**	**09 24 11.6**	**-1.0**
	8.0nm,0.5s						
MRKS				Lg	Lg	09 24 52.9	
	16nm,0.6s						
MRKS	**Merke**	**3.02**	**56**	*eP*	**Pg**	**09 24 11.6**	**-1.0**
	8.0nm,0.5s						
MRKS				*eS*	**Sg**	**09 24 52.9**	**+1.1**
	16nm,0.6s						
AML	**Almayashu**	**3.08**	**70**⇑	*eP*	**Pb**	**09 24 12.0**	**+2.1**
	baz=69						
AML			⇑	*iS*	**Sg**	**09 24 56.0**	**+2.2**
	baz=69						
EKS2	**Erkin-Say**	**3.34**	**61**⇑	*iP*	**Pb**	**09 24 16.4**	**+2.3**
	baz=61						
EKS2			⇑	*iS*	**Sg**	**09 25 02.9**	**+0.9**
	baz=61						
ARLS	**Aral**	**3.47**	**76**⇑	*eP*	**Pb**	**09 24 14.4**	**-2.0**
	baz=74						
ARLS			⇑	*iS*	**Sb**	**09 24 56.9**	**-1.8**
	baz=74						
AAK	**Ala-Archa**	**3.81**	**65**	Pg	**Pg**	**09 24 26.0**	**-1.8**
	3.8nm,0.7s						
AAK			⇑	Lg	Lg	09 25 18.7	
	13nm,0.8s						
SGDS	**Sogindy**	**4.27**	**55**	Pg	**Pg**	**09 24 33.9**	**-2.6**
	5.5nm,0.9s						
SGDS				Lg	Lg	09 25 32.1	
	7.9nm,0.7s						
DGS	**Degeres**	**4.91**	**63**	Pg	**Pg**	**09 24 46.1**	**-2.7**
	4.8nm,0.6s						
DGS				Lg	Lg	09 25 53.3	
	7.6nm,0.6s						
KST	**Kastek**	**4.97**	**65**	Pg	**Pg**	**09 24 47.0**	**-2.8**
	4.6nm,1.0s						
KST				Lg	Lg	09 25 54.2	
	12nm,0.6s						
KST	**Kastek**	**4.97**	**65**	*eP*	**Pg**	**09 24 47.0**	**-2.8**
	5.2nm,0.8s						
KST				*eS*	**Sg**	**09 25 54.1**	**-0.1**
	14nm,0.4s						
BTLS	**Baital**	**5.00**	**37**	Pg	**Pg**	**09 24 47.8**	**-2.5**
	2.9nm,0.5s						
BTLS				Lg	Lg	09 25 54.9	
	13nm,0.8s						
BTLS	**Baital**	**5.00**	**37**	*eP*	**Pg**	**09 24 47.9**	**-2.5**
	1.9nm,0.4s						
BTLS				*eS*	**Sg**	**09 25 56.2**	**+1.2**
	14nm,0.9s						
IZV	**Izvestkoviy**	**5.41**	**67**	Pg	**Pg**	**09 24 56.7**	**-1.7**
	2.8nm,0.6s						
IZV				Lg	Lg	09 26 11.9	
	7.4nm,0.6s						
IZV	**Izvestkoviy**	**5.41**	**67**	*eP*	**Pg**	**09 24 56.7**	**-1.7**
	1.7nm,0.5s						
IZV				*eS*	**Sg**	**09 26 11.9**	**+3.4**
	7.8nm,0.6s						
KTBS	**Karatobe**	**5.71**	**61**	Pg	**Pg**	**09 25 00.8**	**-3.2**
	2.3nm,0.8s						
KTBS				Lg	Lg	09 26 18.8	
	13nm,0.5s						
KTBS	**Karatobe**	**5.71**	**61**	*eP*	**Pg**	**09 25 00.8**	**-3.2**
	2.3nm,0.8s						
KTBS				*eS*	**Sg**	**09 26 18.8**	**+0.9**
	13nm,0.5s						

IDC 29 09:31:09.1±2.8, 3.°03S×128.°12E, h0km, mb3.6/2,
mb1 3.9/3, mb1mx3.5/43, mbtmp3.6/3, ML3.5/1, Error
ellipse: s-maj=131.8km s-min=25.7km az=86.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.87**	**161**	P	Pn	09 35 18.1	-1.3
	0.2nm,0.3s,baz=340,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.26**	**165**	P	P	09 35 57.0	-0.1
	0.5nm,0.5s,baz=349,slow=12,SNR=11						
MJAR	**Matsushiro Arr**	**40.48**	**13**	P	P	09 38 50.0	+0.3
	1.5nm,0.5s,baz=193,slow=7.4,SNR=4.4						

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*INMG **29** 09:38:50.8±1.3, 36.°66N×7.°39W, h21km±4km, ML1.6, Error*
ellipse: s-maj=9.0km s-min=5.6km az=62.0
*MDD **29** 09:38:51.2±1.2, 36.°66N×7.°36W, h30km±36km, mb3.8/6,*
Error ellipse: s-maj=17.8km s-min=6.0km az=18.0,
PRXIMO
*IGIL **29** 09:38:51.4, 36.°66N×7.°45W, h21km, ML1.4*
ISC 29 09:38:50.1±2.3, 36.°67N±0.°09×7.°35W±0.°04, h32km±15km,
n27, σ0°53/45, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.74**	**321**⇑	*eP*	**Pg**	**09 39 04.5**	**+0.2**
PBDV				*eS*	**Sb**	**09 39 14.2**	**-0.2**
PBDV				A	A	09 39 15.5	
	5.4nm,0.4s						
PBDV	**Barranco-do-Ve**	**0.74**	**321**	P	**Pn**	**09 39 04.5**	**+0.2**
PBDV				S	**Sb**	**09 39 14.2**	**-0.2**
	5.4nm,0.4s						
PVAQ	**Vaqueiros**	**0.79**	**338**⇓	*eP*	**Pn**	**09 39 05.4**	**+0.4**
PVAQ				*eS*	**Sb**	**09 39 15.7**	**-0.1**
PVAQ				A	A	09 39 16.2	
	16nm,0.1s						
PVAQ	**Vaqueiros**	**0.79**	**338**	P	**Pn**	**09 39 05.4**	**+0.4**
PVAQ				S	**Sb**	**09 39 15.7**	**-0.1**
	16nm,0.1s						
EGRO	**El Granado**	**0.87**	**353**	P	**Pn**	**09 39 06.5**	**+0.4**
	0.8nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**09 39 18.2**	**+0.5**

5.0nm,0.3s,SNR=23
PCVE Castro Verde 1.11 330 *e*P **Pn 09 39 09.8 +0.4**
PCVE *e*S **Sn 09 39 23.6 +0.1**
PCVE A A 09 39 24.3
7.7nm,0.5s
PCVE Castro Verde 1.11 330 P **Pn 09 39 09.8 +0.4**
PCVE S **Sn 09 39 23.6 +0.1**
7.7nm,0.5s
ESPR Espera 1.22 80 P **Pn 09 39 11.4 +0.5**
1.0nm,0.1s,SNR=7.9
ESPR S **Sn 09 39 26.4 +0.2**
12nm,0.2s,SNR=7.9
MORF Marmelete 1.22 302 *e*P **Pn 09 39 10.7 -0.2**
MORF Marmelete 1.22 302 P **Pn 09 39 10.7 -0.2**
EMIN Mina Concepcio 1.22 26 P **Pn 09 39 11.1 +0.2**
0.8nm,0.1s,SNR=6.7
EMIN S **Sn 09 39 25.7 -0.7**
5.5nm,1.0s,SNR=6.6
MESJ Messejana 1.36 330 *e*P **Pn 09 39 13.2 +0.4**
MESJ *e*S **Sn 09 39 29.1 -0.6**
MESJ AML AML 09 39 31.7
comp=N,5.2nm,0.2s
MESJ Messejana 1.36 330 *e*P **Pn 09 39 13.2 +0.4**
MESJ *e*S **Sn 09 39 29.3 -0.4**
MESJ A A 09 39 31.0
comp=N,3.6nm,0.2s
MESJ Messejana 1.36 330 P **Pn 09 39 13.2 +0.4**
MESJ S **Sn 09 39 29.3 -0.4**
comp=N,3.6nm,0.2s
PBEJ Beja 1.41 343 *e*S **Sn 09 39 31.2 +0.1**
PBEJ Beja 1.41 343 S **Sn 09 39 31.2 +0.1**
PNCL Nicolau / Gran 1.72 327 *e*Pn **Pn 09 39 18.1 +0.4**
PNCL *e*Sn **Sn 09 39 38.2 -0.4**
PNCL A A 09 39 41.3
comp=N,2.7nm,0.3s
PNCL Nicolau / Gran 1.72 327 P **Pn 09 39 18.1 +0.4**
PNCL S **Sn 09 39 38.2 -0.4**
comp=N,2.7nm,0.3s
EVO Evora 1.93 344 *e*Sn **Sn 09 39 43.9 0.0**
EVO Evora 1.93 344 S **Sn 09 39 43.9 0.0**
EBAD Badajoz 2.10 7 P **Pn 09 39 22.9 -0.1**
comp=N,0.2nm,0.1s,SNR=7.9
EBAD S **Sn 09 39 46.5 -1.5**
comp=N,0.9nm,0.1s,SNR=7.9
PMTG Montargil 2.49 344 *e*Pn **Pn 09 39 29.2 +0.8**
PMTG *e*Sn **Sn 09 39 57.5 -0.2**
PMTG A A 09 39 59.8
comp=N,1.7nm,0.4s
PMTG Montargil 2.49 344 P **Pn 09 39 29.2 +0.8**
PMTG S **Sn 09 39 57.5 -0.2**
comp=N,1.7nm,0.4s
EADA Adamuz 2.67 55 P **Pn 09 39 31.2 +0.3**
comp=N,0.3nm,0.2s,SNR=7.9
EADA S **Sn 09 40 00.4 -1.6**
comp=N,0.3nm,0.1s,SNR=7.9
PMRV Marv??o 2.75 359 *e*Sn **Sn 09 40 03.8 -0.4**
PMRV A A 09 40 04.8
comp=N,1.8nm,0.2s
PMRV Marv??o 2.75 359 S **Sn 09 40 03.8 -0.4**
comp=N,1.8nm,0.2s
ETOR Torete 5.86 43 P **Pn 09 40 15.5 +0.8**
comp=N,1.6nm,0.1s,SNR=4.0

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*KOLA **29** 09:46:30.1, 67°.66N×34°.13E, h0km*
*HEL **29** 09:46:30.5±0.4, 67°.62N×34°.09E, h0km, ML2.6, Explosion*
*NAO **29** 09:46:32.2±1.2, 67°.68N×33°.82E, ML3.0*
*IDC **29** 09:46:34.1±1.8, 67°.70N×33°.71E, h0km, mb1 3.6/5, mb1mx3.2/45, mbtmp3.6/5, ML3.0/5, Error ellipse: s-maj=20.5km s-min=9.3km az=82.0*
ISC 29 09:46:29.4±1.5, 67°.65N±0°.04×34°.03E±0°.08, h0km, n39, σ1§50/65, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.26**	**251**	P	**Pg**	**09 46 35.3**	**+1.0**
APA				S	**Sg**	**09 46 39.1**	**+1.5**
APZ9	**Apatity**	**0.26**	**251**	Pg	**Pg**	**09 46 35.3**	**+1.1**
APZ9				Lg	Lg	09 46 39.3	
APZ9	**Apatity**	**0.26**	**251**	Pg	**Pg**	**09 46 35.3**	**+1.1**
APZ9				Sg	**Sg**	**09 46 39.3**	**+1.7**
APA0	**Apatity Array**	**0.40**	**264**	Pg	**Pg**	**09 46 37.9**	**+0.8**
APA0				Lg	Lg	09 46 43.8	
APA0	**Apatity Array**	**0.40**	**264**	P	**Pg**	**09 46 37.9**	**+0.8**
APA0				S	**Sg**	**09 46 43.6**	**+1.3**
APA0	**Apatity Array**	**0.40**	**264**	Pg	**Pg**	**09 46 37.9**	**+0.8**
APA0				Sg	**Sg**	**09 46 43.8**	**+1.5**
VRF	**Varrio**	**1.69**	**275**	PG	**Pb**	**09 47 00.8**	**-0.6**
VRF				MSG		09 47 21.8	
comp=Z,64nm,0.2s
VRF SG **Sb 09 47 23.1 0.0**
KU6 Riekki 2.31 227 PG **Pb 09 47 11.3 -0.6**
baz=48
KU6 MSG 09 47 38.9
comp=Z,30nm,0.2s
KU6 SG **Sb 09 47 41.4 +0.3**
MSF Maaselka 2.64 231 PG **Pb 09 47 16.6 -0.9**
baz=49
MSF SG **Sb 09 47 51.4 +0.9**
SGF Sodankyl 2.89 269 PB **Pn 09 47 18.6 +2.0**
SGF SG **Sb 09 47 58.1 +0.6**
RNF Rovaniemi 3.30 255 PN **Pn 09 47 23.6 +1.3**
baz=66
KEV Kevo 3.32 313 Pn **Pn 09 47 24.7 +2.2**
KEV Sn **Sn 09 48 03.9 +1.3**
KEV Lg Lg 09 48 13.2
KEV Kevo 3.32 313 Pn **Pn 09 47 24.7 +2.2**
KEV Sn **Sn 09 48 03.9 +1.3**
ARA0 ARCESS Array S 3.65 305 Pn **Pn 09 47 28.4 +1.3**
baz=122,slow=16
ARA0 Sn **Sn 09 48 11.2 +0.4**
baz=123,slow=28
ARA0 Lg Lg 09 48 22.6
baz=118,slow=37
ARA0 ARCESS Array S 3.65 305 Pn **Pn 09 47 28.4 +1.3**
baz=122,slow=16
ARA0 Sn **Sn 09 48 11.2 +0.4**
baz=123,slow=28
ARCES ARCESS Array B 3.65 305 Pn **Pn 09 47 28.4 +1.3**
comp=Z,9.9nm,0.3s,baz=120,slow=16,SNR=245
ARCES Pg **Pg 09 47 37.9 -1.4**
comp=Z,3.3nm,0.3s,baz=125,slow=16,SNR=12
ARCES Sn **Sn 09 48 12.0 +1.2**
comp=Z,4.5nm,0.3s,baz=119,slow=25,SNR=15
ARCES Lg Lg 09 48 22.8
comp=Z,10nm,0.3s,baz=118,slow=35,SNR=11
ARE0 ARCESS Array S 3.65 305 PN **Pn 09 47 28.3 +1.2**
baz=119
ARE0 SN **Sn 09 48 11.3 +0.5**
HEF Hetta 3.97 286 PN **Pn 09 47 33.4 +1.9**
HEF SN **Sn 09 48 19.6 +0.9**
TOF Tornio 4.14 252 PN **Pn 09 47 35.1 +1.3**
TOF SB **Sb 09 48 34.2 +0.6**
OUL Oulu 4.17 236 PB **Pb 09 47 41.6 -1.9**
baz=44
OUL SG **Sg 09 48 41.7 -1.4**
KTK1 Kautokeino 4.23 294 *e*P **Pn 09 47 36.9 +1.9**
KTK1 *e*S **Sn 09 48 25.1 +0.1**
KTK1 IAML 09 48 41.6
comp=Z,18nm,0.4s
LANU Lannavaara 4.58 281 PN **Pn 09 47 40.4 +0.6**
LANU SG **Sg 09 48 51.2 -5.1**
KALU Kalix 4.60 252 PN **Pn 09 47 42.8 +2.8**
KALU SG **Sg 09 48 53.4 -3.5**
KIF Kilpisjarvi 5.09 292 Pn **Pn 09 47 48.7 +1.9**
KIF Sn **Sn 09 48 44.5 -1.6**
KIF Kilpisjarvi 5.09 292 Pn **Pn 09 47 48.7 +1.9**
KIF Sn **Sn 09 48 44.5 -1.6**
FIA0 FINESS Array S 7.11 213 Pn **Pn 09 48 15.7 +1.2**
baz=32,slow=14
FIA0 Sn **Sn 09 49 34.7 -1.1**
baz=37,slow=22
FIA0 Lg Lg 09 50 08.8
baz=29,slow=28
FIA0 FINESS Array S 7.11 213 Pn **Pn 09 48 15.7 +1.2**
baz=32,slow=14
FIA0 Sn **Sn 09 49 34.7 -1.1**
baz=37,slow=22
FIA0 Sg Sg 09 50 08.8 -8.6
baz=29,slow=28
FINES FINESS Array B 7.11 213 Pn **Pn 09 48 16.0 +1.5**
comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=4.3
FINES Sn **Sn 09 49 34.7 -1.1**
comp=Z,0.4nm,0.3s,baz=43,slow=23,SNR=4.1
FINES Lg Lg 09 50 08.6
comp=Z,1.1nm,0.3s,baz=27,slow=24,SNR=6.5
HFS Hagfors 11.65 239 Pn **Pn 09 49 14.6 -2.1**
baz=29,slow=10
HFS Hagfors 11.65 239 Pn **Pn 09 49 16.5 -0.2**
comp=Z,0.2nm,0.3s,baz=54,slow=13,SNR=3.9
HFS Hagfors 11.65 239 Pn **Pn 09 49 14.6 -2.1**
baz=29,slow=10
SPA0 Spitsbergen Ar 11.69 342 Pn **Pn 09 49 17.5 +0.4**
baz=132,slow=16
SPA0 Spitsbergen Ar 11.69 342 Pn **Pn 09 49 17.5 +0.4**
baz=132,slow=16
SPITS Spitsbergen Ar 11.69 342 Pn **Pn 09 49 17.3 +0.2**
baz=134,slow=16,SNR=11
NB2 NORSAR Subarra 11.84 247 Pn **Pn 09 49 18.8 -0.5**
NB2 NORSAR Subarra 11.84 247 Pn **Pn 09 49 18.8 -0.5**
NOA NORSAR Array B 11.84 247 Pn **Pn 09 49 19.2 -0.1**
comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=3.9
NRA0 NORESS Array S 11.94 245 Pn **Pn 09 49 20.0 -0.6**
baz=40,slow=14
NRA0 NORESS Array S 11.94 245 Pn **Pn 09 49 20.0 -0.6**
baz=40,slow=14

IDC 29 09:55:09.7±6.0, 20°.40S×139°.19E, h0km, mb1 2.5/2, mb1mx2.5/29, mbtmp2.2/2, ML1.9/2, Error ellipse: s-maj=43.2km s-min=33.5km az=76.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**4.58**	**275**	Pn	Pn	09 56 21.0	+0.7
0.0nm,0.3s,baz=93,slow=12,SNR=3.3
WRA Pg Pg 09 56 34.5 -3.0
0.1nm,0.3s,baz=91,slow=16,SNR=7.5
WRA Sn Sn 09 57 16.2 +1.9
0.1nm,0.3s,baz=112,slow=25,SNR=3.7
WRA Lg Lg 09 57 36.4
0.3nm,0.3s,baz=108,slow=28,SNR=7.3
I07AU WARRAMUNGA INF4.59 275 *i* 10 25 10.0
baz=98,slow=303,SNR=1.9
ASAR Alice Springs 5.89 235 Pn Pn 09 56 37.2 -1.0
0.1nm,0.3s,baz=54,slow=14,SNR=5.9
ASAR Sn Sn 09 57 45.2 -1.3
0.1nm,0.3s,baz=62,slow=24,SNR=6.1
ASAR Lg Lg 09 58 14.8
0.2nm,0.3s,baz=52,slow=29,SNR=7.2

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*IDC **29** 10:00:31.3±2.5, 60°.41S×46°.62W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/22, mbtmp3.6/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/15, Error ellipse: s-maj=111.5km s-min=41.2km az=19.0*
*NEIC **29** 10:00:31.8±2.1, 60°.30S±0°.08×46°.7W±0°.2, h10km±1km, mb4.3/5*
ISC 29 10:00:32.6±0.6, 60°.26S±0°.07×46°.79W±0°.07, h10km, n20, σ1§71/21, mb4.0/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.18**	**47**	Pn	**Pn**	**10 02 29.6**	**-1.6**
HOPE Sn **Sn 10 04 02.4 -1.2**
PMSA Palmer Station 9.16 233 Pn **Pn 10 02 43.6 -0.9**
PMSA Sn **Sn 10 04 26.1 -1.4**
EFI East Falkland 10.66 319 Pn **Pn 10 03 04.1 -1.0**
EFI Sn **Sn 10 05 06.7 +2.4**
VNA3 Neumayer Olymp 18.41 142 P **Pn 10 04 50.5 +3.0**
VNA1 Neumayer--Stat 18.69 140 P **Pn 10 04 54.7 +3.9**
VNA2 Neumayer--Watz 19.03 140 P **Pn 10 04 56.8 +1.8**
baz=270,slow=11
SNAA Sanae 20.63 141 P Pn 10 05 17.8 +3.8
SNAA Sanae 20.63 141 P **P 10 05 11.2 -0.5**
TRQA Tornquist 24.22 330 P **P 10 05 47.8 -1.4**
TRQA IAmb IAmb 10 05 53.0
comp=Z,10nm,1.2s
PLCA Paso Flores 24.46 312 P **P 10 05 53.1 +1.6**
comp=Z,1.2nm,0.8s,baz=186,slow=14,SNR=5.2
PLCA Paso Flores 24.46 312 P **P 10 05 51.4 -0.1**
PLCA IAmb IAmb 10 06 07.0
comp=Z,12nm,1.5s
QSPA South Pole Qui 29.98 180 P **P 10 06 39.7 -1.1**
QSPA IAmb IAmb 10 06 52.5
comp=Z,3.0nm,0.9s
MNMC Minye Minye 44.20 328 P **P 10 08 43.9 +2.0**
LPAZ La Paz 46.56 331 LR LR 10 30 34.3
comp=Z,26nm,19.1s,baz=72,slow=39
TORD Torodi Ar. Bea 82.76 47 P **P 10 12 57.1 +0.6**
comp=Z,0.3nm,0.5s,baz=194,slow=9.3,SNR=3.2
WRA Warramunga Arr 100.08 181 LR LR 10 59 33.6
comp=Z,89nm,21.6s,baz=125,slow=35
ILAR Eielson Array 145.15 312 PKPbc **PKPab 10 20 08.4 +0.1**
comp=Z,1.6nm,1.0s,baz=144,slow=1.5,SNR=9.6
ILAR Eielson Array 145.15 312 **PKPbc 10 20 07.8 -0.4**
MKAR Makanchi Array 147.76 91 PKPbc **PKPbc 10 20 15.7 -0.7**
comp=Z,0.4nm,0.5s,baz=240,slow=3.1,SNR=3.8
MKAR Makanchi Array 147.76 91 **PKPbc 10 20 15.7 -0.7**
MKAR PKPab **pPKPbc 10 20 19.4 -0.2**

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*SJA **29** 10:19:12.1±0.7, 33°.38S×72°.52W, h20km, ML3.3, MW3.6*
*GUC **29** 10:19:13.9±0.6, 33°.40S×72°.30W, h39km±4km, ML3.2*
ISC 29 10:19:17.3±3.3, 33°.34S±0°.07×72°.3W±0°.1, h32km±21km, n24, σ1§53/31, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.17**	**72**	*i* P	**Pn**	**10 19 36.4**	**-1.2**
ROC1 *e*S **Sn 10 19 52.3 -0.2**
ROCH El Roble 1.17 72 *e*P **Pn 10 19 35.6 -2.0**
ROCH *i* S **Sn 10 19 52.4 -0.2**
ROCH IAML 10 19 56.2
comp=N,717nm,0.5s
PEL Peldehue 1.40 82 *e*P **Pn 10 19 39.0 -1.6**
PEL *i* S **Sn 10 19 57.8 -0.2**
PEL IAML 10 20 01.7
comp=E,585nm,0.7s
PEL Peldehue 1.40 82 *i* P **Pn 10 19 39.5 -1.1**
PEL *e*S **Sb 10 20 02.6 +2.2**
FCH Farellones 1.72 90 *e*P **Pn 10 19 43.9 -1.3**
FCH *i* S **Sn 10 20 06.5 +0.3**
LMEL Las Melosas 1.85 106 *e*P **Pn 10 19 44.9 -2.0**
LMEL *i* S **Sn 10 20 09.5 +0.1**
LMEL IAML 10 20 14.0
comp=N,492nm,0.1s
COIS El Sosneado 2.88 129 *i* P **Pn 10 20 01.1 +0.2**
ARCO CERRO ARCO 2.90 81 *i* P **Pn 10 20 02.4 +1.1**
ARCO IAML 10 20 51.0
comp=Z,40nm,0.3s
RTLS Leoncito 2.99 60 *i* P **Pn 10 20 04.2 +1.4**
RTLS *e*S **Sb 10 20 42.9 -3.4**
ASAL Salagasta 3.04 77 *i* P **Pn 10 20 04.4 +1.3**
ASAL IAML 10 20 55.9
comp=Z,46nm,1.3s
PUMA Malargue 3.21 133 *i* P **Pn 10 20 05.5 0.0**
GO04 Tololo Observa 3.42 23 *i* P **Pn 10 20 07.8 -0.7**
RTLL Cerro Villicun 3.84 60 *i* P **Pn 10 20 15.5 +1.4**
RTLL IAML 10 21 19.9
comp=Z,31nm,1.5s
CFA Coronel Fontan 3.88 65 *i* P **Pn 10 20 16.0 +1.4**
ACCO Cerro Coronel 3.91 46 *i* P **Pn 10 20 17.1 +1.8**
ACCO IAML 10 21 20.7
comp=Z,27nm,0.5s
AMOG MOGNA 4.05 55 *i* P **Pn 10 20 18.4 +1.4**
AMOG IAML 10 21 37.2
comp=Z,30nm,0.5s
ACDV Cuesta del Vie 4.18 42 *i* P **Pn 10 20 20.5 +1.5**
ACDV IAML 10 21 33.8
comp=Z,20nm,0.7s
ACAN Cantantal 4.47 78 *i* P **Pn 10 20 24.8 +2.1**
MRA San Martin 5.65 82 *i* P **Pn 10 20 40.9 +1.9**
APLL PUNTA DE LOS L 5.75 61 *i* P **Pn 10 20 39.0 -1.5**
VCA Vinchina 5.80 39 *i* P **Pn 10 20 42.6 +1.4**
VCA IAML 10 22 38.2
comp=Z,25nm,2.9s
ACLC CERRO LA CRUZ 6.04 51 *i* P **Pn 10 20 44.5 +0.1**
ACLC IAML 10 22 37.1
comp=Z,16nm,0.6s
TCA Tanti 6.85 75 *i* P **Pn 10 20 57.1 +1.5**
TCA IAML 10 23 01.7
comp=Z,9.8nm,4.0s
PLCA Paso Flores 7.52 170 *i* P **Pn 10 21 04.1 -0.5**

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*ISCJB **29** 10:42:17.7±0.4, 60°.42S±0°.05×45°.3W±0°.1, h10km, mb4.1/9, MS3.3/5, Error ellipse: s-maj=9.1km s-min=6.5km az=150.0*
*IDC **29** 10:42:18.1±0.7, 60°.39S×45°.02W, h0km, mb4.2/9, mb1 4.2/11, mb1mx4.1/30, mbtmp4.1/11, ML3.4/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/19, Error ellipse: s-maj=28.7km s-min=16.6km az=67.0*
*NEIC **29** 10:42:20.7±2.7, 60°.29S±0°.08×45°.2W±0°.2, h13km±3km, mb4.7/17*
ISC 29 10:42:19.3±0.5, 60°.30S±0°.07×45°.08W±0°.07, h10km, n56, σ1§23/57, mb4.5/15, MS3.1/5, 1C-1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.62**	**41**	Pn	**Pn**	**10 44 08.6**	**-1.6**
PMSA Palmer Station 9.82 235 Pn **Pn 10 44 41.1 +0.7**
0.4nm,0.3s,baz=27,slow=11,SNR=5.2
PMSA LR LR 10 48 40.8
comp=Z,154nm,18.0s,baz=90,slow=39
PMSA Palmer Station 9.82 235 **Pn 10 44 38.8 -1.6**
PMSA Sn **Sn 10 46 29.5 -1.0**
EFI East Falkland 11.28 314 Pn **Pn 10 45 00.1 -0.2**
EFI Sn **Sn 10 47 03.2 -3.1**
VNA3 Neumayer Olymp 17.85 142 P **Pn 10 46 26.5 -0.9**
VNA1 Neumayer--Stat 18.10 140 P **Pn 10 46 30.1 -0.3**
VNA2 Neumayer--Watz 18.46 141 P **P 10 46 34.5 -0.2**
baz=290,slow=14
SNAA Sanae 20.07 142 P Pn 10 46 53.8 -0.3
SNAA Sanae 20.07 142 P **P 10 46 50.4 -2.0**
0.1nm,0.3s,baz=288,slow=10,SNR=4.2
SNAA Sanae 20.07 142 P **P 10 46 50.5 -1.9**
TRQA Tornquist 24.71 327 P **P 10 47 40.3 -0.1**
TRQA IAmb IAmb 10 47 44.6
comp=Z,43nm,1.4s
PLCA Paso Flores 25.14 310 P **P 10 47 46.1 +1.8**
comp=Z,1.7nm,0.6s,baz=207,slow=8.5,SNR=6.0
PLCA LR LR 10 56 46.5
comp=Z,43nm,18.4s,baz=184,slow=34
PLCA Paso Flores 25.14 310 P **P 10 47 46.1 +1.8**
PLCA IAmb IAmb 10 48 10.6
comp=Z,21nm,1.4s
GO06 Curarrehue 26.48 310 P **P 10 47 57.3 +0.7**
QSPA South Pole Qui 29.93 180 P **P 10 48 27.8 +0.6**
comp=Z,2.9nm,0.6s,baz=174,slow=3.7,SNR=27
QSPA LR LR 11 00 09.9
comp=Z,38nm,18.6s,baz=167,slow=36
QSPA South Pole Qui 29.93 180 P **P 10 48 28.4 +1.1**
GO05 Huala 30.69 313 P **P 10 48 33.6 -0.3**
ROC1 El Roble 32.20 316 P **P 10 48 46.5 -1.1**
CFA Coronel Fontan 32.55 321 P **P 10 48 50.7 +0.2**
comp=Z,1.2nm,0.4s,baz=160,slow=12,SNR=2.5
SYO Syowa Base 34.35 141‖ *e*P **P 10 49 04.4 -1.2**
SYO Syowa Base 34.35 141‖ *e*pP pP 10 49 08.0 -0.3
GO04 Tololo Observa 34.70 319 P **P 10 49 09.6 +0.2**
CPUP Villa Florida 34.99 341 LR LR 11 02 43.5
comp=Z,40nm,20.9s,baz=218,slow=35
GO02 Mina Guanaco 38.99 323 P **P 10 49 45.6 -0.3**
GO02 IAmb IAmb 10 50 01.3
comp=Z,36nm,1.7s
MAW Mawson 42.08 147 LR LR 11 07 21.4
comp=Z,72nm,18.1s,baz=250,slow=36
PB01 IPOC Station P 42.85 325 P **P 10 50 19.1 +1.5**
PB01 IAmb IAmb 10 50 33.3
comp=Z,8.8nm,0.8s
GO01 Chusmiza 44.08 326 P **P 10 50 28.1 +0.2**
GO01 IAmb IAmb 10 50 30.3
comp=Z,12nm,1.2s
PB11 IPOC Station P 44.12 326 P **P 10 50 28.9 +1.1**
PB11 IAmb IAmb 10 50 31.0
comp=Z,21nm,1.2s
BDFB Brasilia 44.65 356 P **P 10 50 31.5 -0.5**
comp=Z,1.1nm,0.3s,baz=113,slow=6.4,SNR=3.1
BDFB LR LR 11 06 22.5
comp=Z,63nm,19.9s,baz=131,slow=32
BDFB Brasilia 44.65 356 P **P 10 50 30.6 -1.4**
SIV San Ignacio 45.75 338 P **P 10 50 41.4 +0.7**
comp=Z,2.8nm,0.5s,baz=192,slow=7.4,SNR=15
LPAZ La Paz 47.02 329 P **P 10 50 52.5 +1.1**
comp=Z,1.8nm,0.8s,baz=152,slow=8.8,SNR=6.2
LPAZ La Paz 47.02 329 P **P 10 50 53.0 +1.7**
SAML Samuel 53.02 337 P **P 10 51 37.1 +1.0**
SAML IAmb IAmb 10 51 37.7
comp=Z,4.4nm,0.6s
LTZ Lake Taylor 72.81 208 P **P 10 53 49.6 +1.9**
TOA0 Torodi Ar. Sit 82.17 46 P **P 10 54 41.6 +1.5**
TOA0 IAmb IAmb 10 54 49.6
comp=Z,4.4nm,0.9s
TORD Torodi Ar. Bea 82.17 46 P **P 10 54 41.7 +1.6**
comp=Z,1.8nm,0.8s,baz=201,slow=5.9,SNR=7.3
TORD Torodi Ar. Bea 82.17 46 P **P 10 54 40.7 +0.5**
ASAR Alice Springs 96.33 179 P **P 10 55 46.2 -1.9**
comp=Z,0.6nm,0.9s,baz=178,slow=4.5,SNR=3.4
ASAR Alice Springs 96.33 179 P **P 10 55 46.5 -1.6**
WRA Warramunga Arr 100.04 179 P **Pdif 10 56 03.2 -1.6**
comp=Z,0.3nm,0.6s,baz=180,slow=4.1,SNR=5.4
KK31 Karatay Array 138.41 84 **PKPdf 11 01 43.0 -1.0**
KKAR Karatay Array 138.41 84 **PKPdf 11 01 43.2 -0.8**
KKAR Karatay Array 138.41 84 **PKPdf 11 01 43.7 -0.3**
PRP Porcupine Dome 145.69 313 **PKPab 11 01 57.6 +0.4**
IL31 145.81 312 **PKPbc 11 01 57.2 +0.2**
ILAR Eielson Array 145.81 312 PKPbc **PKPdf 11 01 57.1 +0.7**
comp=Z,2.0nm,0.8s,baz=155,slow=3.4,SNR=24
WRH Wood River Hil 146.12 311 PKPbc **PKPab 11 02 00.1 +1.5**
COLA College 146.22 312 PKPbc **PKPab 11 02 00.0 +1.0**
BMAR Burnt Mountain 146.28 317 PKPbc **PKPab 11 02 00.3 +1.1**
MKAR Makanchi Array 146.90 90 PKPbc **PKPdf 11 02 00.1 +1.2**
comp=Z,4.8nm,0.7s,baz=232,slow=3.3,SNR=10
MKAR Makanchi Array 146.90 90 PKPdf **PKPdf 11 02 00.3 +1.4**
MKAR PKPab **PKiKP 11 02 03.9 +0.5**
KURBB Kurchatov Arra 147.57 82 PKPbc **PKPbc 11 02 03.2 +0.6**
comp=Z,1.1nm,0.6s,baz=242,slow=2.7,SNR=4.9
IMAR Indian Mountai 148.93 311 PKPbc **PKPbc 11 02 06.3 +0.7**
IMAR PKPab **pPKPab 11 02 11.6 -0.5**
ZALV Zalesovo Beam 152.66 81 PKPbc **PKiKP 11 02 16.4 +1.5**
comp=Z,1.2nm,0.3s,baz=208,slow=5.7,SNR=5.5
ZALV Zalesovo Beam 152.66 81 PKPbc **PKiKP 11 02 17.1 +2.1**
ZALV PKPab **PKPab 11 02 25.8 +0.2**

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*ISCJB **29** 10:48:02.9±0.7, 26°.78S±0°.08×175°.4W±0°.1, h32km, mb4.0/5, MS3.2/2, Error ellipse: s-maj=19.5km s-min=6.9km az=33.4*
*NEIC **29** 10:48:03.3±3.0, 26°.8S±0°.1×175°.7W±0°.2, h10km±2km, mb4.4/10*
*IDC **29** 10:48:07.5±2.1, 26°.72S×176°.33W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/33, mbtmp4.0/6, ML4.1/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/28, Error ellipse: s-maj=43.9km s-min=29.1km az=69.0*
ISC 29 10:48:05.8±0.9, 26°.9S±0°.1×175°.4W±0°.2, h32km, n22, σ1§89/22, mb4.2/8, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.24**	**223**	Pn	**Pn**	**10 48 55.4**	**+0.9**
30nm,0.3s,baz=261,slow=19,SNR=3.5
RAO Sn **Sn 10 49 32.3 +0.2**
181nm,0.3s,baz=276,slow=23,SNR=7.0
RAO Raoul Island 3.24 223 **Pn 10 48 54.1 -0.4**
RAO **Sn 10 49 32.1 +0.1**
NIUE Niue 9.26 34 Pn **Pn 10 50 18.8 +1.6**
NIUE Sn **Sn 10 51 57.7 -2.7**
BKZ Black Stump Fm 13.99 207 Pn **Pn 10 51 22.0 +0.1**
DZM Mont Dzumac 17.22 282 LR LR 10 57 24.0
comp=Z,89nm,18.6s,baz=42,slow=34
THZ Tophouse 17.68 210 **P 10 52 09.7 -0.6**
THZ IAmb IAmb 10 52 14.6
comp=Z,49nm,1.5s
KHZ Kahutara 17.94 208 **Pn 10 52 12.2 -0.5**
PPT Papeete 25.59 74 LR LR 11 01 54.7
comp=Z,31nm,18.2s,baz=257,slow=31
CTA Charters Tower 35.73 273 P **P 10 55 02.2 +0.3**
comp=Z,1.1nm,0.5s,baz=90,slow=11,SNR=3.3
AS31 Alice Springs 45.72 262 P **P 10 56 22.8 -1.5**
ASAR Alice Springs 45.73 262 P **P 10 56 22.9 -1.4**
comp=Z,0.4nm,0.5s,baz=96,slow=7.3,SNR=10
WR0 Warramunga Arr 46.23 268 P **P 10 56 24.9 -3.4**
WR0 IAmb IAmb 10 56 28.9
comp=Z,5.8nm,1.2s
WB2 Warramunga Arr 46.40 267 P **P 10 56 26.8 -2.8**
WB2 IAmb IAmb 10 56 29.7
comp=Z,3.2nm,0.7s
WRAB Tennant Creek 46.40 267 P **P 10 56 27.2 -2.5**
WRA Warramunga Arr 46.41 267 P **P 10 56 28.4 -1.4**
comp=Z,1.3nm,0.5s,baz=107,slow=7.6,SNR=18
WRA LR LR 11 12 55.4

comp=Z,48nm,19.4s,baz=310,slow=33
WRA Warramunga Arr 46.41 267 P **P** **10 56 27.6 -2.1**
WB0 Warramunga Arr 46.42 268 P **P** **10 56 28.0 -1.8**
WB0 IAmb IAmb 10 56 29.5
comp=Z,3.4nm,0.9s
FITZ Fitzroy Crossi 54.78 266 P **P** **10 57 33.7 +0.8**
comp=Z,2.6nm,1.0s,baz=141,slow=6.5,SNR=2.8
FAKI Fak Fak 55.43 286 P **P** **10 57 38.2 +0.6**
QSPA South Pole Qui 63.20 180 P P 10 58 38.2 +7.5
comp=Z,0.5nm,0.6s,baz=269,slow=0.7,SNR=6.5
QSPA South Pole Qui 63.20 180 P **P** **10 58 30.5 -0.3**
QSPA IAmb IAmb 10 58 38.4
comp=Z,4.6nm,1.4s
BRTR Keskin Array B 152.71 305 PKPab **PKPab** **11 08 14.5 +4.0**
comp=Z,0.4nm,0.5s,baz=111,slow=4.8,SNR=2.4

IDC 29 10:48:26.2±2.3, 4°.42S×152°.98E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/37, mbtmp3.4/2, Error ellipse: s-maj=46.2km s-min=28.0km az=20.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.96**	**277**	LR	LR	10 48 47.2	
	comp=Z,42nm,20.4s,baz=166,slow=22						
KRVT				Pn	Pn	10 48 47.7	+0.7
	11nm,0.3s,baz=144,slow=1.9,SNR=34						
KRVT				Sn	Sn	10 49 00.5	-0.9
	64nm,0.3s,baz=126,slow=19,SNR=43						
WRA	**Warramunga Arr**	**23.83**	**228**	P	P	10 53 41.3	+0.1
	0.6nm,0.5s,baz=55,slow=10.0,SNR=10.0						
ASAR	**Alice Springs**	**26.55**	**222**	P	P	10 54 06.3	+0.3
	0.2nm,0.5s,baz=55,slow=8.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.36**	**289**	PKPbc	PKPbc	11 08 19.9	-0.9
	0.1nm,0.3s,baz=113,slow=1.9,SNR=2.7						

*IDC **29** 11:32:51.5±2.6, 33°.54S×72°.96W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/28, mbtmp3.6/4, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=61.9km s-min=32.8km az=112.0*
*SJA **29** 11:32:55.9±0.6, 33°.30S×72°.44W, h20km, ML3.6, MW3.8*
*GUC **29** 11:32:57.1±0.6, 33°.38S×72°.33W, h47km±10km, ML3.2*
ISC 29 11:32:58.2±1.2, 33°.35S±0°.05×72°.33W±0°.08, h22km±6km, n25, σ2§14/36, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.16**	**72**	*i* P	**Pn**	**11 33 18.8**	**-0.6**
ROC1				*e*S	**Sn**	**11 33 37.4**	**+2.6**
ROCH	**El Roble**	**1.17**	**72**	*e*P	**Pn**	**11 33 17.8**	**-1.6**
ROCH				*i* S	**Sb**	**11 33 34.1**	**-0.5**
ROCH				IAML		11 33 39.3	
	comp=E,654nm,0.5s						
PEL	**Peldehue**	**1.39**	**82**	*e*P	**Pn**	**11 33 21.4**	**-0.9**
PEL				*i* S	**Sn**	**11 33 39.5**	**-0.6**
PEL				IAML		11 33 45.4	
	comp=N,579nm,0.3s						
PEL	**Peldehue**	**1.39**	**82**	*i* P	**Pn**	**11 33 21.6**	**-0.8**
PEL				*e*S	**Sb**	**11 33 44.4**	**+3.5**
CLCH	**Cerro Calan**	**1.50**	**92**	*e*P	**Pn**	**11 33 22.7**	**-1.1**
CLCH				*i* S	**Sn**	**11 33 41.9**	**-1.0**
GO05	**Huala**	**1.69**	**169**	*i* P	**Pb**	**11 33 27.3**	**-1.3**
GO05				*e*S	**Sb**	**11 33 50.7**	**+1.3**
FCH	**Farellones**	**1.71**	**90**	*e*P	**Pn**	**11 33 26.0**	**-1.0**
FCH				*i* S	**Sn**	**11 33 48.9**	**+0.6**
LMEL	**Las Melosas**	**1.84**	**106**	*e*P	**Pn**	**11 33 27.6**	**-1.1**
LMEL				*i* S	**Sn**	**11 33 50.5**	**-1.0**
LMEL				IAML		11 34 01.2	
	comp=N,451nm,0.4s						
COIS	**El Sosneado**	**2.87**	**129**	*i* P	**Pn**	**11 33 44.9**	**+2.3**
ARCO	**CERRO ARCO**	**2.90**	**81**	*i* P	**Pn**	**11 33 45.3**	**+2.1**
ARCO				IAML		11 34 31.3	
	comp=Z,177nm,1.4s						
AAGR	**Agrelo**	**2.95**	**86**	*i* P	**Pn**	**11 33 46.0**	**+2.2**
AAGR				IAML		11 34 39.5	
	comp=Z,118nm,0.8s						
ASAL	**Salagasta**	**3.03**	**77**	*i* P	**Pn**	**11 33 47.1**	**+2.1**
ASAL				IAML		11 34 38.3	
	comp=Z,130nm,1.1s						
GO04	**Tololo Observa**	**3.42**	**23**	*i* P	**Pn**	**11 33 50.3**	**-0.2**
CFA	**Coronel Fontan**	**3.87**	**64**	Pn	**Pb**	**11 34 01.9**	**-3.9**
	comp=Z,2.3nm,0.3s,baz=243,slow=14,SNR=18						
CFA				Sn	**Sb**	**11 34 51.7**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=230,slow=9.7,SNR=3.8						
CFA				LR	LR	11 35 50.5	
	comp=Z,132nm,21.9s,baz=278,slow=40						
CFA	**Coronel Fontan**	**3.87**	**64**	*i* P	**Pn**	**11 33 56.0**	**-0.4**
CFA				*e*S	**Sb**	**11 34 56.8**	**+4.6**
ACCO	**Cerro Coronel**	**3.91**	**46**	*i* P	**Pn**	**11 33 59.8**	**+2.6**
ACCO				*e*S	**Sb**	**11 34 51.4**	**-2.1**
ACCO				IAML		11 35 02.6	
	comp=Z,80nm,0.7s						
AMOG	**MOGNA**	**4.04**	**55**	*i* P	**Pn**	**11 34 00.8**	**+2.0**
AMOG				IAML		11 35 19.8	
	comp=Z,52nm,0.5s						
ACDV	**Cuesta del Vie**	**4.18**	**42**	*i* P	**Pn**	**11 34 03.0**	**+2.1**
ACDV				*e*S	**Sb**	**11 35 05.9**	**+4.5**
ACDV				IAML		11 35 18.6	
	comp=Z,64nm,1.5s						
ACAN	**Cantantal**	**4.46**	**78**	*i* P	**Pn**	**11 34 07.3**	**+2.7**
ACAN				IAML		11 35 37.9	
	comp=Z,27nm,3.0s						
VCA	**Vinchina**	**5.80**	**39**	*i* P	**Pn**	**11 34 24.7**	**+1.6**
VCA				IAML		11 36 16.2	
	comp=Z,79nm,1.5s						
TCA	**Tanti**	**6.85**	**75**	*i* P	**Pn**	**11 34 40.1**	**+2.7**
PLCA	**Paso Flores**	**7.51**	**170**	Pn	Pn	11 34 40.4	-6.0
	baz=353,slow=17,SNR=1.5						
SIV	**San Ignacio**	**20.05**	**33**	P	**P**	**11 37 29.6**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=229,slow=12,SNR=6.5						
TORD	**Torodi Ar. Bea**	**84.22**	**70**	P	**P**	**11 45 27.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=237,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**156.51**	**48**	PKPab	**PKPab**	**11 53 20.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=283,slow=4.3,SNR=3.8						

*IDC **29** 11:52:59.7±0.5, 26°.73S×176°.28W, h0km, mb4.8/18, mb1 5.0/20, mb1mx4.8/33, mbtmp4.8/20, ML4.9/2, MS5.0/31, Ms1 5.0/31, ms1mx4.9/39, Error ellipse: s-maj=17.1km s-min=14.5km az=115.0*
*BJI **29** 11:52:59.0±0.0, 26°.70S×176°.10W, h5km, mb5.3/39, mB5.8/23, Ms5.3/32, Ms7 5.1/33*
*NEIC **29** 11:53:01.0±1.6, 26°.71S±0°.06×176°.2W±0°.1, h10km±1km, mb5.2/85*
*MOS **29** 11:53:02.1±0.9, 26°.71S×176°.35W, h23km, mb5.2/29, Error ellipse: s-maj=11.1km s-min=9.1km az=92.6*
*ISCJB **29** 11:53:03.3±0.2, 26°.73S±0°.04×176°.41W±0°.04, h31km, mb5.2/52, MS5.0/42, Error ellipse: s-maj=6.4km s-min=4.3km az=136.8*
*GCMT **29** 11:53:07.0±0.1, 26°.68S±0°.01×175°.91W±0°.01, h18km, MW5.4/118, Moment Tensor Solution. s104,c170; s118,c219; Duration: 1s2 Moment tensor: Scale 10^17 Nm; M_{rr}1.26±.03; $M_{\theta\theta}$0.11±.02; $M_{\phi\phi}$-1.37±.02; $M_{r\theta}$0.09±.04; $M_{\theta\phi}$-0.14±.01; $M_{\phi r}$0.98±.04; Best double couple: $M_0$1.64900×10^17 NP1:ϕ_s5.00000°, δ63.00000°, λ90.00000°. NP2:ϕ_s185.00000°, δ27.00000°, λ90.00000°. Principal axes: T 1.5880, Plg72.0000°, Azm276.0000°; N 0.1200, Plg0.0000°, Azm185.0000°; P -1.7110, Plg18.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 11:53:04.2±0.3, 26°.76S±0°.05×176°.12W±0°.06, h31km, n342, σ1§63/336, mb5.1/82, MS5.0/44, 15C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.95**	**212**	P	**Pn**	**11 53 48.5**	**-0.4**
RAO						11 54 25.5	
RAO	**Raoul Island**	**2.95**	**212**	Pn	**Pn**	**11 53 48.8**	**-0.1**
	502nm,0.3s,baz=100,slow=6.8,SNR=28						
RAO				LR	LR	11 54 20.3	
	comp=Z,7μm,18.4s,baz=150,slow=28						
RAO				Sn	**Sn**	**11 54 24.0**	**+0.7**
	436nm,0.3s,baz=90,slow=20,SNR=3.8						
RAO	**Raoul Island**	**2.95**	**212**	Pn	**Pn**	**11 53 48.5**	**-0.4**
RAO				Sn	**Sn**	**11 54 25.5**	**+2.2**
NIUE	**Niue**	**9.54**	**38**		Pn	11 55 12.5	-7.1
NIUE					Sn	11 56 47.8	-18
MSVF	**Nonsavu**	**10.48**	**328**	P	**Pn**	**11 55 31.2**	**-1.3**
MSVF	**Nonsavu**	**10.48**	**328**		**Pn**	**11 55 30.7**	**-1.8**
OUZ	**Omahuta**	**12.20**	**224**	Pn	**Pn**	**11 55 56.0**	**+0.2**
URZ	**Urewera**	**12.80**	**205**	Pn	Pn	11 55 54.0	-10
	0.2nm,0.3s,baz=102,slow=18,SNR=5.7						
URZ				Sn	Sn	11 58 15.5	-10
	6.3nm,0.3s,baz=192,slow=20,SNR=12						
AFI	**Afiamalu**	**13.42**	**18**	P	Pn	11 56 07.8	-4.9
AFI	**Afiamalu**	**13.42**	**18**	Pn	Pn	11 56 05.3	-7.3
	5.4nm,0.3s,baz=343,slow=1.6,SNR=16						
AFI				Sn	Sn	11 58 22.1	-19
	2.3nm,0.3s,baz=30,slow=20,SNR=2.7						
AFI	**Afiamalu**	**13.42**	**18**		Pn	11 56 05.5	-7.2
RAR	**Rarotonga**	**15.92**	**73**	P	Pn	11 56 38.6	-7.5
RAR				pmax	pmax		
	comp=Z,184nm,1.0s						
RAR	**Rarotonga**	**15.92**	**73**	Pn	Pn	11 56 38.6	-7.5
	comp=Z,3.9nm,0.3s,baz=242,slow=8.3,SNR=17						
RAR				Sn	Sn	11 59 17.9	-24
	comp=Z,2.6nm,0.3s,baz=27,slow=16,SNR=3.3						
RAR				LR	LR	12 01 52.6	
	comp=Z,3μm,18.3s,baz=240,slow=33						
RAR	**Rarotonga**	**15.92**	**73**		Pn	11 56 38.6	-7.4
RAR				IAmb	IAmb	11 56 49.4	
	comp=Z,184nm,1.0s						
SNZO	**South Karori**	**16.37**	**205**	P	**Pn**	**11 56 52.6**	**+0.9**
PLWZ	**Palliser**	**16.39**	**204**	Pn	**Pn**	**11 56 50.7**	**-1.3**
DZM	**Mont Dzumac**	**16.55**	**283**	*e*P	**P**	**11 56 57.8**	**+1.2**
	comp=Z,351nm,1.7s						
DZM				*e*LQ	LQ	12 00 05.4	
	comp=Z,4μm,24.6s						
DZM				*e*LR	LR	12 00 46.0	
	comp=Z,14μm,23.9s						
DZM	**Mont Dzumac**	**16.55**	**283**	Pn	**P**	**11 56 56.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=16						
DZM				LR	LR	12 02 08.8	
	comp=Z,10μm,19.2s,baz=114,slow=34						
DZM	**Mont Dzumac**	**16.55**	**283**	P	**P**	**11 56 56.0**	**-0.5**
FUNA	**Funafuti**	**18.68**	**345**	P	**P**	**11 57 18.6**	**-1.3**
RPZ	**Rata Peaks**	**19.85**	**208**	P	**P**	**11 57 30.3**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=35,slow=7.2,SNR=3.2						
RPZ				S	S	12 00 53.4	-21
	comp=Z,0.8nm,0.3s,baz=165,slow=20,SNR=2.2						
RPZ				LR	LR	12 05 23.8	
	comp=Z,3μm,20.9s,baz=14,slow=38						
RPZ	**Rata Peaks**	**19.85**	**208**	P	**P**	**11 57 30.4**	**-2.3**
RPZ				IAmb	IAmb	11 57 32.7	
	comp=Z,139nm,1.7s						
ODZ	**Otahua Downs**	**21.11**	**207**	P	**P**	**11 57 47.2**	**+1.0**
ODZ				IAmb	IAmb	11 57 50.3	
	comp=Z,103nm,1.4s						
WHZ	**Wether Hill Ro**	**22.93**	**209**	P	**P**	**11 58 06.3**	**+0.6**
WHZ				IAmb	IAmb	11 58 19.2	
	comp=Z,108nm,1.5s						
KNTN	**Kanton**	**24.22**	**11**	P	**P**	**11 58 16.7**	**-1.7**
KNTN				IAmb	IAmb	11 58 27.5	
	comp=Z,74nm,1.1s						
TBI	**Tubuai**	**24.37**	**88**	*e*S	**S**	**12 02 35.0**	**-2.3**
	comp=Z,646nm,24.0s						
TBI				*e*LQ	LQ	12 03 09.3	
	comp=Z,2μm,29.2s						
TBI				*e*LR	LR	12 04 13.7	
	comp=Z,6μm,28.0s,baz=253						
TBI	**Tubuai**	**24.37**	**88**	*e*T	T	12 23 21.9	
	comp=Z,12nm,0.3s						
PAE	**Paea**	**26.14**	**75**	*e*T	T	12 25 27.2	
	comp=Z,5.4nm,0.3s						
PPT2	**Papeete2**	**26.17**	**75**	*e*S	**S**	**12 03 01.0**	**-5.3**
	comp=Z,453nm,24.1s						
PPT2				*e*LQ	LQ	12 03 40.3	
	comp=Z,4μm,23.8s						
PPT2				*e*LR	LR	12 05 00.0	
	comp=Z,7μm,27.0s,baz=244						
PPT2	**Papeete2**	**26.17**	**75**	*e*T	T	12 25 30.6	
	comp=Z,4.6nm,0.3s						
PPT	**Papeete**	**26.18**	**75**	LR	LR	12 06 06.3	
	comp=Z,2μm,19.9s,baz=247,slow=30						
TVO	**Taravao**	**26.37**	**76**	*e*T	T	12 25 45.0	
	comp=Z,1.7nm,0.3s						
HNR	**Honiara**	**28.45**	**303**	P	**P**	**11 58 53.9**	**-2.7**
HNR				pmax	pmax		
	comp=Z,53nm,0.9s						
HNR	**Honiara**	**28.45**	**303**	P	**P**	**11 58 56.2**	**-0.4**
	comp=Z,24nm,0.4s,baz=212,slow=15,SNR=2.7						
HNR				LR	LR	12 08 28.1	
	comp=Z,4μm,20.5s,baz=142,slow=33						
HNR	**Honiara**	**28.45**	**303**	P	**P**	**11 58 53.9**	**-2.7**
HNR				IAmb	IAmb	11 59 07.9	
	comp=Z,53nm,0.9s						
VAH	**Vaihoa**	**28.89**	**72**	*e*T	T	12 28 51.6	
	comp=Z,8.9nm,0.3s						
EIDS	**Eidsvold**	**29.46**	**265**	P	**P**	**11 59 02.8**	**-2.6**
TARA	**Tarawa**	**29.89**	**338**	P	**P**	**11 59 06.6**	**-2.6**
TAU	**Tasmania Unive**	**33.75**	**232**	P	**P**	**11 59 42.4**	**-0.6**
TAU				pmax	pmax		
	comp=Z,28nm,1.1s						
TAU	**Tasmania Unive**	**33.75**	**232**	P	**P**	**11 59 42.4**	**-0.6**
TAU				IAmb	IAmb	11 59 51.2	
	comp=Z,28nm,1.1s						
TOO	**Toolangi**	**34.03**	**242**	P	**P**	**11 59 45.4**	**-0.2**
TOO				pmax	pmax		
	comp=Z,34nm,1.4s						
TOO	**Toolangi**	**34.03**	**242**	P	**P**	**11 59 45.4**	**-0.2**
TOO				IAmb	IAmb	11 59 52.9	
	comp=Z,34nm,1.4s						
CTA	**Charters Tower**	**35.07**	**273**	LR	LR	12 13 07.1	
	comp=Z,6μm,18.2s,baz=116,slow=35						
STKA	**Stephens Creek**	**37.05**	**252**	P	**P**	**12 00 10.7**	**-0.8**
STKA	**Stephens Creek**	**37.05**	**252**	P	**P**	**12 00 10.6**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=112,slow=10,SNR=5.7						
STKA				PcP	**PcP**	**12 02 32.1**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=68,slow=5.4,SNR=3.6						
STKA				LR	LR	12 14 21.8	
	comp=Z,6μm,18.2s,baz=83,slow=35						
STKA	**Stephens Creek**	**37.05**	**252**	P	**P**	**12 00 10.7**	**-0.8**
KRVT	**Keravat (AS076**	**37.75**	**301**	P	**P**	**12 00 15.6**	**-2.0**
	comp=Z,27nm,0.9s,baz=23,slow=12,SNR=4.6						
KRVT				LR	LR	12 14 39.9	
	comp=Z,2μm,21.1s,baz=115,slow=35						
TAOE	**Nuku Hiva Isla**	**38.41**	**69**	*e*S	**S**	**12 06 12.4**	**-4.1**
	comp=Z,440nm,25.7s						
TAOE				*e*LR	LR	12 10 35.6	
	comp=Z,3μm,26.8s,baz=242						
PMG	**Port Moresby**	**38.75**	**290**	*de*P	**P**	**12 00 25.7**	**-0.4**
PMG				pmax	pmax		
	comp=Z,100nm,1.0s						
PMG	**Port Moresby**	**38.75**	**290**	P	**P**	**12 00 25.3**	**-0.8**
	comp=Z,17nm,1.0s,baz=125,slow=9.1,SNR=3.9						
PMG				LR	LR	12 14 16.1	
	comp=Z,4μm,19.4s,baz=138,slow=33						
PMG	**Port Moresby**	**38.75**	**290**	P	**P**	**12 00 25.6**	**-0.4**
PMG				IAmb	IAmb	12 00 40.0	
	comp=Z,48nm,1.3s						
COEN	**Coen**	**40.06**	**280**	P	**P**	**12 00 36.2**	**-0.8**
BBOO	**Buckleboo**	**41.66**	**250**	P	**P**	**12 00 47.9**	**-2.1**
BBOO				IAmb	IAmb	12 01 01.7	
	comp=Z,62nm,1.6s						
AS31	**Alice Springs**	**45.09**	**262**	P	**P**	**12 01 16.0**	**-1.9**
ASAR	**Alice Springs**	**45.09**	**262**	P	**P**	**12 01 15.8**	**-2.1**
	comp=Z,9.7nm,0.9s,baz=97,slow=7.3,SNR=74						
ASAR				PcP	**PcP**	**12 02 58.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=120,slow=3.4,SNR=2.7						
ASAR				LR	LR	12 19 19.7	
	comp=Z,3μm,18.4s,baz=108,slow=35						
WB2	**Warramunga Arr**	**45.75**	**268**	P	**P**	**12 01 21.7**	**-1.4**
WRAB	**Tennant Creek**	**45.76**	**268**	*e*P	**P**	**12 01 20.9**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,28nm,1.0s						
WRAB	**Tennant Creek**	**45.76**	**268**	P	**P**	**12 01 21.4**	**-1.7**
WRA	**Warramunga Arr**	**45.76**	**268**	P	**P**	**12 01 20.6**	**-2.5**
	comp=Z,15nm,0.7s,baz=107,slow=6.2,SNR=81						
WRA				PcP	**PcP**	**12 03 00.6**	**-0.1**
	comp=Z,4.5nm,1.0s,baz=107,slow=3.4,SNR=3.6						
WRA				S	**S**	**12 08 03.0**	**-2.0**
	comp=Z,1.2nm,1.0s,baz=108,slow=16,SNR=3.0						
WRA				LR	LR	12 18 34.7	
	comp=Z,2μm,21.8s,baz=120,slow=34						
JAY	**Jayapura**	**47.86**	**293**	LR	LR	12 20 40.0	
	comp=Z,2μm,20.1s,baz=102,slow=35						
MTN	**Manton Dam**	**51.19**	**275**	P	**P**	**12 02 04.5**	**-0.5**
SBA	**Scott Base**	**51.78**	**185**	P	**P**	**12 02 09.4**	**+0.9**
SBA				pmax	pmax		
	comp=Z,37nm,1.1s						
SBA	**Scott Base**	**51.78**	**185**	P	**P**	**12 02 09.4**	**+0.9**
SBA				IAmb	IAmb	12 02 28.5	
	comp=Z,37nm,1.1s						
VNDA	**Vanda**	**51.87**	**186**	P	**P**	**12 02 10.6**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,17nm,1.3s						
VNDA	**Vanda**	**51.87**	**186**	P	**P**	**12 02 11.1**	**+1.9**
	comp=Z,6.4nm,0.9s,baz=8.2,slow=8.5,SNR=11						
VNDA				LR	LR	12 20 28.9	
	comp=Z,955nm,20.4s,baz=20,slow=32						
VNDA	**Vanda**	**51.87**	**186**	P	**P**	**12 02 10.6**	**+1.4**
KNRA	**Kununurra**	**52.21**	**270**	P	**P**	**12 02 11.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**54.13**	**266**	LR	LR	12 23 53.2	
	comp=Z,1μm,20.0s,baz=102,slow=34						
FITZ	**Fitzroy Crossi**	**54.13**	**266**	P	**P**	**12 02 26.2**	**-0.6**
FITZ				IAmb	IAmb	12 02 29.9	
	comp=Z,24nm,1.1s						
FAKI	**Fak Fak**	**54.77**	**287**	P	**P**	**12 02 30.0**	**-1.4**
FAKI	**Fak Fak**	**54.77**	**287**	P	**P**	**12 02 29.8**	**-1.6**
FAKI				IAmb	IAmb	12 02 31.8	
	comp=Z,36nm,1.4s						
GUMO	**Guam**	**55.19**	**312**	LR	LR	12 23 37.0	
	comp=Z,1μm,21.4s,baz=124,slow=33						
SWI	**Sorong**	**56.67**	**288**	P	**P**	**12 02 42.8**	**-2.3**
PSA00	**Pilbara Seismi**	**58.13**	**260**	P	**P**	**12 02 53.8**	**-1.5**
PSA00				IAmb	IAmb	12 02 55.2	
	comp=Z,20nm,1.2s						
BATI	**Baumata**	**58.94**	**274**	LR	LR	12 29 05.4	
	comp=Z,4μm,18.5s,baz=135,slow=37						
CASY	**Casey**	**59.12**	**207**	P	**P**	**12 03 01.6**	**+0.1**
MORW	**Morawa**	**59.22**	**251**	P	**P**	**12 03 00.9**	**-1.9**
MORW				IAmb	IAmb	12 03 01.4	
	comp=Z,21nm,1.1s						
SANI	**Sanana**	**60.61**	**284**	P	**P**	**12 03 12.1**	**-0.4**
QSPA	**South Pole Qui**	**63.33**	**180**	P	**P**	**12 03 31.3**	**+1.1**
KAPI	**Kappang**	**64.69**	**277**	LR	LR	12 32 28.6	
	comp=Z,735nm,18.5s,baz=298,slow=37						
JCJ	**Chichijima**	**66.91**	**320**	LR	LR	12 27 14.8	
	comp=Z,617nm,21.6s,baz=130,slow=31						
PWJI	**Pagerwojo**	**70.45**	**271**	P	**P**	**12 04 14.9**	**-1.3**
KPJI	**Karang Pucung**	**73.32**	**270**	P	**P**	**12 04 32.3**	**-1.1**
CISI	**Cisompet, Garu**	**74.22**	**269**	P	**P**	**12 04 37.0**	**-1.7**
STKI	**Sintang**	**74.35**	**278**	P	**P**	**12 04 39.4**	**0.0**
LEM	**Lembang**	**74.71**	**270**	LR	LR	12 37 53.2	
	comp=Z,3μm,19.4s,baz=106,slow=36						
LEM	**Lembang**	**74.71**	**270**	P	**P**	**12 04 41.1**	**-0.6**
SBUM	**Sibu**	**74.81**	**281**	P	**P**	**12 04 40.9**	**-1.2**
INU	**Inuyama**	**76.01**	**322**	P	**P**	**12 04 47.8**	**-0.7**
KSM	**Kuching**	**76.04**	**279**	P	**P**	**12 04 47.7**	**-1.5**
KSM				IAmb	IAmb	12 04 57.4	
	comp=Z,25nm,1.0s						
MJAR	**Matsushiro Arr**	**76.26**	**324**	P	**P**	**12 04 48.9**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,11nm,1.2s						
MJAR	**Matsushiro Arr**	**76.26**	**324**	P	**P**	**12 04 49.0**	**-0.8**
	comp=Z,20nm,1.0s,baz=160,slow=5.4,SNR=16						
MJAR				LR	LR	12 32 46.5	
	comp=Z,457nm,21.7s,baz=180,slow=31						
MJAR	**Matsushiro Arr**	**76.26**	**324**	P	**P**	**12 04 48.9**	**-1.0**
MAJO	**Matsushiro**	**76.26**	**324**	*d i* P	**P**	**12 04 49.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,81nm,1.2s						
MAJO	**Matsushiro**	**76.26**	**324**	P	**P**	**12 04 49.0**	**-0.8**
MAT	**Matsushiro**	**76.26**	**324**	P	**P**	**12 04 49.2**	**-0.6**
MAT				S	**S**	**12 14 34.2**	**+1.9**
MJB9	**Matsu-Tunnel**	**76.26**	**324**	P	**P**	**12 04 49.0**	**-0.9**
MAW	**Mawson**	**76.28**	**200**	P	**P**	**12 04 50.5**	**+0.9**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAW	**Mawson**	**76.28**	**200**	P	**P**	**12 04 49.8**	**+0.2**
	comp=Z,12nm,0.8s,baz=116,slow=8.4,SNR=16						
MAW				LR	LR	12 38 45.7	
	comp=Z,2μm,18.3s,baz=114,slow=36						
MAW	**Mawson**	**76.28**	**200**	P	**P**	**12 04 50.5**	**+0.9**
JNU	**Nakatsue**	**78.00**	**317**	P	**P**	**12 04 59.4**	**-0.4**
KLSI		**78.22**	**271**	P	**P**	**12 04 59.5**	**-1.9**
LWLI	**Liwa**	**78.68**	**270**	P	P	12 05 15.8	+12
MDSI	**Maura Dua**	**78.81**	**271**	P	**P**	**12 05 01.9**	**-2.7**
LHSI	**Lahat**	**79.68**	**271**	P	**P**	**12 05 07.7**	**-1.7**
SYO	**Syowa Base**	**81.01**	**192**	‖*e*P	**P**	**12 05 14.0**	**-1.6**
SYO	**Syowa Base**	**81.01**	**192**	‖*es*P	**P**	**12 05 20.2**	**+4.6**
SNAA	**Sanae**	**81.72**	**178**	P	**P**	**12 05 19.2**	**-0.2**
SNAA	**Sanae**	**81.72**	**178**	P	**P**	**12 05 19.5**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,14nm,0.9s						
SNAA	**Sanae**	**81.72**	**178**	P	**P**	**12 05 19.5**	**+0.1**
SNAA				IAmb	IAmb	12 05 21.8	
	comp=Z,14nm,0.9s						
VNA3	**Neumayer Olymp**	**81.80**	**176**	P	**P**	**12 05 19.3**	**-0.5**
MYKOM	**Kota Tinggi**	**81.91**	**276**	P	**P**	**12 05 20.0**	**-1.3**
MYKOM				IAmb	IAmb	12 05 23.0	
	comp=Z,40nm,1.4s						
YSS	**Yuzh-Sakhalins**	**82.24**	**333**	‖*eP*	**P**	**12 05 23.1**	**+0.9**
YSS				*eS*	**S**	**12 15 37.0**	**+1.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
YSS				smax	smax		
	comp=E,600nm,6.2s						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**82.24**	**333**	P	**P**	**12 05 22.4**	**+0.2**
VNA2	**Neumayer--Watz**	**82.26**	**176**	P	**P**	**12 05 22.2**	**0.0**
	baz=172,slow=3.

baz=230
GRAC Grapevine Rang 84.09 43 P **P 12 05 34.1 +2.0**
baz=230
PNTR Pine Nut 84.11 41 P **P 12 05 32.9 +0.5**
YBH Yreka Blue Hor 84.15 37 P **P 12 05 32.5 +0.1**
YBH pmax pmax
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 84.15 37 P **P 12 05 32.5 +0.1**
YBH IAmb IAmb 12 05 40.3
comp=Z,16nm,1.0s
BEKR Beckworth 84.19 40 P **P 12 05 32.8 +0.1**
BEKR IAmb IAmb 12 05 48.4
comp=Z,14nm,1.1s
MSHR Mys Shultsa 84.38 324⇓*i*P **P 12 05 34.3 +1.0**
NVAR Mina Array Bea 84.44 42 P **P 12 05 35.5 +1.4**
comp=Z,4.0nm,0.8s,baz=222,slow=8.7,SNR=18
NVAR LR LR 12 35 38.8
comp=Z,636nm,21.3s,baz=240,slow=30
NVAR Mina Array Bea 84.44 42 P **P 12 05 34.4 +0.3**
NV11 Mina Array Sit 84.53 42 P **P 12 05 34.6 +0.2**
NV11 IAmb IAmb 12 05 50.9
comp=Z,19nm,1.1s
PAHR Pah Rah Range 84.64 40 P **P 12 05 34.8 -0.2**
PAHR IAmb IAmb 12 05 51.3
comp=Z,12nm,1.0s
L04D Klamath Falls 84.70 37 P **P 12 05 37.1 +1.9**
baz=226
TPNV Topopah Spring 84.75 44 P **P 12 05 37.5 +1.9**
baz=231
TPNV Topopah Spring 84.75 44 P **P 12 05 35.6 0.0**
TPNV pmax pmax
comp=Z,15nm,1.1s
TPNV Topopah Spring 84.75 44 P **P 12 05 35.6 0.0**
TPNV IAmb IAmb 12 05 47.3
comp=Z,15nm,1.1s
USA0B Ussuriysk Arra 85.09 325 P **P 12 05 35.9 -0.9**
USA0B pmax pmax
comp=Z,36nm,1.3s
USA0B Ussuriysk Arra 85.09 325 P **P 12 05 35.9 -0.9**
USRK Ussuriysk Ar. 85.09 325 P **P 12 05 36.9 0.0**
USRK Ussuriysk Ar. 85.09 325 P **P 12 05 37.8 +0.9**
comp=Z,15nm,1.0s,baz=157,slow=3.4,SNR=12
USRK LR LR 12 36 50.9
comp=Z,508nm,21.2s,baz=124,slow=31
USRK Ussuriysk Ar. 85.09 325 P **P 12 05 36.9 0.0**
W13A Hualapai Mount 85.11 47 P **P 12 05 38.0 +0.4**
SHPR Sheep Range 85.16 45 P **P 12 05 37.8 +0.2**
SHPR IAmb IAmb 12 05 52.1
comp=Z,21nm,1.5s
NJ2 Nanjing 85.18 309 *e*P **P 12 05 38.3 +0.6**
NJ2 S **S 12 16 06.0 +0.4**
NJ2 sS **ScS 12 16 14.5 -1.4**
NJ2 pmax pmax
comp=Z,27nm,1.1s
NJ2 pmax pmax
comp=Z,260nm,5.5s
NJ2 LR LR
comp=Z,620nm,24.1s
NJ2 LR LR
comp=Z,530nm,19.9s
NJ2 LR LR
comp=Z,740nm,19.6s
TYV Tymovskoe 85.43 335 *e*P **P 12 05 38.8 +0.4**
TYV pmax pmax
comp=Z,20nm,1.8s
TYV pmax pmax
comp=Z,700nm,7.2s
J04D Umpqua Nationa 85.51 36 P **P 12 05 41.4 +2.1**
baz=226
TUC Tucson 85.54 51 P **P 12 05 41.9 +2.3**
baz=234
TUC Tucson 85.54 51 P **P 12 05 39.2 -0.4**
TUC pmax pmax
comp=Z,19nm,1.3s
TUC Tucson 85.54 51 P **P 12 05 39.2 -0.4**
TUC IAmb IAmb 12 05 56.0
comp=Z,19nm,1.3s
J05D Fort Rock, OR 86.01 37 P **P 12 05 44.3 +2.6**
baz=227
R11A Troy Canyon, C 86.04 43 P **P 12 05 45.5 +3.5**
baz=231
ZAIG Zacatecas 86.48 62 P **P 12 05 44.9 +0.2**
MDJ Mudanjiang 86.61 324 P **P 12 05 45.0 +0.6**
MDJ pP PcP 12 05 48.0 +1.2
MDJ S **S 12 16 24.3 +5.2**
MDJ sS pS 12 16 31.5 +1.4
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,310nm,7.9s
MDJ LR LR
comp=Z,610nm,16.3s
MDJ LR LR
comp=Z,670nm,16.7s
MDJ LR LR
comp=Z,610nm,18.5s
PSI Prapat 86.75 275 LR LR 12 45 46.0
comp=Z,1μm,19.9s,baz=92,slow=37
CCUT Cedar City 86.93 45 P **P 12 05 46.9 +0.4**
U15A North Rim 86.95 46 IAmb IAmb 12 06 03.5
comp=Z,12nm,0.9s
KNB Kanab 86.96 46 P **P 12 05 47.7 +1.2**
KNB pmax pmax
comp=Z,16nm,1.2s
KNB Kanab 86.96 46 P **P 12 05 47.7 +1.2**
WUAZ Wupatki 87.01 48 P **P 12 05 49.2 +2.3**
baz=234
WUAZ Wupatki 87.01 48 P **P 12 05 46.2 -0.6**
WUAZ IAmb IAmb 12 05 54.9
comp=Z,13nm,1.1s
GSI Gunungsitoli 87.28 273 P **P 12 05 47.1 -1.4**
GSI Gunungsitoli 87.28 273 P **P 12 05 47.4 -1.1**
DL2 Dalian 87.44 316 P **P 12 05 50.5 +1.9**
DL2 S **S 12 16 33.3 +5.9**
DL2 pmax pmax
comp=Z,39nm,0.9s
DL2 pmax pmax
comp=Z,370nm,7.7s
DL2 LR LR
comp=Z,530nm,17.7s
DL2 LR LR
comp=Z,650nm,17.8s
DL2 LR LR
comp=Z,540nm,20.2s
WHN Wuhan 87.52 306⇓P **P 12 05 50.3 +1.1**
ELK Elko 87.74 42 P **P 12 05 50.5 +0.2**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 87.74 42 P **P 12 05 50.5 +0.2**
121A Cookes Peak, D 87.76 52 P **P 12 05 53.9 +3.3**
baz=236
GRNR Gornyy 87.83 332 *e*P **P 12 05 50.3 +0.1**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
CN2 Changchun 88.28 322 *e*P **P 12 05 54.8 +2.3**
CN2 *es*P pP 12 06 02.3 +1.0
CN2 *e*S **S 12 16 38.5 +3.3**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=Z,520nm,17.0s
CN2 LR LR
comp=Z,540nm,17.0s
CN2 LR LR
comp=Z,540nm,16.0s
G08A Pilot Rock 88.57 36 P **P 12 05 53.9 0.0**
G08A IAmb IAmb 12 06 10.2
comp=Z,16nm,1.0s
TIA Tai'an 88.75 312 P **P 12 05 56.0 +1.1**
TIA SKS **SKSac 12 16 22.8 +0.7**
TIA pmax pmax
comp=Z,26nm,1.6s
TIA pmax pmax
comp=Z,240nm,8.3s
TIA LR LR
comp=Z,2μm,12.8s
TIA LR LR
comp=Z,2μm,13.5s
TIA LR LR
comp=Z,470nm,8.3s
KLR Kul'dur 88.77 329⇑*e*P **P 12 05 54.5 -0.1**
KLR pmax pmax
comp=Z,27nm,1.7s
LTY Liberty 89.00 34 IAmb IAmb 12 06 11.9
comp=Z,9.4nm,0.9s
A04D Lummi Island 89.01 32 P **P 12 05 59.3 +3.6**
baz=226
MNTX Cornudas Mount 89.01 54 P **P 12 05 56.2 -0.1**
TX31 Lajitas Ar. Si 89.02 56 P **P 12 05 57.2 +0.8**
TX31 IAmb IAmb 12 06 17.4
comp=Z,30nm,1.5s
TXAR Lajitas Array 89.02 56 P **P 12 05 57.2 +0.7**
comp=Z,1.9nm,0.9s,baz=212,slow=7.2,SNR=17
TXAR LR LR 12 37 46.1
comp=Z,274nm,20.9s,baz=0.0,slow=30
TXAR Lajitas Array 89.02 56 P **P 12 05 56.1 -0.4**
SRU San Rafael Swe 89.66 45 P **P 12 05 58.8 -0.5**
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU San Rafael Swe 89.66 45 P **P 12 05 58.8 -0.5**
ANMO Albuquerque 90.00 50 P **P 12 06 03.0 +1.9**
baz=237
ANMO Albuquerque 90.00 50⇓*e*P **P 12 06 02.4 +1.3**
ANMO pmax pmax
comp=Z,17nm,2.5s
ANMO Albuquerque 90.00 50 P **P 12 06 00.9 -0.1**
CHAI Chaiyaphum 90.04 288 P **P 12 06 02.5 +1.1**
B08A Colville Reser 90.41 34 IAmb IAmb 12 06 18.1
comp=Z,9.1nm,1.0s
ENH Enshi 90.95 304 P **P 12 06 05.6 +0.2**
SLVN Son La 90.97 293 P **P 12 06 05.4 -0.3**
GYA Guiyang 91.21 299 P **P 12 06 04.0 -2.8**
GYA PP **PP 12 09 40.0 -4.4**
GYA SKS S 12 16 34.5 -29
GYA S **SKKSac 12 16 56.8 +4.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.5s
GYA LR LR
comp=Z,210nm,19.2s
GYA LR LR
comp=Z,330nm,20.8s
GYA LR LR
comp=Z,200nm,20.1s
S22A 4UR Ranch, Cre 91.28 48 P **P 12 06 09.0 +1.9**
baz=237
S22A 4UR Ranch, Cre 91.28 48 P **P 12 06 07.6 +0.5**
MCMT McKenzie Canyo 91.63 39 P **P 12 06 08.7 +0.2**
REDW Red Top Meadow 91.92 42 P **P 12 06 10.2 +0.4**
REDW IAmb IAmb 12 06 26.4
comp=Z,21nm,1.3s
FXWY Fox Creek 91.98 41 P **P 12 06 10.4 +0.3**
FXWY IAmb IAmb 12 06 26.8
comp=Z,21nm,1.6s
UTHA Uthaitani 92.06 286 P **P 12 06 14.3 +3.5**
UTTA Uttaradit 92.10 289 P **P 12 06 14.2 +3.3**
UTTA Uttaradit 92.10 289 P **P 12 06 14.2 +3.3**
comp=Z,20μm,1.4s
PD31 Pinedale Array 92.36 43 P **P 12 06 12.8 +0.9**
PDAR Pinedale Array 92.36 43 P **P 12 06 12.2 +0.3**
comp=Z,1.7nm,0.8s,baz=225,slow=1.9,SNR=13
PDAR LR LR 12 42 12.8
comp=Z,428nm,18.6s,baz=258,slow=32
PDAR Pinedale Array 92.36 43 P **P 12 06 12.3 +0.4**
RND Reindeer 92.42 12 IAmb IAmb 12 06 26.6
comp=Z,13nm,1.0s
H17A Grant Village 92.69 41 P **P 12 06 16.1 +2.7**
baz=234
PHRA Phrae 92.72 289 P **P 12 06 15.9 +2.1**
PHRA Phrae 92.72 289 P **P 12 06 15.9 +2.1**
comp=Z,3.1nm,1.3s
BOZ Bozeman (W) 92.78 39 P **P 12 06 15.0 +1.4**
baz=234
BOZ Bozeman (W) 92.78 39 P **P 12 06 13.9 +0.2**
BOZ pmax pmax
comp=Z,13nm,1.2s
BOZ Bozeman (W) 92.78 39 P **P 12 06 13.9 +0.2**
BOZ IAmb IAmb 12 06 21.1
comp=Z,13nm,1.1s
SEY Seymchan 92.84 346⇓*e*P **P 12 06 15.2 +1.9**
LAMP Lampang 93.24 289 P **P 12 06 20.6 +4.4**
LAMP Lampang 93.24 289 P **P 12 06 20.6 +4.4**
comp=Z,45μm,1.0s
XAN Xi'an 93.26 307 P **P 12 06 17.3 +1.3**
XAN pmax pmax
comp=Z,11nm,1.7s
XAN pmax pmax
comp=Z,230nm,8.2s
XAN LR LR
comp=Z,580nm,20.6s
XAN LR LR
comp=Z,870nm,21.7s
PAYA Payao 93.42 290 P **P 12 06 18.5 +1.5**
WRH Wood River Hil 93.54 12 IAmb IAmb 12 06 39.2
comp=Z,15nm,1.1s
DOT Dot Lake 93.59 14 P **P 12 06 16.8 0.0**
DOT IAmb IAmb 12 06 30.2
comp=Z,12nm,1.4s
KMI Kunming 93.69 296 P **P 12 06 20.0 +1.6**
KMI pP pP 12 06 23.8 -3.4
KMI pmax pmax
comp=Z,33nm,1.4s
KMI LR LR
comp=Z,270nm,10.4s
KMI LR LR
comp=Z,200nm,16.9s
KMI LR LR
comp=Z,370nm,20.5s
HDA Harding Lake 93.69 12 P **P 12 06 17.6 +0.4**
baz=206
CCB Clear Creek Bu 93.75 12 P **P 12 06 17.2 -0.2**
CCB IAmb IAmb 12 06 19.6
comp=Z,13nm,1.2s
CM31 Chiang Mai Arr 93.79 289 P **P 12 06 19.0 +0.3**
CMAR Chiang Mai Arr 93.79 289 P **P 12 06 18.6 -0.1**
CMAR Chiang Mai Arr 93.79 289 P **P 12 06 19.8 +1.1**
comp=Z,7.7nm,0.9s,baz=138,slow=3.3,SNR=31
CMAR Chiang Mai Arr 93.79 289 P **P 12 06 18.6 -0.1**
TCOL CIGO, UAF Yank 93.94 12 P **P 12 06 20.3 +2.0**
baz=205
COLA College 93.95 12⇓*e*P **P 12 06 19.3 +1.0**
CHTO Chiang Mai 93.95 289 P **P 12 06 19.7 +0.2**
CHTO pmax pmax
comp=Z,32nm,1.3s
CHTO Chiang Mai 93.95 289 P **P 12 06 19.7 +0.2**
IL31 94.03 12 P **P 12 06 17.4 -1.3**
IL31 IAmb IAmb 12 06 40.2
comp=Z,12nm,1.2s
ILAR Eielson Array 94.03 12 P **P 12 06 18.5 -0.2**
comp=Z,1.9nm,0.9s,baz=218,slow=4.9,SNR=12
HHC Hu-ho-hao-te 94.92 313 *e*P **P 12 06 23.5 -0.1**
HHC pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 95.42 353 *e*P **P 12 06 25.8 +0.8**
BILL *e* 12 10 19.4
BILL *e*PPP PPP 12 12 17.2
BILL pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 95.58 302 P **P 12 06 30.0 +3.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
RSSD Black Hills 96.47 44 P **P 12 06 31.7 +1.0**
baz=239
BMAR Burnt Mountain 96.83 12 P **P 12 06 30.4 -1.1**
LZH Lanzhou 97.90 306 *e*P Pdif 12 06 37.8 +0.5
LZH pP pP 12 06 41.8 -4.3
LZH sP sP 12 06 44.3 -4.9
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,470nm,18.1s
LZH LR LR
comp=Z,720nm,18.4s
LZH LR LR
comp=Z,830nm,19.1s
LPAZ La Paz 98.06 113 LR LR 12 42 00.3
comp=Z,319nm,21.0s,baz=218,slow=30
GTA Gaotai 102.22 308 *e*P **Pdif 12 06 57.8 +1.4**
GTA pP pPdif 12 07 02.5 -2.7
GTA sP sPdif 12 07 04.8 -3.6
GTA PP **PP 12 11 12.5 +3.4**
GTA SKS **SKSac 12 17 36.5 +2.6**
GTA sS sS 12 18 45.0 -7.7
GTA SS **SS 12 25 49.5 +5.3**
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,59nm,7.6s
GTA LR LR
comp=Z,250nm,20.6s
GTA LR LR
comp=Z,280nm,21.6s
GTA LR LR
comp=Z,430nm,19.7s
WMQ Urumqi 112.26 309 *e*PKP **PKiKP 12 11 37.0 +0.1**
WMQ LR LR
comp=Z,290nm,22.3s
WMQ LR LR
comp=Z,320nm,27.3s
ZALV Zalesovo Beam 116.39 319 PKP **PKPdf 12 11 43.4 -1.0**
comp=Z,1.4nm,0.7s,baz=116,slow=3.4,SNR=6.4
MKAR Makanchi Array 116.67 311 PKIKP **PKPdf 12 11 44.0 -1.2**
MKAR Makanchi Array 116.67 311 PKP **PKPdf 12 11 43.6 -1.6**
comp=Z,3.1nm,0.9s,baz=82,slow=3.3,SNR=9.5
MKAR Makanchi Array 116.67 311 **PKPdf 12 11 44.0 -1.2**
KURK Kurchatov 119.69 315⇑*i*PKIKP **PKiKP 12 11 52.0 +1.1**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KSH Kashi 119.77 302 PKP **PKPdf 12 11 48.5 -3.0**
KSH PP **PP 12 13 20.0 +4.5**
KSH PKS **PKSdf 12 15 24.0 -4.3**
KSH LR LR
comp=Z,350nm,12.4s
KSH LR LR
comp=Z,330nm,8.2s
KSH LR LR
comp=Z,740nm,17.8s
AAK Ala-Archa 121.42 305⇓*e*PKIKP **PKPdf 12 11 53.7 -1.0**
KK31 Karatay Array 124.38 305 PKIKP **PKPdf 12 11 59.5 -0.6**
KK31 Karatay Array 124.38 305 **PKPdf 12 11 59.5 -0.6**
KKAR Karatay Array 124.38 305 PKIKP **PKPdf 12 11 59.5 -0.6**
KKAR Karatay Array 124.38 305 **PKPdf 12 11 59.5 -0.6**
BRVK Borovoye 124.97 318⇓*e*PKIKP **PKPdf 12 12 00.6 -0.3**
BRVK Borovoye 124.97 318 **PKiKP 12 12 01.3 +0.1**
ARU Arti 131.27 323 *i* PKIKP **PKiKP 12 12 13.9 +0.2**
ARU 12 14 31.5
ARU SS SS 12 31 59.5 -2.0
ARCES ARCESS Array B 135.37 349 PKP **PKPdf 12 12 20.5 +0.3**
comp=Z,3.5nm,0.7s,baz=5.7,slow=2.7,SNR=5.6
FINES FINESS Array B 142.24 343 PKIKP **PKPdf 12 12 31.6 -1.3**
FINES FINESS Array B 142.24 343 PKhKP PKPpre 12 12 27.4
comp=Z,4.8nm,0.9s,baz=48,slow=2.8,SNR=6.0
FINES FINESS Array B 142.24 343 **PKPdf 12 12 31.6 -1.3**
RAYN Ar Rayn 142.30 274 PKIKP **PKPdf 12 12 33.7 -0.6**
RAYN Ar Rayn 142.30 274 **PKPdf 12 12 33.7 -0.6**
OBN Obninsk 143.03 329 *e*PKIKP **PKPdf 12 12 34.6 +0.1**
OBN *e* 12 15 46.2
OBN pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 143.71 302⇓*i*PKIKP **PKPdf 12 12 38.2 +1.8**
VSR Storozhevoye 143.83 322 *e*PKIKP PKPab 12 12 33.1 0.0
VSR pmax pmax
comp=Z,10.0nm,1.4s
KBZ Khabaz 144.31 309 PKP **PKPab 12 12 35.2 +0.1**
comp=Z,3.2nm,0.9s,baz=61,slow=2.3,SNR=4.8
KIV Kislovodsk 144.39 309 *i* PKIKP **PKPab 12 12 35.7 +0.1**
KIV pmax pmax
comp=Z,28nm,1.1s
AKH Akhalkalaki 144.42 304 PKIKP PKPbc 12 12 36.8 +0.6
AKH Akhalkalaki 144.42 304 ⇓P PKPbc 12 12 36.8 +0.6
AKH Akhalkalaki 144.42 304 PKPbc 12 12 36.8 +0.6
NEY Neytrino 144.55 308⇑*e*PKIKP PKPbc 12 12 37.0 +0.5
NC405 NORSAR Array S 145.25 353 **PKPbc 12 12 37.7 -0.3**
NB2 NORSAR Subarra 145.37 354 PKP **PKPbc 12 12 37.9 -0.5**
comp=Z,1μm,10.0s,baz=10,slow=3.7
NB2 NORSAR Subarra 145.37 354 PKP **PKPbc 12 12 37.9 -0.5**
baz=10,slow=3.7
NOA NORSAR Array B 145.37 354 PKPbc **PKPbc 12 12 38.3 -0.1**
comp=Z,16nm,0.9s,baz=12,slow=2.4,SNR=22
BATM Batumi 145.69 305 ⇑P **PKPdf 12 12 39.8 +0.2**
BCA Borcka 145.78 305 ⇑P **PKPdf 12 12 39.1 -0.7**
KONO Kongsberg 146.89 355⇓*e*PKP2 **PKPbc 12 12 42.3 -0.6**
MICGM Minsk 147.16 334 *e* **PKPdf 12 12 41.0 -0.6**
MNK Minsk 147.16 334 *e*PKIKP **PKPdf 12 12 41.0 -0.6**
NACGM Naroch 147.28 335 *e* **PKiKP 12 12 48.0 +1.5**
AKASG Malin Array Be 149.26 328 PKP2 **PKPbc 12 12 49.0 -0.5**
AKASG Malin Array Be 149.26 328 PKPbc **PKPbc 12 12 48.9 -0.6**
comp=Z,7.9nm,0.8s,baz=41,slow=3.2,SNR=21
AKASG Malin Array Be 149.26 328 **PKPbc 12 12 49.0 -0.5**
AKBB Malin Array Si 149.26 328 PKP2 **PKiKP 12 12 50.3 -0.4**
AKBB Malin Array Si 149.26 328 PKPbc **PKiKP 12 12 50.3 -0.4**
KIS Kishinev 151.82 322 *e*PKP **PKPdf 12 12 52.0 +2.7**
KIS LRM MLR 13 19 40.0
comp=Z,300nm,21.0s
KIS Kishinev 151.82 322 *e*PKIKP **PKPdf 12 12 52.0 +2.7**
KIS *e* 12 12 57.0
BR131 Keskin Array S 152.10 305 PKIKP **PKiKP 12 12 57.3 +0.2**
BR131 Keskin Array S 152.10 305 **PKiKP 12 12 57.3 +0.2**
BRTR Keskin Array B 152.10 305 PKPbc **PKPbc 12 12 55.9 -1.0**
comp=Z,4.9nm,0.9s,baz=125,slow=2.6,SNR=13
BRTR Keskin Array B 152.10 305 **PKPbc 12 12 56.7 -0.1**
BUR08 Bucovina Ar. S 153.28 327 **PKPbc 12 12 58.9 -0.2**
BURAR Bucovina Array 153.29 327 ⇑PKIKP **PKiKP 12 12 59.8 +0.5**
BURAR Bucovina Array 153.29 327 ⇑P **PKiKP 12 12 59.8 +0.5**
BIZ Bicaz 153.30 325 ⇓P **PKiKP 12 12 59.9 +0.7**
TOPG Topolog 153.31 319 ⇑P **PKiKP 12 13 00.3 +1.1**
KOLS Kolonicke sedl 153.66 332 *e*PKIKP **PKiKP 12 13 02.5 +2.6**
KOLS Kolonicke sedl 153.66 332 *e*PKP **PKiKP 12 13 02.5 +2.6**
UZH Uzhgorod 153.89 332 *e*PKIKP **PKPbc 12 12 59.3 -0.9**
UZH *e* 12 13 10.3
TRPA Tarpa 154.16 331 ⇑P **PKPbc 12 12 59.8 -1.0**
CLL Collm 154.53 347 *e*PKIKP **PKPbc 12 12 59.0 -2.5**
CLL *e* 12 13 15.0
CLL MLR MLR
comp=Z,400nm,19.9s
CLL Collm 154.53 347 *e*PKPbc **PKPbc 12 13 00.0 -1.5**
CLL *ep*PKPbc **pPKPdf 12 13 03.0 +0.9**
CLL *e*PKPab **PKPab 12 13 15.0 -1.0**
CLL *e* 12 13 24.0
CLL *e*SSS SSS 12 42 42.0
CLL *e*SSSS 12 46 12.0
CLL *e* 12 49 36.0
CLL Lm MLR 13 28 00.0
comp=Z,400nm,19.9s
MORC Moravsky Berou 154.72 339 PKIKP **PKPbc 12 13 01.5 -0.6**
MORC Moravsky Berou 154.72 339 ⇑P **PKiKP 12 13 02.3 +0.2**
MORC Moravsky Berou 154.72 339 PKPbc **PKPbc 12 13 01.5 -0.6**
MORC **PKPab 12 13 17.6 +0.6**
BRG Berggiesshubel 154.73 345 *e*PKP **PKPdf 12 12 55.6 +2.3**
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 154.73 345 *e*PKP **PKiKP 12 13 04.3 +2.3**
comp=Z,6.6nm,1.0s
BRG *e* 12 13 13.7
comp=Z,24nm,1.3s
BRG *e*PKKS 12 25 21.1
comp=Z,9.0nm,1.0s
BRG SS SS 12 36 23.0 -8.1
BRG Berggiesshubel 154.73 345 *e*PKIKP **PKPdf 12 12 55.7 +2.3**
BRG *e* 12 13 04.3
BRG *e* 12 13 13.7
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,24nm,1.3s
VOIR 154.84 323⇓PKIKP **PKPbc 12 13 01.9 -0.6**
VOIR 154.84 323⇓P **PKPbc 12 13 01.9 -0.6**
DRGR 155.08 328⇑PKIKP **PKPdf 12 12 55.7 +1.6**
DRGR 155.08 328⇑P **PKPdf 12 12 55.7 +1.6**
VYHS Vyhne 155.37 336 *e*PKP2 **PKPab 12 13 20.3 +0.5**
VYHS Vyhne 155.37 336 *e*PKP **PKPab 12 13 20.3 +0.5**
MODS Modra-Piesok 156.03 338 *e*PKP2 **PKPab 12 13 24.3 +1.7**
MODS Modra-Piesok 156.03 338 *e*PKP **PKPab 12 13 24.3 +1.7**
KHC Kasperske Hory 156.44 344 *e*PKIKP **PKPdf 12 12 55.0 -0.8**
KHC Kasperske Hory 156.44 344 *e*PKPDF **PKPdf 12 12 55.0 -0.8**
KHC ⇑*e*PKP **sPKPdf 12 13 12.0 +4.1**
KHC *e*PKPAB **PKPab 12 13 24.0 -0.3**
VTS Vitosha 157.65 320 PKIKP **PKPdf 12 12 56.8 -0.9**
VTS Vitosha 157.65 320 PKPdf **PKPdf 12 12 56.8 -0.9**
VTS **PKPab 12 13 30.3 +0.3**
ESDC Sonseca Array 165.56 25 PKP **PKPdf 12 13 07.0 +1.1**
comp=Z,0.4nm,0.5s,baz=346,slow=3.2,SNR=4.4
ESDC PKPab **PKPab 12 14 05.3 +0.9**
comp=Z,0.4nm,0.5s,baz=319,slow=4.2,SNR=2.9
ESDC Sonseca Array 165.56 25 **PKPdf 12 13 07.4 +1.5**
TOA0 Torodi Ar. Sit 166.30 171 **PKPdf 12 13 07.4 +0.3**
TOA0 **PKPab 12 14 08.5 +0.4**
TORD Torodi Ar. Bea 166.30 171 PKP **PKPdf 12 13 06.7 -0.4**
comp=Z,3.3nm,1.0s,baz=232,slow=0.1,SNR=12
TORD PKPab **PKPab 12 14 08.4 +0.3**
comp=Z,13nm,0.9s,baz=186,slow=4.2,SNR=16
TORD Torodi Ar. Bea 166.30 171 **PKPdf 12 13 06.9 -0.2**

TORD **PKPab 12 14 08.6 +0.5**

*ISCJB **29** 12:01:06.8±0.6,24°.36S±0°.03×70°.50W±0°.10,h57km±8km, Error ellipse: s-maj=14.7km s-min=4.2km az=0.4*
*SJA **29** 12:01:06.2±0.5,24°.26S×70°.60W,h77km±6km,ML4.1, MW4.0*
*GUC **29** 12:01:06.9±0.7,24°.31S×70°.35W,h45km±4km,ML3.8*
ISC 29 12:01:08.4±2.2,24°.33S±0°.05×70°.44W±0°.09,h36km±2km, n20,σ0°.83/29,4C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.30**	**173**	⇑*i*P	**Pn**	**12 01 16.9**	**-0.1**
PB14				*i* S	**Sn**	**12 01 23.3**	**-0.5**
PB14				IAML		12 01 24.4	
	comp=N,9μm,0.4s						
PB10	**IPOC Station P**	**0.82**	**353**	⇑*i*P	**Pn**	**12 01 22.1**	**-1.3**
PB10				*i* S	**Sn**	**12 01 34.0**	**-0.3**
PB10				IAML		12 01 37.8	
	comp=E,5μm,0.5s						
PB10	**IPOC Station P**	**0.82**	**353**	*i* P	**Pn**	**12 01 23.5**	**0.0**
PB10				*e*S	**Sn**	**12 01 35.2**	**+0.9**
GO02	**Mina Guanaco**	**1.14**	**137**	⇓*i*P	**Pn**	**12 01 27.7**	**-0.4**
GO02				*i* S	**Sn**	**12 01 42.4**	**-0.2**
PB15	**IPOC Station P**	**1.43**	**39**	⇓*i*P	**Pn**	**12 01 30.8**	**-1.2**
PB15				*i* S	**Sn**	**12 01 48.9**	**-0.7**
PB05	**IPOC Station P**	**1.48**	**9**	⇑*i*P	**Pn**	**12 01 31.8**	**-0.9**
PB05				*i* S	**Sn**	**12 01 50.7**	**-0.3**
PB05				IAML		12 01 54.5	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.80**	**26**	⇑*i*P	**Pn**	**12 01 36.5**	**-0.6**
PB06				*i* S	**Sn**	**12 01 58.7**	**-0.1**
PB06				IAML		12 02 02.8	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**1.80**	**26**	*i* P	**Pn**	**12 01 37.2**	**+0.1**
PB06				*e*S	**Sn**	**12 02 00.1**	**+1.3**
PB06				IAML		12 02 03.6	
	comp=Z,1μm,0.2s						
PB04	**IPOC Station P**	**2.00**	**8**	*i* P	**Pn**	**12 01 39.1**	**-0.8**
PB04				*e*S	**Sn**	**12 02 03.8**	**-0.1**
LVC	**Limon Verde**	**2.21**	**40**	*i* P	**Pn**	**12 01 43.9**	**+0.9**
LVC				IAML		12 02 12.8	
	comp=Z,1μm,0.3s						
PB03	**IPOC Station P**	**2.35**	**16**	*i* P	**Pn**	**12 01 44.0**	**-0.7**
PB03				*i* S	**Sn**	**12 02 14.7**	**+2.2**
PB03				IAML		12 02 18.5	
	comp=E,1μm,0.4s						
GO04	**Tololo Observa**	**5.83**	**183**	⇓*i*P	**Pn**	**12 02 32.4**	**-0.2**
ACCO	**Cerro Coronel**	**6.35**	**169**	*i* P	**Pn**	**12 02 41.1**	**+1.2**
AMOG	**MOGNA**	**6.81**	**166**	*i* P	**Pn**	**12 02 46.1**	**+0.3**
RTLL	**Cerro Villicun**	**7.19**	**166**	*i* P	**Pn**	**12 02 51.5**	**+0.4**
CFA	**Coronel Fontan**	**7.51**	**165**	*i* P	**Pn**	**12 02 55.6**	**+0.1**
RTCV	**Cerro Valdivia**	**7.69**	**168**	*i* P	Pn	12 03 03.5	+5.6
ASAL	**Salagasta**	**8.35**	**171**	*i* P	**Pn**	**12 03 07.2**	**+0.1**
ACAN	**Cantantal**	**8.42**	**161**	*i* P	**Pn**	**12 03 08.2**	**+0.2**
TCA	**Tanti**	**8.69**	**145**	*i* P	**Pn**	**12 03 11.2**	**-0.5**

*NEIC **29** 12:05:18.8±2.4,26°.68S±0°.06×176°.07W±0°.09,h10km±1km, mb5.0/97*
*IDC **29** 12:05:18.4±0.6,26°.66S×176°.40W,h0km,mb4.8/22, mb1 4.9/23,mb1mx4.8/40,mbtmp4.8/23,ML5.1/1,MS4.6/11, Ms1 4.6/11,ms1mx4.3/34,Error ellipse: s-maj=19.1km s-min=14.7km az=129.0*
*MOS **29** 12:05:19.6±1.0,26°.74S×176°.29W,h21km,mb5.2/29, Error ellipse: s-maj=10.8km s-min=9.0km az=78.7*
*ISCJB **29** 12:05:20.6±0.2,26°.78S±0°.04×176°.40W±0°.04,h29km, mb4.9/48,MS4.7/18,Error ellipse: s-maj=7.0km s-min=4.3km az=146.3*
*BJI **29** 12:05:22.6±0.0,26°.65S×176°.18W,h30km,mb5.3/20, mB5.7/13,Ms5.2/16,Ms7 5.0/16*
*GCMT **29** 12:05:23.8±0.3,26°.72S±0°.04×175°.92W±0°.02,h22km±1km, MW5.0/72,Moment Tensor Solution. s28,c31; s72,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.23±.30; $M_{\theta\theta}$-0.63±.16; $M_{\phi\phi}$-3.61±.18; $M_{r\theta}$0.65±.30; $M_{\theta\phi}$-0.07±.12; $M_{\phi r}$1.88±.24; Best double couple: $M_0$4.38900×10^{16} NP1:φ8.00000°,δ58.00000°,λ97.00000°. NP2: φ176.00000°,δ32.00000°,λ79.00000°. Principal axes: T 4.7280, Plg76.0000°, Azm298.0000°; N -0.6870, Plg6.0000°, Azm185.0000°; P -4.0500, Plg13.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 12:05:22.0±0.3,26°.78S±0°.05×176°.26W±0°.07,h29km, n311,σ1°.31/309,mb5.0/81,MS4.8/18,6C-12D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.87**	**210**	Pn	**Pn**	**12 06 07.4**	**+1.6**
	249nm,0.3s,baz=84,slow=4.6,SNR=18						
RAO				Sn	**Sn**	**12 06 43.5**	**+4.1**
	431nm,0.3s,baz=98,slow=23,SNR=5.9						
RAO	**Raoul Island**	**2.87**	**210**	Pn	**Pn**	**12 06 06.8**	**+1.0**
RAO				Sn	**Sn**	**12 06 43.3**	**+3.9**
NIUE	**Niue**	**9.63**	**39**	P	Pn	12 07 30.5	-8.2
NIUE				S	Sn	12 09 05.7	-20
	baz=8.9,SNR=3.5						
NIUE	**Niue**	**9.63**	**39**	Pn	Pn	12 07 31.1	-7.6
MSVF	**Nonsavu**	**10.43**	**329**	P	**Pn**	**12 07 49.6**	**-0.1**
MSVF	**Nonsavu**	**10.43**	**329**		**Pn**	**12 07 49.6**	**-0.1**
URZ	**Urewera**	**12.74**	**204**	Pn	**Pn**	**12 08 18.1**	**-3.1**
	0.7nm,0.3s,baz=280,slow=5.9,SNR=5.7						
URZ				Sn	**Sn**	**12 10 35.6**	**-6.3**
	1.8nm,0.3s,baz=245,slow=22,SNR=6.7						
AFI	**Afiamalu**	**13.47**	**19**	P	Pn	12 08 24.5	-6.9
AFI	**Afiamalu**	**13.47**	**19**	Pn	Pn	12 08 24.1	-7.3
	7.1nm,0.3s,baz=233,slow=12,SNR=9.6						
AFI				Sn	Sn	12 10 39.4	-21
	3.6nm,0.3s,baz=36,slow=18,SNR=1.6						
AFI	**Afiamalu**	**13.47**	**19**	Pn	Pn	12 08 24.6	-6.8
RAR	**Rarotonga**	**16.05**	**73**	P	Pn	12 08 57.7	-8.0
RAR				pmax	pmax		
	comp=Z,91nm,1.1s						
RAR	**Rarotonga**	**16.05**	**73**	Pn	Pn	12 08 56.6	-9.0
	comp=Z,4.0nm,0.3s,baz=267,slow=8.9,SNR=14						
RAR				Sn	Sn	12 11 38.8	-24
	comp=Z,4.5nm,0.3s,baz=91,slow=12,SNR=6.5						
RAR				LR	LR	12 14 10.4	
	comp=Z,1μm,19.2s,baz=238,slow=33						
RAR	**Rarotonga**	**16.05**	**73**		Pn	12 08 57.7	-8.0
RAR				IAmb	IAmb	12 09 01.3	
	comp=Z,91nm,1.1s						
DZM	**Mont Dzumac**	**16.43**	**283**	*e*P	**P**	**12 09 17.5**	**+4.3**
	comp=Z,181nm,1.2s						
DZM				*e*LR	LR	12 13 11.4	
	comp=Z,3μm,25.3s						
DZM	**Mont Dzumac**	**16.43**	**283**	Pn	**P**	**12 09 17.0**	**+3.8**
	comp=Z,0.8nm,0.3s,baz=96,slow=16,SNR=17						
DZM				LR	LR	12 14 16.3	
	comp=Z,2μm,18.4s,baz=135,slow=33						
DZM	**Mont Dzumac**	**16.43**	**283**	P	**P**	**12 09 13.9**	**+0.7**
BSWZ	**Blackbirch Sta**	**16.97**	**206**	Pn	**Pn**	**12 09 15.3**	**-1.9**
THZ	**Tophouse**	**17.40**	**208**	Pn	**Pn**	**12 09 20.4**	**-2.3**
KHZ	**Kahutara**	**17.70**	**206**		**Pn**	**12 09 24.3**	**-2.0**
KNTN	**Kanton**	**24.26**	**11**	P	**P**	**12 10 34.1**	**-2.6**
KNTN				IAmb	IAmb	12 10 40.5	
	comp=Z,47nm,1.1s						
TBI	**Tubuai**	**24.50**	**88**	*e*LQ	LQ	12 15 10.3	
TBI				*e*LR	LR	12 16 22.7	
	comp=Z,462nm,29.8s						
	comp=Z,1μm,28.5s,baz=250						
TBI	**Tubuai**	**24.50**	**88**	*e*T	T	12 34 24.0	
	comp=Z,9.3nm,0.3s						
PAE	**Paea**	**26.27**	**75**	*e*T	T	12 36 48.0	
	comp=Z,5.4nm,0.4s						
PPT2	**Papeete2**	**26.30**	**75**	*e*LQ	LQ	12 15 56.6	
	comp=Z,812nm,23.5s						
PPT2				*e*LR	LR	12 17 15.7	
	comp=Z,2μm,26.8s,baz=240						
PPT2	**Papeete2**	**26.30**	**75**	*e*T	T	12 36 51.4	
	comp=Z,3.3nm,0.3s						
PPT	**Papeete**	**26.31**	**75**	LR	LR	12 18 24.2	
	comp=Z,536nm,19.2s,baz=245,slow=30						
TVO	**Taravao**	**26.50**	**76**	*e*T	T	12 37 04.9	
	comp=Z,1.5nm,0.3s						
HNR	**Honiara**	**28.35**	**303**	LR	LR	12 20 22.9	
	comp=Z,1μm,20.5s,baz=153,slow=32						
ARMA	**Armidale**	**28.38**	**255**	P	**P**	**12 11 14.2**	**+0.2**
VAH	**Vaihoa**	**29.02**	**72**	*e*T	T	12 40 16.9	
	comp=Z,5.7nm,0.3s						
EIDS	**Eidsvold**	**29.33**	**265**	P	**P**	**12 11 22.9**	**+0.6**
	baz=30,SNR=4.9						
EIDS	**Eidsvold**	**29.33**	**265**	P	**P**	**12 11 22.6**	**+0.2**
EIDS				IAmb	IAmb	12 11 25.4	
	comp=Z,26nm,1.1s						
TARA	**Tarawa**	**29.85**	**338**	P	**P**	**12 11 25.0**	**-2.0**
CAN	**Canberra**	**30.84**	**245**	P	**P**	**12 11 35.6**	**-0.1**
CAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CAN	**Canberra**	**30.84**	**245**	P	**P**	**12 11 35.6**	**-0.1**
RMQ	**Roma**	**31.22**	**263**	P	**P**	**12 11 40.9**	**+1.9**
	baz=32,SNR=8.9						
TAU	**Tasmania Unive**	**33.64**	**232**	P	**P**	**12 12 00.0**	**-0.1**
TAU				pmax	pmax		
	comp=Z,66nm,1.4s						
TAU	**Tasmania Unive**	**33.64**	**232**	P	**P**	**12 12 00.0**	**-0.1**
TOO	**Toolangi**	**33.91**	**242**	IAmb	IAmb	12 12 02.1	
	comp=Z,36nm,1.4s						
TOO				P	**P**	**12 12 02.6**	**0.0**
CTA	**Charters Tower**	**34.94**	**273**	P	**P**	**12 12 11.5**	**-0.2**
	comp=Z,5.9nm,0.5s,baz=105,slow=11,SNR=16						
CTA				LR	LR	12 25 14.8	
	comp=Z,2μm,18.4s,baz=122,slow=34						
STKA	**Stephens Creek**	**36.93**	**252**	P	**P**	**12 12 28.5**	**0.0**
STKA	**Stephens Creek**	**36.93**	**252**	P	**P**	**12 12 27.9**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=82,slow=10.0,SNR=4.8						
STKA				PcP	**PcP**	**12 14 51.0**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=38,slow=8.4,SNR=3.0						
STKA				LR	LR	12 26 21.2	
	comp=Z,1μm,18.7s,baz=73,slow=34						
STKA	**Stephens Creek**	**36.93**	**252**	P	**P**	**12 12 28.5**	**0.0**
MTSU	**Mount Surprise**	**37.31**	**275**	P	**P**	**12 12 32.0**	**0.0**
	baz=38,SNR=16						
KRVT	**Keravat (AS076**	**37.65**	**301**	P	**P**	**12 12 32.3**	**-2.4**
	comp=Z,28nm,0.9s,baz=178,slow=22,SNR=5.0						
KRVT				LR	LR	12 26 55.1	
	comp=Z,635nm,18.3s,baz=82,slow=35						
TAOE	**Nuku Hiva Isla**	**38.53**	**69**	*e*LR	LR	12 22 56.7	
	comp=Z,685nm,26.6s						
PMG	**Port Moresby**	**38.64**	**290**	⇑*e*P	**P**	**12 12 43.4**	**+0.3**
PMG				pmax	pmax		
	comp=Z,91nm,1.1s						
HTT	**Hallett**	**39.10**	**249**	P	**P**	**12 12 46.7**	**-0.2**
	baz=40,SNR=3.3						
COEN	**Coen**	**39.94**	**280**	P	**P**	**12 12 53.5**	**-0.5**
	baz=40,SNR=14						
COEN	**Coen**	**39.94**	**280**	P	**P**	**12 12 54.0**	**0.0**
COEN				IAmb	IAmb	12 12 56.5	
	comp=Z,23nm,0.8s						
QIS	**Mount Isa**	**40.74**	**269**	P	**P**	**12 13 01.1**	**+0.5**
	baz=41,SNR=6.4						
PATS	**Pohnpei**	**41.52**	**320**	P	**P**	**12 13 05.8**	**-1.2**
BBOO	**Buckleboo**	**41.54**	**250**	P	**P**	**12 13 06.7**	**-0.4**
MANU	**Manus Island**	**42.67**	**299**	P	**P**	**12 13 14.8**	**-1.7**
MANU				IAmb	IAmb	12 13 16.1	
	comp=Z,78nm,1.4s						
AS31	**Alice Springs**	**44.97**	**263**	P	**P**	**12 13 33.9**	**-1.0**
ASAR	**Alice Springs**	**44.97**	**263**	P	**P**	**12 13 34.4**	**-0.6**
	comp=Z,7.1nm,1.0s,baz=105,slow=7.3,SNR=60						
ASAR				PcP	**PcP**	**12 15 16.9**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=107,slow=5.0,SNR=3.3						
ASAR				LR	LR	12 31 07.7	
	comp=Z,1μm,18.0s,baz=93,slow=34						
ASAR	**Alice Springs**	**44.97**	**263**	P	**P**	**12 13 34.1**	**-0.8**
WC3	**Warramunga Arr**	**45.60**	**268**	P	**P**	**12 13 39.2**	**-0.7**
WB2	**Warramunga Arr**	**45.62**	**268**	P	**P**	**12 13 39.3**	**-0.8**
WB2				IAmb	IAmb	12 13 41.9	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**45.63**	**268**	⇓*e*P	**P**	**12 13 39.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**45.64**	**268**	P	**P**	**12 13 38.8**	**-1.4**
WRA	**Warramunga Arr**	**45.64**	**268**	P	**P**	**12 13 39.0**	**-1.2**
	comp=Z,11nm,0.6s,baz=103,slow=8.7,SNR=124						
WRA				LR	LR	12 30 27.0	
	comp=Z,770nm,20.3s,baz=105,slow=33						
WRA	**Warramunga Arr**	**45.64**	**268**	P	**P**	**12 13 38.8**	**-1.4**
JAY	**Jayapura**	**47.75**	**293**	LR	LR	12 32 37.5	
	comp=Z,995nm,18.9s,baz=66,slow=34						
FORT	**Forrest**	**48.55**	**252**	P	**P**	**12 14 01.2**	**-1.6**
WRKA	**Warakurna**	**49.57**	**259**	P	**P**	**12 14 09.3**	**-1.4**
	baz=50,SNR=52						
KDU	**Kakadu**	**49.94**	**276**	P	**P**	**12 14 13.4**	**-0.2**
	baz=50,SNR=9.5						
SBA	**Scott Base**	**51.76**	**185**	P	**P**	**12 14 28.2**	**+1.8**
SBA				pmax	pmax		
	comp=Z,22nm,1.0s						
SBA	**Scott Base**	**51.76**	**185**	P	**P**	**12 14 28.2**	**+1.8**
SBA				IAmb	IAmb	12 14 37.3	
	comp=Z,22nm,0.9s						
VNDA	**Vanda**	**51.84**	**186**	P	**P**	**12 14 27.3**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VNDA	**Vanda**	**51.84**	**186**	P	**P**	**12 14 29.5**	**+2.4**
	comp=Z,4.9nm,1.1s,baz=11,slow=7.9,SNR=4.9						
VNDA	**Vanda**	**51.84**	**186**	P	**P**	**12 14 27.3**	**+0.2**
KNRA	**Kununurra**	**52.08**	**271**	P	**P**	**12 14 29.6**	**-0.1**
	baz=52,SNR=5.9						
KNRA	**Kununurra**	**52.08**	**271**	P	**P**	**12 14 28.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**54.01**	**266**	P	**P**	**12 14 43.9**	**0.0**
	baz=54,SNR=8.5						
FITZ	**Fitzroy Crossi**	**54.01**	**266**	P	**P**	**12 14 43.3**	**-0.6**
	comp=Z,11nm,0.9s,baz=150,slow=7.4,SNR=5.5						
FITZ	**Fitzroy Crossi**	**54.01**	**266**	P	**P**	**12 14 42.5**	**-1.4**
FITZ				IAmb	IAmb	12 14 46.4	
	comp=Z,16nm,1.1s						
FAKI	**Fak Fak**	**54.65**	**287**	P	**P**	**12 14 45.9**	**-2.7**
MEEK	**Meekatharra**	**57.56**	**254**	P	**P**	**12 15 08.3**	**-1.1**
	baz=58,SNR=6.7						
PSA00	**Pilbara Seismi**	**58.00**	**260**	P	**P**	**12 15 11.6**	**-0.8**
PSA00				IAmb	IAmb	12 15 14.9	
	comp=Z,12nm,1.1s						
CASY	**Casey**	**59.05**	**207**	P	**P**	**12 15 19.5**	**+0.5**
MORW	**Morawa**	**59.10**	**251**	P	**P**	**12 15 19.3**	**-0.7**
	baz=60,SNR=5.0						
MORW	**Morawa**	**59.10**	**251**	P	**P**	**12 15 18.9**	**-1.1**
TNTI	**Ternate**	**60.73**	**287**	P	**P**	**12 15 30.8**	**-0.5**
TNTI				IAmb	IAmb	12 15 48.5	
	comp=Z,19nm,1.0s						
QSPA	**South Pole Qui**	**63.32**	**180**	P	**P**	**12 15 49.3**	**+1.1**
CISI	**Cisompet, Garu**	**74.09**	**269**	P	**P**	**12 16 54.1**	**-1.9**
LEM	**Lembang**	**74.58**	**270**	P	**P**	**12 16 59.7**	**+0.7**
	comp=Z,48nm,0.7s,baz=3.4,slow=19,SNR=3.0						
SBUM	**Sibu**	**74.69**	**281**	P	**P**	**12 16 58.2**	**-1.2**
KSM	**Kuching**	**75.91**	**279**	P	**P**	**12 17 05.7**	**-0.8**
KSM				IAmb	IAmb	12 17 07.3	
	comp=Z,17nm,1.0s						
INU	**Inuyama**	**75.94**	**322**	P	**P**	**12 17 06.3**	**+0.2**
MJAR	**Matsushiro Arr**	**76.19**	**324**	P	**P**	**12 17 07.3**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,12nm,1.2s						
MJAR	**Matsushiro Arr**	**76.19**	**324**	P	**P**	**12 17 06.6**	**-1.0**
	comp=Z,19nm,1.0s,baz=165,slow=5.3,SNR=22						
MJAR	**Matsushiro Arr**	**76.19**	**324**	P	**P**	**12 17 07.3**	**-0.2**
MAJO	**Matsushiro**	**76.19**	**324**	⇓*i*P	**P**	**12 17 08.1**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,44nm,1.0s						
MAJO	**Matsushiro**	**76.19**	**324**	P	**P**	**12 17 06.8**	**-0.7**
MAT	**Matsushiro**	**76.19**	**324**	P	**P**	**12 17 07.4**	**-0.1**
MJB9	**Matsu-Tunnel**	**76.20**	**324**	P	**P**	**12 17 07.2**	**-0.4**
MAW	**Mawson**	**76.22**	**200**	P	**P**	**12 17 10.0**	**+2.7**
	baz=77,SNR=7.0						
MAW	**Mawson**	**76.22**	**200**	P	**P**	**12 17 07.7**	**+0.4**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MAW	**Mawson**	**76.22**	**200**	P	**P**	**12 17 08.7**	**+1.4**
	comp=Z,7.2nm,0.8s,baz=104,slow=8.4,SNR=8.3						
MAW	**Mawson**	**76.22**	**200**	P	**P**	**12 17 07.7**	**+0.4**
JNU	**Nakatsue**	**77.92**	**317**	P	**P**	**12 17 18.1**	**+0.8**
	comp=Z,46nm,1.0s,baz=90,slow=4.6,SNR=11						
JNU	**Nakatsue**	**77.92**	**317**	P	**P**	**12 17 17.3**	**-0.1**
ERM	**Erimo**	**78.05**	**330**	P	**P**	**12 17 17.0**	**-0.7**
ERM				pmax	pmax		
	comp=Z,40nm,1.1s						
ERM	**Erimo**	**78.05**	**330**	P	**P**	**12 17 17.0**	**-0.7**
NACB	**Ninganchiao**	**78.52**	**305**	P	**P**	**12 17 20.6**	**-0.2**
JKA	**Kamikawa-asahi**	**79.97**	**331**	P	**P**	**12 17 30.1**	**+1.8**
ASAJ	**Asahikawa**	**79.98**	**331**	P	**P**	**12 17 30.1**	**+1.8**
	comp=Z,23nm,0.9s,baz=221,slow=4.7,SNR=9.6						
SYO	**Syowa Base**	**80.97**	**192**	⇓*e*P	**P**	**12 17 32.2**	**-1.2**
SYO	**Syowa Base**	**80.97**	**192**	⇓*e*pP	**P**	**12 17 35.8**	**+2.4**
SNAA	**Sanae**	**81.72**	**178**	P	**P**	**12 17 37.9**	**+0.4**
SNAA	**Sanae**	**81.72**	**178**	P	**P**	**12 17 37.8**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**81.72**	**178**	P	**P**	**12 17 37.8**	**+0.4**
SNAA				IAmb	IAmb	12 17 39.1	
	comp=Z,12nm,1.1s						
MYKOM	**Kota Tinggi**	**81.78**	**276**	P	**P**	**12 17 37.4**	**-1.3**
VNA3	**Neumayer Olymp**	**81.80**	**176**	P	**P**	**12 17 38.2**	**+0.4**
YSS	**Yuzh-Sakhalins**	**82.19**	**333**	⇑*e*P	**P**	**12 17 41.6**	**+1.6**
YSS				*e*		12 17 52.7	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
YSS	**Yuzh-Sakhalins**	**82.19**	**333**	P	**P**	**12 17 39.1**	**-0.9**
TJN	**Taejon**	**82.25**	**317**	⇑*e*P	**P**	**12 17 42.3**	**+1.7**
VNA2	**Neumayer--Watz**	**82.25**	**176**	P	**P**	**12 17 40.7**	**+0.5**
	baz=170,slow=4.5						
VES	**Vestal, Richgr**	**82.38**	**44**	P	**P**	**12 17 42.3**	**+1.0**
	baz=229						
VNA1	**Neumayer--Stat**	**82.47**	**176**	P	**P**	**12 17 42.1**	**+0.7**
KSRS	**Korea Array**	**82.62**	**318**	P	**P**	**12 17 43.9**	**+1.3**
	comp=Z,9.7nm,0.8s,baz=143,slow=6.2,SNR=22						
KSAR	**Wonju Array Be**	**82.64**	**318**	P	**P**	**12 17 43.3**	**+0.7**
KSAR	**Wonju Array Be**	**82.64**	**318**	P	**P**	**12 17 43.2**	**+0.7**
ISA	**Isabella, Lake**	**82.64**	**44**	P	**P**	**12 17 44.4**	**+1.6**
	baz=230						
KS19	**Wonju Array Si**	**82.69**	**318**	P	**P**	**12 17 42.4**	**-0.5**
PETK	**Petropavlovsk-**	**82.72**	**345**	P	**P**	**12 17 41.9**	**-0.8**
PETK	**Petropavlovsk-**	**82.72**	**345**	P	**P**	**12 17 43.7**	**+1.0**
	comp=Z,10nm,0.7s,baz=158,slow=4.3,SNR=12						
PETK	**Petropavlovsk-**	**82.72**	**345**	P	**P**	**12 17 41.9**	**-0.8**
CMB	**Columbia Colle**	**83.04**	**41**	P	**P**	**12 17 44.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMB	**Columbia Colle**	**83.04**	**41**	P	**P**	**12 17 44.8**	**0.0**
CMB				IAmb	IAmb	12 17 48.9	
	comp=Z,8.8nm,1.0s						
BELC	**Belle Mtn. Jos**	**83.17**	**47**	P	**P**	**12 17 47.9**	**+2.3**
	baz=231						
CWC	**Cottonwood Cre**	**83.39**	**44**	P	**P**	**12 17 48.1**	**+1.4**
	baz=230						
ORV	**Oroville**	**83.42**	**39**	P	**P**	**12 17 46.0**	**-0.6**
ORV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ORV	**Oroville**	**83.42**	**39**	P	**P**	**12 17 46.0**	**-0.6**
MPMC	**Manual Prospec**	**83.51**	**44**	P	**P**	**12 17 49.1**	**+1.7**
	baz=230						
WDC	**Whiskeytown Da**	**83.54**	**38**	P	**P**	**12 17 46.4**	**-0.8**
WDC				pmax	pmax		
	comp=Z,13nm,1.1s						
WDC	**Whiskeytown Da**	**83.54**	**38**	P	**P**	**12 17 46.4**	**-0.8**
WDC				IAmb	IAmb	12 17 51.8	
	comp=Z,13nm,1.1s						
MDPB	**Devils Postpil**	**83.56**	**42**	P	**P**	**12 17 47.0**	**-0.7**
MDPB				IAmb	IAmb	12 17 52.6	
	comp=Z,8.6nm,1.1s						
OMMB	**Old Mammoth Mi**	**83.59**	**42**	P	**P**	**12 17 47.5**	**-0.5**
BKNI	**Bangkinang**	**83.63**	**274**	P	**P**	**12 17 47.4**	**-0.9**
N02D	**Trinity Center**	**83.72**	**38**	P	**P**	**12 17 50.7**	**+2.5**
	baz=226						
O03E	**Paynes Creek**	**83.75**	**39**	P	**P**	**12 17 50.2**	**+1.8**
	baz=227						
GO06	**Curarrehue**	**83.80**	**131**	P	**P**	**12 17 46.4**	**-2.6**
GO06				IAmb	IAmb	12 17 49.4	
	comp=Z,13nm,1.4s						
IRM	**Iron Mountain**	**83.82**	**47**	P	**P**	**12 17 51.2**	**+2.4**
	baz=232						
PLCA	**Paso Flores**	**83.84**	**133**	LR	LR	12 47 42.5	
	comp=Z,208nm,18.8s,baz=262,slow=30						
WAKR	**Walker**	**83.91**	**41**	P	**P**	**12 17 49.3**	**-0.1**
WAKR				IAmb	IAmb	12 17 54.1	
	comp=Z,13nm,1.2s						
M02C	**Callahan**	**83.92**	**37**	P	**P**	**12 17 51.7**	**+2.4**
	baz=226						
SHOC	**Shoshone, Teco**	**84.17**	**45**	P	**P**	**12 17 51.8**	**+1.2**
	baz=231						
GRAC	**Grapevine Rang**	**84.19**	**44**	P	**P**	**12 17 52.9**	**+2.2**
	baz=230						
PNTR	**Pine Nut**	**84.20**	**41**	P	**P**	**12 17 50.6**	**-0.3**
PNTR				IAmb	IAmb	12 17 55.3	
	comp=Z,17nm,1.0s						
VCNR	**Virginia City**	**84.31**	**41**	P	**P**	**12 17 50.5**	**-0.9**
VCNR				IAmb	IAmb	12 17 55.7	
	comp=Z,8.9nm,1.1s						
YERR	**Yerington**	**84.34**	**41**	P	**P**	**12 17 51.0**	**-0.6**
YERR				IAmb	IAmb	12 17 55.8	
	comp=Z,8.6nm,1.0s						
RYN	**Ryan**	**84.54**	**42**	P	**P**	**12 17 51.8**	**-0.7**
RYN				IAmb	IAmb	12 17 59.6	
	comp=Z,8.2nm,1.2s						
NVAR	**Mina Array Bea**	**84.54**	**42**	P	**P**	**12 17 53.6**	**+1.0**
	comp=Z,5.4nm,0.9s,baz=222

comp=Z,6.0nm,0.9s
KNB Kanab 87.06 46 P **P 12 18 04.3 -0.8**
WUAZ Wupatki 87.11 48 P **P 12 18 07.4 +2.0**
baz=234
WUAZ Wupatki 87.11 48 P **P 12 18 04.6 -0.8**
GSI Gunungsitoli 87.16 273 P **P 12 18 05.0 -0.9**
SZCU Shurtz Canyon 87.23 45 P **P 12 18 05.4 -0.6**
WHN Wuhan 87.43 306 ⇓P **P 12 18 08.5 +1.7**
WHN pmax pmax
comp=Z,76nm,0.9s
PKCU Pink Cliffs 87.64 46 P **P 12 18 08.0 -0.1**
GRNR Gornyy 87.78 332 *e*P **P 12 18 09.8 +1.8**
CN2 Changchun 88.22 322 *e*P **P 12 18 11.0 +0.8**
CN2 *e*S **S 12 28 51.8 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,320nm,18.0s
CN2 LR LR
comp=Z,370nm,18.0s
MSU Marysvale 88.36 45 P **P 12 18 11.3 0.0**
MSU Marysvale 88.36 45 P **P 12 18 11.3 0.0**
D05A Enumclaw 88.37 34 P **P 12 18 10.6 -0.3**
G08A Pilot Rock 88.65 36 P **P 12 18 12.0 -0.4**
G08A IAmb IAmb 12 18 16.7
comp=Z,5.7nm,0.9s
KLR Kul'dur 88.71 329⇓*e*P **P 12 18 13.4 +0.9**
KLR pmax pmax
comp=Z,23nm,1.5s
KLR Kul'dur 88.71 329 P **P 12 18 13.4 +0.9**
comp=Z,5.3nm,0.9s,baz=144,slow=2.3,SNR=11
E07A Sunnyside 89.02 35 P **P 12 18 13.2 -0.9**
B05A Bryant 89.06 33 P **P 12 18 15.4 +1.3**
baz=226
HAWA Hanford 89.08 35 P **P 12 18 13.3 -1.0**
HAWA IAmb IAmb 12 18 18.7
comp=Z,12nm,1.1s
LTY Liberty 89.08 34 P **P 12 18 13.4 -0.9**
A04D Lummi Island 89.08 32 P **P 12 18 16.7 +2.6**
baz=226
TX31 Lajitas Ar. Si 89.13 56 P **P 12 18 13.8 -1.2**
TXAR Lajitas Array 89.13 56 P **P 12 18 16.3 +1.2**
comp=Z,0.8nm,0.8s,baz=213,slow=6.7,SNR=8.4
TXAR Lajitas Array 89.13 56 P **P 12 18 14.8 -0.2**
TMUT Trail Mountain 89.43 45 P **P 12 18 16.0 -0.5**
HVU Hansel Valley 89.94 42 P **P 12 18 17.7 -0.9**
HVU pmax pmax
comp=Z,4.0nm,1.0s
HVU Hansel Valley 89.94 42 P **P 12 18 17.7 -0.9**
F10A Beach Ranch, E 90.02 37 P **P 12 18 18.6 -0.2**
F10A IAmb IAmb 12 18 20.2
comp=Z,10nm,0.9s
ANMO Albuquerque 90.11 50 P **P 12 18 21.5 +1.9**
baz=237
ANMO Albuquerque 90.11 50 P **P 12 18 18.5 -1.1**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO Albuquerque 90.11 50 P **P 12 18 18.5 -1.1**
PLID Pearl Lake 90.12 38 P **P 12 18 18.1 -1.4**
PLID IAmb IAmb 12 18 23.4
comp=Z,18nm,1.3s
TCUT Toone Canyon 90.37 43 P **P 12 18 20.1 -0.7**
B08A Colville Reser 90.48 34 P **P 12 18 20.8 0.0**
B08A IAmb IAmb 12 18 24.4
comp=Z,7.2nm,1.1s
C09A Chrisman Ranch 90.65 35 P **P 12 18 21.3 -0.3**
C09A IAmb IAmb 12 18 25.5
comp=Z,9.1nm,0.8s
SCM Sheep Creek Mo 91.33 13 P **P 12 18 24.2 -0.3**
SCM pmax pmax
comp=Z,21nm,1.1s
SCM Sheep Creek Mo 91.33 13 P **P 12 18 24.2 -0.3**
S22A 4UR Ranch, Cre 91.38 48 P **P 12 18 27.4 +1.8**
baz=237
NEW Newport 91.54 35 P **P 12 18 26.9 +1.1**
baz=230
REDW Red Top Meadow 92.02 42 P **P 12 18 27.7 -0.6**
FXWY Fox Creek 92.08 41 P **P 12 18 28.5 -0.1**
SDCO Great Sand Dun 92.27 49 P **P 12 18 31.0 +1.3**
baz=238
MSO Missoula 92.33 37 P **P 12 18 30.4 +0.8**
baz=232
BW06 Boulder Array 92.45 43 P **P 12 18 31.5 +1.1**
baz=235
PD31 Pinedale Array 92.45 43 P **P 12 18 30.4 0.0**
PDAR Pinedale Array 92.45 43 P **P 12 18 31.3 +0.9**
comp=Z,2.1nm,0.9s,baz=199,slow=4.1,SNR=9.8
PDAR Pinedale Array 92.45 43 P **P 12 18 30.6 +0.3**
RND Reindeer 92.46 12 P **P 12 18 29.4 -0.3**
RND pmax pmax
comp=Z,20nm,1.3s
RND Reindeer 92.46 12 P **P 12 18 29.4 -0.3**
FLWY Flagg Ranch 92.53 41 P **P 12 18 30.6 0.0**
SEY Seymchan 92.82 346⇓*e*P **P 12 18 32.2 +1.0**
BOZ Bozeman (W) 92.87 39 P **P 12 18 33.6 +1.5**
baz=234
BOZ Bozeman (W) 92.87 39 P **P 12 18 32.0 -0.1**
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 92.87 39 P **P 12 18 32.0 -0.1**
BOZ IAmb IAmb 12 18 36.2
comp=Z,8.1nm,1.1s
WRH Wood River Hil 93.57 12 P **P 12 18 34.8 +0.1**
WRH IAmb IAmb 12 18 48.0
comp=Z,8.5nm,1.0s
CMAR Chiang Mai Arr 93.67 289 P **P 12 18 37.3 +1.1**
comp=Z,4.7nm,0.9s,baz=124,slow=2.8,SNR=7.7
CMAR Chiang Mai Arr 93.67 289 P **P 12 18 37.5 +1.2**
HDA Harding Lake 93.73 12 P **P 12 18 36.0 +0.6**
baz=206
TCOL CIGO, UAF Yank 93.98 12 P **P 12 18 37.6 +1.1**
baz=205
COLA College 93.98 12⇓*e*P **P 12 18 36.8 +0.3**
COLA pmax pmax
comp=Z,12nm,2.1s
ILAR Eielson Array 94.07 12 P **P 12 18 36.3 -0.7**
ILAR Eielson Array 94.07 12 P **P 12 18 36.9 -0.1**
comp=Z,1.3nm,0.8s,baz=216,slow=5.8,SNR=11
ILAR Eielson Array 94.07 12 P **P 12 18 36.3 -0.7**
HHC Hu-ho-hao-te 94.84 314 *e*P **P 12 18 44.0 +2.7**
HHC pmax pmax
comp=Z,2.0nm,0.9s
BILL Bilibino 95.42 353⇓*i*P **P 12 18 43.8 +0.7**
BILL *e* 12 18 51.7
BILL *i* 12 22 36.7
BILL *i* PPP PPP 12 24 41.3
BILL pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 96.56 44 P **P 12 18 49.4 +0.2**
baz=239
RSSD Black Hills 96.56 44 P **P 12 18 49.0 -0.2**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 96.56 44 P **P 12 18 49.0 -0.2**
LZH Lanzhou 97.80 306 *e*P Pdif 12 18 57.3 +2.3
LZH pP pwP 12 19 07.3 -0.4
LZH sP sP 12 19 11.8 +5.7
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,53nm,4.3s
LZH LR LR
comp=Z,270nm,17.5s
LZH LR LR
comp=Z,420nm,17.9s
YAK Yakutsk 98.50 337 *e*P Pdif 12 19 00.3 +3.2
YAK pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 101.11 318⇑*e*P **Pdif 12 19 09.3 -0.1**
ULN pmax pmax
comp=Z,12nm,1.2s
GTA Gaotai 102.13 308 *e*P **Pdif 12 19 18.5 +4.4**
GTA pP sPdif 12 19 28.5 +3.2
GTA sP pPdif 12 19 32.5 +10
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,51nm,6.8s
GTA LR LR
comp=Z,180nm,16.8s
GTA LR LR
comp=Z,210nm,19.0s
GTA LR LR
comp=Z,270nm,16.5s
WMQ Urumqi 112.17 309 *e*PKP **PKiKP 12 23 54.8 0.0**
WMQ LR LR
comp=Z,280nm,22.7s
WMQ LR LR
comp=Z,290nm,22.7s
ZALV Zalesovo Beam 116.32 319 PKIKP **PKPdf 12 24 01.6 -0.7**
ZALV Zalesovo Beam 116.32 319 PKP **PKPdf 12 24 01.9 -0.4**
comp=Z,0.4nm,0.3s,baz=186,slow=3.0,SNR=3.8
ZALV Zalesovo Beam 116.32 319 PKPdf 12 24 01.6 -0.7
MKAR Makanchi Array 116.58 311 PKP **PKPdf 12 24 02.8 -0.4**
comp=Z,1.6nm,0.8s,baz=22,slow=1.3,SNR=5.5
MKAR Makanchi Array 116.58 311 PKPdf 12 24 02.6 -0.5
KURK Kurchatov 119.61 315⇓*i*PKIKP **PKPdf 12 24 08.6 -0.1**
KURK Kurchatov 119.61 315 PKPdf 12 24 08.6 -0.1
KURBB Kurchatov Arra 119.66 315 PKP **PKPdf 12 24 08.9 +0.1**
comp=Z,1.0nm,0.7s,baz=101,slow=1.9,SNR=5.0
KSH Kashi 119.67 302 PKP **PKiKP 12 24 10.5 +1.0**
KSH sPKP 12 24 25.8
KSH PP **PP 12 25 39.5 +6.7**
KSH PKS **PKSdf 12 27 45.8 -0.4**
KSH SKS **SKSdf 12 31 16.8 -2.8**
KSH SKKS **SKKSac 12 32 27.8 -2.7**
KSH LR LR
comp=Z,370nm,9.6s
KSH LR LR
comp=Z,320nm,9.9s
KSH LR LR
comp=Z,380nm,12.8s
AAK Ala-Archa 121.32 305⇓*i*PKIKP **PKiKP 12 24 12.9 +0.2**
BRVK Borovoye 124.89 318⇓*i*PKIKP **PKiKP 12 24 19.5 +0.3**
ARU Arti 131.20 323 *i* PKIKP **PKiKP 12 24 31.8 +0.1**
ARU 12 26 48.2
ARCES ARCESS Array B 135.35 349 PKIKP **PKPdf 12 24 38.0 -0.2**
ARCES ARCESS Array B 135.35 349 PKP **PKPdf 12 24 38.0 -0.2**
comp=Z,2.9nm,0.8s,baz=64,slow=4.1,SNR=4.2
ARCES ARCESS Array B 135.35 349 PKiKP 12 24 39.5 -0.3
FINES FINESS Array B 142.21 343 PKhKP PKPpre 12 24 46.6
comp=Z,1.9nm,0.8s,baz=0.0,slow=6.1,SNR=3.4
OBN Obninsk 142.97 329 *i* PKIKP **PKiKP 12 24 58.5 +2.8**
OBN *e* 12 28 05.6
OBN *e*PPP PPP 12 31 17.6
OBN pmax pmax
comp=Z,8.0nm,0.9s
VSR Storozhevoye 143.76 322⇓*i*PKIKP **PKiKP 12 24 56.0 -1.4**
AKH Akhalkalaki 144.32 304 PKIKP **PKPdf 12 24 55.2 -0.4**
AKH Akhalkalaki 144.32 304 PKPdf 12 24 55.2 -0.4
NEY Neytrino 144.46 308⇑*e*PKIKP **PKPab 12 24 53.6 -0.5**
NB201 NORSAR Array S 145.35 354 PKPdf 12 24 56.8 +0.2
NB2 NORSAR Subarra 145.37 354 PKP **PKPbc 12 24 56.5 0.0**
comp=Z,29nm,1.4s,baz=10,slow=3.2
NOA NORSAR Array B 145.37 354 PKPbc **PKPdf 12 24 56.8 +0.2**
comp=Z,18nm,0.9s,baz=11,slow=2.4,SNR=30
NACGM Naroch 147.24 335 *e* **PKPab 12 25 04.0 +0.1**
AKASG Malin Array Be 149.21 328 PKPbc **PKPbc 12 25 07.5 0.0**
comp=Z,1.0nm,0.4s,baz=56,slow=5.9,SNR=4.5
AKASG Malin Array Be 149.21 328 PKPbc 12 25 07.2 -0.2
AKASG PKPab **PKPab 12 25 12.7 +0.8**
AKBB Malin Array Si 149.21 328 PKP2 **PKPbc 12 25 07.3 -0.1**
AKBB Malin Array Si 149.21 328 PKPbc 12 25 07.3 -0.1
BR131 Keskin Array S 152.00 305 PKIKP **PKPbc 12 25 13.9 -0.8**
BR131 Keskin Array S 152.00 305 PKPbc **PKPbc 12 25 13.9 -0.8**
BR131 **sPKPbc 12 25 25.4 -0.7**
BRTR Keskin Array B 152.00 305 PKIKP **PKPdf 12 25 06.8 -1.3**
BRTR 12 25 15.1
BRTR Keskin Array B 152.00 305 PKPbc **PKiKP 12 25 15.2 +0.1**
comp=Z,3.4nm,0.9s,baz=129,slow=1.8,SNR=6.8
BRTR Keskin Array B 152.00 305 PKPdf **PKPdf 12 25 06.8 -1.3**
BRTR **PKiKP 12 25 15.1 +0.1**
BRTR PKPab **sPKPbc 12 25 26.0 -0.1**
LVV L'vov 152.19 331 *e*PKIKP **PKiKP 12 25 14.9 0.0**
BURAR Bucovina Array 153.23 327 PKPdf **PKPdf 12 25 08.3 -1.3**
BURAR **pPKPdf 12 25 18.4 +0.3**
KOLS Kolonicke sedl 153.61 332 *e*PKIKP **PKiKP 12 25 19.6 +1.7**
KOLS Kolonicke sedl 153.61 332 *e*PKP **PKiKP 12 25 19.6 +1.7**
CHVC Chvalec 154.42 342 *e*PKP **PKPab 12 25 34.5 +0.8**
CLL Collm 154.51 346 *i* PKIKP **PKiKP 12 25 20.0 +0.4**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 154.51 346 *i* PKPbc **PKiKP 12 25 20.0 +0.4**
comp=Z,11nm,1.2s
CLL *e*PKPab **PKPab 12 25 35.0 +1.0**
CLL *e*SS SS 12 49 18.0 +31
CLL *e* 12 50 48.0
CLL *e* 12 53 18.0
CLL LmV 12 54 00.0
comp=Z,200nm,18.5s
VYHS Vyhne 155.33 335 *e*PKP2 **PKPab 12 25 39.0 +1.3**
VYHS Vyhne 155.33 335 *e*PKP **PKPab 12 25 39.0 +1.3**
MODS Modra-Piesok 155.99 337 *e*PKP2 **PKPab 12 25 41.3 +0.8**
MODS Modra-Piesok 155.99 337 *e*PKP **PKPab 12 25 41.2 +0.7**
KHC Kasperske Hory 156.41 344 *e*PKIKP **PKPdf 12 25 13.5 -0.4**
KHC Kasperske Hory 156.41 344 *e*PKPDF **PKPdf 12 25 13.5 -0.4**
KHC *e*PKPAB **PKPab 12 25 42.5 +0.2**
ESDC Sonseca Array 165.62 25 PKP **PKPdf 12 25 23.3 -0.7**
comp=Z,0.1nm,0.3s,baz=253,slow=1.3,SNR=4.0
ESDC PKPab **PKPab 12 26 22.6 -0.1**
comp=Z,0.5nm,0.6s,baz=320,slow=3.6,SNR=4.6
ESDC Sonseca Array 165.62 25 PKPdf **PKPdf 12 25 24.9 +0.8**
ESDC **PKPab 12 26 22.2 -0.6**
TOA0 Torodi Ar. Sit 166.31 172 PKPab 12 26 26.6 +0.4
TORD Torodi Ar. Bea 166.31 172 PKP **PKPdf 12 25 25.3 +0.1**
comp=Z,1.9nm,0.9s,baz=233,slow=0.7,SNR=8.1
TORD PKPab **PKPab 12 26 27.0 +0.8**
comp=Z,7.2nm,0.9s,baz=186,slow=4.1,SNR=22
TORD Torodi Ar. Bea 166.31 172 PKPdf 12 25 24.7 -0.5
TORD **PKPab 12 26 26.5 +0.3**

ISK 29 12:11:28.3, 40°.74N×30°.08E, h16km, ML1.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.18**	**107**	PG	Pb	12 11 33.1	-0.1
SAUV	**Serdivan-Sakar**	**0.18**	**90**	PG	Pb	12 11 33.2	-0.1
GULT	**Gulveren**	**0.45**	**133**	PG	Pb	12 11 37.8	-0.1
GULT				SG	Sb	12 11 44.7	+0.3
YLV	**Yalova**	**0.57**	**252**	PG	Pb	12 11 39.9	0.0
BORA	**Eskisehir**	**0.90**	**162**	PG	Pn	12 11 46.2	-0.2

IDC ***29*** *12:13:50.7±0.6, 28°.18N×99°.47E, h0km, mb4.2/24, mb1 4.3/24, mb1mx4.2/56, mbtmp4.2/24, MS4.0/16, Ms1 4.0/16, ms1mx3.8/52, Error ellipse: s-maj=17.3km s-min=11.8km az=45.0*
ISCJB ***29*** *12:13:51.2±0.2, 28°.14N±0°.03×99°.30E±0°.02, h10km, mb4.4/54, MS4.0/18, Error ellipse: s-maj=3.8km s-min=2.8km az=177.4*
MOS ***29*** *12:13:51.7±1.1, 28°.15N×99°.35E, h15km, mb4.7/32, Error ellipse: s-maj=7.1km s-min=5.5km az=112.1*
NEIC ***29*** *12:13:53.1±1.1, 28°.17N±0°.07×99°.30E±0°.06, h10km±1km, mb4.5/44*
BJI ***29*** *12:13:53.4±0.0, 28°.19N×99°.51E, h10km, mb4.5/40, mB4.8/32, ML4.6/7, Ms4.6/47, Ms7 4.4/44*
ISC 29 12:13:54.1±0.3, 28°.24N±0°.03×99°.31E±0°.03, h10km, n205, σ1°.84/206, mb4.4/61, MS4.1/18, 7C-7D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**3.19**	**254**	*e*P	**Pn**	**12 14 47.5**	**+3.2**
LKP				*e*S	**Sn**	**12 15 29.2**	**+6.7**
LKP				*e*S	**Sb**	**12 15 29.8**	**-0.1**
LKP				IAML		12 15 38.9	
LKP	comp=N,2μm,0.6s			IAML		12 15 40.0	
LKP	comp=E,2μm,0.5s			IAML		12 15 40.6	
	comp=Z,339nm,0.5s						
KMI	**Kunming**	**4.36**	**134**	Pg	**Pb**	**12 15 09.3**	**-1.7**
KMI				Sg	**Sb**	**12 16 09.5**	**+5.7**
KMI				LR	LR		
KMI	comp=Z,13μm,10.2s			LR	LR		
	comp=Z,3μm,10.4s						
KMI	**Kunming**	**4.36**	**134**	P	**Pn**	**12 14 59.3**	**-1.4**
KMI	**Kunming**	**4.36**	**134**		**Pn**	**12 14 59.3**	**-1.4**
CD2	**Chengdu**	**4.71**	**54**	Pg	**Pb**	**12 15 19.0**	**+2.3**
CD2				Sn	**Sn**	**12 16 02.0**	**+2.1**
CD2				Sg	**Sg**	**12 16 22.3**	**-2.9**
CD2				smax	smax		
	comp=N,210nm,1.3s						
CD2				smax	smax		
	comp=E,340nm,1.4s						
CD2				LR	LR		
	comp=N,20μm,7.8s						
CD2				LR	LR		
	comp=Z,5μm,4.7s						
CD2	**Chengdu**	**4.71**	**54**	Pg	**Pb**	**12 15 18.8**	**+2.1**
CD2				Sn	**Sn**	**12 16 01.8**	**+1.9**
CD2				Sg	**Sg**	**12 16 25.8**	**+0.6**
CD2				LR	LR		
	comp=Z,11μm,8.0s						
CD2				LR	LR		
	comp=Z,5μm,8.2s						
JORH	**JORHAT**	**4.73**	**253**	*e*x	Pn	12 15 10.9	+5.4
JORH				*e*x	**Sn**	**12 16 03.2**	**+2.8**
JORH				IAML		12 16 24.5	
	comp=E,999nm,0.8s						
JORH				IAML		12 16 24.9	
	comp=N,558nm,0.6s						
ZIRO	**ZIRO**	**4.88**	**263**	*e*P	**Pn**	**12 15 10.0**	**+2.2**
ZIRO				*e*S	**Sn**	**12 16 08.4**	**+4.0**
ZIRO				*e*S	Sb	12 16 09.1	-10
ZIRO				IAML		12 16 12.4	
	comp=E,3μm,0.6s						
ZIRO				IAML		12 16 17.9	
	comp=N,2μm,0.3s						
KOHI	**KOHIMA**	**5.27**	**243**	*e*P	**Pn**	**12 15 14.5**	**+1.4**
KOHI				*e*x	x	12 16 18.4	
KOHI				IAML		12 16 24.9	
	comp=E,303nm,0.6s						
KOHI				IAML		12 16 28.4	
	comp=N,305nm,0.4s						
GYA	**Guiyang**	**6.78**	**103**⇑	*i*Pn	**Pn**	**12 15 34.3**	**+0.5**
GYA				Sn	**Sn**	**12 16 54.5**	**+3.4**
GYA				Sg	**Sg**	**12 17 26.8**	**-4.9**
GYA				LR	LR		
	comp=N,3μm,7.3s						
GYA				LR	LR		
	comp=N,3μm,7.4s						
GYA				LR	LR		
	comp=N,5μm,8.6s						
SHL	**Shillong**	**7.14**	**250**	P	**Pn**	**12 15 38.1**	**-0.7**
SHL						12 16 58.5	
SHL	**Shillong**	**7.14**	**250**	*e*P	**Pn**	**12 15 39.5**	**+0.7**
SHL				*e*S	**Sn**	**12 16 58.4**	**-1.7**
SHL				IAML		12 17 04.3	
	comp=E,178nm,0.7s						
SHL				IAML		12 17 08.3	
	comp=N,171nm,0.3s						
SHL	**Shillong**	**7.14**	**250**		**Pn**	**12 15 38.1**	**-0.7**
SHL				Sn	**Sn**	**12 16 58.5**	**-1.6**
LSA	**Lhasa**	**7.29**	**283**	Pn	**Pn**	**12 15 43.8**	**+2.7**
LSA				LR	LR		
	comp=N,4μm,5.7s						
LSA				LR	LR		
	comp=N,11μm,8.5s						
LSA	**Lhasa**	**7.29**	**283**	P	**Pn**	**12 15 41.1**	**-0.1**
LSA	**Lhasa**	**7.29**	**283**		**Pn**	**12 15 41.1**	**-0.1**
SLVN	**Son La**	**8.04**	**148**	Pn	**Pn**	**12 15 50.1**	**-0.9**
LZH	**Lanzhou**	**8.72**	**25**⇑	P	**Pn**	**12 16 03.0**	**+2.6**
LZH				pP	Pg	12 16 06.5	-35
LZH				sP		12 16 09.0	
LZH				PP	**PnPn**	**12 16 10.8**	**+2.6**
LZH				pmax	pmax		
	comp=N,19nm,1.1s						
LZH				pmax	pmax		
	comp=N,58nm,4.9s						
LZH				LR	LR		
	comp=N,4μm,7.6s						
LZH				LR	LR		
	comp=N,4μm,9.2s						
PAYA	**Payao**	**8.85**	**177**	P	**Pn**	**12 16 05.3**	**+3.2**
	comp=N,37μm,0.9s,comp=N,629μm						
ENH	**Enshi**	**9.12**	**75**		**Pn**	**12 16 05.8**	**0.0**
ENH				Sn	**Sn**	**12 17 49.4**	**+0.7**
CHTO	**Chiang Mai**	**9.38**	**182**	P	**Pn**	**12 16 09.1**	**-0.4**
CHTO	**Chiang Mai**	**9.38**	**182**		**Pn**	**12 16 09.1**	**-0.4**
CMMT	**Chiang Mai**	**9.38**	**182**	P	**Pn**	**12 16 13.5**	**+4.0**
	comp=N,13nm,1.9s						
GTK	**Tadong**	**9.53**	**267**	*e*P	**Pn**	**12 16 13.4**	**+1.9**
GTK				*e*x	x	12 18 02.0	
GTK				IAML		12 18 05.2	
	comp=N,40nm,0.6s						
PHRA	**Phrae**	**9.73**	**175**	P	Pn	12 16 22.2	+8.0
	comp=N,1.8nm,2.5s,comp=N,1μm						
CM31	**Chiang Mai Arr**	**9.74**	**182**		**Pn**	**12 16 14.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**9.74**	**182**	P	**Pn**	**12 16 14.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**9.74**	**182**	Pn	**Pn**	**12 16 16.2**	**+1.9**
	comp=N,0.2nm,0.3s,baz=0.1,slow=12,SNR=33						
CMAR				Pg		12 16 52.5	
	comp=N,0.7nm,0.3s,baz=355,slow=17,SNR=9.9						
CMAR				Lg	Lg	12 19 01.4	
	comp=N,0.3nm,0.3s,baz=2.1,slow=30,SNR=11						
CMAR				LR	LR	12 20 39.1	
	comp=N,337nm,18.2s,baz=2.5,slow=42						
CMAR	**Chiang Mai Arr**	**9.74**	**182**		**Pn**	**12 16 14.0**	**-0.3**
XAN	**Xi'an**	**10.06**	**53**	P	**Pn**	**12 16 16.8**	**-2.0**
XAN				S	**Sn**	**12 18 15.0**	**+3.2**
XAN				LR	LR		
	comp=N,2μm,11.6s						
XAN				LR	LR		
	comp=N,1μm,11.3s						
XAN	**Xi'an**	**10.06**	**53**	P	**Pn**	**12 16 19.3**	**+0.5**
XAN	**Xi'an**	**10.06**	**53**	Pn	**Pn**	**12 16 19.2**	**+0.5**
MHMT	**Maesarieng**	**10.09**	**187**	P	Pn	12 16 23.8	+4.7
	comp=N,48nm,1.8s						
TAPN	**Taplejung**	**10.31**	**268**	*e*P	**Pn**	**12 16 22.5**	**+0.1**
	comp=N,116nm,0.7s						
UTTA	**Uttaradit**	**10.51**	**173**	P	Pn	12 16 30.2	+5.4
	comp=N,10μm,0.6s						
ODAN	**Odare**	**10.66**	**265**	*e*P	**Pn**	**12 16 26.7**	**-0.5**
	comp=N,170nm,0.7s						
GTA	**Gaotai**	**11.15**	**2**	*e*P	**Pn**	**12 16 38.3**	**+4.5**
GTA				S	Sn	12 18 49.0	+10
GTA				sS		12 18 54.5	
GTA				pmax	pmax		
	comp=N,71nm,6.5s						
GTA				LR	LR		
	comp=N,2μm,11.1s						
GTA				LR	LR		
	comp=N,2μm,14.0s						
RAMN	**Ramite**	**11.34**	**266**	*e*P	**Pn**	**12 16 36.1**	**-0.4**
	comp=N,228nm,0.6s						
JIRN	**Jiri**	**11.61**	**270**	*e*P	**Pn**	**12 16 39.8**	**-0.5**
	comp=N,155nm,0.6s						
GUN	**Gumba**	**11.86**	**272**	*e*P	**Pn**	**12 16 43.6**	**-0.1**
	comp=N,64nm,0.4s						
PKI	**Pulchoki**	**12.31**	**270**	*e*P	**Pn**	**12 16 48.3**	**-1.5**
	comp=N,105nm,0.6s						
PKIN	**Phulchoki**	**12.32**	**270**	*e*P	**Pn**	**12 16 48.7**	**-1.2**
	comp=N,91nm,0.6s						
KKN	**Kakani**	**12.40**	**271**	*e*P	**Pn**	**12 16 50.6**	**-0.4**
	comp=N,120nm,0.6s						
DMN	**Daman**	**12.57**	**270**	*e*P	**Pn**	**12 16 52.6**	**-0.7**
	comp=N,80nm,0.7s						
BOK	**Bokaro**	**12.85**	**253**	*e*P	**Pn**	**12 16 56.5**	**-0.4**
GKN	**Gorkha**	**12.95**	**272**	*e*P	Pn	12 16 56.5	-1.9
	comp=N,45nm,0.4s						
QIZ	**Qiongzhong**	**13.30**	**131**	P	**Pn**	**12 17 02.8**	**-0.3**
QIZ				S	**Sn**	**12 19 31.5**	**+0.3**
QIZ				LR	LR		
	comp=N,2μm,14.7s						
QIZ				LR	LR		
	comp=N,2μm,8.2s						
WHN	**Wuhan**	**13.32**	**76**⇑	P	**Pn**	**12 17 02.0**	**-1.2**
WHN				S	**Sn**	**12 19 26.3**	**-5.1**
WHN				LR	LR		
	comp=N,1μm,6.8s						
WHN				LR	LR		
	comp=N,6μm,11.3s						
DANN	**Dangsing**	**13.70**	**274**	*e*P	Pn	12 17 05.5	-3.3
	comp=N,53nm,0.5s						
KOLN	**Koldanda**	**13.89**	**272**	*e*P	Pn	12 17 08.4	-2.8
	comp=N,35nm,0.6s						
BTO	**Baotou**	**15.16**	**33**	*e*P	**Pn**	**12 17 28.0**	**-0.4**
PHET	**Kaeng Krachan**	**15.25**	**179**	P	**P**	**12 17 38.7**	**+4.2**
PHET	**Kaeng Krachan**	**15.25**	**179**	P	**P**	**12 17 38.7**	**+4.2**
	comp=N,32μm,0.9s						
HHC	**Hu-ho-hao-te**	**16.11**	**35**	*e*P	**Pn**	**12 17 40.5**	**-0.3**
HHC				sP	P	12 17 46.8	+2.7
HHC				PP	**sP**	**12 17 54.0**	**+4.2**
NJ2	**Nanjing**	**17.33**	**73**	*e*P	**Pn**	**12 17 56.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,27nm,1.0s						
NJ2	**Nanjing**	**17.33**	**73**	*e*P	**Pn**	**12 17 56.8**	**+0.7**
NJ2				PP	**PnPn**	**12 18 09.3**	**+3.2**

NJ2 pmax pmax
comp=Z,22nm,0.8s
NJ2 pmax pmax
comp=Z,260nm,4.3s
NJ2 LR LR
comp=Z,1μm,11.4s
NJ2 LR LR
comp=Z,1μm,9.5s
WMQ Urumqi 18.14 332 *e*P **Pn 12 18 07.5 +1.4**
WMQ pP P 12 18 10.0 +3.5
WMQ sP pP 12 18 14.0 +3.8
WMQ S **Sn 12 21 27.8 -0.8**
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,71nm,3.9s
WMQ LR LR
comp=Z,660nm,11.7s
WMQ LR LR
comp=Z,810nm,18.7s
WMQ LR LR
comp=Z,730nm,14.3s
WMQ Urumqi 18.14 332 P **Pn 12 18 05.3 -0.8**
WMQ pmax pmax
comp=Z,19nm,1.2s
WMQ Urumqi 18.14 332 Pn 12 18 05.3 -0.8
BJT Baijiatuau 18.21 45 P **Pn 12 18 06.9 -0.1**
BJT pmax pmax
comp=Z,17nm,1.3s
BJT Baijiatuau 18.21 45 Pn 12 18 06.9 -0.1
TCU Taichung 19.60 97 P **P 12 18 20.0 -2.5**
TCU pmax pmax
comp=Z,29nm,1.5s
SONM Songino Array 20.33 14 P **P 12 18 28.5 -2.0**
comp=Z,1.2nm,0.7s,baz=199,slow=12,SNR=8.0
SONM LR LR 12 27 08.9
comp=Z,739nm,18.9s,baz=198,slow=39
SONM Songino Array 20.33 14 P **P 12 18 30.4 -0.1**
ULN Ulaanbaatar 20.50 15‖ *e*P **P 12 18 31.8 -0.6**
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 20.50 15 P **P 12 18 31.9 -0.6**
HYB Hyderabad 21.92 245 *i* P **P 12 18 46.0 -1.7**
HYB *e*S **S 12 22 52.0 +2.1**
TARG Taragay, Kyrgy 22.09 313 P **P 12 18 50.0 +0.1**
TARG IAmb IAmb 12 18 59.4
comp=Z,12nm,0.9s
PRZ Przheval'sk 22.12 315 P **P 12 18 49.0 -0.9**
PRZ pmax pmax
comp=Z,25nm,1.0s
PRZ Przheval'sk 22.12 315 P **P 12 18 49.0 -0.9**
PRZ IAmb IAmb 12 19 06.5
comp=Z,25nm,1.0s
ZAK Zakamensk 22.32 7 *e*P P 12 18 46.4 -5.5
ZAK pmax pmax
comp=Z,6.0nm,1.1s
KSH Kashi 22.34 306 P **P 12 18 52.5 +0.3**
KSH PP **PnPn 12 19 21.0 +6.1**
KSH S **S 12 22 53.5 -4.4**
KSH pmax pmax
comp=Z,310nm,6.4s
KSH LR LR
comp=Z,740nm,14.2s
KSH LR LR
comp=Z,510nm,9.7s
KSH LR LR
comp=Z,540nm,12.2s
KDJ Kajisay 22.70 313 P **P 12 18 56.2 +0.1**
KDJ pmax pmax
comp=Z,12nm,0.8s
KDJ Kajisay 22.70 313 P **P 12 18 56.2 +0.1**
KDJ IAmb IAmb 12 19 03.1
comp=Z,12nm,0.8s
MK31 Makanchi Array 22.83 329 P **P 12 18 56.9 -0.4**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 22.83 329 P **P 12 18 56.9 -0.4**
MKAR Makanchi Array 22.83 329 P **P 12 18 57.0 -0.3**
comp=Z,3.8nm,0.6s,baz=130,slow=12,SNR=21
MKAR LR LR 12 28 12.8
comp=Z,378nm,21.5s,baz=146,slow=38
MKAR Makanchi Array 22.83 329 P **P 12 18 56.8 -0.5**
NIL Nilore 22.96 290 P **P 12 18 57.3 -1.4**
NIL pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 22.96 290 P **P 12 18 57.4 -1.4**
NIL IAmb IAmb 12 19 16.7
comp=Z,12nm,0.8s
MAKZ Makanchi 22.99 328 P **P 12 18 58.3 -0.6**
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 22.99 328 P **P 12 18 58.3 -0.6**
MAKZ IAmb IAmb 12 19 02.9
comp=Z,14nm,1.2s
NRN Naryn 23.14 311 P **P 12 18 59.7 -1.1**
NRN pmax pmax
comp=Z,15nm,1.4s
NRN Naryn 23.14 311 P **P 12 18 59.7 -1.1**
NRN IAmb IAmb 12 19 21.3
comp=Z,15nm,1.4s
TLY Talaya 23.64 7 *e*P P 12 18 58.2 -7.2
TLY *e*S **S 12 23 15.2 -4.8**
TLY pmax pmax
comp=Z,13nm,1.4s
TLY MLR MLR
comp=Z,2μm,13.0s
TLY Talaya 23.64 7 LR LR 12 29 11.8
comp=Z,829nm,20.5s,baz=188,slow=39
TLY Talaya 23.64 7 P **P 12 19 06.9 +1.5**
INCN Inchon 24.67 61 P **P 12 19 15.3 +0.2**
INCN pmax pmax
comp=Z,72nm,1.6s
INCN Inchon 24.67 61 P **P 12 19 15.3 +0.2**
AAK Ala-Archa 24.69 312 P **P 12 19 14.6 -0.8**
AAK pmax pmax
comp=Z,23nm,1.5s
AAK Ala-Archa 24.69 312 P **P 12 19 15.4 0.0**
comp=Z,3.5nm,0.7s,baz=116,slow=6.8,SNR=12
AAK LR LR 12 30 13.2
comp=Z,572nm,18.2s,baz=108,slow=40
AAK Ala-Archa 24.69 312 P **P 12 19 14.6 -0.8**
AAK IAmb IAmb 12 19 21.8
comp=Z,23nm,1.5s
POO Poona 25.24 253 *ex* Pn 12 19 26.5
KSRS Korea Array 25.66 62 P **P 12 19 22.3 -1.7**
comp=Z,5.1nm,0.9s,baz=254,slow=10,SNR=8.4
KSRS LR LR 12 30 52.7
comp=Z,234nm,19.3s,baz=130,slow=40
SNSI Sinabang, Aceh 25.84 187 P **P 12 19 28.8 +3.0**
HIA Hailar 26.21 31 P **P 12 19 28.1 -0.9**
HIA pmax pmax
comp=Z,9.0nm,1.1s
HIA Hailar 26.21 31 P **P 12 19 28.1 -0.9**
HIA IAmb IAmb 12 19 34.0
comp=Z,9.1nm,1.1s
BTK Batken 26.25 304 P **P 12 19 28.9 -0.6**
BTK pmax pmax
comp=Z,9.0nm,0.8s
BTK Batken 26.25 304 P **P 12 19 28.9 -0.6**
BTK IAmb IAmb 12 19 52.6
comp=Z,9.1nm,0.8s
GAR Garm 26.32 302 P **P 12 19 29.5 -0.7**
KBL Kabul 26.53 291 P **P 12 19 31.3 -0.9**
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 26.53 291 P **P 12 19 31.3 -0.9**
KBL IAmb IAmb 12 19 41.0
comp=Z,14nm,0.9s
CHGR Chuyangaron 27.11 300 P **P 12 19 36.4 -0.9**
KURBB Kurchatov Arra 27.34 331 P **P 12 19 38.2 -0.9**
comp=Z,2.7nm,0.6s,baz=139,slow=10,SNR=22
KURK Kurchatov 27.37 331 P **P 12 19 38.9 -0.5**
KURK pmax pmax
comp=Z,30nm,1.6s
KURK Kurchatov 27.37 331 P **P 12 19 38.9 -0.5**
JNU Nakatsue 27.53 72 LR LR 12 30 57.5
comp=Z,278nm,20.0s,baz=235,slow=38
KKAR Karatay Array 27.53 310 P **P 12 19 40.6 -0.3**
KKAR pmax pmax
comp=Z,9.0nm,1.7s
KKAR Karatay Array 27.53 310 P **P 12 19 40.6 -0.3**
KKAR Karatay Array 27.53 310 P **P 12 19 40.9 -0.1**
KKAR IAmb IAmb 12 19 44.1
comp=Z,9.1nm,1.6s
ZAA0 Zalesovo Array 27.80 342 P **P 12 19 42.8 -0.4**
ZAA0 IAmb IAmb 12 19 50.5
comp=Z,5.6nm,0.8s
ZALV Zalesovo Beam 27.80 342 *i* P **P 12 19 45.4 +2.2**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 27.80 342 P **P 12 19 42.3 -0.8**
comp=Z,4.4nm,0.7s,baz=152,slow=11,SNR=12
ZALV LR LR 12 32 23.7
comp=Z,420nm,19.8s,baz=90,slow=40
ZALV Zalesovo Beam 27.80 342 P **P 12 19 42.6 -0.5**
SBUM Sibu 28.45 152 P **P 12 19 48.1 -1.2**
VLA Vladivostok 30.12 52 *ce*P **P 12 20 04.0 +0.1**
VLA pmax pmax
comp=Z,38nm,1.2s
USA0B Ussuriysk Arra 30.56 50 P **P 12 20 06.4 -1.4**
USA0B pmax pmax
comp=Z,14nm,1.3s
USA0B Ussuriysk Arra 30.56 50 P **P 12 20 06.4 -1.4**
USA0B IAmb IAmb 12 20 07.9
comp=Z,14nm,1.2s
USRK Ussuriysk Ar. 30.56 50 P 12 20 04.7 -3.0
comp=Z,3.3nm,0.8s,baz=222,slow=7.2,SNR=4.3
USRK Ussuriysk Ar. 30.56 50 P **P 12 20 06.7 -1.1**
HRA Herat 32.13 290 P **P 12 20 21.1 -0.9**
KLR Kul'dur 32.49 41‖ *e*P **P 12 20 24.1 -0.6**
KLR pmax pmax
comp=Z,15nm,1.5s
KLR Kul'dur 32.49 41 P **P 12 20 22.7 -2.0**
comp=Z,4.0nm,0.9s,baz=260,slow=6.7,SNR=5.1
BRVK Borovoye 32.76 327 P **P 12 20 26.6 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 32.76 327 P **P 12 20 26.6 -0.5**
BRVK IAmb IAmb 12 20 31.7
comp=Z,6.6nm,0.7s
MAJO Matsushiro 33.70 66‖ *e*P **P 12 20 36.9 +1.4**
MAJO pmax pmax
comp=Z,36nm,1.7s
BLSI Bandar Lampung 33.90 169 P **P 12 20 40.8 +3.5**
KASI Kota Agung 33.93 171 P **P** 12 20 35.3 -2.3
GEYT Alibeck 35.60 297 P **P 12 20 50.7 -1.2**
comp=Z,2.0nm,0.7s,baz=120,slow=8.7,SNR=4.1
GEYT LR LR 12 37 39.2
comp=Z,254nm,19.5s,baz=0.0,slow=40
GEYT Alibeck 35.60 297 P **P 12 20 51.0 -0.9**
GYA0B ALIBECK ARRAY 35.60 297 P **P 12 20 50.6 -1.3**
GYA0B IAmb IAmb 12 21 05.2
comp=Z,5.7nm,0.8s
GRNR Gornyy 35.87 41 *e*P P 12 20 43.4 -11
ABKAR Akbulak array 36.63 316 P **P 12 21 00.3 -0.3**
ABKAR Akbulak array 36.63 316 P **P 12 21 00.3 -0.3**
ABKAR IAmb IAmb 12 21 05.7
comp=Z,4.4nm,0.9s
LUWI Luwuk 36.80 138 P **P 12 21 00.9 -1.4**
LUWI Luwuk 36.80 138 P **P 12 21 00.4 -1.9**
ASAJ Asahikawa 37.90 54 P P 12 21 08.1 -3.3
comp=Z,17nm,0.9s,baz=288,slow=6.4,SNR=4.7
JKA Kamikawa-asahi 37.91 54 P P 12 21 08.1 -3.3
SVE Sverdlovsk 39.48 327 *e*P **P 12 21 27.3 +2.8**
ARU Arti 40.30 326 *d i*P **P 12 21 31.6 +0.3**
ARU S **S 12 27 41.6 +2.9**
ARU SS **SS 12 30 38.0 +1.1**
ARU pmax pmax
comp=Z,20nm,1.8s
ARU MLR MLR
comp=Z,147nm,10.0s
ARU Arti 40.30 326 P **P 12 21 30.4 -0.9**
ARU IAmb IAmb 12 21 34.2
comp=Z,6.8nm,1.0s
NRIK Noril'sk 41.70 354 P **P 12 21 41.8 -0.9**
comp=Z,7.1nm,0.8s,baz=181,slow=9.6,SNR=6.3
NRIK LR LR 12 39 43.8
comp=Z,443nm,20.6s,baz=129,slow=37
AAI Ambon 42.19 134 P **P 12 21 48.4 +1.1**
TIXI Tiksi 46.41 12‖ *e*P **P 12 22 21.0 +0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
KBZ Khabaz 47.31 305 LR LR 12 45 42.0
comp=Z,181nm,18.9s,baz=81,slow=40
NEY Neytrino 47.44 304‖ *e*P **P 12 22 29.2 +0.1**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 47.46 305 *e*P **P 12 22 29.8 +0.6**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,401nm,16.0s
RAYN Ar Rayn 48.31 277 P **P 12 22 34.6 -1.4**
RAYN pmax pmax
comp=Z,3.0nm,1.1s
RAYN Ar Rayn 48.31 277 P **P 12 22 34.6 -1.4**
PRGR Permogore 48.47 329 *e*P **P 12 22 36.0 -0.5**
PRGR pmax pmax
comp=Z,15nm,0.4s
SEY Seymchan 48.62 29‖ *e*P **P 12 22 39.0 +1.3**
PETK Petropavlovsk- 49.14 43 P **P 12 22 40.8 -1.0**
PETK Petropavlovsk- 49.14 43 P **P 12 22 40.9 -1.0**
SOC Sochi 49.62 305 *e*P **P 12 22 44.6 -1.1**
SOC *e* 12 24 37.1
SOC *e*PPP PPP 12 25 33.9
SOC *e*S **S 12 29 51.5 -2.5**
SOC *e*SS **SS 12 33 20.1 -5.8**
SOC pmax pmax
comp=Z,75nm,1.0s
VSR Storozhevoye 50.05 315‖ *e*P P 12 22 46.8 -2.0
VSR pmax pmax
comp=Z,7.0nm,0.6s
ANN Anapa 51.20 306 *e*P P 12 22 54.8 -2.8
ANN *e**PP pP 12 22 58.8 -3.1
ANN *e*S **S 12 30 12.8 -3.1**
ANN pmax pmax
comp=Z,72nm,1.2s
OBN Obninsk 51.87 320 *e*P **P 12 23 01.5 -0.9**
OBN *e* 12 24 13.4
OBN *e* 12 24 59.5
OBN *e*PPP PPP 12 25 58.5
OBN pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 54.55 300 *i* P **P 12 23 23.8 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 54.55 300 P **P 12 23 21.9 -0.8**
comp=Z,0.8nm,0.6s,baz=129,slow=9.6,SNR=4.5
BRTR LR LR 12 49 56.1
comp=Z,149nm,21.6s,baz=98,slow=40
BRTR Keskin Array B 54.55 300 P **P 12 23 22.0 -0.7**
BILL Bilibino 55.53 25 *e*P **P 12 23 30.2 +1.1**
BILL *e* 12 24 30.0
BILL *e* 12 25 34.0
BILL *e*PPP PPP 12 26 47.4
BILL pmax pmax
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 56.33 314 P **P 12 23 33.8 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 56.33 314 P **P 12 23 33.4 -1.7**
comp=Z,0.4nm,0.3s,baz=75,slow=6.2,SNR=3.9
AKASG LR LR 12 51 27.3
comp=Z,134nm,18.6s,baz=120,slow=40
AKASG Malin Array Be 56.33 314 P **P 12 23 33.8 -1.3**
FINES FINESS Array B 57.65 327 *i* P **P 12 23 43.7 -0.5**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 57.65 327 P **P 12 23 44.0 -0.2**
comp=Z,4.5nm,0.8s,baz=88,slow=5.9,SNR=7.2
FINES FINESS Array B 57.65 327 P **P 12 23 43.7 -0.5**
ARCES ARCESS Array B 58.19 337 P **P 12 23 47.4 -0.5**
ARCES ARCESS Array B 58.19 337 P **P 12 23 47.1 -0.9**
comp=Z,4.0nm,0.8s,baz=67,slow=9.5,SNR=7.4
ARCES ARCESS Array B 58.19 337 P **P 12 23 47.4 -0.5**
WRAB Tennant Creek 58.66 141‖ *e*P **P 12 23 50.2 -1.6**
WRAB pmax pmax
comp=Z,11nm,0.9s
WRAB Tennant Creek 58.66 141 P **P 12 23 50.4 -1.4**
WRA Warramunga Arr 58.66 141 *i* P **P 12 23 51.2 -0.6**
WRA pmax pmax
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 58.66 141 P P 12 23 49.6 -2.2
comp=Z,6.7nm,0.9s,baz=329,slow=7.7,SNR=28
WRA Warramunga Arr 58.66 141 P **P 12 23 50.0 -1.9**
WB2 Warramunga Arr 58.67 141 P **P 12 23 49.9 -2.0**
KRVT Keravat (AS076 60.14 114 LR LR 12 48 38.6
comp=Z,97nm,19.5s,baz=53,slow=35
AS31 Alice Springs 61.44 144 P **P 12 24 09.4 -1.5**
ASAR Alice Springs 61.44 144 P **P 12 24 09.3 -1.6**
ASAR Alice Springs 61.44 144 P **P 12 24 08.8 -2.0**
comp=Z,2.6nm,1.0s,baz=329,slow=6.4,SNR=15
ASAR Alice Springs 61.44 144 P **P 12 24 09.3 -1.6**
NOA NORSAR Array B 64.82 327 P **P 12 24 31.3 -1.6**
comp=Z,1.7nm,0.7s,baz=77,slow=6.4,SNR=5.6
NOA LR LR 12 54 42.7
comp=Z,130nm,18.9s,baz=25,slow=38
CTA Charters Tower 66.08 131 P P 12 24 38.4 -3.2
comp=Z,1.9nm,0.7s,baz=328,slow=10,SNR=2.5
KMBO Kilima Mbogo 66.16 255 PKIKP **P 12 24 41.9 -0.6**
KMBO Kilima Mbogo 66.16 255 P **P 12 24 41.3 -1.2**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 66.16 255 P **P 12 24 41.9 -0.6**
comp=Z,4.0nm,0.7s,baz=45,slow=11,SNR=14
KMBO Kilima Mbogo 66.16 255 P **P 12 24 41.3 -1.2**
KMBO IAmb IAmb 12 24 43.9
comp=Z,5.3nm,0.8s
GERES GERESS Array B 66.55 314 P **P 12 24 44.1 -0.2**
comp=Z,1.0nm,0.7s,baz=76,slow=5.6,SNR=6.7
GERES GERESS Array B 66.55 314 P **P 12 24 43.5 -0.8**
IMAR Indian Mountai 71.08 24 P **P 12 25 11.8 -0.4**
STKA Stephens Creek 72.06 143 P P 12 25 15.2 -3.2
comp=Z,1.8nm,0.8s,baz=306,slow=9.4,SNR=2.2
MLY Manley 72.64 25 P **P 12 25 21.4 -0.2**
PPLA Purkeypile 73.14 27 P **P 12 25 23.9 -0.8**
BMAR Burnt Mountain 73.49 21 P **P 12 25 26.3 -0.3**
COLA College 73.78 24‖ *e*P **P 12 25 28.5 +0.3**
COLA pmax pmax
comp=Z,10.0nm,1.1s
ILAR Eielson Array 74.18 24 P P 12 25 28.4 -2.2
comp=Z,2.0nm,1.0s,baz=301,slow=5.1,SNR=12
ILAR Eielson Array 74.18 24 P **P 12 25 29.6 -1.1**
PRP Porcupine Dome 74.25 23 IAmb IAmb 12 25 36.6
comp=Z,5.9nm,1.0s
INK Inuvik 76.19 18 P **P 12 25 41.7 -0.4**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 76.19 18 P **P 12 25 41.7 -0.4**
INK IAmb IAmb 12 25 47.5
comp=Z,3.6nm,0.9s
BCAR Beaver Creek A 77.01 24 P **P 12 25 46.1 -0.9**
LSZ Lusaka 81.24 248 P P 12 26 08.4 -2.5
LSZ pmax pmax
comp=Z,12nm,1.4s
LSZ Lusaka 81.24 248 P P 12 26 08.4 -2.5
LSZ IAmb IAmb 12 26 11.7
comp=Z,12nm,1.4s
ESDC Sonseca Array 81.78 311 P **P 12 26 12.3 -1.1**
comp=Z,0.1nm,0.2s,baz=30,slow=6.1,SNR=3.6
RPZ Rata Peaks 97.11 136 LR LR 13 14 35.7
comp=Z,132nm,18.1s,baz=104,slow=38

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*ISCJB **29** 12:19:58.6±0.6, 24°.61N±0°.04×122°.79E±0°.02, h90km±5km,*
Error ellipse: s-maj=6.4km s-min=2.8km az=175.3
*JMA **29** 12:19:58.1±0.2, 24°.58N×122°.77E, h98km±2km, M1.9*
*TAP **29** 12:19:58.3, 24°.66N×122°.79E, h94km, ML2.7, C*
ISC 29 12:19:59.2±1.5, 24°.59N±0°.06×122°.79E±0°.03, h89km±9km, n55, σ0s78/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.20**	**135**	P	**Pn**	**12 20 12.1**	**0.0**
JYNG				S	**Sn**	**12 20 22.6**	**+1.0**
YOJ	**Yonaguni jima** baz=139	**0.24**	**123**	P	**Pn**	**12 20 12.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.24**	**123**	P	**Pn**	**12 20 12.3**	**+0.1**
YOJ				*e*S	**Sn**	**12 20 23.0**	**+1.1**
EOS1	**EOS1** baz=253	**0.60**	**266**	*e*P	**Pn**	**12 20 14.5**	**-0.2**
EOS1				*e*S	**Sn**	**12 20 27.3**	**+1.0**
EGS	**Suao** baz=279	**0.82**	**288**	*e*P	**Pn**	**12 20 16.6**	**-0.2**
TWC	**Suao** baz=266	**0.86**	**271**	*e*P	**Pn**	**12 20 16.7**	**-0.5**
TWC				*e*S	**Sn**	**12 20 29.9**	**-0.9**
IRIF	**Iriomote-Funau**	**0.89**	**106**	P	**Pn**	**12 20 17.5**	**-0.1**
IRIF				*e*S	**Sn**	**12 20 31.6**	**+0.2**
TIPB	**Shuangxi** baz=284	**0.96**	**294**	*e*P	**Pn**	**12 20 18.1**	**-0.2**
NANB	**Nanao** baz=252	**0.96**	**260**	P	**Pn**	**12 20 18.1**	**-0.4**
NANB				*e*S	**Sn**	**12 20 32.5**	**-0.3**
ENA	**Nanau** baz=251	**0.97**	**261**	*e*P	**Pn**	**12 20 18.6**	**+0.1**
ENA				*e*S	**Sn**	**12 20 32.8**	**-0.1**
TWE	**Neicheng** baz=276	**1.03**	**277**	P	**Pn**	**12 20 18.8**	**-0.4**
TWE				*e*S	**Sn**	**12 20 33.0**	**-1.2**
SLBB	**Yuanshan** baz=275	**1.06**	**279**	*e*P	**Pn**	**12 20 18.7**	**-0.9**
HATJ	**Hateruma jima**	**1.07**	**120**	P	**Pn**	**12 20 20.1**	**+0.5**
HATJ				*e*S	**Sn**	**12 20 35.8**	**+0.9**
ENTT	**Nioudou** baz=263	**1.12**	**273**	P	**Pn**	**12 20 20.6**	**+0.4**
ENTT				*e*S	**Sn**	**12 20 35.9**	**-0.1**
NDT	**Datong Townshi** baz=263	**1.16**	**271**	*e*P	**Pn**	**12 20 20.9**	**+0.1**
NDT				*e*S	**Sn**	**12 20 37.1**	**+0.1**
JKRS	**Kuro-shima**	**1.17**	**107**	P	**Pn**	**12 20 21.0**	**+0.2**
JKRS				S	**Sn**	**12 20 37.6**	**+0.6**
NACB	**Ninganchiao** baz=238	**1.17**	**249**	P	**Pn**	**12 20 20.0**	**-0.8**
NACB				*e*S	**Sn**	**12 20 36.3**	**-0.7**
NWLT	**Wulai** baz=281	**1.19**	**279**	*e*P	**Pn**	**12 20 21.0**	**-0.1**
NWLT				*e*S	**Sn**	**12 20 37.5**	**0.0**
TWD	**Chiawan** baz=234	**1.20**	**245**	*e*S	**Sn**	**12 20 37.0**	**-0.9**
YM01	**YM01** baz=286	**1.24**	**297**	*e*P	**Pn**	**12 20 21.7**	**0.0**
JIJ	**Ishigaki jima**	**1.25**	**100**	P	**Pn**	**12 20 21.4**	**-0.4**
JIJ				S	**Sn**	**12 20 38.3**	**-0.6**
ETLH	**Xiulin Townshi** baz=249	**1.25**	**252**	*e*P	**Pn**	**12 20 22.1**	**+0.1**
ETLH				*e*S	**Sn**	**12 20 39.5**	**+0.4**
YHNB	**Yeheng** baz=263	**1.29**	**274**	P	**Pn**	**12 20 22.4**	**0.0**
YHNB				*e*S	**Sn**	**12 20 39.6**	**-0.3**
NNSB	**Datong** baz=251	**1.29**	**263**	*e*P	**Pn**	**12 20 22.0**	**-0.5**
NNSB				*e*S	**Sn**	**12 20 39.7**	**-0.3**
NNSH	**Datong** baz=252	**1.29**	**263**	*e*P	**Pn**	**12 20 22.0**	**-0.4**
NNSH				*e*S	**Sn**	**12 20 39.5**	**-0.5**
NNS	**Nan Shan** baz=252	**1.30**	**264**	*e*P	**Pn**	**12 20 21.8**	**-0.7**
NNS				*e*S	**Sn**	**12 20 40.2**	**+0.1**
NSK	**Sanguang** baz=263	**1.31**	**274**	P	**Pn**	**12 20 22.5**	**-0.1**
NSK				*e*S	**Sn**	**12 20 40.1**	**-0.1**
JISG	**Ishigakijimahi**	**1.38**	**90**	P	**Pn**	**12 20 23.1**	**-0.3**
JISG				S	**Sn**	**12 20 41.0**	**-0.7**
WHF	**Hehuan Shan** baz=249	**1.46**	**253**	*e*P	**Pn**	**12 20 24.5**	**-0.4**
WHF				*e*S	**Sn**	**12 20 43.7**	**-0.4**
ESL	**Shilin** baz=235	**1.46**	**238**	*e*S	**Sn**	**12 20 42.2**	**-1.4**
TDCB	**Techi** baz=249	**1.53**	**258**	P	**Pn**	**12 20 25.6**	**+0.2**
TDCB				*e*S	**Sn**	**12 20 45.4**	**+0.2**
EGFH	**Guangfu** baz=231	**1.55**	**234**	*e*P	**Pn**	**12 20 24.3**	**-1.2**
EGFH				*e*S	**Sn**	**12 20 44.7**	**-0.8**
CHGB	**Renai** baz=240	**1.57**	**251**	P	**Pn**	**12 20 25.8**	**-0.2**

CHGB			*e*S	**Sn**	**12 20 45.5**	**-0.7**
	baz=240					
LIOB	**Emei**	**1.62 272**	*e*P	**Pn**	**12 20 26.4**	**0.0**
	baz=269					
HGSD	**Ruisui**	**1.66 229**	*e*P	**Pn**	**12 20 26.6**	**-0.4**
	baz=224					
HGSD			*e*S	**Sn**	**12 20 46.9**	**-1.2**
	baz=224					
WHP	**Taichung City**	**1.71 260**	*e*P	**Pn**	**12 20 28.4**	**+0.7**
	baz=253					
WHP			*e*S	**Sn**	**12 20 49.8**	**+0.5**
	baz=253					
VWDT	**VWDT**	**1.72 241**	P	**Pn**	**12 20 27.6**	**-0.1**
	baz=233					
VWDT			*e*S	**Sn**	**12 20 48.7**	**-0.7**
	baz=233					
EHY	**Hungye**	**1.72 231**	*e*P	**Pn**	**12 20 26.7**	**-1.2**
	baz=229					
EHY			*e*S	**Sn**	**12 20 48.7**	**-0.9**
	baz=229					
JTJ	**Tarama**	**1.74 88**	P	**Pn**	**12 20 27.7**	**-0.3**
JTJ			*e*S	**Sn**	**12 20 48.7**	**-1.1**
DPDB	**Guoxing**	**1.79 252**	*e*P	**Pn**	**12 20 29.0**	**+0.3**
	baz=245					
YULB	**Yu-li**	**1.81 229**	*e*P	**Pn**	**12 20 27.9**	**-1.1**
	baz=235					
YULB			*e*S	**Sn**	**12 20 49.9**	**-1.8**
	baz=235					
TWF1	**Yuli**	**1.84 228**	*e*P	**Pn**	**12 20 28.7**	**-0.7**
	baz=234					
TWF1			*e*S	**Sn**	**12 20 52.2**	**0.0**
	baz=234					
SSLB	**Suanglung**	**1.86 245**	*e*P	**Pn**	**12 20 30.2**	**+0.7**
	baz=238					
SSLB			*e*S	**Sn**	**12 20 52.4**	**-0.3**
	baz=238					
TYC	**Yuchr**	**1.89 249**	*e*P	**Pn**	**12 20 30.6**	**+0.6**
	baz=240					
TYC			*e*S	**Sn**	**12 20 53.8**	**+0.4**
	baz=240					
FULB	**Fuli**	**1.95 225**	*e*P	**Pn**	**12 20 30.2**	**-0.6**
	baz=217					
FULB			*e*S	**Sn**	**12 20 55.8**	**+1.0**
	baz=217					
CHKT	**Chengkung**	**1.98 222**	*e*S	**Sn**	**12 20 53.8**	**-1.6**
	baz=216					
WHYT	**Xinyi Township**	**1.98 244**	*e*P	**Pn**	**12 20 31.9**	**+0.7**
	baz=238					
WHYT			*e*S	**Sn**	**12 20 56.1**	**+0.5**
	baz=238					
YUS	**Yu-Shan**	**2.01 237**	*e*P	**Pn**	**12 20 31.8**	**-0.2**
	baz=234					
YUS			*e*S	**Sn**	**12 20 56.3**	**-0.6**
	baz=234					
WJS	**Zhushan**	**2.03 248**	*e*P	**Pn**	**12 20 32.5**	**+0.6**
	baz=238					
WJS			*e*S	**Sn**	**12 20 59.1**	**+2.3**
	baz=238					
ELDTW	**Lidau**	**2.14 230**	P	**Pn**	**12 20 32.7**	**-0.7**
	baz=227					
ELDTW			S	**Sn**	**12 20 58.1**	**-1.4**
	baz=227					
CHN5	**Tsauling**	**2.17 243**	*e*P	**Pn**	**12 20 34.5**	**+0.7**
	baz=233					
CHN5			*e*S	**Sn**	**12 21 02.0**	**+1.9**
	baz=233					
TPUB	**Ta-pu**	**2.36 237**	*e*P	**Pn**	**12 20 36.2**	**+0.1**
	baz=235					
TPUB			*e*S	**Sn**	**12 21 05.0**	**+0.6**
	baz=235					
WTP	**Ta-pu**	**2.40 237**	*e*P	**Pn**	**12 20 38.4**	**+1.6**
	baz=227					
WTP			*e*S	**Sn**	**12 21 06.9**	**+1.4**
	baz=227					
CHN1	**Nanshi**	**2.50 236**	*e*P	**Pn**	**12 20 39.0**	**+0.9**
	baz=233					
CHN1			*e*S	**Sn**	**12 21 08.5**	**+0.6**
	baz=233					
SLGT	**Liugui**	**2.53 231**	*e*P	**Pn**	**12 20 39.8**	**+1.3**
	baz=235					
SLGT			*e*S	**Sn**	**12 21 09.8**	**+1.3**
	baz=235					

ISCJB ***29*** *12:21:35.5±0.3, 32°.85N±0°.02×35°.61E±0°.04, h11km±3km, Error ellipse: s-maj=5.1km s-min=2.6km az=15.0*
JSO ***29*** *12:21:35.4±0.6, 33°.N±4°×3°.6E±°, h8km±4km, M2.7/8, Mjma2.8/8, ML2.1/7, MLv2.9/8*
GII ***29*** *12:21:35.2±0.5, 32°.85N×35°.57E, h1km±1km, MD2.9/11*
GRAL ***29*** *12:21:37.4±0.3, 32°.92N×35°.55E, h3km±4km, MD3.0*

ISC 29 12:21:35.4±0.9, 32°.86N±0°.02×35°.62E±0°.03, h12km±8km, n29, σ0°.55/44, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.18**	**136**	P	**Pg**	**12 21 39.6**	**+0.2**
KSHT	**Keshet**	**0.20**	**52**	P*g*	**Pb**	**12 21 40.9**	**-0.3**
MMA0B	**Mount Meron ar**	**0.24**	**311**	P*g*	**Pg**	**12 21 40.1**	**-0.5**
MMA0B				S*g*	**Sg**	**12 21 44.3**	**+0.2**
KSDI	**Kefar Szold**	**0.34**	**6**	P*g*	**Pg**	**12 21 42.6**	**+0.3**
KSDI				S*g*	**Sb**	**12 21 48.6**	**-0.1**
KSDI	**Kefar Szold**	**0.34**	**6**	P	**Pb**	**12 21 43.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.36**	**6**	P*g*	**Pg**	**12 21 43.0**	**+0.4**
GEM				S*g*	**Sb**	**12 21 49.4**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.38**	**251**	P*g*	**Pg**	**12 21 42.6**	**-0.4**
BLGI				S*g*	**Sg**	**12 21 48.5**	**+0.4**
NATI	**Neve Ativ**	**0.42**	**14**	P*g*	**Pg**	**12 21 44.0**	**+0.3**
NATI				S*g*	**Sb**	**12 21 51.2**	**+0.2**
HNTI	**Hanita**	**0.44**	**301**	P*g*	**Pg**	**12 21 43.8**	**-0.3**
HNTI				S*g*	**Sb**	**12 21 50.9**	**-0.7**
MMLI	**Mount Malkishu**	**0.45**	**202**	P*g*	**Pg**	**12 21 44.0**	**-0.3**
MMLI				S*g*	**Sb**	**12 21 51.8**	**-0.1**
MMLI	**Mount Malkishu**	**0.45**	**202**	P	**Pg**	**12 21 44.1**	**-0.3**
SHBL	**Chebaa**	**0.50**	**12**	*e*P	**Pg**	**12 21 45.6**	**+0.3**
SHBL				*e*S	**Sg**	**12 21 51.7**	**-0.4**
OFRI	**`Ofer**	**0.58**	**247**	P*g*	**Pg**	**12 21 46.6**	**-0.2**
OFRI				S*g*	**Sg**	**12 21 54.7**	**+0.1**
HMDT	**Nahal Hemdat**	**0.61**	**187**	P*g*	**Pg**	**12 21 46.9**	**-0.4**
HMDT				S*g*	**Sb**	**12 21 56.7**	**+0.3**
RCY	**Rachaya**	**0.66**	**16**	*e*P	**Pg**	**12 21 48.6**	**+0.2**
RCY				*e*S	**Sg**	**12 21 57.0**	**-0.2**
SLTI	**Sal'it**	**0.78**	**219**	P*g*	**Pg**	**12 21 50.1**	**-0.5**
SLTI				S*g*	**Sb**	**12 22 01.9**	**+0.3**
DQRL	**Deir Qamar**	**0.85**	**357**	*e*P	**Pg**	**12 21 51.5**	**-0.4**
DQRL				*e*S	**Sg**	**12 22 01.9**	**-1.1**
HSUJ	**Al Zarqa**	**0.89**	**147**	P	**Pg**	**12 21 52.0**	**-0.7**
ASF	**Jabal al Asfar**	**1.28**	**122**	P	**Pn**	**12 21 58.9**	**-0.3**
DSI	**Dead Sea**	**1.30**	**189**	P*g*	**Pn**	**12 21 59.1**	**-0.3**
DSI				S*g*	**Sg**	**12 22 18.1**	**+0.8**
WALJ	**Wala**	**1.30**	**173**	P	**Pn**	**12 21 59.0**	**-0.4**
HWQ	**Hawqa**	**1.45**	**11**	*e*P	**Pn**	**12 22 01.9**	**+0.4**
AMAZ	**Amatzia**	**1.45**	**205**	S*n*	**Sg**	**12 22 22.4**	**+0.3**
YTIR	**Yattir**	**1.55**	**196**	P*n*	**Pb**	**12 22 03.8**	**-0.3**
YTIR				S*n*	**Sg**	**12 22 24.9**	**-0.4**
MZDA	**Masada**	**1.56**	**188**	P*n*	**Pb**	**12 22 03.9**	**-0.2**
LISJ	**El Lisan**	**1.61**	**184**	P	**Pn**	**12 22 03.1**	**-0.6**
KZIT	**Kziot**	**2.20**	**208**	P*n*	**Pn**	**12 22 13.2**	**+1.4**
PRNI	**Paran**	**2.55**	**192**	P*n*	**Pn**	**12 22 18.1**	**+1.5**
MBRI	**Mt Berech**	**3.11**	**191**	P*n*	**Pn**	**12 22 25.7**	**+1.3**

ROM 29 12:23:15.5±0.1, 44°.204N±0°.005×10°.233E±0°.005, h10km, Md1.0/5, Error ellipse: s-maj=0.6km s-min=0.4km az=175.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQUI	**Equi**	**0.07**	**237**	P	Pg	12 23 18.1	+0.4
EQUI				S	Sg	12 23 19.7	+0.4
EQUI				END			
EQUI				END			
FIVI	**Fivizzano**	**0.08**	**295**	P	Pg	12 23 18.4	+0.5
FIVI				S	Sg	12 23 20.1	+0.5
FIVI				END			
VLC	**Villacollemand**	**0.12**	**112**	P	Pg	12 23 18.9	+0.5
VLC				S	Sg	12 23 21.1	+0.7
VLC				END			
VLC				END			
SARO	**Sassorosso**	**0.12**	**99**	P	Pg	12 23 19.0	+0.5
SARO				S	Sg	12 23 21.1	+0.5
SARO				END			
ERBM	**Eremo**	**0.25**	**31**	P	Pg	12 23 21.4	+0.8
ERBM				S	Sb	12 23 25.7	-1.0
ERBM				END			

GRAM	**Graiana**	**0.31**	**337**	P	Pb	12 23 22.6	-0.6
GRAM				S	Sg	12 23 27.1	+1.1
PLMA	**Palmaria, Port**	**0.32**	**241**	P	Pb	12 23 22.9	-0.3
PLMA				S	Sg	12 23 27.1	+1.1

BEO 29 13:00:57.4±1.5, 42°.51N×24°.33E, h0km, ML1.4/3, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.82**	**278**	*e*P*g*	Pg	13 01 12.5	-0.6
VTS				*e*S*g*	Sg	13 01 23.6	-0.1
ZAPS	**Zavoj**	**1.46**	**302**	*e*P*g*	Pn	13 01 24.2	-0.9
ZAPS				*e*S*g*	Sg	13 01 43.4	-1.0
BARS	**Barje**	**1.88**	**280**	*e*P*g*	Pn	13 01 30.4	-0.4
BARS				*e*S*g*	Sg	13 01 57.9	+0.1

SKO 29 13:01:19.0, 41°.73N×22°.30E, h20km, M1.3, ML1.7, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.09**	**247**	*i* P*g*	Pg	13 01 23.0	+0.2
STIP				*i* S*g*	Sg	13 01 25.9	+0.4
STIP				*e*L*g*	Lg	13 01 25.9	
	comp=E,128nm,0.3s						
VAY	**Valandovo**	**0.46**	**154**	⇓*i* P*g*	Pb	13 01 28.5	+0.1
VAY				*i* S*g*	Sg	13 01 34.4	-0.3
VAY				*e*L*g*	Lg	13 01 34.5	
	comp=N,78nm,0.5s						
VAY				*e*L*g*	Lg	13 01 35.4	
	comp=E,43nm,0.5s						
KNT	**Kendrikon**	**0.72**	**141**	*i* P*g*	Pg	13 01 33.5	+0.2
KNT				*i* S*g*	Sg	13 01 43.2	+0.2
GRG	**Griva**	**0.78**	**174**	*i* P*g*	Pg	13 01 34.5	+0.3

BEO 29 13:14:03.1±1.2, 42°.50N×24°.06E, h0km, ML1.6/4, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.62**	**281**	*e*P*g*	Pg	13 14 14.3	-0.6
VTS				*e*S*g*	Sg	13 14 23.0	+0.1
VTS	**Vitosha**	**0.62**	**281**	*e*P*g*	Pg	13 14 14.3	-0.6
VTS				*e*S*g*	Sg	13 14 23.1	+0.2
BOSS	**Bosilegrad**	**1.17**	**270**	*e*P*g*	Pg	13 14 24.7	-0.7
BOSS	**Bosilegrad**	**1.17**	**270**	*e*P*g*	Pg	13 14 24.7	-0.7
ZAPS	**Zavoj**	**1.30**	**307**	*e*P*g*	Pg	13 14 26.5	-1.5
ZAPS				*e*S*g*	Sb	13 14 45.3	-0.3
ZAPS	**Zavoj**	**1.30**	**307**	*e*P*g*	Pg	13 14 25.3	-2.7
ZAPS				*e*S*g*	Sg	13 14 41.4	-3.4
BARS	**Barje**	**1.68**	**281**	*e*P*g*	Pn	13 14 33.5	-0.3
BARS				*e*S*g*	Sn	13 14 56.0	-0.1
BARS	**Barje**	**1.68**	**281**	*e*P*g*	Pn	13 14 33.5	-0.3
BARS				*e*S*g*	Sn	13 14 55.5	-0.6
ZAGS	**Zajecar**	**1.87**	**315**	*e*P*g*	Pn	13 14 35.8	-0.5
ZAGS				*e*S*g*	Sb	13 15 02.2	+0.2
ZAGS	**Zajecar**	**1.87**	**315**	*e*P*g*	Pn	13 14 34.1	-2.2
ZAGS				*e*S*g*	Sn	13 14 57.2	-3.4

IDC ***29*** *13:24:25.6±0.7, 35°.55N×23°.30E, h0km, mb4.3/19, mb1 4.2/27, mb1mx4.1/45, mbtmp4.2/27, ML3.7/8, MS3.9/2, Ms1 3.9/2, ms1mx3.0/54, Error ellipse: s-maj=15.4km s-min=12.7km az=8.0*
MOS ***29*** *13:24:28.2±1.6, 35°.33N×23°.11E, h33km, mb4.6/16, Error ellipse: s-maj=7.6km s-min=4.6km az=71.6*
BJI ***29*** *13:24:29.1±0.0, 35°.47N×23°.20E, h44km, mb4.4/11, mB4.8/5, Ms4.5/2, Ms7 4.2/1*
ISCJB ***29*** *13:24:30.6±0.3, 35°.49N±0°.03×23°.06E±0°.03, h58km±2km, mb4.3/40, MS4.0/3, Error ellipse: s-maj=5.0km s-min=2.7km az=36.8*
MED_RC ***29*** *13:24:31.0±1.6, 35°.32N×23°.12E, h52km, MW4.5/5, Moment Tensor Solution. Mantle waves: s5,c5; Duration: 1s0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.29±.07; $M_{\theta\theta}$0.87±.25; $M_{\phi\phi}$-0.58±.28; $M_{r\theta}$-0.04±.04; $M_{\theta\phi}$0.11±.19; $M_{\phi r}$-0.07±.04; Best double couple: $M_0$0.74000×10^16 NP1:ϕ_s41.00000°, δ83.00000°, λ-170.00000°. NP2: ϕ_s310.00000°, δ80.00000°, λ-7.00000°. Principal axes: T 0.8800, Plg2.0000°, Azm175.0000°; N -0.2800, Plg78.0000°, Azm75.0000°; P -0.6000, Plg12.0000°, Azm266.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
ISK ***29*** *13:24:31.9, 35°.45N×23°.29E, h70km, ML4.0/16*
BEO ***29*** *13:24:31.2±0.8, 35°.54N×22°.50E, h0km, ML4.1/7*
NEIC ***29*** *13:24:32.4±2.2, 35°.51N±0°.08×23°.22E±0°.07, h52km±7km*
ATH ***29*** *13:24:33.3, 35°.49N×23°.29E, h44km±1km, ML3.9/12, Error ellipse: s-maj=2.1km s-min=0.8km az=44.0*
THE ***29*** *13:24:34.0, 35°.37N×23°.18E, h40km±4km, ML3.9/7, Error ellipse: s-maj=4.9km s-min=1.0km az=57.0*
HLW ***29*** *13:24:35.4, 35°.17N×23°.90E, h11km±40km*
GII ***29*** *13:24:39.7±0.4, 35°.28N×24°.11E, h52km, mb4.4/3, MD4.2/3*

ISC 29 13:24:31.9±0.7, 35°.49N±0°.04×23°.20E±0°.04, h47km±6km, n295, σ1°.93/330, mb4.4/41, MS4.2/4, 16C-9D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.39**	**12**	P	**Pn**	**13 24 43.2**	**+1.5**
ANKY				S	**Sn**	**13 24 51.5**	**+2.9**
	19μm,0.6s						
ANKY	**Antikythira Is**	**0.39**	**12**	P	**Pn**	**13 24 43.2**	**+1.5**
ANKY				S	**Sn**	**13 24 50.2**	**+1.6**
ANKY				AML	AML	13 24 53.0	
	comp=N,45568μm,0.4s						
ANKY				AML	AML	13 24 53.5	
	comp=E,35203μm,0.6s						
KNDR	**Palaiochora Ch**	**0.47**	**122**	P	**Pn**	**13 24 42.1**	**-0.4**
KNDR				S	**Sn**	**13 24 49.0**	**-1.1**
	comp=E,8μm,0.8s						
IMMV	**Iera Moni Meta**	**0.63**	**92**	P	**Pn**	**13 24 45.9**	**+1.3**
IMMV				S	**Sn**	**13 24 55.6**	**+1.8**
	comp=E,22μm,0.7s						
IMMV	**Iera Moni Meta**	**0.63**	**92**	P	**Pn**	**13 24 45.9**	**+1.3**
IMMV				S	**Sn**	**13 24 54.8**	**+0.9**
IMMV				AML	AML	13 24 56.6	
	comp=E,36823μm,0.8s						
IMMV				AML	AML	13 24 57.9	
	comp=N,49430μm,0.7s						
IMMV	**Iera Moni Meta**	**0.63**	**92**	PG	**Pn**	**13 24 46.1**	**+1.5**
IMMV				SG	**Sn**	**13 24 56.2**	**+2.4**
CHAN	**Chania**	**0.69**	**87**	P	**Pn**	**13 24 46.9**	**+1.6**
CHAN				S	**Sn**	**13 24 57.2**	**+2.2**
	comp=N,5μm,0.7s						
KTHA	**Kythira Island**	**0.78**	**352**	P	**Pn**	**13 24 49.6**	**+3.0**
KTHA				S	**Sn**	**13 25 01.5**	**+4.3**
	comp=N,10μm,0.5s						
KTHA	**Kythira Island**	**0.78**	**352**	P	**Pn**	**13 24 49.5**	**+2.9**
KTHA				S	**Sn**	**13 25 00.3**	**+3.1**
KTHA				AML	AML	13 25 06.6	
	comp=E,29436μm,0.4s						
KTHA				AML	AML	13 25 07.6	
	comp=N,12286μm,0.5s						
KTHA	**Kythira Island**	**0.78**	**352**	PG	**Pn**	**13 24 49.0**	**+2.4**
KTHA				SG	**Sn**	**13 25 01.5**	**+4.3**
KTHR	**Kythira**	**0.79**	**348**	P	**Pn**	**13 24 49.6**	**+2.9**
KTHR				S	**Sn**	**13 25 02.2**	**+4.7**
	comp=N,11μm,0.3s						
VAM	**Vamos**	**0.82**	**95**	P	**Pn**	**13 24 48.8**	**+1.7**
VAM				S	**Sn**	**13 24 59.9**	**+1.8**
	comp=N,15μm,0.7s						
VAM	**Vamos**	**0.82**	**95**	P	**Pn**	**13 24 48.8**	**+1.7**
VAM				S	**Sn**	**13 25 00.6**	**+2.5**
VAM	**Vamos**	**0.82**	**95**	P	**Pn**	**13 24 48.8**	**+1.7**
VAM				S	**Sn**	**13 24 59.8**	**+1.8**
VAM				AML	AML	13 25 02.3	
	comp=N,29405μm,0.7s						
VAM				AML	AML	13 25 02.3	
	comp=E,29321μm,0.7s						
GVDS	**Gavdos**	**0.97**	**131**	P	**Pn**	**13 24 49.9**	**+0.8**
GVD	**Gavdhos**	**0.97**	**131**	P	**Pn**	**13 24 50.1**	**+1.0**
GVD	**Gavdhos**	**0.97**	**131**	P	**Pn**	**13 24 50.4**	**+1.3**
GVD				S	**Sn**	**13 25 03.3**	**+1.6**
GVD				AML	AML	13 25 07.4	
	comp=E,9715μm,0.6s						
GVD				AML	AML	13 25 13.8	
	comp=N,13966μm,0.5s						

GVD	**Gavdhos**	**0.97**	**131**	PG	**Pn**	**13 24 49.9**	**+0.8**
PRNS	**Prines Rethymn**	**1.07**	**96**	P	**Pn**	**13 24 51.9**	**+1.5**
PRNS				S	**Sn**	**13 25 05.3**	**+1.2**
MNVA	**Monemvasia**	**1.21**	**354**	P	**Pn**	**13 24 55.2**	**+2.8**
VLI	**Veliai**	**1.25**	**350**	P	**Pn**	**13 24 56.5**	**+3.6**
VLI	**Veliai**	**1.25**	**350**	P	**Pn**	**13 24 55.8**	**+2.9**
VLI				S	**Sn**	**13 25 12.0**	**+3.4**
VLI				AML	AML	13 25 19.0	
	comp=E,8189μm,0.6s						
VLI				AML	AML	13 25 22.7	
	comp=N,9023μm,0.6s						
SIVA	**Sivas**	**1.39**	**109**	P	**Pn**	**13 24 56.4**	**+1.5**
SIVA	**Sivas**	**1.39**	**109**	P	**Pn**	**13 24 56.9**	**+2.0**
SIVA				S	**Sn**	**13 25 13.6**	**+1.5**
SIVA				AML	AML	13 25 32.9	
	comp=N,6265μm,0.7s						
SIVA				AML	AML	13 25 34.9	
	comp=E,8263μm,0.8s						
DYR	**Agios Nikonas**	**1.46**	**331**	P	**Pn**	**13 24 58.9**	**+3.1**
DYR	**Agios Nikonas**	**1.46**	**331**	P	**Pn**	**13 24 58.6**	**+2.9**
MHLO	**Agia Marina, M**	**1.54**	**39**	P	**Pn**	**13 24 58.8**	**+1.9**
MHLO				S	**Sn**	**13 25 20.4**	**+4.6**
MHLO	**Agia Marina, M**	**1.54**	**39**	P	**Pn**	**13 24 58.8**	**+1.9**
MHLO				S	**Sn**	**13 25 17.9**	**+2.1**
MHLO				AML	AML	13 25 21.8	
	comp=N,16835μm,0.5s						
MHLO				AML	AML	13 25 23.9	
	comp=E,20226μm,0.7s						
MHLA	**Plaka, Milos I**	**1.60**	**38**	P	**Pn**	**13 25 00.0**	**+2.3**
MHLA				S	**Sn**	**13 25 19.0**	**+1.9**
MHLA				AML	AML	13 25 35.0	
	comp=E,8624μm,1.2s						
MHLA				AML	AML	13 25 38.1	
	comp=N,10790μm,1.1s						
PYL	**PYLOS**	**1.84**	**320**	P	**Pn**	**13 25 02.8**	**+1.8**
LAST	**Lasithi**	**1.89**	**99**	P	**Pn**	**13 25 04.1**	**+2.4**
LAST	**Lasithi**	**1.89**	**99**	P	**Pn**	**13 25 04.0**	**+2.2**
THR9	**Santorini-Faro**	**1.95**	**63**	P	**Pn**	**13 25 04.7**	**+2.2**
THR5	**Thira Island,**	**1.97**	**61**	P	**Pn**	**13 25 04.6**	**+1.8**
NPS	**Neapolis**	**1.98**	**96**	P	**Pn**	**13 25 05.2**	**+2.3**
NPS	**Neapolis**	**1.98**	**96**	P	**Pn**	**13 25 05.2**	**+2.3**
NPS	**Neapolis**	**1.98**	**96**	P	**Pn**	**13 25 05.0**	**+2.1**
NPS				S	**Sn**	**13 25 27.6**	**+1.1**
NPS				AML	AML	13 25 47.9	
	comp=E,2385μm,0.6s						
NPS				AML	AML	13 25 52.1	
	comp=N,2210μm,0.5s						
ITM	**Ithomi**	**1.98**	**329**	P	**Pn**	**13 25 05.8**	**+2.8**
ITM	**Ithomi**	**1.98**	**329**	PN	**Pn**	**13 25 05.5**	**+2.6**
ITM	**Ithomi**	**1.98**	**329**		**Pn**	**13 25 05.1**	**+2.2**
VLX	**Vlachokerasia**	**2.00**	**341**	P	**Pn**	**13 25 07.0**	**+3.7**
THR3	**Thira Island,**	**2.01**	**62**	P	**Pn**	**13 25 05.5**	**+2.2**
DID	**Didima**	**2.02**	**1**	P	**Pn**	**13 25 05.6**	**+2.2**
SANT	**Santorini**	**2.03**	**64**	P	**Pn**	**13 25 05.5**	**+1.8**
SANT				S	**Sn**	**13 25 29.2**	**+1.3**
SANT				AML	AML	13 25 44.3	
	comp=N,1364μm,0.7s						
SANT				AML	AML	13 25 48.0	
	comp=E,2667μm,0.7s						
SANT	**Santorini**	**2.03**	**64**	⇑P	**Pn**	**13 25 05.2**	**+1.5**
SANT				⇓S	Sn	13 25 13.3	-15
SANT				AML	AML	13 25 48.0	
SANT	**Santorini**	**2.03**	**64**	PN	**Pn**	**13 25 04.8**	**+1.1**
SANT	**Santorini**	**2.03**	**64**	Pn	**Pn**	**13 25 05.3**	**+1.7**
CMBO	**Columbo, Santo**	**2.04**	**61**	P	**Pn**	**13 25 06.0**	**+2.3**
THR8	**Santorini-Mono**	**2.06**	**63**	P	**Pn**	**13 25 06.1**	**+2.1**
IOSP	**Ios island**	**2.09**	**53**	P	**Pn**	**13 25 06.0**	**+1.6**
IOSP	**Ios island**	**2.09**	**53**	P	**Pn**	**13 25 06.1**	**+1.7**
AMT	**Artemida-Makis**	**2.37**	**330**	P	**Pn**	**13 25 12.2**	**+3.9**
APE	**Apeiranthos**	**2.46**	**49***c*	*i*P	**Pn**	**13 25 10.8**	**+1.3**
APE	**Apeiranthos**	**2.46**	**49**	P	**Pn**	**13 25 11.2**	**+1.7**
APE	**Apeiranthos**	**2.46**	**49**	⇑P	**Pn**	**13 25 09.8**	**+0.3**
APE				⇑S	**Sn**	**13 25 40.7**	**+2.4**
APE				AML	AML	13 26 02.6	
APE	**Apeiranthos**	**2.46**	**49**	PN	**Pn**	**13 25 10.9**	**+1.4**
ZKR	**Zakros**	**2.49**	**98**	P	**Pn**	**13 25 12.7**	**+2.7**
ZKR	**Zakros**	**2.49**	**98**	P	**Pn**	**13 25 12.6**	**+2.7**
ZKR				S	**Sn**	**13 25 40.3**	**+1.2**
ZKR				AML	AML	13 26 05.5	
	comp=E,1860μm,0.7s						
ZKR				AML	AML	13 26 06.3	
	comp=N,436μm,0.7s						
ZKR	**Zakros**	**2.49**	**98**	PN	**Pn**	**13 25 10.9**	**+1.0**
AMGA	**Amorgos Island**	**2.56**	**58**	P	**Pn**	**13 25 12.4**	**+1.5**
KLV	**Kalavryta, Ach**	**2.69**	**342**	P	**Pn**	**13 25 16.0**	**+3.3**
KARP	**Karpathos**	**3.23**	**88**	PN	**Pn**	**13 25 21.3**	**+1.2**
KARP	**Karpathos**	**3.23**	**88**		**Pn**	**13 25 21.4**	**+1.4**
AGG	**Agios Georgios**	**3.60**	**349**	P	**Pn**	**13 25 28.3**	**+3.1**
AGG	**Agios Georgios**	**3.60**	**349**	PN	**Pn**	**13 25 28.1**	**+2.9**
AGG	**Agios Georgios**	**3.60**	**349**		**Pn**	**13 25 28.3**	**+3.1**
CHOS	**Chios island**	**3.69**	**37**	PN	**Pn**	**13 25 28.5**	**+2.1**
DAT	**Datca**	**3.75**	**69**	PN	**Pn**	**13 25 28.9**	**+1.6**
URLA	**Izmir**	**3.95**	**42**	PN	**Pn**	**13 25 32.2**	**+2.2**
SLUM	**Salum**	**4.32**	**157**	P	**Pn**	**13 25 34.6**	**-0.4**
	baz=162						
AYDB	**Zeytinkoy-Aydi**	**4.50**	**56**	PN	**Pn**	**13 25 39.3**	**+1.8**
IGT	**Igoumenitsa**	**4.64**	**331**	*e*Pn	**Pn**	**13 25 38.6**	**-0.8**
IGT				*e*Sn	**Sn**	**13 26 28.7**	**-3.3**
LIT	**Litokhoron**	**4.64**	**353**	P	**Pn**	**13 25 40.5**	**+1.0**
LIT	**Litokhoron**	**4.64**	**353**		**Pn**	**13 25 40.5**	**+1.0**
OUR	**Ouranopolis**	**4.88**	**7**	PN	**Pn**	**13 25 45.2**	**+2.5**
FETY	**Fethiye**	**4.90**	**75**	PN	**Pn**	**13 25 44.5**	**+1.5**
HORT	**Hortiatis**	**5.11**	**359**	PN	**Pn**	**13 25 47.9**	**+2.0**
AKAS	**Kas**	**5.25**	**80**	PN	**Pn**	**13 25 48.9**	**+1.0**
FNA	**Florina**	**5.48**	**345**	*e*Pn	**Pn**	**13 25 52.9**	**+1.9**
FNA				*e*Sn	**Sn**	**13 26 52.4**	**-0.4**
FNA	**Florina**	**5.48**	**345**	P	**Pn**	**13 25 52.4**	**+1.4**
FNA	**Florina**	**5.48**	**345**	PN	**Pn**	**13 25 52.9**	**+1

BBLS Lazići 8.87 342 *e*Pn **Pn 13 26 35.4 -2.0**
BBLS *e*Sn **Sn 13 28 10.5 -5.4**
BBLS Lazići 8.87 342 *e*Pn **Pn 13 26 36.2 -1.2**
DIVS Divibare 8.95 345 *e*Pn **Pn 13 26 36.9 -1.6**
DIVS *e*Sn **Sn 13 28 13.8 -4.2**
DIVS Divibare 8.95 345 *e*Pn **Pn 13 26 37.1 -1.4**
TRUS Trudelj 8.99 347 *e*Pn **Pn 13 26 37.8 -1.2**
HAPS Han Pijesak,BI 9.19 340 *e*Pn **Pn 13 26 39.5 -2.4**
HVAR Hvar 9.29 328 *e*Pn **Pn 13 26 41.2 -1.9**
HVAR Sn Sn 13 28 17.3 -8.9
BR131 Keskin Array S 9.30 60 P **Pn 13 26 45.1 +1.7**
BR131 Keskin Array S 9.30 60 **Pn 13 26 45.1 +1.7**
BRTR Keskin Array B 9.30 60 P **Pn 13 26 43.8 +0.4**
BRTR Keskin Array B 9.30 60 Pn **Pn 13 26 39.4 -4.0**
comp=N,0.1nm,0.3s,baz=240,slow=16,SNR=3.1
BRTR Keskin Array B 9.30 60 **Pn 13 26 43.8 +0.4**
MDVR Moldovita 9.36 353 ⇑P **Pn 13 26 43.8 -0.3**
HFRF Wahat Farafira 9.39 151 P **Pn 13 26 43.4 -1.1**
baz=153
TEKS Tekeris 9.48 344 *e*Pn **Pn 13 26 44.7 -1.1**
TEKS Tekeris 9.48 344 *e*Pn **Pn 13 26 41.8 -4.0**
SUZ Suez 9.87 122 P **Pn 13 26 48.4 -2.8**
baz=122
GZR Gura Zlata 9.90 358 ⇑P **Pn 13 26 51.1 -0.4**
FRGS Fruska Gora 10.00 346 *e*Pn **Pn 13 26 53.2 +0.3**
FRGS Fruska Gora 10.00 346 *e*Pn **Pn 13 26 51.6 -1.3**
ZIRJ Zirje 10.03 327 *e*Pn **Pn 13 26 51.5 -1.7**
ZIRJ Sn Sn 13 28 34.0 -10
VOIR 10.04 7 ⇑P **Pn 13 26 54.4 +0.9**
MGRS Mrkonjic Grad 10.08 334 *e*Pn **Pn 13 26 53.7 -0.2**
BLY Banja Luka 10.33 335 *e*Pn **Pn 13 26 56.4 -1.0**
BLY Banja Luka 10.33 335 Pn **Pn 13 26 57.0 -0.4**
MMAI Mount Meron Ar 10.39 100 Pn **Pn 13 26 54.2 -4.1**
baz=307,slow=12,SNR=2.4
MMAI Sn Sn 13 28 43.5 -10
comp=N,1.3nm,0.3s,baz=282,slow=40,SNR=2.5
AMAZ Amatzia 10.54 109 Pn **Pn 13 26 58.1 -2.2**
AMAZ Sn Sn 13 28 46.6 -10
DUGI Dugi Otok 10.55 326 *e*Pn **Pn 13 26 59.8 -0.6**
UDBI Udbina 10.68 330 *e*Pn **Pn 13 27 02.5 +0.3**
NRCA Norcia 10.73 316 Pn **Pn 13 27 04.6 +1.7**
HMDT Nahal Hemdat 10.74 104 Pn **Pn 13 27 01.1 -1.9**
YTIR Yattir 10.77 109 Pn **Pn 13 27 01.4 -2.1**
DSI Dead Sea 10.88 108 Pn **Pn 13 27 03.0 -2.0**
DSI Sn Sn 13 28 55.1 -10
MZDA Masada 10.98 109 Pn **Pn 13 27 04.2 -2.1**
MZDA Sn Sn 13 28 57.5 -10
PRNI Paran 11.16 114 Pn **Pn 13 27 05.7 -3.0**
HRFI Mount Harif 11.34 115 Pn **Pn 13 27 09.4 -1.9**
MBRI Mt Berech 11.38 117 Pn **Pn 13 27 09.5 -2.4**
MBRI Sn Sn 13 29 07.7 -10
EIL Elat 11.48 117 Pn **Pn 13 27 11.1 -2.0**
EIL Elat 11.48 117 Pn **Pn 13 27 09.4 -3.7**
comp=N,0.5nm,0.3s,baz=301,slow=2.7,SNR=9.2
EIL Sn Sn 13 29 06.2 -14
comp=N,1.1nm,0.3s,baz=72,slow=20,SNR=5.0
ASF Jabal al Asfar 11.86 102 Pn **Pn 13 27 15.4 -3.0**
comp=N,0.2nm,0.3s,baz=207,slow=9.0,SNR=2.2
CRES Cresnjev 11.88 333 *e*Pn **Pn 13 27 16.8 -1.7**
CEY Cerknica 12.21 330 *e*Pn **Pn 13 27 21.9 -1.2**
SOKA Soboth 12.76 334 *e*Pn **Pn 13 27 28.9 -1.7**
comp=N,1.4nm,0.2s,SNR=4.8
OBKA Obir 12.80 332 *i* Pn **Pn 13 27 30.8 -0.3**
comp=N,2.2nm,0.4s
VYHS Vyhne 13.39 347 P **Pn 13 27 43.1 +3.9**
VYHS pmax pmax
comp=Z,1.0nm,0.9s
VYHS Vyhne 13.39 347 *e* **P 13 27 49.0 +1.5**
MODS Modra-Piesok 13.61 343 *e*P **Pn 13 27 43.3 +1.2**
MODS Modra-Piesok 13.61 343 *e*P **Pn 13 27 43.3 +1.2**
ABTA Abfaltersbach 13.82 328 *e*P **P 13 27 55.4 +3.1**
comp=Z,5.8nm,0.7s
SALO Salr 13.96 320 Pn Pn 13 27 42.3 -4.6
ANN Anapa 14.30 45 *e*P **Pn 13 27 49.5 -1.9**
ANN *e*S **Sn 13 30 26.5 -2.0**
ANN pmax pmax
comp=Z,58nm,1.3s
VRAC Vranov 14.64 343 Pn **Pn 13 27 52.6 -3.4**
comp=Z,0.3nm,0.3s,baz=143,slow=10,SNR=2.1
WATA Walderalm 14.69 327 *i* P **P 13 28 03.9 +1.9**
comp=Z,1.4nm,0.2s
SQTA Sankt Quirin 14.76 326 *i* P **P 13 28 04.8 +2.0**
comp=Z,2.7nm,0.3s
FETA Feichten 14.84 325 *e*P **P 13 28 04.5 +0.8**
comp=Z,1.7nm,0.2s,SNR=5.1
GERES GERESS Array B 15.08 335 Pn **Pn 13 27 59.1 -2.7**
comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=4.1
DAVOX Davos/Dischmat 15.08 322 Pn **Pn 13 28 00.7 -1.2**
comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=2.0
DAVOX Sn Sn 13 30 36.9 -11
comp=Z,0.3nm,0.3s,baz=307,slow=20,SNR=1.9
KRLC Kraliky 15.31 344 *e*P **P 13 28 10.9 +2.1**
KRLC Kraliky 15.31 344 *e*P **P 13 28 10.9 +2.1**
KHC Kasperske Hory 15.36 336 *e*P **P 13 28 11.4 +2.0**
KHC Kasperske Hory 15.36 336 *e*P **P 13 28 11.4 +2.0**
KHC *ep*P **pP 13 28 19.0 -1.0**
DAVA Damuels 15.43 324 *i* P **P 13 28 12.2 +1.9**
comp=Z,2.5nm,0.3s
PRU Pruhonice 15.81 339 *e*P **P 13 28 15.6 +1.3**
PRU Pruhonice 15.81 339 *e*P **P 13 28 15.6 +1.3**
AKASG Malin Array Be 15.82 14 *i* P **P 13 28 14.0 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 15.82 14 Pn **Pn 13 28 08.3 -2.9**
comp=Z,0.8nm,0.3s,baz=204,slow=12,SNR=4.5
AKASG Malin Array Be 15.82 14 IAmb IAmb 13 28 11.2
comp=Z,2.9nm,1.1s
UPC Upice 15.90 343 *e*P **P 13 28 17.1 +1.9**
UPC Upice 15.90 343 *e*P **P 13 28 17.1 +1.9**
BRG Berggiesshubel 16.78 339 *e*P **P 13 28 26.4 +1.5**
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 16.78 339 *e*P **P 13 28 26.4 +1.5**
BRG pmax pmax
comp=Z,5.0nm,0.8s
NEY Neytrino 16.94 57⇑*e*P **P 13 28 28.9 +1.8**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 17.18 55 *e*P **P 13 28 30.5 +0.9**
KIV pmax pmax
comp=Z,23nm,1.0s
KBZ Khabaz 17.24 56 P **Pn 13 28 27.8 -1.3**
comp=Z,0.1nm,0.3s,baz=256,slow=17,SNR=2.1
CLL Collm 17.44 338 *e*P **P 13 28 34.0 +1.7**
CLL Collm 17.44 338 *e*P **P 13 28 34.0 +1.7**
CLL *e* 13 28 56.0
NCK Nalchik 17.63 57⇓*e*P **P 13 28 36.2 +1.8**
NCK pmax pmax
comp=Z,12nm,0.3s
KLNR Kaliningrad 19.23 355⇓*e*P **P 13 28 52.4 +0.5**
KLNR pmax pmax
comp=Z,442nm,1.7s
VSR Storozhevoye 19.48 31⇑*e*P **P 13 28 54.9 +0.3**
DOU Dourbes 19.91 323 Pn **Pn 13 29 01.7 +0.4**
LPSR Galich'ya Gora 20.43 28 *e*P Pn 13 29 06.7 -0.7
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VRH Novokhopyorsk 20.60 35 *e*P **P 13 29 08.0 +1.2**
VRH pmax pmax
comp=Z,9.0nm,0.4s
OBN Obninsk 21.69 21 *e*P **P 13 29 18.7 +0.2**
OBN *e* 13 33 14.3
OBN pmax pmax
comp=Z,21nm,0.6s
ESDC Sonseca Array 21.90 289 P **P 13 29 22.4 +1.4**
comp=Z,0.8nm,0.7s,baz=82,slow=12,SNR=2.7
HFS Hagfors 25.42 349 P **P 13 29 54.9 +0.1**
comp=Z,4.5nm,0.5s,baz=161,slow=11,SNR=22
FINES FINESS Array B 26.04 3 *i* P **P 13 29 59.5 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 26.04 3 P **P 13 29 59.1 -1.3**
comp=Z,3.1nm,0.6s,baz=169,slow=10.0,SNR=10
FINES FINESS Array B 26.04 3 P **P 13 29 59.9 -0.5**
FIA1 FINESS Array S 26.04 3 P **P 13 29 59.2 -1.2**
NC602 NORSAR Array S 26.36 347 P **P 13 30 03.2 -0.1**
NOA NORSAR Array B 26.70 347 P **P 13 30 05.4 -1.0**
comp=Z,0.7nm,0.5s,baz=157,slow=10.0,SNR=12
EKA Eskdalemuir Ar 26.86 326 P **P 13 30 06.9 -1.0**
comp=Z,1.2nm,0.5s,baz=128,slow=8.6,SNR=3.7
GEYT Alibeck 28.00 75 P **P 13 30 18.6 +0.3**
comp=Z,1.8nm,0.4s,baz=280,slow=8.7,SNR=5.0
AKTO Aktyubinsk 29.22 48 P **P 13 30 28.1 -0.9**
comp=Z,1.1nm,0.3s,baz=272,slow=11,SNR=6.5
TORD Torodi Ar. Bea 29.51 226 P **P 13 30 32.4 +0.5**
comp=Z,1.7nm,0.6s,baz=35,slow=8.7,SNR=13
TORD Torodi Ar. Bea 29.51 226 P **P 13 30 30.0 -1.8**
PRGR Permogore 29.77 22 *e*P **P 13 30 31.7 -2.0**
PRGR pmax pmax
comp=Z,12nm,0.6s
ABKAR Abkulak array 30.11 51 P **P 13 30 36.2 -0.6**
ABKAR Abkulak array 30.11 51 P **P 13 30 37.0 +0.2**
MSF Maaselka 30.66 5 P **P 13 30 41.5 0.0**
ARU Arti 31.76 38*c i* P **P 13 30 50.9 -0.4**
ARU 13 31 52.4
ARU S **S 13 35 58.0 +0.2**
ARU SS **SnSn 13 37 46.2 -1.8**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 31.76 38 P **P 13 30 50.1 -1.2**
comp=Z,1.2nm,0.3s,baz=243,slow=7.9,SNR=7.3
ARU Arti 31.76 38 P **P 13 30 50.3 -0.9**
SVE Sverdlovsk 32.97 38⇑*e*P **P 13 31 01.8 -0.1**
SVE pmax pmax
comp=Z,14nm,0.8s
ARCES ARCESS Array B 34.13 1 P **P 13 31 11.2 -0.6**
ARCES ARCESS Array B 34.13 1 P **P 13 31 10.8 -1.0**
comp=Z,3.5nm,0.6s,baz=180,slow=8.5,SNR=31
ARCES ARCESS Array B 34.13 1 P **P 13 31 11.2 -0.6**
KEV Kevo 34.39 2 P **P 13 31 13.9 -0.2**
KEV pmax pmax
comp=Z,19nm,1.1s
KEV Kevo 34.39 2 P **P 13 31 13.9 -0.2**
KK31 Karatay Array 36.99 63 P **P 13 31 37.2 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 36.99 63 P **P 13 31 37.2 +0.5**
KK31 IAmb IAmb 13 31 37.9
comp=Z,3.4nm,0.6s
KKAR Karatay Array 36.99 63 P **P 13 31 37.3 +0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 36.99 63 P **P 13 31 36.2 -0.5**
KKAR Karatay Array 36.99 63 P **P 13 31 37.3 +0.6**
KKAR IAmb IAmb 13 31 37.9
comp=Z,3.4nm,0.6s
BRVK Borovoye 37.23 47⇓*i* P **P 13 31 38.7 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 37.23 47 P **P 13 31 38.7 +0.1**
BRVK IAmb IAmb 13 31 39.8
comp=Z,3.8nm,0.7s
DBIC Dimbokro 38.55 229 P **P 13 31 50.5 +0.4**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 38.55 229 P **P 13 31 50.7 +0.6**
comp=Z,3.5nm,0.7s,baz=35,slow=10,SNR=5.3
DBIC Dimbokro 38.55 229 P **P 13 31 50.5 +0.4**
DBIC IAmb IAmb 13 31 51.8
comp=Z,3.6nm,0.8s
TIC Toumodi 38.67 229 *e*P **P 13 31 52.0 +0.8**
KIC Kosan Boka 38.73 228 *e*P **P 13 31 52.0 +0.4**
comp=Z,13nm,1.0s
LIC Lamto 39.01 228 *e*P **P 13 31 54.4 +0.5**
comp=Z,17nm,0.8s
LIC Lamto 39.01 228 P **P 13 31 54.4 +0.5**
AAK Ala-Archa 39.95 64⇓*e*P **P 13 32 02.2 +0.5**
AAK pmax pmax
comp=Z,2.0nm,0.7s
NIL Nilore 40.90 78 P **P 13 32 10.2 +0.6**
NIL pmax pmax
comp=Z,11nm,1.1s
NIL Nilore 40.90 78 P **P 13 32 10.2 +0.6**
KSH Kashi 41.56 68 P **P 13 32 13.0 -2.1**
KSH sP sP 13 32 31.5 -1.1
KSH PP **PP 13 33 52.5 +0.9**
KSH S **S 13 38 22.5 -5.4**
KSH sS sS 13 38 42.5 -5.2
KSH SS SS 13 41 22.8 -11
KSH LR LR
comp=Z,260nm,9.3s
KSH LR LR
comp=Z,180nm,10.6s
KURK Kurchatov 42.22 51⇑*i* P **P 13 32 19.2 -0.9**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 42.22 51 P **P 13 32 19.5 -0.6**
KURK IAmb IAmb 13 32 20.9
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 44.93 57 P **P 13 32 40.9 -1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 44.93 57 P **P 13 32 40.9 -1.1**
MK31 IAmb IAmb 13 32 44.1
comp=Z,3.1nm,0.6s
MKAR Makanchi Array 44.93 57 P **P 13 32 42.0 0.0**
MKAR Makanchi Array 44.93 57 P **P 13 32 41.8 -0.2**
comp=Z,3.0nm,0.5s,baz=270,slow=7.7,SNR=23
MKAR Makanchi Array 44.93 57 P **P 13 32 42.0 0.0**
ZAA0 Zalesovo Array 45.94 46 P **P 13 32 48.4 -1.4**
ZAA0 IAmb IAmb 13 32 50.5
comp=Z,4.2nm,0.7s
ZALV Zalesovo Beam 45.94 46 P **P 13 32 49.0 -0.8**
comp=Z,5.3nm,0.4s,baz=266,slow=9.3,SNR=27
ZALV Zalesovo Beam 45.94 46 P **P 13 32 48.9 -0.9**
NRIK Noril'sk 48.27 25 LR LR 13 56 25.1
comp=Z,211nm,18.9s,baz=298,slow=40
WMQ Urumqi 49.22 60 *e*P **P 13 33 16.8 +1.3**
DANN Dangsing 51.20 80 *e*P **P 13 33 31.5 +0.5**
KOLN Koldanda 51.31 81 *e*P **P 13 33 31.8 +0.1**
GKN Gorkha 52.05 80 *e*P **P 13 33 37.2 0.0**
comp=Z,6.4nm,0.3s
DMN Daman 52.59 80 *e*P **P 13 33 41.6 +0.3**
comp=Z,24nm,0.8s
KKN Kakani 52.66 80 *e*P **P 13 33 41.6 -0.1**
comp=Z,7.9nm,0.5s
PKIN Phulchoki 52.84 80 *e*P **P 13 33 43.0 -0.2**
comp=Z,9.7nm,0.8s
PKI Pulchoki 52.85 80 *e*P **P 13 33 43.1 -0.2**
GUN Gumba 53.09 80 *e*P **P 13 33 45.0 -0.1**
comp=Z,15nm,0.8s
JIRN Jiri 53.44 80 *e*P **P 13 33 47.9 +0.2**
RAMN Ramite 54.07 80 *e*P **P 13 33 51.5 -0.7**
comp=Z,8.3nm,0.8s
GTA Gaotai 59.21 61 *e*P **P 13 34 28.8 +0.4**
GTA pP pP 13 34 41.5 +0.5
GTA sP sP 13 34 46.8 +0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=Z,120nm,17.1s
GTA LR LR
comp=Z,140nm,16.8s
GTA LR LR
comp=Z,170nm,16.8s
SONM Songino Array 60.51 50 P **P 13 34 36.9 -0.3**
comp=Z,0.7nm,0.6s,baz=274,slow=9.5,SNR=5.0
SONM Songino Array 60.51 50 IAmb IAmb 13 34 44.8
comp=Z,0.5nm,0.8s
ULN Ulaanbaatar 60.91 50⇓*e*P **P 13 34 40.3 +0.4**
ULN pmax pmax
comp=Z,8.0nm,2.3s
SCHQ Schefferville 61.90 319 P **P 13 34 47.5 +1.2**
comp=Z,7.3nm,0.8s,baz=73,slow=5.6,SNR=5.2
SCHQ Schefferville 61.90 319 IAmb IAmb 13 34 49.2
comp=Z,8.8nm,1.0s
LZH Lanzhou 63.49 63 *e*P **P 13 34 57.5 +0.1**
LZH pP pP 13 35 09.0 -1.2
LZH sP sP 13 35 15.5 +0.2
LZH pmax pmax
comp=Z,13nm,1.3s
YAK Yakutsk 66.39 30 *e*P **P 13 35 15.9 +0.4**
YAK pmax pmax
comp=Z,11nm,0.7s
HHC Hu-ho-hao-te 66.78 56 *e*P **P 13 35 21.3 +2.7**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,11nm,4.8s
CMAR Chiang Mai Arr 68.12 82 P **P 13 35 27.4 +0.2**
comp=Z,1.2nm,0.6s,baz=300,slow=7.9,SNR=10
BILL Bilibino 73.14 14 *e*P **P 13 35 58.5 +1.5**
BILL *e* 13 36 14.5
BILL *e* 13 38 42.8
BILL pmax pmax
comp=Z,1.0nm,1.1s
SEY Seymchan 73.86 22*de*P **P 13 36 01.3 0.0**
KLR Kul'dur 74.56 40⇓*e*P **P 13 36 06.0 +0.4**
KLR pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 76.64 341 P **P 13 36 18.2 +1.0**
comp=Z,0.8nm,0.6s,baz=32,slow=5.1,SNR=5.5
PSI Prapat 76.75 96 LR LR 14 13 20.0
comp=Z,42nm,21.1s,baz=270,slow=38
USRK Ussuriysk Ar. 77.73 44 P **P 13 36 23.0 -0.7**
USRK Ussuriysk Ar. 77.73 44 P **P 13 36 23.5 -0.2**
comp=Z,5.7nm,0.7s,baz=294,slow=4.5,SNR=14
USRK Ussuriysk Ar. 77.73 44 P **P 13 36 23.0 -0.7**
IMAR Indian Mountai 78.83 359 P **P 13 36 30.1 +0.7**
KSRS Korea Array 79.34 52 P **P 13 36 33.2 +0.5**
comp=Z,2.8nm,0.7s,baz=310,slow=4.5,SNR=12
ILAR Eielson Array 79.77 356 P **P 13 36 34.9 +0.3**
comp=Z,0.5nm,0.8s,baz=356,slow=3.2,SNR=6.8
BCAR Beaver Creek A 81.05 353 P **P 13 36 42.7 +1.1**
WRA Warramunga Arr 118.21 95 PKP **PKPdf 13 43 13.9 -0.4**
comp=Z,0.2nm,0.4s,baz=313,slow=1.3,SNR=5.0
ASAR Alice Springs 119.68 99 PKP **PKPdf 13 43 17.1 +0.2**
comp=Z,0.1nm,0.3s,baz=334,slow=1.6,SNR=5.4

ISCJB ***29*** *13:53:09.9±0.7, 27°.96N±0°.03×51°.41E±0°.07, h16km, Error ellipse: s-maj=9.0km s-min=3.4km az=156.9*
TEH ***29*** *13:53:10.4, 28°.14N×51°.47E, h12km, ML3.6*
DSN ***29*** *13:53:16.0±1.9, 27°.82N×51°.73E, h10km, ML4.1/7, Error ellipse: s-maj=23.6km s-min=9.2km az=170.0*
OMAN ***29*** *13:53:18.1±1.2, 27°.61N×51°.47E, h127km±35km, ml3.8/7, Error ellipse: s-maj=37.9km s-min=23.5km az=22.0*
ISC 29 13:53:10.4±1.6, 28°.04N±0°.06×51°.37E±0°.10, h16km, n49, σ1.69/58, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.74**	**113**	*e*Pn	**Pn**	**13 53 42.2**	**+2.3**
LMD1				IAMB	IAmb	13 54 15.1	
comp=Z,0.0nm,0.5s							
IKAZ	**Kazeroun**	**1.78**	**13**	*e*Pn	**Pn**	**13 53 41.6**	**+0.8**
IKAZ				IAMB	IAmb	13 54 15.4	
comp=Z,6μm,0.5s							
SHI	**Shiraz**	**1.88**	**32**	*e*Pn	**Pn**	**13 53 42.9**	**+0.9**
SHI				*e*Sg	**Sb**	**13 54 07.2**	**-0.6**
JHRM	**Jahrom**	**2.00**	**76**	*e*Pn	**Pn**	**13 53 44.6**	**+1.0**
JHRM				IAMB	IAmb	13 54 21.1	
comp=Z,0.0nm,0.5s							
ISRV	**Sarvestan**	**2.03**	**49**	*e*Pn	**Pn**	**13 53 45.9**	**+1.7**
ISRV				IAMB	IAmb	13 54 29.7	
comp=Z,3μm,0.8s							
KLNJ	**Kolanjah**	**2.96**	**4**	*e*Pn	**Pn**	**13 53 58.3**	**+1.3**
IRAM	**Ramesheh**	**3.85**	**13**	*e*Pn	**Pn**	**13 54 10.6**	**+1.4**
ZNGN	**Zangian**	**4.08**	**354**	*e*Pn	**Pn**	**13 54 13.4**	**+0.9**
ROKH	**ROKH**	**4.30**	**356**	*e*Pn	**Pn**	**13 54 16.5**	**+1.2**
ISAD	**Sadrabad**	**4.35**	**27**	*e*Pn	**Pn**	**13 54 18.2**	**+2.1**
IMEH	**Mehriz**	**4.37**	**39**	*e*Pn	**Pn**	**13 54 17.9**	**+1.6**
IGAR	**Gharneh**	**4.38**	**7**	*e*Pn	**Pn**	**13 54 18.4**	**+1.9**
IPIR	**Pirpir**	**4.64**	**355**	*e*Pn	**Pn**	**13 54 21.7**	**+1.6**
SHME	**Shamm**	**4.70**	**114**	*i* P	**Pn**	**13 54 20.6**	**0.0**
SNR=6.5							
SHME				S	**Sn**	**13 55 13.0**	**-1.8**
SHME	**Shamm**	**4.70**	**114**	*e*Pn	**Pn**	**13 54 21.2**	**+0.6**
BANOM	**Banah**	**4.88**	**115**	*i* P	**Pn**	**13 54 23.8**	**+0.7**
SNR=32							
BANOM	**Banah**	**4.88**	**115**	P	**Pn**	**13 54 24.5**	**+1.4**
SNR=32							
BANOM				S	**Sn**	**13 55 18.3**	**-1.0**
NAZ	**Nazwa, Dubai**	**4.90**	**127**	P	**Pn**	**13 54 25.0**	**+1.6**
NAZ	**Nazwa, Dubai**	**4.90**	**127**	*e*Pn	**Pn**	**13 54 26.0**	**+2.6**
IZEF	**Zefreh**	**4.91**	**9**	*e*Pn	**Pn**	**13 54 25.3**	**+1.6**
ASUD	**Al Ashush, Dub**	**4.92**	**133**	*i* P	**Pn**	**13 54 26.0**	**+2.3**
SNR=18							
ASUD	**Al Ashush, Dub**	**4.92**	**133**	P	**Pn**	**13 54 26.3**	**+2.7**
SNR=18							
ASUD	**Al Ashush, Dub**	**4.92**	**133**	*e*Pn	**Pn**	**13 54 26.4**	**+2.7**
ICHK	**Chekchek**	**4.94**	**31**	*e*Pn	**Pn**	**13 54 26.1**	**+1.9**
NGRK	**Negar Kerman**	**4.96**	**70**	*e*Pn	**Pn**	**13 54 25.8**	**+1.2**
NGRK				IAMB	IAmb	13 54 27.3	
comp=Z,0.0nm,0.3s							
KHGB	**Koh Gabri**	**5.03**	**61**	*e*Pn	**Pn**	**13 54 26.6**	**+1.2**
KHGB				IAMB	IAmb	13 55 35.2	
comp=Z,0.0nm,0.6s							
MSFE	**Esma-Masafi**	**5.05**	**121**	*i* P	**Pn**	**13 54 26.7**	**+1.3**
SNR=11							
MSFE	**Esma-Masafi**	**5.05**	**121**	*e*Pn	**Pn**	**13 54 26.8**	**+1.3**
IBAF	**Bafgh**	**5.08**	**45**	*e*Pn	**Pn**	**13 54 27.8**	**+1.8**
TVBK	**TV Kerman**	**5.10**	**66**	*e*Pn	**Pn**	**13 54 28.6**	**+2.1**
TVBK				IAMB	IAmb	13 54 30.2	
comp=Z,0.0nm,0.3s							
MDH	**Madha**	**5.19**	**121**	P	**Pn**	**13 54 28.7**	**+1.4**
SNR=6.0							
MDH				S	**Sn**	**13 55 25.1**	**-1.8**
MDH	**Madha**	**5.19**	**121**	*e*Pn	**Pn**	**13 54 28.4**	**+1.1**
IKLH	**Kolahrood**	**5.26**	**2**	*e*Pn	**Pn**	**13 54 29.6**	**+1.0**
HATD	**Hatta, Dubai**	**5.34**	**126**	P	**Pn**	**13 54 31.4**	**+2.0**
HATD				S	**Sn**	**13 55 29.8**	**-0.8**
HATD	**Hatta, Dubai**	**5.34**	**126**	*e*Pn	**Pn**	**13 54 31.0**	**+1.6**
MZR	**Muzera**	**5.37**	**159**	P	**Pn**	**13 54 31.5**	**+1.6**
MZR	**Muzera**	**5.37**	**159**	*e*Pn	**Pn**	**13 54 32.8**	**+2.9**
ASHO	**Ashiyiah**	**5.37**	**127**	*i* P	**Pn**	**13 54 32.0**	**+2.0**
SNR=7.5							
ASHO	**Ashiyiah**	**5.37**	**127**	P	**Pn**	**13 54 31.6**	**+1.7**
SNR=8.0							
ASHO				S	**Sn**	**13 55 31.2**	**-0.3**
ASHO	**Ashiyiah**	**5.37**	**127**	*e*Pn	**Pn**	**13 54 31.7**	**+1.7**
ANAR	**Anarak**	**5.52**	**21**	*e*Pn	**Pn**	**13 54 33.8**	**+1.8**
CHMN	**Cheshme madani**	**5.70**	**70**	*e*Pn	**Pn**	**13 54 36.7**	**+2.0**
ARQ	**Araqi**	**6.60**	**134**	P	**Pn**	**13 54 49.0**	**+2.2**
SNR=7.9							
HOQ	**Hoqain**	**6.96**	**128**	P	**Pn**	**13 54 52.9**	**+1.3**
HOQ				S	**Sn**	**13 56 08.3**	**-2.2**
BSY	**Bisya**	**7.46**	**134**	P	**Pn**	**13 55 00.2**	**+1.6**
BSY				S	**Sn**	**13 56 19.9**	**-2.9**
SMDO	**Samad**	**7.81**	**128**	P	**Pn**	**13 55 04.8**	**+1.3**
SMDO				S	**Sn**	**13 56 30.4**	**-1.3**
WSAR	**Wadi Sarin**	**8.11**	**125**	P	**Pn**	**13 55 08.5**	**+0.9**
SNR=14							
WHFO	**Wadi Hawf**	**10.32**	**167**	P	**Pn**	**13 55 36.8**	**-1.0**
DMTO	**DMTO**	**10.79**	**161**	P	**Pn**	**13 55 43.7**	**-0.7**
SNR=15							

IDC 29 14:04:14.4±1.9, 4°.34N×125°.62E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/61, mbtmp3.6/4, MS2.3/1, Ms1 2.3/1, ms1mx2.1/31, Error ellipse: s-maj=120.6km s-min=23.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.72**	**359**	LR	LR	14 06 16.0	
comp=Z,55nm,18.8s,baz=56,slow=45							
FITZ	**Fitzroy Crossi**	**22.29**	**180**	P	P	14 09 14.4	+0.9
1.2nm,0.7s,baz=0.0,slow=9.1,SNR=2.4							
WRA	**Warramunga Arr**	**25.60**	**161**	P	P	14 09 45.6	0.0
1.7nm,0.9s,baz=339,slow=11,SNR=21							
ASAR	**Alice Springs**	**28.98**	**164**	P	P	14 10 15.4	-0.6
0.3nm,0.9s,baz=340,slow=7.9,SNR=3.4							
MKAR	**Makanchi Array**	**56.43**	**326**	P	P	14 13 58.0	0.0
0.8nm,1.0s,baz=126,slow=7.3,SNR=7.0							

SJA ***29*** *14:04:31.2±0.7, 34°.17S×73°.29W, h10km±6km, ML3.3, MW3.4*
IDC ***29*** *14:04:32.2±0.9, 34°.16S×73°.20W, h0km, mb4.0/7, mb1 4.0/10, mb1mx3.9/33, mbtmp4.0/10, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/19, Error ellipse: s-maj=32.8km s-min=16.7km az=99.0*
NEIC ***29*** *14:04:34.1±2.0, 34°.11S±0°.04×73°.2W±0°.1, h17km±4km, mb4.6/10*
GUC ***29*** *14:04:35.1±0.4, 34°.07S×73°.04W, h26km±3km, ML3.9*
ISC 29 14:04:32.2±4.2, 34°.12S±0°.04×73°.25W±0°.06, h5km±26km, n56, σ1.35/66, mb4.4/9, 3C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.41**	**130**⇑	*i* P	**Pn**	**14 04 57.9**	**-0.6**
GO05				*i* S	**Sn**	**14 05 14.9**	**-2.5**
GO05				IAML		14 05 16.1	
comp=N,5μm,0.4s							
GO05	**Huala**	**1.41**	**130**	*i* P	**Pn**	**14 04 57.7**	**-0.8**
GO05				*i* S	**Sb**	**14 05 16.9**	**-0.3**
GO05	**Huala**	**1.41**	**130**		**Pn**	**14 04 58.2**	**-0.3**
GO05				Sn	**Sn**	**14 05 15.6**	**-1.8**
VA01	**Torpederas**	**1.72**	**51**⇓	*i* P	**Pn**	**14 05 01.9**	**-0.9**
VA01				*i* S	**Sn**	**14 05 22.0**	**-3.2**
ROC1	**El Roble**	**2.18**	**59**	*i* P	**Pn**	**14 05 10.8**	**+1.4**

ROC1	**El Roble**	2.18	59		Pn	Pn	14 05 09.7 +0.4
ROC1				Sn	Sn	Sn	14 05 36.6 -0.2
ROCH	**El Roble**	2.19	59	⇓*i*P	Pn	Pn	14 05 09.3 -0.1
ROCH				*i*S	Sn	Sn	14 05 35.2 -1.8
PEL	**Peldehue**	2.35	66	⇓*i*P	Pn	Pn	14 05 11.9 +0.4
PEL				*i*S	Sn	Sn	14 05 40.6 0.0
PEL				IAML			14 05 42.0
	comp=N,1μm,0.2s						
PEL	**Peldehue**	2.35	66	*i*P	Pn	Pn	14 05 13.1 +1.6
PEL	**Peldehue**	2.35	66		Pn	Pn	14 05 12.3 +0.8
PEL				Sn	Sb	Sb	14 05 42.5 -1.7
CLCH	**Cerro Calan**	2.37	73	*i*P	Pn	Pn	14 05 12.2 +0.4
CLCH				*i*S	Sn	Sn	14 05 40.6 -0.6
CLCH				IAML			14 05 43.2
	comp=N,757nm,0.7s						
LMEL	**Las Melosas**	2.54	85	⇓*i*P	Pn	Pn	14 05 14.8 +0.5
LMEL				*i*S	Sn	Sn	14 05 45.7 +0.1
LMEL				IAML			14 05 47.5
	comp=N,970nm,0.2s						
FCH	**Farellones**	2.59	73	⇑*i*P	Pn	Pn	14 05 15.2 +0.3
FCH				*i*S	Sn	Sn	14 05 46.4 -0.6
FCH				IAML			14 05 47.3
	comp=N,1μm,0.2s						
CCHI	**Chillan**	2.66	159	*i*P	Pn	Pn	14 05 15.8 +0.2
CCHI				*i*S	Sn	Sn	14 05 49.0 +0.8
COIS	**El Sosneado**	3.17	109	⇓*i*P	Pn	Pn	14 05 24.8 +2.0
PUMA	**Malargue**	3.41	115	*i*P	Pn	Pn	14 05 27.7 +1.6
EDS3	**Malargue**	3.56	119	*i*P	Pn	Pn	14 05 29.9 +1.6
ARCO	**CERRO ARCO**	3.82	72	*i*P	Pn	Pn	14 05 33.9 +2.1
ARCO				IAML			14 06 38.3
	comp=Z,47nm,1.4s						
AAGR	**Agrelo**	3.83	76	*i*P	Pn	Pn	14 05 34.1 +2.3
AAGR				IAML			14 06 45.0
	comp=Z,49nm,2.4s						
ASAL	**Salagasta**	3.99	69	*i*P	Pn	Pn	14 05 36.7 +2.6
ASAL				IAML			14 06 39.8
	comp=Z,41nm,0.9s						
RTLS	**Leoncito**	4.04	56	⇓*i*P	Pn	Pn	14 05 37.3 +2.3
GO04	**Tololo Observa**	4.45	28		Pn	Pn	14 05 40.3 -0.2
CFA	**Coronel Fontan**	4.90	61	Pn	Pn	Pn	14 05 48.0 +1.5
	comp=Z,5.5nm,0.3s,baz=226,slow=8.5,SNR=27						
CFA				Sn	Sn	Sn	14 06 44.9 +1.1
	comp=Z,6.5nm,0.3s,baz=102,slow=20,SNR=4.2						
GO06	**Curarrehue**	5.64	166		Pn	Pn	14 05 57.6 +0.9
PLCA	**Paso Flores**	6.94	163	Pn	Pn	Pn	14 06 15.3 +0.7
	comp=Z,1.2nm,0.3s,baz=345,slow=9.3,SNR=27						
PLCA				Sn	Sn	Sn	14 07 33.4 -0.6
	baz=354,slow=19,SNR=1.7						
PLCA				LR	LR	LR	14 08 49.2
	comp=Z,107nm,18.9s,baz=54,slow=37						
TRQA	**Tornquist**	9.93	117	Pn	Pn	Pn	14 06 56.0 +0.4
LVC	**Limon Verde**	12.08	20	Pn	Pn	Pn	14 07 22.9 -2.4
PB01	**IPOC Station P**	13.44	15	Pn	Pn	Pn	14 07 40.8 -2.9
PB11	**IPOC Station P**	14.65	13	Pn	Pn	Pn	14 07 59.6 -0.7
GO01	**Chusmiza**	14.84	15	Pn	Pn	Pn	14 08 02.6 -0.5
LPAZ	**La Paz**	18.34	16	P	P	P	14 08 50.6 +2.5
	comp=Z,0.1nm,0.3s,baz=218,slow=8.8,SNR=5.5						
LPAZ	**La Paz**	18.34	16	P	Pn	Pn	14 08 47.9 -0.1
SIV	**San Ignacio**	21.12	34	P	P	P	14 09 18.9 +1.0
	comp=Z,1.8nm,0.8s,baz=225,slow=7.1,SNR=7.2						
PMSA	**Palmer Station**	31.20	172	P	P	P	14 10 51.8 -0.1
PMSA				IAmb	IAmb	IAmb	14 10 59.1
	comp=Z,11nm,1.2s						
SDV	**Santo Domingo**	42.84	4	P	P	P	14 12 30.1 -1.4
SDV				IAmb	IAmb	IAmb	14 12 48.3
	comp=Z,6.6nm,0.5s						
BCIP	**Isla Barro Col**	43.50	351	P	P	P	14 12 35.4 -1.2
RCBR	**Riachuelo**	44.56	59	P	P	P	14 12 45.0 -0.3
VNA3	**Neumayer Olymp**	49.63	158	P	P	P	14 13 25.2 +1.1
VNA1	**Neumayer--Stat**	49.96	157	P	P	P	14 13 29.1 +2.4
VNA2	**Neumayer--Watz**	50.30	157	P	P	P	14 13 30.2 +1.0
	baz=285,slow=9.1						
SNAA	**Sanae**	51.86	158	P	P	P	14 13 41.7 +0.7
SNAA	**Sanae**	51.86	158	P	P	P	14 13 41.7 +0.7
	comp=Z,2.7nm,0.5s,baz=271,slow=7.0,SNR=33						
SNAA	**Sanae**	51.86	158	P	P	P	14 13 40.6 -0.5
SNAA				IAmb	IAmb	IAmb	14 13 42.3
	comp=Z,4.1nm,0.6s						
QSPA	**South Pole Qui**	56.12	180	P	P	P	14 14 13.1 +0.8
	comp=Z,2.6nm,0.9s,baz=300,slow=1.2,SNR=17						
QSPA	**South Pole Qui**	56.12	180	IAmb	IAmb	IAmb	14 14 25.4
	comp=Z,7.1nm,1.2s						
SYO	**Syowa Base**	66.12	159	⇓*e*P	P	P	14 15 18.6 -1.3
SYO	**Syowa Base**	66.12	159	⇑*e*X	P	P	14 15 20.9 +1.0
TXAR	**Lajitas Array**	69.35	332	P	P	P	14 15 42.0 +1.1
	comp=Z,0.2nm,0.5s,baz=154,slow=8.8,SNR=4.0						
MAW	**Mawson**	73.35	164	P	P	P	14 16 05.0 +0.6
	comp=Z,1.5nm,0.6s,baz=240,slow=7.6,SNR=5.7						
MAW	**Mawson**	73.35	164	IAmb	IAmb	IAmb	14 16 06.3
	comp=Z,1.1nm,1.2s						
DBIC	**Dimbokro**	76.17	72	P	P	P	14 16 22.1 +0.4
	comp=Z,1.6nm,0.5s,baz=211,slow=6.4,SNR=3.9						
DBIC	**Dimbokro**	76.17	72	IAmb	IAmb	IAmb	14 16 23.9
	comp=Z,8.3nm,1.1s						
TORD	**Torodi Ar. Bea**	85.19	71	P	P	P	14 17 09.9 0.0
	comp=Z,0.9nm,0.7s,baz=267,slow=4.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	85.19	71	IAmb	IAmb	IAmb	14 17 11.1
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	148.05	43	PKPbc	PKiKP	PKiKP	14 24 19.2 -0.8
	comp=Z,0.6nm,0.4s,baz=323,slow=4.5,SNR=3.6						
ZALV	**Zalesovo Beam**	154.85	31	PKPbc	PKiKP	PKiKP	14 24 34.1 0.0
	comp=Z,0.7nm,0.5s,baz=259,slow=2.4,SNR=3.9						

*NEIC **29** 14:05:24.3±2.6, 26°.5S±0°.1×176°.3W±0°.2, h10km±1km, mb4.6/21*
*ISCJB **29** 14:05:25.2±0.5, 26°.53S±0°.06×176°.19W±0°.09, h29km, mb4.0/5, Error ellipse: s-maj=13.2km s-min=6.9km az=32.2*
*IDC **29** 14:05:26.3±1.3, 26°.56S×176°.54W, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.9/35, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=34.8km s-min=24.7km az=106.0*

ISC 29 14:05:27.3±0.6, 26°.48S±0°.09×176°.3W±0°.1, h29km, n32, σ1§56/31, mb4.4/13, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.11**	**207**	Pn	**Pn**	**14 06 14.7**	**+0.2**
	73nm,0.3s,baz=94,slow=19,SNR=4.7						
RAO				Sn	**Sn**	**14 06 51.3**	**+0.6**
	136nm,0.3s,baz=99,slow=23,SNR=6.6						
NIUE	**Niue**	**9.42**	**40**	Pn	**Pn**	**14 07 39.7**	**-1.5**
URZ	**Urewera**	**12.99**	**204**	Pn	**Pn**	**14 08 27.1**	**-2.9**
	0.3nm,0.3s,baz=203,slow=7.7,SNR=2.5						
URZ				Sn	Sn	14 10 40.6	-13
	1.1nm,0.3s,baz=128,slow=18,SNR=7.9						
BFZ	**Birch Farm**	**15.46**	**202**	Pn	**Pn**	**14 09 03.0**	**-0.3**
BFZ				IAmb	IAmb	14 09 21.4	
	comp=Z,69nm,1.5s						
RAR	**Rarotonga**	**15.99**	**74**	Pn	**Pn**	**14 09 09.2**	**-1.1**
RAR				IAmb	IAmb	14 09 20.5	
	comp=Z,36nm,1.2s						
DZM	**Mont Dzumac**	**16.34**	**282**	*e*P	P	14 09 33.5	+16
	comp=Z,30nm,1.2s						
DZM				*e*LR	LR	14 13 33.3	
	comp=Z,294nm,24.9s						
THZ	**Tophouse**	**17.65**	**208**	Pn	**Pn**	**14 09 29.2**	**-1.9**
LTZ	**Lake Taylor**	**18.76**	**207**	P	**P**	**14 09 43.5**	**-0.5**
KNTN	**Kanton**	**23.98**	**11**	P	**P**	**14 10 38.8**	**-0.7**
ARMA	**Armidale**	**28.43**	**255**	P	**P**	**14 11 18.8**	**-1.0**
ARMA				IAmb	IAmb	14 11 37.9	
	comp=Z,17nm,1.4s						
EIDS	**Eidsvold**	**29.32**	**265**	P	**P**	**14 11 28.2**	**+0.5**
EIDS				IAmb	IAmb	14 11 36.1	
	comp=Z,9.4nm,1.1s						
TAU	**Tasmania Unive**	**33.80**	**232**	P	**P**	**14 12 05.6**	**-1.2**
COEN	**Coen**	**39.86**	**280**	P	**P**	**14 12 57.6**	**-1.1**
BBOO	**Buckleboo**	**41.61**	**250**	P	**P**	**14 13 12.1**	**-0.9**
BBOO				IAmb	IAmb	14 13 25.2	
	comp=Z,30nm,1.5s						
AS31	**Alice Springs**	**44.98**	**262**	P	**P**	**14 13 40.2**	**-0.1**
ASAR	**Alice Springs**	**44.98**	**262**	P	**P**	**14 13 42.4**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=102,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**44.98**	**262**	P	**P**	**14 13 41.6**	**+1.3**
WR0	**Warramunga Arr**	**45.43**	**267**	P	**P**	**14 13 45.9**	**+1.9**
WR0				IAmb	IAmb	14 13 52.2	
	comp=Z,5.5nm,1.2s						
WB2	**Warramunga Arr**	**45.61**	**267**	P	**P**	**14 13 46.9**	**+1.5**
WRAB	**Tennant Creek**	**45.61**	**267**	P	**P**	**14 13 46.8**	**+1.4**
WRAB				IAmb	IAmb	14 13 50.2	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**45.62**	**267**	P	**P**	**14 13 47.1**	**+1.7**
	comp=Z,1.3nm,0.4s,baz=104,slow=8.6,SNR=28						
WRA	**Warramunga Arr**	**45.62**	**267**	P	**P**	**14 13 47.0**	**+1.6**
WB0	**Warramunga Arr**	**45.62**	**268**	P	**P**	**14 13 46.8**	**+1.4**
WB0				IAmb	IAmb	14 14 00.3	
	comp=Z,9.3nm,1.3s						
MLH	**Mauna Loa**	**50.01**	**26**	P	**P**	**14 14 20.5**	**+1.0**
MTN	**Manton Dam**	**51.01**	**275**	P	**P**	**14 14 24.4**	**-2.6**
MTN				IAmb	IAmb	14 14 40.2	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.00**	**266**	P	**P**	**14 14 48.1**	**-1.1**
FITZ				IAmb	IAmb	14 14 57.4	
	comp=Z,11nm,1.4s						
MORW	**Morawa**	**59.17**	**251**	P	**P**	**14 15 25.3**	**-0.6**
QSPA	**South Pole Qui**	**63.61**	**180**	P	**P**	**14 15 57.5**	**+2.1**
	comp=Z,2.7nm,0.9s,baz=30,slow=5.8,SNR=4.9						
QSPA	**South Pole Qui**	**63.61**	**180**	P	**P**	**14 15 57.1**	**+1.7**
MJAR	**Matsushiro Arr**	**75.94**	**324**	P	**P**	**14 17 13.4**	**+2.0**
	comp=Z,2.0nm,0.8s,baz=129,slow=8.8,SNR=2.9						
SYO	**Syowa Base**	**81.25**	**192**	⇓*e*pP	P	**14 17 42.6**	**+2.4**
NVAR	**Mina Array Bea**	**84.34**	**42**	P	P	14 18 03.1	+6.2
	comp=Z,0.5nm,0.8s,baz=213,slow=9.7,SNR=3.6						

IDC 29 14:06:37.9±1.5, 14°.90S×176°.15W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/38, mbtmp3.8/5, ML3.6/1, MS3.7/9, Ms1 3.8/9, ms1mx3.5/26, Error ellipse: s-maj=142.3km s-min=22.5km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.35**	**77**	Pn	Pn	14 07 43.8	-1.6
	3.5nm,0.3s,baz=356,slow=4.1,SNR=4.6						
AFI				Sn	Sn	14 08 28.6	-8.2
	2.6nm,0.3s,baz=77,slow=19,SNR=4.5						
AFI				LR	LR	14 09 19.5	
	comp=Z,588nm,19.6s,baz=246,slow=37						
RAO	**Raoul Island**	**14.38**	**186**	LR	LR	14 14 41.7	
	comp=Z,474nm,20.4s,baz=4.0,slow=34						
RAR	**Rarotonga**	**16.79**	**114**	LR	LR	14 15 22.2	
	comp=Z,412nm,19.2s,baz=278,slow=31						
WRA	**Warramunga Arr**	**47.37**	**257**	P	P	14 15 13.6	-0.6
	1.8nm,1.0s,baz=90,slow=8.1,SNR=5.0						
WRA				LR	LR	14 33 11.7	
	comp=Z,193nm,20.2s,baz=90,slow=34						
ASAR	**Alice Springs**	**47.74**	**251**	P	P	14 15 17.1	+0.1
	2.9nm,0.7s,baz=83,slow=8.1,SNR=17						
VNDA	**Vanda**	**63.62**	**185**	LR	LR	14 44 23.2	
	comp=Z,26nm,18.1s,baz=93,slow=36						
MJAR	**Matsushiro Arr**	**66.86**	**321**	LR	LR	14 44 31.1	
	comp=Z,32nm,19.2s,baz=330,slow=34						
PETK	**Petropavlovsk-**	**71.38**	**344**	LR	LR	14 42 41.5	
	comp=Z,65nm,21.9s,baz=67,slow=30						
USRK	**Ussuriysk Ar.**	**75.41**	**324**	LR	LR	14 45 13.2	
	comp=Z,97nm,21.4s,baz=125,slow=31						
TXAR	**Lajitas Array**	**82.56**	**57**	P	P	14 19 03.4	+0.2
	0.2nm,0.9s,baz=229,slow=5.5,SNR=2.2						
PDAR	**Pinedale Array**	**83.69**	**43**	P	P	14 19 09.6	+0.6
	0.2nm,0.3s,baz=232,slow=4.4,SNR=2.2						
CMAR	**Chiang Mai Arr**	**89.94**	**289**	LR	LR	14 59 24.1	
	comp=Z,34nm,18.2s,baz=14,slow=35						
BRTR	**Keskin Array B**	**144.07**	**319**	PKP	PKPbc	14 26 14.5	+0.6
	1.4nm,0.8s,baz=116,slow=3.4,SNR=4.6						

*IDC **29** 14:15:57.3±3.4, 35°.72N×69°.68E, h0km, mb3.7/3, mb1 3.7/7, mb1mx3.4/61, mbtmp3.6/7, ML3.3/4, Error ellipse: s-maj=55.6km s-min=27.7km az=149.0*
*NNC **29** 14:16:07.1±3.3, 36°.73N×69°.26E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=36.5km s-min=18.4km az=153.0*

ISC 29 14:16:08.1±1.9, 36°.8N±0°.1×69°.07E±0°.08, h10km, n19, σ2§36/24, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.41**	**9**	⇓P	**Pn**	**14 17 45.1**	**+2.5**
	1.8nm,0.3s,baz=181,slow=12,SNR=4.8						
KK31				⇑S	**Sn**	**14 19 00.4**	**+4.5**
	1.1nm,0.4s,baz=193,slow=30,SNR=4.0						
AML	**Almayashu**	**6.43**	**32**	P	**Pn**	**14 17 44.2**	**+1.0**
	SNR=28						
UCH	**Uchtor**	**6.88**	**36**	P	**Pn**	**14 17 49.9**	**+0.5**
	SNR=14						
EKS2	**Erkin-Say**	**6.90**	**30**	P	**Pn**	**14 17 52.3**	**+2.9**
	SNR=8.7						
AAK	**Ala-Archa**	**7.19**	**34**	⇑P	**Pn**	**14 17 53.5**	**+0.1**
	5.8nm,0.5s						
AAK				⇓S	**Sn**	**14 19 16.0**	**+0.8**
	3.3nm,0.6s						
AAK	**Ala-Archa**	**7.19**	**34**	P	**Pn**	**14 17 54.8**	**+1.4**
	SNR=9.5						
KBK	**Karagaybulak**	**7.41**	**36**	P	**Pn**	**14 17 58.8**	**+2.4**
	SNR=7.2						
CHMS	**Chumysh**	**7.59**	**33**	P	**Pn**	**14 17 59.8**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**7.92**	**37**	⇑P	**Pn**	**14 18 03.1**	**-0.4**
	3.8nm,0.6s						
TKM2				⇑S	**Sn**	**14 19 32.9**	**-0.4**
	2.9nm,0.9s						
TKM2	**Tokmak 2**	**7.92**	**37**	P	**Pn**	**14 18 03.6**	**+0.1**
	SNR=11						
GEYT	**Alibeck**	**8.80**	**281**	Pn	**Pn**	**14 18 16.0**	**+0.6**
	0.3nm,0.3s,baz=100,slow=14,SNR=3.9						
GEYT				Sn	**Sn**	**14 19 54.4**	**-0.3**
	0.3nm,0.3s,baz=68,slow=19,SNR=2.1						
MKAR	**Makanchi Array**	**14.03**	**40**	Pn	**Pn**	**14 19 24.6**	**-2.3**
	0.1nm,0.3s,baz=225,slow=16,SNR=4.7						
AB31	**Akbulak array**	**14.13**	**335**	⇓P	**Pn**	**14 19 28.4**	**+0.2**
	0.4nm,0.3s,baz=164,slow=14,SNR=22						
AKTO	**Aktyubinsk**	**15.80**	**333**	⇑P	**Pn**	**14 19 51.4**	**+0.9**
	3.8nm,1.0s						
AKTO	**Aktyubinsk**	**15.80**	**333**	Pn	**Pn**	**14 19 52.3**	**+1.8**
	0.1nm,0.3s,baz=152,slow=15,SNR=4.7						
AKTO				Sn	**Sn**	**14 22 38.0**	**-7.6**
	0.1nm,0.3s,baz=264,slow=19,SNR=1.9						
BVAR	**Borovoye Array**	**16.27**	**3**	Pn	**Pn**	**14 19 55.8**	**-0.8**
	0.3nm,0.3s,baz=171,slow=12,SNR=5.0						
ZALV	**Zalesovo Beam**	**20.34**	**27**	P	**P**	**14 20 42.6**	**-1.8**
	1.6nm,0.3s,baz=217,slow=11,SNR=9.3						
HFS	**Hagfors**	**41.89**	**322**	P	**P**	**14 23 59.1**	**+0.8**
	1.4nm,0.7s,baz=113,slow=11,SNR=2.6						
NOA	**NORSAR Array B**	**43.23**	**323**	P	**P**	**14 24 09.0**	**-0.2**
	0.4nm,0.5s,baz=99,slow=8.0,SNR=2.4						

*IDC **29** 14:21:16.4±0.7, 4°.55S×132°.52E, h0km, mb4.1/7, mb1 4.3/11, mb1mx4.0/37, mbtmp4.2/11, ML3.0/2, Error ellipse: s-maj=26.1km s-min=16.4km az=65.0*
*ISCJB **29** 14:21:18.7±0.3, 4°.68S±0°.03×132°.69E±0°.05, h33km, mb4.0/7, MS4.9/1, Error ellipse: s-maj=6.7km s-min=4.1km az=169.0*
*NEIC **29** 14:21:21.2±2.7, 4°.55S±0°.04×132°.62E±0°.09, h39km±7km, mb4.4/17*
*DJA **29** 14:21:21.6±0.4, 4°.5±3°×13°.3E±°, h10km, M4.7/13, mb4.9/3, mB5.3/2, MLv4.6/13, Mw(mB)4.7/2*

ISC 29 14:21:21.1±0.5, 4°.63S±0°.05×132°.68E±0°.06, h35km, n56, σ2§17/59, mb4.3/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.76**	**346**	P	**Pn**	**14 21 48.2**	**-0.9**
FAKI				S	**Sn**	**14 22 08.3**	**-2.0**
FAKI	**Fak Fak**	**1.76**	**346**		**Pn**	**14 21 48.8**	**-0.4**
FAKI				Sn	**Sn**	**14 22 08.4**	**-1.9**
BNDI	**Bandanaira**	**2.77**	**272**	P	**Pn**	**14 22 04.1**	**+1.1**
RKPI	**Ransiki, Papua**	**3.44**	**26**	P	**Pn**	**14 22 13.9**	**+1.6**
SAUI	**Saumlaki**	**3.60**	**202**	P	Pn	14 22 20.0	+5.6
SAUI	**Saumlaki**	**3.60**	**202**	Pn	**Pn**	**14 22 16.8**	**+2.4**
MSAI	**Masohi**	**3.96**	**289**	P	**Pn**	**14 22 19.7**	**+0.3**
SWI	**Sorong**	**4.01**	**339**	P	**Pn**	**14 22 19.3**	**-0.7**
SRPI	**Serui, Papua**	**4.49**	**52**	P	**Pn**	**14 22 29.4**	**+2.7**
AAI	**Ambon**	**4.57**	**282**	P	**Pn**	**14 22 28.7**	**+0.9**
NLAI	**Namlea**	**5.74**	**284**	P	**Pn**	**14 22 46.2**	**+2.3**
SANI	**Sanana**	**7.16**	**291**	P	**Pn**	**14 23 02.6**	**-0.8**
	27nm,0.5s,669nm0.2nm						
JAY	**Jayapura**	**8.28**	**76**	Pn	**Pn**	**14 23 20.0**	**+1.2**
	0.8nm,0.3s,baz=216,slow=9.3,SNR=4.6						
JAY				Sn	**Sn**	**14 24 47.2**	**-4.0**
	0.2nm,0.3s,baz=139,slow=19,SNR=1.3						
MTN	**Manton Dam**	**8.30**	**191**		**Pn**	**14 23 19.5**	**+0.5**
SOEI	**Soe**	**9.77**	**238**	P	**Pn**	**14 23 40.9**	**+1.5**
	85nm,0.8s						
SOEI	**Soe**	**9.77**	**238**		**Pn**	**14 23 40.6**	**+1.2**
BATI	**Baumata**	**10.52**	**238**	Pn	**Pn**	**14 23 47.7**	**-1.8**
	baz=137,slow=2.0,SNR=1.6						
BATI				Sn	**Sn**	**14 25 42.3**	**-3.8**
	4.5nm,0.3s,baz=45,slow=1.4,SNR=1.9						
BATI	**Baumata**	**10.52**	**238**	P	**Pn**	**14 23 53.2**	**+3.7**
KNRA	**Kununurra**	**11.63**	**199**		**Pn**	**14 24 04.2**	**-0.5**
COEN	**Coen**	**13.89**	**133**	Pn	**Pn**	**14 24 35.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.05**	**207**	Pn	**Pn**	**14 24 47.1**	**-4.2**
	10nm,0.3s,baz=36,slow=10.0,SNR=136						
FITZ				Sn	Sn	14 27 20.1	-17
	0.9nm,0.3s,baz=83,slow=16,SNR=3.5						
FITZ	**Fitzroy Crossi**	**15.05**	**207**		**Pn**	**14 24 47.5**	**-3.8**
FITZ				IAmb	IAmb	14 24 50.6	
	comp=Z,55nm,1.1s						
PMG	**Port Moresby**	**15.13**	**109**	Pn	**Pn**	**14 24 53.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=318,slow=15,SNR=4.7						
PMG				Sn	Sn	14 27 18.7	-20
	comp=Z,0.3nm,0.3s,baz=293,slow=15,SNR=1.7						
PMG	**Port Moresby**	**15.13**	**109**	IAmb	IAmb	14 24 58.7	
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**15.13**	**174**	Pn	**Pn**	**14 24 49.5**	**-3.0**
WRAB	**Tennant Creek**	**15.29**	**174**		**Pn**	**14 24 51.5**	**-3.0**
WRAB				IAmb	IAmb	14 25 01.1	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**15.30**	**174**	Pn	**Pn**	**14 24 51.4**	**-3.3**
	comp=Z,3.1nm,0.3s,baz=356,slow=13,SNR=94						
WRA				Sn	Sn	14 27 27.7	-15
	comp=Z,1.0nm,0.3s,baz=123,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**15.30**	**174**		**Pn**	**14 24 50.8**	**-3.8**
WB2	**Warramunga Arr**	**15.30**	**174**		**Pn**	**14 24 51.6**	**-3.0**
WB2				IAmb	IAmb	14 25 02.0	
	comp=Z,20nm,0.6s						
WR0	**Warramunga Arr**	**15.34**	**173**	Pn	**Pn**	**14 24 52.6**	**-2.6**
WR0				IAmb	IAmb	14 25 01.7	
	comp=Z,24nm,1.0s						
AS31	**Alice Springs**	**18.96**	**177**	P	**Pn**	**14 25 40.2**	**-0.1**
AS31				IAmb	IAmb	14 25 46.8	
	comp=Z,6.7nm,0.4s						
ASAR	**Alice Springs**	**18.96**	**177**	P	**P**	**14 25 38.5**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=351,slow=13,SNR=79						
ASAR				S	Sn	14 28 54.8	-17
	comp=Z,0.1nm,0.3s,baz=302,slow=29,SNR=1.6						
ASAR	**Alice Springs**	**18.96**	**177**	P	**P**	**14 25 39.8**	**+0.3**
CTA	**Charters Tower**	**20.26**	**140**	P	Pn	14 25 56.7	+0.8
	comp=Z,4.0nm,0.7s,baz=321,slow=12,SNR=7.9						
PSA00	**Pilbara Seismi**	**20.94**	**215**	P	**P**	**14 26 01.8**	**+0.8**
GIRL	**Giralia**	**25.28**	**223**	P	**P**	**14 26 43.1**	**-1.2**
FORT	**Forrest**	**26.37**	**189**	P	**P**	**14 26 55.1**	**+0.9**
BBOO	**Buckleboo**	**28.21**	**174**	P	**P**	**14 27 11.1**	**+0.4**
BBOO				IAmb	IAmb	14 27 24.6	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**28.36**	**164**	P	**P**	**14 27 13.1**	**+1.1**
	comp=Z,4.3nm,0.4s,baz=336,slow=11,SNR=15						
STKA	**Stephens Creek**	**28.36**	**164**	P	**P**	**14 27 12.7**	**+0.6**
MORW	**Morawa**	**28.97**	**211**	P	**P**	**14 27 19.1**	**+1.6**
MORW				IAmb	IAmb	14 27 37.8	
	comp=Z,7.8nm,1.1s						
JHJ2	**Mitsune**	**38.14**	**10**	P	**P**	**14 28 37.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.40**	**306**	P	**P**	**14 28 55.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=134,slow=7.7,SNR=3.6						
USRK	**Ussuriysk Ar.**	**48.62**	**359**	P	**P**	**14 30 00.1**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=183,slow=9.0,SNR=4.3						
PETK	**Petropavlovsk-**	**61.28**	**17**	P	**P**	**14 31 33.5**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=179,slow=8.8,SNR=4.1						
MK31	**Makanchi Array**	**67.77**	**325**	P	**P**	**14 32 14.4**	**-1.0**
MK31				IAmb	IAmb	14 32 31.2	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**67.77**	**325**	P	**P**	**14 32 15.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=116,slow=7.7,SNR=16						
MKAR	**Makanchi Array**	**67.77**	**325**	P	**P**	**14 32 14.9**	**-0.6**
MAKZ	**Makanchi**	**67.96**	**325**	P	**P**	**14 32 16.6**	**+0.1**
KSH	**Kashi**	**68.14**	**316**	P	**P**	**14 32 21.0**

IBDR	**Badra**	**1.28**	**167**	*e*Pg	**Pb**	**15 01 18.0**	**-1.0**
IBDR				AML	AML	15 01 20.1	
	comp=Z,2μm,0.2s						
IBDR				*e*Sg	**Sg**	**15 01 36.0**	**0.0**
KER	**Kermanshah**	**1.28**	**88**	*e*Pg	**Pb**	**15 01 18.9**	**-0.3**
KER				*e*Sg	**Sg**	**15 01 37.7**	**+1.6**
BHD	**Baghdad**	**1.48**	**223**	*e*Pn	**Pb**	**15 01 22.0**	**-0.4**
BHD				*e*Sn	**Sg**	**15 01 42.0**	**-0.3**
IKOM	**Komasi**	**1.61**	**96**	*e*Pn	**Pb**	**15 01 24.7**	**-0.1**
IKOM				IAMB	IAmb	15 01 26.3	
	comp=Z,0.0nm,0.2s						
IBZA	**Bozab**	**1.89**	**86**	*e*Pn	**Pb**	**15 01 29.6**	**0.0**
IBZA				IAMB	IAmb	15 01 32.4	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**2.06**	**113**	*e*Pn	**Pb**	**15 01 30.8**	**-1.5**
IKFM				IAMB	IAmb	15 02 02.8	
	comp=Z,0.0nm,0.4s						
IDOB	**Doab**	**2.23**	**104**	*e*Pn	**Pn**	**15 01 32.5**	**+0.4**
IDOB				IAMB	IAmb	15 01 39.9	
	comp=Z,0.0nm,0.3s						
HSRG	**Sareghieh**	**2.39**	**68**	*e*Pn	**Pb**	**15 01 36.9**	**-1.3**
HSRG				IAMB	IAmb	15 02 15.1	
	comp=Z,0.0nm,0.7s						
MAHB	**Mahabad**	**2.41**	**2**	*e*Pn	**Pb**	**15 01 37.5**	**-0.9**
MAHB				IAMB	IAmb	15 01 41.9	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**2.47**	**109**	*e*Pn	**Pn**	**15 01 35.9**	**+0.6**
IKMR				IAMB	IAmb	15 01 42.4	
	comp=Z,0.0nm,0.2s						
HSAM	**Samen**	**2.50**	**92**	*e*Pn	**Pn**	**15 01 36.6**	**+0.6**
HSAM				IAMB	IAmb	15 01 41.5	
	comp=Z,0.0nm,0.6s						
BDRS	**Dareh Seyedi**	**2.76**	**97**	*e*Pn	**Pn**	**15 01 40.2**	**+0.6**
BDRS				IAMB	IAmb	15 01 47.0	
	comp=Z,0.0nm,0.3s						
BMDN	**Meydan**	**2.78**	**103**	*e*Pn	**Pn**	**15 01 40.1**	**+0.4**
BMDN				IAMB	IAmb	15 02 31.2	
	comp=Z,0.0nm,0.4s						
MSL	**Mosul**	**2.87**	**316**	*e*Pn	**Pn**	**15 01 41.0**	**+0.3**
MSL				AML	AML	15 01 45.6	
	comp=Z,143nm,0.3s						
MSL				*e*Sn	**Sn**	**15 02 16.0**	**+0.6**
HAGD	**Aghdareh**	**2.97**	**80**	*e*Pn	**Pn**	**15 01 44.7**	**+2.3**
HAGD				IAMB	IAmb	15 01 49.7	
	comp=Z,0.0nm,0.9s						
NSR	**Nassriya**	**3.37**	**172**	*e*Pn	**Pn**	**15 01 49.0**	**+1.4**
NSR				AML	AML	15 01 49.8	
	comp=Z,597nm,0.2s						
NSR				*e*Sn	**Sn**	**15 02 29.0**	**+1.3**
RTB	**Rutbah**	**4.59**	**255**	*e*Pn	**Pn**	**15 02 06.0**	**+1.5**
RTB				AML	AML	15 02 09.8	
	comp=Z,17nm,0.3s						
RTB				*e*Sn	**Sn**	**15 02 57.0**	**-1.0**
IPIR	**Pirpir**	**4.74**	**109**	*e*Pn	**Pn**	**15 02 06.2**	**-0.5**
JHBN	**Jahan bin**	**4.76**	**115**	*e*Pn	**Pn**	**15 02 06.9**	**-0.1**
IKLH	**Kolahrood**	**5.10**	**100**	*e*Pn	**Pn**	**15 02 12.7**	**+1.1**

*NEIC **29** 15:02:17.4±3.0, 14°.52S±0°.08×176°.1W±0°.1, h10km±1km, mb4.7/16*
*ISCJB **29** 15:02:18.2±0.4, 14°.64S±0°.08×175°.96W±0°.06, h33km, mb3.8/4, MS2.8/1, Error ellipse: s-maj=11.3km s-min=7.2km az=158.8*
*IDC **29** 15:02:18.3±1.1, 14°.71S×176°.15W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/48, mbtmp3.8/5, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/24, Error ellipse: s-maj=49.6km s-min=24.5km az=159.0*

ISC 29 15:02:20.8±0.6, 14°.64S±0°.09×176°.03W±0°.07, h35km, n27, σ1°78/25, mb4.3/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.19**	**81**	Pn	**Pn**	**15 03 23.4**	**+1.1**
	2.9nm,0.3s,baz=228,slow=16,SNR=7.4						
AFI				Sn	**Sn**	**15 04 07.1**	**-2.9**
	1.0nm,0.3s,baz=300,slow=20,SNR=2.5						
KNTN	**Kanton**	**12.54**	**20**	Pn	**Pn**	**15 05 16.9**	**+0.1**
RAR	**Rarotonga**	**16.79**	**115**	Pn	**Pn**	**15 06 11.3**	**-1.9**
MXZ	**Matakaoa Point**	**23.38**	**191**	P	**P**	**15 07 24.3**	**-1.9**
PPT	**Papeete**	**25.57**	**100**	LR	LR	15 15 42.6	
	comp=Z,28nm,18.5s,baz=306,slow=31						
TUWZ	**Tuamarina**	**28.08**	**196**	P	**P**	**15 08 08.9**	**-0.1**
EIDS	**Eidsvold**	**32.61**	**246**	P	**P**	**15 08 47.9**	**-1.4**
EIDS				IAmb	IAmb	15 08 55.6	
	comp=Z,5.3nm,1.1s						
PATS	**Pohnpei**	**33.21**	**308**	P	**P**	**15 08 52.5**	**-2.1**
PATS				IAmb	IAmb	15 09 11.4	
	comp=Z,70nm,1.1s						
MLZ	**Mavora Lakes**	**33.43**	**200**	P	**P**	**15 08 54.9**	**-1.3**
MLZ				IAmb	IAmb	15 09 07.5	
	comp=Z,13nm,1.0s						
CAN	**Canberra**	**37.52**	**230**	P	**P**	**15 09 31.8**	**+0.2**
WAKE	**Wake Island**	**37.78**	**333**	P	**P**	**15 09 32.0**	**-1.8**
KHU	**Kahuku**	**39.22**	**31**	P	**P**	**15 09 44.8**	**-1.3**
KHU				IAmb	IAmb	15 09 48.6	
	comp=Z,70nm,1.1s						
TOO	**Toolangi**	**41.01**	**229**	P	**P**	**15 10 01.2**	**+0.5**
TOO				IAmb	IAmb	15 10 17.1	
	comp=Z,9.3nm,1.1s						
WB0	**Warramunga Arr**	**47.50**	**257**	P	**P**	**15 10 54.2**	**+1.3**
WB0				IAmb	IAmb	15 11 07.6	
	comp=Z,3.0nm,1.1s						
WB2	**Warramunga Arr**	**47.54**	**256**		**P**	**15 10 53.0**	**-0.1**
WB2				IAmb	IAmb	15 10 55.6	
	comp=Z,3.7nm,1.0s						
WRA	**Warramunga Arr**	**47.55**	**256**	P	**P**	**15 10 54.4**	**+1.2**
	comp=Z,1.3nm,1.1s,baz=95,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**47.55**	**256**	P	**P**	**15 10 53.8**	**+0.5**
AS31	**Alice Springs**	**47.94**	**251**	P	**P**	**15 10 57.0**	**+0.8**
ASAR	**Alice Springs**	**47.94**	**251**	P	**P**	**15 10 57.6**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=83,slow=8.1,SNR=30						
ASAR	**Alice Springs**	**47.94**	**251**	P	**P**	**15 10 57.1**	**+0.8**
JHJ2	**Mitsune**	**63.49**	**319**	P	**P**	**15 12 47.6**	**0.0**
AKUT	**Akutan**	**69.06**	**6**	P	**P**	**15 13 24.5**	**+1.8**
QSPA	**South Pole Qui**	**75.39**	**180**	P	**P**	**15 14 03.9**	**+3.2**
	comp=Z,0.8nm,1.0s,baz=18,slow=3.2,SNR=4.0						
QSPA	**South Pole Qui**	**75.39**	**180**	IAmb	IAmb	15 14 07.4	
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**83.42**	**43**	P	**P**	**15 14 49.2**	**+4.3**
	comp=Z,0.3nm,0.8s,baz=229,slow=2.0,SNR=2.5						
SYO	**Syowa Base**	**92.82**	**192**	‖*e*X	P	15 15 37.0	+7.6
BRTR	**Keskin Array B**	**143.95**	**320**	PKP	**PKiKP**	**15 21 55.5**	**-1.1**
	comp=Z,2.5nm,1.1s,baz=50,slow=2.3,SNR=4.1						

*IDC **29** 15:10:53.9±3.5, 20°.81N×122°.61E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/45, mbtmp3.7/4, Error ellipse: s-maj=274.6km s-min=21.4km az=62.0*
*ISCJB **29** 15:10:56.7±0.7, 20°.8N±0°.1×122°.6E±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=17.8km s-min=12.0km az=140.5*
*NEIC **29** 15:11:02.6±3.0, 20°.7N±0°.1×122°.6E±0°.2, h78km±13km, mb4.3/7*

ISC 29 15:10:58.7±1.0, 20°.7N±0°.1×122°.6E±0°.1, h35km, n13, σ1°62/12, mb3.8/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.56**	**326**	Pn	**Pn**	**15 11 40.8**	**+3.1**
YULB	**Yu-li**	**2.95**	**336**	Pn	Pn	15 11 51.1	+8.0
TPUB	**Ta-pu**	**3.18**	**325**	Pn	**Pn**	**15 11 47.2**	**+1.0**
BJT	**Baijiatuau**	**20.04**	**345**	P	**P**	**15 15 27.5**	**-1.1**
BJT				IAmb	IAmb	15 15 43.1	
	comp=Z,7.2nm,0.5s						
MJAR	**Matsushiro Arr**	**20.86**	**37**	P	**P**	**15 15 37.6**	**0.0**
MJB9	**Matsu-Tunnel**	**20.86**	**37**	P	**P**	**15 15 38.2**	**+0.6**
MJB9				IAmb	IAmb	15 15 57.1	
	comp=Z,18nm,1.3s						
ANA2	**Anatahan**	**22.32**	**97**	P	**P**	**15 15 52.3**	**-1.2**
LSA	**Lhasa**	**29.77**	**294**	P	**P**	**15 17 00.4**	**-2.3**
MKAR	**Makanchi Array**	**41.78**	**318**	P	**P**	**15 18 44.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=122,slow=8.2,SNR=5.8						
WRA	**Warramunga Arr**	**41.98**	**163**	P	**P**	**15 18 47.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=344,slow=8.9,SNR=18						
ASAR	**Alice Springs**	**45.44**	**165**	P	**P**	**15 19 16.1**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=348,slow=7.2,SNR=44						
KURK	**Kurchatov**	**45.62**	**322**	P	**P**	**15 19 14.9**	**-0.7**
KURBB	**Kurchatov Arra**	**45.64**	**322**	P	**P**	**15 19 14.9**	**-0.8**
	comp=Z,0.3nm,0.2s,baz=126,slow=8.2,SNR=4.6						

IDC 29 15:18:50.9±2.0, 7°.43S×128°.43E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/30, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=140.1km s-min=31.5km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.70**	**156**	Pn	Pn	15 22 05.5	-1.1
	0.2nm,0.3s,baz=341,slow=13,SNR=17						
WRA				Sn	Sn	15 24 24.2	-15
	0.3nm,0.3s,baz=337,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**16.98**	**163**	Pn	Pn	15 22 51.0	+0.9
	0.1nm,0.3s,baz=332,slow=11,SNR=13						
ASAR				Sn	Sn	15 25 44.0	-16
	0.1nm,0.3s,baz=348,slow=25,SNR=3.2						
MKAR	**Makanchi Array**	**67.74**	**328**	P	P	15 29 50.4	0.0
	0.4nm,0.5s,baz=122,slow=7.2,SNR=3.5						

IDC 29 15:19:17.5±3.5, 26°.06S×29°.27E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/40, mbtmp3.6/4, ML3.0/2, Error ellipse: s-maj=48.9km s-min=27.6km az=118.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.48**	**287**	Pn	Pn	15 20 15.0	+2.0
	4.8nm,0.3s,baz=106,slow=14,SNR=16						
LBTB				Pg	Pb	15 20 20.4	+0.5
	4.9nm,0.3s,baz=102,slow=17,SNR=52						
LBTB				Lg	Lg	15 21 05.0	
	18nm,0.3s,baz=17,slow=21,SNR=37						
BOSA	**Boshof**	**4.38**	**234**	*i* P	Pb	15 20 31.6	-3.8
BOSA				*i* S	Sn	15 21 18.6	+1.3
BOSA	**Boshof**	**4.38**	**234**	Pn	Pn	15 20 24.4	-1.1
	0.3nm,0.3s,baz=51,slow=12,SNR=7.0						
BOSA				Pg	Pb	15 20 37.3	+1.8
	1.4nm,0.3s,baz=55,slow=15,SNR=15						
BOSA				Sn	Sn	15 21 13.8	-3.5
	1.1nm,0.3s,baz=315,slow=20,SNR=3.4						
BOSA				Lg	Lg	15 21 32.4	
	10nm,0.3s,baz=150,slow=20,SNR=20						
BOSA	**Boshof**	**4.38**	**234**	*i* P	Pb	15 20 31.6	-3.8
BOSA				*i* S	Sn	15 21 18.6	+1.3
I47ZA	**BOSHOF INFRASO**	**4.40**	**234**	*i*		15 44 40.0	
	baz=53,slow=327,SNR=1.8						
LSZ	**Lusaka**	**10.78**	**354**	Pn	Pn	15 21 52.7	-0.5
	0.7nm,0.3s,baz=171,slow=12,SNR=15						
LSZ				Sn	Sn	15 23 47.4	-7.3
	0.3nm,0.3s,baz=246,slow=20,SNR=7.6						
LSZ				Lg	Lg	15 24 52.7	
	0.3nm,0.3s,baz=245,slow=23,SNR=3.8						
TORD	**Torodi Ar. Bea**	**47.32**	**322**	P	P	15 27 52.9	-0.2
	0.6nm,0.5s,baz=136,slow=6.4,SNR=5.2						

*IDC **29** 15:29:08.0±3.2, 23°.51S×179°.92E, h501km±31km, mb3.4/5, mb1 3.6/6, mb1mx3.2/35, mbtmp4.3/6, Error ellipse: s-maj=38.6km s-min=29.6km az=173.0*
*ISCJB **29** 15:29:09.4±0.6, 23°.62S±0°.06×179°.9E±0°.1, h535km, mb3.9/5, Error ellipse: s-maj=12.4km s-min=7.9km az=165.1*
*NEIC **29** 15:29:09.9±2.3, 23°.7S±0°.1×179°.8E±0°.2, h520km±11km, mb4.5/27*

ISC 29 15:29:10.5±0.8, 23°.72S±0°.08×179°.9E±0°.1, h535km, n36, σ1°17/37, mb4.4/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.85**	**161**	P	**P**	**15 30 45.1**	**-1.7**
MSVF	**Nonsavu**	**6.20**	**343**	P	**P**	**15 30 48.5**	**-2.0**
MXZ	**Matakaoa Point**	**13.87**	**185**	P	**P**	**15 32 08.0**	**-0.2**
URZ	**Urewera**	**14.69**	**189**	P	**P**	**15 32 16.1**	**-0.7**
	2.7nm,0.3s,baz=0.4,slow=18,SNR=19						
URZ				S	**S**	**15 34 49.1**	**-1.4**
	0.4nm,0.3s,baz=49,slow=19,SNR=7.0						
BFZ	**Birch Farm**	**17.19**	**189**	P	**P**	**15 32 40.2**	**-1.4**
LTZ	**Lake Taylor**	**20.04**	**197**	P	**P**	**15 33 08.6**	**+1.1**
WHZ	**Wether Hill Ro**	**24.15**	**201**	P	**P**	**15 33 45.7**	**+1.4**
ARMA	**Armidale**	**26.00**	**249**	P	**P**	**15 34 02.2**	**+1.2**
ARMA				IAmb	IAmb	15 34 03.7	
	comp=Z,19nm,1.4s						
EIDS	**Eidsvold**	**26.25**	**260**	P	**P**	**15 34 04.1**	**+1.0**
EIDS				IAmb	IAmb	15 34 15.0	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**29.16**	**240**	P	**P**	**15 34 29.3**	**+0.8**
CTAO	**Charters Tower**	**31.39**	**270**	P	**P**	**15 34 47.5**	**-0.4**
CTAO				IAmb	IAmb	15 34 50.1	
	comp=Z,24nm,1.1s						
PMG	**Port Moresby**	**34.35**	**289**	P	**P**	**15 35 12.8**	**-0.2**
PMG				IAmb	IAmb	15 35 13.5	
	comp=Z,9.3nm,0.8s						
STKA	**Stephens Creek**	**34.71**	**248**	P	**P**	**15 35 16.7**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=83,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**34.71**	**248**	IAmb	IAmb	15 35 22.5	
	comp=Z,0.5nm,0.8s						
COEN	**Coen**	**36.00**	**279**	P	**P**	**15 35 27.1**	**+0.3**
COEN				IAmb	IAmb	15 35 35.4	
	comp=Z,13nm,1.4s						
MANU	**Manus Island**	**38.15**	**300**	P	**P**	**15 35 43.4**	**-1.1**
MANU				IAmb	IAmb	15 35 50.0	
	comp=Z,30nm,1.4s						
BBOO	**Buckleboo**	**39.43**	**247**	P	**P**	**15 35 54.9**	**+0.3**
BBOO				IAmb	IAmb	15 36 00.4	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**41.98**	**260**	P	**P**	**15 36 15.1**	**+0.1**
ASAR	**Alice Springs**	**41.98**	**260**	P	**P**	**15 36 15.2**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=97,slow=7.7,SNR=60						
ASAR				ScP	**ScP**	**15 41 00.6**	**+3.2**
	comp=Z,0.9nm,0.9s,baz=106,slow=4.4,SNR=8.6						
WR0	**Warramunga Arr**	**42.14**	**266**	P	**P**	**15 36 15.1**	**-1.2**
WR0				IAmb	IAmb	15 36 34.1	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**42.32**	**266**	P	**P**	**15 36 17.4**	**-0.2**
WB0	**Warramunga Arr**	**42.32**	**266**	P	**P**	**15 36 17.5**	**-0.2**
WB0				IAmb	IAmb	15 36 18.0	
	comp=Z,7.8nm,0.7s						
WRAB	**Tennant Creek**	**42.32**	**266**	P	**P**	**15 36 16.9**	**-0.8**
WRAB				IAmb	IAmb	15 36 17.6	
	comp=Z,7.9nm,0.9s						
WRA	**Warramunga Arr**	**42.33**	**266**	P	**P**	**15 36 17.3**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=103,slow=8.3,SNR=111						
WRA	**Warramunga Arr**	**42.33**	**266**	P	**P**	**15 36 16.2**	**-1.5**
JAY	**Jayapura**	**43.36**	**293**	P	**P**	**15 36 25.1**	**-0.9**
	comp=Z,6.9nm,0.6s,baz=108,slow=19,SNR=3.8						
FORT	**Forrest**	**46.29**	**249**	P	**P**	**15 36 48.1**	**0.0**
FORT				IAmb	IAmb	15 37 01.6	
	comp=Z,31nm,1.1s						
KNRA	**Kununurra**	**48.60**	**270**	P	**P**	**15 37 06.0**	**+0.3**
KNRA				IAmb	IAmb	15 37 08.7	
	comp=Z,24nm,1.4s						
AIN	**Ainahou**	**49.11**	**31**	P	**P**	**15 37 10.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**50.75**	**265**	P	**P**	**15 37 22.4**	**+0.9**
SARN	**Sarigan**	**52.20**	**317**	P	**P**	**15 37 33.1**	**+1.2**
SOEI	**Soe**	**54.74**	**275**	P	**P**	**15 37 50.7**	**+0.5**
SOEI				IAmb	IAmb	15 37 58.7	
	comp=Z,49nm,1.4s						
PSA00	**Pilbara Seismi**	**55.11**	**260**	P	**P**	**15 37 52.3**	**-0.2**
MORW	**Morawa**	**56.85**	**250**	P	**P**	**15 38 02.0**	**-2.5**
MORW				IAmb	IAmb	15 38 19.1	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**15 39 07.4**	**+1.3**
TXAR	**Lajitas Array**	**90.41**	**58**	P	**P**	**15 41 15.4**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=202,slow=4.7,SNR=3.4						

PRU 29 15:34:05.0±0.0, 50°.28N×18°.95E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**96**	*e*Pg	Pg	15 34 15.4	-0.1
OJC				*e*Pg	Pg	15 34 15.4	-0.1
OJC				*e*Sg	Sg	15 34 23.1	+0.6
OJC				*e*Sg	Sg	15 34 23.1	+0.6
OKC	**Ostrava-Krasne**	**0.68**	**230**	*e*PG	Pg	15 34 18.3	+0.3
OKC				*e*SG	Sg	15 34 27.7	+0.9
MORC	**Moravsky Berou**	**1.04**	**242**	*e*PG	Pg	15 34 24.9	0.0
MORC				*e*SG	Sg	15 34 38.8	+0.5
LANS	**Liptovska Anna**	**1.18**	**163**	*e*PG	Pg	15 34 27.0	-0.6
LANS				*e*SG	Sg	15 34 41.7	-1.1
LANS				*e*LG	Lg	15 34 45.4	
DPC	**Dobruska-Polom**	**1.69**	**273**	*e*PG	Pn	15 34 35.9	+0.1
DPC				*e*SG	Sg	15 34 59.3	+0.2
	comp=Z,5.0nm,0.7s						
VYHS	**Vyhne**	**1.79**	**182**	*e*PN	Pn	15 34 36.0	-1.1
VYHS				*e*SN	Sn	15 34 59.5	-1.1
CHVC	**Chvalec**	**1.88**	**281**	*e*SG	Sg	15 35 07.2	+1.9
KHC	**Kasperske Hory**	**3.67**	**254**	*e*SG	Sg	15 36 02.2	-0.7

*MAN **29** 15:37:15.7, 5°.99N×125°.94E, h147km, MS3.2*
*ISCJB **29** 15:37:16.3±0.3, 6°.04N±0°.03×125°.89E±0°.07, h157km±3km, mb3.6/6, Error ellipse: s-maj=11.5km s-min=4.4km az=165.5*
*NEIC **29** 15:37:16.4±2.6, 5°.88N±0°.07×125°.1E±0°.1, h141km±5km, mb4.4/20*
*IDC **29** 15:37:16.6±3.4, 5°.89N×125°.19E, h139km±39km, mb3.3/6, mb1 3.5/6, mb1mx3.1/42, mbtmp3.8/6, Error ellipse: s-maj=122.3km s-min=14.1km az=68.0*
*DJA **29** 15:37:18.1±0.5, 6°N±3°×12°6E±°, h133km±6km, M4.5/7, mB5.2/5, mb4.4/7, MLv4.6/6, Mw(mB)4.6/5*

ISC 29 15:37:17.3±0.7, 6°.03N±0°.04×125°.90E±0°.07, h150km±6km, n49, σ1°78/58, mb4.2/15, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.20**	**292**	*e*P	**Pn**	**15 37 36.5**	**-1.1**
DDMP				*e*S	**Sn**	**15 37 53.5**	**+0.5**
GSPH	**General Santos**	**0.95**	**274**	‖*i*P	**Pn**	**15 37 42.6**	**+0.8**
GSPH				*i* S	**Sn**	**15 38 00.4**	**0.0**
MATI	**Mati**	**0.98**	**21**	*e*P	**Pn**	**15 37 40.2**	**-1.6**
MATI				*e*S	**Sn**	**15 37 59.7**	**-1.0**
DAV	**Davao City (W)**	**1.08**	**343**	P	**Pn**	**15 37 42.3**	**-0.5**
	70nm,0.3s,baz=140,slow=1.8,SNR=9.3						
DAV				S	**Sn**	**15 38 02.6**	**+0.2**
	280nm,0.3s,baz=288,slow=20,SNR=16						
DAV				LR	LR	15 38 14.7	
	comp=Z,91nm,20.8s,baz=130,slow=47						
KCP	**Kidapawan**	**1.27**	**320**	‖*i*P	**Pn**	**15 37 47.1**	**+2.5**
KCP				*i* S	**Sn**	**15 38 07.4**	**+1.9**
SKMP	**Bagumbayan, Su**	**1.44**	**290**	*e*P	**Pn**	**15 37 45.5**	**-0.7**
SKMP				*e*S	**Sn**	**15 38 07.8**	**-0.5**
BUKP	**Musuan**	**2.02**	**336**	*e*P	**Pn**	**15 37 52.1**	**-0.6**
BUKP				*e*S	**Sn**	**15 38 20.5**	**+0.6**
CTBH	**Cotabato--PC H**	**2.03**	**306**	‖*i*P	**Pn**	**15 37 52.5**	**-0.2**
SGSI	**Sangihe**	**2.36**	**189**	P	**Pn**	**15 37 58.3**	**+1.6**
SGSI				S	**Sn**	**15 38 29.5**	**+2.4**
CGP	**Cagayan de Oro**	**2.69**	**334**	‖*e*P	**Pn**	**15 38 00.9**	**+0.1**
CGP				*e*S	**Sn**	**15 38 33.9**	**-0.5**
BUTP	**Butuan**	**2.94**	**355**	*e*P	**Pn**	**15 38 02.6**	**-1.2**
BUTP				*e*S	**Sn**	**15 38 42.4**	**+2.5**
PAGZ	**Pagadian**	**3.09**	**306**	*e*P	**Pn**	**15 38 06.0**	**+0.2**
TNTI	**Ternate**	**5.42**	**164**	P	**Pn**	**15 38 36.2**	**-0.1**
	69nm,0.9s,2μm0.5nm						
TNTI				S	**Sn**	**15 39 37.3**	**-0.8**
	69nm,0.9s,2μm0.5nm						
TNTI	**Ternate**	**5.42**	**164**		**Pn**	**15 38 36.2**	**-0.1**
LBMI	**Labuha**	**6.81**	**166**	S	**Sn**	**15 40 11.2**	**-0.2**
SANI	**Sanana**	**8.03**	**179**	P	**Pn**	**15 39 08.8**	**-2.3**
	23nm,0.4s,3μm0.4nm						
SANI				S	**Sn**	**15 40 33.9**	**-6.6**
	23nm,0.4s,3μm0.4nm						
SWI	**Sorong**	**8.69**	**142**	P	**Pn**	**15 39 18.8**	**-1.1**
NLAI	**Namlea**	**9.28**	**173**	P	**Pn**	**15 39 26.9**	**-0.9**
	38nm,0.6s,3μm						
FAKI	**Fak Fak**	**10.92**	**144**	Pn	**Pn**	**15 39 50.4**	**+0.9**
BKB	**Balikpapan**	**11.54**	**231**	Pn	Pn	15 39 45.0	-13
TPUB	**Ta-pu**	**17.91**	**344**	P	**P**	**15 41 14.1**	**-1.6**
YHNB	**Yeheng**	**19.04**	**347**	P	**P**	**15 41 25.5**	**-2.5**
YHNB				IAmb	IAmb	15 41 26.3	
	comp=Z,46nm,1.4s						
MTN	**Manton Dam**	**19.46**	**165**	P	**P**	**15 41 33.8**	**+1.3**
MTN				IAmb	IAmb	15 41 34.2	
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**21.75**	**173**	P	**P**	**15 41 58.0**	**+1.0**
KNRA				IAmb	IAmb	15 42 17.3	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**23.97**	**181**	P	**P**	**15 42 18.5**	**+0.5**
FITZ				IAmb	IAmb	15 42 21.2	
	comp=Z,9.6nm,1.2s						
COEN	**Coen**	**26.23**	**139**	P	**P**	**15 42 42.9**	**+4.4**
COEN				IAmb	IAmb	15 42 43.4	
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**27.10**	**162**	P	**P**	**15 42 47.2**	**+0.9**
WRAB				IAmb	IAmb	15 42 59.1	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**27.11**	**162**	P	**P**	**15 42 46.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=338,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**27.11**	**162**	P	**P**	**15 42 47.9**	**+1.6**
WB2	**Warramunga Arr**	**27.11**	**162**	P	**P**	**15 42 48.6**	**+2.2**
WR0	**Warramunga Arr**	**27.19**	**162**	P	**P**	**15 42 48.3**	**+1.2**
PSA00	**Pilbara Seismi**	**28.07**	**192**	P	**P**	**15 42 53.8**	**-1.0**
PSA00				IAmb	IAmb	15 42 58.4	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**30.53**	**165**	P	**P**	**15 43 17.4**	**+0.8**
ASAR	**Alice Springs**	**30.53**	**165**	P	**P**	**15 43 17.1**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=337,slow=7.2,SNR=38						
ASAR

ARMA	Armidale	29.74	239	P	P	16 01 36.0 +0.4
ARMA				IAmb	IAmb	16 01 36.6
	comp=Z,17nm,0.8s					
MLZ	Mavora Lakes	29.80	199	P	P	16 01 36.0 +0.1
WHZ	Wether Hill Ro	30.33	198	P	P	16 01 38.8 -1.6
CTA	Charters Tower	33.06	260	P	P	16 02 03.1 -1.0
	comp=Z,4.1nm,0.7s,baz=87,slow=9.3,SNR=8.8					
CAN	Canberra	33.57	232	P	P	16 02 08.4 +0.1
CAN				IAmb	IAmb	16 02 09.0
	comp=Z,24nm,1.2s					
COEN	Coen	36.65	270	P	P	16 02 34.0 -0.1
TOO	Toolangi	37.05	230	P	P	16 02 37.5 +0.3
TOO				IAmb	IAmb	16 02 38.7
	comp=Z,16nm,0.8s					
TAU	Tasmania Unive	38.21	221	P	P	16 02 46.1 -0.4
TAU				IAmb	IAmb	16 02 55.5
	comp=Z,38nm,1.2s					
STKA	Stephens Creek	38.41	241	P	P	16 02 48.0 -0.2
	comp=Z,7.5nm,0.5s,baz=90,slow=10,SNR=39					
STKA	Stephens Creek	38.41	241	P	P	16 02 48.6 +0.3
BBOO	Buckleboo	43.19	241	P	P	16 03 25.8 -0.5
BBOO				IAmb	IAmb	16 03 44.1
	comp=Z,41nm,1.4s					
WRA	Warramunga Arr	44.25	259	P	P	16 03 32.7 -2.0
	comp=Z,2.0nm,0.6s,baz=95,slow=7.4,SNR=16					
WRA				PcP	PcP	16 05 07.6 +0.1
	comp=Z,0.5nm,0.7s,baz=90,slow=3.4,SNR=3.5					
WRA	Warramunga Arr	44.25	259	P	P	16 03 32.5 -2.2
WRA					PcP	16 05 07.7 +0.1
AS31	Alice Springs	44.45	254	P	P	16 03 35.4 -0.9
AS31				IAmb	IAmb	16 03 36.0
	comp=Z,7.3nm,0.6s					
ASAR	Alice Springs	44.45	254	P	P	16 03 35.3 -1.0
	comp=Z,28nm,0.7s,baz=89,slow=7.9,SNR=599					
ASAR				PcP	PcP	16 05 08.2 0.0
	comp=Z,1.0nm,0.7s,baz=99,slow=4.4,SNR=4.2					
ASAR				ScP	ScP	16 08 11.4 +2.3
	comp=Z,0.6nm,0.7s,baz=99,slow=4.5,SNR=5.6					
ASAR	Alice Springs	44.45	254	P	P	16 03 35.0 -1.2
ASAR					PcP	16 05 08.4 +0.2
PTCN	Pitcairn Islan	45.88	108	P	P	16 03 48.7 +1.6
MTN	Manton Dam	48.35	268	P	P	16 04 03.5 -2.3
MTN				IAmb	IAmb	16 04 13.2
	comp=Z,17nm,1.2s					
SIJI	Sorong	51.70	283	P	P	16 04 30.0 -0.5
	comp=Z,3.3nm,0.4s,baz=74,slow=13,SNR=4.5					
FITZ	Fitzroy Crossi	52.64	260	P	P	16 04 36.6 -0.5
	comp=Z,3.6nm,0.6s,baz=81,slow=8.9,SNR=13					
VNDA	Vanda	60.78	185	P	P	16 05 33.2 +1.3
	comp=Z,1.0nm,0.6s,baz=35,slow=4.8,SNR=5.2					
MJAR	Matsushiro Arr	67.33	324	P	P	16 06 13.8 -0.5
	comp=Z,4.8nm,0.7s,baz=140,slow=6.2,SNR=11					
MJAR	Matsushiro Arr	67.33	324	IAmb	IAmb	16 06 17.8
	comp=Z,5.2nm,1.4s					
QSPA	South Pole Qui	72.52	180	P	P	16 06 45.9 +1.1
PETK	Petropavlovsk-	73.20	346	P	P	16 06 48.7 +0.1
	comp=Z,5.6nm,0.9s,baz=120,slow=8.7,SNR=8.1					
NVAR	Mina Array Bea	79.47	44	P	P	16 07 24.8 +1.1
	comp=Z,1.0nm,0.7s,baz=226,slow=7.3,SNR=12					
TUC	Tucson	81.83	53		PcP	16 07 43.3 +3.4
ELK	Elko	82.70	43	P	P	16 07 41.6 +1.2
	comp=Z,0.9nm,0.6s,baz=218,slow=5.4,SNR=5.0					
ELK	Elko	82.70	43	IAmb	IAmb	16 07 43.2
	comp=Z,0.1nm,0.2s					
MAW	Mawson	84.06	200	P	P	16 07 46.9 +0.6
	comp=Z,2.8nm,0.7s,baz=150,slow=6.2,SNR=8.2					
MAW	Mawson	84.06	200	IAmb	IAmb	16 07 47.8
	comp=Z,0.7nm,0.8s					
MENT	Mentasta	84.81	15	P	P	16 07 54.2 +4.3
MENT				IAmb	IAmb	16 07 56.6
	comp=Z,15nm,1.4s					
ILAR	Eielson Array	85.63	13	P	P	16 07 53.2 -0.7
	comp=Z,0.7nm,0.4s,baz=227,slow=5.4,SNR=28					
PDAR	Pinedale Array	87.40	44	P	P	16 08 04.2 +1.2
	comp=Z,0.6nm,0.5s,baz=224,slow=2.7,SNR=7.5					
ARCES	ARCESS Array B	125.87	350	PKP	PKPdf	16 14 13.0 +0.3
	comp=Z,4.5nm,0.9s,baz=22,slow=1.0,SNR=2.6					
BRTR	Keskin Array B	144.19	315	PKP	PKPbc	16 14 47.5 +0.1
	comp=Z,0.5nm,0.4s,baz=95,slow=3.2,SNR=4.4					
KOLS	Kolonicke sedl	144.28	336	*e*	PKPab	16 14 48.3 +0.8
CLL	Collm	145.00	347	*e*PKPbc	PKPab	16 14 50.0 -0.1
LANS	Liptovska Anna	145.13	339	*e*	PKPab	16 14 51.5 +0.7
VYHS	Vyhne	145.91	339	*e*P	PKPdf	16 14 48.8 -1.4
VYHS	Vyhne	145.91	339	*e*	PKPdf	16 14 48.8 -1.4
GERES	GERESS Array B	147.13	345	PKPbc	PKPbc	16 14 56.0 +0.5
	comp=Z,0.8nm,0.4s,baz=11,slow=3.2,SNR=3.1					
BLY	Banja Luka	149.70	337		PKPab	16 15 11.2 +1.9

ISCJB ***29*** *16:01:56.1±0.3, 13°.14N±0°.03×89°.20W±0°.02, h67km±1km, mb4.5/45, Error ellipse: s-maj=5.0km s-min=2.9km az=29.6*
SNET ***29*** *16:01:56.3±0.9, 13°.09N×89°.22W, h44km±13km, ML5.0, MW5.0*
IDC ***29*** *16:01:56.5±0.7, 13°.36N×88°.86W, h62km±5km, mb4.1/26, mb1 4.3/29, mb1mx4.2/45, mbtmp4.4/29, MS3.9/34, Ms1 3.9/34, ms1mx3.9/39, Error ellipse: s-maj=17.6km s-min=8.1km az=58.0*
GCMT ***29*** *16:01:56.8±0.3, 13°.07N±0°.02×89°.39W±0°.02, h63km±2km, MW5.0/86, Moment Tensor Solution. s54,c63; s86,c110; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}2.33±.15; $M_{\theta\theta}$-2.19±.11; $M_{\phi\phi}$-0.13±.13; $M_{r\theta}$1.70±.08; $M_{\theta\phi}$1.47±.10; $M_{\phi r}$-1.70±.08; Best double couple: $M_0$3.59100×10^16 NP1:ϕ_s131.00000°, δ67.00000°, λ103.00000°. NP2: ϕ_s280.00000°, δ26.00000°, λ62.00000°. Principal axes: T 3.3550, Plg66.0000°, Azm64.0000°; N 0.4770, Plg12.0000°, Azm306.0000°; P -3.8270, Plg21.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***29*** *16:01:56.0±0.0, 13°.20N×89°.10W, h69km, mB5.1/3, Ms5.1/5, Ms7 4.9/6*
GCG ***29*** *16:01:58.1±0.5, 13°.25N×89°.34W, h15km±14km, MD4.8*
MEX ***29*** *16:01:58.9±0.4, 13°.19N×89°.17W, h49km±137km, MD4.7*
MOS ***29*** *16:02:00.0±1.3, 13°.27N×88°.99W, h107km, mb4.8/23, Error ellipse: s-maj=15.9km s-min=5.9km az=110.5*

ISC 29 16:01:56.7±0.6, 13°.16N±0°.05×89°.15W±0°.03, h67km±4km, n366, σ1.5 57/365, mb4.5/45, 1C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEG	Centro de Oper	0.53	30	*e*P	Pn	16 02 08.8	-1.8
COEG				*e*S	Sn	16 02 18.5	-0.6
SNET	Serv Nac Est T	0.53	352	‖*e*P	Pn	16 02 08.7	-1.0
SNET				*e*S	Sn	16 02 18.2	-0.9
SNET				IAML		16 02 23.3	
	comp=Z,60μm,0.3s						
AEIL	Aeropuerto Ilo	0.54	4	*e*P	Pn	16 02 09.2	-0.5
AEIL				*e*S	Sn	16 02 18.7	-0.5
OPAM	Oficina de Pla	0.55	355	*e*P	Pn	16 02 09.1	-0.7
UDBS	Universidad Do	0.55	360	*e*P	Pn	16 02 09.2	-0.7
UDBS				*e*S	Sn	16 02 18.9	-0.6
UDBS				IAML		16 02 23.2	
	comp=Z,63μm,0.4s						
UESS	Universidad de	0.56	355	*e*P	Pn	16 02 09.3	-0.7
UESS				*e*S	Sn	16 02 18.3	-1.4
UESS				IAML		16 02 23.2	
	comp=Z,42μm,0.3s						
CUSC	Alcaldia de Cu	0.56	357	*e*P	Pn	16 02 09.4	-0.6
CUSC				*e*S	Sn	16 02 19.4	-0.4
LFU	La Fuente	0.59	4	‖*e*P	Pn	16 02 09.8	-0.4
PAVA	Las Pavas	0.59	21	*e*P	Pn	16 02 09.8	-0.5
ALJI	Alcalda de J	0.59	74	*e*P	Pn	16 02 10.0	-0.2
UESV	Universidad de	0.59	37	*e*P	Pn	16 02 09.7	-0.6
UESV				*e*S	Sn	16 02 20.1	-0.1
COEB	Comit de Eme	0.69	61	*e*P	Pn	16 02 11.1	-0.4
COEB				*e*S	Sn	16 02 22.7	+0.4
CEVE	Cerro Verde	0.81	325	*e*P	Pn	16 02 12.1	-0.8
CEVE				*e*S	Sn	16 02 24.5	-0.4
CEVE				IAML		16 02 33.9	
	comp=Z,128μm,0.4s						
SBLS	San Blas	0.82	326	*e*P	Pn	16 02 12.1	-1.0
LCY	Lacayo	0.88	72	‖*e*P	Pn	16 02 13.7	+0.1
RTR	El Retiro	0.88	327	*e*P	Pn	16 02 13.2	-0.5
JUCU	Jucuarjn	0.89	84	*e*P	Pn	16 02 13.2	-0.5
JUCU				*e*S	Sn	16 02 26.6	+0.3
UNIC	Universidad Ca	0.90	335	‖*i*P	Pn	16 02 13.7	-0.3
UNIC				*e*S	Sn	16 02 26.7	+0.1
LLGN	La Laguna	1.02	11	‖*e*P	Pn	16 02 15.4	0.0
LLGN				*e*S	Sn	16 02 30.7	+1.5
FAGO	Alcalda de S	1.15	62	*e*P	Pn	16 02 16.8	-0.2
LCND	La Caada	1.24	83	*e*P	Pn	16 02 18.3	+0.2
MTO3	Montecristo	1.25	351	*e*P	Pn	16 02 18.5	0.0
CNCH	Conchagua	1.29	85	*e*P	Pn	16 02 19.0	+0.1
IXG	Ixpaco	1.61	309	*e*P	Pn	16 02 23.3	+0.2
NBG	Las Nubes	1.83	321	*e*P	Pn	16 02 27.4	+1.1
PCG	Pacaya	1.87	311	*e*P	Pn	16 02 27.1	+0.3
MRL	Marmol	1.98	345	*e*P	Pn	16 02 29.7	+1.5
TGUH	Tegucigalpa,Un	2.03	64	*e*P	Pn	16 02 29.4	+0.5
FUG	Fuego 3	2.08	308	*e*P	Pn	16 02 30.0	+0.5
APG	El Apazote	2.23	325	P	Pn	16 02 31.6	-0.1
	comp=Z,60nm,0.3s,baz=149,slow=4.5,SNR=132						
APG				S	Sn	16 03 02.3	+4.0
	comp=Z,206nm,0.3s,baz=114,slow=20,SNR=7.6						
APG				LR	LR	16 03 07.1	
	comp=Z,614nm,19.9s,baz=92,slow=31						
ERG	Entre ros, C	2.67	299	*e*P	Pn	16 02 37.7	+0.3
STG3	Santiaguito 3,	2.81	304	*e*P	Pn	16 02 40.1	+0.7
THIG		3.48	300	*e*P	Pn	16 02 49.2	+0.7
THIG				*e*S	Sn	16 03 28.0	-0.5
CCIG	Comitan	4.24	317	*e*P	Pn	16 03 00.7	+1.7
CCIG				*i*S	Sn	16 03 46.9	-0.4
PCIG		4.68	303	*e*P	Pn	16 03 05.7	+0.8
PCIG				*i*S	Sn	16 03 57.7	-0.2
JTS	Las Juntas de	5.00	124	P	Pn	16 03 11.9	+2.6
JTS						16 04 06.8	
JTS	Las Juntas de	5.00	124	P	Pn	16 03 10.1	+0.8
	comp=Z,17nm,0.3s,baz=10.0,slow=23,SNR=20						
JTS				S	Sn	16 04 06.8	+0.9
	comp=Z,15nm,0.3s,baz=343,slow=17,SNR=2.5						
TGIG		5.26	314	*e*P	Pn	16 03 13.8	+1.0
TGIG				*i*S	Sn	16 04 12.2	0.0
CMIG	Matias Romero	6.78	306	P	Pn	16 03 33.5	0.0
	comp=Z,8.6nm,0.3s,baz=141,slow=11,SNR=63						
CMIG				S	Sn	16 04 46.0	-3.3
	comp=Z,34nm,0.3s,baz=112,slow=19,SNR=4.4						
CMIG	Matias Romero	6.78	306	*e*P	Pn	16 03 34.5	+1.0
CMIG				*e*S	Sn	16 04 50.5	+1.3
TEIG	Tepich	7.08	7	*e*P	Pn	16 03 39.3	+1.7
	comp=Z,19nm,0.3s,baz=139,slow=0.7,SNR=37						
TEIG				LR	LR	16 06 51.7	
	comp=Z,2μm,19.8s,baz=47,slow=43						
SMLC	San Martn de	15.43	105	*e*P	P	16 05 32.8	-0.9
SMLC	San Martn de	15.43	105	*e*P	P	16 05 32.8	-0.9
YOTC	Yotoco, Valle	15.60	125	*e*P	P	16 05 37.8	+2.1
YOTC	Yotoco, Valle	15.60	125	*e*P	P	16 05 37.8	+2.1
GUY2C	Guyana, Caldas	15.72	119	*e*P	P	16 05 36.8	-0.6
GUY2C	Guyana, Caldas	15.72	119	*e*P	P	16 05 36.8	-0.6
NORC	Norcasia	15.98	117	*e*P	P	16 05 42.8	+2.9
NORC	Norcasia	15.98	117	*e*P	P	16 05 42.8	+2.9
BBAC	Balboa, Cauca	16.16	132	*e*P	P	16 05 42.6	+0.5
BBAC	Balboa, Cauca	16.16	132	*e*P	P	16 05 42.6	+0.5
POPC	Popayan, Colom	16.24	129	*e*P	P	16 05 44.1	+1.2
POPC	Popayan, Colom	16.24	129	*e*P	P	16 05 44.1	+1.2
SOTA	Rioblanco	16.56	130	*e*P	P	16 05 48.6	+1.9
SOTA	Rioblanco	16.56	130	*e*P	P	16 05 48.6	+1.9
PCON	Cinco Dias	16.59	129	*e*P	P	16 05 51.1	+4.0
PCON	Cinco Dias	16.59	129	*e*P	P	16 05 51.1	+4.0
CRUC	La Cruz	16.69	133	*e*P	P	16 05 51.8	+3.7
CRUC	La Cruz	16.69	133	*e*P	P	16 05 51.8	+3.7
ROSC	El Rosal	16.81	118	P	P	16 05 52.0	+2.6
	comp=Z,2.2nm,0.3s,baz=330,slow=18,SNR=4.3						
PRAC	Prado	16.94	122	*e*P	P	16 05 52.7	+2.2
PRAC	Prado	16.94	122	*e*P	P	16 05 52.7	+2.2
PAMC	Pamplona, Colo	17.19	108	*e*P	P	16 05 55.1	+1.4
PAMC	Pamplona, Colo	17.19	108	*e*P	P	16 05 55.1	+1.4
656A	Willston	17.26	20	P	P	16 05 57.6	+3.7
	baz=202						
FLOC	Florencia	17.63	130	*e*P	P	16 06 01.9	+3.8
FLOC	Florencia	17.63	130	*e*P	P	16 06 01.9	+3.8
HKT	Hockley	17.82	341	P	Pn	16 06 00.8	+0.8
HKT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
833A	Chaparral WMA,	17.85	329	P	Pn	16 06 02.7	+2.1
	baz=146,SNR=7.3						
453A	Whigham	18.17	13	P	Pn	16 06 09.4	+5.1
	baz=195						
454A	Quitman	18.20	15	P	Pn	16 06 08.8	+4.0
	baz=197,SNR=10.0						
455A	Stateville	18.39	17	P	Pn	16 06 10.4	+3.3
	baz=199						
352A	Blakely	18.64	11	P	Pn	16 06 13.9	+3.9
	baz=193						
353A	Camilla	18.66	13	P	Pn	16 06 12.0	+1.7
	baz=195,SNR=7.0						
SDV	Santo Domingo	18.66	101	P	P	16 06 09.3	-0.3
	comp=Z,2.7nm,0.3s,baz=296,slow=7.7,SNR=6.5						
TIGA	Tifton	18.90	15	P	Pn	16 06 14.9	+1.8
	baz=197,SNR=13						
250A	Grady	18.92	8	P	Pn	16 06 16.0	+2.6
	baz=188						
VBMS	Vicksburg	19.01	356	P	Pn	16 06 16.8	+2.3
	baz=176						
252A	Lumpkin	19.18	11	P	Pn	16 06 17.6	+1.1
	baz=193,SNR=8.9						
435B	Jarrell	19.19	337	P	Pn	16 06 17.0	+0.4
	baz=154,SNR=5.6						
NATX	Nacogdoches	19.19	346	P	Pn	16 06 17.2	+0.6
	baz=163						
356A	Blackshear	19.20	19	P	Pn	16 06 19.1	+2.4
	baz=201						
253A	Americus	19.37	13	P	Pn	16 06 19.3	+0.6
	baz=195						
254A	Abbeville	19.46	15	P	Pn	16 06 20.2	+0.4
	baz=197,SNR=12						
255A	Hazlehurst	19.66	17	P	Pn	16 06 23.1	+0.9
	baz=200						
152A	Waverly Hall	19.84	11	P	Pn	16 06 24.5	+0.3
	baz=193,SNR=11						
JCT	Junction City	19.85	332	P	P	16 06 23.0	+0.7
	baz=148,SNR=24						
JCT	Junction City	19.85	332	P	P	16 06 22.8	+0.5
JCT				pmax	pmax		
	comp=Z,41nm,0.8s						
LRAL	Lakeview Retre	19.88	5	P	Pn	16 06 25.2	+0.4
	baz=186,SNR=8.7						
154A	Montrose	20.14	15	P	Pn	16 06 28.2	+0.4
	baz=197,SNR=6.9						
Z50A	Ashland	20.22	8	P	Pn	16 06 28.3	-0.4
	baz=189,SNR=9.1						
WHTX	Lake Whitney,	20.23	339	P	P	16 06 27.2	+0.8
	baz=156,SNR=16						
Z41A	Richland Creek	20.28	351	P	Pn	16 06 31.3	+1.9
	baz=170						
155A	Kite	20.32	16	P	Pn	16 06 30.2	+0.3
	baz=199,SNR=19						
Z51A	Franklin	20.39	10	P	Pn	16 06 31.8	+1.1
	baz=191,SNR=6.5						
Z52A	Williamson	20.40	11	P	Pn	16 06 31.2	+0.3
	baz=193,SNR=8.1						
Z53A	Monticello	20.67	13	P	Pn	16 06 33.7	-0.3
	baz=195,SNR=8.4						
Y49A	Blount Mountai	20.76	6	P	Pn	16 06 34.0	-1.1
	baz=187,SNR=13						
Z54A	Sparta	20.80	15	P	Pn	16 06 35.7	+0.2
	baz=197,SNR=6.3						
157A	Early Branch	20.81	20	P	Pn	16 06 35.0	-0.8
	baz=203,SNR=6.0						
GOGA	Godfrey	20.82	13	P	Pn	16 06 34.7	-1.0
	baz=196,SNR=8.0						
GOGA	Godfrey	20.82	13	P	Pn	16 06 34.7	-1.1
GOGA				pmax	pmax		
	comp=Z,46nm,0.9s						
Y51A	Rockmart	20.98	10	P	Pn	16 06 36.3	-1.5
	baz=191,SNR=16						
TXAR	Lajitas Array	20.99	322	P	P	16 06 36.2	+1.5
	comp=Z,9.5nm,0.7s,baz=145,slow=10,SNR=128						
TXAR				pP	pP	16 06 49.2	+0.2
	comp=Z,6.4nm,0.8s,baz=139,slow=12,SNR=6.1						
TXAR				PcP	PcP	16 10 40.4	+0.5
	comp=Z,0.9nm,0.7s,baz=142,slow=3.1,SNR=4.5						
TXAR				ScP	ScP	16 14 12.0	+1.1
	comp=Z,0.7nm,0.7s,baz=145,slow=4.6,SNR=6.3						
TXAR				LR	LR	16 15 31.7	
	comp=Z,118nm,18.9s,baz=0.0,slow=39						
Y52A	Lilburn	21.13	12	P	P	16 06 37.8	+1.8
	baz=194,SNR=7.0						
158A	Hollywood	21.14	21	P	P	16 06 40.0	+3.9
	baz=205						
Y53A	Monroe	21.22	13	P	P	16 06 39.8	+2.8
	baz=195						
OXF	Oxford	21.26	359	P	P	16 06 39.9	+2.5
	baz=179,SNR=6.7						
X48A	Hartselle	21.28	5	P	P	16 06 39.0	+1.3
	baz=186,SNR=8.9						
Z56A	Williston	21.29	18	P	P	16 06 41.2	+3.5
	baz=201						
Y54A	Tignall	21.43	15	P	P	16 06 42.1	+2.8
	baz=197,SNR=11						
Z57A	Bowman	21.48	20	P	P	16 06 42.8	+3.1
	baz=203						
NHSC	New Hope	21.48	21	P	P	16 06 43.3	+3.5
	baz=204						
X40A	Basin Creek Fa	21.49	352	P	P	16 06 42.1	+2.2
	baz=170,SNR=7.9						
ABTX	Abilene, Hawle	21.62	335	P	P	16 06 41.5	+0.1
	baz=151,SNR=19						
X51A	Calhoun	21.66	10	P	P	16 06 45.0	+3.2
	baz=191						
MIAR	Mount Ida	21.67	350	P	P	16 06 43.1	+1.3
	baz=168,SNR=31						
MIAR	Mount Ida	21.67	350	P	P	16 06 43.4	+1.6
MIAR				pmax	pmax		
	comp=Z,63nm,1.0s						
Y55A	Saluda	21.72	17	P	P	16 06 44.7	+2.3
	baz=199,SNR=9.4						
Z58A	St. Stephen	21.82	21	P	P	16 06 46.0	+2.6
	baz=205						
X52A	Dahlonega	21.88	12	P	P	16 06 47.4	+3.4
	baz=194						
X53A	Estanollee	21.90	13	P	P	16 06 45.3	+1.0
	baz=195,SNR=11						
W49A	Belvidere	22.02	6	P	P	16 06 47.5	+1.9
	baz=167,SNR=8.1						
W41B	Gary Mavity, V	22.10	353	P	P	16 06 48.9	+2.5
	baz=172,SNR=12						
X54A	Belton	22.16	15	P	P	16 06 48.6	+1.5
	baz=198,SNR=7.5						
JSC	Jenkinsville	22.22	18	P	P	16 06 49.4	+1.7
JSC				pmax	pmax		
	comp=Z,41nm,1.2s						
W50A	Signal Mountai	22.22	8	P	P	16 06 48.6	+0.8
	baz=190						
Y57A	Sumter	22.24	20	P	P	16 06 50.3	+2.4
	baz=203						
W51A	Cleveland	22.26	10	P	P	16 06 49.3	+1.1
	baz=191,SNR=9.1						
X55A	Gracelyn & Ava	22.29	17	P	P	16 06 49.7	+1.3
	baz=200,SNR=10.0						
W39A	Magazine	22.34	350	P	P	16 06 50.6	+1.6
	baz=168,SNR=9.6						
W52A	Murphy	22.34	11	P	P	16 06 51.2	+2.1
	baz=193						
Y58A	Scranton	22.38	21	P	P	16 06 52.5	+3.0
	baz=205						
X56A	White Oak	22.48	18	P	P	16 06 52.0	+1.4
	baz=201						
W53A	Cullowhee	22.57	13	P	P	16 06 54.9	+3.2
	baz=195						
V48A	Smith Brothers	22.58	5	P	P	16 06 52.7	+1.1
	baz=186,SNR=6.9						
SJG	San Juan	22.68	75	LR	LR	16 16 36.3	
	comp=Z,586nm,19.3s,baz=268,slow=39						
V49A	McMinnville	22.70	7	P	P	16 06 53.0	+0.1
	baz=188						
V50A	Pikevile	22.71	9	P	P	16 06 53.0	0.0
	baz=190						
W54A	Cherokee Point	22.72	15	P	P	16 06 54.4	+1.3
	baz=198						
LPIG	La Paz	22.78	302	P	P	16 06 56.0	+2.2
	comp=Z,13nm,0.3s,baz=209,slow=3.4,SNR=3.6						
LPIG				LR	LR	16 16 58.5	
	comp=Z,103nm,19.7s,baz=118,slow=39						
ATAH	Atahualpa	22.82	151	P	P	16 06 56.4	+1.7
	comp=Z,7.8nm,0.9s,baz=330,slow=9.2,SNR=3.8						
ATAH				LR	LR	16 15 30.3	
	comp=Z,106nm,19.8s,baz=336,slow=36						
WVT	Waverly	22.90	3	P	P	16 06 56.2	+1.2
	baz=183						
WVT	Waverly	22.90	3	P	P	16 06 55.1	+0.2
WVT				pmax	pmax		
	comp=Z,42nm,1.2s						
TKL	Tuckaleechee C	22.92	11	P	P	16 06 54.1	-1.0
	comp=Z,7.5nm,0.6s,baz=180,slow=11,SNR=13						
TKL				LR	LR	16 15 55.6	
	comp=Z,758nm,21.9s,baz=184,slow=37						
V51A	Loudon	22.96	10	P	P	16 06 57.1	+1.6
	baz=192						
KMSC	Kings Mountain	23.00	17	P	P	16 06 56.8	+0.8
	baz=200						
X58A	Rowland	23.09	21	P	P	16 06 57.9	+1.1
	baz=205						
V53A	Saluda	23.13	13	P	P	16 06 58.3	+1.0
	baz=196,SNR=6.2						
V52A	Sevierville	23.13	12	P	P	16 06 57.8	+0.5
	baz=194						
WMOK	Wichita Mounta	23.19	340	P	P	16 06 56.9	-0.9
	baz=156,SNR=16						
WMOK	Wichita Mounta	23.19	340	P	P	16 06 56.9	-0.9
WMOK				pmax	pmax		
	comp=Z,43nm,1.0s						
W56A	Indian Trail	23.21	18	P	P	16 06 58.5	+0.5
	baz=201						
U40A	Yellville	23.34	352	P	P	16 07 00.2	+1.0
	baz=171,SNR=28						
W57A	Gilead	23.41	19	P	P	16 07 00.3	+0.5
	baz=203						
TUL1	Leonard	23.43	346	P	P	16 07 00.6	+0.6
	baz=164						
V54A	Nebo	23.44	15	P	P	16 07 00.6	+0.5
	baz=198						
U49A	Red Boiling Sp	23.45	7	P	P	16 07 00.7	+0.5
	baz=188,SNR=8.2						
U50A	Jamestown	23.48	9	P	P	16 07 00.8	+0.3
	baz=190						
W58A	Raeford	23.54	21	P	P	16 07 01.9	+0.8
	baz=205,SNR=9.4						
U51A	La Follette	23.58	10	P	P	16 07 02.6	+1.2
	baz=192						
X60A	Albert Glenn T	23.61	24	P	P	16 07 02.2	+0.5
	baz=208						
V55A	Taylorsville	23.70	16	P	P	16 07 03.5	+1.0

baz=193
T55A Pulaski 25.01 16 P **P 16 07 17.4 +3.0**
baz=199
U58A Oxford 25.02 21 P **P 16 07 16.5 +2.1**
baz=205
WCI Wyandotte Cave 25.10 5 P **P 16 07 14.9 -0.2**
baz=186
WCI Wyandotte Cave 25.10 5 P **P 16 07 14.5 -0.6**
WCI pmax pmax
comp=Z,27nm,0.8s
T57A Hurt 25.34 19 P **P 16 07 17.9 +0.5**
baz=203
SLM Saint Louis 25.39 358 P **P 16 07 18.5 +0.7**
SLM pmax pmax
comp=Z,80nm,0.9s
S54A Dingess, Beckl 25.52 15 P **P 16 07 21.8 +2.8**
baz=198
121A Cookes Peak, D 25.74 322 P **P 16 07 25.1 +3.8**
baz=134
T59A Double "B" Far 25.89 22 P **P 16 07 23.0 +0.7**
baz=206
Q51A Peebles 26.27 10 P **P 16 07 25.8 0.0**
baz=193
R56A Bull Pasture M 26.60 17 P **P 16 07 30.9 +2.1**
baz=201
R58B Mineral 26.67 20 P **P 16 07 29.8 +0.4**
baz=205
ANMO Albuquerque 26.75 327 P **P 16 07 32.5 +2.1**
baz=140
ANMO Albuquerque 26.75 327 P **P 16 07 31.7 +1.3**
comp=Z,2.5nm,0.7s,baz=154,slow=11,SNR=10
ANMO LR LR 16 19 07.8
comp=Z,160nm,21.4s,baz=139,slow=39
Q54A Coxs Mills 26.76 15 P **P 16 07 30.4 +0.2**
baz=198
R57A Stanardsville 26.76 19 P **P 16 07 30.4 +0.3**
baz=203
R58A Rapidan 26.93 20 P **P 16 07 31.9 +0.2**
baz=204
CBKS Cedar Bluff 27.22 342 P **P 16 07 34.8 +0.4**
baz=157
O50A Cable 27.32 9 P **P 16 07 34.6 -0.6**
baz=192
P54A Burton 27.43 15 P **P 16 07 36.6 +0.4**
baz=198
T25A Trinidad 27.51 333 P **P 16 07 38.5 +1.4**
baz=146,SNR=17
NNA Nana 27.81 153 LR LR 16 16 52.8
comp=Z,195nm,21.9s,baz=312,slow=32
P57A Homestead Farm 28.01 19 P **P 16 07 42.2 +0.9**
baz=204
SDCO Great Sand Dun 28.50 332 P **P 16 07 47.5 +1.4**
baz=145,SNR=7.3
214A Organ Pipe Nat 28.65 315 P **P 16 07 49.0 +1.8**
baz=126,SNR=5.7
S22A 4UR Ranch, Cre 29.12 330 P **P 16 07 52.9 +1.3**
baz=143,SNR=26
BGNE Belgrade 29.22 346 P **P 16 07 52.6 +0.4**
baz=162
MVCO Mesa Verde 29.54 328 P **P 16 07 57.0 +1.7**
baz=139,SNR=6.7
K47A Vermontville 29.62 6 P **P 16 07 54.0 -1.6**
baz=188
M55A Ridgway 29.62 16 P **P 16 07 57.2 +1.5**
baz=201
JFWS Jewell Farm 29.66 358 P **P 16 07 56.7 +0.7**
baz=178
M56A Emporium 29.80 17 P **P 16 07 58.0 +0.8**
baz=202
OGNE Ogallala 29.89 340 P **P 16 07 59.6 +1.4**
baz=154
WUAZ Wupatki 29.95 322 P **P 16 08 01.2 +2.4**
baz=132
N59A State Game Lan 30.03 21 P **P 16 07 59.5 +0.1**
baz=207
N60A Cedar Hill Far 30.23 21 P **P 16 08 01.3 +0.3**
baz=208
ISCO Idaho Springs 30.24 334 P **P 16 08 02.5 +0.9**
baz=147,SNR=10.0
L55A Hinsdale 30.38 16 P **P 16 08 02.0 -0.3**
baz=201
M59A Waymart 30.70 20 P **P 16 08 05.4 +0.2**
baz=207
L58A Harry Jones Me 31.02 19 P **P 16 08 08.2 +0.2**
baz=206
M61A Granite Spring 31.10 23 P **P 16 08 08.9 +0.3**
baz=210
ECSD EROS Data Cent 31.14 350 P **P 16 08 08.9 -0.1**
baz=166,SNR=5.6
K56A Middlesex 31.16 17 P **P 16 08 10.5 +1.3**
baz=203
SWSC Sam W. Stewart 31.30 313 P **P 16 08 12.7 +2.2**
baz=123
N23A Red Feather La 31.30 335 P **P 16 08 11.7 +0.9**
baz=147,SNR=7.5
IKP In-Ko-Pah, Jac 31.36 313 P **P 16 08 13.6 +2.5**
baz=122
BC3 Big Chuckawall 31.44 315 P **P 16 08 14.0 +2.1**
baz=124,SNR=12
IRM Iron Mountain 31.52 316 P **P 16 08 14.6 +2.1**
baz=125
O20A White River Ci 31.68 331 P **P 16 08 15.9 +1.8**
baz=143,SNR=18
MONP2 Monument Peak 31.71 313 P **P 16 08 16.7 +2.3**
baz=122,SNR=7.1
KNB Kanab 31.82 322 P **P 16 08 17.1 +1.8**
KNB pmax pmax
comp=Z,4.0nm,0.7s
BELC Belle Mtn. Jos 32.01 315 P **P 16 08 19.0 +2.0**
baz=124
SRU San Rafael Swe 32.02 328 P **P 16 08 18.8 +1.7**
SRU pmax pmax
comp=Z,12nm,0.7s
SPMN Marine on St. 32.11 355 P **P 16 08 17.0 -0.5**
baz=173,SNR=6.8
TPFO Pinon Flats 32.11 314 P **P 16 08 20.3 +2.5**
baz=123
PFO Pinyon Flats O 32.12 314 P **P 16 08 19.3 +1.3**
comp=Z,2.7nm,0.6s,baz=127,slow=6.9,SNR=4.7
PFO LR LR 16 21 49.6
comp=Z,329nm,21.1s,baz=120,slow=37
GMRC Granite Mounta 32.23 316 P **P 16 08 20.5 +1.6**
baz=126,SNR=5.6
SUSD Miller 32.29 347 P **P 16 08 19.1 0.0**
baz=162
H53A Bobcaygeon 32.59 14 P **P 16 08 21.1 -0.6**
baz=199
SADO Sadowa 32.64 13 P **P 16 08 21.1 -1.1**
comp=Z,5.4nm,0.5s,baz=244,slow=6.9,SNR=7.8
SADO LR LR 16 21 46.0
comp=Z,495nm,20.8s,baz=187,slow=37
I58A Old Forge 32.78 19 P **P 16 08 22.8 -0.6**
baz=206
K22A Casper 33.01 336 P **P 16 08 26.7 +1.0**
baz=148
G53A Haliburton 33.09 14 P **P 16 08 25.1 -1.0**
baz=199
RSSD Black Hills 33.39 340 P **P 16 08 30.1 +1.0**
baz=153
RSSD Black Hills 33.39 340 P **P 16 08 30.0 +1.0**
RSSD pmax pmax
comp=Z,19nm,0.7s
G55A Calabogie 33.69 16 P **P 16 08 30.4 -0.9**
baz=202
LONY Lake Ozonia 33.74 19 P **P 16 08 31.9 +0.1**
baz=206
EDW2 Edwards Air Fo 33.87 315 P **P 16 08 34.7 +1.5**
baz=123
SAML Samuel 33.88 129 P **P 16 08 32.3 -1.0**
SAML pmax pmax
comp=Z,6.0nm,0.8s
TPNV Topopah Spring 33.89 319 P **P 16 08 35.4 +2.0**
baz=127
TPNV Topopah Spring 33.89 319 P **P 16 08 34.9 +1.5**
TPNV 16 11 12.1
TPNV pmax pmax
comp=Z,6.0nm,1.1s
ALGO Algonquin Park 34.01 14 P **P 16 08 33.1 -1.0**
baz=200
DUG Dugway, Tooele 34.02 327 P **P 16 08 37.5 +3.1**
baz=136
MPMC Manual Prospec 34.18 317 P **P 16 08 37.5 +1.6**
baz=125,SNR=6.5
E51A G1948 Merrick 34.25 12 P **P 16 08 35.3 -0.9**
baz=197
R11A Troy Canyon, C 34.35 322 P **P 16 08 39.0 +1.6**
baz=130
BW06 Boulder Array 34.38 333 P **P 16 08 38.0 +0.4**
baz=143
PDAR Pinedale Array 34.38 333 P **P 16 08 37.5 -0.1**
comp=Z,3.3nm,0.6s,baz=130,slow=11,SNR=35
PDAR PcP **PcP 16 11 11.4 -0.7**
comp=Z,2.6nm,0.6s,baz=146,slow=5.3,SNR=12
PDAR ScP **ScP 16 14 51.1 -0.4**
comp=Z,1.0nm,0.8s,baz=120,slow=5.5,SNR=5.1
PDAR LR LR 16 25 05.3
comp=Z,208nm,18.1s,baz=150,slow=40
EYMN Ely 34.73 357 P **P 16 08 39.2 -1.1**
baz=176
HVU Hansel Valley 35.15 329 P **P 16 08 45.3 +1.1**
HVU pmax pmax
comp=Z,8.0nm,0.7s
D53A Lac Vacive, Po 35.16 14 P **P 16 08 43.9 -0.1**
baz=200
D54A Lac Fusel, La 35.47 15 P **P 16 08 45.8 -0.9**
baz=201
AGMN Agassiz Nation 35.47 352 P **P 16 08 46.0 -0.7**
baz=169,SNR=5.8
MDND Maddock 35.67 348 P **P 16 08 48.4 +0.1**
baz=162,SNR=10.0
ELK Elko 35.73 325 P **P 16 08 50.0 +0.7**
comp=Z,2.5nm,0.8s,baz=144,slow=9.3,SNR=12
ELK LR LR 16 25 37.1
comp=Z,237nm,19.2s,baz=150,slow=40
LPAZ La Paz 35.89 144 P **P 16 08 51.6 +0.3**
comp=Z,2.8nm,0.9s,baz=324,slow=9.0,SNR=9.7
LPAZ LR LR 16 24 05.1
comp=Z,114nm,20.6s,baz=312,slow=37
NVAR Mina Array Bea 36.08 319 P **P 16 08 53.8 +1.5**
comp=Z,5.0nm,0.9s,baz=136,slow=7.6,SNR=23
NVAR PcP **PcP 16 11 18.1 +0.9**
comp=Z,3.6nm,0.7s,baz=134,slow=4.2,SNR=8.8
NVAR ScP **ScP 16 14 59.1 +1.2**
comp=Z,2.7nm,0.8s,baz=140,slow=4.4,SNR=11
NVAR LR LR 16 25 07.2
comp=Z,324nm,20.6s,baz=138,slow=39
H17A Grant Village 36.12 334 P **P 16 08 54.3 +1.7**
baz=143
RLMT Red Lodge 36.16 336 P **P 16 08 53.4 +0.5**
baz=145,SNR=7.9
LAO LASA Array 36.38 340 P **P 16 08 55.0 +0.5**
baz=151,SNR=8.8
LSQQ Lebel-sur-Quev 37.18 13 P **P 16 09 00.1 -1.1**
baz=200
DGMT Dagmar 37.36 343 P **P 16 09 03.4 +0.7**
baz=155,SNR=15
ULM Lac du Bonnet 37.39 353 P **P 16 09 01.0 -2.0**
ULM pmax pmax
comp=Z,11nm,0.7s
ULM Lac du Bonnet 37.39 353 P **P 16 09 01.3 -1.7**
comp=Z,10.0nm,0.6s,baz=169,slow=9.2,SNR=11
ULM LR LR 16 25 41.3
comp=Z,531nm,20.1s,baz=138,slow=38
BOZ Bozeman (W) 37.53 334 P **P 16 09 05.4 +1.0**
baz=142,SNR=7.2
MATQ Matagami 37.70 12 P **P 16 09 04.5 -1.1**
baz=198
WVOR Wild Horse Val 38.76 324 P **P 16 09 16.0 +1.2**
WVOR pmax pmax
comp=Z,5.0nm,1.2s
EGMT Eagleton 38.76 338 P **P 16 09 15.6 +0.9**
baz=147,SNR=16
MSO Missoula 39.50 333 P **P 16 09 22.0 +1.1**
baz=140
SIV San Ignacio 40.12 135 P **P 16 09 26.2 -0.1**
comp=Z,6.4nm,0.8s,baz=324,slow=11,SNR=28
M04C Macdoel 40.24 321 P **P 16 09 27.5 +0.3**
baz=126
LVC Limon Verde 40.71 151 P **P 16 09 31.2 -0.2**
comp=Z,6.3nm,0.8s,baz=282,slow=4.2,SNR=5.3
L04D Klamath Falls 40.78 322 P **P 16 09 31.4 -0.1**
baz=125
J04D Umpqua Nationa 41.26 323 P **P 16 09 36.3 +0.7**
baz=127
NEW Newport 42.00 332 P **P 16 09 41.1 -0.2**
baz=137
G05D Wamic, OR 42.04 326 P **P 16 09 42.4 +0.7**
baz=129
FFC Flin Flon 42.67 349 P **P 16 09 46.4 -0.3**
FFC pmax pmax
comp=Z,4.0nm,0.5s
SCHQ Schefferville 45.10 18 P **P 16 10 04.3 -1.8**
comp=Z,9.5nm,0.7s,baz=210,slow=8.0,SNR=8.9
SCHQ PcP **PcP 16 11 45.0 -0.7**
comp=Z,2.8nm,0.4s,baz=207,slow=4.5,SNR=4.2
SCHQ LR LR 16 27 55.9
comp=Z,210nm,19.1s,baz=304,slow=35
CFA Coronel Fontan 48.82 156 P **P 16 10 36.8 +1.3**
comp=Z,2.3nm,0.3s,baz=318,slow=6.5,SNR=5.2
BDFB Brasilia 49.75 124 P **P 16 10 43.6 +0.8**
comp=Z,2.8nm,0.6s,baz=250,slow=6.9,SNR=3.4
BDFB LR LR 16 35 33.5
comp=Z,92nm,18.3s,baz=311,slow=41
CPUP Villa Florida 49.99 142 P **P 16 10 45.0 +0.6**
CPUP Villa Florida 49.99 142 P **P 16 10 45.0 +0.6**
comp=Z,1.6nm,0.7s,baz=320,slow=5.8,SNR=3.4
CPUP pP **pP 16 11 00.7 -0.7**
comp=Z,5.4nm,1.0s,baz=332,slow=5.6,SNR=5.2
CPUP LR LR 16 33 35.8
comp=Z,112nm,18.7s,baz=324,slow=38
YKA Yellowknife Ar 52.50 345 P **P 16 11 01.9 -0.8**
comp=Z,12nm,0.7s,baz=152,slow=6.4,SNR=47
YKA LR LR 16 36 16.6
comp=Z,24nm,20.3s,baz=134,slow=39
TAOE Nuku Hiva Isla 55.16 249 *e*LR LR 16 27 13.7
comp=Z,543nm,27.2s
TAOE Nuku Hiva Isla 55.16 249 *e*T T 17 10 12.9
comp=Z,17nm,0.3s
PLCA Paso Flores 56.32 163 P **P 16 11 31.0 +0.2**
PLCA Paso Flores 56.32 163 P **P 16 11 30.9 +0.2**
comp=Z,4.9nm,0.9s,baz=3.4,slow=9.8,SNR=7.9
PLCA LR LR 16 30 31.4
comp=Z,105nm,22.0s,baz=10.0,slow=30
C36M Paulatuk 60.34 346 P **P 16 11 56.7 -1.6**
baz=140
EPYK Eagle Plains 61.84 340 P **P 16 12 07.7 -0.9**
baz=125
INK Inuvik 62.04 343 P **P 16 12 08.9 -0.9**
INK pmax pmax
comp=Z,9.0nm,0.7s
INK Inuvik 62.04 343 P **P 16 12 08.8 -1.0**
comp=Z,6.9nm,0.6s,baz=125,slow=6.8,SNR=38
PMOR Pomariorio Ree 64.52 246 *e*T T 17 21 53.6
comp=Z,3.0nm,0.3s
HDA Harding Lake 64.58 336 P **P 16 12 25.8 -0.9**
baz=114
ILAR Eielson Array 64.71 336 *e*P **P 16 12 25.0 -2.5**
ILAR Eielson Array 64.71 336 P **P 16 12 26.1 -1.3**
comp=Z,3.1nm,0.6s,baz=166,slow=4.7,SNR=91
ILAR LR LR 16 45 03.7
comp=Z,98nm,19.6s,baz=118,slow=40
RND Reindeer 64.96 335 P **P 16 12 28.2 -1.1**
RND pmax pmax
comp=Z,9.0nm,0.7s
POKR Poker Plat Res 65.06 337 P **P 16 12 28.6 -1.2**
baz=114
COLA College 65.12 336 *e*P **P 16 12 29.2 -1.0**
COLA pmax pmax
comp=Z,14nm,2.7s
TVO Taravao 66.80 244 *e*T T 17 24 44.7
comp=Z,2.4nm,0.3s
PPT Papeete 67.00 244 LR LR 16 33 06.1
comp=Z,249nm,18.9s,baz=42,slow=28
PPT2 Papeete2 67.00 244 *e*S **S 16 21 30.5 -1.5**
comp=Z,51nm,27.0s
PPT2 Papeete2 67.00 244 *e*LR LR 16 32 48.7
comp=Z,608nm,27.5s,baz=58
PPT2 Papeete2 67.00 244 *e*T T 17 24 59.8
comp=Z,11nm,0.4s
PAE Paea 67.04 244 *e*T T 17 25 02.9
comp=Z,8.9nm,0.3s
TBI Tubuai 69.25 239 *e*LR LR 16 34 05.6
comp=Z,472nm,27.5s
DAG Danmarks Havn 72.84 13 *i* P **P 16 13 15.5 -2.3**
DAG *e* 16 13 32.7
DAG Danmarks Havn 72.84 13 *i* P **P 16 13 15.5 -2.3**
DAG *e* 16 13 32.7
ESDC Sonseca Array 78.06 52 P **P 16 13 47.5 -1.1**
comp=Z,0.2nm,0.3s,baz=285,slow=4.6,SNR=3.2
DBIC Dimbokro 82.98 85 LR LR 16 46 19.1
comp=Z,69nm,21.0s,baz=285,slow=32
BILL Bilibino 83.26 338 *e*P **P 16 14 14.4 -1.3**
BILL *e* 16 17 27.2
BILL pmax pmax
comp=Z,16nm,1.8s
NOA NORSAR Array B 83.55 29 P **P 16 14 15.6 -1.8**
comp=Z,0.6nm,0.8s,baz=290,slow=5.6,SNR=2.8
NOA LR LR 16 47 33.7
comp=Z,68nm,21.4s,baz=280,slow=33
ARCES ARCESS Array B 86.05 19 LR LR 16 53 53.5
comp=Z,59nm,18.3s,baz=318,slow=36
TORD Torodi Ar. Bea 87.87 77 P **P 16 14 37.7 -1.9**
comp=Z,0.4nm,0.7s,baz=286,slow=6.3,SNR=2.1
TORD LR LR 16 52 20.3
comp=Z,27nm,18.6s,baz=305,slow=34
GERES GERESS Array B 88.47 40 LR LR 16 49 04.3
comp=Z,133nm,20.7s,baz=279,slow=32
KEST Kesra 89.17 54 LR LR 16 48 17.2
comp=Z,67nm,21.7s,baz=288,slow=31
LVZ Lovozero 89.75 18 *e*P **P 16 14 50.2 +2.7**
FINES FINESS Array B 90.06 26 P **P 16 14 48.8 -0.2**
comp=Z,2.2nm,0.9s,baz=294,slow=4.4,SNR=2.7
FINES LR LR 16 53 22.3
comp=Z,101nm,21.3s,baz=294,slow=34
TIXI Tiksi 91.63 349 *e*P **P 16 14 54.2 -1.8**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 92.89 326 LR LR 16 59 05.9
comp=Z,26nm,18.0s,baz=61,slow=37
RAO Raoul Island 95.26 241 LR LR 16 47 14.0
comp=Z,73nm,21.7s,baz=202,slow=28
AKASG Malin Array Be 96.88 34 LR LR 16 57 43.9
comp=Z,31nm,20.1s,baz=285,slow=35
NRIK Norilsk 97.68 1 LR LR 17 01 10.4
comp=Z,209nm,20.5s,baz=360,slow=36
OBN Obninsk 98.14 28 *e*P **P 16 15 25.7 -0.4**
OBN *e* 16 19 25.9
OBN *e*PPP PPP 16 21 30.2
OBN pmax pmax
comp=Z,3.0nm,1.0s
DZM Mont Dzumac 108.02 251 *e*LR LR 16 52 04.3
comp=Z,155nm,28.4s
ZALV Zalesovo Beam 112.96 4 PKiKP **PKiKP 16 20 24.9 -1.2**
comp=Z,0.5nm,0.3s,baz=316,slow=3.5,SNR=3.5
TLY Talaya 114.48 351 *e*PKIKP PKiKP 16 20 21.2 -7.9
TLY pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 115.50 9 *i*PKIKP **PKiKP 16 20 30.4 -0.7**
SONM Songino Array 117.72 348 PKP **PKPdf 16 20 34.7 -1.0**
comp=Z,1.2nm,0.6s,baz=336,slow=2.1,SNR=11
SONM SKP 16 24 05.6
comp=Z,0.9nm,0.8s,baz=32,slow=2.3,SNR=5.7
KSRS Korea Array 118.78 327 PKP **PKPdf 16 20 37.3 -0.5**
comp=Z,1.1nm,0.7s,baz=22,slow=3.1,SNR=3.2
MKAR Makanchi Array 119.83 7 PKIKP **PKPdf 16 20 38.0 -1.6**
MKAR Makanchi Array 119.83 7 PKP **PKPdf 16 20 37.5 -2.0**
comp=Z,0.3nm,0.5s,baz=339,slow=2.4,SNR=6.5
MAW Mawson 122.59 168 PKIKP **PKiKP 16 20 44.6 +0.3**
MAW Mawson 122.59 168 PKP **PKPdf 16 20 44.0 0.0**
comp=Z,1.7nm,0.7s,baz=215,slow=12,SNR=4.7
HHC Hu-ho-hao-te 122.94 341 *e*PKP **PKiKP 16 20 49.5 +3.4**
WMQ Urumqi 123.22 3 *e*PKP **PKiKP 16 20 47.0 +0.5**
WMQ LR LR
comp=Z,240nm,22.1s
WMQ LR LR
comp=Z,240nm,25.1s
KSH Kashi 125.79 14 *e*PKP **PKPdf 16 20 47.3 -4.1**
GTA Gaotai 127.04 351 *e*PKP **PKPdf 16 20 53.5 -0.3**
GTA LR LR
comp=Z,130nm,19.7s
GTA LR LR
comp=Z,150nm,18.1s
GTA LR LR
comp=Z,260nm,20.0s
NJ2 Nanjing 127.65 330 *e*PKP **PKiKP 16 20 56.0 +0.5**
LZH Lanzhou 129.50 346 *e*PKP **PKPdf 16 20 53.8 -4.8**
LZH LR LR
comp=Z,52nm,18.3s
LZH LR LR
comp=Z,61nm,18.5s
LZH LR LR
comp=Z,78nm,20.1s
WRA Warramunga Arr 137.86 255 PKhKP PKPpre 16 21 04.1
comp=Z,0.6nm,0.7s,baz=81,slow=3.4,SNR=3.9
WRA PKP **PKPdf 16 21 15.5 +1.0**
comp=Z,2.4nm,0.8s,baz=92,slow=2.5,SNR=12
WRA SKPbc **SKiKP 16 24 45.0 -1.9**
comp=Z,3.6nm,1.0s,baz=90,slow=3.1,SNR=12
ASAR Alice Springs 137.98 249 PKhKP PKPpre 16 21 03.1
comp=Z,0.3nm,0.6s,baz=107,slow=3.6,SNR=5.6
ASAR PKP **PKPdf 16 21 15.7 +1.0**
comp=Z,1.1nm,0.6s,baz=86,slow=2.3,SNR=11
ASAR SKPbc **SKiKP 16 24 45.9 -1.2**
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=9.6
FITZ Fitzroy Crossi 146.17 257 PKPbc **PKPab 16 21 30.9 -0.1**
comp=Z,8.5nm,0.6s,baz=158,slow=1.9,SNR=23
FITZ pPKPbc **pPKPdf 16 21 48.6 0.0**
comp=Z,4.7nm,0.5s,baz=153,slow=0.9,SNR=5.1
PAYA Payao 146.49 344 P **PKPdf 16 21 30.3 +0.5**
PHRA Phrae 147.21 343 P **PKPbc 16 21 33.1 -0.2**
comp=Z,1.9nm,0.9s,comp=Z,1μm
SKNT Sakolnakorn 147.37 336 P **PKPbc 16 21 33.6 -0.2**
CMAR Chiang Mai Arr 147.59 346 PKPbc **PKPdf 16 21 31.9 +0.2**
comp=Z,5.6nm,0.7s,baz=343,slow=3.5,SNR=29
CMAR SKPbc **SKPbc 16 25 07.1 +0.2**
comp=Z,3.1nm,0.9s,baz=343,slow=3.1,SNR=8.4
UTTA Uttaradit 147.83 342 P **PKiKP 16 21 36.8 -0.1**

ISCJB ***29*** *16:04:32.2±0.5,6°.10S±0°.05×146°.45E±0°.07, h100km, mb3.7/5, Error ellipse: s-maj=10.1km s-min=6.9km az=6.6*
NEIC ***29*** *16:04:34.4±2.2,6°.12S±0°.07×146°.6E±0°.1, h117km±11km, mb4.3/9*
IDC ***29*** *16:04:34.3±1.8,6°.09S×146°.56E, h113km±21km, mb3.5/5, mb1 3.7/10, mb1mx3.5/35, mbtmp4.0/10, Error ellipse: s-maj=24.1km s-min=16.6km az=123.0*
ISC 29 16:04:33.4±0.7,6°.10S±0°.06×146°.51E±0°.10, h100km, n24, σ0.94/24, mb3.9/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.35**	**169**	P		**Pn**	**16 05 24.8**	**+0.9**
	20nm,0.3s,baz=19,slow=5.2,SNR=124							
PMG				S		**Sn**	**16 06 02.9**	**0.0**
	16nm,0.3s,baz=332,slow=15,SNR=4.4							
PMG	**Port Moresby**	**3.35**	**169**			**Pn**	**16 05 24.8**	**+0.9**
PMG						**Sn**	**16 06 02.2**	**-0.6**
MANU	**Manus Island**	**4.12**	**12**	Pn		**Pn**	**16 05 35.6**	**+1.4**
KRVT	**Keravat (AS076**	**5.77**	**72**	P		**Pn**	**16 05 58.2**	**+1.5**
	2.6nm,0.3s,baz=268,slow=3.1,SNR=6.0							
JAY	**Jayapura**	**6.79**	**301**	P		**Pn**	**16 06 10.7**	**+0.1**
	1.2nm,0.3s,baz=174,slow=9.5,SNR=7.9							
COEN	**Coen**	**8.47**	**203**			**Pn**	**16 06 35.0**	**+1.6**
CTA	**Charters Tower**	**13.91**	**181**	P		**P**	**16 07 49.9**	**-1.3**
	0.5nm,0.3s,baz=5.0,slow=13,SNR=8.0							
SIJI	**Sorong**	**16.07**	**288**	P		**Pn**	**16 08 14.0**	**+0.3**
	2.8nm,0.3s,baz=115,slow=7.6,SNR=18							
WB0	**Warramunga Arr**	**17.98**	**220**	P		**P**	**16 08 36.2**	**-0.1**
WB0				IAmb		IAmb	16 08 36.5	
	comp=Z,29nm,1.9s							
WR0	**Warramunga Arr**	**18.03**	**219**			**P**	**16 08 37.5**	**+0.8**
WR0				IAmb		IAmb	16 09 29.4	
	comp=Z,33nm,1.9s							
WRAB	**Tennant Creek**	**18.13**	**220**	P		**P**	**16 08 37.1**	**-0.8**
WB2	**Warramunga Arr**	**18.14**	**220**	P		**P**	**16 08 37.1**	**-0.8**
WB2				IAmb		IAmb	16 09 13.1	
	comp=Z,51nm,2.0s							
WRA	**Warramunga Arr**	**18.15**	**220**	P		**P**	**16 08 38.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=48,slow=12,SNR=13							
WRA	**Warramunga Arr**	**18.15**	**220**	P		**P**	**16 08 36.9**	**-1.2**
KNRA	**Kununurra**	**19.84**	**240**	P		**P**	**16 08 56.9**	**+0.3**
AS31	**Alice Springs**	**21.27**	**213**	P		**P**	**16 09 12.3**	**+0.4**
ASAR	**Alice Springs**	**21.27**	**213**	P		**P**	**16 09 12.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=48,slow=7.8,SNR=32							
ASAR	**Alice Springs**	**21.27**	**213**	P		**P**	**16 09 12.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.60**	**238**	P		**P**	**16 09 35.7**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=68,slow=7.9,SNR=10							
FITZ	**Fitzroy Crossi**	**23.60**	**238**	IAmb		IAmb	16 09 58.1	
	comp=Z,12nm,1.3s							
NWAO	**Narrogin (SRO)**	**38.13**	**222**	P		P	16 11 38.3	-4.7
USRK	**Ussuriysk Ar.**	**51.75**	**347**	P		**P**	**16 13 30.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=177,slow=11,SNR=3.8							
PETK	**Petropavlovsk-**	**59.74**	**8**	P		**P**	**16 14 27.5**	**0.0**
	comp=Z,1.8nm,0.8s,baz=178,slow=8.2,SNR=4.7							
ILAR	**Eielson Array**	**85.76**	**23**	P		**P**	**16 16 59.4**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=254,slow=4.9,SNR=12							

IDC 29 16:24:52.5±1.6,5°.71S×129°.54E, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.5/30, mbtmp3.5/5, ML3.5/4, MS3.4/4, Ms1 3.4/4, ms1mx2.8/31, Error ellipse: s-maj=60.5km

s-min=24.4km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.11**	**20**	Pn	Pn	16 26 09.8	-0.5
	1.9nm,0.3s,baz=230,slow=19,SNR=29						
SIJI				Sn	Sn	16 27 03.6	-6.5
	1.8nm,0.3s,baz=253,slow=19,SNR=6.3						
KAPI	**Kappang**	**9.77**	**274**	LR	LR	16 30 51.5	
	comp=Z,65nm,18.3s,baz=310,slow=37						
FITZ	**Fitzroy Crossi**	**12.89**	**197**	Pn	Pn	16 27 57.0	-0.2
	0.4nm,0.3s,baz=17,slow=11,SNR=12						
FITZ				Sn	Sn	16 30 17.2	-4.2
	0.1nm,0.3s,baz=315,slow=19,SNR=2.5						
FITZ				LR	LR	16 32 40.6	
	comp=Z,38nm,21.1s,baz=360,slow=36						
WRA	**Warramunga Arr**	**14.90**	**162**	Pn	Pn	16 28 22.5	-2.1
	0.1nm,0.3s,baz=343,slow=13,SNR=7.9						
WRA				Sn	Sn	16 31 00.7	-10
	0.1nm,0.3s,baz=345,slow=21,SNR=5.2						
ASAR	**Alice Springs**	**18.34**	**167**	P	P	16 29 09.4	+0.7
	0.1nm,0.3s,baz=350,slow=11,SNR=13						
RPZ	**Rata Peaks**	**52.53**	**143**	LR	LR	16 54 49.2	
	comp=Z,133nm,21.2s,baz=70,slow=34						
MKAR	**Makanchi Array**	**66.90**	**327**	P	P	16 35 46.9	+0.2
	0.3nm,0.7s,baz=118,slow=6.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**70.23**	**334**	LR	LR	17 09 48.0	
	comp=Z,141nm,20.2s,baz=322,slow=38						

*ISCJB **29** 16:34:17.4±0.8, 24°.86N±0°.05×122°.59E±0°.03, h7km±5km, Error ellipse: s-maj=9.7km s-min=3.7km az=19.2*
*JMA **29** 16:34:17.6±0.3, 24°.88N×122°.60E, h16km±5km, M2.4*
*TAP **29** 16:34:18.2, 24°.83N×122°.57E, h4km, ML2.6, D*
ISC 29 16:34:17.6±1.2, 24°.86N±0°.06×122°.60E±0°.03, h10km±10km, n27, σ0°.55/38, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.52**	**142**	P	**Pg**	**16 34 27.8**	**+0.1**
JYNG				eS	**Sg**	**16 34 35.3**	**+0.8**
EOS1	**EOS1**	**0.53**	**234**	eP	**Pg**	**16 34 27.6**	**-0.2**
	baz=234						
YOJ	**Yonaguni jima**	**0.55**	**136**	P	**Pg**	**16 34 28.6**	**+0.3**
	baz=132						
YOJ				eS	**Sb**	**16 34 36.5**	**-0.7**
	baz=132						
YOJ	**Yonaguni jima**	**0.55**	**136**	P	**Pg**	**16 34 28.7**	**+0.4**
YOJ				S	**Sg**	**16 34 36.0**	**+0.5**
TWB1	**Santiao Chiao**	**0.57**	**285**	eP	**Pg**	**16 34 28.8**	**+0.1**
	baz=288						
TWB1				eS	**Sg**	**16 34 36.5**	**+0.3**
	baz=288						
TIPB	**Shuangxi**	**0.71**	**279**	eP	**Pg**	**16 34 31.5**	**+0.2**
	baz=281						
TWC	**Suao**	**0.72**	**250**	eP	**Pg**	**16 34 31.1**	**-0.5**
	baz=250						
TWC				S	**Sg**	**16 34 41.0**	**0.0**
	baz=250						
TWE	**Neicheng**	**0.85**	**261**	eP	**Pg**	**16 34 33.8**	**-0.3**
	baz=261						
TWE				eS	**Sg**	**16 34 45.1**	**-0.2**
	baz=261						
NANB	**Nanao**	**0.88**	**241**	eP	**Pg**	**16 34 34.3**	**-0.3**
	baz=241						
NANB				eS	**Sb**	**16 34 46.8**	**0.0**
	baz=241						
ENTT	**Nioudou**	**0.96**	**257**	eP	**Pg**	**16 34 36.0**	**-0.1**
	baz=257						
ENTT				eS	**Sg**	**16 34 48.6**	**0.0**
	baz=257						
YM10	**YM10**	**0.98**	**288**	eP	**Pb**	**16 34 36.9**	**+0.1**
	baz=289						
NWLT	**Wulai**	**1.00**	**265**	eP	**Pg**	**16 34 36.3**	**-0.5**
	baz=266						
YHNB	**Yeheng**	**1.12**	**261**	eP	**Pb**	**16 34 38.4**	**-0.7**
	baz=261						
NACB	**Ninganchiao**	**1.14**	**233**	eP	**Pb**	**16 34 38.6**	**-0.7**
	baz=233						
NACB				eS	**Sb**	**16 34 54.0**	**-0.2**
	baz=233						
NSK	**Sanguang**	**1.14**	**261**	eP	**Pb**	**16 34 39.2**	**-0.2**
	baz=261						
IRIF	**Iriomote-Funau**	**1.16**	**117**	P	**Pb**	**16 34 38.4**	**-1.3**
IRIF				S	**Sb**	**16 34 54.0**	**-0.7**
NNSB	**Datong**	**1.18**	**249**	eP	**Pb**	**16 34 39.7**	**-0.5**
	baz=249						
NNSH	**Datong**	**1.18**	**249**	eP	**Pb**	**16 34 39.6**	**-0.6**
	baz=249						
NNS	**Nan Shan**	**1.19**	**250**	eP	**Pb**	**16 34 39.5**	**-0.8**
	baz=249						
NCU	**National Centr**	**1.28**	**275**	eP	**Pg**	**16 34 42.2**	**-0.1**
	baz=276						
WHF	**Hehuan Shan**	**1.41**	**240**	eP	**Pn**	**16 34 43.8**	**+0.2**
	baz=239						
TDCB	**Techi**	**1.44**	**245**	eP	**Pn**	**16 34 43.9**	**0.0**
	baz=245						
NSTT	**Nanjuang**	**1.47**	**261**	eP	**Pn**	**16 34 44.2**	**+0.1**
	baz=261						
CHGB	**Renai**	**1.52**	**239**	eP	**Pb**	**16 34 45.6**	**-0.4**
	baz=238						
TWQ1	**Liyutan**	**1.74**	**253**	⇓eP	**Pb**	**16 34 49.5**	**-0.1**
	baz=253						
CHN5	**Tsauling**	**2.16**	**235**	eP	**Pn**	**16 34 54.6**	**+1.0**
	baz=234						
CHN5				eS	**Sn**	**16 35 21.2**	**+0.7**
	baz=234						
CHN4	**Tsaushan**	**2.37**	**231**	eP	**Pn**	**16 34 57.6**	**+1.2**
	baz=230						

*IDC **29** 16:51:09.8±1.1, 26°.76S×176°.37W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/29, mbtmp3.9/6, ML4.6/1, Error ellipse: s-maj=38.2km s-min=26.3km az=151.0*
*ISCJB **29** 16:51:12.7±0.6, 27°.10S±0°.08×176°.27W±0°.09, h35km, mb3.9/5, Error ellipse: s-maj=12.8km s-min=8.8km az=42.9*
*NEIC **29** 16:51:16.3±2.9, 27°.06S±0°.09×176°.2W±0°.1, h54km±5km, mb4.4/11*
ISC 29 16:51:14.7±0.6, 27°.07S±0°.08×176°.16W±0°.10, h35km, n25, σ1°.96/27, mb4.3/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.67**	**215**	Pn	**Pn**	**16 51 58.2**	**+3.0**
	82nm,0.3s,baz=90,slow=20,SNR=3.9						
RAO				Sn	**Sn**	**16 52 32.2**	**+5.8**
	40nm,0.3s,baz=162,slow=20,SNR=4.8						
NIUE	**Niue**	**9.80**	**37**	Pn	**Pn**	**16 53 35.2**	**+2.0**
MSVF	**Nonsavu**	**10.72**	**329**	Pn	**Pn**	**16 53 46.2**	**+0.4**
MXZ	**Matakaoa Point**	**11.46**	**203**	Pn	**Pn**	**16 53 55.9**	**+0.1**
URZ	**Urewera**	**12.51**	**205**	Pn	Pn	16 54 15.8	+5.7
	0.3nm,0.3s,baz=3.5,slow=19,SNR=4.9						
URZ				Sn	**Sn**	**16 56 25.4**	**-2.9**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=2.9						
RAR	**Rarotonga**	**16.05**	**72**	Pn	**Pn**	**16 54 59.1**	**+1.3**
RAR				IAmb	IAmb	16 55 15.0	
	comp=Z,24nm,0.9s						
TUWZ	**Tuamarina**	**16.48**	**207**	P	**P**	**16 55 04.5**	**-1.0**
THZ	**Tophouse**	**17.19**	**209**	Pn	**Pn**	**16 55 10.5**	**-1.6**
EIDS	**Eidsvold**	**29.39**	**266**	P	**P**	**16 57 15.4**	**+0.6**
CAN	**Canberra**	**30.79**	**246**	P	**P**	**16 57 26.1**	**-1.0**
CTA	**Charters Tower**	**35.04**	**273**	P	**P**	**16 58 04.1**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=95,slow=11,SNR=5.3						
COEN	**Coen**	**40.08**	**281**	P	**P**	**16 58 47.2**	**+0.2**
COEN				IAmb	IAmb	16 58 48.0	
	comp=Z,5.4nm,0.9s						
AS31	**Alice Springs**	**45.01**	**263**	P	**P**	**16 59 25.1**	**-2.0**
ASAR	**Alice Springs**	**45.01**	**263**	P	**P**	**16 59 25.6**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=92,slow=7.0,SNR=31						
ASAR				PcP	**PcP**	**17 01 07.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=118,slow=3.3,SNR=2.9						
WR0	**Warramunga Arr**	**45.52**	**268**	P	**P**	**16 59 30.1**	**-1.1**
WR0				IAmb	IAmb	16 59 35.8	
	comp=Z,5.0nm,1.2s						
WB2	**Warramunga Arr**	**45.70**	**268**	P	**P**	**16 59 31.7**	**-0.8**
WB2				IAmb	IAmb	16 59 44.9	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**45.71**	**268**	P	**P**	**16 59 30.4**	**-2.2**
	comp=Z,2.0nm,0.5s,baz=105,slow=7.6,SNR=35						
WRA	**Warramunga Arr**	**45.71**	**268**	P	**P**	**16 59 30.5**	**-2.2**
WB0	**Warramunga Arr**	**45.72**	**268**	P	**P**	**16 59 31.2**	**-1.5**
WB0				IAmb	IAmb	16 59 49.4	
	comp=Z,9.5nm,1.2s						
NVAR	**Mina Array Bea**	**84.70**	**42**	P	**P**	**17 03 45.8**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=200,slow=7.2,SNR=2.6						

GO03	**Copiap**	**90.50**	**121**	P	**P**	**17 04 10.7**	**-2.7**
CMAR	**Chiang Mai Arr**	**93.85**	**289**	P	**P**	**17 04 28.4**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=147,slow=3.9,SNR=3.9						
NOA	**NORSAR Array B**	**145.67**	**354**	PKPbc	**PKPdf**	**17 10 47.6**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=4.4,slow=2.4,SNR=3.3						
BRTR	**Keskin Array B**	**152.23**	**305**	PKPab	**PKPab**	**17 11 16.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=57,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**166.01**	**171**	PKPab	**PKPab**	**17 12 17.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=188,slow=3.9,SNR=2.6						

*IDC **29** 16:56:39.3±0.8, 18°.19S×174°.26W, h0km, mb4.1/8, mb1 4.4/10, mb1mx4.1/27, mbtmp4.2/10, ML3.8/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/40, Error ellipse: s-maj=34.7km s-min=18.0km az=140.0*
*ISCJB **29** 16:56:42.5±0.4, 18°.27S±0°.08×174°.16W±0°.07, h35km, mb4.1/8, MS3.2/4, Error ellipse: s-maj=12.2km s-min=7.8km az=153.1*
*NEIC **29** 16:56:43.9±1.9, 18°.3S±0°.1×174°.2W±0°.1, h32km±2km, mb4.4/13*
ISC 29 16:56:44.3±0.6, 18°.16S±0°.08×174°.10W±0°.08, h35km, n45, σ1°.61/29, mb4.3/11, MS3.2/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.06**	**104**		**Pn**	**16 57 44.1**	**+0.2**
AFI	**Afiamalu**	**4.78**	**28**	Pn	**Pn**	**16 57 55.1**	**+1.2**
	7.8nm,0.3s,baz=206,slow=7.1,SNR=11						
AFI				Sn	**Sn**	**16 58 42.4**	**-5.7**
	17nm,0.3s,baz=230,slow=23,SNR=7.5						
AFI				LR	LR	16 59 19.1	
	comp=Z,67nm,21.4s,baz=114,slow=33						
AFI	**Afiamalu**	**4.78**	**28**		**Pn**	**16 57 55.6**	**+1.6**
RAR	**Rarotonga**	**13.83**	**105**	Pn	**Pn**	**16 59 58.2**	**+0.3**
	1.8nm,0.3s,baz=284,slow=14,SNR=5.4						
RAR				Sn	Sn	17 02 18.2	-12
	1.3nm,0.3s,baz=180,slow=20,SNR=2.4						
RAR				LR	LR	17 03 48.8	
	comp=Z,92nm,21.2s,baz=276,slow=31						
KNTN	**Kanton**	**15.47**	**9**	Pn	**Pn**	**17 00 21.0**	**+1.1**
KNTN				IAmb	IAmb	17 00 32.4	
	comp=Z,59nm,1.3s						
DZM	**Mont Dzumac**	**18.68**	**255**	eLR	LR	17 06 06.0	
	comp=Z,164nm,25.6s						
DZM	**Mont Dzumac**	**18.68**	**255**	LR	LR	17 06 05.6	
	comp=Z,48nm,19.9s,baz=246,slow=31						
DZM	**Mont Dzumac**	**18.68**	**255**		**Pn**	**17 00 59.7**	**-0.5**
URZ	**Urewera**	**21.45**	**199**	P	**P**	**17 01 28.8**	**-0.7**
	comp=Z,6.0nm,0.5s,baz=356,slow=13,SNR=7.7						
URZ	**Urewera**	**21.45**	**199**	IAmb	IAmb	17 01 40.6	
	comp=Z,28nm,1.3s						
PAE	**Paea**	**23.33**	**93**	eT	T	17 24 59.9	
	comp=Z,8.9nm,0.3s						
PPT2	**Papeete2**	**23.34**	**92**	eLR	LR	17 07 15.8	
	comp=Z,144nm,26.5s						
PPT2	**Papeete2**	**23.34**	**92**	eT	T	17 25 02.4	
	comp=Z,11nm,0.4s						
PPT	**Papeete**	**23.34**	**92**	LR	LR	17 08 22.3	
	comp=Z,41nm,19.8s,baz=229,slow=30						
TBI	**Tubuai**	**23.59**	**107**	eT	T	17 25 46.2	
	comp=Z,12nm,0.3s						
TVO	**Taravao**	**23.63**	**93**	eT	T	17 25 22.2	
	comp=Z,2.4nm,0.3s						
PMOR	**Pomariorio Ree**	**25.30**	**87**	eT	T	17 27 18.0	
	comp=Z,2.5nm,0.3s						
TUWZ	**Tuamarina**	**25.36**	**201**	P	**P**	**17 02 06.4**	**-1.6**
VAH	**Vaihoa**	**25.51**	**87**	eT	T	17 27 33.0	
	comp=Z,3.8nm,0.2s						
EIDS	**Eidsvold**	**33.06**	**251**	P	**P**	**17 03 17.1**	**+0.4**
TAOE	**Nuku Hiva Isla**	**34.23**	**79**	eT	T	17 38 13.8	
	comp=Z,41nm,0.2s						
COEN	**Coen**	**41.21**	**269**	P	**P**	**17 04 26.7**	**+0.6**
COEN				IAmb	IAmb	17 04 33.3	
	comp=Z,8.5nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**42.01**	**333**	T	T	17 49 49.9	
	baz=155						
H11N1	**WAKE ISLAND Hy**	**42.01**	**333**	T	T	17 49 54.8	
	baz=155,slow=74						
H11N2	**WAKE ISLAND Hy**	**42.02**	**333**	T	T	17 49 53.7	
	baz=155,slow=74						
STKA	**Stephens Creek**	**42.13**	**242**	P	**P**	**17 04 33.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=73,slow=11,SNR=3.5						
BBOO	**Buckleboo**	**46.89**	**242**	P	**P**	**17 05 11.6**	**+0.2**
WR0	**Warramunga Arr**	**48.43**	**259**	P	**P**	**17 05 22.1**	**-1.5**
WR0				IAmb	IAmb	17 05 32.4	
	comp=Z,5.5nm,1.1s						
WB0	**Warramunga Arr**	**48.59**	**259**	P	**P**	**17 05 23.6**	**-1.2**
WB2	**Warramunga Arr**	**48.61**	**259**	P	**P**	**17 05 23.9**	**-1.0**
WRAB	**Tennant Creek**	**48.61**	**259**	P	**P**	**17 05 22.7**	**-2.3**
WRA	**Warramunga Arr**	**48.62**	**259**	P	**P**	**17 05 23.4**	**-1.6**
	comp=Z,2.9nm,0.4s,baz=98,slow=6.7,SNR=65						
WRA	**Warramunga Arr**	**48.62**	**259**	P	**P**	**17 05 23.7**	**-1.3**
AS31	**Alice Springs**	**48.67**	**254**	P	**P**	**17 05 24.6**	**-0.8**
AS31				IAmb	IAmb	17 05 28.8	
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**48.67**	**254**	P	**P**	**17 05 24.2**	**-1.2**
	comp=Z,9.4nm,0.7s,baz=88,slow=9.1,SNR=107						
ASAR	**Alice Springs**	**48.67**	**254**	P	**P**	**17 05 23.9**	**-1.5**
MJAR	**Matsushiro Arr**	**70.63**	**321**	LR	LR	17 33 10.0	
	comp=Z,13nm,21.6s,baz=350,slow=31						
PETK	**Petropavlovsk-**	**75.05**	**343**	P	**P**	**17 08 23.2**	**+1.0**
	comp=Z,6.9nm,1.0s,baz=135,slow=6.9,SNR=3.8						
NVAR	**Mina Array Bea**	**76.82**	**42**	P	**P**	**17 08 33.9**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=211,slow=7.5,SNR=5.0						
PMSA	**Palmer Station**	**81.94**	**156**	LR	LR	17 39 49.7	
	comp=Z,27nm,18.4s,baz=74,slow=32						
TXAR	**Lajitas Array**	**82.70**	**56**	P	**P**	**17 09 06.6**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=201,slow=7.2,SNR=3.1						
ILAR	**Eielson Array**	**85.27**	**11**	P	**P**	**17 09 17.1**	**+0.2**
	comp=Z,0.7nm,1.1s,baz=231,slow=5.7,SNR=6.0						
ARCES	**ARCESS Array B**	**127.23**	**351**	PKP	**PKPdf**	**17 15 43.7**	**-0.7**
	comp=Z,5.3nm,1.1s,baz=5.7,slow=1.8,SNR=3.4						
CLL	**Collm**	**146.45**	**352**	ePKPbc	**PKPab**	**17 16 22.0**	**-0.5**
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**147.81**	**318**	PKPbc	**PKPbc**	**17 16 26.2**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=39,slow=2.6,SNR=3.3						

*ISCJB **29** 17:16:35.6±0.7, 8°.37S±0°.09×74°.09W±0°.06, h150km, mb3.4/4, Error ellipse: s-maj=13.4km s-min=7.0km az=26.5*
*IDC **29** 17:16:36.0±3.4, 8°.25S×73°.90W, h138km±42km, mb3.2/4, mb1 3.5/8, mb1mx3.3/34, mbtmp3.7/8, MS2.1/1, Ms1 2.1/1, ms1mx2.0/21, Error ellipse: s-maj=61.9km s-min=18.9km az=34.0*
ISC 29 17:16:36.3±0.8, 8°.43S±0°.09×74°.03W±0°.08, h150km, n9, σ1°.90/12, mb3.5/4, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.49**	**218**	P	**Pn**	**17 17 45.0**	**+2.0**
	8.5nm,0.3s,baz=47,slow=6.0,SNR=17						
NNA				S	**Sn**	**17 18 32.1**	**-2.8**
	36nm,0.3s,baz=53,slow=19,SNR=19						
ATAH	**Atahualpa**	**4.51**	**286**	P	**Pn**	**17 17 44.1**	**+0.5**
	4.4nm,0.3s,baz=72,slow=1.7,SNR=28						
ATAH				S	**Sn**	**17 18 33.3**	**-2.8**
	20nm,0.3s,baz=37,slow=20,SNR=13						
ATAH				LR	LR	17 19 42.0	
	comp=Z,23nm,20.9s,baz=55,slow=40						
LPAZ	**La Paz**	**9.70**	**144**	P	**Pn**	**17 18 54.5**	**+1.5**
	0.1nm,0.3s,baz=324,slow=8.7,SNR=2.6						
SIV	**San Ignacio**	**14.72**	**122**	P	**P**	**17 19 58.0**	**-1.5**
	0.1nm,0.3s,baz=307,slow=12,SNR=2.7						
SIV				S	**Sn**	**17 22 38.9**	**-2.0**
	0.1nm,0.3s,baz=240,slow=20,SNR=4.4						
TXAR	**Lajitas Array**	**47.17**	**324**	P	**P**	**17 24 54.8**	**+0.8**
	0.5nm,0.5s,baz=152,slow=8.4,SNR=7.8						
PDAR	**Pinedale Array**	**60.37**	**331**	P	**P**	**17 26 29.4**	**-0.6**
	0.4nm,0.6s,baz=121,slow=6.4,SNR=4.5						
NVAR	**Mina Array Bea**	**62.21**	**322**	P	**P**	**17 26 43.5**	**+1.2**
	0.3nm,0.6s,baz=139,slow=7.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.19**	**75**	P	**P**	**17 28 19.5**	**-0.3**
	0.6nm,0.6s,baz=263,slow=5.3,SNR=4.3						
WRA	**Warramunga Arr**	**140.31**	**224**	PKP	**PKPdf**	**17 35 49.8**	**+1.4**
	0.4nm,0.9s,baz=128,slow=2.4,SNR=2.7						

*ISCJB **29** 17:33:43.3±0.7, 21°.8S±0°.1×170°.60E±0°.07, h134km, mb3.7/8, Error ellipse: s-maj=16.2km s-min=8.7km az=19.4*
*NEIC **29** 17:33:44.6±1.5, 21°.6S±0°.1×170°.68E±0°.09, h138km±8km, mb4.6/16*
*IDC **29** 17:33:45.0±4.1, 21°.87S×170°.68E, h136km±32km, mb3.6/8, mb1 3.8/9, mb1mx3.5/42, mbtmp4.0/9, MS2.1/1, Ms1 2.1/1, ms1mx2.0/31, Error ellipse: s-maj=35.0km s-min=25.6km az=135.0*
ISC 29 17:33:44.8±0.7, 21°.7S±0°.1×170°.63E±0°.08, h134km, n40, σ1°.13/44, mb4.1/14, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.90**	**264**	P	**Pn**	**17 34 44.3**	**+0.9**
	2.9nm,0.3s,baz=48,slow=17,SNR=153						
DZM				LR	LR	17 35 20.1	
	comp=Z,26nm,21.4s,baz=41,slow=24						
DZM				S	**Sn**	**17 35 27.6**	**-1.3**
	24nm,0.3s,baz=105,slow=20,SNR=12						
DZM	**Mont Dzumac**	**3.90**	**264**		**Pn**	**17 34 43.6**	**+0.1**
DZM					**Sn**	**17 35 26.5**	**-2.5**
OUZ	**Omahuta**	**13.69**	**170**	P	**P**	**17 36 57.6**	**0.0**
URZ	**Urewera**	**17.40**	**163**	Pn	**Pn**	**17 37 40.7**	**+1.4**
URZ				IAmb	IAmb	17 38 08.8	
	comp=Z,28nm,1.3s						
EIDS	**Eidsvold**	**18.28**	**255**	Pn	**Pn**	**17 37 51.6**	**+1.6**
EIDS				IAmb	IAmb	17 37 58.4	
	comp=Z,44nm,1.8s						
BFZ	**Birch Farm**	**19.49**	**167**	P	**P**	**17 38 01.1**	**-0.2**
BFZ				IAmb	IAmb	17 38 01.5	
	comp=Z,47nm,1.1s						
CTA	**Charters Tower**	**22.82**	**270**	P	**P**	**17 38 39.0**	**+2.5**
	comp=Z,1.9nm,0.6s,baz=98,slow=12,SNR=3.7						
AS31	**Alice Springs**	**33.88**	**260**	P	**P**	**17 40 15.0**	**0.0**
ASAR	**Alice Springs**	**33.88**	**260**	P	**P**	**17 40 14.6**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=74,slow=7.9,SNR=49						
ASAR				pP	**pP**	**17 40 45.1**	**+2.4**
	comp=Z,0.7nm,0.9s,baz=85,slow=8.9,SNR=1.8						
ASAR				PcP	**PcP**	**17 42 50.1**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=96,slow=3.7,SNR=4.2						
WB0	**Warramunga Arr**	**33.90**	**267**	P	**P**	**17 40 15.0**	**-0.2**
WB0				IAmb	IAmb	17 40 16.2	
	comp=Z,31nm,1.8s						
WB2	**Warramunga Arr**	**33.91**	**266**	P	**P**	**17 40 14.5**	**-0.7**
WB2				IAmb	IAmb	17 40 33.5	
	comp=Z,19nm,1.8s						
WRA	**Warramunga Arr**	**33.92**	**266**	P	**P**	**17 40 14.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=98,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**33.92**	**266**	P	**P**	**17 40 13.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**42.34**	**267**	P	**P**	**17 41 26.1**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=90,slow=11,SNR=3.8						
FITZ	**Fitzroy Crossi**	**42.34**	**267**	P	**P**	**17 41 26.2**	**+0.3**
SOEI	**Soe**	**46.02**	**277**	P	**P**	**17 41 53.2**	**-2.1**
SOEI				IAmb	IAmb	17 41 56.6	
	comp=Z,67nm,1.7s						
NWAO	**Narrogin (SRO)**	**48.29**	**245**	P	**P**	**17 42 12.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**48.29**	**245**	P	**P**	**17 42 12.8**	**+0.2**
NWAO				IAmb	IAmb	17 42 27.0	
	comp=Z,69nm,1.8s						
MORW	**Morawa**	**49.49**	**250**	P	**P**	**17 42 21.9**	**0.0**
SBA	**Scott Base**	**56.21**	**181**	P	**P**	**17 43 10.8**	**+0.4**
SBA				IAmb	IAmb	17 43 12.2	
	comp=Z,27nm,1.2s						
MJAR	**Matsushiro Arr**	**65.55**	**332**	P	**P**	**17 44 15.2**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=141,slow=7.0,SNR=3.2						
QSPA	**South Pole Qui**	**68.34**	**180**	P	**P**	**17 44 31.1**	**-0.4**
QSPA				IAmb	IAmb	17 44 31.8	
	comp=Z,5.5nm,0.9s						
MAW	**Mawson**	**76.63**	**202**	P	**P**	**17 45 20.0**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=106,slow=9.1,SNR=4.4						
MAW	**Mawson**	**76.63**	**202**	P	**P**	**17 45 20.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**80.71**	**294**	P	**P**	**17 45 44.4**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=114,slow=3.6,SNR=4.0						
SNAA	**Sanae**	**86.74**	**182**	P	**P**	**17 46 11.7**	**-1.7**
SNAA	**Sanae**	**86.74**	**182**	P	**P**	**17 46 12.0**	**-1.4**
SNAA				IAmb	IAmb	17 46 12.8	
	comp=Z,3.6nm,0.8s						
VNA3	**Neumayer Olymp**	**87.28**	**180**	P	**P**	**17 46 14.3**	**-1.6**
VNA2	**Neumayer--Watz**	**87.59**	**181**	P	**P**	**17 46 16.3**	**-1.1**
	baz=180,slow=4.4						
VNA1	**Neumayer--Stat**	**87.87**	**180**	P	**P**	**17 46 18.5**	**-0.2**
NVAR	**Mina Array Bea**	**89.48**	**48**	P	**P**	**17 46 26.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=222,slow=7.9,SNR=3.1						
CLL	**Collm**	**145.71**	**335**	ePKPbc	**PKPdf**	**17 53 06.0**	**-1.2**
GERES	**GERESS Array B**	**147.29**	**331**	PKPbc	**PKPbc**	**17 53 12.0**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=116,slow=3.1,SNR=5.8						
GERES	**GERESS Array B**	**147.29**	**331**		**PKPbc**	**17 53 11.6**	**-1.0**
MYKA	**Terra Mystica**	**148.92**	**329**	*i* PKiKP	**PKPbc**	**17 53 15.7**	**-1.2**
	comp=Z,2.2nm,0.5s						
ABTA	**Abfaltersbach**	**149.38**	**330**	*e*PKiKP	**PKPbc**	**17 53 17.0**	**-1.1**
	comp=Z,2.0nm,0.7s						
MOTA	**Moosalm**	**149.56**	**332**	*i* PKiKP	**PKPbc**	**17 53 18.0**	**-0.6**
	comp=Z,3.0nm,0.6s						
SQTA	**Sankt Quirin**	**149.61**	**332**	*i* PKiKP	**PKPbc**	**17 53 18.2**	**-0.4**

COEB	Comit de Eme	0.99	89	eP		Pn	17 36 30.7 +0.7
COEB				eP			17 36 45.9
COEB				eS		Sn	17 36 48.0 +3.7
VICT	Victoria	1.00	62	⇓iP		Pn	17 36 30.8 +0.6
TECA	Tecapa	1.01	89	⇑iP		Pn	17 36 31.2 +0.8
IXG	Ixpaco	1.11	308	⇑iP		Pn	17 36 32.3 +0.7
LCY	Lacayo	1.22	93	eP		Pn	17 36 33.9 +1.0
VSM	San Miguel	1.24	93	eP		Pn	17 36 34.5 +1.2
JUCU	Jucuarjn	1.28	100	eP		Pn	17 36 34.3 +0.7
NBG	Las Nubes	1.34	325	⇓eP		Pn	17 36 36.4 +1.7
NBG				eS		Sn	17 36 54.8 +2.3
PCG	Pacaya	1.37	311	eP		Pn	17 36 36.2 +1.2
FAGO	Alcalda de S	1.41	81	⇓iP		Pn	17 36 35.7 +0.5
FAGO				eS		Sn	17 36 54.9 +1.3
FUG	Fuego 3	1.58	307	eP		Pn	17 36 39.3 +1.7
MRL	Marmol	1.59	355	⇑eP		Pn	17 36 39.8 +2.0
MRL				eS		Sn	17 36 59.2 +1.2
LCND	La Caada	1.62	96	⇓iP		Pn	17 36 38.8 +0.9
CNCH	Conchagua	1.68	97	eP		Pn	17 36 39.6 +0.8
APG	El Apazote	1.75	330	P		Pn	17 36 40.5 +0.6
	comp=Z,145nm,0.3s,baz=139,slow=7.7,SNR=332						
APG				S		Sn	17 37 01.6 -0.2
	comp=Z,44nm,0.3s,baz=83,slow=18,SNR=11						
ERG	Entre ros, C	2.18	296	eP		Pn	17 36 47.4 +2.0
TGUH	Tegucigalpa,Un	2.28	75			Pn	17 36 48.0 +1.2
STG3	Santiaguito 3,	2.31	302	eP		Pn	17 36 48.9 +1.6
ESTN	Estel	3.11	97			Pn	17 36 58.9 +0.9
CCIG	Comitan	3.74	318			Pn	17 37 08.8 +2.1
ACON	Acoyapa	4.52	109			Pn	17 37 18.1 +1.0
ESPN	Las Esperanzas	5.27	103	Pn		Pn	17 37 29.3 +1.9
JTS	Las Juntas de	5.50	125	P		Pn	17 37 32.2 +1.7
	comp=Z,16nm,0.3s,baz=13,slow=18,SNR=30						
JTS				S		Sn	17 38 33.1 +0.7
	comp=Z,4.7nm,0.3s,baz=322,slow=19,SNR=1.9						
JTS				LR	LR		17 39 55.9
	comp=Z,72nm,18.7s,baz=358,slow=41						
JTS	Las Juntas de	5.50	125			Pn	17 37 32.5 +2.0
CMIG	Matias Romero	6.28	305	P		Pn	17 37 41.3 +0.2
	comp=Z,3.5nm,0.3s,baz=139,slow=8.7,SNR=25						
CMIG				S		Sn	17 38 51.9 +0.6
	comp=Z,5.1nm,0.3s,baz=252,slow=20,SNR=4.4						
TEIG	Tepich	6.81	10	P		Pn	17 37 50.4 +2.0
	comp=Z,13nm,0.3s,baz=139,slow=3.0,SNR=62						
TEIG	Tepich	6.81	10			Pn	17 37 51.0 +2.6
HKT	Hockley	17.39	341	P		P	17 40 09.1 +0.7
SDDR	Presa de Saban	18.36	70	P		P	17 40 18.7 -0.6
SDDR				IAmb		IAmb	17 40 41.5
	comp=Z,16nm,1.0s						
VBMS	Vicksburg	18.67	357	Pn		Pn	17 40 24.1 +0.2
VBMS				IAmb		IAmb	17 40 27.8
	comp=Z,25nm,0.7s						
SDV	Santo Domingo	19.10	102	P		P	17 40 27.4 -0.4
	comp=Z,0.6nm,0.3s,baz=212,slow=4.5,SNR=5.0						
WHTX	Lake Whitney,	19.80	340	P		P	17 40 34.7 -0.2
WHTX				IAmb		IAmb	17 40 36.6
	comp=Z,18nm,0.8s						
Y49A	Blount Mountai	20.48	7	P		P	17 40 40.1 -2.2
TXAR	Lajitas Array	20.50	323	P		P	17 40 44.4 +1.8
	comp=Z,1.3nm,0.7s,baz=146,slow=10,SNR=16						
TXAR	Lajitas Array	20.50	323	P		P	17 40 43.9 +1.2
TX31	Lajitas Ar. Si	20.50	323	P		P	17 40 44.3 +1.6
TX32	Lajitas Array	20.50	323	P		P	17 40 44.0 +1.3
GOGA	Godfrey	20.59	15	P		Pn	17 40 45.7 -0.8
GOGA				IAmb		IAmb	17 40 50.8
	comp=Z,15nm,1.6s						
HODGE	Hodges	21.69	17	P		P	17 40 56.5 +1.3
WHAR	Wooly Hollow	21.85	354	P		P	17 40 59.2 +2.2
WHAR				IAmb		IAmb	17 41 16.4
	comp=Z,6.6nm,1.1s						
MLPR	Magueyes Islan	22.11	75	P		P	17 40 59.8 -0.1
GNAR	Gosnell	22.39	359	P		P	17 41 03.6 +0.9
TKL	Tuckaleechee C	22.68	12	P		P	17 41 05.2 -0.6
	comp=Z,3.3nm,0.6s,baz=192,slow=7.9,SNR=4.3						
WMOK	Wichita Mounta	22.75	340	P		P	17 41 05.0 -1.6
WMOK				IAmb		IAmb	17 41 06.9
	comp=Z,9.1nm,1.1s						
FNO	Franklin	22.81	343	P		P	17 41 07.0 -0.2
PBMO	Poplar Bluff	23.21	358	P		P	17 41 10.9 -0.1
PBMO				IAmb		IAmb	17 41 13.2
	comp=Z,13nm,1.0s						
V55A	Taylorsville	23.50	17	P		P	17 41 13.1 -0.6
V55A				IAmb		IAmb	17 41 35.8
	comp=Z,19nm,1.5s						
TZTN	Tazewell	23.58	12	P		P	17 41 13.4 -1.1
TZTN				IAmb		IAmb	17 41 29.3
	comp=Z,5.6nm,1.1s						
V58A	Windy Hill, Pi	24.12	21	P		P	17 41 19.5 +0.3
V58A				IAmb		IAmb	17 41 40.3
	comp=Z,29nm,1.6s						
CCM	Cathedral Cave	24.52	357	P		P	17 41 23.8 +1.0
CCM				IAmb		IAmb	17 41 27.5
	comp=Z,6.9nm,1.3s						
WSPT	Westport, CT	31.00	24			pP	17 42 41.7 +1.9
PDAR	Pinedale Array	33.91	333	P		P	17 42 46.4 -0.2
	comp=Z,0.3nm,0.6s,baz=130,slow=9.9,SNR=3.3						
PDAR	Pinedale Array	33.91	333	P		P	17 42 47.1 +0.6
REDW	Red Top Meadow	34.96	332	P		P	17 42 56.0 +0.4
REDW				IAmb		IAmb	17 42 57.2
	comp=Z,4.9nm,0.8s						
NVAR	Mina Array Bea	35.59	320	P		P	17 43 02.5 +1.5
	comp=Z,0.5nm,0.6s,baz=132,slow=7.9,SNR=6.5						
NVAR				PcP		PcP	17 45 28.9 +0.6
	comp=Z,0.5nm,0.7s,baz=116,slow=2.1,SNR=4.7						
NVAR				ScP		ScP	17 49 07.7 +0.4
	comp=Z,0.4nm,0.6s,baz=134,slow=3.9,SNR=4.8						
NVAR	Mina Array Bea	35.59	320	P		P	17 43 02.1 +1.1
NVAR						PcP	17 45 28.9 +0.6
NVAR						ScP	17 49 08.0 +0.8
DGMT	Dagmar	36.94	344	P		P	17 43 12.2 +0.1
SIV	San Ignacio	40.62	135	P		P	17 43 43.5 +0.2
	comp=Z,1.4nm,0.6s,baz=307,slow=12,SNR=5.5						
SCHQ	Schefferville	44.91	18	P		P	17 44 15.5 -2.0
	comp=Z,2.7nm,0.3s,baz=225,slow=6.0,SNR=6.8						
SCHQ	Schefferville	44.91	18	P		P	17 44 15.8 -1.7
YKA	Yellowknife Ar	52.09	346	P		P	17 45 11.3 -1.1
	comp=Z,0.5nm,0.4s,baz=131,slow=8.1,SNR=5.3						
ILAR	Eielson Array	64.26	336	P		P	17 46 35.8 -1.6
	comp=Z,0.3nm,0.8s,baz=127,slow=5.0,SNR=4.7						
ILAR	Eielson Array	64.26	336	P		P	17 46 37.3 0.0
BPAW	Bear Paw Mtn.	65.64	335			pP	17 47 08.1 +0.6
WRA	Warramunga Arr	137.58	255	PKP		PKPdf	17 55 26.6 +0.1
	comp=Z,0.3nm,0.7s,baz=85,slow=2.2,SNR=5.8						
WRA				SKPbc		SKiKP	17 58 56.3 -1.2
	comp=Z,0.6nm,0.9s,baz=85,slow=3.3,SNR=4.1						
WRA	Warramunga Arr	137.58	255			PKPdf	17 55 24.0 -2.5
ASAR	Alice Springs	137.73	250	PKhKP		PKPpre	17 55 19.5
	comp=Z,0.3nm,0.8s,baz=106,slow=3.1,SNR=3.8						
ASAR				PKP		PKiKP	17 55 28.9 +0.2
	comp=Z,0.4nm,0.5s,baz=94,slow=2.2,SNR=5.2						
ASAR				SKPbc		SKiKP	17 58 57.4 -0.4
	comp=Z,0.3nm,0.9s,baz=108,slow=3.2,SNR=4.5						
ASAR	Alice Springs	137.73	250			PKPdf	17 55 23.0 -3.7
CMAR	Chiang Mai Arr	147.17	345	PKPbc		PKPdf	17 55 43.7 +0.2
	comp=Z,0.7nm,0.8s,baz=335,slow=3.5,SNR=4.9						

*ISCJB **29** 17:38:18.6±0.5,20.°89S±0.°03×69.°15W±0.°09,h122km±5km, mb4.0/1,Error ellipse: s-maj=14.2km s-min=4.7km az=5.3*
*GUC **29** 17:38:18.9±0.5,20.°86S×69.°06W,h110km±3km,ML4.1*
*NEIC **29** 17:38:19.3±2.4,20.°88S±0.°02×69.°0W±0.°1,h108km±8km*
*IDC **29** 17:38:20.9±1.9,20.°82S×68.°77W,h103km±17km,mb3.8/2, mb1 3.7/5,mb1mx3.4/30,mbtmp4.1/5,MS2.5/1,Ms1 2.6/1, ms1mx2.3/23,Error ellipse: s-maj=45.4km s-min=18.8km az=110.0*

ISC 29 17:38:19.1±0.7,20.°85S±0.°04×69.°02W±0.°08,h113km±7km, n32,σ1§68/47,5C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.47	245	⇑iP		Pn	17 38 35.8 -0.5
PB01				i S		Sn	17 38 48.5 -0.7
PB01				IAML			17 38 49.3
	comp=E,17μm,0.2s						
PB01	IPOC Station P	0.47	245			Pn	17 38 35.9 -0.4
PB01				Sn		Sn	17 38 48.5 -0.7
PB08	IPOC Station P	0.71	350	⇓iP		Pn	17 38 38.6 +0.2
PB08				i S		Sn	17 38 53.1 +0.2
PB08				IAML			17 38 53.8
	comp=E,8μm,0.2s						
PB02	IPOC Station P	0.94	240	⇑iP		Pn	17 38 39.8 -0.3
PB02				i S		Sn	17 38 55.3 -0.7
PB02				IAML			17 38 55.8
	comp=N,7μm,0.2s						
TA01	Diego Aracena	1.12	284	⇑iP		Pn	17 38 41.3 -0.6
TA01				i S		Sn	17 38 58.0 -1.0
TA01				IAML			17 38 59.9
	comp=E,2μm,0.2s						
GO01	Chusmiza	1.18	352	⇓iP		Pn	17 38 43.3 +0.2
GO01				i S		Sn	17 39 01.8 +0.7
GO01				IAML			17 39 03.4
	comp=E,12μm,0.2s						
GO01	Chusmiza	1.18	352			Pn	17 38 43.3 +0.2
GO01				Sn		Sn	17 39 01.4 +0.3
PB07	IPOC Station P	1.19	222	⇑iP		Pn	17 38 42.5 -0.3
PB07				i S		Sn	17 38 59.5 -1.2
PB07				IAML			17 39 00.3
	comp=E,2μm,0.3s						
PB11	IPOC Station P	1.23	331	⇓iP		Pn	17 38 43.2 -0.1
PB11				i S		Sn	17 39 01.7 +0.2
PB11				IAML			17 39 02.8
	comp=N,9μm,0.6s						
PB11	IPOC Station P	1.23	331			Pn	17 38 42.9 -0.4
PB11				Sn		Sn	17 39 01.6 +0.1
PB03	IPOC Station P	1.38	209	⇑iP		Pn	17 38 44.8 -0.1
PB03				i S		Sn	17 39 03.2 -1.3
PB03				IAML			17 39 03.8
	comp=E,1μm,0.6s						
LVC	Limon Verde	1.76	177	P		Pn	17 38 50.4 +0.8
	comp=E,16nm,0.3s,baz=11,slow=9.3,SNR=25						
LVC				S		Sn	17 39 13.0 +0.1
	comp=E,126nm,0.3s,baz=107,slow=21,SNR=77						
LVC	Limon Verde	1.76	177			Pn	17 38 50.7 +1.0
MNMC	Minye Minye	1.79	342			Pn	17 38 50.4 +0.4
MNMC						Sn	17 39 14.1 +0.7
PB04	IPOC Station P	1.81	215			Pn	17 38 50.3 +0.2
PB15	IPOC Station P	2.39	190	⇓iP		Pn	17 38 57.5 0.0
PB15				i S		Sn	17 39 26.1 -0.7
PB10	IPOC Station P	3.01	208	Pn		Pn	17 39 04.0 -1.4
GO02	Mina Guanaco	4.33	187			Pn	17 39 22.0 -1.2
LPAZ	La Paz	4.61	11	P		Pn	17 39 29.3 +1.9
	comp=E,3.1nm,0.3s,baz=197,slow=5.3,SNR=50						
LPAZ				S		Sn	17 40 12.6 -7.7
	comp=E,1.2nm,0.3s,baz=345,slow=20,SNR=5.1						
LPAZ				LR	LR		17 41 41.8
	comp=E,52nm,19.7s,baz=287,slow=44						
LPAZ	La Paz	4.61	11			Pn	17 39 29.3 +1.9
LPAZ						Sn	17 40 10.7 -10
GO03	Copiap	6.81	189	Pn		Pn	17 39 53.6 -2.9
SIV	San Ignacio	8.96	59	P		Pn	17 40 23.2 -2.5
	comp=E,2.0nm,0.3s,baz=258,slow=9.8,SNR=27						
GO04	Tololo Observa	9.43	189	Pn		Pn	17 40 28.1 -4.0
TRQA	Tornquist	18.20	162	P		P	17 42 22.5 -0.7
GO06	Curarrehue	18.80	186	P		P	17 42 30.6 +0.8
GO06				IAmb		IAmb	17 42 35.5
	comp=Z,14nm,1.6s						
PLCA	Paso Flores	19.87	183	P		Pn	17 42 45.7 +1.6
	comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=6.3						
PLCA	Paso Flores	19.87	183	P		Pn	17 42 45.5 +1.4
BDFB	Brasilia	20.61	79	P		Pn	17 42 51.5 -1.4
	comp=Z,2.6nm,0.3s,baz=243,slow=4.5,SNR=3.3						
BDFB	Brasilia	20.61	79	P		P	17 42 51.1 +1.5
BDFB				IAmb		IAmb	17 42 52.6
	comp=Z,4.0nm,0.5s						
TORD	Torodi Ar. Bea	77.24	71	P		P	17 50 02.4 +1.0
	comp=Z,1.4nm,0.5s,baz=257,slow=5.4,SNR=13						
TORD				pP		pP	17 50 31.0 -0.3
	comp=Z,1.1nm,0.6s,baz=238,slow=5.2,SNR=3.6						
MKAR	Makanchi Array	145.17	35	PKPbc		PKPdf	17 57 44.4 +1.1
	comp=Z,1.0nm,0.7s,baz=313,slow=2.9,SNR=5.6						
MKAR	Makanchi Array	145.17	35			PKPdf	17 57 44.1 +0.8

*IDC **29** 17:39:53.4±7.2,36.°01N×70.°70E,h295km±123km,mb2.9/1, mb1 2.7/3,mb1mx2.5/42,mbtmp3.5/3,Error ellipse: s-maj=70.6km s-min=47.1km az=155.0*
*NNC **29** 17:39:53.3±4.0,37.°11N×70.°96E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=39.0km s-min=25.8km az=144.0*

ISC 29 17:39:55.4±2.1,37.°0N±0.°2×70.°83E±0.°10,h200km,n12, σ1§29/16,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.61	22	P		Pn	17 41 17.7 -0.3
	SNR=23						
UCH	Uchtor	5.98	27	P		Pn	17 41 21.9 -0.8
	SNR=7.4						
KK31	Karatay Array	6.14	358	⇓Pn		Pn	17 41 24.0 -0.3
	0.7nm,0.3s,baz=174,slow=13,SNR=26						
KK31				⇑Sn		Sn	17 42 34.7 -0.2
	1.0nm,0.3s,baz=181,slow=21,SNR=7.5						
AAK	Ala-Archa	6.33	25	⇓Pn		Pn	17 41 26.3 -0.7
	2.2nm,0.3s						
AAK				⇑Sn		Sn	17 42 37.9 -1.7
	6.0nm,0.7s						
AAK	Ala-Archa	6.33	25	P		Pn	17 41 27.1 +0.1
	SNR=5.7						
KBK	Karagaybulak	6.51	28	P		Pn	17 41 29.8 +0.4
	SNR=5.7						
TKM2	Tokmak 2	6.99	30	⇓Pn		Pn	17 41 34.5 -1.1
	3.5nm,0.5s						
TKM2				⇑Sn		Sn	17 42 53.1 -1.9
	3.5nm,0.9s						
TKM2	Tokmak 2	6.99	30	P		Pn	17 41 35.4 -0.1
	SNR=10						
GEYT	Alibeck	10.16	279	P		Pn	17 42 14.9 -1.8
	0.3nm,0.3s,baz=104,slow=10,SNR=3.6						
GEYT				S		Sn	17 44 09.8 -0.4
	0.4nm,0.3s,baz=96,slow=24,SNR=3.1						
MKAR	Makanchi Array	13.00	37	P		P	17 42 57.0 +1.0
	0.1nm,0.3s,baz=217,slow=11,SNR=5.2						
AB31	Akbulak array	14.61	331	⇑P		P	17 43 16.3 +2.5
	0.4nm,0.6s,baz=168,slow=13,SNR=8.3						
ZALV	Zalesovo Beam	19.55	25	P		P	17 44 09.1 +1.3
	1.1nm,0.4s,baz=222,slow=12,SNR=5.9						

*ISCJB **29** 17:43:11.4±0.8,30.°03N±0.°05×51.°9E±0.°1,h8km,Error ellipse: s-maj=14.5km s-min=4.5km az=154.6*
*TEH **29** 17:43:11.7,30.°16N×51.°88E,h9km,ML3.2*
*OMAN **29** 17:43:18.8±9.3,29.°60N×51.°95E,h0km,ml3.8/1,Error ellipse: s-maj=307.9km s-min=70.8km az=55.0*

ISC 29 17:43:12.6±1.2,30.°14N±0.°06×51.°92E±0.°07,h8km,n20, σ1§54/23,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.37	190	ePg	Pg	17 43 20.7	+0.8
IKAZ				IAMB	IAmb	17 43 29.8	
	comp=Z,26μm,0.2s						
SHI	Shiraz	0.72	134	ePg	Pg	17 43 26.6	+0.1
KLNJ	Kolanjah	0.91	342	ePg	Pg	17 43 25.5	-4.5
KLNJ				IAMB	IAmb	17 43 41.4	
	comp=Z,0.0nm,0.3s						
ISRV	Sarvestan	1.29	126	ePg	Pg	17 43 36.1	-1.2
ISRV				IAMB	IAmb	17 44 08.4	
	comp=Z,11μm,0.4s						
IBRJ	Brojen	1.85	342	ePn	Pn	17 43 45.3	+0.5
ZNGN	Zangian	2.17	335	ePn	Pn	17 43 49.0	-0.3
ZNGN				IAMB	IAmb	17 44 29.1	
	comp=Z,0.0nm,1.0s						
IGAR	Gharneh	2.25	3	ePn	Pn	17 43 51.7	+1.3
ROKH	ROKH	2.32	341	ePn	Pn	17 43 51.8	+0.5
ISAD	Sadrabad	2.33	40	ePn	Pn	17 43 52.7	+1.3
IMEH	Mehriz	2.63	61	ePn	Pn	17 43 57.6	+2.0
IPIR	Pirpir	2.68	341	ePn	Pn	17 43 55.9	-0.4
IZEF	Zefreh	2.77	7	ePn	Pn	17 43 57.7	+0.3
ICHK	Chekchek	2.99	45	ePn	Pn	17 44 02.3	+1.8
IKLH	Kolahrood	3.18	355	ePn	Pn	17 44 03.8	+0.7
ANAR	Anarak	3.41	27	ePn	Pn	17 44 08.0	+1.9
KRSH	Karshahi	3.82	3	ePn	Pn	17 44 12.7	+0.9
BANOM	Banah	5.72	136	P	Pn	17 44 40.2	+2.4
BANOM				S	Sn	17 45 41.9	-1.8
MDH	Madha	6.20	140	P	Pn	17 44 45.1	+0.8
MDH				S	Sn	17 45 53.3	-2.1
	SNR=6.2						
ASHO	Ashiyiah	6.57	145	P	Pn	17 44 52.0	+2.5
	SNR=21						
ASHO				S	Sn	17 46 02.9	-1.8
ARQ	Araqi	7.93	148	P	Pn	17 45 09.0	+0.7
	SNR=11						
ARQ				S	Sn	17 46 35.8	-2.4

*JMA **29** 17:51:07.5±0.1,25.°03N×122.°31E,h35km±3km,M2.6*
*ISCJB **29** 17:51:08.1±0.5,24.°90N±0.°02×122.°29E±0.°02,h9km±3km, Error ellipse: s-maj=3.8km s-min=2.7km az=28.1*

*TAP **29** 17:51:09.9,24.°86N×122.°12E,h5km,ML3.0,D*

ISC 29 17:51:07.4±1.1,24.°94N±0.°03×122.°29E±0.°02,h18km±3km, n77,σ0§82/110,1C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.28	284	⇓P		Pg	17 51 14.4 +0.7
	baz=323						
TWB1				S		Sg	17 51 18.1 +0.3
	baz=323						
EOS1	EOS1	0.41	200	⇑eP		Pg	17 51 16.9 +0.9
	baz=178						
EOS1				eS		Sb	17 51 22.8 +0.6
	baz=178						
TIPB	Shuangxi	0.42	274	P		Pb	17 51 16.9 +0.5
	baz=293						
TIPB				eS		Sb	17 51 22.5 +0.1
	baz=293						
NTC	Toucheng	0.42	258	⇓P		Pb	17 51 16.7 +0.3
	baz=269						
NTC				S		Sg	17 51 20.5 -1.5
	baz=269						
NWF	Wu-fen Shan	0.47	286	⇓P		Pb	17 51 18.4 +1.1
	baz=305						
NWF				S		Sb	17 51 24.7 +0.7
	baz=305						
WFSB	Wu-fen Shan	0.47	286	⇓eP		Pb	17 51 18.4 +1.2
	baz=304						
WFSB				eS		Sb	17 51 24.4 +0.4
	baz=304						
TWC	Suao	0.52	230	P		Pb	17 51 17.9 0.0
	baz=223						
TWC				S		Sg	17 51 23.5 -1.3
	baz=223						
ILA	Ilan	0.52	250	eP		Pg	17 51 18.8 +1.0
	baz=254						
TWE	Neicheng	0.60	249	eP		Pg	17 51 19.8 +0.3
	baz=250						
TWE				eS		Sb	17 51 27.0 -0.5
	baz=250						
SLBB	Yuanshan	0.62	253	eP		Pb	17 51 19.5 -0.2
	baz=256						
TWA	Mucha	0.64	274	eP		Pn	17 51 21.0 -0.6
	baz=284						
TWA				eS		Sg	17 51 29.0 +0.4
	baz=284						
YM08	YM08	0.68	291	eP		Pn	17 51 22.1 0.0
	baz=304						
YM08				eS		Sn	17 51 31.2 -1.0
	baz=304						
YM01	YM01	0.68	288	⇓eP		Pn	17 51 22.5 +0.3
	baz=300						
YM01				eS		Sn	17 51 31.3 -1.0
	baz=300						
YM11	YM11	0.68	289	eP		Pn	17 51 22.3 +0.1
	baz=301						
YM05	YM05	0.69	289	eP		Pn	17 51 22.6 +0.2
	baz=301						
YM05				eS		Sn	17 51 32.0 -0.6
	baz=301						
NHDH	Xindian Distri	0.69	272	eP		Pn	17 51 22.3 +0.1
	baz=281						
NHDH				eS		Sn	17 51 31.0 -1.4
	baz=281						
YM10	YM10	0.69	288	eP		Pn	17 51 22.5 +0.1
	baz=300						
TAP1	Taipei	0.70	278	eP		Pn	17 51 22.2 -0.1
	baz=288						
NANB	Nanao	0.71	224	eP		Pb	17 51 21.4 +0.3
	baz=218						
NANB				eS		Sb	17 51 30.0 -0.5
	baz=218						
ENA	Nanau	0.71	224	eP		Pb	17 51 21.6 +0.4
	baz=218						
ENA				eS		Sb	17 51 30.1 -0.5
	baz=218						
YM04	YM04	0.71	287	eP		Pn	17 51 22.6 0.0
	baz=299						
ENTT	Nioudou	0.72	246	eP		Pg	17 51 22.0 +0.4
	baz=246						
TATO	Taipei	0.72	273	eP		Pn	17 51 22.6 -0.1
	baz=281						
TATO				eS		Sn	17 51 31.9 -1.4
	baz=281						
NWLT	Wulai	0.73	257	eP		Pg	17 51 22.2 +0.4
	baz=262						
NWLT				eS		Sg	17 51 31.1 -0.4
	baz=262						
ANP	Anpu	0.73	290	eP		Pn	17 51 23.1 +0.1
	baz=301						
ANP				eS		Sn	17 51 32.8 -0.9
	baz=301						
JYNG	Yonagunijimaku	0.77	129	P		Pb	17 51 22.6 +0.3
JYNG				eS		Sb	17 51 33.4 +0.9
NDT	Datong Townshi	0.78	245	eP		Pg	17 51 23.1 +0.4
	baz=245						
NTST	Danshui	0.79	287	eP		Pn	17 51 24.6 +0.9
	baz=296						
TWS1	Kuangyinshan	0.80	282	eP		Pn	17 51 24.4 +0.6
	baz=291						
TWS1				eS		Sn	17 51 35.1 -0.1
	baz=291						
YOJ	Yonaguni jima	0.81	126	P		Pb	17 51 23.1 +0.1
YOJ				S		Sb	17 51 34.3 +0.6
YHNB	Yeheng	0.87	252	eP		Pg	17 51 24.6 +0.2
	baz=254						
NSK	Sanguang	0.88	253	eP		Pg	17 51 24.7 +0.1
	baz=255						
WLTB	Daxi	0.94	265	eP		Pg	17 51 25.7 -0.1
	baz=269						
NNSB	Datong	0.97	238	⇓eP		Pn	17 51 26.5 +0.3
	baz=237						
NNSB				eS		Sg	17 51 38.4 -0.7
	baz=237						
NNSH	Datong	0.97	238	eP		Pn	17 51 26.3 +0.1
	baz=237						
NNSH				eS		Sg	17 51 38.5 -0.5
	baz=237						
NNS	Nan Shan	0.97	239	eP		Pn	17 51 26.4 +0.2
	baz=238						
NNS				eS		Sb	17 51 38.0 -0.2
	baz=238						
NACB	Ninganchiao	0.99	220	eP		Pb	17 51 26.4 +0.4
	baz=215						
NACB				eS		Sb	17 51 38.6 -0.1
	baz=215						
ETLH	Xiulin Townshi	1.03	225	eP		Pn	17 51 27

	baz=205						
TYC	Yuchr	1.66	232	eP	Pb	17 51 38.8	+1.3
	baz=230						
SSLB	Suanglung	1.67	227	eP	Pb	17 51 38.2	+0.5
	baz=224						
EHY	Hungye	1.68	212	eP	Pn	17 51 36.4	+0.5
	baz=208						
JKRS	Kuro-shima	1.72	114	P	Pn	17 51 36.4	0.0
WHYT	Xinyi Township	1.80	227	eP	Pb	17 51 41.2	+1.3
	baz=225						
WNT	Mingjian	1.80	234	eP	Pb	17 51 40.7	+0.8
	baz=233						
WJS	Zhushan	1.80	232	eP	Pb	17 51 39.6	-0.3
	baz=230						
TWF1	Yuli	1.82	210	eP	Pn	17 51 38.5	+0.6
	baz=206						
JISG	Ishigakijimahi	1.88	100	P	Pn	17 51 38.4	-0.2
YUS	Yu-Shan	1.89	220	eP	Pb	17 51 41.0	-0.7
	baz=217						
FULB	Fuli	1.96	208	eP	Pn	17 51 40.9	+1.1
	baz=204						
CHN5	Tsauling	1.98	228	eP	Pb	17 51 43.1	0.0
	baz=226						
ELDTW	Lidau	2.09	214	eP	Pn	17 51 43.0	+1.3
	baz=211						
CHN4	Tsaushan	2.21	225	eP	Pb	17 51 46.6	-0.3
	baz=222						
TPUB	Ta-pu	2.23	223	eP	Pb	17 51 46.2	-1.0
	baz=221						
WTP	Ta-pu	2.27	222	eP	Pb	17 51 47.0	-1.0
	baz=220						
SNST	Tainan City	2.37	224	eP	Pb	17 51 49.0	-0.6
	baz=222						
CHN1	Nanshi	2.37	223	eP	Pb	17 51 48.8	-0.8
	baz=221						
SGST	Jiashian	2.42	220	eP	Pn	17 51 48.1	+2.1
	baz=218						
SLGT	Liugui	2.45	218	eP	Pb	17 51 49.5	-1.4
	baz=216						
SSD	Sandimen	2.66	215	eP	Pb	17 51 52.8	-1.7
	baz=212						
XPSS	Dashiqiu	2.73	317	eP	Pb	17 51 55.5	-0.2
	baz=319						
MASBT	Mashibuluo	2.77	213	eP	Pn	17 51 54.0	+3.1
	baz=211						
MASBT				eS	Sb	17 52 27.1	-2.8
	baz=211						
PHUB	P'eng-hu	2.85	241	eS	Sn	17 52 27.8	+1.8
	baz=240						

IDC 29 17:58:51.1±1.7, 2°.75N×125°.34E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/47, mbtmp3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.6/54, Error ellipse: s-maj=187.6km s-min=21.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.72	179	LR	LR	18 12 00.3	
	comp=Z,15nm,21.0s,baz=308,slow=38						
WRA	Warramunga Arr	24.22	159	P	P	18 04 09.5	-0.3
	1.0nm,1.1s,baz=338,slow=11,SNR=5.5						
PSI	Prapat	26.39	271	LR	LR	18 16 21.6	
	comp=Z,87nm,18.3s,baz=53,slow=40						
ASAR	Alice Springs	27.55	163	P	P	18 04 40.5	+0.7
	0.2nm,0.8s,baz=342,slow=9.1,SNR=3.1						
JNU	Nakatsue	30.66	9	LR	LR	18 16 18.1	
	comp=Z,17nm,21.0s,baz=284,slow=34						
MKAR	Makanchi Array	57.58	326	P	P	18 08 43.0	+0.3
	0.4nm,0.7s,baz=127,slow=7.0,SNR=3.1						
KURBB	Kurchatov Arra	61.83	328	P	P	18 09 11.2	-0.7
	1.6nm,0.2s,baz=127,slow=7.0,SNR=3.2						
GNI	Garni	81.05	310	LR	LR	18 51 03.1	
	comp=Z,58nm,21.8s,baz=234,slow=39						

ISCJB 29 18:02:11.4±0.3, 28°.98N±0°.03×129°.70E±0°.06, h57km±5km, mb3.5/5, Error ellipse: s-maj=9.8km s-min=3.3km az=24.6
JMA 29 18:02:11.0±0.1, 29°.00N×129°.64E, h67km±3km, M3.3
IDC 29 18:02:13.5±1.5, 28°.97N×129°.69E, h59km±15km, mb3.3/5, mb1 3.3/7, mb1mx3.1/53, mbtmp3.5/7, Error ellipse: s-maj=30.3km s-min=8.6km az=106.0
ISC 29 18:02:12.3±1.0, 28°.94N±0°.03×129°.77E±0°.05, h47km±11km, n24, σ1°35/39, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.54	293	P	Pn	18 02 23.0	-0.8
JTAJ				S	Sn	18 02 31.3	-0.8
JZK	Kikaishima	0.65	164	P	Pn	18 02 26.4	+1.1
JZK				S	Sn	18 02 38.1	+3.5
JAMN	Amaminishikomi	0.87	217	P	Pn	18 02 27.4	-0.8
JAMN				S	Sn	18 02 39.2	-0.6
JNN	Nakanoshima	0.90	6	P	Pn	18 02 27.8	-0.8
JNN				S	Sn	18 02 39.6	-0.9
JTK	Tokunoshima	1.36	212	P	Pn	18 02 34.4	-0.5
JTK				S	Sn	18 02 50.7	-1.1
JYAK	Yakushimahirau	1.44	26	P	Pn	18 02 35.1	-0.8
JYAK				S	Sn	18 02 52.8	-0.9
JKC	Kuchinoerabu	1.56	14	P	Pn	18 02 37.1	-0.4
JKC				S	Sn	18 02 55.7	-0.8
JMTN	Minamitane	1.75	34	P	Pn	18 02 40.1	-0.1
JMTN				S	Sn	18 03 01.6	+0.3
JOKE	Okinoerabujima	1.90	214	P	Pn	18 02 42.1	-0.1
JOKE				S	Sn	18 03 04.5	-0.5
JTN	Tanegashima 3	2.00	31	P	Pn	18 02 43.5	-0.1
JTN				S	Sn	18 03 07.9	+0.4
JYRO	Yoronjima	2.24	212	P	Pn	18 02 47.2	+0.3
JYRO				eS	Sn	18 03 13.2	-0.1
JIH	Iheya	2.48	220	P	Pn	18 02 50.1	-0.1
JOW	Kunigami	2.49	213	P	Pn	18 02 50.5	+0.2
JOW	Kunigami	2.49	213	P	Pn	18 02 50.9	+0.6
	1.0nm,0.3s,baz=81,slow=22,SNR=14						
JOW				S	Sn	18 03 21.1	+1.6
	3.6nm,0.3s,baz=87,slow=20,SNR=7.9						
JNTH	Nagotoyohara	2.87	213	P	Pn	18 02 56.0	+0.5
JNTH				eS	Sn	18 03 29.1	+0.3
JKDJ	Kitadaitoujima	3.28	155	eS	Sn	18 03 35.5	-3.3
JMZ	Minamidaito 2	3.37	157	P	Pn	18 03 02.0	-0.4
JMZ				eS	Sn	18 03 36.8	-4.3
JKE	Kume jima 2	3.72	226	P	Pn	18 03 07.9	+0.7
JNU	Nakatsue	4.27	13	P	Pn	18 03 16.9	+2.2
	1.7nm,0.3s,baz=199,slow=6.3,SNR=16						
JNU				S	Sn	18 04 04.7	+1.3
	baz=132,slow=16,SNR=1.8						
SONM	Songino Array	26.12	323	P	P	18 07 41.4	-0.5
	0.2nm,0.4s,baz=134,slow=10,SNR=2.9						
FITZ	Fitzroy Crossi	46.94	185	P	P	18 10 38.4	0.0
	1.6nm,0.8s,baz=354,slow=9.2,SNR=4.6						
WRA	Warramunga Arr	48.80	174	P	P	18 10 52.3	-0.5
	0.8nm,1.0s,baz=356,slow=8.4,SNR=4.3						
ASAR	Alice Springs	52.46	175	P	P	18 11 21.6	+1.2
	0.1nm,0.6s,baz=7.8,slow=14,SNR=4.2						
BRTR	Keskin Array B	76.45	308	P	P	18 13 56.9	-0.4
	0.9nm,0.8s,baz=59,slow=6.9,SNR=3.3						

IDC 29 18:07:51.8±2.0, 60°.75S×45°.04W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.7/17, mbtmp4.1/2, MS3.3/2, Ms1 3.2/2, ms1mx2.9/19, Error ellipse: s-maj=124.9km s-min=51.3km az=10.0
ISCJB 29 18:07:53.0±0.7, 60°.34S±0°.06×44°.5W±0°.2, h10km, mb4.0/2, MS3.2/2, Error ellipse: s-maj=12.2km s-min=8.5km az=178.0
NEIC 29 18:07:54.9±1.8, 60°.42S±0°.09×44°.8W±0°.2, h16km±5km, mb4.5/5
ISC 29 18:07:54.5±0.7, 60°.40S±0°.08×44°.73W±0°.09, h10km, n22, σ1°03/19, mb4.4/4, 1C-1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.58	40	Pn	Pn	18 09 43.7	-1.2
HOPE				Sn	Sn	18 11 10.3	-0.4
PMSA	Palmer Station	9.91	235	Pn	Pn	18 10 15.2	-1.6
EFI	East Falkland	11.47	314	Pn	Pn	18 10 39.4	+1.3
VNA3	Neumayer Olymp	17.67	142	P	Pn	18 11 60.0	-0.4
VNA1	Neumayer--Stat	17.92	140	P	Pn	18 12 02.4	-1.0
VNA2	Neumayer--Watz	18.27	141	P	Pn	18 12 08.5	+0.8
	baz=291,slow=14						
SNAA	Sanae	19.88	142	P	Pn	18 12 29.4	+2.2
SNAA	Sanae	19.88	142	P	P	18 12 27.2	+1.6
TRQA	Tornquist	24.88	326	P	P	18 13 17.9	+0.6
TRQA				IAmb	IAmb	18 13 25.4	
	comp=Z,12nm,1.3s						
PLCA	Paso Flores	25.33	309	LR	LR	18 23 25.8	
	comp=Z,32nm,18.8s,baz=191,slow=37						
QSPA	South Pole Qui	29.84	180	P	P	18 14 01.4	-0.2
QSPA				IAmb	IAmb	18 14 20.2	
	comp=Z,9.8nm,1.6s						
SYO	Syowa Base	34.16	140	⇓ePnPn	PnPn	18 15 51.4	-1.3
SYO	Syowa Base	34.16	140	⇑iPP	PP	18 15 54.6	-1.7
MAW	Mawson	41.90	147	LR	LR	18 32 27.3	
	comp=Z,67nm,18.1s,baz=237,slow=35						
BOSA	Boshof	55.74	88	P	P	18 17 31.2	-0.1
	comp=Z,3.1nm,0.8s,baz=216,slow=6.3,SNR=3.3						
BOSA	Boshof	55.74	88	P	P	18 17 30.9	-0.4
BOSA				IAmb	IAmb	18 17 41.6	
	comp=Z,16nm,1.4s						
LBTB	Lobatse	58.89	86	P	P	18 17 53.3	-0.2
TORD	Torodi Ar. Bea	82.12	45	P	P	18 20 15.8	+0.7
	comp=Z,0.7nm,0.7s,baz=199,slow=6.2,SNR=3.7						
BVAR	Borovoye Array	145.00	72	PKPbc	PKPbc	18 27 29.3	-0.7
	comp=Z,0.6nm,0.3s,baz=243,slow=2.7,SNR=11						
ILAR	Eielson Array	146.01	311	PKPbc	PKPdf	18 27 31.2	-0.7
	comp=Z,1.2nm,0.7s,baz=138,slow=2.7,SNR=12						
MKAR	Makanchi Array	146.73	90	PKPbc	PKPdf	18 27 33.9	+0.1
	comp=Z,1.6nm,0.7s,baz=229,slow=2.6,SNR=16						
MKAR	Makanchi Array	146.73	90		PKPdf	18 27 34.3	+0.5

ISK 29 18:11:58.9, 39°.54N×44°.50E, h5km, ML3.0/14
DDA 29 18:11:58.7, 39°.54N×44°.58E, h11km±3km, ML2.7
NSSP 29 18:11:58.5, 39°.50N×44°.57E, h10km, Ms3.2
AZER 29 18:12:00.8±0.1, 39°.50N×44°.72E, h9km, ml3.1/22, Error ellipse: s-maj=2.3km s-min=0.8km az=250.0
ISC 29 18:11:59.4±0.9, 39°.53N±0°.02×44°.58E±0°.01, h14km±8km, n69, σ1°14/116, 5C-7D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYR	Heyderabad	0.28	47	P	Pg	18 12 05.6	+0.1
	SNR=93						
HYR				S	Sb	18 12 10.3	-0.7
NRKZ	NAREK	0.48	7	⇓iP	Pg	18 12 09.0	+0.1
NRKZ				⇓iS	Sb	18 12 16.4	-0.2
IGDI	IGDIR	0.52	311	i PA	Pg	18 12 09.1	-0.6
IGDI				i S	Sg	18 12 16.1	-0.6
IGDI				IAML		18 12 17.0	
	comp=E,619nm,0.2s						
TASB	TASBURUN-IGDIR	0.53	330	PG	Pg	18 12 09.7	-0.2
TASB				SG	Sb	18 12 17.5	-0.6
GNI	Garni	0.63	11	⇑iP	Pb	18 12 12.1	-0.3
GNI				⇑iS	Sb	18 12 22.2	+1.0
GNI	Garni	0.63	11	PG	Pb	18 12 12.1	-0.3
GNI				SG	Sb	18 12 22.5	+1.3
CLDR	Caldiran	0.64	234	i PA	Pg	18 12 11.6	-0.5
CLDR				i S	Sg	18 12 20.8	+0.2
CLDR				IAML		18 12 22.0	
	comp=N,686nm,0.4s						
CLDR				IAML		18 12 24.0	
	comp=E,703nm,0.4s						
CLDR	Caldiran	0.64	234	PG	Pg	18 12 11.5	-0.5
CLDR				SG	Sg	18 12 21.1	+0.5
DYDN	Diyadin	0.69	272	i PA	Pg	18 12 12.6	-0.4
DYDN				i S	Sb	18 12 23.1	+0.1
DYDN				IAML		18 12 26.0	
	comp=N,421nm,0.8s						
DYDN				IAML		18 12 33.0	
	comp=E,422nm,0.6s						
METS	Metsamor	0.73	328	⇓iP	Pb	18 12 14.2	+0.2
METS				⇑iS	Sb	18 12 24.8	+0.8
SBZ	Shahbuz	0.76	100	P	Pg	18 12 14.2	0.0
	SNR=113						
SBZ				S	Sb	18 12 25.7	+0.9
NAX	Nakhchivan	0.79	116	P	Pg	18 12 14.6	-0.2
	SNR=30						
NAX				S	Sb	18 12 26.1	+0.5
KAPZ	Kaputan	0.80	6	⇓iP	Pg	18 12 14.8	-0.2
KAPZ				⇓iS	Sn	18 12 27.5	-0.8
VNNZ	Vanand	0.82	315	⇑iP	Pg	18 12 15.1	-0.2
VNNZ				⇑iS	Sb	18 12 26.7	+0.2
ARUZ	Aruch	0.84	333	⇓iP	Pn	18 12 16.6	-0.4
ARUZ				⇓iS	Sn	18 12 29.0	-0.3
VMUR	Van-Muradiye	0.95	236	i PA	Pb	18 12 17.1	-0.7
VMUR				i S	Sg	18 12 29.0	-1.3
VMUR				IAML		18 12 34.0	
	comp=N,197nm,0.5s						
VMUR				IAML		18 12 39.0	
	comp=E,230nm,0.6s						
AGRB	Hanur-Agry	1.23	273	PN	Pn	18 12 21.9	-0.5
ORD	Ordubad	1.25	118	P	Pn	18 12 22.4	-0.1
	SNR=57						
ORD				S	Sg	18 12 40.1	+0.3
DIGO	Kars	1.28	314	i P	Pn	18 12 23.1	-0.1
VANB	Van	1.32	225	PN	Pg	18 12 25.7	+0.9
TVAN	Van	1.35	223	i PA	Pg	18 12 25.6	+0.1
TVAN				i S	Sg	18 12 43.5	+0.4
TVAN				IAML		18 12 48.0	
	comp=E,180nm,0.4s						
TUTA	Tutak	1.38	265	i P	Pn	18 12 24.1	-0.3
TUTA				i S	Sg	18 12 45.6	+1.8
TUTA				IAML		18 12 52.0	
	comp=N,298nm,0.9s						
EAK	Akyaka	1.38	327	i P	Pb	18 12 25.3	+0.2
EAK				i S	Sg	18 12 43.9	0.0
EAK				IAML		18 12 45.0	
	comp=E,256nm,0.9s						
EAK				IAML		18 12 51.0	
	comp=N,273nm,0.6s						
STEZ	Stepenevan	1.48	355	eP	Pn	18 12 25.0	-0.8
STEZ				eS	Sg	18 12 47.0	-0.1
KARS	Kars	1.59	314	PN	Pb	18 12 28.2	-0.6
ADCV	BITLIS_Adilcev	1.61	244	i P	Pb	18 12 29.4	+0.3
ADCV				IAML		18 12 52.0	
	comp=N,122nm,1.3s						
ADCV				i S	Sg	18 12 52.7	+1.3
ADCV				IAML		18 13 02.0	
	comp=E,62nm,0.7s						
MLAZ	Malazgirt-MUS	1.62	257	PN	Pb	18 12 28.8	-0.5
QZX	Qazax, Azerbai	1.64	21	P	Pb	18 12 29.8	+0.3
	SNR=37						
QZX				S	Sg	18 12 53.3	+1.0
EATA	Eleskirt	1.65	282	i P	Pg	18 12 30.6	-0.5
GEVA	Gevas	1.70	225	i P	Pb	18 12 30.1	-0.5
AKDM	Akdamar-Van	1.73	227	PN	Pb	18 12 30.9	-0.2
GANJ	Ganja	1.74	49	P	Pb	18 12 31.5	+0.4
	SNR=55						
GANJ				S	Sg	18 12 55.1	-0.4
KZRT	Kazreti	1.86	356	P	Pb	18 12 33.1	-0.1
DGRG	David-gareji	2.01	17	P	Pb	18 12 36.3	+0.5
AGDM	Agdam	2.03	73	P	Pg	18 12 37.7	-0.7
	SNR=9.0						
AGDM				S	Sg	18 13 06.0	+1.3
AKH	Akhalkalaki	2.06	336	P	Pb	18 12 36.7	0.0
AKH				S	Sg	18 13 04.2	-1.3
AKH	Akhalkalaki	2.06	336	PN	Pb	18 12 35.7	-1.0
QRD	Qoradiz	2.12	91	P	Pg	18 12 39.1	-1.0
	SNR=16						
QRD				S	Sg	18 13 07.2	-0.4
HOMI	Horasan	2.13	285	i P	Pg	18 12 40.2	0.0
HOMI	Horasan	2.13	285	i P	Pg	18 12 40.5	+0.2
BRDA	Brd	2.13	69	P	Pg	18 12 40.5	+0.3
	SNR=2.9						
BRDA				S	Sg	18 13 11.8	+4.0
KOPR	Koprukoy-ERZUR	2.15	283	PN	Pn	18 12 36.4	+1.3
BTNK	Botanikuri	2.16	4	P	Pb	18 12 38.3	-0.1
BTNK				S	Sg	18 13 07.5	-1.4
BTNK	Botanikuri	2.16	4	i P	Pb	18 12 38.2	-0.1
BTNK				i S	Sb	18 13 06.6	+1.6
BTNK				IAML		18 13 09.0	
	comp=N,31nm,0.8s						
BTNK				IAML		18 13 10.0	
	comp=E,24nm,0.3s						
TBLG	Delisi	2.21	3	P	Pb	18 12 39.2	+0.1
TBLG				S	Sg	18 13 08.9	-1.4
TBLG	Delisi	2.21	3	i P	Pb	18 12 39.2	+0.1
TBLG				i S	Sb	18 13 06.8	+0.5
TBLG				IAML		18 13 09.0	
	comp=N,18nm,0.5s						
TBLG				IAML		18 13 12.0	
	comp=E,14nm,0.5s						
TBLG	Delisi	2.21	3	PN	Pb	18 12 38.0	-1.1
DDFL	Dedoflistskaro	2.25	31	P	Pg	18 12 42.4	-0.1
DDFL	Dedoflistskaro	2.25	31	i PA	Pg	18 12 42.8	+0.3
BLQ	Beylaqan	2.31	84	P	Pg	18 12 43.0	-0.6
	SNR=5.8						
BLQ				S	Sg	18 13 11.3	-2.2
CUKT	Cukurca	2.40	199	PN	Pb	18 12 40.7	-1.8
EPOS	Posof	2.43	325	i P	Pb	18 12 42.9	-0.1
EPOS				i S	Sn	18 13 07.8	-0.6
EPOS	Posof	2.43	325	i P	Pb	18 12 42.9	-0.1
EPOS				i S	Sn	18 13 08.2	-0.2
VRTB	Varto-Mus	2.45	262	PN	Pn	18 12 40.8	+1.6
ZRD	Zardab	2.50	72	P	Pg	18 12 47.7	+0.3
ZRD				S	Sg	18 13 23.7	+4.0
SEKA	Sheki	2.61	49	P	Pb	18 12 46.8	+0.8
	SNR=5.6						
SEKA				S	Sg	18 13 23.3	0.0
ZKTA	Zakatala	2.62	36	P	Pb	18 12 46.9	+0.7
	SNR=2.9						
ZKTA				S	Sg	18 13 23.7	+0.1
SIRT	Sirnak	2.63	220	PN	Pn	18 12 43.4	+1.8
KARO	Karliova-Bingo	2.75	267	PN	Pn	18 12 44.8	+1.6
QBL	Gabala	2.87	59	P	Pb	18 12 52.2	+1.8
	SNR=6.9						
QBL				S	Sg	18 13 30.9	-0.6
YRD	Yardimli	2.91	101	P	Pb	18 12 50.8	-0.4
	SNR=43						
YRD				S	Sg	18 13 31.0	-1.7
GUDG	Gudauri	2.94	358	P	Pb	18 12 49.4	-2.3
GLBA	Ciilabad	2.97	94	P	Pb	18 12 53.6	+1.6
	SNR=6.1						
GLBA				S	Sg	18 13 33.4	-1.3
IML	Ismayilli	3.03	64	P	Pb	18 12 53.3	0.0
IML				S	Sg	18 13 34.8	-2.1
LRK	Lerik	3.05	106	P	Pb	18 12 53.5	-0.1
LRK				S	Sg	18 13 35.2	-2.3
XNQ	Khinaliq	3.17	58	P	Pb	18 12 55.4	-0.3
XNQ				S	Sg	18 13 39.4	-2.1
PQL	Pirkuli	3.32	66	P	Pn	18 12 52.3	+1.2
PQL				S	Sg	18 13 45.9	-0.2
LKRN	Lenkeran, Azer	3.36	103	P	Pb	18 13 00.9	+2.1
LKRN				S	Sg	18 13 43.9	-3.5
ASTR	Astara	3.42	105	P	Pb	18 12 58.4	-1.3
ASTR				S	Sg	18 13 46.5	-2.6

TIF 29 18:12:20.6, 42°.38N×40°.94E, h47km±1km
ISK 29 18:12:21.6, 42°.34N×41°.08E, h11km, ML2.3/2
DDA 29 18:12:21.4, 42°.11N×40°.69E, h7km±4km, ML1.5
ISCJB 29 18:12:22.7±1.3, 42°.34N±0°.03×40°.99E±0°.09, h29km±9km, Error ellipse: s-maj=11.6km s-min=4.9km az=17.1
ISC 29 18:12:21.6±1.8, 42°.33N±0°.04×40°.99E±0°.07, h15km±10km, n20, σ0°76/35, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.90	144	P	Pg	18 12 39.1	+0.2
BATM				S	Sn	18 12 52.9	+0.6
BATM	Batumi	0.90	144	i P	Pg	18 12 39.2	+0.3
BATM	Batumi	0.90	144	i P	Pg	18 12 39.1	+0.2
BATM				i S	Sn	18 12 52.9	+0.6
BATM	Batumi	0.90	144	i Pg	Pg	18 12 39.1	+0.2
BATM				i Sg	Sn	18 12 52.9	+0.6
BATM	Batumi	0.90	144	PG	Pg	18 12 38.8	-0.1
BATM				SG	Sg	18 12 51.2	+0.5
BCA	Borcka	1.00	152	PG	Pg	18 12 40.5	-0.5
DBOC	Borcka	1.11	153	i P	Pb	18 12 41.4	-1.0
DBOC				i S	Sb	18 12 57.1	+0.4
DBOC				IAML		18 13 01.0	
	comp=E,15nm,0.4s						
CHOM	Cayeli-Rize	1.25	188	PN	Pg	18 12 45.9	+0.3
ARTV	Artvin	1.34	148	i P	Pn	18 12 45.7	-0.3
DBAD	Bademkaya	1.41	158	i P	Pn	18 12 46.8	0.0
DBAD				i S	Sn	18 13 04.9	-0.3
DBAD				IAML		18 13 05.0	
	comp=N,10nm,0.6s						
DBAD				IAML		18 13 11.0	
	comp=E,12nm,0.9s						
DAGI	Agillar	1.43	151	i P	Pn	18 12 46.8	-0.2
DAGI				i S	Sn	18 13 03.4	-2.3
DAGI				IAML		18 13 05.0	
	comp=N,6.1nm,0.5s						
DAGI				IAML		18 13 09.0	
	comp=E,2.5nm,0.1s						
TKB	Tkibuli	1.48	89	P	Pn	18 12 47.1	-0.6
TKB				S	Sn	18 13 06.4	-0.4
DDEM	Demirkent	1.55	158	i P	Pn	18 12 49.0	+0.4
DDEM				i S	Sn	18 13 08.7	+0.2
DDEM				IAML		18 13 12.0	
	comp=N,26nm,0.9s						
DDEM				IAML		18 13 14.0	
	comp=E,23nm,0.9s						
NEY	Neytrino	1.57	54	i Pg	Pn	18 12 48.1	-0.9
NEY				eSg	Sn	18 13 08.7	-0.4
ONI	Oni	1.84	81	P	Pn	18 12 53.1	+0.5
ONI				S	Sn	18 13 17.3	+1.7
ONI	Oni	1.84	81	i Pg	Pn	18 12 52.9	+0.3
ONI				i Sg	Sn	18 13 17.0	+1.4
ONI	Oni	1.84	81	PN	Pn	18 12 52.9	+0.3
ONI				SN	Sn	18 13 15.9	+0.3
SHA1	Shidzhatmaz	1.86	40	i Pg	Pn	18 12 53.4	+0.3
SHA1				i Sg	Sn	18 13 15.6	-0.8
KRIK	Erzurum-spir	1.99	181	i P	Pn	18 12 55.1	+0.2
KRIK				i S	Sn	18 13 20.7	+1.0
KRIK				IAML		18 13 24.0	
	comp=N,1.1nm,0.6s						
KIV	Kislovodsk	2.04	37	PN	Pn	18 12 56.2	+0.8

ISCJB 29 18:18:26.7±0.6, 30°.73S±0°.03×69°.46W±0°.04, h123km±5km, Error ellipse: s-maj=6.1km s-min=5.1km az=39.8
SJA 29 18:18:26.6±0.7, 30°.73S×69°.48W, h116km±3km, ML3.3, MW3.6
GUC 29 18:18:27.1±0.7, 30°.71S×69°.69W, h136km±28km, ML3.8
ISC 29 18:18:27.3±1.5, 30°.72S±0°.04×69°.47W±0°.04, h119km±10km, n29, σ0°80/42, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCO	Cerro Coronel	0.38	70	i P	Pn	18 18 45.0	+0.1
ACCO				eS	Sn	18 18 58.5	+0.4
AROD	Rodeo	0.55	0	i P	Pn	18 18 44.8	-1.1
ACDV	Cuesta del Vie	0.63	29	i P	Pn	18 18 46.4	+0.2
ACDV				eS	Sn	18 19 00.3	-0.1
AMOG	MOGNA	0.87	105	i P	Pn	18 18 48.2	+0.2
AMOG				eS	Sn	18 19 03.4	-0.4
RTLL	Cerro Villicun	1.05	126	i P	Pn	18 18 49.5	-0.3
RTLL				eS	Sn	18 19 06.5	-0.3
RTLL				IAML		18 19 06.7	
	comp=Z,443nm,0.2s						
GO04	Tololo Observa	1.27	295	⇓iP	Pn	18 18 52.5	+0.2
GO04				i S	Sn	18 19 11.8	+0.5
GO04				IAML		18 19 13.9	
	comp=N,2μm,0.5s						
GO04	Tololo Observa	1.27	295	i P	Pn	18 18 52.2	-0.1
GO04				eS	Sn	18 19 11.6	+0.4

CLCH	Cerro Calan	2.82	198	*i* P	Pn	18 19 11.7	+0.5
CLCH				*i* S	Sn	18 19 45.2	+0.2
CLCH				IAML		18 19 48.1	
	comp=E,221nm,0.5s						
GO03	Copiap	3.19	348	*i* P	Pn	18 19 16.6	+0.5
MRA	San Martin	3.63	119	*i* P	Pn	18 19 22.1	+0.2
MRA				IAML		18 20 03.1	
	comp=Z,101nm,0.3s						
CYA	Choya	3.92	56	*i* P	Pn	18 19 25.1	-0.7
CYA				IAML		18 20 09.4	
	comp=Z,25nm,0.2s						
RFA	San Rafael	4.13	168	‖*i* P	Pn	18 19 28.7	+0.2
TCA	Tanti	4.23	100	*i* P	Pn	18 19 29.4	-0.6
TCA				IAML		18 20 17.6	
	comp=Z,36nm,0.5s						
GO05	Huala	4.75	205	*i* P	Pn	18 19 34.0	-2.9

IDC ***29*** *18:23:07.1±1.2,28°.03N×51°.25E, h0km, mb3.7/11, mb1 3.8/16, mb1mx3.6/45, mbtmp3.7/16, ML3.6/5, Error ellipse: s-maj=25.5km s-min=18.8km az=10.0*
ISCJB ***29*** *18:23:07.4±0.3,27°.96N±0°.03×51°.23E±0°.03, h16km, mb3.6/11, Error ellipse: s-maj=4.8km s-min=3.1km az=142.0*
THR ***29*** *18:23:08.6,28°.05N×51°.42E, h32km, ML3.8*
NEIC ***29*** *18:23:09.2±2.2,28°.02N±0°.07×51°.28E±0°.07, h14km±5km, mb4.3/14, mb_Lg3.9(TEH)*
TEH ***29*** *18:23:10.1,28°.13N×51°.49E, h14km, ML3.9*
OMAN ***29*** *18:23:12.8±4.8,27°.81N×51°.21E, h69km±24km, mb4.0/1, ml4.0/6, Error ellipse: s-maj=52.6km s-min=16.3km az=146.0*
DSN ***29*** *18:23:14.6±1.2,28°.13N×51°.88E, h10km, ML4.3/7, Error ellipse: s-maj=22.4km s-min=7.1km az=12.0*

ISC 29 18:23:08.7±0.5, 27°.96N±0°.06×51°.27E±0°.05, h16km, n109, σ1§48/113, mb3.9/19, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	1.79	110	*e*Pn	Pb	18 23 41.8	+0.6
IKAZ	Kazeroun	1.88	15	*e*Pn	Pn	18 23 41.1	+0.5
IKAZ				IAMB	IAmb	18 24 13.8	
	comp=Z,11μm,0.6s						
IKAZ	Kazeroun	1.88	15	Pn	Pn	18 23 41.0	+0.5
SHI	Shiraz	2.00	33	*e*Pn	Pn	18 23 42.8	+0.8
SHI				*e*Sg	Sn	18 24 06.6	-0.2
JHRM	Jahrom	2.11	75	*e*Pn	Pn	18 23 44.7	+1.2
JHRM				IAMB	IAmb	18 24 01.7	
	comp=Z,0.0nm,0.5s						
ISRV	Sarvestan	2.15	48	*e*Pn	Pn	18 23 44.5	+0.2
ISRV				IAMB	IAmb	18 24 33.5	
	comp=Z,7μm,0.6s						
ISRV	Sarvestan	2.15	48	Pn	Pn	18 23 44.5	+0.2
KLNJ	Kolanjah	3.05	5	*e*Pn	Pn	18 23 57.4	+0.8
IBRJ	Brojen	3.93	360	*e*Pn	Pn	18 24 10.1	+1.4
IBRJ	Brojen	3.93	360	Pn	Pn	18 24 10.0	+1.4
IRAM	Ramesheh	3.95	14	*e*Pn	Pn	18 24 09.3	+0.4
ZNGN	Zangian	4.16	355	*e*Pn	Pn	18 24 12.6	+0.8
JHBN	Jahan bin	4.29	353	*e*Pn	Pn	18 24 14.6	+1.0
ROKH	ROKH	4.37	357	*e*Pn	Pn	18 24 15.5	+0.8
GENO	Geno	4.39	96	*e*Pn	Pn	18 24 15.2	+0.4
IGAR	Gharneh	4.48	8	*e*Pn	Pn	18 24 17.0	+0.9
IGAR	Gharneh	4.48	8	Pn	Pn	18 24 17.0	+0.9
IMEH	Mehriz	4.49	40	*e*Pn	Pn	18 24 15.2	-1.1
IMEH	Mehriz	4.49	40	Pn	Pn	18 24 15.2	-1.1
IPIR	Pirpir	4.72	356	*e*Pn	Pn	18 24 20.4	+0.9
SHME	Shamm	4.75	113	*i* P	Pn	18 24 20.5	+0.8
	SNR=18						
SHME				S	Sn	18 25 12.0	-2.4
SHME	Shamm	4.75	113	*e*Pn	Pn	18 24 20.6	+0.9
NAZ	Nazwa, Dubai	4.93	126	P	Pn	18 24 24.7	+2.6
NAZ	Nazwa, Dubai	4.93	126	*e*Pn	Pn	18 24 24.9	+2.8
BANOM	Banah	4.93	113	*i* P	Pn	18 24 23.3	+1.1
	SNR=72						
BANOM	Banah	4.93	113	P	Pn	18 24 23.4	+1.1
	SNR=72						
BANOM				S	Sn	18 25 19.4	+0.5
ASUD	Al Ashush, Dub	4.93	131	*i* P	Pn	18 24 25.3	+3.1
	SNR=43						
ASUD	Al Ashush, Dub	4.93	131	P	Pn	18 24 25.7	+3.5
	SNR=44						
NIAN	Nian	4.95	93	*e*Pn	Pn	18 24 23.0	+0.6
IZEF	Zefreh	5.00	10	*e*Pn	Pn	18 24 23.8	+0.4
IZEF	Zefreh	5.00	10	Pn	Pn	18 24 23.7	+0.4
ICHK	Chekchek	5.06	32	*e*Pn	Pn	18 24 24.4	+0.2
MSFE	Esma-Masafi	5.09	120	*i* P	Pn	18 24 25.8	+1.4
	SNR=36						
MSFE	Esma-Masafi	5.09	120	*e*Pn	Pn	18 24 25.9	+1.5
KHGB	Koh Gabri	5.15	61	*e*Pn	Pn	18 24 25.4	0.0
IBAF	Bafgh	5.20	45	*e*Pn	Pn	18 24 26.7	+0.7
IBAF	Bafgh	5.20	45	Pn	Pn	18 24 26.6	+0.6
KRBR	Kerman	5.22	66	*e*Pn	Pn	18 24 24.8	-1.6
KRBR	Kerman	5.22	66	*e*Pn	Pn	18 24 24.8	-1.6
TVBK	TV Kerman	5.22	66	IAMB	IAmb	18 24 29.8	
	comp=Z,0.0nm,0.4s						
MDH	Madha	5.23	119	*i* P	Pn	18 24 27.7	+1.5
	SNR=9.6						
MDH	Madha	5.23	119	P	Pn	18 24 28.0	+1.7
	SNR=9.6						
MDH	Madha	5.23	119	*e*Pn	Pn	18 24 27.9	+1.7
IKLH	Kolahrood	5.34	3	*e*Pn	Pn	18 24 28.3	+0.2
UOSS	Minazif	5.35	123		Pn	18 24 29.4	+1.4
UOSS				Sn	Sn	18 25 26.7	-2.5
HATD	Hatta, Dubai	5.37	125	*e*Pn	Pn	18 24 30.2	+2.0
ASHO	Ashiyiah	5.40	126	*i* P	Pn	18 24 29.9	+1.2
	SNR=37						
ASHO	Ashiyiah	5.40	126	P	Pn	18 24 31.0	+2.3
	SNR=37						
ASHO	Ashiyiah	5.40	126	*e*Pn	Pn	18 24 30.3	+1.6
ALNE	Al Ain	5.60	133	*i* P	Pn	18 24 34.7	+3.3
	SNR=5.3						
ALNE	Al Ain	5.60	133	*e*Pn	Pn	18 24 34.6	+3.1
ANAR	Anarak	5.62	22	*e*Pn	Pn	18 24 32.4	+0.6
KHNJ	Kahnooj	5.70	89	*e*Pn	Pn	18 24 33.1	+0.4
QAM	Ghamsar	5.78	1	*e*Pn	Pn	18 24 34.2	+0.2
CHMN	Cheshme madani	5.81	70	*e*Pn	Pn	18 24 35.6	+1.0
CHMN				IAMB	IAmb	18 25 47.2	
	comp=Z,0.0nm,0.6s						
KRSH	Karshahi	6.03	7	*e*Pn	Pn	18 24 37.8	+0.3
BMDN	Meydan	6.07	340	*e*Pn	Pn	18 24 38.2	+0.3
GHVR	GHOM	6.50	0	*e*Pn	Pn	18 24 43.3	-0.5
GHVR	GHOM	6.50	0	*e*Pn	Pn	18 24 43.3	-0.5
ARQ	Araqi	6.61	133	P	Pn	18 24 47.0	+1.7
	SNR=16						
HSAM	Samen	6.63	341	*e*Pn	Pn	18 24 46.5	+0.7
ASAO	Ashtian	6.65	351	*e*AML	AML	18 26 02.0	
	comp=Z,20nm,0.6s						
RAYN	Ar Rayn	6.82	231		Pn	18 24 50.9	+2.7
HOQ	Hoqain	6.98	127	P	Pn	18 24 52.2	+1.8
	SNR=8.9						
IKOM	Komasi	6.98	333	*e*Pn	Pn	18 24 50.5	0.0
WSAR	Wadi Sarin	8.14	124	P	Pn	18 25 07.4	+1.0
	SNR=18						
WSAR	Wadi Sarin	8.14	124	Pn	Pn	18 25 07.3	+1.0
	comp=Z,0.7nm,0.3s,baz=322,slow=8.2,SNR=19						
WSAR				Sn	Sn	18 26 32.8	-5.3
	comp=Z,1.2nm,0.3s,baz=255,slow=18,SNR=7.9						
WBK	Wadi Bani Khal	8.77	126	P	Pn	18 25 16.3	+1.3
	SNR=10						
WHFO	Wadi Hawf	10.26	166	P	Pn	18 25 36.0	+0.6
	SNR=11						
ABTO	Aybut	10.72	170	P	Pn	18 25 42.0	+0.2
	SNR=10						
DMTO	DMTO	10.75	161	P	Pn	18 25 43.0	+1.0
	SNR=18						
ASF	Jabal al Asfar	13.13	292	Pn	Pn	18 26 13.8	-0.8
	comp=Z,0.3nm,0.3s,baz=59,slow=5.9,SNR=2.8						
ASF				Sn	Sn	18 28 34.8	-5.7
	comp=Z,0.1nm,0.3s,baz=153,slow=18,SNR=2.5						
MMAI	Mount Meron Ar	14.57	294	Pn	Pn	18 26 34.4	+0.1
	comp=Z,0.4nm,0.3s,baz=100,slow=16,SNR=3.5						
KBZ	Khabaz	17.12	339	P	Pn	18 27 08.0	+0.8
	comp=Z,0.1nm,0.3s,baz=182,slow=7.9,SNR=3.7						
BR131	Keskin Array S	18.72	313		Pn	18 27 28.2	+1.0
BRTR	Keskin Array B	18.72	313	P	Pn	18 27 28.1	+0.9
	comp=Z,0.3nm,0.3s,baz=133,slow=12,SNR=11						
BRTR	Keskin Array B	18.72	313	P	Pn	18 27 28.2	+1.0
GAR	Garm	19.29	50	P	P	18 27 33.1	+0.1
KKAR	Karatay Array	21.68	41	P	P	18 27 59.0	+0.2
ABKAR	Akbulak array	22.29	15	P	P	18 28 05.4	+0.2
AKTO	Aktyubinsk	23.02	11	P	P	18 28 13.6	+0.6
	comp=Z,1.3nm,0.5s,baz=180,slow=12,SNR=6.9						
SANT	Santorini	23.35	298	P	P	18 28 16.9	+0.5
SANT				IAmb	IAmb	18 28 27.4	
	comp=Z,24nm,1.5s						
KDJ	Kajisay	25.37	49	P	P	18 28 36.9	+1.6
KDJ				IAmb	IAmb	18 28 47.7	
	comp=Z,3.8nm,1.1s						
TARG	Taragay, Kyrgy	25.62	51	P	P	18 28 39.2	+1.3
TARG				IAmb	IAmb	18 28 40.8	
	comp=Z,4.2nm,1.5s						
ITM	Ithomi	26.29	298	P	P	18 28 44.6	+1.1
ITM				IAmb	IAmb	18 28 54.5	
	comp=Z,16nm,1.7s						
AGG	Agios Georgios	26.43	302	P	P	18 28 42.9	-1.9
LIT	Litokhoron	26.62	305	P	P	18 28 43.9	-2.6
BURAR	Bucovina Array	28.22	321	P	P	18 29 02.3	+1.4
BUR08	Bucovina Ar. S	28.25	321	P	P	18 29 02.6	+1.5
BUR08				IAmb	IAmb	18 29 17.8	
	comp=Z,7.7nm,1.4s						
BVAR	Borovoye Array	28.77	24	P	P	18 29 06.3	+0.7
	comp=Z,0.7nm,0.5s,baz=230,slow=7.0,SNR=5.6						
MKAR	Makanchi Array	30.71	44	P	P	18 29 23.8	+0.9
	comp=Z,0.3nm,0.6s,baz=238,slow=8.2,SNR=2.9						
MKAR	Makanchi Array	30.71	44	P	P	18 29 23.4	+0.5
GERES	GERESS Array B	35.58	316	P	P	18 30 05.5	+0.1
	comp=Z,0.3nm,0.6s,baz=126,slow=7.8,SNR=2.1						
ZALV	Zalesovo Beam	35.71	34	P	P	18 30 06.5	+0.1
	comp=Z,0.3nm,0.3s,baz=248,slow=7.6,SNR=2.7						
ZALV	Zalesovo Beam	35.71	34	P	P	18 30 05.1	-1.2
FIA1	FINESS Array S	37.47	340	P	P	18 30 21.1	-0.1
FIA1				IAmb	IAmb	18 30 37.3	
	comp=Z,8.5nm,1.2s						
FINES	FINESS Array B	37.47	340	P	P	18 30 21.0	-0.2
	comp=Z,1.2nm,0.6s,baz=137,slow=10,SNR=11						
FINES	FINESS Array B	37.47	340	P	P	18 30 20.7	-0.5
HFS	Hagfors	41.00	332	P	P	18 30 50.3	-0.4
	comp=Z,2.1nm,0.6s,baz=133,slow=9.9,SNR=10						
NC405	NORSAR Array S	42.36	333	P	P	18 31 01.6	-0.3
NB201	NORSAR Array S	42.50	332	P	P	18 31 02.7	-0.3
NB201				IAmb	IAmb	18 31 14.6	
	comp=Z,6.4nm,1.1s						
NB2	NORSAR Subarra	42.52	332	P	P	18 31 02.3	-1.0
	comp=Z,0.3nm,0.5s,baz=123,slow=8.6						
NOA	NORSAR Array B	42.52	332	P	P	18 31 02.6	-0.6
	comp=Z,0.3nm,0.5s,baz=128,slow=8.8,SNR=3.8						
NBO00	NORSAR Array S	42.70	332	P	P	18 31 04.5	-0.1
NBO00				IAmb	IAmb	18 31 17.8	
	comp=Z,27nm,1.5s						
ARCES	ARCESS Array B	44.21	347	P	P	18 31 17.0	+0.3
	comp=Z,5.4nm,1.0s,baz=138,slow=9.6,SNR=2.9						
ARCES	ARCESS Array B	44.21	347	P	P	18 31 16.4	-0.3
TORD	Torodi Ar. Bea	48.38	263	P	P	18 31 51.6	+1.4
	comp=Z,0.3nm,0.5s,baz=53,slow=8.8,SNR=2.1						
COCO	West Island	59.50	126	P	P	18 33 09.3	-2.1
	SNR=19						
ASAR	Alice Springs	94.72	114	P	P	18 36 30.4	+0.8
	comp=Z,0.2nm,0.7s,baz=305,slow=4.4,SNR=4.2						

TUN 29 18:25:20.7, 34°.65N×9°.07E, h16km±4km, MD3.4, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYA	Sidi Yaiche	0.24	294	*i* P	Pb	18 25 29.3	+2.6
SYA	Sidi Yaiche	0.24	294	*i* P	Pb	18 25 29.3	+2.6
SYA	Sidi Yaiche	0.24	294	*i* P	Pb	18 25 29.3	+2.6
BERT	Berda	0.41	187	*i* P	Pn	18 25 32.2	+0.3
BERT	Berda	0.41	187	*i* P	Pn	18 25 32.2	+0.3
BERT	Berda	0.41	187	*i* P	Pn	18 25 32.2	+0.3
OAR	Oum El Arais	0.57	259	*i* P	Pn	18 25 36.0	+1.8
OAR	Oum El Arais	0.57	259	*i* P	Pn	18 25 36.0	+1.8
OAR	Oum El Arais	0.57	259	*i* P	Pn	18 25 36.0	+1.8
TROT	Trozza	1.01	25	*i* P	Pg	18 25 45.5	+5.2
TROT	Trozza	1.01	25	*i* P	Pg	18 25 45.5	+5.2
TROT	Trozza	1.01	25	*i* P	Pg	18 25 45.5	+5.2
BTHT	Jabal bu Thady	1.11	64	*i* P	Pg	18 25 46.6	+4.4
BTHT	Jabal bu Thady	1.11	64	*i* P	Pg	18 25 46.6	+4.4
BTHT	Jabal bu Thady	1.11	64	*i* P	Pg	18 25 46.6	+4.4
SGNT	Sidi Gnaou	1.19	146	*i* P	Pg	18 25 46.1	+2.5
SGNT	Sidi Gnaou	1.19	146	*i* P	Pg	18 25 46.1	+2.5
SGNT	Sidi Gnaou	1.19	146	*i* P	Pg	18 25 46.1	+2.5
KRIT	Krib	1.69	0	*i* P	Pg	18 25 57.5	+4.2
KRIT	Krib	1.69	0	*i* P	Pg	18 25 57.5	+4.2
KRIT	Krib	1.69	0	*i* P	Pg	18 25 57.5	+4.2
GHAT	Ghardimaou	1.95	342	*i* P	Pg	18 26 01.3	+3.1
GHAT	Ghardimaou	1.95	342	*i* P	Pg	18 26 01.3	+3.1

AEIC ***29*** *18:36:17.0±3.0,51°.50N±0°.20×178°.13E±0°.09, h91km±7km*
NEIC ***29*** *18:36:19.1±1.6,51°.70N±0°.20×178°.17E±0°.08, h66km±8km, mb4.2/48, ML3.8(AEIC)*
IDC ***29*** *18:36:22.2±5.5,52°.13N×178°.20E, h76km±49km, mb3.3/7, mb1 3.7/9, mb1mx3.4/41, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=58.5km s-min=17.1km az=179.0*

ISC 29 18:36:18.4±1.1, 51°.6N±0°.2×178°.13E±0°.05, h50km, n96, σ1§37/94, mb4.2/22, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	1.95	85		Pn	18 36 49.6	+0.5
GAEA					Sn	18 37 15.6	+3.3
TASE	Tanaga Southea	2.39	84		Pn	18 36 55.6	+0.4
TAFP	Tanaga Falls P	2.43	82		Pn	18 36 55.8	+0.1
TAFP					Sn	18 37 24.9	+0.7
TAPA	Tanaga Point A	2.53	84		Pn	18 36 57.7	+0.6
SMY	Shemya	2.71	295		Pn	18 37 00.6	+1.1
SMY					Sn	18 37 33.1	+2.2
KIMD	Kanaga Island	2.89	86		Pn	18 37 02.4	+0.5
KICM	Kanaga Island	2.92	83		Pn	18 37 03.0	+0.7
KIKV	Kanaga Island	2.93	83		Pn	18 37 03.0	+0.5
KIWB	Kanaga Island	2.94	84		Pn	18 37 03.1	+0.4
KIRH	Kanaga Island	2.98	83		Pn	18 37 03.9	+0.8
ADK	Adak	3.23	84	Pn	Pn	18 37 06.9	+0.3
ADAG	Mount Adagdak	3.29	82		Pn	18 37 07.7	+0.3
GSTD	Great Sitkin T	3.58	81		Pn	18 37 12.2	+0.8
GSTD					Sn	18 37 55.6	+3.2
GSMY	Great Sitkin M	3.63	81		Pn	18 37 12.8	+0.7
GSTR	Great Sitkin T	3.63	81	Pn	Pn	18 37 11.9	-0.2
ATKA	Atka Island	4.79	80		Sn	18 38 23.9	+2.0
ATKA	Atka Island	4.79	80		Pn	18 37 26.7	-1.2
NIKH	Nikolski High	8.09	75	Pn	Pn	18 38 15.1	+1.9
SPIA	Saint Paul Isl	8.75	46	Pn	Pn	18 38 22.6	+0.4
UNV	Unalaska Valle	9.58	71	Pn	Pn	18 38 33.0	-0.5
AKUT	Akutan	10.05	69	Pn	Pn	18 38 41.3	+1.4
PETK	Petropavlovsk-	12.57	285	P	Pn	18 39 17.0	+2.6
	0.2nm,0.3s,baz=112,slow=15,SNR=3.5						
SDPT	Sand Point	13.25	65	Pn	Pn	18 39 23.0	-0.7
ANM	Nome	15.54	27	P	Pn	18 39 56.1	+2.1
ANM				IAmb	IAmb	18 40 03.8	
	comp=Z,17nm,1.2s						
SVW2	Sparrevohn	17.25	47	P	Pn	18 40 14.8	-0.7
SVW2				IAmb	IAmb	18 40 43.6	
	comp=Z,20nm,1.4s						
OHAK	Old Harbor	17.46	60	P	Pn	18 40 15.4	-2.7
KDAK	Kodiak Island	17.91	58	P	P	18 40 21.3	-2.3
	comp=Z,0.4nm,0.3s,baz=319,slow=5.6,SNR=18						
KDAK	Kodiak Island	17.91	58	P	P	18 40 21.6	-2.0
KDAK				IAmb	IAmb	18 40 24.6	
	comp=Z,24nm,1.1s						
CNPM	China Poot	18.89	53	P	P	18 40 33.7	-0.8
BRLK	Bradley Lake	19.11	53	P	P	18 40 35.1	-1.7
BRLK				IAmb	IAmb	18 40 52.6	
	comp=Z,32nm,1.3s						
PPLA	Purkeypile	19.40	43		Pn	18 40 42.2	+0.5
PPLA				IAmb	IAmb	18 41 01.0	
	comp=Z,30nm,1.6s						
SEW	Seward	19.88	52	P	P	18 40 43.9	-1.3
SEW				IAmb	IAmb	18 41 02.0	
	comp=Z,17nm,1.0s						
RC01	Rabbit Creek A	19.95	49	P	P	18 40 45.7	-0.3
RC01				IAmb	IAmb	18 40 47.2	
	comp=Z,20nm,1.4s						
KTH	Kantishna Hill	20.18	42	P	P	18 40 49.3	+0.8
IMAR	Indian Mountai	20.20	34	P	P	18 40 49.0	+0.4
BPAW	Bear Paw Mtn.	20.36	40	P	P	18 40 49.8	-0.6
BPAW				IAmb	IAmb	18 41 02.8	
	comp=Z,12nm,1.6s						
TRF	Thorofare Moun	20.41	42	P	P	18 40 49.6	-1.6
GHO	Glory Hole Cre	20.50	48	P	P	18 40 50.8	-1.3
GHO				IAmb	IAmb	18 41 18.1	
	comp=Z,9.8nm,1.1s						
KNK	Knik Glacier	20.63	49	P	P	18 40 52.6	-0.8
KNK				IAmb	IAmb	18 40 54.9	
	comp=Z,35nm,1.5s						
MLY	Manley	20.84	38	P	P	18 40 56.1	+0.5
RND	Reindeer	21.00	43	P	P	18 40 58.1	+0.7
RND				IAmb	IAmb	18 41 00.6	
	comp=Z,22nm,1.6s						
BWN	Browne	21.01	41	P	P	18 40 57.1	-0.3
GLI	Glacier Island	21.17	51	P	P	18 40 57.9	-1.3
SCM	Sheep Creek Mo	21.25	48	P	P	18 40 59.1	-1.0
SCM				IAmb	IAmb	18 41 02.7	
	comp=Z,9.3nm,0.8s						
HIN	Hinchinbrook I	21.38	52	P	P	18 41 03.5	+2.0
FID	Port Fidalgo	21.45	51	P	P	18 41 00.5	-1.6
DHY	Denali Highway	21.54	45	P	P	18 41 00.3	-3.0
DHY				IAmb	IAmb	18 41 25.5	
	comp=Z,7.7nm,1.1s						
WRH	Wood River Hil	21.68	41	P	P	18 41 04.1	-0.4
MDM	Murphy Dome	21.80	39	P	P	18 41 05.1	-0.7
MDM				IAmb	IAmb	18 41 08.1	
	comp=Z,34nm,1.6s						
CCB	Clear Creek Bu	21.85	40	P	P	18 41 05.0	-1.4
HDA	Harding Lake	22.12	41	P	P	18 41 08.9	-0.5
IL31		22.27	40	P	P	18 41 10.7	-0.1
ILAR	Eielson Array	22.27	40	P	P	18 41 08.3	-2.5
	comp=Z,0.8nm,0.6s,baz=241,slow=8.7,SNR=14						
ILAR	Eielson Array	22.27	40	P	P	18 41 09.9	-1.0
RAGM	Ragged Mountai	22.28	52	P	P	18 41 11.2	+0.1
HMT	Hamilton	22.48	53	P	P	18 41 14.1	+0.9
RIDG	Independent Ri	22.82	44	P	P	18 41 15.0	-1.8
RIDG				IAmb	IAmb	18 41 33.0	
	comp=Z,14nm,1.6s						
GLB	Gilahina Butte	22.83	50	P	P	18 41 15.5	-1.4
GLB				IAmb	IAmb	18 41 19.1	
	comp=Z,17nm,1.4s						
VRDI	Verde Repeater	22.98	50	P	P	18 41 17.6	-1.0
PRP	Porcupine Dome	23.06	39	P	P	18 41 17.1	-2.2
CRQM	Cirque	23.07	52	P	P	18 41 19.0	-0.6
CRQM				IAmb	IAmb	18 41 22.2	
	comp=Z,40nm,1.5s						
MENT	Mentasta	23.13	46	P	P	18 41 19.7	-0.2
DOT	Dot Lake	23.13	44	P	P	18 41 18.8	-1.1
MCARA	McCarthy VSAT	23.20	50	P	P	18 41 20.8	+0.2
MCARA				IAmb	IAmb	18 41 21.9	
	comp=Z,14nm,1.2s						
TGL	Tana Glacier	23.22	52	P	P	18 41 18.7	-2.2
TGL				IAmb	IAmb	18 41 30.0	
	comp=Z,11nm,1.0s						
SCRK	Sand Creek	23.24	43	P	P	18 41 18.8	-2.4
BALM	Baldy	23.49	51	P	P	18 41 22.8	-0.7
BALM				IAmb	IAmb	18 41 26.1	
	comp=Z,7.0nm,1.0s						
FYU	Fort Yukon	23.54	37	P	P	18 41 23.8	+0.1
FYU				IAmb	IAmb	18 41 46.8	
	comp=Z,10nm,1.5s						
MESA	MESA	23.61	53	P	P	18 41 23.4	-1.4
YAH	Yahtse	23.73	53		P	18 41 25.6	-0.2
BARN	Barnard Glacie	23.82	51	P	P	18 41 24.0	-2.6
BARN				IAmb	IAmb	18 41 29.4	
	comp=Z,7.6nm,0.6s						
CTGM	Chitina Glacie	23.97	51	P	P	18 41 26.6	-1.4
CTGM				IAmb	IAmb	18 41 28.8	
	comp=Z,7.0nm,0.7s						
BCAR	Beaver Creek A	24.02	46	P	P	18 41 28.4	+0.1
BMAR	Burnt Mountain	24.10	35	P	P	18 41 28.7	-0.2
PCA	Pinnacle	24.46	53	P	P	18 41 31.1	-1.3
PCA				IAmb	IAmb	18 41 51.7	
	comp=Z,14nm,0.8s						
BCPM	Bancas Point	24.77	54	P	P	18 41 34.1	-0.9
DAWY	Dawson	25.24	44	P	P	18 41 36.7	-2.7
INK	Inuvik	28.36	36	P	P	18 42 07.0	-0.2
H11N2	WAKE ISLAND Hy	33.04	200	T	T	19 18 14.0	
	baz=11,slow=76,SNR=76						
H11N3	WAKE ISLAND Hy	33.05	200	T	T	19 18 20.9	
	baz=11,slow=76,SNR=49						
H11N1	WAKE ISLAND Hy	33.06	200	T	T	19 18 18.2	
	baz=11,slow=76,SNR=45						
H11S1	WAKE ISLAND Hy	34.27	200	T	T	19 19 54.1	
	baz=11,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	34.29	200	T	T	19 19 47.1	
	baz=11,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	34.29	199	T	T	19 19 35.9	
	baz=11,slow=76,SNR=11						
YKA	Yellowknife Ar	36.44	46	P	P	18 43 16.6	-1.3
	comp=Z,0.6nm,0.5s,baz=283,slow=7.9,SNR=4.3						
YKA	Yellowknife Ar	36.44	46	P	P	18 43 17.0	-0.9
PNTR	Pine Nut	44.21	81	P	P	18 44 22.6	0.0
PNTR				IAmb	IAmb	18 44 27.1	
	comp=Z,4.0nm,0.6s						
SONM	Songino Array	44.80	295	P	P	18 44 27.5	+0.3
	comp=Z,0.4nm,0.6s,baz=

CHMN Cheshme madani 5.48 82 *e*Pn **Pn 18 47 29.3 +1.6**
CHMN IAMB IAmb 18 47 31.4
comp=Z,0.0nm,0.5s
BANOM Banah 5.51 125 P **Pn 18 47 28.3 +0.4**
BANOM S **Sn 18 48 29.5 -1.3**
ASUD Al Ashush, Dub 5.80 141 P **Pn 18 47 33.8 +1.8**
SNR=13
ASUD S **Sn 18 48 39.6 +1.5**
UOSS Minazif 6.09 133 P **Pn 18 47 37.5 +1.6**
HATD Hatta, Dubai 6.13 134 P **Pn 18 47 38.1 +1.7**
HATD S **Sn 18 48 44.3 -1.8**
ASHO Ashiyiah 6.18 136 P **Pn 18 47 38.3 +1.1**
ASHO S **Sn 18 48 47.0 -0.6**
ARQ Araqi 7.49 140 P **Pn 18 47 55.3 +0.3**
SNR=8.4
ARQ S **Sn 18 49 16.6 -3.0**
BSY Bisya 8.33 139 P **Pn 18 48 07.0 +0.3**
BSY S **Sn 18 49 35.9 -4.6**
WHFO Wadi Hawf 11.45 168 P **Pn 18 48 48.0 -1.5**
SNR=20
ABTO Aybut 11.93 171 P **Pn 18 48 57.0 +0.9**
SNR=6.4
AKTO Aktyubinsk 21.81 12 P **P 18 50 57.2 -0.5**
comp=Z,1.1nm,0.5s,baz=189,slow=13,SNR=5.5
AAK Ala-Archa 22.99 48 P **P 18 51 16.7 +6.1**
comp=Z,0.9nm,0.7s,baz=240,slow=8.1,SNR=4.4
ZALV Zalesovo Beam 34.68 35 P **P 18 52 58.2 +3.1**
comp=Z,0.4nm,0.4s,baz=243,slow=9.3,SNR=3.1
FINES FINESS Array B 36.32 340 P **P 18 53 07.0 -2.2**
comp=Z,1.1nm,0.7s,baz=133,slow=12,SNR=3.8
ARCES ARCESS Array B 43.01 347 P **P 18 54 04.0 -0.7**
comp=Z,3.6nm,1.0s,baz=144,slow=8.5,SNR=5.1
TORD Torodi Ar. Bea 48.58 262 P **P 18 54 48.4 -1.0**
comp=Z,0.4nm,0.4s,baz=59,slow=8.2,SNR=3.6

WEL 29 18:51:44.5±1.5, 32°S±28″×17°9E±7°7, h271km±74km, M4.3/4, mB4.4/2, ML4.3/4, MLv4.3/4, Mw(mB)3.5/2, Error ellipse: s-maj=0.1km s-min=0.0km az=109.8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.66**	**52**	S	S	18 53 34.3	+0.2
MXZ	**Matakaoa Point**	**6.01**	**184**	P	Pn	18 53 13.8	+0.7
MXZ				S	S	18 54 25.6	+1.3
HAZ	**Te Kaha**	**6.24**	**187**	P	Pn	18 53 16.6	+0.6
HAZ				S	S	18 54 31.0	+1.6
WMGZ	**Waiomatatini S**	**6.26**	**183**	P	Pn	18 53 17.1	+0.9
WMGZ				S	S	18 54 31.3	+1.4
PKGZ	**Pakihiroa**	**6.34**	**185**	P	Pn	18 53 17.9	+0.6
PKGZ				S	S	18 54 31.1	-0.8
RUGZ	**Raukumara Rang**	**6.46**	**188**	P	Pn	18 53 18.9	+0.1
RUGZ				S	S	18 54 34.2	-0.4
PUZ	**Puketiti**	**6.52**	**184**	P	Pn	18 53 18.8	-0.6
PUZ				S	S	18 54 33.9	-1.8
URZ	**Urewera**	**6.83**	**191**	P	Pn	18 53 21.2	-2.0
MWZ	**Matawai**	**6.84**	**188**	P	Pn	18 53 23.4	0.0
MWZ				S	S	18 54 43.0	-0.1
BKZ	**Black Stump Fm**	**7.82**	**193**	P	Pn	18 53 33.1	-2.5
BKZ				S	S	18 55 03.5	-1.8
MCHZ	**McNeill Hill**	**8.05**	**192**	P	Pn	18 53 36.5	-1.9
KAHZ	**Kahuranaki**	**8.37**	**190**	P	Pn	18 53 39.4	-3.0
PXZ	**Pawanui**	**8.60**	**190**	P	Pn	18 53 41.6	-3.6

*IDC **29** 18:52:05.6±0.9, 38°.02N×69°.57E, h0km, mb3.7/13, mb1 3.9/21, mb1mx3.7/65, mbtmp3.8/21, ML3.3/8, MS3.0/1, Ms1 3.0/1, ms1mx2.4/47, Error ellipse: s-maj=17.6km s-min=13.1km az=160.0*
*ISCJB **29** 18:52:06.3±0.3, 38°.16N±0°.03×69°.47E±0°.04, h12km, mb3.7/13, Error ellipse: s-maj=4.6km s-min=3.5km az=151.2*
*NNC **29** 18:52:06.3±1.8, 38°.15N×69°.36E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=17.6km s-min=13.5km az=169.0*
*NEIC **29** 18:52:09.7±2.4, 38°.27N±0°.04×69°.50E±0°.06, h19km±5km, mb4.2/9*
*MOS **29** 18:52:10.1±0.9, 38°.27N×69°.58E, h33km, mb4.0/2, Error ellipse: s-maj=10.8km s-min=5.4km az=70.5*

ISC 29 18:52:07.9±0.5, 38°.17N±0°.04×69°.46E±0°.05, h12km, n122, σ1§81/132, mb3.8/15, 9C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**0.54**	**335**	Pg	**Pg**	**18 52 17.6**	**-0.9**
CHGR				Sg	**Sg**	**18 52 25.6**	**-0.1**
GAR	**Garm**	**1.07**	**39**		**Pb**	**18 52 26.6**	**-1.9**
BTK	**Batken**	**2.17**	**29**	Pn	**Pn**	**18 52 43.6**	**-0.2**
BTK	**Batken**	**2.17**	**29**	Pn	**Pn**	**18 52 43.6**	**-0.2**
TAS	**Tashkent**	**3.16**	**358**	PN	**Pn**	**18 52 57.9**	**+0.4**
TAS	**Tashkent**	**3.16**	**358**		**Pn**	**18 52 57.9**	**+0.4**
KBL	**Kabul**	**3.63**	**185**	PN	**Pn**	**18 53 08.4**	**+4.2**
KBL	**Kabul**	**3.63**	**185**		**Pn**	**18 53 08.4**	**+4.2**
CEP	**Cherat**	**4.77**	**155**	P	**Pn**	**18 53 23.3**	**+3.6**
CEP				S	**Sn**	**18 54 21.0**	**+6.0**
KK31	**Karatay Array**	**5.00**	**9**	Pn	**Pn**	**18 53 24.2**	**+1.5**
1.8nm,0.3s,baz=202,slow=16,SNR=101							
KK31				⇓Pg	**Pb**	**18 53 37.1**	**+1.9**
12nm,0.5s,baz=188,slow=12,SNR=19							
KK31				Lg	Lg	18 54 46.6	
74nm,0.6s,baz=185,slow=32,SNR=9.8							
KK31	**Karatay Array**	**5.00**	**9**	PN	**Pn**	**18 53 24.2**	**+1.5**
KK31				PG	**Pb**	**18 53 37.1**	**+1.9**
KK31	**Karatay Array**	**5.00**	**9**		**Pn**	**18 53 24.2**	**+1.5**
KKAR	**Karatay Array**	**5.00**	**9**	PN	**Pn**	**18 53 24.3**	**+1.6**
KKAR	**Karatay Array**	**5.00**	**9**		**Pn**	**18 53 24.0**	**+1.3**
KKAR	**Karatay Array**	**5.00**	**9**		**Pn**	**18 53 24.3**	**+1.6**
AML	**Almayashu**	**5.12**	**38**	P	**Pn**	**18 53 25.6**	**+0.8**
SNR=13							
MRKS	**Merke**	**5.40**	**31**	Pg	**Pb**	**18 53 45.7**	**+3.5**
56nm,0.7s							
MRKS				Lg	Lg	18 54 58.7	
47nm,0.7s							
CHCP	**Chirah Chowk**	**5.46**	**144**	P	Pn	18 53 34.1	+5.0
NIL	**Nilore**	**5.46**	**145**	PN	**Pn**	**18 53 32.8**	**+3.7**
NIL	**Nilore**	**5.46**	**145**		**Pn**	**18 53 32.8**	**+3.7**
EKS2	**Erkin-Say**	**5.57**	**35**	P	**Pn**	**18 53 33.2**	**+2.5**
SNR=10.0							
UCH	**Uchtor**	**5.61**	**42**	P	**Pn**	**18 53 32.7**	**+1.2**
SNR=26							
THW	**Thamme Wali**	**5.68**	**160**	P	**Pn**	**18 53 34.9**	**+2.8**
AAK	**Ala-Archa**	**5.89**	**39**	⇑Pn	**Pn**	**18 53 36.2**	**+1.1**
13nm,0.5s							
AAK				⇓Pg	**Pb**	**18 53 53.8**	**+3.2**
17nm,0.6s							
AAK				⇑Lg	Lg	18 55 08.7	
50nm,0.8s							
AAK	**Ala-Archa**	**5.89**	**39**	PN	**Pn**	**18 53 36.2**	**+1.1**
AAK				PG	**Pb**	**18 53 53.8**	**+3.2**
AAK				LG	Lg	18 55 08.7	
AAK	**Ala-Archa**	**5.89**	**39**	Pn	**Pn**	**18 53 36.2**	**+1.1**
5.1nm,0.3s,baz=214,slow=6.6,SNR=70							
AAK				Sn	**Sn**	**18 54 44.8**	**+2.2**
2.6nm,0.3s,baz=307,slow=20,SNR=2.3							
AAK	**Ala-Archa**	**5.89**	**39**	P	**Pn**	**18 53 38.9**	**+3.7**
SNR=25							
AAK	**Ala-Archa**	**5.89**	**39**		**Pn**	**18 53 35.9**	**+0.8**
KZA	**Kyzart**	**5.91**	**47**	P	**Pn**	**18 53 37.4**	**+1.8**
SNR=11							
NRN	**Naryn**	**6.00**	**55**	PN	**Pn**	**18 53 36.6**	**-0.2**
NRN	**Naryn**	**6.00**	**55**		**Pn**	**18 53 36.6**	**-0.2**
FRU1	**Bishkek**	**6.09**	**39**	PN	**Pn**	**18 53 38.0**	**+0.2**
FRU1	**Bishkek**	**6.09**	**39**		**Pn**	**18 53 38.0**	**+0.2**
KBK	**Karagaybulak**	**6.14**	**41**	P	**Pn**	**18 53 40.4**	**+1.9**
SNR=37							
CHMS	**Chumysh**	**6.29**	**38**	P	**Pn**	**18 53 41.5**	**+1.1**
SNR=9.4							
USP	**Ospenovka**	**6.37**	**35**	P	**Pn**	**18 53 42.4**	**+0.7**
SNR=7.0							
BOOM	**Boomskoye usch**	**6.57**	**47**	PN	**Pn**	**18 53 45.4**	**+0.9**
BOOM	**Boomskoye usch**	**6.57**	**47**		**Pn**	**18 53 45.4**	**+0.9**
ULHL	**Ulahol**	**6.60**	**50**	P	**Pn**	**18 53 45.9**	**+1.0**
SNR=6.4							
TKM2	**Tokmak 2**	**6.66**	**43**	⇑Pn	**Pn**	**18 53 46.4**	**+0.6**
11nm,0.5s							
TKM2				⇑Pg	**Pb**	**18 54 07.2**	**+3.4**
26nm,0.9s							
TKM2				⇑Lg	Lg	18 55 41.5	
50nm,1.1s							
TKM2	**Tokmak 2**	**6.66**	**43**	PN	**Pn**	**18 53 46.4**	**+0.6**
TKM2				PG	**Pb**	**18 54 07.2**	**+3.4**
TKM2	**Tokmak 2**	**6.66**	**43**	P	**Pn**	**18 53 46.9**	**+1.1**
SNR=32							
HRA	**Herat**	**6.94**	**239**		**Pn**	**18 53 49.9**	**+0.3**
KST	**Kastek**	**6.94**	**43**	Pg	Pb	18 54 14.2	+5.7
13nm,0.5s							
KST				Lg	Lg	18 55 47.4	
32nm,0.7s							
KDJ	**Kajisay**	**7.12**	**54**	PN	**Pn**	**18 53 52.7**	**+0.7**
KDJ	**Kajisay**	**7.12**	**54**		**Pn**	**18 53 52.7**	**+0.7**
TARG	**Taragay, Kyrgy**	**7.33**	**58**		**Pn**	**18 53 55.2**	**+0.1**
KNDC	**Almaty**	**7.61**	**46**	⇓Pn	**Pn**	**18 54 00.3**	**+1.6**
KNDC				⇑Lg	Lg	18 56 19.4	
MDOK	**Medeo**	**7.63**	**47**	⇓Pn	**Pn**	**18 54 00.4**	**+1.5**
18nm,0.6s							
MDOK				⇑Lg	Lg	18 56 08.2	
36nm,0.9s							
BTLS	**Baital**	**7.68**	**25**	Pg	Pg	18 54 28.7	-6.1
4.4nm,0.6s							
BTLS				Lg	Lg	18 56 12.3	
22nm,0.7s							
PRZ	**Przheval'sk**	**8.08**	**55**	P	**Pn**	**18 54 05.6**	**+0.5**
PRZ	**Przheval'sk**	**8.08**	**55**	Pn	**Pn**	**18 54 05.6**	**+0.5**
DHRM	**DHARAMSHALA**	**8.14**	**134**	*e*P	**Pn**	**18 54 08.7**	**+2.7**
DHRM				*e*S	**Sn**	**18 55 36.4**	**-1.7**
DHRM				IAML		18 55 51.5	
comp=N,77nm,1.0s							
DHRM				IAML		18 55 51.9	
comp=E,119nm,0.5s							
GEYT	**Alibeck**	**8.95**	**272**	Pn	**Pn**	**18 54 17.0**	**0.0**
comp=E,0.4nm,0.3s,baz=91,slow=13,SNR=5.3							
GEYT				Sn	**Sn**	**18 55 56.1**	**-1.7**
comp=E,1.1nm,0.3s,baz=69,slow=18,SNR=5.8							
PDGK	**Podgornoye**	**9.19**	**53**	⇓Pn	**Pn**	**18 54 19.6**	**-0.8**
comp=E,7.6nm,0.8s							
PDGK				⇑Pg		18 54 58.1	
comp=E,5.6nm,0.7s							
PDGK				⇓Lg	Lg	18 56 56.3	
comp=E,22nm,1.1s							
PDGK	**Podgornoye**	**9.19**	**53**	P	**Pn**	**18 54 19.6**	**-0.8**
SMLA	**Simla**	**9.46**	**136**	*e*P	**Pn**	**18 54 25.5**	**+1.4**
SMLA				*e*S	**Sn**	**18 56 08.4**	**-2.0**
SMLA				IAML		18 56 10.9	
comp=E,20nm,0.6s							
SMLA				IAML		18 56 11.4	
comp=N,20nm,0.4s							
JOSI	**Joshimath**	**11.28**	**129**	*e*P	Pn	18 54 54.3	+5.2
JOSI				*e*S	**Sn**	**18 56 54.0**	**-1.2**
JOSI				IAML		18 57 00.1	
comp=E,28nm,0.2s							
JOSI				IAML		18 57 04.2	
KUDL	**Kundal**	**11.60**	**147**	*e*P	**Pn**	**18 54 52.2**	**-1.0**
KUDL				*e*S	**Sn**	**18 56 54.8**	**-7.9**
MAKZ	**Makanchi**	**12.63**	**43**	P	**Pn**	**18 55 06.8**	**-0.6**
MAKZ	**Makanchi**	**12.63**	**43**	Pn	**Pn**	**18 55 06.8**	**-0.6**
MK31	**Makanchi Array**	**12.79**	**44**	Pn	**Pn**	**18 55 09.6**	**+0.1**
comp=E,7.5nm,0.8s,baz=225,slow=12,SNR=20							
MK31	**Makanchi Array**	**12.79**	**44**	*i* P	**Pn**	**18 55 09.6**	**+0.1**
MK31				pmax	pmax		
comp=Z,8.0nm,0.9s							
MK31	**Makanchi Array**	**12.79**	**44**		**Pn**	**18 55 09.6**	**+0.1**
MKAR	**Makanchi Array**	**12.79**	**44**	Pn	**Pn**	**18 55 09.6**	**0.0**
comp=Z,0.3nm,0.3s,baz=225,slow=14,SNR=25							
MKAR	**Makanchi Array**	**12.79**	**44**		**Pn**	**18 55 09.2**	**-0.4**
AB31	**Akbulak array**	**13.03**	**331**	Pn	**Pn**	**18 55 11.2**	**-1.5**
comp=Z,1.7nm,0.6s,baz=156,slow=12,SNR=24							
AB31	**Akbulak array**	**13.03**	**331**	*e*P	**Pn**	**18 55 11.2**	**-1.5**
AB31				pmax	pmax		
comp=Z,2.0nm,0.6s							
ABKAR	**Akbulak array**	**13.03**	**331**		**Pn**	**18 55 11.6**	**-1.2**
ABKAR	**Akbulak array**	**13.03**	**331**		**Pn**	**18 55 10.5**	**-2.2**
KURBB	**Kurchatov Arra**	**14.03**	**24**	Pn	**Pn**	**18 55 24.4**	**-1.9**
comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=5.2							
KURBB				Lg	Lg	18 59 29.0	
comp=Z,0.1nm,0.3s,baz=214,slow=30,SNR=8.0							
KURK	**Kurchatov**	**14.13**	**24**	P	**Pn**	**18 55 24.4**	**-3.4**
AKTO	**Aktyubinsk**	**14.72**	**330**	⇑Pn	**Pn**	**18 55 34.5**	**-1.4**
comp=Z,8.9nm,1.0s							
AKTO	**Aktyubinsk**	**14.72**	**330**	Pn	**Pn**	**18 55 35.9**	**0.0**
comp=Z,0.2nm,0.3s,baz=128,slow=14,SNR=4.4							
AKTO				LR	LR	19 00 44.5	
comp=Z,59nm,18.9s,baz=352,slow=35							
BVAR	**Borovoye Array**	**14.87**	**2**	Pn	**Pn**	**18 55 34.9**	**-2.9**
comp=Z,0.1nm,0.3s,baz=164,slow=10.0,SNR=3.9							
BVAR				Lg	Lg	18 59 59.6	
comp=Z,0.1nm,0.3s,baz=175,slow=32,SNR=3.1							
WMQ	**Urumqi**	**14.88**	**62**	P	**P**	**18 55 42.7**	**-1.1**
WMQ	**Urumqi**	**14.88**	**62**		**P**	**18 55 42.7**	**-1.1**
BRVK	**Borovoye**	**14.90**	**2**	P	**Pn**	**18 55 39.5**	**+1.2**
BRVK	**Borovoye**	**14.90**	**2**		**Pn**	**18 55 39.5**	**+1.2**
DANN	**Dangsing**	**15.44**	**125**	*e*P	**Pn**	**18 55 47.8**	**+1.9**
KOLN	**Koldanda**	**15.74**	**127**	*e*P	**Pn**	**18 55 49.4**	**-0.3**
PKIN	**Phulchoki**	**17.03**	**124**	*e*P	**Pn**	**18 56 05.9**	**-0.3**
PKI	**Pulchoki**	**17.04**	**124**	*e*P	**Pn**	**18 56 05.9**	**-0.5**
comp=Z,7.2nm,0.4s							
GUN	**Gumba**	**17.13**	**122**	*e*P	**P**	**18 56 09.0**	**-0.2**
JIRN	**Jiri**	**17.50**	**122**	*e*P	**P**	**18 56 12.8**	**-0.5**
comp=Z,21nm,0.5s							
RAMN	**Ramite**	**18.24**	**123**	*e*P	**Pn**	**18 56 19.7**	**-1.5**
TAPN	**Taplejung**	**18.73**	**120**	*e*P	**P**	**18 56 26.9**	**+0.1**
comp=Z,6.0nm,0.4s							
ODAN	**Odare**	**18.83**	**122**	*e*P	**P**	**18 56 26.9**	**-0.9**
comp=Z,8.1nm,0.7s							
ZAA0	**Zalesovo Array**	**18.98**	**29**	P	**P**	**18 56 27.2**	**-1.8**
ZAA0				IAmb	IAmb	18 56 29.4	
comp=Z,7.6nm,0.6s							
ZALV	**Zalesovo Beam**	**18.98**	**29**	P	**P**	**18 56 27.8**	**-1.2**
comp=Z,1.3nm,0.3s,baz=223,slow=12,SNR=35							
ZALV	**Zalesovo Beam**	**18.98**	**29**	P	**P**	**18 56 26.8**	**-2.1**
ARU	**Arti**	**19.66**	**342**	P	**Pn**	**18 56 41.6**	**+3.8**
ARU				S	**S**	**19 00 15.8**	**-2.1**
ARU	**Arti**	**19.66**	**342**	P	**P**	**18 56 37.2**	**+0.7**
comp=Z,0.0nm,0.3s,baz=184,slow=7.5,SNR=5.0							
ARU	**Arti**	**19.66**	**342**	P	**P**	**18 56 36.4**	**0.0**
ARU				IAmb	IAmb	18 57 11.7	
comp=Z,27nm,1.7s							
LSA	**Lhasa**	**19.85**	**109**	P	**P**	**18 56 39.5**	**+0.3**
LSA				pmax	pmax		
comp=Z,5.0nm,0.9s							
LSA	**Lhasa**	**19.85**	**109**	P	**P**	**18 56 39.5**	**+0.3**
KBZ	**Khabaz**	**20.77**	**294**	P	Pn	18 56 51.5	+0.5
comp=Z,2.8nm,0.9s,baz=104,slow=8.3,SNR=5.1							
KIRV	**Kirov**	**24.20**	**334**	P	**P**	**18 57 24.9**	**+0.8**
comp=Z,9.0nm,0.7s,baz=90,slow=3.6,SNR=5.7							
RAYN	**Ar Rayn**	**25.12**	**241**	P	**P**	**18 57 33.7**	**+0.9**
RAYN				pmax	pmax		
comp=Z,2.0nm,0.8s							
RAYN	**Ar Rayn**	**25.12**	**241**	P	**P**	**18 57 33.7**	**+0.9**
RAYN				IAmb	IAmb	18 57 49.2	
comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**28.45**	**58**	P	**P**	**18 58 02.4**	**-0.3**
SONM				pmax	pmax		
comp=Z,2.0nm,1.5s							
SONM	**Songino Array**	**28.45**	**58**	P	**P**	**18 58 02.6**	**-0.1**
comp=Z,0.4nm,0.5s,baz=265,slow=8.7,SNR=6.0							
SONM	**Songino Array**	**28.45**	**58**	P	**P**	**18 58 02.4**	**-0.3**
FINES	**FINESS Array B**	**35.41**	**325**	P	**P**	**18 59 04.0**	**+0.7**
comp=Z,0.8nm,0.7s,baz=112,slow=7.7,SNR=7.5							
FINES	**FINESS Array B**	**35.41**	**325**	P	**P**	**18 59 02.7**	**-0.7**
ARCES	**ARCESS Array B**	**39.13**	**337**	P	**P**	**18 59 35.6**	**+0.8**
comp=Z,1.9nm,0.7s,baz=112,slow=8.0,SNR=4.6							
ARE0	**ARCESS Array S**	**39.13**	**337**	P	**P**	**18 59 35.4**	**+0.5**
ARE0				IAmb	IAmb	18 59 57.7	
comp=Z,9.1nm,1.8s							
NOA	**NORSAR Array B**	**42.31**	**322**	P	**P**	**19 00 01.2**	**0.0**
comp=Z,1.2nm,1.0s,baz=97,slow=8.0,SNR=3.5							
NC204	**NORSAR Array S**	**42.55**	**322**	P	**P**	**19 00 03.3**	**+0.1**
TIXI	**Tiksi**	**44.70**	**23**	P	**P**	**19 00 19.7**	**-0.6**
TIXI	**Tiksi**	**44.70**	**23**	P	**P**	**19 00 19.7**	**-0.6**
TIXI				IAmb	IAmb	19 00 49.8	
comp=Z,4.1nm,0.7s							
ESDC	**Sonseca Array**	**55.60**	**296**	P	**P**	**19 01 44.0**	**+0.5**
comp=Z,0.3nm,0.4s,baz=58,slow=7.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**64.55**	**267**	P	**P**	**19 02 45.4**	**+0.2**
comp=Z,0.6nm,0.6s,baz=41,slow=5.4,SNR=4.4							
INK	**Inuvik**	**72.45**	**9**	P	**P**	**19 03 33.8**	**+0.1**
comp=Z,0.7nm,0.7s,baz=328,slow=5.8,SNR=3.0							
ILAR	**Eielson Array**	**73.51**	**15**	P	**P**	**19 03 39.6**	**-0.4**
comp=Z,0.8nm,0.9s,baz=316,slow=5.9,SNR=6.1							
ILAR	**Eielson Array**	**73.51**	**15**	P	**P**	**19 03 39.3**	**-0.7**
YKA	**Yellowknife Ar**	**79.63**	**2**	P	**P**	**19 04 15.2**	**+0.5**
comp=Z,0.4nm,0.6s,baz=356,slow=5.8,SNR=3.0							
WRA	**Warramunga Arr**	**83.91**	**121**	P	**P**	**19 04 37.5**	**-0.4**
WRA	**Warramunga Arr**	**83.91**	**121**	P	**P**	**19 04 37.4**	**-0.4**
comp=Z,0.5nm,1.0s,baz=322,slow=4.4,SNR=4.0							
WRA	**Warramunga Arr**	**83.91**	**121**	P	**P**	**19 04 37.5**	**-0.4**
ASAR	**Alice Springs**	**86.21**	**124**	P	**P**	**19 04 48.7**	**-0.7**
comp=Z,0.5nm,1.0s,baz=322,slow=4.9,SNR=3.9							
ASAR	**Alice Springs**	**86.21**	**124**	P	**P**	**19 04 48.4**	**-1.0**

*ISCJB **29** 19:00:17.1±0.7, 28°.68S±0°.06×178°.12W±0°.08, h139km±5km, mb4.2/19, Error ellipse: s-maj=11.2km s-min=10.2km az=160.6*
*NEIC **29** 19:00:18.0±2.0, 28°.67S±0°.10×178°.0W±0°.1, h138km±5km, mb4.8/34*
*IDC **29** 19:00:17.9±0.5, 28°.62S×178°.06W, h131km±4km, mb4.1/19, mb1 4.2/21, mb1mx4.1/44, mbtmp4.5/21, MS3.1/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=15.1km s-min=13.1km az=55.0*

ISC 29 19:00:18.4±0.8, 28°.78S±0°.07×178°.11W±0°.08, h138km±6km, n106, σ1§30/113, mb4.6/32, 2C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.50**	**160**	P	**Pn**	**19 00 38.9**	**+0.6**
2μm,0.3s,baz=49,slow=20,SNR=60							
RAO				S	**Sn**	**19 00 54.5**	**+0.9**
3μm,0.3s,baz=37,slow=20,SNR=32							
RAO	**Raoul Island**	**0.50**	**160**		**Pn**	**19 00 38.7**	**+0.3**
RAO					**Sn**	**19 00 53.5**	**0.0**
MXZ	**Matakaoa Point**	**9.26**	**198**	Pn	**Pn**	**19 02 30.9**	**+2.3**
OUZ	**Omahuta**	**9.53**	**226**	Pn	**Pn**	**19 02 32.8**	**+0.6**
URZ	**Urewera**	**10.26**	**202**	P	Pn	19 02 37.9	-4.1
0.7nm,0.3s,baz=45,slow=15,SNR=6.4							
URZ				S	**Sn**	**19 04 30.7**	**-4.6**
5.9nm,0.3s,baz=142,slow=19,SNR=15							
URZ	**Urewera**	**10.26**	**202**		Pn	19 02 38.0	-4.0
URZ					**Sn**	**19 04 29.5**	**-5.8**
BKZ	**Black Stump Fm**	**11.29**	**202**	Pn	**Pn**	**19 02 55.5**	**-0.2**
HIZ	**Hauiti**	**11.34**	**209**	Pn	**Pn**	**19 02 54.4**	**-1.9**
DZM	**Mont Dzumac**	**15.46**	**292**	*e*P	**P**	**19 03 53.6**	**+2.9**
36nm,1.3s							
DZM	**Mont Dzumac**	**15.46**	**292**	P	**P**	**19 03 51.3**	**+0.6**
0.4nm,0.3s,baz=117,slow=17,SNR=6.6							
RPZ	**Rata Peaks**	**17.25**	**207**	P	**P**	**19 04 11.7**	**+1.5**
1.0nm,0.3s,baz=18,slow=3.2,SNR=3.6							
RPZ				S	S	19 07 07.1	-16
1.3nm,0.3s,baz=15,slow=16,SNR=3.8							
RAR	**Rarotonga**	**18.24**	**70**	S	S	19 07 28.4	-14
1.8nm,0.3s,baz=280,slow=6.1,SNR=2.9							
TBI	**Tubuai**	**26.27**	**85**	*e*LR	LR	19 11 51.0	
comp=Z,216nm,35.8s							
ARMA	**Armidale**	**26.32**	**259**	P	**P**	**19 05 44.6**	**+3.0**
ARMA				IAmb	IAmb	19 05 45.4	
comp=Z,46nm,1.6s							
EIDS	**Eidsvold**	**27.60**	**270**	P	**P**	**19 05 54.8**	**+1.9**
EIDS				IAmb	IAmb	19 06 19.8	
comp=Z,26nm,1.5s							
PPT2	**Papeete2**	**28.43**	**73**	*e*LR	LR	19 12 45.3	
comp=Z,103nm,29.8s							
TOO	**Toolangi**	**31.54**	**244**	P	**P**	**19 06 29.7**	**+2.1**
TOO				IAmb	IAmb	19 06 54.0	
comp=Z,15nm,1.1s							
CTA	**Charters Tower**	**33.47**	**277**	P	**P**	**19 06 45.9**	**+1.2**
comp=Z,6.4nm,0.6s,baz=101,slow=12,SNR=17							
STKA	**Stephens Creek**	**34.78**	**255**	P	**P**	**19 06 57.0**	**+1.2**
comp=Z,4.8nm,0.8s,baz=100,slow=12,SNR=11							
STKA				LR	LR	19 20 22.2	
comp=Z,28nm,18.8s,baz=20,slow=34							
STKA	**Stephens Creek**	**34.78**	**255**	P	**P**	**19 06 56.5**	**+0.7**
COEN	**Coen**	**38.76**	**284**	P	**P**	**19 07 29.8**	**+0.1**
BBOO	**Buckleboo**	**39.34**	**252**	P	**P**	**19 07 34.2**	**-0.1**
BBOO				IAmb	IAmb	19 07 51.9	
comp=Z,35nm,1.4s							
AS31	**Alice Springs**	**43.12**	**265**	P	**P**	**19 08 05.7**	**+0.4**
ASAR	**Alice Springs**	**43.12**	**265**	P	**P**	**19 08 05.4**	**+0.1**
comp=Z,5.2nm,0.6s,baz=98,slow=6.8,SNR=98							
ASAR				PcP	**PcP**	**19 09 52.3**	**-0.4**
comp=Z,1.1nm,0.4s,baz=118,slow=2.7,SNR=6.0							
ASAR				ScP	**ScP**	**19 13 33.0**	**+1.9**
comp=Z,0.3nm,0.6s,baz=107,slow=4.3,SNR=4.6							
ASAR	**Alice Springs**	**43.12**	**265**	P	**P**	**19 08 04.8**	**-0.6**
ASAR					**PcP**	**19 09 51.1**	**-1.6**
ASAR					**ScP**	**19 13 32.6**	**+1.5**
WR0	**Warramunga Arr**	**43.78**	**271**	P	**P**	**19 08 11.7**	**+1.1**
WR0				PcP	**PcP**	**19 09 55.1**	**+0.2**
WB2	**Warramunga Arr**	**43.95**	**271**	P	**P**	**19 08 12.4**	**+0.5**
WB2				PcP	**PcP**

PETK Petropavlovsk- 84.22 346 P **P** 19 12 34.0 0.0
comp=Z,4.6nm,0.6s,baz=112,slow=7.7,SNR=17
PETK Petropavlovsk- 84.22 346 P **P** 19 12 34.5 +0.5
USRK Ussuriysk Ar. 85.76 327 P **P** 19 12 40.2 -1.6
comp=Z,1.8nm,0.8s,baz=191,slow=1.1,SNR=4.3
NVAR Mina Array Bea 87.12 43 P **P** 19 12 48.3 -0.7
comp=Z,0.8nm,0.7s,baz=219,slow=9.2,SNR=7.9
NVAR Mina Array Bea 87.12 43 P **P** 19 12 47.8 -1.2
KLR Kul'dur 89.59 330 P **P** 19 12 59.5 -0.5
comp=Z,2.1nm,0.6s,baz=134,slow=7.0,SNR=8.7
ENH Enshi 90.61 304 P **P** 19 13 05.2 -0.1
CMAR Chiang Mai Arr 92.77 289 P **P** 19 13 17.3 +1.7
comp=Z,0.6nm,0.8s,baz=152,slow=4.5,SNR=4.1
CMAR Chiang Mai Arr 92.77 289 P **P** 19 13 16.2 +0.7
ILAR Eielson Array 96.37 13 P **P** 19 13 31.5 +0.5
comp=Z,0.5nm,0.9s,baz=212,slow=3.2,SNR=2.8
ILAR Eielson Array 96.37 13 P **P** 19 13 30.2 -0.7
LPAZ La Paz 98.89 114 P Pdif 19 13 44.7 +0.4
comp=Z,0.8nm,0.5s,baz=279,slow=3.7,SNR=4.3
LPAZ La Paz 98.89 114 P **P** 19 13 43.5 -0.7
LPAZ IAmb IAmb 19 13 54.2
comp=Z,4.1nm,1.4s
MKAR Makanchi Array 116.65 311 PKP **PKPdf** 19 18 45.1 -0.9
comp=Z,0.9nm,0.5s,baz=142,slow=0.6,SNR=19
MKAR Makanchi Array 116.65 311 **PKPdf** 19 18 44.6 -1.4
ZALV Zalesovo Beam 116.75 319 PKP **PKPdf** 19 18 44.7 -1.2
comp=Z,0.7nm,0.5s,baz=101,slow=1.7,SNR=3.2
ZALV Zalesovo Beam 116.75 319 **PKPdf** 19 18 44.4 -1.5
BOSA Boshof 118.71 203 PKP **PKiKP** 19 18 51.5 +0.7
comp=Z,2.0nm,0.5s,baz=167,slow=3.5,SNR=8.4
BOSA Boshof 118.71 203 **PKiKP** 19 18 52.1 +1.3
AAK Ala-Archa 121.12 305 PKP **PKiKP** 19 18 55.3 +0.2
comp=Z,1.1nm,0.6s,baz=86,slow=8.2,SNR=4.6
AAK Ala-Archa 121.12 305 **PKPdf** 19 18 54.9 -0.1
BVAR Borovoye Array 125.17 317 PKP **PKPdf** 19 19 02.0 -0.2
comp=Z,3.4nm,0.5s,baz=131,slow=1.5,SNR=19
AKTO Aktyubinsk 132.93 314 PKP **PKPdf** 19 19 17.3 +0.3
comp=Z,2.3nm,0.7s,baz=78,slow=1.1,SNR=7.4
ARCES ARCESS Array B 136.99 348 PKP **PKPdf** 19 19 23.3 -0.7
comp=Z,5.2nm,0.9s,baz=22,slow=3.9,SNR=3.5
H10N3 ASCENSION HYDR 140.31 154 T T 21 56 27.1
baz=203,slow=75,SNR=3.0
H10N1 ASCENSION HYDR 140.31 154 T T 21 56 26.7
baz=203,slow=75,SNR=3.5
H10N2 ASCENSION HYDR 140.33 154 T T 21 56 28.1
baz=203,slow=75,SNR=3.0
FINES FINESS Array B 143.59 341 PKP PKPbc 19 19 33.2 -0.7
comp=Z,1.2nm,0.3s,baz=44,slow=4.3,SNR=26
FINES FINESS Array B 143.59 341 PKPbc 19 19 33.1 -0.8
KBZ Khabaz 144.10 306 PKP PKPbc 19 19 36.2 +0.2
comp=Z,3.2nm,0.8s,baz=118,slow=3.1,SNR=5.6
NB2 NORSAR Subarra 147.14 352 PKP **PKPbc** 19 19 44.2 -0.5
comp=Z,2.1nm,0.4s,baz=10,slow=3.2
NOA NORSAR Array B 147.14 352 PKPbc **PKPbc** 19 19 44.0 -0.7
comp=Z,0.8nm,0.4s,baz=59,slow=1.5,SNR=24
AKASG Malin Array Be 149.94 324 PKPbc **PKPbc** 19 19 51.6 -0.5
comp=Z,11nm,0.5s,baz=41,slow=3.4,SNR=59
AKASG PKPab **PKPab** 19 19 58.1 -0.1
comp=Z,0.5nm,0.3s,baz=40,slow=5.0,SNR=9.3
AKASG Malin Array Be 149.94 324 **PKPbc** 19 19 51.8 -0.3
BRTR Keskin Array B 151.71 301 PKPbc **PKPbc** 19 19 56.5 -0.3
comp=Z,3.0nm,0.5s,baz=145,slow=5.2,SNR=16
BRTR PKPab **PKPab** 19 20 06.5 +0.3
comp=Z,1.7nm,0.6s,baz=111,slow=2.6,SNR=6.4
BRTR Keskin Array B 151.71 301 **PKPbc** 19 19 56.0 -0.9
BRTR **PKPab** 19 20 05.8 -0.4
CLL Collm 155.99 343 *e*PKPab **PKPab** 19 20 24.0 +0.3
TORD Torodi Ar. Bea 164.45 179 PKP **PKPdf** 19 20 07.0 +0.7
comp=Z,0.4nm,0.6s,baz=314,slow=2.8,SNR=2.5
TORD PKPab **PKPab** 19 21 02.1 +0.8
comp=Z,3.6nm,0.6s,baz=177,slow=3.6,SNR=17

NEIC ***29*** *19:04:41.4±1.2, 47°.04N±0°.02×66°.63W±0°.01, h1km±6km*
OTT ***29*** *19:04:42.8±0.2, 47°.04N×66°.57W, h5km, MN2.5/5, 64km east from Plaster Rock, Nb Northern Appalachians Seismic Zone.*
ISC 29 19:04:41.3±1.1, 47°.03N±0°.04×66°.62W±0°.02, h6km±11km, n23, σ0s51/43, New Brunswick

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATG	**Bathurst New B**	**0.46**	**57**	PG	**Pg**	**19 04 50.4**	**+0.2**
BATG				SG	**Sg**	**19 04 56.4**	**+0.2**
BATG				Trac		19 05 00.9	
comp=Z,42nm,0.0s							
BATG	**Bathurst New B**	**0.46**	**57**		**Pg**	**19 04 50.4**	**+0.2**
BATG				Sg	**Sg**	**19 04 55.5**	**-0.7**
PQI	**Presque Isle**	**1.02**	**250**		**Pg**	**19 05 00.8**	**-0.1**
PQI				Sg	**Sg**	**19 05 13.6**	**-0.6**
HANN	**Hanwell**	**1.15**	**185**	PG	**Pg**	**19 05 03.8**	**+0.4**
HANN				SG	**Sb**	**19 05 18.6**	**-0.1**
HANN				SG	**Sb**	**19 05 18.6**	**-0.1**
HANN				Trac		19 05 21.8	
comp=Z,1.6nm,0.0s							
HANN	**Hanwell**	**1.15**	**185**	Pg	**Pg**	**19 05 03.8**	**+0.4**
HANN				Sg	**Sb**	**19 05 18.6**	**-0.1**
HKNB	**Havelock Quarr**	**1.35**	**140**	PG	**Pb**	**19 05 07.2**	**+0.1**
HKNB				SG	**Sn**	**19 05 24.6**	**-0.5**
HKNB				Trac		19 05 26.1	
comp=Z,25nm,0.2s							
HKNB	**Havelock Quarr**	**1.35**	**140**		**Pb**	**19 05 07.2**	**+0.1**
HKNB				Sg	**Sn**	**19 05 24.6**	**-0.5**
SRNB	**Snider Mountai**	**1.38**	**150**	PG	**Pb**	**19 05 07.2**	**-0.2**
SRNB				SG	**Sn**	**19 05 25.4**	**-0.2**
SRNB				Trac		19 05 25.8	
comp=Z,20nm,0.1s							
SRNB	**Snider Mountai**	**1.38**	**150**		**Pb**	**19 05 07.2**	**-0.2**
SRNB				Sg	**Sn**	**19 05 25.4**	**-0.2**
E63A	**Oxbow**	**1.38**	**245**		**Pb**	**19 05 07.4**	**-0.1**
E63A				Sn	**Sg**	**19 05 25.9**	**+0.4**
WCNB	**Wards Creek**	**1.58**	**150**	PN	**Pb**	**19 05 11.3**	**+0.4**
WCNB				SG	**Sg**	**19 05 31.9**	**-0.2**
WCNB				Trac		19 05 32.4	
comp=Z,9.4nm,0.1s							
WCNB	**Wards Creek**	**1.58**	**150**	Pn	**Pb**	**19 05 11.3**	**+0.4**
WCNB					**Sg**	**19 05 31.9**	**-0.2**
D62A	**Allapoint, All**	**1.66**	**273**		**Pb**	**19 05 11.5**	**-0.8**
D62A				Sn	**Sb**	**19 05 33.8**	**+0.3**
F64A	**Sherman**	**1.67**	**226**		**Pb**	**19 05 12.1**	**-0.3**
F64A					**Sb**	**19 05 33.8**	**+0.2**
LMN	**Caledonia Moun**	**1.72**	**132**	PN	**Pb**	**19 05 12.6**	**-0.7**
LMN				SG	**Sb**	**19 05 35.1**	**-0.1**
LMN				Trac		19 05 36.5	
comp=Z,2μm,3.0s							
LMN	**Caledonia Moun**	**1.72**	**132**	Pn	**Pb**	**19 05 12.6**	**-0.7**
LMN					**Sb**	**19 05 35.1**	**-0.1**
GGN	**Saint George**	**1.91**	**185**	PN	**Pb**	**19 05 15.7**	**-0.9**
GGN				SN	**Sb**	**19 05 40.8**	**0.0**
GGN				Trac		19 05 44.4	
comp=Z,64nm,0.6s							
GGN	**Saint George**	**1.91**	**185**	Pn	**Pb**	**19 05 15.7**	**-0.9**
GGN				Sn	**Sb**	**19 05 40.8**	**0.0**
G65A	**Princeton**	**1.94**	**200**	Pn	**Pn**	**19 05 15.4**	**+0.6**
G65A				Sn	**Sb**	**19 05 41.5**	**0.0**
E62A	**Clayton Lake**	**2.03**	**260**		**Pn**	**19 05 17.0**	**+0.9**
F63A	**Nahmakanta, Br**	**2.17**	**233**		**Pb**	**19 05 21.6**	**+0.6**
EMMW	**East Machias**	**2.39**	**194**	Pn	**Pb**	**19 05 23.7**	**-1.0**
PKME	**Peaks-Kenny Pk**	**2.56**	**227**	Pn	**Pb**	**19 05 26.3**	**-1.3**

ISCJB ***29*** *19:19:20.1±0.3, 15°.67S±0°.03×70°.21W±0°.04, h224km, mb4.0/4, Error ellipse: s-maj=6.1km s-min=3.9km az=165.4*
NEIC ***29*** *19:19:20.1±2.0, 15°.55S±0°.07×70°.14W±0°.09, h201km±6km, mb4.4/18*
IDC ***29*** *19:19:23.4±1.4, 15°.69S×69°.91W, h226km±10km, mb3.7/4, mb1 3.8/7, mb1mx3.4/31, mbtmp4.3/7, Error ellipse: s-maj=30.3km s-min=20.4km az=175.0*
ISC 29 19:19:21.7±0.5, 15°.70S±0°.05×70°.21W±0°.06, h224km, n56, σ1s97/67, mb4.2/9, 3C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.09**	**107**	P	**Pn**	**19 20 03.7**	**+0.1**
30nm,0.3s,baz=334,slow=8.1,SNR=567							
LPAZ				S	**S**	**19 20 34.0**	**-2.1**
15nm,0.3s,baz=209,slow=23,SNR=21							
AP01	**Chacalluta**	**2.66**	**183**	⇑*i* P	**Pn**	**19 20 08.0**	**-0.8**
AP01				*i* S	**S**	**19 20 43.2**	**-2.6**
AP01				IAML		19 20 45.9	
comp=E,1μm,0.2s							
MNMC Minye Minye		**3.46**	**170**		**Pn**	**19 20 18.2**	**0.0**
GO01 Chusmiza		**4.07**	**166**	⇑*i* P	**Pn**	**19 20 26.1**	**+0.4**
GO01				*i* S	**S**	**19 21 14.8**	**-1.1**
GO01 Chusmiza		**4.07**	**166**		**Pn**	**19 20 25.9**	**+0.2**
PB11 IPOC Station P		**4.08**	**173**	⇑*i* P	**Pn**	**19 20 24.8**	**-0.6**
PB11				*i* S	**S**	**19 21 13.0**	**-2.7**
PB11				IAML		19 21 16.0	
comp=N,321nm,0.3s							
PB11 IPOC Station P		**4.08**	**173**		**Pn**	**19 20 24.8**	**-0.6**
PB08 IPOC Station P		**4.53**	**167**	*i* P	**Pn**	**19 20 31.6**	**+0.3**
PB08				*i* S	**S**	**19 21 23.9**	**-2.2**
PB08				IAML		19 21 27.9	
comp=E,216nm,0.4s							
TA01 Diego Aracena		**4.84**	**180**	*e*P	**Pn**	**19 20 33.5**	**-1.2**
TA01				*i* S	**S**	**19 21 27.0**	**-5.5**
PB01 IPOC Station P		**5.36**	**173**		**Pn**	**19 20 40.3**	**-1.0**
PB04 IPOC Station P		**6.60**	**179**		**Pn**	**19 20 55.9**	**-1.3**
LVC Limon Verde		**6.98**	**170**	P	**Pn**	**19 21 02.2**	**0.0**
comp=E,12nm,0.3s,baz=357,slow=7.9,SNR=100							
LVC				S	**S**	**19 22 17.3**	**-5.1**
comp=E,7.8nm,0.3s,baz=135,slow=20,SNR=14							
LVC Limon Verde		**6.98**	**170**		**Pn**	**19 21 01.7**	**-0.5**
LVC					**S**	**19 22 16.7**	**-5.7**
NNA Nana		**7.42**	**299**	P	**Pn**	**19 21 06.0**	**-1.6**
comp=E,5.1nm,0.3s,baz=156,slow=13,SNR=4.7							
NNA				S	**S**	**19 22 28.4**	**-3.8**
comp=E,3.2nm,0.3s,baz=87,slow=18,SNR=2.5							
NNA Nana		**7.42**	**299**		**Pn**	**19 21 05.5**	**-2.1**
PB10 IPOC Station P		**7.78**	**182**		**Pn**	**19 21 11.2**	**-0.9**
PB10					**S**	**19 22 37.5**	**-3.0**
SIV San Ignacio		**8.80**	**93**	P	**Pn**	**19 21 23.4**	**-2.0**
comp=E,0.8nm,0.3s,baz=282,slow=13,SNR=29							
SIV				S	**S**	**19 23 01.1**	**-3.6**
comp=E,0.1nm,0.3s,baz=277,slow=17,SNR=1.9							
GO02 Mina Guanaco		**9.43**	**177**		**Pn**	**19 21 33.0**	**-0.7**
SAML Samuel		**9.60**	**46**	Pn	**Pn**	**19 21 32.6**	**-3.0**
GO03 Copiap		**11.84**	**186**	Pn	**Pn**	**19 22 05.4**	**+1.5**
GO04 Tololo Observa		**14.42**	**182**		**Pn**	**19 22 38.6**	**+2.5**
CPUP Villa Florida		**16.00**	**133**	P	**P**	**19 22 54.8**	**+0.7**
comp=E,1.0nm,0.3s,baz=320,slow=8.8,SNR=20							
CPUP Villa Florida		**16.00**	**133**	P	**P**	**19 22 54.4**	**+0.3**
CPUP				IAmb	IAmb	19 22 59.1	
comp=Z,6.6nm,0.6s							
OTAV Otavalo		**17.80**	**332**		**P**	**19 23 15.4**	**+1.0**
OTAV				IAmb	IAmb	19 23 24.5	
comp=Z,7.9nm,0.6s							
BDFB Brasilia		**21.38**	**93**	P	**P**	**19 23 51.3**	**-0.8**
comp=Z,3.2nm,0.5s,baz=260,slow=12,SNR=5.4							
BDFB Brasilia		**21.38**	**93**	P	**P**	**19 23 51.3**	**-0.8**
TRQA Tornquist		**23.43**	**163**	P	**P**	**19 24 12.7**	**+1.9**
TRQA				IAmb	IAmb	19 24 20.8	
comp=Z,20nm,1.4s							
GO06 Curarrehue		**23.82**	**182**	P	**P**	**19 24 13.9**	**-0.6**
GO06				IAmb	IAmb	19 24 19.9	
comp=Z,5.1nm,0.9s							
WSPT Westport, CT		**56.65**	**357**	P	**P**	**19 28 40.2**	**-1.4**
G65A Princeton		**60.66**	**2**	P	**P**	**19 29 08.7**	**-0.3**
G65A				IAmb	IAmb	19 29 22.2	
comp=Z,11nm,1.0s							
E62A Clayton Lake		**62.03**	**1**	P	**P**	**19 29 17.9**	**-0.3**
D62A Allapoint, All		**62.50**	**1**	P	**P**	**19 29 20.9**	**-0.4**
X18A Snowflake		**62.63**	**324**	P	**P**	**19 29 23.8**	**+1.1**
X18A				IAmb	IAmb	19 29 40.1	
comp=Z,11nm,1.7s							
SDCO Great Sand Dun		**62.66**	**329**	P	**P**	**19 29 24.6**	**+1.7**
ECSD EROS Data Cent		**63.89**	**339**	P	**P**	**19 29 30.6**	**+0.1**
EYMN Ely		**66.15**	**345**	P	**P**	**19 29 44.2**	**-0.8**
RSSD Black Hills		**67.06**	**334**	P	**P**	**19 29 52.7**	**+1.6**
RSSD				IAmb	IAmb	19 30 16.7	
comp=Z,8.3nm,1.5s							
SNAA Sanae		**68.14**	**162**	P	**P**	**19 30 00.1**	**+2.8**
DBIC Dimbokro		**68.42**	**76**	P	**P**	**19 29 59.4**	**-0.4**
comp=Z,2.2nm,0.3s,baz=288,slow=3.2,SNR=14							
DBIC Dimbokro		**68.42**	**76**	P	**P**	**19 29 59.5**	**-0.4**
DBIC				IAmb	IAmb	19 30 20.5	
comp=Z,12nm,1.4s							
YHB Horse Butte		**70.77**	**330**	P	**P**	**19 30 13.4**	**-0.5**
QSPA South Pole Qui		**74.46**	**180**	P	**P**	**19 30 38.5**	**+3.3**
TOA0 Torodi Ar. Sit		**76.67**	**72**	P	**P**	**19 30 47.8**	**-0.7**
TORD Torodi Ar. Bea		**76.67**	**72**	P	**P**	**19 30 47.7**	**-0.8**
comp=Z,1.6nm,0.5s,baz=272,slow=5.3,SNR=15							
TORD Torodi Ar. Bea		**76.67**	**72**	P	**P**	**19 30 47.7**	**-0.8**
YKA Yellowknife Ar		**85.33**	**341**	P	**P**	**19 31 33.9**	**+0.8**
comp=Z,0.9nm,0.6s,baz=131,slow=4.9,SNR=7.3							
ASAR Alice Springs		**134.32**	**212**		**PKPdf**	**19 38 15.6**	**+1.8**
comp=Z,0.4nm,0.7s,baz=127,slow=1.8,SNR=3.9							
ASAR Alice Springs		**134.32**	**212**		**PKPdf**	**19 38 15.2**	**+1.5**
WRA Warramunga Arr		**137.14**	**215**	PKP	**PKPdf**	**19 38 21.1**	**+2.0**
comp=Z,0.4nm,0.3s,baz=135,slow=1.6,SNR=19							
WRA Warramunga Arr		**137.14**	**215**		**PKPdf**	**19 38 21.0**	**+2.0**
ZALV Zalesovo Beam		**137.14**	**22**	PKP	**PKPdf**	**19 38 19.4**	**+1.6**
comp=Z,2.2nm,0.6s,baz=308,slow=2.1,SNR=9.6							
MKAR Makanchi Array		**141.48**	**31**	PKP	**PKPdf**	**19 38 27.0**	**+0.9**
comp=Z,0.2nm,0.4s,baz=313,slow=2.1,SNR=3.7							
MKAR Makanchi Array		**141.48**	**31**	PKPdf	**PKPdf**	**19 38 28.0**	**+1.9**
MJAR Matsushiro Arr		**147.31**	**315**	PKPbc	**PKPbc**	**19 38 40.9**	**+1.7**
comp=Z,1.1nm,0.6s,baz=72,slow=3.3,SNR=2.9							
SONM Songino Array		**147.83**	**4**	PKPbc	**PKiKP**	**19 38 42.3**	**+0.2**
comp=Z,0.7nm,0.5s,baz=333,slow=1.9,SNR=8.8							
SONM Songino Array		**147.83**	**4**		**PKPbc**	**19 38 42.0**	**+1.7**

ISCJB ***29*** *20:15:13.9±0.7, 24°.38S±0°.08×179°.1E±0°.1, h549km, mb3.6/4, Error ellipse: s-maj=14.0km s-min=10.0km az=155.8*
NEIC ***29*** *20:15:14.1±1.1, 24°.3S±0°.2×179°.2E±0°.2, h542km±9km, mb4.5/18*
IDC ***29*** *20:15:15.0±4.1, 24°.54S×179°.09E, h538km±38km, mb3.3/4, mb1 3.5/6, mb1mx3.1/30, mbtmp4.3/6, Error ellipse: s-maj=42.6km s-min=21.6km az=49.0*
ISC 29 20:15:14.9±0.7, 24°.48S±0°.10×179°.2E±0°.1, h549km, n33, σ1s00/38, mb4.3/12, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM Mont Dzumac		**11.96**	**279**	P	**P**	**20 17 53.2**	**+0.1**
0.6nm,0.3s,baz=72,slow=16,SNR=8.5							
DZM Mont Dzumac		**11.96**	**279**	P	**P**	**20 17 53.1**	**0.0**
URZ Urewera		**13.85**	**187**	P	**P**	**20 18 12.1**	**-0.1**
1.8nm,0.3s,baz=44,slow=3.1,SNR=9.4							
URZ				S	**S**	**20 20 34.8**	**-3.5**
0.5nm,0.3s,baz=357,slow=19,SNR=2.7							
THZ Tophouse		**18.01**	**195**	P	**P**	**20 18 54.5**	**+1.8**
KHZ Kahutara		**18.49**	**193**	P	**P**	**20 18 58.3**	**+1.3**
KHZ				IAmb	IAmb	20 18 58.4	
comp=Z,32nm,1.1s							
COEN Coen		**35.48**	**280**	P	**P**	**20 21 26.1**	**+0.1**
COEN				IAmb	IAmb	20 21 27.6	
comp=Z,12nm,1.4s							
BBOO Buckleboo		**38.53**	**248**	P	**P**	**20 21 50.9**	**+0.2**
BBOO				IAmb	IAmb	20 21 59.5	
comp=Z,27nm,1.2s							
AS31 Alice Springs		**41.21**	**261**	P	**P**	**20 22 12.5**	**+0.2**
ASAR Alice Springs		**41.21**	**261**	P	**P**	**20 22 12.6**	**+0.2**
comp=Z,1.0nm,0.5s,baz=92,slow=7.2,SNR=17							
ASAR				PcP	**PcP**	**20 23 58.5**	**+0.2**
comp=Z,0.3nm,0.5s,baz=100,slow=3.9,SNR=4.5							
ASAR Alice Springs		**41.21**	**261**	P	**P**	**20 22 12.4**	**0.0**
ASAR					**PcP**	**20 23 57.9**	**-0.4**
WR0 Warramunga Arr		**41.44**	**267**	P	**P**	**20 22 13.6**	**-0.6**
WR0				IAmb	IAmb	20 22 18.5	
comp=Z,16nm,1.6s							
WB2 Warramunga Arr		**41.62**	**267**	P	**P**	**20 22 15.1**	**-0.5**
WB2				IAmb	IAmb	20 22 23.4	
comp=Z,19nm,1.4s							
WB2				PcP	**PcP**	**20 23 59.9**	**+0.3**
WRAB Tennant Creek		**41.62**	**267**	P	**P**	**20 22 14.8**	**-0.8**
WB0 Warramunga Arr		**41.63**	**267**	P	**P**	**20 22 15.0**	**-0.7**
WRA Warramunga Arr		**41.63**	**267**	P	**P**	**20 22 15.1**	**-0.7**
comp=Z,1.7nm,0.6s,baz=98,slow=8.2,SNR=71							
WRA				PcP	**PcP**	**20 23 59.5**	**-0.2**
comp=Z,0.8nm,1.1s,baz=101,slow=3.1,SNR=2.8							
WRA Warramunga Arr		**41.63**	**267**	P	**P**	**20 22 15.0**	**-0.7**
FORT Forrest		**45.41**	**250**	P	**P**	**20 22 45.0**	**+0.1**
FORT				IAmb	IAmb	20 22 45.9	
comp=Z,51nm,1.2s							
MTN Manton Dam		**46.76**	**275**	P	**P**	**20 22 54.3**	**-1.0**
MTN				IAmb	IAmb	20 23 13.0	
comp=Z,12nm,1.1s							
KNRA Kununurra		**47.95**	**271**	P	**P**	**20 23 03.9**	**-0.3**
FITZ Fitzroy Crossi		**50.05**	**266**	P	**P**	**20 23 20.1**	**+0.4**
FITZ				IAmb	IAmb	20 23 35.9	
comp=Z,17nm,1.4s							
SBLHI Steaming Bluff		**50.24**	**32**	P	**P**	**20 23 19.6**	**-1.6**
CASY Casey		**59.26**	**206**	P	**P**	**20 24 24.2**	**+0.9**
CASY				IAmb	IAmb	20 24 25.6	
comp=Z,52nm,1.4s							
MAW Mawson		**76.94**	**201**	P	**P**	**20 26 11.8**	**+1.2**
comp=Z,0.9nm,0.6s,baz=153,slow=4.5,SNR=4.6							
MAW Mawson		**76.94**	**201**	P	**P**	**20 26 11.8**	**+1.2**
PMSA Palmer Station		**78.67**	**157**	P	**P**	**20 26 20.7**	**+0.8**
comp=Z,1.6nm,0.5s,baz=212,slow=9.5,SNR=4.7							
SYO Syowa Base		**82.27**	**194**	⇑*e*P	P	20 26 53.0	+14
Y22D IRIS PASSCAL I		**91.15**	**53**	P	**P**	**20 27 22.4**	**+0.7**
WSPT Westport, CT		**118.48**	**55**		**PKiKP**	**20 33 01.5**	**+1.1**
ARCES ARCESS Array B 132.30 348				PKP	**PKPdf**	**20 33 25.5**	**-0.5**
comp=Z,9.3nm,1.2s,baz=29,slow=2.1,SNR=4.2							
AKASG Malin Array Be		**145.05**	**326**	PKPbc	**PKPdf**	**20 33 48.8**	**-0.8**
comp=Z,1.4nm,0.5s,baz=42,slow=4.2,SNR=6.5							
BRTR Keskin Array B		**147.33**	**306**	PKP	**PKPbc**	**20 33 56.2**	**-1.1**
comp=Z,0.9nm,0.5s,baz=160,slow=6.6,SNR=2.8							
BRTR				PKPbc	**PKiKP**	**20 34 00.2**	**+1.2**
comp=Z,1.2nm,0.6s,baz=80,slow=4.1,SNR=4.8							
BRTR Keskin Array B		**147.33**	**306**		**PKPbc**	**20 33 56.4**	**-0.9**
CLL Collm		**151.19**	**342**	*e*PKPbc	**PKPbc**	**20 34 05.0**	**-1.0**

ISCJB ***29*** *21:02:20.9±0.7, 11°.8N±0°.1×141°.45E±0°.10, h51km, mb3.8/8, Error ellipse: s-maj=19.9km s-min=10.1km az=147.0*
IDC ***29*** *21:02:22.8±3.7, 11°.81N×141°.45E, h51km±34km, mb3.5/8, mb1 3.8/9, mb1mx3.6/34, mbtmp3.8/9, ML3.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/32, Error ellipse: s-maj=29.7km s-min=17.0km az=115.0*
ISC 29 21:02:22.6±0.8, 11°.8N±0°.2×141°.5E±0°.1, h51km, n11, σ1s15/11, mb3.7/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO Guam		**3.78**	**61**	P	**Pn**	**21 03 17.6**	**-0.8**
6.5nm,0.3s,baz=192,slow=9.3,SNR=3.1							
GUMO				S	**Sn**	**21 04 02.9**	**+1.3**
5.7nm,0.3s,baz=345,slow=20,SNR=2.2							
GUMO				LR	LR	21 04 46.6	
comp=Z,162nm,18.4s,baz=306,slow=38							
JCJ Chichijima		**15.26**	**2**	LR	LR	21 09 26.4	
comp=Z,53nm,22.0s,baz=321,slow=28							
WRA Warramunga Arr		**32.29**	**193**	P	**P**	**21 08 46.4**	**-0.5**
0.9nm,0.6s,baz=13,slow=9.5,SNR=9.8							
ASAR Alice Springs		**35.99**	**192**	P	**P**	**21 09 19.7**	**+0.8**
0.5nm,0.6s,baz=15,slow=12,SNR=8.8							
SONM Songino Array		**46.39**	**328**	P	**P**	**21 10 45.4**	**+1.3**
0.2nm,0.4s,baz=111,slow=7.9,SNR=3.1							
MKAR Makanchi Array		**60.52**	**317**	P	**P**	**21 12 28.2**	**+0.5**
0.5nm,0.8s,baz=90,slow=5.9,SNR=2.8							
ILAR Eielson Array		**71.62**	**25**	P	**P**	**21 13 37.1**	**-1.4**
0.4nm,0.5s,baz=244,slow=6.0,SNR=12							
YKA Yellowknife Ar		**85.98**	**27**	P	**P**	**21 14 57.6**	**+0.3**
0.2nm,0.3s,baz=288,slow=5.0,SNR=2.5							
NVAR Mina Array Bea		**90.64**	**51**	P	**P**	**21 15 20.8**	**+0.5**
0.8nm,0.6s,baz=265,slow=5.2,SNR=8.3							
FINES FINESS Array B		**91.37**	**334**	P	**P**	**21 15 21.1**	**-1.7**
1.1nm,0.7s,baz=72,slow=4.5,SNR=3.7							
LPAZ La Paz		**150.96**	**102**	PKPbc	**PKiKP**	**21 22 12.7**	**+0.6**
2.2nm,0.6s,baz=275,slow=4.3,SNR=12							

IDC ***29*** *21:03:25.2±2.1, 12°.26N×140°.52E, h0km, mb3.6/4, mb1 4.1/5, mb1mx3.7/34, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=148.5km s-min=25.1km az=108.0*
ISCJB ***29*** *21:03:28.4±1.8, 12°.1N±0°.2×140°.7E±0°.8, h33km, mb3.6/4, Error ellipse: s-maj=121.3km s-min=19.1km az=14.2*
ISC 29 21:03:30.7±2.0, 12°.1N±0°.3×140°.8E±0°.9, h35km, n6, σ1s54/6, mb3.6/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY Jayapura		**14.50**	**180**	Pn	**Pn**	**21 06 52.7**	**-0.8**
0.7nm,0.3s,baz=329,slow=5.9,SNR=3.8							
WRA Warramunga Arr		**32.45**	**191**	P	**P**	**21 09 57.6**	**-0.2**
0.6nm,0.7s,baz=13,slow=9.4,SNR=6.2							
ASAR Alice Springs		**36.16**	**191**	P	**P**	**21 10 31.0**	**+1.1**
0.3nm,0.5s,baz=22,slow=12,SNR=6.0							
ILAR Eielson Array		**71.64**	**25**	P	**P**	**21 14 47.0**	**-1.5**
0.3nm,0.7s,baz=245,slow=5.9,SNR=3.2							
NVAR Mina Array Bea		**90.97**	**50**	P	**P**	**21 16 32.5**	**+0.8**
0.4nm,0.6s,baz=275,slow=4.7,SNR=4.1							
LPAZ La Paz		**151.69**	**102**	PKPbc	**PKiKP**	**21 23 25.2**	**+1.5**
1.2nm,0.6s,baz=285,sl

TGIG		**1.57**	**76**		**Pn**	**22 33 52.2**	**+0.6**
TGIG					**Sn**	**22 34 11.1**	**-0.2**
OXBJ	**Oaxaca**	**2.04**	**289**	*eP*	**Pn**	**22 33 58.4**	**+0.4**
OXBJ	**Oaxaca**	**2.04**	**289**		**Pn**	**22 33 58.4**	**+0.4**
VHO	**Vista Hermosa**	**2.05**	**289**	*eP*	**Pn**	**22 33 58.6**	**+0.4**
VHO				*eS*	**Sn**	**22 34 22.7**	**-0.4**
CCIG	**Comitan**	**2.47**	**92**	Pn	**Pn**	**22 34 05.4**	**+1.5**
CCIG				Sn	**Sn**	**22 34 29.8**	**-3.4**
TLIG	**Tlapa**	**3.87**	**288**		**Pn**	**22 34 23.1**	**+0.3**
TEIG	**Tepich**	**7.20**	**57**	Pn	**Pn**	**22 35 08.6**	**+0.4**
833A	**Chaparral WMA,**	**12.63**	**341**		**Pn**	**22 36 23.5**	**+1.2**
435B	**Jarrell**	**14.56**	**350**	Pn	**Pn**	**22 36 48.9**	**+1.1**
JCT	**Junction City**	**14.77**	**343**	Pn	**Pn**	**22 36 52.1**	**+1.5**
WHTX	**Lake Whitney,**	**15.72**	**351**	Pn	**Pn**	**22 37 03.1**	**+0.5**
MTDJ	**Mount Denham**	**16.50**	**81**		**P**	**22 37 14.6**	**+0.5**
ABTX	**Abilene, Hawle**	**16.76**	**345**		**Pn**	**22 37 17.1**	**+1.4**
ABTX				IAmb	IAmb	22 37 20.3	
	comp=Z,4.1nm,0.7s						
255A	**Hazlehurst**	**19.04**	**34**	P	**P**	**22 37 42.3**	**+0.5**
255A				IAmb	IAmb	22 37 53.9	
	comp=Z,19nm,0.9s						
RDMU	**Red Mountain**	**27.32**	**335**	P	**P**	**22 39 00.3**	**-3.4**
MDPB	**Devils Postpil**	**30.15**	**319**		pP	22 39 44.1	-2.3

*ISCJB **29** 23:14:32.9±0.3, 18°.47N×0°.04×65°.84W±0°.02, h104km±2km, mb3.7/8, Error ellipse: s-maj=7.4km s-min=2.6km az=4.9*
*TRN **29** 23:14:32.6, 18°.45N×65°.84W, h98km, M3.7(RSPR)*
*OSPL **29** 23:14:33.8±1.3, 18°.56N×65°.60W, h50km±999km, MD4.3, ML4.1*
*IDC **29** 23:14:33.4±0.7, 18°.17N×65°.83W, h97km±5km, mb3.5/8, mb1 3.7/8, mb1mx3.4/33, mbtmp3.8/8, MS2.6/1, Ms1 2.6/1, ms1mx2.4/28, Error ellipse: s-maj=23.4km s-min=16.8km az=28.0*
*RSPR **29** 23:14:34.8, 18°.47N×65°.86W, h96km, MD3.7/12*
*NEIC **29** 23:14:34.3±1.1, 18°.4N±0°.1×65°.84W±0°.04, h98km±5km*
ISC 29 23:14:33.7±0.7,**18°.43N**±0°.06×**65°.86W**±0°.02,**h99**km±5km,
n143,σ1§09/173,**mb3.8**/8,**16C-15D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.25**	**242**		**Pn**	**23 14 48.1**	**+0.1**
GCPR				Sn	**Sn**	**23 14 58.9**	**+0.3**
HUMP	**Col San Antoni**	**0.28**	**179**	‖*eP*	**Pn**	**23 14 48.5**	**+0.3**
HUMP	**Col San Antoni**	**0.28**	**179**	‖*eP*	**Pn**	**23 14 48.4**	**+0.3**
HUMP				*eS*	**Sn**	**23 14 59.1**	**+0.2**
HUMP	**Col San Antoni**	**0.28**	**179**	‖*eP*	**Pn**	**23 14 48.4**	**+0.3**
HUMP				*eS*	**Sn**	**23 14 58.7**	**-0.2**
HUMP	**Col San Antoni**	**0.28**	**179**		**Pn**	**23 14 48.4**	**+0.3**
HUMP	**Col San Antoni**	**0.28**	**179**		**Pn**	**23 14 48.6**	**+0.4**
HUMP				Sn	**Sn**	**23 14 59.4**	**+0.5**
SJG	**San Juan**	**0.42**	**222**	LR	LR	23 14 36.0	
	comp=Z,43nm,18.1s,baz=285,slow=8.2						
SJG				P	**Pn**	**23 14 49.0**	**+0.1**
	162nm,0.3s,baz=44,slow=5.9,SNR=244						
SJG				S	**Sn**	**23 15 00.1**	**-0.1**
	749nm,0.3s,baz=315,slow=20,SNR=96						
SJG	**San Juan**	**0.42**	**222**		**Pn**	**23 14 49.2**	**+0.4**
MTP	**Monte Pirata**	**0.43**	**139**	‖*eP*	**Pn**	**23 14 49.8**	**+0.8**
MTP	**Monte Pirata**	**0.43**	**139**	‖*eP*	**Pn**	**23 14 49.8**	**+0.8**
MTP				*eS*	**Sn**	**23 15 01.4**	**+1.0**
MTP	**Monte Pirata**	**0.43**	**139**		**Pn**	**23 14 49.8**	**+0.8**
MTP	**Monte Pirata**	**0.43**	**139**		**Sn**	**23 15 01.4**	**+1.0**
MTP	**Monte Pirata**	**0.43**	**139**		**Pn**	**23 14 50.0**	**+1.0**
PDPR	**Patillas Dam,**	**0.43**	**201**		**Pn**	**23 14 49.7**	**+0.7**
IGPR	**InterUniversit**	**0.52**	**208**		**Pn**	**23 14 51.6**	**+2.0**
IGPR					**Sn**	**23 15 02.4**	**+1.0**
EMPR	**Esperanza - Ma**	**0.64**	**275**	⇑*eP*	**Pn**	**23 14 51.0**	**+0.5**
EMPR	**Esperanza - Ma**	**0.64**	**275**	*eS*	**Sn**	**23 15 03.8**	**+0.6**
EMPR	**Esperanza - Ma**	**0.64**	**275**		**Pn**	**23 14 50.6**	**+0.1**
EMPR				Pn	Pn	23 14 51.0	+0.5
CELP	**Cerrillos**	**0.77**	**243**	‖*eP*	**Pn**	**23 14 52.1**	**+0.4**
CELP	**Cerrillos**	**0.77**	**243**	‖*eP*	**Pn**	**23 14 52.1**	**+0.4**
CELP	**Cerrillos**	**0.77**	**243**		**Pn**	**23 14 52.1**	**+0.4**
OBIP	**Obispado Ponce**	**0.81**	**242**	⇑*eP*	**Pn**	**23 14 52.7**	**+0.6**
OBIP	**Obispado Ponce**	**0.81**	**242**	⇑*eP*	**Pn**	**23 14 52.7**	**+0.6**
OBIP				*eS*	**Sn**	**23 15 06.7**	**+0.8**
OBIP	**Obispado Ponce**	**0.81**	**242**		**Sn**	**23 15 07.0**	**+1.1**
OBIP	**Obispado Ponce**	**0.81**	**242**		**Sn**	**23 15 06.7**	**+0.8**
OBIP	**Obispado Ponce**	**0.81**	**242**	Pn	**Pn**	**23 14 52.7**	**+0.6**
OBIP					Pn	23 14 52.8	+0.7
OBIP					Pn	23 14 52.9	+0.8
UUPR	**Utuado, UPR, P**	**0.84**	**258**		**Pn**	**23 14 52.8**	**+0.4**
UUPR					**Sn**	**23 15 07.0**	**+0.5**
AOPR	**Arecibo Observ**	**0.86**	**265**	‖*eP*	**Pn**	**23 14 52.8**	**+0.2**
AOPR	**Arecibo Observ**	**0.86**	**265**	‖*eP*	**Pn**	**23 14 52.9**	**+0.4**
AOPR				*eS*	**Sn**	**23 15 07.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.86**	**265**	*eP*	**Pn**	**23 14 52.8**	**+0.2**
AOPR				*eS*	**Sn**	**23 15 06.8**	**0.0**
AOPR	**Arecibo Observ**	**0.86**	**265**		**Sn**	**23 15 06.8**	**0.0**
AOPR	**Arecibo Observ**	**0.86**	**265**		**Sn**	**23 15 07.3**	**+0.5**
AOPR	**Arecibo Observ**	**0.86**	**265**	Pn	**Pn**	**23 14 52.8**	**+0.2**
AOPR					Pn	23 14 53.0	+0.4
AOPR					Pn	23 14 53.0	+0.5
STVI	**Saint Thomas**	**0.86**	**95**	‖*eP*	**Pn**	**23 14 53.0**	**+0.4**
STVI	**Saint Thomas**	**0.86**	**95**	‖*eP*	**Pn**	**23 14 53.1**	**+0.5**
STVI				*eS*	**Sn**	**23 15 07.3**	**+0.5**
STVI	**Saint Thomas**	**0.86**	**95**	*eP*	**Pn**	**23 14 53.0**	**+0.4**
STVI				*eS*	**Sn**	**23 15 07.1**	**+0.4**
STVI	**Saint Thomas**	**0.86**	**95**	Pn	**Pn**	**23 14 52.9**	**+0.4**
STVI					Pn	23 14 53.2	+0.6
STVI					**Sn**	**23 15 06.7**	**-0.1**
STVI	**Saint Thomas**	**0.86**	**95**		**Sn**	**23 15 07.1**	**+0.4**
TBVI	**Tortola**	**1.18**	**90**	‖*eP*	**Pn**	**23 14 56.2**	**+0.2**
TBVI	**Tortola**	**1.18**	**90**	*eP*	**Pn**	**23 14 56.2**	**+0.2**
TBVI				*eS*	**Sn**	**23 15 12.7**	**-0.2**
TBVI	**Tortola**	**1.18**	**90**		**Pn**	**23 14 56.2**	**+0.2**
TBVI					**Sn**	**23 15 12.7**	**-0.2**
AGPR	**Aguadilla, PR**	**1.19**	**272**	‖*eP*	**Pn**	**23 14 56.4**	**+0.2**
AGPR	**Aguadilla, PR**	**1.19**	**272**	‖*eP*	**Pn**	**23 14 56.4**	**+0.2**
AGPR				*eS*	**Sn**	**23 15 13.8**	**+0.5**
AGPR	**Aguadilla, PR**	**1.19**	**272**	*i P*	**Pn**	**23 14 56.3**	**+0.1**
AGPR				*eS*	**Sn**	**23 15 13.9**	**+0.6**
AGPR				IAML		23 15 16.5	
	comp=Z,3μm,0.2s						
AGPR	**Aguadilla, PR**	**1.19**	**272**		**Pn**	**23 14 56.8**	**+0.6**
AGPR	**Aguadilla, PR**	**1.19**	**272**	Pn	**Pn**	**23 14 56.2**	**+0.1**
AGPR					Pn	23 14 56.5	+0.2
AGPR					**Sn**	**23 15 13.6**	**+0.3**
LSP	**Las Mesas**	**1.20**	**258**	⇑*eP*	**Pn**	**23 14 56.9**	**+0.6**
LSP	**Las Mesas**	**1.20**	**258**	⇑*eP*	**Pn**	**23 14 56.9**	**+0.6**
LSP				*eS*	**Sn**	**23 15 13.7**	**+0.4**
LSP	**Las Mesas**	**1.20**	**258**		**Pn**	**23 14 56.9**	**+0.6**
LSP					**Sn**	**23 15 13.7**	**+0.4**
MLPR	**Magueyes Islan**	**1.22**	**248**	‖*eP*	**Pn**	**23 14 57.3**	**+0.8**
MLPR	**Magueyes Islan**	**1.22**	**248**	*eS*	**Sn**	**23 15 14.6**	**+0.9**
MLPR	**Magueyes Islan**	**1.22**	**248**		**Pn**	**23 14 57.3**	**+0.8**
MLPR					Pn	23 14 57.4	+0.9
MLPR	**Magueyes Islan**	**1.22**	**248**		**Sn**	**23 15 14.6**	**+0.9**
MPR	**Mayaguez**	**1.24**	**260**	⇑*eP*	**Pn**	**23 14 57.1**	**+0.4**
MPR	**Mayaguez**	**1.24**	**260**	⇑*eP*	**Pn**	**23 14 57.1**	**+0.4**
MPR				*eS*	**Sn**	**23 15 14.5**	**+0.3**
MPR	**Mayaguez**	**1.24**	**260**	*i P*	**Pn**	**23 14 57.1**	**+0.4**
MPR				*eS*	**Sn**	**23 15 14.7**	**+0.5**
MPR				IAML		23 15 15.9	
	comp=Z,1μm,0.2s						
MPR	**Mayaguez**	**1.24**	**260**		**Pn**	**23 14 57.1**	**+0.4**
MPR	**Mayaguez**	**1.24**	**260**		**Pn**	**23 14 57.5**	**+0.8**
MPR					**Sn**	**23 15 14.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.26**	**251**	⇑*eP*	**Pn**	**23 14 57.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.26**	**251**	⇑*eP*	**Pn**	**23 14 57.8**	**+0.7**
CRPR				*eS*	**Sn**	**23 15 15.8**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.26**	**251**		**Pn**	**23 14 57.3**	**+0.2**
CRPR					Pn	23 14 57.8	+0.7
CRPR	**Cabo Rojo, PR**	**1.26**	**251**		**Sn**	**23 15 15.8**	**+1.1**
ABVI	**Anegada Island**	**1.48**	**78**		**Pn**	**23 15 00.2**	**+0.6**
ABVI	**Anegada Island**	**1.48**	**78**		**Pn**	**23 15 00.6**	**+1.1**
ABVI	**Anegada Island**	**1.48**	**78**		**Sn**	**23 15 18.9**	**-0.3**
ABV	**Anegada**	**1.48**	**78**	⇑*eP*	**Pn**	**23 15 00.2**	**+0.6**
ABV	**Anegada**	**1.48**	**78**	⇑*eP*	**Pn**	**23 15 00.2**	**+0.6**
ABV				*eS*	**Sn**	**23 15 18.9**	**-0.3**
PCDR	**Punta Cana, DR**	**2.40**	**273**	‖*eP*	**Pn**	**23 15 12.6**	**+1.2**
PCDR	**Punta Cana, DR**	**2.40**	**273**	‖*eP*	**Pn**	**23 15 12.6**	**+1.2**
PCDR	**Punta Cana, DR**	**2.40**	**273**	‖*eP*	**Pn**	**23 15 12.6**	**+1.2**
PCDR				*eS*	**Sn**	**23 15 41.3**	**+0.9**
PCDR	**Punta Cana, DR**	**2.40**	**273**		**Pn**	**23 15 12.6**	**+1.2**
PCDR	**Punta Cana, DR**	**2.40**	**273**		**Pn**	**23 15 13.0**	**+1.6**
PCDR	**Punta Cana, DR**	**2.40**	**273**		**Sn**	**23 15 41.3**	**+0.9**
SABA	**Saba**	**2.61**	**107**	*eP*	**Pn**	**23 15 15.6**	**+1.3**
SABA	**Saba**	**2.61**	**107**		**Pn**	**23 15 15.0**	**+0.7**
SEUS	**St. Eustatius**	**2.89**	**108**	*eP*	**Pn**	**23 15 17.4**	**-0.5**
SEUS	**St. Eustatius**	**2.89**	**108**	Pn	**Pn**	**23 15 18.1**	**+0.1**
SKI	**Saint Kitts**	**3.16**	**110**	*eP*	**Pn**	**23 15 22.3**	**+0.7**
SKI	**Saint Kitts**	**3.16**	**110**		**Pn**	**23 15 21.5**	**-0.1**
NVRH	**Round Hill, Ne**	**3.34**	**111**	*eP*	**Pn**	**23 15 24.9**	**+0.9**
NVDO	**Nevis, Disaste**	**3.35**	**112**	*eP*	**Pn**	**23 15 24.6**	**+0.6**
NVBH	**Bath Hotel, Ne**	**3.35**	**112**	*eP*	**Pn**	**23 15 26.4**	**+2.3**
NVBH	**Bath Hotel, Ne**	**3.35**	**112**	*eS*	**Sn**	**23 16 07.4**	**+4.3**
DR12	**Loma Pena Alta**	**3.36**	**277**	Pn	**Pn**	**23 15 25.4**	**+1.0**
SDD	**Santo Domingo**	**3.85**	**271**	*i P*	**Pn**	**23 15 33.1**	**+2.3**
SDD				*eS*	**Sn**	**23 16 14.9**	**-0.2**
SDD	**Santo Domingo**	**3.85**	**271**	Pn	**Pn**	**23 15 31.3**	**+0.4**
MLYT	**Lee's Yard**	**3.88**	**115**	*eP*	**Pn**	**23 15 32.5**	**+1.1**
ANWB	**Willy Bob**	**3.94**	**100**	*eP*	**Pn**	**23 15 30.5**	**-1.6**
ANWB	**Willy Bob**	**3.94**	**100**	*eS*	**Sn**	**23 16 16.3**	**-1.1**
ANWB	**Willy Bob**	**3.94**	**100**	Pn	**Pn**	**23 15 30.9**	**-1.2**
BPA	**Boggy Peak**	**4.05**	**109**	*eP*	**Pn**	**23 15 33.6**	**0.0**
BANI	**BANI**	**4.28**	**270**		**Pn**	**23 15 37.7**	**+1.0**
BON1	**Bonao**	**4.33**	**278**	*i P*	**Pn**	**23 15 38.9**	**+1.5**
BON1				*eS*	**Sn**	**23 16 26.6**	**-0.2**
ABD	**La Joyeuse, An**	**4.60**	**114**	*eP*	**Pn**	**23 15 41.0**	**+0.1**
CBE	**Ff, Capester**	**4.69**	**119**	*eP*	**Pn**	**23 15 42.7**	**+0.5**
SC01	**Santiago de Io**	**4.72**	**283**	*i P*	**Pn**	**23 15 43.7**	**+1.1**
SC01				*eS*	**Sn**	**23 16 34.8**	**-1.4**
SC01				IAML		23 16 40.2	
	comp=Z,150nm,0.2s						
SC01	**Santiago de Io**	**4.72**	**283**	Pn	**Pn**	**23 15 43.8**	**+1.2**
MDPO	**Dominica; Chan**	**5.08**	**123**	*eP*	**Pn**	**23 15 48.6**	**+1.1**
SDDR	**Presa de Saban**	**5.18**	**277**	*i P*	**Pn**	**23 15 49.5**	**+0.6**
SDDR				*eS*	**Sn**	**23 16 47.5**	**0.0**
SDDR				IAML		23 16 58.4	
	comp=Z,111nm,0.3s						
SDDR	**Presa de Saban**	**5.18**	**277**	Pn	**Pn**	**23 15 49.7**	**+0.8**
PCM	**Pelee Case Pet**	**5.72**	**128**	*eP*	**Pn**	**23 15 56.8**	**+0.6**
PCM	**Pelee Case Pet**	**5.72**	**128**	*eP*	**Pn**	**23 15 56.8**	**+0.6**
SVN	**Savane Anatole**	**5.73**	**128**	*eP*	**Pn**	**23 15 56.8**	**+0.4**
GBMF	**Grand Be**	**5.76**	**128**	*eP*	**Pn**	**23 15 56.5**	**-0.4**
BAMF	**Morne Balai**	**5.76**	**128**	*eP*	**Pn**	**23 15 57.1**	**+0.3**
FDF	**Fort de France**	**5.82**	**128**	Pn	**Pn**	**23 15 56.3**	**-1.3**
GRTK	**Grand Turk**	**5.84**	**303**	Pn	**Pn**	**23 15 56.4**	**-1.3**
ZAM	**Aeronautique**	**6.01**	**129**	*eP*	**Pn**	**23 16 00.1**	**0.0**
BIM	**Bigot**	**6.01**	**130**	*eP*	**Pn**	**23 16 00.2**	**0.0**
TRMF	**Trois Ilets**	**6.01**	**129**	*eP*	**Pn**	**23 15 59.9**	**-0.3**
LPMF	**Morne Lapointe**	**6.05**	**129**	*eP*	**Pn**	**23 16 01.4**	**+0.7**
SVB	**Belmont**	**6.77**	**139**	Pn	**Pn**	**23 16 10.9**	**+0.4**
GTBY	**Guantanamo Bay**	**8.87**	**281**	*eP*	Pn	23 16 33.4	-5.7
GTBY	**Guantanamo Bay**	**8.87**	**281**	*eP*	Pn	23 16 33.4	-5.7
SDV	**Santo Domingo**	**10.56**	**207**	P	**Pn**	**23 17 04.0**	**+1.7**
	comp=Z,1.9nm,0.3s,baz=29,slow=6.1,SNR=9.3						
SDV				S	**Sn**	**23 18 53.7**	**-4.9**
	comp=Z,1.0nm,0.3s,baz=355,slow=18,SNR=5.5						
SDV				LR	LR	23 21 53.1	
	comp=Z,29nm,19.8s,baz=260,slow=42						
CODC	**Agustn Codazz**	**11.19**	**222**	*eP*	**Pn**	**23 17 07.2**	**-3.4**
CODC	**Agustn Codazz**	**11.19**	**222**	*eP*	**Pn**	**23 17 07.2**	**-3.4**
SJCC	**San Jacinto, C**	**12.39**	**228**	*eP*	**Pn**	**23 17 27.8**	**+1.1**
SJCC	**San Jacinto, C**	**12.39**	**228**	*eP*	**Pn**	**23 17 27.8**	**+1.1**
SMLC	**San Martn de**	**12.46**	**221**	*eP*	**Pn**	**23 17 26.5**	**-1.0**
SMLC	**San Martn de**	**12.46**	**221**	*eP*	**Pn**	**23 17 26.5**	**-1.0**
PAMC	**Pamplona, Colo**	**12.88**	**212**	*eP*	**Pn**	**23 17 36.5**	**+3.0**
PAMC	**Pamplona, Colo**	**12.88**	**212**	*eP*	**Pn**	**23 17 36.5**	**+3.0**
BRRC	**Barranca, Sant**	**13.61**	**215**	*eP*	**Pn**	**23 17 44.5**	**+1.8**
BRRC	**Barranca, Sant**	**13.61**	**215**	*eP*	**Pn**	**23 17 44.5**	**+1.8**
BARC	**Barichara**	**13.76**	**212**	*eP*	**P**	**23 17 50.4**	**+0.4**
BARC	**Barichara**	**13.76**	**212**	*eP*	**P**	**23 17 50.4**	**+0.4**
HELC	**Santa Helena**	**15.39**	**219**	*eP*	**P**	**23 18 08.4**	**+0.1**
HELC	**Santa Helena**	**15.39**	**219**	*eP*	**P**	**23 18 08.4**	**+0.1**
NORC	**Norcasia**	**15.52**	**216**	⇑*eP*	**Pn**	**23 18 07.7**	**+0.6**
NORC	**Norcasia**	**15.52**	**216**	⇑*eP*	**Pn**	**23 18 07.7**	**+0.6**
ROSC	**El Rosal**	**15.84**	**213**	P	**P**	**23 18 15.3**	**+2.1**
	comp=Z,3.6nm,0.3s,baz=70,slow=5.9,SNR=7.1						
GUY2C	**Guyana, Caldas**	**16.07**	**216**	*eP*	**P**	**23 18 16.4**	**+0.4**
GUY2C	**Guyana, Caldas**	**16.07**	**216**	*eP*	**P**	**23 18 16.4**	**+0.4**
LPAZ	**La Paz**	**34.57**	**184**	P	**P**	**23 21 12.1**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=350,slow=9.7,SNR=5.6						
TXAR	**Lajitas Array**	**36.10**	**295**	P	**P**	**23 21 27.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=108,slow=8.7,SNR=4.9						
PDAR	**Pinedale Array**	**44.11**	**313**	P	**P**	**23 22 33.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=86,slow=8.5,SNR=3.1						
CPUP	**Villa Florida**	**45.25**	**169**	P	**P**	**23 22 38.4**	**-2.9**
	comp=Z,2.8nm,0.9s,baz=349,slow=9.8,SNR=5.8						
NVAR	**Mina Array Bea**	**49.54**	**305**	P	**P**	**23 23 16.4**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=98,slow=6.5,SNR=3.7						
ESDC	**Sonseca Array**	**56.98**	**54**	P	**P**	**23 24 10.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=282,slow=7.3,SNR=4.7						
DBIC	**Dimbokro**	**60.43**	**93**	P	**P**	**23 24 33.4**	**+0.1**
	comp=Z,3.4nm,1.1s,baz=270,slow=3.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**64.90**	**84**	P	**P**	**23 25 02.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=278,slow=6.1,SNR=12						
WRA	**Warramunga Arr**	**160.87**	**262**	PKPab	**PKPab**	**23 35 05.5**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=86,slow=4.5,SNR=4.0						

*BJI **29** 23:47:32.0±0.0, 35°.20N×22°.60E, h5km, mb4.4/17, mB4.7/9, Ms4.6/3, Ms7 4.4/3*
*IDC **29** 23:47:34.5±0.5, 35°.37N×22°.73E, h0km, mb4.3/30, mb1 4.3/38, mb1mx4.2/63, mbtmp4.2/38, ML3.9/8, MS3.3/5, Ms1 3.3/5, ms1mx2.8/50, Error ellipse: s-maj=12.4km s-min=11.2km az=157.0*
*MOS **29** 23:47:35.7±1.2, 35°.34N×22°.57E, h19km, mb4.6/14, Error ellipse: s-maj=6.5km s-min=3.7km az=81.3*
*MED_RC **29** 23:47:36.0±4.0, 35°.32N×22°.82E, h10km, MW4.2/8, Moment Tensor Solution.Mantle waves: s8,c11; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.07±.16; $M_{\theta\theta}$-1.10±.14; $M_{\phi\phi}$0.03±.17; $M_{r\theta}$1.54±.50; $M_{\theta\phi}$0.56±.17; $M_{\phi r}$-1.26±.84; Best double couple: $M_0$2.33000×10^{15} NP1:ϕ_s127.00000°,δ75.00000°,λ100.00000°. NP2: ϕ_s273.00000°,δ18.00000°,λ57.00000°. Principal axes: T 2.2500, Plg59.0000°, Azm51.0000°; N 0.1600, Plg10.0000°, Azm305.0000°; P -2.4100, Plg29.0000°, Azm209.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*HLW **29** 23:47:36.8, 35°.44N×23°.10E, h10km±12km, Md4.8, Ml4.4*
*ATH **29** 23:47:36.3, 35°.31N×22°.60E, h9km±2km, ML3.8/6, Error ellipse: s-maj=4.2km s-min=1.3km az=55.0*
*ISCJB **29** 23:47:37.2±0.7, 35°.30N±0°.02×22°.59E±0°.02, h32km±5km, mb4.2/49, MS2.8/1, Error ellipse: s-maj=4.2km s-min=2.3km az=18.9*
*ISK **29** 23:47:37.1, 35°.42N×22°.69E, h11km, ML4.0/24*
*THE **29** 23:47:38.9, 35°.44N×22°.74E, h9km±1km, ML3.7/3, Error ellipse: s-maj=1.5km s-min=0.6km az=51.0*
*NEIC **29** 23:47:39.3±1.7, 35°.33N±0°.08×22°.66E±0°.06, h31km±4km*
*GII **29** 23:47:39.9±0.0, 35°.14N×23°.16E, h10km, mb4.4/4, MD4.3/4*
ISC 29 23:47:37.7±0.8,**35°.33N**±0°.03×**22°.63E**±0°.03,**h23**km±5km,
n456,σ2§02/497,**mb4.4**/65,**11C-8D,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.76**	**46**	P	**Pb**	**23 47 51.3**	**-1.1**
ANKY				S	**Sb**	**23 48 00.1**	**-2.3**
ANKY	**Antikythira Is**	**0.76**	**46**	P	**Pb**	**23 47 51.3**	**-1.1**
ANKY				S	**Sb**	**23 48 02.6**	**+0.2**
ANKY				AML	AML	23 48 04.9	
	comp=N,17964μm,0.4s						
ANKY				AML	AML	23 48 05.5	
	comp=E,26666μm,0.5s						
KNDR	**Palaiochora Ch**	**0.87**	**96**	P	**Pb**	**23 47 52.9**	**-1.3**
KNDR				S	**Sb**	**23 48 04.1**	**-1.3**
	comp=E,6μm,0.8s						
KTHR	**Kythira**	**0.97**	**18**	P	**Pn**	**23 47 54.5**	**-1.6**
KTHR				S	**Sb**	**23 48 06.5**	**-1.9**
	comp=E,9μm,0.6s						
KTHA	**Kythira Island**	**0.99**	**21**	P	**Pn**	**23 47 55.1**	**-1.1**
KTHA	**Kythira Island**	**0.99**	**21**	P	**Pn**	**23 47 55.2**	**-1.0**
KTHA				S	**Sn**	**23 48 10.9**	**+1.4**
KTHA				AML	AML	23 48 19.2	
	comp=E,35536μm,0.6s						
KTHA				AML	AML	23 48 20.9	
	comp=N,9782μm,0.4s						
KTHA	**Kythira Island**	**0.99**	**21**	PG	**Pn**	**23 47 54.6**	**-1.6**
IMMV	**Iera Moni Meta**	**1.11**	**83**	P	**Pn**	**23 47 57.7**	**-0.2**
IMMV	**Iera Moni Meta**	**1.11**	**83**	P	**Pn**	**23 47 57.5**	**-0.4**
IMMV				S	**Sb**	**23 48 13.6**	**+1.2**
IMMV				AML	AML	23 48 21.6	
	comp=E,25871μm,0.8s						
IMMV				AML	AML	23 48 22.2	
	comp=N,29143μm,0.7s						
IMMV	**Iera Moni Meta**	**1.11**	**83**	PG	**Pn**	**23 47 57.8**	**-0.2**
IMMV				SG	**Sn**	**23 48 12.8**	**+0.3**
CHAN	**Chania**	**1.17**	**80**	P	**Pn**	**23 47 59.1**	**+0.4**
VAM	**Vamos**	**1.29**	**86**	P	**Pn**	**23 48 00.5**	**+0.2**
VAM				S	**Sb**	**23 48 17.9**	**+0.6**
	comp=N,4μm,1.2s						
VAM	**Vamos**	**1.29**	**86**	P	**Pn**	**23 48 00.5**	**+0.2**
VAM				S	**Sb**	**23 48 17.9**	**+0.6**
GVD	**Gavdhos**	**1.29**	**112**	P	**Pb**	**23 48 01.6**	**+0.2**
GVD	**Gavdhos**	**1.29**	**112**	P	**Pb**	**23 48 01.5**	**+0.2**
GVD				S	**Sb**	**23 48 18.8**	**+1.3**
GVD				AML	AML	23 48 33.0	
	comp=N,6222μm,0.8s						
GVD				AML	AML	23 48 40.0	
	comp=E,7430μm,0.5s						
GVD	**Gavdhos**	**1.29**	**112**	PN	**Pb**	**23 48 01.5**	**+0.2**
GVDS	**Gavdos**	**1.29**	**112**	P	**Pn**	**23 48 01.0**	**+0.6**
VLI	**Veliai**	**1.41**	**10**	P	**Pn**	**23 48 02.5**	**+0.5**
VLI	**Veliai**	**1.41**	**10**	P	**Pn**	**23 48 03.0**	**+1.0**
DYR	**Agios Nikonas**	**1.45**	**351**	P	**Pn**	**23 48 02.9**	**+0.3**
DYR	**Agios Nikonas**	**1.45**	**351**	P	**Pb**	**23 48 04.0**	**0.0**
DYR				S	**Sb**	**23 48 23.9**	**+1.9**
DYR				AML	AML	23 48 41.4	
	comp=N,1149μm,0.7s						
DYR				AML	AML	23 48 43.1	
	comp=E,1868μm,1.0s						
PYL	**PYLOS**	**1.72**	**336**	P	**Pn**	**23 48 07.4**	**+1.2**
PYL	**PYLOS**	**1.72**	**336**	P	**Pn**	**23 48 07.7**	**+1.4**
ITM	**Ithomi**	**1.93**	**343**	P	**Pb**	**23 48 11.9**	**-0.4**
ITM				S	**Sb**	**23 48 37.8**	**+1.9**
ITM				AML	AML	23 48 50.5	
	comp=E,1563μm,0.6s						
ITM				AML	AML	23 48 51.0	
	comp=N,2037μm,0.7s						
ITM	**Ithomi**	**1.93**	**343**	PN	**Pn**	**23 48 09.8**	**+0.6**
ITM	**Ithomi**	**1.93**	**343**		**Pb**	**23 48 11.3**	**-0.9**
MHLA	**Plaka, Milos I**	**2.02**	**45**	P	**Pb**	**23 48 12.7**	**+2.2**
VLX	**Vlachokerasia**	**2.04**	**354**	P	**Pb**	**23 48 13.8**	**-0.

MRMT Marmara Adasi 6.56 35 PN **Pn 23 49 15.3 +2.4**
UKOP Uzunkopru-Edir 6.59 27 PN **Pn 23 49 15.6 +2.5**
WDD Wied Dalam 6.62 277 Pn **Pn 23 49 14.4 +0.7**
KDZ Kurdzhali 6.67 18 *e*P **Pn 23 49 16.3 +1.9**
KDZ Kurdzhali 6.67 18 PN **Pn 23 49 16.2 +1.9**
ANTB Antalya 6.68 74 PN **Pn 23 49 17.4 +3.0**
TAR1 Taranto 6.69 322 *e*Pn **Pn 23 49 14.5 0.0**
TAR1 Sn **Sn 23 50 26.4 -3.5**
SKO Skopje 6.69 352 *i* Pn **Pn 23 49 15.7 +1.1**
TVSB Tavsanli 6.82 51 PN **Pn 23 49 18.7 +2.3**
MASS Massafra 6.84 322 *e*P **Pn 23 49 16.5 -0.1**
MASS S **Sn 23 50 29.1 -4.6**
PLD Plovdiv 6.95 13 PN **Pn 23 49 20.5 +2.3**
VAE Valguarnera 6.96 290 Pn **Pn 23 49 20.6 +2.3**
comp=N,3.0nm,0.3s,baz=189,slow=23,SNR=13
VAE Sn **Sn 23 50 39.1 +2.2**
comp=N,1.4nm,0.3s,baz=340,slow=3.3,SNR=3.6
ULDT Uludag 7.04 45 *i* P **Pn 23 49 22.9 +3.3**
DIM Dimitrovgrad 7.08 18 *e*P **Pn 23 49 22.6 +2.7**
SG1 Sgolgore (BA) 7.23 321 *e*Pn **Pn 23 49 21.8 -0.2**
SG1 Sn **Sn 23 50 40.4 -2.9**
EDRB Edirne 7.26 25 PN **Pn 23 49 24.6 +2.2**
VTS Vitosha 7.29 4 *e*P **Pn 23 49 25.8 +2.9**
VTS Vitosha 7.29 4 P **Pn 23 49 24.5 +1.5**
VTS Vitosha 7.29 4 **Pn 23 49 24.5 +1.5**
BAI Bari 7.33 324 *e*Pn **Pn 23 49 23.2 -0.1**
BAI Sn **Sn 23 50 43.9 -1.8**
KIRK Kirklareli 7.33 27 *i* P **Pn 23 49 25.0 +1.6**
DRME Dracevica, Mon 7.35 340 *e*Pn **Pn 23 49 22.7 -1.0**
KEPZ Antalya-Kepez 7.43 75 *i* P **Pn 23 49 26.1 +1.4**
KEPZ *i* S **Sn 23 50 44.2 -4.2**
KEPZ IAML 23 50 47.0
comp=N,18nm,0.9s
KEPZ IAML 23 50 56.0
comp=E,24nm,0.7s
PDG Podgorica 7.56 341⇑ *i* Pn **Pn 23 49 25.2 -1.3**
PDG Podgorica 7.56 341 **Pn 23 49 25.8 -0.6**
JMB Yambol 7.76 22 *e*P **Pn 23 49 32.1 +2.8**
DOGA KONYA_Doganhis 7.77 66 *i* P **Pn 23 49 31.6 +2.1**
HCY Herceg Novi 7.80 337 *e*Pn **Pn 23 49 27.9 -1.9**
CLTB Caltabellotta 7.91 289 **Pn 23 49 32.9 +1.5**
CORL Corleone 7.92 292 **Pn 23 49 33.3 +1.8**
GAZI Gazipasa 7.92 81 *i* P **Pn 23 49 30.9 -0.7**
TREB Trebinje 8.09 337⇑ *i* Pn **Pn 23 49 32.7 -1.1**
DBRK Dubrovnik 8.11 336 *e*Pn **Pn 23 49 32.4 -1.7**
DBRK Sn **Sn 23 50 59.2 -5.8**
BRY Bratogost 8.20 338 *e*Pn **Pn 23 49 34.0 -1.4**
KDHN Kadinhani 8.24 64 *i* P **Pn 23 49 38.6 +2.7**
KONT Konya--Tatoy 8.24 69 *i* P **Pn 23 49 37.3 +1.3**
AUMIH MIHALICIK 8.36 55 *i* P **Pn 23 49 38.2 +0.6**
UPM Unac-Piva 8.37 341 *e*Pn **Pn 23 49 37.2 -0.6**
ERMK Ermenek 8.44 78 *i* P **Pn 23 49 40.5 +1.7**
STON Ston 8.45 335 *i* Pn **Pn 23 49 36.3 -2.3**
STON Sn **Sn 23 51 06.2 -7.0**
STON Ston 8.45 335⇑ *i* Pn **Pn 23 49 36.7 -1.9**
PAOL Paolisi 8.52 314 Pn **Pn 23 49 41.4 +1.6**
RUDO Rudo 8.65 344 *e*Pn **Pn 23 49 39.3 -2.1**
CSS Mathiatis 8.77 89 Pn **Pn 23 49 40.5 -2.7**
CSS Mathiatis 8.77 89 Pn **Pn 23 49 42.4 -0.8**
HNAT Natroun 8.82 128 P **Pn 23 49 44.5 +0.7**
baz=130
BBLS Lazići 8.88 345 *e*Pn **Pn 23 49 43.0 -1.6**
GULN MERSIN_Gulnar 8.91 81 *i* P **Pn 23 49 45.0 -0.1**
DIVS Divibare 8.99 348 *e*Pn **Pn 23 49 45.0 -1.1**
MAKA Makarska 9.05 333 *e*Pn **Pn 23 49 46.3 -0.7**
MAKA Sn **Sn 23 51 20.1 -8.0**
HVAR Hvar 9.18 330 *i* Pn **Pn 23 49 46.8 -1.9**
HVAR Sn **Sn 23 51 24.4 -6.9**
HAPS Han Pijesak,BI 9.19 343 *e*Pn **Pn 23 49 46.4 -2.5**
BR231 Keskin MP Arra 9.22 58 **Pn 23 49 48.8 -0.6**
ANTO Ankara 9.25 58 P **Pn 23 49 50.8 +1.0**
ANTO Ankara 9.25 58 **Pn 23 49 50.8 +1.0**
HFRF Wahat Farafira 9.49 148 P **Pn 23 49 52.7 -0.4**
baz=150
HFRF S **Sn 23 51 32.2 -6.9**
baz=150
KERG Konya-Eregli 9.50 74 *i* P **Pn 23 49 53.6 +0.3**
TEKS Tekeris 9.51 346 *e*Pn Pn 23 49 45.6 -7.6
INTR Introdacqua 9.54 317 **Pn 23 49 54.9 +1.2**
BR131 Keskin Array S 9.78 60 P **Pn 23 49 57.0 -0.1**
BR131 Keskin Array S 9.78 60 **Pn 23 49 57.0 -0.1**
BRTR Keskin Array B 9.78 60 P **Pn 23 49 55.5 -1.6**
BRTR Keskin Array B 9.78 60 Pn **Pn 23 50 00.8 +3.7**
comp=E,0.6nm,0.3s,baz=234,slow=14,SNR=21
BRTR Keskin Array B 9.78 60 **Pn 23 49 55.5 -1.6**
ZIRJ Zirje 9.90 329 *e*Pn **Pn 23 49 56.3 -2.4**
NBNS Bani Suef 9.94 130 P Pn 23 49 54.9 -4.3
baz=132
GULE Gulek 10.00 75 *i* P **Pn 23 50 01.7 +1.6**
DOB Doboj 10.01 341 *e*Pn **Pn 23 49 56.8 -3.2**
MGRS Mrkonjic Grad 10.02 337 *e*Pn **Pn 23 50 00.0 -0.3**
AQU L'Aquila 10.04 317 P **Pn 23 49 59.8 -0.8**
AQU L'Aquila 10.04 317 Pn **Pn 23 49 59.9 -0.8**
FRGS Fruska Gora 10.05 348 *e*Pn **Pn 23 49 59.0 -1.6**
DELI KIRIKKALE 10.09 59 *i* P **Pn 23 50 05.2 +3.9**
BLY Banja Luka 10.29 338 *e*Pn **Pn 23 50 02.5 -1.4**
DUGI Dugi Otok 10.43 328 *e*Pn **Pn 23 50 06.7 +0.9**
MLR Muntele Rosu 10.46 13 Pn **Pn 23 50 07.5 +1.2**
comp=E,0.1nm,0.3s,baz=212,slow=3.6,SNR=5.6
MLR LR LR 23 54 56.9
comp=E,138nm,20.7s,baz=119,slow=42
NRCA Norcia 10.52 318 **Pn 23 50 08.1 +0.9**
UDBI Udbina 10.58 332 *e*Pn **Pn 23 50 07.9 -0.1**
HNTI Hanita 10.63 99 Pn **Pn 23 50 06.5 -2.1**
SLTI Sal'it 10.78 103 Pn **Pn 23 50 07.9 -2.8**
KZIT Kziot 10.81 111 Pn **Pn 23 50 08.5 -2.6**
KZIT Sn **Sn 23 52 04.6 -6.7**
KZIT Kziot 10.81 111 P **Pn 23 50 08.8 -2.3**
comp=E,34nm,0.9s
MMA0B Mount Meron ar 10.83 99 Pn **Pn 23 50 08.2 -3.3**
MMAI Mount Meron Ar 10.83 99 Pn **Pn 23 50 08.2 -3.2**
comp=E,2.7nm,0.3s,baz=294,slow=11,SNR=20
MMAI Sn **Sn 23 52 07.3 -4.7**
comp=E,1.9nm,0.3s,baz=297,slow=19,SNR=4.1
AMAZ Amatzia 10.94 107 Pn **Pn 23 50 09.9 -3.0**
AMAZ Sn **Sn 23 52 07.7 -6.9**
PLOR Plostina 10.94 15 P **Pn 23 50 16.0 +3.1**
NVLJ Novalja 10.97 330 *e*Pn **Pn 23 50 13.2 +0.1**
GEM Giv'at Ha'Em 10.99 97 Pn **Pn 23 50 11.6 -2.0**
KSDI Kefar Szold 10.99 97 Pn **Pn 23 50 11.5 -2.1**
NATI Neve Ativ 11.04 97 Pn **Pn 23 50 11.3 -2.9**
HMDT Nahal Hemdat 11.16 102 Pn **Pn 23 50 13.8 -2.1**
HMDT Sn **Sn 23 52 14.0 -6.0**
YTIR Yattir 11.17 107 Pn **Pn 23 50 13.3 -2.8**
SHMJ Saham 11.20 100 P **Pn 23 50 14.5 -2.0**
comp=E,58nm,0.9s
DSI Dead Sea 11.29 106 Pn **Pn 23 50 15.6 -2.1**
DSI Sn **Sn 23 52 16.2 -7.0**
MZDA Masada 11.38 107 Pn **Pn 23 50 15.8 -3.1**
MZDA Sn Sn 23 52 16.8 -8.5
KRMI Paran Flat 11.43 114 Pn **Pn 23 50 16.8 -2.9**
DRGR 11.45 0 P **Pn 23 50 20.8 +1.0**
LISJ El Lisan 11.50 107 P **Pn 23 50 18.8 -1.7**
comp=E,14nm,2.2s
PRNI Paran 11.53 112 Pn **Pn 23 50 18.1 -2.9**
ZFRI Zfri 11.57 111 Pn **Pn 23 50 18.1 -3.3**
BOJS Bojanci 11.61 333 *e*Pn **Pn 23 50 20.6 -1.3**
WALJ Wala 11.63 105 P **Pn 23 50 20.4 -2.0**
comp=E,40nm,0.6s
HRFI Mount Harif 11.71 113 Pn **Pn 23 50 20.9 -2.5**
BRJN Brijuni 11.72 327 *i* Pn **Pn 23 50 23.6 +0.1**
MBRI Mt Berech 11.74 115 Pn **Pn 23 50 20.9 -3.0**
KALN Kalnik 11.75 338 *e*Pn **Pn 23 50 21.9 -2.0**
CASP Castiglione de 11.79 313 Pn **Pn 23 50 26.6 +2.2**
CRES Cresnjev 11.81 335 *e*Pn **Pn 23 50 22.6 -2.1**
CRES Cresnjev 11.81 335⇓ *i* Pn **Pn 23 50 22.4 -2.3**
EIL Elat 11.83 115 Pn **Pn 23 50 22.3 -2.8**
EIL Elat 11.83 115 Pn **Pn 23 50 23.2 -1.9**
comp=E,1.9nm,0.3s,baz=290,slow=5.9,SNR=16
EIL Sn Sn 23 52 27.9 -8.5
comp=E,0.8nm,0.3s,baz=299,slow=19,SNR=3.2
JDRJ Daraweish 11.86 109 P **Pn 23 50 25.9 +0.2**
GAZ Gaziantep 11.92 77 Pn **Pn 23 50 25.1 -1.2**
CEY Cerknica 12.12 332⇓ *i* Pn **Pn 23 50 27.6 -1.3**
ASF Jabal al Asfar 12.29 101 Pn **Pn 23 50 29.4 -1.9**
comp=E,0.4nm,0.3s,baz=259,slow=5.2,SNR=5.2
ASF Sn **Sn 23 52 50.2 +2.5**
comp=E,0.2nm,0.3s,baz=252,slow=20,SNR=3.3
ASF Jabal al Asfar 12.29 101 P **Pn 23 50 29.5 -1.9**
TRI Trieste 12.36 330 P **Pn 23 50 33.5 +1.4**
TRI Trieste 12.36 330 Pn **Pn 23 50 33.5 +1.4**

BUR0B Bucovina Array 12.42 8 Pn **Pn 23 50 34.9 +1.8**
BUR08 Bucovina Ar. S 12.45 8 Pn **Pn 23 50 35.2 +1.6**
KIS Kishinev 12.55 20 *e* **P 23 50 49.0 +2.8**
KIS Kishinev 12.55 20 *e*P **P 23 50 49.0 +2.8**
PERS Pernice 12.63 336 *i* Pn **Pn 23 50 34.0 -2.0**
ZCCA Zocca 12.69 319 Pn **Pn 23 50 39.0 +2.3**
OBKA Obir 12.72 334 *e*Pn **Pn 23 50 36.5 -0.7**
comp=E,2.8nm,0.4s
OBKA *e*Sn **Sn 23 52 52.0 -6.1**
comp=E,2.7nm,0.5s
TEOL Teolo 13.03 324 Pn **Pn 23 50 41.8 +0.4**
ARSA Arzberg 13.04 338 *e*Pn **Pn 23 50 40.1 -1.5**
comp=E,2.1nm,0.4s
STAL STALIGIAL 13.24 329 Pn **Pn 23 50 41.4 -2.8**
UZH Uzhgorod 13.29 359 *e*P **Pn 23 50 46.0 +1.1**
VYHS Vyhne 13.45 349 *e*P **Pn 23 50 48.2 +1.1**
VYHS Vyhne 13.45 349 *e*PN **Pn 23 50 48.2 +1.1**
CTI Castel Tesino 13.55 326 P **Pn 23 50 47.0 -1.6**
CTI Castel Tesino 13.55 326 **Pn 23 50 47.0 -1.6**
CONA Conrad Observa 13.56 340 *i* Pn **Pn 23 50 48.9 +0.2**
comp=E,0.8nm,0.5s
KOLS Kolonicke sedl 13.59 359 *e*P **Pn 23 50 52.7 +3.6**
KOLS Kolonicke sedl 13.59 359 *e*PN **Pn 23 50 52.7 +3.6**
ABTA Abfaltersbach 13.71 329 *e*Pn **Pn 23 50 50.8 +0.1**
comp=E,2.0nm,0.5s
ABTA *e*Sn **Sn 23 53 15.8 -6.4**
comp=E,3.1nm,0.8s
SALO Salr 13.78 322 Pn **Pn 23 50 52.6 +0.9**
MOA Molln 13.97 336 *i* Pn **Pn 23 50 54.1 -0.2**
comp=E,2.2nm,0.5s
LANS Liptovska Anna 14.00 351 *e*P **P 23 51 00.8 -1.6**
LANS Liptovska Anna 14.00 351 *e*PN **P 23 51 00.8 -1.6**
WTTA Wattenberg 14.48 329 *e*Pn **Pn 23 51 02.0 +0.6**
comp=E,1.7nm,0.4s
WTTA Sn **Sn 23 53 36.7 -4.6**
comp=E,1.8nm,0.4s
WATA Walderalm 14.57 329 *e*Pn **Pn 23 51 04.1 +1.6**
comp=E,1.7nm,0.4s
WATA *e*Sn **Sn 23 53 35.4 -7.8**
comp=E,2.7nm,0.5s
SQTA Sankt Quirin 14.63 328 *e*Pn **Pn 23 51 05.1 +1.7**
comp=E,1.7nm,0.5s
SQTA *e*Sn **Sn 23 53 37.5 -7.3**
comp=E,1.4nm,0.4s
VRAC Vranov 14.65 344 Pn **Pn 23 51 03.7 +0.1**
comp=E,0.2nm,0.3s,baz=157,slow=17,SNR=4.8
FETA Feichten 14.70 326 *e*Pn **Pn 23 51 06.4 +2.1**
comp=E,5.2nm,1.0s
ANN Anapa 14.74 46 *e*P **Pn 23 51 02.0 -2.7**
ANN *e*S **Sn 23 53 45.8 -1.4**
ANN pmax pmax
comp=Z,43nm,1.1s
MOTA Moosalm 14.78 328 *i* Pn **Pn 23 51 07.4 +2.0**
comp=Z,1.0nm,0.4s
MOTA *e*Sn **Sn 23 53 45.2 -3.1**
comp=Z,1.4nm,0.5s
MORC Moravsky Berou 14.91 347 P **P 23 51 11.7 -0.8**
MORC Moravsky Berou 14.91 347 P **P 23 51 11.7 -0.8**
DAVOX Davos/Dischmat 14.92 324 Pn **P 23 51 10.7 -2.1**
comp=Z,0.2nm,0.3s,baz=238,slow=9.5,SNR=3.6
DAVOX Sn Sn 23 53 43.0 -8.8
comp=Z,0.2nm,0.3s,baz=330,slow=20,SNR=2.8
OJC Ojcow 15.02 353 P **Pn 23 51 09.7 +1.2**
OJC Ojcow 15.02 353 Pn **Pn 23 51 09.7 +1.2**
GEC2 GERESS Array S 15.03 337 Pn **Pn 23 51 10.6 +2.0**
GERES GERESS Array B 15.03 337 Pn **Pn 23 51 06.4 -2.2**
comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=5.3
GERES LR LR 23 58 17.3
comp=Z,151nm,21.2s,baz=119,slow=43
GERES GERESS Array B 15.03 337 **Pn 23 51 08.0 -0.6**
DAVA Damuels 15.28 325 *e*Pn **P 23 51 15.4 -1.4**
comp=Z,2.3nm,0.5s
DAVA *i* Sn **Sn 23 53 53.6 -7.1**
comp=Z,1.8nm,0.4s
KHC Kasperske Hory 15.31 337 P **Pn 23 51 13.5 +1.1**
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 15.31 337 *e*P **P 23 51 15.7 -1.3**
KHC *e*x x 23 51 21.3
KHC Kasperske Hory 15.31 337 **Pn 23 51 13.5 +1.1**
DPC Dobruska-Polom 15.70 345 *e*P **P 23 51 20.1 -1.1**
DPC Dobruska-Polom 15.70 345 *e*P **P 23 51 20.1 -1.1**
PRU Pruhonice 15.79 341 *e*P **P 23 51 23.0 +0.8**
PRU Pruhonice 15.79 341 *e*P **P 23 51 23.0 +0.8**
UPC Upice 15.91 344 *e*P **P 23 51 24.5 +0.9**
UPC Upice 15.91 344 *e*P **P 23 51 24.5 +0.9**
UPC *e*x x 23 51 29.1
SENIN Lac Senin/Sane 15.97 318 Pn **Pn 23 51 22.8 +1.8**
CHVC Chvalec 15.98 345 *e*P **P 23 51 24.3 0.0**
AKASG Malin Array Be 16.09 15 Pn **Pn 23 51 20.9 -1.4**
comp=Z,1.8nm,0.3s,baz=209,slow=11,SNR=8.8
AKASG Malin Array Be 16.09 15 Pn **Pn 23 51 23.2 +0.9**
AKBB Malin Array Si 16.09 15 P **Pn 23 51 22.8 +0.5**
AKBB pmax pmax
comp=Z,21nm,1.1s
AKBB Malin Array Si 16.09 15 P **Pn 23 51 22.8 +0.5**
AKBB IAmb IAmb 23 51 24.2
comp=Z,20nm,1.1s
GRA1 Grafenberg Arr 16.60 333 Pn **Pn 23 51 29.4 +0.5**
GRA1 IAmb IAmb 23 51 40.9
comp=Z,18nm,1.1s
GRF Grafenberg Arr 16.60 333 P **Pn 23 51 29.4 +0.5**
GRF pmax pmax
comp=Z,18nm,1.1s
BRG Berggiesshubel 16.76 341 *e*P **P 23 51 35.4 +2.5**
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 16.76 341 *e*P **P 23 51 35.4 +2.5**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BFO Black Forest 16.76 325 P **Pn 23 51 31.4 +0.5**
BFO pmax pmax
comp=Z,4.0nm,0.9s
BFO Black Forest 16.76 325 Pn **Pn 23 51 31.4 +0.5**
ECH Echery 17.24 323 P **Pn 23 51 37.9 +0.9**
ECH pmax pmax
comp=Z,4.0nm,1.0s
ECH Echery 17.24 323 Pn **Pn 23 51 37.9 +0.9**
CLL Collm 17.41 339 P **Pn 23 51 40.0 +1.0**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 17.41 339 *e*P **P 23 51 41.0 +0.9**
CLL *e*PP **sP 23 51 49.0 +1.1**
CLL Collm 17.41 339 Pn **Pn 23 51 40.0 +1.0**
NEY Neytrino 17.42 57⇑ *e*P **P 23 51 41.6 +1.1**
KIV Kislovodsk 17.65 55 *e*P **P 23 51 44.2 +1.2**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV Kislovodsk 17.65 55 **Pn 23 51 42.6 +0.5**
KVAR Kislovodsk Arr 17.66 55 P **P 23 51 44.5 +1.5**
baz=135,slow=7.1,SNR=4.3
KBZ Khabaz 17.71 56 P **P 23 51 44.5 +1.0**
comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=8.2
NCK Nalchik 18.10 57⇑ *e*P **Pn 23 51 47.0 -0.6**
GNI Garni 18.12 68 P **P 23 51 49.0 +0.7**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 18.12 68 P **P 23 51 50.7 +2.4**
comp=Z,0.9nm,0.3s,baz=345,slow=3.4,SNR=7.5
GNI Garni 18.12 68 **P 23 51 49.0 +0.7**
KLNR Kaliningrad 19.34 356⇑ *e*P **Pn 23 52 02.9 +0.4**
KLNR pmax pmax
comp=Z,249nm,1.3s
TAM Tamanrasset 19.45 235 P **Pn 23 52 04.2 0.0**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 19.45 235 P **Pn 23 52 04.2 0.0**
DOU Dourbes 19.75 324 Pn **Pn 23 52 07.9 +0.4**
NAC0M Naroch 19.78 7 *e* **P 23 52 04.0 -2.1**
VSR Storozhevoye 19.85 32⇑ *e*P **P 23 52 07.9 +1.0**
VSR pmax pmax
comp=Z,8.0nm,0.5s
BSD Bornholm Skovb 20.49 347 *i* P **P 23 52 12.5 -1.3**
BSD Bornholm Skovb 20.49 347 *i* P **P 23 52 12.5 -1.3**
LPSR Galich'ya Gora 20.79 29 *e*P **P 23 52 17.6 +0.5**
LPSR pmax pmax
comp=Z,20nm,0.6s
VRH Novokhopyorsk 20.99 35 *e*P **P 23 52 19.8 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
ESDC Sonseca Array 21.50 290 P **P 23 52 25.8 +0.8**
comp=Z,1.4nm,0.6s,baz=91,slow=11,SNR=10.0
ESDC Sonseca Array 21.50 290 P **P 23 52 25.4 +0.4**
OBN Obninsk 22.00 22 *e*P **P 23 52 30.1 0.0**
OBN *e*PPP PPP 23 52 55.8

OBN pmax pmax
comp=Z,79nm,2.5s
OBN Obninsk 22.00 22 P **P 23 52 30.6 +0.4**
comp=Z,3.6nm,0.4s,baz=142,slow=6.4,SNR=4.4
OBN Obninsk 22.00 22 P **P 23 52 31.1 +1.0**
OBN IAmb IAmb 23 52 33.5
comp=Z,21nm,1.0s
MDT Midelt 22.68 271 P **P 23 52 39.3 +1.7**
comp=Z,3.2nm,0.8s,baz=152,slow=9.1,SNR=5.8
MOS Moscow 22.86 22 *e*P **P 23 52 38.5 -0.7**
MOS *e* 23 56 37.9
RAYN Ar Rayn 23.08 114 P **P 23 52 44.3 +2.4**
RAYN pmax pmax
comp=Z,2.0nm,0.9s
RAYN Ar Rayn 23.08 114 P **P 23 52 44.3 +2.4**
VSU Vasula 23.30 5⇑ *e*P **P 23 52 44.6 +0.9**
VSU pmax pmax
comp=Z,46nm,1.1s
MTE Manteigas 24.29 291 P **P 23 52 54.5 +1.1**
MTE IAmb IAmb 23 52 59.8
comp=Z,8.7nm,0.9s
PESTR Estremoz 24.30 287 P **P 23 52 54.8 +1.2**
PESTR IAmb IAmb 23 52 54.8
comp=Z,5.9nm,1.1s
HFS Hagfors 25.48 350 P **P 23 53 03.1 -0.9**
comp=Z,4.9nm,0.4s,baz=157,slow=11,SNR=51
FINES FINESS Array B 26.22 4 P **P 23 53 09.9 -0.7**
FINES 23 56 37.5
FINES FINESS Array B 26.22 4 P **P 23 53 09.4 -1.2**
comp=Z,3.7nm,0.8s,baz=170,slow=11,SNR=18
FINES PcP **PcP 23 56 37.5 +0.7**
comp=Z,1.0nm,0.5s,baz=164,slow=1.8,SNR=6.8
FINES FINESS Array B 26.22 4 P **P 23 53 09.9 -0.7**
FIA1 FINESS Array S 26.22 4 P **P 23 53 10.4 -0.2**
FIA1 IAmb IAmb 23 53 15.0
comp=Z,4.2nm,1.1s
NC602 NORSAR Array S 26.40 348 P **P 23 53 11.8 -0.4**
NAO01 NORSAR Array S 26.62 347 P **P 23 53 14.1 -0.1**
EKA Eskdalemuir Ar 26.73 326 P **P 23 53 15.8 +0.6**
comp=Z,3.8nm,0.7s,baz=124,slow=8.9,SNR=8.7
NC405 NORSAR Array S 26.73 348 P **P 23 53 15.6 +0.4**
NB201 NORSAR Array S 26.74 348 P **P 23 53 14.8 -0.5**
NB2 NORSAR Subarra 26.75 348 P **P 23 53 14.3 -1.1**
comp=Z,0.7nm,0.4s,baz=155,slow=9.3
NOA NORSAR Array B 26.75 348 P **P 23 53 14.8 -0.6**
comp=Z,0.8nm,0.5s,baz=155,slow=9.4,SNR=12
NOA LR LR 00 07 06.3
comp=Z,27nm,18.3s,baz=295,slow=44
NBO00 NORSAR Array S 26.82 347 P **P 23 53 16.1 +0.1**
NBO00 IAmb IAmb 23 53 18.7
comp=Z,7.9nm,0.8s
NC303 NORSAR Array S 26.89 348 P **P 23 53 16.2 -0.5**
NC303 IAmb IAmb 23 53 22.4
comp=Z,8.8nm,0.9s
NC204 NORSAR Array S 27.05 347 P **P 23 53 18.1 -0.1**
GEYT Alibeck 28.49 74 P **P 23 53 31.4 +0.1**
comp=Z,5.6nm,0.4s,baz=276,slow=8.0,SNR=20
GEYT Alibeck 28.49 74 P **P 23 53 31.4 +0.1**
TOA0 Torodi Ar. Sit 29.07 226 P **P 23 53 37.4 +0.9**
TORD Torodi Ar. Bea 29.07 226 P **P 23 53 37.1 +0.6**
comp=Z,2.7nm,0.5s,baz=36,slow=9.6,SNR=57
TORD LR LR 00 05 50.7
comp=Z,65nm,18.3s,baz=335,slow=38
TORD Torodi Ar. Bea 29.07 226 IAmb IAmb 23 53 44.0
comp=Z,1.9nm,0.6s
KIRV Kirov 29.22 29 P **P 23 53 36.1 -1.3**
comp=Z,14nm,0.6s,baz=11,slow=1.7,SNR=7.8
AKTO Aktyubinsk 29.67 48 P **P 23 53 40.6 -1.0**
comp=Z,2.7nm,0.7s,baz=269,slow=10,SNR=9.0
PRGR Permogore 30.09 22 *e*P P 23 53 38.1 -7.0
PRGR pmax pmax
comp=Z,11nm,0.8s
ABKAR Akbulak array 30.57 51 P **P 23 53 50.1 +0.6**
ABKAR Akbulak array 30.57 51 P **P 23 53 49.7 +0.2**
ABKAR IAmb IAmb 23 54 03.3
comp=Z,1.3nm,0.5s
UOSS Minazif 30.70 100 P **P 23 53 51.4 +0.5**
UOSS IAmb IAmb 23 54 00.9
comp=Z,4.7nm,0.8s
ARU Arti 32.16 38 *d i* P **P 23 54 02.8 -0.7**
ARU 23 55 06.7
ARU S **S 23 59 17.2 +2.5**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 32.16 38 P **P 23 54 03.0 -0.5**
ARU IAmb IAmb 23 54 09.6
comp=Z,4.8nm,0.9s
HRA Herat 32.37 80 P **P 23 54 05.5 -0.3**
HRA IAmb IAmb 23 54 07.0
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 34.29 2 P **P 23 54 21.1 -0.9**
comp=Z,1.7nm,0.5s,baz=188,slow=9.2,SNR=15
ARCES PcP **PcP 23 56 58.1 +0.4**
comp=Z,4.8nm,1.0s,baz=168,slow=2.3,SNR=10.0
CHGR Chuyangaron 37.01 71 P **P 23 54 46.2 +0.5**
KKAR Karatay Array 37.48 63 P **P 23 54 49.7 +0.2**
KKAR Karatay Array 37.48 63 P **P 23 54 49.7 +0.2**
BRVK Borovoye 37.68 47⇑ *e*P **P 23 54 51.6 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 37.68 47 P **P 23 54 50.9 -0.1**
BVAR Borovoye Array 37.73 47 P **P 23 54 50.4 -1.1**
comp=Z,0.7nm,0.5s,baz=261,slow=9.0,SNR=10.0
KBL Kabul 37.79 77 P **P 23 54 53.7 +1.2**
KBL pmax pmax
comp=Z,2.0nm,0.7s
KBL Kabul 37.79 77 P **P 23 54 53.7 +1.2**
KBL IAmb IAmb 23 54 55.8
comp=Z,2.2nm,0.7s
BTK Batken 38.05 68 P **P 23 54 54.9 +0.4**
BTK pmax pmax
comp=Z,5.0nm,1.1s
BTK Batken 38.05 68 P **P 23 54 54.9 +0.4**
BTK IAmb IAmb 23 55 04.3
comp=Z,4.6nm,1.1s
DBIC Dimbokro 38.10 228 P **P 23 54 55.5 +0.6**
DBIC pmax pmax
comp=Z,11nm,1.2s
DBIC Dimbokro 38.10 228 P **P 23 54 55.6 +0.6**
comp=Z,3.2nm,0.6s,baz=29,slow=11,SNR=9.4
DBIC Dimbokro 38.10 228 P **P 23 54 55.5 +0.6**
DBIC IAmb IAmb 23 55 14.6
comp=Z,11nm,1.1s
AAK Ala-Archa 40.44 63⇓ *e*P **P 23 55 15.1 +0.6**
AAK pmax pmax
comp=Z,9.0nm,2.5s
AAK Ala-Archa 40.44 63 P **P 23 55 14.7 +0.2**
comp=Z,1.0nm,0.4s,baz=259,slow=5.2,SNR=6.3
AAK Ala-Archa 40.44 63 P **P 23 55 15.1 +0.6**
NIL Nilore 41.39 77 P **P 23 55 23.3 +1.0**
NIL pmax pmax
comp=Z,18nm,1.0s
NIL Nilore 41.39 77 P **P 23 55 23.3 +1.0**
NRN Naryn 41.72 65 IAmb IAmb 23 55 26.9
comp=Z,3.6nm,0.5s
KSH Kashi 42.06 68 P **P 23 55 29.0 +1.2**
KSH PP **PP 23 57 09.8 +4.6**
KSH LR LR
comp=Z,140nm,11.9s
KSH LR LR
comp=Z,270nm,8.8s
KSH LR LR
comp=Z,230nm,10.8s
KDJ Kajisay 42.48 64 P **P 23 55 31.7 +0.4**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
KDJ Kajisay 42.48 64 P **P 23 55 31.7 +0.4**
KDJ IAmb IAmb 23 55 33.8
comp=Z,2.9nm,0.6s
KURBB Kurchatov Arra 42.62 51 P **P 23 55 31.2 -0.8**
comp=Z,4.4nm,0.5s,baz=273,slow=8.7,SNR=28
KURBB PcP **PcP 23 57 24.9 +1.0**
comp=Z,1.0nm,0.6s,baz=271,slow=5.0
KURK Kurchatov 42.68 51⇓ *i* P **P 23 55 31.9 -0.6**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 42.68 51 P **P 23 55 31.9 -0.6**
KURK IAmb IAmb 23 55 42.4
comp=Z,3.0nm,0.9s
KURK Kurchatov 42.68 51 **PcP 23 57 24.9 +0.8**
TARG Taragay, Kyrgy 43.01 64 P **P 23 55 35.9 +0.1**
TARG IAmb IAmb 23 55 47.8
comp=Z,2.0nm,0.5s
SPA0 Spitsbergen Ar 43.03 358 P **P 23 55 35.2 +0.2**
SPITS Spitsbergen Ar 43.03 358 P **P 23 55 35.1 0.0**

comp=Z,3.2nm,0.5s,baz=163,slow=10,SNR=16
MAKZ Makanchi 45.19 56 P **P 23 55 53.3 +0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
MAKZ Makanchi 45.19 56 P **P 23 55 53.3 +0.5**
MAKZ IAmb IAmb 23 55 54.7
comp=Z,4.6nm,1.1s
MK31 Makanchi Array 45.41 56 IAmb IAmb 23 56 06.1
comp=Z,3.6nm,0.6s
MKAR Makanchi Array 45.41 56 P **P 23 55 53.9 -0.6**
comp=Z,2.8nm,0.4s,baz=267,slow=7.6,SNR=62
MKAR PcP **PcP 23 57 34.5 +1.0**
comp=Z,1.2nm,0.6s,baz=282,slow=2.6,SNR=3.1
ZAA0 Zalesovo Array 46.38 46 IAmb IAmb 23 56 04.0
comp=Z,4.7nm,1.0s
ZALV Zalesovo Beam 46.38 46 P **P 23 56 00.9 -1.2**
comp=Z,2.5nm,0.4s,baz=280,slow=8.9,SNR=8.8
ZALV Zalesovo Beam 46.38 46 P **P 23 56 00.7 -1.4**
NRIK Noril'sk 48.61 25 P **P 23 56 18.9 -0.2**
comp=Z,1.6nm,0.4s,baz=258,slow=2.2,SNR=3.5
WMQ Urumqi 49.70 59 *e*P **P 23 56 31.0 +3.0**
WMQ pmax pmax
comp=Z,8.0nm,1.3s
WMQ pmax pmax
comp=Z,75nm,4.5s
DANN Dangsing 51.69 80 *e*P **P 23 56 43.7 +0.2**
comp=Z,34nm,0.8s
GKN Gorkha 52.54 80 *e*P **P 23 56 49.2 -0.4**
DMN Daman 53.08 80 *e*P **P 23 56 53.4 -0.3**
KKN Kakani 53.14 80 *e*P **P 23 56 53.3 -0.9**
PKIN Phulchoki 53.33 80 *e*P **P 23 56 55.0 -0.6**
PKI Pulchoki 53.34 80 *e*P **P 23 56 55.2 -0.5**
GUN Gumba 53.58 79 *e*P **P 23 56 57.4 -0.1**
JIRN Jiri 53.93 79 *e*P **P 23 57 00.4 +0.3**
comp=Z,10.0nm,0.4s
RAMN Ramite 54.56 80 *e*P **P 23 57 03.3 -1.3**
TAPN Taplejung 55.28 79 *e*P **P 23 57 09.7 -0.2**
comp=Z,13nm,0.9s
GTA Gaotai 59.70 61 ⇑P **P 23 57 40.5 -0.1**
GTA pP pP 23 57 44.8 -1.8
GTA sP sP 23 57 48.0 -0.8
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,140nm,6.5s
GTA LR LR
comp=Z,120nm,16.5s
GTA LR LR
comp=Z,100nm,16.5s
GTA LR LR
comp=Z,230nm,15.9s
SONM Songino Array 60.97 50 P **P 23 57 48.9 -0.3**
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 60.97 50 P **P 23 57 49.1 -0.1**
comp=Z,1.9nm,0.6s,baz=280,slow=8.4,SNR=14
SONM Songino Array 60.97 50 P **P 23 57 48.9 -0.3**
ULN Ulaanbaatar 61.37 50 P **P 23 57 51.4 -0.5**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 61.37 50 P **P 23 57 51.4 -0.5**
TIXI Tiksi 61.73 20⇓*i*P **P 23 57 53.5 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 61.73 20 P **P 23 57 53.4 -0.3**
comp=Z,2.5nm,0.5s,baz=307,slow=4.3,SNR=7.9
BOSA Boshof 63.65 177 P **P 23 58 07.8 +0.7**
comp=Z,6.1nm,1.0s,baz=355,slow=6.2,SNR=8.5
BOSA Boshof 63.65 177 IAmb IAmb 23 58 11.7
comp=Z,9.7nm,1.1s
LZH Lanzhou 63.97 63 *e*P **P 23 58 10.5 +1.0**
LZH pP pP 23 58 14.0 -1.5
LZH sP sP 23 58 17.0 -0.7
LZH pmax pmax
comp=Z,16nm,1.3s
HHC Hu-ho-hao-te 67.25 55 *e*P **P 23 58 29.0 -1.5**
HHC pmax pmax
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 68.60 82 *ce*P **P 23 58 39.7 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 68.60 82 P **P 23 58 39.1 -0.1**
comp=Z,0.7nm,0.4s,baz=297,slow=8.0,SNR=4.5
BILL Bilibino 73.39 13 *e*P **P 23 59 06.7 -0.7**
BILL *e* 23 59 25.3
BILL *e* 00 01 52.0
BILL pmax pmax
comp=Z,4.0nm,1.4s
KLR Kul'dur 74.98 40⇓*e*P **P 23 59 18.9 +1.9**
KLR pmax pmax
comp=Z,5.0nm,1.3s
KLR Kul'dur 74.98 40 P **P 23 59 18.7 +1.7**
comp=Z,1.1nm,0.5s,baz=287,slow=7.8,SNR=4.0
ANWB Willy Bob 75.55 282 P **P 23 59 20.1 -0.6**
YKA Yellowknife Ar 76.63 341 P **P 23 59 26.9 +0.8**
comp=Z,1.2nm,0.5s,baz=32,slow=5.2,SNR=11
BMAR Burnt Mountain 77.10 355 P **P 23 59 29.7 +0.9**
USRK Ussuriysk Ar. 78.17 44 P **P 23 59 34.9 -0.3**
comp=Z,1.0nm,0.4s,baz=293,slow=3.4,SNR=7.6
USRK Ussuriysk Ar. 78.17 44 P **P 23 59 34.6 -0.5**
IMAR Indian Mountai 78.97 358 P **P 23 59 39.6 +0.4**
ULM Lac du Bonnet 78.99 325 P **P 23 59 40.2 +0.6**
comp=Z,2.6nm,0.6s,baz=36,slow=4.2,SNR=3.3
ULM Lac du Bonnet 78.99 325 IAmb IAmb 23 59 58.0
comp=Z,5.2nm,1.1s
PRP Porcupine Dome 79.05 355 P **P 23 59 40.1 +0.2**
KSAR Wonju Array Be 79.79 51 P **P 23 59 43.7 -0.5**
KSAR Wonju Array Be 79.79 51 P **P 23 59 43.7 -0.5**
KSRS Korea Array 79.80 51 P **P 23 59 44.3 +0.1**
comp=Z,2.4nm,0.6s,baz=305,slow=4.2,SNR=5.6
MLY Manley 79.83 357 P **P 23 59 44.6 +0.6**
MLY IAmb IAmb 00 00 01.7
comp=Z,4.4nm,1.2s
ILAR Eielson Array 79.89 355 P **P 23 59 45.1 +1.0**
comp=Z,0.6nm,0.5s,baz=340,slow=3.9,SNR=15
ILAR Eielson Array 79.89 355 P **P 23 59 44.2 0.0**
DAWY Dawson 79.92 352 P **P 23 59 45.2 +0.7**
WRH Wood River Hil 80.26 356 P **P 23 59 46.6 +0.4**
WRH IAmb IAmb 23 59 47.7
comp=Z,4.3nm,0.8s
SCRK Sand Creek 80.45 354 P **P 23 59 48.2 +0.8**
SCRK IAmb IAmb 00 00 05.5
comp=Z,2.0nm,0.9s
BPAW Bear Paw Mtn. 80.77 357 P **P 23 59 49.1 +0.1**
DOT Dot Lake 80.78 354 P **P 23 59 49.7 +0.6**
DOT IAmb IAmb 23 59 51.6
comp=Z,3.6nm,0.8s
BCAR Beaver Creek A 81.15 353 P **P 23 59 51.8 +0.7**
KTH Kantishna Hill 81.31 357 P **P 23 59 52.4 +0.4**
KTH IAmb IAmb 00 00 11.2
comp=Z,4.2nm,1.1s
RND Reindeer 81.36 356 P **P 23 59 52.1 -0.1**
RND pmax pmax
comp=Z,4.0nm,1.1s
RND Reindeer 81.36 356 P **P 23 59 52.1 -0.1**
RND IAmb IAmb 00 00 09.2
comp=Z,4.1nm,1.1s
DHY Denali Highway 81.60 355 P **P 23 59 54.1 +0.5**
PPLA Purkeypile 82.02 358 P **P 23 59 56.9 +1.1**
BDFB Brasilia 83.87 246 LR LR 00 37 53.0
comp=Z,38nm,18.3s,baz=191,slow=36
PV02 Paradox Valley 94.08 324 P **P 00 00 54.7 0.0**
WRA Warramunga Arr 118.67 95 PKP **PKPdf 00 06 23.9 -0.4**
comp=Z,0.5nm,0.6s,baz=308,slow=2.1,SNR=6.7
ASAR Alice Springs 120.12 99 PKP **PKPdf 00 06 27.1 +0.1**
comp=Z,0.5nm,0.5s,baz=319,slow=1.4,SNR=9.8

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*ISCJB **30** 00:05:36.4±0.4, 24°.39N±0°.03×122°.98E±0°.02, h79km±4km, Error ellipse: s-maj=4.8km s-min=2.5km az=180.0*
*TAP **30** 00:05:36.8, 24°.41N×122°.95E, h79km, ML3.4, C*
*JMA **30** 00:05:36.7±0.2, 24°.41N×122°.98E, h81km±2km, M2.6*
ISC 30 00:05:36.3±1.3, 24°.41N±0°.04×122°.98E±0°.03, h83km±7km, n83, σ0°97/145, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.05**	**321**	P	**Pn**	**00 05 48.4**	**+0.3**
JYNG				S	**Sn**	**00 05 56.3**	**-0.6**
YOJ	**Yonaguni jima**	**0.06**	**30**	P	**Pn**	**00 05 48.2**	**+0.1**
YOJ	baz=42			S	**Sn**	**00 05 56.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.06**	**30**	P	**Pn**	**00 05 48.4**	**+0.2**
YOJ	baz=42			S	**Sn**	**00 05 56.4**	**-0.5**
IRIF	**Iriomote-Funau**	**0.69**	**96**	P	**Pn**	**00 05 52.3**	**+0.2**
IRIF				S	**Sn**	**00 06 04.0**	**+0.1**
EOS1	**EOS1**	**0.79**	**280**	P	**Pn**	**00 05 53.8**	**+0.7**
EOS1	baz=280			S	**Sn**	**00 06 06.4**	**+0.8**
HATJ	**Hateruma jima**	**0.83**	**115**	P	**Pn**	**00 05 54.2**	**+0.6**
HATJ				S	**Sn**	**00 06 07.0**	**+0.4**
JKRS	**Kuro-shima**	**0.95**	**100**	P	**Pn**	**00 05 55.6**	**+0.6**
JKRS				S	**Sn**	**00 06 09.5**	**+0.5**
TWC	**Suao**	**1.05**	**281**	*e*P	**Pn**	**00 05 56.6**	**+0.5**
TWC	baz=281			*e*S	**Sn**	**00 06 09.9**	**-1.1**
JIJ	**Ishigaki jima**	**1.06**	**92**	P	**Pn**	**00 05 56.4**	**+0.1**
JIJ				S	**Sn**	**00 06 10.4**	**-0.9**
NANB	**Nanao**	**1.12**	**271**	*e*P	**Pn**	**00 05 57.9**	**+0.9**
NANB	baz=270			*e*S	**Sn**	**00 06 12.5**	**-0.1**
ENA	**Nanau**	**1.13**	**271**	*e*P	**Pn**	**00 05 57.9**	**+0.7**
ENA	baz=270			*e*S	**Sn**	**00 06 12.8**	**0.0**
NTC	**Toucheng**	**1.14**	**293**	*e*P	**Pn**	**00 05 57.3**	**+0.2**
NTC	baz=293			*e*S	**Sn**	**00 06 12.3**	**-0.5**
TIPB	**Shuangxi**	**1.19**	**298**	*e*P	**Pn**	**00 05 58.1**	**+0.3**
TIPB	baz=298			*e*S	**Sn**	**00 06 13.8**	**-0.3**
JISG	**Ishigakijimahi**	**1.23**	**82**	P	**Pn**	**00 05 58.2**	**-0.1**
JISG				S	**Sn**	**00 06 14.0**	**-0.8**
TWE	**Neicheng**	**1.23**	**285**	*e*P	**Pn**	**00 05 58.6**	**+0.3**
TWE	baz=284			*e*S	**Sn**	**00 06 15.3**	**+0.3**
SLBB	**Yuanshan**	**1.27**	**286**	*e*P	**Pn**	**00 05 58.4**	**-0.5**
SLBB	baz=285			*e*S	**Sn**	**00 06 15.9**	**0.0**
NACB	**Ninganchiao**	**1.29**	**260**	*e*P	**Pn**	**00 05 59.0**	**-0.1**
NACB	baz=259			*e*S	**Sn**	**00 06 15.0**	**-1.1**
TWD	**Chiawan**	**1.31**	**256**	*e*P	**Pn**	**00 05 59.0**	**-0.2**
TWD	baz=254			*e*S	**Sn**	**00 06 15.6**	**-1.0**
ENTT	**Nioudou**	**1.31**	**280**	*e*P	**Pn**	**00 06 00.2**	**+0.9**
ENTT	baz=280			*e*S	**Sn**	**00 06 17.3**	**+0.6**
NDT	**Datong Townshi**	**1.35**	**278**	*e*P	**Pn**	**00 06 00.9**	**+1.0**
NDT	baz=278			*e*S	**Sn**	**00 06 17.7**	**+0.1**
ENLB	**Shoufeng**	**1.36**	**248**	*e*P	**Pn**	**00 05 59.1**	**-0.8**
ETLH	baz=247 **Xiulin Townshi**	**1.38**	**262**	P	**Pn**	**00 06 00.3**	**0.0**
ETLH	baz=261			*e*S	**Sn**	**00 06 18.0**	**-0.4**
NWLT	**Wulai**	**1.39**	**285**	P	**Pn**	**00 06 01.0**	**+0.6**
NWLT	baz=285			S	**Sn**	**00 06 18.7**	**+0.1**
NNSB	**Datong**	**1.46**	**271**	*e*P	**Pn**	**00 06 01.9**	**+0.6**
NNSB	baz=270			*e*S	**Sn**	**00 06 19.7**	**-0.5**
NNSH	**Datong**	**1.46**	**271**	*e*P	**Pn**	**00 06 01.6**	**+0.3**
NNS	**Nan Shan**	**1.47**	**271**	*e*P	**Pn**	**00 06 01.9**	**+0.5**
NNS	baz=271			*e*S	**Sn**	**00 06 20.0**	**-0.4**
TATO	**Taipei**	**1.47**	**293**	*e*P	**Pn**	**00 06 01.1**	**-0.2**
TATO	baz=293			*e*S	**Sn**	**00 06 20.1**	**-0.1**
YM01	**YM01**	**1.48**	**300**	*e*P	**Pn**	**00 06 01.3**	**-0.2**
YM01	baz=300			S	**Sn**	**00 06 20.7**	**+0.2**
YM11	**YM11**	**1.48**	**301**	*e*P	**Pn**	**00 06 01.9**	**+0.3**
YHNB	**Yeheng**	**1.48**	**280**	*e*P	**Pn**	**00 06 02.6**	**+1.0**
YHNB	baz=280			*e*S	**Sn**	**00 06 21.2**	**+0.5**
YM05	**YM05**	**1.49**	**301**	*e*P	**Pn**	**00 06 02.6**	**+0.9**
YM05	baz=300			*e*S	**Sn**	**00 06 20.1**	**-0.7**
NSK	**Sanguang**	**1.50**	**280**	*e*P	**Pn**	**00 06 02.7**	**+0.8**
NSK	baz=280			*e*S	**Sn**	**00 06 21.6**	**+0.5**
YM04	**YM04**	**1.51**	**300**	*e*P	**Pn**	**00 06 01.7**	**-0.2**
YM04	baz=299			*e*S	**Sn**	**00 06 20.9**	**-0.3**
ESL	**Shilin**	**1.53**	**247**	*e*P	**Pn**	**00 06 01.2**	**-1.0**
ESL	baz=246			*e*S	**Sn**	**00 06 20.0**	**-1.7**
JTJ	**Tarama**	**1.58**	**81**	P	**Pn**	**00 06 03.4**	**+0.6**
JTJ				S	**Sn**	**00 06 22.6**	**-0.3**
WHF	**Hehuan Shan**	**1.59**	**261**⇓	*e*P	**Pn**	**00 06 03.4**	**0.0**
WHF	baz=260			*e*S	**Sn**	**00 06 22.1**	**-1.6**
EGFH	**Guangfu**	**1.60**	**243**	*e*P	**Pn**	**00 06 03.0**	**-0.1**
EGFH	baz=241			*e*S	**Sn**	**00 06 22.2**	**-1.1**
TWT	**Tachien**	**1.65**	**265**	*e*P	**Pn**	**00 06 04.8**	**+0.9**
TWT	baz=264			*e*S	**Sn**	**00 06 25.5**	**+0.7**
TDCB	**Techi**	**1.67**	**265**	P	**Pn**	**00 06 05.2**	**+1.1**
TDCB	baz=264			*e*S	**Sn**	**00 06 24.5**	**-0.7**
CHGB	**Renai**	**1.69**	**258**	*e*P	**Pn**	**00 06 04.6**	**+0.2**
CHGB	baz=257			*e*S	**Sn**	**00 06 24.8**	**-0.8**
HGSD	**Ruisui**	**1.69**	**238**	*e*P	**Pn**	**00 06 04.0**	**-0.3**
EHY	**Hungye**	**1.76**	**240**	*e*P	**Pn**	**00 06 04.8**	**-0.4**
VWDT	**VWDT**	**1.80**	**249**	*e*P	**Pn**	**00 06 06.2**	**+0.5**
VWDT	baz=248			*e*S	**Sn**	**00 06 27.2**	**-0.8**
LIOB	**Emei**	**1.80**	**278**	*e*P	**Pn**	**00 06 06.7**	**+1.0**
LIOB	baz=277			*e*S	**Sn**	**00 06 28.4**	**+0.3**
NSTT	**Nanjuang**	**1.82**	**277**	*e*P	**Pn**	**00 06 06.0**	**+0.1**
NSTT	baz=277			*e*S	**Sn**	**00 06 29.0**	**+0.7**
YULB	**Yu-li**	**1.84**	**237**	⇓P	**Pn**	**00 06 06.0**	**-0.2**
YULB	baz=236			*e*S	**Sn**	**00 06 27.5**	**-1.5**
WHP	**Taichung City**	**1.86**	**266**	*e*P	**Pn**	**00 06 08.0**	**+1.5**
WHP	baz=265			*e*S	**Sn**	**00 06 29.8**	**+0.2**
TWF1	**Yuli**	**1.87**	**236**	P	**Pn**	**00 06 06.5**	**-0.1**
TWF1	baz=234			*e*S	**Sn**	**00 06 28.3**	**-1.3**
DPDB	**Guoxing**	**1.91**	**259**	*e*P	**Pn**	**00 06 08.0**	**+0.8**
SSLB	**Suanglung**	**1.95**	**252**	*e*P	**Pn**	**00 06 08.0**	**+0.3**
SSLB	baz=251			*e*S	**Sn**	**00 06 31.0**	**-0.7**
FULB	**Fuli**	**1.96**	**232**	*e*P	**Pn**	**00 06 07.4**	**-0.4**
FULB	baz=231			*e*S	**Sn**	**00 06 31.0**	**-0.8**
SMLT	**Sun Moon Lake**	**1.97**	**255**	*e*P	**Pn**	**00 06 08.9**	**+0.9**
SMLT	baz=254			*e*S	**Sn**	**00 06 32.3**	**+0.1**
CHKT	**Chengkung**	**1.97**	**229**	*e*P	**Pn**	**00 06 07.0**	**-1.0**
CHKT	baz=227			*e*S	**Sn**	**00 06 30.1**	**-2.0**
TYC	**Yuchr**	**2.00**	**256**	*e*P	**Pn**	**00 06 09.3**	**+1.0**
TYC	baz=255			*e*S	**Sn**	**00 06 32.5**	**-0.3**
TWQ1	**Liyutan**	**2.01**	**269**	*e*P	**Pn**	**00 06 10.7**	**+2.2**
TWQ1	baz=268			*e*S	**Sn**	**00 06 34.1**	**+1.1**
JIRB	**Irabujima**	**2.04**	**78**	*e*S	**Sn**	**00 06 32.9**	**-0.7**
WHYT	**Xinyi Township**	**2.07**	**250**	*e*P	**Pn**	**00 06 09.8**	**+0.6**
WHYT	baz=249			*e*S	**Sn**	**00 06 35.5**	**+1.0**
YUS	**Yu-Shan**	**2.07**	**244**	*e*P	**Pn**	**00 06 10.1**	**+0.4**
WJS	**Zhushan**	**2.14**	**255**	*e*P	**Pn**	**00 06 11.6**	**+1.4**
WJS	baz=253			*e*S	**Sn**	**00 06 37.7**	**+1.7**
WNT	**Mingjian**	**2.16**	**256**	*e*P	**Pn**	**00 06 11.3**	**+0.9**
ELDTW	**Lidau**	**2.17**	**236**	*e*P	**Pn**	**00 06 10.3**	**-0.3**
CHN5	**Tsauling**	**2.26**	**249**	*e*P	**Pn**	**00 06 13.2**	**+1.4**
CHN5	baz=248			*e*S	**Sn**	**00 06 39.8**	**+0.9**
WDLH	**Douliu**	**2.34**	**253**	*e*P	**Pn**	**00 06 14.6**	**+1.7**
TWGBT	**Beinan**	**2.36**	**228**	*e*P	**Pn**	**00 06 12.7**	**-0.4**
TWG	**Pinlang**	**2.36**	**228**	*e*P	**Pn**	**00 06 12.7**	**-0.5**
STYT	**Tauyuan**	**2.38**	**239**	*e*P	**Pn**	**00 06 14.9**	**+1.3**
STYT	baz=238			*e*S	**Sn**	**00 06 42.1**	**+0.1**
TPUB	**Ta-pu**	**2.42**	**243**	P	**Pn**	**00 06 15.8**	**+1.8**
TPUB	baz=242			*e*S	**Sn**	**00 06 44.1**	**+1.4**
CHN4	**Tsaushan**	**2.43**	**245**	*e*P	**Pn**	**00 06 16.2**	**+2.2**
RLNB	**Erlin**	**2.45**	**258**	*e*P	**Pn**	**00 06 14.6**	**+0.3**
RLNB	baz=257			*e*S	**Sn**	**00 06 43.6**	**+0.2**
WTP	**Ta-pu**	**2.46**	**242**	*e*P	**Pn**	**00 06 15.9**	**+1.5**
WTP	baz=241			*e*S	**Sn**	**00 06 44.8**	**+1.1**
TWK	**Hsinying**	**2.55**	**244**	*e*P	**Pn**	**00 06 17.0**	**+1.3**
TWK	baz=242			*e*S	**Sn**	**00 06 46.1**	**+0.2**
CHN1	**Nanshi**	**2.56**	**242**	*e*P	**Pn**	**00 06 18.0**	**+2.2**
SLGT	**Liugui**	**2.56**	**237**	*e*P	**Pn**	**00 06 17.1**	**+1.3**
SLGT	baz=236			*e*S	**Sn**	**00 06 46.8**	**+0.6**
ECL	**Taimali**	**2.59**	**226**	*e*P	**Pn**	**00 06 15.4**	**-0.8**
ECL	baz=225			*e*S	**Sn**	**00 06 44.5**	**-2.4**
MASBT	**Mashibuluo**	**2.80**	**231**	*e*P	**Pn**	**00 06 19.7**	**+0.7**
SCZT	**Fangliau**	**2.97**	**227**	*e*P	**Pn**	**00 06 21.8**	**+0.5**
PTTC	**Pingtan**	**3.11**	**291**	*e*P	**Pn**	**00 06 22.7**	**-0.5**
WLCH	**Liuqiu**	**3.15**	**230**	*e*P	**Pn**	**00 06 25.7**	**+2.0**
TWKBT	**Hengchun**	**3.17**	**219**	*e*P	**Pn**	**00 06 26.6**	**+2.6**
PHUB	**P'eng-hu**	**3.24**	**255**	*e*P	**Pn**	**00 06 23.2**	**-1.8**
PHUB	baz=253			*e*S	**Sn**	**00 07 00.9**	**-1.7**
VWUC	**VWUC**	**3.26**	**281**	*e*P	**Pn**	**00 06 24.9**	**-0.3**
VWUC	baz=280			*e*S	**Sn**	**00 07 00.2**	**-2.9**
VCHM	**Qimei**	**3.46**	**251**	*e*P	**Pn**	**00 06 29.8**	**+1.8**
PTMZ	**Houxiangcun**	**3.56**	**281**	*e*P	**Pn**	**00 06 28.7**	**-0.7**
PTMZ	baz=280			*e*S	**Sn**	**00 07 08.3**	**-2.1**

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*ISCJB **30** 00:16:19.6±0.4, 28°.40S±0°.05×81°.31W±0°.05, h10km, mb4.2/14, MS3.5/10, Error ellipse: s-maj=8.6km s-min=5.6km az=30.7*
*IDC **30** 00:16:19.5±0.6, 28°.40S×81°.31W, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.4/24, mbtmp4.3/13, ML4.6/1, MS3.5/14, Ms1 3.5/14, ms1mx3.4/24, Error ellipse: s-maj=20.1km s-min=17.7km az=49.0*
*NEIC **30** 00:16:21.2±1.1, 28°.5S±0°.1×81°.3W±0°.1, h10km±1km, mb4.3/20*
ISC 30 00:16:21.1±0.5, 28°.45S±0°.09×81°.29W±0°.08, h10km, n76, σ1°.26/73, mb4.3/19, MS3.6/10, Southeastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**9.32**	**103**	Pn	**Pn**	**00 18 36.7**	**+1.0**
GO03	**Copiap**	**9.81**	**88**	Pn	**Pn**	**00 18 43.0**	**+0.7**
ROC1	**El Roble**	**9.92**	**120**	Pn	**Pn**	**00 18 46.1**	**+2.1**
PEL	**Peldehue**	**10.25**	**120**	Pn	**Pn**	**00 18 50.9**	**+2.6**
GO05	**Huala**	**10.30**	**132**	Pn	**Pn**	**00 18 49.7**	**+0.6**
PB10	**IPOC Station P**	**10.84**	**65**	Pn	**Pn**	**00 18 56.4**	**0.0**
GO02	**Mina Guanaco**	**10.95**	**75**	Pn	**Pn**	**00 18 59.5**	**+1.3**
CFA	**Coronel Fontan**	**11.74**	**109**	Pn	**Pn**	**00 19 12.2**	**+3.5**
CFA	17nm,0.3s,baz=296,slow=12,SNR=58			Sn	**Sn**	**00 21 15.0**	**-4.9**
CFA	0.7nm,0.3s,baz=72,slow=23,SNR=2.5			LR	LR	00 22 59.5	
PB04	comp=Z,444nm,19.6s,baz=258,slow=34 **IPOC Station P**	**11.77**	**61**	Pn	**Pn**	**00 19 10.2**	**+0.9**
LVC	**Limon Verde**	**12.60**	**65**	Pn	**Pn**	**00 19 20.7**	**0.0**
LVC	3.1nm,0.3s,baz=219,slow=22,SNR=65			Sn	Sn	00 21 32.2	-9.1
LVC	**Limon Verde**	**12.60**	**65**	Pn	**Pn**	**00 19 20.6**	**-0.1**
PB01	**IPOC Station P**	**13.01**	**58**	Pn	**Pn**	**00 19 28.0**	**+1.9**
PB11	**IPOC Station P**	**13.69**	**53**	Pn	**Pn**	**00 19 36.1**	**+0.5**
GO06	**Curarrehue**	**13.76**	**146**	Pn	**Pn**	**00 19 38.7**	**+2.3**
GO01	**Chusmiza**	**14.08**	**54**	Pn	**Pn**	**00 19 42.4**	**+1.3**
MNMC	**Minye Minye**	**14.15**	**52**	Pn	**Pn**	**00 19 41.9**	**-0.1**
PLCA	**Paso Flores**	**15.09**	**147**	Pn	**Pn**	**00 19 57.5**	**+3.0**
PLCA	0.2nm,0.3s,baz=336,slow=13,SNR=2.9			LR	LR	00 24 37.8	
PLCA	comp=Z,362nm,20.3s,baz=350,slow=33 **Paso Flores**	**15.09**	**147**	Pn	**Pn**	**00 19 52.6**	**-1.9**
NNA	**Nana**	**16.90**	**15**	LR	LR	00 24 57.8	
LPAZ	comp=Z,142nm,18.9s,baz=192,slow=31 **La Paz**	**17.15**	**48**	P	**P**	**00 20 23.9**	**+0.7**
LPAZ	0.1nm,0.3s,baz=179,slow=7.8,SNR=5.1			LR	LR	00 24 28.1	
LPAZ	comp=Z,31nm,18.9s,baz=236,slow=28 **La Paz**	**17.15**	**48**	Pn	**Pn**	**00 20 21.7**	**+0.1**
TRQA	**Tornquist**	**18.75**	**126**		**Pn**	**00 20 42.2**	**+1.6**
TRQA	comp=Z,12nm,0.8s			IAmb	IAmb	00 20 48.7	
CPUP	**Villa Florida**	**21.37**	**90**	P	**P**	**00 21 09.9**	**+1.1**
CPUP	comp=Z,3.8nm,0.9s,baz=265,slow=9.0,SNR=7.6			LR	LR	00 29 01.2	
ATAH	comp=Z,88nm,19.8s,baz=236,slow=36 **Atahualpa**	**21.38**	**8**	P	**P**	**00 21 12.4**	**+3.1**
ATAH	comp=Z,3.2nm,0.6s,baz=45,slow=3.5,SNR=2.7			LR	LR	00 27 27.2	
SIV	**San Ignacio**	**22.41**	**61**	P	**P**	**00 21 21.5**	**+1.5**
SIV	comp=Z,1.1nm,0.7s,baz=240,slow=12,SNR=6.2			LR	LR	00 29 24.5	
RPN	comp=Z,98nm,19.6s,baz=272,slow=35 **Rapa Nui**	**24.83**	**266**	LR	LR	00 28 44.8	

comp=Z,199nm,18.4s,baz=48,slow=30
BDFB Brasilia 33.25 75 P **P 00 22 59.0 +0.1**
comp=Z,1.3nm,0.4s,baz=315,slow=4.3,SNR=2.5
BDFB Brasilia 33.25 75 IAmb IAmb 00 23 09.7
comp=Z,4.7nm,1.2s
ROSC El Rosal 33.77 13 P **P 00 23 04.0 +0.3**
comp=Z,4.5nm,0.3s,baz=35,slow=22,SNR=1.7
ROSC LR LR 00 36 35.7
comp=Z,136nm,18.3s,baz=213,slow=36
ROSC El Rosal 33.77 13 IAmb IAmb 00 23 19.2
comp=Z,4.6nm,1.0s
VNA3 Neumayer Olymp 57.43 159 P P 00 26 16.4 +6.8
VNA2 Neumayer--Watz 58.14 158 P P 00 26 19.9 +5.4
baz=276,slow=6.1
SNAA Sanae 59.64 159 P **P 00 26 25.8 +0.7**
SNAA Sanae 59.64 159 P **P 00 26 25.6 +0.5**
comp=Z,1.5nm,0.7s,baz=259,slow=7.3,SNR=10
TX32 Lajitas Array 61.32 338 P **P 00 26 37.3 +0.3**
TXAR Lajitas Array 61.32 338 P **P 00 26 37.4 +0.3**
comp=Z,2.3nm,0.9s,baz=156,slow=9.2,SNR=16
TXAR PcP **PcP 00 27 19.6 +0.2**
comp=Z,0.7nm,0.7s,baz=133,slow=5.3,SNR=3.9
TXAR LR LR 00 47 46.9
comp=Z,50nm,18.6s,baz=0.0,slow=31
TXAR Lajitas Array 61.32 338 P **P 00 26 37.5 +0.4**
TX31 Lajitas Ar. Si 61.32 338 P **P 00 26 36.5 -0.5**
PPT Papeete 63.07 264 LR LR 00 45 04.7
comp=Z,26nm,18.6s,baz=358,slow=27
VNDA Vanda 67.91 192 P **P 00 27 20.5 +1.1**
comp=Z,1.2nm,0.8s,baz=298,slow=22,SNR=11
PSUT Pine Spring 73.26 334 P **P 00 27 52.6 -0.2**
DUG Dugway, Tooele 74.32 335 P **P 00 27 58.9 +0.1**
NVAR Mina Array Bea 75.00 331 P **P 00 28 03.6 +0.7**
comp=Z,2.0nm,0.7s,baz=152,slow=6.0,SNR=18
NVAR Mina Array Bea 75.00 331 P **P 00 28 02.9 0.0**
HWUT Hardware Ranch 75.12 337 P **P 00 28 03.6 +0.1**
HWUT IAmb IAmb 00 28 04.3
comp=Z,3.6nm,0.8s
RSSD Black Hills 75.16 343 P **P 00 28 03.8 +0.1**
KVN Kaiserville 75.43 331 P **P 00 28 05.2 -0.2**
KVN IAmb IAmb 00 28 06.9
comp=Z,3.2nm,1.0s
PDAR Pinedale Array 75.50 339 P **P 00 28 05.5 -0.2**
comp=Z,1.0nm,0.6s,baz=153,slow=7.5,SNR=15
PDAR Pinedale Array 75.50 339 P **P 00 28 05.7 0.0**
YERR Yerington 75.87 330 P **P 00 28 08.4 +0.6**
YERR IAmb IAmb 00 28 10.0
comp=Z,2.9nm,0.8s
PNTR Pine Nut 76.11 330 P **P 00 28 09.1 -0.2**
PAHR Pah Rah Range 76.53 331 P **P 00 28 11.3 -0.2**
BEKR Beckworth 77.08 330 P **P 00 28 14.9 +0.2**
YHH Holmes Hill 77.72 339 P **P 00 28 18.9 +0.6**
YHB Horse Butte 77.80 339 P **P 00 28 17.8 -0.8**
YHL Hebgen Lake 77.88 339 P **P 00 28 18.9 -0.4**
WDC Whiskeytown Da 78.63 329 P **P 00 28 22.6 -0.5**
WDC IAmb IAmb 00 28 23.7
comp=Z,3.1nm,0.8s
MOD Modoc Plateau 78.73 331 P **P 00 28 23.5 -0.3**
ULM Lac du Bonnet 79.42 351 P **P 00 28 25.9 -1.2**
comp=Z,3.0nm,0.6s,baz=151,slow=5.1,SNR=5.7
MAW Mawson 80.55 167 LR LR 01 01 23.3
comp=Z,29nm,21.4s,baz=242,slow=34
DBIC Dimbokro 81.34 78 P **P 00 28 38.0 -0.4**
comp=Z,8.1nm,1.0s,baz=236,slow=4.1,SNR=6.5
DBIC LR LR 01 05 11.7
comp=Z,33nm,18.1s,baz=299,slow=36
JTMT Jette 81.45 338 P **P 00 28 38.5 +0.2**
JTMT IAmb IAmb 00 28 41.4
comp=Z,2.5nm,0.9s
BOSA Boshof 89.69 123 LR LR 01 08 42.0
comp=Z,37nm,18.7s,baz=336,slow=35
TORD Torodi Ar. Bea 90.13 75 P **P 00 29 21.0 -1.0**
comp=Z,2.4nm,0.7s,baz=259,slow=3.8,SNR=21
YKA Yellowknife Ar 94.48 345 P **P 00 29 39.0 -1.9**
comp=Z,0.6nm,0.8s,baz=143,slow=6.4,SNR=4.1
WRA Warramunga Arr 120.84 220 PKP **PKiKP 00 35 14.6 +0.1**
comp=Z,0.7nm,1.0s,baz=138,slow=3.3,SNR=3.0
FINES FINESS Array B 122.81 33 PKP **PKPdf 00 35 14.8 -1.9**
comp=Z,1.0nm,0.8s,baz=303,slow=8.1,SNR=3.6
GEYT Alibeck 144.97 64 PKP **PKPbc 00 35 57.6 -0.4**
comp=Z,2.7nm,0.7s,baz=264,slow=3.0,SNR=5.5
MJAR Matsushiro Arr 145.91 294 PKPbc **PKPdf 00 36 00.3 -0.1**
comp=Z,1.0nm,0.3s,baz=248,slow=2.3,SNR=5.7
USRK Ussuriysk Ar. 149.18 310 PKPbc **PKPbc 00 36 09.3 -0.4**
comp=Z,4.7nm,0.9s,baz=91,slow=2.6,SNR=7.9
ZAA0 Zalesovo Array 152.57 18 PKPdf **PKPdf 00 36 10.0 -0.4**
ZAA0 PKPbc **PKPbc 00 36 16.5 -0.9**
ZAA0 PKPab **PKPab 00 36 28.2 +0.4**
ZALV Zalesovo Beam 152.57 18 PKP **PKPdf 00 36 09.7 -0.7**
comp=Z,2.7nm,0.8s,baz=298,slow=3.2,SNR=7.3
ZALV PKPbc **PKPbc 00 36 16.7 -0.7**
comp=Z,3.1nm,0.4s,baz=298,slow=3.2,SNR=13
ZALV Zalesovo Beam 152.57 18 **PKPdf 00 36 09.7 -0.7**
ZALV **PKPbc 00 36 16.2 -1.2**
KSH Kashi 158.21 54 *e*PKP **PKPdf 00 36 19.5 +0.8**
SONM Songino Array 159.75 345 PKPab **PKPab 00 36 58.7 -0.2**
comp=Z,0.7nm,0.9s,baz=98,slow=4.5,SNR=4.4
SONM Songino Array 159.75 345 PKPdf **PKPdf 00 36 19.9 -0.3**

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*SJA **30** 00:50:37.7±0.8,21°.92S×69°.12W,h98km±7km,ML3.2, MW3.2*
*ISCJB **30** 00:50:38.8±0.7,21°.93S±0°.03×69°.13W±0°.06,h96km±7km, Error ellipse: s-maj=9.6km s-min=4.8km az=178.6*
*GUC **30** 00:50:38.4±0.7,21°.92S×69°.11W,h91km±3km,ML3.1*
ISC 30 00:50:39.8±1.5,21°.92S±0°.03×69°.14W±0°.06,h87km±9km, n23,σ0s62/37,12C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.16**	**321**	⇑*i*P	**Pn**	**00 50 52.1**	**-0.4**
PB09				*i* S	**Sn**	**00 51 02.0**	**+0.1**
PB09				IAML		00 51 03.6	
comp=N,733nm,0.2s							
PB09	**IPOC Station P**	**0.16**	**321**	*i* P	**Pn**	**00 50 51.9**	**-0.6**
PB09				*i* S	**Sn**	**00 51 03.6**	**+1.7**
PB09				IAML		00 51 03.8	
comp=Z,1μm,0.2s							
PB03	**IPOC Station P**	**0.59**	**257**	⇑*i*P	**Pn**	**00 50 54.7**	**-0.5**
PB03				*i* S	**Sn**	**00 51 06.8**	**+0.2**
PB03				IAML		00 51 07.8	
comp=N,1μm,0.1s							
LVC	**Limon Verde**	**0.72**	**163**	⇑*i*P	**Pn**	**00 50 55.8**	**-0.8**
LVC				*i* S	**Sn**	**00 51 08.8**	**-0.3**
LVC	**Limon Verde**	**0.72**	**163**	⇓*i*P	**Pn**	**00 50 55.9**	**-0.8**
PB07	**IPOC Station P**	**0.72**	**285**	⇑*i*P	**Pn**	**00 50 56.1**	**-0.4**
PB07				*i* S	**Sn**	**00 51 09.4**	**+0.6**
PB07				IAML		00 51 10.9	
comp=N,915nm,0.1s							
PB06	**IPOC Station P**	**0.88**	**207**	⇑*i*P	**Pn**	**00 50 57.7**	**-0.4**
PB06				*i* S	**Sn**	**00 51 12.2**	**+0.4**
PB06				IAML		00 51 12.7	
comp=E,912nm,0.2s							
PB06	**IPOC Station P**	**0.88**	**207**	*i* P	**Pn**	**00 50 57.5**	**-0.6**
PB06				IAML		00 51 13.9	
comp=Z,282nm,0.2s							
PB02	**IPOC Station P**	**0.93**	**310**	⇑*i*P	**Pn**	**00 50 58.1**	**-0.4**
PB02				*i* S	**Sn**	**00 51 13.4**	**+0.9**
PB02				IAML		00 51 14.4	
comp=E,1μm,0.2s							
PB01	**IPOC Station P**	**0.93**	**339**	⇑*i*P	**Pn**	**00 50 57.8**	**-0.8**
PB01				*i* S	**Sn**	**00 51 12.7**	**+0.1**
PB01				IAML		00 51 13.6	
comp=E,525nm,0.1s							
PB04	**IPOC Station P**	**1.03**	**246**	⇑*i*P	**Pn**	**00 50 59.3**	**-0.5**
PB04				*i* S	**Sn**	**00 51 15.2**	**+0.5**
PB04				IAML		00 51 18.1	
comp=N,630nm,0.2s							
PB04	**IPOC Station P**	**1.03**	**246**	*i* P	**Pn**	**00 50 59.4**	**-0.3**
PB15	**IPOC Station P**	**1.32**	**193**	⇑*i*P	**Pn**	**00 51 03.0**	**-0.3**
PB15				*i* S	**Sn**	**00 51 21.9**	**+0.8**
PB15				IAML		00 51 25.8	
comp=E,2μm,0.3s							
PB15	**IPOC Station P**	**1.32**	**193**	*i* P	**Pn**	**00 51 03.1**	**-0.3**
PB15				IAML		00 51 26.6	
comp=Z,1μm,0.2s							
PB05	**IPOC Station P**	**1.35**	**227**	⇓*i*P	**Pn**	**00 51 03.0**	**-0.6**
PB05				*i* S	**Sn**	**00 51 22.1**	**+0.4**
PB05				IAML		00 51 25.6	
comp=N,231nm,0.3s							
PB05	**IPOC Station P**	**1.35**	**227**	*i* P	**Pn**	**00 51 03.1**	**-0.6**
PB05				IAML		00 51 24.8	
comp=Z,132nm,0.5s							
TA01	**Diego Aracena**	**1.66**	**324**	⇑*i*P	**Pn**	**00 51 06.7**	**-0.8**
TA01				*i* S	**Sn**	**00 51 28.4**	**-0.1**
TA01				IAML		00 51 33.8	
comp=E,504nm,0.6s							
PB08	**IPOC Station P**	**1.77**	**359**	⇑*i*P	**Pn**	**00 51 09.1**	**-0.2**
PB08				*e*S	**Sn**	**00 51 32.5**	**+1.0**
PB08				IAML		00 51 41.4	
comp=N,97nm,0.3s							
PB10	**IPOC Station P**	**2.06**	**219**	*i* P	**Pn**	**00 51 12.5**	**-0.2**
PB10				IAML		00 51 47.7	
comp=Z,54nm,0.2s							
PB11	**IPOC Station P**	**2.20**	**347**	⇓*i*P	**Pn**	**00 51 13.9**	**-0.9**
PB11				*i* S	**Sn**	**00 51 41.8**	**+0.4**
GO01	**Chusmiza**	**2.24**	**359**	⇑*i*P	**Pn**	**00 51 15.5**	**-0.1**
GO01				IAML		00 51 50.5	
comp=N,248nm,0.2s							
PB14	**IPOC Station P**	**2.94**	**203**	*i* P	**Pn**	**00 51 24.6**	**-0.1**
PB14				IAML		00 52 08.7	
comp=Z,49nm,0.2s							
AZAP	**Zapla**	**4.39**	**122**	*i* P	**Pn**	**00 51 44.3**	**-0.1**

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*IDC **30** 00:52:51.9±7.2,9°.11S×117°.14E,h100km±66km,mb3.0/2, mb1 3.2/5,mb1mx3.0/38,mbtmp3.5/5,ML3.4/3,MS3.1/1, Ms1 3.1/1,ms1mx2.5/16,Error ellipse: s-maj=97.6km s-min=22.8km az=64.0*
*ISCJB **30** 00:52:52.3±0.6,9°.10S±0°.09×117°.40E±0°.04,h100km, mb3.2/2,Error ellipse: s-maj=13.1km s-min=5.4km az=11.4*
*DJA **30** 00:52:55.2±0.5,9°S±6°×11°7E±°,h75km±6km,M3.3/8, MLv3.3/8*
ISC 30 00:52:52.2±0.9,9°.13S±0°.08×117°.44E±0°.05,h100km,n12, σ1s84/17,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.45**	**47**	P	**Pn**	**00 53 08.6**	**+1.0**
PLAI				S	**Sn**	**00 53 19.4**	**+0.3**
TWSI	**Taliwang, Sumb**	**0.68**	**305**	P	**Pn**	**00 53 10.2**	**+0.8**
IGBI	**Denpasar**	**2.29**	**278**	S	**Sn**	**00 53 56.4**	**0.0**
SRBI	**Singaraja**	**2.44**	**295**	P	**Pn**	**00 53 30.6**	**+0.1**
SRBI				S	**Sn**	**00 53 59.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**3.32**	**281**	P	**Pn**	**00 53 43.2**	**+1.0**
JAGI				S	**Sn**	**00 54 19.9**	**-1.0**
GMJI	**Gumukmas**	**4.05**	**282**	P	**Pn**	**00 53 53.0**	**+1.0**
GMJI				S	**Sn**	**00 54 38.0**	**-0.4**
KAPI	**Kappang**	**4.69**	**29**	P	**Pn**	**00 54 02.5**	**+1.8**
1.9nm,0.3s,baz=188,slow=17,SNR=2.3							
KAPI				S	**Sn**	**00 54 51.6**	**-2.4**
1.8nm,0.3s,baz=52,slow=21,SNR=5.8							
FITZ	**Fitzroy Crossi**	**11.95**	**139**	P	**Pn**	**00 55 40.8**	**+1.6**
0.1nm,0.3s,baz=315,slow=11,SNR=1.6							
FITZ				S	**Sn**	**00 57 45.9**	**-4.7**
0.1nm,0.3s,baz=276,slow=19,SNR=1.8							
DAV	**Davao City (W)**	**18.02**	**27**	LR	LR	01 05 32.1	
comp=Z,51nm,18.1s,baz=324,slow=42							
WRA	**Warramunga Arr**	**19.55**	**125**	P	**Pn**	**00 57 14.5**	**+0.2**
0.1nm,0.3s,baz=300,slow=12,SNR=9.2							
ASAR	**Alice Springs**	**21.37**	**135**	P	**P**	**00 57 34.3**	**+2.6**
0.7nm,0.6s,baz=316,slow=10,SNR=14							
MKAR	**Makanchi Array**	**63.89**	**334**	P	**P**	**01 03 12.8**	**-1.4**
0.2nm,0.5s,baz=149,slow=6.3,SNR=2.2							

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*IDC **30** 01:03:05.8±1.0,29°.86N×100°.64E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.6/54,mbtmp3.9/8,MS3.1/1,Ms1 3.1/1, ms1mx2.5/42,Error ellipse: s-maj=129.8km s-min=17.9km az=54.0*
ISC 30 01:03:11.2±1.2,29°.9N±0°.5×100°.6E±0°.7,h35km,n8, σ0s94/8,mb3.8/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.08**	**325**	P	**P**	**01 08 03.0**	**0.0**
1.1nm,0.5s,baz=130,slow=10,SNR=15							
AAK	**Ala-Archa**	**24.48**	**308**	P	**P**	**01 08 27.0**	**-0.1**
0.8nm,0.4s,baz=107,slow=8.9,SNR=6.0							
AAK				LR	LR	01 18 21.4	
comp=Z,44nm,18.3s,baz=324,slow=37							
KURBB	**Kurchatov Arra**	**26.52**	**328**	P	**P**	**01 08 45.7**	**+0.4**
0.8nm,0.7s,baz=143,slow=9.4,SNR=9.1							
FINES	**FINESS Array B**	**56.90**	**326**	P	**P**	**01 12 52.4**	**+0.1**
4.0nm,1.1s,baz=90,slow=11,SNR=4.5							
ARCES	**ARCESS Array B**	**57.14**	**336**	P	**P**	**01 12 53.9**	**0.0**
6.5nm,1.0s,baz=89,slow=7.3,SNR=2.5							
WRA	**Warramunga Arr**	**59.25**	**143**	P	**P**	**01 13 07.9**	**-1.3**
1.4nm,0.5s,baz=327,slow=7.9,SNR=17							
ASAR	**Alice Springs**	**62.12**	**145**	P	**P**	**01 13 30.2**	**+1.4**
0.4nm,0.6s,baz=324,slow=7.2,SNR=2.8							
NOA	**NORSAR Array B**	**64.05**	**327**	P	**P**	**01 13 40.6**	**-0.5**
0.9nm,0.8s,baz=76,slow=6.3,SNR=2.6							

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*IDC **30** 01:08:22.3±1.9,17°.22S×174°.98W,h243km±18km,mb3.5/8, mb1 3.7/10,mb1mx3.5/35,mbtmp4.2/10,Error ellipse: s-maj=20.5km s-min=11.0km az=122.0*
ISC 30 01:08:23.1±0.6,17°.2S±0°.1×174°.8W±0°.2,h256km,n21, σ1s63/23,mb3.9/9,3C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.38**	**43**	P	**Pn**	**01 09 32.0**	**+0.2**
35nm,0.3s,baz=203,slow=4.7,SNR=32							
AFI				S	**S**	**01 10 22.4**	**-4.0**
139nm,0.3s,baz=35,slow=21,SNR=19							
DZM	**Mont Dzumac**	**18.29**	**252**	P	**P**	**01 12 17.0**	**-1.7**
0.3nm,0.3s,baz=82,slow=20,SNR=6.1							
URZ	**Urewera**	**22.18**	**197**	P	**P**	**01 12 58.6**	**+0.5**
11nm,0.4s,baz=50,slow=1.2,SNR=9.8							
URZ				S	**S**	**01 16 43.9**	**+0.6**
13nm,0.8s,baz=49,slow=23,SNR=3.2							
STKA	**Stephens Creek**	**41.97**	**241**	P	**P**	**01 15 49.0**	**-0.5**
2.6nm,0.5s,baz=85,slow=9.1,SNR=8.9							
WRA	**Warramunga Arr**	**48.12**	**258**	P	**P**	**01 16 36.5**	**-1.4**
2.5nm,0.3s,baz=97,slow=7.2,SNR=112							
ASAR	**Alice Springs**	**48.27**	**253**	P	**P**	**01 16 38.0**	**-1.0**
33nm,0.5s,baz=87,slow=8.9,SNR=439							
VNDA	**Vanda**	**61.50**	**186**	P	**P**	**01 18 11.2**	**-1.3**
1.0nm,1.0s,baz=14,slow=4.2,SNR=4.0							
PETK	**Petropavlovsk-**	**73.89**	**343**	P	**P**	**01 19 30.1**	**+0.2**
2.1nm,0.5s,baz=121,slow=7.2,SNR=3.8							
NVAR	**Mina Array Bea**	**76.55**	**42**	P	**P**	**01 19 47.2**	**+1.5**
0.2nm,0.6s,baz=240,slow=8.0,SNR=2.6							
ILAR	**Eielson Array**	**84.43**	**12**	P	**P**	**01 20 27.3**	**+0.7**
0.8nm,0.5s,baz=223,slow=5.8,SNR=21							
PDAR	**Pinedale Array**	**84.49**	**42**	P	**P**	**01 20 28.5**	**+0.8**
0.5nm,0.8s,baz=192,slow=4.1,SNR=3.7							
MKAR	**Makanchi Array**	**111.06**	**314**	PKiKP	**PKiKP**	**01 26 24.4**	**-1.8**
0.2nm,0.5s,baz=193,slow=13,SNR=4.1							
FINES	**FINESS Array B**	**133.34**	**346**	PKP	**PKPdf**	**01 27 08.4**	**+0.2**
3.8nm,1.1s,baz=333,slow=2.1,SNR=3.4							
BURAR	**Bucovina Array**	**145.44**	**336**	⇓P	**PKPab**	**01 27 33.3**	**+1.4**
TRPA	**Tarpa**	**145.99**	**339**	⇑P	**PKPbc**	**01 27 33.6**	**+0.8**
BRTR	**Keskin Array B**	**146.59**	**318**	PKPbc	**PKPbc**	**01 27 35.8**	**+0.8**
2.1nm,0.8s,baz=64,slow=2.9,SNR=8.5							
ICOR	**Ion Corvin**	**147.03**	**329**	⇓P	**PKiKP**	**01 27 42.2**	**+4.2**
DRGR		**147.07**	**338**	⇑P	**PKPbc**	**01 27 36.5**	**+0.5**
ARR	**Arges**	**147.50**	**334**	⇑P	**PKiKP**	**01 27 39.2**	**+0.1**
GERES	**GERESS Array B**	**147.64**	**349**	PKPbc	**PKPbc**	**01 27 38.5**	**+1.0**
1.0nm,0.6s,baz=42,slow=2.2,SNR=7.7							
VTS	**Vitosha**	**150.31**	**332**	⇓P	**PKPbc**	**01 27 45.0**	**+0.6**

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*PRU **30** 01:18:22.8±0.0,43°.26N×11°.93E,h16km*
*ROM **30** 01:18:36.7±0.2,44°.30N±0°.01×11°.74E±0°.02,h22km±1km, ML2.4/20,Error ellipse: s-maj=1.4km s-min=1.0km az=44.0*
*LDG **30** 01:18:36.5±0.1,44°.33N×11°.74E,h15km,Ml2.6/17,Error ellipse: s-maj=2.2km s-min=1.6km az=86.0*
*STR **30** 01:19:30.9±0.7,47°N±4°×±°,h30km,MLv1.2/5*
ISC 30 01:18:35.6±0.8,44°.37N±0°.02×11°.70E±0°.03,h15km,n61, σ1s94/99,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOL	**Imola, Italy**	**0.03**	**106**	P	**Pg**	**01 18 40.2**	**+2.0**
IMOL				S	**Sg**	**01 18 44.6**	**+4.6**
IMOL				AML	AML		
comp=N,3085μm,0.2s							
IMOL				AML	AML		
comp=E,4430μm,0.2s							
IMOL				AML	AML		
comp=N,3090μm,0.2s							
MTRZ	**Monterenzio**	**0.17**	**273**	P	**Pb**	**01 18 41.2**	**+0.8**
MTRZ				S	**Sb**	**01 18 46.7**	**+3.1**
MTRZ				AML	AML		
comp=N,2155μm,0.2s							
MTRZ				AML	AML		
comp=E,2315μm,0.3s							
MTRZ				AML	AML		
comp=E,2270μm,0.3s							
MTRZ				AML	AML		
comp=N,2220μm,1.4s							
BRIS	**BRISIGHELLA**	**0.26**	**212**	P	**Pg**	**01 18 40.5**	**-0.6**
BRIS				S	**Sg**	**01 18 44.5**	**-0.4**
BRIS				AML	AML		
comp=N,4050μm,0.3s							
BRIS				AML	AML		
comp=E,798μm,0.2s							
FNVD	**Fontana Vidola**	**0.46**	**244**	P	**Pg**	**01 18 44.5**	**-0.2**
FNVD				S	**Sb**	**01 18 52.4**	**+0.3**
FNVD				AML	AML		
comp=E,572μm,1.0s							
FNVD				AML	AML		
comp=N,828μm,1.1s							
SFI	**Santa Sofia**	**0.48**	**167**	P	**Pg**	**01 18 45.1**	**+0.1**
SFI				AML	AML		
comp=E,410μm,1.1s							
SFI				AML	AML		
comp=E,390μm,1.5s							
SFI				AML	AML		
comp=N,502μm,0.3s							
SFI				AML	AML		
comp=N,558μm,0.4s							
RAVA	**Ravarino**	**0.57**	**313**	P	**Pn**	**01 18 49.7**	**+0.6**
ASQU	**Asqua**	**0.57**	**173**	P	**Pg**	**01 18 47.0**	**+0.1**
ASQU				S	**Sb**	**01 18 55.5**	**+0.1**
ASQU				AML	AML		
comp=E,330μm,0.7s							
ASQU				AML	AML		
comp=N,346μm,1.0s							
CAVE	**Cavezzo**	**0.70**	**315**	P	**Pn**	**01 18 51.4**	**+0.5**
CAVE				S	**Sn**	**01 19 02.4**	**+0.9**
POPM	**Popiglio**	**0.75**	**245**	P	**Pn**	**01 18 51.7**	**0.0**
POPM				S	**Sn**	**01 19 04.9**	**+2.2**
POPM	**Popiglio**	**0.75**	**245**	P	**Pb**	**01 18 50.6**	**+0.3**
POPM				AML	AML		
comp=E,223μm,1.6s							
POPM				AML	AML		
comp=N,245μm,0.7s							
CRMI	**Carmignano**	**0.78**	**222**	P	**Pb**	**01 18 51.2**	**+0.3**
CRMI				AML	AML		
comp=E,84μm,0.4s							
CRMI				AML	AML		
comp=N,102μm,1.0s							
BDI	**Bagni Di Lucca**	**0.85**	**249**	P	**Pn**	**01 18 53.3**	**+0.3**
BDI				AML	AML		
comp=E,228μm,0.8s							
BDI				AML	AML		
comp=N,268μm,0.3s							
OSSC	**Osservatorio P**	**0.91**	**201**	P	**Pg**	**01 18 53.3**	**+0.2**
OSSC				AML	AML		
comp=E,214μm,0.4s							
OSSC				AML	AML		
comp=N,280μm,0.6s							
CARD	**Cardoso**	**0.94**	**249**	P	**Pn**	**01 18 55.2**	**+1.0**
CARD				S	**Sn**	**01 19 08.1**	**+0.7**
CSNT	**Castellina Chi**	**0.94**	**198**	P	**Pg**	**01 18 53.9**	**+0.1**
CSNT				AML	AML		
comp=E,147μm,0.3s							
CSNT				AML	AML		
comp=N,187μm,0.4s							
SARO	**Sassorosso**	**0.95**	**259**	P	**Pn**	**01 18 55.4**	**+0.9**
SARO				AML	AML		
comp=N,86μm,0.5s							
SARO				AML	AML		
comp=E,76μm,0.7s							
MAIM	**Mastiano**	**0.98**	**243**	P	**Pg**	**01 18 54.6**	**0.0**
MAIM				S	**Sn**	**01 19 08.6**	**+0.2**
MAIM	**Mastiano**	**0.98**	**243**	P	**Pn**	**01 18 55.2**	**+0.4**
MAIM				S	**Sn**	**01 19 09.0**	**+0.6**
MAIM				AML	AML		
comp=E,84μm,1.2s							
MAIM				AML	AML		
comp=N,85μm,0.9s							
TEOL	**Teolo**	**0.99**	**359**	AML	AML		
comp=E,791μm,1.4s							
TEOL				AML	AML		
comp=E,195μm,0.2s							
TEOL				AML	AML		
comp=N,212μm,0.8s							
TEOL				AML	AML		
comp=E,790μm,1.4s							
TEOL				AML	AML		
comp=N,558μm,0.3s							
TEOL				AML	AML		
comp=N,559μm,0.3s							
PII	**Pisa**	**1.06**	**233**	P	**Pb**	**01 18 55.7**	**+0.1**
PII				AML	AML		
comp=E,326μm,1.5s							
PII				AML	AML		
comp=N,293μm,0.4s							
ATVO	**AVT- Monte Val**	**1.11**	**152**	P	**Pb**	**01 18 55.8**	**-0.7**
ATVO				AML	AML		
comp=E,236μm,0.7s							
ATVO				AML	AML		
comp=N,156μm,1.0s							
EQUI	**Equi**	**1.13**	**260**	P	**Pg**	**01 18 58.5**	**+1.1**
EQUI				S	**Sg**	**01 19 11.9**	**-0.2**
EQUI	**Equi**	**1.13**	**260**	P	**Pg**	**01 18 58.6**	**+1.2**
EQUI				S	**Sn**	**01 19 13.0**	**+0.9**
EQUI				AML	AML		
comp=N,102μm,0.9s							
EQUI				AML	AML		
comp=E,80μm,0.5s							
MAGA	**Magasa**	**1.60**	**332**	AML	AML		
comp=E,725μm,1.5s							
MAGA				AML	AML		
comp=N,494μm,1.3s							
STAL	**STALIGIAL**	**2.02**	**20**	AML	AML		
comp=N,150μm,0.3s							
STAL				AML	AML		
comp=E,166μm,1.5s							
STAL				AML	AML		
comp=N,151μm,0.3s							
ABSI	**Aberstueckl**	**2.38**	**354**	AML	AML		
comp=N,117μm,0.6s							
ABSI				AML	AML		
comp=E,122μm,0.4s							
ABTA	**Abfaltersbach**	**2.45**	**13**	*e*Pn	**Pn**	**01 19 15.9**	**+0.8**
comp=E,0.4nm,0.1s							
MYKA	**Terra Mystica**	**2.64**	**30**	*e*Sg	**Sg**	**01 20 02.2**	**+1.8**
comp=E,5.2nm,0.2s							
PGF	**Pioggiola**	**2.68**	**228**	*e*Pn	**Pn**	**01 19 17.6**	**-0.6**
PGF				*e*Sn	**Sn**	**01 19 47.8**	**-2.6**
comp=E,3.1nm,0.3s							
FETA	**Feichten**	**2.74**	**346**	*e*Pn	**Pn**	**01 19 21.2**	**+2.1**
comp=E,0.6nm,0.2s							
FETA				Sg	**Sg**	**01 20 03.9**	**+0.3**
comp=E,0.7nm,0.2s							
SQTA	**Sankt Quirin**	**2.87**	**353**	Pn	**Pn**	**01 19 22.8**	**+1.9**
comp=E,2.1nm,0.1s							
SQTA				Sg	**Sg**	**01 20 09.0**	**+1.1**
comp=E,5.8nm,0.3s							
WTTA	**Wattenberg**	**2.90**	**359**	*e*Pn	**Pn**	**01 19 23.2**	**+1.9**
comp=E,0.9nm,0.1s							
WTTA				*e*Sg	**Sg**	**01 20 10.0**	**+1.4**
comp=E,7.5nm,0.4s							
OBKA	**Obir**	**2.93**	**42**	*e*Pg	**Pg**	**01 19 30.0**	**-1.8**
comp=E,2.8nm,0.3s							
OBKA			

LPG	**La Plagne**	**3.69 290**	*e*Pn	**Pn**	**01 19 31.9**	**-0.4**
LPG			*e*Sn	**Sn**	**01 20 13.5**	**-2.2**
	comp=E,2.6nm,0.3s					
LPL	**La Plagne**	**3.71 290**	*e*Pn	**Pn**	**01 19 32.0**	**-0.5**
LPL			*e*Sn	**Sn**	**01 20 13.8**	**-2.2**
	comp=E,5.8nm,0.4s					
FRF	**La Foret Royal**	**3.74 259**	*e*Pn	**Pn**	**01 19 32.5**	**-0.2**
FRF			*e*Sn	**Sn**	**01 20 13.4**	**-3.0**
	comp=E,1.5nm,0.2s					
LMR	**La Mourre**	**3.89 256**	*e*Pn	**Pn**	**01 19 34.3**	**-0.5**
LMR			*e*Sn	**Sn**	**01 20 17.2**	**-3.0**
	comp=E,0.8nm,0.2s					
MOA	**Molln**	**3.91 26**	*i* Pn	**Pn**	**01 19 36.0**	**+0.8**
	comp=E,0.3nm,0.2s					
MOA			*e*Pg	**Pg**	**01 19 49.4**	**-1.1**
	comp=E,0.9nm,0.1s					
MOA			*i* Sn	**Sn**	**01 20 17.2**	**-3.6**
	comp=E,2.0nm,0.3s					
ORIF	**Oris-en-Rattie**	**4.19 280**	*e*Pn	**Pn**	**01 19 38.8**	**-0.2**
ORIF			*e*Sn	**Sn**	**01 20 25.5**	**-2.2**
	comp=E,2.6nm,0.3s					
SMRF	**Simiane la Rot**	**4.42 267**	*e*P	**Pn**	**01 19 45.4**	**+3.3**
KIZ	**Kirchzarten**	**4.45 325**	Pn	**Pn**	**01 19 42.4**	**-0.1**
CABF	**La Chapelle**	**4.54 302**	*e*Pn	**Pn**	**01 19 43.4**	**-0.4**
CABF			*e*Sn	**Sn**	**01 20 32.8**	**-3.5**
	comp=E,0.3nm,0.2s					
CHMF	**Charmoille**	**4.55 311**	Pn	**Pn**	**01 19 43.7**	**-0.2**
CHMF			Sg	**Pb**	**01 19 57.3**	**+2.1**
HINF	**Hinteralfeld**	**4.82 317**	*e*Pn	**Pn**	**01 19 47.1**	**-0.5**
HINF			*e*Sn	**Sn**	**01 20 40.1**	**-3.1**
	comp=E,2.4nm,0.2s					
KHC	**Kasperske Hory**	**4.94 14**	*e*PN	**Pn**	**01 19 48.8**	**-0.4**
KHC			*ex*	x	01 20 01.9	
KHC			*e*PG	**Pg**	**01 20 11.1**	**+1.1**
KHC			*e*SN	**Sb**	**01 20 56.1**	**-4.7**
KHC			*e*SG	**Sg**	**01 21 20.0**	**+6.1**
KHC			*ex*	x	01 21 35.0	
ECH	**Echery**	**4.97 322**	Pn	**Pn**	**01 19 47.4**	**-2.3**
ECH			Sg	**Pb**	**01 20 02.8**	**+0.5**
VIVF	**Saint-Julien-l**	**5.04 278**	*e*Pn	**Pn**	**01 19 49.7**	**-0.9**
WLS	**Welschbruch**	**5.04 325**	Pn	**Pn**	**01 19 49.3**	**-1.3**
WLS			Sn	**Pb**	**01 20 04.1**	**+0.6**
CDF	**Champ du Feu**	**5.07 324**	*e*Pn	**Pn**	**01 19 50.6**	**-0.5**
CDF			*e*Sn	**Sn**	**01 20 46.2**	**-3.2**
	comp=E,2.3nm,0.3s					
HAU	**Haudompre**	**5.20 316**	*e*Pn	**Pn**	**01 19 52.4**	**-0.4**
HAU			*e*Sn	**Sn**	**01 20 49.1**	**-3.4**
	comp=E,3.4nm,0.2s					
SMF	**Signal de Mont**	**5.97 295**	*e*Pn	**Pn**	**01 20 02.7**	**-0.7**
SMF			*e*Sn	**Sn**	**01 21 07.7**	**-3.8**
	comp=E,1.4nm,0.3s					
LOR	**Lormes**	**6.20 301**	*e*Pn	**Pn**	**01 20 06.0**	**-0.5**
	baz=119					
LOR			*e*Sn	**Sn**	**01 21 13.0**	**-4.1**
	comp=E,2.0nm,0.3s					
SSF	**Saint Saulge**	**6.34 298**	*e*Pn	**Pn**	**01 20 08.0**	**-0.4**
SSF			*e*Sn	**Sn**	**01 21 16.3**	**-4.1**
	comp=E,0.7nm,0.3s					
AVF	**Avril sur Loir**	**6.34 295**	*e*Pn	**Pn**	**01 20 07.6**	**-0.8**
AVF			*e*Sn	**Sn**	**01 21 16.0**	**-4.5**
	comp=E,0.5nm,0.2s					

*ISCJB **30** 01:18:49.4±0.5, 44°.51N±0°.03×11°.47E±0°.07, h22km±6km, Error ellipse: s-maj=8.2km s-min=4.5km az=5.9*
*ROM **30** 01:18:49.7±0.2, 44°.34N±0°.01×11°.72E±0°.03, h25km±1km, ML2.5/11, Error ellipse: s-maj=1.7km s-min=1.3km az=84.0*
*LDG **30** 01:18:50.1±0.1, 44°.40N×11°.72E, h10km, Ml2.8/27, Error ellipse: s-maj=2.7km s-min=1.7km az=97.0*

ISC 30 01:18:49.5±1.1, 44°.41N±0°.04×11°.67E±0°.06, h28km±7km, n44, σ1§70/64, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOL	**Imola, Italy**	**0.07 136**		P	**Pb**	**01 18 53.7**	**-0.7**
IMOL				S	**Sb**	**01 18 58.1**	**+0.5**
MTRZ	**Monterenzio**	**0.15 257**		P	**Pb**	**01 18 54.8**	**-0.2**
MTRZ				S	**Sb**	**01 19 00.4**	**+1.6**
FAEN	**Faenza**	**0.19 129**		P	**Pb**	**01 18 55.1**	**-0.2**
CMPO	**Campotto Po**	**0.20 29**		P	**Pb**	**01 18 56.1**	**+0.7**
BRIS	**BRISIGHELLA**	**0.29 204**		P	**Pb**	**01 18 54.1**	**-2.5**
BRIS				S	**Sb**	**01 18 58.0**	**-3.3**
SERM	**Sermide**	**0.66 336**		P	**Pn**	**01 19 04.2**	**+1.4**
SERM				AML	AML		
	comp=E,518μm,0.3s						
SERM				AML	AML		
	comp=N,520μm,1.5s						
CRMI	**Carmignano**	**0.80 219**		P	**Pb**	**01 19 04.8**	**0.0**
CRMI				S	**Sb**	**01 19 14.9**	**-0.4**
CRMI				AML	AML		
	comp=E,84μm,0.4s						
CRMI				AML	AML		
	comp=N,102μm,1.0s						
OSSC	**Osservatorio P**	**0.94 199**		P	**Pb**	**01 19 06.7**	**-0.4**
OSSC				AML	AML		
	comp=N,280μm,0.6s						
OSSC				AML	AML		
	comp=E,214μm,0.4s						
SARO	**Sassorosso**	**0.94 256**		AML	AML		
	comp=E,76μm,0.7s						
SARO				AML	AML		
	comp=N,86μm,0.5s						
TEOL	**Teolo**	**0.95 360**		P	**Pn**	**01 19 08.5**	**+1.6**
TEOL				AML	AML		
	comp=E,790μm,1.4s						
TEOL				AML	AML		
	comp=N,558μm,0.3s						
TEOL				AML	AML		
	comp=N,559μm,0.3s						
TEOL				AML	AML		
	comp=E,791μm,1.4s						
CSNT	**Castellina Chi**	**0.98 196**		P	**Pb**	**01 19 07.3**	**-0.5**
CSNT				AML	AML		
	comp=E,147μm,0.3s						
CSNT				AML	AML		
	comp=N,187μm,0.4s						
PII	**Pisa**	**1.08 231**		P	**Pb**	**01 19 09.4**	**0.0**
PII				AML	AML		
	comp=E,326μm,1.5s						
PII				AML	AML		
	comp=N,293μm,0.4s						
CAFI	**Castiglion Fio**	**1.10 169**		AML	AML		
	comp=E,138μm,0.7s						
CAFI				AML	AML		
	comp=N,122μm,0.5s						
ROVR	**Rover Verones**	**1.31 341**		AML	AML		
	comp=N,270μm,0.4s						
ROVR				AML	AML		
	comp=E,108μm,0.4s						
MGAB	**Montegabbione**	**1.53 168**		AML	AML		
	comp=N,115μm,1.1s						
MGAB				AML	AML		
	comp=E,116μm,0.5s						
MABI	**Malga Bissina**	**1.84 334**		AML	AML		
	comp=E,41μm,0.3s						
MABI				AML	AML		
	comp=N,46μm,1.2s						
STAL	**STALIGIAL**	**1.99 21**		AML	AML		
	comp=N,150μm,0.3s						
STAL				AML	AML		
	comp=E,166μm,1.5s						
STAL				AML	AML		
	comp=N,151μm,0.3s						
PGF	**Pioggiola**	**2.69 227**	*e*Pn	**Pn**	**01 19 32.1**	**+1.1**
PGF			*e*Sn	**Sn**	**01 20 03.1**	**+0.4**
	comp=N,5.2nm,0.3s					
SBF	**Sospel**	**3.10 261**	*e*P	**Pn**	**01 19 40.4**	**+3.9**
SBF			*e*Sn	**Sn**	**01 20 13.0**	**+0.4**
	comp=N,6.5nm,0.3s					
MBDF	**Montbardon**	**3.52 277**	*e*Pn	**Pn**	**01 19 43.6**	**+1.3**
MBDF	**Montbardon**	**3.52 277**	*e*P	**Pn**	**01 19 46.7**	**+4.4**
MBDF			*e*Sn	**Sn**	**01 20 23.1**	**0.0**
	comp=N,1.3nm,0.2s					
LPG	**La Plagne**	**3.66 289**	*e*Sn	**Sn**	**01 20 26.8**	**+0.1**
	comp=N,6.6nm,0.5s					
LPL	**La Plagne**	**3.68 289**	*e*Pn	**Pn**	**01 19 46.2**	**+1.6**
LPL	**La Plagne**	**3.68 289**	*e*P	**Pn**	**01 19 49.1**	**+4.5**
LPL			*e*Sn	**Sn**	**01 20 27.0**	**-0.1**
	comp=N,3.8nm,0.3s					
FRF	**La Foret Royal**	**3.73 259**	*e*Pn	**Pn**	**01 19 46.3**	**+1.2**
FRF			*e*Sn	**Sn**	**01 20 27.8**	**-0.2**
	comp=N,1.5nm,0.2s					
LMR	**La Mourre**	**3.88 256**	*e*Pn	**Pn**	**01 19 48.3**	**+1.1**
LMR			*e*Sn	**Sn**	**01 20 31.4**	**-0.5**
	comp=N,1.4nm,0.2s					
ORIF	**Oris-en-Rattie**	**4.16 279**	*e*Pn	**Pn**	**01 19 52.7**	**+1.5**
ORIF			*e*Sn	**Sn**	**01 20 38.6**	**-0.3**
	comp=N,2.9nm,0.3s					
SMRF	**Simiane la Rot**	**4.41 266**	*e*P	**Pn**	**01 19 58.9**	**+4.4**
SMRF			*e*Sn	**Sn**	**01 20 44.2**	**-0.6**
	comp=N,0.5nm,0.2s					
CABF	**La Chapelle**	**4.50 301**	*e*Pn	**Pn**	**01 19 57.1**	**+1.3**
CABF			*e*Sn	**Sn**	**01 20 46.6**	**-0.6**
	comp=N,1.9nm,0.3s					
HINF	**Hinteralfeld**	**4.78 317**	*e*Pn	**Pn**	**01 20 00.4**	**+0.8**
HINF			*e*Sn	**Sn**	**01 20 53.4**	**-0.6**
	comp=N,4.2nm,0.2s					
VIVF	**Saint-Julien-l**	**5.01 278**	*e*Pn	**Pn**	**01 20 03.6**	**+0.8**
VIVF			*e*Sn	**Sn**	**01 20 58.7**	**-1.1**
	comp=N,1.0nm,0.3s					
CDF	**Champ du Feu**	**5.03 324**	*e*Pn	**Pn**	**01 20 04.3**	**+1.3**
CDF			*e*Sn	**Sn**	**01 20 59.4**	**-0.7**
	comp=N,4.4nm,0.3s					
HAU	**Haudompre**	**5.16 316**	*e*Pn	**Pn**	**01 20 05.6**	**+0.9**
HAU			*e*Sn	**Sn**	**01 21 02.2**	**-1.0**
	comp=N,7.8nm,0.3s					
LASF	**Ste Croix**	**5.62 269**	*e*Sn	**Sn**	**01 21 13.0**	**-1.8**
	comp=N,0.4nm,0.2s					
PAGF	**Fort de Pagny**	**5.83 317**	*e*Pn	**Pn**	**01 20 15.3**	**+1.3**
PAGF			*e*Sn	**Sn**	**01 21 17.9**	**-2.0**
	comp=N,2.3nm,0.3s,baz=138					
SMF	**Signal de Mont**	**5.94 295**	*e*Pn	**Pn**	**01 20 16.4**	**+0.9**
SMF			*e*Sn	**Sn**	**01 21 20.9**	**-1.6**
	comp=N,1.9nm,0.3s					
SFTF	**Sexfontaines**	**5.96 312**	*e*Pn	**Pn**	**01 20 16.9**	**+1.2**
	baz=133					
SFTF			*e*Sn	**Sn**	**01 21 21.8**	**-1.2**
	comp=N,1.3nm,0.2s					
MEZF	**Maizieres J'vi**	**6.13 314**	*e*Pn	**Pn**	**01 20 18.5**	**+0.4**
MEZF			*e*Sn	**Sn**	**01 21 25.0**	**-2.3**
	comp=N,1.7nm,0.3s					
LOR	**Lormes**	**6.16 300**	*e*Pn	**Pn**	**01 20 19.3**	**+0.8**
	baz=120					
LOR			*e*Sn	**Sn**	**01 21 26.2**	**-1.8**
	comp=N,4.7nm,0.3s					
SSF	**Saint Saulge**	**6.30 298**	*e*Pn	**Pn**	**01 20 21.5**	**+1.1**
SSF			*e*Sn	**Sn**	**01 21 29.2**	**-2.2**
	comp=N,1.6nm,0.3s					
AVF	**Avril sur Loir**	**6.30 295**	*e*Pn	**Pn**	**01 20 21.6**	**+1.2**
AVF			*e*Sn	**Sn**	**01 21 29.1**	**-2.4**
	comp=N,0.3nm,0.2s					
BGF	**Bois d'Agland**	**6.56 292**	*e*Pn	**Pn**	**01 20 24.9**	**+0.8**
BGF			*e*Sn	**Sn**	**01 21 35.8**	**-2.1**
	comp=N,2.2nm,0.3s					
TCF	**Toulx Ste Croi**	**6.93 289**	*e*Pn	**Pn**	**01 20 30.2**	**+1.2**
TCF			*e*Sn	**Sn**	**01 21 44.2**	**-2.7**
	comp=N,0.9nm,0.2s					
FLN	**La Foliniere**	**9.43 302**	*e*Pn	**Pn**	**01 21 03.6**	**+0.3**

*IDC **30** 01:21:53.9±1.1, 3°.48N×79°.37W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.8/28, mbtmp3.9/8, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=35.4km s-min=20.3km az=50.0*
*NEIC **30** 01:21:58.2±2.2, 3°.48N±0°.09×79°.4W±0°.1, h25km±5km, mb4.2/6*
*RSNC **30** 01:21:59.2±1.2, 3°.45N×79°.09W, h4km±8km, ML3.1, Mw3.2*

ISC 30 01:21:58.0±3.1, 3°.49N±0°.05×79°.12W±0°.07, h23km±22km, n37, σ1§92/47, mb3.5/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGC	**Isla de Gorgon**	**1.07 117**		*e*P	**Pn**	**01 22 16.2**	**-1.4**
GRGC				*e*S	**Sb**	**01 22 29.7**	**-1.7**
GRGC				*i*		01 22 30.3	
	comp=Z,221nm,0.2s						
TUMC	**Tumaco**	**1.70 167**		*e*P	**Pn**	**01 22 25.6**	**-0.8**
TUMC				*e*S	**Sn**	**01 22 45.4**	**-1.9**
TUMC				*i*		01 23 07.4	
	comp=Z,140nm,1.2s						
MALC	**Bahia Malaga**	**1.86 74**		*e*P	**Pn**	**01 22 28.3**	**-0.2**
MALC				*e*S	**Sn**	**01 22 50.6**	**-0.6**
MALC				*i*		01 22 53.7	
	comp=Z,139nm,0.4s						
BBAC	**Balboa, Cauca**	**2.37 128**		*e*P	**Pn**	**01 22 34.9**	**-0.9**
BBAC				*e*S	**Sn**	**01 23 01.2**	**-3.1**
BBAC				*i*		01 23 03.3	
	comp=Z,134nm,0.6s						
BBAC				*i*		01 23 03.8	
	comp=Z,123nm,0.2s						
POPC	**Popayan, Colom**	**2.62 111**		*e*P	**Pn**	**01 22 38.3**	**-0.8**
POPC				*e*S	**Sn**	**01 23 05.8**	**-4.5**
POPC				*i*		01 23 08.8	
	comp=Z,95nm,0.3s						
POPC				*i*		01 23 08.8	
	comp=Z,88nm,0.3s						
YOTC	**Yotoco, Valle**	**2.81 80**		*e*P	**Pn**	**01 22 41.0**	**-0.7**
YOTC				*e*S	**Sn**	**01 23 10.8**	**-4.2**
YOTC				*i*		01 23 14.8	
	comp=Z,31nm,0.3s						
SOTA	**Rioblanco**	**2.85 118**		*e*P	**Pn**	**01 22 43.2**	**+0.6**
SOTA				*i*		01 23 20.3	
	comp=Z,189nm,0.6s						
SOTA				*i*		01 23 21.1	
	comp=Z,202nm,0.7s						
CRUC	**La Cruz**	**2.89 131**		*e*P	**Pn**	**01 22 44.1**	**+1.1**
CRUC				*e*S	**Sn**	**01 23 19.5**	**+2.2**
CRUC				*i*		01 23 27.2	
	comp=Z,66nm,0.5s						
PCON	**Cinco Dias**	**2.95 113**		*e*P	**Pn**	**01 22 45.6**	**+1.6**
PCON				*e*S	**Sn**	**01 23 19.7**	**+0.6**
PCON				*i*		01 23 24.6	
	comp=Z,180nm,0.5s						
PLMC	**San Jos del P**	**3.16 63**		*e*P	**Pn**	**01 22 45.0**	**-1.5**
PLMC				*i*		01 23 27.6	
	comp=Z,80nm,0.1s						
OTAV	**Otavalo**	**3.30 168**				**01 22 48.4**	**-0.3**
ORTC	**Ortega, Tolima**	**3.89 84**		*e*P	**Pn**	**01 22 58.1**	**+1.6**
ORTC				*e*S	**Sn**	**01 23 43.2**	**+1.7**
ORTC				*i*		01 23 48.4	
	comp=Z,38nm,0.2s						
ORTC				*i*		01 23 48.5	
	comp=Z,42nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.89 53**		*e*P	**Pn**	**01 22 54.4**	**-2.2**
CBOC				*i*		01 23 54.2	
	comp=Z,10.0nm,0.5s						
FLOC	**Florencia**	**3.95 119**		*e*P	**Pn**	**01 22 59.0**	**+1.7**
FLOC				*e*S	**Sn**	**01 23 40.8**	**-2.2**
FLOC				*i*		01 23 46.9	
	comp=Z,33nm,0.5s						
PRAC	**Prado**	**4.23 87**		*e*P	**Pn**	**01 23 03.3**	**+2.1**
PRAC				*i*		01 23 56.1	
	comp=Z,32nm,0.4s						
HELC	**Santa Helena**	**4.47 53**		*e*P	**Pn**	**01 23 04.8**	**+0.1**
HELC				*i*		01 23 59.5	
	comp=Z,8.5nm,1.1s						
NORC	**Norcasia**	**4.71 64**		*e*P	**Pn**	**01 23 09.2**	**+1.4**
NORC				*i*		01 24 10.3	
	comp=Z,6.4nm,0.4s						
ROSC	**El Rosal**	**4.97 74**		Pn	**Pn**	**01 23 14.6**	**+2.9**
	comp=Z,15nm,0.3s,baz=196,slow=6.7,SNR=19						
ROSC				Sn	**Sn**	**01 24 09.3**	**+0.6**
	baz=198,slow=20,SNR=1.1						
ROSC	**El Rosal**	**4.97 74**			**Pn**	**01 23 15.1**	**+3.4**
CHIC	**Chingaza**	**5.49 78**		*e*P	**Pn**	**01 23 21.5**	**+2.6**
CHIC				*e*S	**Sn**	**01 24 21.6**	**0.0**
CHIC				*i*		01 24 28.7	
	comp=Z,9.8nm,0.5s						
PTBC	**PUERTO BERRIO,**	**5.55 57**		*e*P	**Pn**	**01 23 21.0**	**+1.8**
PTBC				*i*		01 24 28.8	
	comp=Z,6.0nm,0.8s						
SDV	**Santo Domingo**	**9.99 57**		Pn	**Pn**	**01 24 23.3**	**+2.8**
	comp=Z,2.4nm,0.3s,baz=157,slow=4.6,SNR=10						
SDV	**Santo Domingo**	**9.99 57**			**Pn**	**01 24 23.1**	**+2.6**
NNA	**Nana**	**15.54 172**		Pn	**P**	**01 25 41.0**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=338,slow=12,SNR=6.2						
NNA				LR	LR	01 31 46.8	
	comp=Z,41nm,19.7s,baz=340,slow=38						
NNA	**Nana**	**15.54 172**		IAmb	IAmb	01 25 43.4	
	comp=Z,23nm,1.1s						
SAML	**Samuel**	**20.13 128**		P	**P**	**01 26 31.1**	**+0.4**
LPAZ	**La Paz**	**22.45 151**		P	**P**	**01 26 57.1**	**+0.8**
	comp=Z,4.5nm,0.7s,baz=340,slow=9.0,SNR=17						
LPAZ	**La Paz**	**22.45 151**		P	**P**	**01 26 57.7**	**+1.4**
LPAZ				IAmb	IAmb	01 27 00.0	
	comp=Z,5.0nm,0.8s						
MNMC	**Minye Minye**	**24.35 158**		P	**P**	**01 27 16.9**	**+2.1**
PB11	**IPOC Station P**	**24.91 158**		P	**P**	**01 27 21.1**	**+1.4**
SIV	**San Ignacio**	**26.33 138**		P	**P**	**01 27 33.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=331,slow=10,SNR=5.9						
TXAR	**Lajitas Array**	**34.69 320**		P	**P**	**01 28 48.1**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=150,slow=11,SNR=1.3						
NVAR	**Mina Array Bea**	**49.83 320**		P	**P**	**01 30 48.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=125,slow=6.3,SNR=3.9						
YKA	**Yellowknife Ar**	**64.47 343**		P	**P**	**01 32 31.2**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=140,slow=6.9,SNR=5.6						
ILAR	**Eielson Array**	**77.50 336**		P	**P**	**01 33 50.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=109,slow=3.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**80.28 77**		P	**P**	**01 34 07.0**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=302,slow=7.7,SNR=2.2						
WRA	**Warramunga Arr**	**143.51 241**		PKP	PKPbc	01 41 30.0	+0.8
	comp=Z,0.5nm,0.7s,baz=112,slow=2.9,SNR=5.4						

IDC 30 01:29:59.1±1.2, 19°.62N×144°.84E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/42, mbtmp3.6/5, Error ellipse: s-maj=47.3km s-min=30.8km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.65 195**		P	P	01 37 41.0	-0.2
	0.2nm,0.4s,baz=12,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**41.92 321**		P	P	01 37 51.0	-0.6
	0.2nm,0.4s,baz=118,slow=8.6,SNR=1.6						
YKA	**Yellowknife Ar**	**77.56 28**		P	P	01 41 57.2	+0.6
	0.2nm,0.5s,baz=289,slow=5.8,SNR=4.7						
NVAR	**Mina Array Bea**	**83.21 52**		P	P	01 42 27.2	-0.7
	0.7nm,0.7s,baz=265,slow=5.7,SNR=7.1						
FINES	**FINESS Array B**	**85.71 335**		P	P	01 42 40.4	+0.6
	1.5nm,0.9s,baz=76,slow=10.0,SNR=5.4						

IDC 30 01:35:28.1±2.2, 5°.12S×149°.69E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/34, mbtmp3.3/3, Error ellipse: s-maj=154.8km s-min=32.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.99 224**		P	P	01 40 12.8	-0.4
	0.7nm,0.6s,baz=50,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.91 218**		P	P	01 40 44.4	+0.5
	0.3nm,0.5s,baz=52,slow=8.9,SNR=4.8						
ILAR	**Eielson Array**	**83.63 23**		P	P	01 47 58.0	-0.2
	0.5nm,1.0s,baz=249,slow=7.6,SNR=2.8						

*ISCJB **30** 01:39:44.8±0.6, 51°.48N±0°.03×16°.10E±0°.04, h0km, Error ellipse: s-maj=4.7km s-min=3.0km az=29.7*
*PRU **30** 01:39:46.9±0.0, 51°.48N×16°.08E, h0km*
*VIE **30** 01:39:50.2±1.3, 51°.23N×16°.23E, h0km, ml2.6/4, Error ellipse: s-maj=9.0km s-min=6.2km az=28.0 56 km WNW of Wroclaw Suspected Mining induced.*

ISC 30 01:39:45.5±0.9, 51°.54N±0°.04×16°.13E±0°.03, h0km, n24, σ1§02/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71 172**		*i* Pg	**Pg**	**01 39 59.2**	**+0.1**
KSP				*i* Pg	**Pg**	**01 39 59.2**	**+0.1**
KSP				*e*Sg	**Sg**	**01 40 07.8**	**-0.4**
KSP				*e*Sg	**Sg**	**01 40 07.8**	**-0.4**
CHVC	**Chvalec**	**0.96 183**		*e*PG	**Pg**	**01 40 04.1**	**+0.3**
CHVC				*e*SG	**Sg**	**01 40 16.0**	**-0.2**
	comp=Z,22nm,0.3s						
OSTC	**Ostas**	**0.99 177**		*e*PG	**Pg**	**01 40 04.8**	**+0.3**
OSTC				*e*SG	**Sg**	**01 40 17.3**	**0.0**
	comp=Z,25nm,0.4s						
UPC	**Upice**	**1.04 184**		*e*PG	**Pg**	**01 40 05.4**	**0.0**
UPC				*e*SG	**Sg**	**01 40 18.2**	**-0.7**
DPC	**Dobruska-Polom**	**1.20 174**		*e*PG	**Pg**	**01 40 08.0**	**-0.5**
DPC				*e*SG	**Sg**	**01 40 22.6**	**-1.4**
	comp=Z,17nm,0.5s						
PVCC	**Panska Ves**	**1.42 225**		*e*PG	**Pn**	**01 40 12.5**	**0.0**
PVCC				*e*SG	**Sg**	**01 40 31.1**	**+0.2**
	comp=Z,100nm,0.2s						
KRLC	**Kraliky**	**1.53 164**		*e*PG	**Pn**	**01 40 14.0**	**-0.1**
KRLC				*e*SG	**Sg**	**01 40 32.5**	**-2.0**
	comp=Z,20nm,0.2s						
BRG	**Berggiesshubel**	**1.53 245**		PG	**Pb**	**01 40 15.4**	**+0.7**
BRG				SG	**Sn**	**01 40 35.0**	**+0.4**
	45nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84 208**		*e*PN	**Pn**	**01 40 18.1**	**-0.3**
GOPC				*e*PG	**Pb**	**01 40 20.1**	**0.0**
PRU	**Pruhonice**	**1.85 214**		*e*PG	**Pb**	**01 40 20.1**	**-0.2**
PRU				*e*SG	**Sn**	**01 40 43.3**	**+0.6**
	comp=Z,15nm,0.2s						
CLL	**Collm**	**1.97 264**		*e*Pn	**Pn**	**01 40 20.0**	**-0.2**
CLL				*e*Pg	**Pb**	**01 40 22.0**	**-0.3**
CLL				*e*Sg	**Sb**	**01 40 49.0**	**+1.6**
	comp=Z,16nm,0.6s						
MORC	**Moravsky Berou**	**1.98 152**		*e*PN	**Pn**	**01 40 19.9**	**-0.5**
MORC				*e*SG	**Sn**	**01 40 45.2**	**-0.8**
VRAC	**Vranov**	**2.26 172**		*e*PN	**Pn**	**01 40 24.2**	**+0.1**
VRAC				*e*SG	**Sb**	**01 40 55.3**	**-0.3**
KRUC	**Moravsky**	**2.49 176**		*e*PN	**Pn**	**01 40 27.7**	**+0.4**
KRUC				*e*SG	**Sb**	**01 41 03.1**	**+0.8**
NKC	**Novy Kostel**	**2.67 242**		*e*PN	**Pn**	**01 40 29.6**	**-0.3**
NKC				*e*PG	**Pb**	**01 40 35.5**	**+1.2**
NKC				*e*SG	**Sg**	**01 41 10.6**	**-0.8**
	comp=Z,20nm,0.3s						
OJC	**Ojcow**	**2.67 118**		*e*Pg	**Pg**	**01 40 36.6**	**-0.1**
OJC				*e*Pg	**Pg**	**01 40 36.6**	**-0.1**
OJC				*e*Sg	**Sg**	**01 41 11.9**	**+0.5**
OJC				*e*Sg	**Sg**	**01 41 11.9**	**+0.5**
JAVC	**Velka Javorina**	**2.86 159**		*e*SG	**Sb**	**01 41 13.3**	**+0.2**
KHC	**Kasperske Hory**	**2.92 215**		*e*PN	**Pn**	**01 40 33.1**	**-0.1**
KHC				*e*PG	**Pb**	**01 40 38.3**	**-0.1**
KHC				*e*SN	**Sn**	**01 41 07.4**	**-1.5**
KHC				*e*SG	**Sb**	**01 41 16.8**	**+2.2**
	comp=Z,6.4nm,0.3s						
MODS	**Modra-Piesok**	**3.26 166**		*e*SG	**Sg**	**01 41 29.3**	**-0.8**
KOLL	**Kolacno**	**3.31 153**		*e*SG	**Sg**	**01 41 31.3**	**-0.5**

PDG	**Podgorica**	**0.69 308**	⇑P	**Pg**	**01 43 42.9**	**-1.1**
PDG			⇑S	**Sb**	**01 43 54.1**	**-0.6**
PDG			AML	AML	01 43 58.5	
TTG	**Podgorica**	**0.69 308**	⇓*i*Pg	**Pg**	**01 43 43.3**	**-0.7**
TTG			*e*Sg	**Sg**	**01 43 53.3**	**+0.3**
BUM	**Brajici-Budva**	**0.87 290**	⇓*i*Pg	**Pg**	**01 43 46.4**	**-1.0**
BUM			*i* Sg	**Sb**	**01 43 59.1**	**-0.8**
IVA	**Berane**	**0.87 355**	⇓*i*Pg	**Pg**	**01 43 47.3**	**-0.1**
IVA			*i* Sg	**Sn**	**01 44 01.0**	**-1.3**
CEME	**Cevo**	**0.96 304**	⇓*i*Pg	**Pg**	**01 43 48.2**	**-1.0**
CEME			*e*Sg	**Sb**	**01 44 02.6**	**0.0**
NKME	**Niksic**	**1.08 315**	⇓*i*Pg	**Pg**	**01 43 50.6**	**-0.9**
NKME			*e*Sg	**Sn**	**01 44 07.3**	**-0.2**
NKY	**Niksic**	**1.09 318**	⇓*i*Pg	**Pg**	**01 43 50.9**	**-0.8**
NKY			*e*Sg	**Sn**	**01 44 07.5**	**-0.4**
HCY	**Herceg Novi**	**1.19 292**	⇓*i*Pg	**Pb**	**01 43 52.2**	**-1.4**
HCY			*e*Sg	**Sn**	**01 44 09.6**	**-0.6**
HCY	**Herceg Novi**	**1.19 292**	⇑*i*Pg	**Pb**	**01 43 52.3**	**-1.4**
HCY			*e*Sg	**Sn**	**01 44 10.3**	**+0.1**
SJES	**Sjenica**	**1.25 359**	*e*Pg	**Pg**	**01 43 55.0**	**+0.2**
SJES			*e*Sg	**Sn**	**01 44 11.9**	**+0.1**
PLE	**Pljevlja**	**1.39 342**	⇑*i*Pg	**Pb**	**01 43 57.0**	**-0.1**
PLE			*e*Sg	**Sg**	**01 44 18.2**	**+2.6**
BRY	**Bratogost**	**1.40 310**	⇑*i*Pg	**Pn**	**01 43 55.7**	**-1.0**
BRY			*e*Sg	**Sg**	**01 44 17.2**	**+1.6**
BRY	**Bratogost**	**1.40 310**	⇓*i*Pg	**Pn**	**01 43 55.9**	**-0.8**
BRY			*e*Sg	**Sg**	**01 44 17.6**	**+2.0**
TREB	**Trebinje**	**1.41 301**	*e*Pn	**Pg**	**01 43 58.5**	**+0.8**
TREB			*e*Sn	**Sg**	**01 44 19.0**	**+3.1**
TREB	**Trebinje**	**1.41 301**	*e*Pg	**Pn**	**01 43 56.3**	**-0.4**
TREB			*e*Sg	**Sg**	**01 44 16.8**	**+0.9**
UPM	**Unac-Piva**	**1.44 327**	*e*Pn	**Pb**	**01 43 57.7**	**-0.2**
UPM			*e*Sn	**Sg**	**01 44 17.9**	**+0.9**
UPM	**Unac-Piva**	**1.44 327**	⇑*i*Pg	**Pb**	**01 43 57.4**	**-0.5**
UPM			*e*Sg	**Sg**	**01 44 19.4**	**+2.4**
SELS	**Selova**	**1.47 34**	*e*Pn	**Pb**	**01 43 58.7**	**+0.3**
SELS			*e*Sn	**Sg**	**01 44 18.7**	**+0.7**
DBRK	**Dubrovnik**	**1.52 296**	*e*Pn	**Pn**	**01 43 57.9**	**-0.3**
DBRK			Sn	**Sg**	**01 44 22.0**	**+2.5**
IVAS	**Ivanjica**	**1.57 4**	*e*Pn	**Pb**	**01 44 00.1**	**0.0**
IVAS			*e*Sn	**Sg**	**01 44 21.7**	**+0.4**
BARS	**Barje**	**1.58 59**	*e*Pn	**Pn**	**01 43 59.5**	**+0.5**
BARS			*e*Sn	**Sb**	**01 44 20.9**	**+0.7**
FNA	**Florina**	**1.61 139**	*i* PN	**Pn**	**01 43 59.7**	**+0.2**
FNA			*i* SN	**Sg**	**01 44 23.2**	**+0.8**
STIP	**Stip**	**1.67 100**	*i* Pn	**Pg**	**01 44 02.7**	**-0.1**
RUDO	**Rudo**	**1.67 344**	*e*Pn	**Pb**	**01 44 01.6**	**-0.2**
RUDO			*e*Sn	**Sg**	**01 44 24.4**	**-0.1**
STON	**Ston**	**1.90 298**	*e*Pn	**Pb**	**01 44 05.1**	**-0.6**
STON			*e*Sn	**Sg**	**01 44 31.9**	**+0.1**
STON	**Ston**	**1.90 298**	*e*Pn	**Pb**	**01 44 04.0**	**+0.5**
STON			*e*Sn	**Sb**	**01 44 28.3**	**-1.3**
BBLS	**Lazići**	**1.91 347**	*e*Pg	**Pg**	**01 44 07.3**	**0.0**
BBLS			*e*Sg	**Sg**	**01 44 32.3**	**+0.3**
BBLS	**Lazići**	**1.91 347**	*e*Pn	**Pn**	**01 44 04.4**	**+0.8**
BBLS			*e*Sn	**Sb**	**01 44 30.2**	**+0.4**
BOSS	**Bosilegrad**	**1.91 74**	*e*Pn	**Pb**	**01 44 06.2**	**+0.3**
BOSS			*e*Sn	**Sb**	**01 44 29.1**	**-0.9**
GRUS	**Gruza**	**1.95 16**	*e*Pg	**Pb**	**01 44 07.0**	**+0.4**
GRUS			*e*Sg	**Sg**	**01 44 33.1**	**-0.4**
VAY	**Valandovo**	**2.05 109**	*e*Pn	**Pn**	**01 44 06.7**	**+1.1**
VAY			*e*Sn	**Sb**	**01 44 33.7**	**-0.2**
BOVS	**Bovan**	**2.06 37**	*e*Pn	**Pb**	**01 44 08.2**	**-0.2**
BOVS			*e*Sn	**Sb**	**01 44 33.5**	**-0.7**
DIVS	**Divibare**	**2.09 0**	*e*Pg	**Pb**	**01 44 08.8**	**-0.2**
DIVS			*e*Sg	**Sg**	**01 44 37.7**	**-0.2**
DIVS	**Divibare**	**2.09 0**	*e*Pn	**Pn**	**01 44 07.0**	**+0.8**
DIVS			*e*Sn	**Sb**	**01 44 37.2**	**+0.1**
HAPS	**Han Pijesak,BI**	**2.21 340**	*e*Pn	**Pb**	**01 44 09.3**	**-1.8**
HAPS			*e*Sn	**Sb**	**01 44 37.6**	**-1.1**
TRUS	**Trudelj**	**2.24 8**	*e*Pn	**Pb**	**01 44 10.3**	**-1.1**
ZAGS	**Zajecar**	**2.44 42**	*e*Pn	**Pb**	**01 44 13.5**	**-1.4**
VTS	**Vitosha**	**2.48 75**	*e*Pn	**Pn**	**01 44 13.0**	**+1.4**
VTS	**Vitosha**	**2.48 75**	⇑P	**Pn**	**01 44 12.3**	**+0.7**
VTS			⇑S	**Sn**	**01 44 44.3**	**+2.0**
VTS			AML	AML	01 44 55.5	
MAKA	**Makarska**	**2.54 301**	*e*Pn	**Pb**	**01 44 15.3**	**-1.2**
BLKB	**Belogradchik**	**2.55 50**	⇑S	**Sb**	**01 44 46.8**	**-1.6**
HVAR	**Hvar**	**2.86 295**	*e*Pn	**Pn**	**01 44 17.8**	**+1.0**
MDVR	**Moldovita**	**3.04 24**	⇑P	**Pn**	**01 44 19.6**	**+0.4**
MDVR			⇓S	**Sn**	**01 44 56.9**	**+1.0**
BAIL	**Bailesti**	**3.18 50**	⇑P	**Pn**	**01 44 21.8**	**+0.8**
BAIL			⇑S	**Sn**	**01 44 50.9**	**-8.2**
BAIL			AML	AML	01 45 00.7	
MGRS	**Mrkonjic Grad**	**3.21 320**	*e*Pn	**Pn**	**01 44 22.5**	**+1.0**
MGRS			*e*Sn	**Sn**	**01 45 01.2**	**+1.2**
BLY	**Banja Luka**	**3.42 324**	*e*Pn	**Pn**	**01 44 25.7**	**+1.3**
BLY			*e*Sn	**Sn**	**01 45 06.2**	**+1.1**
BLY	**Banja Luka**	**3.42 324**	⇓P	**Pn**	**01 44 21.4**	**-3.0**
BLY			⇑S	**Sn**	**01 45 04.1**	**-1.0**
BLY			AML	AML	01 45 37.5	
ZIRJ	**Zirje**	**3.59 299**	*e*Pn	**Pn**	**01 44 26.8**	**0.0**
BZS	**Buzias**	**3.79 18**	⇑P	**Pn**	**01 44 29.5**	**0.0**
BZS			⇓S	**Sn**	**01 45 14.2**	**-0.1**
UDBI	**Udbina**	**3.98 311**	*e*Pn	**Pn**	**01 44 35.0**	**+2.8**
UDBI			Sn	**Sn**	**01 45 22.8**	**+3.7**
NVLJ	**Novalja**	**4.53 306**	*e*Pn	**Pn**	**01 44 41.4**	**+1.9**

*ISCJB **30** 01:44:25.8±0.8, 12°.35S±0°.07×166°.4E±0°.2, h83km, mb3.7/9, Error ellipse: s-maj=23.1km s-min=10.2km az=177.0*
*IDC **30** 01:44:25.2±6.2, 12°.18S×166°.46E, h64km±58km, mb3.6/9, mb1 3.8/10, mb1mx3.6/36, mbtmp3.9/10, ML3.4/1, Error ellipse: s-maj=35.0km s-min=26.5km az=153.0*

ISC 30 01:44:27.3±0.9, 12°.28S±0°.09×166°.5E±0°.2, h83km, n10, σ1§04/11, mb3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.80**	**223**	P	**Pn**	**01 46 44.8**	**+0.2**
3.0nm,0.3s,baz=335,slow=21,SNR=7.2							
DZM				S	**Sn**	**01 48 31.0**	**-1.4**
4.0nm,0.3s,baz=318,slow=15,SNR=2.0							
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**01 50 30.2**	**+1.4**
2.9nm,0.7s,baz=63,slow=11,SNR=5.9							
WRA	**Warramunga Arr**	**31.76**	**252**	P	**P**	**01 50 43.3**	**-0.6**
1.2nm,0.8s,baz=80,slow=8.0,SNR=6.1							
ASAR	**Alice Springs**	**32.90**	**245**	P	**P**	**01 50 53.6**	**-0.2**
1.5nm,0.7s,baz=70,slow=9.6,SNR=13							
VNDA	**Vanda**	**65.28**	**181**	P	**P**	**01 55 00.2**	**+0.4**
1.1nm,0.8s,baz=345,slow=8.3,SNR=2.4							
CMAR	**Chiang Mai Arr**	**73.26**	**294**	P	**P**	**01 55 50.8**	**+0.6**
1.2nm,0.4s,baz=125,slow=4.5,SNR=1.8							
SONM	**Songino Array**	**80.08**	**324**	P	**P**	**01 56 27.4**	**-0.7**
0.2nm,0.6s,baz=17,slow=8.7,SNR=3.0							
ILAR	**Eielson Array**	**84.45**	**18**	P	**P**	**01 56 49.4**	**-1.0**
0.4nm,0.6s,baz=237,slow=5.2,SNR=9.6							
NVAR	**Mina Array Bea**	**86.27**	**50**	P	**P**	**01 57 01.6**	**+1.2**
0.1nm,0.5s,baz=260,slow=5.1,SNR=1.6							
MKAR	**Makanchi Array**	**94.90**	**317**	P	**P**	**01 57 39.4**	**-0.9**
0.6nm,0.6s,baz=87,slow=6.4,SNR=5.0							

ROM 30 01:44:43.1±0.2, 43°.410N±0°.004×12°.469E±0°.007, h5km±1km, ML0.6/1, Error ellipse: s-maj=0.4km s-min=0.4km az=105.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.05**	**238**	P	Pg	01 44 44.7	+0.1
ATVO				S	Sg	01 44 45.8	+0.2
ATPI	**Pietralunga -**	**0.06**	**310**	P	Pg	01 44 44.9	+0.1
ATPI				S	Sg	01 44 46.2	+0.4
ATFO	**Monte Foce - G**	**0.09**	**120**	P	Pg	01 44 45.2	+0.1
ATFO				S	Sg	01 44 46.9	+0.4
PIEI	**Pieia**	**0.14**	**21**	P	Pg	01 44 46.4	+0.5
PIEI				S	Sg	01 44 49.1	+1.3
PIEI				AML	AML		
comp=E,62μm,0.4s							
PIEI				AML	AML		
comp=N,38μm,0.9s							
MURB	**Monte Urbino**	**0.15**	**164**	P	Pg	01 44 46.8	+0.6
MURB				S	Sg	01 44 49.7	+1.4
FRON	**Frontone**	**0.22**	**60**	P	Pg	01 44 47.6	+0.3
FRON				S	Sg	01 44 51.6	+1.4

IDC 30 02:07:46.0±4.7, 19°.30S×169°.24E, h169km±54km, mb3.2/4, mb1 3.4/5, mb1mx3.2/28, mbtmp3.6/5, Error ellipse: s-maj=107.5km s-min=34.1km az=155.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.80**	**223**	P	Pn	02 08 45.4	+1.0
1.8nm,0.3s,baz=213,slow=16,SNR=22							
DZM				S	Sn	02 09 29.7	-0.2
5.2nm,0.3s,baz=89,slow=24,SNR=11							
WRA	**Warramunga Arr**	**32.84**	**263**	P	P	02 14 03.6	-0.3
0.2nm,0.7s,baz=84,slow=6.7,SNR=1.6							
ASAR	**Alice Springs**	**33.11**	**256**	P	P	02 14 06.2	0.0
1.1nm,0.5s,baz=84,slow=8.9,SNR=19							
SONM	**Songino Array**	**87.27**	**323**	P	P	02 20 13.9	+0.4
0.3nm,0.5s,baz=140,slow=5.6,SNR=2.4							
ILAR	**Eielson Array**	**90.29**	**17**	P	P	02 20 26.2	-0.9
0.4nm,0.8s,baz=235,slow=5.3,SNR=4.3							
ARCES	**ARCESS Array B**	**125.13**	**345**	PKP	PKPdf	02 26 25.5	-0.1
4.7nm,1.0s,baz=57,slow=2.6,SNR=9.2							
GERES	**GERESS Array B**	**144.55**	**332**	PKP	PKPdf	02 27 02.4	0.0
1.0nm,0.6s,baz=39,slow=5.1,SNR=8.7							

*ISCJB **30** 02:23:47.4±0.4, 25°.58N±0°.03×99°.28W±0°.05, h10km, mb3.3/1, MS3.6/6, Error ellipse: s-maj=6.1km s-min=4.3km az=22.6*
*IDC **30** 02:23:47.5±2.6, 25°.49N×99°.28W, h0km, mb2.9/3, mb1 3.5/7, mb1mx3.4/64, mbtmp3.3/7, ML3.8/4, MS3.4/10, Ms1 3.4/10, ms1mx3.3/16, Error ellipse: s-maj=73.6km s-min=20.7km az=38.0*
*MEX **30** 02:23:49.8±0.4, 25°.51N×99°.45W, h2km, MD4.4*
*CERI **30** 02:23:50.0, 25°.51N×99°.46W, h2km*
*NEIC **30** 02:23:51.2±2.4, 25°.48N±0°.05×99°.37W±0°.08, h32km±6km*

ISC 30 02:23:49.2±0.7, 25°.54N±0°.04×99°.32W±0°.07, h10km, n87, σ1§26/90, MS3.6/6, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**0.65**	**192**	*e*P	**Pg**	**02 24 01.2**	**-0.6**
LNIG				*e*S	**Sg**	**02 24 10.1**	**-0.2**
LNIG	**Linares**	**0.65**	**192**		**Pg**	**02 24 01.2**	**-0.6**
LNIG					**Sg**	**02 24 10.1**	**-0.2**
KVTX	**Kingsville**	**2.37**	**32**	*e*P	**Pn**	**02 24 28.2**	**-0.1**
KVTX	**Kingsville**	**2.37**	**32**		**Pn**	**02 24 28.1**	**-0.1**
833A	**Chaparral WMA,**	**2.78**	**359**	P	**Pn**	**02 24 34.4**	**+0.6**
baz=181							
833A				S	**Sb**	**02 25 15.7**	**+2.6**
baz=181							
833A	**Chaparral WMA,**	**2.78**	**359**		**Pn**	**02 24 34.5**	**+0.7**
ZAIG	**Zacatecas**	**4.05**	**228**		**Pn**	**02 24 51.1**	**-0.5**
JCT	**Junction City**	**4.94**	**355**	P	**Pn**	**02 25 04.3**	**+0.6**
baz=176							
JCT				S	**Sn**	**02 25 58.9**	**-2.0**
baz=176							
JCT	**Junction City**	**4.94**	**355**	*e*P	**Pn**	**02 25 03.0**	**-0.7**
JCT				*e*S	**Sn**	**02 25 59.6**	**-1.3**
JCT	**Junction City**	**4.94**	**355**		**Pn**	**02 25 03.7**	**+0.1**
JCT	**Junction City**	**4.94**	**355**		**Sn**	**02 25 58.6**	**-2.3**
HKT	**Hockley**	**5.37**	**34**	Pn	**Pn**	**02 25 09.7**	**+0.3**
HKT					**Sn**	**02 26 07.3**	**-4.0**
TXAR	**Lajitas Array**	**5.41**	**315**	Pn	**Pn**	**02 25 09.4**	**-0.7**
0.7nm,0.3s,baz=138,slow=14,SNR=34							
TXAR				Pg	**Pb**	**02 25 24.9**	**+1.0**
4.7nm,0.3s,baz=138,slow=16,SNR=15							
TXAR				Lg	Lg	02 26 38.1	
7.3nm,0.3s,baz=133,slow=31,SNR=8.5							
TXAR				LR	LR	02 27 43.6	
comp=Z,131nm,18.6s,baz=0.0,slow=43							
TXAR	**Lajitas Array**	**5.41**	**315**		**Pn**	**02 25 09.1**	**-1.0**
TX31	**Lajitas Ar. Si**	**5.41**	**315**		**Pn**	**02 25 09.5**	**-0.6**
TX32	**Lajitas Array**	**5.41**	**315**		**Pn**	**02 25 09.5**	**-0.6**
435B	**Jarrell**	**5.45**	**16**	S	**Sn**	**02 26 12.5**	**-0.8**
baz=198							
435B	**Jarrell**	**5.45**	**16**		**Pn**	**02 25 11.4**	**+0.9**
HPIG		**5.87**	**285**		**Pn**	**02 25 15.4**	**-1.1**
WHTX	**Lake Whitney,**	**6.63**	**14**	P	**Pn**	**02 25 26.6**	**-0.2**
baz=196							
WHTX	**Lake Whitney,**	**6.63**	**14**		**Pn**	**02 25 27.5**	**+0.7**
ABTX	**Abilene, Hawle**	**7.07**	**358**	P	**Pn**	**02 25 32.5**	**-0.3**
baz=179							
ABTX				S	**Sn**	**02 26 48.5**	**-4.8**
baz=179							
ABTX	**Abilene, Hawle**	**7.07**	**358**		**Pn**	**02 25 32.8**	**0.0**
NATX	**Nacogdoches**	**7.43**	**32**	Pn	**Pn**	**02 25 36.7**	**-1.0**
ETX02	**Prairie Street**	**7.67**	**33**	Pn	**Pn**	**02 25 44.8**	**+3.7**
MNTX	**Cornudas Mount**	**8.13**	**320**	P	**Pn**	**02 25 47.8**	**+0.4**
baz=138							
MNTX	**Cornudas Mount**	**8.13**	**320**		**Pn**	**02 25 47.5**	**+0.1**
MSTX	**Muleshoe**	**8.92**	**341**	P	**Pn**	**02 25 57.7**	**-0.7**
baz=160							
MSTX	**Muleshoe**	**8.92**	**341**		**Pn**	**02 25 57.8**	**-0.7**
X34A	**Smith Ranch, M**	**9.12**	**8**	Pn	**Pn**	**02 26 01.7**	**+0.7**
WMOK	**Wichita Mounta**	**9.18**	**3**	P	**Pn**	**02 26 00.5**	**-1.4**
baz=184							
WMOK	**Wichita Mounta**	**9.18**	**3**		**Pn**	**02 26 01.9**	**0.0**
CMIG	**Matias Romero**	**9.36**	**153**	LR	LR	02 29 48.1	
comp=Z,50nm,18.3s,baz=318,slow=39							
AMTX	**Amarillo**	**9.54**	**348**		**Pn**	**02 26 05.3**	**-1.4**
Z41A	**Richland Creek**	**9.56**	**35**	Pn	**Pn**	**02 26 07.7**	**+0.8**
WLAR	**White Oak Lake**	**9.75**	**32**		**Pn**	**02 26 08.9**	**-0.7**
W35A	**Tecumseh**	**9.81**	**12**	Pn	**Pn**	**02 26 10.6**	**+0.2**
121A	**Cookes Peak, D**	**10.17**	**315**	Pn	**Pn**	**02 26 15.0**	**-0.5**
319A	**Douglas**	**10.52**	**306**		**Pn**	**02 26 20.3**	**+0.1**
BNM	**Barren Site**	**10.67**	**325**		**Pn**	**02 26 23.2**	**+0.8**
W39A	**Magazine**	**10.74**	**25**		**Pn**	**02 26 22.0**	**-1.2**
W39A					**Sn**	**02 28 21.9**	**-1.6**
TUL1	**Leonard**	**10.78**	**15**	Pn	**Pn**	**02 26 23.7**	**+0.1**
LPM	**Los Pinos Moun**	**10.80**	**326**	Pn	**Pn**	**02 26 24.9**	**+0.7**
LENM	**Lemitar**	**10.86**	**324**	Pn	**Pn**	**02 26 24.8**	**-0.3**
ANMO	**Albuquerque**	**11.22**	**328**	Pn	**Pn**	**02 26 31.7**	**+1.7**
0.1nm,0.3s,baz=150,slow=17,SNR=2.0							
ANMO				Lg	Lg	02 29 38.5	
0.5nm,0.3s,baz=19,slow=17,SNR=5.3							
ANMO				LR	LR	02 31 05.4	
comp=Z,243nm,21.9s,baz=150,slow=39							
TEIG	**Tepich**	**11.46**	**115**	Pn	**Pn**	**02 26 32.4**	**-0.7**
0.5nm,0.3s,baz=321,slow=19,SNR=1.9							
TEIG	**Tepich**	**11.46**	**115**		**Pn**	**02 26 36.0**	**+2.9**
T25A	**Trinidad**	**12.36**	**341**	Pn	**Pn**	**02 26 44.7**	**-0.7**
KSCO	**Kaye Shedlock'**	**13.72**	**349**	Pn	**Pn**	**02 27 02.6**	**-1.4**
S22A	**4UR Ranch, Cre**	**13.74**	**334**		**Pn**	**02 27 04.4**	**0.0**
MVCO	**Mesa Verde**	**14.02**	**328**		**Pn**	**02 27 08.1**	**-0.2**
PV13	**Radium Mtn., P**	**14.94**	**330**	Pn	**Pn**	**02 27 22.1**	**+1.4**
PV03	**Paradox Valley**	**15.03**	**330**	Pn	**Pn**	**02 27 23.0**	**+1.0**
PV18	**Skein Mesa, Pa**	**15.05**	**330**	Pn	**Pn**	**02 27 23.0**	**+0.8**
SMCO	**Snowmass**	**15.05**	**336**		**Pn**	**02 27 23.1**	**+0.7**
PV07	**Paradox Valley**	**15.09**	**331**	Pn	**Pn**	**02 27 22.9**	**+0.2**
ISCO	**Idaho Springs**	**15.17**	**341**	Pn	**Pn**	**02 27 25.0**	**+1.1**
ISCO				IAmb	IAmb	02 28 22.9	
comp=Z,9.1nm,2.0s							
KNB	**Kanab**	**16.23**	**318**	Pn	**Pn**	**02 27 36.1**	**-1.6**
N23A	**Red Feather La**	**16.28**	**342**	Pn	**Pn**	**02 27 38.2**	**0.0**
N23A				IAmb	IAmb	02 27 44.1	
comp=Z,12nm,1.2s							
LCMT	**Little Creek M**	**16.49**	**317**	Pn	**Pn**	**02 27 40.3**	**-0.6**
MTPU	**Mount Pierson**	**16.56**	**322**	Pn	**Pn**	**02 27 42.8**	**+0.8**
MSU	**Marysvale**	**16.90**	**323**	Pn	**Pn**	**02 27 44.1**	**-1.9**
PFO	**Pinyon Flats O**	**16.93**	**302**	LR	LR	02 34 23.2	
comp=Z,201nm,21.4s,baz=100,slow=37							
SHPR	**Sheep Range**	**17.41**	**313**	Pn	**Pn**	**02 27 52.0**	**-0.4**
SHPR				IAmb	IAmb	02 27 57.5	
comp=Z,7.8nm,1.3s							
TPNV	**Topopah Spring**	**18.38**	**312**	P	**Pn**	**02 28 05.1**	**+0.7**
TPNV				IAmb	IAmb	02 28 09.5	
comp=Z,20nm,1.7s							
R11A	**Troy Canyon, C**	**18.77**	**317**	P	**P**	**02 28 09.7**	**+0.9**
BGU	**Big Grassy Mou**	**19.12**	**327**	P	**P**	**02 28 13.3**	**+0.7**
PD31	**Pinedale Array**	**19.14**	**336**	P	**P**	**02 28 12.6**	**-0.2**
PD31				IAmb	IAmb	02 28 34.4	
comp=Z,8.9nm,1.6s							
PDAR	**Pinedale Array**	**19.14**	**336**	P	**P**	**02 28 12.5**	**-0.3**
comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=6.2							
PDAR				LR	LR	02 35 11.4	
comp=Z,94nm,19.4s,baz=132,slow=36							
PDAR	**Pinedale Array**	**19.14**	**336**	P	**P**	**02 28 11.8**	**-1.0**
HVU	**Hansel Valley**	**19.66**	**329**	P	**P**	**02 28 19.5**	**+1.1**
REDW	**Red Top Meadow**	**20.13**	**335**	P	**P**	**02 28 24.4**	**+0.7**
REDW				IAmb	IAmb	02 28 48.4	
comp=Z,10nm,1.6s							
ELK	**Elko**	**20.14**	**323**	P	**P**	**02 28 25.4**	**+1.6**
comp=Z,0.4nm,0.6s,baz=178,slow=5.7,SNR=3.1							
ELK				LR	LR	02 36 29.3	
comp=Z,218nm,18.8s,baz=130,slow=38							
TPAW	**Teton Pass**	**20.28**	**335**	P	**P**	**02 28 26.3**	**+1.0**
TPAW				IAmb	IAmb	02 29 14.0	
comp=Z,5.7nm,1.2s							
FXWY	**Fox Creek**	**20.43**	**335**	P	**P**	**02 28 28.5**	**+1.5**
NV11	**Mina Array Sit**	**20.46**	**313**	P	**P**	**02 28 27.9**	**+0.7**
NVAR	**Mina Array Bea**	**20.56**	**313**	P	**P**	**02 28 27.6**	**-0.7**
comp=Z,0.1nm,0.3s,baz=123,slow=9.8,SNR=2.1							
NVAR				LR	LR	02 37 05.0	
comp=Z,274nm,18.8s,baz=106,slow=39							
NVAR	**Mina Array Bea**	**20.56**	**313**	P	**P**	**02 28 26.7**	**-1.6**
KVN	**Kaiserville**	**20.77**	**315**	P	**P**	**02 28 30.3**	**-0.3**
YNE	**Yellowstone No**	**21.26**	**339**	P	**P**	**02 28 34.8**	**-1.1**
MCMT	**McKenzie Canyo**	**22.14**	**334**	P	**P**	**02 28 45.9**	**+0.6**
BOZ	**Bozeman (W)**	**22.33**	**337**	P	**P**	**02 28 48.1**	**+0.8**
BOZ				IAmb	IAmb	02 28 51.1	
comp=Z,7.0nm,1.1s							
SADO	**Sadowa**	**25.18**	**35**	LR	LR	02 40 45.1	
comp=Z,80nm,21.4s,baz=196,slow=40							
YBH	**Yreka Blue Hor**	**25.19**	**316**	LR	LR	02 40 02.5	
comp=Z,166nm,19.0s,baz=100,slow=39							
NEW	**Newport**	**26.66**	**333**	LR	LR	02 41 05.9	
comp=Z,156nm,20.1s,baz=95,slow=39							
ILAR	**Eielson Array**	**49.56**	**335**	P	**P**	**02 32 40.8**	**+0.7**
comp=Z,0.2nm,0.6s,baz=119,slow=7.3,SNR=2.0							
PPT2	**Papeete2**	**65.03**	**234**	*e*LR	LR	02 34 54.0	
comp=Z,105nm,25.5s							

IDC 30 02:24:28.4±2.3, 15°.50S×173°.12W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/62, mbtmp3.6/4, ML3.9/1, MS2.9/6, Ms1 2.9/6, ms1mx2.8/21, Error ellipse: s-maj=136.7km s-min=24.1km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**40**	Pn	Pn	02 25 02.8	-1.3
41nm,0.3s,baz=209,slow=1.6,SNR=13							
AFI				Sn	Sn	02 25 23.8	-6.6
35nm,0.3s,baz=28,slow=22,SNR=7.6							
AFI				LR	LR	02 25 34.9	
comp=Z,43nm,21.0s,baz=80,slow=33							
DZM	**Mont Dzumac**	**20.41**	**248**	LR	LR	02 35 47.5	
comp=Z,41nm,20.9s,baz=186,slow=33							
PPT	**Papeete**	**22.66**	**99**	LR	LR	02 37 13.2	
comp=Z,38nm,18.4s,baz=330,slow=34							
HNR	**Honiara**	**26.96**	**280**	LR	LR	02 39 45.4	
comp=Z,28nm,18.2s,baz=116,slow=34							
WRA	**Warramunga Arr**	**50.09**	**257**	P	P	02 33 24.8	-0.8
0.3nm,0.6s,baz=90,slow=6.8,SNR=1.9							
ASAR	**Alice Springs**	**50.34**	**252**	P	P	02 33 26.9	-0.6
2.2nm,0.8s,baz=87,slow=8.1,SNR=20							
MJAR	**Matsushiro Arr**	**69.19**	**320**	LR	LR	02 59 00.8	
comp=Z,19nm,21.7s,baz=260,slow=30							
KSRS	**Korea Array**	**76.42**	**315**	LR	LR	03 03 42.2	
comp=Z,9.5nm,20.7s,baz=55,slow=31							
TXAR	**Lajitas Array**	**80.44**	**56**	P	P	02 36 42.7	+0.2
0.1nm,0.8s,baz=232,slow=4.0,SNR=1.4							
BRTR	**Keskin Array B**	**146.40**	**321**	PKPbc	PKPab	02 44 13.2	+0.5
0.8nm,0.7s,baz=77,slow=3.1,SNR=2.2							

*VAO **30** 02:34:00.1±0.6, 18°.68S×64°.92W, h0km, mb4.2*
*IDC **30** 02:34:18.0±1.0, 19°.05S×63°.37W, h0km, mb3.9/3, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, ML4.1/5, MS2.4/2, Ms1 2.4/2, ms1mx2.3/23, Error ellipse: s-maj=20.6km s-min=17.6km az=126.0*
*ISCJB **30** 02:34:21.3±0.3, 19°.09S±0°.03×63°.33W±0°.03, h33km, mb3.8/3

PMNB	**Patos De Minas**	**15.99**	**90**	*eP*		**Pn**		**02 38 06.3**	**+1.5**
PMNB	**Patos De Minas**	**15.99**	**90**	*eP*		**Pn**		**02 38 06.3**	**+1.5**
PEXB	**Peixe**	**16.07**	**66**	*eP*		**Pn**		**02 38 04.0**	**-1.7**
PEXB	**Peixe**	**16.07**	**66**	*eP*		**Pn**		**02 38 04.0**	**-1.7**
BSCB	**Bom Sucesso**	**17.52**	**99**	*eP*		**P**		**02 38 25.2**	**+0.4**
BSCB				*eS*		S		02 42 01.3	+16
BSCB	**Bom Sucesso**	**17.52**	**99**	*eP*		**P**		**02 38 25.2**	**+0.4**
BSCB				*eS*		S		02 42 01.3	+16
MAN01	**Angra dos Reis**	**18.44**	**105**	*eP*		**P**		**02 38 33.9**	**-1.0**
MAN01	**Angra dos Reis**	**18.44**	**105**	*eP*		**P**		**02 38 33.9**	**-1.0**
VAS01	**Vassouras-RJ**	**18.85**	**103**	*eP*		**Pn**		**02 38 40.7**	**+0.6**
VAS01				*eS*		S		02 42 30.5	+19
VAS01	**Vassouras-RJ**	**18.85**	**103**	*eP*		**Pn**		**02 38 40.7**	**+0.6**
VAS01				*eS*		S		02 42 30.5	+19
TRQA	**Tornquist**	**18.85**	**177**	*eP*		**P**		02 38 28.9	-10
TRQA	**Tornquist**	**18.85**	**177**	*eP*		P		02 38 28.9	-10
SJMB	**Sao Joao De Ma**	**20.94**	**92**	*eP*		**P**		**02 39 02.4**	**+0.2**
SJMB	**Sao Joao De Ma**	**20.94**	**92**	*eP*		**P**		**02 39 02.4**	**+0.2**
TOA0	**Torodi Ar. Sit**	**71.63**	**68**	P		P		**02 45 42.1**	**+1.4**
TOA0				IAmb		IAmb		02 45 43.1	
	comp=Z,2.8nm,0.7s								
TORD	**Torodi Ar. Bea**	**71.63**	**68**	P		**P**		**02 45 42.5**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=254,slow=5.7,SNR=28								
TORD	**Torodi Ar. Bea**	**71.63**	**68**	P		**P**		**02 45 42.0**	**+1.2**
PDAR	**Pinedale Array**	**74.90**	**327**	P		**P**		**02 45 59.0**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=118,slow=9.3,SNR=2.2								
YKA	**Yellowknife Ar**	**90.84**	**339**	P		**P**		**02 47 22.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=121,slow=4.6,SNR=9.5								
WRA	**Warramunga Arr**	**137.45**	**205**	PKP		**PKiKP**		**02 53 43.5**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=191,slow=0.9,SNR=3.9								
SONM	**Songino Array**	**150.21**	**14**	PKPbc		**PKiKP**		**02 54 10.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=17,slow=1.5,SNR=4.9								

IDC 30 03:09:21.1±3.2, 44°.19N×149°.32E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/49, mbtmp3.6/7, ML2.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/49, Error ellipse: s-maj=90.4km s-min=27.8km az=175.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**4.83**	**271**	Pn	Pn	03 10 36.9	+1.8
	0.3nm,0.3s,baz=299,slow=10,SNR=2.5						
ASAJ				LR	LR	03 12 59.8	
	comp=Z,83nm,18.6s,baz=106,slow=45						
ILAR	**Eielson Array**	**40.21**	**37**	P	P	03 17 00.2	+1.3
	0.5nm,1.0s,baz=255,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**45.76**	**298**	P	P	03 17 45.1	+1.0
	0.5nm,0.7s,baz=79,slow=8.8,SNR=2.9						
KURBB	**Kurchatov Arra**	**46.66**	**304**	P	P	03 17 49.3	-1.8
	0.4nm,0.4s,baz=76,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**65.19**	**334**	P	P	03 20 03.4	-0.2
	1.0nm,0.5s,baz=38,slow=7.5,SNR=12						
NOA	**NORSAR Array B**	**69.75**	**340**	P	P	03 20 32.5	0.0
	0.4nm,0.5s,baz=33,slow=6.6,SNR=4.7						
TXAR	**Lajitas Array**	**81.10**	**58**	P	P	03 21 37.8	-0.7
	0.1nm,0.5s,baz=316,slow=4.7,SNR=5.2						

*NEIC **30** 03:33:07.6±1.7, 30°.68S±0°.07×178°.3W±0°.2, h32km±2km, mb4.5/11*
*ISCJB **30** 03:33:08.2±0.5, 30°.68S±0°.06×178°.17W±0°.10, h46km, mb4.5/10, MS3.4/5, Error ellipse: s-maj=11.9km s-min=8.4km az=8.9*
*IDC **30** 03:33:11.1±1.7, 30°.54S×177°.99W, h63km±14km, mb4.2/10, mb1 4.3/10, mb1mx4.1/29, mbtmp4.5/10, MS3.2/7, Ms1 3.2/7, ms1mx3.0/23, Error ellipse: s-maj=19.5km s-min=14.2km az=109.0*

ISC 30 03:33:09.2±0.5, 30°.74S±0°.06×178°.1W±0°.1, h46km, n68, σ1§52/52, mb4.6/13, MS3.4/5, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.49**	**8**	P	**Pn**	**03 33 32.7**	**-0.8**
	498nm,0.3s,baz=198,slow=2.7,SNR=26						
RAO				S	**Sn**	**03 33 49.1**	**-2.7**
	2μm,0.3s,baz=80,slow=22,SNR=21						
RAO	**Raoul Island**	**1.49**	**8**		**Pn**	**03 33 32.9**	**-0.6**
URZ	**Urewera**	**8.46**	**206**	P	**Pn**	**03 35 05.5**	**-3.6**
	1.3nm,0.3s,baz=9.5,slow=6.1,SNR=6.9						
URZ				S	**Sn**	**03 36 39.6**	**-3.6**
	5.8nm,0.3s,baz=261,slow=22,SNR=13						
URZ				LR	LR	03 38 23.1	
	comp=Z,58nm,19.9s,baz=44,slow=36						
URZ	**Urewera**	**8.46**	**206**		**Sn**	**03 36 41.9**	**-1.3**
BKZ	**Black Stump Fm**	**9.49**	**206**	Pn	**Pn**	**03 35 20.7**	**-2.6**
RPZ	**Rata Peaks**	**15.53**	**210**	LR	LR	03 43 23.1	
	comp=Z,56nm,18.2s,baz=54,slow=39						
DZM	**Mont Dzumac**	**16.27**	**298**	*e*LR	LR	03 40 36.4	
	comp=Z,285nm,25.3s						
DZM	**Mont Dzumac**	**16.27**	**298**	LR	LR	03 42 00.0	
	comp=Z,147nm,19.4s,baz=117,slow=32						
DZM	**Mont Dzumac**	**16.27**	**298**	P	**Pn**	**03 36 55.2**	**+0.6**
DZM				IAmb	IAmb	03 37 14.6	
	comp=Z,9.1nm,0.7s						
TBI	**Tubuai**	**26.54**	**81**	*e*T	T	04 06 32.4	
	comp=Z,51nm,0.3s						
PAE	**Paea**	**29.03**	**70**	*e*T	T	04 09 35.8	
	comp=Z,14nm,0.2s						
PPT2	**Papeete2**	**29.07**	**70**	*e*LR	LR	03 46 24.6	
	comp=Z,112nm,28.0s						
PPT2	**Papeete2**	**29.07**	**70**	*e*T	T	04 09 36.7	
	comp=Z,13nm,0.3s						
TVO	**Taravao**	**29.23**	**71**	*e*T	T	04 09 45.0	
	comp=Z,4.1nm,0.3s						
MEH	**Mehetia**	**30.15**	**72**	*e*T	T	04 11 03.0	
	comp=Z,31nm,0.3s						
PMOR	**Pomariorio Ree**	**31.83**	**67**	*e*T	T	04 13 07.6	
	comp=Z,4.2nm,0.3s						
VAH	**Vaihoa**	**31.91**	**68**	*e*T	T	04 13 12.9	
	comp=Z,99nm,0.2s						
CTA	**Charters Tower**	**33.73**	**280**	P	**P**	**03 39 48.9**	**+2.5**
	comp=Z,10nm,0.6s,baz=103,slow=11,SNR=27						
STKA	**Stephens Creek**	**34.28**	**257**	P	**P**	**03 39 53.8**	**+2.8**
	comp=Z,21nm,0.8s,baz=101,slow=9.9,SNR=43						
STKA				LR	LR	03 51 47.1	
	comp=Z,75nm,19.8s,baz=28,slow=32						
STKA	**Stephens Creek**	**34.28**	**257**	P	**P**	**03 39 52.3**	**+1.3**
STKA				IAmb	IAmb	03 39 54.4	
	comp=Z,3.6nm,0.7s						
AS31	**Alice Springs**	**42.97**	**267**	P	**P**	**03 41 04.2**	**+0.2**
ASAR	**Alice Springs**	**42.97**	**267**	P	**P**	**03 41 04.5**	**+0.5**
	comp=Z,3.2nm,0.3s,baz=107,slow=7.2,SNR=52						
WR0	**Warramunga Arr**	**43.81**	**273**	P	**P**	**03 41 09.8**	**-0.9**
WR0				IAmb	IAmb	03 41 13.4	
	comp=Z,9.6nm,0.8s						
WB2	**Warramunga Arr**	**43.98**	**273**	P	**P**	**03 41 12.2**	**0.0**
WB2				IAmb	IAmb	03 41 14.9	
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**03 41 12.7**	**+0.4**
	comp=Z,6.4nm,0.3s,baz=110,slow=8.2,SNR=12						
WRA				LR	LR	03 57 22.1	
	comp=Z,32nm,20.9s,baz=170,slow=33						
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**03 41 13.1**	**+0.8**
WB0	**Warramunga Arr**	**44.01**	**273**	P	**P**	**03 41 12.4**	**0.0**
VNDA	**Vanda**	**47.75**	**186**	P	**P**	**03 41 43.2**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=31,slow=9.4,SNR=2.2						
QSPA	**South Pole Qui**	**59.38**	**180**	P	**P**	**03 43 08.4**	**+1.8**
	comp=Z,3.9nm,0.6s,baz=351,slow=0.7,SNR=28						
QSPA	**South Pole Qui**	**59.38**	**180**	P	**P**	**03 43 08.7**	**+2.2**
RPN	**Rapa Nui**	**59.47**	**105**	LR	LR	04 01 10.4	
	comp=Z,29nm,21.9s,baz=278,slow=28						
MAW	**Mawson**	**71.95**	**201**	P	**P**	**03 44 28.1**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=137,slow=7.2,SNR=4.0						
MAW				LR	LR	04 13 57.3	
	comp=Z,26nm,20.9s,baz=56,slow=34						
SYO	**Syowa Base**	**76.76**	**193**	⇑*iP*	**P**	**03 44 54.6**	**-0.7**
SYO	**Syowa Base**	**76.76**	**193**	⇓*ep*P	pP	03 45 04.0	-3.9
SNAA	**Sanae**	**77.82**	**178**	P	**P**	**03 45 01.6**	**+0.3**
VNA3	**Neumayer Olymp**	**77.98**	**176**	P	**P**	**03 45 02.6**	**+0.5**
VNA2	**Neumayer--Watz**	**78.41**	**177**	P	**P**	**03 45 05.4**	**+0.9**
	baz=177,slow=3.9						
PLCA	**Paso Flores**	**82.37**	**133**	P	**P**	**03 45 27.4**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=272,slow=3.3,SNR=3.4						
PLCA	**Paso Flores**	**82.37**	**133**	IAmb	IAmb	03 45 46.4	
	comp=Z,6.2nm,1.1s						
PETK	**Petropavlovsk-**	**86.11**	**346**	P	**P**	**03 45 44.6**	**0.0**
	comp=Z,3.6nm,0.6s,baz=115,slow=9.3,SNR=4.4						
NVAR	**Mina Array Bea**	**88.57**	**43**	P	**P**	**03 45 57.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=217,slow=8.0,SNR=7.7						
NVAR	**Mina Array Bea**	**88.57**	**43**	P	**P**	**03 45 58.5**	**+1.2**
X16A	**Lo Mia Camp, P**	**90.26**	**49**	P	**P**	**03 46 06.2**	**+0.9**
X16A				IAmb	IAmb	03 46 08.2	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**117.89**	**310**	PKP	**PKPdf**	**03 51 49.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=236,slow=1.5,SNR=16						
KK31	**Karatay Array**	**125.16**	**303**		**PKPdf**	**03 52 04.4**	**0.0**
KKAR	**Karatay Array**	**125.16**	**303**		**PKPdf**	**03 52 04.4**	**0.0**
BVAR	**Borovoye Array**	**126.56**	**316**	PKP	**PKPdf**	**03 52 06.2**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=121,slow=2.2,SNR=8.0						
ARU	**Arti**	**133.27**	**320**	PKP	**PKPdf**	**03 52 19.6**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=68,slow=8.5,SNR=3.8						
H10S2	**ASCENSION HYDR**	**137.47**	**155**	T	T	06 26 35.3	
	baz=206,slow=74,SNR=32						
H10S3	**ASCENSION HYDR**	**137.47**	**155**	T	T	06 26 43.1	
	baz=14,slow=74,SNR=40						
H10N3	**ASCENSION HYDR**	**138.56**	**155**	T	T	06 28 04.2	
	baz=203,slow=75,SNR=96						
H10N1	**ASCENSION HYDR**	**138.56**	**155**	T	T	06 27 59.4	
	baz=203,slow=75,SNR=147						
H10N2	**ASCENSION HYDR**	**138.58**	**155**	T	T	06 28 00.4	
	baz=203,slow=75,SNR=115						
ARCES	**ARCESS Array B**	**138.89**	**348**	PKhKP	PKPpre	03 52 23.6	
	comp=Z,7.0nm,1.0s,baz=50,slow=2.5,SNR=10						
KBZ	**Khabaz**	**145.19**	**303**	PKPbc	**PKPab**	**03 52 41.3**	**0.0**
	comp=Z,1.5nm,0.5s,baz=162,slow=3.2,SNR=4.2						
OBN	**Obninsk**	**145.38**	**325**	PKPbc	**PKPbc**	**03 52 40.7**	**-0.6**
	comp=Z,3.6nm,0.4s,baz=146,slow=20,SNR=3.9						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	**PKPbc**	**03 52 40.5**	**-0.8**
	comp=Z,14nm,0.5s,baz=62,slow=3.7,SNR=176						
NOA	**NORSAR Array B**	**149.06**	**351**	PKPbc	**PKPbc**	**03 52 51.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=15,slow=4.1,SNR=11						
HFS	**Hagfors**	**149.55**	**348**	PKPbc	**PKPbc**	**03 52 51.7**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=116,slow=3.4,SNR=20						
AKASG	**Malin Array Be**	**151.49**	**322**	PKPbc	**PKPbc**	**03 52 56.7**	**-1.0**
	comp=Z,5.9nm,0.6s,baz=51,slow=2.5,SNR=11						
AKASG	**Malin Array Be**	**151.49**	**322**		**PKPbc**	**03 52 57.4**	**-0.3**
AKASG					**PKiKP**	**03 53 01.3**	**+3.2**
BRTR	**Keskin Array B**	**152.65**	**298**	PKPbc	**PKPbc**	**03 52 58.5**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=133,slow=4.1,SNR=11						
EKA	**Eskdalemuir Ar**	**155.16**	**7**	PKPab	**PKPab**	**03 53 19.5**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=332,slow=3.3,SNR=5.2						
DBIC	**Dimbokro**	**155.24**	**164**	PKP	**PKPdf**	**03 52 58.5**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=138,slow=2.9,SNR=4.0						
GERES	**GERESS Array B**	**159.80**	**337**	PKPab	**PKPab**	**03 53 39.7**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=4.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**162.50**	**179**	PKP	**PKPdf**	**03 53 06.7**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=346,slow=1.3,SNR=6.2						
TORD				PKPab	**PKPab**	**03 53 52.4**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=136,slow=3.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**162.50**	**179**		**PKPab**	**03 53 54.6**	**+0.4**
DAVOX	**Davos/Dischmat**	**162.82**	**341**	PKPab	**PKPab**	**03 53 55.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=136,slow=23,SNR=2.4						

*NNC **30** 04:31:52.1±0.9, 42°.59N×73°.14E, h7km±4km, mb3.1, mpv2.9, Error ellipse: s-maj=9.7km s-min=3.5km az=11.0*
*ISCJB **30** 04:31:53.8±0.8, 42°.73N±0°.03×73°.14E±0°.03, h6km±4km, Error ellipse: s-maj=5.8km s-min=3.5km az=159.4*
*KNET **30** 04:31:53.1±0.5, 42°.77N×73°.15E, h27km±10km, ml1.9, Error ellipse: s-maj=3.1km s-min=2.2km az=135.0*
*SOME **30** 04:31:53.0, 42°.75N×73°.12E, h20km*
*KRNET **30** 04:31:54.6±0.1, 42°.68N×73°.19E, h21km, mb2.4*

ISC 30 04:31:54.2±0.8, 42°.72N±0°.03×73°.15E±0°.02, h17km±4km, n39, σ0§96/73, 25C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.06**	**61**	P	**Pg**	**04 31 57.4**	**-0.2**
	129nm,0.1s						
MRKS				S	**Sg**	**04 32 00.1**	**+0.2**
	669nm,0.1s						
MRKS	**Merke**	**0.06**	**61**	⇑*iP*	**Pg**	**04 31 57.4**	**-0.2**
MRKS				⇑*iS*	**Sg**	**04 32 00.1**	**+0.2**
	baz=19						
MRKS	**Merke**	**0.06**	**61**	⇑*iP*	**Pg**	**04 31 57.4**	**-0.2**
MRKS	95nm,0.1s						
				⇑*iS*	**Sg**	**04 32 00.1**	**+0.2**
MRKS	669nm,0.1s						
EKS2	**Erkin-Say**	**0.46**	**96**	⇓*iP*	**Pg**	**04 32 03.3**	**-0.4**
	baz=92						
EKS2				⇓*iS*	**Sg**	**04 32 10.0**	**0.0**
	baz=92						
EKS2	**Erkin-Say**	**0.46**	**96**	⇓P	**Pg**	**04 32 03.5**	**-0.1**
	7.4nm,0.1s,SNR=39						
EKS2				⇓S	**Sb**	**04 32 11.3**	**+0.6**
	100nm,0.2s						
AML	**Almayashu**	**0.71**	**145**	⇑*iP*	**Pg**	**04 32 07.5**	**-0.7**
	baz=46						
AML				⇑*iS*	**Sg**	**04 32 16.7**	**-1.0**
	baz=46						
AML	**Almayashu**	**0.71**	**145**	⇓P	**Pg**	**04 32 07.8**	**-0.4**
	6.3nm,0.1s,SNR=10						
AML				⇑S	**Sb**	**04 32 18.6**	**+0.7**
	18nm,0.2s						
AAK	**Ala-Archa**	**0.99**	**94**	P	**Pb**	**04 32 11.3**	**-1.8**
	1.4nm,0.4s						
AAK				S	**Sb**	**04 32 25.3**	**-0.6**
	2.7nm,0.3s						
AAK	**Ala-Archa**	**0.99**	**94**	⇑*iP*	**Pb**	**04 32 12.1**	**-1.0**
	baz=92						
AAK				⇑*iS*	**Sb**	**04 32 26.1**	**+0.2**
	baz=92						
AAK	**Ala-Archa**	**0.99**	**94**	⇑P	**Pb**	**04 32 12.7**	**-0.3**
	3.4nm,0.1s,SNR=11						
AAK				⇑S	**Sb**	**04 32 26.7**	**+0.8**
	15nm,0.3s						
UCH	**Uchtor**	**1.12**	**115**	⇑*eP*	**Pb**	**04 32 14.1**	**-1.3**
	baz=14						
UCH				⇑*iS*	**Sb**	**04 32 29.6**	**-0.2**
	baz=14						
UCH	**Uchtor**	**1.12**	**115**	⇑P	**Pb**	**04 32 15.2**	**-0.1**
	1.7nm,0.1s,SNR=12						
UCH				⇑S	**Sg**	**04 32 31.7**	**+1.1**
	15nm,0.2s						
USP	**Ospenovka**	**1.13**	**60**	⇓P	**Pn**	**04 32 13.8**	**-1.5**
	1.5nm,0.1s,SNR=15						
USP				⇓S	**Sb**	**04 32 29.3**	**-0.5**
	9.7nm,0.1s						
CHMS	**Chumysh**	**1.21**	**76**	⇑*iP*	**Pn**	**04 32 15.5**	**-0.9**
	baz=74						
CHMS				⇑*iS*	**Sb**	**04 32 32.0**	**0.0**
	baz=74						
CHMS	**Chumysh**	**1.21**	**76**	⇓P	**Pn**	**04 32 14.9**	**-1.5**
	2.2nm,0.1s						
CHMS				⇓S	**Sb**	**04 32 32.3**	**+0.3**
	10nm,0.1s						
ARLS	**Aral**	**1.22**	**134**	⇓*iP*	**Pn**	**04 32 15.5**	**-1.1**
	baz=33						
ARLS				⇓*iS*	**Sb**	**04 32 32.0**	**-0.4**
	baz=33						
ARK	**Arkit**	**1.27**	**224**	⇑*iP*	**Pn**	**04 32 17.6**	**+0.3**
	baz=25						
ARK				⇑*iS*	**Sn**	**04 32 34.9**	**+0.9**
	baz=25						
SGDS	**Sogindy**	**1.31**	**55**	P	**Pn**	**04 32 16.8**	**-1.0**
	4.5nm,0.1s						
SGDS				S	**Sn**	**04 32 34.1**	**-0.8**
	28nm,0.2s						
KBK	**Karagaybulak**	**1.33**	**92**	⇑*iP*	**Pn**	**04 32 17.7**	**-0.4**
	baz=90						
KBK				⇑*iS*	**Sn**	**04 32 35.3**	**-0.1**
	baz=90						
KBK	**Karagaybulak**	**1.33**	**92**	⇓P	**Pn**	**04 32 18.3**	**+0.2**
	3.1nm,0.1s,SNR=5.8						
KBK				⇑S	**Sb**	**04 32 36.6**	**+1.1**
	18nm,0.1s						
ARSB	**Arslanbob**	**1.40**	**185**	⇓*iP*	**Pn**	**04 32 19.8**	**+0.8**
	baz=87						
ARSB				⇓*iS*	**Sb**	**04 32 38.3**	**+0.8**
	baz=87						
TKM2	**Tokmak 2**	**1.81**	**83**	⇑Pn	**Pn**	**04 32 25.3**	**+0.5**
	1.5nm,0.7s						
TKM2				⇓Sn	**Sb**	**04 32 50.2**	**+0.7**
	1.6nm,0.3s						
TKM2	**Tokmak 2**	**1.81**	**83**	⇑*iP*	**Pb**	**04 32 26.5**	**-0.5**
	baz=81						
TKM2				⇑*iS*	**Sg**	**04 32 51.6**	**-1.0**
	baz=81						
KK31	**Karatay Array**	**1.98**	**282**	⇑Pn	**Pn**	**04 32 25.7**	**-1.3**
	0.5nm,0.4s,baz=100,slow=16,SNR=14						
KK31				⇓Sn	**Sn**	**04 32 52.5**	**+1.1**
	3.0nm,0.3s,baz=101,slow=28,SNR=15						
DGS	**Degeres**	**1.99**	**74**	Pg	**Pb**	**04 32 29.8**	**-0.3**
	2.9nm,0.2s						
DGS				Lg	Lg	04 32 56.0	
	10.0nm,0.2s						
DGS	**Degeres**	**1.99**	**74**	*eP*	**Pb**	**04 32 29.8**	**-0.3**
	baz=72						
DGS				*eS*	**Sb**	**04 32 56.0**	**+1.3**
	baz=72						
DGS	**Degeres**	**1.99**	**74**	*eP*	**Pb**	**04 32 29.8**	**-0.3**
	0.9nm,0.1s						
DGS				*eS*	**Sb**	**04 32 56.0**	**+1.3**
	10.0nm,0.2s						
BOOM	**Boomskoye usch**	**2.07**	**95**	⇓*iP*	**Pn**	**04 32 29.9**	**+1.6**
	baz=94						
BOOM				⇓*iS*	**Sb**	**04 32 56.6**	**-0.3**
	baz=94						
KST	**Kastek**	**2.09**	**80**	Pg	**Pb**	**04 32 31.4**	**-0.3**
	2.8nm,0.3s						
KST				Lg	Lg	04 32 59.4	
	7.3nm,0.3s						
KST	**Kastek**	**2.09**	**80**	⇓*iP*	**Pb**	**04 32 31.4**	**-0.3**
	baz=79						
KST				⇓*eS*	**Sb**	**04 32 59.2**	**+1.7**
	baz=79						
KST	**Kastek**	**2.09**	**80**	⇓*iP*	**Pb**	**04 32 31.4**	**-0.3**
	2.0nm,0.1s						
KST				*eS*	**Sb**	**04 32 59.2**	**+1.7**
	6.9nm,0.2s						
IUG	**Iuzhnay**	**2.38**	**257**	*eP*	**Pb**	**04 32 36.0**	**-0.7**
	baz=58						
IUG				*eS*	**Sb**	**04 33 06.4**	**+0.7**
	baz=58						
IUG	**Iuzhnay**	**2.38**	**257**	*eP*	**Pb**	**04 32 36.0**	**-0.7**
	4.3nm,0.3s						
IUG				*eS*	**Sb**	**04 33 06.4**	**+0.7**
	14nm,0.4s						
IZV	**Izvestkoviy**	**2.56**	**82**	Pg	**Pb**	**04 32 40.1**	**+0.3**
	2.1nm,0.3s						
IZV				Lg	Lg	04 33 13.7	
	7.7nm,0.3s						
IZV	**Izvestkoviy**	**2.56**	**82**	*eP*	**Pb**	**04 32 40.1**	**+0.3**
	1.0nm,0.1s						
IZV				*eS*	**Sb**	**04 33 13.7**	**+2.6**
	8.1nm,0.2s						
KTBS	**Karatobe**	**2.77**	**68**	*eP*	**Pb**	**04 32 43.2**	**0.0**
	1.0nm,0.2s						
KTBS				*eS*	**Sb**	**04 33 18.8**	**+2.0**
	13nm,0.3s						
TNSS	**Tian-Shan**	**2.81**	**82**	Pg	**Pb**	**04 32 44.6**	**+0.5**
	1.5nm,0.2s						
TNSS				Lg	Lg	04 33 21.4	
	3.7nm,0.2s						
TNSS	**Tian-Shan**	**2.81**	**82**	*eP*	**Pb**	**04 32 44.6**	**+0.5**
	1.0nm,0.1s						
TNSS				*eS*	**Sb**	**04 33 21.4**	**+3.0**
	3.7nm,0.2s						
MDOK	**Medeo**	**2.90**	**80**	Pg	**Pb**	**04 32 46.1**	**+0.6**
	2.0nm,0.2s						
MDOK				Lg	Lg	04 33 24.5	
	3.4nm,0.3s						

IDC 30 04:36:19.7±2.9, 7°.47S×119°.50E, h285km±28km, mb3.0/2, mb1 3.1/6, mb1mx2.9/37, mbtmp3.7/6, Error ellipse: s-maj=95.1km s-min=14.1km az=57.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.46**	**6**	P	Pn	04 37 08.3	-0.9
	2.7nm,0.3s,baz=159,slow=9.0,SNR=7.8						
BATI	**Baumata**	**4.93**	**124**	P	Pn	04 37 37.5	+1.6
	6.5nm,0.3s,baz=278,slow=7.1,SNR=5.4						
BATI				S	S	04 38 37.4	+0.4
	4.0nm,0.3s,baz=142,slow=19,SNR=4.2						
FITZ	**Fitzroy Crossi**	**12.14**	**151**	P	P	04 39 06.2	+0.2
	0.2nm,0.3s,baz=342,slow=13,SNR=5.9						
FITZ				S	S	04 41 17.5	-1.9
	0.1nm,0.3s,baz=112,slow=16,SNR=3.8						
WRA	**Warramunga Arr**	**18.99**	**132**	P	P	04 40 20.5	-0.5
	0.1nm,0.3s,baz=303,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**21.22**	**141**	P	P	04 40 43.7	-0.2
	0.8nm,0.3s,baz=314,slow=9.0,SNR=19						
MKAR	**Makanchi Array**	**63.34**	**332**	P	P	04 46 19.0	+0.2
	0.4nm,0.4s,baz=156,slow=6.3,SNR=5.3						

KRSC 30 05:27:24.4±1.7, 49°.35N×156°.70E, h40km±21km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.39**	**345**	*eP*	Pn	05 27 47.9	+0.7
SKR				*eS*	Sn	05 28 05.6	+1.3
PAU	**Pauzhetka**	**2.12**	**2**	*eP*	Pn	05 27 59.6	+2.3
PAU				*eS*	Sn	05 28 26.1	+3.7
ASAK	**Asacha**	**3.13**	**14**	*eP*	Pn

ASAJ S **Sn** **05 42 38.2 +2.8**
0.6nm,0.3s,baz=114,slow=20,SNR=2.7
ASAJ LR LR 05 43 56.7
comp=Z,63nm,19.1s,baz=75,slow=39
JKA Kamikawa-asahi 5.83 5 Pn Pn 05 41 33.8 +3.8
USA0B Ussuriysk Arra 9.52 311 Pn **Pn 05 42 21.5 +1.0**
USRK Ussuriysk Ar. 9.52 311 P Pn 05 42 21.7 +1.2
baz=120,slow=14,SNR=9.9
USRK LR LR 05 45 39.0
comp=Z,68nm,21.4s,baz=180,slow=35
USRK Ussuriysk Ar. 9.52 311 Pn 05 42 21.1 +0.6
JNU Nakatsue 10.36 243 LR LR 05 46 43.2
comp=Z,114nm,18.9s,baz=36,slow=38
KSRS Korea Array 11.10 270 P Pn 05 42 44.1 +1.9
0.4nm,0.3s,baz=82,slow=14,SNR=3.0
KSRS LR LR 05 46 38.1
comp=Z,56nm,18.0s,baz=68,slow=35
KS19 Wonju Array Si 11.14 270 Pn **Pn 05 42 42.6 -0.1**
PETK Petropavlovsk- 18.39 31 LR LR 05 51 26.9
comp=Z,25nm,20.3s,baz=240,slow=37
SONM Songino Array 27.44 302 P P 05 45 48.1 +0.3
0.6nm,0.5s,baz=112,slow=8.3,SNR=4.5
H11N2 WAKE ISLAND Hy 28.48 123 T T 06 16 07.0
baz=316,slow=76,SNR=1552
H11N1 WAKE ISLAND Hy 28.49 124 T T 06 16 08.7
baz=316,slow=76,SNR=1837
H11N3 WAKE ISLAND Hy 28.50 123 T T 06 16 09.4
baz=316,slow=76,SNR=2063
H11S1 WAKE ISLAND Hy 29.24 125 T T 06 17 08.0
baz=318,slow=76,SNR=405
H11S3 WAKE ISLAND Hy 29.24 126 T T 06 17 08.1
baz=318,slow=76,SNR=544
H11S2 WAKE ISLAND Hy 29.25 126 T T 06 17 08.8
baz=318,slow=76,SNR=415
ZAA0 Zalesovo Array 41.37 311 P **P 05 47 47.4 -0.1**
ZAA0 IAmb IAmb 05 47 49.0
comp=Z,2.1nm,0.7s
ZALV Zalesovo Beam 41.37 311 P **P 05 47 47.4 -0.2**
comp=Z,1.8nm,0.4s,baz=79,slow=7.5,SNR=9.5
ZALV LR LR 06 03 53.4
comp=Z,26nm,19.6s,baz=52,slow=34
CMAR Chiang Mai Arr 42.22 254 LR LR 06 05 07.1
comp=Z,15nm,18.1s,baz=180,slow=36
MK31 Makanchi Array 43.80 301 P **P 05 48 06.8 -0.7**
MK31 IAmb IAmb 05 48 08.5
comp=Z,3.1nm,0.9s
MKAR Makanchi Array 43.80 301 P **P 05 48 07.2 -0.2**
comp=Z,2.0nm,0.7s,baz=86,slow=9.8,SNR=14
MKAR Makanchi Array 43.80 301 P **P 05 48 06.9 -0.6**
MAKZ Makanchi 44.01 301 P 05 48 09.1 0.0
KURK Kurchatov 45.48 307 P **P 05 48 20.5 -0.2**
ILAR Eielson Array 48.21 33 P P 05 48 41.8 -0.1
comp=Z,0.4nm,0.7s,baz=272,slow=6.2,SNR=7.1
ILAR Eielson Array 48.21 33 P P 05 48 43.5 +1.7
ABKAR Akbulak array 57.44 310 P **P 05 49 49.5 -0.7**
WB0 Warramunga Arr 58.20 188 P 05 49 55.3 -0.4
WB0 IAmb IAmb 05 50 13.8
comp=Z,2.7nm,0.8s
WB2 Warramunga Arr 58.37 188 P 05 49 56.5 -0.5
WB2 IAmb IAmb 05 50 15.4
comp=Z,2.4nm,0.8s
WRA Warramunga Arr 58.38 188 P **P 05 49 55.8 -1.1**
comp=Z,2.0nm,0.5s,baz=4.0,slow=7.1,SNR=12
ASAR Alice Springs 62.10 188 P **P 05 50 22.4 +0.1**
comp=Z,0.7nm,0.5s,baz=357,slow=3.6,SNR=14
ASAR Alice Springs 62.10 188 P P 05 50 22.1 -0.3
ARCES ARCESS Array B 62.95 339 P P 05 50 27.4 -0.1
comp=Z,7.2nm,1.1s,baz=38,slow=6.1,SNR=4.4
ARCES ARCESS Array B 62.95 339 P **P 05 50 27.8 +0.3**
FINES FINESS Array B 67.88 332 P **P 05 50 58.8 -0.7**
comp=Z,2.9nm,0.9s,baz=48,slow=9.0,SNR=6.5
FINES FINESS Array B 67.88 332 P **P 05 50 59.1 -0.4**
NC405 NORSAR Array S 72.96 337 P **P 05 51 30.9 +0.4**
NB2 NORSAR Subarra 73.17 337 P P 05 51 31.6 -0.2
comp=Z,0.9nm,0.7s,baz=36,slow=6.2
NOA NORSAR Array B 73.17 337 P **P 05 51 31.1 -0.7**
comp=Z,1.3nm,0.7s,baz=38,slow=6.0,SNR=4.7
AKASG Malin Array Be 73.54 322 P P 05 51 33.1 -1.0
comp=Z,0.6nm,0.4s,baz=41,slow=5.9,SNR=4.9
PDAR Pinedale Array 76.49 46 P **P 05 51 52.7 +1.1**
comp=Z,0.2nm,0.5s,baz=45,slow=0.3,SNR=2.3
PDAR Pinedale Array 76.49 46 P P 05 51 52.5 +0.9
MLR Muntele Rosu 78.68 320 LR LR 06 29 15.7
comp=Z,38nm,18.4s,baz=113,slow=38
GERES GERESS Array B 81.84 328 P P 05 52 19.8 -0.7
comp=Z,0.4nm,0.5s,baz=37,slow=6.7,SNR=5.7
ECSD EROS Data Cent 82.67 39 P P 05 52 23.4 -1.4
ECSD IAmb IAmb 05 52 23.9
comp=Z,4.7nm,0.8s
TXAR Lajitas Array 89.03 53 P P 05 52 56.9 +0.3
comp=Z,0.1nm,0.7s,baz=306,slow=3.1,SNR=2.8
PMSA Palmer Station 149.41 158 PKPbc **PKPbc 05 59 49.0 -0.2**

IDC 30 05:49:22.6±1.9, 28°.71S×139°.13E, h0km, mb1 4.1/5, mb1mx3.8/27, mbtmp3.9/5, ML3.8/5, Error ellipse: s-maj=40.9km s-min=18.0km az=55.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.81**	**147**	Pn	Pn	05 50 21.8	-0.7
	3.7nm,0.3s,baz=321,slow=13,SNR=49						
STKA				Pg	Pg	05 50 33.6	-2.0
	15nm,0.3s,baz=320,slow=16,SNR=25						
STKA				Sn	Sn	05 51 02.5	-5.6
	20nm,0.3s,baz=280,slow=17,SNR=4.9						
STKA				Lg	Lg	05 51 18.4	
	68nm,0.3s,baz=56,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**6.87**	**316**	Pn	Pn	05 51 06.6	+1.9
	1.2nm,0.3s,baz=138,slow=13,SNR=29						
ASAR				Sn	Sn	05 52 24.0	+0.3
	2.2nm,0.3s,baz=140,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**9.76**	**332**	Pn	Pn	05 51 44.1	-0.1
	0.8nm,0.3s,baz=151,slow=12,SNR=11						
WRA				Sn	Sn	05 53 29.0	-5.7
	1.1nm,0.3s,baz=158,slow=24,SNR=4.8						
WRA				Lg	Lg	05 54 34.2	
	1.1nm,0.3s,baz=159,slow=30,SNR=4.9						
CTA	**Charters Tower**	**10.76**	**39**	Pn	Pn	05 51 55.8	-2.2
	1.4nm,0.3s,baz=212,slow=13,SNR=15						
FITZ	**Fitzroy Crossi**	**16.26**	**308**	Pn	Pn	05 53 11.4	-1.0
	0.3nm,0.3s,baz=130,slow=8.9,SNR=7.9						
FITZ				Sn	Sn	05 56 09.0	-4.5
	0.4nm,0.3s,baz=324,slow=19,SNR=3.5						

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*IDC **30** 06:05:41.1±1.2, 6°.80S×154°.89E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/30, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=26.5km s-min=22.4km az=72.0*
*ISCJB **30** 06:05:46.7±1.0, 6°.58S±0°.09×154°.7E±0°.1, h41km, mb3.6/5, MS3.7/1, Error ellipse: s-maj=18.4km s-min=12.1km az=154.1*
ISC 30 06:05:47.9±1.1, 6°.7S±0°.1×154°.7E±0°.2, h41km, n9, σ0°66/9, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.56**	**311**	Pn	**Pn**	**06 06 40.8**	**+0.1**
	4.6nm,0.3s,baz=207,slow=2.3,SNR=6.5						
KRVT				Pg		06 06 49.8	
	15nm,0.3s,baz=71,slow=4.3,SNR=7.0						
KRVT				Sn	**Sn**	**06 07 21.6**	**-0.1**
	19nm,0.3s,baz=252,slow=19,SNR=4.0						
KRVT				Lg	Lg	06 07 40.9	
	37nm,0.3s,baz=277,slow=14,SNR=5.0						
CTA	**Charters Tower**	**15.64**	**211**	Pn	**P**	**06 09 29.8**	**+0.6**
	0.1nm,0.3s,baz=34,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**23.76**	**234**	P	**P**	**06 10 56.8**	**+0.1**
	1.5nm,0.7s,baz=58,slow=10.0,SNR=6.9						
ASAR	**Alice Springs**	**26.16**	**228**	P	**P**	**06 11 18.3**	**-0.3**
	0.4nm,0.8s,baz=57,slow=8.2,SNR=5.0						
PPT2	**Papeete2**	**55.36**	**107**	eLR	LR	06 14 52.7	
	comp=Z,90nm,27.8s						
PETK	**Petropavlovsk-**	**59.62**	**2**	P	**P**	**06 15 47.9**	**+0.3**
	2.2nm,0.7s,baz=167,slow=6.8,SNR=3.2						
MKAR	**Makanchi Array**	**82.98**	**319**	P	**P**	**06 18 08.9**	**+0.1**
	0.6nm,0.8s,baz=100,slow=6.8,SNR=5.3						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**06 18 09.7**	**+0.2**
	0.3nm,0.9s,baz=248,slow=4.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.67**	**286**	PKPbc	**PKPbc**	**06 25 39.8**	**-1.4**
	1.1nm,0.8s,baz=61,slow=2.6,SNR=5.2						

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*SJA **30** 06:10:21.8±0.5, 23°.30S×66°.77W, h231km±5km, ML4.1, MW3.9*
*BJI **30** 06:10:21.5±0.0, 23°.40S×66°.70W, h200km, mB4.8/1*
*IDC **30** 06:10:22.5±0.8, 23°.26S×66°.64W, h200km±7km, mb3.8/11, mb1 4.0/17, mb1mx3.9/31, mbtmp4.4/17, Error ellipse: s-maj=12.7km s-min=10.4km az=49.0*
*ISCJB **30** 06:10:22.1±0.2, 23°.32S±0°.02×66°.75W±0°.02, h215km±2km, mb4.0/13, Error ellipse: s-maj=4.1km s-min=3.2km az=137.1*
*NEIC **30** 06:10:22.1±2.4, 23°.36S±0°.06×66°.66W±0°.02, h197km±6km, mb4.4/90, ML4.8(GUC)*
*VAO **30** 06:10:24.3±0.4, 23°.27S×66°.64W, h214km±4km, mb4.5*
*GUC **30** 06:10:24.9±0.6, 23°.37S×67°.20W, h226km±9km, ML4.8*
ISC 30 06:10:23.1±0.6, 23°.36S±0°.04×66°.76W±0°.04, h210km±6km, n250, σ1°23/259, mb4.3/46, 7C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.25**	**83**	*i* P	**Pn**	**06 10 57.5**	**+1.3**
HJA				IAML		06 11 31.7	
	comp=Z,214nm,0.9s						
YJA	**Yavi**	**1.65**	**45**	*i* P	**Pn**	**06 11 00.5**	**+0.9**
YJA				*e*S	**S**	**06 11 29.4**	**+1.8**
YJA				IAML		06 11 35.3	
	comp=Z,220nm,0.8s						
LVC	**Limon Verde**	**2.12**	**290**	*e*P	**Pn**	**06 11 04.8**	**+0.8**
LVC				*e*S	**S**	**06 11 34.9**	**-0.4**
LVC	**Limon Verde**	**2.12**	**290**	P	**Pn**	**06 11 04.7**	**+0.8**
	comp=Z,252nm,0.3s,baz=112,slow=6.7,SNR=1915						
LVC				S	**S**	**06 11 35.0**	**-0.3**
	comp=Z,100nm,0.3s,baz=273,slow=22,SNR=41						
LVC	**Limon Verde**	**2.12**	**290**	*i* P	**Pn**	**06 11 04.4**	**+0.4**
LVC				*e*S	**S**	**06 11 35.9**	**+0.6**
LVC				IAML		06 11 38.9	
	comp=Z,276nm,0.6s						
LVC	**Limon Verde**	**2.12**	**290**	*e*P	**Pn**	**06 11 05.1**	**+1.1**
LVC	**Limon Verde**	**2.12**	**290**	*e*P	**Pn**	**06 11 05.1**	**+1.1**
LVC	**Limon Verde**	**2.12**	**290**		**Pn**	**06 11 04.8**	**+0.8**
LVC				Sn	**S**	**06 11 35.4**	**+0.1**
PB15	**IPOC Station P**	**2.49**	**273**	⇑*i*P	**Pn**	**06 11 08.6**	**+0.8**
PB15				*e*S	**S**	**06 11 41.4**	**-0.8**
PB15	**IPOC Station P**	**2.49**	**273**	*i* P	**Pn**	**06 11 08.2**	**+0.4**
PB15				*e*S	**S**	**06 11 42.5**	**+0.3**
PB15				IAML		06 11 44.6	
	comp=Z,6μm,0.1s						
PB06	**IPOC Station P**	**2.67**	**284**	⇑*i*P	**Pn**	**06 11 10.3**	**+0.7**
PB06				*e*S	**S**	**06 11 44.8**	**-0.8**
PB06				IAML		06 11 45.6	
	comp=N,3μm,0.4s						
PB06	**IPOC Station P**	**2.67**	**284**	*i* P	**Pn**	**06 11 10.1**	**+0.4**
PB06				*e*S	**S**	**06 11 45.4**	**-0.2**
PB06				IAML		06 11 46.1	
	comp=Z,2μm,0.6s						
PB09	**IPOC Station P**	**2.77**	**304**	⇑*i*P	**Pn**	**06 11 11.7**	**+0.8**
PB09				*e*S	**S**	**06 11 47.5**	**-0.1**
PB09				IAML		06 11 49.4	
	comp=N,752nm,0.4s						
FSA	**Cafayete**	**2.83**	**166**	⇓*i*P	**Pn**	**06 11 12.8**	**+1.4**
GO02	**Mina Guanaco**	**3.14**	**235**	⇑*i*P	**Pn**	**06 11 16.1**	**+0.8**
GO02				*e*S	**S**	**06 11 55.5**	**-0.1**
GO02				IAML		06 11 57.7	
	comp=N,2μm,0.2s						
GO02	**Mina Guanaco**	**3.14**	**235**		**Pn**	**06 11 16.0**	**+0.8**
GO02				Sn	**S**	**06 11 56.1**	**+0.5**
PB05	**IPOC Station P**	**3.21**	**278**	⇑*i*P	**Pn**	**06 11 15.9**	**+0.1**
PB05				*e*S	**S**	**06 11 54.5**	**-2.1**
PB05				IAML		06 11 57.4	
	comp=N,853nm,0.3s						
PB05	**IPOC Station P**	**3.21**	**278**	*i* P	**Pn**	**06 11 15.7**	**-0.1**
PB05				IAML		06 12 01.2	
	comp=Z,634nm,0.4s						
PB04	**IPOC Station P**	**3.29**	**287**	⇑*i*P	**Pn**	**06 11 16.9**	**0.0**
PB04				*e*S	**S**	**06 11 56.6**	**-1.8**
PB04				IAML		06 12 03.8	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**3.29**	**287**	*i* P	**Pn**	**06 11 16.9**	**0.0**
PB04	**IPOC Station P**	**3.29**	**287**		**Pn**	**06 11 16.8**	**0.0**
PB04				Sn	**S**	**06 11 56.5**	**-1.8**
PB01	**IPOC Station P**	**3.42**	**312**	*e*P	**Pn**	**06 11 18.5**	**+0.1**
PB01				*e*S	**S**	**06 12 00.0**	**-1.2**
PB01	**IPOC Station P**	**3.42**	**312**		**Pn**	**06 11 18.4**	**0.0**
PB01				Sn	**S**	**06 12 00.1**	**-1.2**
PB10	**IPOC Station P**	**3.48**	**267**	*i* P	**Pn**	**06 11 19.3**	**+0.3**
PB10				*e*S	**S**	**06 11 59.9**	**-2.5**
PB10	**IPOC Station P**	**3.48**	**267**	⇑*i*P	**Pn**	**06 11 19.3**	**+0.3**
PB10				IAML		06 12 04.3	
	comp=Z,442nm,0.4s						
PB10	**IPOC Station P**	**3.48**	**267**		**Pn**	**06 11 19.3**	**+0.3**
PB10				Sn	**S**	**06 12 01.3**	**-1.1**
PB14	**IPOC Station P**	**3.56**	**249**	⇑*i*P	**Pn**	**06 11 20.4**	**+0.2**
PB14				*e*S	**S**	**06 12 03.0**	**-1.5**
PB14	**IPOC Station P**	**3.56**	**249**	*i* P	**Pn**	**06 11 20.3**	**+0.1**
PB14				IAML		06 12 08.5	
	comp=Z,667nm,0.9s						
AHML	**Horco Molle**	**3.65**	**159**	⇓*i*P	**Pn**	**06 11 21.7**	**+0.7**
AHML				IAML		06 12 08.6	
	comp=Z,25nm,0.7s						
GO01	**Chusmiza**	**4.32**	**328**		**Pn**	**06 11 29.7**	**0.0**
GO01				Sn	**S**	**06 12 20.4**	**-1.3**
PB11	**IPOC Station P**	**4.48**	**323**		**Pn**	**06 11 30.1**	**-1.4**
PB11				Sn	**S**	**06 12 21.6**	**-3.3**
MNMC	**Minye Minye**	**4.97**	**327**		**Pn**	**06 11 36.9**	**-0.8**
MNMC				Sn	**S**	**06 12 33.9**	**-2.3**
CYA	**Choya**	**5.13**	**170**	*i* P	**Pn**	**06 11 40.1**	**+0.6**
CYA				IAML		06 12 41.4	
	comp=Z,12nm,2.7s						
GO03	**Copiap**	**5.25**	**216**	*i* P	**Pn**	**06 11 39.9**	**-1.2**
GO03	**Copiap**	**5.25**	**216**		**Pn**	**06 11 39.8**	**-1.2**
GO03				Sn	**S**	**06 12 39.1**	**-3.3**
VCA	**Vinchina**	**5.51**	**193**	*i* P	**Pn**	**06 11 45.3**	**+1.0**
VCA				IAML		06 13 00.7	
	comp=Z,33nm,1.1s						
ACLC	**CERRO LA CRUZ**	**6.04**	**182**	*i* P	**Pn**	**06 11 51.4**	**+0.2**
ACLC				IAML		06 13 01.2	
	comp=Z,46nm,0.4s						
APLL	**PUNTA DE LOS L**	**7.01**	**178**	*i* P	**Pn**	**06 12 03.3**	**-0.2**
APLL				IAML		06 13 23.1	
	comp=Z,10.0nm,0.3s						
LPAZ	**La Paz**	**7.15**	**349**	P	**Pn**	**06 12 06.3**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=156,slow=5.7,SNR=86						
LPAZ				S	**S**	**06 13 24.3**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=283,slow=18,SNR=3.3						
LPAZ	**La Paz**	**7.15**	**349**	*e*P	**Pn**	**06 12 06.3**	**+0.2**
LPAZ	**La Paz**	**7.15**	**349**	*e*P	**Pn**	**06 12 06.3**	**+0.2**
LPAZ	**La Paz**	**7.15**	**349**		**Pn**	**06 12 06.2**	**+0.1**
ACCO	**Cerro Coronel**	**7.48**	**195**	*i* P	**Pn**	**06 12 10.6**	**+0.6**
ACCO				IAML		06 13 36.9	
	comp=Z,26nm,0.9s						
GO04	**Tololo Observa**	**7.68**	**207**		**Pn**	**06 12 10.6**	**-1.8**
AMOG	**MOGNA**	**7.70**	**191**	*i* P	**Pn**	**06 12 11.0**	**-1.6**
AMOG				IAML		06 13 37.4	
	comp=Z,46nm,0.4s						
TCA	**Tanti**	**8.17**	**167**	*i* P	**Pn**	**06 12 18.4**	**-0.2**
TCA				IAML		06 13 50.5	
	comp=Z,9.3nm,1.5s						
CFA	**Coronel Fontan**	**8.31**	**189**	P	**Pn**	**06 12 20.9**	**+0.4**
	comp=Z,57nm,0.3s,baz=245,slow=19,SNR=159						
CFA				S	**S**	**06 13 47.6**	**-6.7**
	comp=Z,9.6nm,0.3s,baz=206,slow=17,SNR=6.0						
RTLS	**Leoncito**	**8.70**	**194**	*i* P	Pn	06 12 16.0	-10
RTLS				IAML		06 14 06.2	
	comp=Z,5.9nm,0.7s						
ACAN	**Cantantal**	**8.89**	**182**	*i* P	Pn	06 12 20.2	-7.7
ACAN				IAML		06 14 28.7	
	comp=Z,57nm,1.9s						
CPUP	**Villa Florida**	**9.06**	**111**	P	**Pn**	**06 12 29.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=280,slow=11,SNR=11						
CPUP	**Villa Florida**	**9.06**	**111**	*e*P	**Pn**	**06 12 29.1**	**-1.0**
CPUP	**Villa Florida**	**9.06**	**111**	*e*P	**Pn**	**06 12 29.1**	**-1.0**
CPUP	**Villa Florida**	**9.06**	**111**		**Pn**	**06 12 28.9**	**-1.2**
MRA	**San Martin**	**9.07**	**174**	*i* P	**Pn**	**06 12 29.0**	**-1.3**
MRA				IAML		06 14 23.8	
	comp=Z,4.6nm,0.7s						
SIV	**San Ignacio**	**9.08**	**37**	P	**Pn**	**06 12 28.5**	**-2.0**
	comp=Z,7.0nm,0.3s,baz=231,slow=11,SNR=184						
SIV				S	S	06 13 57.7	-15
	comp=Z,0.4nm,0.3s,baz=233,slow=18,SNR=3.7						
ROC1	**El Roble**	**10.28**	**200**	*i* P	Pn	06 12 38.5	-7.5
ROC1	**El Roble**	**10.28**	**200**	Pn	Pn	06 12 38.1	-8.0
AQDB	**Aquidauana**	**10.66**	**76**	*e*P	**Pn**	**06 12 50.2**	**-0.6**
AQDB	**Aquidauana**	**10.66**	**76**	*e*P	**Pn**	**06 12 50.2**	**-0.6**
GO05	**Huala**	**12.45**	**200**	P	**Pn**	**06 13 14.6**	**+1.2**
PP1B	**Ponte de Pedra**	**12.52**	**65**	*e*P	**Pn**	**06 13 12.7**	**-1.8**
PP1B	**Ponte de Pedra**	**12.52**	**65**	*e*P	**Pn**	**06 13 12.7**	**-1.8**
TRCB	**Terra Rica**	**13.02**	**90**	*e*P	**Pn**	**06 13 20.1**	**-0.5**
TRCB	**Terra Rica**	**13.02**	**90**	*e*P	**Pn**	**06 13 20.1**	**-0.5**
PTGB	**Pitanga**	**13.50**	**99**	*e*P	**Pn**	**06 13 28.1**	**-0.9**
PTGB	**Pitanga**	**13.50**	**99**	*e*P	**P**	**06 13 28.1**	**-0.9**
PTGB	**Pitanga**	**13.50**	**99**	*e*P	**P**	**06 13 28.1**	**-0.9**
ITAB	**Concordia**	**13.79**	**109**	*e*P	**Pn**	**06 13 30.3**	**+0.3**
ITAB	**Concordia**	**13.79**	**109**	*e*P	**Pn**	**06 13 30.3**	**+0.3**
CPSB	**Cacapava Do Su**	**13.80**	**123**	*e*P	**Pn**	**06 13 29.8**	**-0.4**
CPSB	**Cacapava Do Su**	**13.80**	**123**	*e*P	**Pn**	**06 13 29.8**	**-0.4**
PLTB	**Pedras Altas**	**14.35**	**129**	*e*P	**Pn**	**06 13 36.3**	**-0.8**
PLTB	**Pedras Altas**	**14.35**	**129**	*e*P	**Pn**	**06 13 36.3**	**-0.8**
PCMB	**Pacaembu**	**14.44**	**86**	*e*P	**Pn**	**06 13 37.7**	**-0.4**
PCMB	**Pacaembu**	**14.44**	**86**	*e*P	**Pn**	**06 13 37.7**	**-0.4**
SAML	**Samuel**	**14.74**	**14**	*e*P	**Pn**	**06 13 41.4**	**-0.5**
SAML	**Samuel**	**14.74**	**14**	*e*P	**Pn**	**06 13 41.4**	**-0.5**
SAML	**Samuel**	**14.74**	**14**	P	**Pn**	**06 13 40.7**	**-1.2**
OGAUY	**Aigu**	**15.18**	**139**	*e*P	**P**	**06 13 49.7**	**+2.3**
OGAUY	**Aigu**	**15.18**	**139**	*e*P	**P**	**06 13 49.7**	**+2.3**
TRQA	**Tornquist**	**15.21**	**165**	P	**Pn**	**06 13 46.3**	**-1.1**
TRQA				IAmb	IAmb	06 14 01.1	
	comp=Z,24nm,1.4s						
CNLB	**Canela**	**15.44**	**116**	*e*P	**Pn**	**06 13 49.9**	**-0.5**
CNLB	**Canela**	**15.44**	**116**	*e*P	**Pn**	**06 13 49.9**	**-0.5**
ITRB	**Iturama**	**15.69**	**80**	*e*P	**Pn**	**06 13 53.5**	**+0.1**
ITRB	**Iturama**	**15.69**	**80**	*e*P	**Pn**	**06 13 53.5**	**+0.1**
FRTB	**Fartura**	**15.80**	**93**	*e*P	**Pn**	**06 13 55.1**	**+0.4**
FRTB	**Fartura**	**15.80**	**93**	*e*P	**Pn**	**06 13 55.1**	**+0.4**
ARAG	**Araguaiana, MT**	**16.01**	**64**	*e*P	**Pn**	**06 13 57.2**	**0.0**
ARAG	**Araguaiana, MT**	**16.01**	**64**	*e*P	**Pn**	**06 13 57.2**	**0.0**
CLDB	**Colider**	**16.24**	**42**	*e*P	**P**	**06 13 57.4**	**-1.8**
CLDB	**Colider**	**16.24**	**42**	*e*P	**P**	**06 13 57.4**	**-1.8**
GO06	**Curarrehue**	**16.66**	**193**	P	**P**	**06 14 04.2**	**+0.5**
GO06				IAmb	IAmb	06 14 06.5	
	comp=Z,11nm,0.8s						
BB19B	**Bebedouro**	**17.04**	**86**	*e*P	**Pn**	**06 14 08.8**	**-0.7**
BB19B	**Bebedouro**	**17.04**	**86**	*e*P	**Pn**	**06 14 08.8**	**-0.7**
PLCA	**Paso Flores**	**17.61**	**190**	P	**P**	**06 14 14.9**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=25,slow=9.5,SNR=21						
PLCA	**Paso Flores**	**17.61**	**190**	*e*P	**Pn**	**06 14 15.9**	**-0.2**
PLCA	**Paso Flores**	**17.61**	**190**	*e*P	**Pn**	**06 14 15.9**	**-0.2**
PLCA	**Paso Flores**	**17.61**	**190**	P	**P**	**06 14 14.8**	**+0.7**
PLCA				IAmb	IAmb	06 14 21.5	
	comp=Z,8.0nm,0.5s						
SPB	**Sao Paulo**	**17.74**	**95**	*e*P	**P**	**06 14 15.9**	**+0.4**
SPB	**Sao Paulo**	**17.74**	**95**	*e*P	**P**	**06 14 15.9**	**+0.4**
SPB	**Sao Paulo**	**17.74**	**95**	P	**P**	**06 14 15.9**	**+0.4**
RCLB	**Rio Claro- Sao**	**17.75**	**91**	*e*P	**P**	**06 14 15.4**	**-0.3**
RCLB	**Rio Claro- Sao**	**17.75**	**91**	*e*P	**P**	**06 14 15.4**	**-0.3**
IPMB	**Ipameri, GO**	**18.16**	**76**	*e*P	**P**	**06 14 20.4**	**+0.2**
IPMB	**Ipameri, GO**	**18.16**	**76**	*e*P	**P**	**06 14 20.4**	**+0.2**
VAO	**Valinhos**	**18.21**	**93**	*e*P	**P**	**06 14 20.4**	**-0.3**
VAO	**Valinhos**	**18.21**	**93**	*e*P	**P**	**06 14 20.4**	**-0.3**
BDFB	**Brasilia**	**19.26**	**70**	P	**P**	**06 14 31.9**	**-0.3**
	comp=Z,4.5nm,0.3s,baz=244,slow=12,SNR=83						
BDFB	**Brasilia**	**19.26**	**70**	P	**P**	**06 14 32.5**	**+0.3**
PMNB	**Patos De Minas**	**19.58**	**80**	*e*P	**P**	**06 14 35.0**	**-0.5**
PMNB	**Patos De Minas**	**19.58**	**80**	*e*P	**P**	**06 14 35.0**	**-0.5**
BSCB	**Bom Sucesso**	**20.50**	**88**	*e*P	**P**	**06 14 45.8**	**+0.4**
BSCB	**Bom Sucesso**	**20.50**	**88**	*e*P	**P**	**06 14 45.8**	**+0.4**
ESAR	**Angra dos Reis**	**20.52**	**93**	*e*P	**P**	**06 14 45.4**	**-0.1**
ESAR	**Angra dos Reis**	**20.52**	**93**	*e*P	**P**	**06 14 45.4**	**-0.1**
PEXB	**Peixe**	**20.82**	**61**	*e*P	**P**	**06 14 47.5**	**-1.3**
PEXB	**Peixe**	**20.82**	**61**	*e*P	**P**	**06 14 47.5**	**-1.3**
MAN01	**Angra dos Reis**	**20.98**	**93**	*e*P	**P**	**06 14 49.8**	**-0.6**
MAN01	**Angra dos Reis**	**20.98**	**93**	*e*P	**P**	**06 14 49.8**	**-0.6**
VAS01	**Vassouras-RJ**	**21.52**	**92**	*e*P	**P**	**06 14 55.6**	**-0.4**
VAS01	**Vassouras-RJ**	**21.52**	**92**	*e*P	**P**	**06 14 55.6**	**-0.4**
DUB01	**Friburgo-RJ**	**22.53**	**92**	*e*P	**P**	**06 15 05.3**	**-0.2**
DUB01	**Friburgo-RJ**	**22.53**	**92**	*e*P	**P**	**06 15 05.3**	**-0.2**
ALF01	**Guarapari-ES**	**24.29**	**89**	*e*P	**P**	**06 15 20.3**	**-1.1**
ALF01	**Guarapari-ES**	**24.29**	**89**	*e*P	**P**	**06 15 20.3**	**-1.1**
BSFB	**Barra de Sao F**	**24.58**	**84**	*e*P	**P**	**06 15 23.0**	**-1.1**
BSFB	**Barra de Sao F**	**24.58**	**84**	*e*P	**P**	**06 15 23.0**	**-1.1**
RIB01	**Linhares ES**	**24.88**	**86**	*e*P	**P**	**06 15 25.5**	**-1.3**
RIB01	**Linhares ES**	**24.88**	**86**	*e*P	**P**	**06 15 25.5**	**-1.3**
OTAV	**Otavalo**	**26.07**	**333**	*e*P	**P**	**06 15 40.5**	**+2.5**
OTAV	**Otavalo**	**26.07**	**333**	*e*P	**P**	**06 15 40.5**	**+2.5**
OTAV	**Otavalo**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVT	**Waverly**	**62.43**	**341**	P	**P**	**06 20 23.1**	**-0.8**
WVT				IAmb	IAmb	06 20 24.0	
	comp=Z,8.4nm,0.8s						
TXAR	**Lajitas Array**	**63.29**	**324**	P	**P**	**06 20 30.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=147,slow=6.6,SNR=11						
TXAR	**Lajitas Array**	**63.29**	**324**	P	**P**	**06 20 29.9**	**+0.1**
MSTX	**Muleshoe**	**66.52**	**328**	IAmb	IAmb	06 20 52.8	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**66.84**	**180**	P	**P**	**06 20 53.6**	**+1.3**
QSPA				IAmb	IAmb	06 20 54.6	
	comp=Z,6.9nm,0.6s						
LIC	**Lamto**	**67.03**	**72**	*e*PKP1	**P**	**06 20 55.7**	**+1.6**
	comp=Z,11nm,0.6s						
TIC	**Toumodi**	**67.24**	**72**	*e*PKP1	**P**	**06 20 56.0**	**+0.5**
KIC	**Kosan Boka**	**67.35**	**72**	*e*PKP1	**P**	**06 20 54.9**	**-1.2**
	comp=Z,2.0nm,0.5s						
DBIC	**Dimbokro**	**67.40**	**72**	P	**P**	**06 20 55.4**	**-1.0**
	comp=Z,4.5nm,0.5s,baz=216,slow=8.3,SNR=11						
DBIC	**Dimbokro**	**67.40**	**72**	P	**P**	**06 20 55.7**	**-0.7**
DBIC				IAmb	IAmb	06 21 06.8	
	comp=Z,10nm,1.1s						
121A	**Cookes Peak, D**	**68.00**	**323**	IAmb	IAmb	06 21 02.5	
	comp=Z,5.4nm,0.8s						
ANMO	**Albuquerque**	**69.14**	**326**	P	**P**	**06 21 08.4**	**+1.4**
ANMO				IAmb	IAmb	06 21 09.5	
	comp=Z,5.7nm,0.9s						
MVCO	**Mesa Verde**	**71.94**	**326**	IAmb	IAmb	06 21 26.5	
	comp=Z,5.0nm,0.8s						
PV22	**Blue Mesa, Par**	**73.10**	**327**	IAmb	IAmb	06 21 33.4	
	comp=Z,6.7nm,1.1s						
U15A	**North Rim**	**73.38**	**323**	IAmb	IAmb	06 21 39.2	
	comp=Z,8.7nm,1.4s						
O20A	**White River Ci**	**74.06**	**328**	IAmb	IAmb	06 21 39.0	
	comp=Z,8.1nm,1.0s						
RSSD	**Black Hills**	**75.34**	**333**	P	**P**	**06 21 44.4**	**+0.9**
RSSD				IAmb	IAmb	06 21 45.6	
	comp=Z,6.0nm,1.0s						
TPNV	**Topopah Spring**	**75.98**	**321**	IAmb	IAmb	06 21 50.6	
	comp=Z,10nm,1.4s						
TOA0	**Torodi Ar. Sit**	**76.14**	**69**	P	**P**	**06 21 47.1**	**-1.3**
TOA0				IAmb	IAmb	06 21 50.9	
	comp=Z,4.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.14**	**69**	P	**P**	**06 21 47.5**	**-0.9**
	comp=Z,3.7nm,0.4s,baz=258,slow=5.8,SNR=47						
TORD	**Torodi Ar. Bea**	**76.14**	**69**	P	**P**	**06 21 46.0**	**-2.4**
PDAR	**Pinedale Array**	**76.71**	**329**	P	**P**	**06 21 52.2**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=130,slow=7.1,SNR=8.5						
PDAR	**Pinedale Array**	**76.71**	**329**	P	**P**	**06 21 51.5**	**+0.1**
AHID	**Auburn Hatcher**	**77.45**	**328**	IAmb	IAmb	06 21 57.3	
	comp=Z,6.1nm,0.7s						
TSUM	**Tsumeb**	**77.62**	**106**	P	**P**	**06 21 56.8**	**0.0**
	comp=Z,1.6nm,0.5s,baz=229,slow=3.9						
ULM	**Lac du Bonnet**	**77.69**	**341**	P	**P**	**06 21 55.4**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=158,slow=5.4,SNR=3.1						
ULM	**Lac du Bonnet**	**77.69**	**341**	P	**P**	**06 21 54.1**	**-2.1**
SNOW	**Snow King Moun**	**77.81**	**329**	IAmb	IAmb	06 22 01.5	
	comp=Z,9.3nm,1.4s						
SCHQ	**Schefferville**	**77.87**	**360**	P	**P**	**06 21 57.1**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=225,slow=3.4,SNR=4.3						
TPAW	**Teton Pass**	**77.92**	**329**	IAmb	IAmb	06 22 02.3	
	comp=Z,6.7nm,1.2s						
OMMB	**Old Mammoth Mi**	**78.04**	**320**	P	**P**	**06 22 00.5**	**+1.6**
OMMB				IAmb	IAmb	06 22 01.5	
	comp=Z,9.0nm,1.3s						
NVAR	**Mina Array Bea**	**78.18**	**321**	P	**P**	**06 22 00.7**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=209,slow=31,SNR=6.8						
NVAR	**Mina Array Bea**	**78.18**	**321**	P	**P**	**06 22 00.6**	**+1.0**
KVN	**Kaiserville**	**78.48**	**322**	IAmb	IAmb	06 22 03.5	
	comp=Z,6.9nm,1.2s						
PAHR	**Pah Rah Range**	**79.66**	**321**	IAmb	IAmb	06 22 10.5	
	comp=Z,6.4nm,1.0s						
BOSA	**Boshof**	**80.83**	**117**	P	**P**	**06 22 14.0**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=243,slow=1.7,SNR=5.1						
BOSA	**Boshof**	**80.83**	**117**	P	**P**	**06 22 12.0**	**-2.1**
BOSA				IAmb	IAmb	06 22 16.0	
	comp=Z,9.8nm,1.2s						
PLID	**Pearl Lake**	**81.56**	**327**	IAmb	IAmb	06 22 19.8	
	comp=Z,7.9nm,0.8s						
BMO	**Blue Mountains**	**82.05**	**326**	P	**P**	**06 22 21.9**	**+1.9**
F10A	**Beach Ranch, E**	**82.80**	**327**	IAmb	IAmb	06 22 27.0	
	comp=Z,1.5nm,1.5s						
HUMO	**Hull Mountain**	**83.60**	**322**	P	**P**	**06 22 28.4**	**+0.5**
C09A	**Chrisman Ranch**	**84.58**	**328**	P	**P**	**06 22 34.2**	**+1.5**
C09A				IAmb	IAmb	06 22 34.6	
	comp=Z,8.4nm,0.7s						
YKA	**Yellowknife Ar**	**93.60**	**340**	P	**P**	**06 23 15.2**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=132,slow=4.5,SNR=13						
YKA	**Yellowknife Ar**	**93.60**	**340**	P	**P**	**06 23 14.6**	**-0.2**
ASAR	**Alice Springs**	**129.12**	**205**	PKP	**PKPdf**	**06 29 07.3**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=138,slow=1.7,SNR=9.2						
ASAR	**Alice Springs**	**129.12**	**205**	PKPdf	**PKPdf**	**06 29 07.2**	**+0.3**
AS31	**Alice Springs**	**129.12**	**205**	PKPdf	**PKiKP**	**06 29 07.7**	**+0.1**
ABKAR	**Akbulak array**	**131.13**	**44**	PKPdf	**PKiKP**	**06 29 11.6**	**+0.9**
WB2	**Warramunga Arr**	**132.28**	**207**	PKPdf	**PKiKP**	**06 29 13.7**	**-0.4**
WRA	**Warramunga Arr**	**132.29**	**207**	PKP	**PKiKP**	**06 29 13.7**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=160,slow=1.7,SNR=6.9						
WRA	**Warramunga Arr**	**132.29**	**207**	PKPdf	**PKiKP**	**06 29 14.5**	**+0.4**
KSH	**Kashi**	**144.65**	**54**	PKP	**PKPab**	**06 29 31.3**	**-3.0**
KSH				PP	**PP**	**06 32 53.0**	**-1.1**
KSH				PKS	**PKSdf**	**06 33 05.8**	**-4.8**
KSH				SS	SS	06 51 19.0	-5.9
	comp=Z,250nm,8.3s						
KSH				LR	LR		
	comp=Z,130nm,10.4s						
KSH				LR	LR		
	comp=Z,270nm,7.8s						
MAKZ	**Makanchi**	**145.71**	**39**		**PKPab**	**06 29 38.4**	**+0.4**
MK31	**Makanchi Array**	**145.90**	**39**		**PKPbc**	**06 29 38.0**	**+0.1**
MKAR	**Makanchi Array**	**145.90**	**39**	PKPbc	**PKPbc**	**06 29 37.8**	**0.0**
	comp=Z,3.6nm,0.7s,baz=308,slow=3.5,SNR=23						
WMQ	**Urumqi**	**150.72**	**40**	*e*PKPbc	**PKPdf**	**06 29 44.5**	**-0.3**
SONM	**Songino Array**	**154.97**	**11**	PKPab	**PKPab**	**06 30 16.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=333,slow=1.8,SNR=4.8						
SONM	**Songino Array**	**154.97**	**11**		**PKPab**	**06 30 16.3**	**+0.2**
GTA	**Gaotai**	**160.36**	**32**	*e*PKP	**PKPdf**	**06 30 01.5**	**+3.7**
GTA				pPKP	pPKPdf	06 30 52.0	-1.8
GTA				sPKP		06 31 14.3	

DRS ***30*** *06:13:40.8±0.0, 43°.05N×47°.05E, h14km*
NORS ***30*** *06:13:41.3±0.0, 42°.97N×46°.92E, h11km, MPVA3.5*
ISC 30 06:13:41.3±1.5,**43°.07N**±0°.05×**47°.12E**±0°.04,**h1**km±11km,
n18,σ0°93/33,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.22**	**257**	*e*Pg	**Pg**	**06 13 44.3**	**-1.2**
DBC				*e*Sg	**Sg**	06 13 46.9	-1.4
MAK	**Makhachkala**	**0.30**	**111**	*e*Pg	**Pb**	06 13 49.1	-0.5
MAK				*e*Sg	**Sb**	06 13 54.9	-0.1
GNBR	**Gunib**	**0.69**	**190**	*e*Pg	**Pg**	06 13 54.6	+0.1
GNBR				*e*Sg	**Sg**	06 14 04.0	+0.6
GROC	**Groznyy**	**0.98**	**278**	*e*Pg	**Pg**	06 13 58.9	-1.1
GROC				*e*Sg	**Sg**	06 14 14.1	+1.4
URKR	**Urkarakh**	**0.98**	**157**	*e*Pg	**Pn**	06 14 01.7	-0.6
URKR				*e*Sg	**Sn**	06 14 15.6	-1.4
AKT	**Akhty**	**1.65**	**164**	*e*Pg	**Pg**	06 14 13.0	0.0
AKT				*e*Sg	**Sg**	06 14 35.7	+1.3
DDFL	**Dedoflistskaro**	**1.79**	**205**	P	**Pg**	06 14 17.1	+1.6
VLKR	**Vladikavkaz**	**1.79**	**270**	*e*Pg	**Pb**	06 14 15.0	+0.1
VLKR				*e*Sg	**Sg**	06 14 39.5	+0.7
TRKR	**Terskaya**	**1.86**	**291**	*e*Pg	**Pb**	06 14 16.5	+0.4
TRKR				*e*Sg	**Sb**	06 14 41.4	+1.6
GUDG	**Gudauri**	**2.04**	**254**	P	**Pb**	06 14 19.4	+0.2
GUDG				S	**Sb**	06 14 45.3	+0.1
DGRG	**David-gareji**	**2.07**	**219**	*e*Pg	**Pb**	06 14 19.8	+0.1
DGRG				*e*Sg	**Sb**	06 14 45.2	-0.8
LACR	**Lac**	**2.09**	**264**	*e*Pg	**Pn**	06 14 17.9	+0.3
LACR				*e*Sg	**Sn**	06 14 44.7	+0.5
ZEI	**Tsey**	**2.38**	**264**	*e*Pn	**Pb**	06 14 23.6	-1.4
ZEI				*e*Sn	**Sb**	06 14 53.3	-1.7
LSNR	**Lesken**	**2.42**	**276**	*e*Pn	**Pn**	06 14 21.7	-0.3
LSNR				*e*Sn	**Sn**	06 14 52.5	+0.2
NEY	**Neytrino**	**3.22**	**275**	*e*Pn	**Pn**	06 14 32.6	-0.6
NEY				*e*Sn	**Sn**	06 15 12.9	+0.6
SHA1	**Shidzhatmaz**	**3.32**	**283**	*e*Pn	**Pn**	06 14 35.1	+0.6
KIV0	**Kislovodsk Arr**	**3.34**	**287**	*e*Pn	**Pn**	06 14 35.3	+0.6
ALER	**Alexandrovskoy**	**3.48**	**301**	*e*Pn	**Pn**	06 14 37.2	+0.6
ALER				*e*Sn	**Sn**	06 15 18.6	+0.2

IDC 30 06:24:40.8±1.9,**32°.80N**×**89°.18E**,**h0**km,**mb3.4**/3,
mb1 3.5/5,**mb1mx3.3**/39,**mbtmp3.4**/5,**ML3.5**/1,**MS3.2**/1,
Ms1 3.2/1,**ms1mx2.4**/27,**Error ellipse: s-maj=60.2km**
s-min=25.6km az=62.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.93**	**341**	Pn	Pn	06 28 15.6	+2.4
	0.1nm,0.3s,baz=144,slow=12,SNR=2.9						
KURBB	**Kurchatov Arra**	**19.46**	**339**	P	Pn	06 29 09.7	-0.4
	baz=148,slow=13,SNR=4.8						
SONM	**Songino Array**	**19.88**	**36**	P	P	06 29 14.1	+0.4
	0.1nm,0.3s,baz=221,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**21.36**	**353**	P	P	06 29 28.6	-1.0
	1.3nm,0.6s,baz=171,slow=9.9,SNR=6.3						
BVAR	**Borovoye Array**	**24.31**	**332**	P	P	06 30 00.1	+0.1
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.9						
AKTO	**Aktyubinsk**	**28.91**	**317**	LR	LR	06 42 58.2	
	comp=Z,43nm,19.4s,baz=203,slow=38						
WRA	**Warramunga Arr**	**67.92**	**134**	P	P	06 35 41.5	0.0
	0.3nm,0.6s,baz=325,slow=6.8,SNR=5.5						

MOS ***30*** *06:29:41.0±0.0, 43°.00N×47°.05E, h7km, MPVA3.8*
NORS ***30*** *06:29:42.1±0.0, 42°.97N×47°.00E, h7km, MPVA3.9*
DRS ***30*** *06:29:42.7±0.0, 43°.02N×47°.03E, h13km*
ISC 30 06:29:42.1±1.1,**43°.05N**±0°.03×**47°.08E**±0°.02,**h9**km±7km,
n52,σ1°42/100,2C,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.19**	**261**	⇑*i*PG	**Pg**	**06 29 45.7**	**-0.4**
DBC	**Dubki**	**0.19**	**261**	*i* Pg	**Pg**	**06 29 45.3**	**-0.8**
DBC				*e*Sg	**Sg**	06 29 48.0	-0.7
BUJR	**Buynaksk**	**0.23**	**175**	*e*PG	**Pg**	06 29 47.9	+1.2
BUJR				*e*S	**Sg**	06 29 52.0	+2.2
KRNR	**Karanay**	**0.26**	**210**	*i* PG	**Pg**	06 29 47.5	+0.2
KRNR				*e*S	**Sb**	06 29 52.0	-1.6
KRNR				pmax	pmax		
	comp=Z,659nm,0.1s						
MAK	**Makhachkala**	**0.32**	**106**	*e*PG	**Pb**	06 29 48.8	-1.2
MAK				*e*S	**Sb**	06 29 53.8	-1.5
MAK	**Makhachkala**	**0.32**	**106**	*e*Pg	**Pb**	06 29 48.8	-1.2
MAK				*e*Sg	**Sb**	06 29 53.8	-1.5
DLMR	**Dylym**	**0.33**	**274**	*e*PG	**Pb**	06 29 49.0	-1.2
DLMR				*e*S	**Sb**	06 29 55.0	-0.7
XNZR	**Khunzakh**	**0.58**	**209**	*e*PG	**Pg**	06 29 53.3	-0.1
XNZR				*e*S	**Sg**	06 30 01.5	+0.5
GNBR	**Gunib**	**0.67**	**188**	*e*PG	**Pb**	06 29 55.2	-0.7
GNBR				*e*S	**Sb**	06 30 04.8	-0.5
GNBR				pmax	pmax		
	comp=Z,36nm,0.6s						
GNBR	**Gunib**	**0.67**	**188**	*e*Pg	**Pb**	06 29 55.6	-0.4
GNBR				*e*Sg	**Sb**	06 30 04.8	-0.5
BTLR	**Botlikh**	**0.74**	**239**	*e*PG	**Pg**	06 29 56.2	-0.2
BTLR				*e*S	**Sb**	06 30 06.6	-0.9
BTLR				pmax	pmax		
	comp=Z,23nm,0.5s						
GROC	**Groznyy**	**0.95**	**280**	*e*PG	**Pn**	06 30 02.0	+0.3
GROC				*e*S	**Sn**	06 30 15.8	+0.4
GROC	**Groznyy**	**0.95**	**280**	*e*Pg	**Pn**	06 30 02.0	+0.3
GROC				*e*Sg	**Sn**	06 30 15.8	+0.4
URKR	**Urkarakh**	**0.97**	**155**	*e*PG	**Pn**	06 30 00.9	-1.2
URKR				*e*S	**Sn**	06 30 16.4	+0.4
URKR	**Urkarakh**	**0.97**	**155**	*e*Pg	**Pn**	06 30 00.9	-1.2
URKR				*e*Sg	**Sn**	06 30 16.4	+0.4
LGD	**Lagodekhi**	**1.36**	**207**	P	**Pg**	06 30 07.5	-0.7
LGD				S	**Sg**	06 30 26.5	+0.5
KMGR	**Komgaron**	**1.62**	**271**	*e*PN	**Pg**	06 30 13.8	+0.5
KMGR				*e*S	**Sg**	06 30 36.3	+2.0
KMGR	**Komgaron**	**1.62**	**271**	*e*Pg	**Pg**	06 30 13.8	+0.5
KMGR				*e*Sg	**Sg**	06 30 36.3	+2.0
AKT	**Akhty**	**1.64**	**163**	*e*PG	**Pb**	06 30 12.0	-0.6
AKT				*e*S	**Sg**	06 30 36.9	+2.0
AKT				pmax	pmax		
	comp=Z,28nm,0.6s						
AKT	**Akhty**	**1.64**	**163**	*e*Pg	**Pg**	06 30 12.8	-0.8
AKT				*e*Sg	**Sg**	06 30 35.8	+1.0
VLKR	**Vladikavkaz**	**1.76**	**271**	*e*PN	**Pg**	06 30 15.5	-0.4
VLKR				*e*S	**Sg**	06 30 41.1	+2.3
VLKR	**Vladikavkaz**	**1.76**	**271**	*e*Pg	**Pg**	06 30 15.3	-0.6
VLKR				*e*Sg	**Sg**	06 30 40.9	+2.1
TRKR	**Terskaya**	**1.84**	**292**	*e*PN	**Pg**	06 30 17.4	0.0
TRKR				*e*S	**Sg**	06 30 41.5	+0.2
TRKR	**Terskaya**	**1.84**	**292**	*e*Pg	**Pg**	06 30 17.4	0.0
TRKR				*e*Sg	**Sg**	06 30 41.5	+0.2
BTKR	**Batakoyurt**	**1.89**	**281**	*e*PN	**Pg**	06 30 18.2	0.0
BTKR				*e*S	**Sg**	06 30 44.8	+2.1
BTKR	**Batakoyurt**	**1.89**	**281**	*e*Pg	**Pg**	06 30 18.2	0.0
BTKR				*e*Sg	**Sg**	06 30 44.8	+2.1
GUDG	**Gudauri**	**2.01**	**254**	P	**Pb**	06 30 19.1	+0.2
GUDG				S	**Sg**	06 30 46.2	-0.3
GUDG	**Gudauri**	**2.01**	**254**	*e*PN	**Pb**	06 30 18.9	0.0
GUDG				*e*S	**Sg**	06 30 46.0	-0.6
GUDG	**Gudauri**	**2.01**	**254**	*e*Pg	**Pb**	06 30 18.9	0.0
GUDG				*e*Sg	**Sg**	06 30 46.0	-0.6
DGRG	**David-gareji**	**2.04**	**219**	*e*PN	**Pg**	06 30 19.8	-1.4
DGRG				*e*S	**Sg**	06 30 47.0	-0.7
DGRG	**David-gareji**	**2.04**	**219**	*e*Pg	**Pg**	06 30 19.8	-1.4
DGRG				*e*Sg	**Sg**	06 30 47.0	-0.7
LACR	**Lac**	**2.06**	**265**	*e*PN	**Pn**	06 30 17.5	+0.5
LACR				*e*S	**Sb**	06 30 45.4	0.0
LACR	**Lac**	**2.06**	**265**	*e*Pg	**Pn**	06 30 17.5	+0.5
LACR				*e*Sg	**Sb**	06 30 45.7	+0.3
PRTR	**Priterechnaya**	**2.16**	**290**	*e*PN	**Pg**	06 30 22.4	-1.0
PRTR				*e*S	**Sg**	06 30 50.6	-0.8
PRTR	**Priterechnaya**	**2.16**	**290**	*e*Pg	**Pg**	06 30 22.4	-1.0
PRTR				*e*Sg	**Sg**	06 30 50.6	-0.8
ZEI	**Tsey**	**2.35**	**265**	*e*PN	**Pb**	06 30 25.1	+0.3
ZEI				*e*S	**Sb**	06 30 54.6	+0.6
ZEI	**Tsey**	**2.35**	**265**	*e*Pn	**Pb**	06 30 25.1	+0.3
ZEI				*e*Sn	**Sb**	06 30 54.6	+0.6
LSNR	**Lesken**	**2.39**	**277**	*e*PN	**Pb**	06 30 24.9	-0.5
LSNR				*e*S	**Sg**	06 30 58.2	-0.8
LSNR	**Lesken**	**2.39**	**277**	*e*Pn	**Pb**	06 30 24.9	-0.5
LSNR				*e*Sn	**Sg**	06 30 58.1	-0.8
NCK	**Nalchik**	**2.58**	**281**	*i* PN	**Pn**	06 30 24.1	0.0
ONI	**Oni**	**2.71**	**261**	*e*PN	**Pb**	06 30 29.8	-1.0
ONI				*e*S	**Sb**	06 31 01.9	-2.3
ONI	**Oni**	**2.71**	**261**	*e*Pn	**Pb**	06 30 29.8	-1.0
ONI				*e*Sn	**Sb**	06 31 01.9	-2.3
PYA1	**Pyatigorsk**	**3.07**	**291**	*i* PN	**Pn**	06 30 31.0	+0.2
NEY	**Neytrino**	**3.20**	**275**	*e*PN	**Pb**	06 30 35.7	-3.5
NEY				*e*S	**Sb**	06 31 14.5	-3.8
NEY	**Neytrino**	**3.20**	**275**	*e*Pn	**Pb**	06 30 35.7	-3.5
NEY				*e*Sn	**Sb**	06 31 14.5	-3.8
SHA1	**Shidzhatmaz**	**3.30**	**284**	*e*PN	**Pn**	06 30 36.0	+1.9
SHA1				*e*S	**Sn**	06 31 15.1	+1.5
SHA1	**Shidzhatmaz**	**3.30**	**284**	*e*Pn	**Pn**	06 30 36.0	+1.9
SHA1				*e*Sn	**Sn**	06 31 15.1	+1.5
KIV0	**Kislovodsk Arr**	**3.32**	**287**	*e*Pn	**Pb**	06 30 40.9	-0.2
KIV0				*e*Sn	**Sn**	06 31 14.2	+0.3
KIV	**Kislovodsk**	**3.32**	**287**	*e*PN	**Pb**	06 30 40.9	-0.4
KIV				*e*S	**Sn**	06 31 14.2	+0.2
ALER	**Alexandrovskoy**	**3.47**	**301**	*e*Pn	**Pn**	06 30 38.5	+2.3
ALER				*e*Sn	**Sn**	06 31 19.1	+1.7
GOF	**Gofitskoye**	**3.54**	**306**⇑	*e*PN	**Pn**	06 30 32.9	-4.3
GOF				*e*S	**Sg**	06 31 38.0	+2.3
GOF				pmax	pmax		
	comp=Z,29nm,0.6s						
GOF				smax	smax		
	comp=E,42nm,0.5s						
KURK	**Kurchatov**	**22.75**	**59**	*i* P	**P**	**06 34 47.6**	**+3.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						

ISCJB ***30*** *07:08:29.3±0.3, 7°.09N±0°.02×76°.84W±0°.02, h26km, mb3.6/7, MS3.3/3, Error ellipse: s-maj=3.5km s-min=2.8km az=40.0*
RSNC ***30*** *07:08:29.3±1.2, 6°.97N×76°.74W, h0km±5km, ML3.8, Mw4.0*
NEIC ***30*** *07:08:32.7±2.9, 7°.05N±0°.07×76°.76W±0°.07, h43km±3km, mb4.2/19*
IDC ***30*** *07:08:33.2±2.1, 7°.18N×76°.77W, h50km±21km, mb3.4/7, mb1 3.8/11, mb1mx3.6/29, mbtmp3.9/11, ML3.5/4, MS3.1/6, Ms1 3.1/6, ms1mx2.8/23, Error ellipse: s-maj=20.9km s-min=13.8km az=45.0*
ISC 30 07:08:30.1±0.5,**7°.01N**±0°.03×**76°.80W**±0°.03,**h26**km,**n87,**
σ2°27/112,mb4.0/15,MS3.4/3,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.59**	**89**	*e*P	**Pb**	**07 08 39.1**	**-2.8**
DBBC				*i*		07 08 50.3	
	comp=Z,5μm,0.4s						
PTAC	**Punta Ardita,**	**1.01**	**278**⇑	*i*P	**Pn**	**07 08 48.2**	**-0.4**
PTAC				*e*S	**Sb**	**07 09 04.1**	**+2.2**
PTAC				*i*		07 09 05.2	
	comp=Z,25μm,0.3s						
CBOC	**Ciudad Bolivar**	**1.38**	**145**⇓	*i*P	**Pn**	**07 08 51.7**	**-2.1**
CBOC				*e*S	**Sn**	**07 09 11.2**	**-0.1**
CBOC				*i*		07 09 18.9	
	comp=Z,1μm,0.8s						
HELC	**Santa Helena**	**1.50**	**123**⇓	*i*P	**Pn**	**07 08 54.3**	**-1.3**
HELC				*e*S	**Sn**	**07 09 15.6**	**+1.0**
HELC				*i*		07 09 18.6	
	comp=Z,470nm,1.5s						
UPD2	**Meteti**	**1.95**	**322**	*e*P	**Pn**	**07 09 02.6**	**+1.1**
UPD2				*e*S	**Sb**	**07 09 29.6**	**+0.8**
ZARC	**Zaragoza, Cauc**	**1.99**	**76**	*e*P	**Pn**	**07 09 02.7**	**+0.7**
ZARC				*e*S	**Sb**	**07 09 28.2**	**-1.7**
ZARC				*i*		07 09 29.5	
	comp=Z,2μm,0.4s						
PIZC	**Pizarro, Choco**	**2.10**	**195**	*e*P	**Pn**	**07 09 04.2**	**+0.6**
PIZC				*e*S	**Sn**	**07 09 32.0**	**+3.0**
PLMC	**San Jos del P**	**2.15**	**166**	*e*P	**Pn**	**07 09 01.3**	**-3.0**
PLMC				*e*S	**Sn**	**07 09 25.6**	**-4.6**
PLMC				*i*		07 09 31.1	
	comp=Z,1μm,0.1s						
GUY2C	**Guyana, Caldas**	**2.27**	**141**	*e*P	**Pn**	**07 09 06.9**	**+0.5**
GUY2C				*e*S	**Sn**	**07 09 35.2**	**+1.3**
GUY2C				*i*		07 09 41.8	
	comp=Z,375nm,0.7s						
PTBC	**PUERTO BERRIO,**	**2.37**	**101**	*e*P	**Pn**	**07 09 08.9**	**+1.5**
PTBC				*e*S	**Sn**	**07 09 37.4**	**+1.7**
PTBC				*i*		07 09 41.9	
	comp=Z,976nm,0.8s						
NORC	**Norcasia**	**2.40**	**127**	*e*P	**Pn**	**07 09 09.0**	**+1.3**
NORC				*e*S	**Sn**	**07 09 38.2**	**+2.0**
NORC				*i*		07 09 48.5	
	comp=Z,315nm,0.5s						
RREF	**El Recreo**	**2.54**	**145**	*e*P	**Pn**	**07 09 11.3**	**+1.1**
RREF				*i*		07 09 53.5	
	comp=Z,275nm,0.5s						
SPBC	**San Pablo de B**	**3.03**	**116**	*e*P	**Pn**	**07 09 19.2**	**+2.7**
SPBC				*e*S	**Sb**	**07 09 57.6**	**-2.4**
SPBC				*i*		07 10 08.7	
	comp=Z,235nm,0.6s						
YOTC	**Yotoco, Valle**	**3.04**	**171**	*e*P	**Pn**	**07 09 13.9**	**-2.7**
YOTC				*e*S	**Sn**	**07 09 48.4**	**-3.8**
YOTC				*i*		07 09 52.4	
	comp=Z,104nm,0.3s						
BRRC	**Barranca, Sant**	**3.07**	**88**	*e*P	**Pn**	**07 09 19.1**	**+2.2**
BRRC				*e*S	**Sn**	**07 09 56.4**	**+3.6**
BRRC				*i*		07 10 00.1	
	comp=Z,181nm,0.6s						
SMLC	**San Martn de**	**3.24**	**56**	*e*P	**Pn**	**07 09 19.6**	**+0.3**
SMLC				*e*S	**Sn**	**07 09 55.6**	**-1.4**
SMLC				*i*		07 10 13.3	
	comp=Z,134nm,0.3s						
ROSC	**El Rosal**	**3.27**	**131**	P	**Pn**	**07 09 23.6**	**+3.5**
	comp=Z,19nm,0.3s,baz=14,slow=22,SNR=38						
ROSC				S	**Sn**	**07 10 03.4**	**+4.9**
	comp=Z,18nm,0.3s,baz=282,slow=17,SNR=3.9						
SJCC	**San Jacinto, C**	**3.29**	**29**	*e*P	**Pn**	**07 09 20.4**	**+0.3**
SJCC				*e*S	**Sn**	**07 09 54.2**	**-4.2**
SJCC				*i*		07 10 02.8	
	comp=Z,50nm,0.7s	

WVT	Waverly	30.70 342	P	P	07 14 44.4	+1.6
WVT			IAmb	IAmb	07 14 49.7	
comp=Z,2.4nm,0.9s						
FCAR	Ozark Folk Cen	32.00 336	P	P	07 14 54.9	+0.6
PBMO	Poplar Bluff	32.14 339	P	P	07 14 56.8	+1.2
PBMO			IAmb	IAmb	07 14 56.9	
comp=Z,3.2nm,0.6s						
O54A	Avella	33.19 355	P	P	07 15 03.1	-1.6
CCM	Cathedral Cave	33.57 339	P	P	07 15 08.4	+0.4
CCM			IAmb	IAmb	07 15 09.1	
comp=Z,3.8nm,0.8s						
TXAR	Lajitas Array	33.67 315	P	P	07 15 09.8	+0.7
comp=Z,0.2nm,0.7s,baz=119,slow=10,SNR=2.4						
BDFB	Brasilia	36.32 128	LR	LR	07 31 26.5	
comp=Z,65nm,18.4s,baz=182,slow=38						
NCB	Newcomb	36.89 3	P	P	07 15 34.6	-1.9
NCB			IAmb	IAmb	07 15 37.9	
comp=Z,4.6nm,0.9s						
JFWS	Jewell Farm	37.68 344	P	P	07 15 43.4	+0.2
PV14	Lion Creek, Pa	42.70 322	P	P	07 16 25.1	-0.2
DUG	Dugway, Tooele	46.14 321	P	P	07 16 54.4	+1.8
DUG			IAmb	IAmb	07 16 54.5	
comp=Z,1.3nm,0.8s						
REDW	Red Top Meadow	46.94 326	P	P	07 17 00.5	+1.4
REDW			IAmb	IAmb	07 17 00.6	
comp=Z,1.6nm,0.8s						
NVAR	Mina Array Bea	48.79 316	P	P	07 17 13.6	+0.2
comp=Z,0.6nm,0.8s,baz=135,slow=4.9,SNR=5.3						
PMPB	Monarch Peak	49.56 312	P	P	07 17 18.6	-0.5
KEBM	Edson Butte	54.91 318	P	P	07 18 00.1	+1.3
YKA	Yellowknife Ar	61.87 341	P	P	07 18 46.3	-0.6
comp=Z,0.7nm,0.5s,baz=130,slow=6.9,SNR=10						
INK	Inuvik	71.64 341	P	P	07 19 49.2	+0.2
BCAR	Beaver Creek A	72.60 334	P	P	07 19 56.5	+1.5
DOT	Dot Lake	73.76 335	P	P	07 20 02.8	+1.0
DOT			IAmb	IAmb	07 20 03.6	
comp=Z,2.2nm,0.8s						
ILAR	Eielson Array	75.26 335	P	P	07 20 10.0	-0.5
comp=Z,0.6nm,0.7s,baz=109,slow=3.8,SNR=7.0						
ILAR	Eielson Array	75.26 335	P	P	07 20 10.2	-0.3
MLY	Manley	76.92 335	P	P	07 20 20.9	+0.9
MLY			IAmb	IAmb	07 20 35.6	
comp=Z,1.8nm,1.2s						
TORD	Torodi Ar. Bea	77.28 78	P	P	07 20 22.6	-0.4
comp=Z,0.3nm,0.7s,baz=275,slow=7.2,SNR=2.7						
IMAR	Indian Mountai	78.33 336	P	P	07 20 27.8	+0.1
ASAR	Alice Springs	146.19 237	PKPbc	PKPdf	07 28 07.9	-0.1
comp=Z,0.6nm,0.6s,baz=119,slow=3.6,SNR=9.7						
ASAR	Alice Springs	146.19 237		PKPdf	07 28 08.0	0.0
WB2	Warramunga Arr	147.17 244	PKPdf	PKPdf	07 28 10.2	+0.5
WRA	Warramunga Arr	147.18 244	PKPbc	PKPdf	07 28 09.1	-0.6
comp=Z,0.8nm,0.5s,baz=106,slow=3.2,SNR=11						

*ISCJB **30** 08:03:01.0±0.9, 37°.20N±0°.04×43°.95E±0°.06, h8km±5km, Error ellipse: s-maj=9.3km s-min=5.6km az=39.1*
*ISK **30** 08:03:01.3, 37°.27N×43°.96E, h11km, ML2.6/3*
*ISN **30** 08:03:01.0±0.3, 37°.13N×43°.79E, h0km, ML2.5*
*DDA **30** 08:03:02.3, 37°.29N×43°.90E, h7km±4km, ML2.4*

ISC 30 08:03:00.8±1.7, 37°.26N±0°.06×43°.97E±0°.07, h18km±4km, n8, σ0°53/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CUKT	Cukurca	0.29	269	*i* P		Pg	08 03 07.6	+0.4
CUKT				*i* S		Sg	08 03 10.8	-0.9
CUKT				IAML			08 03 12.0	
comp=N,760nm,0.2s								
CUKT				IAML			08 03 12.0	
comp=E,2μm,0.8s								
CUKT	Cukurca	0.29	269	PG		Pg	08 03 07.5	+0.2
CUKT				SG		Sg	08 03 12.1	+0.4
HAKT	HAKKARI	0.37	325	*i* P		Pb	08 03 09.0	0.0
HAKT				*i* S		Sg	08 03 13.4	-0.5
HAKT				IAML			08 03 14.0	
comp=N,1μm,0.5s								
HAKT				IAML			08 03 14.0	
comp=E,919nm,0.5s								
YOVA	Hakkari_Yksek	0.42	37	*i* P		Pn	08 03 11.8	-0.3
YOVA				*i* S		Sb	08 03 16.5	+0.6
YOVA				IAML			08 03 28.0	
comp=N,223nm,0.9s								
YOVA				IAML			08 03 28.0	
comp=E,282nm,0.6s								
MSL	Mosul	1.10	219	*e*Pg		Pn	08 03 21.0	-0.2
baz=37								
MSL				AML		AML	08 03 25.5	
comp=Z,185nm,0.0s								
MSL				*e*Sg		Sb	08 03 35.0	-0.2
SIRT	Sirnak	1.25	282	PN		Pg	08 03 25.0	+0.1
SIRT				SN		Sg	08 03 42.2	+1.0
SIRN	Sırnak	1.27	281	*i* P		Pg	08 03 25.4	+0.2
SIRN				*i* S		Sb	08 03 39.8	-0.3
SIRN				IAML			08 03 46.0	
comp=N,106nm,0.8s								
SIRN				IAML			08 03 46.0	
comp=E,67nm,0.5s								
AKDM	Akdamar-Van	1.33	324	PN		Pg	08 03 26.2	-0.3
AKDM				SN		Sg	08 03 44.2	+0.3

ISC 30 08:37:52.6±1.2, 50°.09N±0°.06×19°.04E±0°.04, h0km, n5, σ0°67/14, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.51	75	*e*Pg		Pg	08 38 02.8	+0.5
OJC				*e*Pg		Pg	08 38 02.8	+0.5
OJC				*e*Sg		Sg	08 38 08.5	-0.4
OJC				*e*Sg		Sg	08 38 08.5	-0.4
LANS	Liptovska Anna	0.98	163	*e*PG		Pg	08 38 11.1	-0.4
LANS				*e*SG		Sg	08 38 25.5	+1.2
LANS				*e*LG		Lg	08 38 28.7	
MORC	Moravsky Berou	1.02	252	*e*PG		Pb	08 38 13.6	+0.5
MORC				*e*SG		Sg	08 38 25.6	+0.4
NIE	Niedzica	1.06	129	*e*Pg		Pg	08 38 13.3	+0.3
NIE				*e*Pg		Pg	08 38 13.3	+0.3
NIE				*e*Sg		Sb	08 38 28.8	+0.4
NIE				*e*Sg		Sb	08 38 28.8	+0.4
VYHS	Vyhne	1.61	185	*e*PN		Pn	08 38 21.1	-1.2
VYHS				*e*SN		Sn	08 38 43.4	-0.3

*NEIC **30** 08:39:16.3±0.9, 21°.1S±0°.1×178°.8W±0°.1, h558km±13km, mb4.6/22*
*ISCJB **30** 08:39:17.9±0.6, 21°.20S±0°.09×178°.83W±0°.09, h600km, mb3.5/3, Error ellipse: s-maj=12.3km s-min=10.6km az=0.1*
*IDC **30** 08:39:30.0±23.0, 19°.88S×179°.85E, h650km±225km, mb2.8/3, mb1 3.1/3, mb1mx2.7/23, mbtmp3.8/3, Error ellipse: s-maj=311.5km s-min=48.5km az=133.0*

ISC 30 08:39:19.7±0.8, 21°.2S±0°.1×178°.9W±0°.1, h600km, n29, σ1°19/29, mb4.5/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.46	320	P		P	08 40 41.7	-6.9
DZM	Mont Dzumac	13.63	264	P		P	08 42 12.9	-2.2
OUZ	Omahuta	15.46	204	P		P	08 42 31.9	0.0
OUZ				IAmb		IAmb	08 42 45.4	
comp=Z,25nm,1.2s								
URZ	Urewera	17.36	190	P		P	08 42 49.0	-0.4
QRZ	Quartz Range	20.89	198	P		P	08 43 20.8	-0.4
THZ	Tophouse	21.65	197	P		P	08 43 25.7	-2.4
THZ				IAmb		IAmb	08 43 43.3	
comp=Z,34nm,1.2s								
LTZ	Lake Taylor	22.77	197	P		P	08 43 37.4	-0.6
LTZ				IAmb		IAmb	08 43 49.7	
comp=Z,38nm,1.3s								
OXZ	Oxford	23.34	197	P		P	08 43 42.9	-0.1
OXZ				IAmb		IAmb	08 43 43.5	
comp=Z,25nm,1.1s								
CRLZ	Canterbury Las	23.42	196	P		P	08 43 44.6	+0.9
WHZ	Wether Hill Ro	26.90	201	P		P	08 44 13.0	-1.3
EIDS	Eidsvold	27.83	256	P		P	08 44 23.5	+0.7
EIDS				IAmb		IAmb	08 44 24.8	
comp=Z,18nm,1.2s								
PPT	Papeete	27.90	88	P		P	08 44 21.9	-1.7
PPTF	Pamatai, Papee	27.91	88	P		P	08 44 21.7	-1.9
ARMA	Armidale	27.99	245	P		P	08 44 24.9	+0.6
ARMA				IAmb		IAmb	08 44 34.2	
comp=Z,19nm,1.3s								
CAN	Canberra	31.41	236	P		P	08 44 53.0	-0.6
CAN				IAmb		IAmb	08 45 05.7	
comp=Z,25nm,1.5s								
TOO	Toolangi	34.80	234	P		P	08 45 21.9	0.0
TOO				IAmb		IAmb	08 45 22.0	
comp=Z,19nm,1.5s								
BBOO	Buckleboo	41.47	244	P		P	08 46 15.9	+0.1
BBOO				IAmb		IAmb	08 46 24.5	
comp=Z,32nm,1.4s								
AS31	Alice Springs	43.52	258	P		P	08 46 33.2	+1.2
ASAR	Alice Springs	43.52	258	P		P	08 46 32.6	+0.6
comp=Z,1.7nm,0.7s,baz=94,slow=8.2,SNR=30								
ASAR				PcP		PcP	08 48 08.8	+2.7
comp=Z,0.3nm,0.6s,baz=104,slow=3.9,SNR=4.1								
ASAR	Alice Springs	43.52	258	P		P	08 46 32.1	+0.1
WB0	Warramunga Arr	43.63	263	P		P	08 46 33.1	+0.3
WB2	Warramunga Arr	43.64	263	P		P	08 46 33.2	+0.2
WRA	Warramunga Arr	43.65	263	P		P	08 46 33.0	0.0
comp=Z,1.0nm,0.5s,baz=95,slow=7.7,SNR=24								
WRA	Warramunga Arr	43.65	263	P		P	08 46 33.1	0.0
KNRA	Kununurra	49.75	267	P		P	08 47 20.1	+1.2
KNRA				IAmb		IAmb	08 47 26.2	
comp=Z,24nm,1.4s								
VNDA	Vanda	57.16	185	P		P	08 48 11.4	+1.3
QSPA	South Pole Qui	68.89	180	P		P	08 49 25.9	+0.5
INU	Inuyama	70.03	323	P		P	08 49 31.6	-0.8
INU				IAmb		IAmb	08 49 37.7	
comp=Z,15nm,1.3s								
ILAR	Eielson Array	89.17	13	P		P	08 51 13.3	+1.4
comp=Z,0.2nm,0.5s,baz=217,slow=4.4,SNR=3.7								

IDC 30 09:08:20.2±1.7, 2°.55S×138°.84E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/20, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=31.7km s-min=15.6km az=173.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.87	89	Pg		Pb	09 08 54.6	-0.6
2.9nm,0.3s,baz=236,slow=10,SNR=14								
JAY				Lg		Lg	09 09 19.2	
baz=110,slow=19								
WRA	Warramunga Arr	17.84	194	P		Pn	09 12 28.7	-1.3
0.1nm,0.3s,baz=16,slow=12,SNR=1.3								
ASAR	Alice Springs	21.53	192	P		P	09 13 11.3	+0.2
0.8nm,0.5s,baz=22,slow=9.7,SNR=11								
MKAR	Makanchi Array	69.74	322	P		P	09 19 32.3	+0.1
0.3nm,0.7s,baz=109,slow=7.8,SNR=2.3								

IDC 30 09:20:46.0±3.7, 1°.17S×101°.26E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.4/4, MS4.4/1, Ms1 4.4/1, ms1mx2.6/31, Error ellipse: s-maj=153.1km s-min=23.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.34	122	P		P	09 28 00.1	-0.5
0.2nm,0.6s,baz=299,slow=10,SNR=4.1								
ASAR	Alice Springs	38.74	128	P		P	09 28 12.5	+0.1
0.3nm,0.5s,baz=306,slow=8.0,SNR=8.4								
PMG	Port Moresby	46.38	102	LR		LR	09 51 23.6	
comp=Z,436nm,19.7s,baz=96,slow=40								
SONM	Songino Array	49.01	5	P		P	09 29 36.1	+1.3
0.2nm,0.4s,baz=186,slow=8.1,SNR=3.0								
MKAR	Makanchi Array	50.59	343	P		P	09 29 45.2	-1.4
0.4nm,0.4s,baz=165,slow=9.1,SNR=6.8								

*ISCJB **30** 09:27:04.3±0.8, 16°.8S±0°.1×179°.1W±0°.1, h550km, mb3.5/6, Error ellipse: s-maj=22.9km s-min=12.8km az=138.7*
*NEIC **30** 09:27:05.9±1.3, 16°.73S±0°.10×179°.0W±0°.2, h571km±13km, mb4.3/14*
*IDC **30** 09:27:07.6±8.4, 17°.20S×178°.93W, h572km±99km, mb3.0/6, mb1 3.3/6, mb1mx2.9/37, mbtmp4.0/6, Error ellipse: s-maj=100.6km s-min=32.7km az=155.0*

ISC 30 09:27:05.7±0.9, 16°.7S±0°.2×179°.0W±0°.2, h550km, n24, σ1°37/26, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.97	249	P		P	09 28 25.1	+4.5
MSVF				S		S	09 29 23.7	+2.0
LTZ	Lake Taylor	27.03	194	P		P	09 32 03.0	-1.2
CAN	Canberra	33.98	231	P		P	09 33 03.0	-1.1
CAN				IAmb		IAmb	09 33 09.6	
comp=Z,17nm,1.2s								
JOHN	Johnston Islan	34.52	16	P		P	09 33 07.7	-1.0
MANU	Manus Island	36.12	290	P		P	09 33 21.0	-1.1
TOO	Toolangi	37.48	229	P		P	09 33 32.1	-0.8
TOO				IAmb		IAmb	09 33 34.5	
comp=Z,17nm,1.5s								
STKA	Stephens Creek	38.70	240	P		P	09 33 41.7	-1.3
comp=Z,2.0nm,0.5s,baz=84,slow=11,SNR=6.8								
STKA	Stephens Creek	38.70	240	P		P	09 33 41.8	-1.1
BBOO	Buckleboo	43.48	240	P		P	09 34 18.9	-1.9
BBOO				IAmb		IAmb	09 34 31.0	
comp=Z,26nm,1.5s								
WB0	Warramunga Arr	44.24	259	P		P	09 34 27.0	+0.1
WB0				IAmb		IAmb	09 34 36.4	
comp=Z,5.4nm,1.1s								
WB2	Warramunga Arr	44.27	258	P		P	09 34 27.3	+0.2
WB2				IAmb		IAmb	09 34 38.1	
comp=Z,9.8nm,1.4s								
WRAB	Tennant Creek	44.27	258	P		P	09 34 26.2	-0.8
WRA	Warramunga Arr	44.28	258	P		P	09 34 27.2	0.0
comp=Z,0.7nm,0.5s,baz=91,slow=6.9,SNR=6.3								
WRA	Warramunga Arr	44.28	258	P		P	09 34 26.7	-0.5
AS31	Alice Springs	44.56	253	P		P	09 34 29.4	+0.1
ASAR	Alice Springs	44.56	253	P		P	09 34 29.3	0.0
comp=Z,6.2nm,0.6s,baz=88,slow=8.2,SNR=131								
ASAR				PcP		PcP	09 35 59.7	-0.8
comp=Z,0.2nm,0.4s,baz=100,slow=3.8,SNR=3.6								
ASAR	Alice Springs	44.56	253	P		P	09 34 28.5	-0.9
FORT	Forrest	49.99	244	P		P	09 35 08.6	-1.4
KNRA	Kununurra	50.03	263	P		P	09 35 10.0	-0.4
KNRA				IAmb		IAmb	09 35 21.6	
comp=Z,16nm,1.1s								
FITZ	Fitzroy Crossi	52.65	260	P		P	09 35 30.0	+0.7
comp=Z,1.8nm,0.9s,baz=70,slow=4.7,SNR=3.7								
FITZ	Fitzroy Crossi	52.65	260	P		P	09 35 29.2	-0.1
TXAR	Lajitas Array	85.86	58	P		P	09 38 48.7	+0.8
comp=Z,0.3nm,0.7s,baz=242,slow=4.9,SNR=4.8								
TXAR	Lajitas Array	85.86	58	P		P	09 38 47.3	-0.6
PDAR	Pinedale Array	86.89	44	P		P	09 38 53.9	+1.2
comp=Z,0.1nm,0.5s,baz=233,slow=4.4,SNR=2.7								

*ISCJB **30** 09:57:19.4±0.6, 7°.56S±0°.05×129°.05E±0°.07, h150km, mb3.7/4, Error ellipse: s-maj=10.4km s-min=6.4km az=2.1*
*IDC **30** 09:57:24.7±2.1, 7°.43S×128°.75E, h168km±19km, mb3.6/4, mb1 3.6/6, mb1mx3.2/45, mbtmp4.0/6, MS2.5/1, Ms1 2.5/1, ms1mx2.2/35, Error ellipse: s-maj=26.2km s-min=17.5km az=116.0*

ISC 30 09:57:23.1±0.9, 7°.4S±0°.1×128°.9E±0°.1, h150km, n12, σ1°44/11, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.86	242	P		Pn	09 58 49.8	+1.7
65nm,0.3s,baz=206,slow=2.8,SNR=35								
BATI				S		Sn	09 59 53.1	-1.3
12nm,0.3s,baz=81,slow=19,SNR=5.6								
SIJI	Sorong	6.94	20	P		Pn	09 59 04.7	+2.2
1.1nm,0.3s,baz=224,slow=22,SNR=16								
SIJI				S		Sn	10 00 18.6	-1.7
1.7nm,0.3s,baz=73,slow=19,SNR=4.3								
FITZ	Fitzroy Crossi	11.06	196	P		Pn	09 59 53.0	-4.2
0.2nm,0.3s,baz=8.7,slow=7.2,SNR=10.0								
FITZ				S		Sn	10 01 48.1	-11
0.7nm,0.3s,baz=252,slow=20,SNR=5.9								
WRA	Warramunga Arr	13.50	158	P		Pn	10 00 24.3	-4.4
0.8nm,0.3s,baz=336,slow=13,SNR=21								
WRA				S		Sn	10 02 47.1	-11
1.8nm,0.3s,baz=332,slow=22,SNR=10								
ASAR	Alice Springs	16.83	164	P		P	10 01 09.0	-0.6
0.7nm,0.3s,baz=338,slow=10,SNR=86								
ASAR				S		S	10 04 05.4	-12
0.5nm,0.3s,baz=349,slow=26,SNR=4.7								
NWAO	Narrogin (SRO)	27.57	202	LR		LR	10 14 20.9	
comp=Z,9.8nm,19.1s,baz=254,slow=37								
PETK	Petropavlovsk-	65.08	19	P		P	10 07 47.3	-0.1
1.1nm,0.6s,baz=132,slow=2.6,SNR=4.2								
MKAR	Makanchi Array	68.00	327	P		P	10 08 05.6	-0.6
0.7nm,0.5s,baz=127,slow=8.8,SNR=9.4								
ZALV	Zalesovo Beam	71.50	334	P		P	10 08 26.0	-1.4
0.6nm,0.5s,baz=132,slow=6.2,SNR=4.5								
KURBB	Kurchatov Arra	72.32	329	P		P	10 08 31.1	-1.2
1.0nm,0.5s,baz=128,slow=5.0,SNR=7.7								
CPUP	Villa Florida	145.89	170	PKPbc		PKPdf	10 16 44.6	-0.2
2.1nm,0.8s,baz=242,slow=3.5,SNR=5.1								
LPAZ	La Paz	151.01	145	PKPbc		PKPbc	10 17 00.1	0.0
0.7nm,0.4s,baz=69,slow=3.1,SNR=4.3								

*ISCJB **30** 10:04:18.2±0.3, 31°.34N±0°.03×130°.31E±0°.06, h162km±2km, mb3.4/1, Error ellipse: s-maj=8.8km s-min=5.2km az=17.4*
*IDC **30** 10:04:18.9±0.8, 31°.38N×130°.13E, h151km±7km, mb3.5/10, mb1 3.6/12, mb1mx3.4/58, mbtmp3.9/12, MS4.1/1, Ms1 4.1/1, ms1mx2.5/29, Error ellipse: s-maj=18.3km s-min=8.8km az=99.0*
*NEIC **30** 10:04:19.2±1.1, 31°.35N±0°.07×130°.23E±0°.09, h158km±8km, mb4.4/7*
*JMA **30** 10:04:20.2±0.1, 31°.37N×130°.47E, h154km±1km, M3.6*

ISC 30 10:04:19.2±0.6, 31°.34N±0°.04×130°.29E±0°.06, h159km±5km, n43, σ1°21/55, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.22	41	P		Pn	10 04 41.1	+0.4
JSU				S		Sn	10 04 57.0	-0.2
JTSR	Tashiro 2	0.57	108	P		Pn	10 04 41.9	-0.1
JTSR				S		Sn	10 04 58.1	-1.3
JSJ	Shimokoshiki	0.59	305	P		Pn	10 04 42.8	+0.7
JSJ				S		Sn	10 05 00.4	+0.8
JKC	Kuchinoerabu	0.88	185	P		Pn	10 04 44.8	+0.8
JKC				S		Sn	10 05 03.6	+0.7
JTZ	Takazaki	0.88	50	P		Pn	10 04 43.6	-0.3
JTZ				S		Sn	10 05 00.4	-2.5
JTN	Tanegashima 3	0.91	139	P		Pn	10 04 44.3	+0.1
JTN				S		Sn	10 05 01.9	-1.3
JMTN	Minamitane	1.08	151	P		Pn	10 04 45.8	+0.2
JMTN				S		Sn	10 05 05.1	-0.6
JYAK	Yakushimahirau	1.12	170	P		Pn	10 04 46.3	+0.4
JYAK				S		Sn	10 05 05.5	-0.8
JIU3	Izumi3	1.28	20	P		Pn	10 04 47.4	0.0
JIU3				*e*S		Sn	10 05 07.5	-1.6
JNU	Nakatsue	1.84	16	P		Pn	10 04 53.1	-0.1
12nm,0.3s,baz=323,slow=2.9,SNR=224								
JNU				S		Sn	10 05 18.0	-1.5
7.8nm,0.3s,baz=341,slow=21,SNR=13								
JNU	Nakatsue	1.84	16			Pn	10 04 53.3	+0.1
JOW	Kunigami	4.83	202	P		Pn	10 05 31.0	+0.5
0.2nm,0.3s,baz=92,slow=14,SNR=4.3								
JOW				S		Sn	10 06 25.0	-1.2
0.8nm,0.3s,baz=121,slow=12,SNR=7.2								
JOW	Kunigami	4.83	202			Pn	10 05 30.4	-0.2
JOW						Sn	10 06 23.0	-3.2
KSRS	Korea Array	6.40	343	P		Pn	10 05 50.9	-0.3
0.2nm,0.3s,baz=167,slow=14,SNR=3.0								
INU	Inuyama	6.90	53	Pn		Pn	10 05 58.7	+0.7
INU						Sn	10 07 14.3	-1.2
JHJ	Hachijo jima 2	8.24	75	P		Pn	10 06 19.2	+3.5
17nm,0.3s,baz=80,slow=21,SNR=8.2								
JHJ2	Mitsune	8.26	75	Pn		Pn	10 06 18.2	+2.2
MJAR	Matsushiro Arr	8.38	50	P		Pn	10 06 19.7	+2.1
0.1nm,0.3s,baz=242,slow=12,SNR=11								
MJAR	Matsushiro Arr	8.38	50			Pn	10 06 17.8	+0.2
MJAR				Sn		Sn	10 07 50.4	-0.5
SONM	Songino Array	24.56	319	P		P	10 09 24.5	+0.2
0.6nm,0.6s,baz=131,slow=9.0,SNR=4.3								
SONM	Songino Array	24.56	319	P		P	10 09 23.5	-0.8
TNT1	Ternate	30.53	186	P		P	10 10 17.5	-0.1
CMAR	Chiang Mai Arr	31.07	253			P	10 10 31.4	+9.0
MKAR	Makanchi Array	39.70	307	P		P	10 11 35.4	-0.4
0.3nm,0.5s,baz=88,slow=8.9,SNR=3.1								
MKAR	Makanchi Array	39.70	307	P		P	10 11 32.9	-2.9
PMG	Port Moresby	43.62	155	LR		LR	10 30 01.4	
comp=Z,244nm,20.0s,baz=346,slow=35								
PMG	Port Moresby	43.62	155	P		P	10 12 07.2	-0.7
PMG				IAmb		IAmb	10 12 21.6	
comp=Z,7.4nm,1.1s								
WB0	Warramunga Arr	50.97	175	P		P	10 13 05.0	+0.3
WB0				IAmb		IAmb	10 13 14.1	
comp=Z,9.1nm,1.4s								
WRA	Warramunga Arr	51.14	175	P		P	10 13 06.2	+0.3
comp=Z,0.9nm,0.2s,baz=353,slow=7.6,SNR=9.7								
WRA	Warramunga Arr	51.14	175	P		P	10 13 06.4	+0.5
ABKAR	Akbulak array	54.58	311	P		P	10 13 32.6	+1.8
ASAR	Alice Springs	54.80	176	P		P	10 13 33.5	+0.8
comp=Z,0.3nm,0.3s,baz=360,slow=6.0,SNR=7.3								
IMAR	Indian Mountai	56.14	29	P		P	10 13 42.9	+1.2
PPLA	Purkeypile	56.99	32	P		P	10 13 46.8	-1.2
PPLA				IAmb		IAmb	10 13 55.4	
comp=Z,12nm,0.8s								
ARCES	ARCESS Array B	65.94	338	P		P	10 14 47.3	-0.4
comp=Z,8.2nm,1.1s,baz=54,slow=7.9,SNR=3.2								
FIA1	FINESS Array S	69.33	330	P		P	10 15 09.1	0.0
FINES	FINESS Array B	69.33	330	P		P	10 15 08.9	-0.1
comp=Z,1.2nm,0.4s,baz=65,slow=5.3,SNR=17								
FINES	FINESS Array B	69.33	330	P		P	10 15 09.1	0.0
AKASG	Malin Array Be	72.84	319	P		P	10 15 29.9	-0.4
comp=Z,1.1nm,0.5s,baz=56,slow=7.1,SNR=5.2								
BRTR	Keskin Array B	75.34	308	P		P	10 15 46.0	+0.8
comp=Z,1.3nm,0.8s,baz=97,slow=7.4,SNR=5.9								
NOA	NORSAR Array B	75.53	334	P		P	10 15 45.5	-0.3
comp=Z,0.5nm,0.5s,baz=49,slow=5.6,SNR=2.8								
BURAR	Bucovina Array	76.67	318	P		P	10 15 53.9	+1.3
NVAR	Mina Array Bea	85.69	47	P		P	10 16 41.5	+1.0
comp=Z,0.2nm,0.6s,baz=316,slow=5.1,SNR=2.7								

*SOME **30** 10:21:00.5, 44

	43nm,0.2s						
UZB	**Uzynbulak**	**2.73**	**236**	*e*P	**Pb**	**10 21 50.3**	**+0.8**
	3.5nm,0.2s						
UZB				*e*S	**Sb**	**10 22 24.8**	**+1.7**
	7.6nm,0.2s						
KPKS	**Kokpek**	**2.77**	**244**	*e*P	**Pg**	**10 21 51.7**	**-1.9**
	6.4nm,0.1s						
KPKS				*e*S	**Sg**	**10 22 27.1**	**-2.4**
	46nm,0.3s						
ZHN	**Zhinishke**	**3.07**	**241**	*e*P	**Pg**	**10 21 57.2**	**-2.2**
	5.0nm,0.1s						
ZHN				*e*S	**Sg**	**10 22 36.7**	**-2.6**
	22nm,0.2s						
KURS	**Kuram**	**3.10**	**248**	*e*P	**Pb**	**10 21 56.8**	**+1.1**
	1.6nm,0.3s						
KURS				*e*S	**Sb**	**10 22 35.8**	**+2.3**
	3.8nm,0.2s						
ARXS	**Arharly**	**3.11**	**262**	Pg	**Pb**	**10 21 57.2**	**+1.2**
	2.7nm,0.2s						
ARXS				Lg	Lg	10 22 37.4	
	14nm,0.3s						
ARXS	**Arharly**	**3.11**	**262**	*e*P	**Pb**	**10 21 57.2**	**+1.2**
	1.6nm,0.1s						
ARXS				*e*S	**Sg**	**10 22 37.4**	**-3.1**
	17nm,0.2s						
SATY	**Saty**	**3.15**	**240**	Pg	**Pb**	**10 21 57.9**	**+1.2**
	5.7nm,0.3s						
SATY				Lg	Lg	10 22 37.9	
	37nm,0.2s						
SATY	**Saty**	**3.15**	**240**	*e*P	**Pb**	**10 21 57.9**	**+1.2**
	5.7nm,0.3s						
SATY				*e*S	**Sb**	**10 22 38.0**	**+2.8**
	37nm,0.2s						
CHKK	**Chushkaly**	**3.78**	**259**	Pg	**Pb**	**10 22 09.6**	**+2.2**
	2.3nm,0.2s						
CHKK				Lg	Lg	10 22 58.1	
	10nm,0.2s						
CHKK	**Chushkaly**	**3.78**	**259**	*e*P	**Pb**	**10 22 09.6**	**+2.2**
	0.9nm,0.1s						
CHKK				⇑*i*S	**Sg**	**10 22 58.1**	**-3.8**
	10nm,0.2s						
KOTS	**Kotyrbulak**	**3.90**	**249**	Pg	**Pb**	**10 22 11.8**	**+2.2**
	8.6nm,0.4s						
KOTS				Lg	Lg	10 23 01.8	
	7.0nm,0.4s						
KOTS	**Kotyrbulak**	**3.90**	**249**	*e*P	**Pb**	**10 22 11.8**	**+2.2**
	3.2nm,0.2s						
KOTS				*e*S	**Sg**	**10 23 01.8**	**-4.0**
	13nm,0.2s						
KTBS	**Karatobe**	**4.03**	**258**	Pg	**Pb**	**10 22 13.5**	**+1.9**
	1.4nm,0.3s						
KTBS				Lg	Lg	10 23 05.0	
	7.4nm,0.3s						
KTBS	**Karatobe**	**4.03**	**258**	*e*P	**Pb**	**10 22 13.5**	**+1.9**
	0.6nm,0.3s						
KTBS				*e*S	**Sb**	**10 23 05.0**	**+4.5**
	10nm,0.4s						
TNSS	**Tian-Shan**	**4.09**	**248**	Pg	**Pb**	**10 22 15.1**	**+2.2**
	2.0nm,0.4s						
TNSS				Lg	Lg	10 23 07.8	
	3.4nm,0.4s						
TNSS	**Tian-Shan**	**4.09**	**248**	*e*P	**Pb**	**10 22 15.1**	**+2.2**
	0.6nm,0.2s						
TNSS				*e*S	**Sg**	**10 23 07.8**	**-4.3**
	3.4nm,0.4s						
KUU	**Kurty**	**4.23**	**261**	Pg	**Pb**	**10 22 17.6**	**+2.6**
	1.0nm,0.3s						
KUU				Lg	Lg	10 23 12.3	
	4.7nm,0.2s						
KUU	**Kurty**	**4.23**	**261**	*e*P	**Pb**	**10 22 17.6**	**+2.6**
	0.5nm,0.1s						
KUU				*e*S	**Sg**	**10 23 12.3**	**-3.9**
	4.3nm,0.2s						
IZV	**Izvestkoviy**	**4.32**	**249**	Pg	**Pg**	**10 22 20.4**	**-2.9**
	1.3nm,0.2s						
IZV				Lg	Lg	10 23 17.0	
	8.8nm,0.6s						
IZV	**Izvestkoviy**	**4.32**	**249**	*e*P	**Pg**	**10 22 20.4**	**-2.9**
	1.0nm,0.2s						
IZV				*e*S	**Sg**	**10 23 17.0**	**-2.1**
	8.8nm,0.6s						
MTBS	**Maitube**	**4.40**	**251**	*e*P	**Pg**	**10 22 21.8**	**-3.1**
	2.0nm,0.1s						
MTBS				*e*S	**Sg**	**10 23 18.8**	**-3.1**
	7.0nm,0.2s						
DGS	**Degeres**	**4.81**	**254**	Pg	**Pg**	**10 22 30.4**	**-2.2**
	1.6nm,0.3s						
DGS				Lg	Lg	10 23 33.8	
	3.8nm,0.5s						
DGS	**Degeres**	**4.81**	**254**	*e*P	**Pg**	**10 22 30.4**	**-2.2**
	1.5nm,0.3s						
DGS				*e*S	**Sg**	**10 23 33.8**	**-1.1**
	6.2nm,0.5s						

NIED ***30*** *10:26:00,24.°90N×122.°40E,h5km,Mw3.8 Best double couple: M0=5.11000×10^14 NP1:φs=105.00000°,δ42.00000°, λ-53.00000°. NP2:φs=240.00000°,δ58.00000°, λ-118.00000°.*
IDC ***30*** *10:26:35.0±1.2,24.°46N×121.°62E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.5/52,mbtmp3.7/5,ML3.6/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/36,Error ellipse: s-maj=69.9km s-min=21.1km az=70.0*
ISCJB ***30*** *10:26:35.0±0.4,24.°89N±0.°02×122.°46E±0.°01,h13km±2km, mb3.6/4,Error ellipse: s-maj=2.7km s-min=1.8km az=10.7*
JMA ***30*** *10:26:35.7,24.°91N×122.°44E,h42km±2km,M3.5*
TAP ***30*** *10:26:35.6,24.°90N×122.°40E,h17km,ML4.0,C*
NEIC ***30*** *10:26:36.0±1.4,24.°66N±0.°03×122.°34E±0.°02,h10km±1km, mb4.1/15*

ISC 30 10:26:35.9±1.0,24.°87N±0.°02×122.°41E±0.°02,h13km±7km, n143,σ1°31/222,mb3.9/7,18C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**290**	⇑*i*P	**Pb**	**10 26 44.1**	**-0.8**
	baz=286						
TWB1				S	**Sg**	**10 26 49.3**	**-0.1**
	baz=286						
EOS1	**EOS1**	**0.41**	**219**	⇑*i*P	**Pb**	**10 26 44.9**	**0.0**
	baz=215						
EOS1				*e*S	**Sb**	**10 26 51.3**	**+0.4**
	baz=215						
EGS		**0.43**	**267**	P	**Pb**	**10 26 44.8**	**-0.5**
	baz=252						
EGS				*e*S	**Sb**	**10 26 51.0**	**-0.7**
	baz=252						
NTC	**Toucheng**	**0.52**	**269**	⇑*i*P	**Pb**	**10 26 46.4**	**-0.5**
	baz=276						
NTC				*e*S	**Sb**	**10 26 54.5**	**+0.1**
	baz=276						
TIPB	**Shuangxi**	**0.54**	**281**	⇑*i*P	**Pb**	**10 26 46.6**	**-0.6**
	baz=277						
TIPB				*e*S	**Sb**	**10 26 54.3**	**-0.5**
	baz=277						
TWC	**Suao**	**0.57**	**243**	⇑*i*P	**Pg**	**10 26 46.6**	**-0.4**
	baz=239						
TWC				*e*S	**Sg**	**10 26 54.0**	**-0.6**
	baz=239						
WFSB	**Wu-fen Shan**	**0.60**	**290**	⇑*i*P	**Pb**	**10 26 48.1**	**-0.1**
	baz=287						
WFSB				S	**Sb**	**10 26 56.1**	**-0.6**
	baz=287						
ILA	**Ilan**	**0.61**	**260**	*e*S	**Sb**	**10 26 57.0**	**+0.2**
	baz=247						
JYNG	**Yonagunijimaku**	**0.64**	**130**	P	**Pg**	**10 26 48.4**	**0.0**
JYNG				S	**Sg**	**10 26 57.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.68**	**126**	⇓*i*P	**Pb**	**10 26 49.1**	**-0.6**
	baz=117						
YOJ				S	**Sg**	**10 26 58.6**	**+0.4**
	baz=117						
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pb**	**10 26 49.0**	**-0.6**
YOJ				S	**Sg**	**10 26 58.7**	**+0.6**
YOJ	**Yonaguni jima**	**0.68**	**126**		**Pb**	**10 26 49.4**	**-0.2**
YOJ				Sg	**Sg**	**10 26 56.3**	**-1.8**
TWE	**Neicheng**	**0.69**	**258**	*e*P	**Pg**	**10 26 49.0**	**-0.3**
	baz=245						
TWE				S	**Sb**	**10 26 58.6**	**-0.5**
	baz=245						
SLBB	**Yuanshan**	**0.71**	**261**	*e*P	**Pg**	**10 26 49.3**	**-0.3**
	baz=258						
SLBB				*e*S	**Sb**	**10 26 59.6**	**-0.2**
	baz=258						
NANB	**Nanao**	**0.74**	**234**	*e*P	**Pb**	**10 26 49.9**	**-0.7**
	baz=231						
NANB				*e*S	**Sb**	**10 27 00.0**	**-0.7**
	baz=231						
ENA	**Nanau**	**0.75**	**234**	*e*P	**Pb**	**10 26 50.2**	**-0.5**
	baz=231						
ENA				*e*S	**Sb**	**10 26 59.9**	**-0.9**
	baz=231						
TWA	**Mucha**	**0.76**	**279**	⇑*i*P	**Pg**	**10 26 50.8**	**+0.2**
	baz=275						
TWA				*e*S	**Sg**	**10 27 00.3**	**-0.2**
	baz=275						
ENTT	**Nioudou**	**0.80**	**254**	*e*P	**Pg**	**10 26 51.3**	**0.0**
	baz=250						
ENTT				*e*S	**Sb**	**10 27 01.6**	**-0.7**
	baz=250						
NHDH	**Xindian Distri**	**0.81**	**277**	⇑*i*P	**Pn**	**10 26 51.8**	**-1.1**
	baz=274						
NHDH				*e*S	**Sg**	**10 27 02.4**	**+0.3**
	baz=274						
YM08	**YM08**	**0.81**	**293**	⇑*i*P	**Pg**	**10 26 51.2**	**-0.3**
	baz=277						
YM08				S	**Sg**	**10 27 01.8**	**-0.3**
	baz=277						
YM01	**YM01**	**0.81**	**290**	⇑*i*P	**Pn**	**10 26 51.6**	**-1.4**
	baz=288						
YM01				S	**Sg**	**10 27 02.3**	**+0.2**
	baz=288						
YM11	**YM11**	**0.81**	**292**	⇑*i*P	**Pg**	**10 26 51.5**	**-0.1**
	baz=275						
YM11				*e*S	**Sg**	**10 27 01.8**	**-0.5**
	baz=275						
PCYT	**Pengchaiyu**	**0.82**	**338**	⇑*i*P	**Pb**	**10 26 50.9**	**-1.0**
	baz=338						
PCYT				*e*S	**Sn**	**10 27 03.0**	**-2.0**
	baz=338						
YM05	**YM05**	**0.82**	**291**	⇑*i*P	**Pg**	**10 26 51.5**	**-0.2**
	baz=275						
YM05				*e*S	**Sg**	**10 27 02.4**	**-0.1**
	baz=275						
YM10	**YM10**	**0.82**	**291**	⇑*i*P	**Pg**	**10 26 51.7**	**-0.1**
	baz=288						
YM10				*e*S	**Sg**	**10 27 02.5**	**0.0**
	baz=288						
TAP1	**Taipei**	**0.82**	**282**	*e*P	**Pg**	**10 26 51.4**	**-0.3**
	baz=279						
TAP1				*e*S	**Sn**	**10 27 03.1**	**-2.0**
	baz=279						
NWLT	**Wulai**	**0.83**	**264**	*e*P	**Pg**	**10 26 51.9**	**0.0**
	baz=261						
NWLT				S	**Sg**	**10 27 02.8**	**0.0**
	baz=261						
TAP	**Taipei**	**0.83**	**282**	*e*P	**Pg**	**10 26 51.8**	**-0.3**
	baz=279						
TAP				*e*S	**Sn**	**10 27 03.6**	**-1.9**
	baz=279						
TWY	**Chenhua**	**0.84**	**299**	⇑*i*P	**Pg**	**10 26 51.8**	**-0.2**
	baz=297						
TWY				*e*S	**Sn**	**10 27 03.7**	**-1.8**
	baz=297						
YM04	**YM04**	**0.84**	**290**	P	**Pg**	**10 26 51.7**	**-0.4**
	baz=287						
YM04				*e*S	**Sg**	**10 27 02.7**	**-0.5**
	baz=287						
TATO	**Taipei**	**0.84**	**277**	⇑*i*P	**Pg**	**10 26 52.1**	**0.0**
	baz=275						
TATO				*e*S	**Sg**	**10 27 02.8**	**-0.4**
	baz=275						
TATO	**Taipei**	**0.84**	**277**		**Pn**	**10 26 52.3**	**-1.1**
TATO				Sg	**Sg**	**10 27 02.7**	**-0.4**
NDT	**Datong Townshi**	**0.85**	**252**	⇓*i*P	**Pg**	**10 26 52.3**	**-0.1**
	baz=232						
NDT				*e*S	**Sb**	**10 27 03.4**	**-0.6**
	baz=232						
ANP	**Anpu**	**0.86**	**292**	*e*P	**Pg**	**10 26 52.1**	**-0.5**
	baz=277						
ANP				*e*S	**Sb**	**10 27 02.4**	**-1.9**
	baz=277						
NTST	**Danshui**	**0.92**	**289**	*e*P	**Pg**	**10 26 53.3**	**-0.3**
	baz=286						
NTST				*e*S	**Sn**	**10 27 06.4**	**-1.1**
	baz=286						
TWS1	**Kuangyinshan**	**0.93**	**285**	⇑*i*P	**Pn**	**10 26 53.6**	**-0.9**
	baz=282						
TWS1				*e*S	**Sn**	**10 27 06.0**	**-1.7**
	baz=282						
YHNB	**Yeheng**	**0.96**	**258**	P	**Pb**	**10 26 53.9**	**-0.5**
	baz=241						
YHNB				S	**Sb**	**10 27 06.0**	**-1.0**
	baz=241						
YHNB	**Yeheng**	**0.96**	**258**		**Pn**	**10 26 54.4**	**-0.7**
YHNB				Sg	**Sb**	**10 27 04.1**	**-2.9**
NSK	**Sanguang**	**0.97**	**259**	*e*P	**Pb**	**10 26 54.2**	**-0.4**
	baz=270						
NSK				*e*S	**Sb**	**10 27 06.3**	**-1.1**
	baz=270						
NACB	**Ninganchiao**	**1.01**	**227**	⇓*i*P	**Pb**	**10 26 54.2**	**-1.0**
	baz=225						
NACB				*e*S	**Sb**	**10 27 07.9**	**-0.6**
	baz=225						
NACB	**Ninganchiao**	**1.01**	**227**		**Pb**	**10 26 54.4**	**-0.8**
NACB					**Sb**	**10 27 02.0**	**-6.4**
NNSB	**Datong**	**1.03**	**245**	P	**Pb**	**10 26 55.1**	**-0.5**
	baz=231						
NNSB				S	**Sb**	**10 27 08.7**	**-0.4**
	baz=231						
NNSH	**Datong**	**1.03**	**245**	P	**Pb**	**10 26 55.4**	**-0.2**
	baz=243						
NNSH				*i*S	**Sb**	**10 27 08.5**	**-0.5**
	baz=243						
NNS	**Nan Shan**	**1.03**	**246**	⇑*i*P	**Pn**	**10 26 55.5**	**-0.7**
	baz=232						
NNS				*e*S	**Sb**	**10 27 08.9**	**-0.2**
	baz=232						
WLTB	**Daxi**	**1.05**	**269**	*e*P	**Pn**	**10 26 55.7**	**-0.6**
	baz=267						
WLTB				*e*S	**Sb**	**10 27 07.1**	**-2.4**
	baz=267						
ETLH	**Xiulin Townshi**	**1.07**	**232**	*e*P	**Pb**	**10 26 55.9**	**-0.4**
	baz=230						
ETLH				*e*S	**Sb**	**10 27 08.9**	**-1.3**
	baz=230						
TWD	**Chiawan**	**1.08**	**223**	*e*P	**Pb**	**10 26 56.1**	**-0.2**
	baz=229						
TWD				*e*S	**Sn**	**10 27 10.9**	**-0.6**
	baz=229						
NCU	**National Centr**	**1.11**	**275**	*e*P	**Pg**	**10 26 58.3**	**+1.0**
	baz=273						
NCU				*e*S	**Sn**	**10 27 11.0**	**-1.4**
	baz=273						
NCUH	**Zhongli**	**1.11**	**275**	*e*P	**Pn**	**10 26 56.4**	**-0.8**
	baz=272						
NCUH				*e*S	**Sb**	**10 27 10.6**	**-0.8**
	baz=272						
ENLB	**Shoufeng**	**1.21**	**218**	*e*P	**Pn**	**10 26 58.0**	**-0.5**
	baz=197						
ENLB				*e*S	**Sg**	**10 27 16.5**	**+1.6**
	baz=197						
WHF	**Hehuan Shan**	**1.27**	**236**	*e*P	**Pn**	**10 26 59.1**	**-0.5**
	baz=233						
WHF				*e*S	**Sb**	**10 27 15.3**	**-0.8**
	baz=233						
TWT	**Tachien**	**1.28**	**242**	*e*P	**Pb**	**10 26 59.9**	**+0.1**
	baz=239						
TWT				*e*S	**Sn**	**10 27 16.0**	**-0.6**
	baz=239						
LIOB	**Emei**	**1.28**	**260**	*e*P	**Pb**	**10 26 59.2**	**-0.6**
	baz=257						
LIOB				*e*S	**Sn**	**10 27 15.6**	**-1.0**
	baz=257						
TDCB	**Techi**	**1.29**	**242**	*e*P	**Pb**	**10 26 59.7**	**-0.4**
	baz=240						
TDCB				*e*S	**Sn**	**10 27 16.3**	**-0.6**
	baz=240						
SBCB	**Hsinchu**	**1.29**	**267**	*e*P	**Pb**	**10 26 59.3**	**-0.7**
	baz=281						
SBCB				*e*S	**Sb**	**10 27 15.1**	**-1.4**
	baz=281						
NSTT	**Nanjuang**	**1.30**	**260**	*e*P	**Pb**	**10 26 59.8**	**-0.4**
	baz=257						
NSTT				*e*S	**Sn**	**10 27 16.8**	**-0.2**
	baz=257						
HSN	**Hsinchu**	**1.31**	**267**	*e*P	**Pn**	**10 26 58.4**	**-1.4**
	baz=265						
HSN				*e*S	**Sn**	**10 27 15.4**	**-1.7**
	baz=265						
IRIF	**Iriomote-Funau**	**1.32**	**114**	P	**Pn**	**10 26 57.9**	**-2.0**
ESL	**Shilin**	**1.38**	**220**	*e*P	**Pn**	**10 26 59.3**	**-1.5**
	baz=201						
ESL				*e*S	**Sb**	**10 27 19.0**	**+0.1**
	baz=201						
CHGB	**Renai**	**1.38**	**235**	*e*P	**Pg**	**10 27 02.0**	**-0.5**
	baz=233						
CHGB				*e*S	**Sb**	**10 27 19.8**	**+0.5**
	baz=233						
WHP	**Taichung City**	**1.46**	**246**	*e*P	**Pb**	**10 27 03.0**	**+0.1**
	baz=244						
WHP				*e*S	**Sb**	**10 27 21.4**	**+0.2**
	baz=244						
EGFH	**Guangfu**	**1.49**	**217**	*e*P	**Pn**	**10 27 02.4**	**+0.1**
	baz=199						
NMLH	**Miaoli**	**1.51**	**258**	*e*P	**Pb**	**10 27 03.3**	**-0.4**
	baz=255						
NMLH				*e*S	**Sb**	**10 27 22.9**	**+0.2**
	baz=255						
HATJ	**Hateruma jima**	**1.51**	**122**	P	**Pn**	**10 27 01.2**	**-1.4**
HATJ				*e*S	**Sn**	**10 27 19.2**	**-2.9**
DPDB	**Guoxing**	**1.58**	**239**	*e*P	**Pb**	**10 27 05.0**	**-0.1**
	baz=237						
JKRS	**Kuro-shima**	**1.59**	**113**	P	**Pn**	**10 27 02.2**	**-1.5**
VWDT	**VWDT**	**1.60**	**226**	*e*P	**Pb**	**10 27 04.6**	**-0.7**
	baz=207						
VWDT				*e*S	**Sb**	**10 27 25.4**	**-0.1**
	baz=207						
HGSD	**Ruisui**	**1.64**	**213**	*e*P	**Pn**	**10 27 04.0**	**-0.3**
	baz=198						
HGSD				*e*S	**Sn**	**10 27 25.3**	**0.0**
	baz=198						
JIJ	**Ishigaki jima**	**1.66**	**107**	P	**Pn**	**10 27 02.8**	**-1.8**
JIJ				*e*S	**Sn**	**10 27 23.1**	**-2.7**
EHY	**Hungye**	**1.68**	**216**	*e*P	**Pn**	**10 27 03.9**	**-1.0**
	baz=215						
SMLT	**Sun Moon Lake**	**1.69**	**235**	*e*P	**Pb**	**10 27 06.5**	**-0.3**
	baz=233						
SMLT				*e*S	**Sb**	**10 27 28.4**	**+0.3**
	baz=233						
WDJ	**Dajia District**	**1.69**	**252**	*e*P	**Pb**	**10 27 05.5**	**-1.3**
	baz=250						
SSLB	**Suanglung**	**1.71**	**231**	P	**Pb**	**10 27 06.2**	**-0.9**
	baz=240						
SSLB				*e*S	**Sb**	**10 27 28.3**	**-0.3**
	baz=240						
SSLB	**Suanglung**	**1.71**	**231**		**Pb**	**10 27 06.2**	**-0.9**
SSLB				Sn	**Sn**	**10 27 22.9**	**-4.1**
TYC	**Yuchr**	**1.71**	**236**	*e*P	**Pb**	**10 27 07.1**	**0.0**
	baz=234						
TYC				*e*S	**Sb**	**10 27 28.6**	**+0.1**
	baz=234						
TCU	**Taichung**	**1.73**	**246**	*e*P	**Pn**	**10 27 06.0**	**+0.4**
	baz=244						
JISG	**Ishigakijimahi**	**1.75**	**99**	P	**Pn**	**10 27 04.1**	**-1.8**
JISG				*e*S	**Sn**	**10 27 24.8**	**-3.3**
YULB	**Yu-li**	**1.79**	**215**	*e*P	**Pn**	**10 27 05.5**	**-0.9**
	baz=214						
YULB				*e*S	**Sn**	**10 27 27.8**	**-1.2**
	baz=214						
YULB	**Yu-li**	**1.79**	**215**		**Pn**	**10 27 04.3**	**-2.1**
TWF1	**Yuli**	**1.82**	**214**	*e*P	**Pn**	**10 27 05.9**	**-0.9**
	baz=213						
WHYT	**Xinyi Township**	**1.84**	**231**	*e*P	**Pb**	**10 27 08.6**	**-0.8**
	baz=212						
WHYT				*e*S	**Sg**	**10 27 34.0**	**-0.9**
	baz=212						
WJS	**Zhushan**	**1.85**	**236**	*e*P	**Pb**	**10 27 09.6**	**+0.1**
	baz=253						
WJS				*e*S	**Sg**	**10 27 34.8**	**-0.6**
	baz=253						
WNT	**Mingjian**	**1.85**	**238**	*e*P	**Pb**	**10 27 08.7**	**-0.9**
	baz=255						
YUS	**Yu-Shan**	**1.91**	**224**	*e*P	**Pn**	**10 27 09.1**	**+0.5**
	baz=223						
FULB	**Fuli**	**1.95**	**212**	*e*P	**Pn**	**10 27 08.1**	**-0.6**
	baz=195						
CHKT	**Chengkung**	**2.00**	**209**	*e*P	**Pn**	**10 27 07.8**	**-1.6**
	baz=192						
CHN5	**Tsauling**	**2.02**	**232**	*e*P	**Pb**	**10 27 11.4**	**-1.1**
	baz=213						
CHN5				*e*S	**Sb**	**10 27 38.5**	**+0.9**
	baz=213						
WDLH	**Douliu**	**2.07**	**236**	*e*P	**Pb**	**10 27 12.0**	**-1.2**
	baz=251						
JTJ	**Tarama**	**2.10**	**96**	P	**Pn**	**10 27 09.3**	**-1.4**
JTJ				S	**Sn**	**10 27 33.2**	**-3.5**
ELDTW	**Lidau**	**2.10**	**218**	*e*P	**Pn**	**10 27 10.9**	**+0.1**
	baz=203						
CHN2	**Minshiung**	**2.21**	**233**	*e*S	**Sb**	**10 27 44.4**	**+1.5**
	baz=249						
CHN4	**Tsaushan**	**2.24**	**228**	*e*P	**Pb**	**10 27 15.0**	**-1.3**
	baz=211						
TPUB	**Ta-pu**	**2.25**	**227**	*e*P	**Pb**	**10 27 14.5**	**-1.9**
	baz=210						
TPUB				*e*S	**Sn**	**10 27 41.0**	**+0.5**
	baz=210						
TPUB	**Ta-pu**	**2.25**	**227**	Pn	**Pn**	**10 27 14.3**	**+1.4**
CHY	**Chiayi**	**2.27**	**233**	*e*P	**Pb**	**10 27 15.2**	**-1.5**
	baz=249						
STYT	**Tauyuan**	**2.27**	**222**	*e*P	**Pn**	**10 27 14.1**	**+1.0**
	baz=205						
WTP	**Ta-pu**	**2.30**	**226**	P	**Pb**	**10 27 15.3**	**-1.9**
	baz=209						
WSF	**Szhu**	**2.34**	**239**	*e*S	**Sn**	**10 27 43.6**	**+1.0**
	baz=252						
TWK	**Hsinying**	**2.37**	**228**	*i*P	**Pb**	**10 27 16.5**	**-1.9**
	baz=212						
TWK				*e*S	**Sb**	**10 27 46.2**	**-1.4**
	baz=212						
TWGBT	**Beinan**	**2.38**	**211**	*e*P	**Pn**	**10 27 14.2**	**-0.3**
	baz=210						
TWG	**Pinlang**	**2.38**	**211**	*e*P	**Pn**	**10 27 14.3**	**-0.2**
	baz=210						
TWG	**Pinlang**	**2.38**	**211**		**Pn**	**10 27 12.1**	**-2.5**
SNST	**Tainan City**	**2.40**	**227**	*e*P	**Pb**	**10 27 16.9**	**-2.0**
	baz=211						
CHN1	**Nanshi**	**2.40**	**226**	*e*P	**Pn**	**10 27 16.4**	**+1.5**
	baz=210						
CHN1				*e*S	**Sb**	**10 27 47.4**	**-1.1**
	baz=210						
SGST	**Jiashian**	**2.44**	**224**	*e*P	**Pn**	**10 27 16.4**	**+1.1**
	baz=207						
SLGT	**Liugui**	**2.47**	**221**	*e*P	**Pb**	**10 27 17.7**	**-2.3**
	baz=205						
SLGT				*e*S	**Sn**	**10 27 47.2**	**+1.4**
	baz=205						
PTTC	**Pingtan**	**2.47**	**285**	*e*P	**Pn**	**10 27 14.0**	**-1.8**
	baz=282						
JMJ	**Miyako jima 2**	**2.62**	**91**	*e*P	**Pn**	**10 27 19.6**	**+1.7**
	baz=92						
ECL	**Taimali**	**2.62**	**211**	*e*P	**Pn**	**10 27 17.5**	**-0.4**
	baz=210						
SSD	**Sandimen**	**2.67**	**218**	*e*P	**Pn**	**10 27 20.4**	**+1.9**
	baz=203						
VWUC	**VWUC**	**2.69**	**273**	*e*P	**Pn**	**10 27 17.7**	**-1.1**
	baz=270						
EAST	**Anshuo**	**2.86**	**210**	*e*P	**Pn**	**10 27 20.2**	**-0.9**
	baz=209						
XPSS	**Dashiqiu**	**2.86**	**316**	*e*P	**Pn**	**10 27 20.1**	**-1.1**
	baz=314						
LYJJ	**Jianjiangzhen**	**2.92**	**306**	*e*P	**Pn**	**10 27 20.6**	**-1.3**
	baz=303						
PTMZ	**Houxiangcun**	**2.99**	**274**	*e*P	**Pn**	**10 27 22.2**	**-0.7**
	baz=271						
KNMB	**Chin-men Tao**	**3.68**	**265**	Pn	**Pn**	**10 27 31.6**	**-0.8**
KNMB				Sn	**Sn**	**10 28 11.2**	**-4.4**
JOW	**Kunigami**	**5.64**	**68**	Pn	**Pn**	**10 28 01.2**	**+1.9**
INCN	**Inchon**	**13.08**	**15**	Pn	**Pn**	**10 29 43.7**	**+2.3**
KSAR	**Wonju Array Be**	**13.38**	**19**	Pn	**Pn**	**10 29 48.3**	**+2.9**
KSRS	**Korea Array**	**13.40**	**19**	Pn	**P**	**10 29 56.8**	**+1.6**
	0.3nm,0.3s,baz=196,slow=12,SNR=7.6						
KSRS				LR	LR	10 35 44.8	
	comp=Z,51nm,18.1s,baz=214,slow=39						
INU	**Inuyama**	**16.38**	**47**		**P**	**10 30 30.9**	**+2.6**
INU				IAmb	IAmb	10 30 41.4	
	comp=Z,25nm,1.2s						
SONM	**Songino Array**	**26.20**	**335**	P	**P**	**10 32 10.7**	**+0.4**
	comp=Z,1.5n

PMG			IAmb	IAmb	10 34 27.6	
	comp=Z,7.8nm,1.1s					
WB0	**Warramunga Arr**	**45.88 164**	P	**P**	**10 34 57.4**	**-0.7**
WB0			IAmb	IAmb	10 35 04.9	
	comp=Z,1.4nm,0.7s					
WRA	**Warramunga Arr**	**46.03 164**	P	**P**	**10 34 58.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=347,slow=8.8,SNR=8.7					
WRA	**Warramunga Arr**	**46.03 164**	P	**P**	**10 34 58.6**	**-0.7**
WB2	**Warramunga Arr**	**46.03 164**	P	**P**	**10 34 58.8**	**-0.6**
WR0	**Warramunga Arr**	**46.10 164**	P	**P**	**10 34 58.8**	**-1.0**
AS31	**Alice Springs**	**49.52 166**	P	**P**	**10 35 25.1**	**-1.2**
ASAR	**Alice Springs**	**49.52 166**	P	**P**	**10 35 26.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=342,slow=7.4,SNR=8.0					
ASAR	**Alice Springs**	**49.52 166**	P	**P**	**10 35 25.0**	**-1.4**
HNR	**Honiara**	**50.02 128**	P	**P**	**10 35 30.6**	**+0.3**
MSEY	**Mahe Island**	**71.28 256**	P	**P**	**10 37 52.9**	**-2.6**

*ISCJB **30** 10:32:35.7±0.6,24°.85N±0°.02×122°.40E±0°.02,h11km±3km,*
Error ellipse: s-maj=4.3km s-min=3.2km az=30.0
*TAP **30** 10:32:36.3,24°.87N×122°.33E,h15km,ML2.8,C*
*JMA **30** 10:32:36.0±0.1,24°.86N×122°.44E,h38km±4km,M2.7*
ISC 30 10:32:35.1±1.1,**24°.87N**±0°.03×**122°.41E**±0°.03,**h15**km±9km,
n48,σ0°**36**/74,**1C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=221	**0.41**	**219**	⇑*i*P	**Pb**	**10 32 44.4**	**+0.4**
EOS1	baz=221			S	**Sb**	**10 32 50.6**	**+0.7**
TWB1	**Santiao Chiao** baz=294	**0.41**	**291**	*e*P	**Pg**	**10 32 43.3**	**0.0**
TWB1	baz=294			S	**Sg**	**10 32 48.9**	**0.0**
EGS	baz=266	**0.43**	**267**	*e*P	**Pg**	**10 32 44.1**	**+0.3**
NTC	**Toucheng** baz=269	**0.53**	**269**	*e*P	**Pb**	**10 32 46.1**	**+0.1**
TIPB	**Shuangxi** baz=282	**0.54**	**281**	*i* P	**Pb**	**10 32 46.1**	**-0.2**
TIPB	baz=282			S	**Sg**	**10 32 53.3**	**+0.3**
TWC	**Suao** baz=239	**0.57**	**244**	*e*P	**Pg**	**10 32 46.2**	**-0.1**
NWF	**Wu-fen Shan** baz=292	**0.61**	**290**	P	**Pb**	**10 32 47.8**	**+0.3**
NWF	baz=292			S	**Sb**	**10 32 56.1**	**+0.3**
WFSB	**Wu-fen Shan** baz=291	**0.61**	**290**	P	**Pb**	**10 32 47.7**	**+0.3**
WFSB	baz=291			S	**Sb**	**10 32 55.7**	**-0.1**
JYNG	**Yonagunijimaku**	**0.64**	**130**	P	**Pb**	**10 32 48.1**	**+0.1**
JYNG				S	**Sb**	**10 32 57.1**	**+0.4**
YOJ	**Yonaguni jima** baz=123	**0.68**	**126**	*e*P	**Pb**	**10 32 48.6**	**0.0**
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pb**	**10 32 48.6**	**0.0**
YOJ				*e*S	**Sb**	**10 32 57.8**	**-0.1**
TWE	**Neicheng** baz=246	**0.69**	**258**	*e*P	**Pg**	**10 32 48.4**	**-0.1**
TWE	baz=246			*e*S	**Sg**	**10 32 58.2**	**+0.5**
NANB	**Nanao** baz=230	**0.74**	**234**	*e*P	**Pg**	**10 32 49.5**	**0.0**
NANB	baz=230			*e*S	**Sg**	**10 32 58.4**	**-0.9**
ENA	**Nanau** baz=230	**0.75**	**235**	*e*P	**Pg**	**10 32 49.7**	**+0.1**
ENA	baz=230			*e*S	**Sg**	**10 32 58.7**	**-0.8**
TWA	**Mucha** baz=279	**0.76**	**279**	*e*P	**Pb**	**10 32 50.1**	**+0.1**
TWA	baz=279			*e*S	**Sg**	**10 32 59.8**	**0.0**
ENTT	**Nioudou** baz=251	**0.80**	**254**	*e*P	**Pb**	**10 32 51.0**	**+0.3**
ENTT	baz=251			*e*S	**Sg**	**10 33 00.8**	**-0.4**
NHDH	**Xindian Distri** baz=277	**0.81**	**277**	*e*P	**Pb**	**10 32 51.4**	**+0.5**
NHDH	baz=277			*e*S	**Sg**	**10 33 01.7**	**+0.2**
YM08	**YM08** baz=295	**0.81**	**294**	*e*P	**Pn**	**10 32 51.4**	**-0.6**
YM08	baz=295			*e*S	**Sg**	**10 33 01.2**	**-0.4**
YM01	**YM01** baz=291	**0.81**	**290**	*e*P	**Pb**	**10 32 51.4**	**+0.4**
YM01	baz=291			*e*S	**Sg**	**10 33 01.4**	**-0.1**
YM11	**YM11** baz=293	**0.81**	**292**	*e*P	**Pn**	**10 32 51.7**	**-0.4**
PCYT	**Pengchaiyu** baz=343	**0.82**	**338**	*e*P	**Pn**	**10 32 52.0**	**-0.1**
PCYT	baz=343			*e*S	**Sn**	**10 33 03.8**	**-0.3**
YM05	**YM05** baz=293	**0.82**	**291**	*e*P	**Pn**	**10 32 51.8**	**-0.4**
YM10	**YM10** baz=292	**0.82**	**291**	*e*P	**Pn**	**10 32 51.8**	**-0.4**
NWLT	**Wulai** baz=263	**0.83**	**264**	*e*P	**Pb**	**10 32 51.6**	**+0.3**
NWLT	baz=263			*e*S	**Sg**	**10 33 02.6**	**+0.5**
YM04	**YM04** baz=291	**0.84**	**290**	*e*P	**Pn**	**10 32 52.2**	**-0.3**
TATO	**Taipei** baz=278	**0.84**	**278**	*e*P	**Pb**	**10 32 51.8**	**+0.3**
TATO	baz=278			*e*S	**Sg**	**10 33 02.1**	**-0.5**
NDT	**Datong Townshi** baz=250	**0.86**	**252**	*e*P	**Pb**	**10 32 52.0**	**+0.3**
NDT	baz=250			*e*S	**Sg**	**10 33 03.0**	**+0.1**
ANP	**Anpu** baz=293	**0.87**	**292**	*e*P	**Pn**	**10 32 52.4**	**-0.5**
TWS1	**Kuangyinshan** baz=285	**0.93**	**285**	*e*S	**Sb**	**10 33 05.6**	**+0.4**
YHNB	**Yeheng** baz=265	**0.96**	**259**	*e*P	**Pg**	**10 32 53.7**	**+0.1**
YHNB	baz=265			*e*S	**Sg**	**10 33 05.6**	**-0.7**
NSK	**Sanguang** baz=266	**0.97**	**259**	*e*P	**Pg**	**10 32 54.0**	**0.0**
NACB	**Ninganchiao** baz=224	**1.01**	**227**	*e*P	**Pb**	**10 32 54.0**	**-0.3**
NACB	baz=224			*e*S	**Sb**	**10 33 07.1**	**-0.3**
NNSB	**Datong** baz=243	**1.03**	**245**	*e*P	**Pb**	**10 32 54.8**	**0.0**
NNSH	**Datong** baz=235	**1.03**	**245**	*e*P	**Pb**	**10 32 54.9**	**+0.1**
NNSH	baz=235			*e*S	**Sg**	**10 33 07.8**	**-0.7**
NNS	**Nan Shan** baz=234	**1.03**	**246**	*e*P	**Pg**	**10 32 55.3**	**+0.2**
NNS	baz=234			*e*S	**Sg**	**10 33 08.2**	**-0.4**
ETLH	**Xiulin Townshi** baz=229	**1.07**	**232**	*e*P	**Pb**	**10 32 55.4**	**0.0**
ETLH	baz=229			*e*S	**Sb**	**10 33 09.4**	**+0.2**
TWD	**Chiawan** baz=229	**1.08**	**224**	*e*P	**Pb**	**10 32 55.6**	**+0.1**
WHF	**Hehuan Shan** baz=233	**1.27**	**236**	*e*P	**Pn**	**10 32 59.2**	**+0.5**
LIOB	**Emei** baz=260	**1.29**	**261**	*e*P	**Pn**	**10 32 58.7**	**+0.2**
TDCB	**Techi** baz=231	**1.29**	**242**	*e*P	**Pn**	**10 32 59.3**	**+0.5**
TDCB	baz=231			*e*S	**Sb**	**10 33 16.1**	**+0.4**
NSTT	**Nanjuang** baz=276	**1.30**	**260**	*e*P	**Pg**	**10 33 00.1**	**0.0**
ESL	**Shilin** baz=201	**1.37**	**221**	*e*P	**Pn**	**10 32 59.8**	**0.0**
CHGB	**Renai** baz=232	**1.38**	**235**	*e*P	**Pb**	**10 33 01.3**	**+0.5**
CHGB	baz=232			*e*S	**Sn**	**10 33 17.9**	**-0.3**
WHP	**Taichung City** baz=245	**1.46**	**247**	*e*P	**Pg**	**10 33 02.9**	**-0.2**
VWDT	**VWDT** baz=224	**1.60**	**227**	*e*P	**Pb**	**10 33 04.5**	**+0.1**
SSLB	**Suanglung** baz=229	**1.71**	**231**	P	**Pb**	**10 33 06.2**	**0.0**
TYC	**Yuchr** baz=234	**1.71**	**236**	*e*P	**Pb**	**10 33 06.2**	**-0.1**
JISG	**Ishigakijimahi**	**1.75**	**99**	P	**Pn**	**10 33 05.3**	**+0.4**

*ISCJB **30** 10:40:46.7±0.3,23°.88N±0°.02×122°.16E±0°.01,h17km±3km,*
Error ellipse: s-maj=2.9km s-min=1.8km az=149.9
*JMA **30** 10:40:46.9±0.1,23°.85N×122°.10E,h25km±2km,M3.1*
*TAP **30** 10:40:47.9,23°.91N×122°.11E,h33km,ML3.3,D*
ISC 30 10:40:47.5±1.0,**23°.88N**±0°.02×**122°.10E**±0°.02,**h29**km±9km,
n92,σ0°**60**/158,**12D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng** baz=263	**0.46**	**273**	P	**Pb**	**10 40 56.8**	**-0.4**
ENLB	baz=263			*e*S	**Sn**	**10 41 05.1**	**-0.1**
HWA	**Hwalien** baz=270	**0.46**	**282**	P	**Pn**	**10 40 58.1**	**-0.1**
HWA	baz=270			*e*S	**Sb**	**10 41 04.7**	**+0.7**
TWD	**Chiawan** baz=282	**0.50**	**293**	⇓*i*P	**Pb**	**10 40 57.9**	**0.0**
TWD	baz=282			*e*S	**Sb**	**10 41 05.3**	**+0.3**
NACB	**Ninganchiao** baz=291	**0.55**	**302**	⇓*i*P	**Pb**	**10 40 58.4**	**-0.2**
NACB	baz=291			S	**Sb**	**10 41 06.0**	**-0.2**
ESL	**Shilin** baz=256	**0.61**	**264**	⇓*i*P	**Pb**	**10 40 59.5**	**-0.3**
ESL	baz=256			*e*S	**Sb**	**10 41 08.3**	**+0.2**
NANB	**Nanao** baz=313	**0.63**	**329**	⇓*i*P	**Pb**	**10 40 60.0**	**-0.1**
NANB	baz=313			*e*S	**Sn**	**10 41 09.3**	**-0.2**
ENA	**Nanau** baz=313	**0.63**	**329**	*e*P	**Pb**	**10 40 59.9**	**-0.2**
ENA	baz=313			*e*S	**Sb**	**10 41 08.8**	**+0.1**
ETLH	**Xiulin Townshi** baz=297	**0.65**	**300**	*e*P	**Pb**	**10 41 00.2**	**-0.2**
ETLH	baz=297			*e*S	**Sb**	**10 41 09.1**	**-0.2**
EGFH	**Guangfu** baz=240	**0.65**	**251**	*e*P	**Pb**	**10 41 00.1**	**-0.2**
EGFH	baz=240			*e*S	**Sn**	**10 41 09.7**	**-0.4**
EOS1	**EOS1** baz=8.0	**0.66**	**2**	*e*P	**Pn**	**10 41 00.8**	**-0.1**
EOS1	baz=8.0			*e*S	**Sn**	**10 41 10.1**	**-0.2**
HGSD	**Ruisui** baz=236	**0.73**	**238**	*e*P	**Pb**	**10 41 01.6**	**-0.1**
HGSD	baz=236			*e*S	**Sb**	**10 41 11.6**	**+0.1**
TWC	**Suao** baz=353	**0.76**	**342**	*e*P	**Pb**	**10 41 02.0**	**-0.1**
TWC	baz=353			*e*S	**Sb**	**10 41 12.3**	**+0.1**
EHY	**Hungye** baz=254	**0.81**	**242**	⇓*i*P	**Pn**	**10 41 02.6**	**-0.3**
WHF	**Hehuan Shan** baz=277	**0.81**	**289**	⇓*i*P	**Pb**	**10 41 02.7**	**-0.5**
WHF	baz=277			*e*S	**Sb**	**10 41 13.8**	**-0.2**
OWD	**Renai** baz=273	**0.85**	**275**	*e*P	**Pn**	**10 41 03.6**	**0.0**
NNSB	**Datong** baz=308	**0.85**	**310**	⇓*i*P	**Pn**	**10 41 03.2**	**-0.4**
NNSB	baz=308			*e*S	**Sb**	**10 41 14.3**	**-0.6**
NNSH	**Datong** baz=307	**0.85**	**310**	⇓*i*P	**Pn**	**10 41 03.1**	**-0.5**
NNSH	baz=307			*e*S	**Sb**	**10 41 14.6**	**-0.3**
NNS	**Nan Shan** baz=308	**0.86**	**310**	*e*P	**Pn**	**10 41 03.4**	**-0.4**
NNS	baz=308			*e*S	**Sb**	**10 41 15.1**	**-0.3**
CHGB	**Renai** baz=271	**0.87**	**282**	*e*P	**Pn**	**10 41 03.7**	**-0.2**
CHGB	baz=271			*e*S	**Sn**	**10 41 15.7**	**0.0**
YULB	**Yu-li** baz=249	**0.88**	**237**	⇓*i*P	**Pn**	**10 41 03.9**	**-0.1**
YULB	baz=249			*e*S	**Sb**	**10 41 15.2**	**-0.5**
VWDT	**VWDT** baz=260	**0.89**	**262**	⇓*i*P	**Pb**	**10 41 04.3**	**-0.1**
VWDT	baz=260			*e*S	**Sb**	**10 41 15.6**	**-0.2**
NDT	**Datong Townshi** baz=322	**0.89**	**323**	*e*P	**Pn**	**10 41 03.9**	**-0.2**
NDT	baz=322			*e*S	**Sb**	**10 41 15.6**	**-0.5**
ENTT	**Nioudou** baz=326	**0.90**	**327**	*e*P	**Pn**	**10 41 04.0**	**-0.1**
TWF1	**Yuli** baz=225	**0.91**	**234**	⇓*i*P	**Pn**	**10 41 04.4**	**+0.1**
TWE	**Neicheng** baz=334	**0.92**	**335**	*e*P	**Pn**	**10 41 04.3**	**-0.2**
TWE	baz=334			*e*S	**Sn**	**10 41 16.8**	**0.0**
TDCB	**Techi** baz=291	**0.94**	**293**	⇓*i*P	**Pn**	**10 41 05.0**	**+0.2**
TDCB	baz=291			*e*S	**Sn**	**10 41 16.6**	**-0.8**
JYNG	**Yonagunijimaku**	**0.96**	**54**	P	**Pn**	**10 41 04.9**	**0.0**
JYNG				*e*S	**Sn**	**10 41 17.5**	**-0.1**
SLBB	**Yuanshan** baz=323	**0.96**	**334**	*e*P	**Pn**	**10 41 04.3**	**-0.8**
NTC	**Toucheng** baz=353	**1.00**	**346**	*e*P	**Pb**	**10 41 06.1**	**-0.1**
FULB	**Fuli** baz=214	**1.01**	**228**	*e*P	**Pn**	**10 41 05.3**	**-0.4**
FULB	baz=214			*e*S	**Sn**	**10 41 18.1**	**-0.8**
YOJ	**Yonaguni jima** baz=55	**1.01**	**55**	*e*P	**Pn**	**10 41 05.6**	**-0.1**
YOJ	baz=55			*e*S	**Sn**	**10 41 18.5**	**-0.5**
YHNB	**Yeheng** baz=305	**1.02**	**320**	*e*P	**Pn**	**10 41 06.0**	**0.0**
YHNB	baz=305			*e*S	**Sn**	**10 41 18.6**	**-0.8**
CHKT	**Chengkung** baz=210	**1.03**	**221**	*e*P	**Pn**	**10 41 05.3**	**-0.6**
CHKT	baz=210			*e*S	**Sn**	**10 41 17.7**	**-1.7**
NSK	**Sanguang** baz=305	**1.04**	**319**	P	**Pn**	**10 41 06.2**	**+0.1**
NSK	baz=305			*e*S	**Sn**	**10 41 19.0**	**-0.8**
NWLT	**Wulai** baz=327	**1.04**	**329**	*e*P	**Pn**	**10 41 06.2**	**0.0**
NWLT	baz=327			*e*S	**Sn**	**10 41 19.5**	**-0.3**
SSLB	**Suanglung** baz=263	**1.05**	**265**	P	**Pn**	**10 41 06.5**	**+0.2**
DPDB	**Guoxing** baz=276	**1.08**	**278**	*e*P	**Pn**	**10 41 07.2**	**+0.4**
TIPB	**Shuangxi** baz=354	**1.11**	**347**	*e*P	**Pb**	**10 41 07.8**	**-0.4**
TIPB	baz=354			*e*S	**Sn**	**10 41 21.4**	**-0.1**
WHP	**Taichung City** baz=289	**1.13**	**291**	*e*P	**Pb**	**10 41 08.2**	**-0.2**
WHP	baz=289			*e*S	**Sb**	**10 41 23.6**	**+0.9**
WHYT	**Xinyi Township** baz=259	**1.16**	**261**	P	**Pb**	**10 41 08.7**	**-0.2**
WHYT	baz=259			*e*S	**Sn**	**10 41 22.7**	**+0.1**
NHDH	**Xindian Distri** baz=320	**1.20**	**334**	*e*P	**Pb**	**10 41 09.1**	**-0.4**
NHDH	baz=320			*e*S	**Sn**	**10 41 23.8**	**+0.3**
ELDTW	**Lidau** baz=222	**1.21**	**235**	*e*P	**Pn**	**10 41 08.3**	**-0.2**
ELDTW	baz=222			*e*S	**Sn**	**10 41 23.0**	**-1.0**
NWF	**Wu-fen Shan** baz=2.0	**1.22**	**346**	*e*S	**Sb**	**10 41 25.4**	**0.0**
WFSB	**Wu-fen Shan** baz=2.0	**1.22**	**346**	*e*S	**Sb**	**10 41 25.2**	**-0.1**
TATO	**Taipei** baz=320	**1.22**	**333**	*e*P	**Pn**	**10 41 08.8**	**+0.2**
TATO	baz=320			*e*S	**Sn**	**10 41 24.3**	**+0.2**
WLTB	**Daxi** baz=320	**1.24**	**321**	*e*P	**Pb**	**10 41 10.4**	**+0.2**
ALS	**Alishan** baz=251	**1.24**	**253**	*e*P	**Pb**	**10 41 10.2**	**-0.3**
ALS	baz=251			*e*S	**Sn**	**10 41 25.2**	**0.0**
LIOB	**Emei** baz=297	**1.25**	**308**	*e*P	**Pb**	**10 41 10.0**	**-0.4**
LIOB	baz=297			*e*S	**Sb**	**10 41 25.6**	**-0.5**
NSTT	**Nanjuang** baz=306	**1.25**	**307**	*e*P	**Pb**	**10 41 10.2**	**-0.3**
NSTT	baz=306			*e*S	**Sn**	**10 41 25.4**	**+0.6**
WJS	**Zhushan** baz=266	**1.26**	**267**	*e*P	**Pb**	**10 41 10.7**	**+0.1**
WJS	baz=266			*e*S	**Sb**	**10 41 27.3**	**+0.9**
TWQ1	**Liyutan** baz=290	**1.30**	**291**	*e*P	**Pb**	**10 41 11.4**	**+0.1**
TWQ1	baz=290			*e*S	**Sb**	**10 41 28.0**	**+0.4**
NSY	**Sanyi** baz=292	**1.33**	**294**	*e*P	**Pb**	**10 41 12.0**	**+0.2**
CHN5	**Tsauling** baz=248	**1.33**	**258**	P	**Pb**	**10 41 12.0**	**0.0**
CHN5	baz=248			*e*S	**Sb**	**10 41 29.8**	**+1.1**
YM01	**YM01** baz=339	**1.35**	**339**	*e*P	**Pb**	**10 41 11.7**	**-0.5**
YM01	baz=339			*e*S	**Sn**	**10 41 27.5**	**+0.2**
NMLH	**Miaoli** baz=297	**1.36**	**299**	*e*P	**Pb**	**10 41 12.2**	**-0.2**
NMLH	baz=297			*e*S	**Sb**	**10 41 28.6**	**-0.8**
TWS1	**Kuangyinshan** baz=332	**1.36**	**333**	*e*P	**Pn**	**10 41 10.3**	**-0.2**
YM05	**YM05** baz=338	**1.36**	**339**	*e*P	**Pb**	**10 41 12.3**	**-0.2**
HSN	**Hsinchu** baz=313	**1.38**	**312**	*e*S	**Sb**	**10 41 30.3**	**+0.4**
WDJ	**Dajia District** baz=288	**1.41**	**289**	*e*P	**Pb**	**10 41 12.7**	**-0.5**
TWGBT	**Beinan** baz=231	**1.42**	**222**	*e*P	**Pn**	**10 41 11.1**	**-0.2**
WCHH	**Zhanghua** baz=277	**1.42**	**278**	*e*P	**Pb**	**10 41 13.4**	**0.0**
WCHH	baz=277			*e*S	**Sb**	**10 41 32.4**	**+1.2**
STYT	**Tauyuan** baz=228	**1.43**	**240**	*e*P	**Pb**	**10 41 12.7**	**-0.8**
WDLH	**Douliu** baz=261	**1.44**	**263**	*e*P	**Pb**	**10 41 13.4**	**-0.3**
WDLH	baz=261			*e*S	**Sb**	**10 41 33.0**	**+1.3**
TPUB	**Ta-pu** baz=246	**1.47**	**247**	*e*P	**Pb**	**10 41 13.7**	**-0.5**
TPUB	baz=246			*e*S	**Sb**	**10 41 33.5**	**+1.0**
CHN4	**Tsaushan** baz=248	**1.48**	**249**	*e*P	**Pb**	**10 41 14.0**	**-0.4**
CHN4	baz=248			*e*S	**Sb**	**10 41 34.4**	**+1.6**
WTP	**Ta-pu** baz=244	**1.50**	**245**	*e*P	**Pb**	**10 41 14.3**	**-0.5**
WTP	baz=244			*e*S	**Sb**	**10 41 34.2**	**+0.7**
IRIF	**Iriomote-Funau**	**1.56**	**73**	P	**Pn**	**10 41 13.4**	**+0.2**
IRIF				S	**Sn**	**10 41 32.3**	**-0.1**
HATJ	**Hateruma jima**	**1.57**	**83**	P	**Pn**	**10 41 13.6**	**+0.3**
HATJ				*e*S	**Sn**	**10 41 32.4**	**-0.3**
CHY	**Chiayi** baz=254	**1.58**	**256**	*e*P	**Pn**	**10 41 13.6**	**0.0**
RLNB	**Erlin** baz=270	**1.59**	**271**	*e*P	**Pb**	**10 41 15.5**	**-0.7**
RLNB	baz=270			*e*S	**Sb**	**10 41 37.0**	**+1.0**
CHN1	**Nanshi** baz=243	**1.60**	**245**	P	**Pb**	**10 41 16.2**	**-0.3**
CHN1	baz=243			*e*S	**Sb**	**10 41 36.5**	**+0.2**
TWK	**Hsinying** baz=246	**1.60**	**248**	*e*P	**Pb**	**10 41 15.8**	**-0.7**
TWK	baz=246			*e*S	**Sb**	**10 41 36.2**	**-0.1**
SLGT	**Liugui** baz=227	**1.60**	**237**	*e*P	**Pb**	**10 41 16.2**	**-0.2**
SLGT	baz=227			*e*S	**Sb**	**10 41 37.2**	**+0.9**
SGST	**Jiashian** baz=239	**1.61**	**240**	P	**Pb**	**10 41 15.7**	**-0.8**
SGST	baz=239			S	**Sb**	**10 41 37.1**	**+0.7**
SNST	**Tainan City** baz=245	**1.61**	**246**	*e*P	**Pb**	**10 41 15.7**	**-0.9**
SNST	baz=245			*e*S	**Sb**	**10 41 37.1**	**+0.5**
WTCT	**Ta-ch'eng** baz=269	**1.67**	**270**	*e*P	**Pn**	**10 41 15.1**	**+0.4**
WTCT	baz=269			*e*S	**Sb**	**10 41 39.4**	**+1.3**
WSF	**Szhu** baz=261	**1.74**	**262**	*e*S	**Sb**	**10 41 40.3**	**+0.2**
SSD	**Sandimen** baz=224	**1.76**	**230**	P	**Pb**	**10 41 18.1**	**-1.1**
SSD	baz=224			*e*S	**Sb**	**10 41 40.4**	**-0.4**
JKRS	**Kuro-shima**	**1.78**	**78**	P	**Pn**	**10 41 17.0**	**+0.7**
JKRS				*e*S	**Sn**	**10 41 38.5**	**+0.6**
MASBT	**Mashibuluo** baz=222	**1.85**	**227**	*e*P	**Pn**	**10 41 18.5**	**+1.2**
MASBT	baz=222			*e*S	**Sb**	**10 41 42.0**	**-1.4**
TWM1	**Shoushan** baz=235	**1.87**	**236**	*e*S	**Sb**	**10 41 46.9**	**+2.9**
EAST	**Anshuo** baz=217	**1.89**	**218**	*e*P	**Pn**	**10 41 17.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.93**	**75**	P	**Pn**	**10 41 18.1**	**-0.2**
JIJ				*e*S	**Sn**	**10 41 41.9**	**+0.4**
JISG	**Ishigakijimahi**	**2.14**	**70**	P	**Pn**	**10 41 20.9**	**-0.2**
JISG				*e*S	**Sn**	**10 41 45.4**	**-1.3**
WDGT	**Dungji** baz=253	**2.32**	**255**	*e*P	**Pn**	**10 41 24.6**	**+0.9**
PHUB	**P'eng-hu** baz=260	**2.35**	**261**	*e*P	**Pn**	**10 41 25.2**	**+1.1**
PHUB	baz=260			*e*S	**Sn**	**10 41 52.8**	**+0.9**
JTJ	**Tarama**	**2.49**	**72**	P	**Pn**	**10 41 26.1**	**+0.1**
JTJ				*e*S	**Sn**	**10 41 55.7**	**+0.2**
VWUC	**VWUC** baz=293	**2.66**	**295**	*e*P	**Pn**	**10 41 28.4**	**0.0**
PTMZ	**Houxiangcun** baz=292	**2.95**	**294**	*e*P	**Pn**	**10 41 32.5**	**+0.1**
JIRB	**Irabujima**	**2.96**	**71**	P	**Pn**	**10 41 32.4**	**0.0**
JIRB				*e*S	**Sn**	**10 42 06.4**	**-0.5**
JMJ2	**Miyako jima3**	**3.06**	**73**	P	**Pn**	**10 41 34.7**	**+0.8**
JMJ2				*e*S	**Sn**	**10 42 10.6**	**+1.0**
JOGS	**Gusukube**	**3.14**	**73**	P	**Pn**	**10 41 35.8**	**+0.8**

*ISCJB **30** 11:05:26.8±0.7,34°.54N±0°.04×140°.21E±0°.05,h64km±6km,*
mb3.6/2,Error ellipse: s-maj=7.3km s-min=6.7km az=36.1
*JMA **30** 11:05:27.5±0.2,34°.52N×140°.21E,h52km±2km,M2.7*
*IDC **30** 11:05:28.7±4.8,34°.47N×140°.12E,h66km±41km,mb3.3/2,*
mb1 3.4/3,mb1mx3.0/28,mbtmp3.4/3,ML2.1/1,Error
ellipse: s-maj=126.2km s-min=29.9km az=61.0
ISC 30 11:05:27.4±1.1,**34°.52N**±0°.05×**140°.23E**±0°.05,**h57**km±9km,
n17,σ0°**71**/28,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.36**	**40**	P	**Pn**	**11 05 37.6**	**+0.2**
BSO3				X		11 05 46.2	
BSO4	**Boso 4**	**0.47**	**11**	P	**Pn**	**11 05 39.1**	**+0.4**
BSO4				X		11 05 48.3	
TATJ	**Tateyama 2**	**0.58**	**331**	P	**Pn**	**11 05 40.5**	**+0.5**
TATJ				*e*S	**Sn**	**11 05 49.8**	**+0.7**
BSO1	**Boso 1**	**0.63**	**78**	P	**Pn**	**11 05 40.0**	**0.0**
BSO1				X		11 05 49.8	
JKUC	**kamogawauchiur**	**0.64**	**358**	P	**Pn**	**11 05 40.6**	**0.0**
JKUC				S	**Sn**	**11 05 50.2**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.69	287	P		Pn	11 05 41.2	-0.1
JIM2				S		Sn	11 05 50.6	-0.8
JTHY	Toshimahigashi	0.78	270	P		Pn	11 05 43.0	+0.6
JTHY				S		Sn	11 05 53.8	+0.4
JMKN	Mikurajimanish	0.82	220	P		Pn	11 05 43.4	+0.4
JMKN				eS		Sn	11 05 54.7	+0.3
KTJ3	Kamata3	1.04	294	P		Pn	11 05 45.5	-0.3
KTJ3				S		Sn	11 05 58.0	-1.4
JSMT	Sammumatsuo	1.13	9	S		Sn	11 06 01.1	-0.5
JIZS	Izushimoda	1.13	280	P		Pn	11 05 47.2	+0.2
JIZS				eS		Sn	11 06 01.1	-0.5
JOD2	Odawara 2	1.19	308	P		Pn	11 05 47.8	-0.1
JOD2				S		Sn	11 06 02.1	-1.1
JFNN	Fujinakano	1.44	298	P		Pn	11 05 51.6	+0.5
JFNN				S		Sn	11 06 08.7	-0.2
MJAR	Matsushiro Arr	2.60	321	P		Pn	11 06 08.1	+1.1
	0.4nm,0.3s,baz=137,slow=11,SNR=35							
MJAR				S		Sn	11 06 38.6	+1.2
	0.4nm,0.3s,baz=90,slow=30,SNR=5.0							
MAT	Matsushiro	2.60	321	P		Pn	11 06 08.2	+1.2
MAT				S		Sn	11 06 36.3	-1.2
MKAR	Makanchi Array	44.68	304	P		P	11 13 34.6	0.0
	0.5nm,0.9s,baz=81,slow=9.1,SNR=3.3							
WRA	Warramunga Arr	54.45	187	P		P	11 14 48.8	-0.3
	1.0nm,0.9s,baz=1.4,slow=7.6,SNR=8.4							

*IDC **30** 11:19:56.4±2.9, 22°.70N×122°.87E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/38, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/40, Error ellipse: s-maj=232.6km s-min=22.3km az=63.0*

*ISCJB **30** 11:20:03.6±0.3, 22°.08N±0°.02×121°.42E±0°.01, h18km, mb3.6/4, MS3.4/1, Error ellipse: s-maj=2.9km s-min=1.9km az=166.6*

*JMA **30** 11:20:04.8±0.2, 22°.32N×121°.60E, h0km, M4.0*

*TAP **30** 11:20:05.2, 22°.07N×121°.28E, h30km, ML4.0, C*

ISC 30 11:20:03.4±0.8, 22°.09N±0°.03×121°.30E±0°.02, h18km, n116, σ1§34/187, mb3.5/4, 5C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.24	102	⇑iP		Pn	11 20 12.2	+3.2
	baz=89							
LAY				*i* S		Sn	11 20 17.1	+4.3
	baz=89							
TSEB	Hengchuen, Pin	0.42	243	*i* P		Pn	11 20 14.7	+0.2
	baz=254							
TSEB				S		Sn	11 20 21.6	-0.2
	baz=254							
TAW	Tawu	0.46	306	*i* P		Pn	11 20 14.8	-0.3
	baz=309							
TAW				eS		Sn	11 20 21.8	-1.1
	baz=309							
TWKBT	Hengchun	0.48	252	*i* P		Pn	11 20 14.9	-0.4
	baz=259							
TWKBT				eS		Sb	11 20 21.6	+1.6
	baz=259							
TWK1	Hengchun	0.48	253	⇑*i*P		Pn	11 20 14.9	-0.5
	baz=258							
TWK1				S		Sb	11 20 21.7	+1.5
	baz=258							
EAST	Anshuo	0.51	305	⇑*i*P		Pn	11 20 15.6	-0.3
	baz=313							
EAST				eS		Sn	11 20 23.3	-0.9
	baz=313							
HEN	Hengchun	0.53	261	eP		Pn	11 20 15.8	-0.2
	baz=265							
HEN				eS		Sn	11 20 24.0	-0.6
	baz=265							
ECL	Taimali	0.60	328	⇓*i*P		Pg	11 20 16.5	+1.1
	baz=330							
ECL				eS		Sb	11 20 24.5	+1.0
	baz=330							
TTN	Taitung	0.68	348	eP		Pn	11 20 19.1	+0.9
	baz=350							
TTN				eS		Sn	11 20 29.9	+1.6
	baz=350							
SCZT	Fangliau	0.69	294	⇑*i*P		Pn	11 20 18.5	+0.2
	baz=296							
SCZT				eS		Sn	11 20 28.0	-0.6
	baz=296							
TWGBT	Beinan	0.76	344	⇓*i*P		Pb	11 20 18.7	+0.7
	baz=337							
TWGBT				eS		Sb	11 20 28.8	+0.8
	baz=337							
TWG	Pinlang	0.76	344	⇓*i*P		Pb	11 20 18.8	+0.6
	baz=337							
TWG				eS		Sb	11 20 28.7	+0.6
	baz=337							
SSPT	Xinbi	0.79	300	eP		Pb	11 20 18.9	+0.3
	baz=311							
MASBT	Mashibuluo	0.81	310	⇓*i*P		Pn	11 20 20.3	+0.3
	baz=317							
MASBT				eS		Sb	11 20 30.2	+0.6
	baz=317							
WLCH	Liuqiu	0.89	287	eP		Pn	11 20 23.4	+2.4
	baz=288							
WLCH				eS		Sn	11 20 33.7	+0.1
	baz=288							
SSD	Sandimen	0.90	317	eP		Pg	11 20 21.5	+0.5
	baz=322							
SSD				eS		Sb	11 20 32.3	+0.1
	baz=322							
TWP	Hsiaoliuchiu	0.91	287	eP		Pn	11 20 23.6	+2.4
	baz=288							
TWP				eS		Sn	11 20 37.8	+3.9
	baz=288							
SGLT	Jiouru	0.98	310	eS		Sn	11 20 36.8	+1.1
	baz=323							
CHKT	Chengkung	1.01	3	eP		Pb	11 20 22.5	+0.1
	baz=14							
CHKT				eS		Sb	11 20 36.1	+0.8
	baz=14							
SLGT	Liugui	1.09	326	eP		Pg	11 20 25.0	+0.5
	baz=327							
SLGT				eS		Sg	11 20 40.2	+1.4
	baz=327							
TWM1	Shoushan	1.09	312	eP		Pg	11 20 25.9	+1.3
	baz=313							
TWM1				eS		Sg	11 20 41.6	+2.6
	baz=313							
FULB	Fuli	1.11	360	⇓*i*P		Pn	11 20 24.0	-0.1
	baz=348							
FULB				eS		Sb	11 20 38.9	+0.8
	baz=348							
SNJT	Kaohsiung City	1.11	307	eP		Pg	11 20 26.0	+1.0
	baz=308							
ELDTW	Lidau	1.13	347	*i* P		Pn	11 20 23.9	-0.5
	baz=357							
STYT	Tauyuan	1.18	335	eP		Pn	11 20 25.9	+0.8
	baz=347							
STYT				eS		Sb	11 20 41.3	+0.9
	baz=347							
SGST	Jiashian	1.19	326	P		Pb	11 20 26.4	+0.9
	baz=327							
SGST				eS		Sg	11 20 42.8	+0.7
	baz=327							
TWF1	Yuli	1.26	360	eP		Pn	11 20 25.3	-0.8
	baz=351							
TWF1				eS		Sb	11 20 40.4	-2.2
	baz=351							
YULB	Yu-li	1.30	360	eP		Pn	11 20 25.7	-1.0
	baz=351							
YULB				eS		Sn	11 20 41.4	-2.2
	baz=351							
CHN1	Nanshi	1.30	327	eP		Pb	11 20 28.6	+1.1
	baz=328							
CHN1				eS		Sg	11 20 46.4	+0.7
	baz=328							
WTP	Ta-pu	1.32	331	P		Pb	11 20 28.9	+1.2
	baz=332							
WTP				eS		Sb	11 20 45.4	+1.1
	baz=332							
SNST	Tainan City	1.35	327	eP		Pb	11 20 29.1	+0.9
	baz=328							
SNST				eS		Sg	11 20 47.6	+0.4
	baz=328							
TPUB	Ta-pu	1.36	333	⇑*i*P		Pb	11 20 29.3	+0.9
	baz=334							
TPUB				eS		Sb	11 20 47.0	+1.7
	baz=334							
TWK	Hsinying	1.39	328	eP		Pb	11 20 29.5	+0.5
	baz=329							
TWK				eS		Sn	11 20 46.8	+0.7
	baz=329							
HGSD	Ruisui	1.40	5	eP		Pn	11 20 28.5	+0.3
	baz=5.0							
HGSD				eS		Sg	11 20 48.9	+0.1
	baz=5.0							
EHY	Hungye	1.41	1	P		Pn	11 20 27.6	-0.6
	baz=352							
EHY				eS		Sn	11 20 44.2	-2.2
	baz=352							
YUS	Yu-Shan	1.43	347	*i* P		Pn	11 20 29.2	+0.2
	baz=354							
ALS	Alishan	1.49	342	*i* P		Pb	11 20 30.9	+0.2
	baz=343							
ALS				eS		Sb	11 20 50.2	+0.8
	baz=343							
EGFH	Guangfu	1.58	4	eP		Pn	11 20 30.2	-0.4
	baz=354							
EGFH				eS		Sn	11 20 51.9	+1.4
	baz=354							
CHN8	Yiju	1.61	321	eS		Sb	11 20 52.7	+0.1
	baz=322							
CHN5	Tsauling	1.61	339	P		Pb	11 20 33.1	+0.4
	baz=340							
CHN5				eS		Sb	11 20 53.3	+0.6
	baz=340							
CHY	Chiayi	1.62	330	eP		Pb	11 20 32.6	-0.1
	baz=331							
CHY				eS		Sb	11 20 53.4	+0.5
	baz=331							
WHYT	Xinyi Township	1.65	346	eP		Pb	11 20 33.7	+0.3
	baz=346							
WHYT				eS		Sb	11 20 54.8	+0.9
	baz=346							
WLGB	Puzi	1.66	326	eP		Pn	11 20 32.4	+0.7
	baz=327							
WLGB				eS		Sb	11 20 54.9	+0.8
	baz=327							
VWDT	VWDT	1.67	355	eP		Pn	11 20 32.4	+0.7
	baz=8.0							
VWDT				eS		Sn	11 20 53.2	+0.6
	baz=8.0							
SSLB	Suanglung	1.72	349	eP		Pn	11 20 33.9	+1.4
	baz=350							
SSLB				eS		Sb	11 20 56.0	+0.1
	baz=350							
ESL	Shilin	1.72	4	eP		Pn	11 20 32.0	-0.6
	baz=356							
WGK	Gukeng	1.73	337	eS		Sb	11 20 56.7	+0.6
	baz=338							
WDLH	Douliu	1.74	336	eP		Pn	11 20 34.3	+1.5
	baz=337							
WDLH				eS		Sb	11 20 56.4	-0.1
	baz=337							
WJS	Zhushan	1.81	343	eP		Pb	11 20 36.0	0.0
	baz=344							
WJS				eS		Sn	11 20 57.7	+1.5
	baz=344							
SMLT	Sun Moon Lake	1.82	348	eP		Pb	11 20 36.0	-0.3
	baz=349							
SMLT				eS		Sb	11 21 00.1	+1.2
	baz=349							
ENLB	Shoufeng	1.83	9	eP		Pn	11 20 33.9	0.0
	baz=20							
WSF	Szhu	1.84	327	eP		Pn	11 20 35.2	+1.1
	baz=328							
WSF				eS		Sn	11 20 57.8	+1.0
	baz=328							
TYC	Yuchr	1.85	347	eP		Pb	11 20 36.6	-0.2
	baz=348							
TYC				eS		Sn	11 20 58.5	+1.3
	baz=348							
WNT	Mingjian	1.87	342	eP		Pb	11 20 37.5	+0.5
	baz=329							
WDGT	Dungji	1.91	308	P		Pn	11 20 35.1	0.0
	baz=308							
WDGT				S		Sn	11 20 57.5	-1.3
	baz=308							
CHGB	Renai	1.97	357	eP		Pn	11 20 36.9	+0.8
	baz=6.0							
CHGB				eS		Sn	11 21 01.1	+0.6
	baz=6.0							
DPDB	Guoxing	1.97	350	eP		Pb	11 20 38.4	-0.4
	baz=351							
DPDB				eS		Sb	11 21 03.3	+0.3
	baz=351							
TWD	Chiawan	2.00	8	eP		Pn	11 20 38.0	+1.6
	baz=359							
WHF	Hehuan Shan	2.05	359	eP		Pn	11 20 38.0	+0.6
	baz=10.0							
WHF				eS		Sn	11 21 03.1	+0.4
	baz=10.0							
VCHM	Qimei	2.06	303	eP		Pn	11 20 36.9	-0.2
	baz=305							
NACB	Ninganchiao	2.09	7	eP		Pn	11 20 37.1	-0.5
	baz=359							
NACB				eS		Sn	11 21 03.7	+0.4
	baz=359							
WCHH	Zhanghua	2.10	341	eP		Pn	11 20 38.3	+0.6
	baz=329							
WCHH				eS		Sn	11 21 05.7	+2.4
	baz=329							
ETLH	Xiulin Townshi	2.12	4	eP		Pn	11 20 37.8	-0.2
	baz=5.0							
ETLH				eS		Sn	11 21 03.4	-0.5
	baz=5.0							
PHUB	P'eng-hu	2.13	312	eP		Pn	11 20 38.0	-0.2
	baz=300							
PHUB				eS		Sn	11 21 02.3	-1.9
	baz=300							
TDCB	Techi	2.16	357	eP		Pn	11 20 40.1	+1.4
	baz=357							
TWT	Tachien	2.16	357	eP		Pn	11 20 41.0	+2.3
	baz=357							
PNG	Penghu	2.18	313	eP		Pn	11 20 37.5	-1.3
	baz=301							
PNG				eS		Sn	11 21 05.3	-0.1
	baz=301							
WHP	Taichung City	2.20	352	eP		Pb	11 20 41.9	-1.0
	baz=352							
WHP				eS		Sn	11 21 08.3	+2.2
	baz=352							
WDJ	Dajia District	2.33	345	eP		Pb	11 20 44.1	-0.8
	baz=346							
NNSB	Datong	2.33	2	eP		Pn	11 20 41.5	+0.5
	baz=10.0							
NNSH	Datong	2.33	2	eP		Pn	11 20 41.9	+0.9
	baz=14							
NNS	Nan Shan	2.34	2	eP		Pn	11 20 42.8	+1.6
	baz=11							
NNS				eS		Sn	11 21 09.8	+0.3
	baz=11							
NANB	Nanao	2.37	10	eP		Pn	11 20 42.1	+0.8
NSY	Sanyi	2.37	348	eP		Pn	11 20 44.2	+2.8
	baz=349							
NSY				eS		Sb	11 21 14.8	+0.3
	baz=349							
NMLH	Miaoli	2.48	349	eP		Pb	11 20 46.3	-1.2
	baz=350							
NDT	Datong Townshi	2.51	4	eP		Pn	11 20 44.2	+0.8
	baz=15							
NSTT	Nanjuang	2.55	354	eP		Pn	11 20 46.4	+2.6
	baz=341							
NSTT				eS		Sb	11 21 18.4	-1.2
	baz=341							
ENTT	Nioudou	2.55	5	eP		Pn	11 20 44.8	+0.9
	baz=6.0							
ENTT				eS		Sn	11 21 15.2	+0.6
	baz=6.0							
LIOB	Emei	2.56	354	eP		Pn	11 20 46.3	+2.2
	baz=341							
TWC	Suao	2.56	11	eP		Pn	11 20 46.8	+2.8
	baz=2.0							
EOS1	EOS1	2.57	17	eP		Pb	11 20 47.5	-1.4
	baz=17							
YHNB	Yeheng	2.57	2	eP		Pn	11 20 45.9	+1.7
	baz=13							
NSK	Sanguang	2.58	1	eP		Pn	11 20 46.2	+1.9
	baz=349							
TWE	Neicheng	2.64	7	eP		Pn	11 20 47.0	+1.9
	baz=8.0							
TWE				eS		Sn	11 21 19.1	+2.3
	baz=8.0							
SLBB	Yuanshan	2.67	7	eP		Pn	11 20 46.0	+0.3
	baz=7.0							
NWLT	Wulai	2.68	4	eP		Pn	11 20 47.5	+1.8
	baz=14							
JYNG	Yonagunijimaku	2.80	32	P		Pn	11 20 48.4	+1.1
JYNG				S		Sn	11 21 20.3	-0.3
NTC	Toucheng	2.80	10	eP		Pn	11 20 50.9	+3.6
	baz=2.0							
YOJ	Yonaguni jima	2.84	33	eP		Pn	11 20 49.1	+1.2
	baz=33							
YOJ	Yonaguni jima	2.84	33	P		Pn	11 20 49.1	+1.2
YOJ				eS		Sn	11 21 21.5	-0.1
NHDH	Xindian Distri	2.87	4	eP		Pn	11 20 49.9	+1.6
	baz=14							
TATO	Taipei	2.88	3	eP		Pn	11 20 50.7	+2.2
	baz=13							
TWA	Mucha	2.89	5	eP		Pn	11 20 50.4	+1.8
	baz=14							
TIPB	Shuangxi	2.91	9	P		Pn	11 20 51.0	+2.1
TIPB				eS		Sn	11 21 25.7	+2.3
NWF	Wu-fen Shan	3.00	8	eP		Pn	11 20 53.4	+3.2
	baz=9.0							
WFSB	Wu-fen Shan	3.00	8	eP		Pn	11 20 52.9	+2.8
	baz=9.0							
HATJ	Hateruma jima	3.03	49	P		Pn	11 20 51.2	+0.8
HATJ				S		Sn	11 21 25.3	-0.9
YM05	YM05	3.07	4	eP		Pn	11 20 52.1	+1.0
	baz=5.0							
IRIF	Iriomote-Funau	3.16	45	P		Pn	11 20 53.5	+1.2
IRIF				eS		Sn	11 21 29.4	-0.2
JKRS	Kuro-shima	3.29	49	P		Pn	11 20 55.1	+1.1
JKRS				eS		Sn	11 21 31.6	-1.0
VWUC	VWUC	3.35	330	eP		Pn	11 20 54.8	-0.1
	baz=330							
JIJ	Ishigaki jima	3.46	49	P		Pn	11 20 57.2	+0.8
JIJ				S		Sn	11 21 34.8	-2.1
KNM	Kinmen	3.51	312	eP		Pn	11 20 58.5	+1.4
	baz=302							
PTMZ	Houxiangcun	3.56	326	eP		Pn	11 20 58.2	+0.5
	baz=327							
KNMB	Chin-men Tao	3.57	312	eP		Pn	11 20 57.7	-0.2
	baz=313							
JISG	Ishigakijimahi	3.72	47	P		Pn	11 21 00.4	+0.4
JISG				eS		Sn	11 21 41.8	-1.6
JTJ	Tarama	4.03	50	P		Pn	11 21 05.2	+1.0
JTJ				eS		Sn	11 21 49.9	-1.1
JIRB	Irabujima	4.48	52	P		Pn	11 21 11.2	+0.8
JIRB				S		Sn	11 22 00.6	-1.5
JMJ2	Miyako jima3	4.54	54	P		Pn	11 21 12.1	+0.8
JMJ2				eS		Sn	11 22 02.9	-0.8
JIKM	Ikemajima	4.59	51	P		Pn	11 21 12.8	+0.8
JIKM				eS		Sn	11 22 05.0	+0.1
JOGS	Gusukube	4.61	54	P		Pn	11 21 13.8	+1.5
JOGS				eS		Sn	11 22 04.5	-0.9
MKAR	Makanchi Array	39.93	318	P		P	11 27 37.1	+0.5
	0.7nm,0.7s,baz=113,slow=9.5,SNR=6.0							
ZALV	Zalesovo Beam	42.07	328	P		P	11 27 51.5	-2.5
	0.4nm,0.3s,baz=108,slow=9.3,SNR=3.5							
WRA	Warramunga Arr	43.67	162	P		P	11 28 03.8	-3.6
	1.8nm,0.3s,baz=345,slow=8.7,SNR=7.1							
ASAR	Alice Springs	47.10	164	P		P	11 28 32.6	-1.9
	0.1nm,0.5s,baz=344,slow=6.9,SNR=4.2							
ARU	Arti	56.85	324	LR		LR	11 56 25.3	
	comp=Z,30nm,19.9s,baz=185,slow=38							

*ANF **30** 11:36:34.6±0.2, 33°.03N×116°.44W, h10km±2km, ML3.1/29, Error ellipse: s-maj=1.7km s-min=1.7km az=46.0*

*NEIC **30** 11:36:35.5±0.8, 33°.98N±0°.05×116°.456W±0°.010, h13km±8km*

ISC 30 11:36:35.2±0.8, 33°.02N±0°.02×116°.44W±0°.02, h12km±6km, n56, σ0§94/91, Southern California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MONP2	Monument Peak	0.13	173	P		Pg	11 36 38.2	-0.3
	baz=353,SNR=1000							
MONP2				S		Sg	11 36 40.4	-0.6
	baz=353							
MONP2	Monument Peak	0.13	173	Pg		Pg	11 36 38.5	0.0
MONP2				Sg		Sg	11 36 40.4	-0.6
EML	El Monte Cty P	0.36	250			Pg	11 36 42.4	-0.1
EML				Sg		Sg	11 36 47.1	-0.2
BAR	Barrett	0.39	210	Pg		Pg	11 36 42.8	-0.2
BAR				Sg		Sg	11 36 47.9	-0.2
IKP	In-Ko-Pah, Jac	0.46	143	P		Pg	11 36 44.2	0.0
	baz=324,SNR=149							
IKP				S		Sg	11 36 50.2	-0.2
	baz=324							
IKP	In-Ko-Pah, Jac	0.46	143			Pg	11 36 44.4	+0.1
IKP				Sg		Sg	11 36 50.7	+0.3
SDRC	San Diego Road	0.51	237			Pg	11 36 44.8	-0.3
SDRC				Sg		Sg	11 36 51.3	-0.5
SWSC	Sam W. Stewart	0.54	97	P		Pg	11 36 46.2	+0.4
	baz=280,SNR=203							
SWSC				S		Sg	11 36 53.8	+0.8
	baz=280							
SWSC	Sam W. Stewart	0.54	97			Pg	11 36 46.2	+0.4
109C	Camp Elliot, M	0.57	257	P		Pg	11 36 46.0	-0.3
	baz=75,SNR=348							
109C				S		Sg	11 36 53.5	-0.4
	baz=75							
109C	Camp Elliot, M	0.57	257			Pg	11 36 46.1	-0.3
109C				Sg		Sg	11 36 53.6	-0.4
PFO	Pinyon Flats O	0.59	358	P		Pg	11 36 46.7	-0.1
	baz=179							
PFO				S		Sg	11 36 54.8	+0.1
	baz=179							
PFO	Pinyon Flats O	0.59	358			Pg	11 36 47.0	+0.2
WESC	Westside Schoo	0.65	113	Pg		Pb	11 36 48.5	+0.1
MURC	Murrieta	0.86	313	P		Pg	11 36 51.4	-0.4
	baz=132,SNR=126							
MURC				S		Sg	11 37 03.0	-0.1
	baz=132							
DREC	Desert Rsrch C	0.86	104			Pb	11 36 52.0	-0.1
BC3	Big Chuckawall	1.04	52	P		Pg	11 36 54.6	-0.7
	baz=233,SNR=74							
BC3				S		Sg	11 37 07.6	-1.3
	baz=233							
BELC	Belle Mtn. Jos	1.05	21	P		Pg	11 36 55.0	-0.4
	baz=201,SNR=288							
BELC				S		Sg	11 37 09.1	0.0
	baz=201							
BBRC	Big Bear Solar	1.30	342	P		Pb	11 36 59.8	0.0
	baz=162,SNR=107							
BBRC				S		Sb	11 37 16.8	+0.2
	baz=162							
GLA	Glamis	1.36	88	P		Pn	11 36 58.7	-1.2
	baz=270,SNR=72							
GLA	Glamis	1.36	88			Pn	11 36 58.8	-1.2
IRM	Iron Mountain	1.57	43	P		Pn	11 37 02.3	-0.6
	baz=224,SNR=35							
IRM				S		Sg	11 37 25.4	-0.3
	baz=224							
BFSC	Mount Baldy Ra	1.59	321	P		Pn	11 37 03.8	+0.5
	baz=140,SNR=33							
BFSC				S		Sb	11 37 24.4	-0.2
	baz=140							
CIS	Catalina Islan	1.70	284	P		Pn	11 37 04.1	-0.6
	baz=102,SNR=54							
CIS				S		Sn	11 37 26.4	0.0
	baz=102							
FMP	Fort Macarthur	1.70	295	P		Pn	11 37 04.3	-0.3
	baz=113							
FMP				S		Sb	11 37 28.1	+0.3
	baz=113							
Y12C	Blythe	1.76	65	P		Pn	11 37 04.8	-0.7
	baz=246,SNR=14							
Y12C				S		Sn	11 37 28.3	+0.4
	baz=246							
Y12C	Blythe	1.76	65			Pn	11 37 04.8	-0.7
SCI2	San Clemente I	1.77	269	P		Pn	11 37 05.2	-0.4
	baz=88							
SCI2				S		Sn	11 37 27.3	-0.8
	baz=88							
HEC	Hector,Ludlow	1.81	3	Pg		Pb	11 37 09.0	+0.7
	baz=183,SNR=25							
HEC				Sg		Sg	11 37 34.7	+1.3
	baz=183							
PASC	Pasadena Art C	1.86	309			Pn	11 37 07.9	+1.1
GMRC	Granite Mounta	1.88	20	Pn		Pn	11 37 07.0	-0.3
	baz=201,SNR=39							
GMRC				Pg		Pg	11 37 10.6	-0.6
	baz=201							
GMRC				Sg		Sg	11 37 35.5	-0.2
	baz=201							
RRX	Edison Barstow	1.91	346	Pg		Pg	11 37 11.0	-0.8
	baz=166							
RRX				Sg		Sg	11 37 36.2	-0.5
	baz=166							
DECC	Green Verdugo	2.00	309	Pb		Pb	11 37 11.3	-0.3
	baz=127							
DECC				Sb		Sb	11 37 37.9	+1.4

	baz=127					
EDW2	Edwards Air Fo	2.26 326	Pn	Pn	11 37 13.1	+0.6
	baz=145					
EDW2			Pg	Pb	11 37 16.4	+0.4
	baz=145					
EDW2			Sb	Sb	11 37 45.2	+1.1
	baz=145					
GSC	Goldstone, Bar	2.30 353	Pg	Pb	11 37 18.0	+1.3
	baz=172,SNR=28					
GSC			Sg	Sg	11 37 48.8	-0.3
	baz=172					
NEE2	Needles Airpor	2.31 40	Pg	Pg	11 37 18.5	-1.0
	baz=222,SNR=12					
NEE2			Sb	Sg	11 37 47.7	-1.8
	baz=222					
TUQ	Turquoise Moun	2.45 10	Pg	Pg	11 37 21.4	-0.8
	baz=190,SNR=21					
TUQ			Sg	Sg	11 37 54.5	+0.6
	baz=190					
OSI	Osito Audit: C	2.48 311	Sb	Sg	11 37 52.8	-2.1
	baz=129					
ARVC	Arvin	2.89 317	Pb	Pb	11 37 27.5	+0.8
	baz=136					
ARVC			Sb	Sb	11 38 04.1	+2.1
	baz=136					
W13A	Hualapai Mount	2.97 45		Pn	11 37 22.6	+0.2
ISA	Isabella, Lake	3.13 328	Sb	Sg	11 38 13.6	-2.1
	baz=147					
MPMC	Manual Prospec	3.15 344	Pg	Pg	11 37 34.1	-1.6
	baz=164,SNR=12					
MPMC			Sb	Sg	11 38 14.5	-2.0
	baz=164					
214A	Organ Pipe Nat	3.24 108	P	Pn	11 37 25.1	-0.9
	baz=290					
214A	Organ Pipe Nat	3.24 108		Pn	11 37 25.1	-0.9
DAC	Darwin (Calif)	3.39 344		Pn	11 37 29.5	+1.4
FURC	Furnace Creek,	3.46 354	Pg	Pg	11 37 39.7	-1.8
	baz=174,SNR=24					
SHPR	Sheep Range	3.64 16		Pn	11 37 32.0	+0.5
TPNV	Topopah Spring	3.93 2	P	Pn	11 37 37.4	+2.0
	baz=182,SNR=6.5					
TPNV			Pg	Pg	11 37 48.9	-1.5
	baz=182					
TPNV			Sg	Sg	11 38 39.2	-2.1
	baz=182					
TPNV	Topopah Spring	3.93 2		Pn	11 37 36.3	+0.9
X16A	Lo Mia Camp, P	4.39 70	Pn	Pn	11 37 42.5	+0.6
LCMT	Little Creek M	4.77 32		Pn	11 37 48.5	+1.4
TUC	Tucson	4.82 97	Pn	Pn	11 37 47.7	0.0
U15A	North Rim	4.82 44		Pn	11 37 49.3	+1.4
KNB	Kanab	4.97 36		Pn	11 37 51.4	+1.6
OMMB	Old Mammoth Mi	5.04 336		Pn	11 37 53.1	+2.1
NV11	Mina Array Sit	5.58 346		Pn	11 37 58.4	+0.2

MAN 30 11:36:40.6, 9°.74N×123°.63E, h1km, MS3.6, 3C-5D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.55	225	↓iP		Pb	11 36 53.8	+0.6
SNPH				i S		Sb	11 37 02.8	+1.2
LLP	Lapu-Lapu	0.66	29	↑eP		Pg	11 36 53.5	+0.1
LLP				i S		Sb	11 37 03.5	-1.3
DCPH	Dipolog City	1.18	194	↓iP		Pg	11 37 02.9	-0.3
DCPH				i S		Sb	11 37 19.1	-0.5
MSLP	Maasin	1.27	72	eP		Pg	11 37 04.2	-0.8
MSLP				eS		Sn	11 37 23.1	-0.1
GUIM	Jordan	1.36	311	eP		Pg	11 37 05.8	-0.9
GUIM				eS		Sn	11 37 25.5	+0.1
OCLP	Ormoc	1.62	36	eP		Pn	11 37 10.5	+0.1
OCLP				eS		Sg	11 37 32.7	-0.1
CGP	Cagayan de Oro	1.65	140	↓eP		Pn	11 37 08.8	-1.9
PAGZ	Pagadian	1.89	188	eP		Pn	11 37 14.7	+0.6
PAGZ				eS		Sg	11 37 43.2	+1.6
JAP	San Jose, Anti	1.94	301	↑eP		Pn	11 37 15.1	+0.4
RCP	Roxas	2.01	334	↑eP		Pn	11 37 16.6	+0.8
RCP				eS		Sb	11 37 42.8	-0.8
IPIL	Ipil	2.20	209	eP		Pn	11 37 18.9	+0.5
IPIL				eS		Sb	11 37 49.0	-0.1
BUKP	Musuan	2.32	142	eP		Pn	11 37 20.8	+0.7
BUKP				eS		Sn	11 37 50.3	+1.0
CTBH	Cotabato--PC H	2.57	166	↓iP		Pn	11 37 25.0	+1.5
KCP	Kidapawan	3.07	152	↓iP		Pg	11 37 38.5	-1.1
KCP				i S		Sg	11 38 32.9	+14

*IDC **30** 11:49:14.6±2.6, 8°.26S×118°.12E, h174km±23km, mb3.5/2, mb1 3.5/6, mb1mx3.1/55, mbtmp4.0/6, Error ellipse: s-maj=33.3km s-min=17.5km az=66.0*
*ISCJB **30** 11:49:15.0±0.4, 8°.18S±0°.06×118°.25E±0°.03, h200km, mb3.8/2, Error ellipse: s-maj=8.1km s-min=4.1km az=7.0*
*DJA **30** 11:49:15.8±0.9, 7°.5±3°.1×11°.8E±°, h27km±9km, M4.3/16, mb4.4/5, MLv4.2/16*

ISC 30 11:49:16.1±0.9, 8°.23S±0°.07×118°.23E±0°.05, h200km, n20, σ1§87/27, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.74	216	P	Pn	11 49 42.5	-1.9
PLAI				S	Sn	11 50 03.2	-3.1
TWSI	Taliwang, Sumb	1.42	249	P	Pn	11 49 47.3	-1.9
TWSI				S	Sn	11 50 12.2	-2.6
WSI	Waingapu	2.50	125	P	Pn	11 50 06.1	+6.0
SRBI	Singaraja	2.98	272	P	Pn	11 50 02.8	-2.8
DNP	Denpasar	3.02	261	P	Pn	11 50 05.6	-0.4
IGBI	Denpasar	3.10	259	P	Pn	11 50 06.7	-0.3
IGBI				S	Sn	11 50 48.0	+1.3
KAPI	Kappang	3.53	26	P	Pn	11 50 11.0	-1.2
	1.7nm,0.3s,baz=215,slow=9.3,SNR=11						
KAPI				S	Sn	11 50 54.4	-1.8
	0.5nm,0.3s,baz=79,slow=19,SNR=3.7						
MMRI	Maumere	3.99	96	P	Pn	11 50 15.9	-2.0
JAGI	Jajag, Banyuwa	4.04	266	P	Pn	11 50 17.3	-1.1
JAGI				S	Sn	11 51 06.8	-0.5
BNSI	Bone	4.24	26	P	Pn	11 50 14.8	-6.1
GMJI	Gumukmas	4.73	269	P	Pn	11 50 25.9	-1.3
BATI	Baumata	5.72	111	P	Pn	11 50 40.4	+0.5
	8.5nm,0.3s,baz=320,slow=0.3,SNR=12						
BATI				S	Sn	11 51 45.2	-0.7
	13nm,0.3s,baz=173,slow=24,SNR=4.9						
BATI	Baumata	5.72	111	P	Pn	11 50 42.3	+2.4
	13nm,0.5s,0.1nm						
SOEI	Soe	6.16	105	P	Pn	11 50 45.6	0.0
PWJI	Pagerwojo	6.36	271	P	Pn	11 50 49.2	+1.1
	28nm,1.7s,0.2nm						
PWJI				S	Sn	11 52 02.1	+1.2
	28nm,1.7s,0.2nm						
PCJI	Pacitan	6.98	270	P	Pn	11 50 58.8	+2.7
PCJI				S	Sn	11 52 16.9	+1.5
FITZ	Fitzroy Crossi	12.18	144	P	Pn	11 52 03.4	+0.1
	0.1nm,0.3s,baz=345,slow=16,SNR=3.4						
FITZ				S	Sn	11 54 16.3	-2.9
	0.5nm,0.3s,baz=184,slow=23,SNR=9.1						
WRA	Warramunga Arr	19.47	128	P	P	11 53 28.4	+0.4
	0.6nm,0.3s,baz=304,slow=12,SNR=59						
WRA				S	S	11 57 01.4	+4.1
	0.1nm,0.3s,baz=308,slow=24,SNR=3.1						
ASAR	Alice Springs	21.48	137	P	P	11 53 50.1	+0.8
	4.0nm,0.6s,baz=315,slow=9.0,SNR=38						
STKA	Stephens Creek	32.03	140	P	P	11 55 25.0	+0.9
	0.7nm,0.5s,baz=326,slow=11,SNR=3.2						

*IDC **30** 11:54:08.5±0.6, 26°.77S×176°.35W, h0km, mb4.6/14, mb1 4.7/18, mb1mx4.6/29, mbtmp4.5/18, ML4.1/4, MS4.3/21, Ms1 4.3/21, ms1mx4.1/31, Error ellipse: s-maj=22.3km s-min=15.1km az=127.0*
*BJI **30** 11:54:09.4±0.0, 26°.40S×176°.06W, h8km, mb5.2/26, mB5.3/7, Ms5.0/9, Ms7 4.7/8*
*MOS **30** 11:54:10.1±0.9, 26°.70S×176°.46W, h20km, mb5.0/21, Error ellipse: s-maj=11.5km s-min=9.9km az=73.2*
*NEIC **30** 11:54:11.3±1.3, 26°.66S±0°.07×176°.3W±0°.1, h22km±4km, mb4.9/50*
*ISCJB **30** 11:54:11.8±0.2, 26°.75S±0°.05×176°.35W±0°.06, h35km, mb4.9/36, MS4.4/21, Error ellipse: s-maj=8.6km s-min=5.3km az=33.3*
*GCMT **30** 11:54:14.3±0.2, 26°.72S±0°.02×175°.87W±0°.01, h21km, MW5.1/90, Moment Tensor Solution. s54,c75; s90,c138; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.07±.21; Mθθ -0.13±.12; Mφφ -4.94±.13; Mrθ 0.52±.26; Mθφ -0.15±.09;*

Mφ 2.53±.19; Best double couple: M0 5.63300×10^16 NP1:φ6.00000°, δ59.00000°, λ94.00000°. NP2: φ178.00000°, δ32.00000°, λ83.00000°. Principal axes: T 5.7110, Plg76.0000°, Azm289.0000°; N -0.1580, Plg4.0000°, Azm184.0000°; P -5.5560, Plg14.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 30 11:54:13.5±0.4, 26°.79S±0°.05×176°.32W±0°.08, h35km, n198, σ1§29/186, mb4.8/54, MS4.3/21, 5C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.83	210	P	Pn	11 54 57.1	+0.9
RAO						11 55 31.0	
RAO	Raoul Island	2.83	210	Pn	Pn	11 54 56.9	+0.7
	226nm,0.3s,baz=189,slow=5.1,SNR=13						
RAO				LR	LR	11 55 27.5	
	comp=Z,2μm,18.2s,baz=160,slow=28						
RAO				Sn	Sn	11 55 30.6	+1.5
	400nm,0.3s,baz=73,slow=19,SNR=5.2						
RAO	Raoul Island	2.83	210		Pn	11 54 57.1	+0.9
RAO				Sn	Sn	11 55 31.0	+1.8
NIUE	Niue	9.67	39		Pn	11 56 21.2	-9.1
NIUE					Sn	11 57 55.8	-22
MSVF	Nonsavu	10.41	329	P	Pn	11 56 38.0	-2.4
MSVF	Nonsavu	10.41	329	Pn	Pn	11 56 38.0	-2.4
URZ	Urewera	12.71	204	Pn	Pn	11 57 11.4	-0.2
	0.7nm,0.3s,baz=37,slow=20,SNR=4.5						
URZ				Sn	Sn	11 59 24.7	-7.2
	1.7nm,0.3s,baz=204,slow=20,SNR=9.5						
URZ				LR	LR	12 02 01.5	
	comp=Z,2μm,18.2s,baz=22,slow=37						
URZ	Urewera	12.71	204		Pn	11 57 12.1	+0.5
AFI	Afiamalu	13.50	19	P	Pn	11 57 16.1	-6.6
AFI	Afiamalu	13.50	19	Pn	Pn	11 57 14.3	-8.4
	5.2nm,0.3s,baz=302,slow=3.1,SNR=11						
AFI				Sn	Sn	11 59 29.0	-23
	2.9nm,0.3s,baz=38,slow=19,SNR=3.5						
AFI	Afiamalu	13.50	19	Pn	Pn	11 57 16.1	-6.6
RAR	Rarotonga	16.10	73	Pn	Pn	11 57 46.3	-11
	2.4nm,0.3s,baz=266,slow=8.1,SNR=8.1						
RAR				Sn	Sn	12 00 29.0	-26
	0.7nm,0.3s,baz=317,slow=19,SNR=3.1						
RAR				LR	LR	12 03 00.7	
	comp=Z,651nm,18.2s,baz=244,slow=33						
RAR	Rarotonga	16.10	73	Pn	Pn	11 57 46.3	-11
DZM	Mont Dzumac	16.38	283	eP	P	11 58 06.7	+3.3
	129nm,1.1s						
DZM				eLQ	LQ	12 01 21.4	
	2μm,26.8s						
DZM				eLR	LR	12 02 01.0	
	comp=Z,3μm,23.9s						
DZM	Mont Dzumac	16.38	283	Pn	Pn	11 57 59.5	-1.4
	0.1nm,0.3s,baz=108,slow=15,SNR=7.7						
DZM				LR	LR	12 03 16.9	
	comp=Z,2μm,18.9s,baz=112,slow=34						
DZM	Mont Dzumac	16.38	283	P	Pn	11 58 01.6	+0.7
RPZ	Rata Peaks	19.75	208	P	P	11 58 39.9	-0.4
	0.5nm,0.3s,baz=252,slow=20,SNR=2.2						
RPZ				LR	LR	12 06 30.8	
	comp=Z,750nm,20.7s,baz=12,slow=38						
RPZ	Rata Peaks	19.75	208	P	P	11 58 39.7	-0.5
KNTN	Kanton	24.28	11	P	P	11 59 26.2	-1.4
KNTN				IAmb	IAmb	11 59 50.3	
	comp=Z,61nm,1.1s						
TBI	Tubuai	24.55	88	eLR	LR	12 05 17.9	
	comp=Z,2μm,29.2s,baz=259						
TBI	Tubuai	24.55	88	eT	T	12 24 33.5	
	comp=Z,7.1nm,0.4s						
PAE	Paea	26.32	75	eT	T	12 26 32.9	
	comp=Z,3.4nm,0.4s						
PPT2	Papeete2	26.36	75	eS	S	12 04 00.1	-18
	comp=Z,151nm,25.8s						
PPT2				eLQ	LQ	12 04 46.3	
	comp=Z,910nm,24.5s						
PPT2				eLR	LR	12 06 04.3	
	comp=Z,2μm,28.2s,baz=248						
PPT2	Papeete2	26.36	75	eT	T	12 26 36.1	
	comp=Z,3.6nm,0.4s						
PPT	Papeete	26.37	75	LR	LR	12 07 35.3	
	comp=Z,361nm,20.0s,baz=247,slow=31						
TVO	Taravao	26.56	76	eT	T	12 26 51.1	
	comp=Z,1.2nm,0.4s						
HNR	Honiara	28.31	303	LR	LR	12 09 55.5	
	comp=Z,915nm,18.9s,baz=140,slow=34						
EIDS	Eidsvold	29.27	265	P	P	12 00 12.4	-0.1
EIDS				IAmb	IAmb	12 00 16.2	
	comp=Z,18nm,1.0s						
CAN	Canberra	30.78	245	P	P	12 00 25.0	-0.8
CAN				pmax	pmax		
	comp=Z,16nm,1.3s						
CAN	Canberra	30.78	245	P	P	12 00 25.0	-0.8
TAU	Tasmania Unive	33.59	232	P	P	12 00 50.0	-0.4
TAU				pmax	pmax		
	comp=Z,33nm,1.1s						
TAU	Tasmania Unive	33.59	232	P	P	12 00 50.0	-0.4
TOO	Toolangi	33.86	242	P	P	12 00 51.9	-0.9
TOO				pmax	pmax		
	comp=Z,24nm,1.6s						
TOO	Toolangi	33.86	242	P	P	12 00 51.9	-0.9
TOO				IAmb	IAmb	12 01 10.5	
	comp=Z,24nm,1.6s						
CTA	Charters Tower	34.89	273	P	P	12 01 02.4	+0.6
	comp=Z,6.9nm,0.6s,baz=101,slow=11,SNR=18						
STKA	Stephens Creek	36.87	252	P	P	12 01 17.0	-1.7
STKA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STKA	Stephens Creek	36.87	252	P	P	12 01 18.3	-0.4
	comp=Z,4.3nm,0.9s,baz=73,slow=9.8,SNR=4.0						
STKA				LR	LR	12 15 29.2	
	comp=Z,1μm,18.1s,baz=78,slow=35						
STKA	Stephens Creek	36.87	252	P	P	12 01 17.0	-1.7
PMG	Port Moresby	38.59	290	P	P	12 01 32.1	-1.3
PMG				pmax	pmax		
	comp=Z,32nm,1.3s						
PMG	Port Moresby	38.59	290	P	P	12 01 32.1	-1.3
PMG				IAmb	IAmb	12 01 34.8	
	comp=Z,32nm,1.3s						
BBOO	Buckleboo	41.48	250	P	P	12 01 58.0	+0.7
BBOO				IAmb	IAmb	12 01 59.2	
	comp=Z,21nm,1.1s						
AS31	Alice Springs	44.91	263	P	P	12 02 24.8	-0.4
ASAR	Alice Springs	44.91	263	P	P	12 02 24.6	-0.6
	comp=Z,4.2nm,0.8s,baz=93,slow=6.5,SNR=49						
ASAR				LR	LR	12 20 27.3	
	comp=Z,752nm,18.4s,baz=106,slow=35						
ASAR	Alice Springs	44.91	263	P	P	12 02 24.4	-0.7
WB2	Warramunga Arr	45.57	268	P	P	12 02 29.4	-0.9
WRAB	Tennant Creek	45.57	268	eP	P	12 02 30.1	-0.3
WRAB				pmax	pmax		
	comp=Z,38nm,1.6s						
WRAB	Tennant Creek	45.57	268	P	P	12 02 29.6	-0.8
WRAB				IAmb	IAmb	12 02 31.9	
	comp=Z,39nm,1.4s						
WRA	Warramunga Arr	45.58	268	P	P	12 02 29.2	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	45.58	268	P	P	12 02 29.5	-0.9
	comp=Z,13nm,0.7s,baz=107,slow=6.1,SNR=73						
WRA				LR	LR	12 21 50.5	
	comp=Z,474nm,18.2s,baz=130,slow=36						
WRA	Warramunga Arr	45.58	268	P	P	12 02 29.2	-1.2
SBA	Scott Base	51.74	185	P	P	12 03 17.4	+0.5
SBA				pmax	pmax		
	comp=Z,65nm,1.4s						
SBA	Scott Base	51.74	185	P	P	12 03 17.4	+0.5
VNDA	Vanda	51.83	186	P	P	12 03 18.5	+0.9
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNDA	Vanda	51.83	186	LR	LR	12 21 25.2	
	comp=Z,230nm,20.8s,baz=22,slow=32						
VNDA	Vanda	51.83	186	P	P	12 03 18.5	+0.9
KNRA	Kununurra	52.03	271	P	P	12 03 19.7	-0.2
KNRA				IAmb	IAmb	12 03 22.6	
	comp=Z,22nm,0.9s						
FITZ	Fitzroy Crossi	53.95	266	IAmb	IAmb	12 03 36.7	
	comp=Z,18nm,1.1s						
SOEI	Soe	58.41	275	P	P	12 04 05.8	-0.4
CASY	Casey	59.02	207	P	P	12 04 10.2	+0.8
QSPA	South Pole Qui	63.31	180	P	P	12 04 39.7	+1.0
KSM	Kuching	75.86	279	P	P	12 05 56.8	0.0
KSM				IAmb	IAmb	12 05 57.8	
	comp=Z,14nm,0.9s						
INU	Inuyama	75.92	322	P	P	12 05 55.9	-0.6
MJAR	Matsushiro Arr	76.17	324	P	P	12 05 57.8	-0.2
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	Matsushiro Arr	76.17	324	P	P	12 05 58.1	+0.1
	comp=Z,8.6nm,0.8s,baz=147,slow=5.5,SNR=19						
MJAR				LR	LR	12 38 38.3	
	comp=Z,76nm,18.8s,baz=80,slow=35						
MJAR	Matsushiro Arr	76.17	324	P	P	12 05 57.8	-0.2
MAT	Matsushiro	76.17	324	P	P	12 05 57.9	-0.1
MAT				eS	S	12 15 42.6	+3.0
MAW	Mawson	76.20	200	P	P	12 05 58.8	+1.1
MAW				pmax	pmax		
	comp=Z,7.0nm,1.6s						
MAW	Mawson	76.20	200	P	P	12 05 58.1	+0.3
	comp=Z,4.2nm,0.7s,baz=145,slow=9.9,SNR=6.2						
MAW				LR	LR	12 39 43.0	
	comp=Z,350nm,18.4s,baz=80,slow=36						
MAW	Mawson	76.20	200	P	P	12 05 58.9	+1.1
YOJ	Yonaguni jima	77.62	306	P	P	12 06 05.0	-1.4
YOJ				pmax	pmax		
	comp=Z,45nm,1.0s						
YOJ	Yonaguni jima	77.62	306	P	P	12 06 05.0	-1.4
JNU	Nakatsue	77.89	317	P	P	12 06 06.4	-1.4
SYO	Syowa Base	80.95	192	↑iP	P	12 06 23.0	-0.9
SYO	Syowa Base	80.95	192	↓ePcP	PcP	12 06 29.2	-1.1
SYO	Syowa Base	80.95	192	↑esP	sP	12 06 33.4	-4.3
SNAA	Sanae	81.71	178	P	P	12 06 28.4	+0.4
SNAA	Sanae	81.71	178	P	P	12 06 27.9	-0.1
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SNAA	Sanae	81.71	178	P	P	12 06 27.9	-0.1
VNA3	Neumayer Olymp	81.79	176	P	P	12 06 28.3	-0.1
VNA2	Neumayer--Watz	82.25	176	P	P	12 06 31.3	+0.6
	baz=177,slow=2.9						
VNA1	Neumayer--Stat	82.47	176	P	P	12 06 32.2	+0.4
KSRS	Korea Array	82.60	318	P	P	12 06 34.0	+1.0
	comp=Z,5.1nm,0.9s,baz=131,slow=5.8,SNR=15						
KSRS				LR	LR	12 41 38.5	
	comp=Z,87nm,18.3s,baz=120,slow=34						
KSAR	Wonju Array Be	82.61	318	P	P	12 06 33.2	+0.1
KSAR	Wonju Array Be	82.61	318	P	P	12 06 33.2	+0.1
PETK	Petropavlovsk-	82.71	345	P	P	12 06 33.5	+0.3
	comp=Z,8.9nm,0.8s,baz=108,slow=7.1,SNR=9.0						
PETK	Petropavlovsk-	82.71	345	P	P	12 06 31.5	-1.7
AFDM	Forest Hills D	83.36	40	P	P	12 06 36.5	-0.4
AFDM				IAmb	IAmb	12 06 59.3	
	comp=Z,8.9nm,1.4s						
ORV	Oroville	83.46	39	P	P	12 06 36.9	-0.6
ORV				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ORV	Oroville	83.46	39	P	P	12 06 36.9	-0.6
ORV				IAmb	IAmb	12 06 55.6	
	comp=Z,10nm,1.6s						
WDC	Whiskeytown Da	83.58	38	P	P	12 06 37.6	-0.4
WDC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WDC	Whiskeytown Da	83.58	38	P	P	12 06 37.6	-0.4
WDC				IAmb	IAmb	12 06 51.5	
	comp=Z,10nm,1.1s						
PLCA	Paso Flores	83.87	133	LR	LR	12 38 59.0	
	comp=Z,112nm,18.3s,baz=274,slow=32						
PNTR	Pine Nut	84.25	41	P	P	12 06 40.9	-0.8
PNTR				IAmb	IAmb	12 06 55.0	
	comp=Z,15nm,1.0s						
BEKR	Beckworth	84.32	40	P	P	12 06 40.9	-1.2
BEKR				IAmb	IAmb	12 06 55.1	
	comp=Z,9.1nm,1.4s						
NVAR	Mina Array Bea	84.58	42	P	P	12 06 44.8	+1.3
	comp=Z,2.8nm,0.9s,baz=218,slow=6.3,SNR=16						
NVAR				LR	LR	12 42 53.1	
	comp=Z,121nm,18.6s,baz=249,slow=34						
NVAR	Mina Array Bea	84.58	42	P	P	12 06 43.1	-0.4
NV11	Mina Array Sit	84.67	42	P	P	12 06 43.6	-0.2
NV11				IAmb	IAmb	12 06 56.6	
	comp=Z,12nm,1.1s						
PAHR	Pah Rah Range	84.78	40	P	P	12 06 42.1	-2.2
PAHR				IAmb	IAmb	12 06 57.4	
	comp=Z,7.7nm,1.0s						
USA0B	Ussuriysk Arra	85.00	325	P	P	12 06 44.9	-0.2
USA0B				pmax	pmax		
	comp=Z,37nm,1.5s						
USA0B	Ussuriysk Arra	85.00	325	P	P	12 06 44.9	-0.2
USRK	Ussuriysk Ar.	85.00	325	P	P	12 06 44.5	-0.6
USRK	Ussuriysk Ar.	85.00	325	P	P	12 06 46.4	+1.3
	comp=Z,7.4nm,1.0s,baz=144,slow=4.5,SNR=7.4						
USRK				LR	LR	12 38 32.6	
	comp=Z,104nm,20.1s,baz=115,slow=31						
USRK	Ussuriysk Ar.	85.00	325	P	P	12 06 44.5	-0.6
NJ2	Nanjing	85.06	310	eP	P	12 06 46.5	+0.8
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
KVN	Kaiserville	85.11	42	P	P	12 06 45.9	-0.2
KVN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KVN	Kaiserville	85.11	42	P	P	12 06 45.9	-0.2
SHPR	Sheep Range	85.30	45	P	P	12 06 44.6	-2.5
SHPR				IAmb	IAmb	12 06 56.6	
	comp=Z,15nm,1.5s						
TUC	Tucson	85.70	51	P	P	12 06 47.8	-1.2
TUC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TUC	Tucson	85.70	51	P	P	12 06 47.8	-1.2
PINE	Pine Mountain	86.64	37	P	P	12 06 53.1	-0.5
PINE				IAmb	IAmb	12 07 03.4	
	comp=Z,12nm,1.2s						
WVOR	Wild Horse Val	87.00	39	P	P	12 06 54.4	-0.8
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.5s						
WVOR	Wild Horse Val	87.00	39	P	P	12 06 54.4	-0.8
WVOR				IAmb	IAmb	12 07 16.7	
	comp=Z,8.8nm,1.4s						
WUAZ	Wupatki	87.16	48	P	P	12 06 55.5	-0.7
WUAZ				IAmb	IAmb	12 07 04.8	
	comp=Z,5.5nm,1.0s						
WHN	Wuhan	87.39	306	↓P	P	12 06 59.3	+2.1
GRNR	Gornyy	87.77	332	eP	P	12 06 57.7	-0.9
CN2	Changchun	88.19	322	eP	P	12 07 02.5	+1.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIA	Tai'an	88.63	312	P	P	12 07 05.0	+2.0
TIA				pmax	pmax		
	comp=Z,13nm,1.1s						
KLR	Kul'dur	88.69	329	iP	P	12 07 03.2	+0.2
KLR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KLR	Kul'dur	88.69	329	LR	LR	12 39 59.3	
	comp=Z,141nm,21.2s,baz=176,slow=31						
HAWA	Hanford	89.12	35	P	P	12 07 04.5	-0.6
HAWA				IAmb	IAmb	12 07 08.9	
	comp=Z,5.7nm,1.1s						
TXAR	Lajitas Array	89.19	56	P	P	12 07 06.9	+1.0
	comp=Z,1.5nm,1.1s,baz=191,

CMAR	**Chiang Mai Arr**	**93.62**	**289**	P		**P**	**12 07 27.1 +0.4**
CHTO	**Chiang Mai**	**93.78**	**289**	P		**P**	**12 07 27.4 0.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**93.78**	**289**	P		**P**	**12 07 27.4 0.0**
COLA	**College**	**94.00**	**12**	*i* P		**P**	**12 07 27.5 +0.3**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**94.09**	**12**	P		**P**	**12 07 25.5 -2.2**
ILAR	**Eielson Array**	**94.09**	**12**	P		**P**	**12 07 27.4 -0.2**
	comp=Z,0.8nm,0.8s,baz=227,slow=4.6,SNR=8.8						
ILAR	**Eielson Array**	**94.09**	**12**	P		**P**	**12 07 25.5 -2.2**
HHC	**Hu-ho-hao-te**	**94.81**	**314**	*e*P		**P**	**12 07 33.0 +1.3**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,9.0nm,6.3s						
BILL	**Bilibino**	**95.42**	**354⇑**	*e*P		**P**	**12 07 34.7 +1.0**
BILL				*e*			12 11 27.4
BILL				*e*SS	SS		12 25 14.5 -1.3
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	**Lanzhou**	**97.76**	**306**	*e*P		Pdif	12 07 46.3 +0.9
LZH				pP		pP	12 07 50.8 -4.6
LZH				sP		sP	12 07 53.8 -5.3
LZH				LR		LR	
	comp=Z,270nm,14.0s						
LZH				LR		LR	
	comp=Z,320nm,16.9s						
LPAZ	**La Paz**	**98.22**	**113**	LR		LR	12 43 08.0
	comp=Z,60nm,21.8s,baz=246,slow=30						
GTA	**Gaotai**	**102.09**	**308**	*e*P		**Pdif**	**12 08 09.3 +4.8**
GTA				pP		pPdif	12 08 13.5 -1.1
GTA				sP		sPdif	12 08 16.3 -1.9
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,38nm,6.8s						
GTA				LR		LR	
	comp=Z,83nm,20.6s						
GTA				LR		LR	
	comp=Z,110nm,20.6s						
GTA				LR		LR	
	comp=Z,180nm,19.7s						
WMQ	**Urumqi**	**112.13**	**309**	*e*PKP		**PKiKP**	**12 12 45.5 +0.2**
ZALV	**Zalesovo Beam**	**116.29**	**319**	PKP		**PKPdf**	**12 12 52.5 -0.3**
	comp=Z,1.0nm,0.7s,baz=111,slow=1.0,SNR=4.7						
MK31	**Makanchi Array**	**116.55**	**311**	PKIKP		**PKPdf**	**12 12 53.4 -0.2**
MK31	**Makanchi Array**	**116.55**	**311**			**PKPdf**	**12 12 53.4 -0.2**
MKAR	**Makanchi Array**	**116.55**	**311**	PKP		**PKPdf**	**12 12 53.2 -0.4**
	comp=Z,1.2nm,0.7s,baz=74,slow=1.9,SNR=13						
MAKZ	**Makanchi**	**116.76**	**311**	PKIKP		**PKPdf**	**12 12 53.3 -0.7**
MAKZ	**Makanchi**	**116.76**	**311**			**PKPdf**	**12 12 53.3 -0.7**
KURK	**Kurchatov**	**119.58**	**315**	*i* PKIKP		**PKiKP**	**12 12 59.1 -0.2**
KSH	**Kashi**	**119.63**	**302**	PKP		**PKiKP**	**12 13 02.0 +2.0**
KSH				PP		PP	12 14 31.0 +7.8
KSH				PKS		**PKSdf**	**12 16 38.0 +1.4**
KSH				SS		SS	12 30 52.0 +6.7
KSH				LR		LR	
	comp=Z,120nm,8.8s						
KSH				LR		LR	
	comp=Z,220nm,13.7s						
AAK	**Ala-Archa**	**121.28**	**305**	*i* PKIKP		**PKPdf**	**12 13 02.8 -0.2**
KKAR	**Karatay Array**	**124.25**	**305**	PKIKP		**PKPdf**	**12 13 08.4 -0.1**
KKAR	**Karatay Array**	**124.25**	**305**			**PKPdf**	**12 13 08.4 -0.1**
BRVK	**Borovoye**	**124.86**	**318**	*i* PKIKP		**PKPdf**	**12 13 08.8 -0.5**
ARCES	**ARCESS Array B**	**135.35**	**349**	PKIKP		**PKiKP**	**12 13 29.4 -0.9**
ARCES	**ARCESS Array B**	**135.35**	**349**	PKP		**PKiKP**	**12 13 29.2 +0.4**
	comp=Z,3.9nm,0.9s,baz=9.8,slow=10.0,SNR=5.4						
ARCES	**ARCESS Array B**	**135.35**	**349**			**PKiKP**	**12 13 29.4 -0.9**
FINES	**FINESS Array B**	**142.21**	**343**	PKhKP		PKPpre	12 13 36.5
	comp=Z,3.1nm,0.9s,baz=99,slow=5.0,SNR=4.3						
OBN	**Obninsk**	**142.95**	**329⇑**	*e*PKIKP		**PKPdf**	**12 13 43.2 +0.2**
OBN				*e*			12 16 53.6
OBN				*e*PPP		PPP	12 20 01.3
OBN				*e*			12 20 44.5
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	**144.26**	**309**	*i* PKIKP		**PKPdf**	**12 13 44.8 -1.0**
KIV				pmax	pmax		
	comp=Z,27nm,1.1s						
NC303	**NORSAR Array S**	**145.18**	**353**			**PKPbc**	**12 13 44.6 -1.8**
NB2	**NORSAR Subarra**	**145.38**	**354**	PKP		**PKPbc**	**12 13 46.8 -0.3**
	comp=Z,3.5nm,0.8s,baz=8.4,slow=4.0						
NOA	**NORSAR Array B**	**145.38**	**354**	PKPbc		**PKPbc**	**12 13 46.6 -0.5**
	comp=Z,8.8nm,0.9s,baz=7.6,slow=2.4,SNR=17						
NACGM	**Naroch**	**147.22**	**335**	*e*		PKPdf	12 13 37.0 -13
AKASG	**Malin Array Be**	**149.18**	**328**	PKP2		**PKPbc**	**12 13 58.1 +0.1**
AKASG	**Malin Array Be**	**149.18**	**328**	PKPbc		**PKPbc**	**12 13 57.5 -0.5**
	comp=Z,3.2nm,0.6s,baz=41,slow=3.2,SNR=10						
AKASG	**Malin Array Be**	**149.18**	**328**			**PKPbc**	**12 13 58.1 +0.1**
BR131	**Keskin Array S**	**151.96**	**305**	PKIKP		**PKPbc**	**12 14 03.7 -1.4**
BR131	**Keskin Array S**	**151.96**	**305**			**PKPbc**	**12 14 03.7 -1.4**
BRTR	**Keskin Array B**	**151.96**	**305**	PKPbc		**PKPbc**	**12 14 03.8 -1.4**
	comp=Z,1.8nm,0.7s,baz=141,slow=2.6,SNR=8.3						
BRTR				PKPab		**PKPab**	**12 14 14.8 +0.2**
	comp=Z,3.8nm,0.6s,baz=103,slow=3.4,SNR=11						
BRTR	**Keskin Array B**	**151.96**	**305**			**PKPbc**	**12 14 04.1 -1.1**
BRTR						**PKPab**	**12 14 14.5 0.0**
BURAR	**Bucovina Array**	**153.21**	**327**			**PKiKP**	**12 14 08.4 +0.7**
KOLS	**Kolonicke sedl**	**153.60**	**332**	*e*PKIKP		**PKiKP**	**12 14 09.9 +1.5**
KOLS	**Kolonicke sedl**	**153.60**	**332**	*e*PKP		**PKiKP**	**12 14 09.9 +1.5**
UZH	**Uzhgorod**	**153.82**	**331**	*e*PKIKP		**PKPbc**	**12 14 06.8 -1.9**
UZH				*e*			12 14 11.7
CLL	**Collm**	**154.51**	**346**	*e*PKIKP		**PKPdf**	**12 14 03.0 +1.3**
CLL				*e*			12 14 11.0
CLL	**Collm**	**154.51**	**346**	*e*PKPdf		**PKPdf**	**12 14 03.0 +1.3**
CLL				*e*PKPbc		**PKiKP**	**12 14 11.0 +0.8**
CLL				*e*PKPab		**PKPab**	**12 14 25.0 +0.4**
DPC	**Dobruska-Polom**	**154.55**	**341**	*e*PKP2		**PKPab**	**12 14 26.3 +1.4**
DPC	**Dobruska-Polom**	**154.55**	**341**	*e*PKPAB		**PKPab**	**12 14 26.3 +1.4**
BRG	**Berggiesshubel**	**154.70**	**345**	*e*PKP		**PKiKP**	**12 14 12.1 +1.5**
	comp=Z,2.5nm,1.0s						
BRG				*e*			12 14 31.0
	comp=Z,18nm,1.5s						
BRG	**Berggiesshubel**	**154.70**	**345**	*e*PKIKP		**PKiKP**	**12 14 12.1 +1.5**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VYHS	**Vyhne**	**155.32**	**335**	*e*PKP2		**PKPab**	**12 14 29.5 +1.3**
VYHS	**Vyhne**	**155.32**	**335**	*e*PKP		**PKPab**	**12 14 29.5 +1.3**
KHC	**Kasperske Hory**	**156.41**	**344**	*e*PKP2		**PKPab**	**12 14 33.9 +1.0**
KHC	**Kasperske Hory**	**156.41**	**344⇑**	*e*PKP		PKPab	12 14 20.5 -12
KHC				*e*PKPAB		**PKPab**	**12 14 33.9 +1.0**
GERES	**GERESS Array B**	**156.64**	**343**	PKIKP		**PKPdf**	**12 14 04.6 -0.2**
GERES	**GERESS Array B**	**156.64**	**343**	PKPab		**PKPab**	**12 14 34.0 0.0**
	comp=Z,0.5nm,0.7s,baz=20,slow=4.3,SNR=3.6						
GERES	**GERESS Array B**	**156.64**	**343**	PKPdf		**PKPdf**	**12 14 04.6 -0.2**
TOA0	**Torodi Ar. Sit**	**166.30**	**172**			**PKPab**	**12 15 17.8 +1.1**
TORD	**Torodi Ar. Bea**	**166.30**	**172**	PKP		**PKPdf**	**12 14 15.9 +0.1**
	comp=Z,1.2nm,0.8s,baz=54,slow=0.6,SNR=5.4						
TORD				PKPab		**PKPab**	**12 15 16.8 +0.1**
	comp=Z,3.2nm,0.8s,baz=187,slow=4.4,SNR=11						
TORD	**Torodi Ar. Bea**	**166.30**	**172**			**PKPdf**	**12 14 15.7 -0.1**
TORD				PKPab		**PKPab**	**12 15 17.2 +0.4**

KRNET 30 11:56:52.6±0.1, 41°.75N×71°.03E, h19km, mb2.3, 6C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.70**	**86⇑**	*i*P	Pb	11 57 06.1	-0.1
	baz=87						
ARK			⇑	*i*S	Sg	11 57 16.0	+0.2
	baz=87						
ARSB	**Arslanbob**	**1.53**	**105⇑**	*e*P	Pb	11 57 20.6	+0.3
	baz=6.0						
ARSB			⇑	*i*S	Sg	11 57 40.9	-1.0
	baz=6.0						
BTK	**Batken**	**1.70**	**185⇑**	*i*P	Pb	11 57 23.4	+0.2
	baz=85						
BTK			⇑	*i*S	Sg	11 57 46.0	-1.3
	baz=85						
ARLS	**Aral**	**2.46**	**86⇓**	*i*P	Pb	11 57 34.3	-2.0
	baz=86						
ARLS			⇓	*i*S	Sb	11 58 04.3	-2.1
	baz=86						

*SOME **30** 11:57:01.7, 40°.90N×70°.03E, h20km*
*NNC **30** 11:57:05.8±2.9, 41°.08N×70°.08E, h0km, mb3.0, mpv2.9,*
Error ellipse: s-maj=21.4km s-min=12.0km az=32.0
ISC 30 11:57:03.4±3.5, 41°.0N±0°.2×70°.0E±0°.1, h10km, n9,
σ0 97/14, 4C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.13**	**2**	P	**Pg**	**11 57 25.9**	**+0.7**
	1.8nm,0.2s						
IUG				S	**Sb**	**11 57 40.8**	**+0.8**
	45nm,0.4s						
IUG	**Iuzhnay**	**1.13**	**2**	*e*P	**Pg**	**11 57 25.9**	**+0.7**
	1.8nm,0.2s						
IUG				*e*S	**Sb**	**11 57 41.1**	**+1.1**
	45nm,0.4s						
BRLS	**Borolday**	**2.02**	**357**	P	**Pn**	**11 57 37.2**	**-0.4**
	9.0nm,0.3s						
BRLS				S	**Sn**	**11 58 01.6**	**-1.3**
	11nm,0.7s						
BRLS	**Borolday**	**2.02**	**357**	*e*P	**Pn**	**11 57 37.2**	**-0.4**
	0.5nm,0.2s						
BRLS				*e*S	**Sn**	**11 58 01.6**	**-1.3**
	11nm,0.7s						
KK31	**Karatay Array**	**2.12**	**10**	⇑Pn	**Pb**	**11 57 42.0**	**-0.1**
	2.7nm,0.6s,baz=193,slow=15,SNR=21						
KK31			⇑	Lg	Lg	11 58 10.8	
	6.3nm,0.7s,baz=192,slow=28,SNR=5.3						
MRKS	**Merke**	**2.97**	**53**	Pg	**Pb**	**11 57 55.8**	**-0.8**
	2.4nm,0.3s						
MRKS				Lg	Lg	11 58 33.3	
	5.2nm,0.7s						
MRKS	**Merke**	**2.97**	**53**	*e*P	**Pb**	**11 57 55.8**	**-0.8**
	2.4nm,0.3s						
MRKS				*e*S	**Sb**	**11 58 33.3**	**+0.3**
	5.2nm,0.7s						
AAK	**Ala-Archa**	**3.74**	**63**	⇑Pg	**Pg**	**11 58 14.9**	**-0.1**
	2.9nm,1.1s						
AAK			⇓	Lg	Lg	11 59 00.5	
	4.6nm,1.1s						
TKM2	**Tokmak 2**	**4.59**	**64**	⇑Pg	**Pb**	**11 58 25.9**	**+1.7**
	1.8nm,0.9s						
TKM2			⇓	Lg	Lg	11 59 31.7	
	3.5nm,0.9s						

NDI 30 11:58:44.7±1.7, 17°.39N×73°.74E, h10km±7km, ML3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.43**	**101**	*i* PG	Pg	11 58 53.3	+0.1
KAD				*i* SG	Sg	11 58 58.7	-0.2
POO	**Poona**	**1.14**	**5**	*e*P	Pb	11 59 06.3	-0.2
POO				*e*S	Sg	11 59 21.7	+0.3
POO				IAML		11 59 23.1	
	comp=N,1μm,0.1s						
POO				IAML		11 59 23.4	
	comp=E,2μm,0.1s						
BOM	**Bombay**	**1.74**	**330**	*e*P	Pg	11 59 20.8	+2.7
BOM				*e*S	Sg	11 59 42.4	+1.8
BOM				IAML		11 59 45.9	
	comp=E,257nm,0.2s						
BOM				IAML		11 59 49.3	
	comp=N,371nm,0.2s						
GOA	**Goa**	**1.89**	**178**	*e*P	Pb	11 59 18.3	-1.0
GOA				*e*S	Sn	11 59 40.8	-0.1
GOA				IAML		11 59 45.8	
	comp=N,520nm,0.2s						
GOA				IAML		11 59 46.3	
	comp=E,790nm,0.4s						
HYB	**Hyderabad**	**4.59**	**89**	*e*SB	Sb	12 01 03.2	+2.2
NGP	**Nagpur**	**6.25**	**52**	*e*SB	Sb	12 01 52.5	+3.8

*MOS **30** 12:23:13.9±1.0, 53°.94N×164°.29W, h24km, mb4.8/33,*
Error ellipse: s-maj=10.4km s-min=5.6km az=89.2
*BJI **30** 12:23:16.1±0.0, 54°.41N×164°.77W, h26km, mb4.7/24,*
mB4.9/19, Ms4.8/7, Ms7 4.5/7
*AEIC **30** 12:23:16±2.2, 53°.77N±0°.05×164°.21W±0°.06, h28km±5km,*
ML4.4, mb4.6/70(NEIC), Mwr4.2(NEIC)
*IDC **30** 12:23:17.3±2.0, 53°.96N×164°.35W, h36km±14km, mb4.1/29,*
mb1 4.3/32, mb1mx4.1/60, mbtmp4.3/32, ML4.2/3, MS3.7/18,
Ms1 3.7/18, ms1mx3.4/54, Error ellipse: s-maj=18.6km
s-min=10.2km az=180.0
*ISCJB **30** 12:23:17.1±0.3, 53°.93N±0°.03×164°.25W±0°.03, h47km±2km,*
mb4.6/87, MS3.9/23, Error ellipse: s-maj=5.8km
s-min=2.4km az=165.2
*NEIC **30** 12:23:17.2±1.9, 53°.84N±0°.05×164°.28W±0°.05, h34km±4km,*
Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm;
M_{rr}2.37; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.13; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.15;
Fault plane solution: $M_0$2.38000×10^{15} NP1:
ϕ_s275.30000°, δ46.43000°, λ84.48000°. NP2:
ϕ_s103.28000°, δ43.85000°, λ95.77000°. Principal axes: T
2.3806, Plg86.0000°, Azm117.0000°; N 0.0031,
Plg4.0000°, Azm279.0000°; P -2.3836, Plg1.0000°,
Azm9.0000°;
ISC 30 12:23:17.4±0.8, 53°.81N±0°.06×164°.22W±0°.03, h41km±6km,
n371, σ1 27/379, mb4.6/97, MS4.1/23, 23C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.84**	**338**		**Pn**	**12 23 32.6**	**-0.2**
AKSA	**Akutan Strait**	**0.93**	**291**		**Pn**	**12 23 33.4**	**-0.6**
AKSA					**Sn**	**12 23 46.0**	**-0.2**
SSBA	**Shishaldin**	**0.96**	**3**		**Pn**	**12 23 34.1**	**-0.4**
SSBA					**Sn**	**12 23 47.5**	**+0.5**
AKUT	**Akutan**	**0.97**	**290**		**Pn**	**12 23 34.1**	**-0.5**
AKUT				Sn	**Sn**	**12 23 46.1**	**-1.1**
AKBBA	**Akutan Broad B**	**1.05**	**286**		**Pn**	**12 23 35.3**	**-0.3**
AKLV	**Akutan Long Va**	**1.08**	**290**		**Pn**	**12 23 35.7**	**-0.5**
AKMO	**Akutan Morgan**	**1.09**	**285**		**Pn**	**12 23 36.0**	**-0.3**
AKMO					**Sn**	**12 23 50.7**	**+0.5**
AKGG	**Akutan Green G**	**1.11**	**291**		**Pn**	**12 23 36.4**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.14**	**287**		**Pn**	**12 23 36.6**	**-0.2**
FALS	**False Pass**	**1.15**	**24**	Pn	**Pn**	**12 23 36.6**	**-0.4**
FALS				Sn	**Sn**	**12 23 51.4**	**0.0**
UNV	**Unalaska Valle**	**1.35**	**272**	Pn	**Pn**	**12 23 38.8**	**-1.0**
MTBL	**Makushin Table**	**1.46**	**277**		**Pn**	**12 23 41.3**	**-0.1**
MREP	**Makushin Rep't**	**1.50**	**271**		**Pn**	**12 23 41.4**	**-0.5**
MSW	**Makushin Switc**	**1.52**	**275**		**Pn**	**12 23 41.5**	**-0.7**
MSW					**Sn**	**12 24 02.2**	**+1.5**
MCIR	**Makushin Cirqu**	**1.59**	**276**		**Pn**	**12 23 43.2**	**+0.1**
BALA	**Baldy Mountain**	**1.62**	**31**		**Pn**	**12 23 44.9**	**+1.5**
PN6	**Pavlof North-6**	**2.12**	**38**		**Pn**	**12 23 52.0**	**+1.6**
OKFG	**Magazine Ridge**	**2.24**	**261**		**Pn**	**12 23 52.8**	**+0.9**
BLHA	**Black Hill**	**2.27**	**33**		**Pn**	**12 23 53.4**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**2.32**	**261**		**Pn**	**12 23 54.0**	**+0.9**
OKSP	**Okmok Steeple**	**2.49**	**259**		**Pn**	**12 23 56.2**	**+0.7**
SDPT	**Sand Point**	**2.67**	**53**		**Pn**	**12 23 58.0**	**+0.2**
SDPT				Sn	**Sn**	**12 24 29.9**	**+1.1**
CNBA	**Chernabura Isl**	**2.89**	**68**		**Pn**	**12 24 00.8**	**-0.2**
CNBA				Sn	**Sn**	**12 24 33.5**	**-0.9**
NIKH	**Nikolski High**	**2.90**	**255**		**Pn**	**12 24 01.2**	**+0.2**
VNWF	**Veniaminof 8**	**3.56**	**47**		**Pn**	**12 24 11.5**	**+1.3**
VNFG	**Fog Glacier, M**	**3.65**	**45**		**Pn**	**12 24 12.8**	**+1.4**
VNSS	**Veniaminof 8**	**3.66**	**47**		**Pn**	**12 24 12.8**	**+1.2**
VNNF	**Veniaminof 3**	**3.75**	**47**		**Pn**	**12 24 14.3**	**+1.5**
CHGN	**Chignik**	**4.17**	**51**		**Pn**	**12 24 19.1**	**+0.8**
CHGN				Sn	**Sn**	**12 25 06.7**	**+1.0**
ANNE	**Aniakchak Nort**	**4.69**	**46**		**Pn**	**12 24 27.0**	**+1.4**
SPIA	**Saint Paul Isl**	**4.81**	**317**		**Pn**	**12 24 26.6**	**-0.6**
PLK1	**Peulik 1**	**5.86**	**44**		**Pn**	**12 24 42.9**	**+1.3**
PLK5	**Peulik 5**	**5.88**	**42**		**Pn**	**12 24 43.5**	**+1.6**
KOFP	**Korovin Flat P**	**6.15**	**259**		**Pn**	**12 24 47.0**	**+1.2**
ATKA	**Atka Island**	**6.24**	**259**	Pn	**Pn**	**12 24 46.6**	**-0.2**
KELA	**Mount Kelaz**	**6.63**	**42**		**Pn**	**12 24 53.7**	**+1.4**
KABU	**Katmai Buttres**	**6.71**	**45**		**Pn**	**12 24 55.4**	**+2.1**
KAKN	**Katmai Knife C**	**6.81**	**45**		**Pn**	**12 24 56.6**	**+1.8**
KAHC	**Katmai Hardscr**	**7.06**	**43**		**Pn**	**12 24 59.7**	**+1.5**
OHAK	**Old Harbor**	**7.08**	**57**		**Pn**	**12 24 57.5**	**-0.8**
OHAK				Sn	**Sn**	**12 26 14.9**	**-2.5**
GSTR	**Great Sitkin T**	**7.36**	**261**	Pn	**Pn**	**12 25 02.3**	**+0.1**
KDAK	**Kodiak Island**	**7.67**	**54**	Pn	**Pn**	**12 25 05.9**	**-0.5**
	5.7nm,0.3s,baz=224,slow=6.7,SNR=45						
KDAK				Sn	**Sn**	**12 26 30.9**	**-0.9**
	baz=108,slow=20,SNR=2.2						
KDAK	**Kodiak Island**	**7.67**	**54**		**Pn**	**12 25 06.1**	**-0.3**
ADK	**Adak**	**7.79**	**261**	P	**Pn**	**12 25 09.0**	**+0.9**
ADK	**Adak**	**7.79**	**261**		**Pn**	**12 25 09.0**	**+0.9**
SVW2	**Sparrevohn**	**8.65**	**29**		**Pn**	**12 25 20.6**	**+0.7**
ILS	**Ilíamna Low So**	**8.66**	**40**		**Pn**	**12 25 22.1**	**+1.9**
RDWB	**Redoubt West**	**9.10**	**38**		**Pn**	**12 25 28.2**	**+2.1**
RSO	**Redoubt South**	**9.11**	**38**		**Pn**	**12 25 27.9**	**+1.5**
NCT	**North Crescent**	**9.12**	**38**		**Pn**	**12 25 28.4**	**+2.1**
CNPM	**China Poot**	**9.15**	**46**		**Pn**	**12 25 26.5**	**-0.2**
BRLK	**Bradley Lake**	**9.43**	**45**		**Pn**	**12 25 30.1**	**-0.5**
SPCG	**Spurr Capps Gl**	**9.94**	**36**		**Pn**	**12 25 39.7**	**+2.0**
CGLM	**Capps Glacier**	**9.96**	**36**		**Pn**	**12 25 39.8**	**+2.0**
TTA	**Tatalina**	**10.10**	**22**	P	**Pn**	**12 25 39.7**	**0.0**
TTA	**Tatalina**	**10.10**	**22**		**Pn**	**12 25 39.7**	**0.0**
SEW	**Seward**	**10.22**	**46**		**Pn**	**12 25 40.6**	**-0.7**
SUA	**Susitna One**	**10.51**	**38**		**Pn**	**12 25 45.7**	**+0.3**
SKT	**Skwentna**	**10.59**	**34**		**Pn**	**12 25 47.0**	**+0.5**
RC01	**Rabbit Creek A**	**10.66**	**41**		**Pn**	**12 25 47.1**	**-0.2**
ANM	**Nome**	**10.80**	**357**	P	**Pn**	**12 25 50.0**	**+0.8**
ANM	**Nome**	**10.80**	**357**		**Pn**	**12 25 50.0**	**+0.8**
PMR	**Palmer**	**11.20**	**40**	P	**Pn**	**12 25 54.5**	**-0.1**
PMR	**Palmer**	**11.20**	**40**		**Pn**	**12 25 54.5**	**-0.1**
KNK	**Knik Glacier**	**11.35**	**42**		**Pn**	**12 25 56.1**	**-0.7**
SML	**Sawmill**	**11.63**	**40**		**Pn**	**12 25 59.7**	**-0.9**
HIN	**Hinchinbrook I**	**11.65**	**48**		**Pn**	**12 25 59.6**	**-1.2**
FID	**Port Fidalgo**	**11.82**	**47**		**Pn**	**12 26 01.4**	**-1.8**
KTH	**Kantishna Hill**	**11.94**	**30**		**Pn**	**12 26 05.3**	**+0.4**
SCM	**Sheep Creek Mo**	**12.03**	**41**	P	**Pn**	**12 26 04.0**	**-2.2**
SCM	**Sheep Creek Mo**	**12.03**	**41**		**Pn**	**12 26 04.0**	**-2.2**
EYAK	**Cordova Ski Ar**	**12.05**	**49**	Pn	**Pn**	**12 26 05.2**	**-1.1**
TRF	**Thorofare Moun**	**12.05**	**31**		**Pn**	**12 26 06.9**	**+0.4**
BPAW	**Bear Paw Mtn.**	**12.34**	**28**		**Pn**	**12 26 11.3**	**+1.1**
RND	**Reindeer**	**12.47**	**34**	P	**Pn**	**12 26 12.5**	**+0.3**
RND	**Reindeer**	**12.47**	**34**		**Pn**	**12 26 12.5**	**+0.3**
HMT	**Hamilton**	**12.64**	**51**		**Pn**	**12 26 12.4**	**-1.9**
BWN	**Browne**	**12.83**	**30**		**Pn**	**12 26 18.7**	**+1.7**
IMAR	**Indian Mountai**	**13.26**	**19**		**Pn**	**12 26 23.9**	**+1.1**
CRQM	**Cirque**	**13.31**	**50**		**Pn**	**12 26 22.8**	**-0.9**
VRDI	**Verde Repeater**	**13.36**	**48**		**Pn**	**12 26 22.4**	**-2.0**
MESA	**MESA**	**13.66**	**53**		**Pn**	**12 26 27.7**	**-0.8**
HDA	**Harding Lake**	**13.78**	**33**	P	**Pn**	**12 26 28.2**	**-1.7**
	baz=228,SNR=9.0						
TCOL	**CIGO, UAF Yank**	**13.82**	**30**	P	**Pn**	**12 26 29.1**	**-1.3**
	baz=224,SNR=6.5						
COLA	**College**	**13.82**	**30**	*i* P	**Pn**	**12 26 28.9**	**-1.5**
COLA	**College**	**13.82**	**30**		**Pn**	**12 26 28.8**	**-1.7**
ILAR	**Eielson Array**	**14.04**	**32**	P	**Pn**	**12 26 31.2**	**-2.3**
ILAR	**Eielson Array**	**14.04**	**32**	Pn	Pn	12 26 29.4	-4.1
	0.5nm,0.3s,baz=229,slow=12,SNR=31						
ILAR				LR	LR	12 32 19.9	
	comp=Z,585nm,19.8s,baz=234,slow=39						
ILAR				ScP	**ScP**	**12 35 21.2**	**+0.1**
	0.0nm,0.3s,baz=293,slow=2.8,SNR=4.8						
ILAR	**Eielson Array**	**14.04**	**32**		**Pn**	**12 26 31.2**	**-2.3**
POKR	**Poker Plat Res**	**14.12**	**30**	P	**Pn**	**12 26 35.2**	**+0.7**
	baz=224,SNR=6.0						
CTGM	**Chitina Glacie**	**14.21**	**51**		**Pn**	**12 26 34.8**	**-1.1**
BCAR	**Beaver Creek A**	**14.88**	**43**	Pn	**Pn**	**12 26 43.3**	**-1.4**
EGAK	**Eagle**	**15.99**	**38**	IAmb	IAmb	12 27 03.5	
	comp=Z,21nm,0.7s						
DAWY	**Dawson**	**16.29**	**41**	IAmb	IAmb	12 27 07.1	
	comp=Z,32nm,0.7s						
BMAR	**Burnt Mountain**	**16.59**	**27**		**Pn**	**12 27 06.5**	**-0.1**
EPYK	**Eagle Plains**	**18.39**	**36**	P	**P**	**12 27 27.3**	**-1.3**
	baz=240,SNR=23						
EPYK	**Eagle Plains**	**18.39**	**36**	IAmb	IAmb	12 27 31.8	
	comp=Z,29nm,0.8s						
DLBC	**Dease Lake**	**19.47**	**62**	P	**Pn**	**12 27 41.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=270,slow=13,SNR=8.8						
BILL	**Bilibino**	**19.92**	**327⇑**	*e*P	**P**	**12 27 45.1**	**-0.1**
BILL				pmax	pmax		
	comp=Z,20nm,1.2s						
BILL				MLR	MLR		
	comp=Z,541nm,18.0s						
BILL	**Bilibino**	**19.92**	**327**	P	**P**	**12 27 43.2**	**-1.9**
BILL				IAmb	IAmb	12 27 51.3	
	comp=Z,16nm,1.1s						
INK	**Inuvik**	**20.43**	**33**	P	**P**	**12 27 49.2**	**-1.5**
INK				pmax	pmax		
	comp=Z,19nm,0.8s

BFSC	Mount Baldy Ra	37.93	102	P	P	12 30 33.9	+3.1
	baz=316						
HEC	Hector,Ludlow	38.28	100	P	P	12 30 36.0	+2.3
	baz=315						
PFO	Pinyon Flats O	39.08	101	P	P	12 30 41.8	+1.4
PFO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PFO	Pinyon Flats O	39.08	101	P	P	12 30 41.8	+1.4
O20A	White River Ci	39.52	87	P	P	12 30 46.6	+2.4
	baz=310,SNR=8.1						
RSSD	Black Hills	39.56	79	P	P	12 30 45.8	+1.3
	baz=306						
H11N2	WAKE ISLAND Hy	40.59	224	T	T	13 14 19.9	
	baz=26,slow=76,SNR=489						
H11N3	WAKE ISLAND Hy	40.60	224	T	T	13 14 22.5	
	baz=26,slow=76,SNR=417						
H11N1	WAKE ISLAND Hy	40.61	224	T	T	13 14 25.1	
	baz=26,slow=76,SNR=323						
ULM	Lac du Bonnet	40.72	66	P	P	12 30 54.0	+0.3
	comp=Z,1.1nm,0.3s,baz=274,slow=6.9,SNR=3.9						
ULM	Lac du Bonnet	40.72	66	IAmb	IAmb	12 30 54.6	
	comp=Z,8.6nm,1.1s						
H11S1	WAKE ISLAND Hy	41.77	224	T	T	13 15 56.2	
	baz=25,slow=76,SNR=849						
H11S2	WAKE ISLAND Hy	41.78	224	T	T	13 15 57.3	
	baz=25,slow=76,SNR=420						
H11S3	WAKE ISLAND Hy	41.79	224	T	T	13 16 05.3	
	baz=25,slow=76,SNR=403						
AGMN	Agassiz Nation	41.80	69	P	P	12 31 02.9	+0.2
	baz=304						
214A	Organ Pipe Nat	42.39	100	P	P	12 31 09.2	+1.5
	baz=317						
MJAR	Matsushiro Arr	42.83	270	P	P	12 31 10.5	-0.6
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MJAR	Matsushiro Arr	42.83	270	P	P	12 31 11.0	-0.1
	comp=Z,1.2nm,0.6s,baz=34,slow=6.4,SNR=5.2						
MJAR	Matsushiro Arr	42.83	270	P	P	12 31 10.5	-0.6
MJB9	Matsu-Tunnel	42.83	270	P	P	12 31 10.7	-0.4
MJB9				IAmb	IAmb	12 31 12.8	
	comp=Z,12nm,1.1s						
MAJO	Matsushiro	42.83	270	P	P	12 31 10.8	-0.3
MAJO				pmax	pmax		
	comp=Z,11nm,1.1s						
MAJO	Matsushiro	42.83	270	P	P	12 31 10.8	-0.3
MAJO				IAmb	IAmb	12 31 12.8	
	comp=Z,11nm,1.1s						
ANMO	Albuquerque	44.03	91	*i* P	P	12 31 21.2	+0.2
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ECSD	EROS Data Cent	44.07	74	P	P	12 31 21.0	-0.1
	baz=308						
NRIK	Noril'sk	46.61	332	P	P	12 31 40.0	-0.7
	comp=Z,1.9nm,0.5s,baz=49,slow=8.5,SNR=6.5						
NRIK				LR	LR	12 52 44.4	
	comp=Z,94nm,18.8s,baz=82,slow=38						
DAG	Danmarks Havn	47.86	10	*i* P	P	12 31 49.9	-0.5
DAG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DAG	Danmarks Havn	47.86	10	*i* P	P	12 31 49.9	-0.5
	comp=Z,9.4nm,0.7s						
KSRS	Korea Array	48.28	279	P	P	12 31 53.9	-0.3
	comp=Z,1.6nm,0.9s,baz=43,slow=7.3,SNR=4.6						
SUMG	Summit	48.44	19	*i* P	P	12 31 55.2	-0.2
SUMG				pmax	pmax		
	comp=Z,37nm,0.8s						
SUMG	Summit	48.44	19	*i* P	P	12 31 55.2	-0.2
	comp=Z,37nm,0.8s						
SUMG	Summit	48.44	19	P	P	12 31 55.4	0.0
WMOK	Wichita Mounta	48.72	85	P	P	12 31 58.5	+0.9
	baz=314						
WMOK	Wichita Mounta	48.72	85	IAmb	IAmb	12 32 06.3	
	comp=Z,2.1nm,0.8s						
TX32	Lajitas Array	49.68	94	P	P	12 32 06.0	+0.9
TXAR	Lajitas Array	49.68	94	P	P	12 32 05.8	+0.7
	comp=Z,1.3nm,0.6s,baz=305,slow=5.8,SNR=16						
TXAR				PcP	PcP	12 33 26.5	+0.7
	comp=Z,0.5nm,0.6s,baz=318,slow=1.2,SNR=1.3						
TXAR				ScP	ScP	12 37 18.2	+0.5
	comp=Z,0.4nm,0.7s,baz=289,slow=2.0,SNR=4.0						
TXAR				LR	LR	12 51 26.4	
	comp=Z,47nm,18.6s,baz=0.0,slow=34						
TXAR	Lajitas Array	49.68	94	P	P	12 32 06.3	+1.1
HDIL	Hopedale	50.28	73	P	P	12 32 09.0	-0.4
	baz=312						
U40A	Yellville	51.08	79	P	P	12 32 14.9	-0.7
	baz=314						
U40A	Yellville	51.08	79	P	P	12 32 15.1	-0.5
U40A				IAmb	IAmb	12 32 19.4	
	comp=Z,3.4nm,0.8s						
JCT	Junction City	51.14	90	P	P	12 32 16.8	+0.8
JCT				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JCT	Junction City	51.14	90	P	P	12 32 16.9	+0.8
JCT				IAmb	IAmb	12 32 17.2	
	comp=Z,2.1nm,0.6s						
CHGQ	Chibougamau	52.02	55	P	P	12 32 22.0	-0.4
	baz=311						
SCHQ	Schefferville	52.22	47	P	P	12 32 23.4	-0.3
	comp=Z,7.1nm,0.8s,baz=307,slow=7.6,SNR=4.2						
SCHQ				LR	LR	12 55 02.5	
	comp=Z,241nm,20.3s,baz=301,slow=36						
ULN	Ulaanbaatar	52.83	302	*ce*P	P	12 32 28.0	-0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	Songino Array	53.18	303	P	P	12 32 31.0	-0.1
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	Songino Array	53.18	303	P	P	12 32 30.7	-0.4
	comp=Z,1.8nm,0.8s,baz=41,slow=8.1,SNR=11						
SONM				PcP	PcP	12 33 39.3	+0.6
	comp=Z,2.0nm,0.9s,baz=52,slow=2.0,SNR=5.0						
SONM	Songino Array	53.18	303	P	P	12 32 30.9	-0.1
D55A	Sainte-Anne-du	53.41	58	P	P	12 32 32.7	0.0
	baz=312						
WVT	Waverly	54.15	76	P	P	12 32 38.4	+0.1
	baz=315						
WVT	Waverly	54.15	76	P	P	12 32 38.3	+0.1
WVT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WVT	Waverly	54.15	76	P	P	12 32 38.2	+0.1
WVT				IAmb	IAmb	12 32 39.1	
	comp=Z,6.1nm,0.8s						
OXF	Oxford	54.38	79	P	P	12 32 40.0	+0.1
	baz=315						
OXF	Oxford	54.38	79	P	P	12 32 40.0	+0.1
OXF				pmax	pmax		
	comp=Z,13nm,0.9s						
OXF	Oxford	54.38	79	P	P	12 32 40.0	+0.1
R51A	Hillsboro	55.05	71	P	P	12 32 44.5	-0.2
	baz=314						
HHC	Hu-ho-hao-te	55.25	293	*e*P	P	12 32 47.0	+0.7
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GUMO	Guam	56.53	245	LR	LR	12 57 43.5	
	comp=Z,14nm,18.7s,baz=104,slow=37						
ARCES	ARCESS Array B	56.76	356	P	P	12 32 55.4	-1.1
	comp=Z,4.8nm,0.8s,baz=12,slow=7.3,SNR=20						
ARCES				LR	LR	12 56 52.8	
	comp=Z,76nm,21.1s,baz=342,slow=36						
NJ2	Nanjing	57.37	281	*e*P	P	12 33 02.3	+1.0
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
ZALV	Zalesovo Beam	58.39	320	P	P	12 33 07.3	-0.8
	comp=Z,0.8nm,0.6s,baz=1.8,slow=4.7,SNR=4.1						
ZALV				PcP	PcP	12 33 58.4	-0.2
	comp=Z,1.3nm,0.6s,baz=33,slow=5.5,SNR=4.1						
ZALV				LR	LR	13 02 28.4	
	comp=Z,122nm,18.0s,baz=40,slow=40						
ZALV	Zalesovo Beam	58.39	320	P	P	12 33 07.5	-0.6
PRGR	Permogore	62.49	344	*e*P	P	12 33 34.7	-1.3
PRGR				pmax	pmax		
	comp=Z,12nm,0.6s						
GTA	Gaotai	62.52	300	*e*P	P	12 33 36.0	-0.7
GTA				pP	pP	12 33 45.8	-3.0
GTA				sP	sP	12 33 49.5	-4.1
GTA				S	S	12 42 00.0	-1.2
GTA				sS	pS	12 42 14.3	-1.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,73nm,7.6s						
GTA				LR	LR		
	comp=Z,110nm,17.8s						
GTA				LR	LR		
	comp=Z,100nm,17.5s						
GTA				LR	LR		
	comp=Z,130nm,16.8s						
LZH	Lanzhou	62.87	295	*e*P	P	12 33 39.5	+0.3
LZH				pP	pP	12 33 49.3	-1.9
LZH				sP	sP	12 33 53.3	-2.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
KURK	Kurchatov	63.29	321	P	P	12 33 41.2	-0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURK	Kurchatov	63.29	321	P	P	12 33 41.2	-0.3
KURK				IAmb	IAmb	12 33 42.4	
	comp=Z,4.2nm,1.1s						
KURBB	Kurchatov Arra	63.40	321	P	P	12 33 42.0	-0.2
	comp=Z,3.3nm,1.0s,baz=37,slow=6.6,SNR=4.8						
BRVK	Borovoye	64.27	327	*ce*P	P	12 33 48.0	+0.1
BRVK				pmax	pmax		
	comp=Z,17nm,2.5s						
BRVK	Borovoye	64.27	327	P	P	12 33 47.5	-0.4
BRVK				IAmb	IAmb	12 33 49.1	
	comp=Z,5.6nm,0.9s						
ARU	Arti	64.68	335	*c i*P	P	12 33 49.6	-0.9
ARU						12 34 19.8	
ARU				S	S	12 42 29.0	+1.9
ARU				SS	SS	12 46 40.3	+2.9
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	Arti	64.68	335	P	P	12 33 49.8	-0.7
ARU				IAmb	IAmb	12 33 51.1	
	comp=Z,9.3nm,1.0s						
FIA1	FINESS Array S	64.80	355	P	P	12 33 50.5	-0.7
FINES	FINESS Array B	64.80	355	P	P	12 33 50.3	-0.8
	comp=Z,7.7nm,0.9s,baz=21,slow=7.7,SNR=21						
FINES				LR	LR	13 04 21.7	
	comp=Z,54nm,18.1s,baz=51,slow=38						
MK31	Makanchi Array	65.00	316	P	P	12 33 52.2	-0.6
MK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	Makanchi Array	65.00	316	P	P	12 33 52.2	-0.6
MKAR	Makanchi Array	65.00	316	P	P	12 33 52.0	-0.8
MKAR	Makanchi Array	65.00	316	P	P	12 33 51.0	-1.8
	comp=Z,0.8nm,0.5s,baz=35,slow=3.5,SNR=10						
MKAR				LR	LR	13 03 22.7	
	comp=Z,83nm,18.1s,baz=46,slow=37						
MKAR	Makanchi Array	65.00	316	P	P	12 33 52.0	-0.8
WMQ	Urumqi	65.02	311	*e*P	P	12 33 55.3	+2.3
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.5s						
MAKZ	Makanchi	65.11	316	P	P	12 33 52.5	-1.1
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAKZ	Makanchi	65.11	316	P	P	12 33 52.5	-1.1
MAKZ				IAmb	IAmb	12 33 53.9	
	comp=Z,2.2nm,0.6s						
NC405	NORSAR Array S	65.37	2	P	P	12 33 54.4	-0.6
NB2	NORSAR Subarra	65.44	2	P	P	12 33 54.0	-1.4
	comp=Z,1.5nm,0.7s,baz=358,slow=6.5						
NOA	NORSAR Array B	65.44	2	P	P	12 33 54.8	-0.6
	comp=Z,2.7nm,0.8s,baz=358,slow=6.6,SNR=9.8						
NOA				LR	LR	13 04 06.0	
	comp=Z,29nm,18.3s,baz=335,slow=38						
TAOE	Nuku Hiva Isla	65.67	154	*e*T	T	13 45 24.0	
	comp=Z,34nm,0.2s						
HNR	Honiara	69.92	218	LR	LR	12 57 17.0	
	comp=Z,46nm,21.9s,baz=14,slow=29						
PMOR	Pomariorio Rege	69.95	163	*e*T	T	13 50 46.4	
	comp=Z,54nm,0.2s						
OBN	Obninsk	70.09	347	⇓*e*P	P	12 34 23.8	-0.9
OBN				*e*		12 34 49.8	
OBN				*e*		12 36 55.1	
OBN				*e*S	S	12 43 28.5	-3.6
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,94nm,16.0s						
ESK	Eskdalemuir	70.11	11	P	P	12 34 25.1	+0.2
ESK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ESK	Eskdalemuir	70.11	11	P	P	12 34 25.1	+0.2
ESK				IAmb	IAmb	12 34 28.8	
	comp=Z,8.6nm,1.0s						
ABKAR	Akbulak array	70.76	331	P	P	12 34 28.7	-0.2
ABKAR	Akbulak array	70.76	331	P	P	12 34 28.7	-0.2
TKM2	Tokmak 2	70.89	318	P	P	12 34 31.0	+0.9
	SNR=5.7						
KDJ	Kajisay	70.91	316	P	P	12 34 30.3	+0.1
KDJ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDJ	Kajisay	70.91	316	P	P	12 34 30.3	+0.1
KDJ				IAmb	IAmb	12 34 31.1	
	comp=Z,3.4nm,0.9s						
TARG	Taragay, Kyrgy	70.99	316	P	P	12 34 30.9	-0.1
TARG				IAmb	IAmb	12 34 34.2	
	comp=Z,3.3nm,0.5s						
USP	Ospenovka	71.03	319	P	P	12 34 30.8	0.0
	SNR=5.7						
FRU1	Bishkek	71.37	318	P	P	12 34 33.1	+0.3
FRU1				pmax	pmax		
	comp=Z,13nm,0.7s						
FRU1	Bishkek	71.37	318	P	P	12 34 33.1	+0.3
AAK	Ala-Archa	71.57	318	*ce*P	P	12 34 34.5	+0.4
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AAK	Ala-Archa	71.57	318	P	P	12 34 34.7	+0.6
	SNR=6.1						
AAK	Ala-Archa	71.57	318	P	P	12 34 34.4	+0.2
AAK				IAmb	IAmb	12 34 35.2	
	comp=Z,5.4nm,0.8s						
EKS2	Erkin-Say	71.83	319	P	P	12 34 36.3	+0.6
	SNR=8.0						
NRN	Naryn	71.98	317	P	P	12 34 37.0	+0.1
NRN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NRN	Naryn	71.98	317	P	P	12 34 37.0	+0.1
NRN				IAmb	IAmb	12 34 38.6	
	comp=Z,3.1nm,0.8s						
PPT	Papeete	72.20	165	LR	LR	12 58 11.5	
	comp=Z,107nm,21.7s,baz=340,slow=29						
LPSR	Galich'ya Gora	72.21	345	*e*P	P	12 34 35.3	-2.3
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
PPT2	Papeete2	72.22	165	*e*S	SKiKP	12 44 04.2	-6.2
	comp=Z,126nm,24.2s						
PPT2	Papeete2	72.22	165	*e*LR	LR	12 56 37.0	
	comp=Z,172nm,23.0s,baz=349						
TIAR	Tiarei	72.22	165	*e*T	T	13 53 36.2	
	comp=Z,4.4nm,0.2s						
AML	Almayashu	72.31	319	P	P	12 34 39.8	+0.9
	SNR=8.7						
KKAR	Karatay Array	72.69	321	P	P	12 34 40.2	-0.5
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKAR	Karatay Array	72.69	321	P	P	12 34 40.1	-0.5
KKAR				IAmb	IAmb	12 34 41.1	
	comp=Z,6.8nm,0.8s						
VRH	Novokhopyorsk	73.12	343	*e*P	P	12 34 40.5	-2.5
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARSB	Arslanbob	73.28	319	P	P	12 34 43.6	-0.8
ARSB				IAmb	IAmb	12 34 45.8	
	comp=Z,9.3nm,0.9s						
VSR	Storozhevoye	73.52	345	*e*P	P	12 34 43.6	-1.8
VSR				pmax	pmax		
	comp=Z,30nm,1.3s						
KSH	Kashi	73.60	316	P	P	12 34 49.8	+3.6
KSH				PP	PP	12 37 35.5	+5.5
KSH				S	S	12 44 16.5	+3.2
KSH				SKS	ScS	12 44 50.0	-2.1
KSH				SS	SS	12 49 03.0	+7.2
KSH				pmax	pmax		
	comp=Z,25nm,0.6s						
KSH				pmax	pmax		
	comp=Z,170nm,5.7s						
KSH				LR	LR		
	comp=Z,200nm,9.4s						
KSH				LR	LR		
	comp=Z,120nm,8.8s						
KSH				LR	LR		
	comp=Z,130nm,10.1s						
LSA	Lhasa	74.54	299	P	P	12 34 52.4	+0.1
LSA				pmax	pmax		
	comp=Z,11nm,0.9s						
LSA	Lhasa	74.54	299	P	P	12 34 52.4	+0.1
LSA				IAmb	IAmb	12 34 54.2	
	comp=Z,11nm,0.9s						
BTK	Batken	75.20	319	P	P	12 34 55.2	-0.3
BTK				pmax	pmax		
	comp=Z,12nm,0.9s						
BTK	Batken	75.20	319	P	P	12 34 55.2	-0.3
BTK				IAmb	IAmb	12 34 56.3	
	comp=Z,12nm,0.9s						
CLL	Collm	75.22	2	*e*P	P	12 34 55.0	-0.3
CLL				*e*		12 35 05.0	
CLL	Collm	75.22	2	*e*P	P	12 34 55.0	-0.3
CLL				*ep*P	PcP	12 35 05.0	-3.6
CLL				*e*PP	PP	12 37 48.0	+4.8
AKASG	Malin Array Be	75.25	351	*i* P	P	12 34 54.4	-1.0
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKASG	Malin Array Be	75.25	351	P	P	12 34 54.1	-1.2
	comp=Z,5.4nm,0.6s,baz=13,slow=5.9,SNR=19						
AKBB	Malin Array Si	75.25	351	P	P	12 34 54.2	-1.2
AKBB				pmax	pmax		
	comp=Z,15nm,1.1s						
AKBB	Malin Array Si	75.25	351	P	P	12 34 54.2	-1.2
DOU	Dourbes	76.03	7	pP	pP	12 35 07.7	-4.6
DPC	Dobruska-Polom	76.21	360	*e*P	P	12 35 01.3	+0.3
DPC				*e*		12 35 10.7	
DPC	Dobruska-Polom	76.21	360	*e*P	P	12 35 01.3	+0.3
DPC				*ep*P	PcP	12 35 10.7	-2.2
GAR	Garm	76.31	319	P	P	12 35 01.9	0.0
CHGR	Chuyangaron	77.06	320	P	P	12 35 06.3	+0.2
LANS	Liptovska Anna	77.36	358	*e*P	P	12 35 08.8	+1.3
LANS	Liptovska Anna	77.36	358	*e*P	P	12 35 08.8	+1.3
KHC	Kasperske Hory	77.41	1	*e*P	P	12 35 08.1	+0.3
KHC				*e*		12 35 19.2	
KHC	Kasperske Hory	77.41	1	*e*P	P	12 35 08.1	+0.3
KHC				*ep*P	PcP	12 35 19.2	+1.1
SHL	Shillong	77.47	296	P	P	12 35 07.3	-1.3
SHL				pmax	pmax		
	comp=Z,12nm,1.1s						
SHL	Shillong	77.47	296	P	P	12 35 07.3	-1.3
SHL				IAmb	IAmb	12 35 08.7	
	comp=Z,12nm,1.1s						
KOLS	Kolonicke sedl	77.48	356	*e*P	P	12 35 08.8	+0.7
KOLS	Kolonicke sedl	77.48	356	*e*P	P	12 35 08.8	+0.7
GERES	GERESS Array B	77.70	1	P	P	12 35 09.8	+0.3
GERES	GERESS Array B	77.70	1	P	P	12 35 09.2	-0.3
	comp=Z,0.8nm,0.5s,baz=4.3,slow=5.4,SNR=7.9						
GERES	GERESS Array B	77.70	1	P	P	12 35 09.8	+0.3
SORM	Soroca	77.87	351	⇑P	P	12 35 09.9	-0.4
TBI	Tubuai	77.90	166	*e*LR	LR	12 59 31.8	
	comp=Z,218nm,28.0s						
VYHS	Vyhne	78.03	358	*e*P	P	12 35 12.0	+0.8
VYHS	Vyhne	78.03	358	*e*P	P	12 35 12.0	+0.8
MODS	Modra-Piesok	78.18	359	*e*P	P	12 35 12.3	+0.3
MODS	Modra-Piesok	78.18	359	*e*P	P	12 35 12.3	+0.3
TRPA	Tarpa	78.27	355	⇑P	P	12 35 13.6	+1.1
TRPA				mb		12 35 13.8	
BUR08	Bucovina Ar. S	78.60	354	P	P	12 35 14.8	+0.4
BUR08				IAmb	IAmb	12 35 16.3	
	comp=Z,4.4nm,0.8s						
BURAR	Bucovina Array	78.63	354	⇑P	P	12 35 14.9	+0.3
BURAR	Bucovina Array	78.63	354	P	P	12 35 14.6	0.0
CONA	Conrad Observa	78.63	360	*e*P	P	12 35 14.7	+0.1
	comp=Z,7.4nm,1.4s						
GUN	Gumba	78.68	302	*e*P	P	12 35 15.3	-0.2
	comp=Z,30nm,0.8s						
JIRN	Jiri	78.73	302	*e*P	P	12 35 15.7	-0.1
	comp=Z,29nm,0.5s						
ODAN	Odare	78.77	300	*e*P	P	12 35 15.8	-0.1
GOF	Gofitskoye	78.79	341	⇓*i*P	P	12 35 16.2	+0.8
KKN	Kakani	79.08	302	*e*P	P	12 35 17.3	-0.3
	comp=Z,16nm,0.8s						
RAMN	Ramite	79.10	301	*e*P	P	12 35 17.4	-0.3
	comp=Z,33nm,0.9s						
MOTA	Moosalm	79.14	3	*e*P	P	12 35 18.2	+0.7
	comp=Z,12nm,1.1s						
DAVA	Damuels	79.15	4	*e*P	P	12 35 18.4	+0.9
	comp=Z,9.0nm,1.4s						
WATA	Walderalm	79.16	3	*i* P	P	12 35 17.7	0.0
	comp=Z,3.1nm,0.5s						
PKI	Pulchoki	79.19	302	*e*P	P	12 35 18.0	-0.4
	comp=Z,24nm,1.0s						
PKIN	Phulchoki	79.20	302	*e*P	P	12 35 17.5	-0.8
	comp=Z,20nm,1.0s						
GKN	Gorkha	79.22	303	*e*P	P	12 35 18.1	-0.2
	comp=Z,38nm,0.9s						
WTTA	Wattenberg	79.24	3	*i* P	P	12 35 18.3	+0.2
	comp=Z,8.3nm,0.9s						
BIZ	Bicaz	79.24	353	⇑P	P	12 35 18.6	+0.7
CMAR	Chiang Mai Arr	79.26	286	P	P	12 35 18.6	+0.2
CMAR	Chiang Mai Arr	79.26	286	P	P	12 35 18.4	0.0
	comp=Z,3.9nm,1.0s,baz=17,slow=5.3,SNR=17						
CMAR	Chiang Mai Arr	79.26	286	P	P	12 35 18.6	+0.2
SQTA	Sankt Quirin	79.27	3	*e*P	P	12 35 18.4	+0.2
	comp=Z,7.9nm,1.0s						
DMN	Daman	79.31	302	*e*P	P	12 35 18.7	-0.2
	comp=Z,31nm,1.0s						
DANN	Dangsing	79.37	304	*e*P	P	12 35 19.4	+0.1
	comp=Z,111nm,0.8s						
FETA	Feichten	79.45	4	*e*P	P	12 35 19.6	+0.4
	comp=Z,8.5nm,0.9s						
KBA	Koelnbreinsper	79.46	2	*e*P	P	12 35 20.1	+0.8
	comp=Z,9.6nm,1.0s						
DRGR		79.60	355	P	P	12 35 20.2	+0.3
DRGR				pmax	pmax		
	comp=Z,11nm,2.4s						
DRGR		79.60	355	⇑P	P	12 35 19.7	-0.2
DZM	Mont Dzumac	79.71	208	*e*LR	LR	13 00 20.4	
	comp=Z,133nm,25.1s						
NIL	Nilore	79.74	314	P	P	12 35 21.2	+0.3
NIL				pmax	pmax		
	comp=Z,22nm,1.1s						
NIL	Nilore	79.74	314	P	P	12 35 21.2	+0.3
SOKA	Soboth	79.88	1	*e*P	P	12 35 22.7	+1.2
	comp=Z,7.7nm,1.1s						
KIV	Kislovodsk	79.92	341	*e*P	P	12 35 22.1	+0.4
KIV				pmax	pmax		
	comp=Z,53nm,1.1s						
KIV	Kislovodsk	79.92	341	⇑P	P	12 35 22.9	+1.2
KIV				mb		12 35 23.2	
KIV	Kislovodsk	79.92	341	P	P	12 35 22.6	+0.9
KOLN	Koldanda	79.93	304	*e*P	P	12 35 21.8	-0.4
	comp=Z,30nm,0.9s						
OBKA	Obir	80.05	1	P	P	12 35 22.7	+0.3
	comp=Z,12nm,0.9s						
MHMT	Maesarieng	80.06	287	P	P	12 35 23.8	+1.1
KBZ	Khabaz	80.09	340	P	P	12 35 23.2	+0.7
	comp=Z,12nm,0.9s,baz=342,slow=2.8,SNR=14						
KBZ				LR	LR	13 14 16.2	
	comp=Z,76nm,18.7s,baz=30,slow=38						
DOPR	Dopca	80.26	353	⇑P	P	12 35 24.6	+1.1
MLR	Muntele Rosu	80.69	353	⇑P	P	12 35 26.8	+0.9
VOIR		80.81	353	⇑P	P	12 35 27.1	+0.7
BZS	Buzias	80.82	356	⇑P	P	12 35 27.0	+0.6
CFR	Carcaliu	80.82	351	⇑P	P	12 35 26.1	-0.3
ARR	Arges	80.91	354	⇑P	P	12 35 27.7	+0.

VTS				mb		12 35 42.2	
MTE	**Manteigas**	**84.03**	**18**	*e*P	**P**	**12 35 44.2**	**+0.9**
	comp=Z,39nm,1.2s						
PCAS	**Casmilo, Conde**	**84.19**	**18**	*e*P	**P**	**12 35 44.4**	**+0.3**
	comp=Z,40nm,2.0s						
PCBR	**Castelo Branco**	**84.59**	**18**	*e*P	**P**	**12 35 46.8**	**+0.7**
	comp=Z,20nm,1.5s						
ESDC	**Sonseca Array**	**85.34**	**15**	P	**P**	**12 35 49.7**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=346,slow=4.3,SNR=17						
ESDC	**Sonseca Array**	**85.34**	**15**	P	**P**	**12 35 50.5**	**+0.5**
ANTO	**Ankara**	**85.54**	**347**	P	**P**	**12 35 51.6**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,17nm,0.8s						
ANTO	**Ankara**	**85.54**	**347**	P	**P**	**12 35 51.6**	**+0.6**
BR131	**Keskin Array S**	**85.57**	**346**	P	**P**	**12 35 51.5**	**+0.3**
BR131				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BR131	**Keskin Array S**	**85.57**	**346**	P	**P**	**12 35 51.5**	**+0.3**
BRTR	**Keskin Array B**	**85.57**	**346**	P	**P**	**12 35 51.8**	**+0.6**
	comp=Z,7.6nm,0.8s,baz=44,slow=3.2,SNR=28						
FNA	**Florina**	**85.65**	**356**	P	**P**	**12 35 52.1**	**+0.6**
FNA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FNA	**Florina**	**85.65**	**356**	P	**P**	**12 35 52.1**	**+0.6**
WRA	**Warramunga Arr**	**90.36**	**236**	P	**P**	**12 36 13.1**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=33,slow=5.8,SNR=4.3						
ASAR	**Alice Springs**	**93.73**	**234**	P	**P**	**12 36 29.2**	**-0.4**
ASAR	**Alice Springs**	**93.73**	**234**	P	**P**	**12 36 29.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=29,slow=4.6,SNR=7.7						
ASAR				LR	LR	13 12 11.9	
	comp=Z,67nm,21.7s,baz=26,slow=31						
ASAR	**Alice Springs**	**93.73**	**234**	P	**P**	**12 36 29.2**	**-0.4**

NEIC 30 12:24:20.5±0.5,37°.72N±0°.01×122°.14W±0°.01,h10km±2km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVPM	**Vollmer Peak**	**0.18**	**337**		Pg	12 24 24.4	0.0
CRHM	**Round Hill Res**	**0.18**	**39**		Pg	12 24 24.5	+0.2
BL67	**Building 67, L**	**0.18**	**329**		Pg	12 24 24.3	-0.1
VAK	**Adit at Lawren**	**0.18**	**330**		Pg	12 24 24.3	0.0
JCPM	**Coyote Point**	**0.20**	**229**		Pg	12 24 24.8	+0.2
BRIB	**Briones**	**0.20**	**356**		Pg	12 24 24.8	+0.1
CYBM	**Yerba Buena Is**	**0.20**	**298**		Pg	12 24 24.5	-0.2
JSBM	**San Bruno Moun**	**0.21**	**259**		Pg	12 24 24.7	-0.2
CVLM	**Vallecito**	**0.25**	**111**		Pg	12 24 25.8	+0.2
SAC	**San Andreas**	**0.26**	**239**		Pg	12 24 25.8	+0.1
CRPB	**Russellman Par**	**0.27**	**43**		Pg	12 24 25.8	-0.1
JCHM	**Cahill Ridge**	**0.28**	**224**		Pg	12 24 26.1	0.0
CPIM	**Pinole Ridge**	**0.28**	**347**		Pg	12 24 26.5	+0.5
CMOB	**Morgan Territo**	**0.28**	**71**		Pg	12 24 26.3	+0.2
CMJM	**Mission San Jo**	**0.29**	**133**		Pg	12 24 25.9	-0.3
JHPM	**Huddart Park**	**0.30**	**206**		Pg	12 24 26.8	+0.2
JSFB	**Stanford Teles**	**0.32**	**186**		Pg	12 24 26.8	0.0
JFP	**Foothills Park**	**0.36**	**187**		Pg	12 24 27.5	0.0
JJRM	**Joaquin Road**	**0.38**	**188**		Pg	12 24 27.9	0.0
MCCM	**Marconi Confer**	**0.73**	**306**	Pg	Pg	12 24 34.0	-0.5
SAO	**San Andreas Ge**	**1.10**	**150**	Pg	Pg	12 24 40.7	-0.9
CMB	**Columbia Colle**	**1.42**	**77**	Pn	Pn	12 24 46.2	-0.2
CMB				Sn	Sn	12 25 03.1	-2.1
AFDM	**Forest Hills D**	**1.53**	**36**	Pn	Pn	12 24 46.9	-1.0
AFDM				Sn	Sn	12 25 06.7	-1.3
WAKR	**Walker**	**2.27**	**69**	Pn	Pn	12 24 59.2	+0.9

*ISCJB **30** 12:26:51.1±0.3,23°.91N±0°.02×122°.52E±0°.01,h16km±3km, Error ellipse: s-maj=3.2km s-min=2.1km az=161.0*
*JMA **30** 12:26:51.3±0.3,23°.95N×122°.50E,h20km±5km,M2.1*
*TAP **30** 12:26:51.1,23°.95N×122°.48E,h15km±1km,ML2.7,D*
ISC 30 12:26:51.6±1.1,23°.98N±0°.03×122°.54E±0°.02,h32km±6km, n84,σ1§11/147,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.60**	**38**	P	**Pb**	**12 27 03.7**	**-0.2**
JYNG				S	**Sn**	**12 27 11.8**	**-0.8**
YOJ	**Yonaguni jima**	**0.65**	**42**	P	**Pb**	**12 27 04.7**	**0.0**
	baz=42						
YOJ				*e*S	**Sb**	**12 27 13.6**	**+0.1**
	baz=42						
YOJ	**Yonaguni jima**	**0.65**	**42**	P	**Pb**	**12 27 04.5**	**-0.1**
YOJ				S	**Sb**	**12 27 13.1**	**-0.4**
EOS1	**EOS1**	**0.68**	**327**	P	**Pb**	**12 27 04.8**	**-0.4**
	baz=332						
EOS1				*e*S	**Sb**	**12 27 15.4**	**+1.1**
	baz=332						
NANB	**Nanao**	**0.85**	**302**	P	**Pn**	**12 27 07.0**	**-0.4**
	baz=305						
NANB				*e*S	**Sb**	**12 27 18.9**	**-0.1**
	baz=305						
ENA	**Nanau**	**0.85**	**302**	P	**Pn**	**12 27 07.2**	**-0.3**
	baz=305						
ENA				*e*S	**Sb**	**12 27 19.9**	**+0.7**
	baz=305						
ENLB	**Shoufeng**	**0.86**	**265**	S	**Sn**	**12 27 19.1**	**+0.2**
	baz=266						
TWD	**Chiawan**	**0.86**	**277**	*e*P	**Pb**	**12 27 08.2**	**-0.1**
	baz=279						
TWD				*e*S	**Sn**	**12 27 18.8**	**-0.3**
	baz=279						
NACB	**Ninganchiao**	**0.88**	**283**	P	**Pn**	**12 27 07.0**	**-0.9**
	baz=285						
NACB				*e*S	**Sn**	**12 27 19.2**	**-0.3**
	baz=285						
TWC	**Suao**	**0.89**	**315**	P	**Pn**	**12 27 07.5**	**-0.4**
	baz=319						
TWC				S	**Sb**	**12 27 19.6**	**-0.5**
	baz=319						
ETLH	**Xiulin Townshi**	**0.99**	**284**	P	**Pn**	**12 27 08.8**	**-0.6**
	baz=285						
ETLH				*e*S	**Sn**	**12 27 22.5**	**+0.1**
	baz=285						
ESL	**Shilin**	**1.02**	**261**	*e*P	**Pn**	**12 27 07.5**	**-2.3**
	baz=261						
ESL				*e*S	**Sn**	**12 27 21.7**	**-1.3**
	baz=261						
EGS		**1.02**	**328**	*e*P	**Pb**	**12 27 10.8**	**-0.1**
	baz=331						
EGS				*e*S	**Sb**	**12 27 24.3**	**+0.3**
	baz=331						
EGFH	**Guangfu**	**1.06**	**253**	S	**Sn**	**12 27 23.7**	**-0.2**
	baz=253						
NTC	**Toucheng**	**1.08**	**324**	P	**Pb**	**12 27 12.0**	**+0.1**
	baz=326						
NTC				*e*S	**Sb**	**12 27 27.4**	**+1.6**
	baz=326						
TWE	**Neicheng**	**1.08**	**313**	*e*P	**Pb**	**12 27 11.7**	**-0.2**
	baz=316						
TWE				*e*S	**Sb**	**12 27 27.4**	**+1.6**
	baz=316						
ENTT	**Nioudou**	**1.10**	**307**	P	**Pb**	**12 27 11.6**	**-0.7**
	baz=309						
ENTT				*e*S	**Sb**	**12 27 25.9**	**-0.4**
	baz=309						
NDT	**Datong Townshi**	**1.12**	**304**	*e*P	**Pb**	**12 27 11.7**	**-0.8**
	baz=306						
NDT				S	**Sb**	**12 27 26.8**	**0.0**
	baz=306						
HGSD	**Ruisui**	**1.13**	**245**	P	**Pn**	**12 27 12.3**	**+1.1**
	baz=244						
HGSD				*e*S	**Sn**	**12 27 25.0**	**-0.6**
	baz=244						
SLBB	**Yuanshan**	**1.13**	**313**	P	**Pb**	**12 27 11.7**	**-1.0**
	baz=316						
SLBB				*e*S	**Sb**	**12 27 27.6**	**+0.6**
	baz=316						
TWB1	**Santiao Chiao**	**1.14**	**334**	*e*P	**Pb**	**12 27 12.7**	**-0.2**
	baz=337						
TWB1				*e*S	**Sb**	**12 27 29.1**	**+1.8**
	baz=337						
NNSB	**Datong**	**1.15**	**293**	P	**Pn**	**12 27 12.0**	**+0.4**
	baz=295						
NNSB				S	**Sb**	**12 27 27.2**	**-0.4**
	baz=295						
NNSH	**Datong**	**1.15**	**293**	P	**Pn**	**12 27 11.9**	**+0.4**
	baz=295						
NNSH				*e*S	**Sb**	**12 27 26.9**	**-0.7**
	baz=295						
IRIF	**Iriomote-Funau**	**1.15**	**72**	P	**Pb**	**12 27 13.3**	**+0.3**
IRIF				S	**Sb**	**12 27 28.6**	**+1.1**
NNS	**Nan Shan**	**1.16**	**294**	P	**Pn**	**12 27 12.3**	**+0.6**
	baz=295						
NNS				*i* S	**Sb**	**12 27 27.4**	**-0.6**
	baz=295						
HATJ	**Hateruma jima**	**1.16**	**86**	P	**Pb**	**12 27 12.9**	**-0.3**
HATJ				*e*S	**Sb**	**12 27 28.7**	**+0.7**
WHF	**Hehuan Shan**	**1.17**	**278**	P	**Pn**	**12 27 11.9**	**-0.4**
	baz=279						
WHF				*e*S	**Sn**	**12 27 27.8**	**+0.5**
	baz=279						
TIPB	**Shuangxi**	**1.18**	**327**	P	**Pb**	**12 27 13.6**	**0.0**
	baz=329						
TIPB				*i* S	**Sb**	**12 27 29.1**	**+0.5**
	baz=329						
EHY	**Hungye**	**1.21**	**247**	P	**Pn**	**12 27 11.4**	**-0.9**
	baz=247						
EHY				*e*S	**Sn**	**12 27 27.6**	**0.0**
	baz=247						
NWLT	**Wulai**	**1.23**	**310**	P	**Pb**	**12 27 14.1**	**-0.3**
	baz=312						
NWLT				*e*S	**Sb**	**12 27 30.0**	**0.0**
	baz=312						
CHGB	**Renai**	**1.25**	**274**	P	**Pn**	**12 27 13.2**	**+0.1**
	baz=275						
CHGB				S	**Sn**	**12 27 29.2**	**+0.4**
	baz=275						
YHNB	**Yeheng**	**1.26**	**303**	P	**Pb**	**12 27 13.9**	**-1.0**
	baz=305						
YHNB				S	**Sb**	**12 27 29.9**	**-1.1**
	baz=305						
YULB	**Yu-li**	**1.27**	**243**	P	**Pn**	**12 27 12.7**	**-0.6**
	baz=242						
YULB				S	**Sn**	**12 27 28.6**	**-0.6**
	baz=242						
NSK	**Sanguang**	**1.28**	**303**	P	**Pb**	**12 27 14.2**	**-1.1**
	baz=305						
NSK				*i* S	**Sn**	**12 27 30.0**	**+0.6**
	baz=305						
TDCB	**Techi**	**1.29**	**283**	P	**Pn**	**12 27 14.1**	**+0.5**
	baz=284						
TDCB				*e*S	**Sn**	**12 27 30.9**	**+1.2**
	baz=284						
TWF1	**Yuli**	**1.29**	**242**	P	**Pn**	**12 27 13.2**	**-0.4**
	baz=240						
TWF1				*e*S	**Sn**	**12 27 29.6**	**-0.1**
	baz=240						
VWDT	**VWDT**	**1.30**	**260**	P	**Pn**	**12 27 13.7**	**+0.2**
	baz=260						
VWDT				S	**Sn**	**12 27 29.7**	**-0.1**
	baz=260						
JKRS	**Kuro-shima**	**1.37**	**79**	P	**Pb**	**12 27 16.6**	**-0.1**
JKRS				*e*S	**Sb**	**12 27 36.0**	**+2.1**
FULB	**Fuli**	**1.38**	**236**	*e*P	**Pn**	**12 27 13.6**	**-1.0**
	baz=235						
YM01	**YM01**	**1.46**	**323**	*e*P	**Pb**	**12 27 19.4**	**+1.1**
	baz=325						
SSLB	**Suanglung**	**1.46**	**263**	P	**Pn**	**12 27 16.6**	**+0.8**
	baz=263						
YM10	**YM10**	**1.47**	**323**	*e*P	**Pb**	**12 27 18.3**	**-0.1**
	baz=325						
YM11	**YM11**	**1.47**	**324**	*e*P	**Pb**	**12 27 17.1**	**-1.4**
	baz=325						
DPDB	**Guoxing**	**1.47**	**273**	P	**Pn**	**12 27 16.6**	**+0.6**
	baz=273						
YM05	**YM05**	**1.48**	**323**	P	**Pb**	**12 27 18.3**	**-0.3**
	baz=325						
YM05				*e*S	**Sb**	**12 27 37.2**	**+0.2**
	baz=325						
YM08	**YM08**	**1.48**	**325**	*e*P	**Pb**	**12 27 19.3**	**+0.7**
	baz=326						
YM08				*e*S	**Sb**	**12 27 37.6**	**+0.5**
	baz=326						
WHP	**Taichung City**	**1.48**	**282**	P	**Pb**	**12 27 17.5**	**-1.1**
	baz=283						
YM04	**YM04**	**1.48**	**322**	*e*P	**Pb**	**12 27 18.3**	**-0.4**
	baz=324						
SMLT	**Sun Moon Lake**	**1.50**	**267**	*e*P	**Pn**	**12 27 17.9**	**+1.5**
	baz=267						
JIJ	**Ishigaki jima**	**1.52**	**75**	P	**Pb**	**12 27 17.7**	**-1.5**
JIJ				*e*S	**Sb**	**12 27 38.1**	**0.0**
ANP	**Anpu**	**1.52**	**323**	*e*P	**Pb**	**12 27 18.6**	**-0.7**
	baz=324						
YUS	**Yu-Shan**	**1.53**	**252**	*e*P	**Pn**	**12 27 17.6**	**+0.4**
	baz=251						
YUS				S	**Sn**	**12 27 35.7**	**-0.6**
	baz=251						
LIOB	**Emei**	**1.54**	**296**	P	**Pb**	**12 27 18.9**	**-0.7**
	baz=297						
LIOB				S	**Sb**	**12 27 38.2**	**-0.5**
	baz=297						
TYC	**Yuchr**	**1.54**	**268**	*e*P	**Pb**	**12 27 18.9**	**-0.7**
	baz=268						
NSTT	**Nanjuang**	**1.54**	**295**	⇑*i*P	**Pb**	**12 27 19.0**	**-0.6**
	baz=296						
NSTT				*i* S	**Sb**	**12 27 38.3**	**-0.5**
	baz=296						
TWY	**Chenhua**	**1.55**	**327**	*e*P	**Pb**	**12 27 19.6**	**-0.1**
	baz=329						
WHYT	**Xinyi Township**	**1.57**	**260**	P	**Pn**	**12 27 18.3**	**+1.0**
	baz=260						
ELDTW	**Lidau**	**1.60**	**241**	*e*P	**Pn**	**12 27 17.0**	**-0.8**
	baz=240						
ELDTW				*e*S	**Sn**	**12 27 35.9**	**-1.5**
	baz=240						
TWQ1	**Liyutan**	**1.65**	**283**	P	**Pn**	**12 27 19.9**	**+1.4**
	baz=284						
TWQ1				*e*S	**Sn**	**12 27 40.0**	**+1.4**
	baz=284						
WJS	**Zhushan**	**1.66**	**265**	*e*P	**Pn**	**12 27 19.2**	**+0.7**
	baz=265						
WJS				*e*S	**Sb**	**12 27 41.4**	**-0.8**
	baz=265						
NSY	**Sanyi**	**1.68**	**285**	*e*P	**Pb**	**12 27 20.6**	**-1.4**
	baz=286						
JISG	**Ishigakijimahi**	**1.73**	**69**	P	**Pb**	**12 27 20.9**	**-1.9**
JISG				*e*S	**Sb**	**12 27 42.4**	**-1.8**
CHN5	**Tsauling**	**1.74**	**258**	*e*P	**Pb**	**12 27 21.9**	**-1.2**
	baz=257						
CHN5				*e*S	**Sn**	**12 27 43.0**	**+2.0**
	baz=257						
TWGBT	**Beinan**	**1.77**	**230**	S	**Sn**	**12 27 40.5**	**-0.9**
	baz=228						
TWG	**Pinlang**	**1.77**	**230**	*e*S	**Sn**	**12 27 40.4**	**-1.1**
	baz=228						
STYT	**Tauyuan**	**1.82**	**244**	*e*P	**Pn**	**12 27 22.2**	**+1.4**
	baz=243						
STYT				*e*S	**Sn**	**12 27 43.1**	**+0.3**
	baz=243						
WDLH	**Douliu**	**1.85**	**262**	*e*P	**Pn**	**12 27 22.2**	**+1.0**
	baz=261						
WDLH				*e*S	**Sb**	**12 27 47.0**	**-0.7**
	baz=261						
TPUB	**Ta-pu**	**1.87**	**249**	P	**Pn**	**12 27 23.5**	**+2.0**
	baz=249						
TPUB				S	**Sn**	**12 27 46.1**	**+2.0**
	baz=249						
WTP	**Ta-pu**	**1.91**	**248**	P	**Pn**	**12 27 23.0**	**+1.0**
	baz=247						
WTP				*e*S	**Sn**	**12 27 46.9**	**+1.9**
	baz=247						
SLGT	**Liugui**	**1.99**	**241**	*e*P	**Pn**	**12 27 24.4**	**+1.3**
	baz=240						
SLGT				S	**Sn**	**12 27 49.9**	**+3.0**
	baz=240						
RLNB	**Erlin**	**1.99**	**268**	*e*P	**Pn**	**12 27 24.2**	**+1.2**
	baz=268						
RLNB				*e*S	**Sn**	**12 27 49.5**	**+2.6**
	baz=268						
SGST	**Jiashian**	**2.00**	**244**	P	**Pn**	**12 27 24.4**	**+1.1**
	baz=243						
SGST				S	**Sn**	**12 27 49.0**	**+1.8**
	baz=243						
CHN1	**Nanshi**	**2.00**	**247**	P	**Pn**	**12 27 24.9**	**+1.7**
	baz=246						
CHN1				S	**Sn**	**12 27 49.2**	**+1.9**
	baz=246						
TWK	**Hsinying**	**2.01**	**250**	P	**Pn**	**12 27 24.6**	**+1.3**
	baz=249						
TWK				*e*S	**Sn**	**12 27 49.4**	**+2.0**
	baz=249						
SNST	**Tainan City**	**2.02**	**248**	*e*P	**Pn**	**12 27 25.1**	**+1.7**
	baz=248						
SNST				*e*S	**Sn**	**12 27 49.1**	**+1.6**
	baz=248						
JTJ	**Tarama**	**2.08**	**71**	P	**Pb**	**12 27 26.9**	**-1.9**
SSD	**Sandimen**	**2.13**	**235**	*e*P	**Pn**	**12 27 25.4**	**+0.3**
	baz=234						
SSD				*e*S	**Sn**	**12 27 53.3**	**+2.8**
	baz=234						
WSF	**Szhu**	**2.15**	**261**	*e*S	**Sn**	**12 27 53.7**	**+3.0**
	baz=261						
MASBT	**Mashibuluo**	**2.21**	**233**	P	**Pn**	**12 27 27.7**	**+1.6**
	baz=231						
MASBT				*e*S	**Sn**	**12 27 55.9**	**+3.4**
	baz=231						
WDGT	**Dungji**	**2.73**	**255**	*e*P	**Pn**	**12 27 33.5**	**+0.3**
	baz=255						
WDGT				*e*S	**Sn**	**12 28 05.0**	**-0.2**
	baz=255						
PHUB	**P'eng-hu**	**2.75**	**261**	P	**Pn**	**12 27 34.3**	**+0.7**
	baz=260						
PHUB				S	**Sn**	**12 28 06.7**	**+0.9**
	baz=260						
VWUC	**VWUC**	**2.99**	**290**	*e*P	**Pn**	**12 27 36.4**	**-0.4**
	baz=290						
VWUC				*e*S	**Sn**	**12 28 10.7**	**-0.8**
	baz=290						
PTMZ	**Houxiangcun**	**3.29**	**289**	*e*P	**Pn**	**12 27 40.6**	**-0.2**
	baz=289						
PTMZ				*e*S	**Sn**	**12 28 17.5**	**-1.3**
	baz=289						
KNMB	**Chin-men Tao**	**3.82**	**278**	*e*P	**Pn**	**12 27 48.0**	**-0.2**
	baz=277						

*ISCJB **30** 12:29:27.5±0.9,21°.63S±0°.03×68°.54W±0°.07, h134km±11km, Error ellipse: s-maj=10.6km s-min=5.5km az=176.4*
*SJA **30** 12:29:27.0±1.1,21°.63S×68°.47W,h126km±12km,ML2.3, MW2.7*
*GUC **30** 12:29:27.3±0.7,21°.61S×68°.57W,h133km±4km,ML2.8*
ISC 30 12:29:28.1±1.8,21°.62S±0°.04×68°.52W±0°.06, h128km±16km,n21,σ0§41/36,9C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.70**	**255**	⇑*i*P	**Pn**	**12 29 48.5**	**0.0**
PB09				*i* S	**Sn**	**12 30 04.2**	**+0.3**
PB09				IAML		12 30 05.9	
	comp=N,129nm,0.2s						
PB09	**IPOC Station P**	**0.70**	**255**	*i* P	**Pn**	**12 29 48.5**	**0.0**
PB09				IAML		12 30 05.8	
	comp=Z,92nm,0.2s						
LVC	**Limon Verde**	**1.05**	**200**	*i* P	**Pn**	**12 29 51.3**	**-0.4**
LVC				*i* S	**Sn**	**12 30 09.2**	**-0.5**
LVC				IAML		12 30 13.3	
	comp=Z,16nm,0.1s						
PB01	**IPOC Station P**	**1.07**	**302**	⇑*i*P	**Pn**	**12 29 51.3**	**-0.3**
PB01				*i* S	**Sn**	**12 30 09.4**	**-0.1**
PB01				IAML		12 30 11.4	
	comp=E,185nm,0.2s						
PB03	**IPOC Station P**	**1.23**	**249**	⇑*i*P	**Pn**	**12 29 53.0**	**-0.2**
PB03				*i* S	**Sn**	**12 30 12.4**	**0.0**
PB03				IAML		12 30 13.6	
	comp=N,167nm,0.3s						
PB07	**IPOC Station P**	**1.28**	**265**	⇑*i*P	**Pn**	**12 29 53.7**	**-0.1**
PB07				*i* S	**Sn**	**12 30 13.7**	**+0.3**
PB07				IAML		12 30 14.7	
	comp=N,233nm,0.2s						
PB02	**IPOC Station P**	**1.32**	**283**	⇑*i*P	**Pn**	**12 29 54.0**	**-0.2**
PB02				*i* S	**Sn**	**12 30 14.0**	**0.0**
PB02				IAML		12 30 16.7	
	comp=E,221nm,0.2s						
PB06	**IPOC Station P**	**1.46**	**222**	⇑*i*P	**Pn**	**12 29 55.6**	**-0.2**
PB06				*i* S	**Sn**	**12 30 16.9**	**+0.1**
PB06				IAML		12 30 17.7	
	comp=E,98nm,0.4s						
PB06	**IPOC Station P**	**1.46**	**222**	*i* P	**Pn**	**12 29 55.8**	**0.0**
PB06				IAML		12 30 19.1	
	comp=Z,72nm,0.2s						
PB08	**IPOC Station P**	**1.59**	**338**	⇑*i*P	**Pn**	**12 29 57.8**	**+0.3**
PB08				*i* S	**Sn**	**12 30 20.5**	**+0.7**
PB08				IAML		12 30 24.0	
	comp=N,58nm,0.4s						
PB04	**IPOC Station P**	**1.67**	**245**	⇑*i*P	**Pn**	**12 29 58.0**	**-0.2**
PB04				*i* S	**Sn**	**12 30 21.2**	**0.0**
PB04				IAML		12 30 23.2	
	comp=N,103nm,0.1s						
PB04	**IPOC Station P**	**1.67**	**245**	*i* P	**Pn**	**12 29 58.1**	**-0.1**
PB04				*i* S	**Sn**	**12 30 21.4**	**+0.2**
PB15	**IPOC Station P**	**1.81**	**209**	⇑*i*P	**Pn**	**12 30 00.4**	**+0.5**
PB15				*i* S	**Sn**	**12 30 24.7**	**+0.5**
PB15	**IPOC Station P**	**1.81**	**209**	*i* P	**Pn**	**12 30 00.7**	**+0.8**
TA01	**Diego Aracena**	**1.88**	**304**	⇓*i*P	**Pn**	**12 30 00.1**	**-0.4**
TA01				*i* S	**Sn**	**12 30 24.8**	**-0.3**
TA01				IAML		12 30 29.5	
	comp=E,91nm,0.2s						
PB05	**IPOC Station P**	**1.99**	**232**	*e*P	**Pn**	**12 30 01.8**	**-0.1**
PB05	**IPOC Station P**	**1.99**	**232**	*i* P	**Pn**	**12 30 01.9**	**0.0**
PB05				*i* S	**Sn**	**12 30 27.4**	**-0.4**
PB05				IAML		12 30 28.4	
	comp=Z,23nm,0.4s						
GO01	**Chusmiza**	**2.04**	**342**	*e*P	**Pn**	**12 30 02.9**	**-0.1**
GO01				*i* S	**Sn**	**12 30 30.8**	**+1.2**
GO01				IAML		12 30 34.4	
	comp=N,132nm,0.1s						
PB11	**IPOC Station P**	**2.13**	**330**	⇓*i*P	**Pn**	**12 30 03.1**	**-0.7**
PB11				*i* S	**Sn**	**12 30 31.1**	**0.0**
PB11				IAML		12 30 32.5	
	comp=E,94nm,0.1s						
YJA	**Yavi**	**2.84**	**102**	*i* P	**Pn**	**12 30 12.4**	**-0.6**
YJA				IAML		12 31 04.5	
	comp=Z,2.4nm,1.3s						
HJA	**Humahuaca**	**3.28**	**119**	*i* P	**Pn**	**12 30 18.8**	**+0.1**
HJA				IAML		12 31 23.7	
	comp=Z,4.3nm,2.0s						

*NEIC **30** 12:44:58.9±1.2,9°.96N±0°.07×124°.04E±0°.07,h10km±1km, mb4.6/45*
*MAN **30** 12:44:59.7,9°.85N×123°.98E,h11km,MS3.5*
MAN Intensity V - Maribojoc and Catigbian Bohol Intensity IV - Tagbilaran City and Loboc Bohol Intensity III - Mandaue City In.
*ISCJB **30** 12:45:00.4±0.6,9°.92N±0°.02×123°.99E±0°.03,h31km±4km, mb4.2/15,MS3.3/3,Error ellipse: s-maj=4.4km s-min=3.2km az=167.7*
*IDC **30** 12:45:06.7±2.0,9°.84N×124°.23E,h74km±20km,mb3.9/15, mb1 4.0/16,mb1mx3.8/44,mbtmp4.2/16,MS3.2/6, Ms1 3.2/6,ms1mx2.8/51,Error ellipse: s-maj=23.8km s-min=11.7km az=71.0*
ISC 30 12:44:59.4±1.3,9°.89N±0°.03×123°.99E±0°.03,h13km±8km, n114,σ1§40/131,mb4.5/35,MS3.1/3,3C-4D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.42**	**357**	⇓*i*P	**Pb**	**12 45 08.7**	**0.0**
LLP				*i* S	**Sb**	**12 45 15.7**	**+0.7**
MSLP	**Maasin**	**0.89**	**74**	*e*P	**Pb**	**12 45 16.7**	**0.0**
MSLP				*e*S	**Sn**	**12 45 30.1**	**-0.3**
SNPH	**Sibulan**	**0.92**	**234**	⇑*i*P	**Pn**	**12 45 17.3**	**-0.8**
SNPH				*i* S	**Sn**	**12 45 30.8**	**-0.5**
OCLP	**Ormoc**	**1.30**	**28**	*e*P	**Pg**	**12 45 24.0**	**-0.4**
OCLP				*e*S	**Sg**	**12 45 43.1**	**+1.7**
DCPH	**Dipolog City**	**1.45**	**206**	⇓*i*P	**Pn**	**12 45 24.6**	**-0.7**
DCPH				*i* S	**Sn**	**12 45 43.5**	**-0.6**
GUIM	**Jordan**	**1.56**	**298**	*e*P	**Pb**	**12 45 27.1**	**-1.0**
GUIM				*e*S	**Sg**	**12 45 48.8**	**-0.8**
CGP	**Cagayan de Oro**	**1.59**	**154**	⇑*e*P	**Pn**	**12 45 24.9**	**-2.3**
CGP				*i* S	**Sn**	**12 45 45.0**	**-2.7**
BUTP	**Butuan**	**1.85**	**120**	*e*P	**

DAV Sn **Sn** **12 46 29.4 +1.5**
DDMP Don Marcelino, 4.13 155 *eP* **Pn** **12 46 04.5 +2.2**
DDMP *eS* **Sn** **12 46 55.9 +5.4**
KKM Kota Kinabalu 8.60 244 Pn **Pn** **12 47 04.8 +1.1**
KKM Sn **Sn** **12 48 41.7 +1.1**
I39PW PALAU INFRASON 10.70 102 *i* 13 53 50.0
baz=284,slow=278,SNR=0.4
LUWI Luwuk 10.93 186 Pn **Pn** **12 47 37.6 +2.0**
SIJI Sorong 12.91 145 LR LR 12 52 41.2
comp=Z,48nm,20.4s,baz=354,slow=36
TPUB Ta-pu 13.71 347 Pn **Pn** **12 48 12.7 -1.0**
KAPI Kappang 15.40 196 LR LR 12 55 55.8
comp=Z,38nm,18.8s,baz=306,slow=42
JOW Kunigami 17.33 13 **P** **12 49 01.6 -0.8**
SAUI Saumlaki 19.19 157 P **Pn** **12 49 24.1 +0.1**
SOEI Soe 19.52 179 P **Pn** **12 49 27.5 -0.6**
SOEI IAmb IAmb 12 49 45.4
comp=Z,16nm,0.6s
BATI Baumata 19.97 181 P **Pn** **12 49 35.2 +1.8**
comp=Z,3.4nm,0.3s,baz=326,slow=3.6,SNR=4.4
JAGI Jajag, Banyuwa 20.70 209 P Pn 12 49 41.2 -0.8
JAGI IAmb IAmb 12 49 49.7
comp=Z,29nm,0.9s
UGM Wanagama 22.20 218 P **P** **12 49 58.3 +2.6**
LEM Lembang 23.28 225 P **P** **12 50 10.0 +2.8**
comp=Z,19nm,0.5s,baz=337,slow=17,SNR=5.5
IPM Ipoh 23.40 258 P **P** **12 50 09.1 +0.7**
IPM IAmb IAmb 12 50 11.9
comp=Z,43nm,1.5s
KULM Kulim 23.57 261 P **P** **12 50 11.0 +1.0**
KULM IAmb IAmb 12 50 17.1
comp=Z,26nm,1.4s
JNU Nakatsue 23.97 14 P **P** **12 50 13.4 -0.3**
JNU IAmb IAmb 12 50 31.2
comp=Z,22nm,1.3s
ENH Enshi 24.37 328 P **P** **12 50 17.5 +0.1**
ENH IAmb IAmb 12 50 31.1
comp=Z,16nm,1.2s
PAYA Payao 25.13 295 P **P** **12 50 29.5 +5.1**
CM31 Chiang Mai Arr 25.70 292 P **P** **12 50 29.3 -0.3**
CM31 IAmb IAmb 12 50 37.2
comp=Z,13nm,1.2s
CMAR Chiang Mai Arr 25.70 292 P **P** **12 50 33.1 +3.5**
comp=Z,3.8nm,0.9s,baz=110,slow=8.3,SNR=19
CMAR LR LR 13 01 23.8
comp=Z,52nm,18.6s,baz=115,slow=38
CMAR Chiang Mai Arr 25.70 292 P **P** **12 50 29.4 -0.2**
KNRA Kununurra 25.84 169 P **P** **12 50 30.9 +0.1**
KNRA IAmb IAmb 12 50 40.5
comp=Z,9.3nm,0.8s
RPSI Rantau Prapat 25.90 256 P **P** **12 50 31.8 +0.4**
RPSI IAmb IAmb 12 50 36.6
comp=Z,11nm,0.8s
GSI Gunungsitoli 27.61 254 P **P** **12 50 47.5 +0.6**
GSI IAmb IAmb 12 50 52.9
comp=Z,21nm,0.9s
KSRS Korea Array 27.67 7 P **P** **12 50 48.0 +0.9**
comp=Z,1.7nm,0.6s,baz=186,slow=9.8,SNR=11
KSRS LR LR 13 03 45.1
comp=Z,41nm,18.4s,baz=150,slow=40
XAN Xi'an 27.73 332 P **P** **12 50 47.5 -0.2**
XAN IAmb IAmb 12 51 01.0
comp=Z,7.2nm,0.4s
FITZ Fitzroy Crossi 27.86 177 P **P** **12 50 49.5 +0.5**
WRAB Tennant Creek 31.35 161 P **P** **12 51 19.3 -0.6**
WRAB IAmb IAmb 12 51 37.9
comp=Z,10nm,1.4s
WRA Warramunga Arr 31.35 161 P **P** **12 51 18.1 -1.9**
comp=Z,0.5nm,0.5s,baz=344,slow=9.3,SNR=4.1
WRA PcP **PcP** **12 54 12.0 -1.9**
comp=Z,0.9nm,0.7s,baz=333,slow=3.5,SNR=4.6
WRA Warramunga Arr 31.35 161 P **P** **12 51 18.4 -1.5**
PSAA3 Pilbara Seismi 31.54 187 P **P** **12 51 21.5 -0.1**
SHL Shillong 34.20 301 P **P** **12 51 44.8 -0.3**
AS31 Alice Springs 34.73 164 P **P** **12 51 48.8 -0.7**
ASAR Alice Springs 34.73 164 P **P** **12 51 48.5 -1.0**
comp=Z,1.3nm,0.6s,baz=340,slow=6.9,SNR=19
ASAR PcP **PcP** **12 54 21.6 -1.6**
comp=Z,0.6nm,0.4s,baz=349,slow=2.9,SNR=7.3
ASAR Alice Springs 34.73 164 P **P** **12 51 49.0 -0.5**
USA0B Ussuriysk Arra 34.88 10 P **P** **12 51 49.7 -0.8**
USA0B IAmb IAmb 12 51 55.8
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 34.88 10 P **P** **12 51 51.4 +1.0**
comp=Z,4.4nm,0.8s,baz=198,slow=9.1,SNR=6.7
USRK Ussuriysk Ar. 34.88 10 P **P** **12 51 50.6 +0.2**
CTA Charters Tower 36.99 144 LR LR 13 08 36.8
comp=Z,140nm,21.4s,baz=94,slow=38
TAPN Taplejung 38.32 302 *eP* **P** **12 52 24.1 +3.6**
ODAN Odare 38.43 301 *eP* **P** **12 52 25.5 +4.2**
RAMN Ramite 39.12 301 *eP* **P** **12 52 31.6 +4.4**
comp=Z,19nm,0.7s
HIA Hailar 39.41 356 P **P** **12 52 29.0 0.0**
JIRN Jiri 39.70 302 *eP* **P** **12 52 34.3 +2.2**
comp=Z,53nm,0.8s
GUN Gumba 40.04 302 *eP* **P** **12 52 35.9 +1.0**
comp=Z,33nm,0.7s
PKI Pulchoki 40.33 301 *eP* **P** **12 52 38.5 +1.2**
PKIN Phulchoki 40.34 301 *eP* **P** **12 52 38.6 +1.3**
comp=Z,8.6nm,0.7s
KKN Kakani 40.50 301 *eP* **P** **12 52 40.2 +1.6**
comp=Z,15nm,0.8s
DMN Daman 40.59 301 *eP* **P** **12 52 40.6 +1.2**
comp=Z,9.2nm,0.3s
SONM Songino Array 40.63 342 P **P** **12 52 40.0 +0.8**
comp=Z,0.9nm,0.9s,baz=131,slow=5.9,SNR=3.8
SONM PcP **PcP** **12 54 40.7 -0.4**
comp=Z,0.2nm,0.4s,baz=168,slow=4.5,SNR=4.1
SONM Songino Array 40.63 342 P **P** **12 52 39.2 -0.1**
KOLN Koldanda 41.91 301 *eP* **P** **12 52 50.2 0.0**
comp=Z,14nm,0.7s
DANN Dangsing 41.95 302 *eP* **P** **12 52 49.9 -0.7**
comp=Z,28nm,1.0s
BBOO Buckleboo 44.00 165 P **P** **12 53 06.6 -0.1**
STKA Stephens Creek 44.82 159 P **P** **12 53 12.7 -0.6**
comp=Z,1.1nm,0.4s,baz=340,slow=11,SNR=3.5
STKA Stephens Creek 44.82 159 P **P** **12 53 13.4 +0.1**
WMQ Urumqi 46.16 324 P **P** **12 53 23.0 -0.9**
WMQ IAmb IAmb 12 53 33.5
comp=Z,6.4nm,0.6s
ARMA Armidale 48.09 147 P **P** **12 53 39.2 +0.2**
TARA Tarawa 49.38 97 P **P** **12 53 46.9 -2.3**
MK31 Makanchi Array 50.99 324 P **P** **12 54 01.9 +0.9**
MKAR Makanchi Array 50.99 324 P **P** **12 54 01.9 +0.9**
comp=Z,3.8nm,0.7s,baz=130,slow=8.3,SNR=26
MKAR PcP **PcP** **12 55 16.5 -0.6**
comp=Z,1.1nm,0.6s,baz=100,slow=4.2,SNR=3.5
MKAR Makanchi Array 50.99 324 P **P** **12 54 01.7 +0.7**
MAKZ Makanchi 51.18 324 P **P** **12 54 03.2 +0.8**
MAKZ IAmb IAmb 12 54 04.5
comp=Z,8.9nm,1.4s
KDJ Kajisay 51.99 317 P **P** **12 54 09.3 +0.5**
NIL Nilore 52.10 305 P **P** **12 54 09.7 +0.1**
YAK Yakutsk 52.21 3 P **P** **12 54 09.9 +0.1**
YAK IAmb IAmb 12 54 12.6
comp=Z,7.1nm,0.8s
DZM Mont Dzumac 52.37 128 P **P** **12 54 11.8 +0.1**
DZM IAmb IAmb 12 54 15.3
comp=Z,11nm,1.3s
ZAA0 Zalesovo Array 53.90 332 P **P** **12 54 22.0 -0.4**
ZALV Zalesovo Beam 53.90 332 P **P** **12 54 22.4 +0.1**
comp=Z,1.9nm,0.6s,baz=130,slow=6.0,SNR=7.9
KURK Kurchatov 55.12 327 P **P** **12 54 31.6 +0.3**
KURK IAmb IAmb 12 54 37.3
comp=Z,13nm,1.1s
KBL Kabul 55.70 305 P **P** **12 54 35.4 -0.7**
KBL IAmb IAmb 12 54 41.4
comp=Z,11nm,1.1s
BRVK Borovoye 60.78 326 P **P** **12 55 10.8 -0.2**
BRVK IAmb IAmb 12 55 12.3
comp=Z,5.2nm,0.9s
NRIK Noril'sk 63.84 346 P **P** **12 55 31.2 +0.1**
comp=Z,6.5nm,0.6s,baz=124,slow=8.2,SNR=8.8
GEYT Alibeck 64.98 307 P **P** **12 55 39.0 -0.3**
ATKA Atka Island 65.11 37 P **P** **12 55 39.5 -0.3**
ABKAR Abkulak array 65.70 320 P **P** **12 55 43.6 -0.1**
ARU Arti 68.31 327 P **P** **12 55 59.9 -0.2**
BKZ Black Stump Fm 68.97 139 P **P** **12 56 04.6 0.0**
RAYN Ar Rayn 75.62 292 P **P** **12 56 44.5 -0.3**
RAYN IAmb IAmb 12 56 49.4
comp=Z,6.3nm,1.4s
IMAR Indian Mountai 77.88 25 P **P** **12 56 56.5 -0.1**
BPAW Bear Paw Mtn. 79.00 26 P **P** **12 57 02.3 -0.6**
PMR Palmer 79.89 29 P **P** **12 57 07.3 -0.4**
PMR IAmb IAmb 12 57 26.4
comp=Z,7.9nm,1.5s
ILAR Eielson Array 80.75 26 P **P** **12 57 11.2 -1.2**
comp=Z,0.2nm,0.6s,baz=262,slow=5.1,SNR=4.8
ILAR Eielson Array 80.75 26 P **P** **12 57 12.1 -0.3**
BMAR Burnt Mountain 81.49 23 P **P** **12 57 16.6 +0.3**
ARCES ARCESS Array B 83.76 340 P **P** **12 57 28.5 +0.5**
comp=Z,5.6nm,1.1s,baz=71,slow=5.8,SNR=7.8
ARCES ARCESS Array B 83.76 340 P **P** **12 57 28.3 +0.3**
FINES FINESS Array B 85.15 331 P **P** **12 57 34.5 -0.7**
comp=Z,8.9nm,1.1s,baz=73,slow=4.8,SNR=4.7
FINES FINESS Array B 85.15 331 P **P** **12 57 34.6 -0.6**
INK Inuvik 85.45 21 P **P** **12 57 36.1 -0.4**
YKA Yellowknife Ar 95.00 23 P **P** **12 58 21.3 -0.3**
comp=Z,0.5nm,0.5s,baz=303,slow=4.5,SNR=10
YKA Yellowknife Ar 95.00 23 P **P** **12 58 21.6 0.0**
TORD Torodi Ar. Bea 118.31 291 PKP **PKPdf** **13 03 46.6 -1.0**
comp=Z,0.5nm,0.6s,baz=24,slow=3.2,SNR=3.2
TXAR Lajitas Array 119.76 48 PKP **PKPdf** **13 03 49.8 -0.4**
comp=Z,0.5nm,0.9s,baz=280,slow=1.6,SNR=4.3
PLCA Paso Flores 146.69 160 PKPbc **PKPbc** **13 04 40.7 -0.8**
comp=Z,2.8nm,0.9s,baz=312,slow=3.1,SNR=7.3
PLCA Paso Flores 146.69 160 **PKPbc** **13 04 40.9 -0.6**

*KRNET **30** 13:16:43.3±0.1, 39°.18N×77°.41E, mb2.2*
SOME 30 13:16:41.2, 42°.03N×80°.70E, h0km, 4C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**1.98**	**302**	*eP*		Pg	13 17 19.2	0.0
SATY	2.4nm,0.3s							
				eS		Sg	13 17 46.6	+1.7
	4.9nm,0.1s							
KPKS	**Kokpek**	**2.06**	**315**	*eP*		Pg	13 17 20.4	-0.4
KPKS	2.9nm,0.1s							
				eS		Sg	13 17 48.7	+1.2
	7.3nm,0.2s							
TARG	**Taragay, Kyrgy**	**2.18**	**263**	⇑*iP*		Pg	13 17 25.6	+2.6
TARG	baz=7.0							
				⇑*iS*		Sg	13 17 55.9	+4.6
	baz=7.0							
KDJ	**Kajisay**	**2.62**	**273**	⇑*iP*		Pg	13 17 30.8	-0.7
KDJ	baz=57							
				⇑*iS*		Sg	13 18 05.1	-0.3
	baz=57							
KOTS	**Kotyrbulak**	**2.91**	**296**	*eP*		Pg	13 17 36.0	-0.9
KOTS	2.6nm,0.2s							
				eS		Sg	13 18 15.3	+0.7
	12nm,0.3s							
KTBS	**Karatobe**	**3.40**	**301**	*eP*		Pg	13 17 45.1	-1.2
KTBS	0.5nm,0.6s							
				eS		Sg	13 18 31.0	+0.7
	7.7nm,0.5s							

*ISCJB **30** 13:21:34.5±0.6, 38°.47N±0°.03×39°.36E±0°.03, h5km±5km, mb3.4/4, MS3.3/1, Error ellipse: s-maj=4.7km s-min=3.9km az=3.8*
*ISK **30** 13:21:34.1, 38°.47N×39°.37E, h6km, ML4.0/28*
*IDC **30** 13:21:36.8±1.2, 38°.53N×39°.07E, h0km, mb3.4/4, mb1 3.6/9, mb1mx3.4/51, mbtmp3.5/9, ML3.3/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/38, Error ellipse: s-maj=20.5km s-min=14.5km az=148.0*
ISC 30 13:21:34.6±1.1, 38°.47N±0°.03×39°.34E±0°.03, h4km±9km, n50, σ1§30/50, mb3.6/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.10**	**197**	PG		**Pg**	**13 21 36.9**	**+0.2**
SVRC				SG		**Sg**	**13 21 39.0**	**+0.9**
MALT	**Malatya**	**0.73**	**258**	PG		**Pg**	**13 21 48.0**	**-0.7**
MALT				SG		**Sb**	**13 22 00.2**	**-0.2**
DYBB	**Diyarbakir**	**0.81**	**129**	PG		**Pb**	**13 21 50.3**	**-1.0**
ARPR	**Arapgir-MALATY**	**1.00**	**309**	PG		**Pg**	**13 21 52.9**	**-0.9**
ARPR				SG		**Sn**	**13 22 08.6**	**-1.6**
URFA	**Urfa**	**1.11**	**202**	PN		**Pn**	**13 21 55.9**	**-1.0**
ERZN	**Erzincan**	**1.15**	**15**	PN		**Pb**	**13 21 56.0**	**-1.2**
ERZN				SN		**Sn**	**13 22 12.7**	**-1.2**
MAZI	**Mazidag**	**1.33**	**139**	PN		**Pn**	**13 21 58.8**	**-1.3**
MAZI				SN		**Sg**	**13 22 17.8**	**+0.3**
DARE	**Darende-Malaty**	**1.46**	**275**	PN		**Pn**	**13 22 00.7**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.50**	**102**	PN		**Pb**	**13 22 01.4**	**-1.5**
KARO	**Karliova-Bingo**	**1.57**	**57**	PN		**Pb**	**13 22 02.9**	**-1.5**
VRTB	**Varto-Mus**	**1.79**	**67**	PN		**Pb**	**13 22 06.2**	**-1.8**
BAYT	**Aydıntepe-Bayb**	**2.02**	**18**	PN		**Pb**	**13 22 09.7**	**-2.2**
KHMN	**Narli-Kahraman**	**2.04**	**239**	PN		**Pb**	**13 22 10.1**	**-2.0**
GURO	**Guroymak-BITLI**	**2.11**	**87**	PN		**Pn**	**13 22 10.6**	**-0.2**
GAZ	**Gaziantep**	**2.13**	**233**	PN		**Pn**	**13 22 11.3**	**+0.4**
KMRS	**Kahramanmaras**	**2.16**	**244**	PN		**Pn**	**13 22 11.7**	**+0.4**
SVSK	**Karacayir**	**2.33**	**309**	PN		**Pb**	**13 22 14.6**	**-2.4**
KOPR	**Koprukoy-ERZUR**	**2.47**	**51**	PN		**Pn**	**13 22 16.2**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.48**	**322**	PN		**Pn**	**13 22 16.6**	**+0.9**
MLAZ	**Malazgirt-MUS**	**2.59**	**74**	PN		**Pn**	**13 22 17.9**	**+0.5**
SIRT	**Sirnak**	**2.63**	**111**	PN		**Pn**	**13 22 17.7**	**-0.2**
BNN	**Bunyan**	**2.76**	**279**	PN		**Pn**	**13 22 20.6**	**+0.9**
CHOM	**Cayeli-Rize**	**2.84**	**22**	PN		**Pn**	**13 22 21.4**	**+0.7**
TOKT	**Tokat**	**2.85**	**311**	PN		**Pn**	**13 22 21.9**	**+1.1**
AKDM	**Akdamar-Van**	**2.86**	**92**	PN		**Pn**	**13 22 21.3**	**+0.2**
KOZT	**Kozan**	**2.95**	**252**	PN		**Pn**	**13 22 23.3**	**+1.2**
AGRB	**Hanur-Agry**	**3.05**	**68**	PN		**Pn**	**13 22 24.1**	**+0.4**
SENK	**Senkaya-Erzuru**	**3.13**	**47**	PN		**Pn**	**13 22 25.5**	**+0.7**
VANB	**Van**	**3.18**	**86**	PN		**Pn**	**13 22 26.0**	**+0.6**
CEYT	**Ceyhan**	**3.20**	**244**	PN		**Pn**	**13 22 26.8**	**+1.2**
YOZ	**Yozgat**	**3.34**	**292**	PN		**Pn**	**13 22 29.1**	**+1.4**
YURE	**YUREGIR**	**3.37**	**242**	PN		**Pn**	**13 22 29.1**	**+1.1**
BCA	**Borcka**	**3.45**	**30**	PN		**Pn**	**13 22 29.9**	**+0.8**
CMRD	**Camardi-Nigde**	**3.53**	**258**	PN		**Pn**	**13 22 31.8**	**+1.6**
CUKT	**Cukurca**	**3.59**	**109**	PN		**Pn**	**13 22 31.6**	**+0.5**
KARA	**Karaisali**	**3.60**	**252**	PN		**Pn**	**13 22 32.8**	**+1.7**
CLDR	**Caldiran**	**3.64**	**78**	PN		**Pn**	**13 22 32.5**	**+0.7**
KVT	**Kavak**	**3.64**	**317**	PN		**Pn**	**13 22 33.3**	**+1.6**
KRTS	**Karatas**	**3.68**	**240**	PN		**Pn**	**13 22 33.0**	**+0.9**
BRTR	**Keskin Array B**	**4.61**	**288**	Pn		**Pn**	**13 22 47.0**	**+1.8**
BRTR	1.8nm,0.3s,baz=112,slow=13,SNR=36							
				Lg		Lg	13 24 08.3	
	baz=114,slow=26,SNR=2.3							
KBZ	**Khabaz**	**5.90**	**26**	Pn		Pn	13 23 08.7	+6.0
KBZ	0.2nm,0.3s,baz=36,slow=8.7,SNR=2.9							
				LR		LR	13 25 45.8	
	comp=Z,174nm,18.1s,baz=218,slow=42							
MMAI	**Mount Meron Ar**	**6.31**	**212**	**Pn**		**Pn**	**13 23 09.7**	**+1.2**
MMAI	2.1nm,0.3s,baz=56,slow=15,SNR=7.7							
				Lg		Lg	13 25 00.6	
	3.5nm,0.3s,baz=22,slow=28,SNR=3.1							
MMAI				LR		LR	13 26 02.7	
	comp=Z,282nm,18.3s,baz=170,slow=42							
ASF	**Jabal al Asfar**	**6.59**	**198**	Pn		**Pn**	**13 23 14.2**	**+1.8**
ASF	0.9nm,0.3s,baz=323,slow=20,SNR=4.8							
				Lg		Lg	13 25 07.3	
	1.0nm,0.3s,baz=343,slow=19,SNR=3.2							
EIL	**Elat**	**9.50**	**204**	LR		LR	13 27 41.4	
	comp=Z,142nm,19.6s,baz=350,slow=38							
AKTO	**Aktyubinsk**	**17.85**	**42**	P		**P**	**13 25 48.0**	**+3.6**
AKTO	0.1nm,0.3s,baz=246,slow=12,SNR=4.1							
				LR		LR	13 34 26.2	
	comp=Z,45nm,18.2s,baz=232,slow=43							
GERES	**GERESS Array B**	**21.16**	**308**	P		**P**	**13 26 20.5**	**-0.2**
	0.7nm,0.8s,baz=150,slow=8.0,SNR=3.9							
ARU	**Arti**	**22.04**	**29**	LR		LR	13 36 01.4	
	comp=Z,114nm,19.1s,baz=204,slow=39							
FINES	**FINESS Array B**	**24.43**	**345**	P		**P**	**13 26 54.8**	**+0.8**
	1.7nm,0.8s,baz=163,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**32.34**	**61**	P		P	13 28 09.6	+4.8
	0.4nm,0.5s,baz=269,slow=8.5,SNR=3.0							
SONM	**Songino Array**	**48.39**	**56**	P		P	13 30 21.6	+4.0
	0.4nm,0.6s,baz=278,slow=8.0,SNR=3.7							

IDC 30 13:23:59.2±2.3, 36°.60N×86°.90E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.1/64, mbtmp3.3/4, ML3.1/1, MS2.7/1, Ms1 2.9/1, ms1mx2.4/17, Error ellipse: s-maj=64.1km s-min=26.9km az=63.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**10.75**	**343**	Pn		Pn	13 26 33.8	-0.6
	0.1nm,0.3s,baz=162,slow=14,SNR=7.0							
SONM	**Songino Array**	**18.23**	**46**	P		Pn	13 28 13.6	-0.1
	baz=224,slow=12,SNR=3.7							
BVAR	**Borovoye Array**	**20.09**	**330**	P		P	13 28 33.4	-0.8
	0.7nm,0.7s,baz=137,slow=11,SNR=3.6							
CMAR	**Chiang Mai Arr**	**20.95**	**146**	P		P	13 28 43.9	+0.1
	0.5nm,0.4s,baz=335,slow=12,SNR=2.6							
CMAR				LR		LR	13 37 46.7	
	comp=Z,20nm,18.1s,baz=285,slow=40							

*ISCJB **30** 13:24:23.9±0.4, 3°.52N±0°.07×126°.5E±0°.1, h10km, mb3.8/8, MS3.3/4, Error ellipse: s-maj=21.5km s-min=5.2km az=156.7*
*IDC **30** 13:24:24.1±1.1, 3°.61N×126°.76E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.6/50, mbtmp3.9/8, MS3.2/6, Ms1 3.2/6, ms1mx2.8/48, Error ellipse: s-maj=109.0km s-min=15.2km az=71.0*
*NEIC **30** 13:24:28.1±2.6, 3°.52N±0°.09×126°.4E±0°.1, h26km±6km, mb4.4/21*
*MAN **30** 13:24:32.4, 4°.04N×126°.77E, h10km, MS3.2*
ISC 30 13:24:26.3±0.6, 3°.51N±0°.07×126°.5E±0°.1, h10km, n50, σ1§66/37, mb4.3/14, MS3.3/4, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.69**	**344**	*eP*		**Pn**	**13 25 10.3**	**+0.7**
DDMP				*eS*		**Sb**	**13 25 46.3**	**-1.3**
TNTI	**Ternate**	**2.86**	**162**			**Pn**	**13 25 14.3**	**+2.3**
SKMP	**Bagumbayan, Su**	**3.56**	**327**	*eP*		**Pn**	**13 25 24.6**	**+3.0**
SKMP				*eS*		**Sn**	**13 26 05.4**	**+1.7**
KCP	**Kidapawan**	**3.74**	**338**	⇑*iP*		**Pb**	**13 25 33.9**	**+1.4**
KCP				*i* S		Sn	13 25 55.3	-13
CTBH	**Cotabato--PC H**	**4.30**	**329**	⇑*iP*		**Pn**	**13 25 36.5**	**+4.6**
SIJI	**Sorong**	**6.47**	**132**			LR	13 28 25.2	
	comp=Z,43nm,18.8s,baz=37,slow=38							
FAKI	**Fak Fak**	**8.61**	**138**	Pn		**Pn**	**13 26 32.9**	**+1.8**
KAPI	**Kappang**	**10.81**	**218**	LR		LR	13 31 50.3	
	comp=Z,46nm,18.3s,baz=306,slow=40							
SAUI	**Saumlaki**	**12.39**	**157**	Pn		**Pn**	**13 27 23.8**	**+1.0**
SBUM	**Sibu**	**14.28**	**266**	P		**P**	**13 27 55.8**	**-0.2**
KNRA	**Kununurra**	**19.20**	**173**	Pn		**P**	**13 28 52.1**	**+1.7**
KNRA				IAmb		IAmb	13 28 52.9	
	comp=Z,12nm,0.9s							
YULB	**Yu-li**	**20.39**	**346**	P		**P**	**13 29 01.8**	**-1.7**
YULB				IAmb		IAmb	13 29 13.9	
	comp=Z,12nm,1.1s							
TPUB	**Ta-pu**	**20.47**	**344**	P		**P**	**13 29 02.6**	**-1.7**
TPUB				IAmb		IAmb	13 29 06.0	
	comp=Z,23nm,1.3s							
FITZ	**Fitzroy Crossi**	**21.49**	**182**	P		**P**	**13 29 15.6**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=11,slow=11,SNR=7.7							
FITZ	**Fitzroy Crossi**	**21.49**	**182**	IAmb		IAmb	13 29 21.9	
	comp=Z,10nm,1.4s							
QIZ	**Qiongzhong**	**22.41**	**315**	P		**P**	**13 29 24.6**	**-0.7**
WB0	**Warramunga Arr**	**24.41**	**162**	P		**P**	**13 29 44.1**	**-1.1**
WB0				IAmb		IAmb	13 29 45.7	
	comp=Z,20nm,1.1s							
WRAB	**Tennant Creek**	**24.55**	**162**	P		**P**	**13 29 45.3**	**-1.2**
WRAB				IAmb		IAmb	13 29 47.2	
	comp=Z,14nm,0.8s							
WRA	**Warramunga Arr**	**24.55**	**162**	P		**P**	**13 29 45.2**	**-1.3**
	comp=Z,8.0nm,0.7s,baz=344,slow=10,SNR=70							
WRA	**Warramunga Arr**	**24.55**	**162**	P		**P**	**13 29 44.6**	**-1.8**
WB2	**Warramunga Arr**	**24.56**	**162**	P		**P**	**13 29 45.7**	**-0.8**
WR0	**Warramunga Arr**	**24.63**	**162**	P		**P**	**13 29 45.9**	**-1.3**
WR0				IAmb		IAmb	13 29 47.6	
	comp=Z,7.4nm,0.8s							
KRVT	**Keravat (AS076**	**26.68**	**107**	LR		LR	13 38 34.2	
	comp=Z,31nm,18.1s,baz=303,slow=32							
PSI	**Prapat**	**27.52**	**269**	LR		LR	13 42 41.2	
	comp=Z,85nm,18.6s,baz=296,slow=40							
AS31	**Alice Springs**	**27.96**	**165**	P		**P**	**13 30 17.6**	**+0.3**
ASAR	**Alice Springs**	**27.96**	**165**	P		**P**	**13 30 16.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=347,slow=7.9,SNR=18							
ASAR	**Alice Springs**	**27.96**	**165**	P		**P**	**13 30 16.8**	**-0.5**
CTA	**Charters Tower**	**30.45**	**141**	LR		LR	13 43 01.8	
	comp=Z,238nm,19.7s,baz=260,slow=37							
CHTO	**Chiang Mai**	**30.92**	**302**	P		**P**	**13 30 41.3**	**-2.3**
CHTO				IAmb		IAmb	13 30 44.7	
	comp=Z,7.1nm,1.5s							
MORW	**Morawa**	**33.91**	**197**	P		**P**	**13 31 09.4**	**-0.2**
FORT	**Forrest**	**34.13**	**178**	P		**P**	**13 31 11.3**	**-0.1**
BBOO	**Buckleboo**	**37.25**	**167**	P		**P**	**13 31 35.8**	**-2.5**
STKA	**Stephens Creek**	**38.02**	**159**	P		**P**	**13 31 44.7**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=333,slow=12,SNR=5.9							
STKA	**Stephens Creek**	**38.02**	**159**	IAmb		IAmb	13 31 45.5	
	comp=Z,0.8nm,0.6s							
USRK	**Ussuriysk Ar.**	**40.81**	**6**	P		**P**	**13 32 07.7**	**-0.3**
ARMA	**Armidale**	**41.42**	**146**	P		**P**	**13 32 11.3**	**-2.0**
ARMA				IAmb		IAmb	13 32 24.4	
	comp=Z,16nm,1.4s							
CAN	**Canberra**	**44.03**	**153**	P		P	13 32 31.5	-2.9
SONM	**Songino Array**	**47.42**	**342**	P		**P**	**13 32 59.4**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=141,slow=7.4,SNR=2.6							
SONM	**Songino Array**	**47.42**	**342**	IAmb		IAmb	13 33 01.8	
	comp=Z,1.4nm,1.5s							
MKAR	**Makanchi Array**	**57.59**	**325**	P		**P**	**13 34 16.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=122,slow=7.4,SNR=14							
ZALV	**Zalesovo Beam**	**60.67**	**333**	P		**P**	**13 34 38.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=2.4							
KURK	**Kurchatov**	**61.79**	**328**	P		**P**	**13 34 44.3**	**-0.9**
KURK				IAmb		IAmb	13 34 47.5	
	comp=Z,1.7nm,0.6s							
BVAR	**Borovoye Array**	**67.36**	**327**	P		**P**	**13 35 20.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=149,slow=9.4,SNR=4.0							
UWE	**Uwekahuna**	**77.75**	**71**			pP	13 36 30.8	+4.0
NPH	**North Pit**	**77.76**	**71**			pP	13 36 31.8	+4.9
UWB	**Uwekahuna B**	**77.76**	**71**			pP	13 36 30.7	+3.7
SBLHI	**Steaming Bluff**	**77.77**	**71**	P		**P**	**13 36 26.8**	**+2.4**
KKO	**Keanakako`i**	**77.77**	**71**			pP	13 36 31.6	+4.6
PUH	**Pauahi**	**77.82**	**71**			pP	13 36 33.2	+6.0
BRTR	**Keskin Array B**	**89.97**	**310**	LR		LR	14 23 46.0	
	comp=Z,10.0nm,18.3s,baz=296,slow=40							

*ISCJB **30** 13:52:16.6±0.7, 32°.89S±0°.07×177°.7W±0°.1, h34km, mb3.9/2, MS

comp=Z,2.0nm,0.7s,baz=61,slow=4.6,SNR=11

JMA 30 13:55:59.6±0.2,23°.49N×123°.33E,h48km±4km,M2.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.71**	**38**	P	Pn	13 56 13.5	+0.1
HATJ				S	Sn	13 56 23.3	-0.1
IRIF	**Iriomote-Funau**	**0.92**	**23**	P	Pn	13 56 16.4	+0.2
IRIF				S	Sn	13 56 28.8	+0.5
JKRS	**Kuro-shima**	**0.97**	**40**	P	Pn	13 56 17.4	+0.5
JKRS				eS	Sn	13 56 29.7	+0.1
YOJ	**Yonaguni jima**	**1.01**	**343**	P	Pn	13 56 17.8	+0.4
YOJ				eS	Sn	13 56 31.2	+0.7
JYNG	**Yonagunijimaku**	**1.02**	**340**	P	Pn	13 56 17.8	+0.3
JYNG				eS	Sn	13 56 31.0	+0.2
JIJ	**Ishigaki jima**	**1.14**	**40**	P	Pn	13 56 19.6	+0.4
JIJ				eS	Sn	13 56 33.3	-0.5
JISG	**Ishigakijimahi**	**1.41**	**39**	P	Pn	13 56 23.3	+0.4
JISG				eS	Sn	13 56 40.3	-0.1
JTJ	**Tarama**	**1.70**	**47**	P	Pn	13 56 27.6	+0.8
JTJ				eS	Sn	13 56 48.6	+1.2
JIRB	**Irabujima**	**2.15**	**51**	P	Pn	13 56 35.2	+2.3

TAP 30 13:56:10.7,24°.45N×121°.57E,h9km±1km,ML0.6,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.16**	**341**	P	Pg	13 56 14.6	+0.5
	baz=342						
NDT				S	Sg	13 56 17.1	+0.7
	baz=342						
NANB	**Nanao**	**0.17**	**99**	P	Pg	13 56 14.5	+0.2
	baz=99						
NANB				eS	Sg	13 56 16.8	+0.1
	baz=99						
NNSB	**Datong**	**0.17**	**261**	P	Pg	13 56 14.8	+0.4
	baz=261						
NNSB				S	Sg	13 56 17.2	+0.3
	baz=261						
NNSH	**Datong**	**0.17**	**261**	eP	Pg	13 56 14.6	+0.2
	baz=262						
NNSH				S	Sg	13 56 17.1	+0.2
	baz=262						
NNS	**Nan Shan**	**0.18**	**266**	eS	Sg	13 56 17.4	+0.3
	baz=264						
ENTT	**Nioudou**	**0.18**	**359**	eP	Pg	13 56 15.1	+0.6
	baz=3.0						
ENTT				S	Sg	13 56 18.0	+0.7
	baz=3.0						
ETLH	**Xiulin Townshi**	**0.26**	**198**	eP	Pg	13 56 16.2	+0.2
	baz=196						
YHNB	**Yeheng**	**0.28**	**321**	eP	Pg	13 56 17.0	+0.7
	baz=321						
YHNB				eS	Sg	13 56 20.8	+0.8
	baz=321						

WEL 30 15:08:45.7±0.5,42°.S±2°.×17°.2E±°,h5km,M3.9/16,ML4.1/9, MLv3.9/16,Error ellipse: s-maj=0.0km s-min=0.0km az=105.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.30**	**27**	P	Pg	15 08 51.9	+0.3
DSZ				S	Sg	15 08 56.1	+0.5
INZ	**Inchbonnie**	**0.72**	**190**	P	Pg	15 08 59.3	-0.2
INZ				S	Sg	15 09 08.5	-0.3
LTZ	**Lake Taylor**	**0.91**	**148**	P	Pg	15 09 02.8	-0.2
LTZ				S	Sg	15 09 14.2	-0.6
THZ	**Tophouse**	**0.99**	**76**	P	Pg	15 09 04.1	-0.6
WVZ	**Waitaha Valley**	**1.24**	**211**	P	Pg	15 09 09.1	-0.4
WVZ				S	Sg	15 09 25.2	-0.4
OXZ	**Oxford**	**1.34**	**167**	P	Pn	15 09 10.2	-0.9
OXZ				S	Sb	15 09 28.7	-0.2
QRZ	**Quartz Range**	**1.37**	**30**	P	Pn	15 09 10.5	-1.0
QRZ				S	Sb	15 09 29.3	-0.4
AMCZ	**Amberley**	**1.39**	**147**	P	Pn	15 09 11.6	-0.1
AMCZ				S	Sn	15 09 30.6	+0.1
GVZ	**Greta Valley S**	**1.42**	**133**	P	Pb	15 09 12.5	-0.1
GVZ				S	Sg	15 09 31.4	+0.3
KHZ	**Kahutara**	**1.48**	**106**	P	Pn	15 09 13.2	+0.2
NNZ	**Nelson**	**1.54**	**59**	P	Pn	15 09 13.3	-0.5
BSWZ	**Blackbirch Sta**	**1.71**	**81**	P	Pb	15 09 17.3	-0.3
CRLZ	**Canterbury Las**	**1.72**	**155**	P	Pn	15 09 15.2	-1.1
RPZ	**Rata Peaks**	**1.75**	**194**	P	Pn	15 09 16.5	-0.2
TUWZ	**Tuamarina**	**1.84**	**72**	P	Pn	15 09 18.6	+0.8
MQZ	**McQueen's Vall**	**1.85**	**156**	P	Pn	15 09 16.7	-1.4
OKCZ	**Okains Bay**	**2.01**	**149**	P	Pn	15 09 19.4	-0.8
FOZ	**Fox Glacier**	**2.01**	**221**	P	Pn	15 09 19.5	-0.8
AKCZ	**Akaroa Harbour**	**2.08**	**153**	P	Pn	15 09 20.3	-1.0
DUWZ	**D'Urville Isla**	**2.12**	**56**	P	Pn	15 09 22.1	+0.3
TCW	**Tory Channel**	**2.15**	**69**	P	Pn	15 09 23.3	+1.1
BHW	**Baring Head**	**2.51**	**77**	P	Pn	15 09 28.7	+1.6
LBZ	**Lake Benmore**	**2.59**	**203**	P	Pn	15 09 27.8	-0.4
KIW	**Kapiti Island**	**2.73**	**66**	P	Pn	15 09 31.9	+1.7
CAW	**Cannon Point**	**2.74**	**72**	P	Pn	15 09 31.1	+0.7
PLWZ	**Palliser**	**2.76**	**82**	P	Pn	15 09 30.5	-0.1
MSWZ	**Moikau Station**	**2.78**	**79**	P	Pn	15 09 29.8	-1.2
JCZ	**Jackson Bay**	**2.92**	**224**	P	Pn	15 09 31.8	-1.1
PAWZ	**Paruwai Farm**	**2.92**	**79**	P	Pn	15 09 33.5	+0.7
OGWZ	**Otaki Gorge**	**2.93**	**67**	P	Pn	15 09 34.3	+1.4
ODZ	**Otahua Downs**	**3.11**	**193**	P	Pn	15 09 34.1	-1.3
NBEZ	**Newall Road No**	**3.24**	**33**	P	Pn	15 09 37.8	+0.7
KHEZ	**Kahui Hut**	**3.27**	**35**	P	Pn	15 09 38.2	+0.5
MRZ	**Mangatainoka R**	**3.27**	**67**	P	Pn	15 09 39.5	+1.8
PREZ	**Palmer Road**	**3.30**	**37**	P	Pn	15 09 38.6	+0.7
LREZ	**Lake Rotokare**	**3.32**	**41**	P	Pn	15 09 39.3	+1.1
PKE	**Pukeiti**	**3.35**	**33**	P	Pn	15 09 39.8	+1.1
WKZ	**Wanaka**	**3.39**	**213**	P	Pn	15 09 38.2	-1.0
WAZ	**Wanganui**	**3.41**	**50**	P	Pn	15 09 41.1	+1.5
EAZ	**Earnscleugh**	**3.62**	**207**	P	Pn	15 09 41.2	-1.2
VRZ	**Vera Road**	**3.75**	**41**	P	Pn	15 09 44.5	+0.3
MSZ	**Milford Sound**	**3.78**	**224**	P	Pn	15 09 45.5	+0.9
TSZ	**Takapari Road**	**3.82**	**61**	P	Pn	15 09 46.6	+1.4
PKVZ	**Pokaka**	**3.93**	**47**	P	Pn	15 09 47.9	+1.2
TRVZ	**Turoa**	**4.04**	**49**	P	Pn	15 09 50.7	+2.4
TUZ	**Tuapeka**	**4.19**	**199**	P	Pn	15 09 49.7	-0.5
MLZ	**Mavora Lakes**	**4.20**	**216**	P	Pn	15 09 49.5	-0.9
HIZ	**Hauiti**	**4.29**	**36**	P	Pn	15 09 51.0	-0.5
TLZ	**Tolley Road**	**4.75**	**40**	P	Pn	15 09 57.9	-0.1
SYZ	**Scrubby Hill**	**4.86**	**201**	P	Pn	15 09 58.0	-1.4
TOZ	**Tahuroa Road**	**5.22**	**36**	P	Pn	15 10 03.9	-0.5
AWAZ	**Awhitu Peninsu**	**5.47**	**26**	P	Pn	15 10 08.0	+0.2
WTAZ	**Waiatarua**	**5.57**	**25**	P	Pn	15 10 09.6	+0.4
MKAZ	**Moumakai**	**5.62**	**30**	P	Pn	15 10 10.7	+0.9
MBAZ	**Motutapu North**	**5.82**	**27**	P	Pn	15 10 14.1	+1.4
MWZ	**Matawai**	**5.83**	**53**	P	Pn	15 10 14.9	+2.1
WIAZ	**Waiheke Island**	**5.88**	**29**	P	Pn	15 10 14.7	+1.2
WCZ	**Waipu Caves**	**6.43**	**20**	P	Pn	15 10 21.2	+0.2
OUZ	**Omahuta**	**6.96**	**13**	P	Pn	15 10 28.7	+0.4

*ANF **30** 15:10:12.0±0.2,33°.01N×116°.44W,h15km±2km,ML3.0/27, Error ellipse: s-maj=2.0km s-min=1.6km az=11.0*
*NEIC **30** 15:10:13.2±1.8,32°.96N±0°.06×116°.47W±0°.03,h13km±7km*
ISC 30 15:10:12.5±0.8,33°.01N±0°.02×116°.43W±0°.02,h15km±6km, n57,σ1°25/87,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.12**	**175**	P	**Pg**	**15 10 15.6**	**-0.5**
	baz=354,SNR=1000						
MONP2				S	**Sg**	**15 10 17.8**	**-0.6**
	baz=354						
EML	**El Monte Cty P**	**0.36**	**252**		**Pg**	**15 10 19.8**	**-0.1**
EML				Sg	**Sg**	**15 10 24.6**	**-0.3**
BAR	**Barrett**	**0.38**	**212**		**Pg**	**15 10 19.9**	**-0.3**
BAR				Sg	**Sg**	**15 10 25.5**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.45**	**142**	P	**Pg**	**15 10 21.7**	**+0.3**
	baz=323,SNR=106						
IKP				S	**Sg**	**15 10 27.8**	**+0.3**
	baz=323						
IKP	**In-Ko-Pah, Jac**	**0.45**	**142**		**Pb**	**15 10 21.9**	**-0.3**
IKP				Sg	**Sb**	**15 10 28.2**	**-0.5**
SDRC	**San Diego Road**	**0.51**	**238**		**Pg**	**15 10 22.3**	**-0.2**
SDRC				Sg	**Sg**	**15 10 28.8**	**-0.5**
SWSC	**Sam W. Stewart**	**0.54**	**96**	P	**Pg**	**15 10 23.5**	**+0.4**
	baz=277,SNR=108						
SWSC				S	**Sg**	**15 10 31.1**	**+0.9**
	baz=277						
SWSC	**Sam W. Stewart**	**0.54**	**96**		**Pg**	**15 10 23.6**	**+0.5**
109C	**Camp Elliot, M**	**0.58**	**258**	P	**Pg**	**15 10 23.3**	**-0.5**
	baz=77,SNR=256						
109C				S	**Sg**	**15 10 31.0**	**-0.6**
	baz=77						
109C	**Camp Elliot, M**	**0.58**	**258**		**Pg**	**15 10 23.4**	**-0.4**
109C	**Camp Elliot, M**			Sg	**Sg**	**15 10 30.9**	**-0.6**
PFO	**Pinyon Flats O**	**0.60**	**358**	P	**Pg**	**15 10 24.1**	**-0.3**
	baz=178,SNR=199						
PFO				S	**Sg**	**15 10 32.3**	**-0.2**
	baz=178						
PFO	**Pinyon Flats O**	**0.60**	**358**		**Pg**	**15 10 24.2**	**-0.2**
WESC	**Westside Schoo**	**0.64**	**112**		**Pb**	**15 10 25.9**	**+0.5**
DREC	**Desert Rsrch C**	**0.85**	**103**		**Pb**	**15 10 29.4**	**+0.4**
MURC	**Murrieta**	**0.87**	**313**	P	**Pg**	**15 10 28.8**	**-0.6**
	baz=133,SNR=54						
MURC				S	**Sg**	**15 10 40.4**	**-0.4**
	baz=133						
BC3	**Big Chuckawall**	**1.04**	**51**	P	**Pb**	**15 10 31.8**	**-0.5**
	baz=232,SNR=53						
BC3				S	**Sb**	**15 10 45.0**	**-1.0**
	baz=232						
BELC	**Belle Mtn. Jos**	**1.06**	**20**	P	**Pb**	**15 10 32.4**	**-0.2**
	baz=200,SNR=214						
BELC				S	**Sb**	**15 10 46.6**	**+0.2**
	baz=200						
BBRC	**Big Bear Solar**	**1.32**	**342**	Pg	**Pn**	**15 10 37.2**	**+0.6**
	baz=162,SNR=26						
BBRC				S	**Sb**	**15 10 54.2**	**+0.3**
	baz=162						
GLA	**Glamis**	**1.35**	**88**	P	**Pn**	**15 10 36.1**	**-0.8**
	baz=269,SNR=25						
GLA				S	**Sn**	**15 10 53.0**	**-1.6**
	baz=269						
IRM	**Iron Mountain**	**1.57**	**43**	Pn	**Pn**	**15 10 39.4**	**-0.5**
	baz=224,SNR=34						
IRM				Pg	**Pb**	**15 10 42.5**	**+1.2**
	baz=224						
IRM				Sb	**Sb**	**15 11 02.7**	**+1.5**
	baz=224						
BFSC	**Mount Baldy Ra**	**1.60**	**321**	Pb	**Pn**	**15 10 41.3**	**+0.9**
	baz=140,SNR=26						
BFSC				Sb	**Sn**	**15 11 01.7**	**+0.8**
	baz=140						
CIS	**Catalina Islan**	**1.71**	**284**	P	**Pn**	**15 10 41.1**	**-0.7**
	baz=103,SNR=29						
CIS				Sb	**Sb**	**15 11 05.4**	**+0.5**
	baz=103						
Y12C	**Blythe**	**1.76**	**65**	P	**Pn**	**15 10 42.2**	**-0.3**
	baz=246,SNR=10						
Y12C	**Blythe**	**1.76**	**65**		**Pn**	**15 10 42.3**	**-0.3**
SCI2	**San Clemente I**	**1.78**	**270**	P	**Pn**	**15 10 42.6**	**-0.1**
	baz=88						
SCI2				S	**Sn**	**15 11 04.7**	**-0.3**
	baz=88						
HEC	**Hector,Ludlow**	**1.82**	**3**	Pg	**Pb**	**15 10 46.5**	**+0.9**
	baz=183,SNR=43						
PASC	**Pasadena Art C**	**1.87**	**309**		**Pn**	**15 10 45.2**	**+1.2**
PASC				Sn	**Sb**	**15 11 10.3**	**+0.8**
GMRC	**Granite Mounta**	**1.89**	**20**	Pn	**Pn**	**15 10 44.4**	**0.0**
	baz=200						
GMRC				Pg	**Pb**	**15 10 48.1**	**+1.3**
	baz=200,SNR=40						
GMRC				Sb	**Sb**	**15 11 12.2**	**+2.0**
	baz=200						
RRX	**Edison Barstow**	**1.92**	**346**	Pg	**Pb**	**15 10 48.5**	**+1.2**
	baz=166						
RRX				Sb	**Sg**	**15 11 13.5**	**-0.8**
	baz=166						
DECC	**Green Verdugo**	**2.02**	**309**	Pb	**Pb**	**15 10 48.6**	**-0.3**
	baz=128						
DECC				Sb	**Sb**	**15 11 15.3**	**+1.5**
	baz=128						
EDW2	**Edwards Air Fo**	**2.27**	**326**	Pn	**Pn**	**15 10 50.5**	**+0.9**
	baz=145,SNR=19						
EDW2				Pb	**Pb**	**15 10 53.8**	**+0.5**
	baz=145						
EDW2				Sb	**Sb**	**15 11 22.6**	**+1.2**
	baz=145						
GSC	**Goldstone, Bar**	**2.31**	**352**	Pg	**Pb**	**15 10 55.5**	**+1.6**
	baz=172,SNR=25						
GSC				Sb	**Sg**	**15 11 26.0**	**-0.8**
	baz=172						
TUQ	**Turquoise Moun**	**2.46**	**10**	Pg	**Pg**	**15 10 58.7**	**-1.0**
	baz=190,SNR=20						
TUQ				Sb	**Sg**	**15 11 30.9**	**-0.7**
	baz=190						
SHOC	**Shoshone, Teco**	**2.89**	**3**	Pg	**Pb**	**15 11 05.8**	**+2.0**
	baz=183,SNR=17						
ARVC	**Arvin**	**2.90**	**317**	Sb	**Sb**	**15 11 41.5**	**+2.2**
	baz=136						
W13A	**Hualapai Mount**	**2.97**	**45**		**Pn**	**15 11 00.9**	**+1.6**
MPMC	**Manual Prospec**	**3.17**	**344**	Pg	**Pg**	**15 11 11.5**	**-1.7**
	baz=164,SNR=11						
MPMC				Sb	**Sg**	**15 11 51.8**	**-2.4**
	baz=164						
214A	**Organ Pipe Nat**	**3.24**	**108**	P	**Pn**	**15 11 02.4**	**-0.4**
	baz=290						
214A	**Organ Pipe Nat**	**3.24**	**108**		**Pn**	**15 11 02.4**	**-0.4**
DAC	**Darwin (Calif)**	**3.40**	**344**		**Pg**	**15 11 18.7**	**+1.1**
FURC	**Furnace Creek,**	**3.47**	**354**	Pg	**Pg**	**15 11 17.2**	**-1.8**
	baz=174						
SHPR	**Sheep Range**	**3.65**	**16**		**Pg**	**15 11 20.9**	**-1.4**
TPNV	**Topopah Spring**	**3.94**	**2**	P	**Pn**	**15 11 14.1**	**+1.5**
	baz=182						
TPNV	**Topopah Spring**	**3.94**	**2**		**Pn**	**15 11 15.1**	**+2.5**
X16A	**Lo Mia Camp, P**	**4.39**	**70**	Pn	**Pn**	**15 11 20.3**	**+1.4**
LCMT	**Little Creek M**	**4.78**	**32**	Pn	**Pn**	**15 11 26.1**	**+2.0**
U15A	**North Rim**	**4.83**	**44**	Pn	**Pn**	**15 11 25.5**	**+0.6**
KNB	**Kanab**	**4.98**	**36**		**Pn**	**15 11 29.1**	**+2.1**
SZCU	**Shurtz Canyon**	**5.33**	**30**	Pn	**Pn**	**15 11 34.5**	**+2.7**
R11A	**Troy Canyon, C**	**5.38**	**7**	Pg	**Pg**	**15 11 52.3**	**-3.1**
	baz=188						
R11A	**Troy Canyon, C**	**5.38**	**7**		**Pg**	**15 11 52.0**	**-3.5**
PKCU	**Pink Cliffs**	**5.57**	**36**	Pn	**Pn**	**15 11 37.6**	**+2.4**
NV11	**Mina Array Sit**	**5.59**	**346**		**Pn**	**15 11 36.2**	**+0.9**
PSUT	**Pine Spring**	**5.90**	**20**		**Pn**	**15 11 40.7**	**+1.1**
YERR	**Yerington**	**6.38**	**340**	Pn	**Pn**	**15 11 44.4**	**-1.8**
MSI	**Marysvale**	**6.49**	**31**	Pn	**Pn**	**15 11 45.8**	**-2.0**
RUBR	**Rubicon Trail**	**6.74**	**335**	Pn	**Pn**	**15 11 49.5**	**-1.7**

*ISCJB **30** 15:20:55.2±0.4,7°.13S±0°.04×129°.63E±0°.05,h200km, Error ellipse: s-maj=7.1km s-min=5.5km az=173.5*
*NEIC **30** 15:20:55.5±2.8,7°.10S±0°.08×129°.60E±0°.07,h194km±8km, mb4.5/8*
*IDC **30** 15:20:55.4±2.0,7°.24S×129°.91E,h190km±19km,mb3.3/5, mb1 3.4/9,mb1mx3.2/31,mbtmp3.8/9,Error ellipse: s-maj=29.4km s-min=18.1km az=92.0*
ISC 30 15:20:55.8±0.6,7°.12S±0°.05×129°.64E±0°.06,h200km,n28, σ2°69/34,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**117**		**Pn**	**15 21 34.9**	**+2.0**
SAUI				Sn	**Sn**	**15 22 00.7**	**-0.9**
FAKI	**Fak Fak**	**4.92**	**32**	Pn	**Pn**	**15 22 07.9**	**-1.4**
FAKI					**Sn**	**15 23 02.5**	**-4.7**
SOEI	**Soe**	**5.92**	**243**	Pn	**Pn**	**15 22 22.0**	**-0.2**
SOEI					**Sn**	**15 23 25.6**	**-4.8**
SIJI	**Sorong**	**6.42**	**15**	P	**Pn**	**15 22 27.6**	**-0.9**
	0.8nm,0.3s,baz=34,slow=24,SNR=25						
SIJI				S	**Sn**	**15 23 35.0**	**-7.1**
	2.7nm,0.3s,baz=199,slow=23,SNR=11						
BATI	**Baumata**	**6.65**	**242**	P	**Pn**	**15 22 34.3**	**+2.7**
	3.2nm,0.3s,baz=66,slow=6.2,SNR=4.7						
BATI				S	**Sn**	**15 23 45.7**	**-1.8**
	6.8nm,0.3s,baz=45,slow=24,SNR=12						
KNRA	**Kununurra**	**8.54**	**186**	Pn	**Pn**	**15 22 56.1**	**0.0**
KNRA					**Sn**	**15 24 27.3**	**-4.9**
FITZ	**Fitzroy Crossi**	**11.58**	**199**	P	**Pn**	**15 23 34.3**	**-1.1**
	0.1nm,0.3s,baz=29,slow=11,SNR=7.8						
FITZ				S	Sn	15 25 35.3	-9.3
	0.5nm,0.3s,baz=66,slow=12,SNR=4.8						
WB0	**Warramunga Arr**	**13.39**	**160**	P	**Pn**	**15 23 58.2**	**0.0**
WRAB	**Tennant Creek**	**13.53**	**161**		**Pn**	**15 23 58.8**	**-1.1**
WRA	**Warramunga Arr**	**13.54**	**161**	P	**Pn**	**15 23 59.5**	**-0.5**
	1.3nm,0.3s,baz=337,slow=12,SNR=16						
WRA				S	**S**	**15 26 26.1**	**-4.8**
	0.8nm,0.3s,baz=329,slow=24,SNR=6.5						
WB2	**Warramunga Arr**	**13.54**	**161**		**Pn**	**15 24 00.1**	**0.0**
WR0	**Warramunga Arr**	**13.62**	**160**		**Pn**	**15 24 01.9**	**+0.8**
AS31	**Alice Springs**	**16.95**	**166**		**Pn**	**15 24 44.6**	**+3.0**
ASAR	**Alice Springs**	**16.95**	**166**	P	**Pn**	**15 24 44.6**	**+3.1**
	1.1nm,0.3s,baz=348,slow=9.8,SNR=198						
ASAR	**Alice Springs**	**16.95**	**166**		**Pn**	**15 24 44.5**	**+2.9**
PMG	**Port Moresby**	**17.49**	**99**		**Pn**	**15 24 49.3**	**+1.3**
PMG				IAmb	IAmb	15 24 51.4	
	comp=Z,15nm,1.1s						
GIRL	**Giralia**	**21.40**	**222**	P	**P**	**15 25 28.1**	**0.0**
YHNB	**Yeheng**	**32.61**	**346**	P	**P**	**15 27 08.2**	**-0.6**
YHNB				IAmb	IAmb	15 27 14.8	
	comp=Z,16nm,1.2s						
CMAR	**Chiang Mai Arr**	**39.53**	**310**	P	**P**	**15 28 09.4**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=139,slow=7.0,SNR=4.2						
JNU	**Nakatsue**	**40.04**	**2**	P	**P**	**15 28 12.2**	**+0.7**
JNU				IAmb	IAmb	15 28 23.1	
	comp=Z,24nm,1.3s						
INCN	**Inchon**	**44.46**	**357**	P	**P**	**15 28 45.4**	**-1.8**
INCN				IAmb	IAmb	15 29 02.8	
	comp=Z,23nm,1.1s						
BJT	**Baijiatuau**	**48.53**	**346**	P	**P**	**15 29 20.5**	**+1.9**
BJT				IAmb	IAmb	15 29 37.9	
	comp=Z,6.3nm,0.4s						
SONM	**Songino Array**	**58.45**	**342**	P	**P**	**15 30 33.0**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=134,slow=8.3,SNR=2.6						
SONM	**Songino Array**	**58.45**	**342**	IAmb	IAmb	15 30 36.5	
	comp=Z,0.7nm,1.1s						
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**15 31 37.2**	**+3.0**
	comp=Z,1.1nm,0.5s,baz=115,slow=8.6,SNR=19						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**15 31 56.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=138,slow=6.3,SNR=3.3						
ILAR	**Eielson Array**	**93.61**	**25**	P	**P**	**15 33 50.3**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=251,slow=2.8,SNR=2.7						
CPUP	**Villa Florida**	**146.06**	**169**	PKPbc	**PKPdf**	**15 40 10.4**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=174,slow=1.4,SNR=3.5						

*IDC **30** 15:36:36.2±1.0,29°.15N×51°.27E,h0km,mb3.9/14, mb1 3.9/18,mb1mx3.8/52,mbtmp3.8/18,ML3.2/4,MS2.7/6, Ms1 2.8/6,ms1mx2.6/44,Error ellipse: s-maj=22.3km s-min=16.7km az=178.0*
*ISCJB **30** 15:36:37.4±0.3,29°.10N±0°.02×51°.23E±0°.03,h17km, mb3.8/16,MS3.2/4,Error ellipse: s-maj=4.5km s-min=2.3km az=147.6*
*THR **30** 15:36:38.2,29°.25N×51°.28E,h18km,ML3.8*
*TEH **30** 15:36:38.4,29°.20N×51°.29E,h18km,ML3.9*
*NEIC **30** 15:36:40.7±1.6,29°.16N±0°.08×51°.31E±0°.08,h31km±6km*
*DSN **30** 15:36:45.4±1.8,28°.74N×51°.54E,h10km,ML4.2/8,Error ellipse: s-maj=37.2km s-min=12.6km az=20.0*
*OMAN **30** 15:36:46.0±2.6,29°.10N×51°.64E,h163km±63km,ml3.9/2, Error ellipse: s-maj=44.8km s-min=21.8km az=70.0*
ISC 30 15:36:39.2±0.5,29°.17N±0°.05×51°.29E±0°.04,h17km,n133, σ1°47/131,mb3.9/22,MS2.8/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.78**	**38**	ePg	**Pg**	**15 36 52.2**	**-2.3**
IKAZ				IAMB	IAmb	15 37 04.3	
	comp=Z,12μm,0.6s						
SHI	**Shiraz**	**1.17**	**66**	ePg	**Pb**	**15 37 00.2**	**-0.9**
SHI				eSg	**Sb**	**15 37 17.3**	**+1.2**
SHI				IAMB	IAmb	15 37 28.2	
	comp=Z,19μm,0.6s						
ISRV	**Sarvestan**	**1.61**	**82**	IAMB	IAmb	15 37 44.0	
	comp=Z,19μm,0.8s						
ISRV				ePn	**Pn**	**15 37 09.0**	**+1.8**
KLNJ	**Kolanjah**	**1.86**	**8**	ePn	**Pn**	**15 37 11.2**	**+0.6**
KLNJ				IAMB	IAmb	15 37 12.9	
	comp=Z,0.0nm,0.4s						
JHRM	**Jahrom**	**2.11**	**108**	ePn	**Pn**	**15 37 14.6**	**+0.7**
JHRM				IAMB	IAmb	15 38 02.7	
	comp=Z,0.0nm,0.6s						
LMD1	**Lamerd**	**2.46**	**137**	ePn	**Pn**	**15 37 19.3**	**+0.7**
LMD1				IAMB	IAmb	15 38 23.0	
	comp=Z,0.0nm,1.0s						
IBRJ	**Brojen**	**2.73**	**360**	ePn	**Pn**	**15 37 23.3**	**+0.7**
IRAM	**Ramesheh**	**2.80**	**19**	ePn	**Pn**	**15 37 24.5**	**+1.1**
ZNGN	**Zangian**	**2.97**	**353**	ePn	**Pn**	**15 37 26.4**	**+0.6**
JHBN	**Jahan bin**	**3.10**	**350**	ePn	**Pn**	**15 37 28.2**	**+0.5**
ROKH	**ROKH**	**3.18**	**356**	ePn	**Pn**	**15 37 29.4**	**+0.8**
IGAR	**Gharneh**	**3.29**	**11**	ePn	**Pn**	**15 37 31.5**	**+1.3**
ISAD	**Sadrabad**	**3.43**	**36**	ePn	**Pn**	**15 37 34.2**	**+2.0**
IPIR	**Pirpir**	**3.52**	**355**	ePn	**Pn**	**15 37 33.4**	**-0.1**
SHGR	**Shooshtar-Gavs**	**3.63**	**324**	eAML	AML	15 38 20.7	
	comp=N,302nm,0.6s						
IMEH	**Mehriz**	**3.63**	**52**	ePn	**Pn**	**15 37 36.8**	**+1.9**
IZEF	**Zefreh**	**3.83**	**13**	ePn	**Pn**	**15 37 38.7**	**+1.1**
ICHK	**Chekchek**	**4.08**	**40**	ePn	**Pn**	**15 37 41.8**	**+0.8**
IKLH	**Kolahrood**	**4.15**	**3**	ePn	**Pn**	**15 37 42.6**	**+0.6**
YZKH	**Yazd**	**4.29**	**41**	ePn	**Pn**	**15 37 44.2**	**+0.4**
YZKH	**Yazd**	**4.29**	**41**	ePn	**Pn**	**15 37 44.2**	**+0.4**
IBAF	**Bafgh**	**4.42**	**56**	ePn	**Pn**	**15 37 47.2**	**+1.6**
ANAR	**Anarak**	**4.53**	**27**	ePn	**Pn**	**15 37 48.3**	**+1.2**
QAM	**Ghamsar**	**4.58**	**2**	ePn	**Pn**	**15 37 49.2**	**+1.3**

HSRG	Sareghieh	6.57	338	*e*Pn	Pn	15 38 16.4	+1.1
TNSJ	Nastanj	6.59	42	*e*Pn	Pn	15 38 16.4	+0.9
IANJ	Anjilo	6.67	19	*e*Pn	Pn	15 38 16.6	0.0
IDHR	Dehrash	6.91	324	*e*Pn	Pn	15 38 20.6	+0.7
ARQ	Araqi	7.47	140	P	Pn	15 38 29.1	+1.7
	SNR=12						
ARQ				S	Sn	15 39 51.3	-0.5
RAYN	Ar Rayn	7.65	224		Pn	15 38 30.4	+0.4
HOQ	Hoqain	7.75	134	P	Pn	15 38 32.5	+1.2
HOQ				S	Sn	15 39 57.3	-1.4
BSY	Bisya	8.32	139	P	Pn	15 38 40.2	+1.2
	SNR=7.7						
BSY				S	Sn	15 40 09.1	-3.6
SMDO	Samad	8.60	133	P	Pn	15 38 44.2	+1.3
SMDO				S	Sn	15 40 18.2	-1.5
WSAR	Wadi Sarin	8.85	130	P	Pn	15 38 46.7	+0.4
WSAR	Wadi Sarin	8.85	130	Pn	Pn	15 38 45.5	-0.8
	comp=Z,0.4nm,0.3s,baz=334,slow=7.5,SNR=6.9						
WSAR				Sn	Sn	15 40 20.1	-5.6
	comp=Z,0.3nm,0.3s,baz=322,slow=19,SNR=4.0						
JMDO	Jabal Madar	9.14	136	P	Pn	15 38 51.5	+1.2
WBK	Wadi Bani Khal	9.51	132	P	Pn	15 38 55.8	+0.3
GEYT	Alibeck	10.43	31	Pn	Pn	15 39 07.2	-0.8
	comp=Z,0.2nm,0.3s,baz=199,slow=7.6,SNR=3.4						
WHFO	Wadi Hawf	11.42	168	P	Pn	15 39 23.4	+1.7
DMTO	DMTO	11.88	163	P	Pn	15 39 29.0	+1.1
	SNR=14						
GNI	Garni	12.21	336	LR	LR	15 44 56.3	
	comp=Z,26nm,19.6s,baz=37,slow=41						
GNI	Garni	12.21	336	Pn	Pn	15 39 32.9	+0.5
ASF	Jabal al Asfar	12.74	287	Sn	Sn	15 41 52.4	-8.9
	comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=2.6						
ASF				Lg	Lg	15 43 45.3	
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=2.4						
MMAI	Mount Meron Ar	14.14	290	LR	LR	15 46 19.8	
	comp=Z,20nm,18.9s,baz=85,slow=41						
EIL	Elat	14.25	276	LR	LR	15 46 29.8	
	comp=Z,41nm,19.8s,baz=100,slow=42						
KBZ	Khabaz	16.01	337	Pn	Pn	15 40 24.6	+1.1
	comp=Z,0.1nm,0.3s,baz=180,slow=3.4,SNR=4.4						
CSS	Mathiatis	16.27	295	P	Pn	15 40 29.1	+2.1
CSS				IAmb	IAmb	15 40 29.4	
	comp=Z,13nm,1.0s						
BRTR	Keskin Array B	17.94	311	P	Pn	15 40 48.2	+0.3
	comp=Z,0.1nm,0.3s,baz=126,slow=16,SNR=3.5						
BRTR	Keskin Array B	17.94	311	P	Pn	15 40 47.0	-0.9
KKAR	Karatay Array	20.78	43		P	15 41 19.6	+0.2
ABKAR	Abkulak array	21.13	16	P	P	15 41 23.4	+0.4
ABKAR	Abkulak array	21.13	16	P	P	15 41 22.5	-0.6
ARSB	Arslanbob	21.41	50	P	P	15 41 26.4	0.0
ARSB				IAmb	IAmb	15 41 30.3	
	comp=Z,6.0nm,0.8s						
AKTO	Aktyubinsk	21.84	12	P	P	15 41 31.1	+0.4
	comp=Z,1.5nm,0.5s,baz=203,slow=12,SNR=5.7						
AAK	Ala-Archa	23.02	48	P	P	15 41 44.7	+1.2
	comp=Z,1.2nm,0.6s,baz=254,slow=7.4,SNR=3.8						
AAK				LR	LR	15 52 39.1	
	comp=Z,25nm,19.7s,baz=268,slow=42						
AAK	Ala-Archa	23.02	48	IAmb	IAmb	15 41 52.5	
	comp=Z,3.6nm,0.9s						
KDJ	Kajisay	24.59	51	P	P	15 41 58.3	-0.4
KDJ				IAmb	IAmb	15 42 05.3	
	comp=Z,2.3nm,0.8s						
TARG	Taragay, Kyrgy	24.87	53	P	P	15 42 01.2	-0.2
TARG				IAmb	IAmb	15 42 03.1	
	comp=Z,2.1nm,0.7s						
MLR	Muntele Rosu	25.76	316	P	P	15 42 12.2	+3.1
	comp=Z,4.3nm,0.8s,baz=247,slow=1.5,SNR=10						
AKASG	Malin Array Be	27.17	328	P	P	15 42 20.5	-1.1
	comp=Z,0.6nm,0.5s,baz=135,slow=8.3,SNR=4.9						
AKASG	Malin Array Be	27.17	328	IAmb	IAmb	15 42 22.3	
	comp=Z,1.3nm,1.0s						
BURAR	Bucovina Array	27.31	320	P	P	15 42 24.5	+1.5
BUR08	Bucovina Ar. S	27.33	320	P	P	15 42 23.8	+0.5
BUR08				IAmb	IAmb	15 42 39.6	
	comp=Z,3.6nm,1.1s						
BVAR	Borovoye Array	27.67	25	P	P	15 42 26.2	+0.1
	comp=Z,1.4nm,0.7s,baz=240,slow=7.9,SNR=8.1						
KURBB	Kurchatov Arra	29.65	36	P	P	15 42 40.5	-3.2
	comp=Z,0.9nm,0.7s,baz=236,slow=8.9,SNR=2.6						
MAKZ	Makanchi	29.66	45	P	P	15 42 43.3	-0.6
MAKZ				IAmb	IAmb	15 42 47.9	
	comp=Z,2.3nm,1.1s						
KURK	Kurchatov	29.75	36	P	P	15 42 40.5	-4.1
KURK	Kurchatov	29.75	36	IAmb	IAmb	15 42 48.2	
	comp=Z,1.3nm,0.8s						
MK31	Makanchi Array	29.85	45	P	P	15 42 45.5	0.0
MKAR	Makanchi Array	29.85	45	P	P	15 42 45.1	-0.5
	comp=Z,0.7nm,0.8s,baz=230,slow=7.8,SNR=6.3						
ZALV	Zalesovo Beam	34.71	35	P	P	15 43 27.9	-0.2
	comp=Z,1.4nm,0.6s,baz=241,slow=8.3,SNR=5.6						
ZALV	Zalesovo Beam	34.71	35	P	P	15 43 28.1	+0.1
GERES	GERESS Array B	34.73	315	P	P	15 43 27.8	-0.6
OSSC	Osservatorio P	34.94	305	P	P	15 43 29.6	-0.5
FIA1	FINESS Array S	36.35	340	P	P	15 43 40.2	-1.7
FIA1				IAmb	IAmb	15 43 59.1	
	comp=Z,13nm,1.1s						
FINES	FINESS Array B	36.35	340	P	P	15 43 40.8	-1.2
	comp=Z,2.4nm,0.8s,baz=160,slow=6.1,SNR=6.4						
NC405	NORSAR Array S	41.30	332	P	P	15 44 23.0	-0.6
NOA	NORSAR Array B	41.47	332	P	P	15 44 24.0	-1.0
	comp=Z,0.6nm,0.6s,baz=121,slow=8.2,SNR=2.9						
NOA				LR	LR	16 04 22.4	
	comp=Z,16nm,18.3s,baz=315,slow=40						
KEV	Kevo	42.94	348	P	P	15 44 36.1	-0.7
ARCES	ARCESS Array B	43.04	347	P	P	15 44 37.2	-0.4
	comp=Z,2.8nm,0.8s,baz=140,slow=9.6,SNR=5.6						
CMAR	Chiang Mai Arr	44.62	93	P	P	15 44 49.2	-1.8
	comp=Z,0.9nm,0.4s,baz=303,slow=5.0,SNR=3.3						
CMAR				LR	LR	16 05 46.7	
	comp=Z,10.0nm,19.6s,baz=225,slow=39						
SONM	Songino Array	45.95	50	P	P	15 45 02.3	+1.0
	comp=Z,0.4nm,0.5s,baz=258,slow=6.9,SNR=3.5						
SONM	Songino Array	45.95	50	IAmb	IAmb	15 45 02.5	
	comp=Z,0.7nm,1.0s						
TORD	Torodi Ar. Bea	48.56	262	P	P	15 45 21.6	-0.3
	comp=Z,1.1nm,0.7s,baz=53,slow=7.9,SNR=5.9						
JMIC	Jan Mayen	52.97	339	LR	LR	16 07 34.0	
	comp=Z,520nm,20.1s,baz=66,slow=35						
DBIC	Dimbokro	57.32	259	P	P	15 46 27.1	+0.5
	comp=Z,4.0nm,0.8s,baz=24,slow=5.7,SNR=3.7						
ILAR	Eielson Array	85.30	8	P	P	15 49 14.8	-0.1
	comp=Z,0.5nm,0.6s,baz=316,slow=4.9,SNR=7.5						

IDC 30 15:44:35.9±1.5, 4°.18S×127°.61E, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.5/34, mbtmp3.6/6, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/32, Error ellipse: s-maj=33.9km s-min=29.0km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.92	48	Pn	Pn	15 45 51.6	+0.5
	3.0nm,0.3s,baz=201,slow=14,SNR=12						
SIJI				Sn	Sn	15 46 45.1	-3.6
	3.0nm,0.3s,baz=288,slow=21,SNR=6.9						
KAPI	Kappang	7.88	264	Pn	Pn	15 46 31.8	0.0
	5.5nm,0.3s,baz=58,slow=15,SNR=4.4						
FITZ	Fitzroy Crossi	13.96	188	Pn	Pn	15 47 51.8	-3.4
	0.1nm,0.3s,baz=348,slow=9.3,SNR=2.2						
FITZ				LR	LR	15 53 00.4	
	comp=Z,33nm,18.6s,baz=356,slow=36						
WRA	Warramunga Arr	16.98	158	Pn	Pn	15 48 30.3	-4.7
	0.1nm,0.3s,baz=342,slow=13,SNR=5.5						
ASAR	Alice Springs	20.30	163	P	P	15 49 13.6	+0.1
	1.4nm,0.8s,baz=342,slow=11,SNR=26						
CMAR	Chiang Mai Arr	36.12	309	P	P	15 51 40.7	+0.7
	0.5nm,0.5s,baz=134,slow=6.4,SNR=4.3						
PETK	Petropavlovsk-	62.45	20	LR	LR	16 24 44.5	
	comp=Z,7.5nm,18.5s,baz=61,slow=39						
MKAR	Makanchi Array	64.58	327	P	P	15 55 14.8	-0.4
	0.2nm,0.6s,baz=142,slow=6.7,SNR=3.2						
KURBB	Kurchatov Arra	68.88	329	P	P	15 55 41.8	-0.6
	0.3nm,0.6s,baz=132,slow=5.9,SNR=2.3						

*ISCJB **30** 16:11:56.8±1.4, 37°.72N±0°.03×142°.00E±0°.04, h9km±10km, mb3.4/7, MS2.4/1, Error ellipse: s-maj=6.1km s-min=4.7km az=25.5*

*IDC **30** 16:11:57.0±0.9, 37°.65N×142°.03E, h0km, mb3.4/7, mb1 3.7/10, mb1mx3.5/41, mbtmp3.5/10, ML3.3/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/22, Error ellipse: s-maj=24.1km s-min=18.1km az=117.0*

*JMA **30** 16:11:58.6±0.1, 37°.72N×141°.92E, h26km±2km, M4.1*

JMA Felt I J1.

ISC 30 16:11:58.0±1.9, 37°.71N±0°.04×141°.90E±0°.07, h9km±11km, n33, σ1§16/39, mb3.4/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.69	330	P	Pg	16 12 11.8	+0.4
JIKH				S	Sg	16 12 21.1	+0.7
JMST	Minamisoumatoc	0.80	271	P	Pg	16 12 13.6	+0.1
JMST				S	Sg	16 12 24.5	+0.6
JIO	Ouri	0.86	330	P	Pg	16 12 14.6	0.0
JIO				S	Sg	16 12 25.7	-0.1
JFK	Kawauchi	0.88	247	P	Pg	16 12 15.1	+0.1
JFK				S	Sg	16 12 26.9	+0.4
JMM	Marumori	0.89	280	P	Pg	16 12 15.1	0.0
JMM				S	Sg	16 12 26.5	-0.2
ONAJ	Iwakimizuishiy	1.07	236	P	Pb	16 12 17.8	-0.9
JKMT	Kesennumamotoy	1.15	343	P	Pb	16 12 18.9	-1.1
JKMT				S	Sb	16 12 33.2	-1.9
JOU	Okura	1.17	304	P	Pb	16 12 20.2	-0.3
JOU				S	Sb	16 12 35.7	-0.1
JFT	Otama	1.25	262	P	Pn	16 12 21.5	-0.2
JFT				S	Sb	16 12 37.6	-0.5
JMK	Ichinoseki	1.35	337	P	Pn	16 12 22.0	-1.0
JMK				S	Sb	16 12 39.2	-1.6
JYS	Shiratake	1.54	290	P	Pn	16 12 26.4	+0.8
JYS				S	Sb	16 12 46.5	+0.3
JYK	Kaneyama	1.71	315	P	Pn	16 12 27.8	-0.2
JFY	Yanaizu	1.77	261	P	Pn	16 12 29.6	+0.8
JOM	Ohasama	1.82	345	P	Pn	16 12 29.1	-0.4
MJAR	Matsushiro Arr	3.17	250	Pn	Pn	16 12 49.4	+1.3
	1.6nm,0.3s,baz=81,slow=16,SNR=117						
MJAR				Sn	Sb	16 13 30.7	-2.6
	0.4nm,0.3s,baz=80,slow=30,SNR=3.1						
MAT	Matsushiro	3.17	250	P	Pn	16 12 49.9	+1.8
MAT				*e*S	Sb	16 13 30.7	-2.6
JHJ	Hachijo jima 2	4.89	201	Pn	Pn	16 13 11.5	-0.3
	26nm,0.3s,baz=62,slow=17,SNR=15						
JHJ				Sn	Sn	16 14 05.7	-2.8
	8.9nm,0.3s,baz=53,slow=20,SNR=3.6						
ASAJ	Asahikawa	6.42	4	Pn	Pn	16 13 32.2	-0.5
	0.4nm,0.3s,baz=198,slow=13,SNR=6.2						
ASAJ				Sn	Sn	16 14 46.6	+0.5
	0.1nm,0.3s,baz=120,slow=20,SNR=2.2						
USRK	Ussuriysk Ar.	9.90	314	Pn	Pn	16 14 25.5	+5.0
	baz=122,slow=19,SNR=2.3						
MA2	Magadan	22.61	12	LR	LR	16 26 25.5	
	comp=Z,14nm,20.8s,baz=310,slow=38						
SONM	Songino Array	27.74	303	P	P	16 17 49.4	+2.5
	0.2nm,0.4s,baz=98,slow=10,SNR=2.5						
H11N2	WAKE ISLAND Hy	28.17	123	T	T	16 47 30.6	
	baz=314,slow=75						
H11N1	WAKE ISLAND Hy	28.18	123	T	T	16 47 27.6	
	baz=314						
H11N3	WAKE ISLAND Hy	28.19	123	T	T	16 47 21.6	
	baz=314,slow=75						
H11S1	WAKE ISLAND Hy	28.91	125	T	T	16 48 16.2	
	baz=316,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	28.91	125	T	T	16 48 17.6	
	baz=316,slow=76,SNR=61						
H11S2	WAKE ISLAND Hy	28.93	125	T	T	16 48 16.3	
	baz=316,slow=76,SNR=37						
MKAR	Makanchi Array	44.09	302	P	P	16 20 06.3	0.0
	0.3nm,0.8s,baz=80,slow=7,SNR=3.4						
ILAR	Eielson Array	48.72	33	P	P	16 20 42.7	+0.3
	0.2nm,0.6s,baz=279,slow=5.9,SNR=4.4						
WRA	Warramunga Arr	57.78	188	P	P	16 21 49.3	-0.3
	0.4nm,0.9s,baz=6.1,slow=7.5,SNR=4.2						
ASAR	Alice Springs	61.51	188	P	P	16 22 15.1	-0.2
	0.3nm,1.0s,baz=358,slow=6.2,SNR=3.2						
PDAR	Pinedale Array	76.92	46	P	P	16 23 51.9	+0.9
	0.5nm,0.8s,baz=290,slow=2.7,SNR=3.6						
TXAR	Lajitas Array	89.40	53	P	P	16 24 56.3	+0.8
	0.2nm,0.5s,baz=303,slow=2.9,SNR=4.3						

*IDC **30** 16:15:31.0±1.6, 17°.03S×179°.01W, h514km±18km, mb2.9/6, mb1 3.3/8, mb1mx3.0/31, mbtmp3.9/8, Error ellipse: s-maj=82.3km s-min=14.3km az=152.0*

*ISCJB **30** 16:15:31.7±0.5, 17°.45±0°.2×178°.9W±0°.1, h539km, Error ellipse: s-maj=27.6km s-min=9.9km az=160.6*

*NEIC **30** 16:15:32.6±1.7, 17°.3S±0°.2×178°.8W±0°.1, h538km±9km, mb4.5/7*

ISC 30 16:15:32.6±0.7, 17°.3S±0°.2×178°.8W±0°.1, h539km, n19, σ1§35/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.05	262	P	P	16 16 49.9	+2.8
AFI	Afiamalu	7.55	64	P	P	16 17 22.9	-2.8
	2.7nm,0.3s,baz=347,slow=6.9,SNR=5.9						
DZM	Mont Dzumac	14.69	249	P	P	16 18 38.0	-1.2
	0.1nm,0.3s,baz=78,slow=18,SNR=3.8						
PPT	Papeete	27.86	95	P	P	16 20 40.2	+0.9
PPTF	Pamatai, Papee	27.87	95	P	P	16 20 40.2	+0.8
ARMA	Armidale	29.94	239	P	P	16 20 56.9	-0.4
PMG	Port Moresby	34.01	279	P	P	16 21 32.1	+0.1
PMG				IAmb	IAmb	16 21 33.8	
	comp=Z,7.0nm,0.8s						
TOO	Toolangi	37.27	230	P	P	16 21 58.5	-0.3
TOO				IAmb	IAmb	16 22 13.1	
	comp=Z,24nm,1.5s						
STKA	Stephens Creek	38.61	240	P	P	16 22 09.3	-0.4
	comp=Z,2.2nm,0.5s,baz=78,slow=8.9,SNR=9.2						
STKA	Stephens Creek	38.61	240	IAmb	IAmb	16 22 09.9	
	comp=Z,0.7nm,0.7s						
BBOO	Buckleboo	43.38	240	P	P	16 22 46.8	-0.9
BBOO				IAmb	IAmb	16 22 50.9	
	comp=Z,34nm,1.5s						
WRA	Warramunga Arr	44.39	259	P	P	16 22 54.2	-1.5
	comp=Z,0.8nm,0.3s,baz=95,slow=7.7,SNR=43						
WRA				ScP	ScP	16 27 29.7	+1.0
	comp=Z,0.2nm,0.6s,baz=90,slow=4.1,SNR=4.5						
WRA	Warramunga Arr	44.39	259	IAmb	IAmb	16 22 54.9	
	comp=Z,0.1nm,0.8s						
ASAR	Alice Springs	44.61	254	P	P	16 22 56.5	-0.8
	comp=Z,9.0nm,0.4s,baz=89,slow=7.9,SNR=445						
ASAR				ScP	ScP	16 27 31.0	+1.4
	comp=Z,0.2nm,0.6s,baz=83,slow=4.6,SNR=4.6						
NVAR	Mina Array Bea	79.24	44	P	P	16 26 42.8	+0.4
	comp=Z,0.4nm,0.7s,baz=219,slow=9.3,SNR=3.7						
ILAR	Eielson Array	85.39	13	P	P	16 27 12.3	-0.2
	comp=Z,0.1nm,0.4s,baz=220,slow=8.3,SNR=1.9						
TXAR	Lajitas Array	85.98	58	P	P	16 27 18.0	+1.7
	comp=Z,0.3nm,0.8s,baz=202,slow=6.3,SNR=4.2						
PDAR	Pinedale Array	87.17	44	P	P	16 27 22.5	+0.7
	comp=Z,0.2nm,0.6s,baz=204,slow=2.0,SNR=3.9						
CLL	Collm	144.80	347	*e*PKPbc	PKPab	16 34 09.0	-0.2

*WEL **30** 16:24:30.0±0.8, 33°.S±6°×17°.8W±1°.7, h0km, M4.5/16, mB5.0/5, ML4.8/15, MLv4.6/16, Mw(mB)4.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=107.1*

*ISCJB **30** 16:24:31.3±0.5, 32°.70S±0°.04×178°.19W±0°.10, h10km, mb4.0/3, MS3.6/1, Error ellipse: s-maj=12.4km s-min=3.9km az=17.9*

*IDC **30** 16:24:32.9±1.7, 32°.60S×178°.27W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/26, mbtmp4.2/4, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/21, Error ellipse: s-maj=42.4km s-min=34.3km az=66.0*

*NEIC **30** 16:24:33.8±1.4, 32°.7S±0°.1×178°.3W±0°.1, h7km±4km, mb4.3/11*

ISC 30 16:24:32.4±0.7, 32°.53S±0°.06×178°.2W±0°.1, h10km, n46, σ1§67/55, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.27	5	P	Pn	16 25 20.0	-3.7
GLKZ				S	Sn	16 26 02.5	-0.1
RAO	Raoul Island	3.28	5	Sn	Sb	16 26 07.5	-3.1
	96nm,0.3s,baz=72,slow=21,SNR=4.2						
RIZ	Raoul Island	3.28	5	P	Pn	16 25 23.4	-0.5
RIZ				S	Sn	16 26 03.4	+0.4
MXZ	Matakaoa Point	5.77	208	P	Pn	16 25 58.5	+0.5
MXZ				S	Sn	16 27 01.6	-2.6
WMGZ	Waiomatatini S	5.95	207	P	Pn	16 26 00.5	0.0
WMGZ				S	Sn	16 27 07.4	-1.3
PKGZ	Pakihiroa	6.14	208	P	Pn	16 26 02.3	-0.9
HAZ	Te Kaha	6.15	211	P	Pn	16 26 03.8	+0.6
HAZ				S	Sn	16 27 14.3	+0.7
PUZ	Puketiti	6.23	206	P	Pn	16 26 02.8	-1.6
PUZ				S	Sn	16 27 12.9	-2.8
RUGZ	Raukumara Rang	6.37	210	P	Pn	16 26 06.5	+0.1
RUGZ				S	Sn	16 27 18.5	-0.8
KUZ	Kuaotunu	6.52	228	P	Pn	16 26 09.0	+0.7
CNGZ	Carnagh Statio	6.61	205	P	Pn	16 26 08.9	-0.7
MWZ	Matawai	6.75	210	P	Pn	16 26 10.7	-0.8
MWZ				S	Sn	16 27 26.8	-1.6
URZ	Urewera	6.86	212	Pn	Pn	16 26 13.2	+0.1
	4.3nm,0.3s,baz=249,slow=3.9,SNR=26						
URZ				Sn	Sn	16 27 27.8	-3.4
	8.1nm,0.3s,baz=284,slow=19,SNR=9.8						
URZ	Urewera	6.86	212	P	Pn	16 26 13.1	+0.1
URZ				S	Sn	16 27 27.5	-3.7
RAGZ	Rawiri	6.93	210	P	Pn	16 26 12.5	-1.5
RAGZ				S	Sn	16 27 30.5	-2.4
RIGZ	Rimuhau	6.97	207	P	Pn	16 26 13.9	-0.7
RIGZ				S	Sn	16 27 31.2	-2.7
PRGZ	Paritu Road	7.12	205	P	Pn	16 26 15.2	-1.4
MUGZ	Murupara	7.20	213	P	Pn	16 26 17.3	-0.4
SNGZ	Shannon Statio	7.20	209	P	Pn	16 26 18.5	+0.7
KNZ	Kokohu	7.28	206	P	Pn	16 26 16.6	-2.2
OUZ	Omahuta	7.30	246	P	Pn	16 26 23.6	+4.5
RAHZ	Arahi	7.42	210	P	Pn	16 26 21.7	+0.9
NMHZ	Naumai	7.69	210	P	Pn	16 26 24.8	+0.3
ARHZ	Aropaoanui	7.75	209	P	Pn	16 26 25.0	-0.3
BKZ	Black Stump Fm	7.88	211	P	Pn	16 26 28.6	+1.5
BKZ	Black Stump Fm	7.88	211	Pn	Pn	16 26 26.2	-0.9
MCHZ	McNeill Hill	8.03	209	P	Pn	16 26 29.8	+0.7
CKHZ	Cape Kidnapper	8.06	207	P	Pn	16 26 28.4	-1.1
KAHZ	Kahuranaki	8.26	207	P	Pn	16 26 29.6	-2.7
STKA	Stephens Creek	33.86	260	LR	LR	16 44 46.9	
	comp=Z,99nm,18.1s,baz=29,slow=36						
STKA	Stephens Creek	33.86	260	P	P	16 31 15.4	+0.3
STKA				IAmb	IAmb	16 31 22.7	
	comp=Z,3.0nm,1.5s						
CTAO	Charters Tower	34.00	282	P	P	16 31 16.6	+0.1
TAOE	Nuku Hiva Isla	42.36	65	P	P	16 32 28.1	+1.0
PTCN	Pitcairn Islan	42.55	93	P	P	16 32 29.1	+0.7
AS31	Alice Springs	42.84	269	P	P	16 32 32.4	+1.5
ASAR	Alice Springs	42.84	269	P	P	16 32 32.8	+1.9
	comp=Z,1.8nm,0.7s,baz=113,slow=7.8,SNR=30						
WR0	Warramunga Arr	43.84	275	P	P	16 32 41.2	+2.2
WB2	Warramunga Arr	44.01	274	P	P	16 32 42.1	+1.8
WB2				IAmb	IAmb	16 33 00.6	
	comp=Z,6.2nm,1.1s						
WRAB	Tennant Creek	44.01	274	P	P	16 32 42.2	+1.8
WRAB				IAmb	IAmb	16 33 00.6	
	comp=Z,4.7nm,1.1s						
WRA	Warramunga Arr	44.02	274	P	P	16 32 42.2	+1.8
	comp=Z,1.7nm,0.3s,baz=113,slow=8.0,SNR=54						
WRA	Warramunga Arr	44.02	274	P	P	16 32 42.2	+1.8
WB0	Warramunga Arr	44.05	275	P	P	16 32 42.3	+1.6
WB0				IAmb	IAmb	16 32 59.3	
	comp=Z,9.8nm,1.4s						
QSPA	South Pole Qui	57.59	180	P	P	16 34 23.7	+1.5
	comp=Z,1.7nm,1.0s,baz=67,slow=2.1,SNR=5.3						
QSPA	South Pole Qui	57.59	180	IAmb	IAmb	16 34 40.5	
	comp=Z,2.1nm,0.9s						
FINES	FINESS Array B	147.06	339	PKPbc	PKiKP	16 44 16.6	-0.5
	comp=Z,4.1nm,0.8s,baz=52,slow=2.3,SNR=9.7						
BRTR	Keskin Array B	153.37	295	PKPbc	PKiKP	16 44 32.6	+1.5
	comp=Z,0.7nm,0.6s,baz=141,slow=4.8,SNR=3.7						

*ISCJB **30** 16:24:45.5±0.4, 24°.89N±0°.03×122°.44E±0°.02, h23km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=23.0*

*JMA **30** 16:24:45.4±0.1, 24°.89N×122°.44E, h45km±4km, M2.1*

*TAP **30** 16:24:45.3, 24°.87N×122°.39E, h18km±1km, ML2.8, C*

ISC 30 16:24:45.0±1.1, 24°.90N±0°.04×122°.43E±0°.03, h25km±10km, n38, σ0§44/73, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.41	286	*i* P	Pb	16 24 53.6	-0.3
TWB1				S	Sb	16 24 58.9	-0.9
	baz=290						
EOS1	EOS1	0.44	218	*e*P	Pb	16 24 54.4	+0.1
	baz=216						
EOS1				*e*S	Sb	16 25 00.9	+0.4
	baz=216						
NTC	Toucheng	0.55	266	P	Pn	16 24 56.7	-0.5
	baz=267						
NTC				*e*S	Sb	16 25 04.2	+0.7
	baz=267						
TIPB	Shuangxi	0.55	278	*i* P	Pb	16 24 56.4	+0.2
	baz=280						
TIPB				S	Sb	16 25 04.0	+0.3
	baz=280						
TWC	Suao	0.60	242	P	Pb	16 24 56.5	-0.4
	baz=241						
TWC				*e*S	Sb	16 25 03.8	-1.2
	baz=241						
NWF	Wu-fen Shan	0.61	287	P	Pb	16 24 57.7	+0.5
	baz=289						
NWF				*e*S	Sn	16 25

TATO *eS* **Sb** **16 25 12.4 0.0**
baz=277
NDT Datong Townshi 0.88 251 *eP* **Pn** **16 25 02.5 +0.7**
baz=251
NDT *eS* **Sn** **16 25 13.7 -0.2**
baz=251
TWS1 Kuangyinshan 0.94 283 *eP* **Pb** **16 25 03.0 +0.3**
baz=284
TWS1 *eS* **Sn** **16 25 15.4 +0.1**
baz=284
YHNB Yeheng 0.98 257 *eP* **Pb** **16 25 03.8 +0.4**
baz=257
YHNB *eS* **Sn** **16 25 16.7 +0.2**
baz=257
NACB Ninganchiao 1.05 227 *eP* **Pb** **16 25 04.7 +0.2**
baz=226
NACB *eS* **Sb** **16 25 18.3 +0.5**
baz=226
NNSB Datong 1.06 244 *eP* **Pb** **16 25 04.9 +0.1**
baz=244
NNSB *eS* **Sb** **16 25 18.8 +0.5**
baz=244
NNSH Datong 1.06 244 *eP* **Pb** **16 25 04.9 +0.1**
baz=244
NNSH *eS* **Sb** **16 25 18.8 +0.5**
baz=244
NNS Nan Shan 1.06 245 *eP* **Pb** **16 25 04.9 0.0**
baz=244
NNS *eS* **Sb** **16 25 18.7 +0.3**
baz=244
ETLH Xiulin Townshi 1.10 232 *eP* **Pb** **16 25 05.7 +0.2**
baz=231
ETLH *eS* **Sb** **16 25 20.0 +0.5**
baz=231
WHF Hehuan Shan 1.30 235 *eP* **Pb** **16 25 09.6 +0.5**
baz=234
WHF *eS* **Sb** **16 25 25.5 0.0**
baz=234
IRIF Iriomote-Funau 1.31 115 P **Pn** **16 25 07.7 0.0**
TDCB Techi 1.32 241 *eP* **Pb** **16 25 09.6 +0.4**
baz=241
TDCB *eS* **Sb** **16 25 26.3 +0.4**
baz=241
JKRS Kuro-shima 1.58 114 P **Pn** **16 25 11.2 -0.3**
JIJ Ishigaki jima 1.65 108 P **Pn** **16 25 12.1 -0.3**

VAO ***30*** *16:38:51.7±0.4,2˚.52S×76˚.56W,h21km,mb5.1*
IGQ ***30*** *16:38:53.2±1.6,3˚S±2˚×7˚.7W±˚,h2km,mb5.6,mB5.7, Mjma5.0,Mjma5.0,ML5.5,ML5.5,MLv5.1,Mw(mB)5.2*
ISCJB ***30*** *16:38:54.2±0.2,2˚.53S±0˚.02×77˚.45W±0˚.03,h129km±2km, mb4.5/37,Error ellipse: s-maj=4.8km s-min=2.9km az=148.2*
NEIC ***30*** *16:38:54.1±1.8,2˚.49S±0˚.06×77˚.44W±0˚.10,h108km±2km, mb4.8/116*
IDC ***30*** *16:38:54.7±0.6,2˚.47S×77˚.41W,h115km±5km,mb4.2/23, mb1 4.4/26,mb1mx4.4/35,mbtmp4.6/26,MS3.1/2, Ms1 3.0/2,ms1mx2.6/23,Error ellipse: s-maj=15.0km s-min=9.5km az=52.0*
BJI ***30*** *16:38:57.0±0.0,2˚.40S×77˚.40W,h119km,mB5.0/2*
ISC 30 16:38:54.4±0.5,2˚57S±0˚.04×77˚44W±0˚.05,h114km±4km, n573,σ1ϑ06/575,mb4.7/92,1C,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**1.21**	**241**	P	**Pn**	**16 39 17.0**	**-1.2**
BOSC				S	**Sn**	**16 39 34.2**	**-2.1**
APUY	**Puyo**	**1.23**	**333**	P	**Pn**	**16 39 18.3**	**-0.2**
APUY				S	**Sn**	**16 39 36.7**	**-0.1**
BPAT	**Tungurahua Vol**	**1.45**	**317**	P	**Pn**	**16 39 20.8**	**-0.6**
BMAS	**Trigal station**	**1.48**	**315**	P	**Pn**	**16 39 21.1**	**-0.6**
BULB	**Ulba Tungurahu**	**1.48**	**319**	P	**Pn**	**16 39 20.9**	**-0.8**
BRUN	**Tungurahua Vol**	**1.50**	**319**	P	**Pn**	**16 39 21.3**	**-0.5**
PIS1	**Pisayambo**	**1.77**	**328**	P	**Pn**	**16 39 25.1**	**-0.2**
PISA	**Pisayambo**	**1.77**	**328**	P	**Pn**	**16 39 25.0**	**-0.2**
SAGO	**Sagoatoa**	**1.87**	**319**	P	**Pn**	**16 39 26.5**	**+0.1**
ALAT	**Latacunga**	**2.01**	**324**	P	**Pn**	**16 39 29.2**	**+1.1**
BTAM	**Cotopaxi Volca**	**2.11**	**333**	P	**Pn**	**16 39 30.1**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.13**	**333**	P	**Pn**	**16 39 30.6**	**+0.8**
VC1	**Cotopaxi 1**	**2.14**	**333**	P	**Pn**	**16 39 30.8**	**+0.9**
BNAS	**Cotopaxi Volca**	**2.15**	**331**	P	**Pn**	**16 39 31.0**	**+1.0**
PAST	**Pastocalle**	**2.22**	**327**	P	**Pn**	**16 39 31.6**	**+0.9**
REVS	**Reventador Sur**	**2.45**	**356**	P	**Pn**	**16 39 33.6**	**-0.1**
NINA	**Atacazo Ninahu**	**2.46**	**331**	P	**Pn**	**16 39 34.8**	**+0.8**
LAV4	**Lava4-Reventad**	**2.47**	**356**	P	**Pn**	**16 39 33.9**	**+0.1**
GONZ	**Gonzanam**	**2.56**	**230**	P	**Pn**	**16 39 34.1**	**-1.0**
GGPC	**Guagua Pichinc**	**2.64**	**334**	P	**Pn**	**16 39 37.0**	**+0.6**
TERV	**Terraza Guagua**	**2.65**	**334**	P	**Pn**	**16 39 37.6**	**+1.2**
CAYA	**Cayambe**	**2.68**	**348**	P	**Pn**	**16 39 38.0**	**+1.2**
YANA	**Yana**	**2.68**	**335**	P	**Pn**	**16 39 37.4**	**+0.6**
CASC	**Dorado de Casc**	**2.69**	**2**	P	**Pn**	**16 39 36.6**	**+0.1**
PULU	**Pululahua**	**2.78**	**338**	P	**Pn**	**16 39 38.6**	**+0.6**
ZUMB	**Zumba**	**2.85**	**217**	P	**Pn**	**16 39 37.9**	**-0.7**
IMBA	**Imbabura, San**	**2.93**	**345**	P	**Pn**	**16 39 41.8**	**+1.8**
OTAV	**Otavalo**	**2.96**	**340**	*eP*	**Pn**	**16 39 40.8**	**+0.3**
OTAV	**Otavalo**	**2.96**	**340**	*eP*	**Pn**	**16 39 40.8**	**+0.3**
OTAV	**Otavalo**	**2.96**	**340**	P	**Pn**	**16 39 40.8**	**+0.3**
OTAV	**Otavalo**	**2.96**	**340**	*eP*	**Pn**	**16 39 41.1**	**+0.6**
OTAV	**Otavalo**	**2.96**	**340**	*eP*	**Pn**	**16 39 41.1**	**+0.6**
OTAV	**Otavalo**	**2.96**	**340**		**Pn**	**16 39 40.9**	**+0.3**
YAHU	**Yahuarcocha**	**2.99**	**348**	P	**Pn**	**16 39 42.1**	**+1.4**
CUIC	**Cuicocha-Domo**	**3.00**	**342**	P	**Pn**	**16 39 41.8**	**+0.9**
CUSE	**Cuicocha Este**	**3.01**	**341**	P	**Pn**	**16 39 41.8**	**+0.7**
COTA	**Cotacachi**	**3.02**	**343**	P	**Pn**	**16 39 42.3**	**+1.0**
URCU	**Urcuqui**	**3.10**	**345**	P	**Pn**	**16 39 43.5**	**+1.4**
PAC1	**Pacto, Paraso**	**3.12**	**334**	P	**Pn**	**16 39 42.9**	**+0.6**
GCUF	**Volcan Galeras**	**3.77**	**1**	*eP*	**Pn**	**16 39 53.1**	**+1.9**
GCUF	**Volcan Galeras**	**3.77**	**1**	*eP*	**Pn**	**16 39 53.1**	**+1.9**
PTLC	**Puerto Leguiza**	**3.79**	**44**	*eP*	**Pn**	**16 39 49.1**	**-1.9**
PTLC	**Puerto Leguiza**	**3.79**	**44**	*eP*	**Pn**	**16 39 49.1**	**-1.9**
CRUC	**La Cruz**	**4.14**	**7**	*eP*	**Pn**	**16 39 56.9**	**+0.9**
CRUC	**La Cruz**	**4.14**	**7**	*eP*	**Pn**	**16 39 56.9**	**+0.9**
BBAC	**Balboa, Cauca**	**4.56**	**2**	*eP*	**Pn**	**16 40 03.0**	**+1.4**
BBAC	**Balboa, Cauca**	**4.56**	**2**	*eP*	**Pn**	**16 40 03.0**	**+1.4**
ATAH	**Atahualpa**	**4.64**	**192**	P	**Pn**	**16 40 04.2**	**+1.5**
	253nm,0.3s,baz=17,slow=9.6,SNR=1008						
ATAH				S	**Sn**	**16 40 54.8**	**-1.1**
	61nm,0.3s,baz=190,slow=17,SNR=11						
SOTA	**Rioblanco**	**4.74**	**10**	*eP*	**Pn**	**16 40 05.8**	**+1.5**
SOTA	**Rioblanco**	**4.74**	**10**	*eP*	**Pn**	**16 40 05.8**	**+1.5**
PCON	**Cinco Dias**	**4.97**	**12**	*eP*	**Pn**	**16 40 05.2**	**-2.2**
PCON	**Cinco Dias**	**4.97**	**12**	*eP*	**Pn**	**16 40 05.2**	**-2.2**
POPC	**Popayan, Colom**	**5.13**	**9**	*eP*	**Pn**	**16 40 10.8**	**+1.5**
POPC	**Popayan, Colom**	**5.13**	**9**	*eP*	**Pn**	**16 40 10.8**	**+1.5**
MACC	**Macarena, Meta**	**5.90**	**38**	*eP*	**Pn**	**16 40 20.2**	**+0.7**
MACC	**Macarena, Meta**	**5.90**	**38**	*eP*	**Pn**	**16 40 20.2**	**+0.7**
PRAC	**Prado**	**6.74**	**22**	*eP*	**Pn**	**16 40 30.1**	**-0.8**
PRAC	**Prado**	**6.74**	**22**	*eP*	**Pn**	**16 40 30.1**	**-0.8**
ORTC	**Ortega, Tolima**	**6.80**	**19**	*eP*	Pn	16 40 35.1	+3.5
ORTC	**Ortega, Tolima**	**6.80**	**19**	*eP*	Pn	16 40 35.1	+3.5
GUVC	**San Jose del G**	**6.99**	**43**	*eP*	**Pn**	**16 40 35.9**	**+1.6**
GUVC	**San Jose del G**	**6.99**	**43**	*eP*	**Pn**	**16 40 35.9**	**+1.6**
ROSC	**El Rosal**	**7.99**	**23**	P	**Pn**	**16 40 51.5**	**+3.3**
	3.5nm,0.3s,baz=177,slow=18,SNR=3.5						
ROSC				LR	LR	16 44 22.3	
	comp=Z,132nm,20.7s,baz=284,slow=42						
ROSC	**El Rosal**	**7.99**	**23**		**Pn**	**16 40 51.1**	**+3.0**
GUY2C	**Guyana, Caldas**	**8.01**	**15**	*eP*	**Pn**	**16 40 51.8**	**+3.3**
GUY2C	**Guyana, Caldas**	**8.01**	**15**	*eP*	**Pn**	**16 40 51.8**	**+3.3**
CHIC	**Chingaza**	**8.05**	**27**	*eP*	**Pn**	**16 40 51.7**	**+2.7**
CHIC	**Chingaza**	**8.05**	**27**	*eP*	**Pn**	**16 40 51.7**	**+2.7**
NORC	**Norcasia**	**8.47**	**18**	*eP*	**Pn**	**16 40 57.1**	**+2.7**
NORC	**Norcasia**	**8.47**	**18**	*eP*	**Pn**	**16 40 57.1**	**+2.7**
CBOC	**Ciudad Bolivar**	**8.50**	**10**	*eP*	Pn	16 40 59.2	+4.4
CBOC	**Ciudad Bolivar**	**8.50**	**10**	*eP*	Pn	16 40 59.2	+4.4
HELC	**Santa Helena**	**8.91**	**12**	*eP*	Pn	16 41 04.1	+3.6
HELC	**Santa Helena**	**8.91**	**12**	*eP*	Pn	16 41 04.1	+3.6
NNA	**Nana**	**9.38**	**176**	P	**Pn**	**16 41 06.5**	**-0.1**
	48nm,0.3s,baz=338,slow=12,SNR=77						
NNA				S	Sn	16 42 40.3	-10
	5.4nm,0.3s,baz=330,slow=16,SNR=2.2						
NNA	**Nana**	**9.38**	**176**	P	**Pn**	**16 41 06.1**	**-0.6**
PTBC	**PUERTO BERRIO,**	**9.52**	**18**	*eP*	Pn	16 41 13.2	+4.6
PTBC	**PUERTO BERRIO,**	**9.52**	**18**	*eP*	Pn	16 41 13.2	+4.6
PAMC	**Pamplona, Colo**	**10.92**	**26**	*eP*	**Pn**	**16 41 30.0**	**+2.1**
PAMC	**Pamplona, Colo**	**10.92**	**26**	*eP*	**Pn**	**16 41 30.0**	**+2.1**
SDV	**Santo Domingo**	**13.25**	**31**	P	**Pn**	**16 41 58.4**	**+0.1**
	2.1nm,0.3s,baz=260,slow=8.5,SNR=11						
SDV	**Santo Domingo**	**13.25**	**31**	*eP*	Pn	16 41 53.5	-4.8
SDV	**Santo Domingo**	**13.25**	**31**	*eP*	Pn	16 41 53.5	-4.8
SDV	**Santo Domingo**	**13.25**	**31**		**Pn**	**16 41 58.1**	**-0.2**
SAML	**Samuel**	**15.53**	**115**		**Pn**	**16 42 25.6**	**-1.6**
LPAZ	**La Paz**	**16.43**	**147**	P	**Pn**	**16 42 37.1**	**-1.8**
	0.3nm,0.3s,baz=324,slow=9.8,SNR=5.4						
LPAZ	**La Paz**	**16.43**	**147**	*eP*	**Pn**	**16 42 37.4**	**-1.5**
LPAZ	**La Paz**	**16.43**	**147**	*eP*	**Pn**	**16 42 37.4**	**-1.5**
LPAZ	**La Paz**	**16.43**	**147**	P	**Pn**	**16 42 37.7**	**-1.2**
PCRV	**Puerto La Cruz**	**17.97**	**45**	P	**Pn**	**16 42 56.2**	**-0.8**
	0.8nm,0.3s,baz=147,slow=2.6,SNR=2.4						
PLCV	**Puerto La Cruz**	**17.99**	**45**	P	**Pn**	**16 42 56.2**	**-1.1**
MNMC	**Minye Minye**	**18.16**	**156**	P	**P**	**16 42 59.9**	**+1.5**
MNMC				IAmb	IAmb	16 43 12.3	
	comp=Z,57nm,0.7s						
PB11	**IPOC Station P**	**18.70**	**157**	P	**P**	**16 43 06.2**	**+1.9**
GO01	**Chusmiza**	**18.81**	**155**		**Pn**	**16 43 08.8**	**+1.3**
GO01				IAmb	IAmb	16 43 18.7	
	comp=Z,28nm,0.6s						
PB01	**IPOC Station P**	**19.93**	**158**	P	**P**	**16 43 20.1**	**+2.6**
SIV	**San Ignacio**	**20.92**	**131**	P	**P**	**16 43 29.6**	**+1.5**
	comp=Z,12nm,0.4s,baz=325,slow=12,SNR=42						
LVC	**Limon Verde**	**21.57**	**158**	P	P	16 43 44.7	+9.3
	comp=Z,19nm,0.6s,baz=338,slow=7.2,SNR=19						
LVC				S	Sn	16 47 40.2	-4.3
	comp=Z,3.5nm,0.7s,baz=290,slow=12,SNR=2.5						
TOSP	**Speyside**	**21.73**	**50**	P	**P**	**16 43 37.3**	**+0.6**
TOSP				IAmb	IAmb	16 43 41.5	
	comp=Z,40nm,1.0s						
MPR	**Mayaguez**	**23.01**	**26**	P	**P**	**16 43 49.4**	**-0.2**
MPR				IAmb	IAmb	16 43 53.2	
	comp=Z,30nm,0.9s						
AOPR	**Arecibo Observ**	**23.29**	**26**	P	**P**	**16 43 50.0**	**-2.3**
AOPR				IAmb	IAmb	16 43 53.0	
	comp=Z,41nm,1.1s						
PDPR	**Patillas Dam,**	**23.34**	**28**	P	**P**	**16 43 51.0**	**-1.8**
SJG	**San Juan**	**23.36**	**28**	P	**P**	**16 43 52.1**	**-0.8**
	comp=Z,12nm,0.6s,baz=279,slow=13,SNR=3.9						
SJG	**San Juan**	**23.36**	**28**	IAmb	IAmb	16 43 52.5	
	comp=Z,14nm,0.9s						
MTP	**Monte Pirata**	**23.64**	**29**	P	**P**	**16 43 53.1**	**-2.3**
CBYP	**Canovanas**	**23.64**	**28**	P	**P**	**16 43 53.3**	**-2.3**
GO02	**Mina Guanaco**	**23.70**	**162**	P	**P**	**16 43 58.9**	**+2.6**
GO02				IAmb	IAmb	16 44 15.9	
	comp=Z,42nm,1.1s						
STVI	**Saint Thomas**	**24.15**	**30**	P	**P**	**16 43 58.3**	**-1.7**
STVI				IAmb	IAmb	16 44 09.7	
	comp=Z,28nm,1.0s						
TEIG	**Tepich**	**25.02**	**335**	P	**P**	**16 44 07.8**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=319,slow=8.8,SNR=4.3						
TEIG	**Tepich**	**25.02**	**335**	P	**P**	**16 44 07.9**	**0.0**
MDP	**Montagnes des**	**25.92**	**73**	P	**P**	**16 44 16.1**	**-0.1**
	comp=Z,8.9nm,0.3s,baz=258,slow=9.5,SNR=20						
CMIG	**Matias Romero**	**26.04**	**319**	P	**P**	**16 44 16.3**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=24,slow=5.2,SNR=4.2						
PP1B	**Ponte de Pedra**	**26.71**	**126**	*eP*	**P**	**16 44 24.3**	**+1.0**
PP1B	**Ponte de Pedra**	**26.71**	**126**	*eP*	**P**	**16 44 24.3**	**+1.0**
AQDB	**Aquidauana**	**27.68**	**132**	*eP*	**P**	**16 44 33.5**	**+1.6**
AQDB	**Aquidauana**	**27.68**	**132**	*eP*	**P**	**16 44 33.5**	**+1.6**
ARAG	**Araguaiana, MT**	**28.42**	**119**	*eP*	**P**	**16 44 39.2**	**+0.7**
ARAG	**Araguaiana, MT**	**28.42**	**119**	*eP*	**P**	**16 44 39.2**	**+0.7**
SMTB	**Santa Maria do**	**30.34**	**103**	*eP*	**P**	**16 44 56.2**	**+0.7**
SMTB	**Santa Maria do**	**30.34**	**103**	*eP*	**P**	**16 44 56.2**	**+0.7**
PEXB	**Peixe**	**30.38**	**110**	*eP*	**P**	**16 44 56.4**	**+0.5**
PEXB	**Peixe**	**30.38**	**110**	*eP*	**P**	**16 44 56.4**	**+0.5**
CPUP	**Villa Florida**	**30.51**	**143**	P	**P**	**16 44 56.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=327,slow=11,SNR=4.0						
CPUP				PcP	**PcP**	**16 47 53.6**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=169,slow=5.2,SNR=3.1						
CPUP	**Villa Florida**	**30.51**	**143**	IAmb	IAmb	16 44 58.0	
	comp=Z,3.2nm,0.9s						
ROC1	**El Roble**	**30.84**	**169**	P	**P**	**16 45 01.8**	**+1.7**
TRCB	**Terra Rica**	**31.35**	**132**	*eP*	**P**	**16 45 05.3**	**+0.9**
TRCB	**Terra Rica**	**31.35**	**132**	*eP*	**P**	**16 45 05.3**	**+0.9**
ITRB	**Iturama**	**31.46**	**125**	*eP*	**P**	**16 45 06.7**	**+1.2**
ITRB	**Iturama**	**31.46**	**125**	*eP*	**P**	**16 45 06.7**	**+1.2**
PCMB	**Pacaembu**	**31.72**	**129**	*eP*	**P**	**16 45 08.0**	**+0.3**
PCMB	**Pacaembu**	**31.72**	**129**	*eP*	**P**	**16 45 08.0**	**+0.3**
BDFB	**Brasilia**	**31.76**	**116**	P	**P**	**16 45 08.3**	**+0.1**
	comp=Z,9.7nm,0.8s,baz=285,slow=11,SNR=12						
BDFB				LR	LR	16 58 52.4	
	comp=Z,32nm,18.9s,baz=148,slow=38						
BDFB	**Brasilia**	**31.76**	**116**	P	**P**	**16 45 08.8**	**+0.6**
BDFB				IAmb	IAmb	16 45 10.1	
	comp=Z,16nm,1.1s						
IPMB	**Ipameri, GO**	**32.50**	**120**	*eP*	**P**	**16 45 15.1**	**+0.5**
IPMB	**Ipameri, GO**	**32.50**	**120**	*eP*	**P**	**16 45 15.1**	**+0.5**
BB19B	**Bebedouro**	**33.62**	**125**	*eP*	**P**	**16 45 24.7**	**+0.4**
BB19B	**Bebedouro**	**33.62**	**125**	*eP*	**P**	**16 45 24.7**	**+0.4**
FRTB	**Fartura**	**33.98**	**130**	*eP*	**P**	**16 45 27.6**	**+0.2**
FRTB	**Fartura**	**33.98**	**130**	*eP*	**P**	**16 45 27.6**	**+0.2**
PMNB	**Patos De Minas**	**34.26**	**120**	*eP*	**P**	**16 45 30.8**	**+0.9**
PMNB	**Patos De Minas**	**34.26**	**120**	*eP*	**P**	**16 45 30.8**	**+0.9**
252A	**Lumpkin**	**35.07**	**349**	P	**P**	**16 45 36.0**	**-0.5**
	baz=167						
RCLB	**Rio Claro- Sao**	**35.10**	**127**	*eP*	**P**	**16 45 37.5**	**+0.4**
RCLB	**Rio Claro- Sao**	**35.10**	**127**	*eP*	**P**	**16 45 37.5**	**+0.4**
250A	**Grady**	**35.37**	**347**	P	**P**	**16 45 39.0**	**-0.1**
250A				IAmb	IAmb	16 45 49.4	
	comp=Z,11nm,0.8s						
CSU	**Charleston Sou**	**35.45**	**356**	P	**P**	**16 45 38.5**	**-1.2**
152A	**Waverly Hall**	**35.72**	**349**	P	**P**	**16 45 41.3**	**-0.7**
	baz=167						
SPB	**Sao Paulo**	**35.77**	**128**	*eP*	**P**	**16 45 42.5**	**-0.2**
SPB	**Sao Paulo**	**35.77**	**128**	*eP*	**P**	**16 45 42.5**	**-0.2**
VAO	**Valinhos**	**35.84**	**127**	*eP*	**P**	**16 45 43.2**	**-0.2**
VAO	**Valinhos**	**35.84**	**127**	*eP*	**P**	**16 45 43.2**	**-0.2**
Z55A	**Blythe**	**35.87**	**353**	P	**P**	**16 45 44.3**	**+0.9**
	baz=172						
NBPS	**Pedro II - PI**	**35.97**	**94**	*eP*	**P**	**16 45 44.0**	**-0.7**
NBPS	**Pedro II - PI**	**35.97**	**94**	*eP*	**P**	**16 45 44.0**	**-0.7**
Z53A	**Monticello**	**36.12**	**351**	P	**P**	**16 45 44.9**	**-0.7**
	baz=170						
Z52A	**Williamson**	**36.17**	**350**	P	**P**	**16 45 45.5**	**-0.4**
	baz=168						
GOGA	**Godfrey**	**36.24**	**351**	P	**P**	**16 45 45.0**	**-1.5**
GOGA				IAmb	IAmb	16 45 46.9	
	comp=Z,8.2nm,0.8s						
Z50A	**Ashland**	**36.52**	**348**	P	**P**	**16 45 48.0**	**-0.9**
	baz=166						
Z50A	**Ashland**	**36.52**	**348**	P	**P**	**16 45 48.0**	**-0.9**
Z50A				IAmb	IAmb	16 45 48.9	
	comp=Z,11nm,0.9s						
LRAL	**Lakeview Retre**	**36.55**	**346**	P	**P**	**16 45 48.1**	**-1.0**
	baz=164						
Y55A	**Saluda**	**36.55**	**354**	P	**P**	**16 45 49.0**	**-0.2**
	baz=172						
Y54A	**Tignall**	**36.57**	**353**	P	**P**	**16 45 48.8**	**-0.5**
	baz=171						
Y53A	**Monroe**	**36.69**	**351**	P	**P**	**16 45 49.8**	**-0.5**
	baz=170						
BSCB	**Bom Sucesso**	**36.71**	**122**	*eP*	**P**	**16 45 51.8**	**+0.9**
BSCB	**Bom Sucesso**	**36.71**	**122**	*eP*	**P**	**16 45 51.8**	**+0.9**
JSC	**Jenkinsville**	**36.83**	**355**	P	**P**	**16 45 51.1**	**-0.4**
HODGE	**Hodges**	**36.88**	**353**	P	**P**	**16 45 50.9**	**-1.1**
HODGE				IAmb	IAmb	16 45 51.9	
	comp=Z,9.7nm,0.7s						
Y51A	**Rockmart**	**36.98**	**349**	P	**P**	**16 45 51.9**	**-0.9**
	baz=167						
X55A	**Gracelyn & Ava**	**37.05**	**354**	P	**P**	**16 45 53.2**	**-0.2**
	baz=173,SNR=6.1						
Y49A	**Blount Mountai**	**37.21**	**348**	P	**P**	**16 45 53.6**	**-1.2**
	baz=165						
X54A	**Belton**	**37.21**	**353**	P	**P**	**16 45 54.3**	**-0.4**
	baz=172						
833A	**Chaparral WMA,**	**37.27**	**327**	P	**P**	**16 45 56.1**	**+0.8**
	baz=142						
X53A	**Estanollee**	**37.28**	**352**	P	**P**	**16 45 55.1**	**-0.3**
	baz=170						
NBMO	**Morrinhos-CE**	**37.35**	**92**	*eP*	**P**	**16 45 54.7**	**-1.6**
NBMO	**Morrinhos-CE**	**37.35**	**92**	*eP*	**P**	**16 45 54.7**	**-1.6**
W57A	**Gilead**	**37.60**	**357**	P	**P**	**16 45 58.0**	**0.0**
	baz=176						
W56A	**Indian Trail**	**37.62**	**356**	P	**P**	**16 45 57.6**	**-0.6**
	baz=175						
KMSC	**Kings Mountain**	**37.69**	**355**	P	**P**	**16 45 58.6**	**-0.2**
	baz=174						
BG3	**Lake Jocassee**	**37.72**	**353**	P	**P**	**16 45 58.1**	**-1.0**
BG3				IAmb	IAmb	16 45 59.7	
	comp=Z,12nm,0.8s						
W54A	**Cherokee Point**	**37.72**	**354**	P	**P**	**16 45 59.0**	**-0.1**
	baz=172						
NBPN	**Ponto Novo - B**	**37.85**	**104**	*eP*	**P**	**16 45 59.7**	**-0.8**
NBPN	**Ponto Novo - B**	**37.85**	**104**	*eP*	**P**	**16 45 59.7**	**-0.8**
NBPB	**Pedra_Branca-C**	**37.87**	**96**	*eP*	**P**	**16 46 00.1**	**-0.6**
NBPB	**Pedra_Branca-C**	**37.87**	**96**	*eP*	**P**	**16 46 00.1**	**-0.6**
ESAR	**Angra dos Reis**	**37.89**	**125**	*eP*	**P**	**16 46 01.4**	**+0.8**
ESAR	**Angra dos Reis**	**37.89**	**125**	*eP*	**P**	**16 46 01.4**	**+0.8**
X48A	**Hartselle**	**37.92**	**347**	P	**P**	**16 45 59.4**	**-1.3**
	baz=164						
W53A	**Cullowhee**	**37.92**	**352**	P	**P**	**16 46 00.7**	**-0.2**
	baz=171,SNR=5.3						
W51A	**Cleveland**	**38.15**	**350**	P	**P**	**16 46 02.2**	**-0.5**
	baz=168						
MAN01	**Angra dos Reis**	**38.20**	**125**	*eP*	**P**	**16 46 03.8**	**+0.4**
MAN01	**Angra dos Reis**	**38.20**	**125**	*eP*	**P**	**16 46 03.8**	**+0.4**
V56A	**Mocksville**	**38.28**	**356**	P	**P**	**16 46 04.0**	**+0.2**
	baz=175						
V53A	**Saluda**	**38.37**	**353**	P	**P**	**16 46 04.1**	**-0.4**
	baz=171						
V53A	**Saluda**	**38.37**	**353**	P	**P**	**16 46 04.1**	**-0.4**
V53A				IAmb	IAmb	16 46 04.8	
	comp=Z,14nm,0.8s						
V54A	**Nebo**	**38.38**	**354**	P	**P**	**16 46 04.6**	**0.0**
	baz=173,SNR=5.1						
V55A	**Taylorsville**	**38.38**	**355**	P	**P**	**16 46 04.5**	**-0.1**
	baz=174						
PLCA	**Paso Flores**	**38.50**	**172**	P	**P**	**16 46 06.7**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=5.0,slow=8.4,SNR=5.4						
PLCA				PcP	**PcP**	**16 48 17.4**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=334,slow=5.1,SNR=3.2						
PLCA	**Paso Flores**	**38.50**	**172**	P	**P**	**16 46 07.0**	**+1.4**
V52A	**Sevierville**	**38.64**	**352**	P	**P**	**16 46 06.1**	**-0.6**
	baz=170						
V52A	**Sevierville**	**38.64**	**352**	P	**P**	**16 46 05.2**	**-1.6**
V52A				IAmb	IAmb	16 46 06.8	
	comp=Z,15nm,0.9s						
V50A	**Pikevile**	**38.71**	**350**	P	**P**	**16 46 06.2**	**-1.2**
	baz=168						
V51A	**Loudon**	**38.72**	**351**	P	**P**	**16 46 06.6**	**-0.7**
	baz=169						
NBMA	**Muriti-CE**	**38.81**	**99**	*eP*	**P**	**16 46 08.6**	**+0.1**
NBMA	**Muriti-CE**	**38.81**	**99**	*eP*	**P**	**16 46 08.6**	**+0.1**
U56A	**King**	**38.81**	**356**	P	**P**	**16 46 08.5**	**+0.3**
	baz=175,SNR=6.1						
SJMB	**Sao Joao De Ma**	**38.94**	**117**	*eP*	**P**	**16 46 09.8**	**+0.2**
SJMB	**Sao Joao De Ma**	**38.94**	**117**	*eP*	**P**	**16 46 09.8**	**+0.2**
V49A	**McMinnville**	**38.95**	**349**	P	**P**	**16 46 07.8**	**-1.5**
	baz=166						
U55A	**TA2, Sparta**	**39.02**	**355**	P	**P**	**16 46 09.8**	**-0.1**
	baz=174						
U53A	**Fall Branch**	**39.03**	**353**	P	**P**	**16 46 09.4**	**-0.7**
	baz=172						
U54A	**Nelsons Funny**	**39.10**	**354**	P	**P**	**16 46 10.1**	**-0.6**
	baz=173,SNR=5.8						
V48A	**Smith Brothers**	**39.11**	**348**	P	**P**	**16 46 09.6**	**-1.0**
	baz=165,SNR=12						
JCT	**Junction City**	**39.19**	**329**	P	**P**	**16 46 11.9**	**+0.4**
	baz=143						
BSFB	**Barra de Sao F**	**39.29**	**117**	*eP*	**P**	**16 46 12.8**	**+0.4**
BSFB	**Barra de Sao F**	**39.29**	**117**	*eP*	**P**	**16 46 12.8**	**+0.4**
TZTN	**Tazewell**	**39.33**	**352**	P	**P**	**16 46 11.7**	**-0.8**
	baz=170						
U50A	**Jamestown**	**39.39**	**351**	P	**P**	**16 46 12.2**	**-0.9**
	baz=168						
NBIT	**Itapeh - BA**	**39.43**	**110**	*eP*	**P**	**16 46 13.3**	**-0.4**
NBIT	**Itapeh - BA**	**39.43**	**110**	*eP*	**P**	**16 46 13.3**	**-0.4**
T55A	**Pulaski**	**39.60**	**356**	P	**P**	**16 46 15

comp=Z,21nm,0.8s
P54A Burton 42.06 356 P P 16 46 34.6 -0.3
baz=175
P51A Williamsport 42.16 354 P P 16 46 36.0 +0.3
baz=172
WMOK Wichita Mounta 42.18 333 P P 16 46 35.6 -0.3
baz=147,SNR=6.1
P52A Corning 42.22 355 P P 16 46 35.0 -1.2
baz=173
P50A Jamestown 42.38 353 P P 16 46 36.0 -1.4
baz=170,SNR=9.7
CCM Cathedral Cave 42.39 344 P P 16 46 35.8 -1.8
baz=159
CCM Cathedral Cave 42.39 344 P P 16 46 35.9 -1.7
CCM IAmb IAmb 16 46 37.1
comp=Z,14nm,0.9s
P49A Miami Univ. Ec 42.43 352 P P 16 46 36.0 -1.9
baz=169
P48A Milroy 42.46 351 P P 16 46 36.0 -2.2
baz=168
O52A Adamsville 42.67 355 P P 16 46 38.9 -0.9
baz=174
O51A Pataskala 42.77 354 P P 16 46 39.4 -1.2
baz=172
O50A Cable 42.88 353 P P 16 46 40.1 -1.5
baz=171,SNR=6.4
ACSO Alum Creek Sta 42.90 354 P P 16 46 40.4 -1.2
baz=172
ACSO Alum Creek Sta 42.90 354 P P 16 46 40.0 -1.6
SSPA Standing Stone 43.00 359 P P 16 46 42.5 0.0
baz=179
O49A Covington 43.02 352 P P 16 46 40.5 -2.1
baz=170
N55A Marion Center 43.16 358 P P 16 46 43.9 0.0
baz=178
MNTX Cornudas Mount 43.20 324 P P 16 46 44.2 0.0
baz=137,SNR=11
MNTX Cornudas Mount 43.20 324 P P 16 46 44.2 0.0
O48A Farmland 43.20 351 P P 16 46 42.4 -1.7
baz=169,SNR=8.5
N59A State Game Lan 43.30 2 P P 16 46 45.3 +0.3
baz=182
N54A Moraine State 43.38 357 P P 16 46 45.4 -0.2
baz=176,SNR=5.3
N54A Moraine State 43.38 357 P P 16 46 45.3 -0.3
N50A Nevada 43.45 354 P P 16 46 44.6 -1.4
baz=172
MSTX Muleshoe 43.48 329 P P 16 46 46.8 +0.2
baz=142,SNR=11
AMTX Amarillo 43.65 331 P P 16 46 48.0 +0.1
baz=144
AMTX Amarillo 43.65 331 P P 16 46 46.4 -1.5
M57A Sunshine Farm, 43.70 0 P P 16 46 48.2 +0.2
baz=180
N49A Columbus Grove 43.72 353 P P 16 46 46.5 -1.7
baz=170
N49A Columbus Grove 43.72 353 P P 16 46 46.1 -2.1
N49A IAmb IAmb 16 46 47.0
comp=Z,17nm,0.8s
N48A Decatur 43.77 352 P P 16 46 46.9 -1.8
baz=169
M55A Ridgway 43.84 359 P P 16 46 48.6 -0.7
baz=178
M56A Emporium 43.85 359 P P 16 46 49.2 -0.1
baz=179,SNR=5.2
M56A Emporium 43.85 359 P P 16 46 49.0 -0.3
M56A IAmb IAmb 16 46 50.5
comp=Z,15nm,0.8s
N47A Urbana 43.89 351 P P 16 46 47.5 -2.1
baz=168,SNR=6.5
N47A Urbana 43.89 351 P P 16 46 47.5 -2.1
M54A Oil Creek Stat 43.91 358 P P 16 46 49.4 -0.4
baz=177
M54A Oil Creek Stat 43.91 358 P P 16 46 49.1 -0.7
M59A Waymart 43.94 2 P P 16 46 50.5 +0.5
baz=183
M50A Fremont 44.06 354 P P 16 46 49.7 -1.2
baz=172
M50A Fremont 44.06 354 P P 16 46 48.3 -2.7
M49A Liberty Center 44.24 353 P P 16 46 51.1 -1.3
baz=171
HDIL Hopedale 44.27 347 P P 16 46 50.2 -2.4
baz=163
M47A Cromwell 44.35 351 P P 16 46 51.6 -1.7
baz=168
L57A Andrews Acres 44.36 1 P P 16 46 53.5 +0.1
baz=181
L58A Harry Jones Me 44.43 2 P P 16 46 54.7 +0.8
baz=182
L55A Hinsdale 44.55 359 P P 16 46 54.7 -0.2
baz=178
BINY Binghamton 44.58 2 P P 16 46 55.9 +0.8
baz=182
L54A Sinclairville 44.63 358 P P 16 46 55.1 -0.4
baz=177
KSU1 Kansas State U 45.07 339 P P 16 46 58.1 -1.0
baz=152,SNR=5.4
K57A Scipio Center 45.10 1 P P 16 46 58.9 -0.3
baz=181
K58A Earlville 45.15 2 P P 16 46 59.8 +0.2
baz=182
121A Cookes Peak, D 45.22 323 P P 16 47 02.0 +1.5
baz=135,SNR=7.7
121A Cookes Peak, D 45.22 323 P P 16 47 01.4 +0.9
121A IAmb IAmb 16 47 02.7
comp=Z,13nm,1.1s
319A Douglas 45.35 321 P P 16 47 01.1 -0.5
319A IAmb IAmb 16 47 03.4
comp=Z,18nm,0.8s
K47A Vermontville 45.55 352 P P 16 47 00.8 -1.9
baz=169
K48A Perry 45.56 353 P P 16 47 01.3 -1.6
baz=171,SNR=5.5
BNM Barren Site 45.70 326 P P 16 47 04.7 +0.3
J58A Remsen 45.76 2 P P 16 47 04.4 0.0
baz=183
J59A Piesco 45.90 3 P P 16 47 05.8 +0.2
baz=184
J48A Bridge Port 46.01 354 P P 16 47 05.3 -1.0
baz=171
CBKS Cedar Bluff 46.03 336 P P 16 47 07.1 +0.4
baz=148,SNR=6.3
CBKS Cedar Bluff 46.03 336 P P 16 47 06.8 +0.1
J47A Sunmer 46.08 353 P P 16 47 05.4 -1.5
baz=170,SNR=6.0
J47A Sunmer 46.08 353 P P 16 47 05.8 -1.1
ANMO Albuquerque 46.19 326 P P 16 47 09.1 +0.9
baz=138
ANMO Albuquerque 46.19 326 P P 16 47 08.9 +0.7
ANMO IAmb IAmb 16 47 09.8
comp=Z,19nm,0.8s
I59A Olmsteadville 46.27 4 P P 16 47 08.6 +0.3
baz=185
I51A Listowel 46.27 356 P P 16 47 07.1 -1.3
baz=175
J46A Howard City 46.30 352 P P 16 47 06.8 -1.8
baz=169
I60A Shoreham 46.35 4 P P 16 47 09.8 +0.8
baz=186
T25A Trinidad 46.79 330 P P 16 47 14.0 +1.2
baz=142,SNR=9.5
I47A Gladwin 46.81 353 P P 16 47 11.0 -1.6
baz=170
I46A Reed City 46.85 352 P P 16 47 10.9 -2.1
baz=169
H57A Richville 46.86 2 P P 16 47 12.6 -0.3
baz=183
H58A Gabriels 46.87 3 P P 16 47 13.0 -0.1
baz=184
H55A Tweed 46.91 0 P P 16 47 12.8 -0.5
baz=180
TUC Tucson 46.92 320 P P 16 47 14.5 +0.7
baz=131
TUC Tucson 46.92 320 P P 16 47 14.5 +0.7
TUC IAmb IAmb 16 47 15.1
comp=Z,9.6nm,0.8s
H53A Bobcaygeon 46.94 359 P P 16 47 12.7 -1.0
baz=178
H56A Elgin 46.96 1 P P 16 47 13.7 -0.1
baz=182
LONY Lake Ozonia 47.05 3 P P 16 47 14.4 -0.1
baz=184
H47A Mio 47.35 353 P P 16 47 15.1 -1.7
baz=171
H46A Fife Lake 47.41 352 P P 16 47 15.2 -2.0
baz=169
G57A Newington 47.51 2 P P 16 47 17.9 -0.1
baz=183

G55A Calabogie 47.62 1 P P 16 47 18.3 -0.5
baz=181
SDCO Great Sand Dun 47.80 330 P P 16 47 21.6 +0.8
baz=141,SNR=33
SDCO Great Sand Dun 47.80 330 P P 16 47 21.7 +0.9
SDCO IAmb IAmb 16 47 22.4
comp=Z,19nm,0.9s
G61A St-Isidore-de- 47.93 6 P P 16 47 21.7 +0.5
baz=188
G62A West of Eustis 47.97 7 P P 16 47 22.4 +0.8
baz=189
214A Organ Pipe Nat 48.01 319 P P 16 47 23.0 +0.8
baz=129,SNR=7.0
214A Organ Pipe Nat 48.01 319 P P 16 47 22.9 +0.7
214A IAmb IAmb 16 47 23.9
comp=Z,12nm,0.9s
W18A Petrified Fore 48.18 324 P P 16 47 24.5 +0.9
baz=134,SNR=6.0
W18A Petrified Fore 48.18 324 P P 16 47 24.5 +0.9
ALGO Algonquin Park 48.32 359 P P 16 47 23.0 -1.1
baz=179
S22A 4UR Ranch, Cre 48.48 329 P P 16 47 26.8 +0.8
baz=139,SNR=7.5
X16A Lo Mia Camp, P 48.73 322 P P 16 47 27.6 -0.3
OGNE Ogallala 48.77 335 P P 16 47 28.3 +0.3
baz=146
E54A Lac Daplat, Po 48.79 0 P P 16 47 26.9 -0.9
baz=180
E51A G1948 Merrick 48.93 358 P P 16 47 27.6 -1.2
baz=177,SNR=5.0
E56A St. Veronique 48.95 2 P P 16 47 28.8 -0.2
baz=183
MVCO Mesa Verde 48.97 327 P P 16 47 30.1 +0.4
baz=137,SNR=5.0
ECSD EROS Data Cent 49.21 342 P P 16 47 29.2 -1.9
baz=154
ECSD EROS Data Cent 49.21 342 P P 16 47 28.9 -2.2
D52A ZEK Kipawa Sen 49.34 359 P P 16 47 30.9 -1.2
baz=179
D55A Sainte-Anne-du 49.41 2 P P 16 47 32.1 -0.5
baz=182
WUAZ Wupatki 49.43 323 P P 16 47 34.1 +1.0
baz=133,SNR=20
WUAZ Wupatki 49.43 323 P P 16 47 31.5 -1.6
D53A Lac Vacive, Po 49.44 360 P P 16 47 31.9 -0.9
baz=180
ISCO Idaho Springs 49.45 331 P P 16 47 33.9 +0.5
baz=142,SNR=7.6
ISCO Idaho Springs 49.45 331 P P 16 47 31.9 -1.6
ISCO IAmb IAmb 16 47 34.6
comp=Z,6.3nm,0.8s
D57A Chemin Vers le 49.48 3 P P 16 47 33.0 -0.1
baz=185
D54A Lac Fusel, La 49.52 1 P P 16 47 32.2 -1.1
baz=181
D58A Chemin du LacG 49.62 4 P P 16 47 34.2 +0.1
baz=186
PV02 Paradox Valley 49.83 328 P P 16 47 36.4 +0.2
PV13 Radium Mtn., P 49.84 328 P P 16 47 36.5 +0.2
LATQ La Tuque 49.91 4 P P 16 47 36.5 +0.1
baz=186
LATQ La Tuque 49.91 4 P P 16 47 36.2 -0.1
PV03 Paradox Valley 49.92 328 P P 16 47 37.1 +0.2
PV12 Saucer Basin, 49.95 328 P P 16 47 36.9 -0.2
U15A North Rim 50.59 323 P P 16 47 42.0 0.0
U15A IAmb IAmb 16 47 43.8
comp=Z,6.5nm,0.8s
IKP In-Ko-Pah, Jac 50.65 317 P P 16 47 43.1 +0.8
baz=126
W13A Hualapai Mount 50.70 321 P P 16 47 43.5 +0.7
W13A IAmb IAmb 16 47 44.6
comp=Z,9.7nm,0.8s
IRM Iron Mountain 50.91 319 P P 16 47 45.0 +0.8
baz=128,SNR=6.2
MONP2 Monument Peak 51.00 317 P P 16 47 45.9 +0.8
baz=126
BELC Belle Mtn. Jos 51.38 318 P P 16 47 48.4 +0.6
baz=127
TPFO Pinon Flats 51.45 318 P P 16 47 49.0 +0.7
baz=126
PFO Pinyon Flats O 51.45 318 P P 16 47 49.0 +0.6
baz=126
GMRC Granite Mounta 51.63 319 P P 16 47 50.4 +0.7
baz=128,SNR=8.1
EYMN Ely 51.79 348 P P 16 47 48.5 -1.9
baz=162
EYMN Ely 51.79 348 P P 16 47 48.4 -2.0
EYMN IAmb IAmb 16 47 48.8
comp=Z,9.7nm,0.6s
MURC Murrieta 51.94 317 P P 16 47 52.9 +1.1
baz=126
HEC Hector,Ludlow 52.10 319 P P 16 47 54.4 +1.3
baz=127,SNR=7.6
K22A Casper 52.12 333 P P 16 47 53.4 +0.3
baz=142
MATQ Matagami 52.12 360 P P 16 47 51.1 -1.7
baz=180
TUQ Turquoise Moun 52.20 320 P P 16 47 54.7 +0.8
baz=128
RSSD Black Hills 52.23 336 P P 16 47 54.4 +0.4
baz=146
CHGQ Chibougamau 52.34 3 P P 16 47 53.8 -0.6
baz=184,SNR=6.6
BFSC Mount Baldy Ra 52.63 318 P P 16 47 57.7 +0.7
baz=126
GSC Goldstone, Bar 52.69 319 P P 16 47 58.5 +1.1
baz=127,SNR=9.5
AGMN Agassiz Nation 53.15 345 P P 16 47 58.9 -1.5
baz=157,SNR=10.0
AGMN Agassiz Nation 53.15 345 P P 16 47 58.0 -2.5
EDW2 Edwards Air Fo 53.23 318 P P 16 48 01.8 +0.5
baz=126,SNR=15
TPNV Topopah Spring 53.35 321 P P 16 48 03.2 +0.9
baz=129,SNR=20
TCUT Toone Canyon 53.36 328 P P 16 48 03.2 +0.8
DUG Dugway, Tooele 53.46 327 P P 16 48 03.7 +0.6
baz=134,SNR=9.9
DUG Dugway, Tooele 53.46 327 P P 16 48 03.4 +0.3
DUG IAmb IAmb 16 48 05.5
comp=Z,6.3nm,0.8s
MPMC Manual Prospec 53.59 320 P P 16 48 04.2 0.0
baz=127
PDAR Pinedale Array 53.63 331 P P 16 48 03.9 -0.5
comp=Z,2.6nm,0.6s,baz=128,slow=9.1,SNR=30
PDAR PcP PcP 16 49 08.7 -0.8
comp=Z,1.3nm,0.8s,baz=142,slow=5.4,SNR=4.7
PDAR Pinedale Array 53.63 331 P P 16 48 04.2 -0.2
BW06 Boulder Array 53.63 331 P P 16 48 03.9 -0.6
baz=139,SNR=6.2
BW06 Boulder Array 53.63 331 P P 16 48 03.8 -0.6
HWUT Hardware Ranch 53.79 329 P P 16 48 05.4 -0.1
MDND Maddock 53.82 342 P P 16 48 05.5 +0.1
baz=152
R11A Troy Canyon, C 53.83 323 P P 16 48 06.6 +0.7
baz=130,SNR=8.9
R11A Troy Canyon, C 53.83 323 P P 16 48 05.4 -0.4
ISA Isabella, Lake 54.00 319 P P 16 48 07.8 +0.8
baz=126
SPUT South Promonto 54.05 328 P P 16 48 07.2 -0.2
BGU Big Grassy Mou 54.09 327 P P 16 48 07.3 -0.4
CWC Cottonwood Cre 54.20 320 P P 16 48 09.1 +0.5
baz=127
SMMC Simmler 54.82 317 P P 16 48 13.9 +1.1
baz=124
ULM Lac du Bonnet 54.95 346 P P 16 48 11.6 -1.9
comp=Z,15nm,0.5s,baz=157,slow=8.4,SNR=30
ULM Lac du Bonnet 54.95 346 P P 16 48 11.3 -2.1
FXWY Fox Creek 55.00 331 P P 16 48 13.5 -0.7
FLWY Flagg Ranch 55.17 331 P P 16 48 15.8 +0.3
RLMT Red Lodge 55.29 333 P P 16 48 16.0 -0.3
baz=140,SNR=5.9
RLMT Red Lodge 55.29 333 P P 16 48 14.6 -1.7
RLMT IAmb IAmb 16 48 16.8
comp=Z,7.2nm,0.9s
NV11 Mina Array Sit 55.45 322 P P 16 48 17.1 -0.4
NV11 IAmb IAmb 16 48 18.5
comp=Z,4.5nm,0.6s
NVAR Mina Array Bea 55.54 321 P P 16 48 18.6 +0.3
comp=Z,4.4nm,0.6s,baz=123,slow=7.2,SNR=40
NVAR pP pP 16 48 47.3 +1.5
comp=Z,1.9nm,0.9s,baz=146,slow=6.2,SNR=3.1
NVAR PcP PcP 16 49 17.1 +0.3
comp=Z,1.5nm,0.6s,baz=133,slow=4.1,SNR=4.8
NVAR Mina Array Bea 55.54 321 P P 16 48 18.2 0.0
MDPB Devils Postpil 55.55 320 P P 16 48 19.1 +0.7
MDPB IAmb IAmb 16 48 19.7
comp=Z,7.2nm,0.9s

KVN Kaiserville 55.80 322 P P 16 48 20.4 +0.4
DGMT Dagmar 55.91 339 P P 16 48 21.0 +0.5
baz=147
YHL Hebgen Lake 55.97 332 P P 16 48 22.6 +1.3
BMN Battle Mountai 56.13 324 IAmb IAmb 16 48 23.5
comp=Z,8.5nm,0.8s
WAKR Walker 56.30 321 P P 16 48 24.2 +0.6
WAKR IAmb IAmb 16 48 25.4
comp=Z,6.4nm,0.8s
YERR Yerington 56.46 321 P P 16 48 24.9 +0.2
YERR IAmb IAmb 16 48 25.6
comp=Z,4.6nm,0.6s
BOZ Bozeman (W) 56.74 332 P P 16 48 26.9 +0.4
baz=138,SNR=15
BOZ Bozeman (W) 56.74 332 P P 16 48 27.1 +0.5
BOZ IAmb IAmb 16 48 27.6
comp=Z,13nm,1.0s
PNTR Pine Nut 56.75 321 P P 16 48 27.8 +1.0
BEKR Beckworth 57.68 322 P P 16 48 33.7 +0.4
BEKR IAmb IAmb 16 48 34.7
comp=Z,8.7nm,0.8s
EGMT Eagleton 57.74 335 P P 16 48 33.5 0.0
baz=141,SNR=5.1
SCHQ Schefferville 57.87 7 P P 16 48 33.3 -0.8
comp=Z,6.7nm,0.9s,baz=194,slow=7.3,SNR=3.9
WVOR Wild Horse Val 58.23 325 P P 16 48 37.0 -0.1
WVOR IAmb IAmb 16 48 38.0
comp=Z,14nm,1.1s
PLID Pearl Lake 58.54 329 P P 16 48 37.5 -1.8
MSO Missoula 58.73 331 P P 16 48 40.6 +0.2
baz=136,SNR=12
MSO Missoula 58.73 331 P P 16 48 41.1 +0.7
MSO IAmb IAmb 16 48 41.5
comp=Z,11nm,1.0s
O03E Paynes Creek 58.83 321 P P 16 48 41.0 -0.2
baz=125
JTMT Jette 59.55 332 P P 16 48 46.8 +0.7
JTMT IAmb IAmb 16 48 47.3
comp=Z,11nm,0.9s
M04C Macdoel 59.72 323 P P 16 48 47.5 +0.2
baz=126,SNR=5.5
F10A Beach Ranch, E 59.77 329 P P 16 48 47.9 +0.3
F10A IAmb IAmb 16 48 49.3
comp=Z,5.0nm,0.6s
L04D Klamath Falls 60.25 323 P P 16 48 50.8 -0.2
baz=126
J05D Fort Rock, OR 60.25 324 P P 16 48 51.6 +0.6
baz=127,SNR=7.3
WALA Waterton Lakes 60.34 333 P P 16 48 51.4 0.0
WALA IAmb IAmb 16 48 52.1
comp=Z,9.3nm,0.8s
FFC Flin Flon 60.60 344 P P 16 48 51.4 -1.5
FFC IAmb IAmb 16 48 52.9
comp=Z,7.4nm,0.9s
J04D Umpqua Nationa 60.74 324 P P 16 48 54.4 +0.1
baz=126
I05D Terrebonne, OR 60.95 325 P P 16 48 56.4 +0.8
baz=128
HAWA Hanford 61.25 328 P P 16 48 57.5 0.0
NEW Newport 61.28 331 P P 16 48 57.4 -0.3
baz=133,SNR=8.4
NEW Newport 61.28 331 P P 16 48 57.0 -0.7
NEW IAmb IAmb 16 48 58.3
comp=Z,8.2nm,0.8s
K02D Willamette Mer 61.35 323 P P 16 48 58.4 +0.1
baz=125
G05D Wamic, OR 61.49 326 P P 16 49 00.3 +1.1
baz=128
B08A Colville Reser 62.43 330 P P 16 49 05.0 -0.4
B05A Bryant 63.79 328 P P 16 49 13.8 -0.5
baz=128
MACI Morro de la Ar 65.97 58 P P 16 49 28.6 -0.5
YKA Yellowknife Ar 70.72 343 P P 16 49 56.6 -1.1
comp=Z,5.3nm,0.7s,baz=139,slow=6.3,SNR=41
YKA pP pP 16 50 26.5 +0.1
comp=Z,0.7nm,0.6s,baz=136,slow=6.0,SNR=2.7
YKA Yellowknife Ar 70.72 343 P P 16 49 56.9 -0.9
LIC Lamto 72.82 83 eP P 16 50 11.1 -0.3
comp=Z,62nm,1.0s
TIC Toumodi 72.86 82 eP P 16 50 11.3 -0.3
DBIC Dimbokro 73.03 82 P P 16 50 12.5 0.0
comp=Z,22nm,0.8s,baz=224,slow=4.5,SNR=16
DBIC Dimbokro 73.03 82 P P 16 50 12.6 0.0
KIC Kosan Boka 73.12 83 eP P 16 50 13.0 -0.1
comp=Z,53nm,0.8s
MDT Midelt 77.04 56 P P 16 50 36.2 +0.8
comp=Z,4.1nm,0.8s,baz=292,slow=3.8,SNR=6.0
SUMG Summit 78.96 11 i P P 16 50 45.0 -0.6
comp=Z,46nm,0.9s
SUMG Summit 78.96 11 P P 16 50 45.6 0.0
ESDC Sonseca Array 78.99 49 P P 16 50 45.8 -0.2
comp=Z,4.0nm,0.8s,baz=261,slow=6.0,SNR=18
TOA0 Torodi Ar. Sit 80.01 76 P P 16 50 51.2 -0.7
TORD Torodi Ar. Bea 80.01 76 P P 16 50 51.2 -0.7
comp=Z,10nm,1.1s,baz=290,slow=6.3,SNR=25
TORD pP pP 16 51 21.4 +0.4
comp=Z,1.5nm,0.5s,baz=280,slow=5.1,SNR=3.1
TORD Torodi Ar. Bea 80.01 76 P P 16 50 51.0 -0.9
INK Inuvik 80.45 342 P P 16 50 53.4 +0.2
INK IAmb IAmb 16 50 54.2
comp=Z,17nm,1.0s
EPYK Eagle Plains 80.50 339 P P 16 50 53.7 +0.2
baz=119
EPYK Eagle Plains 80.50 339 P P 16 50 53.8 +0.2
EPYK IAmb IAmb 16 50 54.6
comp=Z,13nm,0.8s
VNA3 Neumayer Olymp 80.54 162 P P 16 50 53.1 -0.6
BCAR Beaver Creek A 80.95 335 P P 16 50 56.2 +0.2
VNA2 Neumayer--Watz 81.13 162 P P 16 50 57.0 +0.2
baz=285,slow=8.9
EGAK Eagle 81.41 337 P P 16 50 58.4 +0.1
DOT Dot Lake 82.12 336 P P 16 51 02.5 +0.3
DOT IAmb IAmb 16 51 03.0
comp=Z,9.1nm,0.8s
SCRK Sand Creek 82.22 336 P P 16 51 02.8 0.0
RIDG Independent Ri 82.48 336 P P 16 51 03.0 -1.0
RIDG IAmb IAmb 16 51 04.5
comp=Z,8.6nm,0.8s
SNAA Sanae 82.75 162 P P 16 51 03.6 -1.8
SNAA x x 16 51 06.1
SNAA Sanae 82.75 162 P P 16 51 06.1 +0.7
HDA Harding Lake 83.58 336 P P 16 51 09.3 -0.3
baz=110
HDA Harding Lake 83.58 336 P P 16 51 08.8 -0.8
ILAR Eielson Array 83.68 336 P P 16 51 09.3 -0.8
comp=Z,3.5nm,0.9s,baz=128,slow=4.0,SNR=32
ILAR pP pP 16 51 38.3 -1.3
comp=Z,1.4nm,0.8s,baz=149,slow=3.9,SNR=4.3
ILAR PP PP 16 54 22.9 -1.5
comp=Z,0.7nm,0.8s,baz=104,slow=5.9,SNR=7.4
ILAR Eielson Array 83.68 336 P P 16 51 09.5 -0.6
BMAR Burnt Mountain 83.76 339 P P 16 51 10.9 +0.4
SKT Skwentna 84.83 333 P P 16 51 15.9 -0.2
SKT IAmb IAmb 16 51 16.6
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 85.17 335 P P 16 51 17.3 -0.4
BPAW IAmb IAmb 16 51 18.1
comp=Z,11nm,0.9s
DAG Danmarks Havn 85.64 11 i P P 16 51 19.0 -0.8
comp=Z,6.5nm,0.7s
DOU Dourbes 86.84 40 ⇑P P 16 51 26.1 -0.1
comp=Z,13nm,1.1s
BCLA Clavier 87.33 39 P P 16 51 28.8 +0.3
QSPA South Pole Qui 87.50 180 P P 16 51 30.3 +1.1
QSPA IAmb IAmb 16 51 31.6
comp=Z,7.5nm,1.1s
WLF Walferdange 87.78 40 P P 16 51 30.4 -0.3
KEST Kesra 88.87 54 P P 16 51 37.6 +1.3
comp=Z,8.7nm,1.0s,baz=239,slow=5.9,SNR=3.3
DAVA Damuels 90.04 43 eP P 16 51 41.5 -0.1
comp=Z,6.0nm,0.8s
FETA Feichten 90.61 43 eP P 16 51 43.8 -0.4
comp=Z,7.6nm,0.9s
RETA Reutte 90.65 43 eP P 16 51 43.9 -0.4
comp=Z,8.1nm,1.3s
MOTA Moosalm 90.88 43 eP P 16 51 44.8 -0.7
comp=Z,10.0nm,1.0s
SQTA Sankt Quirin 90.94 43 eP P 16 51 45.4 -0.3
comp=Z,9.1nm,0.9s
CTI Castel Tesino 91.19 44 P P 16 51 46.2 -0.7
CTI IAmb IAmb 16 51 46.9
comp=Z,6.8nm,0.8s
WATA Walderalm 91.20 43 i P P 16 51 46.4 -0.5
comp=Z,6.4nm,1.0s
WTTA Wattenberg 91.24 43 eP P 16 51 46.9 -0.3
comp=Z,6.5nm,0.8s

NOA NORSAR Array B 91.57 29 P **P 16 51 48.0 -0.2**
comp=Z,1.2nm,0.8s,baz=269,slow=4.7,SNR=3.4
CLL Collm 92.26 39 *e*P **P 16 51 52.0 +0.4**
GERES GERESS Array B 92.67 41 P **P 16 51 53.6 0.0**
comp=Z,1.0nm,0.7s,baz=307,slow=3.4,SNR=7.4
BRG Berggiesshubel 92.85 39 *e*P **P 16 51 55.0 +0.7**
comp=Z,13nm,1.2s
ARSA Arzberg 93.88 43 *i*P **P 16 51 58.7 -0.5**
comp=Z,2.6nm,0.7s
CONA Conrad Observa 94.11 42 *i*PcP **P 16 52 00.2 -0.1**
comp=Z,5.3nm,0.8s
MODS Modra-Piesok 95.04 42 *e*P **P 16 52 04.3 -0.2**
VYHS Vyhne 96.08 42 *e*P **P 16 52 09.5 +0.3**
ARCES ARCESS Array B 96.91 20 P **P 16 52 11.5 -1.0**
comp=Z,3.6nm,0.9s,baz=269,slow=4.9,SNR=7.2
ABKAR Abkulak array 121.02 31 PKiKP 16 57 34.7 +0.9
ABKAR Abkulak array 121.02 31 PKiKP 16 57 34.7 +0.9
GEYT Alibeck 126.24 43 PKP **PKPdf 16 57 44.3 +0.2**
comp=Z,2.1nm,0.6s,baz=238,slow=5.1,SNR=5.4
ZAA0 Zalesovo Array 126.75 13 PKPdf 16 57 44.2 -0.3
ZALV Zalesovo Beam 126.75 13 PKP **PKPdf 16 57 44.4 -0.1**
comp=Z,4.3nm,0.6s,baz=274,slow=3.3,SNR=22
ZALV Zalesovo Beam 126.75 13 PKPdf 16 57 44.6 +0.1
USRK Ussuriysk Ar. 131.05 332 PKP **PKiKP 16 57 54.0 +0.1**
comp=Z,2.6nm,0.8s,baz=46,slow=8.3,SNR=3.8
MAKZ Makanchi 132.43 19 PKPdf 16 57 55.1 -0.5
MKAR Makanchi Array 132.55 19 PKP **PKPdf 16 57 55.4 -0.4**
comp=Z,1.2nm,0.4s,baz=294,slow=2.9,SNR=32
MJAR Matsushiro Arr 132.86 320 PKP PKPdf 16 57 56.1 -0.6
comp=Z,0.7nm,0.6s,baz=86,slow=0.2,SNR=4.4
SONM Songino Array 134.79 356 PKP **PKPdf 16 57 59.6 -0.5**
comp=Z,1.3nm,0.7s,baz=340,slow=0.9,SNR=9.1
KSH Kashi 135.99 30 PKP **PKiKP 16 58 04.0 -0.3**
KSH PP **PP 17 00 48.5 +6.4**
KSH PKS **PKSdf 17 01 38.3 -0.7**
KSH SS SS 17 18 36.8 +4.6
KSH LR LR
comp=Z,120nm,9.1s
KSH LR LR
comp=Z,280nm,14.9s
KSH LR LR
comp=Z,150nm,10.1s
WMQ Urumqi 136.85 16 *e*PKP **PKPdf 16 58 03.5 -0.5**
KSRS Korea Array 138.19 329 PKP **PKPdf 16 58 06.5 0.0**
comp=Z,3.5nm,0.7s,baz=3.3,slow=1.6,SNR=14
ASAR Alice Springs 139.87 228 PKhKP PKPpre 16 58 02.4
comp=Z,0.3nm,0.5s,baz=121,slow=4.0,SNR=9.3
ASAR PKP **PKPdf 16 58 09.2 -1.0**
comp=Z,1.3nm,0.6s,baz=118,slow=2.1,SNR=19
ASAR pPKP pPKPdf 16 58 40.5 -0.6
comp=Z,1.4nm,0.9s,baz=162,slow=3.0,SNR=3.8
ASAR SKPbc **SKPbc 17 01 32.5 -3.3**
comp=Z,1.5nm,1.1s,baz=162,slow=4.8,SNR=4.9
HHC Hu-ho-hao-te 141.03 349 *e*PKP **PKPdf 16 58 13.3 +1.5**
WRA Warramunga Arr 141.62 233 PKhKP PKPpre 16 58 07.5
comp=Z,1.3nm,0.5s,baz=117,slow=3.1,SNR=14
WRA PKP **PKPdf 16 58 13.3 0.0**
comp=Z,1.0nm,0.8s,baz=114,slow=2.1,SNR=4.8
GTA Gaotai 143.24 4 *e*PKP PKPbc 16 58 14.5 +1.4
GTA pPKP pPKPdf 16 58 43.8 -3.1
NJ2 Nanjing 146.91 334 *e*PKPbc **PKPdf 16 58 23.0 +0.9**
XAN Xi'an 148.13 350 PKPbc **PKPbc 16 58 27.3 -0.2**
DANN Dangsing 148.71 33 *e*P **PKPdf 16 58 26.3 +0.7**
comp=Z,80nm,0.8s
KOLN Koldanda 149.07 34 *e*P **PKPdf 16 58 26.1 0.0**
comp=Z,29nm,1.0s
GKN Gorkha 149.46 32 *e*P **PKPdf 16 58 27.0 +0.3**
comp=Z,56nm,0.8s
KKN Kakani 149.97 32 *e*P **PKPdf 16 58 27.7 +0.1**
comp=Z,48nm,0.8s
DMN Daman 150.02 32 *e*P **PKPdf 16 58 27.9 +0.2**
comp=Z,28nm,0.8s
WHN Wuhan 150.02 339 PKPbc **PKPdf 16 58 28.8 +1.6**
GUN Gumba 150.18 31 *e*P **PKPdf 16 58 28.3 +0.2**
comp=Z,74nm,0.9s
PKIN Phulchoki 150.20 32 *e*P **PKPdf 16 58 27.7 -0.3**
comp=Z,33nm,0.9s
PKI Pulchoki 150.21 32 *e*P **PKPdf 16 58 27.8 -0.3**
comp=Z,44nm,0.9s
JIRN Jiri 150.54 31 *e*P **PKPdf 16 58 28.5 -0.2**
comp=Z,50nm,1.1s
RAMN Ramite 151.33 31 *e*P **PKPdf 16 58 29.8 +0.1**
comp=Z,43nm,0.7s
TAPN Taplejung 151.55 29 *e*P **PKPdf 16 58 30.2 +0.1**
comp=Z,31nm,0.6s
CD2 Chengdu 151.79 358 PKPbc **PKPdf 16 58 28.3 -1.7**
ODAN Odare 151.80 30 *e*P **PKPdf 16 58 30.6 +0.2**
comp=Z,39nm,0.8s
CMAR Chiang Mai Arr 163.81 12 PKP **PKPdf 16 58 45.8 +0.7**
comp=Z,0.5nm,0.3s,baz=323,slow=1.3,SNR=8.7
CMAR PKPab **PKPab 16 59 36.7 -0.9**
comp=Z,2.4nm,0.6s,baz=328,slow=5.2,SNR=13

*IDC **30** 17:17:47.2±0.8, 36°.57N×86°.94E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.5/54, mbtmp3.6/13, ML3.0/4, MS3.4/13, Ms1 3.4/13, ms1mx3.2/40, Error ellipse: s-maj=24.6km s-min=14.3km az=45.0*
*BJI **30** 17:17:48.7±0.0, 36°.73N×86°.78E, h6km, mb3.8/9, mB4.2/1, ML4.2/6, Ms3.7/10, Ms7 3.5/8*
*NEIC **30** 17:18:31.3±2.4, 39°.4N±0°.1×84°.4E±0°.1, h18km±6km, mb4.2/7*
ISC 30 17:17:48.8±0.8, 36°.76N±0°.08×86°.84E±0°.07, h10km, n48, σ2^{9}10/38, mb3.6/10, MS3.4/9, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**7.08**	**5**	*e*Pn	**Pn**	**17 19 37.0**	**+4.4**
WMQ				Sn	**Sn**	**17 20 53.5**	**+0.3**
WMQ				smax	smax		
	comp=N,36nm,1.3s						
WMQ				smax	smax		
	comp=E,50nm,0.9s						
WMQ	**Urumqi**	**7.08**	**5**	Pn	Pb	17 19 46.6	-5.4
TARG	**Taragay, Kyrgy**	**8.59**	**308**		**Pn**	**17 19 53.6**	**0.0**
PRZ	**Przheval'sk**	**8.67**	**314**	Pn	**Pn**	**17 19 53.6**	**-0.9**
KDJ	**Kajisay**	**9.20**	**309**		**Pn**	**17 20 02.4**	**+0.6**
NRN	**Naryn**	**9.63**	**302**		**Pn**	**17 20 09.6**	**+1.8**
GTA	**Gaotai**	**10.56**	**72**	*e*P	**Pn**	**17 20 20.3**	**-0.1**
GTA				pP		17 20 24.5	
GTA				sP		17 20 27.3	
GTA				LR	LR		
	comp=N,870nm,13.0s						
GTA				LR	LR		
	comp=E,300nm,14.3s						
GTA				LR	LR		
	comp=Z,320nm,14.3s						
MK31	**Makanchi Array**	**10.59**	**343**		**Pn**	**17 20 20.6**	**0.0**
MKAR	**Makanchi Array**	**10.59**	**343**	Pn	**Pn**	**17 20 21.7**	**+1.1**
	0.4nm,0.3s,baz=147,slow=14,SNR=20						
MKAR				Sn	**Sn**	**17 22 16.7**	**-2.5**
	0.2nm,0.3s,baz=159,slow=25,SNR=2.8						
MKAR				Lg	Lg	17 23 28.2	
	0.1nm,0.3s,baz=156,slow=25,SNR=2.9						
MKAR				LR	LR	17 24 50.5	
	comp=Z,68nm,20.1s,baz=158,slow=39						
MKAR	**Makanchi Array**	**10.59**	**343**		**Pn**	**17 20 20.0**	**-0.6**
MAKZ	**Makanchi**	**10.68**	**342**		**Pn**	**17 20 22.5**	**+0.7**
AAK	**Ala-Archa**	**11.18**	**305**	Pn	**Pn**	**17 20 30.7**	**+1.9**
	0.1nm,0.3s,baz=150,slow=7.6,SNR=8.2						
AAK				Lg	Lg	17 23 47.6	
	0.0nm,0.3s,baz=20,slow=12,SNR=2.8						
AAK				LR	LR	17 25 46.5	
	comp=Z,226nm,19.6s,baz=104,slow=42						
AAK	**Ala-Archa**	**11.18**	**305**		**Pn**	**17 20 29.6**	**+0.8**
ARSB	**Arslanbob**	**11.70**	**297**	Pn	Pn	17 20 40.6	+4.6
GAR	**Garm**	**13.25**	**285**		**P**	**17 21 05.4**	**-1.7**
KK31	**Karatay Array**	**14.03**	**302**	Pn	**Pn**	**17 21 10.0**	**+2.3**
KKAR	**Karatay Array**	**14.03**	**302**		**Pn**	**17 21 09.4**	**+1.7**
KKAR	**Karatay Array**	**14.03**	**302**	Pn	**Pn**	**17 21 10.2**	**+2.5**
CHGR	**Chuyangaron**	**14.13**	**283**		**P**	**17 21 15.6**	**-1.3**
KURBB	**Kurchatov Arra**	**15.09**	**339**	Pn	**Pn**	**17 21 20.6**	**-1.4**
	0.0nm,0.3s,baz=160,slow=12,SNR=4.8						
KURBB				Sn	**Sn**	**17 24 01.9**	**-7.2**
	0.0nm,0.3s,baz=155,slow=22,SNR=3.2						
KURBB				Lg	Lg	17 25 59.0	
	0.0nm,0.3s,baz=170,slow=31,SNR=3.1						
KURK	**Kurchatov**	**15.15**	**340**	Pn	**Pn**	**17 21 19.7**	**-3.1**
ZAA0	**Zalesovo Array**	**17.25**	**356**		**P**	**17 21 52.5**	**+1.3**
ZALV	**Zalesovo Beam**	**17.25**	**356**	P	**Pn**	**17 21 48.2**	**-1.5**
	0.1nm,0.3s,baz=205,slow=13,SNR=3.6						
ZALV				Lg	Lg	17 27 03.1	
	0.2nm,0.3s,baz=169,slow=24,SNR=2.3						
ZALV				LR	LR	17 29 22.3	
	comp=Z,138nm,20.5s,baz=168,slow=40						
ZALV	**Zalesovo Beam**	**17.25**	**356**		**Pn**	**17 21 49.4**	**-0.3**
SONM	**Songino Array**	**18.16**	**46**	P	**Pn**	**17 22 01.4**	**+0.2**
	0.0nm,0.3s,baz=240,slow=12,SNR=6.1						
SONM				Lg	Lg	17 27 24.1	
	0.1nm,0.3s,baz=246,slow=16,SNR=5.2						
TLY	**Talaya**	**19.10**	**33**	LR	LR	17 29 55.0	
	comp=Z,51nm,18.5s,baz=224,slow=38						
BVAR	**Borovoye Array**	**19.93**	**330**	P	**P**	**17 22 21.2**	**+0.5**
	2.9nm,0.8s,baz=80,slow=12,SNR=15						
BVAR				Lg	Lg	17 28 28.5	
	0.4nm,0.5s,baz=123,slow=21,SNR=2.0						
BRVK	**Borovoye**	**20.00**	**330**	Pn	**Pn**	**17 22 22.4**	**-0.7**
BRVK				IAmb	IAmb	17 22 25.3	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.11**	**146**	P	**P**	**17 22 31.4**	**-2.4**
	comp=Z,1.4nm,0.7s,baz=330,slow=11,SNR=10						
CMAR				LR	LR	17 30 35.7	
	comp=Z,22nm,19.8s,baz=205,slow=37						
GEYT	**Alibeck**	**22.83**	**282**	P	**P**	**17 22 54.5**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=104,slow=12,SNR=3.9						
GEYT				LR	LR	17 33 29.7	
	comp=Z,143nm,20.5s,baz=135,slow=41						
GYA0B	**ALIBECK ARRAY**	**22.83**	**282**	P	**P**	17 23 06.0	+14
GYA0B				IAmb	IAmb	17 23 32.8	
	comp=Z,18nm,1.6s						
ABKAR	**Abkulak array**	**23.16**	**311**	P	**P**	**17 22 57.3**	**+2.0**
ABKAR	**Abkulak array**	**23.16**	**311**	P	**P**	**17 22 57.2**	**+1.8**
ABKAR				IAmb	IAmb	17 23 03.7	
	comp=Z,4.8nm,1.1s						
AKTO	**Aktyubinsk**	**24.77**	**313**	P	**P**	**17 23 12.7**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=152,slow=9.4,SNR=3.7						
AKTO				Lg	Lg	17 31 00.0	
	comp=Z,0.7nm,0.6s,baz=348,slow=4.6,SNR=4.9						
AKTO				LR	LR	17 34 10.2	
	comp=Z,163nm,19.8s,baz=119,slow=39						
PALK	**Pallekele**	**29.88**	**192**	LR	LR	17 36 08.3	
	comp=Z,65nm,18.4s,baz=296,slow=37						
KSRS	**Korea Array**	**32.59**	**76**	LR	LR	17 38 00.4	
	comp=Z,26nm,18.0s,baz=280,slow=37						
NRIK	**Noril'sk**	**32.64**	**0**	LR	LR	17 38 54.3	
	comp=Z,165nm,20.5s,baz=164,slow=39						
MJAR	**Matsushiro Arr**	**40.80**	**74**	LR	LR	17 42 04.5	
	comp=Z,42nm,18.9s,baz=270,slow=36						
BR131	**Keskin Array S**	**41.39**	**291**	P	P	17 25 54.6	+19
BR131				IAmb	IAmb	17 25 56.1	
	comp=Z,2.1nm,0.9s						
BRTR	**Keskin Array B**	**41.39**	**291**	P	**P**	**17 25 35.7**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=60,slow=6.8,SNR=3.3						
BRTR	**Keskin Array B**	**41.39**	**291**	P	P	17 25 54.3	+19
CSS	**Mathiatis**	**42.94**	**284**	P	P	17 26 08.5	+21
CSS				IAmb	IAmb	17 26 19.6	
	comp=Z,27nm,1.2s						
PETK	**Petropavlovsk-**	**50.64**	**47**	P	**P**	**17 26 48.5**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=270,slow=11,SNR=3.0						
GERES	**GERESS Array B**	**53.05**	**308**	LR	LR	17 52 21.3	
	comp=Z,65nm,18.8s,baz=83,slow=39						
ILAR	**Eielson Array**	**70.44**	**22**	P	**P**	**17 29 04.7**	**+1.7**
	comp=Z,0.4nm,1.0s,baz=340,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**72.03**	**133**	P	**P**	**17 29 12.0**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=328,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**74.70**	**136**	P	**P**	**17 29 27.1**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=334,slow=5.3,SNR=5.0						
DBIC	**Dimbokro**	**87.42**	**276**	LR	LR	18 14 38.5	
	comp=Z,27nm,19.2s,baz=37,slow=39						

*IDC **30** 17:23:52.9±4.3, 14°.13N×52°.66E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.3/55, mbtmp3.5/7, MS2.7/2, Ms1 2.7/2, ms1mx2.5/31, Error ellipse: s-maj=116.6km s-min=36.8km az=81.0*
*ISCJB **30** 17:23:57.6±1.9, 14°.3N±0°.1×53°.6E±0°.3, h10km, mb3.5/7, Error ellipse: s-maj=46.1km s-min=14.7km az=166.2*
*OMAN **30** 17:23:57.2±7.7, 14°.12N×53°.60E, h134km±151km, ml3.2/3, Error ellipse: s-maj=104.1km s-min=15.1km az=230.0*
ISC 30 17:23:59.4±2.0, 14°.4N±0°.2×53°.6E±0°.3, h10km, n17, σ1^{9}20/11, mb3.5/7, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.18**	**169**	P	Pn	17 24 27.2	-8.7
	SNR=44						
ABTO	**Aybut**	**3.00**	**355**	P	**Pn**	**17 24 47.1**	**0.0**
	SNR=7.0						
RBK	**Rabkut**	**3.20**	**11**	P	**Pn**	**17 24 49.3**	**-0.5**
WHFO	**Wadi Hawf**	**3.56**	**3**	P	**Pn**	**17 24 55.0**	**+0.2**
	SNR=26						
SHAO	**Shalim**	**4.15**	**28**	P	**Pn**	**17 25 01.7**	**-1.2**
	SNR=5.7						
WSAR	**Wadi Sarin**	**10.05**	**28**	LR	LR	17 30 09.7	
	comp=Z,100nm,18.8s,baz=194,slow=35						
ATD	**Arta Tunnel**	**10.83**	**256**	LR	LR	17 28 49.6	
	comp=Z,20nm,20.8s,baz=62,slow=30						
H08N2	**Diego Garcia H**	**26.84**	**139**	T	T	17 57 14.7	
	baz=320,slow=76,SNR=17						
H08N3	**Diego Garcia H**	**26.85**	**139**	T	T	17 57 15.5	
	baz=320,slow=76,SNR=17						
H08N1	**Diego Garcia H**	**26.86**	**139**	T	T	17 57 16.4	
	baz=320,slow=76,SNR=19						
MKAR	**Makanchi Array**	**40.28**	**31**	P	**P**	**17 31 37.2**	**+0.5**
	0.3nm,0.7s,baz=213,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**41.45**	**24**	P	**P**	**17 31 46.1**	**-0.1**
	0.6nm,0.8s,baz=227,slow=8.0,SNR=6.2						
CMAR	**Chiang Mai Arr**	**43.63**	**78**	P	**P**	**17 32 06.9**	**+2.4**
	0.2nm,0.3s,baz=294,slow=8.8,SNR=1.5						
ZALV	**Zalesovo Beam**	**46.49**	**25**	P	**P**	**17 32 26.0**	**-0.7**
	1.7nm,0.6s,baz=229,slow=6.6,SNR=5.7						
SONM	**Songino Array**	**54.79**	**41**	P	**P**	**17 33 29.7**	**0.0**
	0.5nm,0.9s,baz=224,slow=6.0,SNR=2.8						
WRA	**Warramunga Arr**	**86.39**	**112**	P	**P**	**17 36 41.7**	**-0.9**
	0.3nm,0.5s,baz=295,slow=3.8,SNR=2.0						
ASAR	**Alice Springs**	**87.07**	**115**	P	**P**	**17 36 44.5**	**-1.5**
	0.3nm,0.8s,baz=287,slow=4.7,SNR=2.2						

*NEIC **30** 17:36:51.4±1.9, 21°.8S±0°.1×178°.1W±0°.2, h340km±10km, mb4.5/11*
*ISCJB **30** 17:36:53.1±0.4, 21°.81S±0°.07×178°.01W±0°.07, h373km, mb3.5/7, Error ellipse: s-maj=11.6km s-min=6.8km az=140.5*
*IDC **30** 17:36:53.2±2.9, 21°.74S×178°.12W, h347km±29km, mb3.2/7, mb1 3.6/9, mb1mx3.3/37, mbtmp4.1/9, Error ellipse: s-maj=41.3km s-min=14.9km az=152.0*
ISC 30 17:36:54.5±0.5, 21°.9S±0°.1×177°.91W±0°.09, h373km, n34, σ1^{9}40/36, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.98**	**71**	Pn	**Pn**	**17 38 47.9**	**-0.9**
NIUE				S	**S**	**17 40 20.3**	**-2.0**
AFI	**Afiamalu**	**9.82**	**37**	P	**Pn**	**17 39 08.8**	**-1.8**
	3.7nm,0.3s,baz=232,slow=3.5,SNR=4.0						
AFI				S	S	17 40 50.4	-12
	1.5nm,0.3s,baz=37,slow=20,SNR=2.6						
AFI	**Afiamalu**	**9.82**	**37**	P	**Pn**	**17 39 08.3**	**-2.3**
AFI				S	S	17 40 50.9	-11
URZ	**Urewera**	**16.90**	**194**	P	**P**	**17 40 28.3**	**-0.1**
	1.4nm,0.3s,baz=329,slow=2.3,SNR=9.9						
URZ				S	**S**	**17 43 24.5**	**-1.2**
	0.2nm,0.3s,baz=127,slow=20,SNR=3.2						
URZ	**Urewera**	**16.90**	**194**	P	**P**	**17 40 27.8**	**-0.7**
URZ				IAmb	IAmb	17 40 39.8	
	comp=Z,56nm,1.4s						
BKZ	**Black Stump Fm**	**17.91**	**194**	P	**P**	**17 40 37.5**	**-1.7**
BKZ				IAmb	IAmb	17 40 49.1	
	comp=Z,61nm,1.8s						
QRZ	**Quartz Range**	**20.57**	**201**	P	**P**	**17 41 05.1**	**-0.9**
TUWZ	**Tuwarina**	**20.69**	**198**	P	**P**	**17 41 05.4**	**-1.6**
LTZ	**Lake Taylor**	**22.42**	**199**	P	**P**	**17 41 22.2**	**-0.5**
LTZ				IAmb	IAmb	17 41 31.9	
	comp=Z,84nm,1.6s						
CTA	**Charters Tower**	**33.47**	**266**	P	**P**	**17 43 00.2**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=91,slow=8.8,SNR=7.2						
TOO	**Toolangi**	**35.18**	**235**	P	**P**	**17 43 14.5**	**-0.3**
TOO				IAmb	IAmb	17 43 18.9	
	comp=Z,24nm,1.6s						
AS31	**Alice Springs**	**44.31**	**258**	P	**P**	**17 44 27.9**	**-1.4**
ASAR	**Alice Springs**	**44.31**	**258**	P	**P**	**17 44 28.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=98,slow=8.2,SNR=21						
ASAR	**Alice Springs**	**44.31**	**258**	P	**P**	**17 44 28.3**	**-1.0**
WB0	**Warramunga Arr**	**44.50**	**264**	P	**P**	**17 44 29.4**	**-1.5**
WB0				IAmb	IAmb	17 44 41.5	
	comp=Z,13nm,1.8s						
WRAB	**Tennant Creek**	**44.51**	**263**	P	**P**	**17 44 29.2**	**-1.7**
WRA	**Warramunga Arr**	**44.51**	**263**	P	**P**	**17 44 30.1**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=97,slow=8.2,SNR=6.3						
WRA	**Warramunga Arr**	**44.51**	**263**	P	**P**	**17 44 29.0**	**-2.0**
QSPA	**South Pole Qui**	**68.22**	**180**	P	**P**	**17 47 17.3**	**+1.6**
QSPA				IAmb	IAmb	17 47 29.3	
	comp=Z,8.8nm,1.7s						
KKM	**Kota Kinabalu**	**70.19**	**285**	P	**P**	**17 47 29.3**	**+0.7**
NVAR	**Mina Array Bea**	**81.95**	**43**	P	**P**	**17 48 36.4**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=222,slow=9.9,SNR=7.6						
NVAR	**Mina Array Bea**	**81.95**	**43**	P	**P**	**17 48 35.3**	**+1.4**
TXAR	**Lajitas Array**	**87.71**	**57**	P	**P**	**17 49 05.2**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=216,slow=6.5,SNR=7.4						
TXAR	**Lajitas Array**	**87.71**	**57**	P	**P**	**17 49 03.0**	**+0.7**
ILAR	**Eielson Array**	**89.61**	**13**	P	**P**	**17 49 10.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=217,slow=5.2,SNR=5.5						
ILAR	**Eielson Array**	**89.61**	**13**	P	**P**	**17 49 09.5**	**-0.7**
PDAR	**Pinedale Array**	**89.89**	**43**	P	**P**	**17 49 13.8**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=217,slow=2.8,SNR=6.5						
PDAR	**Pinedale Array**	**89.89**	**43**	P	**P**	**17 49 13.1**	**+0.8**
BTK	**Batken**	**119.73**	**305**		**PKiKP**	**17 55 03.5**	**+2.4**
ARCES	**ARCESS Array B**	**130.27**	**349**	PKP	**PKiKP**	**17 55 21.4**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=11,slow=1.8,SNR=3.8						
AKASG	**Malin Array Be**	**144.23**	**330**	PKP	**PKPab**	**17 55 44.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=34,slow=4.0,SNR=4.1						
BRTR	**Keskin Array B**	**147.80**	**311**	PKPbc	**PKPbc**	**17 55 56.4**	**0.0**
	comp=Z,0.7nm,1.0s,baz=35,slow=5.3,SNR=3.0						
GERES	**GERESS Array B**	**151.52**	**344**	PKPbc	**PKiKP**	**17 56 05.8**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=345,slow=2.2,SNR=2.7						
DOU	**Dourbes**	**151.75**	**357**	PKPdf	**PKPdf**	**17 55 58.1**	**-0.5**
DOU				pPKP	pPKPdf	17 57 18.1	-12

IDC 30 17:55:19.2±9.4, 4°.33S×152°.54E, h126km±62km, mb2.6/2, mb1 2.9/3, mb1mx2.8/32, mbtmp3.2/3, Error ellipse: s-maj=162.9km s-min=60.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.35**	**226**	P	Pn	17 57 02.9	-0.9
	baz=42,slow=12						
PMG				S	Sn	17 58 27.5	+1.7
	0.5nm,0.3s,baz=138,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**23.57**	**227**	P	P	18 00 19.0	+0.6
	0.2nm,0.5s,baz=52,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**26.32**	**221**	P	P	18 00 43.2	-0.2
	0.1nm,0.4s,baz=56,slow=9.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**149.92**	**289**	PKPbc	PKPbc	18 14 55.3	-0.4
	0.4nm,0.7s,baz=99,slow=1.9,SNR=1.8						

*IDC **30** 18:00:11.8±1.0, 2°.13S×139°.19E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/34, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=23.1km s-min=13.6km az=22.0*
*ISCJB **30** 18:00:13.9±0.5, 2°.18S±0°.06×139°.18E±0°.08, h29km, mb3.6/5, Error ellipse: s-maj=11.2km s-min=7.9km az=7.0*
*NEIC **30** 18:00:16.9±1.9, 2°.2S±0°.1×139°.25E±0°.07, h42km±11km, mb4.0/16*
ISC 30 18:00:15.6±0.7, 2°.17S±0°.09×139°.21E±0°.10, h29km, n26, σ1^{9}24/26, mb3.7/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.53**	**103**	Pn	**Pn**	**18 00 41.0**	**-0.1**
	28nm,0.3s,baz=244,slow=9.2,SNR=199						
JAY				Lg	Lg	18 01 01.4	
	70nm,0.3s,baz=207,slow=7.2,SNR=41						
FAKI	**Fak Fak**	**6.99**	**264**	Pn	**Pn**	**18 01 57.9**	**+1.7**
SIJI	**Sorong**	**8.05**	**279**	Pn	**Pn**	**18 02 10.4**	**-0.2**
	0.1nm,0.3s,baz=180,slow=4.3,SNR=2.0						
SOEI	**Soe**	**16.65**	**242**		**P**	**18 04 10.8**	**+1.4**
SOEI				IAmb	IAmb	18 04 36.5	
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**16.91**	**217**	P	**P**	**18 04 11.5**	**-0.6**
KNRA				IAmb	IAmb	18 04 24.0	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**18.11**	**195**		**P**	**18 04 25.4**	**+0.1**
WB0				IAmb	IAmb	18 04 45.4	
	comp=Z,10nm,1.5s						
WR0	**Warramunga Arr**	**18.26**	**194**		**Pn**	**18 04 27.2**	**+0.2**
WRAB	**Tennant Creek**	**18.28**	**195**		**P**	**18 04 27.1**	**0.0**
WRAB				IAmb	IAmb	18 04 55.0	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**18.29**	**195**	P	**P**	**18 04 26.5**	**-0.8**
WB2				IAmb	IAmb	18 04 37.7	
	comp=Z,7.5nm,1.0s						
WRA	**Warramunga Arr**	**18.29**	**195**	P	**Pn**	**18 04 27.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=21,slow=12,SNR=13						
WRA	**Warramunga Arr**	**18.29**	**195**	P	**Pn**	**18 04 27.9**	**+0.5**
KAPI	**Kappang**	**19.62**	**261**	P	**P**	**18 04 39.1**	**-2.9**
KAPI				IAmb	IAmb	18 04 40.1	
	comp=Z,12nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.68**	**219**	P	**P**	**18 04 54.5**	**+1.1**
FITZ				IAmb	IAmb	18 05 15.7	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**21.97**	**193**	P	**P**	**18 05 05.4**	**-1.9**
ASAR	**Alice Springs**	**21.98**	**193**	P	**P**	**18 05 07.5**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=27,slow=12,SNR=36						
ASAR	**Alice Springs**	**21.98**	**193**	P	**P**	**18 05 05.6**	**-1.8**
STKA	**Stephens Creek**

BNS Bensberg 0.62 350 *e*Pg **Pg 18 10 09.9 -0.1**
HOBG Hohbusch 0.63 360⇓*e*Pg **Pg 18 10 10.0 -0.2**
BLI Bleialf 0.69 260⇑*i*Pg **Pg 18 10 11.0 -0.2**
BLI SmS 18 10 23.9
KLL Kalltalsperre 0.72 294⇑*e*Pg **Pg 18 10 11.7 -0.2**
TNS Taunus Mts 0.72 100 ⇑Pg **Pg 18 10 10.7 -1.1**
TNS Sg **Sg 18 10 19.0 -2.4**
TNS SmS 18 10 22.4
GSH Grosshau 0.72 302 Pg **Pg 18 10 12.3 +0.4**
GSH *e*Sg **Sg 18 10 22.4 +0.9**
142nm,0.1s
PLH Pulheim 0.73 333 Pg **Pg 18 10 12.1 0.0**
PLH PmP 18 10 12.7
PLH *e*Sg **Sg 18 10 22.0 +0.3**
PLH SmS 18 10 24.6
RIVT Riveris 0.74 210 ⇑Pg **Pb 18 10 11.1 -1.1**
RIVT P* **Pg 18 10 11.4 -0.9**
RIVT Sg **Sb 18 10 21.9 -0.2**
DREG Dreilaegerbach 0.77 294⇑*e*Pg **Pb 18 10 12.8 +0.1**
BTNL Ternell 0.81 287 ⇓P **Pb 18 10 13.4 +0.1**
BTNL S **Sb 18 10 25.0 +1.0**
comp=E,82nm,0.3s
LKLB Kalborn 0.83 253 ⇑P **Pb 18 10 13.2 -0.5**
LKLB S **Sb 18 10 23.5 -1.1**
comp=N,61nm,0.2s
IMS Imsbach 0.84 154 ⇓Pg **Pb 18 10 13.4 -0.5**
IMS PmP 18 10 14.6
LVIA Vianden 0.84 241 ⇑P **Pb 18 10 13.2 -0.8**
LVIA S **Sb 18 10 26.3 +1.4**
comp=N,82nm,0.2s
BHOU Houvegnez 0.86 271 ⇑P **Pb 18 10 13.8 -0.3**
BHOU S **Sb 18 10 25.1 -0.2**
comp=N,164nm,0.2s
ENTS Ennepetalsperr 0.89 3 *e*Pg **Pb 18 10 14.6 -0.2**
ENTS *e*Sg **Sb 18 10 26.0 -0.3**
MEM Membach 0.89 287 P **Pb 18 10 14.9 +0.2**
MEM Membach 0.89 287 ⇓P **Pb 18 10 14.9 +0.2**
MEM S **Sb 18 10 26.2 -0.2**
comp=N,89nm,0.3s
MEM Membach 0.89 287 ⇓Pg **Pb 18 10 14.9 +0.2**
MEM PmP 18 10 15.8
MEM SmS 18 10 27.8
HGN Heimansgroeve 0.99 295 *e*Sg **Sb 18 10 30.8 +1.7**
WBB Darmstadt 0.99 120 Sg **Sb 18 10 29.0 -0.2**
DUP Duppenweiler 1.01 201 Pg **Pb 18 10 16.9 +0.2**
LAUG Laupendahl 1.03 346 *e*Pg **Pb 18 10 17.2 +0.1**
WLF Walferdange 1.03 229 ⇑P **Pb 18 10 16.0 -1.1**
WLF S **Sb 18 10 31.6 +1.3**
comp=N,57nm,0.2s
WLF Walferdange 1.03 229 P* **Pb 18 10 16.0 -1.1**
WLF *e*Pg **Pn 18 10 16.6 -0.8**
SORT Sorpetalsperre 1.07 22 P* **Pb 18 10 17.4 -0.5**
SORT PmP 18 10 18.6
SORT S* **Sb 18 10 31.3 -0.3**
comp=N,145nm,0.2s
BUG Bochum--Univer 1.09 358 *e*Pg **Pb 18 10 17.9 -0.2**
BUG *e*Sg **Sb 18 10 32.6 +0.5**
VKB Valkenburg 1.12 298 *e*Sg **Sb 18 10 34.2 +1.4**
HKB Herkenbosch 1.12 319 P **Pb 18 10 18.8 +0.1**
HKB S **Sb 18 10 34.5 +1.6**
KTD Kalmit 1.14 155 Pg **Pn 18 10 19.6 +0.6**
KTD Sg **Sb 18 10 34.5 +0.9**
KTD Kalmit 1.14 155 *e*Pg **Pn 18 10 18.7 -0.2**
KTD Sn **Sb 18 10 33.4 -0.1**
BLCH La Chartreuse 1.15 285 ⇑P **Pn 18 10 19.7 +0.7**
BLCH S **Sb 18 10 35.0 +1.2**
comp=E,26nm,0.3s
BEBN Eben Emael 1.15 293 P **Pn 18 10 19.2 +0.1**
BEBN S **Sb 18 10 33.9 +0.1**
BSTI Sart Tilman 1.16 282 ⇓P **Pn 18 10 19.4 +0.2**
WBA Furth 1.18 126 Pg **Pn 18 10 19.6 +0.1**
TOD Tromm 1.20 128 Pg **Pn 18 10 19.8 0.0**
SWS Schriesheim-Wi 1.24 134 Pg **Pn 18 10 20.6 +0.3**
WBG Bieber 1.30 97 Pg **Pn 18 10 21.6 +0.5**
BCLA Clavier 1.31 274 ⇓P **Pn 18 10 21.9 +0.7**
BCLA S **Sn 18 10 38.3 +0.1**
comp=N,26nm,0.2s
PEB Petersbachel 1.31 169 Pg **Pn 18 10 22.1 +0.9**
LANF Langenberg 1.41 167 Pg **Pn 18 10 24.0 +1.5**
LANF Langenberg 1.41 167 Pg **Pn 18 10 24.1 +1.5**
SUBF Surbourg 1.48 167 Pg **Pn 18 10 25.3 +1.8**
BRET Bretten 1.60 146 Sg **Sb 18 10 49.6 +2.9**
GIVF Givet 1.64 262 *e*Pn **Pn 18 10 25.9 +0.2**
GIVF Givet 1.64 262 *e*P **Pn 18 10 27.5 +1.8**
GIVF Givet 1.64 262 *e*Pg **Pb 18 10 28.9 +1.5**
GIVF *e*Sn **Sn 18 10 45.2 -1.2**
GIVF *e*Sg **Sb 18 10 50.8 +3.0**
comp=N,102nm,0.5s
BMRD Maredsous 1.65 269 P **Pn 18 10 26.9 +1.0**
BMRD S **Sn 18 10 47.7 +1.0**
comp=N,22nm,0.2s
WTSB Winterswijk 1.65 348 *e*Sg **Sb 18 10 49.0 +0.9**
UBBA Unterbreizbach 1.76 74 *e*Pg **Pn 18 10 28.8 +1.5**
UBBA *e*Sg **Sn 18 10 51.4 +2.1**
SIND Sindeldorf 1.78 124 Sn **Sn 18 10 47.5 -2.3**
DOU Dourbes 1.78 263 Pn **Pn 18 10 28.8 +1.1**
DOU Sn **Sn 18 10 52.6 +2.7**
DOU Dourbes 1.78 263 P **Pn 18 10 28.0 +0.3**
DOU S **Sn 18 10 51.8 +1.8**
comp=N,28nm,0.2s
LBG Lerchenberg 1.94 150 Pn **Pn 18 10 30.3 +0.4**
LBG Pg **Pg 18 10 36.0 +1.1**
OPP Oppenau 1.94 163 Pn **Pn 18 10 30.4 +0.5**
OPP Oppenau 1.94 163 Pn **Pn 18 10 30.4 +0.5**
CDF Champ du Feu 1.94 181 *e*Pn **Pn 18 10 29.1 -0.9**
CDF Champ du Feu 1.94 181 *e*P **Pn 18 10 31.0 +1.0**
CDF Champ du Feu 1.94 181 *e*Pg **Pn 18 10 33.2 +3.2**
CDF *e*Sn **Sn 18 10 52.0 -2.1**
comp=N,21nm,0.3s
CDF *e*Sg **Sb 18 10 59.0 +2.3**
comp=N,49nm,0.3s
SNF Seneffe 1.96 276 P **Pn 18 10 31.2 +1.0**
BRQR Ronquire 2.01 278 P **Pn 18 10 32.5 +1.7**
BAIF Baives 2.04 263 *e*Pn **Pn 18 10 31.7 +0.5**
BAIF Baives 2.04 263 *e*Pg **Pb 18 10 36.1 +1.9**
BAIF *e*Sn **Sn 18 10 55.2 -1.0**
BAIF *e*Sg **Sb 18 11 02.9 +3.7**
comp=N,38nm,0.3s
GTTG Gvttingen 2.04 53 *e*Pg **Pn 18 10 33.9 +2.6**
PAGF Fort de Pagny 2.09 211 *e*Pn **Pn 18 10 31.6 -0.3**
baz=32
PAGF Fort de Pagny 2.09 211 *e*Pg **Pb 18 10 36.3 +1.2**
baz=32
PAGF *e*Sg **Sb 18 11 04.4 +3.7**
comp=N,15nm,0.2s,baz=33
BSKQ Steenkerk 2.10 279 P **Pn 18 10 33.8 +1.6**
BFO Black Forest 2.12 162 Pn **Pn 18 10 32.6 +0.1**
ECH Echery 2.14 183 Pn **Pn 18 10 32.5 -0.2**
ECH Echery 2.14 183 Pn **Pn 18 10 31.9 -0.8**
ECH *e*Pg **Pb 18 10 37.2 +1.2**
MEZF Maizieres J'vi 2.38 220 *e*Pn **Pn 18 10 35.8 -0.2**
baz=35
MEZF Maizieres J'vi 2.38 220 *e*Pg **Pb 18 10 41.9 +1.8**
baz=36
MEZF *e*Sn **Sn 18 11 03.4 -1.3**
comp=N,6.8nm,0.3s
MEZF *e*Sg **Sb 18 11 13.4 +4.2**
comp=N,18nm,0.4s,baz=43
CLZ Clausthal 2.42 51 *e*Pg **Pb 18 10 41.3 +0.4**
KIZ Kirchzarten 2.43 171 Pg **Pb 18 10 42.6 +1.6**
HAU Haudompre 2.44 196 *e*Pn **Pn 18 10 36.0 -0.8**
HAU Haudompre 2.44 196 *e*Pg **Pb 18 10 42.2 +1.1**
HAU *e*Sg **Sb 18 11 14.4 +3.5**
comp=N,16nm,0.2s
MOF Molkenrain 2.51 183 Pg **Pb 18 10 44.7 +2.4**
FELD Feldberg im Sc 2.52 170 Pg **Pb 18 10 44.6 +2.1**
FELD Sg **Sb 18 11 16.1 +2.8**
CHRS Christianenhau 2.53 59 *e*Pg **Pb 18 10 43.5 +0.8**
HINF Hinteralfeld 2.56 187 *e*Pn **Pn 18 10 37.8 -0.7**
HINF Hinteralfeld 2.56 187 *e*Pg **Pb 18 10 44.7 +1.5**
HINF *e*Sn **Sn 18 11 07.4 -1.8**
HINF *e*Sg **Sb 18 11 18.1 +3.7**
comp=N,15nm,0.2s
GUT Gutenstein 2.56 152 Pn **Pn 18 10 38.7 +0.2**
SFTF Sexfontaines 2.63 216 *e*Pn **Pn 18 10 38.9 -0.4**
baz=38
SFTF Sexfontaines 2.63 216 *e*Pg **Pb 18 10 45.8 +1.5**
baz=36
SFTF *e*Sn **Sn 18 11 09.6 -1.2**
baz=42
SFTF *e*Sg **Sb 18 11 21.4 +5.1**
comp=N,12nm,0.2s

ENDD Endenburg 2.65 174 Pg **Pb 18 10 47.2 +2.4**
SLE Schleitheim 2.70 163 Pn **Pn 18 10 40.1 -0.2**
NKC Novy Kostel 3.28 90 *e*PG **Pb 18 10 56.6 +1.2**
NKC *e*SG **Sb 18 11 38.1 +3.1**
comp=N,12nm,0.8s
DAVA Damuels 3.50 150 *e*Pn **Pn 18 10 53.4 +1.9**
comp=N,0.8nm,0.2s
DAVA *e*Sn **Sn 18 11 34.3 +1.8**
comp=N,1.2nm,0.2s
RETA Reutte 3.65 141 *e*Pn **Pn 18 10 55.6 +2.1**
comp=N,0.2nm,0.1s
RETA *e*Sn **Sn 18 11 37.6 +1.5**
comp=N,0.3nm,0.1s
CLL Collm 3.71 73 *e*Pg **Pb 18 11 06.0 +3.2**
CLL *e*Sg **Sb 18 11 53.0 +5.5**
comp=Z,6.0nm,0.6s
CABF La Chapelle 3.84 193 *e*Pn **Pn 18 10 55.1 -1.0**
CABF La Chapelle 3.84 193 *e*P **Pn 18 10 58.8 +2.7**
CABF La Chapelle 3.84 193 *e*Pg **Pb 18 11 08.7 +3.7**
CABF *e*Sn **Sn 18 11 37.9 -2.9**
CABF *e*Sg **Sb 18 11 58.1 +6.9**
comp=Z,2.1nm,0.3s
LOR Lormes 3.85 218 *e*Pn **Pn 18 10 54.7 -1.5**
baz=39
LOR Lormes 3.85 218 *e*Pg Pb 18 11 09.5 +4.3
baz=38
LOR *e*Sn **Sn 18 11 38.5 -2.5**
comp=Z,5.3nm,0.3s
LOR *e*Sg **Sg 18 11 59.1 -2.2**
comp=Z,6.9nm,0.3s,baz=40
MOTA Moosalm 3.90 139 *i* Pn **Pn 18 10 58.0 +1.0**
comp=Z,0.4nm,0.2s
MOTA *i* Sn **Sn 18 11 42.6 0.0**
comp=Z,0.9nm,0.2s
WATA Walderalm 4.12 136 *e*Pn **Pn 18 11 01.1 +1.2**
comp=Z,0.4nm,0.1s
WATA *i* Sn **Sn 18 11 48.0 +0.3**
comp=Z,1.1nm,0.2s
SSF Saint Saulge 4.16 219 *e*Pn **Pn 18 10 59.0 -1.4**
SSF Saint Saulge 4.16 219 *e*Pg **Pb 18 11 14.5 +4.1**
SSF *e*Sn **Sn 18 11 46.3 -2.3**
SSF *e*Sg **Sg 18 12 08.7 -2.5**
comp=Z,7.2nm,0.4s
WTTA Wattenberg 4.20 136 *i* Pn **Pn 18 11 02.8 +1.8**
comp=Z,0.2nm,0.1s
KHC Kasperske Hory 4.22 104 *e*PN **Pn 18 11 01.7 +0.3**
KHC *e*x x 18 11 06.5
KHC *e*SN **Sn 18 11 47.5 -2.8**
KHC *e*SG **Sb 18 12 07.3 +5.0**
BRG Berggiesshubel 4.24 80 PG Pb 18 11 15.8 +4.1
BRG SG **Sg 18 12 10.6 -3.1**
comp=Z,1.6nm,0.4s
HYF Humbligny 4.38 227 *e*Pn **Pn 18 11 03.0 -0.4**
HYF Humbligny 4.38 227 *e*Pg **Pb 18 11 17.9 +3.7**
HYF *e*Sg **Sg 18 12 16.5 -1.7**
SMF Signal de Mont 4.38 213 *e*Pn **Pn 18 11 03.1 -0.3**
SMF Signal de Mont 4.38 213 *e*Pg **Pb 18 11 18.0 +3.8**
SMF *e*Sn **Sn 18 11 50.8 -3.3**
SMF *e*Sg **Sg 18 12 15.6 -2.7**
comp=Z,3.1nm,0.3s
AVF Avril sur Loir 4.44 218 *e*Pn **Pn 18 11 03.7 -0.6**
AVF Avril sur Loir 4.44 218 *e*Pg Pb 18 11 19.8 +4.6
AVF *e*Sn **Sn 18 11 52.8 -2.7**
AVF *e*Sg **Sg 18 12 17.6 -2.6**
comp=Z,1.9nm,0.3s
PRU Pruhonice 4.64 92 *e*SG **Sg 18 12 21.9 -4.8**
BGF Bois d'Agland 4.83 220 *e*Pn **Pn 18 11 09.0 -0.7**
BGF Bois d'Agland 4.83 220 *e*Pg Pb 18 11 27.3 +5.4
BGF *e*Sn **Sn 18 12 02.2 -3.0**
BGF *e*Sg **Sg 18 12 29.9 -2.9**
comp=Z,7.4nm,0.4s
LPL La Plagne 4.86 185 *e*Pn **Pn 18 11 08.9 -1.3**
LPL La Plagne 4.86 185 *e*Pg Pb 18 11 27.4 +4.9
LPG La Plagne 4.87 185 *e*Pn **Pn 18 11 09.2 -1.3**
LPG La Plagne 4.87 185 *e*Pg Pb 18 11 28.4 +5.6
LDF La Druitiere 5.17 253 *e*Pn **Pn 18 11 14.1 -0.2**
LDF La Druitiere 5.17 253 *e*Pg Pb 18 11 33.7 +6.0
LDF *e*Sn **Sn 18 12 10.7 -2.9**
LDF *e*Sg **Sg 18 12 40.9 -2.8**
comp=Z,3.7nm,0.3s
TCF Toulx Ste Croi 5.32 222 *e*Pn **Pn 18 11 15.1 -1.2**
TCF Toulx Ste Croi 5.32 222 *e*Pg Pb 18 11 36.0 +5.9
TCF *e*Sn **Sn 18 12 12.9 -4.2**
TCF *e*Sg **Sg 18 12 44.9 -3.3**
comp=Z,0.8nm,0.2s
FLN La Foliniere 5.33 256 *e*Pn **Pn 18 11 16.3 -0.2**
FLN La Foliniere 5.33 256 *e*Pg Pb 18 11 36.9 +6.5
baz=76
FLN *e*Sg **Sg 18 12 44.7 -4.1**
comp=Z,3.8nm,0.3s,baz=76
ORIF Oris-en-Rattie 5.53 191 *e*Pn **Pn 18 11 18.6 -0.7**
ORIF Oris-en-Rattie 5.53 191 *e*Pg Pb 18 11 39.7 +5.9
ORIF *e*Sg **Sg 18 12 51.7 -3.3**
comp=Z,0.4nm,0.3s
GRR Gorron 5.71 253 *e*Pn **Pn 18 11 21.0 -0.6**
GRR Gorron 5.71 253 *e*Pg Pb 18 11 42.8 +6.0
GRR *e*Sn **Sn 18 12 23.5 -3.2**
comp=Z,2.1nm,0.2s
GRR *e*Sg **Sg 18 12 57.4 -3.3**
comp=Z,2.4nm,0.3s
MFF Saint Martin d 6.23 236 *e*Pn **Pn 18 11 28.0 -0.9**
MFF *e*Sn **Sn 18 12 35.1 -4.6**
comp=Z,1.4nm,0.3s
MFF *e*Sg **Sg 18 13 13.3 -4.3**
comp=Z,1.9nm,0.4s
SGMF Saint Gilles 6.80 256 *e*Pn **Pn 18 11 36.6 -0.1**
SGMF *e*Sn **Sn 18 12 49.1 -4.7**
comp=Z,0.9nm,0.2s
ROSF Rostrenen 7.22 258 *e*Pn **Pn 18 11 42.8 +0.3**
ROSF *e*Sn **Sn 18 12 58.7 -5.3**
comp=Z,1.2nm,0.3s
QUIF Quistinic 7.31 255 *e*Pn **Pn 18 11 43.7 0.0**
QUIF Quistinic 7.31 255 *e*Pg Pg 18 12 12.8 -4.8
QUIF *e*Sn **Sn 18 13 01.7 -4.5**
comp=Z,0.5nm,0.3s

ISCJB ***30*** *18:10:07.7±0.8,38°.39N±0°.04×142°.06E±0°.09,h67km±5km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=6.2km az=16.0*
IDC ***30*** *18:10:07.5±2.9,38°.42N×142°.41E,h62km±23km, mb3.3/5, mb1 3.4/9,mb1mx3.2/53,mbtmp3.6/9,ML3.0/4,MS2.6/2, Ms1 2.6/2,ms1mx2.2/24, Error ellipse: s-maj=29.9km s-min=18.1km az=107.0*
JMA ***30*** *18:10:09.5±0.1,38°.43N×141°.97E,h62km±1km,M3.8*
JMA Felt I J1.
ISC 30 18:10:08.4±1.5,38°.41N±0°.05×142°.1E±0°.1,h56km±10km, n29,σ1ϑ78/36,mb3.6/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.49**	**259**	P	**Pn**	**18 10 20.8**	**+0.9**
JIKH				S	**Sn**	**18 10 28.7**	**+0.5**
JIO	**Ouri**	**0.58**	**275**	P	**Pn**	**18 10 21.5**	**+0.6**
JIO				S	**Sn**	**18 10 30.0**	**+0.1**
JKMT	**Kesennumamotoy**	**0.62**	**310**	P	**Pn**	**18 10 22.2**	**+0.8**
JKMT				S	**Sn**	**18 10 31.1**	**+0.2**
OFUJ	**Ofunato**	**0.74**	**335**	P	**Pn**	**18 10 23.8**	**+0.8**
OFUJ				S	**Sn**	**18 10 34.1**	**+0.5**
JMK	**Ichinoseki**	**0.86**	**309**	P	**Pn**	**18 10 25.2**	**+0.7**
JMK				S	**Sn**	**18 10 36.5**	**+0.2**
JOU	**Okura**	**1.11**	**268**	P	**Pn**	**18 10 28.1**	**+0.3**
JOU				S	**Sn**	**18 10 41.7**	**-0.5**
JMM	**Marumori**	**1.15**	**242**	P	**Pn**	**18 10 28.3**	**0.0**
JMM				S	**Sn**	**18 10 42.3**	**-0.7**
JOM	**Ohasama**	**1.23**	**330**	P	**Pn**	**18 10 30.1**	**+0.8**
JFK	**Kawauchi**	**1.41**	**223**	P	**Pn**	**18 10 32.2**	**+0.4**
JFK				S	**Sn**	**18 10 48.6**	**-0.8**
JYK	**Kaneyama**	**1.44**	**291**	P	**Pn**	**18 10 32.7**	**+0.5**
JYK				S	**Sn**	**18 10 49.9**	**-0.1**
JRG	**Rokugo**	**1.50**	**312**	P	**Pn**	**18 10 33.4**	**+0.4**
JYS	**Shiratake**	**1.59**	**264**	P	**Pn**	**18 10 35.0**	**+0.7**
JYS				S	**Sn**	**18 10 53.9**	**+0.1**
JFT	**Otama**	**1.64**	**238**	P	**Pn**	**18 10 35.7**	**+0.8**
JFT				S	**Sn**	**18 10 54.8**	**-0.1**
MJAR	**Matsushiro Arr**	**3.60**	**240**	P	**Pn**	**18 11 03.3**	**+1.6**
	0.1nm,0.3s,baz=56,slow=13,SNR=14						
MJAR				S	**Sn**	**18 11 48.3**	**+5.3**
	0.1nm,0.3s,baz=72,slow=28,SNR=2.6						
JHJ	**Hachijo jima 2**	**5.60**	**200**	P	**Pn**	**18 11 28.4**	**-0.7**
	3.7nm,0.3s,baz=58,slow=18,SNR=2.2						
JHJ				S	**Sn**	**18 12 27.2**	**-4.8**
	13nm,0.3s,baz=75,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**5.72**	**4**	P	**Pn**	**18 11 30.3**	**-0.3**
	1.5nm,0.3s,baz=201,slow=17,SNR=18						
ASAJ				S	**Sn**	**18 12 29.0**	**-5.9**
	0.5nm,0.3s,baz=126,slow=19,SNR=3.2						
ASAJ				LR	LR	18 13 33.7	
	comp=Z,43nm,18.2s,baz=326,slow=36						
USRK	**Ussuriysk Ar.**	**9.54**	**311**	P	**Pn**	**18 12 23.9**	**+0.9**
	baz=118,slow=14,SNR=6.3						
SONM	**Songino Array**	**27.49**	**302**	P	**P**	**18 15 50.6**	**+1.1**
	0.2nm,0.4s,baz=115,slow=8.9,SNR=2.8						
H11N2	**WAKE ISLAND Hy 28.43**	**124**		T	T	18 46 19.0	
	baz=316,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy 28.44**	**124**		T	T	18 46 21.2	
	baz=316,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy 28.45**	**124**		T	T	18 46 18.1	
	baz=316,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy 29.20**	**126**		T	T	18 47 15.8	
	baz=318,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy 29.20**	**126**		T	T	18 47 13.5	
	baz=318,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy 29.21**	**126**		T	T	18 47 14.7	
	baz=318,slow=76,SNR=27						
TLY	**Talaya**	**29.85**	**309**	LR	LR	18 27 40.0	
	comp=Z,16nm,20.7s,baz=154,slow=35						
ZALV	**Zalesovo Beam**	**41.39**	**311**	P	**P**	**18 17 48.3**	**-0.7**
	0.5nm,0.3s,baz=83,slow=6.9,SNR=3.2						
MKAR	**Makanchi Array**	**43.85**	**301**	P	**P**	**18 18 09.4**	**+0.4**
	0.3nm,0.7s,baz=89,slow=9.0,SNR=3.8						
KURBB	**Kurchatov Arra**	**45.59**	**307**	P	**P**	**18 18 21.4**	**-1.3**
	1.0nm,0.4s,baz=82,slow=8.3,SNR=4.5						
WRA	**Warramunga Arr**	**58.49**	**189**	P	**P**	**18 19 57.9**	**-1.0**
	0.5nm,1.0s,baz=6.3,slow=7.0,SNR=3.4						

IDC 30 18:15:13.6±1.8,28°.03N×102°.02E,h0km,mb3.3/2, mb1 3.5/2,mb1mx3.0/46,mbtmp3.3/2,Error ellipse: s-maj=53.5km s-min=27.3km az=77.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.94**	**197**	Pg	Pg	18 18 16.1	
	0.2nm,0.3s,baz=5.8,slow=19,SNR=3.3						
CMAR				Lg	Lg	18 20 29.3	
	0.1nm,0.3s,baz=37,slow=29,SNR=4.1						
MKAR	**Makanchi Array**	**24.30**	**326**	P	P	18 20 32.9	+0.1
	0.4nm,0.6s,baz=134,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**57.02**	**143**	P	P	18 25 01.2	-0.2
	0.3nm,0.6s,baz=331,slow=8.0,SNR=5.5						

IDC 30 18:30:19.1±3.1,44°.79N×149°.74E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.4/30,mbtmp3.8/5,ML2.9/1,Error ellipse: s-maj=87.9km s-min=35.0km az=173.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.16**	**265**	Pn	Pn	18 31 38.4	+0.8
	0.4nm,0.3s,baz=18,slow=20,SNR=3.4						
H11N2	**WAKE ISLAND Hy 28.77**	**145**		T	T	19 07 21.9	
	baz=334,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy 28.78**	**145**		T	T	19 07 22.9	
	baz=334,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy 28.79**	**145**		T	T	19 07 23.7	
	baz=334,slow=76,SNR=6.7						
H11S1	**WAKE ISLAND Hy 29.79**	**146**		T	T	19 08 36.2	
	baz=334,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy 29.80**	**146**		T	T	19 08 36.2	
	baz=334,slow=76,SNR=8.5						
H11S2	**WAKE ISLAND Hy 29.81**	**146**		T	T	19 08 40.0	
	baz=334,slow=76,SNR=5.8						
MKAR	**Makanchi Array**	**45.75**	**298**	P	P	18 38 41.2	-0.9
	0.4nm,0.6s,baz=75,slow=8.0,SNR=5.1						
FINES	**FINESS Array B**	**64.78**	**334**	P	P	18 40 59.2	+0.2
	3.5nm,0.8s,baz=38,slow=9.6,SNR=11						
NB2	**NORSAR Subarra**	**69.29**	**340**	P	P	18 41 28.4	+0.7
	comp=Z,0.4nm,0.4s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.29**	**340**	P	P	18 41 27.9	+0.2
	comp=Z,1.0nm,0.5s,baz=30,slow=6.5,SNR=5.4						
TXAR	**Lajitas Array**	**80.53**	**58**	P	P	18 42 33.3	0.0
	comp=Z,0.2nm,0.5s,baz=291,slow=3.8,SNR=3.2						

JMA 30 18:35:31.7±0.1,36°.88N×141°.14E,h49km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**309**	P	Pn	18 35 41.1	-0.2
ONAJ				S	Sn	18 35 47.6	-0.6
JFFD	**Fukushimafurud**	**0.51**	**295**	P	Pn	18 35 43.0	0.0
JFFD				S	Sn	18 35 50.5	-0.6
JFK	**Kawauchi**	**0.53**	**336**	P	Pn	18 35 43.1	-0.2
JHO	**Hitachi**	**0.53**	**240**	P	Pn	18 35 43.1	-0.2
JHO				S	Sn	18 35 51.2	-0.4
JFT	**Otama**	**0.90**	**315**	P	Pn	18 35 49.0	+0.9
JFT				S	Sn	18 36 01.0	+0.8
JSB	**Shiboa**	**0.98**	**276**	P	Pn	18 35 50.0	+0.8
JSB				S	Sn	18 36 03.1	+1.1
JYT	**Yasato**	**1.00**	**230**	P	Pn	18 35 49.3	-0.1
JYT				S	Sn	18 36 02.4	0.0
JMM	**Marumori**	**1.02**	**344**	P	Pn	18 35 49.5	-0.2
JMM				S	Sn	18 36 02.7	-0.3
JFY	**Yanaizu**	**1.26**	**295**	P	Pn	18 35 53.5	+0.5
JFY				S	Sn	18 36 09.5	+0.7
JAG	**Ashikaga**	**1.43**	**252**	P	Pn	18 35 55.6	+0.4
JAG				S	Sn	18 36 12.5	-0.4
MAT	**Matsushiro**	**2.38**	**263**	P	Pn	18 36 10.1	+1.8
MAT				S	Sn	18 36 39.1	+2.8

ISCJB ***30*** *18:48:10.8±1.0,15°.89N±0°.03×119°.51E±0°.06,h28km±5km, mb3.7/5,MS3.3/5,Error ellipse: s-maj=10.0km s-min=5.4km az=0.3*
MAN ***30*** *18:48:11.3,15°.92N×119°.62E,h19km,MS3.5*
IDC ***30*** *18:48:16.1±2.7,16°.07N×120°.51E,h106km±23km,mb3.5/6, mb1 3.7/6,mb1mx3.2/41,mbtmp3.9/6,MS3.0/4,Ms1 3.1/4, ms1mx2.7/41,Error ellipse: s-maj=55.3km s-min=16.4km az=57.0*
ISC 30 18:48:12.6±1.2,15°.93N±0°.03×119°.63E±0°.07,h30km±8km, n26,σ1ϑ94/30,mb3.6/6,MS3.4/5,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.31**	**119**	*e*P	**Pb**	**18 48 19.6**	**-0.6**
SCZP				*e*S	**Sb**	**18 48 25.4**	**+0.1**
BOLP	**Bolinao**	**0.53**	**31**	*e*P	**Pb**	**18 48 23.3**	**-0.2**
BOLP				*e*S	**Sb**	**18 48 31.4**	**+0.5**
SMPP	**San Manuel, Pa**	**1.03**	**77**	*e*P	**Pn**	**18 48 29.3**	**-1.7**
SMPP				*e*S	**Sb**	**18 48 42.5**	**-2.6**
BALP	**Baler**	**1.88**	**95**	*e*P	**Pn**	**18 48 41.9**	**-0.7**
BALP				*e*S	**Sn**	**18 49 07.5**	**+2.2**
ABRA	**Dolores**	**2.00**	**31**	*e*P	**Pn**	**18 48 44.6**	**+0.3**
ABRA				*e*S	**Sn**	**18 49 10.8**	**+2.5**
SIPP	**Brgy, Tapao**	**2.14**	**22**⇑	*i*P	**Pb**	**18 48 49.4**	**-1.2**
SIPP				*i* S	Sb	18 49 29.1	+12
TGY	**Tagaytay City**	**2.21**	**145**	P	**Pn**	**18 48 48.2**	**+0.9**
	292nm,0.3s,baz=35,slow=1.7,SNR=21						
TGY				S	**Sn**	**18 49 14.9**	**+1.4**
	231nm,0.3s,baz=295,slow=21,SNR=4.9						
TGY				LR	LR	18 49 43.4	
	comp=Z,259nm,21.5s,baz=100,slow=44						
TGY	**Tagaytay City**	**2.21**	**145**⇑	*e*P	**Pn**	**18 48 48.1**	**+0.8**
TGY				*e*S	**Sn**	**18 49 15.8**	**+2.2**
LUBP	**Lubang**	**2.26**	**165**	*e*P	**Pn**	**18 48 47.8**	**0.0**
LUBP				*e*S	**Sn**	**18 49 13.8**	**-0.9**
CAUP	**Cauayan**	**2.33**	**64**	*e*P	**Pn**	**18 48 50.4**	**+1.5**
CAUP				*e*S	**Sb**	**18 49 21.4**	**-0.9**
APYP	**Conner**	**2.46**	**38**	*e*P	**Pn**	**18 48 51.0**	**+0.3**
APYP				*e*S	**Sn**	**18 49 21.7**	**+1.9**
POLP	**Polilio Island**	**2.52**	**118**	*e*P	**Pn**	**18 48 51.9**	**+0.4**
POLP				*e*S	**Sn**	**18 49 22.4**	**+1.1**
LQP	**Lukban**	**2.58**	**134**	*e*P	**Pn**	**18 48 53.3**	**+0.8

SONM Songino Array 33.64 344 pP pP 18 55 00.7 +1.8
0.3nm,0.5s,baz=163,slow=8.8,SNR=3.1
WRA Warramunga Arr 38.47 157 P P 18 55 25.6 -6.4
0.8nm,0.8s,baz=342,slow=8.3,SNR=8.8
ASAR Alice Springs 41.75 160 P P 18 55 54.2 -5.0
0.6nm,0.4s,baz=337,slow=6.7,SNR=18
MKAR Makanchi Array 43.64 323 P **P 18 56 14.0 -0.4**
0.3nm,0.7s,baz=117,slow=10,SNR=4.0
AAK Ala-Archa 46.78 314 LR LR 19 18 06.5
comp=Z,42nm,19.5s,baz=57,slow=38
DZM Mont Dzumac 59.41 128 *e*LR LR 18 57 51.6
comp=Z,72nm,23.6s
ARCES ARCESS Array B 76.65 339 P P 18 59 55.0 -5.1
2.6nm,0.8s,baz=94,slow=5.1,SNR=3.6
FINES FINESS Array B 77.85 331 P **P 19 00 03.8 -3.2**
4.4nm,1.1s,baz=72,slow=4.5,SNR=7.7
PPT2 Papeete2 95.43 107 *e*LR LR 19 01 30.6
comp=Z,51nm,27.0s

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*IDC **30** 19:20:14.9±0.4, 1.°06S×26.°85E, h0km, mb5.1/42, mb1 5.1/44, mb1mx5.1/54, mbtmp5.1/44, ML4.8/2, MS5.1/39, Ms1 5.1/39, ms1mx5.0/45, Error ellipse: s-maj=12.5km s-min=9.0km az=104.0*

*MOS **30** 19:20:14.6±1.2, 1.°10S×26.°88E, h11km, mb5.5/45, MS5.1/60, Error ellipse: s-maj=7.3km s-min=3.7km az=84.3*

*ISCJB **30** 19:20:15.3±0.1, 1.°05S±0.°02×26.°97E±0.°02, h10km, mb5.4/180, MS5.1/107, Error ellipse: s-maj=3.4km s-min=3.1km az=166.6*

*BJI **30** 19:20:15.0±0.0, 1.°20S×26.°80E, h10km, mb5.2/52, mB5.2/43, Ms5.4/48, Ms7 5.1/48*

*NEIC **30** 19:20:15.2±1.4, 1.°06S±0.°08×26.°85E±0.°07, h5km±3km, mb5.4/124, Ms_20 5.4/370, Mwb5.3, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr~0.20; Mθθ1.03; Mφφ~0.83; Mrθ~0.21; Mθφ~0.51; Mφr~0.55; Fault plane solution: Mo1.23000×1017 NP1: φs325.60000°, δ67.75000°, λ~18.74000°. NP2:φs62.92000°, δ72.70000°, λ~156.64000°. Principal axes: T 1.1664, Plg3.0000°, Azm193.0000°; N 0.1175, Plg61.0000°, Azm97.0000°; P -1.2838, Plg29.0000°, Azm285.0000°;*

*GCMT **30** 19:20:17.2±0.1, 0.°92S±0.°01×26.°79E±0.°01, h14km, MW5.5/129, Moment Tensor Solution. s115,c186; s129,c260; Duration: 1s3 Moment tensor: Scale 1017 Nm; Mrr~0.28±.02; Mθθ1.77±.02; Mφφ~1.49±.02; Mrθ0.09±.04; Mθφ~0.98±.02; Mφr~0.21±.04; Best double couple: Mo1.91800×1017 NP1:φs330.00000°, δ88.00000°, λ~7.00000°. NP2:φs61.00000°, δ83.00000°, λ~178.00000°. Principal axes: T 2.0520, Plg4.0000°, Azm16.0000°; N -0.2640, Plg82.0000°, Azm133.0000°; P -1.7840, Plg7.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 19:20:19, 0.°91S×26.°80E, h15km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr~0.12; Mθθ1.69; Mφφ~1.57; Mrθ~0.02; Mθφ~1.07; Mφr0.08; Fault plane solution: Mo1.95000×1017 NP1:φs242.00000°, δ88.00000°, λ~179.00000°. NP2:φs152.00000°, δ89.00000°, λ~2.00000°. Principal axes: T 2.0111, Plg1.0000°, Azm197.0000°; N -0.1187, Plg87.0000°, Azm314.0000°; P -1.8924, Plg2.0000°, Azm107.0000°;*

*LSZ **30** 19:20:24.9±2.5, 2.°20S×26.°26E, h10km*

ISC 30 19:20:17.0±0.2, 1.°04S±0.°04×26.°91E±0.°04, h10km, n887, σ1.9°88/766, mb5.3/220, MS5.3/272, 56C-10D, Zaire

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**3.85**	**84**	P		**Pn**		**19 21 15.8**	**-0.8**
MBAR								19 22 00.1	
MBAR	**Mbarara**	**3.85**	**84**	Lg		Lg		19 22 15.1	
MBAR	**Mbarara**	**3.85**	**84**	Pn		**Pn**		**19 21 16.1**	**-0.4**
379nm,0.3s,baz=257,slow=8.4,SNR=313									
MBAR				Sn		**Sn**		**19 21 58.3**	**-3.7**
1μm,0.3s,baz=184,slow=20,SNR=9.3									
MBAR				Lg		Lg		19 22 15.0	
4μm,0.3s,baz=197,slow=22,SNR=20									
MBAR				LR		LR		19 22 37.6	
comp=Z,23μm,20.7s,baz=259,slow=36									
MBAR	**Mbarara**	**3.85**	**84**	Lg		Lg		19 22 15.1	
MBAR	**Mbarara**	**3.85**	**84**			**Pn**		**19 21 15.8**	**-0.8**
MBAR				Sn		**Sn**		**19 22 00.1**	**-2.0**
I32KE	**NAIROBI INFRAS**	**9.92**	**91**	Lg		Lg		19 25 27.7	
baz=232,slow=26,SNR=3.6									
I32KE				*i*				20 07 10.0	
baz=274,slow=316,SNR=0.8									
KMBO	**Kilima Mbogo**	**10.34**	**91**	*i* P		**Pn**		**19 22 47.8**	**+2.0**
KMBO				*i* S		Sn		19 25 33.2	+51
KMBO	**Kilima Mbogo**	**10.34**	**91**	*i* P		**Pn**		**19 22 45.2**	**-0.6**
SNR=143									
KMBO	**Kilima Mbogo**	**10.34**	**91**	P		**Pn**		**19 22 45.2**	**-0.6**
KMBO								19 24 41.7	
KMBO	**Kilima Mbogo**	**10.34**	**91**	*e*P		Pn		19 22 55.1	+9.3
KMBO				*e*S		Sn		19 25 05.5	+23
KMBO	**Kilima Mbogo**	**10.34**	**91**	Pn		**Pn**		**19 22 45.0**	**-0.8**
1.3nm,0.3s,baz=260,slow=14,SNR=68									
KMBO				Lg		Lg		19 25 36.0	
13nm,0.3s,baz=259,slow=18,SNR=6.2									
KMBO	**Kilima Mbogo**	**10.34**	**91**	*i* P		**Pn**		**19 22 47.8**	**+2.0**
KMBO				*i* S		Sn		19 25 33.2	+51
KMBO	**Kilima Mbogo**	**10.34**	**91**	*e*P		Pn		19 22 55.1	+9.3
KMBO				*e*S		Sn		19 25 05.5	+23
KMBO	**Kilima Mbogo**	**10.34**	**91**	Pn		**Pn**		**19 22 45.2**	**-0.6**
KMBO				Sn		**Sn**		**19 24 41.7**	**-0.3**
vwzmw	**Thunduwike**	**12.05**	**147**	*i* P		**Pn**		**19 23 07.5**	**-1.6**
vwzmw				S		Sn		19 26 22.3	+59
LSZ	**Lusaka**	**14.20**	**175**	P		Pn		19 23 33.6	-4.9
LSZ	**Lusaka**	**14.20**	**175**	Pn		**Pn**		**19 23 33.8**	**-4.8**
4.5nm,0.3s,baz=5.7,slow=12,SNR=100									
LSZ				Sn		Sn		19 26 01.4	-15
13nm,0.3s,baz=90,slow=12,SNR=11									
LSZ				Lg		Lg		19 27 34.1	
13nm,0.3s,baz=70,slow=13,SNR=6.4									
LSZ				LR		LR		19 28 44.0	
comp=Z,10μm,19.8s,baz=357,slow=36									
LSZ	**Lusaka**	**14.20**	**175**			Pn		19 23 33.6	-4.9
ITZ	**Itezhi-Tezhi**	**14.64**	**183**	*i* P		Pn		19 23 38.3	-6.2
ITZ				*i*				19 23 39.7	
baz=1.5,slow=16									
ITZ				*i* S		Sn		19 26 05.9	-21
FURI	**Furi**	**15.33**	**50**	*e*P		**Pn**		**19 23 52.2**	**-1.7**
FURI				*e*S		**Sn**		**19 26 44.0**	**-0.1**
FURI	**Furi**	**15.33**	**50**	*e*P		**Pn**		**19 23 52.2**	**-1.7**
FURI				*e*S		**Sn**		**19 26 44.0**	**-0.1**
FURI	**Furi**	**15.33**	**50**	Pn		**Pn**		**19 23 50.6**	**-3.4**
AAE	**Adis Abeba**	**15.48**	**50**	*e*P		**Pn**		**19 23 54.7**	**-1.2**
AAE				*e*S		**Sn**		**19 26 48.9**	**+1.2**
AAE	**Adis Abeba**	**15.48**	**50**	*e*P		**Pn**		**19 23 54.7**	**-1.2**
AAE				*e*S		**Sn**		**19 26 48.9**	**+1.2**
ATD	**Arta Tunnel**	**20.17**	**51**	P		Pn		19 24 53.6	-0.2
102nm,1.3s,baz=246,slow=6.9,SNR=18									
ATD				Lg		Lg		19 30 53.1	
26nm,1.0s,baz=168,slow=23,SNR=8.0									
ATD				LR		LR		19 32 37.9	
comp=Z,5μm,20.9s,baz=232,slow=37									
TSUM	**Tsumeb**	**20.23**	**206**	P		**P**		**19 24 51.0**	**-1.7**
22nm,0.6s,baz=17,slow=14,SNR=48									
TSUM				S		S		19 28 24.4	-16
78nm,0.7s,baz=311,slow=17,SNR=3.2									
TSUM				Lg		Lg		19 30 48.0	
187nm,0.8s,baz=301,slow=19,SNR=5.7									
TSUM				LR		LR		19 33 00.5	
comp=Z,8μm,18.9s,baz=26,slow=38									
DAMY	**Dhamar**	**23.24**	**47**	P		**P**		**19 25 24.6**	**-0.5**
DAMY						IAMs_20	IAMs_20	19 34 14.6	
comp=Z,14μm,18.0s									
LBTB	**Lobatse**	**23.87**	**183**	P		**P**		**19 25 28.9**	**-2.0**
LBTB				pmax		pmax			
comp=Z,120nm,1.0s									
LBTB	**Lobatse**	**23.87**	**183**	P		**P**		**19 25 28.6**	**-2.4**
comp=Z,46nm,0.7s,baz=359,slow=10,SNR=36									
LBTB				Lg		Lg		19 32 45.6	
comp=Z,155nm,1.0s,baz=281,slow=24,SNR=5.4									
LBTB				LR		LR		19 34 58.6	
comp=Z,14μm,18.2s,baz=8.0,slow=37									
LBTB	**Lobatse**	**23.87**	**183**	P		**P**		**19 25 28.9**	**-2.0**
LBTB				IAmb		IAmb		19 25 33.2	
comp=Z,120nm,1.0s									
OPO	**Ambohidratompo**	**26.45**	**132**	P		**P**		**19 25 55.8**	**+1.2**
comp=Z,30nm,0.9s,baz=296,slow=9.7,SNR=16									
OPO				LR		LR		19 34 41.1	
comp=Z,7μm,21.9s,baz=188,slow=33									
ABPO	**Ambohimpanom**	**26.76**	**133**	P		**P**		**19 25 57.2**	**-0.2**
ABPO				pmax		pmax			
comp=Z,54nm,1.2s									
ABPO				MLR		MLR			
comp=Z,3μm,20.0s									
ABPO	**Ambohimpanom**	**26.76**	**133**	P		**P**		**19 25 57.2**	**-0.2**
BOSA	**Boshof**	**27.47**	**183**	P		**P**		**19 26 01.6**	**-2.0**
BOSA				pmax		pmax			
comp=Z,108nm,1.1s									
BOSA	**Boshof**	**27.47**	**183**	P		**P**		**19 26 01.6**	**-2.0**
comp=Z,57nm,0.8s,baz=359,slow=8.0,SNR=43									
BOSA				Lg		Lg		19 34 37.4	
comp=Z,102nm,1.1s,baz=288,slow=20,SNR=1.9									
BOSA				LR		LR		19 37 25.2	
comp=Z,5μm,19.8s,baz=7.0,slow=38									
BOSA	**Boshof**	**27.47**	**183**	P		**P**		**19 26 01.6**	**-2.0**
BOSA				IAmb		IAmb		19 26 05.6	
comp=Z,108nm,1.1s									
TOA0	**Torodi Ar. Sit**	**28.71**	**300**	P		**P**		**19 26 13.3**	**-1.4**
TOA0				IAmb		IAmb		19 26 17.4	
comp=Z,101nm,0.9s									
TORD	**Torodi Ar. Bea**	**28.71**	**300**	P		**P**		**19 26 13.2**	**-1.5**
comp=Z,91nm,0.7s,baz=110,slow=7.9,SNR=178									
TORD				Lg		Lg		19 35 16.6	
comp=Z,80nm,1.1s,baz=126,slow=28,SNR=7.0									
TORD				LR		LR		19 37 15.1	
comp=Z,7μm,20.4s,baz=25,slow=36									
TORD	**Torodi Ar. Bea**	**28.71**	**300**	P		**P**		**19 26 11.4**	**-3.3**
MSEY	**Mahe Island**	**28.76**	**98**	*i* P		**P**		**19 26 19.5**	**+4.2**
RAYN	**Ar Rayn**	**30.38**	**35**	P		**P**		**19 26 29.0**	**-0.5**
RAYN				pmax		pmax			
comp=Z,19nm,1.1s									
RAYN				MLR		MLR			
comp=Z,6μm,18.0s									
RAYN	**Ar Rayn**	**30.38**	**35**	P		**P**		**19 26 29.0**	**-0.5**
RAYN				IAMs_20		IAMs_20		19 38 35.6	
comp=Z,6μm,18.0s									
EIL	**Elat**	**31.49**	**13**	P		**P**		**19 26 37.8**	**-1.3**
comp=Z,58nm,1.1s,baz=187,slow=3.9,SNR=20									
EIL				Lg		Lg		19 36 48.0	
comp=Z,11nm,1.2s,baz=152,slow=17,SNR=3.1									
EIL				LR		LR		19 39 14.9	
comp=Z,6μm,18.7s,baz=196,slow=36									
EIL	**Elat**	**31.49**	**13**	P		**P**		**19 26 39.9**	**+0.8**
comp=Z,73nm,1.1s									
TAM	**Tamanrasset**	**31.55**	**320**	P		**P**		**19 26 38.3**	**-1.6**
TAM				pmax		pmax			
comp=Z,23nm,1.0s									
TAM				MLR		MLR			
comp=Z,5μm,19.0s									
TAM	**Tamanrasset**	**31.55**	**320**	P		**P**		**19 26 38.3**	**-1.6**
TAM				IAMs_20		IAMs_20		19 38 02.4	
comp=Z,5μm,19.0s									
SUR	**Sutherland**	**31.70**	**190**	P		**P**		**19 26 40.1**	**-1.2**
comp=Z,79nm,1.0s,baz=17,slow=7.7,SNR=19									
SUR	**Sutherland**	**31.70**	**190**	P		**P**		**19 26 39.2**	**-2.1**
HRFI	**Mount Harif**	**31.86**	**13**	P		**P**		**19 26 42.4**	**-0.1**
comp=Z,256nm,1.2s									
KIC	**Kosan Boka**	**32.44**	**284**	*e*P		**P**		**19 26 45.7**	**-2.1**
comp=Z,11nm,0.5s									
KZIT	**Kziot**	**32.56**	**12**	P		**P**		**19 26 48.8**	**+0.3**
comp=Z,182nm,1.1s									
DBIC	**Dimbokro**	**32.62**	**284**	P		**P**		**19 26 47.7**	**-1.6**
DBIC				pmax		pmax			
comp=Z,74nm,1.0s									
DBIC	**Dimbokro**	**32.62**	**284**	*i* P		P		19 26 35.7	-14
DBIC				*e*S		S		19 31 49.2	-16
DBIC	**Dimbokro**	**32.62**	**284**	P		**P**		**19 26 47.7**	**-1.6**
comp=Z,41nm,0.8s,baz=88,slow=8.9,SNR=52									
DBIC				LR		LR		19 40 33.2	
comp=Z,3μm,19.9s,baz=88,slow=37									
DBIC	**Dimbokro**	**32.62**	**284**	*i* P		P		19 26 35.7	-14
DBIC				*e*S		S		19 31 49.2	-16
DBIC	**Dimbokro**	**32.62**	**284**	P		**P**		**19 26 47.7**	**-1.6**
DBIC				IAmb		IAmb		19 26 51.7	
comp=Z,74nm,1.0s									
LIC	**Lamto**	**32.69**	**283**	*e*P		**P**		**19 26 47.8**	**-2.1**
comp=Z,26nm,0.4s									
LIC	**Lamto**	**32.69**	**283**	P		**P**		**19 26 47.8**	**-2.1**
TIC	**Toumodi**	**32.77**	**284**	*e*P		**P**		**19 26 48.7**	**-2.0**
TIC	**Toumodi**	**32.77**	**284**	P		**P**		**19 26 48.7**	**-2.0**
TIC	**Toumodi**	**32.77**	**284**	P		**P**		**19 26 48.7**	**-2.0**
LISJ	**El Lisan**	**33.12**	**14**	P		**P**		**19 26 55.8**	**+2.4**
WALJ	**Wala**	**33.50**	**14**	P		**P**		**19 26 57.1**	**+0.3**
HSUJ	**Al Zarqa**	**34.12**	**14**	P		**P**		**19 27 02.7**	**+0.5**
ASF	**Jabal al Asfar**	**34.36**	**15**	P		**P**		**19 27 03.9**	**-0.5**
comp=Z,53nm,1.0s,baz=124,slow=4.3,SNR=18									
ASF	**Jabal al Asfar**	**34.36**	**15**	P		**P**		**19 27 04.7**	**+0.4**
comp=Z,95nm,1.3s									
SHMJ	**Saham**	**34.61**	**13**	P		**P**		**19 27 08.4**	**+2.0**
MMAI	**Mount Meron Ar**	**34.81**	**13**	P		**P**		**19 27 07.5**	**-0.6**
comp=Z,30nm,1.1s,baz=187,slow=6.4,SNR=15									
KSDI	**Kefar Szold**	**35.03**	**13**	P		**P**		**19 27 11.1**	**+1.1**
comp=Z,75nm,1.3s									
CSS	**Mathiatis**	**36.31**	**9**	P		**P**		**19 27 22.8**	**+1.7**
CSS	**Mathiatis**	**36.31**	**9**	P		**P**		**19 27 20.1**	**-1.0**
CSS				IAmb		IAmb		19 27 25.0	
comp=Z,128nm,1.1s									
KARP	**Karpathos**	**36.40**	**0**	IAMs_20		IAMs_20		19 44 20.1	
comp=Z,4μm,19.0s									
SANT	**Santorini**	**37.24**	**358**	P		**P**		**19 27 27.5**	**-1.4**
SANT				IAmb		IAmb		19 27 31.9	
comp=Z,108nm,1.0s									
ALNE	**Al Ain**	**37.50**	**46**	*i* P		**P**		**19 27 31.4**	**+0.1**
SNR=7.8									
ASUD	**Al Ashush, Dub**	**37.55**	**45**	P		**P**		**19 27 33.7**	**+2.0**
ELL	**Elmali**	**37.70**	**4**	P		**P**		**19 27 33.1**	**+0.2**
ELL				pmax		pmax			
comp=Z,87nm,1.1s									
ELL				MLR		MLR			
comp=Z,12μm,18.0s									
ELL	**Elmali**	**37.70**	**4**	P		**P**		**19 27 33.1**	**+0.2**
ELL				IAmb		IAmb		19 27 37.0	
comp=Z,87nm,1.1s									
APE	**Apeiranthos**	**37.94**	**358**	*i* P		**P**		**19 27 37.0**	**+2.2**
APE				pmax		pmax			
comp=Z,164nm,2.0s									
APE	**Apeiranthos**	**37.94**	**358**	⇑P		**P**		**19 27 37.1**	**+2.2**
ASHO	**Ashiyiah**	**38.10**	**46**	*i* P		**P**		**19 27 36.9**	**+0.5**
SNR=8.6									
HATD	**Hatta, Dubai**	**38.24**	**46**	*i* P		**P**		**19 27 39.6**	**+2.0**
SNR=8.3									
ITM	**Ithomi**	**38.31**	**354**	P		**P**		**19 27 37.0**	**-0.9**
ITM				IAmb		IAmb		19 27 48.9	
comp=Z,55nm,0.8s									
UOSS	**Minazif**	**38.37**	**46**	P		**P**		**19 27 37.2**	**-1.4**
WDD	**Wied Dalam**	**38.46**	**344**	IAMs_20		IAMs_20		19 43 03.3	
comp=Z,7μm,19.0s									
MSFE	**Esma-Masafi**	**38.59**	**45**	*i* P		**P**		**19 27 42.4**	**+1.8**
SNR=5.3									
MDH	**Madha**	**38.65**	**45**	*i* P		**P**		**19 27 43.2**	**+2.1**
SNR=10.0									
SHME	**Shamm**	**39.01**	**44**	*i* P		**P**		**19 27 45.2**	**+1.1**
SNR=13									
BANOM	**Banah**	**39.04**	**45**	*i* P		**P**		**19 27 44.0**	**-0.4**
SNR=59									
WSAR	**Wadi Sarin**	**39.17**	**50**	P		**P**		**19 27 45.6**	**+0.2**
comp=Z,16nm,1.0s,baz=255,slow=9.4,SNR=8.3									
WSAR				LR		LR		19 43 12.8	
comp=Z,4μm,21.6s,baz=252,slow=35									
GAZ	**Gaziantep**	**39.20**	**13**	P		**P**		**19 27 44.6**	**-0.9**
GAZ				IAmb		IAmb		19 27 50.0	
comp=Z,157nm,1.1s									
GAZ				IAMs_20		IAMs_20		19 43 59.6	
comp=Z,6μm,18.0s									
MANT	**Manisa**	**39.36**	**2**	P		**P**		**19 27 46.7**	**-0.4**
MANT				IAMs_20		IAMs_20		19 44 22.6	
comp=Z,4μm,21.0s									
RAFF	**Raffo Rosso**	**39.81**	**344**	P		**P**		**19 27 49.2**	**-1.3**
RAFF				IAmb		IAmb		19 28 04.5	
comp=Z,179nm,1.1s									
RAFF				IAMs_20		IAMs_20		19 44 57.9	
comp=Z,6μm,18.0s									
KEST	**Kesra**	**40.09**	**338**	P		**P**		**19 27 53.1**	**+0.2**
comp=Z,34nm,0.9s,baz=270,slow=3.8,SNR=16									
KEST				LR		LR		19 44 43.6	
comp=Z,2μm,19.4s,baz=67,slow=37									
KEST	**Kesra**	**40.09**	**338**	P		**P**		**19 27 51.9**	**-1.0**
AGG	**Agios Georgios**	**40.09**	**354**	P		**P**		**19 27 52.6**	**-0.2**
AGG				pmax		pmax			
comp=Z,84nm,0.9s									
AGG				MLR		MLR			
comp=Z,3μm,19.0s									
AGG	**Agios Georgios**	**40.09**	**354**	P		**P**		**19 27 52.6**	**-0.2**
AGG				IAmb		IAmb		19 27 55.9	
comp=Z,84nm,0.9s									
BR131	**Keskin Array S**	**41.03**	**8**	P		**P**		**19 28 01.1**	**+0.3**
BR131				pmax		pmax			
comp=Z,69nm,1.0s									
BR131	**Keskin Array S**	**41.03**	**8**	P		**P**		**19 28 01.1**	**+0.3**
BR131				IAmb		IAmb		19 28 04.6	
comp=Z,69nm,0.9s									
BRTR	**Keskin Array B**	**41.03**	**8**	*i* P		**P**		**19 28 00.6**	**-0.2**
BRTR				pmax		pmax			
comp=Z,37nm,0.7s									
BRTR	**Keskin Array B**	**41.03**	**8**	P		**P**		**19 28 00.8**	**0.0**
comp=Z,36nm,0.7s,baz=184,slow=10,SNR=79									
BRTR				LR		LR		19 45 49.8	
comp=Z,1μm,20.9s,baz=162,slow=37									
BRTR	**Keskin Array B**	**41.03**	**8**	P		**P**		**19 28 01.0**	**+0.3**
ANTO	**Ankara**	**41.07**	**7**	P		**P**		**19 27 59.3**	**-1.7**
ANTO				pmax		pmax			
comp=Z,92nm,1.6s									
ANTO	**Ankara**	**41.07**	**7**	P		**P**		**19 27 59.3**	**-1.7**
ANTO				IAmb		IAmb		19 28 05.1	
comp=Z,92nm,1.6s									
LIT	**Litokhoron**	**41.14**	**355**	IAmb		IAmb		19 28 10.6	
comp=Z,48nm,0.9s									
FNA	**Florina**	**41.93**	**354**	IAmb		IAmb		19 28 11.2	
comp=Z,63nm,0.9s									
FNA				IAMs_20		IAMs_20		19 45 30.2	
comp=Z,3μm,20.0s									
VAY	**Valandovo**	**42.35**	**355**	*i* P		**P**		**19 28 13.9**	**+2.6**
TIR	**Tirane**	**42.67**	**352**	P		**P**		**19 28 14.7**	**+0.7**
TIR				pmax		pmax			
comp=Z,111nm,1.0s									
TIR				MLR		MLR			
comp=Z,2μm,20.0s									
TIR	**Tirane**	**42.67**	**352**	⇑P		**P**		**19 28 15.6**	**+1.6**
TIR	**Tirane**	**42.67**	**352**	P		**P**		**19 28 14.7**	**+0.7**
TIR				IAmb		IAmb		19 28 21.0	
comp=Z,110nm,1.0s									
STIP	**Stip**	**42.75**	**355**	*i* P		**P**		**19 28 17.2**	**+2.6**
SKO	**Skopje**	**43.10**	**354**	*i* P		**P**		**19 28 17.5**	**+0.1**
DIKM	**Dikmen**	**43.16**	**9**	⇑P		**P**		**19 28 19.0**	**+1.1**
DIKM				mb				19 28 29.0	
PAOL	**Paolisi**	**43.35**	**346**	P		**P**		**19 28 17.6**	**-2.0**
VTS	**Vitosha**	**43.58**	**356**	P		**P**		**19 28 20.9**	**-0.6**
VTS				pmax		pmax			
comp=Z,19nm,1.2s									
VTS				MLR		MLR			
comp=Z,2μm,21.0s									
VTS	**Vitosha**	**43.58**	**356**	⇑P		**P**		**19 28 22.0**	**+0.5**
VTS				mb				19 28 24.1	
VTS	**Vitosha**	**43.58**	**356**	P		**P**		**19 28 20.9**	**-0.6**
DRME	**Dracevica, Mon**	**43.59**	**352**	*e*P		**P**		**19 28 21.1**	**-0.3**
ELND	**Elena**	**43.78**	**359**	⇑P		**P**		**19 28 24.5**	**+1.6**
PDG	**Podgorica**	**43.82**	**352**	*e*P		**P**		**19 28 24.3**	**+1.1**
PDG	**Podgorica**	**43.82**	**352**	⇑P		**P**		**19 28 24.5**	**+1.3**
PDG				mb				19 28 27.1	
PDG	**Podgorica**	**43.82**	**352**	IAMs_20		IAMs_20		19 46 41.2	
comp=Z,3μm,22.0s									
HCY	**Herceg Novi**	**43.95**	**351**	*e*P		**P**		**19 28 26.5**	**+2.2**
GNI	**Garni**	**44.11**	**20**	*i* P		**P**		**19 28 27.5**	**+1.6**
SNR=11									
GNI	**Garni**	**44.11**	**20**	P		**P**		**19 28 24.7**	**-1.1**
GNI				pmax		pmax			
comp=Z,185nm,1.2s									
GNI				MLR		MLR			
comp=Z,4μm,18.0s									
GNI	**Garni**	**44.11**	**20**	P		**P**		**19 28 26.7**	**+0.9**
comp=Z,126nm,1.1s,baz=125,slow=0.9,SNR=27									
GNI				LR		LR		19 47 51.9	
comp=Z,3μm,19.2s,baz=206,slow=38									
GNI	**Garni**	**44.11**	**20**	P		**P**		**19 28 24.7**	**-1.1**
GNI	**Garni**	**44.11**	**20**	IAMs_20		IAMs_20		19 47 49.8	
comp=Z,4μm,18.0s									
TREB	**Trebinje**	**44.23**	**351**	*e*P		**P**		**19 28 27.4**	**+0.8**
PLVB	**Pleven**	**44.27**	**358**	⇑P		**P**		**19 28 28.5**	**+1.6**
BCA	**Borcka**	**44.34**	**16**	⇑P		**P**		**19 28 28.0**	**+0.5**
BCA				mb				19 28 40.2	
BRY	**Bratogost**	**44.39**	**351**	*e*P		**P**		**19 28 28.0**	**0.0**
RAZG	**Razgrad**	**44.41**	**360**	⇑P		**P**		**19 28 29.4**	**+1.4**
UPM	**Unac-Piva**	**44.63**	**352**	*e*P		**P**		**19 28 32.6**	**+2.7**
AKH	**Akhalkalaki**	**44.85**	**18**	P		**P**		**19 28 30.8**	**-1.0**
AKH				pmax		pmax			
comp=Z,76nm,1.1s									
AKH				MLR		MLR			
comp=Z,2μm,21.0s									
AKH	**Akhalkalaki**	**44.85**	**18**	⇑P		**P**		**19 28 32.0**	**+0.3**
AKH	**Akhalkalaki**	**44.85**	**18**	P		**P**		**19 28 30.8**	**-1.0**
AKH				IAmb		IAmb		19 28 41.1	
comp=Z,76nm,1.1s									
AQU	**L'Aquila**	**44.88**	**346**	IAMs_20		IAMs_20		19 47 59.3	
comp=Z,3μm,20.0s									
VLAD	**Vladila**	**44.89**	**

GZR	Gura Zlata	46.38	356	⇓P	P	19 28 43.5	-0.2
BLY	Banja Luka	46.40	350	eP	P	19 28 43.6	-0.2
BLY	Banja Luka	46.40	350	⇑P	P	19 28 45.2	+1.4
BLY	Banja Luka	46.40	350	P	P	19 28 41.9	-1.9
FRGS	Fruska Gora	46.43	353	eP	P	19 28 43.4	-0.6
OSSC	Osservatorio P	46.53	344	IAMs_20	IAMs_20	19 50 18.9	
	comp=Z,3μm,18.0s						
ANN	Anapa	46.59	10	eP	P	19 28 46.8	+1.6
ANN				e*PP	sP	19 28 50.7	+0.9
ANN				e		19 30 31.7	
ANN				eS	S	19 35 37.3	+3.2
ANN				pmax	pmax		
	comp=Z,49nm,1.0s						
ANN				MLR	MLR		
	comp=E,839nm,17.0s						
ANN				MLR	MLR		
	comp=Z,1μm,17.0s						
ANN				MLR	MLR		
	comp=N,737nm,17.0s						
PLOR	Plostina	46.69	360	⇑P	P	19 28 45.8	-0.2
BZS	Buzias	46.69	355	⇑P	P	19 28 46.8	+0.8
VRI	Vrincioaia	46.71	360	⇑P	P	19 28 45.8	-0.4
SHA1	Shidzhatmaz	46.76	16c	iP	P	19 28 48.8	+2.0
NCK	Nalchik	46.79	17	iP	P	19 28 48.7	+1.8
NCK				pmax	pmax		
	comp=Z,99nm,1.0s						
KBZ	Khabaz	46.81	16	P	P	19 28 48.0	+1.1
	comp=Z,26nm,1.0s,baz=197,slow=3.8,SNR=19						
KBZ				LR	LR	19 48 33.9	
	comp=Z,2μm,21.3s,baz=219,slow=36						
DOPR	Dopca	46.83	359	⇑P	P	19 28 47.1	0.0
DEV	Deva	46.86	356	⇑P	P	19 28 48.6	+1.3
OZUR		46.95	359	⇑P	P	19 28 47.2	-0.9
KIV	Kislovodsk	46.97	16	iP	P	19 28 50.1	+1.8
	SNR=26						
KIV	Kislovodsk	46.97	16	eP	P	19 28 49.8	+1.5
KIV				e		19 30 40.1	
KIV				eS	S	19 35 40.7	+1.0
KIV				pmax	pmax		
	comp=Z,259nm,1.0s						
KIV				pmax	pmax		
	comp=Z,26nm,4.1s						
KIV				MLR	MLR		
	comp=Z,3μm,16.0s						
KIV	Kislovodsk	46.97	16	⇑P	P	19 28 48.7	+0.4
KIV				mb		19 28 51.9	
KIV	Kislovodsk	46.97	16	P	P	19 28 47.1	-1.2
KVAR	Kislovodsk Arr	46.97	16	P	P	19 28 49.3	+0.9
	comp=Z,29nm,0.9s,baz=257,slow=21,SNR=16						
KVAR				LR	LR	19 48 44.2	
	comp=Z,2μm,19.5s,baz=138,slow=36						
PYA1	Pyatigorsk	47.18	16	iP	P	19 28 51.3	+1.4
GROC	Groznyy	47.20	19	eP	P	19 28 48.1	-1.9
GROC				e		19 30 20.3	
GROC				e		19 30 39.7	
GROC				pmax	pmax		
	comp=Z,51nm,0.8s						
SIRR	Siria	47.33	355	⇑P	P	19 28 51.3	+0.3
TESR	Tescani	47.35	360	⇑P	P	19 28 52.1	+1.0
ZCCA	Zocca	47.37	344	IAMs_20	IAMs_20	19 47 55.2	
	comp=Z,3μm,20.0s						
RIY	Rijeka	47.46	348	eP	P	19 28 51.8	-0.2
MAK	Makhachkala	47.56	20	eP	P	19 28 49.2	-3.6
MAK				eS	S	19 35 42.9	-5.0
MAK				pmax	pmax		
	comp=Z,177nm,1.1s						
MAK				MLR	MLR		
	comp=Z,4μm,16.0s						
CJR	Cluj-Napoca	47.64	357	⇑P	P	19 28 55.3	+1.8
ZAG	Zagreb	47.66	350	eP	P	19 28 55.9	+2.4
MSSA	Maissana	47.75	343	IAMs_20	IAMs_20	19 49 55.1	
	comp=Z,3μm,18.0s						
CRES	Cresnjev	47.75	349	eP	P	19 28 55.7	+1.4
GCIS	Gornji Cirnik	47.76	349	eP	P	19 28 54.3	0.0
DRGR		47.77	356	P	P	19 28 54.8	+0.2
DRGR				pmax	pmax		
	comp=Z,41nm,0.9s						
DRGR		47.77	356	⇓P	P	19 28 54.7	+0.2
BIZ	Bicaz	47.78	359	⇑P	P	19 28 54.8	+0.2
KIS	Kishinev	47.87	2	eP	P	19 28 56.0	+0.9
KIS				eS	S	19 35 53.5	+1.3
KIS				eSS	SS	19 39 21.0	-0.1
KIS				eSSS	SSS	19 40 54.0	
KIS				eLQ	LQ	19 45 30.0	
KIS				LRM	MLR	19 53 34.0	
	comp=Z,1μm,16.0s						
KIS	Kishinev	47.87	2	eP	P	19 28 56.0	+0.9
KIS				e		19 29 02.0	
KIS				eS	S	19 35 53.5	+1.3
KIS				eSS	SS	19 39 21.0	-0.1
KIS				MLR	MLR		
	comp=Z,1μm,16.0s						
CEY	Cerknica	47.87	348	eP	P	19 28 55.6	+0.4
CEY	Cerknica	47.87	348	eP	P	19 28 54.3	-0.9
PRMA	PARMA	47.94	344	IAMs_20	IAMs_20	19 48 26.0	
	comp=Z,3μm,19.0s						
ARCR	ARCALIA	47.98	358	⇓P	P	19 28 55.9	-0.1
GOF	Gofitskoye	48.08	15	⇑iP	P	19 28 56.2	-0.7
GOF				pmax	pmax		
	comp=Z,298nm,1.0s						
TEOL	Teolo	48.14	346	IAmb	IAmb	19 28 59.9	
	comp=Z,39nm,0.9s						
LJU	Ljubljana	48.14	348	eP	P	19 28 55.5	-1.8
BEHE	Becsehely	48.14	351	eP	P	19 28 59.7	+2.4
PRAR	RASCA	48.20	359	⇑P	P	19 28 57.5	-0.3
PRAR				mb		19 29 05.2	
GEYT	Alibeck	48.30	33	P	P	19 28 59.3	+0.5
	comp=Z,9.4nm,0.8s,baz=218,slow=9.4,SNR=14						
GEYT				LR	LR	19 51 08.5	
	comp=Z,2μm,19.8s,baz=210,slow=38						
GEYT	Alibeck	48.30	33	P	P	19 28 57.2	-1.5
GYA0B	ALIBECK ARRAY	48.30	33	IAmb	IAmb	19 29 05.4	
	comp=Z,61nm,1.9s						
GYA0B				IAMs_20	IAMs_20	19 50 56.2	
	comp=Z,3μm,20.0s						
GROS	Grobnik	48.36	349	eP	P	19 28 59.5	+0.4
HRA	Herat	48.36	40	IAmb	IAmb	19 29 07.2	
	comp=Z,34nm,0.9s						
HRA				IAMs_20	IAMs_20	19 48 20.9	
	comp=Z,4μm,21.0s						
SFS	San Fernando	48.36	324	IAMs_20	IAMs_20	19 49 00.9	
	comp=Z,3μm,19.0s						
ASHT	Ashkhabad	48.46	33	IAMs_20	IAMs_20	19 51 07.3	
	comp=Z,3μm,19.0s						
BURAR	Bucovina Array	48.48	358	P	P	19 29 01.8	+1.9
BURAR	Bucovina Array	48.48	358	⇑P	P	19 29 01.9	+1.9
BURAR				mb		19 29 08.9	
BURAR	Bucovina Array	48.48	358	P	P	19 28 59.5	-0.4
BUR08	Bucovina Ar. S	48.51	358	IAmb	IAmb	19 29 08.7	
	comp=Z,64nm,1.2s						
OBKA	Obir	48.58	349	epP	P	19 29 01.7	+0.9
	comp=Z,18nm,0.8s						
BMR	Baia Mare	48.60	357	⇑P	P	19 29 02.6	+1.7
SOKA	Soboth	48.65	349	eP	P	19 29 01.2	-0.1
	comp=Z,28nm,1.1s,SNR=6.2						
SALO	Salr	48.67	345	IAmb	IAmb	19 29 17.6	
	comp=Z,44nm,0.9s						
STAL	STALIGIAL	48.73	347	IAmb	IAmb	19 29 16.4	
	comp=Z,29nm,0.9s						
ARSA	Arzberg	49.11	350	eP	P	19 29 05.0	+0.2
	comp=Z,46nm,0.9s,SNR=13						
TRPA	Tarpa	49.12	356	⇑P	P	19 29 05.2	+0.4
TRPA				mb		19 29 08.4	
PSZ	Piszkesteto	49.14	354	⇑P	P	19 29 05.0	-0.1
PSZ				mb		19 29 08.1	
PSZ	Piszkesteto	49.14	354	IAmb	IAmb	19 29 08.0	
	comp=Z,63nm,0.9s						
ABTA	Abfaltersbach	49.24	347	eP	P	19 29 06.4	+0.6
	comp=Z,26nm,1.0s,SNR=5.5						
KBA	Koelnbreinsper	49.37	348	eP	P	19 29 07.3	+0.3
	comp=Z,52nm,1.4s,SNR=5.5						
ESBB	Sonseca Array	49.39	329	P	P	19 29 05.8	-1.4
ESBB				IAmb	IAmb	19 29 15.4	
	comp=Z,33nm,1.2s						
ESDC	Sonseca Array	49.39	329	P	P	19 29 06.8	-0.3
	comp=Z,13nm,0.8s,baz=145,slow=7.9,SNR=25						
ESDC	Sonseca Array	49.39	329	P	P	19 29 04.9	-2.2
PAB	San Pablo	49.50	328	P	P	19 29 06.3	-1.7
PAB				pmax	pmax		
	comp=Z,11nm,0.9s						
PAB				MLR	MLR		
	comp=Z,500nm,19.0s						
PAB	San Pablo	49.50	328	P	P	19 29 06.2	-1.7
UZH	Uzhgorod	49.63	356	⇑iP	P	19 29 10.7	+2.0
UZH				i		19 29 13.9	
UZH				i		19 29 20.0	
UZH				e		19 31 03.3	
UZH				iS	S	19 36 16.6	-0.5
UZH				e		19 39 47.0	
UZH				MLR	MLR		
	comp=N,300nm,17.0s						
UZH				MLR	MLR		
	comp=E,220nm,17.0s						
UZH				MLR	MLR		
	comp=Z,200nm,17.0s						
KECS	Kecovo	49.64	354	eP	P	19 29 11.2	+2.5
KECS				pmax	pmax		
	comp=Z,28nm,1.0s						
KECS	Kecovo	49.64	354	eP	P	19 29 11.2	+2.5
FUORN	Ofenpass-Fuorn	49.67	345	IAMs_20	IAMs_20	19 52 00.8	
	comp=Z,3μm,18.0s						
LPL	La Plagne	49.68	341	eP	P	19 29 08.1	-1.3
LPL				pmax	pmax		
	comp=Z,18nm,0.6s						
CONA	Conrad Observa	49.71	350	iP	P	19 29 09.0	-0.4
	comp=Z,20nm,0.8s,SNR=8.4						
VYHS	Vyhne	49.83	353	eP	P	19 29 09.8	-0.4
VYHS				e		19 29 11.9	
VYHS				pmax	pmax		
	comp=Z,40nm,1.0s						
VYHS	Vyhne	49.83	353	eP	P	19 29 09.8	-0.4
VYHS				e		19 29 11.9	
PVAQ	Vaqueiros	49.89	324	eP	P	19 29 11.7	+0.9
	comp=Z,43nm,2.0s						
PVAQ				eS	S	19 36 22.1	+1.1
PVAQ				eSS	SS	19 40 05.4	+11
PVAQ				eLR	LR	19 47 24.7	
	comp=Z,2μm,20.0s						
PVAQ	Vaqueiros	49.89	324	IAMs_20	IAMs_20	19 50 02.3	
	comp=Z,3μm,18.0s						
PBDV	Barranco-do-Ve	49.91	323	eP	P	19 29 12.9	+1.9
	comp=Z,51nm,1.5s						
PBDV				eS	S	19 36 19.1	-2.3
PBDV				eSS	SKiKP	19 40 23.6	-27
FETA	Feichten	49.92	346	epP	P	19 29 11.8	+0.7
	comp=Z,7.9nm,0.8s						
MODS	Modra-Piesok	49.92	352	eP	P	19 29 11.4	+0.5
MODS				pmax	pmax		
	comp=Z,39nm,1.3s						
MODS	Modra-Piesok	49.92	352	eP	P	19 29 11.4	+0.5
MOA	Molln	49.92	349	iP	P	19 29 10.0	-1.0
	comp=Z,34nm,0.8s,SNR=13						
WTTA	Wattenberg	49.93	346	iP	P	19 29 10.9	-0.3
	comp=Z,39nm,0.9s,SNR=13						
KOLS	Kolonicke sedl	49.94	356	eP	P	19 29 12.3	+1.3
KOLS				e		19 29 14.4	
KOLS				pmax	pmax		
	comp=Z,34nm,1.1s						
KOLS	Kolonicke sedl	49.94	356	eP	P	19 29 12.3	+1.3
KOLS				e		19 29 14.4	
KOLL	Kolacno	49.97	353	e	P	19 29 12.9	+1.7
SQTA	Sankt Quirin	49.99	346	iP	P	19 29 10.3	-1.3
	comp=Z,25nm,0.8s,SNR=12						
WATA	Walderalm	50.01	346	iP	P	19 29 11.3	-0.5
	comp=Z,31nm,1.1s,SNR=6.9						
SMOL	Smolenice	50.04	352	eP	P	19 29 13.3	+1.5
SMOL				pmax	pmax		
	comp=Z,12nm,1.0s						
SMOL	Smolenice	50.04	352	eP	P	19 29 13.3	+1.5
MOTA	Moosalm	50.13	346	iP	P	19 29 11.1	-1.6
	comp=Z,25nm,0.7s,SNR=6.8						
SSB	Saint Sauveur	50.20	340	P	P	19 29 11.7	-1.5
SSB				pmax	pmax		
	comp=Z,39nm,1.1s						
SSB				MLR	MLR		
	comp=Z,3μm,18.0s						
SSB	Saint Sauveur	50.20	340	P	P	19 29 11.7	-1.5
SSB				IAmb	IAmb	19 29 22.9	
	comp=Z,39nm,1.1s						
SSB				IAMs_20	IAMs_20	19 49 57.9	
	comp=Z,3μm,18.0s						
PCVE	Castro Verde	50.23	324	eS	S	19 36 27.5	+1.7
JAVC	Velka Javorina	50.34	352	eP	P	19 29 14.3	+0.2
RETA	Reutte	50.35	346	eP	P	19 29 13.2	-1.0
	comp=Z,22nm,0.8s						
PFVI	Vila Bisbo	50.37	323	eP	P	19 29 15.4	+0.9
	comp=Z,131nm,1.6s						
PFVI				eS	S	19 36 29.2	+1.4
PFVI				eSS	SKiKP	19 40 39.1	-12
PFVI	Vila Bisbo	50.37	323	IAMs_20	IAMs_20	19 51 39.2	
	comp=Z,2μm,18.0s						
MORF	Marmelete	50.38	323	eP	P	19 29 18.6	+3.9
	comp=Z,110nm,1.9s						
MORF				eS	S	19 36 29.6	+1.6
MORF				eSS	SS	19 40 18.5	+16
DAVA	Damuels	50.38	345	iP	P	19 29 13.0	-1.6
	comp=Z,42nm,0.8s,SNR=12						
PBEJ	Beja	50.39	324	eP	P	19 29 14.3	-0.4
	comp=Z,24nm,1.4s						
LANS	Liptovska Anna	50.40	354	eP	P	19 29 15.5	+0.9
LANS				e		19 29 17.6	
LANS				pmax	pmax		
	comp=Z,35nm,0.7s						
LANS	Liptovska Anna	50.40	354	eP	P	19 29 15.5	+0.9
LANS				e		19 29 17.6	
STHS	Stebnicka Huta	50.49	355	eP	P	19 29 16.7	+1.4
STHS				pmax	pmax		
	comp=Z,33nm,0.8s						
STHS	Stebnicka Huta	50.49	355	eP	P	19 29 16.7	+1.4
NIE	Niedzica	50.58	354	eP	P	19 29 17.7	+1.8
NIE	Niedzica	50.58	354	eP	P	19 29 17.7	+1.8
NIE				eP	P	19 29 17.7	+1.8
KWP	Kalwaria Pacla	50.60	356	eP	P	19 29 16.4	+0.4
KWP	Kalwaria Pacla	50.60	356	eP	P	19 29 16.4	+0.4
KWP				eP	P	19 29 16.4	+0.4
LVV	L'vov	50.72	358	eP	P	19 29 18.8	+1.9
LVV				e		19 31 17.5	
LVV				ePPP	PPP	19 32 17.3	
LVV				eS	S	19 36 27.3	-4.9
LVV				ePS	PKiKP	19 36 41.8	-36
KRUC	Moravsky	50.73	351	eP	P	19 29 16.2	-0.8
MACI	Morro de la Ar	50.79	308	P	P	19 29 16.8	-1.2
MACI				IAmb	IAmb	19 29 22.3	
	comp=Z,70nm,1.1s						
PESTR	Estremoz	50.80	325	eS	S	19 36 34.0	+0.2
CAF	Calviac	50.81	337	eP	P	19 29 17.4	-0.4
CAF				pmax	pmax		
	comp=Z,13nm,0.8s						
PNCL	Nicolau / Gran	50.84	324	eP	P	19 29 20.1	+2.1
	comp=Z,36nm,1.3s						
VRAC	Vranov	50.93	351	⇑P	P	19 29 18.0	-0.6
VRAC				mb		19 29 21.0	
VRAC	Vranov	50.93	351	eP	P	19 29 17.8	-0.8
VRAC	Vranov	50.93	351	ePP	PP	19 31 19.9	+4.8
GERES	GERESS Array B	50.99	349	P	P	19 29 17.9	-1.2
	comp=Z,13nm,0.8s,baz=167,slow=8.2,SNR=40						
GERES				LR	LR	19 54 32.3	
	comp=Z,1μm,18.2s,baz=172,slow=40						
PMRV	Marv??o	51.07	326	eP	P	19 29 22.2	+2.4
	comp=Z,29nm,1.3s						
PMRV				eS	S	19 36 35.4	-2.1
PMRV	Marv??o	51.07	326	eLR	LR	19 47 56.7	
	comp=Z,2μm,18.0s						
TREC	Trest	51.10	350	eP	P	19 29 19.2	-0.6
TREC				eS	S	19 36 31.9	-5.6
TREC				MLR	MLR		
	comp=Z,2μm,21.7s						
TREC	Trest	51.10	350	eP	P	19 29 19.2	-0.6
TREC				eS	S	19 36 31.9	-5.6
TREC				AMS	AMS	19 52 10.0	
	comp=Z,2μm,21.7s						
OKC	Ostrava-Krasne	51.24	353	eP	P	19 29 18.7	-2.1
OKC				e		19 29 21.9	
OKC				MLR	MLR		
	comp=Z,1μm,13.0s						
OKC	Ostrava-Krasne	51.24	353	eP	P	19 29 18.7	-2.1
OKC				epP	pP	19 29 21.9	-2.3
OKC				AMS	AMS	19 55 50.0	
	comp=Z,1μm,13.0s						
MORC	Moravsky Berou	51.26	352	⇑P	P	19 29 21.1	+0.1
MORC				mb		19 29 23.8	
MORC	Moravsky Berou	51.26	352	eP	P	19 29 20.5	-0.5
KHC	Kasperske Hory	51.28	349	eP	P	19 29 19.9	-1.3
KHC				eS	S	19 36 34.3	-5.8
KHC				MLR	MLR		
	comp=Z,2μm,15.7s						
KHC	Kasperske Hory	51.28	349	eP	P	19 29 19.9	-1.3
KHC				eS	S	19 36 34.3	-5.8
KHC				AMS	AMS	19 54 00.0	
	comp=Z,2μm,15.7s						
PMTG	Montargil	51.30	325	eP	P	19 29 23.6	+2.1
	comp=Z,28nm,1.3s						
PMTG				eS	S	19 36 42.8	+2.2
LFF	La Frestale	51.34	336	eP	P	19 29 21.7	0.0
LFF				pmax	pmax		
	comp=Z,21nm,0.7s						
PCBR	Castelo Branco	51.41	326	eP	P	19 29 24.3	+2.0
	comp=Z,28nm,1.4s						
OJC	Ojcow	51.42	354	eP	P	19 29 23.0	+0.8
OJC	Ojcow	51.42	354	eP	P	19 29 23.0	+0.8
OJC				eP	P	19 29 23.0	+0.8
OJC	Ojcow	51.42	354	IAmb	IAmb	19 29 24.4	
	comp=Z,32nm,0.9s						
AKASG	Malin Array Be	51.58	2	P	P	19 29 22.1	-1.2
AKASG				pmax	pmax		
	comp=Z,11nm,1.0s						
AKASG	Malin Array Be	51.58	2	P	P	19 29 22.5	-0.9
	comp=Z,58nm,1.1s,baz=191,slow=6.9,SNR=58						
AKASG				LR	LR	19 53 26.5	
	comp=Z,614nm,20.2s,baz=205,slow=39						
AKASG	Malin Array Be	51.58	2	P	P	19 29 22.1	-1.2
AKBB	Malin Array Si	51.58	2	IAmb	IAmb	19 29 25.7	
	comp=Z,55nm,1.0s						
KRLC	Kraliky	51.65	352	eP	P	19 29 23.8	-0.2
KRLC				MLR	MLR		
	comp=Z,1μm,14.2s						
KRLC	Kraliky	51.65	352	eP	P	19 29 23.8	-0.2
KRLC				AMS	AMS	19 53 40.0	
	comp=Z,1μm,14.2s						
PBCC	Pribram	51.74	349	eP	P	19 29 23.4	-1.2
BFO	Black Forest	51.75	344	P	P	19 29 22.9	-1.8
BFO				pmax	pmax		
	comp=Z,41nm,1.1s						
BFO				MLR	MLR		
	comp=Z,1μm,19.0s						
BFO	Black Forest	51.75	344	P	P	19 29 22.9	-1.8
BFO				IAmb	IAmb	19 29 41.9	
	comp=Z,41nm,1.1s						
PTOM	Tomar	51.78	325	eP	P	19 29 27.1	+2.0
	comp=Z,41nm,1.2s						
GOPC	GO Pecny, Ondr	51.81	350	eP	P	19 29 25.3	+0.1
GOPC				MLR	MLR		
	comp=Z,2μm,22.1s						
GOPC	GO Pecny, Ondr	51.81	350	eP	P	19 29 25.3	+0.1
GOPC				AMS	AMS	19 51 40.0	
	comp=Z,2μm,22.1s						
MTE	Manteigas	51.83	327	eP	P	19 29 27.0	+1.5
	comp=Z,31nm,1.8s						
MTE				eS	S	19 36 49.3	+1.3
MTE				eSS	SS	19 40 29.0	+4.1
MTE				eLR	LR	19 48 24.9	
	comp=Z,2μm,18.0s						
MTE	Manteigas	51.83	327	IAMs_20	IAMs_20	19 48 53.8	
	comp=Z,3μm,22.0s						
PMAFR	Mafra	51.84	324	eS	S	19 36 50.6	+2.5
PRU	Pruhonice	51.93	350	eP	P	19 29 26.9	+0.9
PRU				eS	S	19 36 42.4	-6.5
PRU				MLR	MLR		
	comp=Z,2μm,17.2s						
PRU	Pruhonice	51.93	350	eP	P	19 29 26.9	+0.9
PRU				eS	S	19 36 42.4	-6.5
PRU				AMS	AMS	19 51 30.0	
	comp=Z,2μm,17.2s						
DPC	Dobruska-Polom	51.99	351	eP	P	19 29 25.6	-0.9
DPC				MLR	MLR		
	comp=Z,1μm,16.2s						
DPC	Dobruska-Polom	51.99	351	eP	P	19 29 25.6	-0.9
DPC				AMS	AMS	19 53 40.0	
	comp=Z,1μm,16.2s						
PRA	Prague	52.03	350	eP	P	19 29 26.1	-0.6
PRA				MLR	MLR		
	comp=Z,2μm,20.4s						
PRA	Prague	52.03	350	eP	P	19 29 26.1	-0.6
PRA				AMS	AMS	19 51 30.0	
	comp=Z,2μm,20.4s						
MVO	Moncorvo	52.09	328	eP	P	19 29 28.4	+1.0
	comp=Z,33nm,2.1s						
MVO				eS	S	19 36 54.1	+2.6
MVO				eSS	SKiKP	19 40 41.5	-11
MVO				eLR	LR	19 48 35.6	
	comp=Z,2μm,16.0s						
SSF	Saint Saulge	52.11	340	eP	P	19 29 27.9	+0.5
SSF				pmax	pmax		
	comp=Z,22nm,1.2s						
PCAS	Casmilo, Conde	52.12	326	eS	S	19 36 54.2	+2.2
PCAS				eSS	SKiKP	19 40 42.4	-10
COI	Coimbra	52.18	326	eP	P	19 29 30.9	+2.9
	comp=Z,55nm,1.1s						
COI				eS	S	19 36 54.8	+2.1
COI	Coimbra	52.18	326	IAMs_20	IAMs_20	19 51 32.0	
	comp=Z,3μm,18.0s						
UPC	Upice	52.19	351	eP	P	19 29 27.7	-0.2
UPC				eS	S	19 36 45.1	-7.4
UPC				MLR	MLR		
	comp=Z,2μm,17.2s						
UPC	Upice	52.19	351	eP	P	19 29 27.7	-0.2
UPC				eS	S	19 36 45.1	-7.4
UPC				AMS	AMS	19 53 00.0	
	comp=Z,2μm,17.2s						
CHVC	Chvalec	52.26	351	eP	P	19 29 27.1	-1.4
CHVC				AMS	AMS	19 53 10.0	
	comp=Z,2μm,16.6s						
GRA1	Grafenberg Arr	52.31	347	IAmb	IAmb	19 29 31.4	
	comp=Z,34nm,1.0s						
PBRG	Braganca	52.39	328	eP	P	19 29 31.2	+1.6
	comp=Z,37nm,1.9s						
PBRG				eS	S	19 36 59.4	+3.8
SACV	Santiago Islan	52.42	290	IAMs_20	IAMs_20	19 50 51.2	
	comp=Z,3μm,18.0s						
PVCC	Panska Ves	52.44	350	eP	P	19 29 28.3	-1.5
PVCC				MLR	MLR		
	comp=Z,2μm,21.2s						
PVCC	Panska Ves	52.44	350	eP	P	19 29 28.3	-1.5
PVCC				AMS	AMS	19 51 50.0	
	comp=Z,2μm,21.2s						
KSP	Ksiaz	52.47	352	eP	P	19 29 31.1	+1.1
KSP	Ksiaz	52.47	352	eP	P	19 29 31.1	+1.1
KSP				eP	P	19 29 31.1	+1.1
PVRL	Vila Real	52.53	327	eP	P	19 29 32.8	+2.1
	comp=Z,58nm,1.3s						
NKC	Novy Kostel	52.56	348	eP	P	19 29 32.0	+1.3
NKC				MLR	MLR		
	comp=Z,2μm,13.3s						
NKC	Novy Kostel	52.56	348	eP	P	19 29 32.0	+1.3
NKC				AMS	AMS	19 55 30.0	
	comp=Z,2μm,13.3s						
VORD	Divnogorie	52.87	10	eP	P	19 29 32.9	0.0
VORD				pmax	pmax		
	comp=Z,30nm,0.9s						
BRG	Berggiesshubel	52.89	350	iP	P	19 29 33.6	+0.6
	comp=Z,19nm,1.0s						
BRG				ePP	PP	19 31 40.7	+8.0
	comp=Z,31nm,1.4s						
BRG				S	S	19 36 56.0	-6.0
BRG				SS	SS	19 40 40.0	-1.1
	comp=N,2μm,12.2s						
	comp=E,1μm,15.3s						
	comp=Z,2μm,14.7s						
BRG	Berggiesshubel	52.89	350	iP	P	19 29 33.7	+0.6
BRG				e		19 31 40.7	
BRG				S	S	19 36 56.0	-6.0
BRG				SS	SS	19 40 40.0	-1.1
BRG				pmax	pmax		
	comp=Z,19nm,1.0s						
BRG				pmax	pmax		
	comp=Z,31nm,1.5s						
BRG				MLR	MLR		
	comp=N,2μm,12.2s						
BRG				MLR	MLR		
	comp=E,1μm,15.3s						
BRG				MLR	MLR		
	comp=Z,2μm,14.7s				

comp=Z,21nm,1.1s
CLF Chambon-Foret 53.37 340 IAMs_20 IAMs_20 19 52 03.7
comp=Z,2μm,18.0s
CLL Collm 53.47 349⇑ *i*P **P** **19 29 38.3 +0.9**
CLL *i* 19 30 48.0
CLL *e*S **S** **19 37 06.0 -4.0**
CLL pmax pmax
comp=Z,21nm,1.1s
CLL MLR MLR
comp=Z,2μm,18.6s
CLL Collm 53.47 349⇑ *i*P **P** **19 29 38.3 +0.9**
comp=Z,21nm,1.1s
CLL *i* 19 29 50.0
CLL *i* PcP **PcP** **19 30 48.0 +3.7**
CLL *e*PP **PP** **19 31 42.0 +4.0**
CLL *e*PPP PPP 19 32 44.0
CLL *e*PcS **PcS** **19 34 48.0 +4.9**
CLL *e*S **S** **19 37 06.0 -4.0**
CLL *e* 19 38 48.0
CLL *e*SS **SS** **19 40 50.0 -0.4**
CLL *e* 19 41 36.0
CLL *e*SSSS 19 43 12.0
CLL Lm MLR 19 54 00.0
comp=N,2μm,20.0s
CLL Lm MLR 19 54 00.0
comp=E,900nm,18.9s
CLL Lm MLR 19 54 00.0
comp=Z,2μm,18.6s
CLL Lmax 19 56 00.0
PMOZ Porto Moniz, M 53.50 313 *e*S **S** **19 37 13.7 +2.5**
PMOZ Porto Moniz, M 53.50 313 *e*LR LR 19 48 55.8
comp=Z,1μm,18.0s
VORR Voronezh 53.54 9 P **P** **19 29 41.0 +3.1**
VORR pmax pmax
comp=Z,300nm,1.0s
VRH Novokhopyorsk 53.55 12 *e*P **P** **19 29 38.3 +0.4**
VRH pmax pmax
comp=Z,90nm,1.4s
WLF Walferdange 53.57 343 P **P** **19 29 37.0 -1.2**
WLF x x 19 29 39.1
WLF Walferdange 53.57 343 IAmb IAmb 19 29 56.6
comp=Z,50nm,1.1s
HYB Hyderabad 54.05 68 *i*P **P** **19 29 42.0 -0.3**
BHOU Houvegnez 54.23 344 P **P** **19 29 42.0 -1.0**
PALK Pallekele 54.29 80 P **P** **19 29 43.0 -1.1**
PALK pmax pmax
comp=Z,199nm,1.8s
PALK MLR MLR
comp=Z,1μm,22.0s
PALK Pallekele 54.29 80 P **P** **19 29 44.6 +0.5**
comp=Z,28nm,1.1s,baz=296,slow=3.3,SNR=6.5
PALK LR LR 19 51 37.5
comp=Z,1μm,18.5s,baz=296,slow=35
PALK Pallekele 54.29 80 P **P** **19 29 43.0 -1.1**
LPSR Galich'ya Gora 54.39 9 *e*P **P** **19 29 44.8 +0.7**
LPSR pmax pmax
comp=Z,50nm,1.0s
DOU Dourbes 54.41 343 pP pP 19 29 47.5 -0.1
RUE Ruedersdorf 54.46 350 *e*P **P** **19 29 44.2 -0.3**
MEM Membach 54.46 344 pP **pP** **19 29 46.3 -1.7**
MEM pP **P** **19 29 46.6 +2.0**
BCLA Clavier 54.49 343 pP pP 19 29 48.0 -0.2
BMRD Maredsous 54.54 343 P **P** **19 29 44.2 -1.1**
BSTI Sart Tilman 54.56 343 P **P** **19 29 43.5 -1.9**
SNF Seneffe 54.87 343 pP pP 19 29 50.3 -0.7
SUW Suwalki 54.95 357 P **P** **19 29 46.5 -1.6**
SUW MLR MLR
comp=Z,2μm,20.0s
SUW Suwalki 54.95 357 *e*P **P** **19 29 47.4 -0.7**
SUW *e*P **P** **19 29 47.4 -0.7**
SUW Suwalki 54.95 357 P **P** **19 29 46.5 -1.6**
UCC Uccle 55.10 343 P **P** **19 29 48.5 -0.8**
UCC pmax pmax
comp=Z,89nm,1.4s
UCC MLR MLR
comp=Z,2μm,18.0s
UCC Uccle 55.10 343 P **P** **19 29 48.5 -0.8**
UCC pP **pP** **19 29 51.4 -1.2**
UCC Uccle 55.10 343 P **P** **19 29 48.5 -0.8**
UCC IAmb IAmb 19 29 56.4
comp=Z,89nm,1.4s
UCC IAMs_20 IAMs_20 19 53 46.6
comp=Z,2μm,18.0s
MICGM Minsk 55.36 1⇓ *e*P **P** **19 29 52.0 +1.0**
MICGM PM 19 29 53.0
comp=Z,0.2nm,1.0s
MNK Minsk 55.36 1⇓ *e*P **P** **19 29 52.0 +1.0**
MNK pmax pmax
comp=Z,220nm,1.0s
CHGR Chuyangaron 55.37 40 P **P** **19 29 50.2 -1.3**
NIL Nilore 55.54 47 P **P** **19 29 52.0 -0.8**
NIL pmax pmax
comp=Z,70nm,0.9s
NIL MLR MLR
comp=Z,2μm,21.0s
NIL Nilore 55.54 47 P **P** **19 29 52.0 -0.8**
NIL Nilore 55.54 47 IAMs_20 IAMs_20 19 52 12.6
comp=Z,2μm,21.0s
NACGM Naroch 55.75 360 *e*P **P** **19 29 54.0 +0.1**
NACGM *e*LQ LQ 19 47 12.0
NACGM *e*LR LR 19 51 38.0
IDID Didziasalis 56.17 360 *e*P **P** **19 29 58.8 +1.9**
GAR Garm 56.31 40 P **P** **19 29 57.2 -1.1**
GAR IAmb IAmb 19 30 05.7
comp=Z,65nm,1.3s
PABE Paberze 56.41 358 *e*P **P** **19 29 60.0 +1.5**
PABE IAmb IAmb 19 30 01.4
comp=Z,113nm,0.8s
ISAL Salakas 56.43 359 *e*P **P** **19 30 00.2 +1.5**
ISAL IAmb IAmb 19 30 01.9
comp=Z,14nm,0.6s
OBN Obninsk 56.52 7*c* *i*P **P** **19 30 00.4 +1.0**
OBN *e* 19 30 58.4
OBN *e* 19 32 09.6
OBN *e*PPP PPP 19 33 19.6
OBN *e*SS **SS** **19 41 40.5 +2.2**
OBN pmax pmax
comp=Z,57nm,0.9s
OBN MLR MLR
comp=Z,642nm,16.0s
OBN Obninsk 56.52 7 P **P** **19 29 58.9 -0.5**
comp=Z,12nm,0.8s,baz=4.5,slow=18,SNR=10
OBN Obninsk 56.52 7 ⇑P **P** **19 29 58.9 -0.5**
OBN mb 19 30 01.4
OBN Obninsk 56.52 7 P **P** **19 29 58.7 -0.7**
OBN IAmb IAmb 19 30 01.9
comp=Z,54nm,0.9s
IZAR Zarasai 56.60 360 *e*P **P** **19 30 01.1 +1.2**
IZAR IAmb IAmb 19 30 03.2
comp=Z,21nm,0.7s
BSD Bornholm Skovb 56.83 352 *e*P **P** **19 30 02.3 +0.8**
BSD Bornholm Skovb 56.83 352 *i*P **P** **19 30 02.3 +0.8**
PBUR Paburg 57.02 357 *e*P **P** **19 30 04.0 +1.1**
PBUR IAmb IAmb 19 30 05.6
comp=Z,53nm,0.8s
BTK Batken 57.23 39 P **P** **19 30 03.6 -1.2**
BTK pmax pmax
comp=Z,29nm,1.2s
BTK MLR MLR
comp=Z,2μm,20.0s
BTK Batken 57.23 39 P **P** **19 30 03.6 -1.2**
BTK IAMs_20 IAMs_20 19 55 08.6
comp=Z,2μm,20.0s
MOS Moscow 57.26 7 *e*P **P** **19 30 03.2 -1.4**
MOS pmax pmax
comp=Z,187nm,1.2s
MOS MLR MLR
comp=Z,500nm,18.0s
ABKAR Akbulak array 57.62 25 P **P** **19 30 06.1 -1.2**
ABKAR IAmb IAmb 19 30 15.9
comp=Z,40nm,1.4s
ABKAR Akbulak array 57.62 25 P **P** **19 30 06.2 -1.1**
AKTO Aktyubinsk 57.75 23 P **P** **19 30 07.2 -1.0**
comp=Z,18nm,0.7s,baz=168,slow=6.0,SNR=26
AKTO LR LR 19 56 50.1
comp=Z,1μm,19.9s,baz=177,slow=38
KKAR Karatay Array 58.80 36 P **P** **19 30 14.5 -1.2**
KKAR pmax pmax
comp=Z,21nm,0.8s
KKAR Karatay Array 58.80 36 P **P** **19 30 14.6 -1.2**
KKAR IAmb IAmb 19 30 20.0
comp=Z,21nm,0.8s
KKAR Karatay Array 58.80 36 P **P** **19 30 14.5 -1.2**
MUD Monsted U'grnd 59.09 349 *i*P **P** **19 30 18.0 +0.7**
MUD pmax pmax
comp=Z,70nm,1.2s
MUD Monsted U'grnd 59.09 349 *i*P **P** **19 30 18.0 +0.7**
comp=Z,70nm,1.2s
ARSB Arslanbob 59.30 39 P **P** **19 30 18.1 -1.3**
ARSB IAmb IAmb 19 30 29.3
comp=Z,70nm,1.5s
VSU Vasula 59.32 360 *i*P **P** **19 30 20.7 +1.8**
VSU pmax pmax
comp=Z,160nm,0.8s
VSU Vasula 59.32 360 *e*P **P** **19 30 17.9 -1.0**
AML Almayashu 60.18 39 P **P** **19 30 25.7 0.0**
SNR=17
KSH Kashi 60.31 42 P **P** **19 30 25.0 -1.3**
KSH sP sP 19 30 32.5 +1.4
KSH PP **PP** **19 32 39.5 +0.1**
KSH S **S** **19 38 33.3 -7.7**
KSH pmax pmax
comp=Z,57nm,1.2s
KSH pmax pmax
comp=Z,270nm,5.5s
KSH LR LR
comp=Z,2μm,11.6s
KSH LR LR
comp=Z,2μm,14.7s
EKS2 Erkin-Say 60.52 38 P **P** **19 30 31.1 +3.4**
SNR=12
UCH Uchtor 60.75 39 P **P** **19 30 29.4 -0.3**
SNR=7.2
AAK Ala-Archa 60.95 39 *i*P **P** **19 30 32.6 +1.9**
SNR=7.2
AAK Ala-Archa 60.95 39 P **P** **19 30 29.6 -1.1**
AAK pmax pmax
comp=Z,14nm,1.1s
AAK MLR MLR
comp=Z,2μm,20.0s
AAK Ala-Archa 60.95 39 P **P** **19 30 29.6 -1.1**
AAK Ala-Archa 60.95 39 IAMs_20 IAMs_20 19 55 57.2
comp=Z,2μm,20.0s
FRU1 Bishkek 61.13 38 IAMs_20 IAMs_20 19 56 04.9
comp=Z,2μm,22.0s
KZA Kyzart 61.13 39 P **P** **19 30 35.3 +3.1**
SNR=5.7
SNART Snartemo 61.24 348 *e*P **P** **19 30 32.1 +0.1**
KBK Karagaybulak 61.25 39 P **P** **19 30 36.9 +4.1**
SNR=16
NRN Naryn 61.28 40 IAMs_20 IAMs_20 19 57 09.5
comp=Z,3μm,21.0s
USP Ospenovka 61.30 38 P **P** **19 30 36.4 +3.5**
SNR=7.6
CHMS Chumysh 61.31 38 P **P** **19 30 32.1 -0.9**
SNR=9.9
ESK Eskdalemuir 61.34 341 P **P** **19 30 31.8 -1.0**
ESK pmax pmax
comp=Z,36nm,1.0s
ESK MLR MLR
comp=Z,2μm,20.0s
ESK Eskdalemuir 61.34 341 P **P** **19 30 31.8 -1.0**
ESK IAmb IAmb 19 30 35.9
comp=Z,36nm,1.0s
KOLN Koldanda 61.43 57 *e*P **P** **19 30 32.3 -2.0**
comp=Z,108nm,1.1s
DANN Dangsing 61.75 57 *e*P **P** **19 30 34.7 -1.8**
comp=Z,115nm,0.8s
ULHL Ulahol 61.85 40 P **P** **19 30 40.9 +4.0**
SNR=8.6
KONO Kongsberg 62.02 350 *i*P **P** **19 30 38.4 +1.1**
KONO pmax pmax
comp=Z,20nm,0.8s
KONO Kongsberg 62.02 350 *e*P **P** **19 30 36.7 -0.6**
KONO Kongsberg 62.02 350 P **P** **19 30 36.5 -0.8**
KIRV Kirov 62.06 13 P **P** **19 30 36.4 -1.2**
comp=Z,29nm,0.8s,baz=164,slow=2.6,SNR=9.8
OSL Oslo 62.10 351 *e*P **P** **19 30 39.4 +1.6**
NBRF Rio Formoso - 62.21 261 *e*P **P** **19 30 40.8 +1.3**
NBRF Rio Formoso - 62.21 261 *e*P **P** **19 30 40.8 +1.3**
NBPV Pedro Velho 62.26 263 *e*P **P** **19 30 41.4 +1.5**
NBPV Pedro Velho 62.26 263 *e*P **P** **19 30 41.4 +1.5**
FINES FINESS Array B 62.32 360 *i*P **P** **19 30 39.2 -0.1**
FINES pmax pmax
comp=Z,18nm,0.8s
FINES FINESS Array B 62.32 360 P **P** **19 30 38.6 -0.7**
comp=Z,18nm,0.8s,baz=178,slow=5.3,SNR=24
FINES LR LR 20 00 34.9
comp=Z,1μm,20.6s,baz=202,slow=39
FIA1 FINESS Array S 62.32 360 P **P** **19 30 38.5 -0.8**
FIA1 IAmb IAmb 19 30 56.6
comp=Z,61nm,1.4s
GKN Gorkha 62.38 58 *e*P **P** **19 30 38.6 -2.0**
comp=Z,141nm,1.1s
BLS5 Blasjo 62.39 348 *e*P **P** **19 30 41.9 +2.1**
KDJ Kajisay 62.40 40 P **P** **19 30 40.2 -0.3**
KDJ pmax pmax
comp=Z,23nm,1.2s
KDJ MLR MLR
comp=Z,2μm,19.0s
KDJ Kajisay 62.40 40 P **P** **19 30 40.2 -0.3**
KDJ IAmb IAmb 19 30 52.4
comp=Z,23nm,1.2s
KDJ IAMs_20 IAMs_20 19 57 47.4
comp=Z,2μm,19.0s
TARG Taragay, Kyrgy 62.61 41 IAmb IAmb 19 30 46.3
comp=Z,25nm,0.8s
TARG IAMs_20 IAMs_20 19 57 18.0
comp=Z,3μm,22.0s
DMN Daman 62.66 58 *e*P **P** **19 30 41.2 -1.4**
comp=Z,80nm,1.1s
NC602 NORSAR Array S 62.74 352 *e*P **P** **19 30 41.6 -0.6**
ARU Arti 62.75 19*c* *i*P **P** **19 30 41.0 -1.3**
ARU 19 31 19.8
ARU 19 32 55.7
ARU S **S** **19 39 09.7 -1.4**
ARU pmax pmax
comp=Z,36nm,1.0s
ARU MLR MLR
comp=Z,2μm,20.0s
ARU Arti 62.75 19 P **P** **19 30 41.3 -1.0**
comp=Z,13nm,0.7s,baz=208,slow=5.9,SNR=26
ARU LR LR 19 59 51.0
comp=Z,2μm,20.6s,baz=219,slow=38
ARU Arti 62.75 19 P **P** **19 30 41.5 -0.7**
ARU IAmb IAmb 19 30 46.5
comp=Z,32nm,0.7s
ARU IAMs_20 IAMs_20 20 00 50.9
comp=Z,2μm,19.0s
ODD1 Odda 62.81 349 *e*P **P** **19 30 43.1 +0.4**
RCBR Riachuelo 62.85 264 P **P** **19 30 42.6 -1.2**
RCBR pmax pmax
comp=Z,66nm,0.9s
RCBR MLR MLR
comp=Z,2μm,21.0s
RCBR Riachuelo 62.85 264 *e*P **P** **19 30 44.7 +0.9**
RCBR Riachuelo 62.85 264 *e*P **P** **19 30 44.7 +0.9**
RCBR Riachuelo 62.85 264 P **P** **19 30 42.6 -1.2**
RCBR IAMs_20 IAMs_20 19 52 25.3
comp=Z,2μm,21.0s
KKN Kakani 62.86 58 *e*P **P** **19 30 42.1 -1.8**
comp=Z,88nm,0.9s
PKIN Phulchoki 62.90 58 *e*P **P** **19 30 43.2 -1.0**
PKI Pulchoki 62.91 58 *e*P **P** **19 30 43.0 -1.3**
comp=Z,152nm,1.6s
NB2 NORSAR Subarra 63.08 352 P **P** **19 30 44.0 -0.5**
comp=Z,33nm,0.8s,baz=166,slow=6.5
NB2 NORSAR Subarra 63.08 352 P **P** **19 30 44.0 -0.5**
baz=166,slow=6.5
NOA NORSAR Array B 63.08 352 P **P** **19 30 43.1 -1.4**
comp=Z,22nm,0.8s,baz=309,slow=21,SNR=58
NOA LR LR 20 01 56.7
comp=Z,726nm,18.4s,baz=170,slow=40
PRZ Przheval'sk 63.36 40 IAmb IAmb 19 30 51.5
comp=Z,35nm,0.8s
PRZ IAMs_20 IAMs_20 19 57 42.8
comp=Z,3μm,22.0s
GUN Gumba 63.40 58 *e*P **P** **19 30 46.6 -1.1**
comp=Z,99nm,0.8s
NBAN Anadia - AL 63.40 260 *e*P **P** **19 30 49.0 +1.5**
NBAN Anadia - AL 63.40 260 *e*P **P** **19 30 49.0 +1.5**
JIRN Jiri 63.59 58 *e*P **P** **19 30 47.2 -1.8**
comp=Z,71nm,0.9s
RAMN Ramite 63.75 59 *e*P **P** **19 30 49.4 -0.4**
SVE Sverdlovsk 63.76 20 *e*P **P** **19 30 49.7 +0.7**
SVE *e*S **S** **19 39 16.2 -7.5**
SVE pmax pmax
comp=Z,41nm,1.5s
SVE MLR MLR
comp=Z,2μm,17.0s
JOF Joensuu 63.88 2 P **P** **19 30 49.4 -0.2**
JOF pmax pmax
comp=Z,39nm,0.9s
NBLI Livramento-PB 63.95 262 *e*P **P** **19 30 51.6 +0.5**
NBLI Livramento-PB 63.95 262 *e*P **P** **19 30 51.6 +0.5**
HYA Hoyanger 64.05 349 *e*P **P** **19 30 53.3 +2.6**
NBPA Parau_RN 64.05 264 *e*P **P** **19 30 52.5 +0.8**
NBPA Parau_RN 64.05 264 *e*P **P** **19 30 52.5 +0.8**
PRGR Permogore 64.13 10 *e*P **P** **19 30 50.2 -1.1**
PRGR pmax pmax
comp=Z,41nm,0.7s
DOMB Dombas 64.36 351 *e*P **P** **19 30 54.9 +2.0**
ODAN Odare 64.41 60 *e*P **P** **19 30 53.2 -0.9**
comp=Z,35nm,0.9s
TAPN Taplejung 64.81 59 *e*P **P** **19 30 55.9 -1.0**
comp=Z,119nm,1.2s
AKN Aaknes 64.84 350 *e*P **P** **19 30 56.3 +0.3**
BRVK Borovoye 64.89 27 P **P** **19 30 56.2 -0.3**
BRVK pmax pmax
comp=Z,29nm,1.1s
BRVK MLR MLR
comp=Z,2μm,18.0s
BRVK Borovoye 64.89 27 P **P** **19 30 56.2 -0.3**
BRVK IAmb IAmb 19 31 02.3
comp=Z,29nm,1.1s
BRVK Borovoye 64.89 27 IAMs_20 IAMs_20 20 02 11.9
comp=Z,2μm,18.0s
NBLA Lagarto - SE 64.98 258 *e*P **P** **19 30 57.5 -0.3**
NBLA Lagarto - SE 64.98 258 *e*P **P** **19 30 57.5 -0.3**
NBTA Tacaratu-PE 65.13 260 *e*P **P** **19 31 01.2 +2.4**
NBTA Tacaratu-PE 65.13 260 *e*P **P** **19 31 01.2 +2.4**
NBCL Cascavel-CE 65.19 266 *e*P **P** **19 31 00.4 +1.2**
NBCL Cascavel-CE 65.19 266 *e*P **P** **19 31 00.4 +1.2**
TMCR Tamitsa 65.56 5 *e*P **P** **19 31 00.8 +0.2**
TMCR pmax pmax
comp=Z,45nm,0.8s
NBMA Muriti-CE 65.75 262 *e*P **P** **19 31 04.2 +1.3**
NBMA Muriti-CE 65.75 262 *e*P **P** **19 31 04.2 +1.3**
NSS Namsos 66.33 353 *e*P **P** **19 31 08.0 +2.5**
NBPB Pedra_Branca-C 66.50 264 *e*P **P** **19 31 09.2 +1.5**
NBPB Pedra_Branca-C 66.50 264 *e*P **P** **19 31 09.2 +1.5**
NBIT Itapeh - BA 66.89 254 *e*P **P** **19 31 11.1 +0.9**
NBIT Itapeh - BA 66.89 254 *e*P **P** **19 31 11.1 +0.9**
NBMO Morrinhos-CE 66.93 267 *e*P **P** **19 31 11.7 +1.3**
NBMO Morrinhos-CE 66.93 267 *e*P **P** **19 31 11.7 +1.3**
NBPN Ponto Novo - B 67.33 259 *e*P **P** **19 31 13.1 +0.2**
NBPN Ponto Novo - B 67.33 259 *e*P **P** **19 31 13.1 +0.2**
MAKZ Makanchi 67.66 38 P **P** **19 31 13.0 -1.4**
MAKZ pmax pmax
comp=Z,23nm,1.1s
MAKZ MLR MLR
comp=Z,1μm,21.0s
MAKZ Makanchi 67.66 38 P **P** **19 31 13.0 -1.4**
MAKZ IAmb IAmb 19 31 18.6
comp=Z,23nm,1.1s
MOR8 Moi Rana 67.66 355 *e*P **P** **19 31 14.2 +0.2**
KURK Kurchatov 67.67 33 P **P** **19 31 13.5 -0.8**
KURK pmax pmax
comp=Z,35nm,1.1s
KURK MLR MLR
comp=Z,2μm,18.0s
KURK Kurchatov 67.67 33 P **P** **19 31 13.5 -0.8**
KURK IAmb IAmb 19 31 18.5
comp=Z,34nm,1.1s
KURK Kurchatov 67.67 33 IAMs_20 IAMs_20 20 03 35.6
comp=Z,2μm,18.0s
MK31 Makanchi Array 67.84 38 P **P** **19 31 14.4 -1.2**
MK31 pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 67.84 38 P **P** **19 31 14.4 -1.2**
MK31 IAmb IAmb 19 31 19.6
comp=Z,17nm,0.9s
MKAR Makanchi Array 67.84 38 P **P** **19 31 14.2 -1.4**
comp=Z,18nm,0.8s,baz=245,slow=5.6,SNR=52
MKAR LR LR 20 01 30.7
comp=Z,1μm,21.3s,baz=240,slow=36
MKAR Makanchi Array 67.84 38 P **P** **19 31 14.3 -1.3**
SHL Shillong 68.02 62 P **P** **19 31 16.2 -1.1**
SHL pmax pmax
comp=Z,214nm,1.8s
SHL MLR MLR
comp=Z,800nm,19.0s
SHL Shillong 68.02 62 P **P** **19 31 16.2 -1.1**
RIB01 Linhares ES 68.27 250 *e*P **P** **19 31 21.7 +2.9**
RIB01 Linhares ES 68.27 250 *e*P **P** **19 31 21.7 +2.9**
LSA Lhasa 68.33 57 *i*P **P** **19 31 19.7 +0.1**
SNR=12
LSA Lhasa 68.33 57 P **P** **19 31 18.8 -0.8**
LSA pmax pmax
comp=Z,62nm,1.7s
LSA MLR MLR
comp=Z,800nm,20.0s
LSA Lhasa 68.33 57 P **P** **19 31 18.8 -0.8**
LSA IAmb IAmb 19 31 23.7
comp=Z,62nm,1.7s
NBPS Pedro II - PI 68.34 266 *e*P **P** **19 31 20.2 +0.8**
NBPS Pedro II - PI 68.34 266 *e*P **P** **19 31 20.2 +0.8**
SYO Syowa Base 68.39 175⇑ *e*P **P** **19 31 18.4 -0.1**
SYO Syowa Base 68.39 175⇓ *e*pP **P** **19 31 19.8 +1.3**
APA Apatity 68.62 3⇓ *i*P **P** **19 31 18.7 -1.3**
APA pmax pmax
comp=Z,16nm,0.8s
KTK1 Kautokeino 69.96 359 *e*P **P** **19 31 28.6 +0.3**
WMQ Urumqi 70.07 42 *e*P **P** **19 31 31.0 +1.4**
WMQ pP pP 19 31 32.5 -0.6
WMQ sP sP 19 31 38.3 +3.9
WMQ S **S** **19 40 38.8 -1.9**
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=Z,740nm,22.7s
WMQ LR LR
comp=Z,2μm,25.7s
WMQ Urumqi 70.07 42 P **P** **19 31 29.0 -0.6**
WMQ pmax pmax
comp=Z,28nm,1.0s
WMQ MLR MLR
comp=Z,2μm,19.0s
WMQ Urumqi 70.07 42 P **P** **19 31 29.0 -0.6**
WMQ IAmb IAmb 19 31 34.2
comp=Z,28nm,1.0s
WMQ Urumqi 70.07 42 IAMs_20 IAMs_20 20 04 45.8
comp=Z,2μm,19.0s
LHMI Lhok Sumawe 70.23 84 P **P** **19 31 29.5 -1.5**
ARCES ARCESS Array B 70.45 359 P **P** **19 31 30.6 -0.7**
comp=Z,18nm,0.8s,baz=174,slow=6.6,SNR=20
ARCES LR LR 20 05 20.1
comp=Z,780nm,18.7s,baz=176,slow=38
ARCES ARCESS Array B 70.45 359 P **P** **19 31 30.3 -1.0**
ARE0 ARCESS Array S 70.45 359 *e*P **P** **19 31 33.6 +2.3**
ARE0 ARCESS Array S 70.45 359 P **P** **19 31 30.2 -1.1**
GSI Gunungsitoli 70.70 88 P **P** **19 31 32.6 -1.3**
TRO Tromso 70.74 357 *e*P **P** **19 31 32.6 -0.4**
MAW Mawson 70.93 166 P **P** **19 31 33.5 -0.7**
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW Mawson 70.93 166 P **P** **19 31 34.6 +0.4**
comp=Z,24nm,1.1s,baz=301,slow=9.3,SNR=15
MAW LR LR 20 00 30.7
comp=Z,907nm,18.3s,baz=326,slow=34
MAW Mawson 70.93 166 P **P** **19 31 33.5 -0.7**
PKDT Phuket 71.76 81 P **P** **19 31 44.0 +3.7**
RPSI Rantau Prapat 72.09 87 P **P** **19 31 42.2 -0.1**
RPSI IAmb IAmb 19 31 45.7
comp=Z,67nm,1.3s
RPSI IAMs_20 IAMs_20 19 58 40.5
comp=Z,1μm,22.0s
PSI Prapat 72.09 87 P **P** **19 31 42.2 -0.3**
PSI pmax pmax
comp=Z,67nm,1.3s
PSI MLR MLR
comp=Z,1μm,22.0s
SURT Suratani 72.28 80 P **P** **19 31 47.4 +4.0**
comp=Z,65nm,1.6s
ZAA0 Zalesovo Array 72.58 32 P **P** **19 31 43.2 -1.2**
ZAA0 IAmb IAmb 19 31 47.7
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 72.58 32 P **P** **19 31 43.1 -1.3**
ZALV Zalesovo Beam 72.58 32 P **P** **19 31 42.5 -1.9**
comp=Z,16nm,0.8s,baz=250,slow=5.4,SNR=18
ZALV LR LR 20 08 16.5
comp=Z,970nm,19.1s,baz=226,slow=40

ZALV	**Zalesovo Beam**	**72.58**	**32**	P	**P**	**19 31 43.1**	**-1.3**
SNAA	**Sanae**	**73.04**	**189**	P	**P**	**19 31 50.5**	**+3.6**
SNAA	**Sanae**	**73.04**	**189**	P	**P**	**19 31 46.0**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,26nm,1.1s						
SNAA				MLR	MLR		
	comp=Z,2μm,18.0s						
SNAA	**Sanae**	**73.04**	**189**	P	**P**	**19 31 46.0**	**-0.9**
SNAA				IAmb	IAmb	19 31 52.2	
	comp=Z,26nm,1.1s						
SNAA				IAMs_20	IAMs_20	20 01 44.7	
	comp=Z,2μm,18.0s						
TRTT	**Trang**	**73.09**	**82**	P	**P**	**19 31 51.6**	**+3.3**
	comp=Z,81nm,1.6s,comp=Z,1μm						
VNA1	**Neumayer--Stat**	**73.18**	**192**	P	**P**	**19 31 49.9**	**+2.2**
VNA2	**Neumayer--Watz**	**73.23**	**191**	P	**P**	**19 31 49.2**	**+1.2**
	baz=25,slow=6.5						
CM31	**Chiang Mai Arr**	**73.32**	**70**	P	**P**	**19 31 48.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**73.32**	**70**	*i* P	**P**	**19 31 49.9**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,22nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.32**	**70**	P	**P**	**19 31 49.0**	**-0.5**
	comp=Z,9.9nm,0.9s,baz=264,slow=5.6,SNR=56						
CMAR				LR	LR	20 03 00.3	
	comp=Z,275nm,19.5s,baz=268,slow=35						
CMAR	**Chiang Mai Arr**	**73.32**	**70**	P	**P**	**19 31 49.0**	**-0.5**
CHTO	**Chiang Mai**	**73.36**	**70**	P	**P**	**19 31 49.4**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,187nm,2.0s						
CHTO				MLR	MLR		
	comp=Z,400nm,20.0s						
CHTO	**Chiang Mai**	**73.36**	**70**	P	**P**	**19 31 49.4**	**-0.4**
CMMT	**Chiang Mai**	**73.36**	**70**	P	**P**	**19 31 51.8**	**+2.0**
	comp=Z,21nm,1.6s,comp=Z,382nm						
PHET	**Kaeng Krachan**	**73.41**	**76**	P	**P**	**19 31 53.3**	**+3.2**
	comp=Z,108μm,1.1s,comp=Z,922μm						
UTHA	**Uthaitani**	**73.48**	**74**	P	**P**	**19 31 53.2**	**+2.7**
PMNB	**Patos De Minas**	**73.89**	**251**	*e*P	**P**	**19 31 53.8**	**+0.7**
PMNB	**Patos De Minas**	**73.89**	**251**	*e*P	**P**	**19 31 53.8**	**+0.7**
VNA3	**Neumayer Olymp**	**73.93**	**192**	P	**P**	**19 31 52.7**	**+0.6**
LAMP	**Lampang**	**73.97**	**71**	P	**P**	**19 31 57.0**	**+3.6**
	comp=Z,87μm,0.8s						
BKNI	**Bangkinang**	**74.14**	**89**	P	**P**	**19 31 54.8**	**+0.3**
IPM	**Ipoh**	**74.25**	**85**	P	**P**	**19 31 54.8**	**-0.3**
PAYA	**Payao**	**74.29**	**70**	P	**P**	**19 31 58.2**	**+2.9**
	comp=Z,59μm,0.9s,comp=Z,585μm						
PHRA	**Phrae**	**74.53**	**71**	P	**P**	**19 31 59.3**	**+2.6**
	comp=Z,11nm,1.6s						
PATY	**Pattaya**	**74.61**	**76**	P	P	19 32 02.9	+5.8
	comp=Z,62μm,1.2s						
UTTA	**Uttaradit**	**74.76**	**71**	P	**P**	**19 32 00.4**	**+2.5**
	comp=Z,85μm,1.5s,comp=Z,899μm						
BDFB	**Brasilia**	**75.20**	**254**	P	**P**	**19 31 59.4**	**-1.3**
BDFB				pmax	pmax		
	comp=Z,11nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,1μm,21.0s						
BDFB	**Brasilia**	**75.20**	**254**	P	**P**	**19 32 00.4**	**-0.3**
	comp=Z,13nm,0.9s,baz=62,slow=5.1,SNR=12						
BDFB				LR	LR	19 59 56.4	
	comp=Z,960nm,21.1s,baz=94,slow=32						
BDFB	**Brasilia**	**75.20**	**254**	P	**P**	**19 31 59.4**	**-1.3**
RCLB	**Rio Claro- Sao**	**75.23**	**247**	*e*P	**P**	**19 32 04.0**	**+3.3**
RCLB	**Rio Claro- Sao**	**75.23**	**247**	*e*P	**P**	**19 32 04.0**	**+3.3**
SPB	**Sao Paulo**	**75.24**	**246**	*e*P	**P**	**19 32 01.4**	**+0.8**
SPB	**Sao Paulo**	**75.24**	**246**	*e*P	**P**	**19 32 01.4**	**+0.8**
SPB	**Sao Paulo**	**75.24**	**246**	IAMs_20	IAMs_20	19 58 47.1	
	comp=Z,2μm,22.0s						
PEXB	**Peixe**	**75.32**	**258**	*e*P	**P**	**19 32 02.3**	**+1.0**
PEXB	**Peixe**	**75.32**	**258**	*e*P	**P**	**19 32 02.3**	**+1.0**
IPMB	**Ipameri, GO**	**75.53**	**252**	*e*P	**P**	**19 32 02.7**	**+0.2**
IPMB	**Ipameri, GO**	**75.53**	**252**	*e*P	**P**	**19 32 02.7**	**+0.2**
CHAI	**Chaiyaphum**	**75.94**	**73**	P	**P**	**19 32 08.7**	**+3.9**
	comp=Z,33μm,1.4s						
BB19B	**Bebedouro**	**76.04**	**249**	*e*P	**P**	**19 32 05.2**	**-0.2**
BB19B	**Bebedouro**	**76.04**	**249**	*e*P	**P**	**19 32 05.2**	**-0.2**
MYKOM	**Kota Tinggi**	**76.98**	**88**	P	**P**	**19 32 10.2**	**-0.5**
NONG	**Nongkai**	**77.25**	**71**	P	**P**	**19 32 15.1**	**+2.9**
GTA	**Gaotai**	**77.51**	**49**	⇑P	**P**	**19 32 16.0**	**+2.6**
GTA				pP	sP	19 32 20.0	+1.8
GTA				sP	PcP	19 32 23.0	-0.7
GTA				S	**S**	**19 42 07.8**	**+2.9**
GTA				sS	sS	19 42 14.5	+3.8
GTA				SKS	**SKSac**	**19 42 23.0**	**-4.2**
GTA				SS	**SS**	**19 47 11.3**	**+7.2**
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,81nm,7.8s						
GTA				LR	LR		
	comp=Z,760nm,19.0s						
GTA				LR	LR		
	comp=Z,690nm,19.4s						
GTA				LR	LR		
	comp=Z,900nm,18.4s						
KMI	**Kunming**	**77.63**	**64**	P	**P**	**19 32 16.8**	**+2.3**
KMI				pP	sP	19 32 20.3	+1.0
KMI				sP	PcP	19 32 21.5	-3.2
KMI				S	**S**	**19 42 09.0**	**+2.1**
KMI				pmax	pmax		
	comp=Z,33nm,1.7s						
KMI				pmax	pmax		
	comp=Z,150nm,3.1s						
KMI				LR	LR		
	comp=Z,430nm,17.3s						
KMI				LR	LR		
	comp=Z,320nm,20.2s						
KMI				LR	LR		
	comp=Z,570nm,20.9s						
ITRB	**Iturama**	**77.67**	**250**	*e*P	**P**	**19 32 16.0**	**+1.4**
ITRB	**Iturama**	**77.67**	**250**	*e*P	**P**	**19 32 16.0**	**+1.4**
SKNT	**Sakolnakorn**	**77.94**	**73**	P	**P**	**19 32 19.4**	**+3.3**
	comp=Z,88nm,1.9s						
SCO	**Scoresbysund**	**78.22**	**345**	*i* P	**P**	**19 32 20.0**	**+3.5**
SCO	**Scoresbysund**	**78.22**	**345**	*i* P	**P**	**19 32 20.0**	**+3.5**
SLVN	**Son La**	**78.27**	**68**	P	**P**	**19 32 17.3**	**-0.6**
SLVN				IAmb	IAmb	19 32 23.6	
	comp=Z,36nm,1.5s						
PCMB	**Pacaembu**	**78.62**	**248**	*e*P	**P**	**19 32 20.6**	**+0.8**
PCMB	**Pacaembu**	**78.62**	**248**	*e*P	**P**	**19 32 20.6**	**+0.8**
XMIS	**Christmas Isla**	**78.74**	**100**	P	**P**	**19 32 19.4**	**-1.2**
CNLB	**Canela**	**78.82**	**240**	*e*P	**P**	**19 32 24.1**	**+3.3**
CNLB	**Canela**	**78.82**	**240**	*e*P	**P**	**19 32 24.1**	**+3.3**
ARAG	**Araguaiana, MT**	**78.86**	**254**	*e*P	**P**	**19 32 22.0**	**+0.8**
ARAG	**Araguaiana, MT**	**78.86**	**254**	*e*P	**P**	**19 32 22.0**	**+0.8**
UBPT	**Khong Chiam**	**79.24**	**74**	P	**P**	**19 32 27.6**	**+4.4**
CD2	**Chengdu**	**79.26**	**58**	P	**P**	**19 32 26.0**	**+2.8**
CD2				sP	sP	19 32 28.5	+0.5
CD2				PP	**PP**	**19 35 26.5**	**+3.5**
CD2				S	**S**	**19 42 22.5**	**-1.4**
CD2				SS	**SS**	**19 47 28.5**	**-2.2**
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,6.7s						
CD2				LR	LR		
	comp=Z,580nm,17.7s						
CD2				LR	LR		
	comp=Z,270nm,10.8s						
CD2				LR	LR		
	comp=Z,290nm,5.7s						
SPA0	**Spitsbergen Ar**	**79.33**	**358**	P	**P**	**19 32 21.6**	**-0.9**
SPA0				IAmb	IAmb	19 32 28.4	
	comp=Z,49nm,1.1s						
SPITS	**Spitsbergen Ar**	**79.33**	**358**	P	**P**	**19 32 21.9**	**-0.7**
	comp=Z,26nm,1.1s,baz=149,slow=8.5,SNR=5.3						
ITAB	**Concordia**	**79.78**	**243**	*e*P	**P**	**19 32 27.3**	**+1.3**
ITAB	**Concordia**	**79.78**	**243**	*e*P	**P**	**19 32 27.3**	**+1.3**
LZH	**Lanzhou**	**80.06**	**53**	*e*P	**P**	**19 32 31.0**	**+3.4**
LZH				sP	PcP	19 32 40.3	+5.3
LZH				S	**S**	**19 42 32.5**	**+0.1**
LZH				pmax	pmax		
	comp=Z,54nm,1.1s						
LZH				pmax	pmax		
	comp=Z,220nm,4.2s						
LZH				LR	LR		
	comp=Z,610nm,14.6s						
LZH				LR	LR		
	comp=Z,750nm,14.8s						
CISI	**Cisompet, Garu**	**80.85**	**97**	P	**P**	**19 32 31.9**	**-0.2**
NRIK	**Noril'sk**	**80.96**	**18**	P	**P**	**19 32 32.1**	**+0.7**
	comp=Z,16nm,0.9s,baz=217,slow=2.8,SNR=14						
NRIK				LR	LR	20 12 03.0	
	comp=Z,1μm,21.0s,baz=228,slow=38						
MOY	**Mondy**	**80.98**	**37**	*e*P	**P**	**19 32 34.8**	**+2.7**
MOY				pmax	pmax		
	comp=Z,45nm,2.2s						
CPSB	**Cacapava Do Su**	**81.15**	**240**	*e*P	**P**	**19 32 34.6**	**+1.3**
CPSB	**Cacapava Do Su**	**81.15**	**240**	*e*P	**P**	**19 32 34.6**	**+1.3**
GYA	**Guiyang**	**81.29**	**63**	P	**P**	**19 32 33.0**	**-1.3**
GYA				pP	sP	19 32 38.8	-0.3
GYA				PP	**PP**	**19 35 41.5**	**+1.5**
GYA				SKS	**S**	**19 42 45.8**	**+0.3**
GYA				S	**SKSac**	**19 42 49.3**	**-5.0**
GYA				SS	**SS**	**19 48 03.5**	**+2.1**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,600nm,19.2s						
GYA				LR	LR		
	comp=Z,810nm,17.5s						
GYA				LR	LR		
	comp=Z,710nm,20.9s						
PLTB	**Pedras Altas**	**81.39**	**238**	*e*P	**P**	**19 32 36.5**	**+1.9**
PLTB	**Pedras Altas**	**81.39**	**238**	*e*P	**P**	**19 32 36.5**	**+1.9**
DAG	**Danmarks Havn**	**81.74**	**350**	*i* P	**P**	**19 32 38.0**	**+2.6**
DAG				pmax	pmax		
	comp=Z,21nm,1.1s						
DAG	**Danmarks Havn**	**81.74**	**350**	*i* P	**P**	**19 32 38.0**	**+2.6**
	comp=Z,17nm,1.1s						
PP1B	**Ponte de Pedra**	**81.86**	**252**	*e*P	**P**	**19 32 39.0**	**+1.6**
PP1B	**Ponte de Pedra**	**81.86**	**252**	*e*P	**P**	**19 32 39.0**	**+1.6**
ZAK	**Zakamensk**	**82.12**	**39**	*e*P	P	19 32 27.9	-10
ZAK				pmax	pmax		
	comp=Z,11nm,1.1s						
TLY	**Talaya**	**82.60**	**38**	*e*P	**P**	**19 32 44.1**	**+3.6**
TLY				*e*S	**S**	**19 43 05.7**	**+7.8**
TLY				pmax	pmax		
	comp=Z,50nm,1.4s						
TLY				MLR	MLR		
	comp=Z,2μm,12.0s						
TLY	**Talaya**	**82.60**	**38**	IAMs_20	IAMs_20	20 10 59.9	
	comp=Z,1μm,19.0s						
CLDB	**Colider**	**82.64**	**259**	*e*P	**P**	**19 32 40.6**	**-0.9**
CLDB	**Colider**	**82.64**	**259**	*e*P	**P**	**19 32 40.6**	**-0.9**
AQDB	**Aquidauana**	**82.71**	**250**	*e*P	**P**	**19 32 43.8**	**+2.1**
AQDB	**Aquidauana**	**82.71**	**250**	*e*P	**P**	**19 32 43.8**	**+2.1**
IRK	**Irkutsk**	**83.09**	**37**	*e*P	**P**	**19 32 44.8**	**+1.8**
IRK				pmax	pmax		
	comp=Z,44nm,1.8s						
KSM	**Kuching**	**83.43**	**88**	P	**P**	**19 32 44.8**	**-0.8**
QIZ	**Qiongzhong**	**83.65**	**71**	P	**P**	**19 32 46.0**	**-0.6**
QIZ				S	**S**	**19 43 07.5**	**-2.2**
QIZ				LR	LR		
	comp=Z,580nm,23.5s						
QIZ				LR	LR		
	comp=Z,540nm,19.6s						
QIZ				LR	LR		
	comp=Z,680nm,18.1s						
SONM	**Songino Array**	**83.71**	**42**	P	**P**	**19 32 45.9**	**-0.6**
SONM				pmax	pmax		
	comp=Z,17nm,1.2s						
SONM	**Songino Array**	**83.71**	**42**	P	**P**	**19 32 46.9**	**+0.5**
	comp=Z,16nm,1.2s,baz=249,slow=4.6,SNR=34						
SONM				LR	LR	20 15 55.5	
	comp=Z,755nm,18.6s,baz=266,slow=40						
SONM	**Songino Array**	**83.71**	**42**	P	**P**	**19 32 45.9**	**-0.6**
SUMG	**Summit**	**83.78**	**344**	P	**P**	**19 32 46.2**	**-0.4**
SUMG				pmax	pmax		
	comp=Z,47nm,1.0s						
SUMG	**Summit**	**83.78**	**344**	*i* P	**P**	**19 32 50.0**	**+3.4**
	comp=Z,122nm,1.0s						
SUMG	**Summit**	**83.78**	**344**	P	**P**	**19 32 46.2**	**-0.4**
XAN	**Xi'an**	**83.95**	**56**	P	**P**	**19 32 50.0**	**+2.1**
XAN				S	**S**	**19 43 08.0**	**-4.3**
XAN				pmax	pmax		
	comp=Z,16nm,1.8s						
XAN				pmax	pmax		
	comp=Z,96nm,3.9s						
XAN				LR	LR		
	comp=Z,720nm,18.6s						
XAN				LR	LR		
	comp=Z,490nm,22.7s						
XAN				LR	LR		
	comp=Z,550nm,22.1s						
XAN	**Xi'an**	**83.95**	**56**	P	**P**	**19 32 46.5**	**-1.4**
XAN				pmax	pmax		
	comp=Z,70nm,1.9s						
XAN				MLR	MLR		
	comp=Z,600nm,20.0s						
XAN	**Xi'an**	**83.95**	**56**	P	**P**	**19 32 46.5**	**-1.4**
XAN				IAmb	IAmb	19 32 53.1	
	comp=Z,70nm,1.9s						
ENH	**Enshi**	**84.10**	**60**	P	**P**	**19 32 48.5**	**-0.2**
ENH				IAmb	IAmb	19 33 00.3	
	comp=Z,51nm,1.5s						
ULN	**Ulaanbaatar**	**84.15**	**42**	P	**P**	**19 32 49.5**	**+0.7**
ULN				pmax	pmax		
	comp=Z,89nm,1.9s						
ULN				MLR	MLR		
	comp=Z,1μm,20.0s						
ULN	**Ulaanbaatar**	**84.15**	**42**	P	**P**	**19 32 49.5**	**+0.7**
ULN	**Ulaanbaatar**	**84.15**	**42**	IAMs_20	IAMs_20	20 15 17.1	
	comp=Z,1μm,20.0s						
CPUP	**Villa Florida**	**84.38**	**244**	P	**P**	**19 32 48.4**	**-1.8**
CPUP				pmax	pmax		
	comp=Z,20nm,1.8s						
CPUP	**Villa Florida**	**84.38**	**244**	P	**P**	**19 32 50.5**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=86,slow=7.2,SNR=6.4						
CPUP				LR	LR	20 07 39.0	
	comp=Z,726nm,18.9s,baz=93,slow=34						
CPUP	**Villa Florida**	**84.38**	**244**	P	**P**	**19 32 48.4**	**-1.8**
SBUM	**Sibu**	**85.36**	**87**	P	**P**	**19 32 54.3**	**-1.0**
SBUM				IAmb	IAmb	19 33 00.0	
	comp=Z,26nm,1.1s						
CASY	**Casey**	**86.48**	**156**	IAMs_20	IAMs_20	20 07 57.3	
	comp=Z,1μm,19.0s						
HHC	**Hu-ho-hao-te**	**86.62**	**49**	*e*P	**P**	**19 33 01.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,16nm,6.1s						
JAGI	**Jajag, Banyuwa**	**87.12**	**98**	P	**P**	**19 33 03.1**	**-0.9**
DRLN	**Deer Lake**	**87.12**	**319**	P	**P**	**19 33 02.9**	**-0.4**
WHN	**Wuhan**	**88.31**	**60**	⇑P	**P**	**19 33 13.5**	**+4.1**
WHN				S	**S**	**19 43 58.3**	**+3.4**
WHN				LR	LR		
	comp=Z,880nm,14.7s						
WHN				LR	LR		
	comp=Z,1μm,19.0s						
SVB	**Belmont**	**88.45**	**283**	IAMs_20	IAMs_20	20 18 18.8	
	comp=Z,807nm,18.0s						
TRQA	**Tornquist**	**88.49**	**232**	P	**P**	**19 33 10.3**	**+0.1**
TRQA				pmax	pmax		
	comp=Z,14nm,1.1s						
TRQA				MLR	MLR		
	comp=Z,1μm,21.0s						
TRQA	**Tornquist**	**88.49**	**232**	P	**P**	**19 33 10.3**	**+0.1**
TRQA				IAMs_20	IAMs_20	20 06 43.4	
	comp=Z,1μm,21.0s						
QSPA	**South Pole Qui**	**89.00**	**180**	P	**P**	**19 33 12.3**	**+0.3**
QSPA	**South Pole Qui**	**89.00**	**180**	IAMs_20	IAMs_20	20 12 54.6	
	comp=Z,1μm,19.0s						
BOD	**Bodaibo**	**89.32**	**32**	*e*P	**P**	**19 33 13.9**	**+0.4**
BOD				pmax	pmax		
	comp=Z,36nm,1.4s						
PMSA	**Palmer Station**	**89.48**	**205**	*e*P	**P**	**19 33 16.6**	**+2.4**
PMSA	**Palmer Station**	**89.48**	**205**	*e*P	**P**	**19 33 16.6**	**+2.4**
PMSA	**Palmer Station**	**89.48**	**205**	P	**P**	**19 33 14.1**	**0.0**
PMSA				IAmb	IAmb	19 33 26.5	
	comp=Z,16nm,0.8s						
PMSA	**Palmer Station**	**89.48**	**205**	IAMs_20	IAMs_20	20 07 12.3	
	comp=Z,1μm,20.0s						
GBN	**Guysborough**	**89.62**	**315**	IAMs_20	IAMs_20	20 12 47.9	
	comp=Z,1μm,22.0s						
SAML	**Samuel**	**89.93**	**261**	P	**P**	**19 33 15.0**	**-2.4**
SAML				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SAML				MLR	MLR		
	comp=Z,2μm,21.0s						
SAML	**Samuel**	**89.93**	**261**	*e*P	**P**	**19 33 17.7**	**+0.3**
SAML	**Samuel**	**89.93**	**261**	*e*P	**P**	**19 33 17.7**	**+0.3**
SAML	**Samuel**	**89.93**	**261**	P	**P**	**19 33 15.0**	**-2.4**
TIA	**Tai'an**	**90.78**	**54**	P	**P**	**19 33 23.5**	**+2.6**
TIA				pmax	pmax		
	comp=Z,12nm,1.2s						
HAL	**Halifax**	**91.08**	**314**	IAMs_20	IAMs_20	20 12 58.5	
	comp=Z,2μm,18.0s						
NJ2	**Nanjing**	**92.20**	**58**	*e*P	**P**	**19 33 30.5**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,4.0s						
NJ2				LR	LR		
	comp=Z,700nm,19.9s						
NJ2				LR	LR		
	comp=Z,570nm,17.1s						
HIA	**Hailar**	**92.63**	**41**	IAMs_20	IAMs_20	20 15 51.5	
	comp=Z,1μm,20.0s						
SCHQ	**Schefferville**	**93.01**	**325**	LR	LR	20 14 23.3	
	comp=Z,638nm,19.1s,baz=114,slow=35						
BNSI	**Bone**	**93.11**	**94**	P	**P**	**19 33 35.2**	**+3.1**
SJG	**San Juan**	**93.23**	**288**	IAMs_20	IAMs_20	20 09 32.4	
	comp=Z,1μm,22.0s						
G65A	**Princeton**	**93.89**	**315**	IAMs_20	IAMs_20	20 12 24.8	
	comp=Z,2μm,21.0s						
PQI	**Presque Isle**	**94.14**	**317**	IAMs_20	IAMs_20	20 13 00.4	
	comp=Z,1μm,20.0s						
LPAZ	**La Paz**	**94.55**	**254**	P	**P**	**19 33 35.8**	**-3.7**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LPAZ	**La Paz**	**94.55**	**254**	P	**P**	**19 33 38.3**	**-1.2**
	comp=Z,8.4nm,0.9s,baz=86,slow=5.8,SNR=14						
LPAZ				LR	LR	20 15 09.4	
	comp=Z,577nm,18.5s,baz=92,slow=35						
LPAZ	**La Paz**	**94.55**	**254**	*e*P	**P**	**19 33 38.9**	**-0.5**
LPAZ	**La Paz**	**94.55**	**254**	*e*P	**P**	**19 33 38.9**	**-0.5**
LPAZ	**La Paz**	**94.55**	**254**	P	**P**	**19 33 35.8**	**-3.7**
TIXI	**Tiksi**	**94.74**	**18**	*i* P	**P**	**19 33 40.1**	**+1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,662nm,22.0s						
TIXI	**Tiksi**	**94.74**	**18**	P	**P**	**19 33 37.6**	**-0.8**
TIXI				IAMs_20	IAMs_20	20 21 21.5	
	comp=Z,1μm,20.0s						
D62A	**Allapoint, AII**	**94.82**	**317**	IAMs_20	IAMs_20	20 11 07.4	
	comp=Z,1μm,19.0s						
PLCA	**Paso Flores**	**94.99**	**229**	P	**P**	**19 33 38.7**	**-1.6**
PLCA				pmax	pmax		
	comp=Z,11nm,1.3s						
PLCA	**Paso Flores**	**94.99**	**229**	P	**P**	**19 33 41.1**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=146,slow=1.7,SNR=4.6						
PLCA				LR	LR	20 13 35.8	
	comp=Z,520nm,18.1s,baz=118,slow=34						
PLCA	**Paso Flores**	**94.99**	**229**	*e*P	**P**	**19 33 41.6**	**+1.3**
PLCA	**Paso Flores**	**94.99**	**229**	*e*P	**P**	**19 33 41.6**	**+1.3**
PLCA	**Paso Flores**	**94.99**	**229**	P	**P**	**19 33 38.7**	**-1.6**
GO01	**Chusmiza**	**95.40**	**250**	IAMs_20	IAMs_20	20 11 56.6	
	comp=Z,896nm,21.0s						
SNY	**Shenyang**	**95.67**	**48**	⇓P	**P**	**19 33 45.3**	**+2.1**
SNY				S	**S**	**19 44 58.8**	**-2.0**
SNY				pmax	pmax		
	comp=Z,13nm,1.7s						
SNY				pmax	pmax		
	comp=Z,130nm,4.7s						
SNY				LR	LR		
	comp=Z,620nm,16.0s						
SNY				LR	LR		
	comp=Z,660nm,18.5s						
SNY				LR	LR		
	comp=Z,1μm,17.5s						
PEL	**Peldehue**	**95.80**	**237**	IAMs_20	IAMs_20	20 10 24.1	
	comp=Z,1μm,22.0s						
GO06	**Curarrehue**	**95.81**	**230**	IAMs_20	IAMs_20	20 14 44.1	
	comp=Z,1μm,20.0s						
MNMC	**Minye Minye**	**95.81**	**251**	IAMs_20	IAMs_20	20 13 20.4	
	comp=Z,816nm,21.0s						
GO03	**Copiap**	**95.86**	**242**	IAMs_20	IAMs_20	20 12 58.2	
	comp=Z,996nm,20.0s						
G62A	**West of Eustis**	**95.98**	**315**	IAMs_20	IAMs_20	20 14 36.2	
	comp=Z,1μm,20.0s						
I63A	**Otisfield**	**96.11**	**314**	IAMs_20	IAMs_20	20 13 10.6	
	comp=Z,2μm,20.0s						
M65A	**Busby, Falmout**	**96.35**	**312**	IAMs_20	IAMs_20	20 15 39.0	
	comp=Z,1μm,19.0s						
BCX	**Boston College**	**96.68**	**312**	IAMs_20	IAMs_20	20 14 30.7	
	comp=Z,946nm,20.0s						
CN2	**Changchun**	**96.89**	**46**	*e*P	**P**	**19 33 49.5**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
CN2				LR	LR		
	comp=Z,700nm,21.0s						
LBNH	**Lisbon**	**97.06**	**314**	IAMs_20	IAMs_20	20 13 38.7	
	comp=Z,1μm,21.0s						
SOEI	**Soe**	**97.08**	**100**	P	Pdif	19 33 53.4	+2.9
SOEI	**Soe**	**97.08**	**100**	P	**P**	**19 33 48.6**	**-1.8**
SOEI				IAMs_20	IAMs_20	20 11 15.5	
	comp=Z,1μm,22.0s						
SDV	**Santo Domingo**	**97.61**	**279**	*e*P	Pdif	19 33 53.1	+0.1
SDV	**Santo Domingo**	**97.61**	**279**	*e*P	Pdif	19 33 53.1	+0.1
VT1	**Waterbury**	**97.64**	**314**	IAMs_20	IAMs_20	20 17 00.1	
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**97.82**	**171**	P	Pdif	19 33 52.2	-0.1
	comp=Z,1.6nm,0.7s,baz=257,slow=4.4,SNR=4.3						
VNDA				LR	LR	20 16 47.8	
	comp=Z,1μm,19.4s,baz=225,slow=35						
FITZ	**Fitzroy Crossi**	**97.98**	**108**	LR	LR	20 11 55.3	
	comp=Z,940nm,21.9s,baz=274,slow=32						
SBA	**Scott Base**	**98.30**	**172**	IAMs_20	IAMs_20	20 18 57.5	
	comp=Z,1μm,18.0s						
INCN	**Inchon**	**98.35**	**52**	IAMs_20	IAMs_20	20 21 21.7	
	comp=Z,841nm,21.0s						
PAL	**Palisades**	**98.85**	**311**	IAMs_20	IAMs_20	20 17 03.2	
	comp=Z,1μm,19.0s						
KSAR	**Wonju Array Be**	**99.35**	**52**	P	**Pdif**	**19 33 59.5**	**-0.5**
KSAR	**Wonju Array Be**	**99.35**	**52**	P	**Pdif**	**19 33 59.5**	**-0.5**
ODNJ	**Ogdensburg**	**99.36**	**311**	IAMs_20	IAMs_20	20 17 10.8	
	comp=Z,1μm,19.0s						
KSRS	**Korea Array**	**99.38**	**52**	LR	LR	20 23 39.1	
	comp=Z,390nm,18.2s,baz=294,slow=38						
BRNJ	**Basking Ridge**	**99.38**	**311**	IAMs_20	IAMs_20	20 17 18.3	
	comp=Z,2μm,21.0s						
P61A

comp=Z,1μm,20.0s
WRA Warramunga Arr 106.00 111 PKiKP **PKiKP 19 38 41.6 -0.7**
comp=Z,0.5nm,0.5s,baz=275,slow=1.6,SNR=7.0
P51A Williamsport 106.00 311 IAMs_20 IAMs_20 20 20 22.6
comp=Z,1μm,20.0s
WB3 Warramunga Arr 106.02 111 IAMs_20 IAMs_20 20 14 17.7
comp=Z,619nm,18.0s
WB8 Warramunga Arr 106.06 111 IAMs_20 IAMs_20 20 16 52.7
comp=Z,1μm,20.0s
WR7 Warramunga Arr 106.13 111 IAMs_20 IAMs_20 20 24 50.6
comp=Z,1μm,22.0s
Q51A Peebles 106.31 310 IAMs_20 IAMs_20 20 23 59.9
comp=Z,1μm,19.0s
G45A Suttons Bay 106.54 317 IAMs_20 IAMs_20 20 20 05.5
comp=Z,1μm,21.0s
V53A Saluda 106.57 307 IAMs_20 IAMs_20 20 17 57.9
comp=Z,1μm,21.0s
M48A Edgerton 106.78 313 IAMs_20 IAMs_20 20 20 28.1
comp=Z,1μm,19.0s
BG3 Lake Jocassee 106.79 306 IAMs_20 IAMs_20 20 18 10.8
comp=Z,1μm,21.0s
R50A Paris 107.22 310 IAMs_20 IAMs_20 20 19 19.0
comp=Z,1μm,19.0s
MA2 Magadan 107.40 26 IAMs_20 IAMs_20 20 28 25.6
comp=Z,1μm,20.0s
BILL Biiibino 107.58 15 IAMs_20 IAMs_20 20 29 47.2
comp=Z,987nm,21.0s
V51A Loudon 107.77 307 IAMs_20 IAMs_20 20 18 24.6
comp=Z,1μm,22.0s
Y52A Lilburn 107.92 305 IAMs_20 IAMs_20 20 21 05.8
comp=Z,1μm,19.0s
152A Waverly Hall 108.69 304 IAMs_20 IAMs_20 20 19 52.3
comp=Z,1μm,21.0s
FPAL Fort Paine 109.04 306 IAMs_20 IAMs_20 20 19 41.4
comp=Z,710nm,20.0s
SWET Sewanee 109.16 307 IAMs_20 IAMs_20 20 21 47.3
comp=Z,1μm,20.0s
Z50A Ashland 109.57 305 IAMs_20 IAMs_20 20 22 42.4
comp=Z,1μm,20.0s
T47A Sharon Grove 109.67 309 IAMs_20 IAMs_20 20 22 02.8
comp=Z,1μm,20.0s
V48A Smith Brothers 109.74 308 IAMs_20 IAMs_20 20 20 09.9
comp=Z,1μm,21.0s
USIN University of 109.86 310 IAMs_20 IAMs_20 20 22 59.7
comp=Z,1μm,21.0s
X48A Hartselle 110.22 306 IAMs_20 IAMs_20 20 20 37.5
comp=Z,1μm,19.0s
WVT Waverly 110.44 308 IAMs_20 IAMs_20 20 24 02.4
comp=Z,1μm,20.0s
LRAL Lakeview Retre 110.50 305 IAMs_20 IAMs_20 20 20 60.0
comp=Z,961nm,20.0s
TOO Toolangi 111.66 131 IAMs_20 IAMs_20 20 17 50.0
comp=Z,771nm,20.0s
HALT Halls 111.68 308 IAMs_20 IAMs_20 20 26 58.2
comp=Z,1μm,18.0s
JTS Las Juntas de 111.69 281 IAMs_20 IAMs_20 20 28 38.8
comp=Z,676nm,20.0s
YKA Yellowknife Ar 112.29 342 PKKPbc PKKPbc 19 49 51.1 +5.3
comp=Z,1.8nm,0.9s,baz=214,slow=4.0,SNR=5.5
ESTN Estel 112.89 284 IAMs_20 IAMs_20 20 22 48.7
comp=Z,690nm,20.0s
MGMO Mountain Grove 113.60 310 IAMs_20 IAMs_20 20 25 00.6
comp=Z,1μm,20.0s
TGUH Tegucigalpa,Un 113.69 285 IAMs_20 IAMs_20 20 25 43.7
comp=Z,643nm,19.0s
TEIG Tepich 113.94 292 IAMs_20 IAMs_20 20 26 54.0
comp=Z,746nm,19.0s
U40A Yellville 114.29 310 IAMs_20 IAMs_20 20 26 30.0
comp=Z,1μm,20.0s
HHAR Hobbs 115.14 310 IAMs_20 IAMs_20 20 24 23.6
comp=Z,1μm,21.0s
ANM Nome 115.98 6 IAMs_20 IAMs_20 20 33 34.0
comp=Z,551nm,18.0s
ILAR Eielson Array 116.25 357 PKP **PKiKP 19 38 59.5 -0.9**
comp=Z,1.0nm,0.9s,baz=345,slow=4.3,SNR=5.0
ILAR PKKPbc **PKKPbc 19 49 29.2 -3.2**
comp=Z,0.5nm,0.7s,baz=202,slow=4.1,SNR=5.9
ILAR Eielson Array 116.25 357 PKPdf **PKPdf 19 39 00.2 -0.2**
TUL1 Leonard 116.68 310 IAMs_20 IAMs_20 20 30 06.3
comp=Z,778nm,18.0s
CTAO Charters Tower 117.03 113 IAMs_20 IAMs_20 20 27 11.2
comp=Z,721nm,18.0s
MCK McKinley 117.38 358 IAMs_20 IAMs_20 20 31 26.5
comp=Z,590nm,20.0s
BCAR Beaver Creek A 117.55 354 **PKiKP 19 39 04.5 +1.4**
CBKS Cedar Bluff 118.52 314 IAMs_20 IAMs_20 20 26 19.7
comp=Z,1μm,21.0s
HKT Hockley 118.57 304 IAMs_20 IAMs_20 20 33 05.0
comp=Z,941nm,20.0s
ARMA Armidale 118.87 126 IAMs_20 IAMs_20 20 23 27.6
comp=Z,857nm,21.0s
WMOK Wichita Mounta 119.38 310 IAMs_20 IAMs_20 20 29 13.8
comp=Z,1μm,20.0s
435B Jarrell 119.77 305 IAMs_20 IAMs_20 20 31 44.5
comp=Z,1μm,20.0s
EIDS Eidsvold 120.03 120 IAMs_20 IAMs_20 20 28 49.9
comp=Z,736nm,19.0s
EGMT Eagleton 120.10 328 IAMs_20 IAMs_20 20 30 55.5
comp=Z,997nm,19.0s
K22A Casper 121.28 321 IAMs_20 IAMs_20 20 28 25.3
comp=Z,992nm,19.0s
AMTX Amarillo 121.53 311 IAMs_20 IAMs_20 20 30 29.7
comp=Z,1μm,21.0s
JCT Junction City 121.67 306 IAMs_20 IAMs_20 20 26 56.9
comp=Z,1μm,21.0s
T25A Trinidad 122.57 315 P **PKiKP 19 39 15.2 +1.3**
baz=63
BOZ Bozeman (W) 122.61 327 P **PKiKP 19 39 17.0 +3.4**
baz=52
JTMT Jette 122.62 330 **PKPdf 19 39 12.8 -0.7**
YHH Holmes Hill 122.67 325 **PKiKP 19 39 14.0 0.0**
MSTX Muleshoe 122.72 311 IAMs_20 IAMs_20 20 27 55.3
comp=Z,989nm,22.0s
H17A Grant Village 122.74 325 IAMs_20 IAMs_20 20 31 58.6
comp=Z,1μm,20.0s
MSO Missoula 123.06 329 P **PKiKP 19 39 16.9 +2.4**
baz=49
SDCO Great Sand Dun 123.06 316 P **PKiKP 19 39 16.0 +1.0**
baz=62
BW06 Boulder Array 123.09 323 P **PKiKP 19 39 16.6 +1.8**
baz=55
PDAR Pinedale Array 123.09 323 PKP **PKPdf 19 39 13.8 -0.8**
comp=Z,5.9nm,1.1s,baz=96,slow=3.0,SNR=18
PDAR PKKPbc **PKKPbc 19 49 07.5 +0.8**
comp=Z,0.2nm,0.5s,baz=209,slow=2.7,SNR=4.9
PDAR Pinedale Array 123.09 323 **PKPdf 19 39 14.2 -0.4**
MOOW Moose Ponds 123.23 324 IAMs_20 IAMs_20 20 28 43.4
comp=Z,819nm,18.0s
IMW Indian Meadow 123.25 325 IAMs_20 IAMs_20 20 27 23.0
comp=Z,632nm,20.0s
DLMT Dillon 123.29 327 IAMs_20 IAMs_20 20 29 58.8
comp=Z,616nm,20.0s
REDW Red Top Meadow 123.52 324 IAMs_20 IAMs_20 20 29 02.1
comp=Z,908nm,19.0s
S22A 4UR Ranch, Cre 123.98 316 P **PKiKP 19 39 17.9 +1.1**
baz=60
LHI Lord Howe Isla 124.31 130 IAMs_20 IAMs_20 20 16 11.0
comp=Z,590nm,20.0s
C09A Chrisman Ranch 124.52 332 IAMs_20 IAMs_20 20 31 06.1
comp=Z,834nm,18.0s
B08A Colville Reser 124.60 333 **PKPdf 19 39 16.5 -0.5**
B08A IAMs_20 IAMs_20 20 33 23.1
comp=Z,734nm,18.0s
PV22 Blue Mesa, Par 124.91 318 IAMs_20 IAMs_20 20 34 03.6
comp=Z,841nm,21.0s
HWUT Hardware Ranch 124.98 323 IAMs_20 IAMs_20 20 32 24.9
comp=Z,930nm,19.0s
ANMO Albuquerque 125.05 313 P **PKiKP 19 39 20.2 +1.3**
baz=62
ANMO Albuquerque 125.05 313 PKP **PKPdf 19 39 17.9 -0.7**
comp=Z,3.3nm,1.0s,baz=34,slow=1.9,SNR=7.2
TXAR Lajitas Array 125.22 306 PKIKP **PKiKP 19 39 19.0 -0.2**
TXAR Lajitas Array 125.22 306 **PKPdf 19 39 18.6 -0.3**
comp=Z,2.3nm,0.7s,baz=119,slow=3.2,SNR=20
TXAR PKKPbc **PKKPbc 19 49 00.3 +2.5**
comp=Z,0.1nm,0.3s,baz=224,slow=5.2,SNR=4.2
TXAR Lajitas Array 125.22 306 **PKiKP 19 39 19.0 -0.2**
MVCO Mesa Verde 125.40 317 IAMs_20 IAMs_20 20 34 29.6
comp=Z,896nm,20.0s
MNTX Cornudas Mount 125.66 309 P **PKiKP 19 39 20.3 +0.4**
baz=65
MNTX Cornudas Mount 125.66 309 **PKiKP 19 39 19.9 0.0**
LTY Liberty 126.02 333 IAMs_20 IAMs_20 20 32 19.7
comp=Z,939nm,22.0s
BMO Blue Mountains 126.13 329 PKIKP **PKiKP 19 39 20.3 -0.3**
BMO MLR MLR
comp=Z,900nm,21.0s
BMO Blue Mountains 126.13 329 **PKiKP 19 39 20.3 -0.3**
BMO IAMs_20 IAMs_20 20 33 18.8
comp=Z,948nm,21.0s
MFID Camas Ranch 126.31 327 IAMs_20 IAMs_20 20 31 37.9
comp=Z,721nm,22.0s
DUG Dugway, Tooele 126.57 322 P **PKiKP 19 39 23.4 +1.7**
baz=53
DUG Dugway, Tooele 126.57 322 IAMs_20 IAMs_20 20 34 02.2
comp=Z,670nm,20.0s
LON Longmire 126.92 333 IAMs_20 IAMs_20 20 32 36.3
comp=Z,939nm,21.0s
121A Cookes Peak, D 127.13 311 P **PKiKP 19 39 23.7 +0.6**
baz=63
121A Cookes Peak, D 127.13 311 IAMs_20 IAMs_20 20 30 56.0
comp=Z,872nm,21.0s
ELK Elko 127.70 324 PKP **PKPdf 19 39 22.8 -0.7**
comp=Z,3.0nm,1.0s,baz=59,slow=5.6,SNR=7.5
QRZ Quartz Range 127.91 147 IAMs_20 IAMs_20 20 24 15.0
comp=Z,909nm,22.0s
NNZ Nelson 128.09 148 IAMs_20 IAMs_20 20 31 15.6
comp=Z,817nm,22.0s
WUAZ Wupatki 128.26 316 P **PKiKP 19 39 26.2 +1.0**
baz=58
WVOR Wild Horse Val 128.50 328 IAMs_20 IAMs_20 20 33 02.6
comp=Z,637nm,19.0s
X16A Lo Mia Camp, P 128.88 315 IAMs_20 IAMs_20 20 33 13.0
comp=Z,959nm,20.0s
H04D Lebanon 129.03 332 P **PKiKP 19 39 27.9 +1.6**
baz=40
BMN Battle Mountai 129.06 325 IAMs_20 IAMs_20 20 33 09.7
comp=Z,876nm,21.0s
R11A Troy Canyon, C 129.40 322 P **PKiKP 19 39 29.5 +2.0**
baz=52
I04A Tendick Farm, 129.43 331 P **PKiKP 19 39 27.4 +0.2**
baz=41
TUC Tucson 129.47 312 P **PKiKP 19 39 29.3 +1.6**
baz=60
J04D Umpqua Nationa 129.69 331 P **PKiKP 19 39 30.7 +2.7**
baz=42
MOD Modoc Plateau 129.75 328 IAMs_20 IAMs_20 20 35 44.8
comp=Z,666nm,19.0s
L04D Klamath Falls 130.55 330 P **PKiKP 19 39 30.0 +0.4**
baz=42
HUMO Hull Mountain 130.58 331 IAMs_20 IAMs_20 20 35 58.6
comp=Z,765nm,20.0s
M04C Macdoel 130.63 329 P **PKiKP 19 39 30.9 +1.1**
baz=43
NVAR Mina Array Bea 131.00 324 PKP **PKPdf 19 39 28.9 -0.9**
comp=Z,0.9nm,0.7s,baz=39,slow=3.5,SNR=4.8
NVAR Mina Array Bea 131.00 324 **PKiKP 19 39 30.1 -0.6**
YERR Yerington 131.18 325 IAMs_20 IAMs_20 20 37 05.9
comp=Z,698nm,20.0s
VCNR Virginia City 131.21 325 IAMs_20 IAMs_20 20 37 43.5
comp=Z,693nm,20.0s
M02C Callahan 131.44 330 P **PKiKP 19 39 32.8 +1.4**
baz=42
IRM Iron Mountain 131.60 317 P **PKiKP 19 39 32.2 +0.4**
baz=55
WAKR Walker 131.62 324 IAMs_20 IAMs_20 20 38 05.5
comp=Z,915nm,20.0s
N02D Trinity Center 131.67 329 P **PKiKP 19 39 32.6 +0.8**
baz=42
O03E Paynes Creek 131.69 328 P **PKiKP 19 39 33.9 +2.0**
baz=44
MDPB Devils Postpil 131.99 323 IAMs_20 IAMs_20 20 35 08.3
comp=Z,744nm,20.0s
MPMC Manual Prospec 132.01 321 P **PKiKP 19 39 34.8 +2.0**
baz=51
GSC Goldstone, Bar 132.03 319 P **PKiKP 19 39 34.1 +1.4**
baz=52
ORV Oroville 132.06 327 IAMs_20 IAMs_20 20 39 38.9
comp=Z,557nm,19.0s
HNR Honiara 132.09 104 IAMs_20 IAMs_20 20 43 20.3
comp=Z,437nm,18.0s
CMB Columbia Colle 132.49 325 IAMs_20 IAMs_20 20 35 27.4
comp=Z,872nm,21.0s
DZM Mont Dzumac 134.34 123 *e*LR LR 20 22 38.5
comp=Z,1μm,23.0s
DZM Mont Dzumac 134.34 123 IAMs_20 IAMs_20 20 33 26.6
comp=Z,824nm,20.0s
TBI Tubuai 155.50 188 *e*SS SS 20 04 05.0 +7.7
comp=Z,205nm,31.0s
TBI Tubuai 155.50 188 *e*LR LR 20 32 25.7
comp=Z,784nm,36.0s
PPT2 Papeete2 161.17 190 *e*SS SS 20 05 00.7 +2.8
comp=Z,215nm,28.8s
PPT2 Papeete2 161.17 190 *e*LQ LQ 20 28 02.5
comp=Z,2μm,34.8s
PPT2 *e*LR LR 20 35 02.7
comp=Z,1μm,28.0s

*IDC **30** 19:47:51.5±1.3, 19°.28N×121°.98E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3. 1/52, mbtmp3.2/4, Error ellipse: s-maj=66.9km s-min=22.9km az=72.0*
ISC 30 19:47:52.9±1.2, 19°.3N±0°.1×122°.1E±0°.2, h10km, n11, σ0°52/6, mb3.3/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**2.07**	**228**	*i*P	**Pg**	**19 48 33.3**	**+0.6**
SIPP				*e*S	**Sg**	**19 48 59.0**	**-0.6**
KSRS	**Korea Array**	**18.77**	**15**	P	**Pn**	**19 52 12.8**	**+0.2**
	baz=201,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**40.84**	**162**	P	**P**	**19 55 34.8**	**-0.2**
	0.4nm,0.7s,baz=343,slow=9.1,SNR=3.4						
H11S3	**WAKE ISLAND Hy 42.12**		**84**	T	T	20 41 24.9	
	baz=279,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy 42.13**		**84**	T	T	20 41 26.4	
	baz=279,slow=75,SNR=9.9						
H11S2	**WAKE ISLAND Hy 42.14**		**84**	T	T	20 41 26.9	
	baz=279,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy 42.15**		**82**	T	T	20 41 28.3	
	baz=277,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy 42.15**		**82**	T	T	20 41 27.0	
	baz=277,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy 42.16**		**82**	T	T	20 41 28.0	
	baz=277,slow=75,SNR=13						
MKAR	**Makanchi Array**	**42.47**	**319**	P	**P**	**19 55 48.0**	**-0.2**
	0.2nm,0.6s,baz=106,slow=8.9,SNR=2.0						
ASAR	**Alice Springs**	**44.26**	**164**	P	**P**	**19 56 02.9**	**0.0**
	0.5nm,0.8s,baz=346,slow=6.8,SNR=3.4						

*IDC **30** 19:52:29.1±1.0, 0°.46N×99°.29E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.6/58, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=62.4km s-min=16.2km az=51.0*
*ISCJB **30** 19:52:52.8±0.3, 1°.15N±0°.03×100°.05E±0°.04, h200km, mb3.4/7, Error ellipse: s-maj=6.8km s-min=3.9km az=148.5*
*DJA **30** 19:52:54.0±0.4, 1°N±2°×10°0E±°, h207km±4km, M4.1/17, mb4.2/6, MLv4.1/17*
ISC 30 19:52:53.6±0.6, 1°.07N±0°.07×99°.99E±0°.06, h200km, n34, σ1°26/44, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.28**	**125**	P	**Pn**	**19 53 27.1**	**+1.6**
BKNI				S	**Sn**	**19 53 51.2**	**+1.0**
PDSI	**Padang**	**2.03**	**167**	P	**Pn**	**19 53 33.3**	**+0.9**
PDSI				S	**Sn**	**19 54 03.6**	**+0.8**
PBSI	**Pulau Batu**	**2.04**	**237**	P	**Pn**	**19 53 34.4**	**+1.8**
PBSI				S	**Sn**	**19 54 03.2**	**+0.3**
GSI	**Gunungsitoli**	**2.42**	**275**	P	**Pn**	**19 53 38.9**	**+2.2**
GSI				S	**Sn**	**19 54 11.2**	**+1.0**
SDSI	**Sungai Dareh**	**2.46**	**144**	P	**Pn**	**19 53 38.5**	**+1.5**
SISI	**Saibi**	**2.55**	**201**	P	**Pn**	**19 53 38.7**	**+0.7**
SISI				S	**Sn**	**19 54 13.4**	**+0.6**
KRJI	**Kerinci**	**3.47**	**155**	P	**Pn**	**19 53 50.2**	**+1.2**
KRJI				S	**Sn**	**19 54 34.7**	**+2.2**
PPSI	**Pulau Pagai**	**3.81**	**180**	P	**Pn**	**19 53 53.6**	**+0.6**
PPSI				S	**Sn**	**19 54 39.5**	**-0.3**
SNSI	**Sinabang, Aceh**	**3.89**	**290**	P	**Pn**	**19 53 56.2**	**+2.1**
SNSI				S	**Sn**	**19 54 40.7**	**-0.8**
MLSI	**Meulaboh, Aceh**	**4.79**	**312**	P	**Pn**	**19 54 06.1**	**+0.8**
LHSI	**Lahat**	**6.01**	**144**	P	**Pn**	**19 54 21.8**	**+0.7**
MNAI	**Manna**	**6.16**	**151**	P	**Pn**	**19 54 21.9**	**-1.0**
MDSI	**Maura Dua**	**6.93**	**143**	P	**Pn**	**19 54 32.0**	**-0.9**
KLSI		**7.43**	**140**	P	**Pn**	**19 54 39.3**	**-0.2**
KASI	**Kota Agung**	**7.95**	**146**	P	**Pn**	**19 54 44.0**	**-2.2**
SKJI	**Sukabumi**	**10.36**	**141**	P	**Pn**	**19 55 20.5**	**+2.9**
CMAR	**Chiang Mai Ar**	**17.31**	**357**	P	**P**	**19 56 40.9**	**-1.1**
	0.1nm,0.3s,baz=188,slow=10,SNR=9.3						
ODAN	**Odare**	**28.36**	**336**	*e*P	**P**	**19 58 30.6**	**+1.2**
TAPN	**Taplejung**	**28.66**	**337**	*e*P	**P**	**19 58 33.5**	**+1.3**
PKI	**Pulchoki**	**29.83**	**333**	*e*P	**P**	**19 58 43.2**	**+0.7**
PKIN	**Phulchoki**	**29.84**	**333**	*e*P	**P**	**19 58 43.0**	**+0.4**
GUN	**Gumba**	**29.91**	**334**	*e*P	**P**	**19 58 44.5**	**+1.2**
	17nm,0.4s						
DMN	**Daman**	**30.00**	**333**	*e*P	**P**	**19 58 44.7**	**+0.8**
KKN	**Kakani**	**30.07**	**333**	*e*P	**P**	**19 58 45.3**	**+0.7**
GKN	**Gorkha**	**30.55**	**333**	*e*P	**P**	**19 58 49.7**	**+1.0**
	8.1nm,0.3s						
KOLN	**Koldanda**	**30.84**	**331**	*e*P	**P**	**19 58 52.6**	**+1.3**
DANN	**Dangsing**	**31.25**	**332**	*e*P	**P**	**19 58 55.9**	**+0.9**
	14nm,0.5s						
WRA	**Warramunga Arr**	**39.62**	**124**	P	**P**	**20 00 05.5**	**-0.6**
	2.2nm,0.5s,baz=303,slow=9.0,SNR=30						
WRA				PcP	**PcP**	**20 02 09.1**	**-0.1**
	0.2nm,0.4s,baz=317,slow=2.6,SNR=6.5						
ASAR	**Alice Springs**	**41.12**	**129**	P	**P**	**20 00 16.5**	**-1.9**
	0.2nm,0.4s,baz=299,slow=7.8,SNR=9.0						
ASAR				PcP	**PcP**	**20 02 13.4**	**-0.5**
	0.5nm,0.8s,baz=275,slow=2.4,SNR=4.9						
MKAR	**Makanchi Array**	**48.09**	**344**	P	**P**	**20 01 13.6**	**+0.5**
	1.7nm,0.5s,baz=157,slow=8.4,SNR=31						
STKA	**Stephens Creek**	**51.23**	**134**	P	**P**	**20 01 36.5**	**-0.4**
	0.7nm,0.5s,baz=315,slow=19,SNR=3.1						
GEYT	**Alibeck**	**53.12**	**319**	P	**P**	**20 01 49.6**	**-1.3**
	0.3nm,0.4s,baz=134,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**54.17**	**349**	P	**P**	**20 01 58.4**	**+0.3**
	0.8nm,0.6s,baz=177,slow=12,SNR=4.7						
BRTR	**Keskin Array B**	**71.27**	**312**	P	**P**	**20 03 50.5**	**-1.1**
	0.9nm,0.6s,baz=128,slow=7.9,SNR=5.9						

*ISCJB **30** 19:54:09.5±0.4, 26°.41N±0°.04×130°.02E±0°.03, h10km, mb3.5/3, Error ellipse: s-maj=6.3km s-min=3.4km az=24.2*
*JMA **30** 19:54:11.3, 26°.38N×130°.07E, h46km, M3.7*
*IDC **30** 19:54:12.7±6.1, 25°.97N×129°.18E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/53, mbtmp3.4/3, Error ellipse: s-maj=303.1km s-min=28.8km az=62.0*
ISC 30 19:54:09.6±0.7, 26°.40N±0°.05×130°.01E±0°.03, h10km, n24, σ1°95/36, mb3.5/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.24**	**118**	P	**Pn**	**19 54 31.6**	**-1.4**
JMZ				S	**Sb**	**19 54 46.6**	**-2.5**
JKDJ	**Kitadaitoujima**	**1.24**	**111**	P	**Pn**	**19 54 32.0**	**-1.1**
JKDJ				*e*S	**Sb**	**19 54 46.9**	**-2.4**
JYRO	**Yoronjima**	**1.52**	**294**	P	**Pg**	**19 54 37.6**	**-1.3**
JYRO				S	**Sg**	**19 54 56.5**	**-2.2**
JOKE	**Okinoerabujima**	**1.60**	**307**	P	**Pg**	**19 54 38.9**	**-1.4**
JOKE				*e*S	**Sg**	**19 54 58.3**	**-2.8**
JOW	**Kunigami**	**1.61**	**286**	P	**Pg**	**19 54 39.1**	**-1.4**
JOW				S	**Sb**	**19 54 58.2**	**-1.6**
JTK	**Tokunoshima**	**1.67**	**326**	P	**Pb**	**19 54 39.9**	**-0.5**
JTK				S	**Sb**	**19 54 59.6**	**-1.9**
JNTH	**Nagotoyohara**	**1.78**	**274**	P	**Pb**	**19 54 41.2**	**-1.2**
JNTH				S	**Sb**	**19 55 02.6**	**-2.2**
JZK	**Kikaishima**	**1.90**	**359**	*e*S	**Sn**	**19 55 06.4**	**+0.2**
JIH	**Iheya**	**1.93**	**289**	P	**Pb**	**19 54 43.7**	**-1.2**
JIH				S	**Sb**	**19 55 06.8**	**-2.2**
JAMN	**Amaminishikomi**	**1.98**	**338**	P	**Pn**	**19 54 43.4**	**+0.3**
JAMN				*e*S	**Sn**	**19 55 07.7**	**-0.3**
JJT3	**Tamagusuku3**	**2.01**	**263**	P	**Pb**	**19 54 44.8**	**-1.5**
JJT3				S	**Sb**	**19 55 09.8**	**-1.7**
JAGN	**Aguni-jima**	**2.48**	**275**	P	**Pn**	**19 54 51.4**	**+1.3**
JAGN				*e*S	**Sn**	**19 55 19.6**	**-0.9**
JKE	**Kume jima 2**	**2.89**	**269**	P	**Pn**	**19 54 56.3**	**+0.6**
JKE				S	**Sn**	**19 55 30.2**	**-0.4**
ODAN	**Odare**	**37.97**	**281**	*e*P	**P**	**20 01 30.8**	**+2.8**
	11nm,0.6s						
GUN	**Gumba**	**39.13**	**283**	*e*P	**P**	**20 01 41.0**	**+3.0**
	3.6nm,0.4s						
PKI	**Pulchoki**	**39.60**	**282**	*e*P	**P**	**20 01 44.2**	**+2.4**
	8.5nm,0.8s						
PKIN	**Phulchoki**	**39.61**	**282**	*e*P	**P**	**20 01 44.1**	**+2.3**
	9.2nm,0.8s						
KKN	**Kakani**	**39.68**	**282**	*e*P	**P**	**20 01 44.9**	**+2.6**
DMN	**Daman**	**39.86**	**282**	*e*P	**P**	**20 01 46.5**	**+2.6**
GKN	**Gorkha**	**40.21**	**283**	*e*P	**P**	**20 01 48.9**	**+2.2**
DANN	**Dangsing**	**40.92**	**284**	*e*P	**P**	**20 01 55.5**	**+2.8**
	8.1nm,0.6s						
MKAR	**Makanchi Array**	**42.61**	**311**	P	**P**	**20 02 08.3**	**+2.2**
	0.5nm,0.5s,baz=97,slow=8.0,SNR=5.9						
WRA	**Warramunga Arr**	**46.26**	**174**	P	**P**	**20 02 36.5**	**+1.1**
	0.3nm,0.5s,baz=354,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**49.92**	**175**	P	**P**	**20 03 06.0**	**+2.4**
	0.4nm,0.6s,baz=3.3,slow=14,SNR=9.0						

*IDC **30** 19:59:05.0±1.0, 17°.99S×174°.19W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.0/37, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=42.8km s-min=19.1km az=135.0*
*ISCJB **30** 19:59:07.6±0.5, 18°.16S±0°.09×174°.1W±0°.2, h35km, mb4.0/7, Error ellipse: s-maj=26.3km s-min=8.6km az=20.8*
ISC 30 19:59:08.6±0.7, 18°.2S±0°.1×173°.9W±0°.2, h35km, n24, σ1°98/21, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.72**	**26**	Pn	**Pn**	**20 00 17.0**	**-0.4**
	7.9nm,0.3s,baz=221,slow=3.3,SNR=14						
AFI				Sn	**Sn**	**20 01 06.0**	**-5.1**
	25nm,0.3s,baz=204,slow=20,SNR=8.3						
GLKZ	**Green Lake**	**11.61**	**198**	P	**Pn**	**20 01 48.6**	**-3.2**
GLKZ				S	Sn	20 03 50.0	-10
KUZ	**Kuaotunu**	**20.62**	**204**	P	Pn	20 03 46.8	-0.5
WMGZ	**Waiomatatini S**	**20.67**	**198**	P	Pn	20 03 48.0	+0.1
HAZ	**Te Kaha**	**20.80**	**199**	P	Pn	20 03 47.3	-2.1
PUZ	**Puketiti**	**20.95**	**198**	P	Pn	20 03 49.7	-1.5
MWZ	**Matawai**	**21.41**	**199**	P	**P**	**20 03 54.1**	**+0.7**
URZ	**Urewera**	**21.48**	**200**	P	**P**	**20 03 52.9**	**-1.1**
RIGZ	**Rimuhau**	**21.69**	**198**	P	**P**	**20 03 58.1**	**+1.7**
MUGZ	**Murupara**	**21.78**	**200**	P	**P**	**20 03 57.0**	**-0.4**
KNZ	**Kokohu**	**22.00**	**198**	P	**P**	**20 03 59.7**	**0.0**
MTHZ	**Maungataniwha**	**22.10**	**200**	P	**P**	**20 04 01.0**	**+0.2**
HIZ	**Hauiti**	**22.49**	**204**	P	**P**	**20 04 06.2**	**+1.2**
BKZ	**Black Stump Fm**	**22.50**	**200**	P	**P**	**20 04 04.0**	**-1.2**
KAHZ	**Kahuranaki**	**22.95**	**199**	P	**P**	**20 04 10.8**	**+0.9**
PXZ	**Pawanui**	**23.18**	**198**	P	**P**	**20 04 11.6**	**-0.4**
TSZ	**Takapari Road**	**23.48**	**200**	P	**P**	**20 04 13.7**	**-1.4**
RPZ	**Rata Peaks**	**28.43**	**203**	P	**P**	**20 05 03.3**	**+3.4**
	7.9nm,0.5s,baz=14,slow=1.5,SNR=4.4						
WRA	**Warramunga Arr**	**48.82**	**259**	P	**P**	**20 07 49.9**	**-1.0**
	0.6nm,0.4s,baz=98,slow=5.9,SNR=19						
ASAR	**Alice Springs**	**48.86**	**254**	P	**P**	**20 07 50.2**	**-1.0**
	0.6nm,0.4s,baz=89,slow=7.9,SNR=13						
PETK	**Petropavlovsk-**	**75.16**	**343**	P	**P**	**20 10 48.3**	**+1.3**
	2.2nm,0.6s,baz=100,slow=10,SNR=8.1						
NVAR	**Mina Array Bea**	**76.71**	**42**	P	**P**	**20 10 58.5**	**+2.0**
	0.9nm,0.8s,baz=222,slow=10,SNR=9.3						
TXAR	**Lajitas Array**	**82.55**	**56**	P	**P**	**20 11 29.8**	**+1.5**
	0.4nm,0.7s,baz=222,slow=5.0,SNR=4.8						
ILAR	**Eielson Array**	**85.27**	**11**	P	**P**	**20 11 42.6**	**+1.4**
	0.6nm,0.6s,baz=226,slow=6.2,SNR=13						

*STR **30** 20:13:36.2±0.9, 42°N±10°×1°3E±2°8, h1km±24km, mb3.7/4, MLv3.7/7*
*TIR **30** 20:13:37.1, 42°.64N×13°.56E, h11km, Md4.3/7*
*IDC **30** 20:13:37.7±0.9, 42°.75N×13°.16E, h0km, mb3.8/9, mb1 3.9/16, mb1mx3.7/43, mbtmp3.7/16, ML3.9/6, Error ellipse: s-maj=15.6km s-min=14.9km az=79.0*
*BEO **30** 20:13:37.8±0.7, 42°.81N×12°.92E, h10km, ML3.8/11*
*ISCJB **30** 20:13:38.6±0.2, 42°.650N±0°.010×13°.22E±0°.01, h17km±1km, mb3.9/7, Error ellipse: s-maj=1.8km s-min=1.2km az=30.8*
*ROM **30** 20:13:38.3±0.1, 42°.631N±0°.003×13°.206E±0°.005, h10km, ML3.9/111, Mw3.7, Error ellipse

ISC 30 20:13:39.0±0.7, 42.65N±0.01×13.20E±0.02, h15km±4km, n376, σ2.07/481, mb3.9/9, 30C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**99**	P		**Pg**	**20 13 41.4**	**-1.1**
SMA1				S		**Sg**	**20 13 43.4**	**-1.3**
SMA1				AML		AML		
SMA1				AML		AML		
LNSS	**Leonessa**	**0.13**	**250**	*i* P		**Pg**	**20 13 42.1**	**-0.7**
LNSS				S		**Sg**	**20 13 44.6**	**-0.6**
LNSS				AML		AML		
LNSS				AML		AML		
CAMP	**Campotosto**	**0.19**	**125**	P		**Pg**	**20 13 42.6**	**-1.0**
CAMP				S		**Sg**	**20 13 45.6**	**-1.1**
CAMP				AML		AML		
	comp=N,41650µm,0.7s							
CAMP				AML		AML		
	comp=E,51950µm,1.0s							
CAMP				AML		AML		
	comp=E,51950µm,1.0s							
CAMP				AML		AML		
	comp=N,41650µm,0.7s							
NRCA	**Norcia**	**0.20**	**341**	P		**Pg**	**20 13 43.1**	**-0.7**
NRCA				S		**Sg**	**20 13 46.6**	**-0.3**
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA	**Norcia**	**0.20**	**341**			**Pg**	**20 13 43.2**	**-0.6**
NRCA				Sg		**Sg**	**20 13 45.9**	**-1.1**
TERO	**Teramo**	**0.30**	**94**	P		**Pg**	**20 13 44.3**	**-1.1**
TERO				S		**Sg**	**20 13 48.7**	**-1.0**
TERO				AML		AML		
	comp=E,65850µm,0.3s							
TERO				AML		AML		
	comp=E,65800µm,0.3s							
TERO				AML		AML		
	comp=N,55600µm,0.5s							
TERO				AML		AML		
	comp=E,27500µm,0.3s							
TERO				AML		AML		
	comp=N,23600µm,0.5s							
TERO				AML		AML		
	comp=E,65850µm,0.3s							
TERO				AML		AML		
	comp=N,55550µm,0.5s							
TERO				AML		AML		
	comp=N,23600µm,0.5s							
TERO				AML		AML		
	comp=N,55550µm,0.5s							
TERO				AML		AML		
	comp=E,65850µm,0.3s							
T0104	**Madonna delle**	**0.30**	**160**	P		**Pg**	**20 13 44.7**	**-0.7**
T0104				S		**Sg**	**20 13 49.5**	**-0.3**
T0104				AML		AML		
	comp=E,53750µm,1.0s							
T0104				AML		AML		
	comp=N,34900µm,1.0s							
T0104				AML		AML		
	comp=N,38700µm,1.0s							
T0104				AML		AML		
	comp=N,34850µm,1.0s							
T0104				AML		AML		
	comp=E,51550µm,1.0s							
T0104				AML		AML		
	comp=N,38700µm,1.0s							
T0104				AML		AML		
	comp=N,34850µm,1.0s							
T0104				AML		AML		
	comp=E,51550µm,1.0s							
AQU	**L'Aquila**	**0.33**	**153**	P		**Pg**	**20 13 45.0**	**-0.8**
AQU				S		**Sg**	**20 13 49.9**	**-0.6**
AQU				AML		AML		
	comp=E,24200µm,0.6s							
AQU				AML		AML		
	comp=E,23850µm,0.6s							
AQU				AML		AML		
	comp=N,23800µm,0.3s							
AQU				AML		AML		
	comp=E,24200µm,0.6s							
AQU				AML		AML		
	comp=N,24550µm,0.3s							
AQU				AML		AML		
	comp=E,24150µm,0.6s							
AQU				AML		AML		
	comp=N,24500µm,0.3s							
AQU				AML		AML		
	comp=N,23800µm,0.3s							
AQU				AML		AML		
	comp=E,24150µm,0.6s							
AQU				AML		AML		
	comp=E,23850µm,0.6s							
AQU	**L'Aquila**	**0.33**	**153**			**Pg**	**20 13 45.1**	**-0.8**
AQU				Sg		**Sb**	**20 13 50.4**	**-1.3**
ARRO	**Arrone**	**0.33**	**258**	P		**Pg**	**20 13 45.3**	**-0.5**
ARRO				AML		AML		
	comp=N,19650µm,1.3s							
ARRO				AML		AML		
	comp=E,25950µm,0.2s							
ARRO				AML		AML		
	comp=E,25950µm,0.2s							
FIAM	**Fiamignano**	**0.38**	**189**	P		**Pg**	**20 13 46.1**	**-0.8**
FIAM				S		**Sg**	**20 13 51.6**	**-0.6**
FIAM				AML		AML		
	comp=E,43200µm,0.3s							
FIAM				AML		AML		
	comp=N,25950µm,1.4s							
FDMO	**Fiordimonte**	**0.40**	**348**	P		**Pg**	**20 13 46.5**	**-0.7**
FDMO				S		**Sb**	**20 13 52.5**	**-1.3**
FDMO				AML		AML		
	comp=E,17600µm,0.5s							
FDMO				AML		AML		
	comp=N,15950µm,0.3s							
FDMO				AML		AML		
	comp=N,15950µm,0.3s							
CESI	**CESI - Serrava**	**0.42**	**329**	P		**Pg**	**20 13 46.9**	**-0.6**
CESI				S		**Sg**	**20 13 53.3**	**0.0**
CESI				AML		AML		
	comp=E,5045µm,0.5s							
CESI				AML		AML		
	comp=N,7605µm,1.1s							
CSP1	**Cessapalombo**	**0.45**	**0**	P		**Pg**	**20 13 47.3**	**-0.7**
CSP1				S		**Sb**	**20 13 54.3**	**-0.9**
CSP1				AML		AML		
	comp=E,19800µm,1.2s							
CSP1				AML		AML		
	comp=N,35100µm,0.3s							
CSP1				AML		AML		
	comp=N,35100µm,0.3s							
CSP1				AML		AML		
	comp=E,19800µm,1.2s							
CESX	**Cesi**	**0.46**	**266**	P		**Pg**	**20 13 47.4**	**-0.8**
CESX				S		**Sg**	**20 13 54.9**	**+0.5**
CESX				AML		AML		
	comp=N,23200µm,0.3s							
CESX				AML		AML		
	comp=E,26950µm,0.3s							
CESX				AML		AML		
	comp=E,26950µm,0.3s							
CESX				AML		AML		
	comp=N,23200µm,0.3s							
FAGN	**Fagnano**	**0.47**	**143**	P		**Pg**	**20 13 47.3**	**-1.2**
FAGN				AML		AML		
	comp=E,48600µm,0.3s							
FAGN				AML		AML		
	comp=N,36150µm,0.5s							
FAGN				AML		AML		
	comp=E,48600µm,0.3s							
FAGN				AML		AML		
	comp=N,36150µm,0.5s							
MOMA	**Monte Martano**	**0.49**	**289**	P		**Pg**	**20 13 48.2**	**-0.7**
MOMA				S		**Sb**	**20 13 55.9**	**-0.6**
MOMA				AML		AML		
	comp=E,32800µm,0.2s							
MOMA				AML		AML		
	comp=N,28900µm,0.3s							
MOMA				AML		AML		
	comp=E,32800µm,0.3s							
MOMA				AML		AML		
	comp=E,33750µm,0.3s							
MOMA				AML		AML		
	comp=E,32850µm,0.3s							
MOMA				AML		AML		
	comp=N,28850µm,0.3s							
MOMA				AML		AML		
	comp=N,29200µm,0.3s							
MOMA				AML		AML		
	comp=N,29200µm,0.3s							
MOMA				AML		AML		
	comp=E,32850µm,0.3s							
MOMA				AML		AML		
	comp=N,28850µm,0.3s							
MNTP	**Montappone**	**0.53**	**22**	P		**Pb**	**20 13 49.2**	**-0.8**
MNTP				S		**Sb**	**20 13 58.1**	**+0.6**
MNTP				AML		AML		
	comp=E,57500µm,0.6s							
MNTP				AML		AML		
	comp=N,52200µm,0.3s							
MNTP				AML		AML		
	comp=E,57450µm,0.6s							
MNTP				AML		AML		
	comp=N,52150µm,0.3s							
MNTP				AML		AML		
	comp=N,52150µm,0.3s							
MNTP				AML		AML		
	comp=E,57450µm,0.6s							
TRTR	**Tortoreto Alta**	**0.55**	**73**	P		**Pb**	**20 13 50.0**	**-0.3**
TRTR				AML		AML		
	comp=E,52300µm,0.4s							
TRTR				AML		AML		
	comp=N,40650µm,1.6s							
TRTR				AML		AML		
	comp=N,40650µm,1.6s							
TRTR				AML		AML		
	comp=E,52300µm,0.4s							
ASSB	**Assisi San Ben**	**0.56**	**315**	P		**Pg**	**20 13 49.4**	**-0.8**
ASSB				S		**Sb**	**20 13 58.0**	**-0.5**
ASSB				AML		AML		
	comp=E,17650µm,0.4s							
ASSB				AML		AML		
	comp=N,18750µm,1.5s							
ASSB				AML		AML		
	comp=E,17650µm,0.4s							
CRM1	**Catelraimondo**	**0.57**	**350**	P		**Pg**	**20 13 49.7**	**-0.7**
CRM1				S		**Sb**	**20 13 58.7**	**-0.1**
CRM1				AML		AML		
	comp=E,26350µm,0.6s							
CRM1				AML		AML		
	comp=N,27200µm,0.7s							
CRM1				AML		AML		
	comp=E,26350µm,0.6s							
CRM1				AML		AML		
	comp=N,27200µm,0.7s							
CRM1				AML		AML		
	comp=E,26350µm,0.6s							
CRM1				AML		AML		
	comp=N,27200µm,0.7s							
SNTG	**Esanatoglia**	**0.64**	**343**	P		**Pg**	**20 13 50.5**	**-1.1**
SNTG				AML		AML		
	comp=E,704µm,0.2s							
SNTG				AML		AML		
	comp=N,1042µm,0.5s							
SNTG				AML		AML		
	comp=N,1040µm,0.5s							
SNTG				AML		AML		
	comp=N,8195µm,0.5s							
SNTG				AML		AML		
	comp=E,5410µm,0.2s							
SNTG				AML		AML		
	comp=E,705µm,0.2s							
PTQR	**Pietraquaria**	**0.64**	**167**	P		**Pg**	**20 13 50.3**	**-1.3**
PTQR				AML		AML		
	comp=N,3160µm,0.7s							
PTQR				AML		AML		
	comp=E,3480µm,1.1s							
ATCC	**AVT- Casa Cast**	**0.68**	**323**	P		**Pg**	**20 13 51.5**	**-0.9**
ATCC				S		**Sb**	**20 14 01.9**	**+0.1**
ATCC				AML		AML		
	comp=E,16200µm,0.7s							
ATCC				AML		AML		
	comp=E,16200µm,0.7s							
ATCC				AML		AML		
	comp=E,16200µm,0.7s							
ATCC				AML		AML		
	comp=N,14100µm,0.4s							
CADA	**Capodarco di F**	**0.69**	**37**	P		**Pb**	**20 13 52.8**	**+0.1**
CADA				AML		AML		
	comp=E,39150µm,0.4s							
CADA				AML		AML		
	comp=E,39150µm,0.4s							
CADA				AML		AML		
	comp=N,28250µm,0.6s							
EL6	**Elcito**	**0.69**	**354**	P		**Pg**	**20 13 51.5**	**-1.0**
EL6				AML		AML		
	comp=E,13950µm,1.3s							
EL6				AML		AML		
	comp=N,15350µm,0.4s							
EL6				AML		AML		
	comp=E,13850µm,1.3s							
EL6				AML		AML		
	comp=N,15300µm,0.4s							
MTCE	**Montecelio**	**0.71**	**209**	P		**Pg**	**20 13 51.4**	**-1.5**
MTCE				AML		AML		
	comp=E,7620µm,1.6s							
MTCE				AML		AML		
	comp=N,5395µm,0.4s							
MTCE				AML		AML		
	comp=E,7625µm,1.6s							
MTCE				AML		AML		
	comp=N,5390µm,0.4s							
FOSV	**Fossato di Vic**	**0.72**	**334**	P		**Pg**	**20 13 52.4**	**-0.8**
FOSV				AML		AML		
	comp=N,7350µm,1.3s							
FOSV				AML		AML		
	comp=E,7470µm,1.0s							
FOSV				AML		AML		
	comp=N,7345µm,1.3s							
CING	**Cingoli**	**0.73**	**360**	P		**Pg**	**20 13 52.3**	**-1.0**
CING				AML		AML		
	comp=N,8850µm,0.4s							
CING				AML		AML		
	comp=E,15500µm,0.5s							
CIMA	**Civitanova Mar**	**0.74**	**27**	P		**Pn**	**20 13 54.1**	**-0.9**
CIMA				AML		AML		
	comp=E,16200µm,0.6s							
CIMA				AML		AML		
	comp=N,22050µm,0.6s							
CIMA				AML		AML		
	comp=E,16250µm,0.6s							
CIMA				AML		AML		
	comp=N,22050µm,0.6s							
PP3	**Marolino**	**0.79**	**22**	P		**Pb**	**20 13 54.2**	**-0.2**
PP3				AML		AML		
	comp=E,41350µm,0.5s							
PP3				AML		AML		
	comp=N,56800µm,0.5s							
PP3				AML		AML		
	comp=E,44050µm,0.5s							
PP3				AML		AML		
	comp=N,56850µm,0.4s							
PP3				AML		AML		
	comp=E,41350µm,0.5s							
PP3				AML		AML		
	comp=N,56800µm,0.4s							
PP3				AML		AML		
	comp=E,44050µm,0.5s							
PP3				AML		AML		
	comp=N,56850µm,0.4s							
PP3				AML		AML		
	comp=N,56800µm,0.4s							
PP3				AML		AML		
	comp=E,41350µm,0.5s							
PP3				AML		AML		
	comp=E,44050µm,0.5s							
PP3				AML		AML		
	comp=N,56850µm,0.4s							
MURB	**Monte Urbino**	**0.79**	**321**	P		**Pg**	**20 13 53.5**	**-1.0**
MURB				AML		AML		
	comp=N,33200µm,0.3s							
MURB				AML		AML		
	comp=E,24450µm,1.4s							
MURB				AML		AML		
	comp=N,33650µm,0.3s							
MURB				AML		AML		
	comp=E,22100µm,1.4s							
MURB				AML		AML		
	comp=N,33200µm,0.3s							
MURB				AML		AML		
	comp=N,33650µm,0.3s							
MURB				AML		AML		
	comp=E,22100µm,1.4s							
MURB				AML		AML		
	comp=N,33200µm,0.3s							
MURB				AML		AML		
	comp=E,24450µm,1.4s							
MURB	**Monte Urbino**	**0.79**	**321**			**Pg**	**20 13 54.0**	**-0.5**
INTR	**Introdacqua**	**0.82**	**140**	P		**Pg**	**20 13 53.1**	**-1.9**
INTR				AML		AML		
	comp=N,13550µm,0.5s							
INTR				AML		AML		
	comp=N,13500µm,0.5s							
INTR				AML		AML		
	comp=E,10625µm,1.3s							
INTR	**Introdacqua**	**0.82**	**140**			**Pg**	**20 13 53.1**	**-1.9**
INTR						**Sn**	**20 14 06.9**	**-1.1**
ATTE	**AVT- Monte Tez**	**0.83**	**312**	P		**Pg**	**20 13 54.3**	**-0.9**
ATTE				AML		AML		
	comp=E,7660µm,0.9s							
ATTE				AML		AML		
	comp=E,7655µm,0.9s							
ATTE				AML		AML		
	comp=N,6405µm,0.3s							
VVLD	**Villa Vallelon**	**0.83**	**158**	P		**Pg**	**20 13 54.1**	**-1.2**
VVLD				AML		AML		
	comp=N,5700µm,0.5s							
VVLD				AML		AML		
	comp=E,4140µm,1.1s							
MGAB	**Montegabbione**	**0.84**	**289**	P		**Pg**	**20 13 54.4**	**-1.0**
MGAB				AML		AML		
	comp=E,22900µm,0.9s							
MGAB				AML		AML		
	comp=N,14900µm,0.6s							
MGAB				AML		AML		
	comp=N,15300µm,0.5s							
MGAB				AML		AML		
	comp=E,23100µm,0.9s							
MGAB				AML		AML		
	comp=E,22900µm,0.9s							
SSFR	**Montelago di S**	**0.85**	**339**	P		**Pg**	**20 13 54.8**	**-0.7**
SSFR				AML		AML		
	comp=E,13450µm,0.2s							
SSFR				AML		AML		
	comp=N,12600µm,1.5s							
SSFR				AML		AML		
	comp=N,12850µm,0.3s							
SSFR				AML		AML		
	comp=E,15250µm,0.2s							
GUAR	**Guarcino**	**0.85**	**174**	P		**Pg**	**20 13 54.6**	**-1.0**
GUAR				AML		AML		
	comp=E,6080µm,0.4s							
GUAR				AML		AML		
	comp=N,7595µm,0.7s							
ATFO	**Monte Foce - G**	**0.86**	**328**	P		**Pg**	**20 13 54.6**	**-1.0**
ATFO				AML		AML		
	comp=E,6585µm,0.7s							
ATFO				AML		AML		
	comp=N,5450µm,0.4s							
ATFO				AML		AML		
	comp=N,5455µm,0.4s							
ATFO				AML		AML		
	comp=E,6580µm,0.7s							
ARVD	**Arcevia**	**0.87**	**348**	P		**Pg**	**20 13 54.6**	**-1.4**
ARVD				AML		AML		
	comp=E,6695µm,0.9s							
ARVD				AML		AML		
	comp=N,6510µm,0.9s							
RMP	**Rome, Mte Porz**	**0.91**	**204**	P		**Pg**	**20 13 55.1**	**-1.6**
RMP				AML		AML		
	comp=E,8405µm,0.6s							
RMP				AML		AML		
	comp=N,11340µm,0.4s							
ATVO	**AVT- Monte Val**	**0.94**	**322**	P		**Pg**	**20 13 55.7**	**-1.5**
ATVO				AML		AML		
	comp=E,5510µm,0.8s							
ATVO				AML		AML		
	comp=N,4180µm,1.2s							
FRON	**Frontone**	**0.94**	**338**	P		**Pg**	**20 13 55.9**	**-1.3**
FRON				AML		AML		
	comp=N,8740µm,0.5s							
FRON				AML		AML		
	comp=E,7490µm,0.5s							
LPEL	**Lama dei Pelig**	**0.94**	**129**	P		**Pg**	**20 13 54.9**	**-2.5**
LPEL				AML		AML		
	comp=E,7170µm,0.3s							
LPEL				AML		AML		
	comp=N,5905µm,1.4s							
CAFR	**Castel Frentan**	**0.95**	**116**	P		**Pg**	**20 13 55.4**	**-2.0**
CAFR				AML		AML		
	comp=N,14500µm,0.5s							
CAFR				AML		AML		
	comp=E,11950µm,0.3s							
AOI	**Ancona**	**0.95**	**18**	P		**Pg**	**20 13 56.3**	**-1.2**
AOI				S		**Sn**	**20 14 10.4**	**-0.8**
AOI				AML		AML		
	comp=E,6720µm,0.3s							
AOI				AML		AML		
	comp=N,7470µm,1.2s							
RDP	**Rocca di Papa**	**0.96**	**202**	P		**Pg**	**20 13 56.0**	**-1.6**
RDP				AML		AML		
	comp=E,21200µm,0.6s							
RDP				AML		AML		
	comp=N,20300µm,0.6s							
RDP				AML		AML		
	comp=E,21200µm,0.6s							
RDP				AML		AML		
	comp=N,20300µm,0.6s							
ATMI	**Monte Miggiano**	**0.97**	**315**	P		**Pg**	**20 13 57.1**	**-0.8**
ATMI				AML		AML		
	comp=E,19200µm,0.4s							
ATMI				AML		AML		
	comp=N,18550µm,0.4s							
SACS	**San Casciano d**	**0.97**	**283**	P		**Pg**	**20 13 57.0**	**-0.9**
SACS				AML		AML		
	comp=E,7080µm,0.5s							
SACS				AML		AML		
	comp=N,6465µm,0.4s							
SACS				AML		AML		
	comp=E,6895µm,0.5s							
SACS				AML		AML		
	comp=N,6560µm,0.4s							
ATPI	**Pietralunga -**	**0.99**	**324**	P		**Pg**	**20 13 57.3**	**-1.0**
ATPI				AML		AML		
	comp=E,6080µm,1.5s							
ATPI				AML		AML		
	comp=N,5320µm,1.5s							
COR1	**Corinaldo**	**1.00**	**352**	P		**Pb**	**20 13 57.6**	**-0.4**
COR1				AML		AML		
	comp=E,16850µm,0.7s							
COR1				AML		AML		
	comp=N,22200µm,1.1s							
COR1				AML		AML		
	comp=E,8595µm,0.6s							
COR1				AML		AML		
	comp=N,22200µm,1.1s							
COR1				AML		AML		
	comp=N,20100µm,1.1s							
POFI	**Posta Fibreno**	**1.00**	**158**	P		**Pg**	**20 13 56.8**	**-1.6**
POFI				AML		AML		
	comp=E,4385µm,0.5s							
POFI				AML		AML		
	comp=N,2515µm,0.7s							
PIEI	**Pieia**	**1.01**	**332**	P		**Pg**	**20 13 57.4**	**-1.3**
PIEI				AML		AML		
	comp=E,5040µm,0.8s							
PIEI				AML		AML		
	comp=N,3630µm,0.9s							
LATE	**Laterza**	**1.03**	**269**	P		**Pg**	**20 13 58.0**	**-1.0**
LATE				AML		AML		
	comp=E,8880µm,1.2s							
LATE				AML		AML		
	comp=N,13300µm,0.6s							
LATE	**Laterza**	**1.03**	**269**			**Pg**	**20 13 58.3**	**-0.7**
LATE				Sg		**Sb**	**20 14 12.9**	**+0.9**
MPAG	**Monte Paganucc**	**1.03**	**342**	P		**Pg**	**20 13 57.6**	**-1.4**
MPAG				AML		AML		
	comp=E,4515µm,0.5s							
MPAG				AML		AML		
	comp=N,4505µm,1.6s							
MPAG				AML		AML		
	comp=N,4575µm,1.6s							
MPAG				AML		AML		
	comp=E,4605µm,0.5s							
LAV9	**Lanuvio**	**1.04**	**201**	P		**Pg**	**20 13 58.0**	**-1.1**
LAV9				AML		AML		
	comp=E,12550µm,0.4s							

LAV9				AML	AML	
	comp=E,12300µm,0.4s					
LAV9				AML	AML	
	comp=N,13500µm,0.4s					
LAV9				AML	AML	
	comp=N,12950µm,0.4s					
SENI	**Senigallia**	**1.06**	**1**	P	**Pg**	**20 13 58.2 -1.3**
SENI				AML	AML	
	comp=E,18900µm,0.5s					
SENI				AML	AML	
	comp=N,25450µm,0.4s					
SENI				AML	AML	
	comp=N,25450µm,0.4s					
SENI				AML	AML	
	comp=E,5155µm,0.5s					
SENI				AML	AML	
	comp=E,18900µm,0.5s					
SENI				AML	AML	
	comp=N,5980µm,1.1s					
TOLF	**Tolfa**	**1.06 237**		P	**Pg**	**20 13 57.8 -1.8**
TOLF				AML	AML	
	comp=E,4955µm,0.4s					
TOLF				AML	AML	
	comp=N,2955µm,0.9s					
NARO	**Abbazia di Nar**	**1.07 335**		P	**Pg**	**20 13 58.1 -1.5**
NARO				AML	AML	
	comp=E,3750µm,1.2s					
NARO				AML	AML	
	comp=N,3645µm,0.8s					
CDCA	**Citt' di Caste**	**1.08 319**		P	**Pb**	**20 13 59.0 -0.4**
CDCA				AML	AML	
	comp=E,3650µm,0.7s					
CDCA				AML	AML	
	comp=N,4285µm,0.9s					
CDCA				AML	AML	
	comp=N,14150µm,0.9s					
CDCA				AML	AML	
	comp=E,9585µm,0.4s					
GIUL	**Giuliano Di Ro**	**1.09 178**		P	**Pg**	**20 13 58.8 -1.3**
GIUL				AML	AML	
	comp=E,3340µm,0.8s					
GIUL				AML	AML	
	comp=N,2655µm,0.7s					
FSSB	**Fossombrone**	**1.09 344**		P	**Pg**	**20 13 59.0 -1.1**
FSSB				AML	AML	
	comp=E,15200µm,0.4s					
FSSB				AML	AML	
	comp=N,11700µm,0.5s					
MCIV	**Monte Civitell**	**1.13 277**		P	**Pb**	**20 13 59.2 -1.1**
MCIV				AML	AML	
	comp=N,2200µm,1.6s					
MCIV				AML	AML	
	comp=E,2740µm,0.5s					
CAFI	**Castiglion Fio**	**1.14 307**		P	**Pb**	**20 13 59.7 -0.7**
CAFI				AML	AML	
	comp=N,4120µm,0.5s					
CAFI				AML	AML	
	comp=E,4655µm,0.5s					
LATB	**Latina**	**1.16 189**		P	**Pb**	**20 13 59.3 -1.6**
LATB				AML	AML	
	comp=N,1275µm,1.1s					
LATB				AML	AML	
	comp=E,1405µm,1.0s					
CERA	**Filignano**	**1.21 150**		P	**Pb**	**20 13 59.9 -1.8**
CERA				AML	AML	
	comp=E,2405µm,0.7s					
CERA				AML	AML	
	comp=N,3440µm,0.8s					
CERA				AML	AML	
	comp=E,2440µm,0.7s					
CERA				AML	AML	
	comp=N,3385µm,0.8s					
PARC	**Parchiule**	**1.23 325**		P	**Pn**	**20 14 01.3 -0.4**
PARC				AML	AML	
	comp=N,3935µm,0.6s					
PARC				AML	AML	
	comp=E,3490µm,0.5s					
MIDA	**Miranda**	**1.27 142**		P	**Pn**	**20 14 00.9 -1.4**
MIDA				AML	AML	
	comp=N,2690µm,1.3s					
MIDA				AML	AML	
	comp=N,2780µm,1.3s					
MIDA				AML	AML	
	comp=E,2375µm,0.8s					
MIDA				AML	AML	
	comp=E,2360µm,0.8s					
CRE	**Caprese Michel**	**1.34 317**		P	**Pn**	**20 14 02.9 -0.4**
CRE				AML	AML	
	comp=E,1750µm,1.3s					
CRE				AML	AML	
	comp=N,2230µm,1.3s					
VAGA	**Valle Agricola**	**1.45 148**		P	**Pb**	**20 14 05.1 -0.7**
VAGA				AML	AML	
	comp=N,1465µm,1.5s					
VAGA				AML	AML	
	comp=E,1390µm,0.6s					
VAGA				AML	AML	
	comp=E,1418µm,0.6s					
VAGA				AML	AML	
	comp=N,1480µm,1.5s					
BSSO	**Busso**	**1.51 136**		P	**Pg**	**20 14 07.0 -1.1**
BSSO				AML	AML	
	comp=E,1185µm,1.1s					
BSSO				AML	AML	
	comp=N,780µm,1.1s					
BSSO				AML	AML	
	comp=N,1900µm,1.1s					
BSSO				AML	AML	
	comp=E,514µm,1.1s					
MAON	**Monte Argentar**	**1.54 263**		P	**Pn**	**20 14 05.8 -0.2**
MAON				AML	AML	
	comp=E,927µm,0.6s					
MAON				AML	AML	
	comp=N,714µm,1.1s					
MODR	**Mondragone**	**1.58 161**		P	**Pn**	**20 14 07.0 +0.5**
MODR				AML	AML	
	comp=N,674µm,1.0s					
MODR				AML	AML	
	comp=E,650µm,1.0s					
FROS	**Frosini**	**1.60 291**		P	**Pn**	**20 14 07.1 +0.2**
FROS				AML	AML	
	comp=N,1240µm,0.7s					
FROS				AML	AML	
	comp=E,1645µm,0.7s					
CIGN	**Sant'Elia a Pi**	**1.61 127**		AML	AML	
	comp=N,888µm,1.4s					
CIGN				AML	AML	
	comp=E,975µm,0.8s					
PIGN	**Pignataro Magg**	**1.62 153**		P	**Pb**	**20 14 07.8 -0.8**
PIGN				AML	AML	
	comp=E,650µm,1.2s					
PIGN				AML	AML	
	comp=N,837µm,0.9s					
PIGN				AML	AML	
	comp=N,714µm,1.0s					
PIGN				AML	AML	
	comp=E,700µm,1.2s					
SACR	**S. Croce Del S**	**1.68 138**		P	**Pn**	**20 14 08.3 +0.4**
SACR				AML	AML	
	comp=N,781µm,1.3s					
SACR				AML	AML	
	comp=E,2120µm,1.6s					
SACR				AML	AML	
	comp=N,768µm,1.3s					
SACR				AML	AML	
	comp=E,798µm,1.2s					
OSSC	**Osservatorio P**	**1.68 302**		P	**Pn**	**20 14 08.5 +0.6**
OSSC				AML	AML	
	comp=E,856µm,0.5s					
OSSC				AML	AML	
	comp=N,786µm,0.6s					
OSSC				AML	AML	
	comp=N,766µm,0.6s					
OSSC				AML	AML	
	comp=E,801µm,0.6s					
OSSC	**Osservatorio P**	**1.68 302**			**Pn**	**20 14 08.7 +0.8**
OSSC				Sn	**Sn**	**20 14 30.0 +0.8**
MELA	**Melanico ??? S**	**1.71 123**		P	**Pb**	**20 14 09.5 -0.7**
MELA				AML	AML	
	comp=E,3505µm,0.7s					
MELA				AML	AML	
	comp=E,3505µm,0.7s					
MELA				AML	AML	
	comp=N,3420µm,0.8s					
MELA				AML	AML	
	comp=N,3590µm,0.9s					
CASP	**Castiglione de**	**1.73 276**		P	**Pn**	**20 14 08.4 -0.1**
CASP				AML	AML	
	comp=E,350µm,0.8s					
CASP				AML	AML	
	comp=N,306µm,1.2s					
CASP	**Castiglione de**	**1.73 276**			**Pn**	**20 14 08.6 +0.1**
CASP				Sn	**Sn**	**20 14 31.2 +0.9**
TRIF	**Trifonti**	**1.75 286**		P	**Pn**	**20 14 09.3 +0.4**
TRIF				AML	AML	
	comp=N,720µm,0.6s					
TRIF				AML	AML	
	comp=E,842µm,1.0s					
PAOL	**Paolisi**	**1.91 147**			**Pb**	**20 14 12.2 -1.4**
DUGI	**Dugi Otok**	**1.91**	**45**	*i* Pn	**Pn**	**20 14 11.1 0.0**
DUGI				Sn	**Sb**	**20 14 35.6 -1.6**
ZIRJ	**Zirje**	**2.05**	**60**	*i* Pn	**Pn**	**20 14 13.2 +0.3**
ZIRJ				Sn	**Sn**	**20 14 38.4 +0.1**
SGRT	**San Giovanni R**	**2.09 114**		P	**Pn**	**20 14 14.2 +0.6**
SGRT				AML	AML	
	comp=E,1485µm,0.8s					
SGRT				AML	AML	
	comp=N,1575µm,0.5s					
SGRT	**San Giovanni R**	**2.09 114**			**Pn**	**20 14 14.4 +0.8**
SGTA	**Sant Agata di**	**2.21 132**		AML	AML	
	comp=E,1022µm,0.7s					
SGTA				AML	AML	
	comp=E,1028µm,0.7s					
SGTA				AML	AML	
	comp=N,676µm,0.6s					
SGTA				AML	AML	
	comp=N,722µm,0.6s					
MSAG	**Monte S. Angel**	**2.22 114**		P	**Pn**	**20 14 16.3 +0.9**
MSAG				AML	AML	
	comp=E,1865µm,0.5s					
MSAG				AML	AML	
	comp=N,3665µm,1.6s					
MSAG				AML	AML	
	comp=E,1820µm,0.5s					
MSAG				AML	AML	
	comp=N,3670µm,1.6s					
CAFE	**Carife**	**2.22 136**		AML	AML	
	comp=E,628µm,0.8s					
CAFE				AML	AML	
	comp=N,524µm,1.5s					
CAFE				AML	AML	
	comp=N,576µm,1.4s					
CAFE				AML	AML	
	comp=E,623µm,0.7s					
POPM	**Popiglio**	**2.27 309**		P	**Pn**	**20 14 16.2 +0.2**
POPM	**Popiglio**	**2.27 309**		P	**Pn**	**20 14 16.2 +0.2**
POPM				AML	AML	
	comp=N,764µm,1.5s					
POPM				AML	AML	
	comp=E,586µm,0.8s					
NVLJ	**Novalja**	**2.27**	**32**	*e*Pn	**Pn**	**20 14 16.2 +0.3**
NVLJ				Sn	**Sn**	**20 14 44.0 +0.4**
BRJN	**Brijuni**	**2.29**	**10**	*e*Pn	**Pn**	**20 14 16.8 +0.5**
BRJN				Sn	**Sn**	**20 14 45.1 +0.9**
MAIM	**Mastiano**	**2.35 304**		P	**Pn**	**20 14 17.9 +0.8**
ZCCA	**Zocca**	**2.35 317**			**Pb**	**20 14 19.5 -1.6**
CARD	**Cardoso**	**2.42 306**		P	**Pn**	**20 14 18.5 +0.5**
CARD	**Cardoso**	**2.42 306**		AML	AML	
	comp=E,885µm,0.3s					
CARD				AML	AML	
	comp=N,968µm,1.5s					
HVAR	**Hvar**	**2.44**	**76**	*i* Pn	**Pn**	**20 14 18.8 +0.4**
HVAR				Sn	**Sn**	**20 14 48.8 +0.8**
UDBI	**Udbina**	**2.65**	**44**	*i* Pn	**Pn**	**20 14 22.5 +1.3**
UDBI				Sn	**Sb**	**20 14 55.4 -3.1**
EQUI	**Equi**	**2.69 305**		P	**Pn**	**20 14 22.1 +0.3**
MRVN	**Minervino Murg**	**2.74 124**		AML	AML	
	comp=N,305µm,0.6s					
MRVN				AML	AML	
	comp=E,344µm,0.7s					
ACER	**Acerenza**	**2.77 131**		AML	AML	
	comp=E,647µm,0.6s					
ACER				AML	AML	
	comp=N,650µm,0.7s					
ACER				AML	AML	
	comp=N,601µm,0.7s					
ACER				AML	AML	
	comp=E,633µm,1.4s					
ACER	**Acerenza**	**2.77 131**			**Pn**	**20 14 24.6 +1.8**
RIY	**Rijeka**	**2.83**	**19**	*e*Pn	**Pn**	**20 14 23.5 -0.3**
RIY				Sn	**Sn**	**20 14 58.8 +1.2**
RIY	**Rijeka**	**2.83**	**19**	⇓*i*Pn	**Pn**	**20 14 24.3 +0.6**
MAKA	**Makarska**	**2.88**	**76**	*i* Pn	**Pn**	**20 14 24.8 +0.5**
MAKA				Sn	**Sn**	**20 15 01.2 +2.6**
TEOL	**Teolo**	**2.93 338**		AML	AML	
	comp=E,1705µm,0.6s					
TEOL				AML	AML	
	comp=N,1555µm,0.8s					
TEOL	**Teolo**	**2.93 338**			**Pn**	**20 14 26.1 +1.0**
GRAM	**Graiana**	**2.93 310**		P	**Pn**	**20 14 26.6 +1.5**
SMPL	**Sampolo**	**2.95 261**		Pn	**Pn**	**20 14 25.6 +0.3**
SMPL				Sn	**Sn**	**20 15 00.2 -0.4**
AMUR	**Altamura**	**3.08 123**		AML	AML	
	comp=N,434µm,0.7s					
AMUR				AML	AML	
	comp=E,488µm,0.5s					
TRI	**Trieste**	**3.09**	**7**	AML	AML	
	comp=E,353µm,0.8s					
TRI				AML	AML	
	comp=N,226µm,0.5s					
TRI	**Trieste**	**3.09**	**7**		**Pn**	**20 14 27.2 -0.1**
PGF	**Pioggiola**	**3.10 270**		*e*P	**Pn**	**20 14 29.2 +1.7**
	SNR=1.0					
PGF				*e*Sn	**Sn**	**20 15 02.4 -2.0**
PGF	**Pioggiola**	**3.10 270**		Pn	**Pn**	**20 14 28.7 +1.1**
BAI	**Bari**	**3.15 118**		⇓*i*Pn	**Pn**	**20 14 29.1 +1.1**
BAI				Sn	**Sn**	**20 15 06.3 +1.0**
MSSA	**Maissana**	**3.16 303**			**Pn**	**20 14 29.7 +1.5**
SG1	**Sgolgore (BA)**	**3.17 124**		⇓*i*Pn	**Pn**	**20 14 29.5 +1.2**
SG1				Sn	**Sn**	**20 15 07.8 +2.0**
CEY	**Cerknica**	**3.22**	**15**	*e*Pn	**Pn**	**20 14 28.8 -0.2**
BOJS	**Bojanci**	**3.22**	**27**	AML	AML	
	comp=N,191µm,1.5s					
BOJS				AML	AML	
	comp=E,300µm,1.0s					
MATE	**Matera**	**3.30 126**		⇑P	**Pn**	**20 14 31.7 +1.7**
STON	**Ston**	**3.32**	**85**	*i* Pn	**Pn**	**20 14 30.9 +0.5**
STON				Sn	**Sn**	**20 15 09.6 +0.1**
STON	**Ston**	**3.32**	**85**	⇑*i*Pn	**Pn**	**20 14 30.8 +0.4**
STON	**Ston**	**3.32**	**85**	AML	AML	
	comp=N,194µm,0.5s					
STON				AML	AML	
	comp=E,244µm,0.8s					
MGRS	**Mrkonjic Grad**	**3.33**	**57**	*e*Pn	**Pn**	**20 14 32.8 +2.2**
CGRP	**Cima Grappa**	**3.39 343**		AML	AML	
	comp=N,982µm,0.6s					
CGRP				AML	AML	
	comp=E,1053µm,0.5s					
POLC	**Polcenigo**	**3.42 352**		AML	AML	
	comp=N,1158µm,0.4s					
POLC				AML	AML	
	comp=E,688µm,0.4s					
VOJS	**Vojsko**	**3.42**	**8**	*e*Pn	**Pn**	**20 14 31.6 -0.2**
VOJS				*i* Sn	**Sn**	**20 15 13.2 +1.0**
	comp=Z,97nm,0.7s					
NOCI	**Noci**	**3.44 121**		AML	AML	
	comp=E,364µm,1.5s					
NOCI				AML	AML	
	comp=N,424µm,1.4s					
LJU	**Ljubljana**	**3.53**	**15**	⇑*i*Pn	**Pn**	**20 14 33.7 +0.4**
LJU	**Ljubljana**	**3.53**	**15**	AML	AML	
	comp=E,584µm,0.4s					
LJU				AML	AML	
	comp=N,868µm,0.5s					
SALO	**Salr**	**3.54 328**			**Pn**	**20 14 35.3 +1.8**
CRES	**Cresnjev**	**3.57**	**26**	⇑*i*Pn	**Pn**	**20 14 33.5 -0.3**
BLY	**Banja Luka**	**3.57**	**53**	*e*Pn	**Pn**	**20 14 35.5 +1.6**
BLY	**Banja Luka**	**3.57**	**53**	⇑P	**Pn**	**20 14 34.5 +0.6**
BLY				AML	AML	20 15 56.2
BLY	**Banja Luka**	**3.57**	**53**	AML	AML	
	comp=E,368µm,0.6s					
BLY				AML	AML	
	comp=N,359µm,0.9s					
BLY	**Banja Luka**	**3.57**	**53**		**Pn**	**20 14 34.3 +0.4**
MASS	**Massafra**	**3.58 123**		*e*Pn	**Pn**	**20 14 35.5 +1.6**
CTI	**Castel Tesino**	**3.58 342**		AML	AML	
	comp=N,641µm,1.5s					
CTI				AML	AML	
	comp=E,647µm,0.5s					
CTI	**Castel Tesino**	**3.58 342**			**Pn**	**20 14 35.5 +1.5**
CADS	**Cadrg**	**3.60**	**6**	*i* Pn	**Pn**	**20 14 34.3 -0.1**
CADS				*e*Sn	**Sn**	**20 15 17.6 +1.0**
	comp=Z,102nm,0.6s					
STAL	**STALIGIAL**	**3.63 355**		AML	AML	
	comp=N,588µm,0.3s					
STAL				AML	AML	
	comp=N,769µm,0.3s					
STAL				AML	AML	
	comp=E,860µm,0.5s					
STAL				AML	AML	
	comp=E,777µm,0.5s					
STAL	**STALIGIAL**	**3.63 355**			**Pn**	**20 14 35.3 +0.6**
MAGA	**Magasa**	**3.63 330**		AML	AML	
	comp=E,1290µm,0.5s					
MAGA				AML	AML	
	comp=N,1060µm,0.4s					
DBRK	**Dubrovnik**	**3.65**	**88**	*i* Pn	**Pn**	**20 14 35.8 +0.9**
DBRK				Sn	**Sn**	**20 15 18.3 +0.6**
GORS	**Gorjuse**	**3.71**	**9**	*i* Pn	**Pn**	**20 14 35.9 -0.1**
GORS				*i* Sn	**Sn**	**20 15 20.7 +1.2**
	comp=Z,206nm,1.2s					
TAR1	**Taranto**	**3.72 123**		⇓*i*Pn	**Pn**	**20 14 37.5 +1.6**
AGOR	**Agordo**	**3.73 348**		AML	AML	
	comp=E,237µm,1.0s					
AGOR				AML	AML	
	comp=N,186µm,0.6s					
PTCC	**Patocco-Chiusa**	**3.76**	**2**	AML	AML	
	comp=N,196µm,0.4s					
PTCC				AML	AML	
	comp=E,223µm,0.5s					
TREB	**Trebinje**	**3.80**	**87**	⇓*i*Pn	**Pn**	**20 14 37.8 +0.8**
PTJ	**Puntijarka**	**3.82**	**30**	*e*Pn	**Pn**	**20 14 38.8 +1.5**
ACOM	**Acomizza, Ital**	**3.91**	**3**	AML	AML	
	comp=N,444µm,0.4s					
ACOM				AML	AML	
	comp=E,454µm,1.3s					
MABI	**Malga Bissina**	**3.92 331**		AML	AML	
	comp=E,172µm,0.7s					
MABI				AML	AML	
	comp=N,194µm,0.4s					
HCY	**Herceg Novi**	**3.92**	**91**	⇑*i*Pn	**Pn**	**20 14 39.5 +0.9**
HCY	**Herceg Novi**	**3.92**	**91**	⇑*i*Pn	**Pn**	**20 14 39.6 +0.9**
HCY				*i* Sn	**Sn**	**20 15 25.8 +1.5**
BRY	**Bratogost**	**3.94**	**84**	*e*Pn	**Pn**	**20 14 40.2 +1.2**
BRY	**Bratogost**	**3.94**	**84**	⇑*i*Pn	**Pn**	**20 14 39.4 +0.4**
BRY				*e*Sn	**Sn**	**20 15 26.6 +1.6**
FVI	**Forni Avoltri**	**3.96 356**		AML	AML	
	comp=E,195µm,0.8s					
FVI				AML	AML	
	comp=N,237µm,0.7s					
OBKA	**Obir**	**3.98**	**14**	*i* Pn	**Pn**	**20 14 40.4 +0.8**
	comp=N,8.5nm,0.2s					
OBKA				Sn	**Sn**	**20 15 26.2 +0.2**
	comp=N,61nm,0.5s					
MYKA	**Terra Mystica**	**4.00**	**4**	*e*Pn	**Pn**	**20 14 40.5 +0.7**
	comp=N,9.0nm,0.3s,SNR=5.6					
MYKA				*i* Sn	**Sn**	**20 15 27.0 +0.6**
	comp=N,52nm,0.6s					
MDI	**Monti di Nese**	**4.01 322**		AML	AML	
	comp=N,295µm,1.6s					
MDI				AML	AML	
	comp=E,285µm,1.2s					
APPI	**Appiano**	**4.08 340**		AML	AML	
	comp=N,574µm,0.4s					
APPI				AML	AML	
	comp=E,353µm,1.5s					
DOB	**Doboj**	**4.12**	**58**	*e*Pn	**Pn**	**20 14 40.6 -0.8**
ABTA	**Abfaltersbach**	**4.13 353**		*i* Pn	**Pn**	**20 14 42.7 +1.1**
	comp=E,62nm,0.3s,SNR=35					
ABTA				*i* Sn	**Sn**	**20 15 30.8 +1.1**
	comp=E,56nm,0.5s					
KALN	**Kalnik**	**4.19**	**33**	*e*Pn	**Pn**	**20 14 41.9 -0.5**
CEME	**Cevo**	**4.22**	**89**	⇑*i*Pn	**Pn**	**20 14 43.5 +0.6**
CEME				*e*Sn	**Sn**	**20 15 33.2 +1.3**
BUM	**Brajici-Budva**	**4.22**	**93**	⇑*i*Pn	**Pn**	**20 14 44.2 +1.3**
BUM				*e*Sn	**Sn**	**20 15 33.2 +1.2**
UPM	**Unac-Piva**	**4.23**	**80**	*e*Pn	**Pn**	**20 14 44.5 +1.5**
UPM	**Unac-Piva**	**4.23**	**80**	⇓*i*Pn	**Pn**	**20 14 44.3 +1.3**
UPM				*e*Sn	**Sn**	**20 15 33.3 +1.1**
SOKA	**Soboth**	**4.24**	**17**	*e*Pn	**Pn**	**20 14 44.5 +1.4**
	comp=E,8.8nm,0.3s					
SOKA				*e*Sn	**Sn**	**20 15 32.4 +0.1**
	comp=E,14nm,0.3s					
NKME	**Niksic**	**4.24**	**86**	⇓*i*Pn	**Pn**	**20 14 43.8 +0.7**
NKME				*e*Sn	**Sn**	**20 15 33.2 +0.8**
NKY	**Niksic**	**4.27**	**86**	⇑*i*Pn	**Pn**	**20 14 44.3 +0.7**
NKY				*i* Sn	**Sn**	**20 15 34.3 +1.1**
ABSI	**Aberstueckl**	**4.30 342**		AML	AML	
	comp=E,642µm,0.6s					
ABSI				AML	AML	
	comp=N,506µm,0.6s					
SAOF	**Saorge**	**4.33 290**		Pn	**Pn**	**20 14 46.0 +1.6**
SAOF				Sn	**Sn**	**20 15 35.8 +1.2**
RISI	**Rein**	**4.38 350**		AML	AML	
	comp=N,811µm,0.4s					
RISI				AML	AML	
	comp=E,596µm,0.4s					
SBF	**Sospel**	**4.38 288**		*e*Pn	**Pn**	**20 14 45.0 -0.1**
	SNR=1.0					
SBF				*e*Sn	**Sn**	**20 15 32.7 -3.2**
	comp=E,19nm,0.3s					
MUGIO	**Muggio**	**4.43 319**		AML	AML	
	comp=E,158µm,0.5s					
MUGIO				AML	AML	
	comp=N,117µm,0.5s					
HAPS	**Han Pijesak,Bl**	**4.43**	**69**	*e*Pn	**Pn**	**20 14 47.0 +1.2**
KBA	**Koelnbreinsper**	**4.43**	**1**	*e*Pn	**Pn**	**20 14 47.1 +1.3**
	comp=N,18nm,0.3s					
KBA				*e*Sn	**Sn**	**20 15 37.9 +0.7**
	comp=N,50nm,0.5s					
TURF	**col de Turini**	**4.44 289**		Pn	**Pn**	**20 14 46.9 +0.9**
TURF				Sn	**Sn**	**20 15 38.3 +0.9**
DRME	**Dracevica, Mon**	**4.45**	**94**	⇑*i*Pn	**Pn**	**20 14 47.5 +1.6**
DRME	**Dracevica, Mon**	**4.45**	**94**	⇑*i*Pn	**Pn**	**20 14 47.6 +1.6**
DRME				*e*Sn	**Sn**	**20 15 38.6 +1.1**
ROSI	**Rosskopf**	**4.47 344**		AML	AML	
	comp=N,614µm,0.4s					
ROSI				AML	AML	
	comp=E,542µm,0.7s					
PDG	**Podgorica**	**4.48**	**91**	⇑*i*Pn	**Pn**	**20 14 47.8 +1.5**
PDG	**Podgorica**	**4.48**	**91**	⇑P	**Pn**	**20 14 47.9 +1.6**
PDG				AML	AML	20 15 42.8
PDG	**Podgorica**	**4.48**	**91**	AML	AML	
	comp=E,419µm,0.4s					
PDG				AML	AML	
	comp=E,326µm,0.4s					
PDG				AML	AML	
	comp=N,428µm,0.3s					
PDG				AML	AML	
	comp=N,544µm,0.3s					
PDG	**Podgorica**	**4.48**	**91**		**Pn**	**20 14 48.0 +1.7**
TTG	**Podgorica**	**4.48**	**91**	⇓*i*Pn	**Pn**	**20 14 46.8 +0.5**
TTG				*i* Sn	**Sn**	**20 15 39.2 +1.1**
FUORN	**Ofenpass-Fuorn**	**4.49 333**			**Pn**	**20 14 49.4 +2.6**
ULC	**Ulcinj**	**4.53**	**97**	⇑*i*Pn	**Pn**	**20 14 48.4 +1.3**
ULC				*i* Sn	**Sn**	**20 15 40.7 +1.1**
PLE	**Pljevlja**	**4.59**	**79**	⇓*i*Pn	**Pn**	**20 14 49.2 +1.2**
PLE				*i* Sn	**Sn**	**20 15 42.0 +0.9**
RUDO	**Rudo**	**4.62**	**76**	*e*Pn	**Pn**	**20 14 44.2 -4.1**
KOME	**Kolasin**	**4.66**	**85**	⇓*i*Pn	**Pn**	**20 14 50.4 +1.6**
KOME				*e*Sn	**Sn**	**20 15 43.5 +0.9**
BBLS	**Lazići**	**4.69**	**73**	*e*Pn	**Pn**	**20 14 50.8 +1.5**
BBLS				*e*Sn	**Sn**	**20 15 45.3 +1.8**
BBLS	**Lazići**	**4.69**	**73**	⇓*i*Pn	**Pn**	**20 14 49.6 +0.3**
FETA	**Feichten**	**4.71 339**		*i* Pn	**Pn**	**20 14 52.1 +2.3**
	comp=N,18nm,0.6s,SNR=9.8					
FETA				Sn	**Sn**	**20 15 47.8 +3.6**
	comp=N,44nm,0.9s					
CALF	**Calern**	**4.72 286**		Pn	**Pn**	**20 14 50.8 +1.1**
WTTA	**Wattenberg**	**4.75 347**		*i* Pn	**Pn**	**20 14 52.7 +2.5**
	comp=N,19nm,0.3s,SNR=9.4					
WTTA				*e*Sn	**Sn**	**20 15 47.4 +2.3**
	comp=N,58nm,0.4s					
MTGR	**Montagna Grand**	**4.76 184**		P	**Pn**	**20 14 50.9 +0.7**
MTGR				P	**Pb**	**20 15 05.4 +3.2**
SQTA	**Sankt Quirin**	**4.79 344**		*i* Pn	**Pn**	**20 14 54.0 +3.3**
	comp=N,30nm,0.2s,SNR=17					
SQTA				*e*Sn	**Sn**	**20 15 48.9 +2.9**
	comp=N,63nm,0.4s					
WATA	**Walderalm**	**4.83 347**		*i* Pn	**Pn**	**20 14 54.3 +3.0**
	comp=N,14nm,0.2s,SNR=11					
WATA				*e*Sn	**Sn**	**20 15 50.0 +3.0**
	comp=N,51nm,0.4s					
FRF	**La Foret Royal**	**4.88 283**		*e*Pn	**Pn**	**20 14 51.6 -0.3**
	SNR=1.0					
FRF	**La Foret Royal**	**4.88 283**		*e*P	**Pn**	**20 14 54.9 +3.0**
FRF				*e*Sn	**Sn**	**20 15 44.3 -3.9**

comp=N,7.5nm,0.4s
ARSA Arzberg 4.89 19 *i* Pn **Pn 20 14 52.0 0.0**
comp=N,14nm,0.5s,SNR=5.9
ARSA *e*Sn **Sn 20 15 46.1 -2.2**
comp=N,26nm,0.4s
MOTA Moosalm 4.93 343 *i* Pn **Pn 20 14 55.1 +2.5**
comp=N,21nm,0.5s,SNR=8.4
MOTA *e*Sn **Sn 20 15 53.1 +3.7**
comp=N,56nm,0.6s
IVA Berane 4.93 85 ⇑*i*Pn **Pn 20 14 54.3 +1.6**
IVA *i* Sn **Sn 20 15 50.0 +0.5**
LMR La Mourre 4.96 280 *e*Pn **Pn 20 14 52.5 -0.4**
SNR=1.0
LMR *e*Sn **Sn 20 15 45.6 -4.3**
comp=N,2.9nm,0.2s
TEKS Tekeris 4.97 65 *e*Pn **Pn 20 14 53.9 +0.7**
TEKS Tekeris 4.97 65 *e*Pn **Pn 20 14 52.4 -0.8**
MMGO Monte Magaggia 4.98 182 P Pn 20 14 58.3 +5.1
PVY Plav 4.99 88 ⇓*i*Pn **Pn 20 14 55.2 +1.8**
PVY *i* Sn **Sn 20 15 51.9 +1.0**
SURF Saint Ours 4.99 294 Pn **Pn 20 14 55.8 +2.2**
SJES Sjenica 5.01 81 *e*Pn **Pn 20 14 55.7 +2.0**
SJES *e*Sn **Sn 20 15 53.7 +2.3**
BCI Bajram Curri 5.08 91 *i* PN **Pn 20 14 56.7 +2.0**
BCI *i* SN **Sn 20 15 55.6 +2.5**
MBDF Montbardon 5.11 296 *e*P **Pn 20 14 57.1 +2.0**
SNR=1.0
MBDF *e*Sn **Sn 20 15 50.5 -3.3**
comp=N,23nm,0.5s
TIR Tirane 5.13 102 *i* PN **Pn 20 14 56.8 +1.5**
TIR *i* SN **Sn 20 15 56.3 +2.1**
TIR Tirane 5.13 102 ⇑P **Pn 20 14 56.8 +1.5**
TIR Tirane 5.13 102 Pn 20 14 56.4 +1.1
RETA Reutte 5.14 341 *e*Pn **Pn 20 14 58.3 +2.8**
comp=N,11nm,0.3s
RETA *e*Sn **Sn 20 15 56.4 +1.8**
comp=N,16nm,0.4s
DIVS Divibare 5.16 71 *e*Pn **Pn 20 14 56.5 +0.8**
DIVS *e*Sn **Sn 20 15 55.4 +0.4**
DIVS Divibare 5.16 71 ⇓*i*Pn **Pn 20 14 56.6 +0.8**
IVAS Ivanjica 5.17 77 *e*Pn **Pn 20 14 56.7 +0.8**
IVAS *e*Sn **Sn 20 15 56.3 +0.9**
VLO Vlora 5.20 113 *i* PN **Pn 20 14 57.6 +1.4**
DAVA Damuels 5.20 334 *e*Pn **Pn 20 14 59.1 +2.6**
comp=N,20nm,0.4s,SNR=9.7
DAVA *e*Sn **Sn 20 15 59.0 +2.7**
comp=N,71nm,0.5s
MOA Molln 5.26 8 *i* Pn **Pn 20 14 57.8 +0.7**
comp=N,6.7nm,0.2s,SNR=8.4
MOA *e*Sn **Sn 20 15 55.8 -1.6**
comp=N,12nm,0.2s
BNI Bardonecchia 5.29 299 Pn 20 15 00.2 +2.5
FRGS Fruska Gora 5.39 60 *e*Pn **Pn 20 14 59.0 +0.1**
FRGS *e*Sn **Sn 20 16 00.6 -0.2**
FRGS Fruska Gora 5.39 60 ⇑*i*Pn **Pn 20 14 59.0 +0.1**
LPG La Plagne 5.45 304 *e*P **Pn 20 15 02.5 +2.5**
SNR=1.0
LPG *e*Sn **Sn 20 15 58.5 -4.0**
comp=N,12nm,0.4s
PHP Peshkopia 5.47 98 *i* PN **Pn 20 15 01.9 +1.9**
PHP *i* SN **Sn 20 16 05.3 +2.7**
LPL La Plagne 5.47 304 *e*P **Pn 20 15 02.9 +2.7**
SNR=1.0
LPL *e*Sn **Sn 20 15 58.8 -4.1**
comp=N,10.0nm,0.3s
TRUS Trudelj 5.48 71 *e*Pn **Pn 20 15 01.1 +1.0**
CONA Conrad Observa 5.61 19 *i* Pn **Pn 20 15 02.2 +0.3**
comp=N,6.3nm,0.3s,SNR=9.7
CONA *e*Sn **Sn 20 16 05.5 -0.5**
comp=N,18nm,0.3s
RSL Roselend 5.62 305 Pn **Pn 20 15 04.8 +2.6**
RSL Sn **Sn 20 16 06.8 +0.2**
SENIN Lac Senin/Sane 5.62 313 Pn 20 15 04.3 +2.0
SENIN Sn **Sn 20 16 07.5 +0.8**
GRUS Gruza 5.63 75 *e*Pn **Pn 20 15 02.6 +0.5**
GRUS *e*Sn **Sn 20 16 07.1 +0.7**
TPE Tepelena 5.63 112 *i* PN **Pn 20 15 03.5 +1.3**
TPE *i* SN **Sn 20 16 10.0 +3.5**
SMRF Simiane la Rot 5.72 286 *e*P **Pn 20 15 05.4 +2.0**
SNR=1.0
SMRF *e*Sn **Sn 20 16 02.9 -5.9**
comp=N,3.9nm,0.4s
ORIF Oris-en-Rattie 5.77 296 *e*P **Pn 20 15 07.5 +3.4**
SNR=1.0
ORIF *e*Sn **Sn 20 16 04.5 -5.5**
comp=N,34nm,0.8s
RUSF Rustrel 5.78 286 Pn **Pn 20 15 06.3 +2.1**
SRN Sarande 5.82 116 *i* PN **Pn 20 15 06.4 +1.6**
SRN *i* SN **Sn 20 16 13.8 +2.6**
SELS Selova 5.84 82 *e*Pn **Pn 20 15 06.0 +0.9**
SELS *e*Sn **Sn 20 16 12.9 +1.1**
OG02 Monnetier-Morn 6.11 307 Pn **Pn 20 15 11.7 -0.6**
OG02 Sn **Sn 20 16 17.7 -0.6**
SKO Skopje 6.15 94 *i* P **Pn 20 15 11.2 +1.9**
GEC2 GERESS Array S 6.21 3 Pn **Pn 20 15 09.8 -0.4**
GEC2 Sn **Sn 20 16 20.2 -0.7**
GERES GERESS Array B 6.21 3 Pn **Pn 20 15 09.7 -0.5**
comp=N,1.0nm,0.3s,baz=172,slow=13,SNR=24
GERES Sn **Sn 20 16 18.1 -2.9**
comp=N,5.3nm,0.3s,baz=176,slow=22,SNR=9.7
GERES GERESS Array B 6.21 3 Pn **Pn 20 15 10.0 -0.2**
IGT Igoumenitsa 6.22 118 *i* PN **Pn 20 15 12.1 +1.8**
IGT *i* SN **Sn 20 16 24.2 +3.1**
BOVS Bovan 6.30 78 *e*Pn **Pn 20 15 11.9 +0.6**
BOVS *e*Sn **Sn 20 16 23.8 +0.8**
SRO Srobarova 6.30 33 *e*SN **Sn 20 16 23.1 +0.1**
BARS Barje 6.35 86 *e*Pn **Pn 20 15 13.2 +1.2**
BARS Barje 6.35 86 *e*Pn **Pn 20 15 15.5 +3.5**
BARS *e*Sn **Sn 20 16 25.2 +1.0**
FNA Florina 6.39 104 Pn 20 15 13.9 +1.2
MODS Modra-Piesok 6.40 25 *e*PN **Pn 20 15 13.5 +0.7**
MODS *e*SN **Sn 20 16 22.4 -3.2**
CABF La Chapelle 6.44 310 *e*Pn **Pn 20 15 12.7 -0.6**
CABF La Chapelle 6.44 310 *e*P **Pn 20 15 16.3 +3.0**
SNR=1.0
CABF *e*Sn **Sn 20 16 20.4 -6.2**
comp=N,138nm,1.7s
KHC Kasperske Hory 6.49 2 *e*PN **Pn 20 15 13.4 -0.6**
KHC *ex* x 20 15 23.0
KHC *e*SN **Sn 20 16 24.8 -3.0**
KHC *ex* x 20 16 44.5
KHC Kasperske Hory 6.49 2 Pn 20 15 14.6 +0.6
KHC Sn **Sn 20 16 26.8 -1.0**
MDVR Moldovita 6.53 68 ⇑P **Pn 20 15 15.5 +1.0**
VIVF Saint-Julien-l 6.56 293 *e*Pn **Pn 20 15 13.2 -1.7**
VIVF Saint-Julien-l 6.56 293 *e*P **Pn 20 15 18.2 +3.3**
BFO Black Forest 6.63 331 Pn 20 15 16.7 +0.7
BFO Sn **Sn 20 16 30.7 -0.6**
ZAGS Zajecar 6.70 77 *e*Pn **Pn 20 15 17.3 +0.5**
ZAGS *e*Sn **Sn 20 16 33.1 +0.2**
BZS Buzias 6.74 61 ⇑P **Pn 20 15 18.0 +0.6**
STIP Stip 6.74 95 *i* P **Pn 20 15 20.6 +3.2**
SSB Saint Sauveur 6.78 296 Pn **Pn 20 15 20.3 +2.3**
KRUC Moravsky 6.79 18 *e*PN **Pn 20 15 17.6 -0.5**
KRUC *e*SN **Sn 20 16 33.0 -2.1**
TREC Trest 6.84 13 *e*PN **Pn 20 15 19.8 +1.1**
HINF Hinteralfeld 6.84 321 *e*Pn **Pn 20 15 18.6 -0.2**
SNR=1.0
HINF *e*Sn **Sn 20 16 30.0 -6.4**
comp=N,24nm,0.4s,SNR=1.0
ZAPS Zavoj 6.95 82 *e*Pn **Pn 20 15 21.9 +1.6**
ZAPS *e*Sn **Sn 20 16 38.8 -0.3**
JAVC Velka Javorina 6.96 25 *e*PN **Pn 20 15 22.4 +2.0**
LASF Ste Croix 6.96 285 *e*Pn **Pn 20 15 19.9 -0.5**
SNR=1.0
LASF *e*Sn **Sn 20 16 32.7 -6.6**
comp=N,1.9nm,0.4s
KOLL Kolacno 6.96 30 *e*PN **Pn 20 15 20.9 +0.5**
KOLL *e*SN **Sn 20 16 37.4 -1.9**
ECH Echery 7.00 325 Pn 20 15 21.3 +0.3
ECH Sn **Sn 20 16 38.2 -2.2**
SIRR Siria 7.05 56 ⇓P **Pn 20 15 23.2 +1.5**
VYHS Vyhne 7.06 32 *e*PN **Pn 20 15 20.2 -1.6**
VYHS *e*SN **Sn 20 16 39.1 -2.6**
PBCC Pribram 7.06 4 *e*PN **Pn 20 15 21.2 -0.6**
PBCC *e*SN **Sn 20 16 38.7 -3.1**
VRAC Vranov 7.07 18 Pn Pn 20 15 19.8 -2.1
comp=N,0.5nm,0.3s,baz=201,slow=5.2,SNR=3.0
VRAC Sn **Sn 20 16 37.9 -4.1**
comp=N,0.1nm,0.3s,baz=204,slow=8.4,SNR=2.1
VRAC Vranov 7.07 18 ⇑P **Pn 20 15 23.6 +1.6**
VRAC Vranov 7.07 18 *e*PN **Pn 20 15 22.2 +0.3**
VRAC *e*SN **Sn 20 16 39.3 -2.6**

PSZ Piszkesteto 7.08 40 Pn **Pn 20 15 21.9 -0.2**
PSZ Sn **Sn 20 16 40.2 -1.9**
VAY Valandovo 7.11 98 *i* P **Pn 20 15 24.2 +1.8**
CDF Champ du Feu 7.11 326 *e*Pn **Pn 20 15 22.1 -0.4**
SNR=1.0
CDF *e*Sn **Sn 20 16 36.2 -6.8**
comp=N,36nm,0.6s,SNR=1.0
GRA1 Grafenberg Arr 7.18 350 Pn **Pn 20 15 23.6 +0.2**
GRA1 Sn **Sn 20 16 42.2 -2.5**
HAU Haudompre 7.21 320 *e*Pn **Pn 20 15 23.7 -0.2**
SNR=1.0
HAU *e*Sn **Sn 20 16 38.7 -6.8**
comp=N,53nm,0.5s,SNR=1.0
GOPC GO Pecny, Ondr 7.35 8 *e*PN **Pn 20 15 25.9 +0.1**
KKB Krupnik 7.37 93 *e*P **Pn 20 15 27.9 +1.8**
VTS Vitosha 7.40 87 *e*P **Pn 20 15 27.6 +1.0**
VTS Vitosha 7.40 87 ⇓P **Pn 20 15 28.1 +1.5**
VTS Vitosha 7.40 87 P **Pn 20 15 27.8 +1.1**
VTS Vitosha 7.40 87 Pn 20 15 27.9 +1.3
VTS Sn **Sn 20 16 50.2 -0.1**
PRU Pruhonice 7.40 7 *e*PN **Pn 20 15 25.3 -1.2**
PRU *e*SN **Sn 20 16 47.0 -3.1**
GZR Gura Zlata 7.43 65 ⇑P **Pn 20 15 28.1 +1.2**
LIT Litokhoron 7.43 107 Pn 20 15 27.7 +0.8
LIT Sn **Sn 20 16 49.9 -1.1**
KEST Kesra 7.52 205 Pn **Pn 20 15 31.7 +3.4**
comp=N,1.4nm,0.3s,baz=297,slow=3.8,SNR=13
KEST Kesra 7.52 205 Pn 20 15 31.9 +3.7
NKC Novy Kostel 7.61 356 *e*PN **Pn 20 15 28.0 -1.3**
NKC *e*SN **Sn 20 16 52.7 -2.5**
DEV Deva 7.68 62 ⇑P **Pn 20 15 31.8 +1.5**
MORC Moravsky Berou 7.74 21 ⇑P **Pn 20 15 32.9 +1.8**
MORC Moravsky Berou 7.74 21 *e*PN **Pn 20 15 33.1 +2.0**
SMF Signal de Mont 7.78 304 *e*Pn **Pn 20 15 31.0 -0.6**
SNR=1.0
SMF *e*Sn **Sn 20 16 53.1 -6.3**
comp=N,6.1nm,0.4s
AGG Agios Georgios 7.81 115 Pn 20 15 33.5 +1.4
AGG Sn **Sn 20 16 58.5 -1.8**
PAGF Fort de Pagny 7.90 321 *e*Pn **Pn 20 15 32.3 -0.9**
PAGF Fort de Pagny 7.90 321 *e*P **Pn 20 15 36.7 +3.5**
baz=138
PAGF *e*Sn **Sn 20 16 54.8 -7.5**
comp=N,24nm,0.8s,baz=136
MMB Musomiste 7.90 94 *e*P **Pn 20 15 35.1 +1.8**
DRGR 7.94 55 ⇑P **Pn 20 15 34.4 +0.5**
SFTF Sexfontaines 7.99 317 *e*Pn **Pn 20 15 33.9 -0.6**
baz=134
SFTF Sexfontaines 7.99 317 *e*P **Pn 20 15 37.8 +3.3**
SFTF *e*Sn **Sn 20 16 57.1 -7.4**
comp=N,26nm,0.8s
DPC Dobruska-Polom 8.00 15 *e*PN **Pn 20 15 33.5 -1.2**
LOR Lormes 8.08 308 *e*Pn **Pn 20 15 35.0 -0.7**
LOR Lormes 8.08 308 *e*P **Pn 20 15 39.2 +3.5**
baz=127,SNR=1.0
LOR *e*Sn **Sn 20 17 00.7 -6.0**
comp=N,7.2nm,0.3s
MTLF Montolieu 8.08 279 *e*P **Pn 20 15 40.1 +4.3**
PGB Panagyurishte 8.09 87 *e*P **Pn 20 15 38.1 +2.1**
AVF Avril sur Loir 8.14 304 *e*Pn **Pn 20 15 35.5 -1.1**
AVF Avril sur Loir 8.14 304 *e*P **Pn 20 15 40.2 +3.6**
SNR=1.0
AVF *e*Sn **Sn 20 17 02.3 -6.0**
comp=N,7.2nm,0.8s,SNR=1.0
SSF Saint Saulge 8.18 306 *e*Pn **Pn 20 15 36.8 -0.3**
SNR=1.0
SSF *e*Sn **Sn 20 17 03.9 -5.3**
comp=N,6.3nm,0.4s
MEZF Maizieres J'vi 8.18 319 *e*P **Pn 20 15 40.0 +2.9**
baz=137,SNR=1.0
MEZF *e*Sn **Sn 20 17 01.6 -7.6**
comp=N,25nm,0.8s,SNR=1.0
CHVC Chvalec 8.18 13 *e*PN **Pn 20 15 37.3 +0.1**
BRG Berggiesshubel 8.25 3 PG **Pn 20 15 40.0 +2.0**
BRG SG **Sn 20 17 05.5 -5.4**
comp=N,6.8nm,0.7s
BGF Bois d'Agland 8.36 301 *e*Pn **Pn 20 15 39.0 -0.6**
BGF *e*Sn **Sn 20 17 08.1 -5.5**
comp=N,5.4nm,0.3s
CAF Calviac 8.37 290 *e*P **Pn 20 15 42.6 +2.8**
SNR=1.0
PLVB Pleven 8.40 81 ⇑P **Pn 20 15 42.1 +1.9**
WLF Walferdange 8.55 328 Pn **Pn 20 15 43.9 +1.7**
WLF Sn **Sn 20 17 18.0 -0.3**
TCF Toulx Ste Croi 8.66 299 *e*P **Pn 20 15 46.9 +3.1**
TCF *e*Sn **Sn 20 17 13.1 -8.0**
comp=N,0.4nm,0.2s
CLL Collm 8.67 359 *e*Pn **Pn 20 15 46.0 +2.2**
CLL *e*Sn **Sn 20 17 14.0 -7.2**
CLL *e*Sg 20 18 11.0
comp=Z,19nm,1.1s
CLL *e*Lmax 20 18 18.0
CLL Collm 8.67 359 Pn **Pn 20 15 45.2 +1.4**
ARR Arges 8.68 68 ⇑P **Pn 20 15 45.6 +1.6**
RJF Les Rejaudoux 8.84 291 *e*Pn **Pn 20 15 45.4 -0.7**
RJF Les Rejaudoux 8.84 291 *e*P **Pn 20 15 50.4 +4.3**
RJF *e*Sn **Sn 20 17 18.3 -7.1**
comp=Z,14nm,1.0s
LFF La Frestale 9.30 289 *e*P **Pn 20 15 55.2 +2.7**
LFF *e*Sn **Sn 20 17 28.4 -8.3**
comp=Z,9.1nm,0.7s
ELND Elena 9.33 84 ⇑P **Pn 20 15 55.0 +2.1**
GIVF Givet 9.44 325 *e*P **Pn 20 15 57.3 +3.0**
EPF Esparros 9.46 277 *e*Pn **Pn 20 15 53.2 -1.5**
MLR Muntele Rosu 9.61 68 Pn **Pn 20 15 58.2 +1.4**
comp=Z,0.5nm,0.3s,baz=226,slow=2.2,SNR=8.8
MLR Muntele Rosu 9.61 68 ⇑P **Pn 20 15 58.5 +1.7**
MLR Muntele Rosu 9.61 68 Pn **Pn 20 15 59.5 +2.7**
BAIF Baives 9.67 323 *e*P **Pn 20 16 00.7 +3.2**
BAIF *e*Sn Sn 20 17 36.8 -9.0
comp=Z,1.3nm,0.4s
ALN Alexandroupoli 9.76 96 Pn 20 15 59.6 +0.9
BUR08 Bucovina Ar. S 9.84 55 Pn **Pn 20 16 03.3 +3.3**
ESDC Sonseca Array 13.27 263 Pn **Pn 20 16 46.8 -0.1**
comp=Z,0.2nm,0.3s,baz=59,slow=12,SNR=3.2
PAB San Pablo 13.59 263 Pn **Pn 20 16 51.5 +0.2**
BRTR Keskin Array B 15.66 94 Pn **Pn 20 17 20.0 +0.8**
comp=Z,0.1nm,0.3s,baz=276,slow=13,SNR=3.4
BRTR Keskin Array B 15.66 94 Pn 20 17 20.2 +1.0
EKA Eskdalemuir Ar 16.57 326 Pn **Pn 20 17 31.5 +0.9**
baz=141,slow=14,SNR=6.6
NC602 NORSAR Array S 18.14 357 P **P 20 17 50.8 +0.4**
NC602 IAmb IAmb 20 17 51.8
comp=Z,9.9nm,1.1s
NB2 NORSAR Subarra 18.46 357 P **Pn 20 17 54.7 +0.6**
comp=Z,10.0nm,1.1s,baz=175,slow=12
NOA NORSAR Array B 18.46 357 P **Pn 20 17 54.1 0.0**
comp=Z,0.0nm,0.3s,baz=176,slow=11,SNR=4.7
NC204 NORSAR Array S 18.72 356 P **Pn 20 17 57.8 +0.5**
MMAI Mount Meron Ar 19.95 111 P **Pn 20 18 12.9 +0.7**
comp=Z,1.4nm,0.6s,baz=297,slow=44,SNR=3.6
FINES FINESS Array B 20.35 18 P **P 20 18 13.9 -0.7**
comp=Z,5.4nm,0.9s,baz=198,slow=11,SNR=5.6
FINES FINESS Array B 20.35 18 P Pn 20 18 15.6 -1.0
FIA1 FINESS Array S 20.35 18 P Pn 20 18 15.6 -1.1
FIA1 IAmb IAmb 20 18 34.9
comp=Z,9.7nm,1.0s
KBZ Khabaz 21.63 77 P **P 20 18 29.8 +1.2**
comp=Z,4.0nm,0.9s,baz=259,slow=7.3,SNR=4.3
TOA0 Torodi Ar. Sit 31.04 202 P **P 20 19 57.7 +1.4**
TOA0 IAmb IAmb 20 19 58.1
comp=Z,2.6nm,0.8s
TORD Torodi Ar. Bea 31.04 202 P **P 20 19 57.3 +1.1**
comp=Z,1.8nm,0.6s,baz=16,slow=8.4,SNR=9.6
ARU Arti 31.87 48 P **P 20 20 04.0 +0.8**
ABKAR Abkulak array 32.73 62 P **P 20 20 11.5 +0.6**
ABKAR Abkulak array 32.73 62 P **P 20 20 11.3 +0.4**
ABKAR IAmb IAmb 20 20 14.5
comp=Z,1.7nm,1.1s
GEYT Alibeck 34.28 82 pP pP 20 20 26.2 -3.4
BRVK Borovoye 38.72 54 P **P 20 21 03.2 +0.9**
KKAR Karatay Array 41.28 69 P **P 20 21 24.4 +0.8**
KKAR Karatay Array 41.28 69 P **P 20 21 24.5 +0.8**
ZALV Zalesovo Beam 47.00 50 P **P 20 22 10.1 +0.9**
comp=Z,0.7nm,0.4s,baz=316,slow=6.2,SNR=4.2
ZALV Zalesovo Beam 47.00 50 P **P 20 22 10.5 +1.3**
MK31 Makanchi Array 47.83 60 P **P 20 22 16.3 +0.5**
MKAR Makanchi Array 47.83 60 P **P 20 22 17.2 +1.4**
comp=Z,0.9nm,0.7s,baz=290,slow=6.2,SNR=9.2
MKAR Makanchi Array 47.83 60 P **P 20 22 17.0 +1.1**
SONM Songino Array 61.90 50 P **P 20 23 59.9 +2.1**
comp=Z,1.0nm,0.7s,baz=287,slow=9.0,SNR=9.0
SONM Songino Array 61.90 50 P **P 20 23 58.1 +0.3**
YKA Yellowknife Ar 67.18 337 P **P 20 24 31.4 -0.5**

comp=Z,0.6nm,0.7s,baz=42,slow=5.9,SNR=5.4
CMAR Chiang Mai Arr 74.67 79 P **P 20 25 18.7 +0.6**
comp=Z,0.7nm,0.7s,baz=309,slow=7.4,SNR=6.6

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*ISCJB **30** 20:28:35.2±0.8, 26°.54S±0°.07×176°.3W±0°.1, h10km, mb4.1/9, MS4.1/6, Error ellipse: s-maj=18.9km s-min=8.7km az=15.6*
*NEIC **30** 20:28:36.1±1.6, 26°.4S±0°.1×176°.2W±0°.1, h10km±1km, mb4.5/14*
*IDC **30** 20:28:36.7±0.8, 26°.74S×176°.45W, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.1/35, mbtmp4.2/11, ML4.1/2, MS4.0/6, Ms1 4.0/6, ms1mx3.5/40, Error ellipse: s-maj=27.8km s-min=19.5km az=103.0*
ISC 30 20:28:36.1±0.6, 26°.50S±0°.08×176°.1W±0°.1, h10km, n42, σ2.5°05/42, mb4.3/14, MS4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.19**	**210**	Pn		**Pn**	**Pn**	**20 29 25.0**	**-1.2**
	153nm,0.3s,baz=71,slow=10,SNR=14								
RAO				Sn			**Sn**	**20 30 02.0**	**-2.3**
	223nm,0.3s,baz=96,slow=22,SNR=6.9								
NIUE	**Niue**	**9.32**	**39**	Pn		**Pn**	**Pn**	**20 30 47.2**	**-3.3**
URZ	**Urewera**	**13.05**	**204**	Pn		**Pn**	**Pn**	**20 31 37.4**	**-4.1**
	0.2nm,0.3s,baz=319,slow=9.3,SNR=2.0								
URZ				Sn			Sn	20 33 49.7	-17
	0.8nm,0.3s,baz=36,slow=19,SNR=3.2								
URZ	**Urewera**	**13.05**	**204**				**Pn**	**20 31 42.2**	**+0.6**
AFI	**Afiamalu**	**13.16**	**19**	Pn			**Pn**	**20 31 40.9**	**-2.3**
	2.4nm,0.3s,baz=127,slow=5.1,SNR=4.5								
AFI				Sn			**Sn**	**20 34 05.0**	**-4.8**
	4.6nm,0.3s,baz=164,slow=20,SNR=3.6								
DZM	**Mont Dzumac**	**16.53**	**282**	Pn			**P**	**20 32 36.0**	**+5.2**
	0.1nm,0.3s,baz=142,slow=19,SNR=3.4								
DZM	**Mont Dzumac**	**16.53**	**282**	P			**P**	**20 32 28.3**	**-2.5**
SNZO	**South Karori**	**16.62**	**205**	Pn			**Pn**	**20 32 29.2**	**+0.2**
EIDS	**Eidsvold**	**29.51**	**265**	P			**P**	**20 34 40.6**	**-0.1**
EIDS				IAmb			IAmb	20 34 59.0	
	comp=Z,13nm,1.1s								
STKA	**Stephens Creek**	**37.16**	**251**	LR			LR	20 49 57.7	
	comp=Z,526nm,18.2s,baz=110,slow=35								
STKA	**Stephens Creek**	**37.16**	**251**	P			**P**	**20 35 46.9**	**-0.5**
KRVT	**Keravat (AS076**	**37.64**	**300**	LR			LR	20 48 13.4	
	comp=Z,95nm,21.0s,baz=83,slow=31								
AS31	**Alice Springs**	**45.16**	**262**	P			**P**	**20 36 52.4**	**-0.8**
ASAR	**Alice Springs**	**45.16**	**262**	P			**P**	**20 36 52.4**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=94,slow=7.1,SNR=26								
ASAR				LR			LR	20 54 26.7	
	comp=Z,235nm,19.5s,baz=110,slow=35								
ASAR	**Alice Springs**	**45.16**	**262**	P			**P**	**20 36 51.9**	**-1.4**
WB2	**Warramunga Arr**	**45.80**	**267**	P			**P**	**20 36 57.4**	**-0.9**
WB2				IAmb			IAmb	20 37 14.6	
	comp=Z,6.1nm,1.1s								
WRAB	**Tennant Creek**	**45.80**	**267**	P			**P**	**20 36 57.3**	**-1.0**
WRAB				IAmb			IAmb	20 37 11.2	
	comp=Z,3.1nm,0.8s								
WRA	**Warramunga Arr**	**45.81**	**267**	P			**P**	**20 36 57.4**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=107,slow=5.9,SNR=27								
WRA				LR			LR	20 54 08.9	
	comp=Z,183nm,21.1s,baz=195,slow=34								
WRA	**Warramunga Arr**	**45.81**	**267**	P			**P**	**20 36 57.2**	**-1.2**
WB0	**Warramunga Arr**	**45.81**	**268**	P			**P**	**20 36 57.4**	**-1.1**
WB0				IAmb			IAmb	20 37 01.2	
	comp=Z,2.9nm,0.7s								
MORW	**Morawa**	**59.34**	**251**	P			**P**	**20 38 36.7**	**-1.9**
MORW				IAmb			IAmb	20 38 40.6	
	comp=Z,2.6nm,0.6s								
CASY	**Casey**	**59.37**	**207**	P			**P**	**20 38 37.9**	**-0.2**
QSPA	**South Pole Qui**	**63.60**	**180**	P			**P**	**20 39 07.7**	**+0.8**
	comp=Z,4.1nm,0.8s,baz=38,slow=2.2,SNR=16								
QSPA	**South Pole Qui**	**63.60**	**180**	P			**P**	**20 39 07.5**	**+0.6**
QSPA				IAmb			IAmb	20 39 09.5	
	comp=Z,4.5nm,0.8s								
MJAR	**Matsushiro Arr**	**76.06**	**324**	P			**P**	**20 40 26.0**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=149,slow=6.4,SNR=4.9								
MJAR	**Matsushiro Arr**	**76.06**	**324**	P			**P**	**20 40 24.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**82.50**	**344**	P			**P**	**20 40 57.7**	**-0.8**
PETK	**Petropavlovsk-**	**82.50**	**344**	P			P	20 41 03.2	+4.7
	comp=Z,1.9nm,0.7s,baz=122,slow=5.4,SNR=3.5								
PETK	**Petropavlovsk-**	**82.50**	**344**	P			**P**	**20 40 58.4**	**-0.1**
KSRS	**Korea Array**	**82.53**	**318**	P			**P**	**20 41 01.4**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=130,slow=5.9,SNR=3.2								
NVAR	**Mina Array Bea**	**84.23**	**42**	P			**P**	**20 41 12.5**	**+4.4**
	comp=Z,1.1nm,0.9s,baz=223,slow=7.0,SNR=7.9								
NVAR				LR			LR	21 16 49.6	
	comp=Z,103nm,18.0s,baz=266,slow=34								
NVAR	**Mina Array Bea**	**84.23**	**42**	P			**P**	**20 41 09.3**	**+1.2**
TXAR	**Lajitas Array**	**88.85**	**56**	LR			LR	21 17 27.9	
	comp=Z,57nm,18.4s,baz=0.0,slow=33								
CMAR	**Chiang Mai Arr**	**93.74**	**289**	P			**P**	**20 41 55.1**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=141,slow=3.0,SNR=4.0								
ILAR	**Eielson Array**	**93.77**	**12**	P			**P**	**20 41 55.5**	**+2.8**
	comp=Z,0.3nm,0.9s,baz=212,slow=6.4,SNR=2.7								
ILAR	**Eielson Array**	**93.77**	**12**	P			**P**	**20 41 53.3**	**+0.7**
MKAR	**Makanchi Array**	**116.52**	**311**	PKP			**PKiKP**	**20 47 20.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=111,slow=3.2,SNR=3.3								
MKAR	**Makanchi Array**	**116.52**	**311**				**PKiKP**	**20 47 20.1**	**0.0**
NB2	**NORSAR Subarra**	**145.12**	**354**	PKP			**PKPdf**	**20 48 14.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**145.12**	**354**	PKPbc			**PKPdf**	**20 48 15.0**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=7.8,slow=3.5,SNR=4.1								
BRTR	**Keskin Array B**	**151.97**	**306**	PKP			**PKPdf**	**20 48 27.5**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=83,slow=1.6,SNR=2.1								
BRTR				PKPbc			**PKiKP**	**20 48 32.4**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=64,slow=3.4,SNR=3.3								
BRTR				PKPab			**pPKPab**	**20 48 42.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=106,slow=4.8,SNR=3.2								
TORD	**Torodi Ar. Bea**	**166.55**	**171**	PKPab			**PKPab**	**20 49 45.3**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=188,slow=4.7,SNR=5.5								

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*SOME **30** 20:29:37.1, 41°.78N×84°.37E, h15km*
*NNC **30** 20:29:38.1±11.0, 41°.94N×85°.30E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=98.7km s-min=52.9km az=151.0*
ISC 30 20:29:39.5±3.9, 42°.1N±0°.2×85°.3E±0°.2, h10km, n5, σ4.9°17/8, 7C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.45**	**288**	⇑Pn		**Pn**	**Pn**	**20 30 48.6**	**+1.5**
	3.0nm,0.8s								
PDGK				⇑Sn			**Sn**	**20 31 39.3**	**+0.3**
	18nm,0.8s								
DJR	**Jarkent**	**4.59**	**301**	*e*P			Pn	20 30 54.5	+5.4
	2.3nm,0.3s								
DJR				*e*S			**Sn**	**20 31 50.0**	**+7.4**
	3.3nm,0.3s								
MK31	**Makanchi Array**	**5.15**	**336**	⇑Pn			**Pn**	**20 30 59.5**	**+2.8**
	0.2nm,0.5s,baz=149,slow=15,SNR=5.1								
MK31				⇑Pg			**Pg**	**20 31 16.2**	**-1.9**
	0.5nm,0.5s,baz=154,slow=16,SNR=6.3								
MK31				⇑Lg			Lg	20 32 28.8	
	2.7nm,0.6s,baz=146,slow=27								
MAKZ

YKA	**Yellowknife Ar**	**139.42 314**	PKP	**PKPdf**	**20 49 08.4**	**-1.2**
	0.3nm,0.4s,baz=131,slow=2.2,SNR=8.3					
ILAR	**Eielson Array**	**153.21 307**	PKPbc	**PKPbc**	**20 49 38.3**	**-1.8**
	0.3nm,0.4s,baz=125,slow=2.2,SNR=6.9					

*ISCJB **30** 20:49:32.8±0.4, 38°.87N±0°.03×17°.78E±0°.03, h35km, Error ellipse: s-maj=4.3km s-min=2.6km az=154.9*
*ROM **30** 20:49:32.0±0.3, 38°.69N±0°.02×17°.78E±0°.02, h31km±2km, ML2.9/9, Error ellipse: s-maj=2.1km s-min=1.8km az=111.0*
*BEO **30** 20:49:33.1±0.7, 38°.98N×17°.76E, h1km±3km, ML3.3/7*
*THE **30** 20:49:35.4, 38°.78N×18°.21E, h0km±12km, ML2.7/3, Error ellipse: s-maj=19.0km s-min=1.5km az=254.0*

ISC 30 20:49:32.8±1.2, **38°.79N**±0°.03×**17°.73E**±0°.03, **h35**km, **n50**, σ1$59/75, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.77**	**310**	P	**Pn**	**20 49 48.3**	**+1.2**
LADO				S	**Sn**	**20 50 01.0**	**+3.5**
SERS	**Sersale**	**0.85**	**287**	P	**Pn**	**20 49 48.9**	**+0.5**
SERS				S	**Sn**	**20 50 01.9**	**+2.2**
GRI	**Girifalco**	**1.03**	**272**	P	**Pn**	**20 49 51.7**	**+1.0**
PLAC	**Placanica**	**1.07**	**252**	P	**Pn**	**20 49 52.0**	**+0.7**
PLAC				S	**Sn**	**20 50 05.3**	**+0.3**
CAR1	**CAROLEI**	**1.27**	**292**	P	**Pn**	**20 49 56.1**	**+1.9**
CAR1				S	**Sn**	**20 50 12.8**	**+2.8**
CAR1				AML	AML		
	comp=N,292μm,0.7s						
CAR1				AML	AML		
	comp=E,296μm,0.3s						
SCTE	**Santa Cesarea**	**1.40**	**24**	P	**Pn**	**20 49 56.5**	**+0.6**
JOPP	**Joppolo**	**1.46**	**263**	P	**Pn**	**20 49 57.6**	**+1.0**
JOPP				S	**Sn**	**20 50 14.8**	**+0.3**
JOPP				AML	AML		
	comp=N,228μm,0.7s						
JOPP				AML	AML		
	comp=E,245μm,1.0s						
SOI	**Samo**	**1.50**	**242**	P	**Pn**	**20 49 57.7**	**+0.5**
SOI				S	**Sn**	**20 50 16.0**	**+0.4**
SALB	**San Lorenzo Be**	**1.53**	**316**	P	**Pn**	**20 49 58.3**	**+0.6**
SALB				AML	AML		
	comp=N,152μm,0.3s						
SALB				AML	AML		
	comp=E,164μm,1.6s						
CET2	**Cetraro**	**1.57**	**299**	P	**Pn**	**20 50 00.2**	**+2.0**
CET2				AML	AML		
	comp=E,278μm,0.3s						
CET2				AML	AML		
	comp=N,334μm,0.7s						
MSCL	**Scilla**	**1.62**	**251**	P	**Pn**	**20 49 59.6**	**+0.7**
MSCL				AML	AML		
	comp=E,637μm,0.4s						
MSCL				AML	AML		
	comp=N,716μm,0.5s						
KEK	**Kerkira**	**1.85**	**59**	P	**Pn**	**20 50 02.8**	**+0.8**
KEK				S	**Sn**	**20 50 25.2**	**+1.0**
	comp=N,212nm,0.2s						
KEK	**Kerkira**	**1.85**	**59**	P	**Pn**	**20 50 02.5**	**+0.4**
MASS	**Massafra**	**1.90**	**346**	*e*Pn	**Pn**	**20 50 03.4**	**+0.7**
MASS				Sn	**Sn**	**20 50 27.0**	**+1.6**
SCHR	**S. Chirico Rap**	**1.90**	**318**	P	**Pn**	**20 50 04.9**	**+2.1**
NOCI	**Noci**	**2.06**	**346**	P	**Pn**	**20 50 05.7**	**+0.7**
NOCI				AML	AML		
	comp=E,324μm,1.3s						
NOCI				AML	AML		
	comp=N,416μm,0.3s						
MTSN	**Montesano sull**	**2.13**	**315**	P	**Pn**	**20 50 07.6**	**+1.7**
MTSN				AML	AML		
	comp=E,67μm,1.3s						
MTSN				AML	AML		
	comp=N,72μm,1.5s						
IGT	**Igoumenitsa**	**2.15**	**69**	P	**Pn**	**20 50 07.0**	**+0.8**
IGT				S	**Sn**	**20 50 31.6**	**-0.1**
MGR	**Morigerati**	**2.16**	**309**	P	**Pn**	**20 50 07.3**	**+1.0**
MGR				AML	AML		
	comp=E,95μm,1.1s						
MGR				AML	AML		
	comp=N,77μm,0.3s						
NOV	**Novara**	**2.18**	**250**	P	**Pn**	**20 50 07.0**	**+0.4**
SG1	**Sgolgore (BA)**	**2.20**	**339**	*e*Pn	**Pn**	**20 50 08.7**	**+1.8**
SG1				Sn	**Sn**	**20 50 32.4**	**-0.6**
LKD2	**Lefkada island**	**2.29**	**89**	P	**Pn**	**20 50 09.3**	**+1.2**
LKD2				S	**Sn**	**20 50 34.3**	**-0.7**
VLS	**Valsamata**	**2.32**	**104**	P	**Pn**	**20 50 09.0**	**+0.4**
VLS	**Valsamata**	**2.32**	**104**	P	**Pn**	**20 50 08.9**	**+0.4**
MUCR	**Ucria**	**2.37**	**253**	P	**Pn**	**20 50 09.9**	**+0.7**
BAI	**Bari**	**2.41**	**344**	*e*Pn	**Pn**	**20 50 10.2**	**+0.5**
BAI				Sn	**Sn**	**20 50 37.1**	**-0.8**
AGST	**Augusta-Monte**	**2.50**	**233**	P	**Pn**	**20 50 09.2**	**-1.8**
HAVL	**Avola**	**2.76**	**229**	P	**Pn**	**20 50 12.6**	**-1.9**
HPAC	**Pachino**	**2.95**	**226**	P	**Pn**	**20 50 15.8**	**-1.3**
FNA	**Florina**	**3.44**	**54**	P	**Pn**	**20 50 25.8**	**+1.8**
FNA				S	**Sn**	**20 51 06.0**	**+2.4**
	comp=N,42nm,0.5s						
DBRK	**Dubrovnik**	**3.89**	**5**	*e*Pn	**Pn**	**20 50 30.9**	**+0.9**
DBRK				Sn	**Sn**	**20 51 13.1**	**-1.4**
LIT	**Litokhoron**	**3.91**	**69**	P	**Pn**	**20 50 32.1**	**+1.7**
LIT				S	**Sn**	**20 51 15.1**	**+0.1**
	comp=N,38nm,0.2s						
STON	**Ston**	**4.08**	**360**	*e*Pn	**Pn**	**20 50 33.0**	**+0.4**
STON				Sn	**Sn**	**20 51 16.0**	**-3.1**
STON	**Ston**	**4.08**	**360**	AML	AML		
	comp=E,77μm,1.3s						
STON				AML	AML		
	comp=N,76μm,0.2s						
HVAR	**Hvar**	**4.49**	**348**	*e*Pn	**Pn**	**20 50 38.4**	**+0.1**
HVAR				Sn	**Sn**	**20 51 25.6**	**-3.6**
MAKA	**Makarska**	**4.53**	**353**	*e*Pn	**Pn**	**20 50 39.6**	**+0.9**
MAKA				Sn	**Sn**	**20 51 27.4**	**-2.7**
SJES	**Sjenica**	**4.78**	**20**	*e*Pn	**Pn**	**20 50 43.3**	**+0.9**
SJES				*e*Sn	**Sn**	**20 51 36.3**	**-0.3**
ZIRJ	**Zirje**	**5.11**	**343**	*e*Pn	**Pn**	**20 50 46.9**	**+0.1**
ZIRJ				Sn	**Sn**	**20 51 40.5**	**-4.0**
SELS	**Selova**	**5.11**	**29**	*e*Pn	**Pn**	**20 50 48.5**	**+1.6**
IVAS	**Ivanjica**	**5.12**	**20**	*e*Pn	**Pn**	**20 50 47.5**	**+0.5**
IVAS				*e*Sn	**Sn**	**20 51 44.2**	**-0.7**
BBLS	**Lazići**	**5.22**	**13**	*e*Pn	**Pn**	**20 50 49.0**	**+0.5**
BBLS				*e*Sn	**Sn**	**20 51 47.0**	**-0.5**
GRUS	**Gruza**	**5.57**	**23**	*e*Pn	**Pn**	**20 50 53.5**	**+0.4**
DIVS	**Divibare**	**5.57**	**17**	*e*Pn	**Pn**	**20 50 53.5**	**+0.3**
DIVS				*e*Sn	**Sn**	**20 51 54.7**	**-1.3**
DUGI	**Dugi Otok**	**5.57**	**340**	*e*Pn	**Pn**	**20 50 53.7**	**+0.5**
DUGI				Sn	**Sn**	**20 51 51.2**	**-4.8**
BOVS	**Bovan**	**5.69**	**30**	*e*Sn	**Sn**	**20 51 58.0**	**-0.9**
TRUS	**Trudelj**	**5.79**	**19**	*e*Pn	**Pn**	**20 50 57.4**	**+1.3**
ZAPS	**Zavoj**	**5.81**	**38**	*e*Pn	**Pn**	**20 50 58.0**	**+1.5**
ZAPS				*e*Sn	**Sn**	**20 52 00.9**	**-1.1**
UDBI	**Udbina**	**5.92**	**346**	Sn	**Sn**	**20 52 02.6**	**-2.0**
ZAGS	**Zajecar**	**6.05**	**33**	*e*Pn	**Pn**	**20 51 00.9**	**+1.1**
ZAGS				*e*Sn	**Sn**	**20 52 06.7**	**-1.1**
NVLJ	**Novalja**	**6.15**	**341**	Sn	**Sn**	**20 52 07.0**	**-3.3**

*AEIC **30** 20:53:37±1.1, 61°.34N±0°.02×146°.11W±0°.03, h15km±3km, ML3.8*
*NEIC **30** 20:53:37.2±1.0, 61°.34N±0°.01×146°.11W±0°.04, h23km±9km*
*IDC **30** 20:53:39.0±2.0, 61°.54N×145°.47W, h0km, mb3.2/2, mb1 3.7/5, mb1mx3.3/42, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=32.5km s-min=14.9km az=55.0*

ISC 30 20:53:36.5±1.2, **61°.34N**±0°.02×**146°.09W**±0°.02, **h6**km±9km, **n135**, σ1$32/150, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMT	**TAPS Tl Valdez**	**0.29**	**207**		**Pb**	**20 53 44.3**	**+0.2**
VMT					**Sb**	**20 53 49.7**	**+0.5**
JPK	**Jack Peak**	**0.38**	**221**		**Pb**	**20 53 45.5**	**-0.1**
JPK					**Sb**	**20 53 51.5**	**-0.2**
PS12	**TAPS Pump St12**	**0.47**	**73**		**Pg**	**20 53 46.9**	**+1.2**
PS12					**Sb**	**20 53 54.2**	**-0.4**
FID	**Port Fidalgo**	**0.62**	**198**		**Pb**	**20 53 49.7**	**-0.1**
FID				Sg	**Sb**	**20 53 58.6**	**-0.1**
GLI	**Glacier Island**	**0.67**	**227**		**Pg**	**20 53 49.5**	**+0.1**
GLI					**Sg**	**20 53 59.0**	**+0.8**
SCM	**Sheep Creek Mo**	**0.77**	**310**		**Pg**	**20 53 51.2**	**-0.1**
SCM					**Sg**	**20 54 02.0**	**+0.7**
PS11	**TAPS Pump St11**	**0.80**	**21**		**Pg**	**20 53 52.5**	**+0.8**
EYAK	**Cordova Ski Ar**	**0.81**	**168**		**Pg**	**20 53 52.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**0.81**	**168**		**Sb**	**20 54 04.4**	**+0.3**
HIN	**Hinchinbrook I**	**0.97**	**192**		**Pb**	**20 53 54.8**	**-0.9**
HIN					**Sg**	**20 54 08.9**	**+1.3**
GOAT	**Goat Mountain**	**1.01**	**138**		**Pb**	**20 53 55.4**	**-1.1**
GLB	**Gilahina Butte**	**1.10**	**84**		**Pb**	**20 53 56.1**	**-1.9**
GLB					**Sb**	**20 54 10.4**	**-2.2**
KNK	**Knik Glacier**	**1.14**	**275**		**Pb**	**20 53 57.3**	**-1.4**
KNK					**Sb**	**20 54 12.6**	**-1.2**
SML	**Sawmill**	**1.17**	**295**		**Pn**	**20 53 57.2**	**-2.2**
SML				Sn	**Sb**	**20 54 12.4**	**-2.2**
RAGM	**Ragged Mountai**	**1.18**	**144**		**Pn**	**20 53 58.3**	**-1.3**
RAGM				Sn	**Sn**	**20 54 15.1**	**-0.9**
PWL	**Port Wells**	**1.19**	**247**		**Pn**	**20 53 57.9**	**-1.8**
VRDI	**Verde Repeater**	**1.28**	**94**		**Pn**	**20 53 58.8**	**-2.3**
HMT	**Hamilton**	**1.35**	**138**		**Pn**	**20 54 00.6**	**-1.2**
GHO	**Glory Hole Cre**	**1.42**	**289**		**Pn**	**20 54 01.4**	**-1.6**
GHO				Sn	**Sn**	**20 54 20.6**	**-1.5**
WAT6	**Susitna Watana**	**1.47**	**329**		**Pn**	**20 54 01.6**	**-2.0**
MCARA	**McCarthy VSAT**	**1.48**	**87**		**Pn**	**20 54 02.1**	**-1.5**
PMR	**Palmer**	**1.48**	**281**		**Pn**	**20 54 02.4**	**-1.2**
PMR				Sn	**Sn**	**20 54 21.9**	**-1.4**
BERG	**Berg Lake**	**1.51**	**128**		**Pn**	**20 54 02.6**	**-1.4**
NICHA	**Nichawak Mount**	**1.52**	**136**		**Pn**	**20 54 03.2**	**-1.0**
CRQM	**Cirque**	**1.55**	**111**		**Pn**	**20 54 03.6**	**-1.2**
KHIT	**Khitrov Hills**	**1.66**	**122**		**Pn**	**20 54 05.5**	**-0.6**
PAX	**Paxson**	**1.66**	**10**		**Pn**	**20 54 04.8**	**-1.4**
TGL	**Tana Glacier**	**1.69**	**109**		**Pn**	**20 54 05.2**	**-1.4**
SUCK	**Suckling Hills**	**1.71**	**137**		**Pn**	**20 54 05.4**	**-1.4**
GRIN	**Grindle Hills**	**1.73**	**127**		**Pn**	**20 54 05.6**	**-1.5**
PTPK	**Patty Peak**	**1.76**	**93**		**Pn**	**20 54 06.5**	**-1.2**
RC01	**Rabbit Creek A**	**1.78**	**263**		**Pn**	**20 54 07.0**	**-0.8**
WAX	**Waxell Ridge**	**1.82**	**118**		**Pn**	**20 54 07.1**	**-1.3**
BALM	**Baldy**	**1.84**	**98**		**Pn**	**20 54 07.1**	**-1.6**
DHY	**Denali Highway**	**1.84**	**341**		**Pn**	**20 54 07.7**	**-1.1**
KIAG	**Kiagna River**	**1.86**	**101**		**Pn**	**20 54 07.4**	**-1.6**
WAT1	**Susitna Watana**	**1.89**	**323**		**Pn**	**20 54 08.2**	**-1.1**
MENT	**Mentasta**	**1.95**	**34**		**Pn**	**20 54 09.5**	**-0.7**
KULT	**Kultieth River**	**1.98**	**122**		**Pn**	**20 54 09.2**	**-1.5**
WAT2	**Susitna Watana**	**2.00**	**325**		**Pn**	**20 54 10.1**	**-0.9**
SEW	**Seward**	**2.07**	**235**		**Pn**	**20 54 10.4**	**-1.3**
PS10	**TAPS Pump St10**	**2.10**	**4**		**Pn**	**20 54 11.6**	**-0.6**
BARN	**Barnard Glacie**	**2.16**	**96**		**Pn**	**20 54 12.6**	**-0.6**
SLKM	**Skilak Lake**	**2.18**	**249**		**Pn**	**20 54 12.3**	**-1.1**
GRNC	**Granite Creek**	**2.20**	**104**		**Pn**	**20 54 12.0**	**-1.7**
SUA	**Susitna One**	**2.24**	**275**		**Pn**	**20 54 13.2**	**-1.0**
CTGM	**Chitina Glacie**	**2.34**	**97**		**Pn**	**20 54 14.5**	**-1.1**
HUR	**Hurricane**	**2.34**	**316**		**Pn**	**20 54 14.7**	**-0.7**
YAH	**Yahtse**	**2.34**	**113**		**Pn**	**20 54 14.1**	**-1.6**
MESA	**MESA**	**2.34**	**118**		**Pn**	**20 54 14.2**	**-1.5**
RND	**Reindeer**	**2.44**	**329**		**Pn**	**20 54 16.3**	**-0.6**
RIDG	**Independent Ri**	**2.48**	**13**		**Pn**	**20 54 17.6**	**+0.2**
DOT	**Dot Lake**	**2.50**	**21**		**Pn**	**20 54 17.4**	**-0.3**
CAPN	**Captain Cook N**	**2.53**	**259**		**Pn**	**20 54 18.4**	**+0.4**
RKAV	**Rock Avalanche**	**2.55**	**112**		**Pn**	**20 54 17.1**	**-1.4**
YUK2	**White River**	**2.55**	**78**		**Pn**	**20 54 17.8**	**-0.7**
BC03		**2.66**	**48**		**Pn**	**20 54 19.5**	**-0.3**
BCAR	**Beaver Creek A**	**2.66**	**48**	Pn	**Pn**	**20 54 18.7**	**-1.2**
SKT	**Skwentna**	**2.67**	**286**		**Pn**	**20 54 18.7**	**-1.4**
BVCY	**Beaver Creek**	**2.70**	**64**		**Pn**	**20 54 20.3**	**-0.1**
YUK3	**Moose Creek**	**2.73**	**78**		**Pn**	**20 54 20.2**	**-0.8**
MCK	**McKinley**	**2.74**	**332**		**Pn**	**20 54 20.4**	**-0.5**
CHX	**Chaix Hills**	**2.76**	**115**		**Pn**	**20 54 20.5**	**-0.8**
YUK1	**Sand Pete Hill**	**2.77**	**70**		**Pn**	**20 54 21.4**	**-0.1**
BRSE	**Bradley Lake S**	**2.80**	**237**		**Pn**	**20 54 20.5**	**-1.4**
BRSE					Lg	20 54 52.7	
SCRK	**Sand Creek**	**2.82**	**19**		**Pn**	**20 54 21.5**	**-0.7**
BRLK	**Bradley Lake**	**2.85**	**238**		**Pn**	**20 54 21.1**	**-1.4**
CGLM	**Capps Glacier**	**2.85**	**272**		**Pn**	**20 54 21.5**	**-1.1**
SPCG	**Spurr Capps Gl**	**2.86**	**272**		**Pn**	**20 54 22.2**	**-0.5**
TRF	**Thorofare Moun**	**2.88**	**319**		**Pn**	**20 54 22.2**	**-0.8**
SPCP	**Crater Peak Br**	**2.93**	**271**		**Pn**	**20 54 23.1**	**-0.6**
SPCR	**Spurr Chakacha**	**2.96**	**270**		**Pn**	**20 54 23.2**	**-0.8**
CKL	**Chakachamna La**	**3.02**	**270**		**Pn**	**20 54 23.6**	**-1.3**
SPBG	**Spurr Blockage**	**3.03**	**271**		**Pn**	**20 54 24.1**	**-1.0**
HDA	**Harding Lake**	**3.10**	**353**		**Pn**	**20 54 25.1**	**-0.8**
SPWE	**Spurr West**	**3.12**	**272**		**Pn**	**20 54 25.1**	**-1.2**
PCA	**Pinnacle**	**3.13**	**111**		**Pn**	**20 54 25.1**	**-1.3**
CNPM	**China Poot**	**3.13**	**237**		**Pn**	**20 54 25.0**	**-1.4**
KTH	**Kantishna Hill**	**3.16**	**317**		**Pn**	**20 54 26.2**	**-0.5**
SPNN	**North Nagishla**	**3.18**	**273**		**Pn**	**20 54 25.7**	**-1.5**
PS08	**TAPS Pump Stn8**	**3.23**	**354**		**Pn**	**20 54 26.6**	**-1.1**
BWN	**Browne**	**3.24**	**333**		**Pn**	**20 54 26.8**	**-1.0**
PPLA	**Purkeypile**	**3.26**	**301**		**Pn**	**20 54 27.2**	**-1.1**
WRH	**Wood River Hil**	**3.27**	**345**		**Pn**	**20 54 27.2**	**-1.0**
DFR	**Drift River**	**3.30**	**260**		**Pn**	**20 54 27.1**	**-1.7**
RDJH	**Redoubt Jeurge**	**3.36**	**260**		**Pn**	**20 54 28.0**	**-1.6**
RSO	**Redoubt South**	**3.37**	**258**		**Pn**	**20 54 28.4**	**-1.5**
RED	**Redoubt Volcan**	**3.40**	**257**		**Pn**	**20 54 28.4**	**-1.7**
RDWB	**Redoubt West**	**3.41**	**258**		**Pn**	**20 54 28.5**	**-1.8**
CCB	**Clear Creek Bu**	**3.41**	**347**		**Pn**	**20 54 28.8**	**-1.3**
NCT	**North Crescent**	**3.43**	**260**		**Pn**	**20 54 28.9**	**-1.6**
IL31		**3.46**	**354**		**Pn**	**20 54 29.3**	**-1.5**
ILAR	**Eielson Array**	**3.46**	**354**	Pn	**Pn**	**20 54 29.1**	**-1.8**
	7.8nm,0.3s,baz=176,slow=12,SNR=100						
ILAR				Pg	**Pb**	**20 54 38.8**	**+0.7**
	8.8nm,0.3s,baz=168,slow=16,SNR=26						
ILAR				Sn	**Sn**	**20 55 14.5**	**+2.4**
	26nm,0.3s,baz=181,slow=23,SNR=12						
ILAR				Lg	Lg	20 55 22.9	
	31nm,0.3s,baz=162,slow=27,SNR=7.1						
ILAR	**Eielson Array**	**3.46**	**354**		**Pn**	**20 54 29.0**	**-1.9**
NEA	**Nenana**	**3.52**	**339**		**Pn**	**20 54 30.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**3.57**	**323**		**Pn**	**20 54 31.1**	**-1.2**
YUK4	**Talbot Arm**	**3.59**	**87**		**Pn**	**20 54 32.4**	**-0.4**
COLA	**College**	**3.63**	**348**		**Pn**	**20 54 32.1**	**-1.1**
TCOL	**CIGO, UAF Yank**	**3.64**	**348**		**Pn**	**20 54 32.8**	**-0.4**
IVE	**Iliamna Volcan**	**3.66**	**252**		**Pn**	**20 54 32.3**	**-1.4**
ILW	**Iliamna West**	**3.69**	**253**		**Pn**	**20 54 32.8**	**-1.4**
PNL	**Peninsula**	**3.71**	**114**		**Pn**	**20 54 33.4**	**-0.9**
MDM	**Murphy Dome**	**3.76**	**346**		**Pn**	**20 54 33.8**	**-1.2**
YUK6	**Outpost Mounta**	**3.77**	**93**		**Pn**	**20 54 34.1**	**-1.2**
POKR	**Poker Plat Res**	**3.84**	**351**		**Pn**	**20 54 34.7**	**-1.4**
CHUM	**Lake Minchumin**	**3.84**	**314**		**Pn**	**20 54 35.0**	**-1.1**
YUK7	**Dusty Glacier**	**3.96**	**98**		**Pn**	**20 54 37.5**	**-0.4**
EGAK	**Eagle**	**4.11**	**31**		**Pn**	**20 54 40.6**	**+0.1**
AU22	**Augustine Moun**	**4.12**	**244**		**Pn**	**20 54 38.9**	**-0.9**
DAWY	**Dawson**	**4.12**	**46**		**Pn**	**20 54 39.8**	**-0.2**
AUJK	**Augustine Jueg**	**4.15**	**244**		**Pn**	**20 54 39.2**	**-1.1**
AUH	**Augustine H**	**4.16**	**245**		**Pn**	**20 54 39.3**	**-1.2**
PRP	**Porcupine Dome**	**4.20**	**3**		**Pn**	**20 54 40.3**	**-0.8**
HYT	**Haines Junctio**	**4.20**	**93**		**Pn**	**20 54 40.3**	**-0.8**
MLY	**Manley**	**4.26**	**332**		**Pn**	**20 54 40.7**	**-1.1**
DHAK	**Deception Hill**	**4.53**	**116**		**Pn**	**20 54 44.7**	**-0.9**
SVW2	**Sparrevohn**	**4.59**	**271**		**Pn**	**20 54 44.1**	**-2.3**
KDAK	**Kodiak Island**	**4.86**	**226**		**Pn**	**20 54 48.2**	**-1.8**
TT01	**Tatalina**	**4.92**	**293**		**Pn**	**20 54 48.5**	**-2.4**
TTA	**Tatalina**	**4.92**	**293**		**Pn**	**20 54 48.7**	**-2.3**
FYU	**Fort Yukon**	**5.26**	**4**		**Pn**	**20 54 53.2**	**-2.3**
WHY	**Whitehorse**	**5.50**	**92**		**Pn**	**20 54 57.2**	**-1.8**
OHAK	**Old Harbor**	**5.54**	**225**		**Pn**	**20 54 57.1**	**-2.2**
KABU	**Katmai Buttres**	**5.57**	**240**		**Pn**	**20 54 59.2**	**-0.6**
IM03		**5.77**	**327**		**Pn**	**20 55 00.9**	**-1.5**
IMAR	**Indian Mountai**	**5.77**	**327**	Pn	**Pn**	**20 55 01.2**	**-1.4**
BM03	**Burnt Mountain**	**6.14**	**5**		**Pn**	**20 55 06.7**	**-0.9**
COLD	**Coldfoot**	**6.17**	**345**		**Pn**	**20 55 07.0**	**-1.0**
EPYK	**Eagle Plains**	**6.52**	**35**		**Pn**	**20 55 12.0**	**-0.9**
JIS	**Juneau Island**	**6.66**	**112**		**Pn**	**20 55 13.4**	**-1.2**
INK	**Inuvik**	**8.79**	**32**	Pn	**Pn**	**20 55 42.1**	**-1.7**
	1.0nm,0.3s,baz=217,slow=14,SNR=29						
INK	**Inuvik**	**8.79**	**32**		**Pn**	**20 55 42.8**	**-1.0**
YKA	**Yellowknife Ar**	**14.79**	**72**	Pn	**Pn**	**20 57 02.9**	**-3.0**
	0.0nm,0.3s,baz=275,slow=9.8,SNR=2.3						
PDAR	**Pinedale Array**	**28.60**	**114**	P	**P**	**20 59 35.7**	**+2.3**
	0.1nm,0.5s,baz=329,slow=3.4,SNR=1.7						
MKAR	**Makanchi Array**	**65.38**	**326**	P	**P**	**21 04 22.9**	**+3.6**
	0.1nm,0.4s,baz=39,slow=8.3,SNR=1.8						

*TAP **30** 20:58:26.9, 24°.09N×122°.25E, h19km, ML3.0, D*
*ISCJB **30** 20:58:27.3±0.3, 24°.06N±0°.01×122°.28E±0°.02, h25km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=42.2*
*JMA **30** 20:58:27.3±0.1, 24°.00N×122°.27E, h33km±4km, M2.5*

ISC 30 20:58:27.3±1.1, **24°.07N**±0°.02×**122°.27E**±0°.02, **h20**km±5km, **n100**, σ0$59/162, **2C-2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.50**	**345**	⇑P	**Pb**	**20 58 37.1**	**-0.2**
	baz=346						
EOS1				S	**Sb**	**20 58 44.4**	**+0.2**
	baz=346						
NANB	**Nanao**	**0.60**	**307**	*i* P	**Pb**	**20 58 38.6**	**-0.5**
	baz=306						
NANB				*i* S	**Sb**	**20 58 46.8**	**-0.3**
	baz=306						
ENA	**Nanau**	**0.60**	**307**	P	**Pb**	**20 58 39.0**	**-0.2**
	baz=306						
ENA				*i* S	**Sb**	**20 58 47.6**	**+0.3**
	baz=306						
HWA	**Hwalien**	**0.61**	**262**	*e*P	**Pb**	**20 58 39.1**	**-0.2**
	baz=259						
HWA				*e*S	**Sb**	**20 58 48.1**	**+0.5**
	baz=259						
TWD	**Chiawan**	**0.61**	**272**	*i* P	**Pb**	**20 58 39.7**	**+0.3**
	baz=269						
TWD				S	**Sb**	**20 58 48.1**	**+0.4**
	baz=269						
NACB	**Ninganchiao**	**0.62**	**280**	⇓P	**Pb**	**20 58 39.6**	**0.0**
	baz=278						
NACB				S	**Sb**	**20 58 49.0**	**+1.0**
	baz=278						
ENLB	**Shoufeng**	**0.63**	**255**	P	**Pb**	**20 58 39.0**	**-0.7**
	baz=252						
ENLB				S	**Sb**	**20 58 49.3**	**+1.2**
	baz=252						
TWC	**Suao**	**0.66**	**325**	*i* P	**Pb**	**20 58 39.2**	**-1.0**
	baz=325						
TWC				*i* S	**Sb**	**20 58 47.3**	**-1.7**
	baz=325						
JYNG	**Yonagunijimaku**	**0.73**	**58**	P	**Pn**	**20 58 41.9**	**-0.5**
JYNG				*e*S	**Sn**	**20 58 52.5**	**-0.4**
ETLH	**Xiulin Townshi**	**0.73**	**281**	P	**Pb**	**20 58 41.3**	**-0.1**
	baz=279						
ETLH				S	**Sn**	**20 58 52.2**	**-0.9**
	baz=279						
YOJ	**Yonaguni jima**	**0.78**	**60**	P	**Pb**	**20 58 42.6**	**+0.4**
	baz=61						
YOJ				S	**Sn**	**20 58 53.9**	**-0.4**
	baz=61						
YOJ	**Yonaguni jima**	**0.78**	**60**	P	**Pb**	**20 58 42.3**	**+0.1**
YOJ				*e*S	**Sb**	**20 58 53.1**	**+0.7**
ESL	**Shilin**	**0.80**	**252**	*i* P	**Pb**	**20 58 41.9**	**-0.7**
	baz=249						
ESL				S	**Sb**	**20 58 52.8**	**-0.2**
	baz=249						
ILA	**Ilan**	**0.84**	**326**	P	**Pb**	**20 58 43.1**	**-0.2**
	baz=326						
ILA				S	**Sb**	**20 58 54.6**	**+0.4**
	baz=326						
TWE	**Neicheng**	**0.85**	**320**	*i* P	**Pb**	**20 58 43.0**	**-0.4**
	baz=320						
TWE				*i* S	**Sb**	**20 58 54.2**	**-0.2**
	baz=320						
ENTT	**Nioudou**	**0.86**	**312**	P	**Pb**	**20 58 43.6**	**+0.1**
	baz=311						
ENTT				*i* S	**Sb**	**20 58 54.5**	**-0.1**
	baz=311						
EGFH	**Guangfu**	**0.86**	**243**	*i* P	**Pb**	**20 58 42.9**	**-0.7**
	baz=241						
EGFH				*i* S	**Sb**	**20 58 55.1**	**+0.3**
	baz=241						
NDT	**Datong Townshi**	**0.87**	**308**	*i* P	**Pn**	**20 58 44.2**	**-0.3**
	baz=307						
NDT				*i* S	**Sb**	**20 58 54.6**	**-0.4**
	baz=307						
NTC	**Toucheng**	**0.88**	**333**	*e*P	**Pb**	**20 58 43.7**	**-0.2**
	baz=333						
NTC				*e*S	**Sb**	**20 58 55.6**	**+0.4**
	baz=333						
NNSB	**Datong**	**0.89**	**294**	P	**Pb**	**20 58 44.3**	**+0.3**
	baz=293						
NNSB				*e*S	**Sb**	**

WHP				eS	Sb	20 59 05.3	0.0
	baz=279						
DPDB	**Guoxing**	**1.23**	**269**	eP	Pn	20 58 49.1	-0.2
	baz=267						
DPDB				eS	Sn	20 59 06.0	+0.6
	baz=267						
SSLB	**Suanglung**	**1.23**	**257**	eP	Pn	20 58 48.8	-0.7
	baz=255						
SSLB				eS	Sn	20 59 05.7	+0.2
	baz=255						
FULB	**Fuli**	**1.24**	**226**	eP	Pn	20 58 48.0	-1.5
	baz=224						
YM01	**YM01**	**1.25**	**330**	eP	Pb	20 58 50.1	-0.1
	baz=329						
YM01				eS	Sn	20 59 05.4	-0.5
	baz=329						
YM10	**YM10**	**1.26**	**329**	eP	Pn	20 58 49.6	-0.2
	baz=329						
YM10				eS	Sn	20 59 05.0	-1.2
	baz=329						
YM11	**YM11**	**1.27**	**330**	eP	Pb	20 58 50.5	0.0
	baz=330						
YM11				eS	Sb	20 59 06.5	+0.2
	baz=330						
YM05	**YM05**	**1.27**	**330**	eP	Pn	20 58 50.0	+0.1
	baz=329						
YM05				eS	Sb	20 59 06.6	+0.2
	baz=329						
YM04	**YM04**	**1.27**	**329**	eP	Pn	20 58 49.3	-0.7
	baz=328						
YM04				eS	Sb	20 59 06.7	+0.2
	baz=328						
YM08	**YM08**	**1.28**	**331**	eP	Pn	20 58 48.9	-1.1
	baz=331						
YM08				eS	Sb	20 59 06.9	+0.2
	baz=331						
LIOB	**Emei**	**1.28**	**297**	eP	Pb	20 58 50.5	-0.2
	baz=296						
LIOB				eS	Sb	20 59 07.4	+0.7
	baz=296						
NSTT	**Nanjuang**	**1.29**	**296**	eP	Pn	20 58 50.0	-0.1
	baz=295						
NSTT				eS	Sb	20 59 07.2	+0.3
	baz=295						
TWS1	**Kuangyinshan**	**1.29**	**323**	eP	Pn	20 58 50.0	-0.1
	baz=323						
TWS1				eS	Sn	20 59 06.4	-0.4
	baz=323						
TYC	**Yuchr**	**1.30**	**263**	eP	Pn	20 58 49.8	-0.5
	baz=261						
TYC				eS	Sn	20 59 06.9	-0.2
	baz=261						
YUS	**Yu-Shan**	**1.33**	**245**	P	Pn	20 58 50.9	-0.4
	baz=243						
YUS				S	Sn	20 59 07.4	-1.2
	baz=243						
WHYT	**Xinyi Township**	**1.35**	**254**	eP	Pb	20 58 51.8	-0.1
	baz=253						
TWY	**Chenhua**	**1.35**	**333**	eP	Pn	20 58 51.0	+0.1
	baz=333						
TWY				eS	Sb	20 59 08.8	+0.1
	baz=333						
IRIF	**Iriomote-Funau**	**1.36**	**78**	P	Pn	20 58 51.5	+0.4
SBCB	**Hsinchu**	**1.38**	**302**	eP	Pb	20 58 51.9	-0.4
	baz=301						
TWQ1	**Liyutan**	**1.40**	**282**	eP	Pb	20 58 52.6	0.0
	baz=280						
TWQ1				eS	Sb	20 59 09.9	-0.1
	baz=280						
ELDTW	**Lidau**	**1.44**	**233**	eP	Pn	20 58 50.9	-1.5
	baz=231						
ELDTW				eS	Sn	20 59 09.2	-1.5
	baz=231						
NHW	**Xinwu Township**	**1.46**	**310**	eP	Pn	20 58 51.4	-1.0
	baz=309						
WNT	**Mingjian**	**1.46**	**263**	eP	Pb	20 58 53.3	-0.5
	baz=261						
WDJ	**Dajia District**	**1.51**	**281**	eP	Pn	20 58 53.9	+0.6
	baz=280						
CHN5	**Tsauling**	**1.53**	**253**	eP	Pn	20 58 54.2	+0.7
	baz=251						
PCYT	**Pengchaiyu**	**1.57**	**353**	eP	Pn	20 58 53.5	-0.5
	baz=354						
JKRS	**Kuro-shima**	**1.60**	**83**	P	Pb	20 58 55.3	-0.8
WDLH	**Douliu**	**1.63**	**257**	eP	Pn	20 58 55.4	+0.7
	baz=255						
STYT	**Tauyuan**	**1.65**	**237**	eP	Pn	20 58 54.9	-0.3
	baz=235						
STYT				eS	Sn	20 59 16.1	+0.2
	baz=235						
TWGBT	**Beinan**	**1.65**	**222**	eP	Pn	20 58 53.9	-1.3
	baz=220						
TWG	**Pinlang**	**1.66**	**222**	eP	Pn	20 58 53.9	-1.3
	baz=220						
TPUB	**Ta-pu**	**1.68**	**243**	P	Pb	20 58 57.1	-0.5
	baz=242						
CHN4	**Tsaushan**	**1.69**	**246**	eP	Pb	20 58 56.9	-0.9
	baz=244						
WTP	**Ta-pu**	**1.72**	**242**	eP	Pn	20 58 56.9	+0.7
	baz=240						
JIJ	**Ishigaki jima**	**1.74**	**80**	P	Pn	20 58 55.9	-0.4
JIJ				eS	Sn	20 59 17.5	-0.3
TWK	**Hsinying**	**1.82**	**244**	eP	Pn	20 58 58.4	+1.0
	baz=242						
TWK				eS	Sn	20 59 19.9	+0.1
	baz=242						
CHN1	**Nanshi**	**1.82**	**242**	eP	Pn	20 58 58.6	+1.1
	baz=240						
SNST	**Tainan City**	**1.83**	**243**	eP	Pn	20 58 58.8	+1.2
	baz=241						
SGST	**Jiashian**	**1.83**	**238**	eP	Pn	20 58 58.4	+0.8
	baz=236						
SLGT	**Liugui**	**1.83**	**235**	eP	Pn	20 58 58.3	+0.7
	baz=233						
ECL	**Taimali**	**1.90**	**220**	eS	Sn	20 59 21.0	-0.8
	baz=218						
JISG	**Ishigakijimahi**	**1.93**	**74**	P	Pn	20 58 58.8	-0.2
JISG				eS	Sn	20 59 22.4	-0.3
SSD	**Sandimen**	**2.00**	**229**	eP	Pn	20 59 00.9	+1.0
	baz=227						
SSD				eS	Sn	20 59 24.7	+0.4
	baz=227						
MASBT	**Mashibuluo**	**2.09**	**226**	eP	Pn	20 59 01.6	+0.5
	baz=225						
EAST	**Anshuo**	**2.12**	**218**	eP	Pn	20 59 02.0	+0.3
	baz=217						
SCZT	**Fangliau**	**2.27**	**222**	eP	Pn	20 59 05.1	+1.5
	baz=221						
JTJ	**Tarama**	**2.29**	**75**	P	Pn	20 59 04.5	+0.6
JTJ				S	Sn	20 59 31.4	-0.1
TSEB	**Hengchuen, Pin**	**2.50**	**211**	eP	Pn	20 59 07.8	+1.0
	baz=210						
WDGT	**Dungji**	**2.52**	**252**	eP	Pn	20 59 07.6	+0.5
	baz=250						
PHUB	**P'eng-hu**	**2.53**	**258**	eP	Pn	20 59 08.0	+0.8
	baz=256						
PHUB				eS	Sn	20 59 37.5	+0.1
	baz=256						
PNG	**Penghu**	**2.53**	**259**	eP	Pn	20 59 08.1	+0.9
	baz=258						
PNG				eS	Sn	20 59 37.5	0.0
	baz=258						
VWUC	**VWUC**	**2.73**	**290**	eP	Pn	20 59 10.1	+0.1
	baz=289						
JIRB	**Irabujima**	**2.75**	**73**	eS	Sn	20 59 43.8	+0.9
PTMZ	**Houxiangcun**	**3.03**	**289**	eP	Pn	20 59 14.1	+0.1
	baz=288						
XPSS	**Dashiqiu**	**3.42**	**327**	eP	Pn	20 59 19.2	-0.2
	baz=326						
AXDP	**Jialang**	**4.00**	**283**	eP	Pn	20 59 29.1	+1.6
	baz=281						

*ISCJB **30** 21:13:38.2±0.6, 35°.89N±0°.03×97°.27W±0°.03, h4km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=166.5*
*ANF **30** 21:13:38.8±0.4, 35°.83N×97°.28W, ML3.8/10, Error ellipse: s-maj=5.1km s-min=2.7km az=163.0*
*NEIC **30** 21:13:39.6±0.9, 35°.86N±0°.02×97°.31W±0°.02, h7km±6km*
*SLM **30** 21:13:39±1.3, 35°.85N±0°.02×97°.28W±0°.02, h7km±6km*
ISC 30 21:13:39.2±1.3, 35°.87N±0°.03×97°.28W±0°.03, h5km±11km, n42, σ0s77/58, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.23**	**199**		**Pg**	**21 13 44.1**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**0.48**	**195**		**Pg**	**21 13 48.7**	**+0.3**
OKCSW				Sg	**Sg**	**21 13 55.1**	**+0.4**
FNO	**Franklin**	**0.62**	**189**	Pg	**Pb**	**21 13 52.2**	**-0.3**
W35A	**Tecumseh**	**0.79**	**155**	Pg	**Pg**	**21 13 54.1**	**-0.2**
W35A				Sg	**Sb**	**21 14 05.3**	**-1.1**
TUL1	**Leonard**	**1.21**	**88**	P	**Pg**	**21 14 01.2**	**-1.2**
	baz=268						
TUL1				S	**Sb**	**21 14 18.1**	**-0.5**
	baz=268						
TUL1	**Leonard**	**1.21**	**88**		**Pg**	**21 14 01.4**	**-1.0**
TUL1				Sg	**Sn**	**21 14 19.2**	**-0.4**
X34A	**Smith Ranch, M**	**1.34**	**200**		**Pg**	**21 14 04.5**	**-0.4**
X34A				Sg	**Sn**	**21 14 22.5**	**-0.4**
U32A	**Winter Ranch,**	**1.48**	**291**	Pn	**Pn**	**21 14 06.4**	**-0.2**
WMOK	**Wichita Mounta**	**1.67**	**228**	P	**Pb**	**21 14 09.2**	**-1.2**
	baz=47						
WMOK				S	**Sb**	**21 14 31.6**	**-0.2**
	baz=47						
WMOK	**Wichita Mounta**	**1.67**	**228**		**Pb**	**21 14 09.3**	**-1.1**
WMOK				Sn	**Sb**	**21 14 30.8**	**-1.0**
X37A	**Clayton**	**2.02**	**129**		**Pn**	**21 14 14.3**	**+0.4**
X37A				Sn	**Sn**	**21 14 39.5**	**0.0**
HHAR	**Hobbs**	**2.74**	**80**		**Pn**	**21 14 24.2**	**+0.3**
HHAR				Sn	**Sn**	**21 14 58.2**	**+0.9**
W39A	**Magazine**	**2.93**	**102**	P	**Pn**	**21 14 27.1**	**+0.6**
	baz=284						
W39A	**Magazine**	**2.93**	**102**		**Pn**	**21 14 27.2**	**+0.8**
W39A				Sn	**Sn**	**21 15 02.4**	**+0.3**
MIAR	**Mount Ida**	**3.31**	**112**	P	**Pn**	**21 14 32.8**	**+1.1**
	baz=294						
MIAR				S	**Sn**	**21 15 12.0**	**+0.6**
	baz=294						
MIAR	**Mount Ida**	**3.31**	**112**		**Pn**	**21 14 31.7**	**+0.1**
MIAR				Sn	**Sn**	**21 15 11.7**	**+0.3**
CBKS	**Cedar Bluff**	**3.53**	**327**	Pb	**Pb**	**21 14 43.1**	**+0.9**
	baz=146						
CBKS	**Cedar Bluff**	**3.53**	**327**	Pn	**Pn**	**21 14 36.1**	**+1.3**
CBKS				Sn	**Sn**	**21 15 16.0**	**-1.0**
U40A	**Yellville**	**3.62**	**81**	P	**Pn**	**21 14 36.0**	**+0.1**
	baz=263						
AMTX	**Amarillo**	**3.73**	**256**	Pb	**Pb**	**21 14 44.7**	**-0.9**
	baz=74						
AMTX	**Amarillo**	**3.73**	**256**		**Pn**	**21 14 37.7**	**+0.2**
ABTX	**Abilene, Hawle**	**3.78**	**212**	Pn	**Pn**	**21 14 38.0**	**-0.2**
ABTX					**Pb**	**21 14 48.1**	**+1.6**
WHTX	**Lake Whitney,**	**3.87**	**182**	Pb	**Pb**	**21 14 46.8**	**-1.1**
	baz=2.1						
WHTX				Sb	**Sb**	**21 15 37.5**	**+2.4**
	baz=2.1						
WHTX	**Lake Whitney,**	**3.87**	**182**	Pn	**Pn**	**21 14 38.9**	**-0.5**
X40A	**Basin Creek Fa**	**3.90**	**109**	P	**Pn**	**21 14 40.6**	**+0.9**
	baz=292						
X40A	**Basin Creek Fa**	**3.90**	**109**		**Pn**	**21 14 40.4**	**+0.7**
WLAR	**White Oak Lake**	**4.06**	**121**	Pn	**Pn**	**21 14 41.7**	**-0.4**
WHAR	**Wooly Hollow**	**4.11**	**97**		**Pn**	**21 14 43.1**	**+0.4**
W41B	**Gary Mavity, V**	**4.16**	**98**	P	**Pn**	**21 14 43.9**	**+0.5**
	baz=281						
W41B	**Gary Mavity, V**	**4.16**	**98**		**Pn**	**21 14 43.8**	**+0.4**
UALR	**University of**	**4.18**	**104**	Pn	**Pn**	**21 14 44.4**	**+0.7**
FCAR	**Ozark Folk Cen**	**4.19**	**88**	Pn	**Pn**	**21 14 43.8**	**+0.1**
FCAR				Pg	**Pg**	**21 14 59.1**	**-0.3**
MGMO	**Mountain Grove**	**4.24**	**71**		**Pn**	**21 14 45.1**	**+0.6**
Z41A	**Richland Creek**	**4.52**	**124**	Pn	**Pn**	**21 14 47.9**	**-0.5**
CCAR	**Cane Creek**	**4.93**	**112**	Pn	**Pn**	**21 14 54.6**	**+0.7**
LCAR	**Lake Charles**	**4.97**	**86**	Pn	**Pn**	**21 14 55.3**	**+0.8**
435B	**Jarrell**	**5.08**	**183**	Pn	**Pn**	**21 14 56.4**	**+0.4**
KSCO	**Kaye Shedlock'**	**5.28**	**308**	Pn	**Pn**	**21 14 59.4**	**+0.5**
CCM	**Cathedral Cave**	**5.30**	**64**	Pn	**Pn**	**21 14 59.8**	**+0.7**
HBAR	**Harrisburg**	**5.40**	**91**	Pn	**Pn**	**21 15 00.4**	**+0.1**
X43A	**Marvell**	**5.41**	**103**	Pn	**Pn**	**21 15 01.0**	**+0.4**
BGNE	**Belgrade**	**5.57**	**353**	Pn	**Pn**	**21 15 02.4**	**-0.4**

*NORS **30** 21:29:25.9±0.0, 42°.50N×43°.51E, h14km, MPVA3.3*
*TIF **30** 21:29:25.9, 42°.59N×43°.55E, h11km*
ISC 30 21:29:26.7±0.8, 42°.58N±0°.02×43°.52E±0°.02, h9km±5km, n24, σ1s32/48, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**285**	P	**Pg**	**21 29 28.8**	**+0.2**
ONI				S	**Sg**	**21 29 30.2**	**+0.2**
ONI	**Oni**	**0.05**	**285**	*i* Pg	**Pg**	**21 29 28.8**	**+0.2**
ONI				eSg	**Sg**	**21 29 30.2**	**+0.2**
ZEI	**Tsey**	**0.35**	**53**	*i* Pg	**Pb**	**21 29 34.2**	**-1.1**
ZEI				eSg	**Sb**	**21 29 39.5**	**-1.5**
TKB	**Tkibuli**	**0.45**	**240**	P	**Pb**	**21 29 36.1**	**-0.7**
TKB				S	**Sb**	**21 29 43.1**	**-0.6**
LACR	**Lac**	**0.62**	**66**	*i* Pg	**Pg**	**21 29 38.3**	**-0.4**
LACR				eSg	**Sg**	**21 29 46.9**	**-0.1**
KORR	**Kora**	**0.65**	**38**	*i* Pg	**Pb**	**21 29 40.2**	**0.0**
KORR				eSg	**Sn**	**21 29 50.5**	**-2.1**
GUDG	**Gudauri**	**0.71**	**99**	P	**Pb**	**21 29 40.2**	**-1.3**
GUDG				S	**Sb**	**21 29 49.9**	**-1.6**
GUDG	**Gudauri**	**0.71**	**99**	*e*Pg	**Pb**	**21 29 40.1**	**-1.4**
GUDG				eSg	**Sb**	**21 29 49.7**	**-1.8**
LSNR	**Lesken**	**0.74**	**18**	*i* Pg	**Pb**	**21 29 41.8**	**+0.1**
LSNR				eSg	**Sn**	**21 29 52.9**	**-1.9**
ARNR	**Ardon**	**0.82**	**43**	*e*Pg	**Pn**	**21 29 44.1**	**-0.4**
ARNR				eSg	**Sn**	**21 29 57.0**	**+0.2**
NEY	**Neytrino**	**0.89**	**319**	*e*Pg	**Pg**	**21 29 43.5**	**-0.4**
NEY				eSg	**Sb**	**21 29 56.5**	**0.0**
NCK	**Nalchik**	**0.92**	**3**	*e*Pg	**Pn**	**21 29 45.2**	**-0.7**
NCK				eSg	**Sn**	**21 29 59.4**	**+0.1**
VLKR	**Vladikavkaz**	**0.97**	**61**	*e*Pg	**Pn**	**21 29 47.3**	**+0.8**
VLKR				eSg	**Sn**	**21 30 02.5**	**+2.0**
KMGR	**Komgaron**	**1.10**	**64**	*e*Pg	**Pn**	**21 29 50.6**	**+2.3**
KMGR				eSg	**Sn**	**21 30 06.3**	**+2.6**
AKH	**Akhalkalaki**	**1.17**	**181**	P	**Pg**	**21 29 49.2**	**+0.1**
AKH				S	**Sn**	**21 30 05.2**	**-0.3**
AKH	**Akhalkalaki**	**1.17**	**181**	*e*Pg	**Pg**	**21 29 49.0**	**-0.1**
AKH				eSg	**Sn**	**21 30 05.0**	**-0.5**
TBLG	**Delisi**	**1.24**	**133**	P	**Pg**	**21 29 53.3**	**+2.9**
TBLG				S	**Sn**	**21 30 10.0**	**+2.9**
KBTC	**Kuba-Taba**	**1.24**	**356**	*e*Pg	**Pg**	**21 29 52.2**	**+1.6**
KBTC				eSg	**Sg**	**21 30 09.2**	**+2.5**
PRTR	**Priterechnaya**	**1.30**	**25**	*e*Pg	**Pg**	**21 29 51.8**	**+0.2**
PRTR				eSg	**Sg**	**21 30 10.2**	**+1.8**
SHA1	**Shidzhatmaz**	**1.32**	**332**	*e*Pg	**Pg**	**21 29 52.3**	**+0.3**
SHA1				eSg	**Sg**	**21 30 09.7**	**+0.4**
KIV0	**Kislovodsk Arr**	**1.50**	**337**	*e*Pg	**Pg**	**21 29 55.7**	**+0.2**
KIV0				eSg	**Sg**	**21 30 14.7**	**-0.4**
DGRG	**David-gareji**	**1.78**	**129**	P	**Pg**	**21 30 01.2**	**+0.5**
DGRG				S	**Sg**	**21 30 25.9**	**+2.0**
LGD	**Lagodekhi**	**2.15**	**109**	P	**Pg**	**21 30 06.6**	**-1.2**
LGD				S	**Sg**	**21 30 35.0**	**-0.8**
LGD	**Lagodekhi**	**2.15**	**109**	*e*Pg	**Pg**	**21 30 06.7**	**-1.2**
LGD				eSg	**Sg**	**21 30 35.6**	**-0.2**

IDC 30 21:48:07.8±3.6, 6°.85S×154°.62E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/31, mbtmp3.4/3, Error ellipse: s-maj=131.2km s-min=36.6km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**235**	P	P	21 53 20.0	-0.5
	0.7nm,0.8s,baz=56,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**25.99**	**228**	P	P	21 53 42.7	+0.1
	0.2nm,0.7s,baz=58,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**83.05**	**319**	P	P	22 00 36.0	+0.7
	0.5nm,0.6s,baz=100,slow=4.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**152.62**	**285**	PKPbc	PKPbc	22 08 07.0	-0.5
	0.4nm,0.6s,baz=107,slow=3.5,SNR=3.9						

JMA 30 21:56:59.1±0.2, 24°.92N×123°.41E, h19km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**219**	P	Pb	21 57 10.3	-0.3
YOJ				S	Sb	21 57 17.8	-0.6
JYNG	**Yonagunijimaku**	**0.63**	**222**	P	Pb	21 57 11.1	-0.3
JYNG				eS	Sb	21 57 19.9	+0.1
IRIF	**Iriomote-Funau**	**0.65**	**153**	P	Pb	21 57 11.5	-0.3
JKRS	**Kuro-shima**	**0.87**	**141**	P	Pb	21 57 15.6	0.0
JKRS				eS	Sb	21 57 26.9	0.0
JISG	**Ishigakijimahi**	**0.88**	**112**	P	Pb	21 57 15.5	-0.3
JISG				eS	Sb	21 57 26.7	-0.5

TAP 30 21:57:56.4, 24°.34N×121°.73E, h4km±1km, ML1.5, 3C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.09**	**6⇑**	*i* P	Pg	21 57 59.3	+1.0
	baz=10.0						
ENA				*i* S	Sg	21 58 00.8	+1.2
	baz=10.0						
NANB	**Nanao**	**0.09**	**11⇑**	*i* P	Pg	21 57 59.3	+1.0
	baz=11						
NANB				*i* S	Sg	21 58 00.8	+1.2
	baz=11						
NACB	**Ninganchiao**	**0.20**	**217**	P	Pg	21 58 01.5	+1.1
	baz=217						
NACB				S	Sg	21 58 04.9	+1.9
	baz=217						
ETLH	**Xiulin Townshi**	**0.26**	**240**	P	Pb	21 58 02.9	-0.9
	baz=240						
ETLH				S	Sb	21 58 07.0	-1.6
	baz=240						
TWD	**Chiawan**	**0.28**	**206**	*i* P	Pb	21 58 03.0	-1.0
	baz=204						
TWD				*i* S	Sb	21 58 07.8	-1.4
	baz=204						
TWC	**Suao**	**0.29**	**22**	P	Pg	21 58 03.0	+0.9
	baz=23						
NNSB	**Datong**	**0.33**	**286**	P	Pb	21 58 04.6	-0.4
	baz=286						
NNSB				eS	Sb	21 58 09.4	-1.2
	baz=286						
NNSH	**Datong**	**0.33**	**286**	eP	Pb	21 58 04.4	-0.5
	baz=286						
NNSH				eS	Sg	21 58 08.8	+1.6
	baz=286						
NDT	**Datong Townshi**	**0.33**	**323**	eP	Pg	21 58 03.5	+0.7
	baz=323						
NDT				S	Sb	21 58 10.5	-0.1
	baz=323						
ENTT	**Nioudou**	**0.34**	**334⇑**	*i* P	Pb	21 58 04.5	-0.5
	baz=334						
ENTT				S	Sb	21 58 09.6	-1.1
	baz=334						
NNS	**Nan Shan**	**0.34**	**288**	eP	Pg	21 58 04.0	+0.9
	baz=287						
NNS				S	Sb	21 58 09.5	-1.5
	baz=287						
TWE	**Neicheng**	**0.39**	**351**	eS	Sb	21 58 11.3	-0.8
	baz=353						
EOS1	**EOS1**	**0.42**	**60**	eP	Pb	21 58 06.0	-0.3
	baz=59						
EOS1				eS	Sb	21 58 12.5	-0.5
	baz=59						
SLBB	**Yuanshan**	**0.42**	**348**	P	Pg	21 58 05.1	+0.6
	baz=348						
SLBB				eS	Sb	21 58 12.4	-0.9
	baz=348						
YHNB	**Yeheng**	**0.46**	**316**	P	Pb	21 58 07.3	+0.1
	baz=315						
YHNB				eS	Sb	21 58 14.7	+0.3
	baz=315						
WHF	**Hehuan Shan**	**0.47**	**246**	P	Pb	21 58 07.5	+0.1
	baz=245						
WHF				eS	Sb	21 58 14.1	-0.7
	baz=245						
NSK	**Sanguang**	**0.48**	**315**	P	Pb	21 58 07.3	-0.1
	baz=315						
NSK				S	Sb	21 58 14.8	0.0
	baz=315						
NWLT	**Wulai**	**0.48**	**335**	P	Pb	21 58 07.7	+0.2
	baz=334						
NWLT				eS	Sb	21 58 14.8	-0.2
	baz=334						
TDCB	**Techi**	**0.53**	**261**	eP	Pb	21 58 07.7	-0.6
	baz=260						
CHGB	**Renai**	**0.58**	**242**	P	Pb	21 58 09.5	+0.3
	baz=241						
CHGB				eS	Sb	21 58 17.9	0.0
	baz=241						
TIPB	**Shuangxi**	**0.64**	**8**	eP	Pb	21 58 09.9	-0.2
	baz=7.0						
WHP	**Taichung City**	**0.72**	**265**	eS	Sb	21 58 21.8	+0.1
	baz=265						
VWDT	**VWDT**	**0.79**	**223**	eP	Pb	21 58 12.9	+0.2
	baz=222						
VWDT				eS	Sb	21 58 24.2	+0.5
	baz=222						

IDC 30 22:06:31.0±3.4, 6°.06S×152°.68E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/37, mbtmp3.5/2, Error ellipse: s-maj=91.3km s-min=27.2km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.85**	**339**	Pn	Pn	22 07 04.8	+0.7
	45nm,0.3s,baz=100,slow=5.5,SNR=14						
KRVT				Sn	Sn	22 07 22.2	-6.1
	116nm,0.3s,baz=131,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**22.54**	**231**	P	P	22 11 31.8	-1.1
	0.9nm,0.4s,baz=53,slow=9.8,SNR=9.1						
ASAR	**Alice Springs**	**25.16**	**224**	P	P	22 11 59.2	+0.9
	0.6nm,0.5s,baz=59,slow=8.8,SNR=11						
TORD	**Torodi Ar. Bea**	**150.56**	**286**	PKPbc	PKPbc	22 26 25.2	-0.8
	0.2nm,0.3s,baz=103,slow=3.5,SNR=2.7						

*NNC **30** 22:07:18.7±1.0, 44°.51N×81°.33E, h9km±5km, mb3.8, mpv3.5, Error ellipse: s-maj=8.0km s-min=4.0km az=123.0*
*SOME **30** 22:07:20.0, 44°.40N×81°.28E, h20km*
ISC 30 22:07:17.0±1.5, 44°.44N±0°.04×81°.42E±0°.04, h5km±11km, n51, σ2s01/78, 12C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.18**	**266**	P	**Pn**	**22 07 40.9**	**+0.7**
	82nm,0.3s						
DJR				S	**Sn**	**22 07 56.5**	**-0.2**
	98nm,0.5s						
DJR	**Jarkent**	**1.18**	**266**	eP	**Pn**	**22 07 40.9**	**+0.7**
	78nm,0.1s						
DJR				eS	**Sn**	**22 07 55.9**	**-0.8**
	117nm,0.2s						
KTMS	**Ketmen**	**1.26**	**218**	eP	**Pn**	**22 07 42.1**	**+0.8**
	39nm,0.1s						
KTMS				eS	**Sb**	**22 07 57.7**	**-0.1**
	329nm,0.3s						
KAPS	**Kapalarasan**	**1.70**	**301**	P	**Pg**	**22 07 49.3**	**-0.3**
	24nm,0.3s						
KAPS				S	**Sg**	**22 08 10.7**	**-0.9**
	61nm,0.4s						
KAPS	**Kapalarasan**	**1.70**	**301**	eP	**Pg**	**22 07 50.0**	**+0.5**
	20nm,0.2s						
KAPS				eS	**Sg**	**22 08 11.8**	**+0.2**
	182nm,0.3s						
PDGK	**Podgornoye**	**1.78**	**232**	P	**Pb**	**22 07 51.3**	**+1.0**
	9.5nm,0.2s						
PDGK				S	**Sb**	**22 08 13.6**	**+0.6**
	176nm,0.7s						
PDGK	**Podgornoye**	**1.78**	**232**	⇓P	**Pn**	**22 07 49.2**	**+0.6**
	6.8nm,0.3s						
PDGK				⇑S	**Sb**	**22 08 13.4**	**+0.4**
	370nm,0.7s						
SHLS	**Shalkode**	**1.91**	**229**	P	**Pn**	**22 07 49.8**	**-0.6**
SHLS				S	**Sn**	**22 08 10.9**	**-3.9**
	217nm,0.5s						
SHLS	**Shalkode**	**1.91

	150nm,0.6s							
TDK	**Taldyqorghan**	**2.23**	**286**	*e*P		**Pg**	**22 07 59.1**	**-0.5**
	52nm,0.1s							
TDK				*e*S		**Sg**	**22 08 27.2**	**-1.3**
	223nm,0.2s							
MAKZ	**Makanchi**	**2.40**	**9**	⇑Pn		**Pn**	**22 07 56.6**	**-0.4**
	11nm,0.6s							
MAKZ				⇑Lg		Lg	22 08 29.9	
	26nm,0.7s							
MK31	**Makanchi Array**	**2.44**	**14**	⇑Pn		**Pn**	**22 07 57.6**	**+0.1**
	5.1nm,0.4s,baz=196,slow=16,SNR=203							
MK31				⇑Lg		Lg	22 08 35.7	
	68nm,0.7s,baz=196,slow=27,SNR=16							
ZHN	**Zhinishke**	**2.51**	**241**	*e*P		**Pb**	**22 08 03.7**	**+1.1**
	11nm,0.1s							
ZHN				*e*S		**Sb**	**22 08 34.6**	**+0.8**
	81nm,0.2s							
KURS	**Kuram**	**2.53**	**249**	Pg		**Pb**	**22 08 04.4**	**+1.4**
	5.6nm,0.4s							
KURS				Lg		Lg	22 08 36.5	
	21nm,0.4s							
KURS	**Kuram**	**2.53**	**249**	*e*P		**Pb**	**22 08 04.5**	**+1.5**
	5.7nm,0.2s							
KURS				*e*S		**Sb**	**22 08 36.3**	**+1.8**
	27nm,0.3s							
SATY	**Saty**	**2.58**	**239**	Pg		**Pb**	**22 08 03.9**	**0.0**
	13nm,0.3s							
SATY				Lg		Lg	22 08 35.2	
	116nm,0.3s							
SATY	**Saty**	**2.58**	**239**	*e*P		**Pb**	**22 08 04.7**	**+0.8**
	17nm,0.1s							
SATY				*e*S		**Sb**	**22 08 37.0**	**+1.0**
	265nm,0.2s							
ARXS	**Arharly**	**2.59**	**266**	Pg		**Pg**	**22 08 05.9**	**-0.8**
	25nm,0.7s							
ARXS				Lg		Lg	22 08 38.5	
	71nm,0.5s							
ARXS	**Arharly**	**2.59**	**266**	*e*P		**Pb**	**22 08 05.2**	**+1.2**
	16nm,0.2s							
ARXS				*e*S		**Sg**	**22 08 37.8**	**-2.4**
	84nm,0.3s							
CHKK	**Chushkaly**	**3.25**	**261**	Pg		**Pb**	**22 08 16.3**	**+1.2**
	3.3nm,0.3s							
CHKK				Lg		Lg	22 08 56.8	
	53nm,0.4s							
CHKK	**Chushkaly**	**3.25**	**261**	*e*P		**Pb**	**22 08 16.3**	**+1.2**
	1.7nm,0.1s							
CHKK				*e*S		**Sb**	**22 08 56.5**	**+1.6**
	74nm,0.1s							
KOTS	**Kotyrbulak**	**3.34**	**250**	Pg		**Pb**	**22 08 18.9**	**+2.0**
	17nm,0.5s							
KOTS				Lg		Lg	22 09 00.8	
	5μm,0.5s							
KOTS	**Kotyrbulak**	**3.34**	**250**	*e*P		**Pb**	**22 08 18.7**	**+1.9**
	7.9nm,0.2s							
KOTS				*e*S		**Sb**	**22 09 00.7**	**+2.8**
	80nm,0.4s							
MDOK	**Medeo**	**3.41**	**250**	Pn		**Pn**	**22 08 11.8**	**+0.8**
	1.9nm,0.5s							
MDOK				Pg		**Pg**	**22 08 21.9**	**-0.5**
	7.9nm,0.6s							
MDOK				Lg		Lg	22 09 01.9	
	21nm,0.6s							
MDOK	**Medeo**	**3.41**	**250**	*e*P		**Pb**	**22 08 19.5**	**+1.5**
	2.8nm,0.1s							
MDOK				*e*S		**Sb**	**22 09 01.8**	**+1.9**
	25nm,0.3s							
KNDC	**Almaty**	**3.45**	**251**	⇑Pg		**Pb**	**22 08 21.0**	**+2.4**
	6.4nm,0.5s							
KNDC				⇑Lg		Lg	22 09 07.7	
	56nm,0.7s							
KTBS	**Karatobe**	**3.49**	**260**	Pg		**Pb**	**22 08 21.2**	**+1.9**
	2.6nm,0.5s							
KTBS				Lg		Lg	22 09 04.8	
	42nm,0.6s							
KTBS	**Karatobe**	**3.49**	**260**	*e*P		**Pb**	**22 08 20.8**	**+1.5**
	10.0nm,0.3s							
KTBS				*e*S		**Sb**	**22 09 04.2**	**+2.1**
	80nm,0.2s							
TNSS	**Tian-Shan**	**3.53**	**248**	Pg		**Pb**	**22 08 22.5**	**+2.3**
	3.5nm,0.3s							
TNSS				Lg		Lg	22 09 06.9	
	14nm,0.5s							
TNSS	**Tian-Shan**	**3.53**	**248**	*e*P		**Pb**	**22 08 22.3**	**+2.1**
	1.6nm,0.0s							
TNSS				*e*S		**Sb**	**22 09 06.8**	**+3.2**
	31nm,0.2s							
KUU	**Kurty**	**3.70**	**263**	Pg		**Pb**	**22 08 24.2**	**+1.4**
	3.7nm,0.6s							
KUU				Lg		Lg	22 09 10.3	
	23nm,0.6s							
KUU	**Kurty**	**3.70**	**263**	*e*P		**Pb**	**22 08 24.7**	**+1.8**
	3.6nm,0.1s							
KUU				*e*S		**Sb**	**22 09 10.8**	**+2.8**
	29nm,0.3s							
MTBS	**Maitube**	**3.84**	**252**	Pg		**Pb**	**22 08 27.4**	**+2.0**
	3.3nm,0.3s							
MTBS				Lg		Lg	22 09 15.5	
	765nm,0.4s							
MTBS	**Maitube**	**3.84**	**252**	*e*P		**Pb**	**22 08 27.4**	**+2.0**
	3.9nm,0.1s							
MTBS				*e*S		**Sb**	**22 09 15.4**	**+3.2**
	40nm,0.3s							
ZSN	**Zaisan**	**3.85**	**37**	Pg		**Pb**	**22 08 27.7**	**+2.3**
	5.4nm,0.4s							
ZSN				Lg		Lg	22 09 15.8	
	18nm,1.0s							
ZSN	**Zaisan**	**3.85**	**37**	*e*P		**Pb**	**22 08 27.9**	**+2.4**
	5.4nm,0.4s							
ZSN				*e*S		**Sb**	**22 09 16.1**	**+3.7**
	20nm,0.6s							
KST	**Kastek**	**4.20**	**253**	Pg		**Pg**	**22 08 36.0**	**-1.4**
	5.6nm,0.7s							
KST				Lg		Lg	22 09 30.6	
	12nm,0.6s							
KST	**Kastek**	**4.20**	**253**	*e*P		**Pb**	**22 08 34.0**	**+2.6**
	4.9nm,0.2s							
KST				*e*S		**Sb**	**22 09 26.8**	**+4.5**
	17nm,0.2s							
TKM2	**Tokmak 2**	**4.49**	**252**	⇓Pg		**Pb**	**22 08 40.4**	**+4.0**
	6.3nm,0.8s							
TKM2				⇑Lg		Lg	22 09 38.5	
	12nm,0.6s							
SGDS	**Sogindy**	**5.00**	**261**	Pg		**Pg**	**22 08 49.7**	**-3.1**
	2.3nm,0.6s							
SGDS				Lg		Lg	22 09 53.7	
	5.5nm,0.9s							
AAK	**Ala-Archa**	**5.35**	**253**	⇑Pg		**Pb**	**22 08 54.0**	**+2.9**
	2.7nm,0.8s							
AAK				⇓Lg		Lg	22 10 04.4	
	15nm,0.9s							
SEM	**Semipalatinsk**	**6.03**	**353**	Pg		**Pg**	**22 09 11.4**	**-1.0**
	2.8nm,0.4s							
SEM				Lg		Lg	22 10 29.9	
	10nm,0.3s							
MRKS	**Merke**	**6.19**	**257**	Pg		Pb	22 09 10.8	+5.5
	1.3nm,0.5s							
MRKS				Lg		Lg	22 10 30.1	
	3.7nm,0.6s							
KURBB	**Kurchatov Arra**	**6.49**	**343**	⇓Pn		**Pn**	**22 08 51.6**	**-1.6**
	1.6nm,0.9s							
KURBB				⇓Sn		**Sn**	**22 10 03.7**	**-3.8**
	2.7nm,0.5s							
KURBB				⇓Lg		Lg	22 10 39.6	
	13nm,0.6s							
KURK	**Kurchatov**	**6.56**	**344**	⇑Pn		**Pn**	**22 08 50.9**	**-3.2**
	1.3nm,0.7s							
KURK				⇑Sn		**Sn**	**22 10 05.5**	**-3.8**
	2.6nm,0.8s							
KURK				⇑Lg		Lg	22 10 39.1	
	7.5nm,0.7s							
KK31	**Karatay Array**	**8.01**	**264**	⇓Lg		Lg	22 11 26.6	
	1.4nm,0.5s,baz=71,slow=29,SNR=4.1							

IDC 30 22:45:59.1±2.4, 30°38S×178°43W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/19, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=66.7km s-min=23.7km az=128.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.21**	**22**	Pn	Pn	22 46 23.5	+0.3
	47nm,0.3s,baz=129,slow=20,SNR=8.2						
RAO				Sn	Sg	22 46 37.5	-0.3
	200nm,0.3s,baz=198,slow=20,SNR=10						
URZ	**Urewera**	**8.68**	**204**	Pn	Pn	22 48 06.4	+0.5
	0.4nm,0.3s,baz=56,slow=6.8,SNR=2.4						
URZ				Sn	Sn	22 49 40.9	-3.7
	0.2nm,0.3s,baz=338,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**42.74**	**267**	P	P	22 53 58.2	-0.1
	0.2nm,0.5s,baz=96,slow=7.6,SNR=3.7						
WRA	**Warramunga Arr**	**43.73**	**272**	P	P	22 54 06.2	-0.1
	0.2nm,0.4s,baz=111,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**144.99**	**340**	PKP	PKPbc	23 05 36.3	-0.6
	2.6nm,0.9s,baz=22,slow=2.1,SNR=6.1						

*ISCJB **30** 22:51:47.6±0.5, 23°08S±0°04×66°76W±0°04, h222km±5km, mb3.0/1, Error ellipse: s-maj=7.3km s-min=4.6km az=37.1*
*IDC **30** 22:51:47.6±1.3, 23°01S×66°55W, h196km±20km, mb3.0/1, mb1 3.0/5, mb1mx3.0/19, mbtmp3.5/5, Error ellipse: s-maj=27.0km s-min=17.6km az=108.0*
*SJA **30** 22:51:48.0±0.7, 23°04S×66°70W, h218km±5km, ML3.0, MW3.2*
*GUC **30** 22:51:49.3±0.5, 22°95S×67°21W, h248km±6km, ML3.6*

ISC 30 22:51:47.2±0.9, 23°05S±0°06×66°72W±0°04, h225km±8km, n35, σ1°29/54, 9C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.41**	**52**	*i* P	**Pn**	**22 52 23.7**	**+0.7**
YJA				*e*S	**S**	**22 52 50.5**	**-0.3**
AZAP	**Zapla**	**1.91**	**128**	⇓*i*P	**Pn**	**22 52 27.4**	**+0.4**
AZAP				*e*S	**S**	**22 52 57.6**	**-0.5**
SLA	**San Lorenzo**	**2.00**	**147**	*i* P	**Pn**	**22 52 29.1**	**+1.4**
SLA				*e*S	**S**	**22 52 58.7**	**-0.8**
LVC	**Limon Verde**	**2.07**	**282**	*e*P	**Pn**	**22 52 29.8**	**+1.1**
LVC				*i* S	**S**	**22 53 01.2**	**+0.2**
LVC	**Limon Verde**	**2.07**	**282**	P	**Pn**	**22 52 29.8**	**+1.1**
	8.8nm,0.3s,baz=96,slow=7.0,SNR=87						
LVC				S	**S**	**22 53 00.3**	**-0.7**
	6.9nm,0.3s,baz=182,slow=8.1,SNR=22						
LVC	**Limon Verde**	**2.07**	**282**	*i* P	**Pn**	**22 52 29.5**	**+0.8**
LVC				*e*S	**S**	**22 53 00.6**	**-0.4**
PB15	**IPOC Station P**	**2.54**	**266**	⇑*i*P	**Pn**	**22 52 34.5**	**+1.2**
PB15				*i* S	**S**	**22 53 08.9**	**-0.4**
PB15				IAML		22 53 12.9	
	comp=N,684nm,0.4s						
PB15	**IPOC Station P**	**2.54**	**266**	*i* P	**Pn**	**22 52 34.5**	**+1.2**
PB09	**IPOC Station P**	**2.65**	**298**	⇑*i*P	**Pn**	**22 52 36.2**	**+1.7**
PB09				*i* S	**S**	**22 53 11.6**	**+0.2**
PB09				IAML		22 53 15.9	
	comp=E,41nm,0.3s						
PB09	**IPOC Station P**	**2.65**	**298**	*i* P	**Pn**	**22 52 35.7**	**+1.2**
PB09				IAML		22 53 18.0	
	comp=Z,20nm,0.8s						
PB06	**IPOC Station P**	**2.66**	**277**	⇓*i*P	**Pn**	**22 52 35.7**	**+1.2**
PB06				*i* S	**S**	**22 53 10.4**	**-1.0**
PB06				IAML		22 53 13.1	
	comp=N,120nm,0.6s						
PB06	**IPOC Station P**	**2.66**	**277**	*i* P	**Pn**	**22 52 35.7**	**+1.2**
PB06				*e*S	**S**	**22 53 10.3**	**-1.2**
PB06				IAML		22 53 13.8	
	comp=Z,49nm,0.2s						
PB03	**IPOC Station P**	**2.98**	**289**	⇑*i*P	**Pn**	**22 52 38.9**	**+0.8**
PB03				*i* S	**S**	**22 53 16.3**	**-1.6**
PB03				IAML		22 53 18.9	
	comp=E,116nm,0.3s						
FSA	**Cafayete**	**3.12**	**168**	*i* P	**Pn**	**22 52 41.0**	**+1.3**
PB07	**IPOC Station P**	**3.21**	**294**	⇑*i*P	**Pn**	**22 52 41.7**	**+0.9**
PB07				*i* S	**S**	**22 53 21.0**	**-1.8**
PB05	**IPOC Station P**	**3.22**	**273**	⇑*i*P	**Pn**	**22 52 41.7**	**+0.9**
PB05				*i* S	**S**	**22 53 20.8**	**-2.0**
PB05				IAML		22 53 25.7	
	comp=N,47nm,0.3s						
PB05	**IPOC Station P**	**3.22**	**273**	*i* P	**Pn**	**22 52 41.8**	**+0.9**
PB05				IAML		22 53 24.4	
	comp=Z,29nm,0.2s						
PB04	**IPOC Station P**	**3.25**	**282**	⇑*i*P	**Pn**	**22 52 42.1**	**+0.9**
PB04				*i* S	**S**	**22 53 21.1**	**-2.3**
PB04	**IPOC Station P**	**3.25**	**282**	*i* P	**Pn**	**22 52 42.1**	**+0.9**
PB01	**IPOC Station P**	**3.25**	**307**	⇑*i*P	**Pn**	**22 52 42.0**	**+0.8**
PB01				*i* S	**S**	**22 53 22.6**	**-0.9**
PB02	**IPOC Station P**	**3.41**	**300**	⇑*i*P	**Pn**	**22 52 43.7**	**+0.7**
PB02				*i* S	**S**	**22 53 24.8**	**-2.1**
PB10	**IPOC Station P**	**3.56**	**262**	⇓*i*P	**Pn**	**22 52 45.9**	**+1.2**
PB10				IAML		22 53 31.1	
	comp=Z,31nm,0.4s						
PB08	**IPOC Station P**	**3.68**	**321**	⇑*i*P	**Pn**	**22 52 48.3**	**+1.9**
PB08				*i* S	**S**	**22 53 33.5**	**+0.6**
PB14	**IPOC Station P**	**3.72**	**244**	*i* P	**Pn**	**22 52 47.8**	**+0.9**
PB14				IAML		22 53 35.8	
	comp=Z,35nm,0.4s						
GO01	**Chusmiza**	**4.08**	**325**	*e*P	**Pn**	**22 52 53.4**	**+1.9**
GO01				*i* S	**S**	**22 53 42.5**	**+0.6**
AGUA	**GUANDACOL**	**6.61**	**194**	*i* P	**Pn**	**22 53 21.5**	**-1.1**
AGUA				IAML		22 55 16.4	
	comp=Z,1.6nm,1.2s						
LPAZ	**La Paz**	**6.86**	**349**	P	**Pn**	**22 53 28.4**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=181,slow=8.5,SNR=8.7						
LPAZ				S	**S**	**22 54 42.3**	**-3.1**
	baz=90,slow=16,SNR=2.5						
LPAZ	**La Paz**	**6.86**	**349**	*i* P	**Pn**	**22 53 28.1**	**+1.7**
APLL	**PUNTA DE LOS L**	**7.32**	**179**	*i* P	**Pn**	**22 53 32.1**	**+0.4**
APLL				IAML		22 54 53.1	
	comp=Z,1.6nm,0.6s						
CFA	**Coronel Fontan**	**8.63**	**189**	P	**Pn**	**22 53 48.2**	**-0.2**
	baz=4.7,slow=16,SNR=1.0						
CFA	**Coronel Fontan**	**8.63**	**189**	*i* P	**Pn**	**22 53 48.7**	**+0.2**
SIV	**San Ignacio**	**8.81**	**38**	P	**Pn**	**22 53 49.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=236,slow=15,SNR=4.0						
BDFB	**Brasilia**	**19.11**	**71**	P	**Pn**	**22 55 55.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=252,slow=6.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**75.99**	**69**	P	**P**	**23 03 11.6**	**+1.7**
	comp=Z,0.4nm,1.0s,baz=246,slow=5.9,SNR=3.4						
MKAR	**Makanchi Array**	**145.63**	**39**	PKPbc	**PKiKP**	**23 11 03.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=321,slow=3.4,SNR=6.6						

*NNC **30** 22:53:55.5±1.5, 39°33N×77°54E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.1km s-min=8.9km az=151.0*
*KRNET **30** 22:53:60.0±0.1, 39°26N×77°81E, mb3.1*
*SOME **30** 22:54:00.3, 39°57N×77°50E, h0km*

ISC 30 22:53:51.7±1.9, 39°16N±0°08×77°42E±0°05, h16km, n51, σ2°53/82, 27C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.58**	**6**	⇑*e*P	**Pg**	**22 54 41.1**	**-0.1**
	baz=60						
TARG				⇑*i*S	**Sb**	**22 55 10.9**	**+1.4**
	baz=60						
KDJ	**Kajisay**	**2.97**	**357**	⇑*e*P	**Pb**	**22 54 46.6**	**+2.3**
	baz=51						
KDJ				⇑*i*S	**Sb**	**22 55 21.0**	**+0.6**
	baz=51						
ULHL	**Ulahol**	**3.21**	**344**	⇑*e*P	**Pb**	**22 54 51.3**	**+2.9**
	baz=39						
ULHL				⇑*i*S	**Sb**	**22 55 28.6**	**+1.3**
	baz=39						
KZA	**Kyzart**	**3.35**	**331**	⇓*i*P	**Pb**	**22 54 54.2**	**+3.3**
	baz=26						
KZA				⇓*i*S	**Sb**	**22 55 33.7**	**+2.1**
	baz=26						
PRZ	**Przheval'sk**	**3.40**	**12**	⇑*i*P	**Pb**	**22 54 51.5**	**-0.2**
	baz=8.0						
PRZ				⇑*e*S	**Sn**	**22 55 29.0**	**+4.7**
	baz=8.0						
ARLS	**Aral**	**3.58**	**320**	⇓*i*P	**Pb**	**22 54 57.3**	**+2.5**
	baz=16						
ARLS				⇓*i*S	**Sb**	**22 55 40.0**	**+1.9**
	baz=16						
ANVS	**Anan'yevo**	**3.62**	**3**	⇑*i*P	**Pb**	**22 54 55.1**	**-0.4**
	baz=58						
ANVS				⇑*e*S	**Sb**	**22 55 36.2**	**-3.0**
	baz=58						
TNSS	**Tian-Shan**	**3.89**	**355**	Pg	**Pb**	**22 55 04.0**	**+3.9**
	15nm,0.5s						
TNSS				Lg	Lg	22 55 54.1	
	8.4nm,0.6s						
TNSS	**Tian-Shan**	**3.89**	**355**	*e*P	**Pg**	**22 55 06.2**	**0.0**
	9.8nm,0.1s						
TNSS				*e*S	**Sg**	**22 55 53.4**	**-3.1**
	16nm,0.2s						
KBK	**Karagaybulak**	**3.96**	**333**	⇑*i*P	**Pb**	**22 55 02.5**	**+1.3**
	baz=28						
KBK				⇑*i*S	**Sb**	**22 55 47.9**	**-1.1**
	baz=28						
SATY	**Saty**	**3.96**	**10**	Pg	**Pb**	**22 55 05.4**	**+4.2**
	15nm,0.8s						
SATY				Lg	Lg	22 55 56.6	
	24nm,0.5s						
SATY	**Saty**	**3.96**	**10**	*e*P	**Pg**	**22 55 07.4**	**-0.2**
	16nm,0.4s						
SATY				*e*S	**Sg**	**22 55 55.4**	**-3.5**
	35nm,0.4s						
TKM2	**Tokmak 2**	**4.00**	**340**	⇓Pg	**Pb**	**22 55 05.4**	**+3.5**
	2.2nm,0.5s						
TKM2				⇓Lg	Lg	22 55 58.4	
	23nm,0.8s						
TKM2	**Tokmak 2**	**4.00**	**340**	⇓*e*P	**Pb**	**22 55 02.3**	**+0.4**
	baz=36						
TKM2				⇓*i*S	**Sb**	**22 55 47.6**	**-2.5**
	baz=36						
MDOK	**Medeo**	**4.00**	**356**	Pg	**Pb**	**22 55 06.1**	**+4.1**
	6.7nm,0.7s						
MDOK				Lg	Lg	22 55 57.3	
	26nm,0.6s						
MDOK	**Medeo**	**4.00**	**356**	Pg	**Pg**	**22 55 06.9**	**-1.6**
	6.0nm,0.7s						
MDOK				Lg	Lg	22 55 59.1	
	19nm,0.7s						
MDOK	**Medeo**	**4.00**	**356**	*e*P	**Pg**	**22 55 08.2**	**-0.2**
	6.1nm,0.3s						
MDOK				*e*S	**Sg**	**22 55 57.3**	**-3.0**
	26nm,0.6s						
ARSB	**Arslanbob**	**4.03**	**304**	⇑*e*P	**Pb**	**22 55 05.7**	**+3.4**
	baz=1.0						
ARSB				⇑*i*S	**Sb**	**22 55 52.5**	**+1.7**
	baz=1.0						
KST	**Kastek**	**4.03**	**345**	Pg	**Pb**	**22 55 06.7**	**+4.4**
	5.0nm,0.5s						
KST				Lg	Lg	22 55 59.5	
	9.0nm,0.7s						
KST	**Kastek**	**4.03**	**345**	*e*P	**Pg**	**22 55 09.6**	**+0.7**
	6.5nm,0.3s						
KST				*e*S	**Sg**	**22 55 59.2**	**-1.8**
	7.7nm,0.5s						
MTBS	**Maitube**	**4.03**	**350**	*e*P	**Pg**	**22 55 09.6**	**+0.7**
	1.8nm,0.1s						
MTBS				*e*S	**Sg**	**22 55 59.4**	**-1.8**
	13nm,0.3s						
AAA	**Alma-Ata**	**4.06**	**355**	Pg	**Pg**	**22 55 07.7**	**-1.8**
	6.2nm,0.1s						
AAA				Lg	Lg	22 56 00.1	
	28nm,0.4s						
AAA	**Alma-Ata**	**4.06**	**355**	*e*P	**Pg**	**22 55 09.8**	**+0.4**
	4.2nm,0.0s						
AAA				*e*S	**Sg**	**22 55 59.5**	**-2.5**
	28nm,0.4s						
KNDC	**Almaty**	**4.06**	**355**	⇑Pg	**Pg**	**22 55 08.4**	**-1.1**
	11nm,0.7s						
KNDC				⇓Lg	Lg	22 55 59.0	
	36nm,0.6s						
KOTS	**Kotyrbulak**	**4.07**	**357**	Pg	**Pb**	**22 55 07.4**	**+4.2**
	8.5nm,0.6s						
KOTS				Lg	Lg	22 55 59.6	
	48nm,0.7s						
KOTS	**Kotyrbulak**	**4.07**	**357**	*e*P	**Pg**	**22 55 10.1**	**+0.3**
	13nm,0.3s						
KOTS				*e*S	**Sg**	**22 56 00.3**	**-2.2**
	72nm,0.4s						
ZHN	**Zhinishke**	**4.07**	**10**	*e*P	**Pg**	**22 55 09.7**	**0.0**
	4.9nm,0.1s						
ZHN				*e*S	**Sg**	**22 55 59.7**	**-2.8**
	6.9nm,0.4s						
AAK	**Ala-Archa**	**4.12**	**328**	⇑Pg	**Pb**	**22 55 08.0**	**+4.1**
	4.5nm,0.8s						
AAK				⇑Lg	Lg	22 56 04.2	
	16nm,0.8s						
UZB	**Uzynbulak**	**4.16**	**16**	*e*P	**Pg**	**22 55 10.1**	**-1.2**
	2.6nm,0.4s						
UZB				*e*S	**Sg**	**22 56 00.3**	**-4.9**
	8.8nm,0.4s						
FRU1	**Bishkek**	**4.21**	**331**	⇑*i*P	**Pb**	**22 55 06.4**	**+1.0**
	baz=27						
FRU1				⇑*i*S	**Sb**	**22 55 54.0**	**-2.1**
	baz=27						
SHLS	**Shalkode**	**4.28**	**20**	*e*P	**Pg**	**22 55 14.5**	**+0.9**
	2.3nm,0.2s						
SHLS				*e*S	**Sg**	**22 56 07.8**	**-1.2**
	19nm,0.5s						
KURS	**Kuram**	**4.36**	**7**	*e*P	**Pg**	**22 55 14.4**	**-0.7**
	3.6nm,0.5s						
KURS				*e*S	**Sg**	**22 56 07.6**	**-4.0**
	12nm,0.7s						
KPKS	**Kokpek**	**4.40**	**12**	*e*P	**Pg**	**22 55 15.1**	**-0.9**
	4.5nm,0.3s						
KPKS				*e*S	**Sg**	**22 56 08.8**	**-4.3**
	38nm,0.5s						
PDGK	**Podgornoye**	**4.44**	**20**	Pg	**Pb**	**22 55 13.0**	**+3.6**
	1.3nm,0.4s						
PDGK				Lg	Lg	22 56 09.9	
	9.0nm,0.8s						
PDGK	**Podgornoye**	**4.44**	**20**	⇑Pg	**Pb**	**22 55 09.8**	**+0.3**
	3.7nm,1.0s						
PDGK				⇓Lg	Lg	22 56 10.0	
	53nm,0.9s						
EKS2	**Erkin-Say**	**4.45**	**323**	⇑*e*P	**Pb**	**22 55 10.2**	**+0.6**
	baz=19						
EKS2				⇑*e*S	**Sb**	**22 56 01.4**	**-1.7**
	baz=19						
KTBS	**Karatobe**	**4.58**	**353**	Pg	**Pg**	**22 55 16.9**	**-2.5**
	5.3nm,1.1s						
KTBS				Lg	Lg	22 56 15.8	
	23nm,0.6s						
KTBS	**Karatobe**	**4.58**	**353**	*e*P	**Pg**	**22 55 19.1**	**-0.2**
	5.6nm,0.6s						
KTBS				*e*S	**Sg**	**22 56 15.8**	**-2.8**
	27nm,0.5s						
CHKK	**Chushkaly**	**4.70**	**356**	*e*P	**Pg**	**22 55 21.0**	**-0.7**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**22 56 18.8**	**-3.7**
	19nm,0.2s						
MRKS	**Merke**	**4.78**	**320**	Pg	**Pg**	**22 55 21.7**	**-1.6**
	2.4nm,0.5s						
MRKS				Lg	Lg	22 56 24.3	
	4.0nm,0.8s						
MRKS	**Merke**	**4.78**	**320**	*e*P	**Pg**	**22 55 24.4**	**+1.1**
	2.9nm,0.2s						
MRKS				*e*S	**Sg**	**22 56 25.0**	**-0.2**
	10nm,0.5s						
KUU	**Kurty**	**4.79**	**351**	Pg	**Pb**	**22 55 20.1**	**+4.7**
	3.0nm,0.8s						
KUU				Lg	Lg	22 56 21.6	
	12nm,0.7s						
KUU	**Kurty**	**4.79**	**351**	*e*P	**Pg**	**22 55 22.5**	**-1.0**
	1.5nm,0.3s						
KUU				*e*S	**Sg**	**22 56 21.9**	**-3.7**
	12nm,0.7s						
ARK	**Arkit**	**4.92**	**304**	⇑*i*P	**Pb**	**22 55 17.6**	**0.0**
	baz=1.0						
ARK				⇑*i*S	**Sb**	**22 56 13.9**	**-2.7**
	baz=1.0						
ARXS	**Arhar

MLAC	**Mammoth, Mammo**	**0.10**	**359**		Pg	22 56 00.3	+0.2
MLCM	**Laurel Creek C**	**0.10**	**320**		Pg	22 56 00.3	+0.1
RCCR	**Rock Creek Can**	**0.10**	**119**		Pg	22 55 59.9	-0.3
MDRNC	**Doe Ridge**	**0.10**	**359**		Pg	22 56 00.5	+0.3
MGPM	**Gravel Pit**	**0.11**	**329**		Pg	22 56 00.5	+0.2
MCBM	**Casa Benchmark**	**0.12**	**335**		Pg	22 56 02.5	+2.1
MCSM	**Casa Diablo Ho**	**0.13**	**334**		Pg	22 56 01.0	+0.4
MLHM	**Little Hot Cre**	**0.14**	**6**		Pg	22 56 01.3	+0.5
OMMB	**Old Mammoth Mi**	**0.15**	**300**	Pg	Pg	22 56 01.2	+0.2
OMMB				Sg	Sg	22 56 03.4	0.0
MEMM	**East Mammoth H**	**0.15**	**327**		Pg	22 56 01.4	+0.4
MMLB	**Mammoth Lakes**	**0.17**	**317**		Pg	22 56 01.7	+0.5
MMLB					Sg	22 56 04.4	+0.7
MMPM	**Mammoth Pass**	**0.17**	**296**		Pg	22 56 01.4	+0.1
ORC	**Owens River**	**0.17**	**55**		Pg	22 56 01.4	+0.1
MLIM	**Lincoln Peak**	**0.18**	**305**		Pg	22 56 01.9	+0.4
WMD		**0.18**	**122**		Pg	22 56 01.2	-0.1
MDYM	**Dry Creek**	**0.19**	**311**		Pg	22 56 02.0	+0.5
MDYM					Sg	22 56 05.1	+0.8
MRDM	**Red Cones**	**0.19**	**289**		Pg	22 56 01.8	+0.2
SCHCA	**Scheelite**	**0.21**	**147**		Pg	22 56 01.8	-0.2
MINS	**Minaret Summit**	**0.22**	**303**		Pg	22 56 02.3	+0.2
MDPB	**Devils Postpil**	**0.22**	**296**	Pg	Pg	22 56 02.2	+0.2
MDPB				Sg	Sg	22 56 05.1	0.0
CASR	**Casa Diablo Mo**	**0.23**	**80**		Pg	22 56 02.5	+0.3
MDCM	**Deadman Creek**	**0.24**	**317**		Pg	22 56 02.7	+0.2
BENR	**Benton**	**0.27**	**49**		Pg	22 56 03.1	-0.1
MTUM	**Tungsten Hills**	**0.28**	**130**		Pg	22 56 03.1	-0.1
MRCM	**Red Rock Canyo**	**0.29**	**62**		Pg	22 56 03.6	+0.1
MGNR	**McGee Canyon**	**0.30**	**21**		Pg	22 56 04.0	+0.4
MCDM	**Chidago Canyon**	**0.31**	**88**		Pg	22 56 04.0	+0.2
MFBM	**Five Bridges**	**0.34**	**108**		Pg	22 56 04.6	+0.3
BHPR	**Bishop**	**0.36**	**130**		Pg	22 56 04.8	-0.1
MLNR	**Milner Canyon**	**0.39**	**81**		Pg	22 56 05.5	+0.1
BCKR	**Birch Creek**	**0.40**	**66**		Pg	22 56 05.7	+0.2
ANTCA	**Antelope Range**	**0.44**	**29**		Pg	22 56 06.2	0.0
KCC	**Kaiser Creek**	**0.44**	**241**		Pg	22 56 06.1	-0.1
KCC					Sg	22 56 11.9	-0.1
POCCA	**Poleta Canyon**	**0.47**	**111**		Pg	22 56 06.7	-0.1
BONR	**Boundary Peak**	**0.59**	**45**		Pg	22 56 09.1	0.0
TIN	**Tinemaha, Big**	**0.68**	**135**		Pg	22 56 10.7	0.0
MMIM	**Miami Mountain**	**0.73**	**261**		Pg	22 56 11.5	-0.2
LHV	**Little Huntoon**	**0.76**	**20**		Pg	22 56 12.4	+0.1
HELL	**Mitchell Peak,**	**0.87**	**190**		Pg	22 56 13.7	-0.6
FRI	**Friant**	**0.88**	**232**		Pg	22 56 14.1	-0.5
MHDM	**Hidden Dam**	**0.94**	**244**		Pg	22 56 15.3	-0.4
NVAR	**Mina Array Bea**	**0.99**	**25**		Pg	22 56 15.8	-0.8
NVAR				Sg	Sg	22 56 29.0	-0.4
NV11	**Mina Array Sit**	**1.04**	**31**		Pg	22 56 17.4	-0.2
NV11				Sg	Sg	22 56 30.7	-0.6
WAKR	**Walker**	**1.08**	**334**		Pb	22 56 18.5	-0.2
WAKR				Sg	Sg	22 56 32.5	+0.1
RYN	**Ryan**	**1.12**	**13**		Pg	22 56 19.0	-0.1
RYN				Sg	Sb	22 56 34.0	-0.2
CWC	**Cottonwood Cre**	**1.25**	**151**		Pb	22 56 20.6	-0.9
MRHM	**Rocky Hill**	**1.26**	**189**		Pn	22 56 20.5	-1.1
MYLM	**Yosemite Lake**	**1.27**	**264**		Pn	22 56 21.3	-0.4
CMB	**Columbia Colle**	**1.33**	**293**	Pn	Pn	22 56 22.0	-0.5
CMB					Sb	22 56 38.3	-1.7
SPG2	**Springville 2**	**1.33**	**178**		Pn	22 56 21.9	-0.7
MCUB	**Copperopolis B**	**1.48**	**288**		Pn	22 56 24.8	+0.1
YERR	**Yerington**	**1.48**	**348**		Pb	22 56 25.5	-0.1
DAC	**Darwin (Calif)**	**1.60**	**141**		Pn	22 56 25.9	-0.5
KVN	**Kaiserville**	**1.62**	**21**		Pn	22 56 27.0	+0.2
PNTR	**Pine Nut**	**1.66**	**339**		Pb	22 56 28.2	-0.5
BRMM	**Rolling Bench**	**1.74**	**247**		Pb	22 56 29.7	-0.1
BMSM	**Mercy Hot Spri**	**1.80**	**241**		Pb	22 56 30.6	-0.2
RUBR	**Rubicon Trail**	**1.84**	**326**	Pn	Pn	22 56 29.3	-0.4
BEMM	**Emmet**	**2.01**	**245**		Pb	22 56 33.8	-0.6
PMPB	**Monarch Peak**	**2.06**	**231**		Pn	22 56 32.6	0.0
PAGB	**Antelope Grade**	**2.13**	**213**		Pn	22 56 32.8	-0.8
TPNV	**Topopah Spring**	**2.14**	**105**		Pn	22 56 33.5	-0.4
AFDM	**Forest Hills D**	**2.20**	**311**		Pn	22 56 35.0	+0.5
PAHR	**Pah Rah Range**	**2.21**	**349**		Pn	22 56 34.8	0.0
SAO	**San Andreas Ge**	**2.23**	**251**		Pn	22 56 35.8	+1.0
BEKR	**Beckworth**	**2.62**	**333**		Pn	22 56 40.4	0.0
BAPM	**Anderson Peak**	**2.63**	**240**		Pn	22 56 42.0	+1.4
R11A	**Troy Canyon, C**	**2.69**	**71**	Pn	Pn	22 56 41.8	+0.3
CPIM	**Pinole Ridge**	**2.72**	**281**		Pn	22 56 41.0	-0.6
ORV	**Oroville**	**2.90**	**315**	Pn	Pn	22 56 44.4	+0.2
SHPR	**Sheep Range**	**3.11**	**108**		Pn	22 56 46.8	-0.4
BMN	**Battle Mountai**	**3.15**	**23**	Pn	Pn	22 56 48.6	+0.8
PSUT	**Pine Spring**	**4.05**	**74**	Pn	Pn	22 56 59.6	-0.6
PSUT					Pg	22 57 13.5	-1.8
ELK	**Elko**	**4.25**	**40**	Pn	Pn	22 57 02.6	-0.4
CCUT	**Cedar City**	**4.35**	**88**	Pn	Pn	22 57 04.5	+0.2
CCUT					Pg	22 57 19.1	-1.8
PFO	**Pinyon Flats O**	**4.37**	**153**	Pn	Pn	22 57 03.9	-0.5
LCMT	**Little Creek M**	**4.49**	**95**	Pn	Pn	22 57 05.5	-0.7
LCMT				Pg	Pg	22 57 21.7	-1.9
MOD	**Modoc Plateau**	**4.51**	**346**	Pn	Pn	22 57 05.9	-0.5
DUG	**Dugway, Tooele**	**5.40**	**59**		Pg	22 57 42.4	+1.4

IDC 30 23:27:31.2±20.0, **20.°72S**×**177.°73W, h464**km±175km, **mb2.9**/3, **mb1 3.2**/3, **mb1mx2.9**/22, **mbtmp3.7**/3, **Error ellipse: s-maj=241.8km s-min=50.9km az=134.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.71**	**257**	P	P	23 35 02.2	+0.1
	1.2nm,0.5s,baz=94,slow=8.0,SNR=24						
ASAR				PcP	PcP	23 36 35.5	+0.6
	0.4nm,0.5s,baz=103,slow=3.8,SNR=6.5						
WRA	**Warramunga Arr**	**44.82**	**262**	P	P	23 35 02.2	-0.7
	0.4nm,0.5s,baz=95,slow=6.1,SNR=7.8						
ILAR	**Eielson Array**	**88.47**	**13**	P	P	23 39 33.1	+0.5
	0.2nm,0.5s,baz=210,slow=6.0,SNR=4.4						
AKASG	**Malin Array Be**	**143.32**	**331**	PKP	PKPab	23 46 08.8	-0.7
	0.8nm,0.5s,baz=41,slow=3.4,SNR=5.8						
BRTR	**Keskin Array B**	**147.17**	**312**	PKPbc	PKPbc	23 46 21.3	-0.5
	0.5nm,0.6s,baz=90,slow=2.9,SNR=3.2						

IDC 30 23:36:30.4±2.4, **3.°91N**×**128.°17E, h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/32, **mbtmp3.2**/3, **Error ellipse: s-maj=177.3km s-min=25.7km az=67.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.47**	**166**	P	P	23 41 52.0	+0.7
	0.9nm,0.7s,baz=346,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**27.98**	**169**	P	P	23 42 22.4	-0.5
	0.2nm,0.9s,baz=354,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**58.23**	**325**	P	P	23 46 26.5	-0.1
	0.1nm,0.4s,baz=120,slow=8.2,SNR=3.3						

IDC 30 23:44:08.9±3.7, **21.°20S**×**175.°84W, h0**km, **mb3.8**/2, **mb1 4.0**/2, **mb1mx3.5**/35, **mbtmp3.8**/2, **Error ellipse: s-maj=199.9km s-min=58.6km az=153.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.33**	**257**	P	P	23 52 37.4	+0.4
	0.7nm,0.4s,baz=95,slow=8.2,SNR=9.8						
ASAR				PcP	PcP	23 54 11.2	-1.2
	0.3nm,0.6s,baz=114,slow=3.1,SNR=4.8						
WRA	**Warramunga Arr**	**46.51**	**262**	P	P	23 52 37.9	-0.5
	0.4nm,0.3s,baz=99,slow=8.1,SNR=17						
BRTR	**Keskin Array B**	**148.80**	**313**	PKPbc	PKPbc	00 03 58.7	-0.1
	0.6nm,0.8s,baz=108,slow=4.7,SNR=3.3						

NIED ***30*** *23:47:00, 37.°20N×139.°10E, h5km, Mw3.5 Best double couple: M0 2.35000×10^14 NP1:*ϕ_s*=297.00000°,* δ*80.00000°, λ-176.00000°. NP2:*ϕ_s*=207.00000°,* δ*86.00000°, λ-10.00000°.*

ISCJB ***30*** *23:47:50.5±0.5, 37.°21N±0.°04×139.°09E±0.°04, h9km±6km, mb3.6/1, MS2.8/1, Error ellipse: s-maj=6.3km s-min=4.8km az=174.6*

JMA ***30*** *23:47:50.8±0.1, 37.°21N×139.°09E, h0km±2km, M3.5 Broadband fault plane solution: P waves. NP1:* ϕ_s*=28.00000°,* δ*84.00000°, λ24.00000°. NP2:*ϕ_s*=295.00000°,* δ*66.00000°, λ173.00000°. Principal axes: T Plg21.0000°, Azm254.0000°; N Plg65.0000°, Azm41.0000°; P Plg12.0000°, Azm159.0000°;*

JMA Felt II J1.

IDC ***30*** *23:47:51.3±2.4, 36.°98N×139.°18E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.3/39, mbtmp3.9/3, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/30 Error ellipse: s-maj=21.5km s-min=16.0km az=4.0*

ISC 30 23:47:50.6±1.2, **37.°17N**±0.°04×**139.°11E**±0.°03, **h2**km±13km, **n15,** σ**0.89**/20, **2C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.11**	**318**	⇓P	**Pg**	**23 47 52.4**	**-0.4**
JHK				S	**Sg**	**23 47 53.3**	**-1.0**
JKT	**Katashina**	**0.41**	**164**	⇓P	**Pb**	**23 48 00.2**	**-0.5**
JIZZ	**Izumozaki**	**0.49**	**319**	⇓P	**Pg**	**23 48 00.5**	**+0.6**
JIZZ				S	**Sg**	**23 48 07.6**	**+1.4**
JFY	**Yanaizu**	**0.53**	**63**	⇑P	**Pg**	**23 48 01.4**	**+0.6**
JFY				S	**Sg**	**23 48 08.2**	**+0.5**
JNS	**Sasagawa**	**0.67**	**14**	⇓P	**Pg**	**23 48 02.8**	**-0.7**
JNS				S	**Sg**	**23 48 10.9**	**-1.3**
JSB	**Shiboa**	**0.68**	**107**	P	**Pb**	**23 48 05.4**	**+0.3**
JSB				S	**Sb**	**23 48 15.0**	**0.0**
JGK	**Kuni**	**0.71**	**212**	⇑P	**Pb**	**23 48 05.4**	**-0.3**
JGK				S	**Sb**	**23 48 15.5**	**-0.5**
JAG	**Ashikaga**	**0.79**	**160**	⇓P	**Pb**	**23 48 07.3**	**+0.3**
MJAR	**Matsushiro Arr**	**0.95**	**230**	Pg	**Pg**	**23 48 08.4**	**-0.5**
	8.1nm,0.3s,baz=59,slow=25,SNR=412						
MJAR				Lg	Lg	23 48 20.4	
	9.4nm,0.3s,baz=45,slow=24,SNR=21						
MJAR				LR	LR	23 48 46.4	
	comp=Z,141nm,20.0s,baz=35,slow=63						
MAT	**Matsushiro**	**0.95**	**230**	P	**Pg**	**23 48 09.3**	**+0.4**
MAT				S	**Sg**	**23 48 21.8**	**+0.5**
JHJ	**Hachijo jima 2**	**4.07**	**172**	Pn	**Pn**	**23 48 52.9**	**-1.1**
	16nm,0.3s,baz=37,slow=20,SNR=3.2						
JNU	**Nakatsue**	**7.86**	**242**	LR	LR	23 53 06.2	
	comp=Z,47nm,19.4s,baz=54,slow=40						
KSRS	**Korea Array**	**8.92**	**275**	Pn	**Pn**	**23 50 02.4**	**+1.9**
	1.1nm,0.3s,baz=90,slow=15,SNR=6.3						
MA2	**Magadan**	**23.66**	**15**	LR	LR	00 02 08.2	
	comp=Z,29nm,19.4s,baz=313,slow=36						
WRA	**Warramunga Arr**	**56.98**	**185**	P	**P**	**23 57 37.0**	**-0.6**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=5.7						

ISC Computed Locations for November 2013

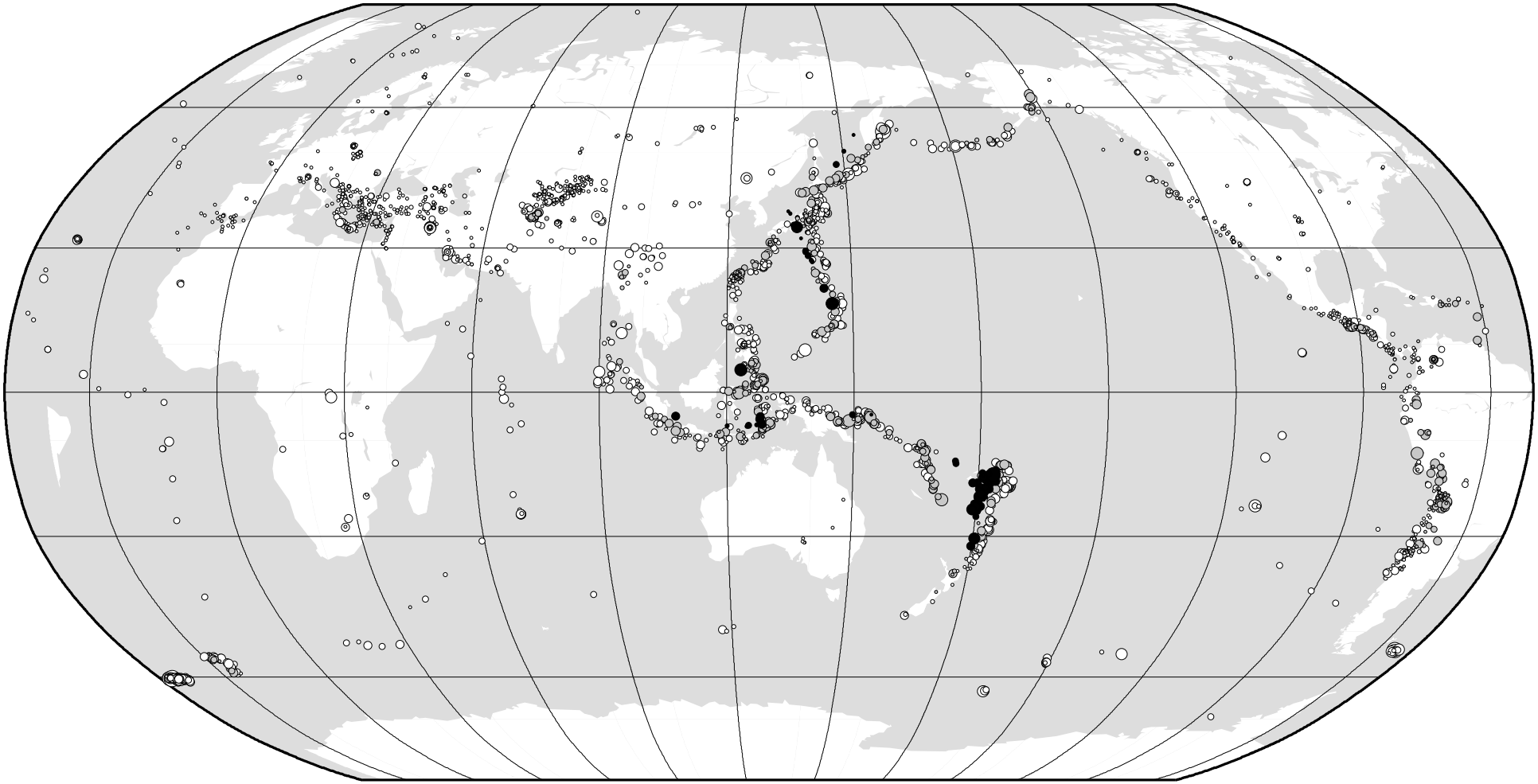

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3173 Events